Appendix C
Treatability Study Supporting Documents

100021359

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Appendix C-1
Treatability Study Laboratory Reports

ANALYTICAL REPORT

Job Number: 320-54852-1

Job Description: San Jacinto River Waste Pits Superfund

For:
GHD Services Inc.
5551 Corporate Boulevard
Suite 200
Baton Rouge, LA 70808

Attention: Janie Smith

Approved for release.
Carrie L Gamber
Senior Project Manager
5/26/2020 4:17 PM

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05/26/2020
Revision: 3

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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Qualifiers

Dioxin

Qualifier	Qualifier Description
*	Isotope Dilution analyte is outside acceptance limits.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE

Client: GHD Services Inc.

Project: San Jacinto River Waste Pits Superfund

Report Number: 320-54852-1 REVISED

NOTE: Per the client's request, sample 11187072-Filter Test-2 (320-54852-2) was removed from this report and the TEQ summaries have been removed from this report

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 10/01/2019; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 10.6 C. The following samples were received at the laboratory outside the required temperature criteria: 11187072-Filter Test-1 (320-54852-1), 11187072-Filter Test-3 (320-54852-3), 11187072-Filter Test-4 (320-54852-4), 11187072-Filter Test-5 (320-54852-5) and 11187072-Filter Test-6 (320-54852-6). The cooler was received with 2 bags of ice sitting on top of samples; however, this was not enough to cool the cooler to 6 degrees C or less.

NOTE: Results for non-detect PCDD/PCDF analytes are reported using the Estimated Detection Limit (EDL) convention, which provides the lowest possible detection limits for each analyte in each sample based on the magnitude of chromatographic and detector 'noise' at the expected retention time of each analyte. EDL values are typically well below 1 pg/g, and the TEQ-weighted sum of EDL values is below the targeted action limit of 30 pg/g in each reported sample.

DIOXINS

EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD and/or 13C-1,2,3,7,8,9-HxCDD associated with the following samples run on instrument 10D5 exceeded this criteria: (CCV 320-330145/2), (LCS 320-329339/2-A), (LCSD 320-329339/3-A) and (MB 320-329339/1-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

The beginning resolution check indicated that the instrument was slightly less than 10,000 resolution for mz 404.9760. The associated samples were evaluated for high mass fragmentation breakthrough and none was found. There is no adverse impact on the data as a result of this deficiency: 11187072-Filter Test-1 (320-54852-1), 11187072-Filter Test-3 (320-54852-3), 11187072-Filter Test-4 (320-54852-4), 11187072-Filter Test-5 (320-54852-5), 11187072-Filter Test-6 (320-54852-6), (CCV 320-330148/14) and (WDM 320-330148/15).

Several analytes were detected in method blank MB 320-329339/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Detection Summary

Client: GHD Services Inc.
Job ID: 320-54852-1
Project/Site: San Jacinto River Waste Pits Superfund

Client Sample ID: 11187072-Filter Test-1 — Lab Sample ID: 320-54852-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	800		9.5	2.4	pg/L	1		1613B	Total/NA
1,2,3,7,8-PeCDD	9.4	J q	48	1.0	pg/L	1		1613B	Total/NA
1,2,3,7,8-PeCDF	100		48	1.2	pg/L	1		1613B	Total/NA
2,3,4,7,8-PeCDF	59		48	1.2	pg/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	2.7	J q B	48	0.99	pg/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	2.7	J B	48	1.0	pg/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	2.3	J q B	48	0.91	pg/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	210	B	48	1.6	pg/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	53	B	48	1.6	pg/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	4.5	J B	48	1.2	pg/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	7.0	J B	48	1.3	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	75	B	48	1.7	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	84	B	48	0.58	pg/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	28	J B	48	0.65	pg/L	1		1613B	Total/NA
OCDD	1900	B	95	1.7	pg/L	1		1613B	Total/NA
OCDF	61	J B	95	1.2	pg/L	1		1613B	Total/NA
Total TCDD	860	q	9.5	2.4	pg/L	1		1613B	Total/NA
Total TCDF	4200		9.5	5.2	pg/L	1		1613B	Total/NA
Total PeCDD	9.4	J q	48	1.0	pg/L	1		1613B	Total/NA
Total PeCDF	250		48	1.2	pg/L	1		1613B	Total/NA
Total HxCDD	27	J q B	48	0.98	pg/L	1		1613B	Total/NA
Total HxCDF	310	q B	48	1.4	pg/L	1		1613B	Total/NA
Total HpCDD	190	B	48	1.7	pg/L	1		1613B	Total/NA
Total HpCDF	140	B	48	0.61	pg/L	1		1613B	Total/NA
2,3,7,8-TCDF - RA	2500		9.5	5.3	pg/L	1		1613B	Total/NA

Client Sample ID: 11187072-Filter Test-3 — Lab Sample ID: 320-54852-3

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	270		9.5	1.5	pg/L	1		1613B	Total/NA
1,2,3,7,8-PeCDD	4.2	J	48	1.1	pg/L	1		1613B	Total/NA
1,2,3,7,8-PeCDF	39	J	48	0.88	pg/L	1		1613B	Total/NA
2,3,4,7,8-PeCDF	22	J	48	0.91	pg/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	1.7	J q B	48	0.66	pg/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.84	J B	48	0.67	pg/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	74	B	48	0.83	pg/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	20	J B	48	0.81	pg/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	2.1	J B	48	0.60	pg/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	2.8	J B	48	0.68	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	30	J B	48	0.92	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	30	J B	48	0.52	pg/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	11	J B	48	0.63	pg/L	1		1613B	Total/NA
OCDD	850	B	95	1.1	pg/L	1		1613B	Total/NA
OCDF	24	J B	95	0.83	pg/L	1		1613B	Total/NA
Total TCDD	290	q	9.5	1.5	pg/L	1		1613B	Total/NA
Total TCDF	1400	q	9.5	2.3	pg/L	1		1613B	Total/NA
Total PeCDD	4.2	J	48	1.1	pg/L	1		1613B	Total/NA
Total PeCDF	91	q	48	0.89	pg/L	1		1613B	Total/NA
Total HxCDD	7.5	J q B	48	0.65	pg/L	1		1613B	Total/NA
Total HxCDF	110	q B	48	0.73	pg/L	1		1613B	Total/NA
Total HpCDD	78	B	48	0.92	pg/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: 11187072-Filter Test-3 (Continued) Lab Sample ID: 320-54852-3

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
Total HpCDF	52	B	48	0.57	pg/L	1		1613B	Total/NA
2,3,7,8-TCDF - RA	820		9.5	2.7	pg/L	1		1613B	Total/NA

Client Sample ID: 11187072-Filter Test-4 Lab Sample ID: 320-54852-4

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	3.6	J	9.5	0.60	pg/L	1		1613B	Total/NA
2,3,7,8-TCDF	8.7	J	9.5	0.42	pg/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	2.0	J B	47	0.45	pg/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.71	J q B	47	0.40	pg/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	1.1	J B	47	0.45	pg/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.67	J B	47	0.34	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	1.7	J B	47	0.37	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.75	J B	47	0.26	pg/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.87	J B	47	0.30	pg/L	1		1613B	Total/NA
OCDD	12	J q B	95	0.72	pg/L	1		1613B	Total/NA
Total TCDD	5.0	J	9.5	0.60	pg/L	1		1613B	Total/NA
Total TCDF	13	q	9.5	0.42	pg/L	1		1613B	Total/NA
Total HxCDD	2.7	J q B	47	0.43	pg/L	1		1613B	Total/NA
Total HxCDF	1.8	J B	47	0.40	pg/L	1		1613B	Total/NA
Total HpCDD	3.9	J B	47	0.37	pg/L	1		1613B	Total/NA
Total HpCDF	1.6	J B	47	0.28	pg/L	1		1613B	Total/NA

Client Sample ID: 11187072-Filter Test-5 Lab Sample ID: 320-54852-5

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDF	1.6	J	9.5	0.43	pg/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	1.9	J q B	48	0.57	pg/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.57	J q B	48	0.54	pg/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	1.2	J B	48	0.60	pg/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.75	J q B	48	0.44	pg/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.94	J q B	48	0.46	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	1.1	J B	48	0.38	pg/L	1		1613B	Total/NA
OCDD	4.0	J q B	95	0.76	pg/L	1		1613B	Total/NA
OCDF	1.9	J q B	95	0.80	pg/L	1		1613B	Total/NA
Total TCDF	1.6	J	9.5	0.43	pg/L	1		1613B	Total/NA
Total HxCDD	2.5	J q B	48	0.58	pg/L	1		1613B	Total/NA
Total HxCDF	2.9	J q B	48	0.52	pg/L	1		1613B	Total/NA
Total HpCDF	1.1	J B	48	0.43	pg/L	1		1613B	Total/NA

Client Sample ID: 11187072-Filter Test-6 Lab Sample ID: 320-54852-6

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDF	0.93	J	9.5	0.42	pg/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	1.9	J q B	47	0.59	pg/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	1.3	J q B	47	0.58	pg/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	1.5	J B	47	0.52	pg/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	1.2	J B	47	0.60	pg/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.86	J q B	47	0.60	pg/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	1.1	J q B	47	0.47	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	1.4	J B	47	0.42	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	1.2	J q B	47	0.40	pg/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: 11187072-Filter Test-6 (Continued) Lab Sample ID: 320-54852-6

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
OCDD	4.6	J B	95	0.82	pg/L	1		1613B	Total/NA
OCDF	1.8	J q B	95	0.66	pg/L	1		1613B	Total/NA
Total TCDF	0.93	J	9.5	0.42	pg/L	1		1613B	Total/NA
Total HxCDD	4.6	J q B	47	0.56	pg/L	1		1613B	Total/NA
Total HxCDF	3.2	J q B	47	0.54	pg/L	1		1613B	Total/NA
Total HpCDD	2.3	J q B	47	0.42	pg/L	1		1613B	Total/NA
Total HpCDF	1.2	J q B	47	0.44	pg/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 320-54852-1

Client Sample ID: 11187072-Filter Test-1

Date Collected: 09/30/19 08:00
Date Received: 10/01/19 09:20

Lab Sample ID: 320-54852-1

Matrix: Water

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	800		9.5	2.4	pg/L		10/08/19 14:19	10/11/19 04:47	1
1,2,3,7,8-PeCDD	9.4	J q	48	1.0	pg/L		10/08/19 14:19	10/11/19 04:47	1
1,2,3,7,8-PeCDF	100		48	1.2	pg/L		10/08/19 14:19	10/11/19 04:47	1
2,3,4,7,8-PeCDF	59		48	1.2	pg/L		10/08/19 14:19	10/11/19 04:47	1
1,2,3,4,7,8-HxCDD	2.7	J q B	48	0.99	pg/L		10/08/19 14:19	10/11/19 04:47	1
1,2,3,6,7,8-HxCDD	2.7	J B	48	1.0	pg/L		10/08/19 14:19	10/11/19 04:47	1
1,2,3,7,8,9-HxCDD	2.3	J q B	48	0.91	pg/L		10/08/19 14:19	10/11/19 04:47	1
1,2,3,4,7,8-HxCDF	210	B	48	1.6	pg/L		10/08/19 14:19	10/11/19 04:47	1
1,2,3,6,7,8-HxCDF	53	B	48	1.6	pg/L		10/08/19 14:19	10/11/19 04:47	1
1,2,3,7,8,9-HxCDF	4.5	J B	48	1.2	pg/L		10/08/19 14:19	10/11/19 04:47	1
2,3,4,6,7,8-HxCDF	7.0	J B	48	1.3	pg/L		10/08/19 14:19	10/11/19 04:47	1
1,2,3,4,6,7,8-HpCDD	75	B	48	1.7	pg/L		10/08/19 14:19	10/11/19 04:47	1
1,2,3,4,6,7,8-HpCDF	84	B	48	0.58	pg/L		10/08/19 14:19	10/11/19 04:47	1
1,2,3,4,7,8,9-HpCDF	28	J B	48	0.65	pg/L		10/08/19 14:19	10/11/19 04:47	1
OCDD	1900	B	95	1.7	pg/L		10/08/19 14:19	10/11/19 04:47	1
OCDF	61	J B	95	1.2	pg/L		10/08/19 14:19	10/11/19 04:47	1
Total TCDD	860	q	9.5	2.4	pg/L		10/08/19 14:19	10/11/19 04:47	1
Total TCDF	4200		9.5	5.2	pg/L		10/08/19 14:19	10/11/19 04:47	1
Total PeCDD	9.4	J q	48	1.0	pg/L		10/08/19 14:19	10/11/19 04:47	1
Total PeCDF	250		48	1.2	pg/L		10/08/19 14:19	10/11/19 04:47	1
Total HxCDD	27	J q B	48	0.98	pg/L		10/08/19 14:19	10/11/19 04:47	1
Total HxCDF	310	q B	48	1.4	pg/L		10/08/19 14:19	10/11/19 04:47	1
Total HpCDD	190	B	48	1.7	pg/L		10/08/19 14:19	10/11/19 04:47	1
Total HpCDF	140	B	48	0.61	pg/L		10/08/19 14:19	10/11/19 04:47	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*52*		*25 - 164*	*10/08/19 14:19*	*10/11/19 04:47*	*1*
13C-2,3,7,8-TCDF	*47*		*24 - 169*	*10/08/19 14:19*	*10/11/19 04:47*	*1*
13C-1,2,3,7,8-PeCDD	*50*		*25 - 181*	*10/08/19 14:19*	*10/11/19 04:47*	*1*
13C-1,2,3,7,8-PeCDF	*49*		*24 - 185*	*10/08/19 14:19*	*10/11/19 04:47*	*1*
13C-2,3,4,7,8-PeCDF	*53*		*21 - 178*	*10/08/19 14:19*	*10/11/19 04:47*	*1*
13C-1,2,3,4,7,8-HxCDD	*52*		*32 - 141*	*10/08/19 14:19*	*10/11/19 04:47*	*1*
13C-1,2,3,6,7,8-HxCDD	*44*		*28 - 130*	*10/08/19 14:19*	*10/11/19 04:47*	*1*
13C-1,2,3,4,7,8-HxCDF	*52*		*26 - 152*	*10/08/19 14:19*	*10/11/19 04:47*	*1*
13C-1,2,3,6,7,8-HxCDF	*46*		*26 - 123*	*10/08/19 14:19*	*10/11/19 04:47*	*1*
13C-1,2,3,7,8,9-HxCDF	*50*		*29 - 147*	*10/08/19 14:19*	*10/11/19 04:47*	*1*
13C-2,3,4,6,7,8-HxCDF	*50*		*28 - 136*	*10/08/19 14:19*	*10/11/19 04:47*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*48*		*23 - 140*	*10/08/19 14:19*	*10/11/19 04:47*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*43*		*28 - 143*	*10/08/19 14:19*	*10/11/19 04:47*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*50*		*26 - 138*	*10/08/19 14:19*	*10/11/19 04:47*	*1*
13C-OCDD	*37*		*17 - 157*	*10/08/19 14:19*	*10/11/19 04:47*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*100*		*35 - 197*	*10/08/19 14:19*	*10/11/19 04:47*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	2500		9.5	5.3	pg/L		10/08/19 14:19	10/11/19 18:00	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*51*		*24 - 169*	*10/08/19 14:19*	*10/11/19 18:00*	*1*

Client Sample ID: 11187072-Filter Test-1 — Lab Sample ID: 320-54852-1

Date Collected: 09/30/19 08:00 **Matrix: Water**
Date Received: 10/01/19 09:20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	89		35 - 197	10/08/19 14:19	10/11/19 18:00	1

Client Sample ID: 11187072-Filter Test-3 — Lab Sample ID: 320-54852-3

Date Collected: 09/30/19 08:00 **Matrix: Water**
Date Received: 10/01/19 09:20

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	270		9.5	1.5	pg/L		10/08/19 14:19	10/11/19 06:19	1
1,2,3,7,8-PeCDD	4.2	J	48	1.1	pg/L		10/08/19 14:19	10/11/19 06:19	1
1,2,3,7,8-PeCDF	39	J	48	0.88	pg/L		10/08/19 14:19	10/11/19 06:19	1
2,3,4,7,8-PeCDF	22	J	48	0.91	pg/L		10/08/19 14:19	10/11/19 06:19	1
1,2,3,4,7,8-HxCDD	1.7	J q B	48	0.66	pg/L		10/08/19 14:19	10/11/19 06:19	1
1,2,3,6,7,8-HxCDD	0.84	J B	48	0.67	pg/L		10/08/19 14:19	10/11/19 06:19	1
1,2,3,7,8,9-HxCDD	ND		48	0.60	pg/L		10/08/19 14:19	10/11/19 06:19	1
1,2,3,4,7,8-HxCDF	74	B	48	0.83	pg/L		10/08/19 14:19	10/11/19 06:19	1
1,2,3,6,7,8-HxCDF	20	J B	48	0.81	pg/L		10/08/19 14:19	10/11/19 06:19	1
1,2,3,7,8,9-HxCDF	2.1	J B	48	0.60	pg/L		10/08/19 14:19	10/11/19 06:19	1
2,3,4,6,7,8-HxCDF	2.8	J B	48	0.68	pg/L		10/08/19 14:19	10/11/19 06:19	1
1,2,3,4,6,7,8-HpCDD	30	J B	48	0.92	pg/L		10/08/19 14:19	10/11/19 06:19	1
1,2,3,4,6,7,8-HpCDF	30	J B	48	0.52	pg/L		10/08/19 14:19	10/11/19 06:19	1
1,2,3,4,7,8,9-HpCDF	11	J B	48	0.63	pg/L		10/08/19 14:19	10/11/19 06:19	1
OCDD	850	B	95	1.1	pg/L		10/08/19 14:19	10/11/19 06:19	1
OCDF	24	J B	95	0.83	pg/L		10/08/19 14:19	10/11/19 06:19	1
Total TCDD	290	q	9.5	1.5	pg/L		10/08/19 14:19	10/11/19 06:19	1
Total TCDF	1400	q	9.5	2.3	pg/L		10/08/19 14:19	10/11/19 06:19	1
Total PeCDD	4.2	J	48	1.1	pg/L		10/08/19 14:19	10/11/19 06:19	1
Total PeCDF	91	q	48	0.89	pg/L		10/08/19 14:19	10/11/19 06:19	1
Total HxCDD	7.5	J q B	48	0.65	pg/L		10/08/19 14:19	10/11/19 06:19	1
Total HxCDF	110	q B	48	0.73	pg/L		10/08/19 14:19	10/11/19 06:19	1
Total HpCDD	78	B	48	0.92	pg/L		10/08/19 14:19	10/11/19 06:19	1
Total HpCDF	52	B	48	0.57	pg/L		10/08/19 14:19	10/11/19 06:19	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	57		25 - 164	10/08/19 14:19	10/11/19 06:19	1
13C-2,3,7,8-TCDF	52		24 - 169	10/08/19 14:19	10/11/19 06:19	1
13C-1,2,3,7,8-PeCDD	55		25 - 181	10/08/19 14:19	10/11/19 06:19	1
13C-1,2,3,7,8-PeCDF	54		24 - 185	10/08/19 14:19	10/11/19 06:19	1
13C-2,3,4,7,8-PeCDF	58		21 - 178	10/08/19 14:19	10/11/19 06:19	1
13C-1,2,3,4,7,8-HxCDD	58		32 - 141	10/08/19 14:19	10/11/19 06:19	1
13C-1,2,3,6,7,8-HxCDD	50		28 - 130	10/08/19 14:19	10/11/19 06:19	1
13C-1,2,3,4,7,8-HxCDF	58		26 - 152	10/08/19 14:19	10/11/19 06:19	1
13C-1,2,3,6,7,8-HxCDF	53		26 - 123	10/08/19 14:19	10/11/19 06:19	1
13C-1,2,3,7,8,9-HxCDF	56		29 - 147	10/08/19 14:19	10/11/19 06:19	1
13C-2,3,4,6,7,8-HxCDF	54		28 - 136	10/08/19 14:19	10/11/19 06:19	1
13C-1,2,3,4,6,7,8-HpCDD	56		23 - 140	10/08/19 14:19	10/11/19 06:19	1
13C-1,2,3,4,6,7,8-HpCDF	52		28 - 143	10/08/19 14:19	10/11/19 06:19	1
13C-1,2,3,4,7,8,9-HpCDF	57		26 - 138	10/08/19 14:19	10/11/19 06:19	1
13C-OCDD	44		17 - 157	10/08/19 14:19	10/11/19 06:19	1

Client Sample ID: 11187072-Filter Test-3 — Lab Sample ID: 320-54852-3

Date Collected: 09/30/19 08:00 **Matrix: Water**
Date Received: 10/01/19 09:20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	97		35 - 197	10/08/19 14:19	10/11/19 06:19	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	820		9.5	2.7	pg/L		10/08/19 14:19	10/11/19 17:22	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDF	58		24 - 169	10/08/19 14:19	10/11/19 17:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	94		35 - 197	10/08/19 14:19	10/11/19 17:22	1

Client Sample ID: 11187072-Filter Test-4 — Lab Sample ID: 320-54852-4

Date Collected: 09/30/19 08:00 **Matrix: Water**
Date Received: 10/01/19 09:20

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	3.6	J	9.5	0.60	pg/L		10/08/19 14:19	10/11/19 07:05	1
2,3,7,8-TCDF	8.7	J	9.5	0.42	pg/L		10/08/19 14:19	10/11/19 07:05	1
1,2,3,7,8-PeCDD	ND		47	0.92	pg/L		10/08/19 14:19	10/11/19 07:05	1
1,2,3,7,8-PeCDF	ND		47	0.53	pg/L		10/08/19 14:19	10/11/19 07:05	1
2,3,4,7,8-PeCDF	ND		47	0.56	pg/L		10/08/19 14:19	10/11/19 07:05	1
1,2,3,4,7,8-HxCDD	2.0	J B	47	0.45	pg/L		10/08/19 14:19	10/11/19 07:05	1
1,2,3,6,7,8-HxCDD	ND		47	0.45	pg/L		10/08/19 14:19	10/11/19 07:05	1
1,2,3,7,8,9-HxCDD	0.71	J q B	47	0.40	pg/L		10/08/19 14:19	10/11/19 07:05	1
1,2,3,4,7,8-HxCDF	1.1	J B	47	0.45	pg/L		10/08/19 14:19	10/11/19 07:05	1
1,2,3,6,7,8-HxCDF	ND		47	0.44	pg/L		10/08/19 14:19	10/11/19 07:05	1
1,2,3,7,8,9-HxCDF	0.67	J B	47	0.34	pg/L		10/08/19 14:19	10/11/19 07:05	1
2,3,4,6,7,8-HxCDF	ND		47	0.36	pg/L		10/08/19 14:19	10/11/19 07:05	1
1,2,3,4,6,7,8-HpCDD	1.7	J B	47	0.37	pg/L		10/08/19 14:19	10/11/19 07:05	1
1,2,3,4,6,7,8-HpCDF	0.75	J B	47	0.26	pg/L		10/08/19 14:19	10/11/19 07:05	1
1,2,3,4,7,8,9-HpCDF	0.87	J B	47	0.30	pg/L		10/08/19 14:19	10/11/19 07:05	1
OCDD	12	J q B	95	0.72	pg/L		10/08/19 14:19	10/11/19 07:05	1
OCDF	ND		95	0.90	pg/L		10/08/19 14:19	10/11/19 07:05	1
Total TCDD	5.0	J	9.5	0.60	pg/L		10/08/19 14:19	10/11/19 07:05	1
Total TCDF	13	q	9.5	0.42	pg/L		10/08/19 14:19	10/11/19 07:05	1
Total PeCDD	ND		47	0.92	pg/L		10/08/19 14:19	10/11/19 07:05	1
Total PeCDF	ND		47	0.56	pg/L		10/08/19 14:19	10/11/19 07:05	1
Total HxCDD	2.7	J q B	47	0.43	pg/L		10/08/19 14:19	10/11/19 07:05	1
Total HxCDF	1.8	J B	47	0.40	pg/L		10/08/19 14:19	10/11/19 07:05	1
Total HpCDD	3.9	J B	47	0.37	pg/L		10/08/19 14:19	10/11/19 07:05	1
Total HpCDF	1.6	J B	47	0.28	pg/L		10/08/19 14:19	10/11/19 07:05	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	66		25 - 164	10/08/19 14:19	10/11/19 07:05	1
13C-2,3,7,8-TCDF	60		24 - 169	10/08/19 14:19	10/11/19 07:05	1
13C-1,2,3,7,8-PeCDD	63		25 - 181	10/08/19 14:19	10/11/19 07:05	1
13C-1,2,3,7,8-PeCDF	62		24 - 185	10/08/19 14:19	10/11/19 07:05	1
13C-2,3,4,7,8-PeCDF	67		21 - 178	10/08/19 14:19	10/11/19 07:05	1
13C-1,2,3,4,7,8-HxCDD	68		32 - 141	10/08/19 14:19	10/11/19 07:05	1
13C-1,2,3,6,7,8-HxCDD	59		28 - 130	10/08/19 14:19	10/11/19 07:05	1

Client Sample ID: 11187072-Filter Test-4 — Lab Sample ID: 320-54852-4

Date Collected: 09/30/19 08:00 **Matrix: Water**
Date Received: 10/01/19 09:20

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,7,8-HxCDF	69		26 - 152	10/08/19 14:19	10/11/19 07:05	1
13C-1,2,3,6,7,8-HxCDF	63		26 - 123	10/08/19 14:19	10/11/19 07:05	1
13C-1,2,3,7,8,9-HxCDF	65		29 - 147	10/08/19 14:19	10/11/19 07:05	1
13C-2,3,4,6,7,8-HxCDF	65		28 - 136	10/08/19 14:19	10/11/19 07:05	1
13C-1,2,3,4,6,7,8-HpCDD	66		23 - 140	10/08/19 14:19	10/11/19 07:05	1
13C-1,2,3,4,6,7,8-HpCDF	61		28 - 143	10/08/19 14:19	10/11/19 07:05	1
13C-1,2,3,4,7,8,9-HpCDF	66		26 - 138	10/08/19 14:19	10/11/19 07:05	1
13C-OCDD	49		17 - 157	10/08/19 14:19	10/11/19 07:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	99		35 - 197	10/08/19 14:19	10/11/19 07:05	1

Client Sample ID: 11187072-Filter Test-5 — Lab Sample ID: 320-54852-5

Date Collected: 09/30/19 08:00 **Matrix: Water**
Date Received: 10/01/19 09:20

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		9.5	0.76	pg/L		10/08/19 14:19	10/11/19 07:51	1
2,3,7,8-TCDF	**1.6**	**J**	9.5	0.43	pg/L		10/08/19 14:19	10/11/19 07:51	1
1,2,3,7,8-PeCDD	ND		48	1.0	pg/L		10/08/19 14:19	10/11/19 07:51	1
1,2,3,7,8-PeCDF	ND		48	0.60	pg/L		10/08/19 14:19	10/11/19 07:51	1
2,3,4,7,8-PeCDF	ND		48	0.57	pg/L		10/08/19 14:19	10/11/19 07:51	1
1,2,3,4,7,8-HxCDD	**1.9**	**J q B**	48	0.57	pg/L		10/08/19 14:19	10/11/19 07:51	1
1,2,3,6,7,8-HxCDD	ND		48	0.62	pg/L		10/08/19 14:19	10/11/19 07:51	1
1,2,3,7,8,9-HxCDD	**0.57**	**J q B**	48	0.54	pg/L		10/08/19 14:19	10/11/19 07:51	1
1,2,3,4,7,8-HxCDF	ND		48	0.60	pg/L		10/08/19 14:19	10/11/19 07:51	1
1,2,3,6,7,8-HxCDF	**1.2**	**J B**	48	0.60	pg/L		10/08/19 14:19	10/11/19 07:51	1
1,2,3,7,8,9-HxCDF	**0.75**	**J q B**	48	0.44	pg/L		10/08/19 14:19	10/11/19 07:51	1
2,3,4,6,7,8-HxCDF	**0.94**	**J q B**	48	0.46	pg/L		10/08/19 14:19	10/11/19 07:51	1
1,2,3,4,6,7,8-HpCDD	ND		48	0.53	pg/L		10/08/19 14:19	10/11/19 07:51	1
1,2,3,4,6,7,8-HpCDF	**1.1**	**J B**	48	0.38	pg/L		10/08/19 14:19	10/11/19 07:51	1
1,2,3,4,7,8,9-HpCDF	ND		48	0.47	pg/L		10/08/19 14:19	10/11/19 07:51	1
OCDD	**4.0**	**J q B**	95	0.76	pg/L		10/08/19 14:19	10/11/19 07:51	1
OCDF	**1.9**	**J q B**	95	0.80	pg/L		10/08/19 14:19	10/11/19 07:51	1
Total TCDD	ND		9.5	0.76	pg/L		10/08/19 14:19	10/11/19 07:51	1
Total TCDF	**1.6**	**J**	9.5	0.43	pg/L		10/08/19 14:19	10/11/19 07:51	1
Total PeCDD	ND		48	1.0	pg/L		10/08/19 14:19	10/11/19 07:51	1
Total PeCDF	ND		48	0.69	pg/L		10/08/19 14:19	10/11/19 07:51	1
Total HxCDD	**2.5**	**J q B**	48	0.58	pg/L		10/08/19 14:19	10/11/19 07:51	1
Total HxCDF	**2.9**	**J q B**	48	0.52	pg/L		10/08/19 14:19	10/11/19 07:51	1
Total HpCDD	ND		48	0.53	pg/L		10/08/19 14:19	10/11/19 07:51	1
Total HpCDF	**1.1**	**J B**	48	0.43	pg/L		10/08/19 14:19	10/11/19 07:51	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	54		25 - 164	10/08/19 14:19	10/11/19 07:51	1
13C-2,3,7,8-TCDF	49		24 - 169	10/08/19 14:19	10/11/19 07:51	1
13C-1,2,3,7,8-PeCDD	52		25 - 181	10/08/19 14:19	10/11/19 07:51	1
13C-1,2,3,7,8-PeCDF	52		24 - 185	10/08/19 14:19	10/11/19 07:51	1
13C-2,3,4,7,8-PeCDF	57		21 - 178	10/08/19 14:19	10/11/19 07:51	1
13C-1,2,3,4,7,8-HxCDD	60		32 - 141	10/08/19 14:19	10/11/19 07:51	1

Client Sample ID: 11187072-Filter Test-5 — Lab Sample ID: 320-54852-5

Date Collected: 09/30/19 08:00 **Matrix: Water**
Date Received: 10/01/19 09:20

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,6,7,8-HxCDD	49		28 - 130	10/08/19 14:19	10/11/19 07:51	1
13C-1,2,3,4,7,8-HxCDF	58		26 - 152	10/08/19 14:19	10/11/19 07:51	1
13C-1,2,3,6,7,8-HxCDF	53		26 - 123	10/08/19 14:19	10/11/19 07:51	1
13C-1,2,3,7,8,9-HxCDF	56		29 - 147	10/08/19 14:19	10/11/19 07:51	1
13C-2,3,4,6,7,8-HxCDF	57		28 - 136	10/08/19 14:19	10/11/19 07:51	1
13C-1,2,3,4,6,7,8-HpCDD	55		23 - 140	10/08/19 14:19	10/11/19 07:51	1
13C-1,2,3,4,6,7,8-HpCDF	51		28 - 143	10/08/19 14:19	10/11/19 07:51	1
13C-1,2,3,4,7,8,9-HpCDF	55		26 - 138	10/08/19 14:19	10/11/19 07:51	1
13C-OCDD	38		17 - 157	10/08/19 14:19	10/11/19 07:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	86		35 - 197	10/08/19 14:19	10/11/19 07:51	1

Client Sample ID: 11187072-Filter Test-6 — Lab Sample ID: 320-54852-6

Date Collected: 09/30/19 08:00 **Matrix: Water**
Date Received: 10/01/19 09:20

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		9.5	0.65	pg/L		10/08/19 14:19	10/11/19 08:37	1
2,3,7,8-TCDF	**0.93**	**J**	9.5	0.42	pg/L		10/08/19 14:19	10/11/19 08:37	1
1,2,3,7,8-PeCDD	ND		47	1.2	pg/L		10/08/19 14:19	10/11/19 08:37	1
1,2,3,7,8-PeCDF	ND		47	0.64	pg/L		10/08/19 14:19	10/11/19 08:37	1
2,3,4,7,8-PeCDF	ND		47	0.66	pg/L		10/08/19 14:19	10/11/19 08:37	1
1,2,3,4,7,8-HxCDD	**1.9**	**J q B**	47	0.59	pg/L		10/08/19 14:19	10/11/19 08:37	1
1,2,3,6,7,8-HxCDD	**1.3**	**J q B**	47	0.58	pg/L		10/08/19 14:19	10/11/19 08:37	1
1,2,3,7,8,9-HxCDD	**1.5**	**J B**	47	0.52	pg/L		10/08/19 14:19	10/11/19 08:37	1
1,2,3,4,7,8-HxCDF	**1.2**	**J B**	47	0.60	pg/L		10/08/19 14:19	10/11/19 08:37	1
1,2,3,6,7,8-HxCDF	**0.86**	**J q B**	47	0.60	pg/L		10/08/19 14:19	10/11/19 08:37	1
1,2,3,7,8,9-HxCDF	**1.1**	**J q B**	47	0.47	pg/L		10/08/19 14:19	10/11/19 08:37	1
2,3,4,6,7,8-HxCDF	ND		47	0.47	pg/L		10/08/19 14:19	10/11/19 08:37	1
1,2,3,4,6,7,8-HpCDD	**1.4**	**J B**	47	0.42	pg/L		10/08/19 14:19	10/11/19 08:37	1
1,2,3,4,6,7,8-HpCDF	**1.2**	**J q B**	47	0.40	pg/L		10/08/19 14:19	10/11/19 08:37	1
1,2,3,4,7,8,9-HpCDF	ND		47	0.47	pg/L		10/08/19 14:19	10/11/19 08:37	1
OCDD	**4.6**	**J B**	95	0.82	pg/L		10/08/19 14:19	10/11/19 08:37	1
OCDF	**1.8**	**J q B**	95	0.66	pg/L		10/08/19 14:19	10/11/19 08:37	1
Total TCDD	ND		9.5	0.65	pg/L		10/08/19 14:19	10/11/19 08:37	1
Total TCDF	**0.93**	**J**	9.5	0.42	pg/L		10/08/19 14:19	10/11/19 08:37	1
Total PeCDD	ND		47	1.2	pg/L		10/08/19 14:19	10/11/19 08:37	1
Total PeCDF	ND		47	0.66	pg/L		10/08/19 14:19	10/11/19 08:37	1
Total HxCDD	**4.6**	**J q B**	47	0.56	pg/L		10/08/19 14:19	10/11/19 08:37	1
Total HxCDF	**3.2**	**J q B**	47	0.54	pg/L		10/08/19 14:19	10/11/19 08:37	1
Total HpCDD	**2.3**	**J q B**	47	0.42	pg/L		10/08/19 14:19	10/11/19 08:37	1
Total HpCDF	**1.2**	**J q B**	47	0.44	pg/L		10/08/19 14:19	10/11/19 08:37	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	52		25 - 164	10/08/19 14:19	10/11/19 08:37	1
13C-2,3,7,8-TCDF	48		24 - 169	10/08/19 14:19	10/11/19 08:37	1
13C-1,2,3,7,8-PeCDD	50		25 - 181	10/08/19 14:19	10/11/19 08:37	1
13C-1,2,3,7,8-PeCDF	50		24 - 185	10/08/19 14:19	10/11/19 08:37	1
13C-2,3,4,7,8-PeCDF	54		21 - 178	10/08/19 14:19	10/11/19 08:37	1

Client Sample ID: 11187072-Filter Test-6 Lab Sample ID: 320-54852-6

Date Collected: 09/30/19 08:00 **Matrix: Water**
Date Received: 10/01/19 09:20

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,7,8-HxCDD	55		32 - 141	10/08/19 14:19	10/11/19 08:37	1
13C-1,2,3,6,7,8-HxCDD	50		28 - 130	10/08/19 14:19	10/11/19 08:37	1
13C-1,2,3,4,7,8-HxCDF	58		26 - 152	10/08/19 14:19	10/11/19 08:37	1
13C-1,2,3,6,7,8-HxCDF	52		26 - 123	10/08/19 14:19	10/11/19 08:37	1
13C-1,2,3,7,8,9-HxCDF	54		29 - 147	10/08/19 14:19	10/11/19 08:37	1
13C-2,3,4,6,7,8-HxCDF	56		28 - 136	10/08/19 14:19	10/11/19 08:37	1
13C-1,2,3,4,6,7,8-HpCDD	54		23 - 140	10/08/19 14:19	10/11/19 08:37	1
13C-1,2,3,4,6,7,8-HpCDF	51		28 - 143	10/08/19 14:19	10/11/19 08:37	1
13C-1,2,3,4,7,8,9-HpCDF	55		26 - 138	10/08/19 14:19	10/11/19 08:37	1
13C-OCDD	42		17 - 157	10/08/19 14:19	10/11/19 08:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	91		35 - 197	10/08/19 14:19	10/11/19 08:37	1

Default Detection Limits

Client: GHD Services Inc.
Job ID: 320-54852-1
Project/Site: San Jacinto River Waste Pits Superfund

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Prep: 1613B

Analyte	RL		Units
1,2,3,4,6,7,8-HpCDD	50		pg/L
1,2,3,4,6,7,8-HpCDF	50		pg/L
1,2,3,4,7,8,9-HpCDF	50		pg/L
1,2,3,4,7,8-HxCDD	50		pg/L
1,2,3,4,7,8-HxCDF	50		pg/L
1,2,3,6,7,8-HxCDD	50		pg/L
1,2,3,6,7,8-HxCDF	50		pg/L
1,2,3,7,8,9-HxCDD	50		pg/L
1,2,3,7,8,9-HxCDF	50		pg/L
1,2,3,7,8-PeCDD	50		pg/L
1,2,3,7,8-PeCDF	50		pg/L
2,3,4,6,7,8-HxCDF	50		pg/L
2,3,4,7,8-PeCDF	50		pg/L
2,3,7,8-TCDD	10		pg/L
2,3,7,8-TCDF	10		pg/L
OCDD	100		pg/L
OCDF	100		pg/L
Total HpCDD	50		pg/L
Total HpCDF	50		pg/L
Total HxCDD	50		pg/L
Total HxCDF	50		pg/L
Total PeCDD	50		pg/L
Total PeCDF	50		pg/L
Total TCDD	10		pg/L
Total TCDF	10		pg/L

Surrogate Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 320-54852-1

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

Lab Sample ID	Client Sample ID	37TCDD (35-197)
320-54852-1	11187072-Filter Test-1	100
320-54852-1 - RA	11187072-Filter Test-1	89
320-54852-3	11187072-Filter Test-3	97
320-54852-3 - RA	11187072-Filter Test-3	94
320-54852-4	11187072-Filter Test-4	99
320-54852-5	11187072-Filter Test-5	86
320-54852-6	11187072-Filter Test-6	91
MB 320-329339/1-A	Method Blank	95

Percent Surrogate Recovery (Acceptance Limits)

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

Lab Sample ID	Client Sample ID	37TCDD (31-191)
LCS 320-329339/2-A	Lab Control Sample	101
LCSD 320-329339/3-A	Lab Control Sample Dup	88

Percent Surrogate Recovery (Acceptance Limits)

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 320-54852-1

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		TCDD	TCDF	PeCDD	PeCDF	PeCF	HxCDD	HxDD	HxCDF
Lab Sample ID	Client Sample ID	(25-164)	(24-169)	(25-181)	(24-185)	(21-178)	(32-141)	(28-130)	(26-152)
320-54852-1	11187072-Filter Test-1	52	47	50	49	53	52	44	52
320-54852-1 - RA	11187072-Filter Test-1		51						
320-54852-3	11187072-Filter Test-3	57	52	55	54	58	58	50	58
320-54852-3 - RA	11187072-Filter Test-3		58						
320-54852-4	11187072-Filter Test-4	66	60	63	62	67	68	59	69
320-54852-5	11187072-Filter Test-5	54	49	52	52	57	60	49	58
320-54852-6	11187072-Filter Test-6	52	48	50	50	54	55	50	58
MB 320-329339/1-A	Method Blank	47	44	50	47	53	54	46	52

		Percent Isotope Dilution Recovery (Acceptance Limits)						
		HxDF	HxCF	13CHxCF	HpCDD	HpCDF	HpCDF2	OCDD
Lab Sample ID	Client Sample ID	(26-123)	(29-147)	(28-136)	(23-140)	(28-143)	(26-138)	(17-157)
320-54852-1	11187072-Filter Test-1	46	50	50	48	43	50	37
320-54852-1 - RA	11187072-Filter Test-1							
320-54852-3	11187072-Filter Test-3	53	56	54	56	52	57	44
320-54852-3 - RA	11187072-Filter Test-3							
320-54852-4	11187072-Filter Test-4	63	65	65	66	61	66	49
320-54852-5	11187072-Filter Test-5	53	56	57	55	51	55	38
320-54852-6	11187072-Filter Test-6	52	54	56	54	51	55	42
MB 320-329339/1-A	Method Blank	47	50	50	46	44	47	34

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		TCDD	TCDF	PeCDD	PeCDF	PeCF	HxCDD	HxDD	HxCDF
Lab Sample ID	Client Sample ID	(20-175)	(22-152)	(21-227)	(21-192)	(13-328)	(21-193)	(25-163)	(19-202)
LCS 320-329339/2-A	Lab Control Sample	57	52	60	57	61	60	53	58
LCSD 320-329339/3-A	Lab Control Sample Dup	38	36	37	34	39	36	31	35

		Percent Isotope Dilution Recovery (Acceptance Limits)						
		HxDF	HxCF	13CHxCF	HpCDD	HpCDF	HpCDF2	OCDD
Lab Sample ID	Client Sample ID	(21-159)	(17-205)	(22-176)	(26-166)	(21-158)	(20-186)	(13-199)
LCS 320-329339/2-A	Lab Control Sample	53	57	56	55	50	56	43
LCSD 320-329339/3-A	Lab Control Sample Dup	32	35	36	31	30	32	22

Isotope Dilution Summary

Client: GHD Services Inc.
Job ID: 320-54852-1
Project/Site: San Jacinto River Waste Pits Superfund

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-329339/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 330145 **Prep Batch: 329339**

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		10	1.1	pg/L		10/08/19 14:19	10/10/19 20:38	1
2,3,7,8-TCDF	ND		10	0.56	pg/L		10/08/19 14:19	10/10/19 20:38	1
1,2,3,7,8-PeCDD	ND		50	0.78	pg/L		10/08/19 14:19	10/10/19 20:38	1
1,2,3,7,8-PeCDF	ND		50	0.57	pg/L		10/08/19 14:19	10/10/19 20:38	1
2,3,4,7,8-PeCDF	ND		50	0.57	pg/L		10/08/19 14:19	10/10/19 20:38	1
1,2,3,4,7,8-HxCDD	2.39	J q	50	0.46	pg/L		10/08/19 14:19	10/10/19 20:38	1
1,2,3,6,7,8-HxCDD	1.30	J q	50	0.49	pg/L		10/08/19 14:19	10/10/19 20:38	1
1,2,3,7,8,9-HxCDD	2.03	J	50	0.43	pg/L		10/08/19 14:19	10/10/19 20:38	1
1,2,3,4,7,8-HxCDF	1.22	J q	50	0.45	pg/L		10/08/19 14:19	10/10/19 20:38	1
1,2,3,6,7,8-HxCDF	1.18	J	50	0.46	pg/L		10/08/19 14:19	10/10/19 20:38	1
1,2,3,7,8,9-HxCDF	1.28	J q	50	0.35	pg/L		10/08/19 14:19	10/10/19 20:38	1
2,3,4,6,7,8-HxCDF	1.18	J q	50	0.35	pg/L		10/08/19 14:19	10/10/19 20:38	1
1,2,3,4,6,7,8-HpCDD	2.32	J q	50	0.47	pg/L		10/08/19 14:19	10/10/19 20:38	1
1,2,3,4,6,7,8-HpCDF	2.14	J	50	0.34	pg/L		10/08/19 14:19	10/10/19 20:38	1
1,2,3,4,7,8,9-HpCDF	1.95	J	50	0.42	pg/L		10/08/19 14:19	10/10/19 20:38	1
OCDD	8.11	J	100	0.55	pg/L		10/08/19 14:19	10/10/19 20:38	1
OCDF	5.52	J	100	1.0	pg/L		10/08/19 14:19	10/10/19 20:38	1
Total TCDD	ND		10	1.1	pg/L		10/08/19 14:19	10/10/19 20:38	1
Total TCDF	ND		10	0.56	pg/L		10/08/19 14:19	10/10/19 20:38	1
Total PeCDD	ND		50	0.78	pg/L		10/08/19 14:19	10/10/19 20:38	1
Total PeCDF	ND		50	0.66	pg/L		10/08/19 14:19	10/10/19 20:38	1
Total HxCDD	5.71	J q	50	0.46	pg/L		10/08/19 14:19	10/10/19 20:38	1
Total HxCDF	4.86	J q	50	0.40	pg/L		10/08/19 14:19	10/10/19 20:38	1
Total HpCDD	3.91	J q	50	0.47	pg/L		10/08/19 14:19	10/10/19 20:38	1
Total HpCDF	4.09	J	50	0.38	pg/L		10/08/19 14:19	10/10/19 20:38	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*47*		*25 - 164*	*10/08/19 14:19*	*10/10/19 20:38*	*1*
13C-2,3,7,8-TCDF	*44*		*24 - 169*	*10/08/19 14:19*	*10/10/19 20:38*	*1*
13C-1,2,3,7,8-PeCDD	*50*		*25 - 181*	*10/08/19 14:19*	*10/10/19 20:38*	*1*
13C-1,2,3,7,8-PeCDF	*47*		*24 - 185*	*10/08/19 14:19*	*10/10/19 20:38*	*1*
13C-2,3,4,7,8-PeCDF	*53*		*21 - 178*	*10/08/19 14:19*	*10/10/19 20:38*	*1*
13C-1,2,3,4,7,8-HxCDD	*54*		*32 - 141*	*10/08/19 14:19*	*10/10/19 20:38*	*1*
13C-1,2,3,6,7,8-HxCDD	*46*		*28 - 130*	*10/08/19 14:19*	*10/10/19 20:38*	*1*
13C-1,2,3,4,7,8-HxCDF	*52*		*26 - 152*	*10/08/19 14:19*	*10/10/19 20:38*	*1*
13C-1,2,3,6,7,8-HxCDF	*47*		*26 - 123*	*10/08/19 14:19*	*10/10/19 20:38*	*1*
13C-1,2,3,7,8,9-HxCDF	*50*		*29 - 147*	*10/08/19 14:19*	*10/10/19 20:38*	*1*
13C-2,3,4,6,7,8-HxCDF	*50*		*28 - 136*	*10/08/19 14:19*	*10/10/19 20:38*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*46*		*23 - 140*	*10/08/19 14:19*	*10/10/19 20:38*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*44*		*28 - 143*	*10/08/19 14:19*	*10/10/19 20:38*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*47*		*26 - 138*	*10/08/19 14:19*	*10/10/19 20:38*	*1*
13C-OCDD	*34*		*17 - 157*	*10/08/19 14:19*	*10/10/19 20:38*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*95*		*35 - 197*	*10/08/19 14:19*	*10/10/19 20:38*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-329339/2-A
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 330145
Prep Batch: 329339

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	200	209		pg/L		105	67 - 158
2,3,7,8-TCDF	200	237		pg/L		119	75 - 158
1,2,3,7,8-PeCDD	1000	1170		pg/L		117	70 - 142
1,2,3,7,8-PeCDF	1000	1090		pg/L		109	80 - 134
2,3,4,7,8-PeCDF	1000	1080		pg/L		108	68 - 160
1,2,3,4,7,8-HxCDD	1000	1050		pg/L		105	70 - 164
1,2,3,6,7,8-HxCDD	1000	1060		pg/L		106	76 - 134
1,2,3,7,8,9-HxCDD	1000	1050		pg/L		105	64 - 162
1,2,3,4,7,8-HxCDF	1000	1030		pg/L		103	72 - 134
1,2,3,6,7,8-HxCDF	1000	1050		pg/L		105	84 - 130
1,2,3,7,8,9-HxCDF	1000	1060		pg/L		106	78 - 130
2,3,4,6,7,8-HxCDF	1000	1100		pg/L		110	70 - 156
1,2,3,4,6,7,8-HpCDD	1000	1040		pg/L		104	70 - 140
1,2,3,4,6,7,8-HpCDF	1000	1020		pg/L		102	82 - 122
1,2,3,4,7,8,9-HpCDF	1000	972		pg/L		97	78 - 138
OCDD	2000	2040		pg/L		102	78 - 144
OCDF	2000	2130		pg/L		106	63 - 170

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*57*		*20 - 175*
13C-2,3,7,8-TCDF	*52*		*22 - 152*
13C-1,2,3,7,8-PeCDD	*60*		*21 - 227*
13C-1,2,3,7,8-PeCDF	*57*		*21 - 192*
13C-2,3,4,7,8-PeCDF	*61*		*13 - 328*
13C-1,2,3,4,7,8-HxCDD	*60*		*21 - 193*
13C-1,2,3,6,7,8-HxCDD	*53*		*25 - 163*
13C-1,2,3,4,7,8-HxCDF	*58*		*19 - 202*
13C-1,2,3,6,7,8-HxCDF	*53*		*21 - 159*
13C-1,2,3,7,8,9-HxCDF	*57*		*17 - 205*
13C-2,3,4,6,7,8-HxCDF	*56*		*22 - 176*
13C-1,2,3,4,6,7,8-HpCDD	*55*		*26 - 166*
13C-1,2,3,4,6,7,8-HpCDF	*50*		*21 - 158*
13C-1,2,3,4,7,8,9-HpCDF	*56*		*20 - 186*
13C-OCDD	*43*		*13 - 199*

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
37Cl4-2,3,7,8-TCDD	*101*		*31 - 191*

Lab Sample ID: LCSD 320-329339/3-A
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 330145
Prep Batch: 329339

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD	200	219		pg/L		110	67 - 158	5	50
2,3,7,8-TCDF	200	240		pg/L		120	75 - 158	1	50
1,2,3,7,8-PeCDD	1000	1290		pg/L		129	70 - 142	9	50
1,2,3,7,8-PeCDF	1000	1200		pg/L		120	80 - 134	10	50
2,3,4,7,8-PeCDF	1000	1140		pg/L		114	68 - 160	6	50

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-329339/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 330145 **Prep Batch: 329339**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3,4,7,8-HxCDD			1000	1170		pg/L		117	70 - 164	11	50
1,2,3,6,7,8-HxCDD			1000	1220		pg/L		122	76 - 134	14	50
1,2,3,7,8,9-HxCDD			1000	1180		pg/L		118	64 - 162	11	50
1,2,3,4,7,8-HxCDF			1000	1170		pg/L		117	72 - 134	13	50
1,2,3,6,7,8-HxCDF			1000	1180		pg/L		118	84 - 130	12	50
1,2,3,7,8,9-HxCDF			1000	1180		pg/L		118	78 - 130	10	50
2,3,4,6,7,8-HxCDF			1000	1220		pg/L		122	70 - 156	11	50
1,2,3,4,6,7,8-HpCDD			1000	1210		pg/L		121	70 - 140	15	50
1,2,3,4,6,7,8-HpCDF			1000	1180		pg/L		118	82 - 122	15	50
1,2,3,4,7,8,9-HpCDF			1000	1120		pg/L		112	78 - 138	14	50
OCDD			2000	2410		pg/L		120	78 - 144	16	50
OCDF			2000	2600		pg/L		130	63 - 170	20	50

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*38*		*20 - 175*
13C-2,3,7,8-TCDF	*36*		*22 - 152*
13C-1,2,3,7,8-PeCDD	*37*		*21 - 227*
13C-1,2,3,7,8-PeCDF	*34*		*21 - 192*
13C-2,3,4,7,8-PeCDF	*39*		*13 - 328*
13C-1,2,3,4,7,8-HxCDD	*36*		*21 - 193*
13C-1,2,3,6,7,8-HxCDD	*31*		*25 - 163*
13C-1,2,3,4,7,8-HxCDF	*35*		*19 - 202*
13C-1,2,3,6,7,8-HxCDF	*32*		*21 - 159*
13C-1,2,3,7,8,9-HxCDF	*35*		*17 - 205*
13C-2,3,4,6,7,8-HxCDF	*36*		*22 - 176*
13C-1,2,3,4,6,7,8-HpCDD	*31*		*26 - 166*
13C-1,2,3,4,6,7,8-HpCDF	*30*		*21 - 158*
13C-1,2,3,4,7,8,9-HpCDF	*32*		*20 - 186*
13C-OCDD	*22*		*13 - 199*

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
37Cl4-2,3,7,8-TCDD	*88*		*31 - 191*

QC Association Summary

Client: GHD Services Inc.
Job ID: 320-54852-1
Project/Site: San Jacinto River Waste Pits Superfund

Specialty Organics

Prep Batch: 329339

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-54852-1	11187072-Filter Test-1	Total/NA	Water	1613B	
320-54852-1 - RA	11187072-Filter Test-1	Total/NA	Water	1613B	
320-54852-3	11187072-Filter Test-3	Total/NA	Water	1613B	
320-54852-3 - RA	11187072-Filter Test-3	Total/NA	Water	1613B	
320-54852-4	11187072-Filter Test-4	Total/NA	Water	1613B	
320-54852-5	11187072-Filter Test-5	Total/NA	Water	1613B	
320-54852-6	11187072-Filter Test-6	Total/NA	Water	1613B	
MB 320-329339/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-329339/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-329339/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 330145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 320-329339/1-A	Method Blank	Total/NA	Water	1613B	329339
LCS 320-329339/2-A	Lab Control Sample	Total/NA	Water	1613B	329339
LCSD 320-329339/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	329339

Analysis Batch: 330148

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-54852-1	11187072-Filter Test-1	Total/NA	Water	1613B	329339
320-54852-3	11187072-Filter Test-3	Total/NA	Water	1613B	329339
320-54852-4	11187072-Filter Test-4	Total/NA	Water	1613B	329339
320-54852-5	11187072-Filter Test-5	Total/NA	Water	1613B	329339
320-54852-6	11187072-Filter Test-6	Total/NA	Water	1613B	329339

Analysis Batch: 330473

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-54852-1 - RA	11187072-Filter Test-1	Total/NA	Water	1613B	329339
320-54852-3 - RA	11187072-Filter Test-3	Total/NA	Water	1613B	329339

Lab Chronicle

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 320-54852-1

Client Sample ID: 11187072-Filter Test-1

Lab Sample ID: 320-54852-1
Date Collected: 09/30/19 08:00
Matrix: Water
Date Received: 10/01/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			329339	10/08/19 14:19	A1A	TAL SAC
Total/NA	Analysis	1613B		1	330148	10/11/19 04:47	AS	TAL SAC
Total/NA	Prep	1613B	RA		329339	10/08/19 14:19	A1A	TAL SAC
Total/NA	Analysis	1613B	RA	1	330473	10/11/19 18:00	ALM	TAL SAC

Client Sample ID: 11187072-Filter Test-3

Lab Sample ID: 320-54852-3
Date Collected: 09/30/19 08:00
Matrix: Water
Date Received: 10/01/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			329339	10/08/19 14:19	A1A	TAL SAC
Total/NA	Analysis	1613B		1	330148	10/11/19 06:19	AS	TAL SAC
Total/NA	Prep	1613B	RA		329339	10/08/19 14:19	A1A	TAL SAC
Total/NA	Analysis	1613B	RA	1	330473	10/11/19 17:22	ALM	TAL SAC

Client Sample ID: 11187072-Filter Test-4

Lab Sample ID: 320-54852-4
Date Collected: 09/30/19 08:00
Matrix: Water
Date Received: 10/01/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			329339	10/08/19 14:19	A1A	TAL SAC
Total/NA	Analysis	1613B		1	330148	10/11/19 07:05	AS	TAL SAC

Client Sample ID: 11187072-Filter Test-5

Lab Sample ID: 320-54852-5
Date Collected: 09/30/19 08:00
Matrix: Water
Date Received: 10/01/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			329339	10/08/19 14:19	A1A	TAL SAC
Total/NA	Analysis	1613B		1	330148	10/11/19 07:51	AS	TAL SAC

Client Sample ID: 11187072-Filter Test-6

Lab Sample ID: 320-54852-6
Date Collected: 09/30/19 08:00
Matrix: Water
Date Received: 10/01/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			329339	10/08/19 14:19	A1A	TAL SAC
Total/NA	Analysis	1613B		1	330148	10/11/19 08:37	AS	TAL SAC

Laboratory References:

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GHD Services Inc.
Job ID: 320-54852-1
Project/Site: San Jacinto River Waste Pits Superfund

Laboratory: Eurofins TestAmerica, Sacramento

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704399	05-31-20

Laboratory: Eurofins TestAmerica, Pittsburgh

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704528-15-2	03-31-20

Method Summary

Client: GHD Services Inc.
Job ID: 320-54852-1
Project/Site: San Jacinto River Waste Pits Superfund

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	TAL SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GHD Services Inc.
Job ID: 320-54852-1
Project/Site: San Jacinto River Waste Pits Superfund

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
320-54852-1	11187072-Filter Test-1	Water	09/30/19 08:00	10/01/19 09:20	
320-54852-3	11187072-Filter Test-3	Water	09/30/19 08:00	10/01/19 09:20	
320-54852-4	11187072-Filter Test-4	Water	09/30/19 08:00	10/01/19 09:20	
320-54852-5	11187072-Filter Test-5	Water	09/30/19 08:00	10/01/19 09:20	
320-54852-6	11187072-Filter Test-6	Water	09/30/19 08:00	10/01/19 09:20	

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Sacram Job No.: 320-54852-1

SDG No.:

Instrument ID: 10D5 Analysis Batch Number: 324128

Lab Sample ID: IC 320-324128/3 Client Sample ID:

Date Analyzed: 09/17/19 13:03 Lab File ID: 17SE1910D5_3.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,7,8,9-HxCDD	31.76	Invalid Compound ID	shardaa	09/17/19 18:02

1613B

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Sacram Job No.: 320-54852-1

SDG No.:

Instrument ID: 10D5 Analysis Batch Number: 330145

Lab Sample ID: MB 320-329339/1-A Client Sample ID:

Date Analyzed: 10/10/19 20:38 Lab File ID: 10OC1910D5_7.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,4,7,8-HxCDF	30.67	Split Peak	dadunj	10/14/19 14:32
1,2,3,6,7,8-HxCDF	30.87	Invalid Compound ID	dadunj	10/14/19 14:32
2,3,4,6,7,8-HxCDF	31.64	Split Peak	dadunj	10/14/19 14:32
1,2,3,4,7,8-HxCDD	31.83	Split Peak	dadunj	10/14/19 14:33
1,2,3,6,7,8-HxCDD	31.93	Invalid Compound ID	dadunj	10/14/19 14:33
1,2,3,7,8,9-HxCDF	32.43	Split Peak	dadunj	10/14/19 14:33
OCDF	37.04	Split Peak	dadunj	10/14/19 14:33

1613B

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Sacram Job No.: 320-54852-1

SDG No.:

Instrument ID: 10D5 Analysis Batch Number: 330148

Lab Sample ID: 320-54852-1 Client Sample ID: 11187072-Filter Test-1

Date Analyzed: 10/11/19 04:47 Lab File ID: 10OC1910D5_17.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,7,8-PeCDF	22.56	Split Peak	dadunj	10/14/19 14:39
13C-2,3,4,7,8-PeCDF	23.89	Peak assignment corrected	shardaa	10/11/19 10:48
13C-1,2,3,4,7,8-HxCDF	30.66	Peak assignment corrected	shardaa	10/11/19 10:48
2,3,4,6,7,8-HxCDF	31.64	Split Peak	dadunj	10/14/19 14:39
13C-1,2,3,4,7,8-HxCDD	31.80	Peak assignment corrected	shardaa	10/11/19 10:49
1,2,3,4,7,8-HxCDD	31.81	Poor chromatography	shardaa	10/11/19 10:49
1,2,3,6,7,8-HxCDD	31.92	Poor chromatography	shardaa	10/11/19 10:49
1,2,3,7,8,9-HxCDF	32.41	Invalid Compound ID	dadunj	10/14/19 14:39
13C-1,2,3,4,7,8,9-HpCDF	34.88	Poor chromatography	shardaa	10/11/19 10:49

Lab Sample ID: 320-54852-3 Client Sample ID: 11187072-Filter Test-3

Date Analyzed: 10/11/19 06:19 Lab File ID: 10OC1910D5_19.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,3,4,7,8-PeCDF	23.91	Split Peak	dadunj	10/14/19 14:46
2,3,4,6,7,8-HxCDF	31.61	Split Peak	dadunj	10/14/19 14:47
1,2,3,4,7,8-HxCDD	31.80	Split Peak	dadunj	10/14/19 14:47
1,2,3,6,7,8-HxCDD	31.91	Split Peak	dadunj	10/14/19 14:48
1,2,3,7,8,9-HxCDF	32.40	Invalid Compound ID	dadunj	10/14/19 14:47
1,2,3,4,6,7,8-HpCDF	33.81	Split Peak	dadunj	10/14/19 14:48

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Sacram Job No.: 320-54852-1

SDG No.:

Instrument ID: 10D5 Analysis Batch Number: 330148

Lab Sample ID: 320-54852-4 Client Sample ID: 11187072-Filter Test-4

Date Analyzed: 10/11/19 07:05 Lab File ID: 10OC1910D5_20.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,6,7,8-HxCDD		Invalid Compound ID	dadunj	10/14/19 14:50
1,2,3,4,7,8-HxCDD	31.81	Split Peak	dadunj	10/14/19 14:50
1,2,3,7,8,9-HxCDD	32.23	Split Peak	dadunj	10/14/19 14:50
1,2,3,4,6,7,8-HpCDF	33.81	Baseline	dadunj	10/14/19 14:50

Lab Sample ID: 320-54852-5 Client Sample ID: 11187072-Filter Test-5

Date Analyzed: 10/11/19 07:51 Lab File ID: 10OC1910D5_21.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,4,7,8-HxCDF		Invalid Compound ID	dadunj	10/14/19 14:51
1,2,3,6,7,8-HxCDD		Invalid Compound ID	dadunj	10/14/19 14:52
2,3,7,8-TCDF	17.46	Baseline	dadunj	10/14/19 14:51
2,3,4,6,7,8-HxCDF	31.63	Baseline	dadunj	10/14/19 14:52
1,2,3,7,8,9-HxCDF	32.40	Baseline	dadunj	10/14/19 14:52

Lab Sample ID: 320-54852-6 Client Sample ID: 11187072-Filter Test-6

Date Analyzed: 10/11/19 08:37 Lab File ID: 10OC1910D5_22.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,3,7,8-TCDF	17.46	Baseline	dadunj	10/14/19 14:57
1,2,3,4,7,8-HxCDF	30.63	Split Peak	dadunj	10/14/19 14:57
1,2,3,6,7,8-HxCDF	30.82	Split Peak	dadunj	10/14/19 14:58
1,2,3,4,7,8-HxCDD	31.81	Split Peak	dadunj	10/14/19 14:58
1,2,3,6,7,8-HxCDD	31.92	Invalid Compound ID	dadunj	10/14/19 14:58
1,2,3,7,8,9-HxCDD	32.23	Baseline	dadunj	10/14/19 14:59
1,2,3,7,8,9-HxCDF	32.40	Split Peak	dadunj	10/14/19 14:58
1,2,3,4,6,7,8-HpCDF	33.82	Baseline	dadunj	10/14/19 14:59
1,2,3,4,6,7,8-HpCDD	34.61	Split Peak	dadunj	10/14/19 14:59

1613B

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
HRDXNCP_00038	10/16/19	10/16/18	C14, Lot STBH5862	6 mL	HRDXNCP_00037	1.2 mL	1,2,3,4,6,7,9-HpCDD	40 pg/uL
							1,2,3,4,6,7-HxCDD	40 pg/uL
							1,2,3,4,6,8-HxCDF	40 pg/uL
							1,2,3,4,8,9-HxCDF	40 pg/uL
							1,2,3,7-TCDD	40 pg/uL
							1,2,3,8,9-PeCDD	40 pg/uL
							1,2,3,8,9-PeCDF	40 pg/uL
							1,2,3,9-TCDD	40 pg/uL
							1,2,3,9-TCDF	40 pg/uL
							1,2,4,6,7,9-HxCDD	40 pg/uL
							1,2,4,7,9-PeCDD	40 pg/uL
							1,2,8,9-TCDD	40 pg/uL
							1,2,8,9-TCDF	40 pg/uL
							1,3,4,6,8-PeCDF	40 pg/uL
							1,3,6,8-TCDD	40 pg/uL
							1,3,6,8-TCDF	40 pg/uL
							13C-2,3,7,8-TCDD	40 pg/uL
							13C-2,3,7,8-TCDF	40 pg/uL
							2,3,4,7-TCDF	40 pg/uL
							2,3,7,8-TCDD	40 pg/uL
							2,3,7,8-TCDF	40 pg/uL
.HRDXNCP_00037	03/31/25		CIL, Lot ER03111502		(Purchased Reagent)		1,2,3,4,6,7,9-HpCDD	200 ng/mL
							1,2,3,4,6,7-HxCDD	200 ng/mL
							1,2,3,4,6,8-HxCDF	200 ng/mL
							1,2,3,4,8,9-HxCDF	200 ng/mL
							1,2,3,7-TCDD	200 ng/mL
							1,2,3,8,9-PeCDD	200 ng/mL
							1,2,3,8,9-PeCDF	200 ng/mL
							1,2,3,9-TCDD	200 ng/mL
							1,2,3,9-TCDF	200 ng/mL
							1,2,4,6,7,9-HxCDD	200 ng/mL
							1,2,4,7,9-PeCDD	200 ng/mL
							1,2,8,9-TCDD	200 ng/mL
							1,2,8,9-TCDF	200 ng/mL
							1,3,4,6,8-PeCDF	200 ng/mL
							1,3,6,8-TCDD	200 ng/mL
							1,3,6,8-TCDF	200 ng/mL
							13C-2,3,7,8-TCDD	200 ng/mL
							13C-2,3,7,8-TCDF	200 ng/mL
							2,3,4,7-TCDF	200 ng/mL
							2,3,7,8-TCDD	200 ng/mL
							2,3,7,8-TCDF	200 ng/mL
HRDXNCP_00040	08/30/20	08/30/19	C14, Lot STBH7678	6 mL	HRDXNCP_00039	1.2 mL	1,2,3,4,6,7,9-HpCDD	40 pg/uL
							1,2,3,4,6,7-HxCDD	40 pg/uL
							1,2,3,4,6,8-HxCDF	40 pg/uL
							1,2,3,4,8,9-HxCDF	40 pg/uL
							1,2,3,7-TCDD	40 pg/uL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,8,9-PeCDD	40 pg/uL
							1,2,3,8,9-PeCDF	40 pg/uL
							1,2,3,9-TCDD	40 pg/uL
							1,2,3,9-TCDF	40 pg/uL
							1,2,4,6,7,9-HxCDD	40 pg/uL
							1,2,4,7,9-PeCDD	40 pg/uL
							1,2,8,9-TCDD	40 pg/uL
							1,2,8,9-TCDF	40 pg/uL
							1,3,4,6,8-PeCDF	40 pg/uL
							1,3,6,8-TCDD	40 pg/uL
							1,3,6,8-TCDF	40 pg/uL
							13C-2,3,7,8-TCDD	40 pg/uL
							13C-2,3,7,8-TCDF	40 pg/uL
							2,3,4,7-TCDF	40 pg/uL
							2,3,7,8-TCDD	40 pg/uL
							2,3,7,8-TCDF	40 pg/uL
.HRDXNCP_00039	03/31/25		CIL, Lot ER03111502		(Purchased Reagent)		1,2,3,4,6,7,9-HpCDD	200 ng/mL
							1,2,3,4,6,7-HxCDD	200 ng/mL
							1,2,3,4,6,8-HxCDF	200 ng/mL
							1,2,3,4,8,9-HxCDF	200 ng/mL
							1,2,3,7-TCDD	200 ng/mL
							1,2,3,8,9-PeCDD	200 ng/mL
							1,2,3,8,9-PeCDF	200 ng/mL
							1,2,3,9-TCDD	200 ng/mL
							1,2,3,9-TCDF	200 ng/mL
							1,2,4,6,7,9-HxCDD	200 ng/mL
							1,2,4,7,9-PeCDD	200 ng/mL
							1,2,8,9-TCDD	200 ng/mL
							1,2,8,9-TCDF	200 ng/mL
							1,3,4,6,8-PeCDF	200 ng/mL
							1,3,6,8-TCDD	200 ng/mL
							1,3,6,8-TCDF	200 ng/mL
							13C-2,3,7,8-TCDD	200 ng/mL
							13C-2,3,7,8-TCDF	200 ng/mL
							2,3,4,7-TCDF	200 ng/mL
							2,3,7,8-TCDD	200 ng/mL
							2,3,7,8-TCDF	200 ng/mL
HRDXNIC_00042	04/29/20	07/02/19	C14, Lot STBH7678	0.5 mL	HRDXNIDA_00303	0.125 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.25 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNSU_00196	0.05 mL	37Cl4-2,3,7,8-TCDD	40 ng/mL
					HRDXNTA_00102	0.5 mL	1,2,3,4,6,7,8-HpCDD	200 ng/mL
							1,2,3,4,6,7,8-HpCDF	200 ng/mL
							1,2,3,4,7,8,9-HpCDF	200 ng/mL
							1,2,3,4,7,8-HxCDD	200 ng/mL
							1,2,3,4,7,8-HxCDF	200 ng/mL
							1,2,3,6,7,8-HxCDD	200 ng/mL
							1,2,3,6,7,8-HxCDF	200 ng/mL
							1,2,3,7,8,9-HxCDD	200 ng/mL
							1,2,3,7,8,9-HxCDF	200 ng/mL
							1,2,3,7,8-PeCDD	200 ng/mL
							1,2,3,7,8-PeCDF	200 ng/mL
							2,3,4,6,7,8-HxCDF	200 ng/mL
							2,3,4,7,8-PeCDF	200 ng/mL
							2,3,7,8-TCDD	40 ng/mL
							2,3,7,8-TCDF	40 ng/mL
							OCDD	400 ng/mL
							OCDF	400 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00102	03/01/25	Wellington Labs, Lot 13PAR0418			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	200 ng/mL
							1,2,3,4,6,7,8-HpCDF	200 ng/mL
							1,2,3,4,7,8,9-HpCDF	200 ng/mL
							1,2,3,4,7,8-HxCDD	200 ng/mL
							1,2,3,4,7,8-HxCDF	200 ng/mL
							1,2,3,6,7,8-HxCDD	200 ng/mL
							1,2,3,6,7,8-HxCDF	200 ng/mL
							1,2,3,7,8,9-HxCDD	200 ng/mL
							1,2,3,7,8,9-HxCDF	200 ng/mL
							1,2,3,7,8-PeCDD	200 ng/mL
							1,2,3,7,8-PeCDF	200 ng/mL
							2,3,4,6,7,8-HxCDF	200 ng/mL
							2,3,4,7,8-PeCDF	200 ng/mL
							2,3,7,8-TCDD	40 ng/mL
							2,3,7,8-TCDF	40 ng/mL
							OCDD	400 ng/mL
							OCDF	400 ng/mL
HRDXNIDA_00390	09/18/20	09/18/19	Acetone, Lot 0000225409	500 mL	HRDXNIDA_00364	5 mL	13C-1,2,3,4,6,7,8-HpCDD	2 pg/uL
							13C-1,2,3,4,6,7,8-HpCDF	2 pg/uL
							13C-2,3,7,8-TCDF	2 pg/uL
							13C-2,3,7,8-TCDD	2 pg/uL
							13C-1,2,3,6,7,8-HxCDF	2 pg/uL
							13C-1,2,3,7,8,9-HxCDF	2 pg/uL
							13C-2,3,4,6,7,8-HxCDF	2 pg/uL
							13C-1,2,3,7,8-PeCDD	2 pg/uL
							13C-1,2,3,7,8-PeCDF	2 pg/uL
							13C-1,2,3,6,7,8-HxCDD	2 pg/uL
							13C-OCDD	4 pg/uL
					HRDXNIDA_00379	2.5 mL	13C-1,2,3,4,7,8,9-HpCDF	2 pg/uL
							13C-2,3,4,7,8-PeCDF	2 pg/uL
							13C-1,2,3,4,7,8-HxCDD	2 pg/uL
							13C-1,2,3,4,7,8-HxCDF	2 pg/uL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20		CIL, Lot ER111010-01		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24		CIL, Lot ER08101404		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26		CIL, Lot ER09131601		(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26		CIL, Lot ER03031601		(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26		CIL, Lot ER02241603		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20		CIL, Lot ER100610-01		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20		CIL, Lot ER100610-02		(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21		CIL, Lot ER012111-01		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28		CIL, Lot ER03151801		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27		CIL, Lot ER04051701		(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIDA_00379	04/11/26	04/11/19	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00375	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00376	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00377	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00378	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00375	05/31/26		CIL, Lot ER04251601		(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00376	01/31/27		CIL, Lot ER01061701		(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00377	06/30/26		CIL, Lot ER04211601		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00378	07/31/27		CIL, Lot ER04211701		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
.HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
..HRDXNIS_00110	09/30/26		CIL, Lot ER08221601		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
..HRDXNIS_00111	01/31/27		CIL, Lot ER11081602		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
HRDXNL2_00027	04/29/20	07/02/19	C14, Lot STBH7678	1 mL	HRDXNIDA_00303	0.25 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.5 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIS_00117	1 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00217	0.625 mL	37Cl4-2,3,7,8-TCDD	0.5 ng/mL
					HRDXNTA_00113	0.125 mL	1,2,3,4,6,7,8-HpCDD	2.5 ng/mL
							1,2,3,4,6,7,8-HpCDF	2.5 ng/mL
							1,2,3,4,7,8,9-HpCDF	2.5 ng/mL
							1,2,3,4,7,8-HxCDD	2.5 ng/mL
							1,2,3,4,7,8-HxCDF	2.5 ng/mL
							1,2,3,6,7,8-HxCDD	2.5 ng/mL
							1,2,3,6,7,8-HxCDF	2.5 ng/mL
							1,2,3,7,8,9-HxCDD	2.5 ng/mL
							1,2,3,7,8,9-HxCDF	2.5 ng/mL
							1,2,3,7,8-PeCDD	2.5 ng/mL
							1,2,3,7,8-PeCDF	2.5 ng/mL
							2,3,4,6,7,8-HxCDF	2.5 ng/mL
							2,3,4,7,8-PeCDF	2.5 ng/mL
							2,3,7,8-TCDD	0.5 ng/mL
							2,3,7,8-TCDF	0.5 ng/mL
							OCDD	5 ng/mL
							OCDF	5 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26	CIL, Lot ER08221601			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27	CIL, Lot ER11081602			(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00217	07/01/20	07/01/19	Isooctane, Lot 0000201867	500 mL	HRDXNSU_00196	1000 uL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
..HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
...HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
....HRDXNSU_00187	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00113	05/29/20	05/29/19	Acetone, Lot 00000197752	25 mL	HRDXNTA_00092	0.25 mL	1,2,3,4,6,7,8-HpCDD	20 ng/mL
							1,2,3,4,6,7,8-HpCDF	20 ng/mL
							1,2,3,4,7,8,9-HpCDF	20 ng/mL
							1,2,3,4,7,8-HxCDD	20 ng/mL
							1,2,3,4,7,8-HxCDF	20 ng/mL
							1,2,3,6,7,8-HxCDD	20 ng/mL
							1,2,3,6,7,8-HxCDF	20 ng/mL
							1,2,3,7,8,9-HxCDD	20 ng/mL
							1,2,3,7,8,9-HxCDF	20 ng/mL
							1,2,3,7,8-PeCDD	20 ng/mL
							1,2,3,7,8-PeCDF	20 ng/mL
							2,3,4,6,7,8-HxCDF	20 ng/mL
							2,3,4,7,8-PeCDF	20 ng/mL
							2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL
							OCDD	40 ng/mL
							OCDF	40 ng/mL
..HRDXNTA_00092	04/30/26	CIL, Lot ER02241602			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL3_00025	04/29/20	07/02/19	C14, Lot STBH7678	0.5 mL	HRDXNIDA_00303	0.125 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.25 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIS_00117	0.5 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00217	1.25 mL	37Cl4-2,3,7,8-TCDD	2 ng/mL
					HRDXNTA_00113	0.25 mL	1,2,3,4,6,7,8-HpCDD	10 ng/mL
							1,2,3,4,6,7,8-HpCDF	10 ng/mL
							1,2,3,4,7,8,9-HpCDF	10 ng/mL
							1,2,3,4,7,8-HxCDD	10 ng/mL
							1,2,3,4,7,8-HxCDF	10 ng/mL
							1,2,3,6,7,8-HxCDD	10 ng/mL
							1,2,3,6,7,8-HxCDF	10 ng/mL
							1,2,3,7,8,9-HxCDD	10 ng/mL
							1,2,3,7,8,9-HxCDF	10 ng/mL
							1,2,3,7,8-PeCDD	10 ng/mL
							1,2,3,7,8-PeCDF	10 ng/mL
							2,3,4,6,7,8-HxCDF	10 ng/mL
							2,3,4,7,8-PeCDF	10 ng/mL
							2,3,7,8-TCDD	2 ng/mL
							2,3,7,8-TCDF	2 ng/mL
							OCDD	20 ng/mL
							OCDF	20 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26	CIL, Lot ER08221601			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27	CIL, Lot ER11081602			(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00217	07/01/20	07/01/19	Isooctane, Lot 0000201867	500 mL	HRDXNSU_00196	1000 uL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
..HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
...HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
....HRDXNSU_00187	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00113	05/29/20	05/29/19	Acetone, Lot 00000197752	25 mL	HRDXNTA_00092	0.25 mL	1,2,3,4,6,7,8-HpCDD	20 ng/mL
							1,2,3,4,6,7,8-HpCDF	20 ng/mL
							1,2,3,4,7,8,9-HpCDF	20 ng/mL
							1,2,3,4,7,8-HxCDD	20 ng/mL
							1,2,3,4,7,8-HxCDF	20 ng/mL
							1,2,3,6,7,8-HxCDD	20 ng/mL
							1,2,3,6,7,8-HxCDF	20 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,7,8,9-HxCDD	20 ng/mL
							1,2,3,7,8,9-HxCDF	20 ng/mL
							1,2,3,7,8-PeCDD	20 ng/mL
							1,2,3,7,8-PeCDF	20 ng/mL
							2,3,4,6,7,8-HxCDF	20 ng/mL
							2,3,4,7,8-PeCDF	20 ng/mL
							2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL
							OCDD	40 ng/mL
							OCDF	40 ng/mL
..HRDXNTA_00092	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL4_00084	04/29/20	07/11/19	C14, Lot STBH7678	1 mL	HRDXNIDA_00364	0.5 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIDA_00379	0.25 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIS_00117	1 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00196	0.02 mL	37Cl4-2,3,7,8-TCDD	8 ng/mL
					HRDXNTA_00093	0.025 mL	1,2,3,4,6,7,8-HpCDD	50 ng/mL
							1,2,3,4,6,7,8-HpCDF	50 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,4,7,8,9-HpCDF	50 ng/mL
							1,2,3,4,7,8-HxCDD	50 ng/mL
							1,2,3,4,7,8-HxCDF	50 ng/mL
							1,2,3,6,7,8-HxCDD	50 ng/mL
							1,2,3,6,7,8-HxCDF	50 ng/mL
							1,2,3,7,8,9-HxCDD	50 ng/mL
							1,2,3,7,8,9-HxCDF	50 ng/mL
							1,2,3,7,8-PeCDD	50 ng/mL
							1,2,3,7,8-PeCDF	50 ng/mL
							2,3,4,6,7,8-HxCDF	50 ng/mL
							2,3,4,7,8-PeCDF	50 ng/mL
							2,3,7,8-TCDD	10 ng/mL
							2,3,7,8-TCDF	10 ng/mL
							OCDD	100 ng/mL
							OCDF	100 ng/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIDA_00379	04/11/26	04/11/19	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00375	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00376	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00377	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00378	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00375	05/31/26	CIL, Lot ER04251601			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00376	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00377	06/30/26	CIL, Lot ER04211601			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00378	07/31/27	CIL, Lot ER04211701			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26	CIL, Lot ER08221601			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27	CIL, Lot ER11081602			(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00093	04/30/26	CIL, Lot ER02241602			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL5_00028	04/29/20	07/02/19	C14, Lot STBH7678	0.2 mL	HRDXNIDA_00303	0.05 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.1 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIS_00117	0.2 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00196	0.02 mL	37Cl4-2,3,7,8-TCDD	40 ng/mL
					HRDXNTA_00093	0.02 mL	1,2,3,4,6,7,8-HpCDD	200 ng/mL
							1,2,3,4,6,7,8-HpCDF	200 ng/mL

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,4,7,8,9-HpCDF	200 ng/mL
							1,2,3,4,7,8-HxCDD	200 ng/mL
							1,2,3,4,7,8-HxCDF	200 ng/mL
							1,2,3,6,7,8-HxCDD	200 ng/mL
							1,2,3,6,7,8-HxCDF	200 ng/mL
							1,2,3,7,8,9-HxCDD	200 ng/mL
							1,2,3,7,8,9-HxCDF	200 ng/mL
							1,2,3,7,8-PeCDD	200 ng/mL
							1,2,3,7,8-PeCDF	200 ng/mL
							2,3,4,6,7,8-HxCDF	200 ng/mL
							2,3,4,7,8-PeCDF	200 ng/mL
							2,3,7,8-TCDD	40 ng/mL
							2,3,7,8-TCDF	40 ng/mL
							OCDD	400 ng/mL
							OCDF	400 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26	CIL, Lot ER08221601			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27	CIL, Lot ER11081602			(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00093	04/30/26	CIL, Lot ER02241602			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL6_00024	04/29/20	07/02/19	C14, Lot STBH7678	0.2 mL	HRDXNIDA_00303	0.05 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.1 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIS_00117	0.2 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00196	0.1 mL	37Cl4-2,3,7,8-TCDD	200 ng/mL
					HRDXNTA_00093	0.1 mL	1,2,3,4,6,7,8-HpCDD	1000 ng/mL
							1,2,3,4,6,7,8-HpCDF	1000 ng/mL

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,4,7,8,9-HpCDF	1000 ng/mL
							1,2,3,4,7,8-HxCDD	1000 ng/mL
							1,2,3,4,7,8-HxCDF	1000 ng/mL
							1,2,3,6,7,8-HxCDD	1000 ng/mL
							1,2,3,6,7,8-HxCDF	1000 ng/mL
							1,2,3,7,8,9-HxCDD	1000 ng/mL
							1,2,3,7,8,9-HxCDF	1000 ng/mL
							1,2,3,7,8-PeCDD	1000 ng/mL
							1,2,3,7,8-PeCDF	1000 ng/mL
							2,3,4,6,7,8-HxCDF	1000 ng/mL
							2,3,4,7,8-PeCDF	1000 ng/mL
							2,3,7,8-TCDD	200 ng/mL
							2,3,7,8-TCDF	200 ng/mL
							OCDD	2000 ng/mL
							OCDF	2000 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26	CIL, Lot ER08221601			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27	CIL, Lot ER11081602			(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00093	04/30/26	CIL, Lot ER02241602			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNSU_00220	09/18/20	09/18/19	Isooctane, Lot 0000201867	500 mL	HRDXNSU_00196	1000 uL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
HRDXNTA_00116	08/26/20	08/26/19	Acetone, Lot 00000236139	25 mL	HRDXNTA_00093	0.25 mL	1,2,3,4,6,7,8-HpCDD	20 ng/mL
							1,2,3,4,6,7,8-HpCDF	20 ng/mL
							1,2,3,4,7,8,9-HpCDF	20 ng/mL
							1,2,3,4,7,8-HxCDD	20 ng/mL
							1,2,3,4,7,8-HxCDF	20 ng/mL
							1,2,3,6,7,8-HxCDD	20 ng/mL
							1,2,3,6,7,8-HxCDF	20 ng/mL
							1,2,3,7,8,9-HxCDD	20 ng/mL
							1,2,3,7,8,9-HxCDF	20 ng/mL
							1,2,3,7,8-PeCDD	20 ng/mL
							1,2,3,7,8-PeCDF	20 ng/mL
							2,3,4,6,7,8-HxCDF	20 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,3,4,7,8-PeCDF	20 ng/mL
							2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL
							OCDD	40 ng/mL
							OCDF	40 ng/mL
.HRDXNTA_00093	04/30/26	CIL, Lot ER02241602			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL

Reagent

HRDXNCP_00039

received 8/30/19 KSS

(pg 1/6)

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

PCDD/PCDF Window Defining and Isomer Specificity Mix (DB-5)

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number:	EDF-4147
Solution Lot:	ER03111502
Expiration Date:	March 2025
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/ analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies.
- Ampules are overfilled to ensure a minimum 1 2 mL volume We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

March 24, 2015
Date

Component	Chromatographic Purity	Concentration
1,3,6,8-Tetrachlorodibenzo-p-dioxin	99.9%	200.3 ± 2.0 ng/mL
1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin	99.8%	200.6 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzo-p-dioxin	99.2%	200.3 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	98.9%	200.1 ± 2.0 ng/mL
1,2,3,9-Tetrachlorodibenzo-p-dioxin	99.6%	199.9 ± 2.0 ng/mL
1,2,8,9-Tetrachlorodibenzo-p-dioxin	99.2%	200.2 ± 2.0 ng/mL
1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin	98.9%	200.6 ± 2.0 ng/mL
1,2,3,8,9-Pentachlorodibenzo-p-dioxin	99.0%	200.1 ± 2.0 ng/mL
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin	98.7%	200.2 ± 2.0 ng/mL
1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin	99.0%	200.5 ± 2.0 ng/mL
1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin	98.9%	200.1 ± 2.0 ng/mL
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	99.8%	200.3 ± 2.0 ng/mL
1,3,6,8-Tetrachlorodibenzofuran	98.5%	200.1 ± 2.0 ng/mL
1,2,3,9-Tetrachlorodibenzofuran	98.2%	200.4 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzofuran	99.4%	200.0 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	99.2%	200.5 ± 2.0 ng/mL
2,3,4,7-Tetrachlorodibenzofuran	98.7%	200.2 ± 2.0 ng/mL
1,2,8,9-Tetrachlorodibenzofuran	99.3%	199.9 ± 2.0 ng/mL
1,3,4,6,8-Pentachlorodibenzofuran	99.5%	200.6 ± 2.0 ng/mL
1,2,3,8,9-Pentachlorodibenzofuran	99.0%	200.5 ± 2.0 ng/mL
1,2,3,4,6,8-Hexachlorodibenzofuran	98.6%	200.5 ± 2.0 ng/mL
1,2,3,4,8,9-Hexachlorodibenzofuran	99.7%	200.5 ± 2.0 ng/mL
1,2,3,4,6,7,8-Heptachlorodibenzofuran	98.9%	200.6 ± 2.0 ng/mL
1,2,3,4,7,8,9-Heptachlorodibenzofuran	99.1%	200.1 ± 2.0 ng/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Stock solution concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.

Standard Solution Assay Parameters

Analysis Method:	GC/MS
Column:	DB-5ms 30 m x 0.25 mm ID, 0.25 µm film thickness
Temp Program:	140°C to 200°C at 40°C/min 200°C to 300°C at 4°C/min
Injector Temp:	Cool-on-Column
Detector Temp:	280°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	1

Solution Standard Verification and Homogeneity

Compound	Verified Concentration ng/mL	Acceptance Criteria	%RSD - Homogeneity %	Acceptance Criteria
1,3,6,8-Tetrachlorodibenzo-p-dioxin	200 4	± 10%	1 6	≤ 5%
1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin/ 2,3,7,8-Tetrachlorodibenzo-p-dioxin/ 1,2,3,9-Tetrachlorodibenzo-p-dioxin [1]	591.2	± 10%	1 6	≤ 5%
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	196 8	± 10%	2 7	≤ 5%
1,2,8,9-Tetrachlorodibenzo-p-dioxin	197 2	± 10%	2 8	≤ 5%
1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin	194 6	± 10%	2 8	≤ 5%
1,2,3,8,9-Pentachlorodibenzo-p-dioxin	194 7	± 10%	2 3	≤ 5%
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin	195 3	± 10%	1 7	≤ 5%
1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin	192.6	± 10%	2 3	≤ 5%
1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin	191.2	± 10%	2 5	≤ 5%
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	196 7	± 10%	2 1	≤ 5%
1,3,6,8-Tetrachlorodibenzofuran	202 3	± 10%	2 1	≤ 5%
1,2,3,9-Tetrachlorodibenzofuran	194 4	± 10%	2 4	≤ 5%
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	198 0	± 10%	3.3	≤ 5%
2,3,4,7-Tetrachlorodibenzofuran/ 2,3,7,8-Tetrachlorodibenzofuran [1]	399.3	± 10%	2.4	≤ 5%
1,2,8,9-Tetrachlorodibenzofuran	198 9	± 10%	2.9	≤ 5%
1,3,4,6,8-Pentachlorodibenzofuran	195 0	± 10%	2.1	≤ 5%
1,2,3,8,9-Pentachlorodibenzofuran	199.6	± 10%	2.1	≤ 5%
1,2,3,4,6,8-Hexachlorodibenzofuran	195.5	± 10%	2.4	≤ 5%
1,2,3,4,8,9-Hexachlorodibenzofuran	196.4	± 10%	1.8	≤ 5%
1,2,3,4,6,7,8-Heptachlorodibenzofuran	197.4	± 10%	2.9	≤ 5%
1,2,3,4,7,8,9-Heptachlorodibenzofuran	195.3	± 10%	2.1	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The %RSD of samples pulled from across the lot demonstrate homogeneity.
- Product is compared to prior lot and meets acceptance criteria of ± 10%.

[1] Compounds co-elute. Concentration is the sum of both or all analytes.

Neat Material Data

Compound	Lot Number	CAS Number	Chemical Formula	Molecular Weight	Chromatographic Purity
1,3,6,8-Tetrachlorodibenzo-p-dioxin	ER040811-02	33423-92-6	$C_{12}H_4Cl_4O_2$	321.97	99.9%
1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin	ER021510-01	NA	$C_{12}H_4Cl_4O_2$	321.97	99.8%
2,3,7,8-Tetrachlorodibenzo-p-dioxin	ER061009-02	1746-01-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	ER01031401	76523-40-5	$^{13}C_{12}H_4Cl_4O_2$	333.84	98.9%
1,2,3,9-Tetrachlorodibenzo-p-dioxin	ER0529401	71669-26-6	$C_{12}H_4Cl_4O_2$	321.97	99.6%
1,2,8,9-Tetrachlorodibenzo-p-dioxin	ER11201301	62470-54-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%
1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin	ER11051302	NA	$C_{12}H_3Cl_5O_2$	356.42	98.9%
1,2,3,8,9-Pentachlorodibenzo-p-dioxin	ER05161401	NA	$C_{12}H_3Cl_5O_2$	356.42	99.0%
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin	ER08101402	NA	$C_{12}H_2Cl_6O_2$	390.86	98.7%
1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin	ER030107-01	NA	$C_{12}H_2Cl_6O_2$	390.86	99.0%
1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin	ER01201502	58200-70-7	$C_{12}HCl_7O_2$	425.31	98.9%
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	ER100207-02	35822-46-9	$C_{12}HCl_7O_2$	425.31	99.8%
1,3,6,8-Tetrachlorodibenzofuran	ER021808-01	71998-72-6	$C_{12}H_4Cl_4O$	305.98	98.5%
1,2,3,9-Tetrachlorodibenzofuran	ER071107-01	NA	$C_{12}H_4Cl_4O$	305.98	98.2%
2,3,7,8-Tetrachlorodibenzofuran	ER101211-02	51207-31-9	$C_{12}H_4Cl_4O$	305.98	99.4%
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	ER12101304	89059-46-1	$^{13}C_{12}H_4Cl_4O$	317.88	99.2%
2,3,4,7-Tetrachlorodibenzofuran	ER052307-01	NA	$C_{12}H_4Cl_4O$	305.98	98.7%
1,2,8,9-Tetrachlorodibenzofuran	ER041508-03	NA	$C_{12}H_4Cl_4O$	305.98	99.3%
1,3,4,6,8-Pentachlorodibenzofuran	ER04231401	NA	$C_{12}H_3Cl_5O$	340.42	99.5%
1,2,3,8,9-Pentachlorodibenzofuran	ER12101303	NA	$C_{12}H_3Cl_5O$	340.42	99.0%
1,2,3,4,6,8-Hexachlorodibenzofuran	ER04231402	NA	$C_{12}H_2Cl_6O$	374.86	98.6%
1,2,3,4,8,9-Hexachlorodibenzofuran	ER12091401	92341-07-6	$C_{12}H_2Cl_6O$	374.86	99.7%
1,2,3,4,6,7,8-Heptachlorodibenzofuran	ER02281403	67562-39-4	$C_{12}HCl_7O$	409.31	98.9%
1,2,3,4,7,8,9-Heptachlorodibenzofuran	ER01121503	55673-89-7	$C_{12}HCl_7O$	409.31	99.1%

Product Analysis

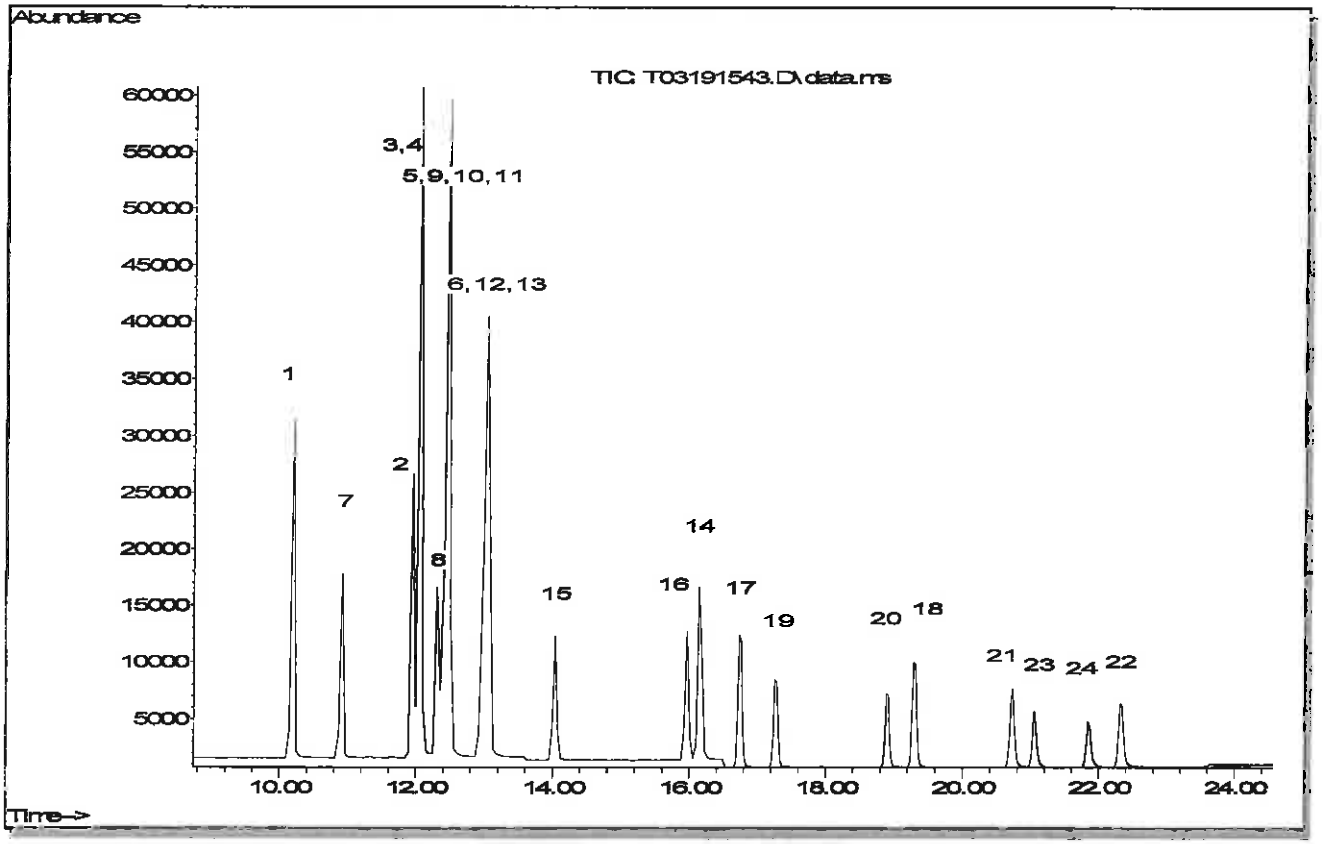

1 1,3,6,8-Tetrachlorodibenzofuran
2 2,3,4,7-Tetrachlorodibenzofuran
3 2,3,7,8-Tetrachlorodibenzofuran
4 2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$
5 1,2,3,9-Tetrachlorodibenzofuran
6 1,2,8,9-Tetrachlorodibenzofuran
7 1,3,6,8-Tetrachlorodibenzo-p-dioxin
8 1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin
9 1,2,3,9-Tetrachlorodibenzo-p-dioxin
10 2,3,7,8-Tetrachlorodibenzo-p-dioxin
11 2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$
12 1,2,8,9-Tetrachlorodibenzo-p-dioxin
13 1,3,4,6,8-Pentachlorodibenzofuran
14 1,2,3,8,9-Pentachlorodibenzofuran
15 1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin
16 1,2,3,8,9-Pentachlorodibenzo-p-dioxin
17 1,2,3,4,6,8-Hexachlorodibenzofuran
18 1,2,3,4,8,9-Hexachlorodibenzofuran
19 1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin
20 1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin
21 1,2,3,4,6,7,8-Heptachlorodibenzofuran
22 1,2,3,4,7,8,9-Heptachlorodibenzofuran
23 1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin
24 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin

COA Revision History

Revision No.	Date	Reason for Revision
00	March 24, 2015	Initial version

Reagent

HRDXNIDA_00075

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-$^{13}C_{12}$

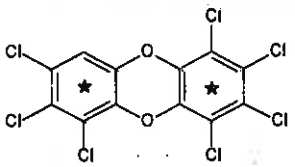

Catalog Number:	ED-972
Solution Lot:	ER111010-01
Expiration Date:	November 2020
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature Do not store cold
Intended Use:	For laboratory use only Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-$^{13}C_{12}$	98.9%	50.03 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER111010-01	50.5	± 5%	0.5	≤ 3%
Previous Lot	ER011807-01	47.4	± 5%	1.8	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

January 15, 2016
Date

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}HO_2Cl_7$
Compound Lot:	ER100110-01	**CAS Number:**	NA
		Molecular Weight:	437.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.9%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.10% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		98.91%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

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Spectral and Physical Data

GC/FID

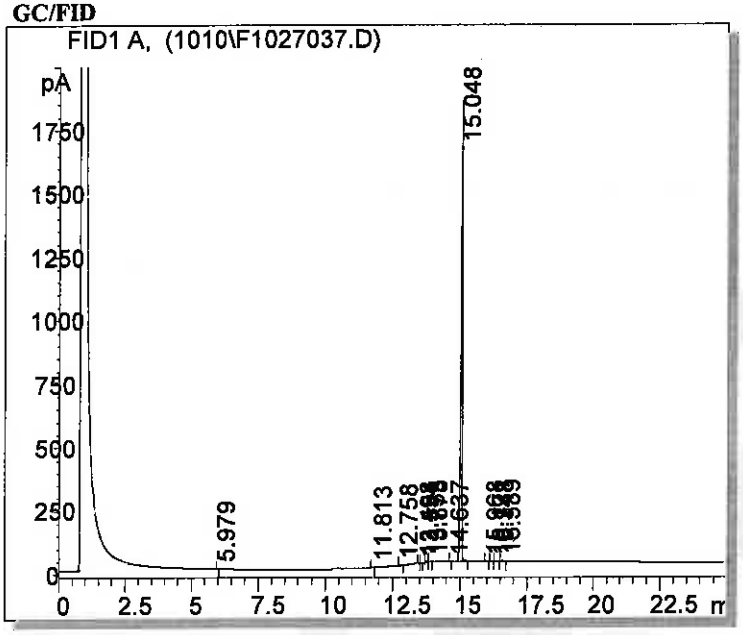

Column:	DB-5ms, 30m x 0.53mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-column
Detector Temp:	325°C
Data File Name:	S:\GC\GC6\2010\1010\F1027037.D
Instrument:	GC#6
Sample Name:	ER100110-01
Acquired:	October 28, 2010

Peak #	Ret Time	Area	Height	Area %
1	5.98	0.34	0.18	0.00
2	11.81	1.00	0.08	0.01
3	12.76	10.96	2.89	0.16
4	13.50	1.19	0.32	0.02
5	13.55	2.63	0.80	0.04
6	13.75	13.39	3.28	0.19
7	13.88	7.04	1.81	0.10
8	14.64	0.86	0.28	0.01
9	15.05	6900.70	1812.09	98.81
10	15.97	3.15	0.73	0.05
11	16.17	2.25	0.55	0.03
12	16.35	5.12	1.10	0.07
13	16.59	18.93	4.26	0.27
14	26.99	15.17	0.35	0.22
15	35.58	0.06	0.21	0.00
16	41.80	0.77	0.13	0.01

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-13C
Lab Number : [illegible]
Instrument : Agilent 5973N MSD/5890 GC
Operator-Inst ID : [illegible] - 010106
Date Reported : Wed Oct 27 [illegible] 2010
Column Type : [illegible], 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 300°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 290°C

Scan Range : 50-550

Total Ion Chromatogram

Mass Spectrum

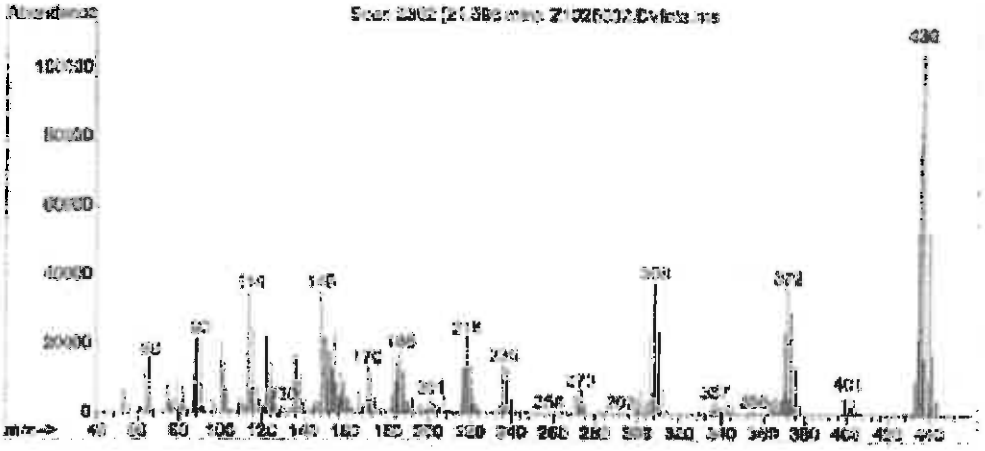

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

COA Revision History

Revision No.	Date	Reason for Revision
00	November 24, 2010	Initial version
01	January 15, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

Reagent

HRDXNIDA_00247

Recd 8-17-16

Cerilliant® Analytical Reference Standards
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CIL

Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$

HpCDF

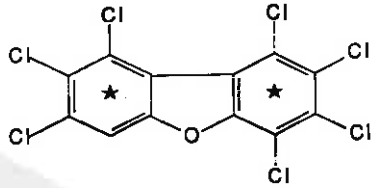

Catalog Number:	EF-988
Solution Lot:	ER04251601
Expiration Date:	March 2026
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	99.1%	49.99 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04251601	49.11	± 5%	0.2	≤ 3%
Previous Lot	ER053107-02	50.58	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

June 21, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}HCl_7O$
Compound Lot:	ER04041602	**CAS Number:**	109719-94-0
		Molecular Weight:	421.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.1%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS SIM	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.16% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.10%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data (cont.)

GC/FID

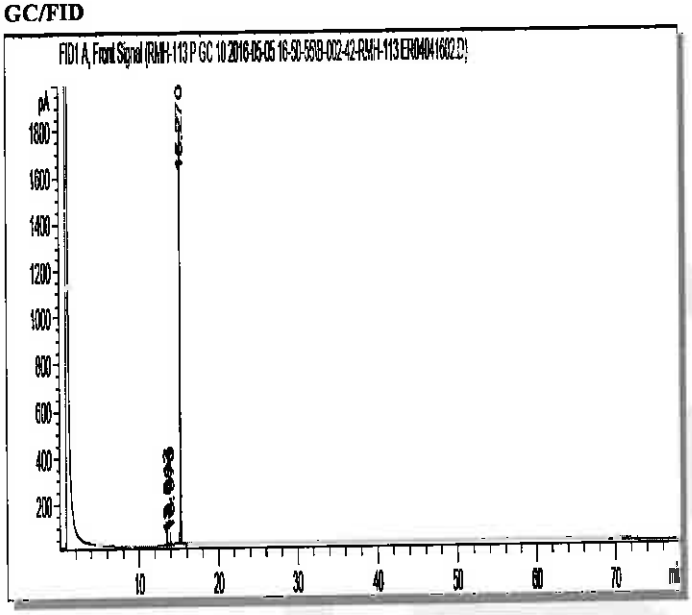

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Data File Name:	RMH-113 P GC 10 2016-05-05 16-50-55\B-002-42.D
Instrument:	GC#10
Sample Name:	ER04041602
Acquired:	May 05, 2016

Peak #	Ret Time	Area	Height	Area %
1	13.51	8.76	2.52	0.12
2	13.68	17.42	7.45	0.24
3	13.97	39.65	15.48	0.54
4	15.27	7226.95	1798.33	99.10

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 1,2,3,4,7,8,9-Heptachlorodibenzofuran-13C12
Lot Number	: EM04041602
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Wed May 04 15:34:28 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

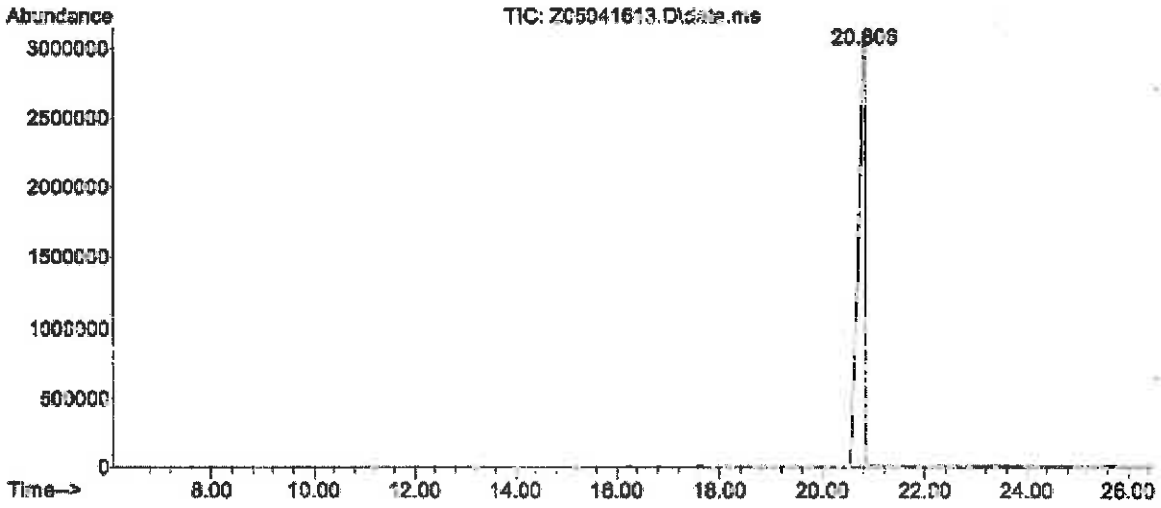

Mass Spectrum

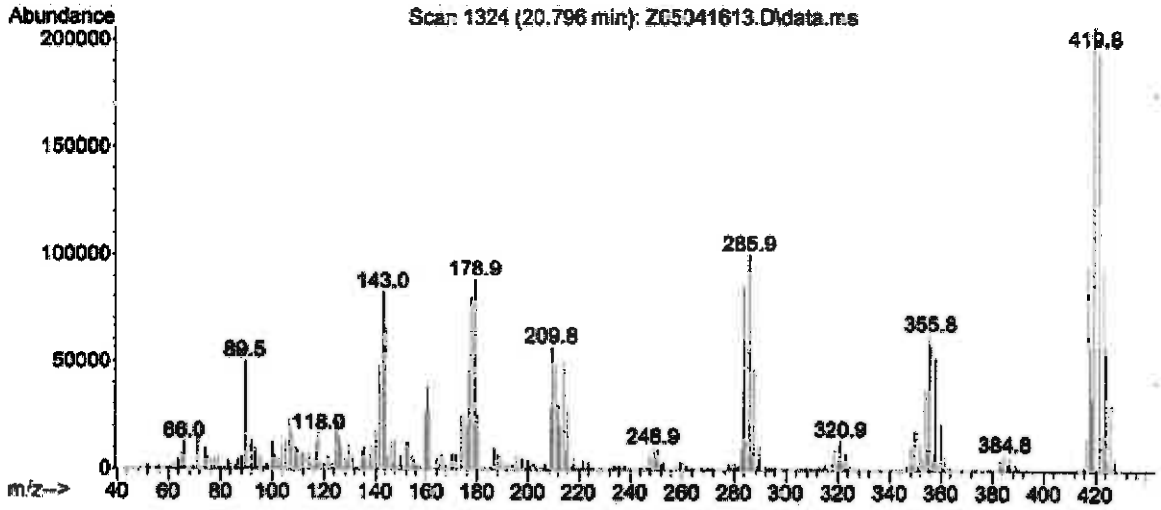

COA Revision History

Revision No.	Date	Reason for Revision
00	June 21, 2016	Initial version

Reagent

HRDXNIDA_00297

r: 9/28/17 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

1042065
ID: HRDXNIDA_00297
Exp: 01/31/27 Prpd: SKV
13C-2,3,4,7,8-PeCDF [50ug

CIL

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$

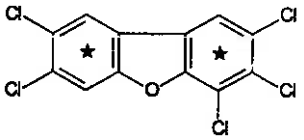

Catalog Number: EF-958
Solution Lot: ER01061701
Expiration Date: January 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	97.9%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s); measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER01061701	50.51	± 5%	0.1	≤ 3%
Previous Lot	ER11041601	49.56	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

January 27, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3Cl_5O$
Compound Lot:	ER11101601	**CAS Number:**	116843-02-8
		Molecular Weight:	352.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0102	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.02% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 0.5%
Mass Balance Purity Factor		98.33%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

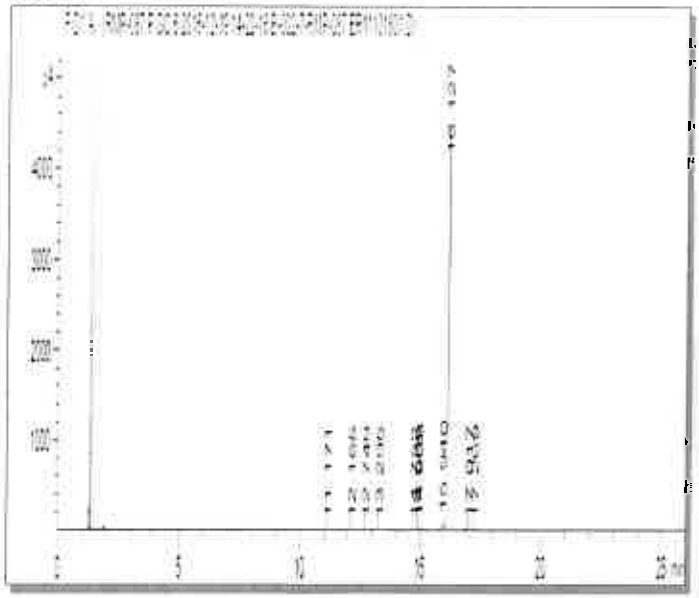

Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 100°C to 300°C at 15°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: RMP-087 P GC 6 2016-12-19 14-22-16\B-002-7.D
Instrument: GC#6
Sample Name: ER11101601
Acquired: December 19, 2016

Peak #	Ret Time	Area	Height	Area %
1	11.17	0.94	0.40	0.01
2	12.17	1.30	0.39	0.01
3	12.75	0.47	0.20	0.00
4	13.30	0.90	0.35	0.01
5	14.75	1.70	0.87	0.02
6	14.91	1.09	0.56	0.01
7	14.97	32.24	17.54	0.29
8	15.94	124.38	64.36	1.13
9	16.13	10866.60	4688.80	98.41
10	17.02	6.31	2.46	0.06
11	17.27	6.76	2.34	0.06

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 2,3,4,7,8-Pentachlorodibenzofuran-13C12
Lot Number	: ER11101601
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRS)
Date Reported	: Tue Dec 20 12:19:55 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.50 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

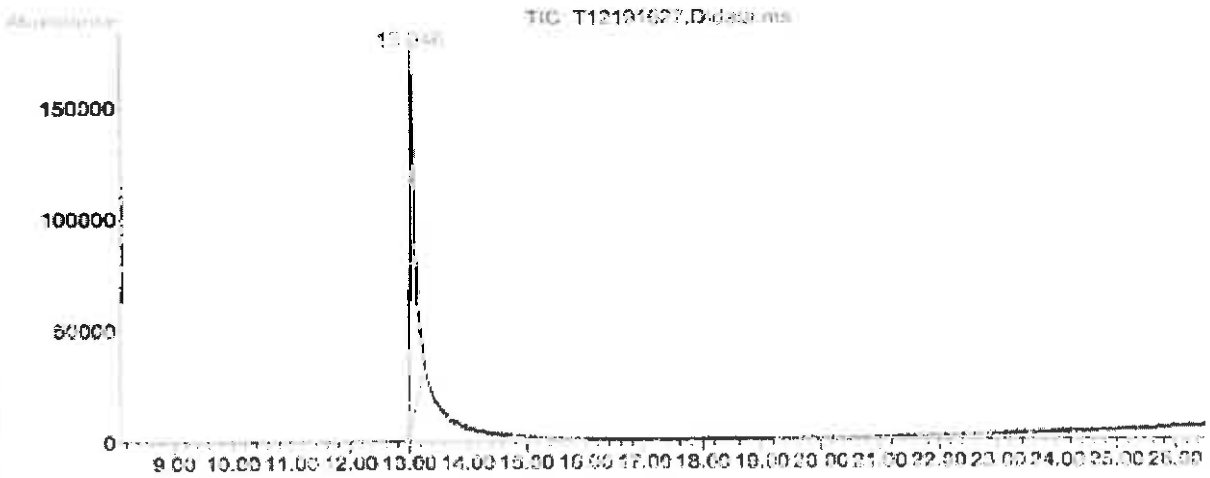

Mass Spectrum

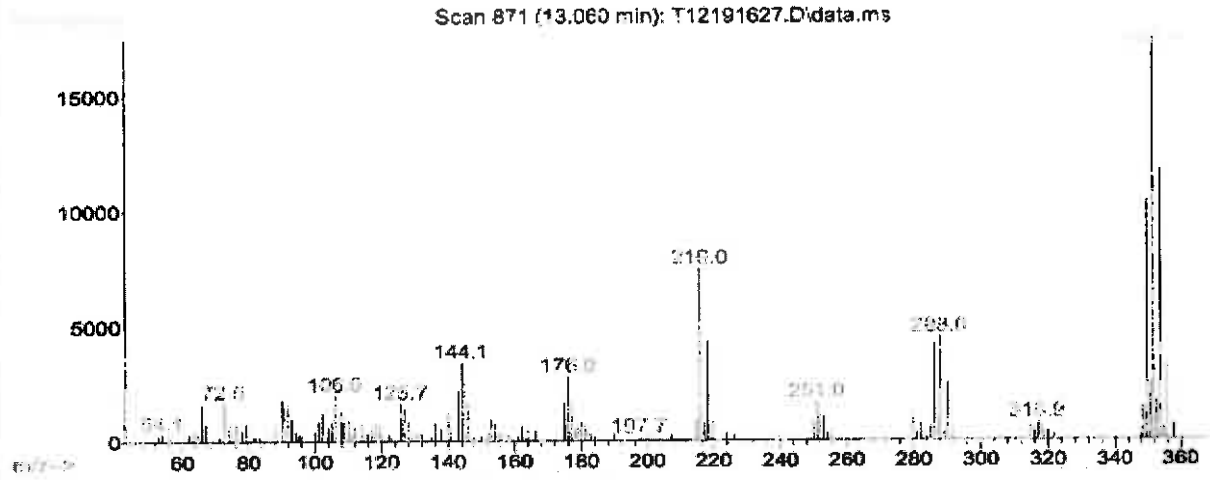

Reagent

HRDXNIDA_00301

n: 9/20/17 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

1042073
ID: HRDXNIDA_00301
Exp: 10/31/21 Prpd: SKV
13C-1,2,3,4,7,8-HxCDD [50

CIL

Certificate of Analysis

Certificate Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 9001
GMP/GLP

1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

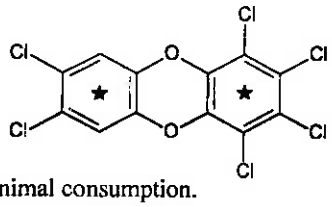

Catalog Number: ED-946
Solution Lot: ER102711-01
Expiration Date: October 2021
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.0%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER102711-01	48.2	± 5%	0.2	≤ 3%
Previous Lot	ER012208-01	49.6	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS ACCREDITED
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

September 17, 2015
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O_2$
Compound Lot:	ER011008-01	**CAS Number:**	109719-80-4
		Molecular Weight:	402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.2%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.08% $^{13}C_0$ vs $^{13}C_{12}$
		0.19% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.19%

- Chromatographic purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

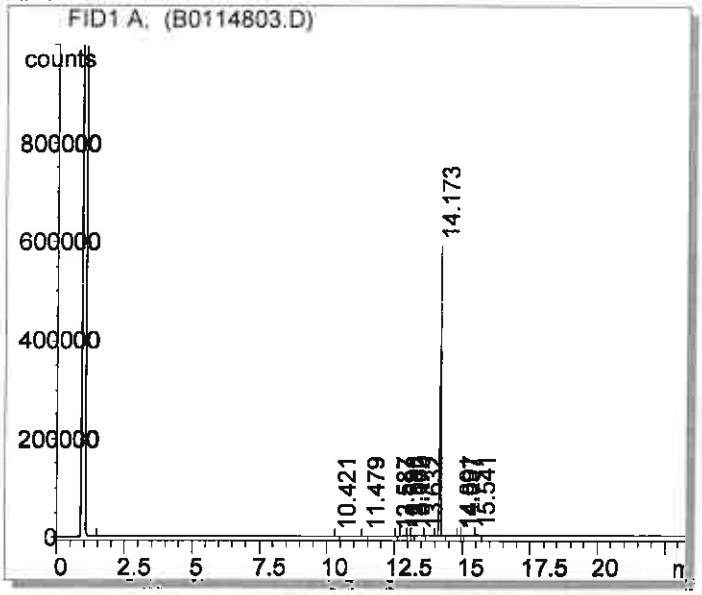

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0114803.D
Instrument:	GC#2
Sample Name:	ER011008-01
Acquired:	January 14, 2008

Peak #	Ret Time	Area	Height	Area %
1	10.42	287.44	132.33	0.02
2	11.48	242.24	92.03	0.01
3	12.59	389.12	196.33	0.02
4	12.90	3015.36	1199.07	0.17
5	13.06	2243.36	788.13	0.13
6	13.17	2243.90	754.45	0.13
7	13.63	2349.03	134.07	0.02
8	14.17	427.02	588610.00	99.20
9	14.89	1731980.00	110.79	0.03
10	15.00	512.26	86.41	0.02
11	15.54	4077.63	1008.44	0.23

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

Compound Name : 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-13C12
Lot Number : [illegible]-01
Instrument : Agilent 5973N MSD/6890N GC
Operator-Inst ID : REC - C1010E
Date Reported : Wed Jan 16 11:15:58 2008
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 300°C@6°C/min (5 min)
Injection Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 280°C

Scan Range : 50-550

Total Ion Chromatogram

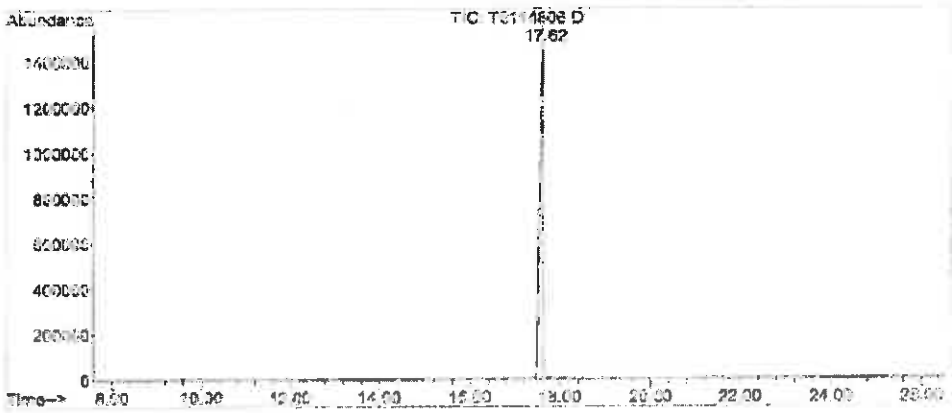

Mass Spectrum

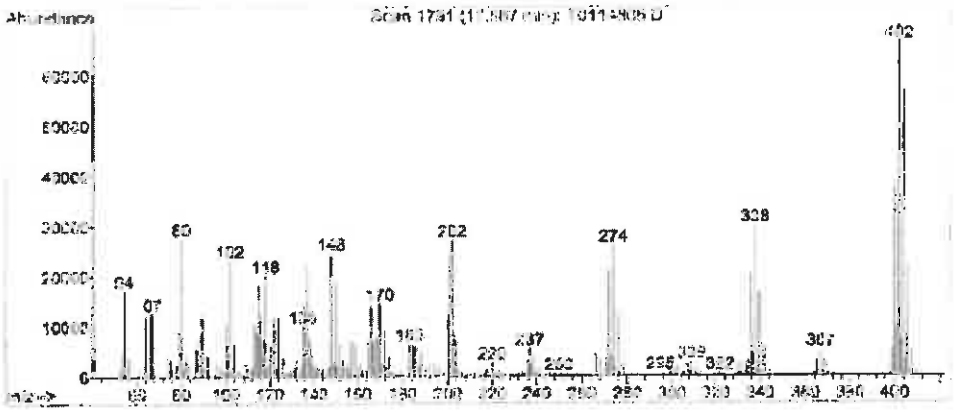

COA Revision History

Revision No.	Date	Reason for Revision
00	November 12, 2011	Initial version
01	September 17, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet"

Reagent

HRDXNIDA_00302

r: 9/20/17 SKV

1042074
ID: HRDXNIDA_00302
Exp: 07/31/20 Prpd: SKV
13C-1,2,3,4,7,8-HxCDF [50

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

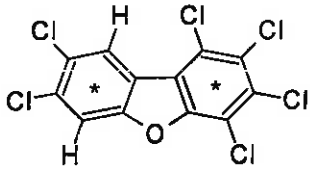

Catalog Number:	EF-963
Solution Lot:	ER072810-02
Expiration Date:	July 2020
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Protect from air and light, store at room temperature. Do not store cold.
Intended Use:	For laboratory use only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration.

Component	Chromatographic Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.6%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Acceptance Criteria	%RSD - Homogeneity Actual Results	Acceptance Criteria
New Lot	ER072810-02	47.4	± 5%	0.3	≤ 3%
Previous Lot	LR011907-01	46.6	—	1.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

November 15, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$
Compound Lot:	35135-45

Chemical Formula:	$^{13}C_{12}H_2OCl_6$
CAS Number:	114423-98-2
Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.6%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% C_0 vs C_{12}
		0.13% C_6 vs C_{12}
Purity Factor		99.57%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

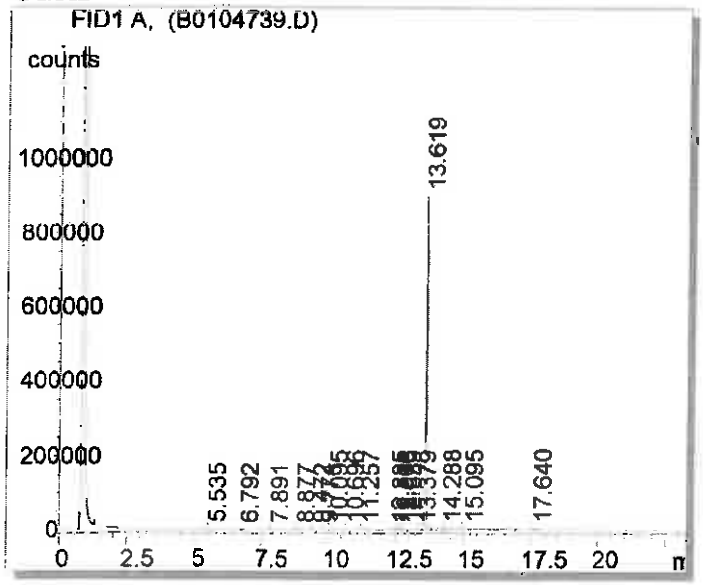

Column:	DB-5ms, 30m x 0.53mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0104739.D
Instrument:	GC#2
Sample Name:	35135-45
Acquired:	January 05, 2007

Peak #	Ret Time	Area	Height	Area %
1	4.21	615.24	161.26	0.02
2	5.21	1024.94	292.85	0.04
3	6.09	326.05	83.67	0.01
4	7.10	301.83	31.69	0.01
5	7.75	169.71	40.31	0.01
6	8.38	136.91	47.17	0.01
7	8.97	123.76	38.29	0.00
8	12.30	2684.80	1153.73	0.10
9	12.48	1162.83	467.42	0.04
10	12.56	1893.94	719.41	0.07
11	12.68	466.69	180.24	0.02
12	12.86	690.32	301.63	0.03
13	13.62	2651450.00	979725.00	99.58
14	14.34	274.11	82.01	0.01
15	15.17	1208.09	320.67	0.05
16	19.00	166.44	32.66	0.01

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

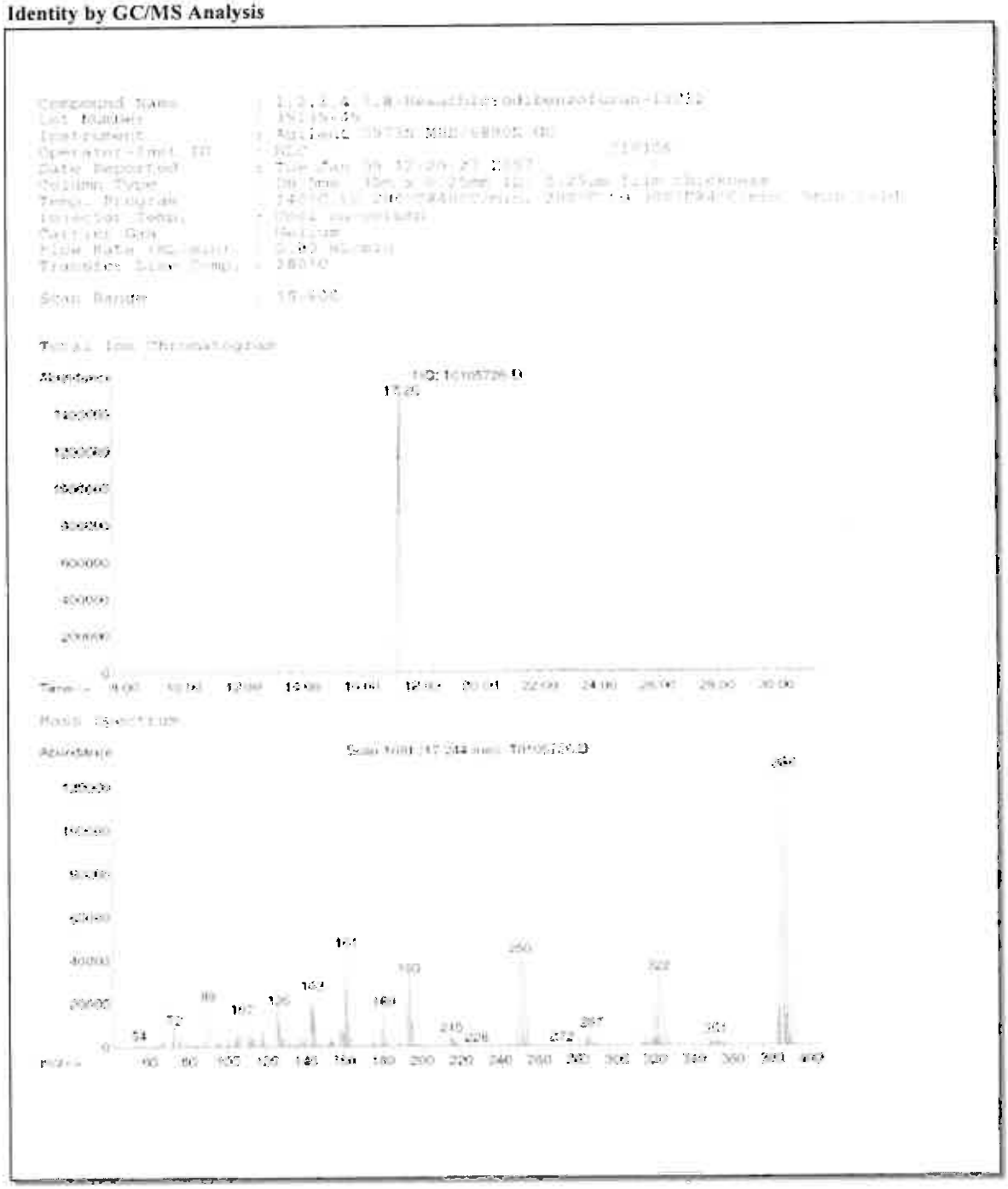

COA Revision History

Revision No.	Date	Reason for Revision
00	September 22, 2010	Initial version
01	September 22, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet"
02	November 15, 2016	Corrected Molecular Weight from 368.77 to 386.77

Reagent

HRDXNIDA_00353

r: 11/28/18 SKV

Cerilliant Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Certificate of Analysis

1,2,3,4,6,7,8-Heptachlorodibenzofuran-$^{13}C_{12}$

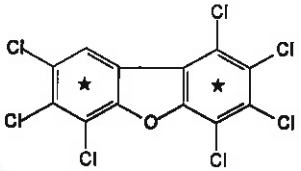

Catalog Number: EF-974
Solution Lot: ER08101404
Expiration Date: November 2024
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,6,7,8-Heptachlorodibenzofuran-$^{13}C_{12}$	98.3%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER08101404	48.75	± 5%	0.3	≤ 3%
Previous Lot	ER102711-02	51.49	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

December 03, 2015
Date

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 60°C to 300°C at 40°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 4
Linearity (r): 1.000

Neat Material Data

Compound Name: 1,2,3,4,6,7,8-Heptachlorodibenzofuran-$^{13}C_{12}$
Compound Lot: ER020507-02

Chemical Formula: $^{13}C_{12}HCl_7O$
CAS Number: 109719-84-8
Molecular Weight: 421.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	98.7%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.16% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS	SP10-0105	Pass
		no single DD/DF impurity ≥1.0%
Purity Factor		98.69%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

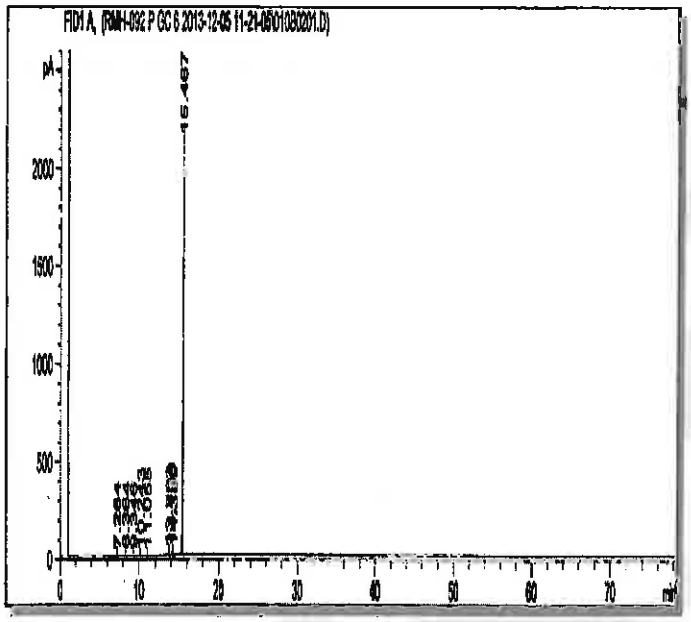

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-092 P GC 6 2013-12-05 11-21-05\010B0201.D
Instrument:	GC#6
Sample Name:	ER020507-02
Acquired:	December 05, 2013

Peak #	Ret Time	Area	Height	Area %
1	7.26	4.41	2.08	0.05
2	8.36	11.76	5.45	0.12
3	9.35	5.20	2.32	0.05
4	10.24	1.47	0.62	0.02
5	11.06	0.34	0.17	0.00
6	13.75	8.81	4.38	0.09
7	13.80	23.67	9.98	0.25
8	14.13	43.07	16.42	0.45
9	14.20	21.73	8.77	0.23
10	14.39	4.79	1.81	0.05
11	15.47	9349.36	2200.33	98.68

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 1,2,3,4,6,7,8-Heptachlorodibenzofuran-13C12
Lot Number : ER020507-02
Instrument : Agilent GCMS
Operator : ECM(BRYAN_DOCKERY)
Date Reported : Tue Dec 17 09:08:58 2013
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL\min) : 0.80 mL/min
Transfer Line Temp. : 280°C
Scan Range : 50-550

Total Ion Chromatogram

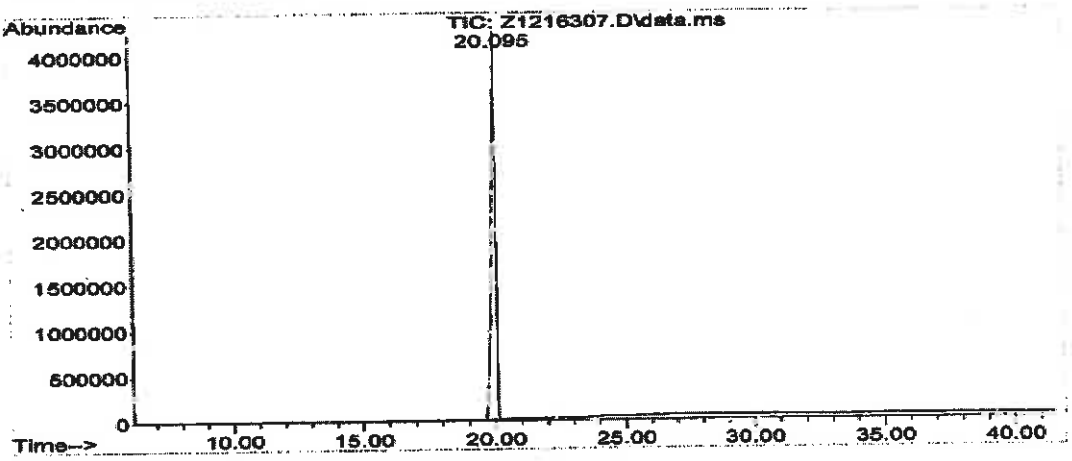

Mass Spectrum

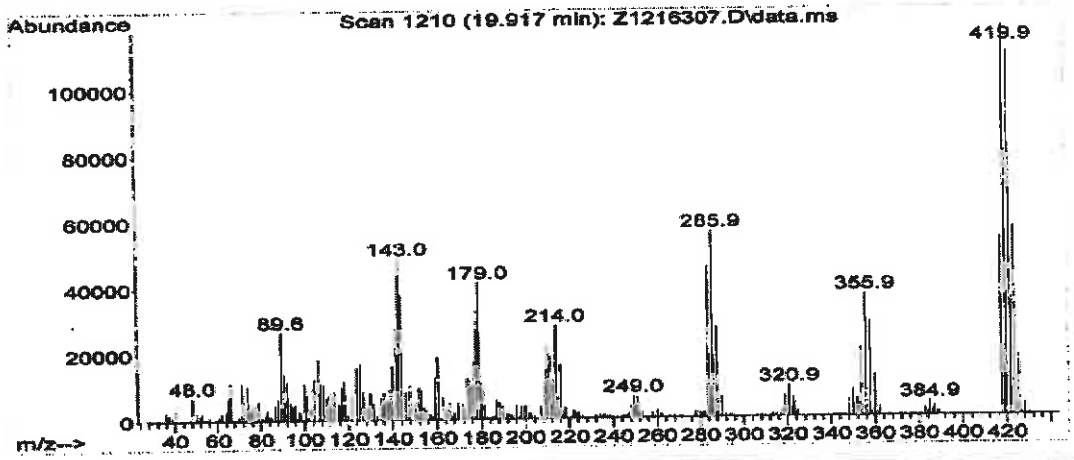

COA Revision History

Revision No.	Date	Reason for Revision
00	January 19, 2015	Initial version
01	December 04, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet"

Reagent

HRDXNIDA_00354

Rec: 11/28/18 SKV

Cerilliant Analytical Reference Standards
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CIL

Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$

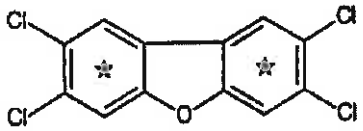

Catalog Number: EF-904
Solution Lot: ER09131601
Expiration Date: September 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	99.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER09131601	49.91	± 5%	0.2	≤ 3%
Previous Lot	ER12101304	51.13	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

November 02, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_4Cl_4O$
Compound Lot:	ER01161401	**CAS Number:**	89059-46-1
		Molecular Weight:	317.88

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.2%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS SIM	SP10-0105	No single DD/DF ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.00% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.24%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

GC/FID

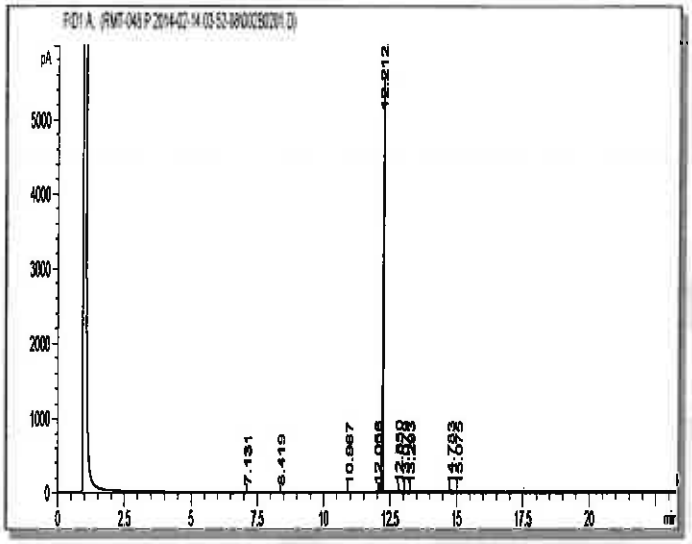

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMT-048 P 2014-02-14 03-52-08\002B0201.D
Instrument:	GC#10
Sample Name:	ER01161401
Acquired:	February 14, 2014

Peak #	Ret Time	Area	Height	Area %
1	7.13	1.19	0.61	0.01
2	8.42	3.23	1.42	0.03
3	10.97	3.57	1.04	0.03
4	12.06	20.86	12.47	0.18
5	12.21	11764.70	5466.96	99.29
6	12.85	30.72	15.48	0.26
7	13.08	7.62	4.03	0.06
8	13.29	5.47	2.91	0.05
9	14.78	7.62	2.76	0.06
10	15.08	3.87	1.33	0.03

GC/MS

Compound Name	: 2,3,7,8-Tetrachlorodibenzofuran-13C12
Lot Number	: ER01161401
Instrument	: Agilent GCMS
Operator	: ECM(SAMUEL_GIUFFRE)
Date Reported	: Thu Feb 13 11:57:07 2014
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

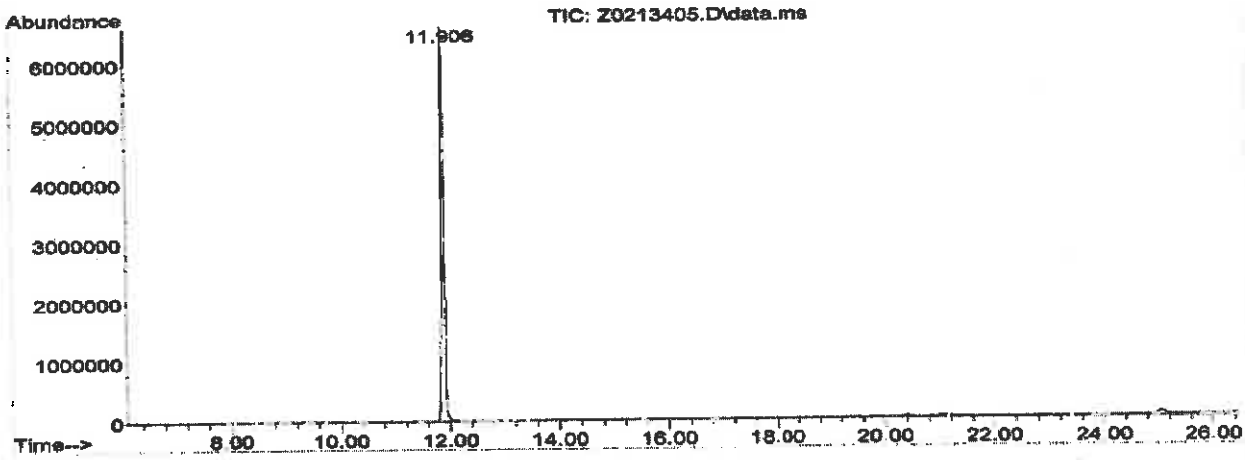

Mass Spectrum

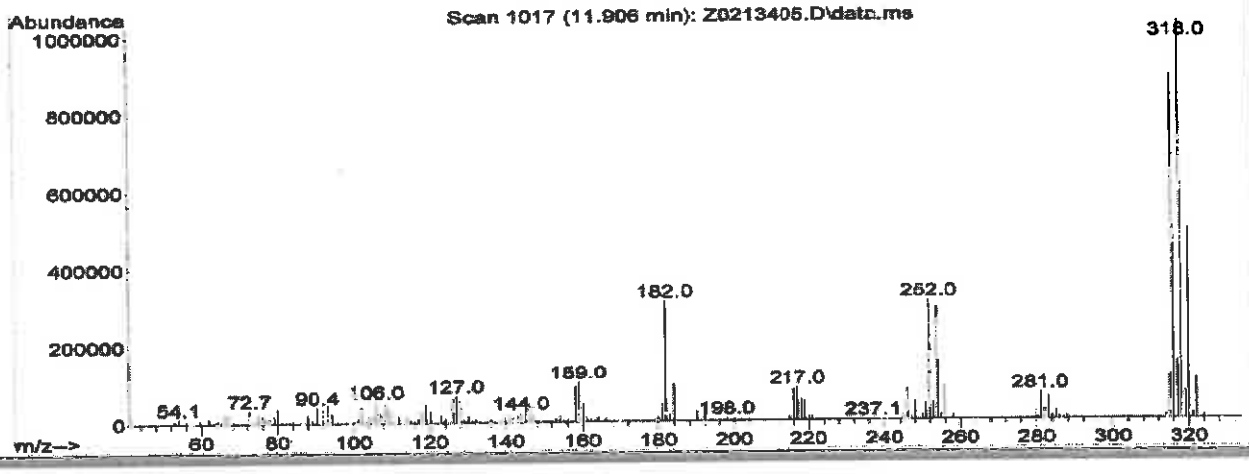

COA Revision History

Revision No.	Date	Reason for Revision
00	November 02, 2016	Initial version

Reagent

HRDXNIDA_00355

Rec: 11/28/18 SJV

Cerilliant Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$

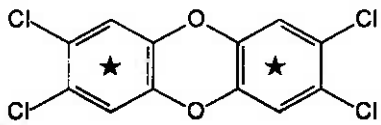

Catalog Number:	ED-900
Solution Lot:	ER03031601
Expiration Date:	March 2026
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.4%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution, and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER03031601	52.66	± 5%	0.3	≤ 3%
Previous Lot	ER01031401	49.83	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

March 24, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-35ms 30 m x 0.53 mm ID, 1.0 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_4Cl_4O_2$
Compound Lot:	ER01201405	**CAS Number:**	76523-40-5
		Molecular Weight:	333.88

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity and Distribution by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.05% $^{13}C_6$ vs $^{13}C_{12}$
Impurities by GC/MS SIM Analysis	SP10-0105	no single DD/DF impurity $\geq$0.5%
Mass Balance Purity Factor		99.34%

- The primary chromatographic purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Mass Balance Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

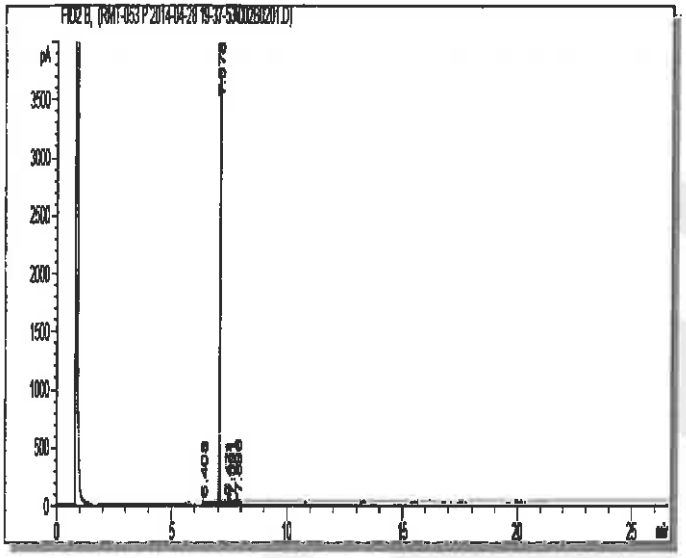

Column:	DB-35ms, 30 m x 0.53 mm ID, 1.0 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMT-053 P 2014-04-28 19-37-53\002B0201.D
Instrument:	GC#6
Sample Name:	ER01201405
Acquired:	April 28, 2014

Peak #	Ret Time	Area	Height	Area %
1	6.41	4 36	2.80	0.08
2	7 08	5225 21	3678.99	99.32
3	7 47	5 29	3.00	0.10
4	7 59	9 11	4.81	0.17
5	7.90	17 05	9.22	0.32

GC/MS

Compound Name	: 2,3,7,8-Tetrachlorodibenzo-p-dioxin-13C12
Lot Number	: ERD1201405
Instrument	: Agilent GCMS
Operator	: ECM(SAMUEL_GIUITRE)
Date Reported	: Tue May 06 09:30:26 2014
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 220°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

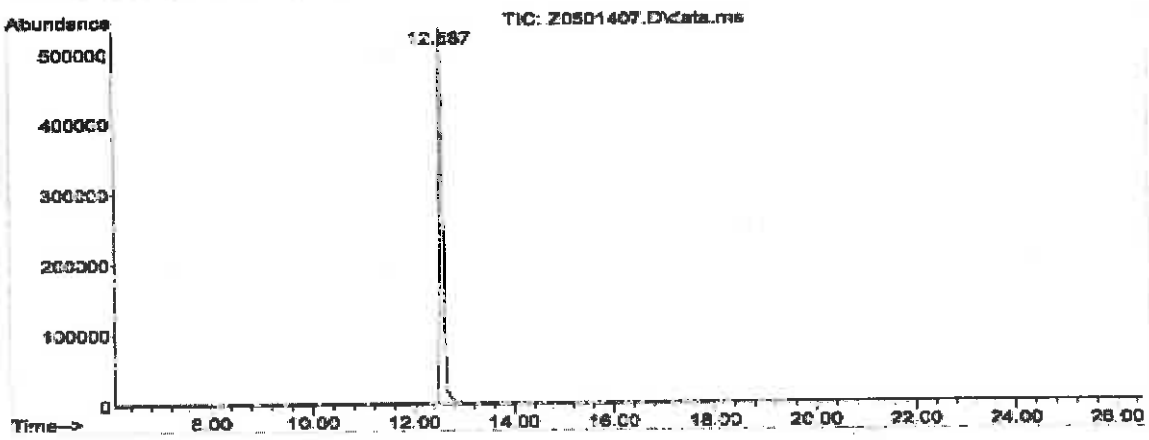

Mass Spectrum

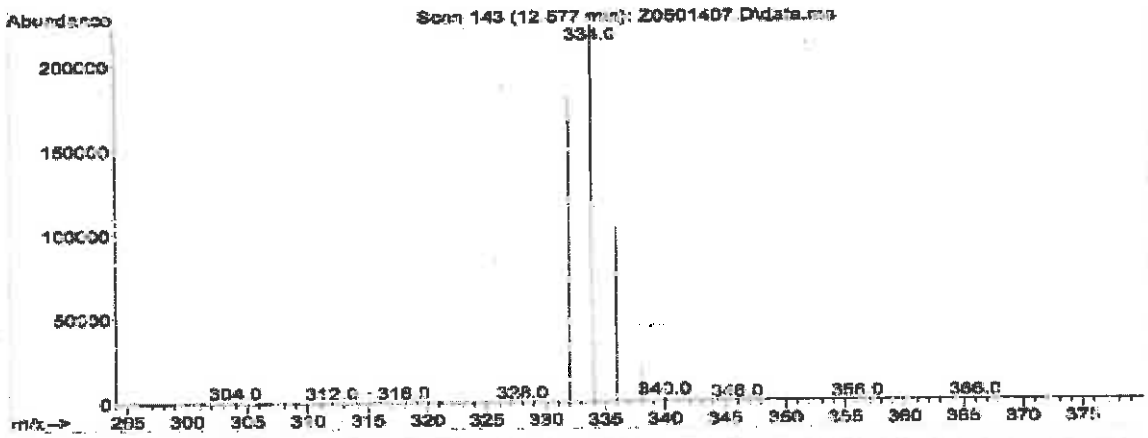

Reagent

HRDXNIDA_00357

r: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
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CIL

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Certificate of Analysis

1,2,3,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

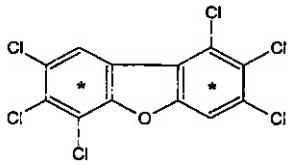

Catalog Number: EF-985
Solution Lot: ER02241603
Expiration Date: April 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.6%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER02241603	50.09	± 5%	0.4	≤ 3%
Previous Lot	ER053107-03	50.81	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

May 04, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O$
Compound Lot:	ER051607-01	**CAS Number:**	116843-03-9
		Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.06% $^{13}C_6$ vs $^{13}C_{12}$
Impurities by GC/MS SIM Analysis	SP10-0105	no single DD/DF impurity ≥ 0.5%
Mass Balance Purity Factor		99.01%

- The chromatographic purity is calculated as the average of two independently performed analyses utilizing two different methods Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Mass Balance Purity Factor
- Mass Balance Purity Factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

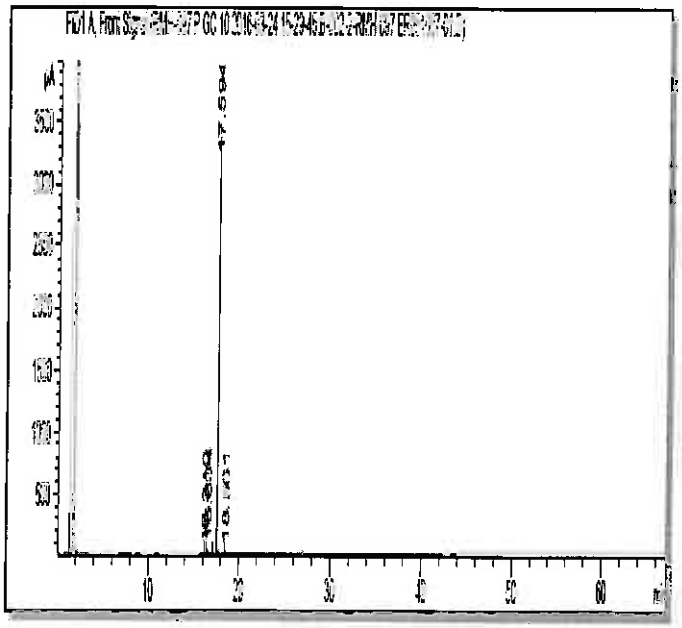

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	40°C to 300°C at 15°C/min hold 50 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-097 P GC 10 2016-03-24 15-29-45\B-002-2.D
Instrument:	GC#10
Sample Name:	ER051607-01
Acquired:	March 24, 2016

Peak #	Ret Time	Area	Height	Area %
1	16.31	6.97	3.21	0.08
2	16.60	77.08	33.51	0.83
3	17.59	9156.82	3458.38	99.00
4	18.56	8.48	2.69	0.09

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 1,2,3,6,7,8-Hexachlorodibenzofuran-13C12
Lot Number	: ER051607-01
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Fri Mar 18 07:08:54 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

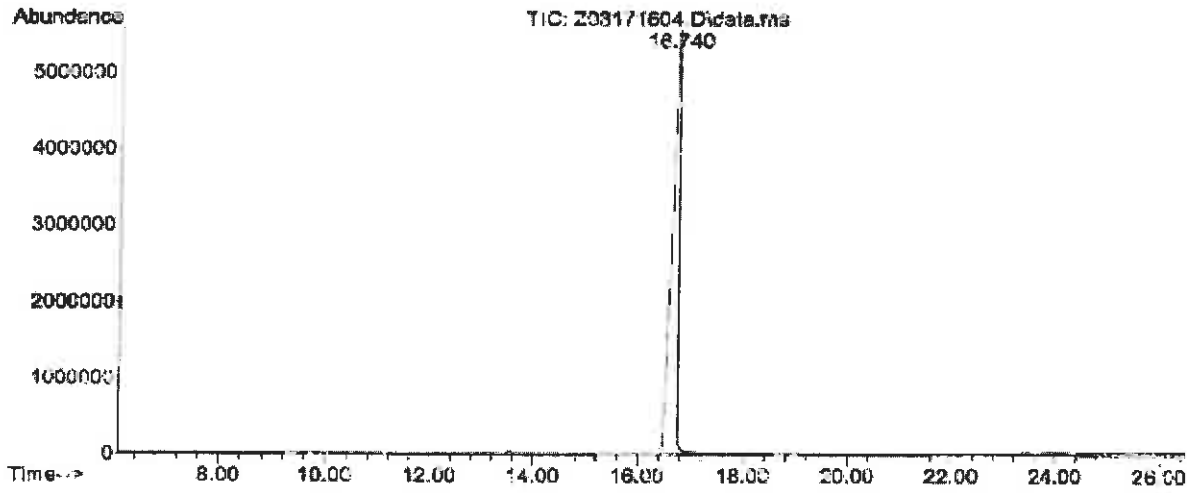

Mass Spectrum

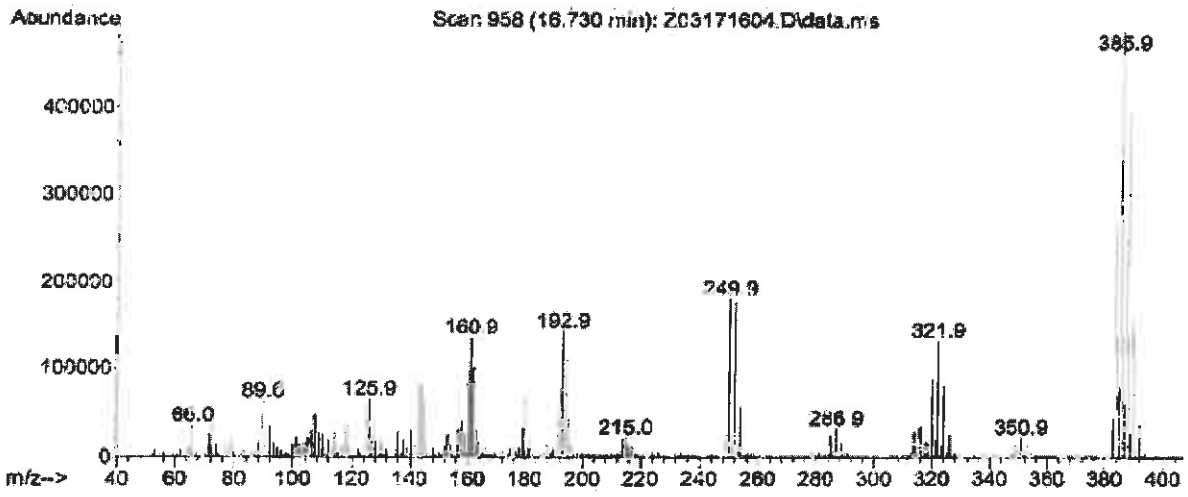

COA Revision History

Revision No.	Date	Reason for Revision
00	May 04, 2016	Initial version

Reagent

HRDXNIDA_00358

r: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
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CIL

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,7,8,9-Hexachlorodibenzofuran-$^{13}C_{12}$

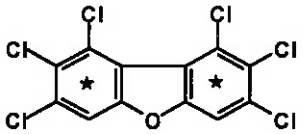

Catalog Number: EF-986
Solution Lot: ER100610-01
Expiration Date: December 2020
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For laboratory use only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
1,2,3,7,8,9-Hexachlorodibenzofuran-$^{13}C_{12}$	99.5%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER100610-01	51.2	± 5%	0.4	≤ 3%
Previous Lot	ER100107-01	49.9	± 5%	1.4	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

February 14, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2OCl_6$
Compound Lot:	ER080108-03	**CAS Number:**	116843-04-0
		Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.5%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.03% $^{13}C_0$ vs $^{13}C_{12}$
		0.09% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.49%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

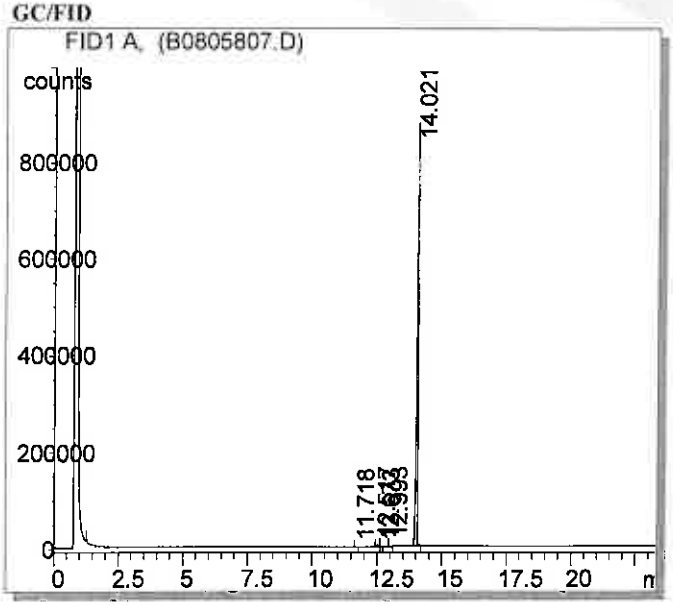

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0805807.D
Instrument:	GC#2
Sample Name:	ER080108-03
Acquired:	August 05, 2008

Peak #	Ret Time	Area	Height	Area %
1	11.72	318.47	152.10	0.01
2	12.52	8294.54	2994.64	0.30
3	12.67	155.17	67.29	0.01
4	12.99	4248.66	1646.53	0.16
5	14.02	2708910.00	880320.00	99.52

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

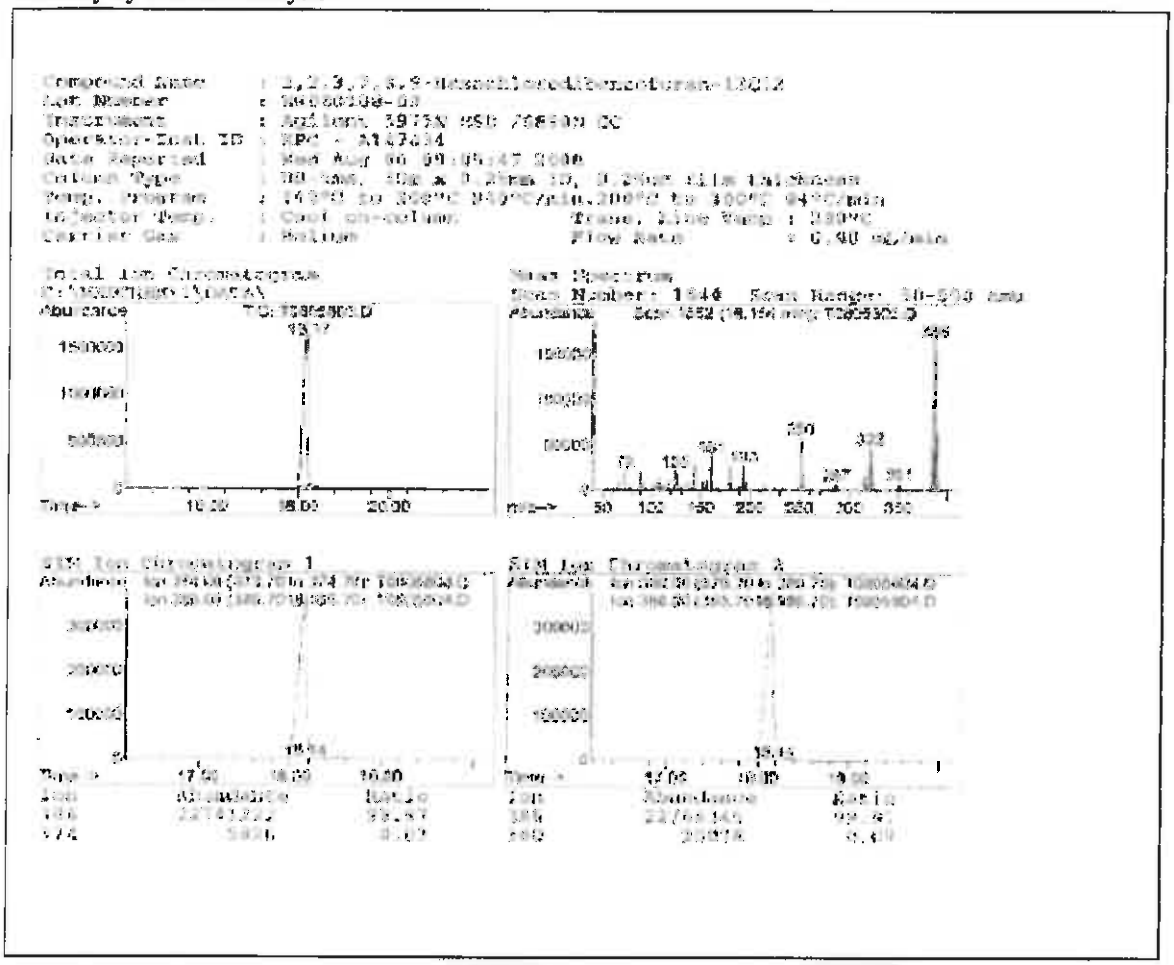

COA Revision History

Revision No.	Date	Reason for Revision
00	January 12, 2011	Initial version
01	November 05, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".
02	February 14, 2017	Corrected Isotopic Purity by GC/MS SIM from C to ^{13}C.

Reagent

HRDXNIDA_00359

r: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
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CIL

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

2,3,4,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

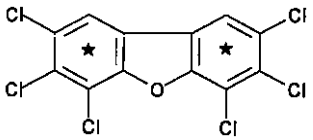

Catalog Number: EF-987
Solution Lot: ER100610-02
Expiration Date: December 2020
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For laboratory use only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
2,3,4,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.4%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER100610-02	50.9	± 5%	0.6	≤ 3%
Previous Lot	ER031507-03	50.3	± 5%	1.8	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

January 15, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,4,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O$
Compound Lot:	ER061906-02	**CAS Number:**	116843-05-1
		Molecular Weight:	386.73

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.4%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.04% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.40%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

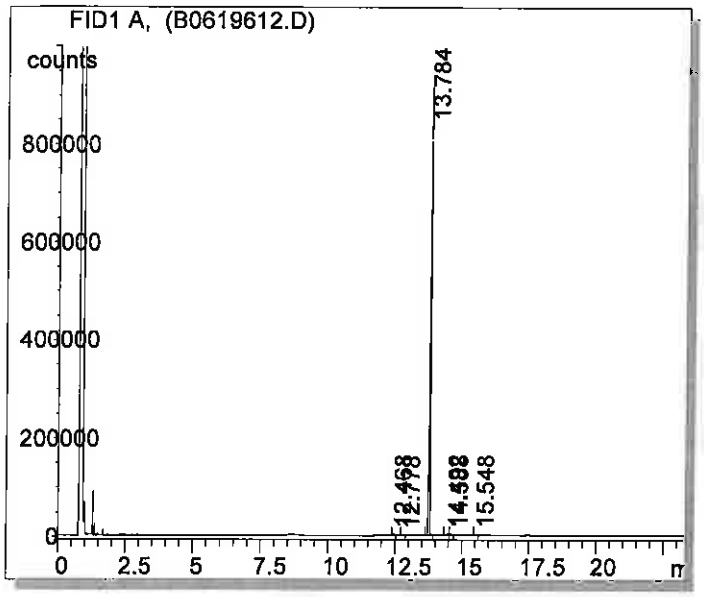

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0619612.D
Instrument:	GC#2
Sample Name:	ER061906-02
Acquired:	June 19, 2006

Peak #	Ret Time	Area	Height	Area %
1	12.47	4458	1822	0.18
2	12.78	3496	1304	0.14
3	13.78	2443150	925399	99.39
4	14.49	1528	387	0.06
5	14.59	4236	1332	0.17
6	15.55	1361	348	0.06

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 2,3,4,6,7,8-Hexachlorodibenzofuran-13C12
Lab Number : ZR061906-02
Instrument : Agilent 5975N MSD /6890N GC
Operator Inst ID : RPC - A147434
Date Reported : Tue Jun 20 08:44:12 2006
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C 8.0°C/min,200°C to 320°C @4°C/min
Injector Temp. : Cool on-column Trans. Line Temp : 280°C
Carrier Gas : Helium Flow Rate : 0.80 mL/min

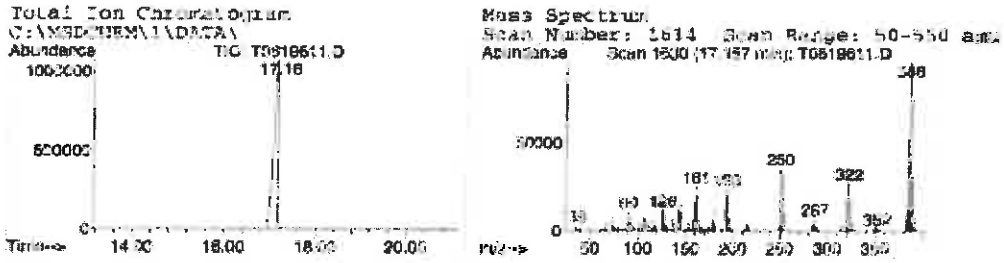

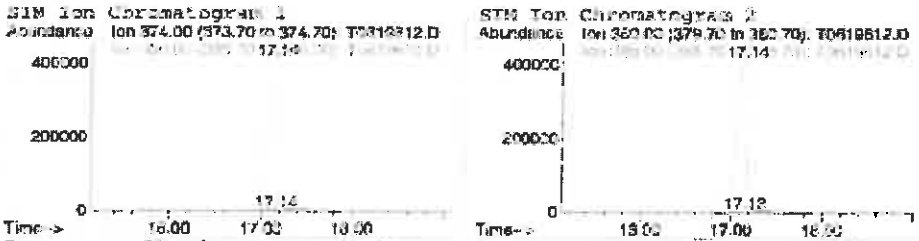

COA Revision History

Revision No.	Date	Reason for Revision
00	January 04, 2011	Initial version
01	January 15, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Reagent

HRDXNIDA_00360

r: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

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Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,7,8-Pentachlorodibenzo-p-dioxin-$^{13}C_{12}$

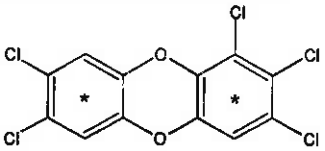

Catalog Number: ED-955
Solution Lot: ER08041401
Expiration Date: August 2024
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,7,8-Pentachlorodibenzo-p-dioxin-$^{13}C_{12}$	98.2%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER08041401	48.80	± 5%	0.3	≤ 3%
Previous Lot	ER030907-02	49.84	± 5%	0.4	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

February 10, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,7,8-Pentachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3Cl_5O_2$
Compound Lot:	ER06241403	**CAS Number:**	109719-79-1
		Molecular Weight:	368.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.9%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS-SIM Analysis	SP10-0105	0.07% $^{13}C_0$ vs $^{13}C_{12}$
		0.14% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS	SP10-0105	No single DD/DF $\geq$ 0.5%
Mass Balance Purity Factor		98.90%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

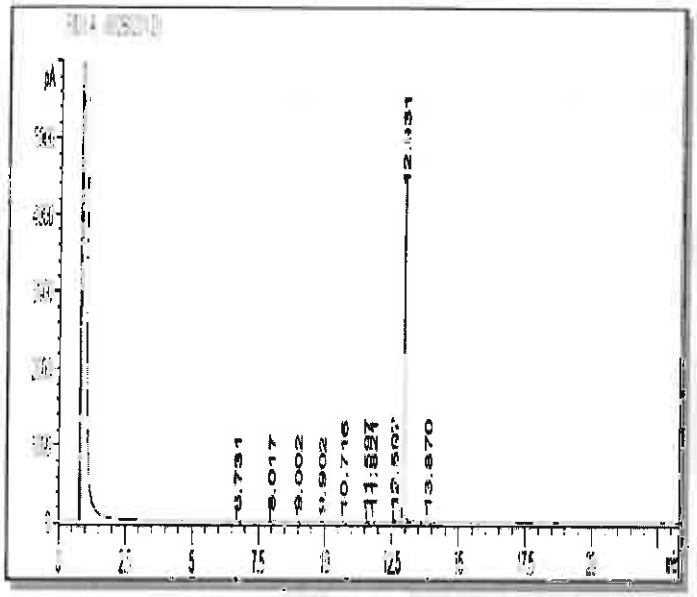

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min, hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMP-085 P GC 6 2014-07-30 18-11-11\002B0201.D
Instrument:	GC#6
Sample Name:	ER06241403
Acquired:	July 30, 2014

Peak #	Ret Time	Area	Height	Area %
1	6 73	7.32	3.42	0.07
2	8.02	3 79	1.60	0.04
3	9.00	8 74	3.64	0.08
4	9 90	3 38	1.35	0.03
5	10 72	1 31	0.45	0.01
6	11 60	14 46	6.69	0.14
7	11 82	2 21	1.11	0.02
8	12.60	68 05	28.10	0.64
9	12.93	10594 10	4235.85	98.91
10	13.87	7 09	2.57	0.07

Spectral and Physical Data (cont.)

GC/MS

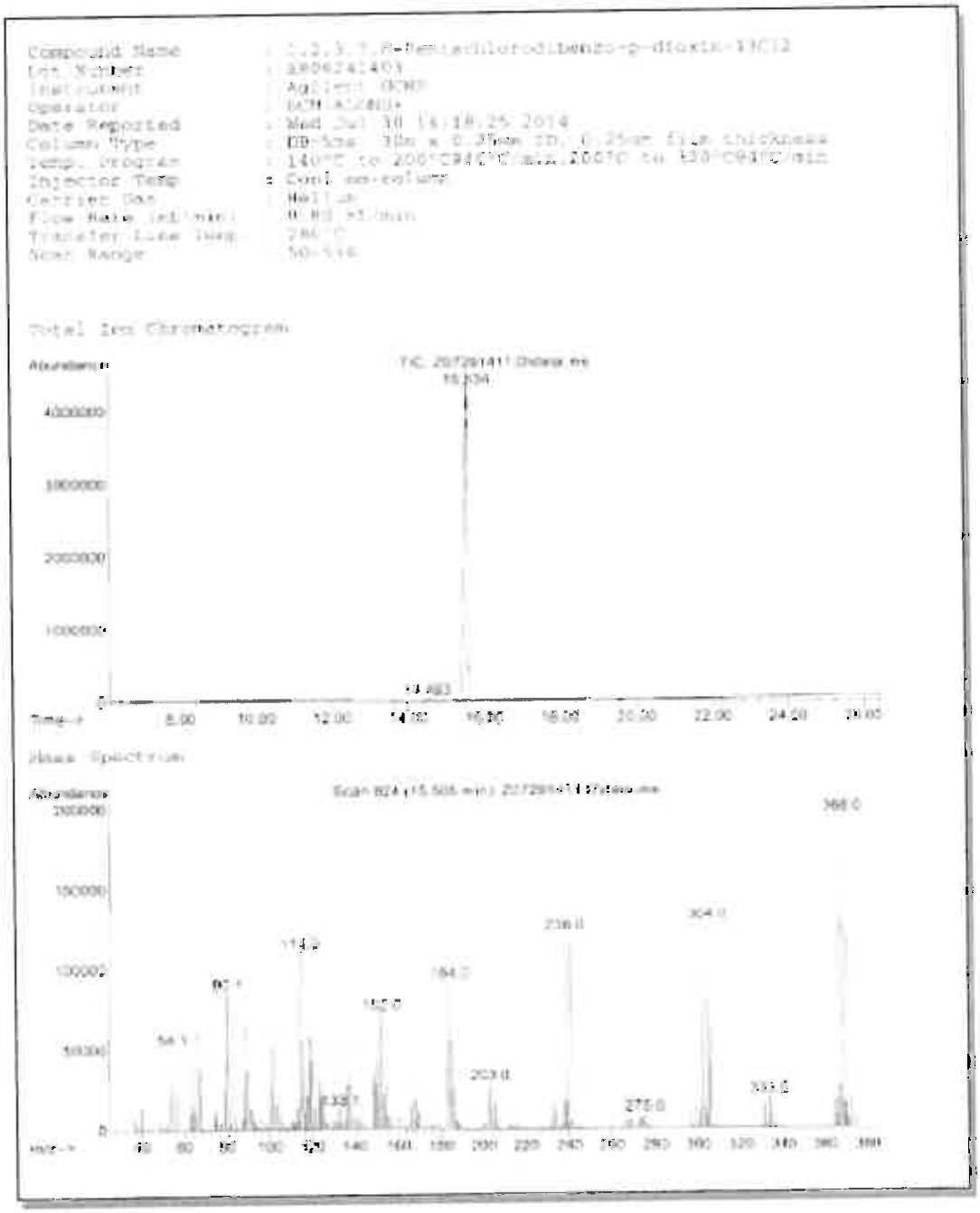

COA Revision History

Revision No.	Date	Reason for Revision
00	September 24, 2014	Initial version
01	February 10, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Reagent

HRDXNIDA_00361

r: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$

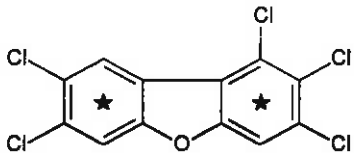

Catalog Number: EF-952
Solution Lot: ER012111-01
Expiration Date: January 2021
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For laboratory use only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
1,2,3,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	99.2%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER012111-01	50.7	± 5%	0.4	≤ 3%
Previous Lot	ER0100407-02	51.0	± 5%	0.5	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

February 15, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3OCl_5$
Compound Lot:	ER090110-01	**CAS Number:**	109719-77-9
		Molecular Weight:	352.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.2%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.03% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.17%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

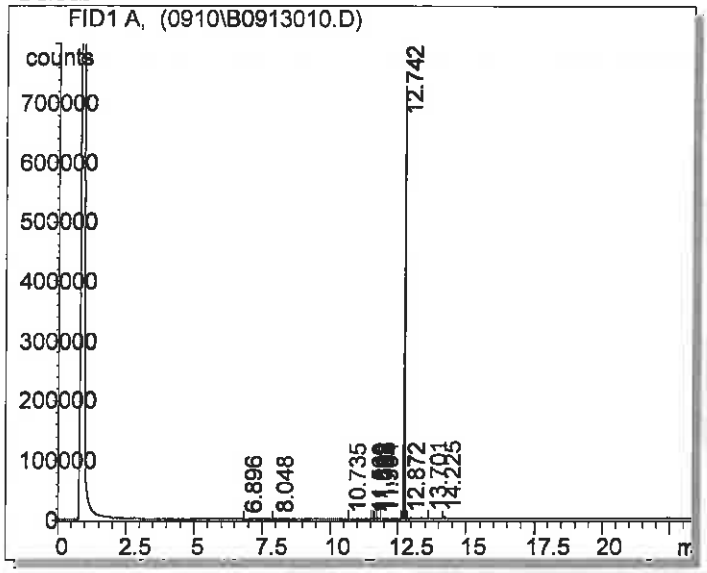

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	S:\GC\GC2\2010\0910\B0913010.D
Instrument:	GC#2
Sample Name:	ER090110-01
Acquired:	September 13, 2010

Peak #	Ret Time	Area	Height	Area %
1	6.90	618.64	296.84	0.04
2	8.05	254 50	102.70	0.01
3	10.74	162 25	70.86	0.01
4	11 57	145 03	82.11	0.01
5	11 62	468 46	216.27	0.03
6	11 69	1863 76	870.51	0.11
7	11.79	1631 76	576.35	0.10
8	11.90	421 31	184.81	0.02
9	12.74	1702290 00	729831.00	99.20
10	12.87	308 15	147.54	0.02
11	13.70	3743 55	1299.40	0.22
12	14.23	4032 24	1491.01	0.23

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

Compound Name : 1,2,3,7,8-Pentachlorodibenzofuran-13C12
Lot Number : EX090110-01
Instrument : Agilent 5973N MSD/6890N GC
Operator-Inst ID : RPC - CI0106
Date Reported : Tue Sep 14 11:05:33 2010
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 280°C

Scan Range : 50-550

Total Ion Chromatogram

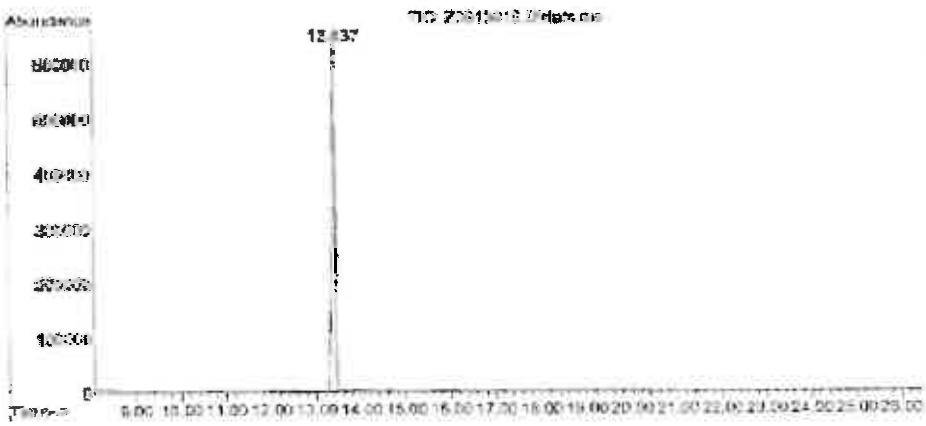

Mass Spectrum

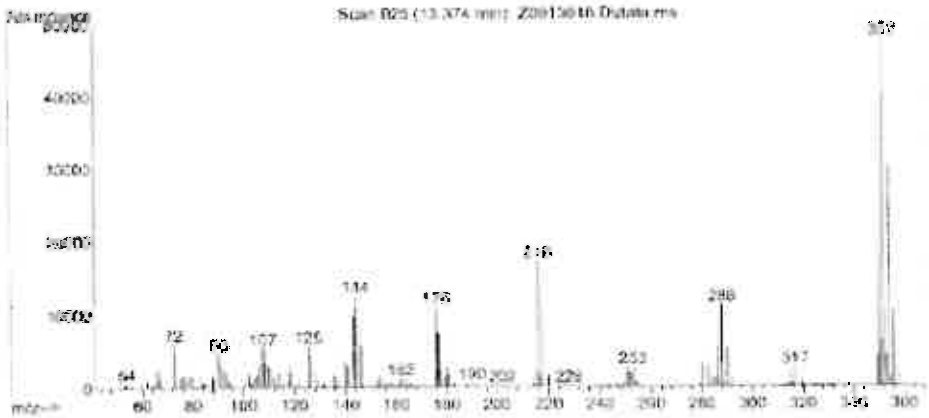

COA Revision History

Revision No.	Date	Reason for Revision
00	February 11, 2011	Initial version
01	March 01, 2011	Corrected typographical error: Chemical Structure
02	February 15, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Reagent

HRDXNIDA_00362

P: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

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Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

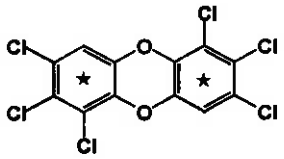

Catalog Number:	ED-966
Solution Lot:	ER03151801
Expiration Date:	March 2028
Solvent:	n-Nonane:Toluene (80:20) (v/v)
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	> 99.9%	50.03 ± 0.28 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER03151801	52.29	± 5%	0.2	≤ 3%
Previous Lot	ER010209-01	48.05	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using balances that have been qualified and calibrated to ISO 17025 requirements. All calibrations utilize NIST traceable weights which are calibrated externally by a qualified ISO 17025 accredited calibration laboratory to NIST standards. Qualification of each balance includes the assignment of a minimum weighing by a qualified and ISO 17025 accredited calibration vendor taking into consideration the balance and installed environmental conditions to ensure compliance with USP tolerances of NMT 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

April 19, 2018
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O_2$
Compound Lot:	FN01151802	**CAS Number:**	109719-81-5
		Molecular Weight:	402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.04% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 1.0%
Mass Balance Purity Factor		98.96%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

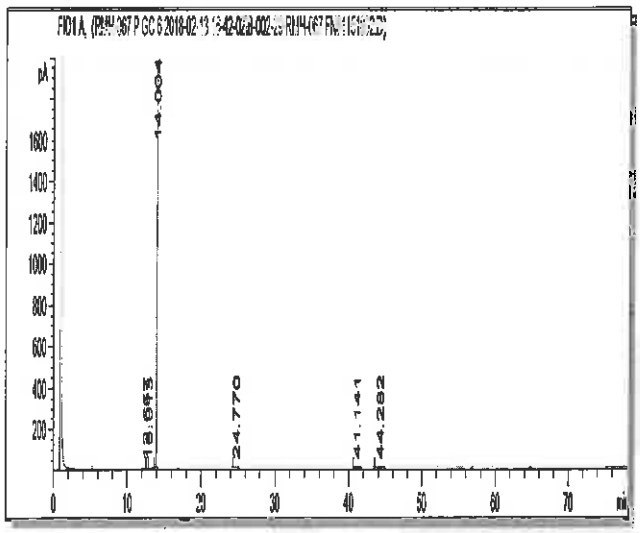

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-067 P GC 6 2018-02-13 16-42-02\B-002-29.D
Instrument:	GC#6
Sample Name:	FN01151802
Acquired:	February 13, 2018

Peak #	Ret Time	Area	Height	Area %
1	12.66	1 69	0.62	0.03
2	13.01	1 96	0.53	0.03
3	14 00	5617 62	1952.76	98.87
4	24 77	5.26	0.34	0.09
5	41 14	10.58	0.38	0.19
6	44 28	44.69	1.49	0.79

Spectral and Physical Data (cont.)

GC/MS

```
Compound Name          : 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-13C12
Lot Number             : FN01151802
Instrument             : Agilent GCMS
Operator               : FCM(SGIUFTRE)
Date Reported          : Mon Mar 05 10:17:32 2018
Column Type            : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program          : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.         : Cool on-column
Carrier Gas            : Helium
Flow Rate (mL\min)     : 0.80 mL/min
Transfer Line Temp.    : 280°C
Scan Range             : 50-550
```

Total Ion Chromatogram

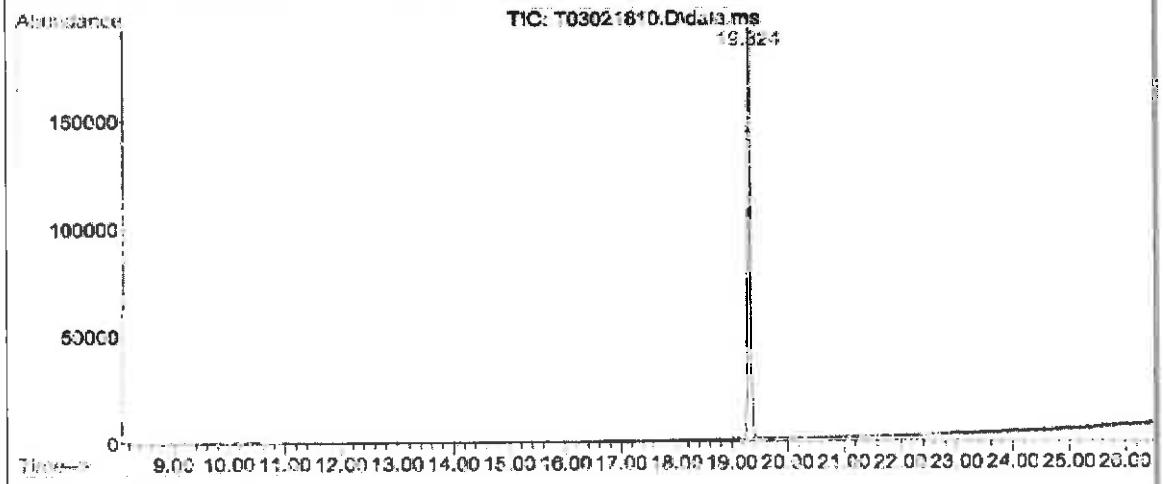

Mass Spectrum

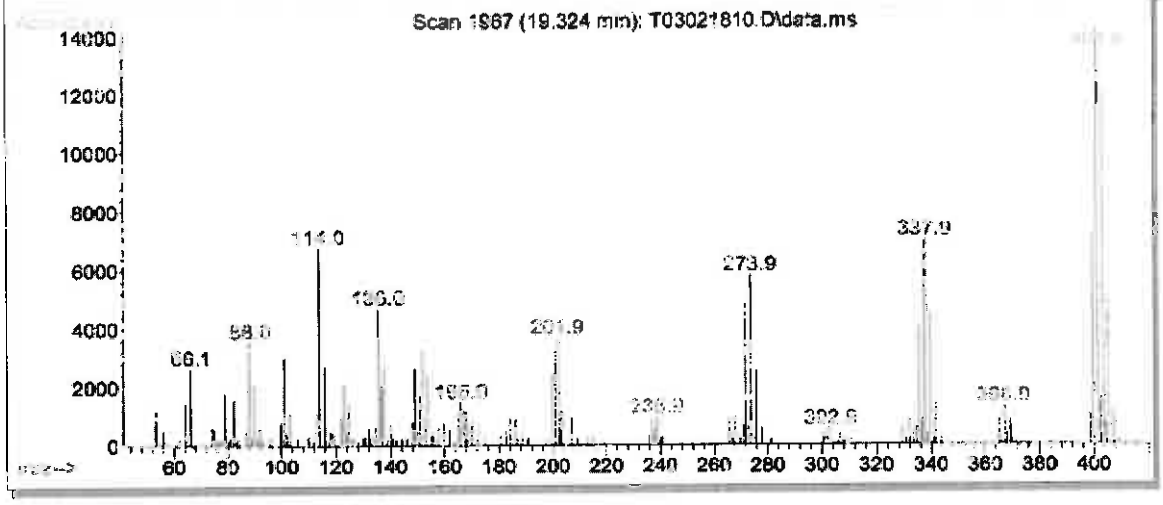

Reagent

HRDXNIDA_00365

Rec 11/28/18 SKV

1450145
ID: HRDXNIDA_00347
Exp: 04/30/27 Prpd: SKV
13C-OCDD [10 ug/mL]

Cerilliant Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Octachlorodibenzo-p-dioxin-$^{13}C_{12}$

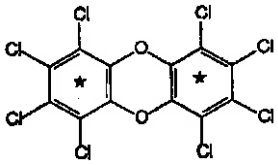

Catalog Number: ED-981-1.2
Solution Lot: ER04051701
Expiration Date: April 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
Octachlorodibenzo-p-dioxin-$^{13}C_{12}$	> 99.9%	10.00 ± 0.05 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04057101	10.22	± 5%	1.1	≤ 5%
Previous Lot	ER06061601	10.17	± 5%	0 8	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

May 19, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.25 mm ID, 0.25 µm film thickness
Temp Program:	70°C to 200°C at 40°C/min 200°C to 280°C at 10°C/min hold 15 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	3
Linearity (r):	0.997

Neat Material Data

Compound Name:	Octachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}Cl_8O_2$
Compound Lot:	ER04041601	**CAS Number:**	114423-97-1
		Molecular Weight:	471.66

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.1%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.07% $^{13}C_0$ vs $^{13}C_{12}$
		0.96% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.15%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

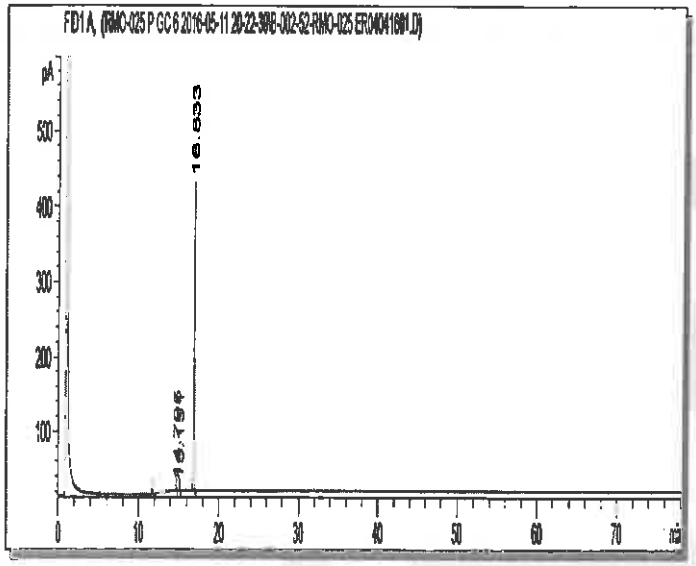

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMO-025 P GC 6 2016-05-11 20-22-39\B-002-52.D
Instrument:	GC#6
Sample Name:	ER04041601
Acquired:	May 11, 2016

Peak #	Ret Time	Area	Height	Area %
1	14.80	12.12	3.62	0.61
2	15.15	4.72	1.32	0.24
3	16.83	1980.56	409.54	99.16

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: Octachlorodibenzo-p-dioxin-13C12
Lot Number	: ERC4041601
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Wed May 04 13:45:40 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

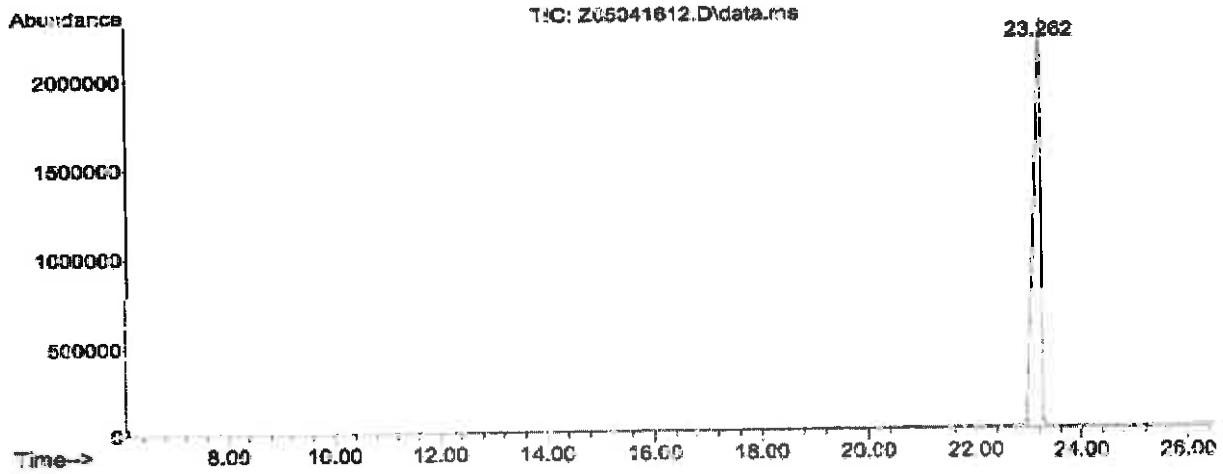

Mass Spectrum

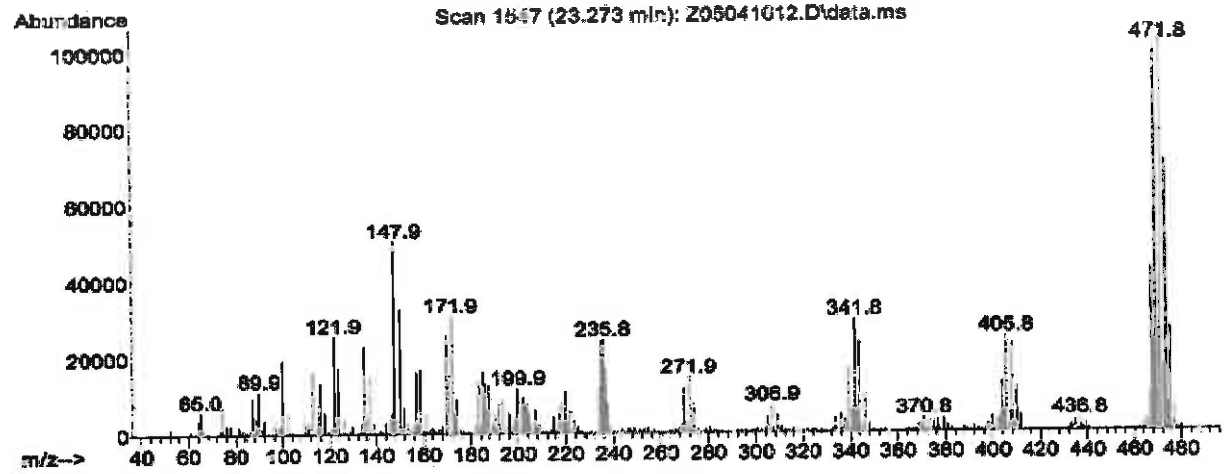

Reagent

HRDXNIDA_00375

nr: 4/8/19 BW

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$

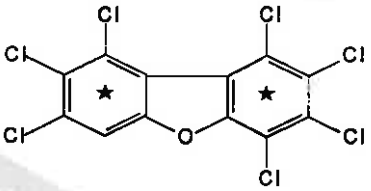

Catalog Number: EF-988
Solution Lot: ER04251601
Expiration Date: May 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	99.1%	49.99 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass, Purity Factor of the analyte(s), measured mass of the solution, and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04251601	49.11	± 5%	0.2	≤ 3%
Previous Lot	ER053107-02	50.58	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

November 09, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}HCl_7O$
Compound Lot:	ER04041602	**CAS Number:**	109719-94-0
		Molecular Weight:	421.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.1%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS SIM	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.16% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.10%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data (cont.)

GC/FID

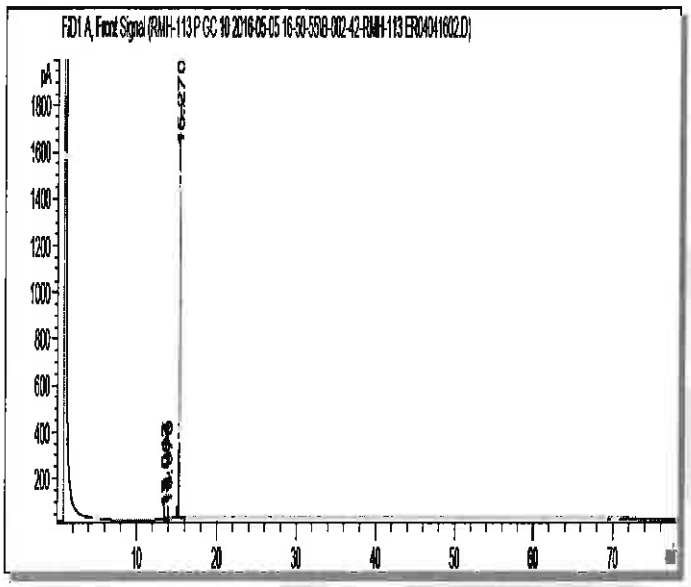

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-113 P GC 10 2016-05-05 16-50-55\B-002-42.D
Instrument:	GC#10
Sample Name:	ER04041602
Acquired:	May 05, 2016

Peak #	Ret Time	Area	Height	Area %
1	13.51	8.76	2.52	0.12
2	13.68	17.42	7.45	0.24
3	13.97	39.65	15.48	0.54
4	15.27	7226.95	1798.33	99.10

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 1,2,3,4,7,8,9-Heptachlorodibenzofuran-13C12
Lot Number	: ER04041602
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Wed May 04 15:34:28 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

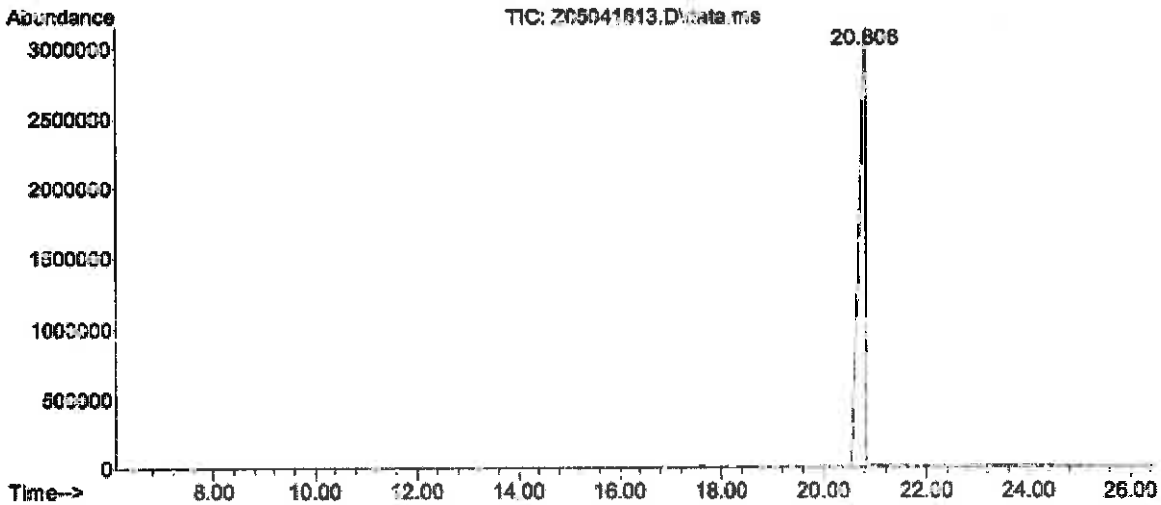

Mass Spectrum

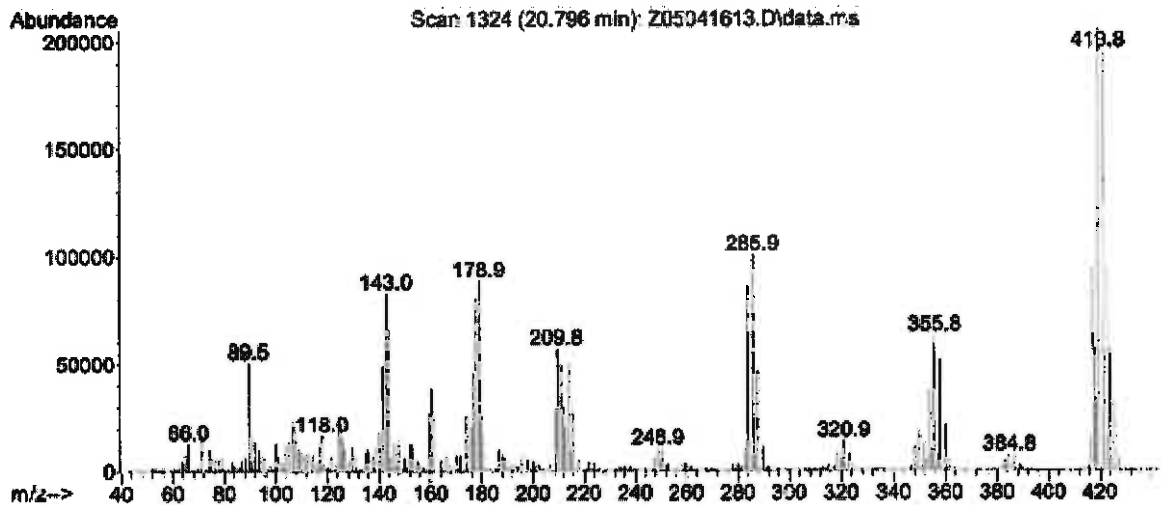

COA Revision History

Revision No.	Date	Reason for Revision
00	June 21, 2016	Initial version
01	November 09, 2016	Corrected Expiration Date from March 2026 to May 2026.

Reagent

HRDXNIDA_00376

N: 4/8/19 SW

Cerilliant
Analytical Reference Standards
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CIL

Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$

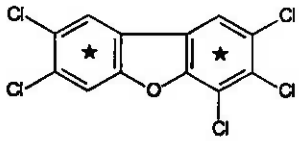

Catalog Number: EF-958
Solution Lot: ER01061701
Expiration Date: January 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	97.9%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass, Purity Factor of the analyte(s), measured mass of the solution, and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Acceptance Criteria	%RSD - Homogeneity Actual Results	Acceptance Criteria
New Lot	ER01061701	50.51	± 5%	0.1	≤ 3%
Previous Lot	ER11041601	49.56	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

January 27, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3Cl_5O$
Compound Lot:	ER11101601	**CAS Number:**	116843-02-8
		Molecular Weight:	352.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0102	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.02% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 0.5%
Mass Balance Purity Factor		**98.33%**

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

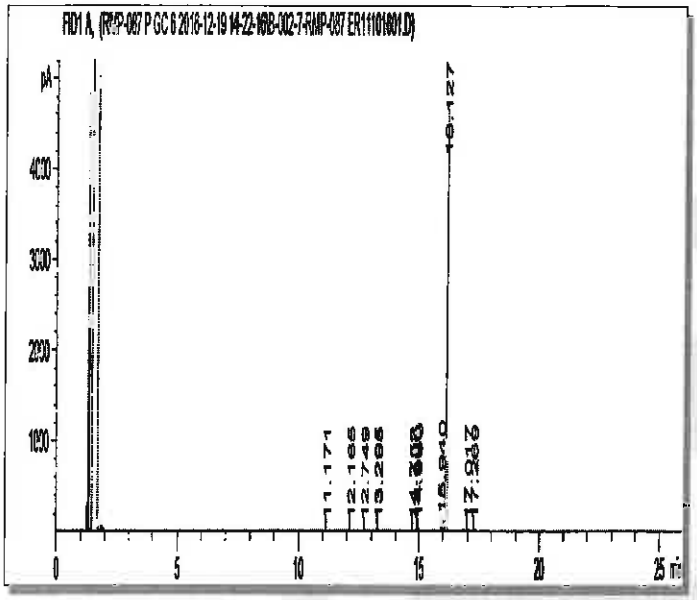

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMP-087 P GC 6 2016-12-19 14-22-16\B-002-7.D
Instrument:	GC#6
Sample Name:	ER11101601
Acquired:	December 19, 2016

Peak #	Ret Time	Area	Height	Area %
1	11.17	0.94	0.40	0.01
2	12.17	1.30	0.39	0.01
3	12.75	0.47	0.20	0.00
4	13.30	0.90	0.35	0.01
5	14.75	1.70	0.87	0.02
6	14.91	1.09	0.56	0.01
7	14.97	32.24	17.54	0.29
8	15.94	124.38	64.36	1.13
9	16.13	10866.60	4688.80	98.41
10	17.02	6.31	2.46	0.06
11	17.27	6.76	2.34	0.06

Spectral and Physical Data (cont.)

GC/MS

```
Compound Name          : 2,3,4,7,8-Pentachlorodibenzofuran-13C12
Lot Number             : ER11101601
Instrument             : Agilent GCMS
Operator               : ECM(SGIUFFRE)
Date Reported          : Tue Dec 20 12:19:55 2016
Column Type            : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program          : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.         : Cool on-column
Carrier Gas            : Helium
Flow Rate (mL\min)     : 0.80 mL/min
Transfer Line Temp.    : 280°C
Scan Range             : 50-550
```

Total Ion Chromatogram

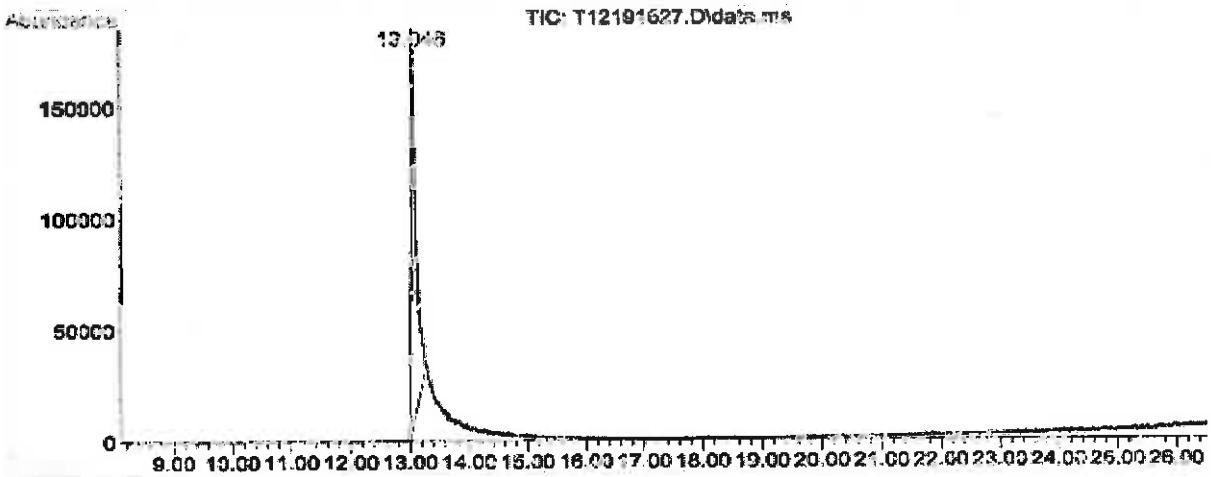

Mass Spectrum

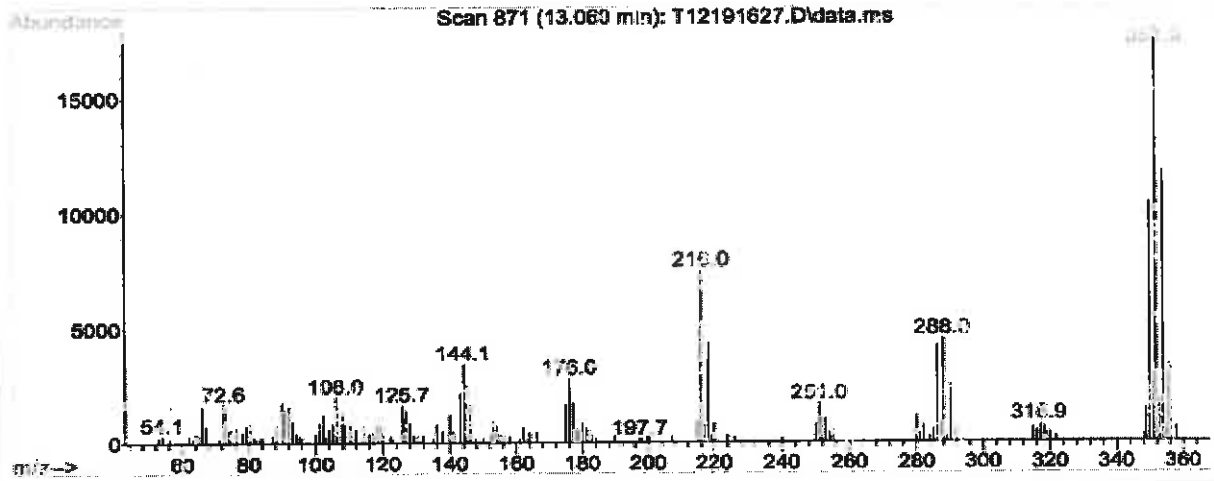

Reagent

HRDXNIDA_00377

r: 4/8/19 SKJ

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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

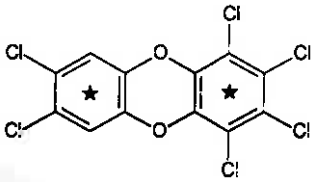

Catalog Number:	ED-946
Solution Lot:	ER04211601
Expiration Date:	June 2026
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.3%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04211601	49.24	± 5%	0.4	≤ 3%
Previous Lot	ER102711-01	49.69	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

August 11, 2016
Date

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 60°C to 300°C at 40°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 4
Linearity (r): 1.000

Neat Material Data

Compound Name: 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$
Compound Lot: ER011008-01

Chemical Formula: $^{13}C_{12}H_2Cl_6O_2$
CAS Number: 109719-80-4
Molecular Weight: 402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.08% $^{13}C_0$ vs $^{13}C_{12}$
		0.21% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.26%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

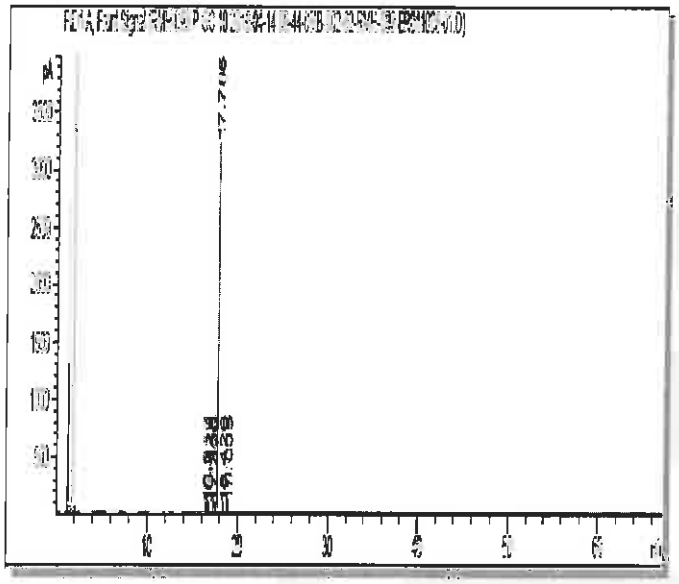

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	40°C to 300°C at 15°C/min hold 50 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-098 P GC 10 2016-04-14 08-44-08\B-002-62.D
Instrument:	GC#10
Sample Name:	ER011008-01
Acquired:	April 14, 2016

Peak #	Ret Time	Area	Height	Area %
1	16.56	16.58	7.74	0.19
2	16.72	11.25	5.08	0.13
3	16.83	8.45	4.05	0.10
4	17.30	1.81	0.71	0.02
5	17.48	1.07	0.50	0.01
6	17.79	8682.22	3203.58	99.29
7	18.43	1.99	0.68	0.02
8	19.01	20.62	6.08	0.24

Spectral and Physical Data (cont.)

GC/MS

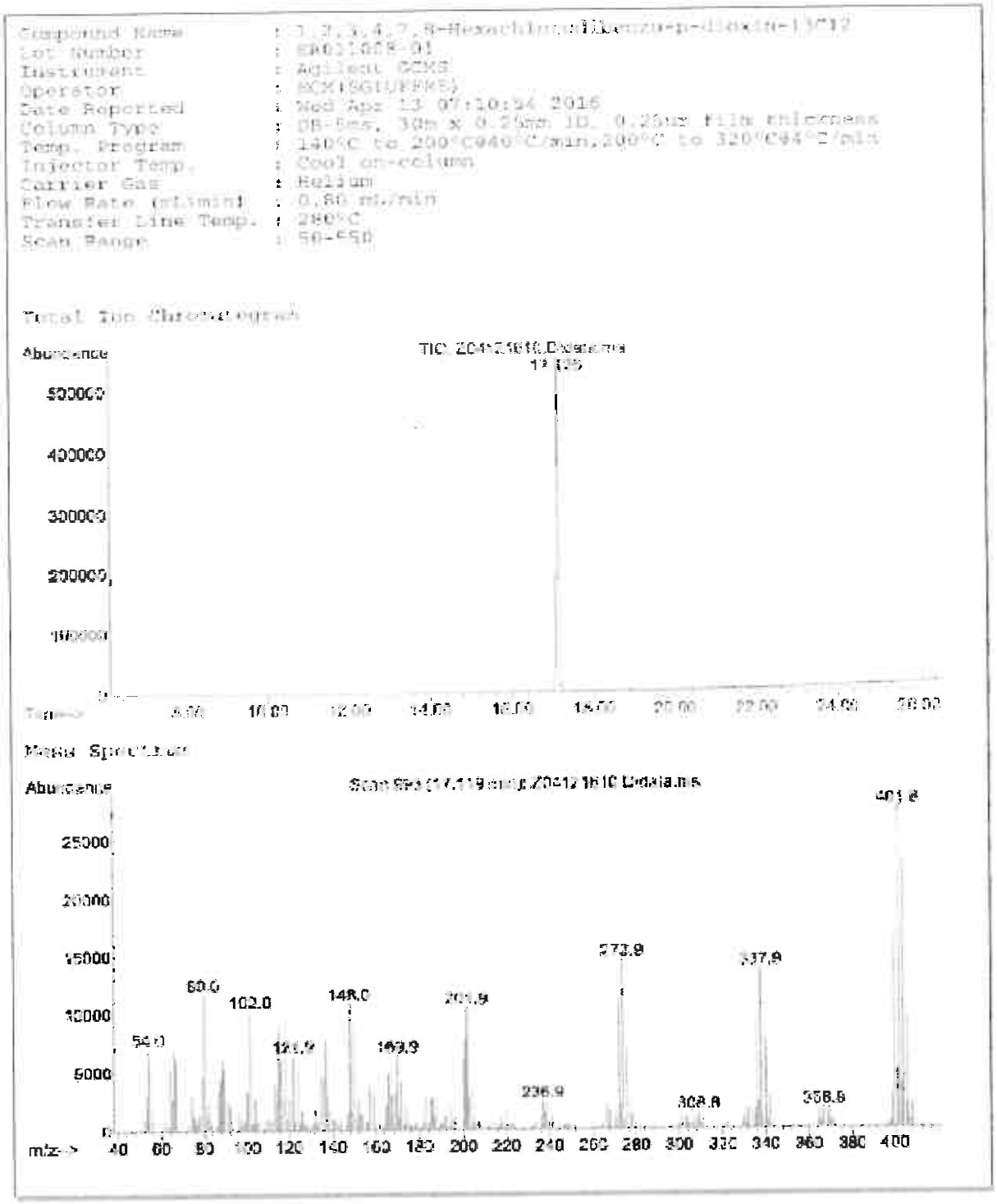

Reagent

HRDXNIDA_00378

r: 4/8/19 SKJ

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Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

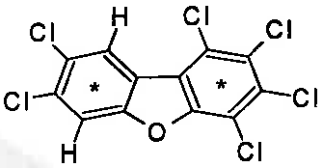

Catalog Number:	EF-963
Solution Lot:	ER04211701
Expiration Date:	July 2027
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.4%	50.00 ± 0.28 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04211701	49.47	± 5%	0.2	≤ 3%
Previous Lot	ER072810-02	45.87	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release

Traceability

- Gravemetrically prepared using balances that have been qualified and calibrated to ISO 17025 requirements. All calibrations utilize NIST traceable weights which are calibrated externally by a qualified ISO 17025 accredited calibration laboratory to NIST standards. Qualification of each balance includes the assignment of a minimum weighing by a qualified and ISO 17025 accredited calibration vendor taking into consideration the balance and installed environmental conditions to ensure compliance with USP tolerances of NMT 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

September 11, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}Cl_6H_2O$
Compound Lot:	ER11281601	**CAS Number:**	114423-98-2
		Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0102	99.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.06% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 0.5%
Mass Balance Purity Factor		99.31%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

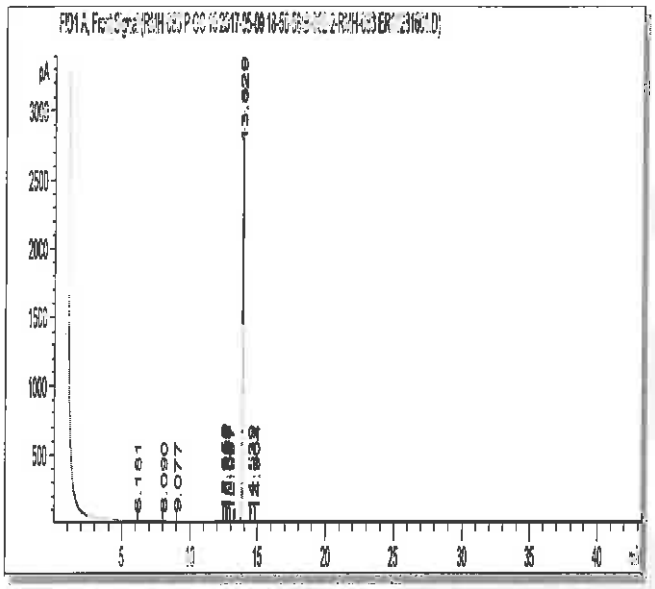

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 30 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-083 P GC 10 2017-05-09 18-50-58\B-002-2.D
Instrument:	GC#10
Sample Name:	ER11281601
Acquired:	May 09, 2017

Peak #	Ret Time	Area	Height	Area %
1	6.18	1.10	0.64	0.01
2	8.09	2.00	0.70	0.02
3	9.08	1.17	0.48	0.01
4	12.55	14.76	7.25	0.16
5	12.73	32.67	11.32	0.36
6	12.84	5.45	2.50	0.06
7	13.00	2.51	1.30	0.03
8	13.83	8993.56	3122.16	99.30
9	14.54	1.11	0.20	0.01
10	14.90	2.71	0.86	0.03

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 1,2,3,4,7,8-hexachlorodibenzofuran-13C12
Lot Number : SRI128160[illegible]
Instrument : Agilent GCMS
Operator : ECM(SGIDEFKE)
Date Reported : Mon May 08 09:30:09 2017
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@60°C/min,200°C to 320°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL\min) : 0.80 mL/min
Transfer Line Temp. : 280°C
Scan Range : 50-550

Total Ion Chromatogram

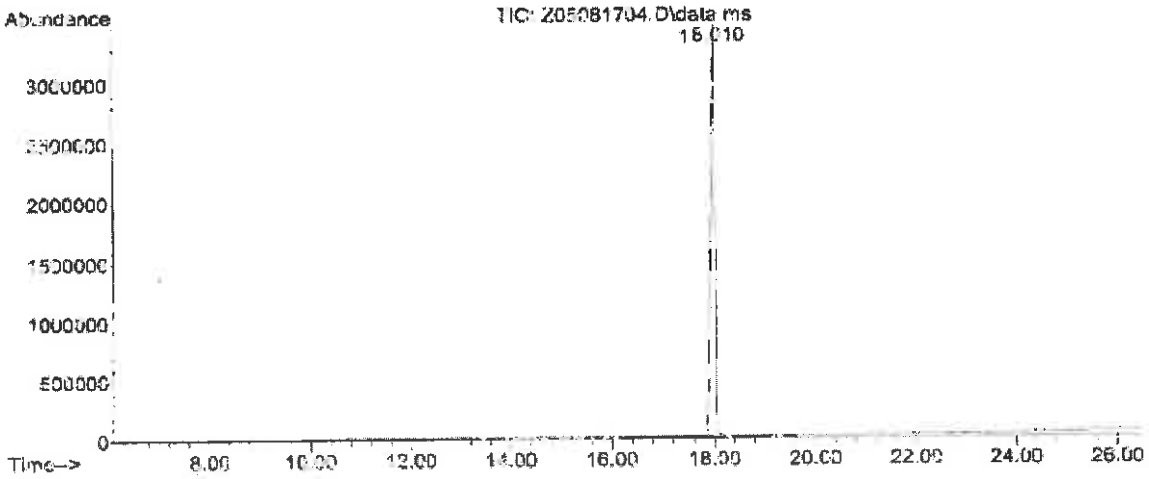

Mass Spectrum

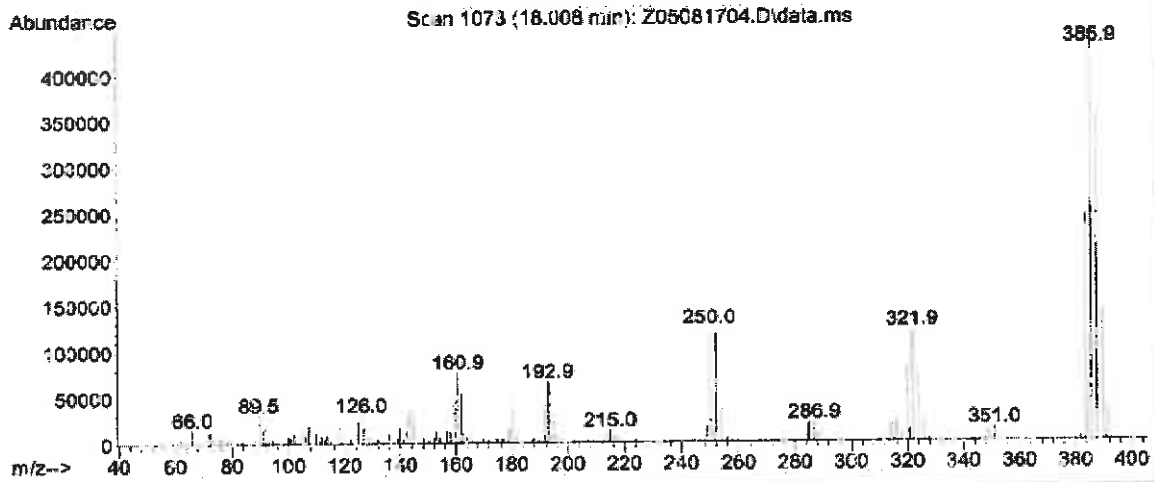

Reagent

HRDXNIS_00110

r: 9/4/18 SKV

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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

Catalog Number: ED-996
Solution Lot: ER08221601
Expiration Date: September 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER08221601	49.20	± 5%	0.3	≤ 3%
Previous Lot	ER021313-01	49.56	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

September 28, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O_2$
Compound Lot:	ER110510-01	**CAS Number:**	109719-82-6
		Molecular Weight:	402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.04% $^{13}C_0$ vs $^{13}C_{12}$
		0.27% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.02%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

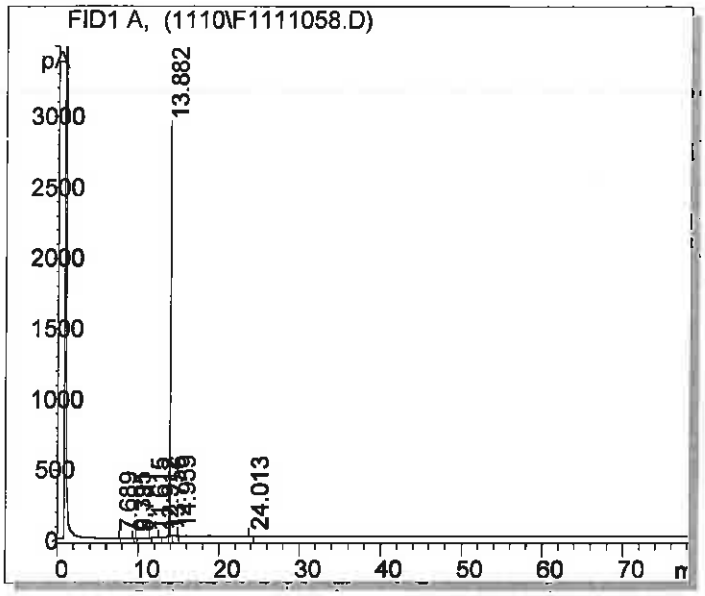

Column:	DB-5ms 30m x 0.53mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-column
Detector Temp:	325°C
Data File Name:	S:\GC\GC6\2010\1110\F1111058.D
Instrument:	GC#6
Sample Name:	ER110510-01
Acquired:	November 12, 2010

Peak #	Ret Time	Area	Height	Area %
1	4 69	0.45	0.10	0.01
2	9.40	0 72	0.14	0.01
3	9.78	0 80	0.13	0.01
4	11 62	7.34	2.54	0.09
5	12 91	2.59	0.23	0.03
6	13 76	1.91	1.00	0.02
7	13 88	8026.07	2938.74	99.11
8	14.96	36.82	11.38	0.45
9	24.01	21.08	1.62	0.26

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-13C12
Lot Number : ER110510-01
Instrument : Agilent 5973N MSD /6890N GC
Operator-Inst ID : RPC - A147434
Date Reported : Fri Nov 12 16:41:14 2010
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C @40°C/min,200°C to 320°C @4°C/min
Injector Temp. : Cool on-column Trans. Line Temp : 280°C
Carrier Gas : Helium Flow Rate : 0.80 mL/min

Total Ion Chromatogram
S:\GCMS\GCMS2\2010\1110\

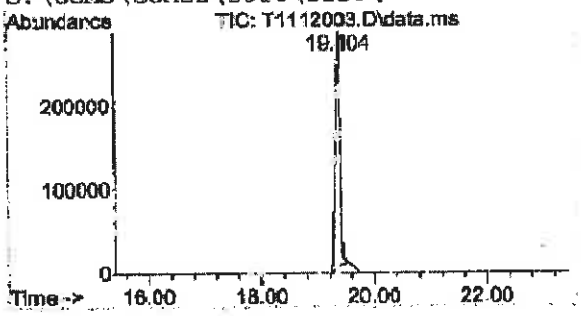

Mass Spectrum
Scan Number: 1976 Scan Range: 50-550 amu

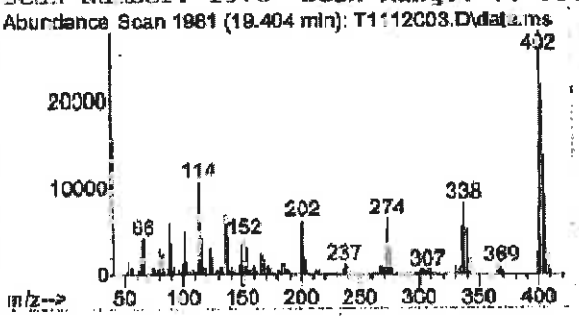

SIM Ion Chromatogram 1

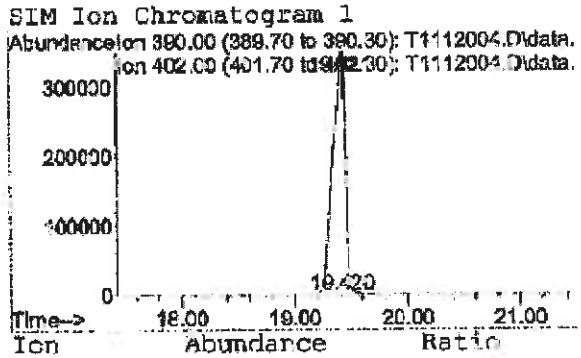

Ion	Abundance	Ratio
402	26368380	99.96
390	9776	0.04

SIM Ion Chromatogram 2

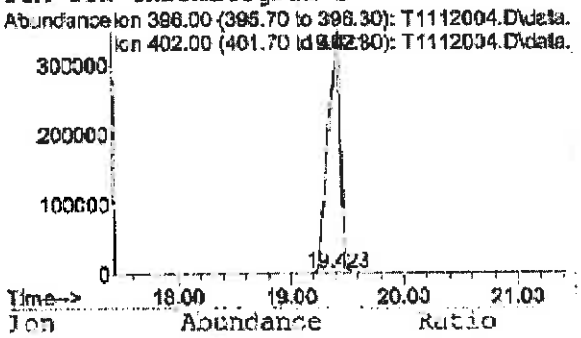

Ion	Abundance	Ratio
402	26368380	99.73
396	71626	0.27

Reagent

HRDXNIS_00111

Rec: 9/4/18 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$

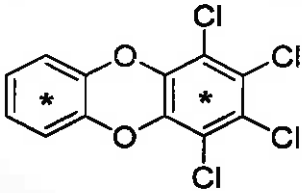

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number: ED-911
Solution Lot: ER11081602
Expiration Date: January 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.7%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s); measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER11081602	51.01	± 10%	0.1	≤ 3%
Previous Lot	ER060710-01	50.59	± 10%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

January 23, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_4Cl_4O_2$
Compound Lot:	ER02021602	**CAS Number:**	114423-99-3
		Molecular Weight:	333.88

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS	SP10-0105	no single DD/DF impurity ≥ 1.0%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.03% $^{13}C_0$ vs $^{13}C_{12}$
		0.01% $^{13}C_6$ vs $^{13}C_{12}$
Identity by ^{1}H-NMR Analysis	USP <761>, SP10-0116	Consistent with Structure
Residual Solvent by ^{1}H-NMR Analysis	USP <761>, SP10-0116	0.31% Dichloromethane
Mass Balance Purity Factor		98.71%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

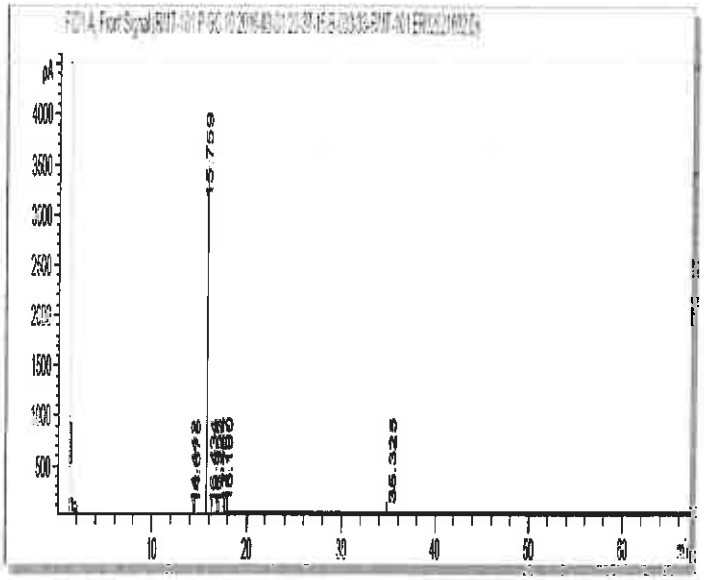

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	40°C to 300°C at 15°C/min hold 50 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMT-101 P GC 10 2016-03-01 20-37-15\B-003-33.D
Instrument:	GC#10
Sample Name:	ER02021602
Acquired:	March 01, 2016

Peak #	Ret Time	Area	Height	Area %
1	14.44	1.34	0.53	0.02
2	14.68	3.60	0.58	0.05
3	15.76	7522.29	3054.11	99.22
4	16.43	3.51	0.80	0.05
5	16.96	2.38	1.09	0.03
6	17.13	4.79	2.26	0.06
7	17.77	8.72	3.38	0.11
8	18.10	1.68	0.54	0.02
9	35.33	32.94	1.28	0.43

^{1}H NMR

Instrument:	JEOL ECS 400
Solvent:	Chloroform-D

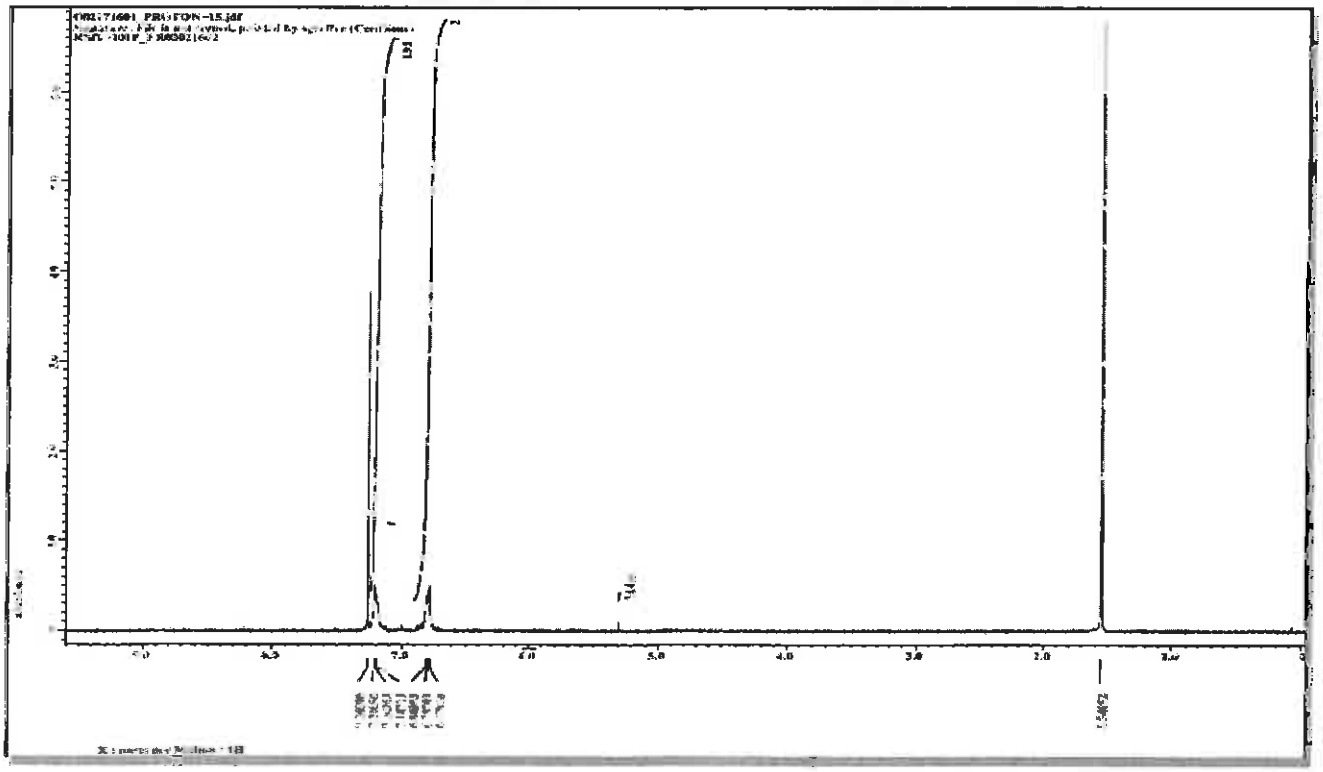

Spectral and Physical Data (cont.)

GC/MS

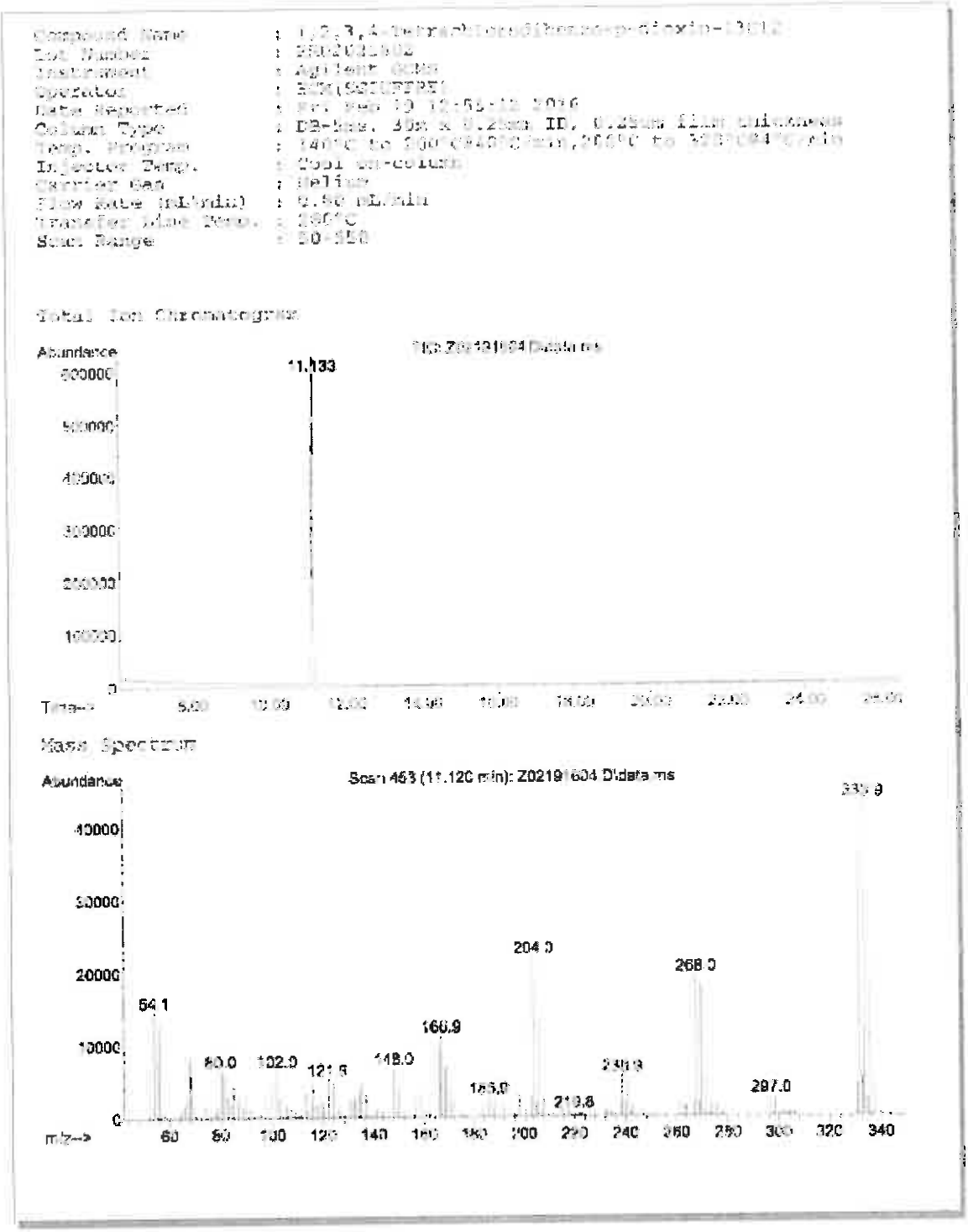

Reagent

HRDXNSU_00187

r: 7/30/18 SKN

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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$

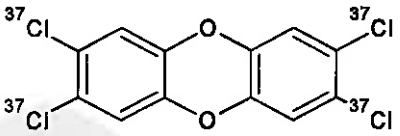

Catalog Number: ED-907
Solution Lot: ER05211501
Expiration Date: July 2025
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold
Shipping: Ambient.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Instructions for Use: Sonicate before use.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration
- For MS Applications, we advise laboratories not to mix lots during a single sequence.

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$	98.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Acceptance Criteria	%RSD - Homogeneity Actual Results	Acceptance Criteria
New Lot	ER05211501	50.60	± 10%	0.2	≤ 5%
Previous Lot	ER052010-02	49.73	± 10%	0.5	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after

ACLASS ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

August 03, 2015
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$	**Chemical Formula:**	$C_{12}H_4O_2{}^{37}Cl_4$
Compound Lot:	ER040510-01	**CAS Number**	85508-50-5
		Molecular Weight	328.02

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{37}Cl_0$ vs $^{37}Cl_4$
Identity by ^{1}H-NMR Analysis	USP <761>, SP10-0116	Consistent with Structure
Residual Solvent Analysis by ^{1}H-NMR	USP <761>, SP10-0116	1.2% Chloroform
Purity Factor		97.14%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

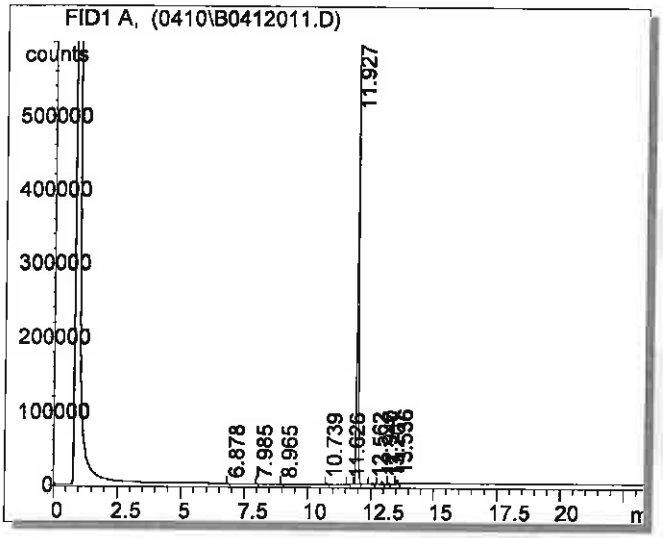

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	S:\GC\GC2\2010\0410\B0412011.D
Instrument:	GC#2
Sample Name:	ER040510-01
Acquired:	April 13, 2010

Peak #	Ret Time	Area	Height	Area %
1	6.88	245.58	89.37	0.01
2	7.99	304.03	131.27	0.01
3	8.97	233.91	72.32	0.01
4	10.74	931.14	265.29	0.04
5	11.63	127.86	46.74	0.01
6	11.93	2261830.00	580792.00	98.34
7	12.56	6435.54	1838.17	0.28
8	12.94	13336.80	4373.86	0.58
9	13.20	2178.30	729.98	0.09
10	13.54	14483.80	5038.43	0.63

^{1}H NMR

Instrument:	JEOL ECS 400
Solvent:	Toluene-D_8

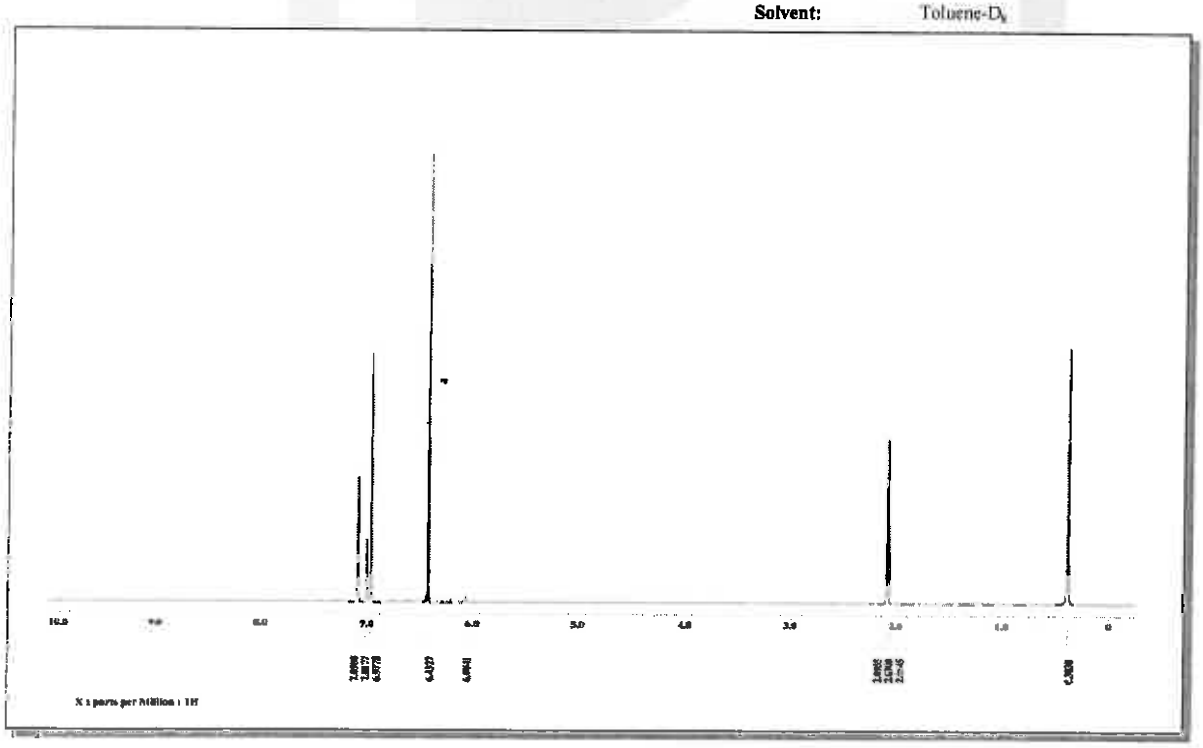

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

Compound Name : 2,3,7,8-Tetrachlorodibenzo-p-dioxin-37C14
Lot Number : KR060510-02
Instrument : Agilent 5973N MSD/6890N GC
Operator-Inst ID : RPC - C10106
Date Acquired : Mon Apr 19 23:23:00 2010
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 320°C@10°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 280°C

Scan Range : 50-550

Total Ion Chromatogram

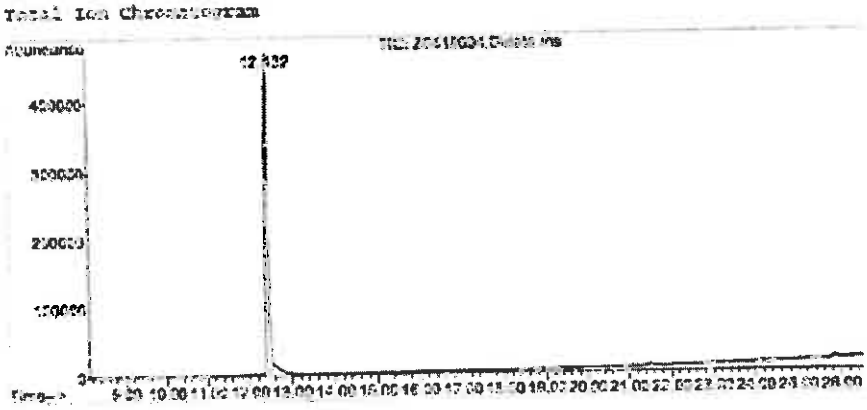

Mass Spectrum

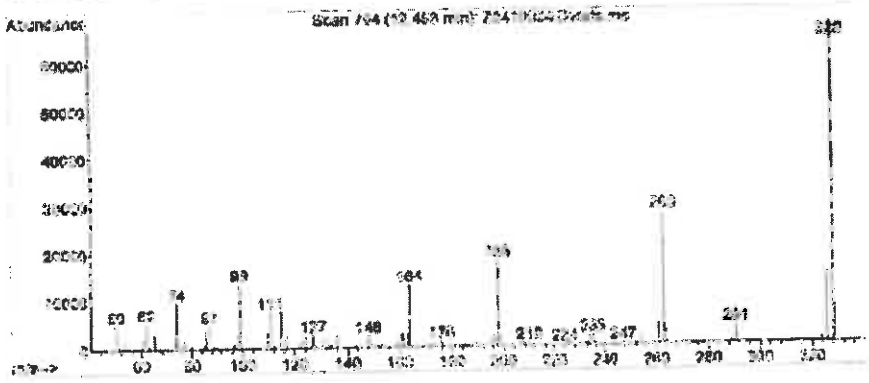

Reagent

HRDXNTA_00092

R: 7/6/18 SKJ

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CIL

Certificate of Analysis

Method 1613 PAR Stock Solution

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number: EDF-7999-10X
Solution Lot: ER02241602
Expiration Date: April 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/ analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 volume. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Lot Number	CAS Number	Chemical Formula	Molecular Weight	Chromatographic Purity	Concentration
2,3,7,8-TeCDD	ER04271502	1746-01-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%	399.9 ± 4.0 ng/mL
2,3,7,8-TeCDF	ER101211-02	51207-31-9	$C_{12}H_4Cl_4O$	305.97	99.4%	399.9 ± 4.0 ng/mL
1,2,3,7,8-PeCDD	ER110909-02	40321-76-4	$C_{12}H_3Cl_5O_2$	356.42	99.2%	2000 ± 20 ng/mL
1,2,3,7,8-PeCDF	ER03121401	57117-41-6	$C_{12}H_3Cl_5O$	340.42	99.5%	1999 ± 20 ng/mL
2,3,4,7,8-PeCDF	ER070710-01	57117-31-4	$C_{12}H_3Cl_5O$	340.42	99.4%	1999 ± 20 ng/mL
1,2,3,4,7,8-HxCDD	ER080108-02	39227-28-6	$C_{12}H_2Cl_6O_2$	390.86	98.6%	2000 ± 20 ng/mL
1,2,3,6,7,8-HxCDD	ER03231501	57653-85-7	$C_{12}H_2Cl_6O_2$	390.86	99.6%	2000 ± 20 ng/mL
1,2,3,7,8,9-HxCDD	ER02041601	19408-74-3	$C_{12}H_2Cl_6O_2$	390.86	99.2%	2000 ± 20 ng/mL
1,2,3,4,7,8-HxCDF	ER021110-01	70648-26-9	$C_{12}H_2Cl_6O$	374.86	99.0%	2000 ± 20 ng/mL
1,2,3,6,7,8-HxCDF	ER04161501	57117-44-9	$C_{12}H_2Cl_6O$	374.86	99.8%	2000 ± 20 ng/mL
1,2,3,7,8,9-HxCDF	ER060107-01	72918-21-9	$C_{12}H_2Cl_6O$	374.86	97.5%	1999 ± 20 ng/mL
2,3,4,6,7,8-HxCDF	ER02041602	60851-34-5	$C_{12}H_2Cl_6O$	374.86	99.1%	2001 ± 20 ng/mL
1,2,3,4,6,7,8-HpCDD	ER01201504	35822-46-9	$C_{12}HCl_7O_2$	425.31	98.5%	1999 ± 20 ng/mL
1,2,3,4,6,7,8-HpCDF	ER02281403	67562-39-4	$C_{12}HCl_7O$	409.31	98.9%	1999 ± 20 ng/mL
1,2,3,4,7,8,9-HpCDF	ER01121503	55673-89-7	$C_{12}HCl_7O$	409.31	99.1%	1999 ± 20 ng/mL
OCDD	ER05221301	3268-87-9	$C_{12}Cl_8O_2$	459.75	99.9%	3999 ± 40 ng/mL
OCDF	ER040811-01	39001-02-0	$C_{12}Cl_8O$	443.75	98.9%	4000 ± 40 ng/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Stock solution concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

April 28, 2016
Date

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.

Standard Solution Assay Parameters

Analysis Method: GC/ECD
Column: DB-5ms, 30 m x 0.25 mm ID, 0 25 µm film thickness
Temp Program: 140°C to 200°C at 40°C/min, 200°C to 300°C at 4°C/min hold 3 min
Injector Temp: Cool on-column
Detector Temp: 280°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 1

Solution Standard Verification and Homogeneity

Compound	Verified Concentration ng/mL	Acceptance Criteria	%RSD - Homogeneity %	Acceptance Criteria
2,3,7,8-TeCDD	397 1	± 10%	0.7	≤ 5%
2,3,7,8-TeCDF	386 6	± 10%	0.7	≤ 5%
1,2,3,7,8-PeCDD	1937	± 10%	0 8	≤ 5%
1,2,3,7,8-PeCDF	1919	± 10%	0.8	≤ 5%
2,3,4,7,8-PeCDF	1941	± 10%	0.8	≤ 5%
1,2,3,4,7,8-HxCDD	1932	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDD	1987	± 10%	0 8	≤ 5%
1,2,3,7,8,9-HxCDD	1943	± 10%	0 7	≤ 5%
1,2,3,4,7,8-HxCDF	1933	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDF	1909	± 10%	0.9	≤ 5%
1,2,3,7,8,9-HxCDF	1942	± 10%	0.7	≤ 5%
2,3,4,6,7,8-HxCDF	1950	± 10%	0.8	≤ 5%
1.2.3.4.6.7.8-HpCDD	1930	± 10%	0.9	≤ 5%
1,2,3,4,6,7,8-HpCDF	1919	± 10%	0.9	≤ 5%
1,2,3,4,7,8,9-HpCDF	1943	± 10%	1.0	≤ 5%
OCDD	3844	± 10%	1.0	≤ 5%
OCDF	3906	± 10%	0.9	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The %RSD of samples pulled from across the lot demonstrate homogeneity.
- Product is compared to prior lot and meets acceptance criteria of ± 10%.

Product Analysis

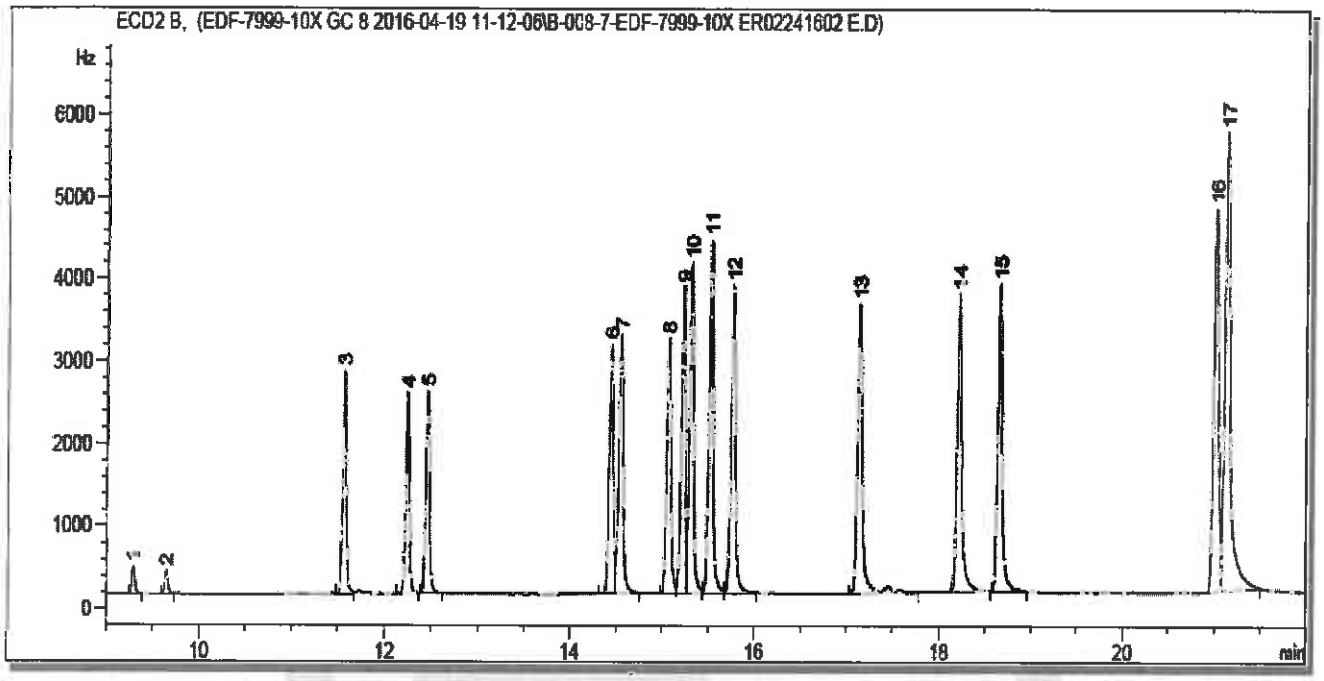

Peak:	Analyte:
1	2,3,7,8-Tetrachlorodibenzofuran
2	2,3,7,8-Tetrachloro-p-dioxin
3	1,2,3,7,8-Pentachlorodibenzofuran
4	2,3,4,7,8-Pentachlorodibenzofuran
5	1,2,3,7,8-Pentachlorodibenzo-p-dioxin
6	1,2,3,4,7,8-Hexachlorodibenzofuran
7	1,2,3,6,7,8-Hexachlorodibenzofuran
8	2,3,4,6,7,8-Hexachlorodibenzofuran
9	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin
10	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin
11	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin
12	1,2,3,7,8,9-Hexachlorodibenzofuran
13	1,2,3,4,6,7,8-Heptachlorodibenzofuran
14	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin
15	1,2,3,4,7,8,9-Heptachlorodibenzofuran
16	Octachlorodibenzo-p-dioxin
17	Octachlorodibenzofuran

COA Revision History

Revision No.	Date	Reason for Revision
00	April 28, 2016	Initial version

Reagent

HRDXNTA_00093

R: 7/6/18 SKJ

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Method 1613 PAR Stock Solution

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number: EDF-7999-10X
Solution Lot: ER02241602
Expiration Date: April 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/ analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 volume. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Lot Number	CAS Number	Chemical Formula	Molecular Weight	Chromatographic Purity	Concentration
2,3,7,8-TeCDD	ER04271502	1746-01-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%	399.9 ± 4.0 ng/mL
2,3,7,8-TeCDF	ER101211-02	51207-31-9	$C_{12}H_4Cl_4O$	305.97	99.4%	399.9 ± 4.0 ng/mL
1,2,3,7,8-PeCDD	ER110909-02	40321-76-4	$C_{12}H_3Cl_5O_2$	356.42	99.2%	2000 ± 20 ng/mL
1,2,3,7,8-PeCDF	ER03121401	57117-41-6	$C_{12}H_3Cl_5O$	340.42	99.5%	1999 ± 20 ng/mL
2,3,4,7,8-PeCDF	ER070710-01	57117-31-4	$C_{12}H_3Cl_5O$	340.42	99.4%	1999 ± 20 ng/mL
1,2,3,4,7,8-HxCDD	ER080108-02	39227-28-6	$C_{12}H_2Cl_6O_2$	390.86	98.6%	2000 ± 20 ng/mL
1,2,3,6,7,8-HxCDD	ER03231501	57653-85-7	$C_{12}H_2Cl_6O_2$	390.86	99.6%	2000 ± 20 ng/mL
1,2,3,7,8,9-HxCDD	ER02041601	19408-74-3	$C_{12}H_2Cl_6O_2$	390.86	99.2%	2000 ± 20 ng/mL
1,2,3,4,7,8-HxCDF	ER021110-01	70648-26-9	$C_{12}H_2Cl_6O$	374.86	99.0%	2000 ± 20 ng/mL
1,2,3,6,7,8-HxCDF	ER04161501	57117-44-9	$C_{12}H_2Cl_6O$	374.86	99.8%	2000 ± 20 ng/mL
1,2,3,7,8,9-HxCDF	ER060107-01	72918-21-9	$C_{12}H_2Cl_6O$	374.86	97.5%	1999 ± 20 ng/mL
2,3,4,6,7,8-HxCDF	ER02041602	60851-34-5	$C_{12}H_2Cl_6O$	374.86	99.1%	2001 ± 20 ng/mL
1,2,3,4,6,7,8-HpCDD	ER01201504	35822-46-9	$C_{12}HCl_7O_2$	425.31	98.5%	1999 ± 20 ng/mL
1,2,3,4,6,7,8-HpCDF	ER02281403	67562-39-4	$C_{12}HCl_7O$	409.31	98.9%	1999 ± 20 ng/mL
1,2,3,4,7,8,9-HpCDF	ER01121503	55673-89-7	$C_{12}HCl_7O$	409.31	99.1%	1999 ± 20 ng/mL
OCDD	ER05221301	3268-87-9	$C_{12}Cl_8O_2$	459.75	99.9%	3999 ± 40 ng/mL
OCDF	ER040811-01	39001-02-0	$C_{12}Cl_8O$	443.75	98.9%	4000 ± 40 ng/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Stock solution concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

April 28, 2016
Date

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.

Standard Solution Assay Parameters

Analysis Method: GC/ECD
Column: DB-5ms, 30 m x 0.25 mm ID, 0 25 µm film thickness
Temp Program: 140°C to 200°C at 40°C/min, 200°C to 300°C at 4°C/min hold 3 min
Injector Temp: Cool on-column
Detector Temp: 280°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 1

Solution Standard Verification and Homogeneity

Compound	Verified Concentration ng/mL	Acceptance Criteria	%RSD - Homogeneity %	Acceptance Criteria
2,3,7,8-TeCDD	397 1	± 10%	0.7	≤ 5%
2,3,7,8-TeCDF	386 6	± 10%	0.7	≤ 5%
1,2,3,7,8-PeCDD	1937	± 10%	0 8	≤ 5%
1,2,3,7,8-PeCDF	1919	± 10%	0.8	≤ 5%
2,3,4,7,8-PeCDF	1941	± 10%	0.8	≤ 5%
1,2,3,4,7,8-HxCDD	1932	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDD	1987	± 10%	0 8	≤ 5%
1,2,3,7,8,9-HxCDD	1943	± 10%	0 7	≤ 5%
1,2,3,4,7,8-HxCDF	1933	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDF	1909	± 10%	0.9	≤ 5%
1,2,3,7,8,9-HxCDF	1942	± 10%	0.7	≤ 5%
2,3,4,6,7,8-HxCDF	1950	± 10%	0.8	≤ 5%
1.2.3.4.6.7.8-HpCDD	1930	± 10%	0.9	≤ 5%
1,2,3,4,6,7,8-HpCDF	1919	± 10%	0.9	≤ 5%
1,2,3,4,7,8,9-HpCDF	1943	± 10%	1.0	≤ 5%
OCDD	3844	± 10%	1.0	≤ 5%
OCDF	3906	± 10%	0.9	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The %RSD of samples pulled from across the lot demonstrate homogeneity.
- Product is compared to prior lot and meets acceptance criteria of ± 10%.

Product Analysis

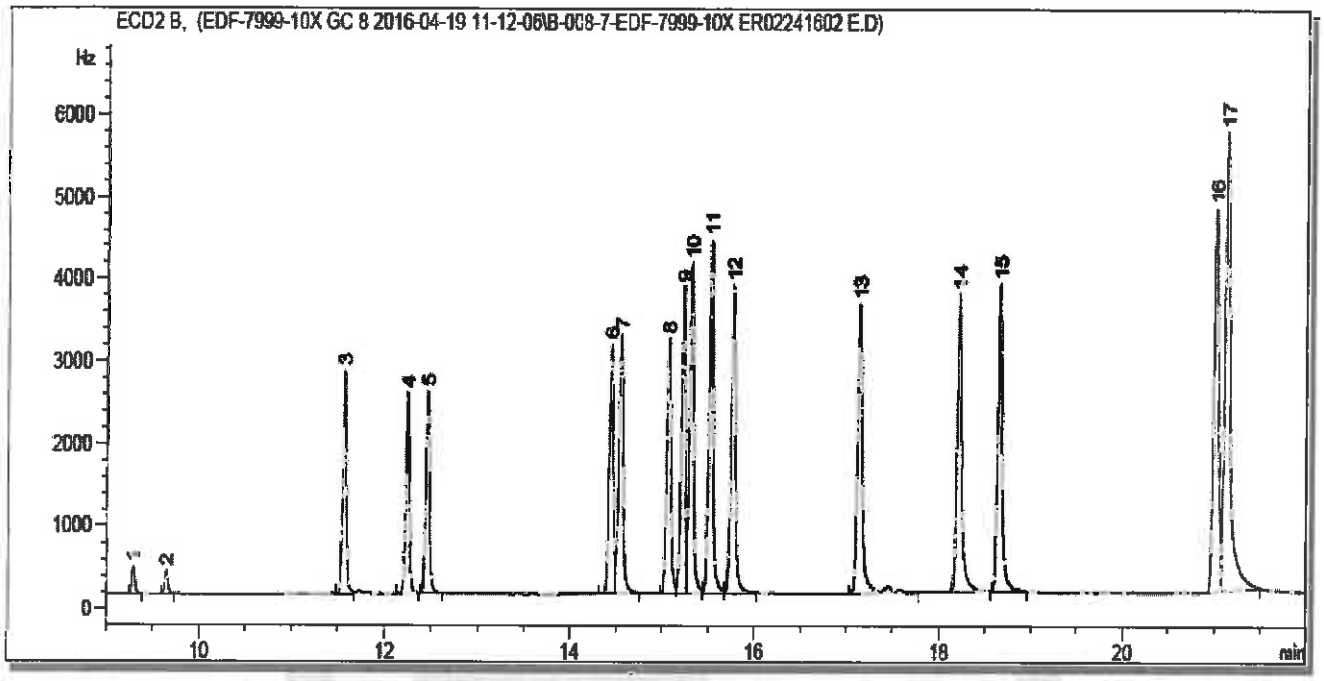

Peak:	Analyte:
1	2,3,7,8-Tetrachlorodibenzofuran
2	2,3,7,8-Tetrachloro-p-dioxin
3	1,2,3,7,8-Pentachlorodibenzofuran
4	2,3,4,7,8-Pentachlorodibenzofuran
5	1,2,3,7,8-Pentachlorodibenzo-p-dioxin
6	1,2,3,4,7,8-Hexachlorodibenzofuran
7	1,2,3,6,7,8-Hexachlorodibenzofuran
8	2,3,4,6,7,8-Hexachlorodibenzofuran
9	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin
10	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin
11	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin
12	1,2,3,7,8,9-Hexachlorodibenzofuran
13	1,2,3,4,6,7,8-Heptachlorodibenzofuran
14	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin
15	1,2,3,4,7,8,9-Heptachlorodibenzofuran
16	Octachlorodibenzo-p-dioxin
17	Octachlorodibenzofuran

COA Revision History

Revision No.	Date	Reason for Revision
00	April 28, 2016	Initial version

Reagent

HRDXNTA_00102

Rec: 1/31/19 SKV

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

EPA-1613PAR

U.S. EPA Method 1613 Native PCDD/PCDF
Precision and Recovery Stock Solution

PRODUCT CODE:	EPA-1613PAR
LOT NUMBER:	13PAR0418
SOLVENT(S):	Nonane/Toluene
DATE PREPARED: (mm/dd/yyyy)	04/11/2018
LAST TESTED: (mm/dd/yyyy)	04/12/2018
EXPIRY DATE: (mm/dd/yyyy)	03/01/2025
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION:

EPA-1613PAR is a solution/mixture of all the 2,3,7,8-substituted chlorinated dibenzo-p-dioxins (PCDDs) and 2,3,7,8-substituted dibenzofurans (PCDFs). The components and their concentrations are given in Table A.

EPA-1613PAR was designed for, and prepared to be used according to, U.S. EPA Method 1613 (Revision B).

The individual PCDDs and PCDFs all have chemical purities of >98%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: HRGC/HRMS Data (SIR; 10,000 mass resolving power)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Table A: **EPA-1613PAR; Components and Concentrations (ng/ml, ± 5% in nonane/ 2.4% toluene)**

	Concentration (ng/ml)
PCDDs:	
2,3,7,8-Tetrachlorodibenzo-p-dioxin	40
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	200
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	200
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	200
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	200
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	200
Octachlorodibenzo-p-dioxin	400
PCDFs:	
2,3,7,8-Tetrachlorodibenzofuran	40
1,2,3,7,8-Pentachlorodibenzofuran	200
2,3,4,7,8-Pentachlorodibenzofuran	200
1,2,3,4,7,8-Hexachlorodibenzofuran	200
1,2,3,6,7,8-Hexachlorodibenzofuran	200
1,2,3,7,8,9-Hexachlorodibenzofuran	200
2,3,4,6,7,8-Hexachlorodibenzofuran	200
1,2,3,4,6,7,8-Heptachlorodibenzofuran	200
1,2,3,4,7,8,9-Heptachlorodibenzofuran	200
Octachlorodibenzofuran	400

Certified By: _____ **Date:** 04/16/2018 (mm/dd/yyyy)

B.G. Chittim, General Manager

Figure 1: **EPA-1613PAR; HRGC/HRMS Data (60 m DB-5 Column)**

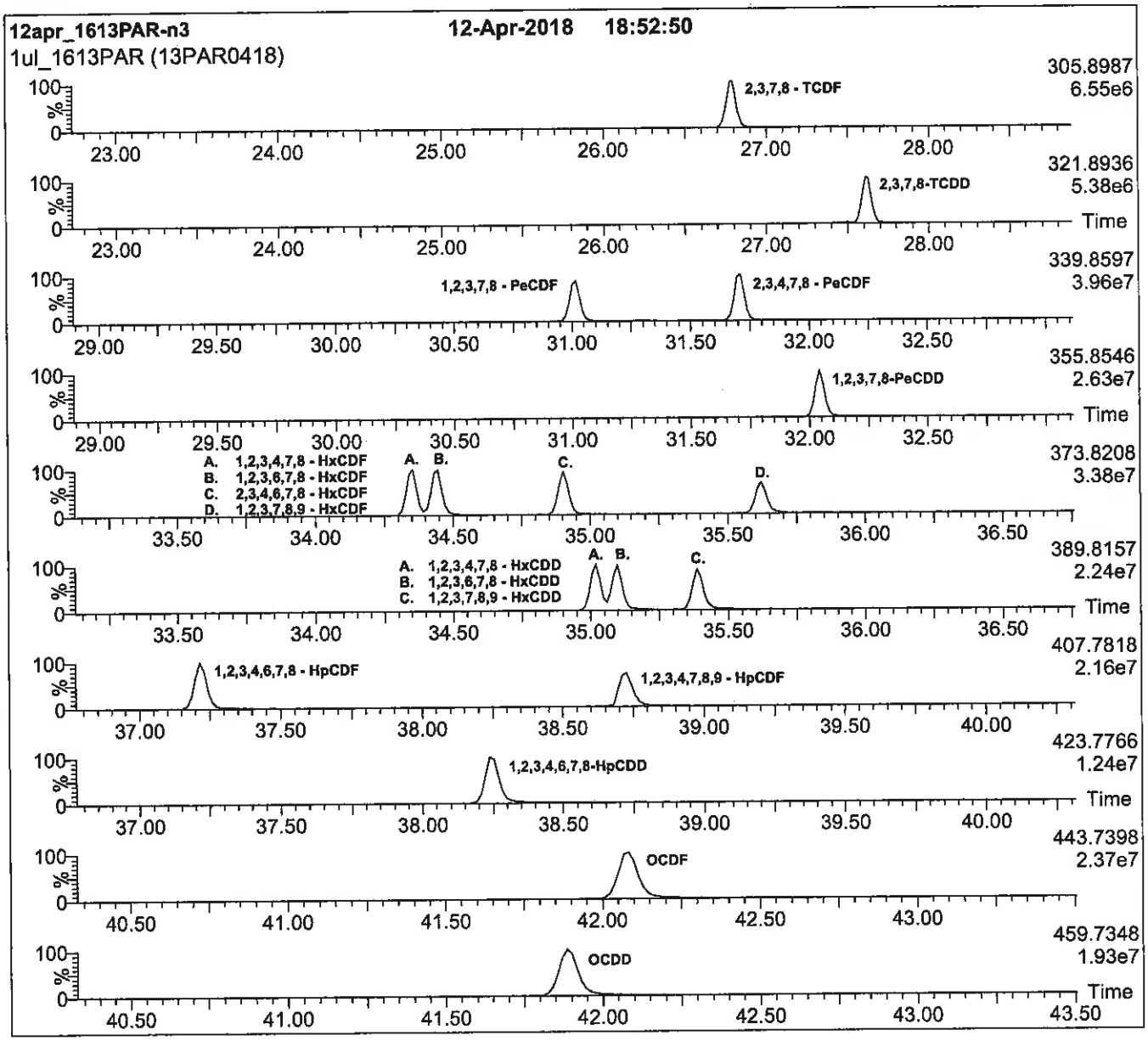

HRGC/HRMS:

Agilent 6890N (HRGC)
Autospec Ultima (HRMS)

Chromatographic Conditions:

Column: 60 m DB-5 (0.25 mm id, 0.25 µm film thickness) Agilent J&W

Flow:	Constant at 1 ml/min	Oven:	150 °C (1 min)
Injector:	280 °C (Splitless Injection)		12 °C/min to 200 °C
Ionization:	EI+		3 °C/min to 235 °C
Detector:	280 °C		235 °C (8 min)
	SIR at 10,000 mass resolving power		8 °C/min to 310 °C
			310 °C (8 min)

Method 1613B

Dioxins and Furans (HRGC/HRMS) by Method 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCDF #	TCDD #	37TCDD #	PeCDF #	PeCF #	PeCDD #	HxCDF #	HxDF #
	LCS 320-329339/2-A	52	57	101	57	61	60	58	53
	LCSD 320-329339/3-A	36	38	88	34	39	37	35	32

	QC LIMITS
TCDF = 13C-2,3,7,8-TCDF	22-152
TCDD = 13C-2,3,7,8-TCDD	20-175
37TCDD = 37Cl4-2,3,7,8-TCDD	31-191
PeCDF = 13C-1,2,3,7,8-PeCDF	21-192
PeCF = 13C-2,3,4,7,8-PeCDF	13-328
PeCDD = 13C-1,2,3,7,8-PeCDD	21-227
HxCDF = 13C-1,2,3,4,7,8-HxCDF	19-202
HxDF = 13C-1,2,3,6,7,8-HxCDF	21-159

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	13CHxCF #	HxCDD #	HxDD #	HxCF #	HpCDF #	HpCDD #	HpCDF2 #	OCDD #
	LCS 320-329339/2-A	56	60	53	57	50	55	56	43
	LCSD 320-329339/3-A	36	36	31	35	30	31	32	22

	QC LIMITS
13CHxCF = 13C-2,3,4,6,7,8-HxCDF	22-176
HxCDD = 13C-1,2,3,4,7,8-HxCDD	21-193
HxDD = 13C-1,2,3,6,7,8-HxCDD	25-163
HxCF = 13C-1,2,3,7,8,9-HxCDF	17-205
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF	21-158
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD	26-166
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF	20-186
OCDD = 13C-OCDD	13-199

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-225 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCDF #	37TCDD #
11187072-Filter Test-1 RA	320-54852-1 RA	51	89
11187072-Filter Test-3 RA	320-54852-3 RA	58	94

	QC LIMITS
TCDF = 13C-2,3,7,8-TCDF	24-169
37TCDD = 37Cl4-2,3,7,8-TCDD	35-197

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCDF #	TCDD #	37TCDD #	PeCDF #	PeCF #	PeCDD #	HxCDF #	HxDF #
11187072-Filter Test-1	320-54852-1	47	52	100	49	53	50	52	46
11187072-Filter Test-3	320-54852-3	52	57	97	54	58	55	58	53
11187072-Filter Test-4	320-54852-4	60	66	99	62	67	63	69	63
11187072-Filter Test-5	320-54852-5	49	54	86	52	57	52	58	53
11187072-Filter Test-6	320-54852-6	48	52	91	50	54	50	58	52
	MB 320-329339/1-A	44	47	95	47	53	50	52	47

	QC LIMITS
TCDF = 13C-2,3,7,8-TCDF	24-169
TCDD = 13C-2,3,7,8-TCDD	25-164
37TCDD = 37Cl4-2,3,7,8-TCDD	35-197
PeCDF = 13C-1,2,3,7,8-PeCDF	24-185
PeCF = 13C-2,3,4,7,8-PeCDF	21-178
PeCDD = 13C-1,2,3,7,8-PeCDD	25-181
HxCDF = 13C-1,2,3,4,7,8-HxCDF	26-152
HxDF = 13C-1,2,3,6,7,8-HxCDF	26-123

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	13CHxCF #	HxCDD #	HxDD #	HxCF #	HpCDF #	HpCDD #	HpCDF2 #	OCDD #
11187072-Filter Test-1	320-54852-1	50	52	44	50	43	48	50	37
11187072-Filter Test-3	320-54852-3	54	58	50	56	52	56	57	44
11187072-Filter Test-4	320-54852-4	65	68	59	65	61	66	66	49
11187072-Filter Test-5	320-54852-5	57	60	49	56	51	55	55	38
11187072-Filter Test-6	320-54852-6	56	55	50	54	51	54	55	42
	MB 320-329339/1-A	50	54	46	50	44	46	47	34

	QC LIMITS
13CHxCF = 13C-2,3,4,6,7,8-HxCDF	28-136
HxCDD = 13C-1,2,3,4,7,8-HxCDD	32-141
HxDD = 13C-1,2,3,6,7,8-HxCDD	28-130
HxCF = 13C-1,2,3,7,8,9-HxCDF	29-147
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF	28-143
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD	23-140
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF	26-138
OCDD = 13C-OCDD	17-157

Column to be used to flag recovery values

FORM II 1613B

FORM III
DIOXIN LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 10OC1910D5_8.d

Lab ID: LCS 320-329339/2-A Client ID:

COMPOUND	SPIKE ADDED (pg/L)	LCS CONCENTRATION (pg/L)	LCS % REC	QC LIMITS REC	#
2,3,7,8-TCDD	200	209	105	67-158	
2,3,7,8-TCDF	200	237	119	75-158	
1,2,3,7,8-PeCDD	1000	1170	117	70-142	
1,2,3,7,8-PeCDF	1000	1090	109	80-134	
2,3,4,7,8-PeCDF	1000	1080	108	68-160	
1,2,3,4,7,8-HxCDD	1000	1050	105	70-164	
1,2,3,6,7,8-HxCDD	1000	1060	106	76-134	
1,2,3,7,8,9-HxCDD	1000	1050	105	64-162	
1,2,3,4,7,8-HxCDF	1000	1030	103	72-134	
1,2,3,6,7,8-HxCDF	1000	1050	105	84-130	
1,2,3,7,8,9-HxCDF	1000	1060	106	78-130	
2,3,4,6,7,8-HxCDF	1000	1100	110	70-156	
1,2,3,4,6,7,8-HpCDD	1000	1040	104	70-140	
1,2,3,4,6,7,8-HpCDF	1000	1020	102	82-122	
1,2,3,4,7,8,9-HpCDF	1000	972	97	78-138	
OCDD	2000	2040	102	78-144	
OCDF	2000	2130	106	63-170	
13C-2,3,7,8-TCDD	2000	1140	57	20-175	
13C-2,3,7,8-TCDF	2000	1030	52	22-152	
13C-1,2,3,7,8-PeCDD	2000	1200	60	21-227	
13C-1,2,3,7,8-PeCDF	2000	1130	57	21-192	
13C-2,3,4,7,8-PeCDF	2000	1230	61	13-328	
13C-1,2,3,4,7,8-HxCDD	2000	1190	60	21-193	
13C-1,2,3,6,7,8-HxCDD	2000	1060	53	25-163	
13C-1,2,3,4,7,8-HxCDF	2000	1160	58	19-202	
13C-1,2,3,6,7,8-HxCDF	2000	1060	53	21-159	
13C-1,2,3,7,8,9-HxCDF	2000	1140	57	17-205	
13C-2,3,4,6,7,8-HxCDF	2000	1130	56	22-176	
13C-1,2,3,4,6,7,8-HpCDD	2000	1090	55	26-166	
13C-1,2,3,4,6,7,8-HpCDF	2000	1000	50	21-158	
13C-1,2,3,4,7,8,9-HpCDF	2000	1110	56	20-186	
13C-OCDD	4000	1710	43	13-199	

Column to be used to flag recovery and RPD values

FORM III 1613B

FORM III
DIOXIN LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 10OC1910D5_9.d

Lab ID: LCSD 320-329339/3-A Client ID:

COMPOUND	SPIKE ADDED (pg/L)	LCSD CONCENTRATION (pg/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
2,3,7,8-TCDD	200	219	110	5	50	67-158	
2,3,7,8-TCDF	200	240	120	1	50	75-158	
1,2,3,7,8-PeCDD	1000	1290	129	9	50	70-142	
1,2,3,7,8-PeCDF	1000	1200	120	10	50	80-134	
2,3,4,7,8-PeCDF	1000	1140	114	6	50	68-160	
1,2,3,4,7,8-HxCDD	1000	1170	117	11	50	70-164	
1,2,3,6,7,8-HxCDD	1000	1220	122	14	50	76-134	
1,2,3,7,8,9-HxCDD	1000	1180	118	11	50	64-162	
1,2,3,4,7,8-HxCDF	1000	1170	117	13	50	72-134	
1,2,3,6,7,8-HxCDF	1000	1180	118	12	50	84-130	
1,2,3,7,8,9-HxCDF	1000	1180	118	10	50	78-130	
2,3,4,6,7,8-HxCDF	1000	1220	122	11	50	70-156	
1,2,3,4,6,7,8-HpCDD	1000	1210	121	15	50	70-140	
1,2,3,4,6,7,8-HpCDF	1000	1180	118	15	50	82-122	
1,2,3,4,7,8,9-HpCDF	1000	1120	112	14	50	78-138	
OCDD	2000	2410	120	16	50	78-144	
OCDF	2000	2600	130	20	50	63-170	
13C-2,3,7,8-TCDD	2000	766	38			20-175	
13C-2,3,7,8-TCDF	2000	729	36			22-152	
13C-1,2,3,7,8-PeCDD	2000	741	37			21-227	
13C-1,2,3,7,8-PeCDF	2000	675	34			21-192	
13C-2,3,4,7,8-PeCDF	2000	784	39			13-328	
13C-1,2,3,4,7,8-HxCDD	2000	727	36			21-193	
13C-1,2,3,6,7,8-HxCDD	2000	627	31			25-163	
13C-1,2,3,4,7,8-HxCDF	2000	702	35			19-202	
13C-1,2,3,6,7,8-HxCDF	2000	644	32			21-159	
13C-1,2,3,7,8,9-HxCDF	2000	700	35			17-205	
13C-2,3,4,6,7,8-HxCDF	2000	720	36			22-176	
13C-1,2,3,4,6,7,8-HpCDD	2000	626	31			26-166	
13C-1,2,3,4,6,7,8-HpCDF	2000	599	30			21-158	
13C-1,2,3,4,7,8,9-HpCDF	2000	646	32			20-186	
13C-OCDD	4000	885	22			13-199	

Column to be used to flag recovery and RPD values

FORM III 1613B

FORM IV
DIOXIN METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Lab File ID: 10OC1910D5_7.d Lab Sample ID: MB 320-329339/1-A

Matrix: Water Date Extracted: 10/08/2019 14:19

Instrument ID: 10D5 Date Analyzed: 10/10/2019 20:38

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 320-329339/2-A	10OC1910D5_8.d	10/10/2019 21:24
	LCSD 320-329339/3-A	10OC1910D5_9.d	10/10/2019 22:10
11187072-Filter Test-1	320-54852-1	10OC1910D5_17.d	10/11/2019 04:47
11187072-Filter Test-3	320-54852-3	10OC1910D5_19.d	10/11/2019 06:19
11187072-Filter Test-4	320-54852-4	10OC1910D5_20.d	10/11/2019 07:05
11187072-Filter Test-5	320-54852-5	10OC1910D5_21.d	10/11/2019 07:51
11187072-Filter Test-6	320-54852-6	10OC1910D5_22.d	10/11/2019 08:37
11187072-Filter Test-3 RA	320-54852-3 RA	11OC19A11D2_004.d	10/11/2019 17:22
11187072-Filter Test-1 RA	320-54852-1 RA	11OC19A11D2_005.d	10/11/2019 18:00

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Client Sample ID: 11187072-Filter Test-1 Lab Sample ID: 320-54852-1

Matrix: Water Lab File ID: 10OC1910D5_17.d

Analysis Method: 1613B Date Collected: 09/30/2019 08:00

Extract. Method: 1613B Date Extracted: 10/08/2019 14:19

Sample wt/vol: 1049.9(mL) Date Analyzed: 10/11/2019 04:47

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 330148 Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	800		9.5	2.4
40321-76-4	1,2,3,7,8-PeCDD	9.4	J q	48	1.0
57117-41-6	1,2,3,7,8-PeCDF	100		48	1.2
57117-31-4	2,3,4,7,8-PeCDF	59		48	1.2
39227-28-6	1,2,3,4,7,8-HxCDD	2.7	J q B	48	0.99
57653-85-7	1,2,3,6,7,8-HxCDD	2.7	J B	48	1.0
19408-74-3	1,2,3,7,8,9-HxCDD	2.3	J q B	48	0.91
70648-26-9	1,2,3,4,7,8-HxCDF	210	B	48	1.6
57117-44-9	1,2,3,6,7,8-HxCDF	53	B	48	1.6
72918-21-9	1,2,3,7,8,9-HxCDF	4.5	J B	48	1.2
60851-34-5	2,3,4,6,7,8-HxCDF	7.0	J B	48	1.3
35822-46-9	1,2,3,4,6,7,8-HpCDD	75	B	48	1.7
67562-39-4	1,2,3,4,6,7,8-HpCDF	84	B	48	0.58
55673-89-7	1,2,3,4,7,8,9-HpCDF	28	J B	48	0.65
3268-87-9	OCDD	1900	B	95	1.7
39001-02-0	OCDF	61	J B	95	1.2
41903-57-5	Total TCDD	860	q	9.5	2.4
30402-14-3	Total TCDF	4200		9.5	5.2
36088-22-9	Total PeCDD	9.4	J q	48	1.0
30402-15-4	Total PeCDF	250		48	1.2
34465-46-8	Total HxCDD	27	J q B	48	0.98
55684-94-1	Total HxCDF	310	q B	48	1.4
37871-00-4	Total HpCDD	190	B	48	1.7
38998-75-3	Total HpCDF	140	B	48	0.61

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Client Sample ID: 11187072-Filter Test-1 Lab Sample ID: 320-54852-1

Matrix: Water Lab File ID: 10OC1910D5_17.d

Analysis Method: 1613B Date Collected: 09/30/2019 08:00

Extract. Method: 1613B Date Extracted: 10/08/2019 14:19

Sample wt/vol: 1049.9(mL) Date Analyzed: 10/11/2019 04:47

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 330148 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	52		25-164
89059-46-1	13C-2,3,7,8-TCDF	47		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	50		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	49		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	53		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	52		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	44		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	52		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	46		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	50		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	50		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	48		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	43		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	50		26-138
114423-97-1	13C-OCDD	37		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	100		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_17.d
Lims ID: 320-54852-A-1-A
Client ID: 11187072-Filter Test-1
Sample Type: Client
Inject. Date: 11-Oct-2019 04:47:58 ALS Bottle#: 15 Worklist Smp#: 17
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-54852-A-1-A 320-54852-A-1-A
Misc. Info.: 10OC1910D5
Operator ID: SMA Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Oct-2019 14:42:01 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0335

First Level Reviewer: dadunj Date: 14-Oct-2019 14:42:01

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.971	76228915	0.78	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.457	51712944	0.80	1.4384	47.2	47.2	0.1386	0.1386	47.16	
2,3,7,8-TCDF	17.472	66992975	0.78	1.0507	123.3	123.3	0.2752	0.2752		
A Non-2,3,7,8-sub-TCDF	17.162	51434690	0.80	1.0507	94.7	94.7	0.2752	51.1		a
S Total TCDF					218.0	218.0	0.2752	0.2752		
D 13C-2,3,7,8-TCDD	18.167	37672982	0.80	0.9533	51.8	51.8	0.1200	0.1200	51.84	
$ 37Cl4-2,3,7,8-TCDD	18.183	37365326		1.2224	40.1	40.1	0.0876	0.0876	100	
2,3,7,8-TCDD	18.183	17460376	0.78	1.1064	41.9	41.9	0.1280	0.1280		
A Non-2,3,7,8-sub-TCDD	17.616	1303834	0.77	1.1064	3.180	3.128	0.1280	2.873		RQ
S Total TCDD					45.1	45.0	0.1280	0.1280		RQ
D 13C-1,2,3,7,8-PeCDF	22.529	38083210	1.58	1.0286	48.6	48.6	0.0677	0.0677	48.57	
1,2,3,7,8-PeCDF	22.556	2207670	1.60	1.0822	5.356	5.356	0.0629	0.0629		M
D 13C-2,3,4,7,8-PeCDF	23.893	39876101	1.57	0.9827	53.2	53.2	0.0708	0.0708	53.23	a
2,3,4,7,8-PeCDF	23.920	1352528	1.65	1.1032	3.075	3.075	0.0628	0.0628		
A F1 PeCDFs	20.035						0.0482	0.0482		
A Non-2,3,7,8-sub-PeCDF	23.226	2052230	1.60	1.0927	4.818	4.818	0.0628	2.252		Ma
S Total PeCDF					13.2	13.2	0.0628	0.0628		
D 13C-1,2,3,7,8-PeCDD	24.615	28417317	1.60	0.7481	49.8	49.8	0.0597	0.0597	49.83	
1,2,3,7,8-PeCDD	24.656	126933	1.55	0.9050	0.5676	0.4935	0.0536	0.0536		RQ
A Non-2,3,7,8-sub-PeCDD	23.531						0.0536	0.0536		
S Total PeCDD					0.5676	0.4935	0.0536	0.0536		RQ
D 13C-1,2,3,4,7,8-HxCDF	30.655	35991421	0.53	1.1520	51.8	51.8	0.1171	0.1171	51.79	a
1,2,3,4,7,8-HxCDF	30.669	4789494	1.26	1.1973	11.1	11.1	0.0823	0.0823		
D 13C-1,2,3,6,7,8-HxCDF	30.828	34483281	0.53	1.2434	46.0	46.0	0.1085	0.1085	45.97	
1,2,3,6,7,8-HxCDF	30.855	1134166	1.30	1.1807	2.786	2.786	0.0855	0.0855		
D 13C-2,3,4,6,7,8-HxCDF	31.627	35008211	0.52	1.1720	49.5	49.5	0.1151	0.1151	49.52	
2,3,4,6,7,8-HxCDF	31.640	156172	1.24	1.2116	0.3682	0.3682	0.0681	0.0681		M
D 13C-1,2,3,7,8,9-HxCDF	32.399	32004336	0.52	1.0655	49.8	49.8	0.1266	0.1266	49.80	
1,2,3,7,8,9-HxCDF	32.412	94111	1.12	1.2451	0.2362	0.2362	0.0621	0.0621		Ma
A Non-2,3,7,8-sub-HxCDF	30.363	663180	1.24	1.2087	1.636	1.596	0.0734	0.6594		RQMa

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					16.1	16.1	0.0745	0.0745		RQ
* 13C-1,2,3,7,8,9-HxCDD	32.226	60321640	1.19	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.800	24301433	1.23	0.7812	51.6	51.6	0.1300	0.1300	51.57	a
1,2,3,4,7,8-HxCDD	31.813	38801	1.24	1.1088	0.1576	0.1440	0.0521	0.0521		RQM
D 13C-1,2,3,6,7,8-HxCDD	31.906	24079485	1.22	0.9175	43.5	43.5	0.1107	0.1107	43.51	
1,2,3,6,7,8-HxCDD	31.920	36473	1.33	1.0814	0.1401	0.1401	0.0541	0.0541		Ma
1,2,3,7,8,9-HxCDD	32.213	35500	1.24	1.2123	0.1355	0.1211	0.0479	0.0479		RQ
A Non-2,3,7,8-sub-HxCDD	30.995	280004	1.13	1.1342	1.021	1.021	0.0512	0.5769		
S Total HxCDD					1.454	1.426	0.0514	0.0514		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	33.807	22196314	0.43	0.8628	42.6	42.6	0.2169	0.2169	42.65	
1,2,3,4,6,7,8-HpCDF	33.807	1524872	1.04	1.5555	4.416	4.416	0.0304	0.0304		
D 13C-1,2,3,4,7,8,9-HpCDF	34.876	23972565	0.43	0.7991	49.7	49.7	0.2342	0.2342	49.74	a
1,2,3,4,7,8,9-HpCDF	34.888	481449	1.07	1.3862	1.449	1.449	0.0340	0.0340		
A Non-2,3,7,8-sub-HpCDF	34.360	533995	1.01	1.4709	1.573	1.573	0.0321	1.573		
S Total HpCDF					7.438	7.438	0.0322	0.0322		
D 13C-1,2,3,4,6,7,8-HpCDD	34.597	25114698	1.04	0.8739	47.6	47.6	0.1690	0.1690	47.64	
1,2,3,4,6,7,8-HpCDD	34.597	915554	1.00	0.9316	3.913	3.913	0.0918	0.0918		
A Non-2,3,7,8-sub-HpCDD	35.190	1375302	1.04	0.9316	5.878	5.878	0.0918	5.878		a
S Total HpCDD					9.791	9.791	0.0918	0.0918		
D 13C-OCDD	36.929	34550290	0.91	0.7744	74.0	74.0	0.0582	0.0582	36.98	
OCDF	37.025	695232	0.89	1.2596	3.195	3.195	0.0647	0.0647		
OCDD	36.941	18383746	0.90	1.0621	100.2	100.2	0.0882	0.0882		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_17.d
Lims ID: 320-54852-A-1-A
Client ID: 11187072-Filter Test-1
Sample Type: Client
Inject. Date: 11-Oct-2019 04:47:58 ALS Bottle#: 15 Worklist Smp#: 17
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-54852-A-1-A 320-54852-A-1-A
Misc. Info.: 10OC1910D5
Operator ID: SMA Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Oct-2019 14:42:01 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0335

First Level Reviewer: dadunj Date: 14-Oct-2019 14:42:01

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.971	17.986	-1		33284829	8374369	4986	12465	1680		
333.9339	17.971	17.986	-1		42944086	10817717	3794	9485	2851	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.457	17.472	-1	0.971	22951180	5919284	9169	22922	646		
317.9389	17.457	17.472	-1	0.971	28761764	7481766	6140	15350	1219	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.472	17.487	-1	1.001	29306405	7103881	6336	15840	1121		
305.8987	17.472	17.487	-1	1.001	37686570	9159638	9165	22912	999	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											a
303.9016	15.794	17.162	-82	0.905	257738	65191	6336	15840	10		
305.8987	15.794	17.162	-82	0.905	351552	86597	9165	22912	9	0.73(0.65-0.89)	
303.9016	16.051	17.162	-67	0.919	1210734	340963	6336	15840	54		
305.8987	16.051	17.162	-67	0.919	1532734	431430	9165	22912	47	0.79(0.65-0.89)	
303.9016	16.323	17.162	-50	0.935	1588387	336211	6336	15840	53		
305.8987	16.323	17.162	-50	0.935	1983540	402587	9165	22912	44	0.80(0.65-0.89)	
303.9016	16.565	17.162	-36	0.949	1112618	288556	6336	15840	46		
305.8987	16.565	17.162	-36	0.949	1393347	355821	9165	22912	39	0.80(0.65-0.89)	
303.9016	16.807	17.162	-21	0.963	1397806	323580	6336	15840	51		
305.8987	16.807	17.162	-21	0.963	1764656	397316	9165	22912	43	0.79(0.65-0.89)	
303.9016	17.094	17.162	-4	0.979	12314070	3170452	6336	15840	500		
305.8987	17.079	17.162	-5	0.978	15429511	3872216	9165	22912	423	0.80(0.65-0.89)	
303.9016	17.321	17.162	10	0.992	605442	143263	6336	15840	23		
305.8987	17.321	17.162	10	0.992	736965	182767	9165	22912	20	0.82(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
303.9016	17.910	17.162	45	1.026	1964992	499935	6336	15840	79		
305.8987	17.910	17.162	45	1.026	2458063	615674	9165	22912	67	0.80(0.65-0.89)	
303.9016	18.167	17.162	60	1.041	432935	92898	6336	15840	15		
305.8987	18.152	17.162	59	1.040	561994	121868	9165	22912	13	0.77(0.65-0.89)	
303.9016	19.316	17.162	129	1.107	1905298	437085	6336	15840	69		a
305.8987	19.316	17.162	129	1.107	2432308	545996	9165	22912	60	0.78(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	18.167	18.183	-1	1.011	16705835	4193211	4986	12465	841		
333.9339	18.167	18.183	-1	1.011	20967147	5313480	3794	9485	1400	0.80(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.183	18.198	-1	1.012	37365326	9153412	8221	20552	1113		
2,3,7,8-TCDD											
319.8965	18.183	18.213	-2	1.001	7630544	1853134	3068	7670	604		
321.8936	18.183	18.213	-2	1.001	9829832	2409356	2317	5792	1040	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											RQ
319.8965	18.077	17.616	28	0.995	46234	17087	3068	7670	6		
321.8936	18.077	17.616	28	0.995	81706	25262	2317	5792	11	0.57(0.65-0.89)	
	Empc Correction				60044	22190	2317	5792	10		
319.8965	18.545	17.616	56	1.021	530812	122060	3068	7670	40		
321.8936	18.545	17.616	56	1.021	666744	147828	2317	5792	64	0.80(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	22.529	22.556	-2	1.254	23298913	4279650	3037	7592	1409		
353.8970	22.529	22.556	-2	1.254	14784297	2687498	2305	5762	1166	1.58(1.32-1.78)	
1,2,3,7,8-PeCDF											M
339.8597	22.556	22.570	-1	1.001	1359192	256492	882	2205	291		
341.8567	22.556	22.570	-1	1.001	848478	162802	1015	2537	160	1.60(1.32-1.78)	M
13C-2,3,4,7,8-PeCDF											a
351.9000	23.893	23.920	-2	1.330	24348689	4193145	3037	7592	1381		a
353.8970	23.893	23.920	-2	1.330	15527412	2654647	2305	5762	1152	1.57(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.920	23.947	-2	1.001	841394	147289	882	2205	167		
341.8567	23.920	23.947	-2	1.001	511134	89735	1015	2537	88	1.65(1.32-1.78)	
A F1 PeCDFs											
339.8597	20.035						514	1285			
341.8567	20.035						941	2352			
A Non-2,3,7,8-sub-PeCDF											Ma
339.8597	21.193	23.226	-122	0.941	581922	114140	882	2205	129		
341.8567	21.179	23.226	-123	0.940	377397	71700	1015	2537	71	1.54(1.32-1.78)	
339.8597	22.434	23.226	-47	0.996	117770	25611	882	2205	29		M
341.8567	22.420	23.226	-48	0.995	70225	16021	1015	2537	16	1.68(1.32-1.78)	
339.8597	23.088	23.226	-8	1.025	377346	67114	882	2205	76		
341.8567	23.075	23.226	-9	1.024	224849	41164	1015	2537	41	1.68(1.32-1.78)	
339.8597	24.275	23.226	63	1.077	185349	27875	882	2205	32		
341.8567	24.261	23.226	62	1.077	117372	17536	1015	2537	17	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDD											
367.8949	24.615	24.643	-2	1.370	17475803	2944345	1798	4495	1638		
369.8919	24.615	24.643	-2	1.370	10941514	1828136	1628	4070	1123	1.60(1.32-1.78)	
1,2,3,7,8-PeCDD											RQ
355.8546	24.656	24.670	-1	1.002	96212	16658	523	1307	32		
	Empc Correction				77155	13365	523	1307	26		
357.8516	24.643	24.670	-2	1.001	49778	8623	403	1007	21	1.93(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.531						523	1307			
357.8516	23.531						403	1007			
13C-1,2,3,4,7,8-HxCDF											a
383.8639	30.655	30.682	-2	0.951	12411399	2545383	3238	8095	786		a
385.8610	30.655	30.682	-2	0.951	23580022	4788248	5767	14417	830	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.669	30.695	-2	1.000	2666471	529103	1209	3022	438		
375.8178	30.669	30.695	-2	1.000	2123023	417231	1683	4207	248	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.828	30.855	-2	0.957	11948654	2506228	3238	8095	774		
385.8610	30.828	30.855	-2	0.957	22534627	4656511	5767	14417	807	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.855	30.868	-1	1.001	640991	132659	1209	3022	110		
375.8178	30.842	30.868	-2	1.000	493175	103134	1683	4207	61	1.30(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.627	31.640	-1	0.981	12016416	3044768	3238	8095	940		
385.8610	31.614	31.640	-2	0.981	22991795	5721016	5767	14417	992	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											M
373.8208	31.640	31.653	-1	1.000	86474	22741	1209	3022	19		
375.8178	31.640	31.653	-1	1.000	69698	18129	1683	4207	11	1.24(1.05-1.43)	M
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.399	32.412	-1	1.005	10920042	3183555	3238	8095	983		
385.8610	32.399	32.412	-1	1.005	21084294	6161762	5767	14417	1068	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											Ma
373.8208	32.412	32.426	-1	1.000	49690	14004	1209	3022	12		M
375.8178	32.425	32.426	0	1.001	44421	14437	1683	4207	9	1.12(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											RQMa
373.8208	28.592	30.363	-106	0.933	159748	21090	1209	3022	17		
375.8178	28.592	30.363	-106	0.933	114199	17221	1683	4207	10	1.40(1.05-1.43)	
373.8208	29.910	30.363	-27	0.976	100489	15741	1209	3022	13		
	Empc Correction				83830	11772	1209	3022	10		
375.8178	29.923	30.363	-26	0.976	67605	9494	1683	4207	6	1.49(1.05-1.43)	
373.8208	32.506	30.363	128	1.060	128195	37054	1209	3022	31		M
375.8178	32.492	30.363	128	1.060	109603	32002	1683	4207	19	1.17(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.226	32.239	-1		32822107	8980811	3723	9307	2412		
403.8529	32.226	32.239	-1		27499533	7705667	3055	7637	2522	1.19(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,7,8-HxCDD											a
401.8559	31.800	31.813	-1	0.987	13420730	3679513	3723	9307	988		a
403.8529	31.800	31.813	-1	0.987	10880703	2977704	3055	7637	975	1.23(1.05-1.43)	
1,2,3,4,7,8-HxCDD											RQM
389.8157	31.813	31.826	-1	1.000	25133	7592	807	2017	9		M
	Empc Correction				21479	4464	807	2017	6		
391.8127	31.813	31.826	-1	1.000	17322	3600	731	1827	5	1.45(1.05-1.43)	M
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.906	31.920	-1	0.990	13222913	3567370	3723	9307	958		
403.8529	31.906	31.920	-1	0.990	10856572	3009881	3055	7637	985	1.22(1.05-1.43)	
1,2,3,6,7,8-HxCDD											Ma
389.8157	31.920	31.933	-1	1.000	20840	5874	807	2017	7		M
391.8127	31.920	31.933	-1	1.000	15633	4440	731	1827	6	1.33(1.05-1.43)	
1,2,3,7,8,9-HxCDD											RQ
389.8157	32.213	32.252	-2	1.013	19652	4551	807	2017	6		
391.8127	32.239	32.252	-1	1.014	20086	4890	731	1827	7	0.98(1.05-1.43)	
	Empc Correction				15848	3670	731	1827	5		
A Non-2,3,7,8-sub-HxCDD											
389.8157	29.777	30.995	-73	0.933	83391	10943	807	2017	14		
391.8127	29.777	30.995	-73	0.933	74891	9322	731	1827	13	1.11(1.05-1.43)	
389.8157	31.081	30.995	5	0.974	65076	10706	807	2017	13		
391.8127	31.081	30.995	5	0.974	56646	8118	731	1827	11	1.15(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.807	33.819	-1	1.049	6713928	2155237	4976	12440	433		
419.8220	33.807	33.819	-1	1.049	15482386	5007896	7517	18792	666	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.807	33.819	-1	1.000	776524	253325	743	1857	341		
409.7789	33.807	33.819	-1	1.000	748348	245653	610	1525	403	1.04(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											a
417.8253	34.876	34.889	-1	1.082	7262787	2172886	4976	12440	437		a
419.8220	34.876	34.889	-1	1.082	16709778	4994904	7517	18792	664	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.888	34.901	-1	1.000	249221	75352	743	1857	101		
409.7789	34.888	34.901	-1	1.000	232228	71619	610	1525	117	1.07(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.111	34.360	-15	1.009	268791	80492	743	1857	108		
409.7789	34.111	34.360	-15	1.009	265204	80255	610	1525	132	1.01(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.597	34.609	-1	1.074	12804454	3816013	6239	15597	612		
437.8140	34.597	34.609	-1	1.074	12310244	3671664	3620	9050	1014	1.04(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.597	34.609	-1	1.000	457028	142137	1315	3287	108		
425.7737	34.597	34.609	-1	1.000	458526	145675	1248	3120	117	1.00(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											a
423.7766	34.050	35.190	-68	0.984	700844	214744	1315	3287	163		a
425.7737	34.050	35.190	-68	0.984	674458	223103	1248	3120	179	1.04(0.88-1.20)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-OCDD											
469.7779	36.929	36.941	-1	1.146	16475441	4274145	1306	3265	3273		
471.7750	36.929	36.941	-1	1.146	18074849	4645338	1704	4260	2726	0.91(0.76-1.02)	
OCDF											
441.7428	37.025	37.049	-1	1.003	326746	84945	667	1667	127		
443.7399	37.037	37.049	-1	1.003	368486	91144	787	1967	116	0.89(0.76-1.02)	
OCDD											
457.7377	36.941	36.953	-1	1.000	8711277	2290968	738	1845	3104		
459.7348	36.941	36.953	-1	1.000	9672469	2537336	933	2332	2720	0.90(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_17.d
Lims ID: 320-54852-A-1-A
Client ID: 11187072-Filter Test-1
Inject. Date: 11-Oct-2019 04:47:58 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: SMA
Lims Batch ID: 330148 Lims Sample ID: 17

Non-2,3,7,8-sub-TCDF, RT: 17.162

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.051	D 13C-2,3,7,8-TCDF	100.000	51712944	13401050

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.051		100.000	51712944	13401050

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
15.794	257738	65191	351552	86597	1.12	0.73	
16.051	1210734	340963	1532734	431430	5.05	0.79	
16.323	1588387	336211	1983540	402587	6.57	0.80	
16.565	1112618	288556	1393347	355821	4.61	0.80	
16.807	1397806	323580	1764656	397316	5.82	0.79	
17.094	12314070	3170452	15429511	3872216	51.1	0.80	
17.321	605442	143263	736965	182767	2.47	0.82	
17.910	1964992	499935	2458063	615674	8.14	0.80	
18.167	432935	92898	561994	121868	1.83	0.77	
19.316	1905298	437085	2432308	545996	7.98	0.78	a
Signal Totals:							
	22790020	5698134	28644670	7012272			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	51434690	12710406				0.80	a

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 94.660 = (51434690 * 100.000) / (51712944 * 1.051)

QC Flag Legend

Review Flags
a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_17.d
Lims ID: 320-54852-A-1-A
Client ID: 11187072-Filter Test-1
Inject. Date: 11-Oct-2019 04:47:58 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: SMA
Lims Batch ID: 330148 Lims Sample ID: 17

Non-2,3,7,8-sub-TCDD, RT: 17.616

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.106	D 13C-2,3,7,8-TCDD	100.000	37672982	9506691

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.106		100.000	37672982	9506691

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
18.077	46234	17087	81706	25262	0.3069	0.57	RQ
18.077	46234	17087	60044	22190	0.2550		Empc Correction
18.545	530812	122060	666744	147828	2.87	0.80	
Signal Totals:							
	577046	139147	726788	170018			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1325496	312237				0.77	RQ
	1303834	309165					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 3.180 = (1325496 * 100.000) / (37672982 * 1.106)
Empc Amount: 3.128 = (1303834 * 100.000) / (37672982 * 1.106)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_17.d
Lims ID: 320-54852-A-1-A
Client ID: 11187072-Filter Test-1
Inject. Date: 11-Oct-2019 04:47:58 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: SMA
Lims Batch ID: 330148 Lims Sample ID: 17

Non-2,3,7,8-sub-PeCDF, RT: 23.226

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.082	D 13C-1,2,3,7,8-PeCDF	100.000	38083210	6967148
2,3,4,7,8-PeCDF	1.103	D 13C-2,3,4,7,8-PeCDF	100.000	39876101	6847792

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.093		100.000	38979655	6907470

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
21.193	581922	114140	377397	71700	2.25	1.54	
22.434	117770	25611	70225	16021	0.4414	1.68	Ma
23.088	377346	67114	224849	41164	1.41	1.68	
24.275	185349	27875	117372	17536	0.7107	1.58	
Signal Totals:							
	1262387	234740	789843	146421			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2052230	381161				1.60	Ma

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 4.818 = (2052230 * 100.000) / (38979655 * 1.093)

QC Flag Legend

Review Flags
M - Manually Integrated
a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_17.d
Lims ID: 320-54852-A-1-A
Client ID: 11187072-Filter Test-1
Inject. Date: 11-Oct-2019 04:47:58 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: SMA
Lims Batch ID: 330148 Lims Sample ID: 17

Non-2,3,7,8-sub-HxCDF, RT: 30.363

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.197	D 13C-1,2,3,4,7,8-HxCDF	100.000	35991421	7333631
1,2,3,6,7,8-HxCDF	1.181	D 13C-1,2,3,6,7,8-HxCDF	100.000	34483281	7162739
2,3,4,6,7,8-HxCDF	1.212	D 13C-2,3,4,6,7,8-HxCDF	100.000	35008211	8765784
1,2,3,7,8,9-HxCDF	1.245	D 13C-1,2,3,7,8,9-HxCDF	100.000	32004336	9345317

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.209		100.000	34371812	8151867

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
28.592	159748	21090	114199	17221	0.6594	1.40	
29.910	100489	15741	67605	9494	0.4046	1.49	RQ
29.910	83830	11772	67605	9494	0.3645		Empc Correction
32.506	128195	37054	109603	32002	0.5724	1.17	Ma
Signal Totals:							
	371773	69916	291407	58717			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	679839	132602				1.33	RQMa
	663180	128633					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.636 = (679839 * 100.000) / (34371812 * 1.209)
Empc Amount: 1.596 = (663180 * 100.000) / (34371812 * 1.209)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated
a - User Assigned ID

Report Date: 14-Oct-2019 14:42:02 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_17.d
Lims ID: 320-54852-A-1-A
Client ID: 11187072-Filter Test-1
Inject. Date: 11-Oct-2019 04:47:58 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: SMA
Lims Batch ID: 330148 Lims Sample ID: 17

Non-2,3,7,8-sub-HxCDD, RT: 30.995

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.109	D 13C-1,2,3,4,7,8-HxCDD	100.000	24301433	6657217
1,2,3,6,7,8-HxCDD	1.081	D 13C-1,2,3,6,7,8-HxCDD	100.000	24079485	6577251
1,2,3,7,8,9-HxCDD	1.212				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.134		100.000	24190459	6617234

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
29.777	83391	10943	74891	9322	0.5769	1.11	
31.081	65076	10706	56646	8118	0.4437	1.15	
Signal Totals:							
	148467	21649	131537	17440			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	280004	39089				1.13	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.021 = (280004 * 100.000) / (24190459 * 1.134)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_17.d
Lims ID: 320-54852-A-1-A
Client ID: 11187072-Filter Test-1
Inject. Date: 11-Oct-2019 04:47:58 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: SMA
Lims Batch ID: 330148 Lims Sample ID: 17

Non-2,3,7,8-sub-HpCDF, RT: 34.360

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.556	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	22196314	7163133
1,2,3,4,7,8,9-HpCDF	1.386	D 13C-1,2,3,4,7,8,9-HpCDF	100.000	23972565	7167790

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.471		100.000	23084439	7165461

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
34.111	268791	80492	265204	80255	1.57	1.01	
Signal Totals:							
	268791	80492	265204	80255			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	533995	160747				1.01	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.573 = (533995 * 100.000) / (23084439 * 1.471)

Report Date: 14-Oct-2019 14:42:02 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_17.d
Lims ID: 320-54852-A-1-A
Client ID: 11187072-Filter Test-1
Inject. Date: 11-Oct-2019 04:47:58 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: SMA
Lims Batch ID: 330148 Lims Sample ID: 17

Non-2,3,7,8-sub-HpCDD, RT: 35.190

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.932	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	25114698	7487677

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.932		100.000	25114698	7487677

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.050	700844	214744	674458	223103	5.88	1.04	a
Signal Totals:	700844	214744	674458	223103			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1375302	437847				1.04	a

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 5.878 = (1375302 * 100.000) / (25114698 * 0.932)

QC Flag Legend

Review Flags
a - User Assigned ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_17.d				
Injection Date:	11-Oct-2019 04:47:58	Instrument ID:	10D5		
Lims ID:	320-54852-A-1-A	Lab Sample ID:	320-54852-1		
Client ID:	11187072-Filter Test-1				
Operator ID:	SMA	ALS Bottle#:	15	Worklist Smp#:	17
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

1,2,3,7,8-PeCDF, CAS: 57117-41-6

Signal: 2

Processing Integration Results

RT: 22.56
Area: 929759
Amount: 5.553636
Amount Units: pg/ul

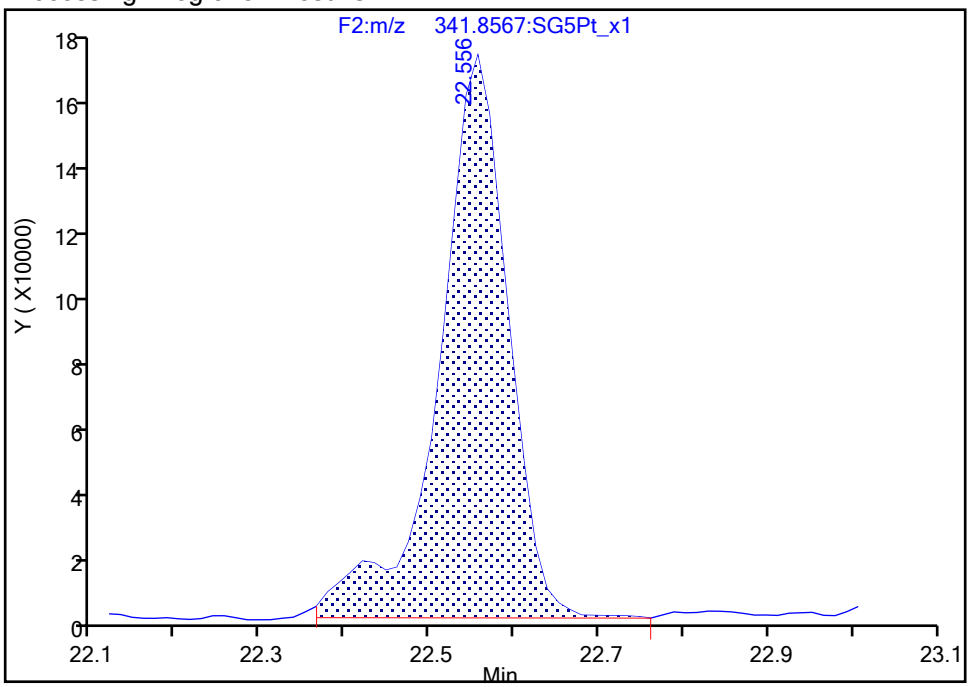

Manual Integration Results

RT: 22.56
Area: 848478
Amount: 5.356426
Amount Units: pg/ul

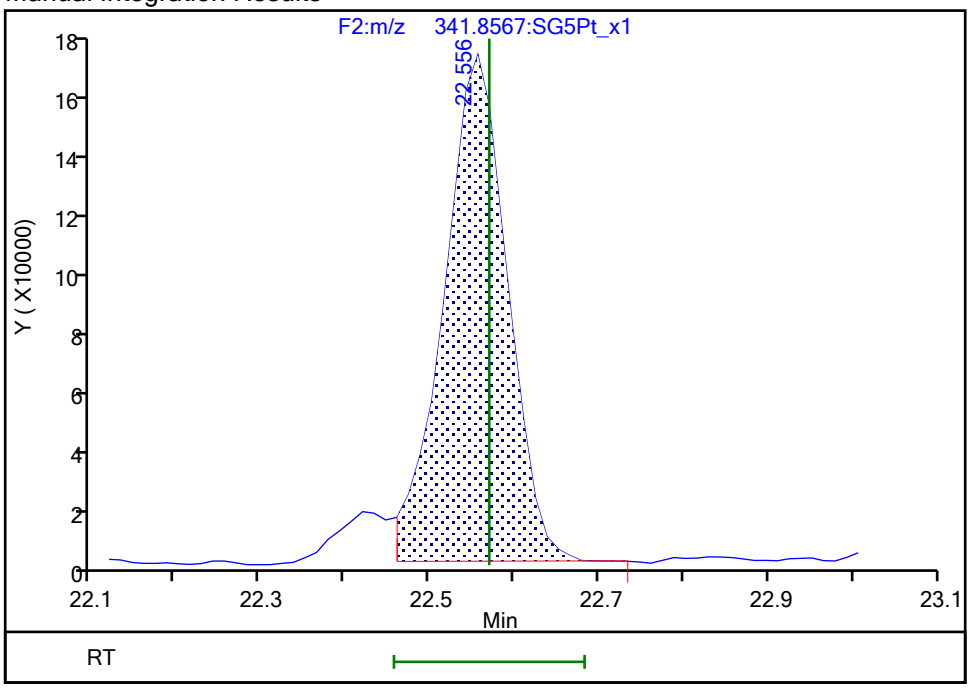

Reviewer: dadunj, 14-Oct-2019 14:39:22

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_17.d				
Injection Date:	11-Oct-2019 04:47:58	Instrument ID:	10D5		
Lims ID:	320-54852-A-1-A	Lab Sample ID:	320-54852-1		
Client ID:	11187072-Filter Test-1				
Operator ID:	SMA	ALS Bottle#:	15	Worklist Smp#:	17
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

13C-2,3,4,7,8-PeCDF, CAS: 116843-02-8

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 23.92

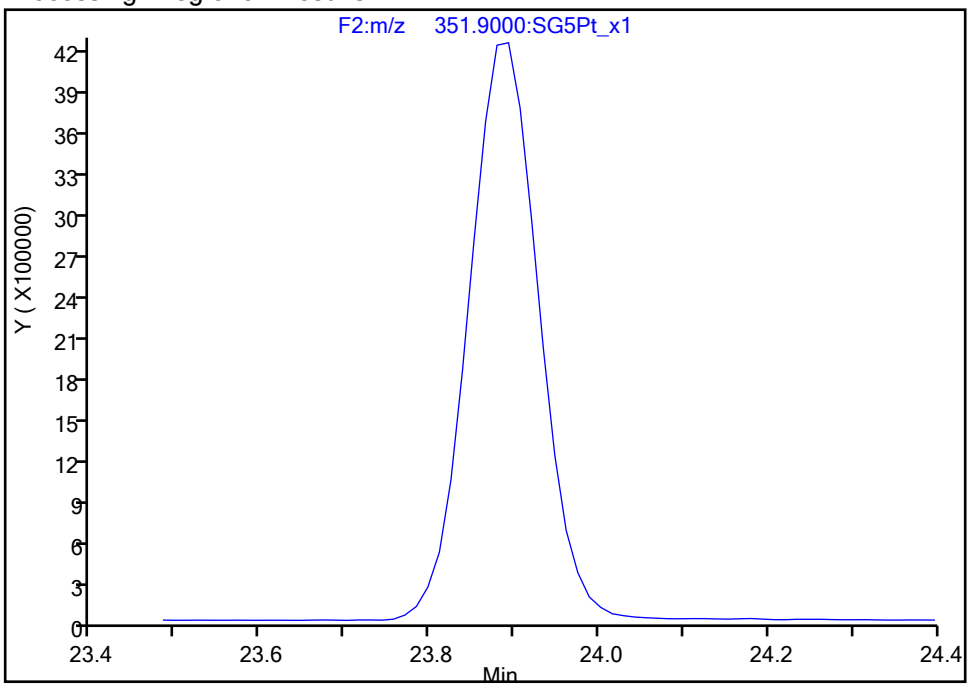

Manual Integration Results

RT: 23.89
Area: 24348689
Amount: 53.234430
Amount Units: pg/ul

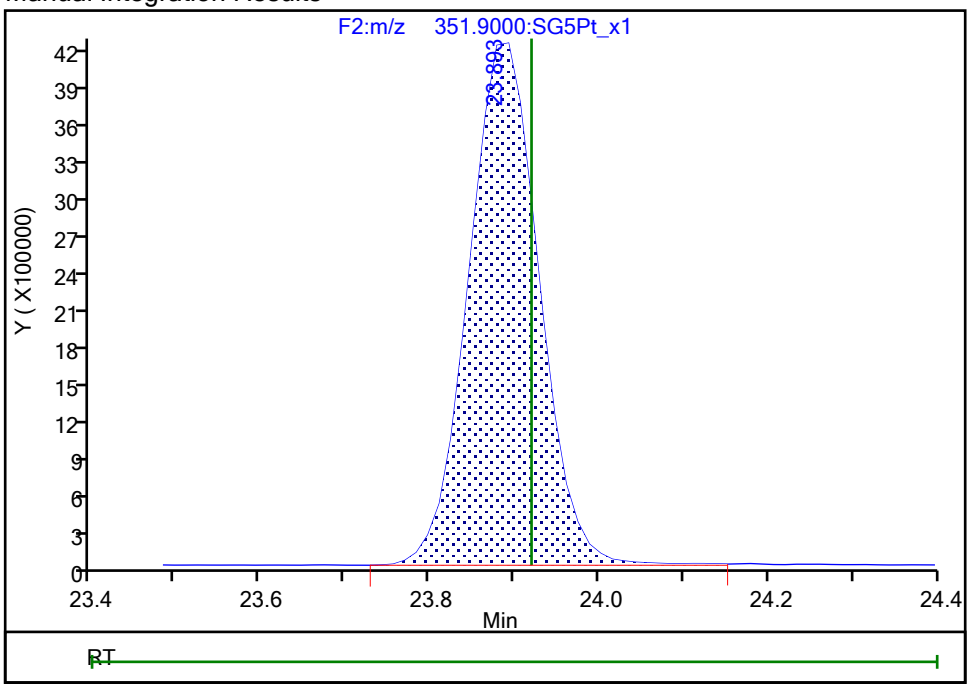

Reviewer: shardaa, 11-Oct-2019 10:48:47
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_17.d				
Injection Date:	11-Oct-2019 04:47:58	Instrument ID:	10D5		
Lims ID:	320-54852-A-1-A	Lab Sample ID:	320-54852-1		
Client ID:	11187072-Filter Test-1				
Operator ID:	SMA	ALS Bottle#:	15	Worklist Smp#:	17
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

Non-2,3,7,8-sub-PeCDF, Signal: 1, m/z: 339.8597, RT: (20.52- 25.93)

Signal: 1

Processing Integration Results

RT = 22.434 Area = 117770

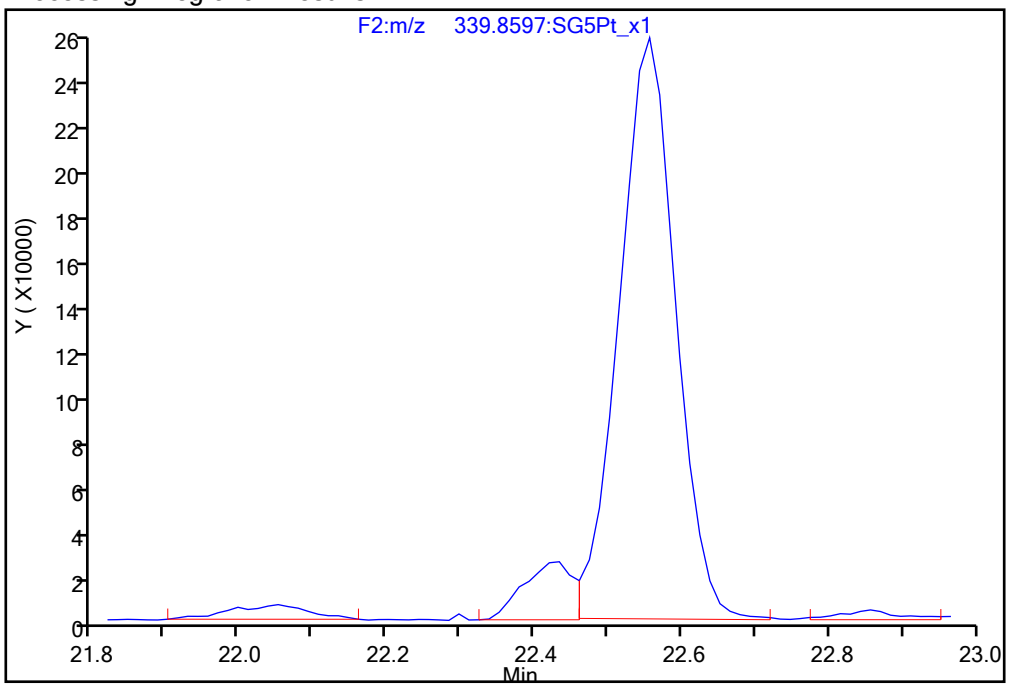

Manual Integration Results

RT = 22.434 Area = 117770

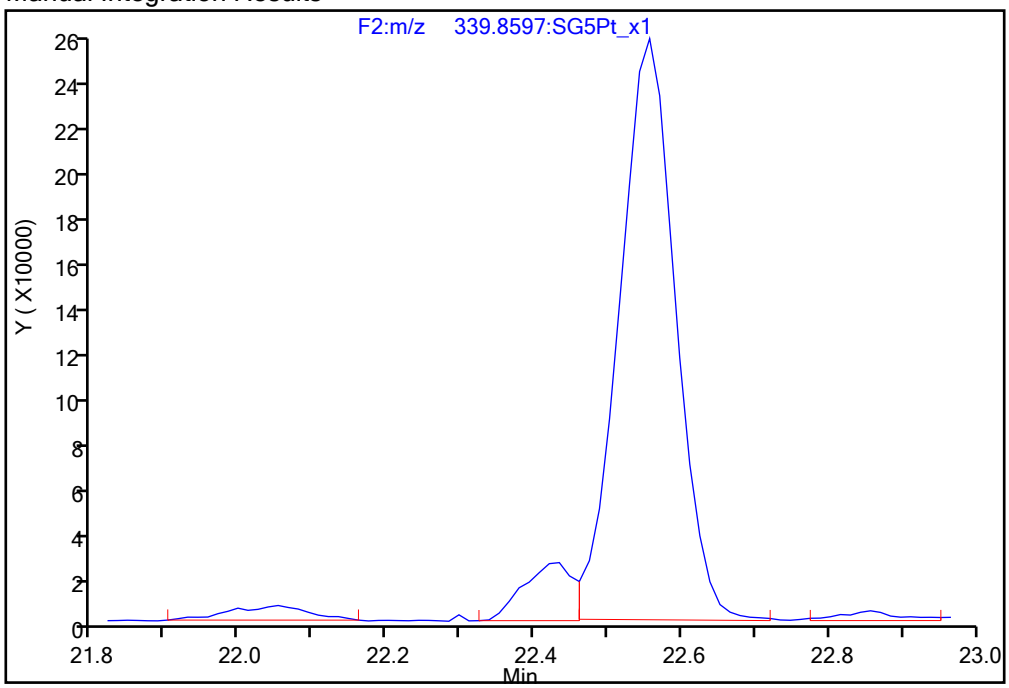

Reviewer: dadunj, 14-Oct-2019 14:39:32

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_17.d				
Injection Date:	11-Oct-2019 04:47:58	Instrument ID:	10D5		
Lims ID:	320-54852-A-1-A	Lab Sample ID:	320-54852-1		
Client ID:	11187072-Filter Test-1				
Operator ID:	SMA	ALS Bottle#:	15	Worklist Smp#:	17
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

13C-1,2,3,4,7,8-HxCDF, CAS: 114423-98-2

Signal: 1

Not Detected
Expected RT: 30.68

Processing Integration Results

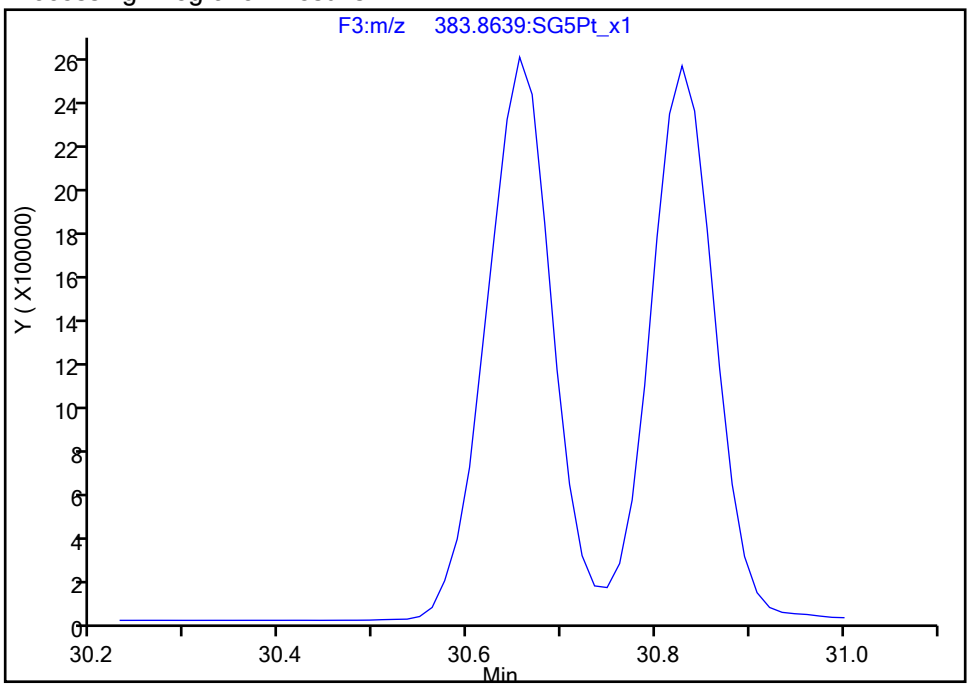

Manual Integration Results

RT: 30.66
Area: 12411399
Amount: 51.791500
Amount Units: pg/ul

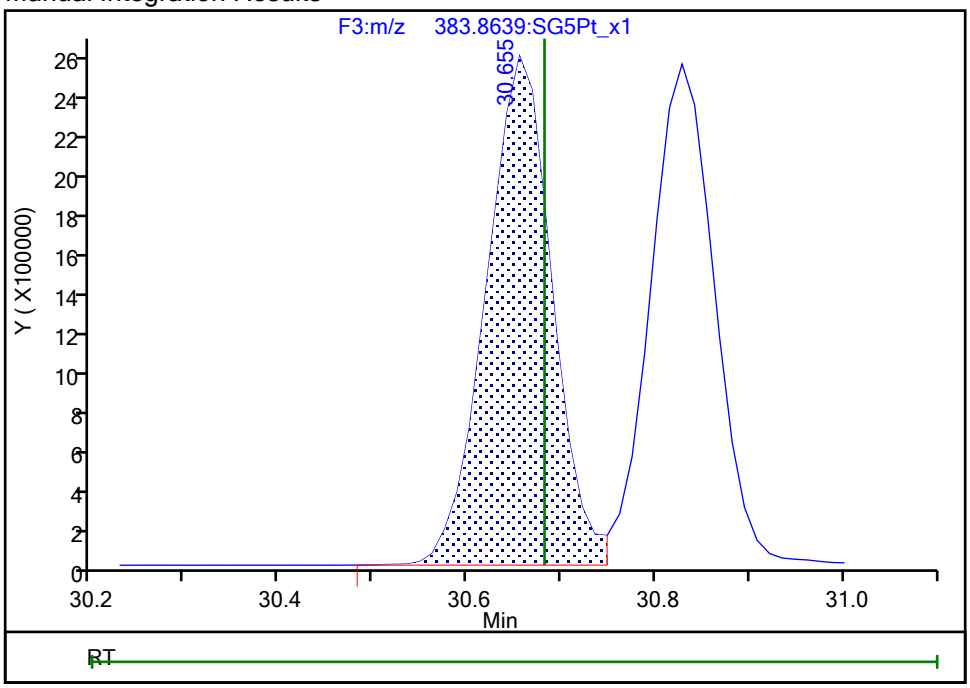

Reviewer: shardaa, 11-Oct-2019 10:48:59
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_17.d				
Injection Date:	11-Oct-2019 04:47:58	Instrument ID:	10D5		
Lims ID:	320-54852-A-1-A	Lab Sample ID:	320-54852-1		
Client ID:	11187072-Filter Test-1				
Operator ID:	SMA	ALS Bottle#:	15	Worklist Smp#:	17
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

2,3,4,6,7,8-HxCDF, CAS: 60851-34-5

Signal: 2

Processing Integration Results

RT: 31.64
Area: 121554
Amount: 0.490453
Amount Units: pg/ul

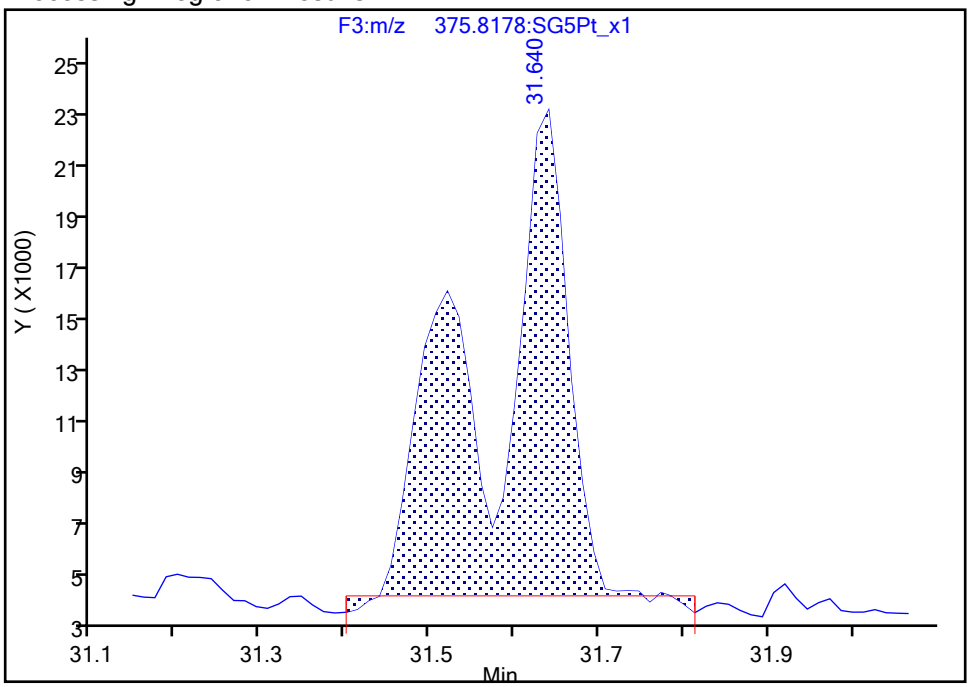

Manual Integration Results

RT: 31.64
Area: 69698
Amount: 0.368196
Amount Units: pg/ul

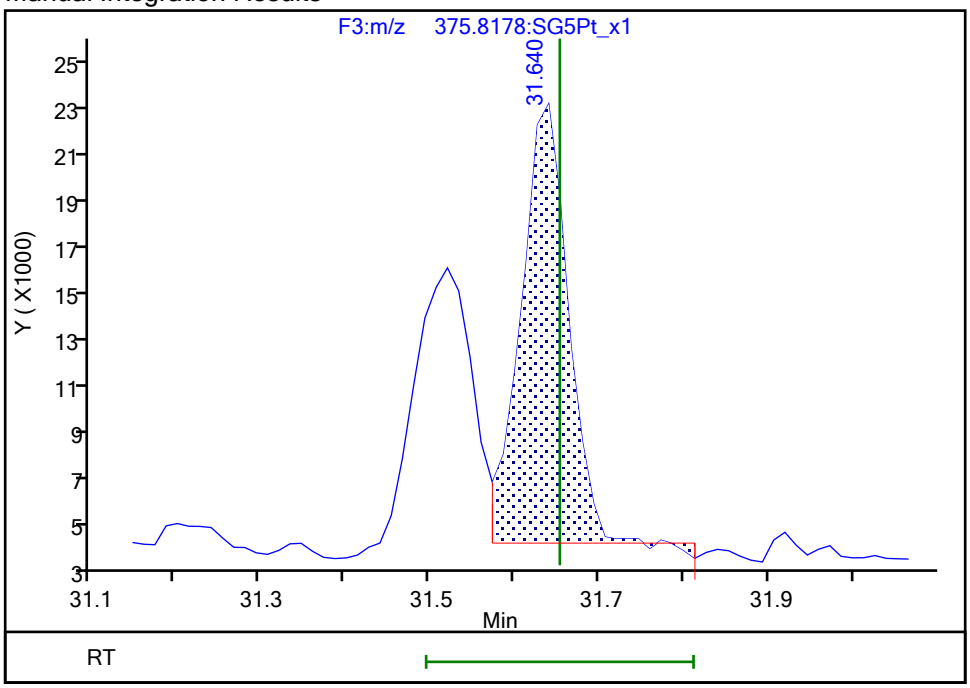

Reviewer: dadunj, 14-Oct-2019 14:39:48

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_17.d				
Injection Date:	11-Oct-2019 04:47:58	Instrument ID:	10D5		
Lims ID:	320-54852-A-1-A	Lab Sample ID:	320-54852-1		
Client ID:	11187072-Filter Test-1				
Operator ID:	SMA	ALS Bottle#:	15	Worklist Smp#:	17
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 2

Processing Integration Results

RT: 32.49
Area: 154024
Amount: 0.708213
Amount Units: pg/ul

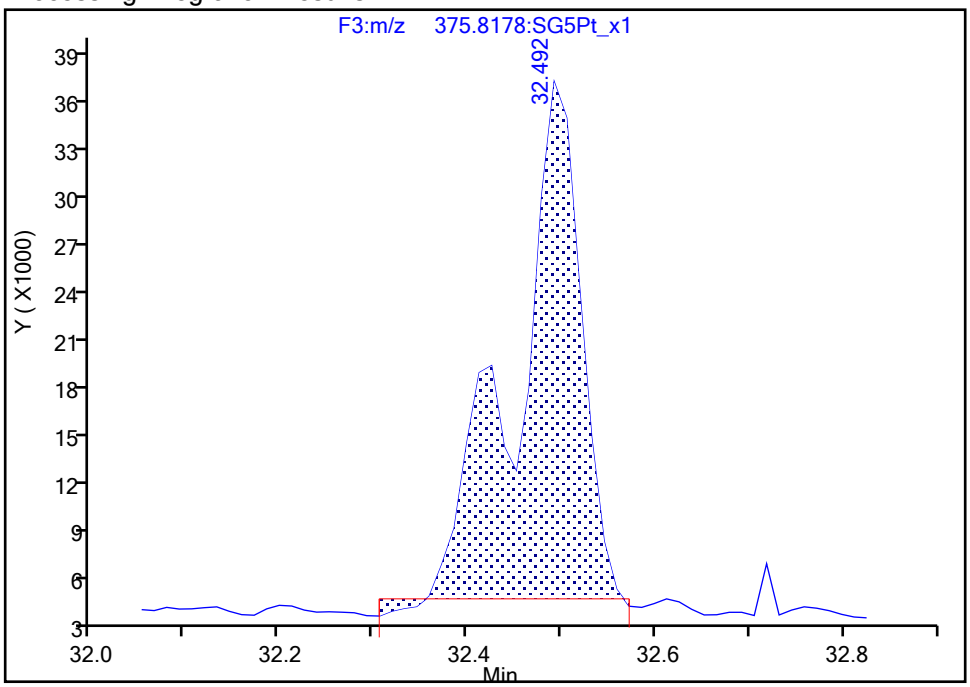

Manual Integration Results

RT: 32.43
Area: 44421
Amount: 0.236166
Amount Units: pg/ul

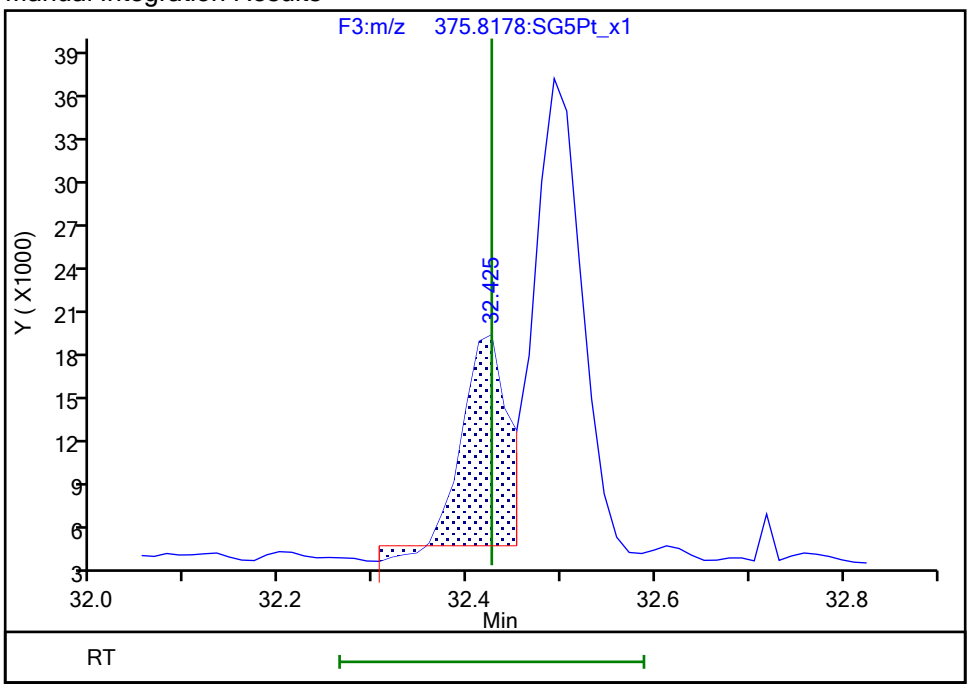

Reviewer: dadunj, 14-Oct-2019 14:39:56

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_17.d				
Injection Date:	11-Oct-2019 04:47:58	Instrument ID:	10D5		
Lims ID:	320-54852-A-1-A	Lab Sample ID:	320-54852-1		
Client ID:	11187072-Filter Test-1				
Operator ID:	SMA	ALS Bottle#:	15	Worklist Smp#:	17
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 3

Processing Integration Results

RT: 32.51
Area: 282219
Amount: 0.708213
Amount Units: pg/ul

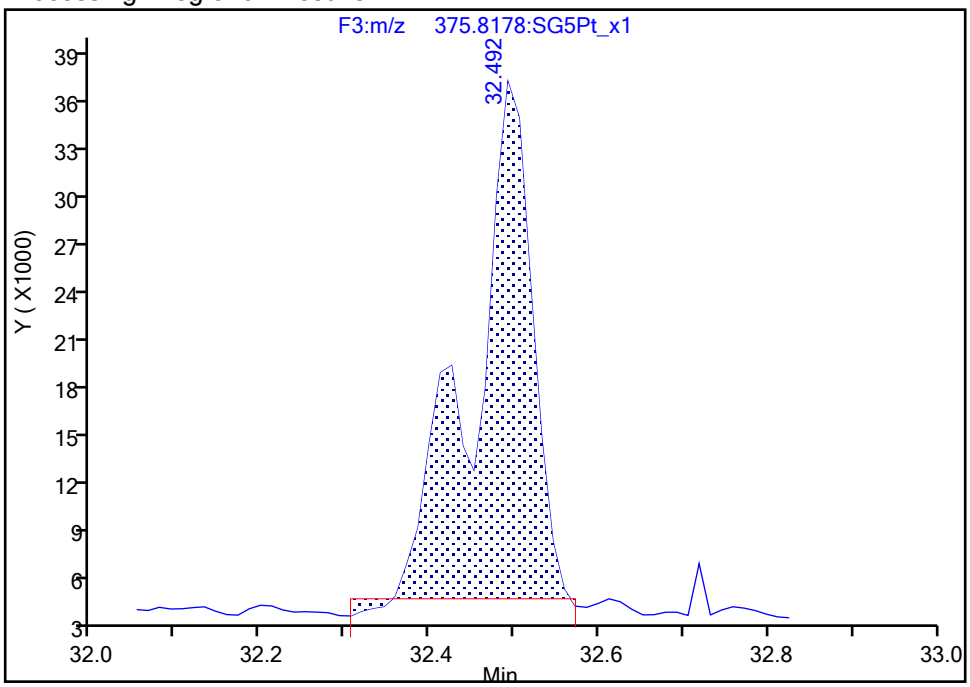

Manual Integration Results

RT: 32.41
Area: 94111
Amount: 0.236166
Amount Units: pg/ul
Reviewer: dadunj, 14-Oct-2019 14:39:56
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_17.d				
Injection Date:	11-Oct-2019 04:47:58	Instrument ID:	10D5		
Lims ID:	320-54852-A-1-A	Lab Sample ID:	320-54852-1		
Client ID:	11187072-Filter Test-1				
Operator ID:	SMA	ALS Bottle#:	15	Worklist Smp#:	17
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 1

Processing Integration Results

RT: 32.51
Area: 128195
Amount: 0.708213
Amount Units: pg/ul

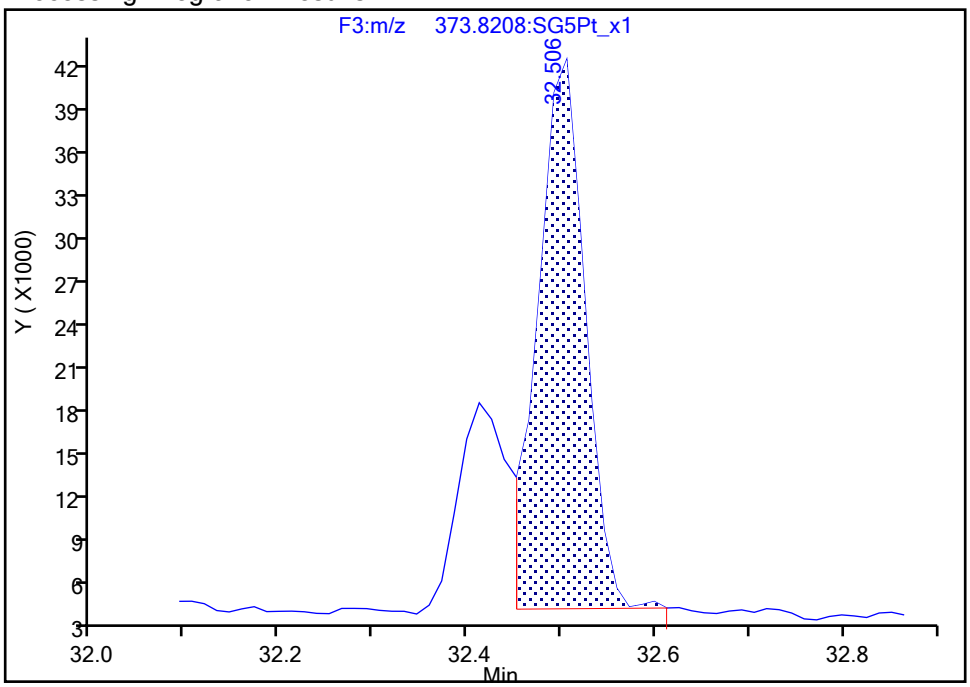

Manual Integration Results

RT: 32.41
Area: 49690
Amount: 0.236166
Amount Units: pg/ul

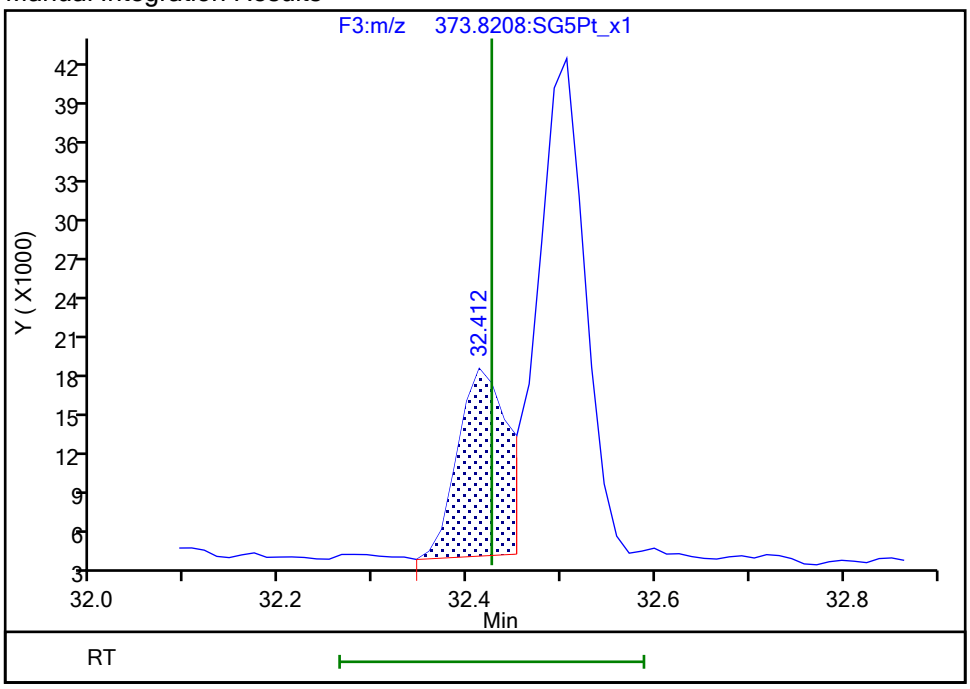

Reviewer: dadunj, 14-Oct-2019 14:39:57

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_17.d				
Injection Date:	11-Oct-2019 04:47:58	Instrument ID:	10D5		
Lims ID:	320-54852-A-1-A	Lab Sample ID:	320-54852-1		
Client ID:	11187072-Filter Test-1				
Operator ID:	SMA	ALS Bottle#:	15	Worklist Smp#:	17
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

Non-2,3,7,8-sub-HxCDF, Signal: 1, m/z: 373.8208, RT: (28.19- 32.54)

Signal: 1

Processing Integration Results

RT = 32.506 Area = 128195

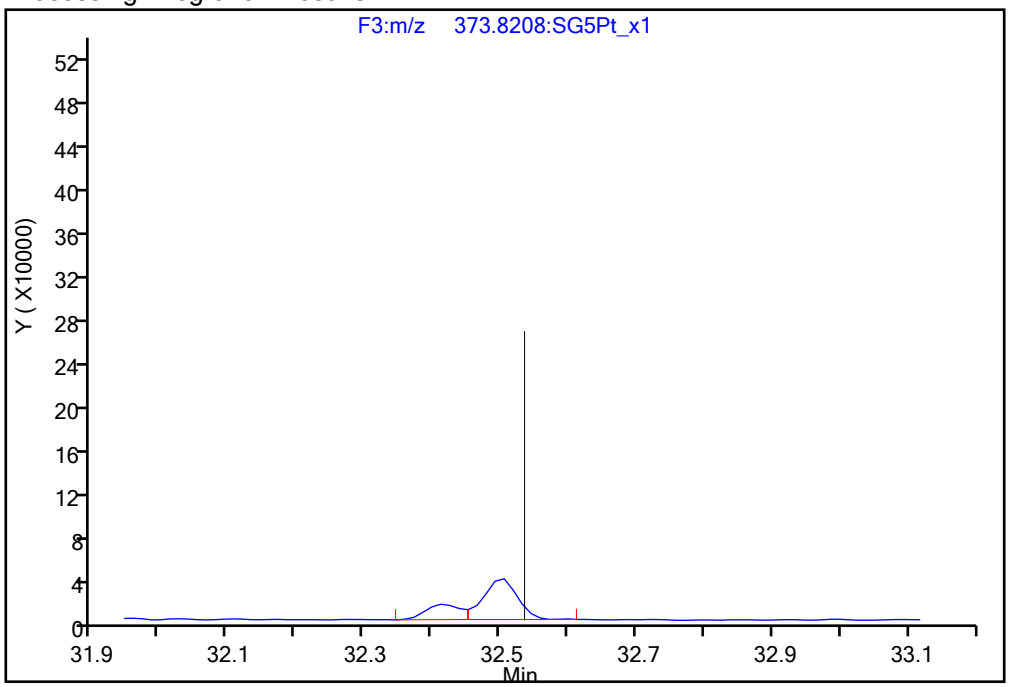

Manual Integration Results

RT = 32.506 Area = 128195

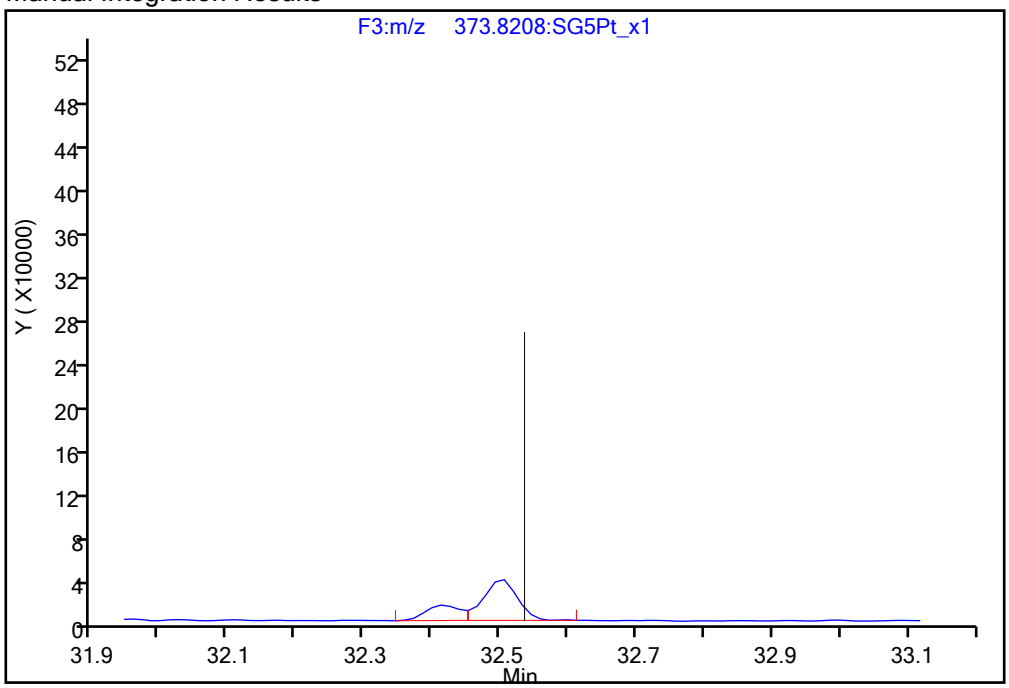

Reviewer: dadunj, 14-Oct-2019 14:40:03

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_17.d				
Injection Date:	11-Oct-2019 04:47:58	Instrument ID:	10D5		
Lims ID:	320-54852-A-1-A	Lab Sample ID:	320-54852-1		
Client ID:	11187072-Filter Test-1				
Operator ID:	SMA	ALS Bottle#:	15	Worklist Smp#:	17
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

13C-1,2,3,4,7,8-HxCDD, CAS: 109719-80-4

Signal: 1

Not Detected
Expected RT: 31.81

Processing Integration Results

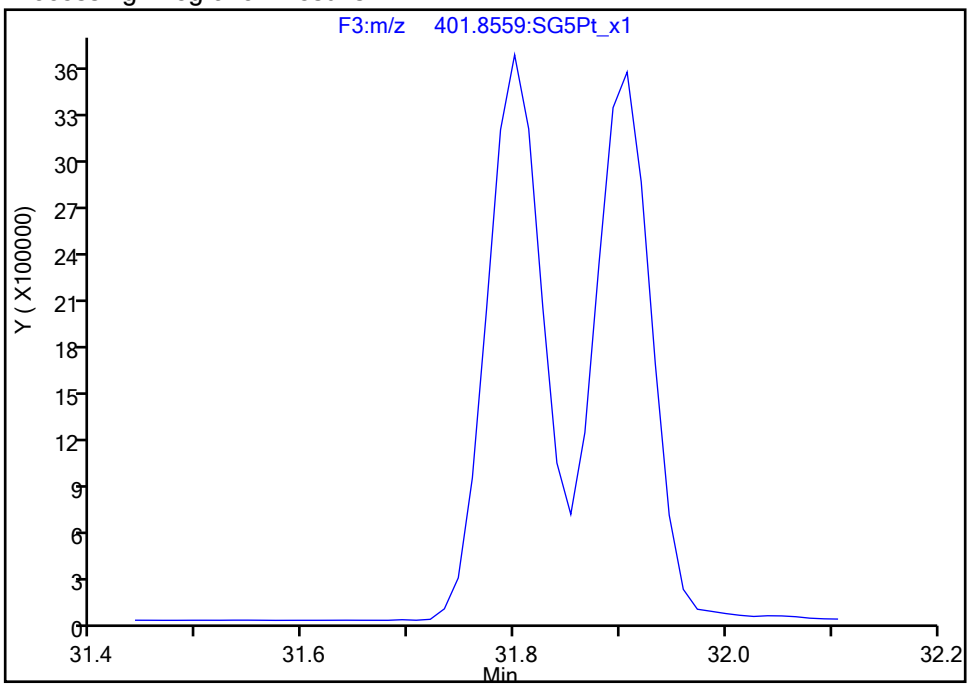

Manual Integration Results

RT: 31.80
Area: 13420730
Amount: 51.569240
Amount Units: pg/ul

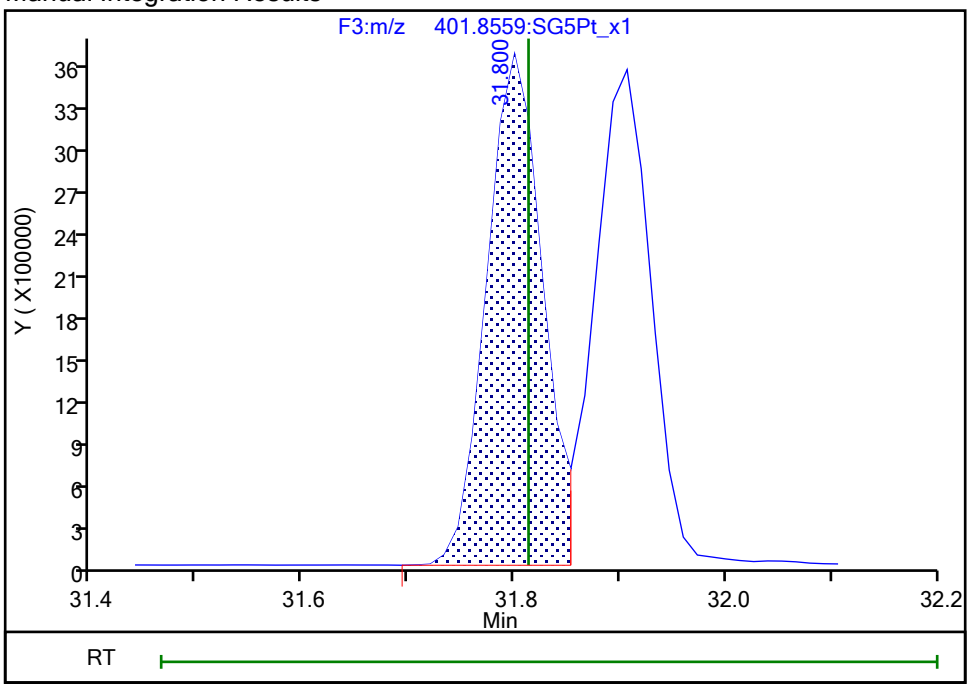

Reviewer: shardaa, 11-Oct-2019 10:49:11
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_17.d				
Injection Date:	11-Oct-2019 04:47:58	Instrument ID:	10D5		
Lims ID:	320-54852-A-1-A	Lab Sample ID:	320-54852-1		
Client ID:	11187072-Filter Test-1				
Operator ID:	SMA	ALS Bottle#:	15	Worklist Smp#:	17
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 1

Processing Integration Results

RT: 31.81
Area: 45973
Amount: 0.292926
Amount Units: pg/ul

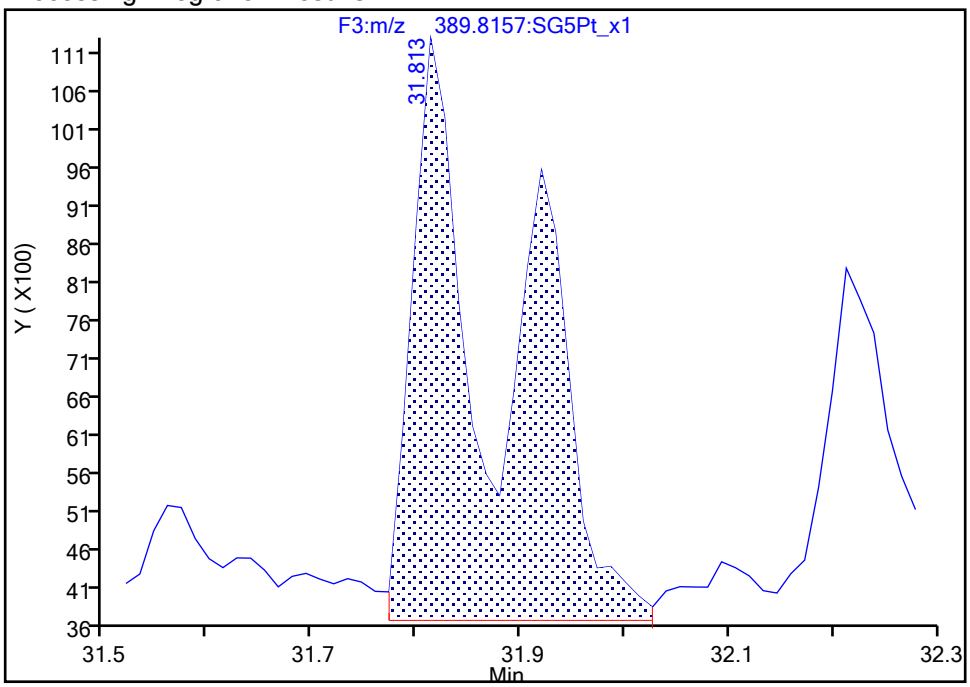

Manual Integration Results

RT: 31.81
Area: 25133
Amount: 0.157560
Amount Units: pg/ul

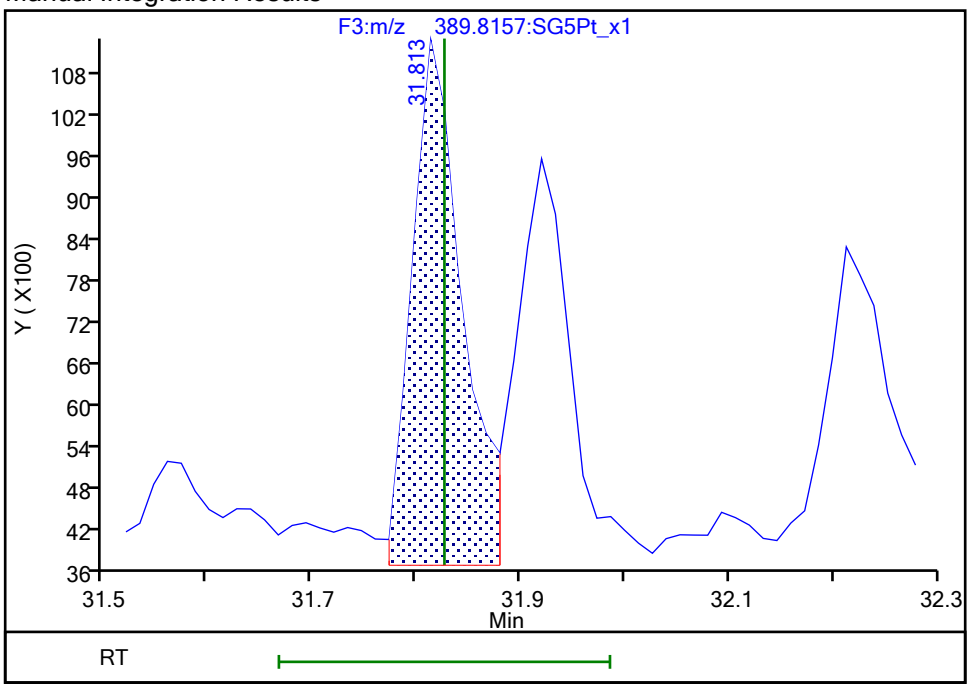

Reviewer: shardaa, 11-Oct-2019 10:49:20

Audit Action: Split an Integrated Peak Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_17.d				
Injection Date:	11-Oct-2019 04:47:58	Instrument ID:	10D5		
Lims ID:	320-54852-A-1-A	Lab Sample ID:	320-54852-1		
Client ID:	11187072-Filter Test-1				
Operator ID:	SMA	ALS Bottle#:	15	Worklist Smp#:	17
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 2

Processing Integration Results

RT: 31.92
Area: 32957
Amount: 0.292926
Amount Units: pg/ul

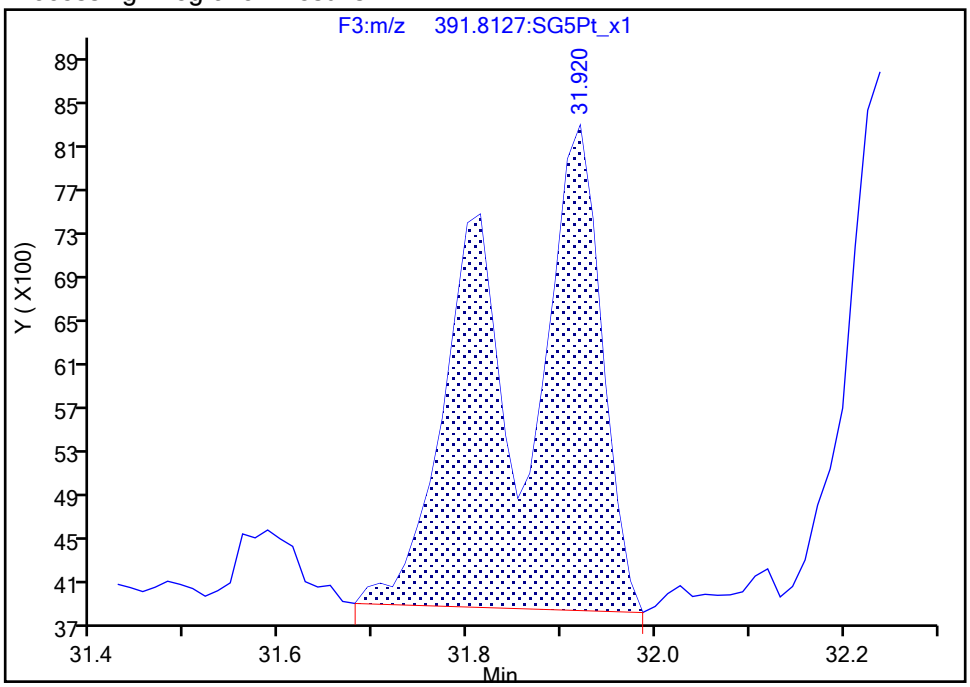

Manual Integration Results

RT: 31.81
Area: 17322
Amount: 0.157560
Amount Units: pg/ul

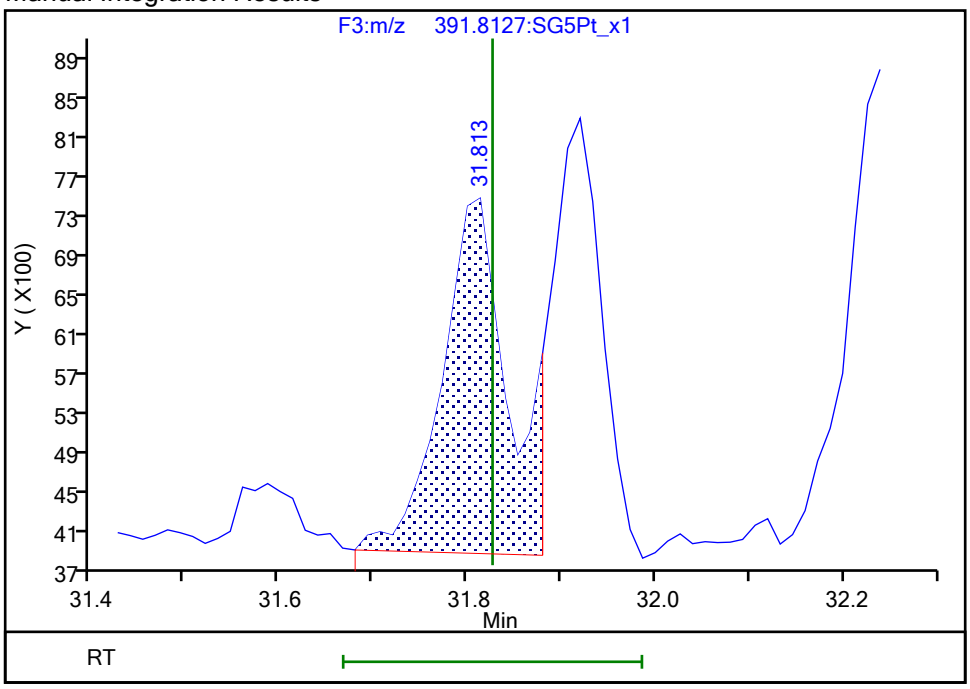

Reviewer: shardaa, 11-Oct-2019 10:49:25

Audit Action: Split an Integrated Peak Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_17.d				
Injection Date:	11-Oct-2019 04:47:58	Instrument ID:	10D5		
Lims ID:	320-54852-A-1-A	Lab Sample ID:	320-54852-1		
Client ID:	11187072-Filter Test-1				
Operator ID:	SMA	ALS Bottle#:	15	Worklist Smp#:	17
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 2

Processing Integration Results

RT: 31.92
Area: 32957
Amount: 0.303112
Amount Units: pg/ul

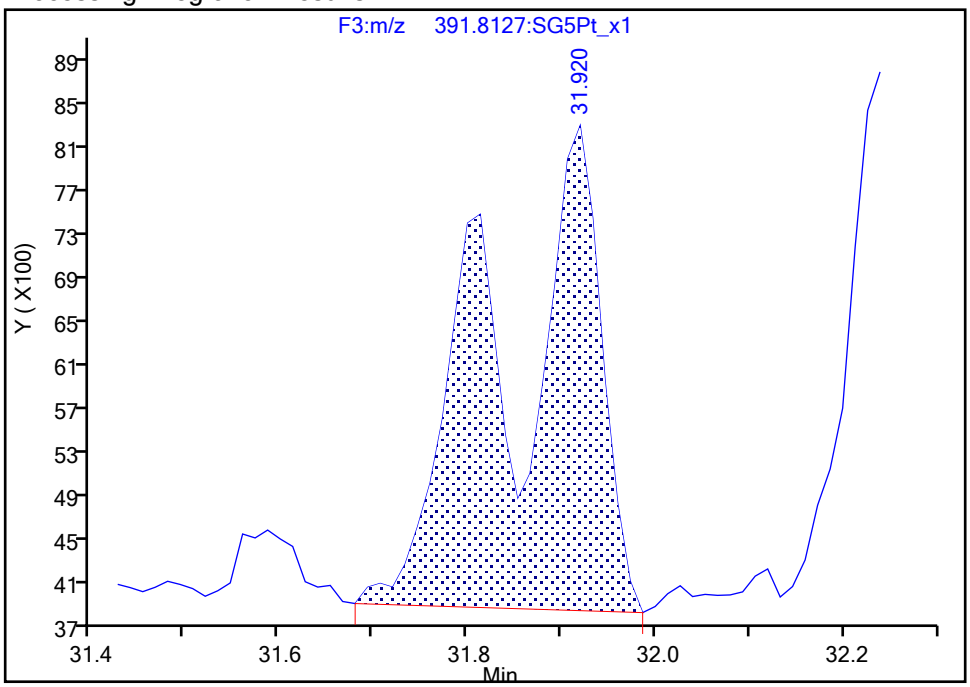

Manual Integration Results

RT: 31.92
Area: 15633
Amount: 0.140066
Amount Units: pg/ul

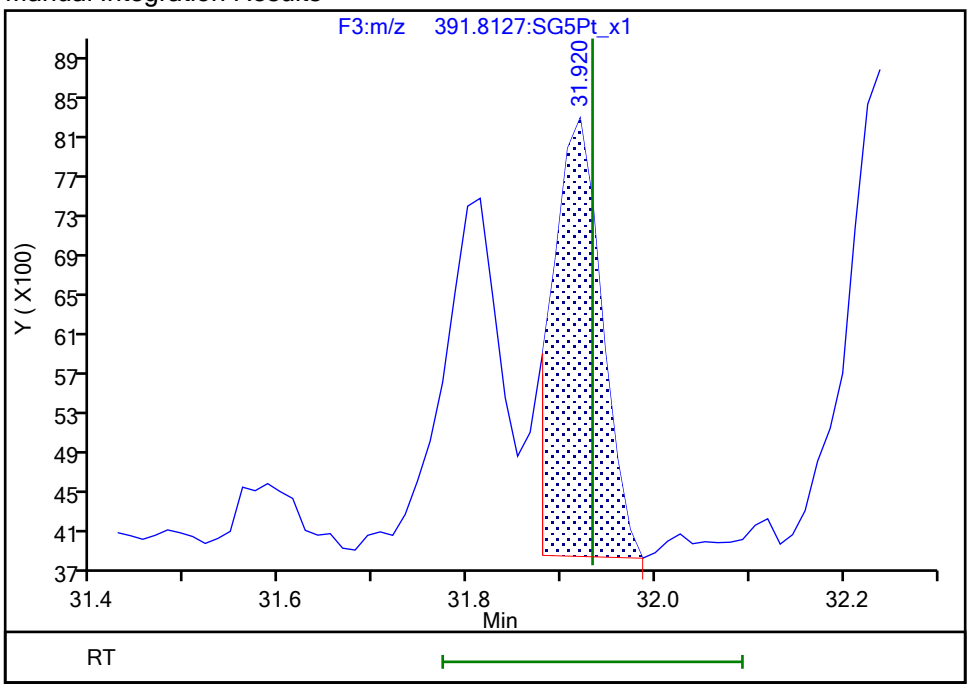

Reviewer: shardaa, 11-Oct-2019 10:49:25

Audit Action: Split an Integrated Peak Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_17.d				
Injection Date:	11-Oct-2019 04:47:58	Instrument ID:	10D5		
Lims ID:	320-54852-A-1-A	Lab Sample ID:	320-54852-1		
Client ID:	11187072-Filter Test-1				
Operator ID:	SMA	ALS Bottle#:	15	Worklist Smp#:	17
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 1

Processing Integration Results

RT: 31.81
Area: 45973
Amount: 0.303112
Amount Units: pg/ul

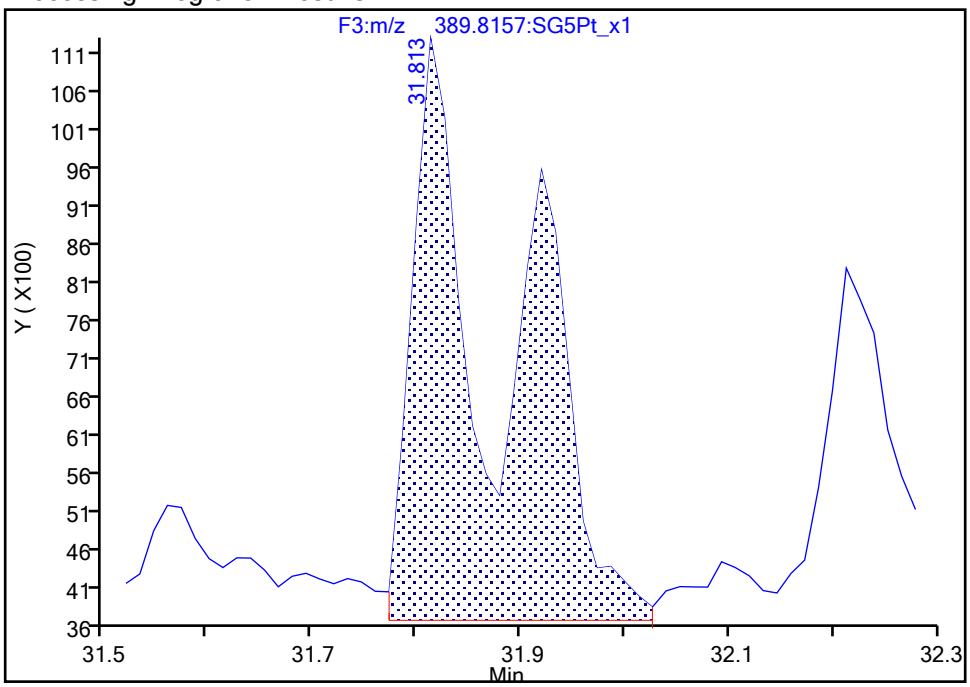

Manual Integration Results

RT: 31.92
Area: 20840
Amount: 0.140066
Amount Units: pg/ul

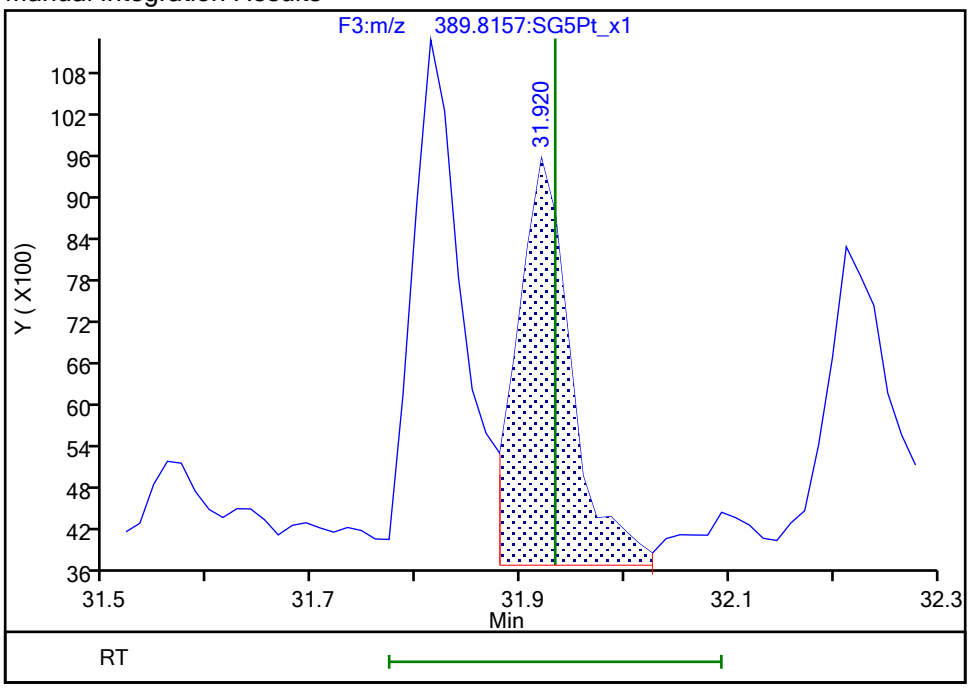

Reviewer: shardaa, 11-Oct-2019 10:49:31

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_17.d				
Injection Date:	11-Oct-2019 04:47:58	Instrument ID:	10D5		
Lims ID:	320-54852-A-1-A	Lab Sample ID:	320-54852-1		
Client ID:	11187072-Filter Test-1				
Operator ID:	SMA	ALS Bottle#:	15	Worklist Smp#:	17
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

13C-1,2,3,4,7,8,9-HpCDF, CAS: 109719-94-0

Signal: 1

Not Detected
Expected RT: 34.89

Processing Integration Results

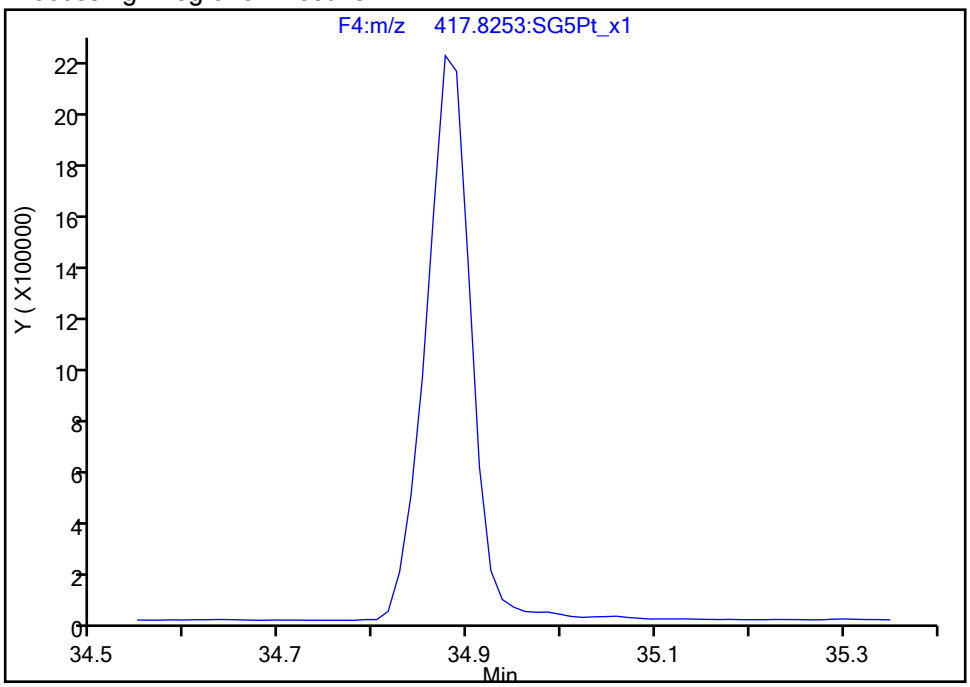

Manual Integration Results

RT: 34.88
Area: 7262787
Amount: 49.735128
Amount Units: pg/ul

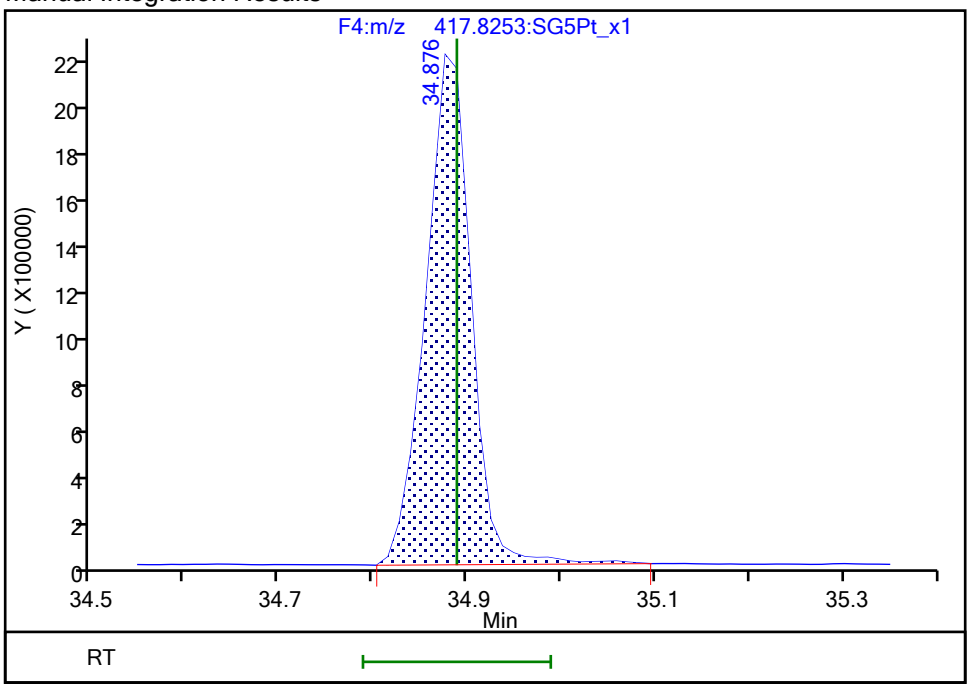

Reviewer: shardaa, 11-Oct-2019 10:49:52
Audit Action: Assigned Compound ID Audit Reason: Poor chromatography

Report Date: 14-Oct-2019 14:42:02 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_17.d		
Injection Date:	11-Oct-2019 04:47:58	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-1		
Worklist#:	330148	Sample Line#:	17
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

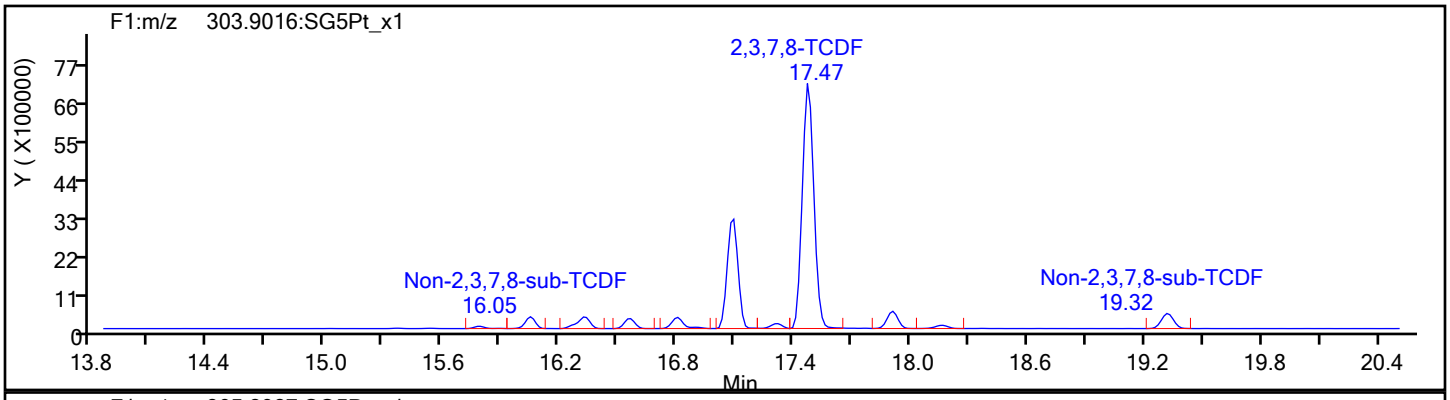

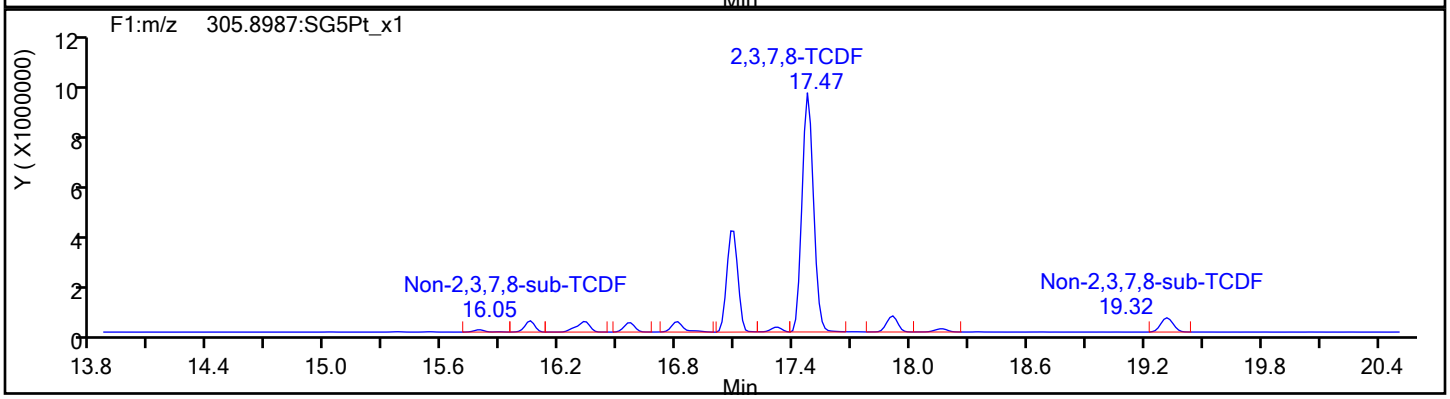

TCDF Standards

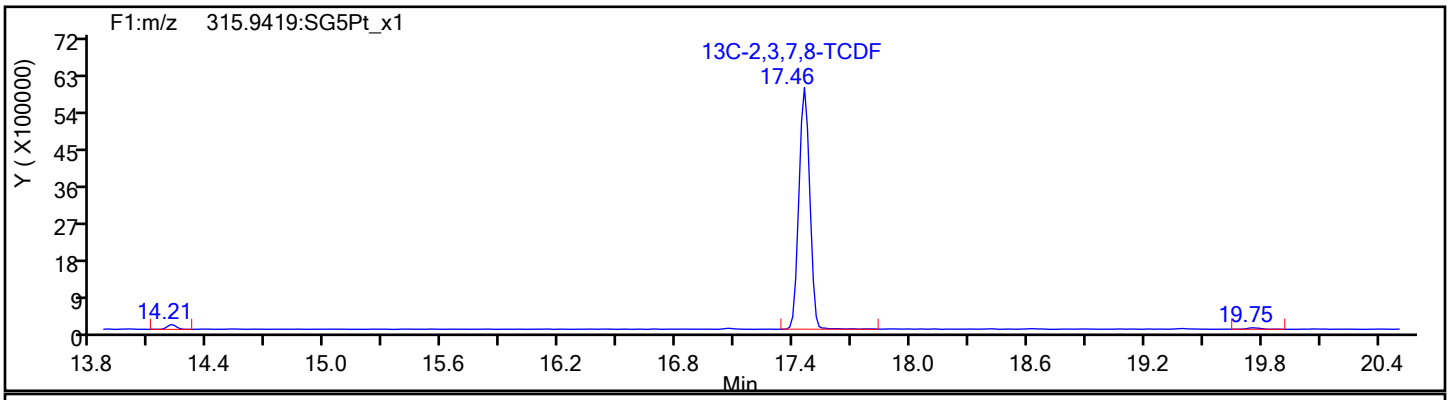

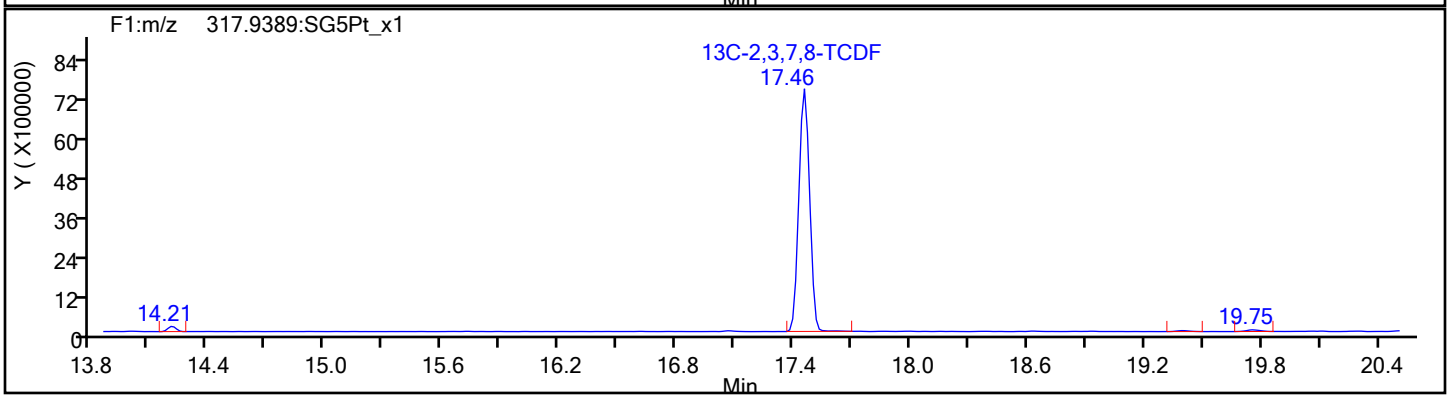

Report Date: 14-Oct-2019 14:42:02 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_17.d		
Injection Date:	11-Oct-2019 04:47:58	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-1		
Worklist#:	330148	Sample Line#:	17
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

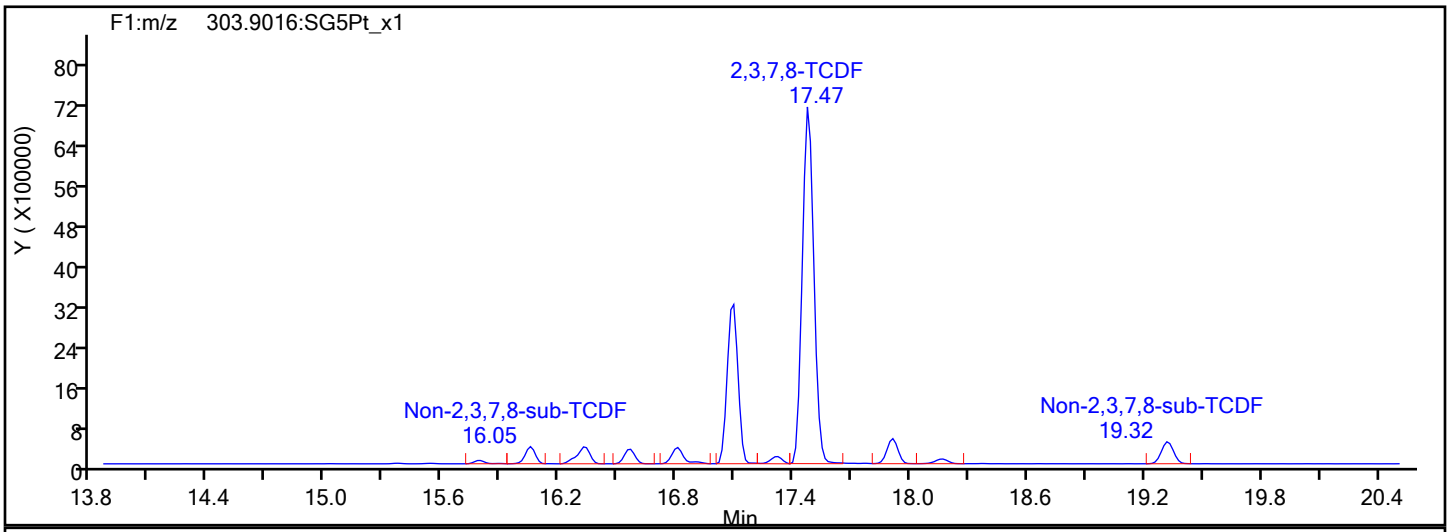

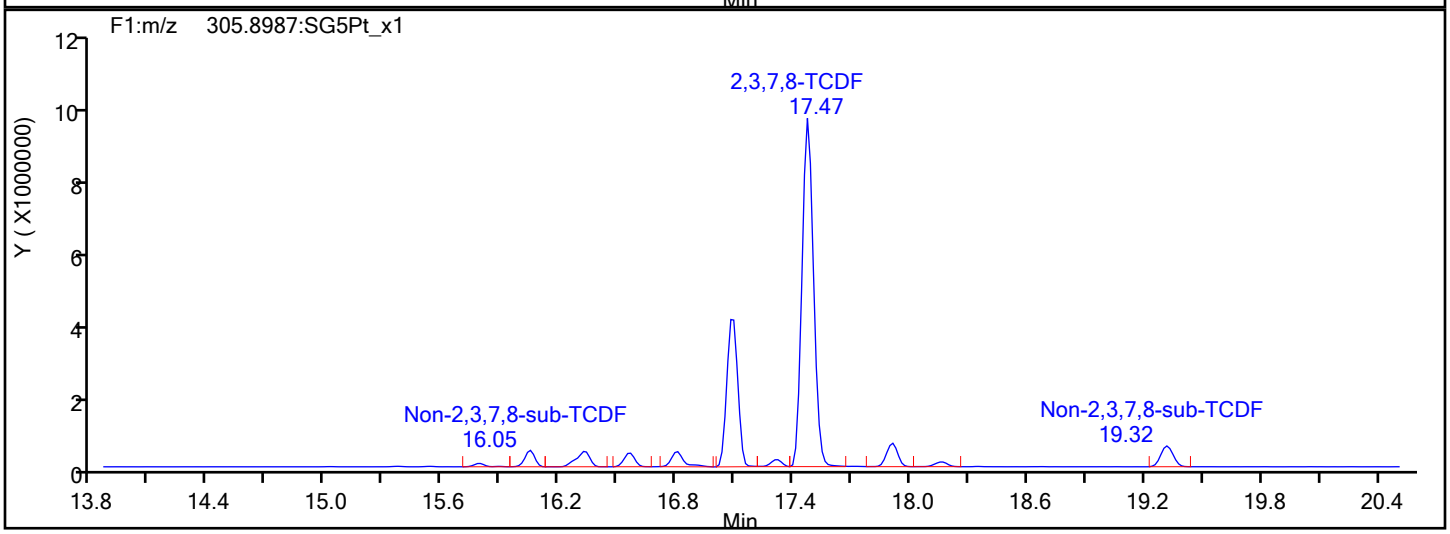

TCDF Interference Mass

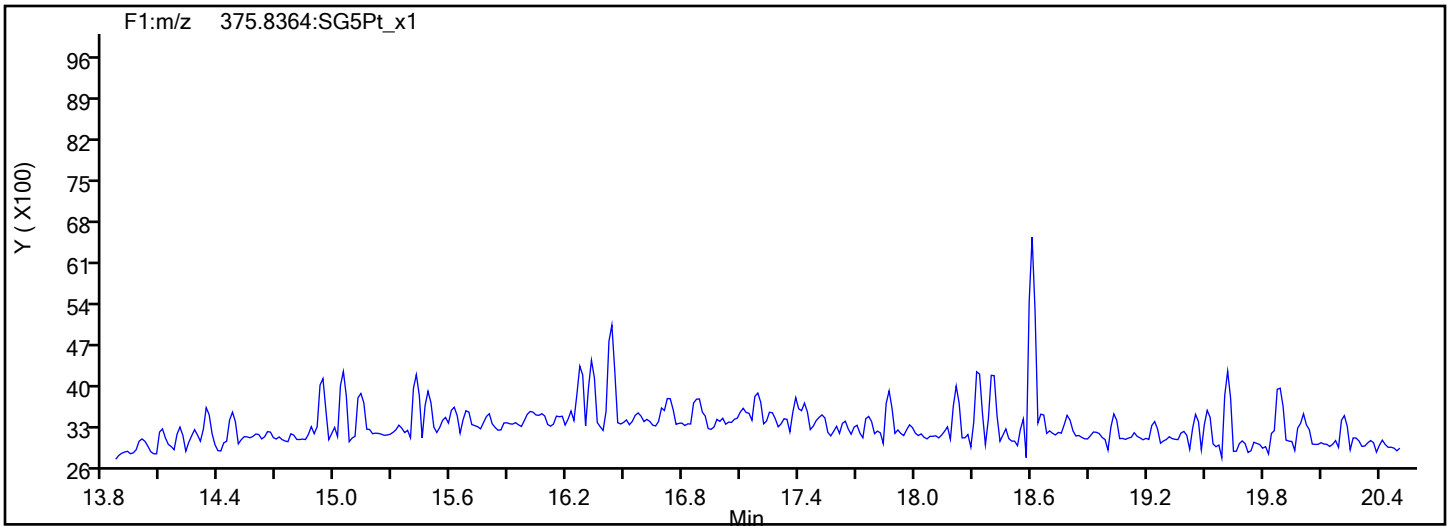

Report Date: 14-Oct-2019 14:42:02 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_17.d		
Injection Date:	11-Oct-2019 04:47:58	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-1		
Worklist#:	330148	Sample Line#:	17
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

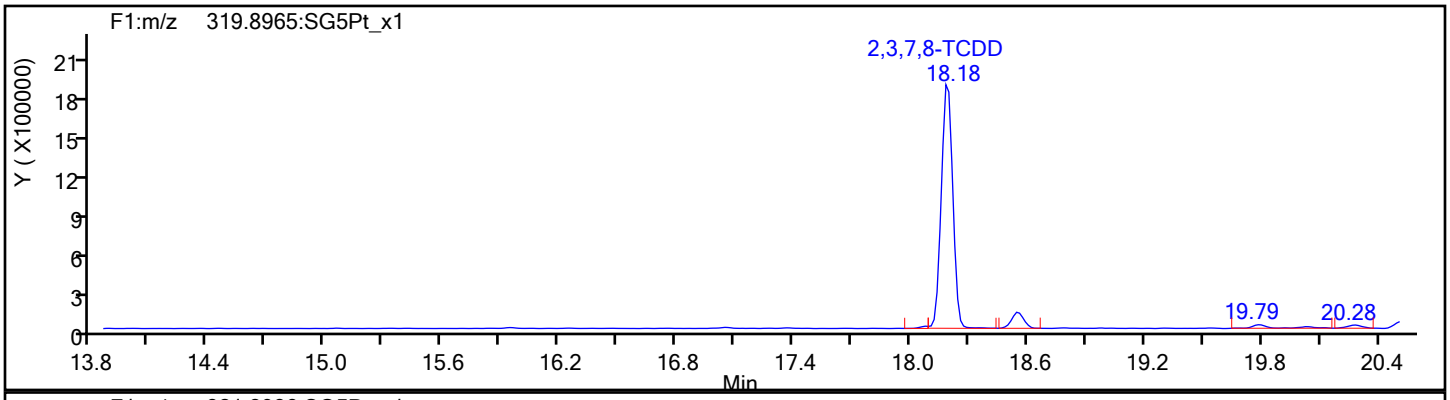

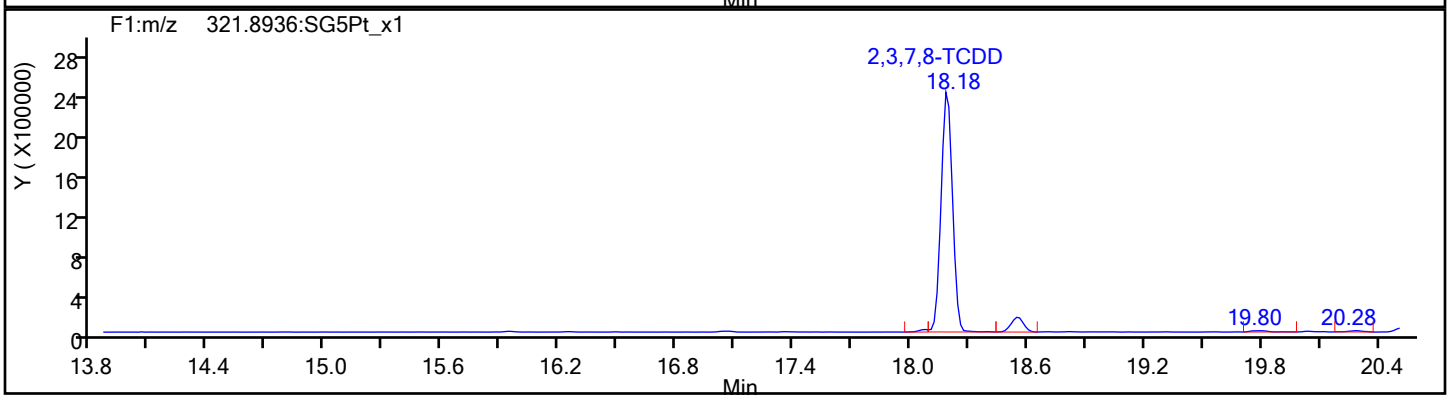

TCDD Standards

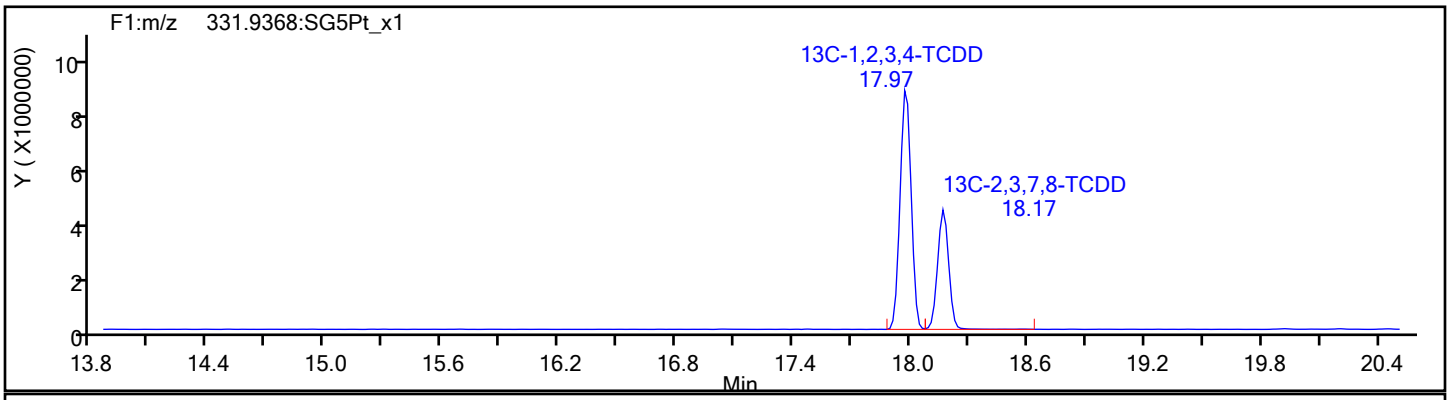

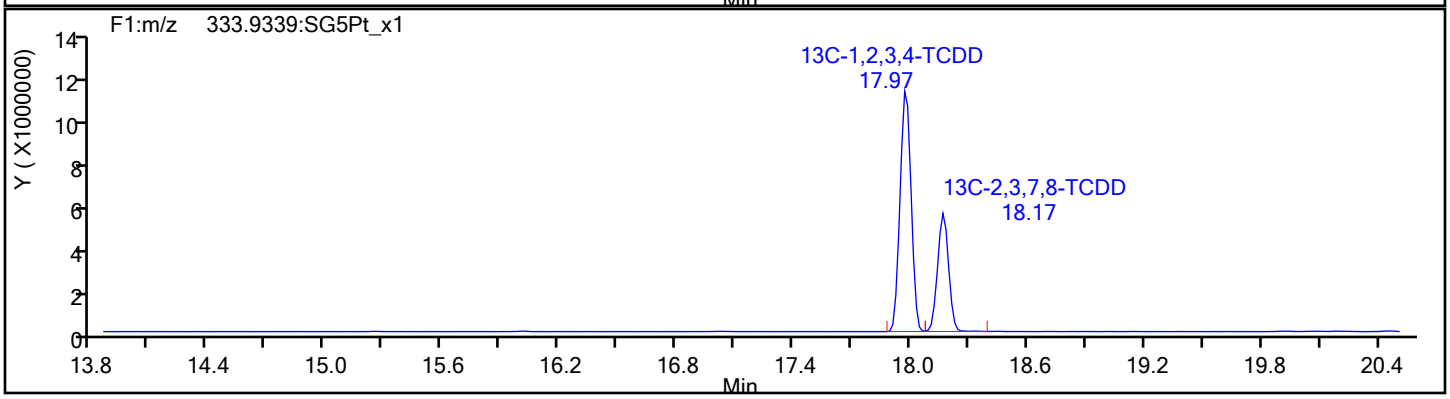

Report Date: 14-Oct-2019 14:42:02 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_17.d		
Injection Date:	11-Oct-2019 04:47:58	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-1		
Worklist#:	330148	Sample Line#:	17
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

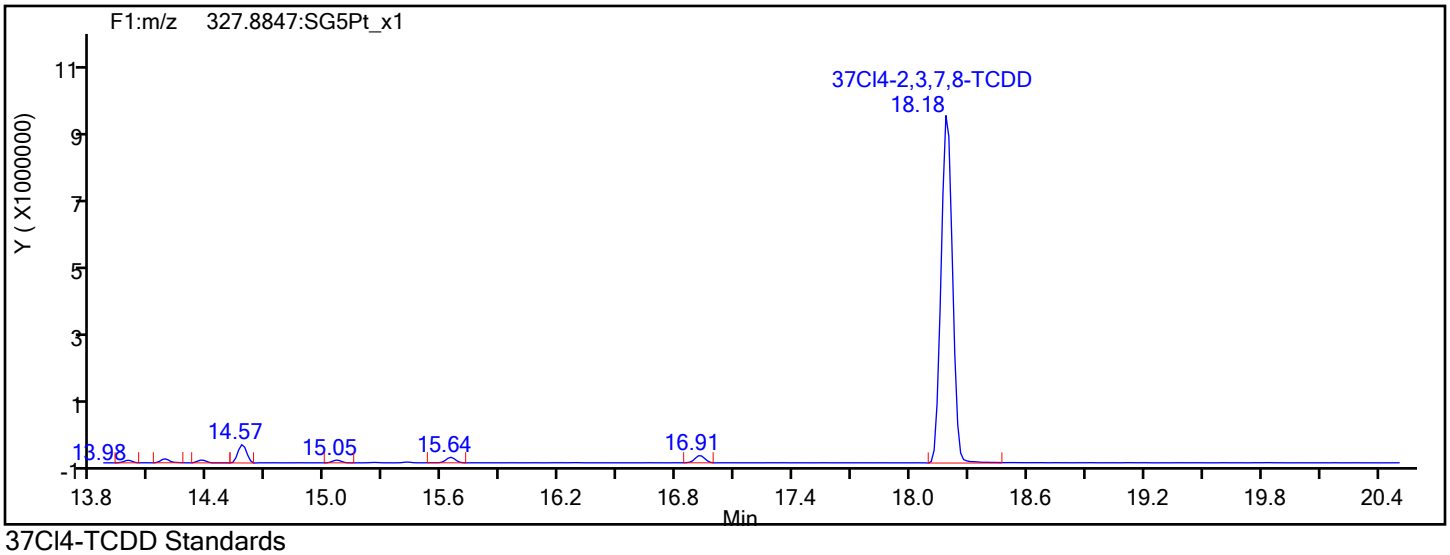

37Cl4-TCDD Standards

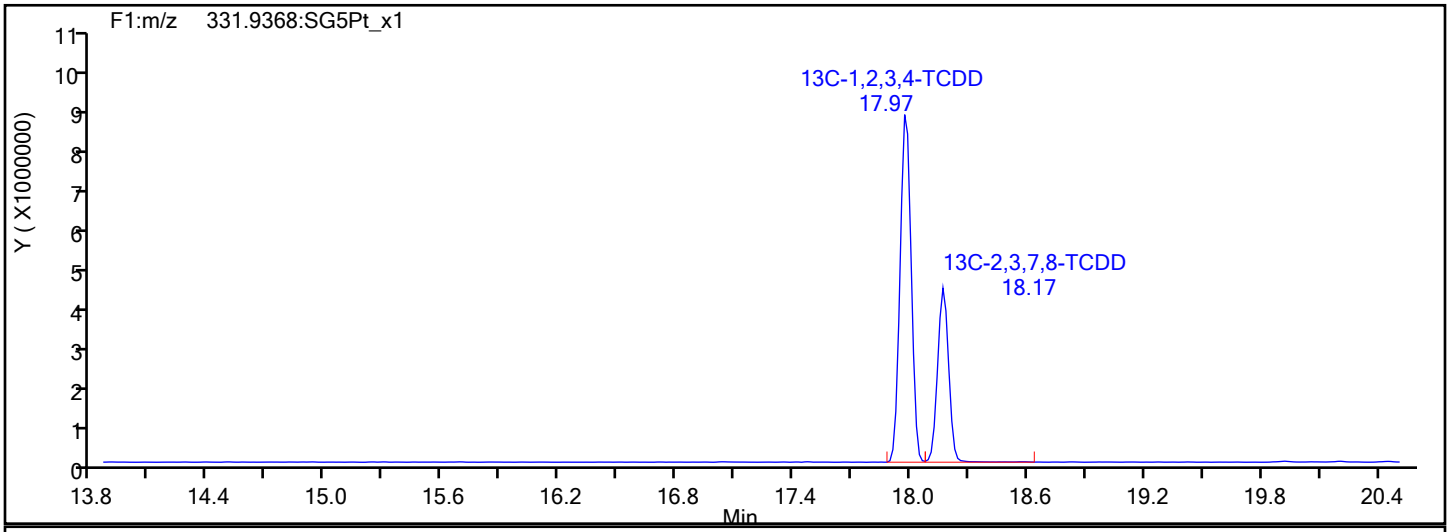

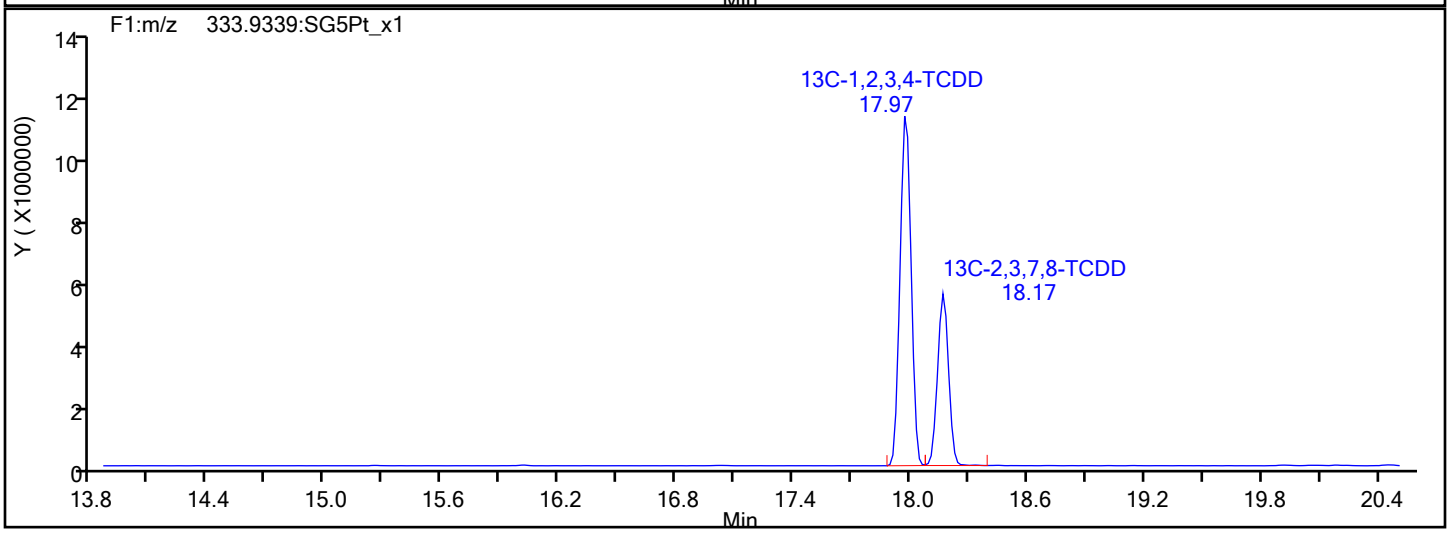

Report Date: 14-Oct-2019 14:42:02 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_17.d		
Injection Date:	11-Oct-2019 04:47:58	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-1		
Worklist#:	330148	Sample Line#:	17
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

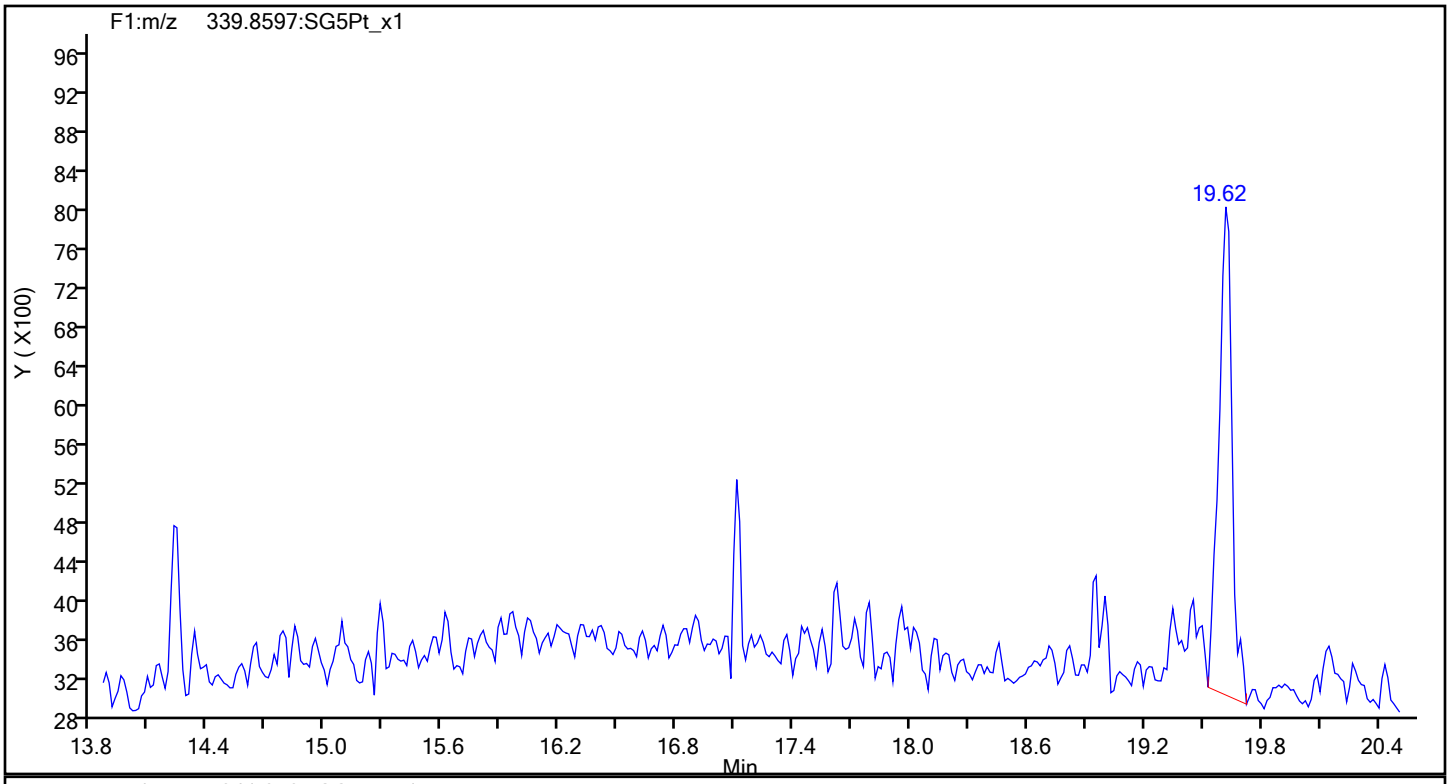

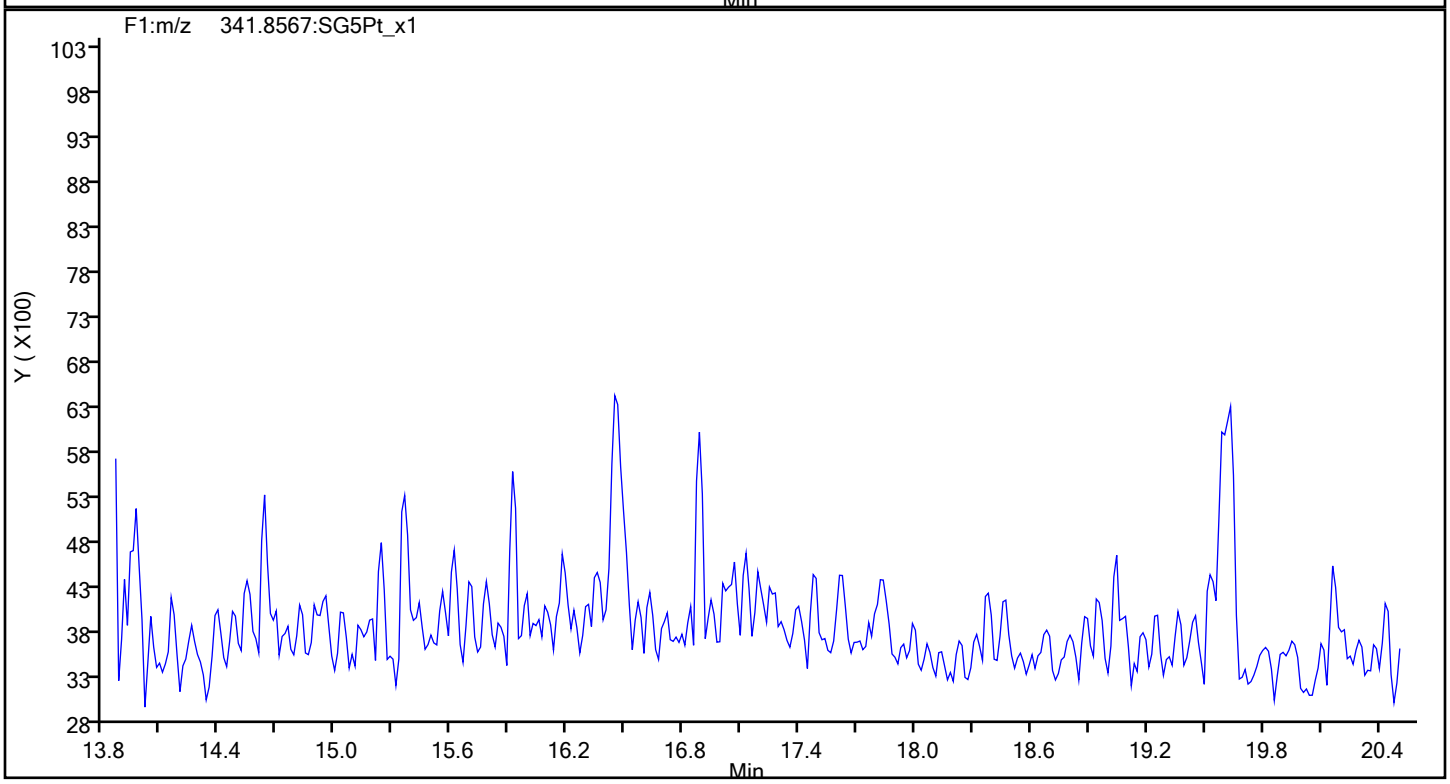

Report Date: 14-Oct-2019 14:42:02 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_17.d		
Injection Date:	11-Oct-2019 04:47:58	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-1		
Worklist#:	330148	Sample Line#:	17
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

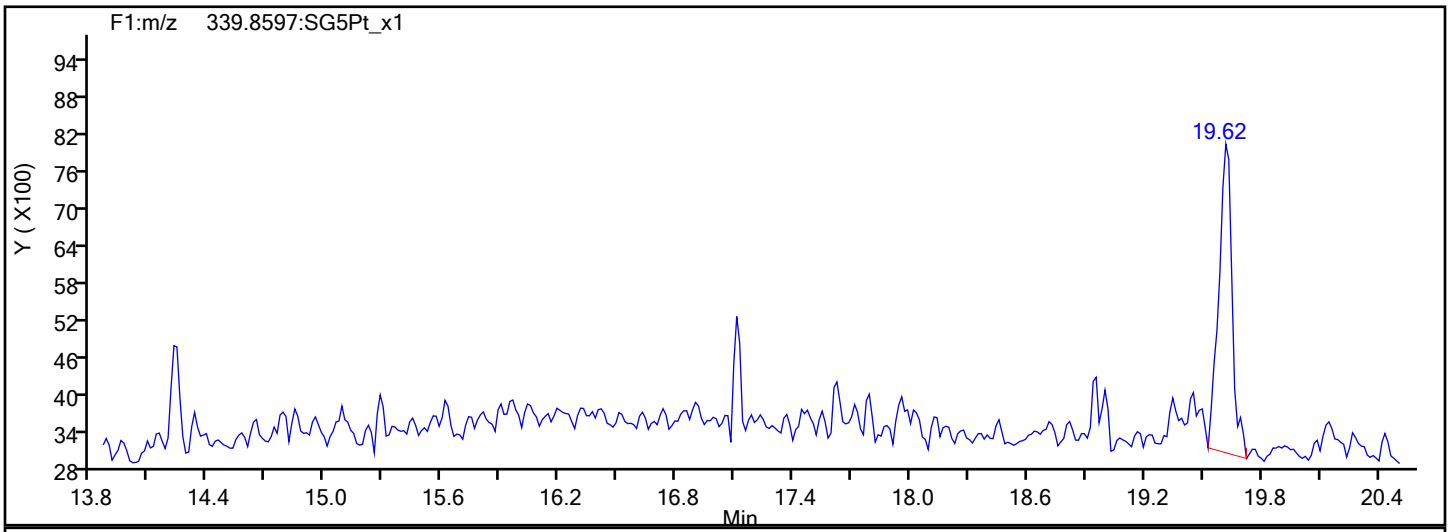

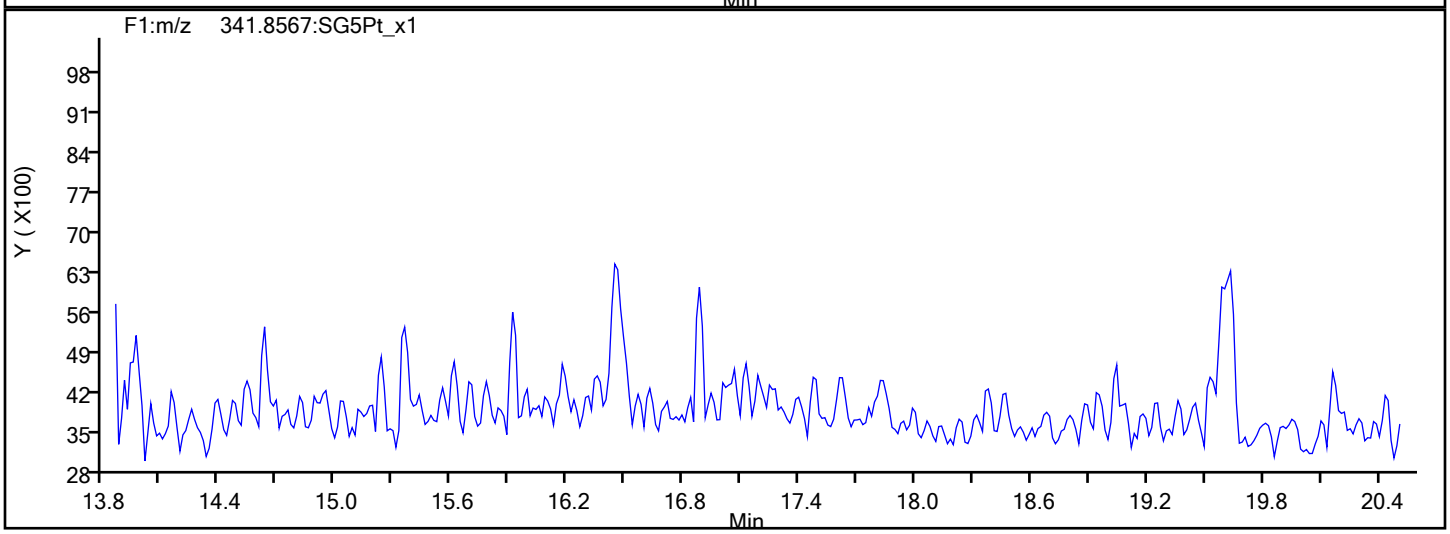

F1 PeCDFs Interference Mass

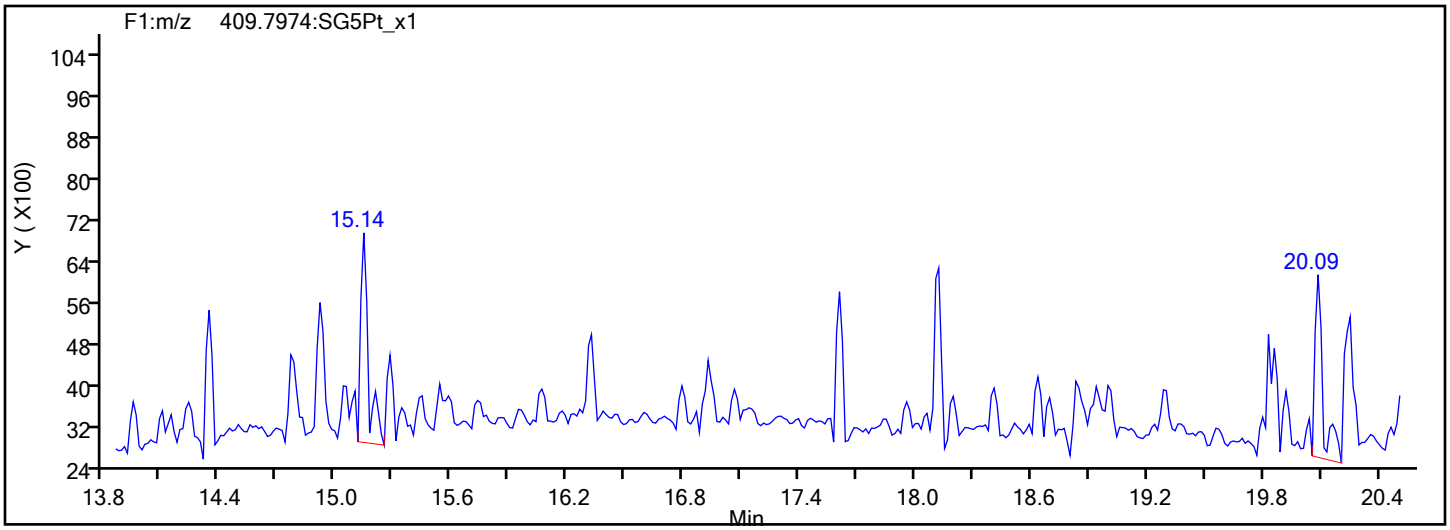

Report Date: 14-Oct-2019 14:42:02 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

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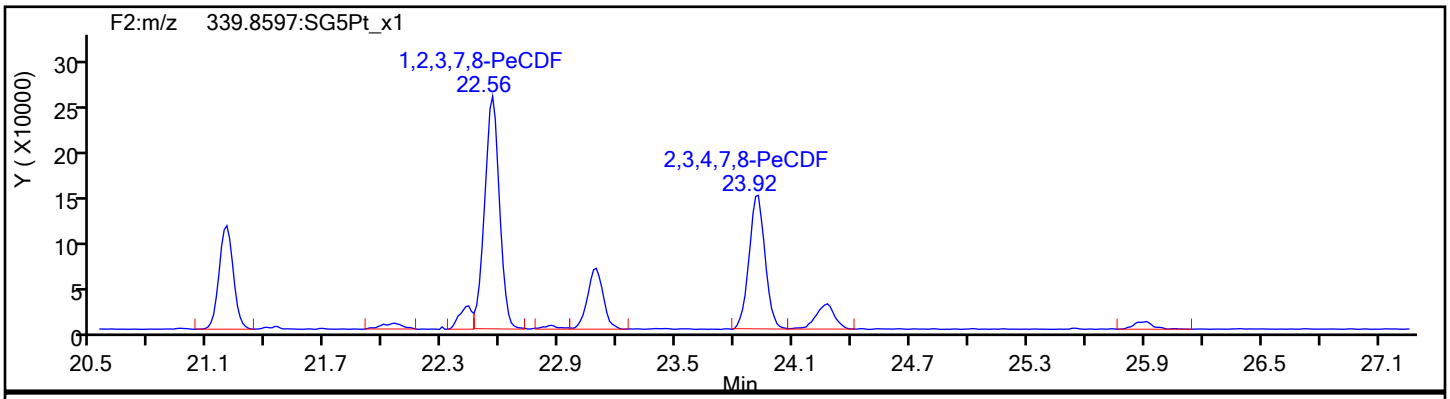

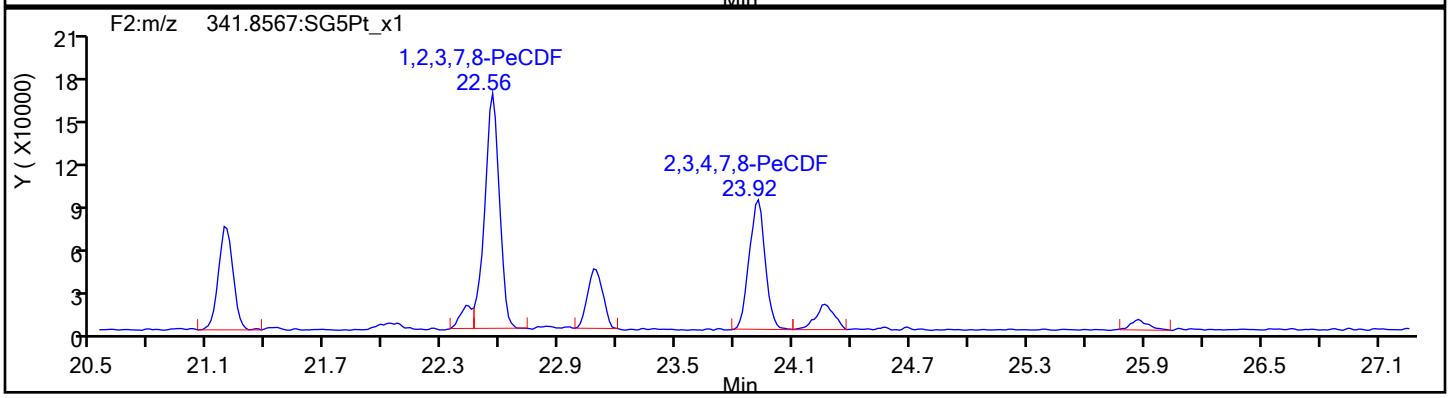

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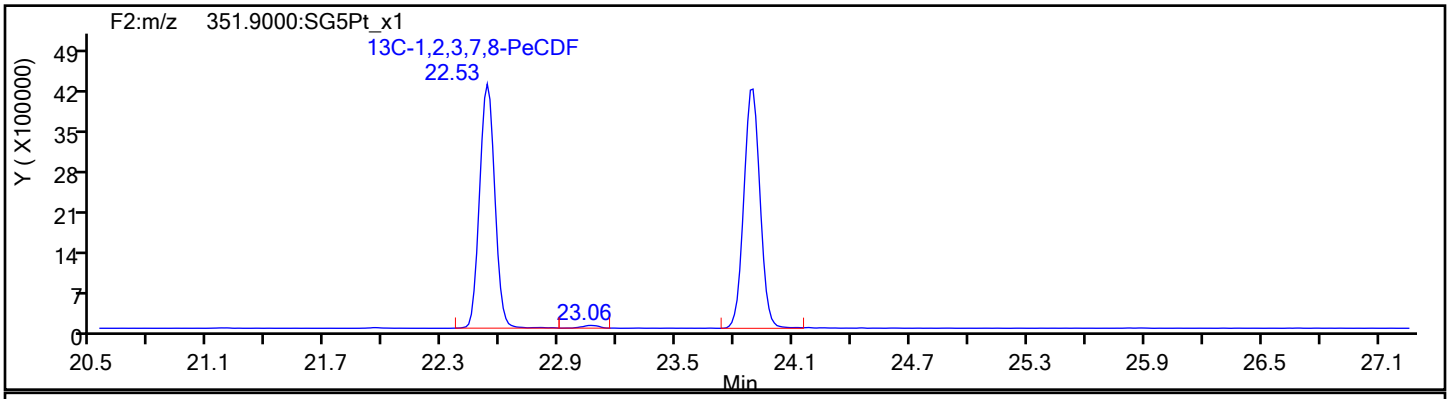

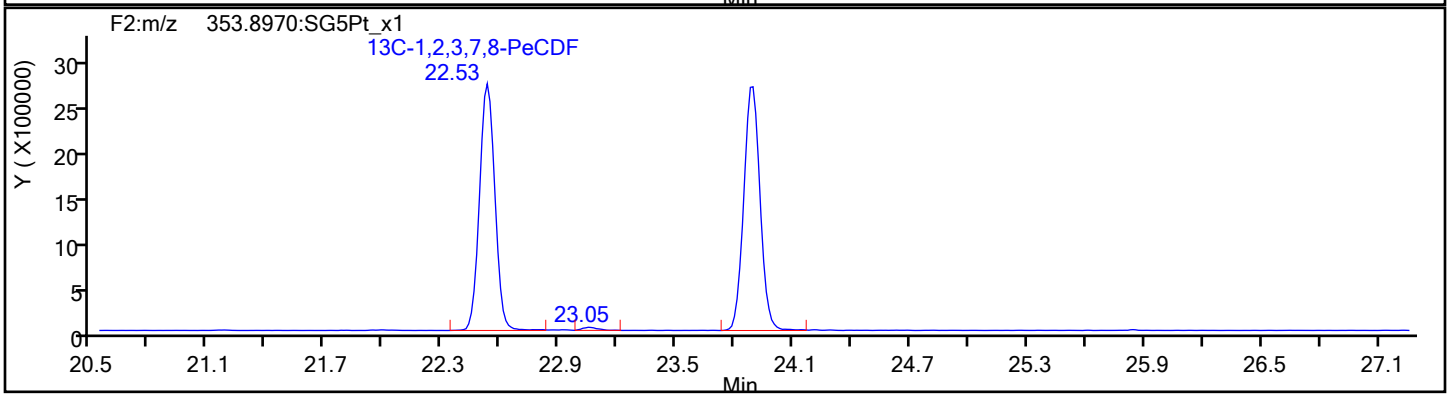

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Eurofins TestAmerica, Sacramento

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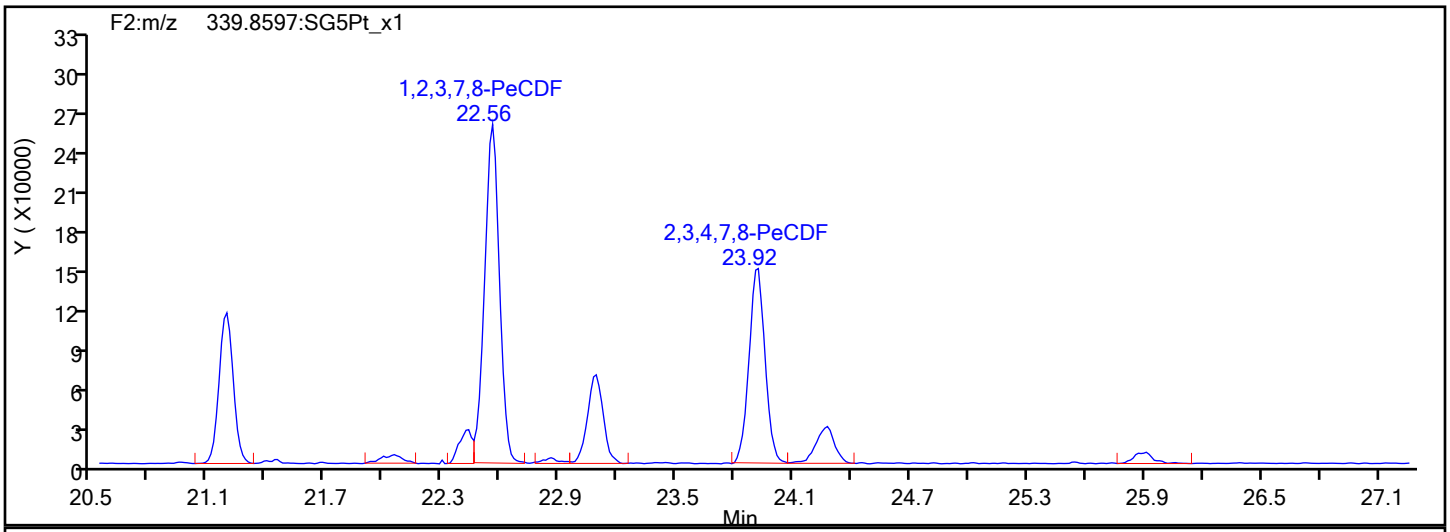

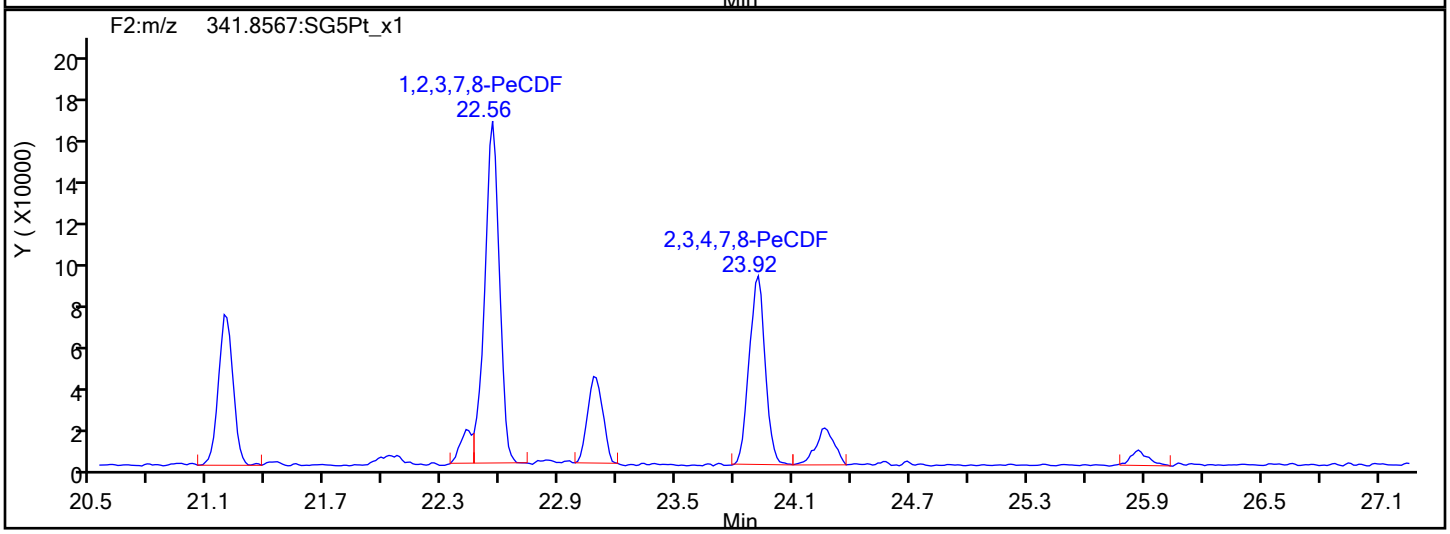

PeCDF Interference Mass

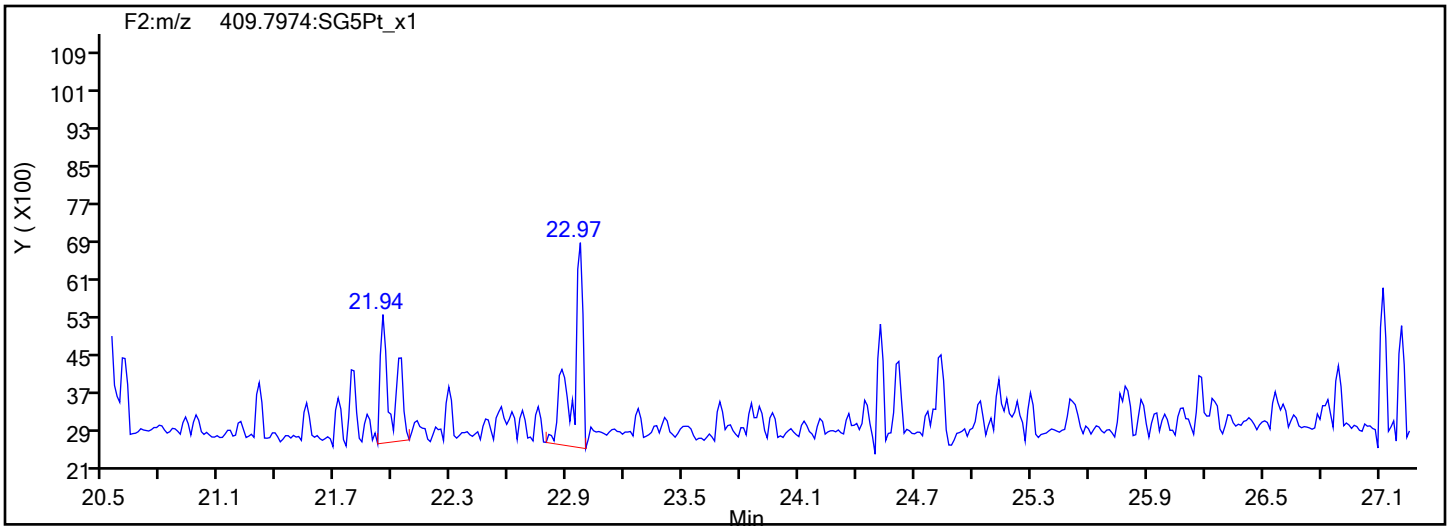

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Eurofins TestAmerica, Sacramento

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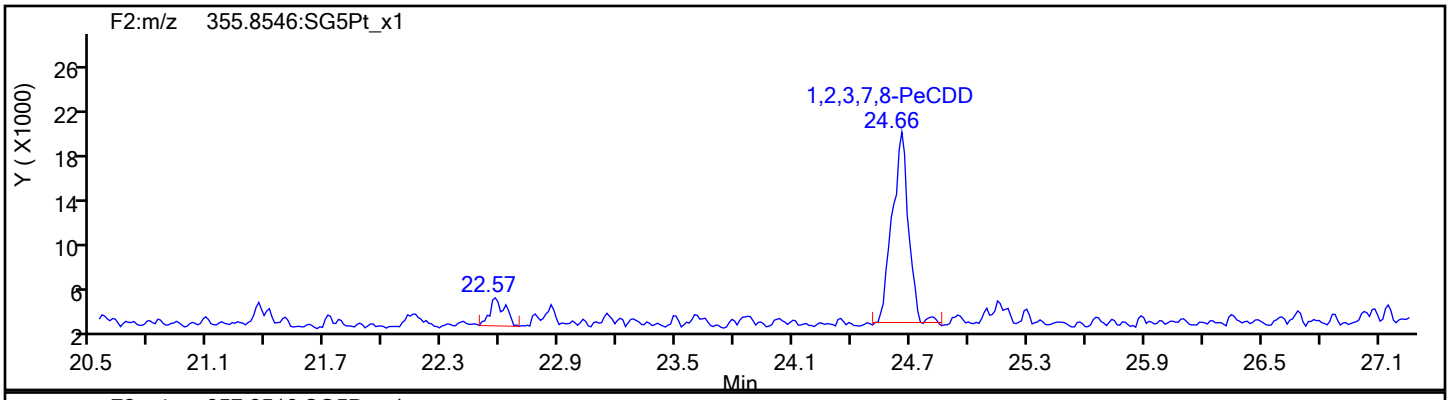

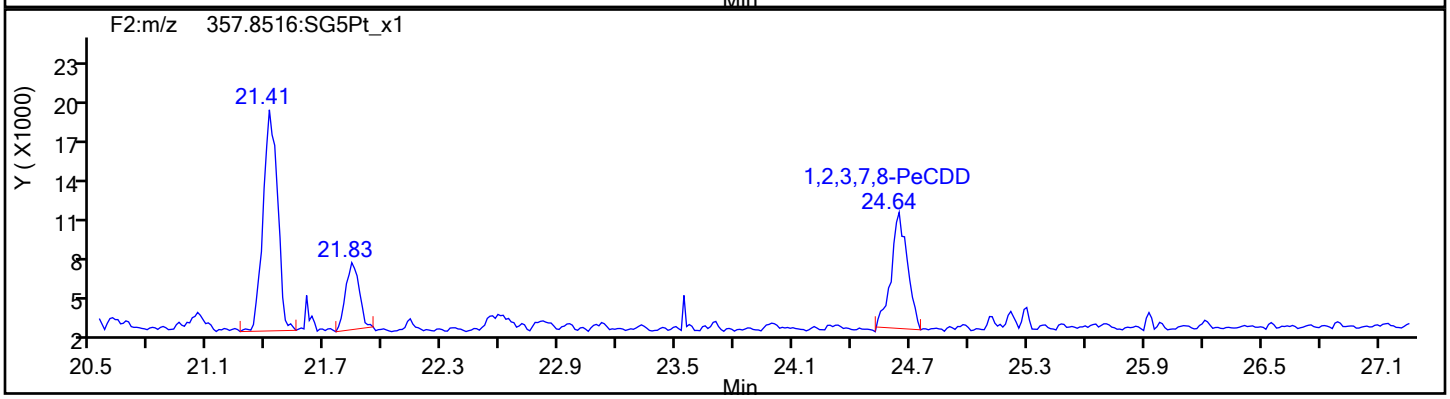

PeCDD Standards

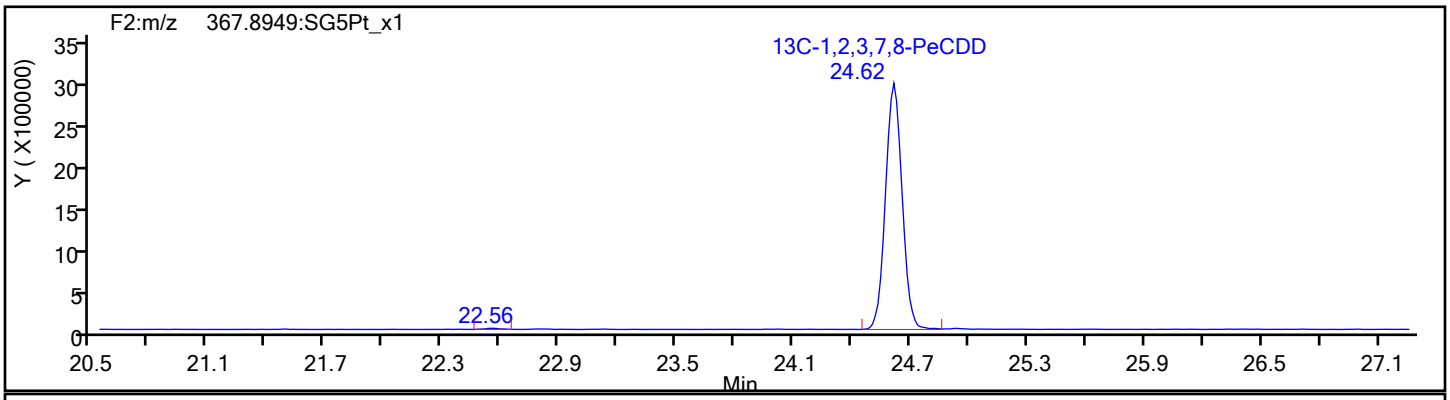

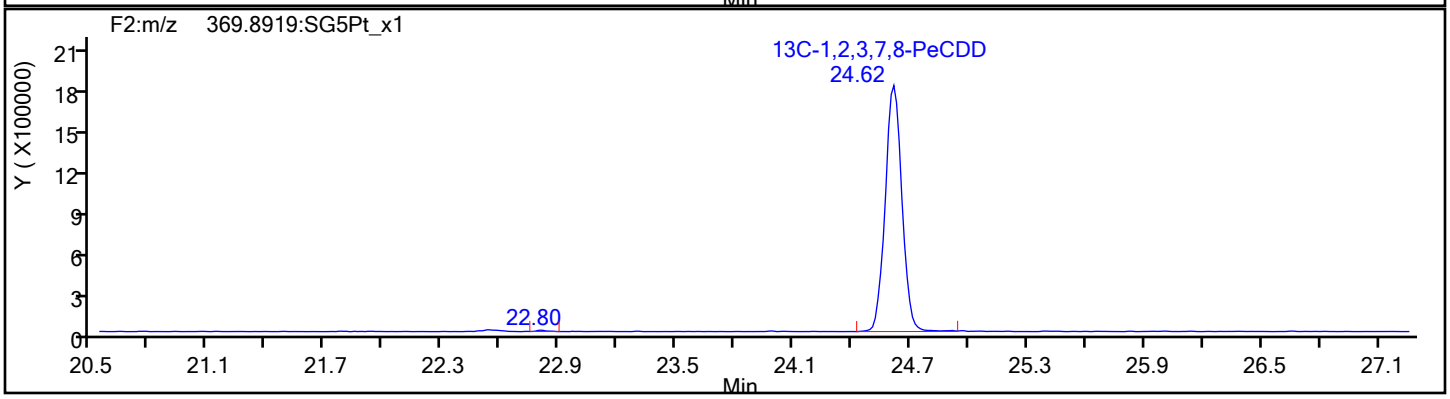

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Eurofins TestAmerica, Sacramento

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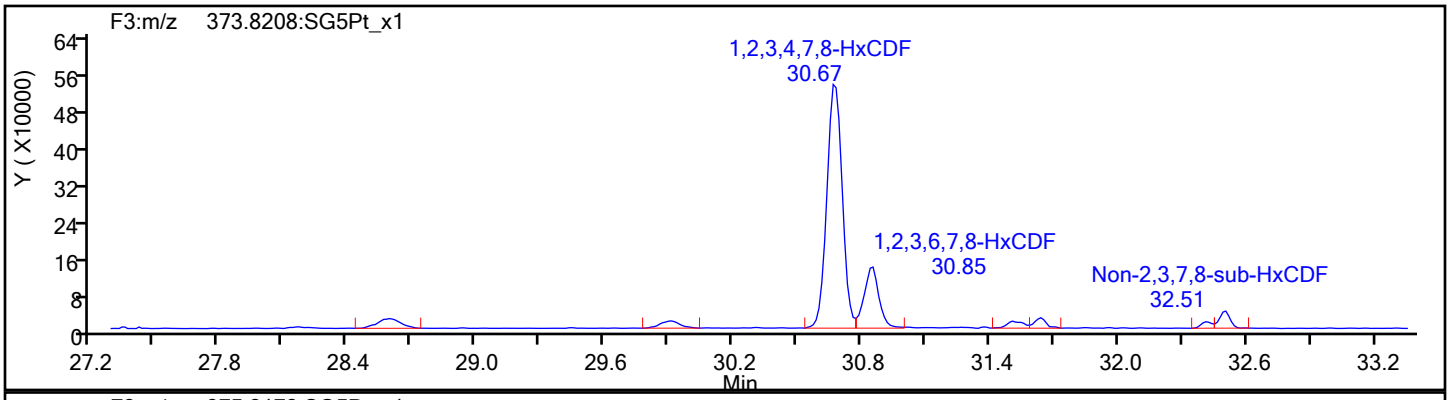

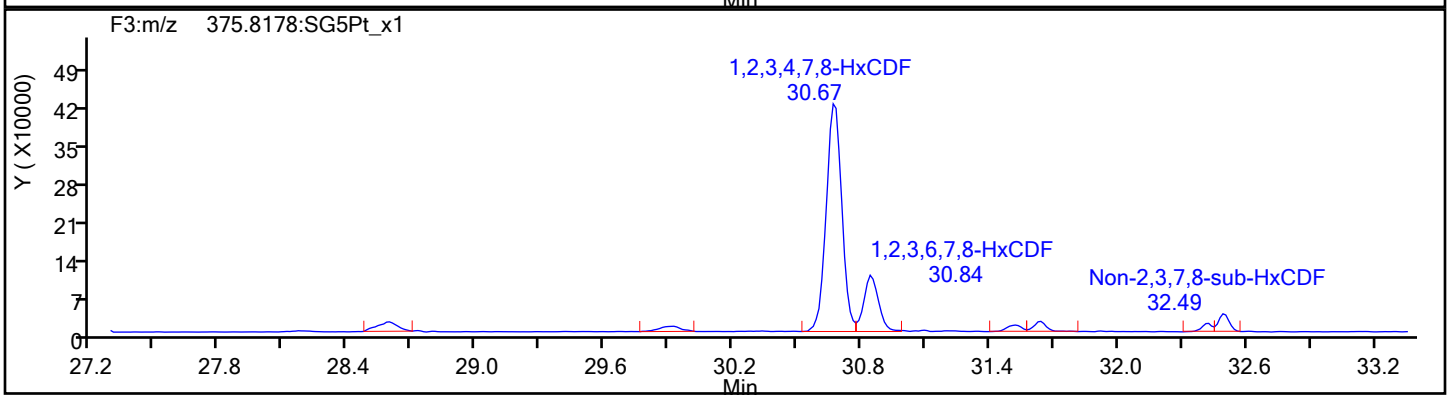

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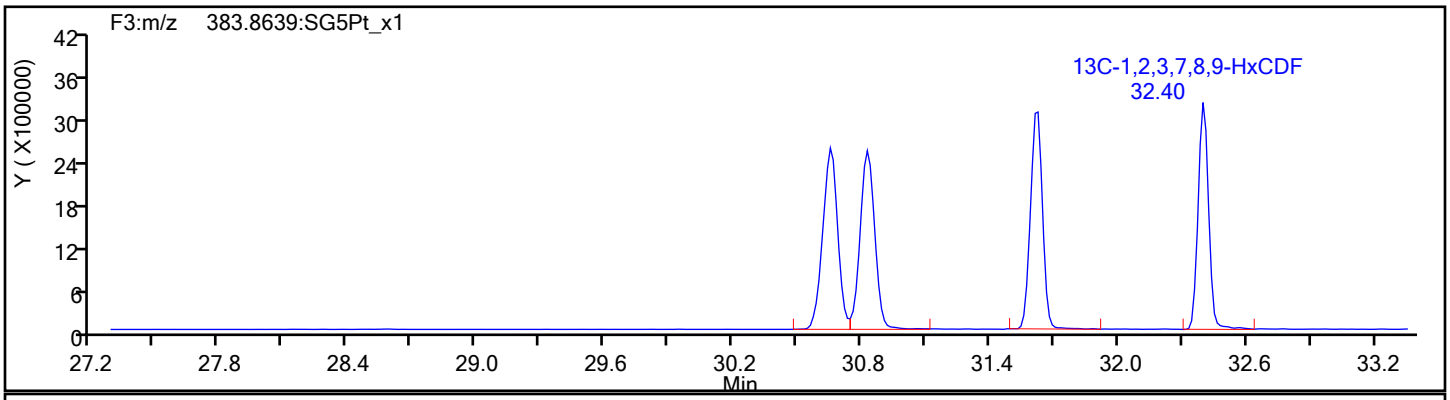

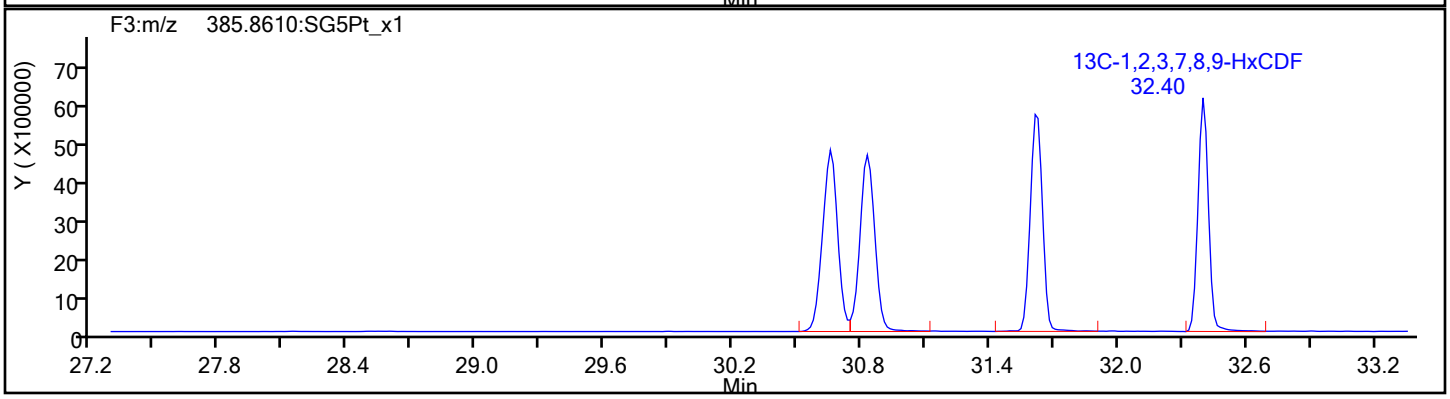

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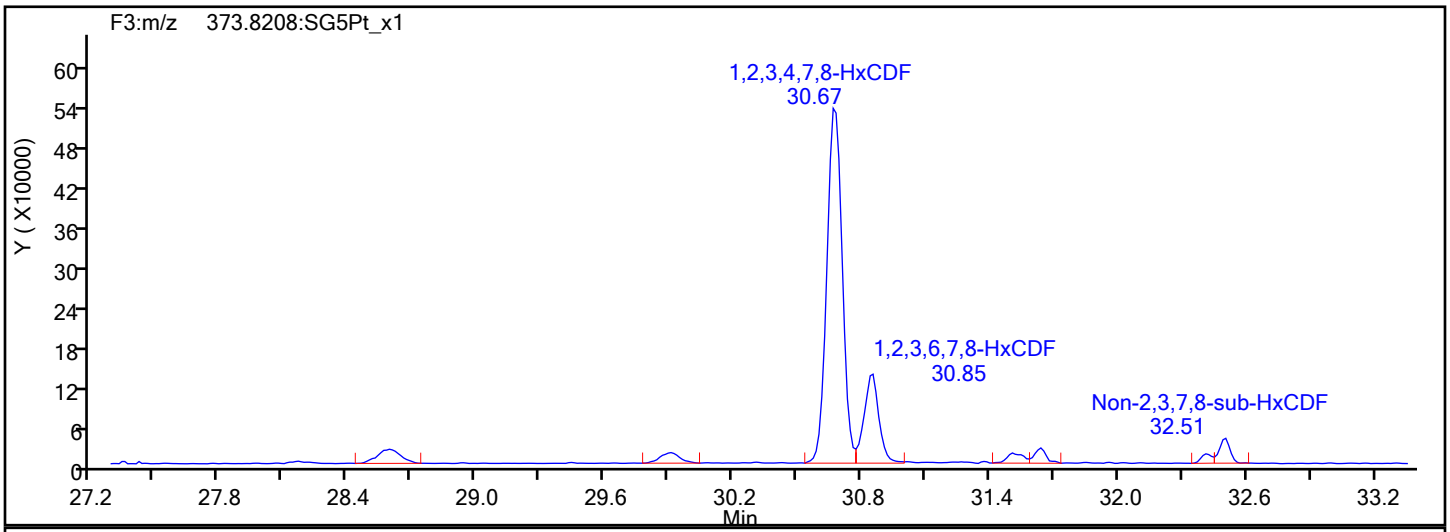

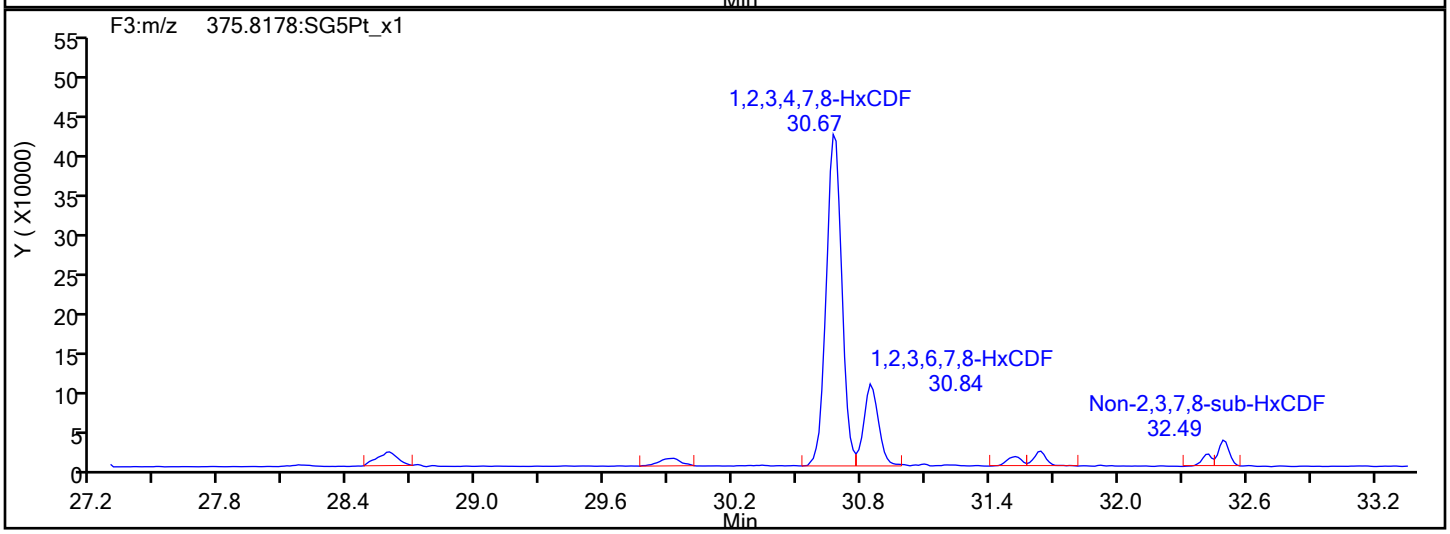

HxCDF Interference Mass

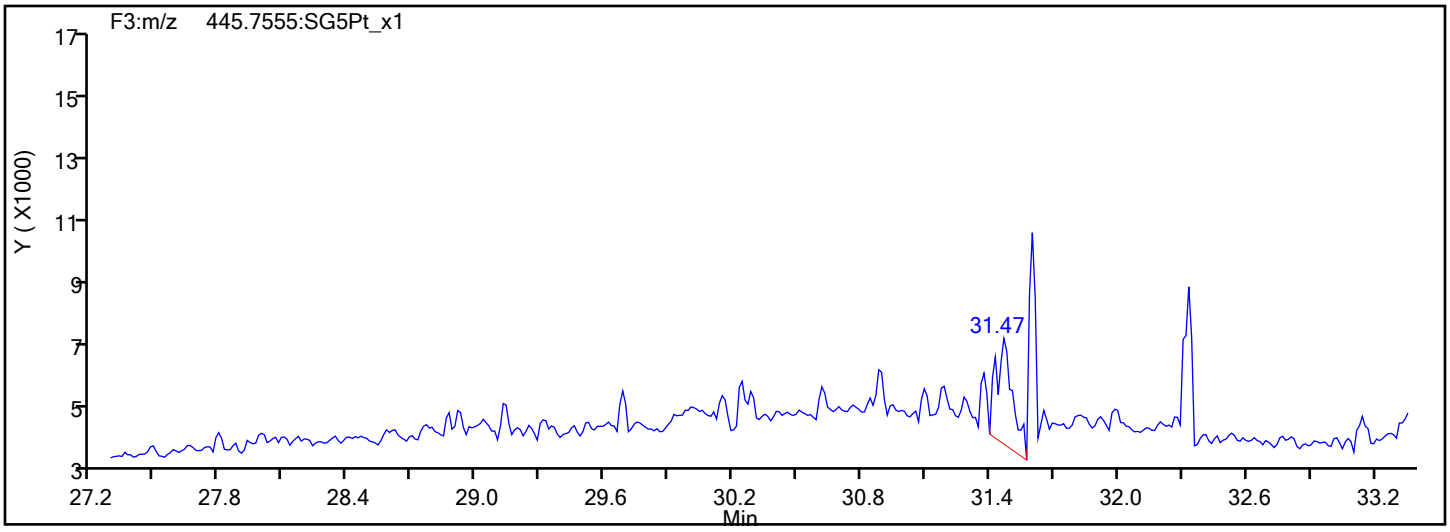

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Eurofins TestAmerica, Sacramento

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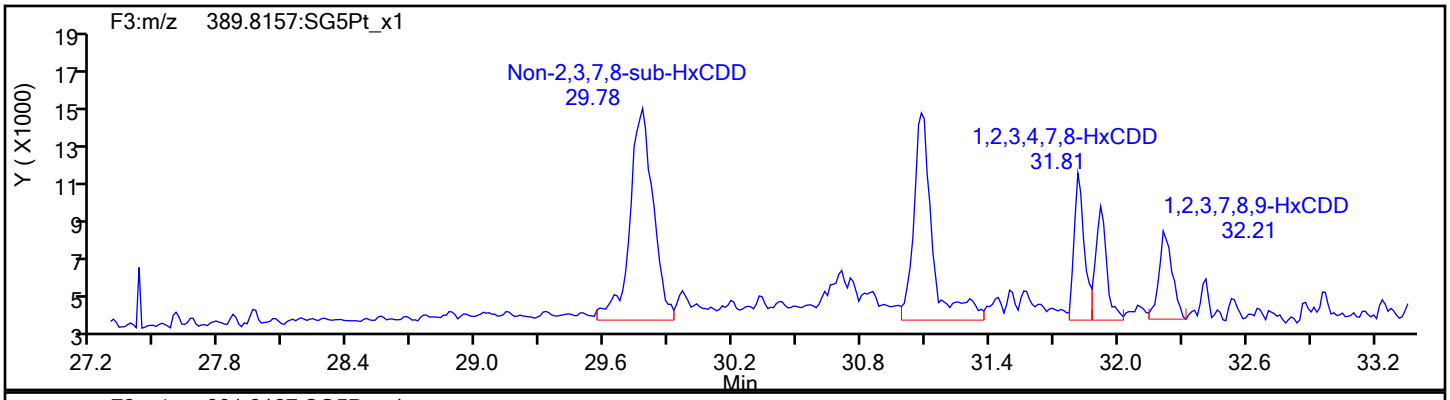

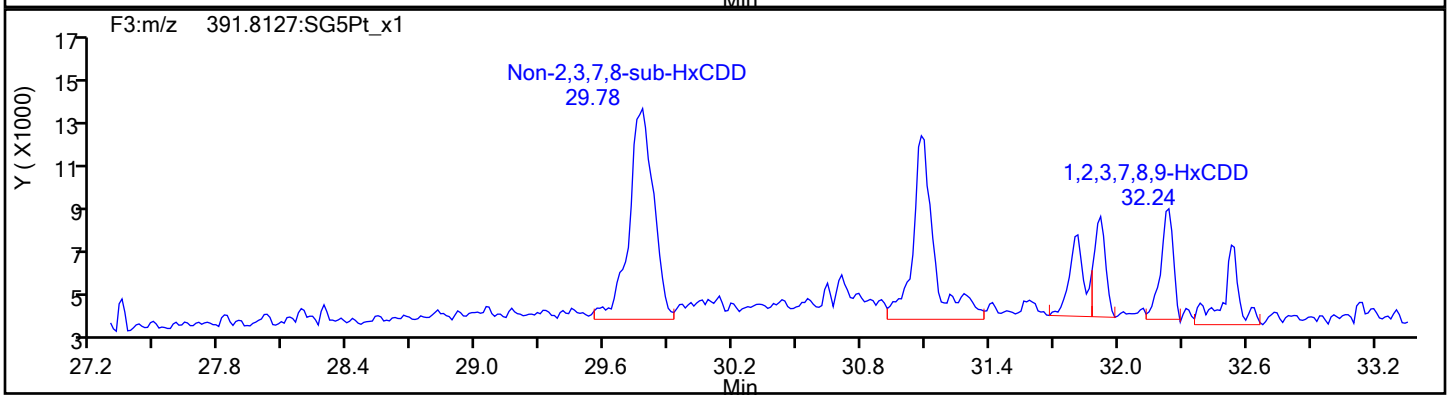

HxCDD Standards

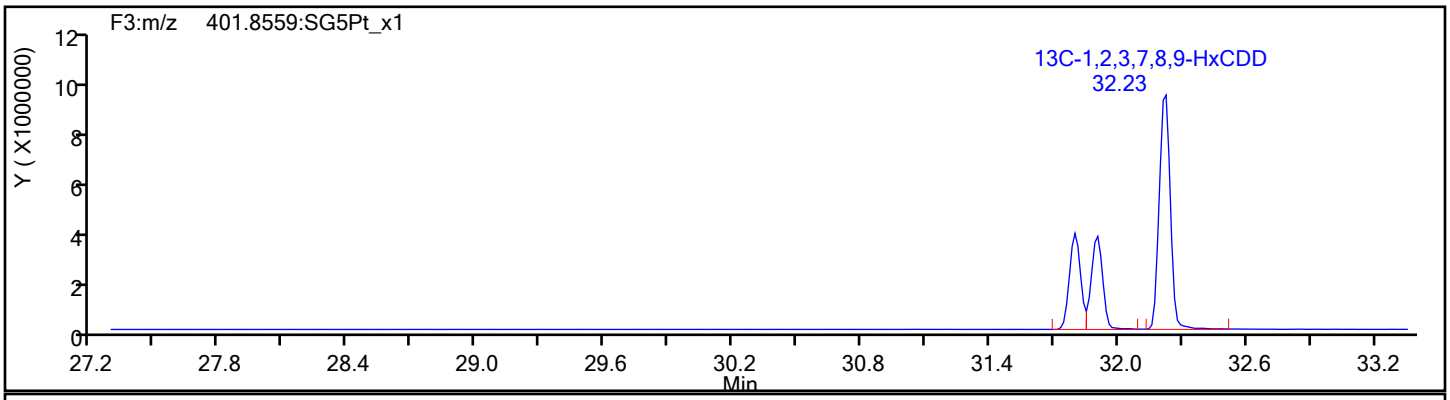

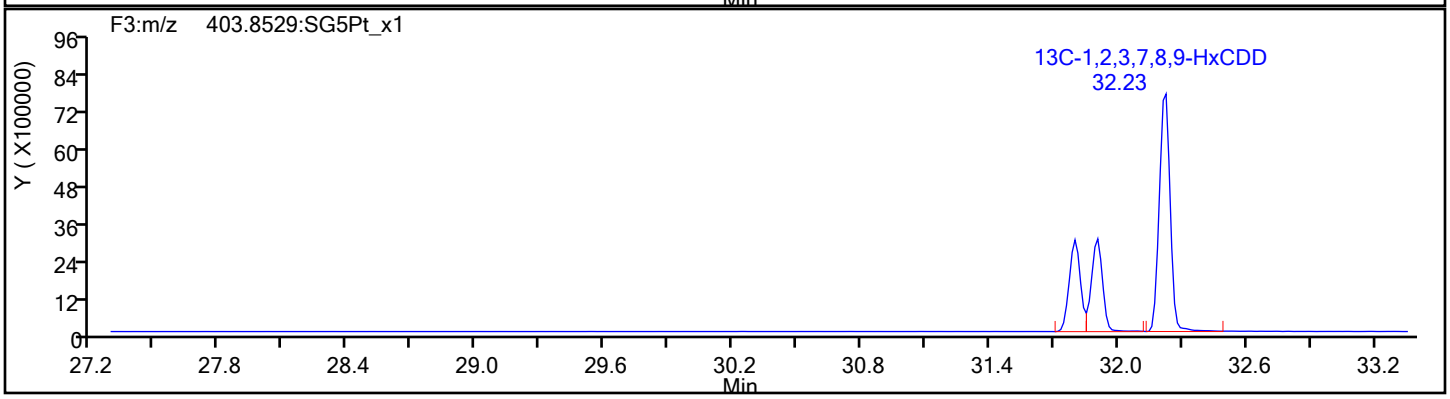

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Eurofins TestAmerica, Sacramento

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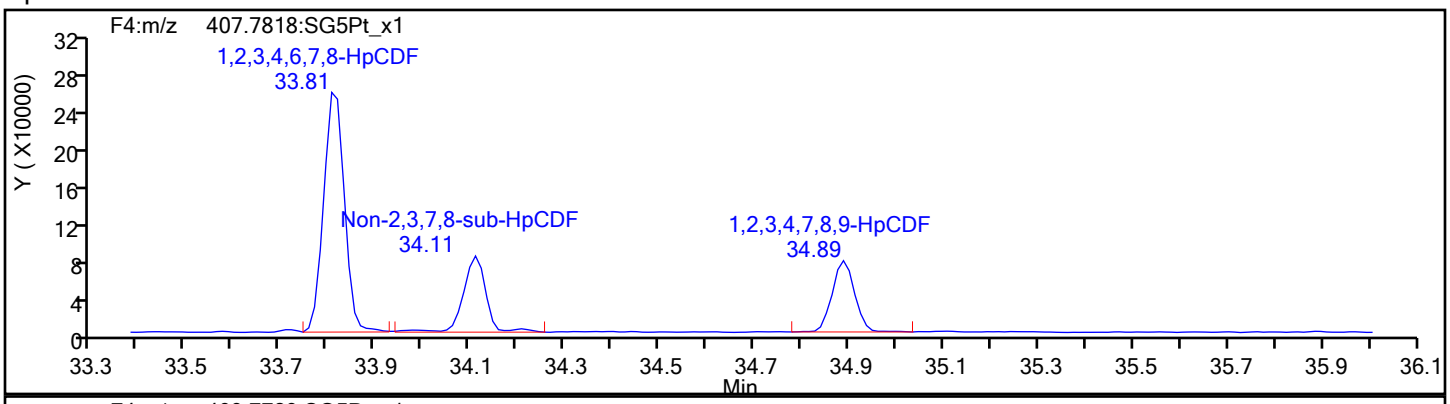

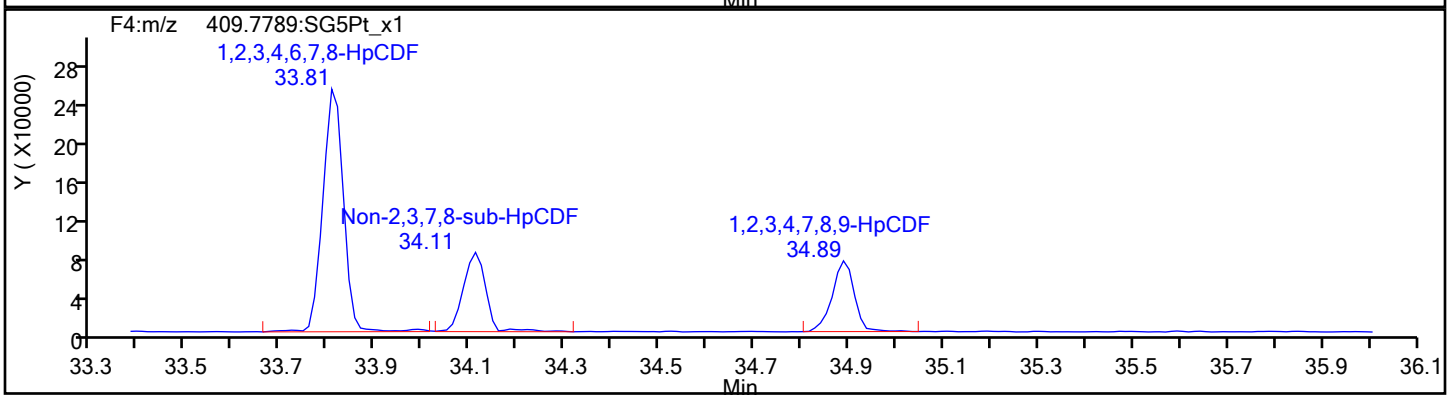

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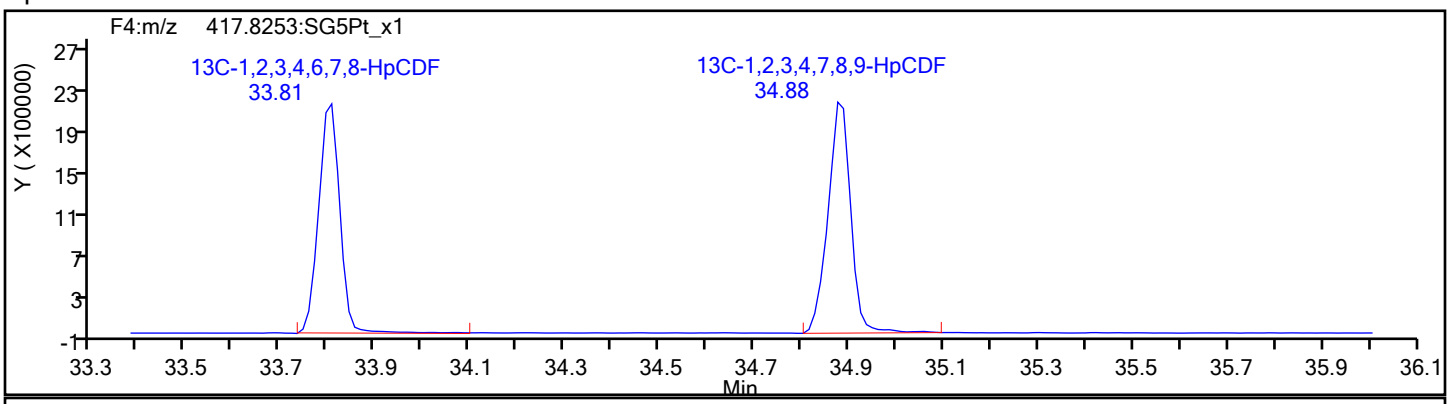

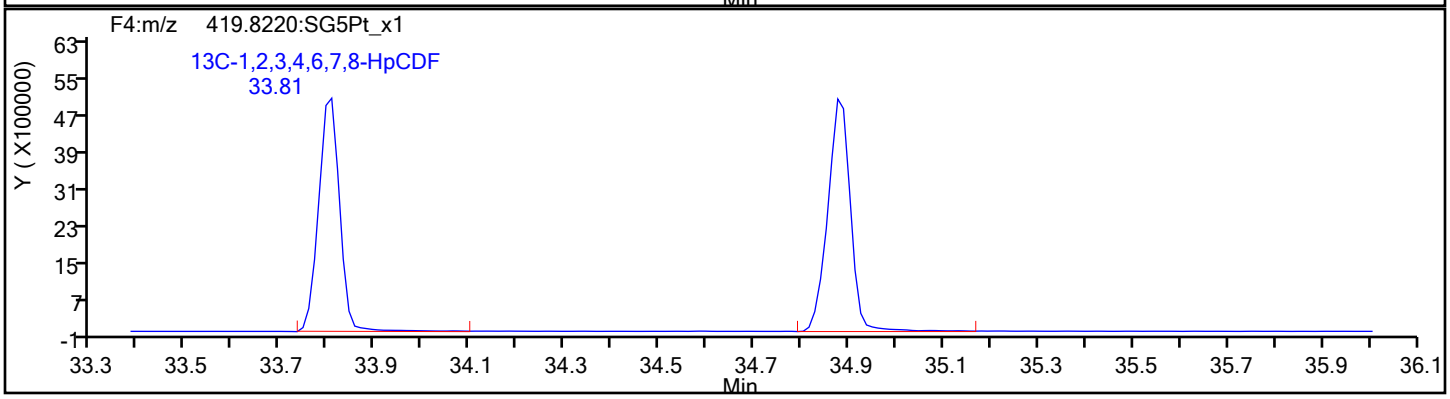

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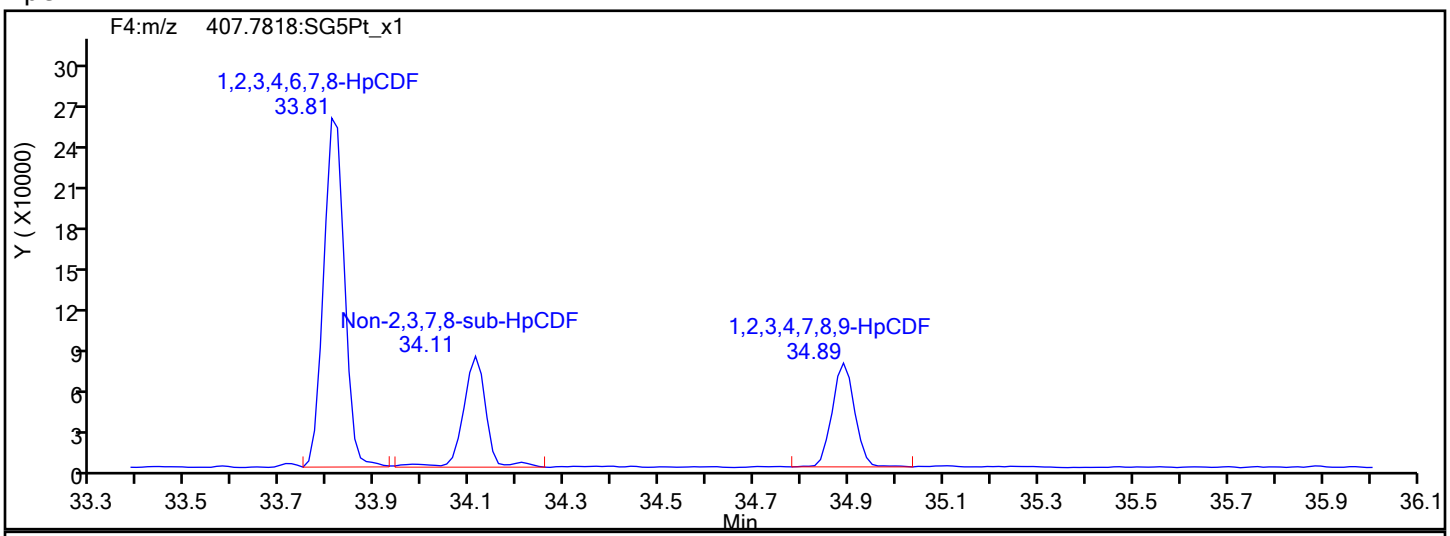

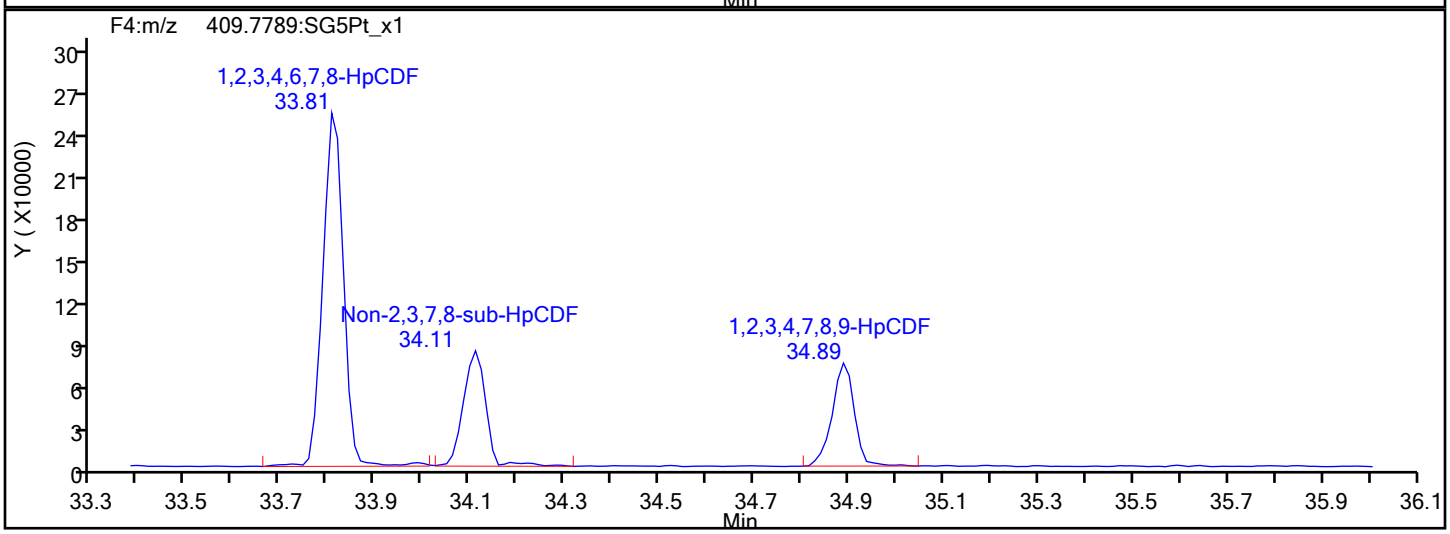

HpCDF Interference Mass

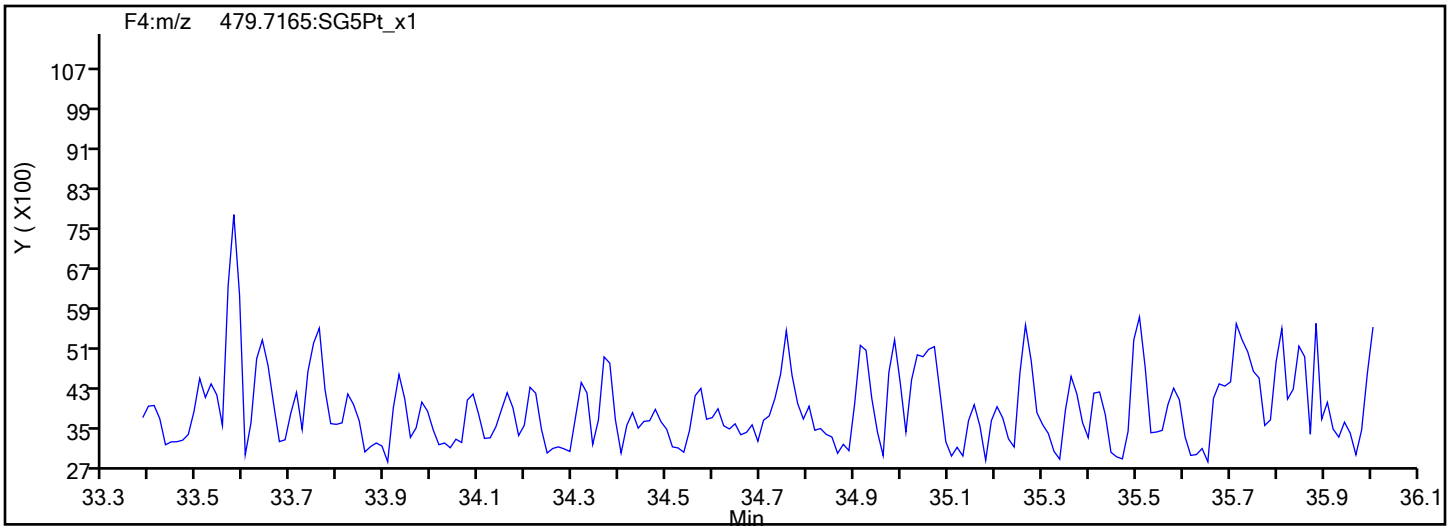

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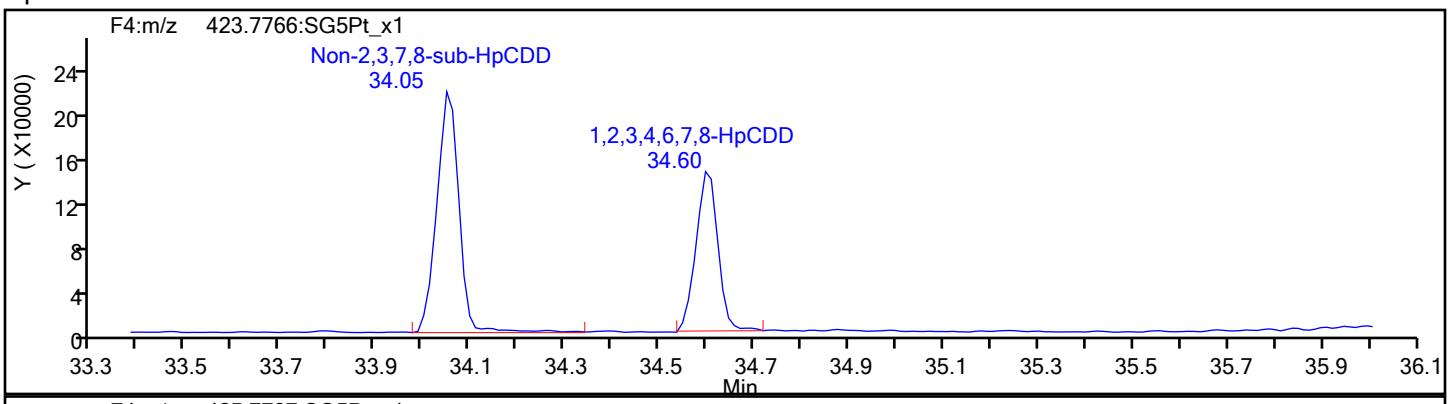

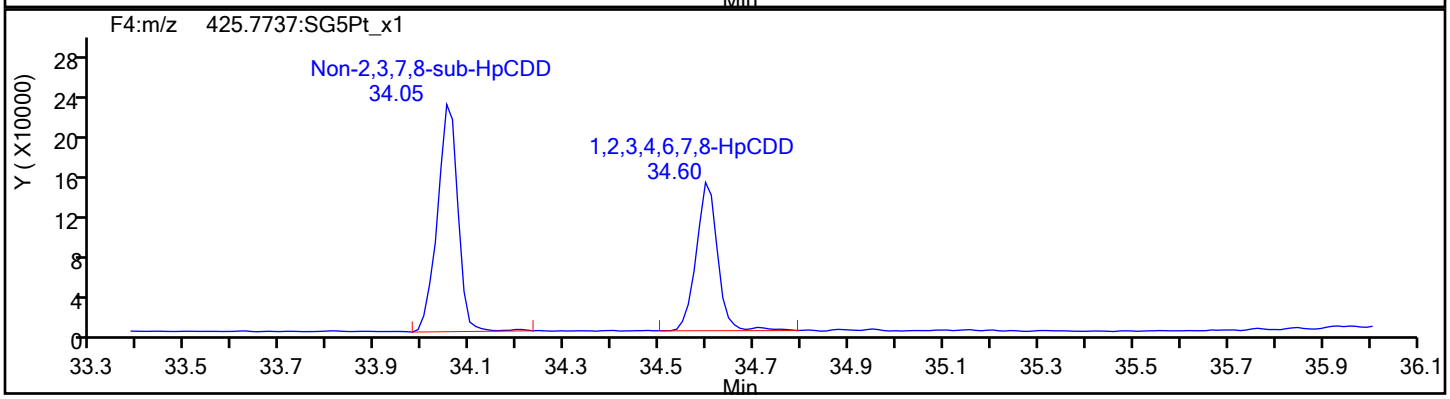

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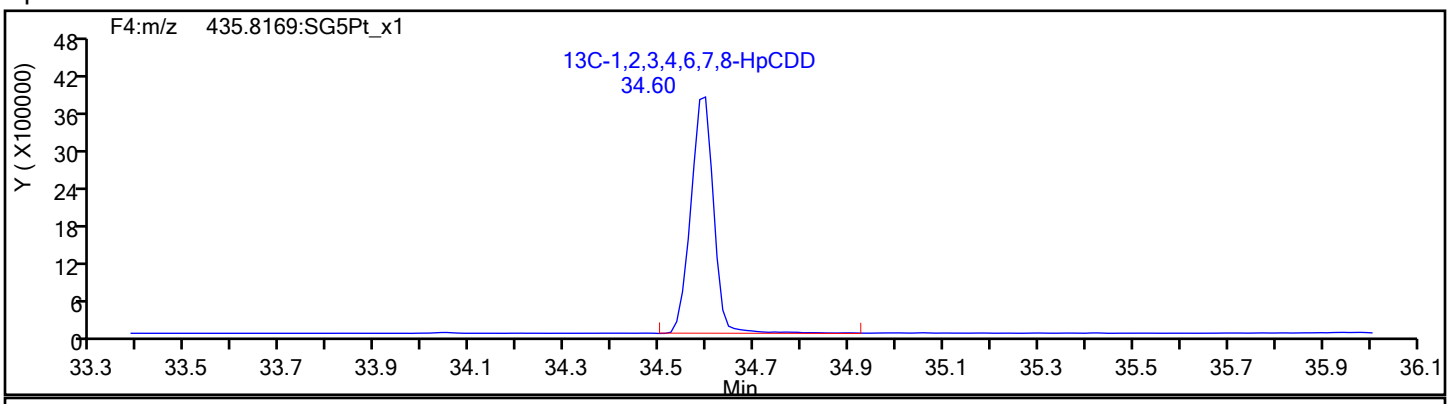

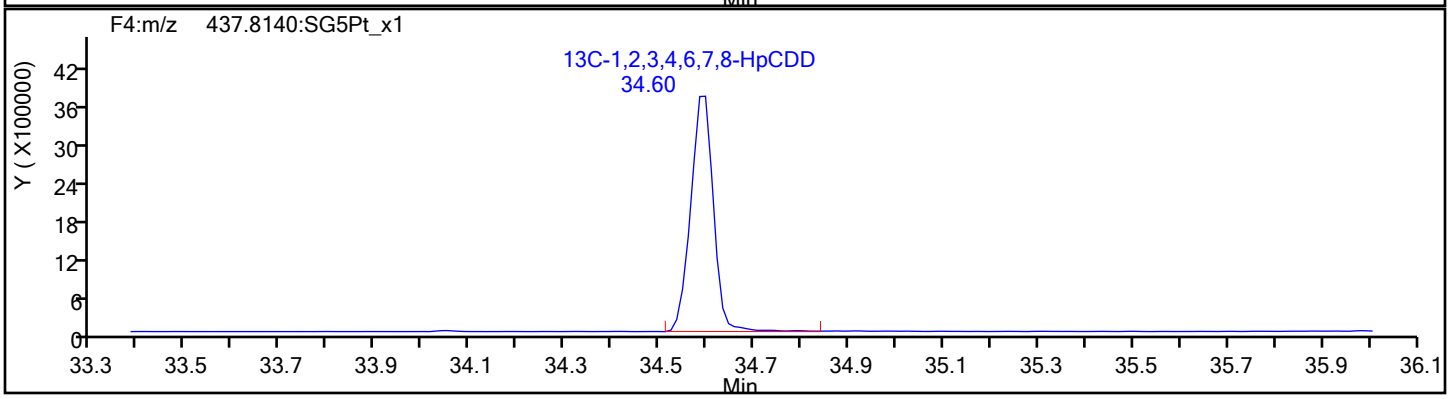

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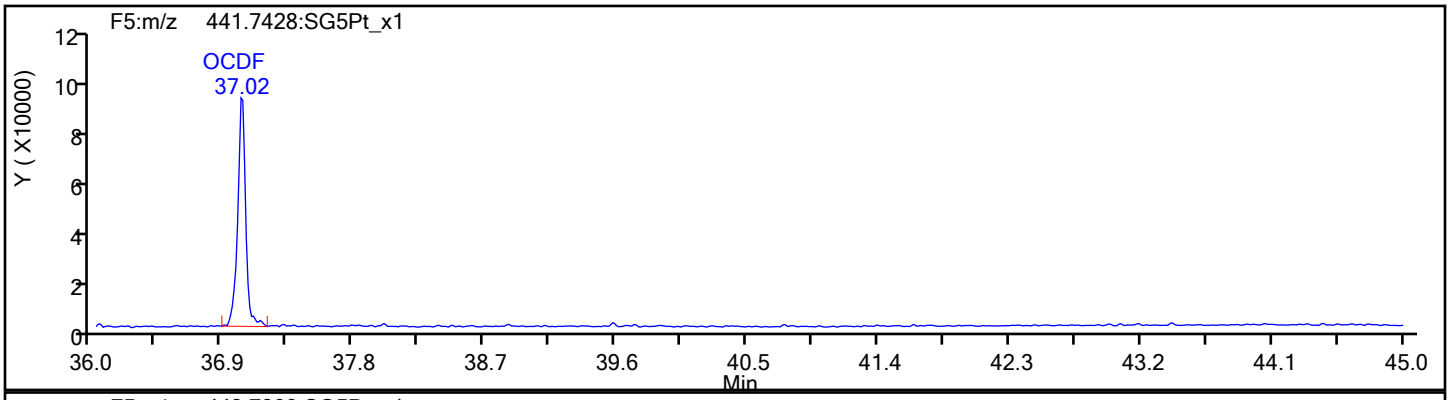

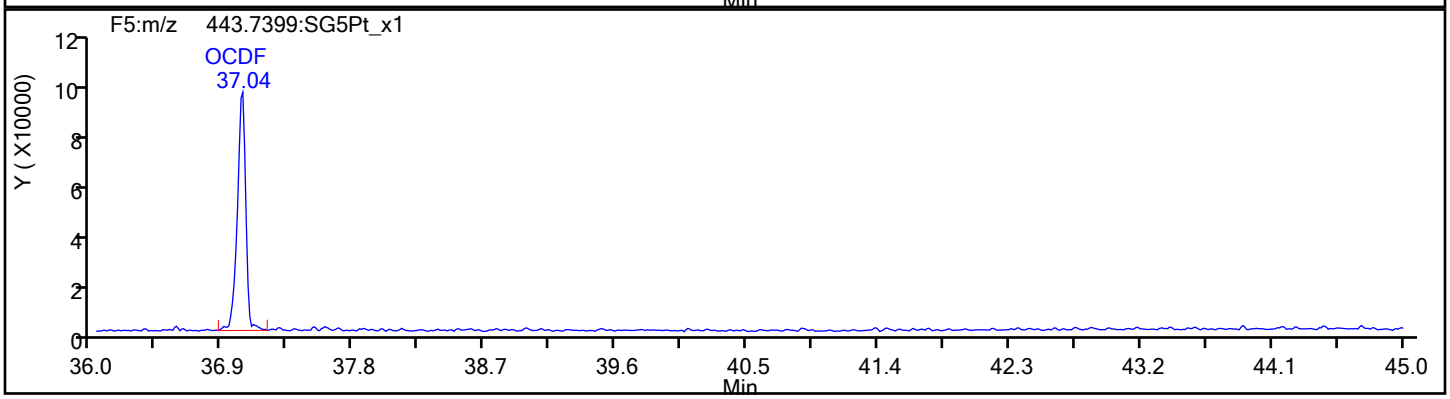

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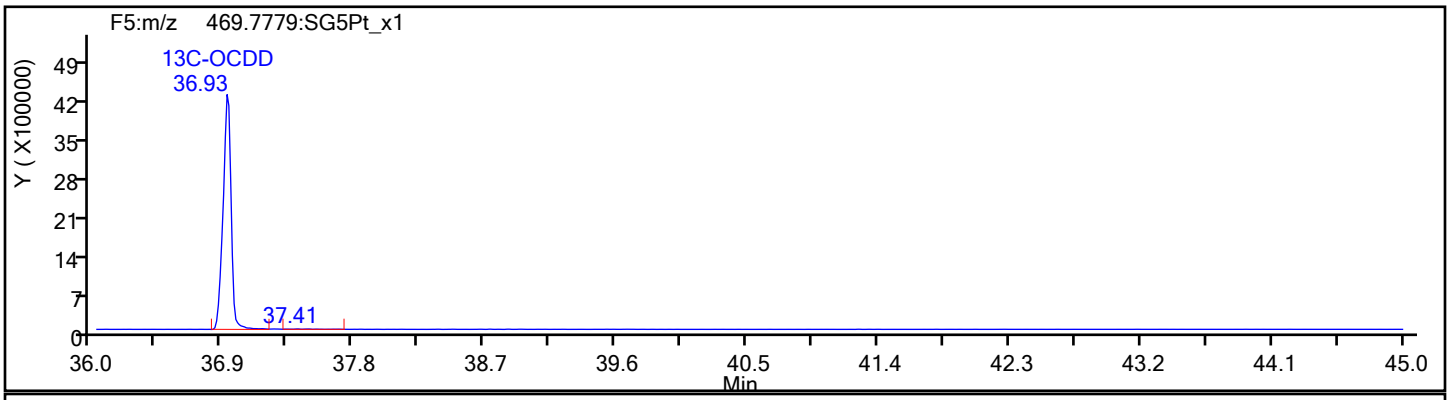

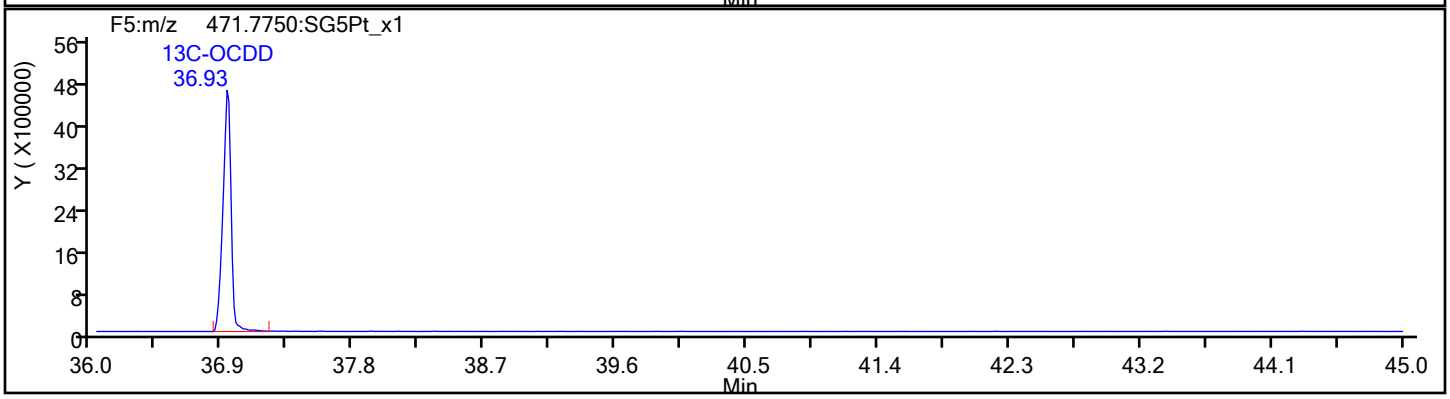

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Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

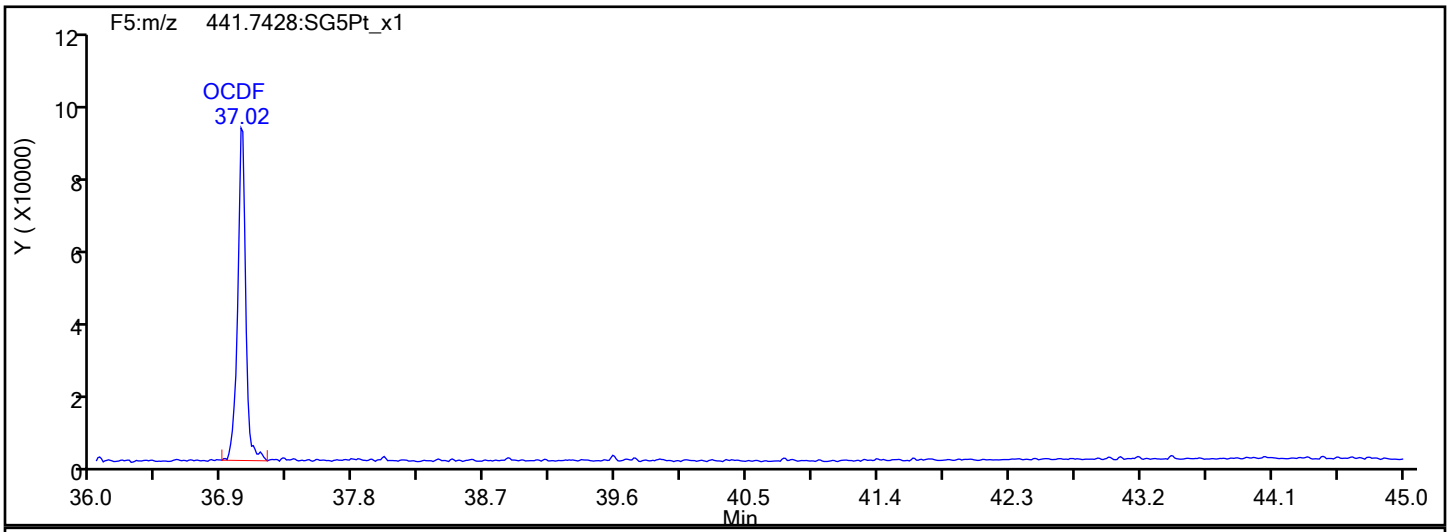

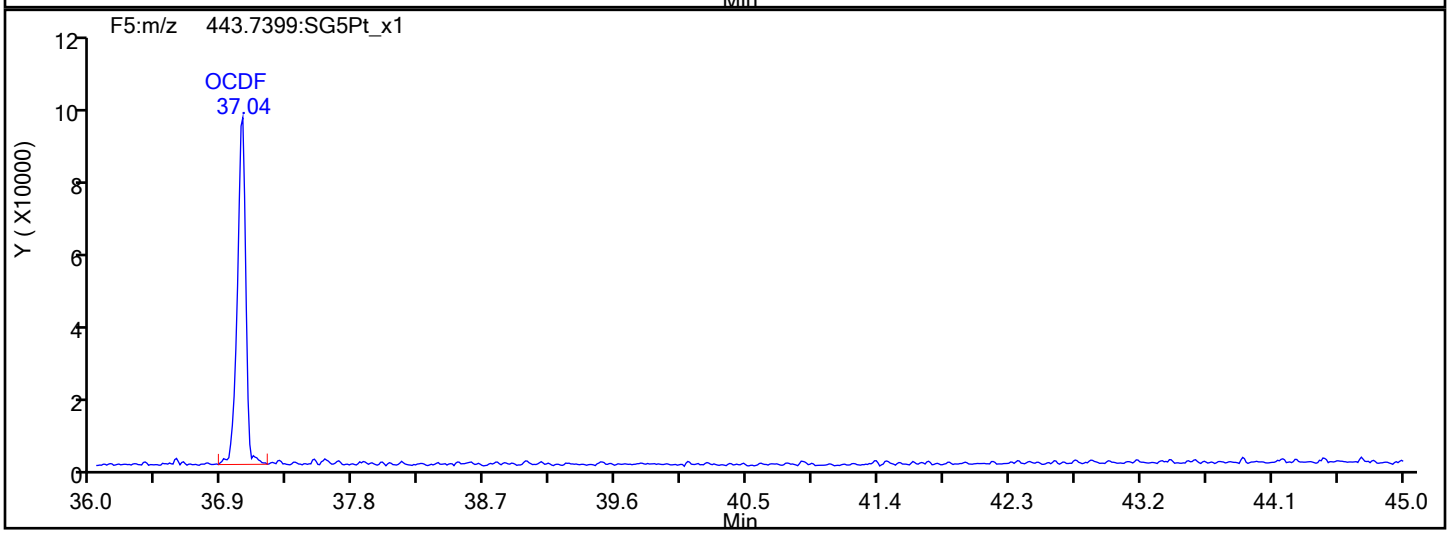

OCDF Interference Mass

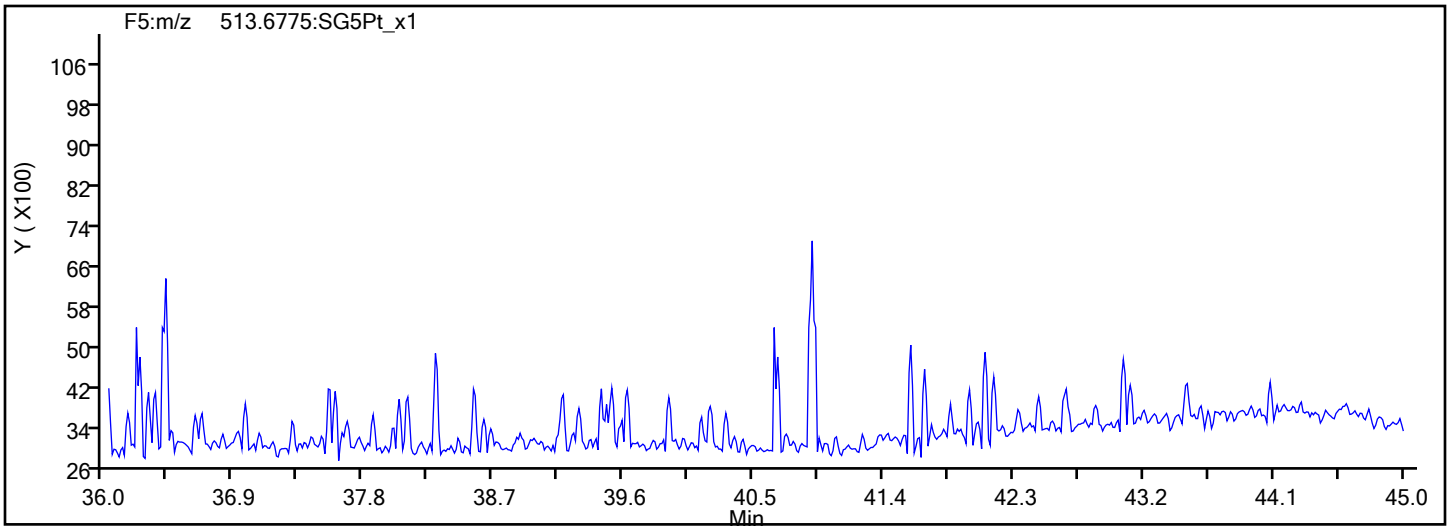

Report Date: 14-Oct-2019 14:42:02 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_17.d		
Injection Date:	11-Oct-2019 04:47:58	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-1		
Worklist#:	330148	Sample Line#:	17
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

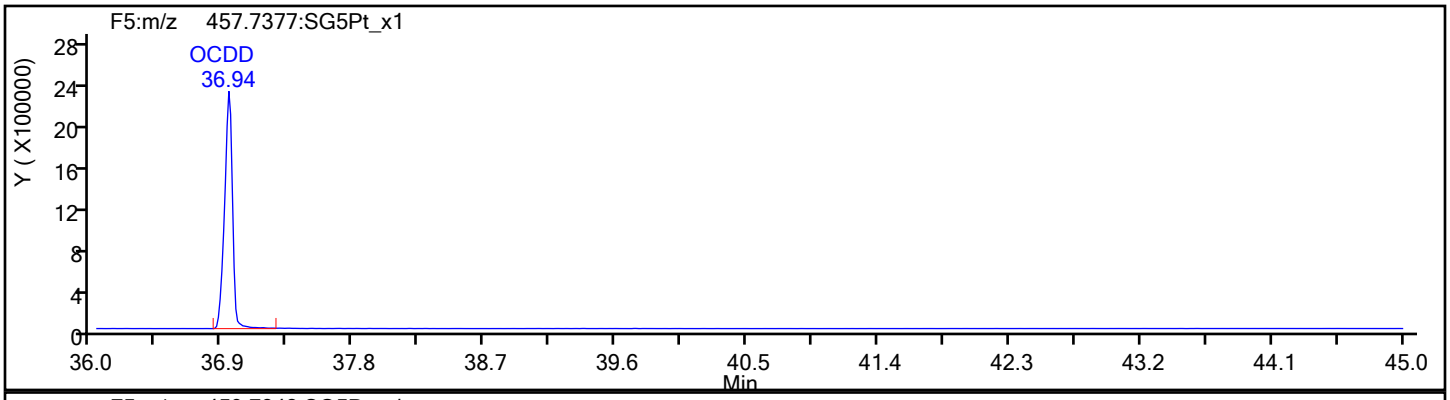

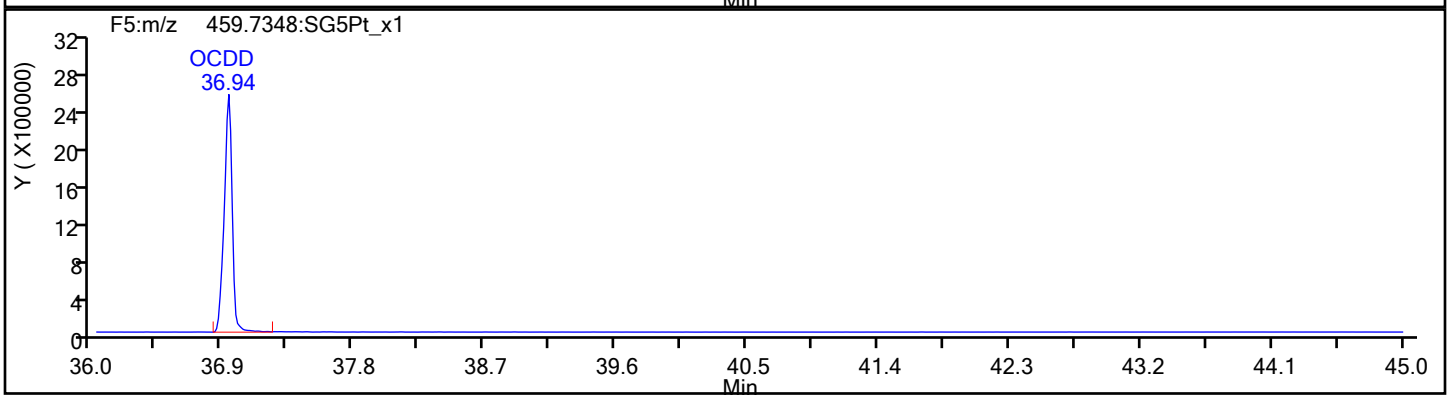

OCDD Standards

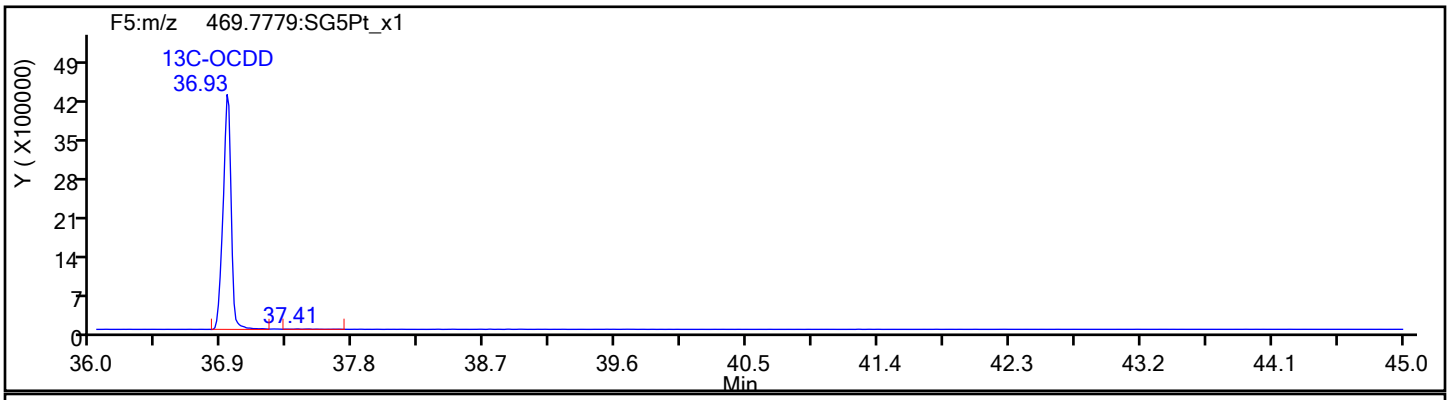

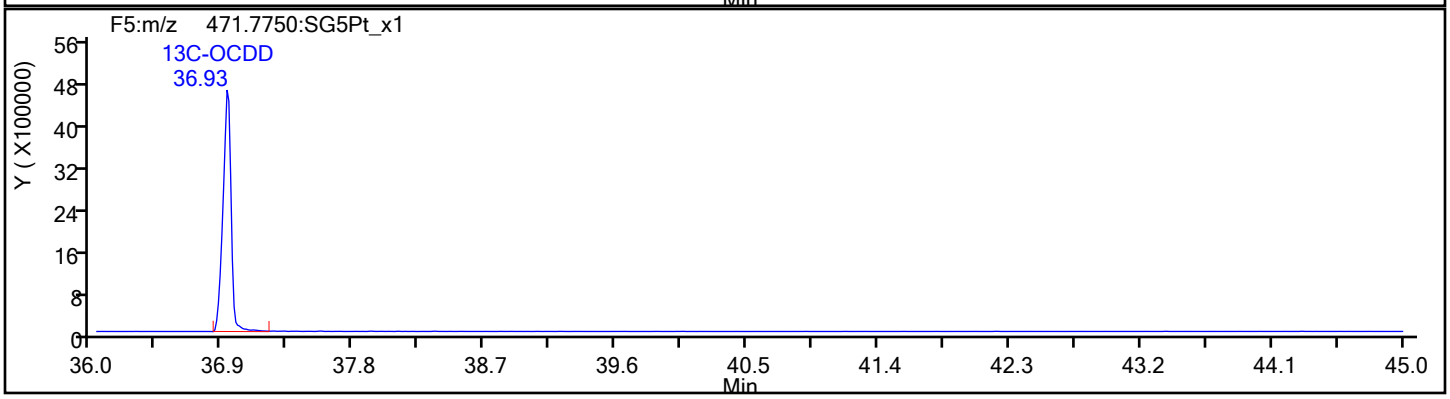

Report Date: 14-Oct-2019 14:42:02 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_17.d		
Injection Date:	11-Oct-2019 04:47:58	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-1		
Worklist#:	330148	Sample Line#:	17
Column Type:	DB-5	Column Dia:	0.32 mm

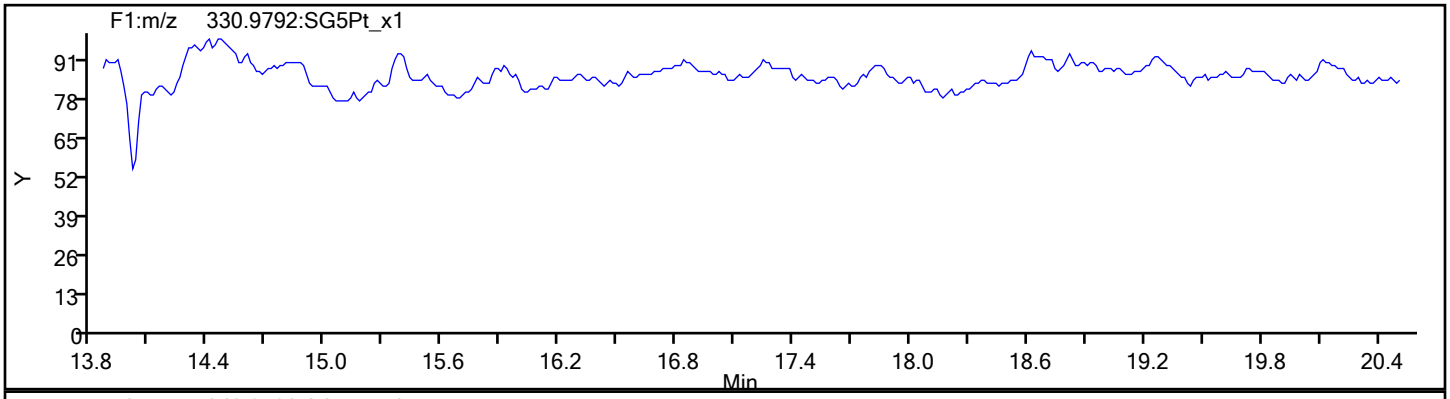

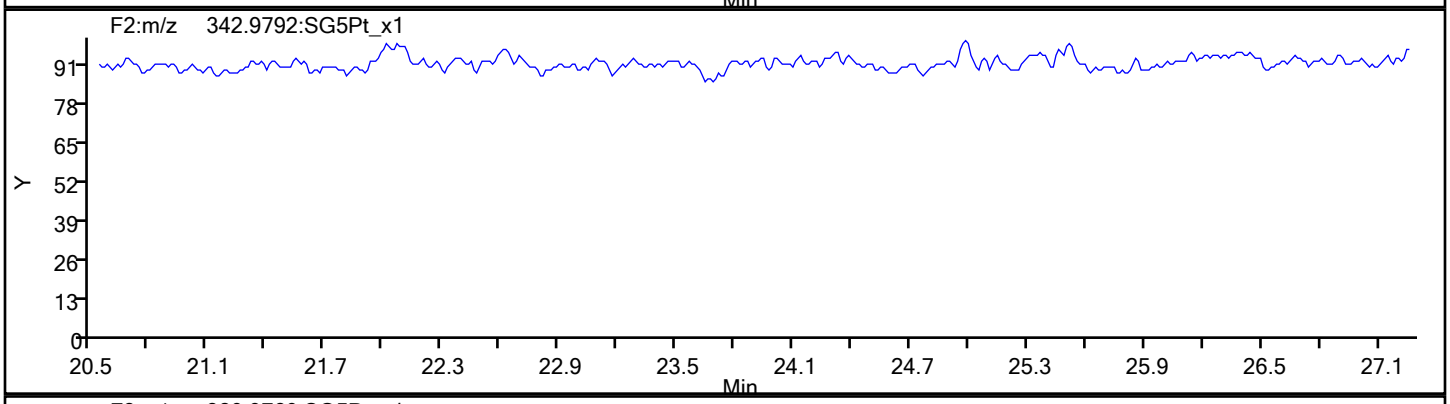

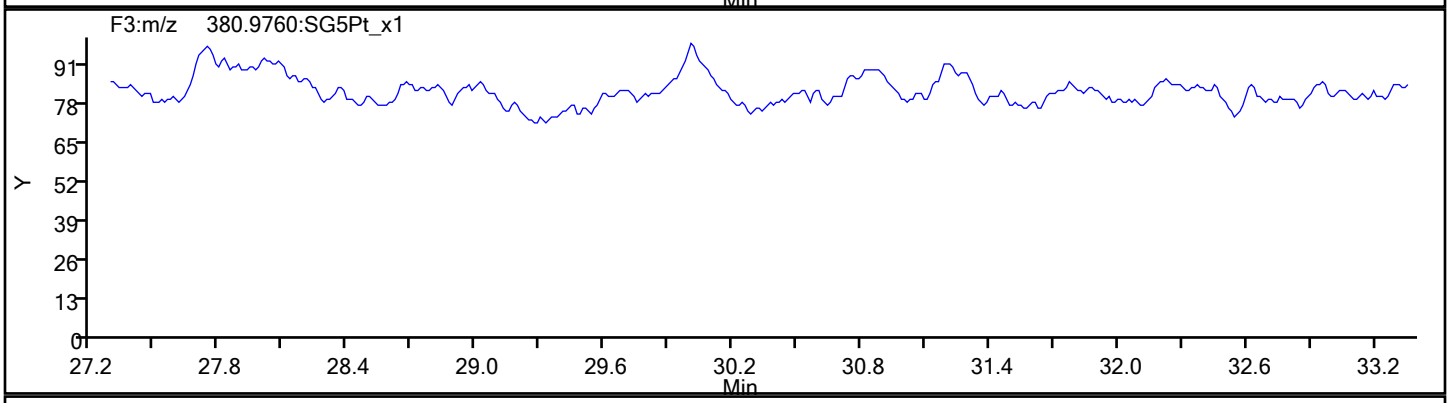

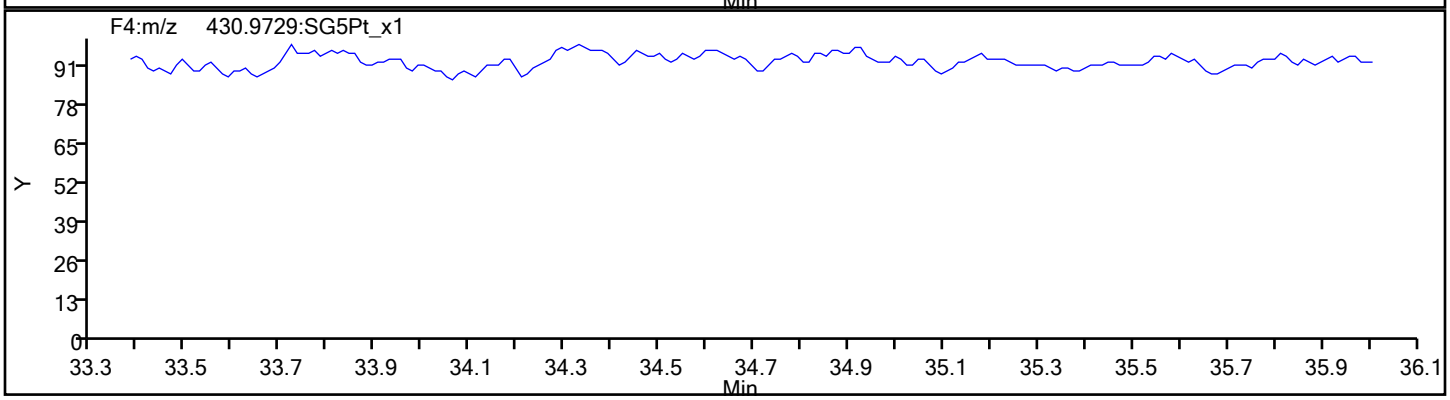

Report Date: 14-Oct-2019 14:42:02 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_17.d		
Injection Date:	11-Oct-2019 04:47:58	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-1		
Worklist#:	330148	Sample Line#:	17
Column Type:	DB-5	Column Dia:	0.32 mm

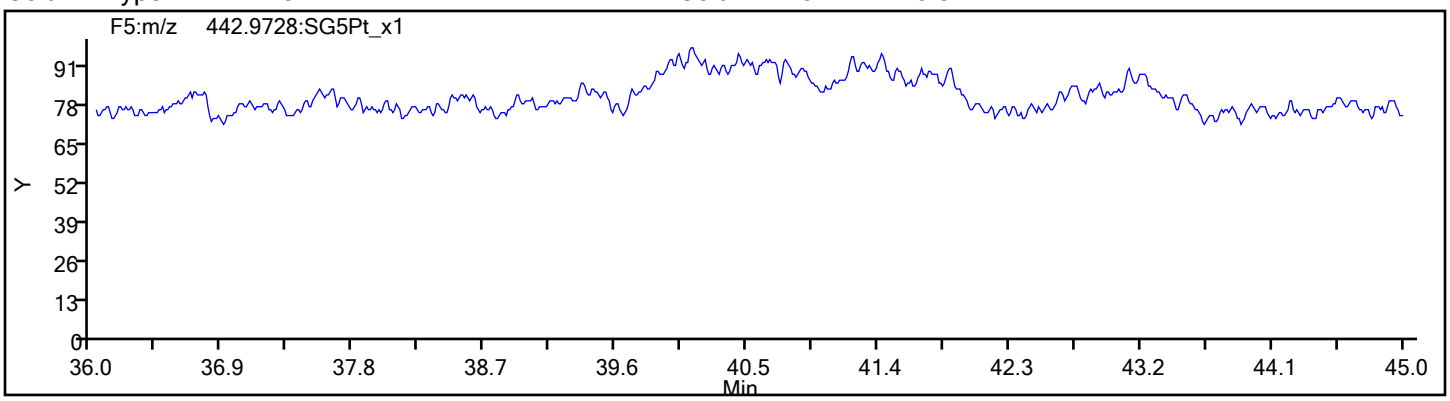

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Client Sample ID: 11187072-Filter Test-1 RA Lab Sample ID: 320-54852-1 RA

Matrix: Water Lab File ID: 11OC19A11D2_005.d

Analysis Method: 1613B Date Collected: 09/30/2019 08:00

Extract. Method: 1613B Date Extracted: 10/08/2019 14:19

Sample wt/vol: 1049.9(mL) Date Analyzed: 10/11/2019 18:00

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 330473 Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
51207-31-9	2,3,7,8-TCDF	2500		9.5	5.3

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
89059-46-1	13C-2,3,7,8-TCDF	51		24-169

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	89		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20191011-84792.b\11OC19A11D2_005.d
Lims ID: 320-54852-A-1-A
Client ID: 11187072-Filter Test-1
Sample Type: Client
Inject. Date: 11-Oct-2019 18:00:46 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-54852-A-1-A
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20191011-84792.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 11-Oct-2019 20:29:48 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0305

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.272	72709768	0.79	1.1E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.438	49585435	0.78	1.3379	51.0	51.0	0.3852	0.3852	50.97	
2,3,7,8-TCDF	16.465	54063540	0.80	0.8389	130.0	130.0	0.2794	0.2794		
D 13C-2,3,7,8-TCDD	15.038	30930423	0.77	0.9388	45.3	45.3	1.805	1.805	45.31	
2,3,7,8-TCDD	15.052	15928383	0.77	1.1538	44.6	44.6	0.2386	0.2386		
$ 37Cl4-2,3,7,8-TCDD	15.052	30585526		1.1816	35.6	35.6	0.0772	0.0772	89.00	
S Total 2378-Chlorinated							0.000100	0.000100		

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20191011-84792.b\11OC19A11D2_005.d
Lims ID: 320-54852-A-1-A
Client ID: 11187072-Filter Test-1
Sample Type: Client
Inject. Date: 11-Oct-2019 18:00:46 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-54852-A-1-A
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20191011-84792.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 11-Oct-2019 20:29:48 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0305

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.272	15.269	0		32025567	7154996	50671	126677	141		
333.9339	15.272	15.269	0		40684201	9213435	60285	150712	153	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.438	16.435	0	1.076	21768357	4250032	17744	44360	240		
317.9389	16.451	16.435	1	1.077	27817078	5286931	16000	40000	330	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.465	16.449	1	1.002	23961142	4751573	3919	9797	1212		
305.8987	16.465	16.449	1	1.002	30102398	5983053	5023	12557	1191	0.80(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.038	15.036	0	0.985	13503596	3198469	50671	126677	63		
333.9339	15.038	15.036	0	0.985	17426827	4050978	60285	150712	67	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.052	15.050	0	1.001	6942230	1514908	4720	11800	321		
321.8936	15.052	15.050	0	1.001	8986153	1997423	3263	8157	612	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.052	15.050	0	0.986	30585526	6951376	5973	14932	1164		

Total 2378-Chlorinated Dioxins & Furans
0.0 0

Report Date: 11-Oct-2019 20:37:37 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191011-84792.b\11OC19A11D2_005.d		
Injection Date:	11-Oct-2019 18:00:46	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-1		
Worklist#:	330473	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

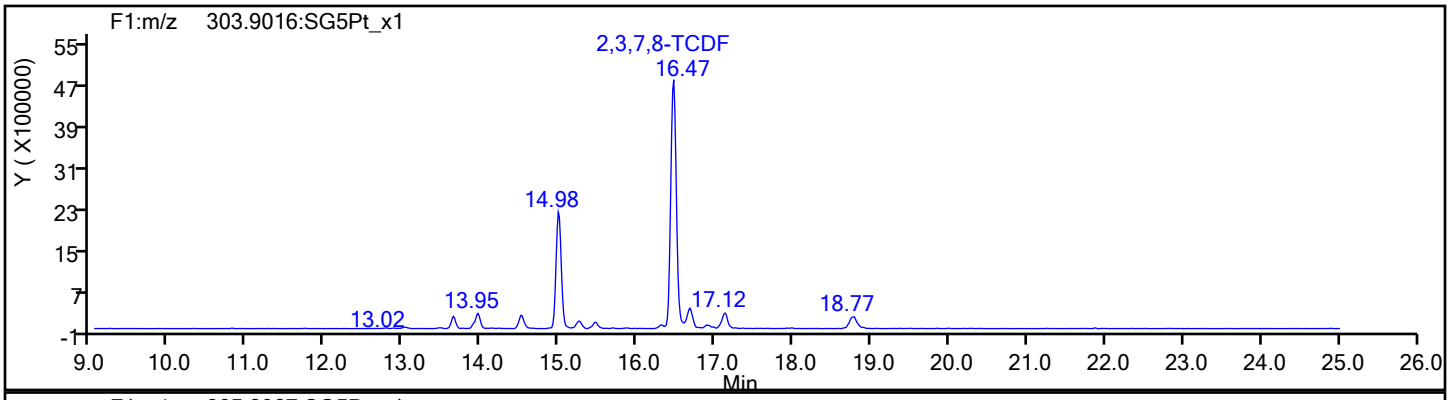

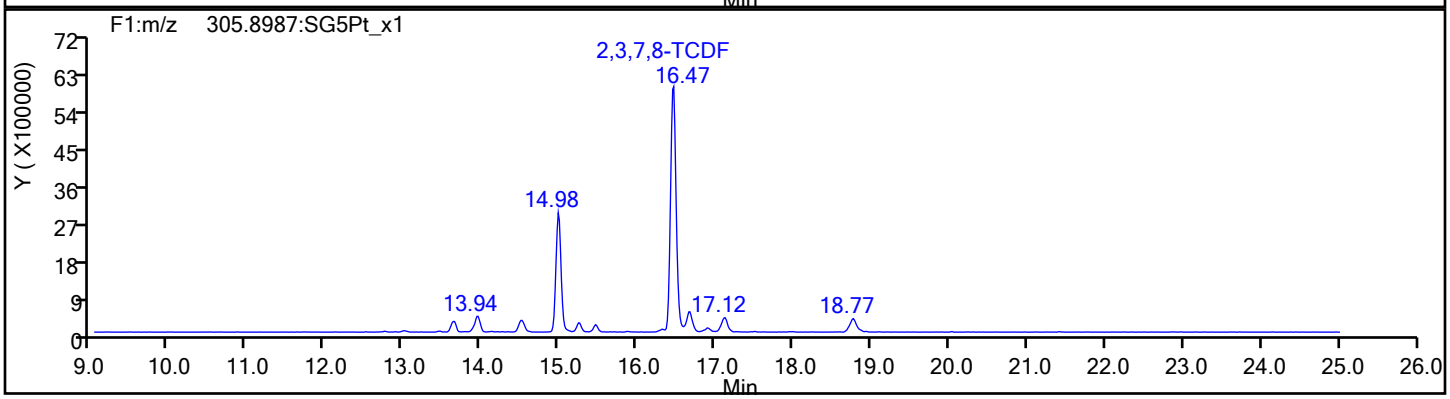

TCDF Standards

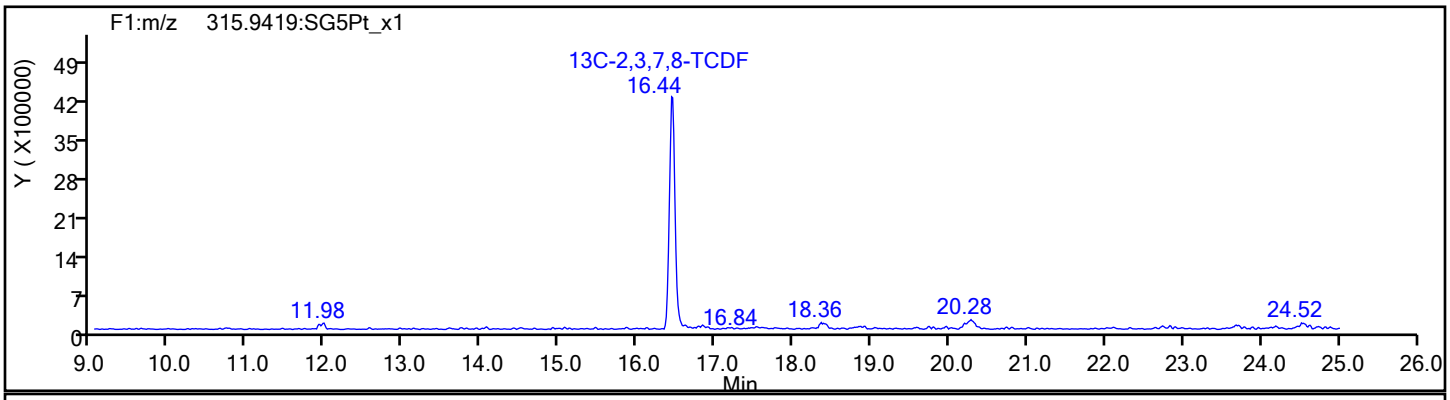

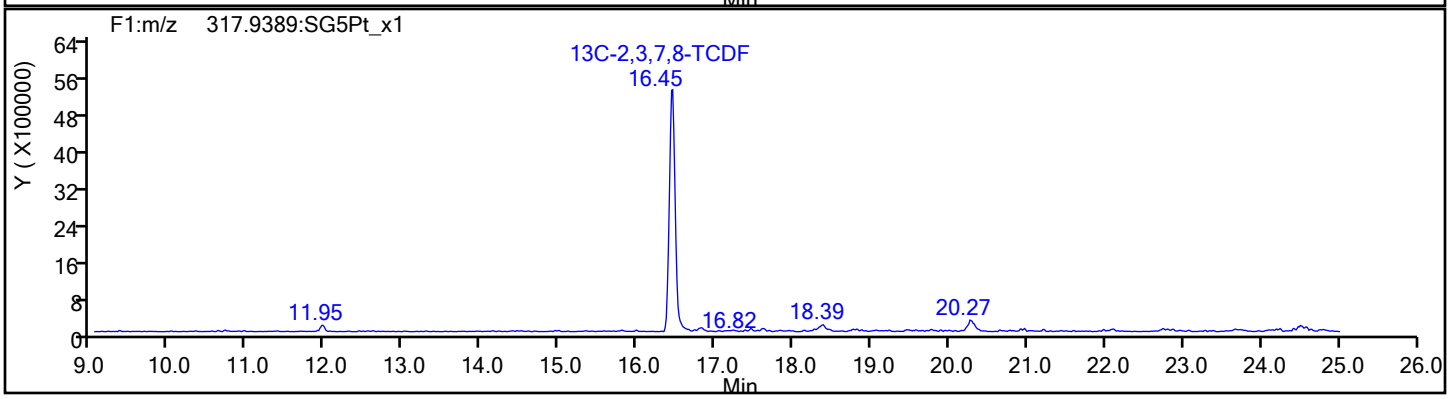

Report Date: 11-Oct-2019 20:37:37 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191011-84792.b\11OC19A11D2_005.d		
Injection Date:	11-Oct-2019 18:00:46	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-1		
Worklist#:	330473	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

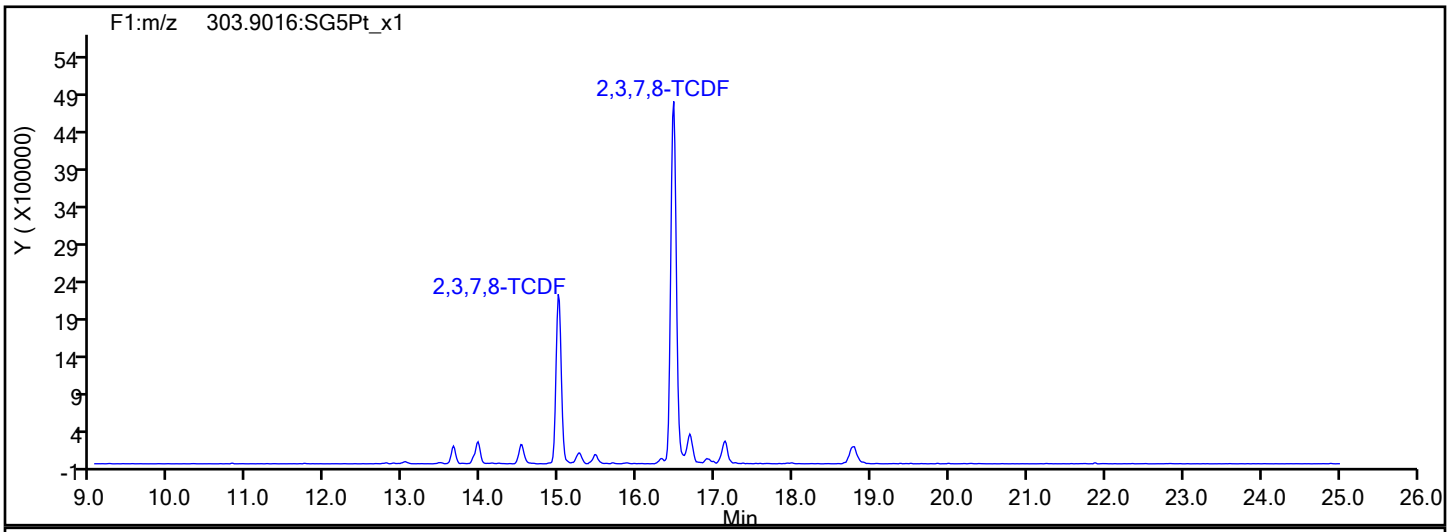

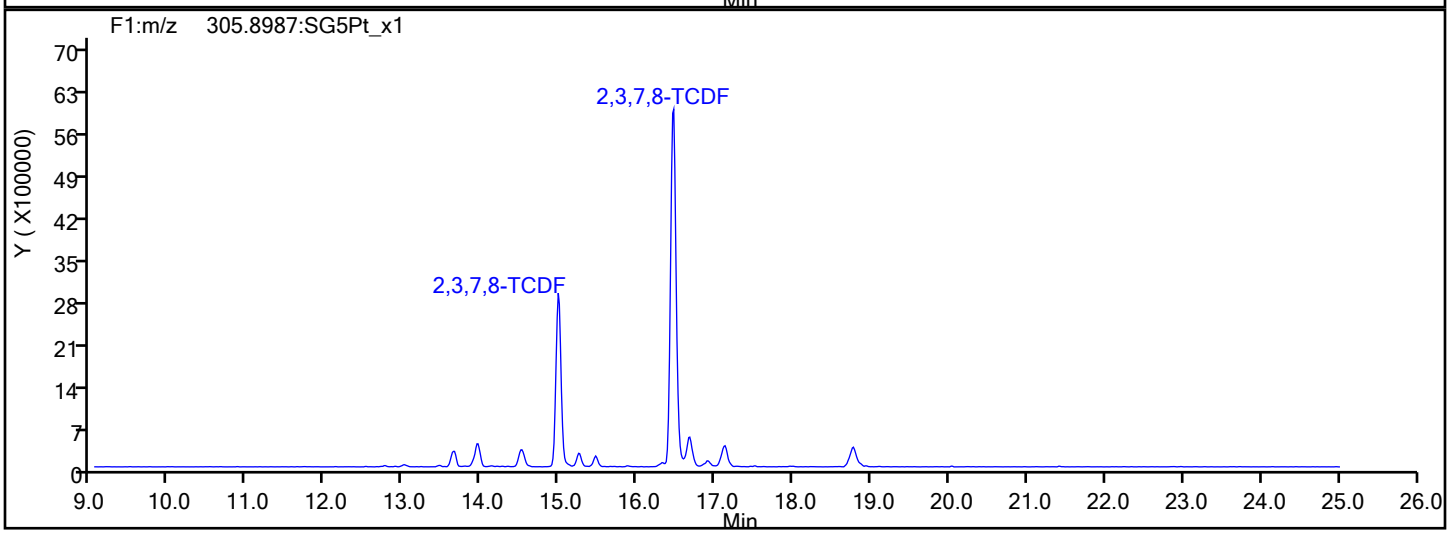

TCDF Interference Mass

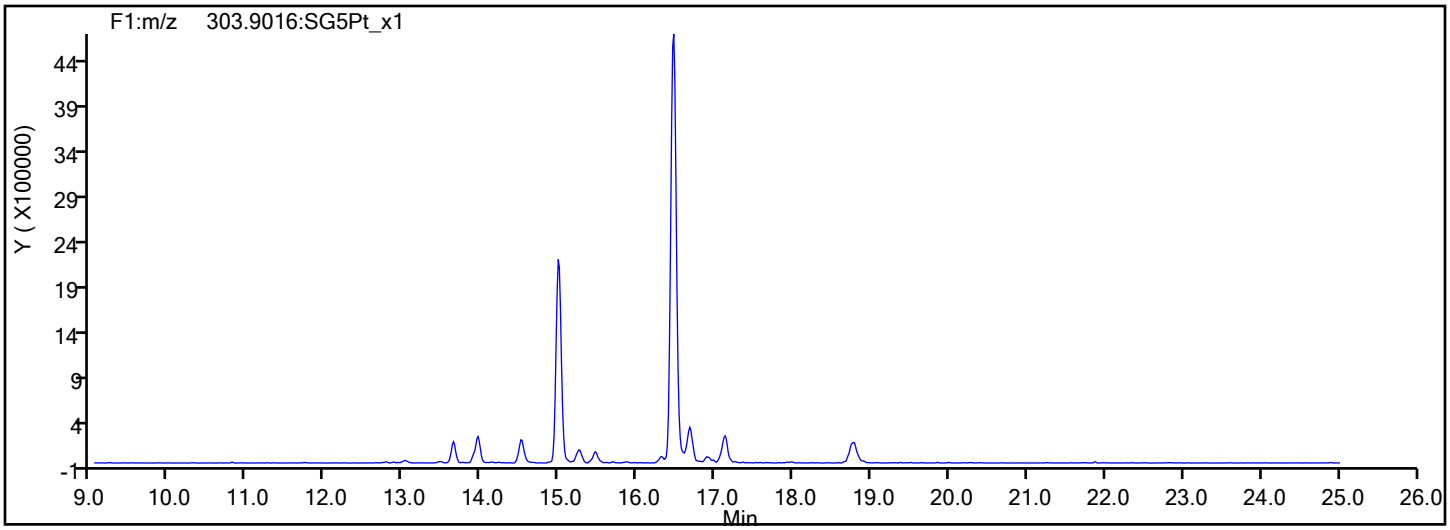

Report Date: 11-Oct-2019 20:37:37 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191011-84792.b\11OC19A11D2_005.d		
Injection Date:	11-Oct-2019 18:00:46	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-1		
Worklist#:	330473	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

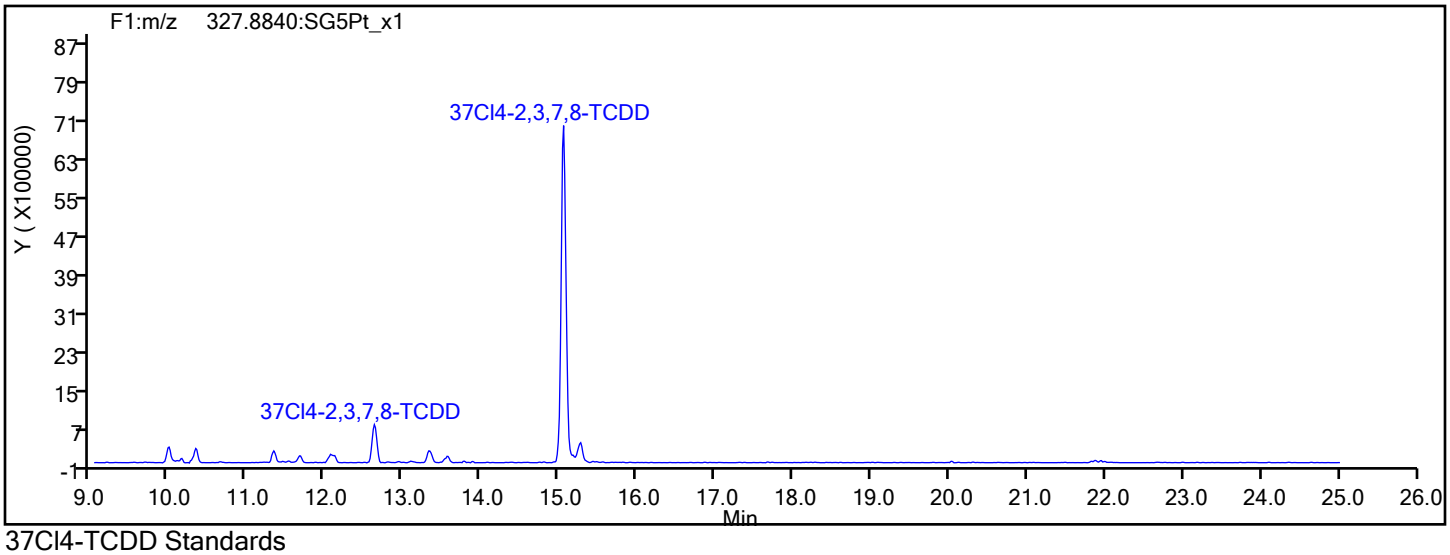

37Cl4-TCDD Standards

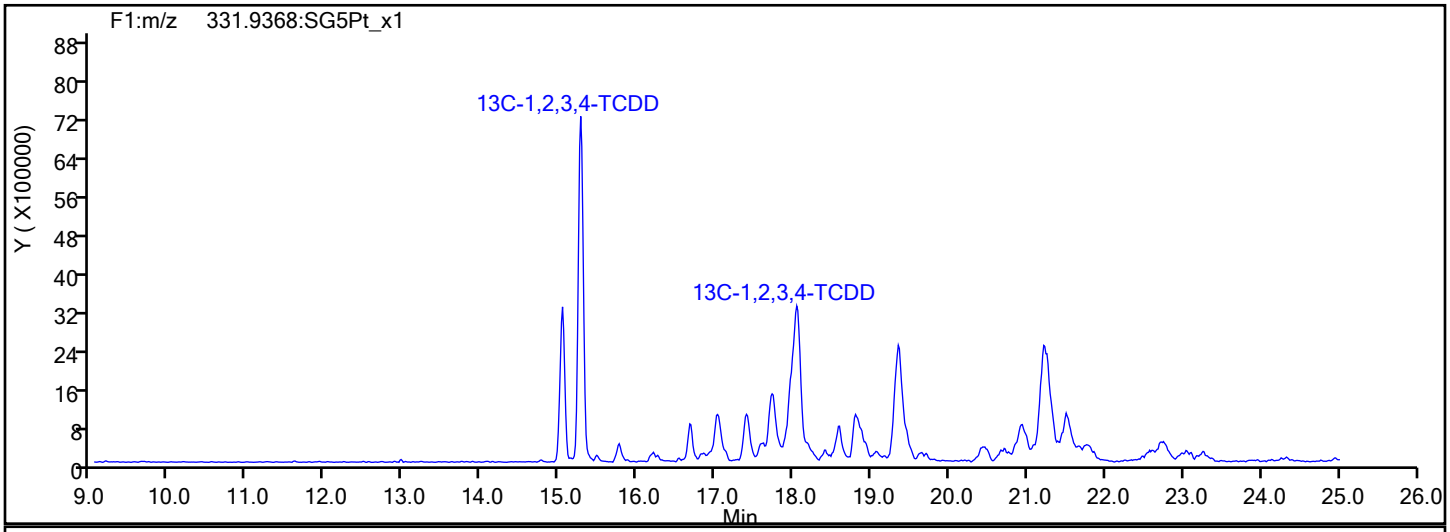

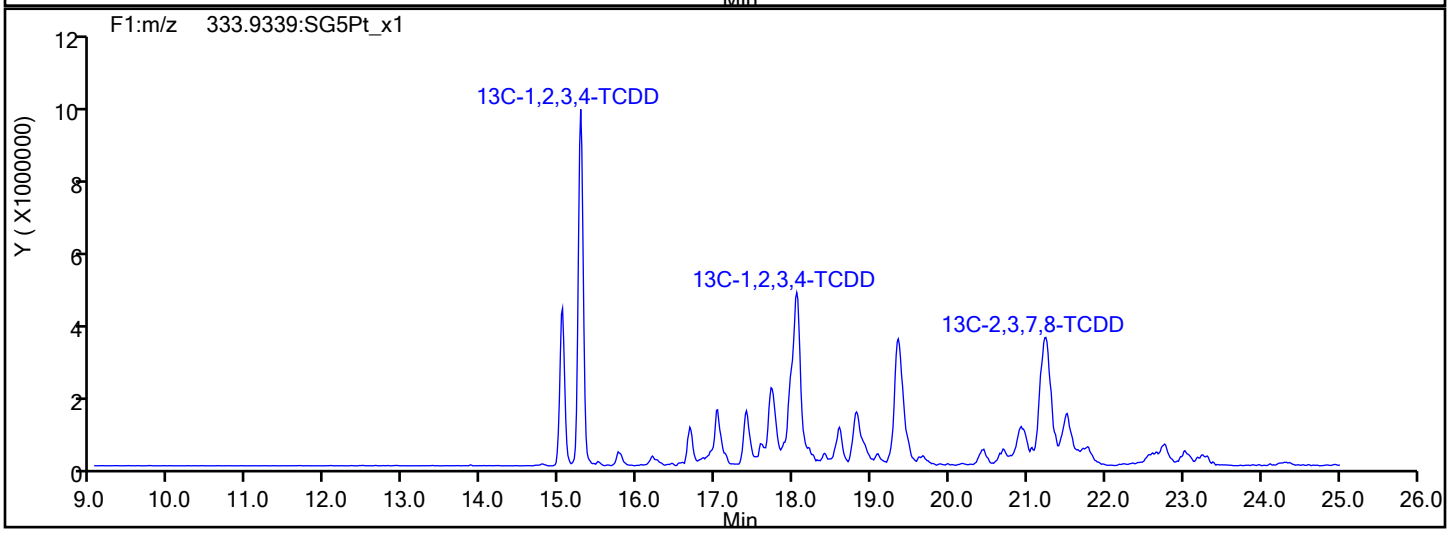

Report Date: 11-Oct-2019 20:37:37 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191011-84792.b\11OC19A11D2_005.d		
Injection Date:	11-Oct-2019 18:00:46	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-1		
Worklist#:	330473	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

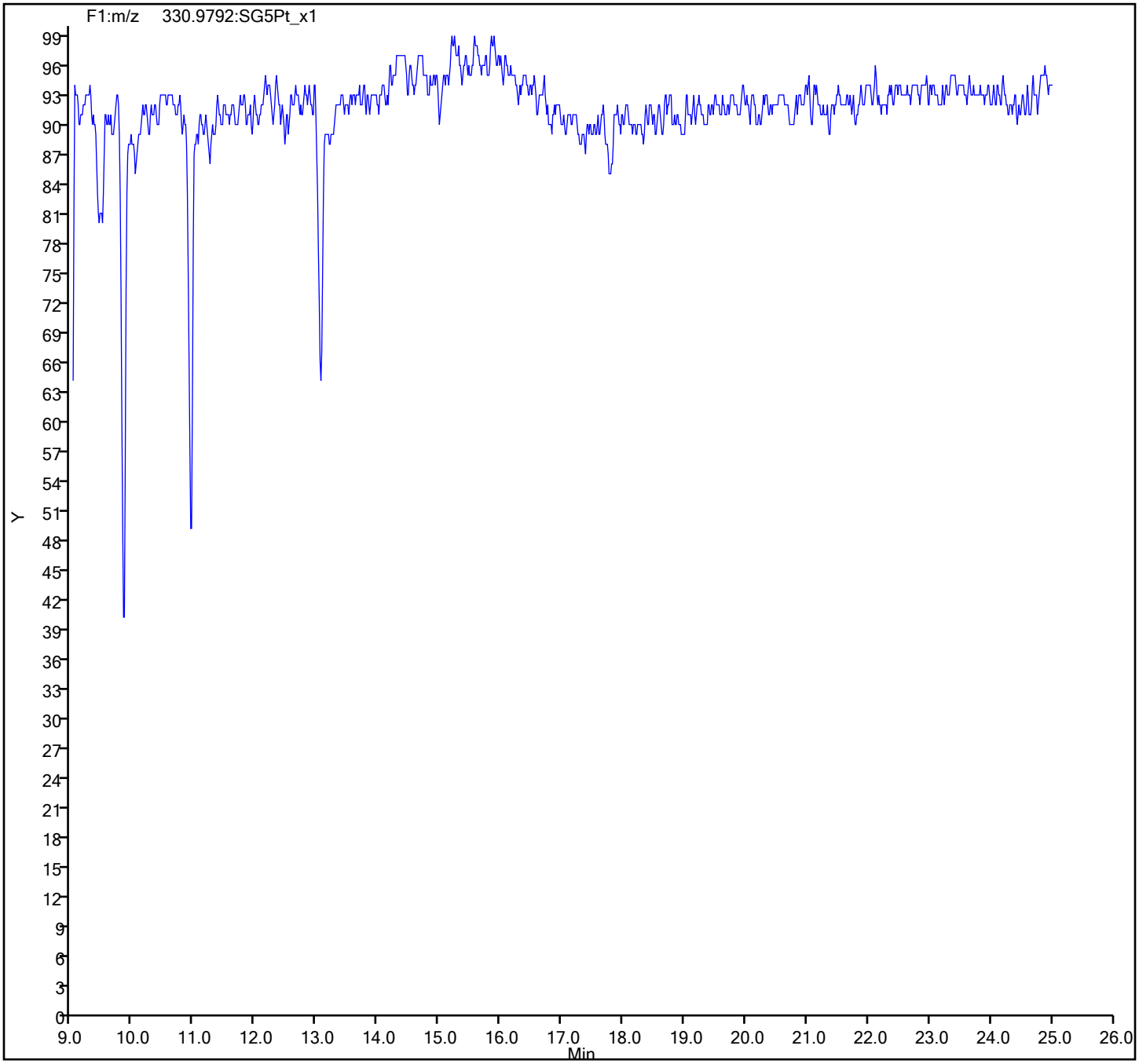

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Client Sample ID: 11187072-Filter Test-3 Lab Sample ID: 320-54852-3

Matrix: Water Lab File ID: 10OC1910D5_19.d

Analysis Method: 1613B Date Collected: 09/30/2019 08:00

Extract. Method: 1613B Date Extracted: 10/08/2019 14:19

Sample wt/vol: 1050.7(mL) Date Analyzed: 10/11/2019 06:19

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 330148 Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	270		9.5	1.5
40321-76-4	1,2,3,7,8-PeCDD	4.2	J	48	1.1
57117-41-6	1,2,3,7,8-PeCDF	39	J	48	0.88
57117-31-4	2,3,4,7,8-PeCDF	22	J	48	0.91
39227-28-6	1,2,3,4,7,8-HxCDD	1.7	J q B	48	0.66
57653-85-7	1,2,3,6,7,8-HxCDD	0.84	J B	48	0.67
19408-74-3	1,2,3,7,8,9-HxCDD	ND		48	0.60
70648-26-9	1,2,3,4,7,8-HxCDF	74	B	48	0.83
57117-44-9	1,2,3,6,7,8-HxCDF	20	J B	48	0.81
72918-21-9	1,2,3,7,8,9-HxCDF	2.1	J B	48	0.60
60851-34-5	2,3,4,6,7,8-HxCDF	2.8	J B	48	0.68
35822-46-9	1,2,3,4,6,7,8-HpCDD	30	J B	48	0.92
67562-39-4	1,2,3,4,6,7,8-HpCDF	30	J B	48	0.52
55673-89-7	1,2,3,4,7,8,9-HpCDF	11	J B	48	0.63
3268-87-9	OCDD	850	B	95	1.1
39001-02-0	OCDF	24	J B	95	0.83
41903-57-5	Total TCDD	290	q	9.5	1.5
30402-14-3	Total TCDF	1400	q	9.5	2.3
36088-22-9	Total PeCDD	4.2	J	48	1.1
30402-15-4	Total PeCDF	91	q	48	0.89
34465-46-8	Total HxCDD	7.5	J q B	48	0.65
55684-94-1	Total HxCDF	110	q B	48	0.73
37871-00-4	Total HpCDD	78	B	48	0.92
38998-75-3	Total HpCDF	52	B	48	0.57

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Client Sample ID: 11187072-Filter Test-3 Lab Sample ID: 320-54852-3

Matrix: Water Lab File ID: 10OC1910D5_19.d

Analysis Method: 1613B Date Collected: 09/30/2019 08:00

Extract. Method: 1613B Date Extracted: 10/08/2019 14:19

Sample wt/vol: 1050.7(mL) Date Analyzed: 10/11/2019 06:19

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 330148 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	57		25-164
89059-46-1	13C-2,3,7,8-TCDF	52		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	55		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	54		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	58		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	58		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	50		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	58		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	53		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	56		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	54		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	56		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	52		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	57		26-138
114423-97-1	13C-OCDD	44		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	97		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_19.d
Lims ID: 320-54852-A-3-A
Client ID: 11187072-Filter Test-3
Sample Type: Client
Inject. Date: 11-Oct-2019 06:19:56 ALS Bottle#: 17 Worklist Smp#: 19
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-54852-A-3-A 320-54852-A-3-A
Misc. Info.: 10OC1910D5
Operator ID: SMA Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Oct-2019 14:49:37 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0335

First Level Reviewer: dadunj Date: 14-Oct-2019 14:49:37

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.956	77935598	0.80	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.442	58207428	0.80	1.4384	51.9	51.9	0.1598	0.1598	51.92	
2,3,7,8-TCDF	17.457	25725350	0.78	1.0507	42.1	42.1	0.1193	0.1193		
A Non-2,3,7,8-sub-TCDF	17.162	19531006	0.77	1.0507	32.0	31.9	0.1193	16.8		RQMa
S Total TCDF					74.0	74.0	0.1193	0.1193		RQ
D 13C-2,3,7,8-TCDD	18.152	42471409	0.78	0.9533	57.2	57.2	0.1587	0.1587	57.16	
$ 37Cl4-2,3,7,8-TCDD	18.167	36951734		1.2224	38.8	38.8	0.0698	0.0698	96.97	
2,3,7,8-TCDD	18.167	6762263	0.79	1.1064	14.4	14.4	0.0770	0.0770		
A Non-2,3,7,8-sub-TCDD	17.616	480832	0.77	1.1064	1.037	1.023	0.0770	0.9115		RQ
S Total TCDD					15.4	15.4	0.0770	0.0770		RQ
D 13C-1,2,3,7,8-PeCDF	22.516	43055363	1.48	1.0286	53.7	53.7	0.0830	0.0830	53.71	
1,2,3,7,8-PeCDF	22.529	952542	1.48	1.0822	2.044	2.044	0.0461	0.0461		
D 13C-2,3,4,7,8-PeCDF	23.866	44530648	1.55	0.9827	58.1	58.1	0.0868	0.0868	58.15	
2,3,4,7,8-PeCDF	23.906	570595	1.65	1.1032	1.161	1.161	0.0477	0.0477		M
A F1 PeCDFs	20.035						0.0384	0.0384		
A Non-2,3,7,8-sub-PeCDF	23.226	755215	1.55	1.0927	1.626	1.578	0.0469	0.8491		RQMa
S Total PeCDF					4.832	4.784	0.0469	0.0469		RQ
D 13C-1,2,3,7,8-PeCDD	24.602	31813982	1.60	0.7481	54.6	54.6	0.0621	0.0621	54.57	
1,2,3,7,8-PeCDD	24.616	63172	1.51	0.9050	0.2194	0.2194	0.0585	0.0585		
A Non-2,3,7,8-sub-PeCDD	23.531						0.0585	0.0585		
S Total PeCDD					0.2194	0.2194	0.0585	0.0585		
D 13C-1,2,3,4,7,8-HxCDF	30.642	40907830	0.52	1.1520	58.1	58.1	0.1264	0.1264	58.15	
1,2,3,4,7,8-HxCDF	30.655	1905190	1.26	1.1973	3.890	3.890	0.0434	0.0434		
D 13C-1,2,3,6,7,8-HxCDF	30.815	40341496	0.51	1.2434	53.1	53.1	0.1171	0.1171	53.13	
1,2,3,6,7,8-HxCDF	30.828	489078	1.20	1.1807	1.027	1.027	0.0425	0.0425		
D 13C-2,3,4,6,7,8-HxCDF	31.614	38617135	0.53	1.1720	54.0	54.0	0.1242	0.1242	53.96	
2,3,4,6,7,8-HxCDF	31.614	68760	1.40	1.2116	0.1470	0.1470	0.0356	0.0356		M
D 13C-1,2,3,7,8,9-HxCDF	32.386	36441186	0.51	1.0655	56.0	56.0	0.1366	0.1366	56.01	
1,2,3,7,8,9-HxCDF	32.399	49563	1.41	1.2451	0.1092	0.1092	0.0316	0.0316		Ma
A Non-2,3,7,8-sub-HxCDF	30.363	286944	1.24	1.2087	0.6471	0.6075	0.0377	0.2676		RQMa

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					5.820	5.780	0.0383	0.0383		RQ
* 13C-1,2,3,7,8,9-HxCDD	32.213	61065293	1.23	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.787	27768480	1.23	0.7812	58.2	58.2	0.1201	0.1201	58.21	
1,2,3,4,7,8-HxCDD	31.800	26868	1.24	1.1088	0.0984	0.0873	0.0348	0.0348		RQM
D 13C-1,2,3,6,7,8-HxCDD	31.893	27978640	1.22	0.9175	49.9	49.9	0.1023	0.1023	49.94	
1,2,3,6,7,8-HxCDD	31.906	13391	1.13	1.0814	0.0443	0.0443	0.0354	0.0354		Ma
1,2,3,7,8,9-HxCDD	32.239						0.0317	0.0317		
A Non-2,3,7,8-sub-HxCDD	30.995	83460	1.22	1.1342	0.2640	0.2640	0.0339	0.2640		
S Total HxCDD					0.4066	0.3955	0.0340	0.0340		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	33.795	27263788	0.43	0.8628	51.7	51.7	0.2362	0.2362	51.75	
1,2,3,4,6,7,8-HpCDF	33.807	658672	1.12	1.5555	1.553	1.553	0.0271	0.0271		M
D 13C-1,2,3,4,7,8,9-HpCDF	34.864	27658305	0.44	0.7991	56.7	56.7	0.2550	0.2550	56.68	
1,2,3,4,7,8,9-HpCDF	34.876	215059	1.18	1.3862	0.5609	0.5609	0.0330	0.0330		
A Non-2,3,7,8-sub-HpCDF	34.360	251809	1.04	1.4709	0.6234	0.6234	0.0298	0.6234		M
S Total HpCDF					2.737	2.737	0.0300	0.0300		
D 13C-1,2,3,4,6,7,8-HpCDD	34.585	29981432	1.06	0.8739	56.2	56.2	0.1801	0.1801	56.18	
1,2,3,4,6,7,8-HpCDD	34.585	443209	0.95	0.9316	1.587	1.587	0.0485	0.0485		
A Non-2,3,7,8-sub-HpCDD	35.190	701274	1.06	0.9316	2.511	2.511	0.0485	2.511		a
S Total HpCDD					4.098	4.098	0.0485	0.0485		
D 13C-OCDD	36.917	41498449	0.90	0.7744	87.8	87.8	0.0558	0.0558	43.88	
OCDF	37.025	335881	0.84	1.2596	1.285	1.285	0.0436	0.0436		
OCDD	36.929	9787713	0.91	1.0621	44.4	44.4	0.0552	0.0552		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_19.d
Lims ID: 320-54852-A-3-A
Client ID: 11187072-Filter Test-3
Sample Type: Client
Inject. Date: 11-Oct-2019 06:19:56 ALS Bottle#: 17 Worklist Smp#: 19
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-54852-A-3-A 320-54852-A-3-A
Misc. Info.: 10OC1910D5
Operator ID: SMA Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Oct-2019 14:49:37 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0335

First Level Reviewer: dadunj Date: 14-Oct-2019 14:49:37

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.956	17.986	-2		34638077	8624364	6037	15092	1429		
333.9339	17.956	17.986	-2		43297521	10809740	5724	14310	1888	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.442	17.472	-2	0.971	25805886	6708289	9062	22655	740		
317.9389	17.442	17.472	-2	0.971	32401542	8476814	8807	22017	963	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.457	17.487	-2	1.001	11288041	2749770	3147	7867	874		
305.8987	17.457	17.487	-2	1.001	14437309	3493906	4467	11167	782	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											RQMa
303.9016	15.779	17.162	-83	0.905	119379	33474	3147	7867	11		
	Empc Correction				95048	22068	3147	7867	7		
305.8987	15.764	17.162	-84	0.904	123440	28660	4467	11167	6	0.97(0.65-0.89)	
303.9016	16.036	17.162	-67	0.919	498911	135165	3147	7867	43		M
305.8987	16.036	17.162	-67	0.919	627512	178485	4467	11167	40	0.80(0.65-0.89)	
303.9016	16.308	17.162	-51	0.935	621922	128740	3147	7867	41		
305.8987	16.308	17.162	-51	0.935	784599	166864	4467	11167	37	0.79(0.65-0.89)	M
303.9016	16.550	17.162	-37	0.949	444321	123113	3147	7867	39		
305.8987	16.550	17.162	-37	0.949	549789	145459	4467	11167	33	0.81(0.65-0.89)	
303.9016	16.792	17.162	-22	0.963	562749	119793	3147	7867	38		
305.8987	16.792	17.162	-22	0.963	648545	150585	4467	11167	34	0.87(0.65-0.89)	M
303.9016	17.079	17.162	-5	0.979	4600345	1188226	3147	7867	378		
305.8987	17.064	17.162	-6	0.978	5683054	1460318	4467	11167	327	0.81(0.65-0.89)	
303.9016	17.291	17.162	8	0.991	242434	58349	3147	7867	19		
305.8987	17.291	17.162	8	0.991	314018	78580	4467	11167	18	0.77(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
303.9016	17.895	17.162	44	1.026	764794	193361	3147	7867	61		
305.8987	17.895	17.162	44	1.026	956280	237432	4467	11167	53	0.80(0.65-0.89)	
303.9016	18.152	17.162	59	1.041	176688	40696	3147	7867	13		
305.8987	18.137	17.162	58	1.040	220024	50575	4467	11167	11	0.80(0.65-0.89)	
303.9016	19.302	17.162	128	1.107	723331	163895	3147	7867	52		
305.8987	19.302	17.162	128	1.107	893202	210026	4467	11167	47	0.81(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	18.152	18.183	-2	1.011	18555726	4589474	6037	15092	760		
333.9339	18.152	18.183	-2	1.011	23915683	5903392	5724	14310	1031	0.78(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.167	18.198	-2	1.012	36951734	8954659	6631	16577	1350		
2,3,7,8-TCDD											
319.8965	18.167	18.213	-3	1.001	2984322	724900	2077	5192	349		
321.8936	18.167	18.213	-3	1.001	3777941	913718	1501	3752	609	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											RQ
319.8965	18.062	17.616	27	0.995	29255	8059	2077	5192	4		
	Empc Correction				22844	6730	2077	5192	3		
321.8936	18.046	17.616	26	0.994	29668	8741	1501	3752	6	0.99(0.65-0.89)	
319.8965	18.530	17.616	55	1.021	190175	47019	2077	5192	23		
321.8936	18.530	17.616	55	1.021	238145	54226	1501	3752	36	0.80(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	22.516	22.556	-2	1.254	25723358	4799418	3925	9812	1223		
353.8970	22.516	22.556	-2	1.254	17332005	3234026	2709	6772	1194	1.48(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.529	22.570	-2	1.001	568818	96105	720	1800	133		
341.8567	22.529	22.570	-2	1.001	383724	63477	882	2205	72	1.48(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	23.866	23.920	-3	1.329	27073536	4593117	3925	9812	1170		
353.8970	23.866	23.920	-3	1.329	17457112	3010158	2709	6772	1111	1.55(1.32-1.78)	
2,3,4,7,8-PeCDF											M
339.8597	23.906	23.947	-2	1.002	355442	58023	720	1800	81		
341.8567	23.879	23.947	-4	1.001	215153	34003	882	2205	39	1.65(1.32-1.78)	M
A F1 PeCDFs											
339.8597	20.035						519	1297			
341.8567	20.035						792	1980			
A Non-2,3,7,8-sub-PeCDF											RQMa
339.8597	21.179	23.226	-123	0.941	242923	46885	720	1800	65		
341.8567	21.179	23.226	-123	0.941	163386	31582	882	2205	36	1.49(1.32-1.78)	
339.8597	23.061	23.226	-10	1.024	153988	26560	720	1800	37		
	Empc Correction				130877	24536	720	1800	34		
341.8567	23.048	23.226	-11	1.024	84437	15830	882	2205	18	1.82(1.32-1.78)	
339.8597	24.261	23.226	62	1.078	80865	14795	720	1800	21		M
341.8567	24.234	23.226	60	1.076	52727	8158	882	2205	9	1.53(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	24.602	24.643	-2	1.370	19598863	3239300	2024	5060	1600		
369.8919	24.602	24.643	-2	1.370	12215119	1965852	1590	3975	1236	1.60(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDD											
355.8546	24.616	24.670	-3	1.001	37994	6316	662	1655	10		
357.8516	24.629	24.670	-2	1.001	25178	3956	441	1102	9	1.51(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.531						662	1655			
357.8516	23.531						441	1102			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.642	30.682	-2	0.951	13974996	2764038	3932	9830	703		
385.8610	30.642	30.682	-2	0.951	26932834	5267558	6007	15017	877	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.655	30.695	-2	1.000	1061132	211621	795	1987	266		
375.8178	30.655	30.695	-2	1.000	844058	163664	876	2190	187	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.815	30.855	-2	0.957	13695184	2893413	3932	9830	736		
385.8610	30.815	30.855	-2	0.957	26646312	5424523	6007	15017	903	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.828	30.868	-2	1.000	266626	52907	795	1987	67		
375.8178	30.842	30.868	-2	1.001	222452	43172	876	2190	49	1.20(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.614	31.640	-2	0.981	13346080	3388663	3932	9830	862		
385.8610	31.614	31.640	-2	0.981	25271055	6286518	6007	15017	1047	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											M
373.8208	31.614	31.653	-2	1.000	40151	9378	795	1987	12		M
375.8178	31.627	31.653	-2	1.000	28609	8136	876	2190	9	1.40(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.386	32.412	-2	1.005	12360120	3614585	3932	9830	919		
385.8610	32.386	32.412	-2	1.005	24081066	7017764	6007	15017	1168	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											Ma
373.8208	32.399	32.426	-2	1.000	28964	8290	795	1987	10		M
375.8178	32.399	32.426	-2	1.000	20599	5919	876	2190	7	1.41(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											RQMa
373.8208	28.566	30.363	-108	0.932	65741	11765	795	1987	15		
375.8178	28.579	30.363	-107	0.933	60656	9331	876	2190	11	1.08(1.05-1.43)	
373.8208	29.883	30.363	-29	0.975	41179	7259	795	1987	9		
375.8178	29.897	30.363	-28	0.976	36883	5811	876	2190	7	1.12(1.05-1.43)	
373.8208	32.492	30.363	128	1.060	64342	19523	795	1987	25		M
	Empc Correction				45661	12992	795	1987	16		
375.8178	32.479	30.363	127	1.060	36824	10478	876	2190	12	1.75(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.213	32.239	-2		33659659	9362330	3580	8950	2615		
403.8529	32.213	32.239	-2		27405634	7704232	2826	7065	2726	1.23(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.787	31.813	-2	0.987	15332061	4156323	3580	8950	1161		
403.8529	31.787	31.813	-2	0.987	12436419	3396814	2826	7065	1202	1.23(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,7,8-HxCDD											RQM
389.8157	31.800	31.826	-2	1.000	18295	4558	554	1385	8		M
	Empc Correction				14873	4305	554	1385	8		
391.8127	31.813	31.826	-1	1.001	11995	3472	612	1530	6	1.53(1.05-1.43)	M
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.893	31.920	-2	0.990	15391279	4150504	3580	8950	1159		
403.8529	31.893	31.920	-2	0.990	12587361	3459503	2826	7065	1224	1.22(1.05-1.43)	
1,2,3,6,7,8-HxCDD											Ma
389.8157	31.906	31.933	-2	1.000	7091	1977	554	1385	4		M
391.8127	31.906	31.933	-2	1.000	6300	1804	612	1530	3	1.13(1.05-1.43)	M
1,2,3,7,8,9-HxCDD											
389.8157	32.252						554	1385			
391.8127	32.252						612	1530			
A Non-2,3,7,8-sub-HxCDD											
389.8157	29.777	30.995	-73	0.934	45824	5680	554	1385	10		
391.8127	29.737	30.995	-75	0.932	37636	5138	612	1530	8	1.22(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.795	33.819	-1	1.049	8178384	2745781	4436	11090	619		
419.8220	33.795	33.819	-1	1.049	19085404	6245012	9475	23687	659	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											M
407.7818	33.807	33.819	-1	1.000	348634	110621	845	2112	131		M
409.7789	33.795	33.819	-1	1.000	310038	97963	670	1675	146	1.12(0.88-1.20)	M
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.864	34.889	-1	1.082	8392919	2464824	4436	11090	556		
419.8220	34.864	34.889	-1	1.082	19265386	5809296	9475	23687	613	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.876	34.901	-1	1.000	116281	34706	845	2112	41		
409.7789	34.889	34.901	-1	1.001	98778	29684	670	1675	44	1.18(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											M
407.7818	34.099	34.360	-16	1.009	128093	38727	845	2112	46		M
409.7789	34.099	34.360	-16	1.009	123716	41838	670	1675	62	1.04(0.88-1.20)	M
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.585	34.609	-1	1.074	15458477	4775705	5365	13412	890		
437.8140	34.585	34.609	-1	1.074	14522955	4408838	5377	13442	820	1.06(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.585	34.609	-1	1.000	216432	68365	856	2140	80		
425.7737	34.597	34.609	-1	1.000	226777	65691	804	2010	82	0.95(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											a
423.7766	34.050	35.190	-68	0.985	360104	112875	856	2140	132		a
425.7737	34.038	35.190	-69	0.984	341170	103898	804	2010	129	1.06(0.88-1.20)	
13C-OCDD											
469.7779	36.917	36.941	-1	1.146	19633421	5313901	1468	3670	3620		
471.7750	36.917	36.941	-1	1.146	21865028	5912554	1484	3710	3984	0.90(0.76-1.02)	
OCDF											
441.7428	37.025	37.049	-1	1.003	153365	39226	528	1320	74		
443.7399	37.025	37.049	-1	1.003	182516	50363	706	1765	71	0.84(0.76-1.02)	

Report Date: 14-Oct-2019 14:49:38 Chrom Revision: 2.3 11-Oct-2019 15:46:24
Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_19.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
OCDD											
457.7377	36.929	36.953	-1	1.000	4665513	1247434	615	1537	2028		
459.7348	36.929	36.953	-1	1.000	5122200	1372876	702	1755	1956	0.91(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_19.d
Lims ID: 320-54852-A-3-A
Client ID: 11187072-Filter Test-3
Inject. Date: 11-Oct-2019 06:19:56 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: SMA
Lims Batch ID: 330148 Lims Sample ID: 19

Non-2,3,7,8-sub-TCDF, RT: 17.162

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.051	D 13C-2,3,7,8-TCDF	100.000	58207428	15185103

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.051		100.000	58207428	15185103

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
15.779	119379	33474	123440	28660	0.3970	0.97	RQ
15.779	95048	22068	123440	28660	0.3572		Empc Correction
16.036	498911	135165	627512	178485	1.84	0.80	Ma
16.308	621922	128740	784599	166864	2.30	0.79	M
16.550	444321	123113	549789	145459	1.63	0.81	
16.792	562749	119793	648545	150585	1.98	0.87	M
17.079	4600345	1188226	5683054	1460318	16.8	0.81	
17.291	242434	58349	314018	78580	0.9098	0.77	
17.895	764794	193361	956280	237432	2.81	0.80	
18.152	176688	40696	220024	50575	0.6486	0.80	
19.302	723331	163895	893202	210026	2.64	0.81	
Signal Totals:							
	8730543	2173406	10800463	2706984			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	19555337	4891796				0.81	RQMa
	19531006	4880390					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 31.974 = (19555337 * 100.000) / (58207428 * 1.051)
Empc Amount: 31.934 = (19531006 * 100.000) / (58207428 * 1.051)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated
a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_19.d
Lims ID: 320-54852-A-3-A
Client ID: 11187072-Filter Test-3
Inject. Date: 11-Oct-2019 06:19:56 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: SMA
Lims Batch ID: 330148 Lims Sample ID: 19

Non-2,3,7,8-sub-TCDD, RT: 17.616

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.106	D 13C-2,3,7,8-TCDD	100.000	42471409	10492866

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.106		100.000	42471409	10492866

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
18.062	29255	8059	29668	8741	0.1254	0.99	RQ
18.062	22844	6730	29668	8741	0.1117		Empc Correction
18.530	190175	47019	238145	54226	0.9115	0.80	
Signal Totals:							
	213019	53749	267813	62967			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	487243	118045				0.82	RQ
	480832	116716					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.037 = (487243 * 100.000) / (42471409 * 1.106)
Empc Amount: 1.023 = (480832 * 100.000) / (42471409 * 1.106)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Report Date: 14-Oct-2019 14:49:38 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_19.d
Lims ID: 320-54852-A-3-A
Client ID: 11187072-Filter Test-3
Inject. Date: 11-Oct-2019 06:19:56 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: SMA
Lims Batch ID: 330148 Lims Sample ID: 19

Non-2,3,7,8-sub-PeCDF, RT: 23.226

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.082	D 13C-1,2,3,7,8-PeCDF	100.000	43055363	8033444
2,3,4,7,8-PeCDF	1.103	D 13C-2,3,4,7,8-PeCDF	100.000	44530648	7603275

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.093		100.000	43793005	7818359

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
21.179	242923	46885	163386	31582	0.8491	1.49	
23.061	153988	26560	84437	15830	0.4982	1.82	RQ
23.061	130877	24536	84437	15830	0.4499		Empc Correction
24.261	80865	14795	52727	8158	0.2792	1.53	Ma
Signal Totals:							
	454665	86216	300550	55570			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	778326	143810				1.59	RQMa
	755215	141786					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.626 = (778326 * 100.000) / (43793005 * 1.093)
Empc Amount: 1.578 = (755215 * 100.000) / (43793005 * 1.093)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated
a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_19.d
Lims ID: 320-54852-A-3-A
Client ID: 11187072-Filter Test-3
Inject. Date: 11-Oct-2019 06:19:56 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: SMA
Lims Batch ID: 330148 Lims Sample ID: 19

Non-2,3,7,8-sub-HxCDF, RT: 30.363

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.197	D 13C-1,2,3,4,7,8-HxCDF	100.000	40907830	8031596
1,2,3,6,7,8-HxCDF	1.181	D 13C-1,2,3,6,7,8-HxCDF	100.000	40341496	8317936
2,3,4,6,7,8-HxCDF	1.212	D 13C-2,3,4,6,7,8-HxCDF	100.000	38617135	9675181
1,2,3,7,8,9-HxCDF	1.245	D 13C-1,2,3,7,8,9-HxCDF	100.000	36441186	10632349

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.209		100.000	39076911	9164265

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
28.566	65741	11765	60656	9331	0.2676	1.08	
29.883	41179	7259	36883	5811	0.1653	1.12	
32.492	64342	19523	36824	10478	0.2142	1.75	RQMa
32.492	45661	12992	36824	10478	0.1746		Empc Correction
Signal Totals:							
	152581	32016	134363	25620			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	305625	64167				1.27	RQMa
	286944	57636					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.6471 = (305625 * 100.000) / (39076911 * 1.209)
Empc Amount: 0.6075 = (286944 * 100.000) / (39076911 * 1.209)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated
a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_19.d
Lims ID: 320-54852-A-3-A
Client ID: 11187072-Filter Test-3
Inject. Date: 11-Oct-2019 06:19:56 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: SMA
Lims Batch ID: 330148 Lims Sample ID: 19

Non-2,3,7,8-sub-HxCDD, RT: 30.995

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.109	D 13C-1,2,3,4,7,8-HxCDD	100.000	27768480	7553137
1,2,3,6,7,8-HxCDD	1.081	D 13C-1,2,3,6,7,8-HxCDD	100.000	27978640	7610007
1,2,3,7,8,9-HxCDD	1.212				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.134		100.000	27873560	7581572

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
29.777	45824	5680	37636	5138	0.2640	1.22	
Signal Totals:							
	45824	5680	37636	5138			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	83460	10818				1.22	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.2640 = (83460 * 100.000) / (27873560 * 1.134)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_19.d
Lims ID: 320-54852-A-3-A
Client ID: 11187072-Filter Test-3
Inject. Date: 11-Oct-2019 06:19:56 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: SMA
Lims Batch ID: 330148 Lims Sample ID: 19

Non-2,3,7,8-sub-HpCDF, RT: 34.360

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.556	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	27263788	8990793
1,2,3,4,7,8,9-HpCDF	1.386	D 13C-1,2,3,4,7,8,9-HpCDF	100.000	27658305	8274120

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.471		100.000	27461046	8632456

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
34.099	128093	38727	123716	41838	0.6234	1.04	M
Signal Totals:							
	128093	38727	123716	41838			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	251809	80565				1.04	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.6234 = (251809 * 100.000) / (27461046 * 1.471)

QC Flag Legend

Review Flags
M - Manually Integrated

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_19.d
Lims ID: 320-54852-A-3-A
Client ID: 11187072-Filter Test-3
Inject. Date: 11-Oct-2019 06:19:56 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: SMA
Lims Batch ID: 330148 Lims Sample ID: 19

Non-2,3,7,8-sub-HpCDD, RT: 35.190

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.932	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	29981432	9184543

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.932		100.000	29981432	9184543

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.050	360104	112875	341170	103898	2.51	1.06	a
Signal Totals:							
	360104	112875	341170	103898			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	701274	216773				1.06	a

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 2.511 = (701274 * 100.000) / (29981432 * 0.932)

QC Flag Legend

Review Flags
a - User Assigned ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_19.d				
Injection Date:	11-Oct-2019 06:19:56	Instrument ID:	10D5		
Lims ID:	320-54852-A-3-A	Lab Sample ID:	320-54852-3		
Client ID:	11187072-Filter Test-3				
Operator ID:	SMA	ALS Bottle#:	17	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

Non-2,3,7,8-sub-TCDF, Signal: 1, m/z: 303.9016, RT: (14.98- 19.35)

Signal: 1

Processing Integration Results

RT = 16.036 Area = 498911

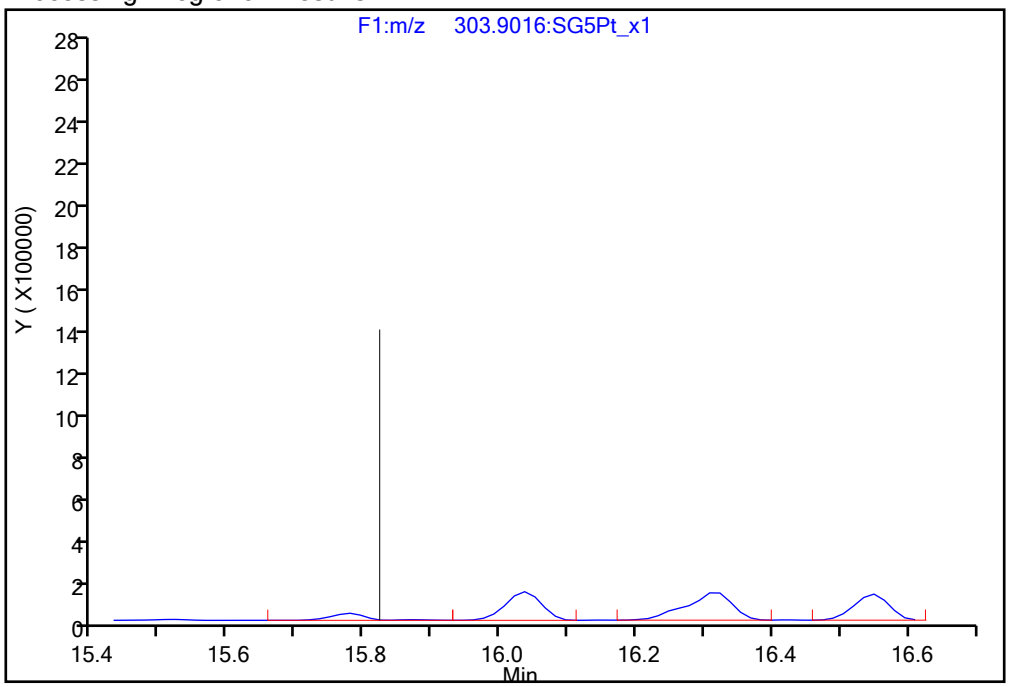

Manual Integration Results

RT = 16.036 Area = 498911

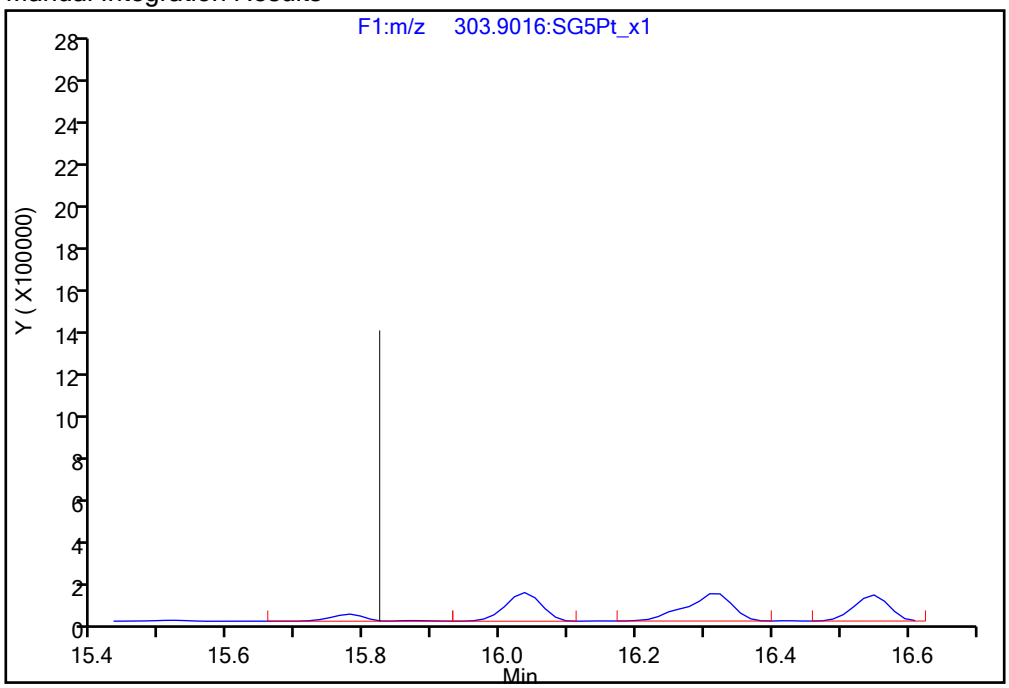

Reviewer: dadunj, 14-Oct-2019 14:46:20

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_19.d				
Injection Date:	11-Oct-2019 06:19:56	Instrument ID:	10D5		
Lims ID:	320-54852-A-3-A	Lab Sample ID:	320-54852-3		
Client ID:	11187072-Filter Test-3				
Operator ID:	SMA	ALS Bottle#:	17	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

Non-2,3,7,8-sub-TCDF, Signal: 2, m/z: 305.8987, RT: (14.98- 19.35)

Signal: 2

Processing Integration Results

RT = 16.293 Area = 424089

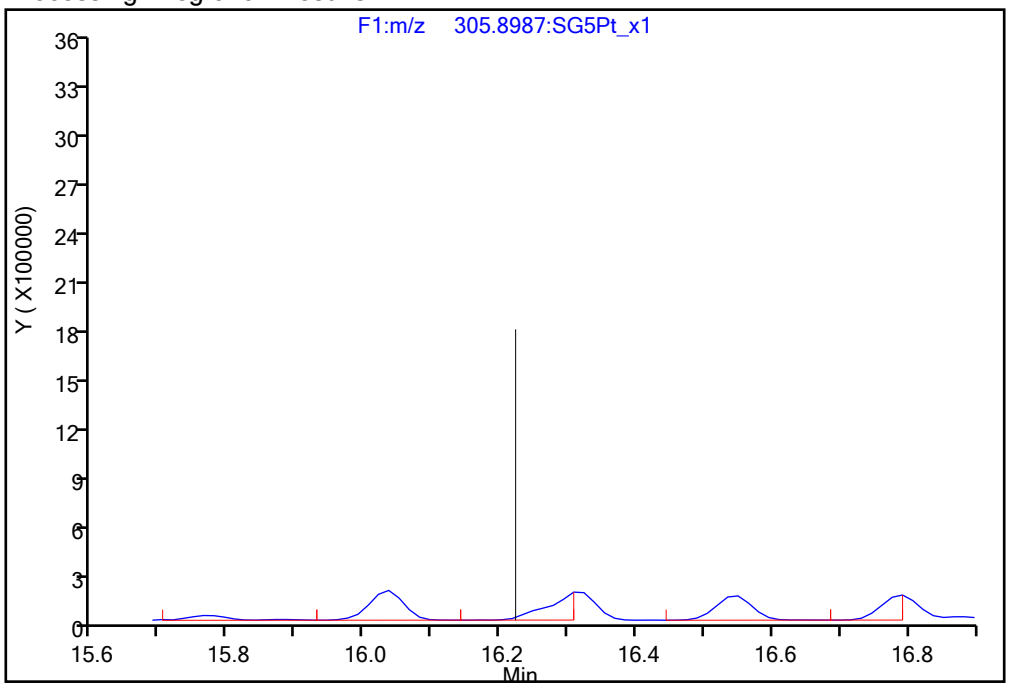

Manual Integration Results

RT = 16.308 Area = 784599 M

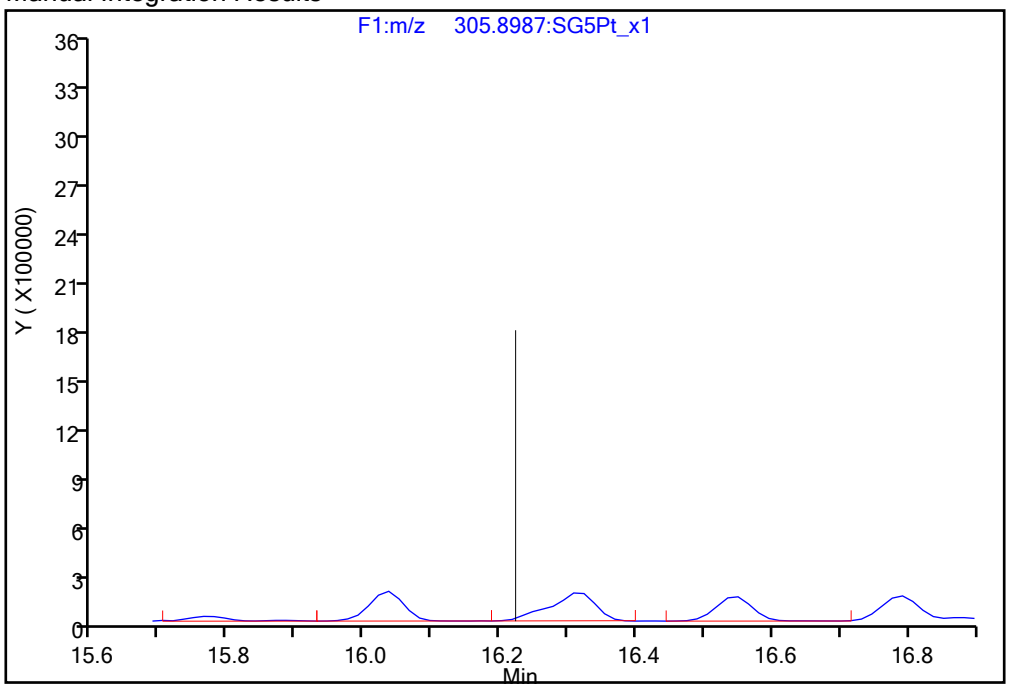

Reviewer: dadunj, 14-Oct-2019 14:46:10

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_19.d				
Injection Date:	11-Oct-2019 06:19:56	Instrument ID:	10D5		
Lims ID:	320-54852-A-3-A	Lab Sample ID:	320-54852-3		
Client ID:	11187072-Filter Test-3				
Operator ID:	SMA	ALS Bottle#:	17	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

Non-2,3,7,8-sub-TCDF, Signal: 2, m/z: 305.8987, RT: (14.98- 19.35)

Signal: 2

Processing Integration Results

RT = 16.777 Area = 321640

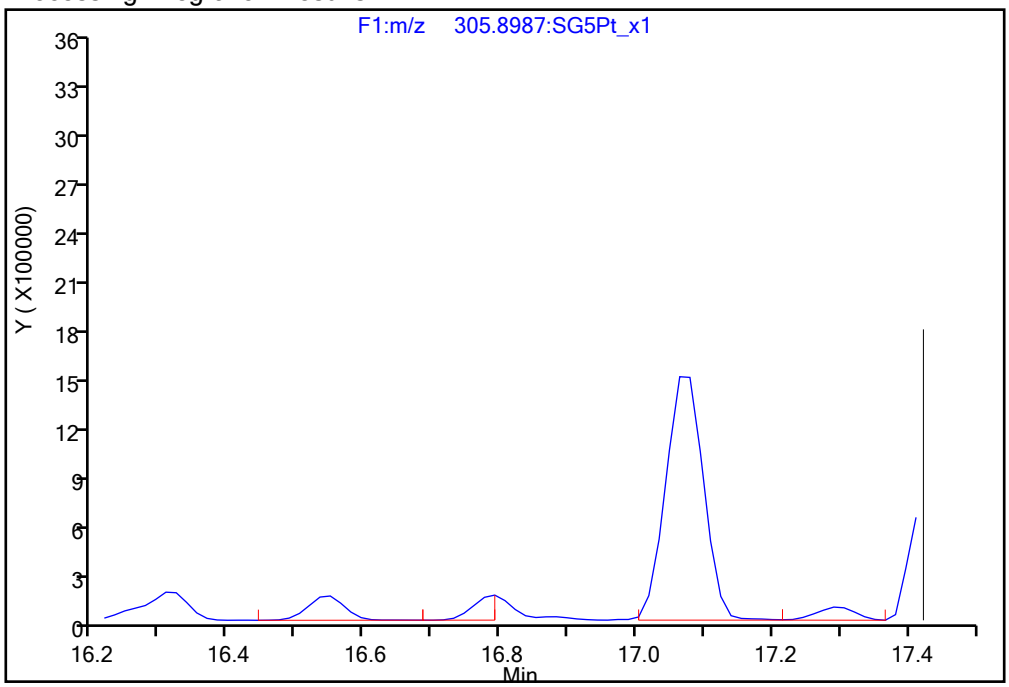

Manual Integration Results

RT = 16.792 Area = 648545 M

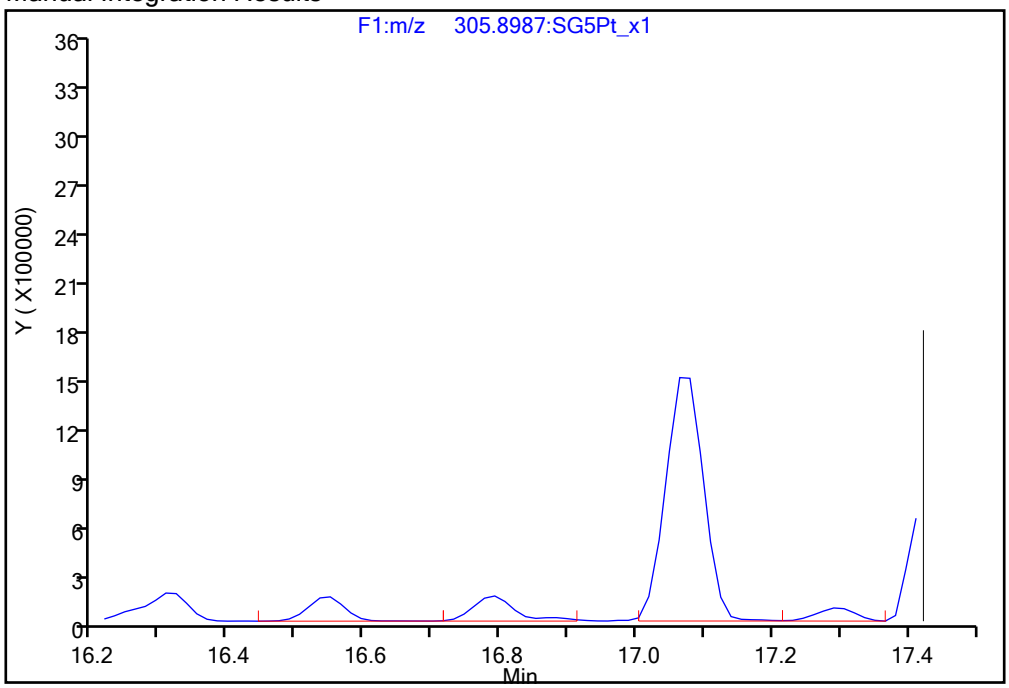

Reviewer: dadunj, 14-Oct-2019 14:46:10

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_19.d				
Injection Date:	11-Oct-2019 06:19:56	Instrument ID:	10D5		
Lims ID:	320-54852-A-3-A	Lab Sample ID:	320-54852-3		
Client ID:	11187072-Filter Test-3				
Operator ID:	SMA	ALS Bottle#:	17	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

2,3,4,7,8-PeCDF, CAS: 57117-31-4

Signal: 2

Processing Integration Results

RT: 23.88
Area: 267886
Amount: 1.268826
Amount Units: pg/ul

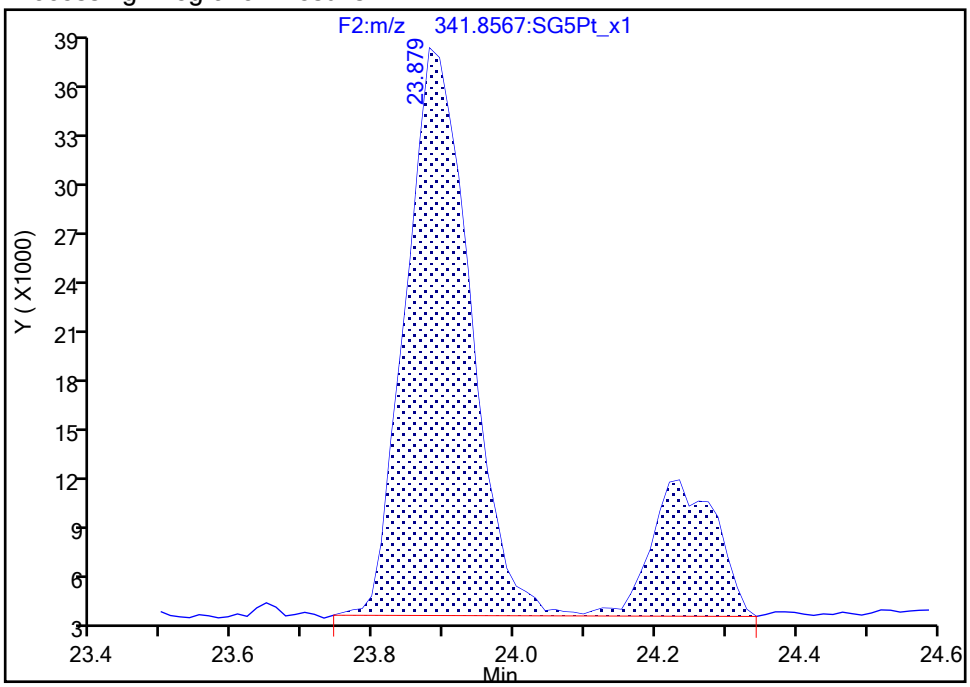

Manual Integration Results

RT: 23.88
Area: 215153
Amount: 1.161485
Amount Units: pg/ul

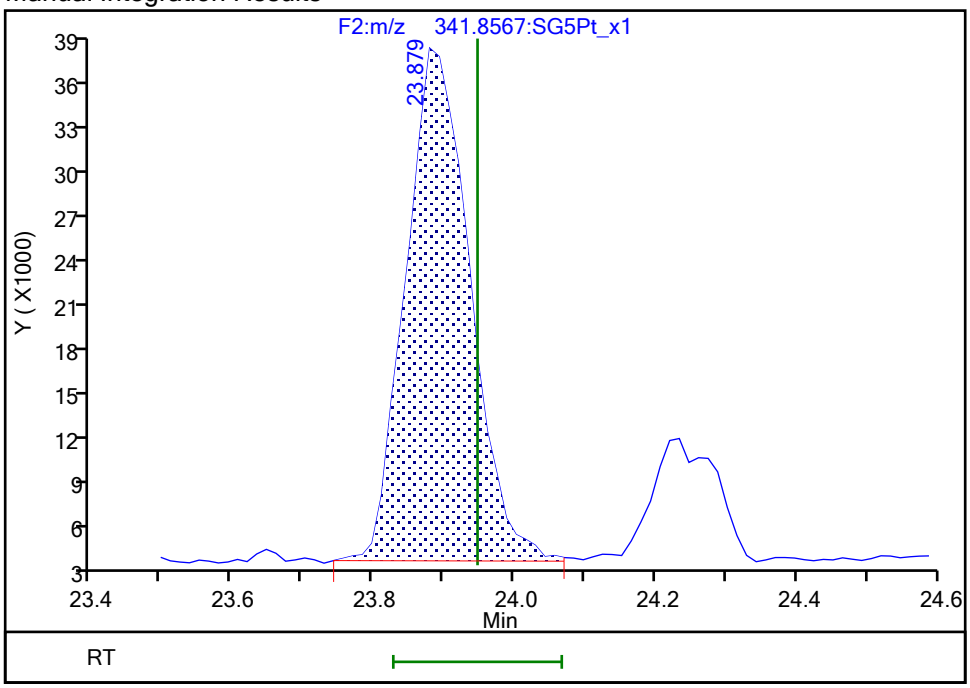

Reviewer: dadunj, 14-Oct-2019 14:46:49

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_19.d				
Injection Date:	11-Oct-2019 06:19:56	Instrument ID:	10D5		
Lims ID:	320-54852-A-3-A	Lab Sample ID:	320-54852-3		
Client ID:	11187072-Filter Test-3				
Operator ID:	SMA	ALS Bottle#:	17	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

Non-2,3,7,8-sub-PeCDF, Signal: 1, m/z: 339.8597, RT: (20.52- 25.93)

Signal: 1

Processing Integration Results

RT = 24.261 Area = 80865

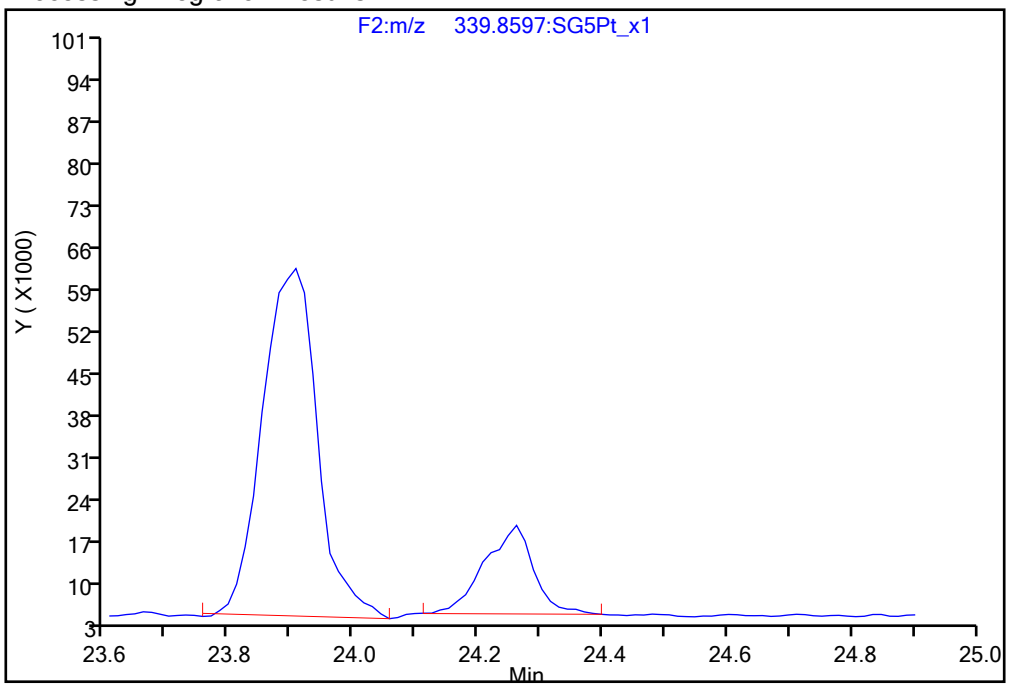

Manual Integration Results

RT = 24.261 Area = 80865

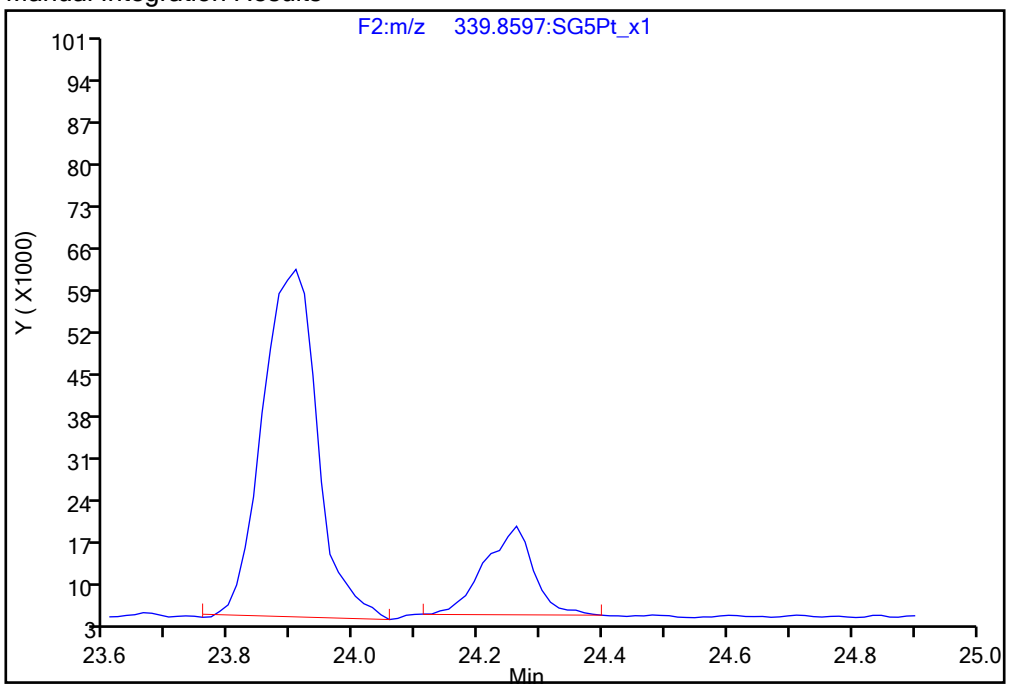

Reviewer: dadunj, 14-Oct-2019 14:46:56

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_19.d				
Injection Date:	11-Oct-2019 06:19:56	Instrument ID:	10D5		
Lims ID:	320-54852-A-3-A	Lab Sample ID:	320-54852-3		
Client ID:	11187072-Filter Test-3				
Operator ID:	SMA	ALS Bottle#:	17	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

2,3,4,6,7,8-HxCDF, CAS: 60851-34-5

Signal: 1

Processing Integration Results

RT: 31.61
Area: 76489
Amount: 0.224626
Amount Units: pg/ul

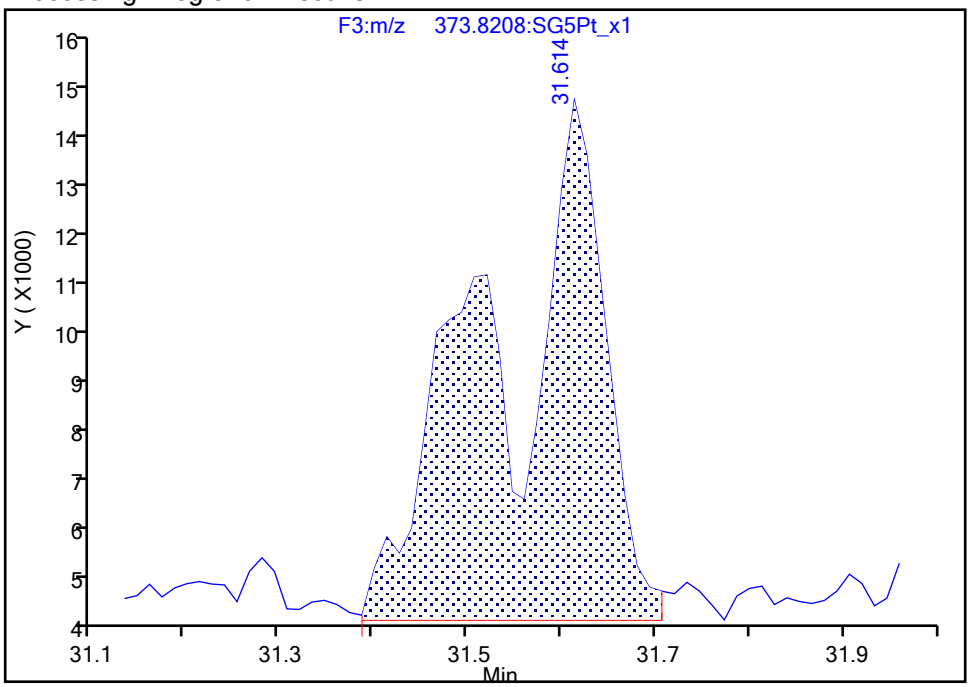

Manual Integration Results

RT: 31.61
Area: 40151
Amount: 0.146961
Amount Units: pg/ul

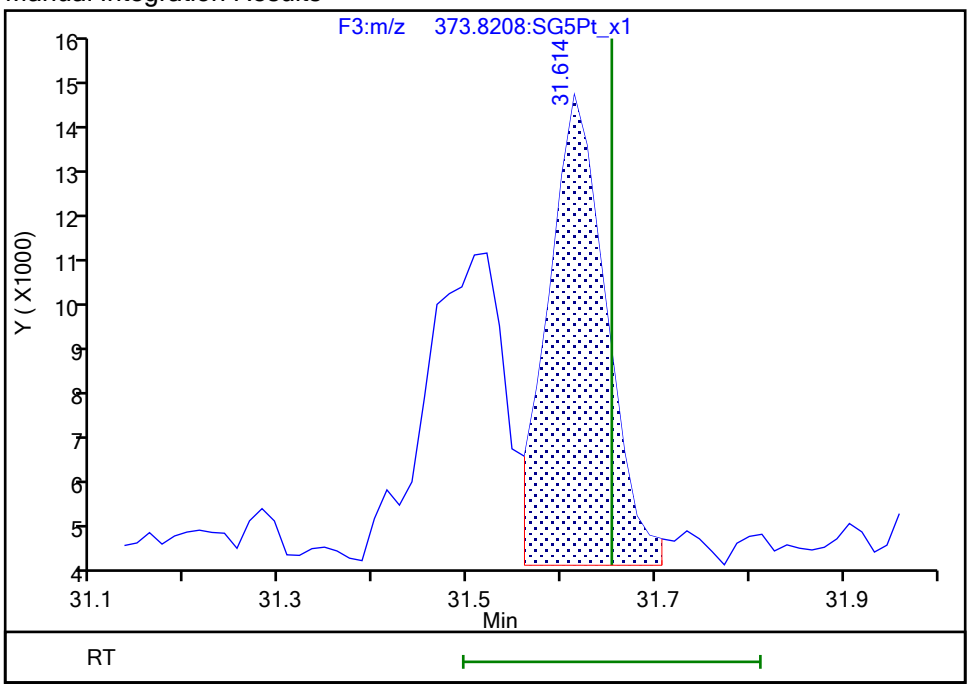

Reviewer: dadunj, 14-Oct-2019 14:47:19

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_19.d				
Injection Date:	11-Oct-2019 06:19:56	Instrument ID:	10D5		
Lims ID:	320-54852-A-3-A	Lab Sample ID:	320-54852-3		
Client ID:	11187072-Filter Test-3				
Operator ID:	SMA	ALS Bottle#:	17	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 2

Processing Integration Results

RT: 32.48
Area: 36824
Amount: 0.286795
Amount Units: pg/ul

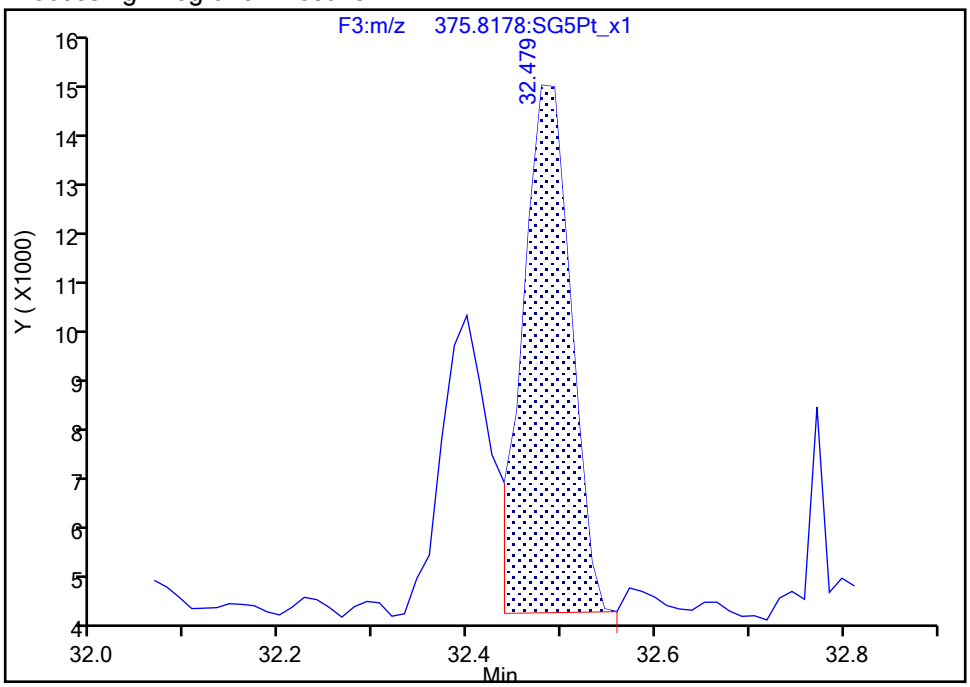

Manual Integration Results

RT: 32.40
Area: 20599
Amount: 0.109232
Amount Units: pg/ul

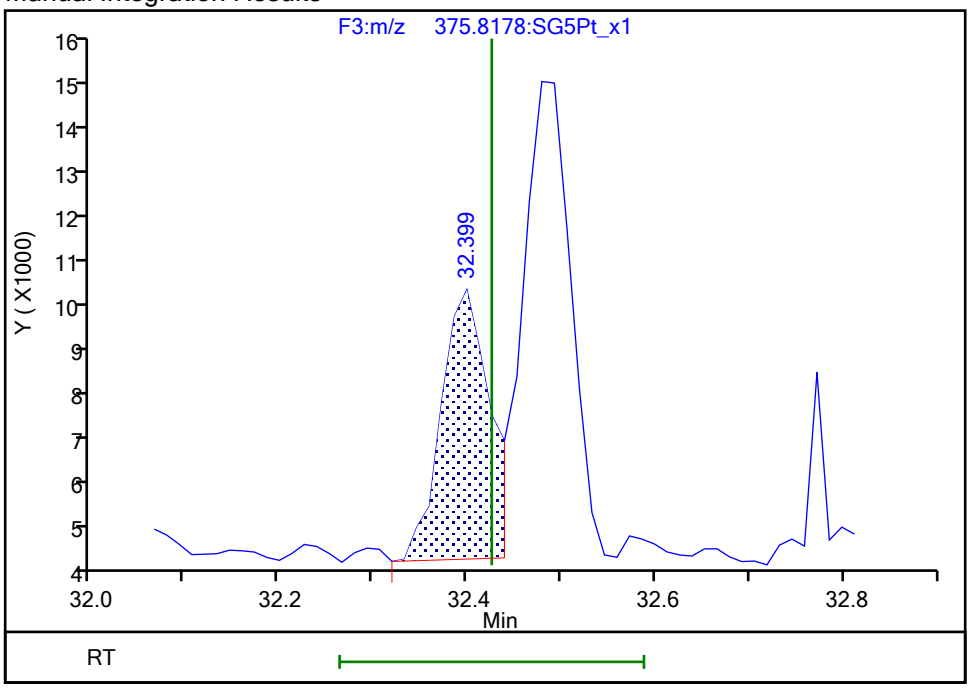

Reviewer: dadunj, 14-Oct-2019 14:47:26

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_19.d				
Injection Date:	11-Oct-2019 06:19:56	Instrument ID:	10D5		
Lims ID:	320-54852-A-3-A	Lab Sample ID:	320-54852-3		
Client ID:	11187072-Filter Test-3				
Operator ID:	SMA	ALS Bottle#:	17	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 3

RT: 32.49
Area: 130130
Amount: 0.286795
Amount Units: pg/ul

Processing Integration Results

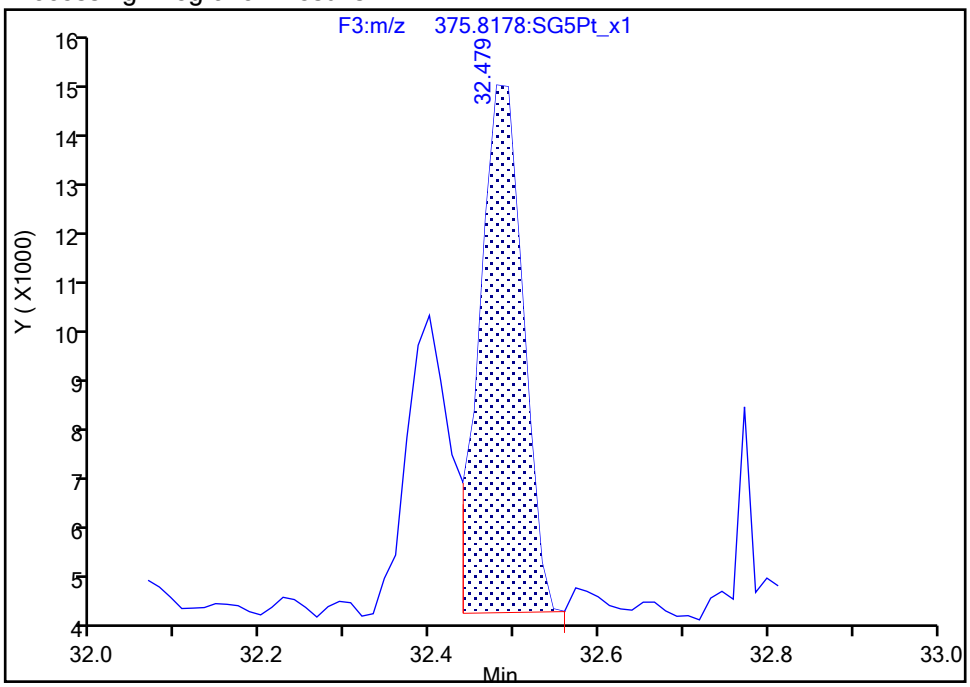

Manual Integration Results

RT: 32.40
Area: 49563
Amount: 0.109232
Amount Units: pg/ul
Reviewer: dadunj, 14-Oct-2019 14:47:26
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_19.d				
Injection Date:	11-Oct-2019 06:19:56	Instrument ID:	10D5		
Lims ID:	320-54852-A-3-A	Lab Sample ID:	320-54852-3		
Client ID:	11187072-Filter Test-3				
Operator ID:	SMA	ALS Bottle#:	17	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 1

Processing Integration Results

RT: 32.49
Area: 93306
Amount: 0.286795
Amount Units: pg/ul

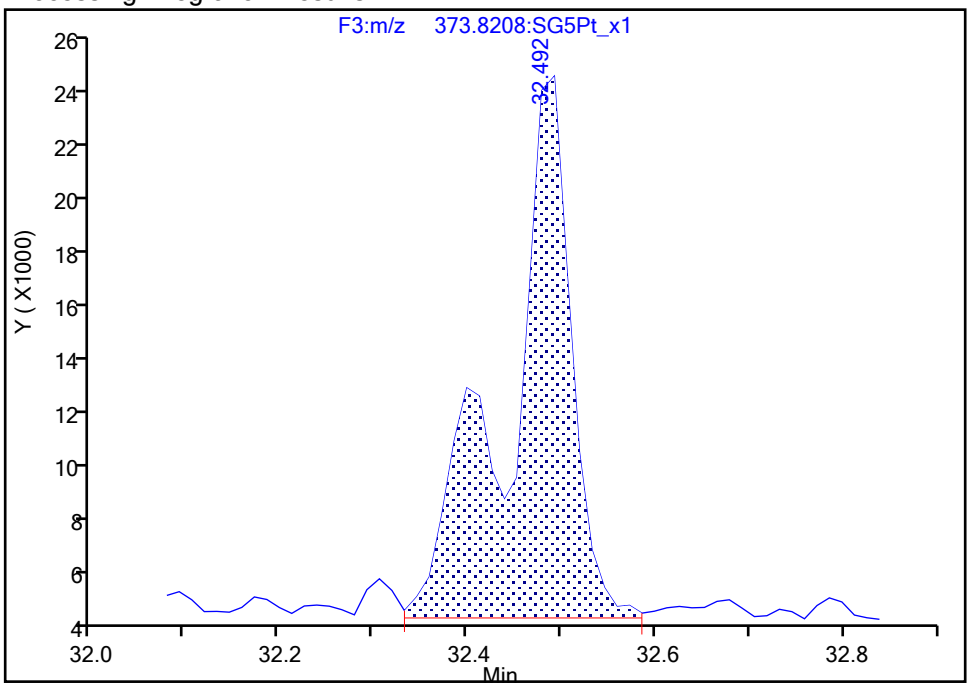

Manual Integration Results

RT: 32.40
Area: 28964
Amount: 0.109232
Amount Units: pg/ul

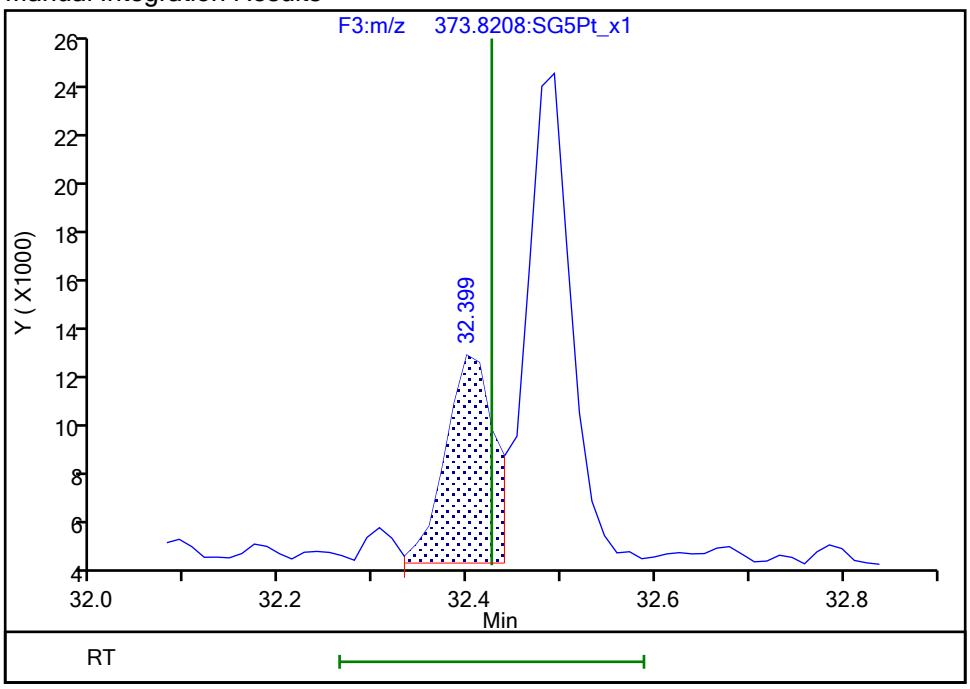

Reviewer: dadunj, 14-Oct-2019 14:47:28

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_19.d				
Injection Date:	11-Oct-2019 06:19:56	Instrument ID:	10D5		
Lims ID:	320-54852-A-3-A	Lab Sample ID:	320-54852-3		
Client ID:	11187072-Filter Test-3				
Operator ID:	SMA	ALS Bottle#:	17	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

Non-2,3,7,8-sub-HxCDF, Signal: 1, m/z: 373.8208, RT: (28.19- 32.54)

Signal: 1

Processing Integration Results

RT = 32.492 Area = 93306

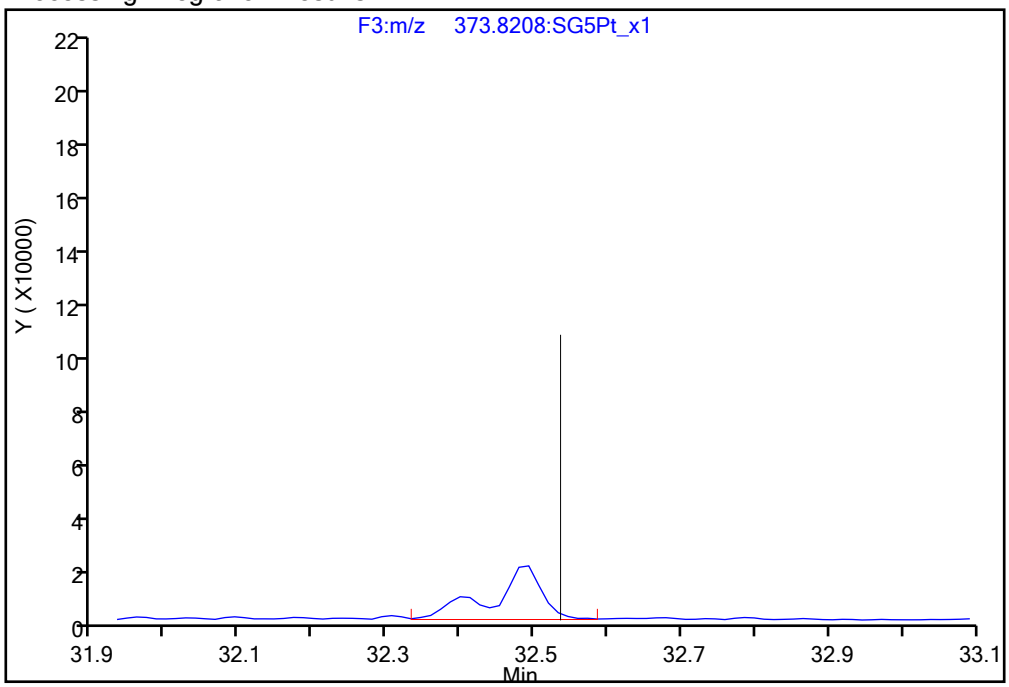

Manual Integration Results

RT = 32.492 Area = 64342 M

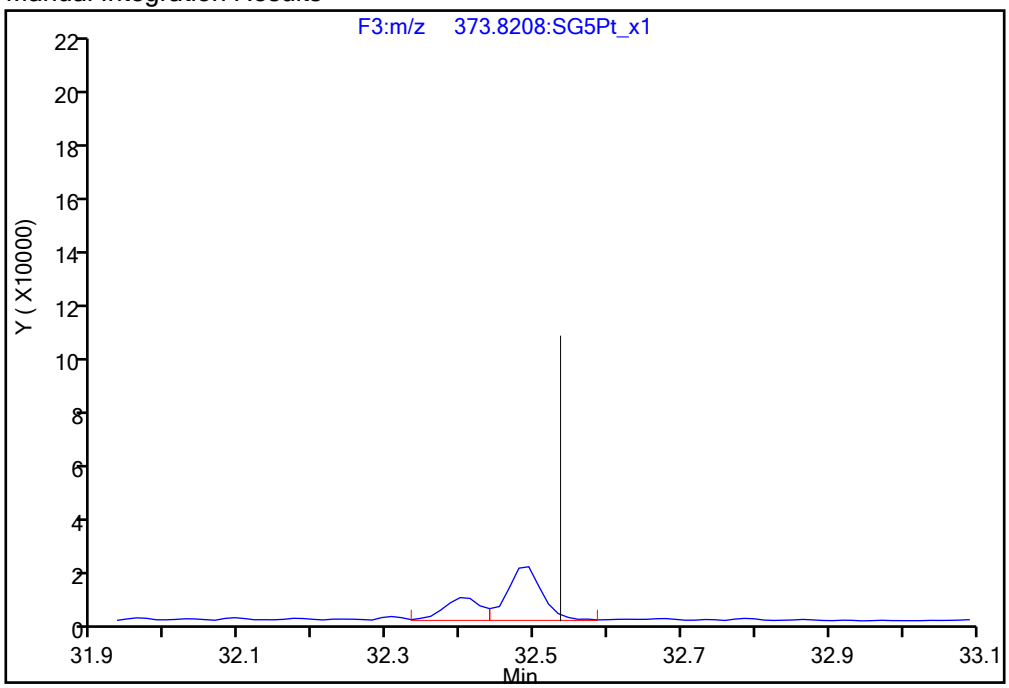

Reviewer: dadunj, 14-Oct-2019 14:47:34

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_19.d				
Injection Date:	11-Oct-2019 06:19:56	Instrument ID:	10D5		
Lims ID:	320-54852-A-3-A	Lab Sample ID:	320-54852-3		
Client ID:	11187072-Filter Test-3				
Operator ID:	SMA	ALS Bottle#:	17	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 1

Processing Integration Results

RT: 31.80
Area: 35270
Amount: 0.235128
Amount Units: pg/ul

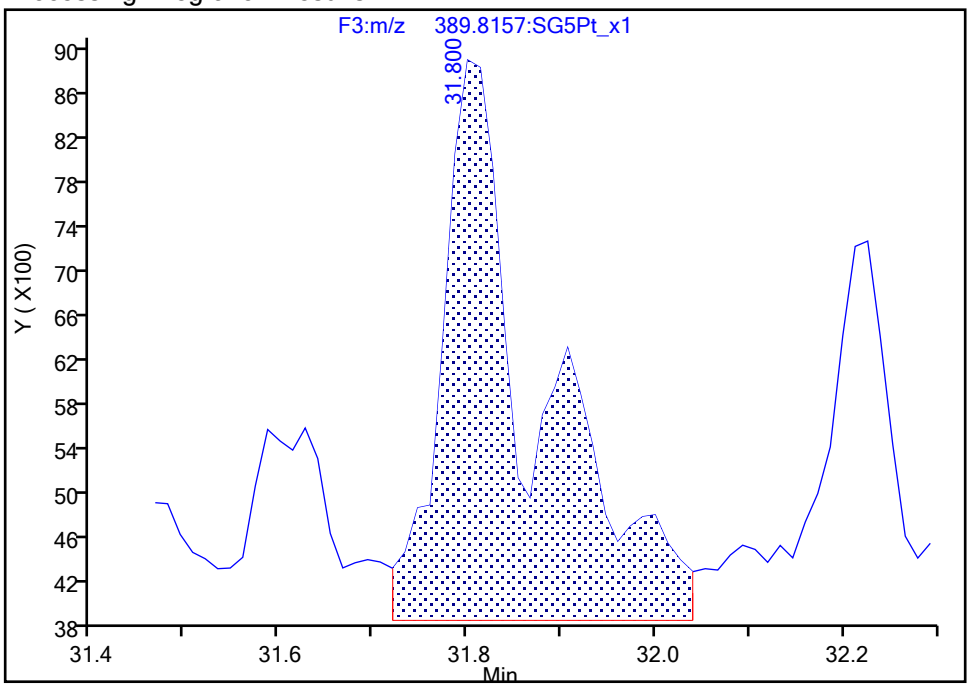

Manual Integration Results

RT: 31.80
Area: 18295
Amount: 0.098377
Amount Units: pg/ul

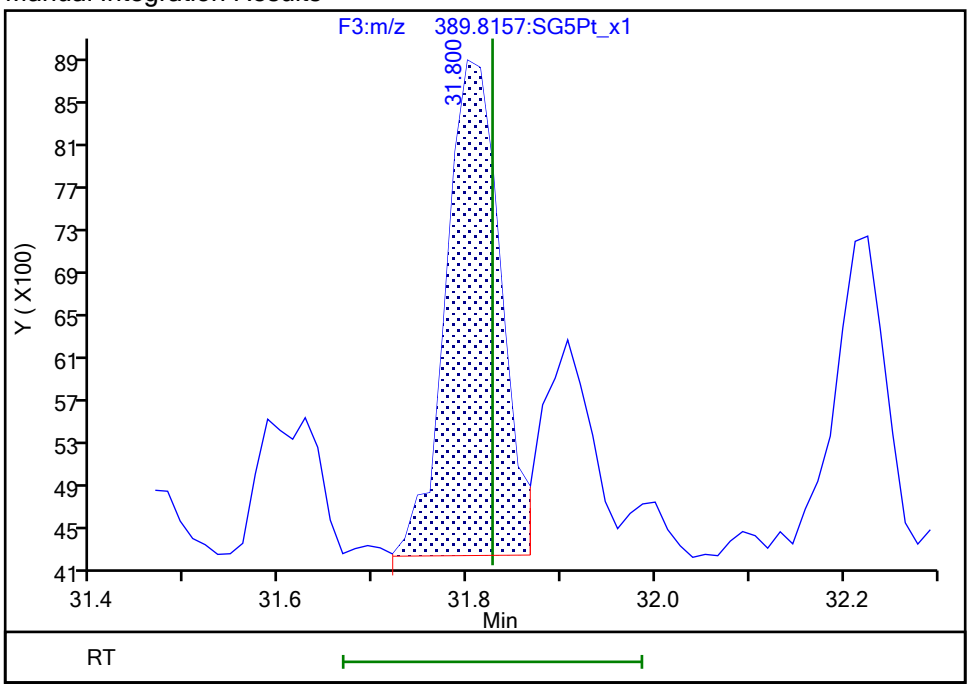

Reviewer: dadunj, 14-Oct-2019 14:47:59

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_19.d				
Injection Date:	11-Oct-2019 06:19:56	Instrument ID:	10D5		
Lims ID:	320-54852-A-3-A	Lab Sample ID:	320-54852-3		
Client ID:	11187072-Filter Test-3				
Operator ID:	SMA	ALS Bottle#:	17	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 2

Processing Integration Results

RT: 31.81
Area: 37125
Amount: 0.235128
Amount Units: pg/ul

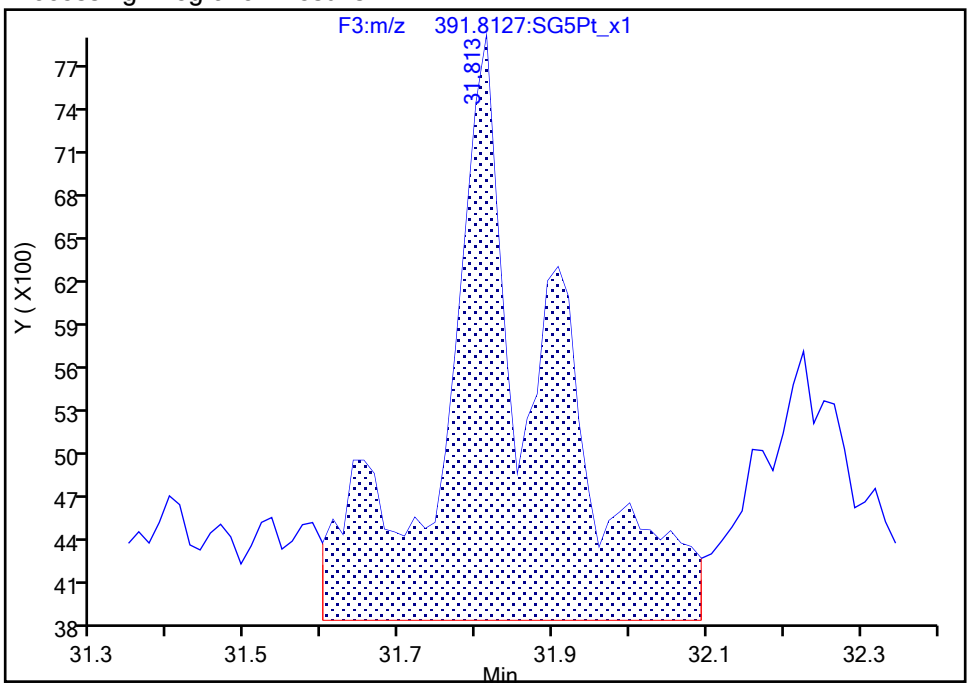

Manual Integration Results

RT: 31.81
Area: 11995
Amount: 0.098377
Amount Units: pg/ul

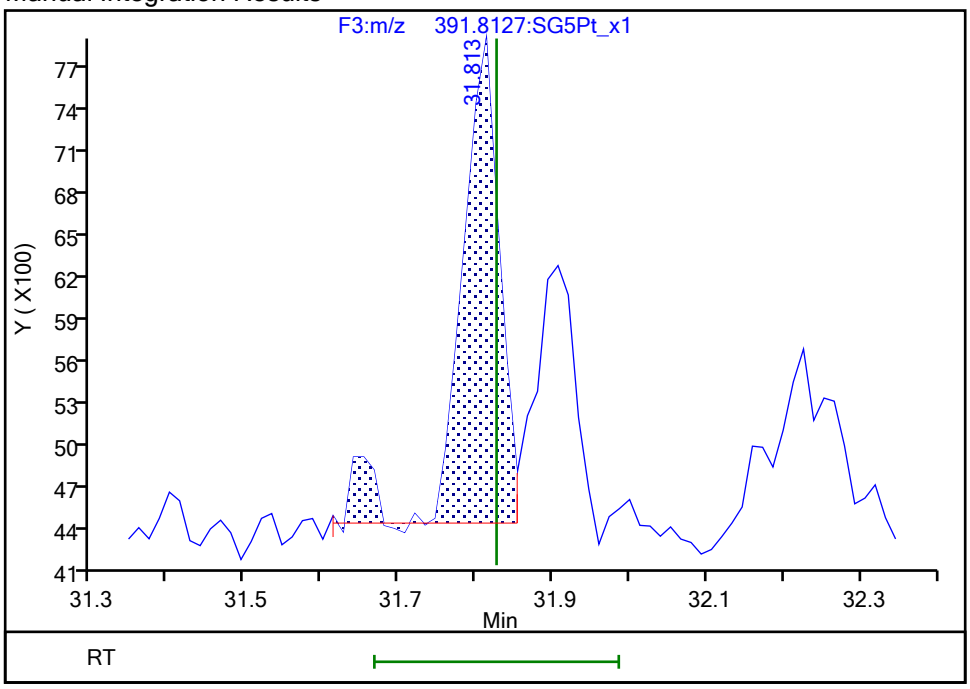

Reviewer: dadunj, 14-Oct-2019 14:48:02

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_19.d				
Injection Date:	11-Oct-2019 06:19:56	Instrument ID:	10D5		
Lims ID:	320-54852-A-3-A	Lab Sample ID:	320-54852-3		
Client ID:	11187072-Filter Test-3				
Operator ID:	SMA	ALS Bottle#:	17	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 2

Processing Integration Results

RT: 31.81
Area: 37125
Amount: 0.239271
Amount Units: pg/ul

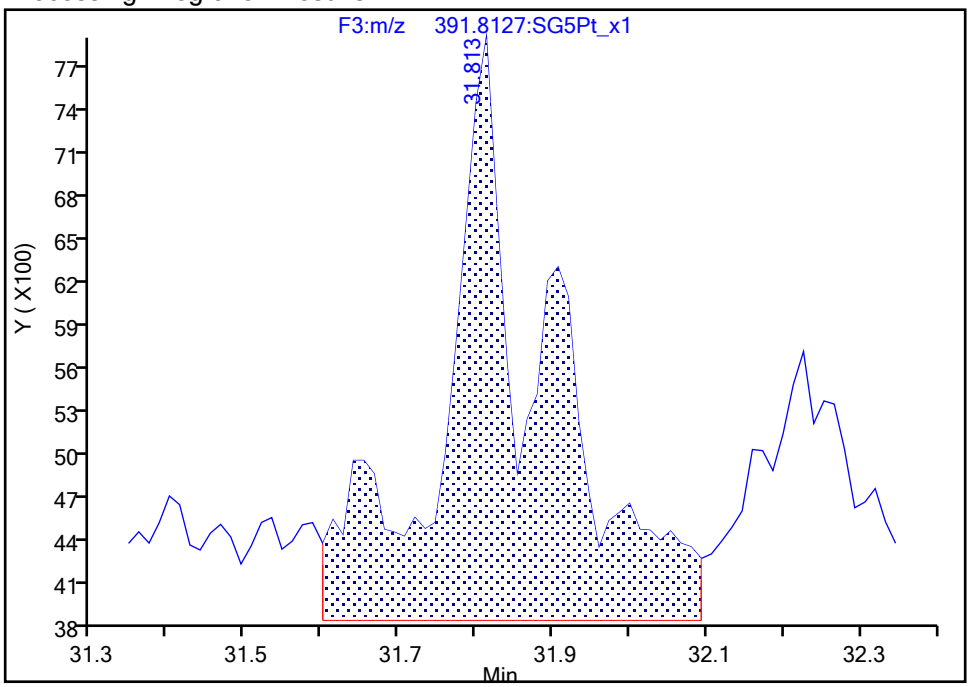

Manual Integration Results

RT: 31.91
Area: 6300
Amount: 0.044258
Amount Units: pg/ul

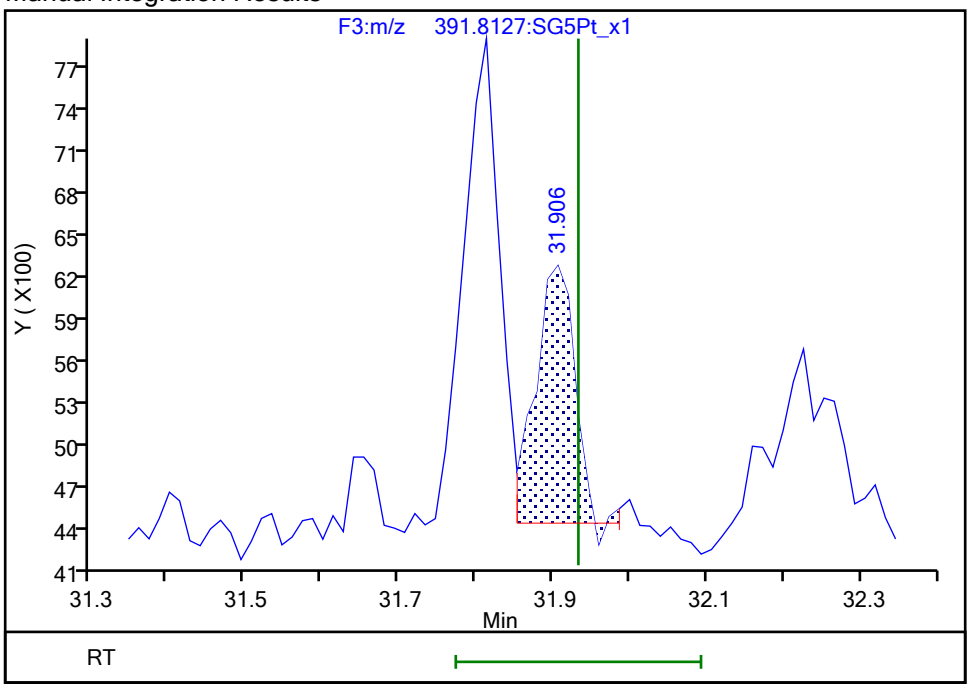

Reviewer: dadunj, 14-Oct-2019 14:48:13

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_19.d				
Injection Date:	11-Oct-2019 06:19:56	Instrument ID:	10D5		
Lims ID:	320-54852-A-3-A	Lab Sample ID:	320-54852-3		
Client ID:	11187072-Filter Test-3				
Operator ID:	SMA	ALS Bottle#:	17	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 1

Processing Integration Results

RT: 31.80
Area: 35270
Amount: 0.239271
Amount Units: pg/ul

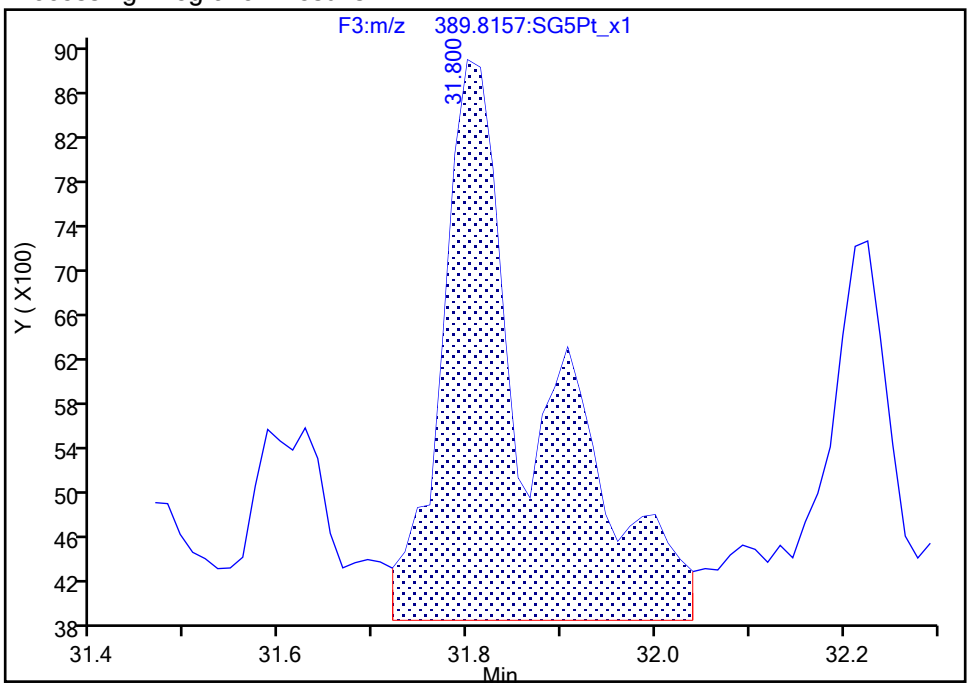

Manual Integration Results

RT: 31.91
Area: 7091
Amount: 0.044258
Amount Units: pg/ul

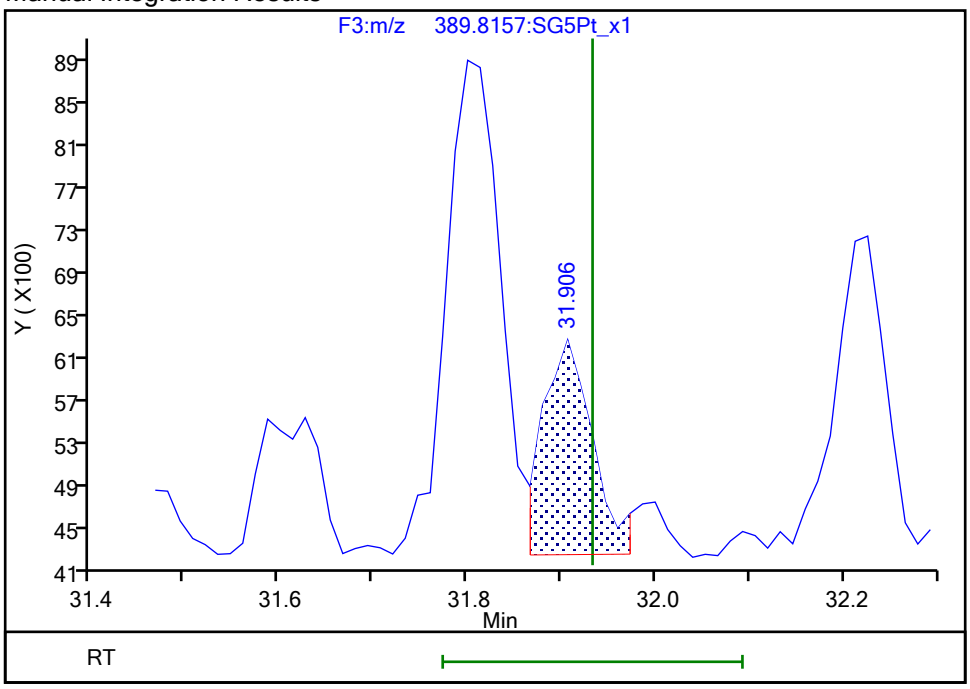

Reviewer: dadunj, 14-Oct-2019 14:48:15

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_19.d				
Injection Date:	11-Oct-2019 06:19:56	Instrument ID:	10D5		
Lims ID:	320-54852-A-3-A	Lab Sample ID:	320-54852-3		
Client ID:	11187072-Filter Test-3				
Operator ID:	SMA	ALS Bottle#:	17	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 2

Processing Integration Results

RT: 33.79
Area: 315082
Amount: 1.569816
Amount Units: pg/ul

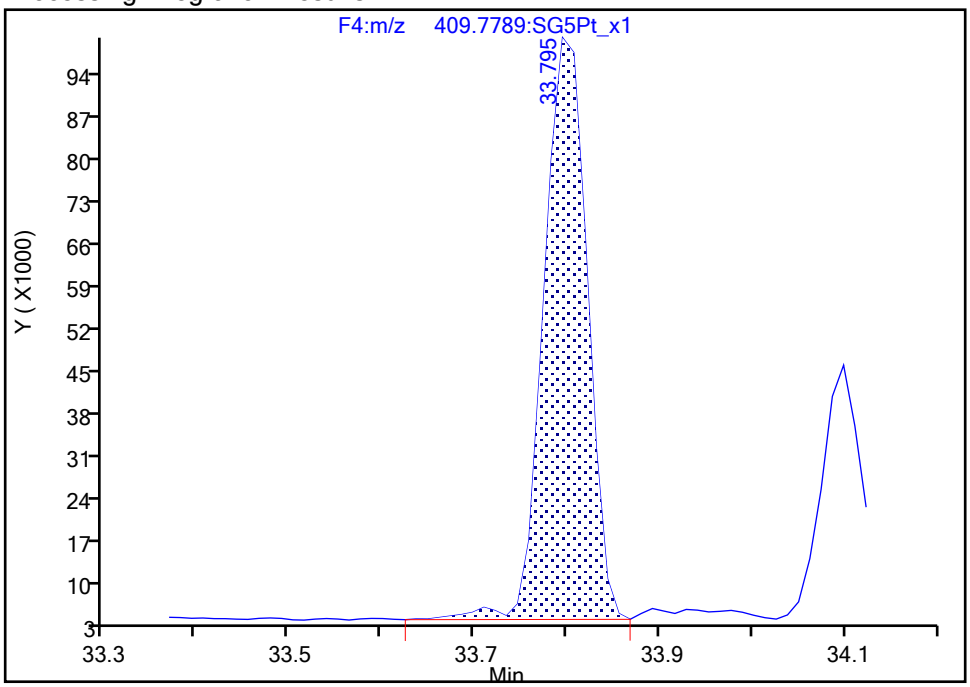

Manual Integration Results

RT: 33.79
Area: 310038
Amount: 1.553099
Amount Units: pg/ul

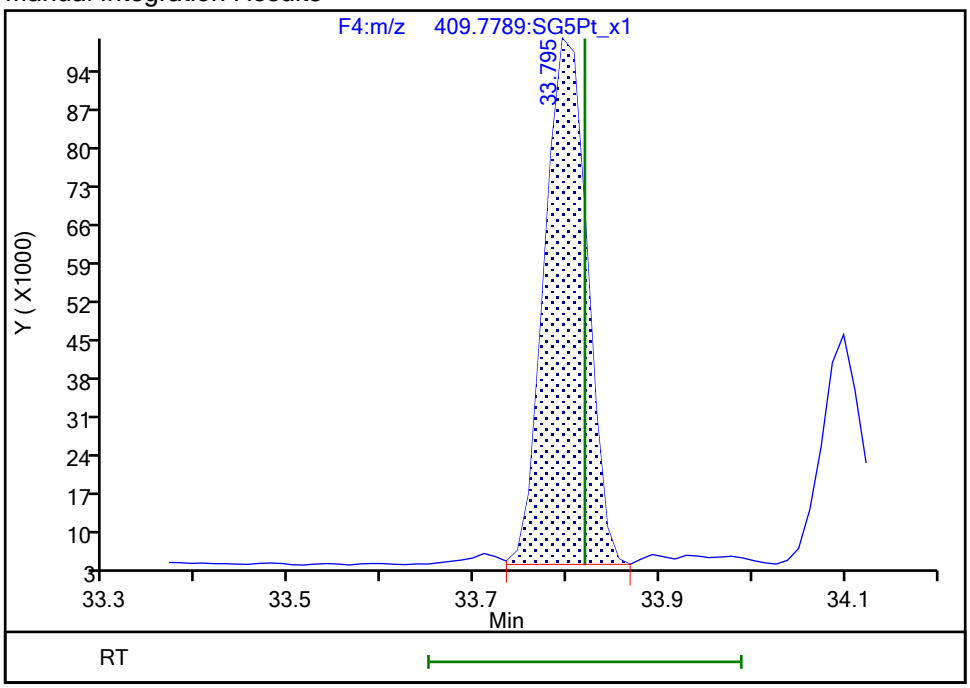

Reviewer: dadunj, 14-Oct-2019 14:48:22

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_19.d				
Injection Date:	11-Oct-2019 06:19:56	Instrument ID:	10D5		
Lims ID:	320-54852-A-3-A	Lab Sample ID:	320-54852-3		
Client ID:	11187072-Filter Test-3				
Operator ID:	SMA	ALS Bottle#:	17	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 1

Processing Integration Results

RT: 33.81
Area: 350680
Amount: 1.569816
Amount Units: pg/ul

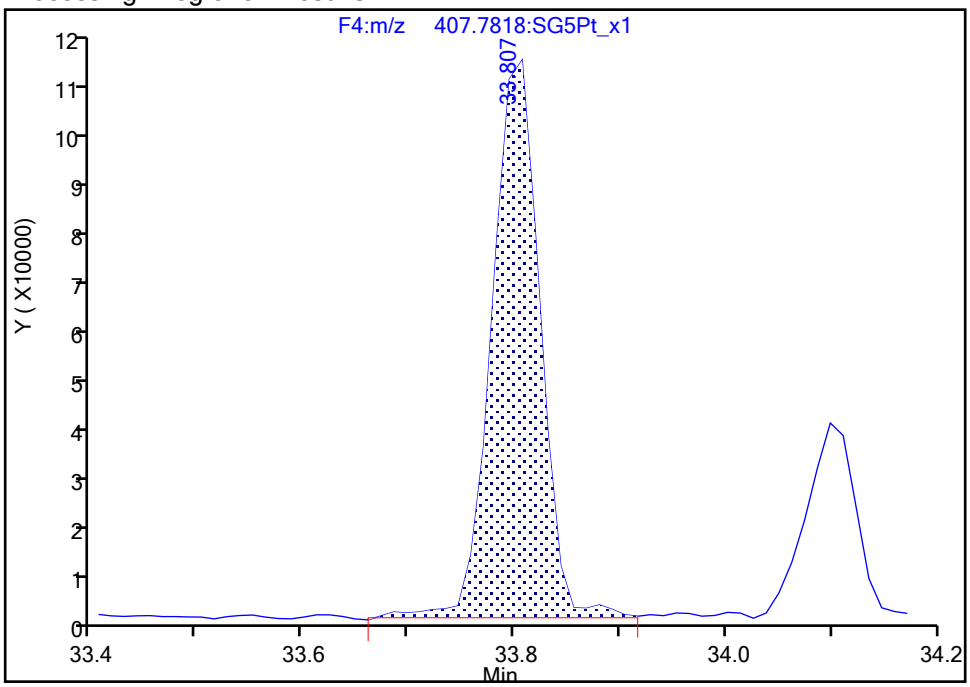

Manual Integration Results

RT: 33.81
Area: 348634
Amount: 1.553099
Amount Units: pg/ul

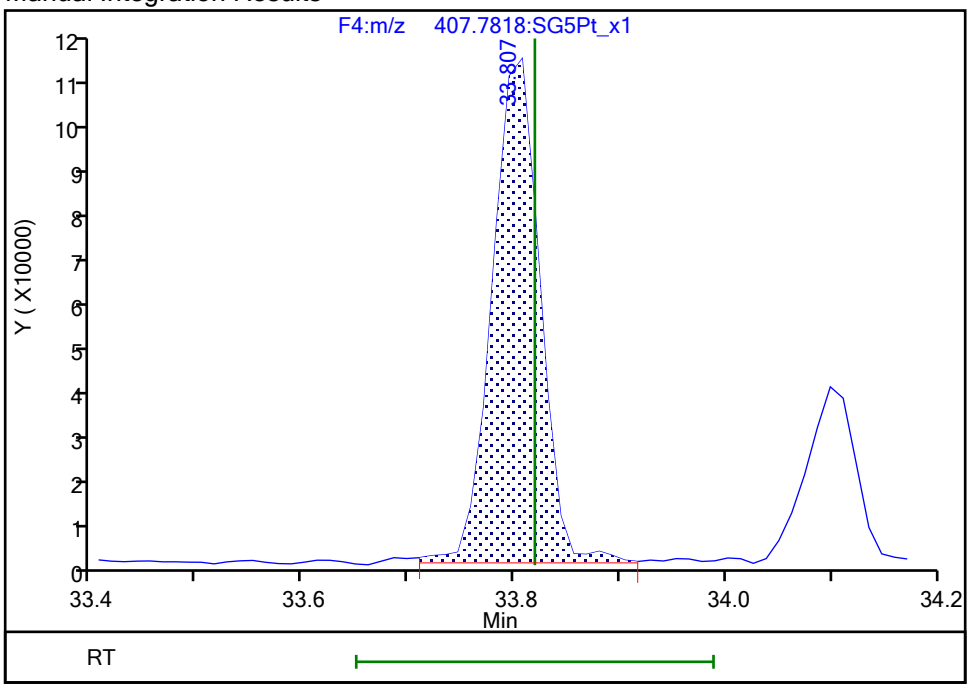

Reviewer: dadunj, 14-Oct-2019 14:48:24

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_19.d				
Injection Date:	11-Oct-2019 06:19:56	Instrument ID:	10D5		
Lims ID:	320-54852-A-3-A	Lab Sample ID:	320-54852-3		
Client ID:	11187072-Filter Test-3				
Operator ID:	SMA	ALS Bottle#:	17	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

Non-2,3,7,8-sub-HpCDF, Signal: 1, m/z: 407.7818, RT: (33.79- 34.93)

Signal: 1

Processing Integration Results

RT = 34.099 Area = 140366

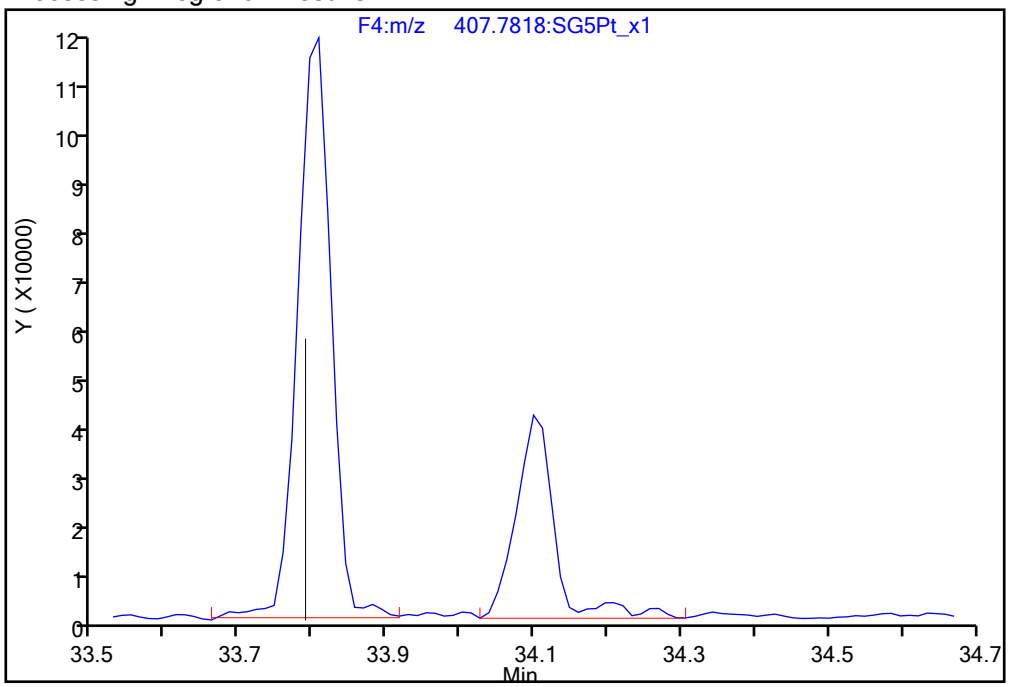

Manual Integration Results

RT = 34.099 Area = 128093 M

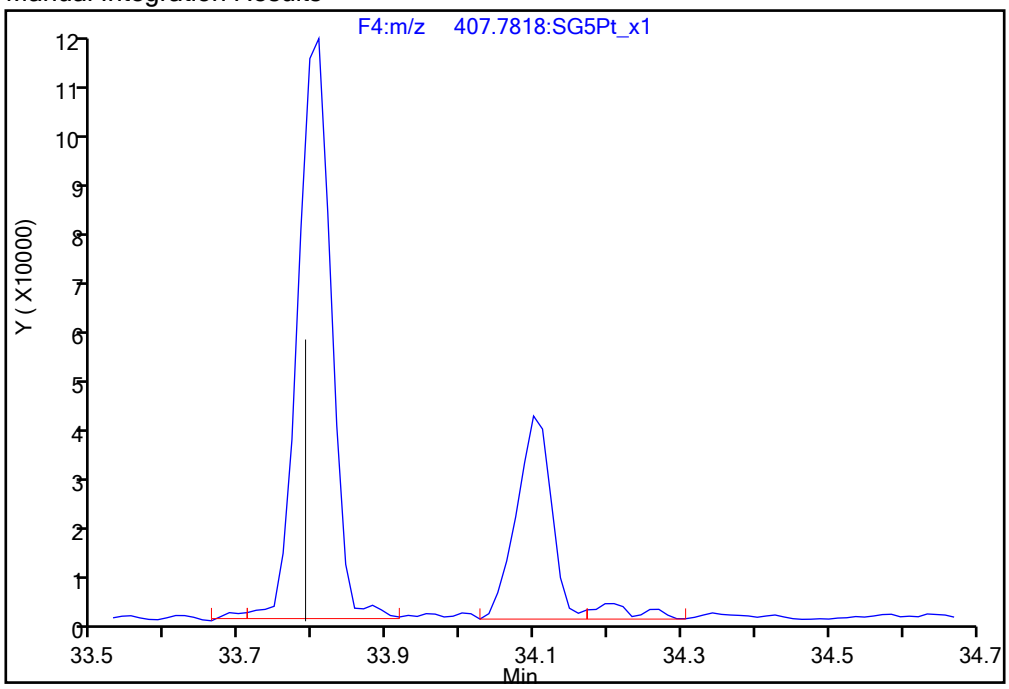

Reviewer: dadunj, 14-Oct-2019 14:48:29

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_19.d				
Injection Date:	11-Oct-2019 06:19:56	Instrument ID:	10D5		
Lims ID:	320-54852-A-3-A	Lab Sample ID:	320-54852-3		
Client ID:	11187072-Filter Test-3				
Operator ID:	SMA	ALS Bottle#:	17	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

Non-2,3,7,8-sub-HpCDF, Signal: 2, m/z: 409.7789, RT: (33.79- 34.93)

Signal: 2

Processing Integration Results

RT = 34.099 Area = 129731

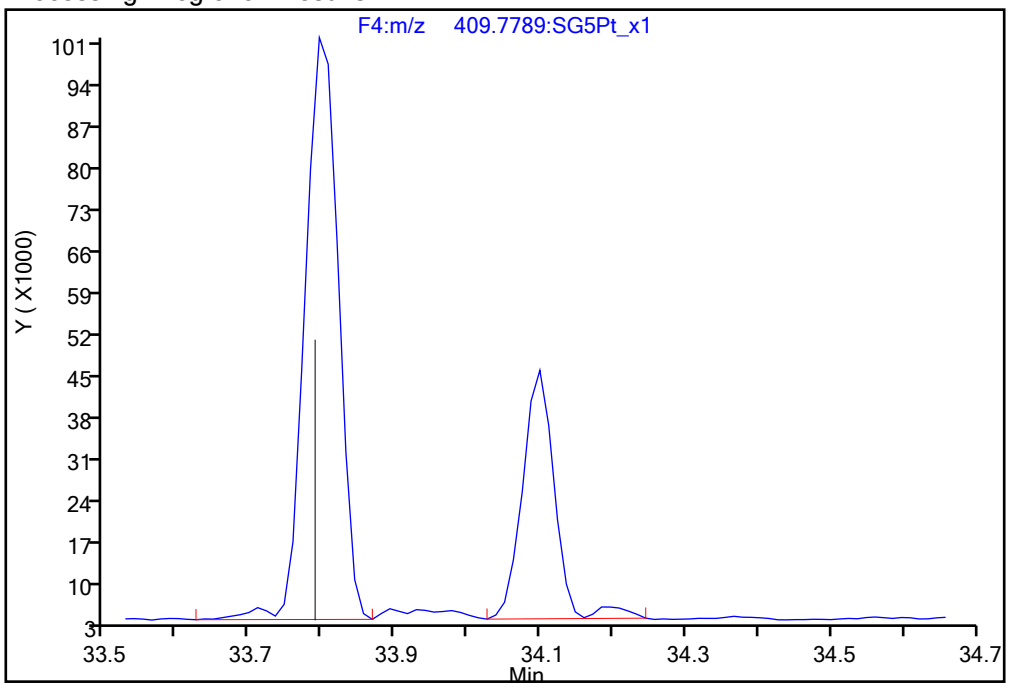

Manual Integration Results

RT = 34.099 Area = 123716 M

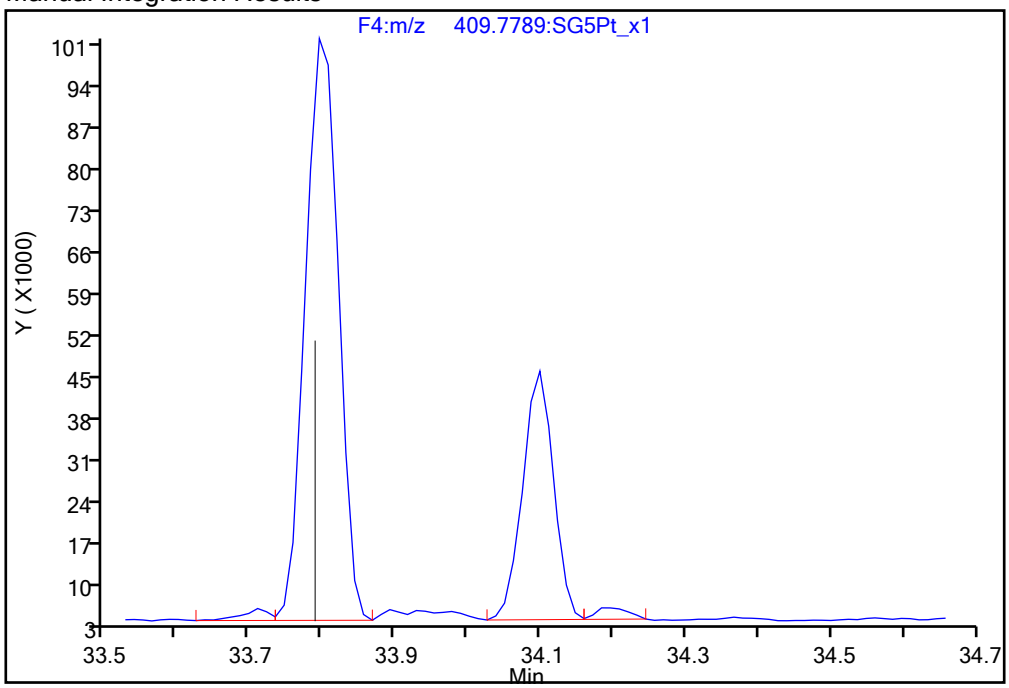

Reviewer: dadunj, 14-Oct-2019 14:48:30

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 14-Oct-2019 14:49:38 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_19.d		
Injection Date:	11-Oct-2019 06:19:56	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-3		
Worklist#:	330148	Sample Line#:	19
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

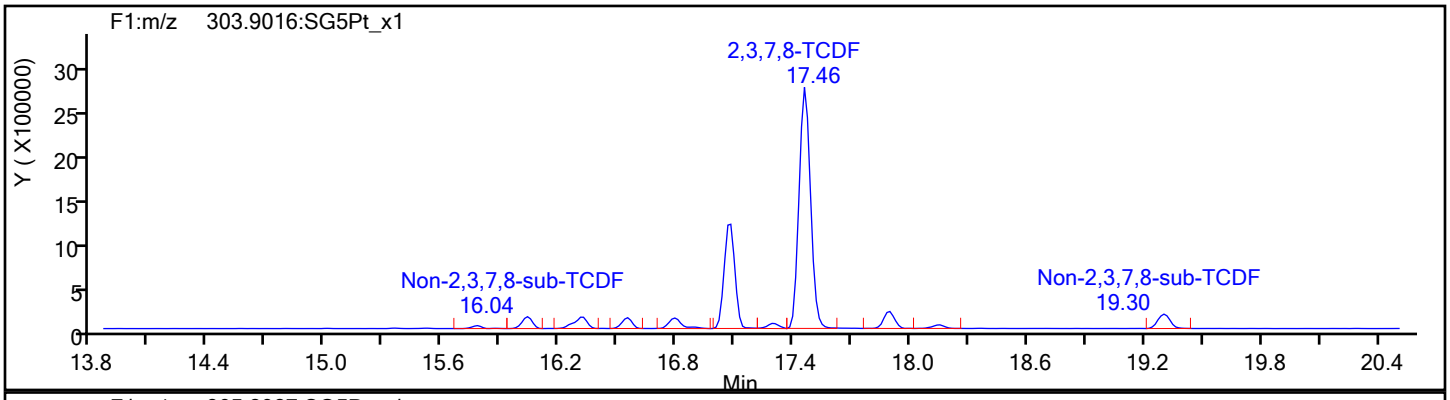

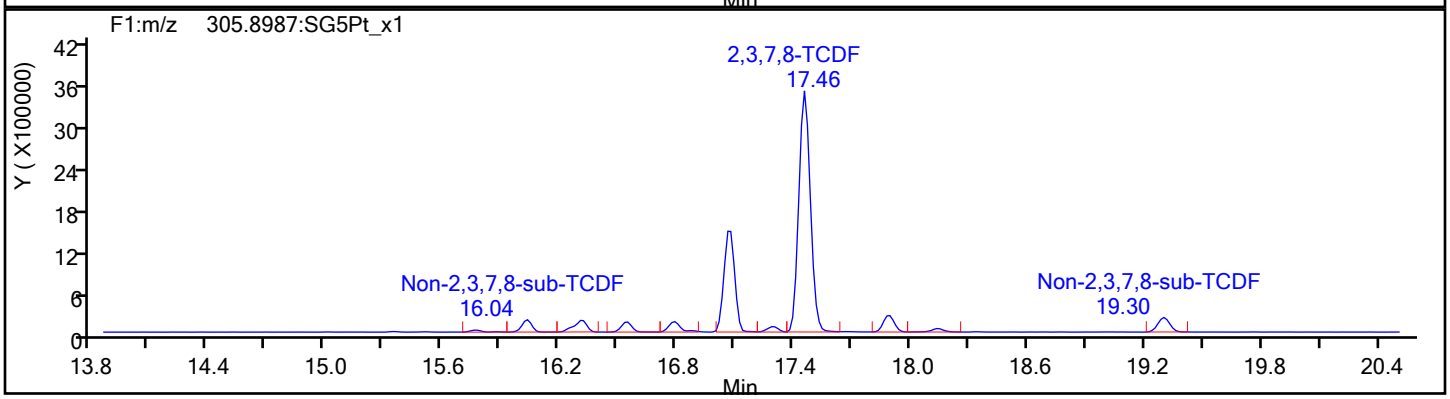

TCDF Standards

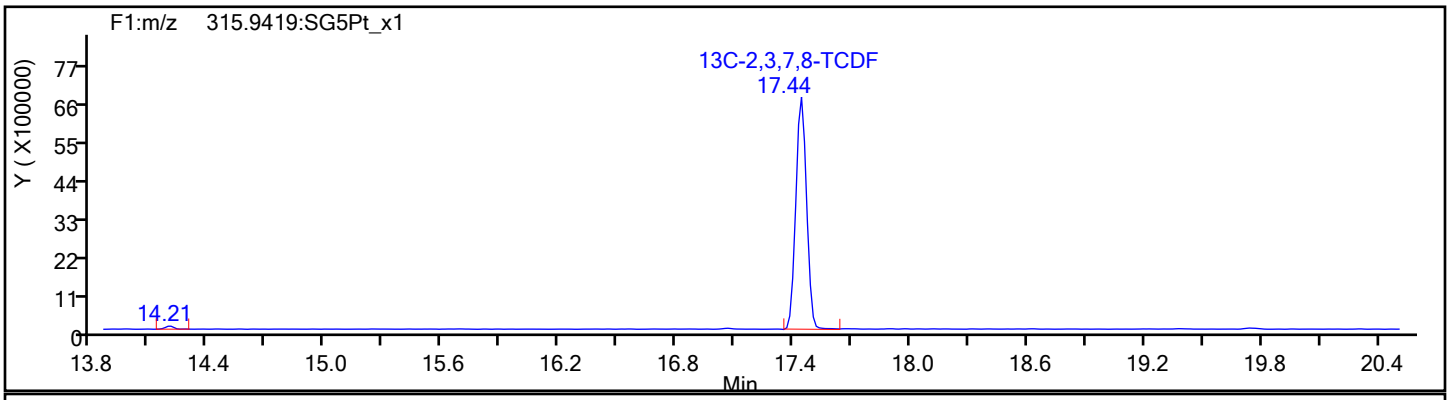

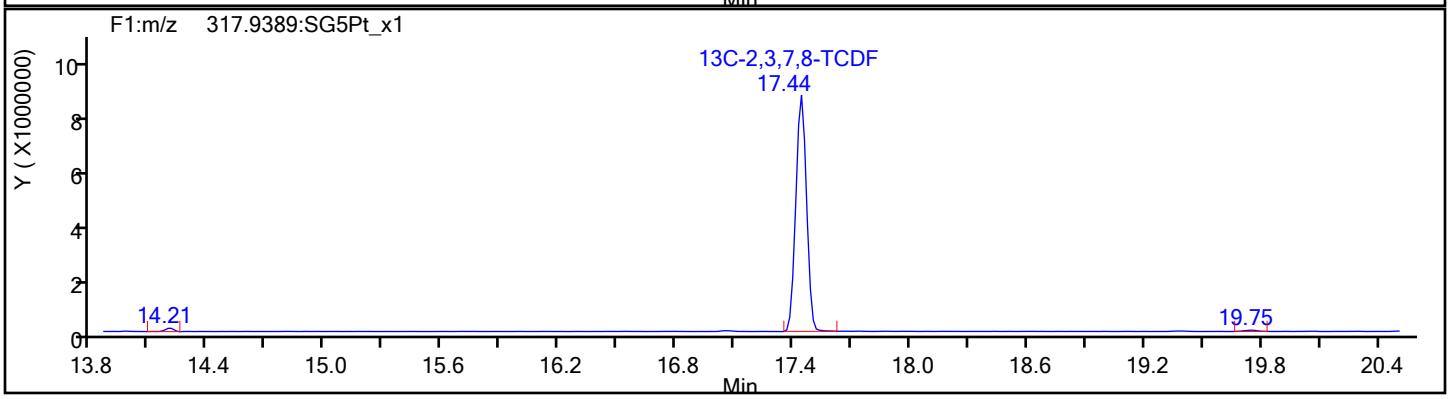

Report Date: 14-Oct-2019 14:49:38 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_19.d		
Injection Date:	11-Oct-2019 06:19:56	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-3		
Worklist#:	330148	Sample Line#:	19
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

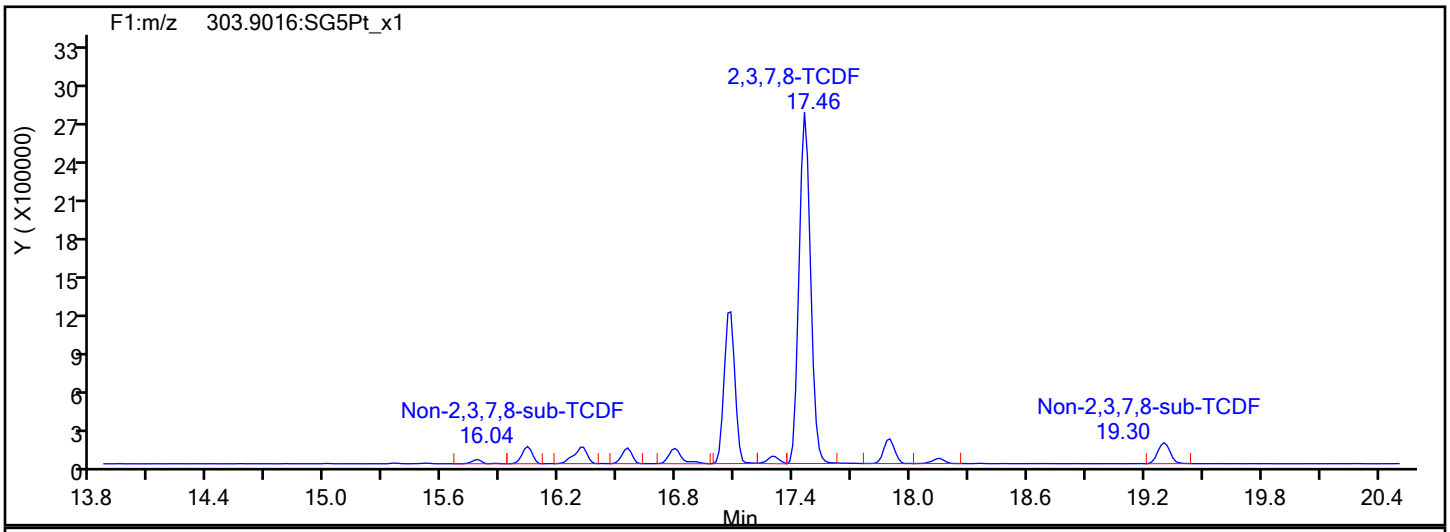

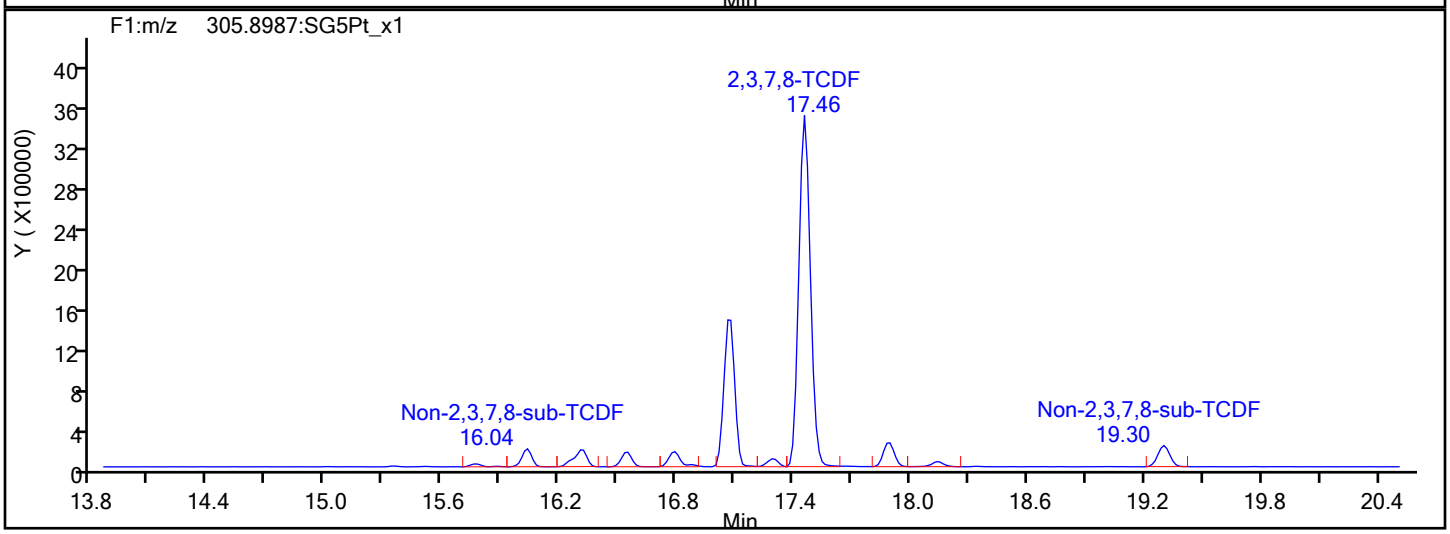

TCDF Interference Mass

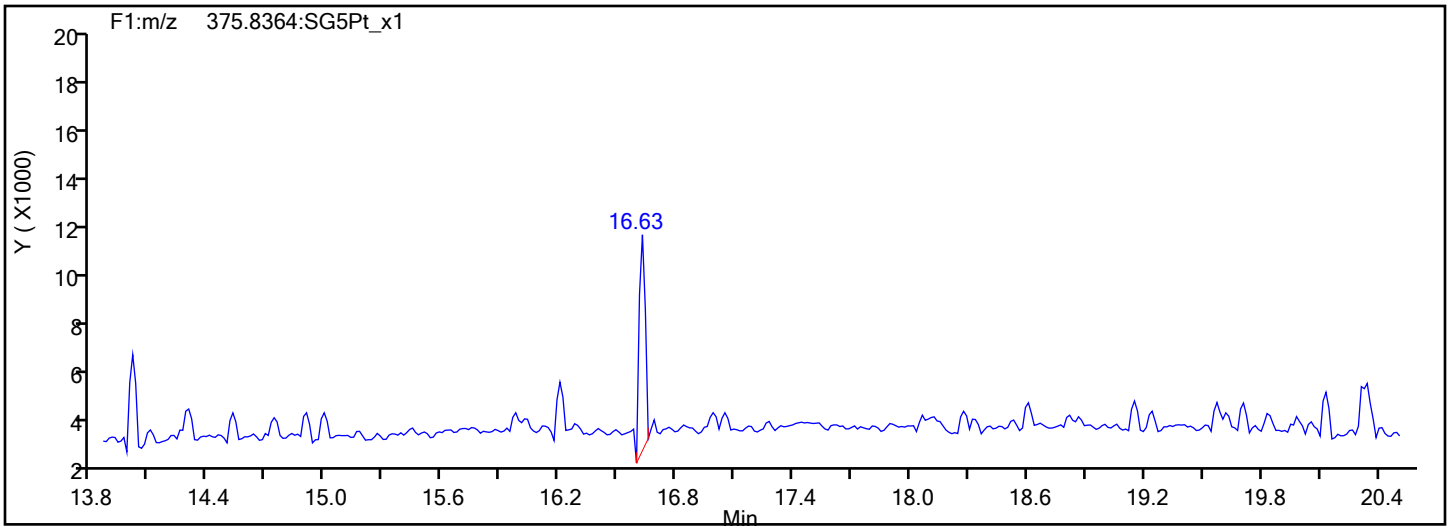

Report Date: 14-Oct-2019 14:49:38 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_19.d		
Injection Date:	11-Oct-2019 06:19:56	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-3		
Worklist#:	330148	Sample Line#:	19
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

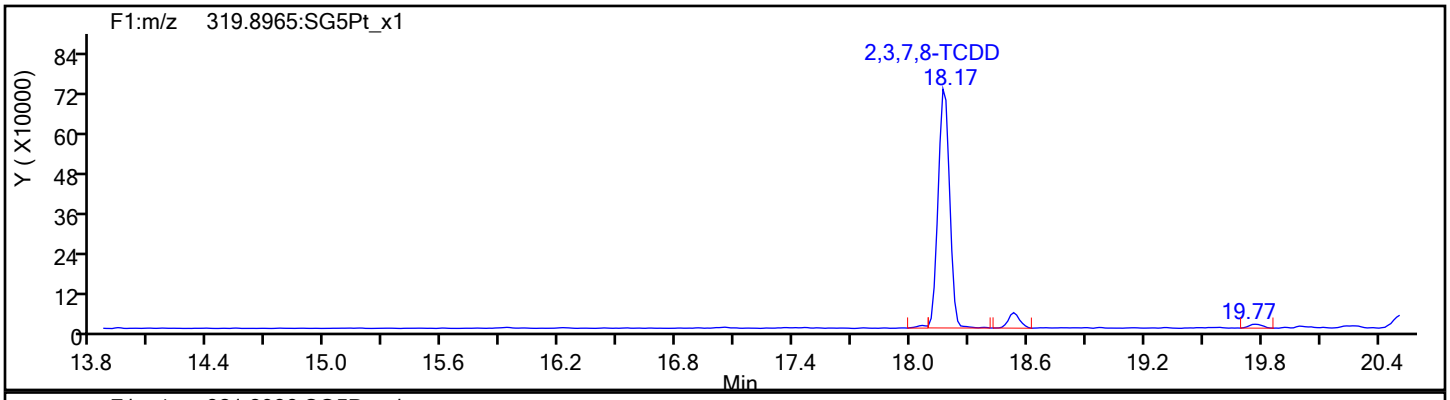

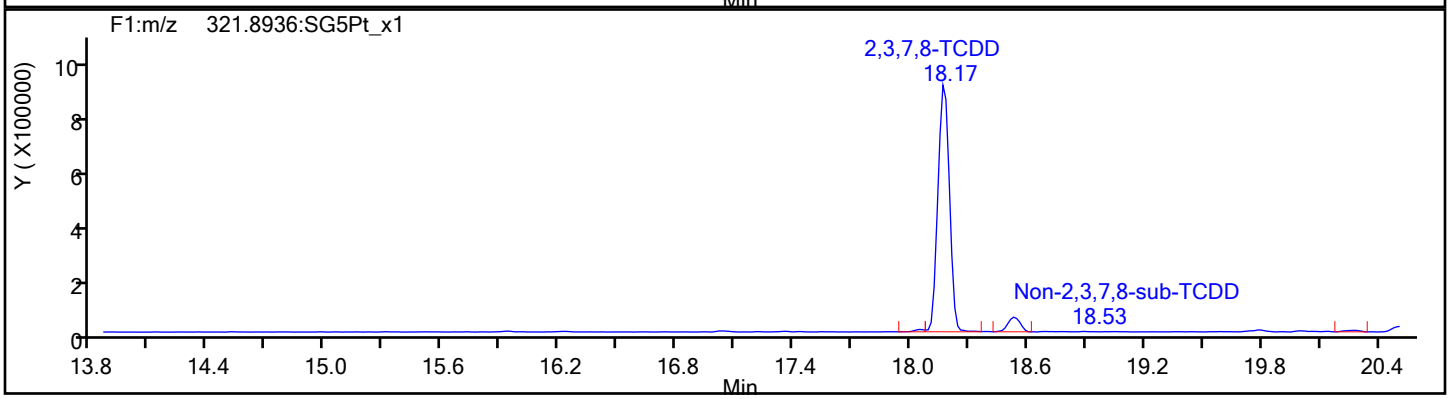

TCDD Standards

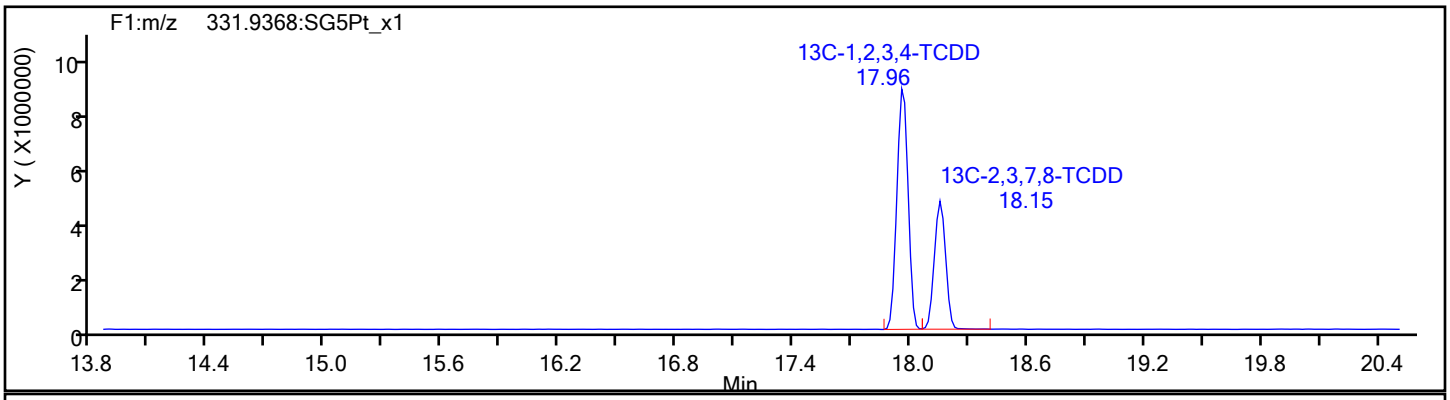

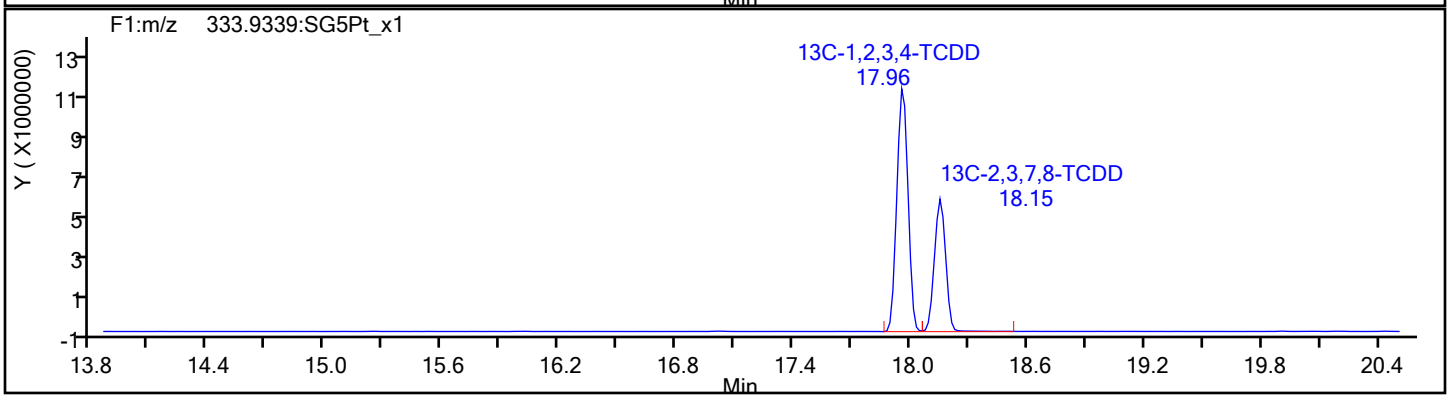

Report Date: 14-Oct-2019 14:49:38 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_19.d		
Injection Date:	11-Oct-2019 06:19:56	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-3		
Worklist#:	330148	Sample Line#:	19
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

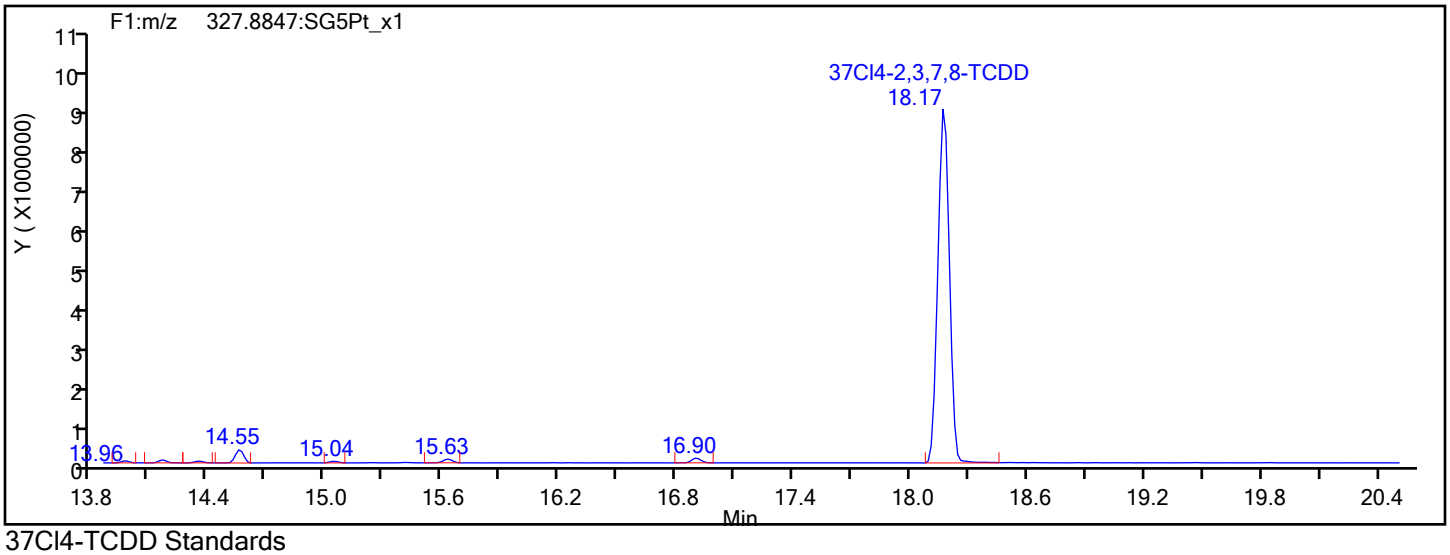

37Cl4-TCDD Standards

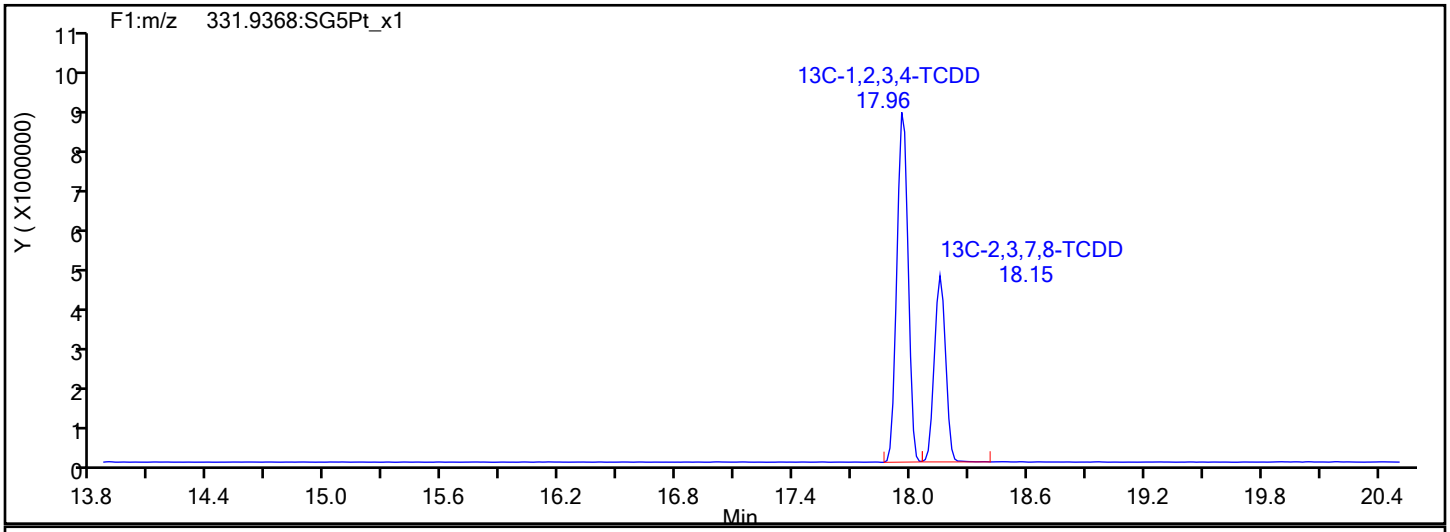

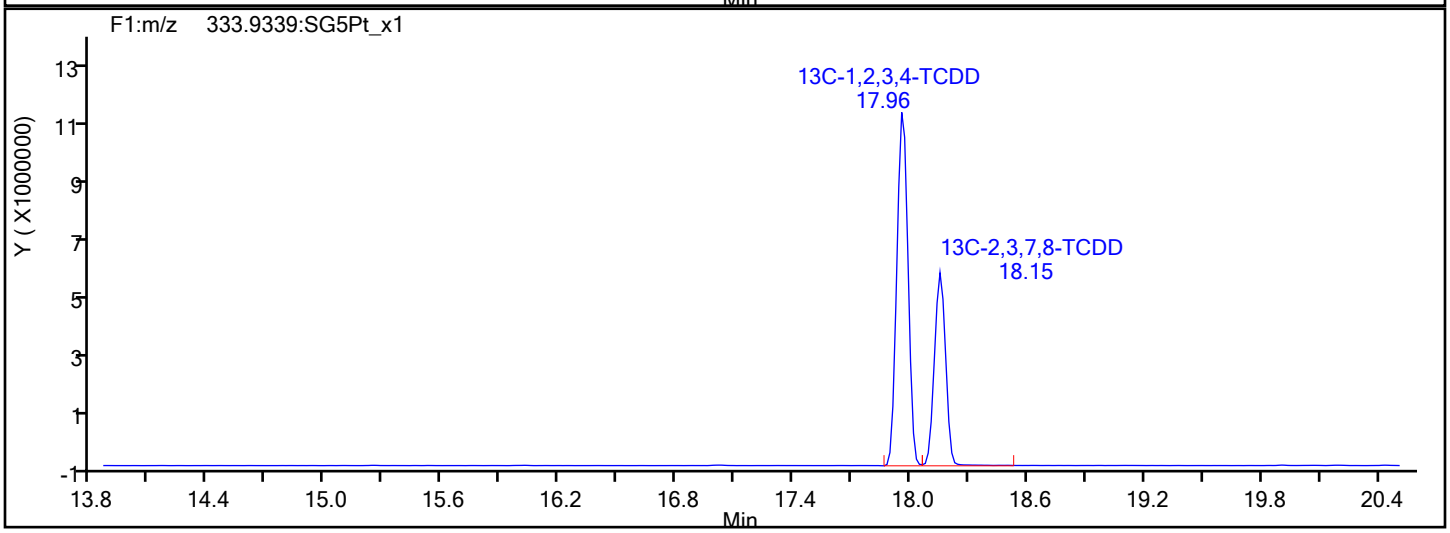

Report Date: 14-Oct-2019 14:49:38 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_19.d		
Injection Date:	11-Oct-2019 06:19:56	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-3		
Worklist#:	330148	Sample Line#:	19
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

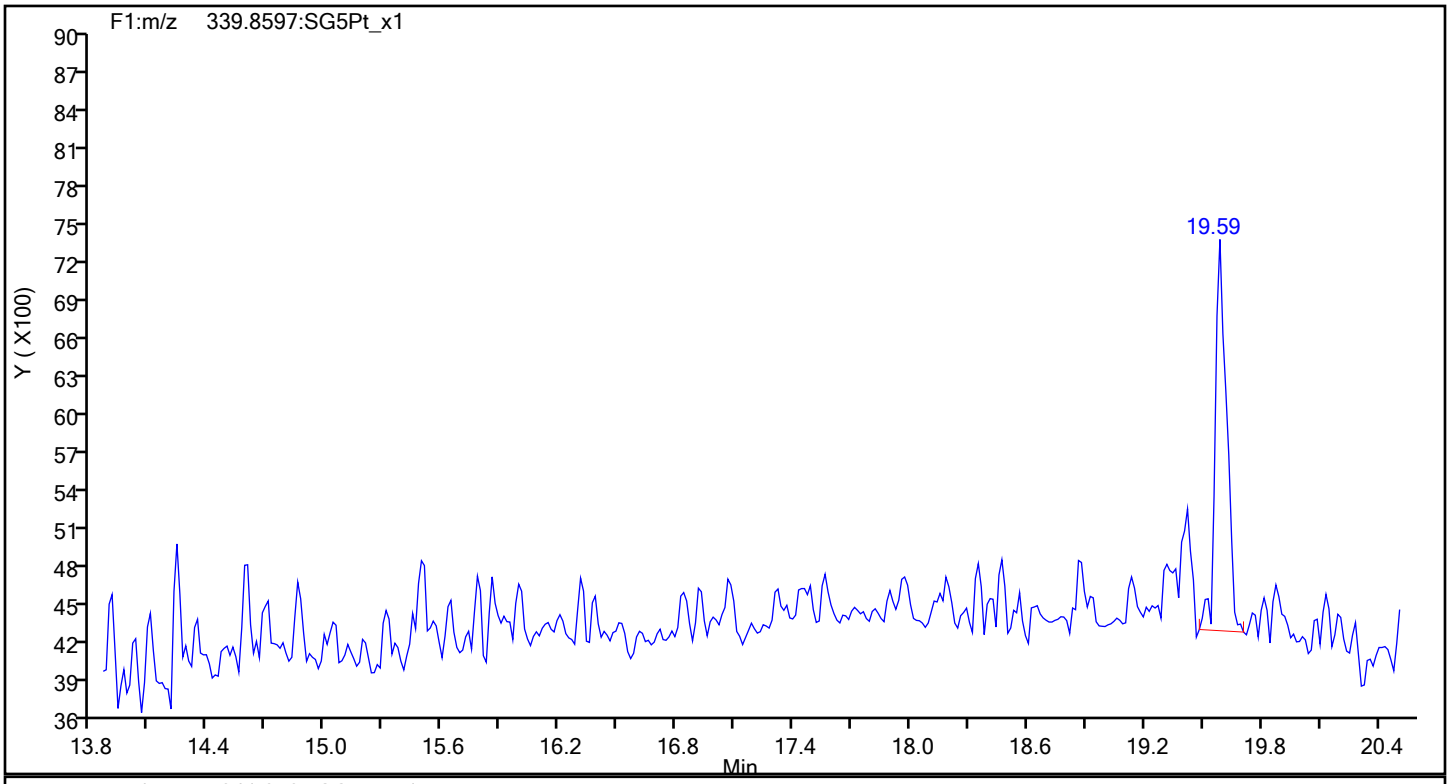

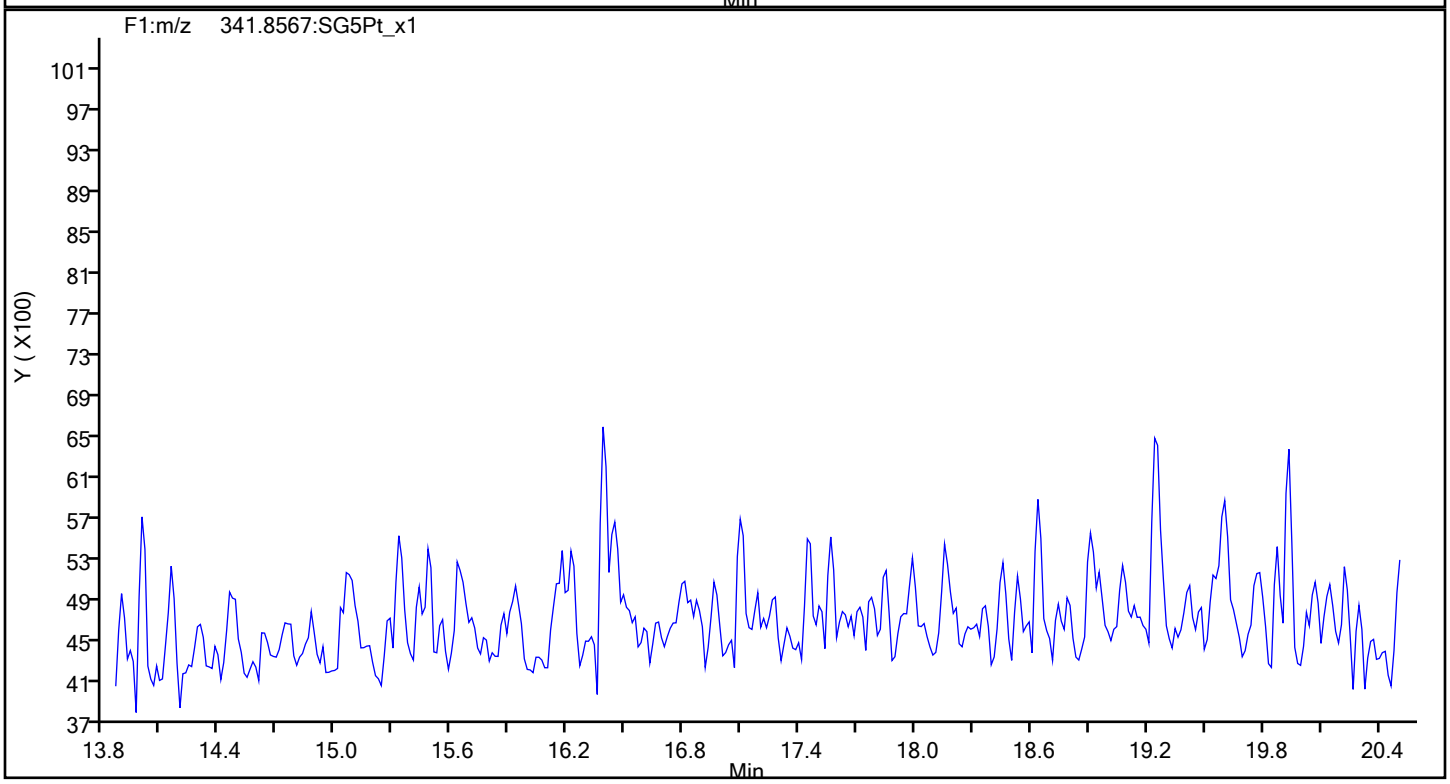

Report Date: 14-Oct-2019 14:49:38 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_19.d		
Injection Date:	11-Oct-2019 06:19:56	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-3		
Worklist#:	330148	Sample Line#:	19
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

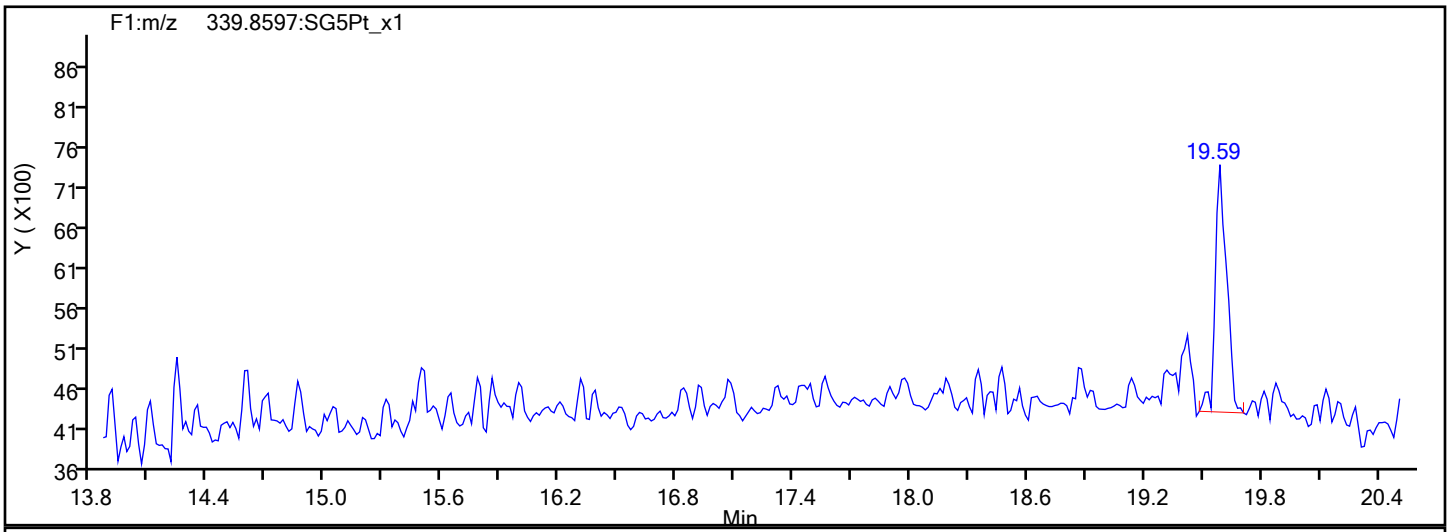

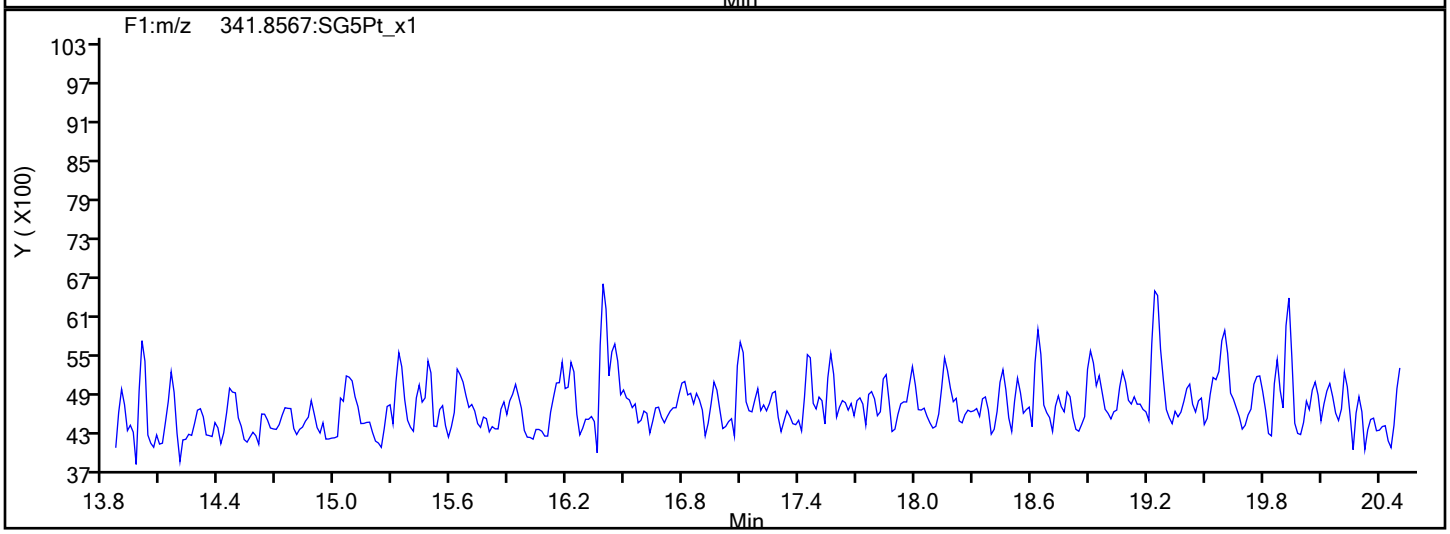

F1 PeCDFs Interference Mass

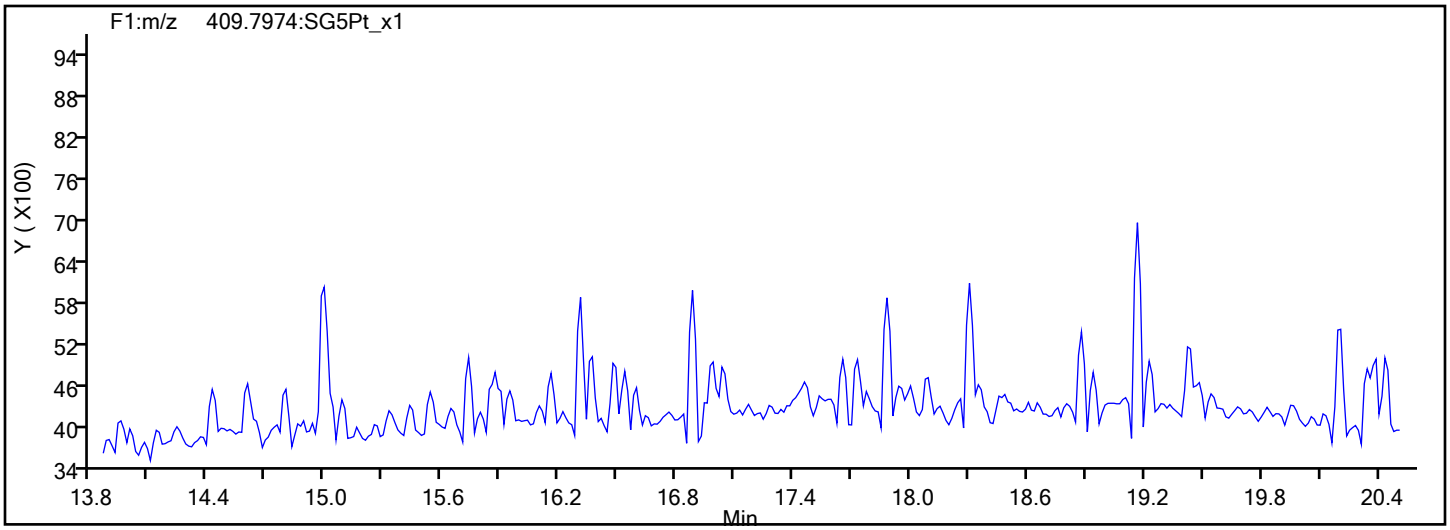

Report Date: 14-Oct-2019 14:49:38 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_19.d		
Injection Date:	11-Oct-2019 06:19:56	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-3		
Worklist#:	330148	Sample Line#:	19
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

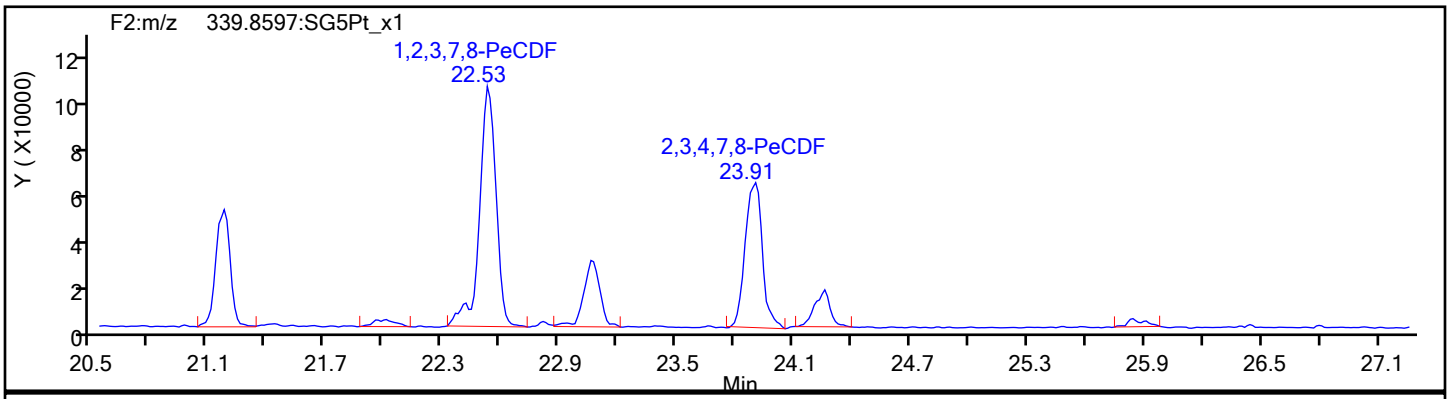

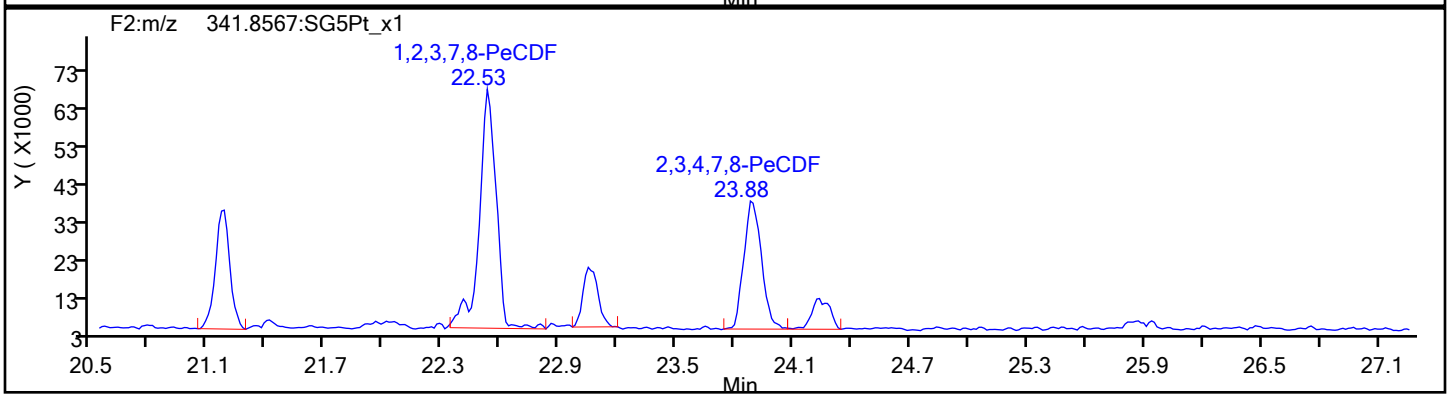

PeCDF Standards

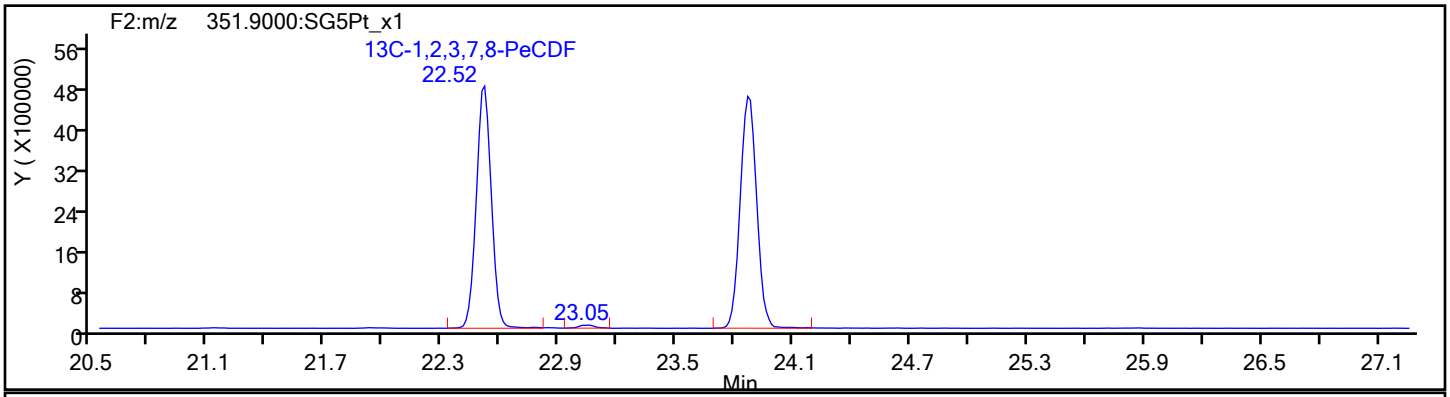

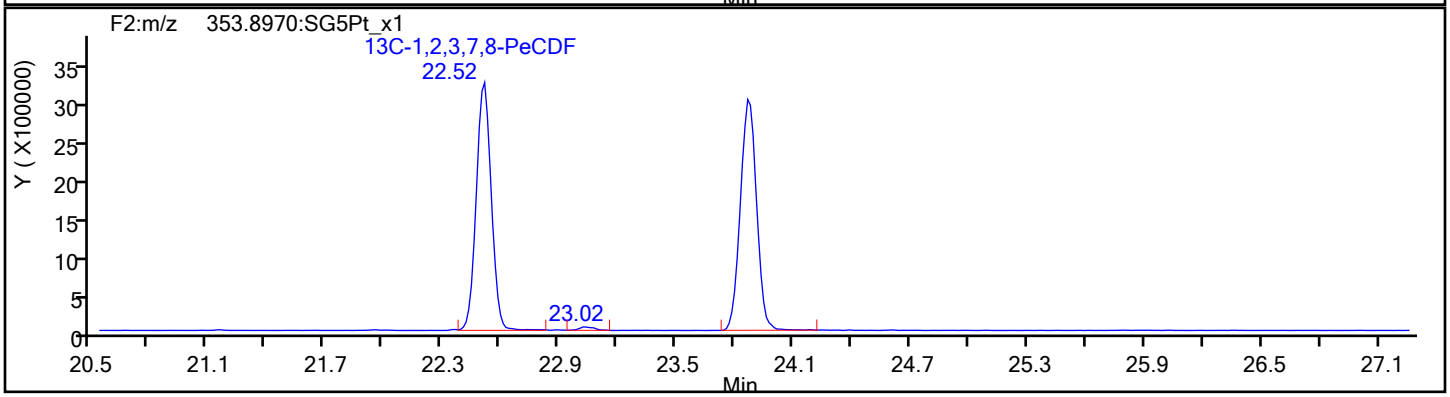

Report Date: 14-Oct-2019 14:49:38 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_19.d		
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Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-3		
Worklist#:	330148	Sample Line#:	19
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

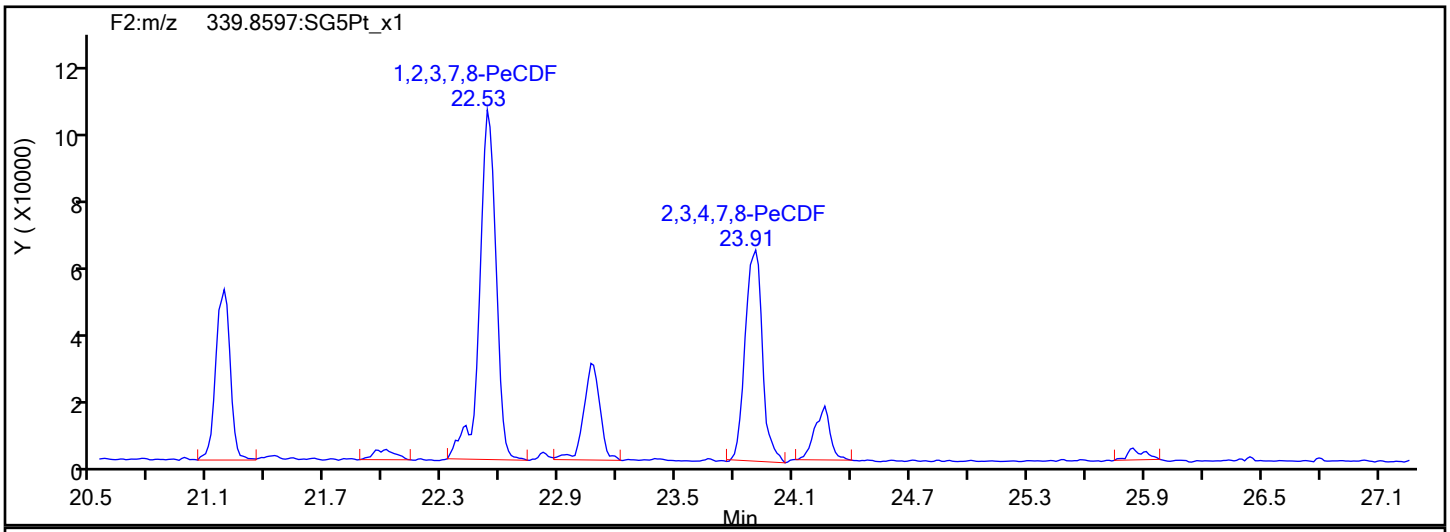

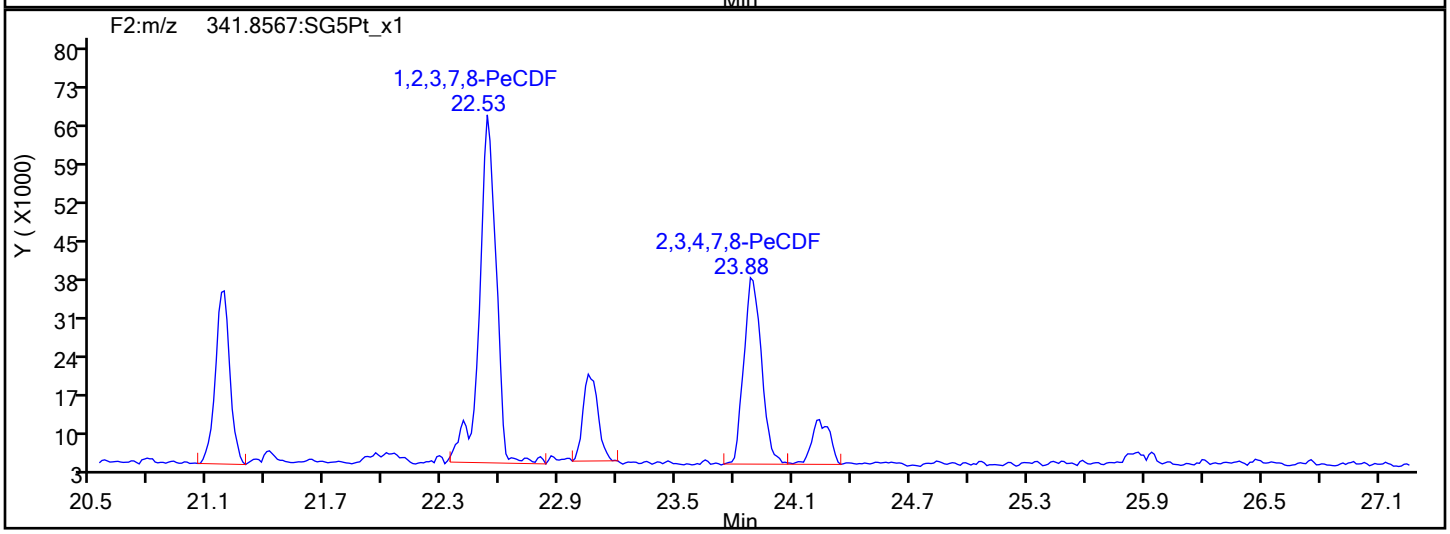

PeCDF Interference Mass

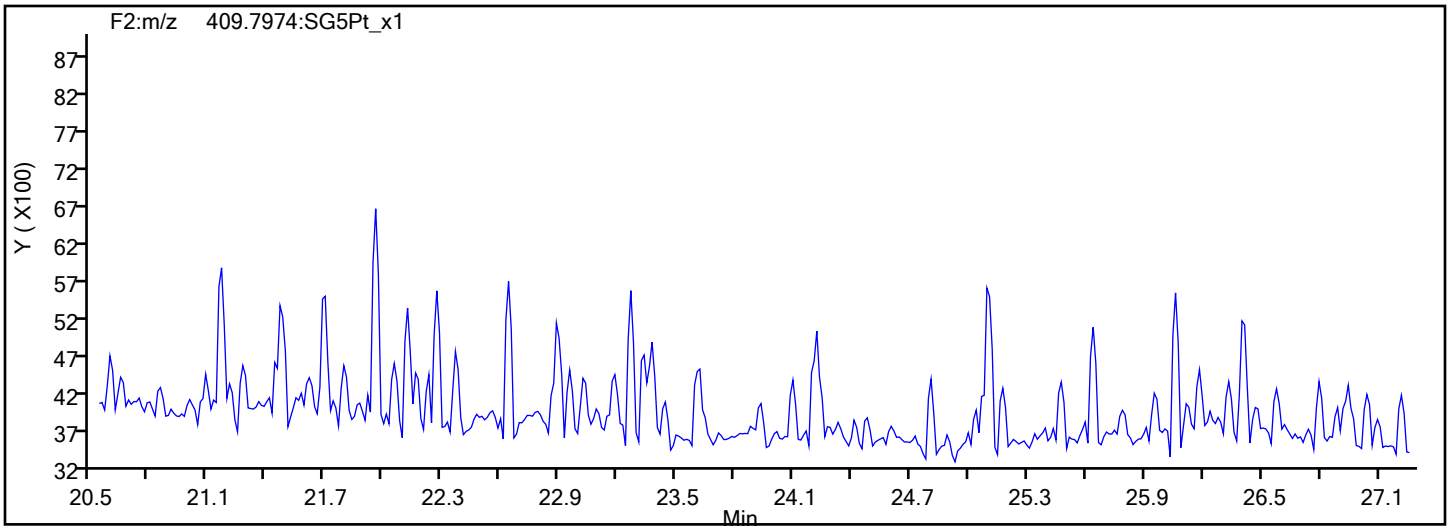

Report Date: 14-Oct-2019 14:49:38 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_19.d		
Injection Date:	11-Oct-2019 06:19:56	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-3		
Worklist#:	330148	Sample Line#:	19
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

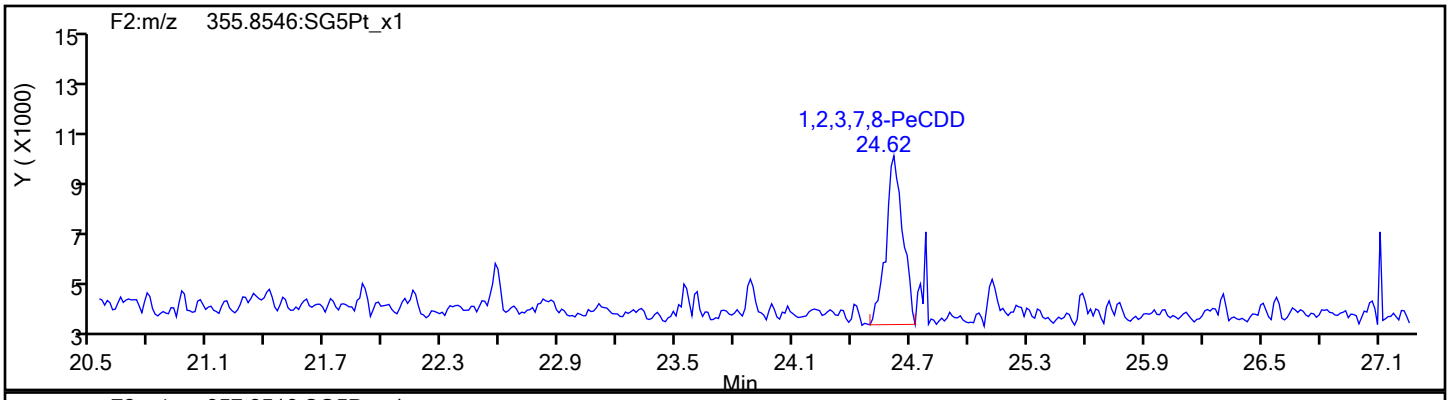

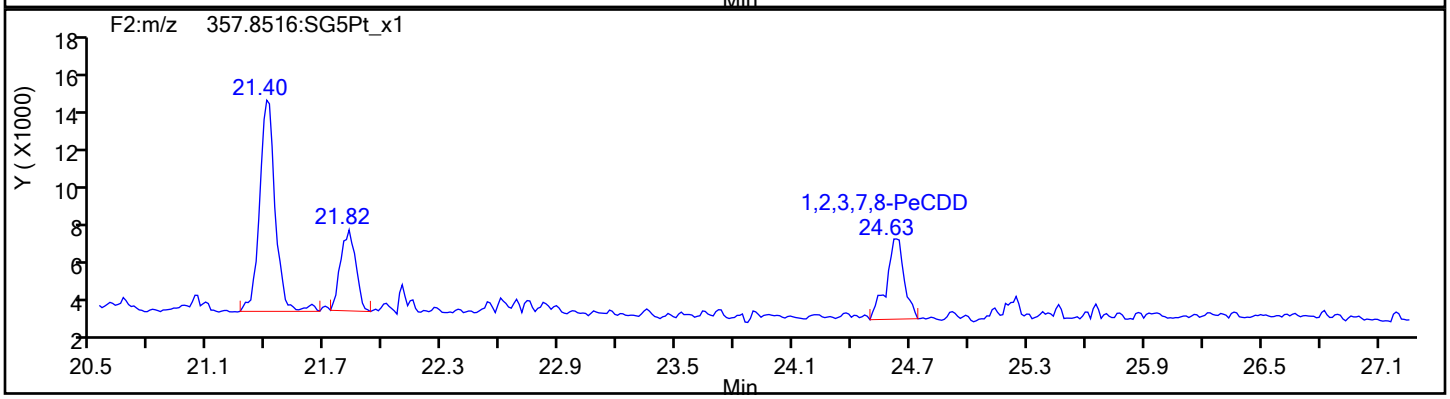

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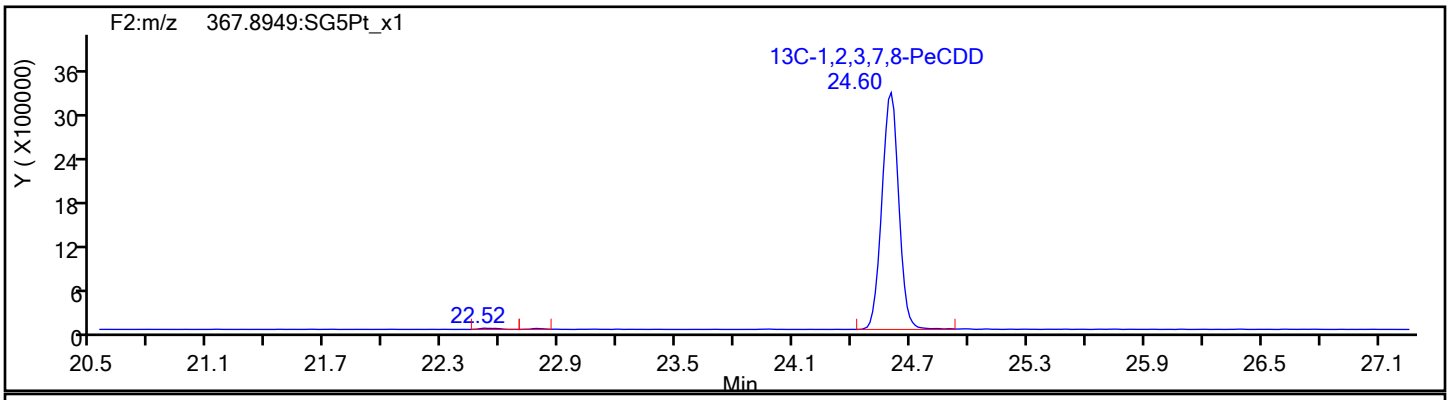

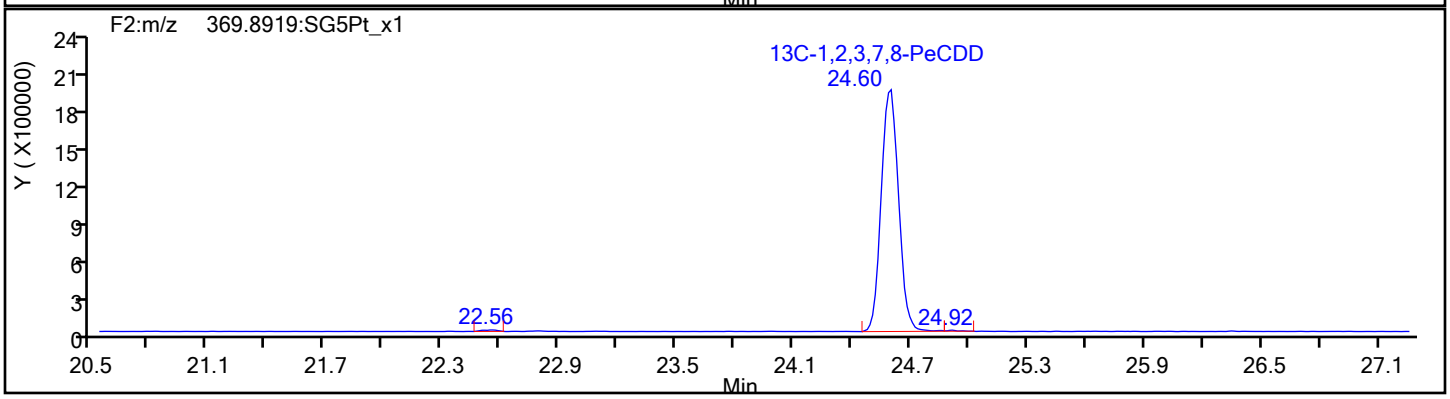

Report Date: 14-Oct-2019 14:49:38 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

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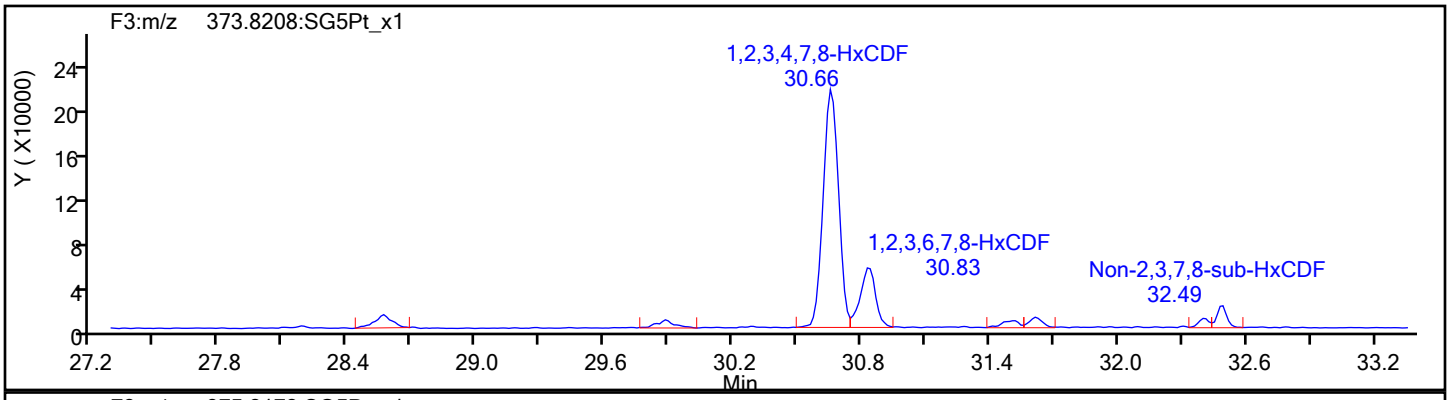

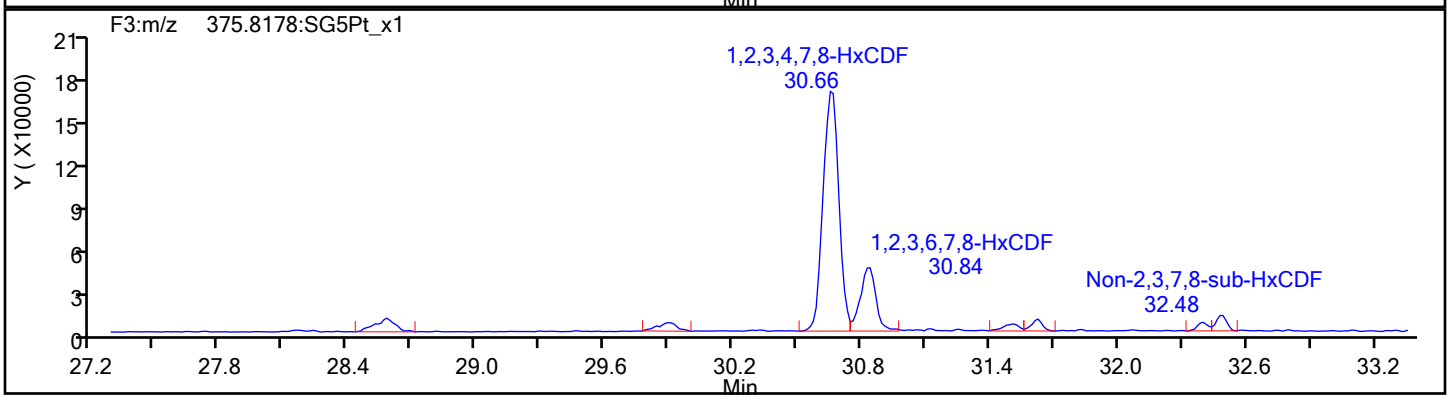

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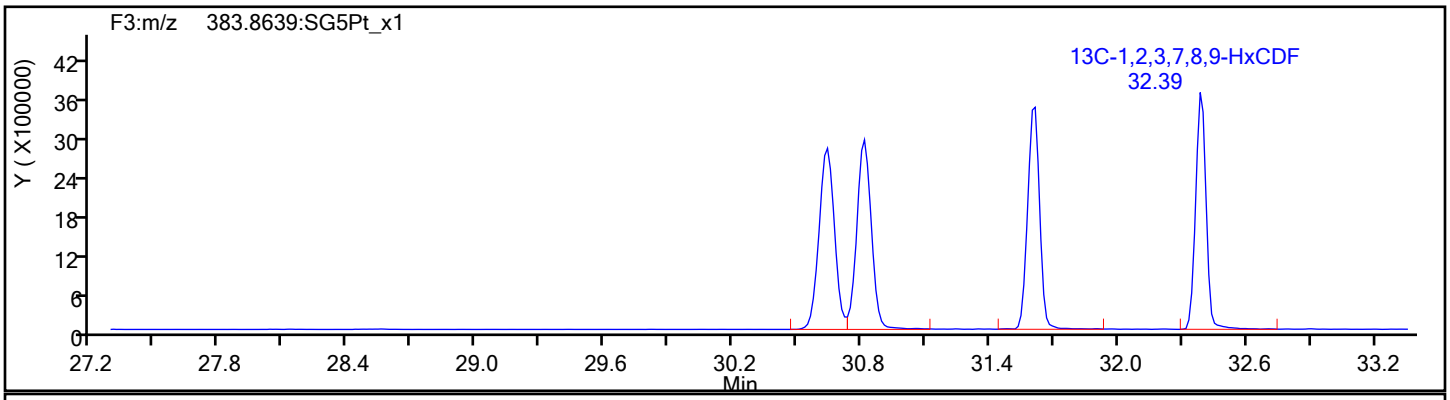

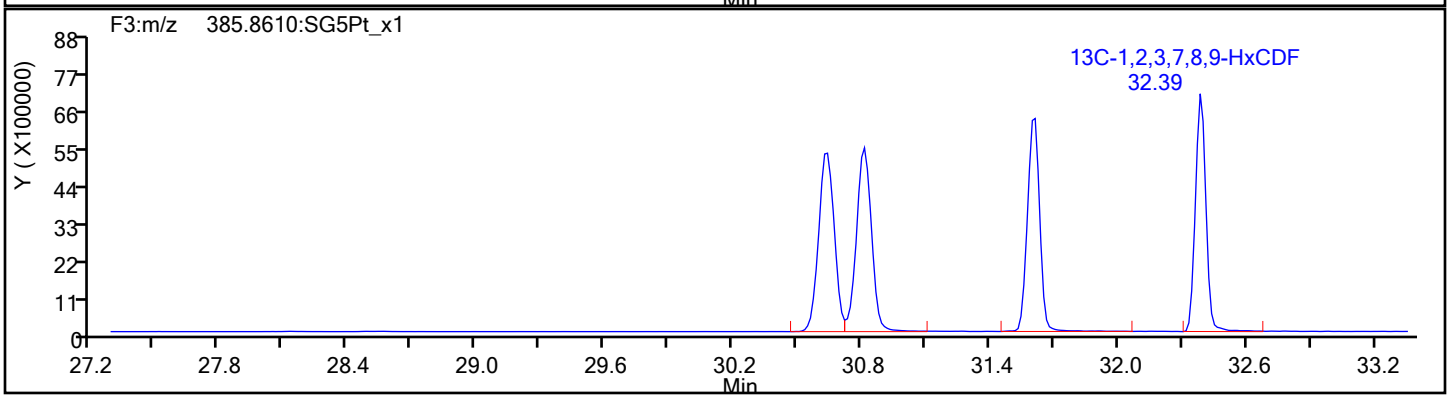

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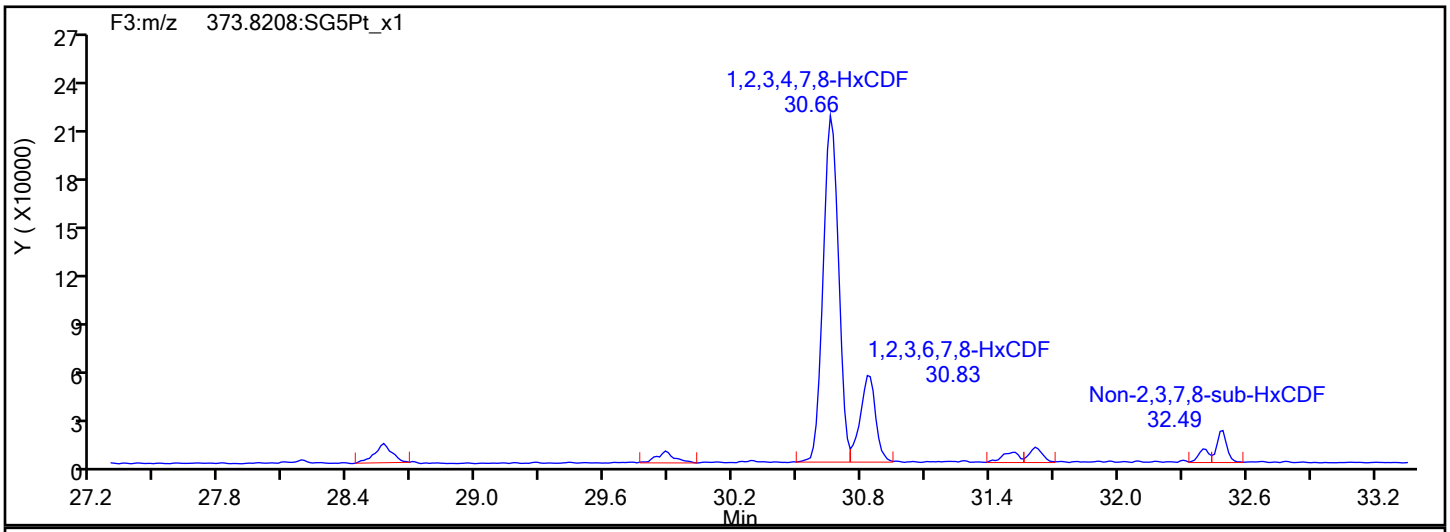

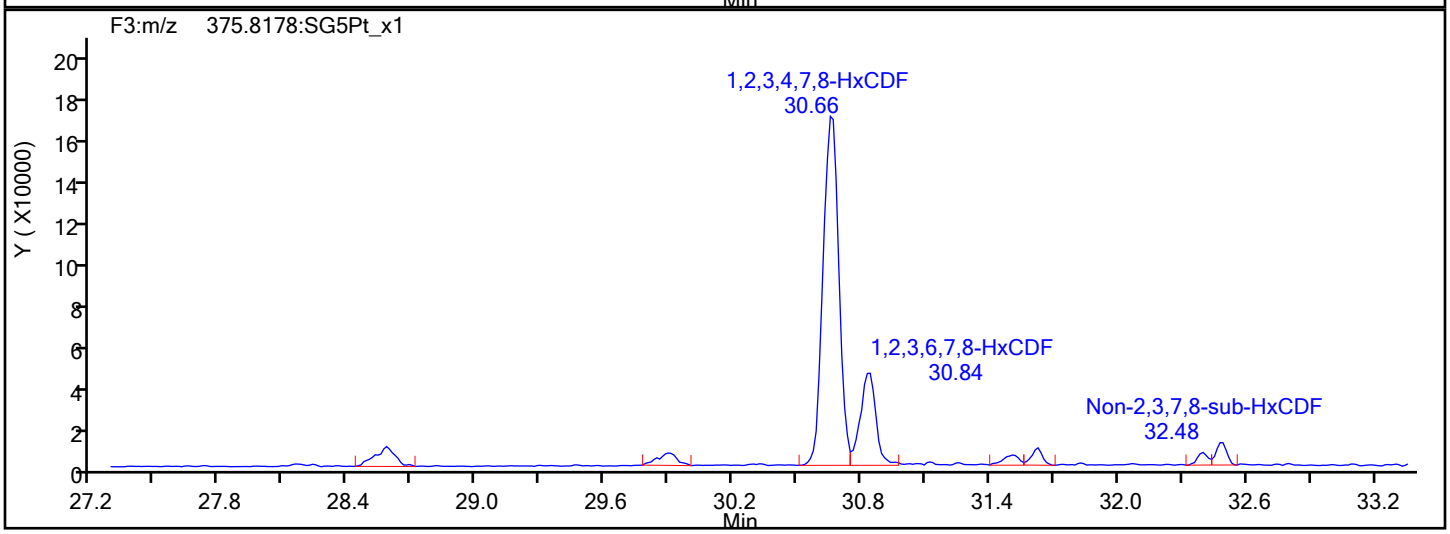

HxCDF Interference Mass

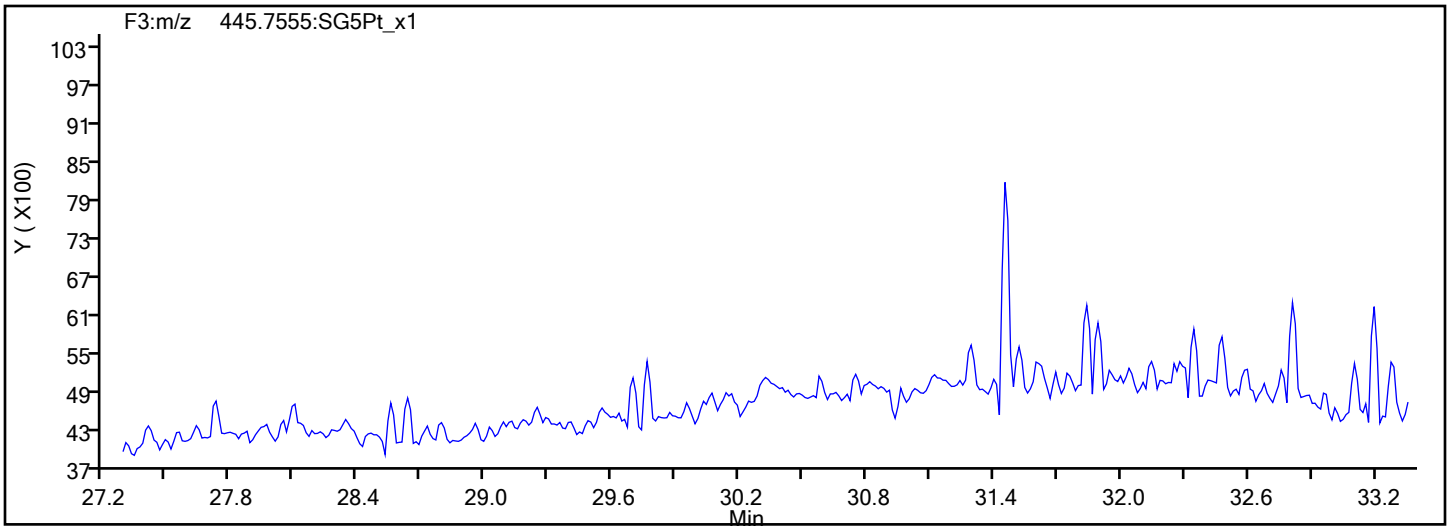

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Eurofins TestAmerica, Sacramento

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HxCDD

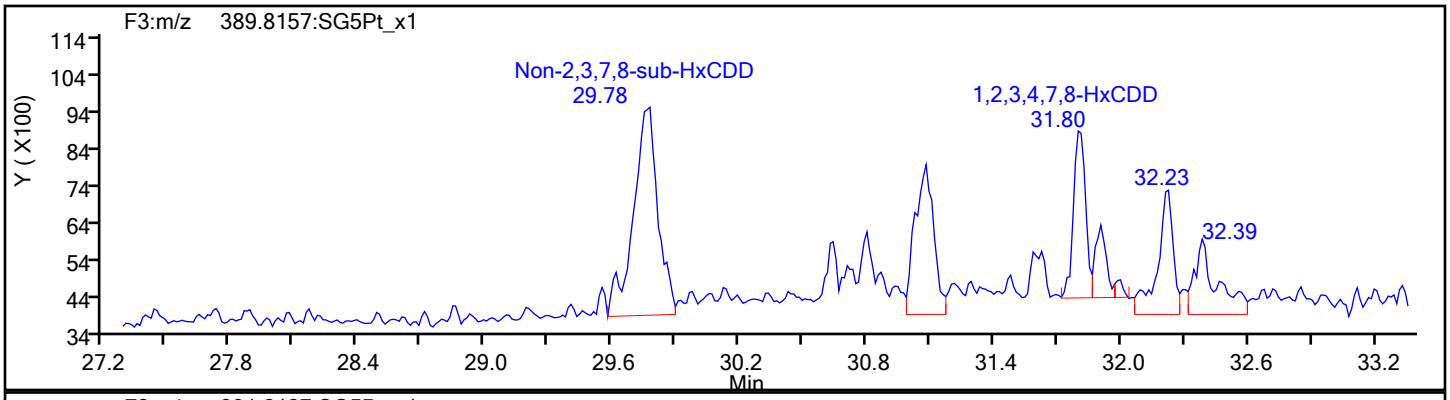

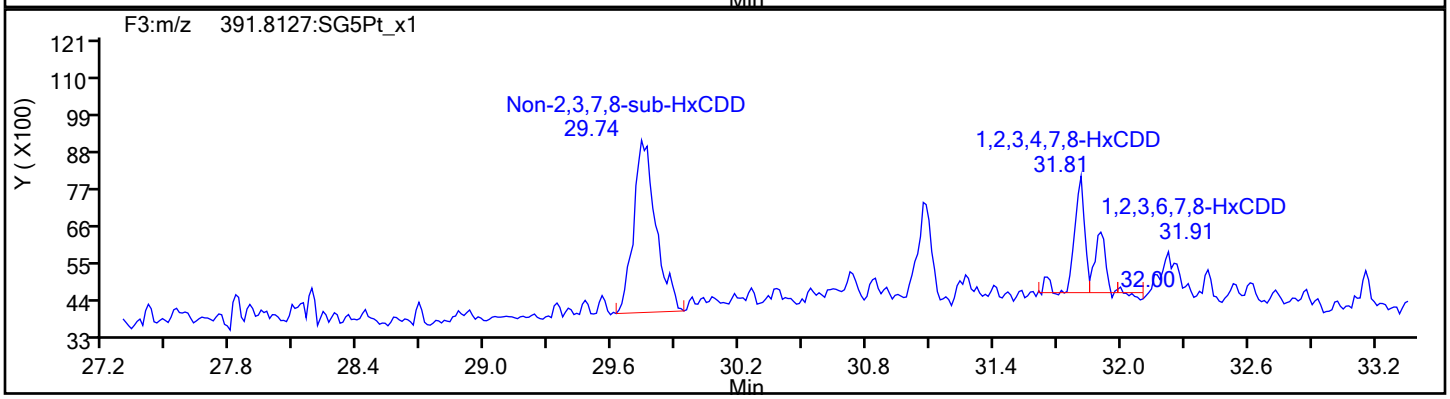

HxCDD Standards

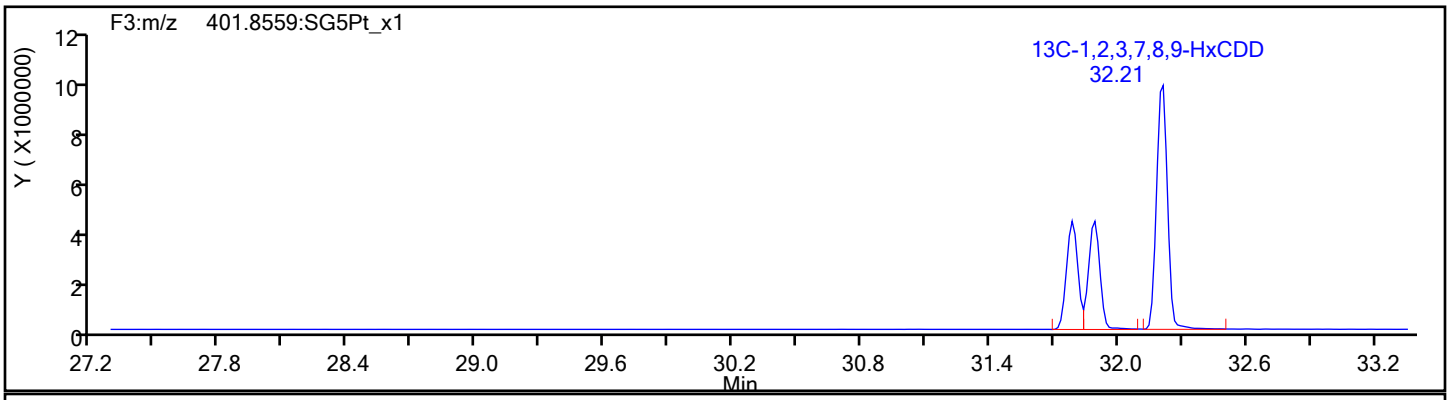

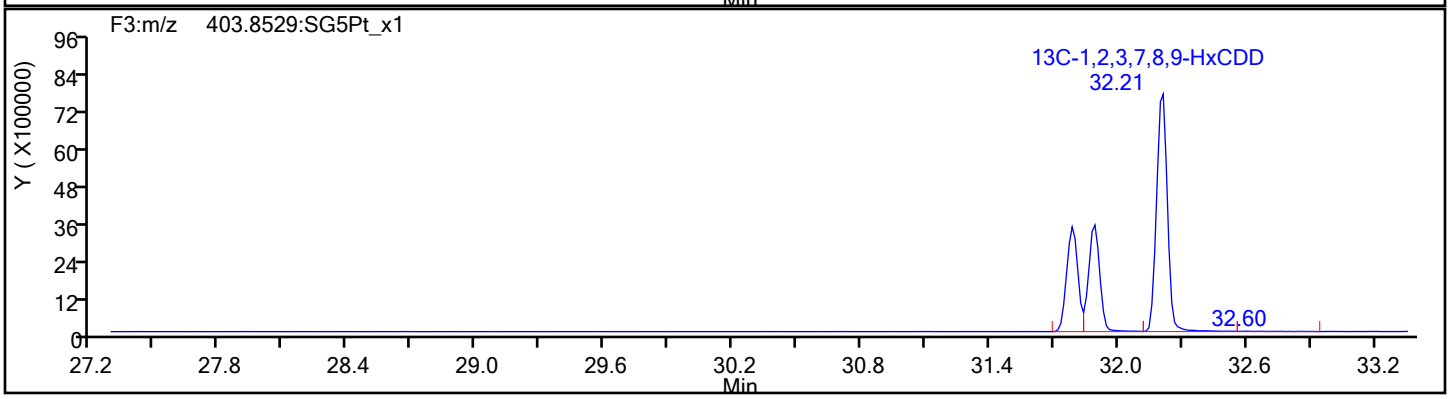

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Eurofins TestAmerica, Sacramento

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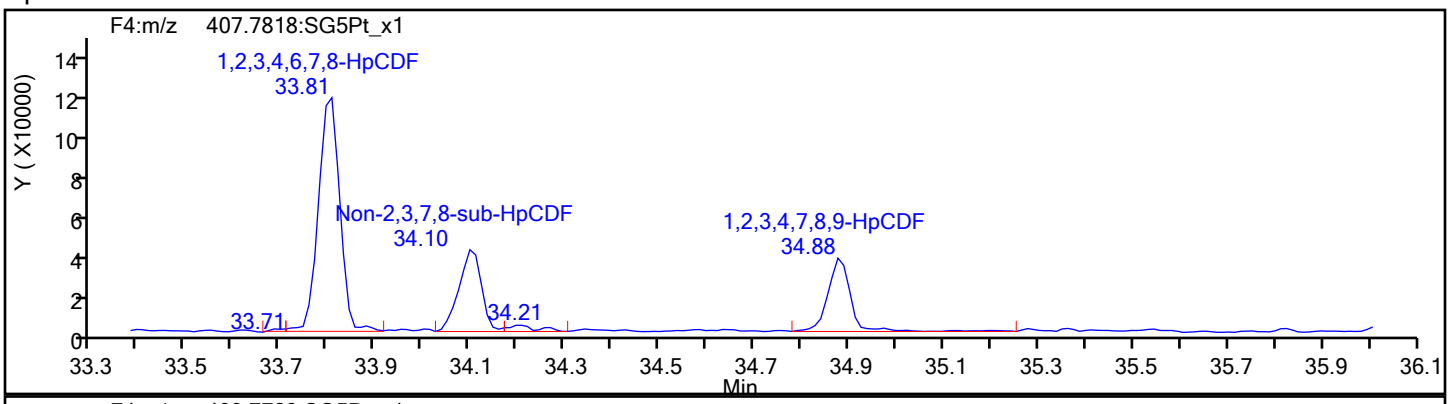

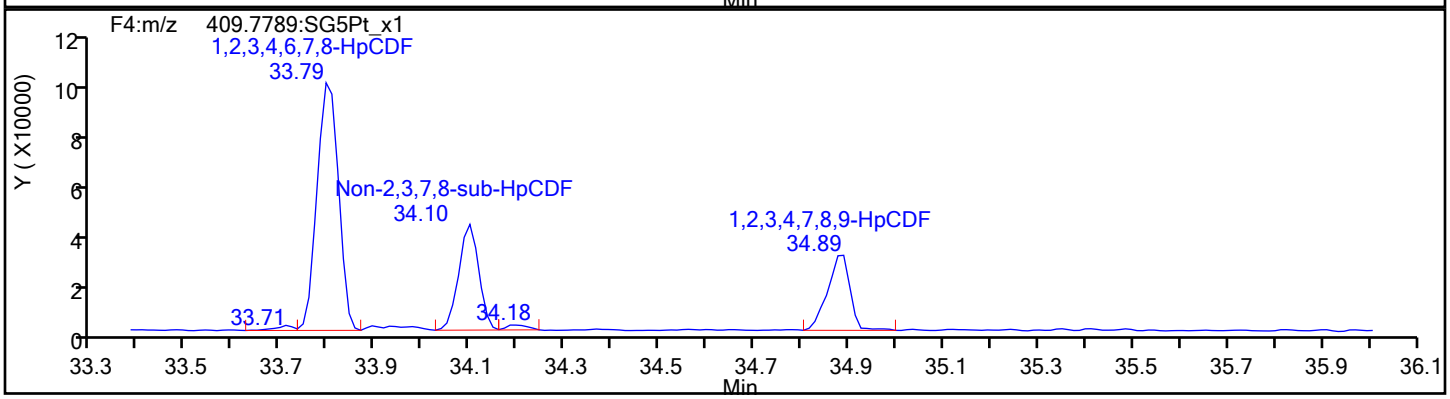

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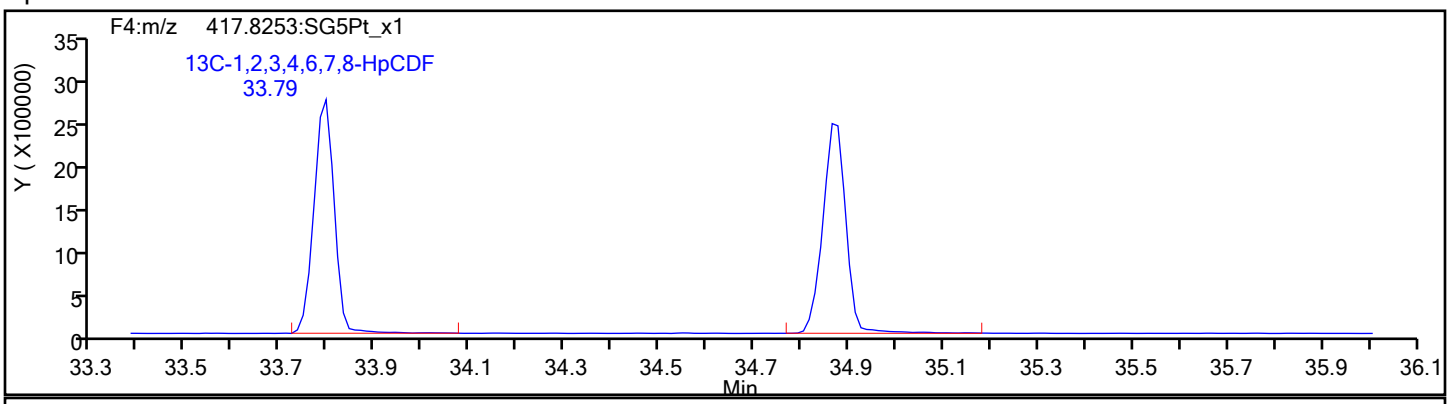

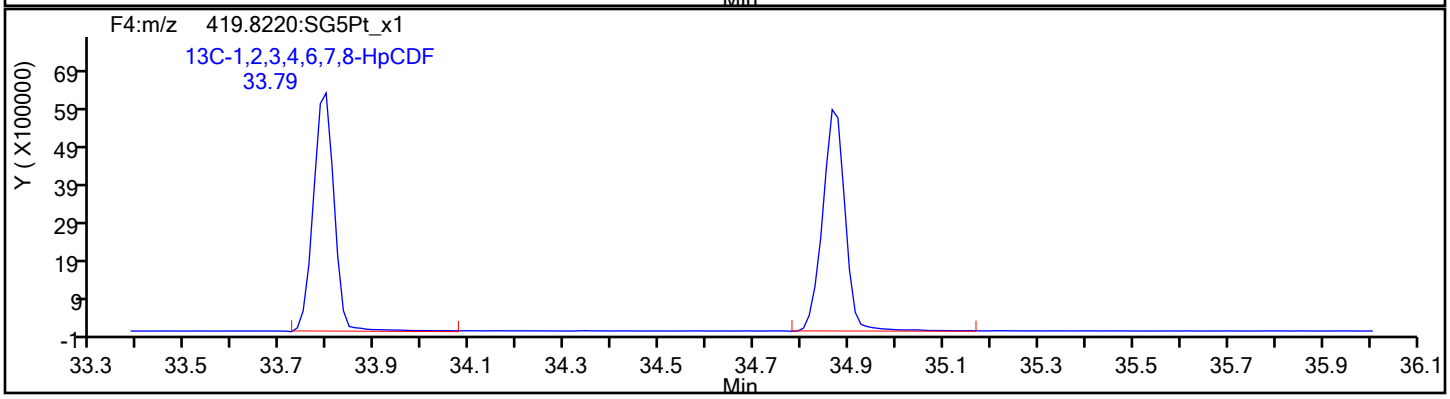

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Eurofins TestAmerica, Sacramento

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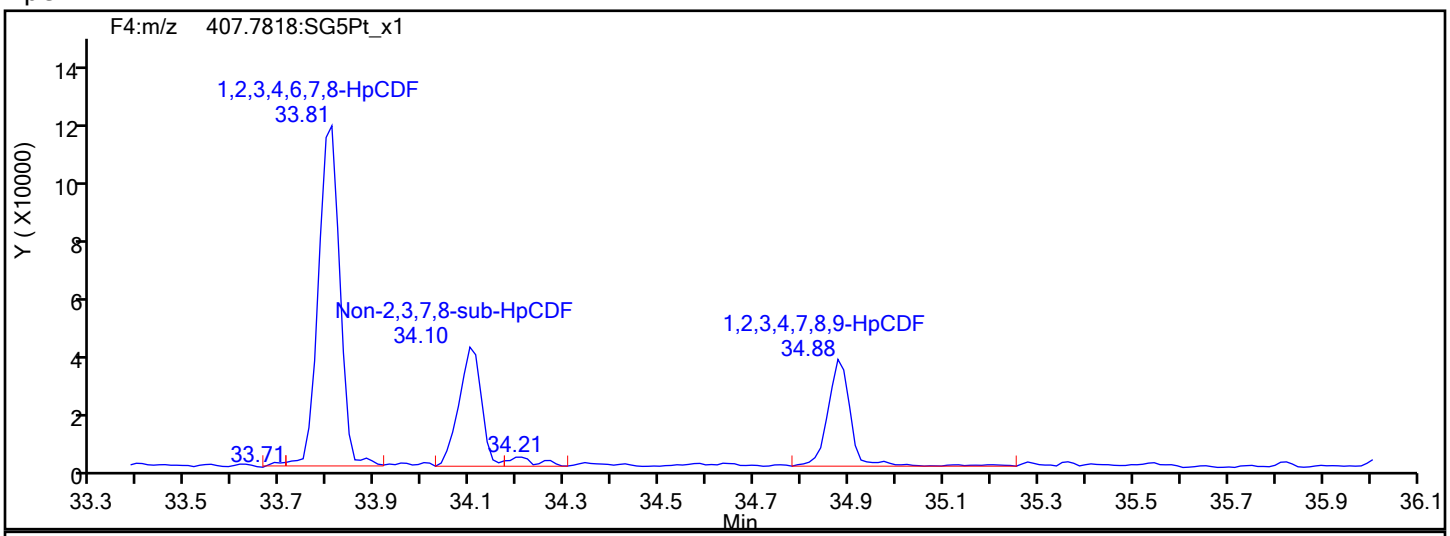

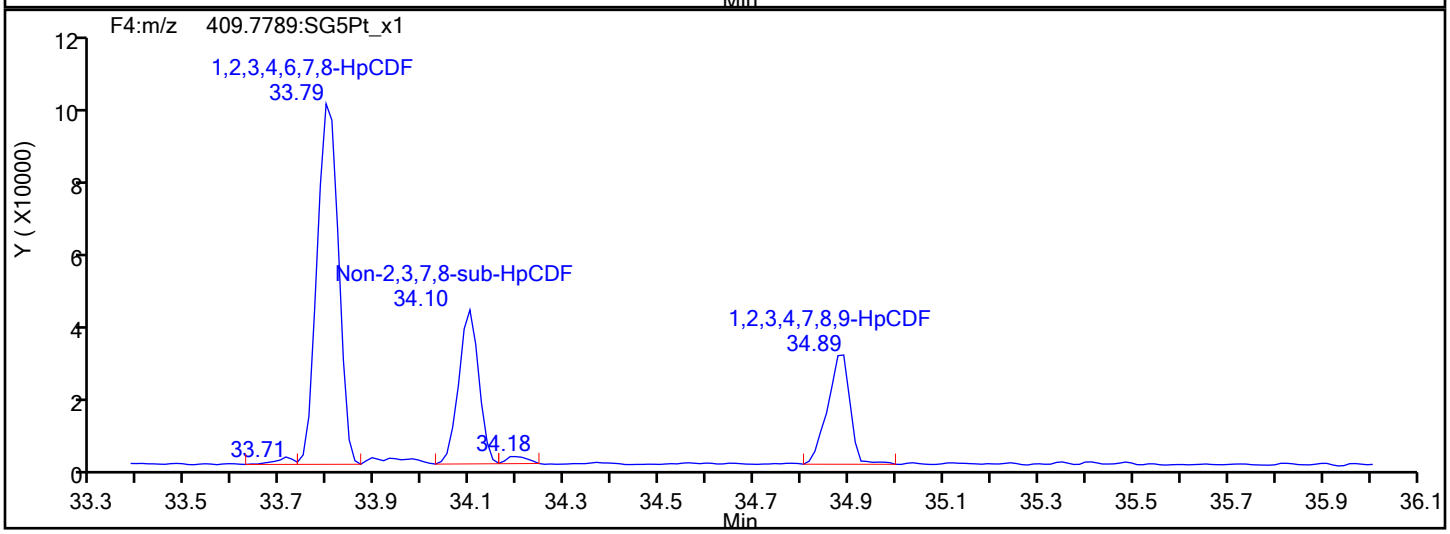

HpCDF Interference Mass

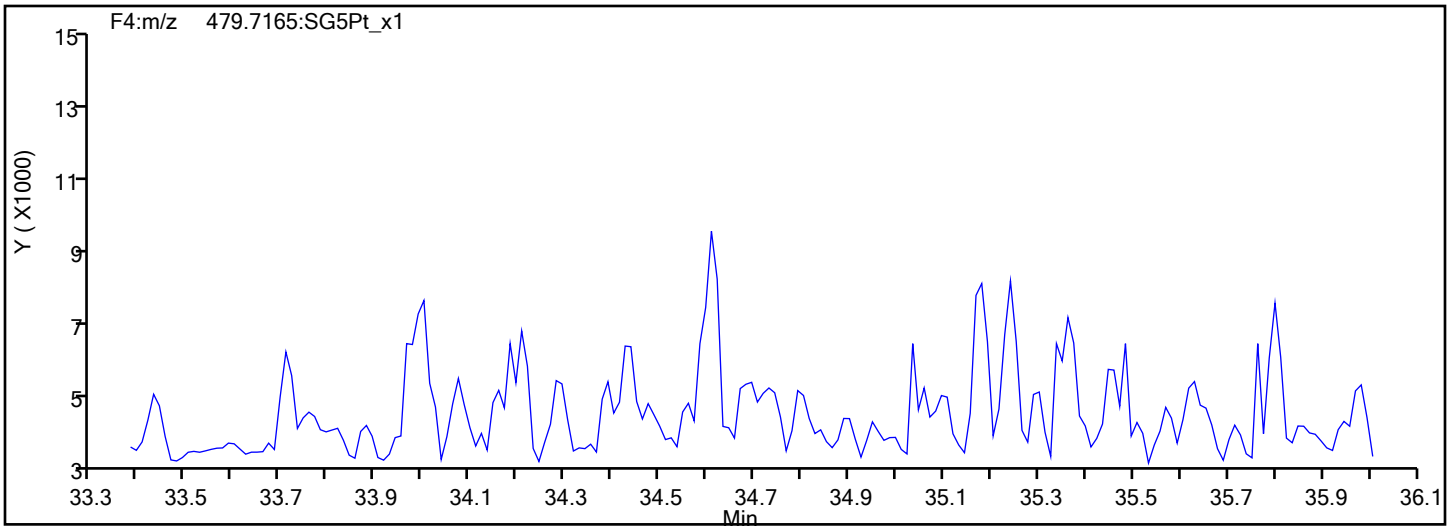

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Eurofins TestAmerica, Sacramento

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HpCDD

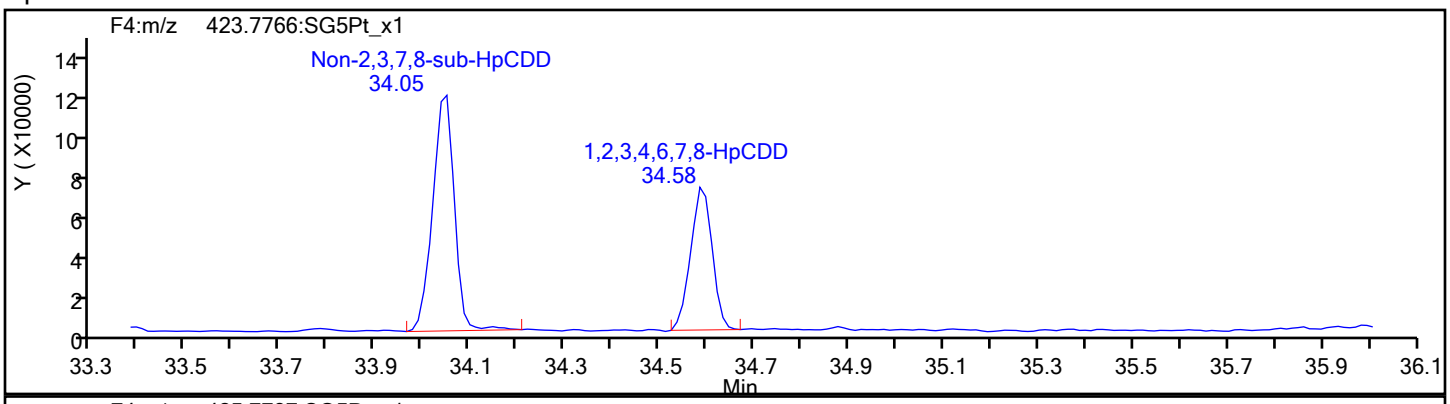

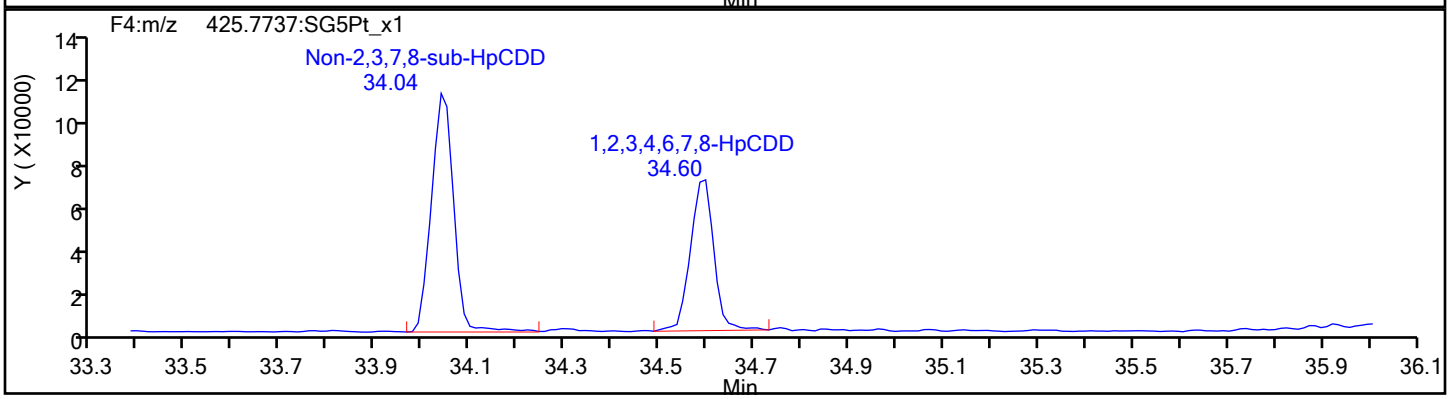

HpCDD Standards

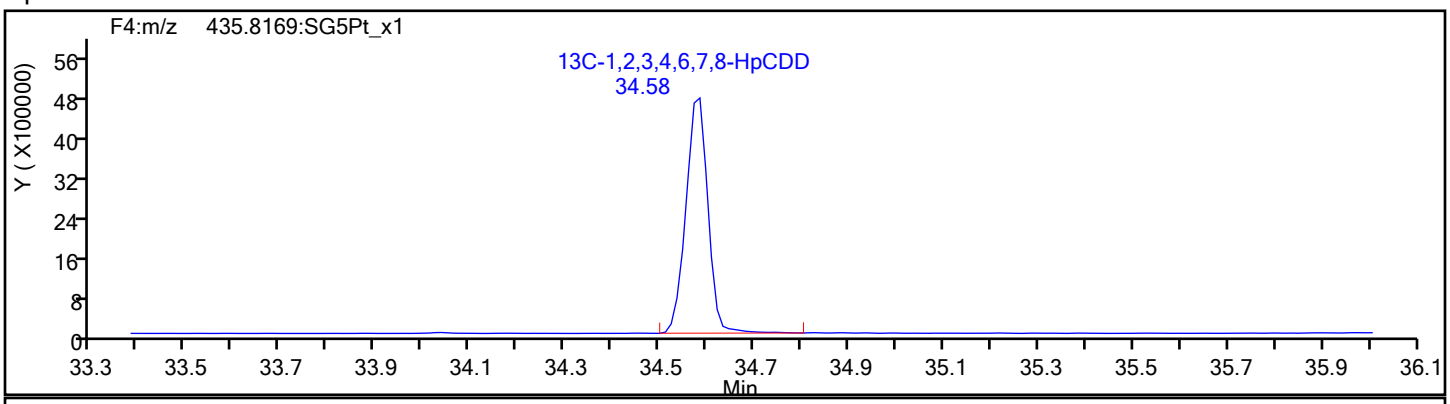

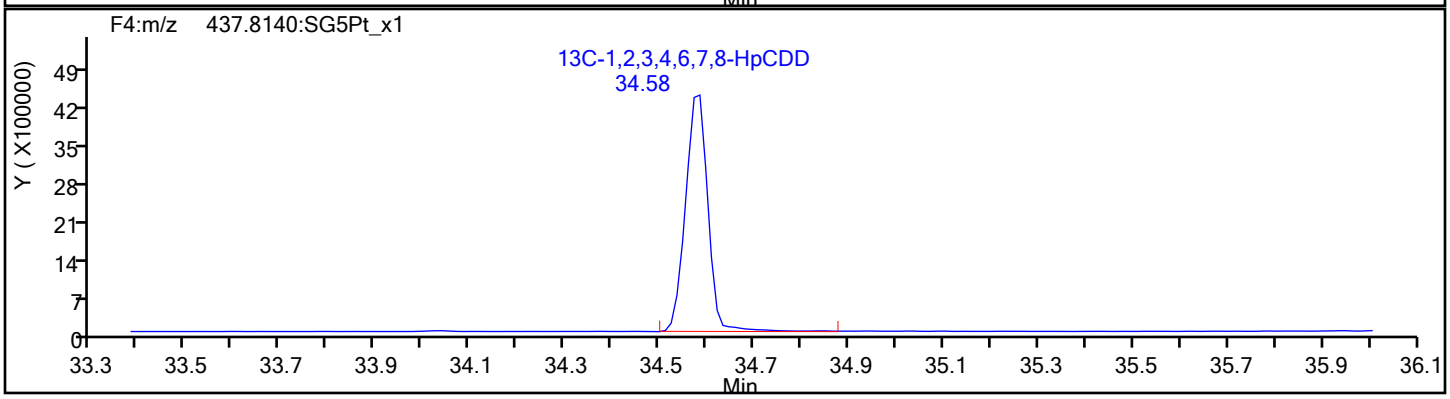

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Eurofins TestAmerica, Sacramento

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OCDF

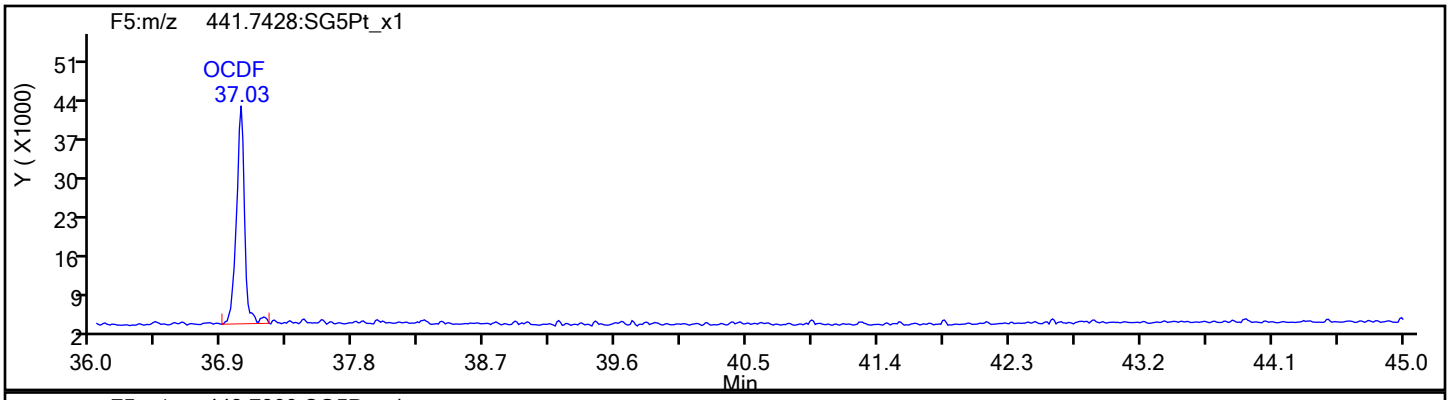

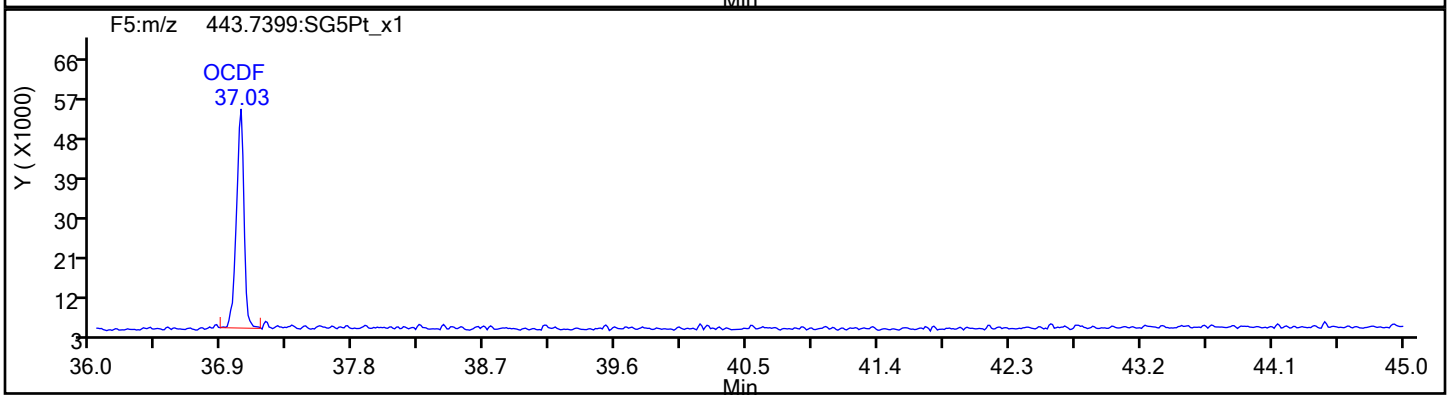

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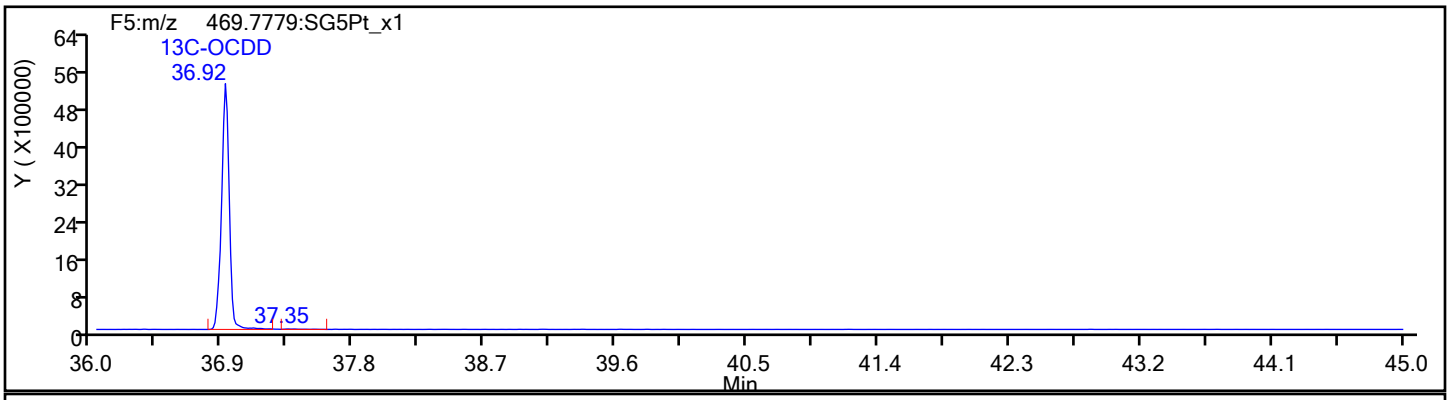

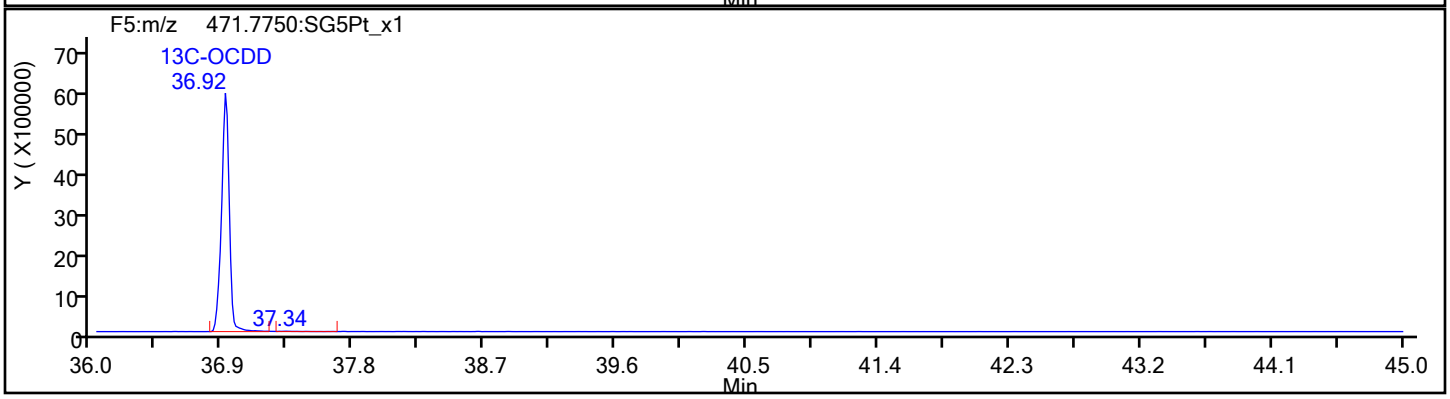

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Eurofins TestAmerica, Sacramento

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OCDF

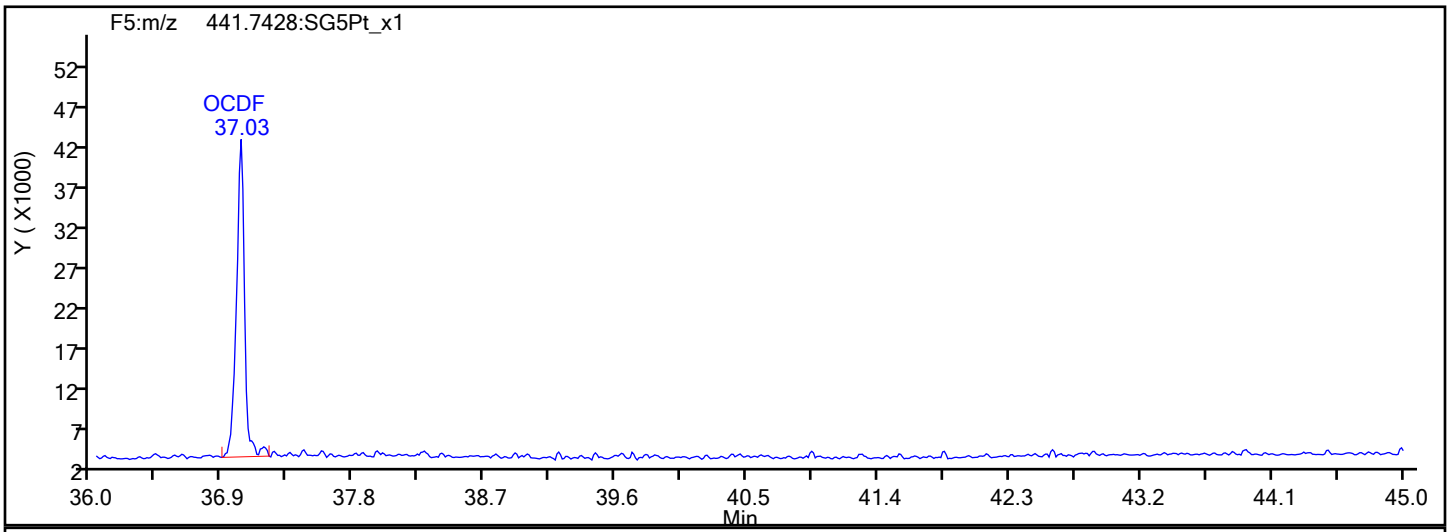

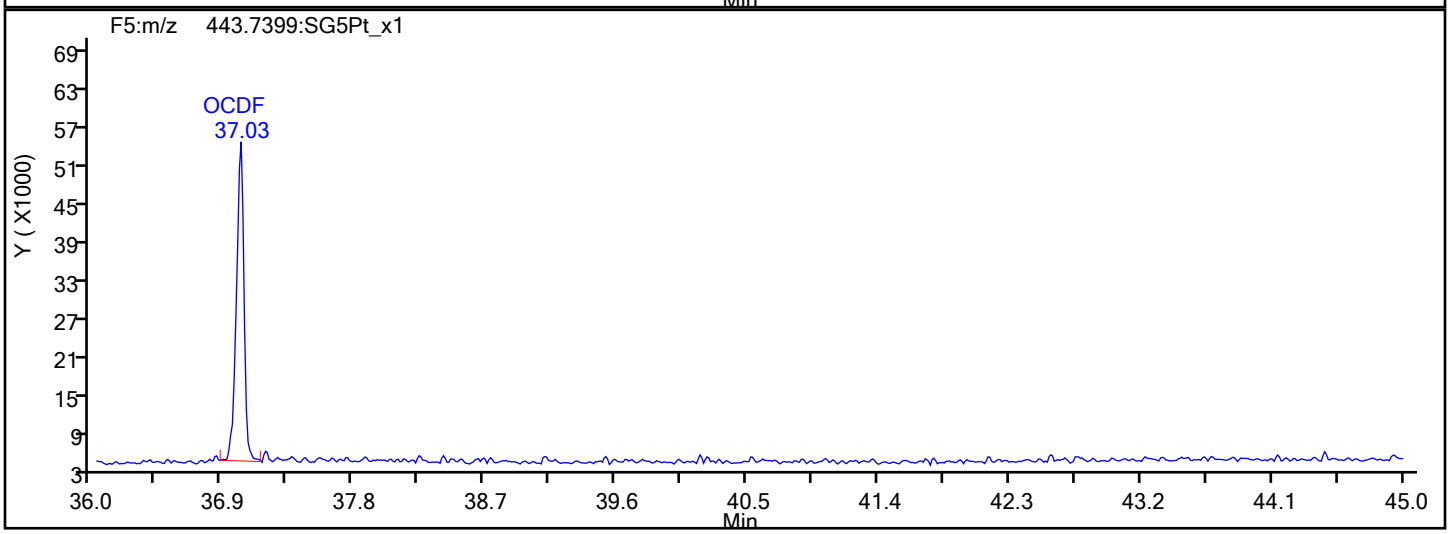

OCDF Interference Mass

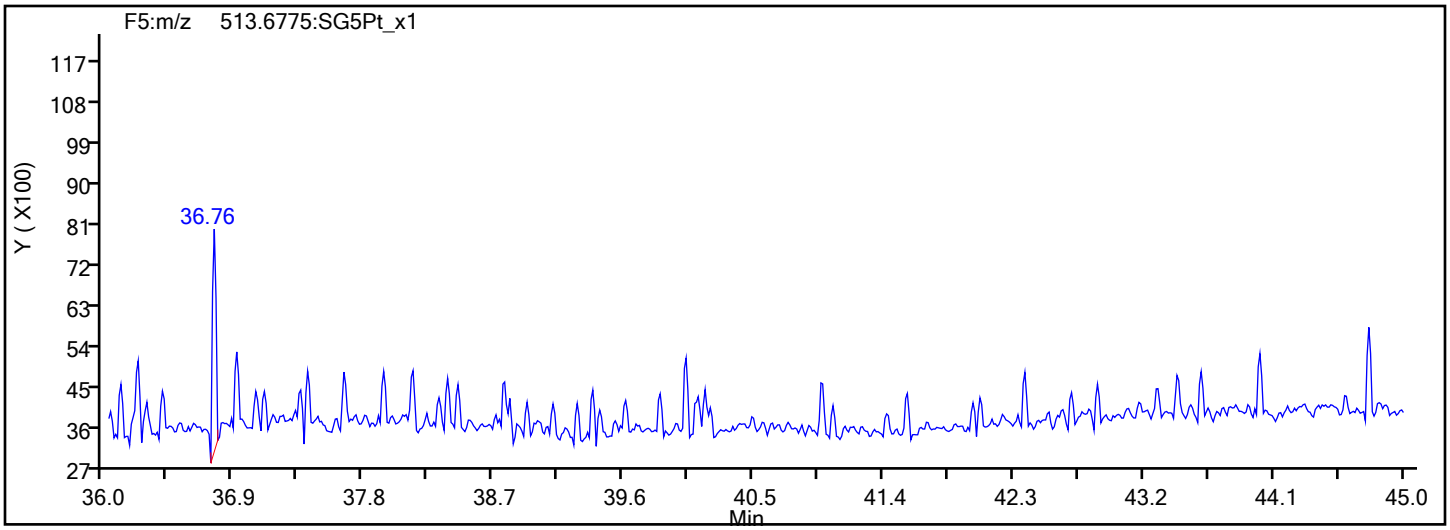

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Eurofins TestAmerica, Sacramento

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OCDD

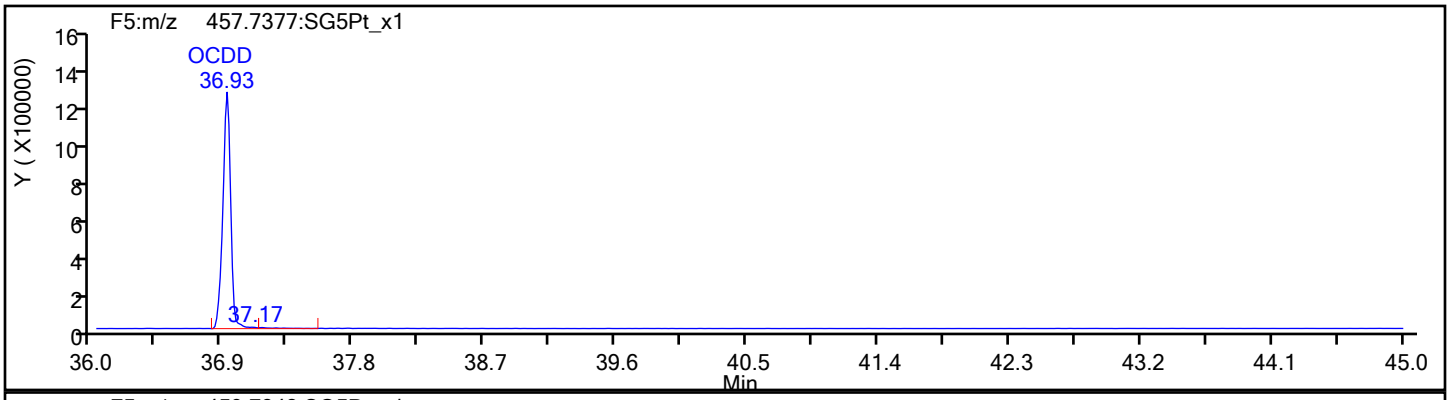

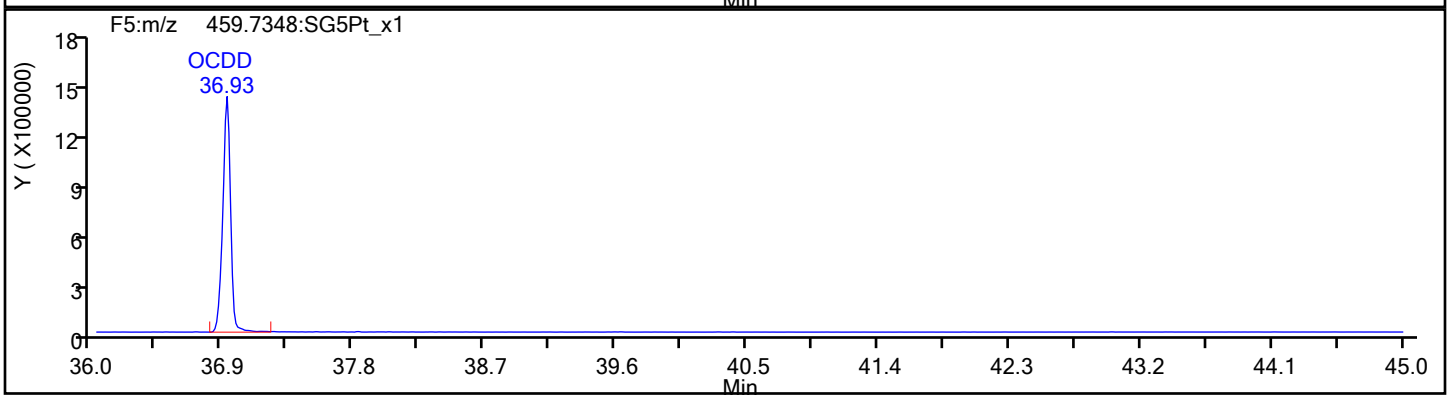

OCDD Standards

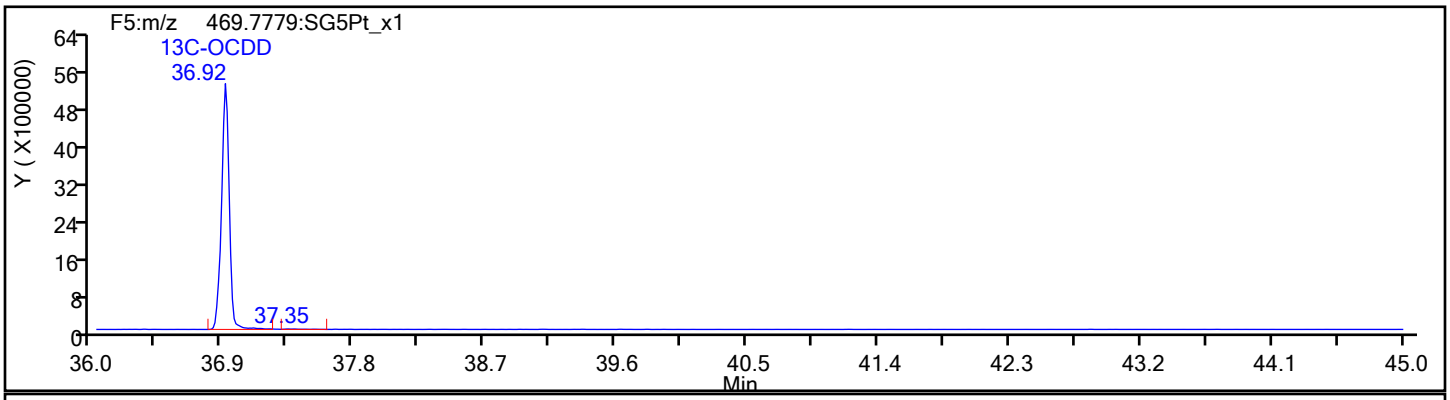

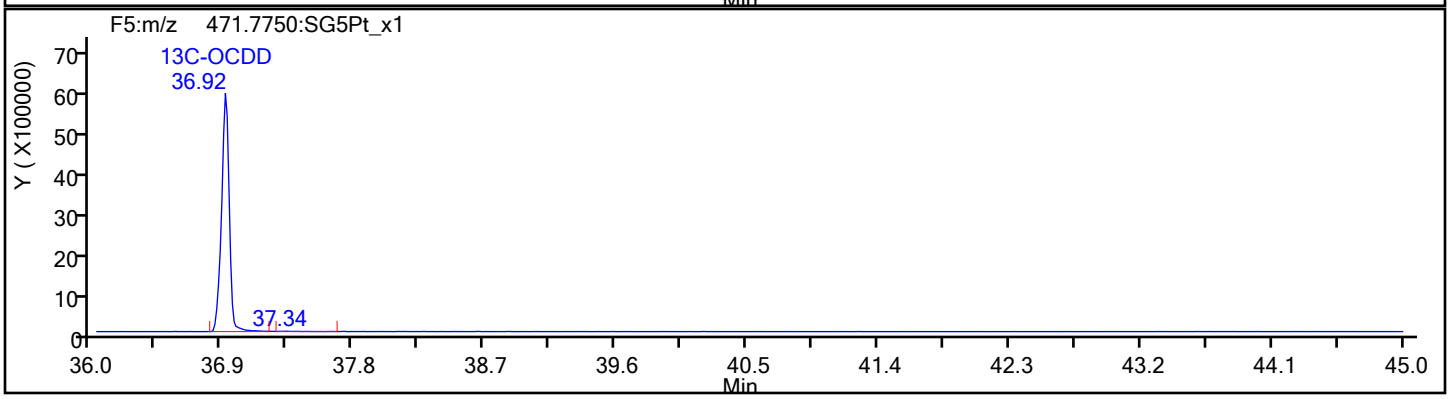

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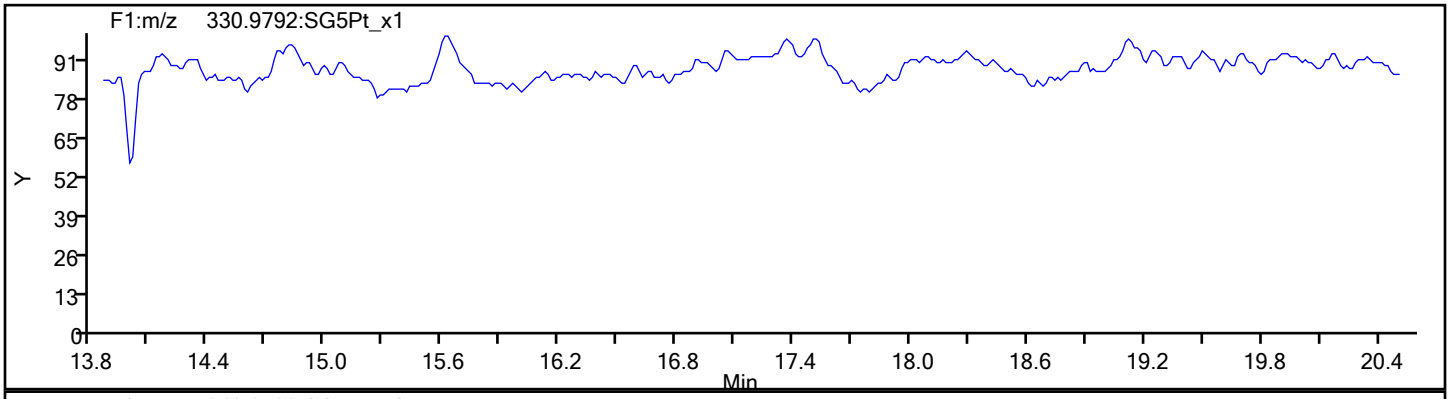

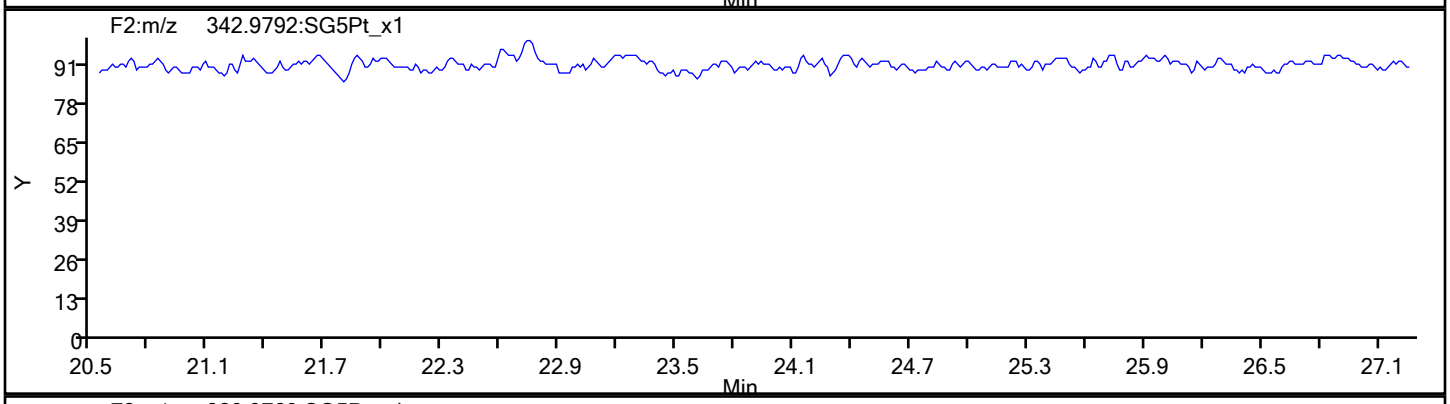

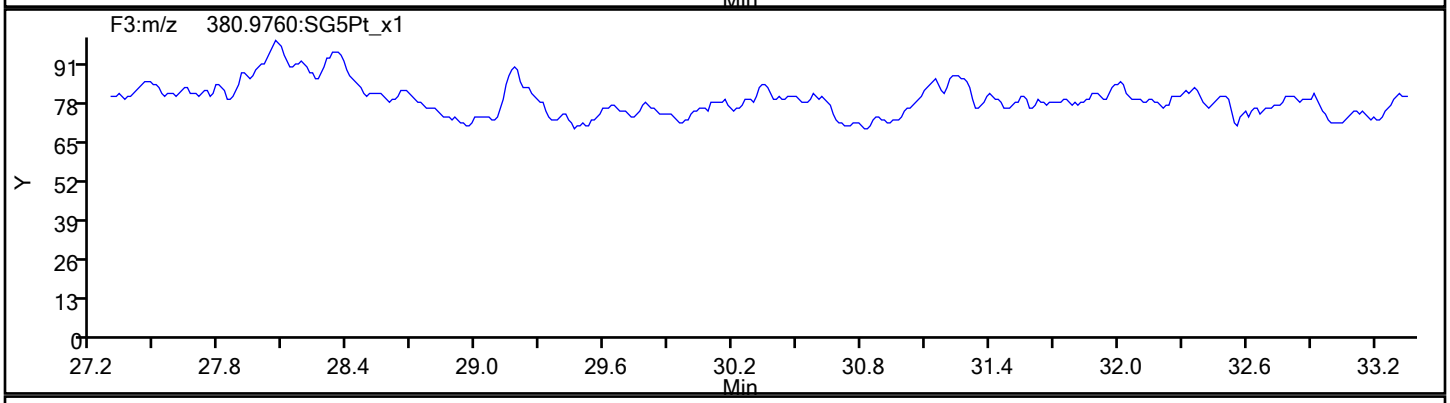

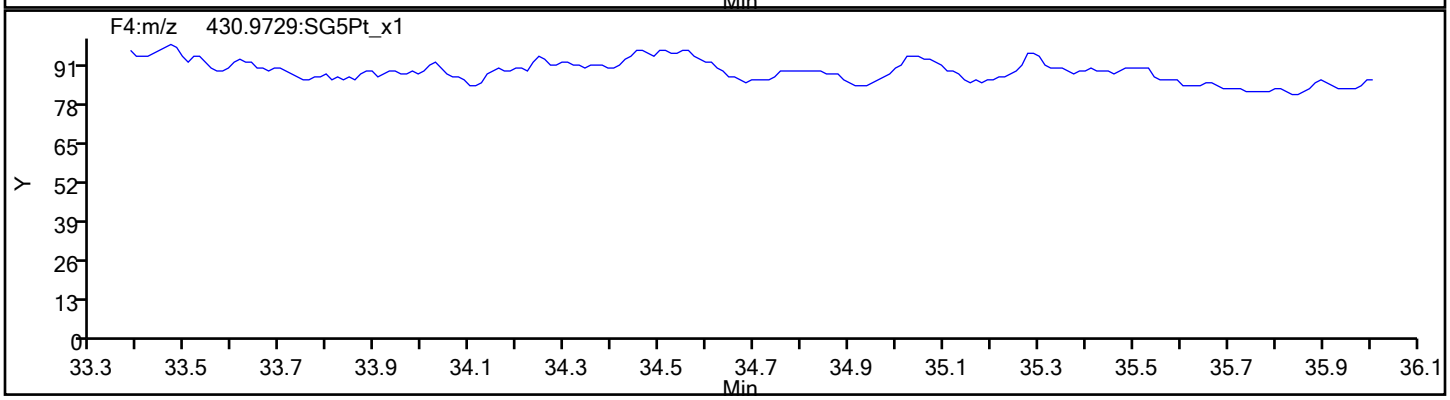

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Client ID:	11187072-Filter Test-3		
Worklist#:	330148	Sample Line#:	19
Column Type:	DB-5	Column Dia:	0.32 mm

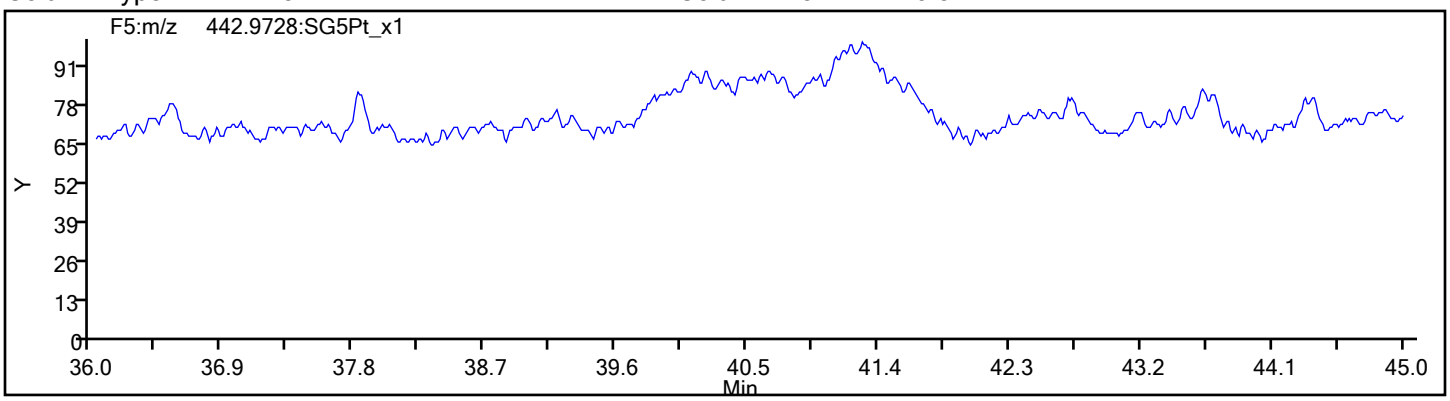

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Client Sample ID: 11187072-Filter Test-3 RA Lab Sample ID: 320-54852-3 RA

Matrix: Water Lab File ID: 11OC19A11D2_004.d

Analysis Method: 1613B Date Collected: 09/30/2019 08:00

Extract. Method: 1613B Date Extracted: 10/08/2019 14:19

Sample wt/vol: 1050.7(mL) Date Analyzed: 10/11/2019 17:22

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 330473 Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
51207-31-9	2,3,7,8-TCDF	820		9.5	2.7

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
89059-46-1	13C-2,3,7,8-TCDF	58		24-169

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	94		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20191011-84792.b\11OC19A11D2_004.d
Lims ID: 320-54852-A-3-A
Client ID: 11187072-Filter Test-3
Sample Type: Client
Inject. Date: 11-Oct-2019 17:22:23 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-54852-A-3-A
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20191011-84792.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 11-Oct-2019 20:29:48 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0305

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.272	74114854	0.79	1.1E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.438	57714408	0.72	1.3379	58.2	58.2	0.3673	0.3673	58.20	
2,3,7,8-TCDF	16.452	20903420	0.80	0.8389	43.2	43.2	0.1399	0.1399		
D 13C-2,3,7,8-TCDD	15.025	39223350	0.77	0.9388	56.4	56.4	1.214	1.214	56.37	
2,3,7,8-TCDD	15.053	6272717	0.77	1.1538	13.9	13.9	0.1417	0.1417		
$ 37Cl4-2,3,7,8-TCDD	15.053	32793806		1.1816	37.4	37.4	0.0791	0.0791	93.61	
S Total 2378-Chlorinated							0.000100	0.000100		

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20191011-84792.b\11OC19A11D2_004.d
Lims ID: 320-54852-A-3-A
Client ID: 11187072-Filter Test-3
Sample Type: Client
Inject. Date: 11-Oct-2019 17:22:23 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-54852-A-3-A
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20191011-84792.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 11-Oct-2019 20:29:48 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0305

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.272	15.269	0		32810355	7104645	31867	79667	223		
333.9339	15.272	15.269	0		41304499	9417422	43440	108600	217	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.438	16.435	0	1.076	24247267	4926269	17974	44935	274		
317.9389	16.438	16.435	0	1.076	33467141	6421279	14502	36255	443	0.72(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.452	16.449	0	1.001	9278819	1811603	2490	6225	728		
305.8987	16.466	16.449	1	1.002	11624601	2316055	2837	7092	816	0.80(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.025	15.036	-1	0.984	17118404	3778223	31867	79667	119		
333.9339	15.025	15.036	-1	0.984	22104946	4932743	43440	108600	114	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.053	15.050	0	1.002	2720666	594718	3662	9155	162		
321.8936	15.053	15.050	0	1.002	3552051	765453	2036	5090	376	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.053	15.050	0	0.986	32793806	7222595	6174	15435	1170		

Total 2378-Chlorinated Dioxins & Furans
0.0 0

Report Date: 11-Oct-2019 20:37:36 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191011-84792.b\11OC19A11D2_004.d		
Injection Date:	11-Oct-2019 17:22:23	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-3		
Worklist#:	330473	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

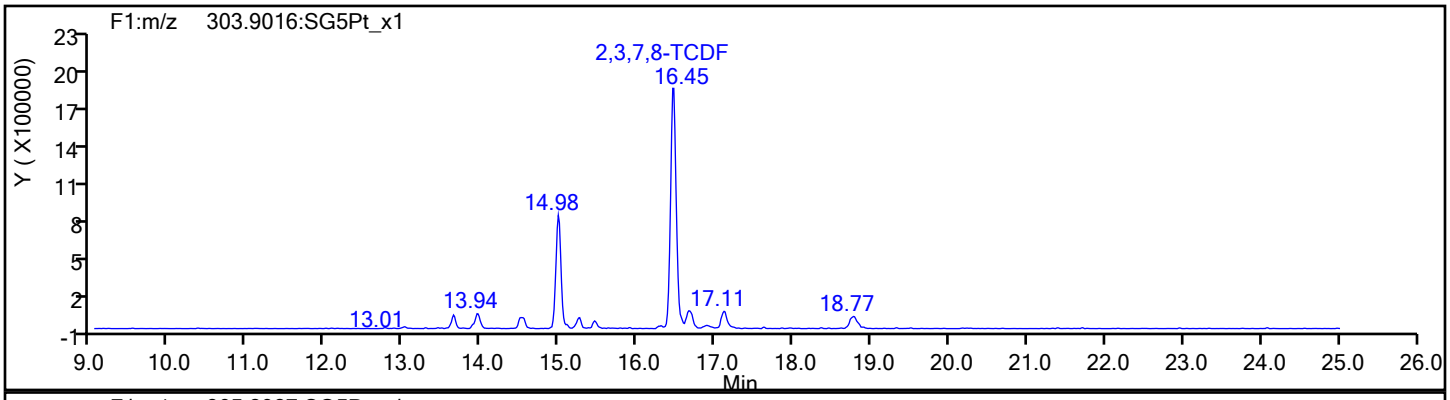

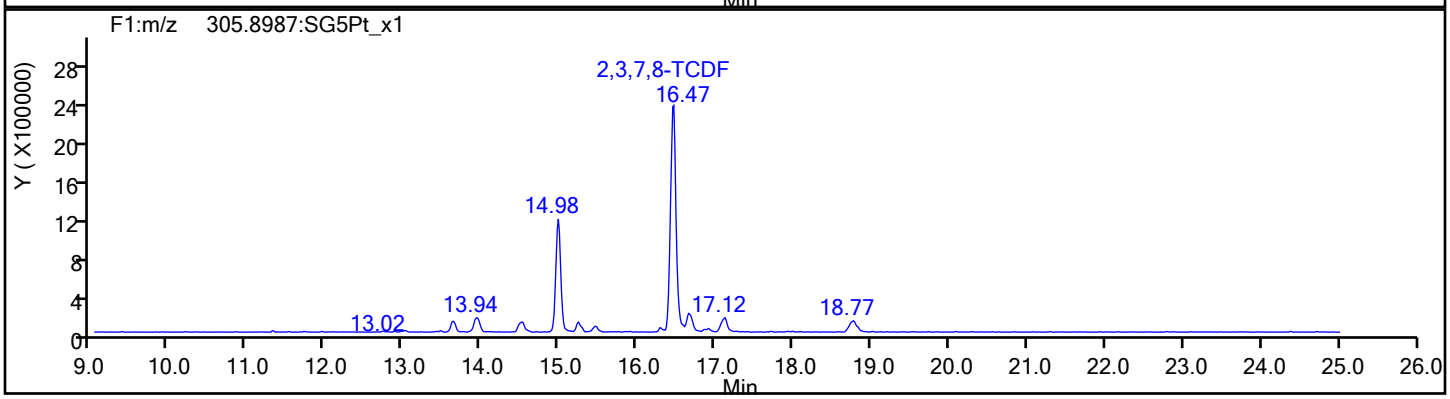

TCDF Standards

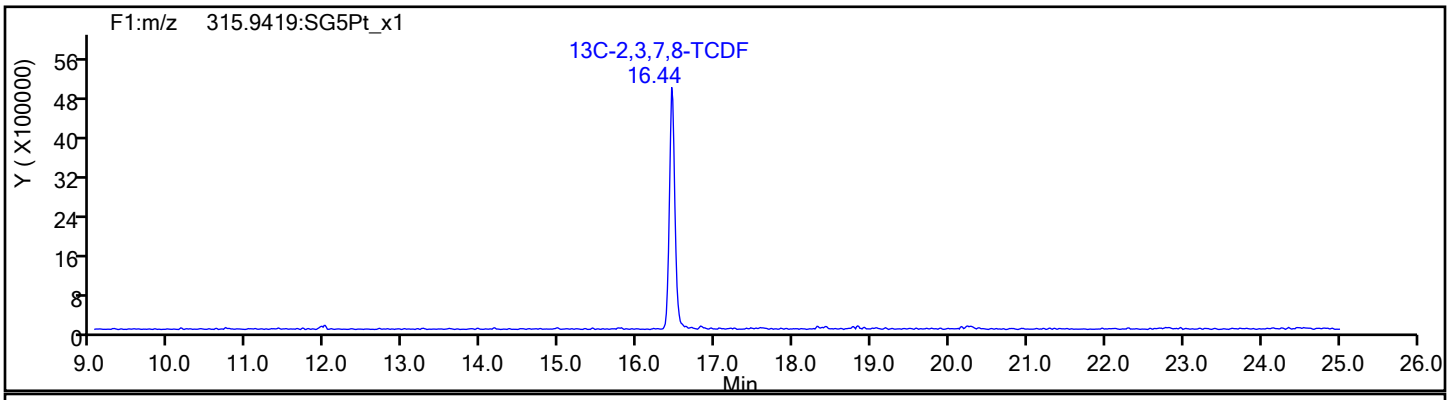

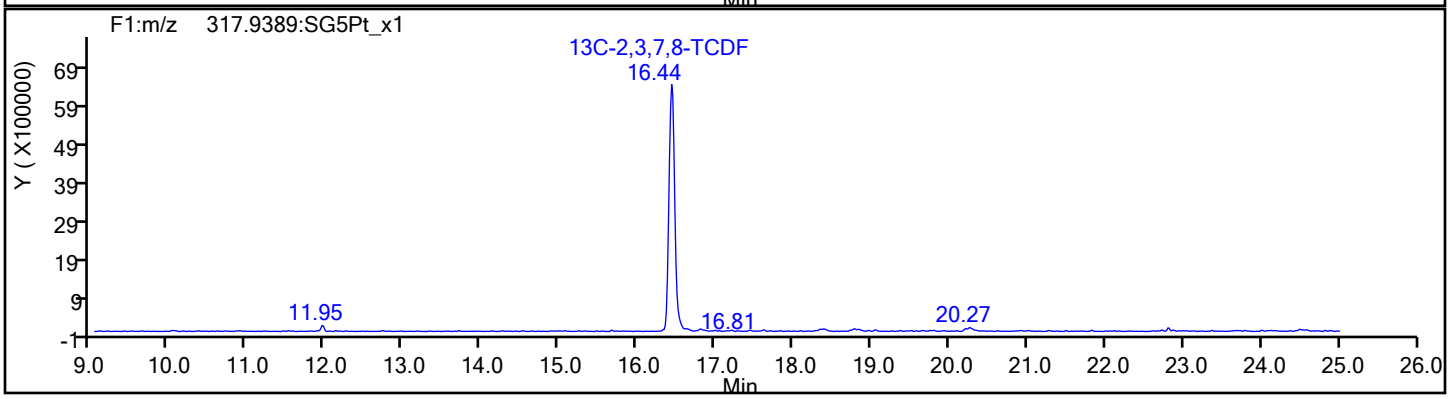

Report Date: 11-Oct-2019 20:37:36 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191011-84792.b\11OC19A11D2_004.d		
Injection Date:	11-Oct-2019 17:22:23	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-3		
Worklist#:	330473	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

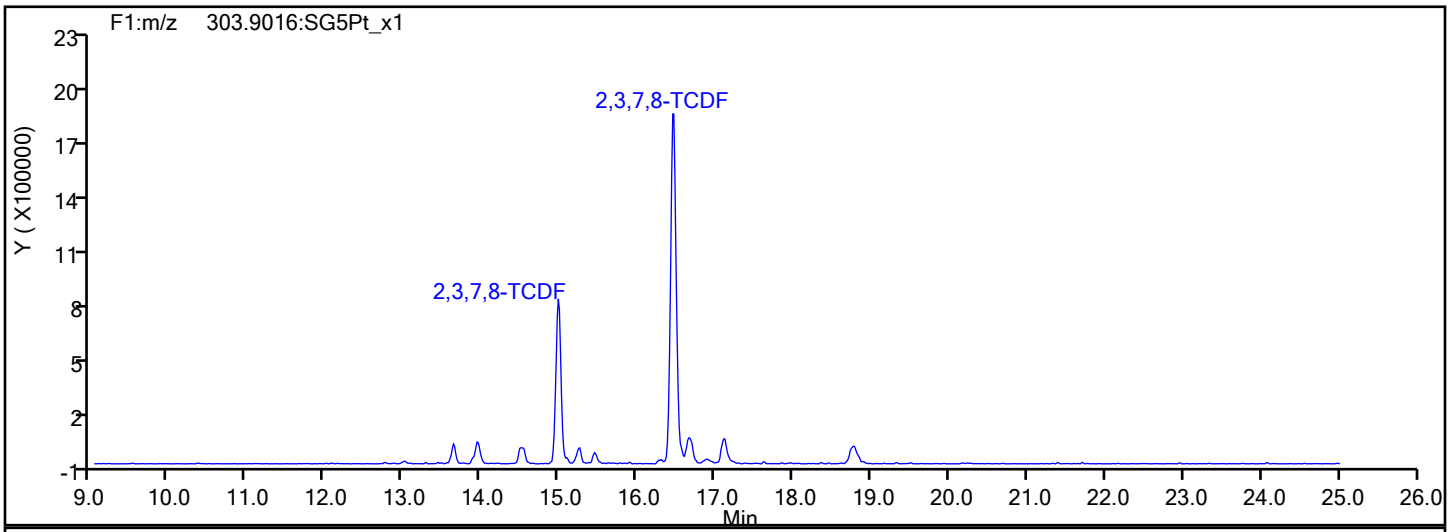

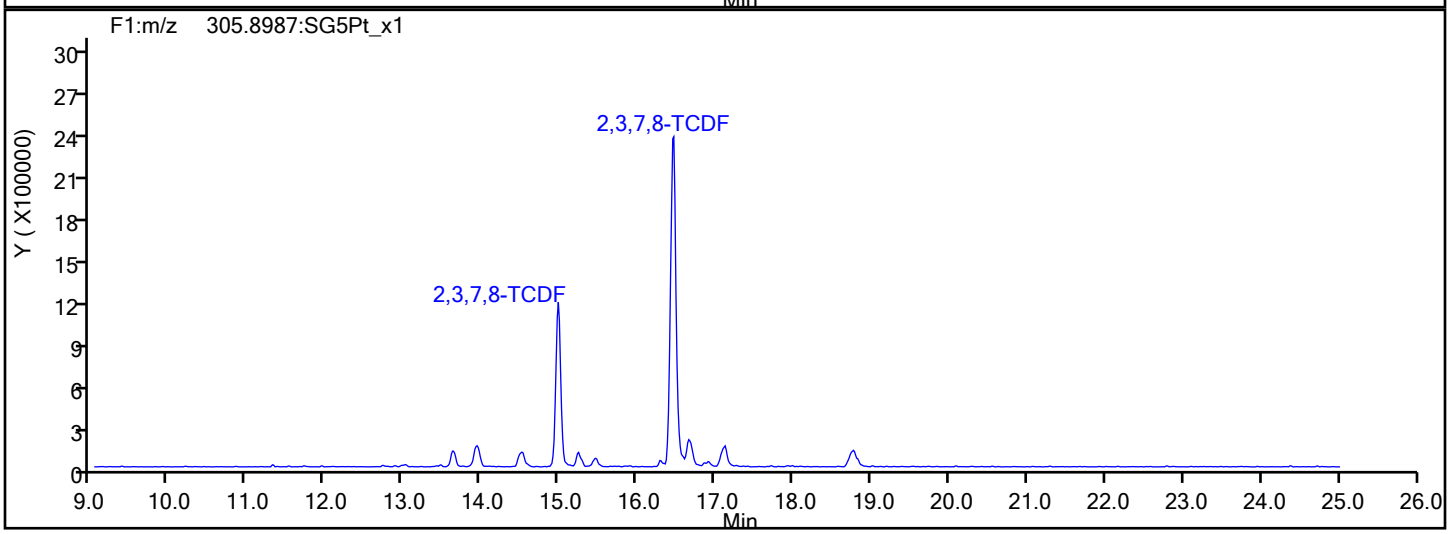

TCDF Interference Mass

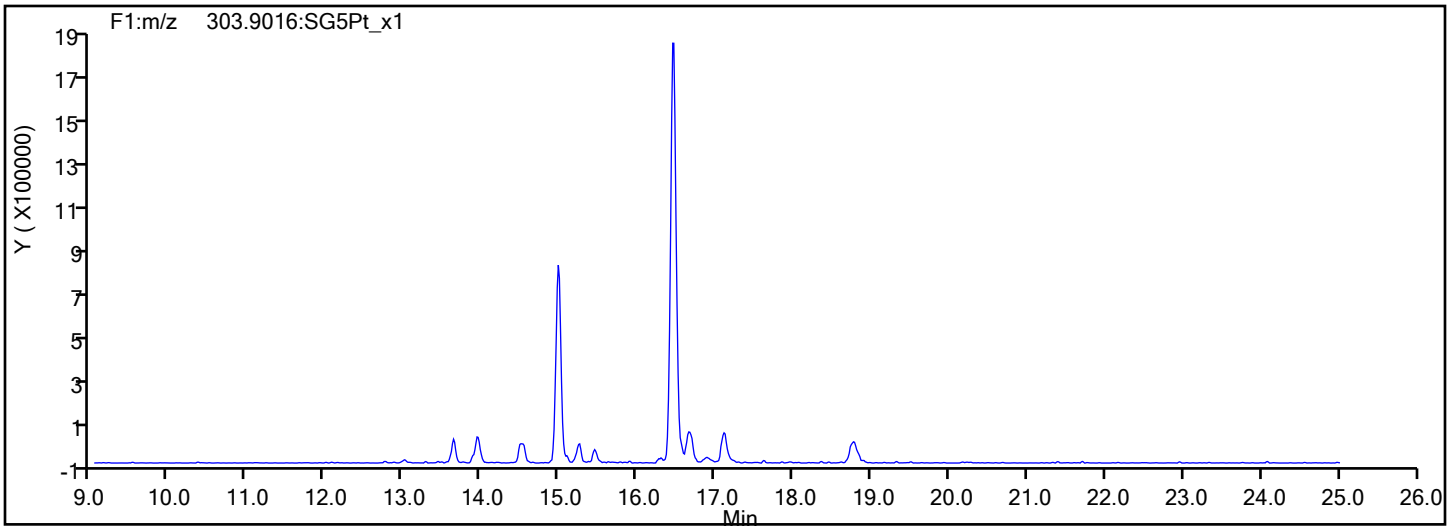

Report Date: 11-Oct-2019 20:37:36 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191011-84792.b\11OC19A11D2_004.d		
Injection Date:	11-Oct-2019 17:22:23	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-3		
Worklist#:	330473	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

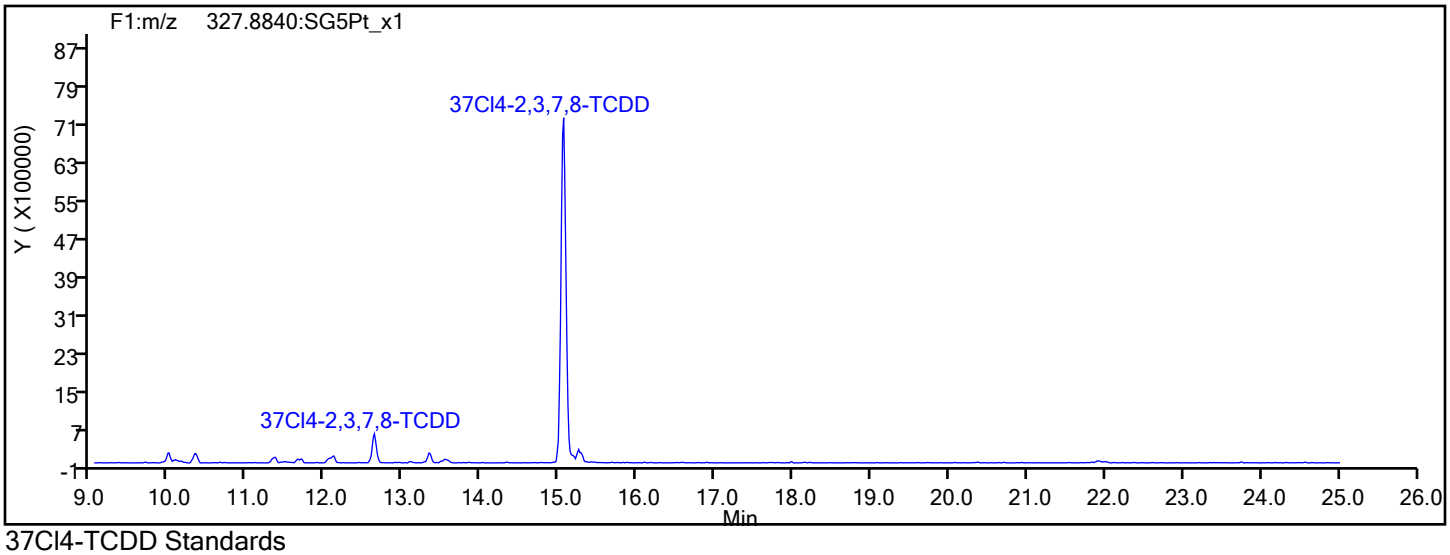

37Cl4-TCDD Standards

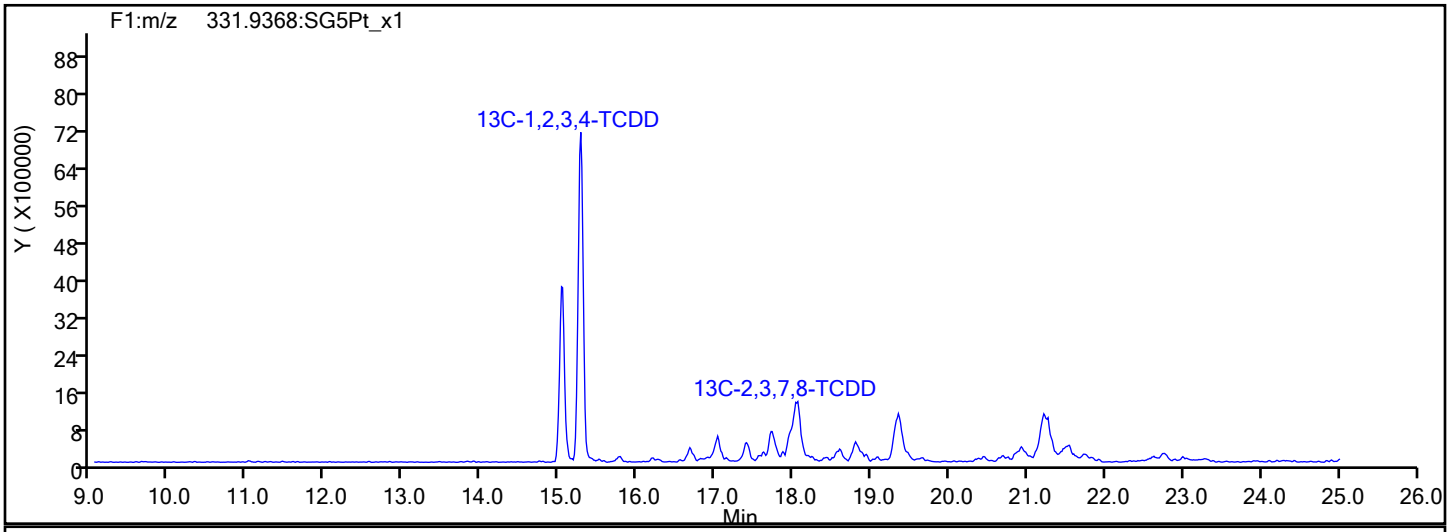

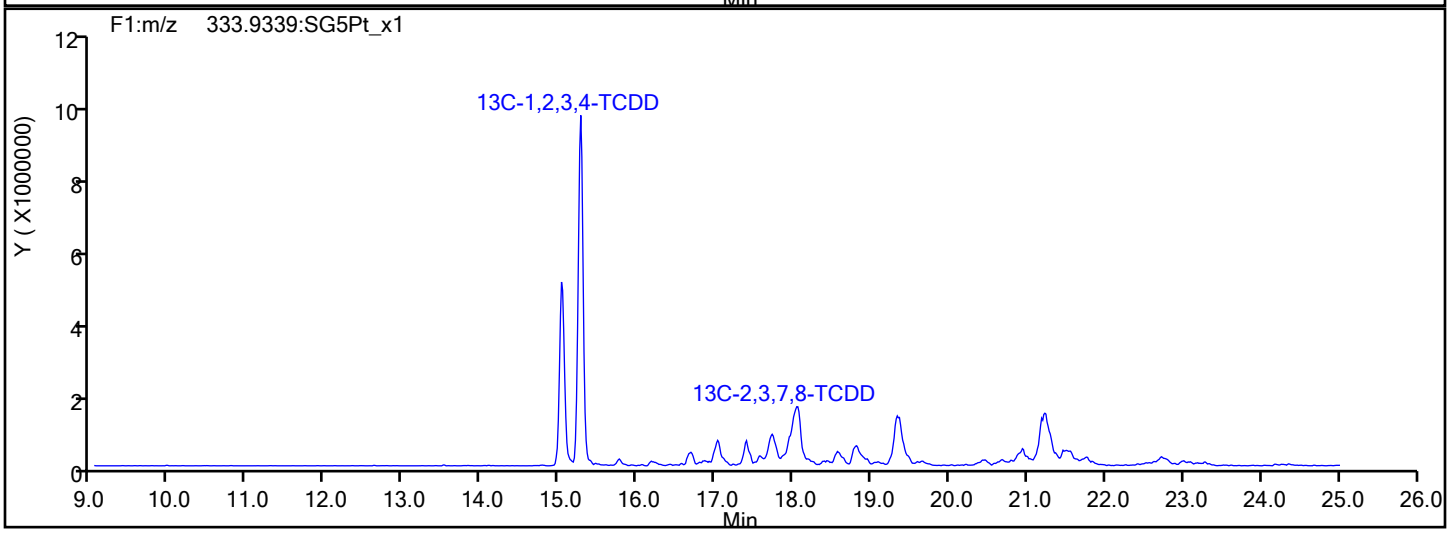

Report Date: 11-Oct-2019 20:37:36 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191011-84792.b\11OC19A11D2_004.d		
Injection Date:	11-Oct-2019 17:22:23	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-3		
Worklist#:	330473	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm

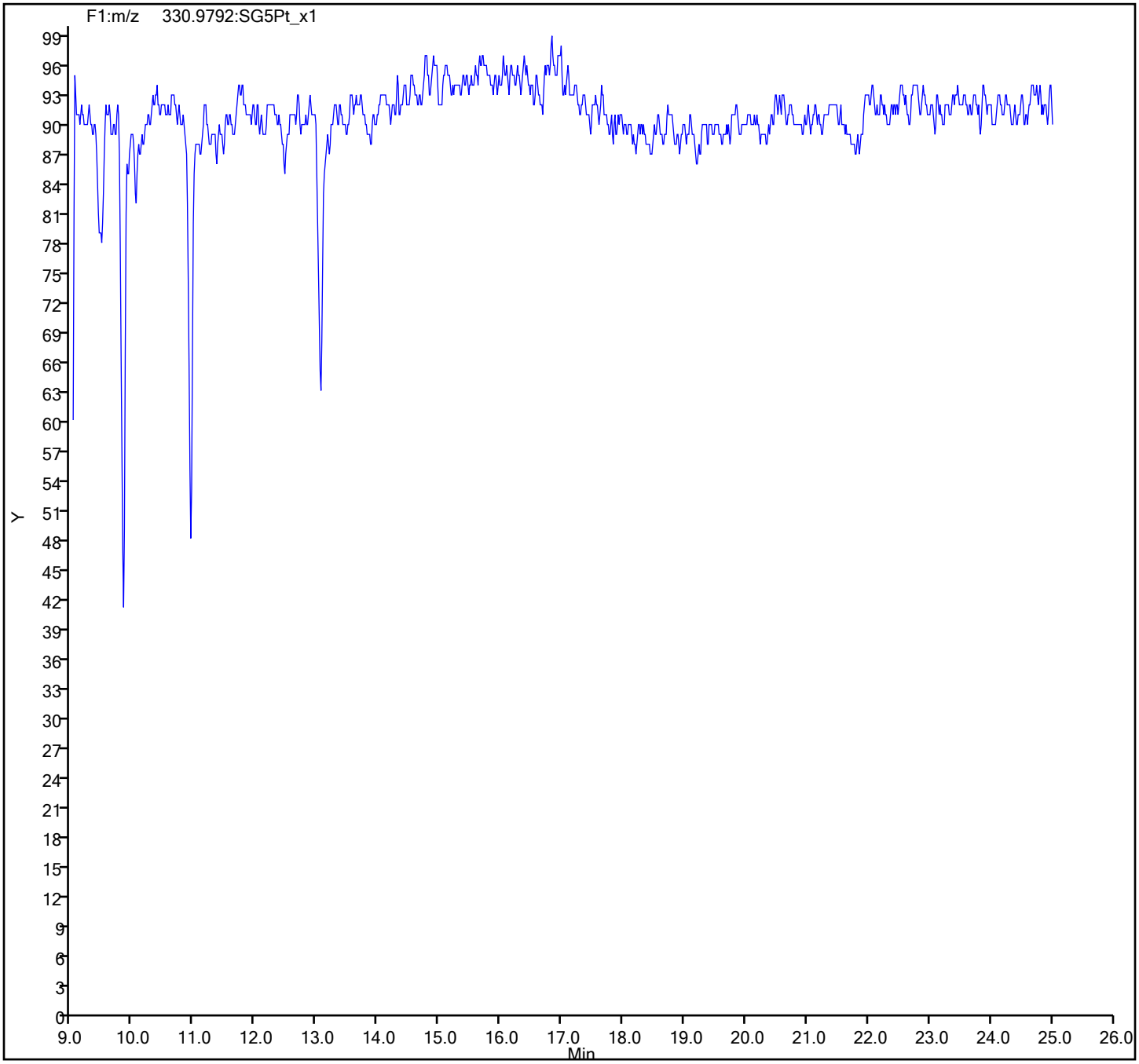

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Client Sample ID: 11187072-Filter Test-4 Lab Sample ID: 320-54852-4

Matrix: Water Lab File ID: 10OC1910D5_20.d

Analysis Method: 1613B Date Collected: 09/30/2019 08:00

Extract. Method: 1613B Date Extracted: 10/08/2019 14:19

Sample wt/vol: 1053.1(mL) Date Analyzed: 10/11/2019 07:05

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 330148 Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	3.6	J	9.5	0.60
51207-31-9	2,3,7,8-TCDF	8.7	J	9.5	0.42
40321-76-4	1,2,3,7,8-PeCDD	ND		47	0.92
57117-41-6	1,2,3,7,8-PeCDF	ND		47	0.53
57117-31-4	2,3,4,7,8-PeCDF	ND		47	0.56
39227-28-6	1,2,3,4,7,8-HxCDD	2.0	J B	47	0.45
57653-85-7	1,2,3,6,7,8-HxCDD	ND		47	0.45
19408-74-3	1,2,3,7,8,9-HxCDD	0.71	J q B	47	0.40
70648-26-9	1,2,3,4,7,8-HxCDF	1.1	J B	47	0.45
57117-44-9	1,2,3,6,7,8-HxCDF	ND		47	0.44
72918-21-9	1,2,3,7,8,9-HxCDF	0.67	J B	47	0.34
60851-34-5	2,3,4,6,7,8-HxCDF	ND		47	0.36
35822-46-9	1,2,3,4,6,7,8-HpCDD	1.7	J B	47	0.37
67562-39-4	1,2,3,4,6,7,8-HpCDF	0.75	J B	47	0.26
55673-89-7	1,2,3,4,7,8,9-HpCDF	0.87	J B	47	0.30
3268-87-9	OCDD	12	J q B	95	0.72
39001-02-0	OCDF	ND		95	0.90
41903-57-5	Total TCDD	5.0	J	9.5	0.60
30402-14-3	Total TCDF	13	q	9.5	0.42
36088-22-9	Total PeCDD	ND		47	0.92
30402-15-4	Total PeCDF	ND		47	0.56
34465-46-8	Total HxCDD	2.7	J q B	47	0.43
55684-94-1	Total HxCDF	1.8	J B	47	0.40
37871-00-4	Total HpCDD	3.9	J B	47	0.37
38998-75-3	Total HpCDF	1.6	J B	47	0.28

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Client Sample ID: 11187072-Filter Test-4 Lab Sample ID: 320-54852-4

Matrix: Water Lab File ID: 10OC1910D5_20.d

Analysis Method: 1613B Date Collected: 09/30/2019 08:00

Extract. Method: 1613B Date Extracted: 10/08/2019 14:19

Sample wt/vol: 1053.1(mL) Date Analyzed: 10/11/2019 07:05

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 330148 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	66		25-164
89059-46-1	13C-2,3,7,8-TCDF	60		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	63		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	62		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	67		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	68		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	59		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	69		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	63		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	65		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	65		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	66		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	61		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	66		26-138
114423-97-1	13C-OCDD	49		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	99		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_20.d
Lims ID: 320-54852-A-4-A
Client ID: 11187072-Filter Test-4
Sample Type: Client
Inject. Date: 11-Oct-2019 07:05:56 ALS Bottle#: 18 Worklist Smp#: 20
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-54852-A-4-A 320-54852-A-4-A
Misc. Info.: 10OC1910D5
Operator ID: SMA Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Oct-2019 14:51:21 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0335

First Level Reviewer: dadunj Date: 14-Oct-2019 14:51:21

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.956	61394778	0.79	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.442	53052448	0.82	1.4384	60.1	60.1	0.1109	0.1109	60.08	
2,3,7,8-TCDF	17.457	256159	0.73	1.0507	0.4595	0.4595	0.0221	0.0221		
A Non-2,3,7,8-sub-TCDF	17.162	130592	0.77	1.0507	0.2382	0.2343	0.0221	0.2001		RQ
S Total TCDF					0.6978	0.6938	0.0221	0.0221		RQ
D 13C-2,3,7,8-TCDD	18.153	38470579	0.80	0.9533	65.7	65.7	0.0954	0.0954	65.73	
$ 37Cl4-2,3,7,8-TCDD	18.167	29683912		1.2224	39.6	39.6	0.0197	0.0197	98.88	
2,3,7,8-TCDD	18.183	80269	0.69	1.1064	0.1886	0.1886	0.0315	0.0315		
A Non-2,3,7,8-sub-TCDD	17.616	31348	0.75	1.1064	0.0736	0.0736	0.0315	0.0736		
S Total TCDD					0.2622	0.2622	0.0315	0.0315		
D 13C-1,2,3,7,8-PeCDF	22.516	39159460	1.57	1.0286	62.0	62.0	0.1147	0.1147	62.01	
1,2,3,7,8-PeCDF	22.556						0.0277	0.0277		
D 13C-2,3,4,7,8-PeCDF	23.866	40178410	1.56	0.9827	66.6	66.6	0.1200	0.1200	66.60	
2,3,4,7,8-PeCDF	23.947						0.0293	0.0293		
A F1 PeCDFs	20.035						0.0276	0.0276		
A Non-2,3,7,8-sub-PeCDF	23.226						0.0284	0.0284		
S Total PeCDF							0.0293	0.0293		
D 13C-1,2,3,7,8-PeCDD	24.602	28901692	1.63	0.7481	62.9	62.9	0.0678	0.0678	62.93	
1,2,3,7,8-PeCDD	24.670						0.0487	0.0487		
A Non-2,3,7,8-sub-PeCDD	23.531						0.0487	0.0487		
S Total PeCDD							0.0487	0.0487		
D 13C-1,2,3,4,7,8-HxCDF	30.642	37379451	0.51	1.1520	68.9	68.9	0.1426	0.1426	68.91	
1,2,3,4,7,8-HxCDF	30.669	26213	1.22	1.1973	0.0586	0.0586	0.0236	0.0236		
D 13C-1,2,3,6,7,8-HxCDF	30.815	37156587	0.52	1.2434	63.5	63.5	0.1322	0.1322	63.47	
1,2,3,6,7,8-HxCDF	30.868						0.0232	0.0232		
D 13C-2,3,4,6,7,8-HxCDF	31.614	35694218	0.52	1.1720	64.7	64.7	0.1402	0.1402	64.69	
2,3,4,6,7,8-HxCDF	31.640						0.0187	0.0187		
D 13C-1,2,3,7,8,9-HxCDF	32.399	32829899	0.51	1.0655	65.4	65.4	0.1542	0.1542	65.44	
1,2,3,7,8,9-HxCDF	32.399	14429	1.37	1.2451	0.0353	0.0353	0.0181	0.0181		
A Non-2,3,7,8-sub-HxCDF	30.363						0.0206	0.0206		
S Total HxCDF					0.0939	0.0939	0.0209	0.0209		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	32.213	47083162	1.23	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.787	25139447	1.29	0.7812	68.3	68.3	0.1634	0.1634	68.35	
1,2,3,4,7,8-HxCDD	31.813	28707	1.41	1.1088	0.1030	0.1030	0.0235	0.0235		M
D 13C-1,2,3,6,7,8-HxCDD	31.893	25400444	1.19	0.9175	58.8	58.8	0.1391	0.1391	58.80	
1,2,3,6,7,8-HxCDD	31.813						0.0236	0.0236		QMU
1,2,3,7,8,9-HxCDD	32.226	11477	1.24	1.2123	0.0419	0.0375	0.0213	0.0213		RQM
A Non-2,3,7,8-sub-HxCDD	30.995						0.0227	0.0227		
S Total HxCDD					0.1449	0.1405	0.0228	0.0228		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	33.795	24757923	0.43	0.8628	60.9	60.9	0.2249	0.2249	60.95	
1,2,3,4,6,7,8-HpCDF	33.807	15303	1.16	1.5555	0.0397	0.0397	0.0135	0.0135		M
D 13C-1,2,3,4,7,8,9-HpCDF	34.876	24647924	0.44	0.7991	65.5	65.5	0.2428	0.2428	65.51	
1,2,3,4,7,8,9-HpCDF	34.888	15665	0.98	1.3862	0.0458	0.0458	0.0158	0.0158		
A Non-2,3,7,8-sub-HpCDF	34.360						0.0146	0.0146		
S Total HpCDF					0.0856	0.0856	0.0147	0.0147		
D 13C-1,2,3,4,6,7,8-HpCDD	34.585	27059703	1.02	0.8739	65.8	65.8	0.2193	0.2193	65.77	
1,2,3,4,6,7,8-HpCDD	34.597	22834	0.95	0.9316	0.0906	0.0906	0.0193	0.0193		
A Non-2,3,7,8-sub-HpCDD	35.190	29210	1.20	0.9316	0.1159	0.1159	0.0193	0.1159		a
S Total HpCDD					0.2065	0.2065	0.0193	0.0193		
D 13C-OCDD	36.929	35635474	0.90	0.7744	97.7	97.7	0.0589	0.0589	48.87	
OCDF	37.037						0.0476	0.0476		
OCDD	36.941	123751	0.89	1.0621	0.7504	0.6539	0.0381	0.0381		RQ

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_20.d
Lims ID: 320-54852-A-4-A
Client ID: 11187072-Filter Test-4
Sample Type: Client
Inject. Date: 11-Oct-2019 07:05:56 ALS Bottle#: 18 Worklist Smp#: 20
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-54852-A-4-A 320-54852-A-4-A
Misc. Info.: 10OC1910D5
Operator ID: SMA Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Oct-2019 14:51:21 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0335

First Level Reviewer: dadunj Date: 14-Oct-2019 14:51:21

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.956	17.986	-2		27155606	6882611	3725	9312	1848		
333.9339	17.956	17.986	-2		34239172	8684185	1941	4852	4474	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.442	17.472	-2	0.971	23891043	6275651	5420	13550	1158		
317.9389	17.442	17.472	-2	0.971	29161405	7578764	4510	11275	1680	0.82(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.457	17.487	-2	1.001	108483	27185	506	1265	54		
305.8987	17.457	17.487	-2	1.001	147676	33996	778	1945	44	0.73(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											RQ
303.9016	17.079	17.162	-5	0.979	48570	12991	506	1265	26		
305.8987	17.079	17.162	-5	0.979	62991	15255	778	1945	20	0.77(0.65-0.89)	
303.9016	17.910	17.162	45	1.027	10490	1992	506	1265	4		
	Empc Correction				8279	2357	506	1265	5		
305.8987	17.896	17.162	44	1.026	10752	3062	778	1945	4	0.98(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	18.153	18.183	-2	1.011	17044726	4184821	3725	9312	1123		
333.9339	18.153	18.183	-2	1.011	21425853	5447822	1941	4852	2807	0.80(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.167	18.198	-2	1.012	29683912	7259937	1502	3755	4834		
2,3,7,8-TCDD											
319.8965	18.183	18.213	-2	1.002	32794	6720	902	2255	7		
321.8936	18.167	18.213	-3	1.001	47475	11079	441	1102	25	0.69(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
319.8965	15.930	17.616	-101	0.878	13407	3881	902	2255	4		
321.8936	15.930	17.616	-101	0.878	17941	5717	441	1102	13	0.75(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	22.516	22.556	-2	1.254	23933617	4391780	4308	10770	1019		
353.8970	22.516	22.556	-2	1.254	15225843	2880875	3037	7592	949	1.57(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.570						296	740			
341.8567	22.570						576	1440			
13C-2,3,4,7,8-PeCDF											
351.9000	23.866	23.920	-3	1.329	24494720	4159794	4308	10770	966		
353.8970	23.866	23.920	-3	1.329	15683690	2595498	3037	7592	855	1.56(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.947						296	740			
341.8567	23.947						576	1440			
A F1 PeCDFs											
339.8597	20.035						337	842			
341.8567	20.035						509	1272			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.226						296	740			
341.8567	23.226						576	1440			
13C-1,2,3,7,8-PeCDD											
367.8949	24.602	24.643	-2	1.370	17909095	2947271	1859	4647	1585		
369.8919	24.602	24.643	-2	1.370	10992597	1767532	1298	3245	1362	1.63(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.670						420	1050			
357.8516	24.670						411	1027			
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.531						420	1050			
357.8516	23.531						411	1027			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.642	30.682	-2	0.951	12701076	2530834	3184	7960	795		
385.8610	30.642	30.682	-2	0.951	24678375	4911637	5871	14677	837	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.669	30.695	-2	1.001	14387	3184	363	907	9		
375.8178	30.682	30.695	-1	1.001	11826	3104	480	1200	6	1.22(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.815	30.855	-2	0.957	12729952	2657894	3184	7960	835		
385.8610	30.815	30.855	-2	0.957	24426635	5020731	5871	14677	855	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.868						363	907			
375.8178	30.868						480	1200			
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.614	31.640	-2	0.981	12195060	3191737	3184	7960	1002		
385.8610	31.614	31.640	-2	0.981	23499158	6097427	5871	14677	1039	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.653						363	907			
375.8178	31.653						480	1200			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.399	32.412	-1	1.006	11123010	3185713	3184	7960	1001		
385.8610	32.399	32.412	-1	1.006	21706889	6173357	5871	14677	1052	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.399	32.426	-2	1.000	8331	2480	363	907	7		
375.8178	32.399	32.426	-2	1.000	6098	1930	480	1200	4	1.37(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.363						363	907			
375.8178	30.363						480	1200			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.213	32.239	-2		25933356	7518446	3228	8070	2329		
403.8529	32.213	32.239	-2		21149806	6256680	3805	9512	1644	1.23(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.787	31.813	-2	0.987	14157808	3830686	3228	8070	1187		
403.8529	31.787	31.813	-2	0.987	10981639	3086802	3805	9512	811	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											M
389.8157	31.813	31.826	-1	1.001	16800	4980	361	902	14		M
391.8127	31.813	31.826	-1	1.001	11907	3165	360	900	9	1.41(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.893	31.920	-2	0.990	13822228	3976599	3228	8070	1232		
403.8529	31.893	31.920	-2	0.990	11578216	3086689	3805	9512	811	1.19(1.05-1.43)	
1,2,3,6,7,8-HxCDD											QMU
389.8157	31.933						361	902			
391.8127	31.933						360	900			
1,2,3,7,8,9-HxCDD											RQM
389.8157	32.226	32.252	-2	1.014	7708	2443	361	902	7		M
	Empc Correction				6353	2186	361	902	6		
391.8127	32.226	32.252	-2	1.014	5124	1763	360	900	5	1.50(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.995						361	902			
391.8127	30.995						360	900			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.795	33.819	-1	1.049	7467220	2502648	4558	11395	549		
419.8220	33.795	33.819	-1	1.049	17290703	5816874	6132	15330	949	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											M
407.7818	33.807	33.819	-1	1.000	8209	2772	394	985	7		
409.7789	33.807	33.819	-1	1.000	7094	1952	306	765	6	1.16(0.88-1.20)	M
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.876	34.889	-1	1.083	7521373	2446944	4558	11395	537		
419.8220	34.876	34.889	-1	1.083	17126551	5517741	6132	15330	900	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.888	34.901	-1	1.000	7760	2388	394	985	6		
409.7789	34.888	34.901	-1	1.000	7905	1865	306	765	6	0.98(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.360						394	985			
409.7789	34.360						306	765			

Report Date: 14-Oct-2019 14:51:22 Chrom Revision: 2.3 11-Oct-2019 15:46:24
Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_20.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.585	34.609	-1	1.074	13694065	4510486	5502	13755	820		
437.8140	34.585	34.609	-1	1.074	13365638	4369188	5057	12642	864	1.02(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.597	34.609	-1	1.000	11150	3798	332	830	11		
425.7737	34.597	34.609	-1	1.000	11684	4026	306	765	13	0.95(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											a
423.7766	34.050	35.190	-68	0.985	15941	4032	332	830	12		a
425.7737	34.038	35.190	-69	0.984	13269	5085	306	765	17	1.20(0.88-1.20)	
13C-OCDD											
469.7779	36.929	36.941	-1	1.146	16862083	5048273	1273	3182	3966		
471.7750	36.929	36.941	-1	1.146	18773391	5389978	1242	3105	4340	0.90(0.76-1.02)	
OCDF											
441.7428	37.049						614	1535			
443.7399	37.049						639	1597			
OCDD											RQ
457.7377	36.941	36.953	-1	1.000	76518	17702	468	1170	38		
	Empc Correction				58274	16428	468	1170	35		
459.7348	36.929	36.953	-1	1.000	65477	18459	377	942	49	1.17(0.76-1.02)	

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_20.d
Lims ID: 320-54852-A-4-A
Client ID: 11187072-Filter Test-4
Inject. Date: 11-Oct-2019 07:05:56 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: SMA
Lims Batch ID: 330148 Lims Sample ID: 20

Non-2,3,7,8-sub-TCDF, RT: 17.162

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.051	D 13C-2,3,7,8-TCDF	100.000	53052448	13854415

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.051		100.000	53052448	13854415

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
17.079	48570	12991	62991	15255	0.2001	0.77	
17.910	10490	1992	10752	3062	0.0381	0.98	RQ
17.910	8279	2357	10752	3062	0.0341		Empc Correction
Signal Totals:							
	56849	15348	73743	18317			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	132803	33300				0.80	RQ
	130592	33665					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.2382 = (132803 * 100.000) / (53052448 * 1.051)
Empc Amount: 0.2343 = (130592 * 100.000) / (53052448 * 1.051)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_20.d
Lims ID: 320-54852-A-4-A
Client ID: 11187072-Filter Test-4
Inject. Date: 11-Oct-2019 07:05:56 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: SMA
Lims Batch ID: 330148 Lims Sample ID: 20

Non-2,3,7,8-sub-TCDD, RT: 17.616

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.106	D 13C-2,3,7,8-TCDD	100.000	38470579	9632643

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.106		100.000	38470579	9632643

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
15.930	13407	3881	17941	5717	0.0736	0.75	
Signal Totals:							
	13407	3881	17941	5717			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	31348	9598				0.75	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0736 = (31348 * 100.000) / (38470579 * 1.106)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_20.d
Lims ID: 320-54852-A-4-A
Client ID: 11187072-Filter Test-4
Inject. Date: 11-Oct-2019 07:05:56 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: SMA
Lims Batch ID: 330148 Lims Sample ID: 20

Non-2,3,7,8-sub-HpCDD, RT: 35.190

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.932	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	27059703	8879674

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.932		100.000	27059703	8879674

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.050	15941	4032	13269	5085	0.1159	1.20	a
Signal Totals:							
	15941	4032	13269	5085			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	29210	9117				1.20	a

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.1159 = (29210 * 100.000) / (27059703 * 0.932)

QC Flag Legend

Review Flags
a - User Assigned ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_20.d				
Injection Date:	11-Oct-2019 07:05:56	Instrument ID:	10D5		
Lims ID:	320-54852-A-4-A	Lab Sample ID:	320-54852-4		
Client ID:	11187072-Filter Test-4				
Operator ID:	SMA	ALS Bottle#:	18	Worklist Smp#:	20
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 1

Processing Integration Results

RT: 31.81
Area: 21529
Amount: 0.119952
Amount Units: pg/ul

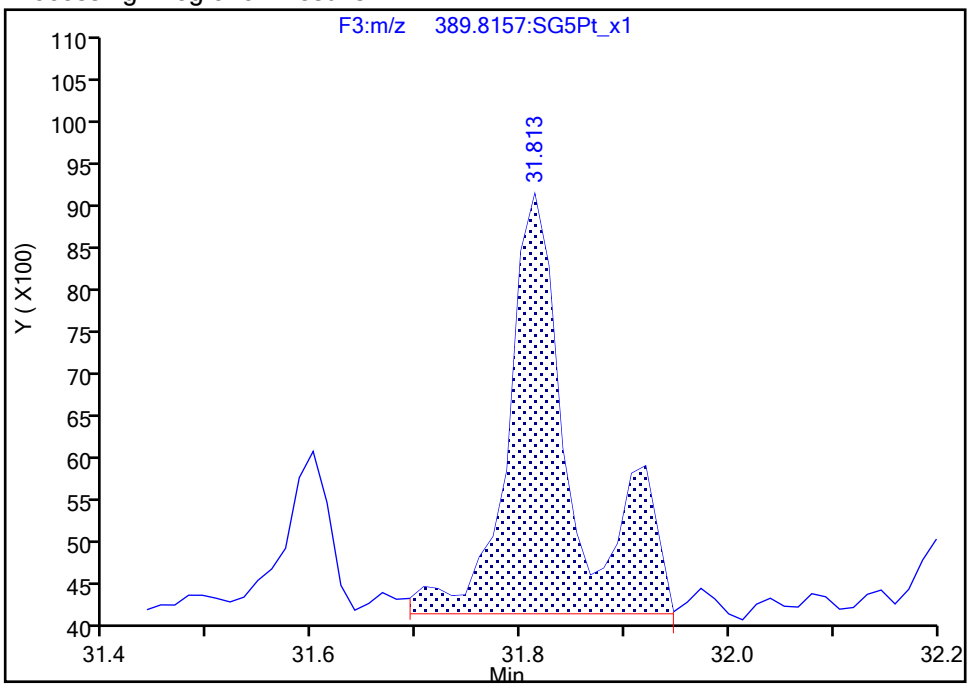

Manual Integration Results

RT: 31.81
Area: 16800
Amount: 0.102986
Amount Units: pg/ul

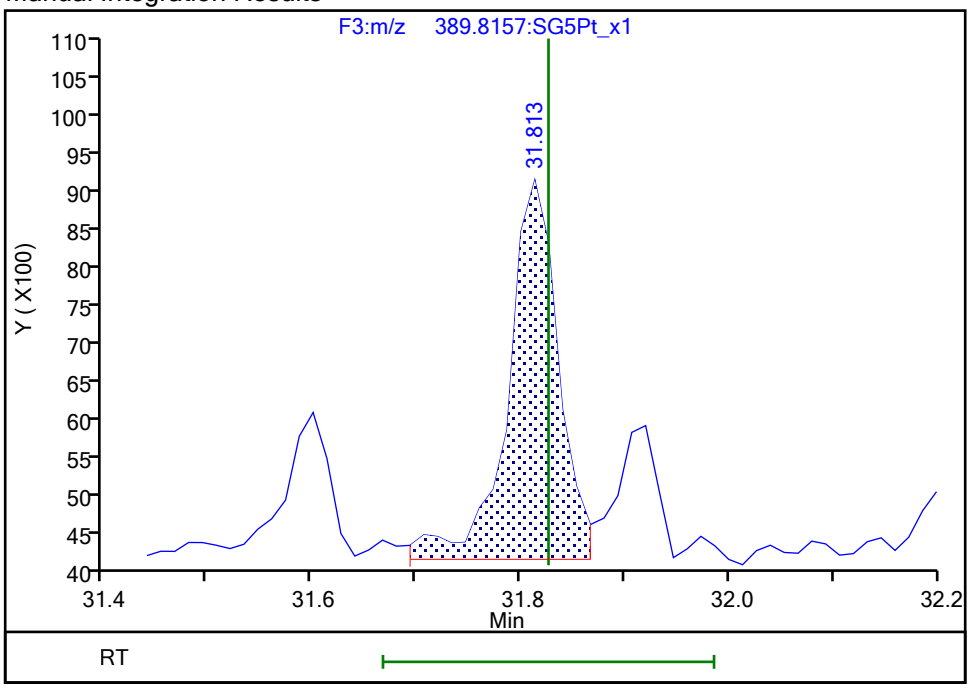

Reviewer: dadunj, 14-Oct-2019 14:50:18

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_20.d				
Injection Date:	11-Oct-2019 07:05:56	Instrument ID:	10D5		
Lims ID:	320-54852-A-4-A	Lab Sample ID:	320-54852-4		
Client ID:	11187072-Filter Test-4				
Operator ID:	SMA	ALS Bottle#:	18	Worklist Smp#:	20
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 1

Processing Integration Results

RT: 32.23
Area: 10053
Amount: 0.049542
Amount Units: pg/ul

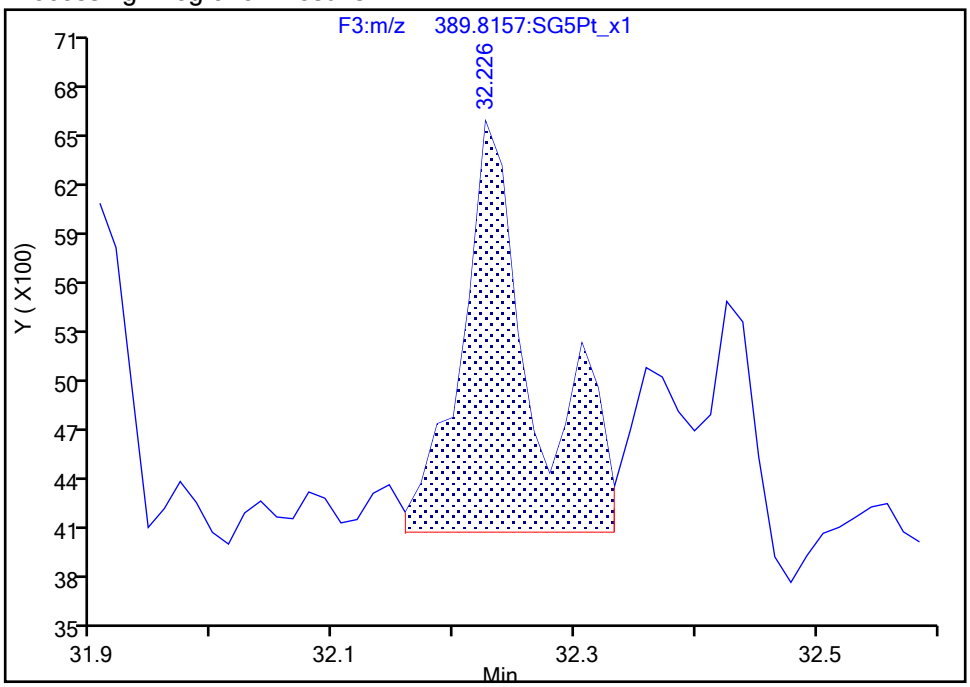

Manual Integration Results

RT: 32.23
Area: 7708
Amount: 0.041887
Amount Units: pg/ul

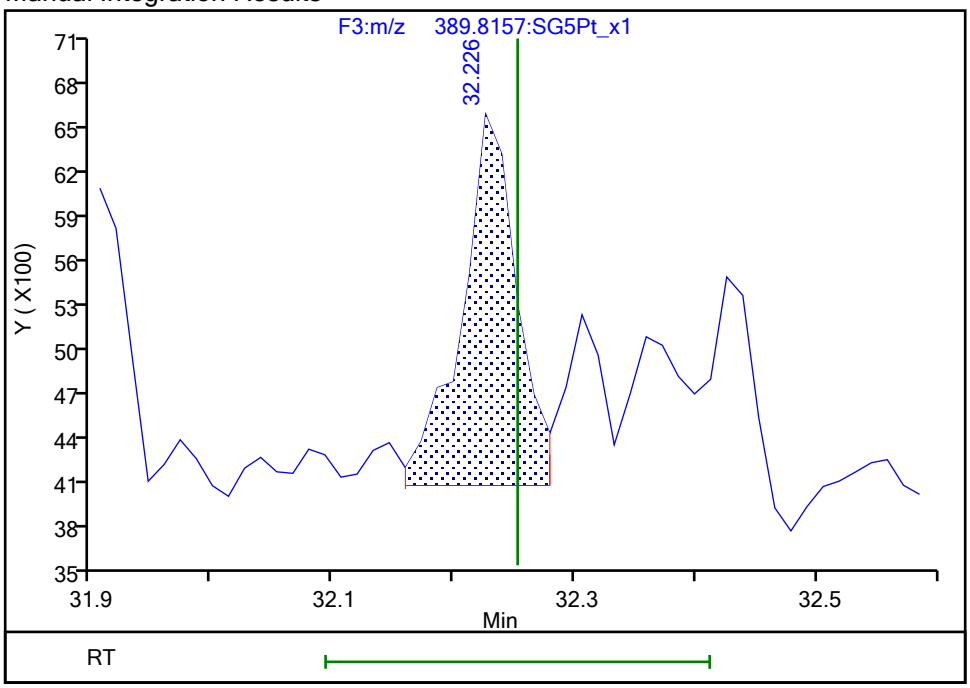

Reviewer: dadunj, 14-Oct-2019 14:50:25

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_20.d				
Injection Date:	11-Oct-2019 07:05:56	Instrument ID:	10D5		
Lims ID:	320-54852-A-4-A	Lab Sample ID:	320-54852-4		
Client ID:	11187072-Filter Test-4				
Operator ID:	SMA	ALS Bottle#:	18	Worklist Smp#:	20
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 2

Processing Integration Results

RT: 33.81
Area: 5824
Amount: 0.036438
Amount Units: pg/ul

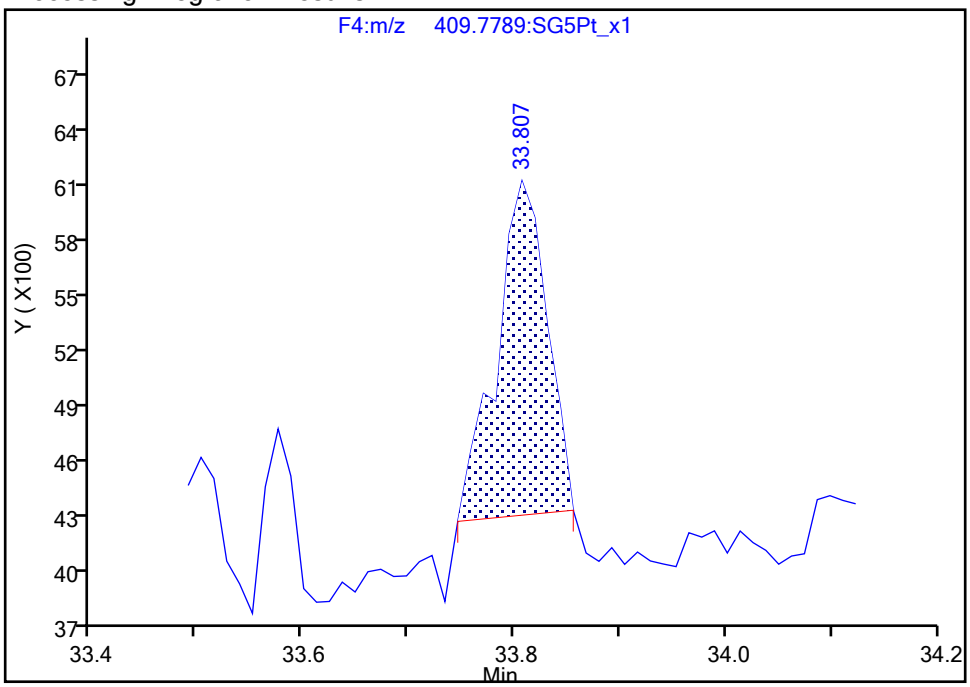

Manual Integration Results

RT: 33.81
Area: 7094
Amount: 0.039735
Amount Units: pg/ul

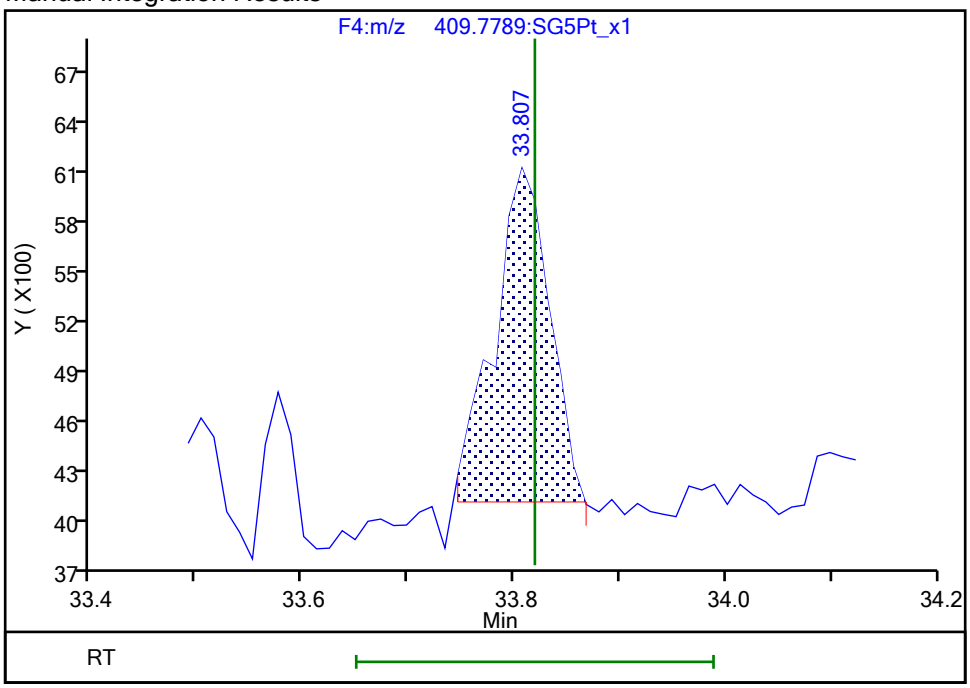

Reviewer: dadunj, 14-Oct-2019 14:50:37

Audit Action: Manually Integrated Audit Reason: Baseline

Report Date: 14-Oct-2019 14:51:22 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_20.d		
Injection Date:	11-Oct-2019 07:05:56	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-4		
Worklist#:	330148	Sample Line#:	20
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

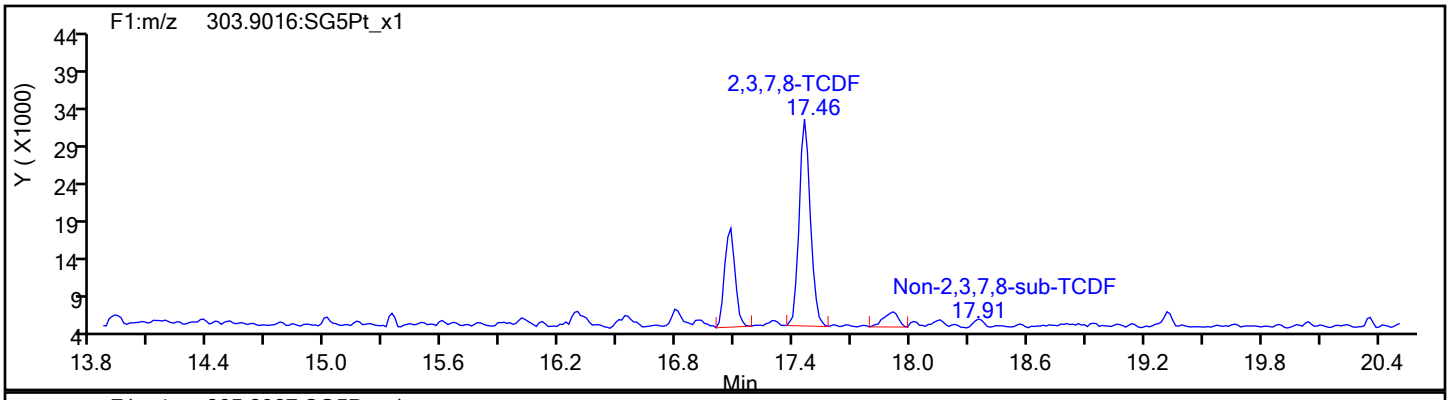

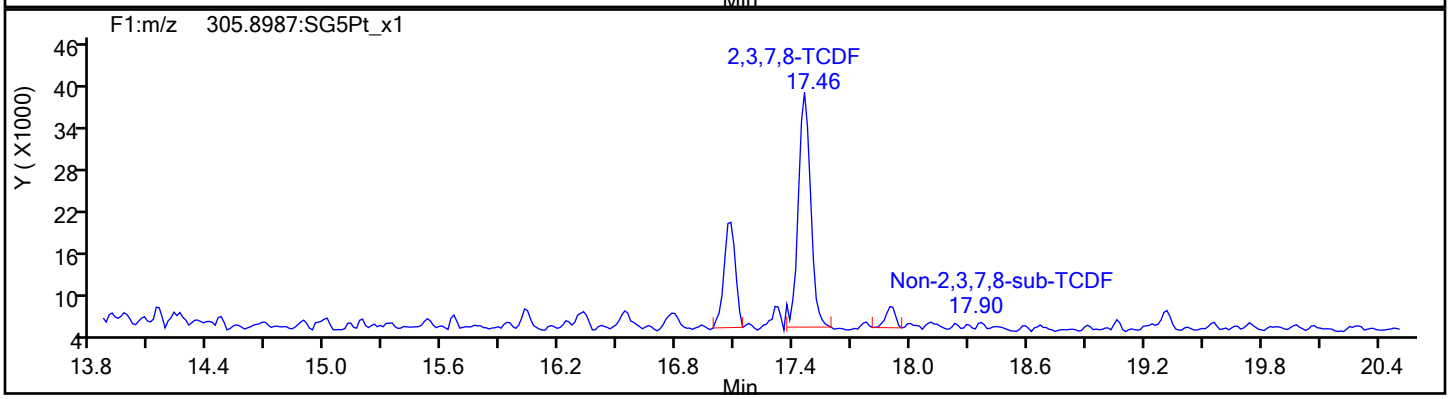

TCDF Standards

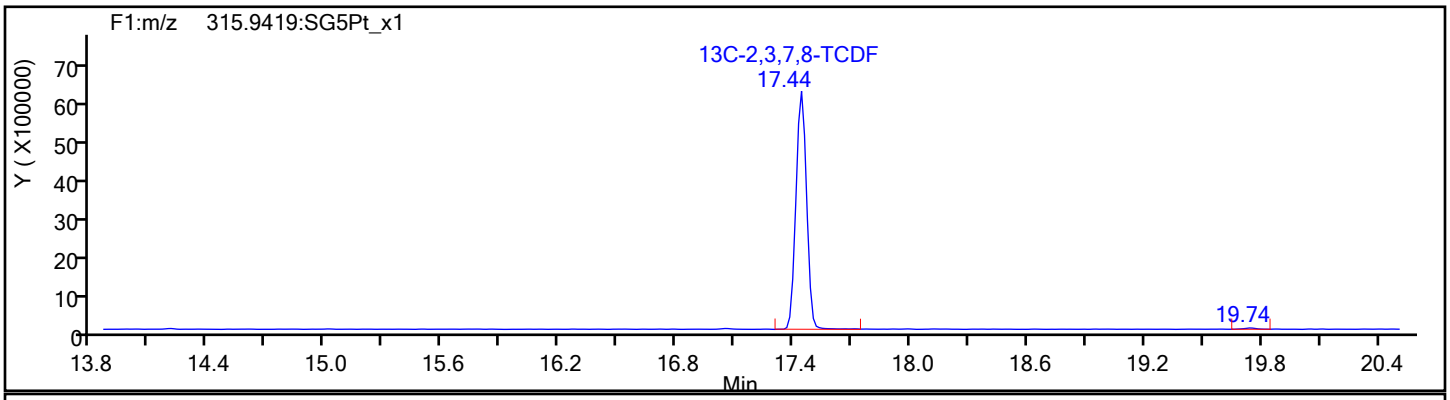

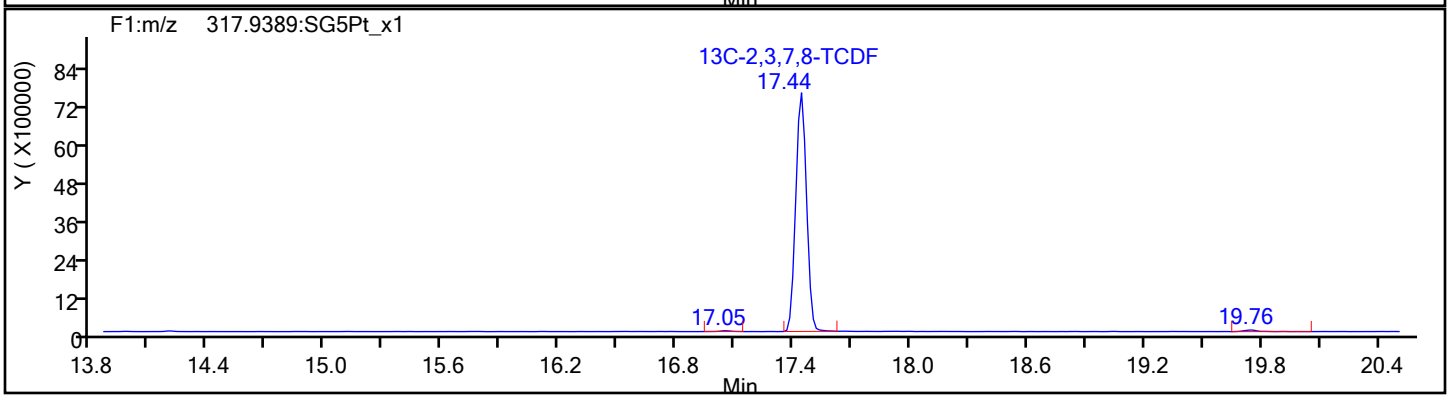

Report Date: 14-Oct-2019 14:51:22 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_20.d		
Injection Date:	11-Oct-2019 07:05:56	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-4		
Worklist#:	330148	Sample Line#:	20
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

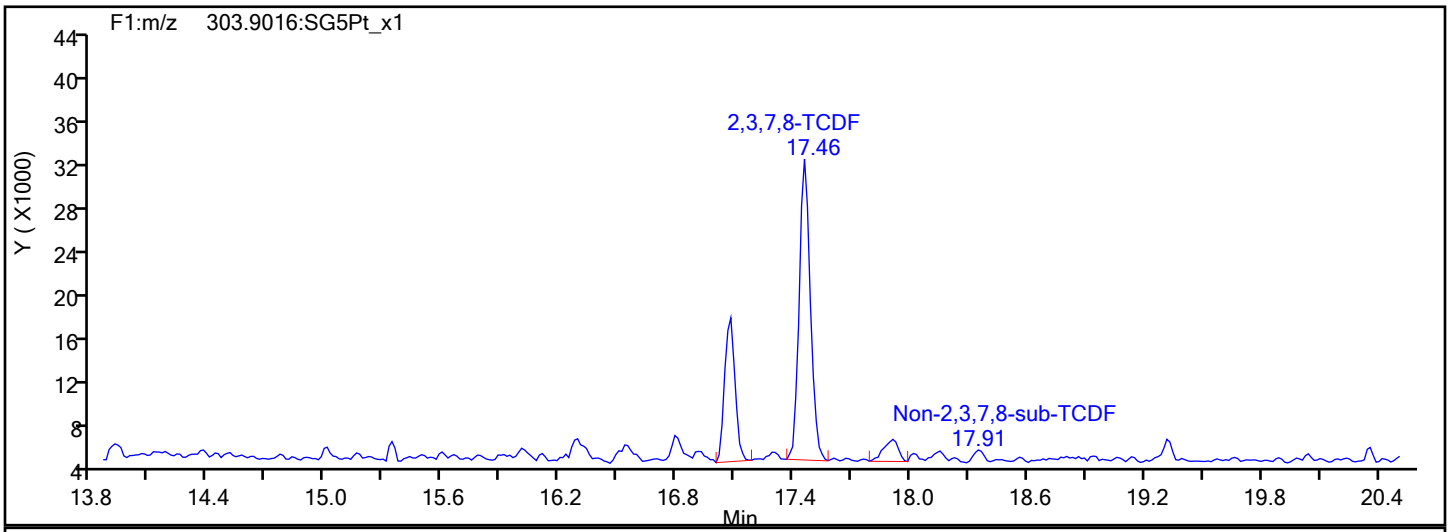

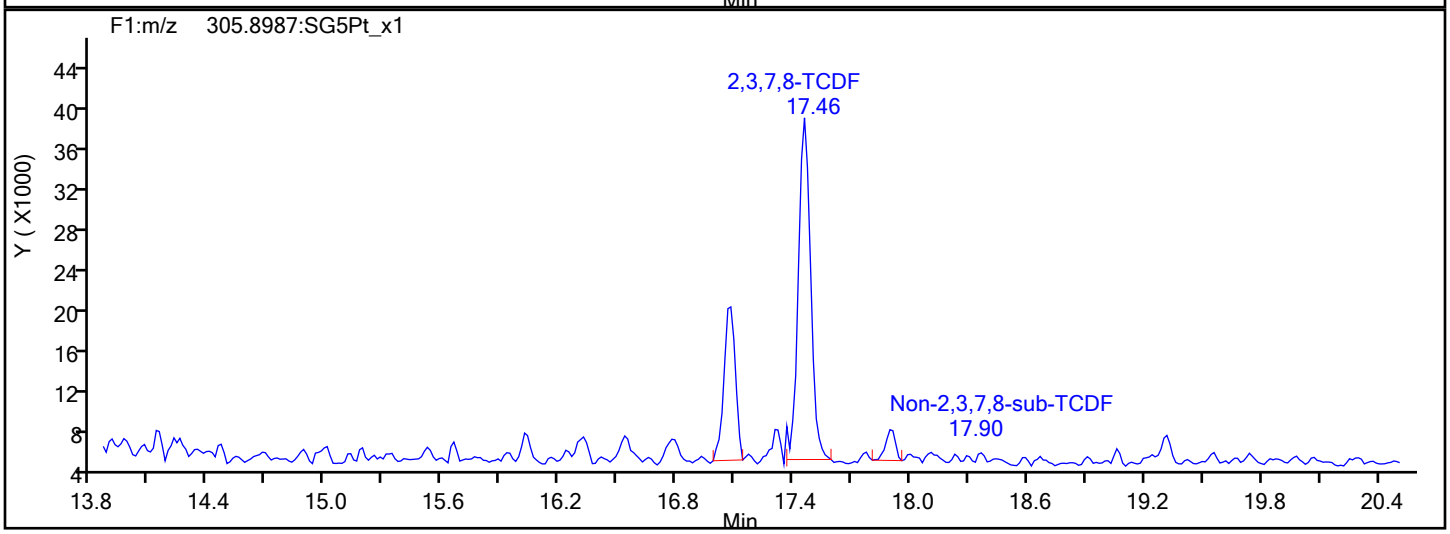

TCDF Interference Mass

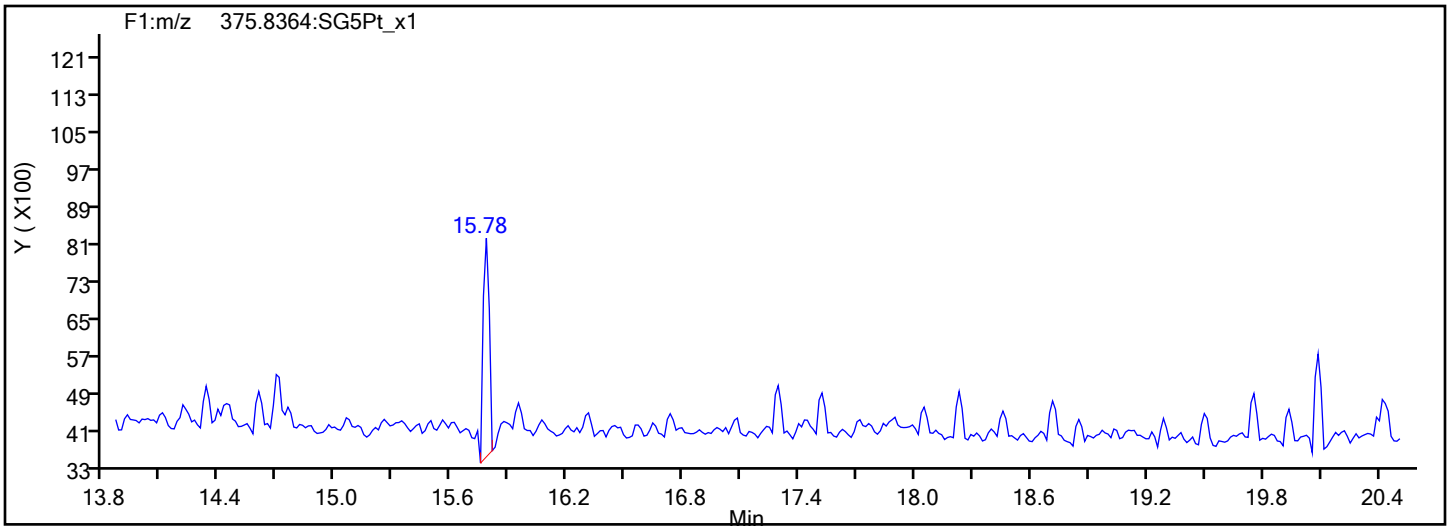

Report Date: 14-Oct-2019 14:51:22 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_20.d		
Injection Date:	11-Oct-2019 07:05:56	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-4		
Worklist#:	330148	Sample Line#:	20
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

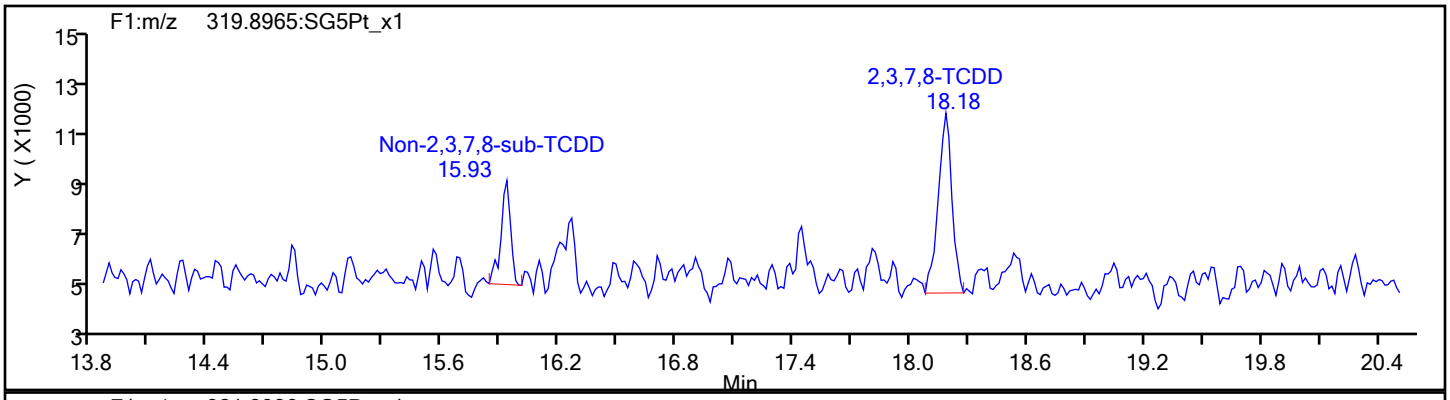

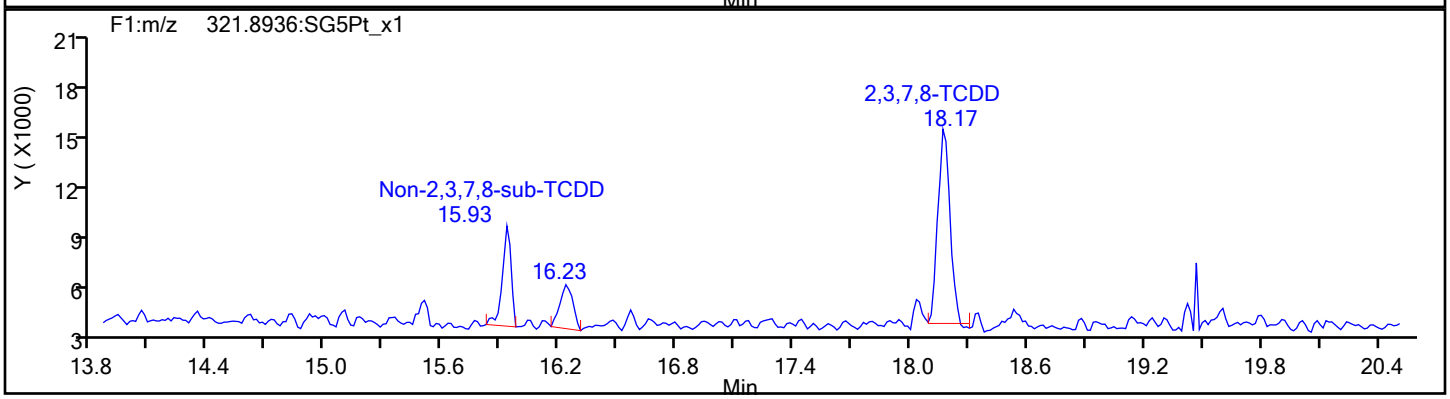

TCDD Standards

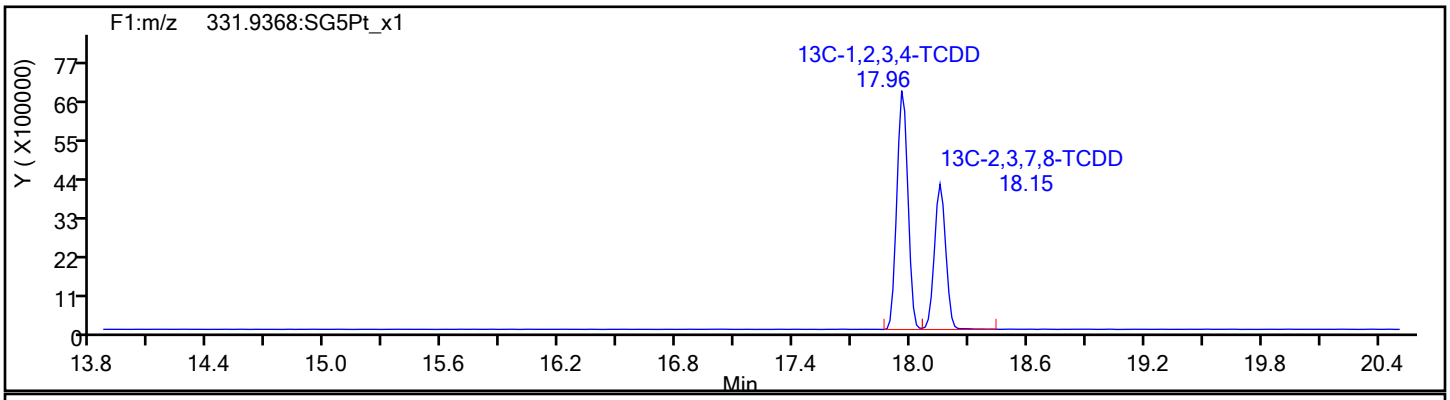

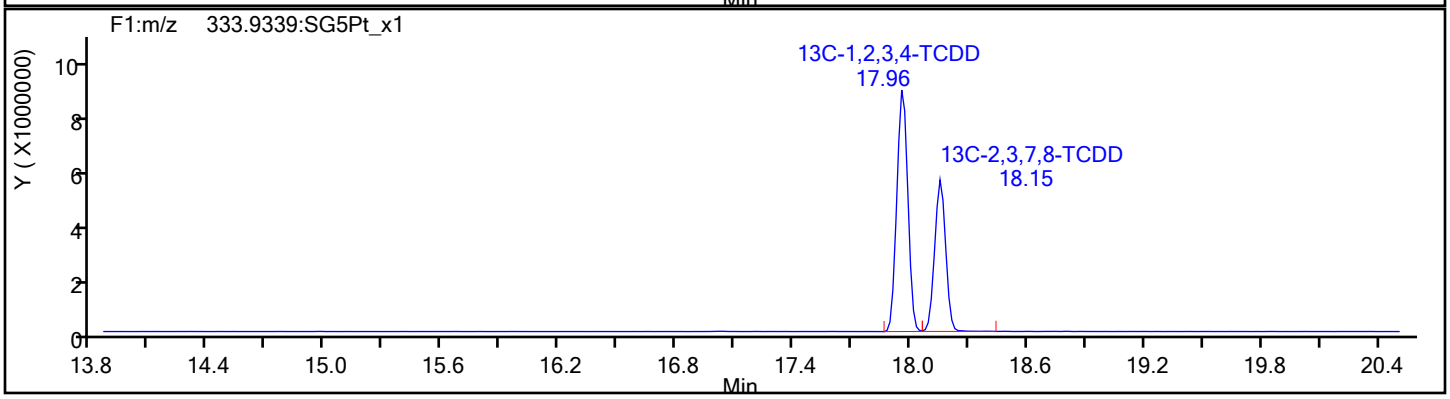

Report Date: 14-Oct-2019 14:51:22 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_20.d		
Injection Date:	11-Oct-2019 07:05:56	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-4		
Worklist#:	330148	Sample Line#:	20
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

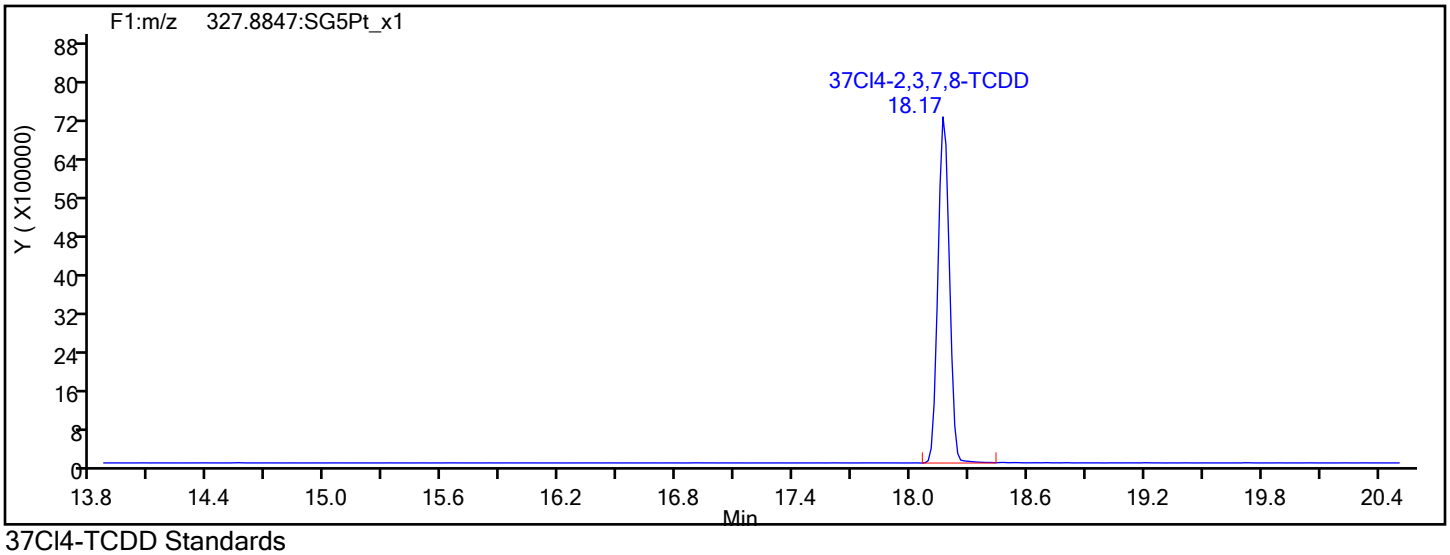

37Cl4-TCDD Standards

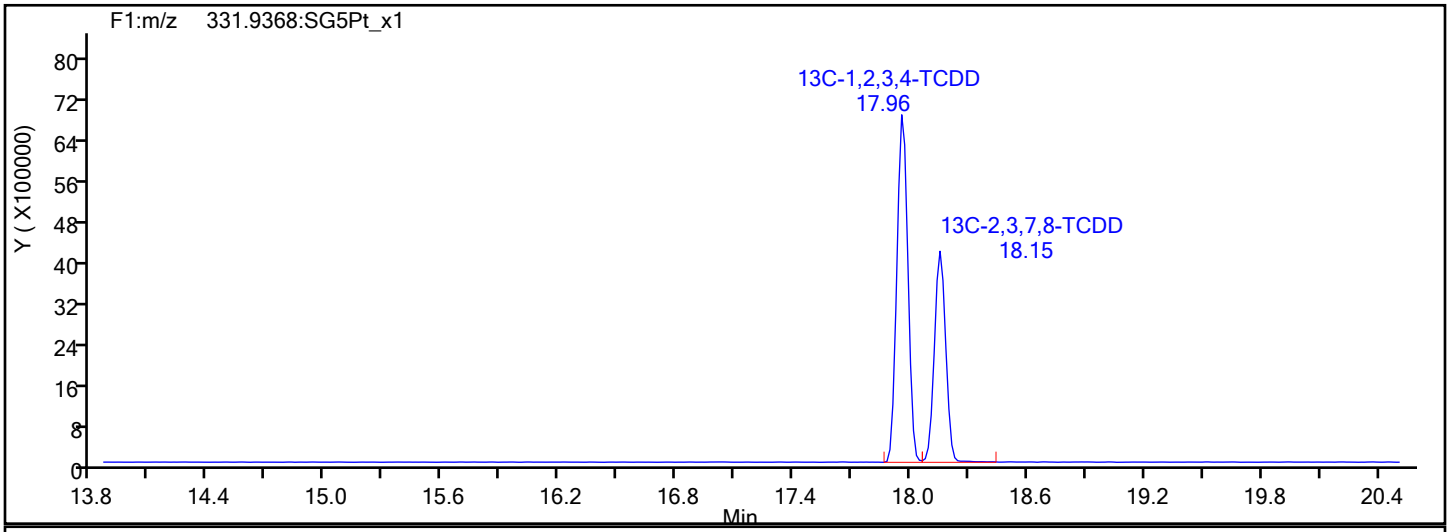

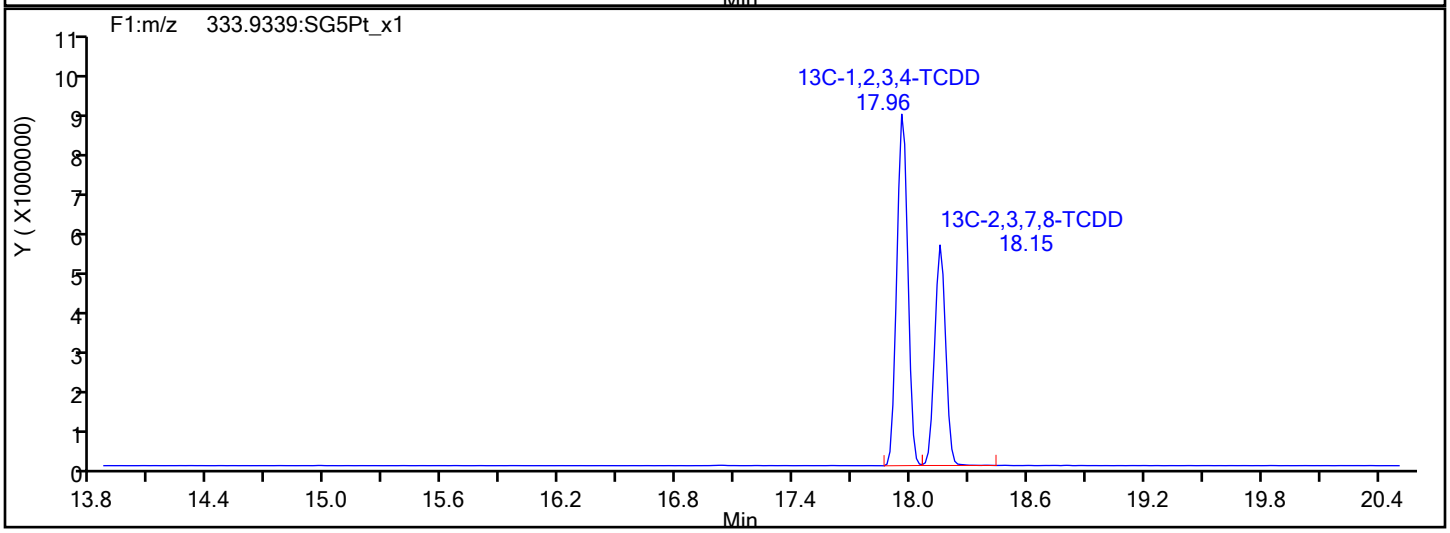

Report Date: 14-Oct-2019 14:51:22 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_20.d		
Injection Date:	11-Oct-2019 07:05:56	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-4		
Worklist#:	330148	Sample Line#:	20
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

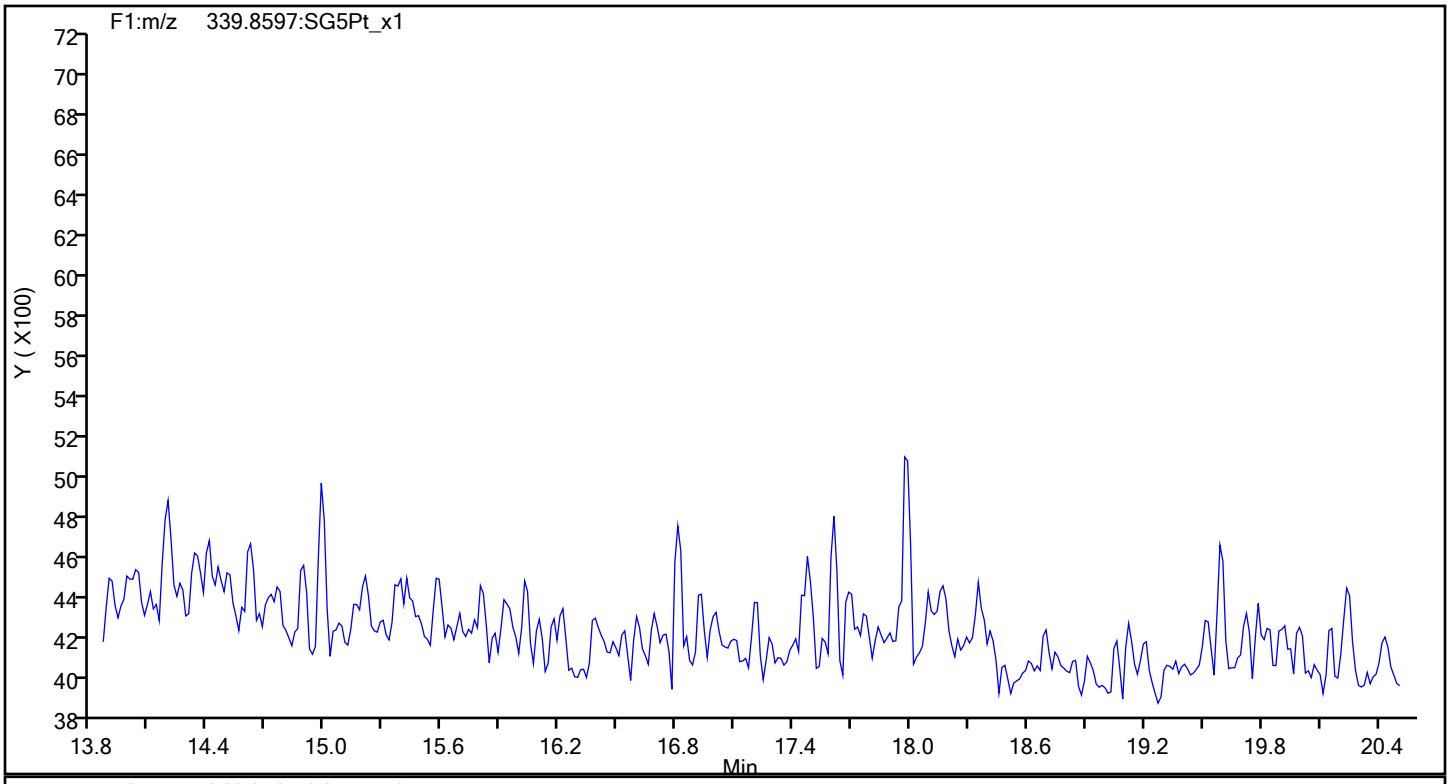

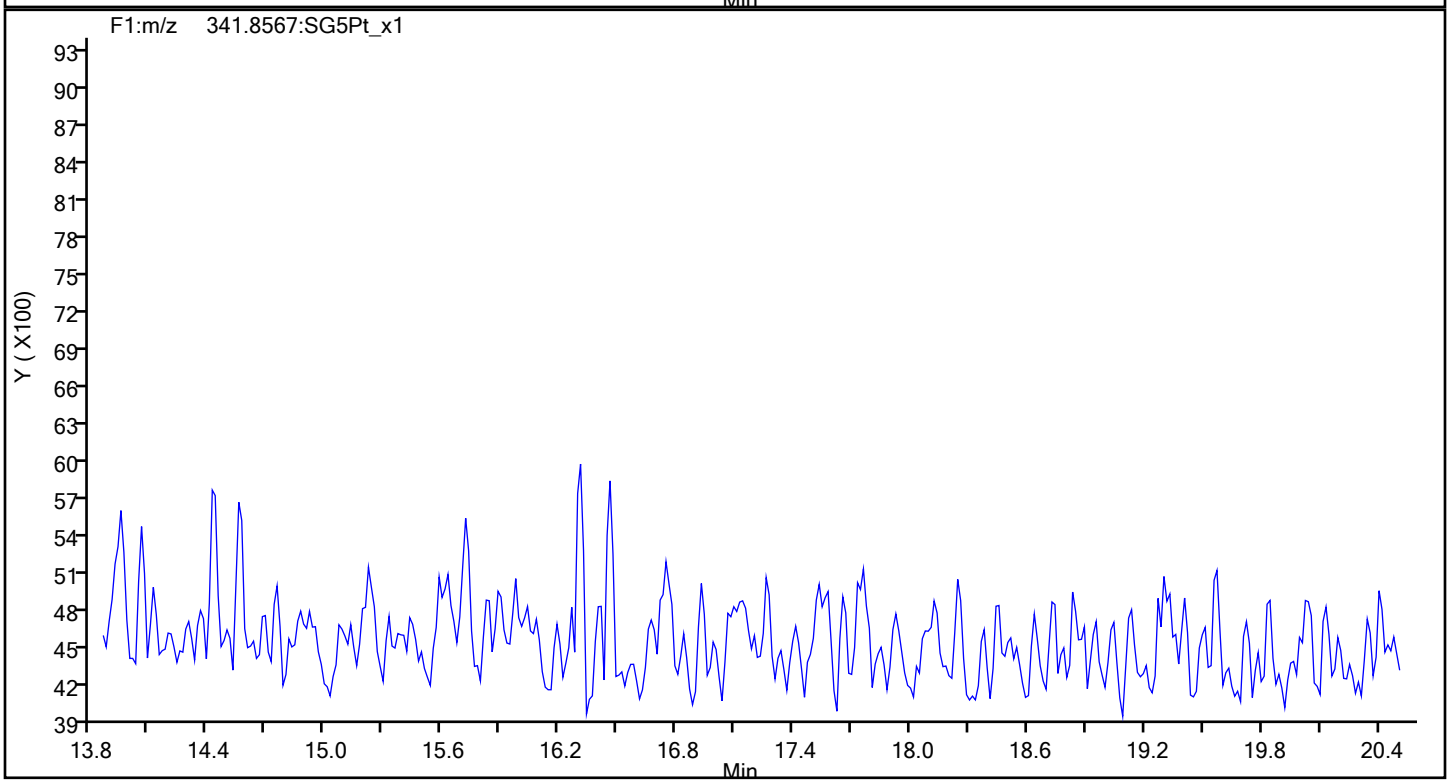

Report Date: 14-Oct-2019 14:51:22 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_20.d		
Injection Date:	11-Oct-2019 07:05:56	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-4		
Worklist#:	330148	Sample Line#:	20
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

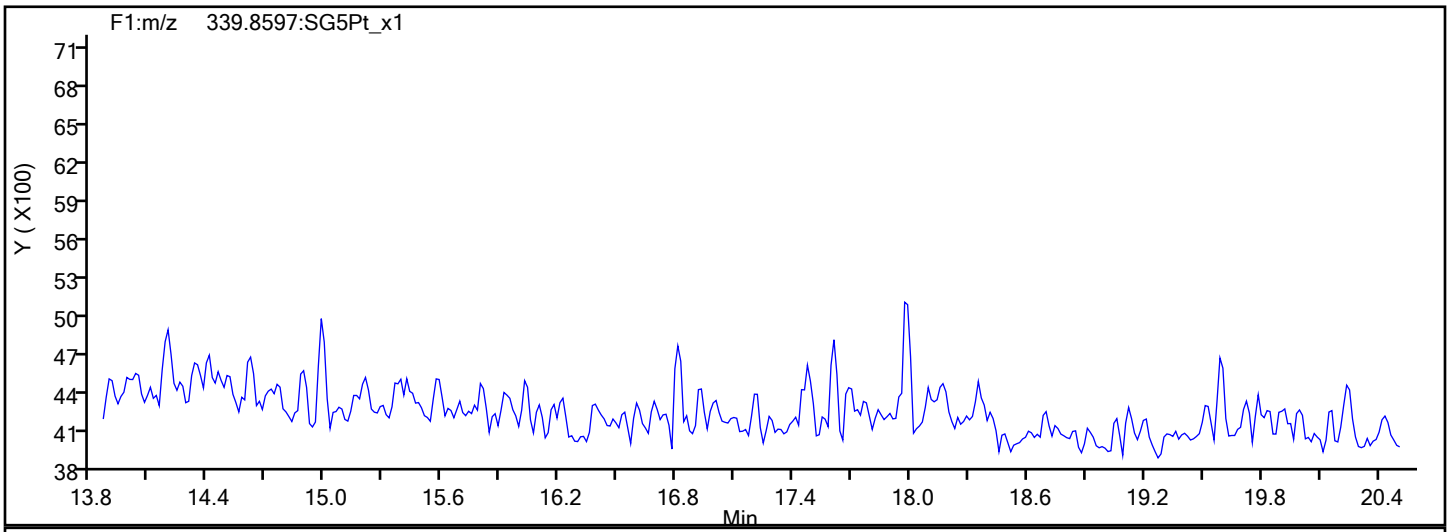

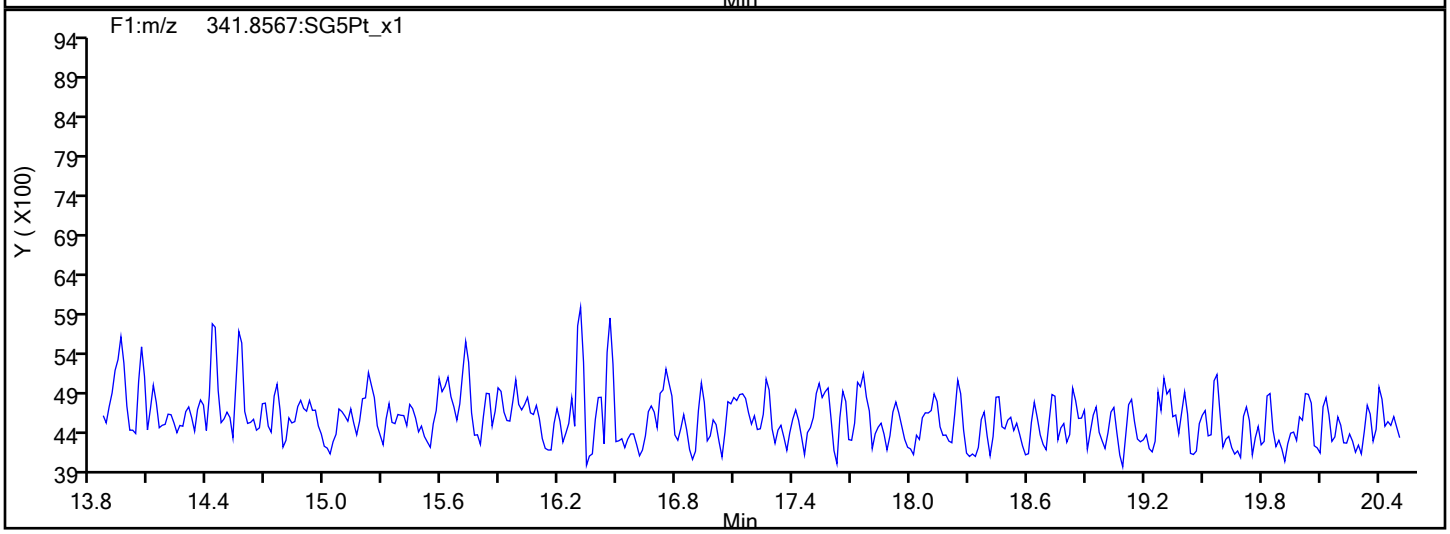

F1 PeCDFs Interference Mass

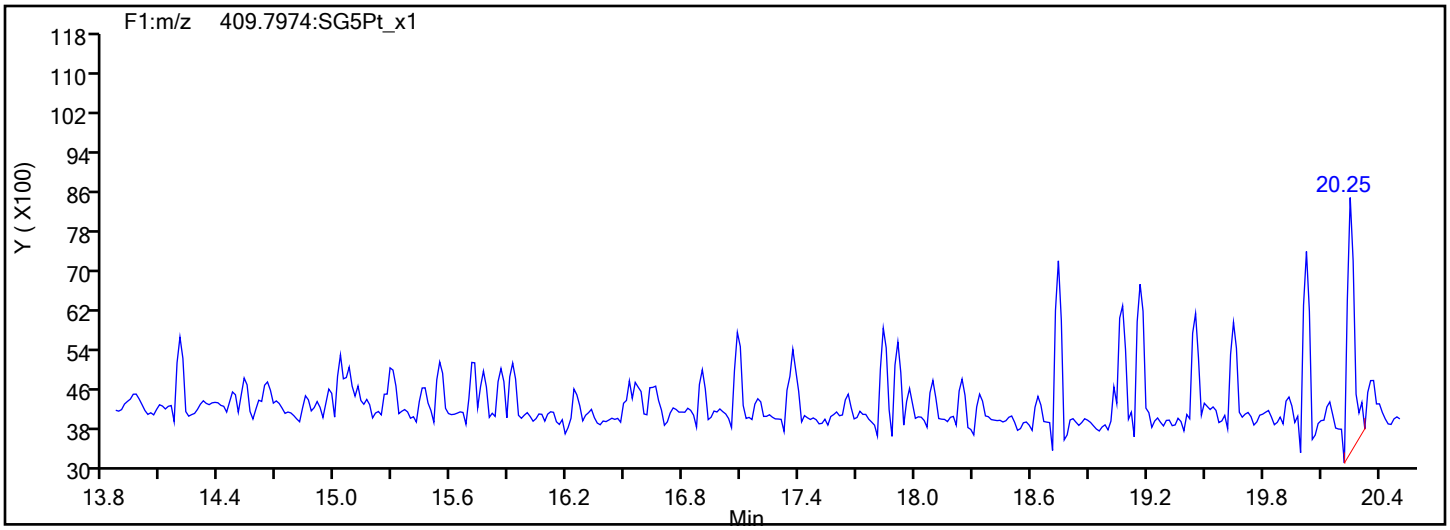

Report Date: 14-Oct-2019 14:51:22 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_20.d		
Injection Date:	11-Oct-2019 07:05:56	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-4		
Worklist#:	330148	Sample Line#:	20
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

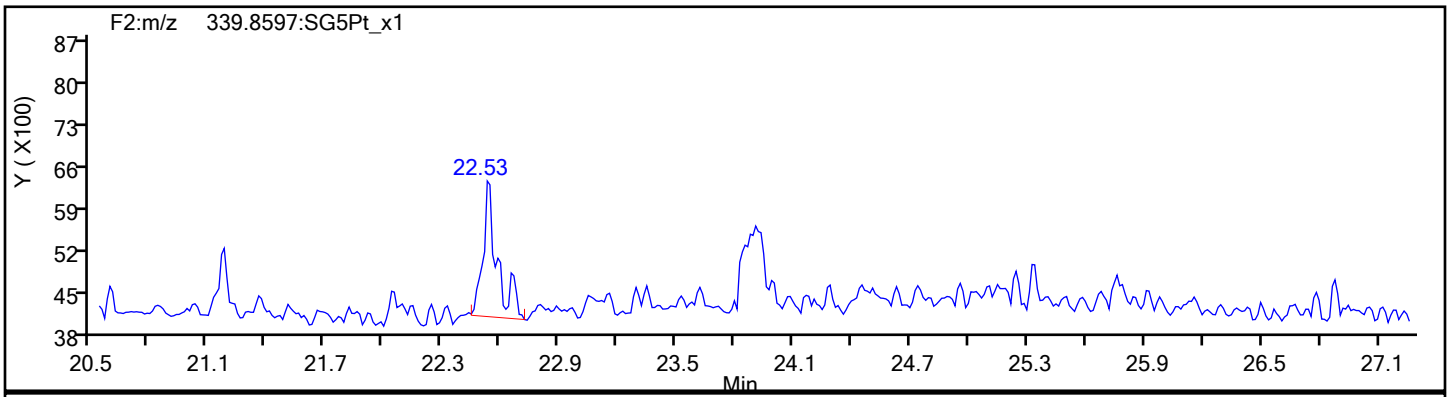

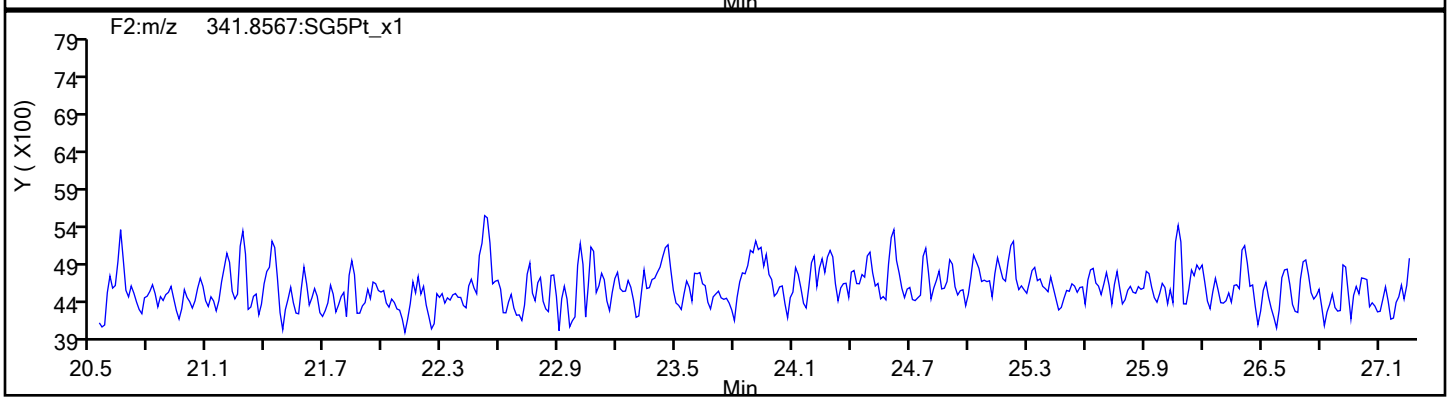

PeCDF Standards

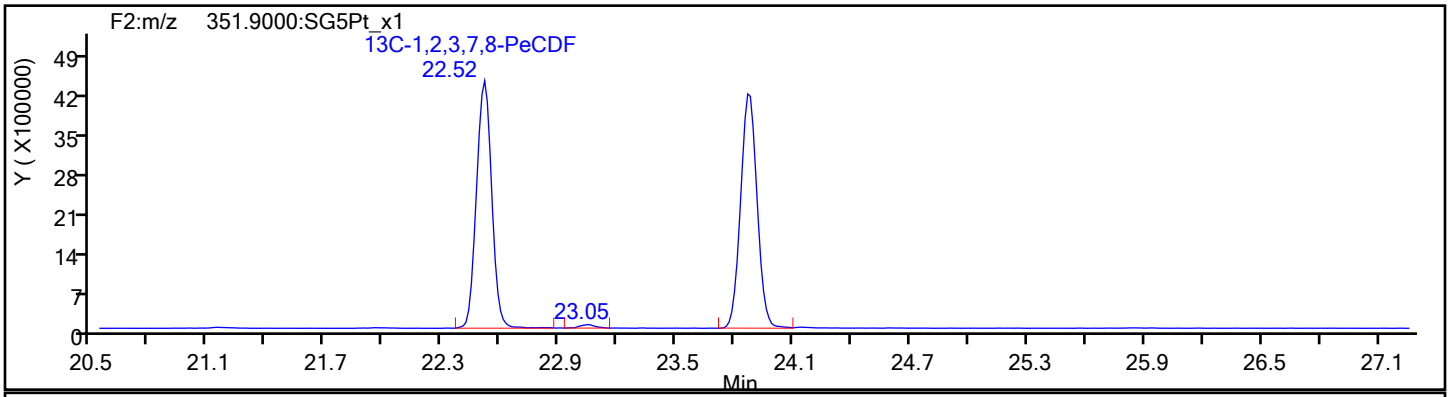

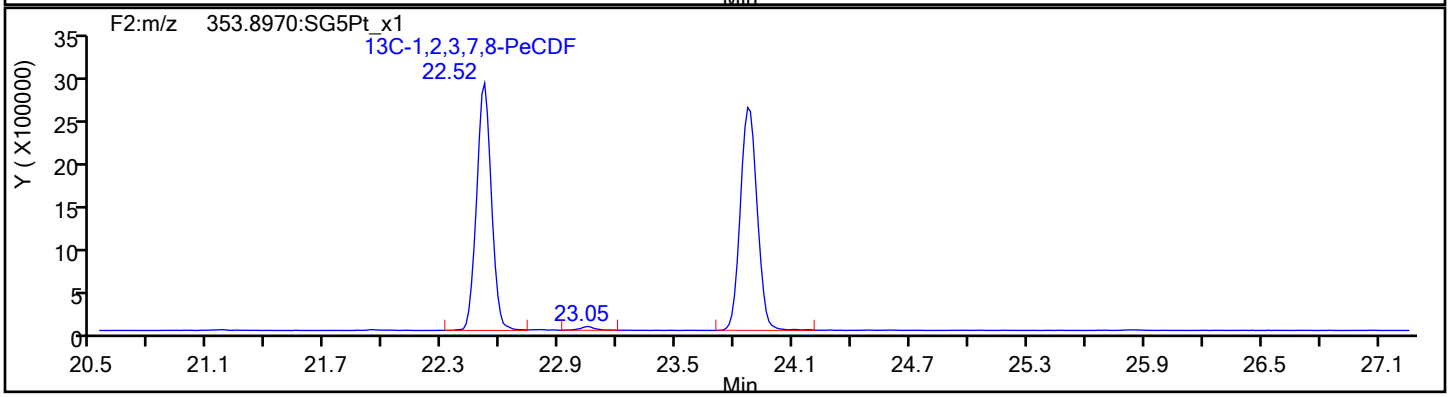

Report Date: 14-Oct-2019 14:51:22 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_20.d		
Injection Date:	11-Oct-2019 07:05:56	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-4		
Worklist#:	330148	Sample Line#:	20
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

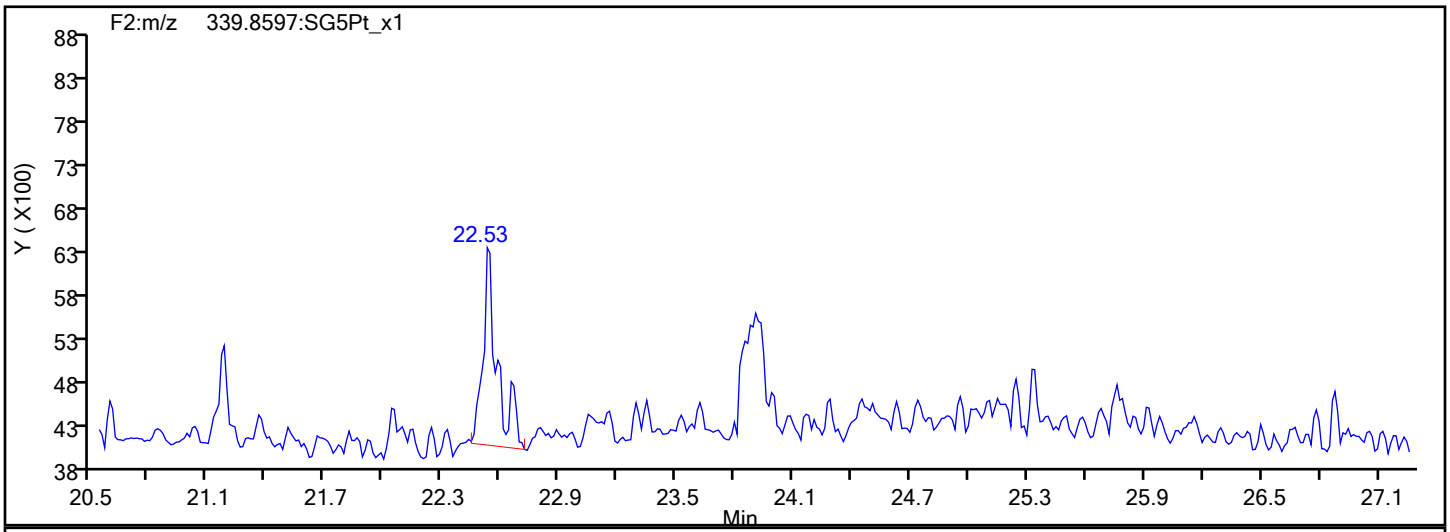

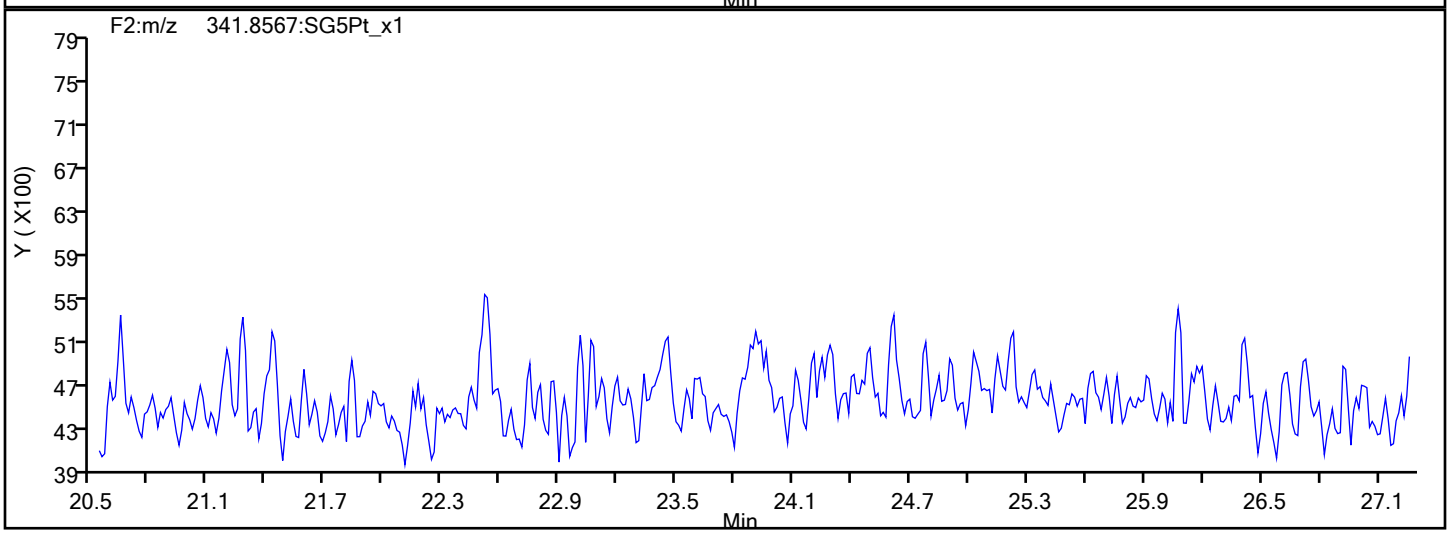

PeCDF Interference Mass

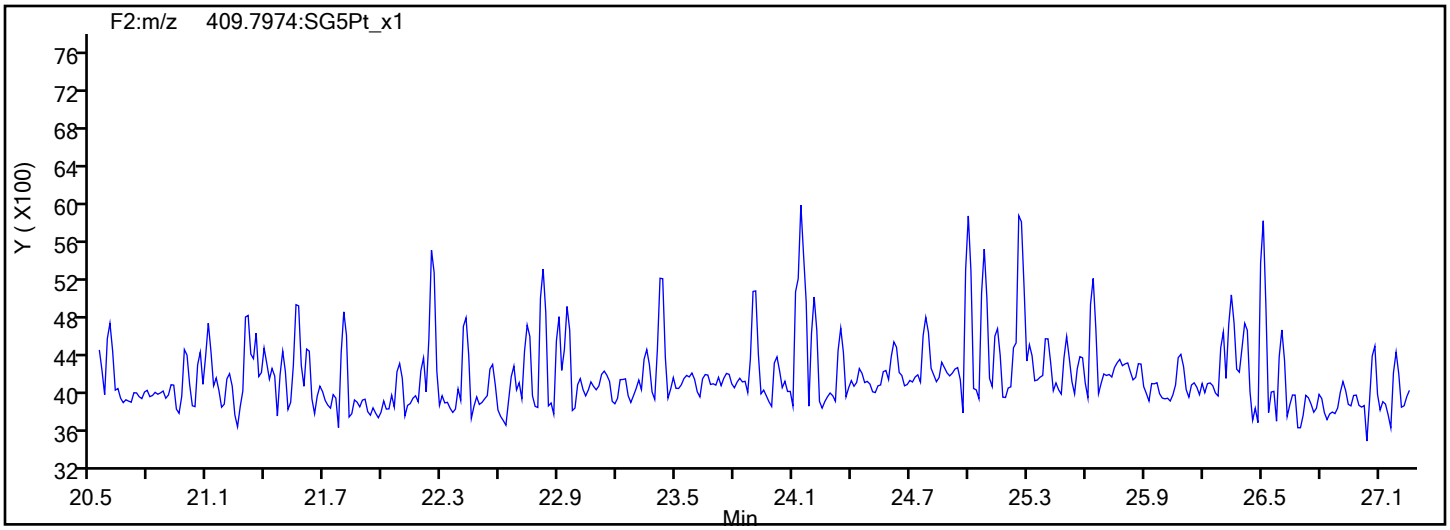

Report Date: 14-Oct-2019 14:51:22 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_20.d		
Injection Date:	11-Oct-2019 07:05:56	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-4		
Worklist#:	330148	Sample Line#:	20
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

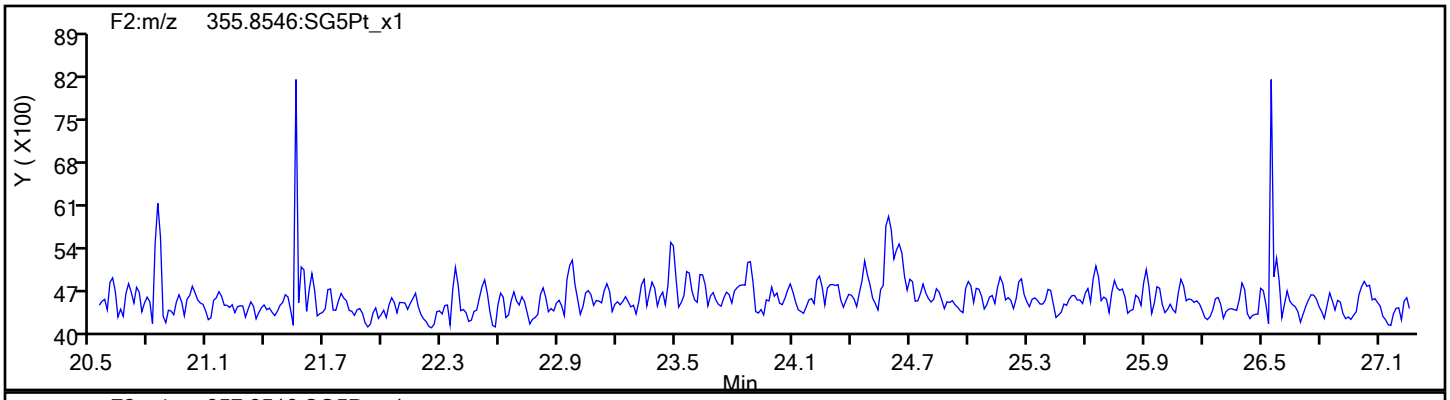

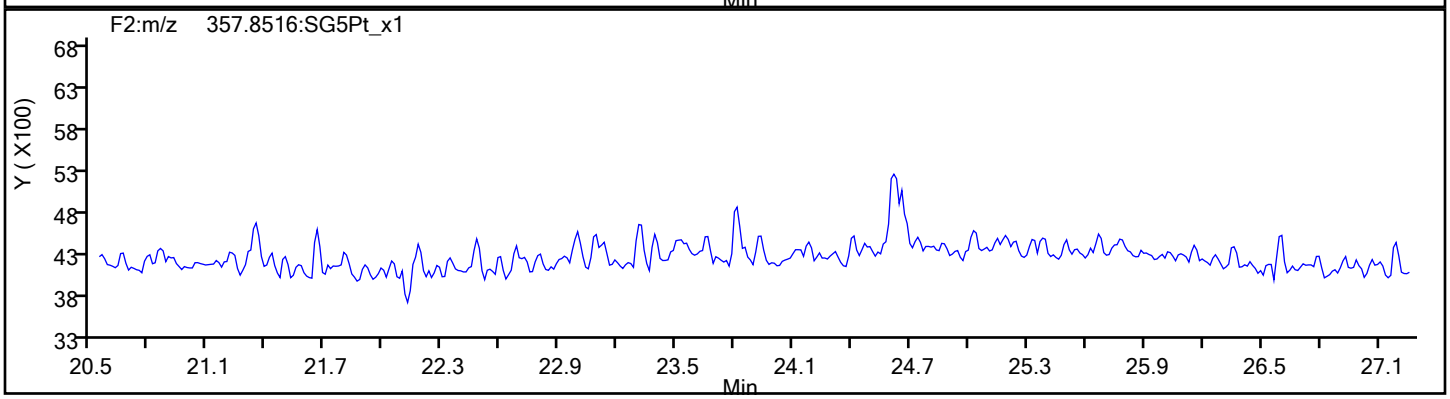

PeCDD Standards

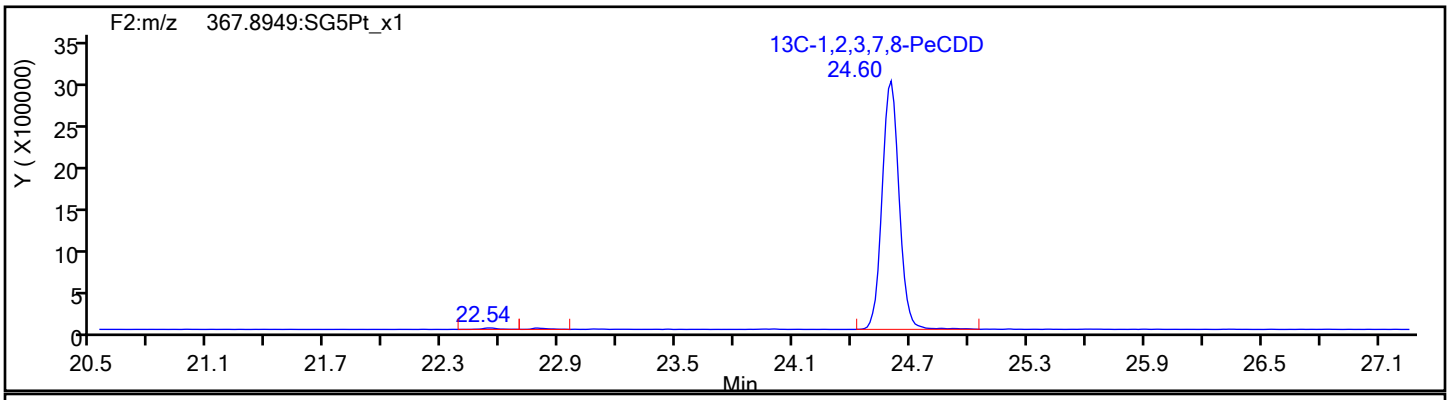

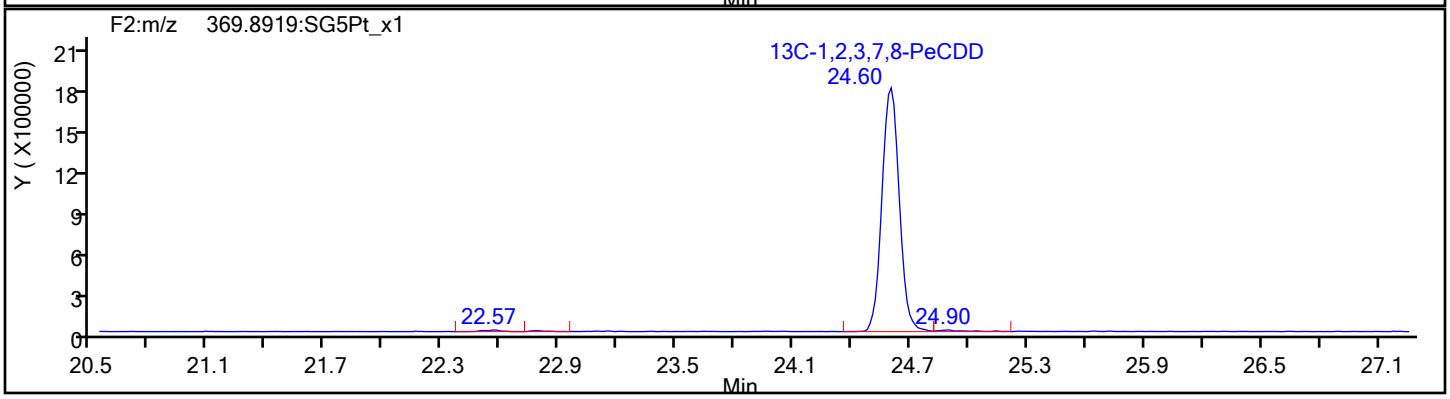

Report Date: 14-Oct-2019 14:51:22 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_20.d		
Injection Date:	11-Oct-2019 07:05:56	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-4		
Worklist#:	330148	Sample Line#:	20
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

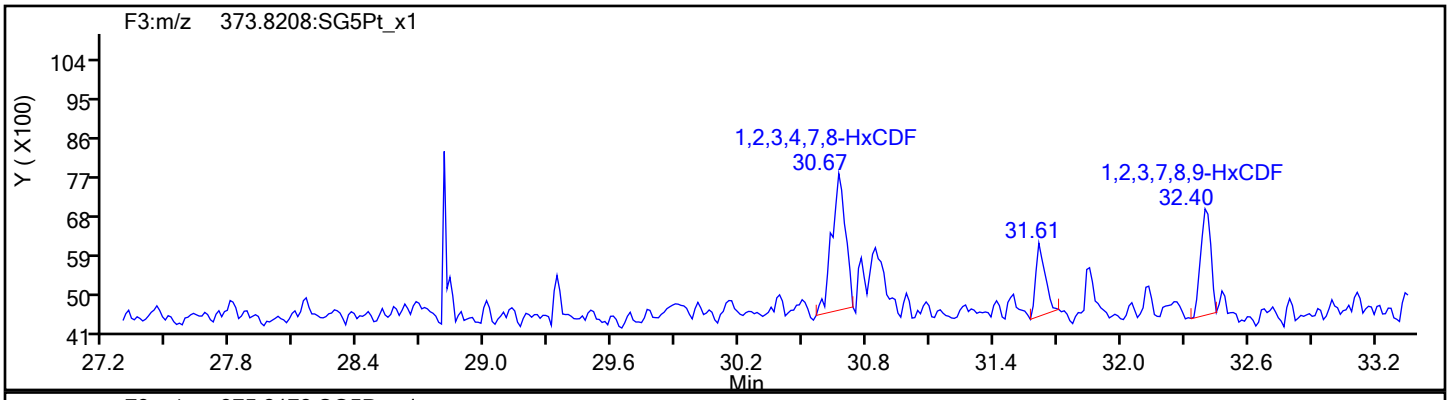

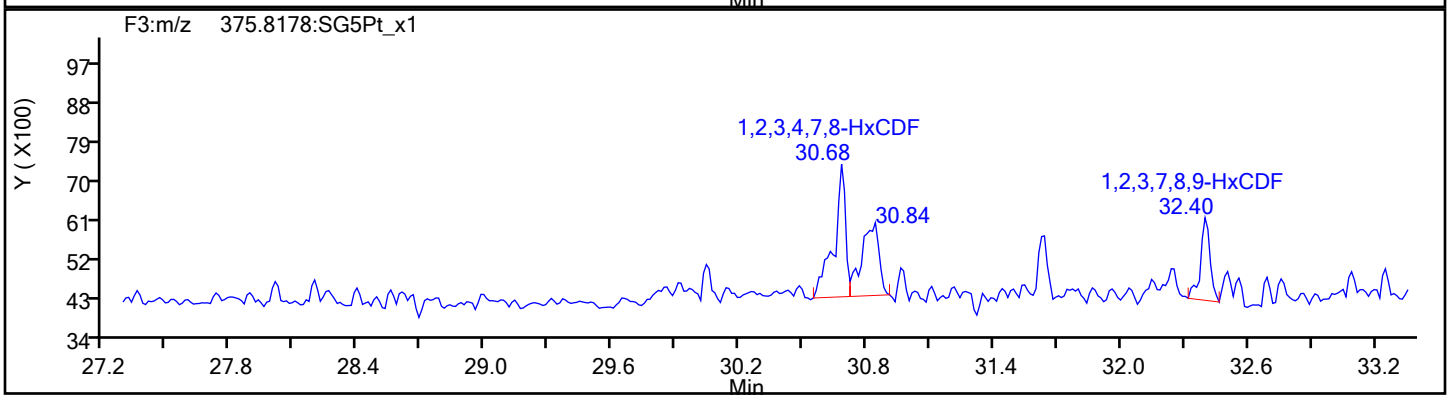

HxCDF Standards

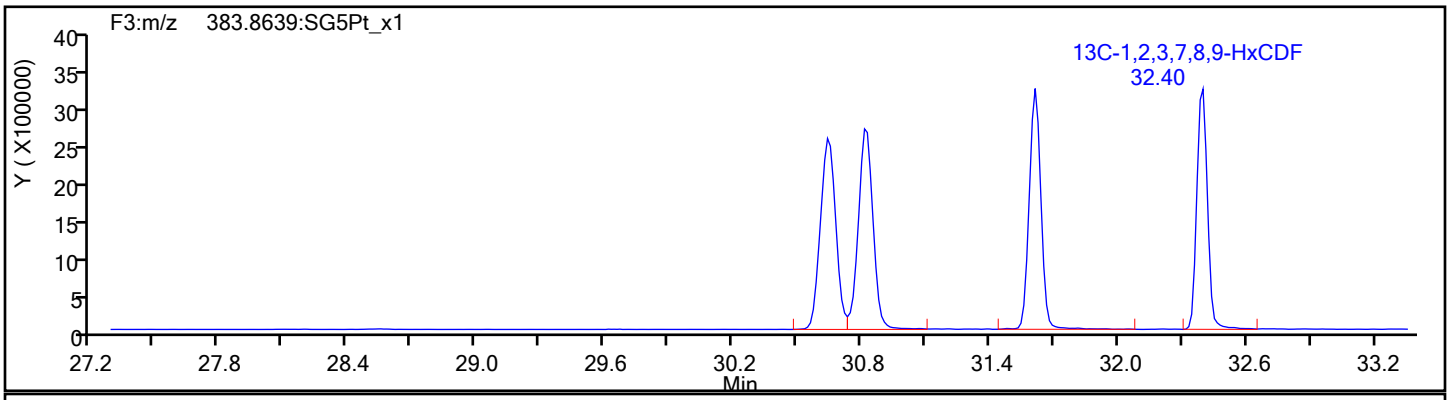

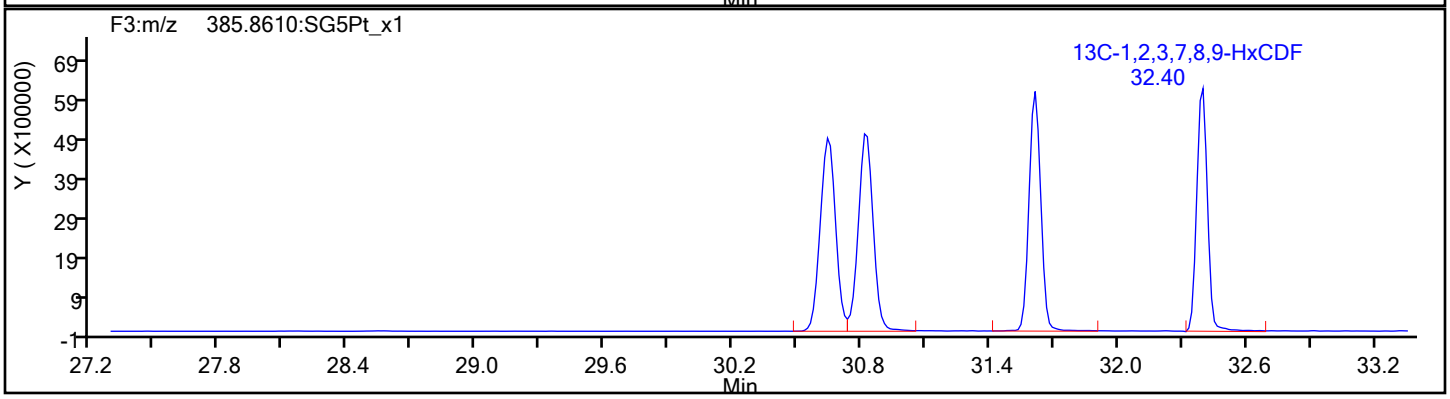

Report Date: 14-Oct-2019 14:51:22 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-4		
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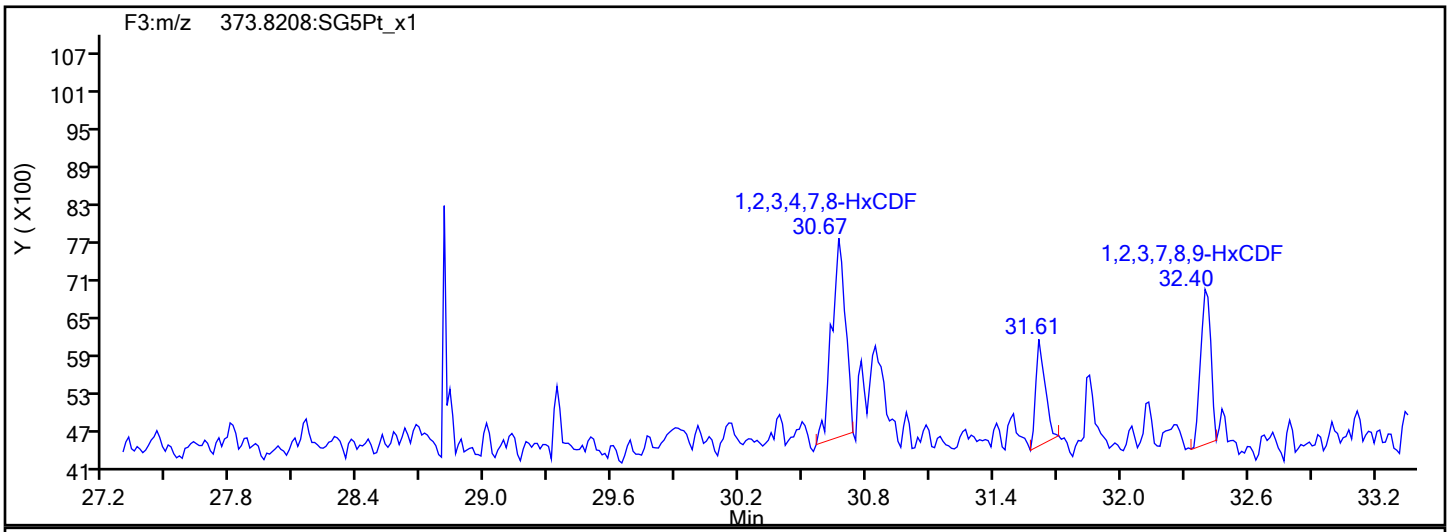

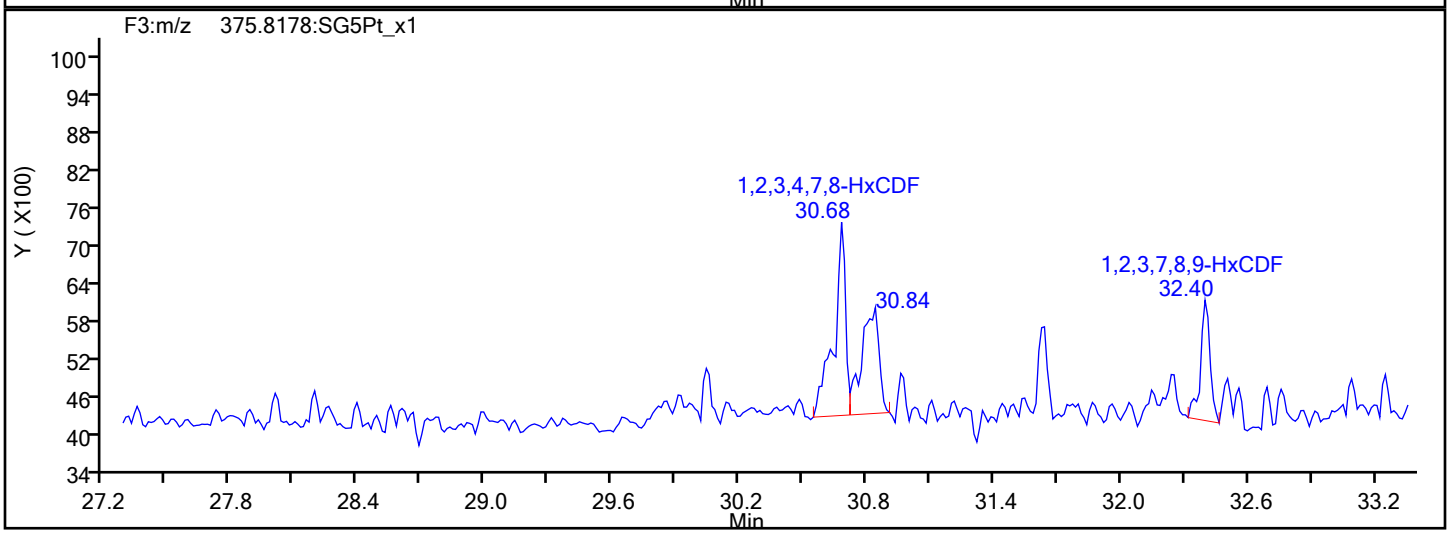

HxCDF Interference Mass

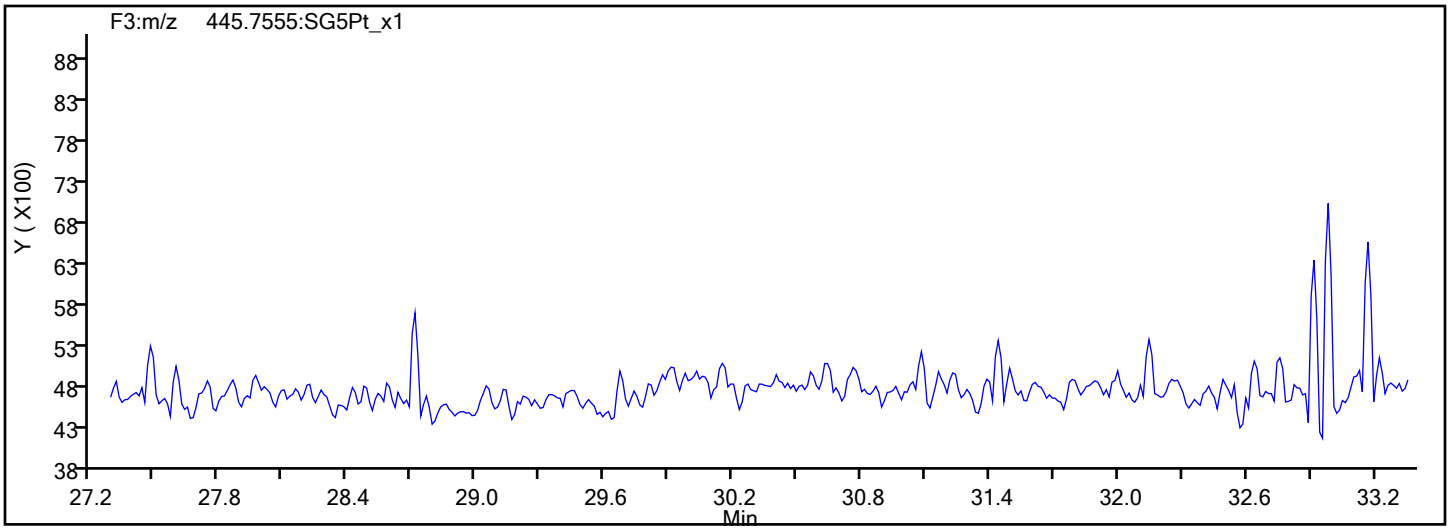

Report Date: 14-Oct-2019 14:51:22 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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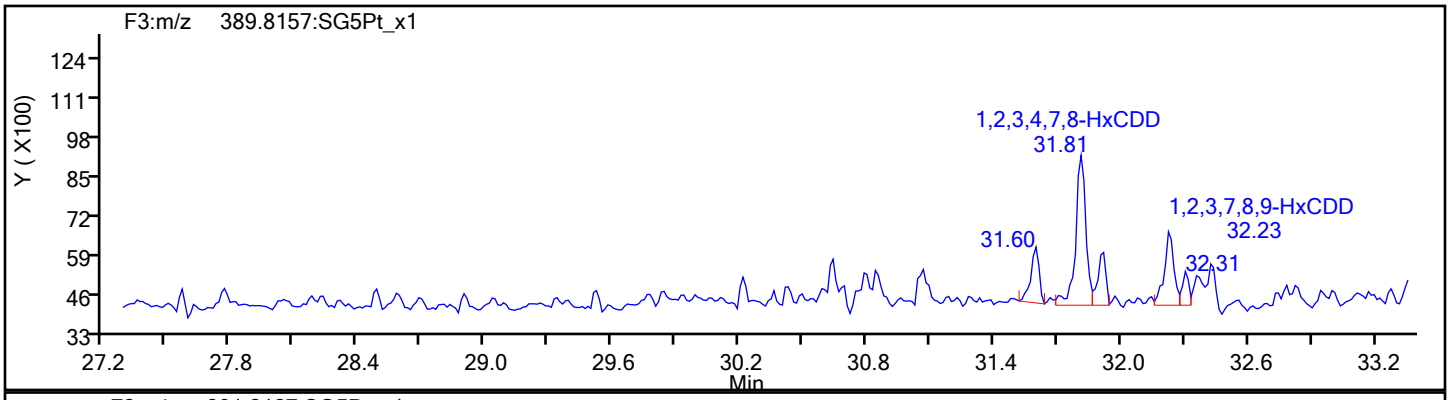

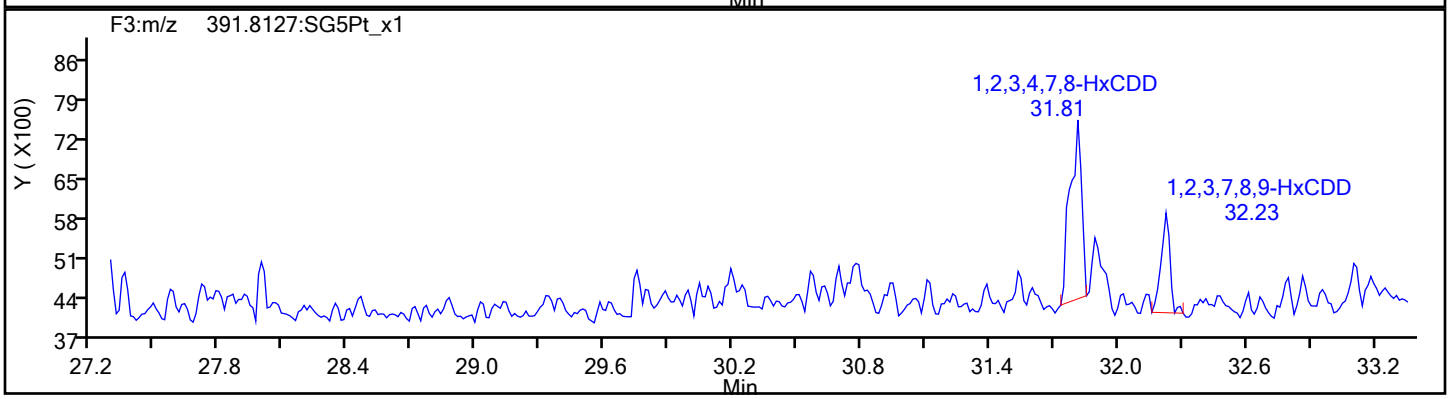

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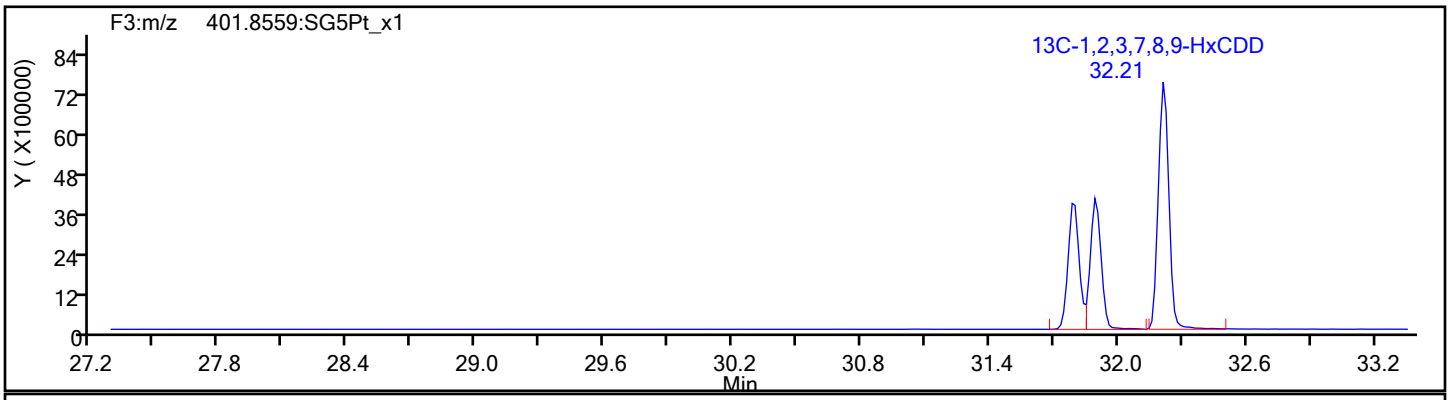

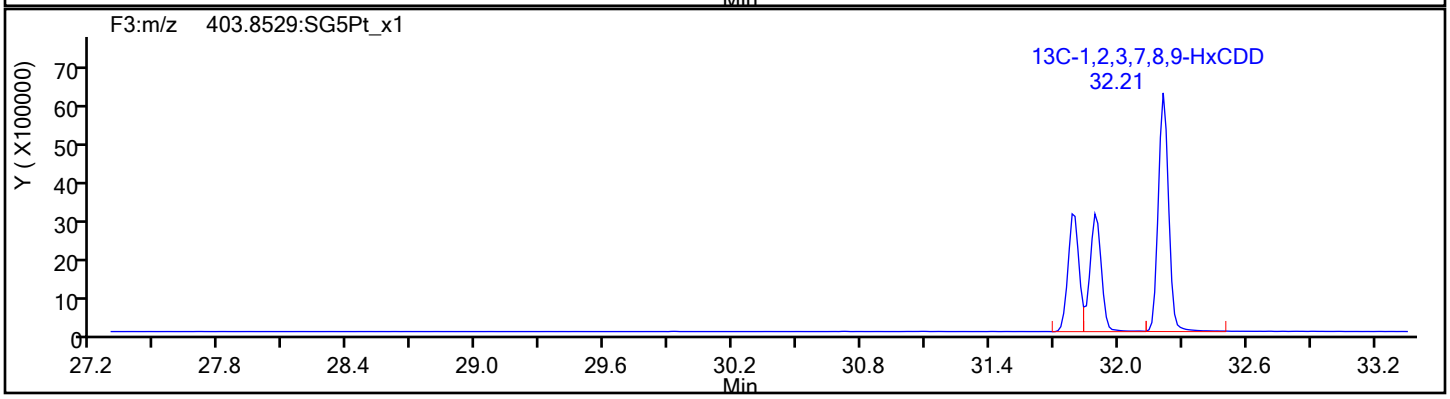

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Eurofins TestAmerica, Sacramento

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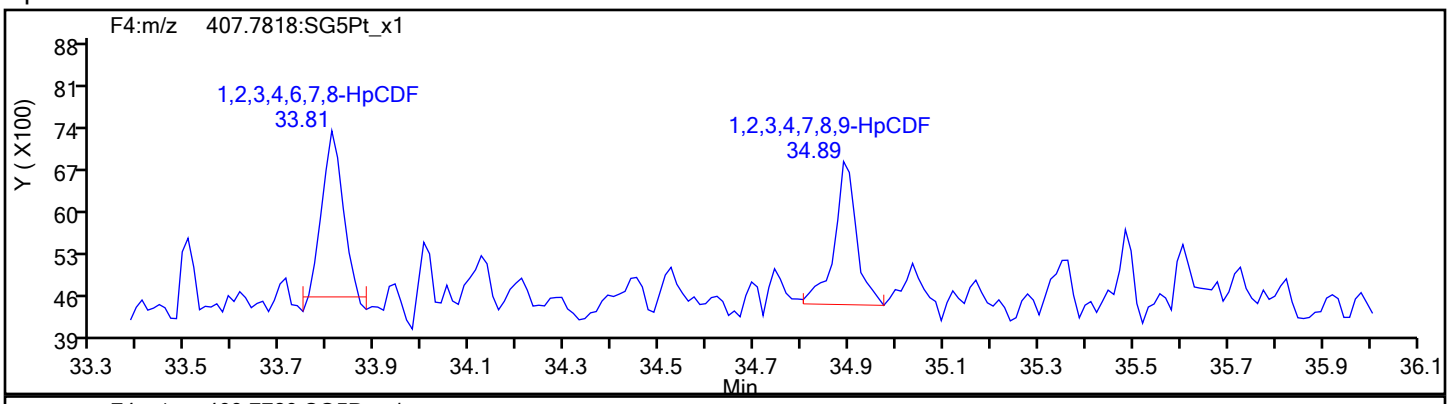

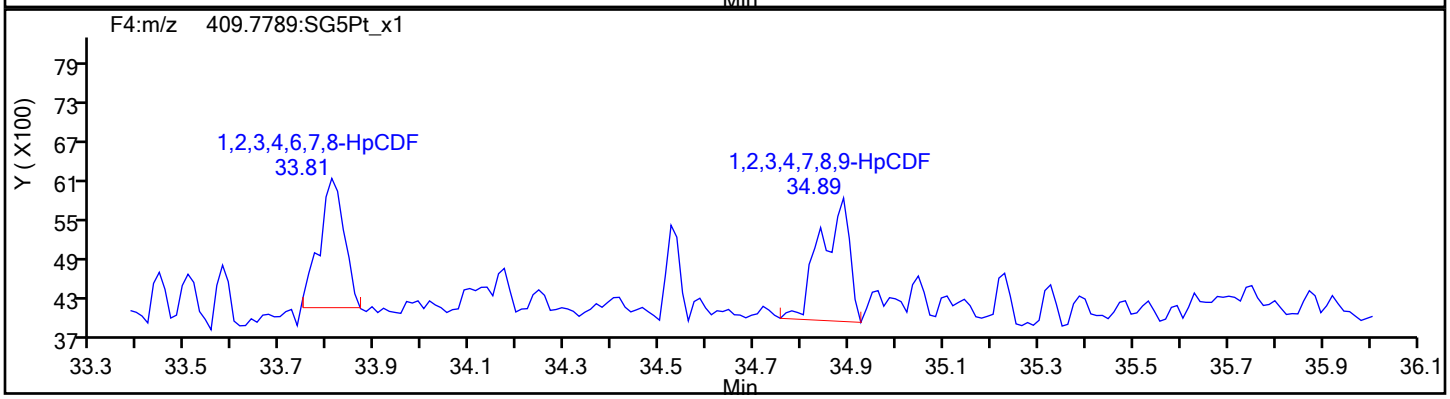

HpCDF Standards

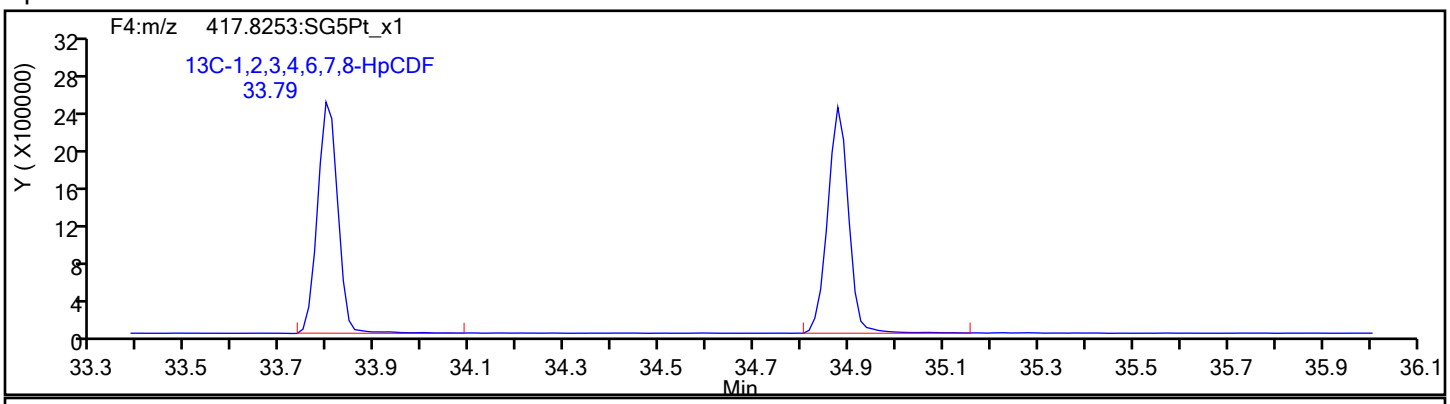

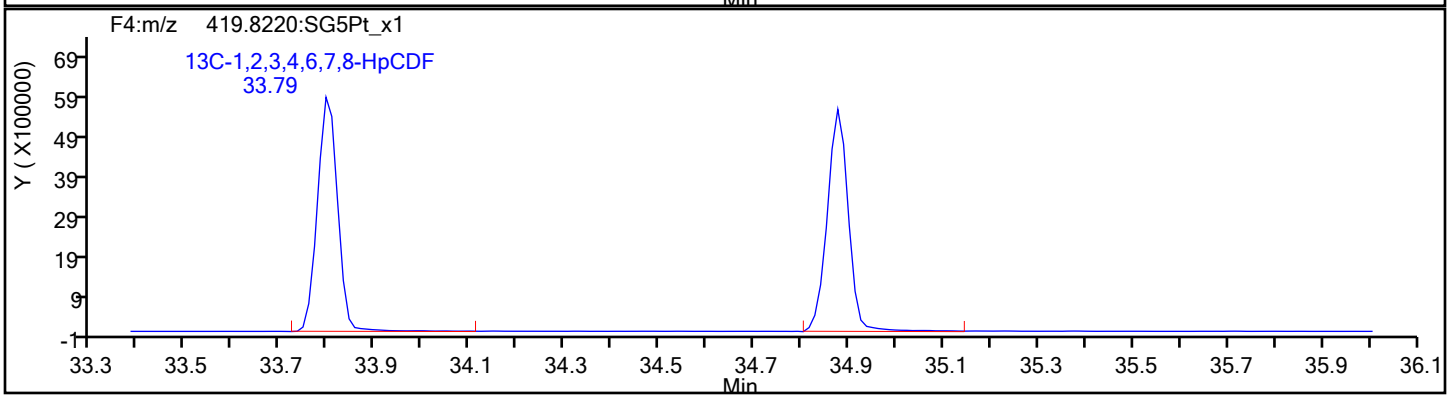

Report Date: 14-Oct-2019 14:51:22 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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HpCDF

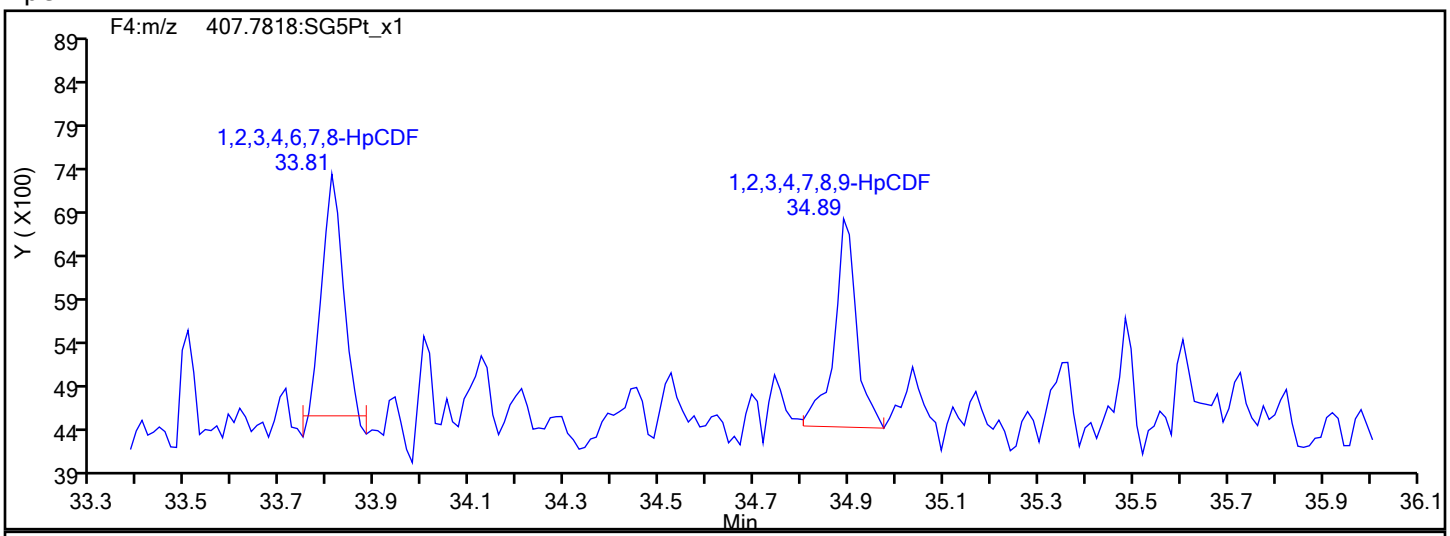

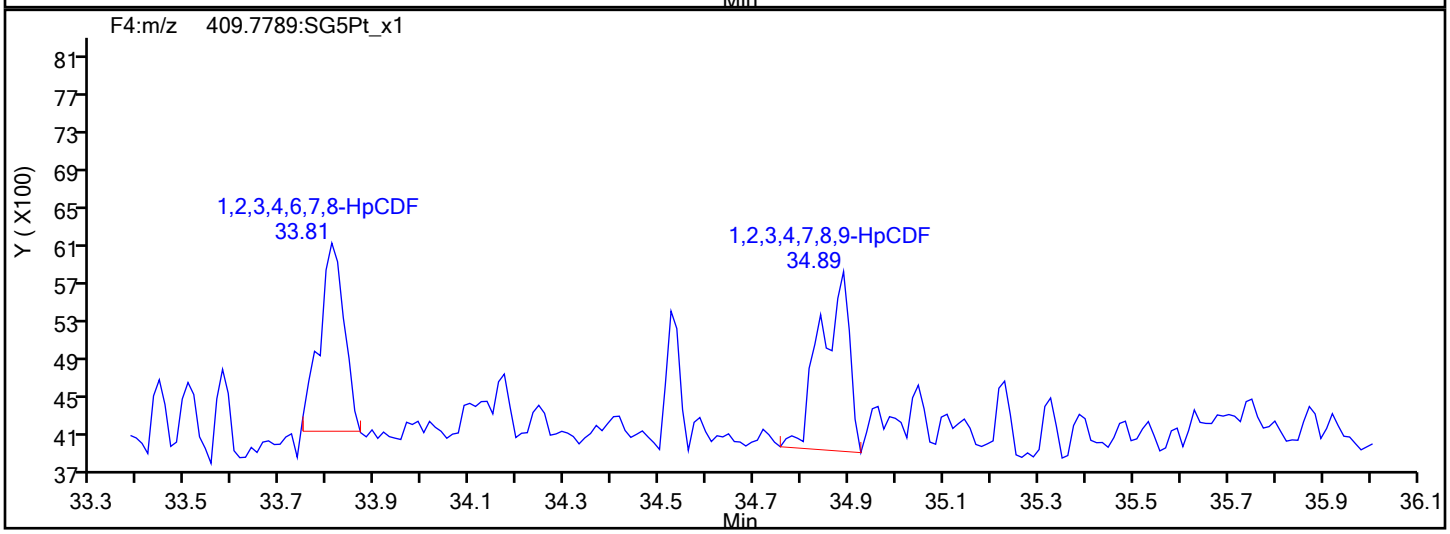

HpCDF Interference Mass

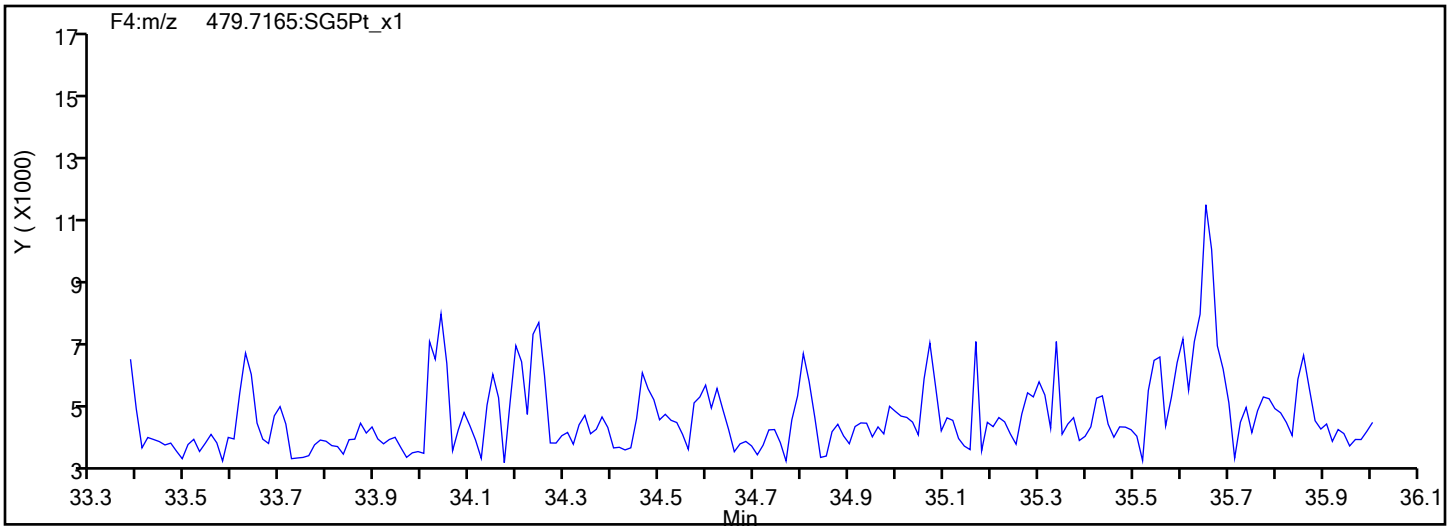

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Eurofins TestAmerica, Sacramento

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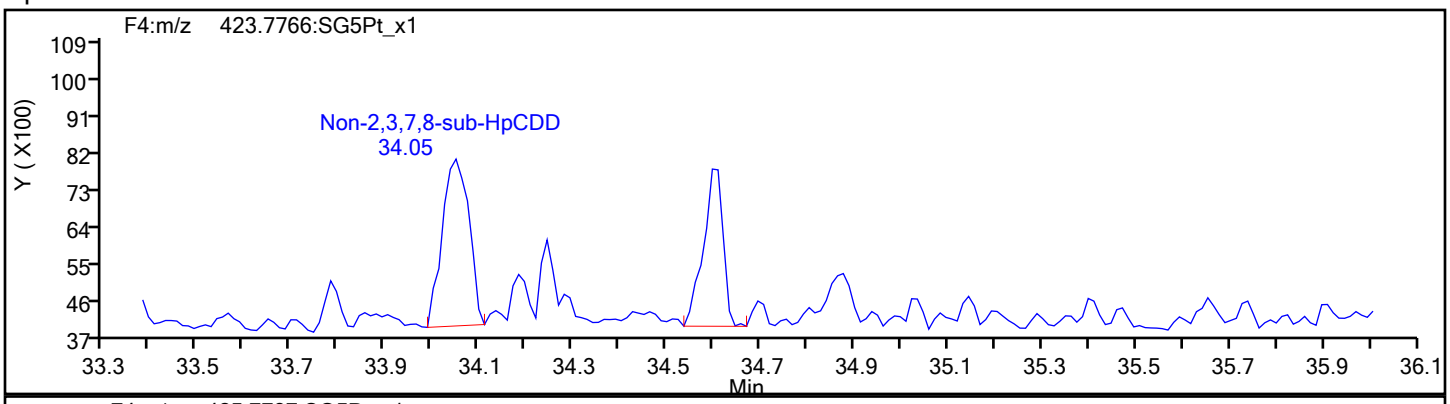

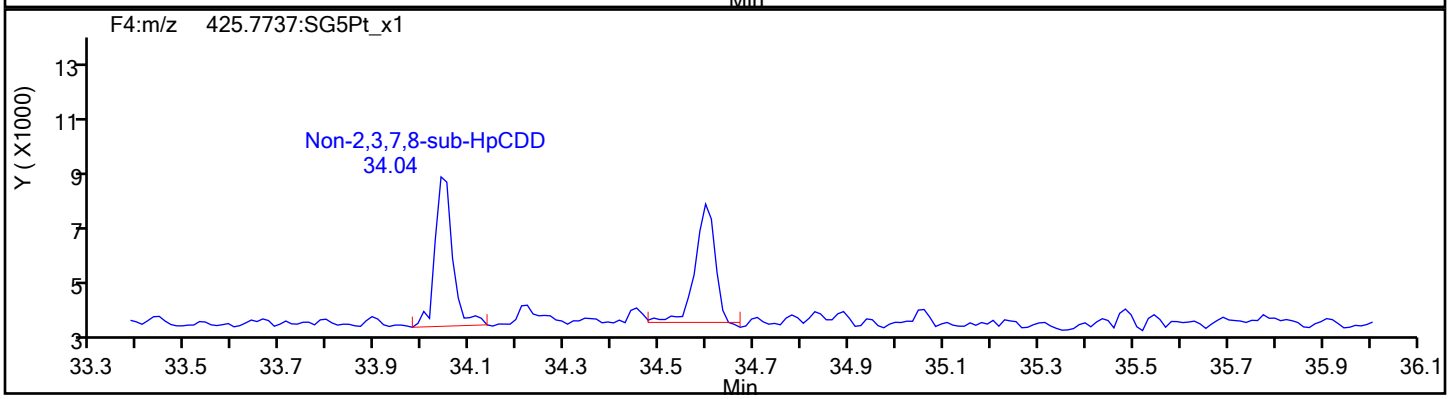

HpCDD Standards

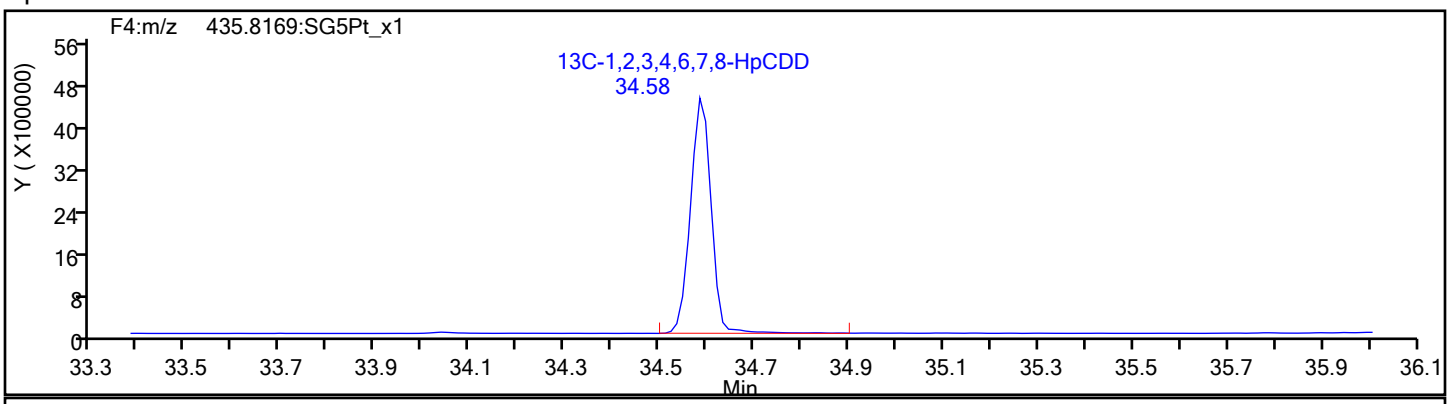

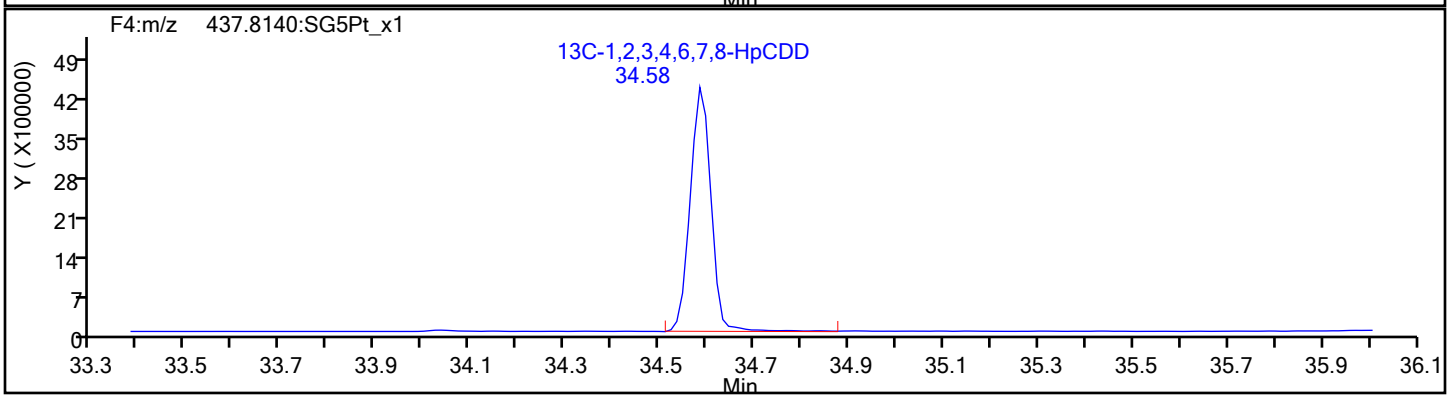

Report Date: 14-Oct-2019 14:51:22 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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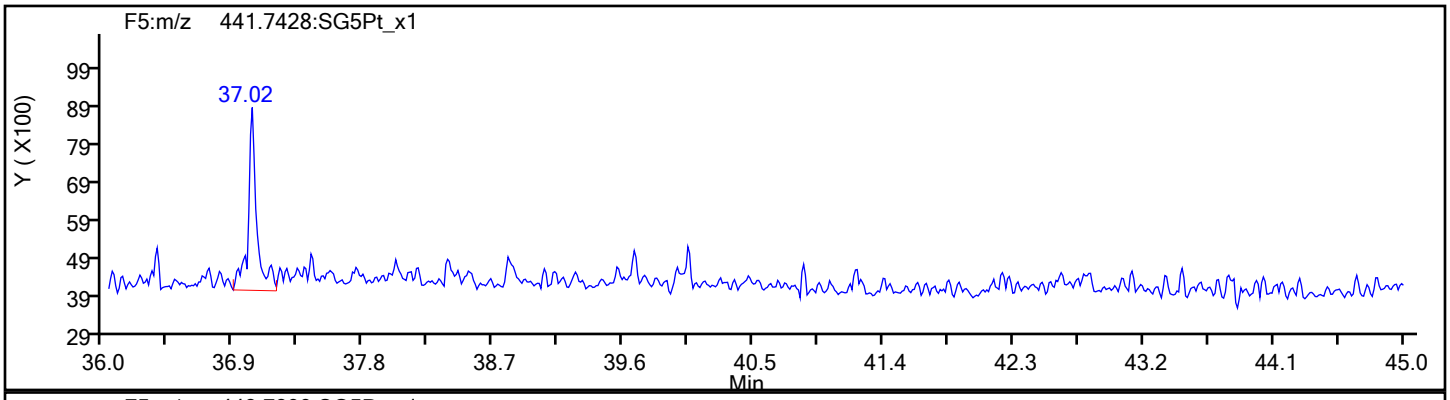

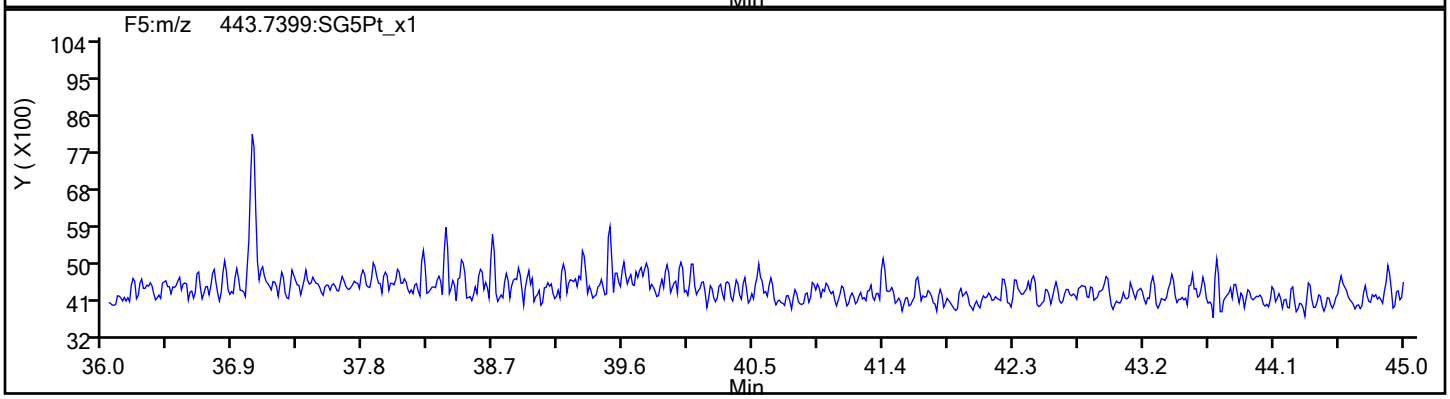

OCDF Standards

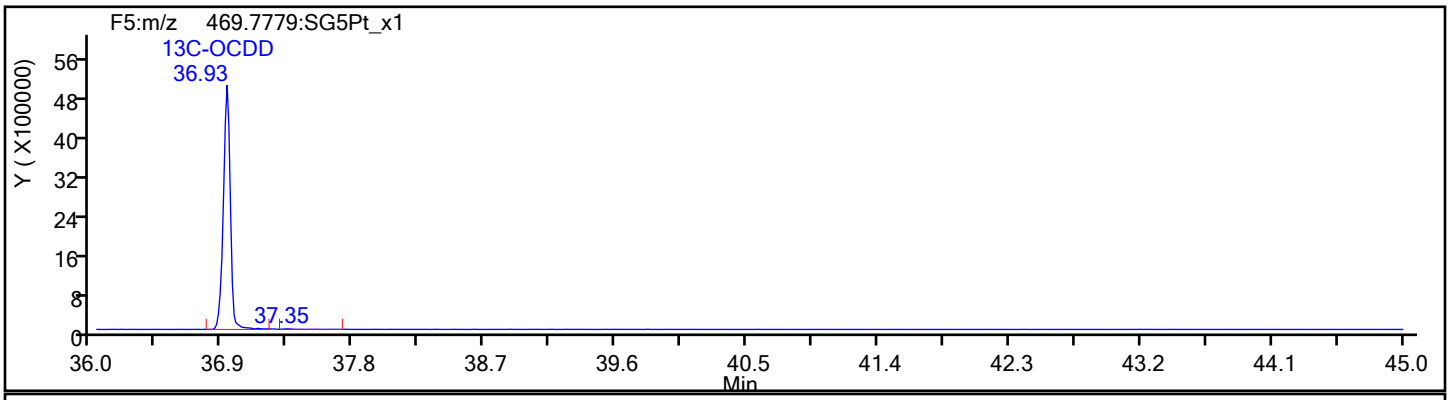

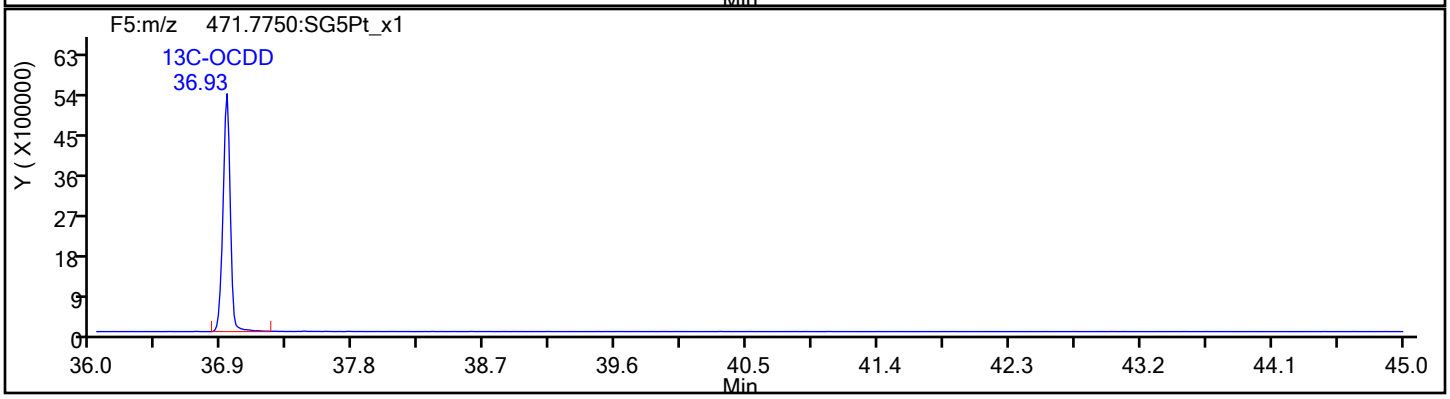

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Eurofins TestAmerica, Sacramento

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OCDF

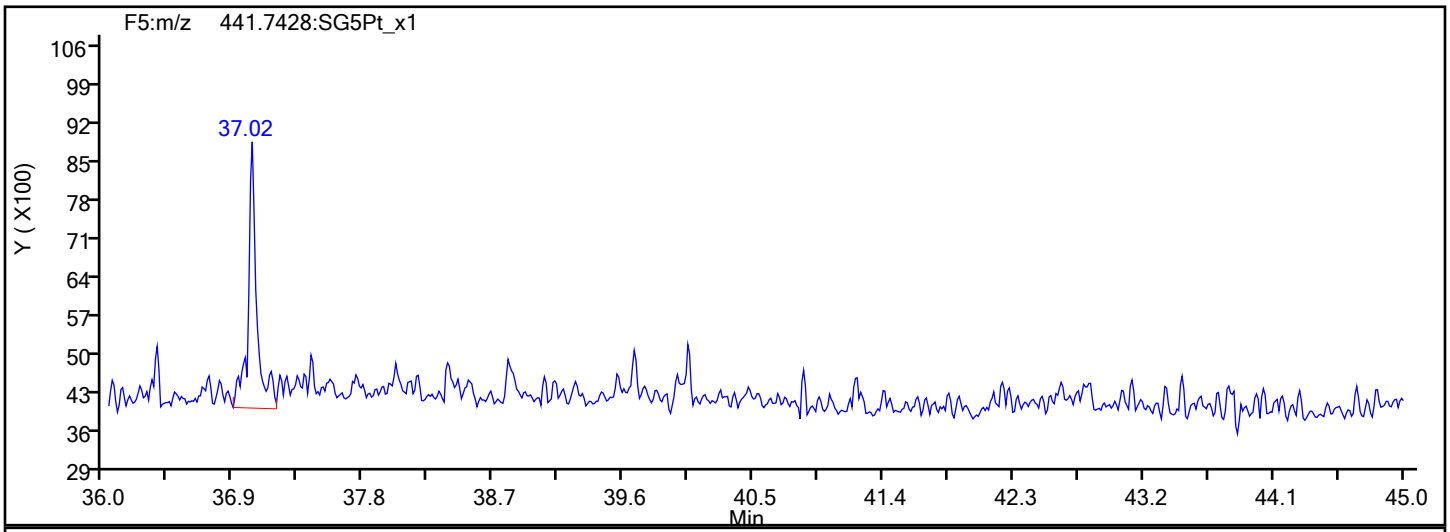

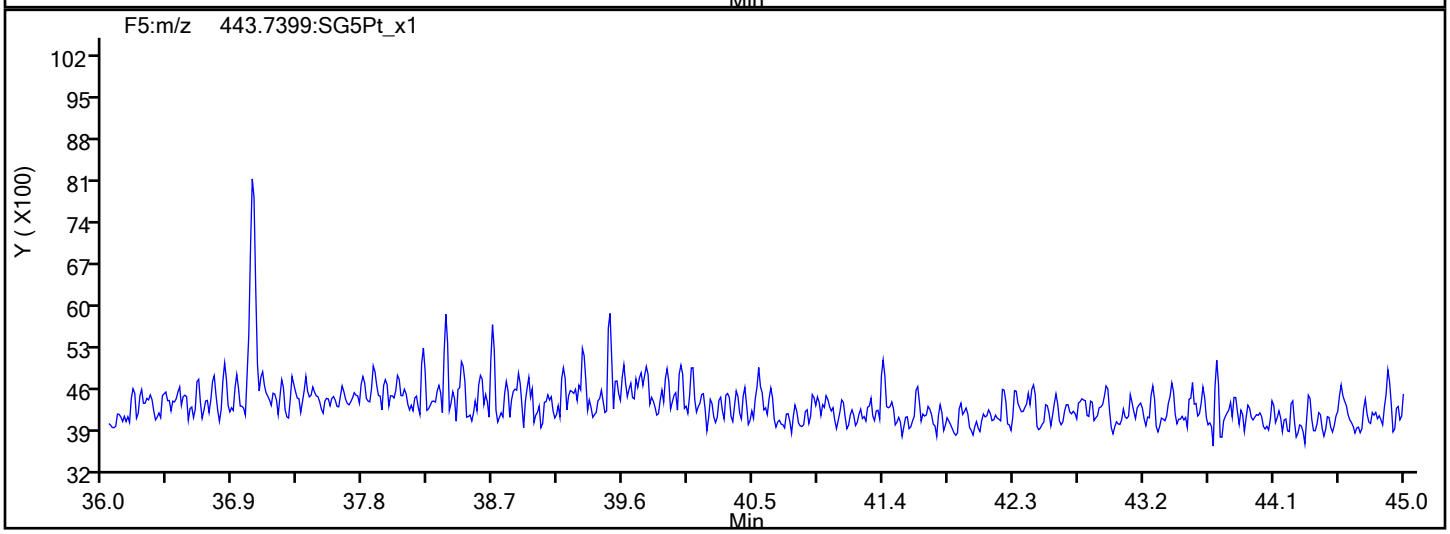

OCDF Interference Mass

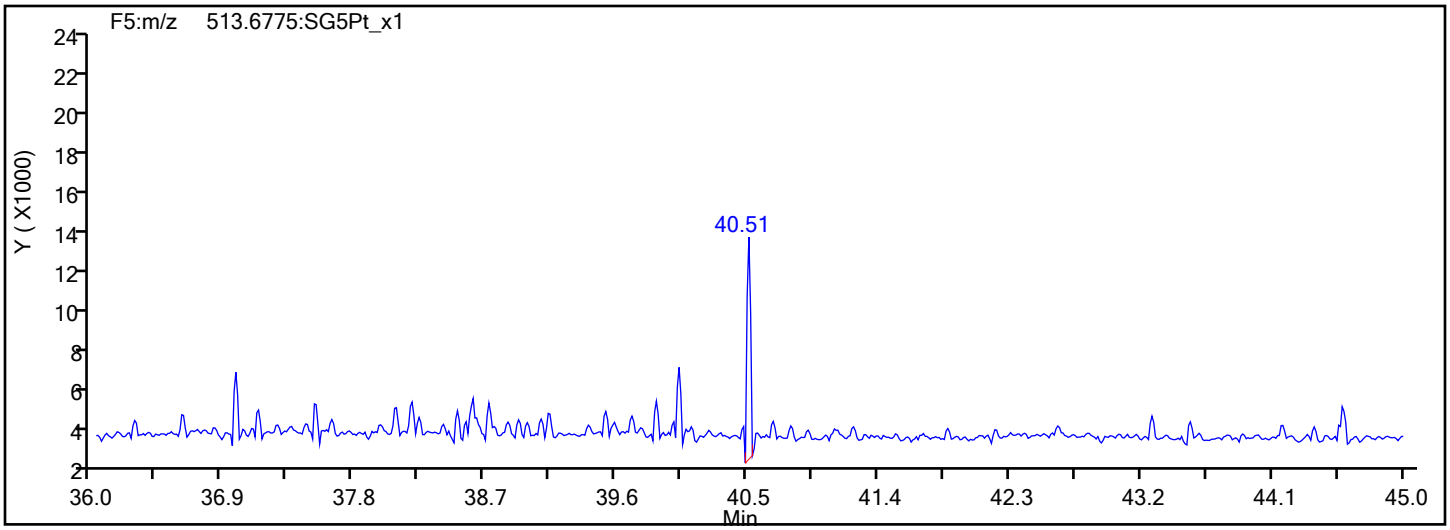

Report Date: 14-Oct-2019 14:51:22 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

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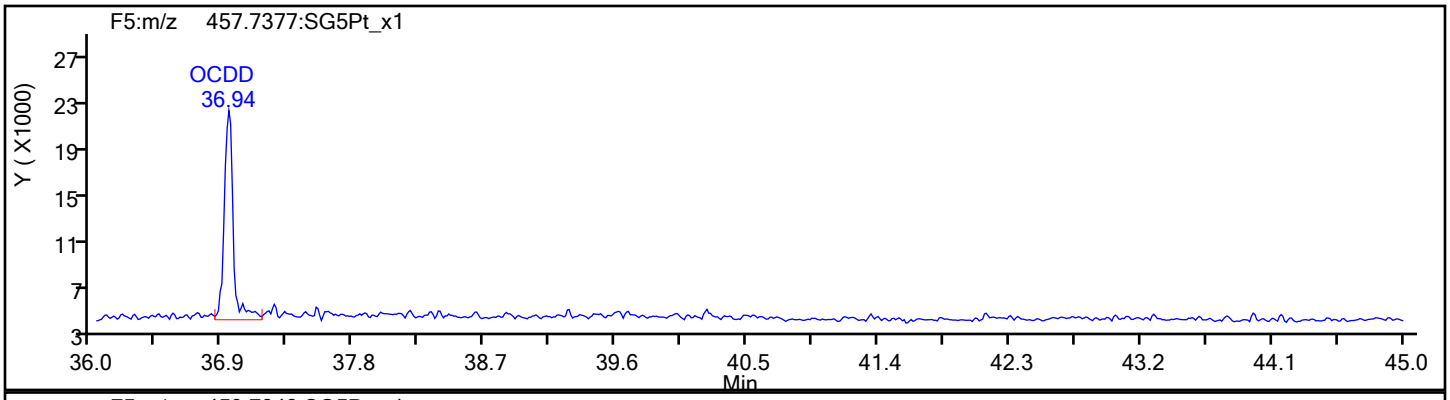

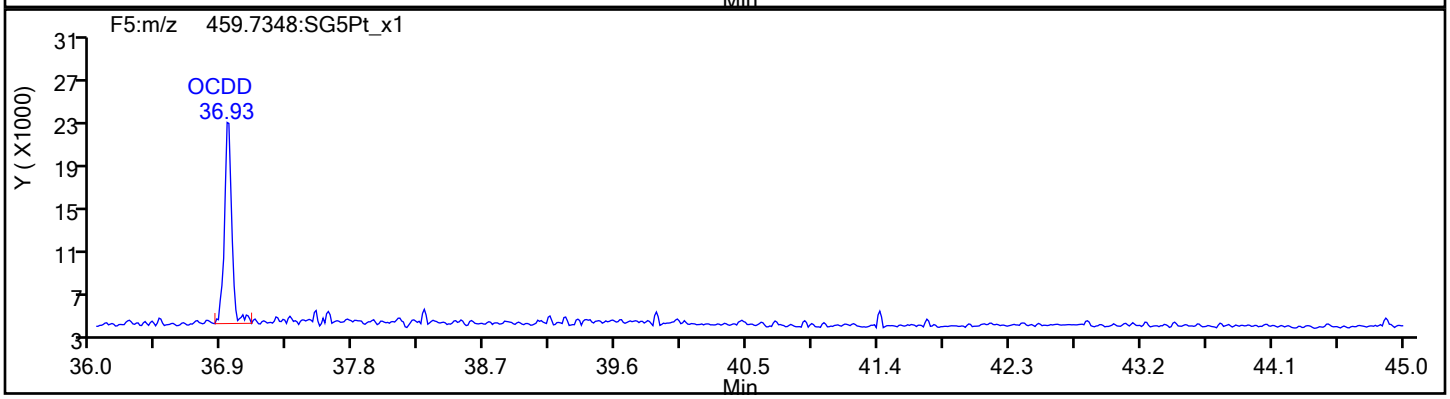

OCDD Standards

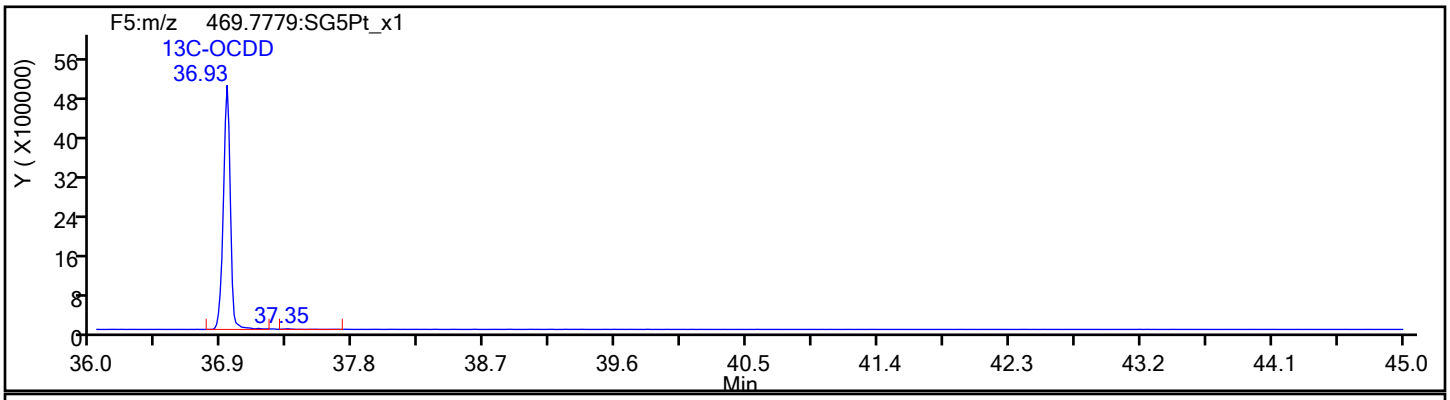

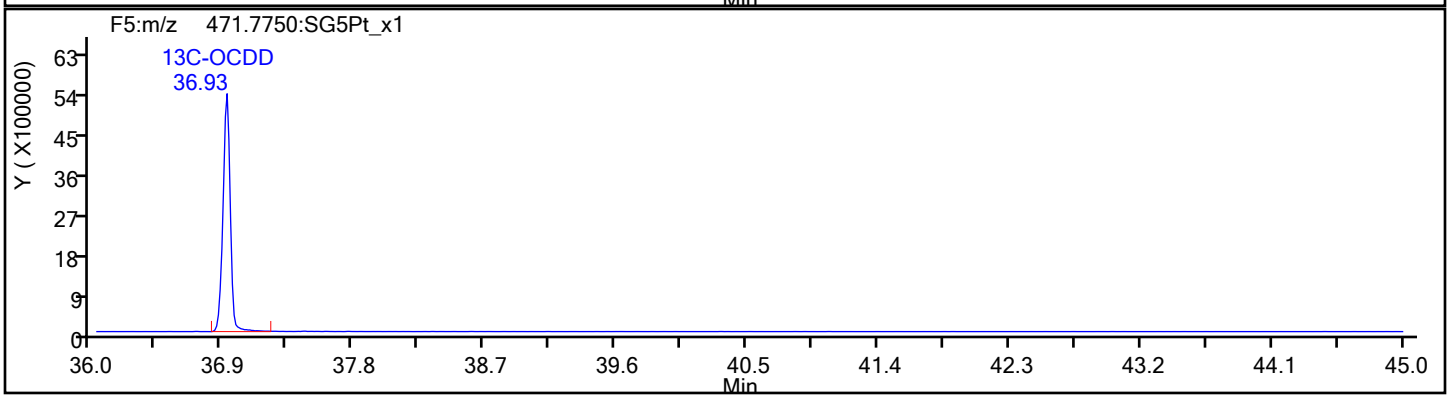

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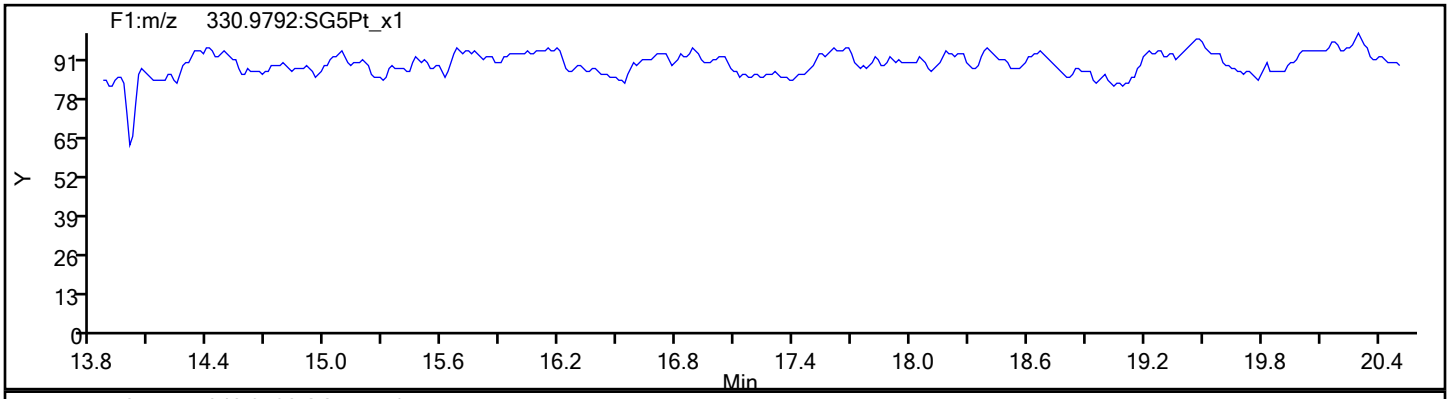

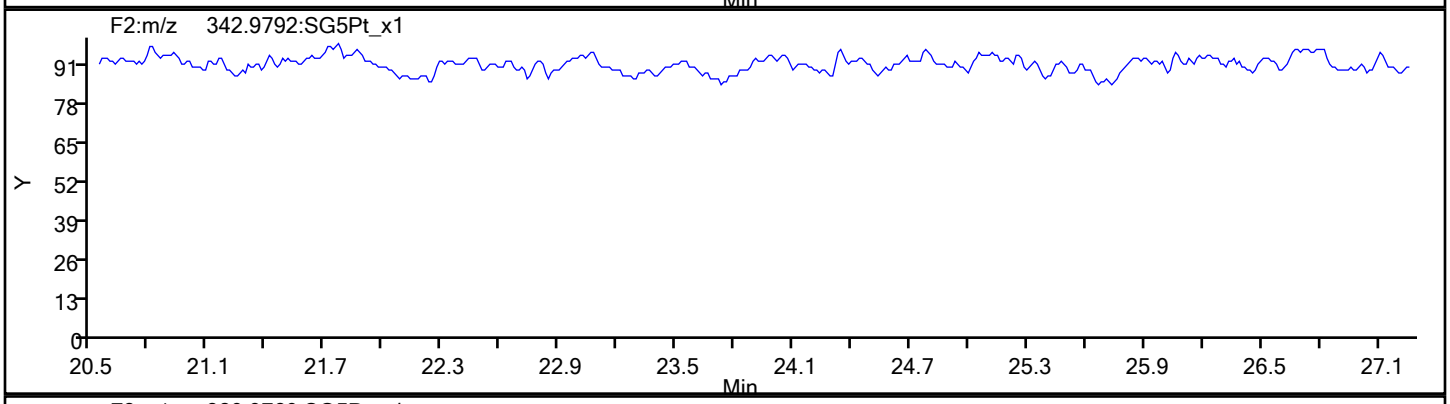

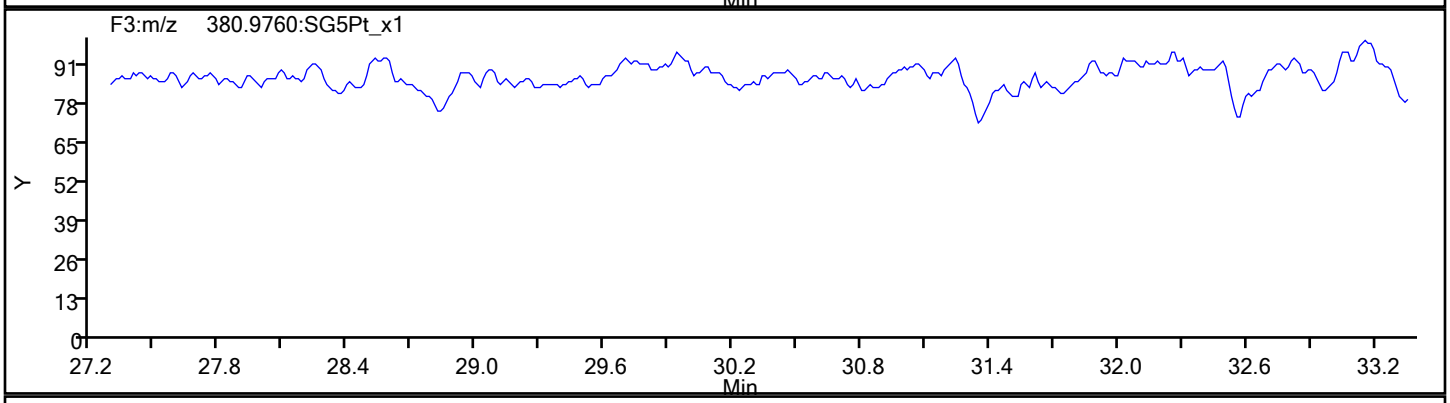

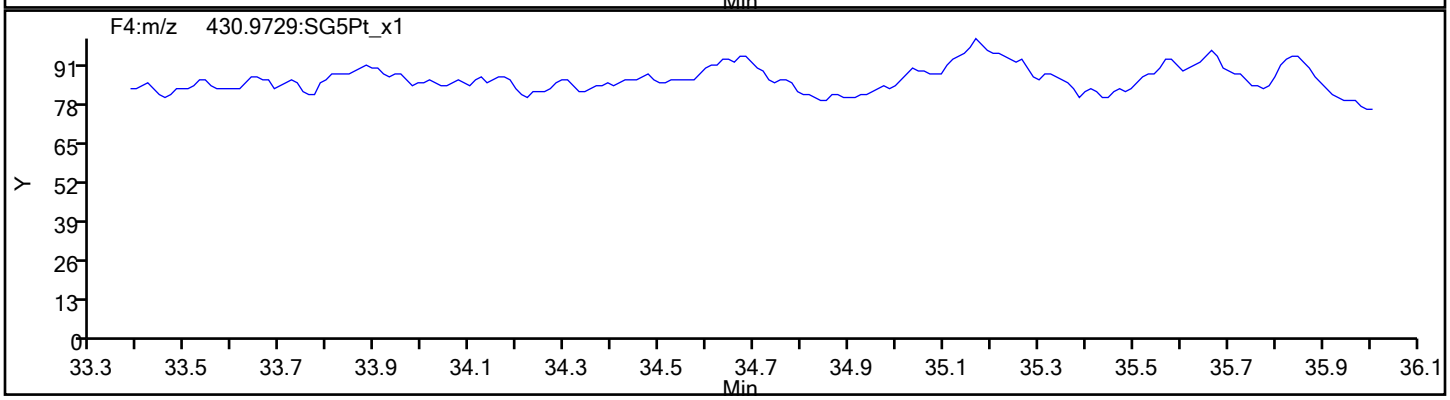

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Eurofins TestAmerica, Sacramento

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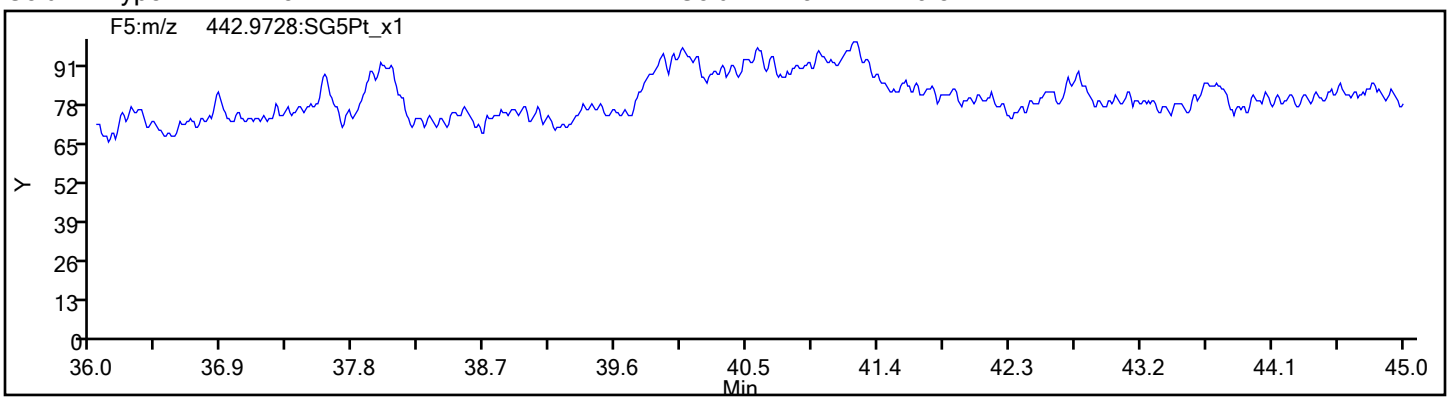

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Client Sample ID: 11187072-Filter Test-5 Lab Sample ID: 320-54852-5

Matrix: Water Lab File ID: 10OC1910D5_21.d

Analysis Method: 1613B Date Collected: 09/30/2019 08:00

Extract. Method: 1613B Date Extracted: 10/08/2019 14:19

Sample wt/vol: 1051.7(mL) Date Analyzed: 10/11/2019 07:51

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 330148 Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		9.5	0.76
51207-31-9	2,3,7,8-TCDF	1.6	J	9.5	0.43
40321-76-4	1,2,3,7,8-PeCDD	ND		48	1.0
57117-41-6	1,2,3,7,8-PeCDF	ND		48	0.60
57117-31-4	2,3,4,7,8-PeCDF	ND		48	0.57
39227-28-6	1,2,3,4,7,8-HxCDD	1.9	J q B	48	0.57
57653-85-7	1,2,3,6,7,8-HxCDD	ND		48	0.62
19408-74-3	1,2,3,7,8,9-HxCDD	0.57	J q B	48	0.54
70648-26-9	1,2,3,4,7,8-HxCDF	ND		48	0.60
57117-44-9	1,2,3,6,7,8-HxCDF	1.2	J B	48	0.60
72918-21-9	1,2,3,7,8,9-HxCDF	0.75	J q B	48	0.44
60851-34-5	2,3,4,6,7,8-HxCDF	0.94	J q B	48	0.46
35822-46-9	1,2,3,4,6,7,8-HpCDD	ND		48	0.53
67562-39-4	1,2,3,4,6,7,8-HpCDF	1.1	J B	48	0.38
55673-89-7	1,2,3,4,7,8,9-HpCDF	ND		48	0.47
3268-87-9	OCDD	4.0	J q B	95	0.76
39001-02-0	OCDF	1.9	J q B	95	0.80
41903-57-5	Total TCDD	ND		9.5	0.76
30402-14-3	Total TCDF	1.6	J	9.5	0.43
36088-22-9	Total PeCDD	ND		48	1.0
30402-15-4	Total PeCDF	ND		48	0.69
34465-46-8	Total HxCDD	2.5	J q B	48	0.58
55684-94-1	Total HxCDF	2.9	J q B	48	0.52
37871-00-4	Total HpCDD	ND		48	0.53
38998-75-3	Total HpCDF	1.1	J B	48	0.43

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Client Sample ID: 11187072-Filter Test-5 Lab Sample ID: 320-54852-5

Matrix: Water Lab File ID: 10OC1910D5_21.d

Analysis Method: 1613B Date Collected: 09/30/2019 08:00

Extract. Method: 1613B Date Extracted: 10/08/2019 14:19

Sample wt/vol: 1051.7(mL) Date Analyzed: 10/11/2019 07:51

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 330148 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	54		25-164
89059-46-1	13C-2,3,7,8-TCDF	49		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	52		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	52		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	57		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	60		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	49		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	58		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	53		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	56		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	57		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	55		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	51		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	55		26-138
114423-97-1	13C-OCDD	38		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	86		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_21.d
Lims ID: 320-54852-A-5-A
Client ID: 11187072-Filter Test-5
Sample Type: Client
Inject. Date: 11-Oct-2019 07:51:56 ALS Bottle#: 19 Worklist Smp#: 21
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-54852-A-5-A 320-54852-A-5-A
Misc. Info.: 10OC1910D5
Operator ID: SMA Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Oct-2019 14:57:16 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0335

First Level Reviewer: dadunj Date: 14-Oct-2019 14:57:16

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.971	61442691	0.80	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.442	43386689	0.79	1.4384	49.1	49.1	0.1438	0.1438	49.09	
2,3,7,8-TCDF	17.457	37709	0.77	1.0507	0.0827	0.0827	0.0224	0.0224		M
A Non-2,3,7,8-sub-TCDF	17.162						0.0224	0.0224		
S Total TCDF					0.0827	0.0827	0.0224	0.0224		
D 13C-2,3,7,8-TCDD	18.153	31897549	0.74	0.9533	54.5	54.5	0.1100	0.1100	54.45	
$ 37Cl4-2,3,7,8-TCDD	18.183	25767313		1.2224	34.3	34.3	0.0218	0.0218	85.77	
2,3,7,8-TCDD	18.213						0.0398	0.0398		
A Non-2,3,7,8-sub-TCDD	17.616						0.0398	0.0398		
S Total TCDD							0.0398	0.0398		
D 13C-1,2,3,7,8-PeCDF	22.516	32644717	1.51	1.0286	51.7	51.7	0.1015	0.1015	51.65	
1,2,3,7,8-PeCDF	22.556						0.0313	0.0313		
D 13C-2,3,4,7,8-PeCDF	23.879	34694190	1.58	0.9827	57.5	57.5	0.1062	0.1062	57.46	
2,3,4,7,8-PeCDF	23.920						0.0302	0.0302		
A F1 PeCDFs	20.035						0.0365	0.0365		
A Non-2,3,7,8-sub-PeCDF	23.226						0.0308	0.0308		
S Total PeCDF							0.0365	0.0365		
D 13C-1,2,3,7,8-PeCDD	24.588	23806249	1.60	0.7481	51.8	51.8	0.0770	0.0770	51.79	
1,2,3,7,8-PeCDD	24.670						0.0527	0.0527		
A Non-2,3,7,8-sub-PeCDD	23.531						0.0527	0.0527		
S Total PeCDD							0.0527	0.0527		
D 13C-1,2,3,4,7,8-HxCDF	30.642	31463489	0.52	1.1520	58.3	58.3	0.1480	0.1480	58.35	
1,2,3,4,7,8-HxCDF	30.829						0.0316	0.0316		U
D 13C-1,2,3,6,7,8-HxCDF	30.829	30871496	0.51	1.2434	53.0	53.0	0.1371	0.1371	53.04	
1,2,3,6,7,8-HxCDF	30.829	22741	1.17	1.1807	0.0624	0.0624	0.0317	0.0317		
D 13C-2,3,4,6,7,8-HxCDF	31.614	31021489	0.52	1.1720	56.6	56.6	0.1454	0.1454	56.55	
2,3,4,6,7,8-HxCDF	31.627	18673	1.24	1.2116	0.0568	0.0497	0.0241	0.0241		RQM
D 13C-1,2,3,7,8,9-HxCDF	32.399	27969496	0.52	1.0655	56.1	56.1	0.1600	0.1600	56.08	
1,2,3,7,8,9-HxCDF	32.399	13819	1.24	1.2451	0.0444	0.0397	0.0230	0.0230		RQM
A Non-2,3,7,8-sub-HxCDF	30.363						0.0270	0.0270		
S Total HxCDF					0.1636	0.1518	0.0276	0.0276		RQ

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	32.213	46806368	1.19	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.800	22017658	1.21	0.7812	60.2	60.2	0.1228	0.1228	60.21	
1,2,3,4,7,8-HxCDD	31.827	24899	1.24	1.1088	0.1157	0.1020	0.0302	0.0302		RQ
D 13C-1,2,3,6,7,8-HxCDD	31.907	21246528	1.19	0.9175	49.5	49.5	0.1046	0.1046	49.48	
1,2,3,6,7,8-HxCDD	31.827						0.0328	0.0328		RQU
1,2,3,7,8,9-HxCDD	32.226	7902	1.24	1.2123	0.0552	0.0301	0.0284	0.0284		RQ
A Non-2,3,7,8-sub-HxCDD	30.995						0.0304	0.0304		
S Total HxCDD					0.1708	0.1321	0.0305	0.0305		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	33.807	20477507	0.45	0.8628	50.7	50.7	0.2086	0.2086	50.71	
1,2,3,4,6,7,8-HpCDF	33.819	17796	1.17	1.5555	0.0559	0.0559	0.0201	0.0201		
D 13C-1,2,3,4,7,8,9-HpCDF	34.876	20416174	0.44	0.7991	54.6	54.6	0.2252	0.2252	54.59	
1,2,3,4,7,8,9-HpCDF	34.901						0.0248	0.0248		
A Non-2,3,7,8-sub-HpCDF	34.360						0.0223	0.0223		
S Total HpCDF					0.0559	0.0559	0.0225	0.0225		
D 13C-1,2,3,4,6,7,8-HpCDD	34.597	22313201	1.08	0.8739	54.6	54.6	0.1940	0.1940	54.55	
1,2,3,4,6,7,8-HpCDD	34.609						0.0279	0.0279		
A Non-2,3,7,8-sub-HpCDD	35.190						0.0279	0.0279		
S Total HpCDD							0.0279	0.0279		
D 13C-OCDD	36.929	27900569	0.88	0.7744	77.0	77.0	0.0564	0.0564	38.49	
OCDF	37.025	17742	0.89	1.2596	0.1671	0.1010	0.0420	0.0420		RQ
OCDD	36.941	31321	0.89	1.0621	0.2291	0.2114	0.0402	0.0402		RQ

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_21.d
Lims ID: 320-54852-A-5-A
Client ID: 11187072-Filter Test-5
Sample Type: Client
Inject. Date: 11-Oct-2019 07:51:56 ALS Bottle#: 19 Worklist Smp#: 21
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-54852-A-5-A 320-54852-A-5-A
Misc. Info.: 10OC1910D5
Operator ID: SMA Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Oct-2019 14:57:16 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0335

First Level Reviewer: dadunj Date: 14-Oct-2019 14:57:16

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.971	17.986	-1		27349769	6740970	3839	9597	1756		
333.9339	17.971	17.986	-1		34092922	8284790	2462	6155	3365	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.442	17.472	-2	0.971	19145739	4902290	6172	15430	794		
317.9389	17.442	17.472	-2	0.971	24240950	6166530	6260	15650	985	0.79(0.65-0.89)	
2,3,7,8-TCDF											M
303.9016	17.457	17.487	-2	1.001	16407	4139	460	1150	9		M
305.8987	17.472	17.487	-1	1.002	21302	5345	584	1460	9	0.77(0.65-0.89)	M
A Non-2,3,7,8-sub-TCDF											
303.9016	17.162						460	1150			
305.8987	17.162						584	1460			
13C-2,3,7,8-TCDD											
331.9368	18.153	18.183	-2	1.010	13572864	3304986	3839	9597	861		
333.9339	18.153	18.183	-2	1.010	18324685	4474271	2462	6155	1817	0.74(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.183	18.198	-1	1.012	25767313	6120471	1602	4005	3821		
2,3,7,8-TCDD											
319.8965	18.213						892	2230			
321.8936	18.213						477	1192			
A Non-2,3,7,8-sub-TCDD											
319.8965	17.616						892	2230			
321.8936	17.616						477	1192			
13C-1,2,3,7,8-PeCDF											
351.9000	22.516	22.556	-2	1.253	19630431	3507823	3548	8870	989		
353.8970	22.516	22.556	-2	1.253	13014286	2361394	2726	6815	866	1.51(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	22.570						281	702			
341.8567	22.570						515	1287			
13C-2,3,4,7,8-PeCDF											
351.9000	23.879	23.920	-2	1.329	21240057	3651580	3548	8870	1029		
353.8970	23.879	23.920	-2	1.329	13454133	2314394	2726	6815	849	1.58(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.947						281	702			
341.8567	23.947						515	1287			
A F1 PeCDFs											
339.8597	20.035						389	972			
341.8567	20.035						555	1387			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.226						281	702			
341.8567	23.226						515	1287			
13C-1,2,3,7,8-PeCDD											
367.8949	24.588	24.643	-3	1.368	14642146	2291521	1953	4882	1173		
369.8919	24.602	24.643	-2	1.369	9164103	1494356	1511	3777	989	1.60(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.670						495	1237			
357.8516	24.670						228	570			
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.531						495	1237			
357.8516	23.531						228	570			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.642	30.682	-2	0.951	10808314	2069981	3677	9192	563		
385.8610	30.642	30.682	-2	0.951	20655175	4074946	5366	13415	759	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											U
373.8208	30.695						468	1170			
375.8178	30.695						461	1152			
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.829	30.855	-2	0.957	10425552	2086987	3677	9192	568		
385.8610	30.829	30.855	-2	0.957	20445944	4124578	5366	13415	769	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.829	30.868	-2	1.000	12268	2159	468	1170	5		
375.8178	30.895	30.868	2	1.002	10473	1727	461	1152	4	1.17(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.614	31.640	-2	0.981	10664431	2759438	3677	9192	750		
385.8610	31.614	31.640	-2	0.981	20357058	5181758	5366	13415	966	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											RQM
373.8208	31.627	31.653	-2	1.000	10337	2765	468	1170	6		M
375.8178	31.614	31.653	-2	1.000	11010	3002	461	1152	7	0.94(1.05-1.43)	
	Empc Correction				8336	2229	461	1152	5		
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.399	32.412	-1	1.006	9603531	2821644	3677	9192	767		
385.8610	32.399	32.412	-1	1.006	18365965	5300598	5366	13415	988	0.52(0.43-0.59)	

Report Date: 14-Oct-2019 14:57:17 Chrom Revision: 2.3 11-Oct-2019 15:46:24
Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_21.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											RQM
373.8208	32.399	32.426	-2	1.000	7650	2294	468	1170	5		M
375.8178	32.412	32.426	-1	1.000	7827	1796	461	1152	4	0.98(1.05-1.43)	M
	Empc Correction				6169	1849	461	1152	4		
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.363						468	1170			
375.8178	30.363						461	1152			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.213	32.239	-2		25453581	7096530	2714	6785	2615		
403.8529	32.213	32.239	-2		21352787	6165908	2376	5940	2595	1.19(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.800	31.813	-1	0.987	12052667	3371259	2714	6785	1242		
403.8529	31.800	31.813	-1	0.987	9964991	2737477	2376	5940	1152	1.21(1.05-1.43)	
1,2,3,4,7,8-HxCDD											RQ
389.8157	31.827	31.826	0	1.001	17125	5143	432	1080	12		
	Empc Correction				13783	3681	432	1080	9		
391.8127	31.813	31.826	-1	1.000	11116	2969	386	965	8	1.54(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.907	31.920	-1	0.990	11550136	3156388	2714	6785	1163		
403.8529	31.907	31.920	-1	0.990	9696392	2611545	2376	5940	1099	1.19(1.05-1.43)	
1,2,3,6,7,8-HxCDD											RQU
389.8157	31.933						432	1080			
391.8127	31.933						386	965			
1,2,3,7,8,9-HxCDD											RQ
389.8157	32.226	32.252	-2	1.013	10936	3227	432	1080	7		
	Empc Correction				4374	1701	432	1080	4		
391.8127	32.226	32.252	-2	1.013	3528	1372	386	965	4	3.10(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.995						432	1080			
391.8127	30.995						386	965			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.807	33.819	-1	1.049	6372322	2204789	3469	8672	636		
419.8220	33.807	33.819	-1	1.049	14105185	4875007	6079	15197	802	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.819	33.819	0	1.000	9594	2457	485	1212	5		
409.7789	33.807	33.819	-1	1.000	8202	3257	402	1005	8	1.17(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.876	34.889	-1	1.083	6219913	1993005	3469	8672	575		
419.8220	34.876	34.889	-1	1.083	14196261	4444980	6079	15197	731	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.901						485	1212			
409.7789	34.901						402	1005			
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.360						485	1212			
409.7789	34.360						402	1005			

Report Date: 14-Oct-2019 14:57:17 Chrom Revision: 2.3 11-Oct-2019 15:46:24
Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_21.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.597	34.609	-1	1.074	11567562	3721495	4334	10835	859		
437.8140	34.597	34.609	-1	1.074	10745639	3373070	4662	11655	724	1.08(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.609						359	897			
425.7737	34.609						380	950			
A Non-2,3,7,8-sub-HpCDD											
423.7766	35.190						359	897			
425.7737	35.190						380	950			
13C-OCDD											
469.7779	36.929	36.941	-1	1.146	13099104	3919598	1119	2797	3503		
471.7750	36.929	36.941	-1	1.146	14801465	4370397	1198	2995	3648	0.88(0.76-1.02)	
OCDF											RQ
441.7428	37.025	37.049	-1	1.003	8355	2863	362	905	8		
443.7399	37.025	37.049	-1	1.003	20999	4675	515	1287	9	0.40(0.76-1.02)	
	Empc Correction				9387	3216	515	1287	6		
OCDD											RQ
457.7377	36.941	36.953	-1	1.000	17372	6288	319	797	20		
	Empc Correction				14749	4531	319	797	14		
459.7348	36.941	36.953	-1	1.000	16572	5092	389	972	13	1.05(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

U - Marked Undetected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_21.d				
Injection Date:	11-Oct-2019 07:51:56	Instrument ID:	10D5		
Lims ID:	320-54852-A-5-A	Lab Sample ID:	320-54852-5		
Client ID:	11187072-Filter Test-5				
Operator ID:	SMA	ALS Bottle#:	19	Worklist Smp#:	21
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDF, CAS: 51207-31-9

Signal: 2

Processing Integration Results

RT: 17.47
Area: 20331
Amount: 0.078506
Amount Units: pg/ul

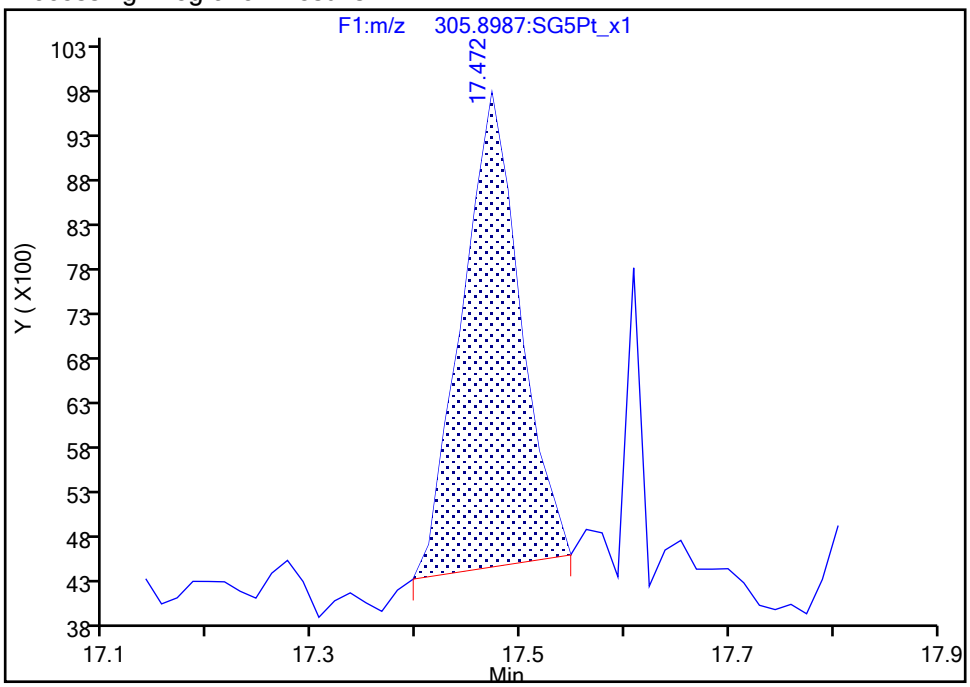

Manual Integration Results

RT: 17.47
Area: 21302
Amount: 0.082717
Amount Units: pg/ul

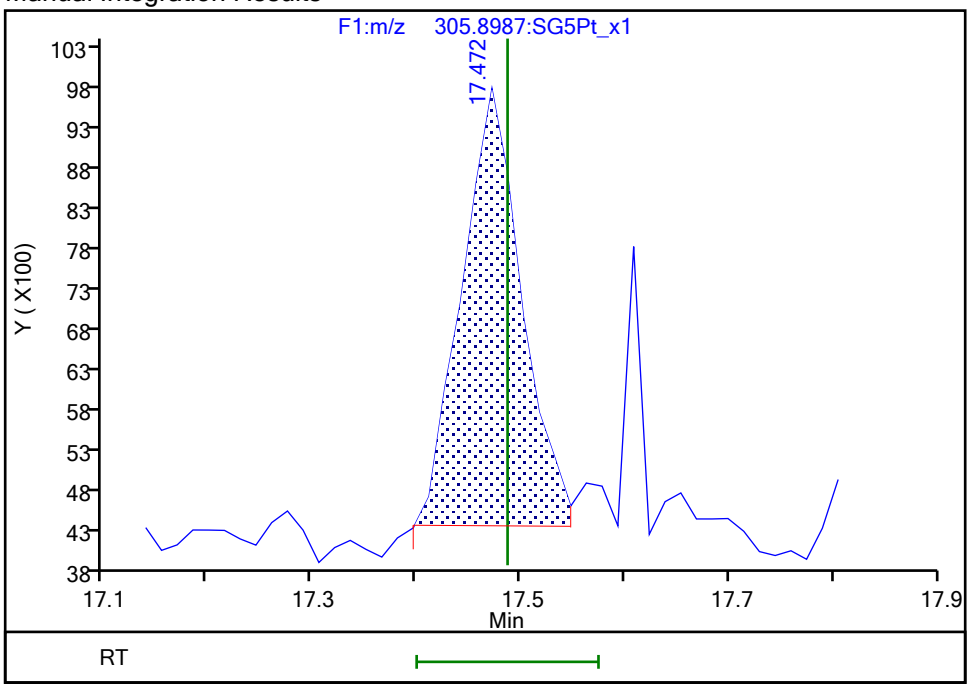

Reviewer: dadunj, 14-Oct-2019 14:51:37

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_21.d				
Injection Date:	11-Oct-2019 07:51:56	Instrument ID:	10D5		
Lims ID:	320-54852-A-5-A	Lab Sample ID:	320-54852-5		
Client ID:	11187072-Filter Test-5				
Operator ID:	SMA	ALS Bottle#:	19	Worklist Smp#:	21
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDF, CAS: 51207-31-9

Signal: 1

Processing Integration Results

RT: 17.46
Area: 15458
Amount: 0.078506
Amount Units: pg/ul

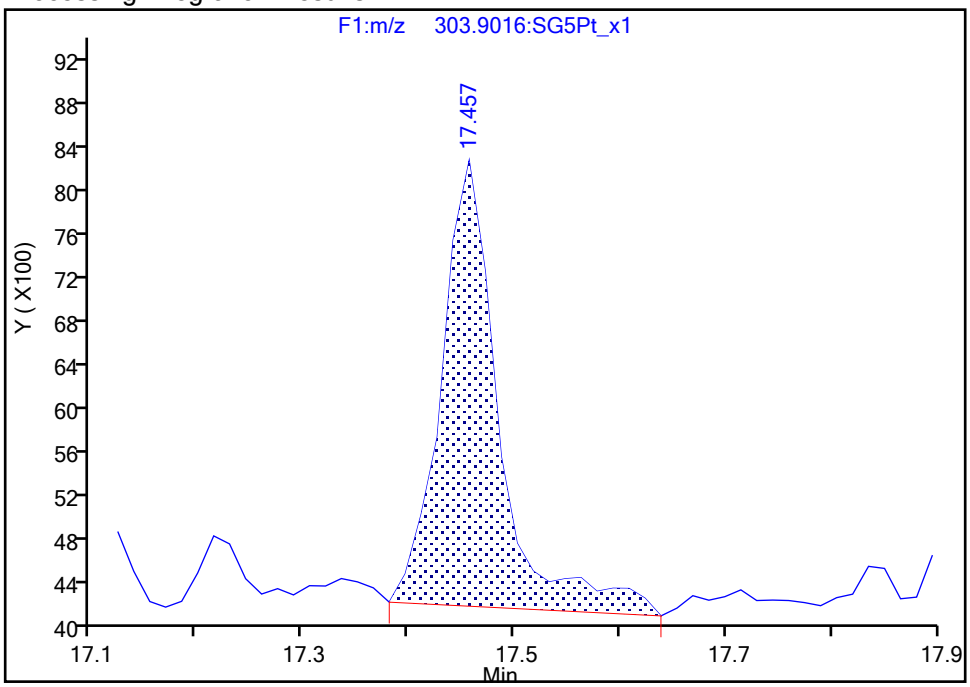

Manual Integration Results

RT: 17.46
Area: 16407
Amount: 0.082717
Amount Units: pg/ul

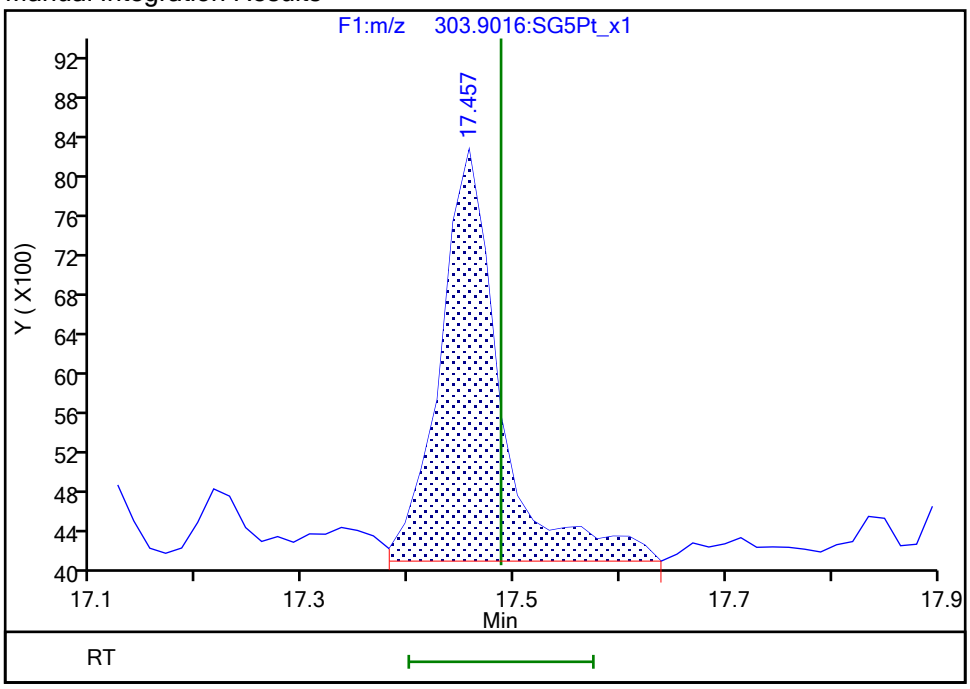

Reviewer: dadunj, 14-Oct-2019 14:51:40

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_21.d				
Injection Date:	11-Oct-2019 07:51:56	Instrument ID:	10D5		
Lims ID:	320-54852-A-5-A	Lab Sample ID:	320-54852-5		
Client ID:	11187072-Filter Test-5				
Operator ID:	SMA	ALS Bottle#:	19	Worklist Smp#:	21
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

2,3,4,6,7,8-HxCDF, CAS: 60851-34-5

Signal: 1

Processing Integration Results

RT: 31.63
Area: 10224
Amount: 0.056496
Amount Units: pg/ul

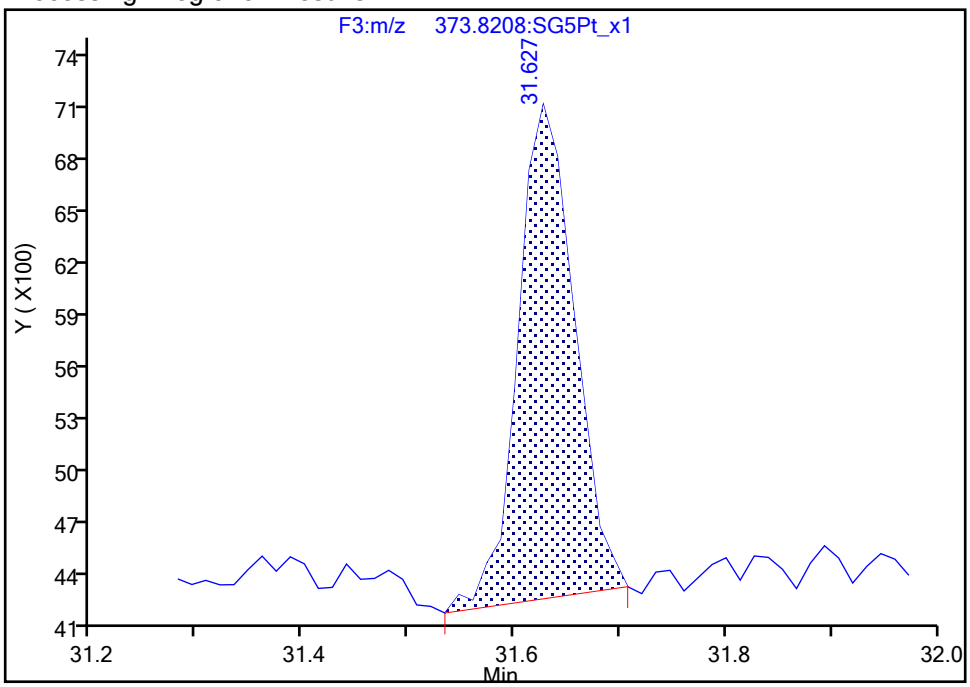

Manual Integration Results

RT: 31.63
Area: 10337
Amount: 0.056796
Amount Units: pg/ul

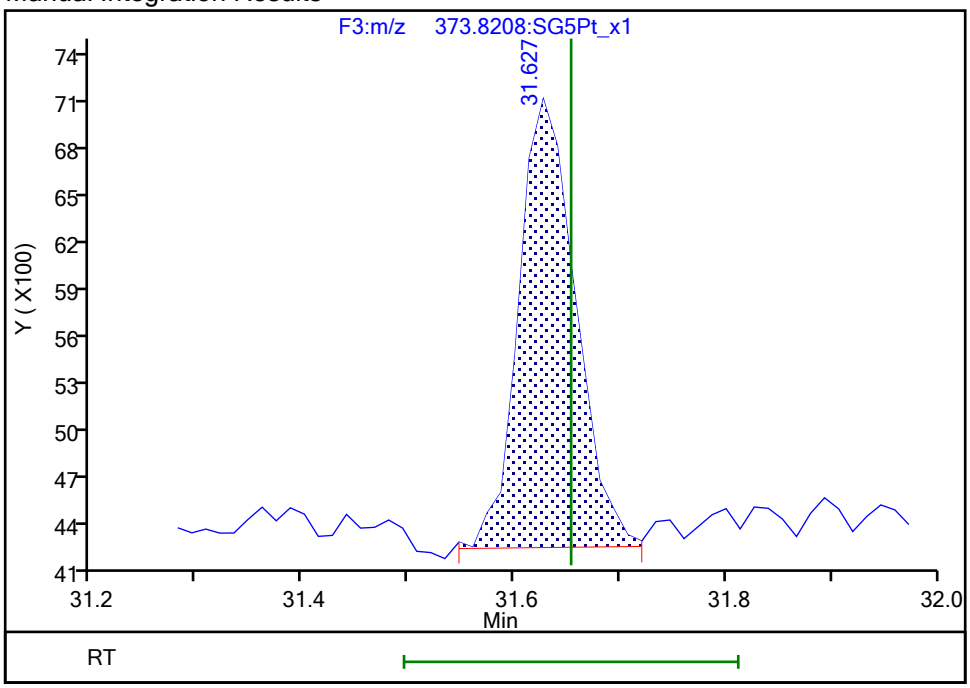

Reviewer: dadunj, 14-Oct-2019 14:52:05

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_21.d				
Injection Date:	11-Oct-2019 07:51:56	Instrument ID:	10D5		
Lims ID:	320-54852-A-5-A	Lab Sample ID:	320-54852-5		
Client ID:	11187072-Filter Test-5				
Operator ID:	SMA	ALS Bottle#:	19	Worklist Smp#:	21
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 2

Processing Integration Results

RT: 32.41
Area: 12528
Amount: 0.056740
Amount Units: pg/ul

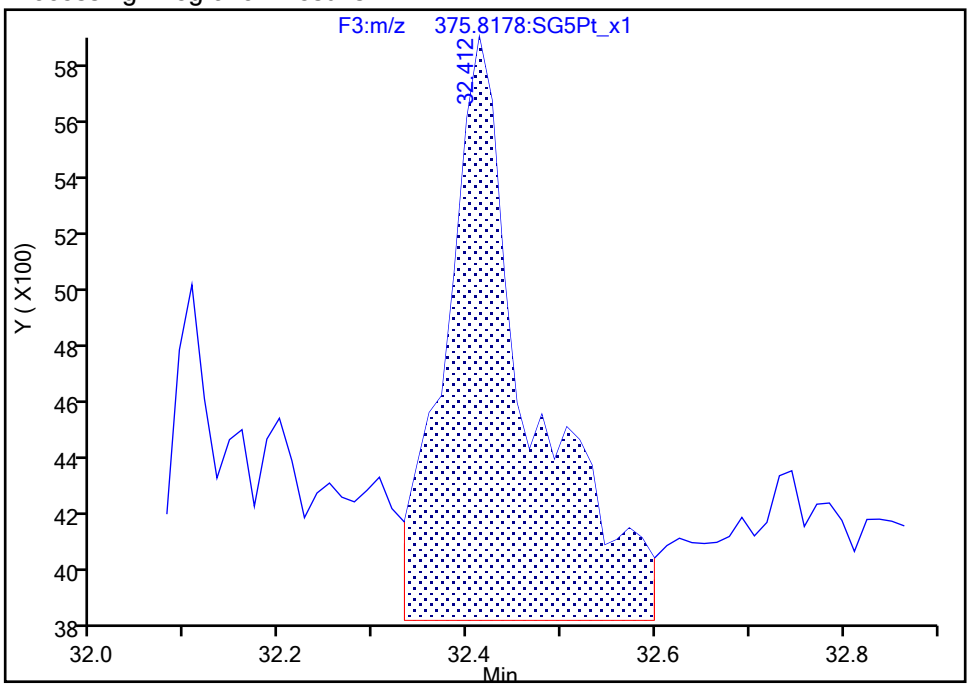

Manual Integration Results

RT: 32.41
Area: 7827
Amount: 0.044442
Amount Units: pg/ul

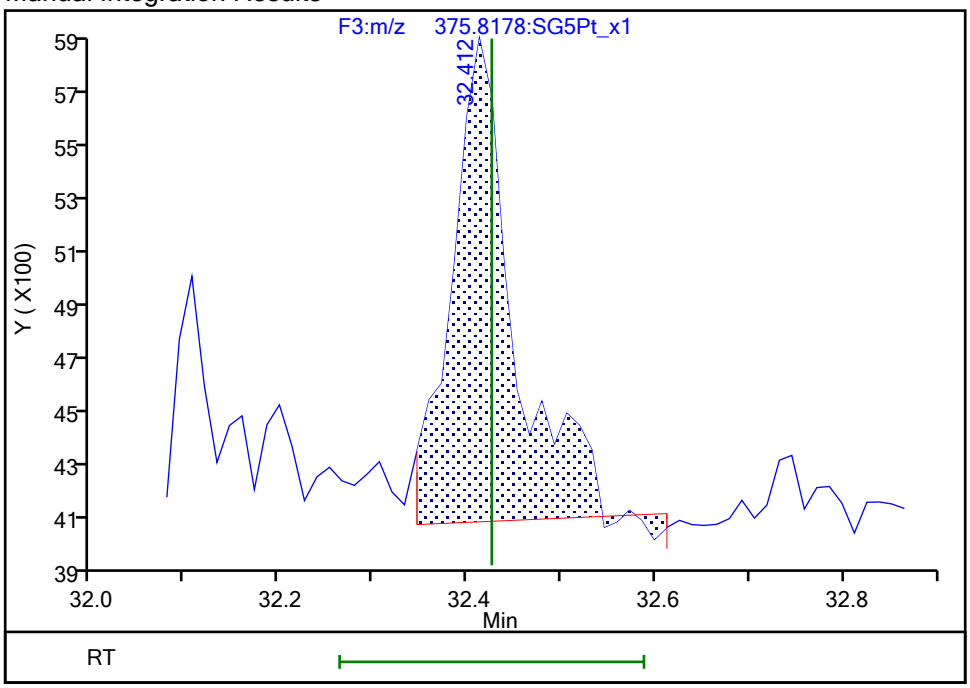

Reviewer: dadunj, 14-Oct-2019 14:52:17

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_21.d				
Injection Date:	11-Oct-2019 07:51:56	Instrument ID:	10D5		
Lims ID:	320-54852-A-5-A	Lab Sample ID:	320-54852-5		
Client ID:	11187072-Filter Test-5				
Operator ID:	SMA	ALS Bottle#:	19	Worklist Smp#:	21
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 1

Processing Integration Results

RT: 32.40
Area: 7232
Amount: 0.056740
Amount Units: pg/ul

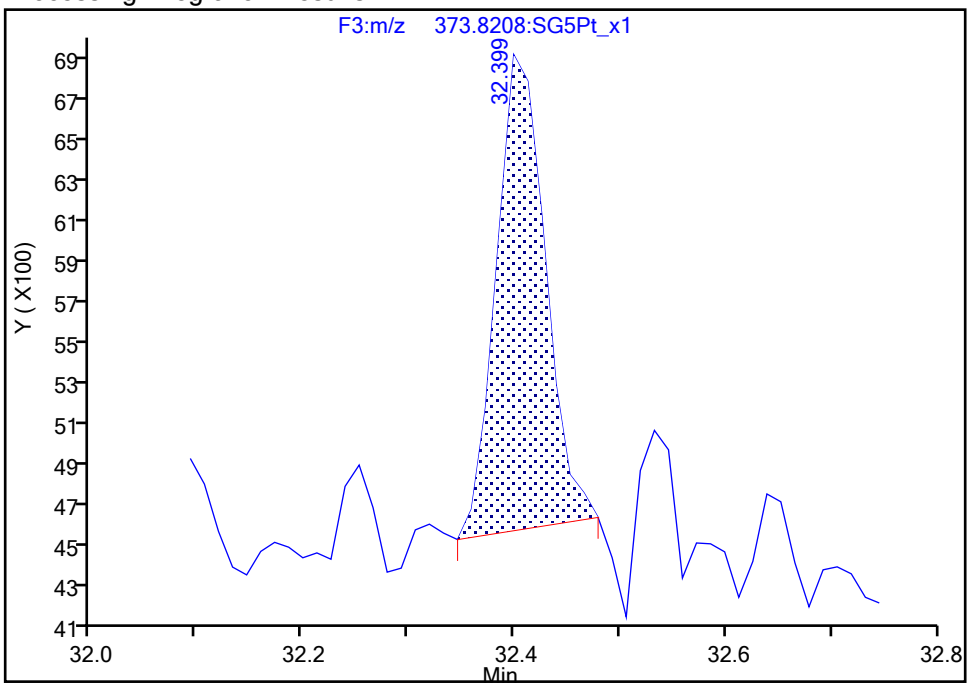

Manual Integration Results

RT: 32.40
Area: 7650
Amount: 0.044442
Amount Units: pg/ul

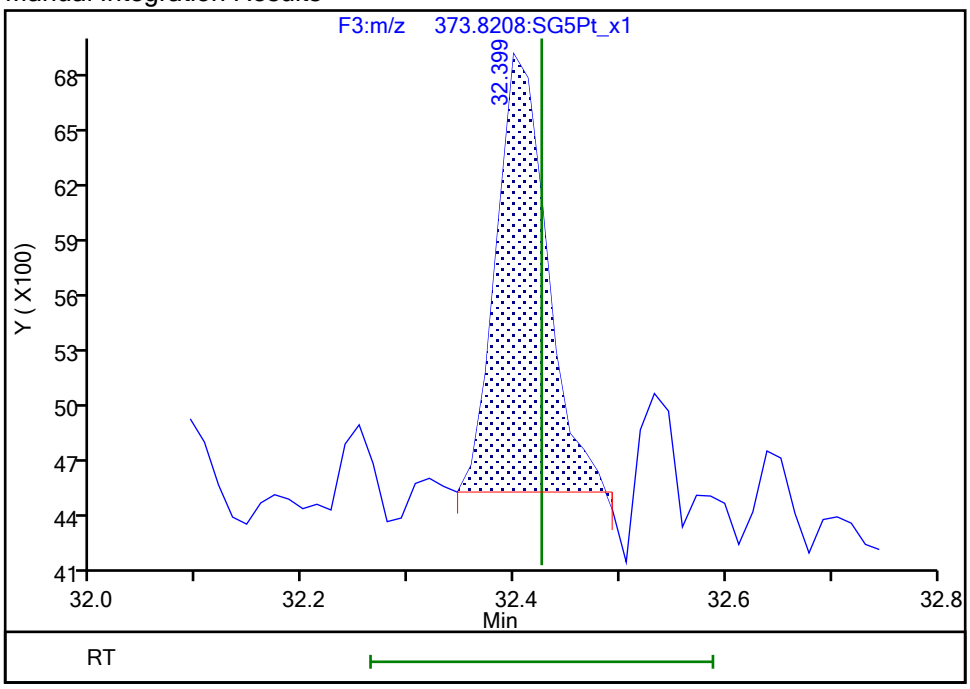

Reviewer: dadunj, 14-Oct-2019 14:52:22

Audit Action: Manually Integrated Audit Reason: Baseline

Report Date: 14-Oct-2019 14:57:17 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_21.d		
Injection Date:	11-Oct-2019 07:51:56	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-5		
Worklist#:	330148	Sample Line#:	21
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

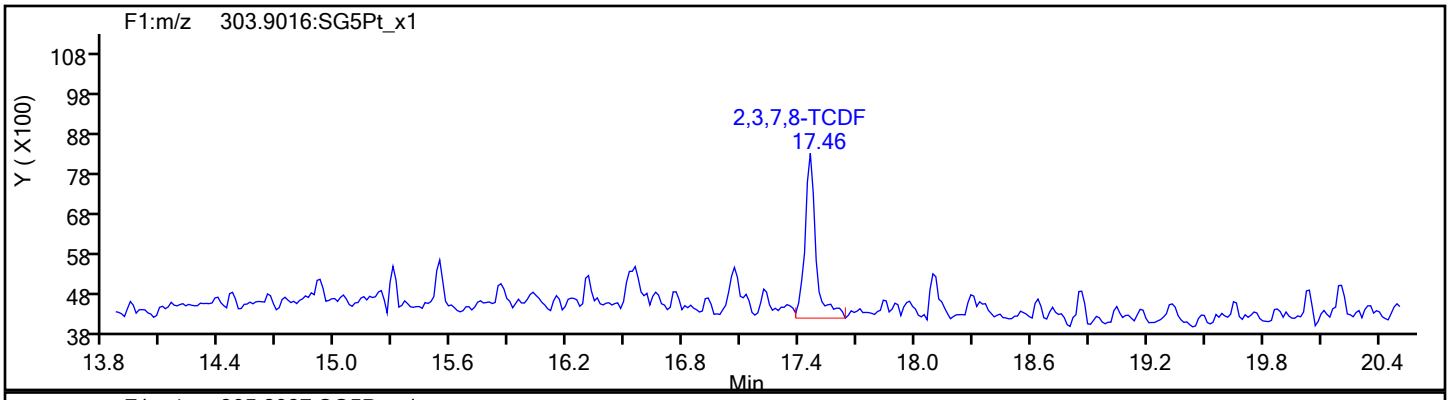

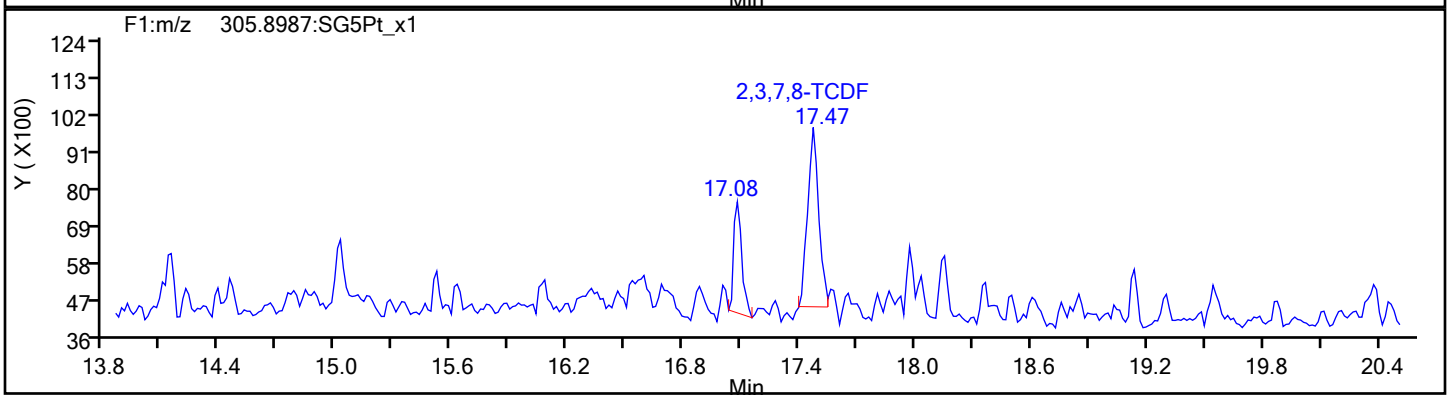

TCDF Standards

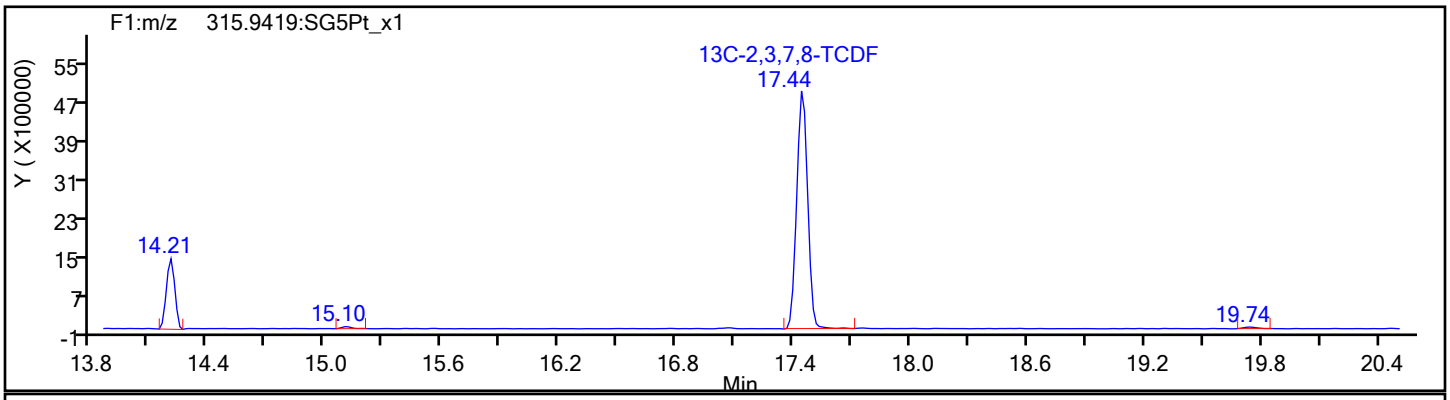

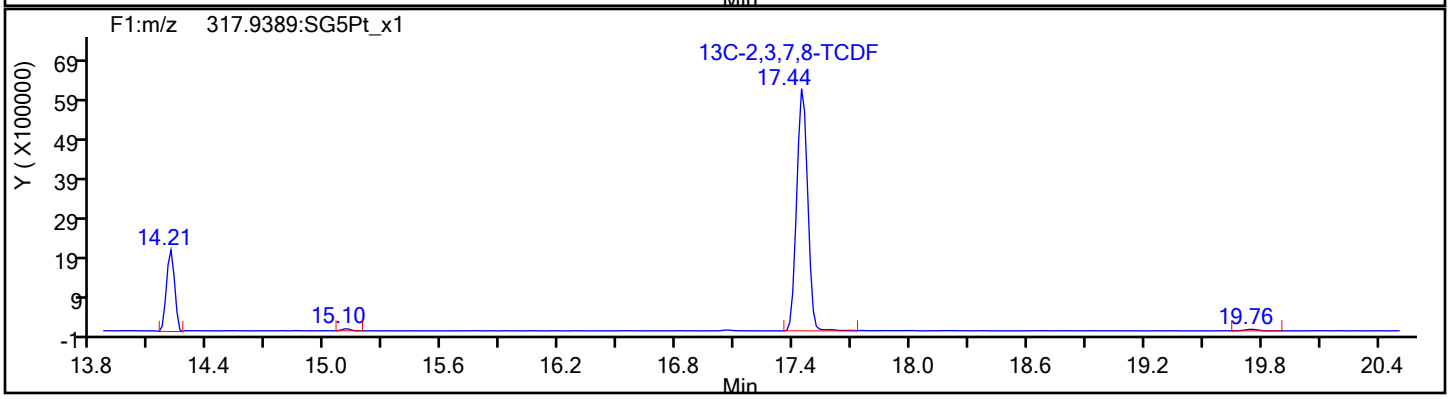

Report Date: 14-Oct-2019 14:57:17 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_21.d		
Injection Date:	11-Oct-2019 07:51:56	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-5		
Worklist#:	330148	Sample Line#:	21
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

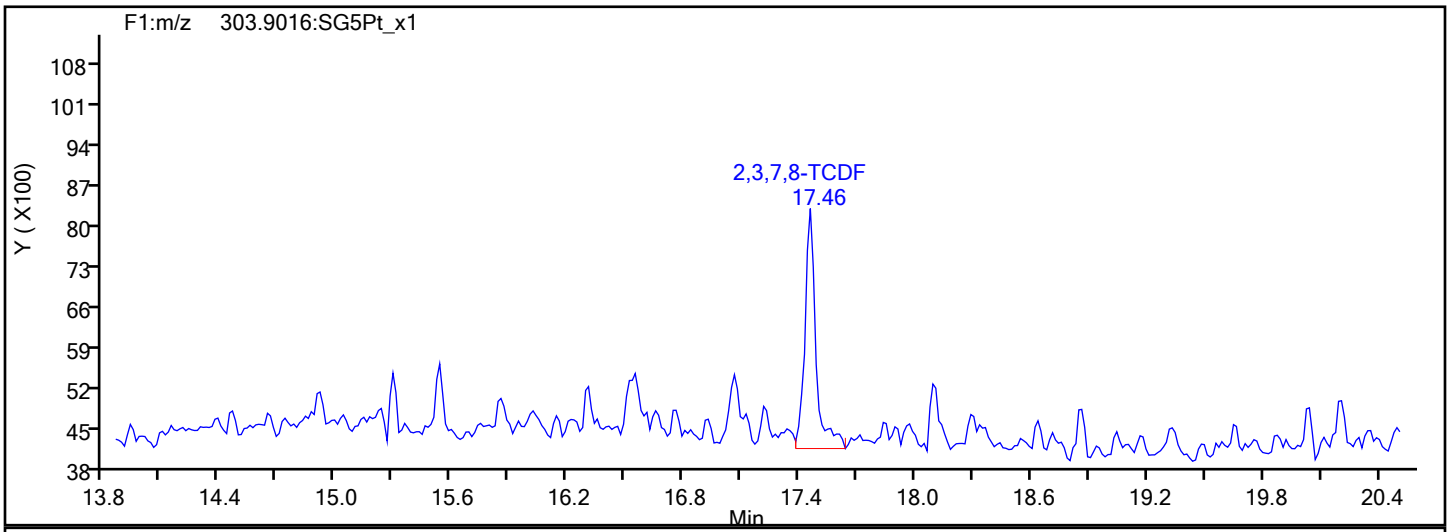

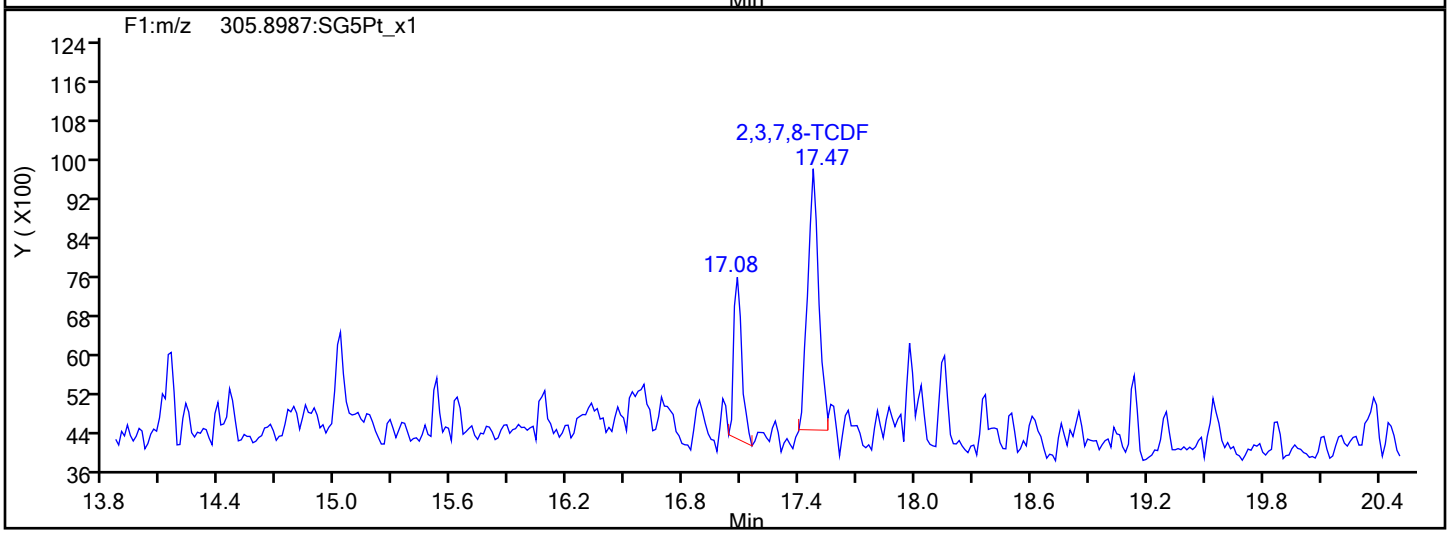

TCDF Interference Mass

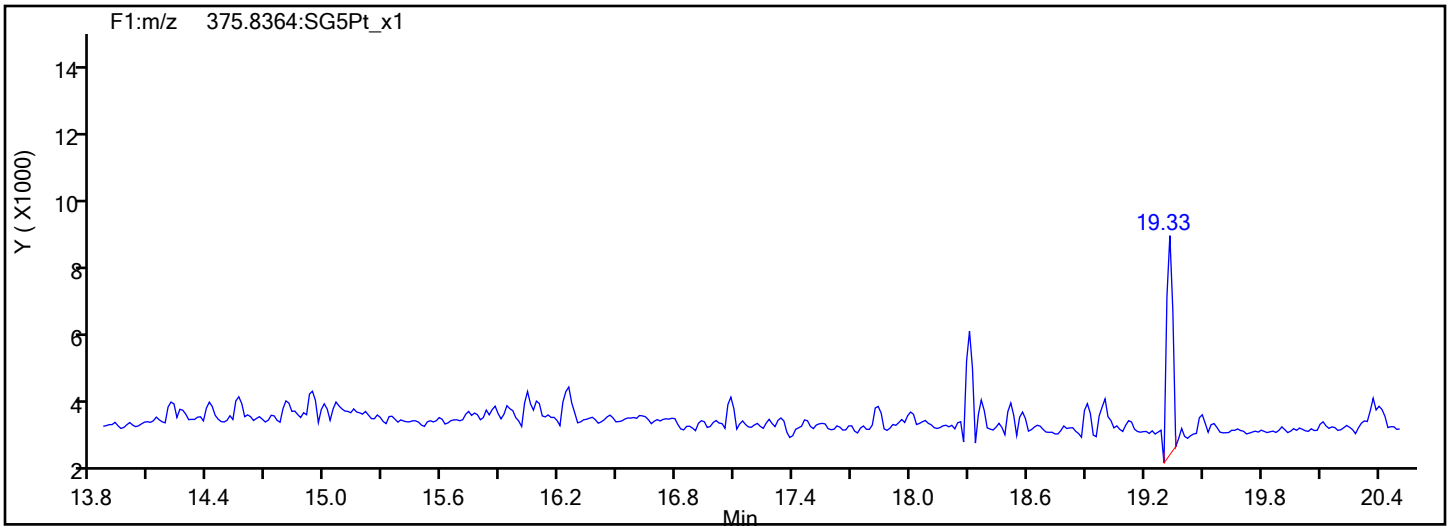

Report Date: 14-Oct-2019 14:57:17 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_21.d		
Injection Date:	11-Oct-2019 07:51:56	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-5		
Worklist#:	330148	Sample Line#:	21
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

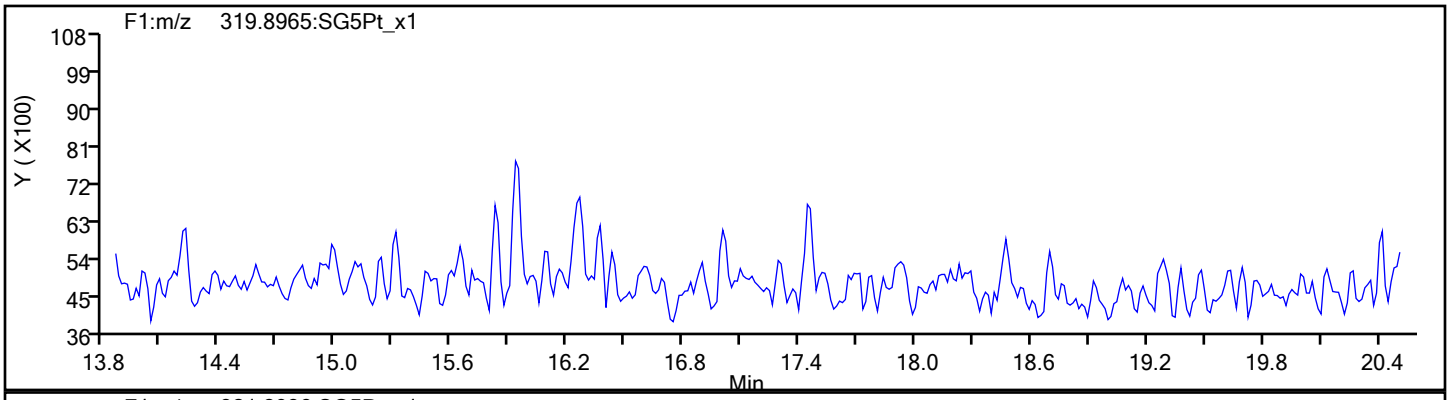

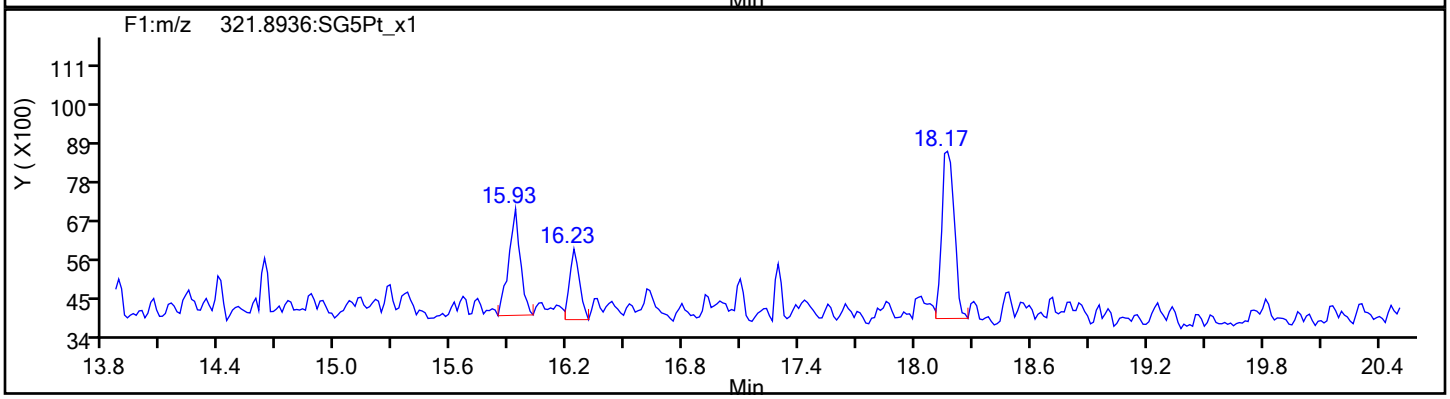

TCDD Standards

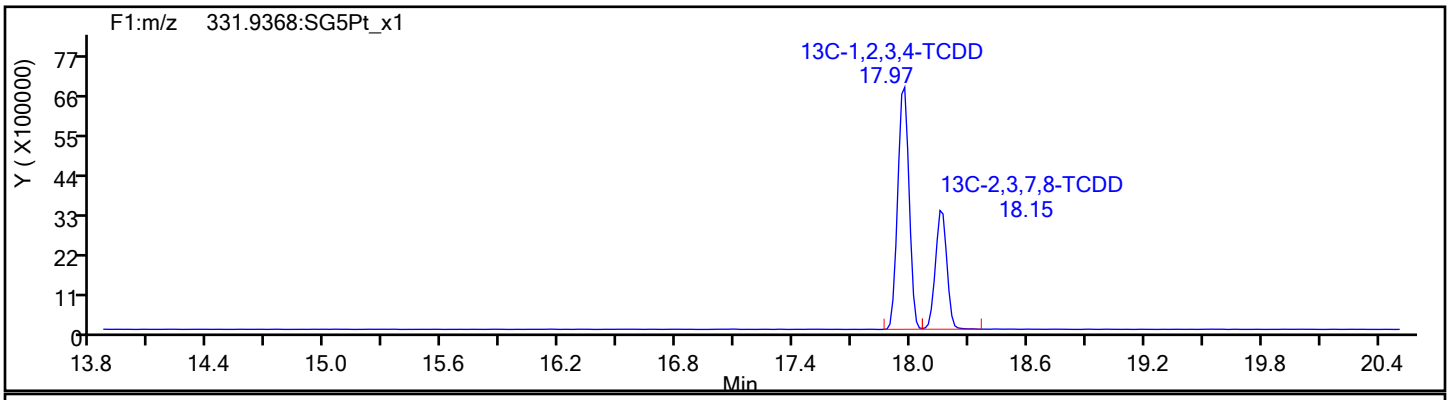

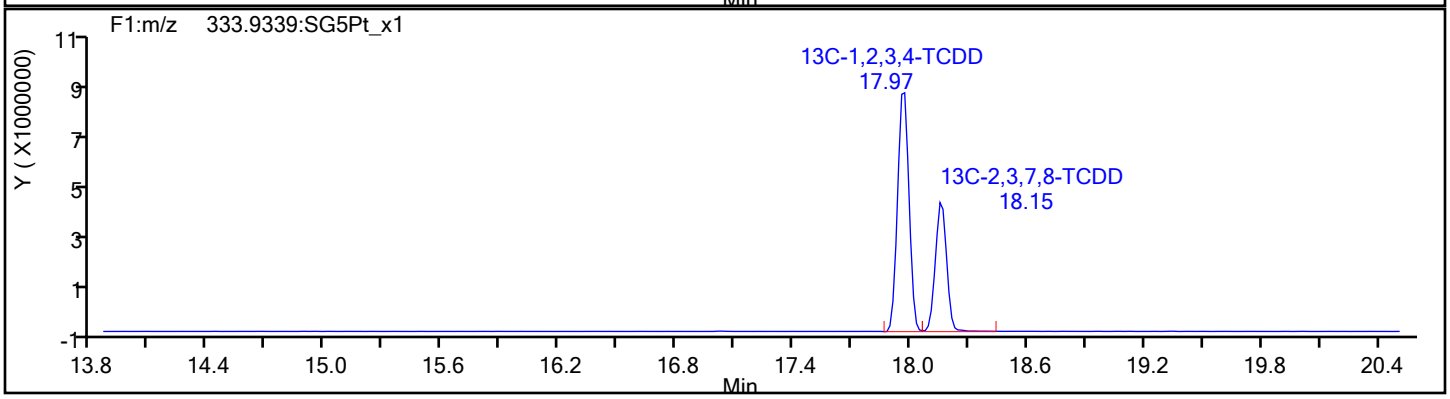

Report Date: 14-Oct-2019 14:57:17 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_21.d		
Injection Date:	11-Oct-2019 07:51:56	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-5		
Worklist#:	330148	Sample Line#:	21
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

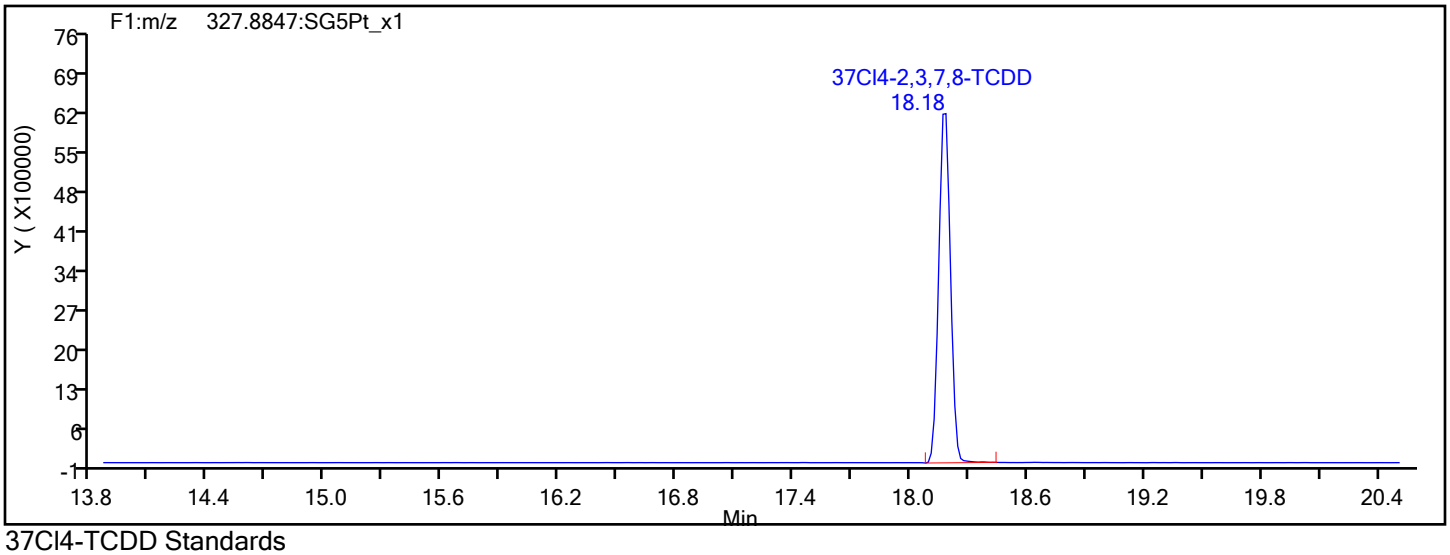

37Cl4-TCDD Standards

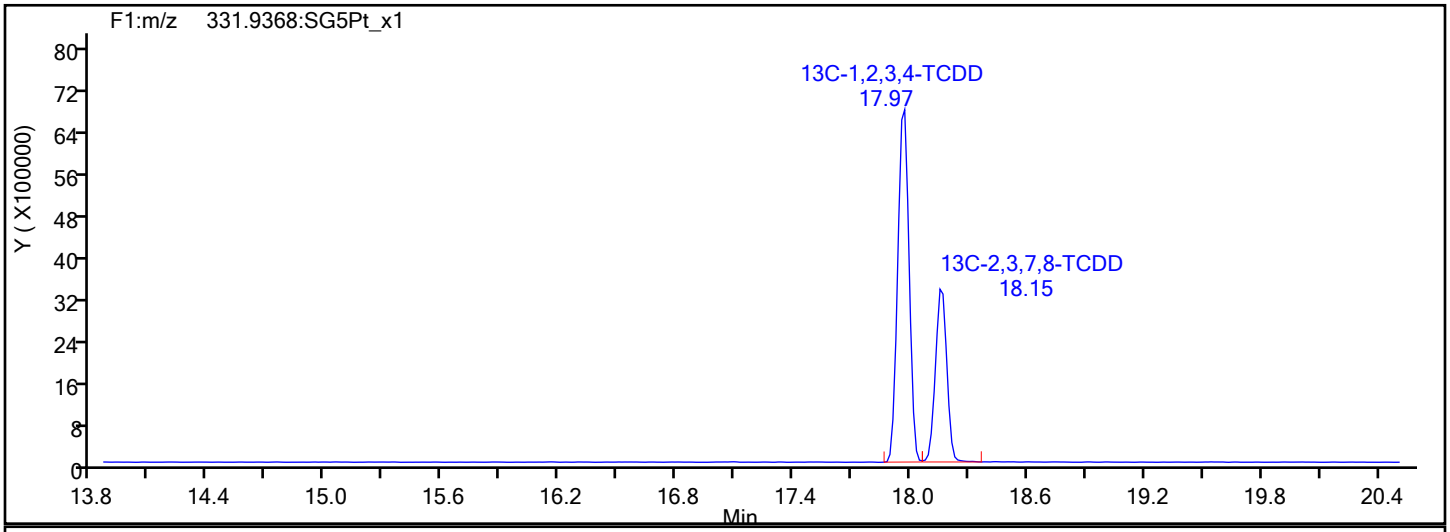

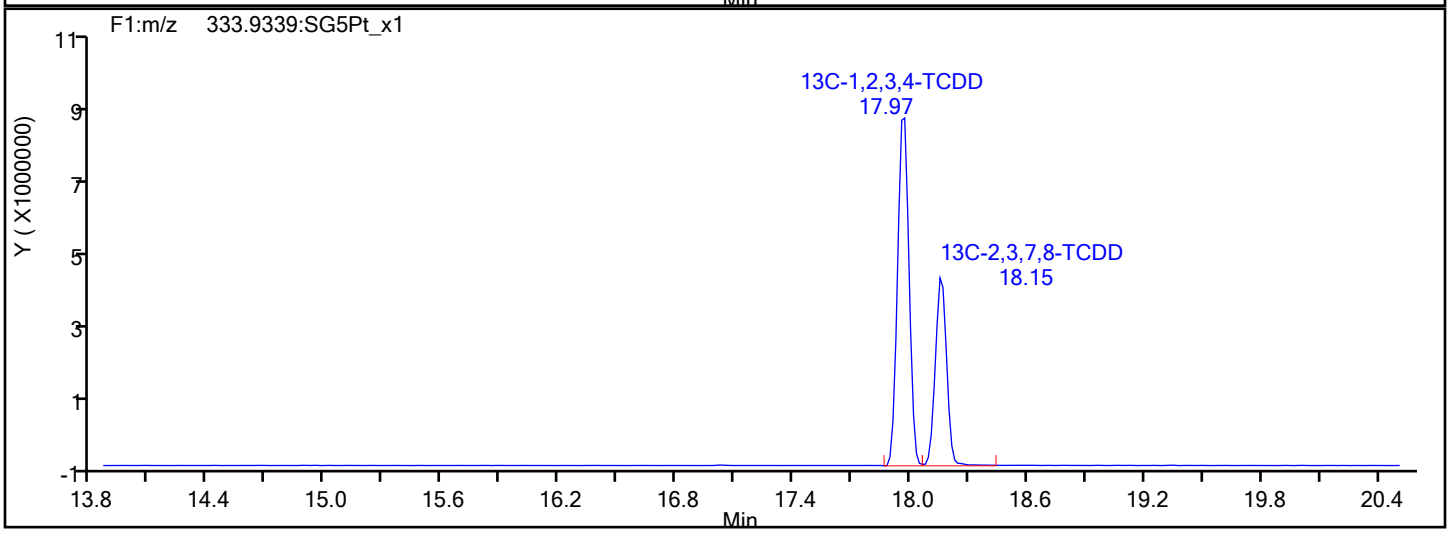

Report Date: 14-Oct-2019 14:57:17 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_21.d		
Injection Date:	11-Oct-2019 07:51:56	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-5		
Worklist#:	330148	Sample Line#:	21
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

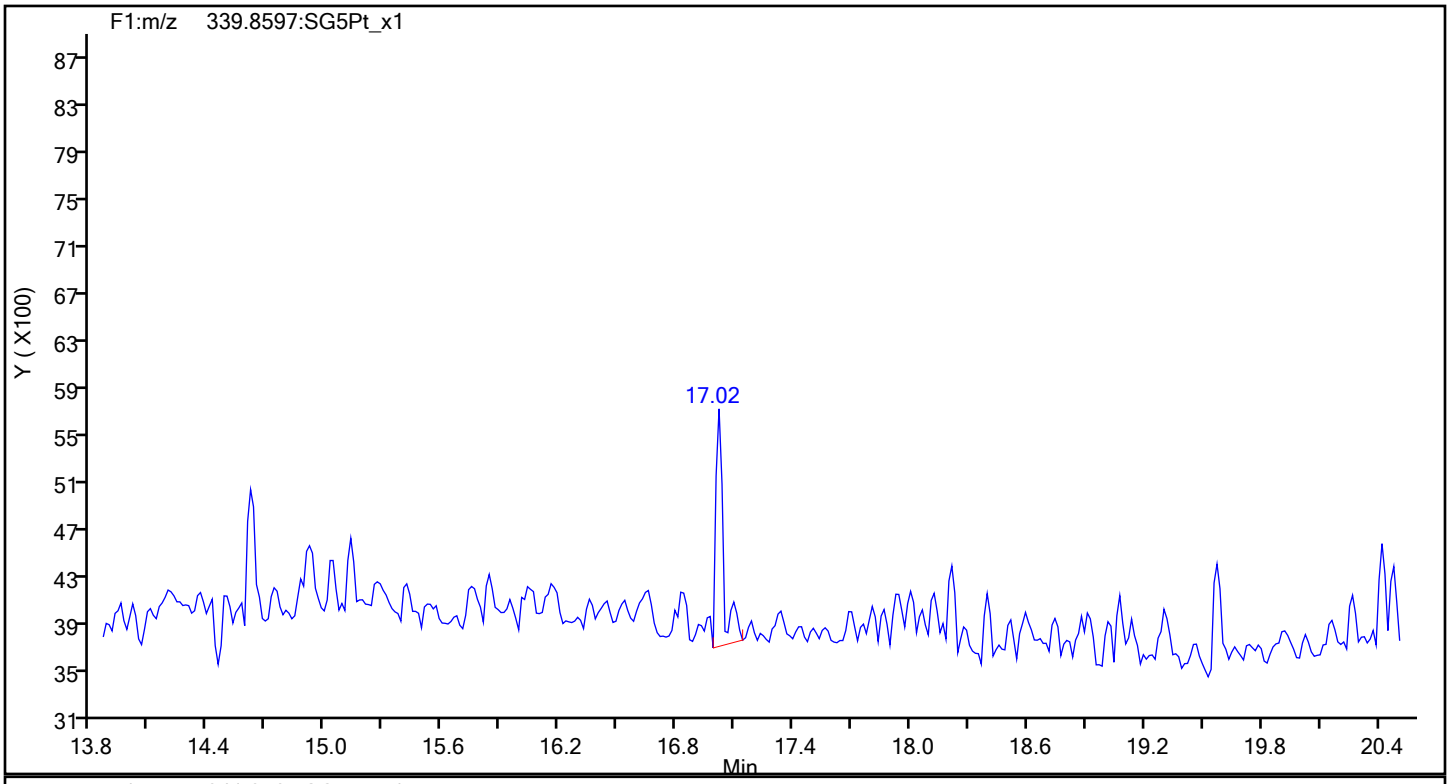

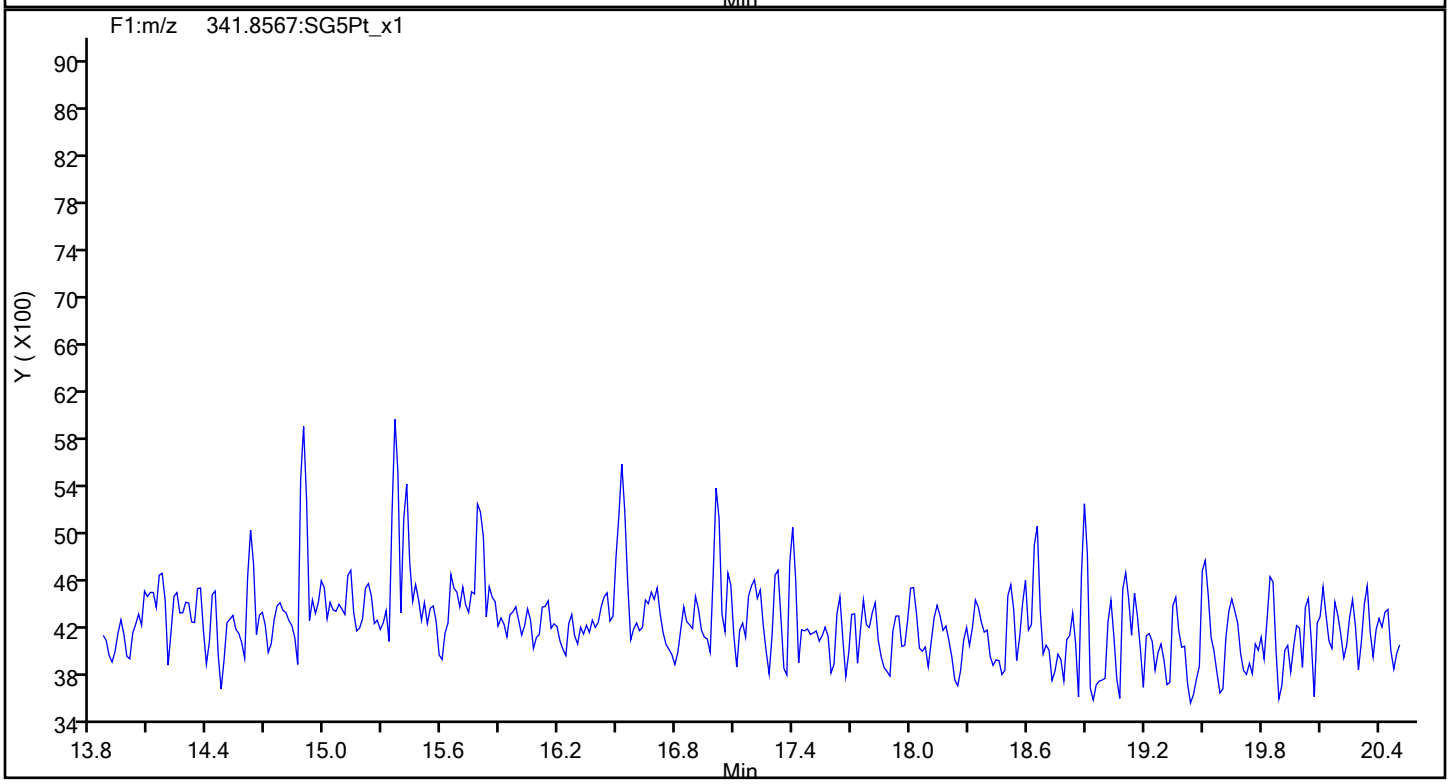

Report Date: 14-Oct-2019 14:57:17 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_21.d		
Injection Date:	11-Oct-2019 07:51:56	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-5		
Worklist#:	330148	Sample Line#:	21
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

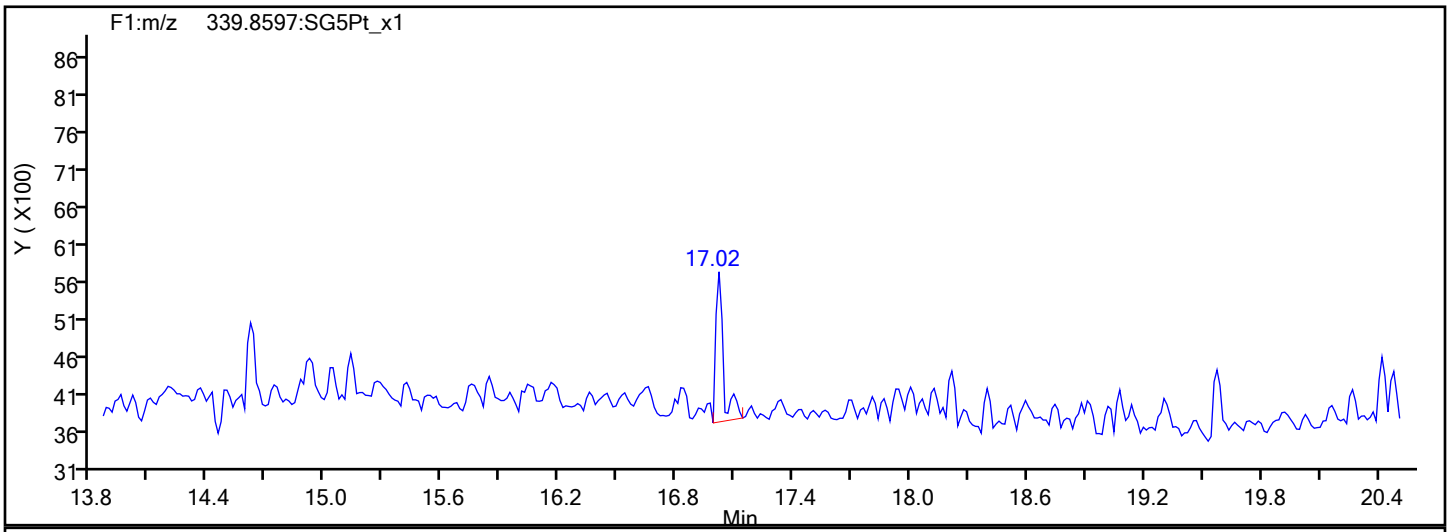

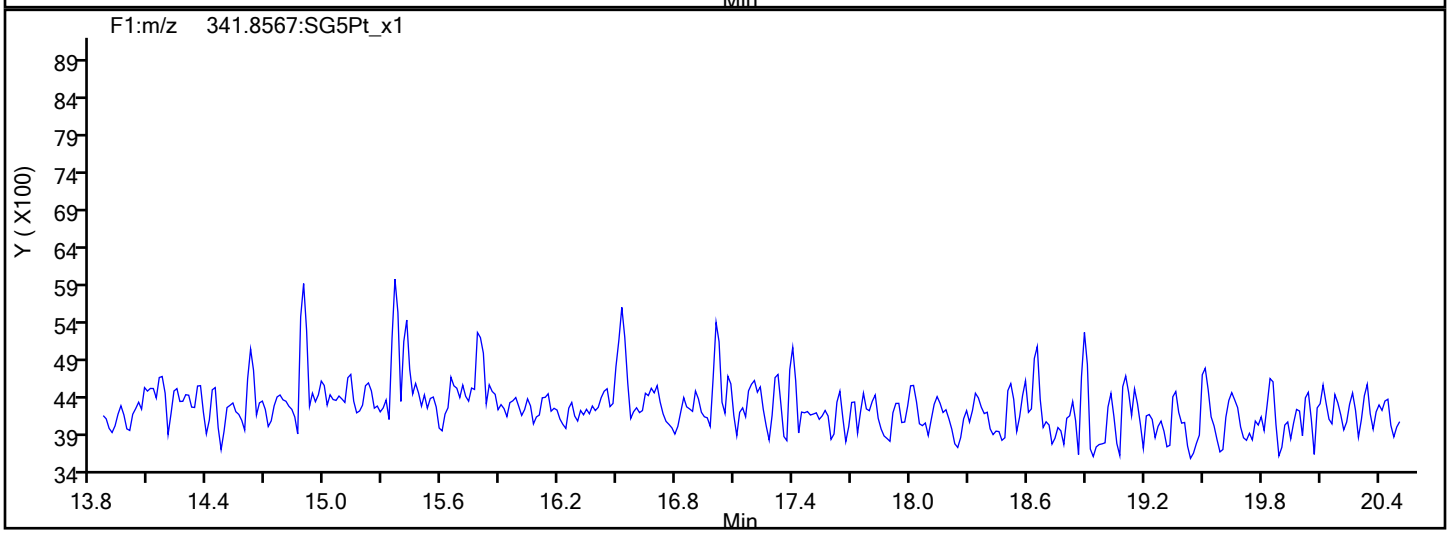

F1 PeCDFs Interference Mass

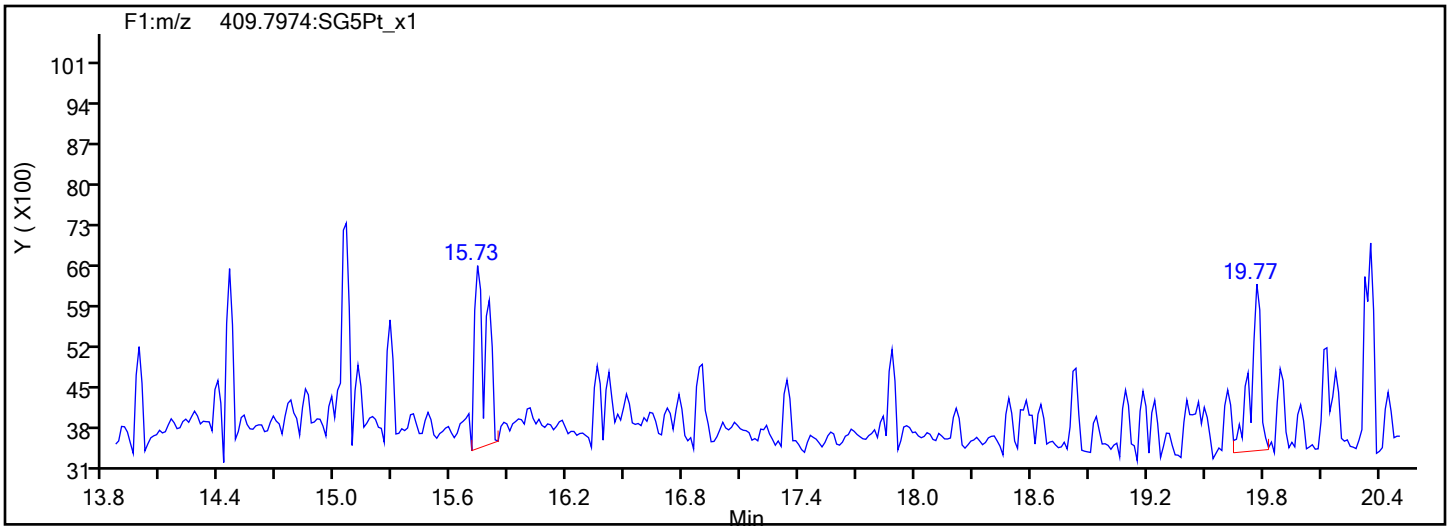

Report Date: 14-Oct-2019 14:57:17 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_21.d		
Injection Date:	11-Oct-2019 07:51:56	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-5		
Worklist#:	330148	Sample Line#:	21
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

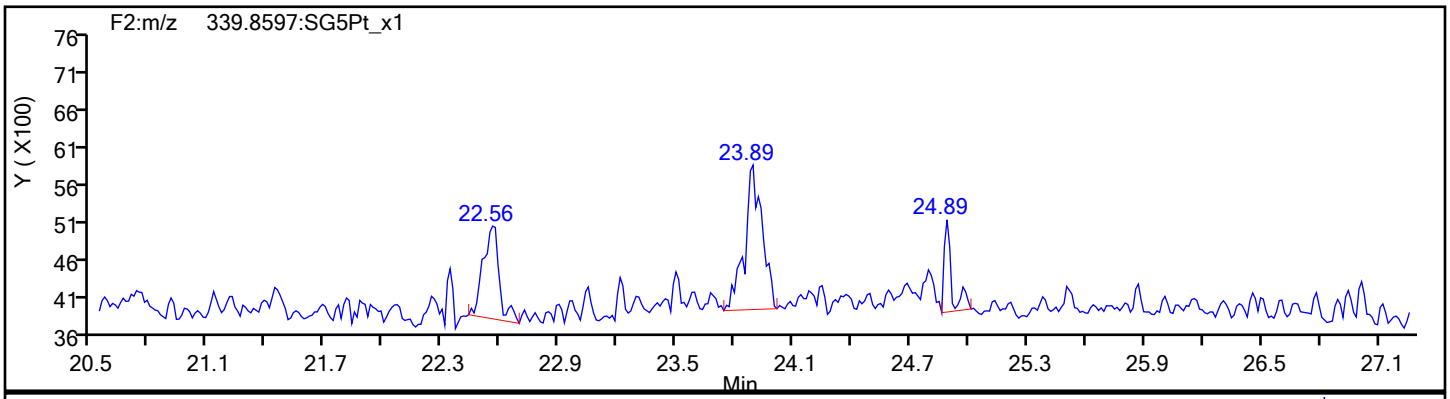

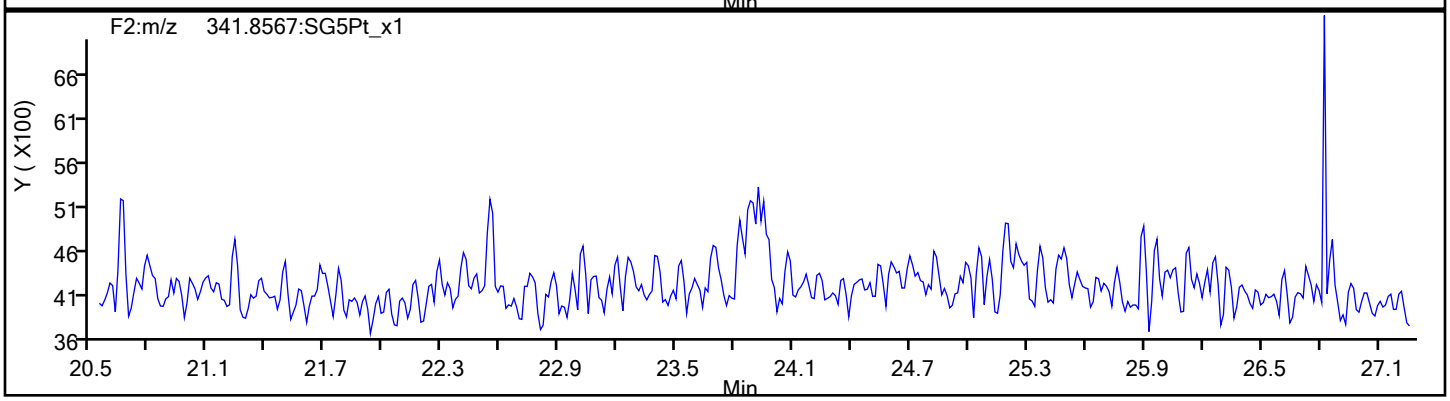

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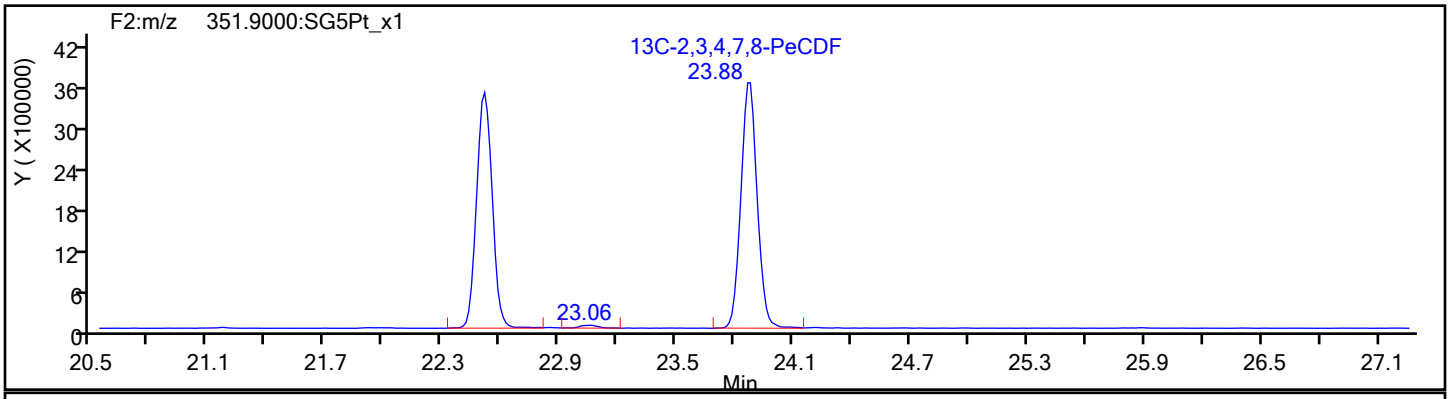

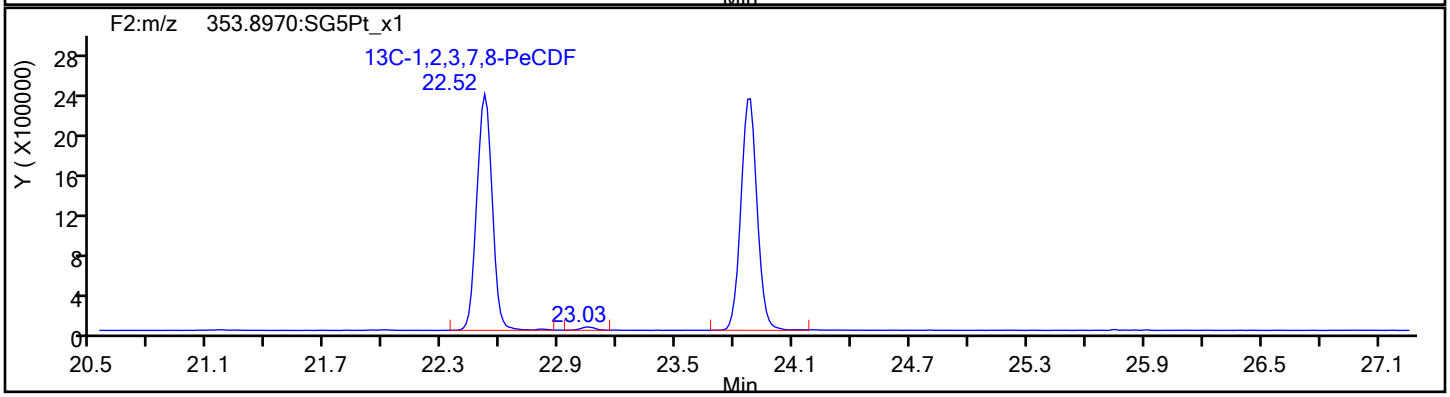

Report Date: 14-Oct-2019 14:57:17 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

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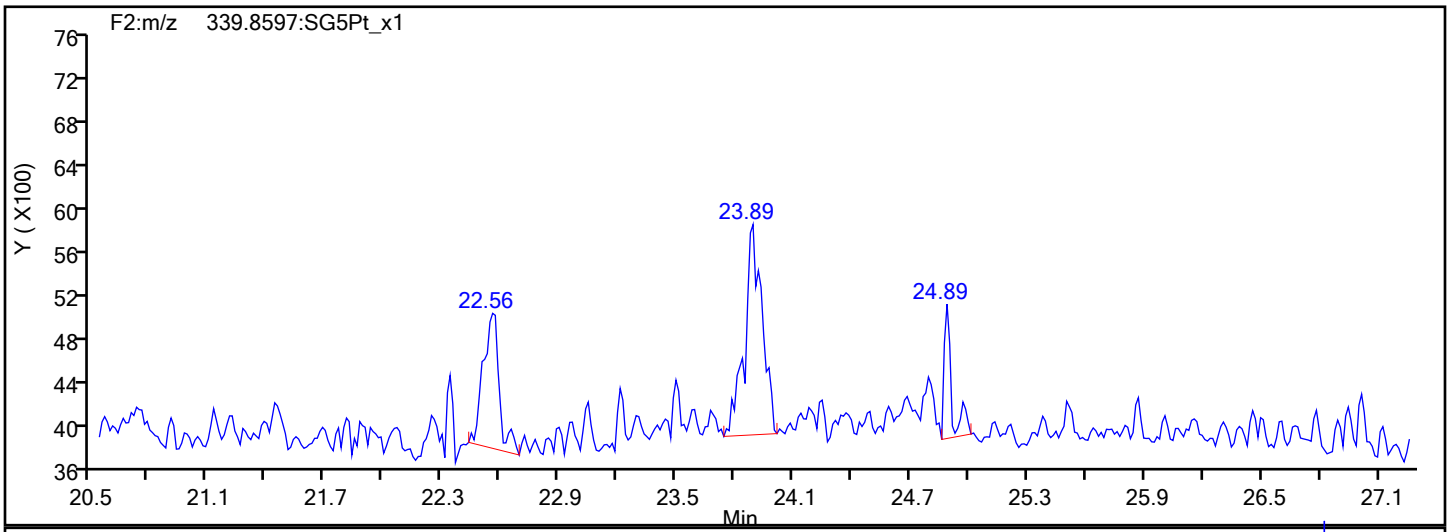

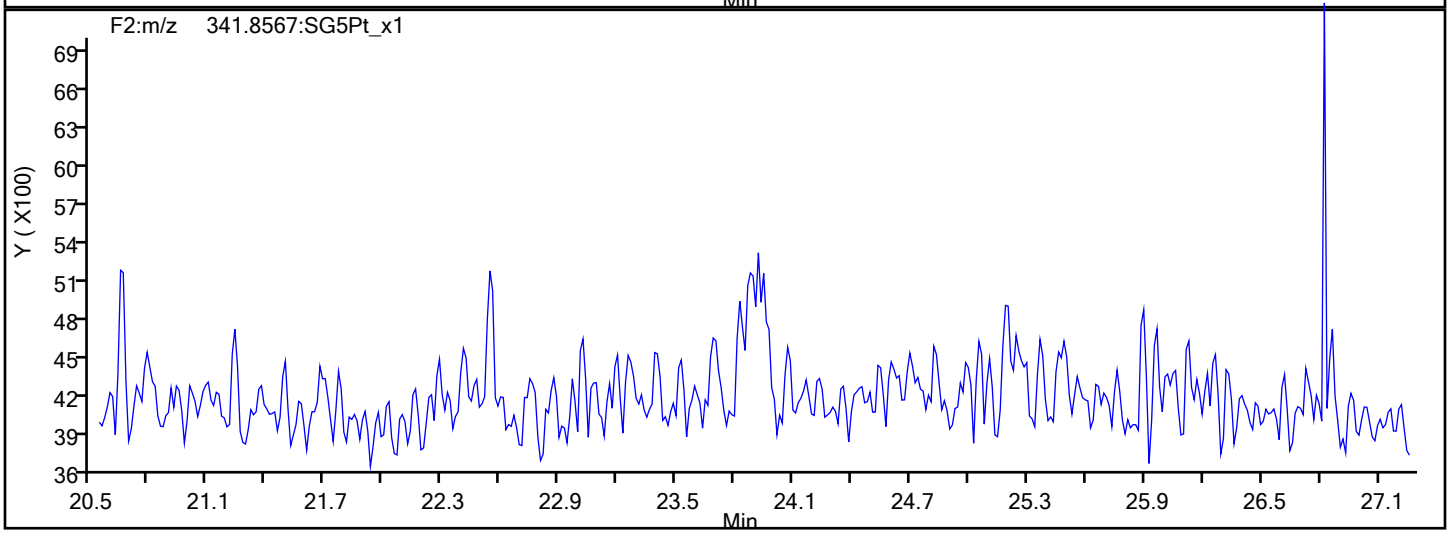

PeCDF Interference Mass

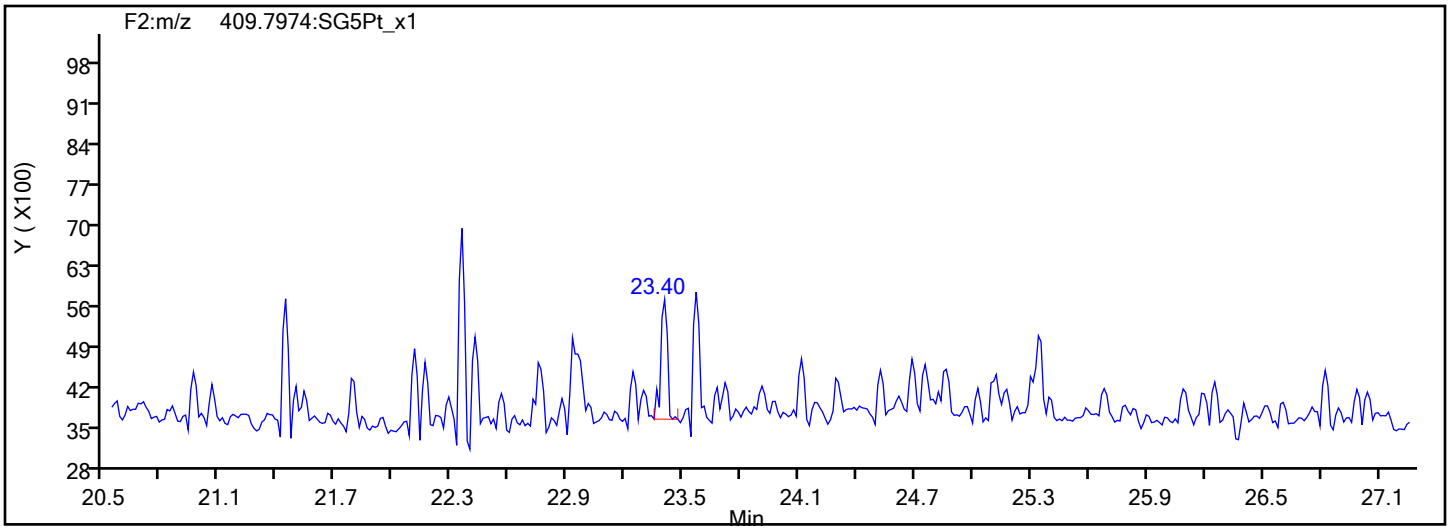

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Eurofins TestAmerica, Sacramento

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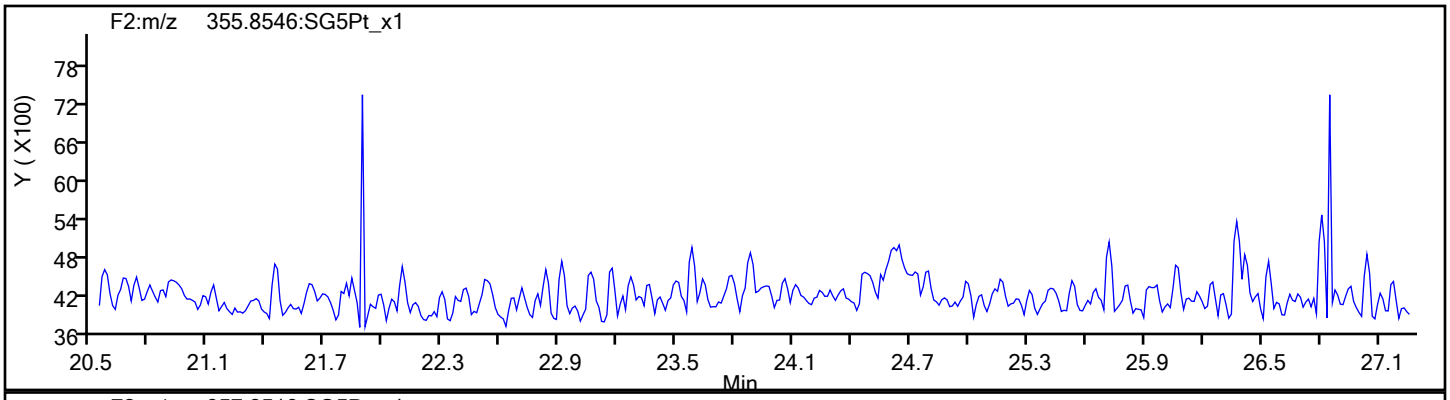

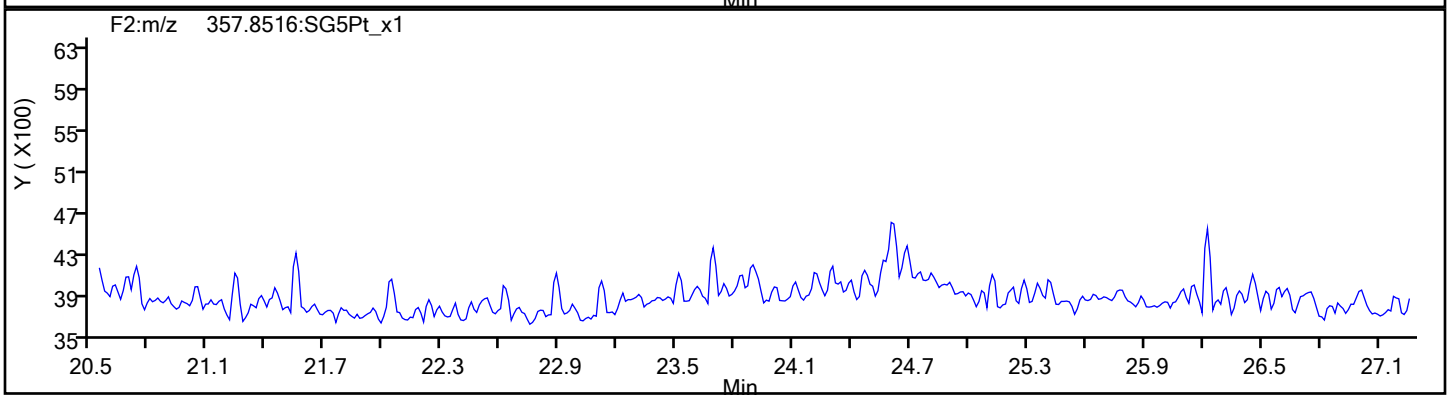

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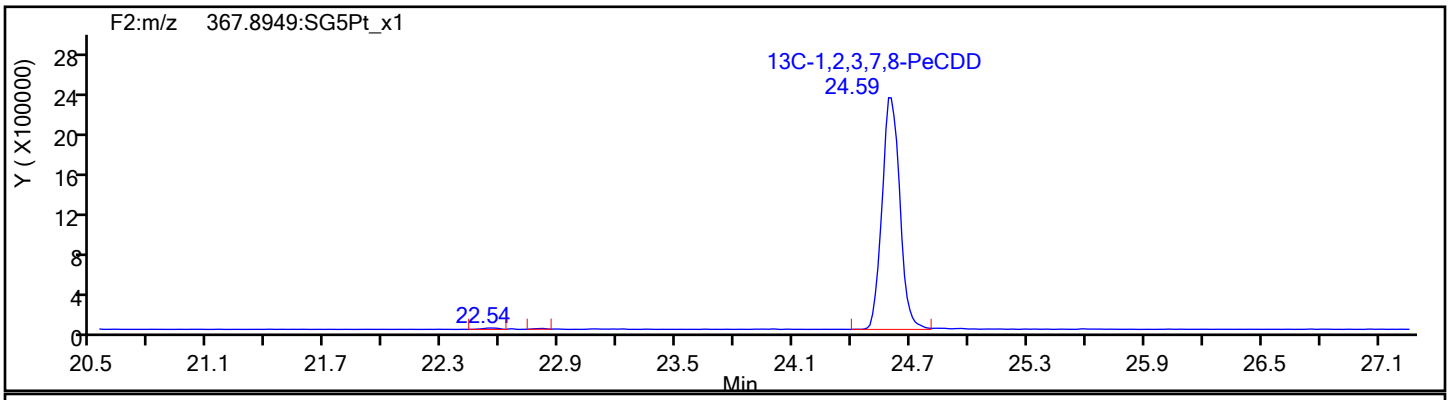

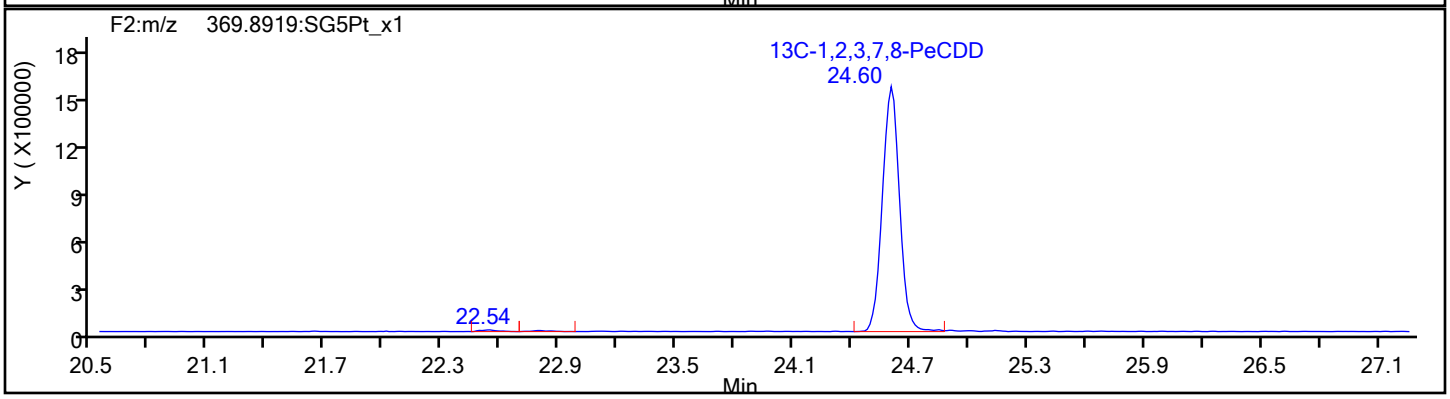

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Eurofins TestAmerica, Sacramento

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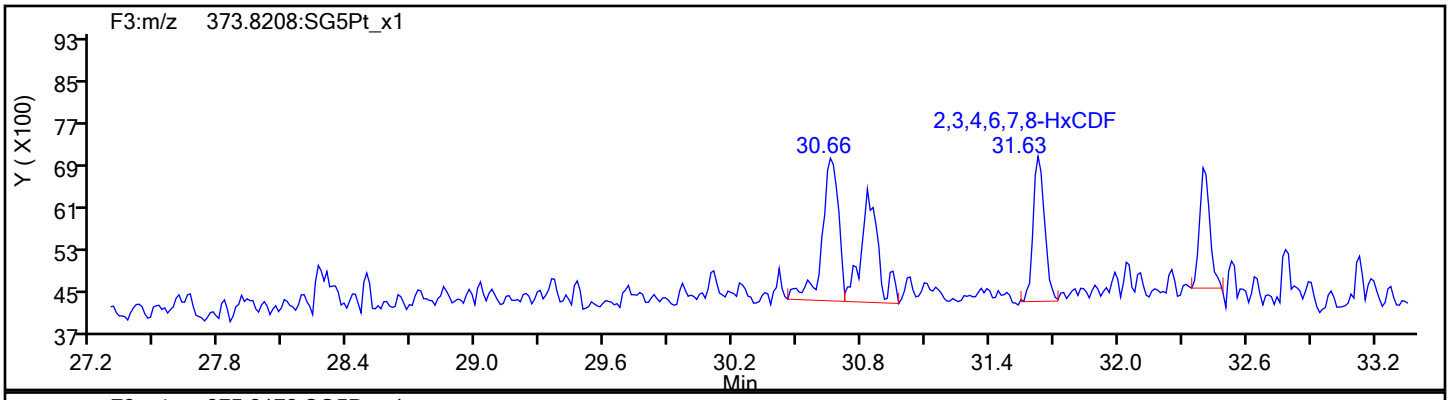

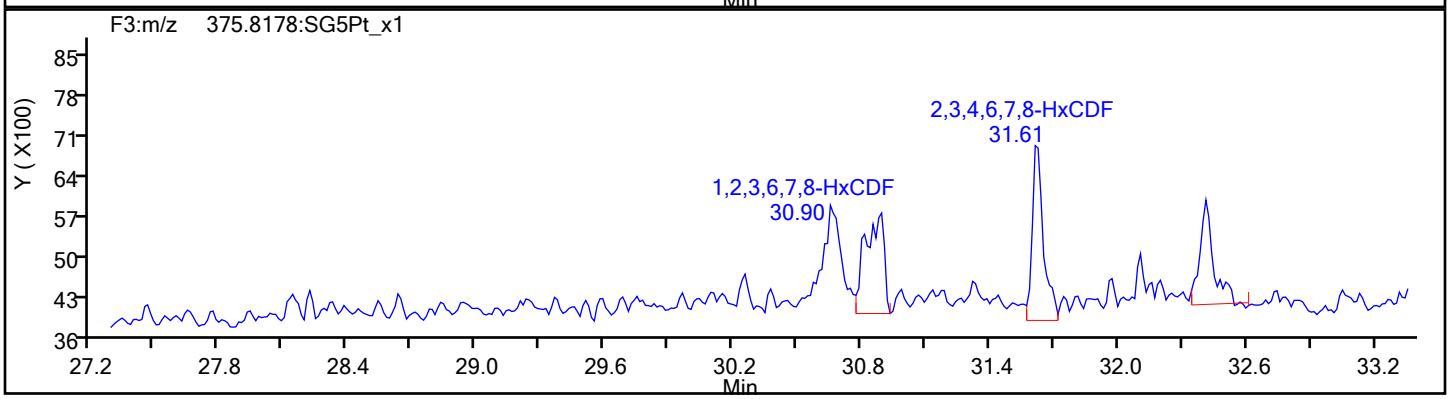

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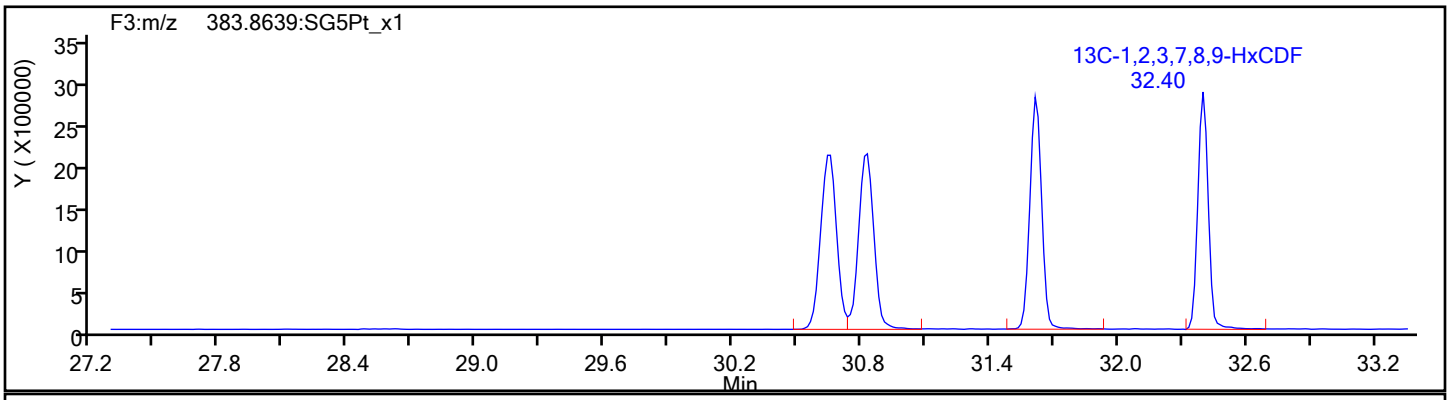

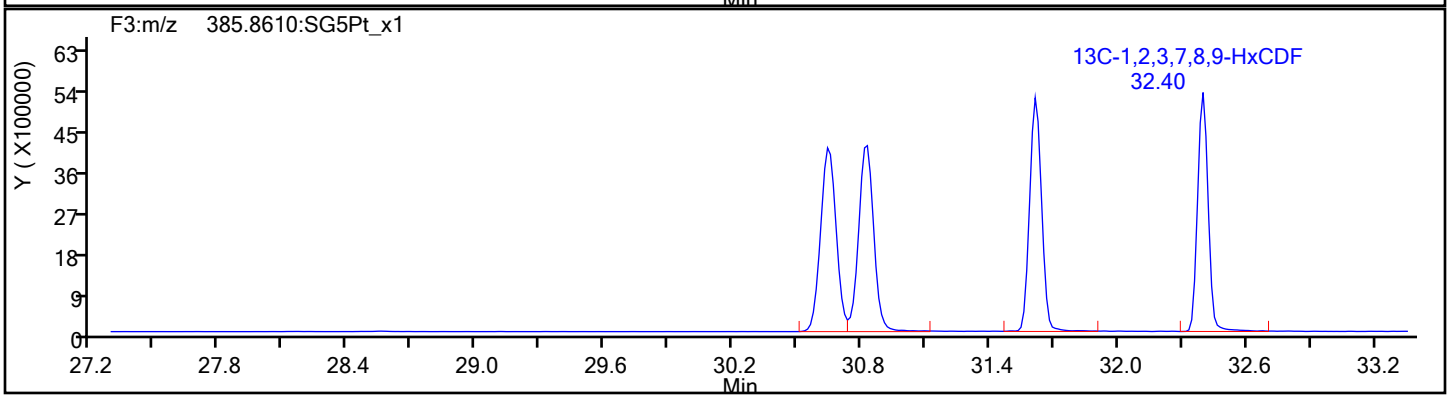

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Eurofins TestAmerica, Sacramento

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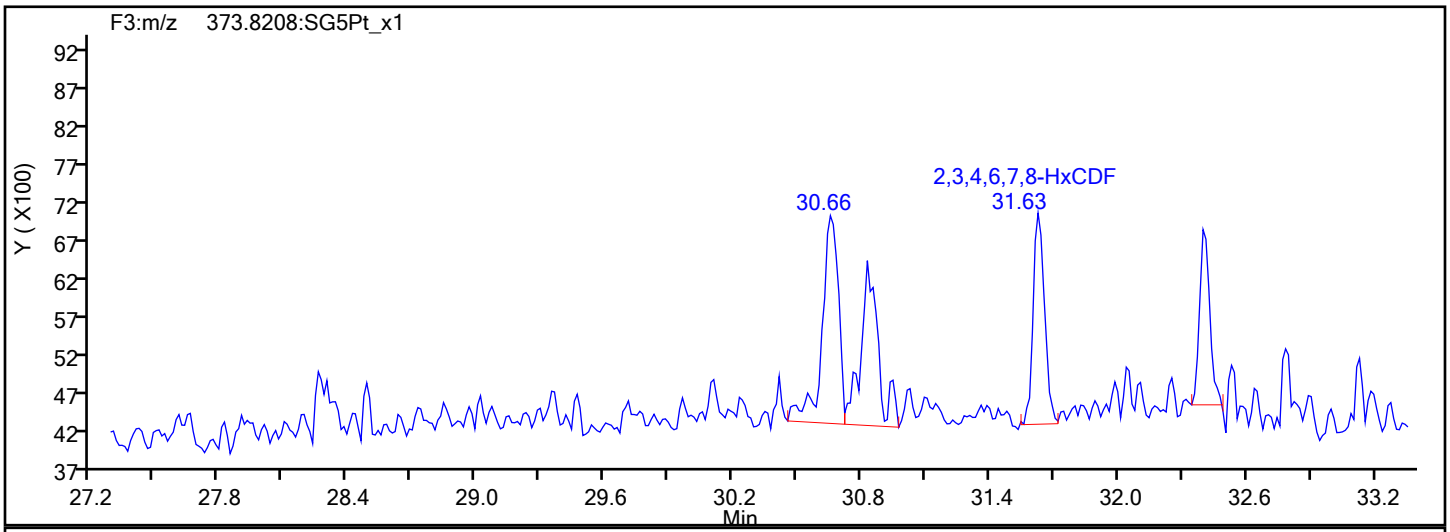

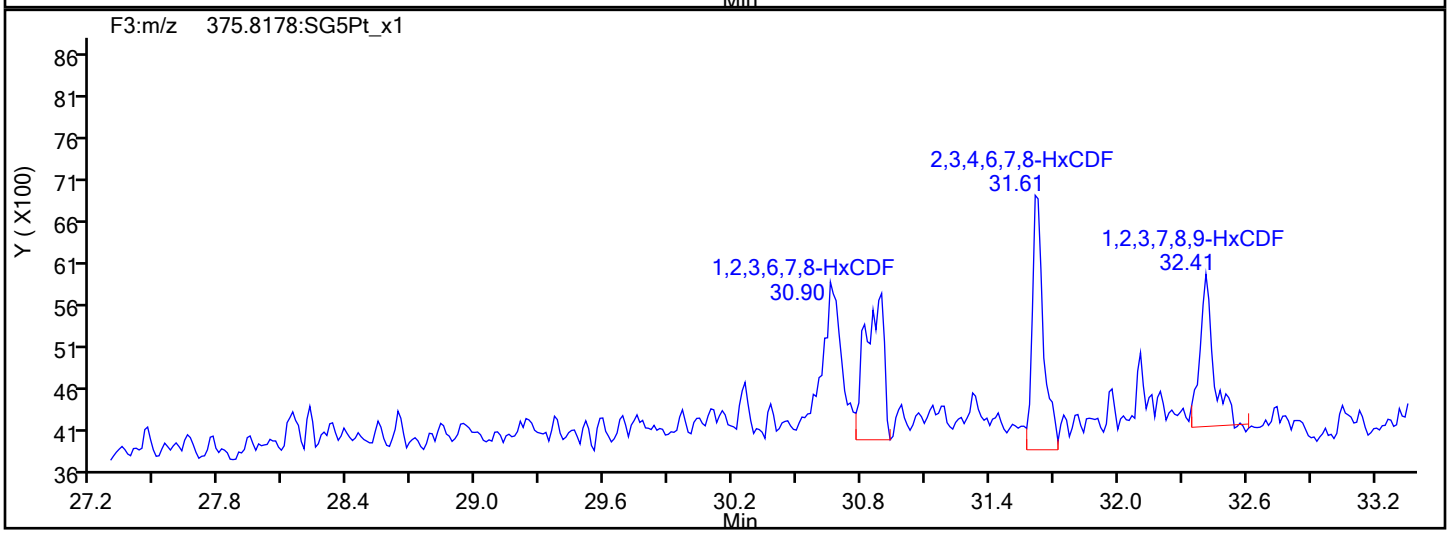

HxCDF Interference Mass

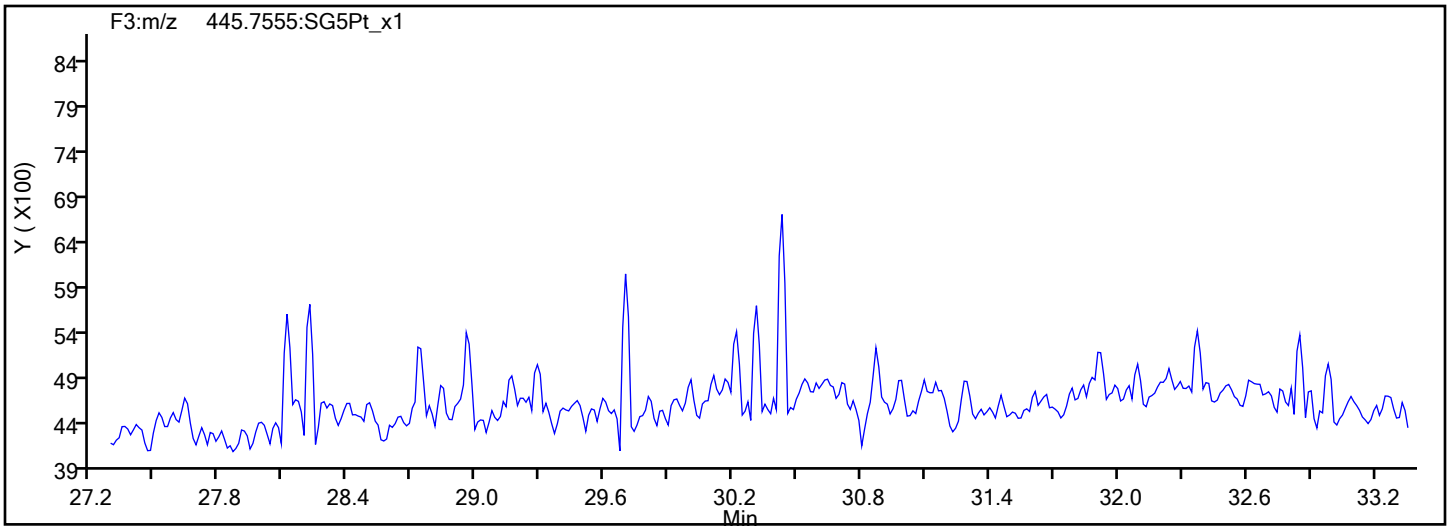

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Eurofins TestAmerica, Sacramento

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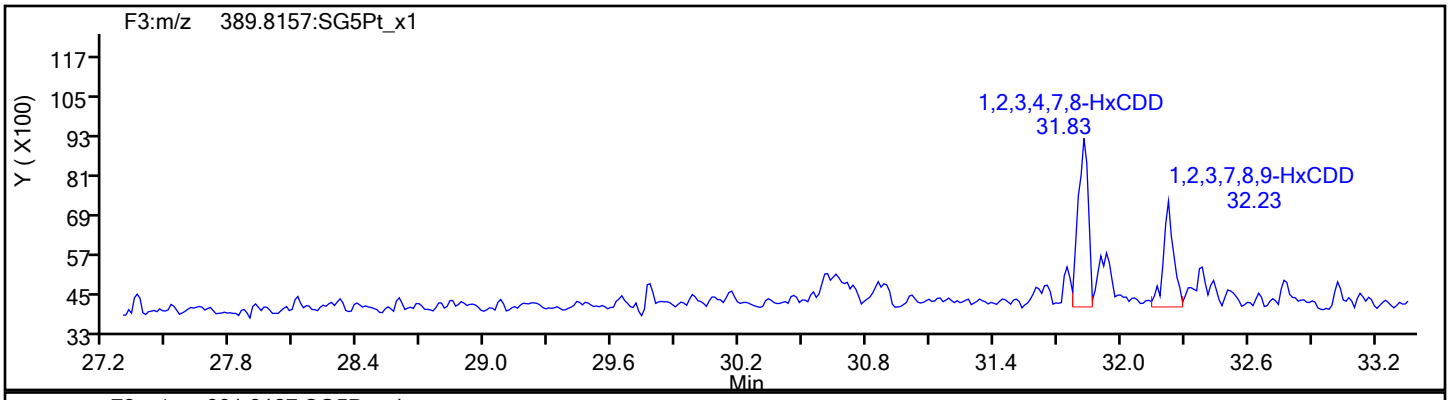

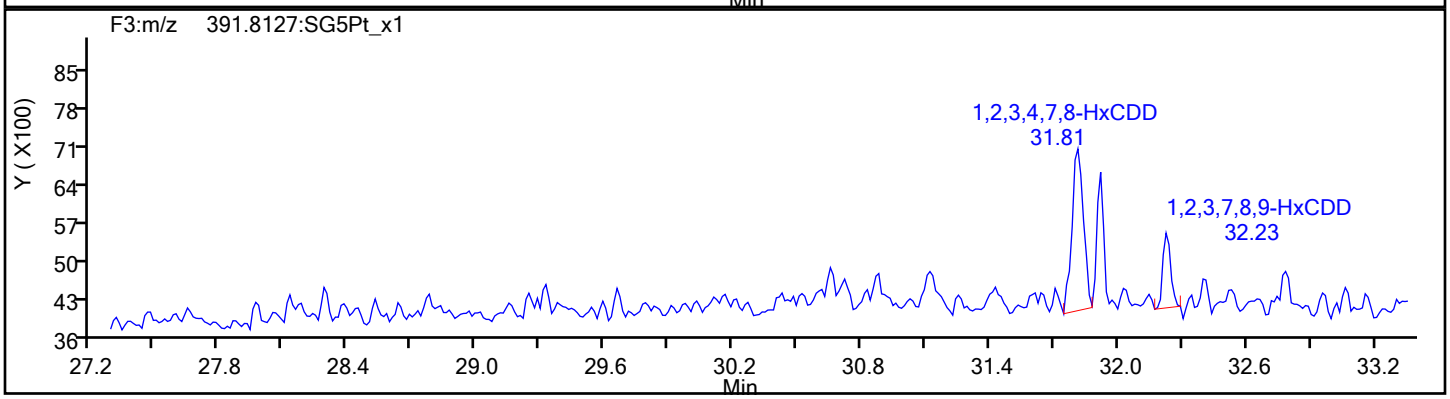

HxCDD Standards

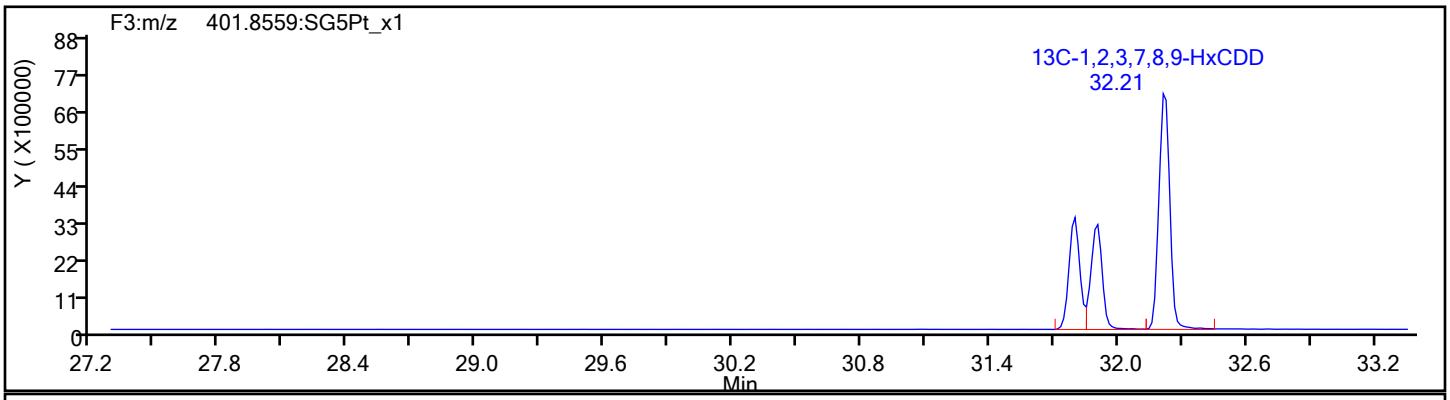

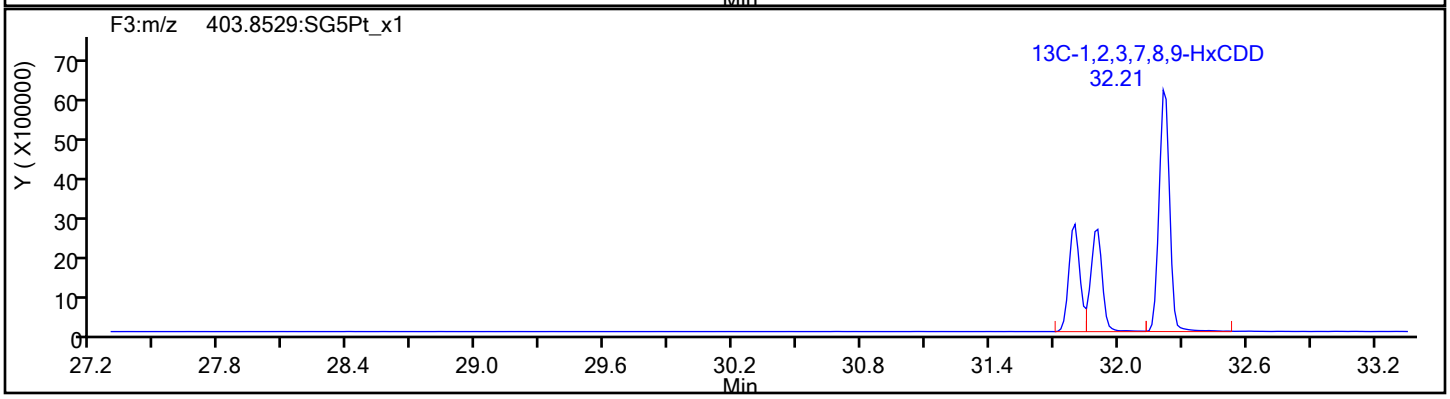

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Eurofins TestAmerica, Sacramento

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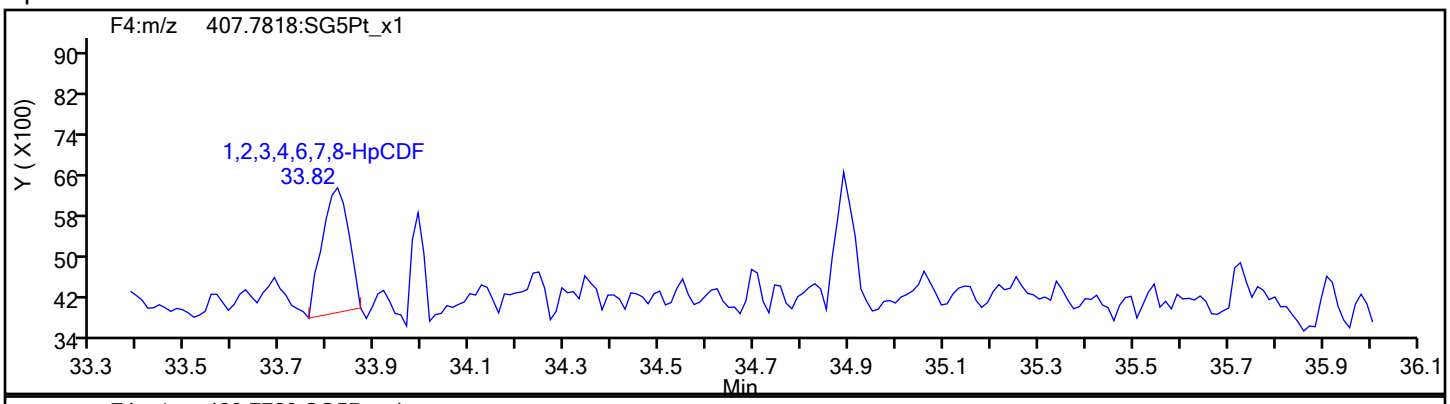

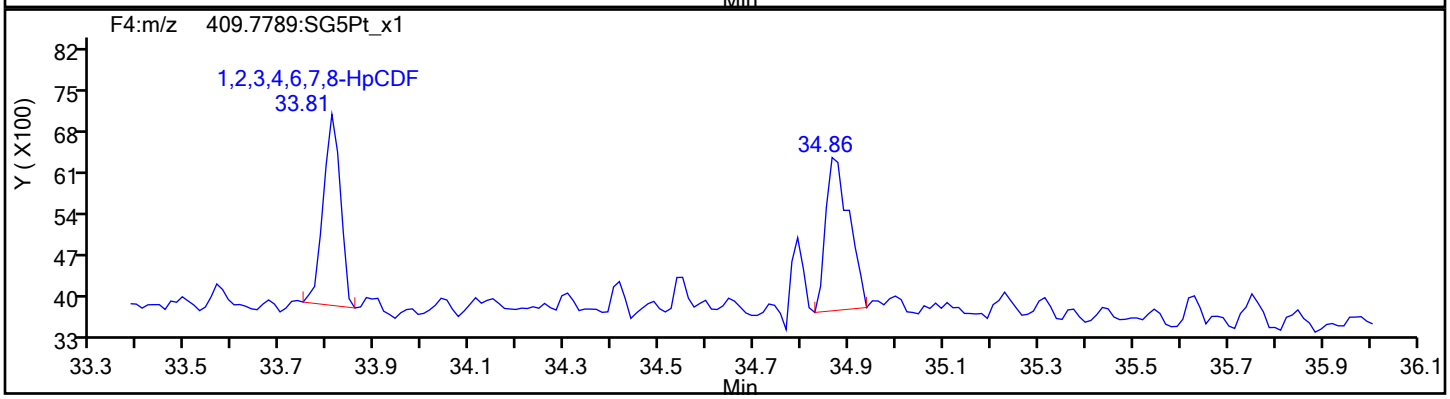

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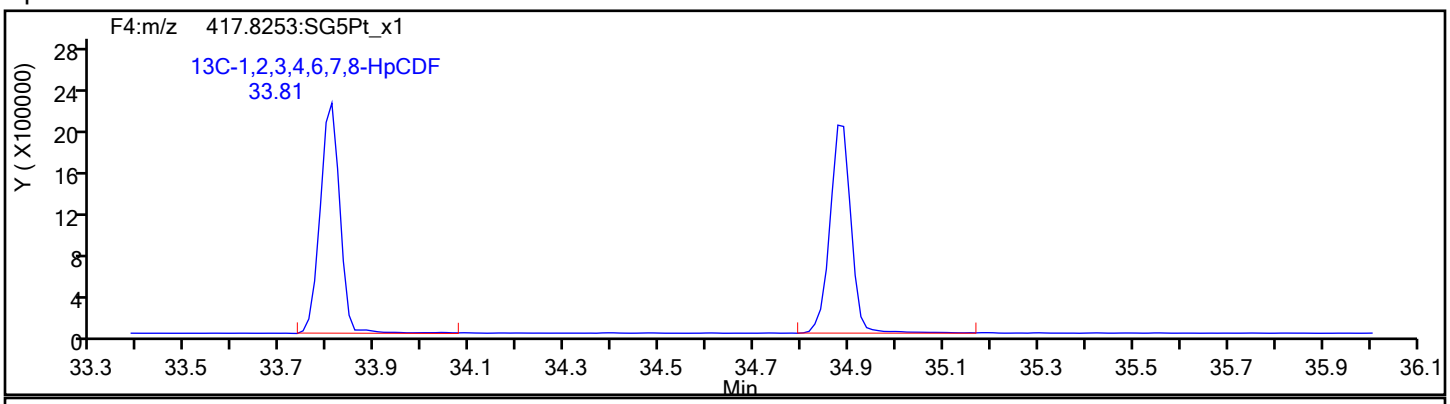

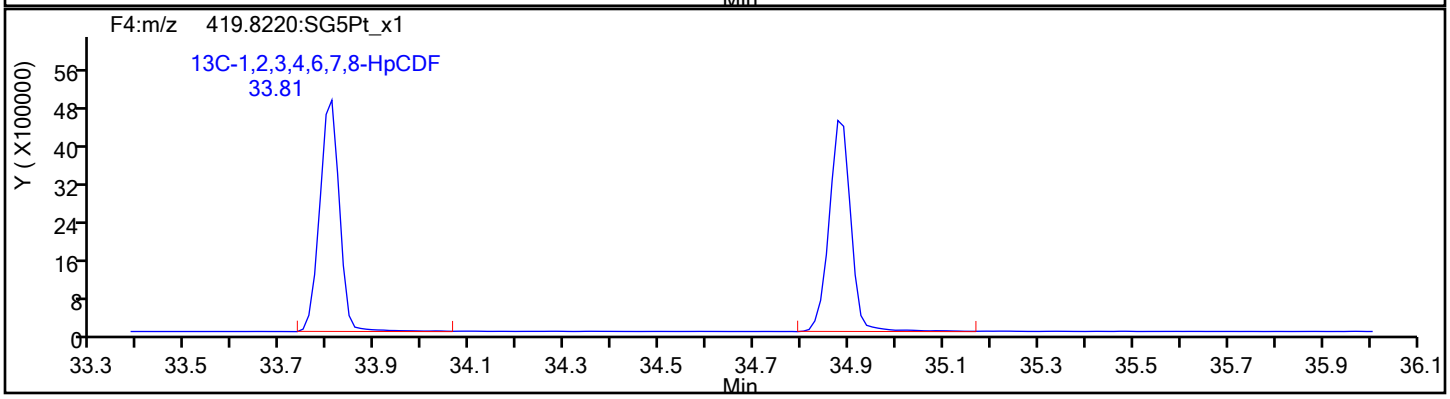

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Eurofins TestAmerica, Sacramento

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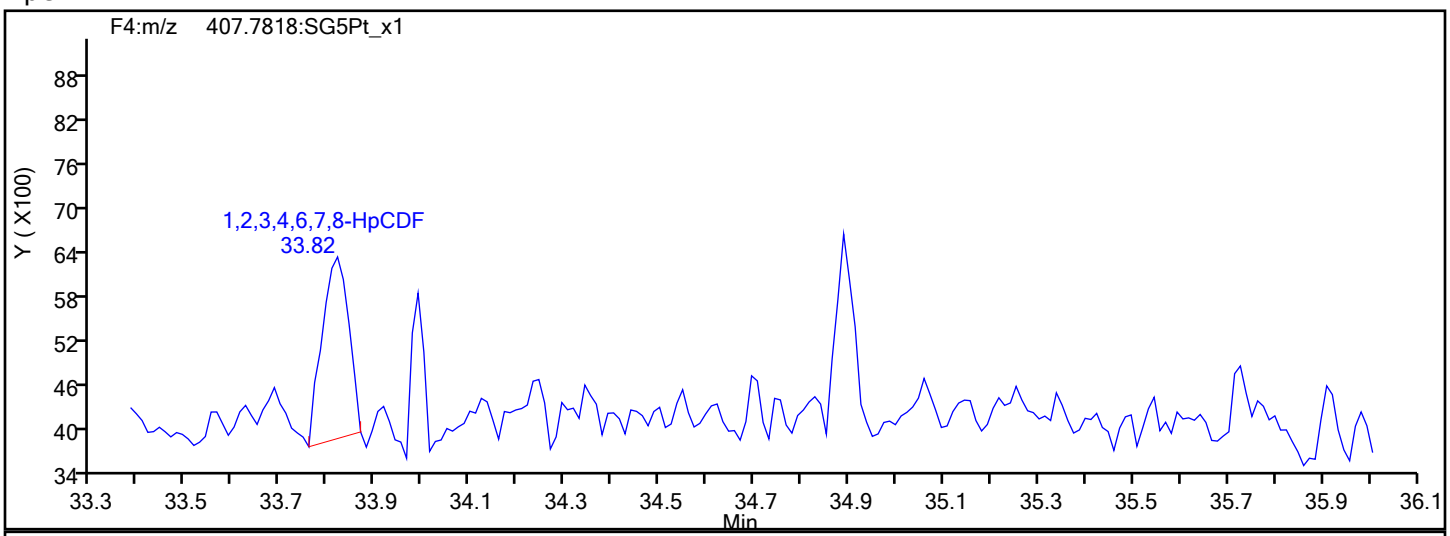

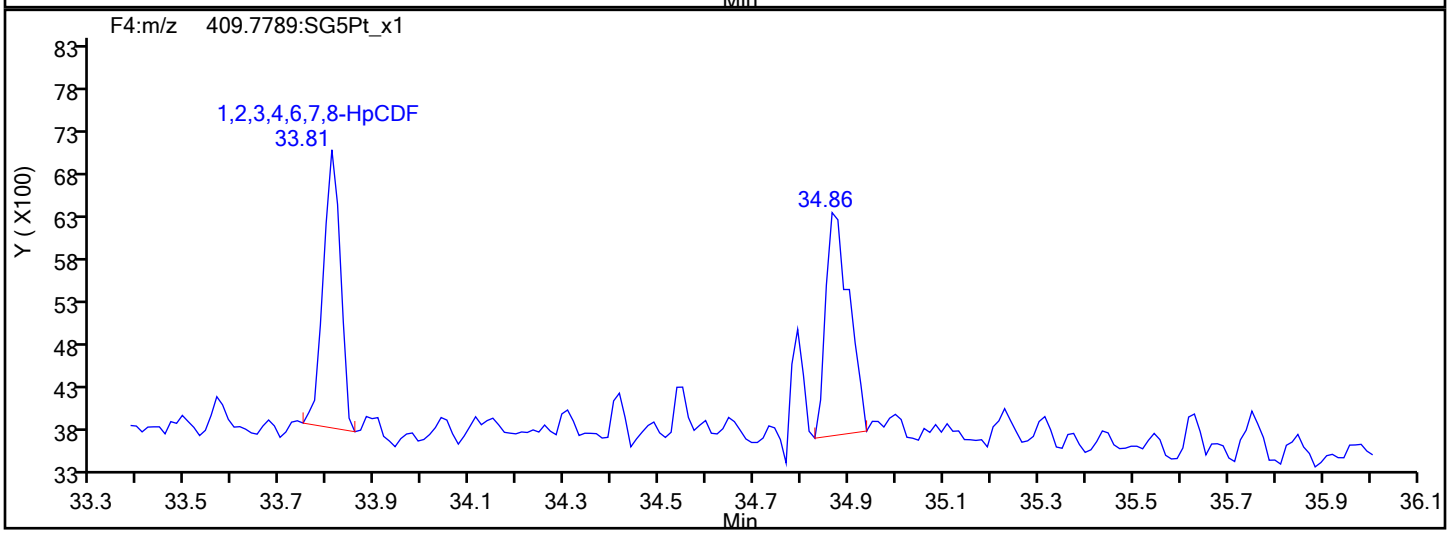

HpCDF Interference Mass

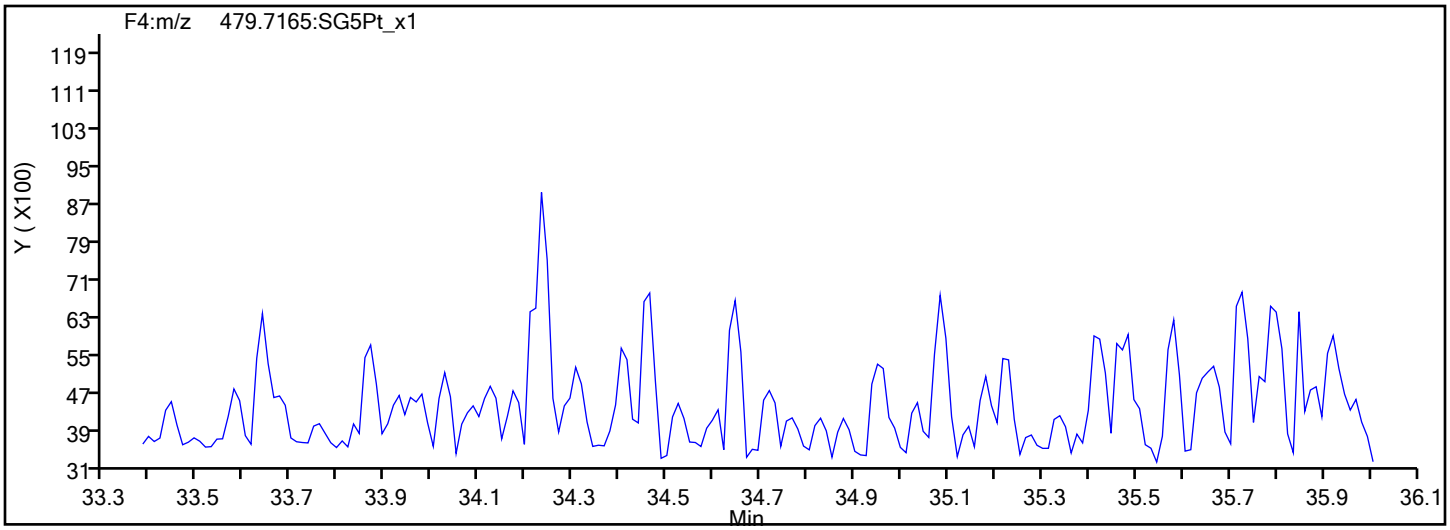

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Eurofins TestAmerica, Sacramento

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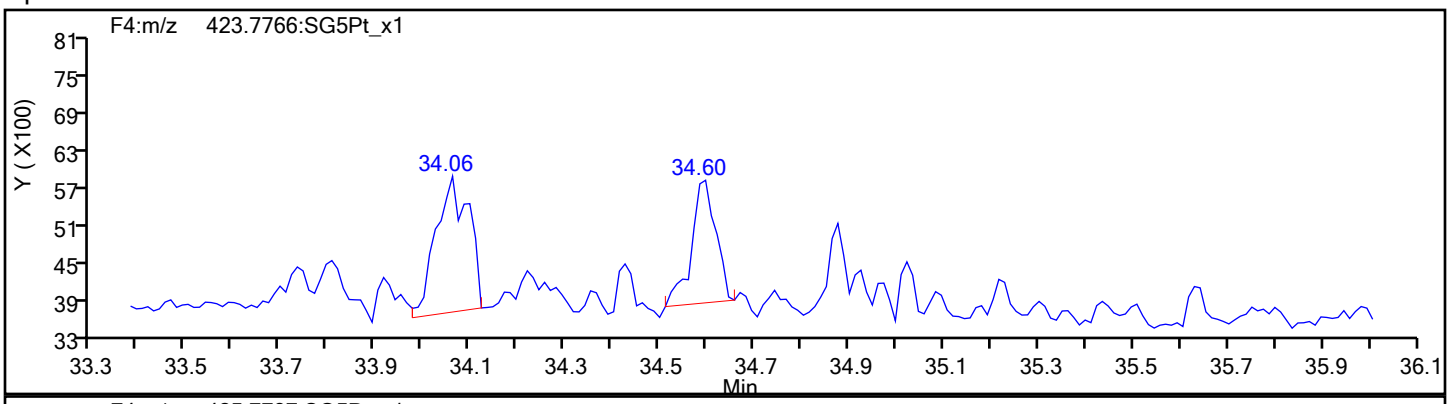

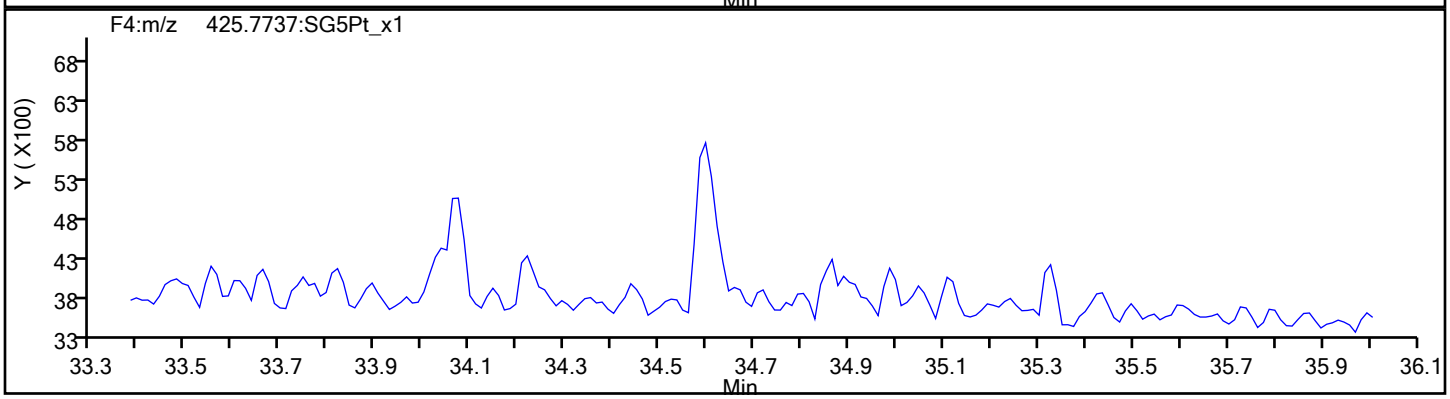

HpCDD Standards

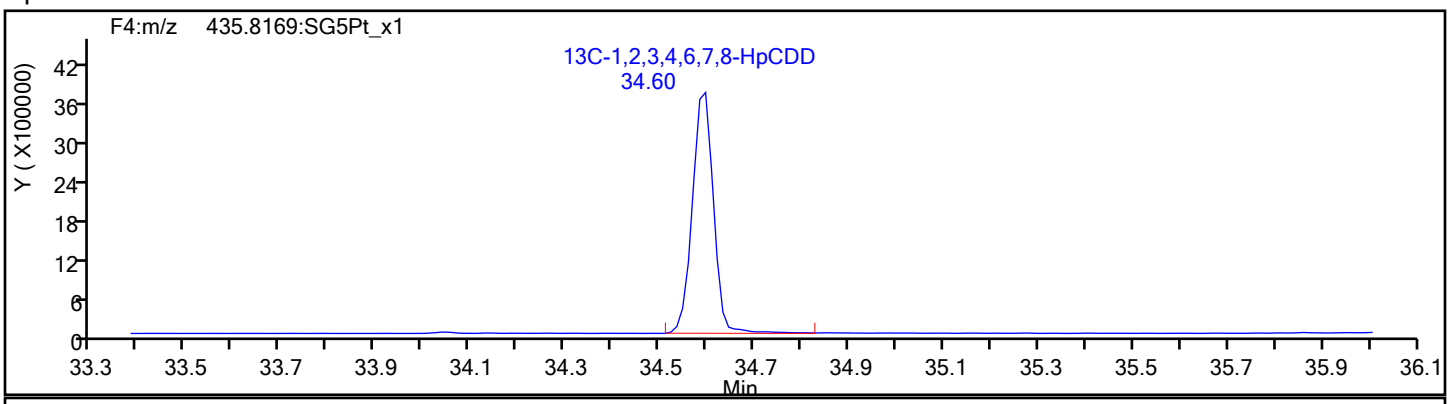

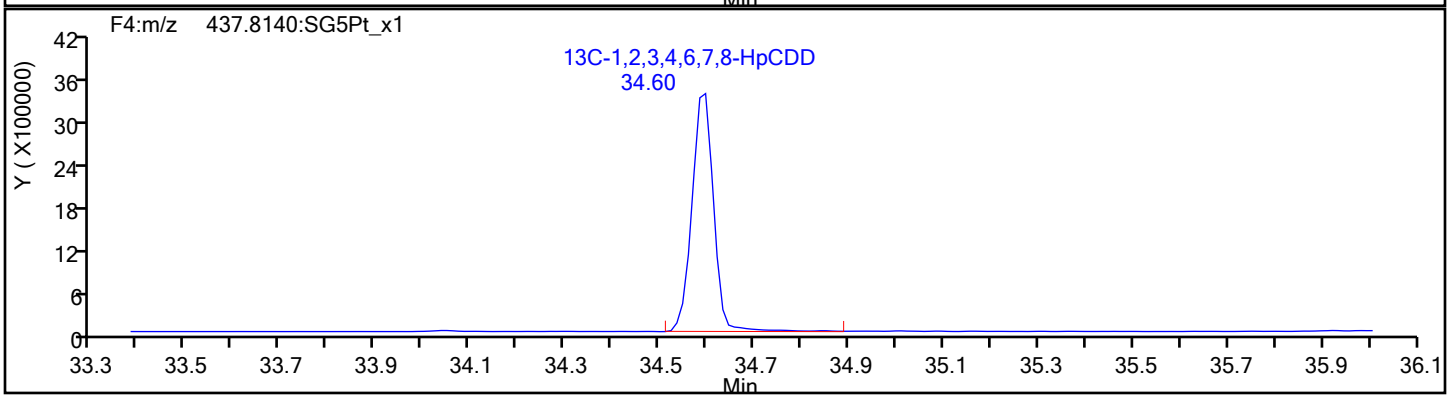

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Eurofins TestAmerica, Sacramento

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OCDF

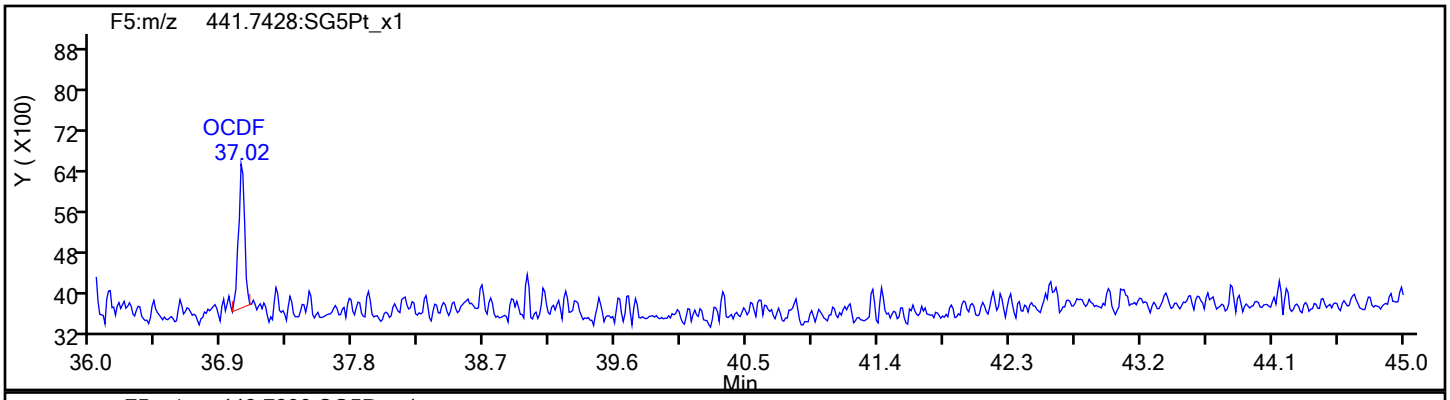

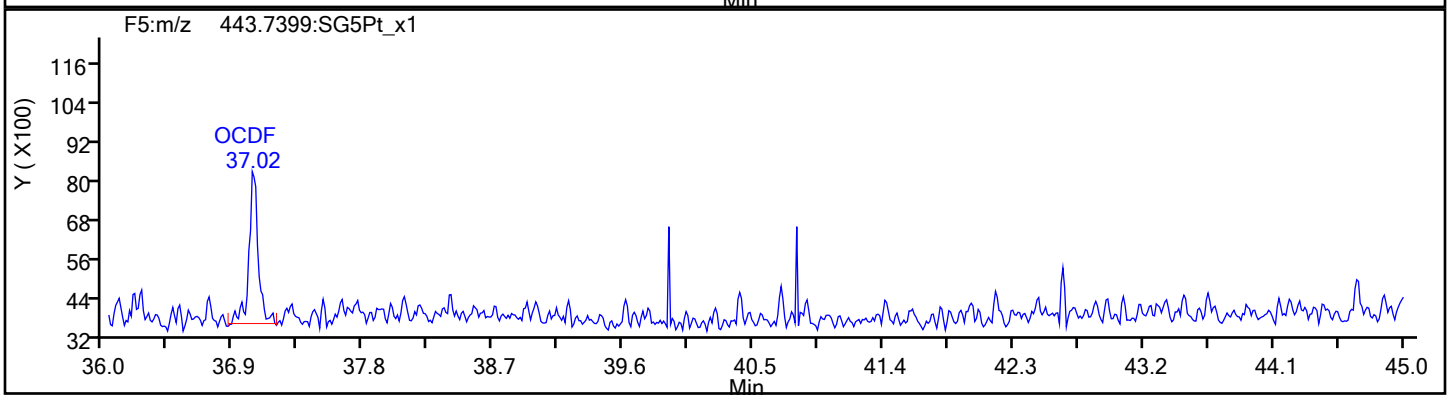

OCDF Standards

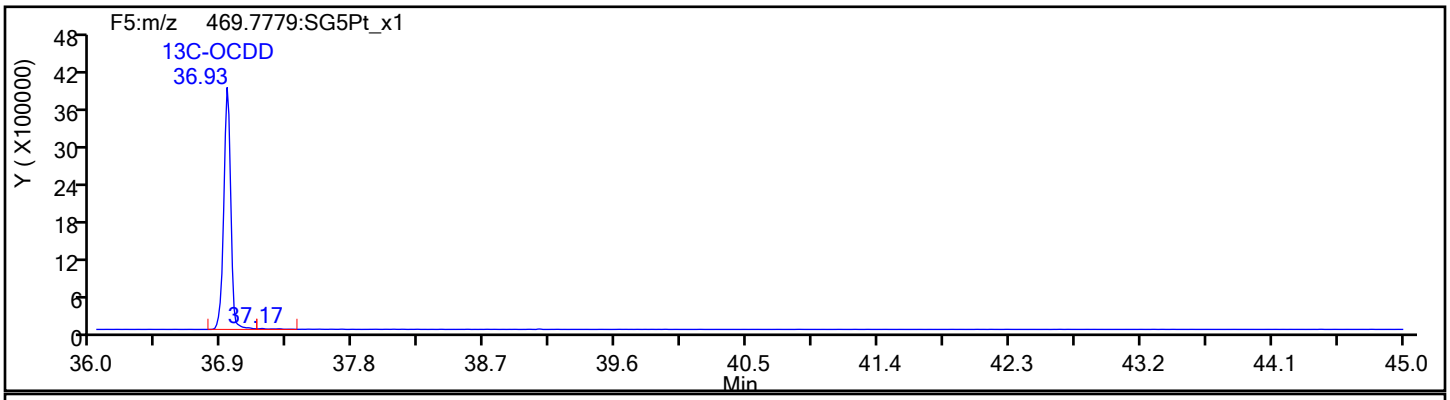

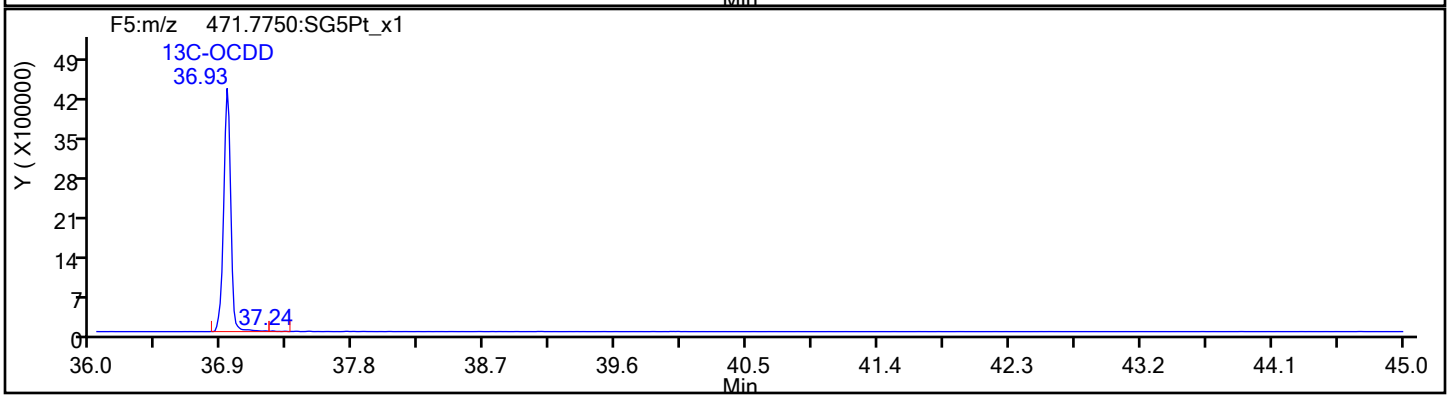

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Eurofins TestAmerica, Sacramento

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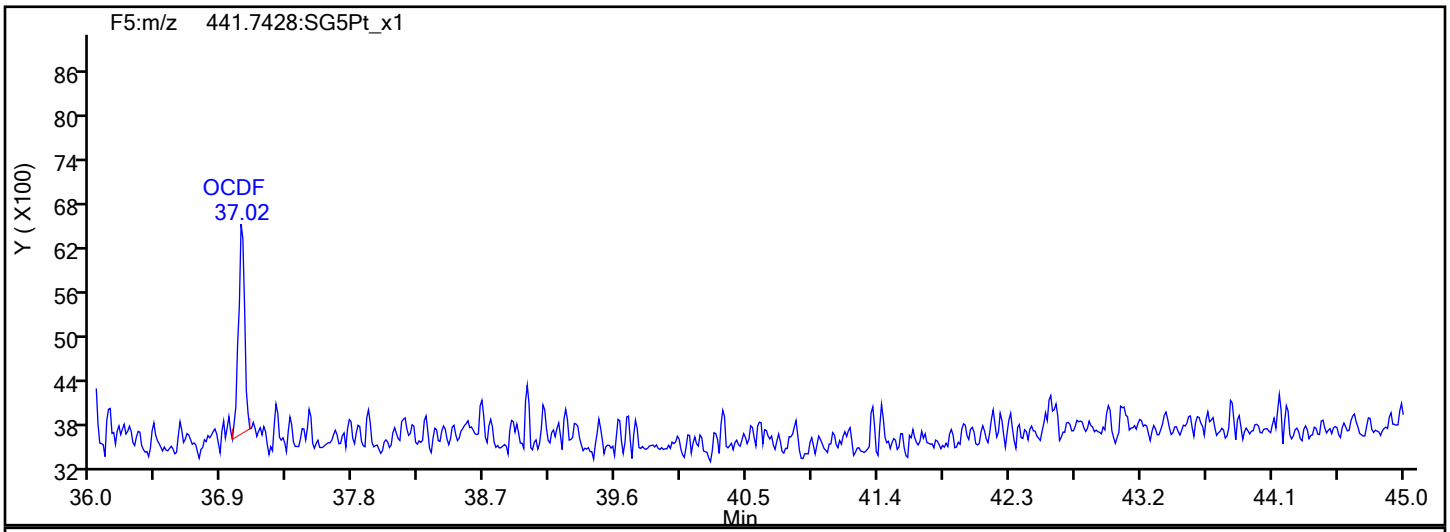

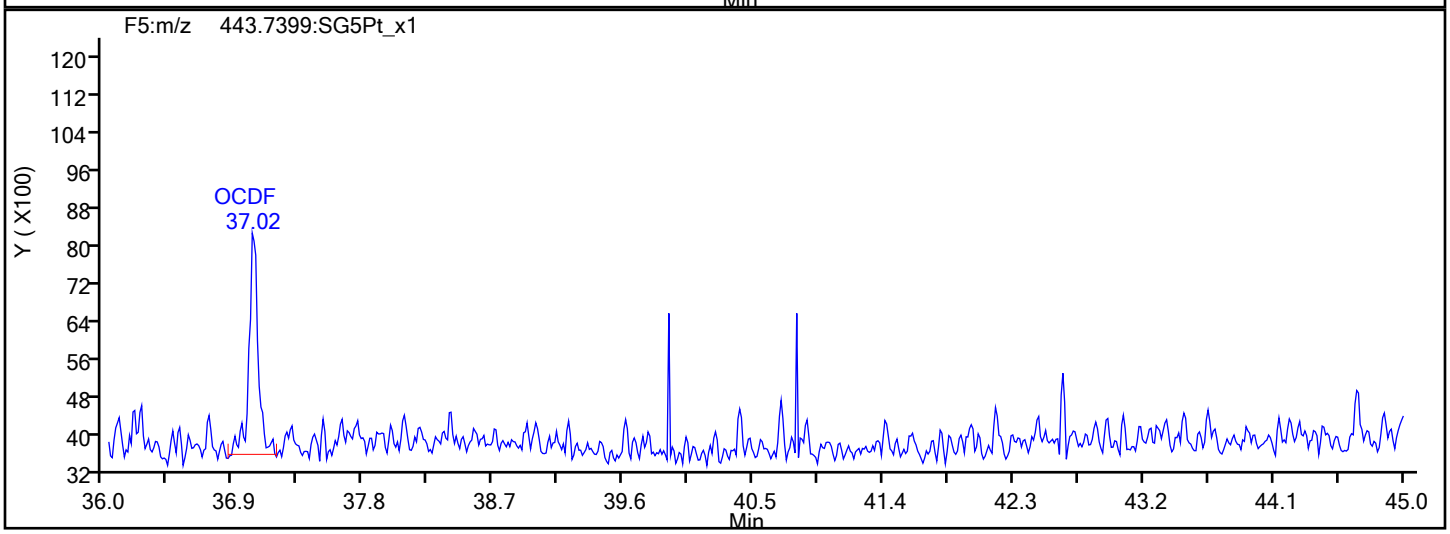

OCDF Interference Mass

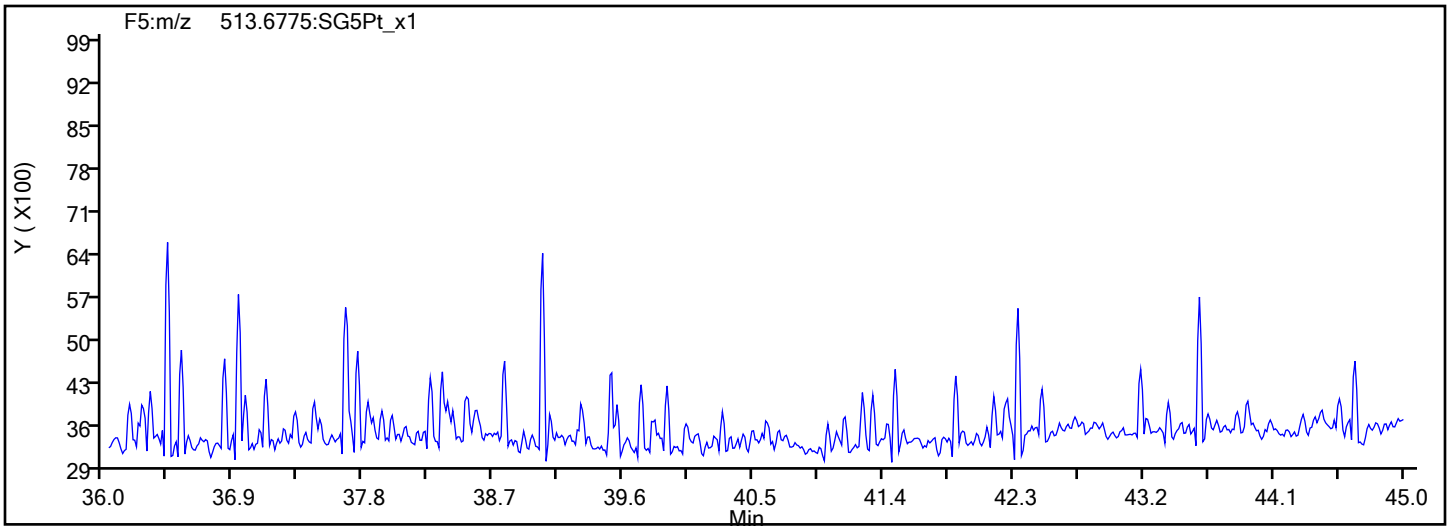

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Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

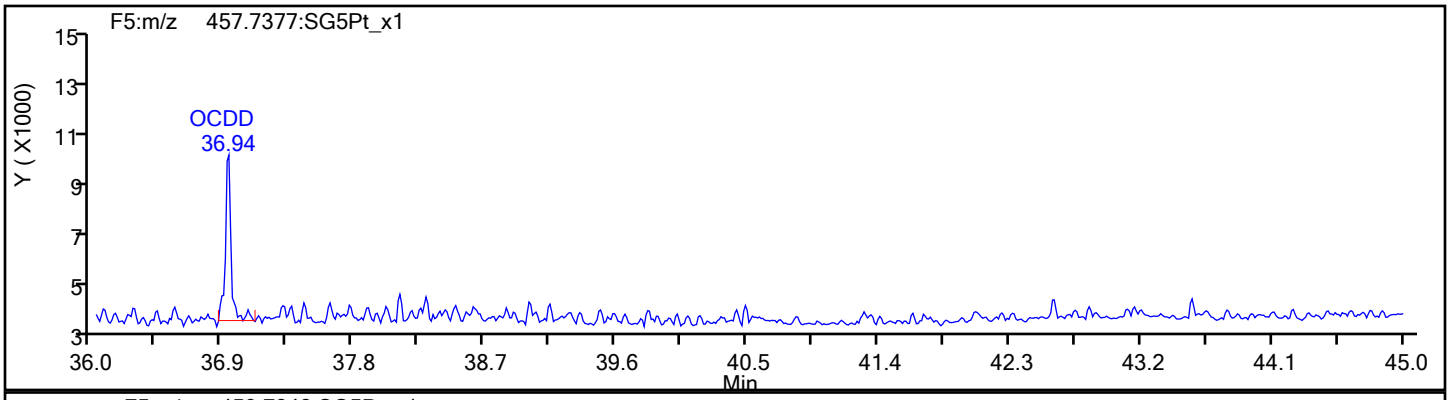

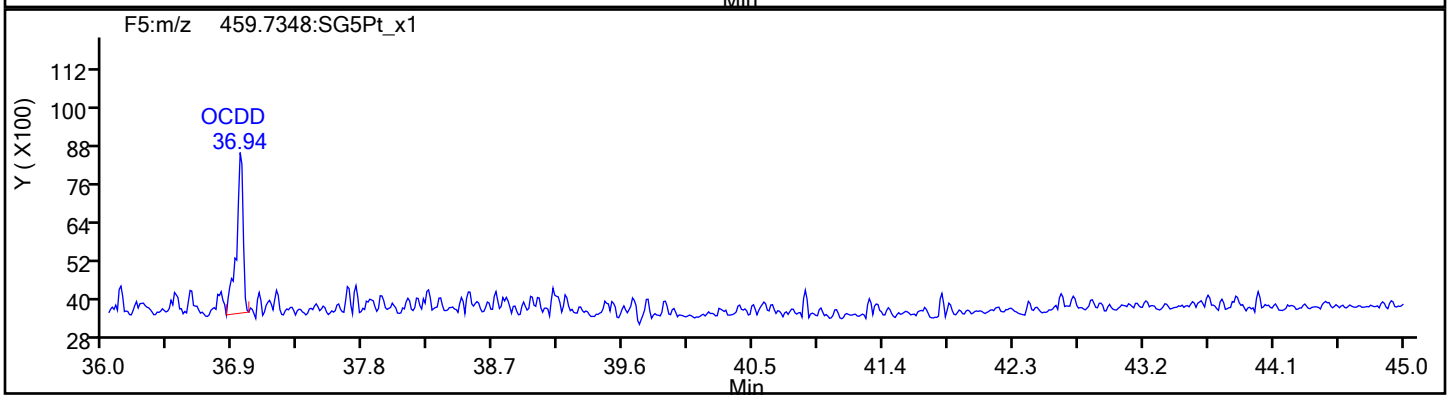

OCDD Standards

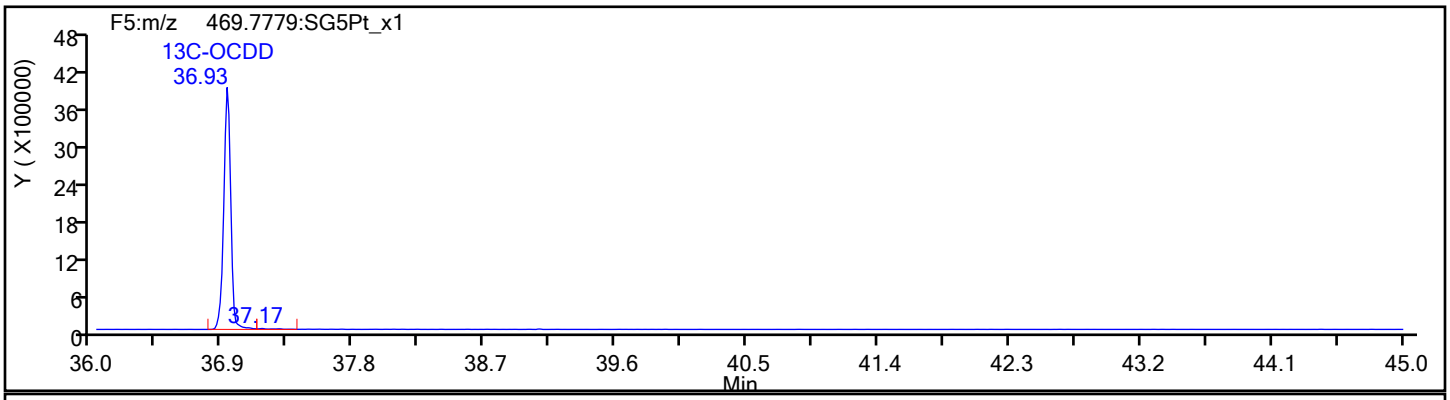

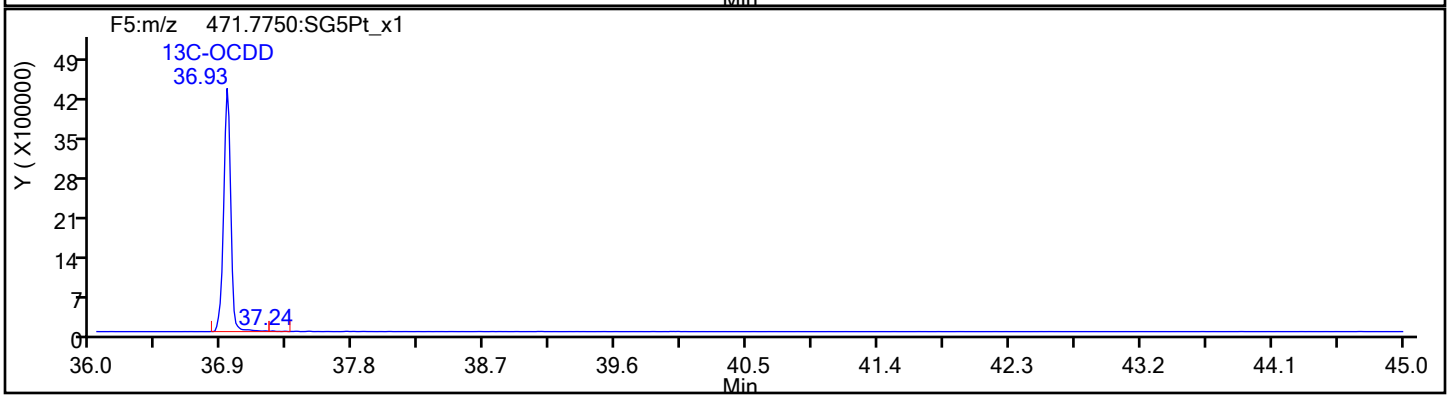

Report Date: 14-Oct-2019 14:57:17 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_21.d		
Injection Date:	11-Oct-2019 07:51:56	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-5		
Worklist#:	330148	Sample Line#:	21
Column Type:	DB-5	Column Dia:	0.32 mm

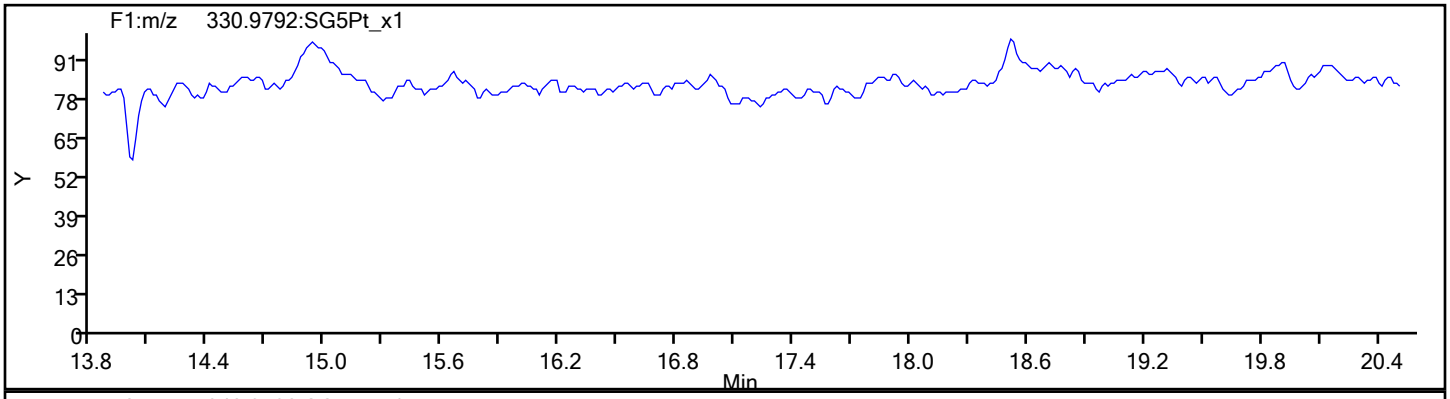

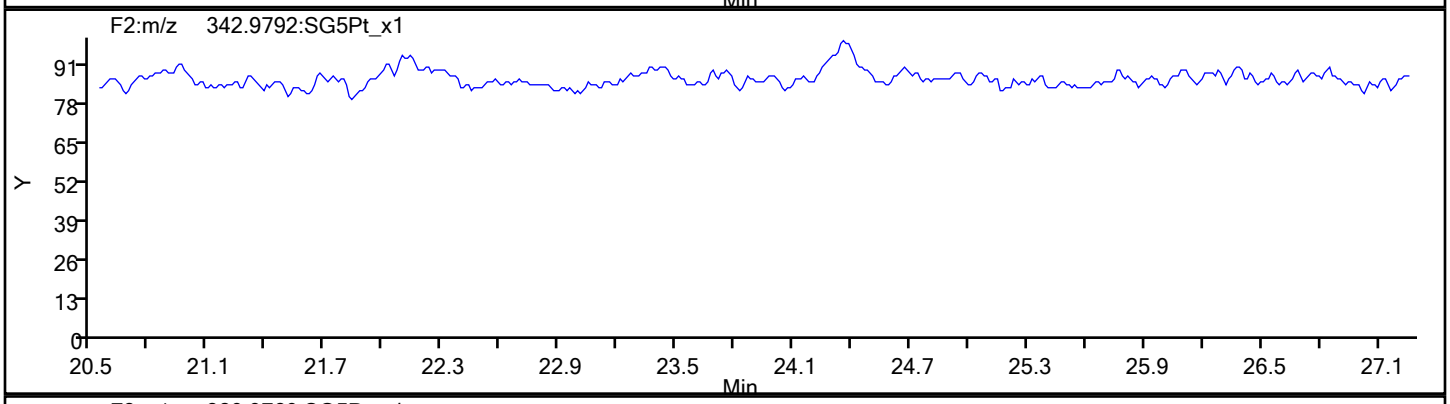

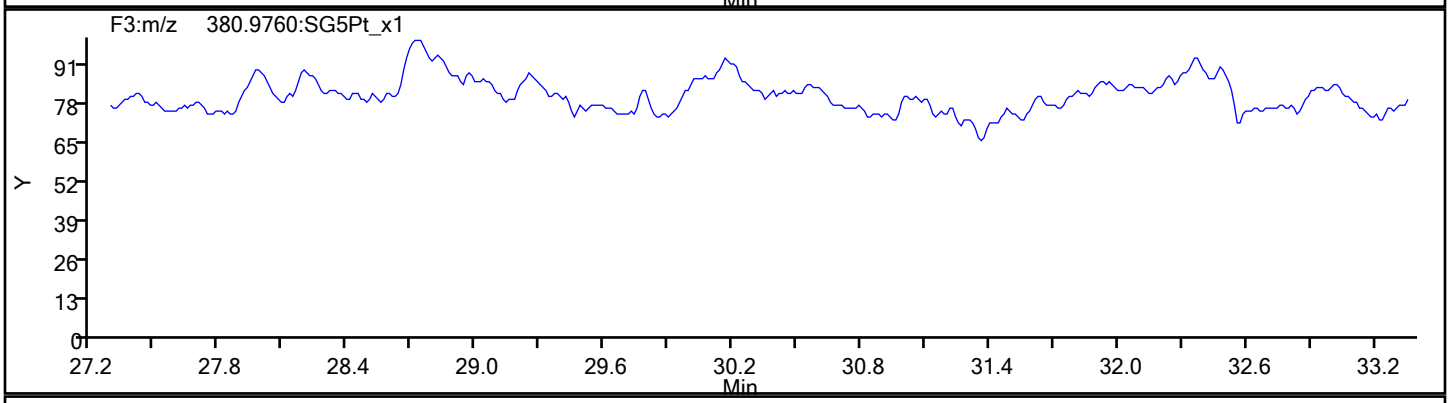

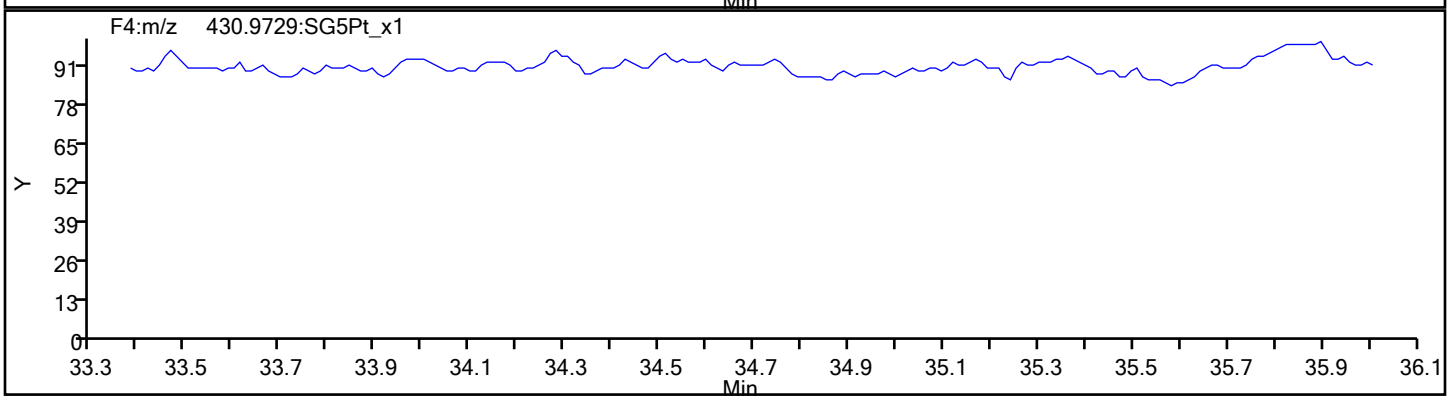

Report Date: 14-Oct-2019 14:57:17 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_21.d		
Injection Date:	11-Oct-2019 07:51:56	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-5		
Worklist#:	330148	Sample Line#:	21
Column Type:	DB-5	Column Dia:	0.32 mm

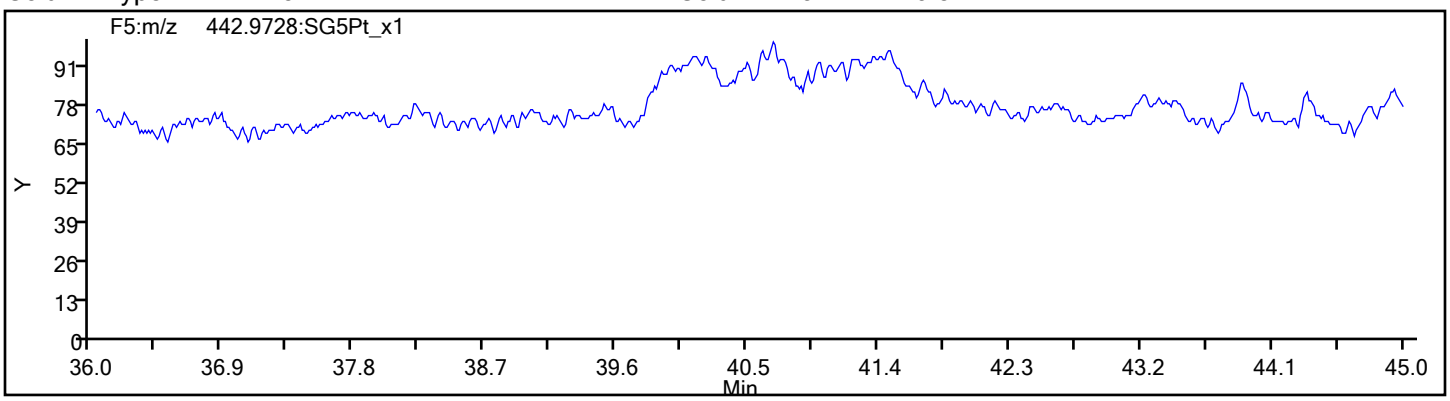

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Client Sample ID: 11187072-Filter Test-6 Lab Sample ID: 320-54852-6

Matrix: Water Lab File ID: 10OC1910D5_22.d

Analysis Method: 1613B Date Collected: 09/30/2019 08:00

Extract. Method: 1613B Date Extracted: 10/08/2019 14:19

Sample wt/vol: 1052.9(mL) Date Analyzed: 10/11/2019 08:37

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 330148 Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		9.5	0.65
51207-31-9	2,3,7,8-TCDF	0.93	J	9.5	0.42
40321-76-4	1,2,3,7,8-PeCDD	ND		47	1.2
57117-41-6	1,2,3,7,8-PeCDF	ND		47	0.64
57117-31-4	2,3,4,7,8-PeCDF	ND		47	0.66
39227-28-6	1,2,3,4,7,8-HxCDD	1.9	J q B	47	0.59
57653-85-7	1,2,3,6,7,8-HxCDD	1.3	J q B	47	0.58
19408-74-3	1,2,3,7,8,9-HxCDD	1.5	J B	47	0.52
70648-26-9	1,2,3,4,7,8-HxCDF	1.2	J B	47	0.60
57117-44-9	1,2,3,6,7,8-HxCDF	0.86	J q B	47	0.60
72918-21-9	1,2,3,7,8,9-HxCDF	1.1	J q B	47	0.47
60851-34-5	2,3,4,6,7,8-HxCDF	ND		47	0.47
35822-46-9	1,2,3,4,6,7,8-HpCDD	1.4	J B	47	0.42
67562-39-4	1,2,3,4,6,7,8-HpCDF	1.2	J q B	47	0.40
55673-89-7	1,2,3,4,7,8,9-HpCDF	ND		47	0.47
3268-87-9	OCDD	4.6	J B	95	0.82
39001-02-0	OCDF	1.8	J q B	95	0.66
41903-57-5	Total TCDD	ND		9.5	0.65
30402-14-3	Total TCDF	0.93	J	9.5	0.42
36088-22-9	Total PeCDD	ND		47	1.2
30402-15-4	Total PeCDF	ND		47	0.66
34465-46-8	Total HxCDD	4.6	J q B	47	0.56
55684-94-1	Total HxCDF	3.2	J q B	47	0.54
37871-00-4	Total HpCDD	2.3	J q B	47	0.42
38998-75-3	Total HpCDF	1.2	J q B	47	0.44

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Client Sample ID: 11187072-Filter Test-6 Lab Sample ID: 320-54852-6

Matrix: Water Lab File ID: 10OC1910D5_22.d

Analysis Method: 1613B Date Collected: 09/30/2019 08:00

Extract. Method: 1613B Date Extracted: 10/08/2019 14:19

Sample wt/vol: 1052.9(mL) Date Analyzed: 10/11/2019 08:37

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 330148 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	52		25-164
89059-46-1	13C-2,3,7,8-TCDF	48		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	50		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	50		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	54		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	55		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	50		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	58		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	52		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	54		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	56		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	54		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	51		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	55		26-138
114423-97-1	13C-OCDD	42		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	91		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_22.d
Lims ID: 320-54852-A-6-A
Client ID: 11187072-Filter Test-6
Sample Type: Client
Inject. Date: 11-Oct-2019 08:37:55 ALS Bottle#: 20 Worklist Smp#: 22
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-54852-A-6-A 320-54852-A-6-A
Misc. Info.: 10OC1910D5
Operator ID: SMA Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Oct-2019 15:00:11 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0335

First Level Reviewer: dadunj Date: 14-Oct-2019 15:00:11

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.971	61876075	0.81	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.442	42791613	0.80	1.4384	48.1	48.1	0.1072	0.1072	48.08	
2,3,7,8-TCDF	17.457	22033	0.75	1.0507	0.0490	0.0490	0.0219	0.0219		M
A Non-2,3,7,8-sub-TCDF	17.162						0.0219	0.0219		
S Total TCDF					0.0490	0.0490	0.0219	0.0219		
D 13C-2,3,7,8-TCDD	18.153	30817191	0.77	0.9533	52.2	52.2	0.0983	0.0983	52.24	
$ 37Cl4-2,3,7,8-TCDD	18.167	27444406		1.2224	36.3	36.3	0.0266	0.0266	90.71	
2,3,7,8-TCDD	18.213						0.0340	0.0340		
A Non-2,3,7,8-sub-TCDD	17.616						0.0340	0.0340		
S Total TCDD							0.0340	0.0340		
D 13C-1,2,3,7,8-PeCDF	22.516	32030568	1.56	1.0286	50.3	50.3	0.0989	0.0989	50.33	
1,2,3,7,8-PeCDF	22.556						0.0335	0.0335		
D 13C-2,3,4,7,8-PeCDF	23.866	33082361	1.55	0.9827	54.4	54.4	0.1035	0.1035	54.41	
2,3,4,7,8-PeCDF	23.947						0.0345	0.0345		
A F1 PeCDFs	20.035						0.0321	0.0321		
A Non-2,3,7,8-sub-PeCDF	23.226						0.0340	0.0340		
S Total PeCDF							0.0345	0.0345		
D 13C-1,2,3,7,8-PeCDD	24.588	23163084	1.65	0.7481	50.0	50.0	0.0687	0.0687	50.04	
1,2,3,7,8-PeCDD	24.670						0.0654	0.0654		
A Non-2,3,7,8-sub-PeCDD	23.531						0.0654	0.0654		
S Total PeCDD							0.0654	0.0654		
D 13C-1,2,3,4,7,8-HxCDF	30.642	31314641	0.52	1.1520	58.0	58.0	0.1260	0.1260	57.96	
1,2,3,4,7,8-HxCDF	30.629	23445	1.42	1.1973	0.0625	0.0625	0.0316	0.0316		M
D 13C-1,2,3,6,7,8-HxCDF	30.815	30412840	0.52	1.2434	52.2	52.2	0.1167	0.1167	52.15	
1,2,3,6,7,8-HxCDF	30.815	16243	1.24	1.1807	0.0555	0.0452	0.0317	0.0317		RQMa
D 13C-2,3,4,6,7,8-HxCDF	31.614	30834459	0.53	1.1720	56.1	56.1	0.1238	0.1238	56.10	
2,3,4,6,7,8-HxCDF	31.640						0.0247	0.0247		
D 13C-1,2,3,7,8,9-HxCDF	32.399	27176932	0.52	1.0655	54.4	54.4	0.1362	0.1362	54.39	
1,2,3,7,8,9-HxCDF	32.399	20278	1.24	1.2451	0.0790	0.0599	0.0248	0.0248		RQM
A Non-2,3,7,8-sub-HxCDF	30.363						0.0278	0.0278		
S Total HxCDF					0.1970	0.1677	0.0282	0.0282		RQ

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	32.213	46897907	1.22	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.800	20072306	1.25	0.7812	54.8	54.8	0.1240	0.1240	54.79	
1,2,3,4,7,8-HxCDD	31.813	22111	1.24	1.1088	0.1239	0.0993	0.0309	0.0309		RQM
D 13C-1,2,3,6,7,8-HxCDD	31.893	21375887	1.21	0.9175	49.7	49.7	0.1056	0.1056	49.68	
1,2,3,6,7,8-HxCDD	31.920	15377	1.24	1.0814	0.0797	0.0665	0.0303	0.0303		RQMa
1,2,3,7,8,9-HxCDD	32.226	19309	1.41	1.2123	0.0769	0.0769	0.0276	0.0276		M
A Non-2,3,7,8-sub-HxCDD	30.995						0.0295	0.0295		
S Total HxCDD					0.2804	0.2427	0.0296	0.0296		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	33.795	20660237	0.44	0.8628	51.1	51.1	0.2137	0.2137	51.06	
1,2,3,4,6,7,8-HpCDF	33.819	20681	1.04	1.5555	0.0766	0.0644	0.0211	0.0211		RQM
D 13C-1,2,3,4,7,8,9-HpCDF	34.876	20574971	0.44	0.7991	54.9	54.9	0.2307	0.2307	54.90	
1,2,3,4,7,8,9-HpCDF	34.901						0.0249	0.0249		
A Non-2,3,7,8-sub-HpCDF	34.360						0.0229	0.0229		
S Total HpCDF					0.0766	0.0644	0.0230	0.0230		RQ
D 13C-1,2,3,4,6,7,8-HpCDD	34.585	22019101	1.04	0.8739	53.7	53.7	0.1857	0.1857	53.73	
1,2,3,4,6,7,8-HpCDD	34.609	14622	0.92	0.9316	0.0713	0.0713	0.0221	0.0221		M
A Non-2,3,7,8-sub-HpCDD	35.190	9740	1.04	0.9316	0.0600	0.0475	0.0221	0.0475		RQMa
S Total HpCDD					0.1313	0.1188	0.0221	0.0221		RQ
D 13C-OCDD	36.929	30176283	0.91	0.7744	83.1	83.1	0.0627	0.0627	41.55	
OCDF	37.037	17993	0.89	1.2596	0.1128	0.0947	0.0350	0.0350		RQ
OCDD	36.941	38808	0.78	1.0621	0.2422	0.2422	0.0431	0.0431		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_22.d
Lims ID: 320-54852-A-6-A
Client ID: 11187072-Filter Test-6
Sample Type: Client
Inject. Date: 11-Oct-2019 08:37:55 ALS Bottle#: 20 Worklist Smp#: 22
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-54852-A-6-A 320-54852-A-6-A
Misc. Info.: 10OC1910D5
Operator ID: SMA Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Oct-2019 15:00:11 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0335

First Level Reviewer: dadunj Date: 14-Oct-2019 15:00:11

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.971	17.986	-1		27641178	6811107	3537	8842	1926		
333.9339	17.956	17.986	-2		34234897	8492868	2198	5495	3864	0.81(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.442	17.472	-2	0.971	19066726	4919441	5409	13522	909		
317.9389	17.442	17.472	-2	0.971	23724887	6133033	4032	10080	1521	0.80(0.65-0.89)	
2,3,7,8-TCDF											M
303.9016	17.457	17.487	-2	1.001	9448	1898	410	1025	5		M
305.8987	17.472	17.487	-1	1.002	12585	4397	608	1520	7	0.75(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.162						410	1025			
305.8987	17.162						608	1520			
13C-2,3,7,8-TCDD											
331.9368	18.153	18.183	-2	1.010	13383265	3341676	3537	8842	945		
333.9339	18.153	18.183	-2	1.010	17433926	4327654	2198	5495	1969	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.167	18.198	-2	1.011	27444406	6582861	1991	4977	3306		
2,3,7,8-TCDD											
319.8965	18.213						747	1867			
321.8936	18.213						408	1020			
A Non-2,3,7,8-sub-TCDD											
319.8965	17.616						747	1867			
321.8936	17.616						408	1020			
13C-1,2,3,7,8-PeCDF											
351.9000	22.516	22.556	-2	1.253	19497044	3601677	3708	9270	971		
353.8970	22.516	22.556	-2	1.253	12533524	2312888	2520	6300	918	1.56(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	22.570						367	917			
341.8567	22.570						490	1225			
13C-2,3,4,7,8-PeCDF											
351.9000	23.866	23.920	-3	1.328	20121372	3450867	3708	9270	931		
353.8970	23.866	23.920	-3	1.328	12960989	2177770	2520	6300	864	1.55(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.947						367	917			
341.8567	23.947						490	1225			
A F1 PeCDFs											
339.8597	20.035						288	720			
341.8567	20.035						522	1305			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.226						367	917			
341.8567	23.226						490	1225			
13C-1,2,3,7,8-PeCDD											
367.8949	24.588	24.643	-3	1.368	14408896	2311783	1791	4477	1291		
369.8919	24.602	24.643	-2	1.369	8754188	1484589	1357	3392	1094	1.65(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.670						433	1082			
357.8516	24.670						466	1165			
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.531						433	1082			
357.8516	23.531						466	1165			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.642	30.682	-2	0.951	10724582	2089402	2844	7110	735		
385.8610	30.642	30.682	-2	0.951	20590059	4080487	4954	12385	824	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											M
373.8208	30.629	30.695	-4	1.000	13774	2798	476	1190	6		M
375.8178	30.655	30.695	-2	1.000	9671	2137	457	1142	5	1.42(1.05-1.43)	M
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.815	30.855	-2	0.957	10400712	2124957	2844	7110	747		
385.8610	30.815	30.855	-2	0.957	20012128	4100862	4954	12385	828	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											RQMa
373.8208	30.815	30.868	-3	1.000	8992	1818	476	1190	4		M
375.8178	30.829	30.868	-2	1.000	10954	1833	457	1142	4	0.82(1.05-1.43)	
	Empc Correction				7251	1466	457	1142	3		
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.614	31.640	-2	0.981	10617782	2649988	2844	7110	932		
385.8610	31.614	31.640	-2	0.981	20216677	5149344	4954	12385	1039	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.653						476	1190			
375.8178	31.653						457	1142			
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.399	32.412	-1	1.006	9282117	2584749	2844	7110	909		
385.8610	32.399	32.412	-1	1.006	17894815	4962073	4954	12385	1002	0.52(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											RQM
373.8208	32.399	32.426	-2	1.000	17668	4876	476	1190	10		M
	Empc Correction				11225	4017	476	1190	8		
375.8178	32.412	32.426	-1	1.000	9053	3240	457	1142	7	1.95(1.05-1.43)	M
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.363						476	1190			
375.8178	30.363						457	1142			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.213	32.239	-2		25820178	7372539	2942	7355	2506		
403.8529	32.213	32.239	-2		21077729	6060490	2264	5660	2677	1.22(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.800	31.813	-1	0.987	11146741	2981888	2942	7355	1014		
403.8529	31.800	31.813	-1	0.987	8925565	2377640	2264	5660	1050	1.25(1.05-1.43)	
1,2,3,4,7,8-HxCDD											RQM
389.8157	31.813	31.826	-1	1.000	17696	3960	366	915	11		M
	Empc Correction				12240	2546	366	915	7		
391.8127	31.813	31.826	-1	1.000	9871	2054	368	920	6	1.79(1.05-1.43)	M
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.893	31.920	-2	0.990	11700134	3058473	2942	7355	1040		
403.8529	31.893	31.920	-2	0.990	9675753	2537164	2264	5660	1121	1.21(1.05-1.43)	
1,2,3,6,7,8-HxCDD											RQMa
389.8157	31.920	31.933	-1	1.001	11561	2202	366	915	6		M
	Empc Correction				8512	2013	366	915	6		
391.8127	31.893	31.933	-2	1.000	6865	1624	368	920	4	1.68(1.05-1.43)	
1,2,3,7,8,9-HxCDD											M
389.8157	32.226	32.252	-2	1.013	11296	2965	366	915	8		
391.8127	32.226	32.252	-2	1.013	8013	1632	368	920	4	1.41(1.05-1.43)	M
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.995						366	915			
391.8127	30.995						368	920			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.795	33.819	-1	1.049	6329540	2031974	4269	10672	476		
419.8220	33.795	33.819	-1	1.049	14330697	4576043	5637	14092	812	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											RQM
407.7818	33.819	33.819	0	1.001	14486	4795	513	1282	9		
	Empc Correction				10543	4416	513	1282	9		
409.7789	33.807	33.819	-1	1.000	10138	4247	354	885	12	1.43(0.88-1.20)	M
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.876	34.889	-1	1.083	6248526	1932493	4269	10672	453		
419.8220	34.876	34.889	-1	1.083	14326445	4349819	5637	14092	772	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.901						513	1282			
409.7789	34.901						354	885			
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.360						513	1282			
409.7789	34.360						354	885			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.585	34.609	-1	1.074	11214903	3430365	4728	11820	726		
437.8140	34.585	34.609	-1	1.074	10804198	3382847	3990	9975	848	1.04(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											M
423.7766	34.609	34.609	0	1.001	7005	2344	327	817	7		M
425.7737	34.609	34.609	0	1.001	7617	3378	234	585	14	0.92(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											RQMa
423.7766	34.050	35.190	-68	0.985	7532	2124	327	817	6		M
	Empc Correction				4965	1730	327	817	5		
425.7737	34.038	35.190	-69	0.984	4775	1664	234	585	7	1.58(0.88-1.20)	M
13C-OCDD											
469.7779	36.929	36.941	-1	1.146	14355962	3903033	1465	3662	2664		
471.7750	36.929	36.941	-1	1.146	15820321	4317610	1146	2865	3768	0.91(0.76-1.02)	
OCDF											RQ
441.7428	37.037	37.049	-1	1.003	8473	2992	284	710	11		
443.7399	37.025	37.049	-1	1.003	12971	3067	441	1102	7	0.65(0.76-1.02)	
	Empc Correction				9520	3361	441	1102	8		
OCDD											
457.7377	36.941	36.953	-1	1.000	17025	4724	376	940	13		
459.7348	36.929	36.953	-1	1.000	21783	6129	377	942	16	0.78(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_22.d
Lims ID: 320-54852-A-6-A
Client ID: 11187072-Filter Test-6
Inject. Date: 11-Oct-2019 08:37:55 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: SMA
Lims Batch ID: 330148 Lims Sample ID: 22

Non-2,3,7,8-sub-HpCDD, RT: 35.190

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.932	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	22019101	6813212

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.932		100.000	22019101	6813212

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.050	7532	2124	4775	1664	0.0600	1.58	RQM
34.050	4965	1730	4775	1664	0.0475		Empc Correction
Signal Totals:							
	4965	1730	4775	1664			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	12307	3788				1.58	RQM
	9740	3394					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0600 = (12307 * 100.000) / (22019101 * 0.932)
Empc Amount: 0.0475 = (9740 * 100.000) / (22019101 * 0.932)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_22.d				
Injection Date:	11-Oct-2019 08:37:55	Instrument ID:	10D5		
Lims ID:	320-54852-A-6-A	Lab Sample ID:	320-54852-6		
Client ID:	11187072-Filter Test-6				
Operator ID:	SMA	ALS Bottle#:	20	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDF, CAS: 51207-31-9

Signal: 1

Processing Integration Results

RT: 17.46
Area: 8803
Amount: 0.047569
Amount Units: pg/ul

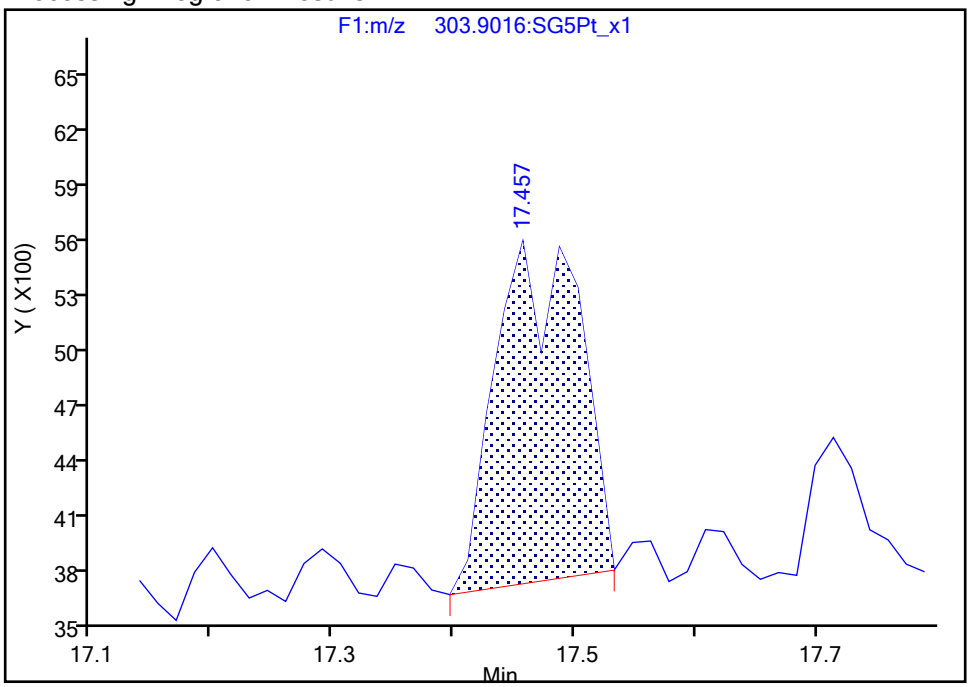

Manual Integration Results

RT: 17.46
Area: 9448
Amount: 0.049003
Amount Units: pg/ul

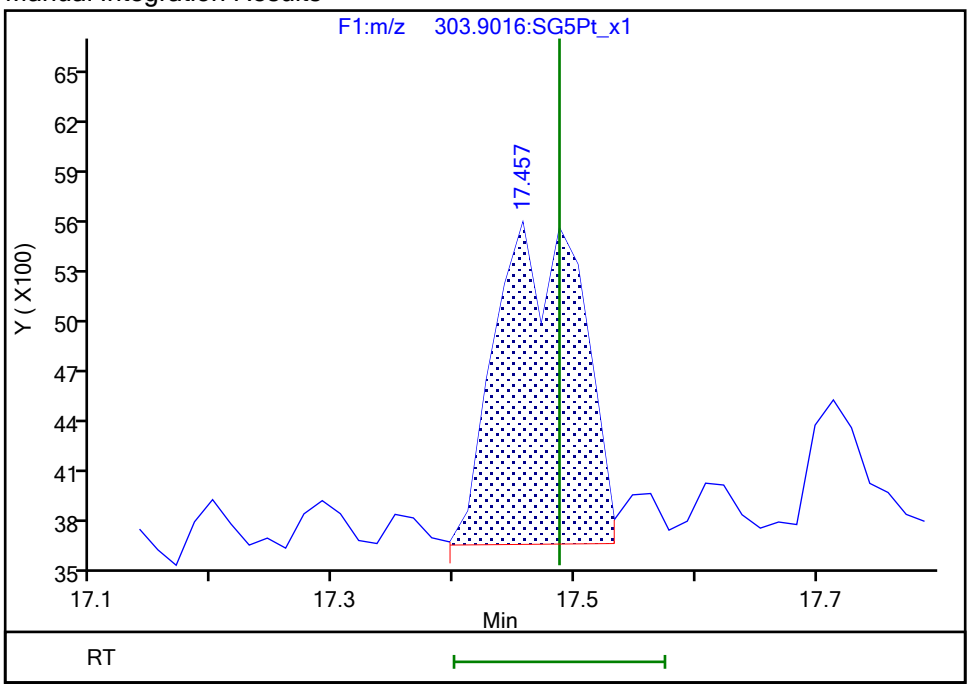

Reviewer: dadunj, 14-Oct-2019 14:57:37

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_22.d				
Injection Date:	11-Oct-2019 08:37:55	Instrument ID:	10D5		
Lims ID:	320-54852-A-6-A	Lab Sample ID:	320-54852-6		
Client ID:	11187072-Filter Test-6				
Operator ID:	SMA	ALS Bottle#:	20	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDF, CAS: 70648-26-9

Signal: 1

Processing Integration Results

RT: 30.63
Area: 22766
Amount: 0.115727
Amount Units: pg/ul

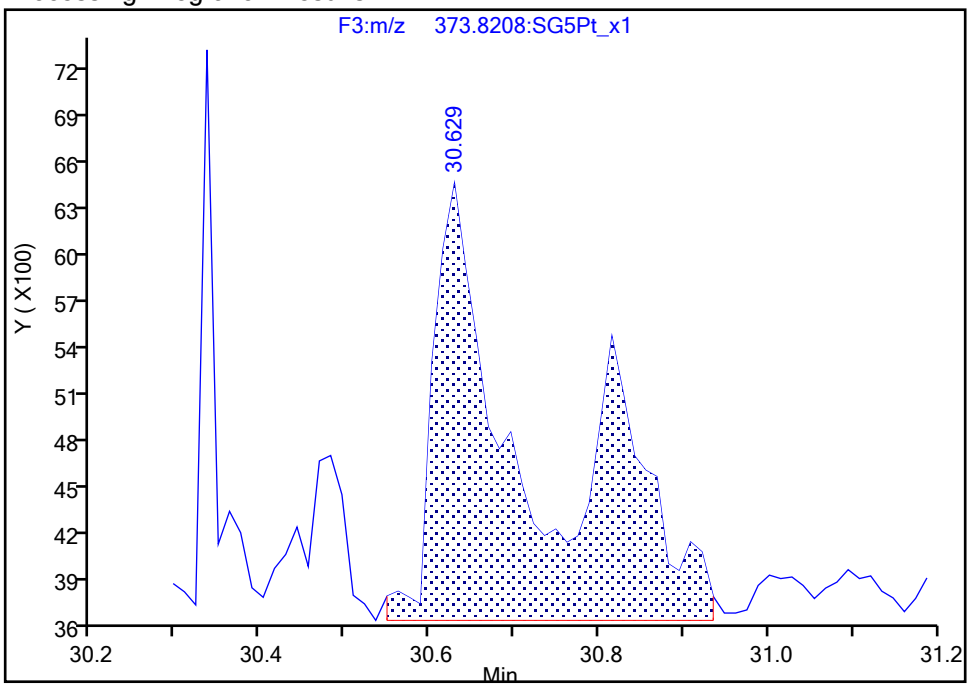

Manual Integration Results

RT: 30.63
Area: 13774
Amount: 0.062530
Amount Units: pg/ul

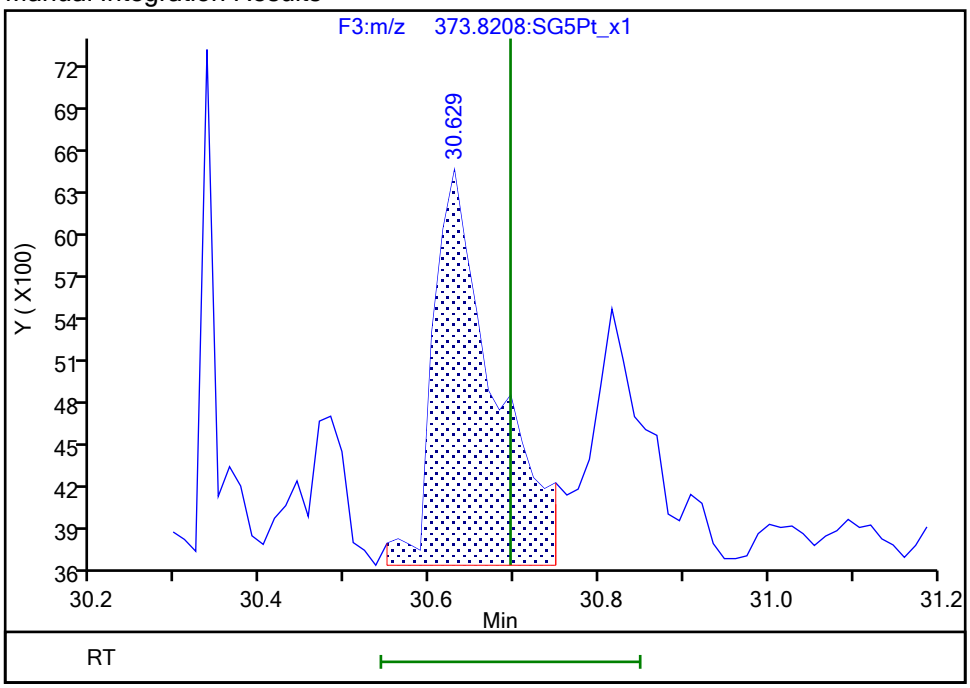

Reviewer: dadunj, 14-Oct-2019 14:57:54

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_22.d				
Injection Date:	11-Oct-2019 08:37:55	Instrument ID:	10D5		
Lims ID:	320-54852-A-6-A	Lab Sample ID:	320-54852-6		
Client ID:	11187072-Filter Test-6				
Operator ID:	SMA	ALS Bottle#:	20	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDF, CAS: 70648-26-9

Signal: 2

Processing Integration Results

RT: 30.66
Area: 20625
Amount: 0.115727
Amount Units: pg/ul

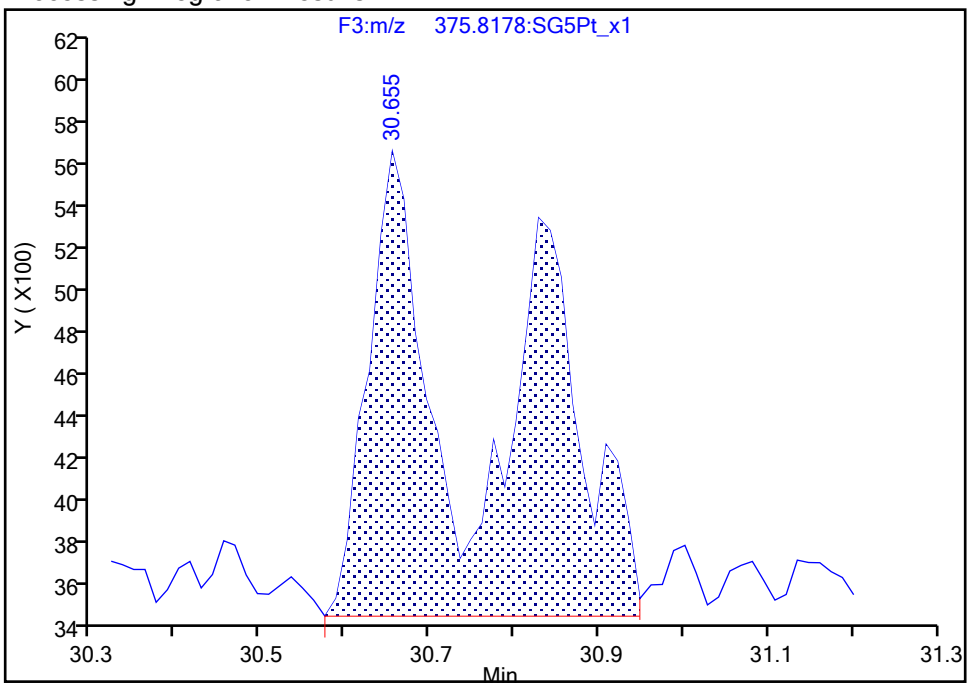

Manual Integration Results

RT: 30.66
Area: 9671
Amount: 0.062530
Amount Units: pg/ul

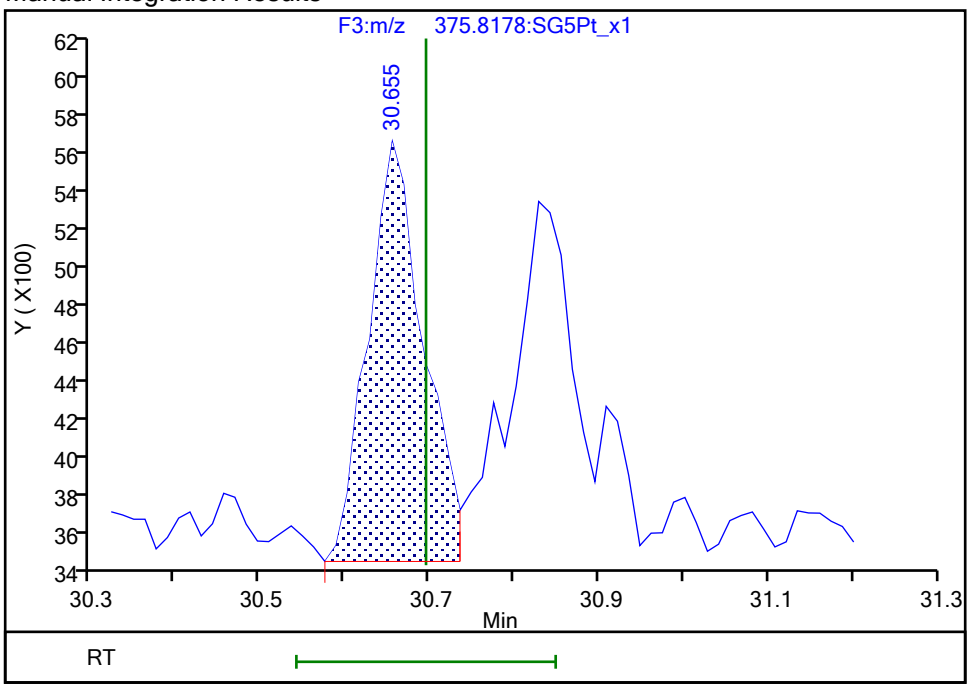

Reviewer: dadunj, 14-Oct-2019 14:57:57

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_22.d				
Injection Date:	11-Oct-2019 08:37:55	Instrument ID:	10D5		
Lims ID:	320-54852-A-6-A	Lab Sample ID:	320-54852-6		
Client ID:	11187072-Filter Test-6				
Operator ID:	SMA	ALS Bottle#:	20	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDF, CAS: 57117-44-9

Signal: 1

Not Detected
Expected RT: 30.87

Processing Integration Results

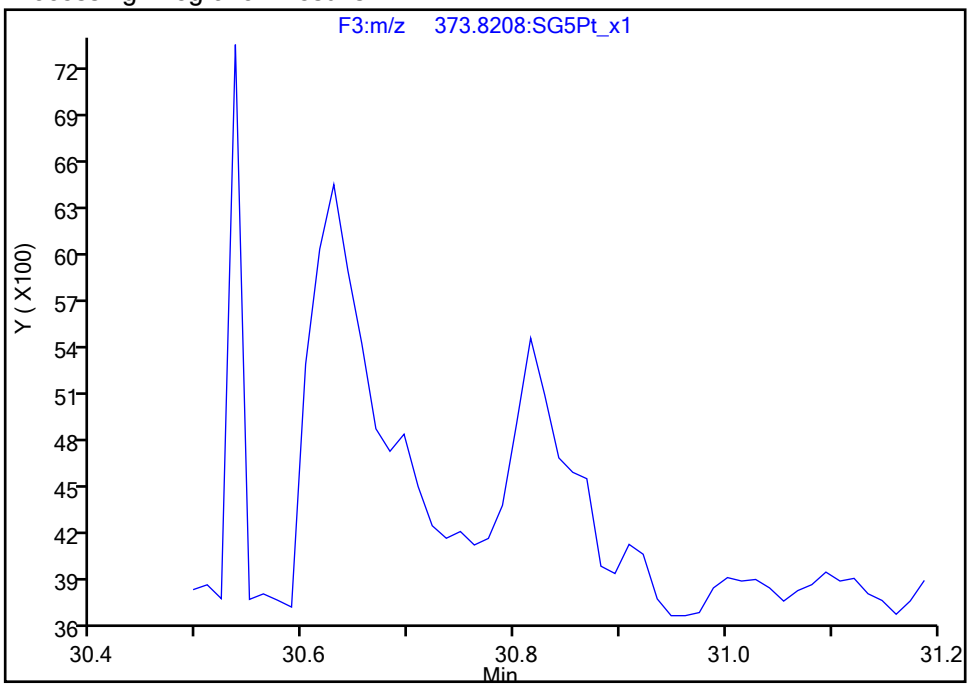

RT: 30.82
Area: 8992
Amount: 0.055549
Amount Units: pg/ul

Manual Integration Results

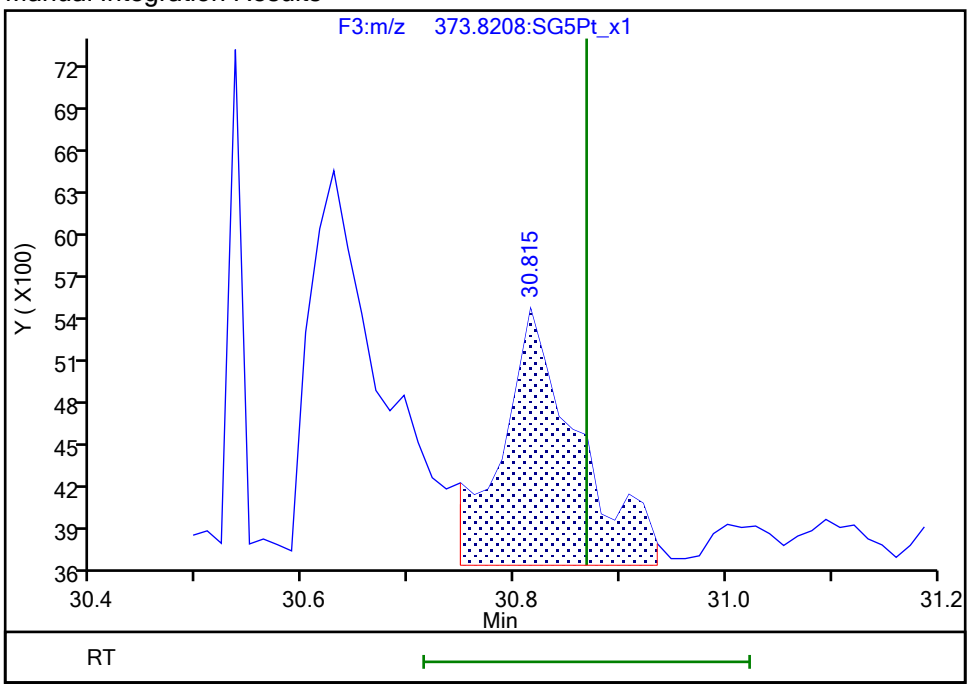

Reviewer: dadunj, 14-Oct-2019 14:58:01
Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_22.d				
Injection Date:	11-Oct-2019 08:37:55	Instrument ID:	10D5		
Lims ID:	320-54852-A-6-A	Lab Sample ID:	320-54852-6		
Client ID:	11187072-Filter Test-6				
Operator ID:	SMA	ALS Bottle#:	20	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 1

Processing Integration Results

RT: 32.40
Area: 22705
Amount: 0.116582
Amount Units: pg/ul

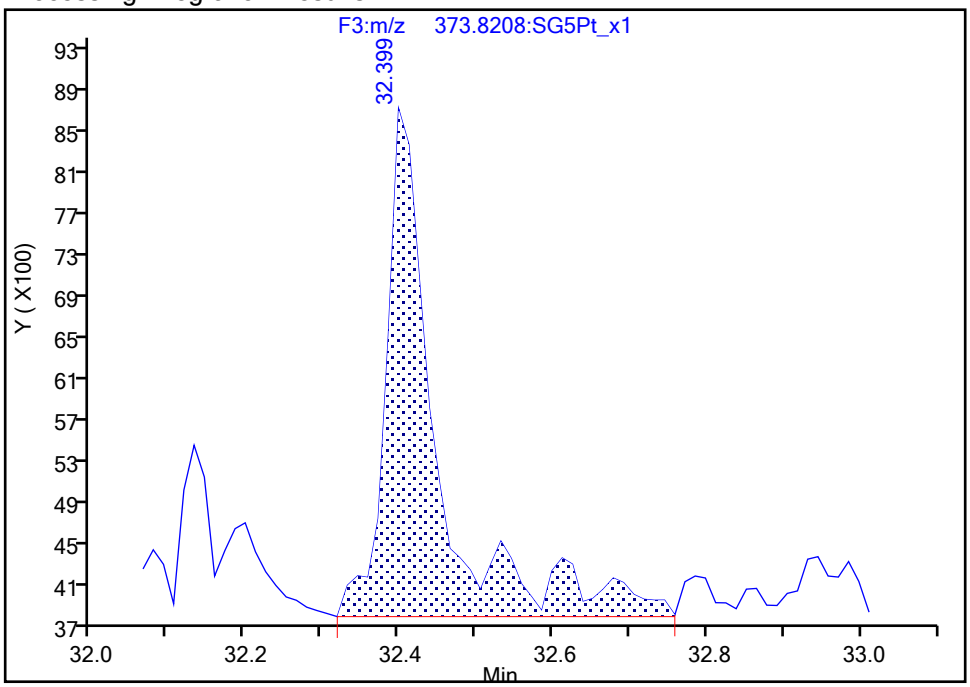

Manual Integration Results

RT: 32.40
Area: 17668
Amount: 0.078966
Amount Units: pg/ul

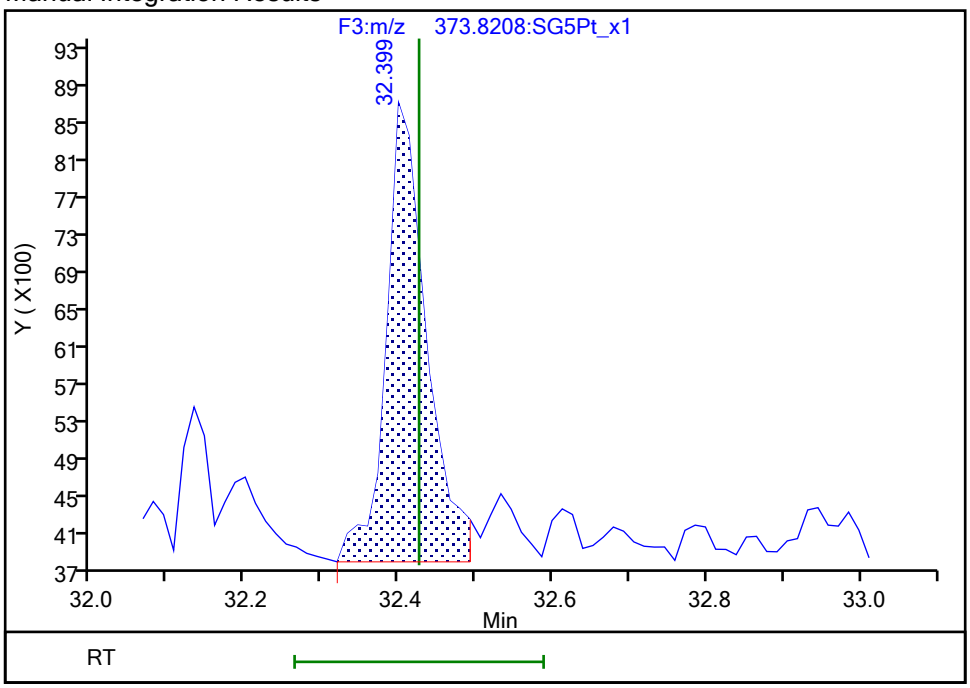

Reviewer: dadunj, 14-Oct-2019 14:58:08

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_22.d				
Injection Date:	11-Oct-2019 08:37:55	Instrument ID:	10D5		
Lims ID:	320-54852-A-6-A	Lab Sample ID:	320-54852-6		
Client ID:	11187072-Filter Test-6				
Operator ID:	SMA	ALS Bottle#:	20	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 2

Processing Integration Results

RT: 32.41
Area: 16745
Amount: 0.116582
Amount Units: pg/ul

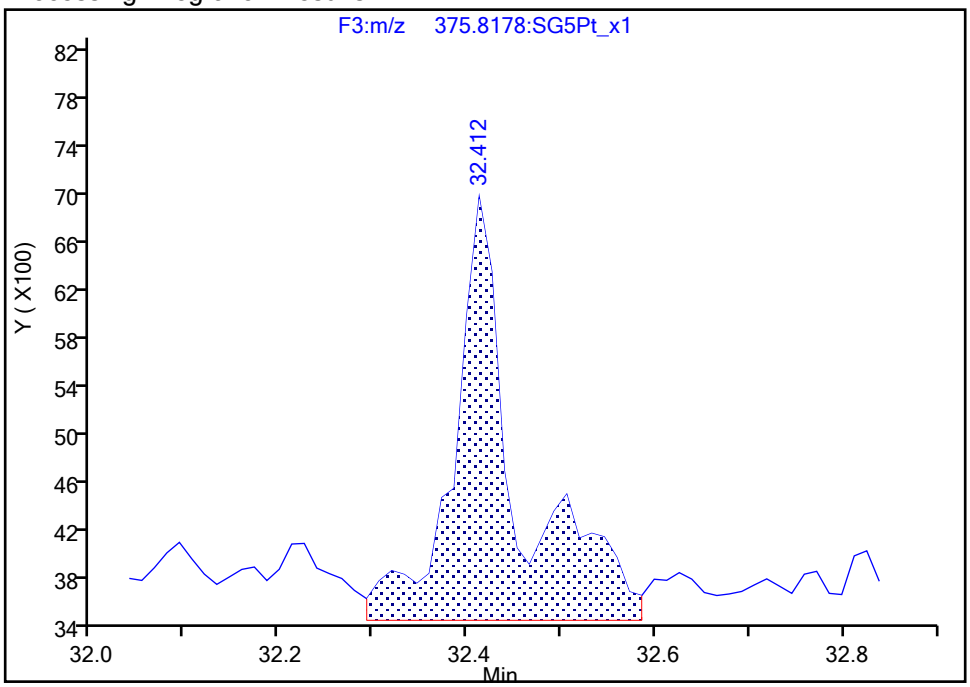

Manual Integration Results

RT: 32.41
Area: 9053
Amount: 0.078966
Amount Units: pg/ul

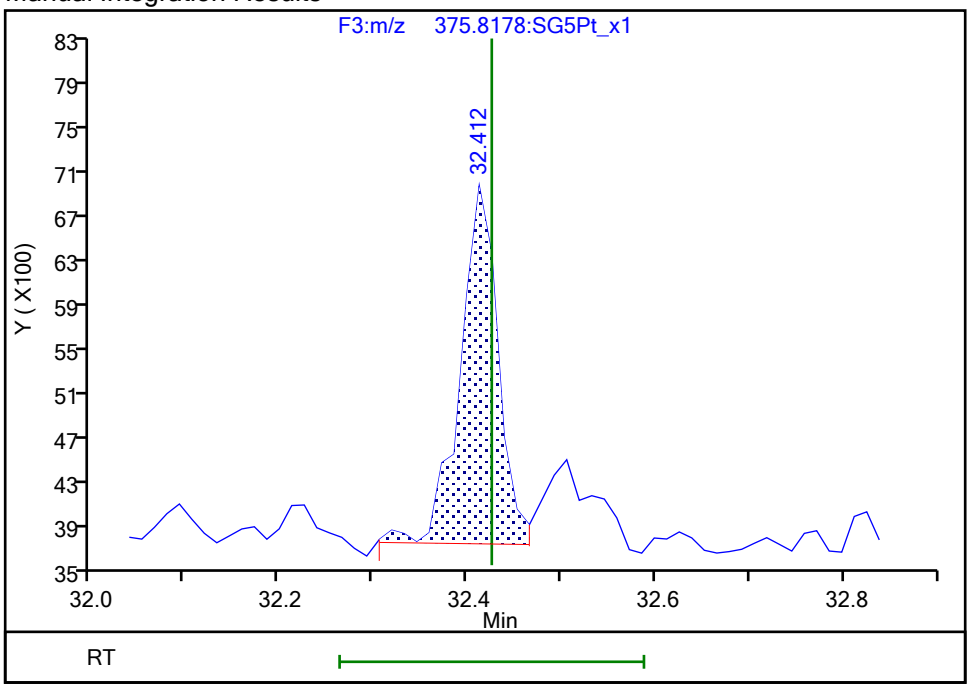

Reviewer: dadunj, 14-Oct-2019 14:58:24

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_22.d				
Injection Date:	11-Oct-2019 08:37:55	Instrument ID:	10D5		
Lims ID:	320-54852-A-6-A	Lab Sample ID:	320-54852-6		
Client ID:	11187072-Filter Test-6				
Operator ID:	SMA	ALS Bottle#:	20	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 1

Processing Integration Results

RT: 31.81
Area: 29257
Amount: 0.206671
Amount Units: pg/ul

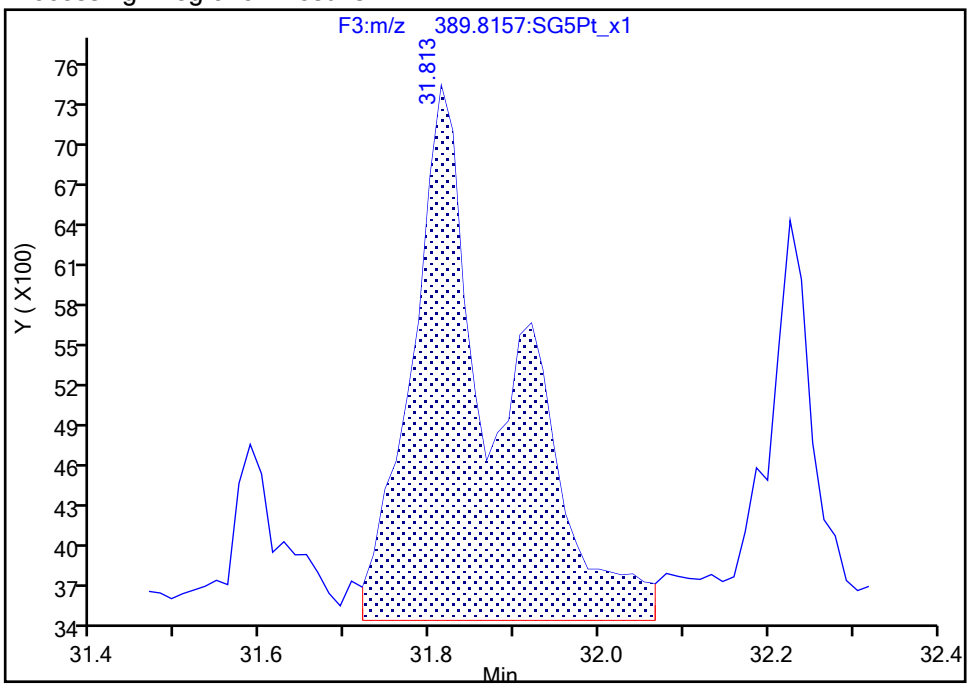

Manual Integration Results

RT: 31.81
Area: 17696
Amount: 0.123863
Amount Units: pg/ul

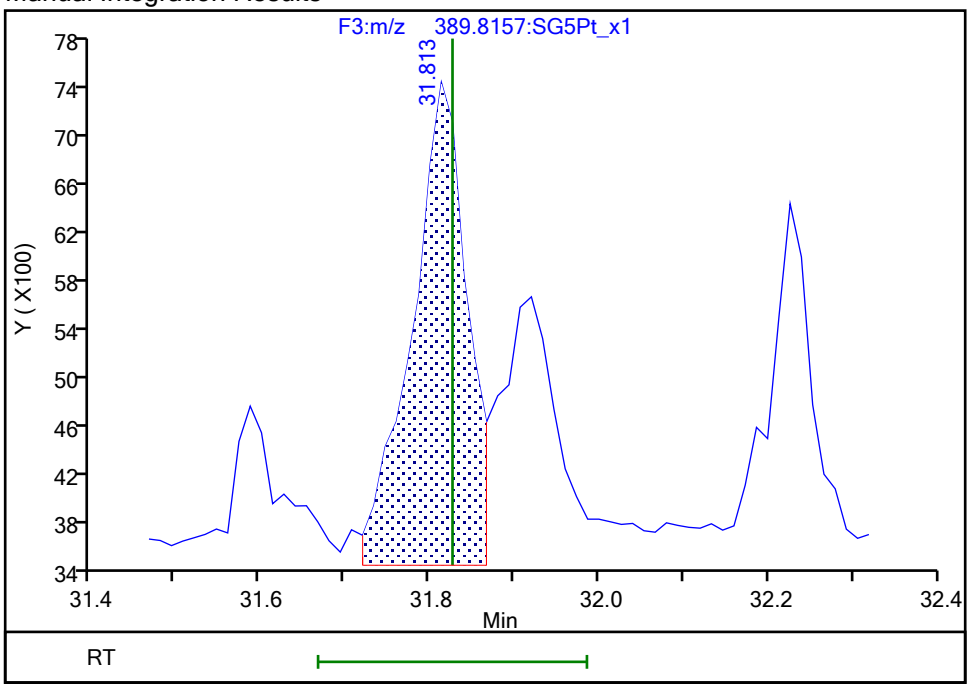

Reviewer: dadunj, 14-Oct-2019 14:58:35

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_22.d				
Injection Date:	11-Oct-2019 08:37:55	Instrument ID:	10D5		
Lims ID:	320-54852-A-6-A	Lab Sample ID:	320-54852-6		
Client ID:	11187072-Filter Test-6				
Operator ID:	SMA	ALS Bottle#:	20	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 2

Processing Integration Results

RT: 31.81
Area: 16740
Amount: 0.206671
Amount Units: pg/ul

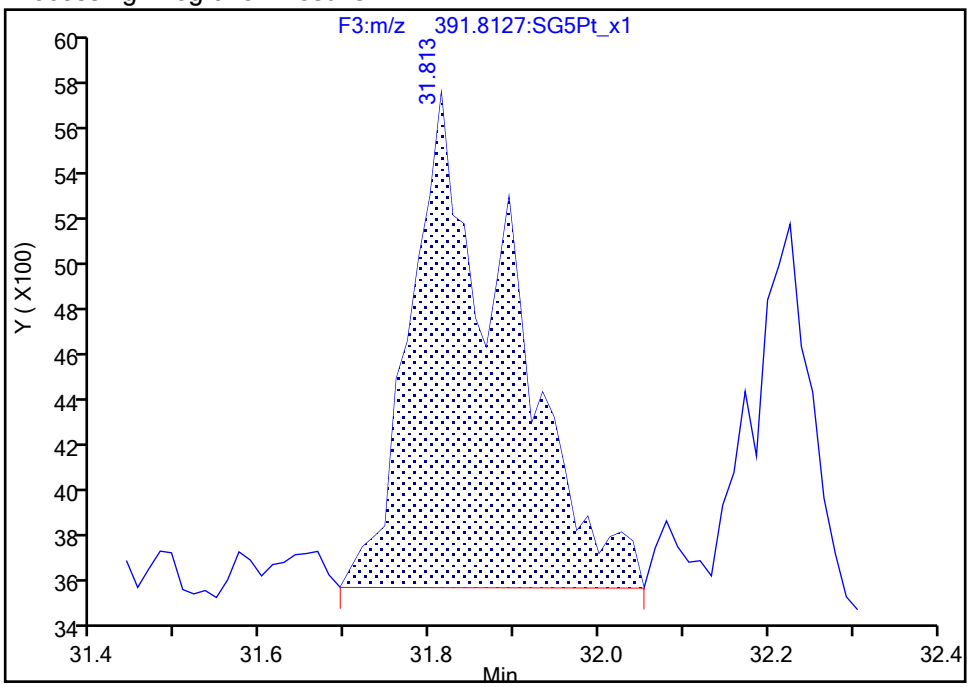

Manual Integration Results

RT: 31.81
Area: 9871
Amount: 0.123863
Amount Units: pg/ul

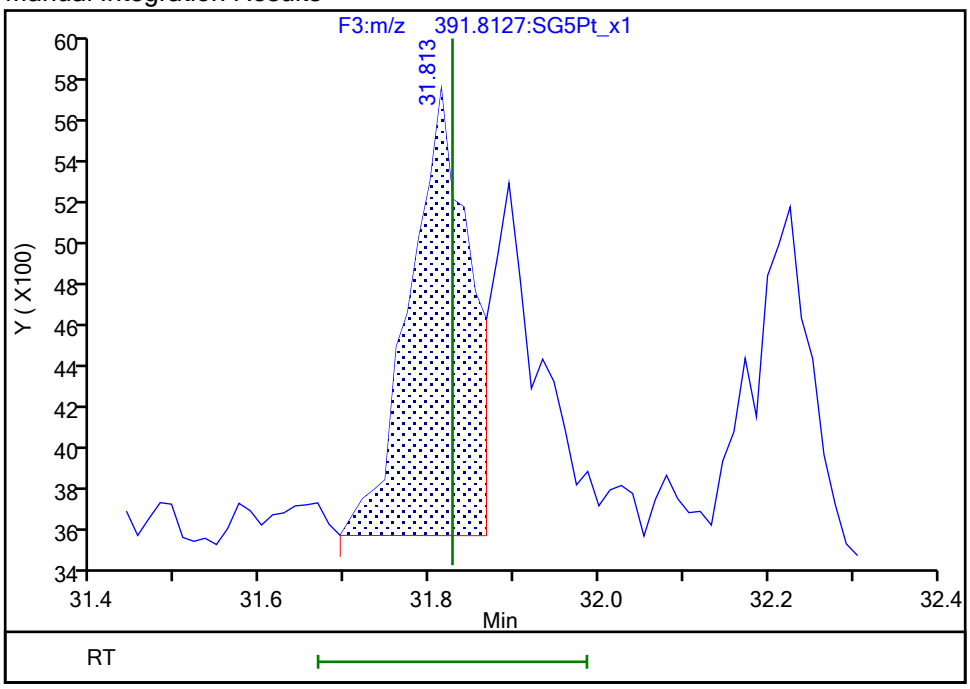

Reviewer: dadunj, 14-Oct-2019 14:58:39

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_22.d				
Injection Date:	11-Oct-2019 08:37:55	Instrument ID:	10D5		
Lims ID:	320-54852-A-6-A	Lab Sample ID:	320-54852-6		
Client ID:	11187072-Filter Test-6				
Operator ID:	SMA	ALS Bottle#:	20	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 2

Processing Integration Results

RT: 31.81
Area: 16740
Amount: 0.198982
Amount Units: pg/ul

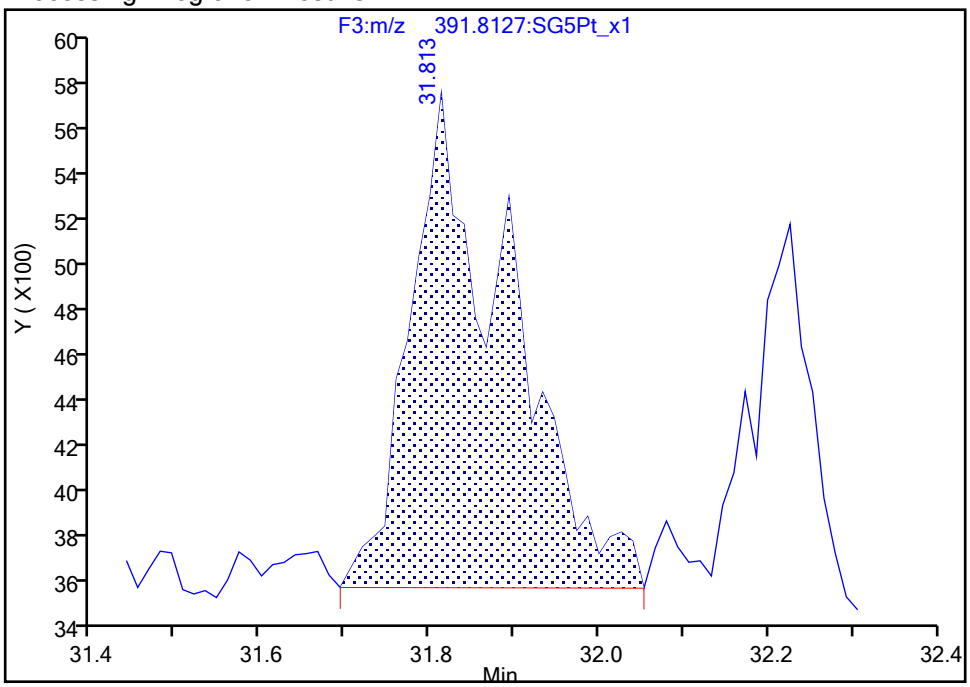

Manual Integration Results

RT: 31.89
Area: 6865
Amount: 0.079710
Amount Units: pg/ul

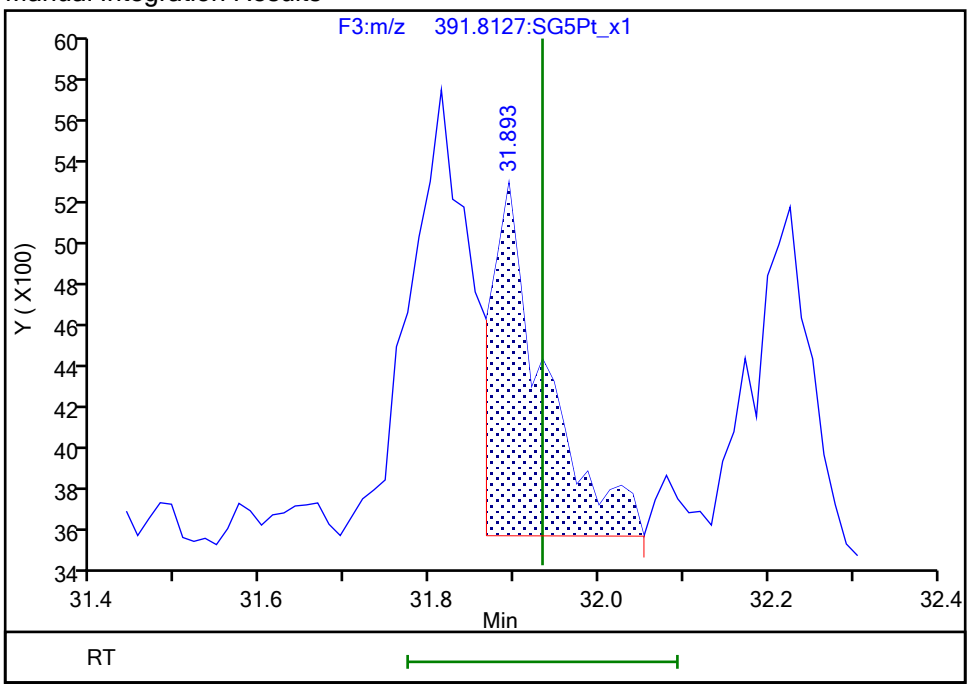

Reviewer: dadunj, 14-Oct-2019 14:58:42

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_22.d				
Injection Date:	11-Oct-2019 08:37:55	Instrument ID:	10D5		
Lims ID:	320-54852-A-6-A	Lab Sample ID:	320-54852-6		
Client ID:	11187072-Filter Test-6				
Operator ID:	SMA	ALS Bottle#:	20	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 3

Processing Integration Results

RT: 31.81
Area: 45997
Amount: 0.198982
Amount Units: pg/ul

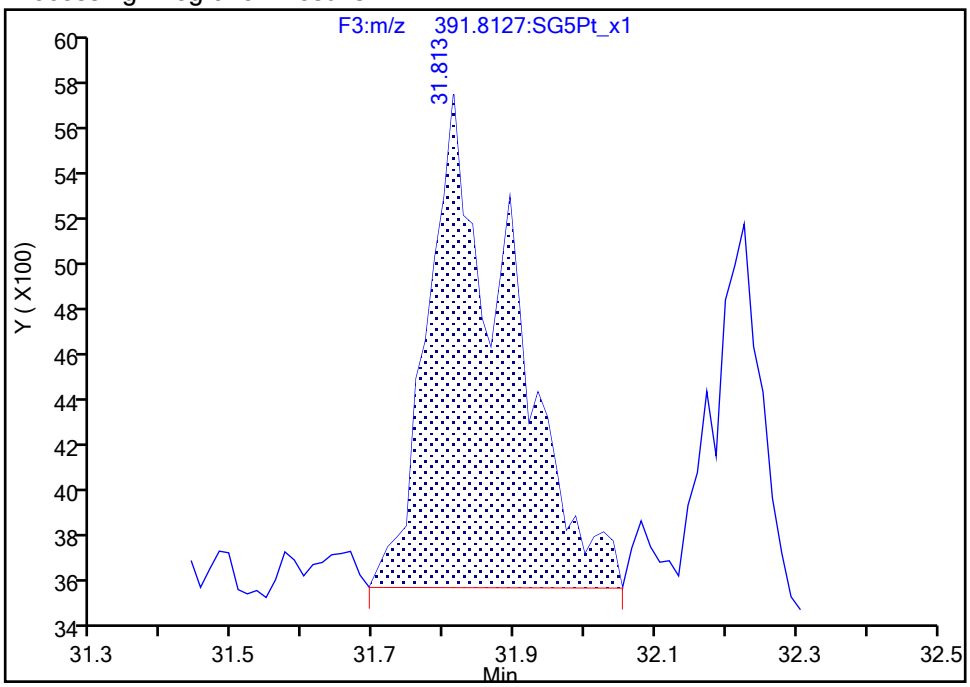

Manual Integration Results

RT: 31.92
Area: 18426
Amount: 0.079710
Amount Units: pg/ul
Reviewer: dadunj, 14-Oct-2019 14:58:42
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_22.d				
Injection Date:	11-Oct-2019 08:37:55	Instrument ID:	10D5		
Lims ID:	320-54852-A-6-A	Lab Sample ID:	320-54852-6		
Client ID:	11187072-Filter Test-6				
Operator ID:	SMA	ALS Bottle#:	20	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 1

Processing Integration Results

RT: 31.81
Area: 29257
Amount: 0.198982
Amount Units: pg/ul

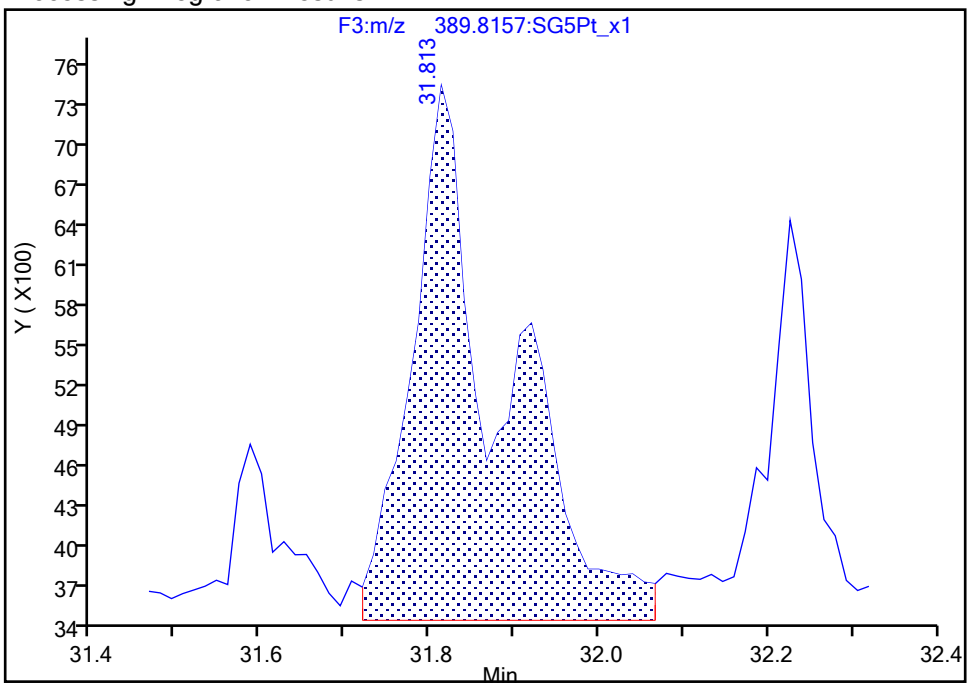

Manual Integration Results

RT: 31.92
Area: 11561
Amount: 0.079710
Amount Units: pg/ul

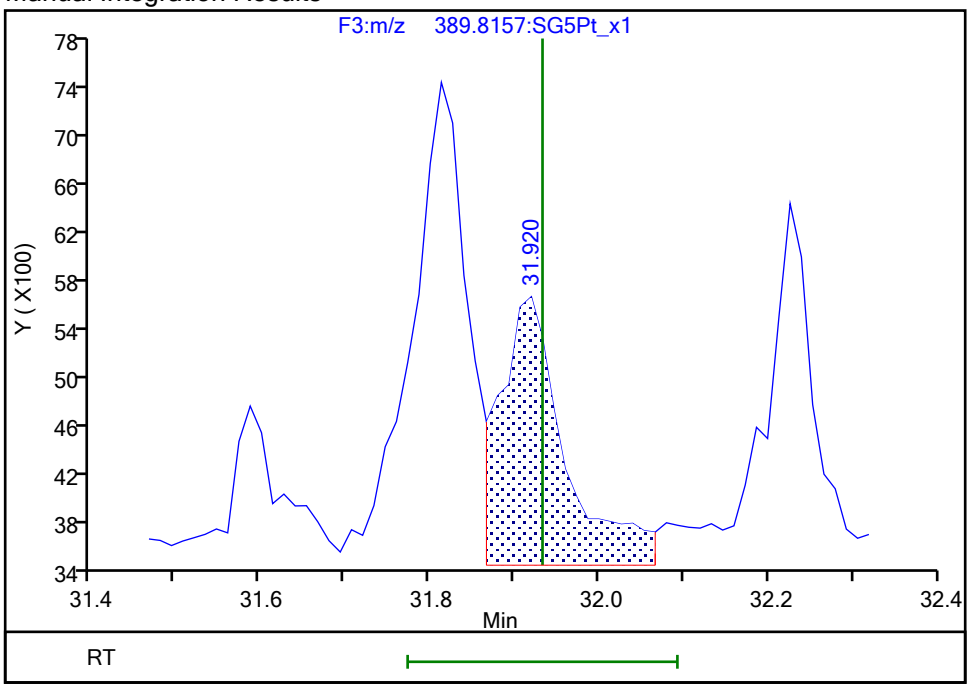

Reviewer: dadunj, 14-Oct-2019 14:58:43

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_22.d				
Injection Date:	11-Oct-2019 08:37:55	Instrument ID:	10D5		
Lims ID:	320-54852-A-6-A	Lab Sample ID:	320-54852-6		
Client ID:	11187072-Filter Test-6				
Operator ID:	SMA	ALS Bottle#:	20	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 2

Processing Integration Results

RT: 32.23
Area: 7182
Amount: 0.073547
Amount Units: pg/ul

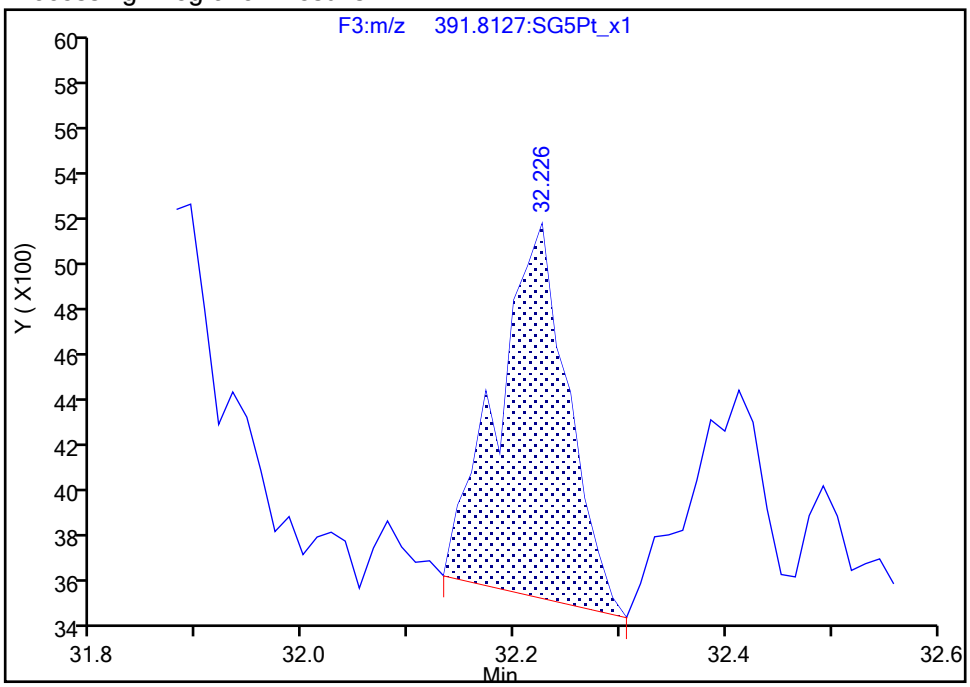

Manual Integration Results

RT: 32.23
Area: 8013
Amount: 0.076855
Amount Units: pg/ul

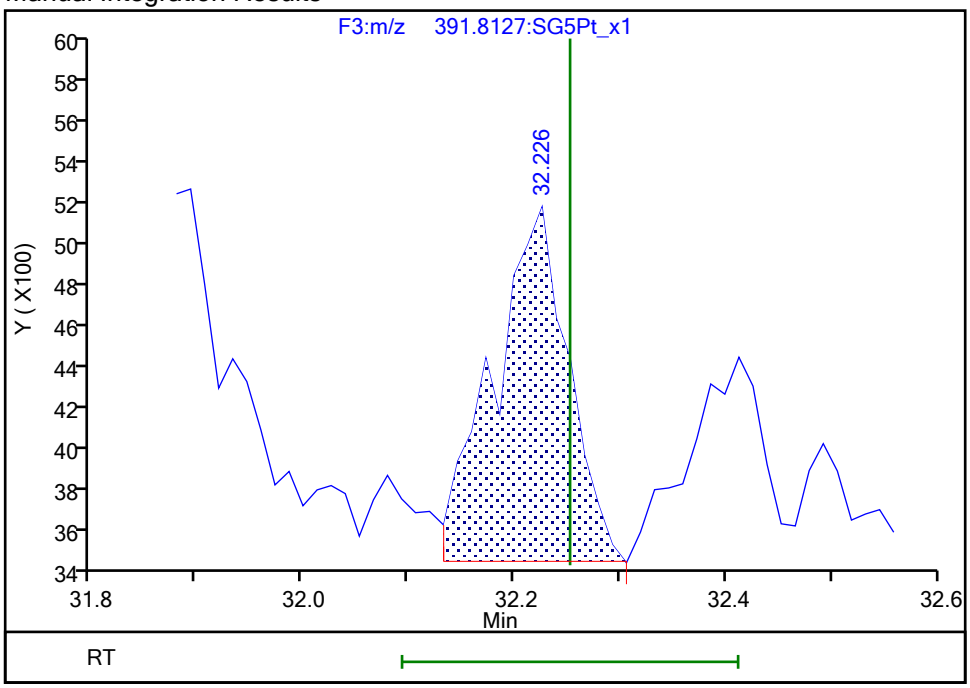

Reviewer: dadunj, 14-Oct-2019 14:59:06

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_22.d				
Injection Date:	11-Oct-2019 08:37:55	Instrument ID:	10D5		
Lims ID:	320-54852-A-6-A	Lab Sample ID:	320-54852-6		
Client ID:	11187072-Filter Test-6				
Operator ID:	SMA	ALS Bottle#:	20	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 2

Processing Integration Results

RT: 33.81
Area: 10054
Amount: 0.076358
Amount Units: pg/ul

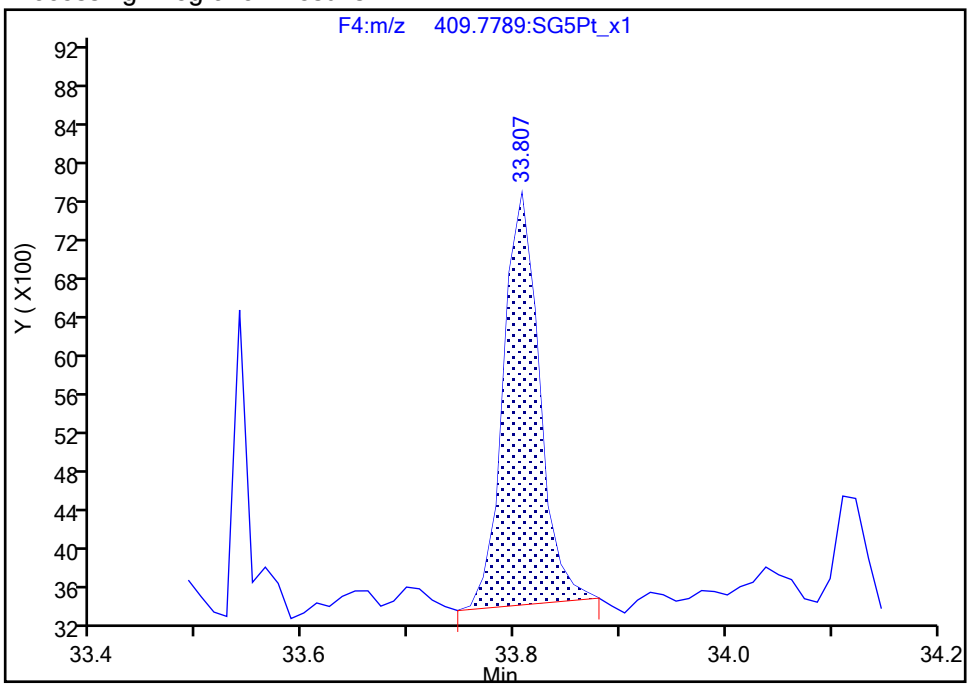

Manual Integration Results

RT: 33.81
Area: 10138
Amount: 0.076620
Amount Units: pg/ul

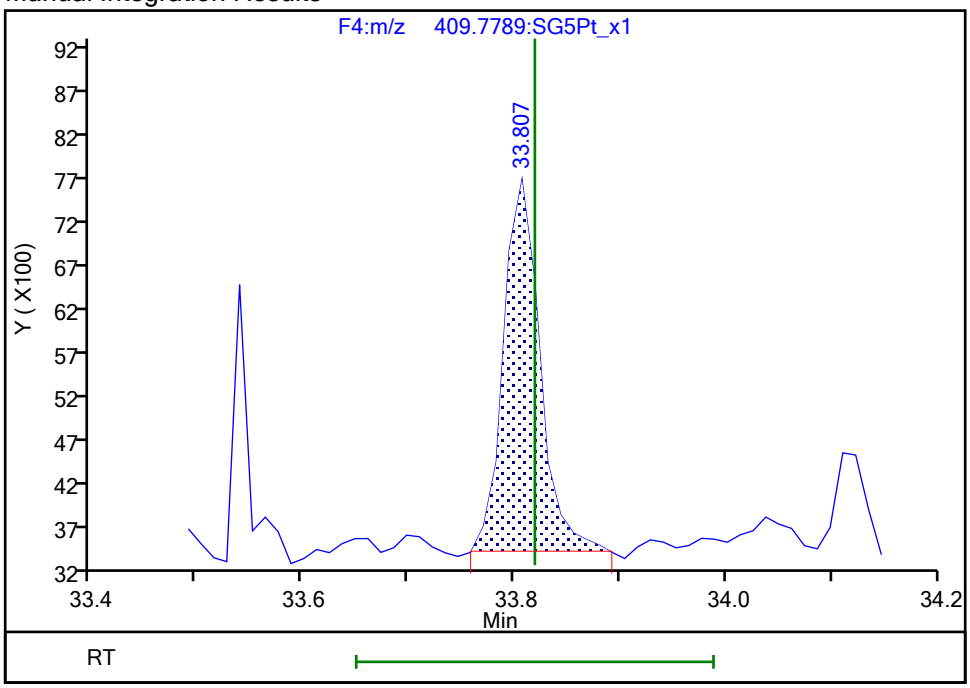

Reviewer: dadunj, 14-Oct-2019 14:59:17

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_22.d				
Injection Date:	11-Oct-2019 08:37:55	Instrument ID:	10D5		
Lims ID:	320-54852-A-6-A	Lab Sample ID:	320-54852-6		
Client ID:	11187072-Filter Test-6				
Operator ID:	SMA	ALS Bottle#:	20	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 1

Processing Integration Results

RT: 34.61
Area: 8007
Amount: 0.076166
Amount Units: pg/ul

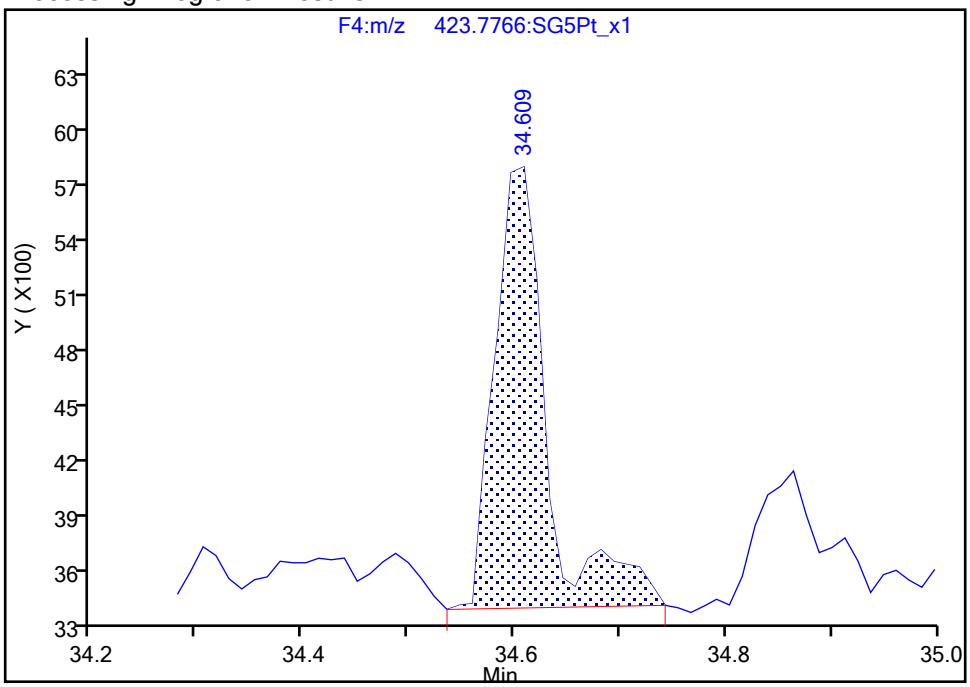

Manual Integration Results

RT: 34.61
Area: 7005
Amount: 0.071282
Amount Units: pg/ul

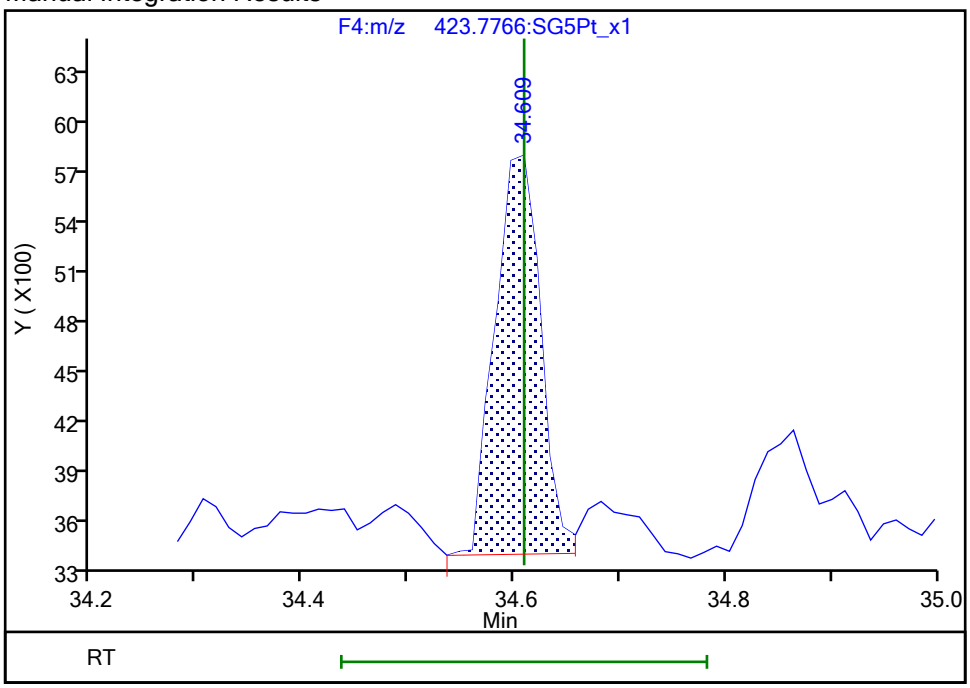

Reviewer: dadunj, 14-Oct-2019 14:59:30

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_22.d				
Injection Date:	11-Oct-2019 08:37:55	Instrument ID:	10D5		
Lims ID:	320-54852-A-6-A	Lab Sample ID:	320-54852-6		
Client ID:	11187072-Filter Test-6				
Operator ID:	SMA	ALS Bottle#:	20	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

Non-2,3,7,8-sub-HpCDD, Signal: 1, m/z: 423.7766, RT: (34.37- 36.01)

Signal: 1

Processing Integration Results

RT = 34.050 Area = 7977

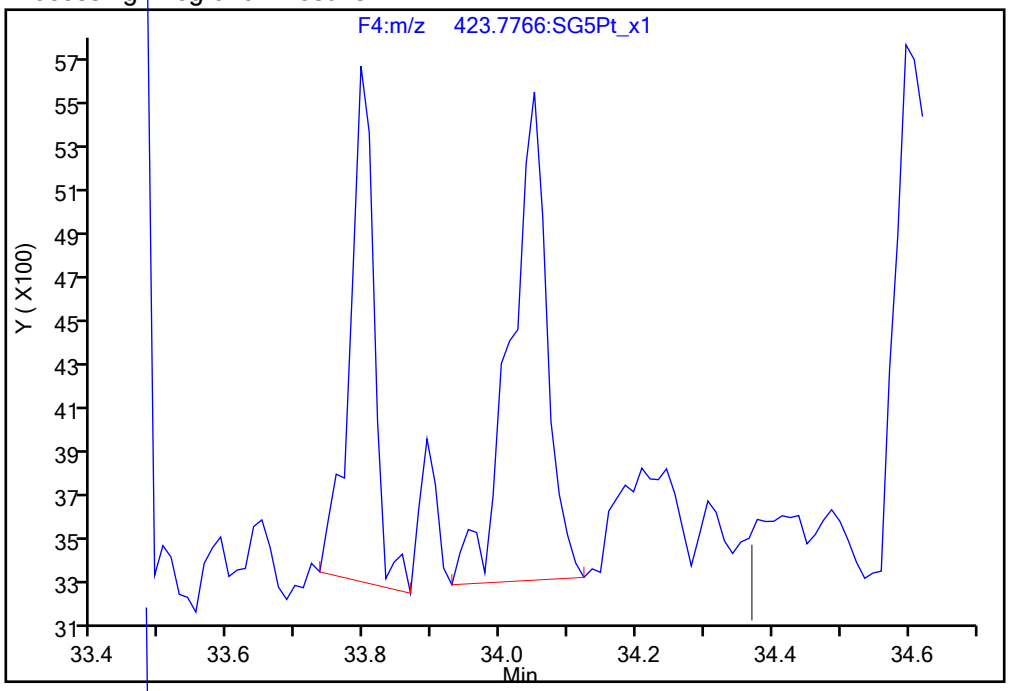

Manual Integration Results

RT = 34.050 Area = 7532 M

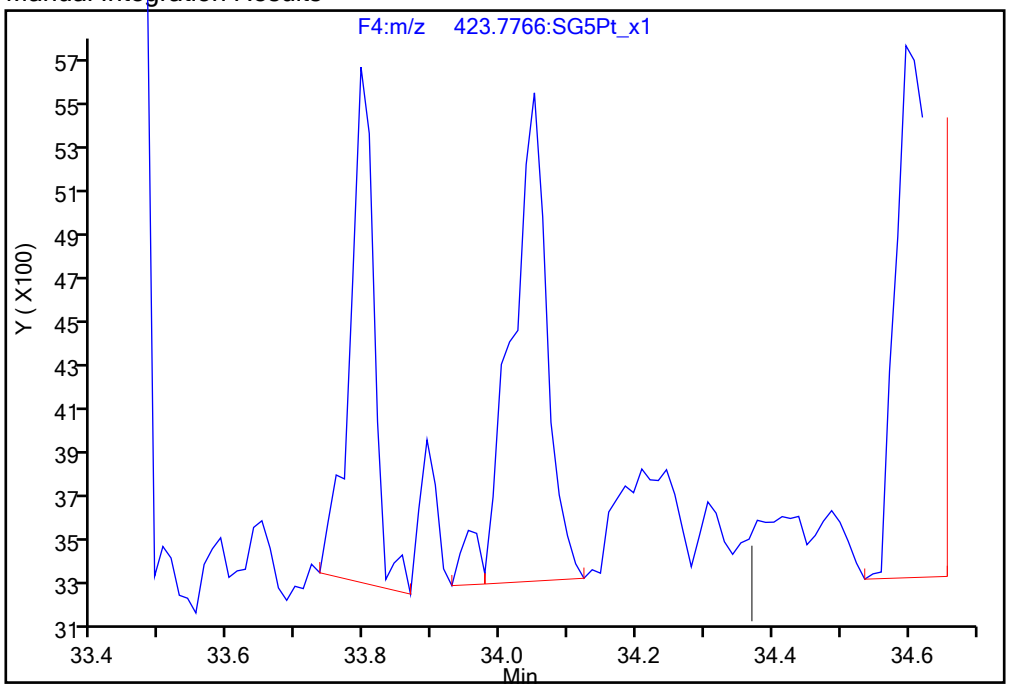

Reviewer: dadunj, 14-Oct-2019 14:59:38

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_22.d				
Injection Date:	11-Oct-2019 08:37:55	Instrument ID:	10D5		
Lims ID:	320-54852-A-6-A	Lab Sample ID:	320-54852-6		
Client ID:	11187072-Filter Test-6				
Operator ID:	SMA	ALS Bottle#:	20	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

Non-2,3,7,8-sub-HpCDD, Signal: 2, m/z: 425.7737, RT: (34.37- 36.01)

Signal: 2

Processing Integration Results

RT = 34.038 Area = 5497

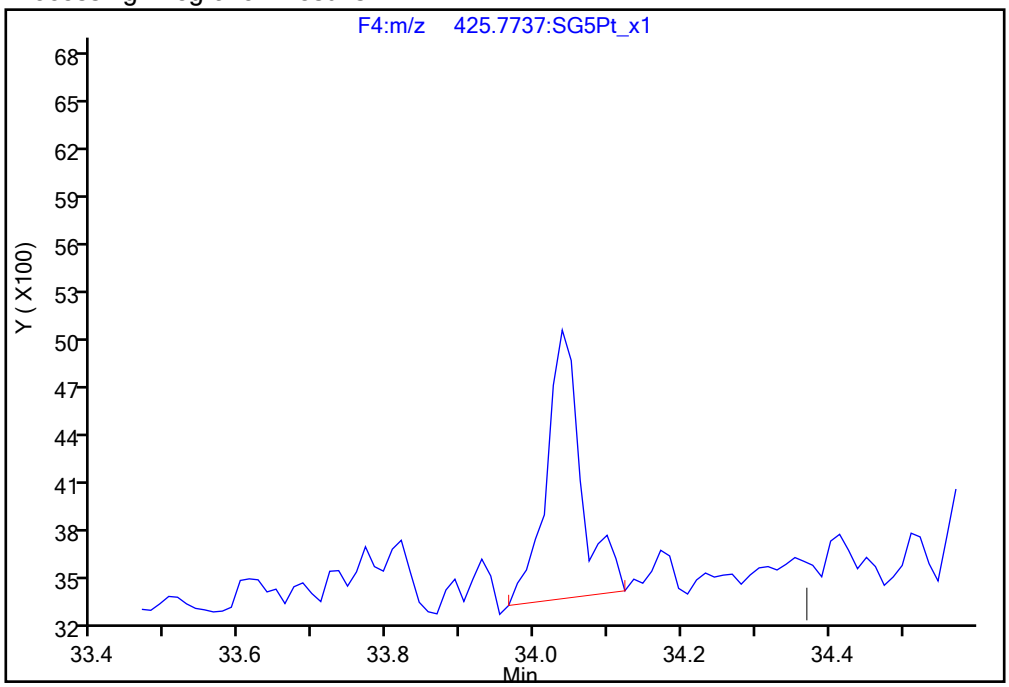

Manual Integration Results

RT = 34.038 Area = 4775 M

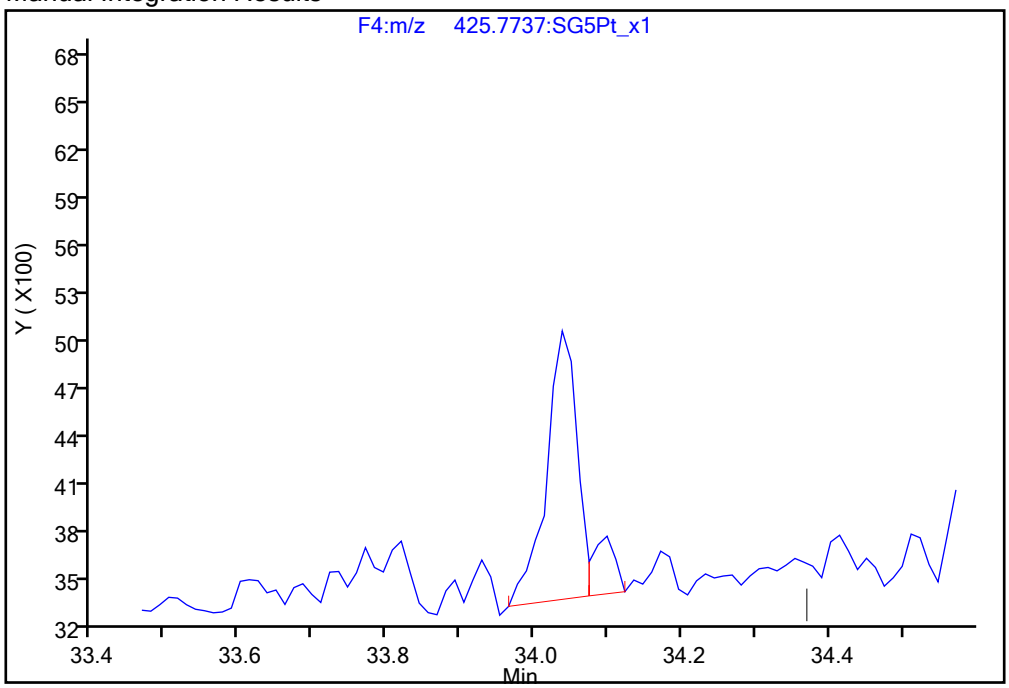

Reviewer: dadunj, 14-Oct-2019 14:59:40

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 14-Oct-2019 15:00:12 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_22.d		
Injection Date:	11-Oct-2019 08:37:55	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-6		
Worklist#:	330148	Sample Line#:	22
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

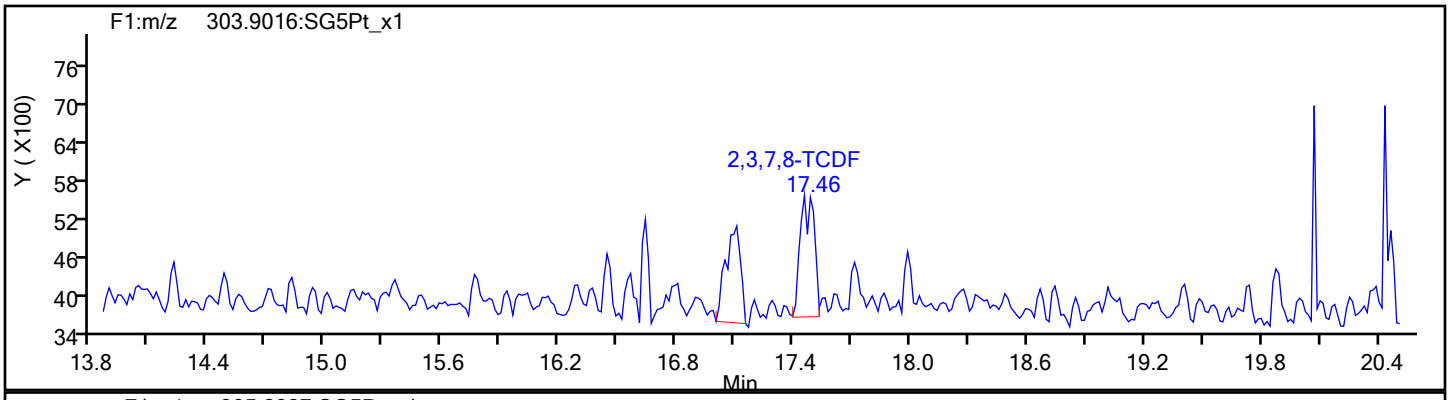

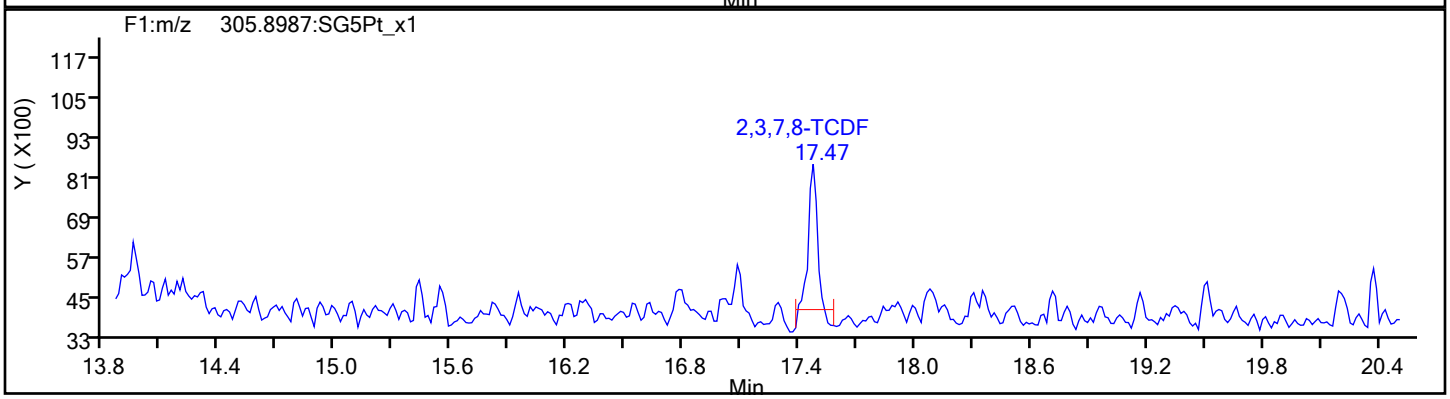

TCDF Standards

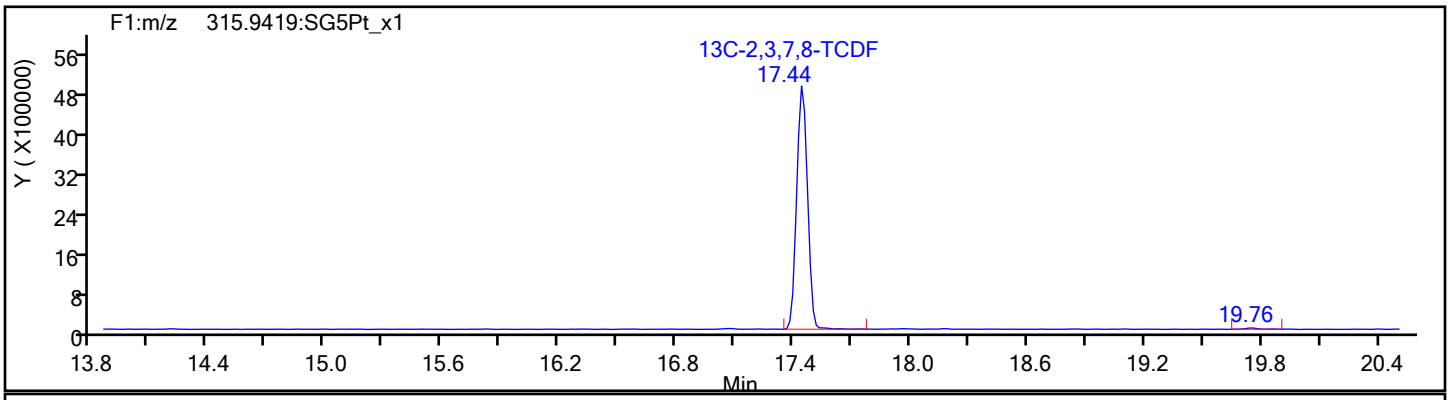

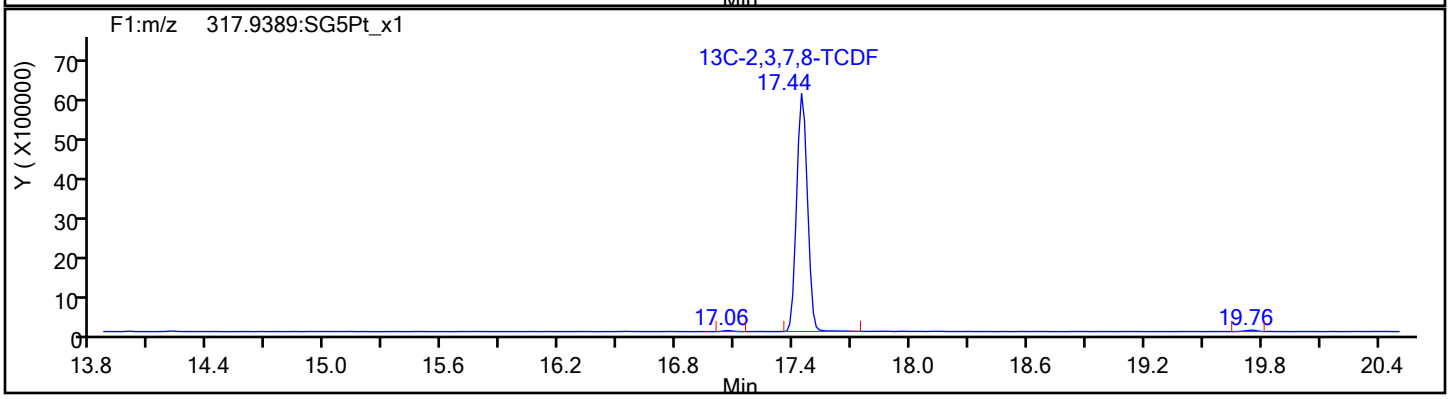

Report Date: 14-Oct-2019 15:00:12 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_22.d		
Injection Date:	11-Oct-2019 08:37:55	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-6		
Worklist#:	330148	Sample Line#:	22
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

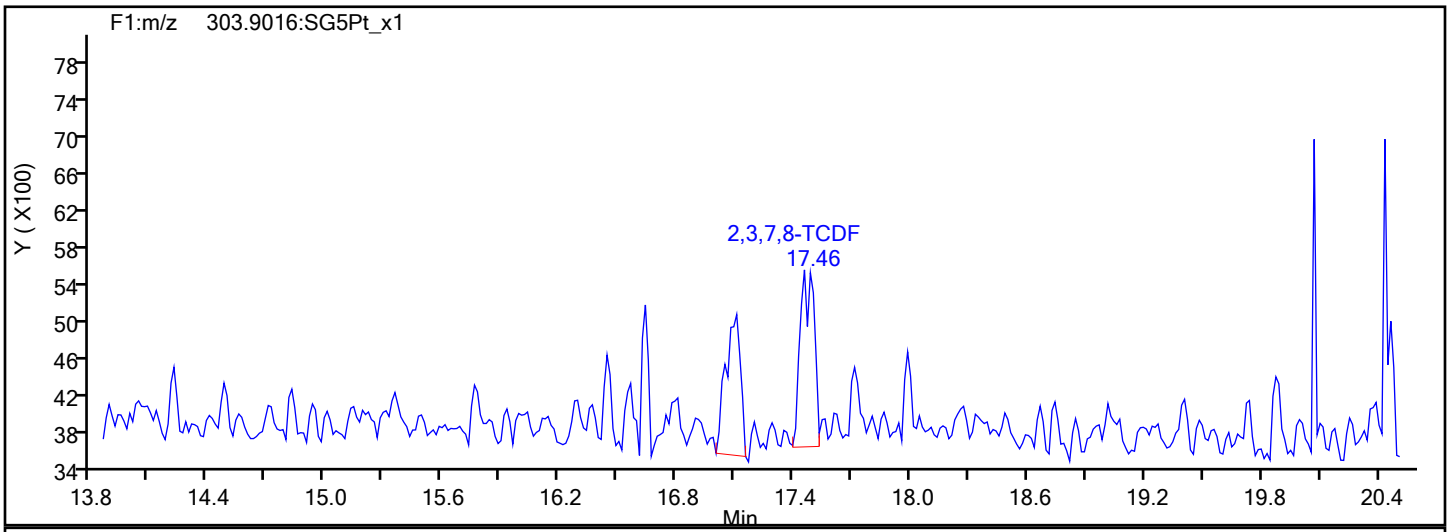

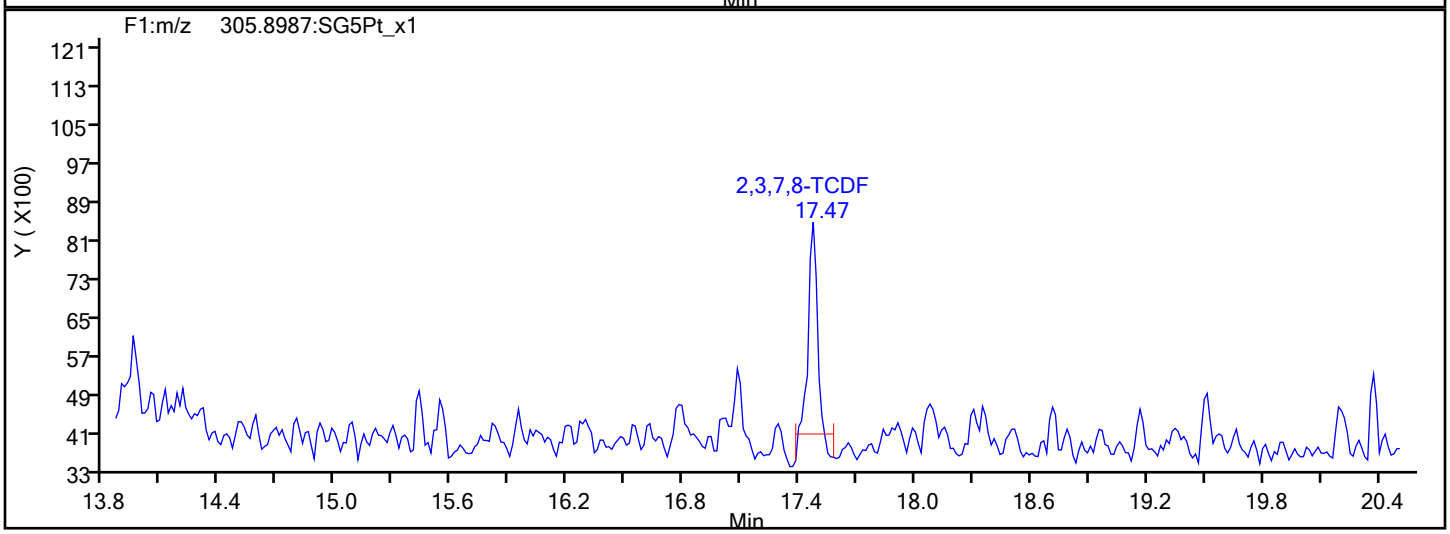

TCDF Interference Mass

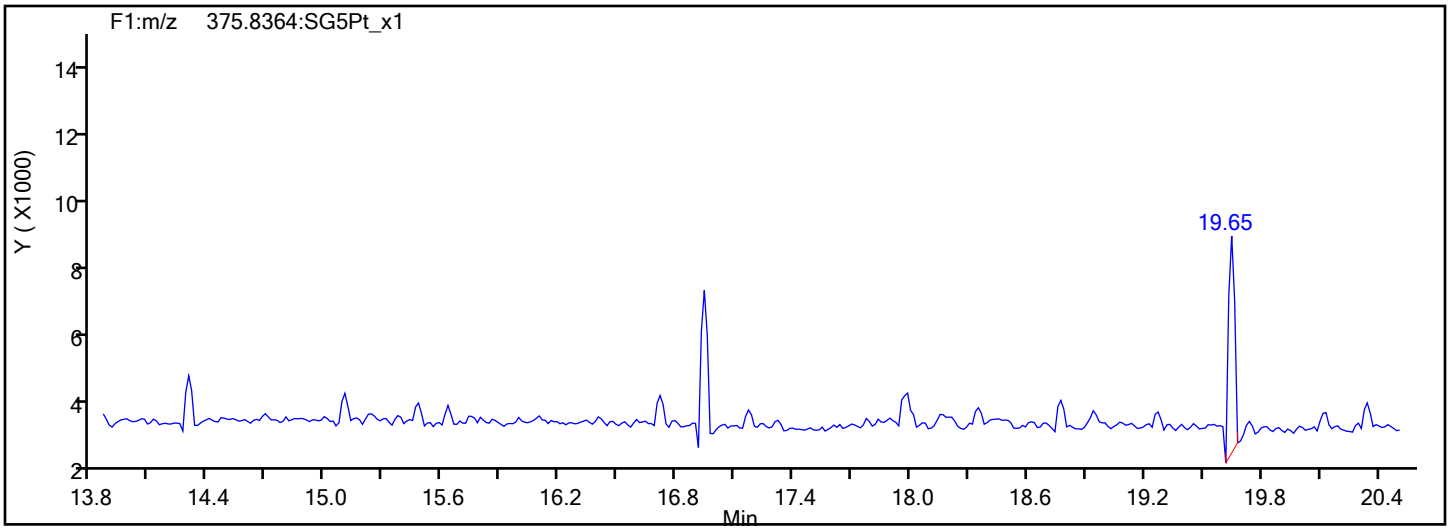

Report Date: 14-Oct-2019 15:00:12 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_22.d		
Injection Date:	11-Oct-2019 08:37:55	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-6		
Worklist#:	330148	Sample Line#:	22
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

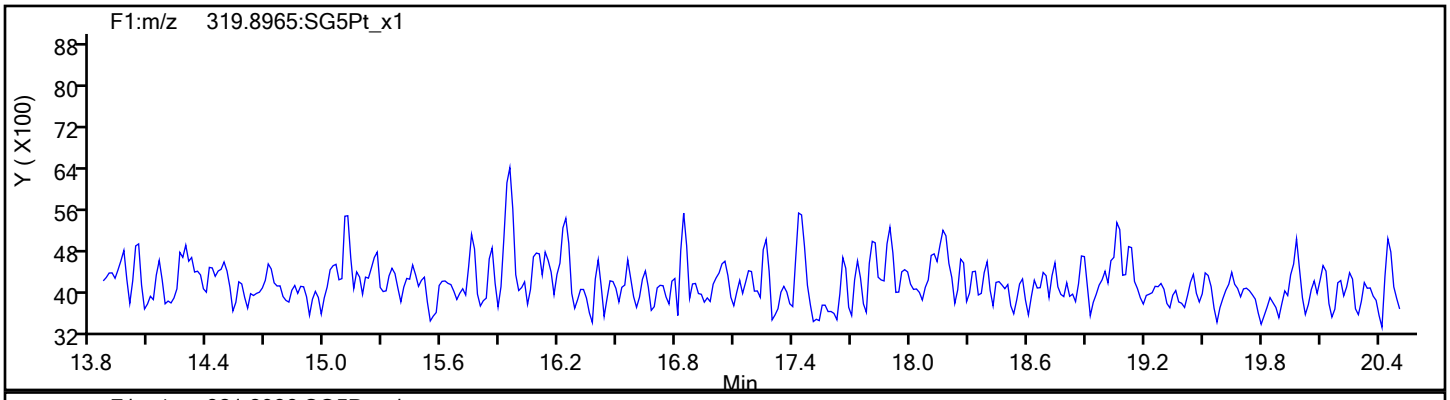

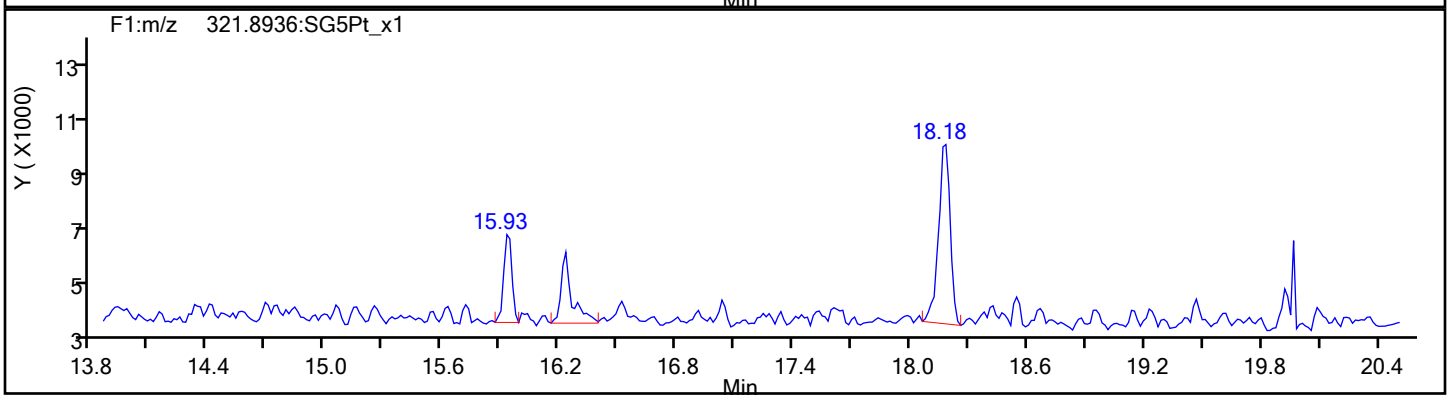

TCDD Standards

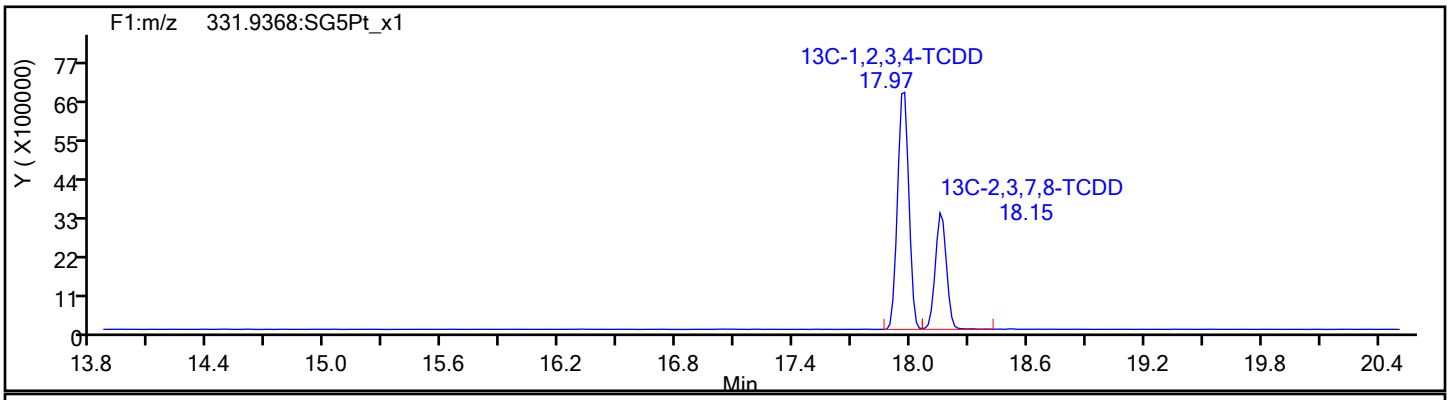

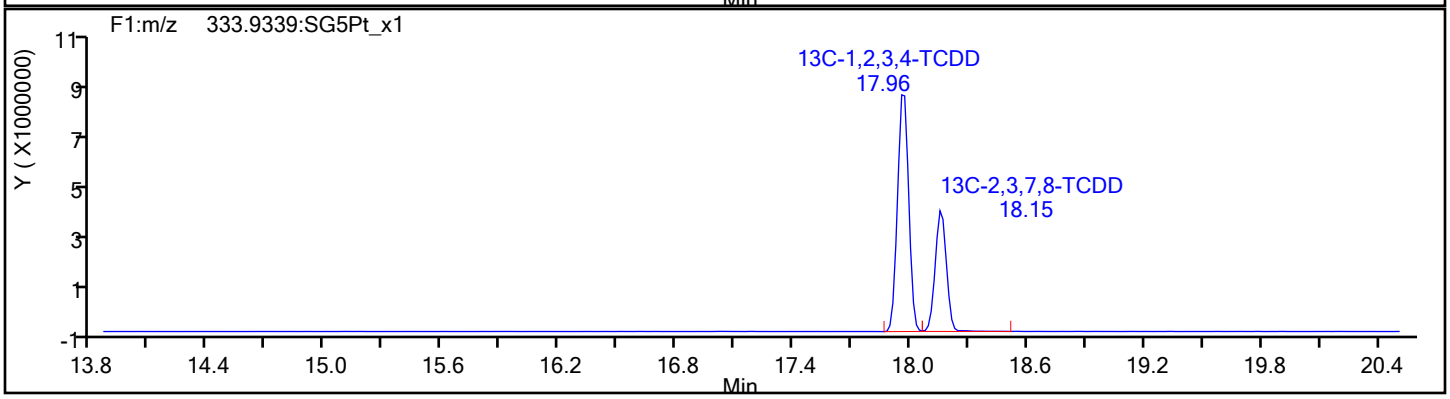

Report Date: 14-Oct-2019 15:00:12 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_22.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-6		
Worklist#:	330148	Sample Line#:	22
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

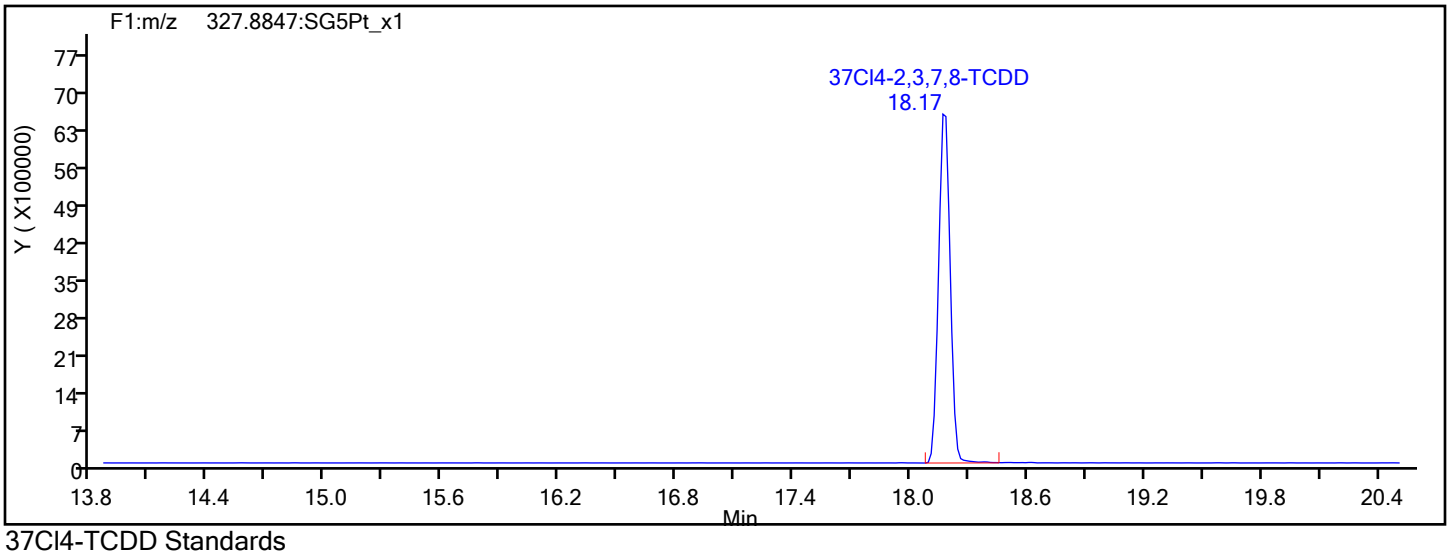

37Cl4-TCDD Standards

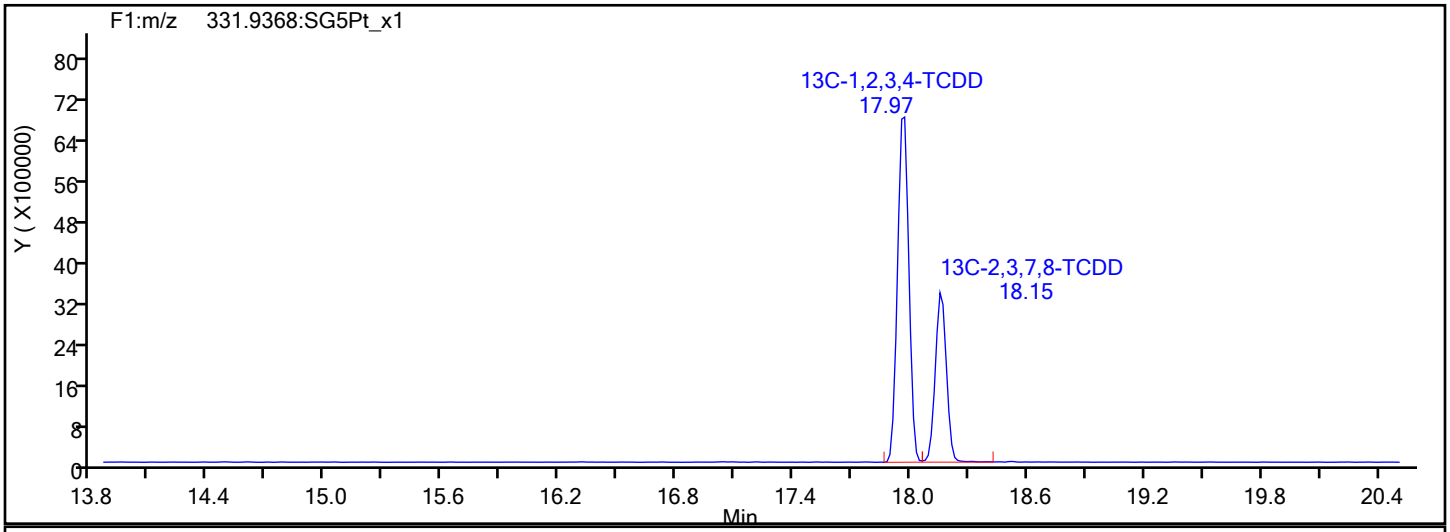

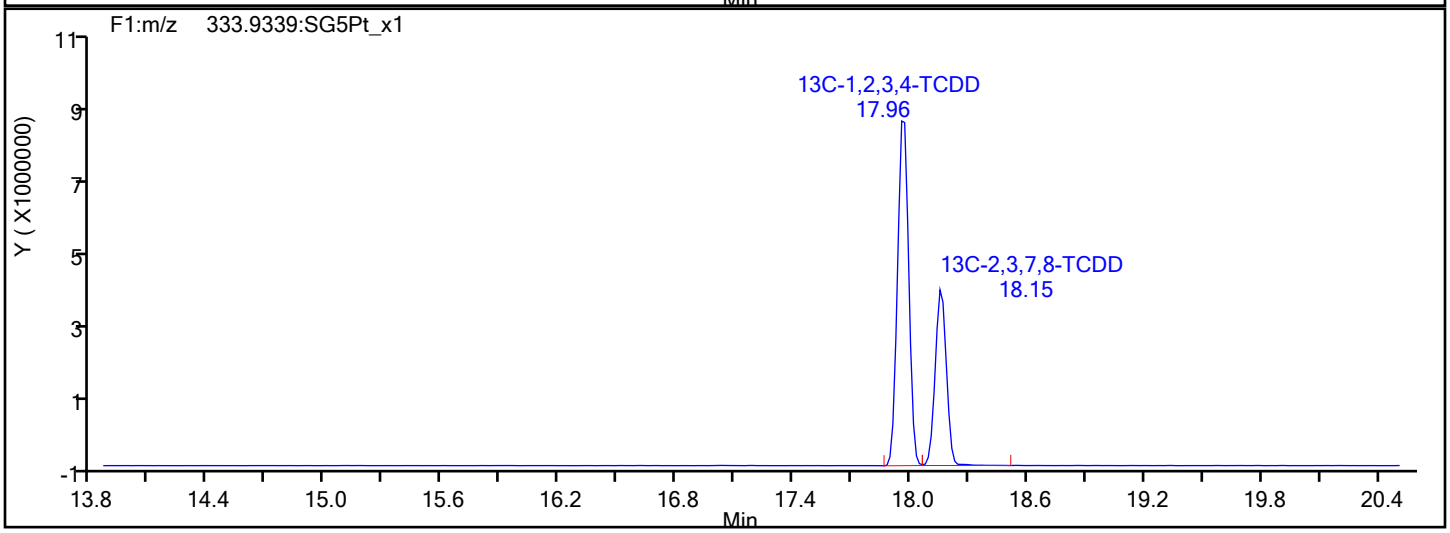

Report Date: 14-Oct-2019 15:00:12 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

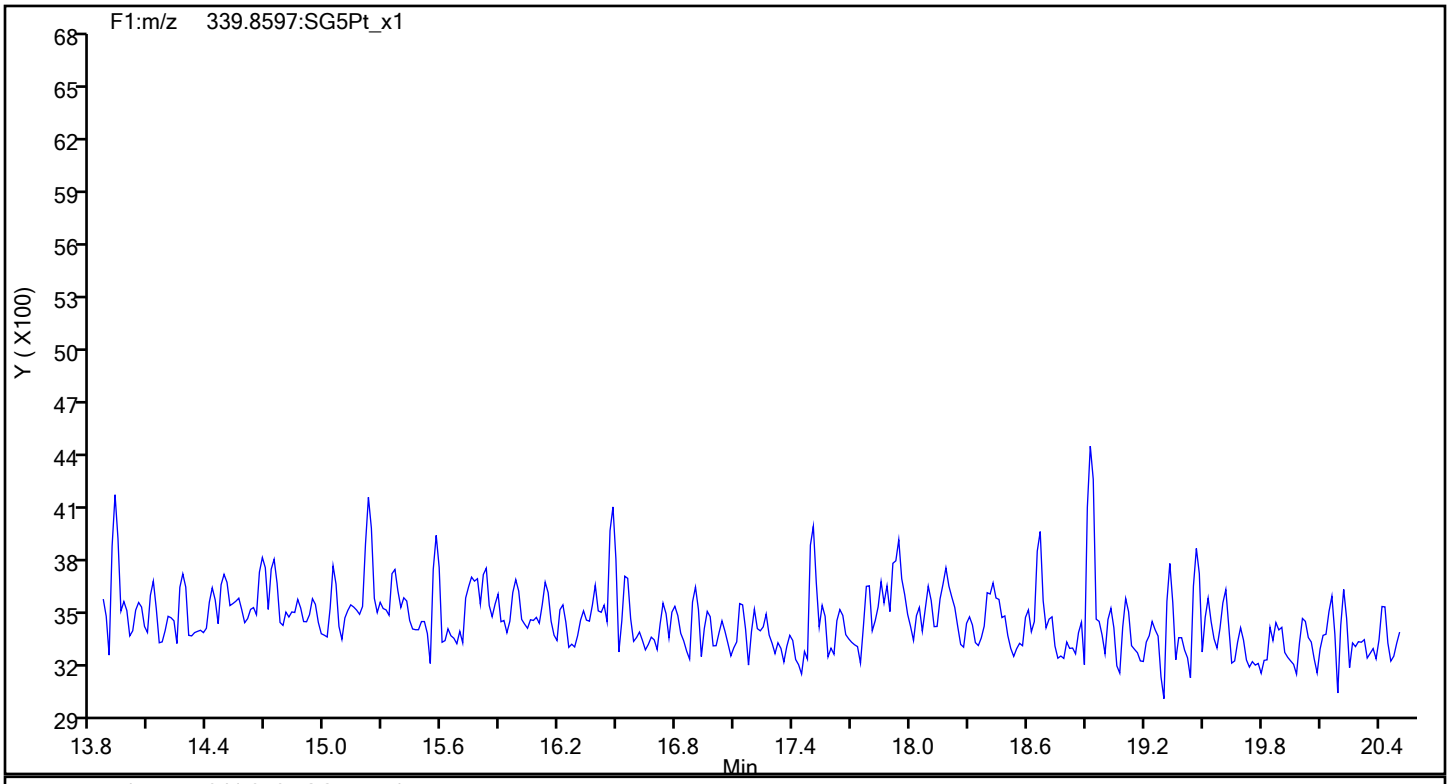

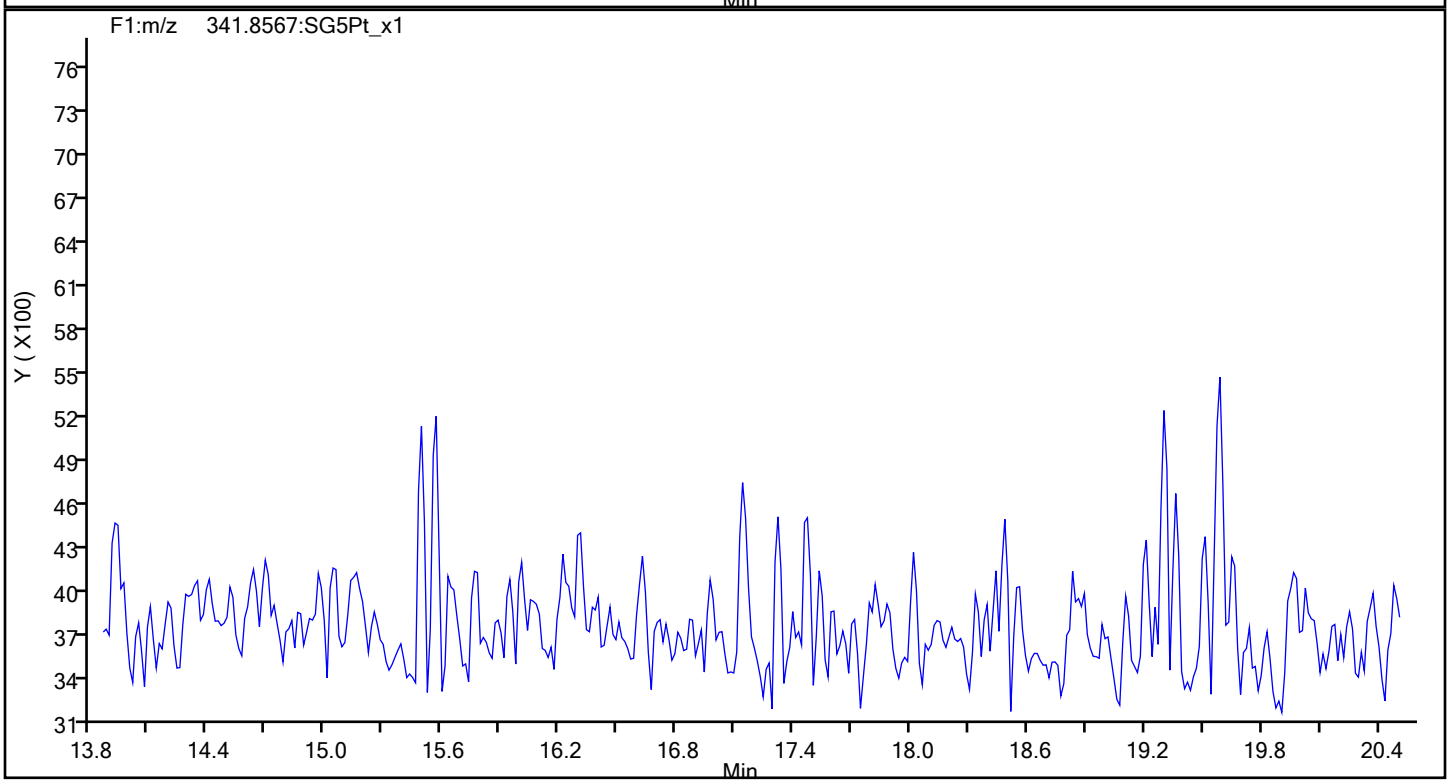

Report Date: 14-Oct-2019 15:00:12 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

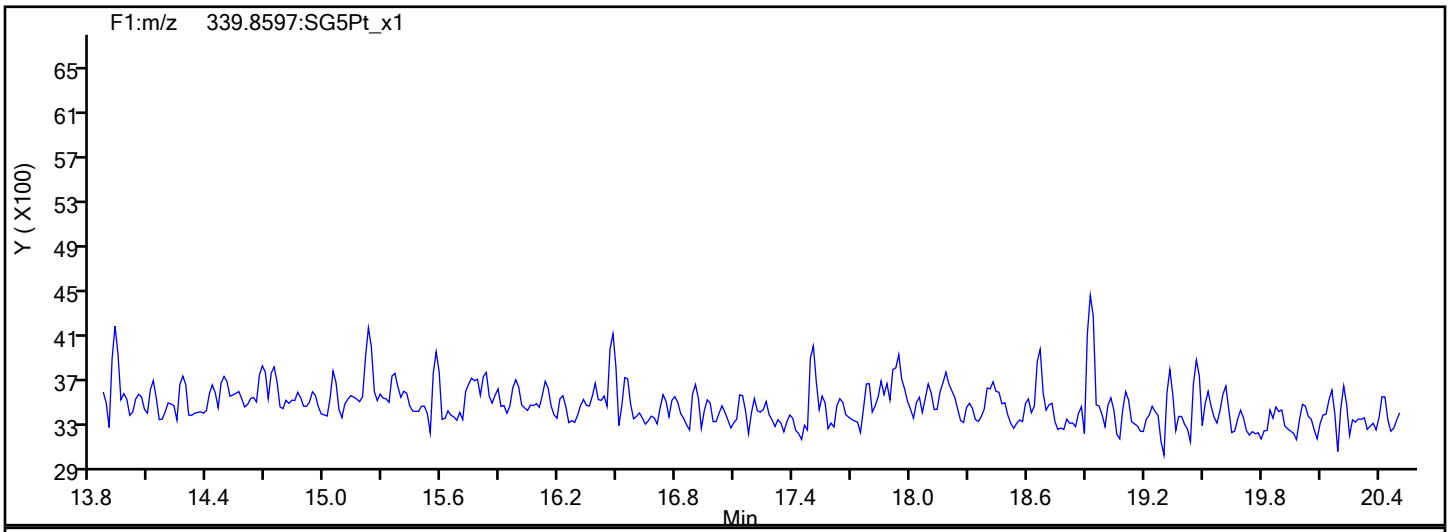

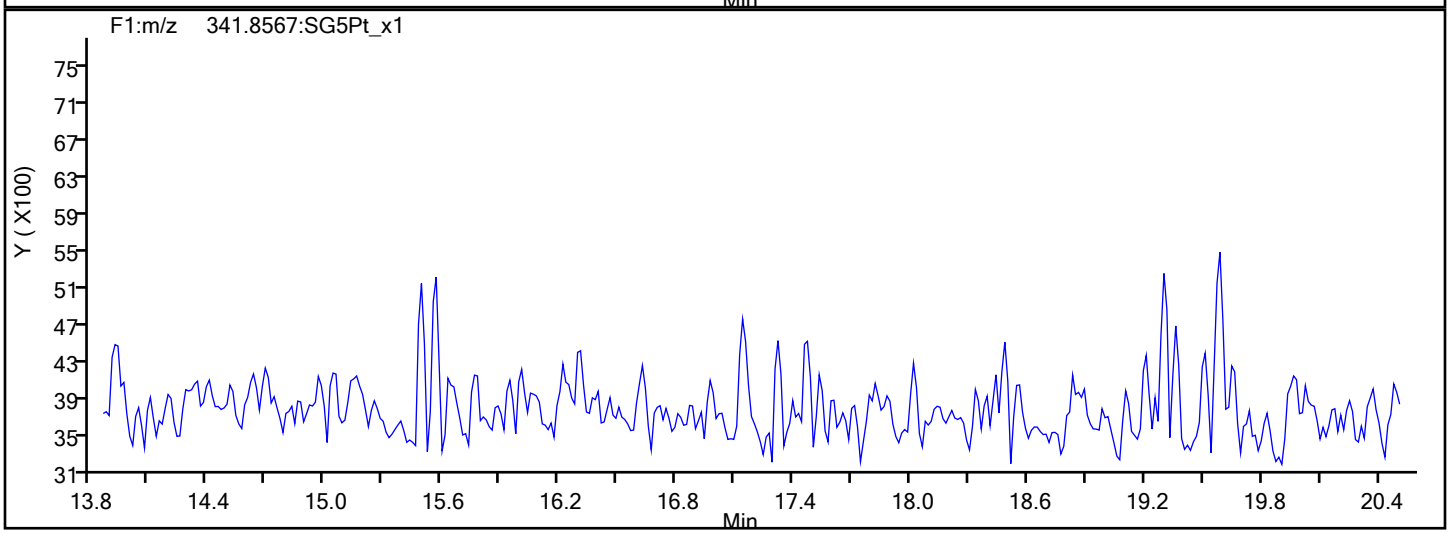

F1 PeCDFs Interference Mass

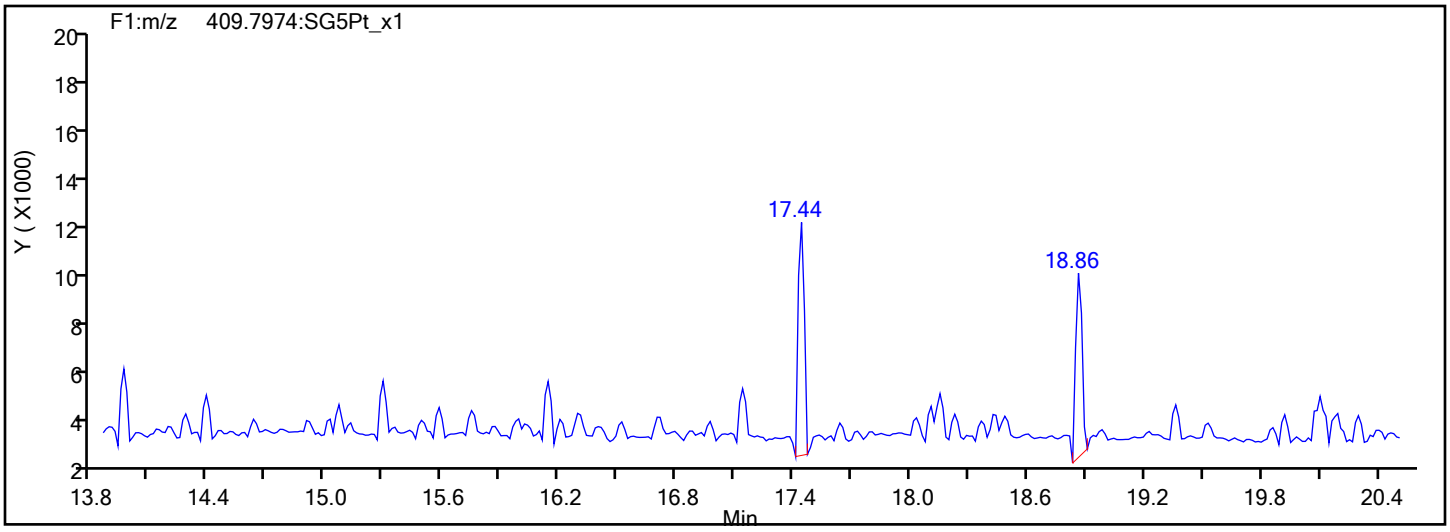

Report Date: 14-Oct-2019 15:00:12 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

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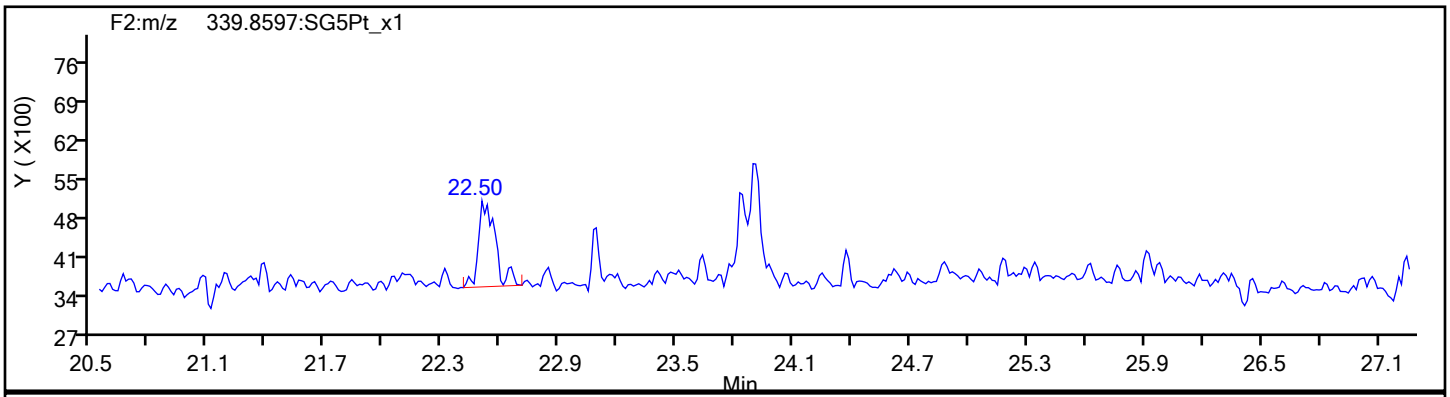

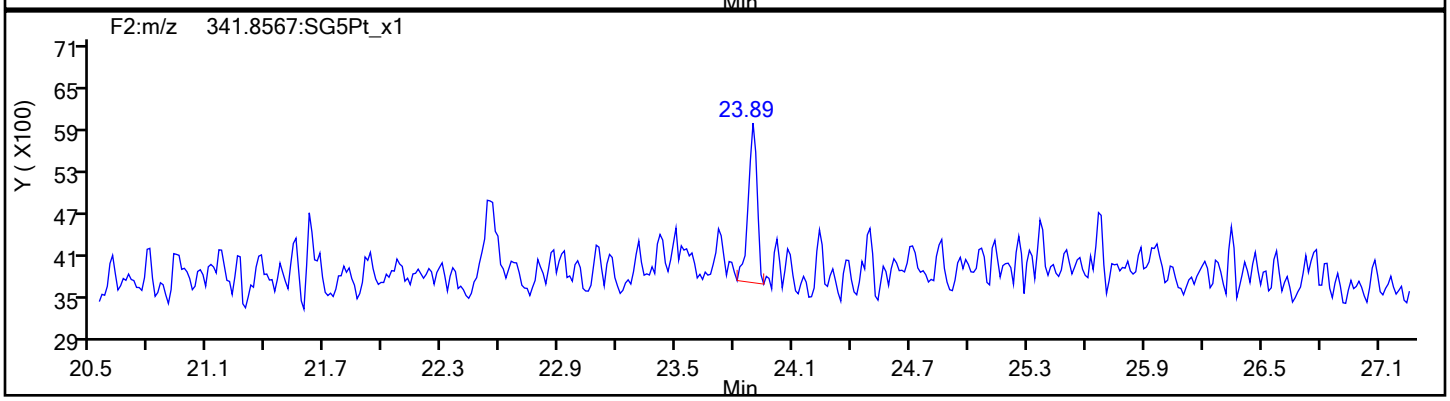

PeCDF Standards

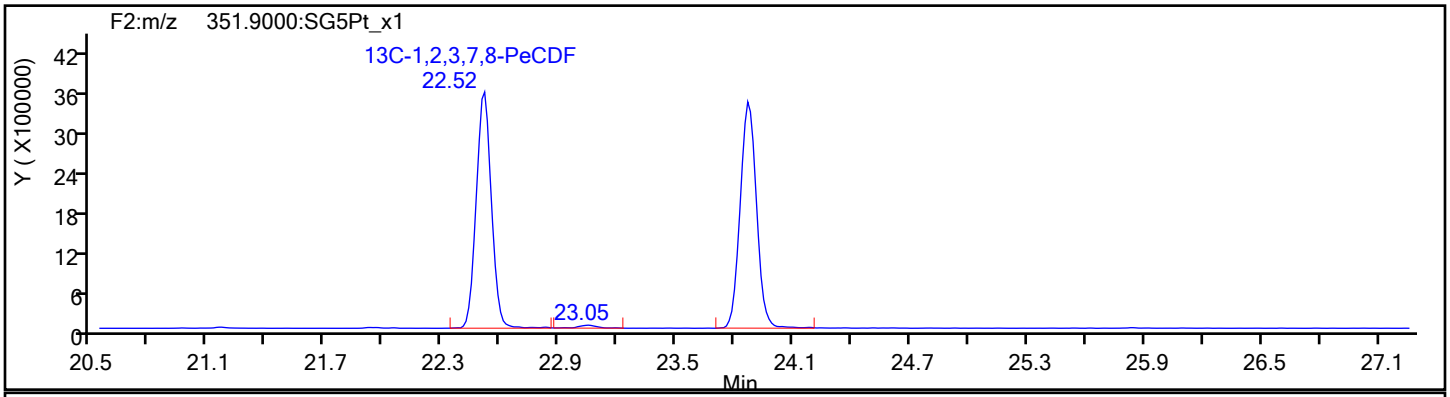

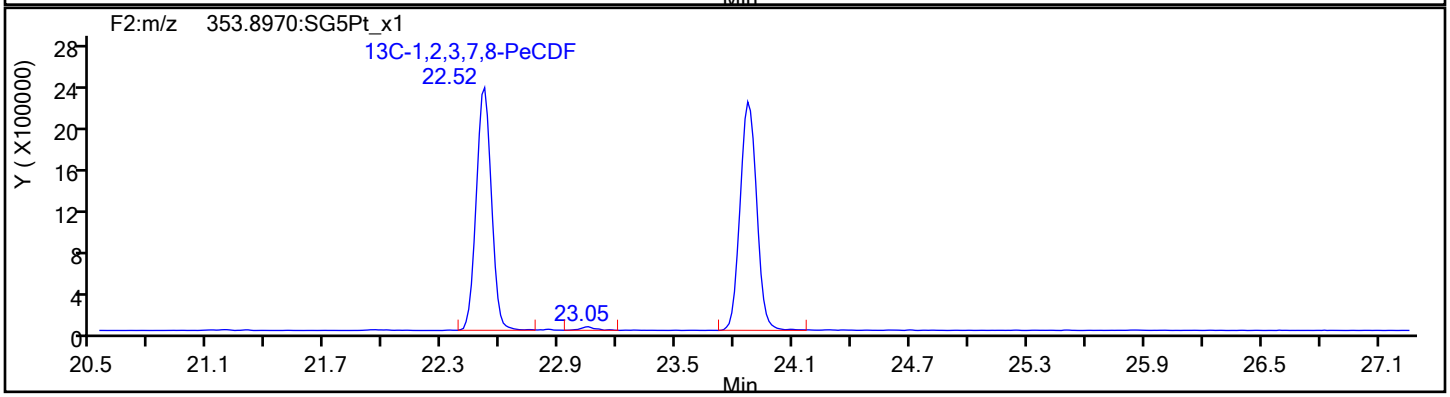

Report Date: 14-Oct-2019 15:00:12 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

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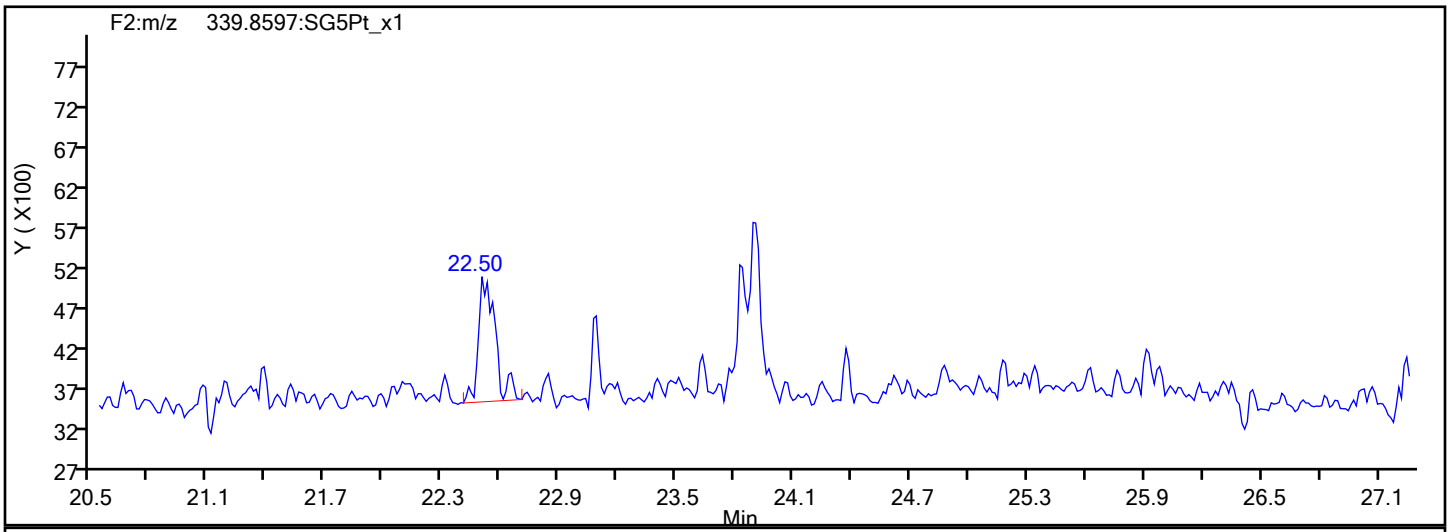

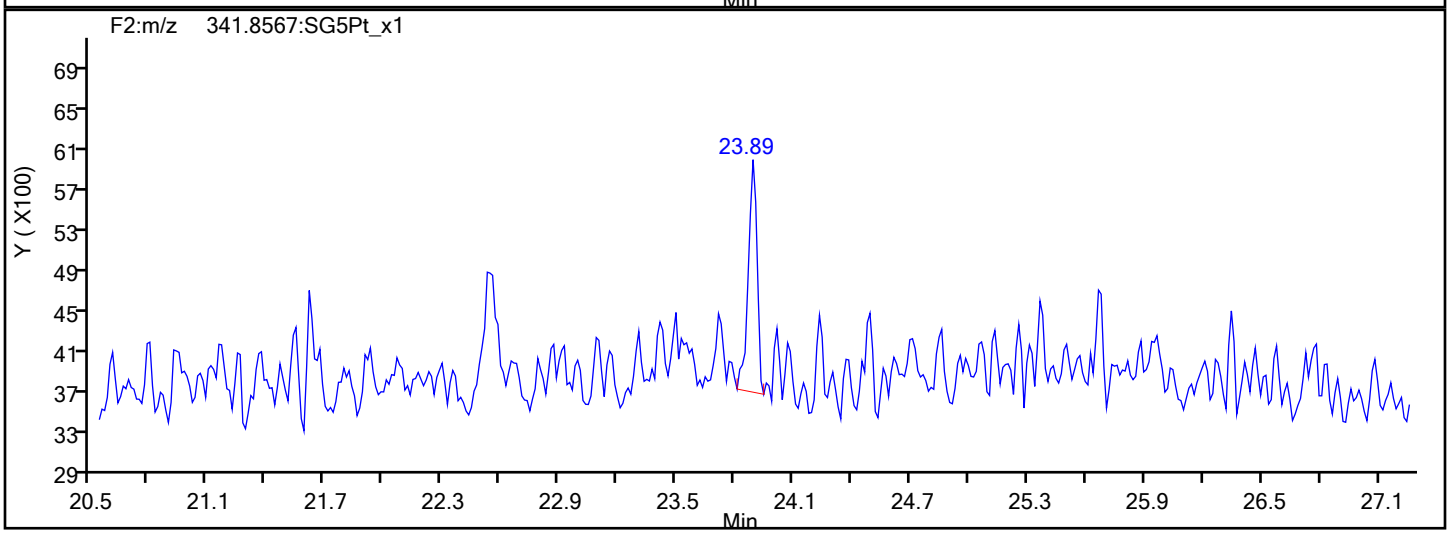

PeCDF Interference Mass

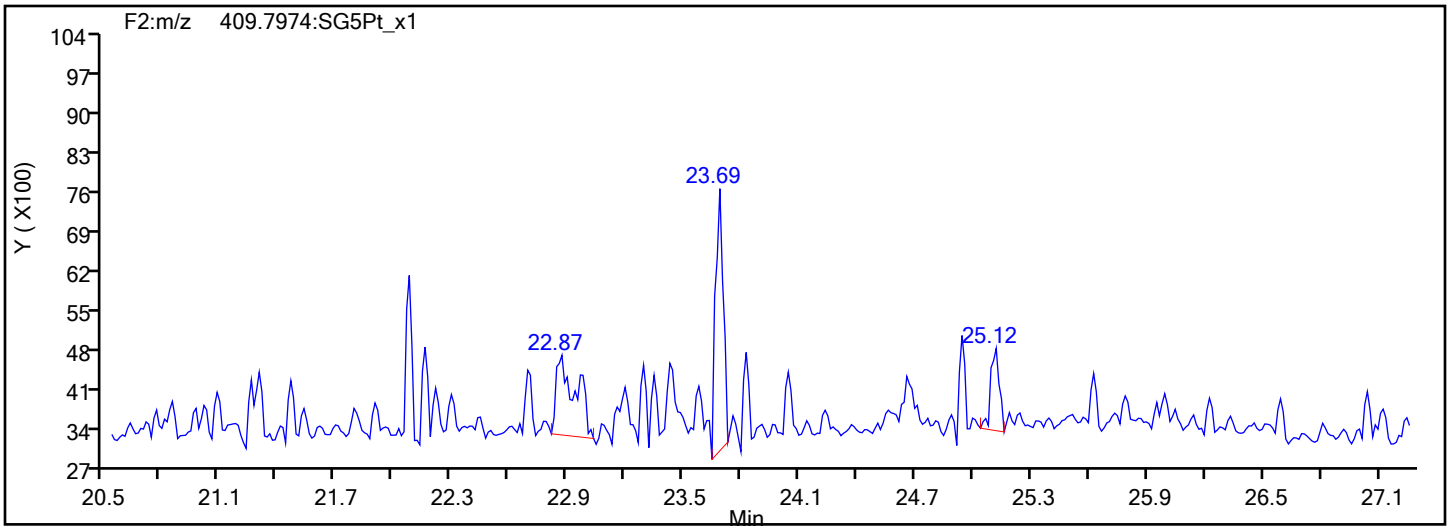

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Eurofins TestAmerica, Sacramento

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PeCDD

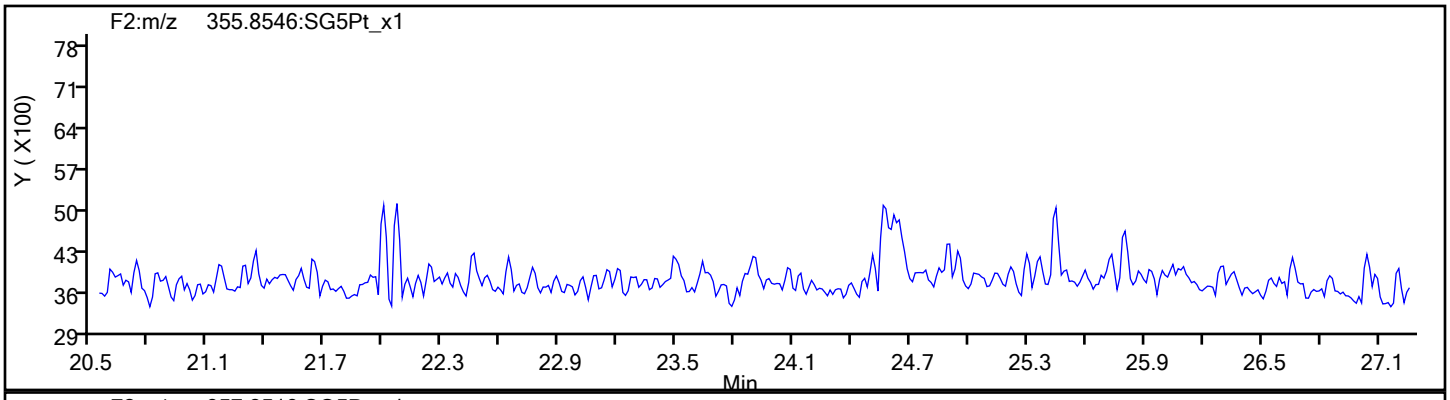

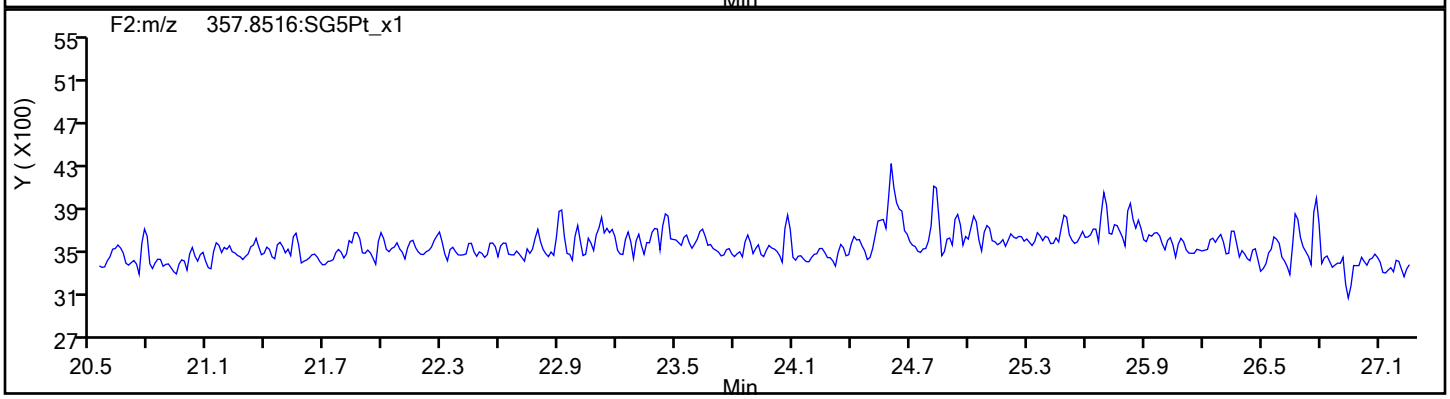

PeCDD Standards

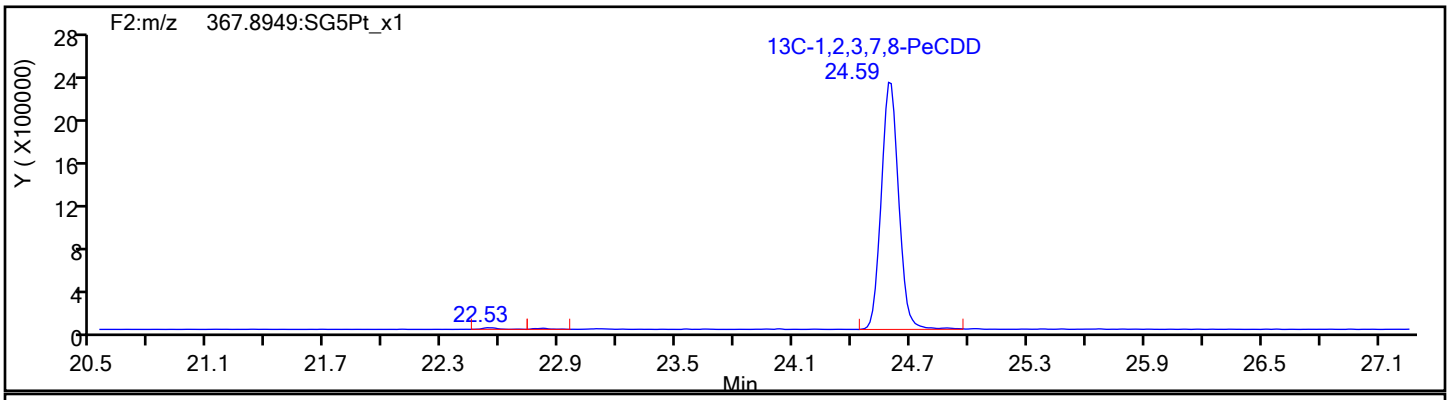

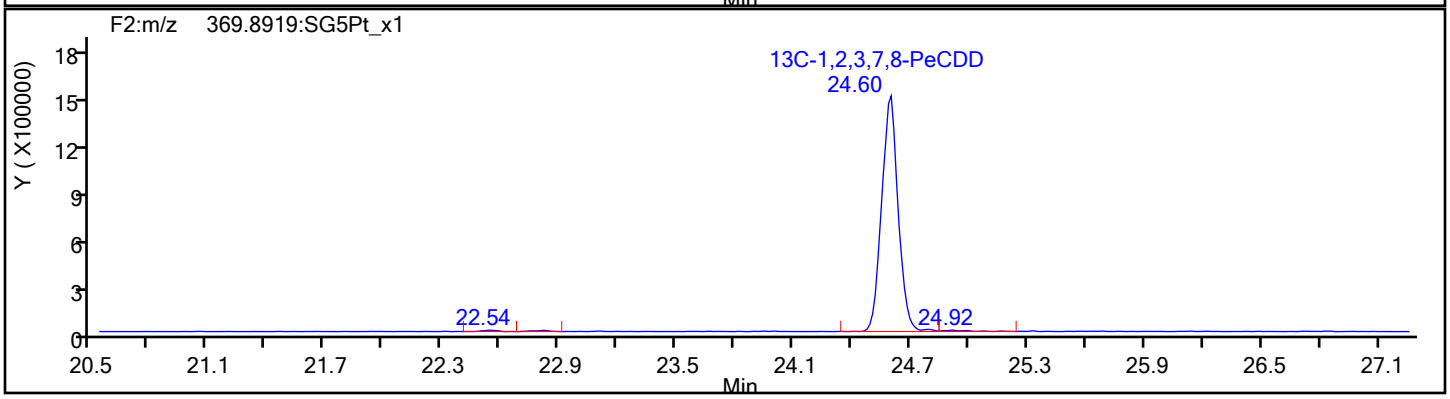

Report Date: 14-Oct-2019 15:00:12 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

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HxCDF

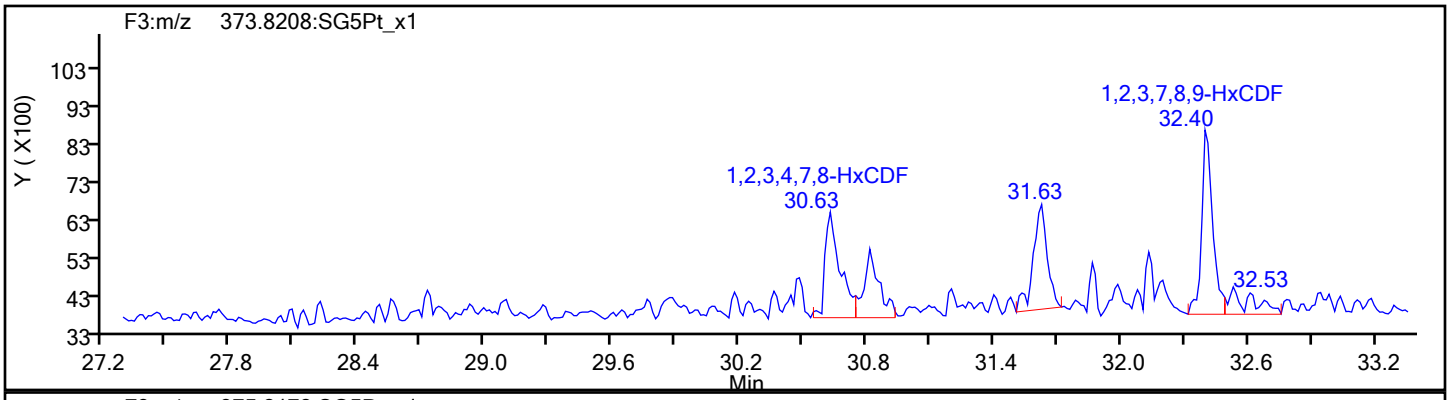

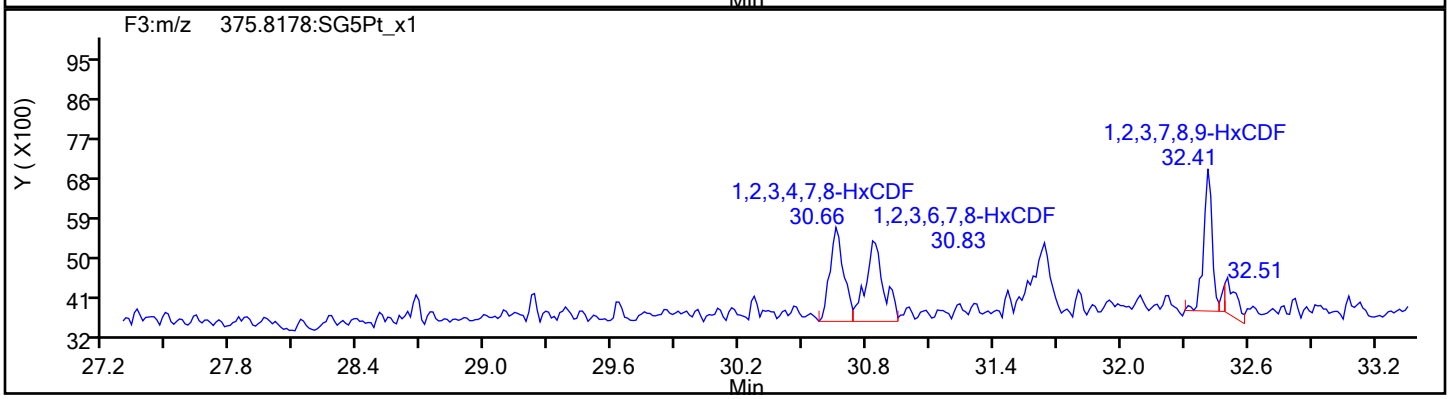

HxCDF Standards

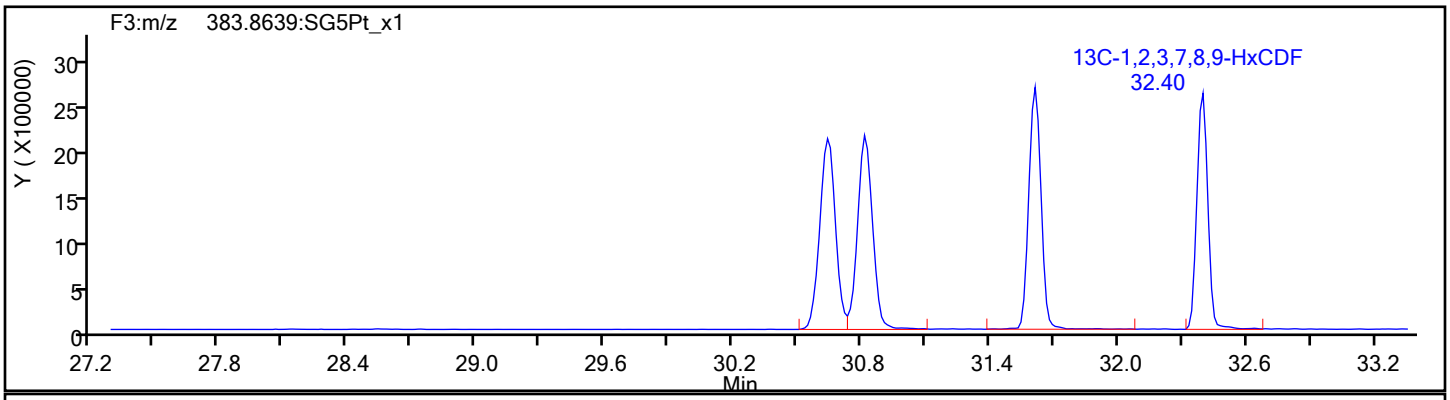

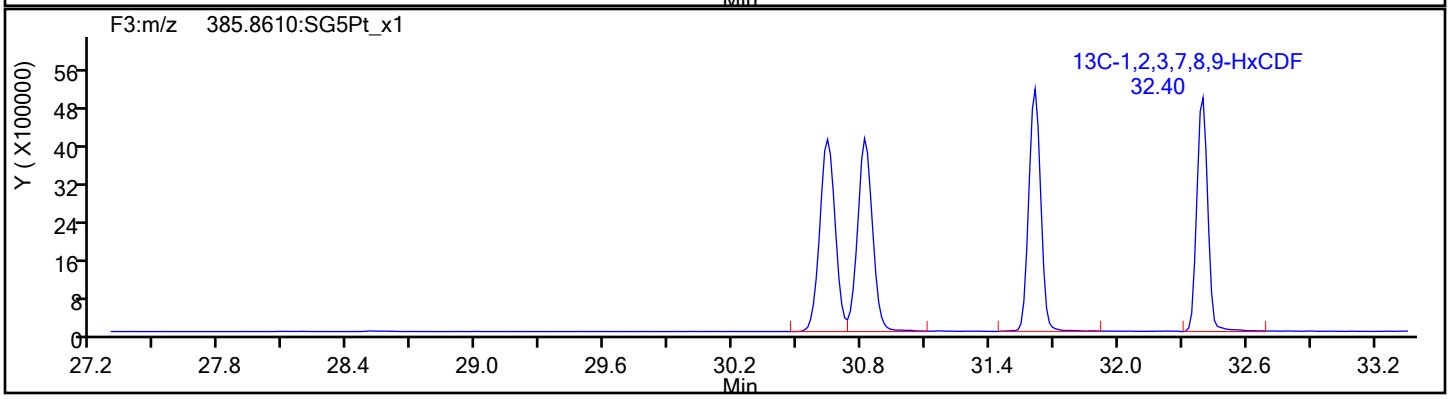

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Eurofins TestAmerica, Sacramento

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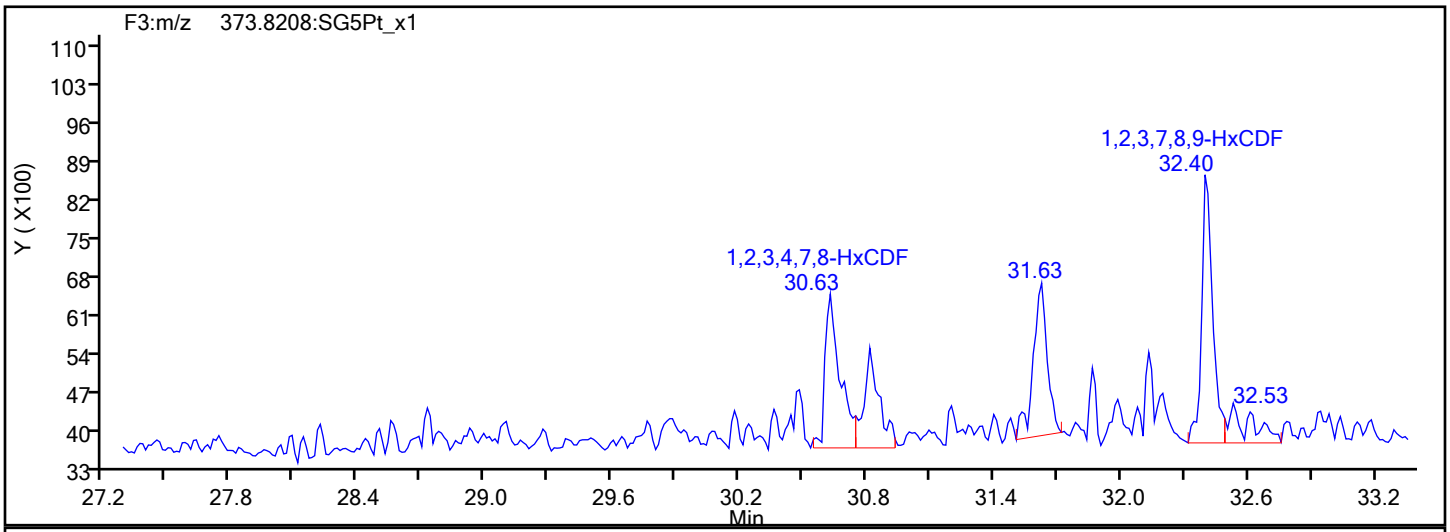

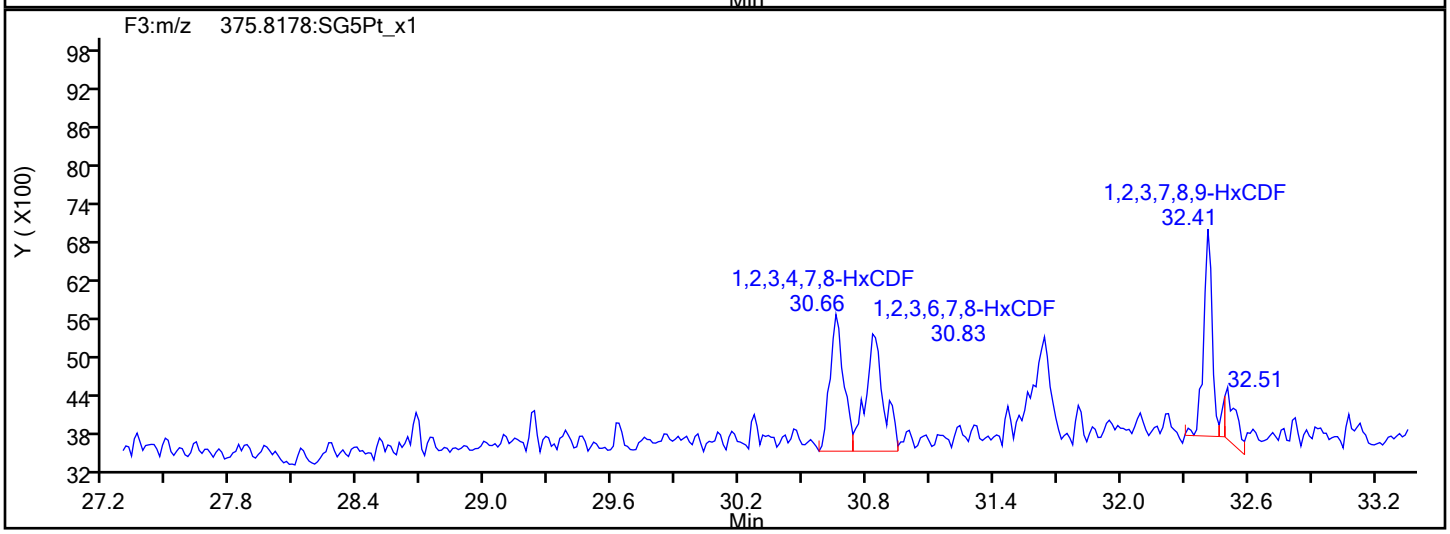

HxCDF Interference Mass

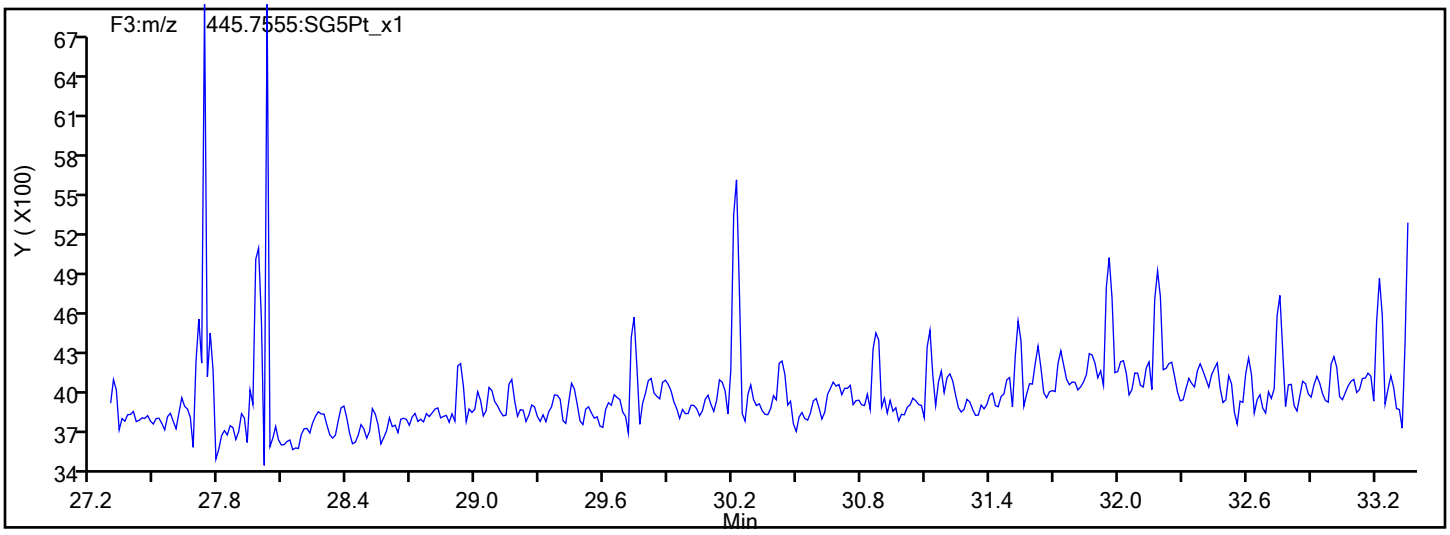

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Eurofins TestAmerica, Sacramento

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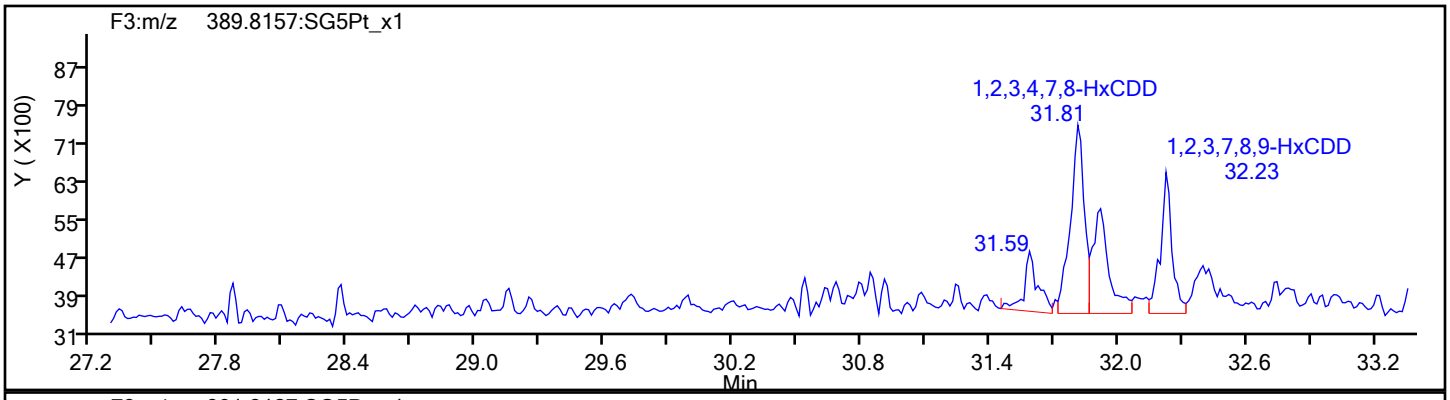

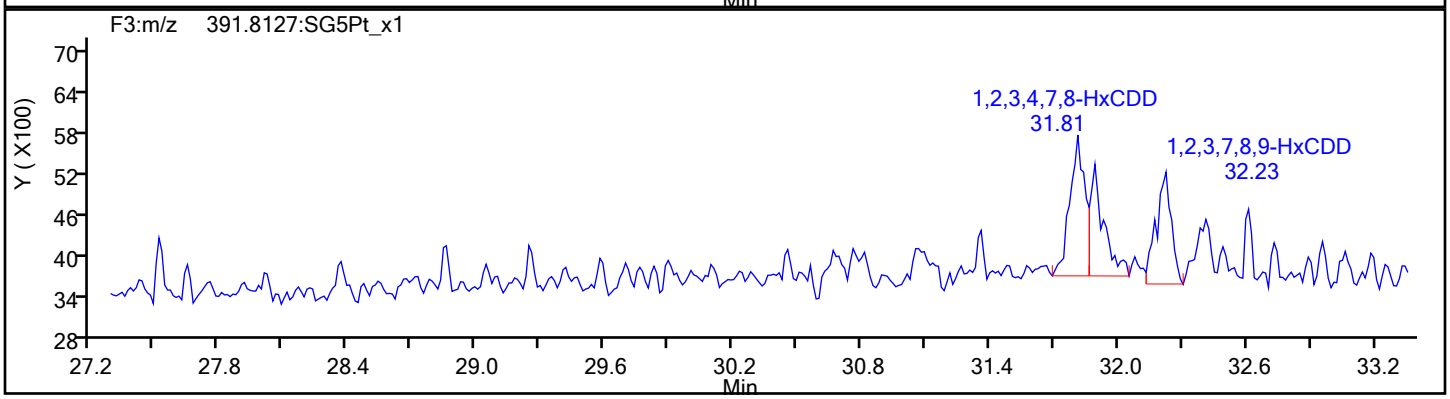

HxCDD Standards

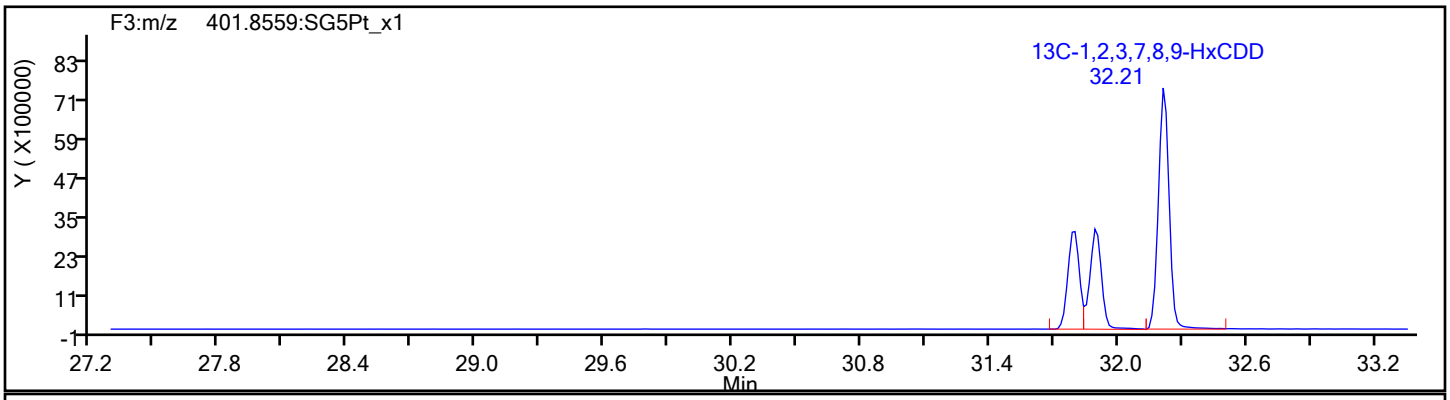

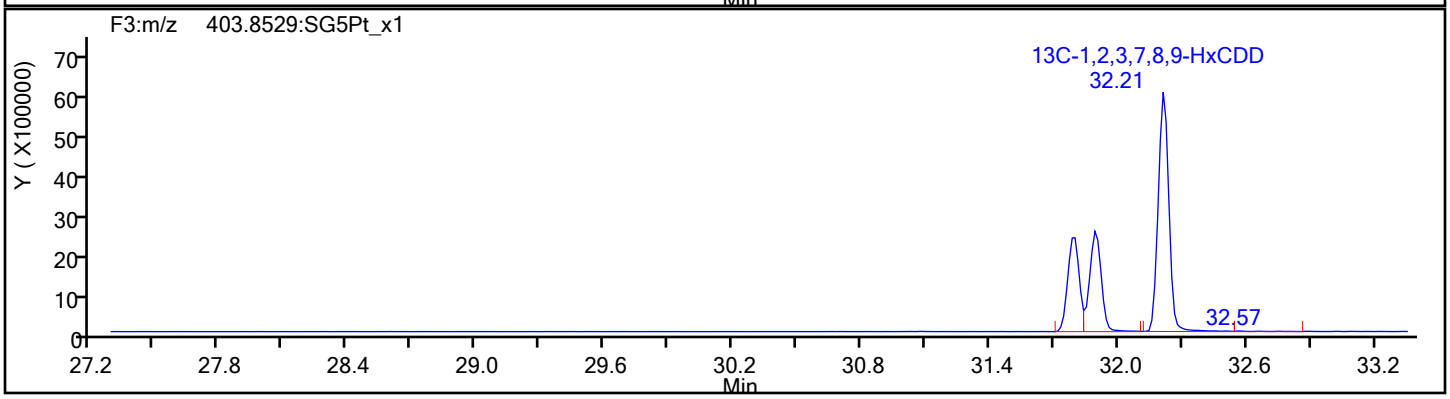

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Eurofins TestAmerica, Sacramento

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HpCDF

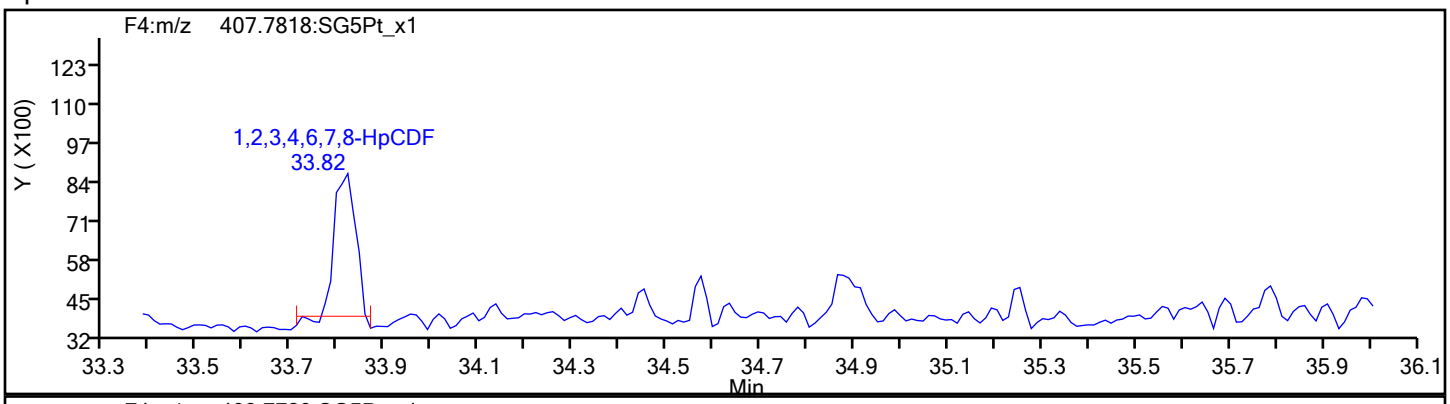

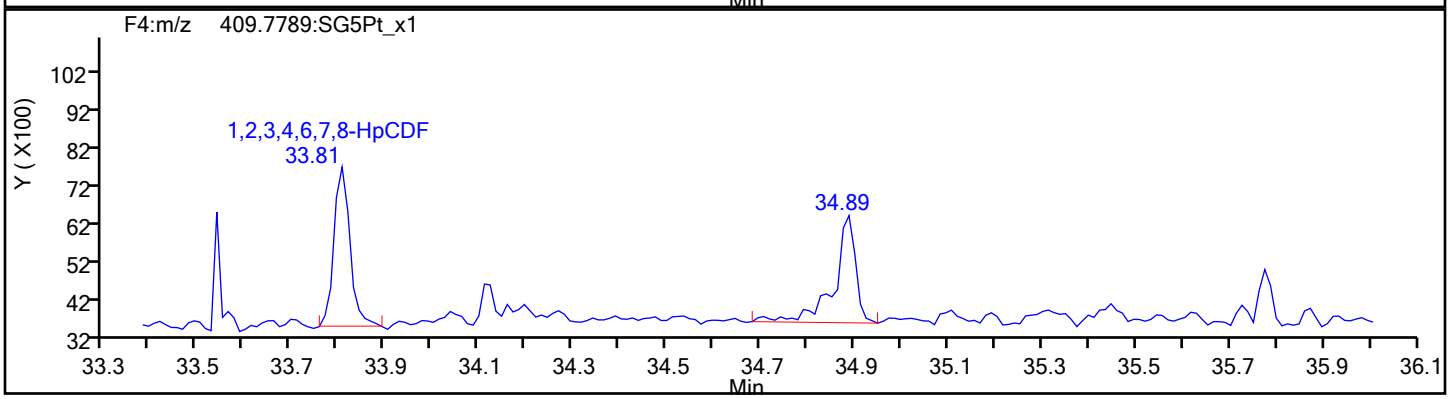

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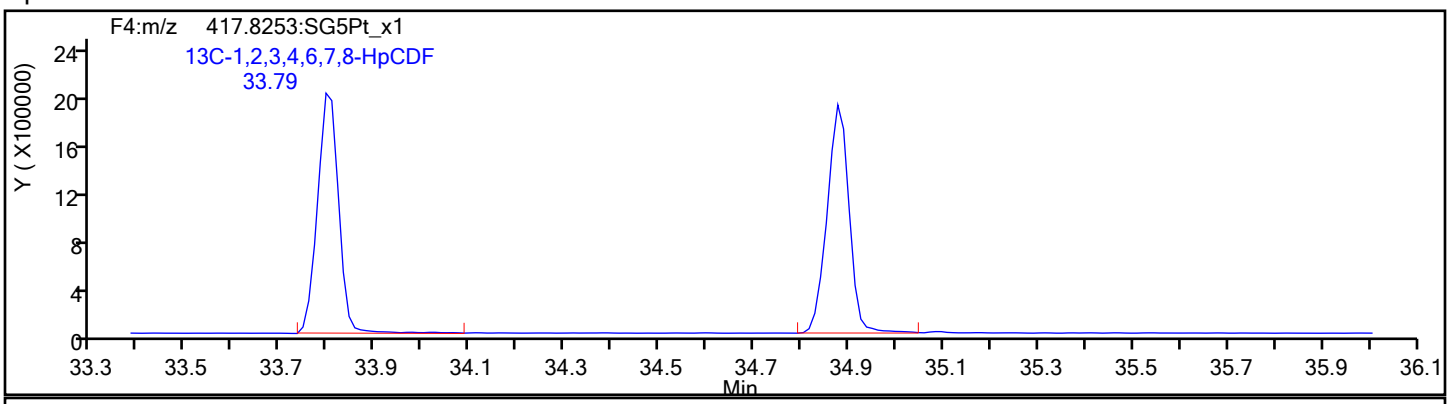

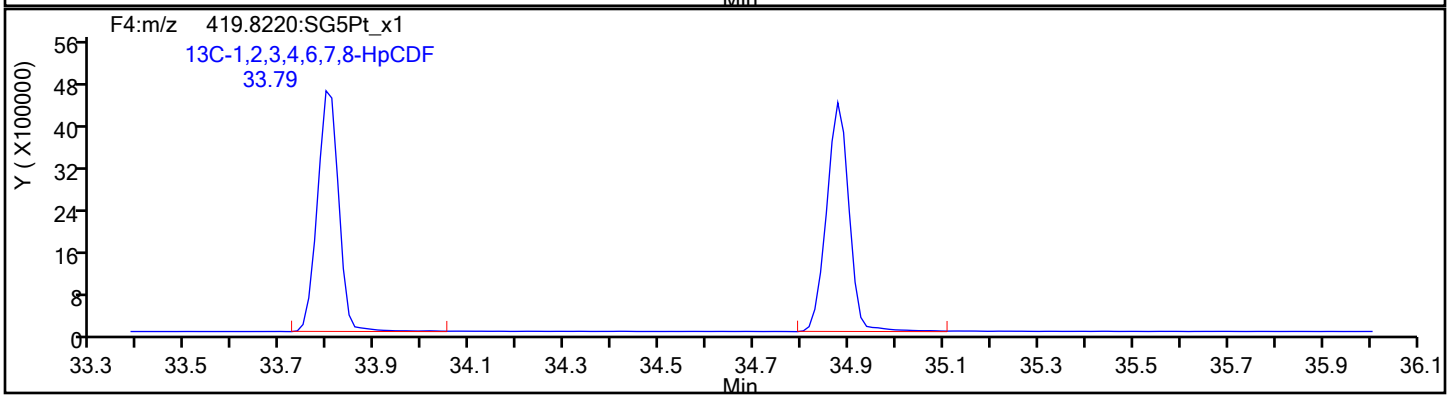

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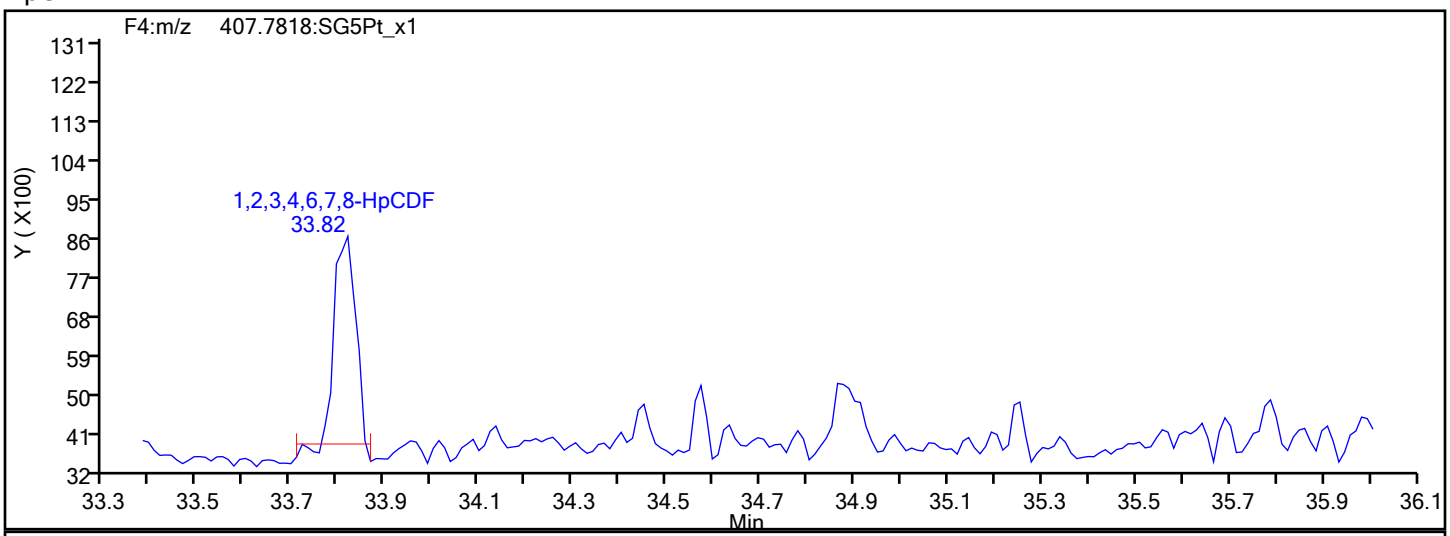

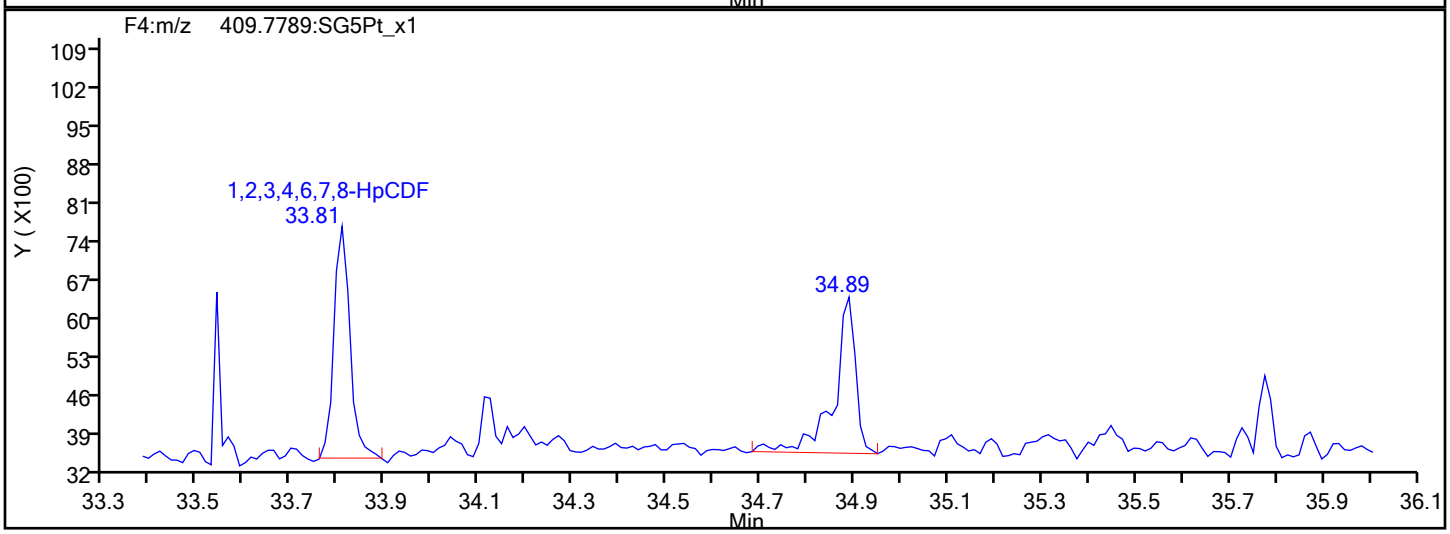

HpCDF Interference Mass

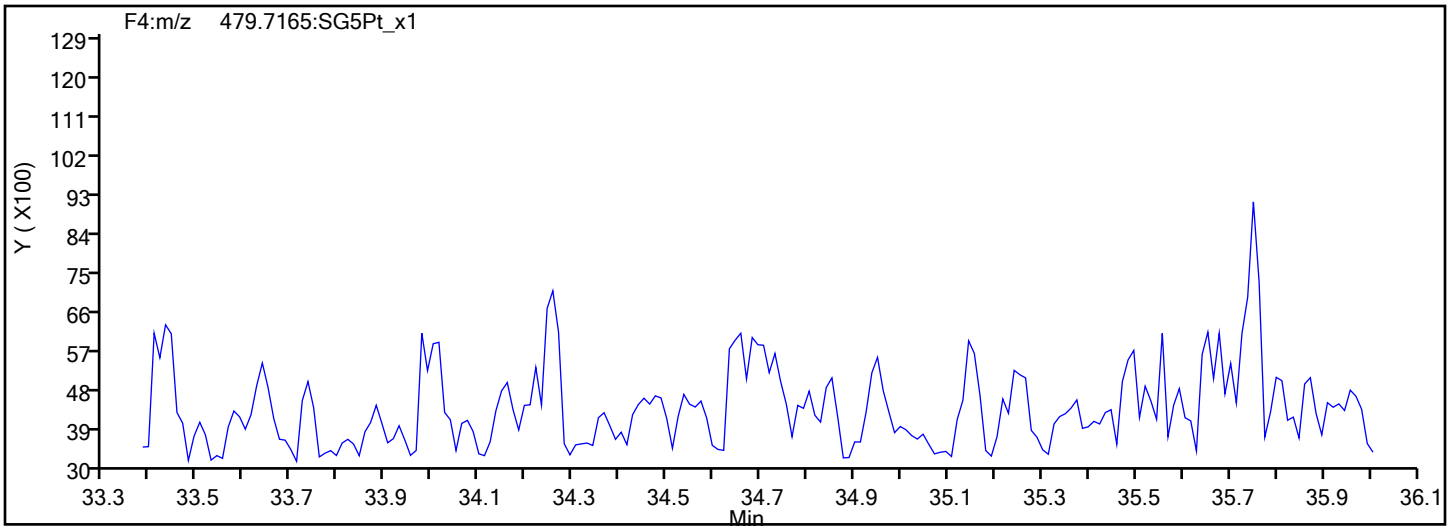

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Eurofins TestAmerica, Sacramento

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HpCDD

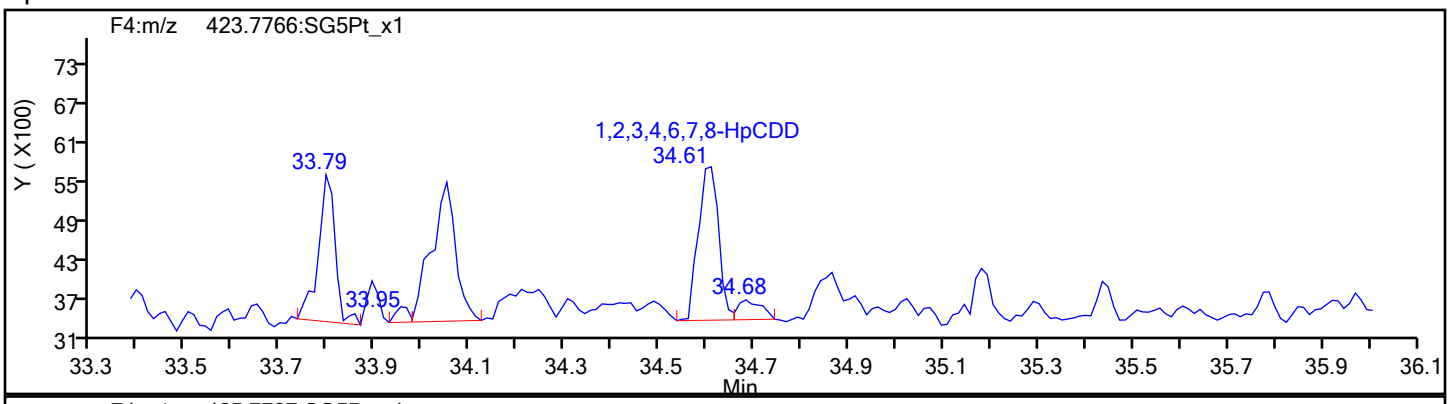

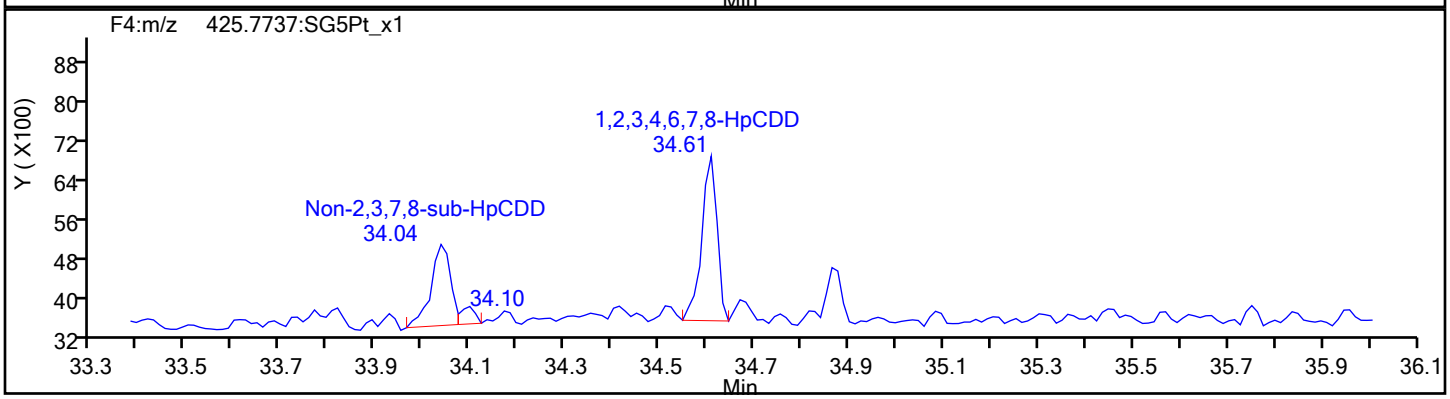

HpCDD Standards

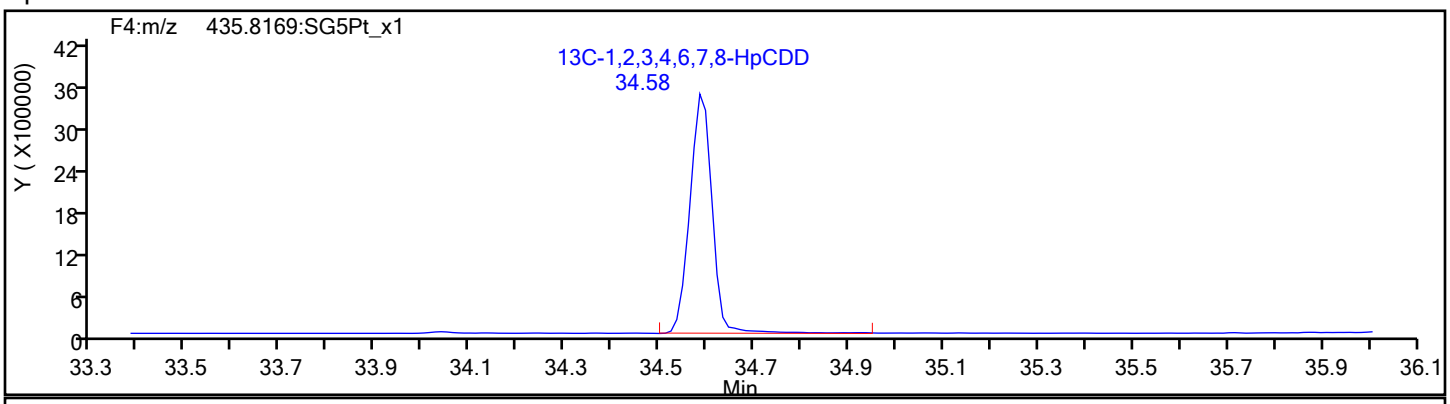

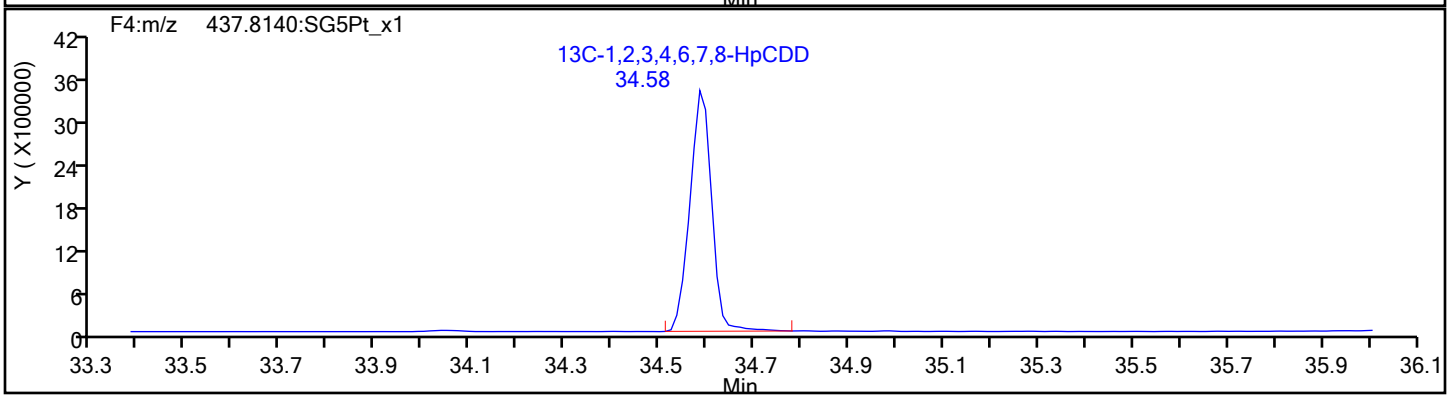

Report Date: 14-Oct-2019 15:00:13 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_22.d		
Injection Date:	11-Oct-2019 08:37:55	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-6		
Worklist#:	330148	Sample Line#:	22
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

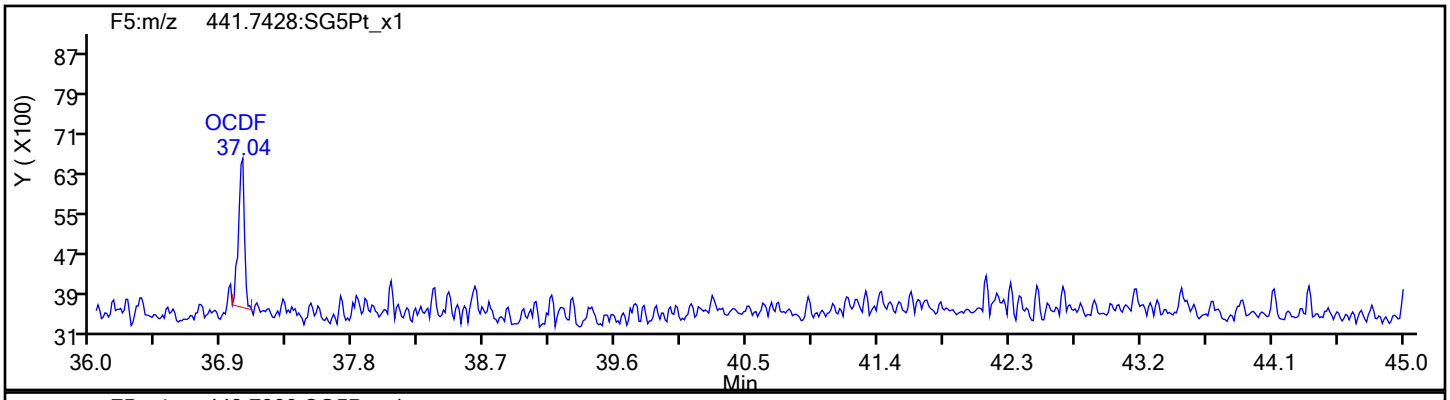

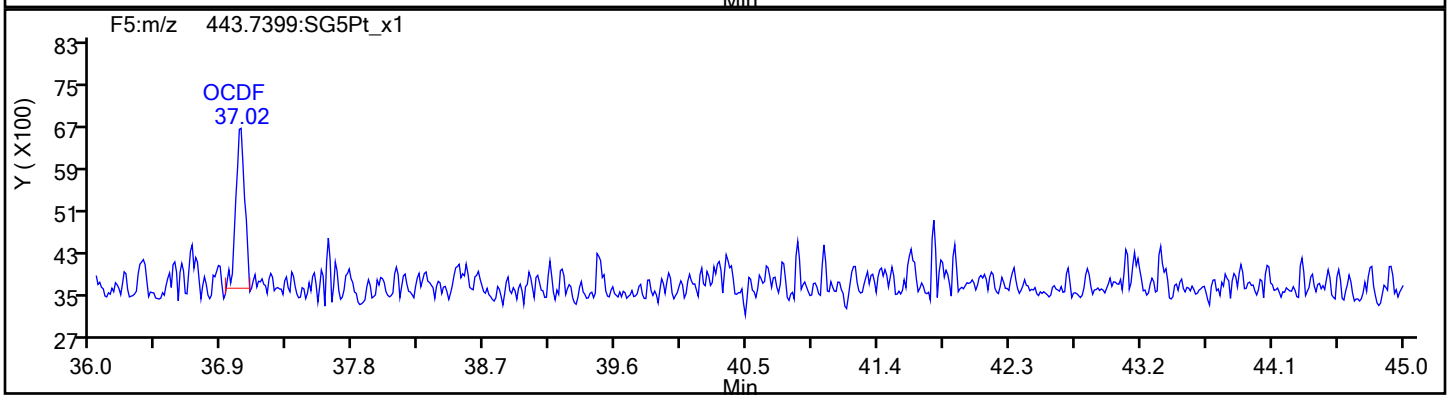

OCDF Standards

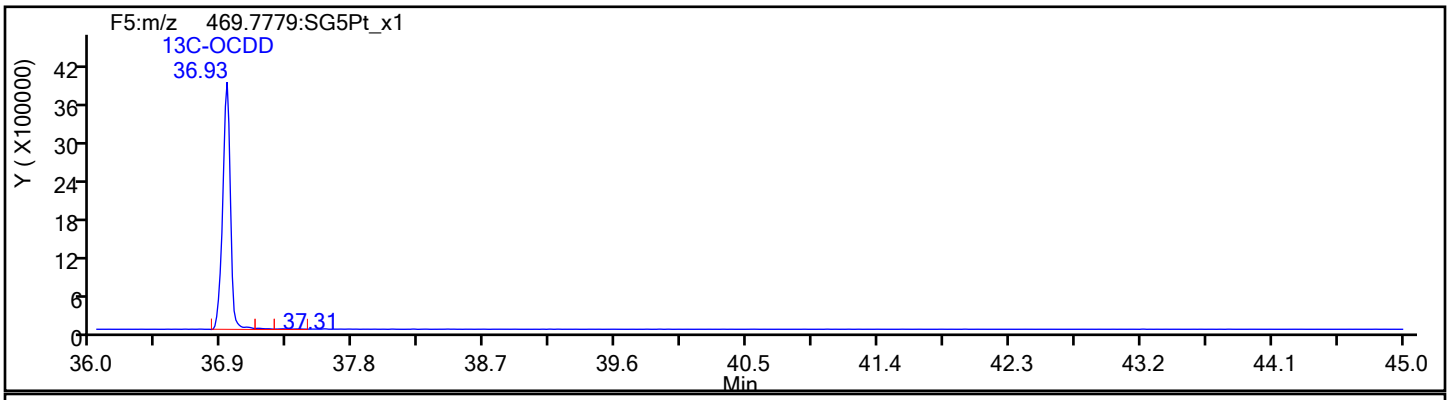

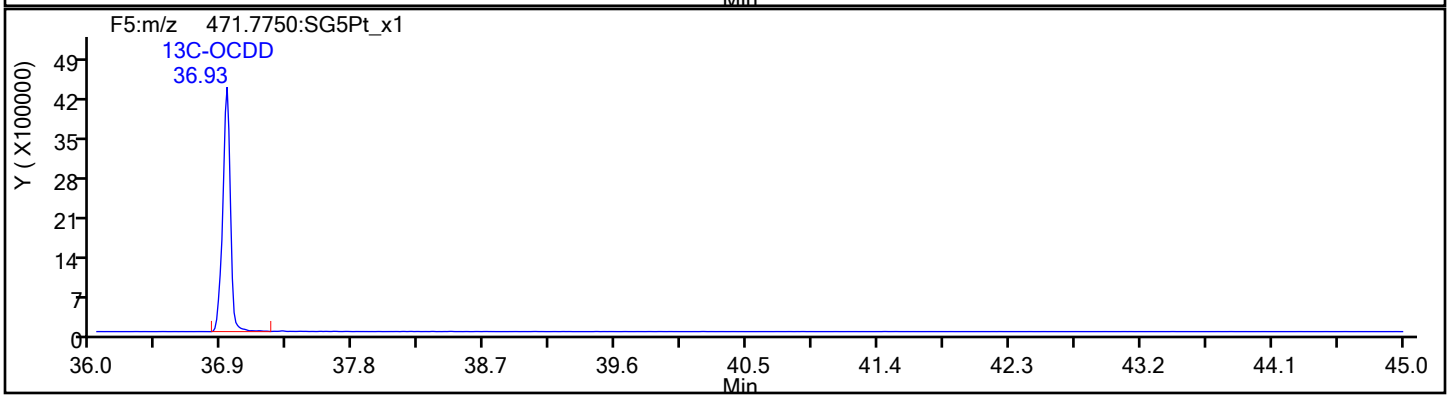

Report Date: 14-Oct-2019 15:00:13 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_22.d		
Injection Date:	11-Oct-2019 08:37:55	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-6		
Worklist#:	330148	Sample Line#:	22
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

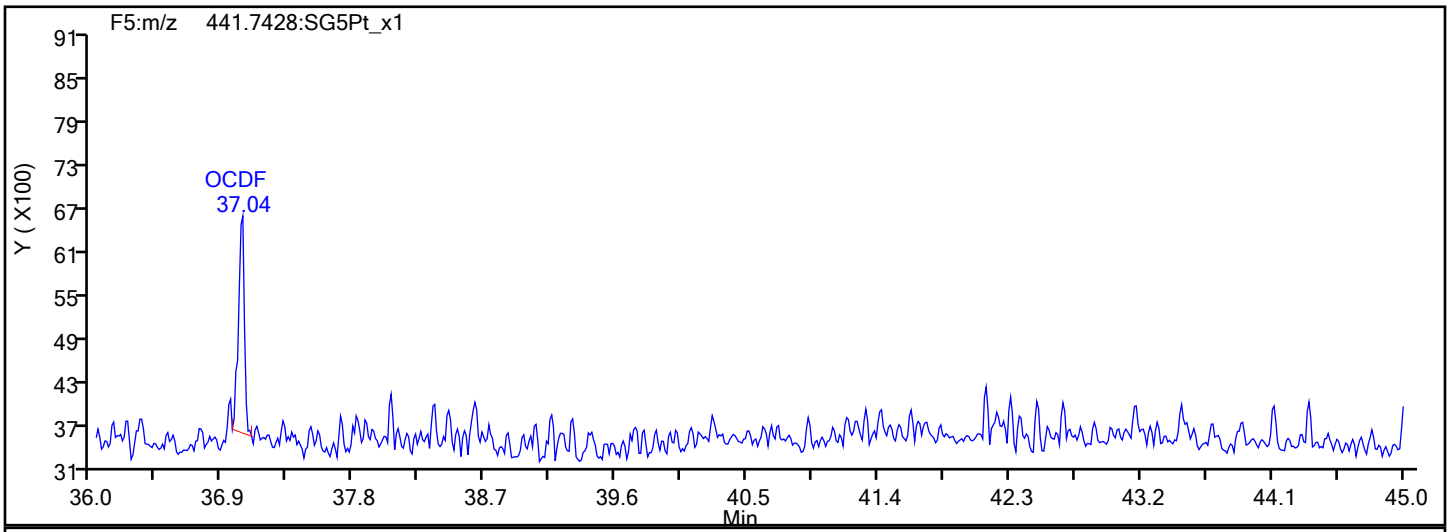

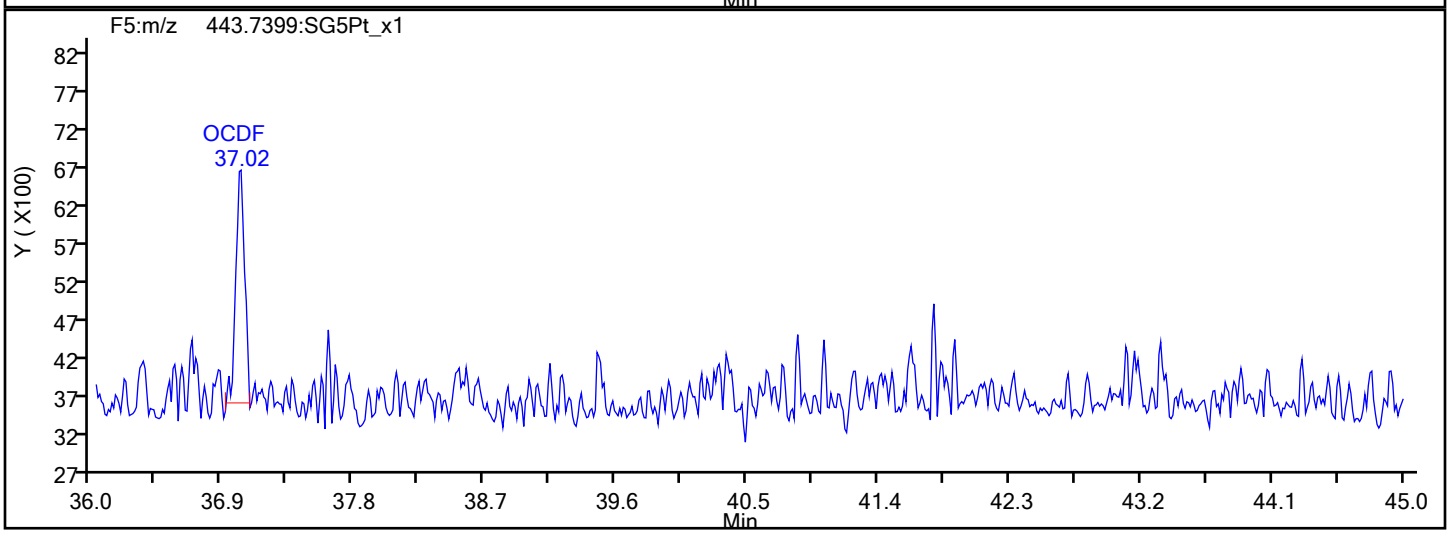

OCDF Interference Mass

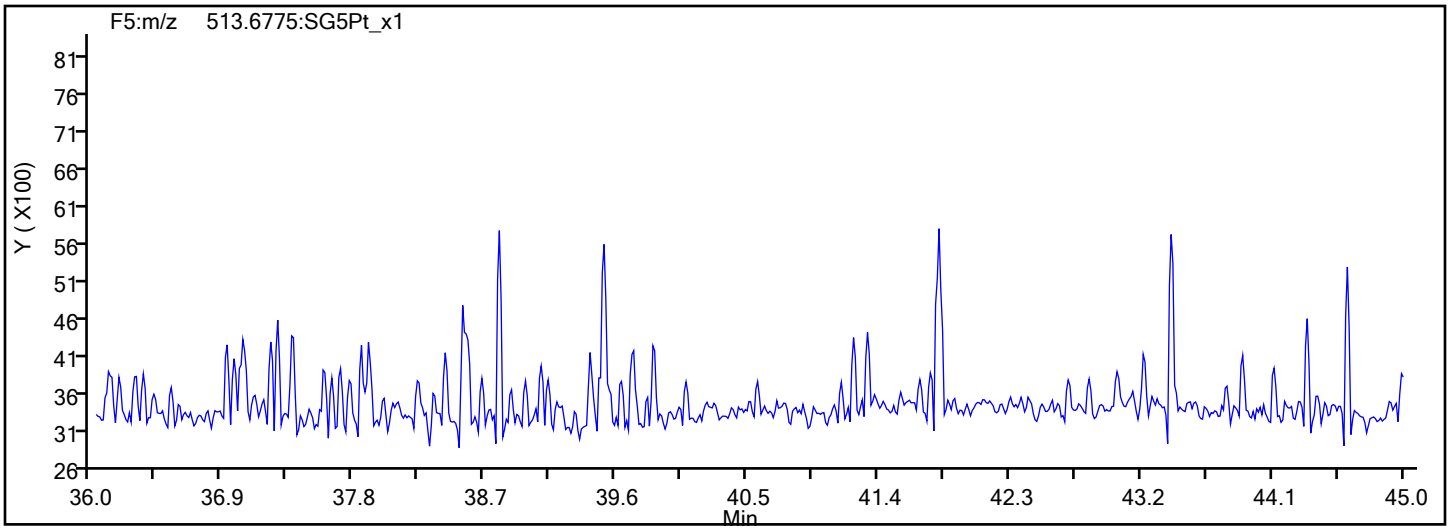

Report Date: 14-Oct-2019 15:00:13 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_22.d		
Injection Date:	11-Oct-2019 08:37:55	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-6		
Worklist#:	330148	Sample Line#:	22
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

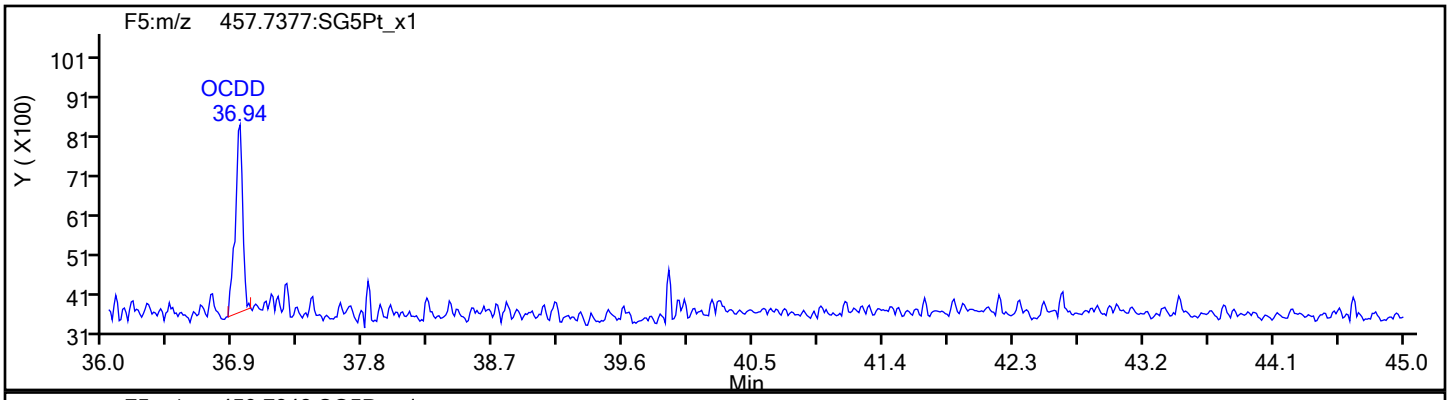

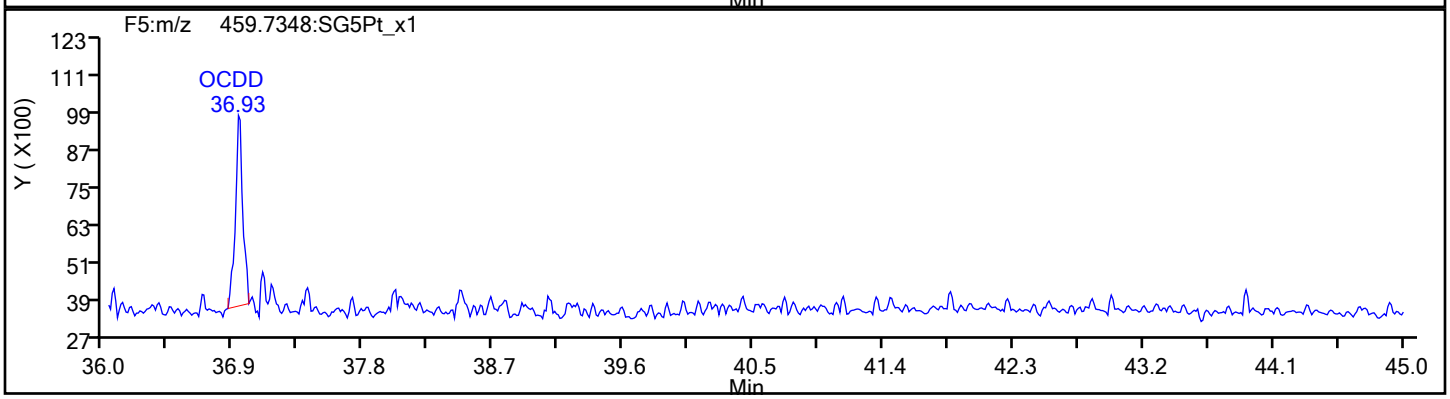

OCDD Standards

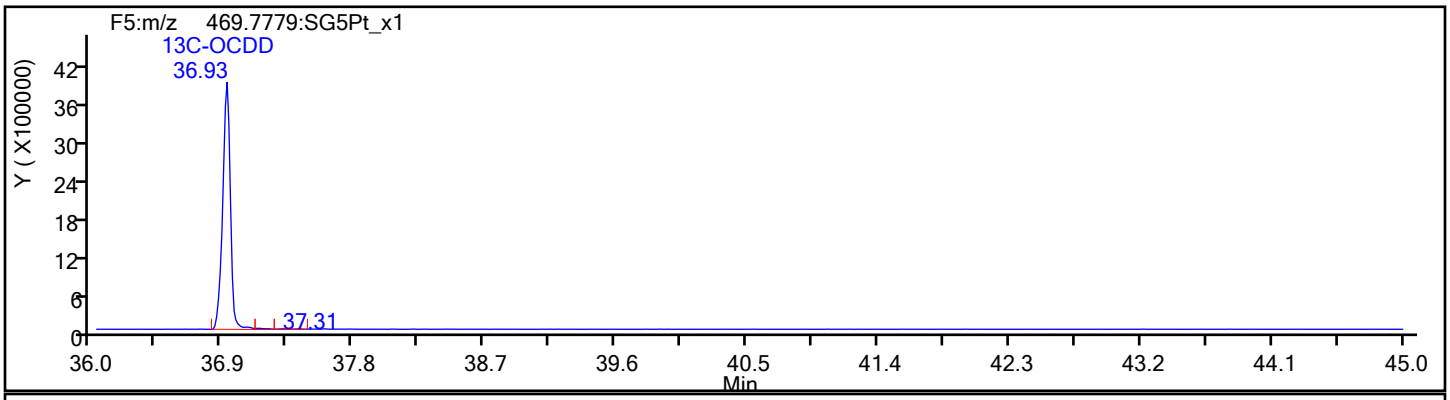

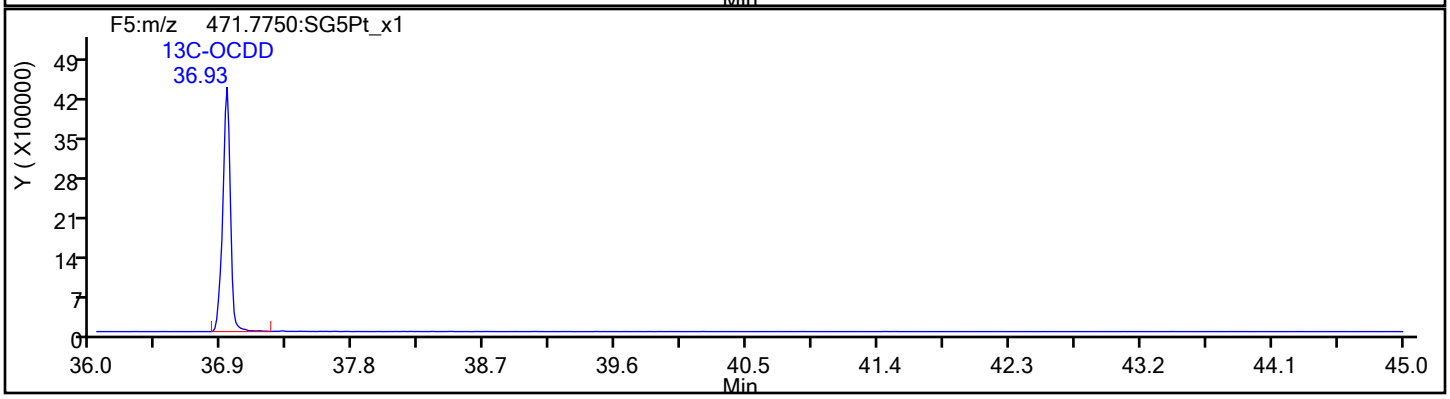

Report Date: 14-Oct-2019 15:00:13 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_22.d		
Injection Date:	11-Oct-2019 08:37:55	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-6		
Worklist#:	330148	Sample Line#:	22
Column Type:	DB-5	Column Dia:	0.32 mm

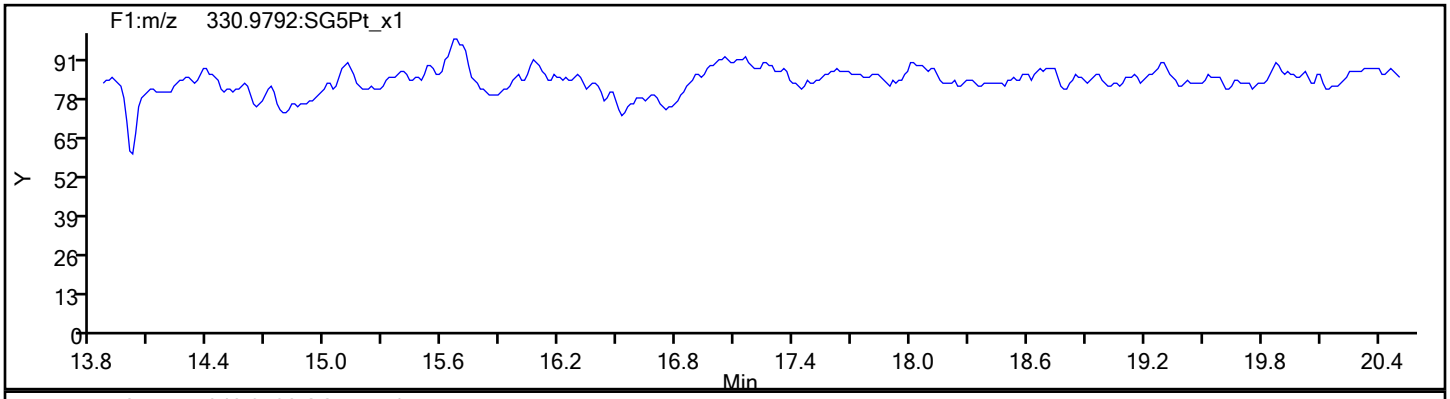

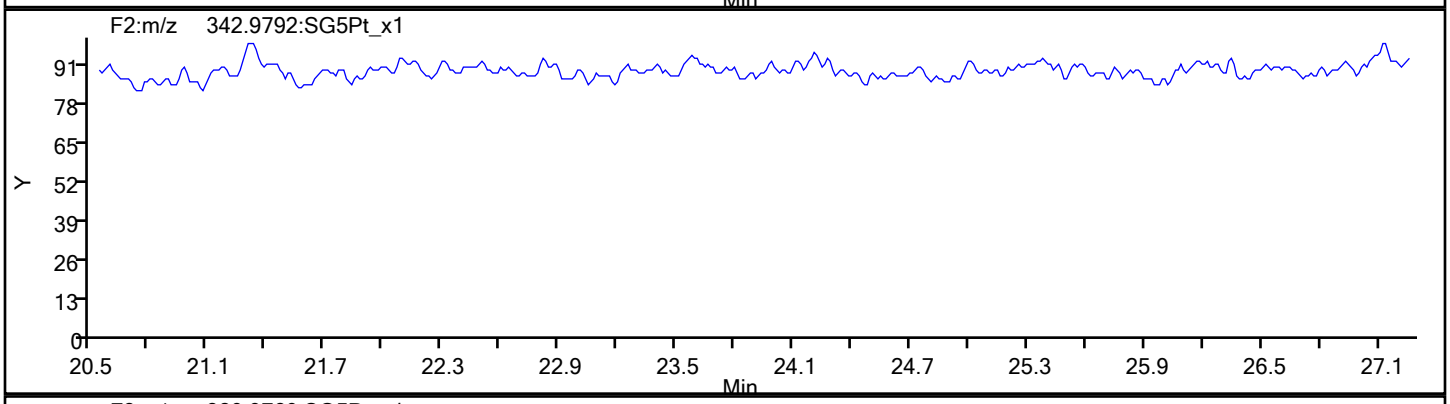

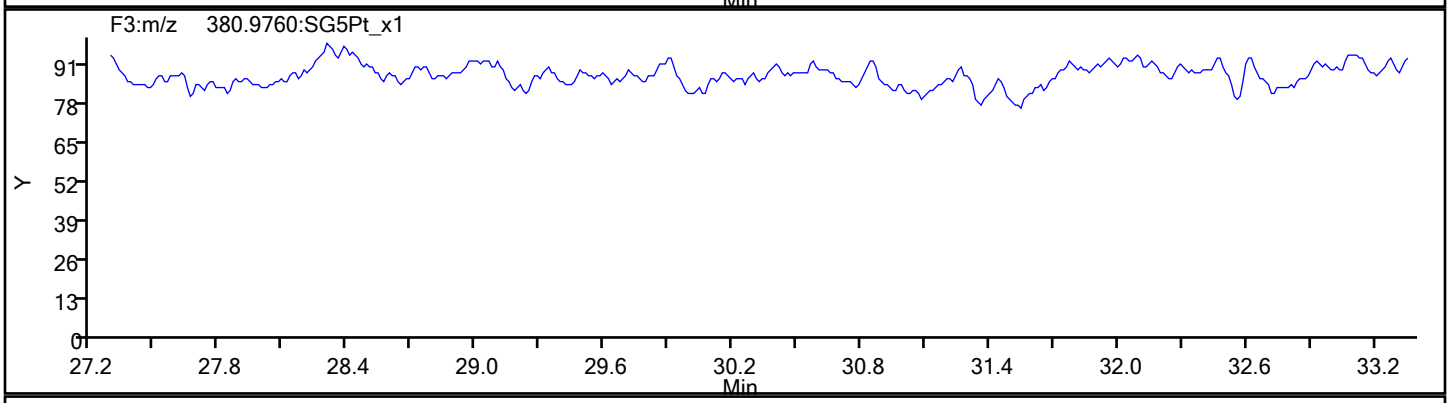

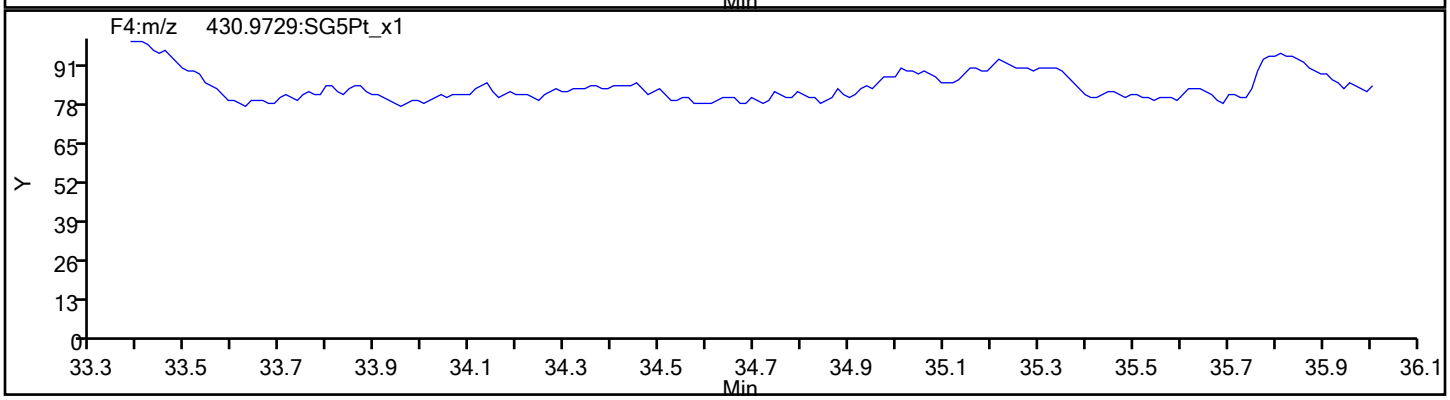

Report Date: 14-Oct-2019 15:00:13 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_22.d		
Injection Date:	11-Oct-2019 08:37:55	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Filter Test-6		
Worklist#:	330148	Sample Line#:	22
Column Type:	DB-5	Column Dia:	0.32 mm

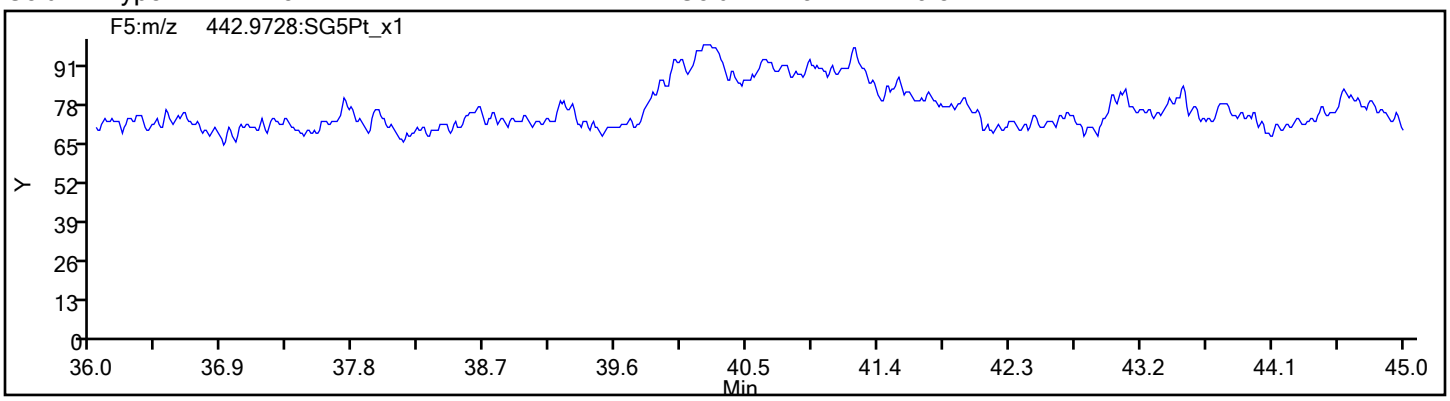

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1 Analy Batch No.: 324128

SDG No.:

Instrument ID: 10D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 13:03 Calibration End Date: 09/17/2019 16:55 Calibration ID: 47423

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-324128/3	17SE1910D5_3.d
Level 2	IC 320-324128/4	17SE1910D5_4.d
Level 3	IC 320-324128/7	17SE1910D5_7.d
Level 4	IC 320-324128/6	17SE1910D5_6.d
Level 5	IC 320-324128/8	17SE1910D5_8.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
2,3,7,8-TCDF	1.0712	1.1022	0.9929	1.0616	1.0257	AveID		1.0507				4.0		20.0			
2,3,7,8-TCDD	1.1677	1.1266	1.0239	1.1261	1.0877	AveID		1.1064				4.9		20.0			
1,2,3,7,8-PeCDF	1.0011	1.1601	1.0432	1.1331	1.0737	AveID		1.0822				6.0		20.0			
2,3,4,7,8-PeCDF	0.9626	1.1888	1.0864	1.1728	1.1054	AveID		1.1032				8.1		20.0			
1,2,3,7,8-PeCDD	0.8594	0.9576	0.8670	0.9410	0.9001	AveID		0.9050				4.8		20.0			
1,2,3,4,7,8-HxCDF	1.1004	1.2643	1.1561	1.2645	1.2013	AveID		1.1973				5.9		20.0			
1,2,3,6,7,8-HxCDF	1.0669	1.2704	1.1534	1.2334	1.1792	AveID		1.1807				6.6		20.0			
2,3,4,6,7,8-HxCDF	1.1327	1.2683	1.1855	1.2657	1.2056	AveID		1.2116				4.7		20.0			
1,2,3,4,7,8-HxCDD	1.0497	1.1313	1.0762	1.1585	1.1282	AveID		1.1088				4.0		20.0			
1,2,3,6,7,8-HxCDD	1.0225	1.1526	1.0496	1.1177	1.0648	AveID		1.0814				4.9		20.0			
1,2,3,7,8,9-HxCDD	1.1542	1.3138	1.1887	1.2433	1.1615	AveID		1.2123				5.5		20.0			
1,2,3,7,8,9-HxCDF	1.2253	1.2976	1.2100	1.2716	1.2212	AveID		1.2451				3.0		20.0			
1,2,3,4,6,7,8-HpCDF	1.5175	1.6415	1.5201	1.5867	1.5119	AveID		1.5555				3.7		20.0			
1,2,3,4,6,7,8-HpCDD	0.8498	0.9887	0.9182	0.9754	0.9258	AveID		0.9316				5.9		20.0			
1,2,3,4,7,8,9-HpCDF	1.2548	1.4796	1.3480	1.4704	1.3785	AveID		1.3862				6.7		20.0			
OCDD	0.9991	1.1715	1.0189	1.0914	1.0295	AveID		1.0621				6.6		20.0			
OCDF	1.1420	1.3314	1.2399	1.3172	1.2675	AveID		1.2596				6.0		20.0			
13C-2,3,7,8-TCDF	1.4608	1.4445	1.4059	1.4451	1.4357	Ave		1.4384				1.4		35.0			
13C-2,3,7,8-TCDD	0.9625	0.9452	0.9420	0.9578	0.9591	Ave		0.9533				1.0		35.0			
13C-1,2,3,7,8-PeCDF	1.0011	0.9736	1.0018	1.0725	1.0941	Ave		1.0286				5.0		35.0			
13C-2,3,4,7,8-PeCDF	0.9468	0.9409	0.9284	1.0290	1.0682	Ave		0.9827				6.3		35.0			
13C-1,2,3,7,8-PeCDD	0.7126	0.6892	0.7253	0.7912	0.8222	Ave		0.7481				7.5		35.0			
13C-1,2,3,4,7,8-HxCDF	1.1695	1.1696	1.1139	1.1554	1.1519	Ave		1.1520				2.0		35.0			
13C-1,2,3,6,7,8-HxCDF	1.2574	1.2360	1.2152	1.2646	1.2439	Ave		1.2434				1.6		35.0			
13C-2,3,4,6,7,8-HxCDF	1.1808	1.1525	1.1326	1.1890	1.2049	Ave		1.1720				2.5		35.0			
13C-1,2,3,4,7,8-HxCDD	0.7524	0.7624	0.7637	0.8053	0.8223	Ave		0.7812				3.9		35.0			
13C-1,2,3,6,7,8-HxCDD	0.8902	0.8874	0.9034	0.9518	0.9544	Ave		0.9175				3.6		35.0			
13C-1,2,3,7,8,9-HxCDF	1.0743	1.0692	1.0512	1.0728	1.0598	Ave		1.0655				0.9		35.0			
13C-1,2,3,4,6,7,8-HpCDF	0.8693	0.8034	0.8768	0.8898	0.8745	Ave		0.8628				3.9		35.0			
13C-1,2,3,4,6,7,8-HpCDD	0.8645	0.8231	0.8669	0.9030	0.9118	Ave		0.8739				4.0		35.0			
13C-1,2,3,4,7,8,9-HpCDF	0.8125	0.7593	0.7819	0.8143	0.8272	Ave		0.7991				3.5		35.0			
13C-OCDD	0.7944	0.6967	0.7385	0.7965	0.8457	Ave		0.7744				7.4		35.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1 Analy Batch No.: 324128

SDG No.:

Instrument ID: 10D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 13:03 Calibration End Date: 09/17/2019 16:55 Calibration ID: 47423

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
37Cl4-2,3,7,8-TCDD	1.1192	1.2125	1.2082	1.2900	1.2821	Ave		1.2224				5.7					

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1 Analy Batch No.: 324128

SDG No.:

Instrument ID: 10D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 13:03 Calibration End Date: 09/17/2019 16:55 Calibration ID: 47423

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-324128/3	17SE1910D5_3.d
Level 2	IC 320-324128/4	17SE1910D5_4.d
Level 3	IC 320-324128/7	17SE1910D5_7.d
Level 4	IC 320-324128/6	17SE1910D5_6.d
Level 5	IC 320-324128/8	17SE1910D5_8.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (PG/UL)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
2,3,7,8-TCDF		AveID	172042	1529056	16312729	83942362	462672519	0.500	2.00	10.0	40.0	200
2,3,7,8-TCDD		AveID	123575	1022744	11272193	59019056	327747086	0.500	2.00	10.0	40.0	200
1,2,3,7,8-PeCDF		AveID	550940	5424212	61060330	332470884	1845377073	2.50	10.0	50.0	200	1000
2,3,4,7,8-PeCDF		AveID	501008	5371777	58935693	330153847	1854754260	2.50	10.0	50.0	200	1000
1,2,3,7,8-PeCDD		AveID	336661	3169429	36740998	203688899	1162563715	2.50	10.0	50.0	200	1000
1,2,3,4,7,8-HxCDF		AveID	452083	4604517	51431784	291651831	1688948701	2.50	10.0	50.0	200	1000
1,2,3,6,7,8-HxCDF		AveID	471238	4889511	55977084	311373058	1790437956	2.50	10.0	50.0	200	1000
2,3,4,6,7,8-HxCDF		AveID	469856	4551517	53626165	300428448	1773083873	2.50	10.0	50.0	200	1000
1,2,3,4,7,8-HxCDD		AveID	277444	2685740	32825472	186227471	1132407299	2.50	10.0	50.0	200	1000
1,2,3,6,7,8-HxCDD		AveID	319747	3184984	37867080	212361866	1240444751	2.50	10.0	50.0	200	1000
1,2,3,7,8,9-HxCDD		AveID	333001	3374687	39571199	218049333	1259477463	2.50	10.0	50.0	200	1000
1,2,3,7,8,9-HxCDF		AveID	462420	4319986	50802364	272303395	1579646001	2.50	10.0	50.0	200	1000
1,2,3,4,6,7,8-HpCDF		AveID	463407	4106440	53230505	281845286	1613842335	2.50	10.0	50.0	200	1000
1,2,3,4,6,7,8-HpCDD		AveID	258090	2534205	31792117	175833007	1030391820	2.50	10.0	50.0	200	1000
1,2,3,4,7,8,9-HpCDF		AveID	358162	3498041	42098592	239010564	1391884877	2.50	10.0	50.0	200	1000
OCDD		AveID	557610	5082981	60102277	347055077	2125514466	5.00	20.0	100	400	2000
OCDF		AveID	637327	5776792	73138090	418862104	2616959337	5.00	20.0	100	400	2000
13C-2,3,7,8-TCDF	13CTC	Ave	32121801	69364385	164292495	197671153	225533576	100	100	100	100	100
13C-2,3,7,8-TCDD	13CTC	Ave	21165335	45389691	110088290	131023361	150666513	100	100	100	100	100
13C-1,2,3,7,8-PeCDF	13CTC	Ave	22013977	46755351	117067384	146707284	171862914	100	100	100	100	100
13C-2,3,4,7,8-PeCDF	13CTC	Ave	20818900	45184985	108494277	140755634	167797734	100	100	100	100	100
13C-1,2,3,7,8-PeCDD	13CTC	Ave	15668897	33098301	84755636	108225317	129152474	100	100	100	100	100
13C-1,2,3,4,7,8-HxCDF	13CHx	Ave	16433122	36418536	88972191	115322048	140595624	100	100	100	100	100
13C-1,2,3,6,7,8-HxCDF	13CHx	Ave	17668349	38486861	97064883	126224651	151833452	100	100	100	100	100
13C-2,3,4,6,7,8-HxCDF	13CHx	Ave	16591902	35886090	90467566	118677202	147071003	100	100	100	100	100
13C-1,2,3,4,7,8-HxCDD	13CHx	Ave	10572054	23739455	61001305	80372897	100374877	100	100	100	100	100
13C-1,2,3,6,7,8-HxCDD	13CHx	Ave	12508423	27633426	72157657	95002970	116499868	100	100	100	100	100
13C-1,2,3,7,8,9-HxCDF	13CHx	Ave	15096147	33293009	83967924	107073331	129353689	100	100	100	100	100
13C-1,2,3,4,6,7,8-HpCDF	13CHx	Ave	12214839	25015698	70034446	88816288	106743815	100	100	100	100	100
13C-1,2,3,4,6,7,8-HpCDD	13CHx	Ave	12148019	25630510	69249272	90130025	111298169	100	100	100	100	100
13C-1,2,3,4,7,8,9-HpCDF	13CHx	Ave	11417456	23641905	62459777	81274920	100973962	100	100	100	100	100
13C-OCDD	13CHx	Ave	22323676	43388861	117978202	158997965	206464776	200	200	200	200	200
37Cl4-2,3,7,8-TCDD	13CTC	Ave	123050	1164531	11295580	70585275	402794059	0.500	2.00	8.00	40.0	200

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1 Analy Batch No.: 324128

SDG No.:

Instrument ID: 10D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 13:03 Calibration End Date: 09/17/2019 16:55 Calibration ID: 47423

Curve Type Legend:

Ave = Average ISTD
AveID = Average isotope dilution

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #
1	17SE1910D5_1	WDM HRDXNCP_00038	WDM 091719	Tray01:1	---	
2	17SE1910D5_2	Solvent Blank C-14	SB 091719	Tray01:3	---	
3	17SE1910D5_3	CS-2 HRDXNL2_00027	IC 091719	Tray01:4	Dioxin	
4	17SE1910D5_4	CS-3 HRDXNL3_00025	IC 091719A	Tray01:5	Dioxin	
5	17SE1910D5_5	Mis-inject (wrong standard)	Mis-inject (wrong standard)	Tray01:2	Dioxin	
6	17SE1910D5_6	CS-5 HRDXNL5_00028	IC 091719C	Tray01:6	Dioxin	
7	17SE1910D5_7	CS-4 HRDXNL4_00084	IC 091719B	Tray01:2	Dioxin	
8	17SE1910D5_8	CS-6 HRDXNL6_00024	IC 091719D	Tray01:7	Dioxin	
9	17SE1910D5_9	Solvent Blank C-14	SB 091719A	Tray01:3	---	
10	17SE1910D5_10	ICV HRDXNIC_00042	ICV 091719	Tray01:8	Dioxin	
11	17SE1910D5_11	Solvent Blank C-14	SB 091619A	Tray01:3	---	
12	17SE1910D5_12	WDM HRDXNCP_00038	WDM 091719A	Tray01:1	---	
13	17SE1910D5_13	CS-4 HRDXNL4_00084	CCV 091719	Tray01:2	Dioxin	
14	17SE1910D5_14	Solvent Blank C-14	SB 091719B	Tray01:3	---	
15	17SE1910D5_15	MB 320-521530/1-A	MB 320-521530/1-A	Tray01:15	8290/Solid	50
16	17SE1910D5_16	LCS 320-521530/2-A	LCS 320-521530/2-A	Tray01:16	8290/Solid	
17	17SE1910D5_17	320-53987-E-2-A	320-53987-E-2-A	Tray01:17	8290/Solid	
18	17SE1910D5_18	320-53987-E-3-A	320-53987-E-3-A	Tray01:18	8290/Solid	
19	17SE1910D5_19	320-53988-E-2-A	320-53988-E-2-A	Tray01:19	8290/Solid	
20	17SE1910D5_20	320-53989-E-2-A	320-53989-E-2-A	Tray01:20	8290/Solid	
21	17SE1910D5_21	320-53989-E-3-A	320-53989-E-3-A	Tray01:21	8290/Solid	
22	17SE1910D5_22	320-53989-E-4-A	320-53989-E-4-A	Tray01:22	8290/Solid	
23	17SE1910D5_23	320-53989-E-5-A	320-53989-E-5-A	Tray01:23	8290/Solid	
24	17SE1910D5_24	Solvent Blank C-14	SB 091619C	Tray01:3	---	
25	17SE1910D5_25	CS-4 HRDXNL4_00084	CCV 091719A	Tray01:2	Dioxin	
26	17SE1910D5_26	WDM HRDXNCP_00038	WDM 091719B	Tray01:1	---	
27	17SE1910D5_27	Solvent Blank C-14	SB 091719D	Tray01:3	---	
28	17SE1910D5_28	320-53989-E-6-A	320-53989-E-6-A	Tray01:29	8290/Solid	50
29	17SE1910D5_29	320-53989-E-7-A	320-53989-E-7-A	Tray01:30	8290/Solid	
30	17SE1910D5_30	320-53989-E-8-A	320-53989-E-8-A	Tray01:31	8290/Solid	
31	17SE1910D5_31	320-53989-E-9-A	320-53989-E-9-A	Tray01:32	8290/Solid	
32	17SE1910D5_32	320-53989-E-10-A	320-53989-E-10-A	Tray01:33	8290/Solid	
33	17SE1910D5_33	320-53989-E-11-A	320-53989-E-11-A	Tray01:34	8290/Solid	
34	17SE1910D5_34	320-53989-E-12-A	320-53989-E-12-A	Tray01:35	8290/Solid	
35	17SE1910D5_35	320-53989-E-13-A	320-53989-E-13-A	Tray01:36	8290/Solid	
36	17SE1910D5_36	320-53989-E-14-A	320-53989-E-14-A	Tray01:37	8290/Solid	
37	17SE1910D5_37	Solvent Blank C-14	SB 091619E	Tray01:3	---	
38	17SE1910D5_38	CS-4 HRDXNL4_00084	CCV 091719B	Tray01:2	Dioxin	
39	17SE1910D5_39	WDM HRDXNCP_00038	WDM 091719C	Tray01:1	---	
40	17SE1910D5_40	Solvent Blank C-14	SB 091719F	Tray01:3	---	

Logfile checked
09/18/19 SMA

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed: Tuesday, September 17, 2019 11:25:01 Pacific Daylight Time

M 292.9824 R 12824

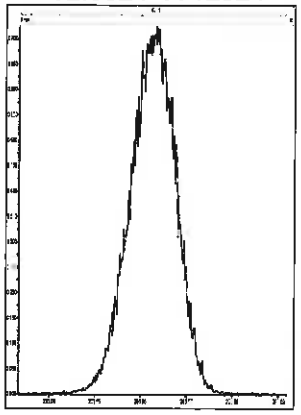

M 304.9824 R 13022

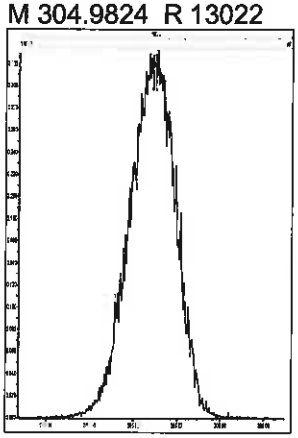

M 318.9792 R 12690

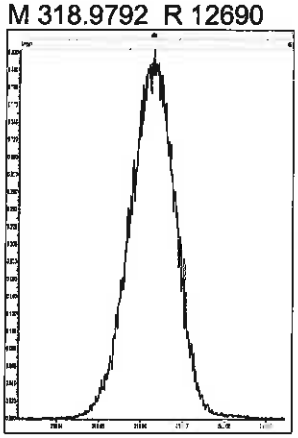

M 330.9792 R 12694

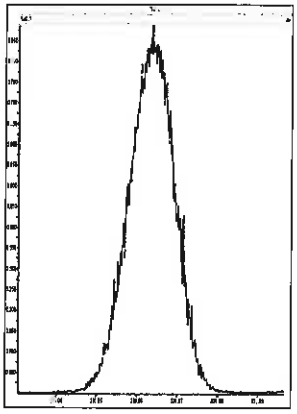

M 342.9792 R 13090

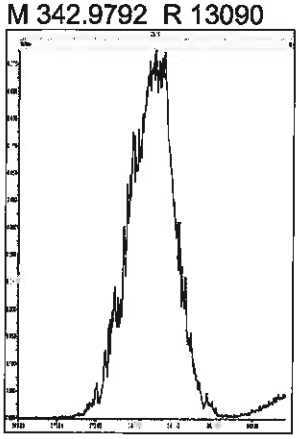

M 354.9792 R 12499

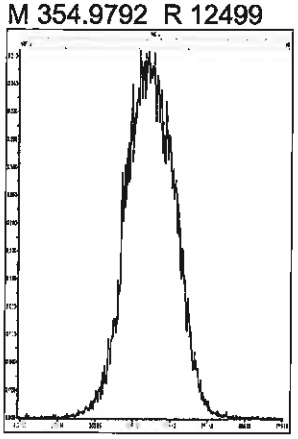

M 366.9792 R 11902

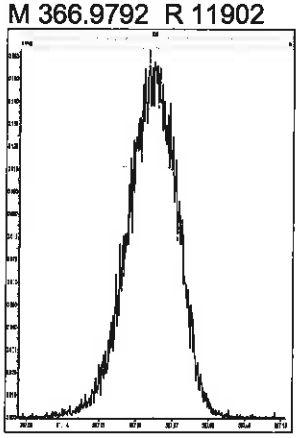

M 380.9760 R 11789

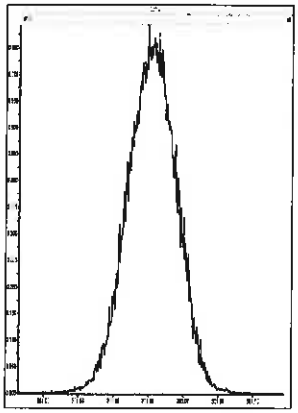

M 392.9760 R 12018

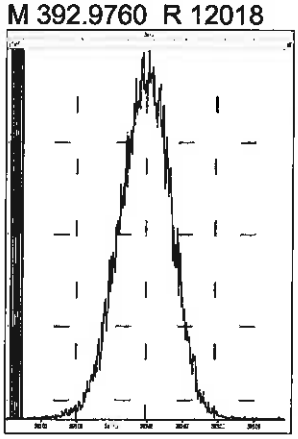

M 404.9760 R 11626

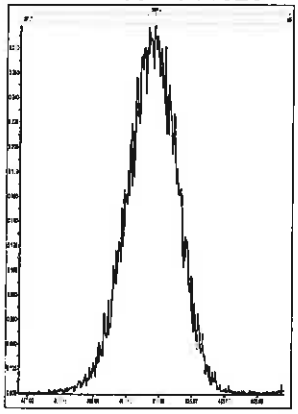

M 416.9760 R 11958

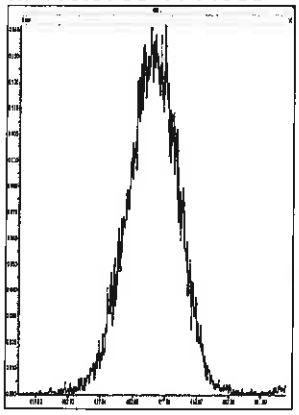

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 2 @ 200 (ppm)

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M 318.9792 R 13513

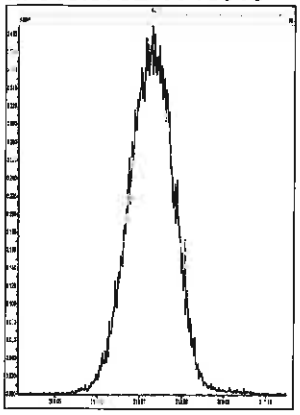

M 330.9792 R 12694

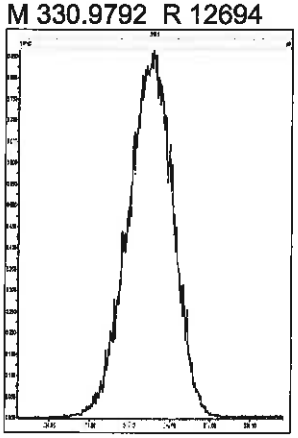

M 342.9792 R 12949

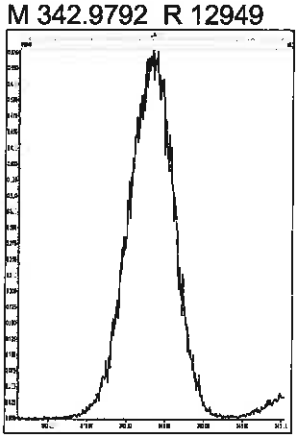

M 354.9792 R 13021

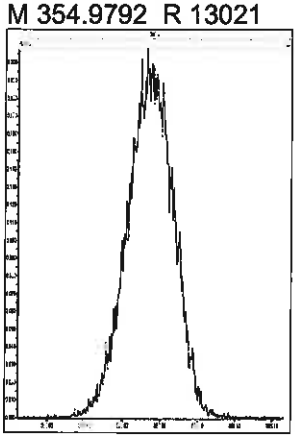

M 366.9792 R 12824

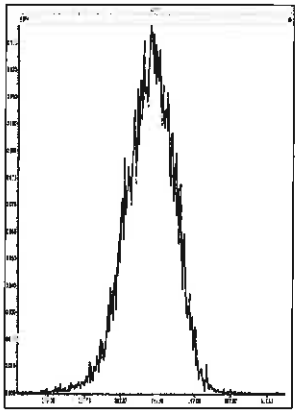

M 380.9760 R 12687

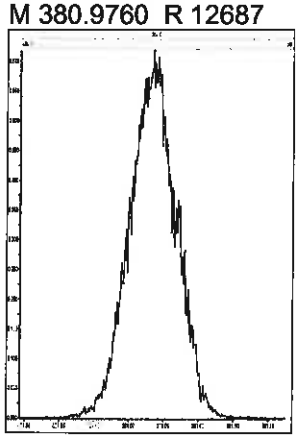

M 392.9760 R 12558

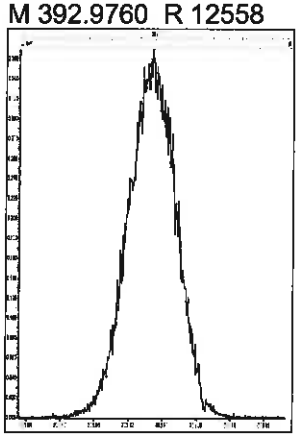

M 404.9760 R 11740

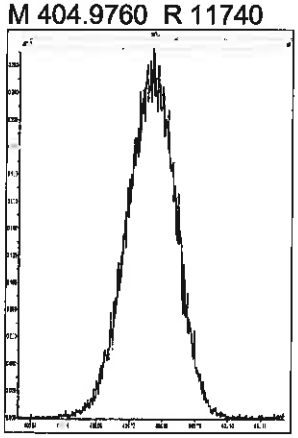

M 416.9760 R 11906

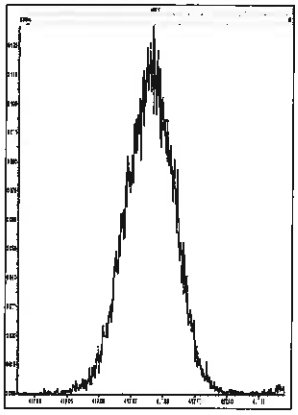

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

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M 366.9792 R 13089

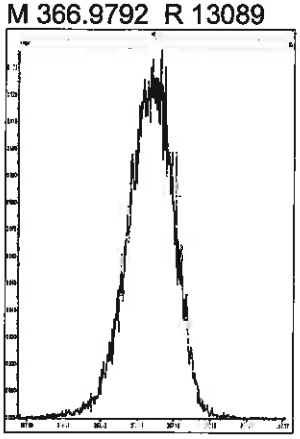

M 380.9760 R 12561

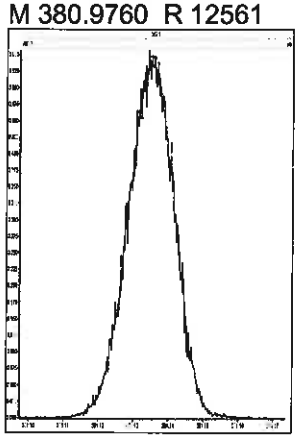

M 392.9760 R 12497

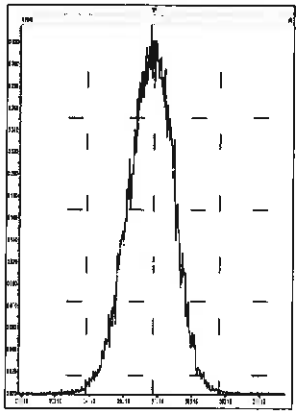

M 404.9760 R 12690

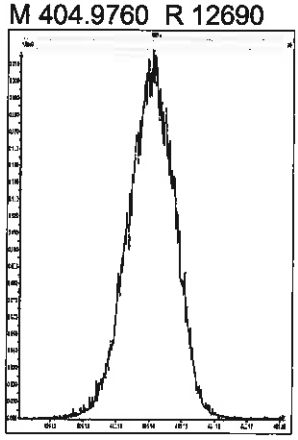

M 416.9760 R 12689

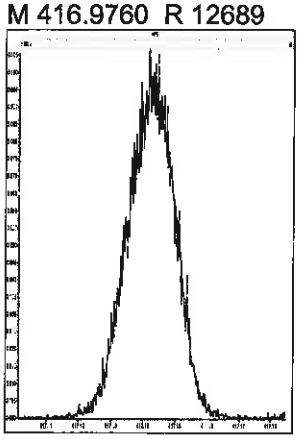

M 430.9728 R 12197

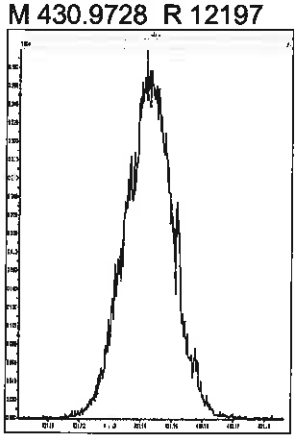

M 442.9728 R 12132

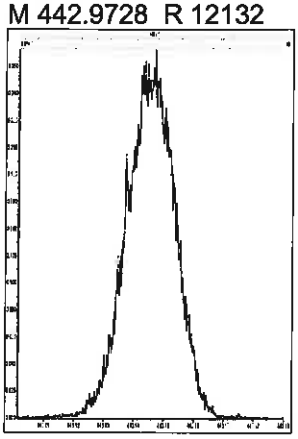

M 454.9728 R 12194

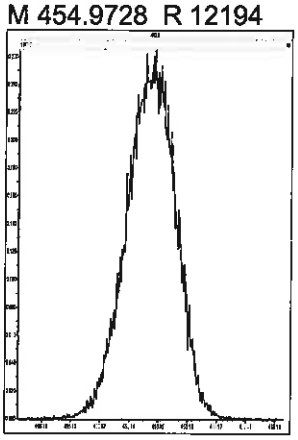

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 4 @ 200 (ppm)

Printed: Tuesday, September 17, 2019 11:26:23 Pacific Daylight Time

M 380.9760 R 12621

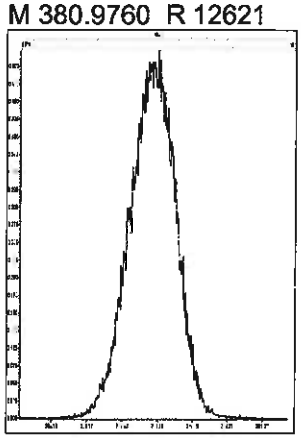

M 392.9760 R 12561

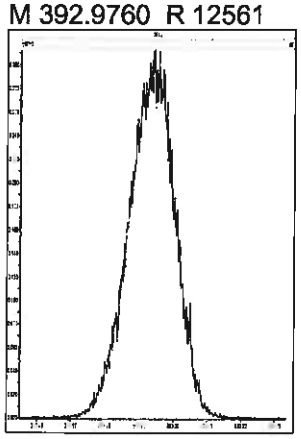

M 404.9760 R 12950

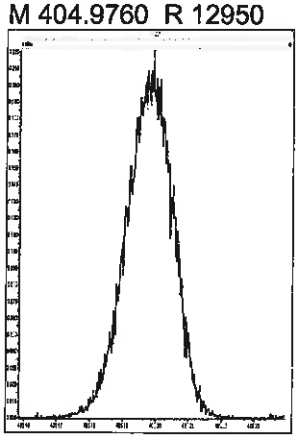

M 416.9760 R 12887

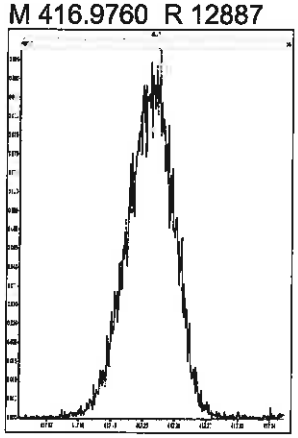

M 430.9728 R 11961

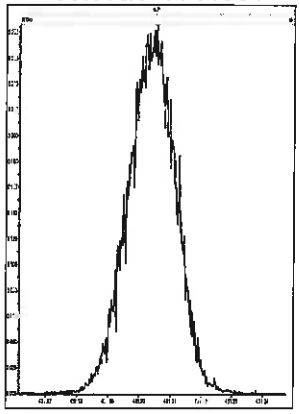

M 442.9728 R 12134

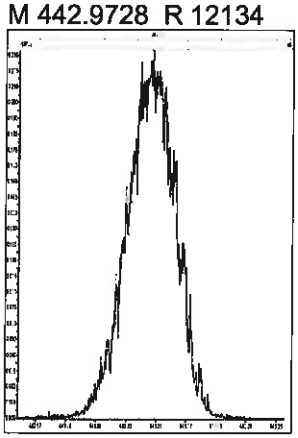

M 454.9728 R 12074

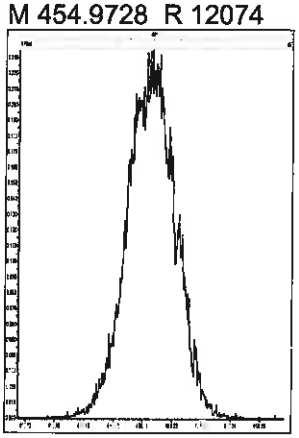

M 466.9728 R 12254

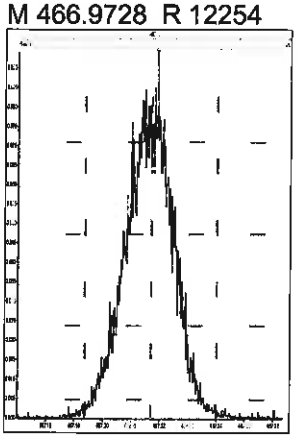

M 480.9696 R 12193

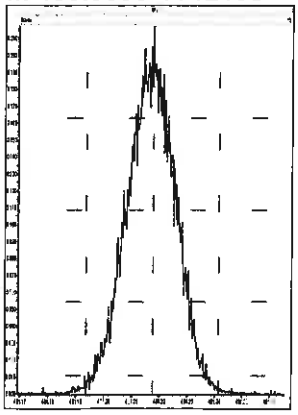

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M 380.9760 R 13158

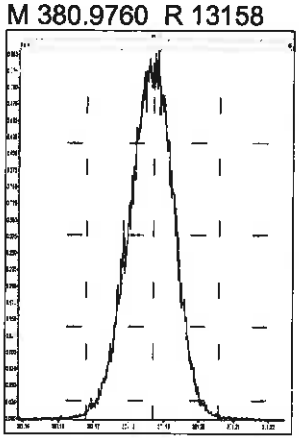

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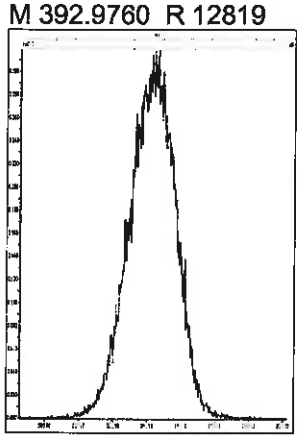

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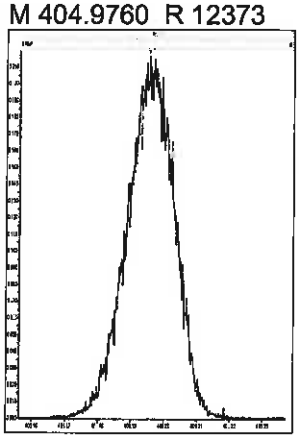

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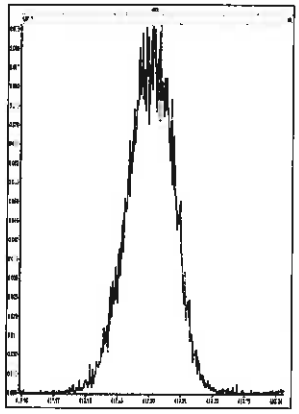

M 430.9728 R 12886

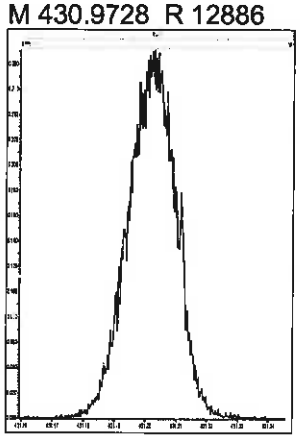

M 442.9728 R 12436

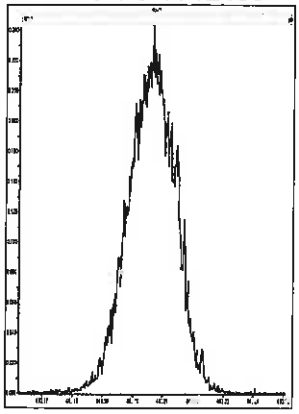

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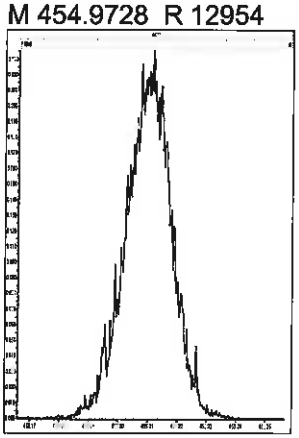

M 466.9728 R 12375

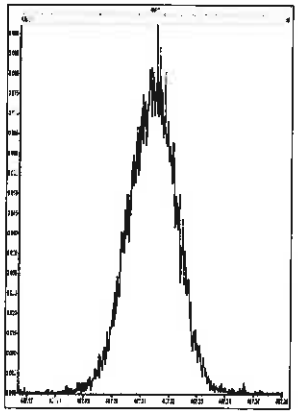

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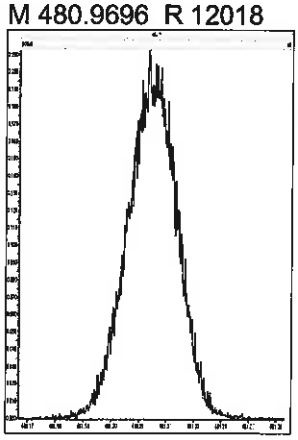

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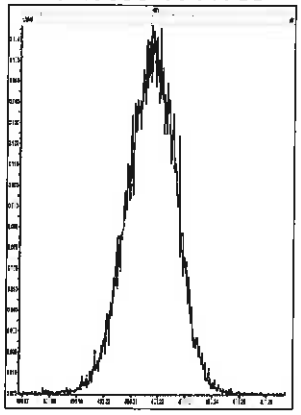

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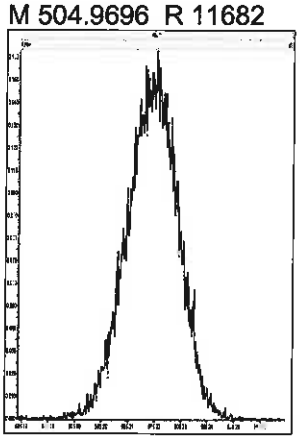

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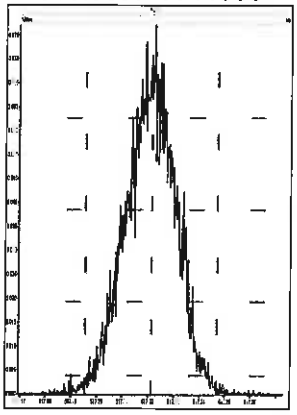

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M 292.9824 R 12757

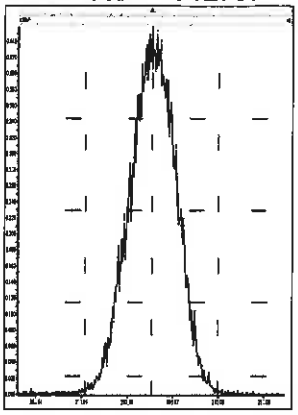

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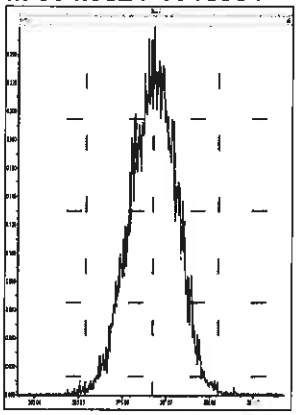

M 318.9792 R 12440

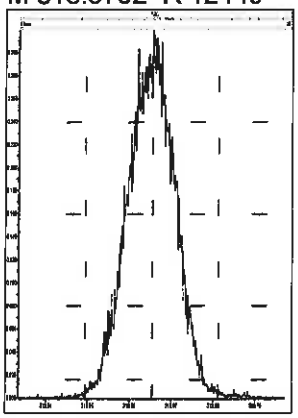

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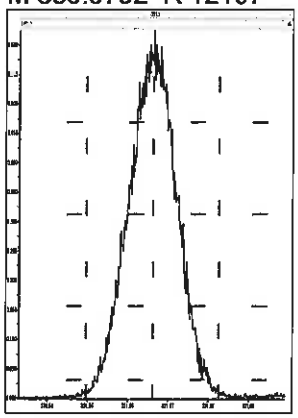

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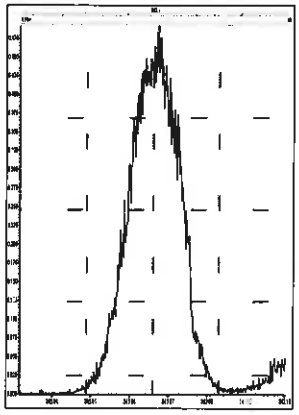

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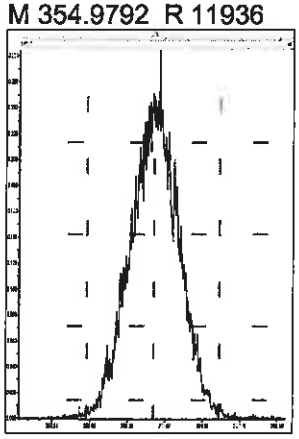

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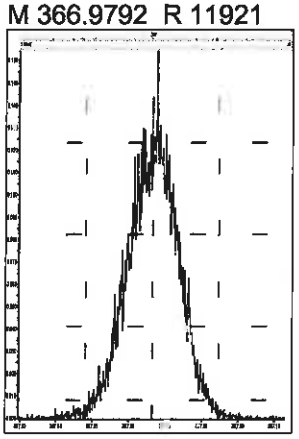

M 380.9760 R 11363

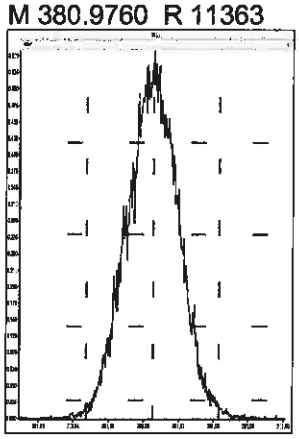

M 392.9760 R 11063

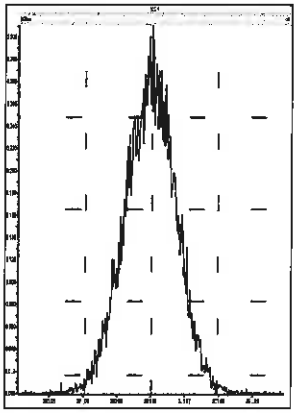

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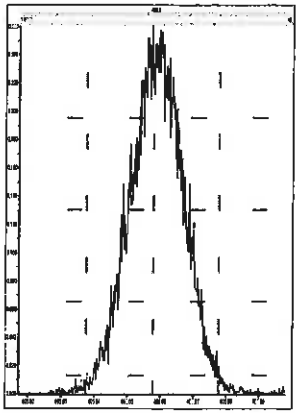

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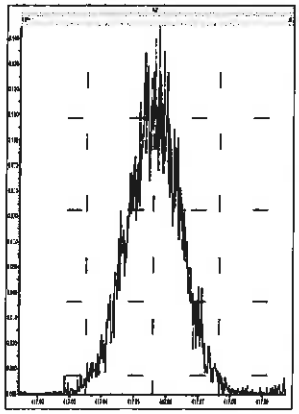

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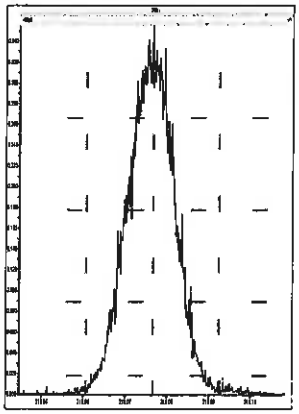

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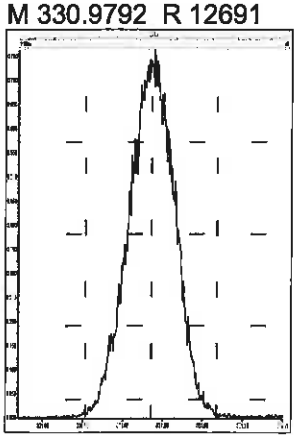

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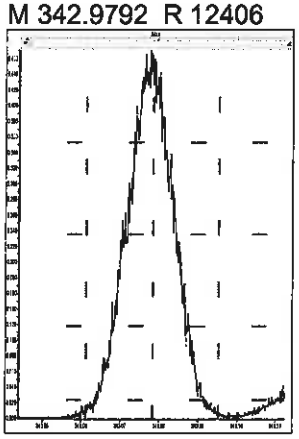

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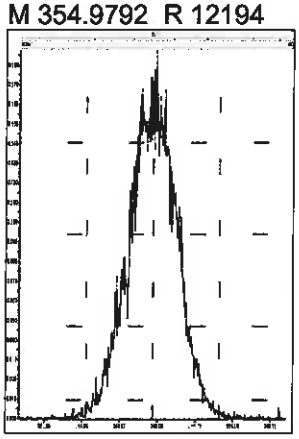

M 366.9792 R 12510

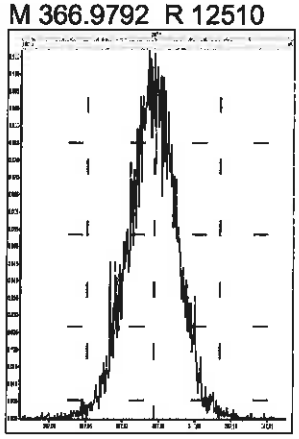

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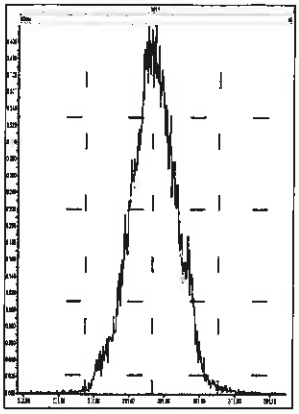

M 392.9760 R 11769

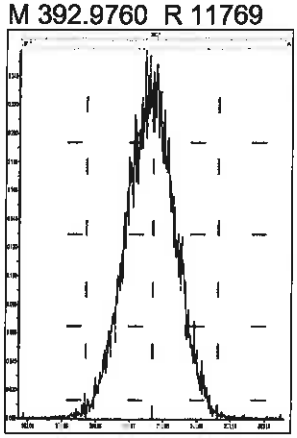

M 404.9760 R 11932

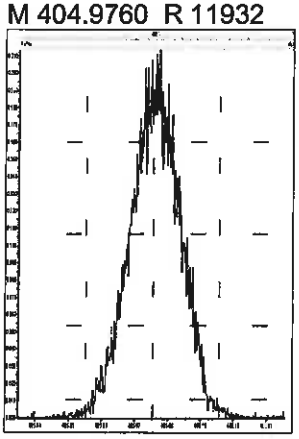

M 416.9760 R 11934

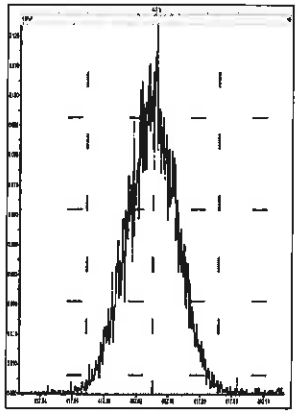

M 366.9792 R 12255

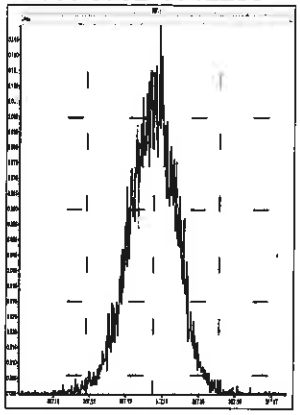

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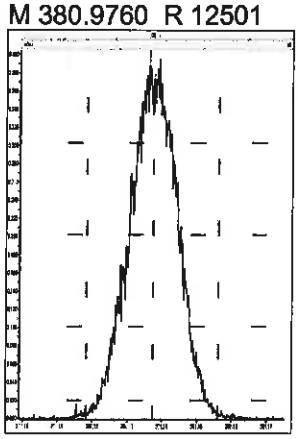

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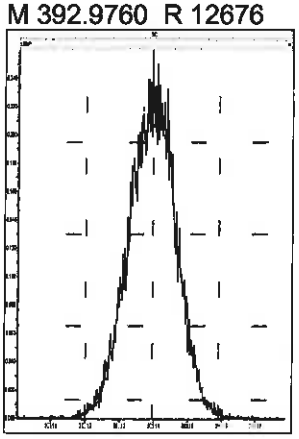

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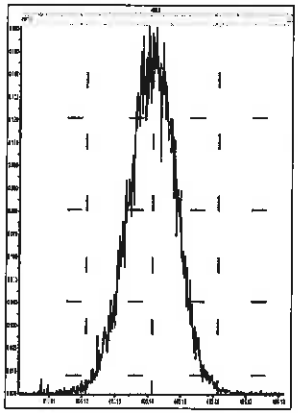

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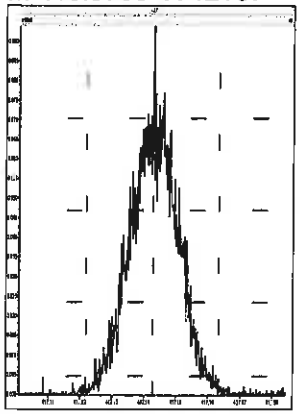

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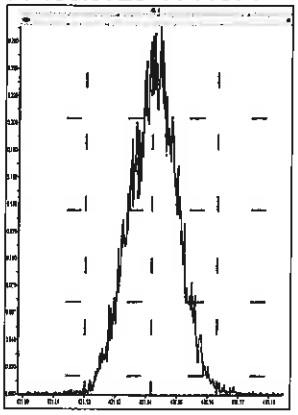

M 442.9728 R 11991

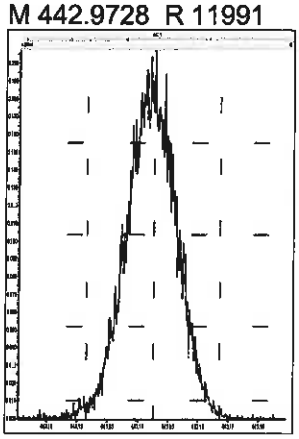

M 454.9728 R 12140

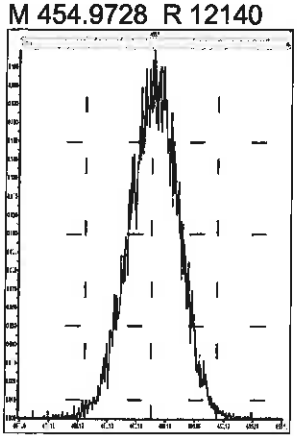

M 380.9760 R 12376

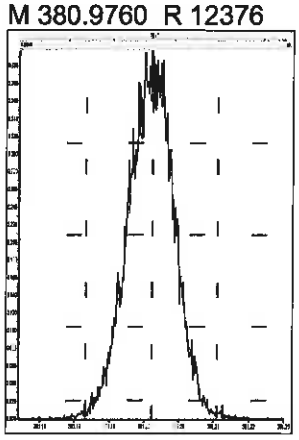

M 392.9760 R 12530

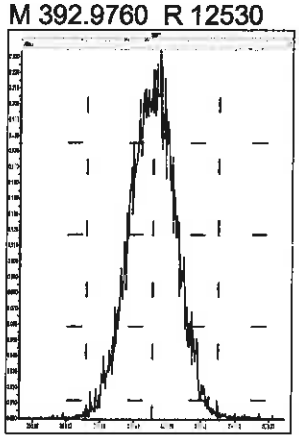

M 404.9760 R 12410

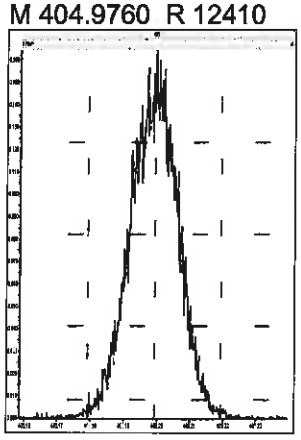

M 416.9760 R 13257

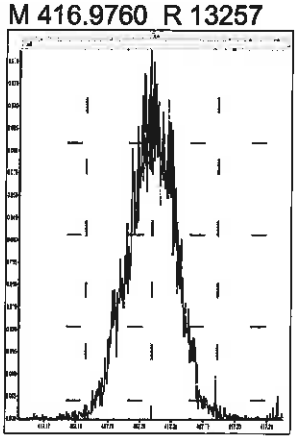

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M 430.9728 R 12118

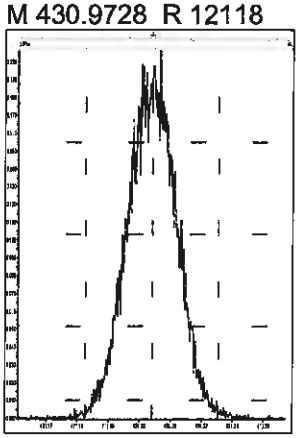

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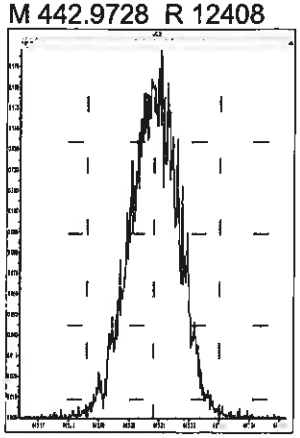

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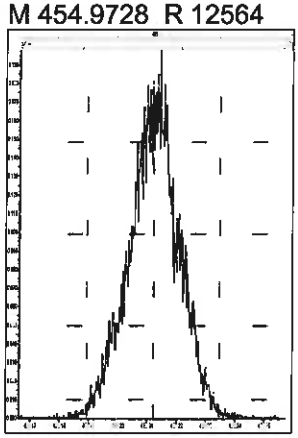

M 466.9728 R 13333

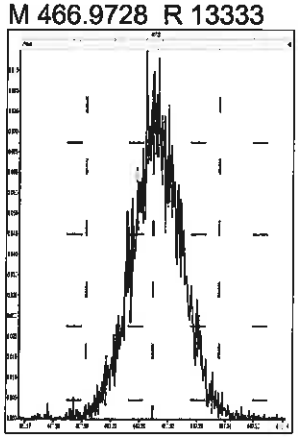

M 480.9696 R 11886

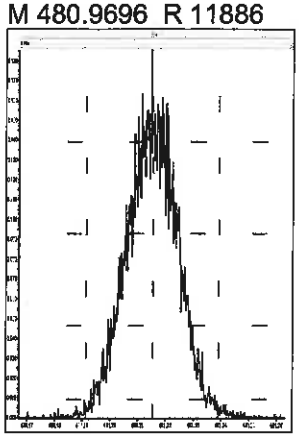

M 380.9760 R 12531

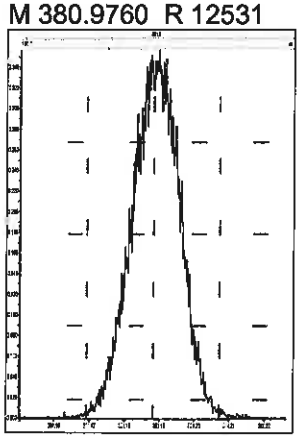

M 392.9760 R 12445

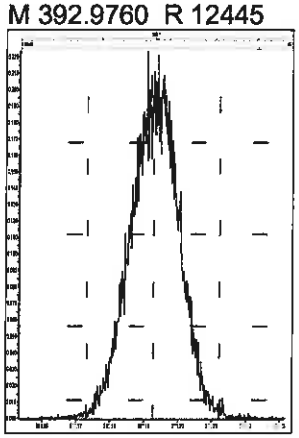

M 404.9760 R 12577

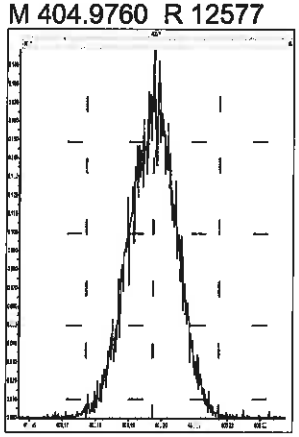

M 416.9760 R 12658

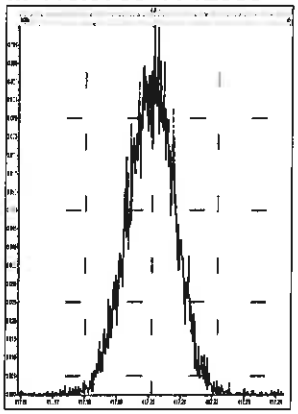

M 430.9728 R 12167

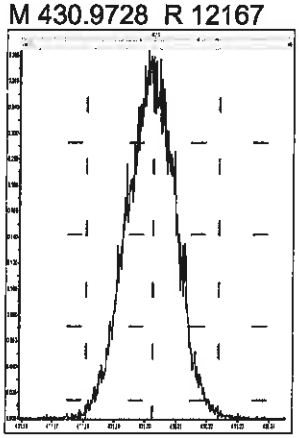

M 442.9728 R 12199

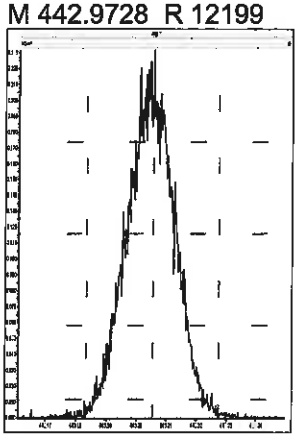

M 454.9728 R 12347

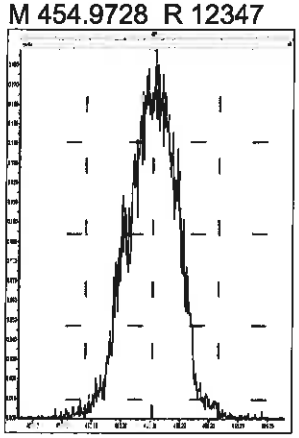

M 466.9728 R 12105

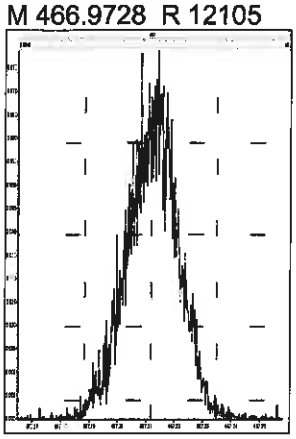

M 480.9696 R 11712

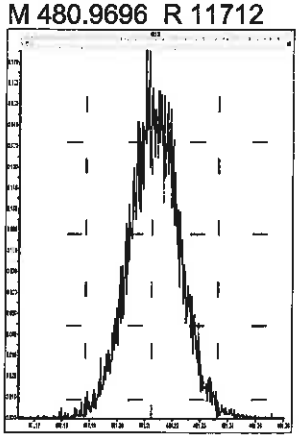

M 492.9696 R 11769

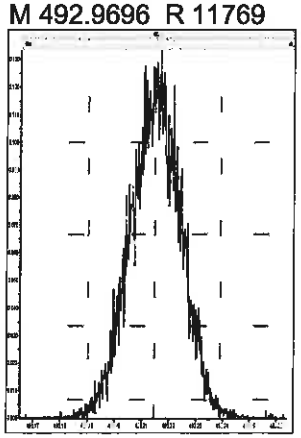

M 504.9696 R 11683

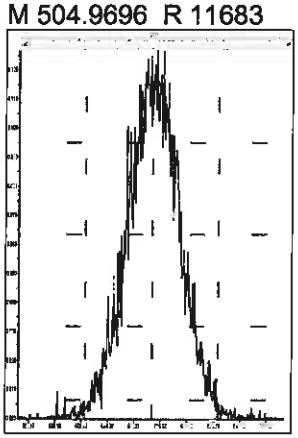

Printed: Tuesday, September 17, 2019 19:23:28 Pacific Daylight Time

M 516.9697 R 12766

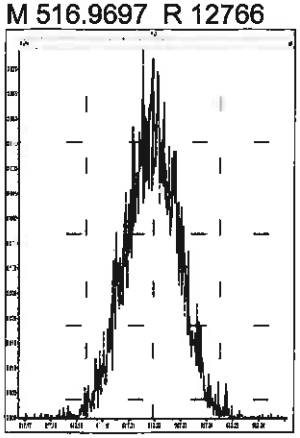

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 17-Sep-2019 13:03:20 ALS Bottle#: 4 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719 CS-2 HRDXNL2_00027
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:08 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:04:52

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.300	21989821	0.79	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.801	32121801	0.77	1.4384	101.6	101.6	0.4773	0.4773	102	
2,3,7,8-TCDF	16.816	172042	0.74	1.0507	0.5097	0.5097	0.0449	0.0449	102	
S Total TCDF					0.5097	0.5097	0.0449	0.0449		
D 13C-2,3,7,8-TCDD	17.481	21165335	0.76	0.9533	101.0	101.0	0.3928	0.3928	101	
$ 37Cl4-2,3,7,8-TCDD	17.496	123050		1.2224	0.4578	0.4578	0.0312	0.0312	91.55	
2,3,7,8-TCDD	17.481	123575	0.80	1.1064	0.5277	0.5277	0.0804	0.0804	106	n
S Total TCDD					0.5277	0.5277	0.0804	0.0804		
D 13C-1,2,3,7,8-PeCDF	21.631	22013977	1.60	1.0286	97.3	97.3	0.2946	0.2946	97.33	
1,2,3,7,8-PeCDF	21.659	550940	1.70	1.0822	2.312	2.312	0.0703	0.0703	92.50	
D 13C-2,3,4,7,8-PeCDF	22.927	20818900	1.62	0.9827	96.3	96.3	0.3084	0.3084	96.35	
2,3,4,7,8-PeCDF	22.940	501008	1.61	1.1032	2.181	2.181	0.0759	0.0759	87.26	
S Total PeCDF					4.494	4.494	0.0731	0.0731		
D 13C-1,2,3,7,8-PeCDD	23.622	15668897	1.56	0.7481	95.3	95.3	0.2373	0.2373	95.25	
1,2,3,7,8-PeCDD	23.649	336661	1.69	0.9050	2.374	2.374	0.1036	0.1036	94.96	
S Total PeCDD					2.374	2.374	0.1036	0.1036		
D 13C-1,2,3,4,7,8-HxCDF	29.749	16433122	0.52	1.1520	101.5	101.5	0.6239	0.6239	102	
1,2,3,4,7,8-HxCDF	29.789	452083	1.14	1.1973	2.298	2.298	0.1101	0.1101	91.91	
D 13C-1,2,3,6,7,8-HxCDF	30.015	17668349	0.51	1.2434	101.1	101.1	0.5781	0.5781	101	
1,2,3,6,7,8-HxCDF	30.028	471238	1.23	1.1807	2.259	2.259	0.0922	0.0922	90.36	
D 13C-2,3,4,6,7,8-HxCDF	31.040	16591902	0.51	1.1720	100.8	100.8	0.6133	0.6133	101	
2,3,4,6,7,8-HxCDF	31.053	469856	1.22	1.2116	2.337	2.337	0.0626	0.0626	93.49	
D 13C-1,2,3,7,8,9-HxCDF	31.932	15096147	0.51	1.0655	100.8	100.8	0.6746	0.6746	101	
1,2,3,7,8,9-HxCDF	31.945	462420	1.18	1.2451	2.460	2.460	0.0606	0.0606	98.40	
S Total HxCDF					9.354	9.354	0.0814	0.0814		
* 13C-1,2,3,7,8,9-HxCDD	31.745	14051438	1.31	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.253	10572054	1.29	0.7812	96.3	96.3	0.6394	0.6394	96.31	
1,2,3,4,7,8-HxCDD	31.266	277444	1.10	1.1088	2.367	2.367	0.0800	0.0800	94.67	
D 13C-1,2,3,6,7,8-HxCDD	31.372	12508423	1.30	0.9175	97.0	97.0	0.5444	0.5444	97.03	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.399	319747	1.23	1.0814	2.364	2.364	0.0780	0.0780	94.55	
1,2,3,7,8,9-HxCDD	31.758	333001	1.05	1.2123	2.380	2.380	0.0713	0.0713	95.21	a
S Total HxCDD					7.111	7.111	0.0764	0.0764		
D 13C-1,2,3,4,6,7,8-HpCDF	33.447	12214839	0.45	0.8628	100.8	100.8	2.432	2.432	101	
1,2,3,4,6,7,8-HpCDF	33.459	463407	1.08	1.5555	2.439	2.439	0.0665	0.0665	97.56	
D 13C-1,2,3,4,7,8,9-HpCDF	34.492	11417456	0.43	0.7991	101.7	101.7	2.626	2.626	102	
1,2,3,4,7,8,9-HpCDF	34.504	358162	1.15	1.3862	2.263	2.263	0.0888	0.0888	90.52	
S Total HpCDF					4.702	4.702	0.0776	0.0776		
D 13C-1,2,3,4,6,7,8-HpCDD	34.225	12148019	1.04	0.8739	98.9	98.9	1.265	1.265	98.93	
1,2,3,4,6,7,8-HpCDD	34.225	258090	1.02	0.9316	2.281	2.281	0.0675	0.0675	91.22	
S Total HpCDD					2.281	2.281	0.0675	0.0675		
D 13C-OCDD	36.481	22323676	0.90	0.7744	205.2	205.2	0.5053	0.5053	103	
OCDF	36.576	637327	0.85	1.2596	4.533	4.533	0.0809	0.0809	90.66	
OCDD	36.493	557610	0.87	1.0621	4.704	4.704	0.0841	0.0841	94.07	

QC Flag Legend

Processing Flags
n - Failed Sig-To-Noise Test
Review Flags
a - User Assigned ID

Reagents:

HRDXNL2_00027 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 17-Sep-2019 13:03:20 ALS Bottle#: 4 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719 CS-2 HRDXNL2_00027
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:08 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:04:52

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.300	17.303	0		9690887	2505804	5138	12845	488		
333.9339	17.300	17.303	0		12298934	3113659	3280	8200	949	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.801	16.810	-1	0.971	14016338	3733692	11470	28675	326		
317.9389	16.801	16.810	-1	0.971	18105463	4683284	3963	9907	1182	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.816	16.825	-1	1.001	73063	16422	605	1512	27		
305.8987	16.816	16.825	-1	1.001	98979	22949	985	2462	23	0.74(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.481	17.490	-1	1.010	9130723	2237743	5138	12845	436		
333.9339	17.481	17.490	-1	1.010	12034612	3027581	3280	8200	923	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.496	17.505	-1	1.011	123050	30762	856	2140	36		
2,3,7,8-TCDD											n
319.8965	17.481	17.505	-1	1.000	55077	9940	1181	2952	8		
321.8936	17.496	17.505	-1	1.001	68498	15008	693	1732	22	0.80(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	21.631	21.637	0	1.250	13538943	2446204	3736	9340	655		
353.8970	21.631	21.637	0	1.250	8475034	1535096	3076	7690	499	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.659	21.661	0	1.001	346537	63107	477	1192	132		
341.8567	21.659	21.661	0	1.001	204403	36937	734	1835	50	1.70(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	22.927	22.932	0	1.325	12876171	2247350	3736	9340	602		
353.8970	22.927	22.932	0	1.325	7942729	1369022	3076	7690	445	1.62(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.940	22.954	-1	1.001	309291	49872	477	1192	105		
341.8567	22.940	22.954	-1	1.001	191717	32344	734	1835	44	1.61(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.622	23.625	0	1.365	9559667	1575307	2284	5710	690		
369.8919	23.622	23.625	0	1.365	6109230	995410	1706	4265	583	1.56(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.649	23.649	0	1.001	211682	31533	616	1540	51		
357.8516	23.636	23.649	-1	1.001	124979	21165	348	870	61	1.69(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.749	29.754	0	0.937	5613748	749447	3310	8275	226		
385.8610	29.749	29.754	0	0.937	10819374	1402669	5959	14897	235	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.789	29.789	0	1.001	240484	35863	546	1365	66		
375.8178	29.762	29.789	-2	1.000	211599	28700	589	1472	49	1.14(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.015	30.015	0	0.945	5969557	865919	3310	8275	262		
385.8610	30.002	30.015	-1	0.945	11698792	1738856	5959	14897	292	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.028	30.039	-1	1.000	259918	40834	546	1365	75		
375.8178	30.028	30.039	-1	1.000	211320	30654	589	1472	52	1.23(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.040	31.043	0	0.978	5612853	1245433	3310	8275	376		
385.8610	31.040	31.043	0	0.978	10979049	2494852	5959	14897	419	0.51(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.053	31.059	0	1.000	257999	59556	546	1365	109		
375.8178	31.053	31.059	0	1.000	211857	47785	589	1472	81	1.22(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.932	31.942	-1	1.006	5127023	1276569	3310	8275	386		
385.8610	31.932	31.942	-1	1.006	9969124	2483754	5959	14897	417	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.945	31.956	-1	1.000	250582	59386	546	1365	109		
375.8178	31.945	31.956	-1	1.000	211838	48028	589	1472	82	1.18(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.745	31.748	0		7962026	1846184	3652	9130	506		
403.8529	31.745	31.748	0		6089412	1377609	2789	6972	494	1.31(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.253	31.261	0	0.984	5953058	1483942	3652	9130	406		
403.8529	31.253	31.261	0	0.984	4618996	1187991	2789	6972	426	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.266	31.280	-1	1.000	145178	36647	426	1065	86		
391.8127	31.266	31.280	-1	1.000	132266	35409	522	1305	68	1.10(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.372	31.383	-1	0.988	7061273	1582952	3652	9130	433		
403.8529	31.372	31.383	-1	0.988	5447150	1228199	2789	6972	440	1.30(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.399	31.402	0	1.001	176287	43996	426	1065	103		
391.8127	31.399	31.402	0	1.001	143460	32388	522	1305	62	1.23(1.05-1.43)	
1,2,3,7,8,9-HxCDD											a
389.8157	31.758	31.761	0	1.016	170841	43295	426	1065	102		a
391.8127	31.745	31.761	-1	1.016	162160	33233	522	1305	64	1.05(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.447	33.457	-1	1.054	3779241	1261566	6785	16962	186		
419.8220	33.447	33.457	-1	1.054	8435598	2721447	20272	50680	134	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.459	33.469	-1	1.000	240121	76906	736	1840	104		
409.7789	33.459	33.469	-1	1.000	223286	71700	913	2282	79	1.08(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.492	34.502	-1	1.087	3454300	1028385	6785	16962	152		
419.8220	34.492	34.502	-1	1.087	7963156	2321827	20272	50680	115	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.504	34.509	0	1.000	191761	54375	736	1840	74		
409.7789	34.504	34.509	0	1.000	166401	51183	913	2282	56	1.15(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.225	34.227	0	1.078	6191349	1869122	6907	17267	271		
437.8140	34.213	34.227	-1	1.078	5956670	1788163	7344	18360	243	1.04(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.225	34.235	-1	1.000	130161	41792	539	1347	78		
425.7737	34.225	34.235	-1	1.000	127929	39414	381	952	103	1.02(0.88-1.20)	
13C-OCDD											
469.7779	36.481	36.486	0	1.149	10560642	2745879	1937	4842	1418		
471.7750	36.481	36.486	0	1.149	11763034	3056374	3109	7772	983	0.90(0.76-1.02)	
OCDF											
441.7428	36.576	36.581	0	1.003	292923	77485	428	1070	181		
443.7399	36.564	36.581	-1	1.002	344404	90221	754	1885	120	0.85(0.76-1.02)	
OCDD											
457.7377	36.493	36.497	0	1.000	259867	66125	554	1385	119		
459.7348	36.481	36.497	-1	1.000	297743	73262	482	1205	152	0.87(0.76-1.02)	

QC Flag Legend

Processing Flags

n - Failed Sig-To-Noise Test

Review Flags

a - User Assigned ID

Reagents:

HRDXNL2_00027 Amount Added: 1.00 Units: mL

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d				
Injection Date:	17-Sep-2019 13:03:20	Instrument ID:	10D5		
Lims ID:	IC				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 2

Processing Integration Results

RT: 31.75
Area: 162160
Amount: 2.380231
Amount Units: pg/ul

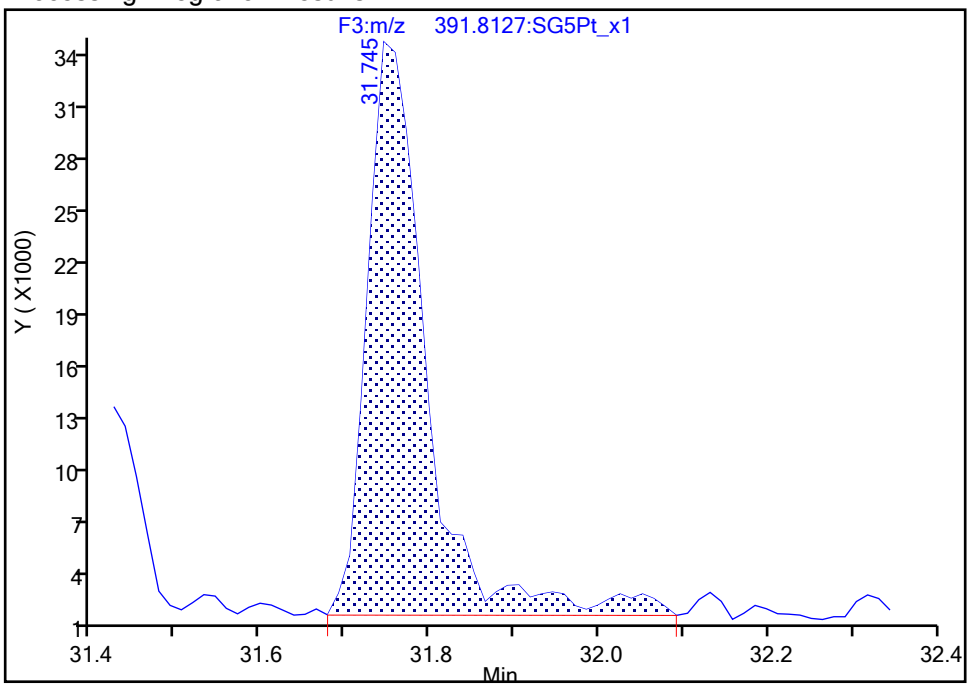

Manual Integration Results

RT: 31.75
Area: 162160
Amount: 2.380231
Amount Units: pg/ul

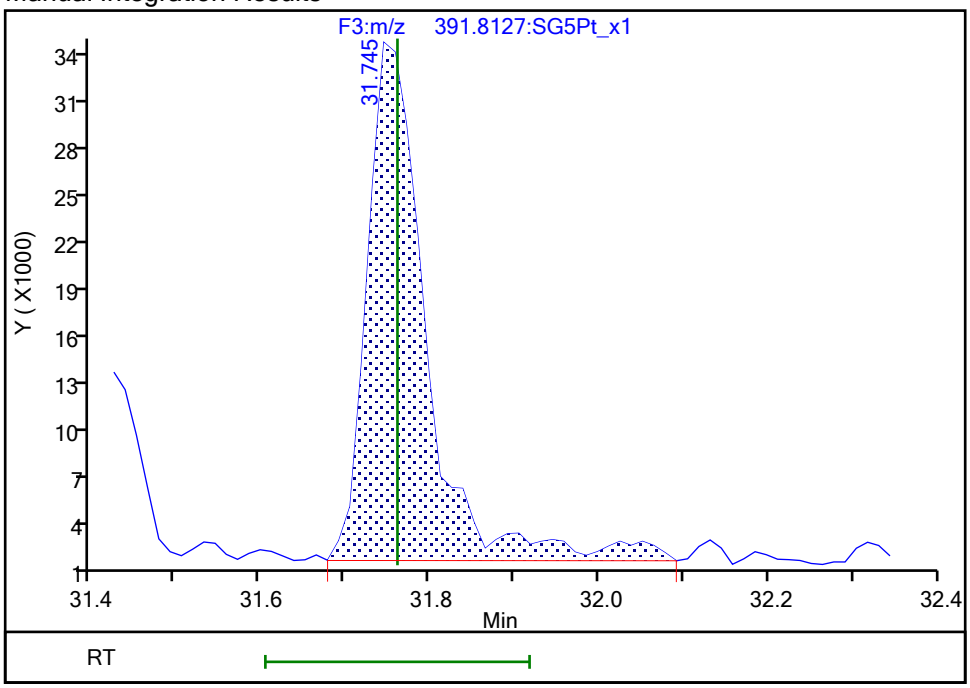

Reviewer: shardaa, 17-Sep-2019 18:02:41

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d				
Injection Date:	17-Sep-2019 13:03:20	Instrument ID:	10D5		
Lims ID:	IC				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 3

Processing Integration Results

RT: 31.76
Area: 333001
Amount: 2.380231
Amount Units: pg/ul

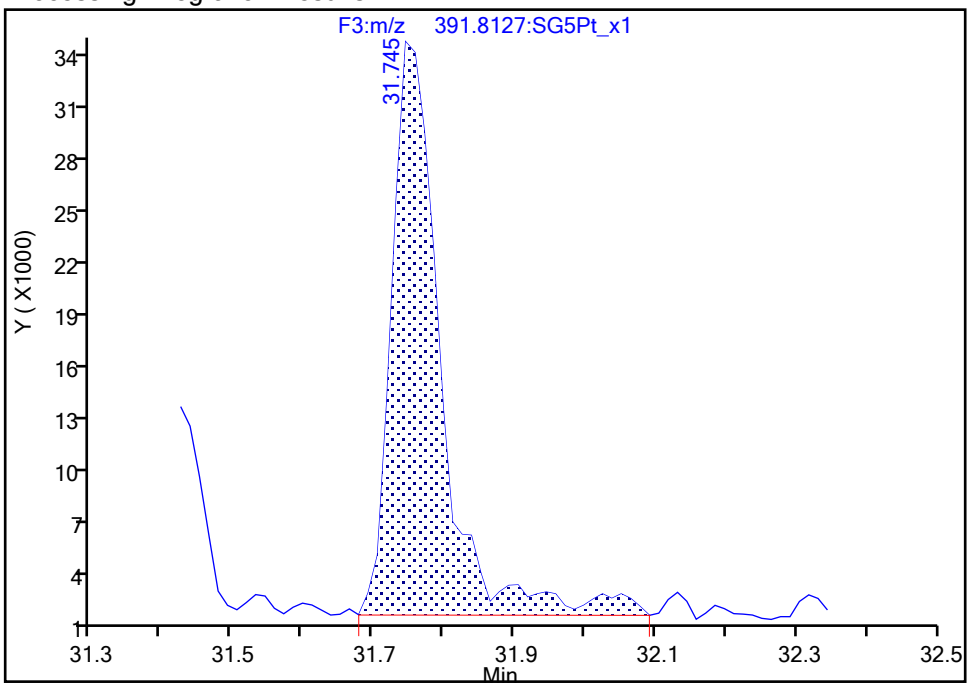

Manual Integration Results

RT: 31.76
Area: 333001
Amount: 2.380231
Amount Units: pg/ul
Reviewer: shardaa, 17-Sep-2019 18:02:41
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d				
Injection Date:	17-Sep-2019 13:03:20	Instrument ID:	10D5		
Lims ID:	IC				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 1

Processing Integration Results

RT: 31.76
Area: 170841
Amount: 2.380231
Amount Units: pg/ul

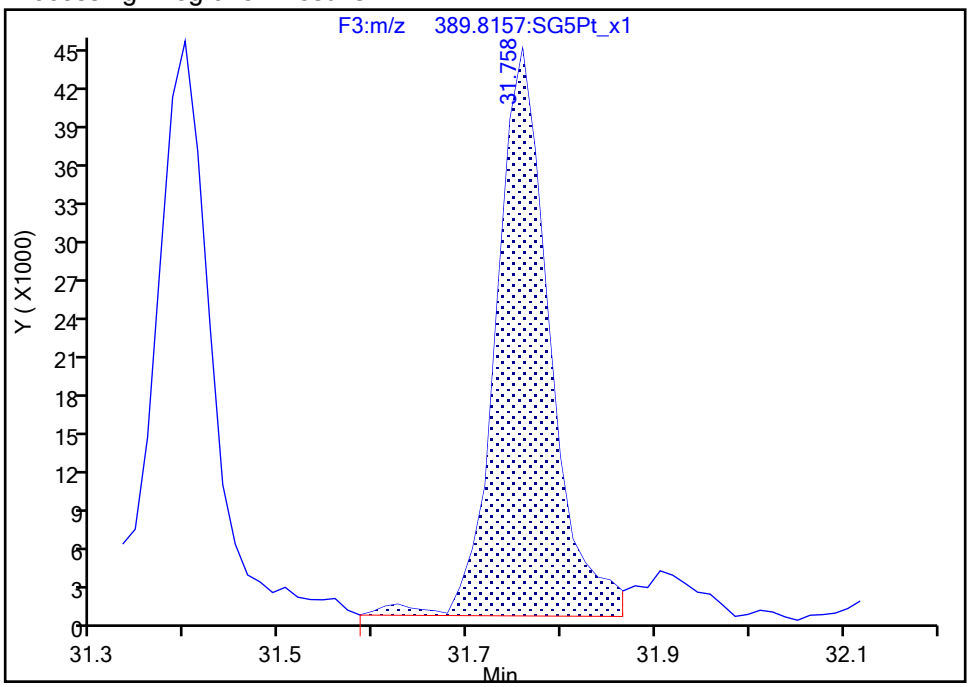

Manual Integration Results

RT: 31.76
Area: 170841
Amount: 2.380231
Amount Units: pg/ul

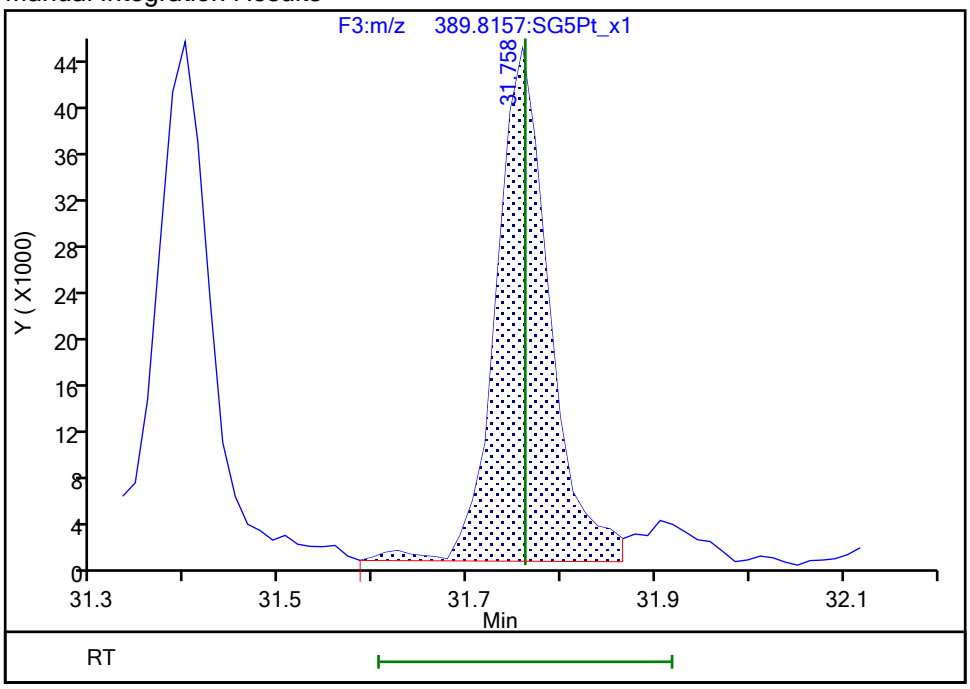

Reviewer: shardaa, 17-Sep-2019 18:02:44

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
Injection Date:	17-Sep-2019 13:03:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

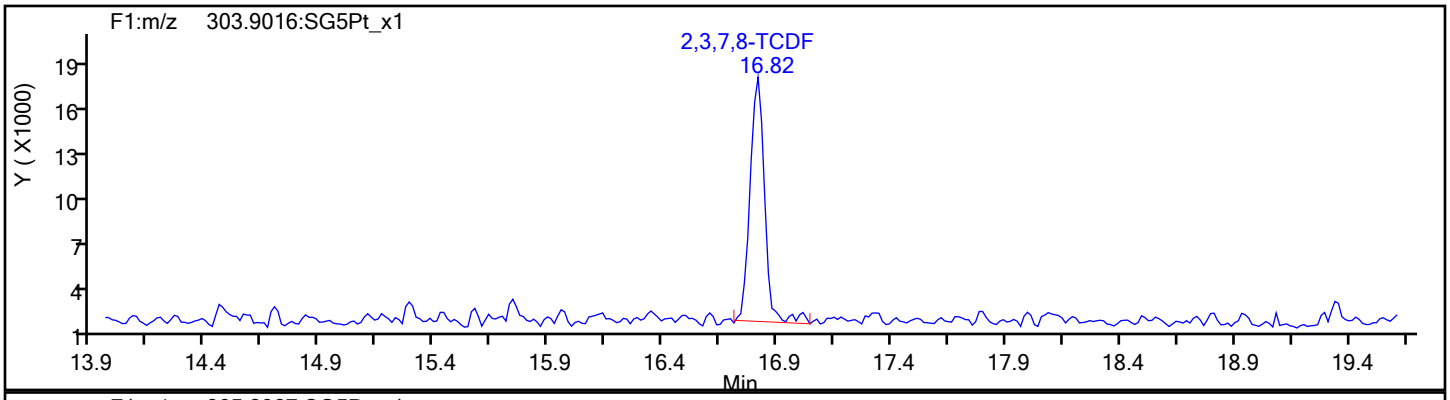

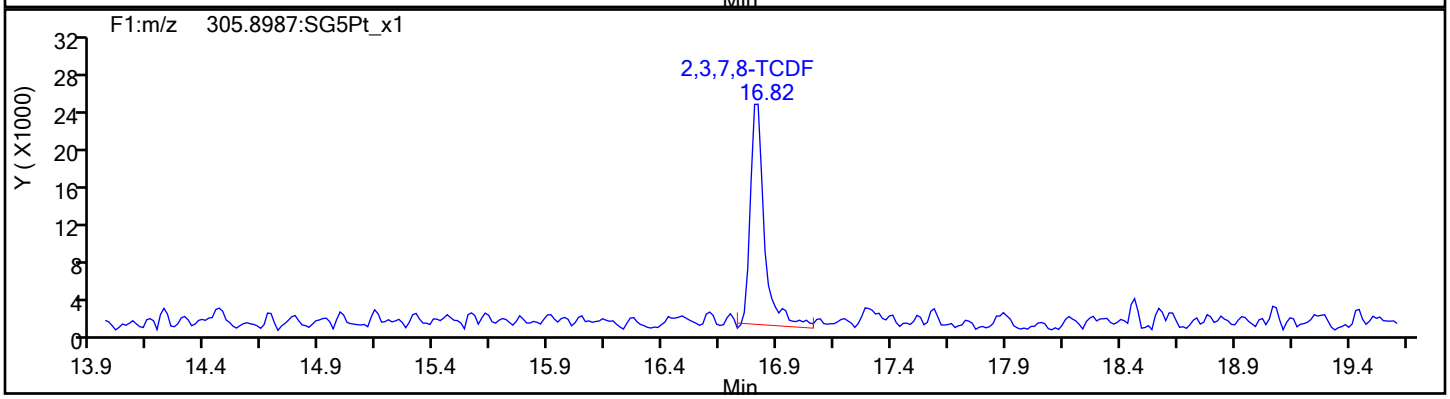

TCDF Standards

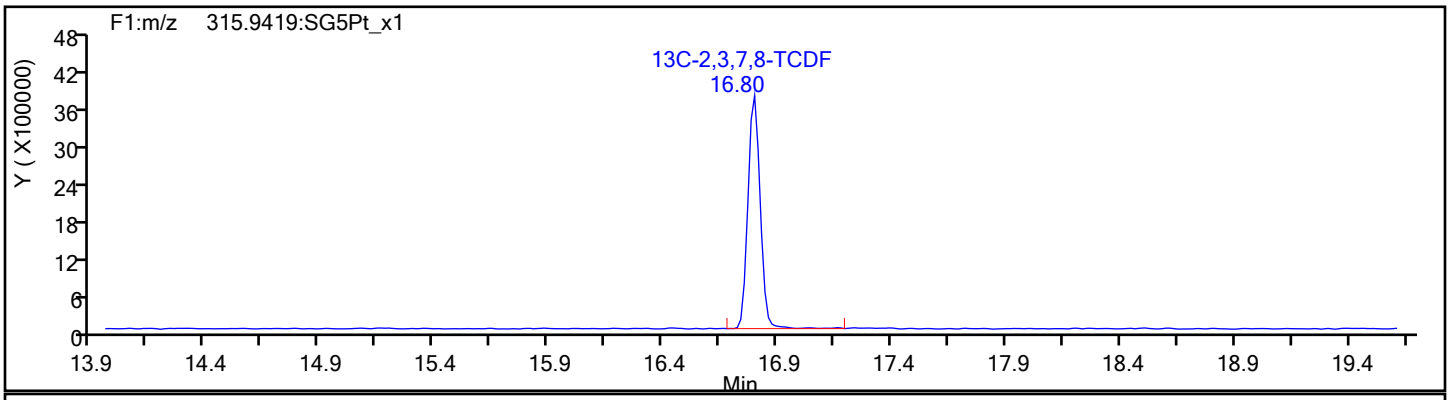

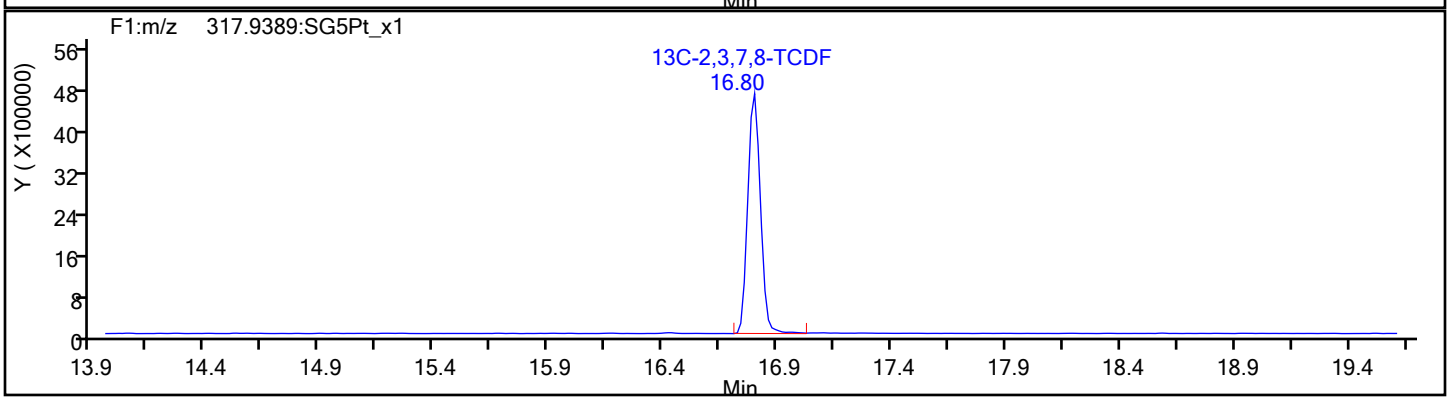

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
Injection Date:	17-Sep-2019 13:03:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

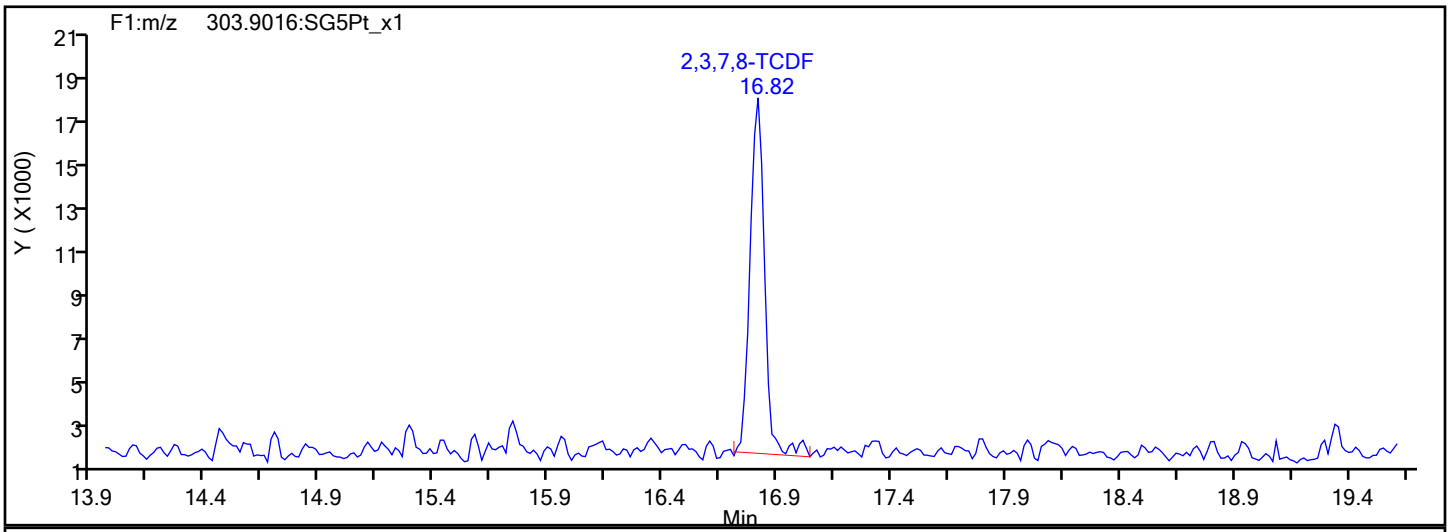

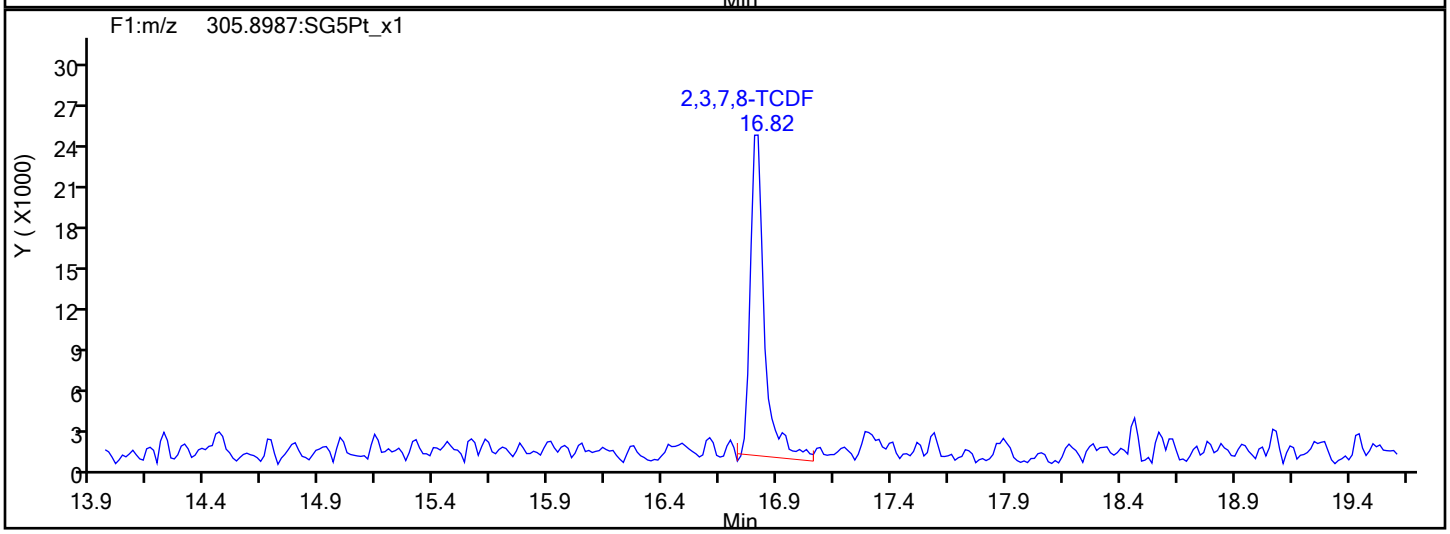

TCDF Interference Mass

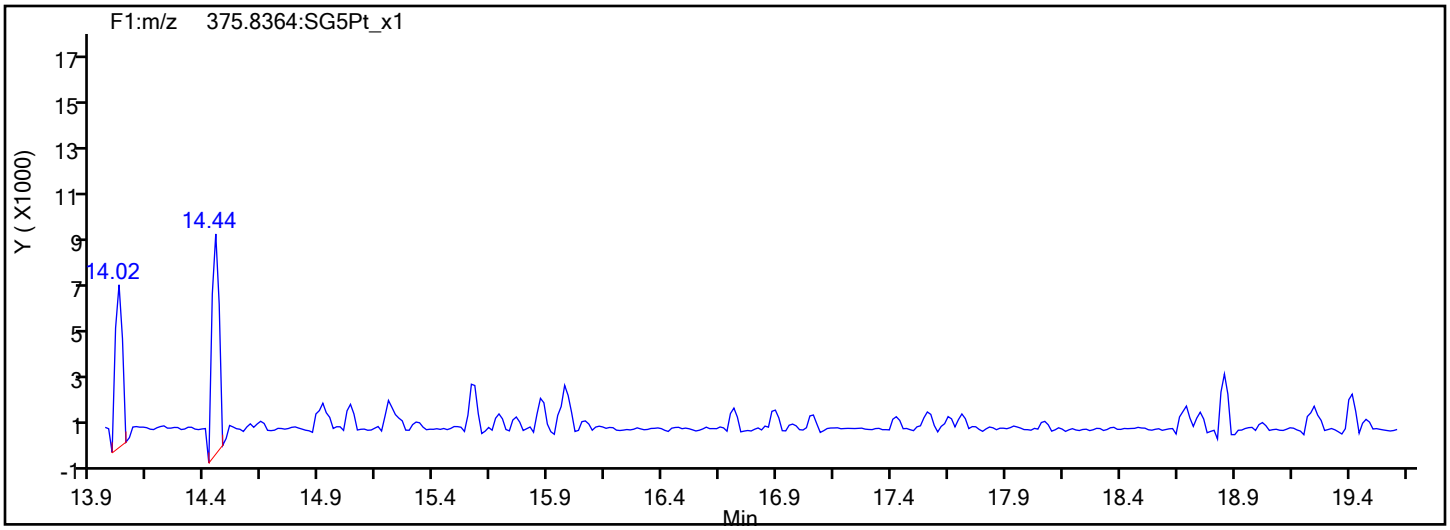

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
Injection Date:	17-Sep-2019 13:03:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

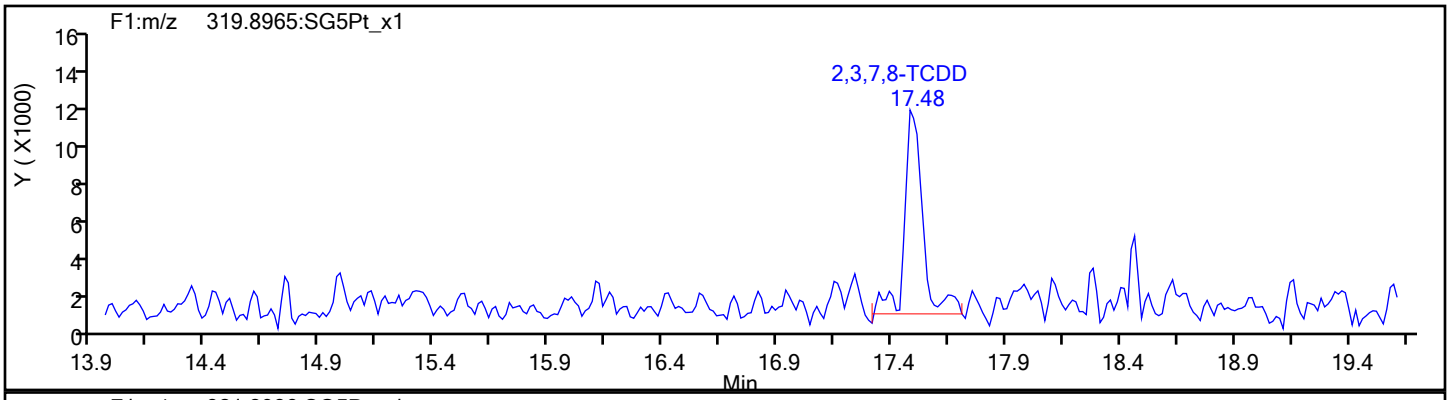

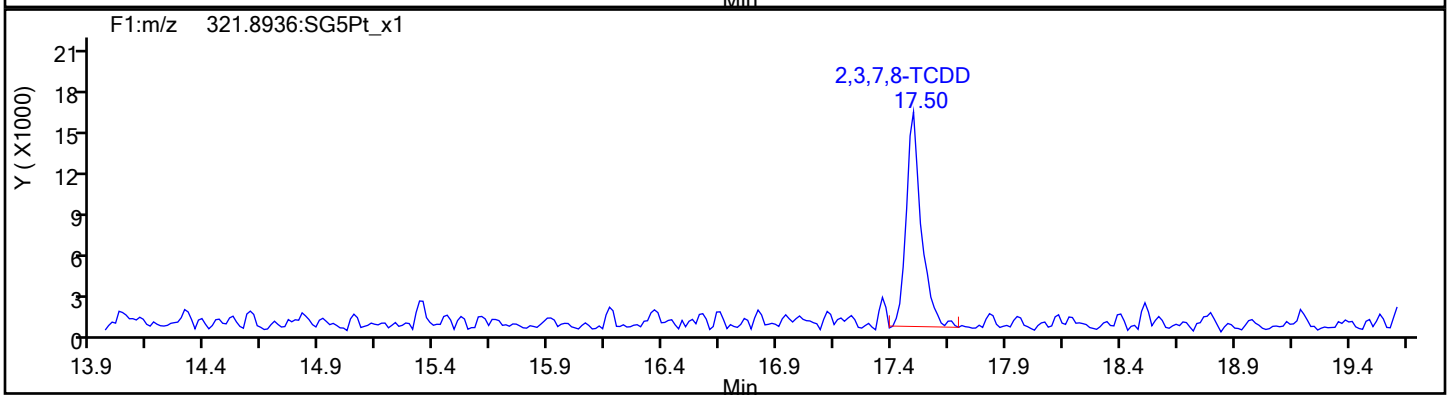

TCDD Standards

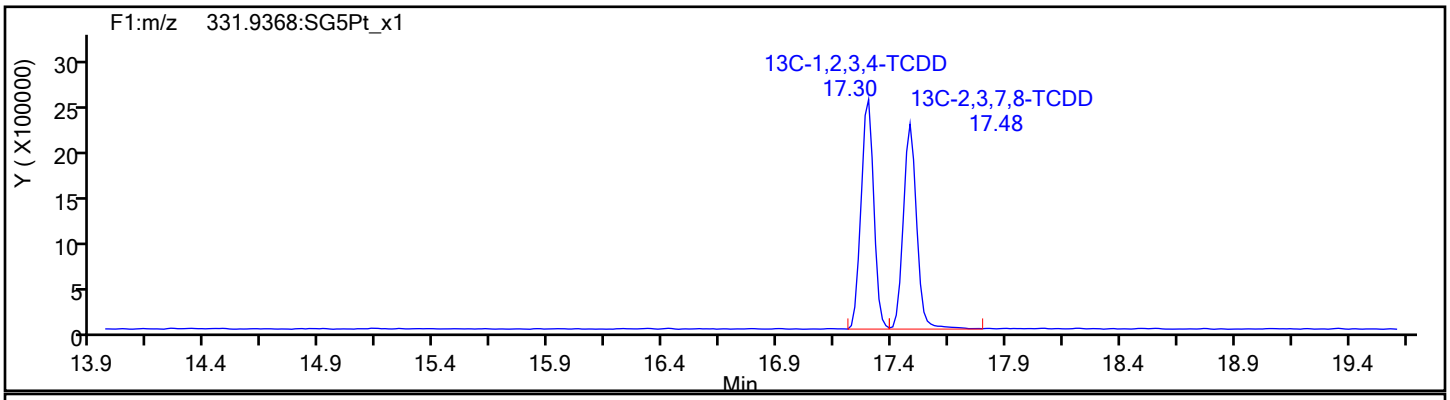

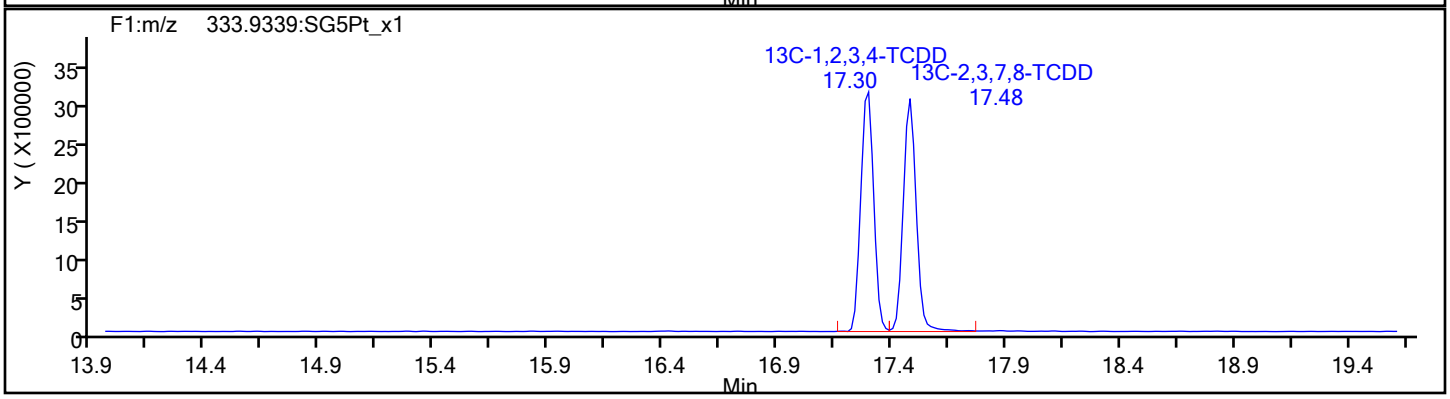

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

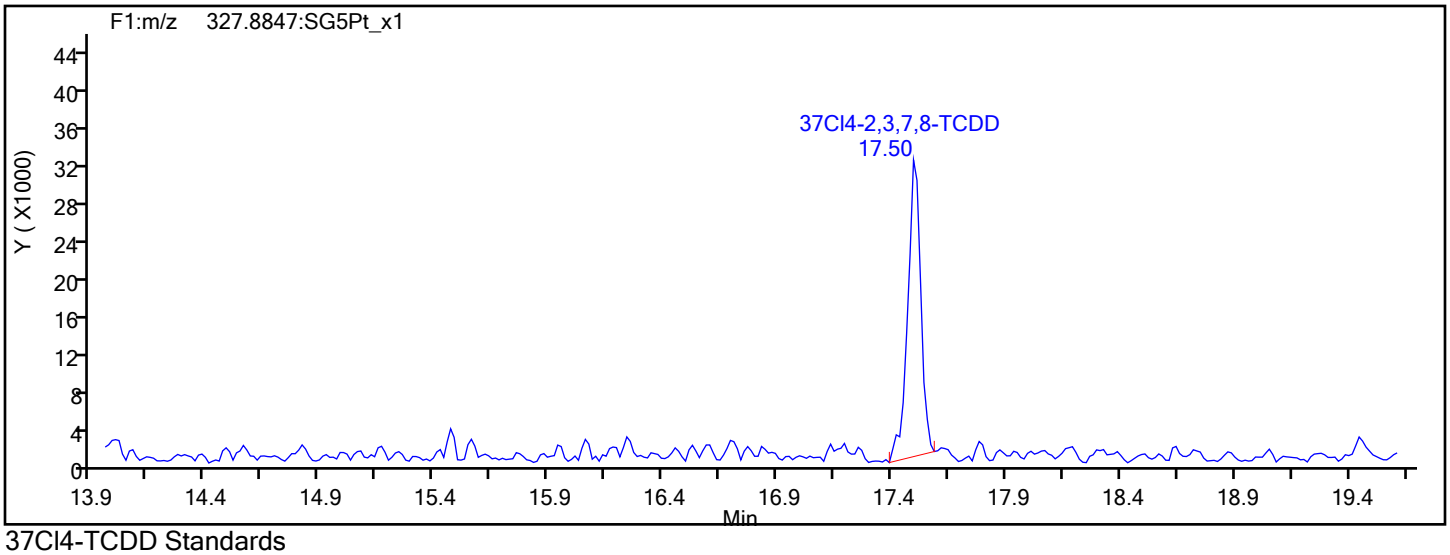

37Cl4-TCDD Standards

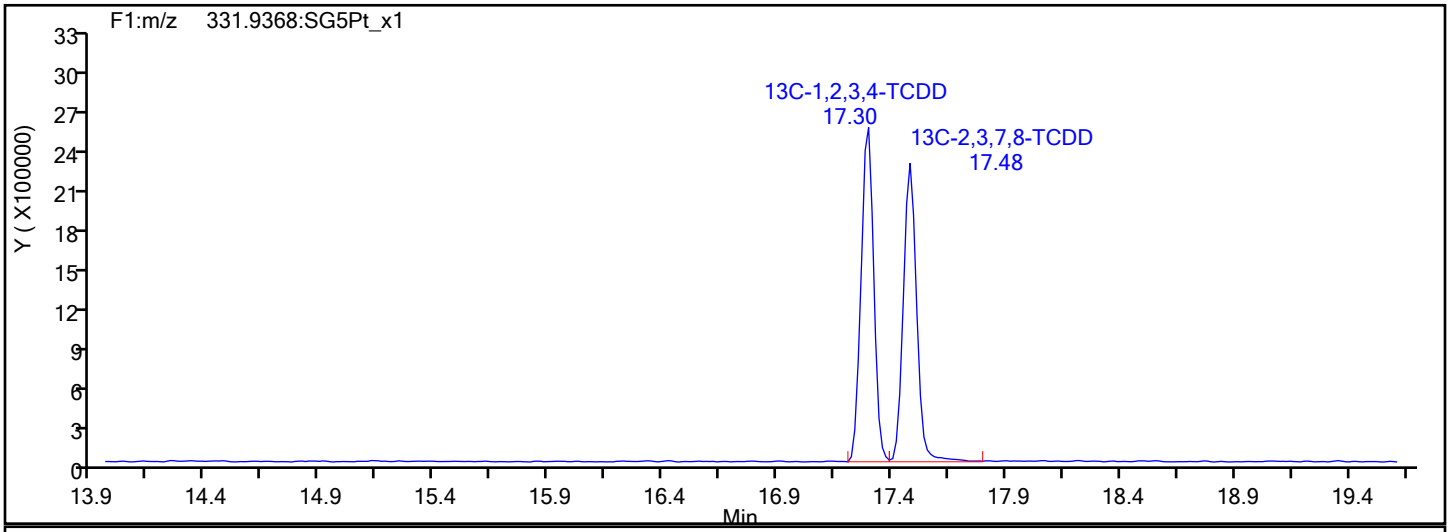

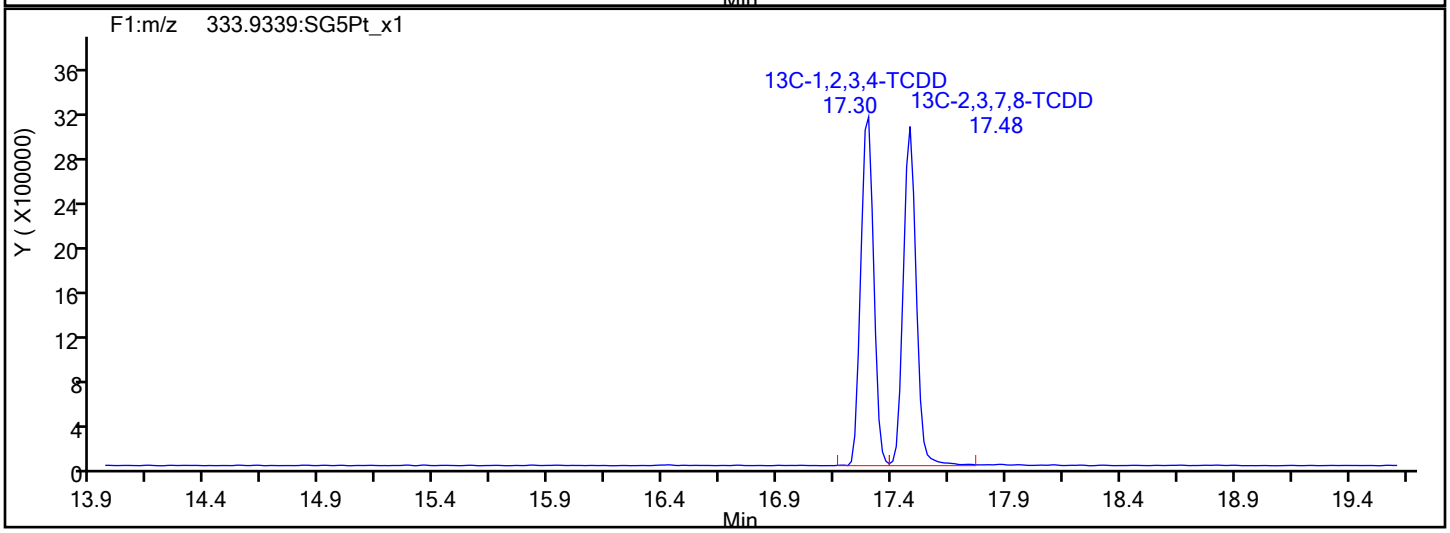

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

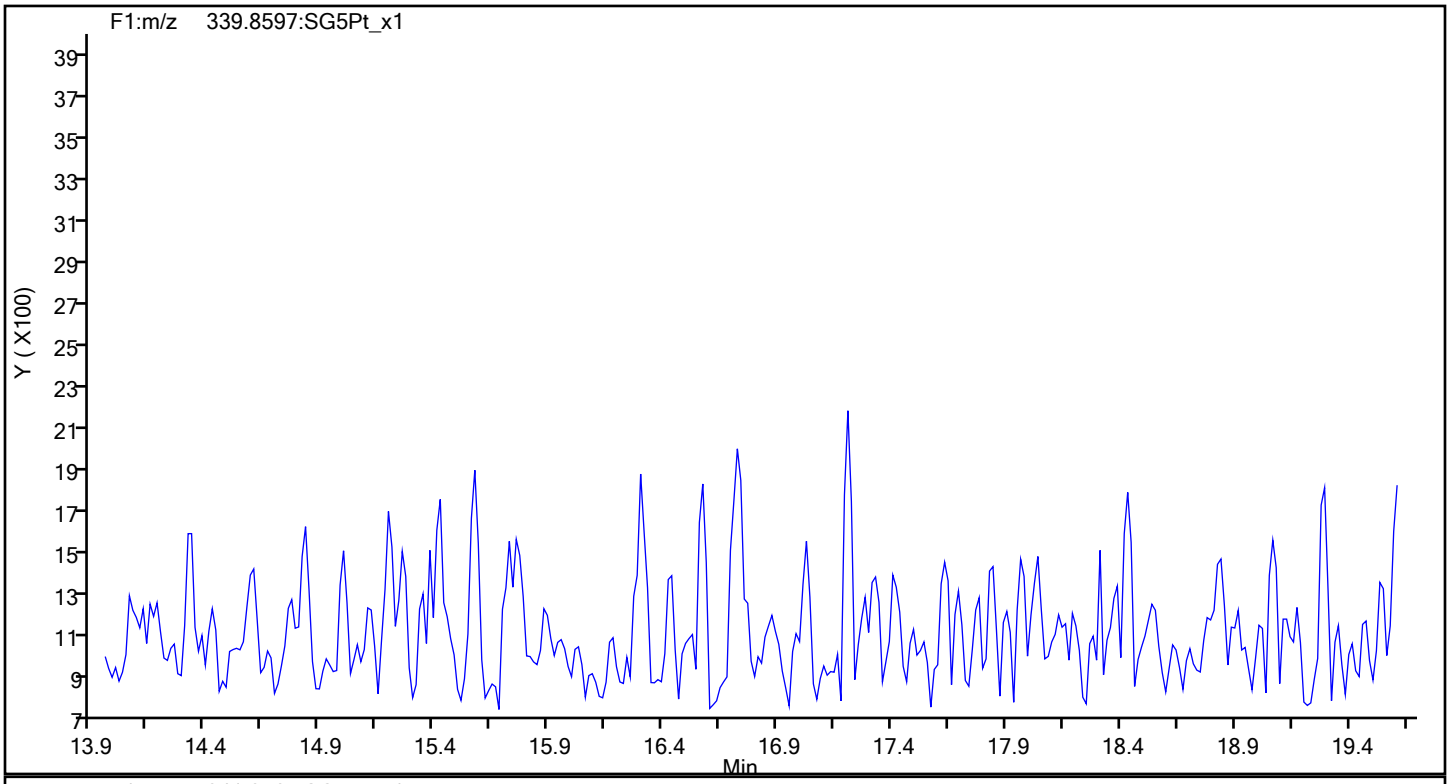

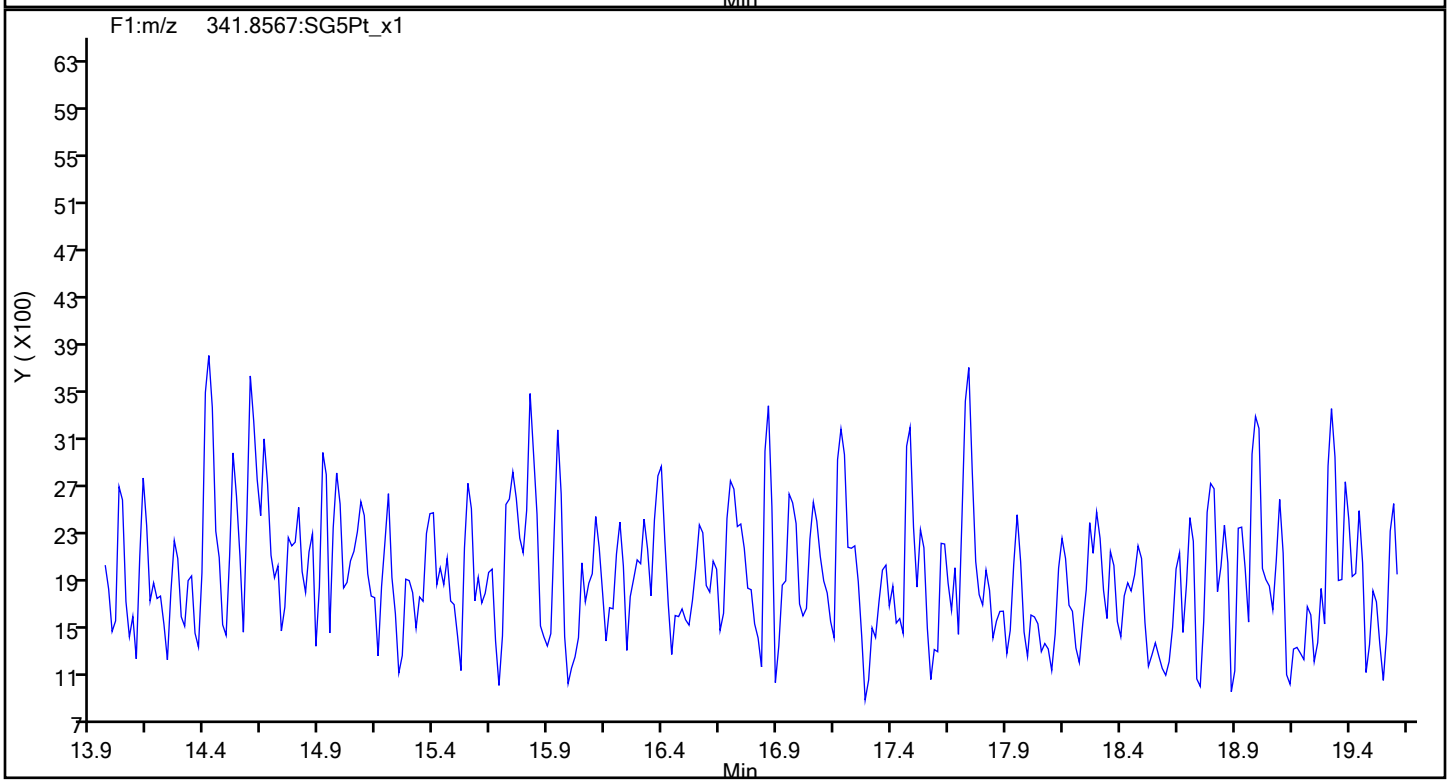

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
Injection Date:	17-Sep-2019 13:03:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

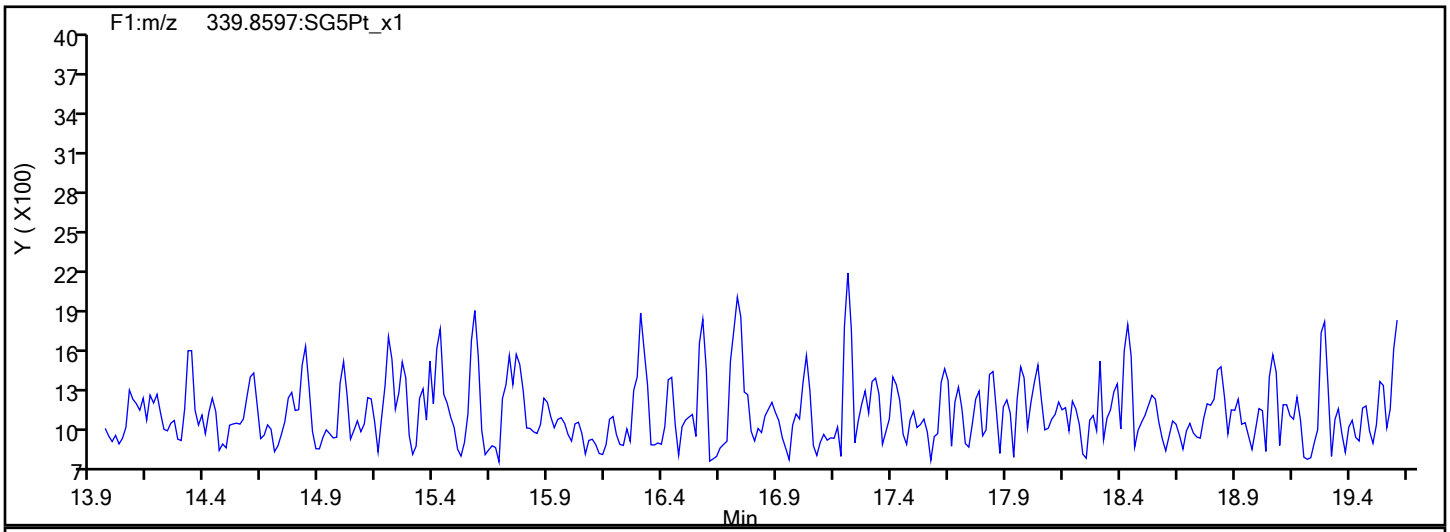

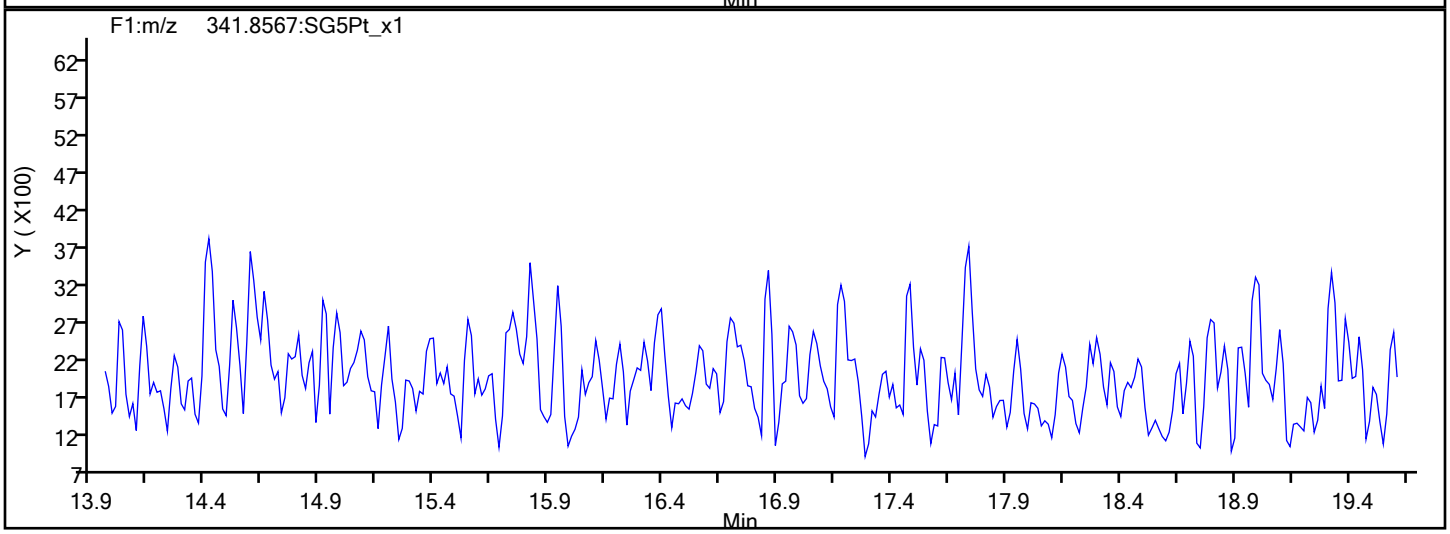

F1 PeCDFs Interference Mass

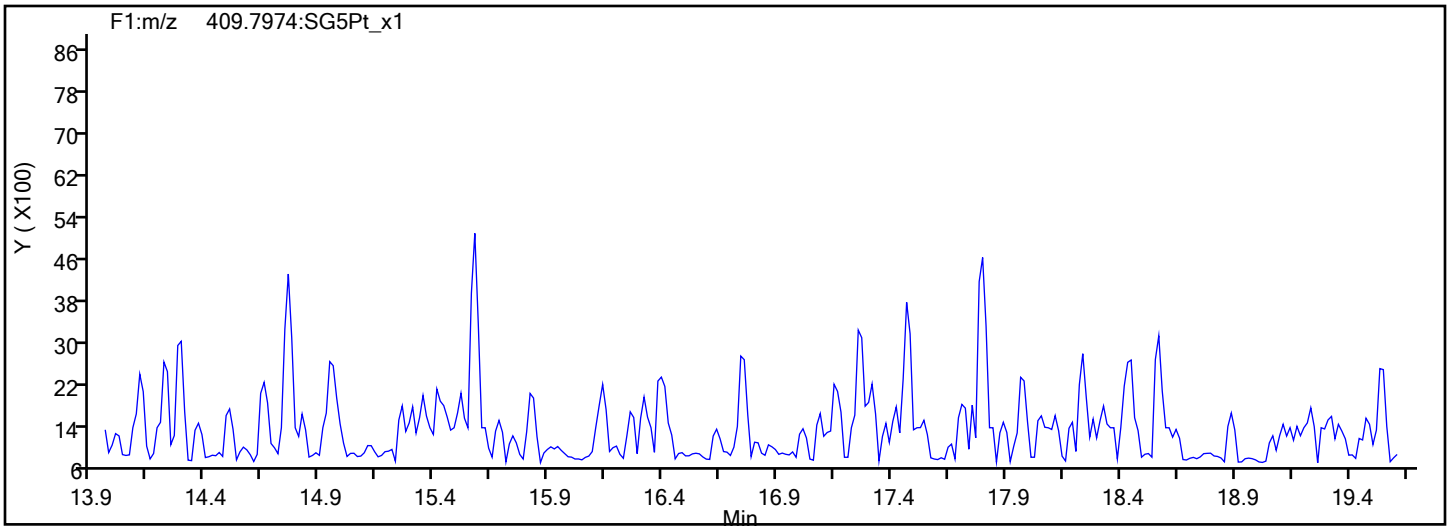

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
Injection Date:	17-Sep-2019 13:03:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

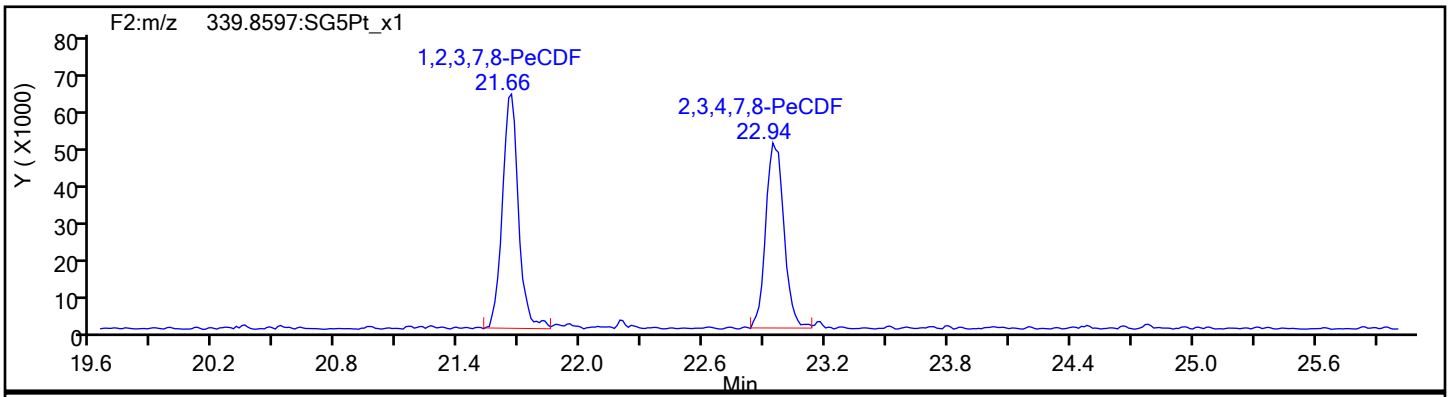

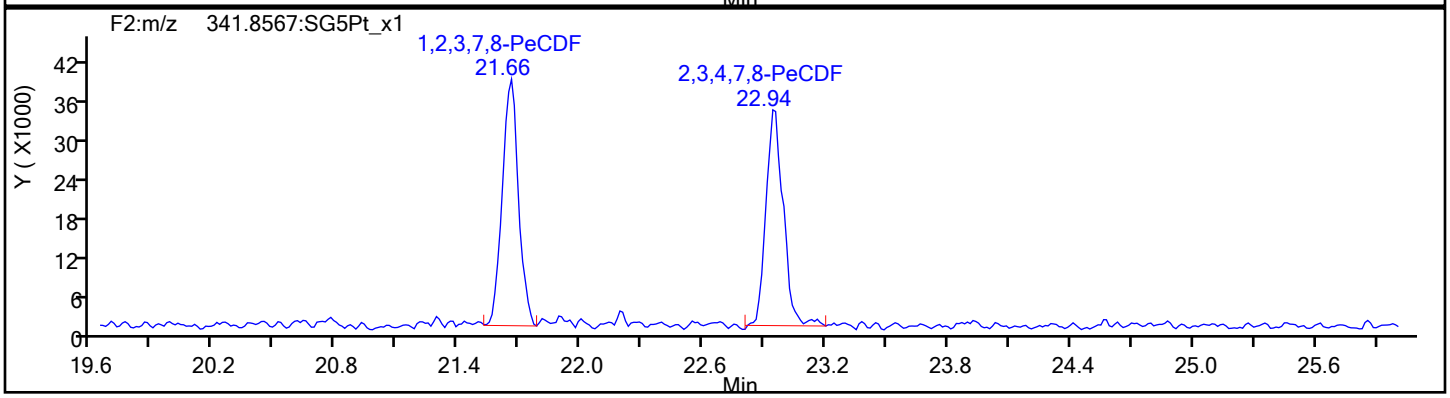

PeCDF Standards

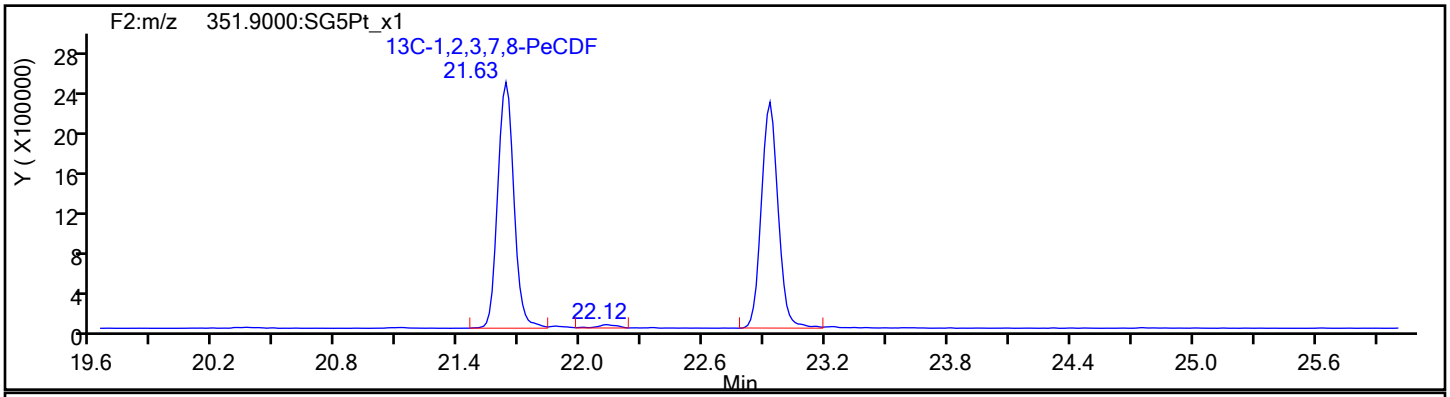

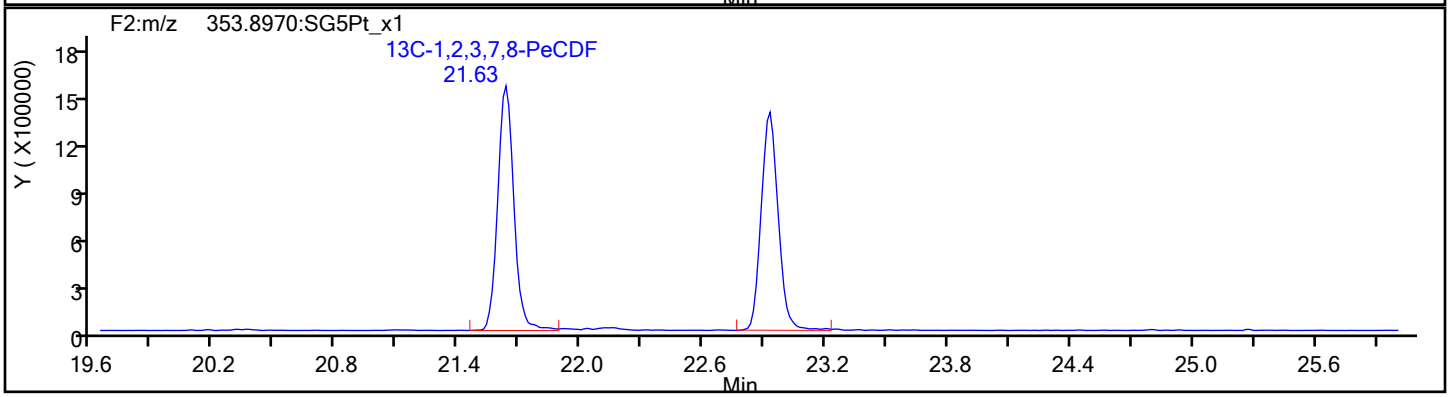

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

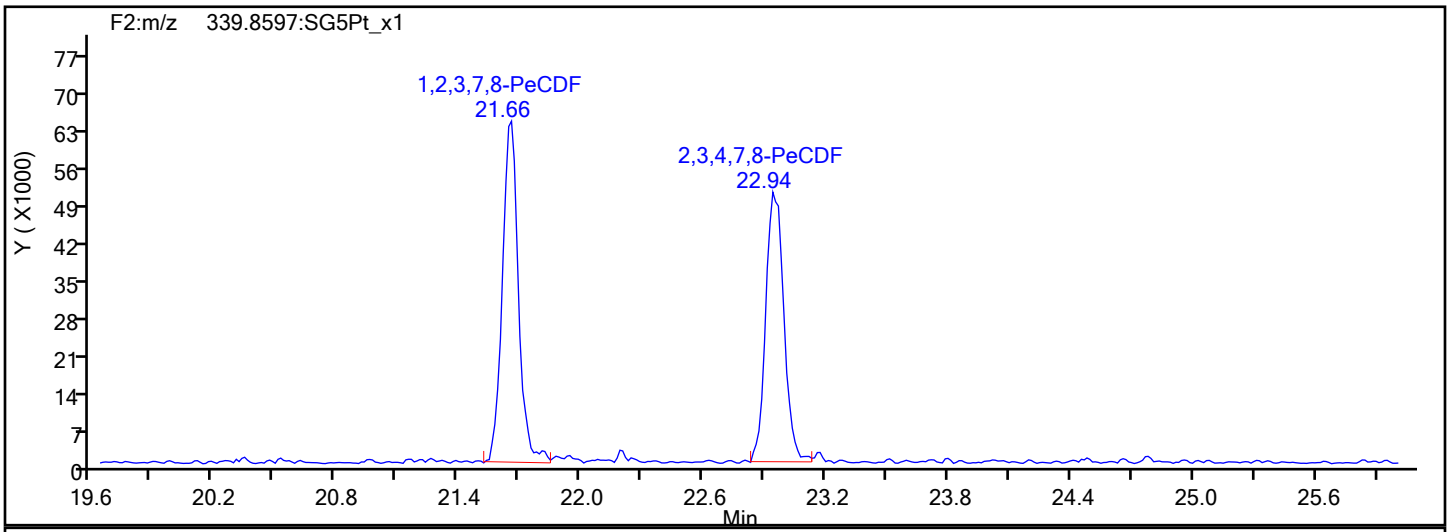

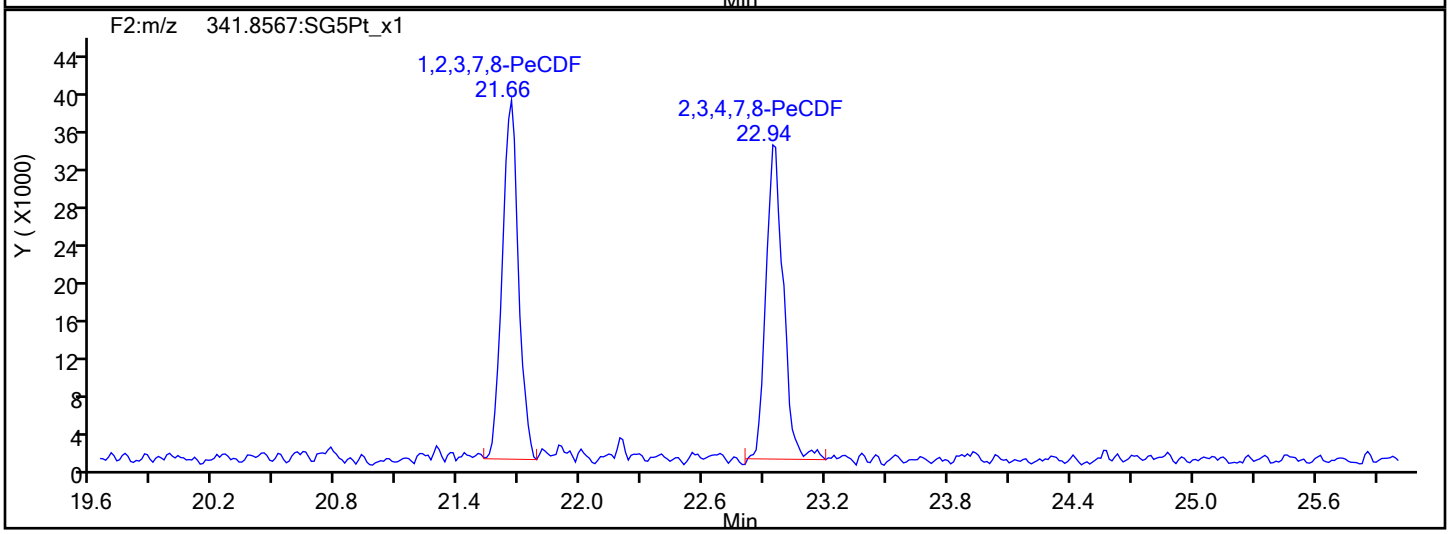

PeCDF Interference Mass

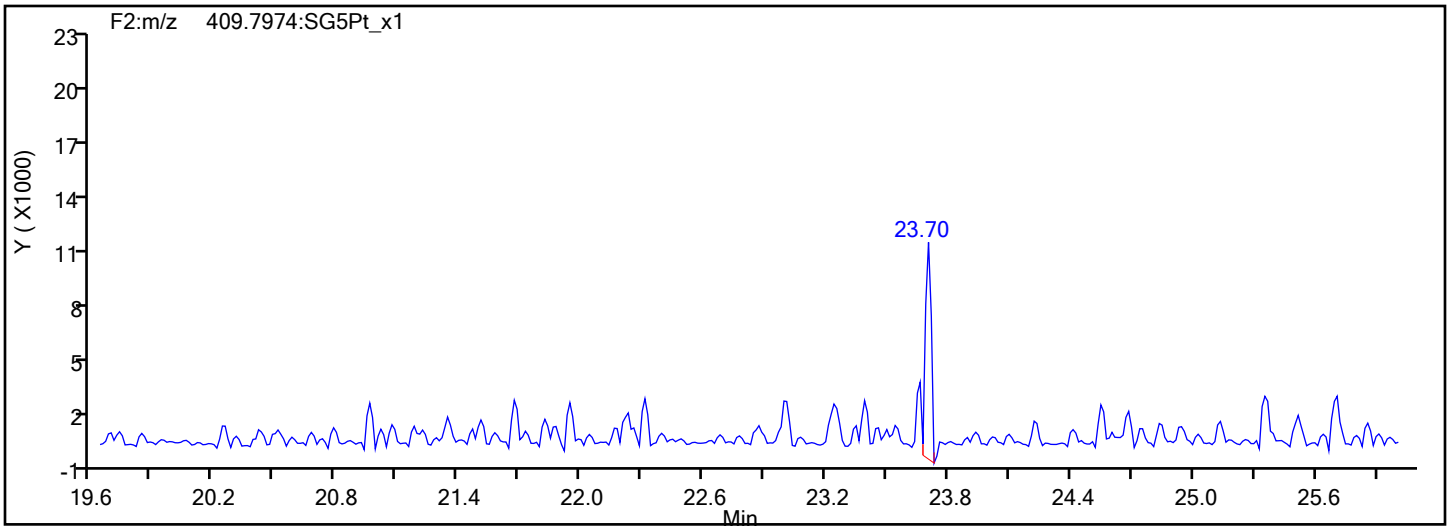

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

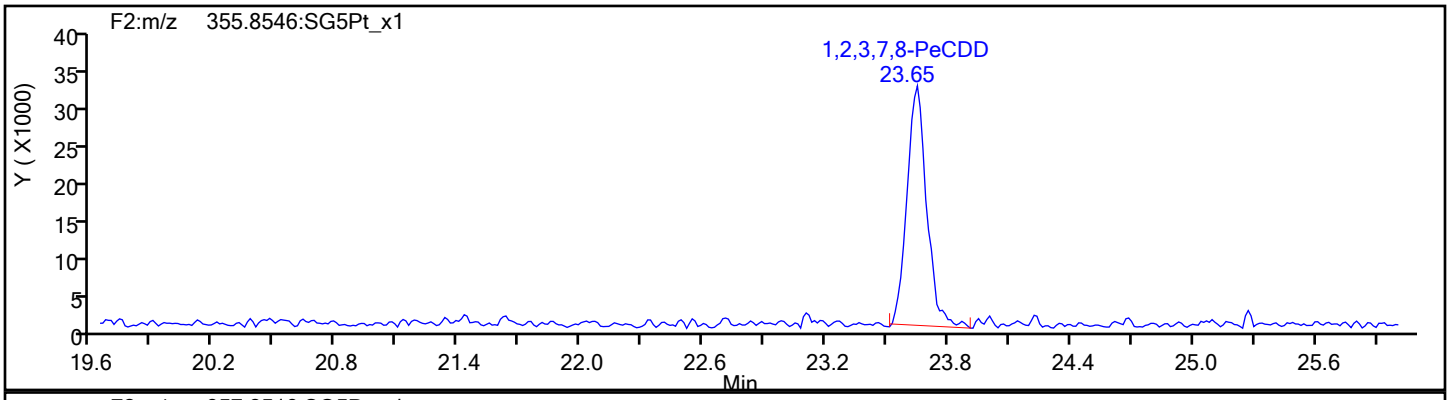

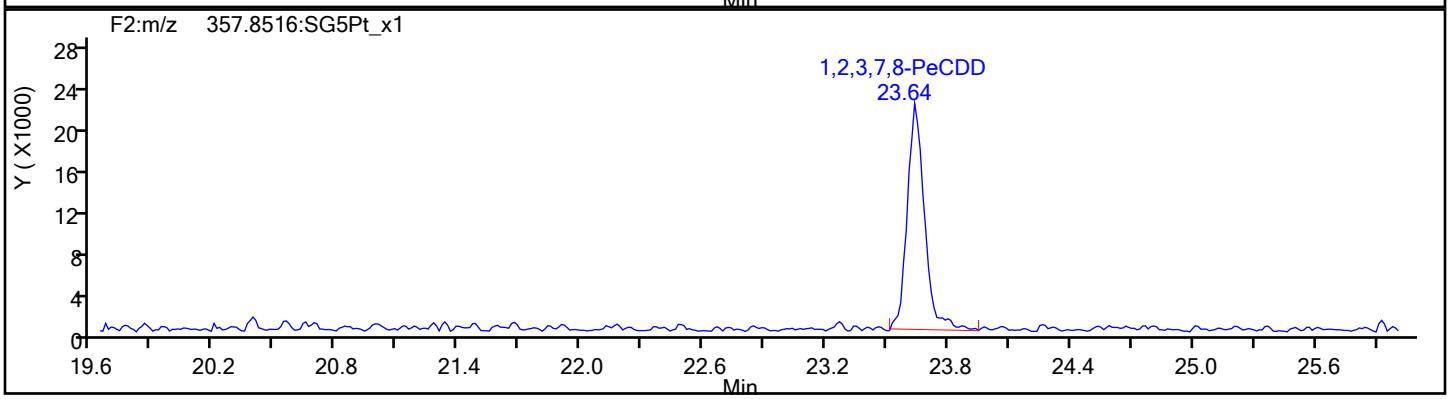

PeCDD Standards

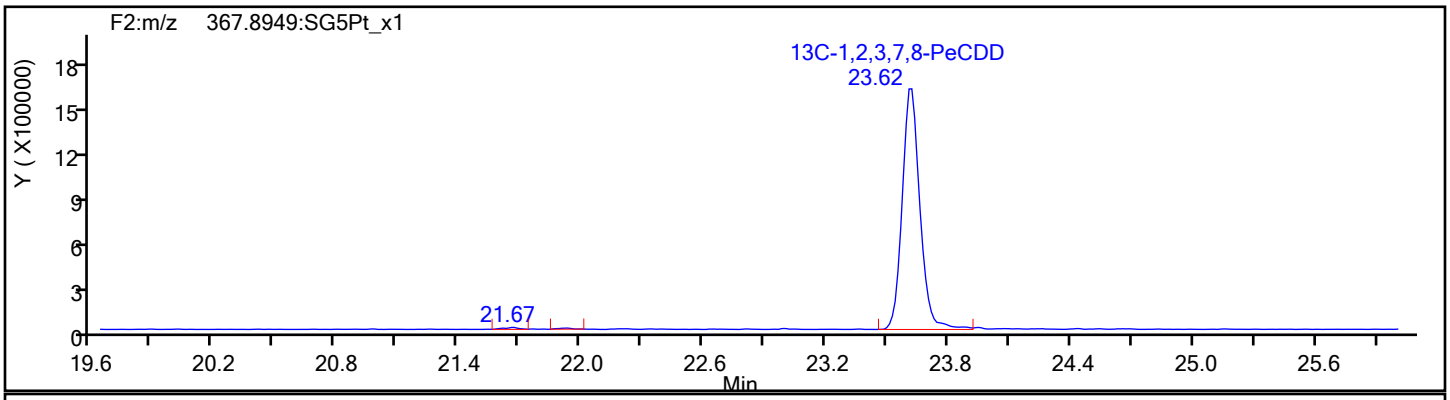

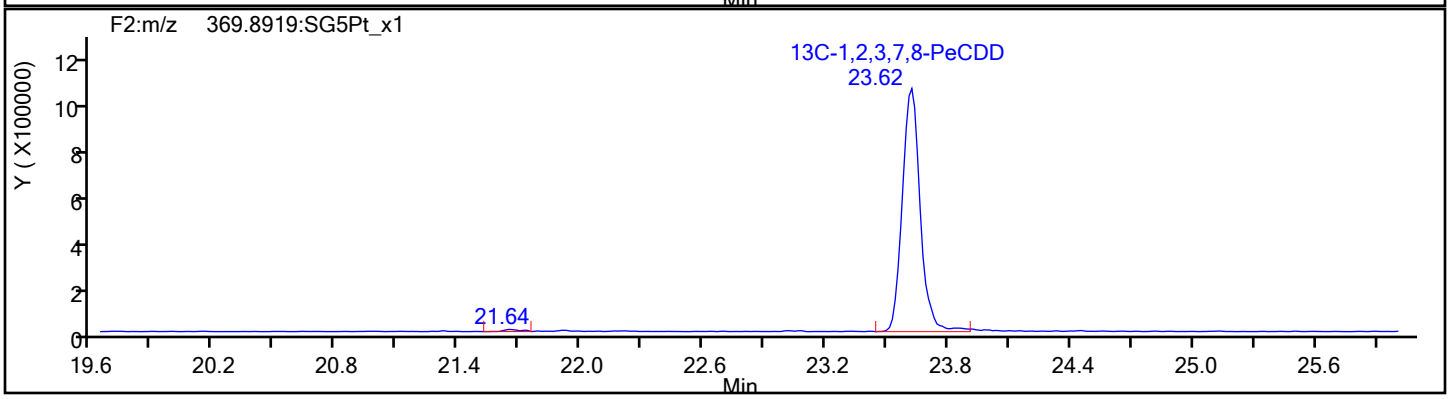

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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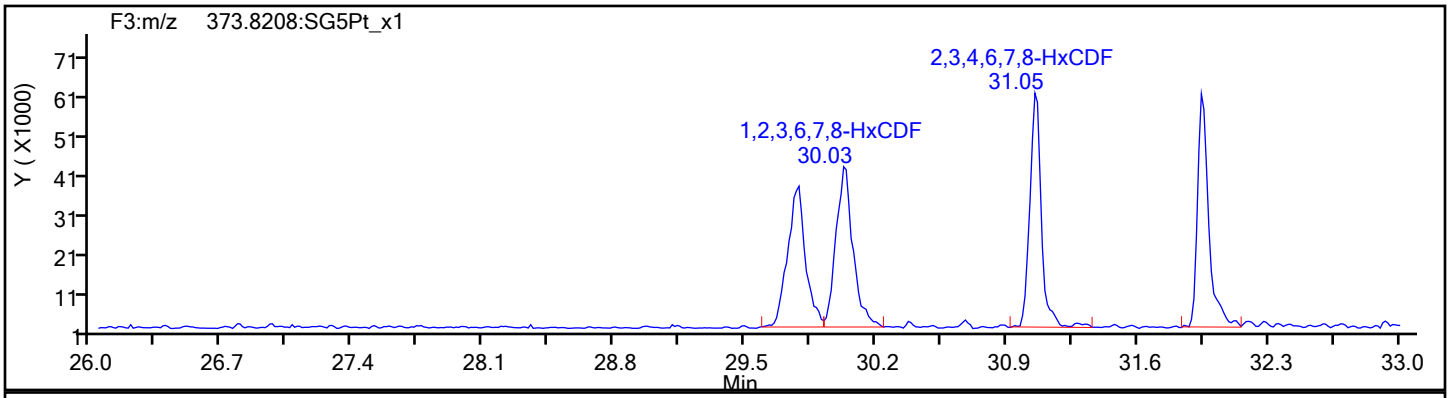

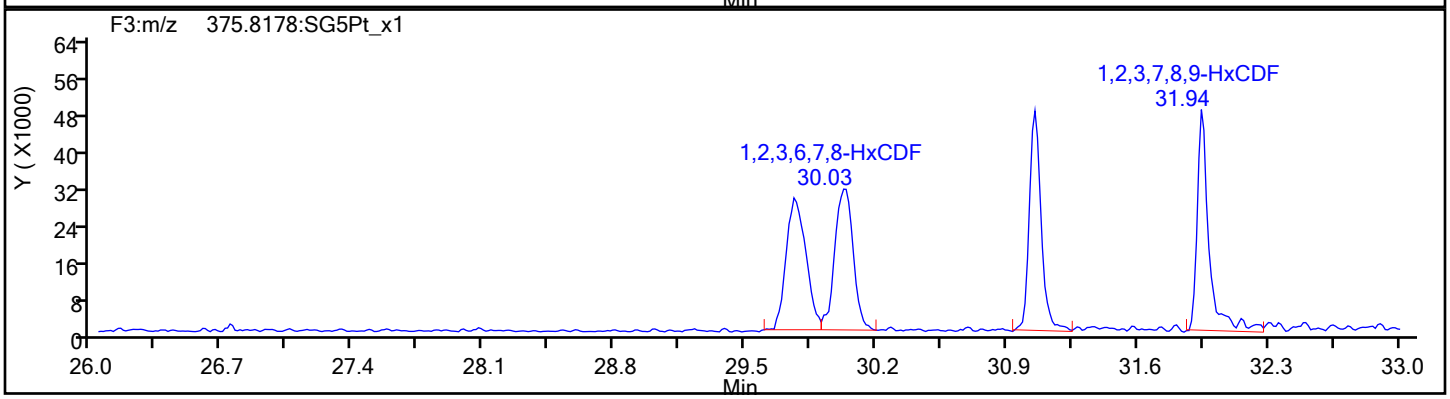

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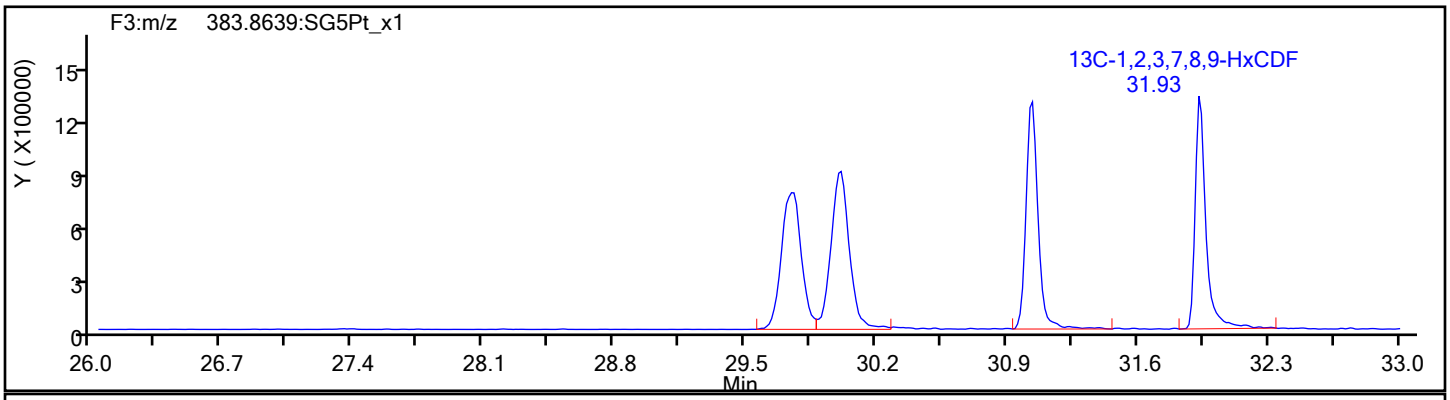

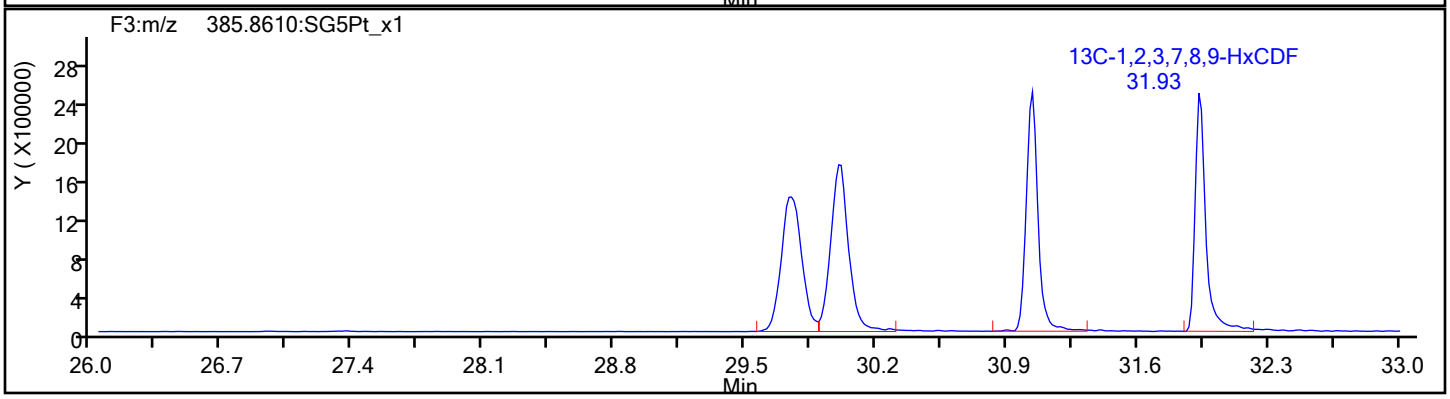

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Eurofins TestAmerica, Sacramento

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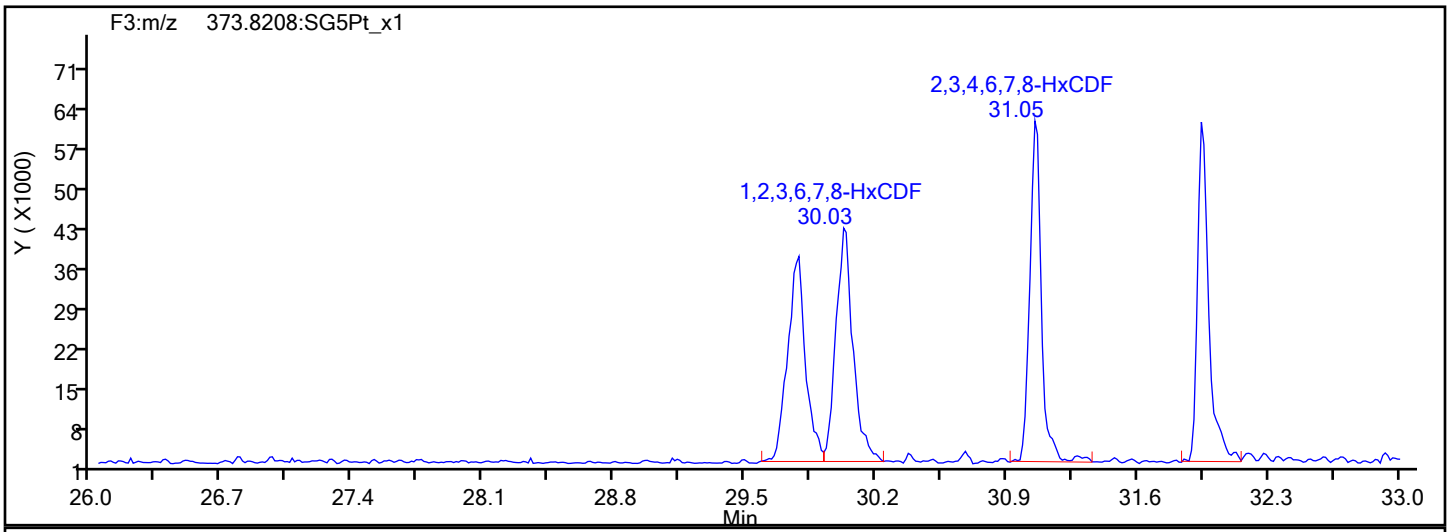

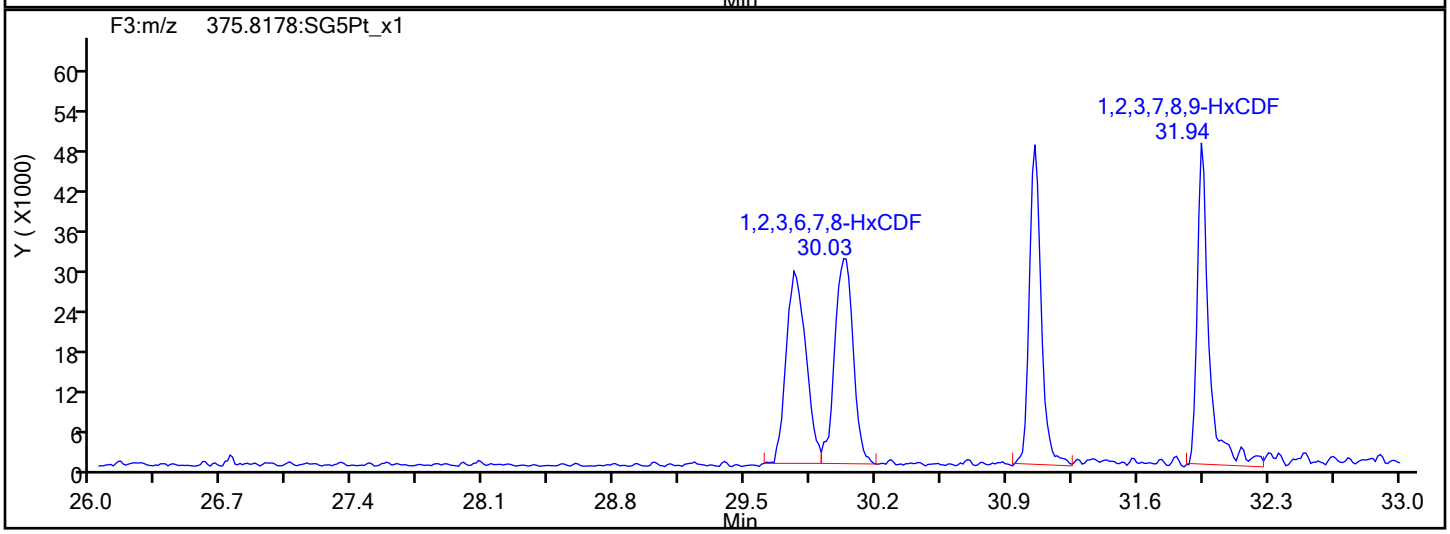

HxCDF Interference Mass

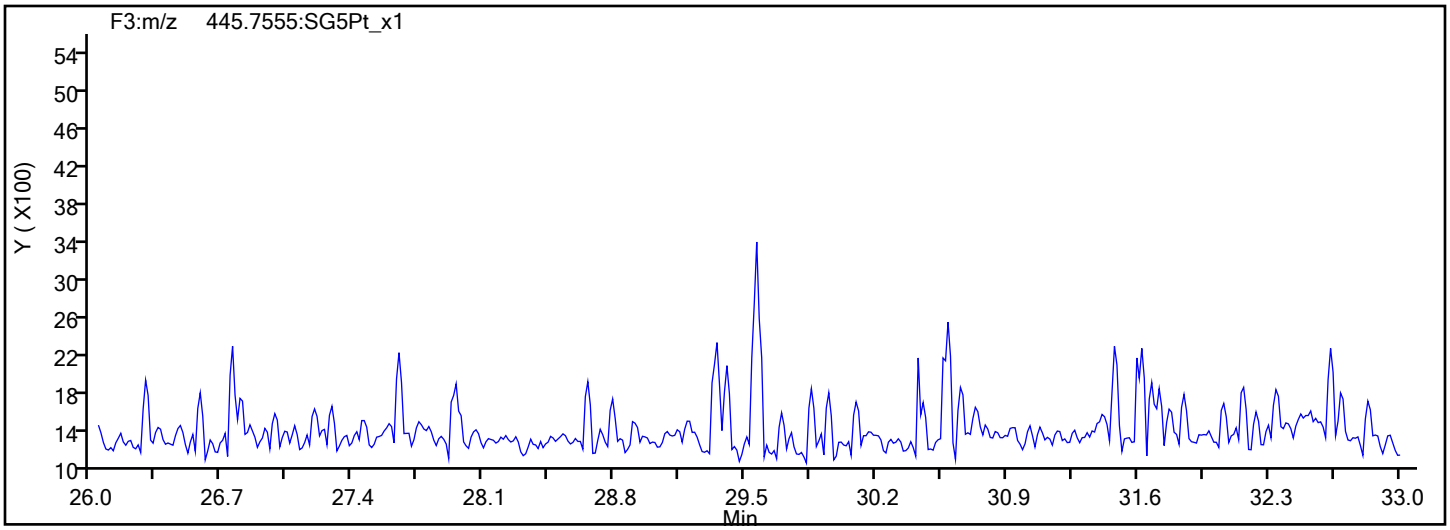

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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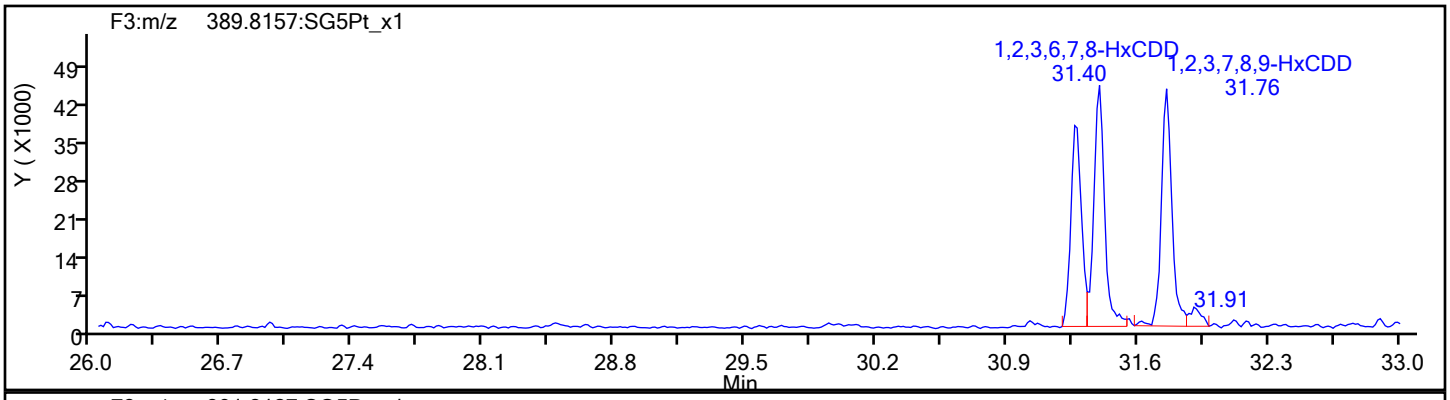

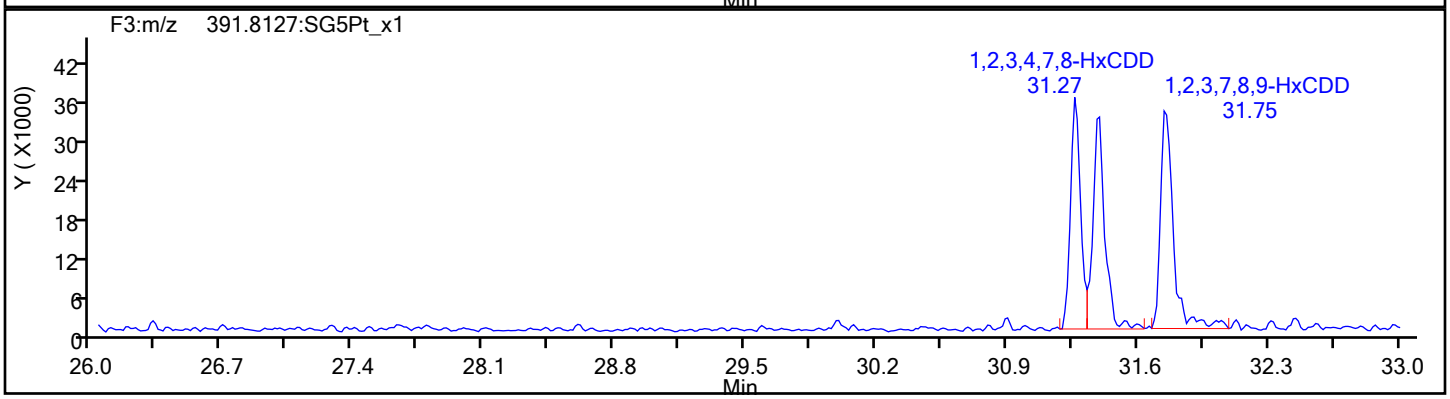

HxCDD Standards

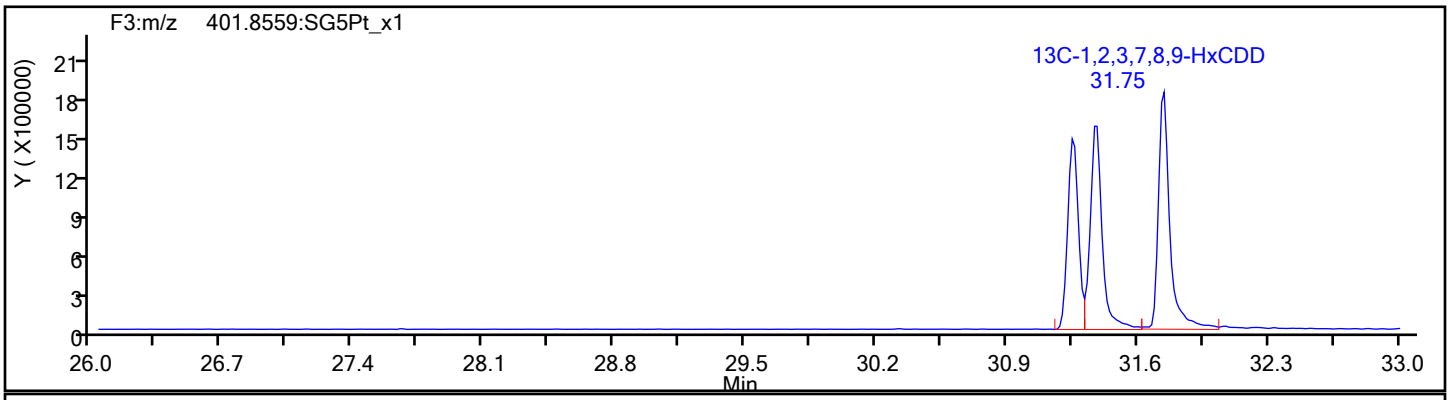

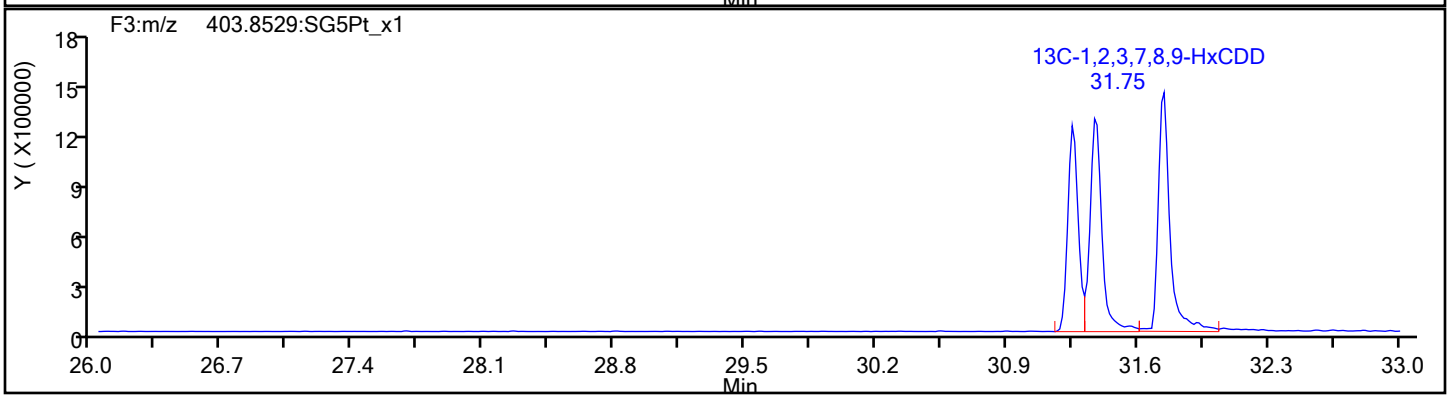

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Eurofins TestAmerica, Sacramento

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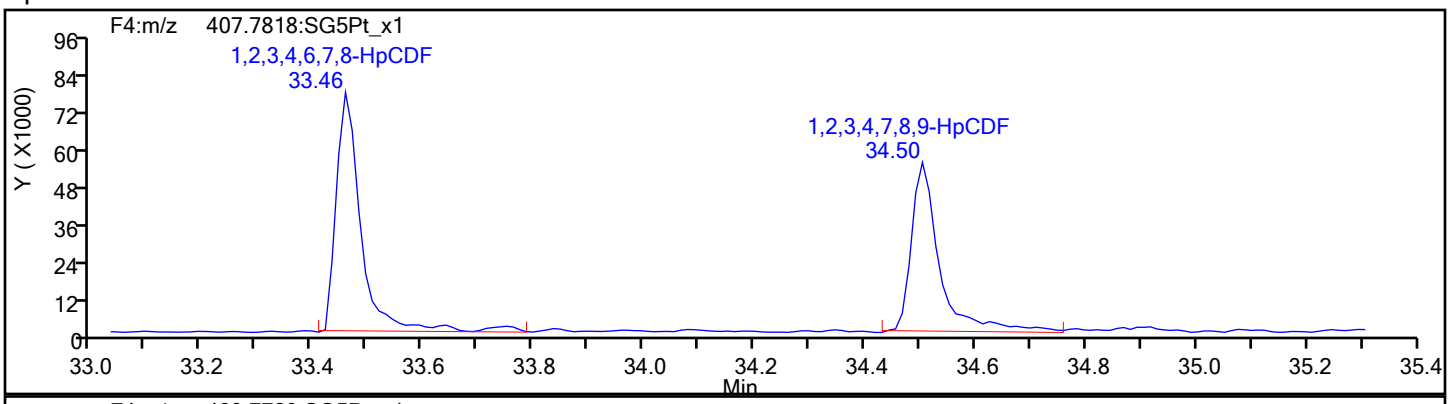

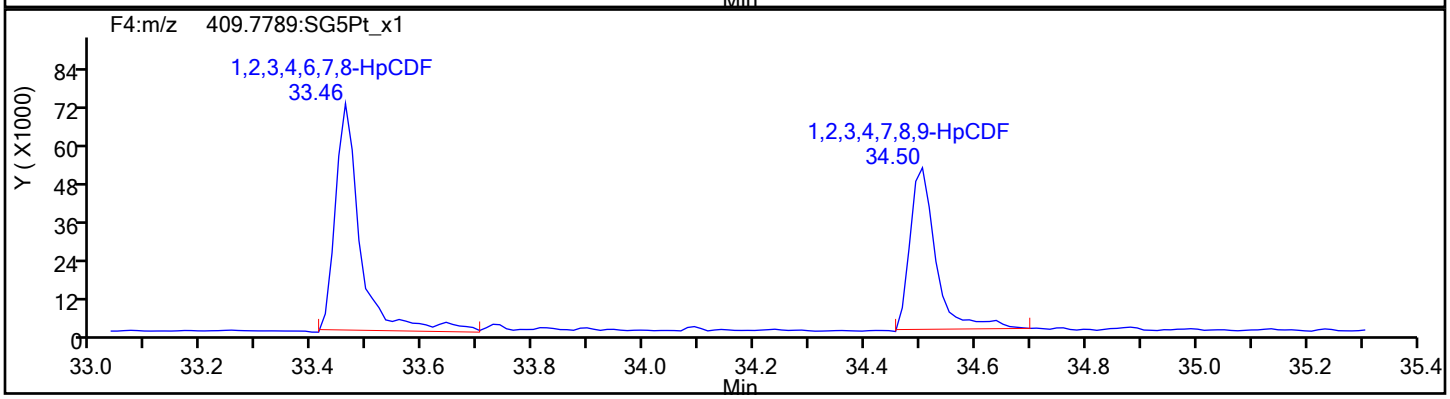

HpCDF Standards

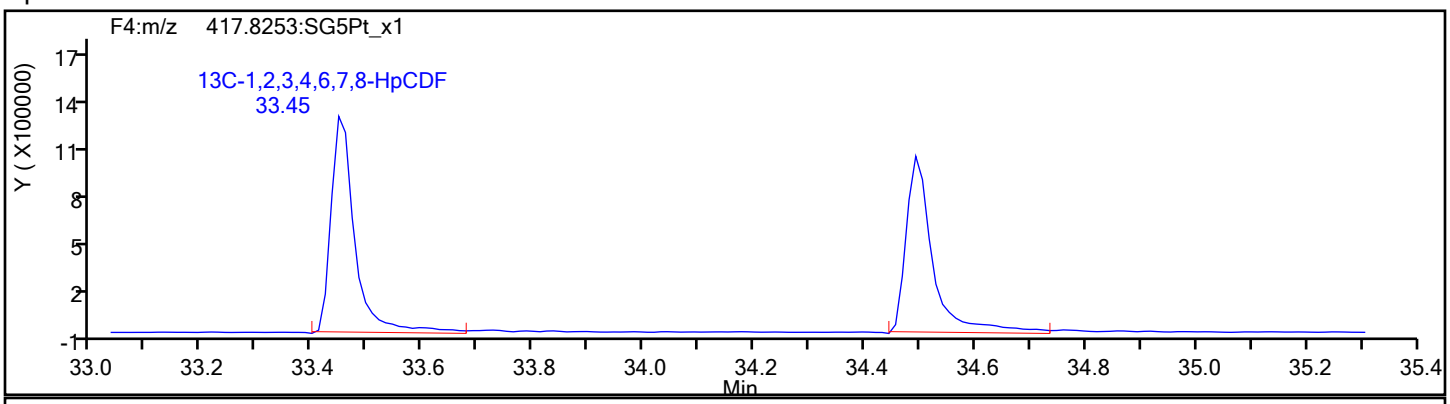

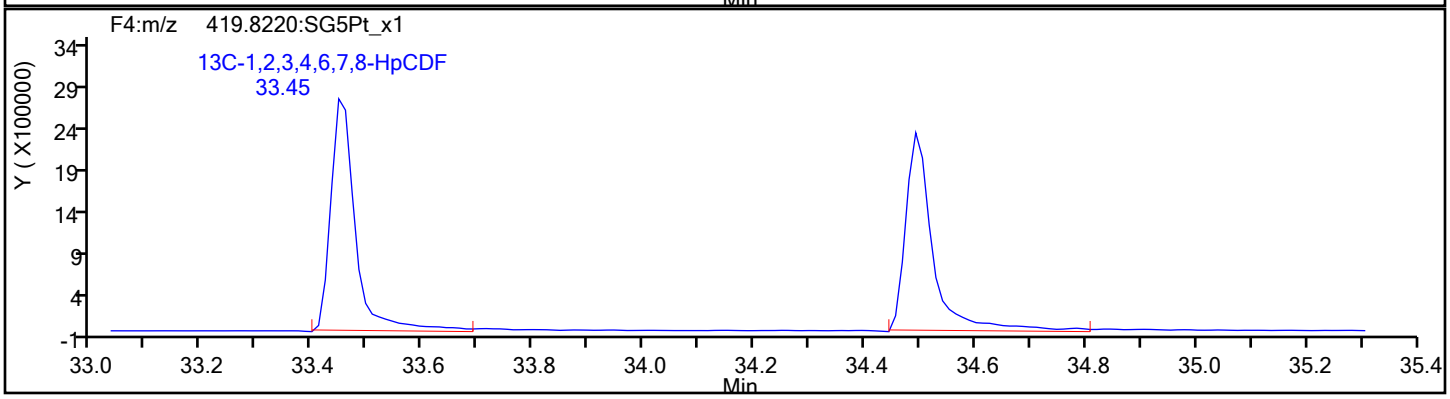

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Eurofins TestAmerica, Sacramento

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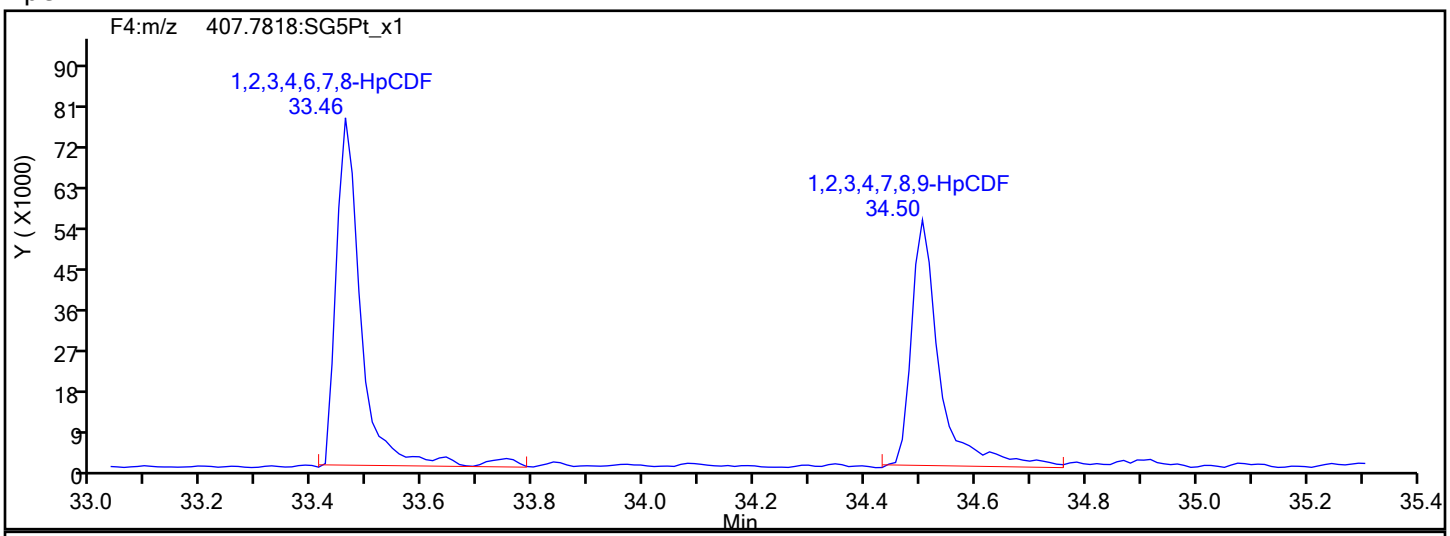

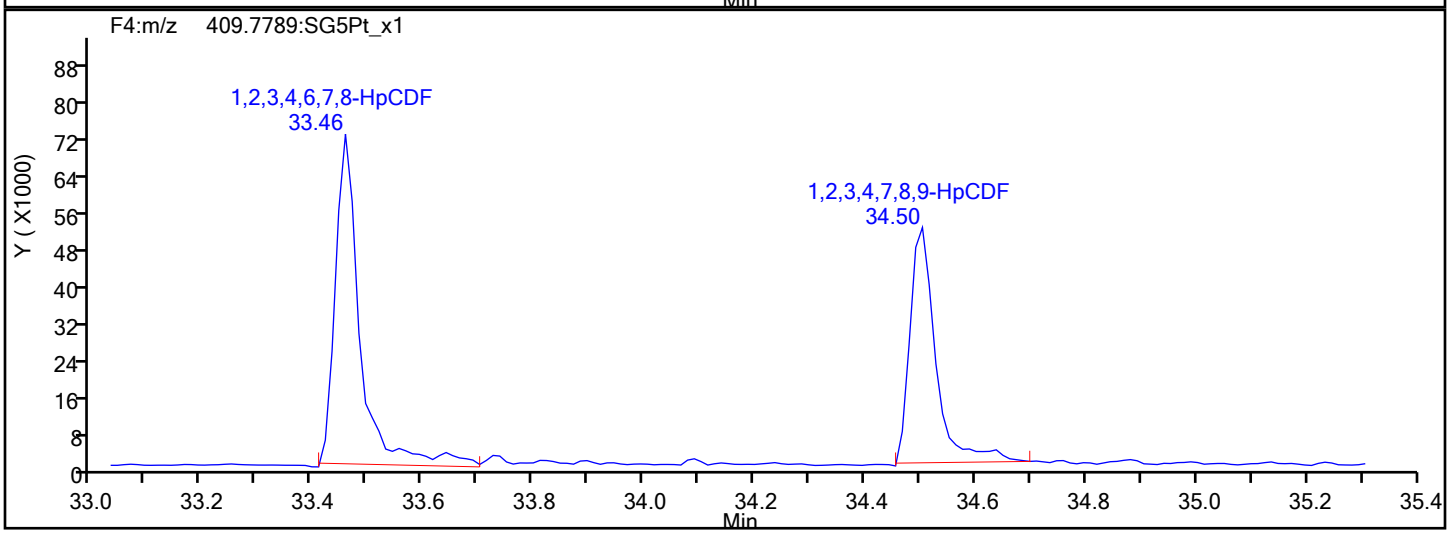

HpCDF Interference Mass

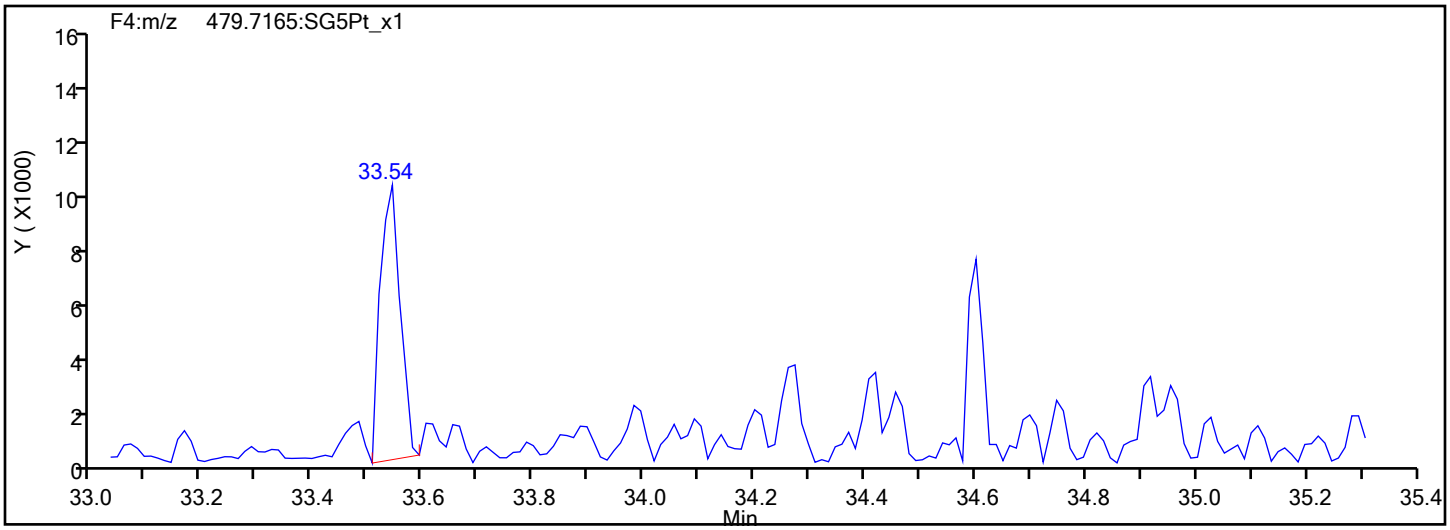

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Eurofins TestAmerica, Sacramento

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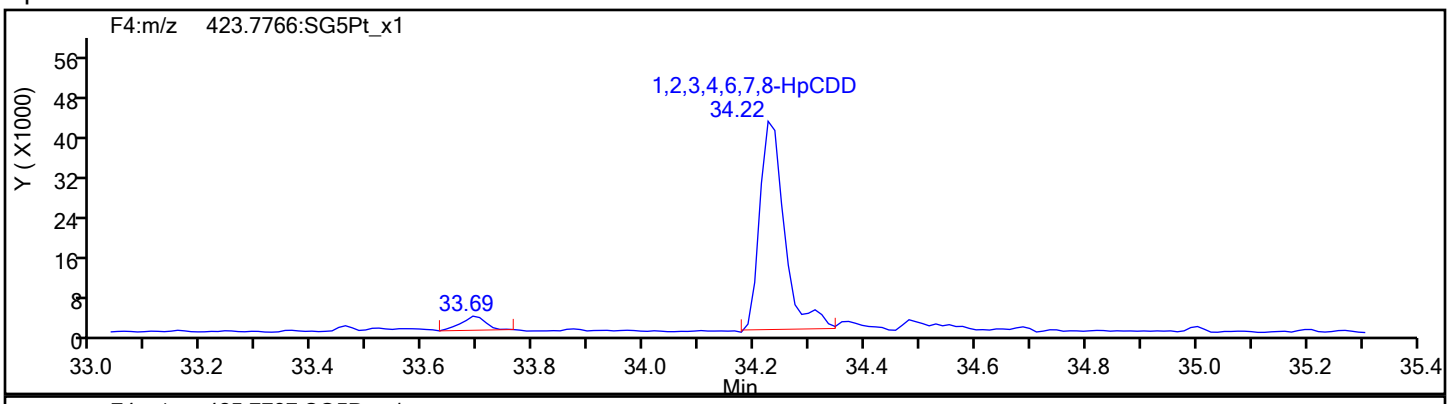

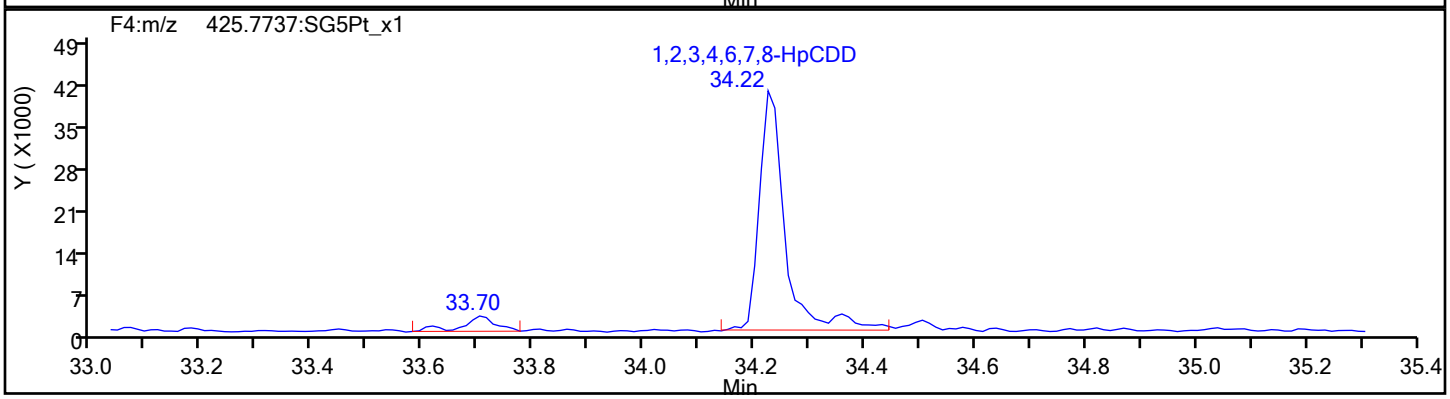

HpCDD Standards

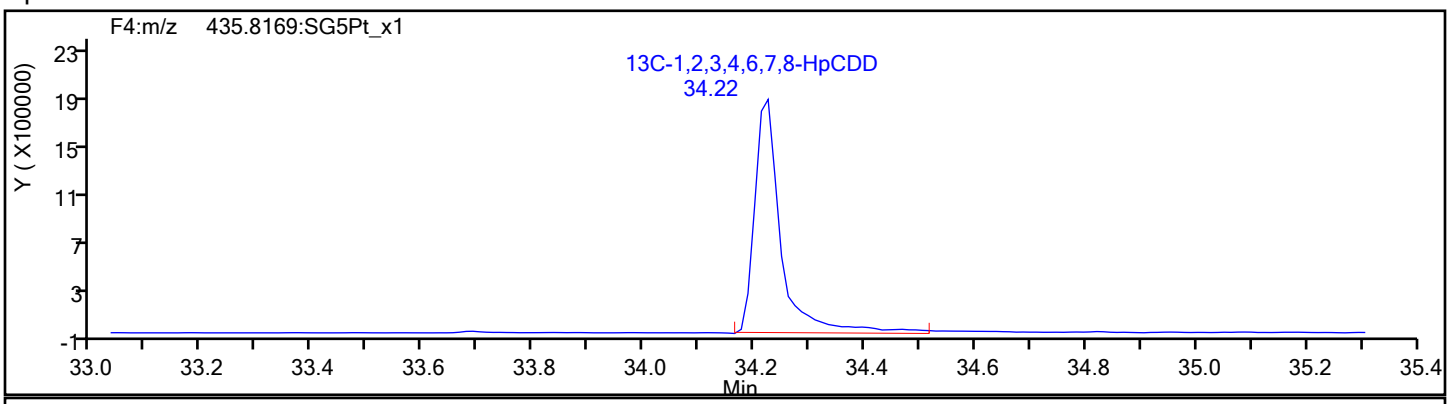

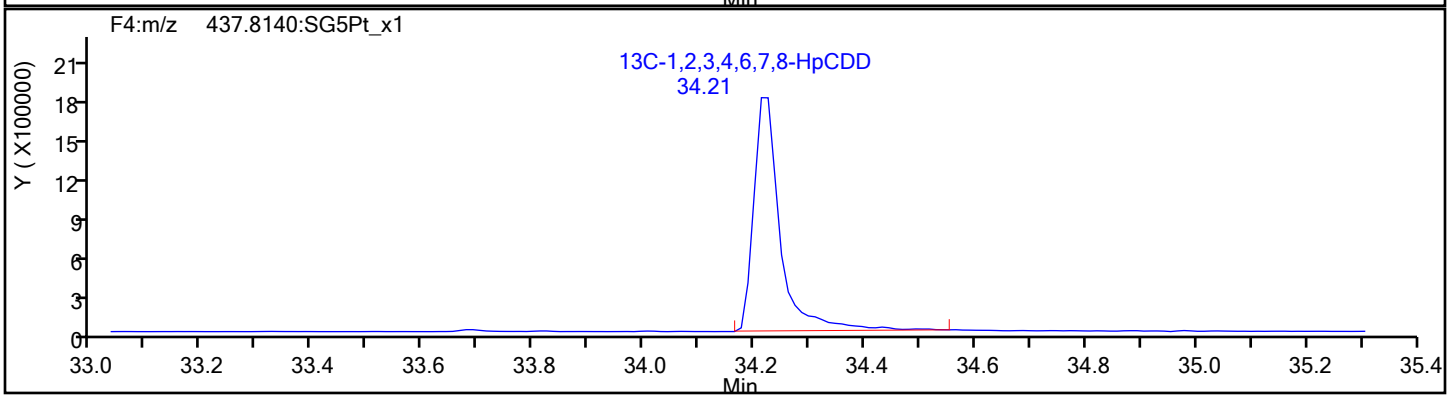

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Eurofins TestAmerica, Sacramento

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OCDF

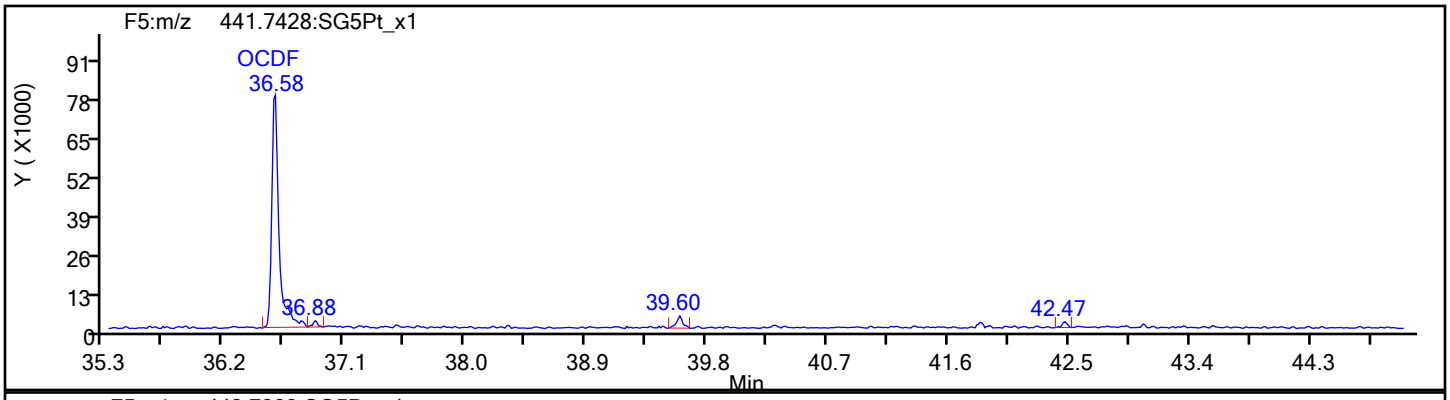

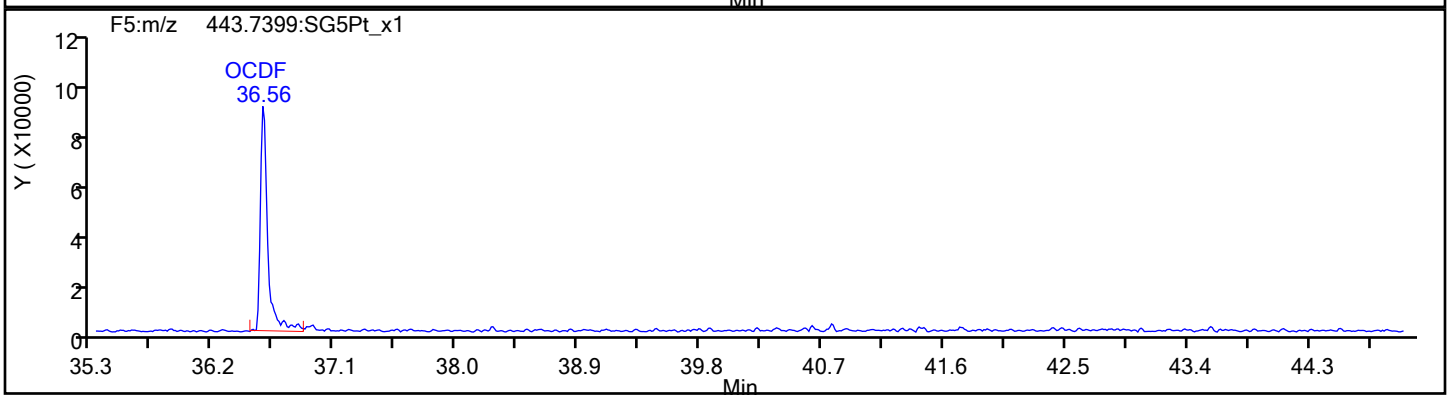

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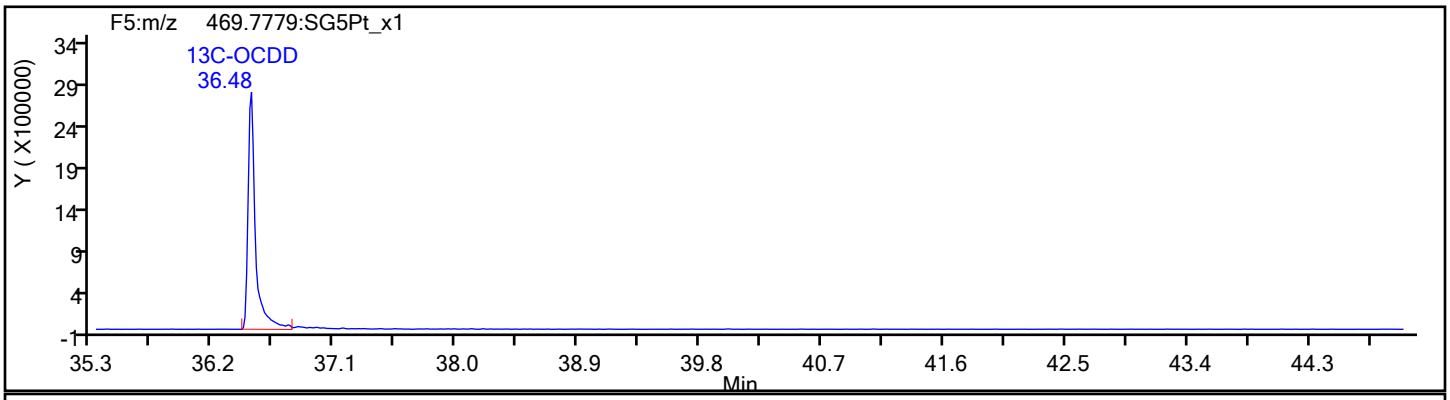

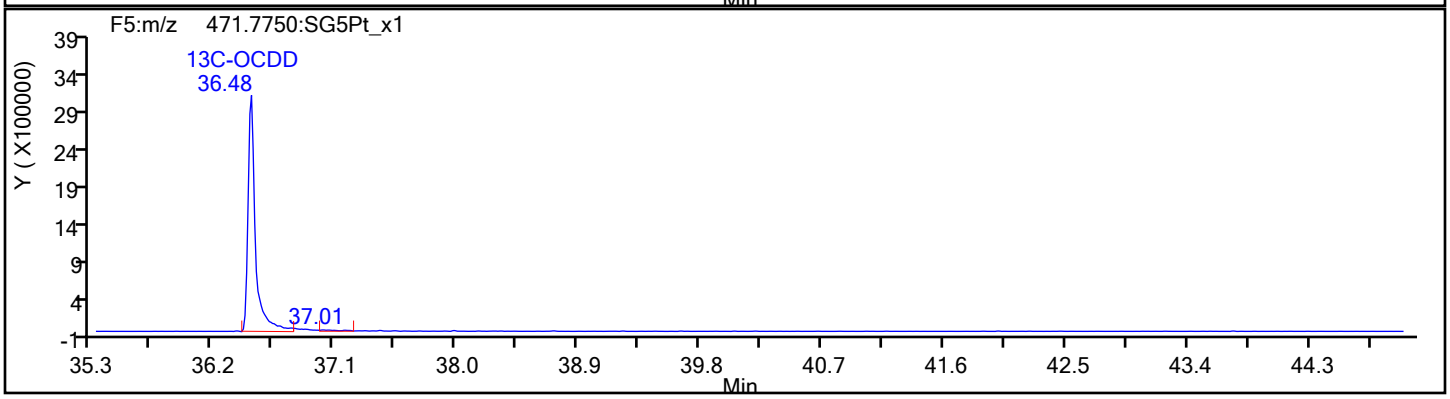

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Eurofins TestAmerica, Sacramento

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OCDF

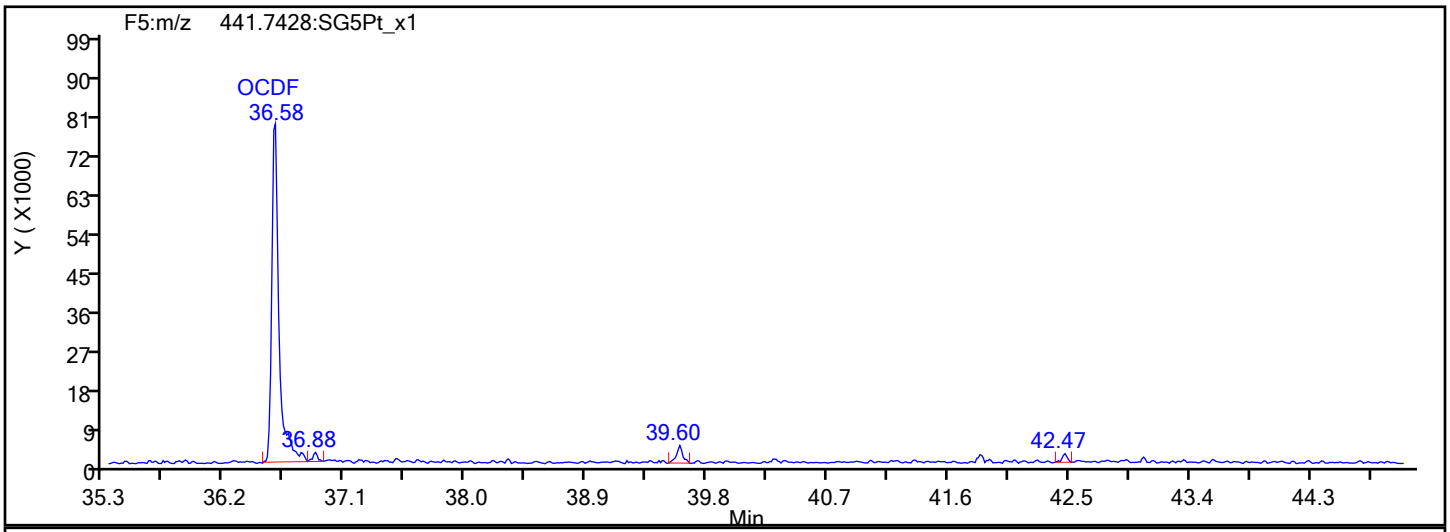

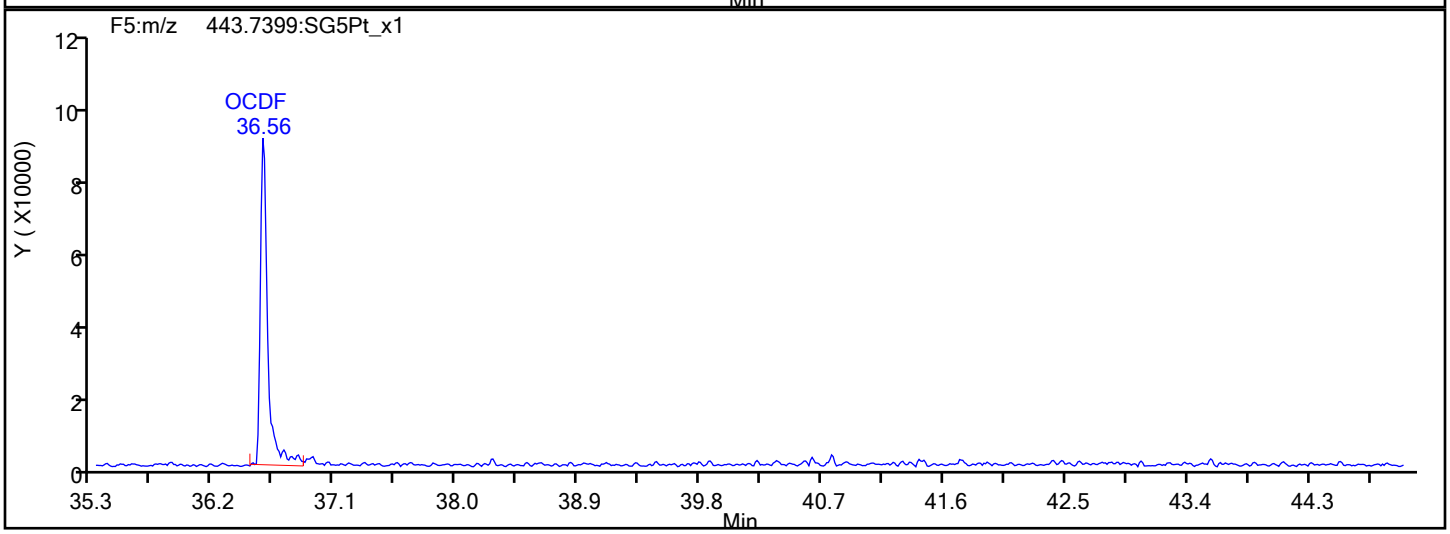

OCDF Interference Mass

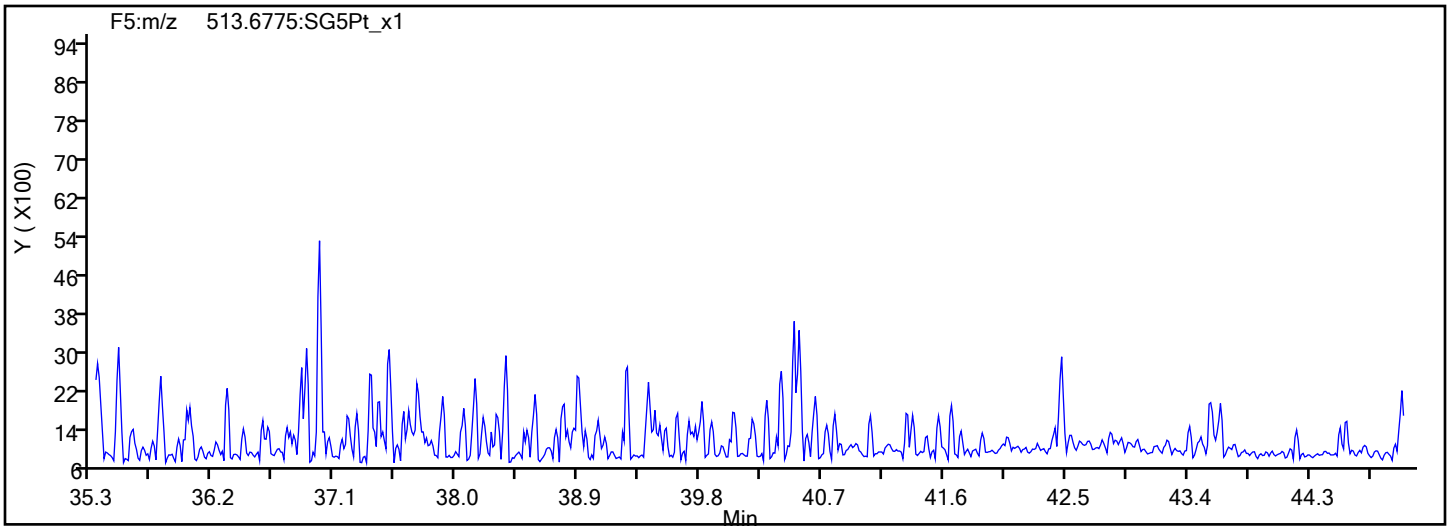

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Eurofins TestAmerica, Sacramento

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OCDD

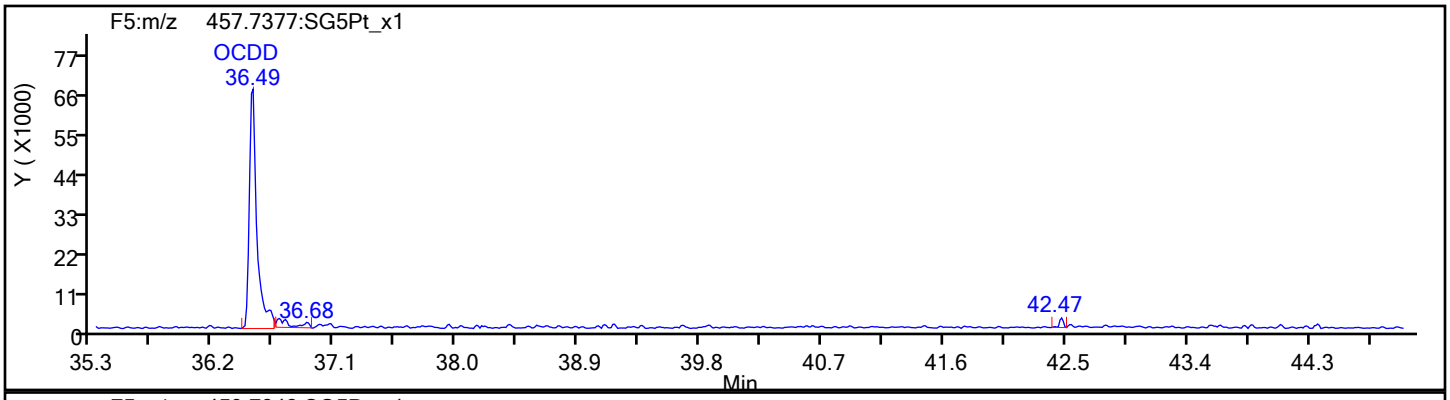

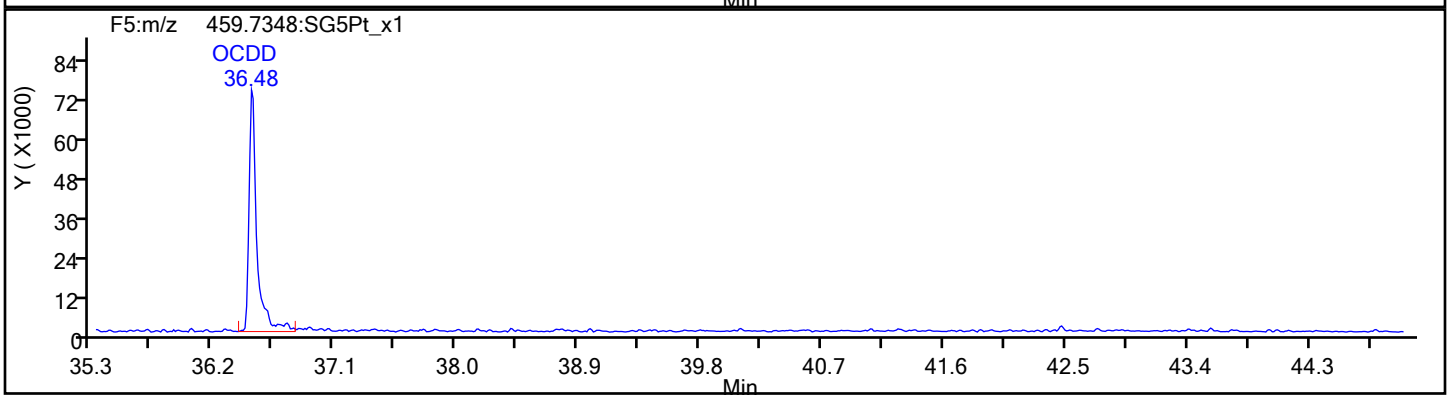

OCDD Standards

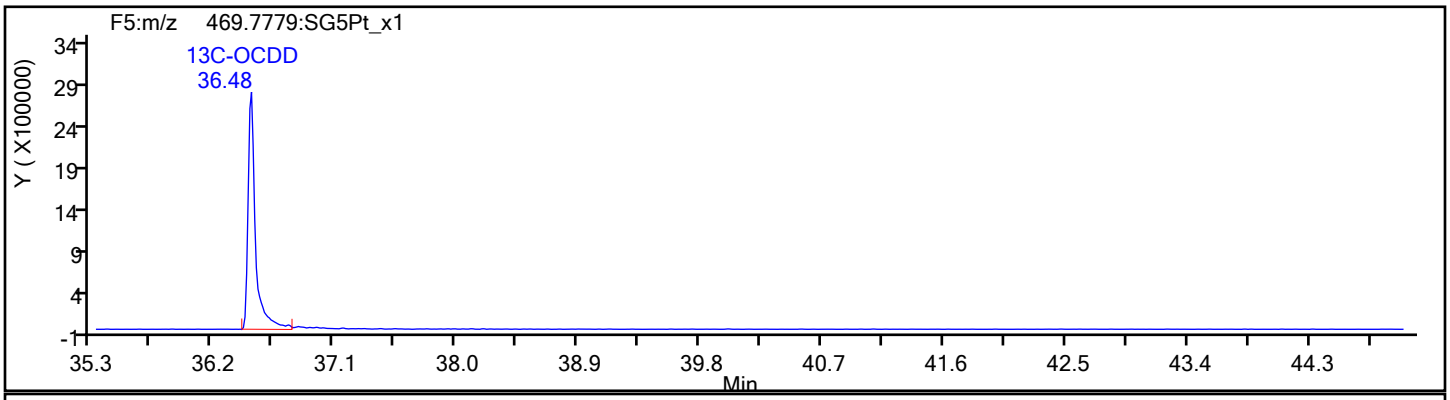

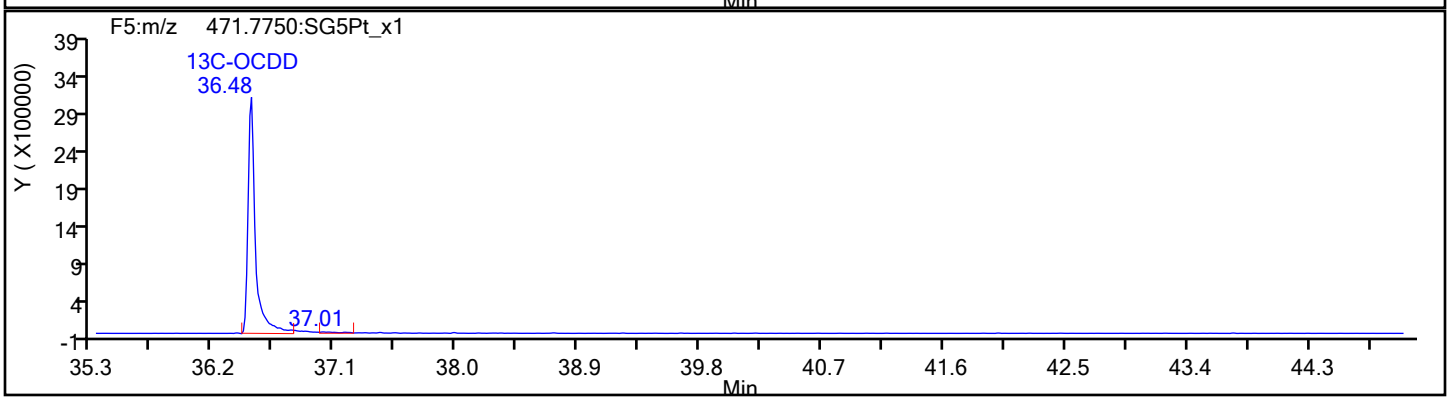

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Eurofins TestAmerica, Sacramento

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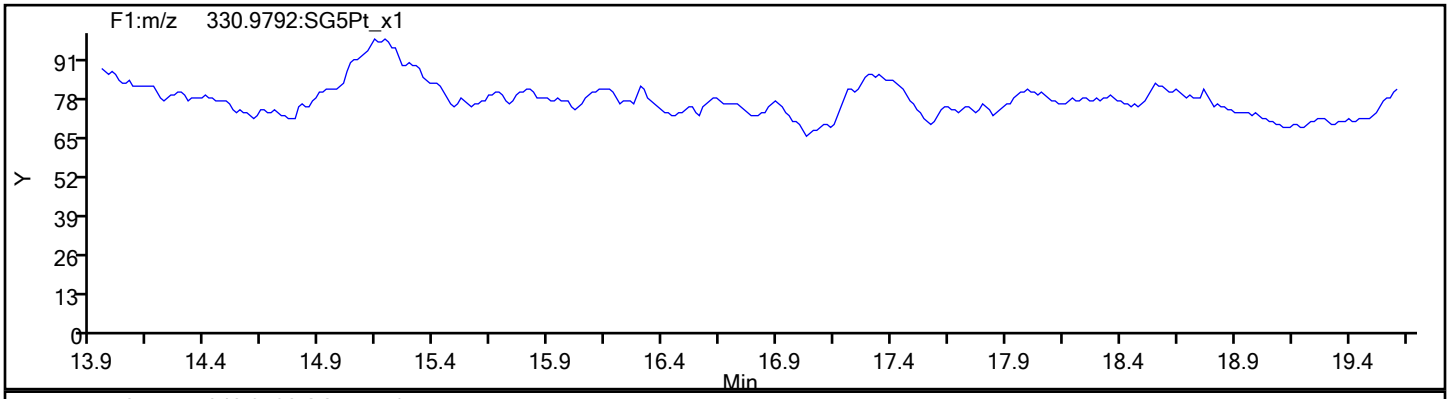

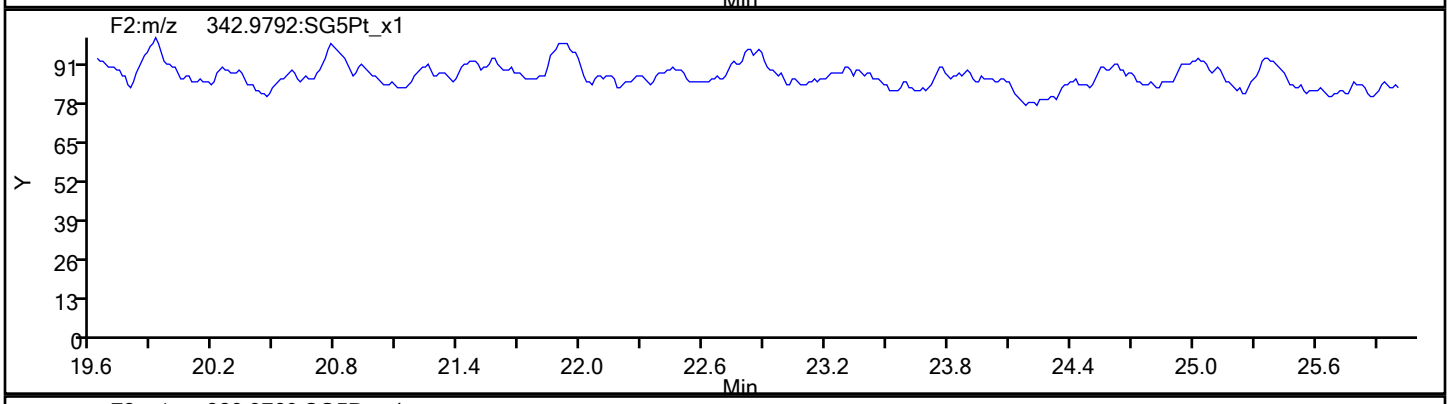

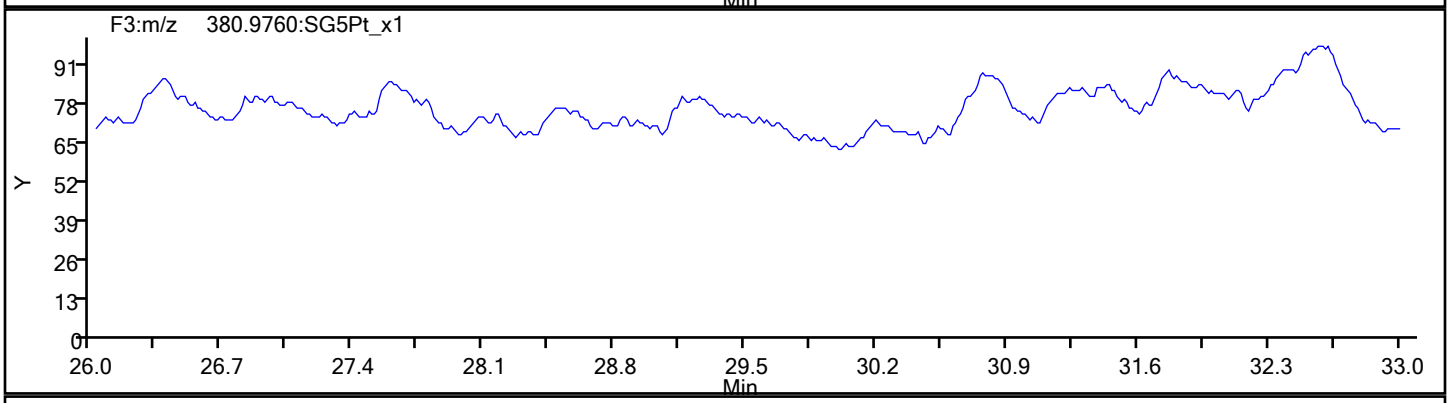

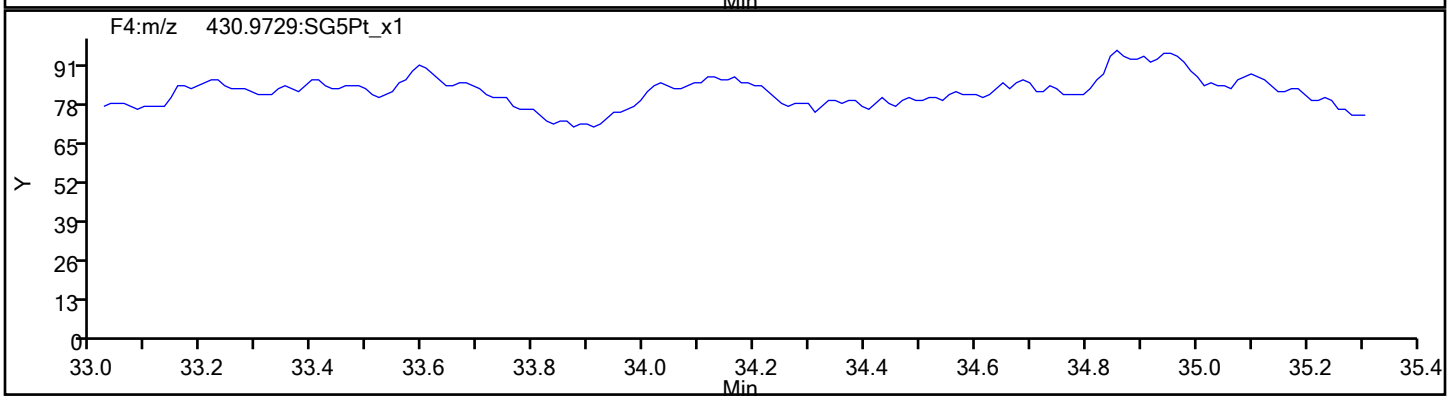

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Worklist#:	324128	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

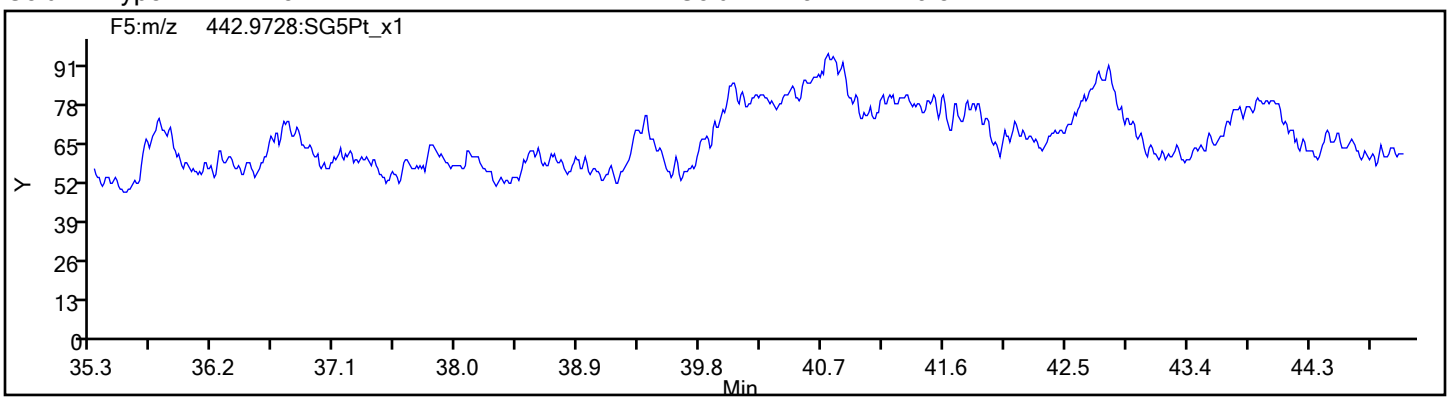

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 17-Sep-2019 13:49:24 ALS Bottle#: 5 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719A CS-3 HRDXNL3_00025
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:19 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:05:30

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.300	48020971	0.78	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.816	69364385	0.79	1.4384	100.4	100.4	0.2642	0.2642	100	
2,3,7,8-TCDF	16.831	1529056	0.76	1.0507	2.098	2.098	0.0285	0.0285	105	
S Total TCDF					2.098	2.098	0.0285	0.0285		
D 13C-2,3,7,8-TCDD	17.497	45389691	0.78	0.9533	99.1	99.1	0.2368	0.2368	99.15	
$ 37Cl4-2,3,7,8-TCDD	17.511	1164531		1.2224	1.984	1.984	0.0211	0.0211	99.19	
2,3,7,8-TCDD	17.511	1022744	0.76	1.1064	2.037	2.037	0.0433	0.0433	102	
S Total TCDD					2.037	2.037	0.0433	0.0433		
D 13C-1,2,3,7,8-PeCDF	21.631	46755351	1.61	1.0286	94.7	94.7	0.2555	0.2555	94.66	
1,2,3,7,8-PeCDF	21.659	5424212	1.59	1.0822	10.7	10.7	0.0895	0.0895	107	
D 13C-2,3,4,7,8-PeCDF	22.927	45184985	1.62	0.9827	95.8	95.8	0.2675	0.2675	95.76	
2,3,4,7,8-PeCDF	22.954	5371777	1.62	1.1032	10.8	10.8	0.0948	0.0948	108	
S Total PeCDF					21.5	21.5	0.0922	0.0922		
D 13C-1,2,3,7,8-PeCDD	23.622	33098301	1.55	0.7481	92.1	92.1	0.1767	0.1767	92.14	
1,2,3,7,8-PeCDD	23.636	3169429	1.60	0.9050	10.6	10.6	0.0951	0.0951	106	
S Total PeCDD					10.6	10.6	0.0951	0.0951		
D 13C-1,2,3,4,7,8-HxCDF	29.736	36418536	0.52	1.1520	101.5	101.5	0.5052	0.5052	102	
1,2,3,4,7,8-HxCDF	29.775	4604517	1.28	1.1973	10.6	10.6	0.1137	0.1137	106	
D 13C-1,2,3,6,7,8-HxCDF	30.002	38486861	0.53	1.2434	99.4	99.4	0.4681	0.4681	99.40	
1,2,3,6,7,8-HxCDF	30.028	4889511	1.24	1.1807	10.8	10.8	0.0994	0.0994	108	
D 13C-2,3,4,6,7,8-HxCDF	31.040	35886090	0.52	1.1720	98.3	98.3	0.4966	0.4966	98.34	
2,3,4,6,7,8-HxCDF	31.053	4551517	1.24	1.2116	10.5	10.5	0.0696	0.0696	105	
D 13C-1,2,3,7,8,9-HxCDF	31.945	33293009	0.51	1.0655	100.4	100.4	0.5463	0.5463	100	
1,2,3,7,8,9-HxCDF	31.958	4319986	1.26	1.2451	10.4	10.4	0.0644	0.0644	104	
S Total HxCDF					42.2	42.2	0.0868	0.0868		
* 13C-1,2,3,7,8,9-HxCDD	31.746	31138249	1.26	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.253	23739455	1.30	0.7812	97.6	97.6	0.5185	0.5185	97.59	
1,2,3,4,7,8-HxCDD	31.280	2685740	1.29	1.1088	10.2	10.2	0.0768	0.0768	102	
D 13C-1,2,3,6,7,8-HxCDD	31.386	27633426	1.27	0.9175	96.7	96.7	0.4415	0.4415	96.73	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.399	3184984	1.24	1.0814	10.7	10.7	0.0746	0.0746	107	
1,2,3,7,8,9-HxCDD	31.759	3374687	1.23	1.2123	10.8	10.8	0.0684	0.0684	108	
S Total HxCDD					31.7	31.7	0.0733	0.0733		
D 13C-1,2,3,4,6,7,8-HpCDF	33.459	25015698	0.45	0.8628	93.1	93.1	1.693	1.693	93.12	
1,2,3,4,6,7,8-HpCDF	33.472	4106440	1.02	1.5555	10.6	10.6	0.1585	0.1585	106	
D 13C-1,2,3,4,7,8,9-HpCDF	34.505	23641905	0.45	0.7991	95.0	95.0	1.828	1.828	95.02	
1,2,3,4,7,8,9-HpCDF	34.517	3498041	1.02	1.3862	10.7	10.7	0.2064	0.2064	107	
S Total HpCDF					21.2	21.2	0.1824	0.1824		
D 13C-1,2,3,4,6,7,8-HpCDD	34.225	25630510	1.05	0.8739	94.2	94.2	0.7704	0.7704	94.19	
1,2,3,4,6,7,8-HpCDD	34.237	2534205	1.08	0.9316	10.6	10.6	0.1098	0.1098	106	
S Total HpCDD					10.6	10.6	0.1098	0.1098		
D 13C-OCDD	36.481	43388861	0.89	0.7744	179.9	179.9	0.3226	0.3226	89.97	
OCDF	36.576	5776792	0.88	1.2596	21.1	21.1	0.0659	0.0659	106	
OCDD	36.493	5082981	0.91	1.0621	22.1	22.1	0.0435	0.0435	110	

Reagents:

HRDXNL3_00025 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 17-Sep-2019 13:49:24 ALS Bottle#: 5 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719A CS-3 HRDXNL3_00025
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:19 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:05:30

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.300	17.303	0		20974964	5440414	6907	17267	788		
333.9339	17.300	17.303	0		27046007	7081542	4401	11002	1609	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.816	16.810	0	0.972	30651979	7996237	9530	23825	839		
317.9389	16.816	16.810	0	0.972	38712406	9934901	9507	23767	1045	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.831	16.825	0	1.001	662231	175822	896	2240	196		
305.8987	16.816	16.825	-1	1.000	866825	219868	1254	3135	175	0.76(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.497	17.490	0	1.011	19932104	4784387	6907	17267	693		
333.9339	17.497	17.490	0	1.011	25457587	6033501	4401	11002	1371	0.78(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.511	17.505	0	1.012	1164531	282528	1292	3230	219		
2,3,7,8-TCDD											
319.8965	17.511	17.505	0	1.001	441524	105506	1328	3320	79		
321.8936	17.511	17.505	0	1.001	581220	143982	745	1862	193	0.76(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	21.631	21.637	0	1.250	28830075	5337132	7805	19512	684		
353.8970	21.631	21.637	0	1.250	17925276	3287495	5360	13400	613	1.61(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.659	21.661	0	1.001	3332281	606608	1384	3460	438		
341.8567	21.659	21.661	0	1.001	2091931	384200	1956	4890	196	1.59(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	22.927	22.932	0	1.325	27936496	4963352	7805	19512	636		
353.8970	22.927	22.932	0	1.325	17248489	3016941	5360	13400	563	1.62(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.954	22.954	0	1.001	3318716	579906	1384	3460	419		
341.8567	22.954	22.954	0	1.001	2053061	350098	1956	4890	179	1.62(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.622	23.625	0	1.365	20140801	3312973	3677	9192	901		
369.8919	23.622	23.625	0	1.365	12957500	2145657	2944	7360	729	1.55(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.636	23.649	-1	1.001	1948199	306163	1167	2917	262		
357.8516	23.636	23.649	-1	1.001	1221230	203548	713	1782	285	1.60(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.736	29.754	-1	0.937	12434463	1670692	6140	15350	272		
385.8610	29.736	29.754	-1	0.937	23984073	3285602	11505	28762	286	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.775	29.789	-1	1.001	2582089	364887	1448	3620	252		
375.8178	29.775	29.789	-1	1.001	2022428	279399	1250	3125	224	1.28(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.002	30.015	-1	0.945	13305598	1990616	6140	15350	324		
385.8610	30.002	30.015	-1	0.945	25181263	3755911	11505	28762	326	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.028	30.039	-1	1.001	2703771	385416	1448	3620	266		
375.8178	30.028	30.039	-1	1.001	2185740	311020	1250	3125	249	1.24(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.040	31.043	0	0.978	12200251	2715531	6140	15350	442		
385.8610	31.040	31.043	0	0.978	23685839	5277600	11505	28762	459	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.053	31.059	0	1.000	2519385	561452	1448	3620	388		
375.8178	31.053	31.059	0	1.000	2032132	450929	1250	3125	361	1.24(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.945	31.942	0	1.006	11294314	2854603	6140	15350	465		
385.8610	31.945	31.942	0	1.006	21998695	5560445	11505	28762	483	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.958	31.956	0	1.000	2410054	592393	1448	3620	409		
375.8178	31.958	31.956	0	1.000	1909932	473961	1250	3125	379	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.746	31.748	0		17348498	4270052	6927	17317	616		
403.8529	31.746	31.748	0		13789751	3309146	5354	13385	618	1.26(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.253	31.261	0	0.984	13398901	3308138	6927	17317	478		
403.8529	31.266	31.261	0	0.985	10340554	2572354	5354	13385	480	1.30(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.280	31.280	0	1.001	1512390	375482	976	2440	385		
391.8127	31.280	31.280	0	1.001	1173350	295553	1027	2567	288	1.29(1.05-1.43)	

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24
Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.386	31.383	0	0.989	15440618	3468444	6927	17317	501		
403.8529	31.386	31.383	0	0.989	12192808	2735657	5354	13385	511	1.27(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.399	31.402	0	1.000	1761134	403725	976	2440	414		
391.8127	31.399	31.402	0	1.000	1423850	307508	1027	2567	299	1.24(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.759	31.761	0	1.016	1859918	455161	976	2440	466		
391.8127	31.759	31.761	0	1.016	1514769	367872	1027	2567	358	1.23(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.459	33.457	0	1.054	7716742	2566124	14405	36012	178		
419.8220	33.459	33.457	0	1.054	17298956	5707303	29871	74677	191	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.472	33.469	0	1.000	2075359	698893	3992	9980	175		
409.7789	33.472	33.469	0	1.000	2031081	642835	4168	10420	154	1.02(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.505	34.502	0	1.087	7363985	2239195	14405	36012	155		
419.8220	34.505	34.502	0	1.087	16277920	4892131	29871	74677	164	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.517	34.509	0	1.000	1766633	514034	3992	9980	129		
409.7789	34.505	34.509	0	1.000	1731408	520165	4168	10420	125	1.02(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.225	34.227	0	1.078	13114345	4054784	9475	23687	428		
437.8140	34.225	34.227	0	1.078	12516165	3859079	10936	27340	353	1.05(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.237	34.235	0	1.000	1317899	403714	1570	3925	257		
425.7737	34.237	34.235	0	1.000	1216306	375677	1669	4172	225	1.08(0.88-1.20)	
13C-OCDD											
469.7779	36.481	36.486	0	1.149	20384484	5322735	3975	9937	1339		
471.7750	36.481	36.486	0	1.149	23004377	6112123	3599	8997	1698	0.89(0.76-1.02)	
OCDF											
441.7428	36.576	36.581	0	1.003	2698881	719825	815	2037	883		
443.7399	36.576	36.581	0	1.003	3077911	834185	1083	2707	770	0.88(0.76-1.02)	
OCDD											
457.7377	36.493	36.497	0	1.000	2421846	617373	541	1352	1141		
459.7348	36.493	36.497	0	1.000	2661135	682611	516	1290	1323	0.91(0.76-1.02)	

Reagents:

HRDXNL3_00025 Amount Added: 1.00 Units: mL

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d		
Injection Date:	17-Sep-2019 13:49:24	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

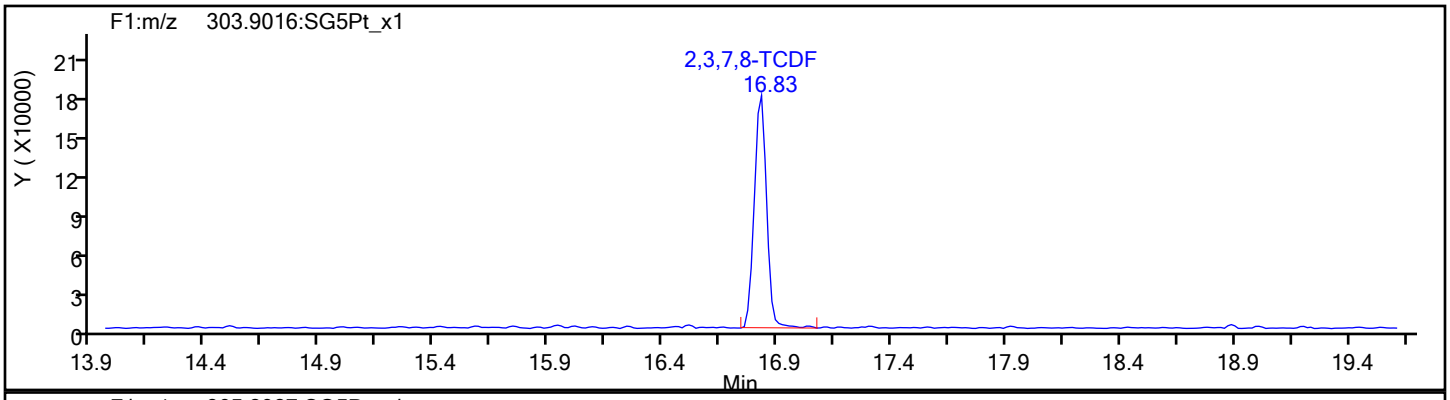

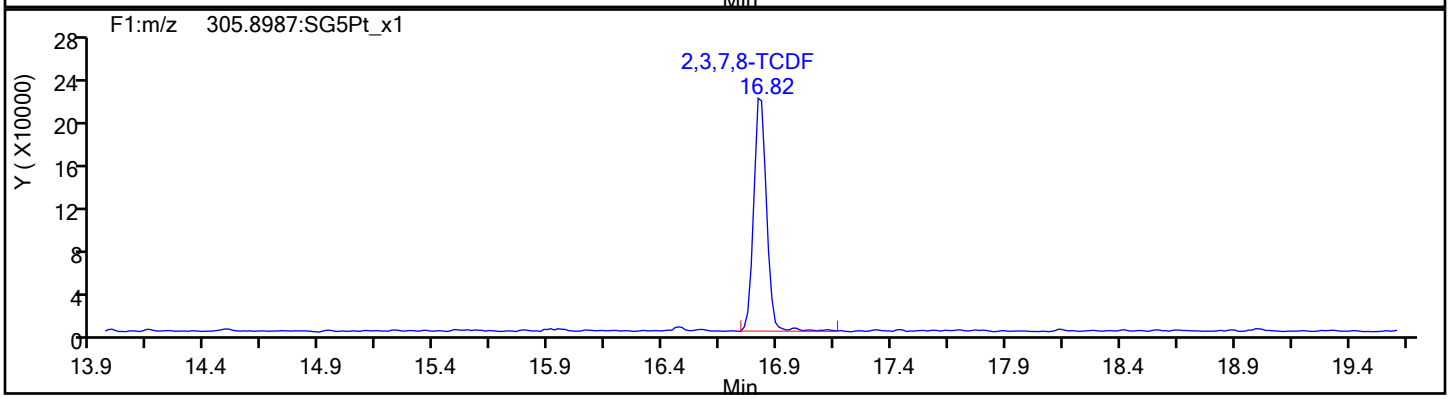

TCDF Standards

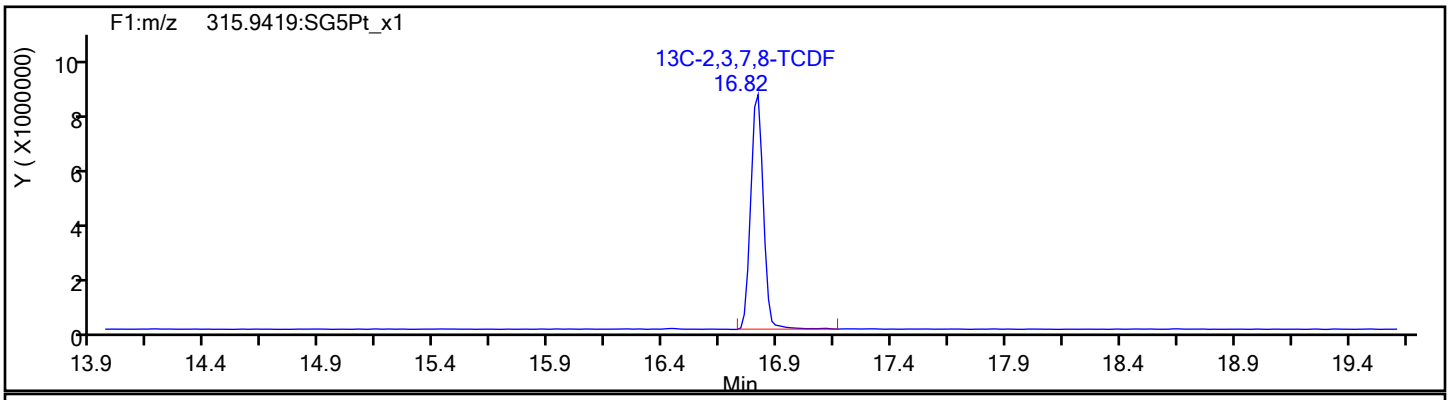

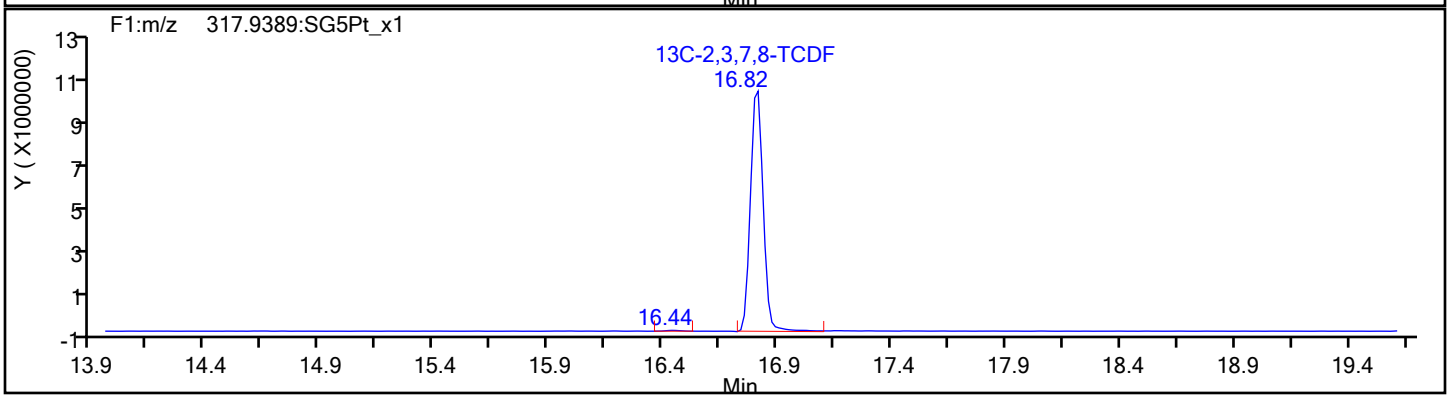

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d		
Injection Date:	17-Sep-2019 13:49:24	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

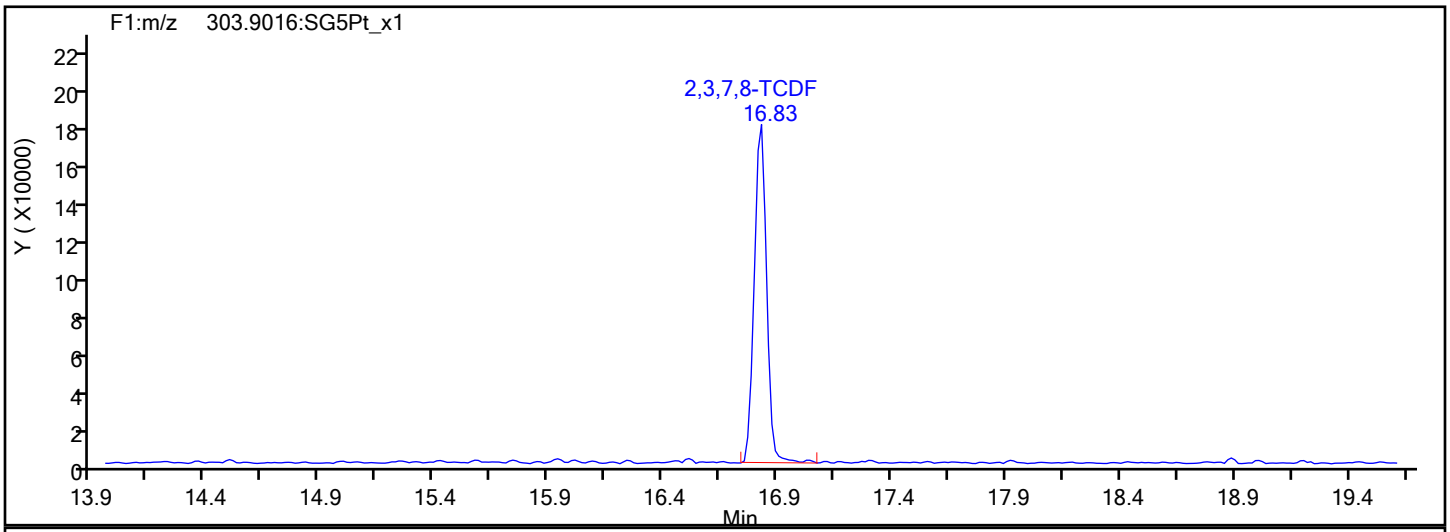

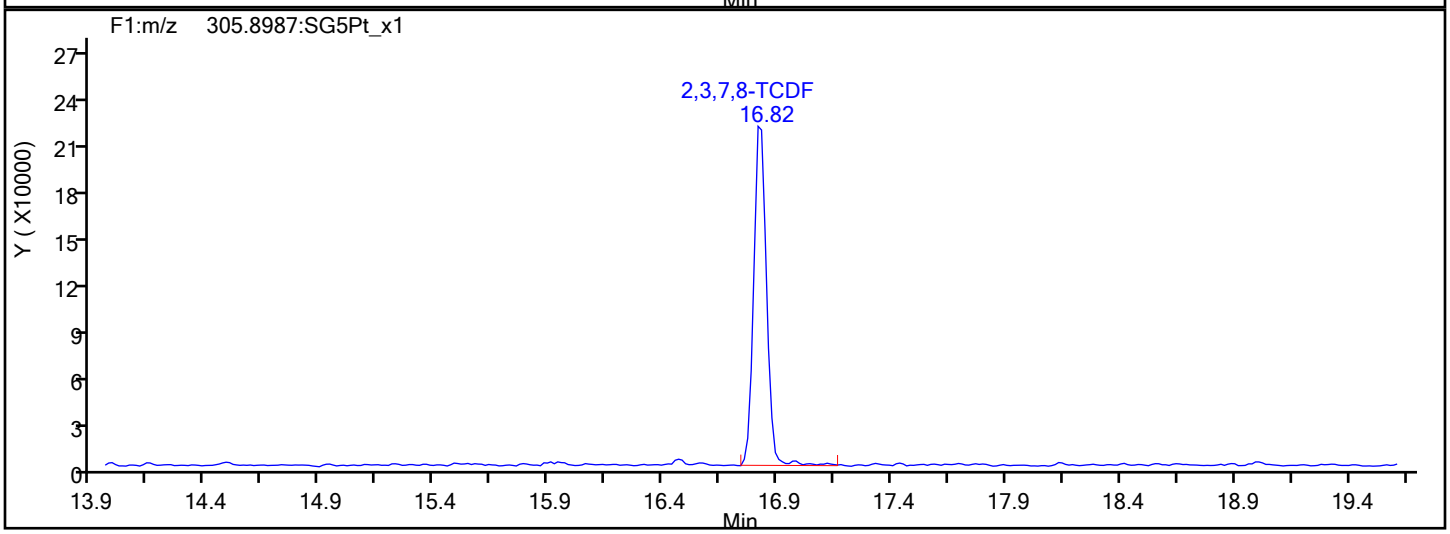

TCDF Interference Mass

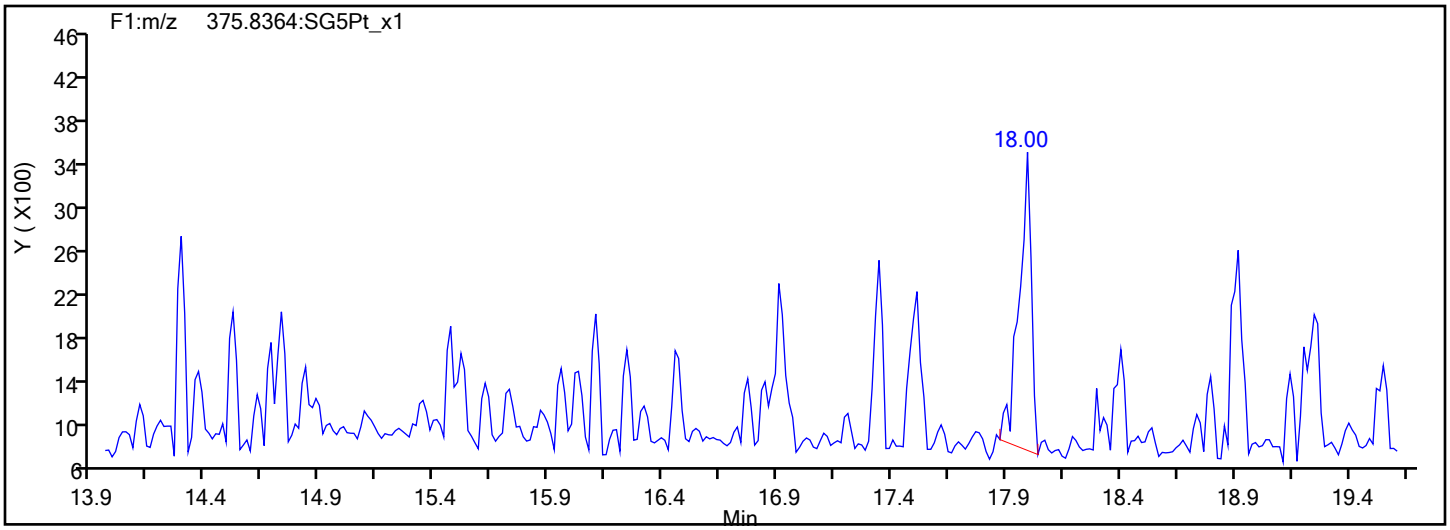

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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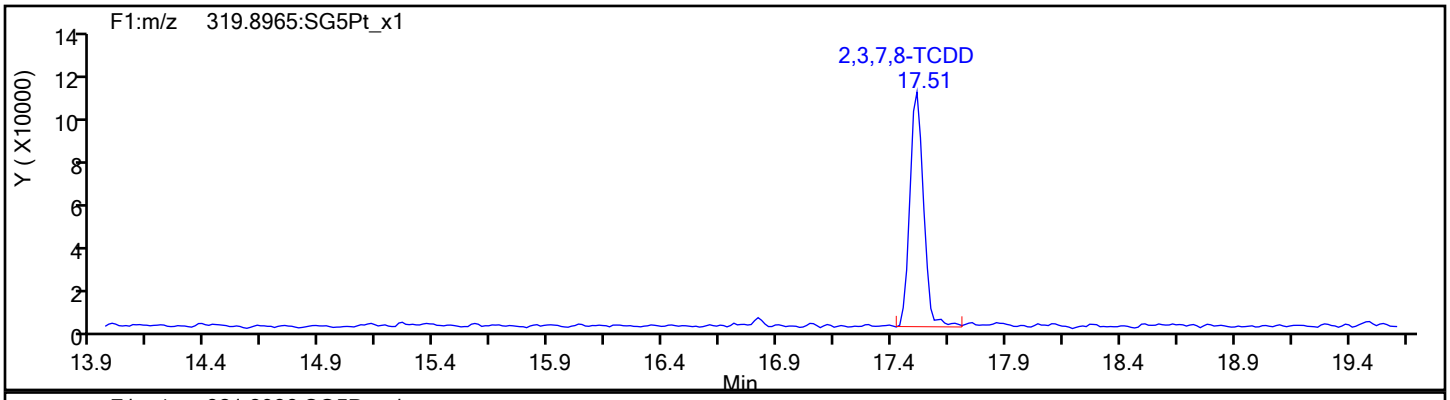

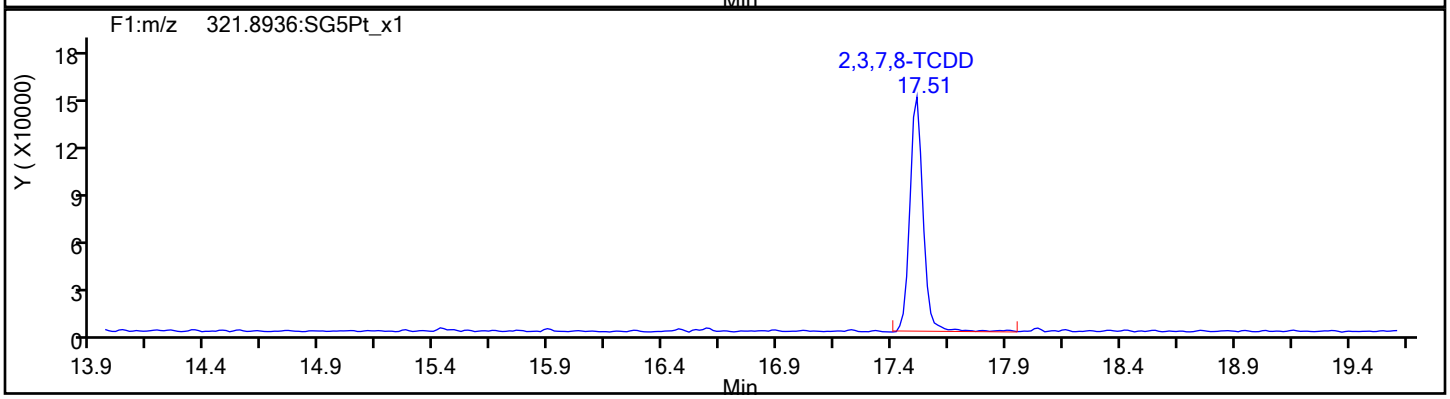

TCDD Standards

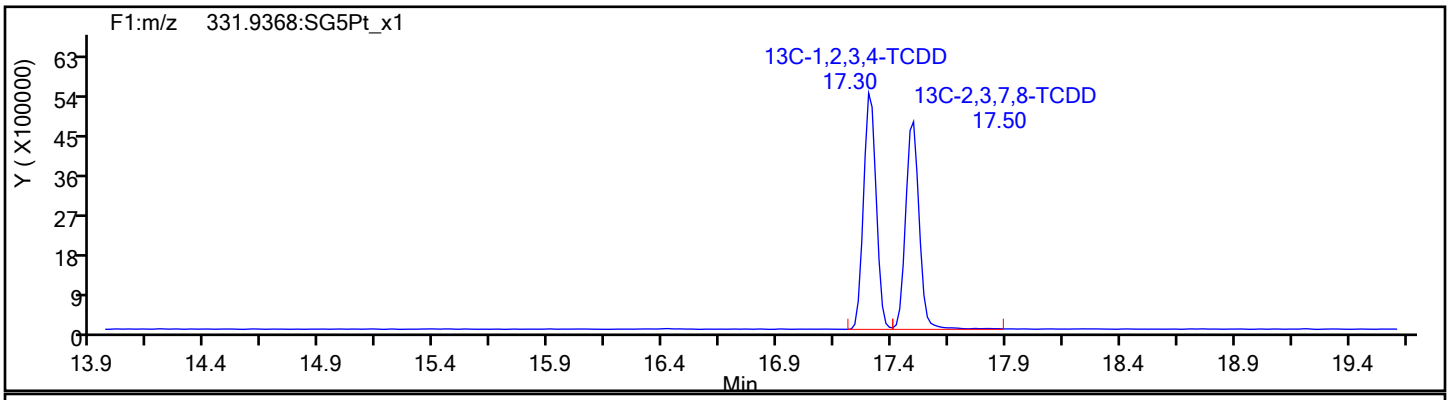

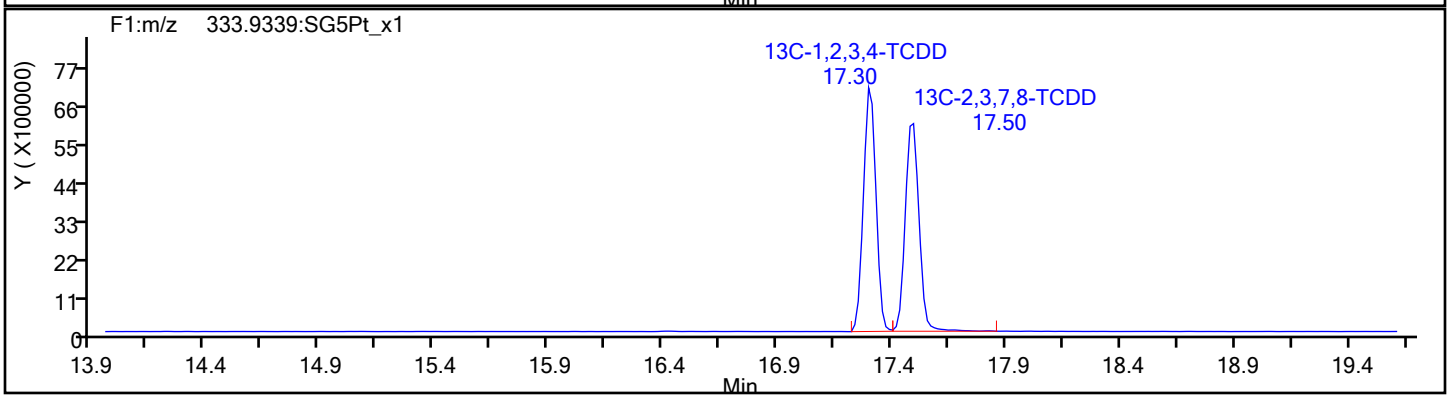

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

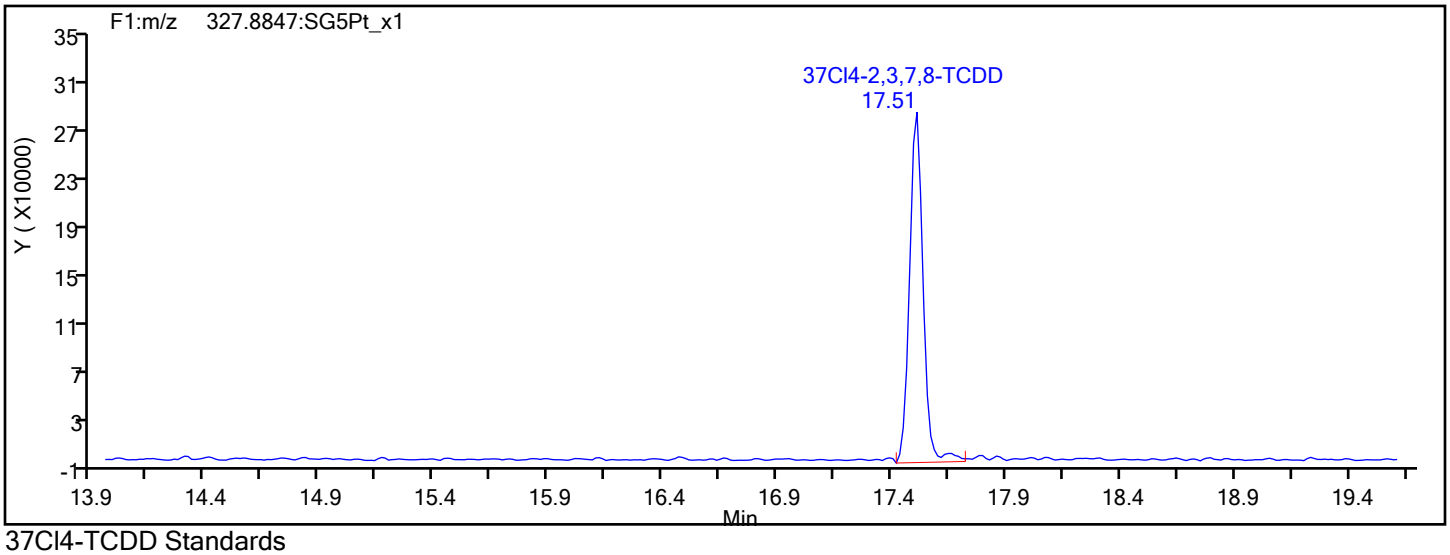

37Cl4-TCDD Standards

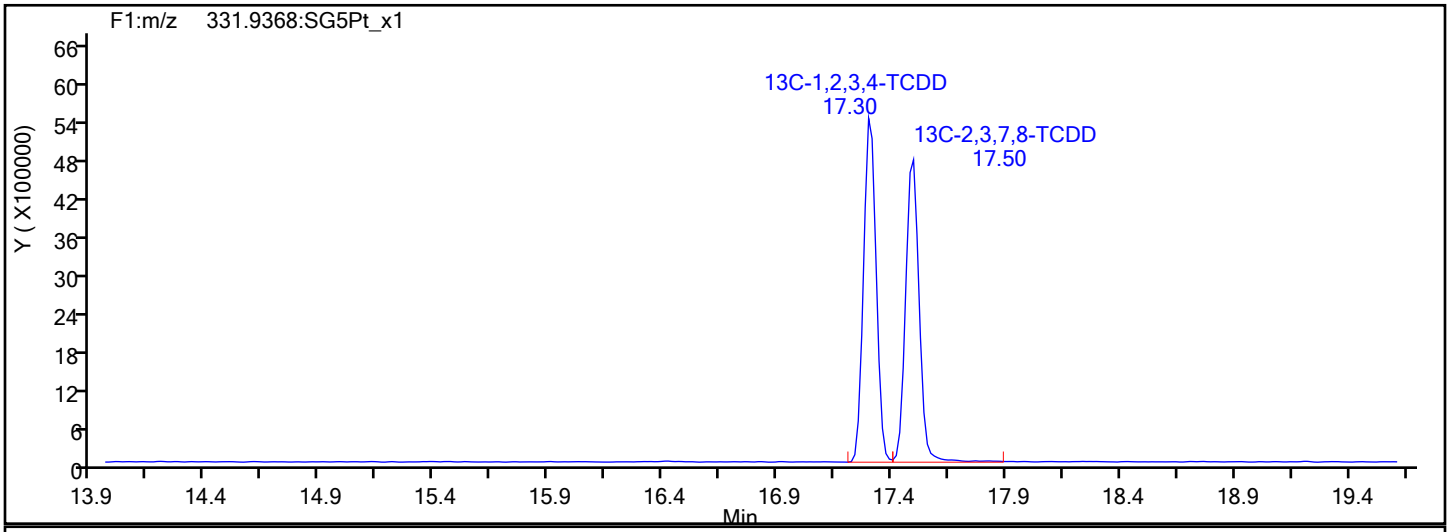

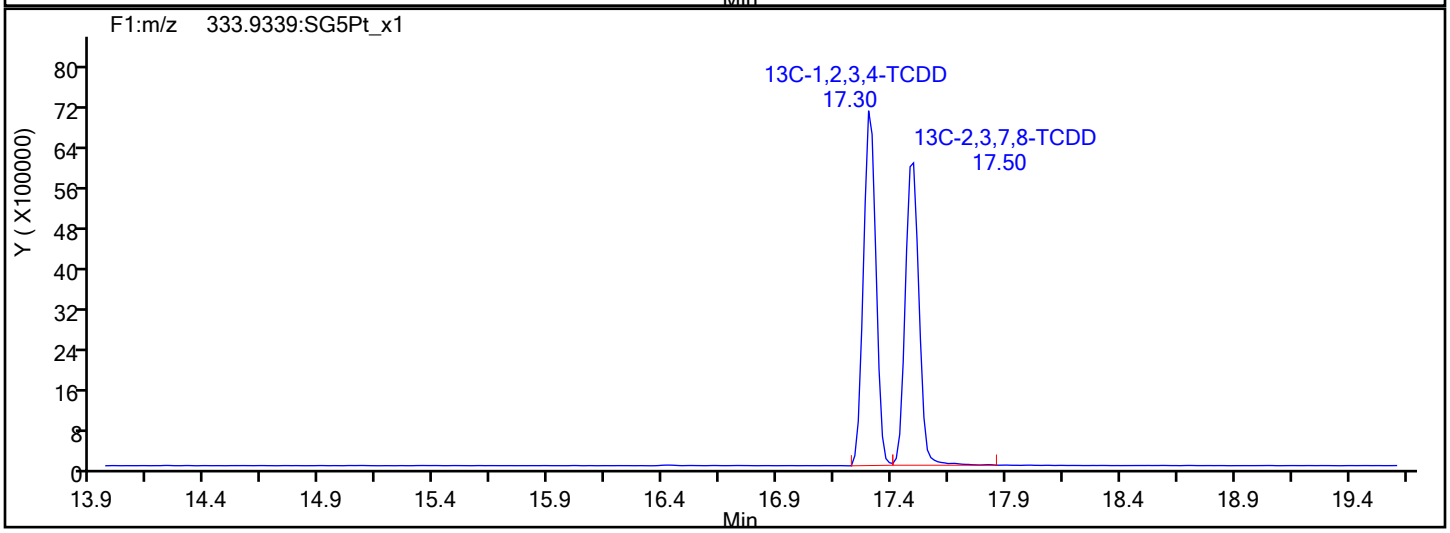

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

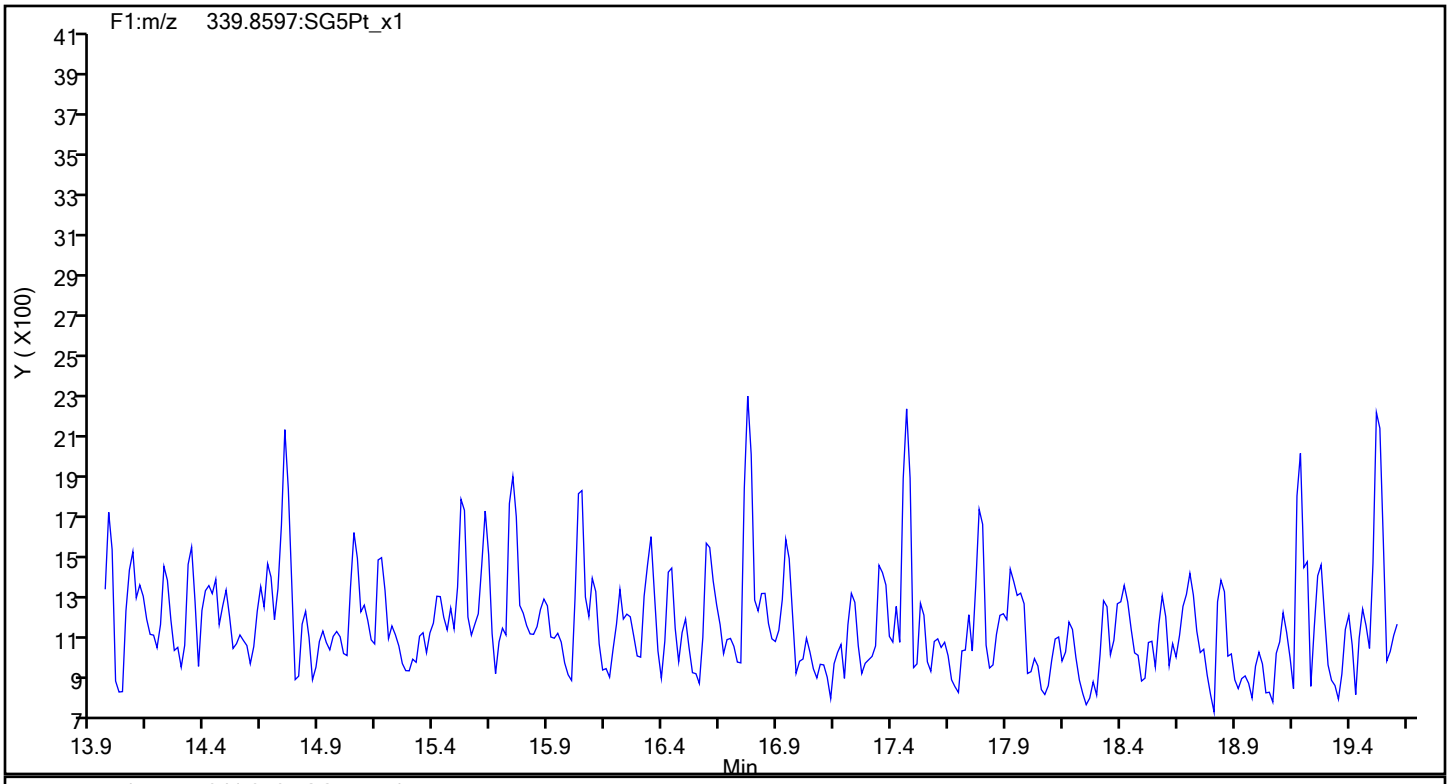

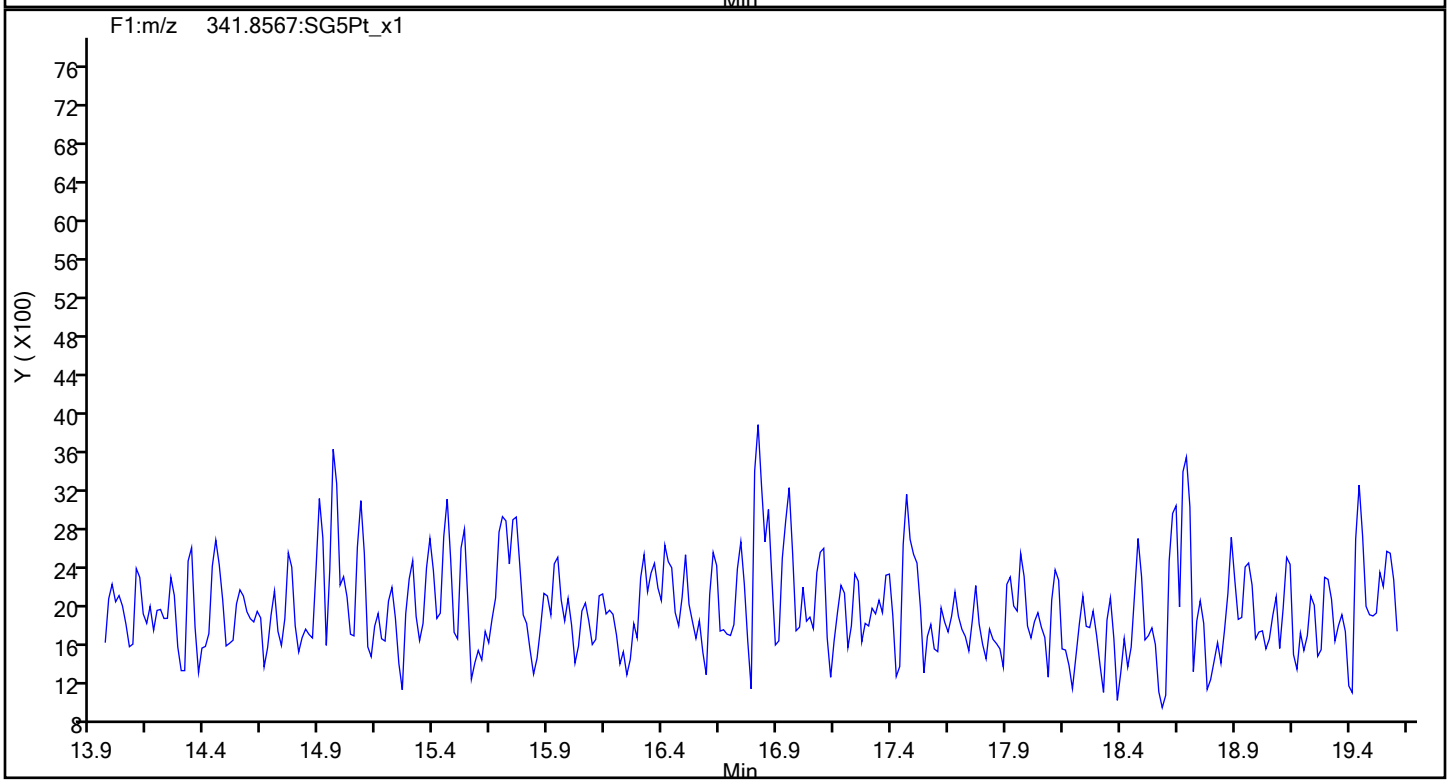

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

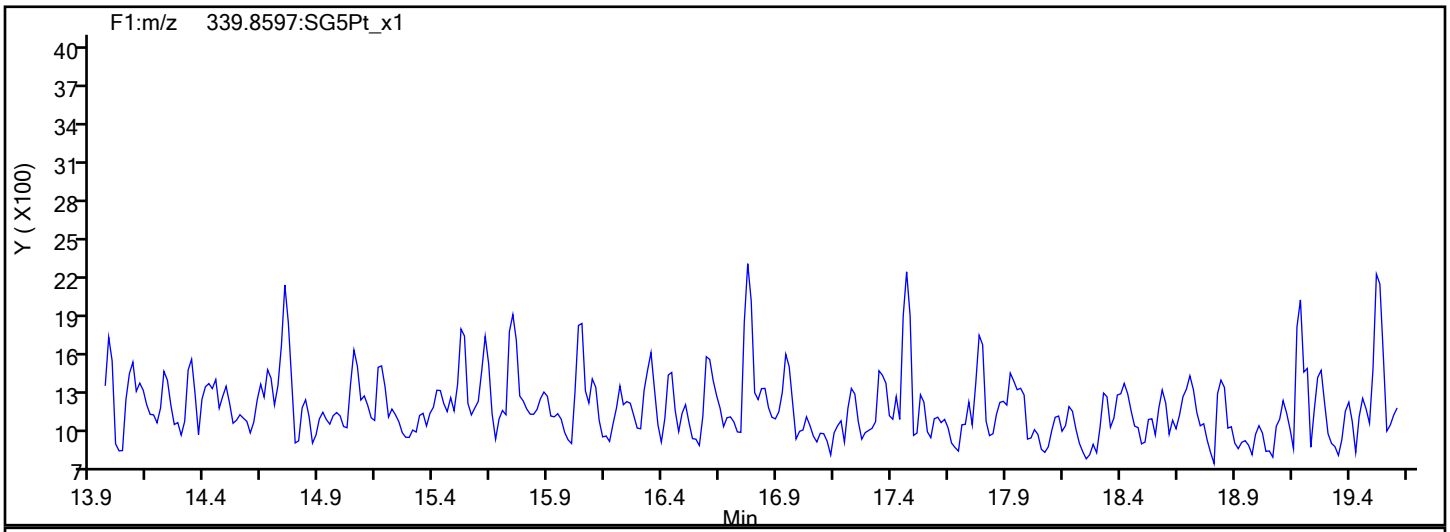

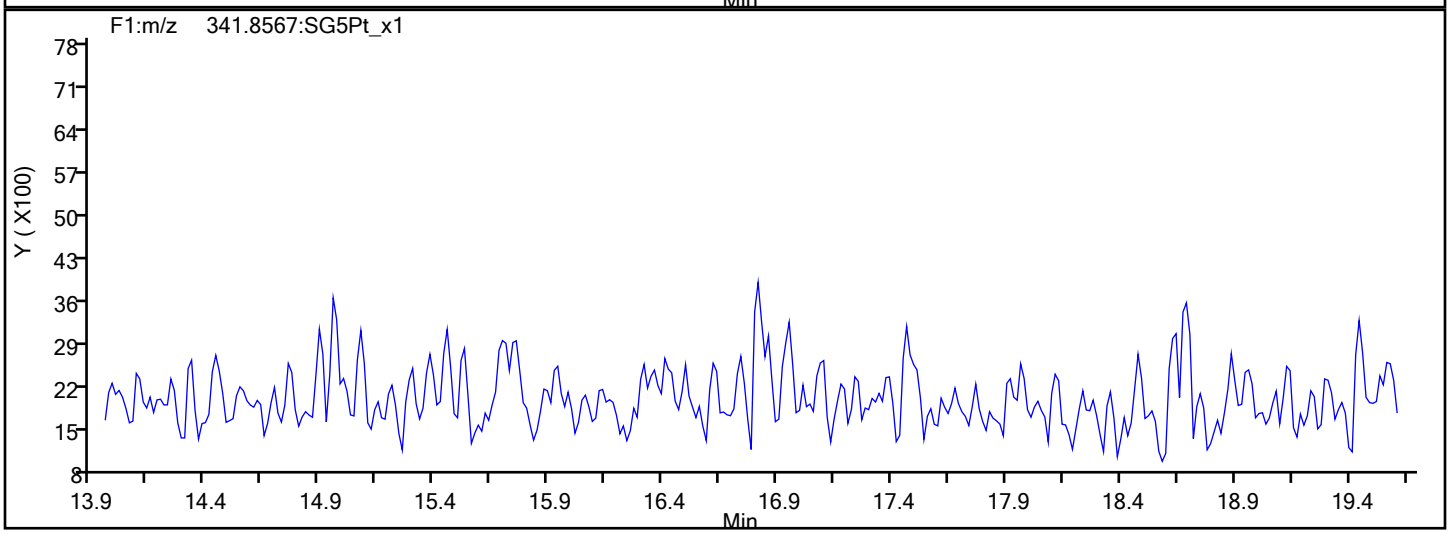

F1 PeCDFs Interference Mass

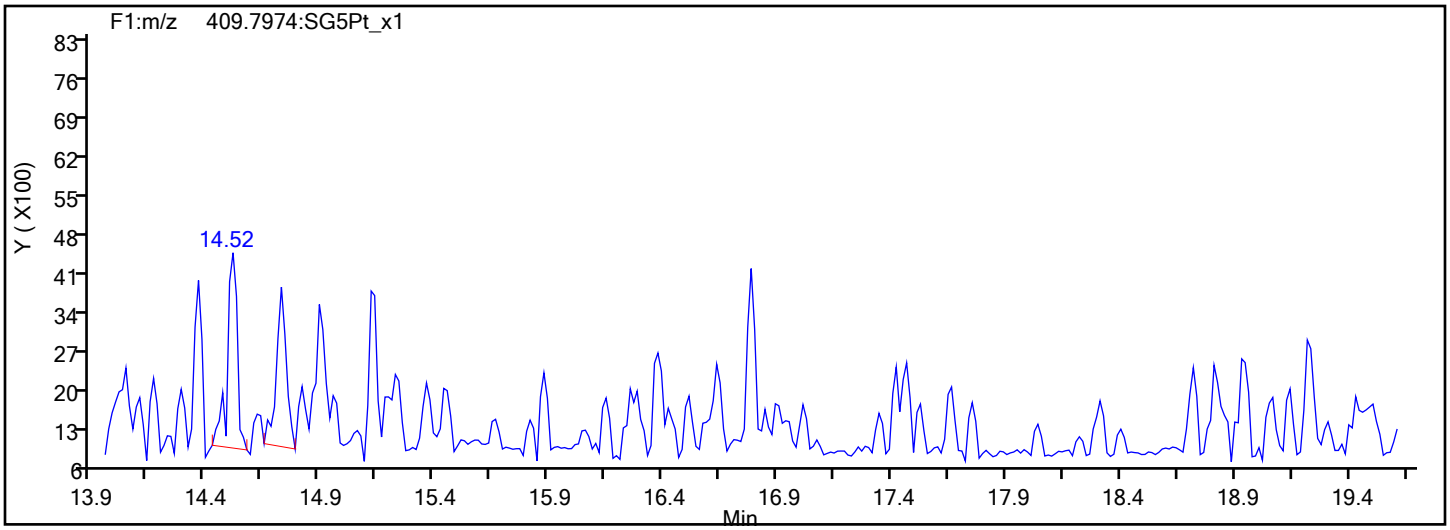

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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PeCDF

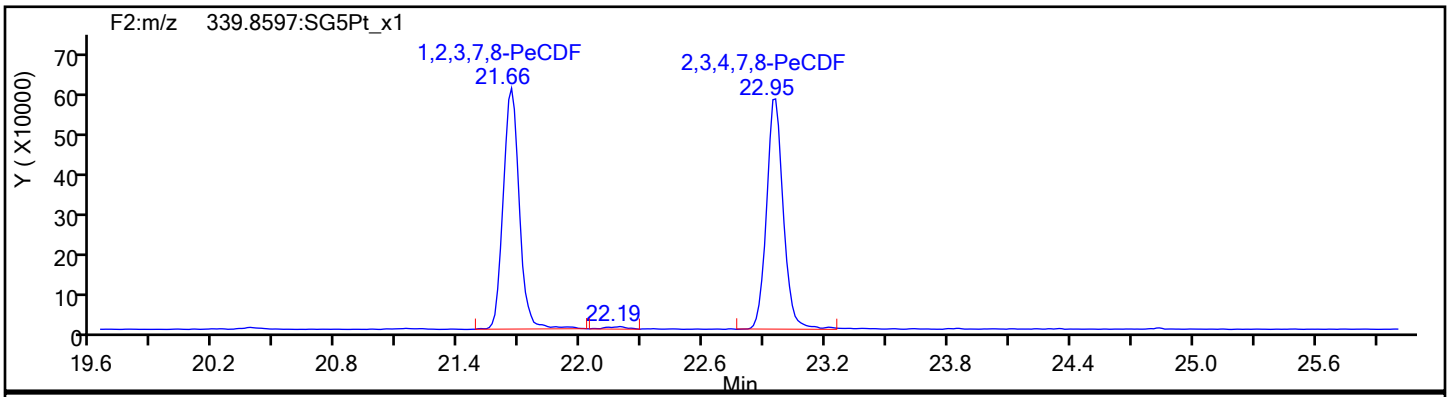

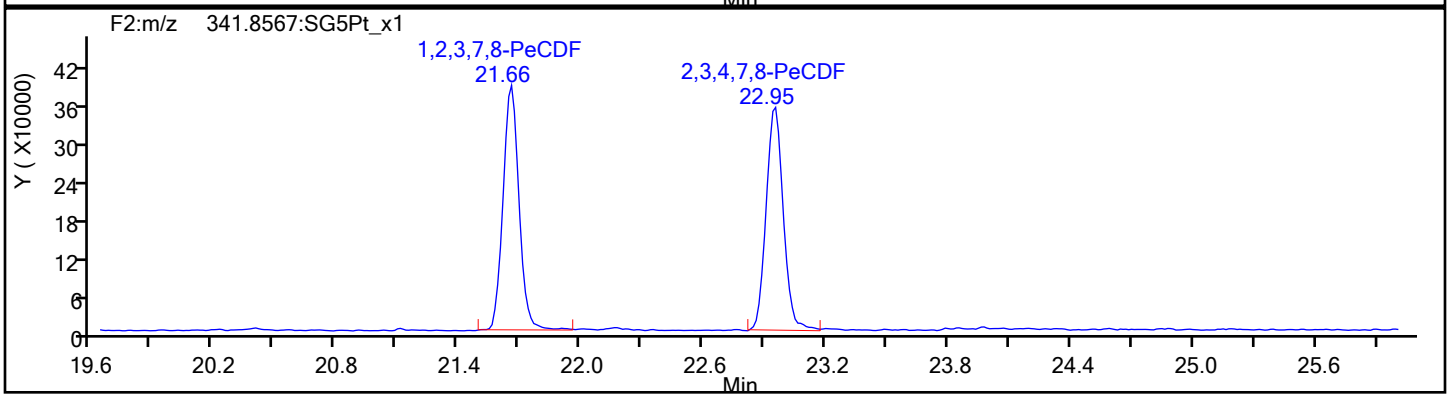

PeCDF Standards

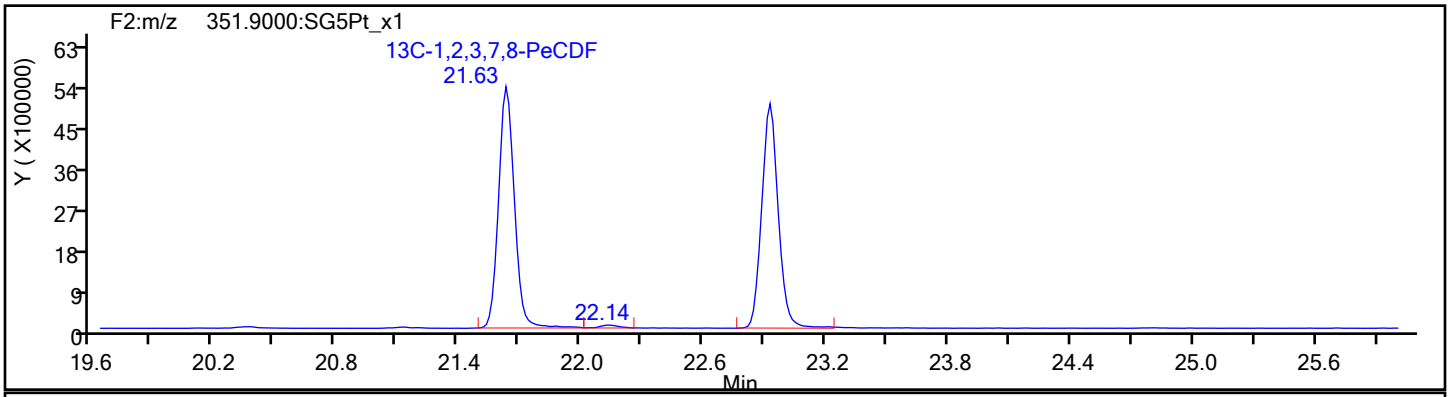

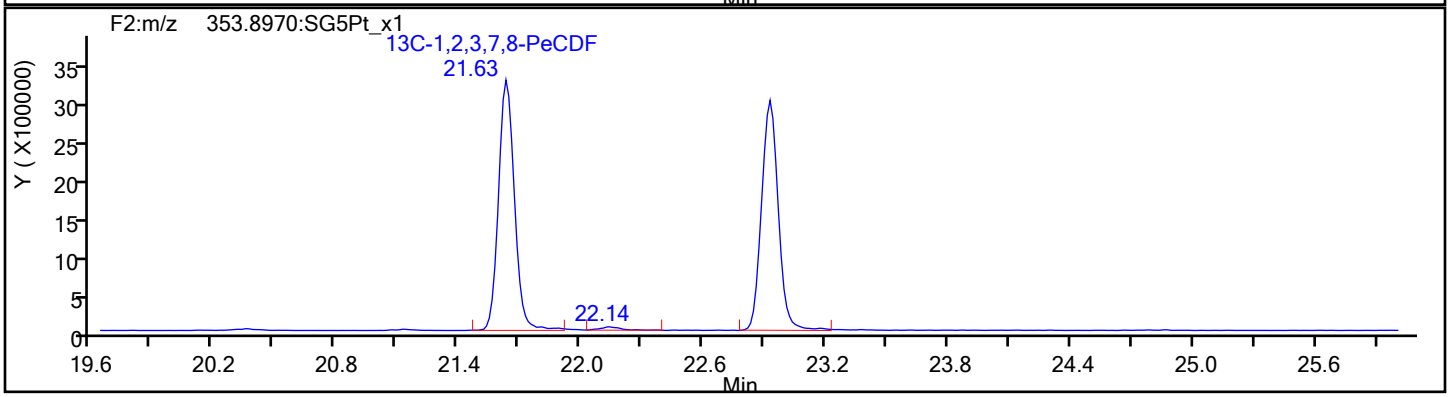

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Eurofins TestAmerica, Sacramento

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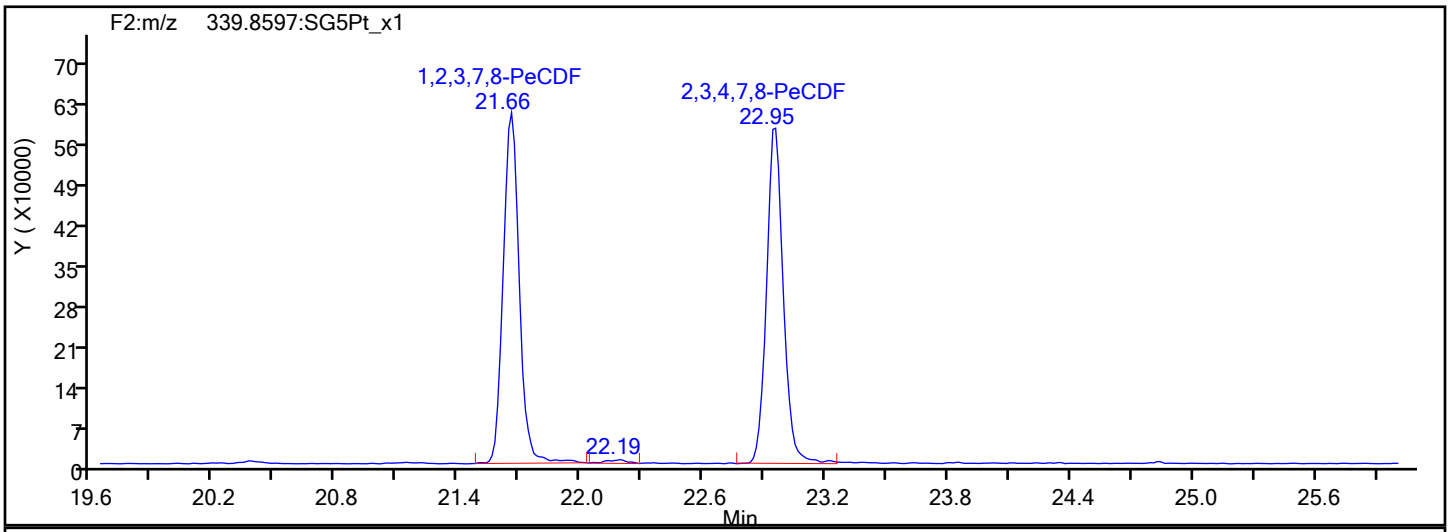

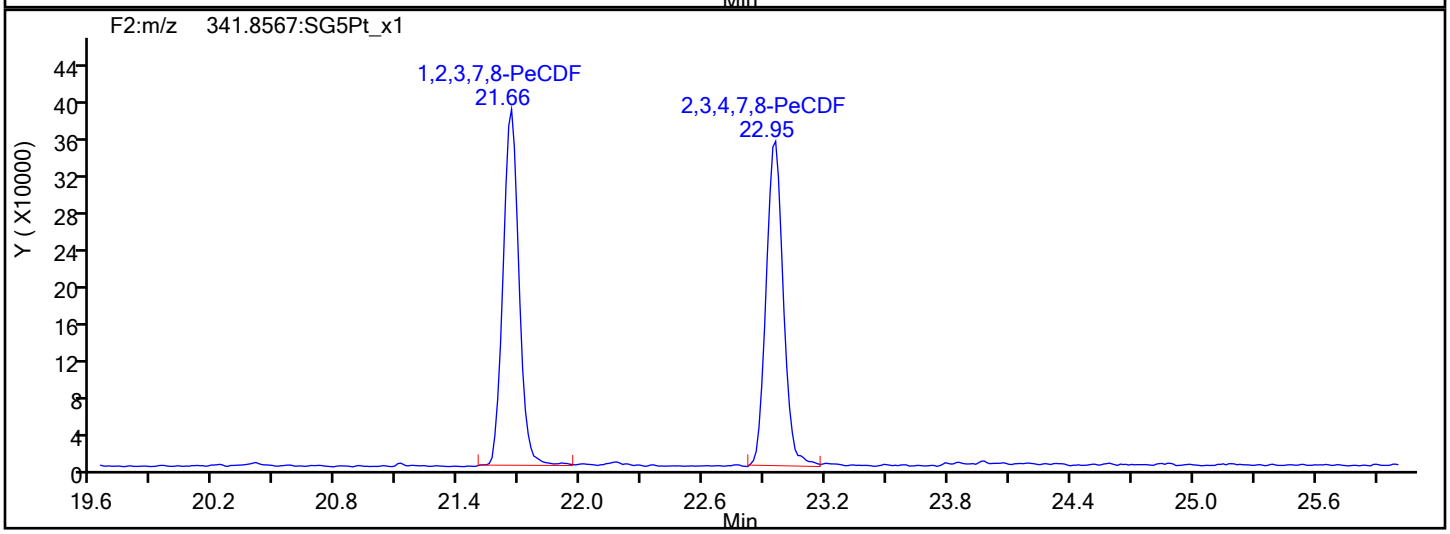

PeCDF Interference Mass

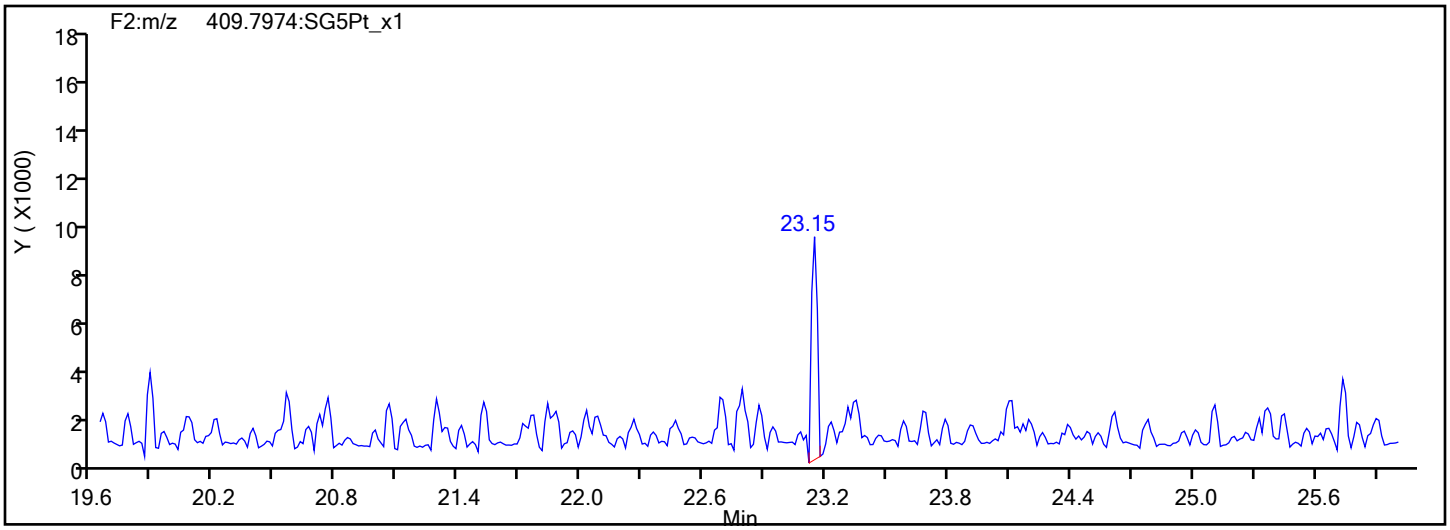

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Eurofins TestAmerica, Sacramento

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PeCDD

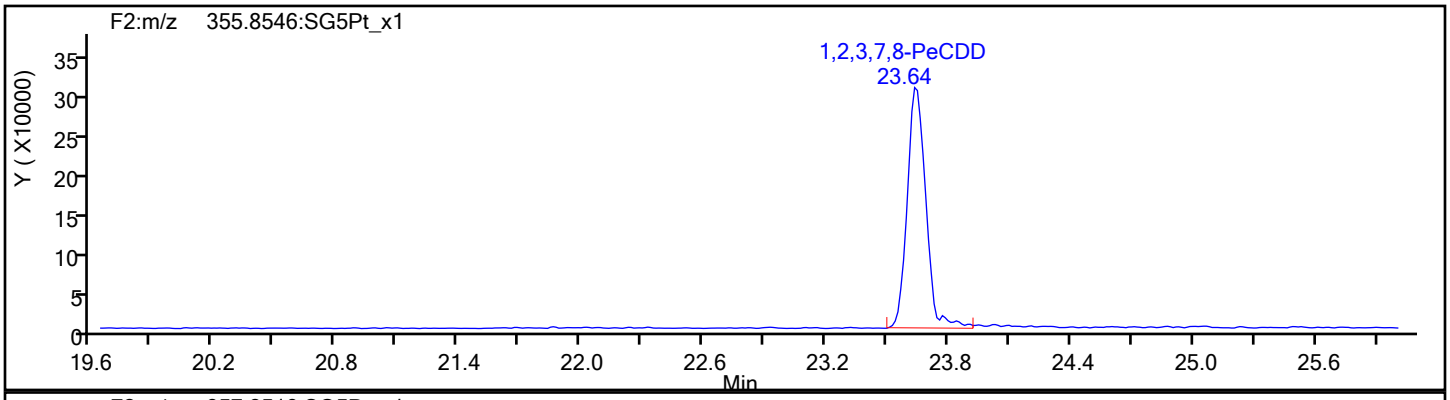

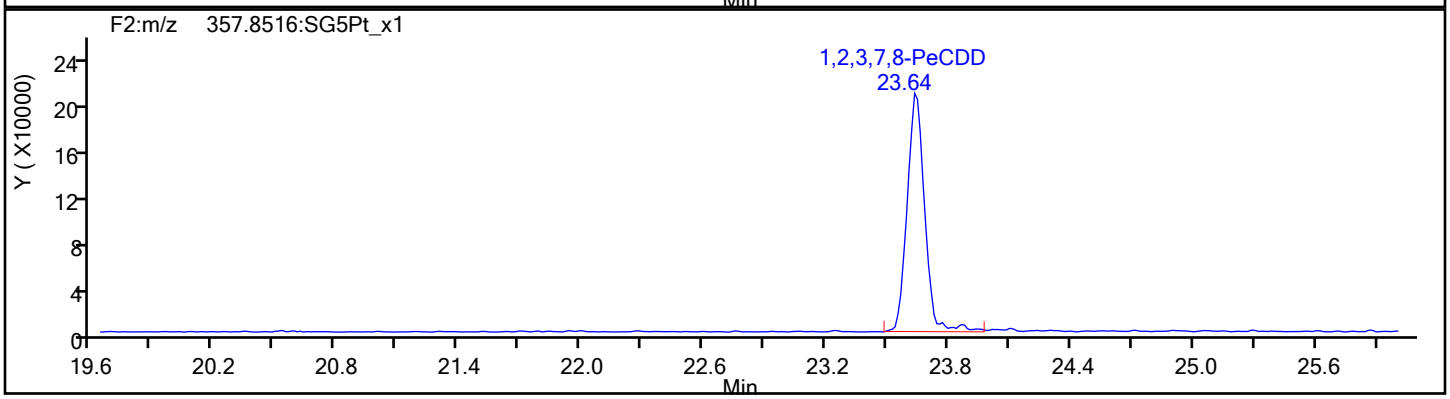

PeCDD Standards

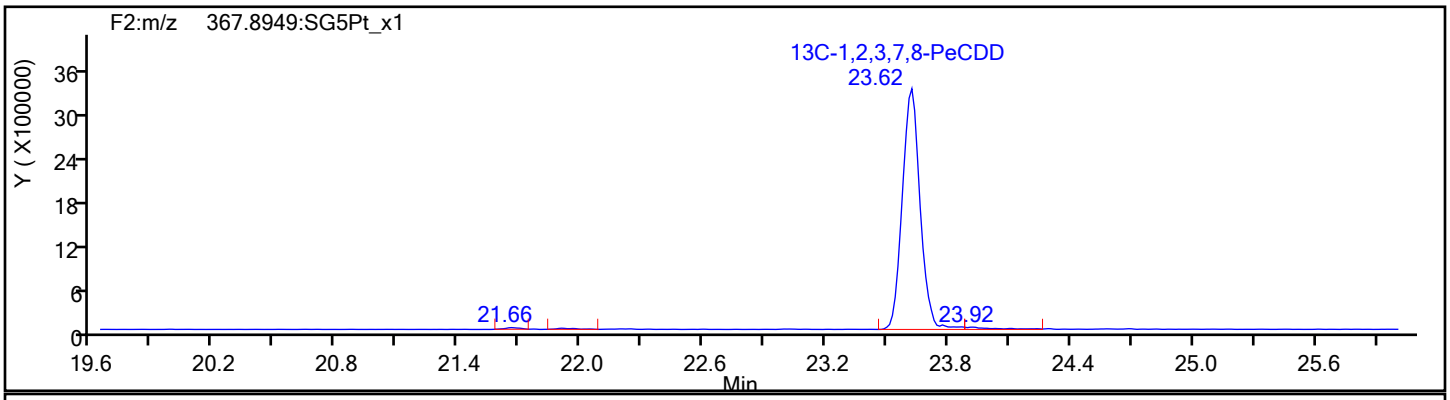

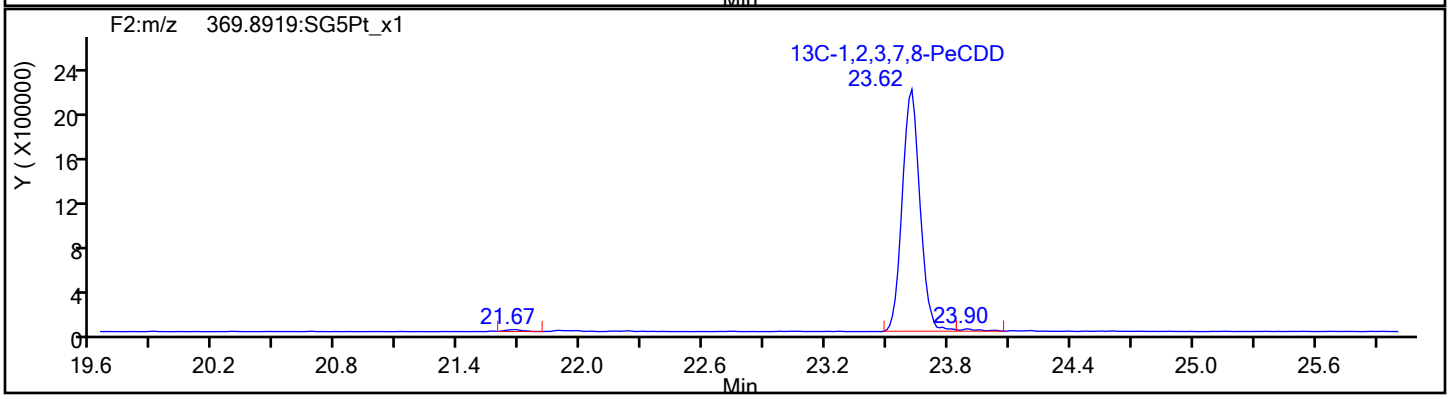

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Eurofins TestAmerica, Sacramento

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HxCDF

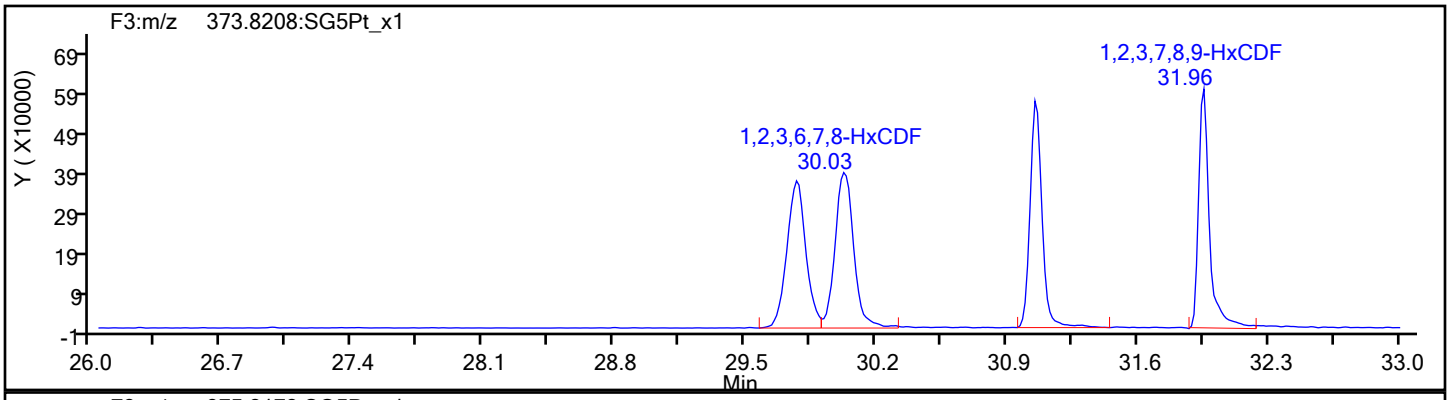

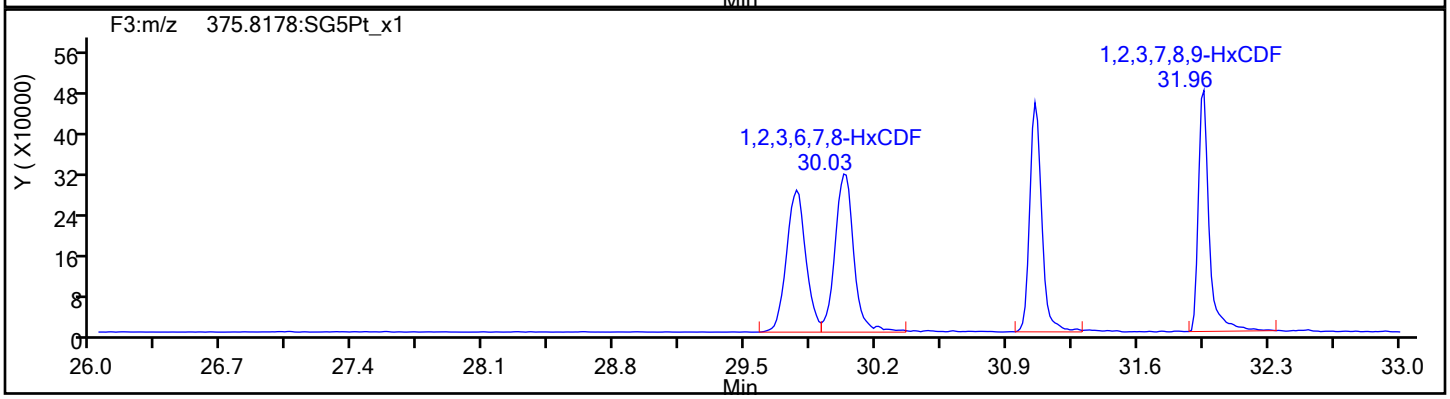

HxCDF Standards

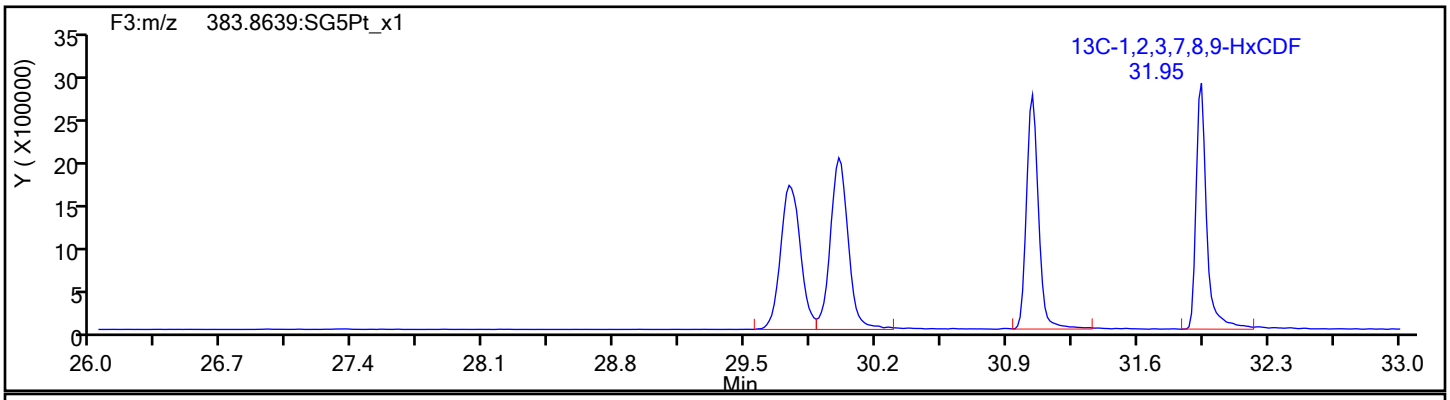

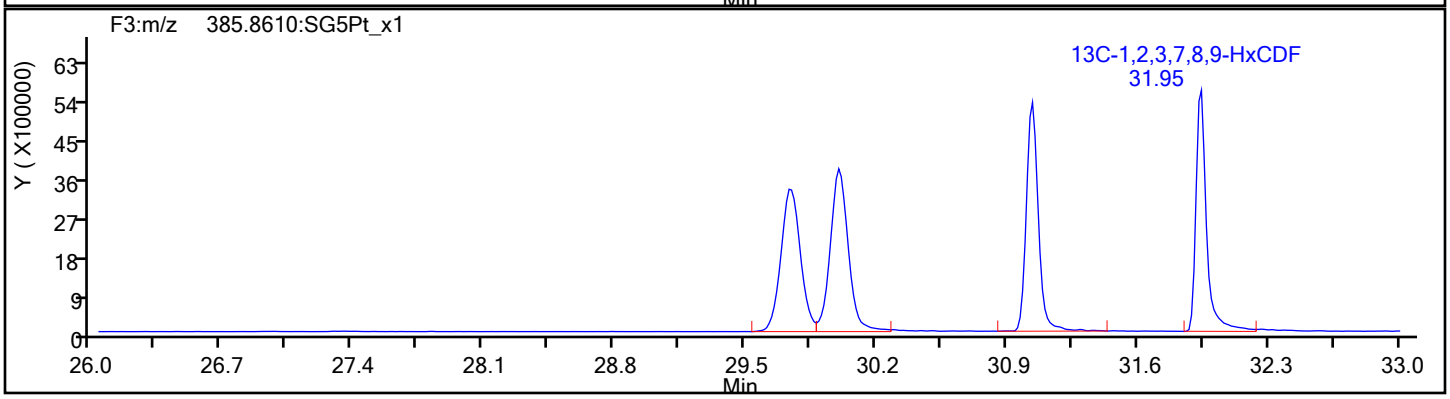

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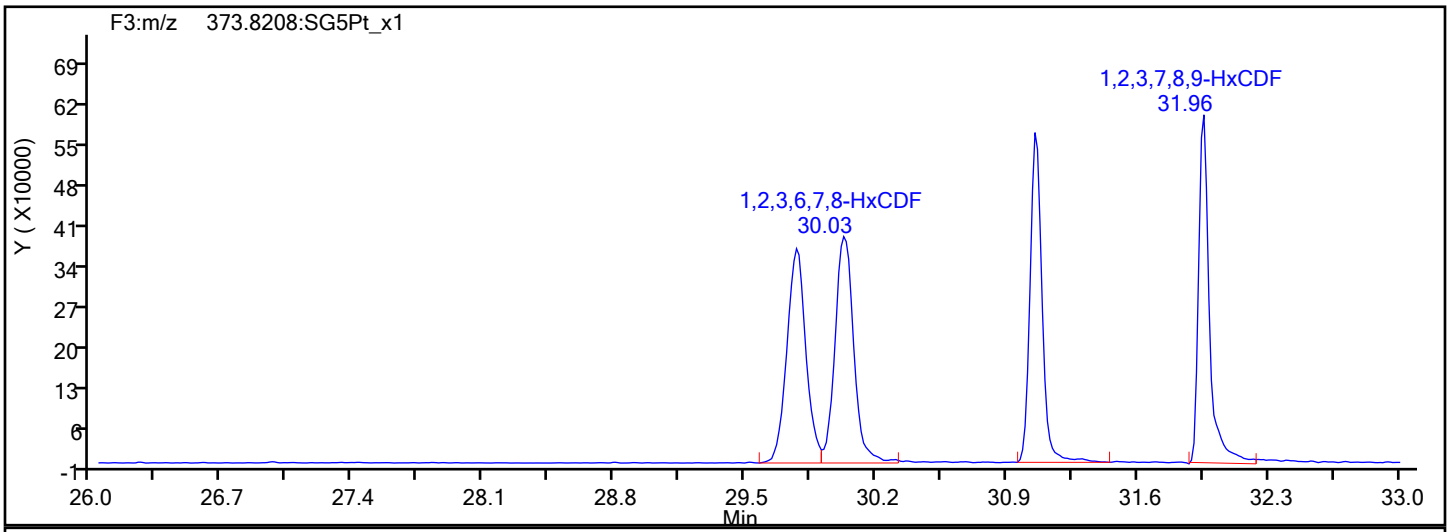

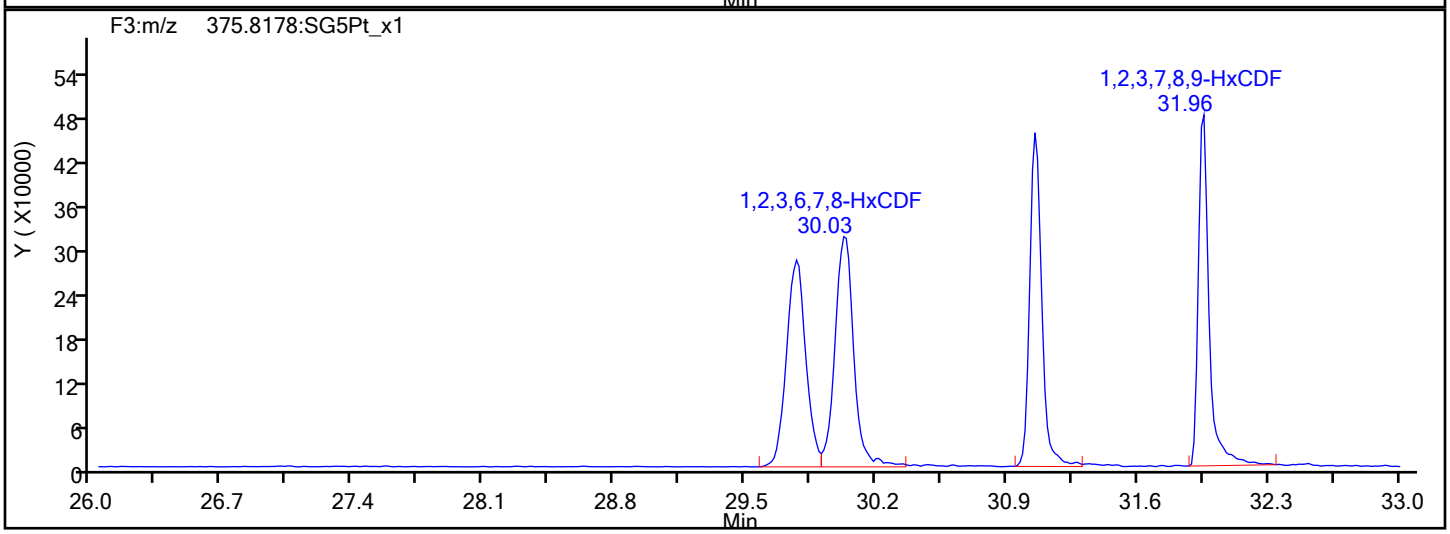

HxCDF Interference Mass

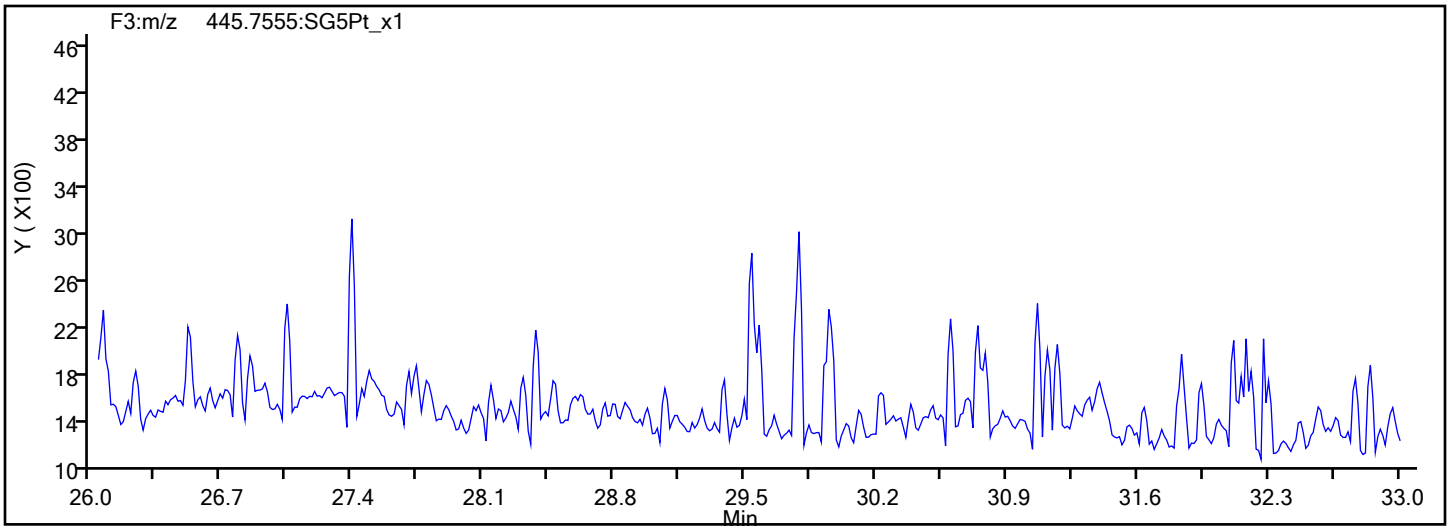

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Eurofins TestAmerica, Sacramento

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HxCDD

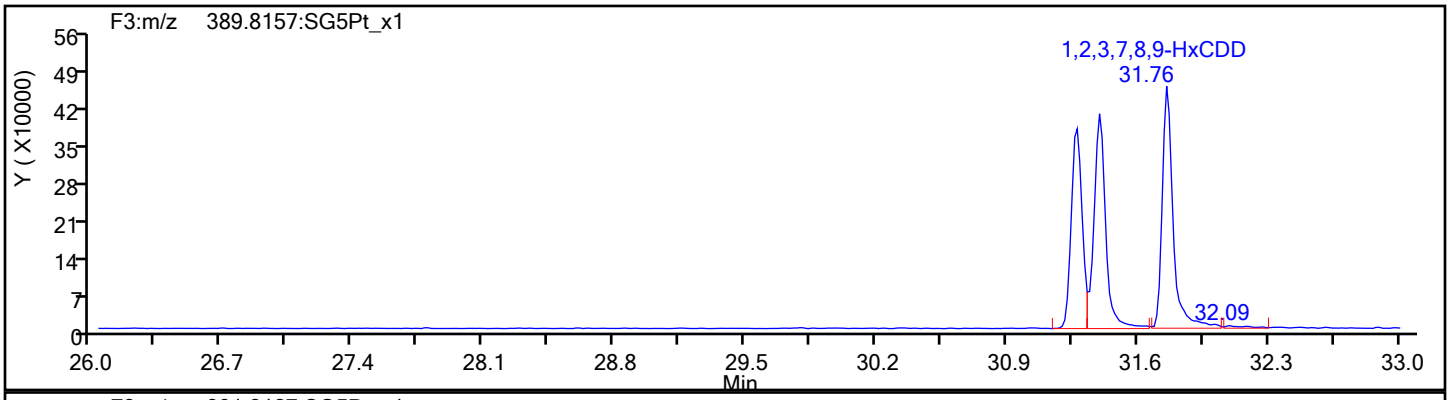

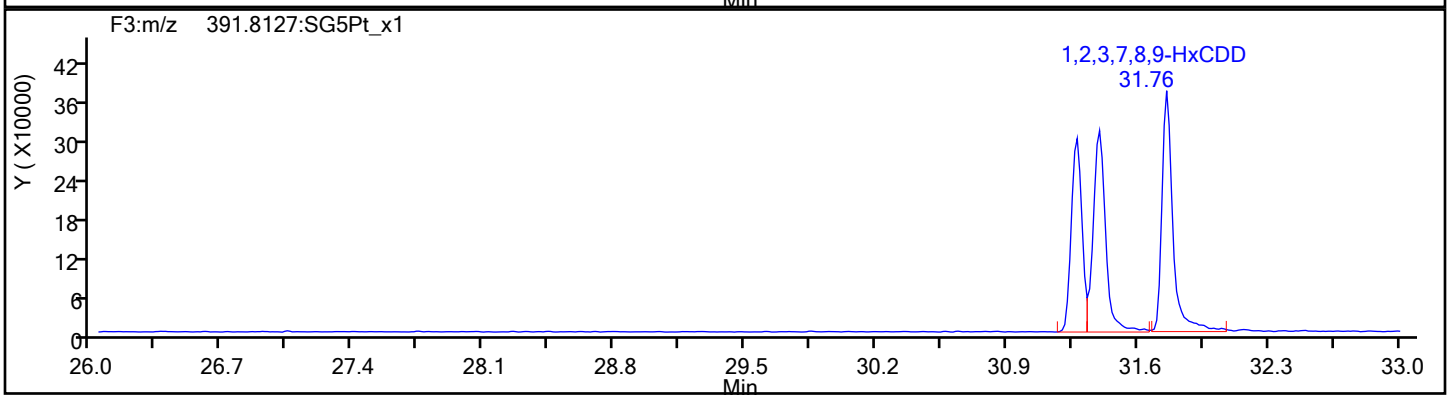

HxCDD Standards

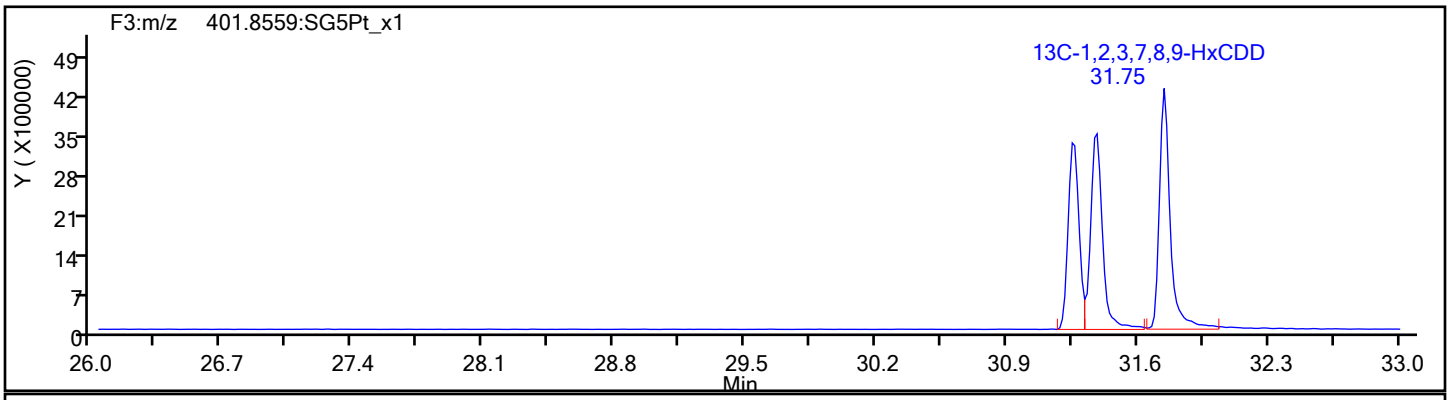

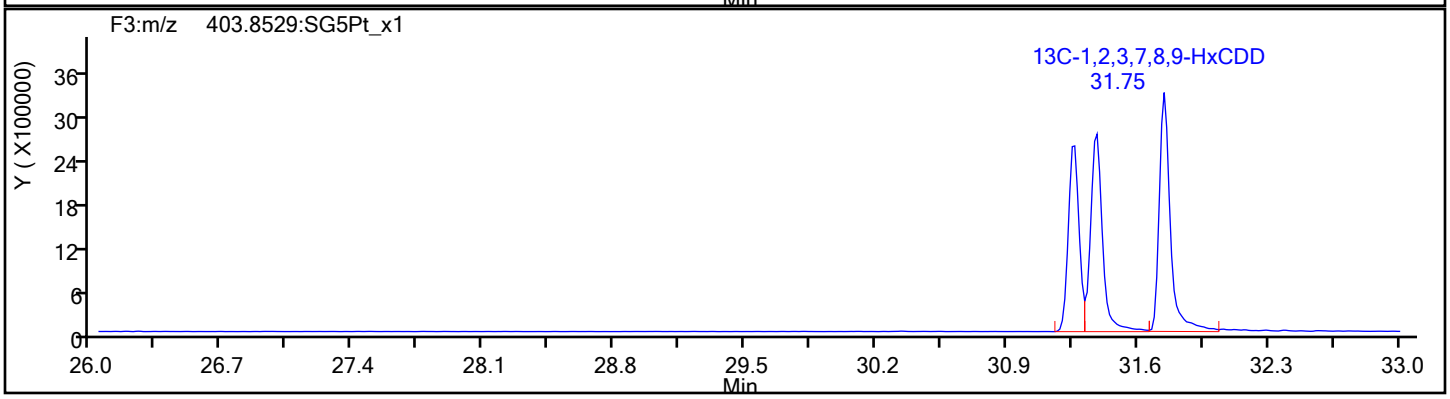

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Eurofins TestAmerica, Sacramento

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HpCDF

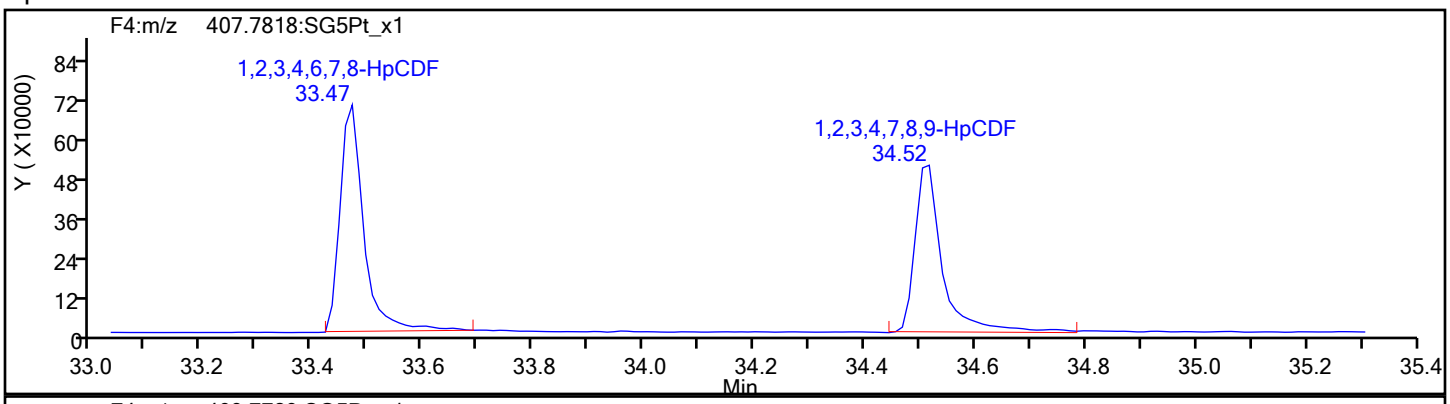

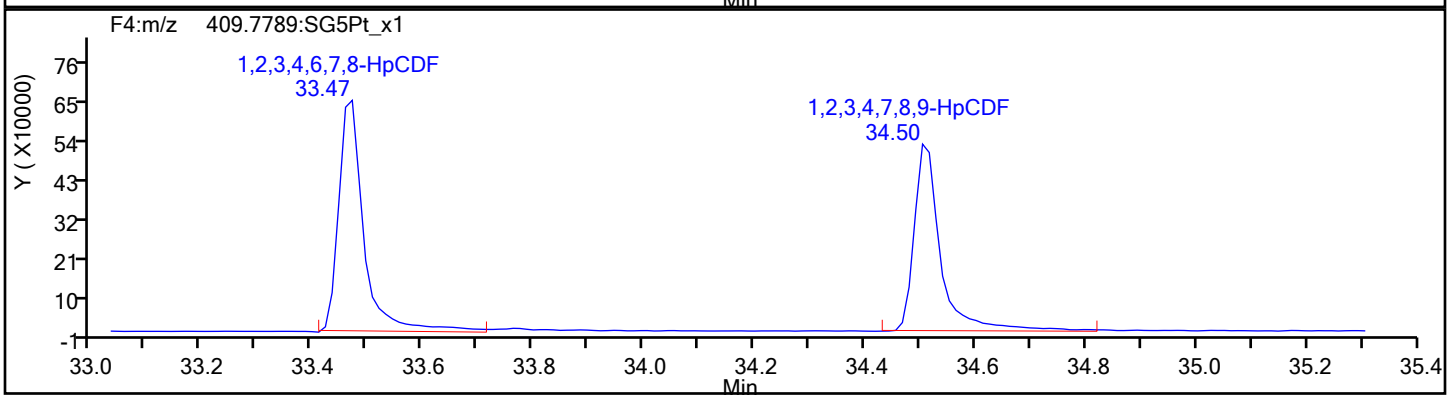

HpCDF Standards

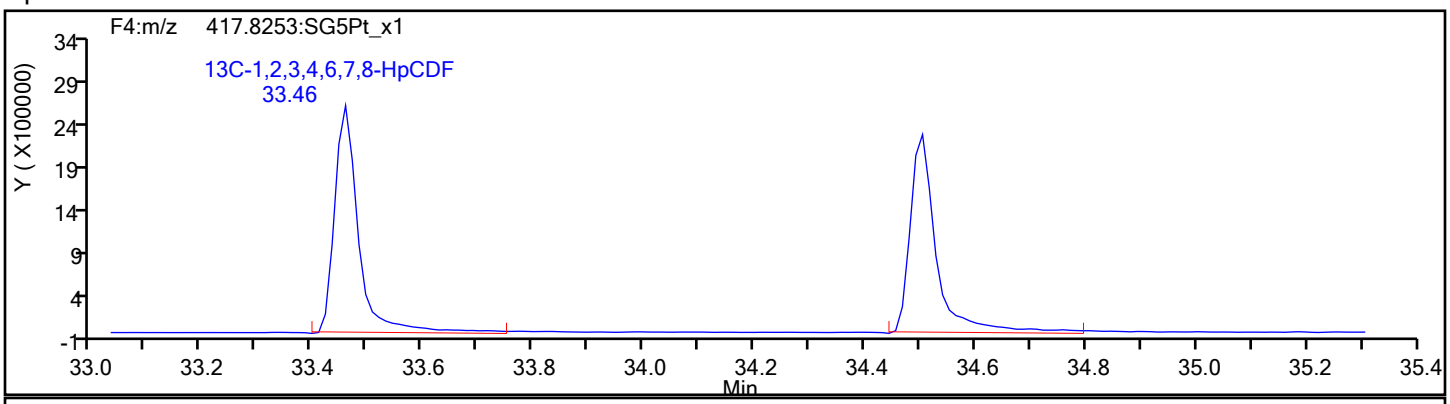

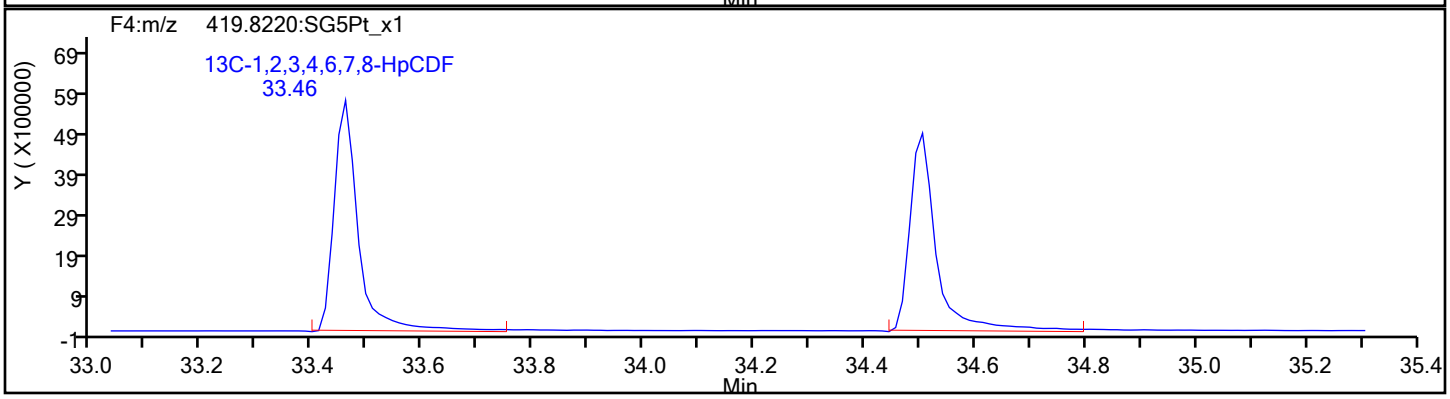

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d		
Injection Date:	17-Sep-2019 13:49:24	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

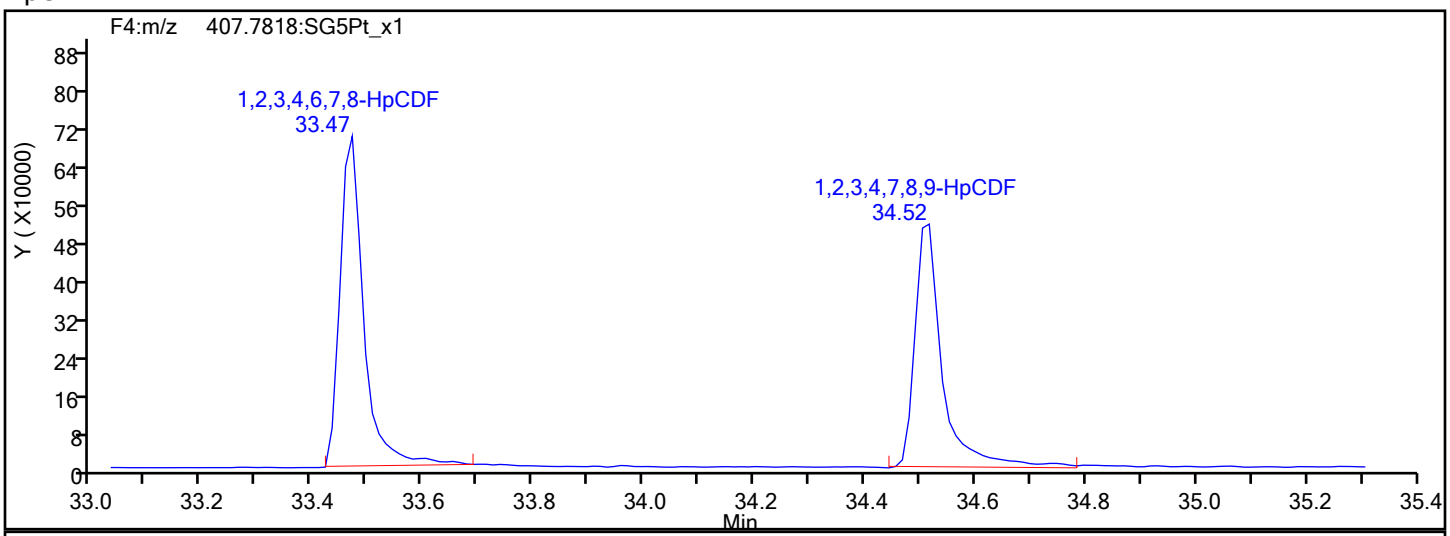

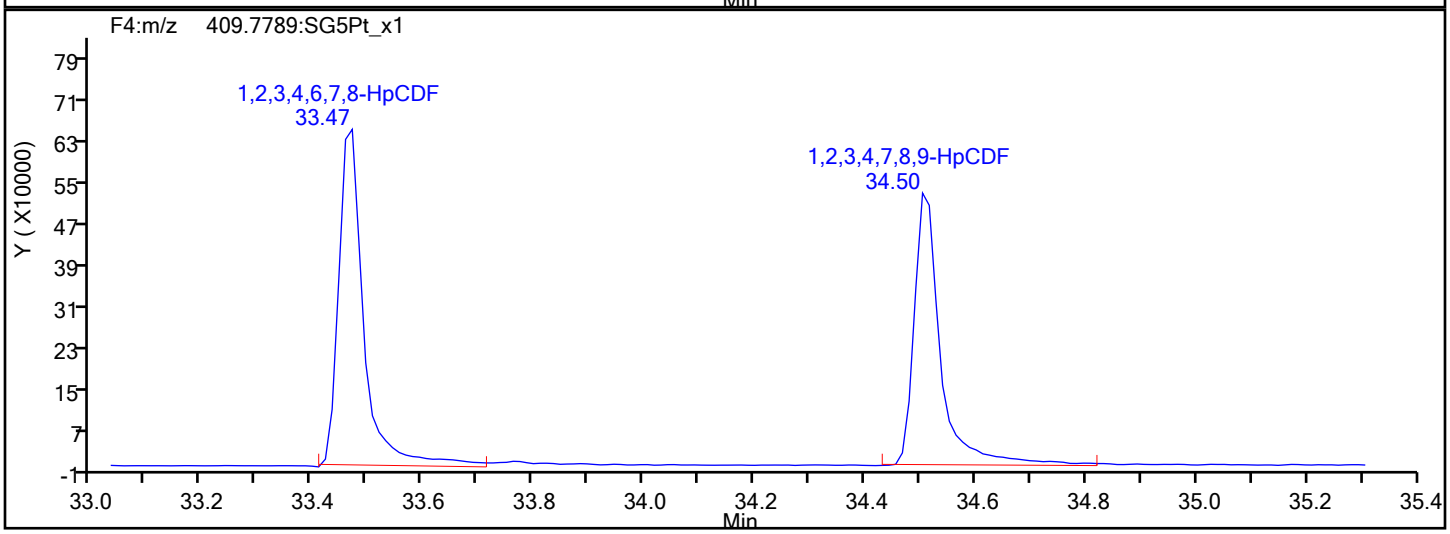

HpCDF Interference Mass

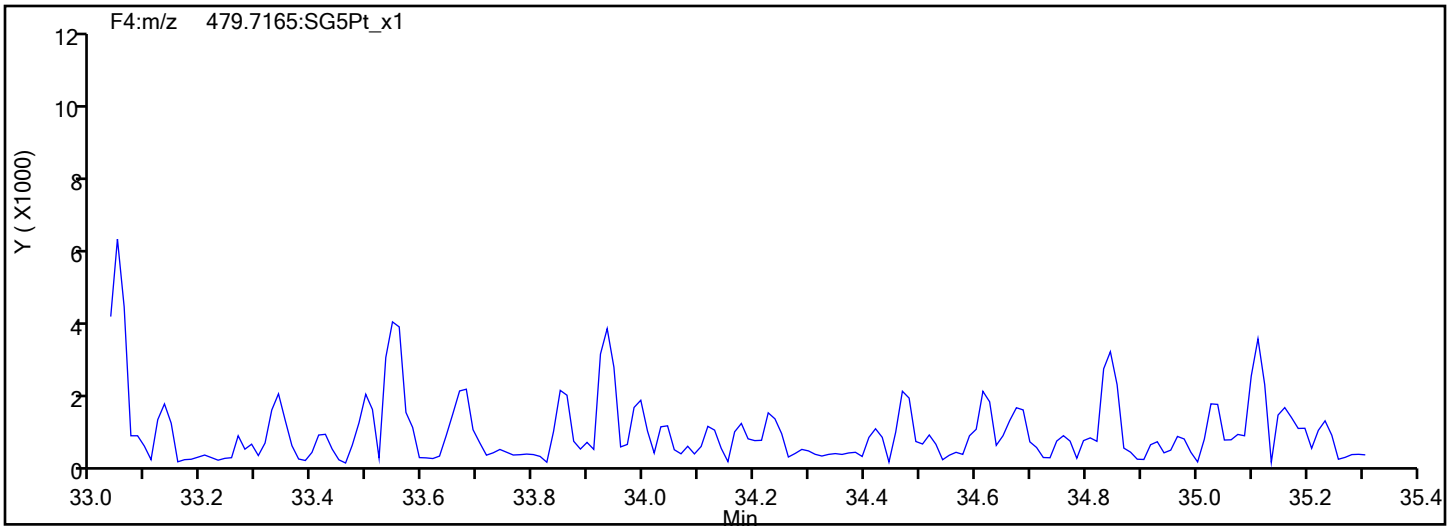

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d		
Injection Date:	17-Sep-2019 13:49:24	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

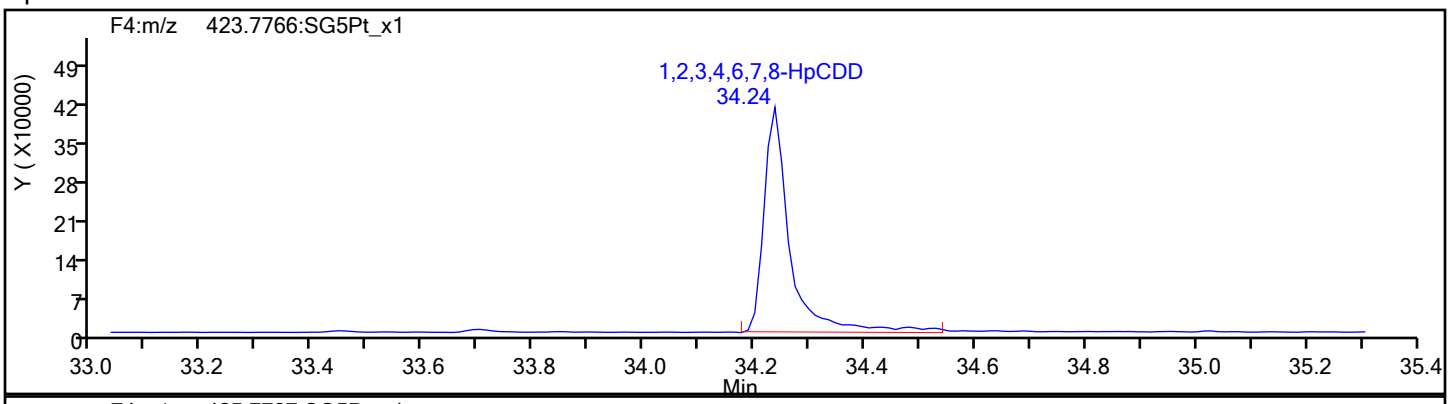

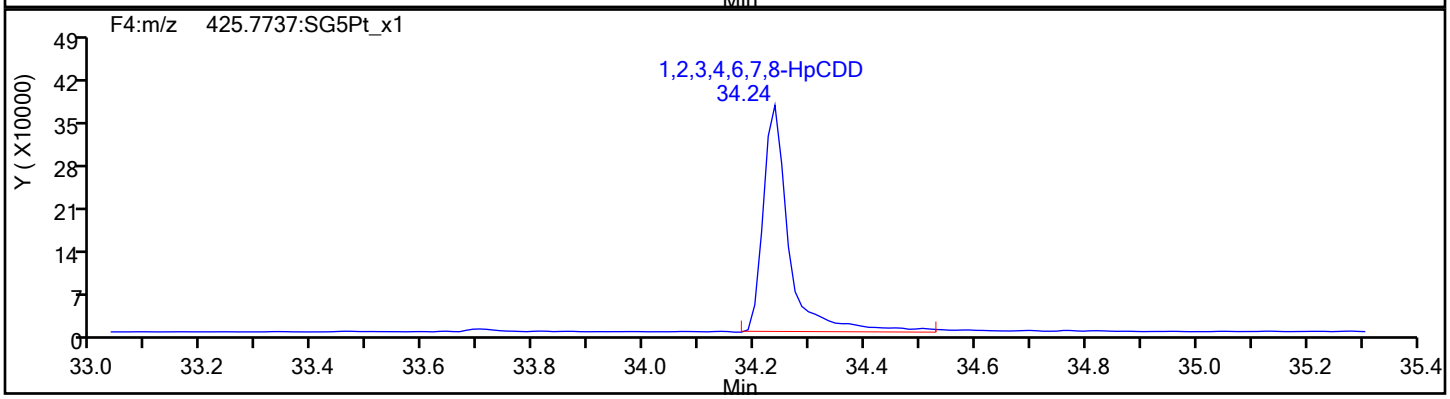

HpCDD Standards

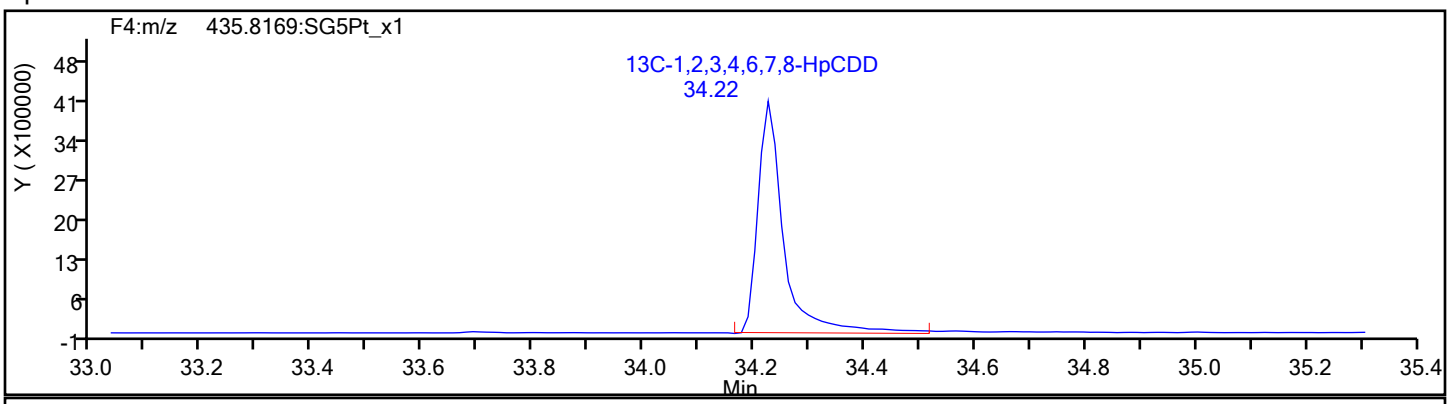

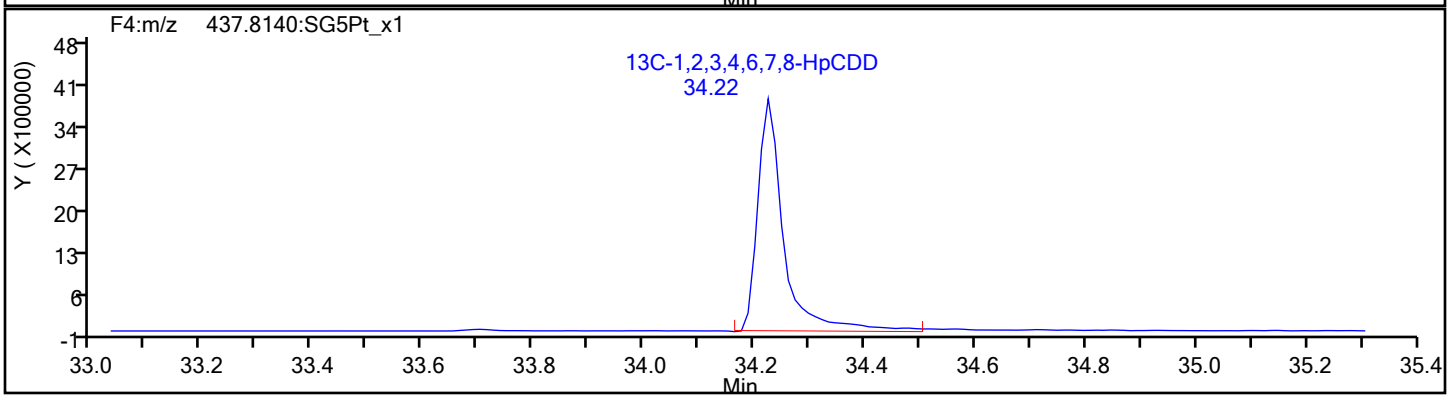

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d		
Injection Date:	17-Sep-2019 13:49:24	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

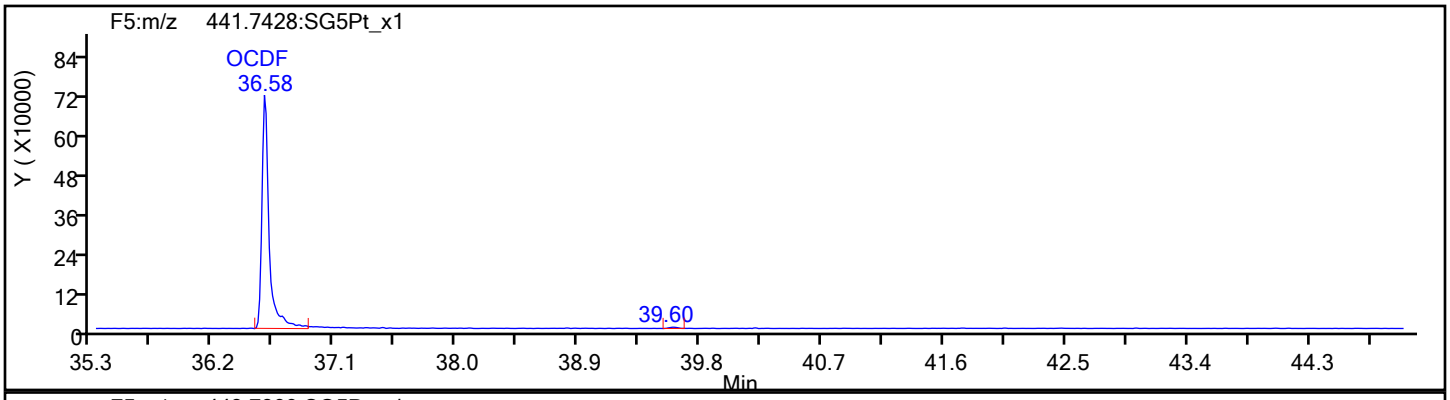

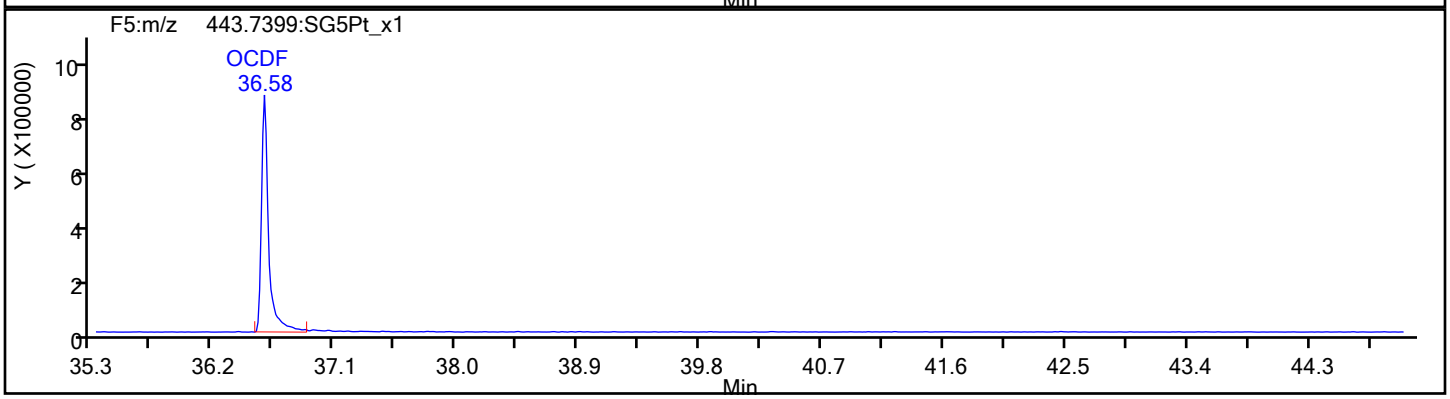

OCDF Standards

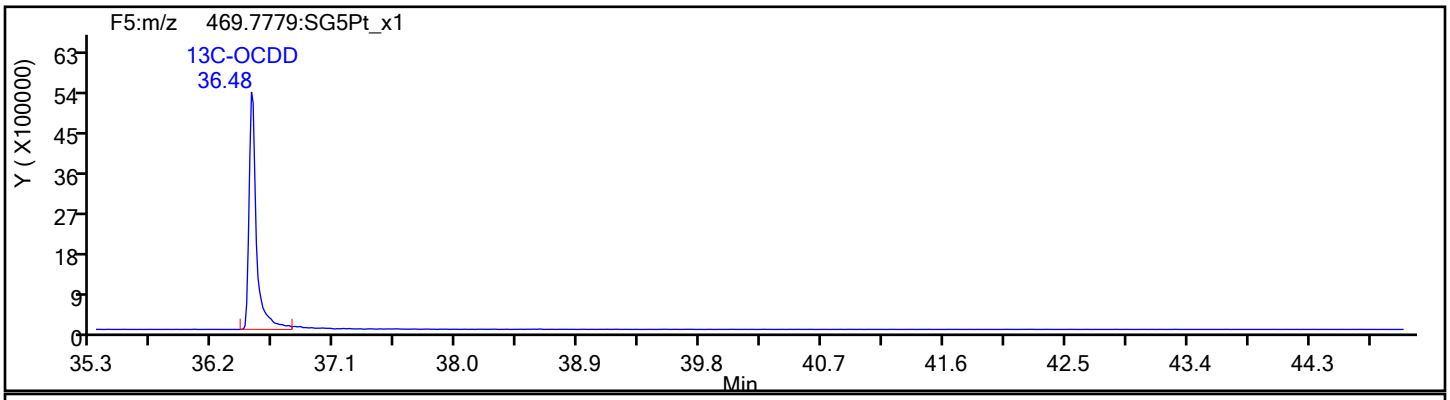

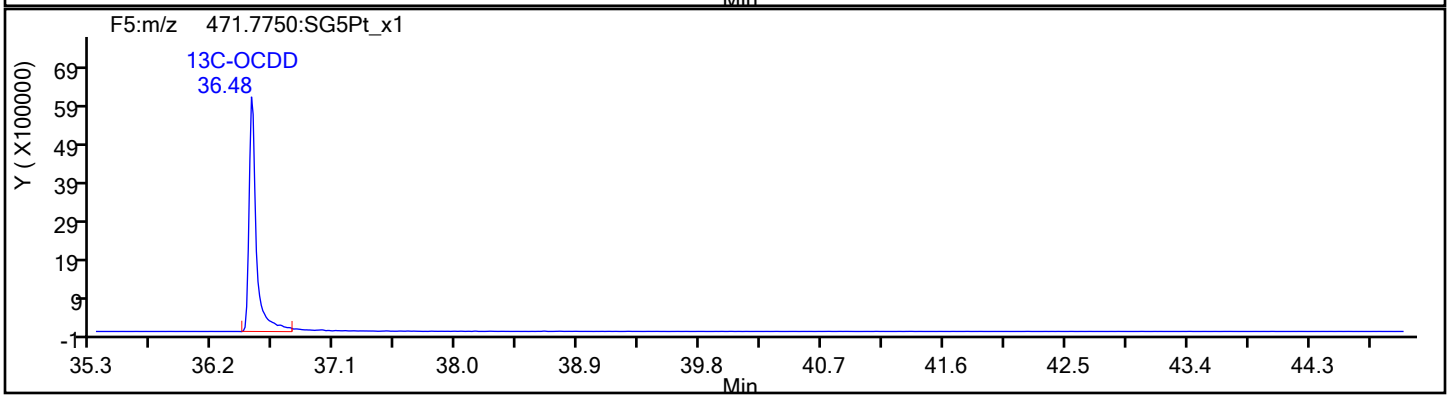

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d		
Injection Date:	17-Sep-2019 13:49:24	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

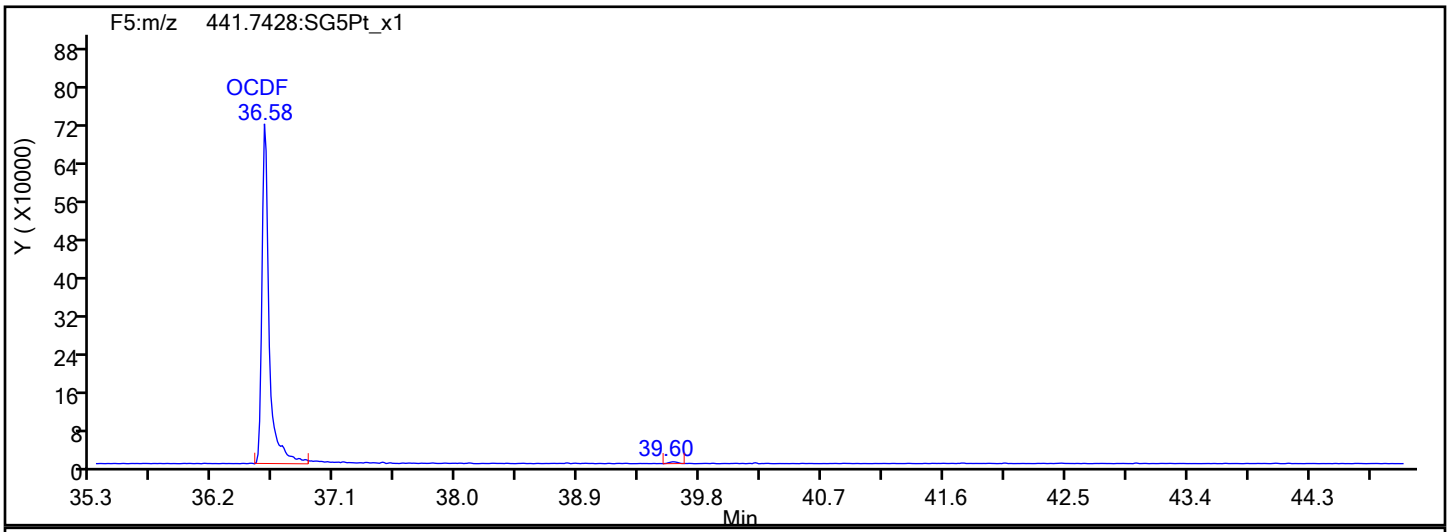

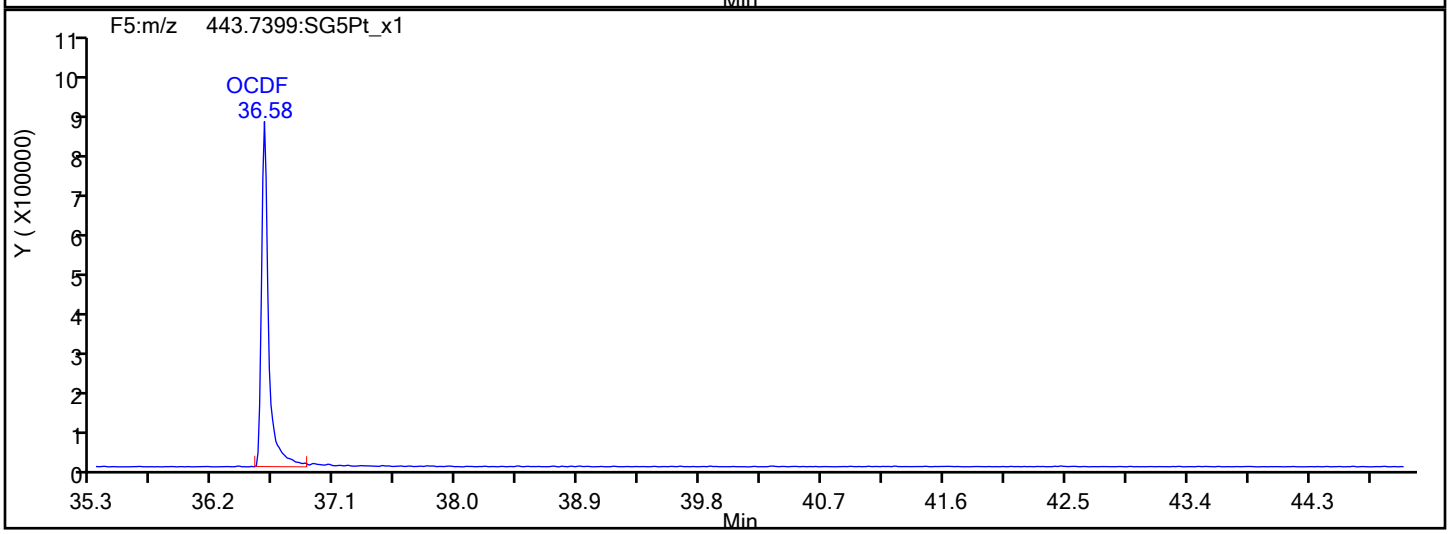

OCDF Interference Mass

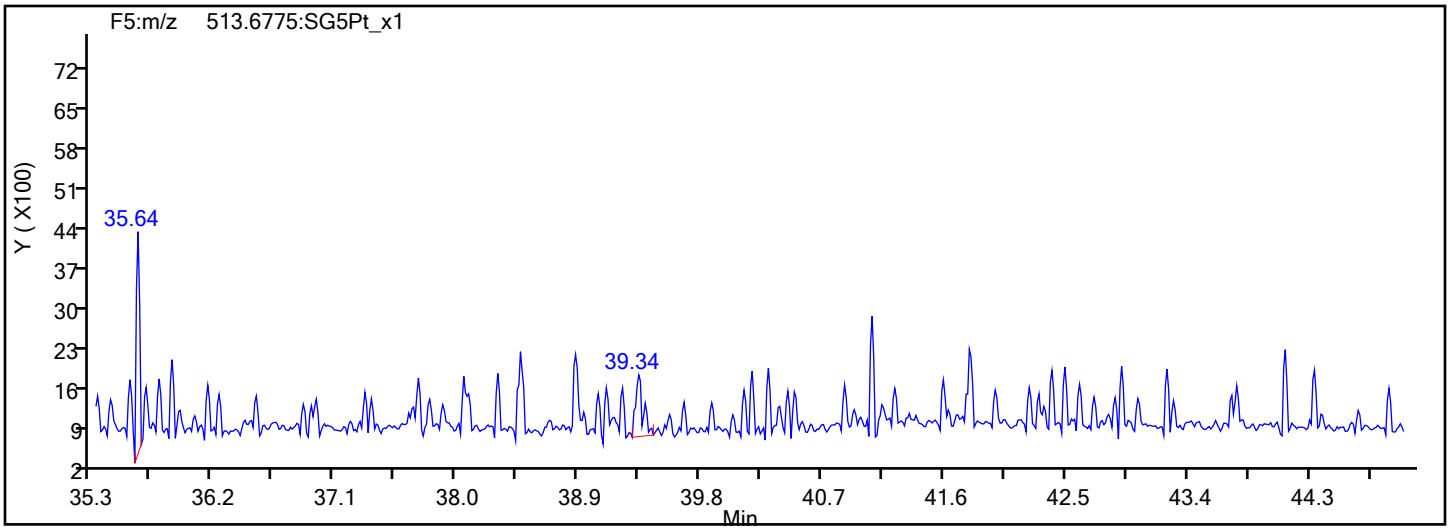

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d		
Injection Date:	17-Sep-2019 13:49:24	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

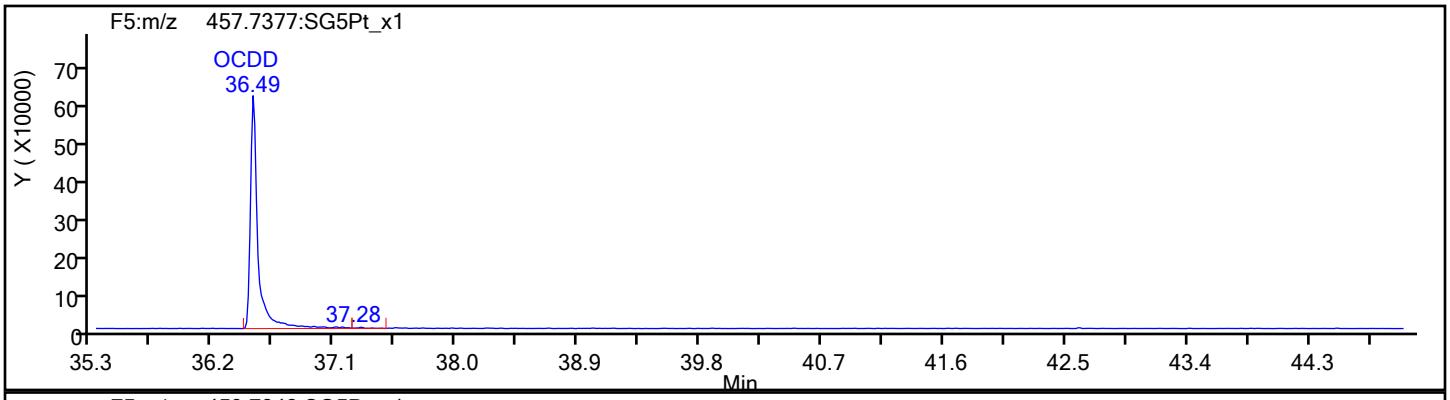

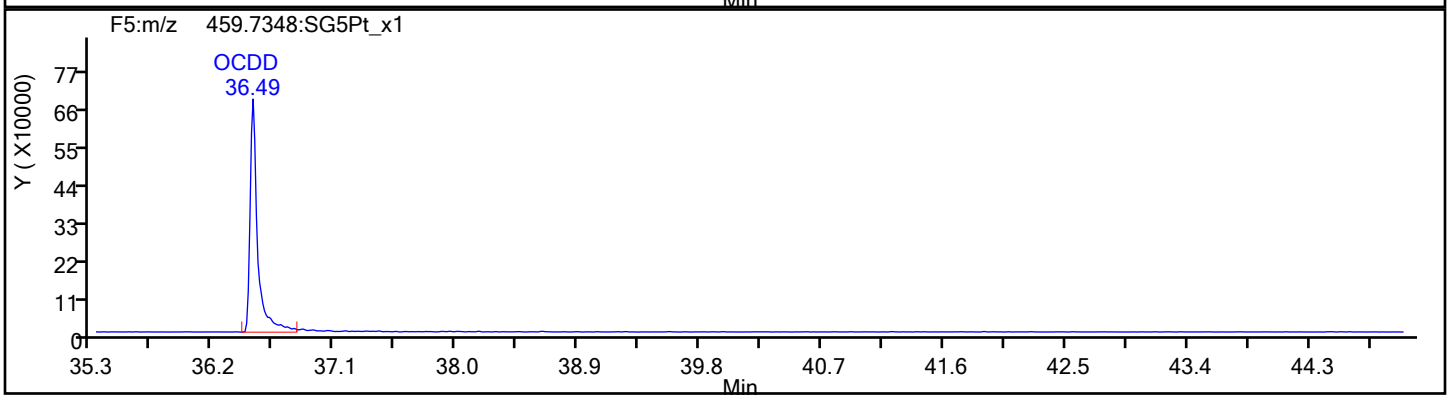

OCDD Standards

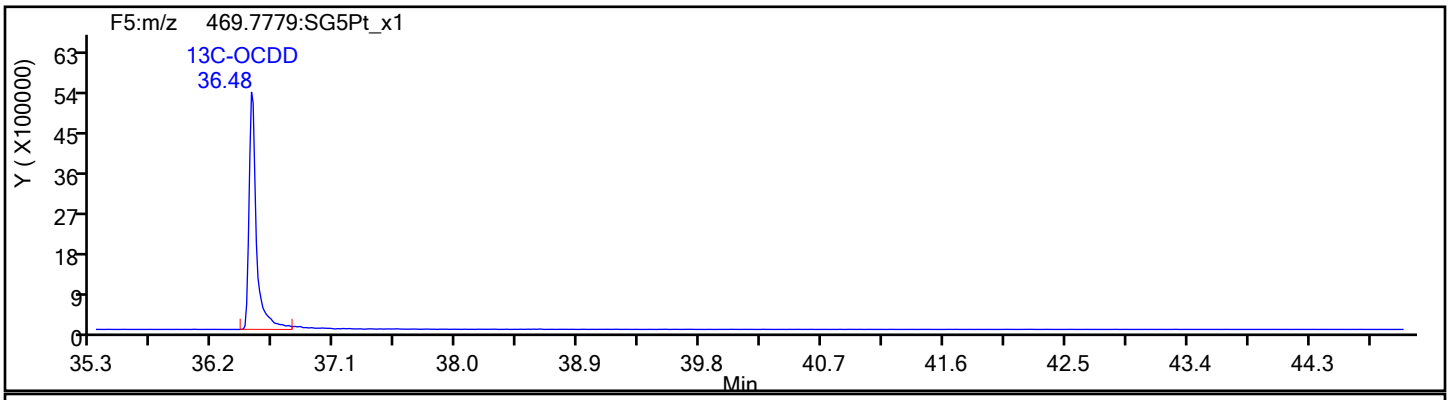

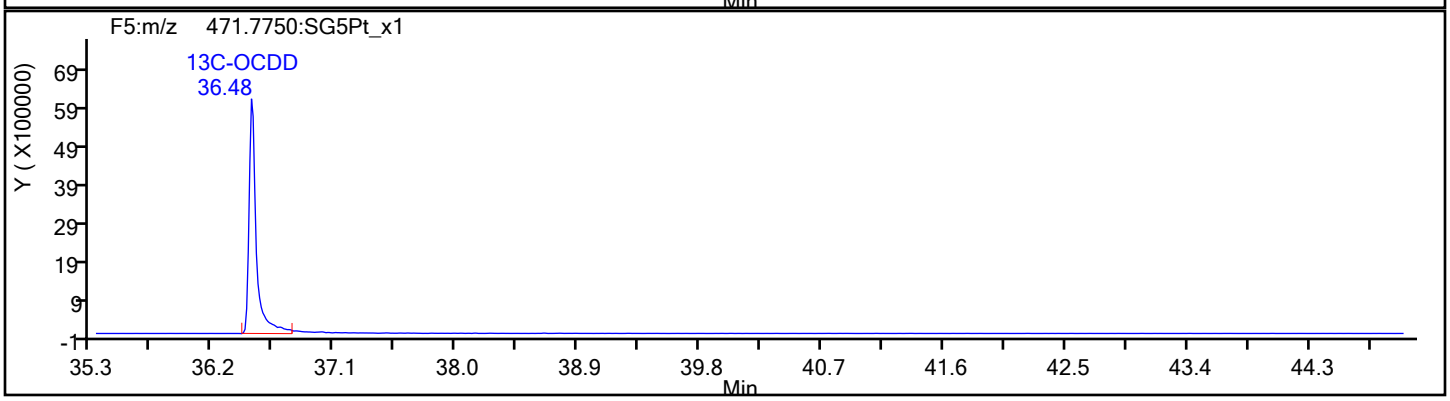

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d		
Injection Date:	17-Sep-2019 13:49:24	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

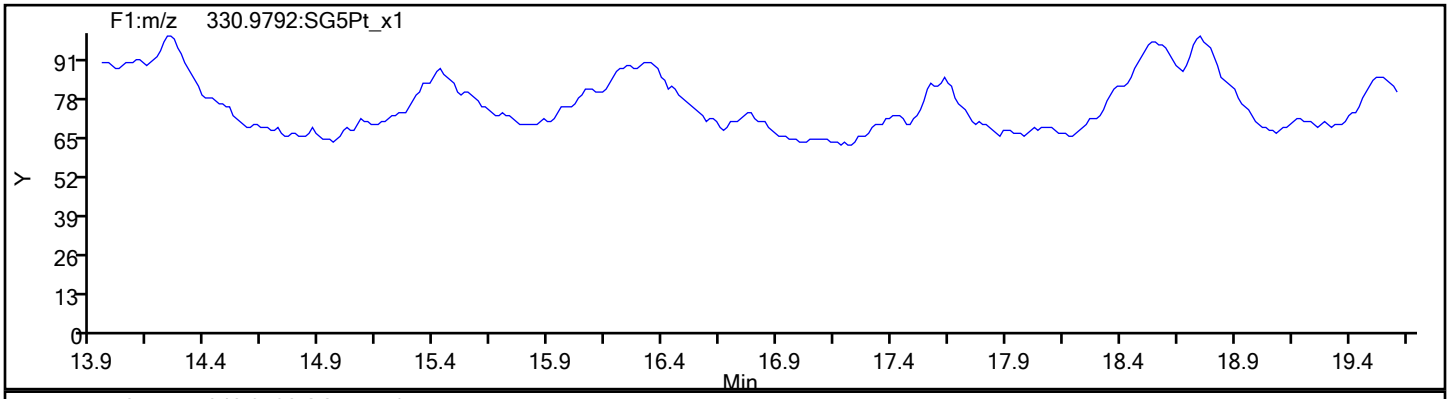

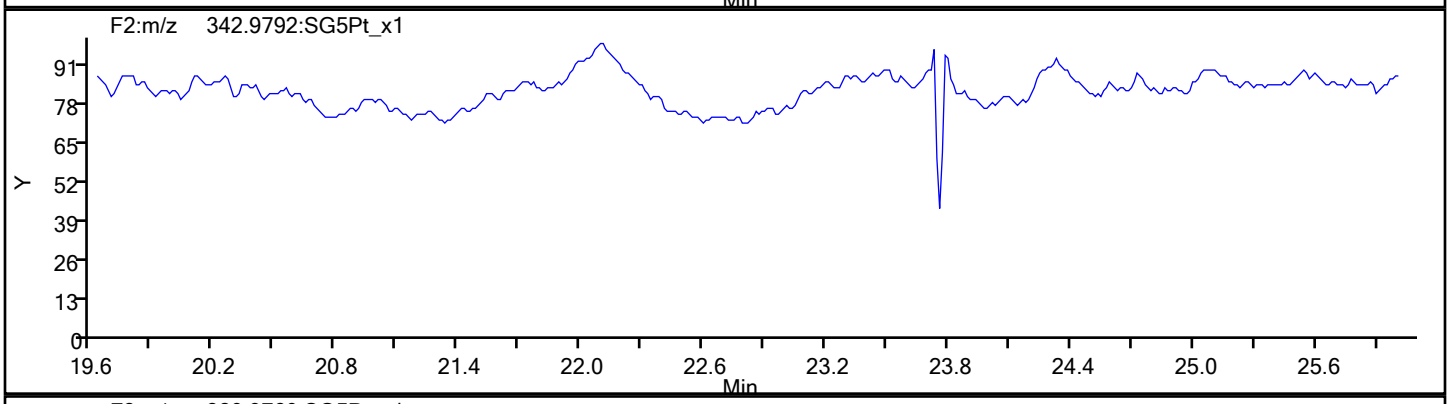

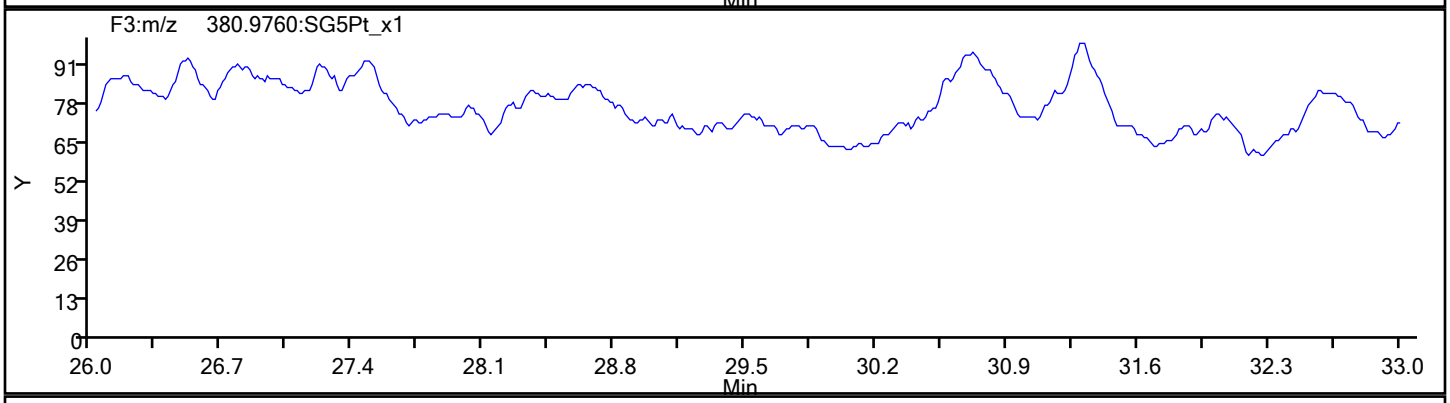

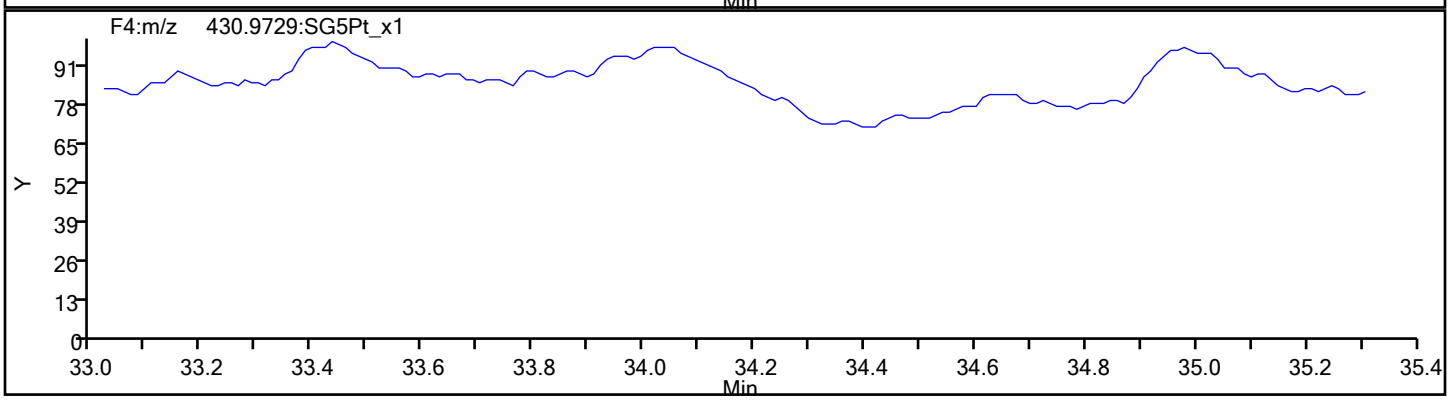

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d		
Injection Date:	17-Sep-2019 13:49:24	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

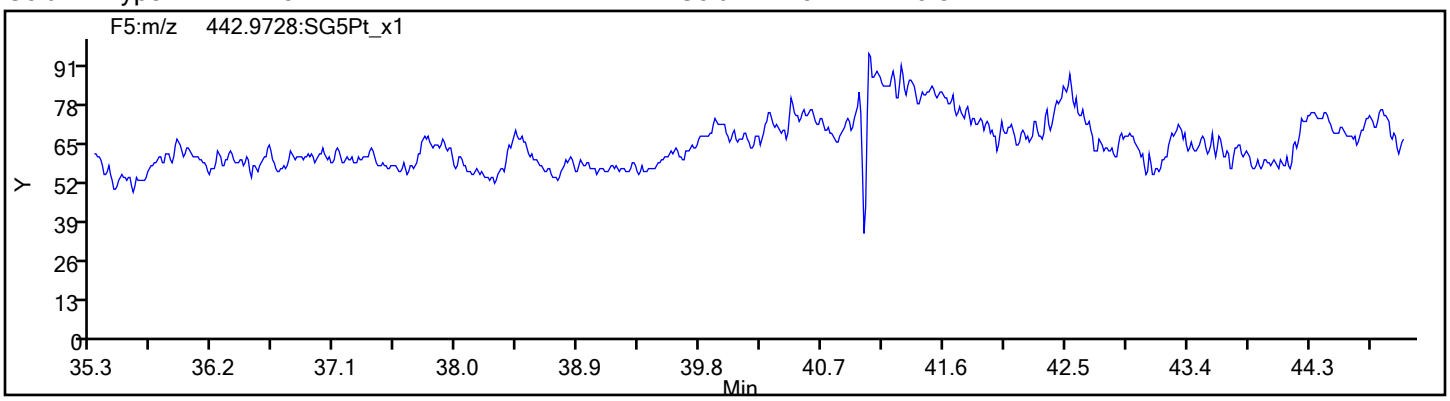

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_6.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 17-Sep-2019 15:21:22 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719C CS-5 HRDXNL5_00028
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:28 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:06:18

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.315	136791650	0.77	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.816	197671153	0.80	1.4384	100.5	100.5	0.1444	0.1444	100	
2,3,7,8-TCDF	16.831	83942362	0.79	1.0507	40.4	40.4	0.0684	0.0684	101	
S Total TCDF					40.4	40.4	0.0684	0.0684		
D 13C-2,3,7,8-TCDD	17.496	131023361	0.76	0.9533	100.5	100.5	0.1754	0.1754	100	
$ 37Cl4-2,3,7,8-TCDD	17.511	70585275		1.2224	42.2	42.2	0.0502	0.0502	106	
2,3,7,8-TCDD	17.511	59019056	0.79	1.1064	40.7	40.7	0.0423	0.0423	102	
S Total TCDD					40.7	40.7	0.0423	0.0423		
D 13C-1,2,3,7,8-PeCDF	21.645	146707284	1.60	1.0286	104.3	104.3	0.2271	0.2271	104	
1,2,3,7,8-PeCDF	21.672	332470884	1.58	1.0822	209.4	209.4	0.5823	0.5823	105	
D 13C-2,3,4,7,8-PeCDF	22.940	140755634	1.62	0.9827	104.7	104.7	0.2377	0.2377	105	
2,3,4,7,8-PeCDF	22.968	330153847	1.57	1.1032	212.6	212.6	0.6510	0.6510	106	
S Total PeCDF					422.0	422.0	0.6166	0.6166		
D 13C-1,2,3,7,8-PeCDD	23.636	108225317	1.55	0.7481	105.8	105.8	0.1282	0.1282	106	
1,2,3,7,8-PeCDD	23.663	203688899	1.58	0.9050	208.0	208.0	0.2341	0.2341	104	
S Total PeCDD					208.0	208.0	0.2341	0.2341		
D 13C-1,2,3,4,7,8-HxCDF	29.762	115322048	0.51	1.1520	100.3	100.3	0.4565	0.4565	100	
1,2,3,4,7,8-HxCDF	29.802	291651831	1.26	1.1973	211.2	211.2	1.539	1.539	106	
D 13C-1,2,3,6,7,8-HxCDF	30.028	126224651	0.53	1.2434	101.7	101.7	0.4229	0.4229	102	
1,2,3,6,7,8-HxCDF	30.055	311373058	1.26	1.1807	208.9	208.9	1.338	1.338	104	
D 13C-2,3,4,6,7,8-HxCDF	31.053	118677202	0.52	1.1720	101.5	101.5	0.4487	0.4487	101	
2,3,4,6,7,8-HxCDF	31.067	300428448	1.26	1.2116	208.9	208.9	0.9123	0.9123	104	
D 13C-1,2,3,7,8,9-HxCDF	31.945	107073331	0.52	1.0655	100.7	100.7	0.4935	0.4935	101	
1,2,3,7,8,9-HxCDF	31.958	272303395	1.26	1.2451	204.2	204.2	0.8892	0.8892	102	
S Total HxCDF					833.3	833.3	1.170	1.170		
* 13C-1,2,3,7,8,9-HxCDD	31.759	99810625	1.29	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.266	80372897	1.29	0.7812	103.1	103.1	0.3822	0.3822	103	
1,2,3,4,7,8-HxCDD	31.293	186227471	1.26	1.1088	209.0	209.0	0.6104	0.6104	104	
D 13C-1,2,3,6,7,8-HxCDD	31.386	95002970	1.27	0.9175	103.7	103.7	0.3254	0.3254	104	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.413	212361866	1.27	1.0814	206.7	206.7	0.5785	0.5785	103	
1,2,3,7,8,9-HxCDD	31.772	218049333	1.25	1.2123	205.1	205.1	0.5363	0.5363	103	
S Total HxCDD					620.8	620.8	0.5751	0.5751		
D 13C-1,2,3,4,6,7,8-HpCDF	33.459	88816288	0.46	0.8628	103.1	103.1	2.079	2.079	103	
1,2,3,4,6,7,8-HpCDF	33.472	281845286	1.05	1.5555	204.0	204.0	3.635	3.635	102	
D 13C-1,2,3,4,7,8,9-HpCDF	34.504	81274920	0.45	0.7991	101.9	101.9	2.245	2.245	102	
1,2,3,4,7,8,9-HpCDF	34.516	239010564	1.05	1.3862	212.1	212.1	4.800	4.800	106	
S Total HpCDF					416.1	416.1	4.218	4.218		
D 13C-1,2,3,4,6,7,8-HpCDD	34.237	90130025	1.04	0.8739	103.3	103.3	1.148	1.148	103	
1,2,3,4,6,7,8-HpCDD	34.237	175833007	1.05	0.9316	209.4	209.4	2.167	2.167	105	
S Total HpCDD					209.4	209.4	2.167	2.167		
D 13C-OCDD	36.493	158997965	0.88	0.7744	205.7	205.7	0.3551	0.3551	103	
OCDF	36.589	418862104	0.89	1.2596	418.3	418.3	0.4537	0.4537	105	
OCDD	36.505	347055077	0.89	1.0621	411.0	411.0	0.6571	0.6571	103	

Reagents:

HRDXNL5_00028 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_6.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 17-Sep-2019 15:21:22 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719C CS-5 HRDXNL5_00028
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:28 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:06:18

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.315	17.303	1		59594664	15287135	9225	23062	1657		
333.9339	17.315	17.303	1		77196986	19734133	14193	35482	1390	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.816	16.810	0	0.971	87712948	23127802	13754	34385	1682		
317.9389	16.816	16.810	0	0.971	109958205	28845594	15339	38347	1881	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.831	16.825	0	1.001	36949180	9674667	6043	15107	1601		
305.8987	16.831	16.825	0	1.001	46993182	12302542	8902	22255	1382	0.79(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.496	17.490	0	1.010	56708135	13975530	9225	23062	1515		
333.9339	17.496	17.490	0	1.010	74315226	18338786	14193	35482	1292	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.511	17.505	0	1.011	70585275	17605066	8592	21480	2049		
2,3,7,8-TCDD											
319.8965	17.511	17.505	0	1.001	26067676	6503532	2993	7482	2173		
321.8936	17.511	17.505	0	1.001	32951380	8185513	3053	7632	2681	0.79(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	21.645	21.637	0	1.250	90246004	16955643	19974	49935	849		
353.8970	21.645	21.637	0	1.250	56461280	10556577	12749	31872	828	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.672	21.661	1	1.001	203793856	37432282	42262	105655	886		
341.8567	21.672	21.661	1	1.001	128677028	23626725	27084	67710	872	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	22.940	22.932	0	1.325	87007765	14859467	19974	49935	744		
353.8970	22.940	22.932	0	1.325	53747869	9280455	12749	31872	728	1.62(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.968	22.954	1	1.001	201570262	34626412	42262	105655	819		
341.8567	22.968	22.954	1	1.001	128583585	22276079	27084	67710	822	1.57(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.636	23.625	1	1.365	65730378	10862933	7904	19760	1374		
369.8919	23.636	23.625	1	1.365	42494939	6954914	5526	13815	1259	1.55(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.663	23.649	1	1.001	124750517	20269910	9274	23185	2186		
357.8516	23.663	23.649	1	1.001	78938382	12735405	5825	14562	2186	1.58(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.762	29.754	0	0.937	39196947	5461495	18152	45380	301		
385.8610	29.762	29.754	0	0.937	76125101	10409265	31962	79905	326	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.802	29.789	1	1.001	162403041	22433624	65844	164610	341		
375.8178	29.789	29.789	0	1.001	129248790	17859839	51149	127872	349	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.028	30.015	1	0.946	43639188	6387099	18152	45380	352		
385.8610	30.028	30.015	1	0.946	82585463	12130808	31962	79905	380	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.055	30.039	1	1.001	173687895	26264182	65844	164610	399		
375.8178	30.055	30.039	1	1.001	137685163	20987234	51149	127872	410	1.26(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.053	31.043	1	0.978	40788407	9120663	18152	45380	502		
385.8610	31.053	31.043	1	0.978	77888795	17340792	31962	79905	543	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.067	31.059	0	1.000	167309786	37576842	65844	164610	571		
375.8178	31.067	31.059	0	1.000	133118662	29904554	51149	127872	585	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.945	31.942	0	1.006	36791830	9139865	18152	45380	504		
385.8610	31.945	31.942	0	1.006	70281501	17276995	31962	79905	541	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.958	31.956	0	1.000	151855406	36977671	65844	164610	562		
375.8178	31.958	31.956	0	1.000	120447989	30006929	51149	127872	587	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.759	31.748	1		56270617	13452314	14607	36517	921		
403.8529	31.759	31.748	1		43540008	10372903	13848	34620	749	1.29(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.266	31.261	0	0.984	45227277	11150175	14607	36517	763		
403.8529	31.266	31.261	0	0.984	35145620	8735365	13848	34620	631	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.293	31.280	1	1.001	103691748	26080947	29902	74755	872		
391.8127	31.279	31.280	0	1.000	82535723	20584143	23933	59832	860	1.26(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.386	31.383	0	0.988	53174636	12056504	14607	36517	825		
403.8529	31.386	31.383	0	0.988	41828334	9455739	13848	34620	683	1.27(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.413	31.402	1	1.001	118924223	27338827	29902	74755	914		
391.8127	31.413	31.402	1	1.001	93437643	21365407	23933	59832	893	1.27(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.772	31.761	1	1.016	121151996	28954994	29902	74755	968		
391.8127	31.772	31.761	1	1.016	96897337	23073240	23933	59832	964	1.25(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.459	33.457	0	1.054	28029452	9006809	51228	128070	176		
419.8220	33.459	33.457	0	1.054	60786836	19574017	119701	299252	164	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.472	33.469	0	1.000	144194629	47922295	320097	800242	150		
409.7789	33.472	33.469	0	1.000	137650657	45921753	326367	815917	141	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.504	34.502	0	1.086	25205698	7508483	51228	128070	147		
419.8220	34.504	34.502	0	1.086	56069222	16780818	119701	299252	140	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.516	34.509	0	1.000	122343291	36942029	320097	800242	115		
409.7789	34.516	34.509	0	1.000	116667273	34848749	326367	815917	107	1.05(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.237	34.227	1	1.078	45952113	13244990	41516	103790	319		
437.8140	34.225	34.227	0	1.078	44177912	12813430	54131	135327	237	1.04(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.237	34.235	0	1.000	90154256	26778982	103826	259565	258		
425.7737	34.237	34.235	0	1.000	85678751	25940196	106590	266475	243	1.05(0.88-1.20)	
13C-OCDD											
469.7779	36.493	36.486	0	1.149	74572520	18801270	9864	24660	1906		
471.7750	36.493	36.486	0	1.149	84425445	21269549	16343	40857	1301	0.88(0.76-1.02)	
OCDF											
441.7428	36.589	36.581	0	1.003	197544150	51410039	20935	52337	2456		
443.7399	36.589	36.581	0	1.003	221317954	56864509	24864	62160	2287	0.89(0.76-1.02)	
OCDD											
457.7377	36.505	36.497	0	1.000	163350934	40607331	33690	84225	1205		
459.7348	36.505	36.497	0	1.000	183704143	44957614	22242	55605	2021	0.89(0.76-1.02)	

Reagents:

HRDXNL5_00028 Amount Added: 1.00 Units: mL

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

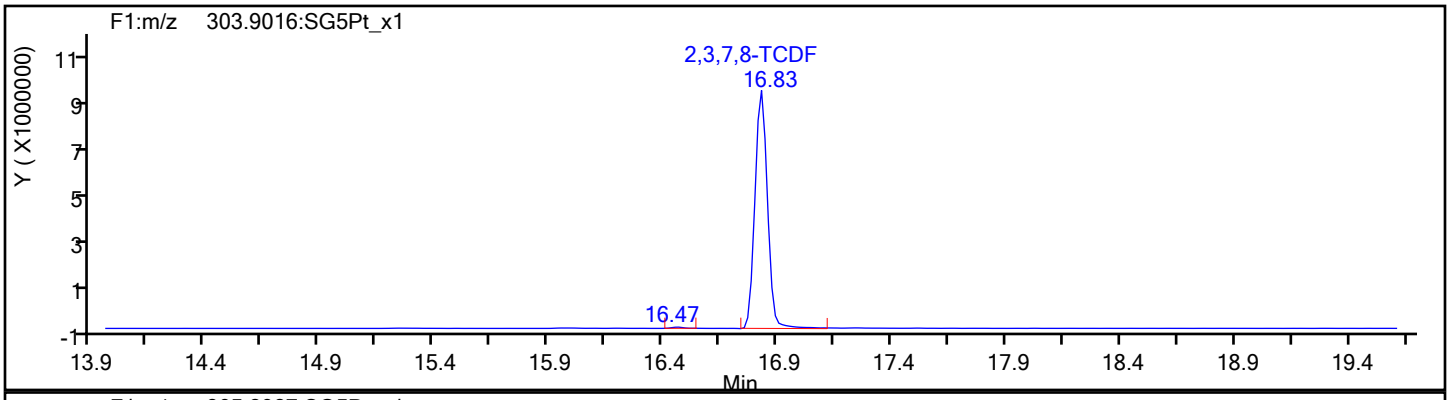

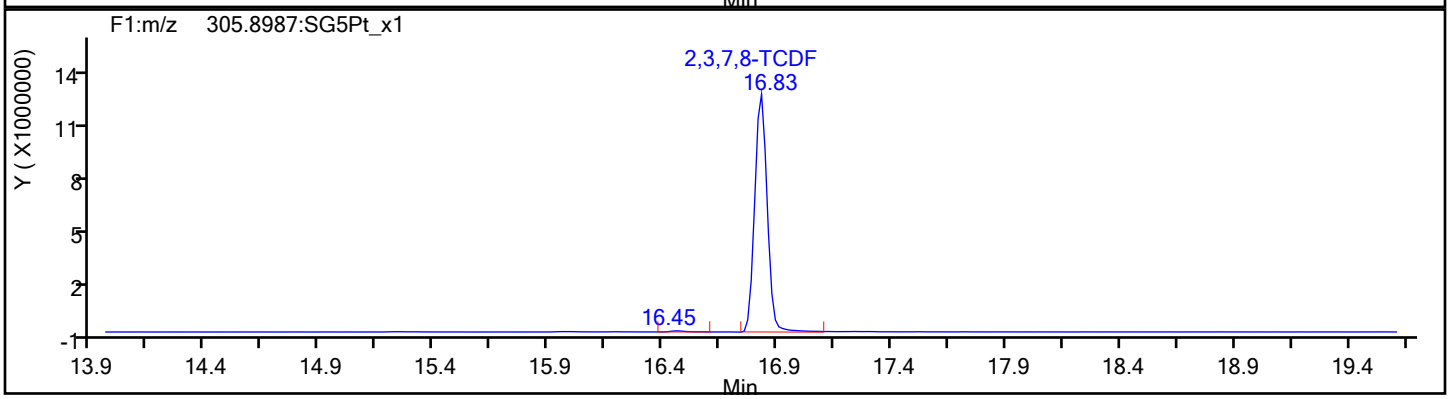

TCDF Standards

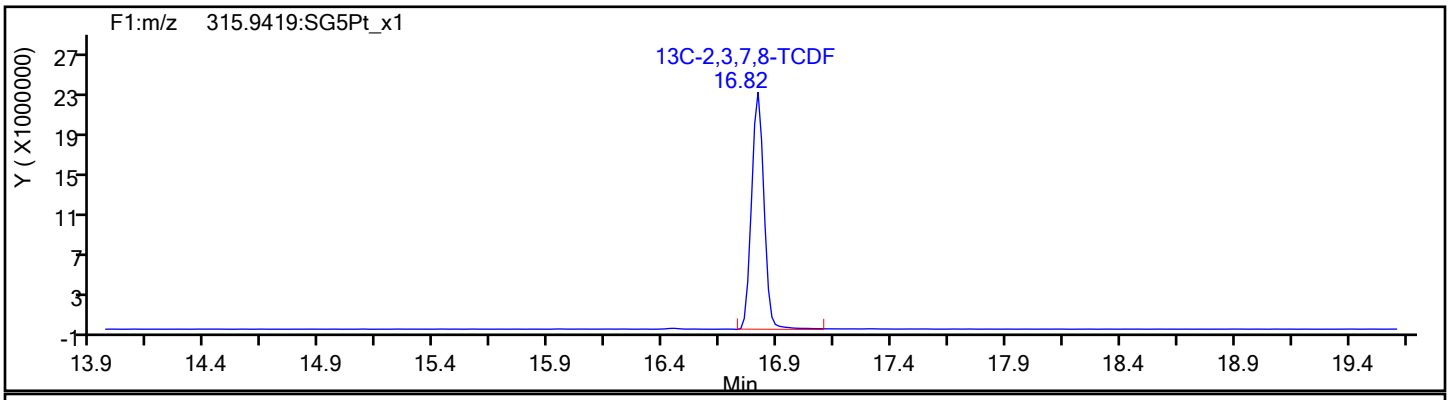

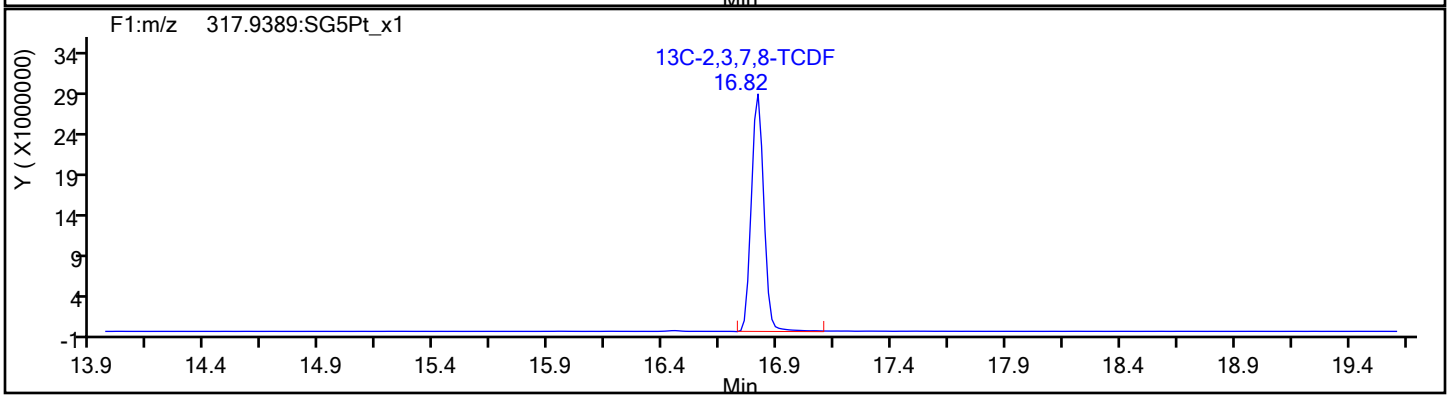

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Worklist#:	324128	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

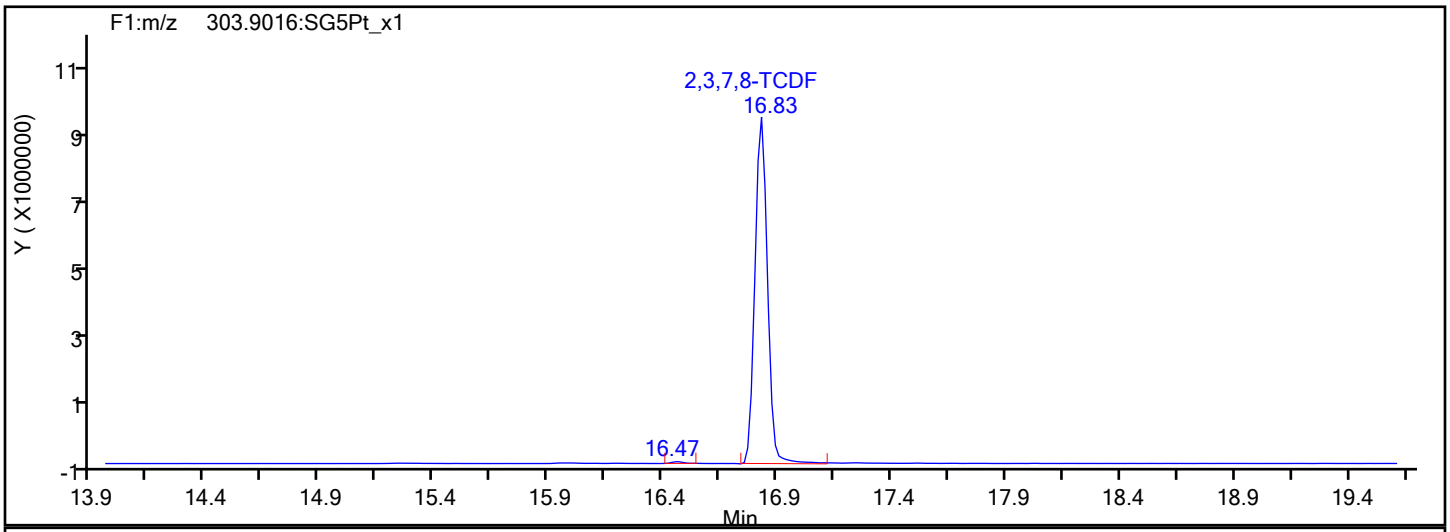

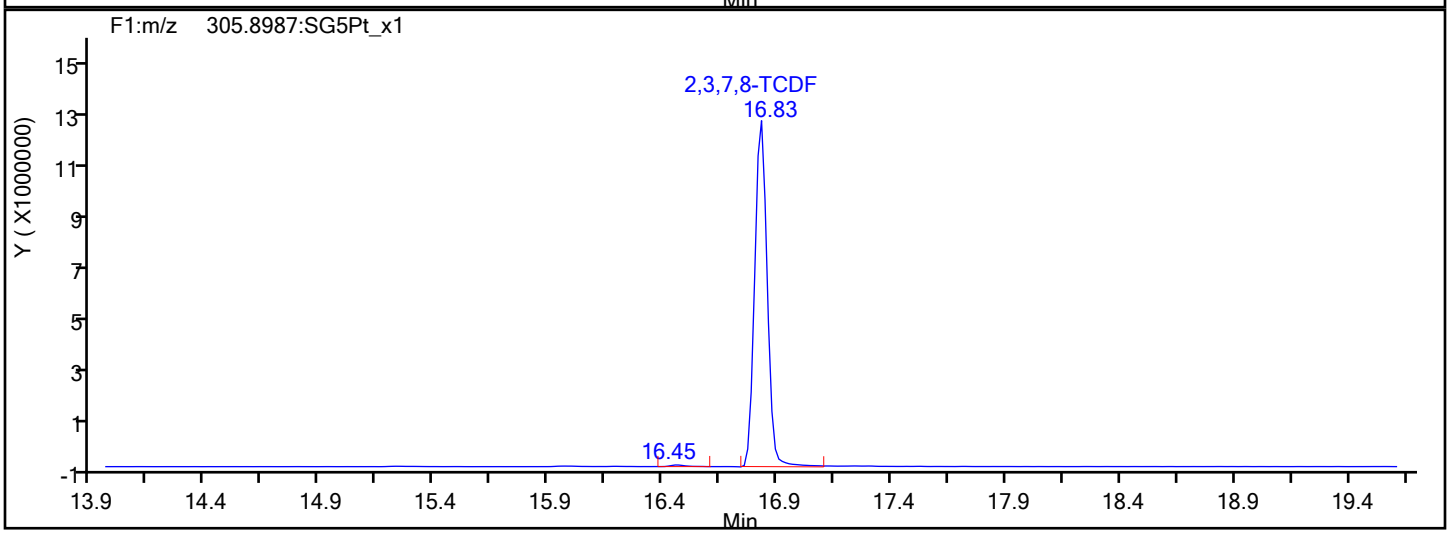

TCDF Interference Mass

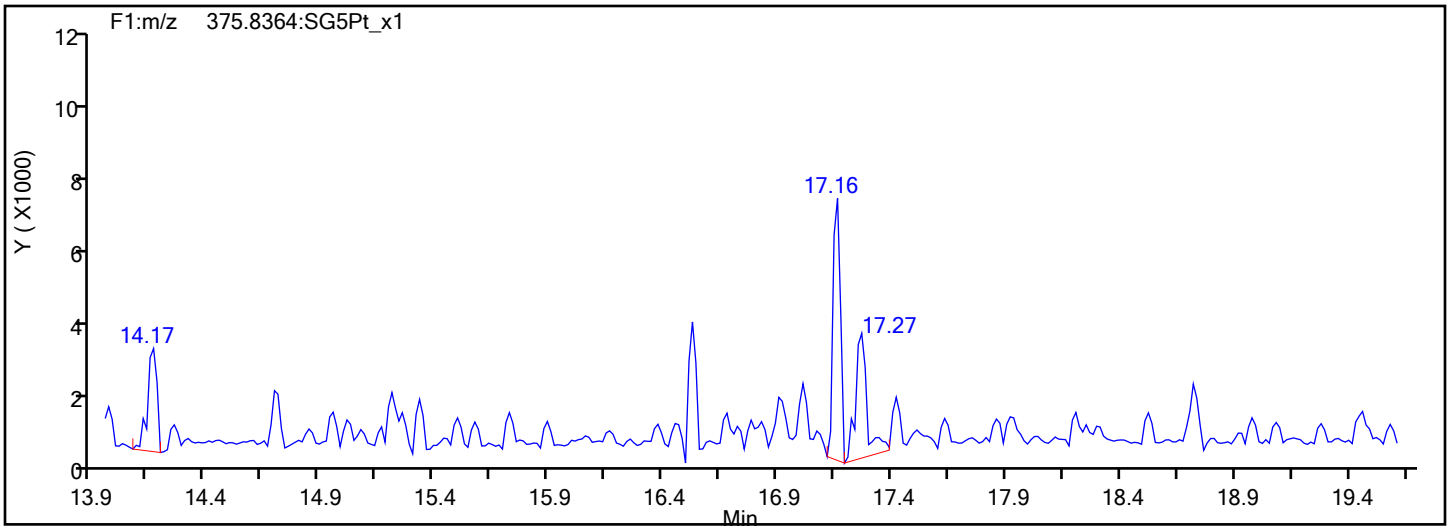

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

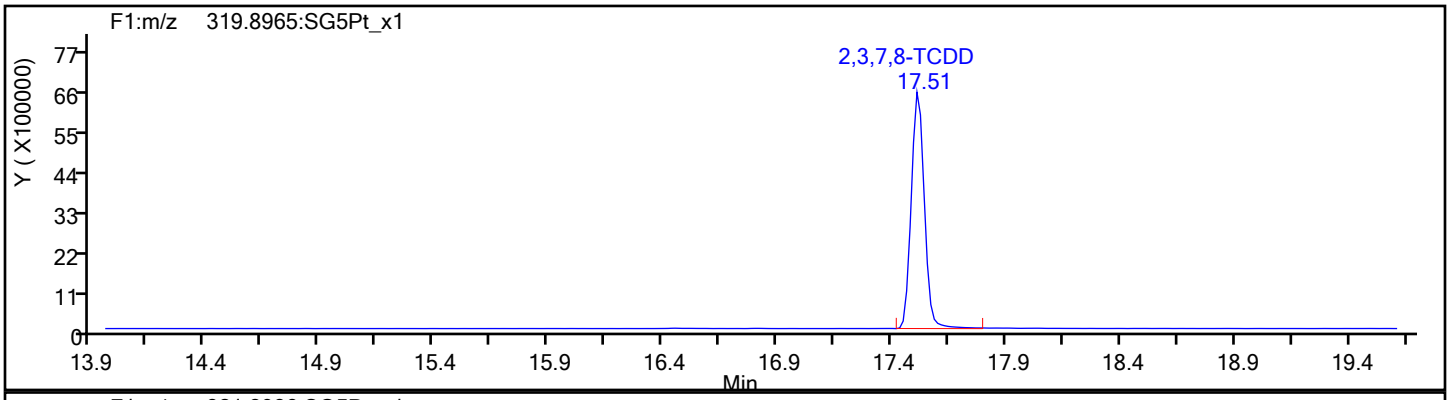

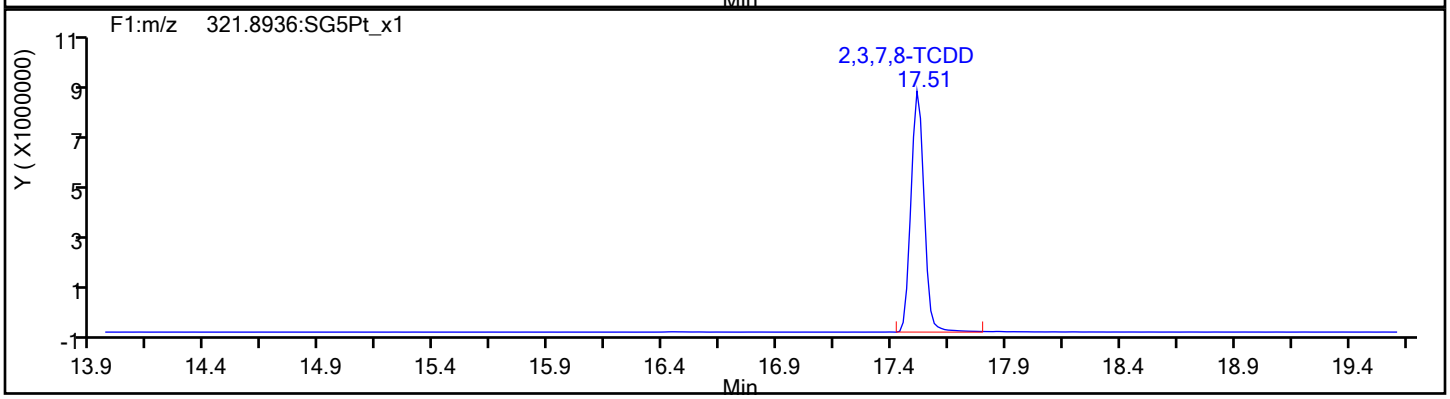

TCDD Standards

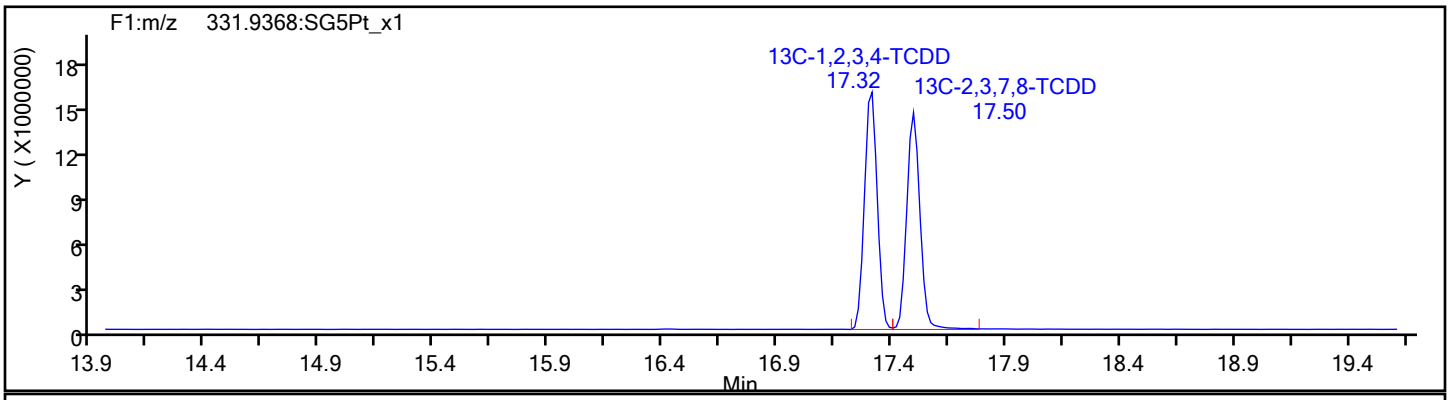

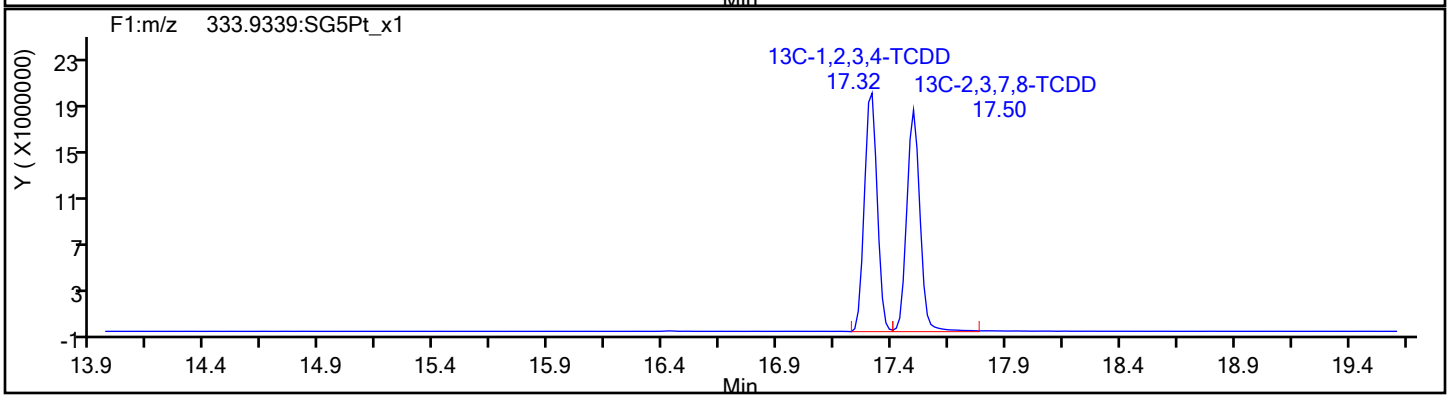

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

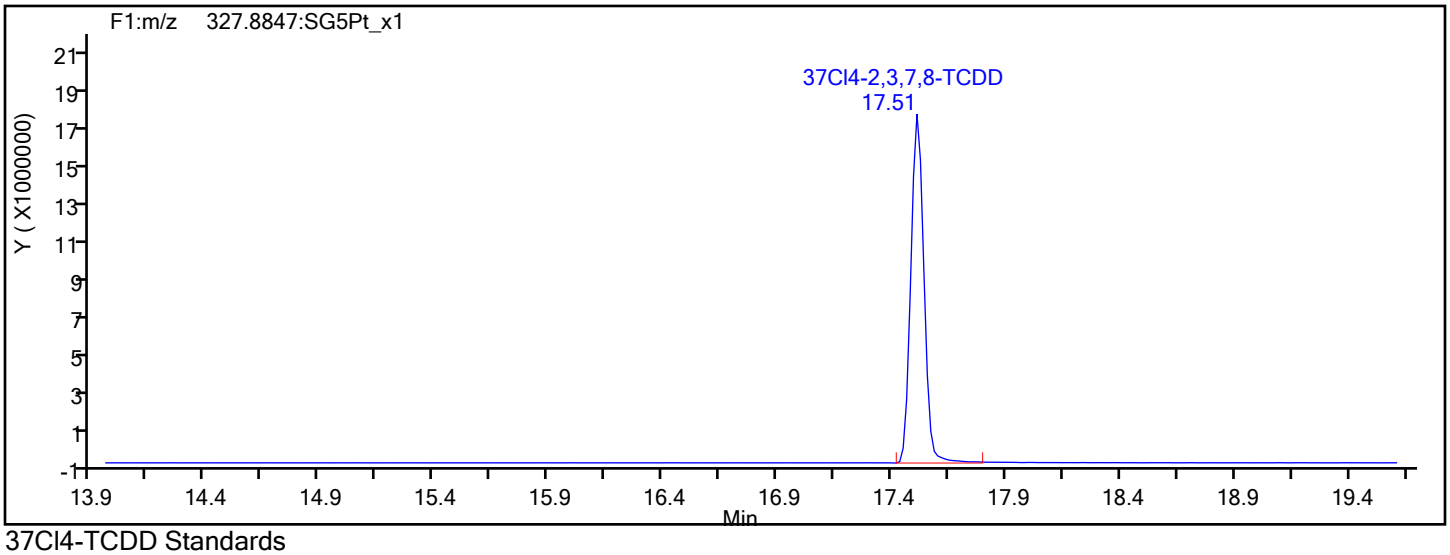

37Cl4-TCDD Standards

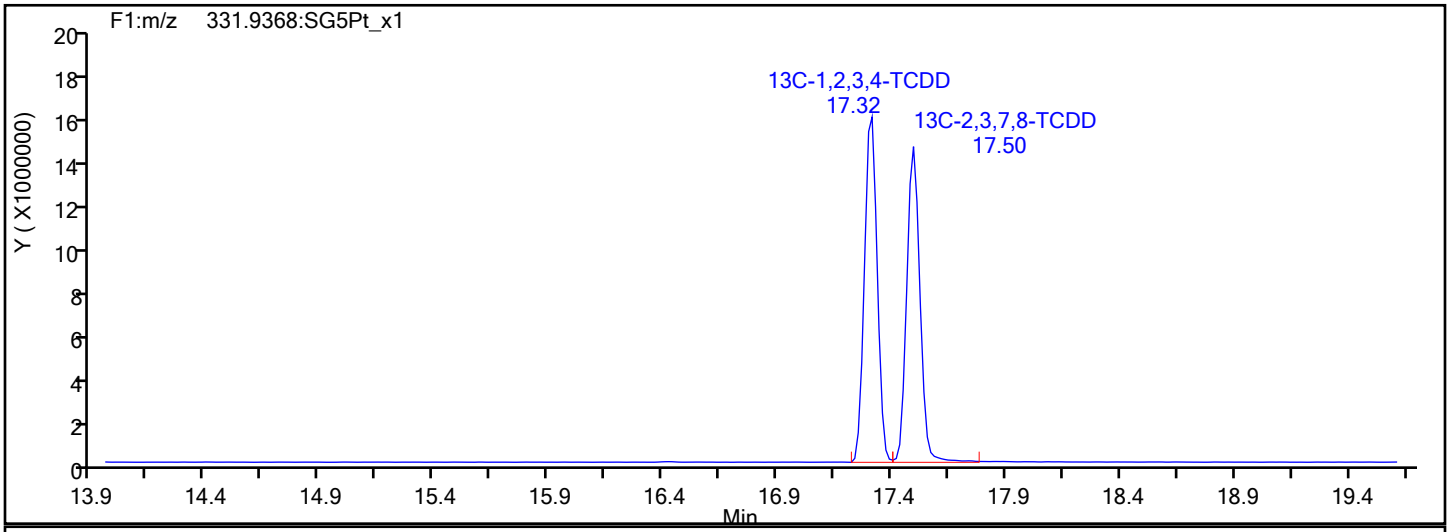

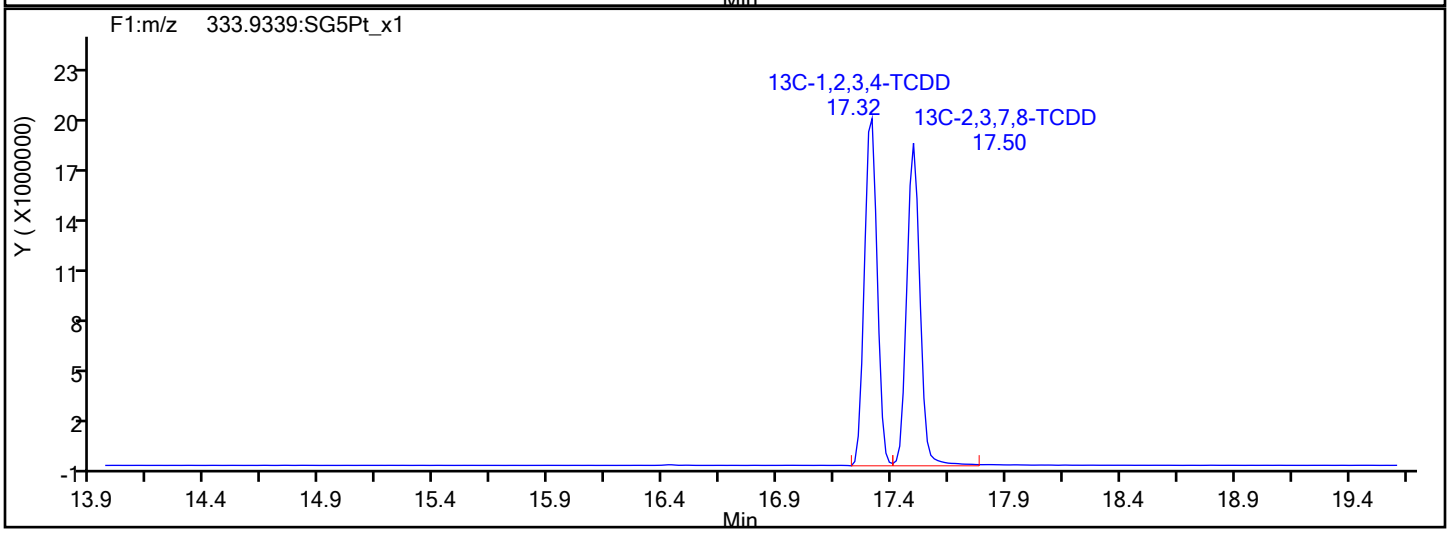

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Eurofins TestAmerica, Sacramento

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Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

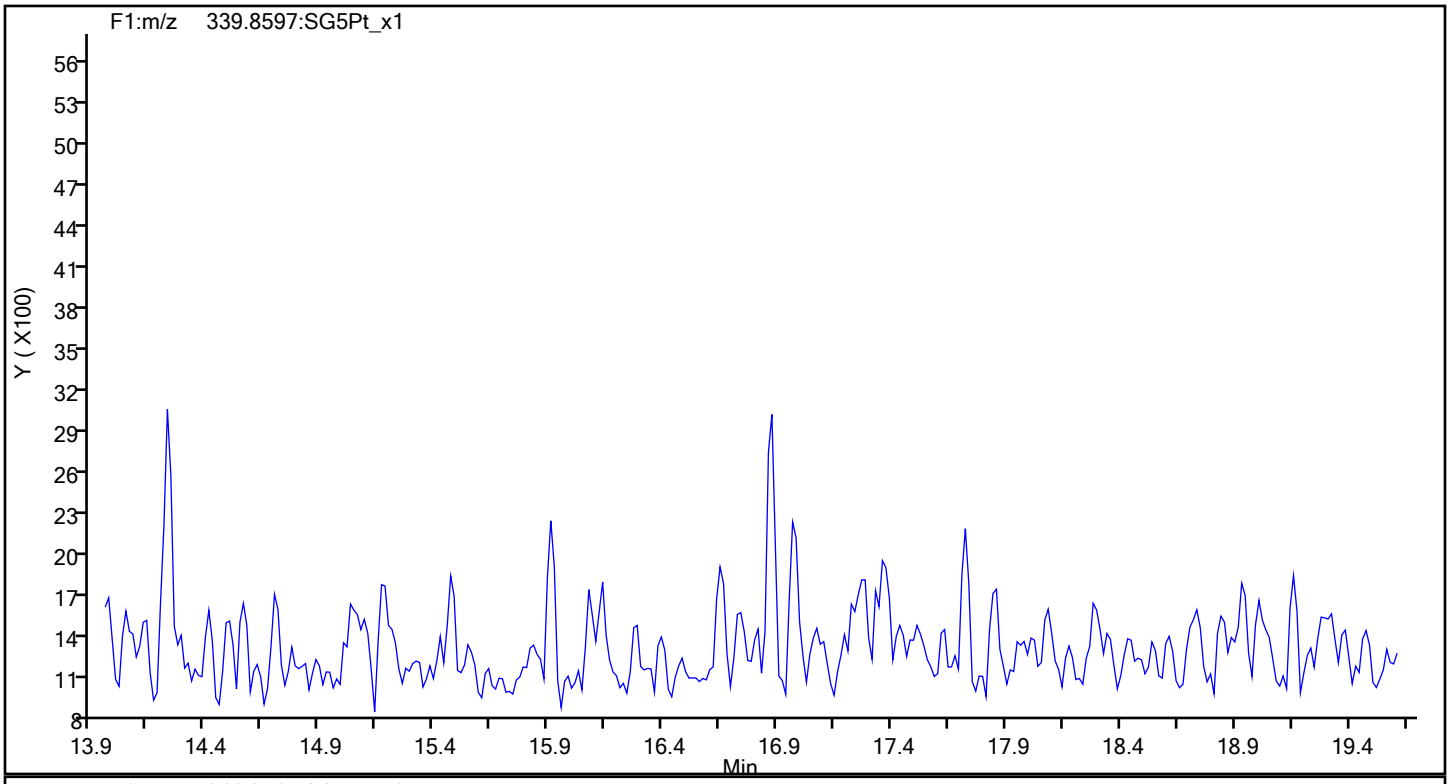

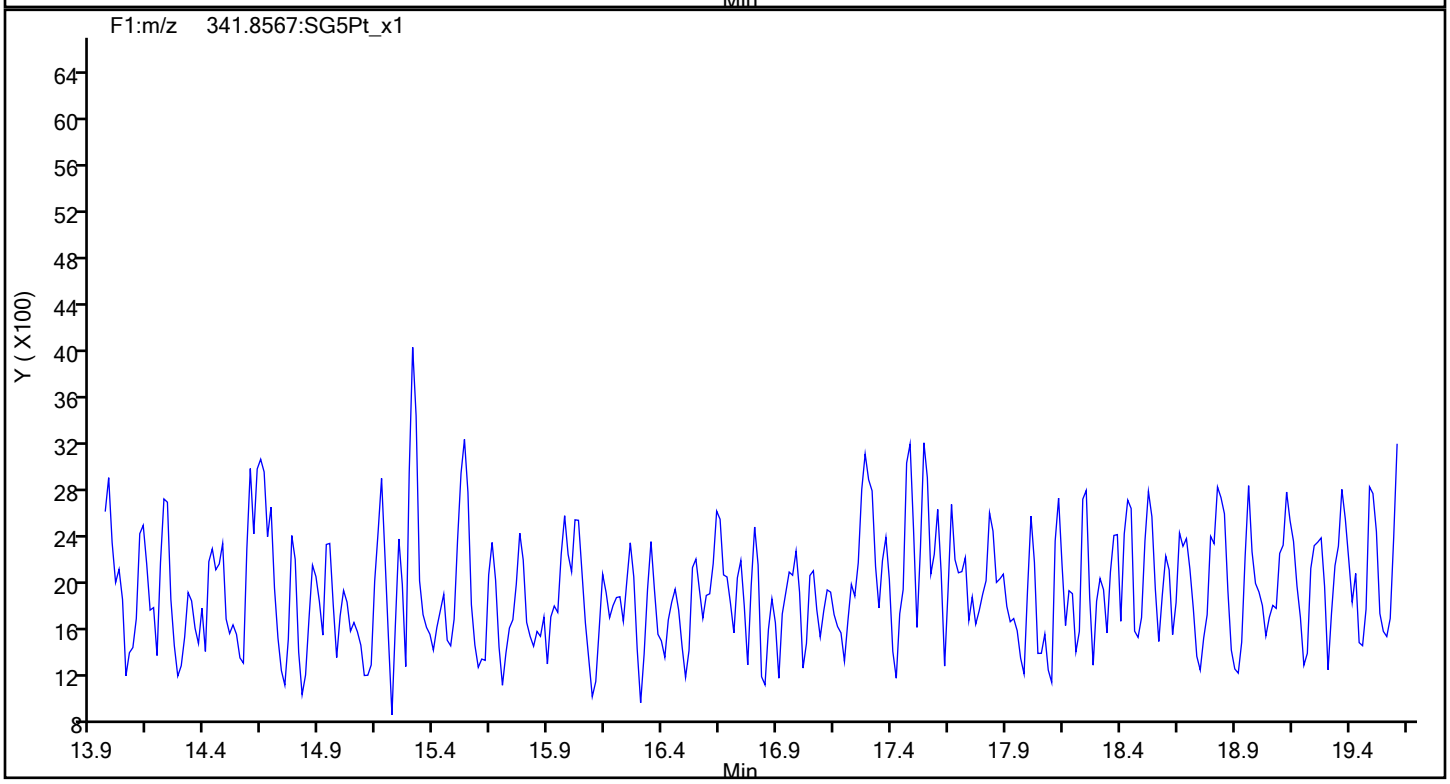

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

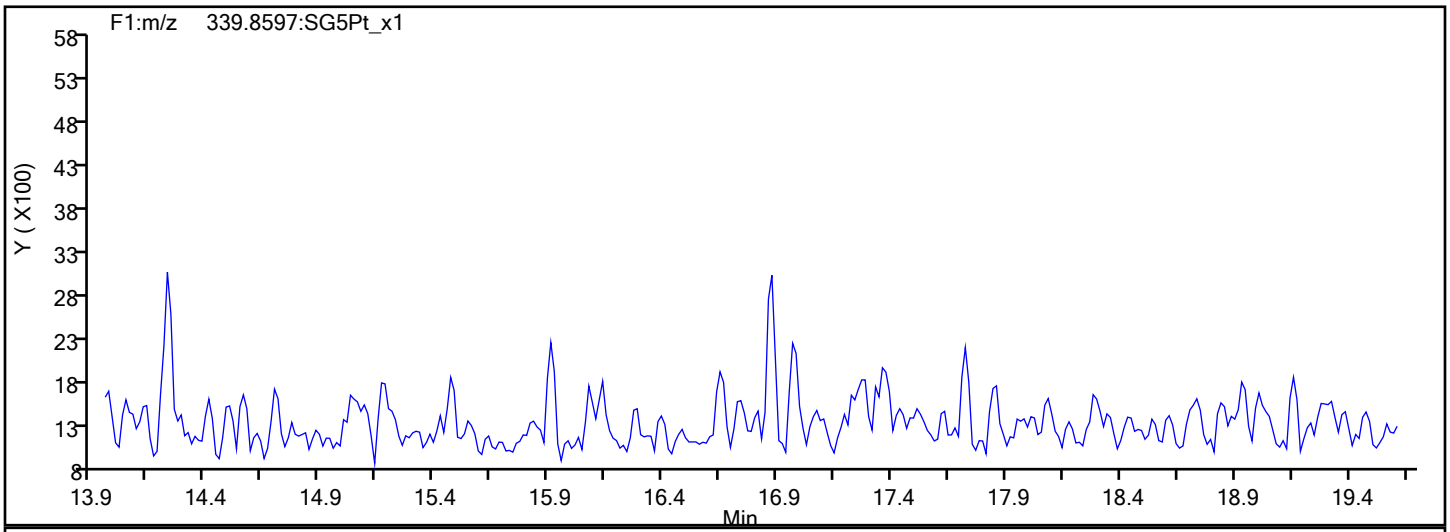

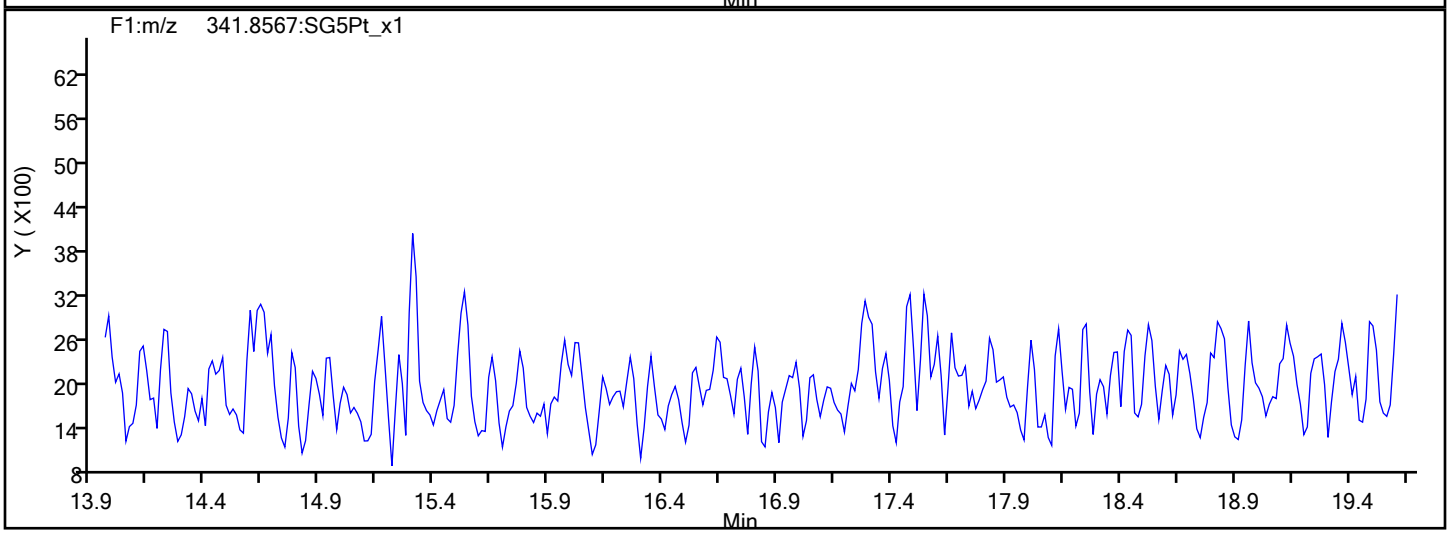

F1 PeCDFs Interference Mass

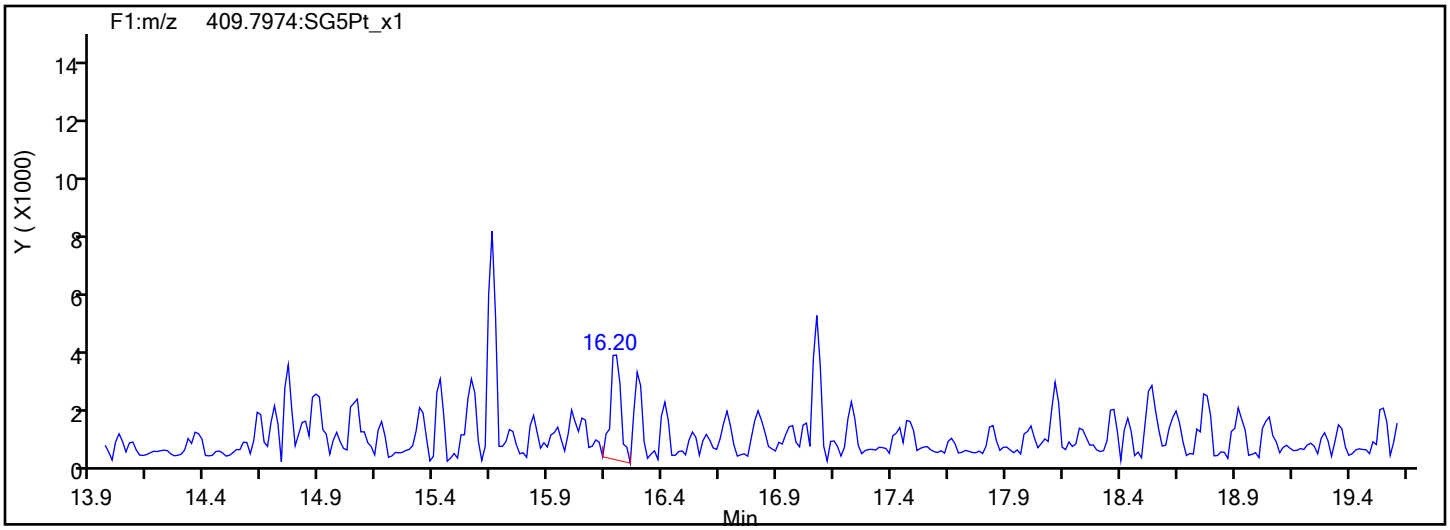

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

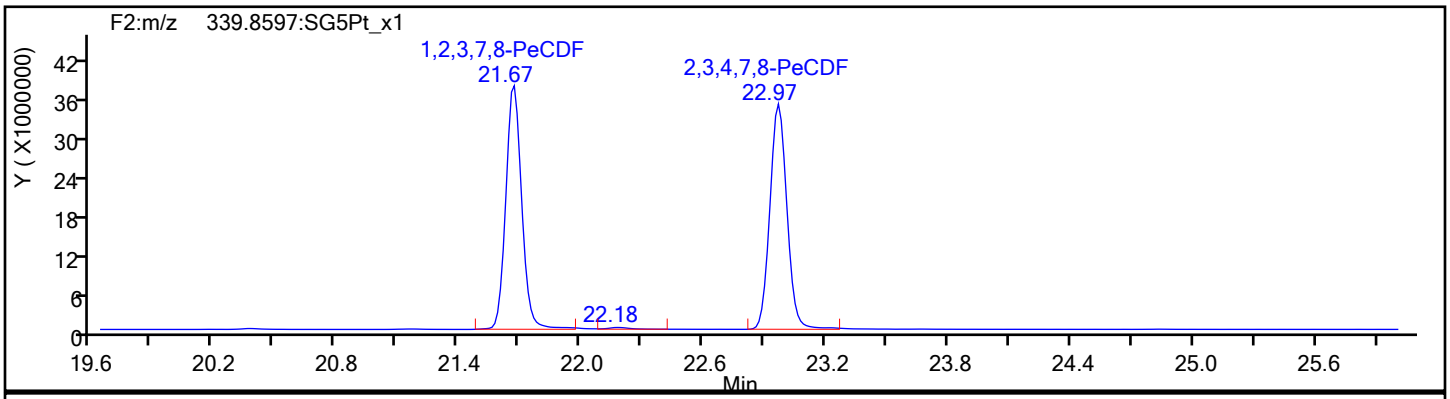

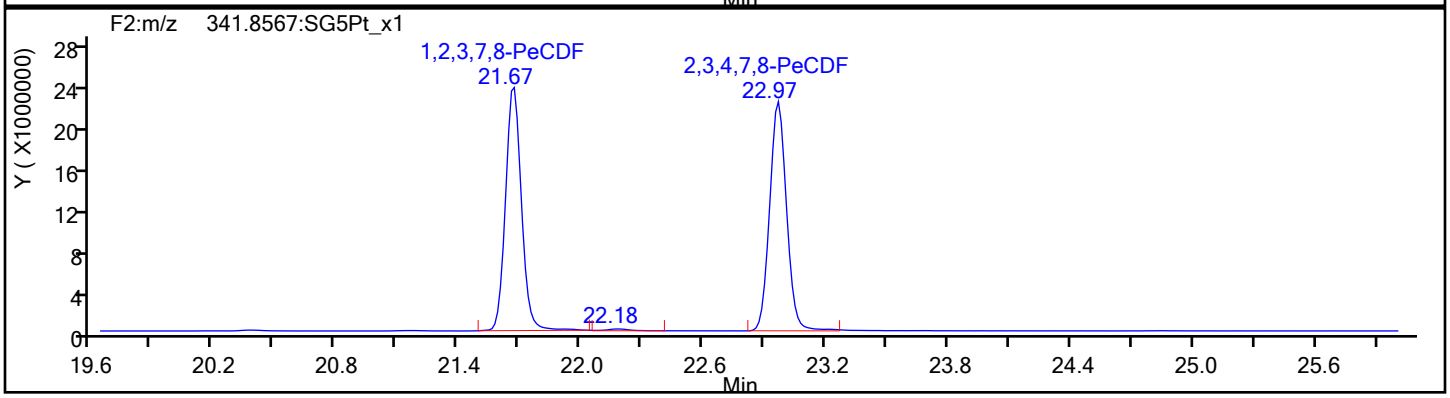

PeCDF Standards

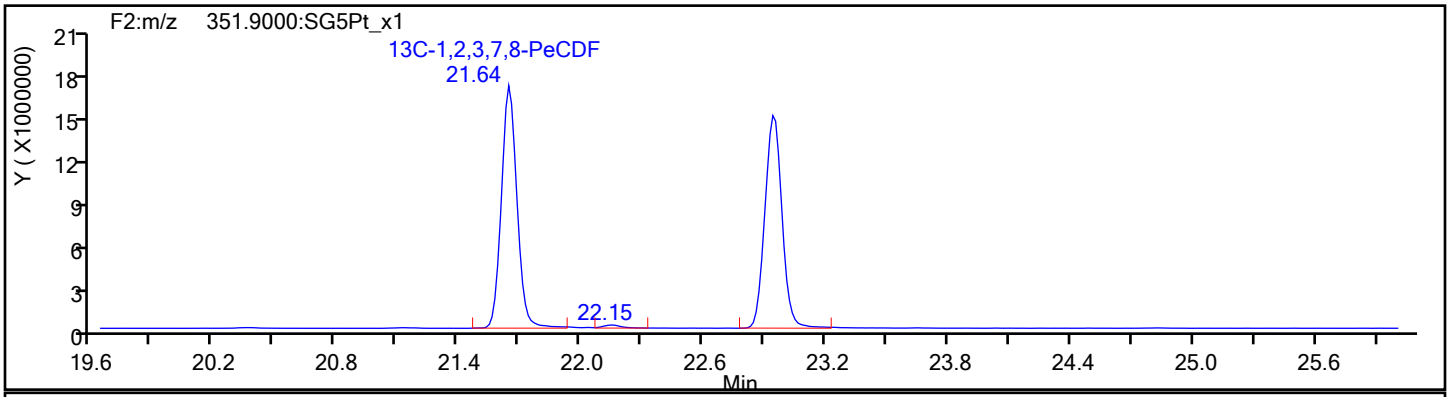

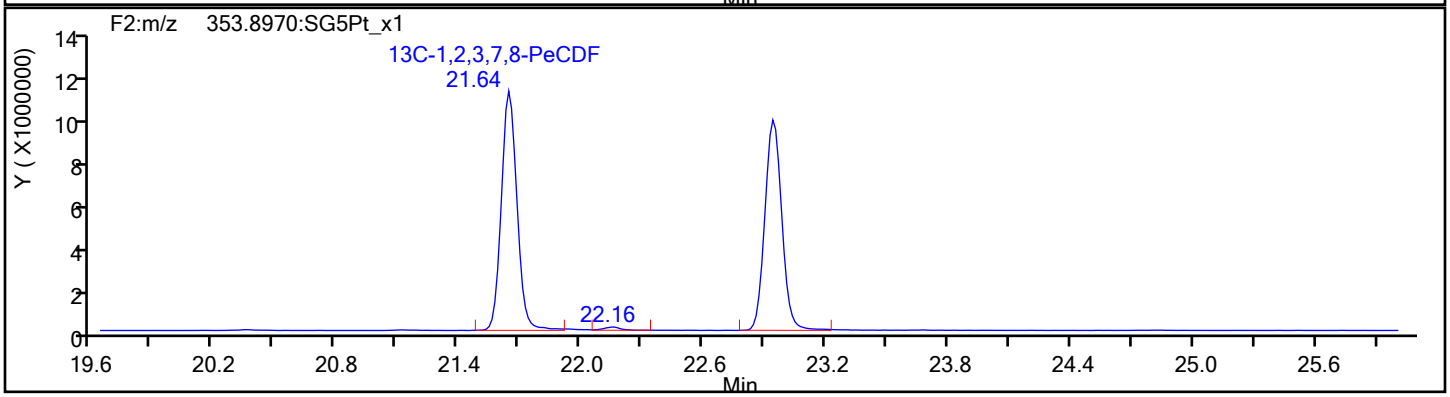

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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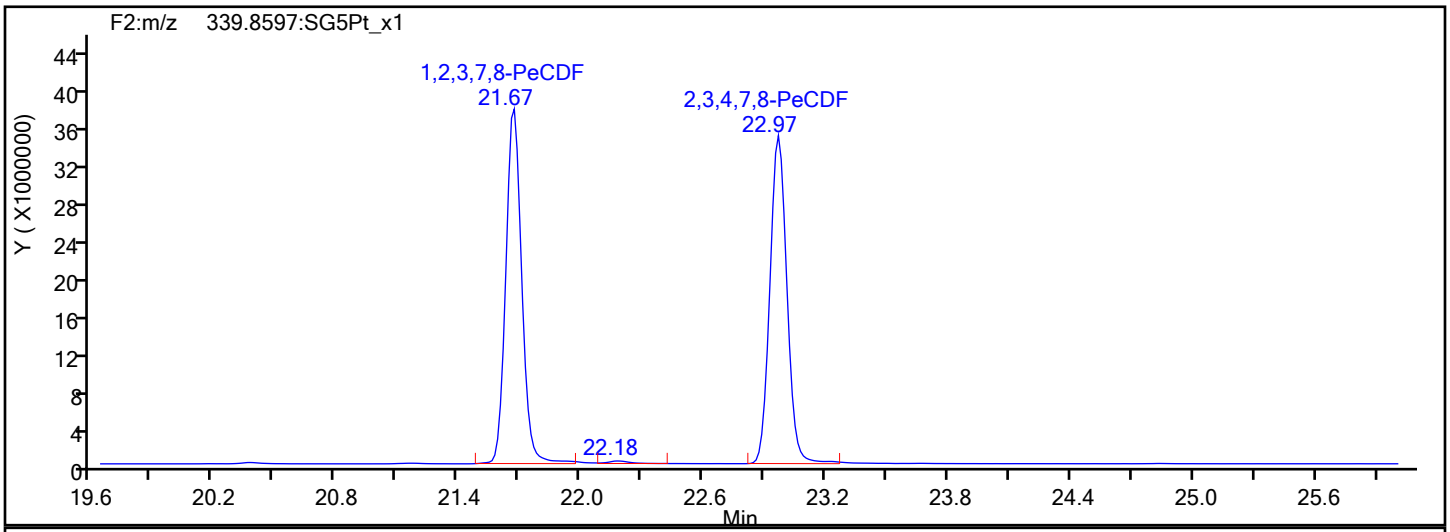

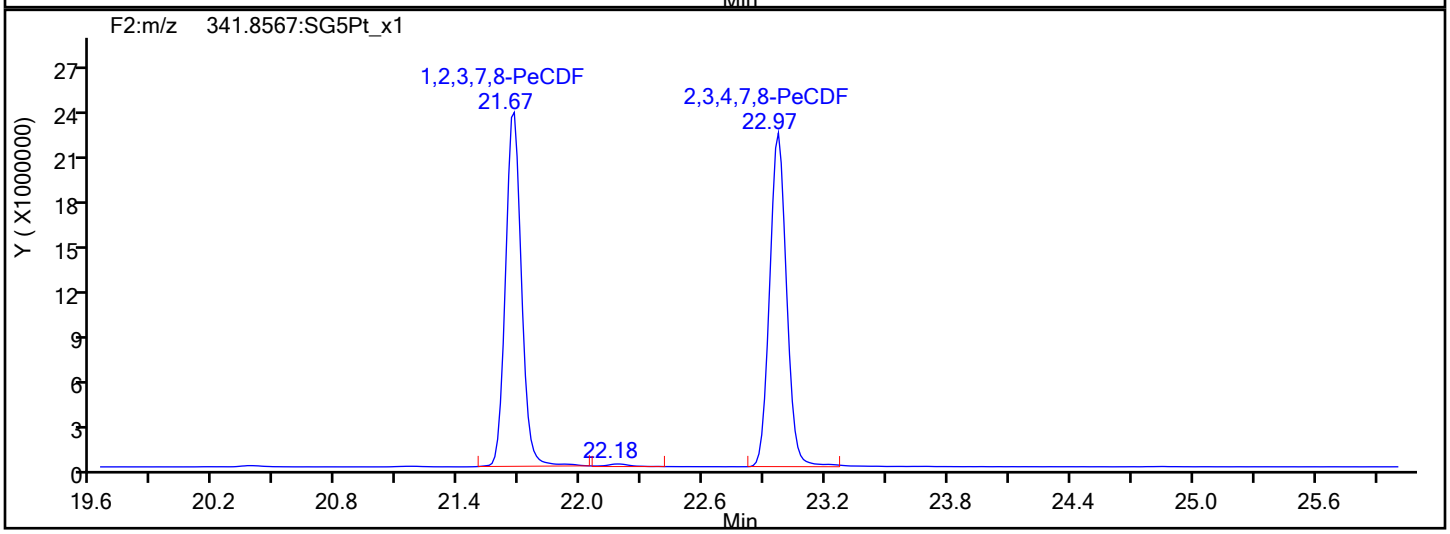

PeCDF Interference Mass

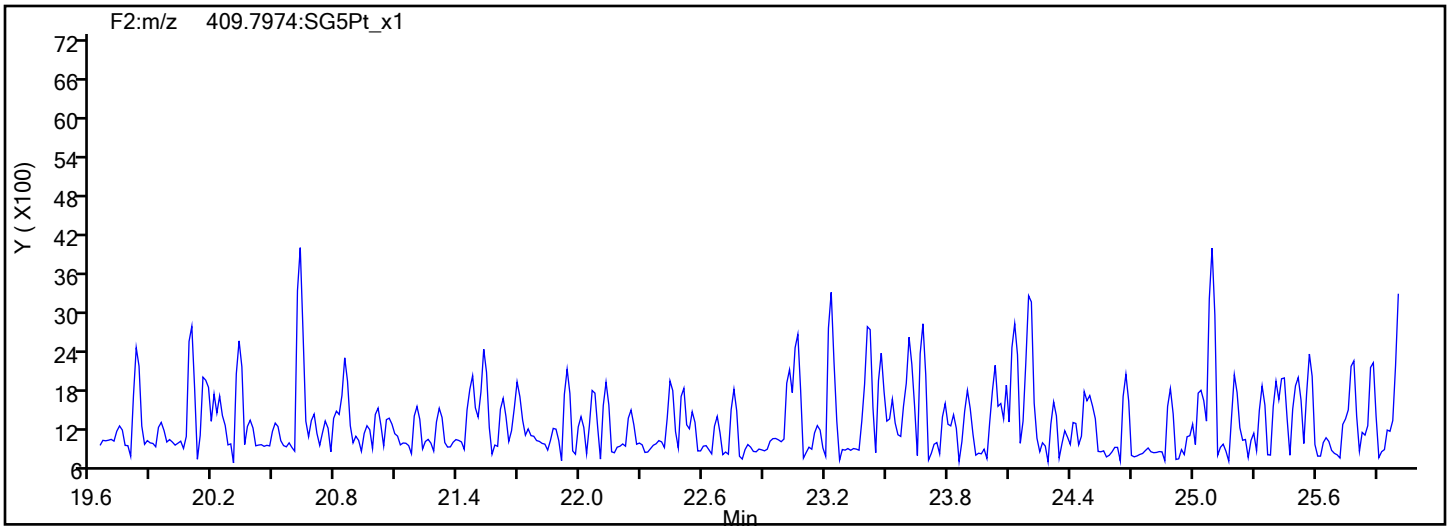

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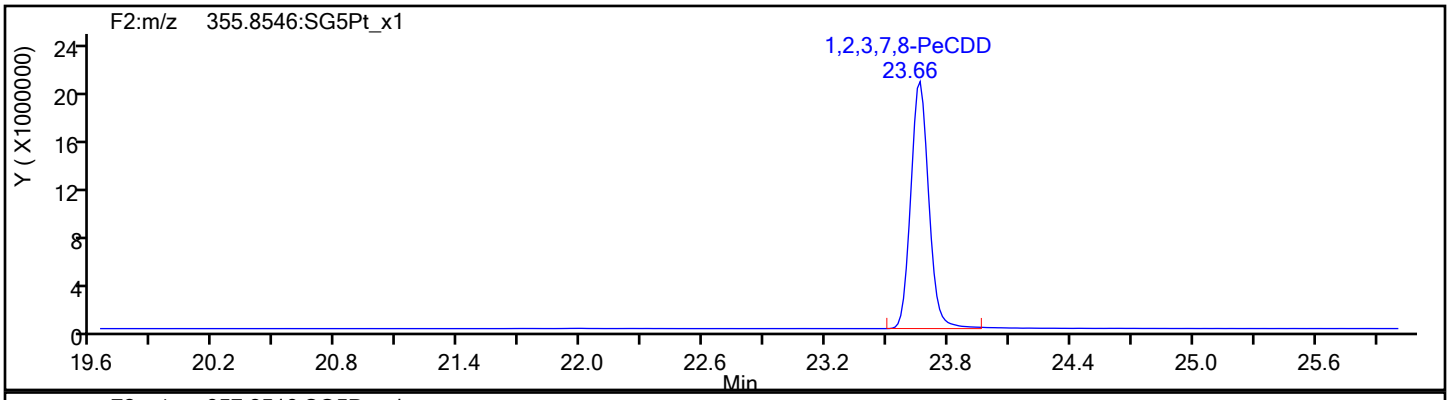

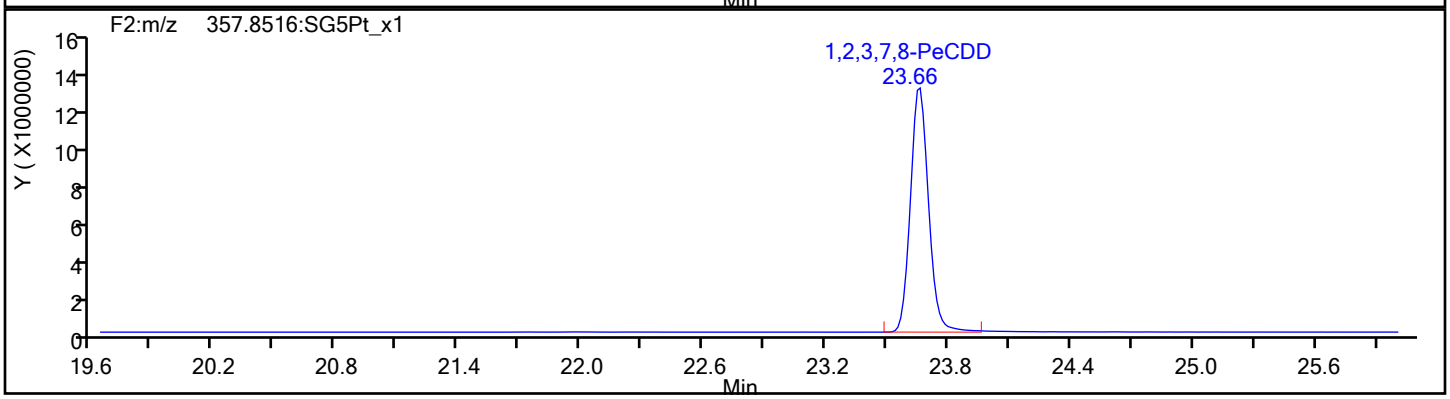

PeCDD Standards

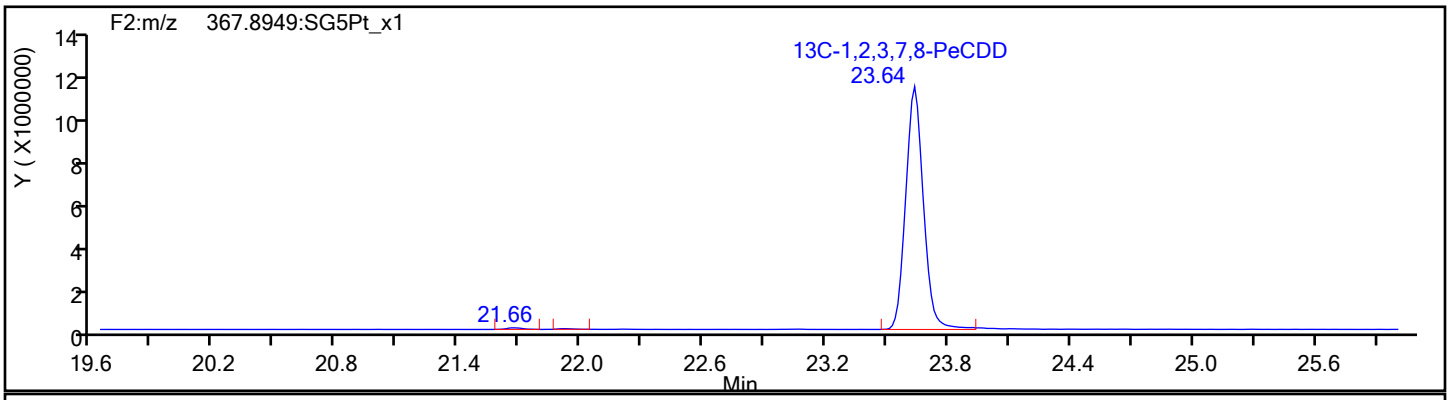

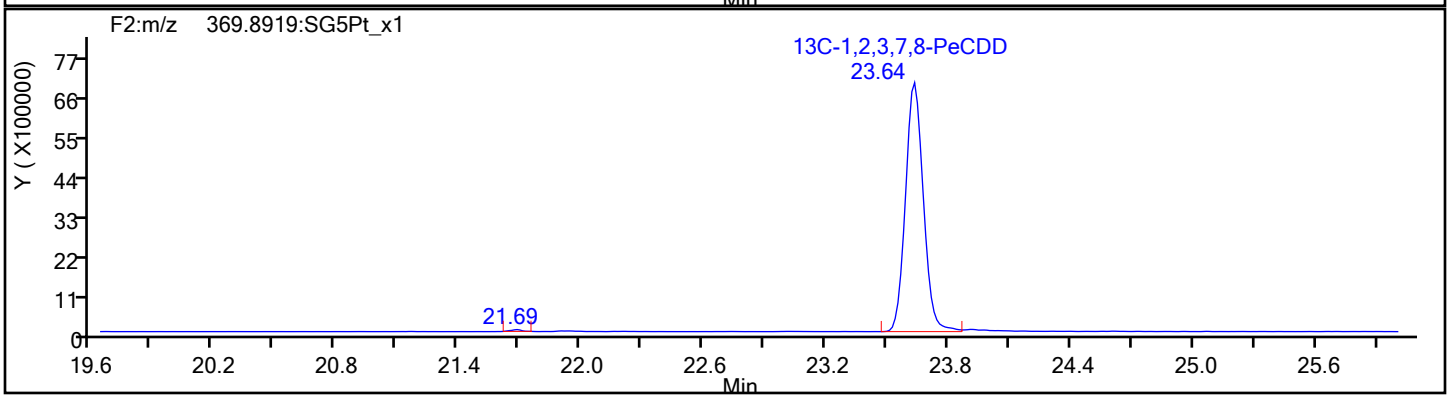

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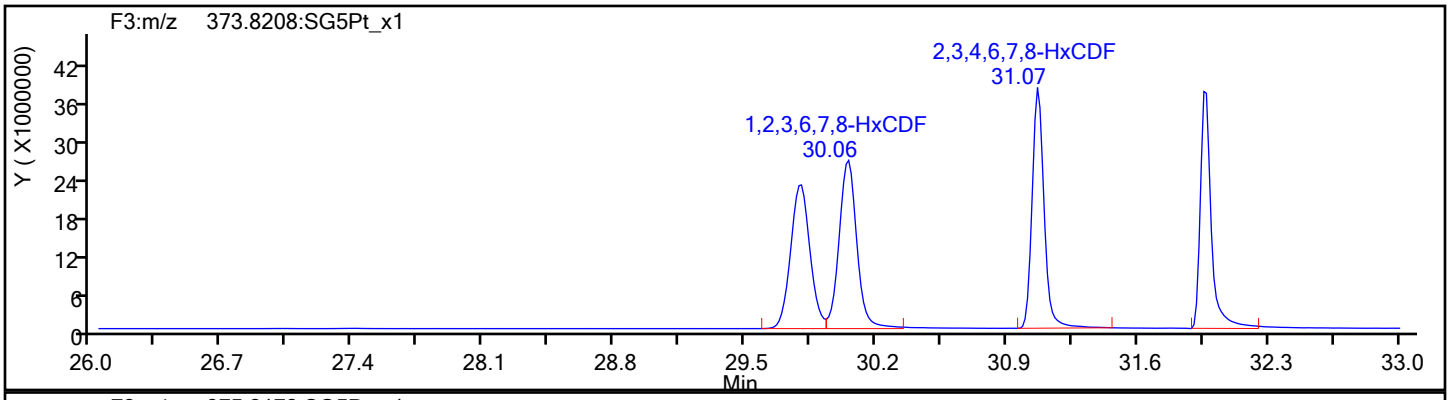

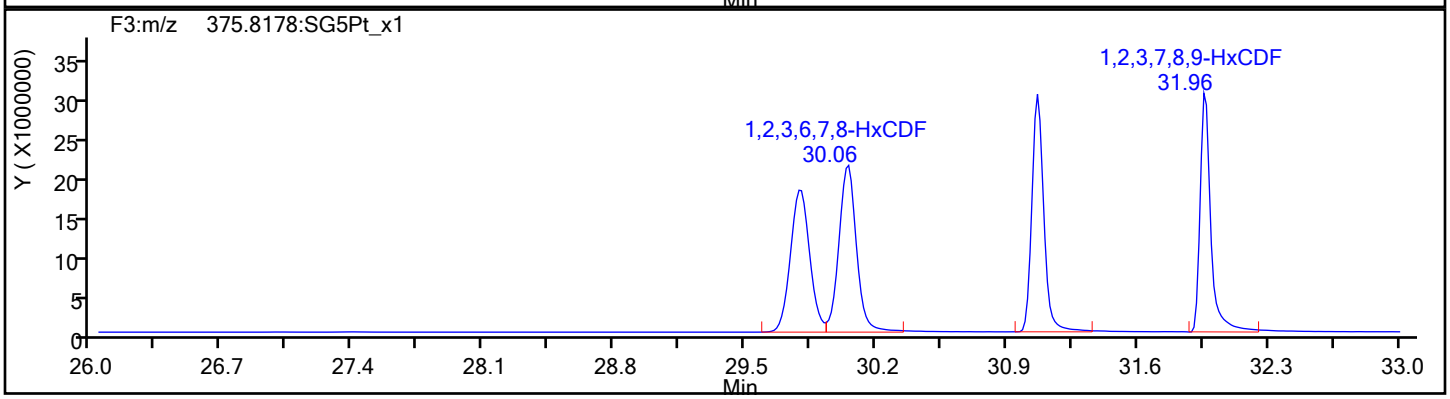

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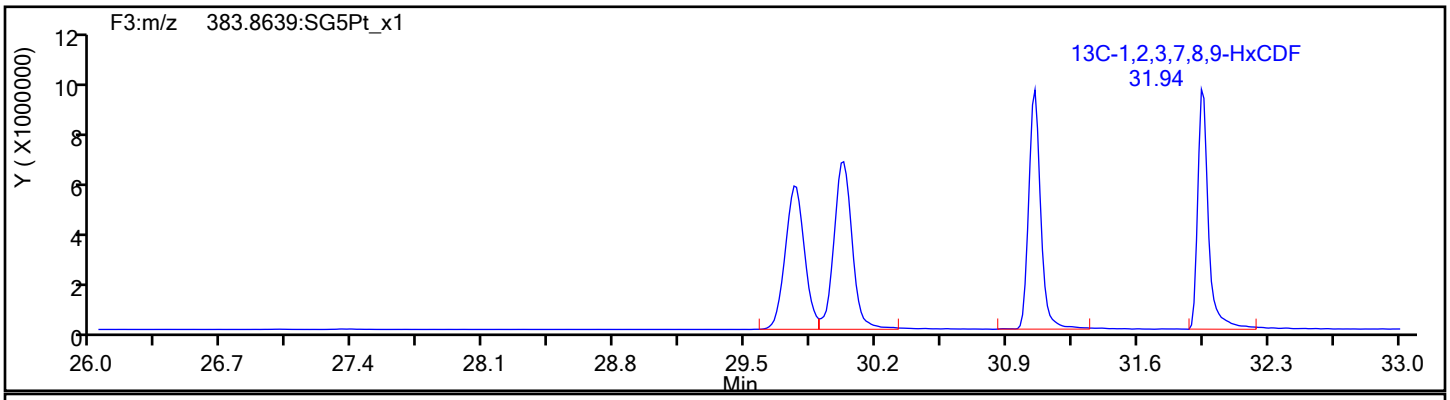

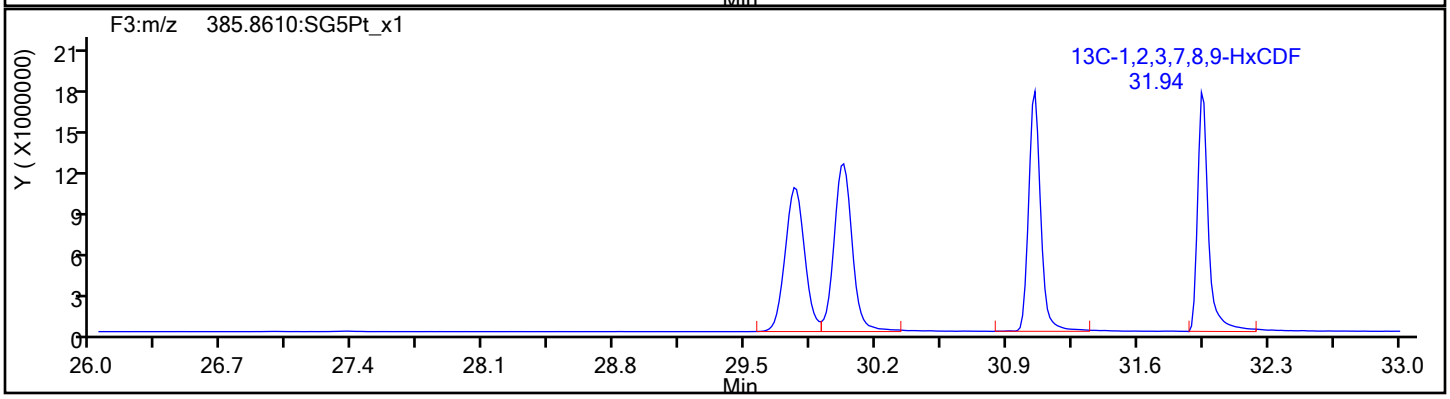

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Eurofins TestAmerica, Sacramento

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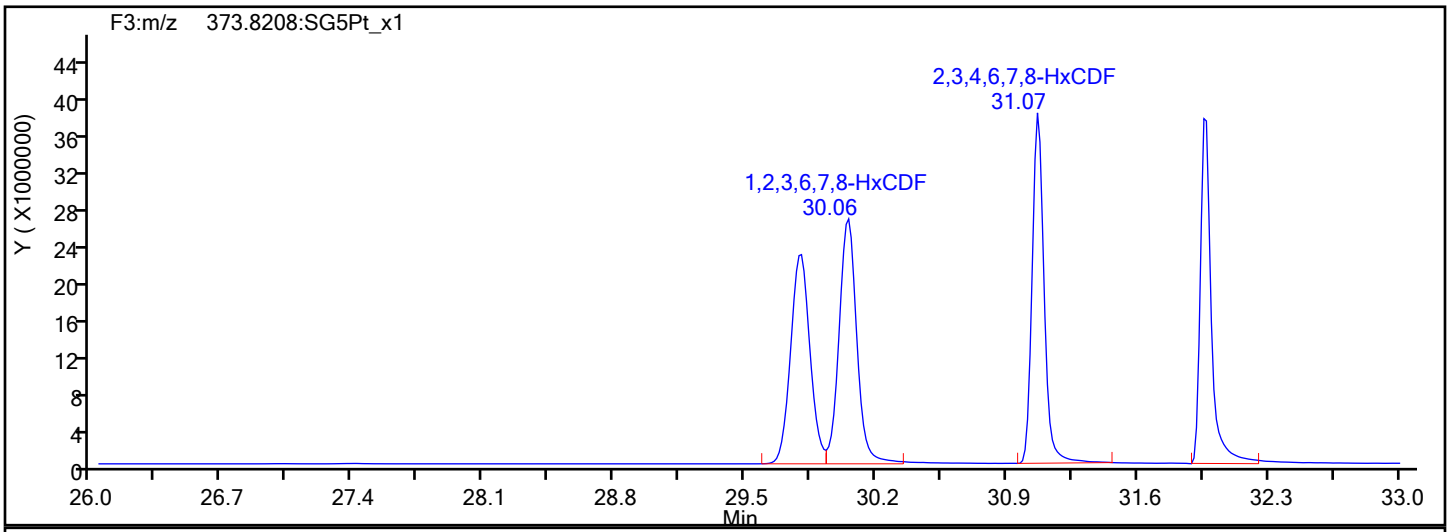

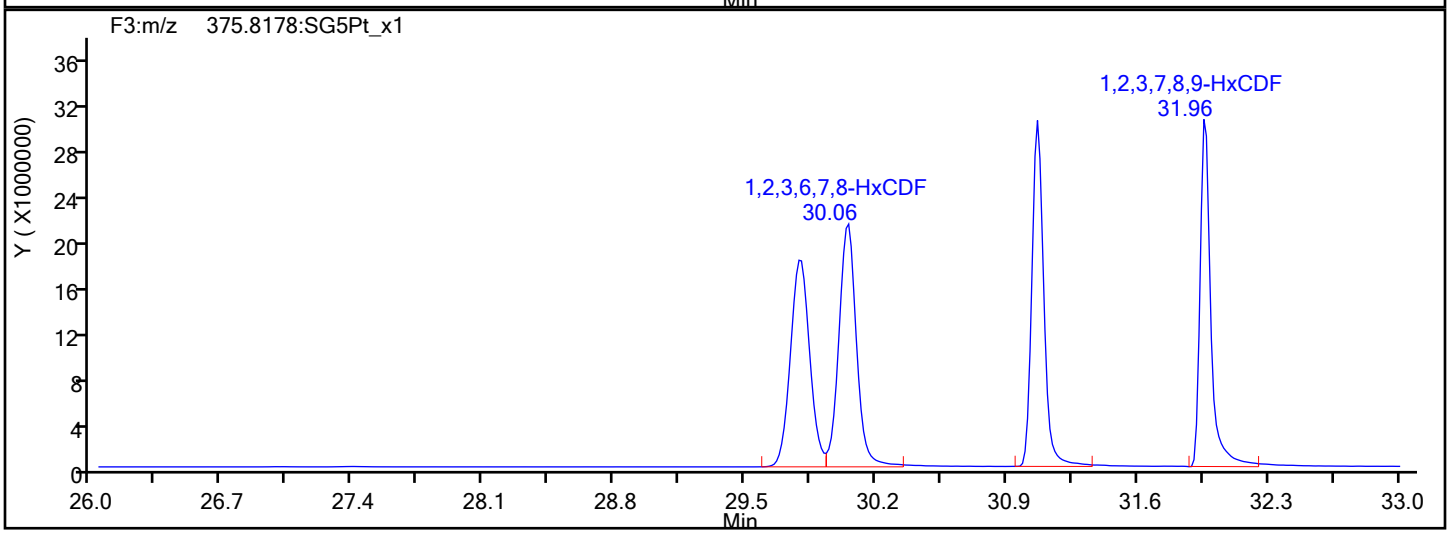

HxCDF Interference Mass

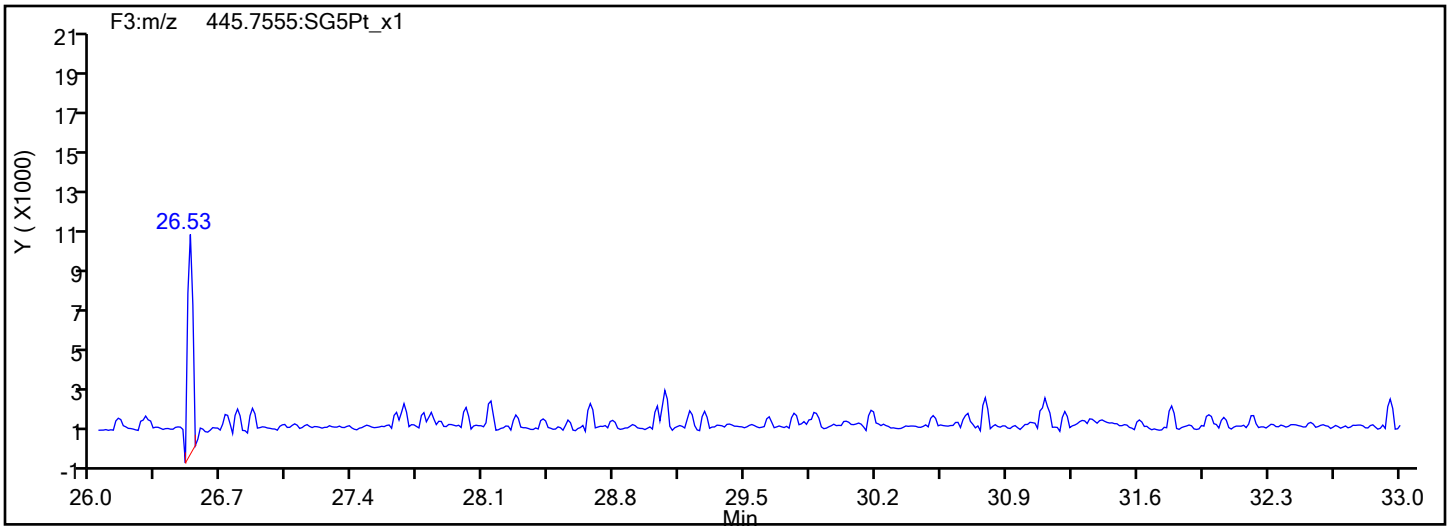

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Eurofins TestAmerica, Sacramento

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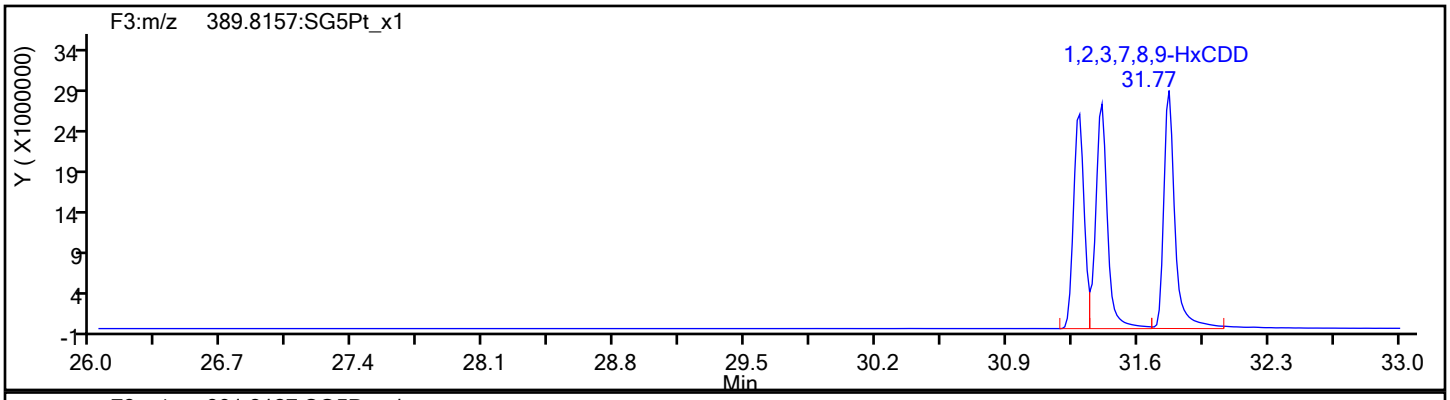

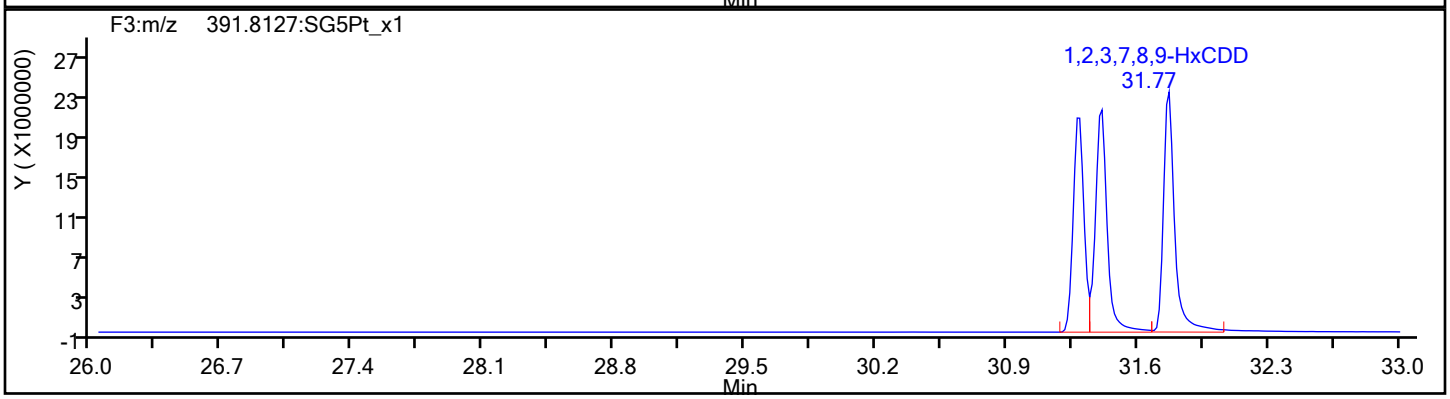

HxCDD Standards

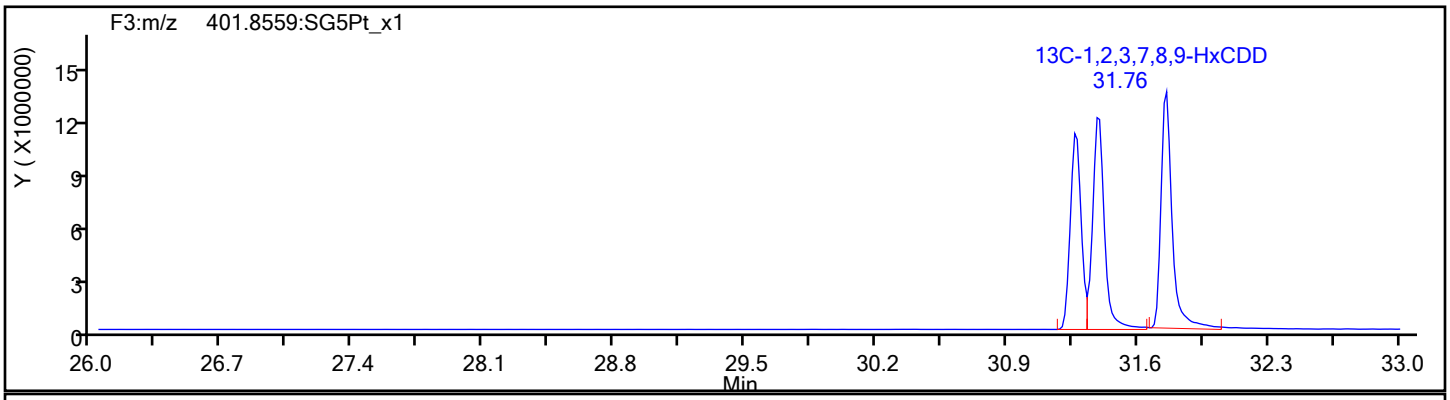

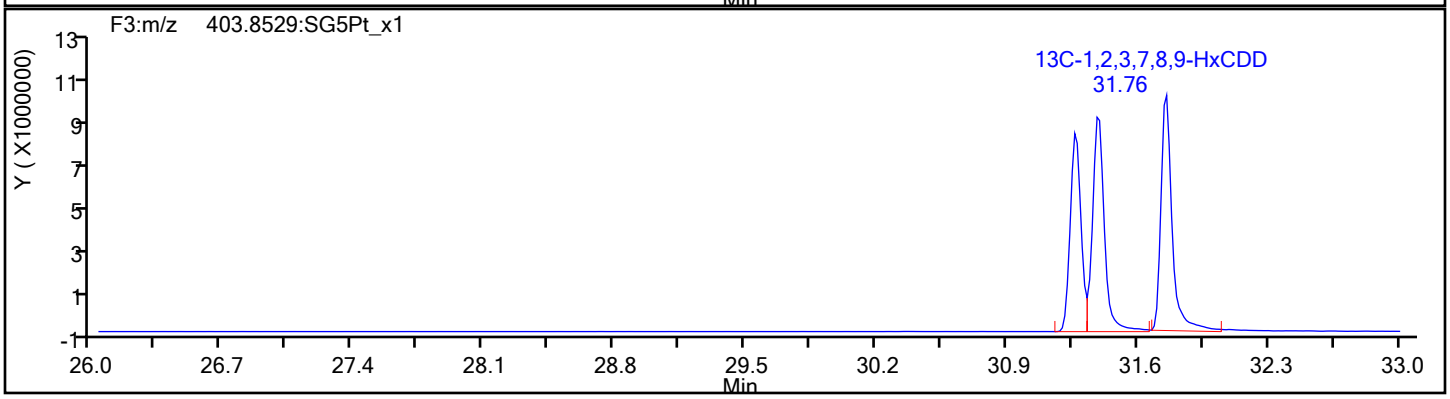

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Eurofins TestAmerica, Sacramento

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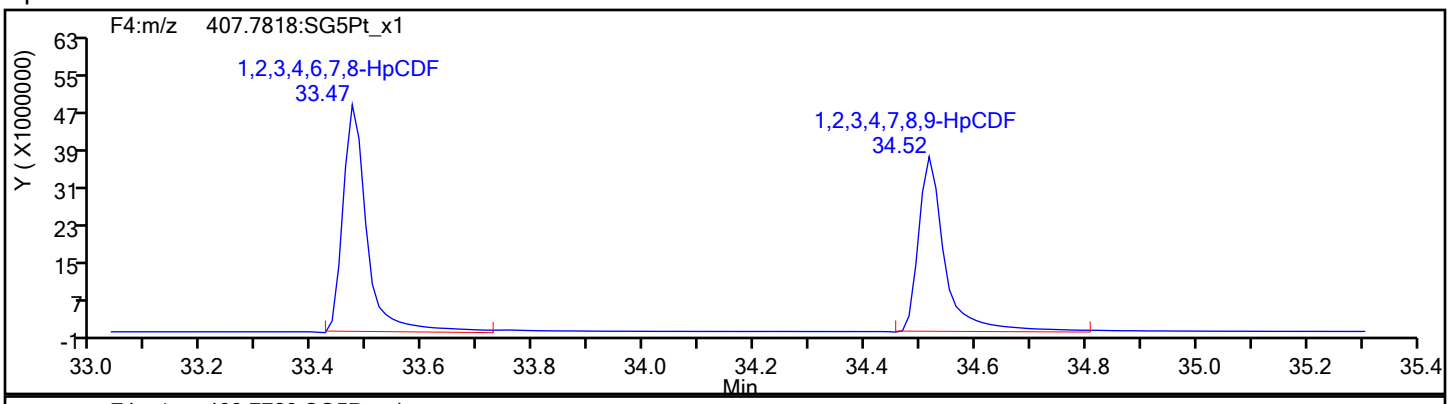

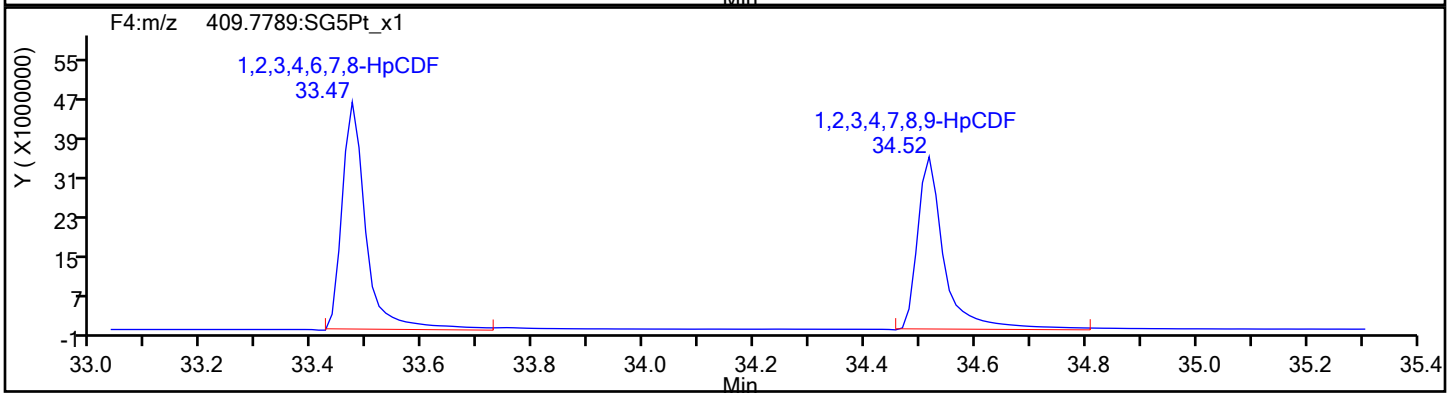

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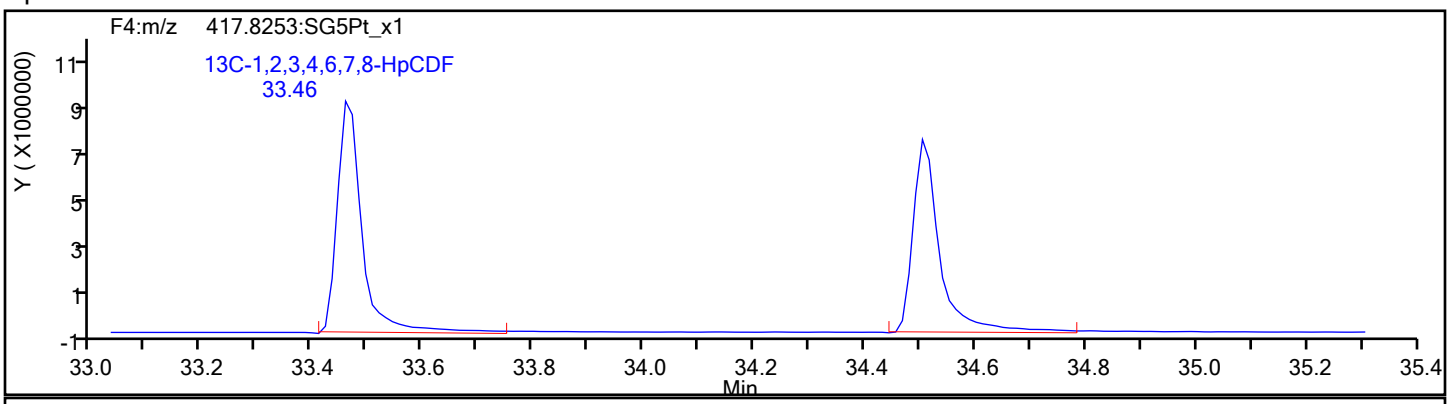

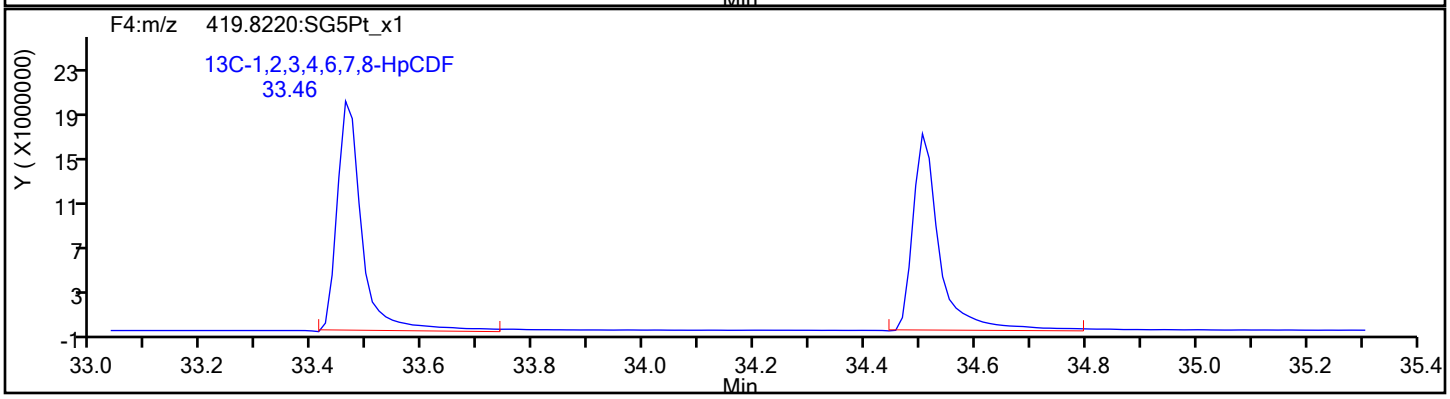

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Eurofins TestAmerica, Sacramento

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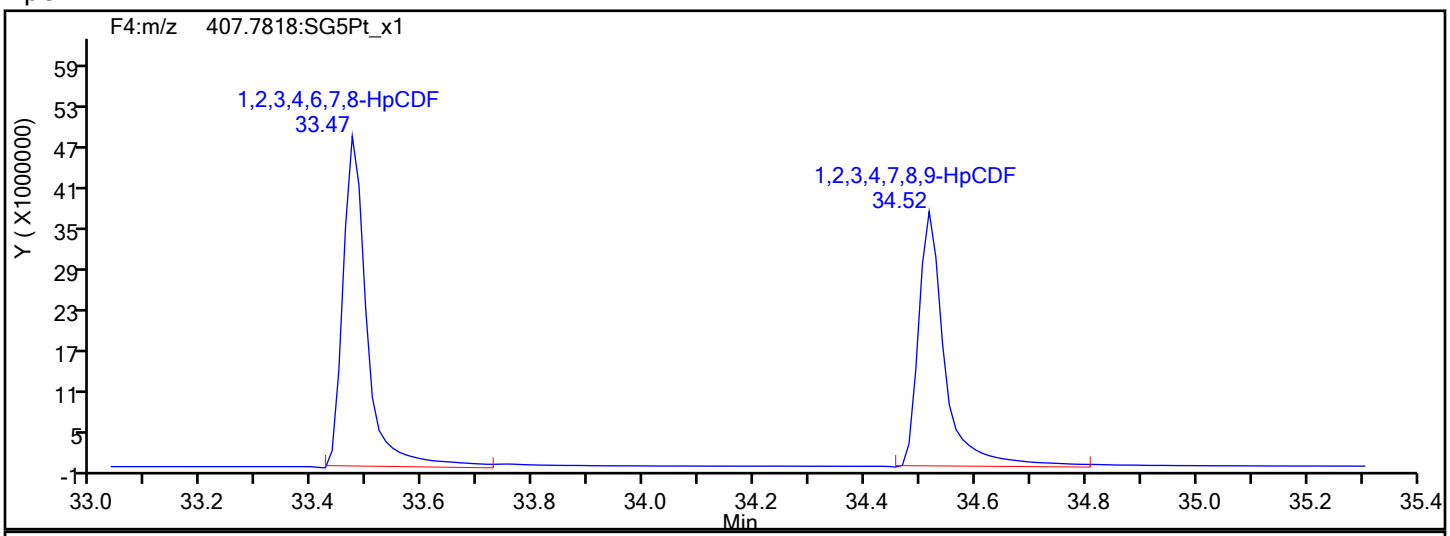

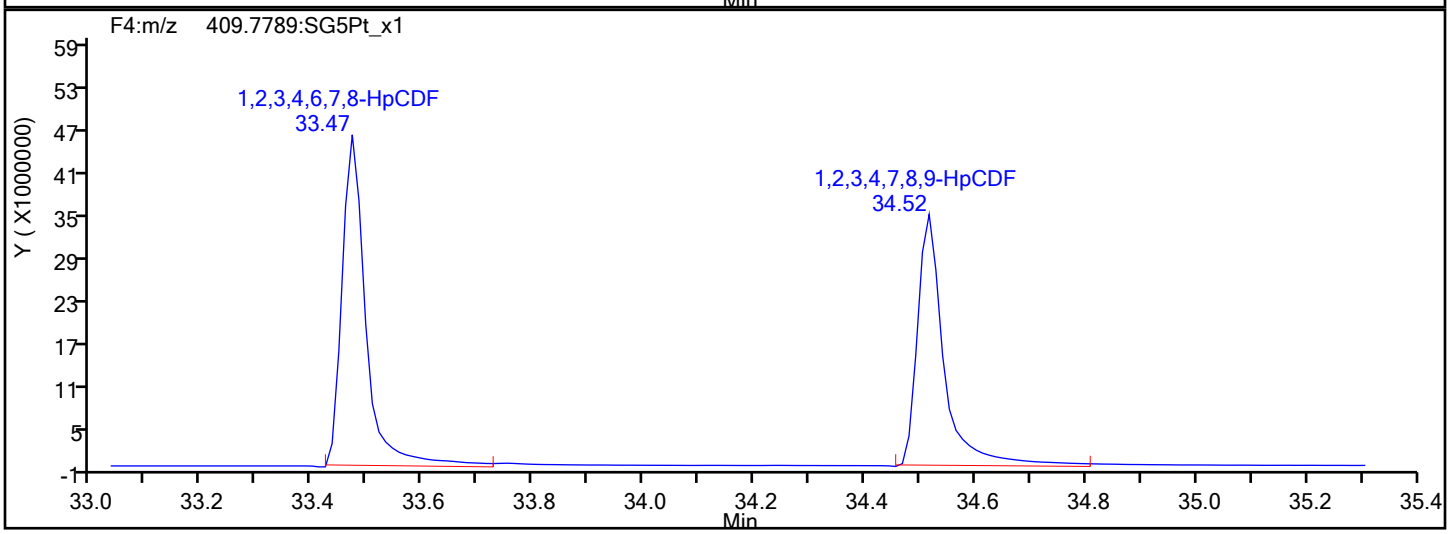

HpCDF Interference Mass

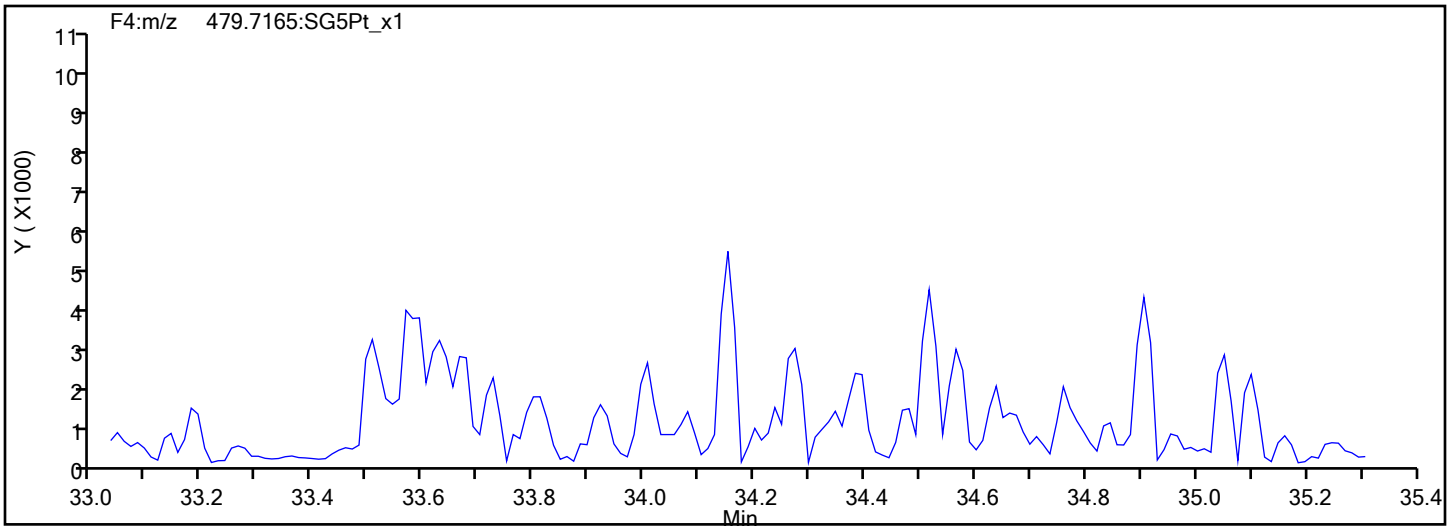

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Eurofins TestAmerica, Sacramento

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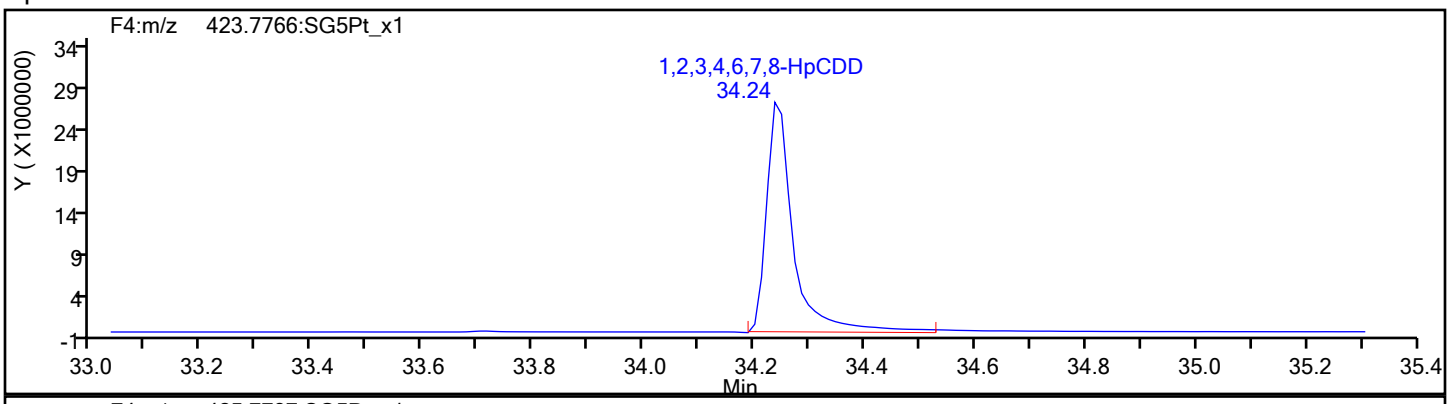

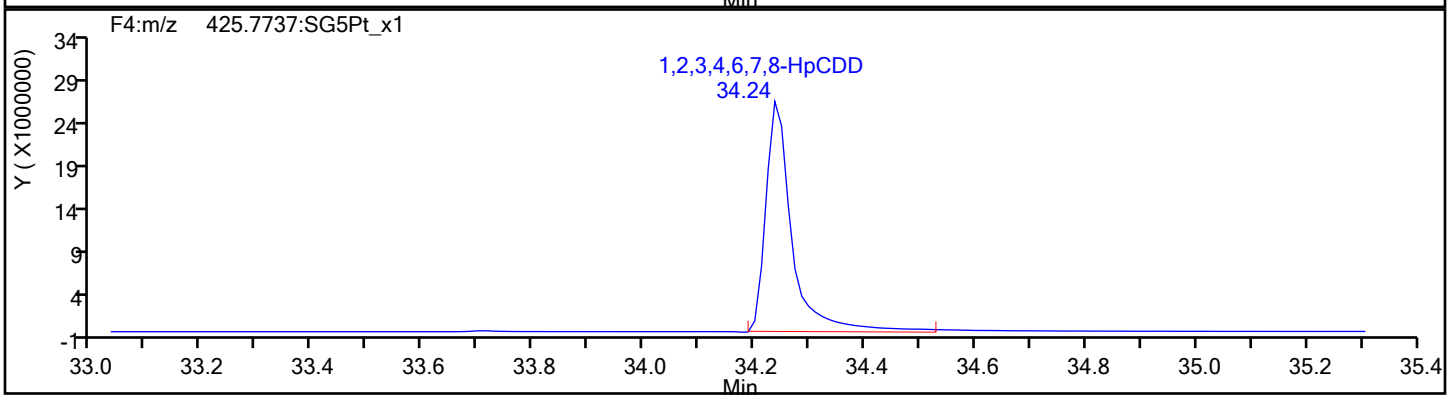

HpCDD Standards

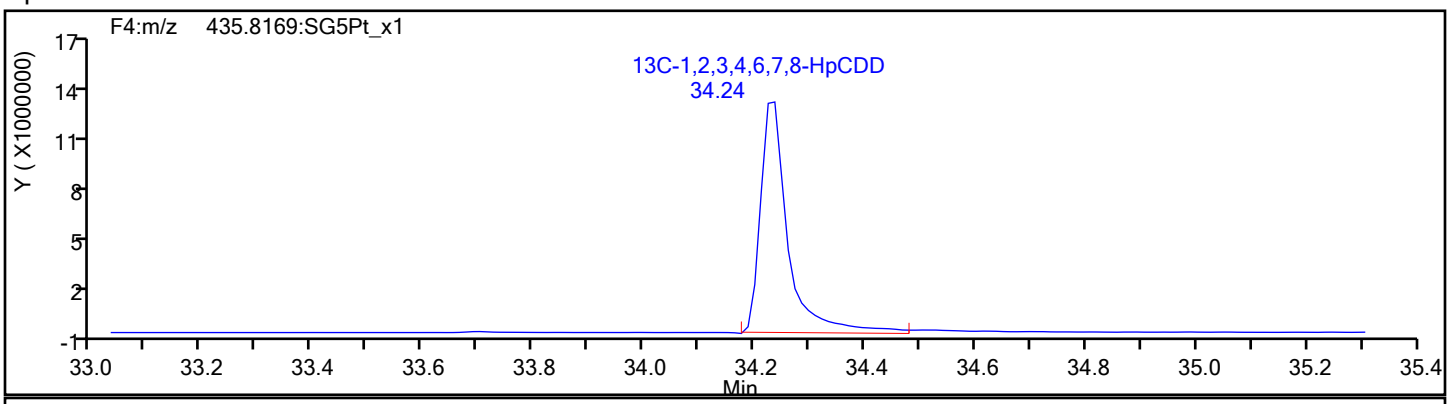

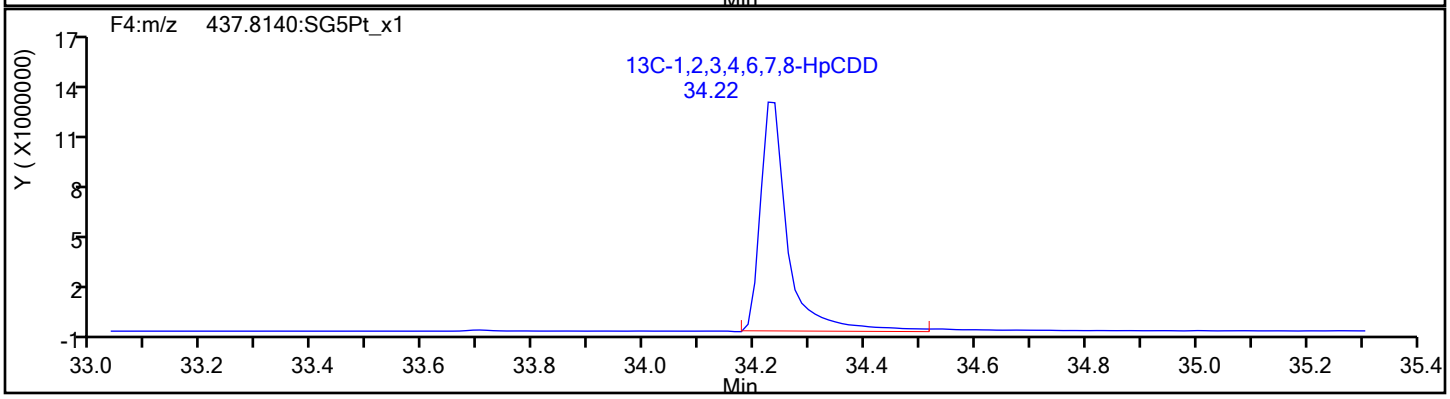

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Eurofins TestAmerica, Sacramento

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OCDF

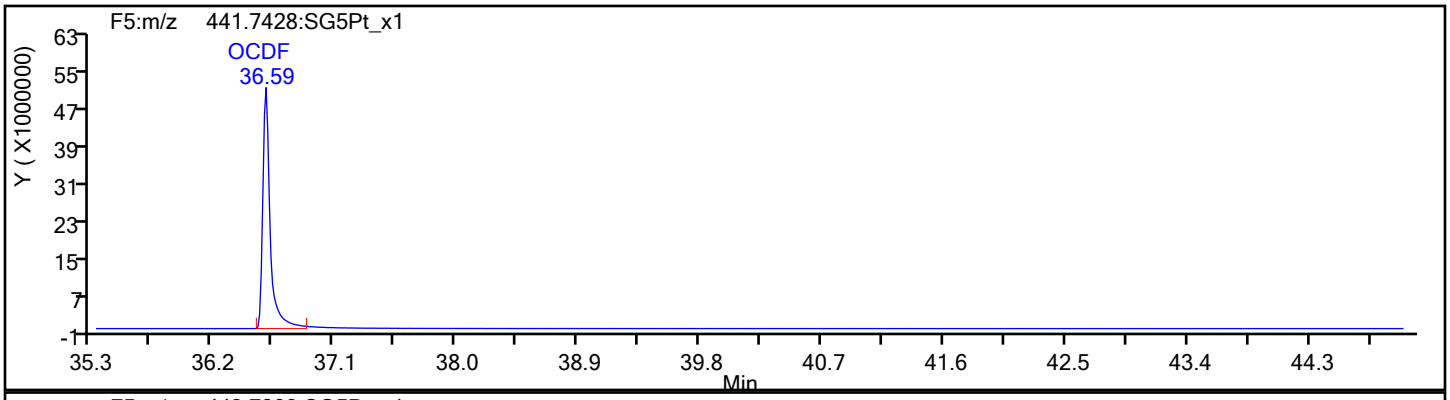

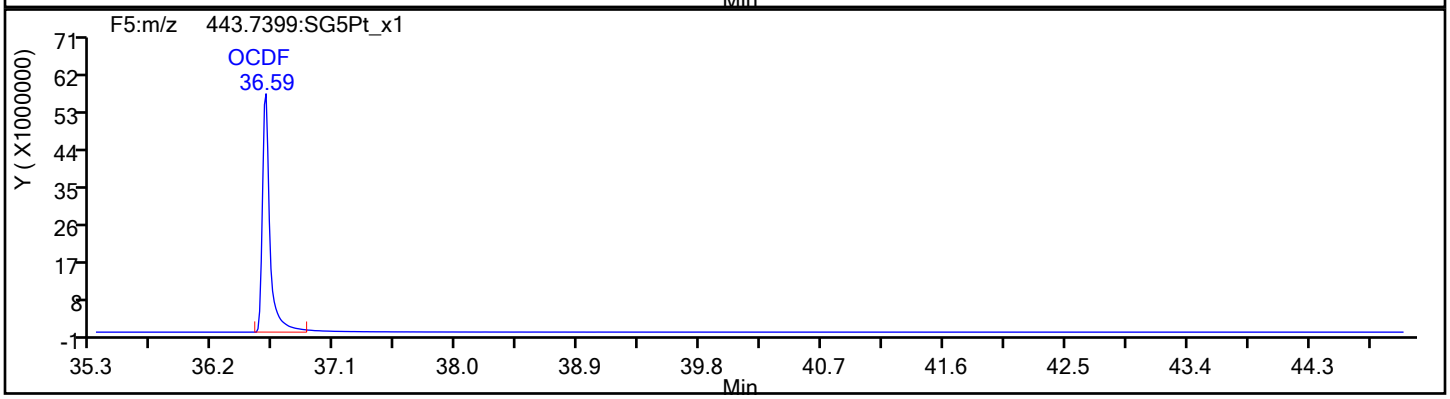

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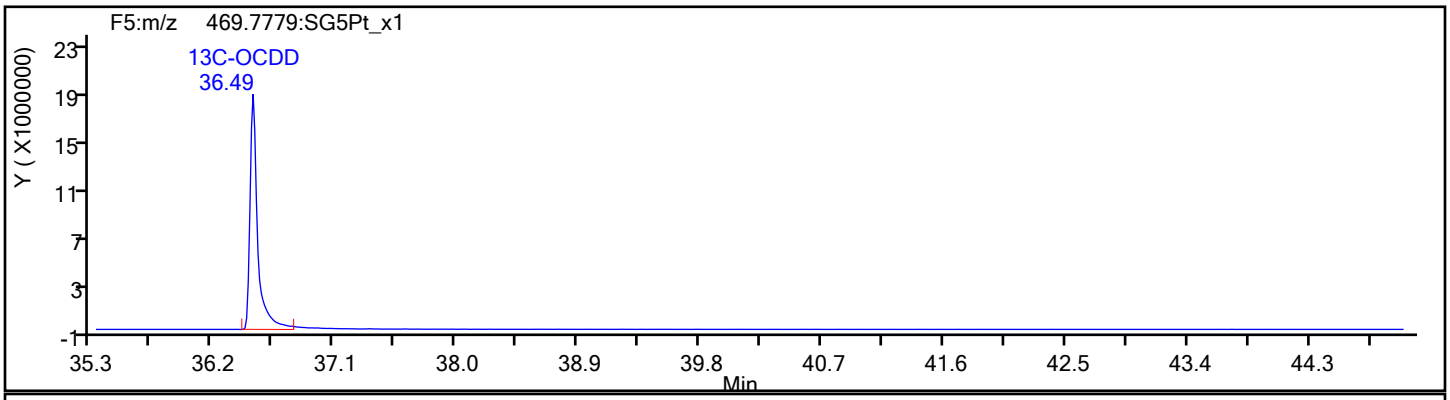

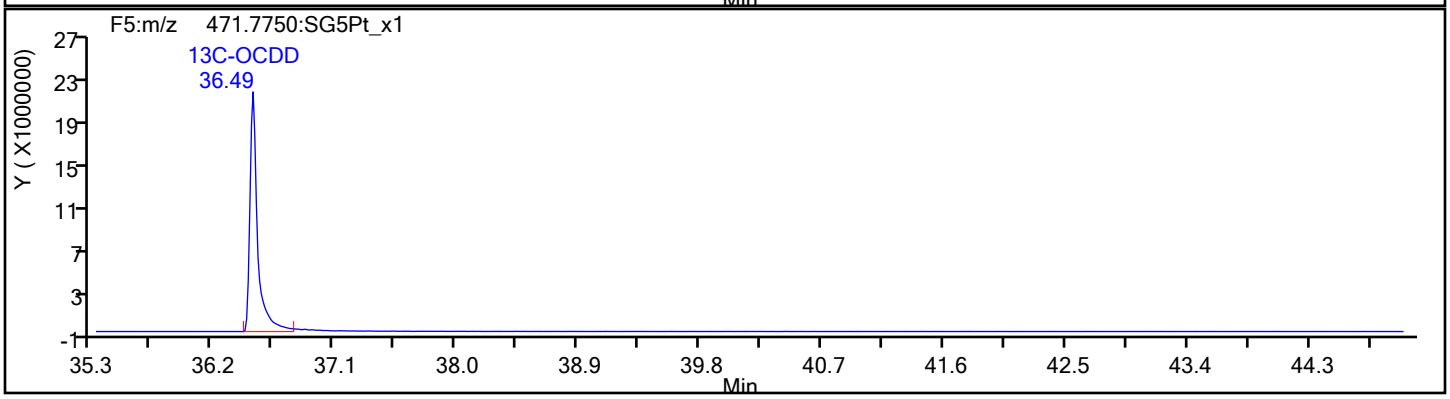

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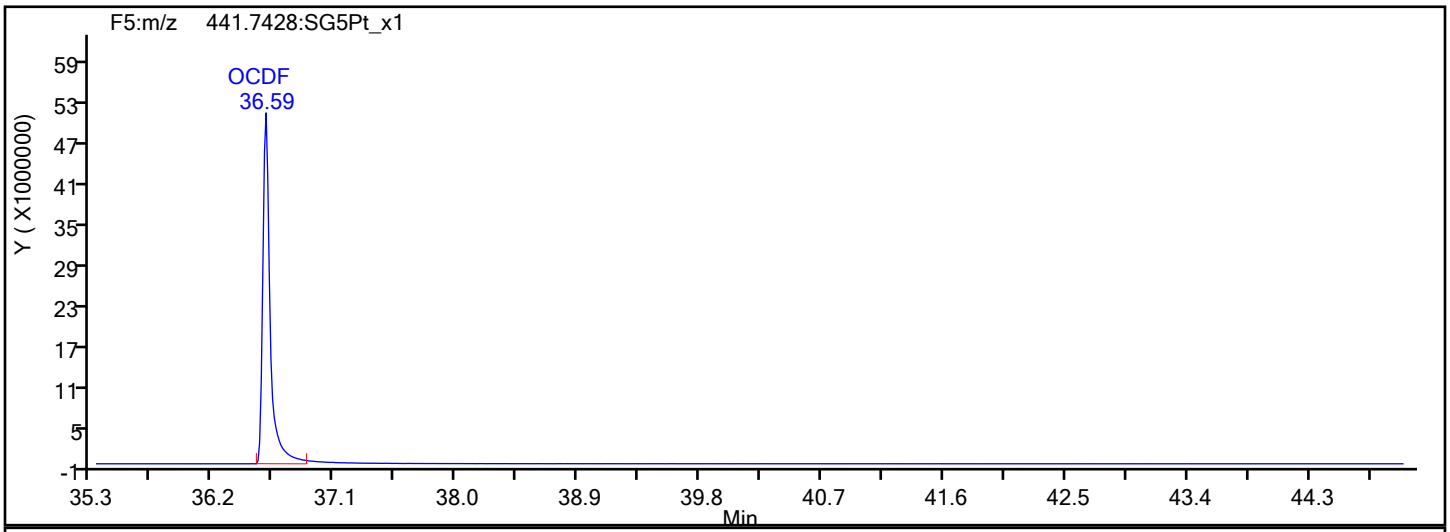

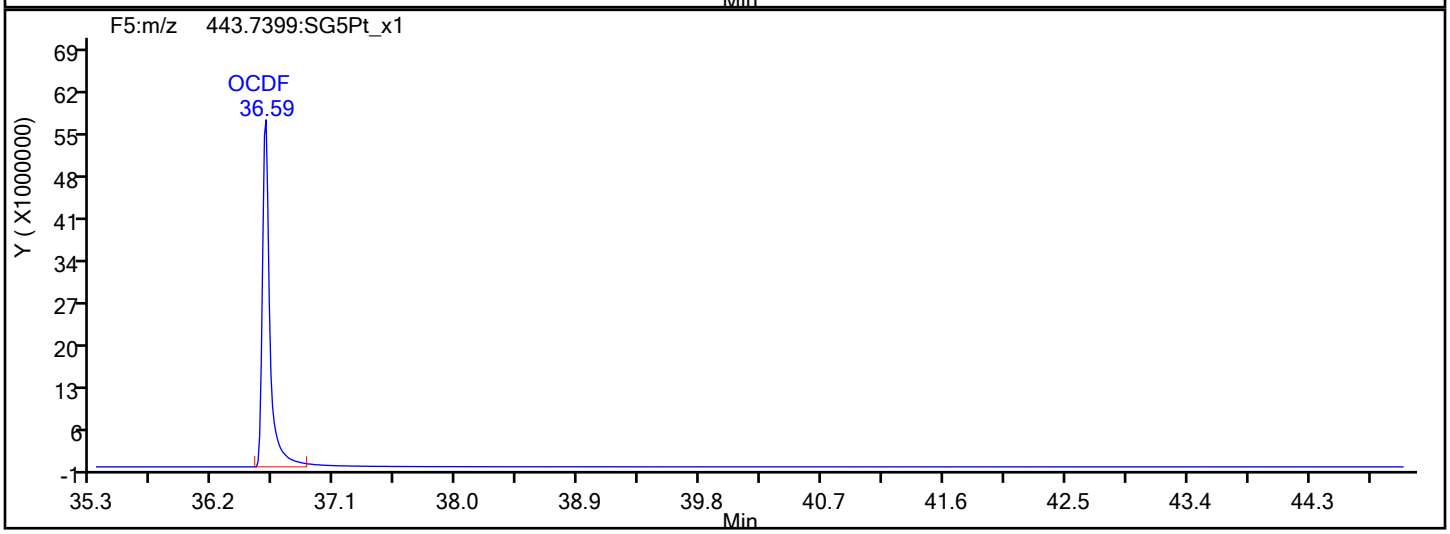

OCDF Interference Mass

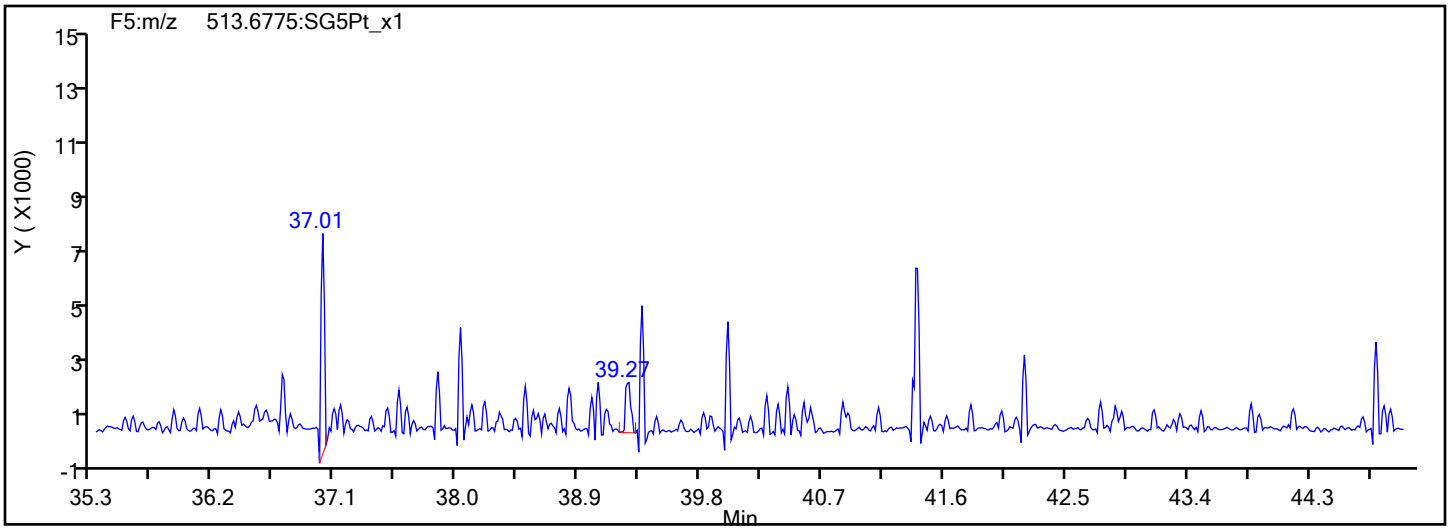

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Eurofins TestAmerica, Sacramento

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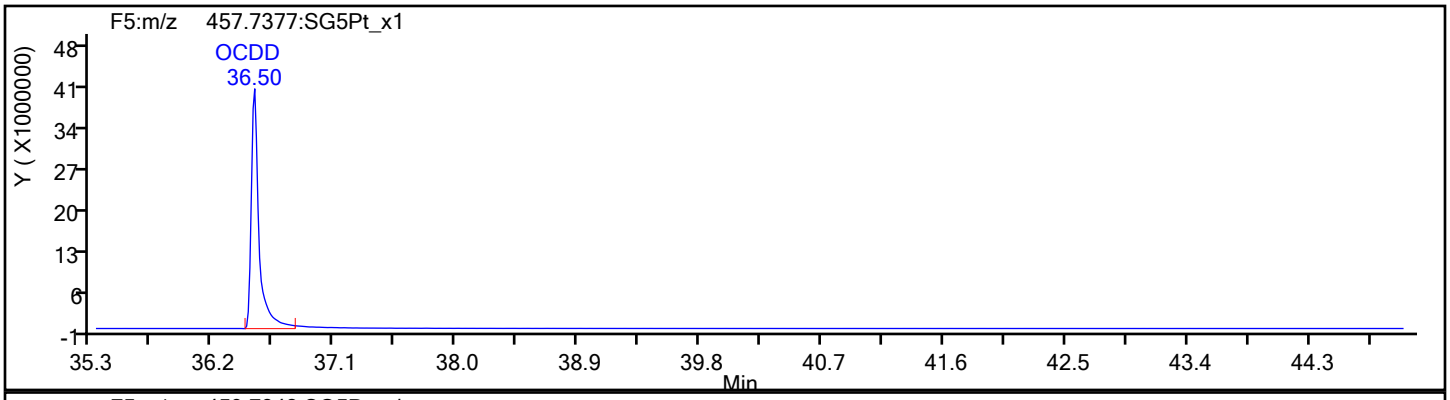

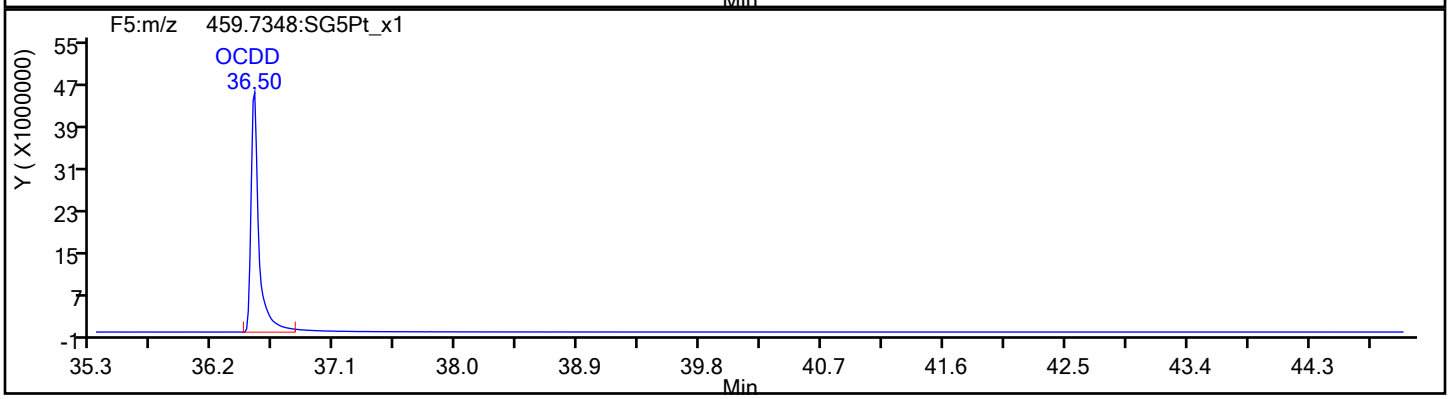

OCDD Standards

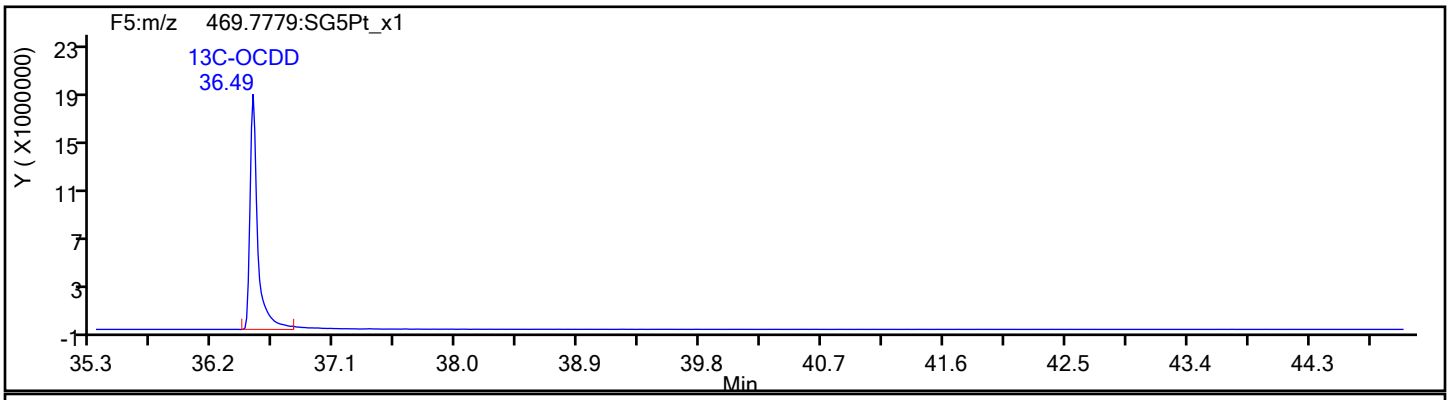

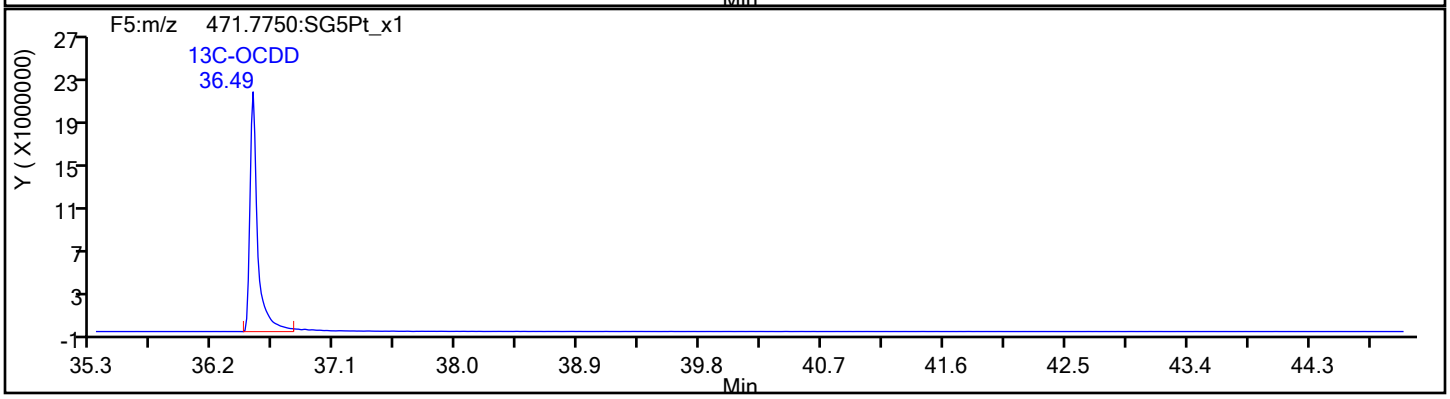

Report Date: 18-Sep-2019 10:22:35 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_6.d		
Injection Date:	17-Sep-2019 15:21:22	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

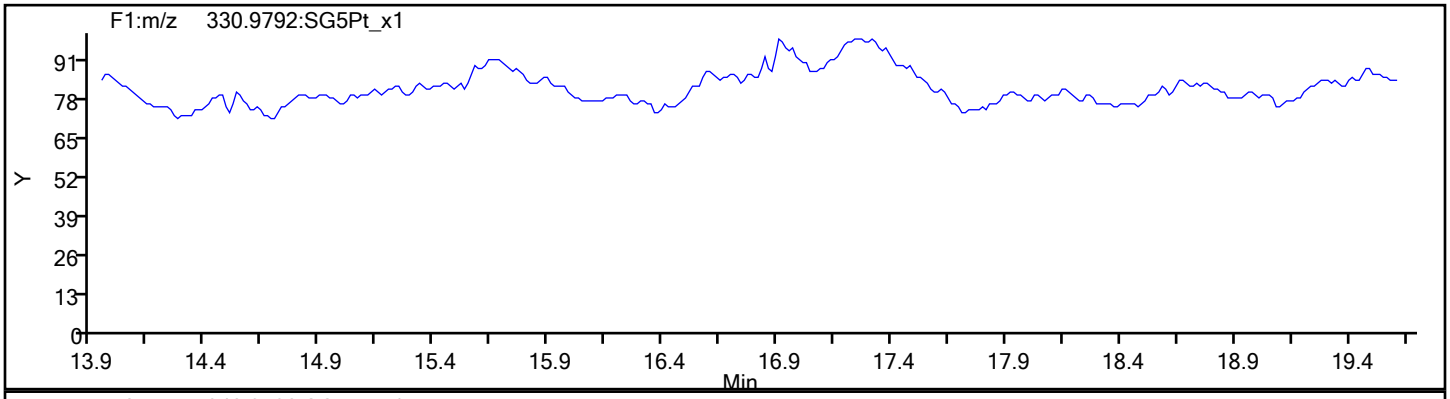

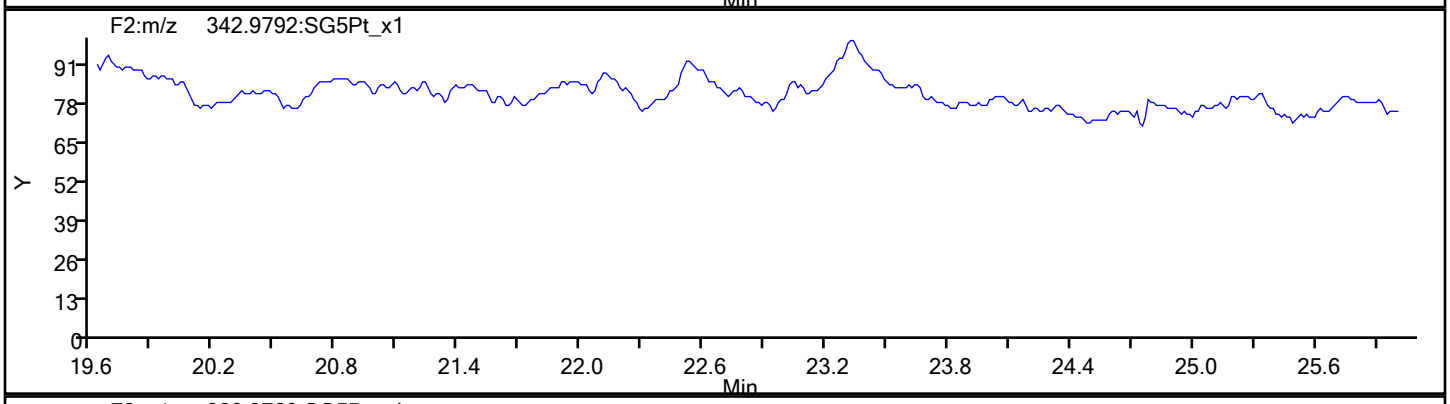

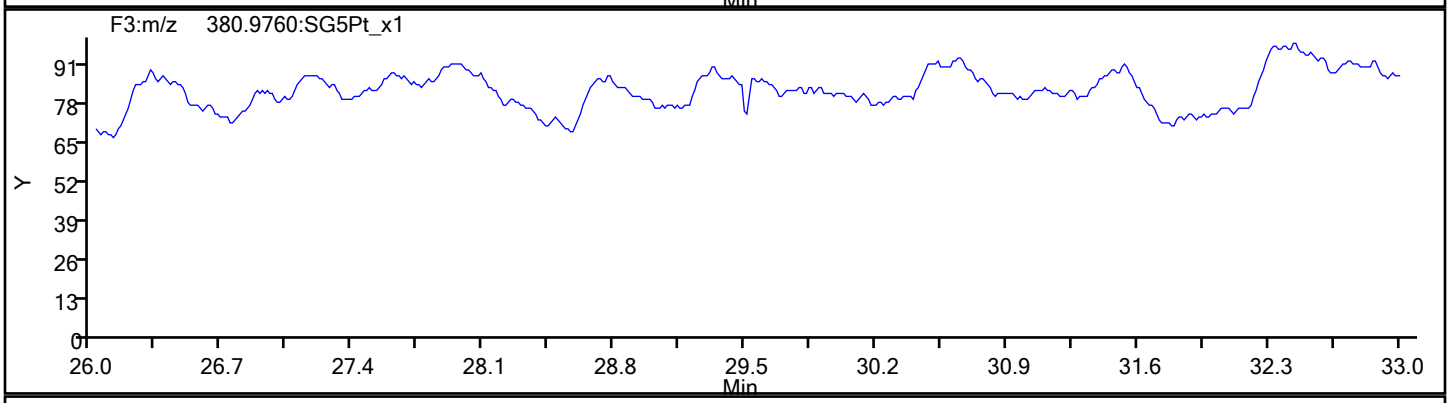

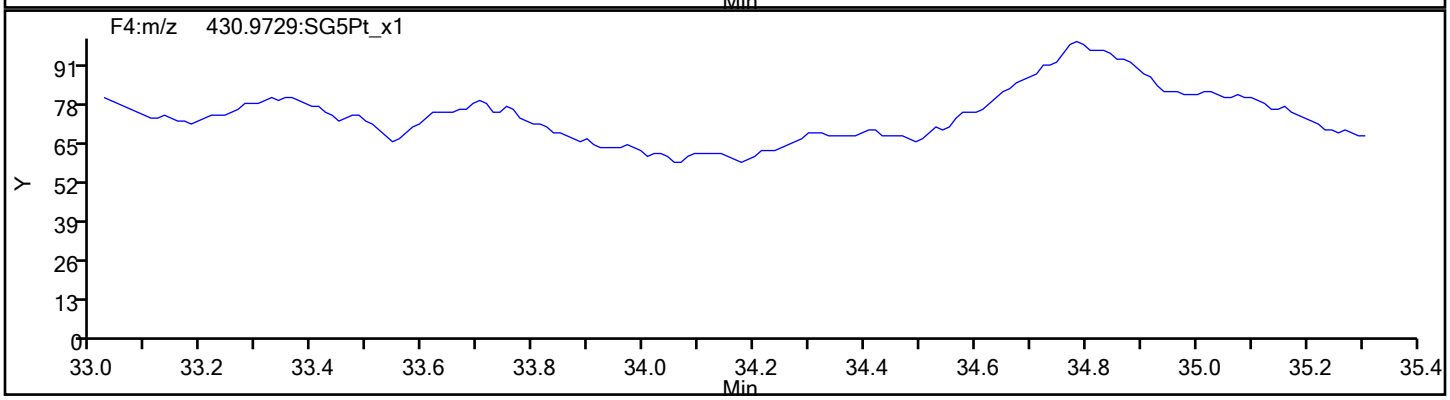

Report Date: 18-Sep-2019 10:22:35 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_6.d		
Injection Date:	17-Sep-2019 15:21:22	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

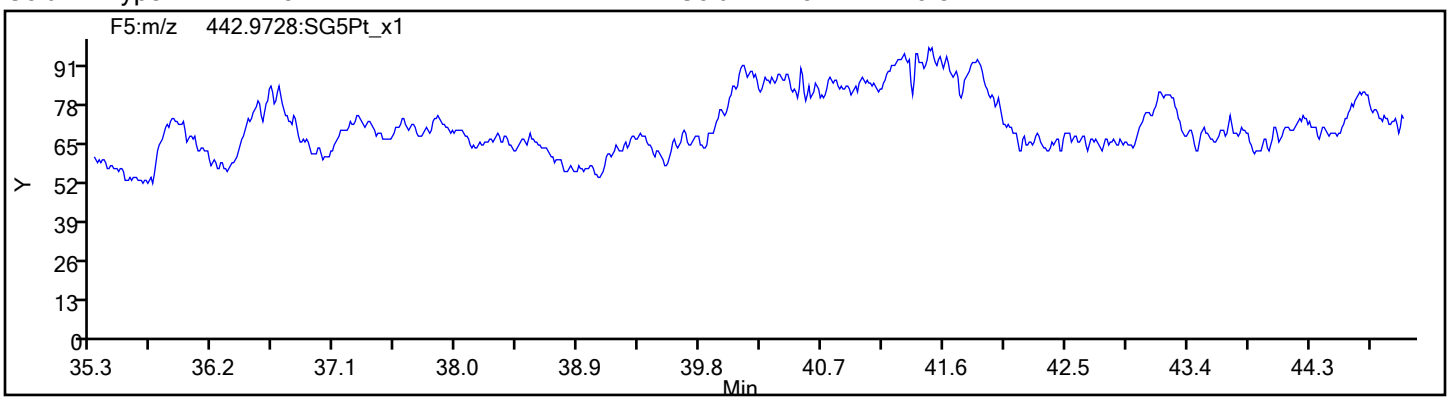

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 17-Sep-2019 16:09:27 ALS Bottle#: 2 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719B CS-4 HRDXNL4_00084
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:37 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:03:31

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.300	116862140	0.78	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.816	164292495	0.81	1.4384	97.7	97.7	0.2030	0.2030	97.74	
2,3,7,8-TCDF	16.831	16312729	0.78	1.0507	9.450	9.450	0.0288	0.0288	94.50	
S Total TCDF					9.450	9.450	0.0288	0.0288		
D 13C-2,3,7,8-TCDD	17.497	110088290	0.77	0.9533	98.8	98.8	0.1811	0.1811	98.81	
$ 37Cl4-2,3,7,8-TCDD	17.511	11295580		1.2224	7.907	7.907	0.0161	0.0161	98.84	
2,3,7,8-TCDD	17.511	11272193	0.80	1.1064	9.254	9.254	0.0249	0.0249	92.54	
S Total TCDD					9.254	9.254	0.0249	0.0249		
D 13C-1,2,3,7,8-PeCDF	21.632	117067384	1.60	1.0286	97.4	97.4	0.2355	0.2355	97.39	
1,2,3,7,8-PeCDF	21.659	61060330	1.61	1.0822	48.2	48.2	0.1753	0.1753	96.39	
D 13C-2,3,4,7,8-PeCDF	22.927	108494277	1.59	0.9827	94.5	94.5	0.2465	0.2465	94.48	
2,3,4,7,8-PeCDF	22.954	58935693	1.60	1.1032	49.2	49.2	0.1981	0.1981	98.48	
S Total PeCDF					97.4	97.4	0.1867	0.1867		
D 13C-1,2,3,7,8-PeCDD	23.622	84755636	1.56	0.7481	96.9	96.9	0.1346	0.1346	96.95	
1,2,3,7,8-PeCDD	23.650	36740998	1.60	0.9050	47.9	47.9	0.0846	0.0846	95.80	
S Total PeCDD					47.9	47.9	0.0846	0.0846		
D 13C-1,2,3,4,7,8-HxCDF	29.749	88972191	0.52	1.1520	96.7	96.7	0.5009	0.5009	96.69	
1,2,3,4,7,8-HxCDF	29.776	51431784	1.25	1.1973	48.3	48.3	0.4285	0.4285	96.56	
D 13C-1,2,3,6,7,8-HxCDF	30.015	97064883	0.52	1.2434	97.7	97.7	0.4641	0.4641	97.73	
1,2,3,6,7,8-HxCDF	30.042	55977084	1.25	1.1807	48.8	48.8	0.3660	0.3660	97.69	
D 13C-2,3,4,6,7,8-HxCDF	31.040	90467566	0.52	1.1720	96.6	96.6	0.4924	0.4924	96.64	
2,3,4,6,7,8-HxCDF	31.053	53626165	1.26	1.2116	48.9	48.9	0.2565	0.2565	97.85	
D 13C-1,2,3,7,8,9-HxCDF	31.945	83967924	0.52	1.0655	98.7	98.7	0.5416	0.5416	98.66	
1,2,3,7,8,9-HxCDF	31.958	50802364	1.28	1.2451	48.6	48.6	0.2521	0.2521	97.18	
S Total HxCDF					194.6	194.6	0.3258	0.3258		
* 13C-1,2,3,7,8,9-HxCDD	31.746	79877165	1.26	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.266	61001305	1.29	0.7812	97.8	97.8	0.4169	0.4169	97.76	
1,2,3,4,7,8-HxCDD	31.280	32825472	1.25	1.1088	48.5	48.5	0.1882	0.1882	97.06	
D 13C-1,2,3,6,7,8-HxCDD	31.386	72157657	1.29	0.9175	98.5	98.5	0.3550	0.3550	98.46	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.399	37867080	1.26	1.0814	48.5	48.5	0.1789	0.1789	97.05	
1,2,3,7,8,9-HxCDD	31.759	39571199	1.26	1.2123	49.0	49.0	0.1656	0.1656	98.05	
S Total HxCDD					146.1	146.1	0.1776	0.1776		
D 13C-1,2,3,4,6,7,8-HpCDF	33.460	70034446	0.45	0.8628	101.6	101.6	1.887	1.887	102	
1,2,3,4,6,7,8-HpCDF	33.472	53230505	1.05	1.5555	48.9	48.9	0.7328	0.7328	97.72	
D 13C-1,2,3,4,7,8,9-HpCDF	34.505	62459777	0.45	0.7991	97.9	97.9	2.038	2.038	97.86	
1,2,3,4,7,8,9-HpCDF	34.505	42098592	1.05	1.3862	48.6	48.6	1.030	1.030	97.24	
S Total HpCDF					97.5	97.5	0.8815	0.8815		
D 13C-1,2,3,4,6,7,8-HpCDD	34.225	69249272	1.01	0.8739	99.2	99.2	0.8707	0.8707	99.21	
1,2,3,4,6,7,8-HpCDD	34.237	31792117	1.05	0.9316	49.3	49.3	0.3574	0.3574	98.56	
S Total HpCDD					49.3	49.3	0.3574	0.3574		
D 13C-OCDD	36.481	117978202	0.90	0.7744	190.7	190.7	0.3164	0.3164	95.37	
OCDF	36.577	73138090	0.89	1.2596	98.4	98.4	0.0928	0.0928	98.43	
OCDD	36.493	60102277	0.88	1.0621	95.9	95.9	0.1528	0.1528	95.93	

Reagents:

HRDXNL4_00084 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 17-Sep-2019 16:09:27 ALS Bottle#: 2 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719B CS-4 HRDXNL4_00084
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:37 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:03:31

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.300	17.303	0		51188431	13221592	10308	25770	1283		
333.9339	17.300	17.303	0		65673709	17067918	10612	26530	1608	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.816	16.810	0	0.972	73273257	18643279	16682	41705	1118		
317.9389	16.816	16.810	0	0.972	91019238	23348376	18701	46752	1249	0.81(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.831	16.825	0	1.001	7146505	1866474	1748	4370	1068		
305.8987	16.831	16.825	0	1.001	9166224	2309204	3335	8337	692	0.78(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.497	17.490	0	1.011	47890197	11504119	10308	25770	1116		
333.9339	17.497	17.490	0	1.011	62198093	14897345	10612	26530	1404	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.511	17.505	0	1.012	11295580	2759721	2389	5972	1155		
2,3,7,8-TCDD											
319.8965	17.511	17.505	0	1.001	5006379	1229603	1679	4197	732		
321.8936	17.511	17.505	0	1.001	6265814	1552760	1232	3080	1260	0.80(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	21.632	21.637	0	1.250	72085037	13290906	17975	44937	739		
353.8970	21.632	21.637	0	1.250	44982347	8135550	11370	28425	716	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.659	21.661	0	1.001	37645378	6988113	9632	24080	726		
341.8567	21.659	21.661	0	1.001	23414952	4333779	6628	16570	654	1.61(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	22.927	22.932	0	1.325	66667406	11411081	17975	44937	635		
353.8970	22.927	22.932	0	1.325	41826871	7189733	11370	28425	632	1.59(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.954	22.954	0	1.001	36249920	6246701	9632	24080	649		
341.8567	22.954	22.954	0	1.001	22685773	3975349	6628	16570	600	1.60(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.622	23.625	0	1.365	51615468	8403431	7024	17560	1196		
369.8919	23.622	23.625	0	1.365	33140168	5441011	5174	12935	1052	1.56(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.650	23.649	0	1.001	22616992	3684612	2542	6355	1449		
357.8516	23.650	23.649	0	1.001	14124006	2284855	1697	4242	1346	1.60(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.749	29.754	0	0.937	30622454	4262368	15646	39115	272		
385.8610	29.749	29.754	0	0.937	58349737	7978660	27510	68775	290	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.776	29.789	-1	1.001	28572669	3966552	14037	35092	283		
375.8178	29.776	29.789	-1	1.001	22859115	3184716	11085	27712	287	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.015	30.015	0	0.945	33334673	4974859	15646	39115	318		
385.8610	30.015	30.015	0	0.945	63730210	9557829	27510	68775	347	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.042	30.039	0	1.001	31100201	4648576	14037	35092	331		
375.8178	30.028	30.039	-1	1.000	24876883	3736483	11085	27712	337	1.25(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.040	31.043	0	0.978	31041442	6949049	15646	39115	444		
385.8610	31.040	31.043	0	0.978	59426124	13257904	27510	68775	482	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.053	31.059	0	1.000	29867122	6669756	14037	35092	475		
375.8178	31.053	31.059	0	1.000	23759043	5329537	11085	27712	481	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.945	31.942	0	1.006	28810187	6889378	15646	39115	440		
385.8610	31.945	31.942	0	1.006	55157737	13121620	27510	68775	477	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.958	31.956	0	1.000	28484868	6927852	14037	35092	494		
375.8178	31.958	31.956	0	1.000	22317496	5417368	11085	27712	489	1.28(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.746	31.748	0		44590033	10388597	13953	34882	745		
403.8529	31.746	31.748	0		35287132	8307576	10402	26005	799	1.26(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.266	31.261	0	0.985	34418121	8538114	13953	34882	612		
403.8529	31.253	31.261	0	0.984	26583184	6542155	10402	26005	629	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.280	31.280	0	1.000	18210328	4676373	6796	16990	688		
391.8127	31.280	31.280	0	1.000	14615144	3685627	5791	14477	636	1.25(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.386	31.383	0	0.989	40713057	9165140	13953	34882	657		
403.8529	31.386	31.383	0	0.989	31444600	7098259	10402	26005	682	1.29(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.399	31.402	0	1.000	21129707	4810731	6796	16990	708		
391.8127	31.399	31.402	0	1.000	16737373	3882456	5791	14477	670	1.26(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.759	31.761	0	1.016	22036967	5199355	6796	16990	765		
391.8127	31.759	31.761	0	1.016	17534232	4154993	5791	14477	717	1.26(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.460	33.457	0	1.054	21694702	6802754	38569	96422	176		
419.8220	33.460	33.457	0	1.054	48339744	14980925	83187	207967	180	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.472	33.469	0	1.000	27303098	8321332	48031	120077	173		
409.7789	33.460	33.469	-1	1.000	25927407	8013389	51301	128252	156	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.505	34.502	0	1.087	19495147	5459139	38569	96422	142		
419.8220	34.505	34.502	0	1.087	42964630	11931602	83187	207967	143	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.505	34.509	0	1.000	21594067	6125765	48031	120077	128		
409.7789	34.505	34.509	0	1.000	20504525	5997687	51301	128252	117	1.05(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.225	34.227	0	1.078	34873988	10385149	28867	72167	360		
437.8140	34.225	34.227	0	1.078	34375284	10126378	28038	70095	361	1.01(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.237	34.235	0	1.000	16297283	4845800	14038	35095	345		
425.7737	34.237	34.235	0	1.000	15494834	4492519	13280	33200	338	1.05(0.88-1.20)	
13C-OCDD											
469.7779	36.481	36.486	0	1.149	55925656	13683141	9939	24847	1377		
471.7750	36.481	36.486	0	1.149	62052546	15254711	8386	20965	1819	0.90(0.76-1.02)	
OCDF											
441.7428	36.577	36.581	0	1.003	34484063	8952540	3122	7805	2868		
443.7399	36.577	36.581	0	1.003	38654027	9970777	3641	9102	2738	0.89(0.76-1.02)	
OCDD											
457.7377	36.493	36.497	0	1.000	28100552	7029079	3330	8325	2111		
459.7348	36.493	36.497	0	1.000	32001725	7995829	6061	15152	1319	0.88(0.76-1.02)	

Reagents:

HRDXNL4_00084 Amount Added: 1.00 Units: mL

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
Injection Date:	17-Sep-2019 16:09:27	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

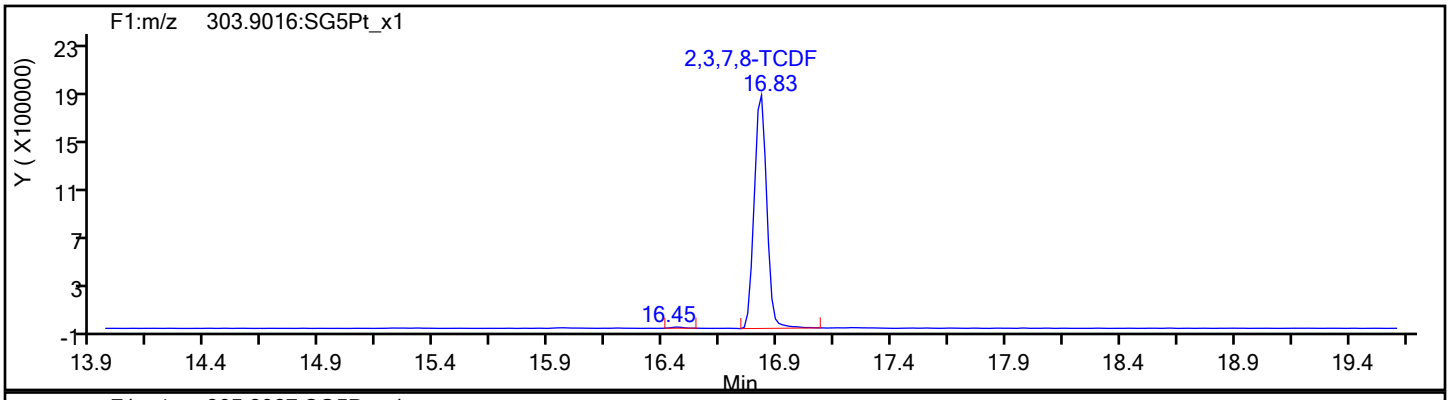

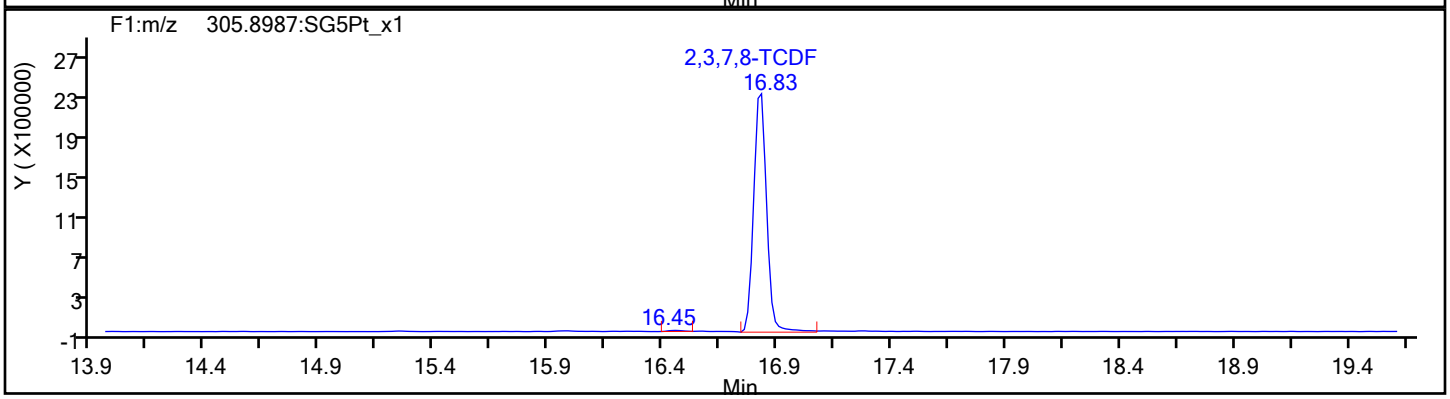

TCDF Standards

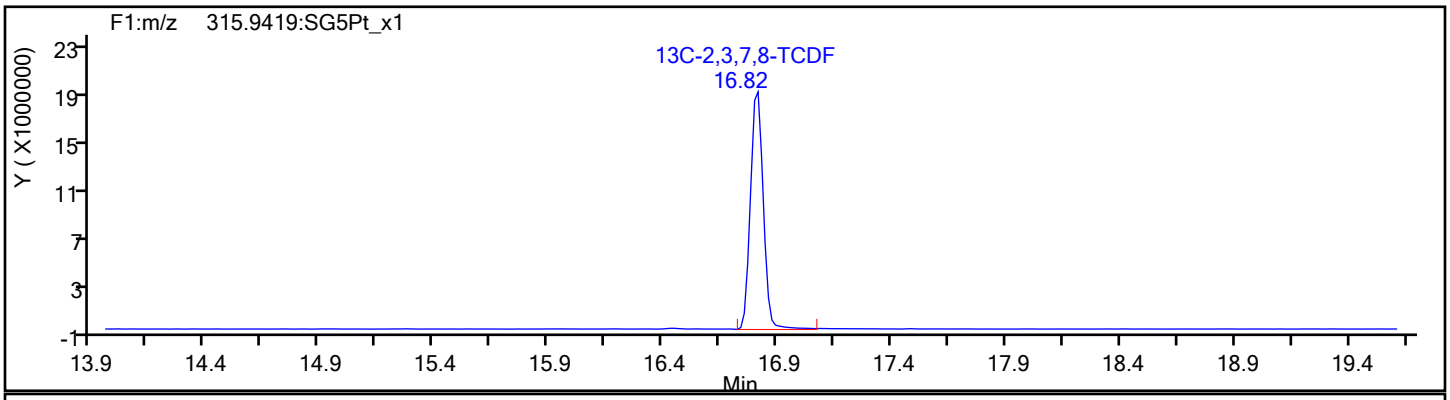

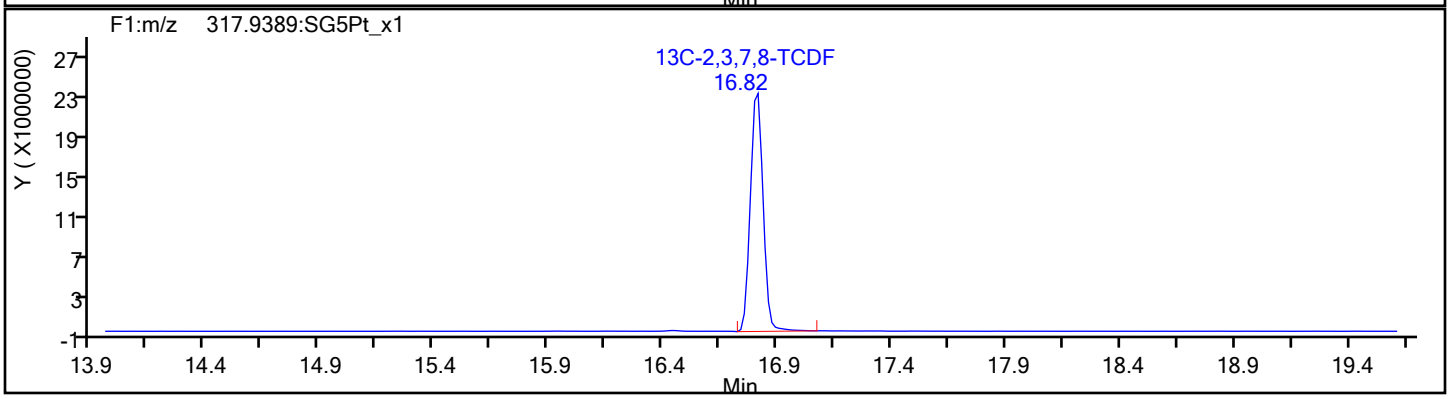

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

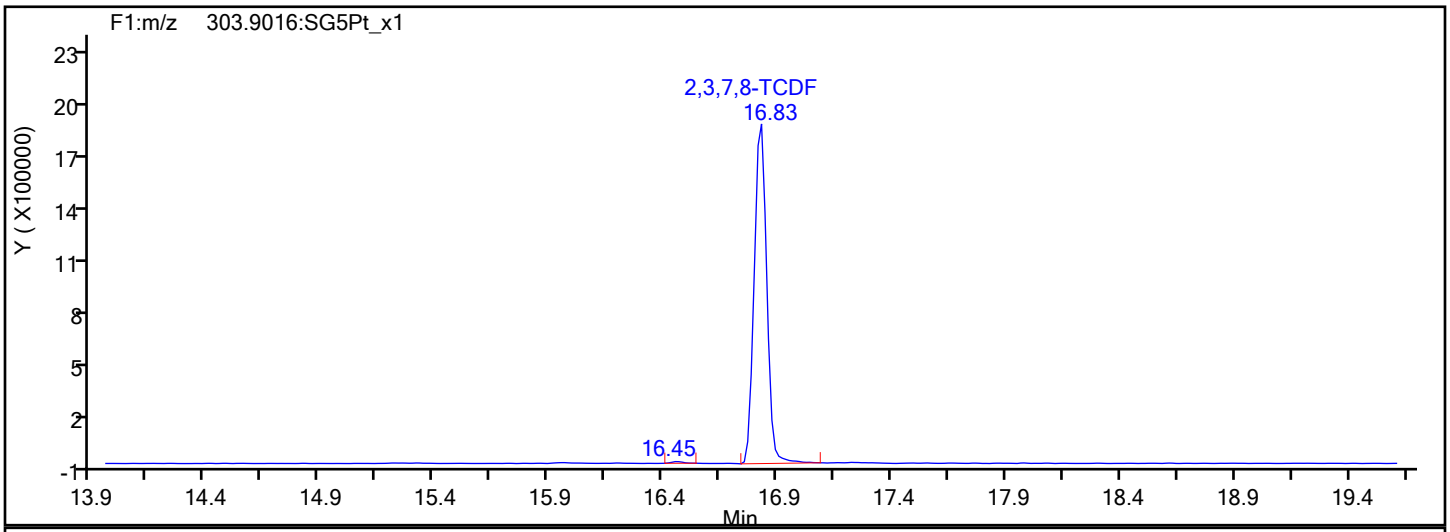

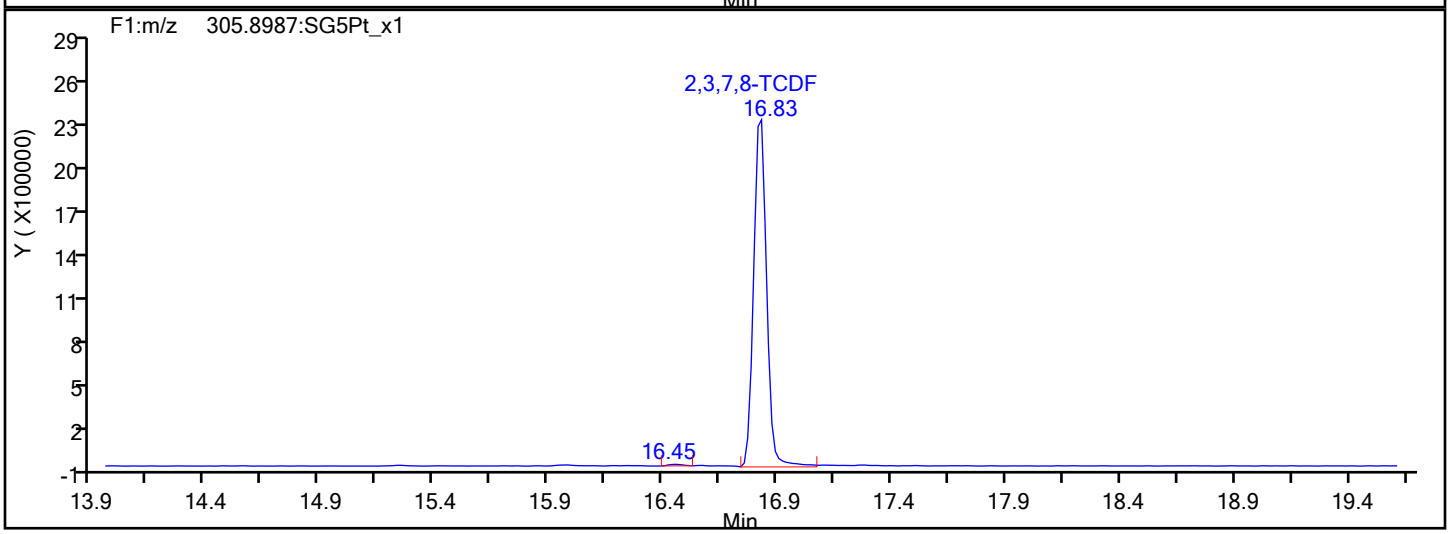

TCDF Interference Mass

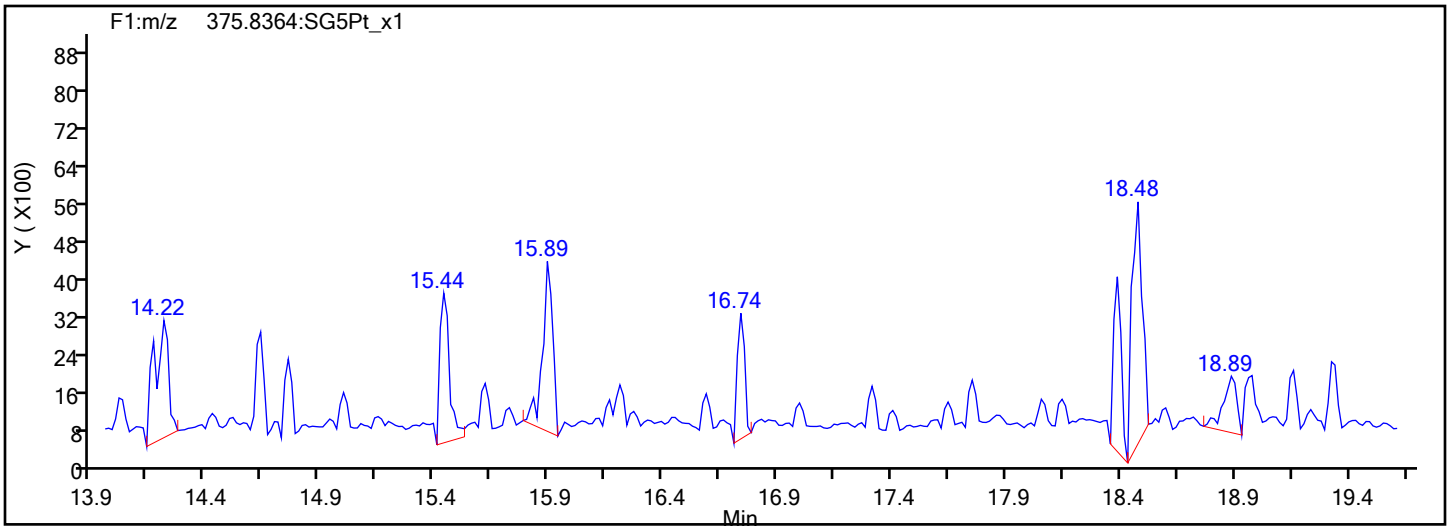

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

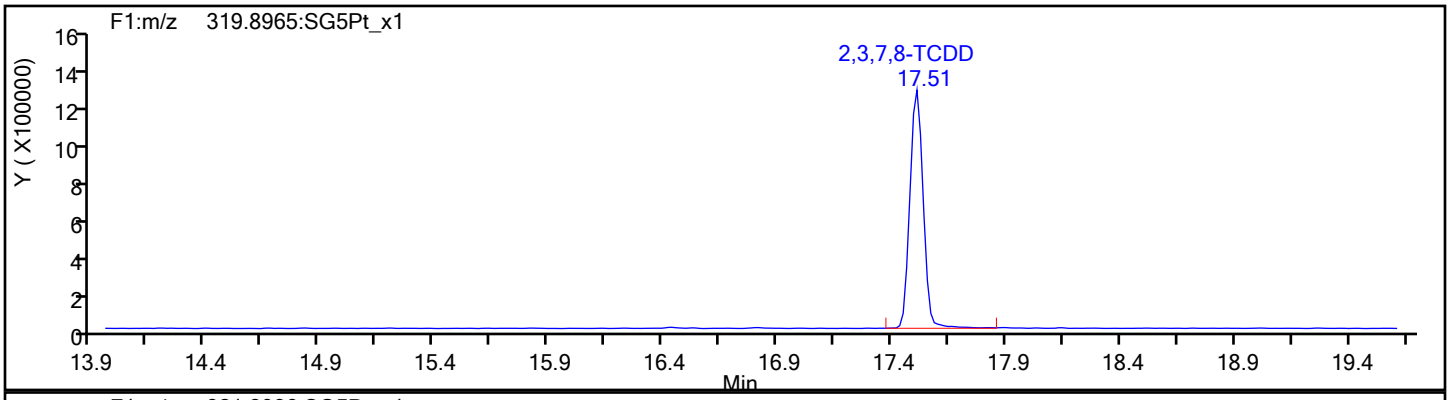

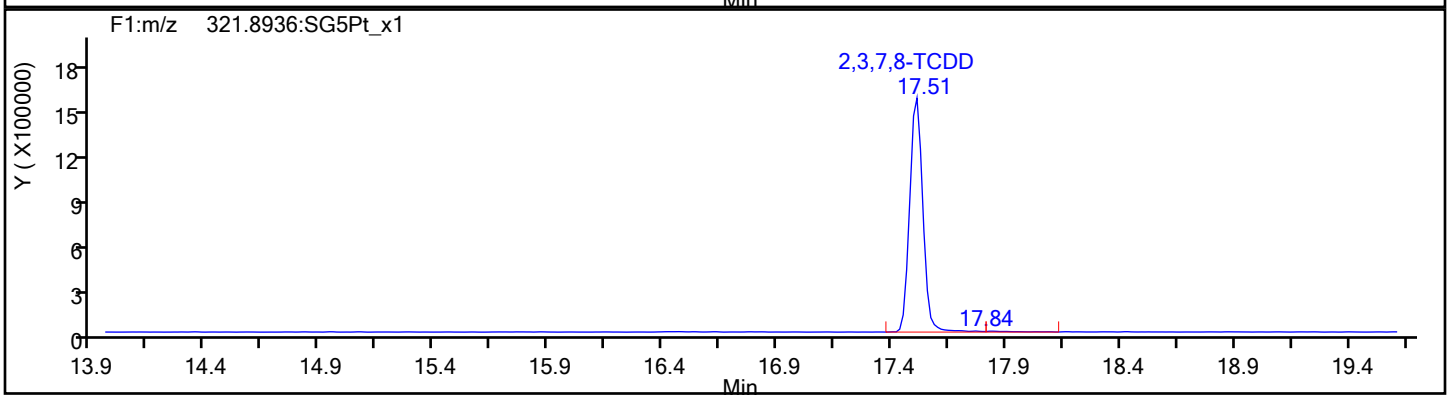

TCDD Standards

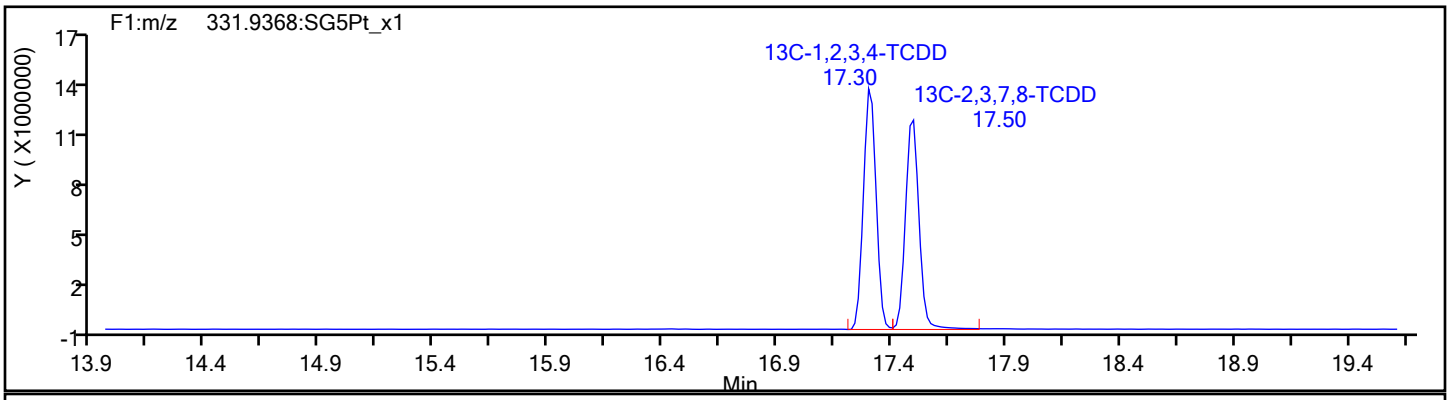

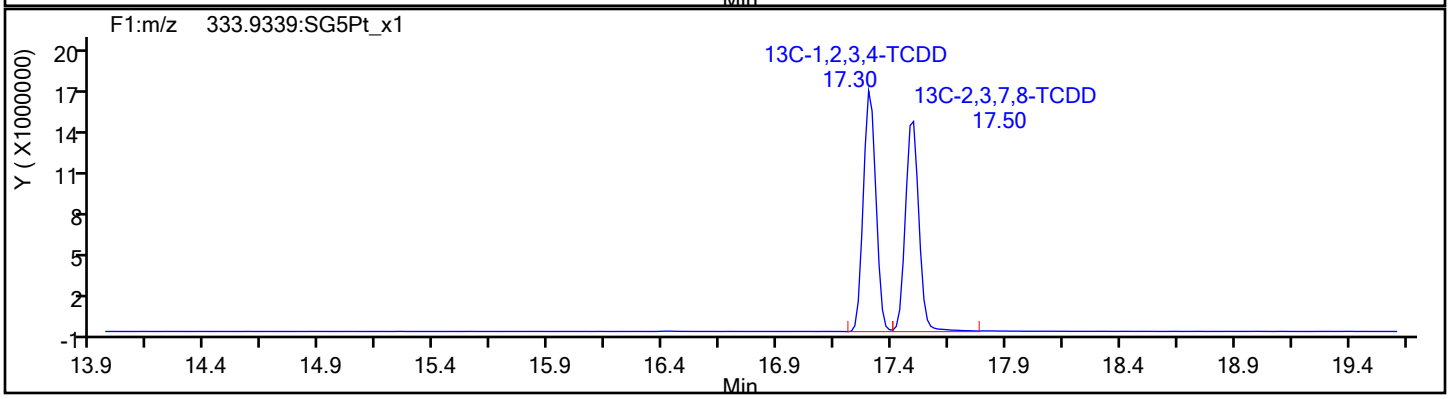

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

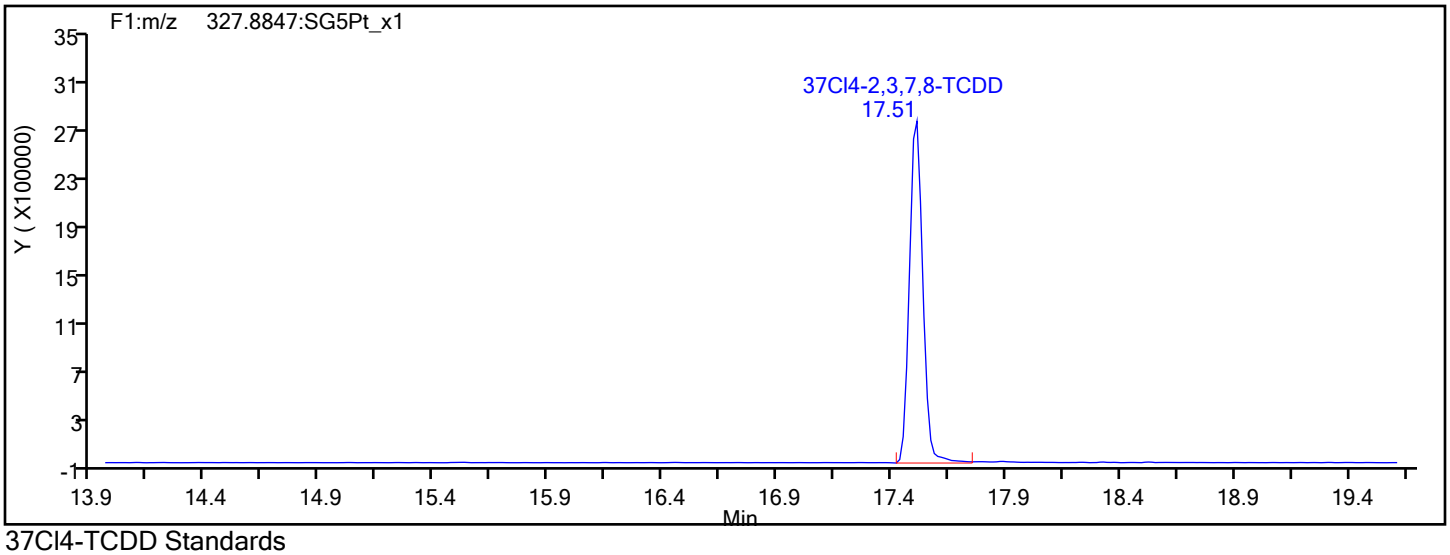

37Cl4-TCDD Standards

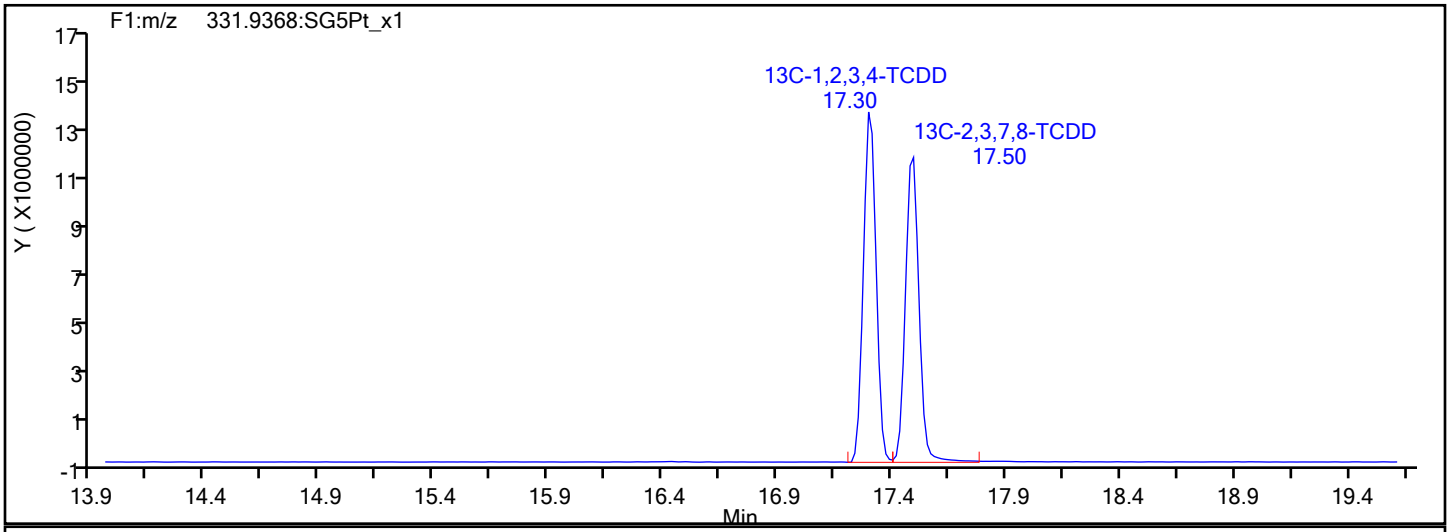

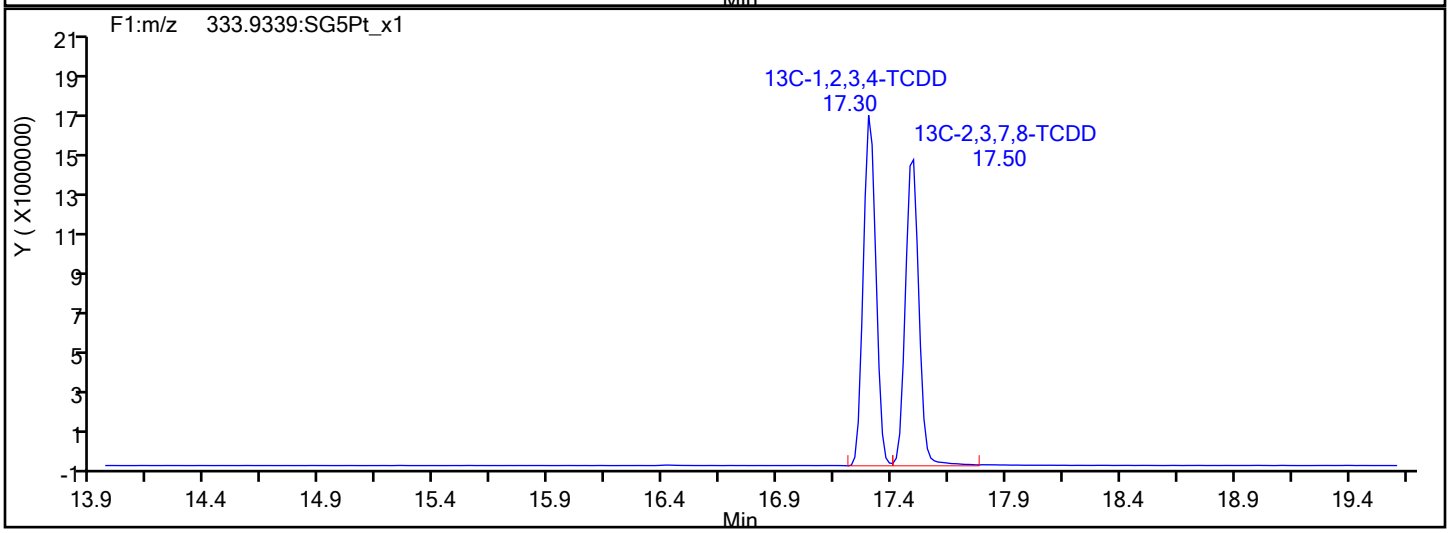

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

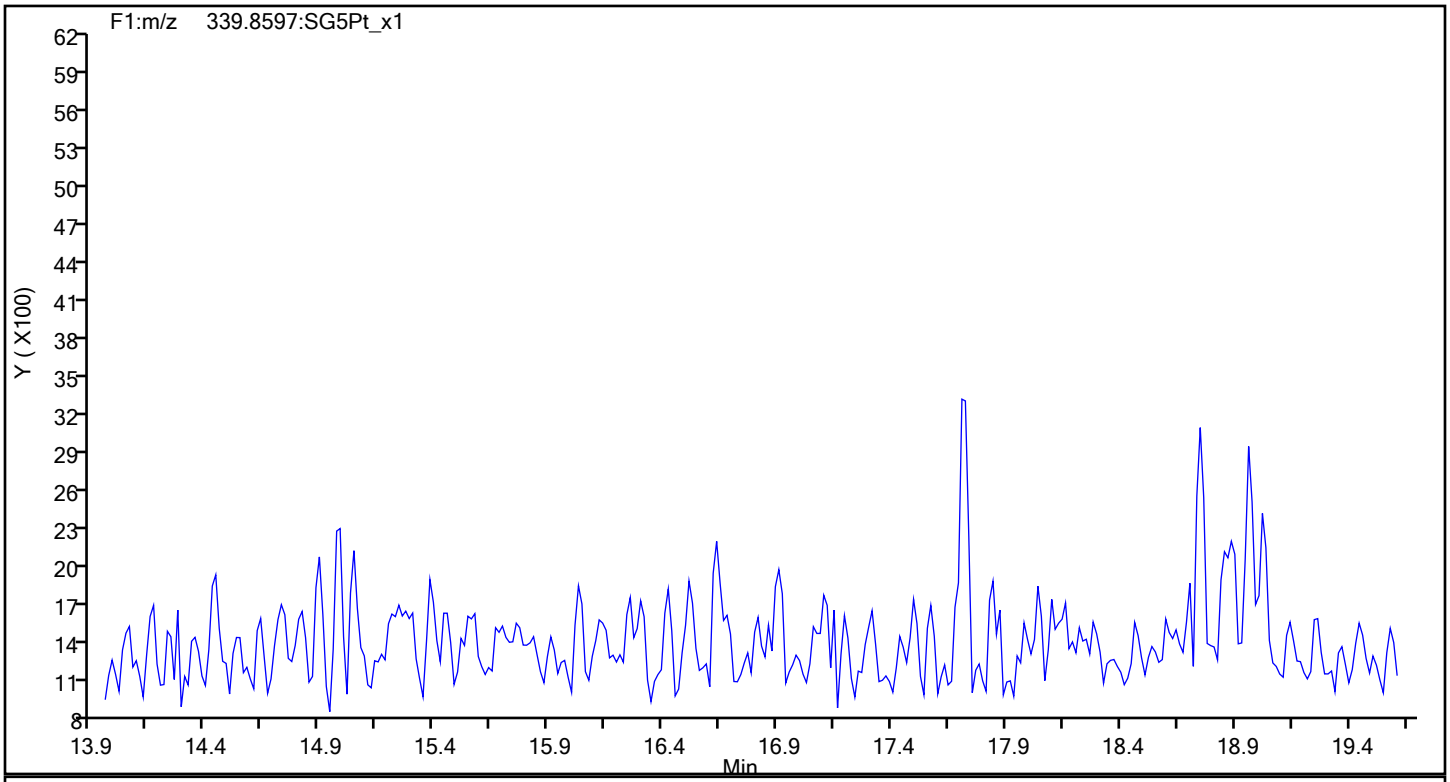

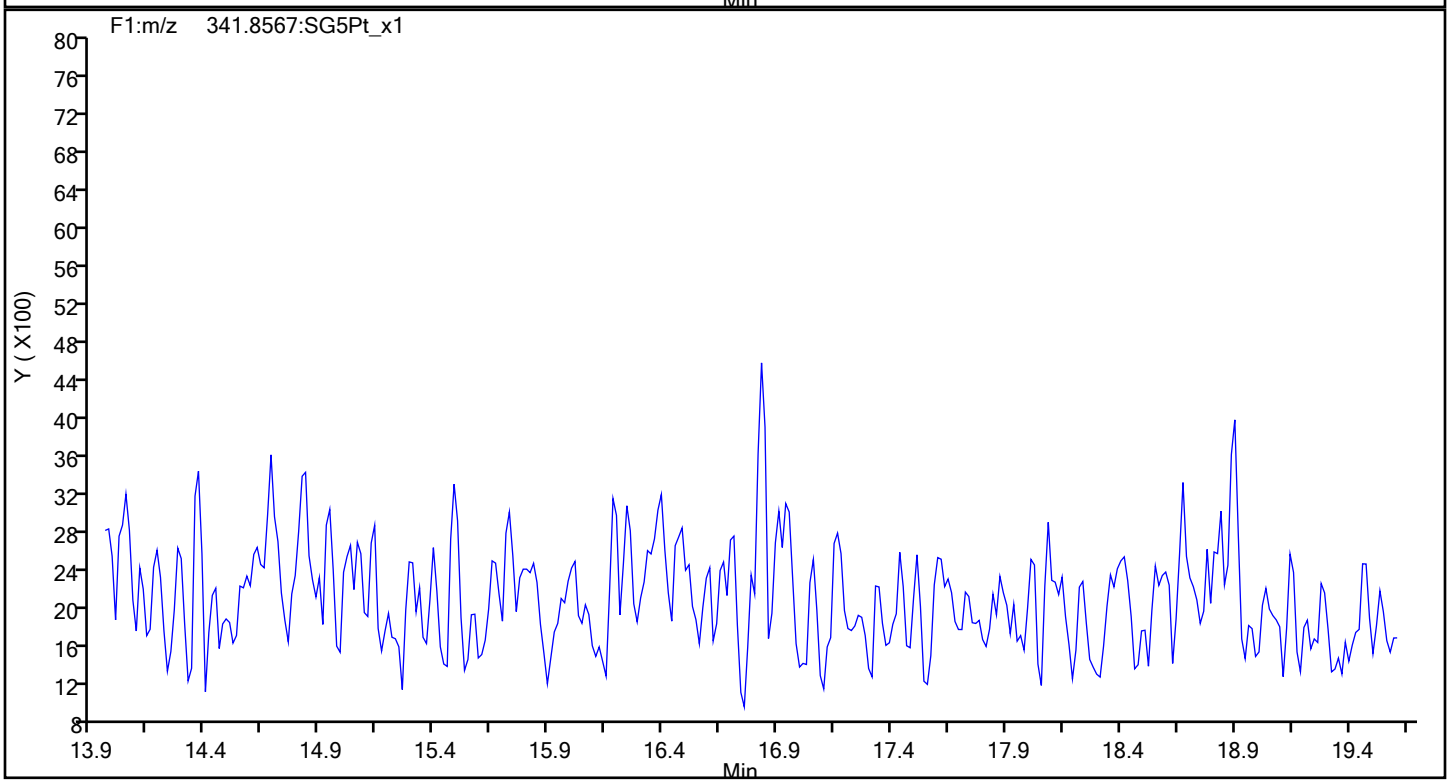

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Client ID:			
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F1 PeCDFs

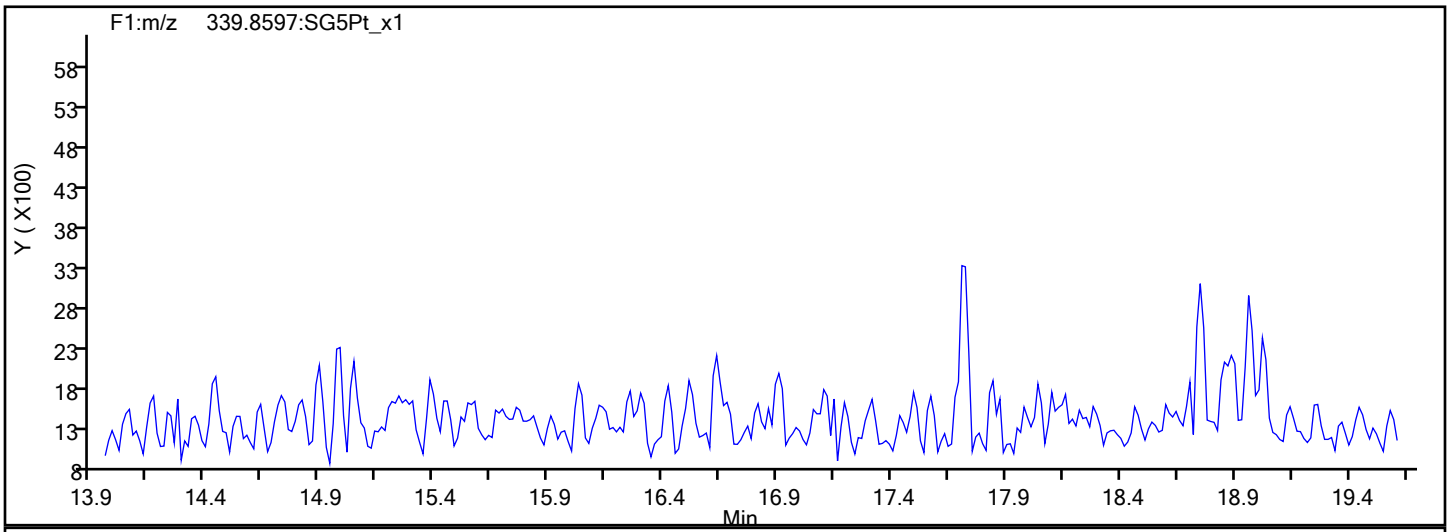

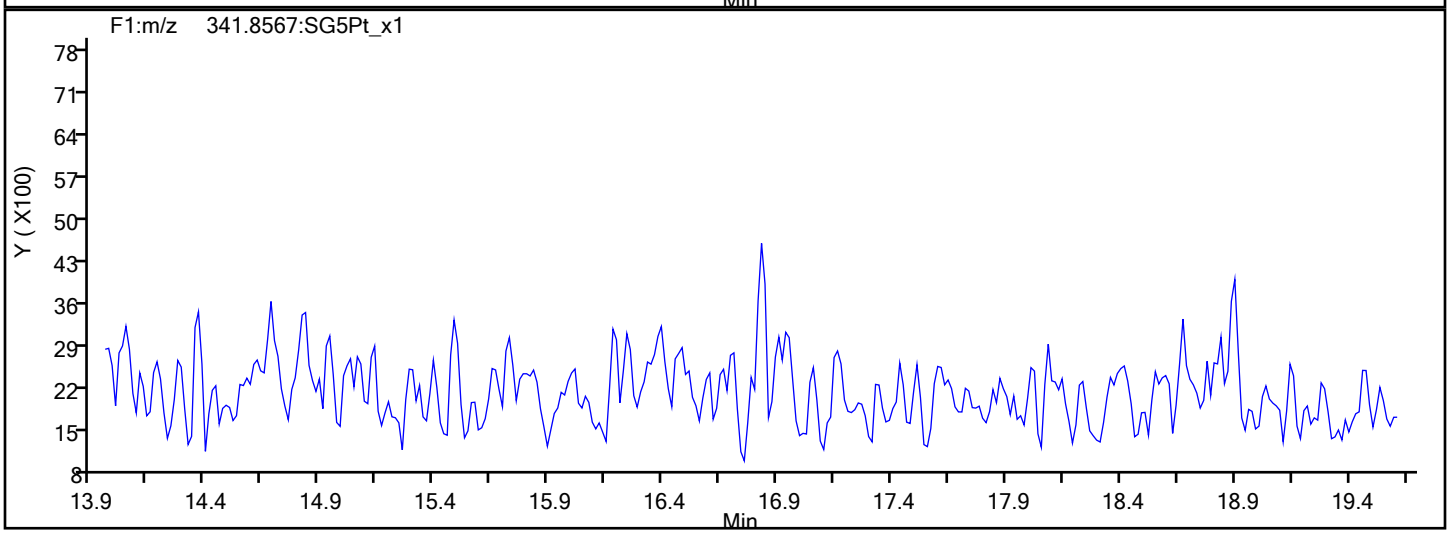

F1 PeCDFs Interference Mass

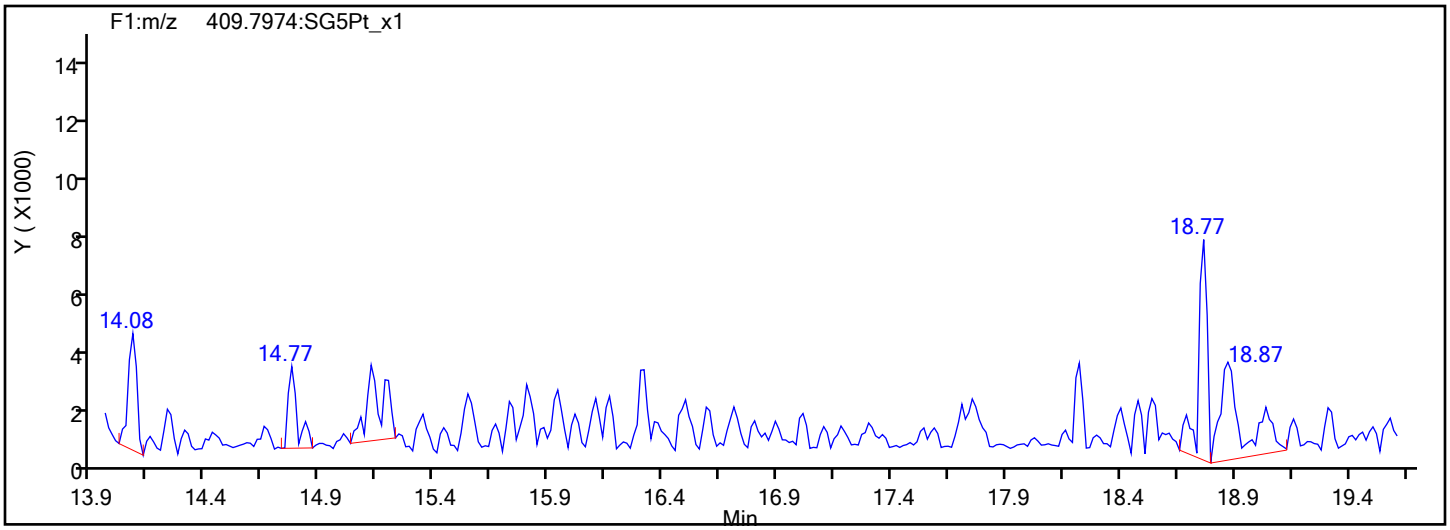

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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PeCDF

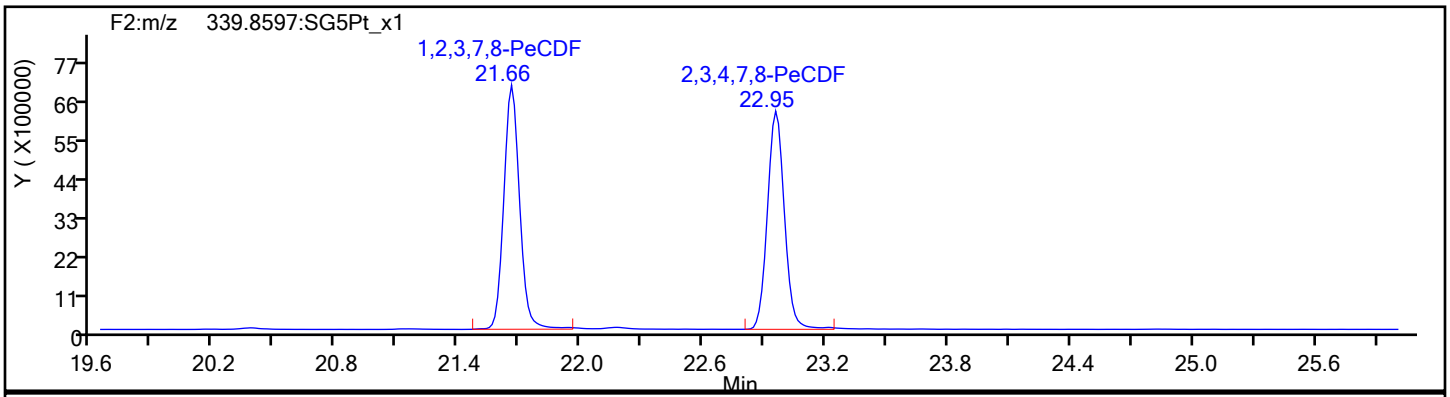

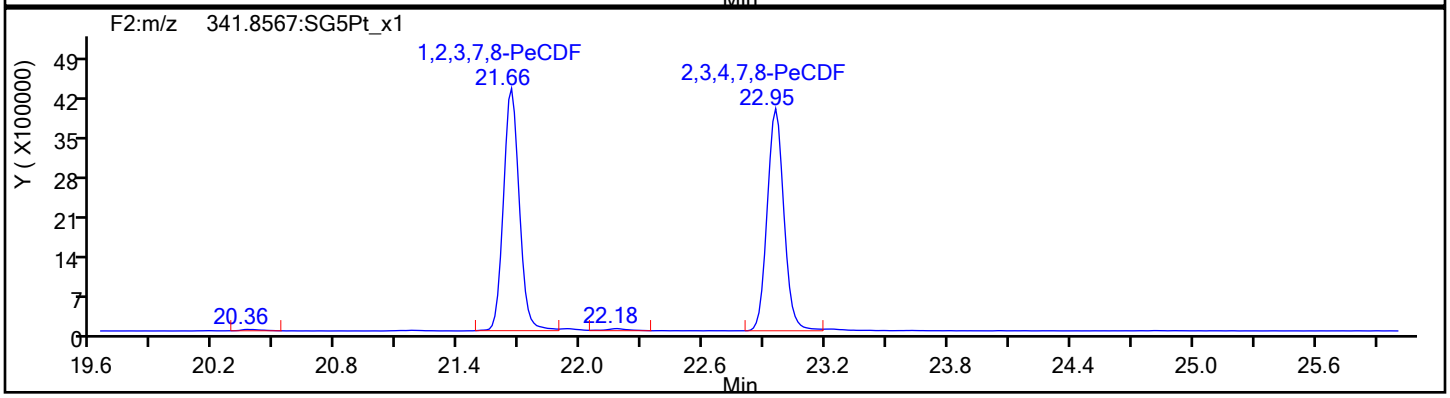

PeCDF Standards

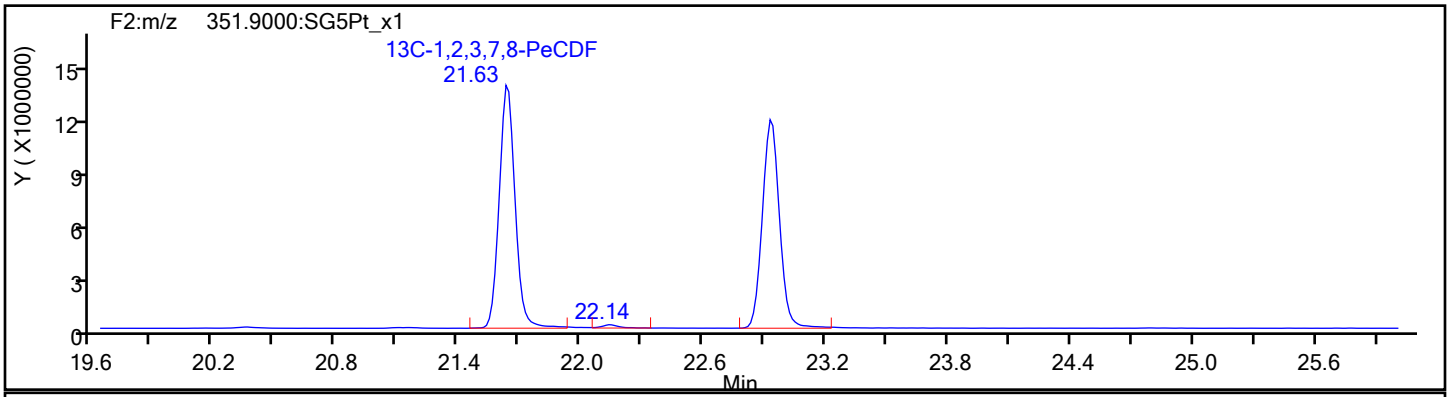

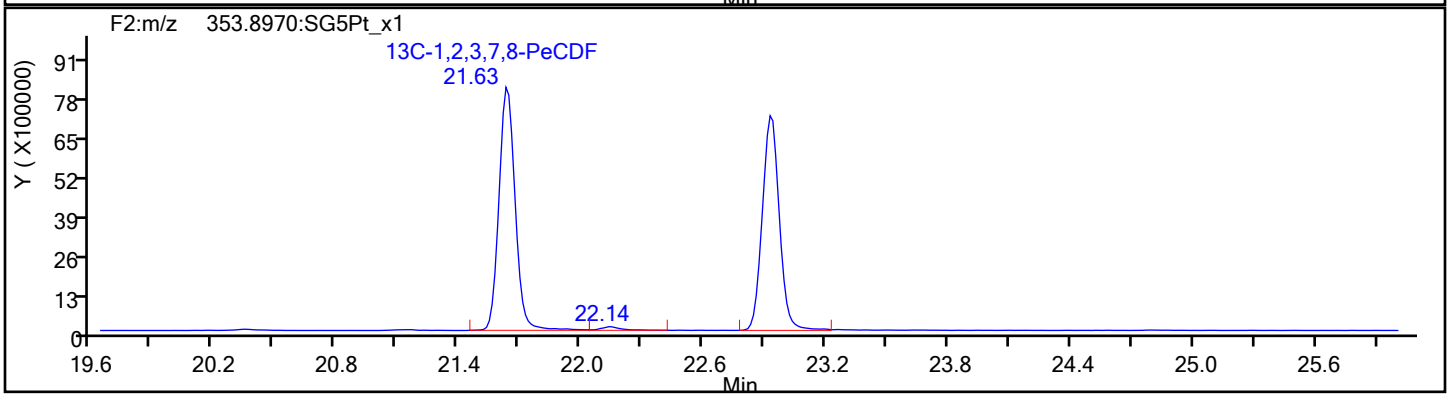

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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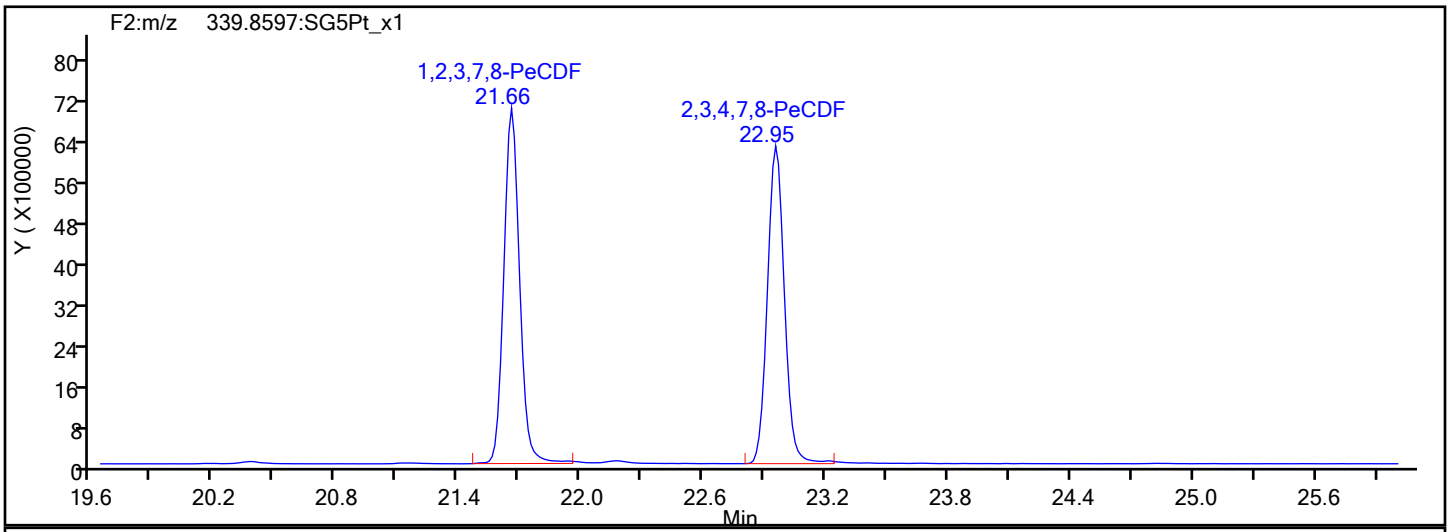

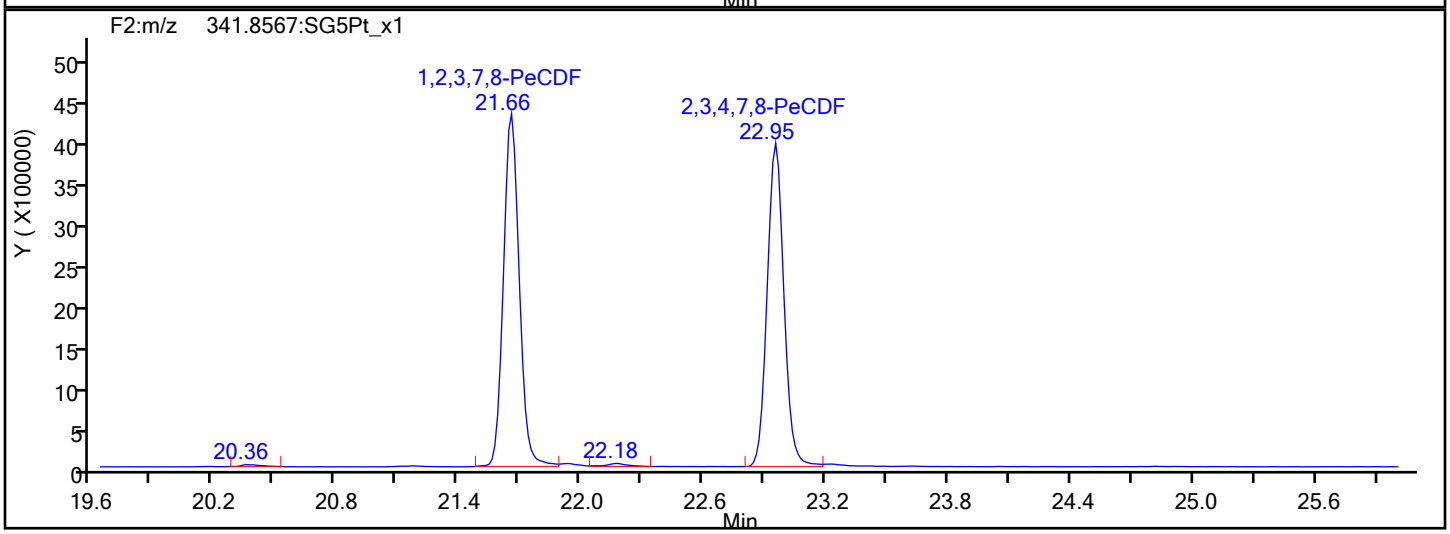

PeCDF Interference Mass

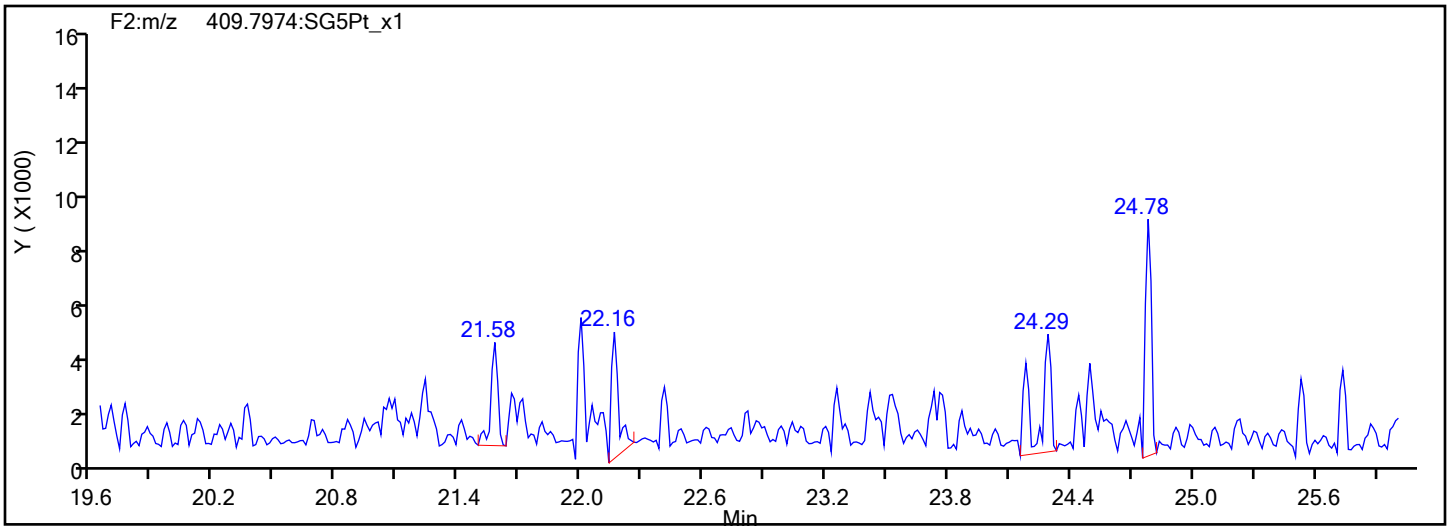

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Eurofins TestAmerica, Sacramento

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PeCDD

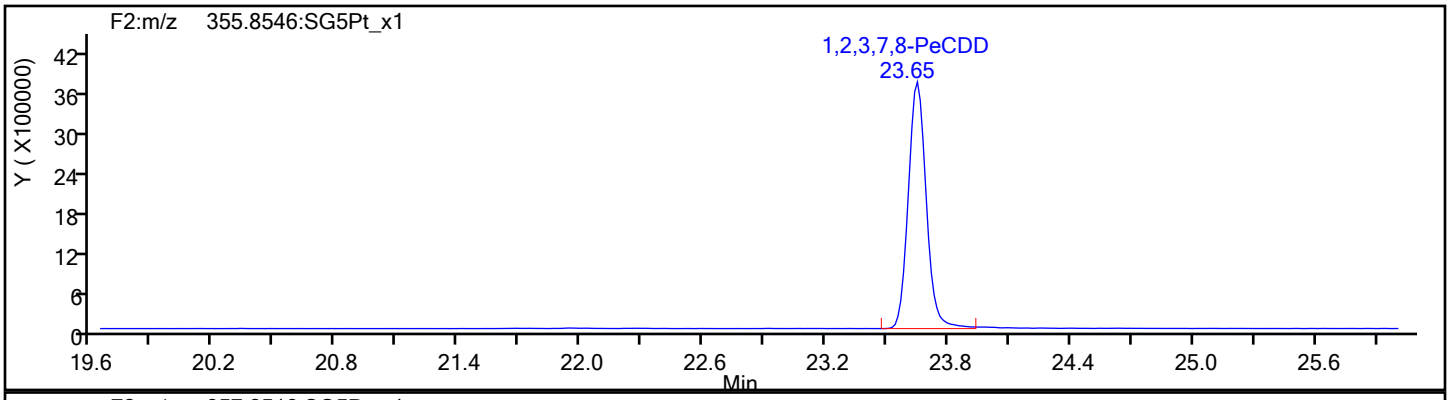

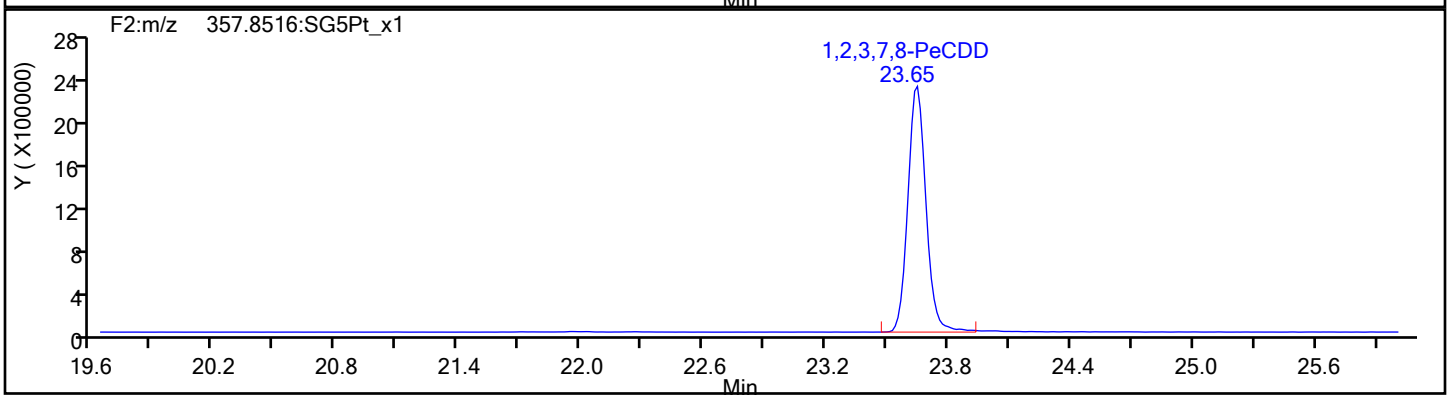

PeCDD Standards

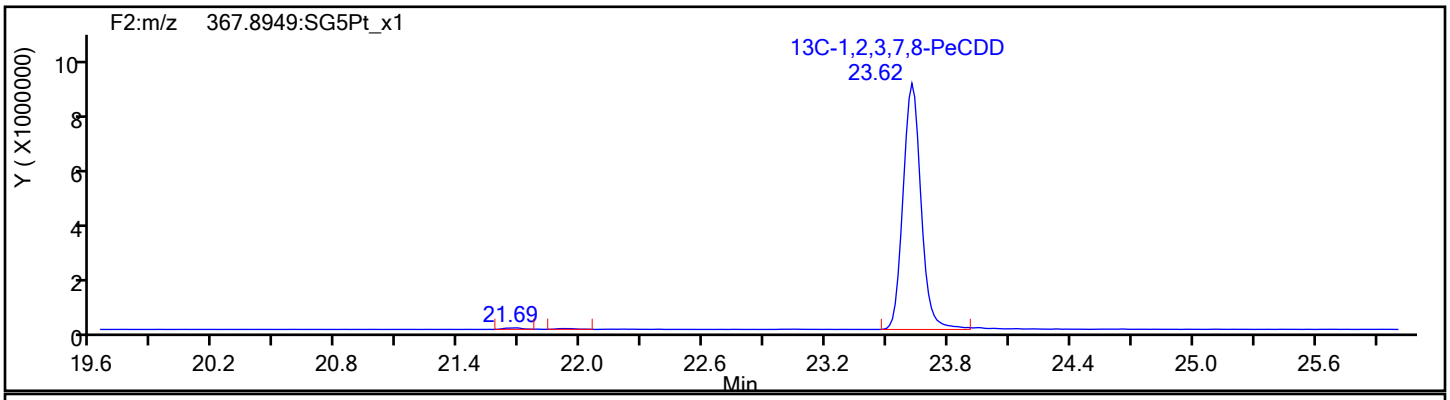

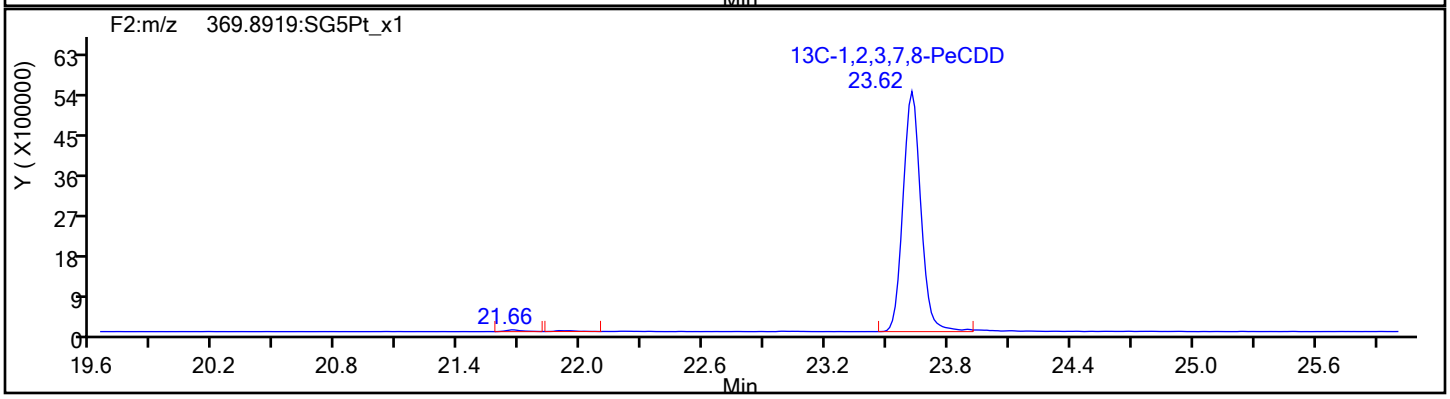

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Eurofins TestAmerica, Sacramento

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HxCDF

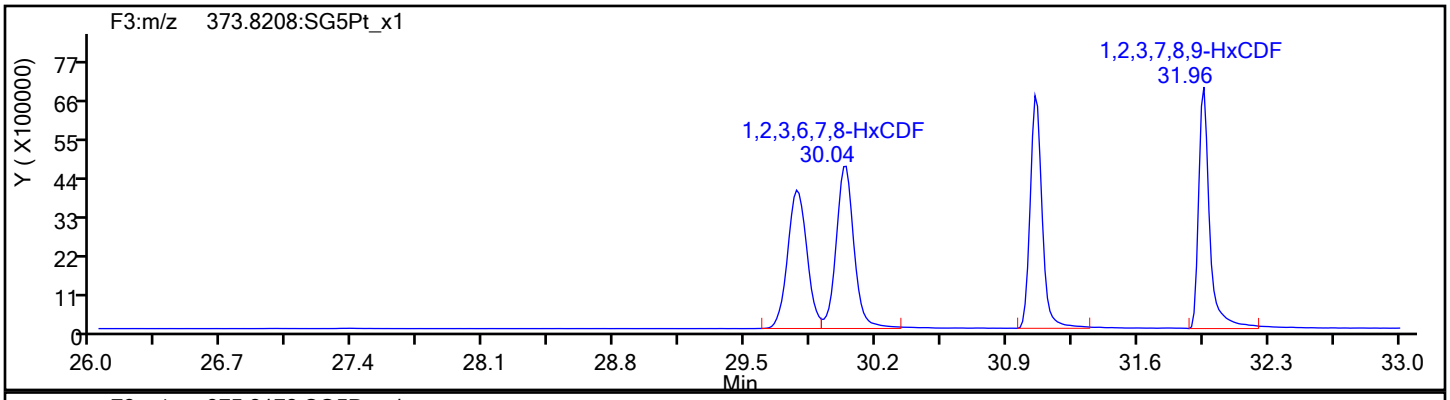

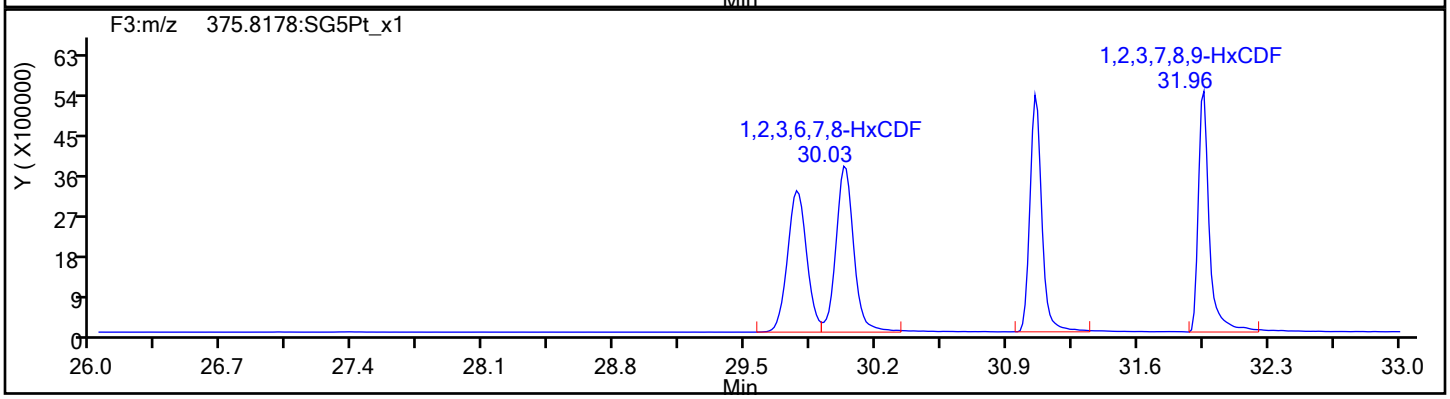

HxCDF Standards

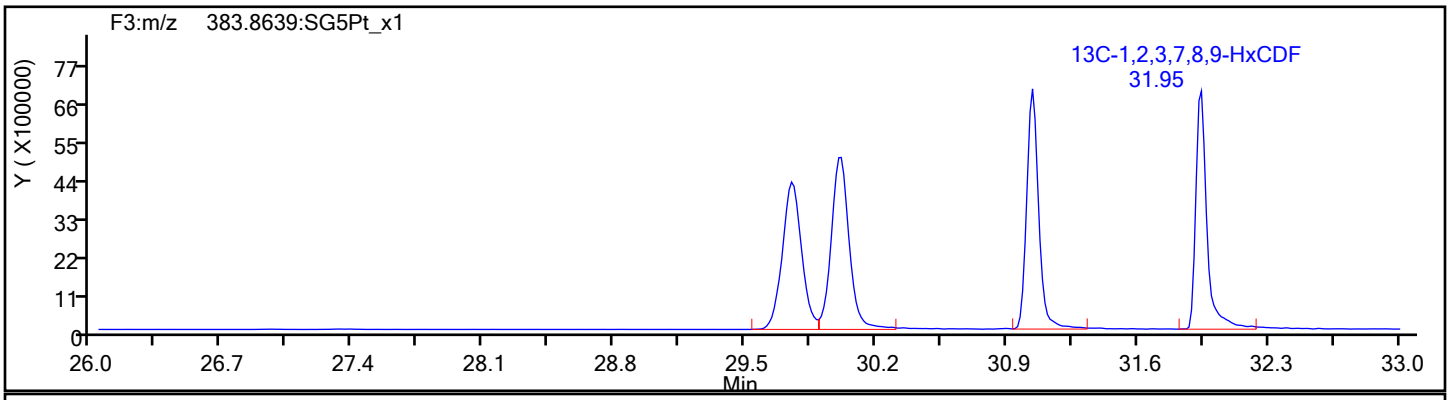

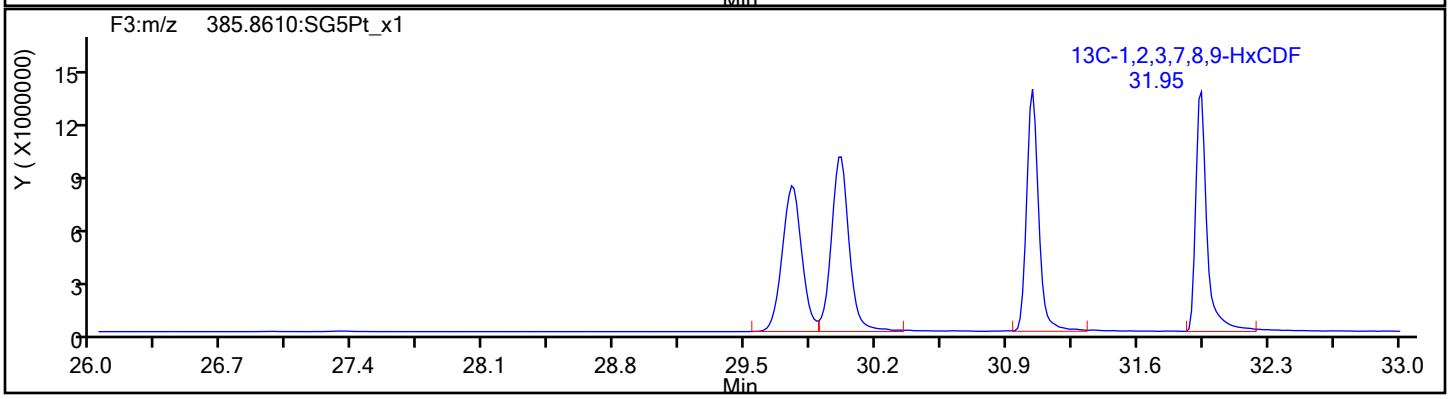

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Eurofins TestAmerica, Sacramento

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HxCDF

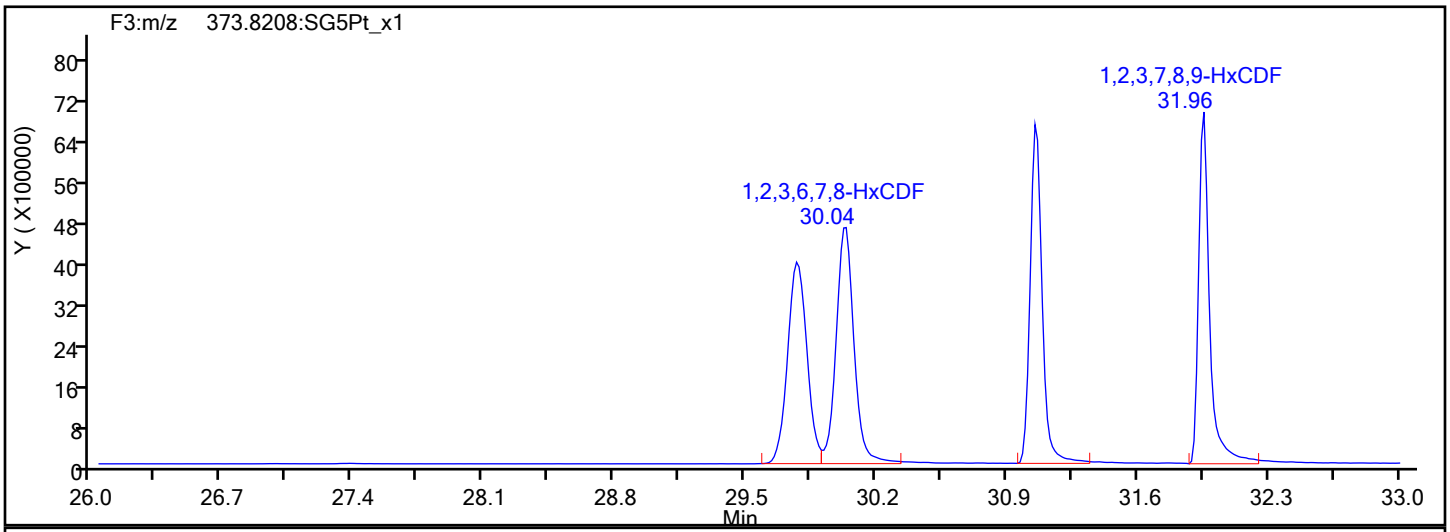

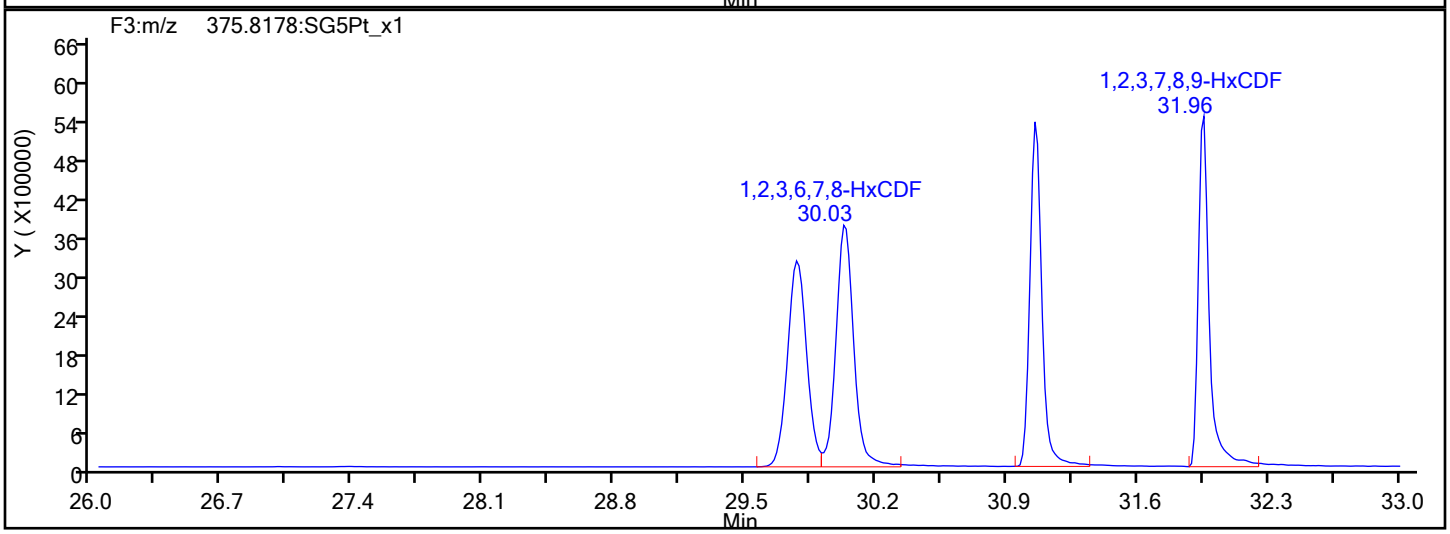

HxCDF Interference Mass

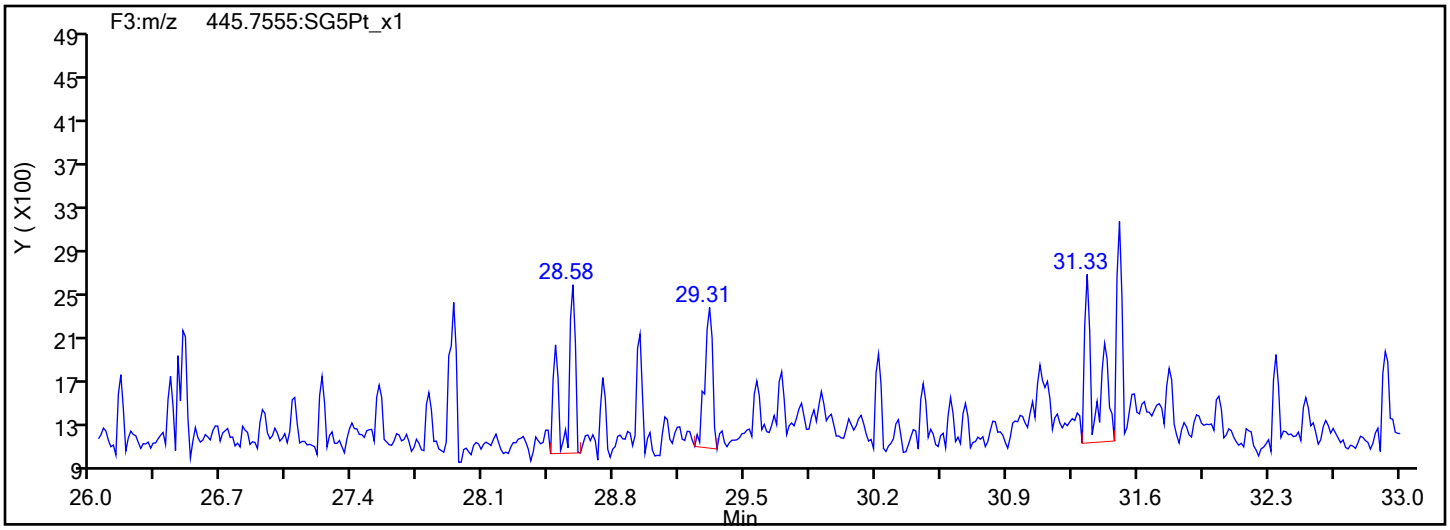

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Eurofins TestAmerica, Sacramento

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HxCDD

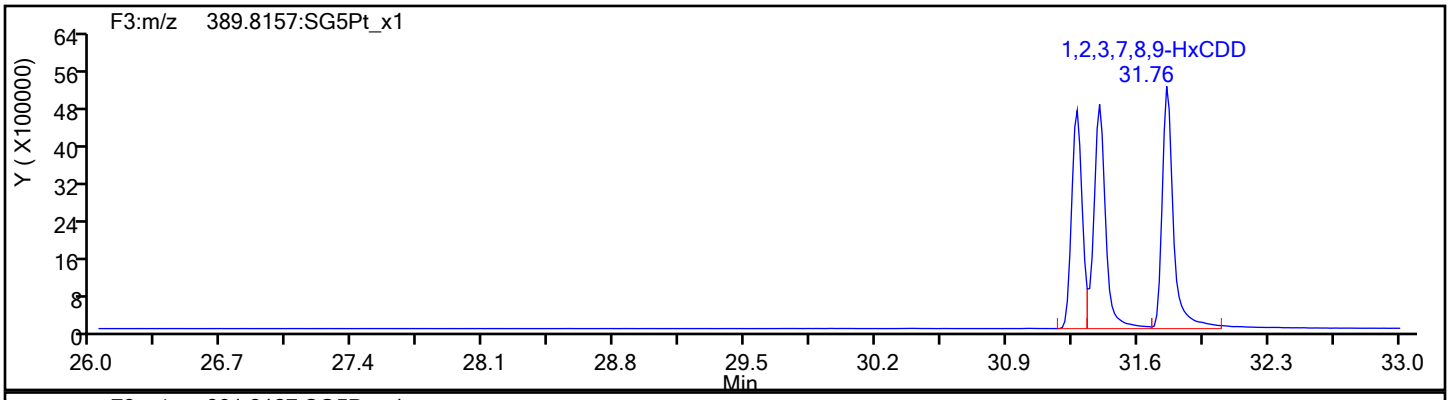

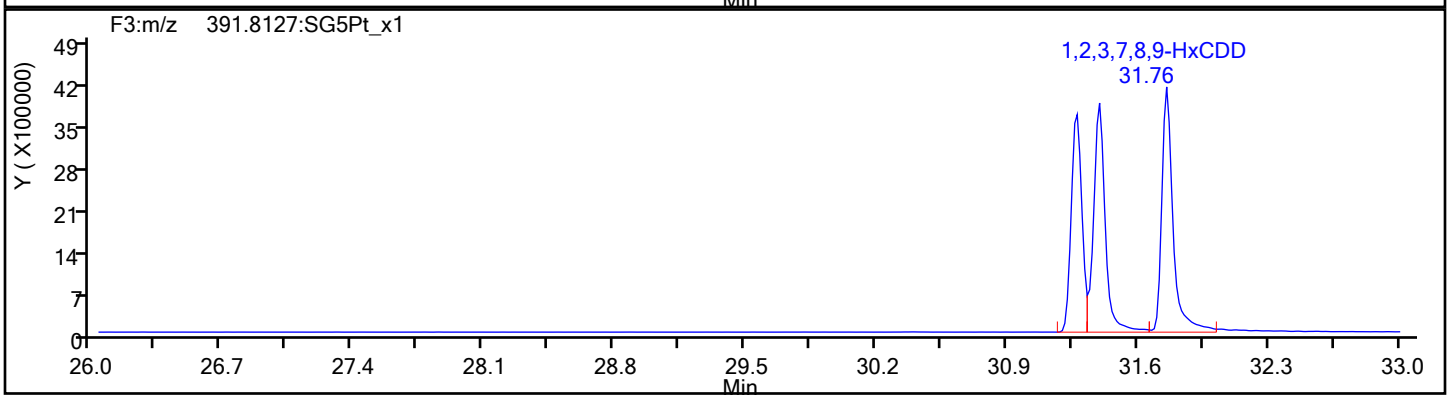

HxCDD Standards

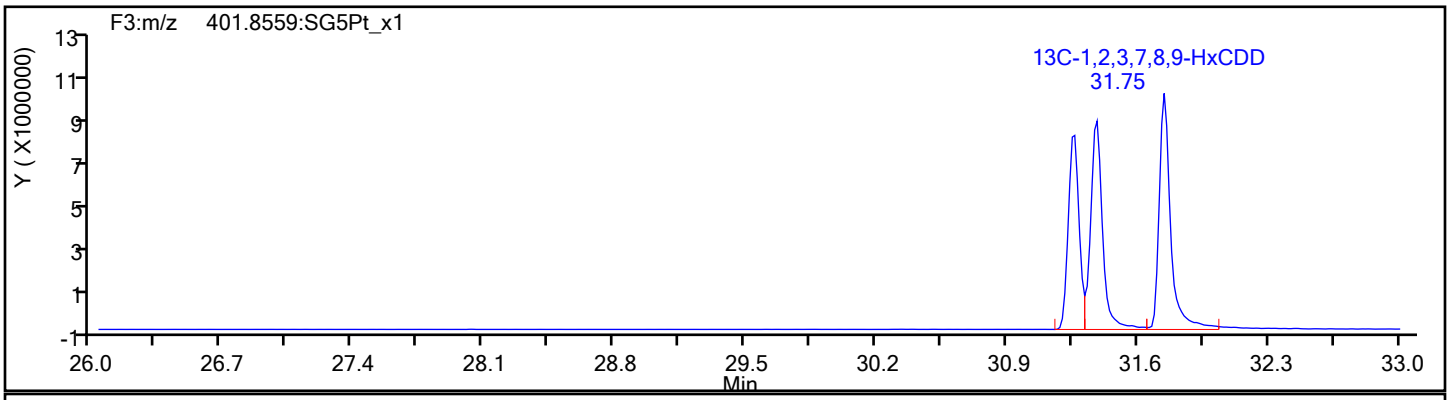

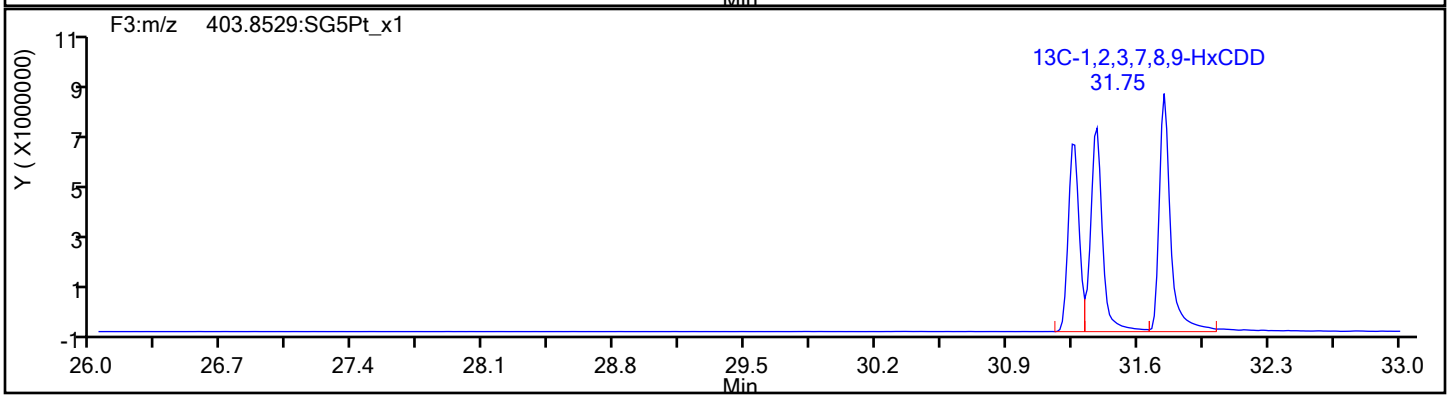

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

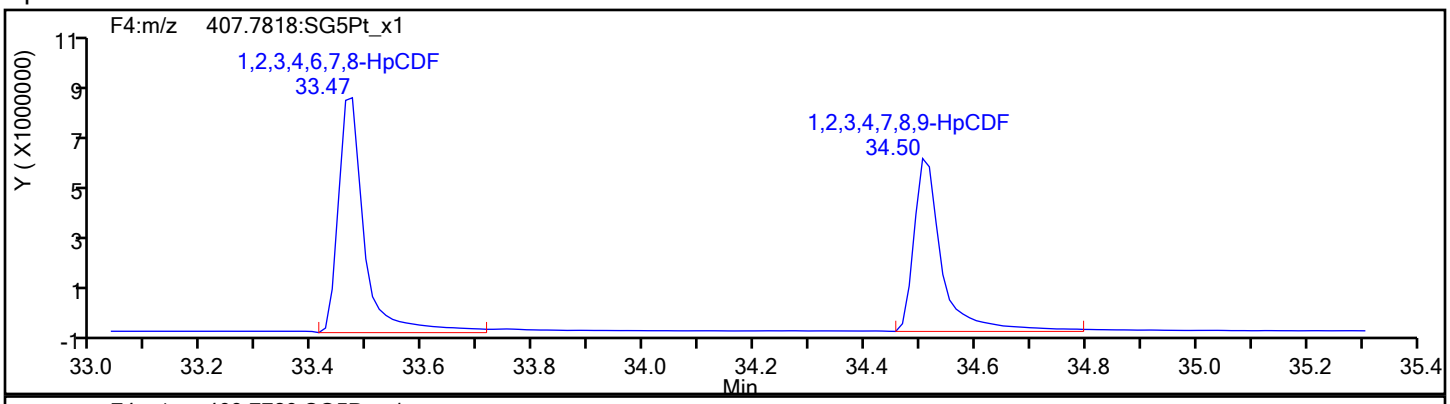

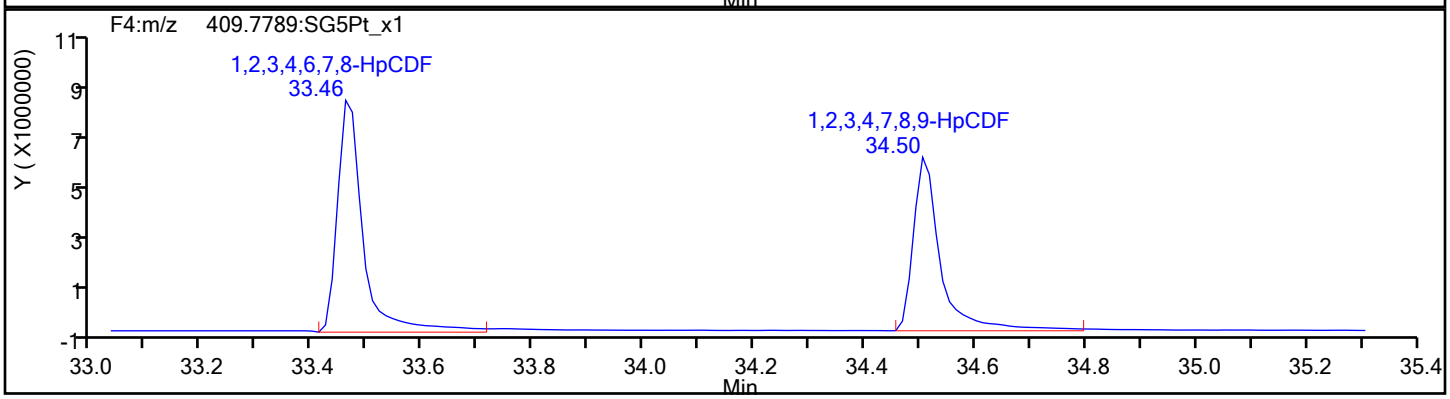

HpCDF Standards

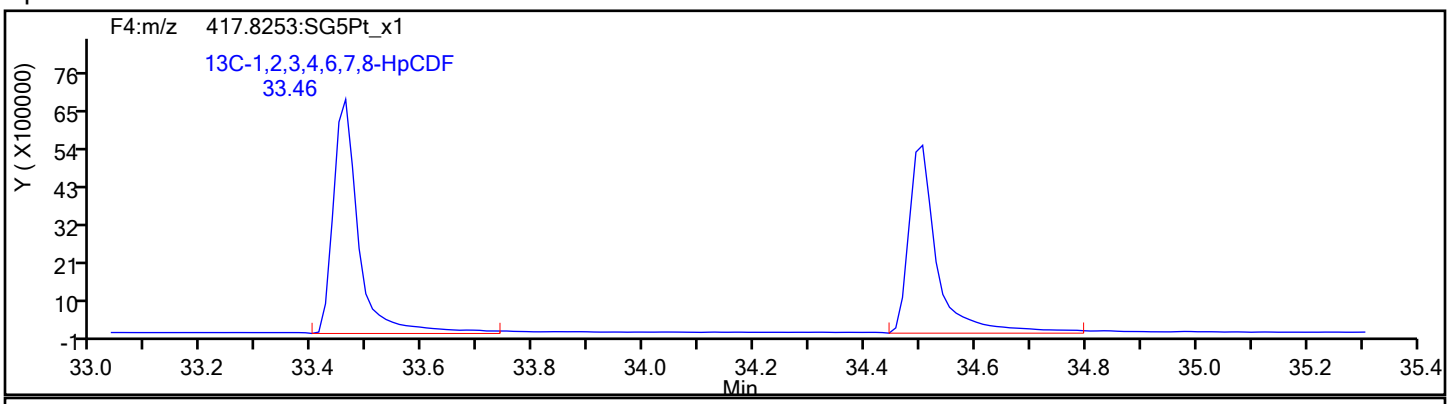

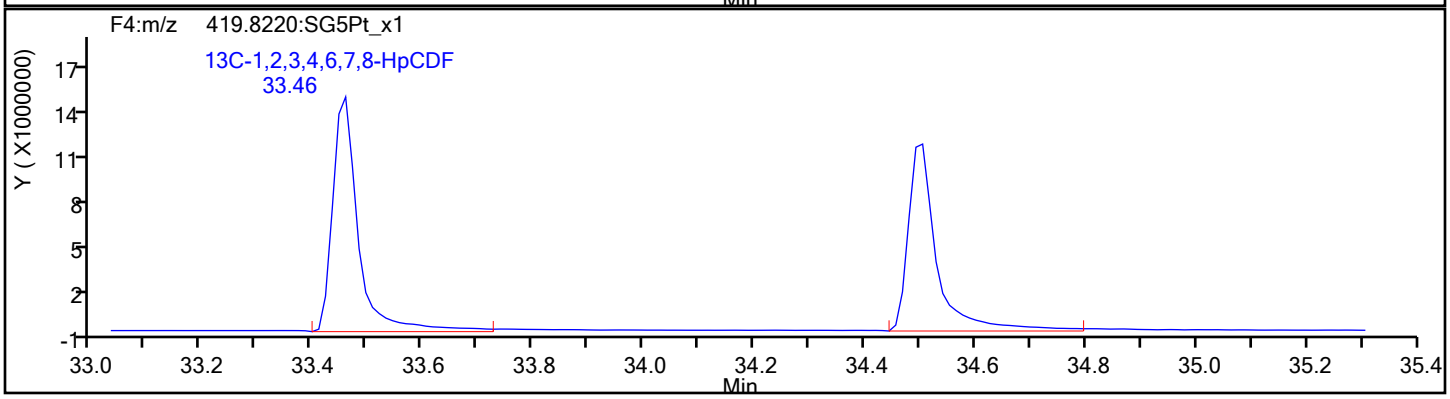

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

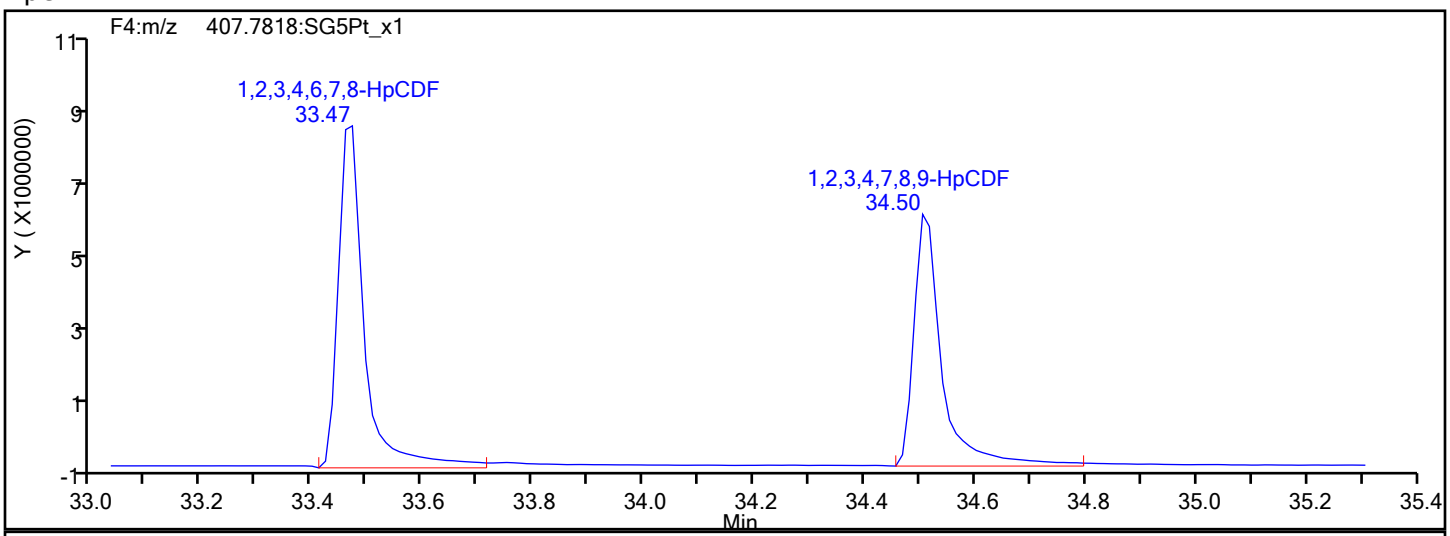

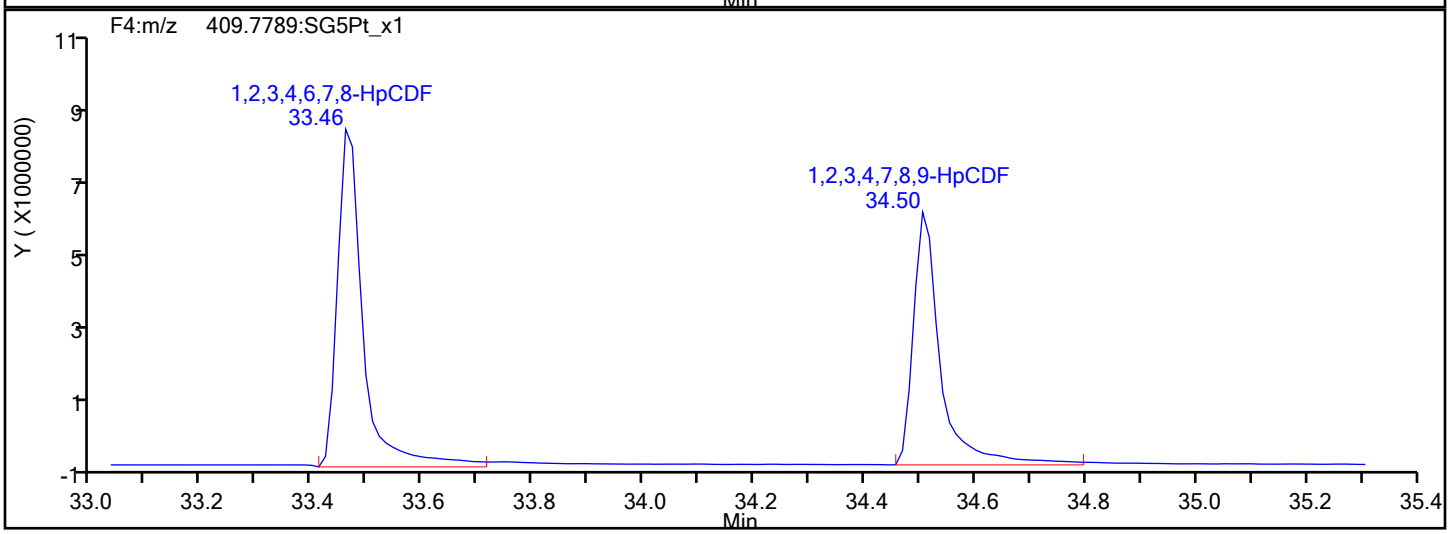

HpCDF Interference Mass

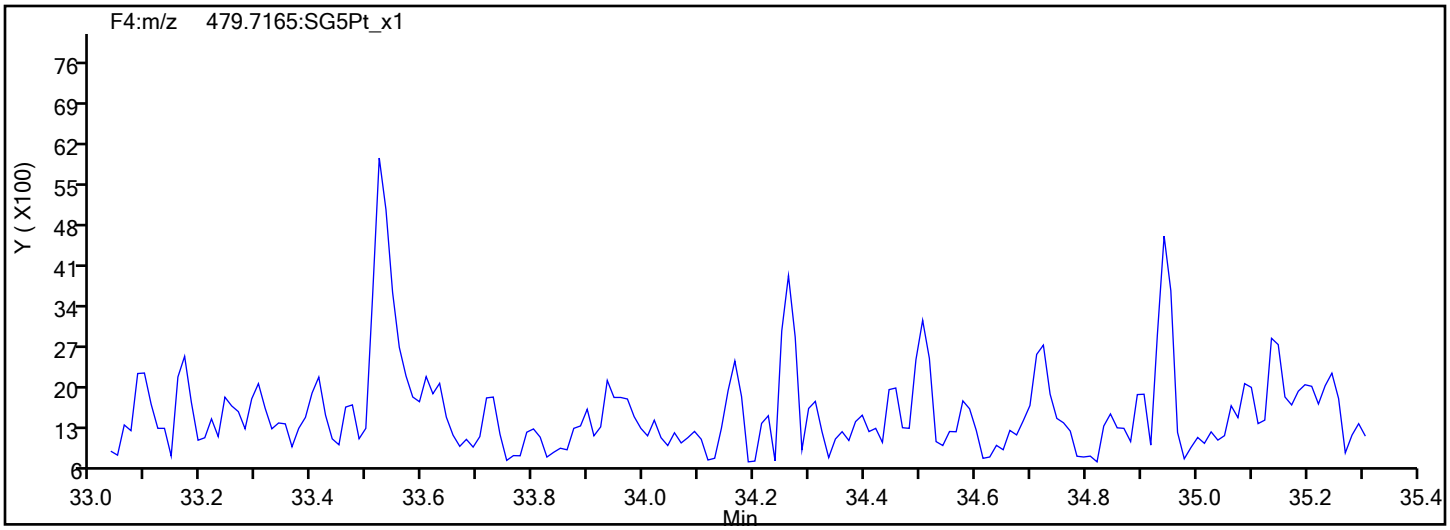

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

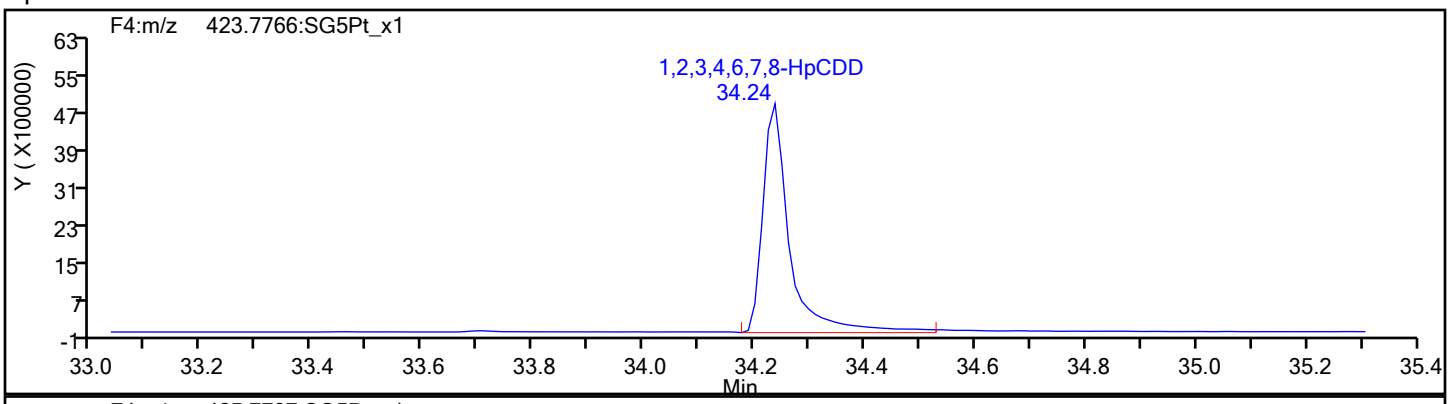

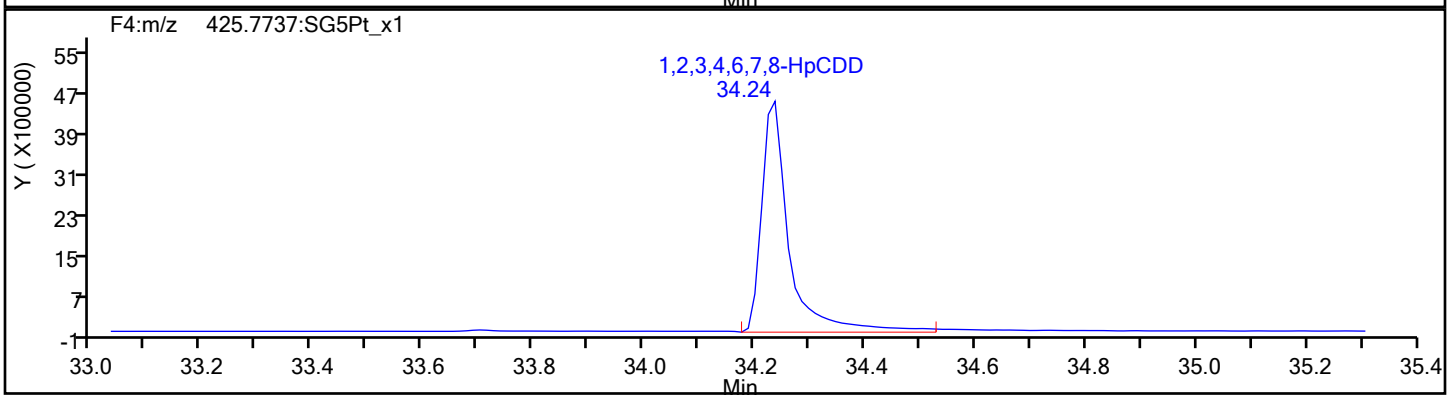

HpCDD Standards

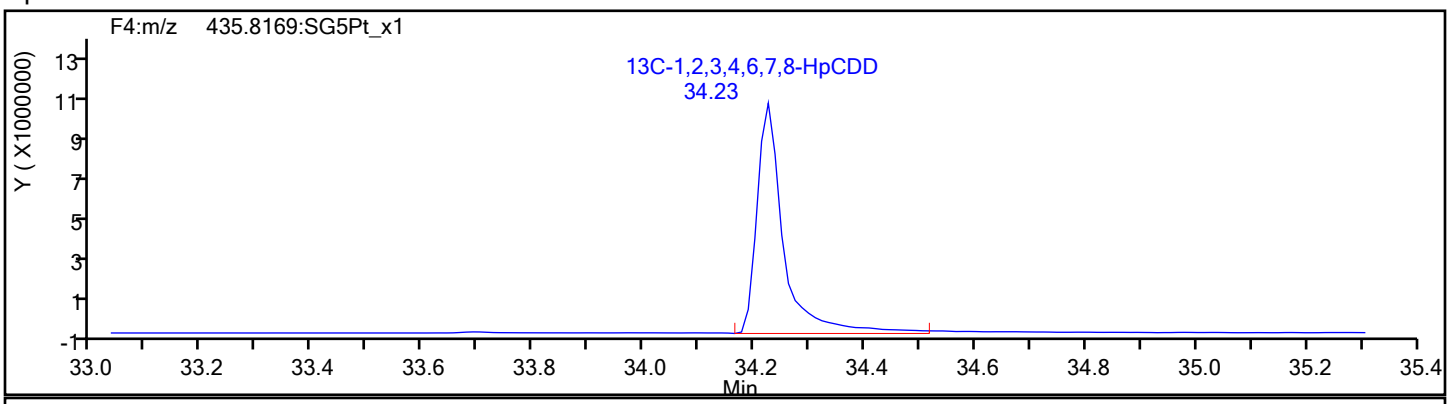

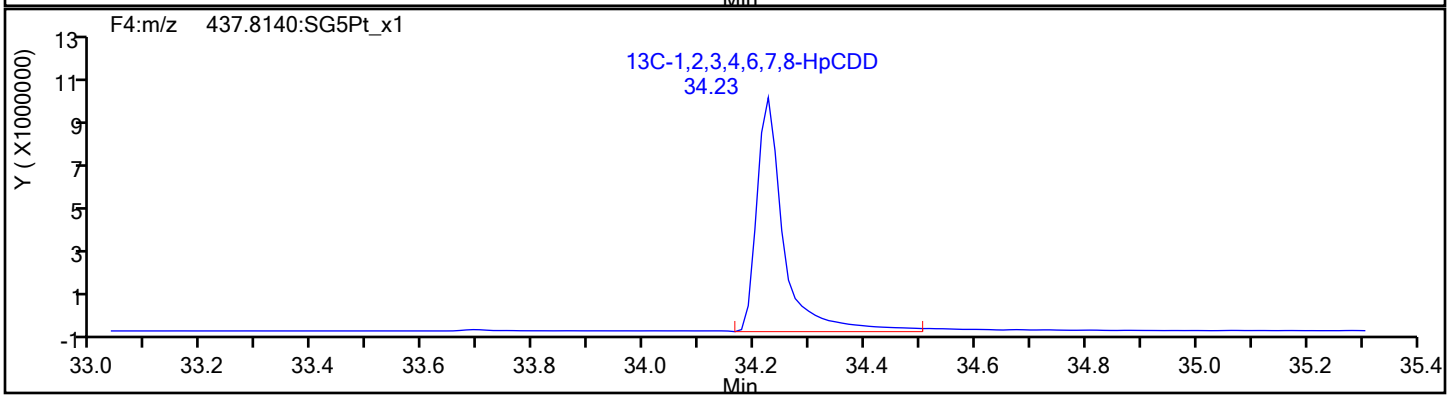

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

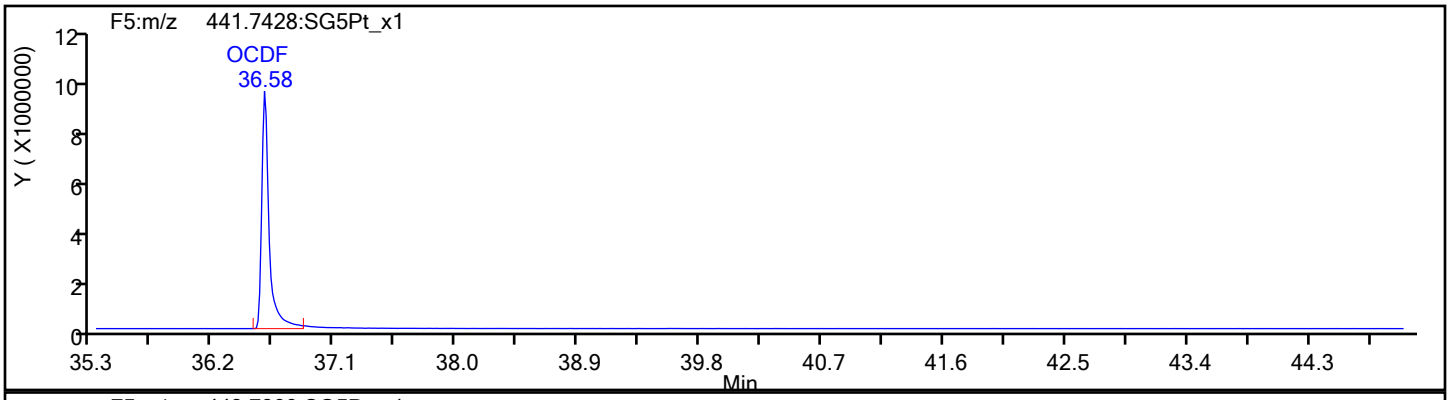

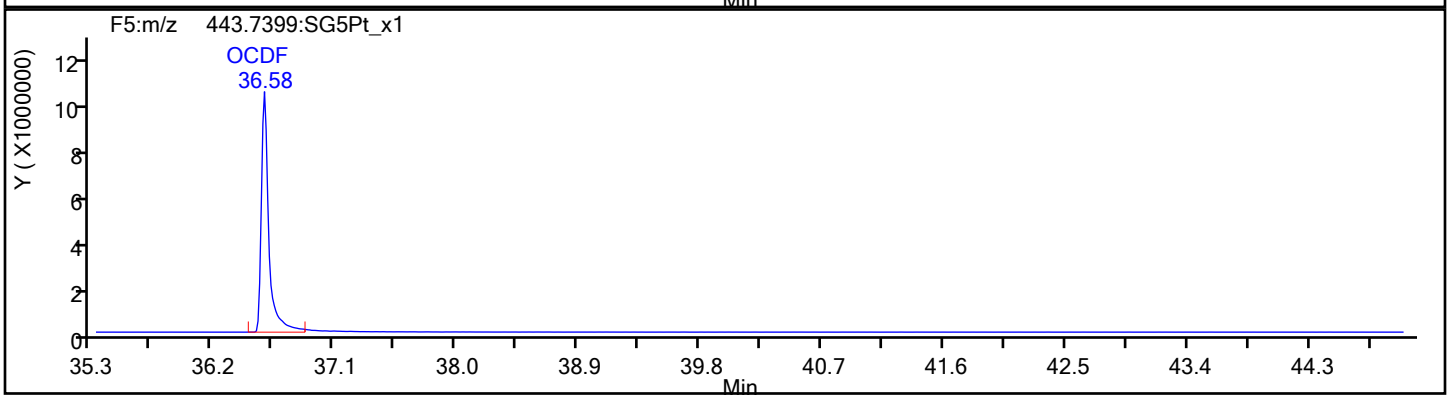

OCDF Standards

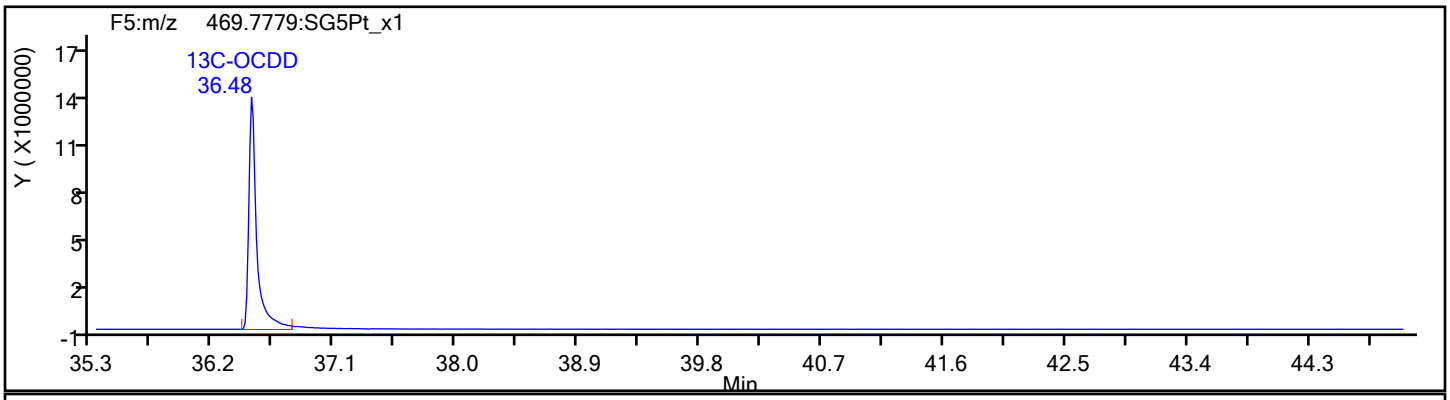

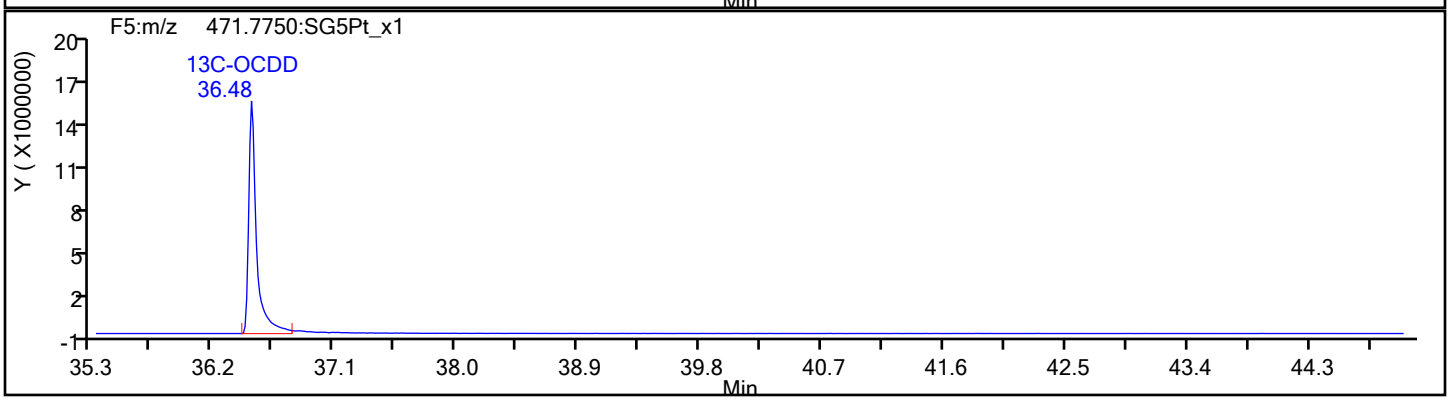

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

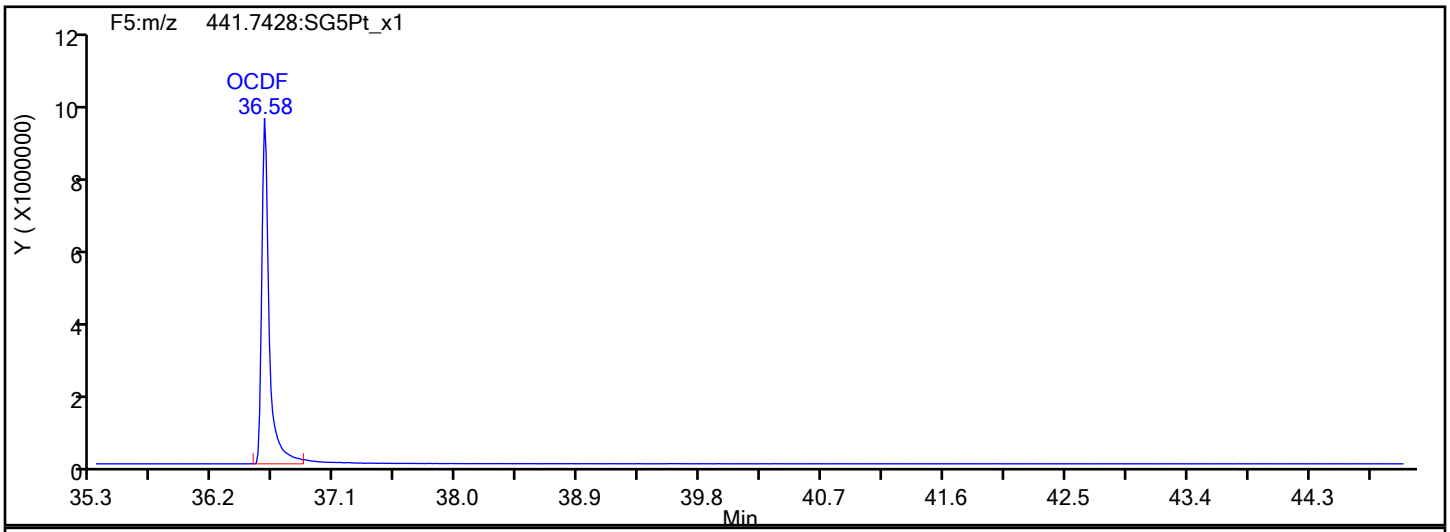

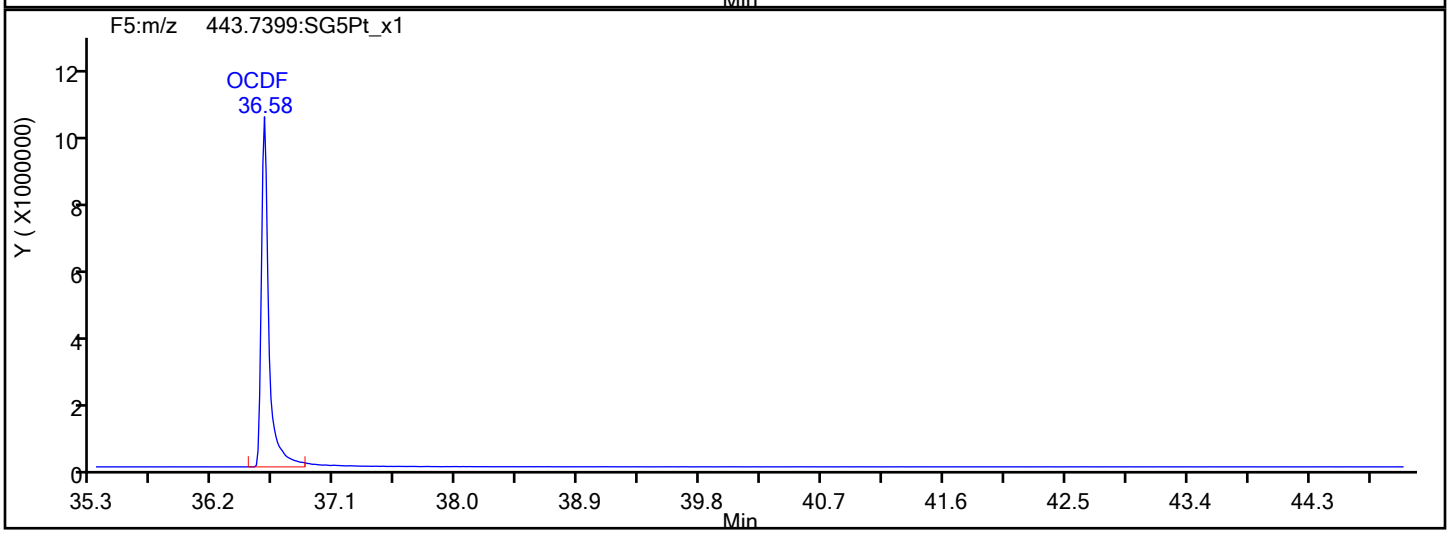

OCDF Interference Mass

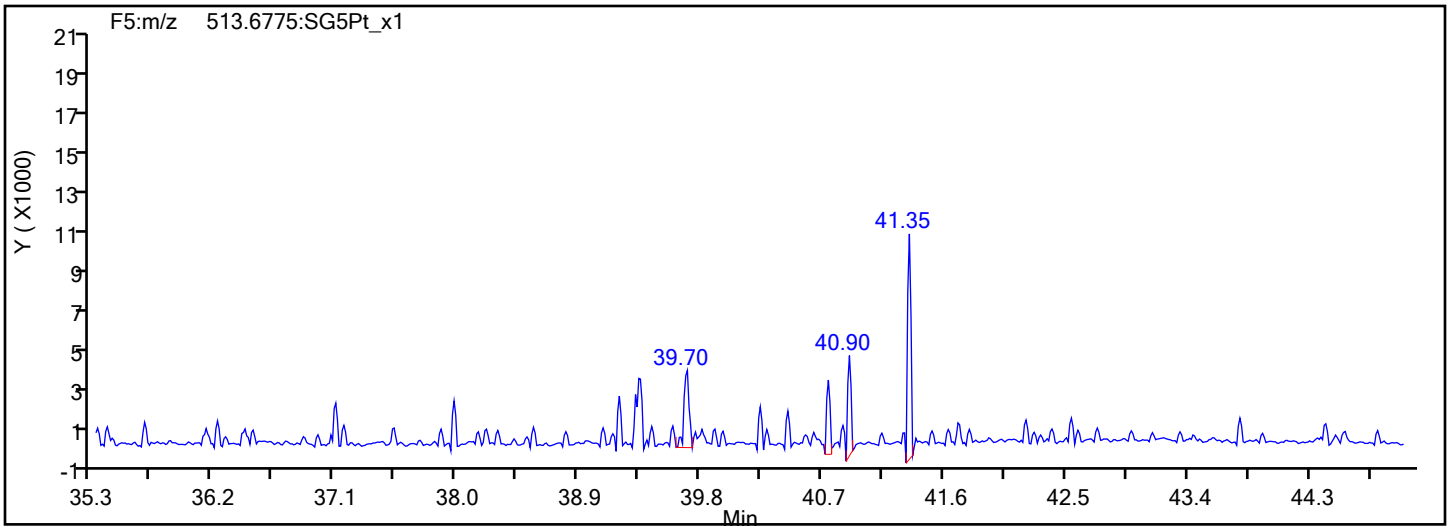

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

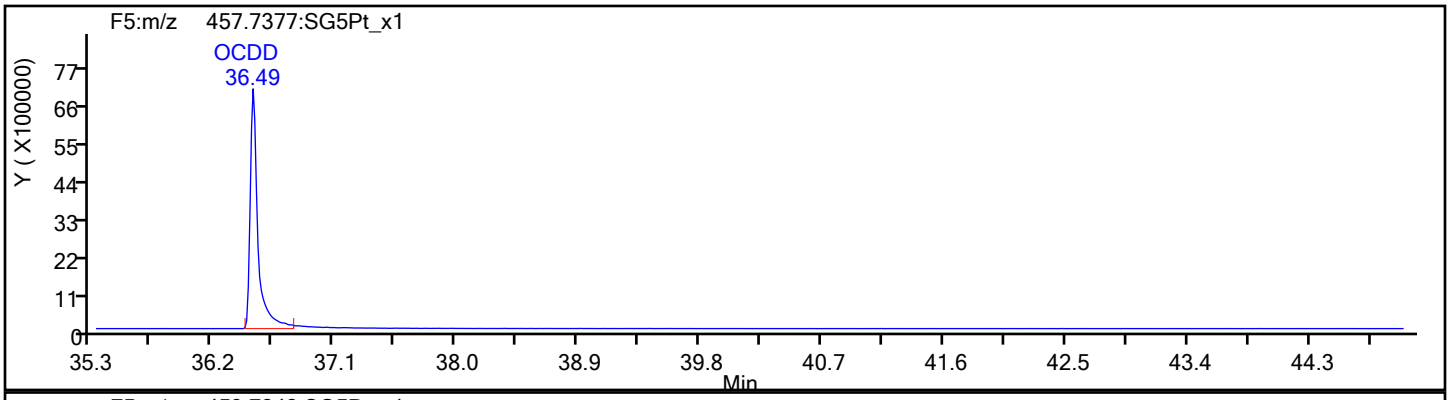

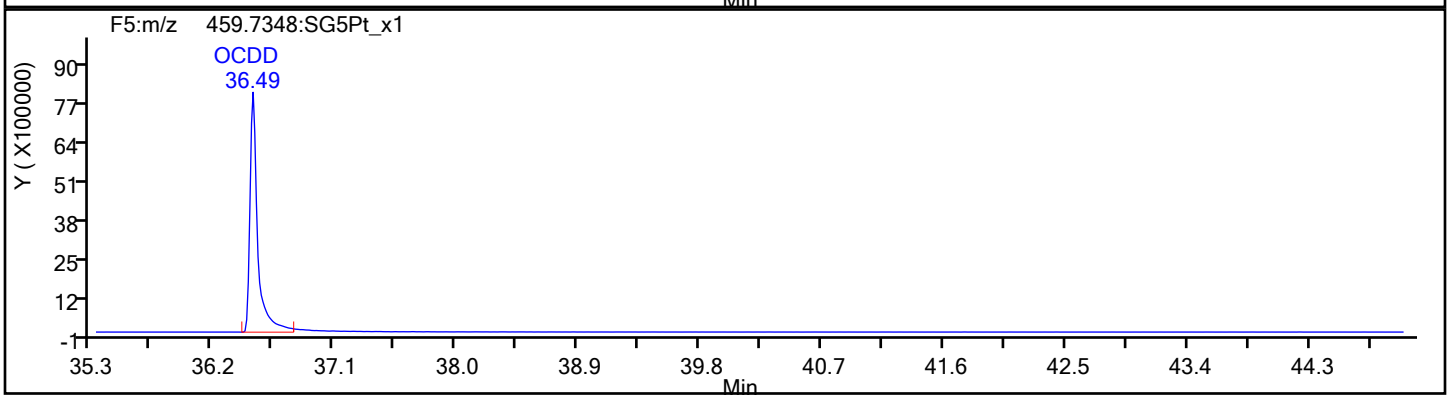

OCDD Standards

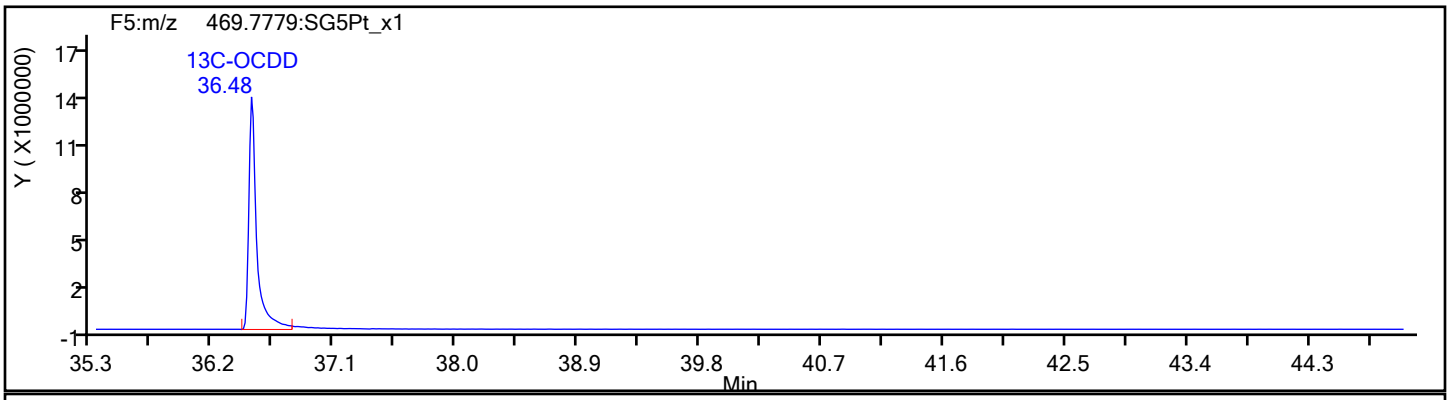

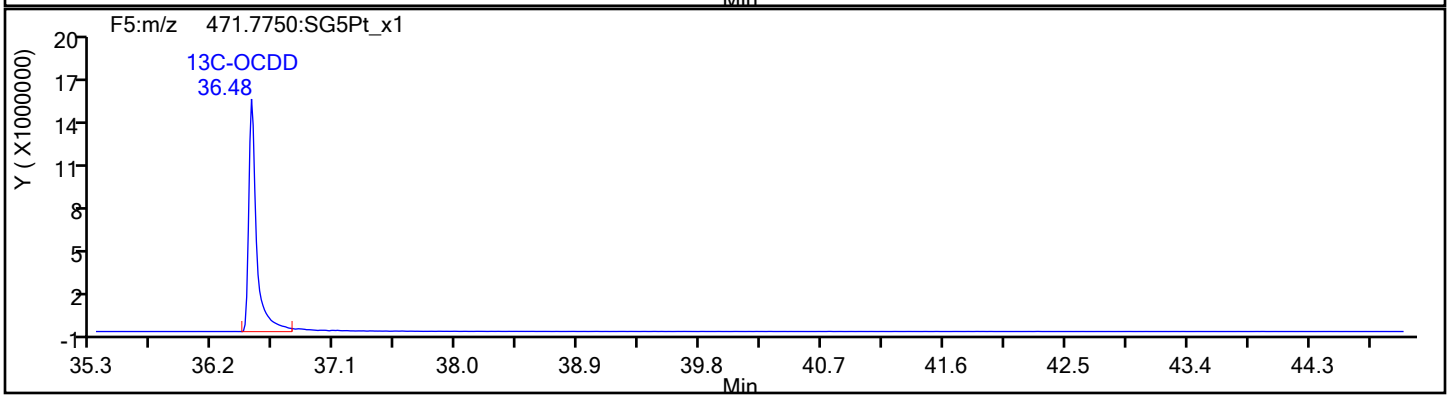

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	7
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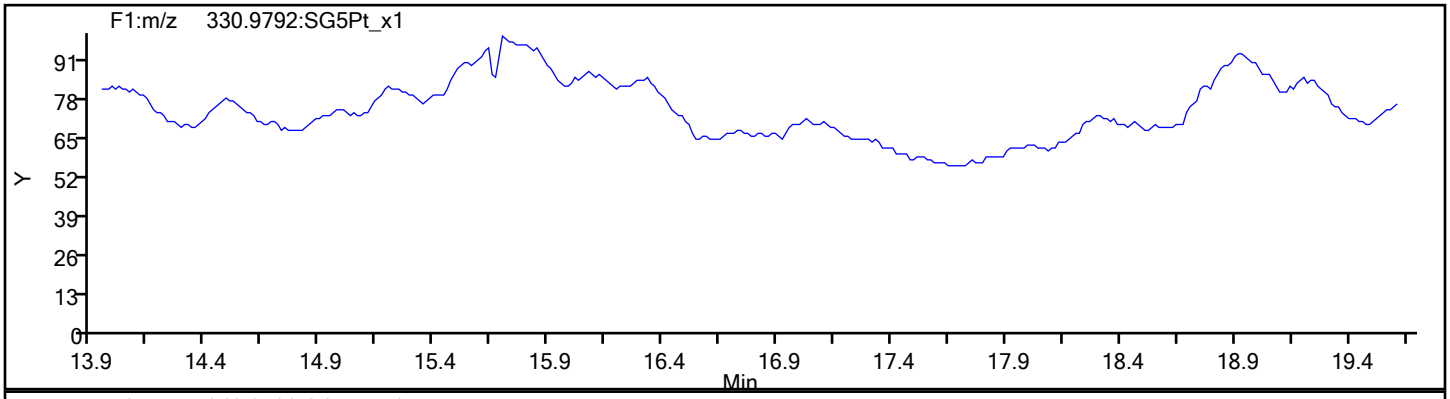

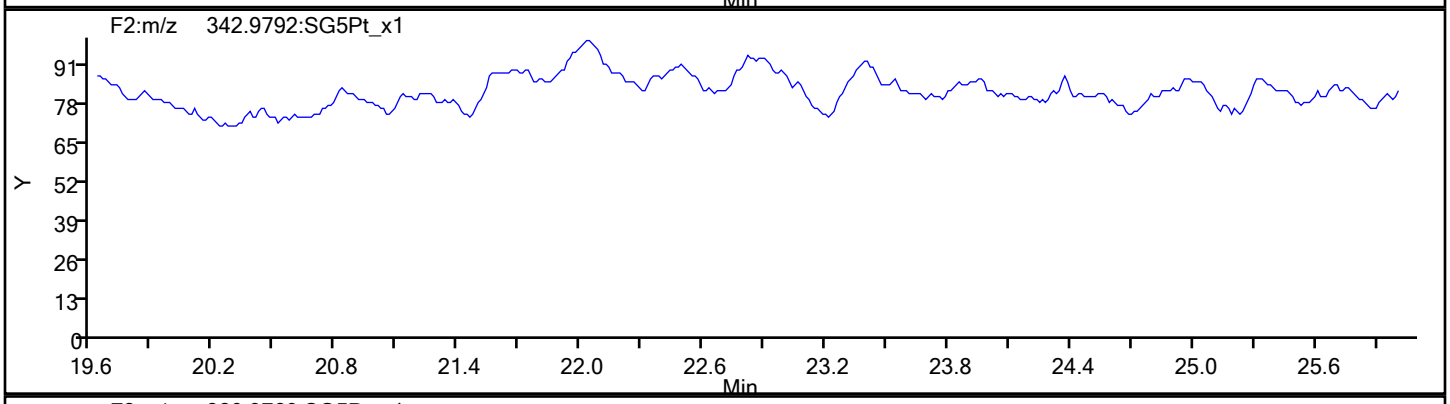

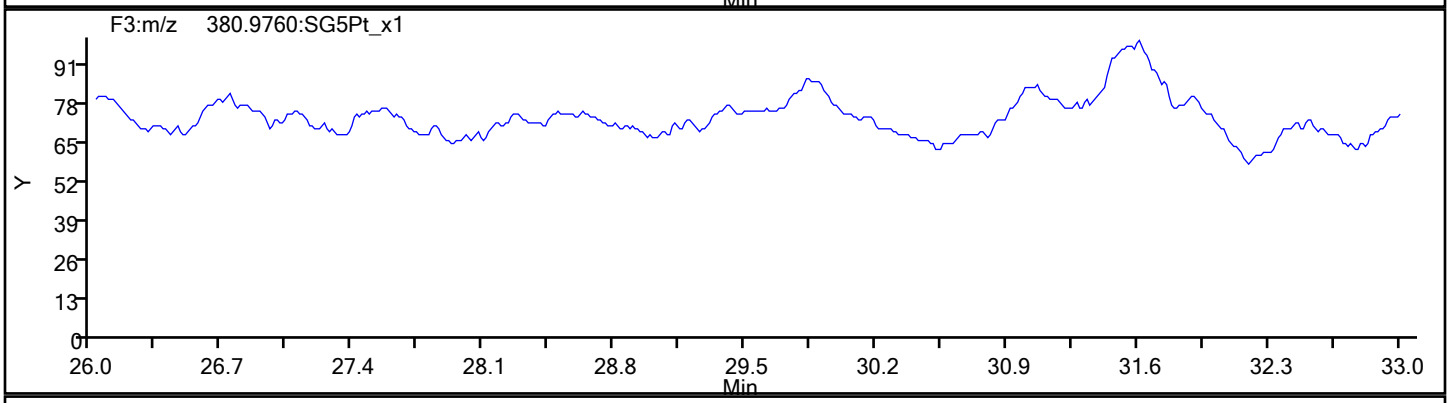

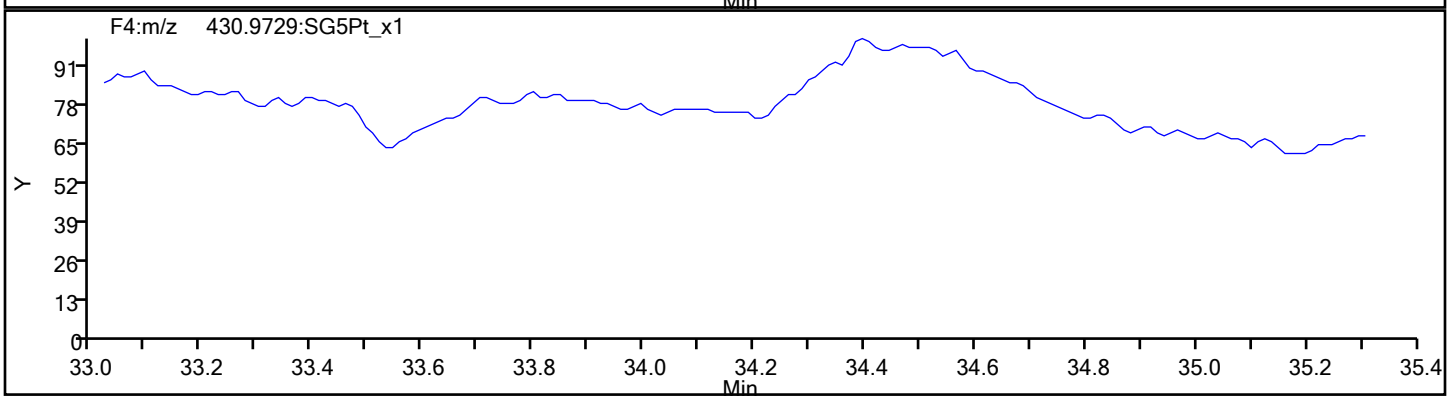

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

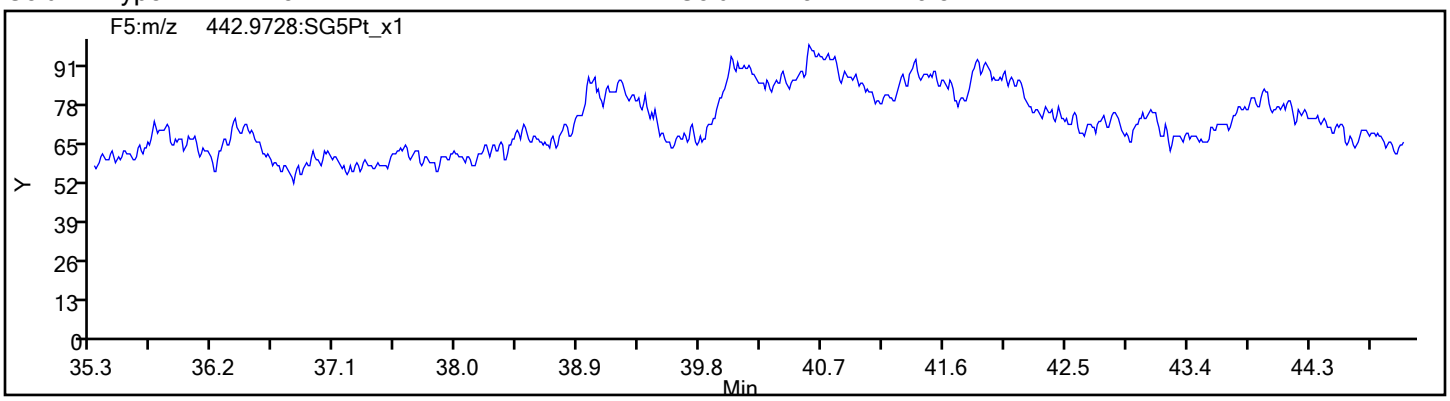

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 17-Sep-2019 16:55:33 ALS Bottle#: 7 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719D CS-6 HRDXNL6_00024
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:47 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:54:56

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.300	157084773	0.78	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.801	225533576	0.80	1.4384	99.8	99.8	0.1407	0.1407	99.82	
2,3,7,8-TCDF	16.816	462672519	0.79	1.0507	195.2	195.2	0.2682	0.2682	97.62	
S Total TCDF					195.2	195.2	0.2682	0.2682		
D 13C-2,3,7,8-TCDD	17.481	150666513	0.77	0.9533	100.6	100.6	0.1699	0.1699	101	
$ 37Cl4-2,3,7,8-TCDD	17.496	402794059		1.2224	209.8	209.8	0.1859	0.1859	105	
2,3,7,8-TCDD	17.511	327747086	0.80	1.1064	196.6	196.6	0.1471	0.1471	98.31	
S Total TCDD					196.6	196.6	0.1471	0.1471		
D 13C-1,2,3,7,8-PeCDF	21.645	171862914	1.60	1.0286	106.4	106.4	0.2163	0.2163	106	
1,2,3,7,8-PeCDF	21.659	1845377073	1.58	1.0822	992.2	992.2	2.737	2.737	99.22	
D 13C-2,3,4,7,8-PeCDF	22.940	167797734	1.58	0.9827	108.7	108.7	0.2264	0.2264	109	
2,3,4,7,8-PeCDF	22.954	1854754260	1.57	1.1032	1001.9	1001.9	2.942	2.942	100	
S Total PeCDF					1994.1	1994.1	2.839	2.839		
D 13C-1,2,3,7,8-PeCDD	23.622	129152474	1.52	0.7481	109.9	109.9	0.1201	0.1201	110	
1,2,3,7,8-PeCDD	23.649	1162563715	1.58	0.9050	994.6	994.6	1.041	1.041	99.46	
S Total PeCDD					994.6	994.6	1.041	1.041		
D 13C-1,2,3,4,7,8-HxCDF	29.775	140595624	0.52	1.1520	100.0	100.0	0.4225	0.4225	99.98	
1,2,3,4,7,8-HxCDF	29.802	1688948701	1.26	1.1973	1003.3	1003.3	7.472	7.472	100	
D 13C-1,2,3,6,7,8-HxCDF	30.015	151833452	0.53	1.2434	100.0	100.0	0.3914	0.3914	100	
1,2,3,6,7,8-HxCDF	30.042	1790437956	1.26	1.1807	998.8	998.8	6.340	6.340	99.88	
D 13C-2,3,4,6,7,8-HxCDF	31.040	147071003	0.53	1.1720	102.8	102.8	0.4153	0.4153	103	
2,3,4,6,7,8-HxCDF	31.066	1773083873	1.25	1.2116	995.1	995.1	4.324	4.324	99.51	
D 13C-1,2,3,7,8,9-HxCDF	31.945	129353689	0.52	1.0655	99.5	99.5	0.4568	0.4568	99.46	
1,2,3,7,8,9-HxCDF	31.958	1579646001	1.26	1.2451	980.8	980.8	4.155	4.155	98.08	
S Total HxCDF					3977.9	3977.9	5.573	5.573		
* 13C-1,2,3,7,8,9-HxCDD	31.745	122060377	1.25	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.266	100374877	1.33	0.7812	105.3	105.3	0.3579	0.3579	105	
1,2,3,4,7,8-HxCDD	31.279	1132407299	1.25	1.1088	1017.5	1017.5	3.102	3.102	102	
D 13C-1,2,3,6,7,8-HxCDD	31.386	116499868	1.24	0.9175	104.0	104.0	0.3048	0.3048	104	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.399	1240444751	1.26	1.0814	984.6	984.6	2.882	2.882	98.46	
1,2,3,7,8,9-HxCDD	31.759	1259477463	1.26	1.2123	958.1	958.1	2.697	2.697	95.81	
S Total HxCDD					2960.2	2960.2	2.894	2.894		
D 13C-1,2,3,4,6,7,8-HpCDF	33.459	106743815	0.46	0.8628	101.4	101.4	1.713	1.713	101	
1,2,3,4,6,7,8-HpCDF	33.472	1613842335	1.05	1.5555	971.9	971.9	14.1	14.1	97.19	
D 13C-1,2,3,4,7,8,9-HpCDF	34.504	100973962	0.46	0.7991	103.5	103.5	1.849	1.849	104	
1,2,3,4,7,8,9-HpCDF	34.504	1391884877	1.05	1.3862	994.4	994.4	18.7	18.7	99.44	
S Total HpCDF					1966.3	1966.3	16.4	16.4		
D 13C-1,2,3,4,6,7,8-HpCDD	34.225	111298169	1.03	0.8739	104.3	104.3	0.8846	0.8846	104	
1,2,3,4,6,7,8-HpCDD	34.237	1030391820	1.05	0.9316	993.8	993.8	7.238	7.238	99.38	
S Total HpCDD					993.8	993.8	7.238	7.238		
D 13C-OCDD	36.493	206464776	0.88	0.7744	218.4	218.4	0.2420	0.2420	109	
OCDF	36.589	2616959337	0.90	1.2596	2012.6	2012.6	1.498	1.498	101	
OCDD	36.505	2125514466	0.89	1.0621	1938.6	1938.6	2.038	2.038	96.93	

Reagents:

HRDXNL6_00024 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 17-Sep-2019 16:55:33 ALS Bottle#: 7 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719D CS-6 HRDXNL6_00024
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:47 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:54:56

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.300	17.303	0		68656888	17703152	11871	29677	1491		
333.9339	17.300	17.303	0		88427885	22923443	14450	36125	1586	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.801	16.810	-1	0.971	100473796	26202504	17815	44537	1471		
317.9389	16.801	16.810	-1	0.971	125059780	32860085	15076	37690	2180	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.816	16.825	-1	1.001	203968881	53426825	28090	70225	1902		
305.8987	16.816	16.825	-1	1.001	258703638	67905008	38497	96242	1764	0.79(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.481	17.490	-1	1.010	65699125	16108883	11871	29677	1357		
333.9339	17.481	17.490	-1	1.010	84967388	20783333	14450	36125	1438	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.496	17.505	-1	1.011	402794059	97947785	36924	92310	2653		
2,3,7,8-TCDD											
319.8965	17.511	17.505	0	1.002	145759899	35006474	11020	27550	3177		
321.8936	17.496	17.505	-1	1.001	181987187	44378051	13000	32500	3414	0.80(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	21.645	21.637	0	1.251	105769386	19380532	21442	53605	904		
353.8970	21.645	21.637	0	1.251	66093528	12006776	14706	36765	816	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.659	21.661	0	1.001	1128987918	207786620	228337	570842	910		
341.8567	21.659	21.661	0	1.001	716389155	132705026	143597	358992	924	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	22.940	22.932	0	1.326	102870411	17592993	21442	53605	820		
353.8970	22.940	22.932	0	1.326	64927323	11060126	14706	36765	752	1.58(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.954	22.954	0	1.001	1134203044	192648194	228337	570842	844		
341.8567	22.954	22.954	0	1.001	720551216	123114818	143597	358992	857	1.57(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.622	23.625	0	1.365	77891431	12413727	9204	23010	1349		
369.8919	23.622	23.625	0	1.365	51261043	8286162	5391	13477	1537	1.52(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.649	23.649	0	1.001	712114532	115586755	47770	119425	2420		
357.8516	23.649	23.649	0	1.001	450449183	73672225	30241	75602	2436	1.58(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.775	29.754	1	0.938	48283336	6569879	20357	50892	323		
385.8610	29.775	29.754	1	0.938	92312288	12535842	37224	93060	337	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.802	29.789	1	1.001	940997687	133250334	383917	959792	347		
375.8178	29.802	29.789	1	1.001	747951014	105366191	299807	749517	351	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.015	30.015	0	0.945	52450288	7974033	20357	50892	392		
385.8610	30.015	30.015	0	0.945	99383164	14861268	37224	93060	399	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.042	30.039	0	1.001	997571168	151931057	383917	959792	396		
375.8178	30.042	30.039	0	1.001	792866788	120963468	299807	749517	403	1.26(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.040	31.043	0	0.978	50759518	11236785	20357	50892	552		
385.8610	31.040	31.043	0	0.978	96311485	21393821	37224	93060	575	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.066	31.059	0	1.001	985093633	220162965	383917	959792	573		
375.8178	31.066	31.059	0	1.001	787990240	173863815	299807	749517	580	1.25(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.945	31.942	0	1.006	44455247	11339049	20357	50892	557		
385.8610	31.945	31.942	0	1.006	84898442	21704283	37224	93060	583	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.958	31.956	0	1.000	881417801	228486168	383917	959792	595		
375.8178	31.958	31.956	0	1.000	698228200	180413640	299807	749517	602	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.745	31.748	0		67929723	16429699	18251	45627	900		
403.8529	31.745	31.748	0		54130654	13145642	14828	37070	887	1.25(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.266	31.261	0	0.985	57329166	14082357	18251	45627	772		
403.8529	31.266	31.261	0	0.985	43045711	11050859	14828	37070	745	1.33(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.279	31.280	0	1.000	629831633	158465261	197312	493280	803		
391.8127	31.279	31.280	0	1.000	502575666	126972690	148417	371042	856	1.25(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.386	31.383	0	0.989	64540443	15691585	18251	45627	860		
403.8529	31.386	31.383	0	0.989	51959425	12036727	14828	37070	812	1.24(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.399	31.402	0	1.000	692132021	165495989	197312	493280	839		
391.8127	31.399	31.402	0	1.000	548312730	133657431	148417	371042	901	1.26(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.759	31.761	0	1.016	702952771	169150562	197312	493280	857		
391.8127	31.759	31.761	0	1.016	556524692	136362240	148417	371042	919	1.26(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.459	33.457	0	1.054	33673507	11080194	54234	135585	204		
419.8220	33.459	33.457	0	1.054	73070308	23803007	120568	301420	197	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.472	33.469	0	1.000	828352693	264674315	15239773	809942	174		
409.7789	33.459	33.469	-1	1.000	785489642	258152347	15359593	839897	168	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.504	34.502	0	1.087	31611144	9286341	54234	135585	171		
419.8220	34.504	34.502	0	1.087	69362818	20149549	120568	301420	167	0.46(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.504	34.509	0	1.000	711389911	208533041	15239773	809942	137		
409.7789	34.504	34.509	0	1.000	680494966	202816426	15359593	839897	132	1.05(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.225	34.227	0	1.078	56576314	17187295	46326	115815	371		
437.8140	34.225	34.227	0	1.078	54721855	16668841	45125	112812	369	1.03(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.237	34.235	0	1.000	528198445	160615442	456142	1140355	352		
425.7737	34.237	34.235	0	1.000	502193375	149899801	457044	1142610	328	1.05(0.88-1.20)	
13C-OCDD											
469.7779	36.493	36.486	0	1.150	96929202	24000709	8587	21467	2795		
471.7750	36.493	36.486	0	1.150	109535574	26795340	13585	33962	1972	0.88(0.76-1.02)	
OCDF											
441.7428	36.589	36.581	0	1.003	1236830988	325979490	105711	264277	3084		
443.7399	36.589	36.581	0	1.003	1380128349	358207842	85997	214992	4165	0.90(0.76-1.02)	
OCDD											
457.7377	36.505	36.497	0	1.000	1001000005	251130559	122617	306542	2048		
459.7348	36.505	36.497	0	1.000	1124514461	278735720	97234	243085	2867	0.89(0.76-1.02)	

Reagents:

HRDXNL6_00024 Amount Added: 1.00 Units: mL

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d		
Injection Date:	17-Sep-2019 16:55:33	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

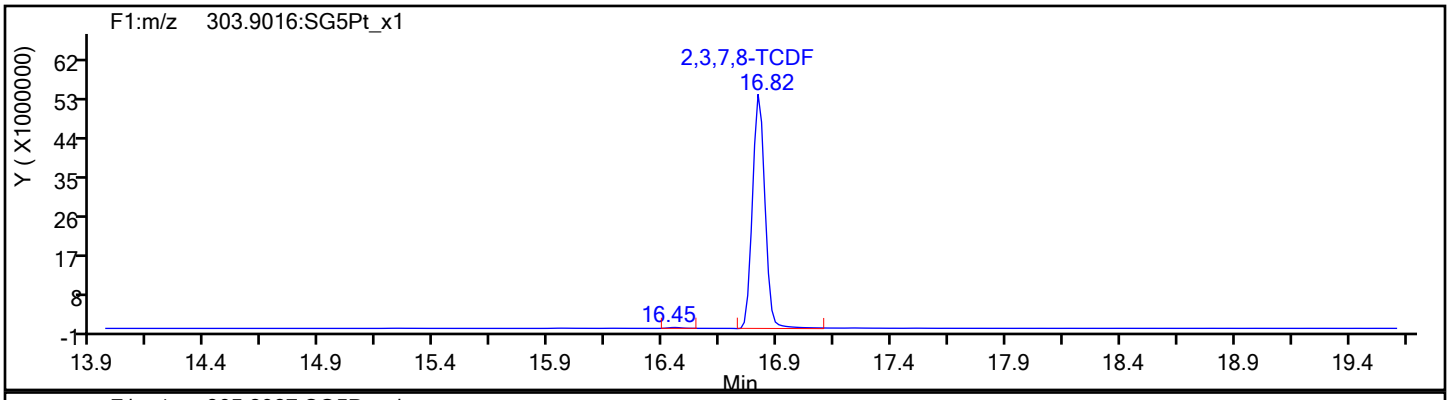

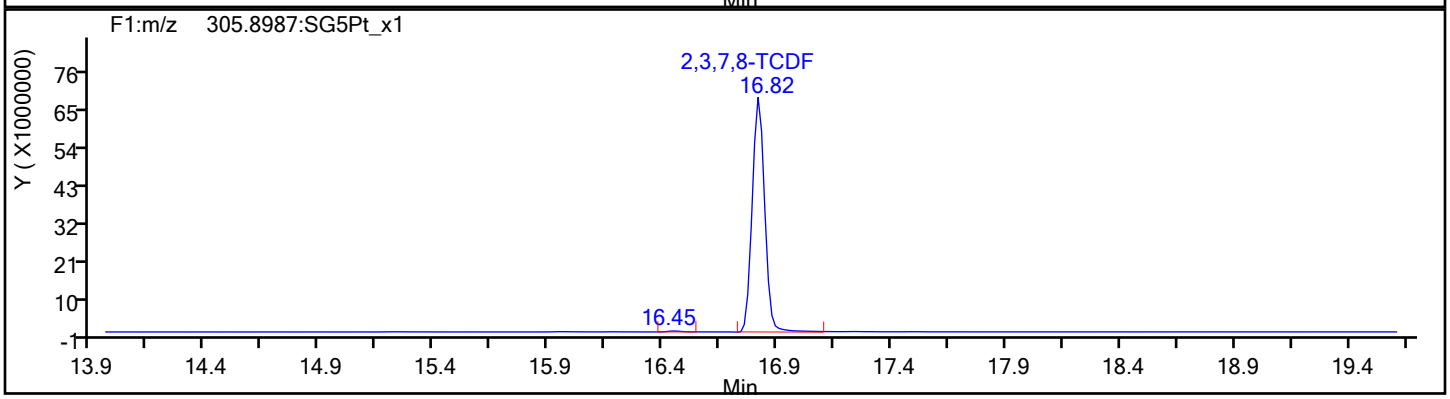

TCDF Standards

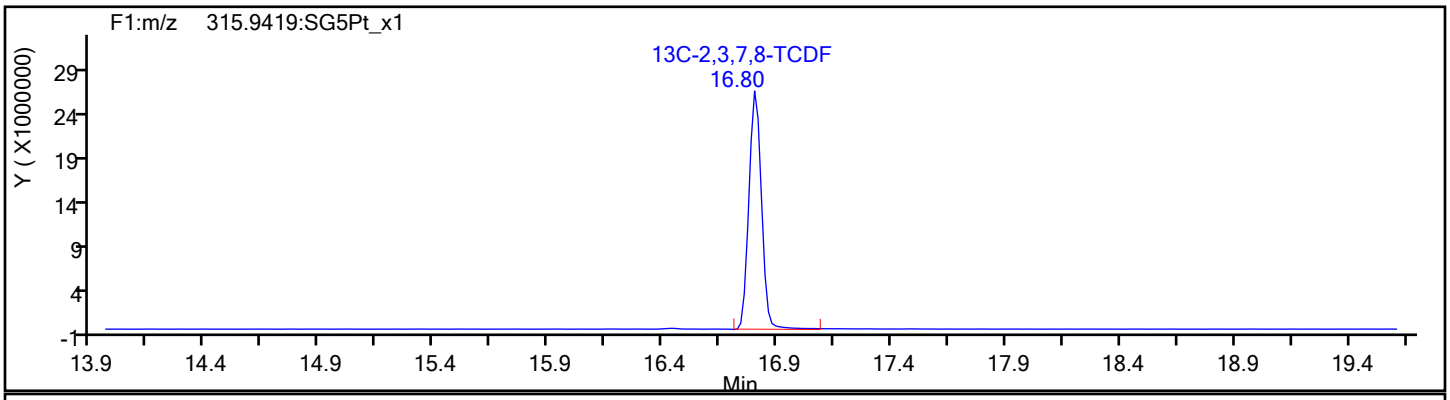

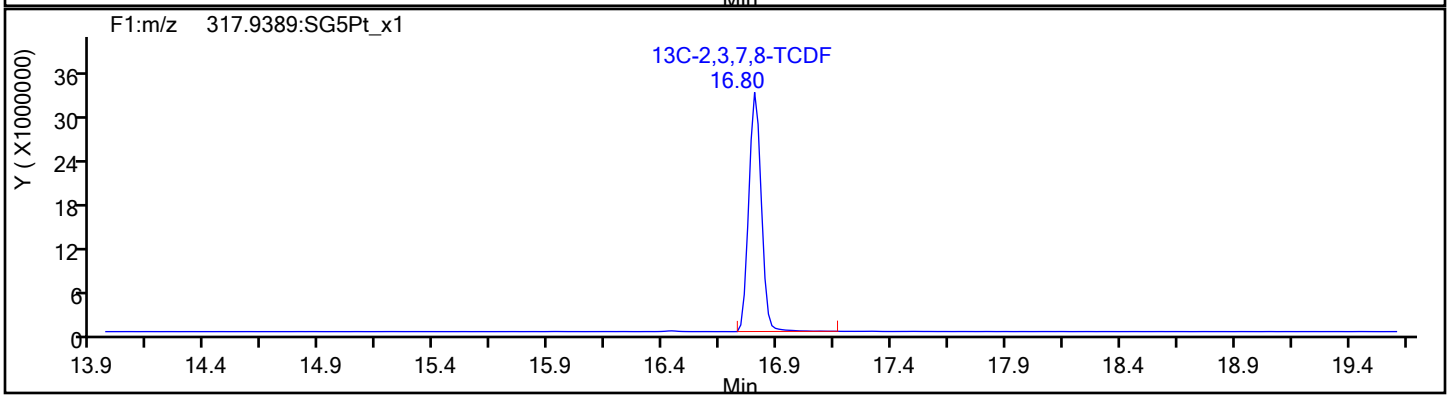

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d		
Injection Date:	17-Sep-2019 16:55:33	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

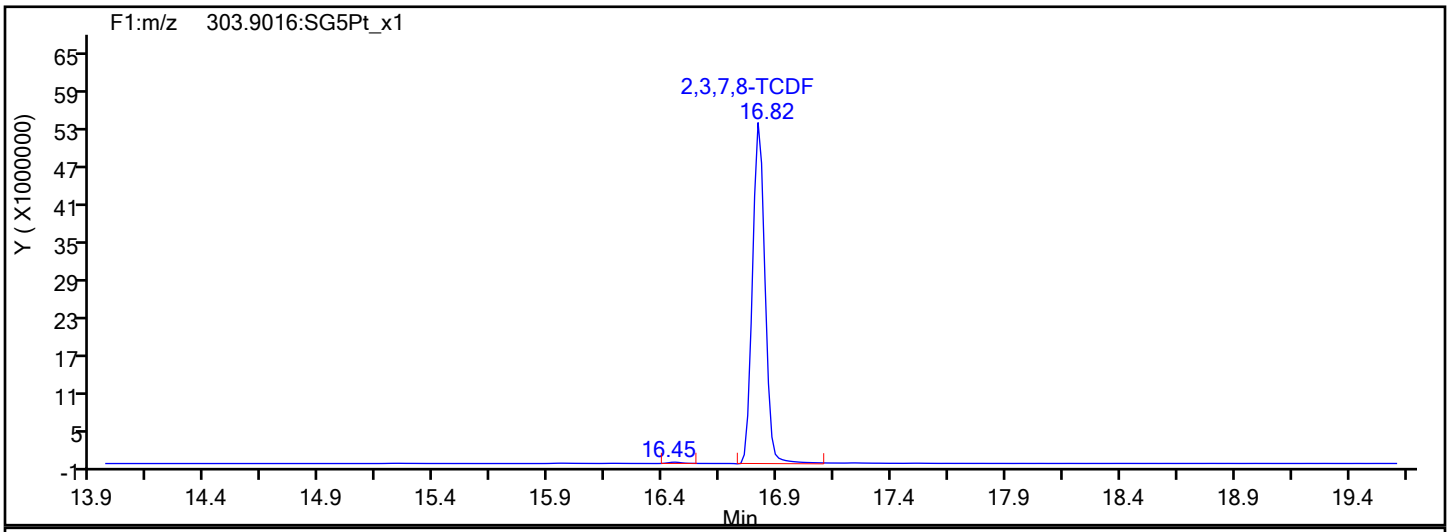

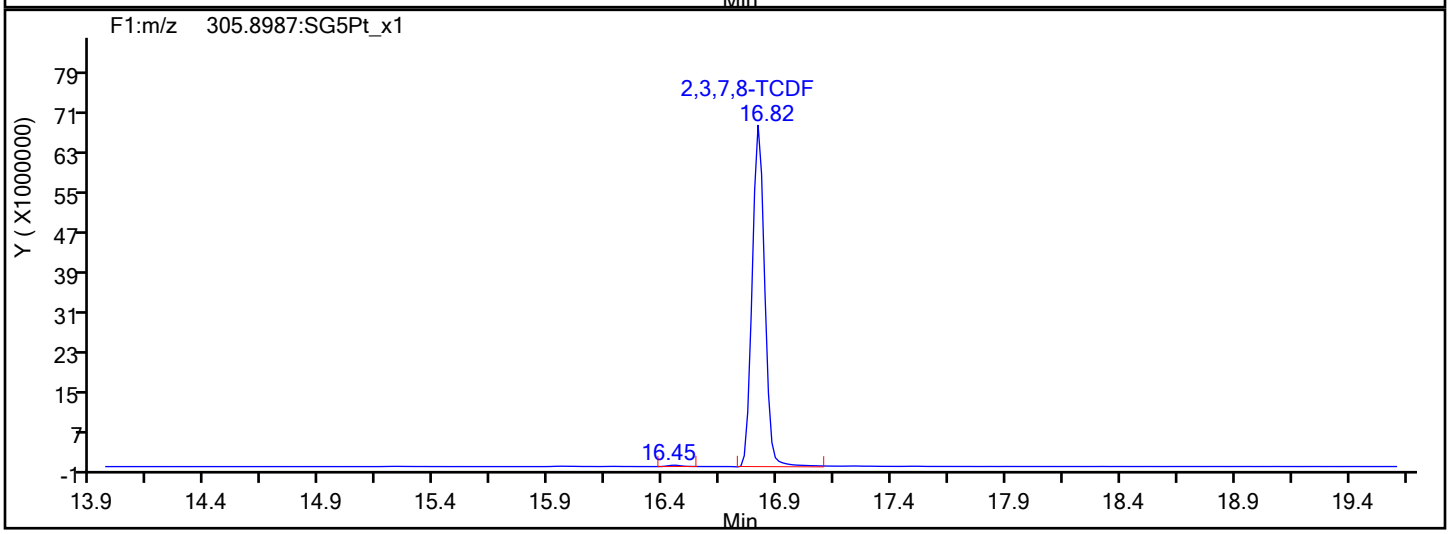

TCDF Interference Mass

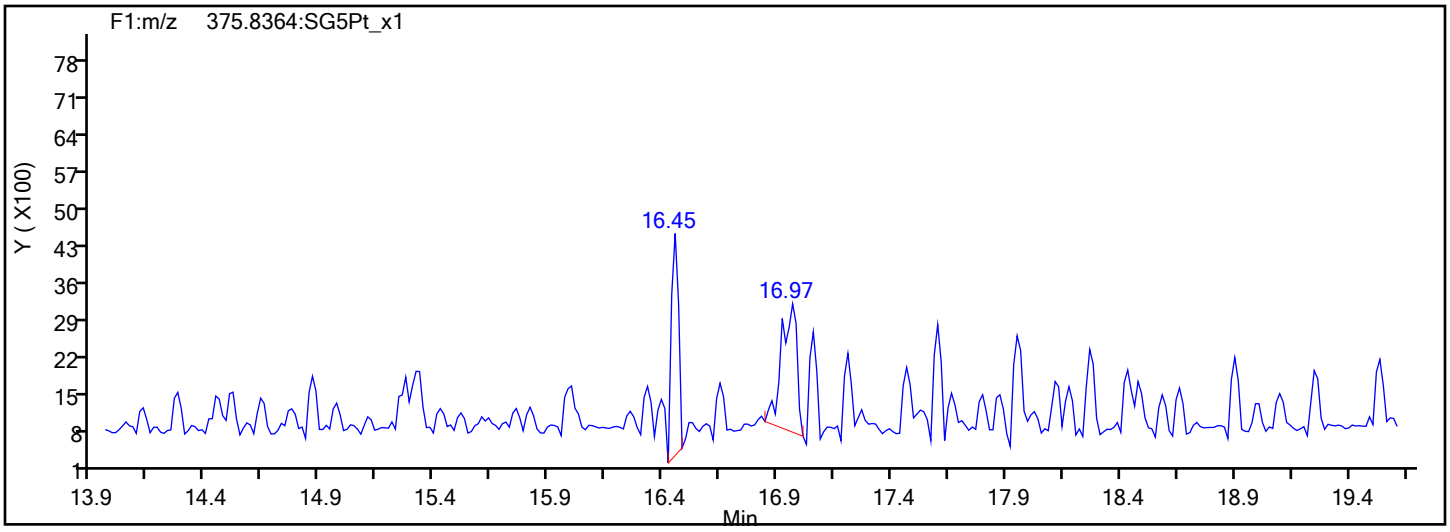

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d		
Injection Date:	17-Sep-2019 16:55:33	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

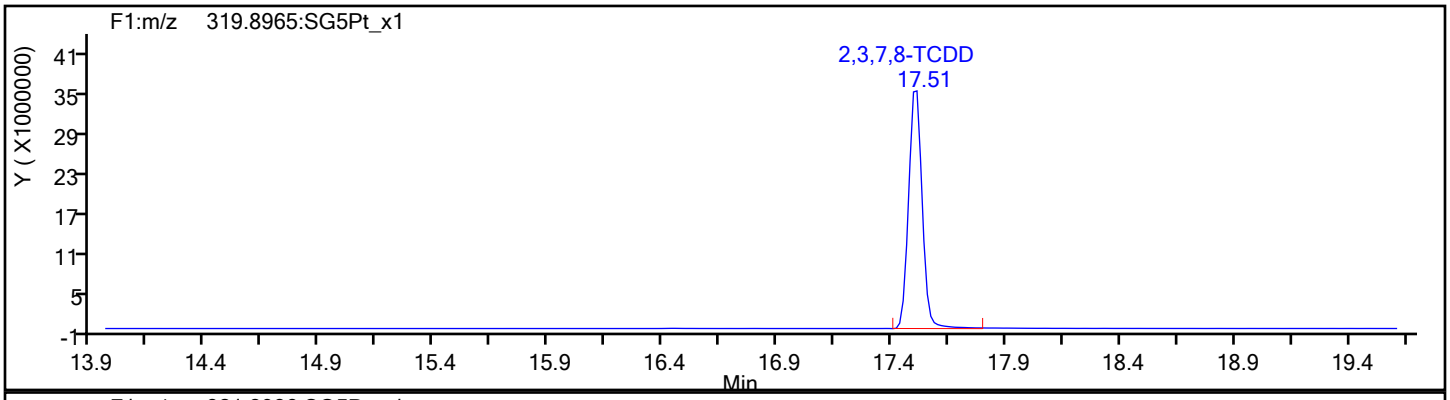

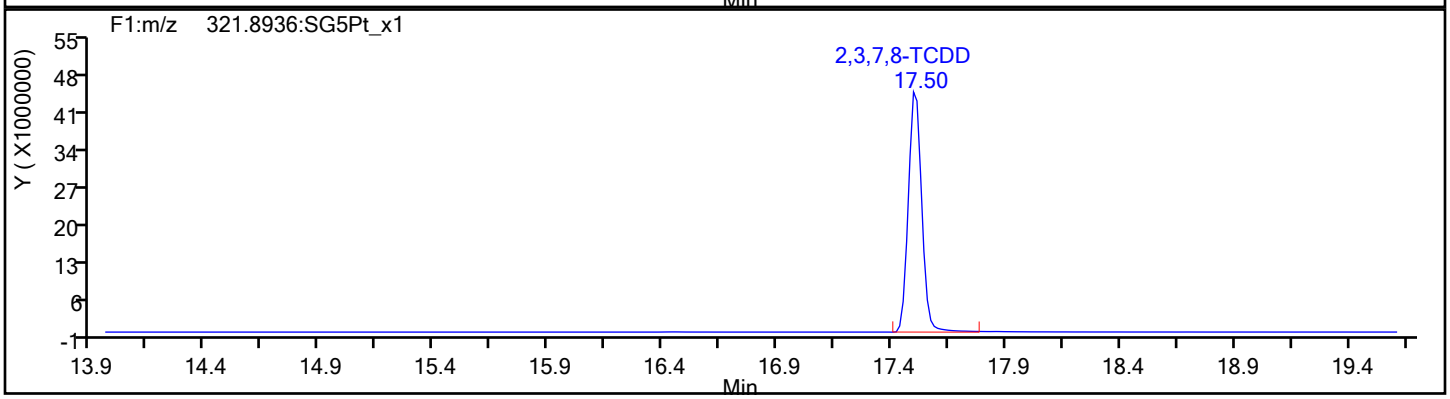

TCDD Standards

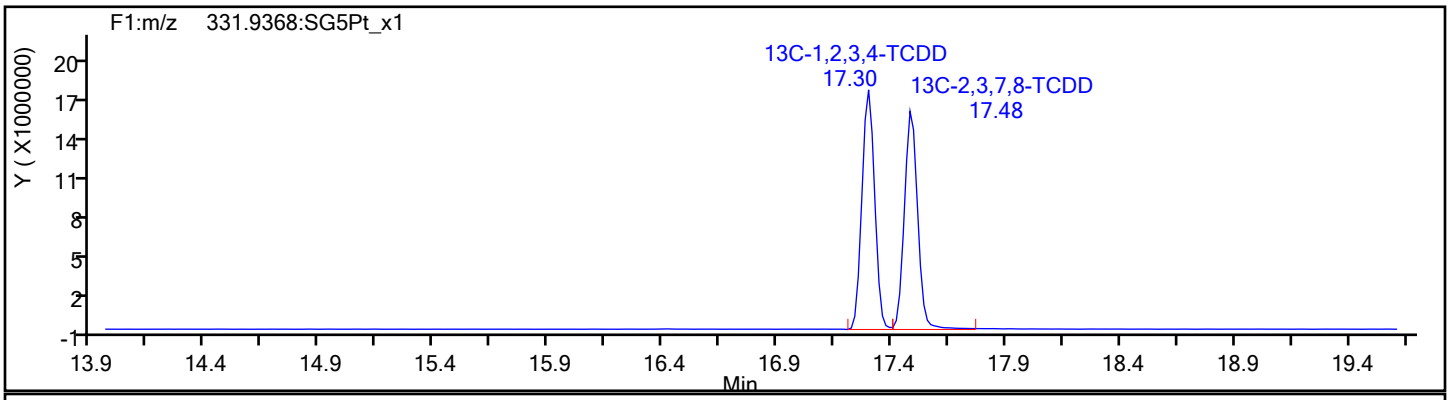

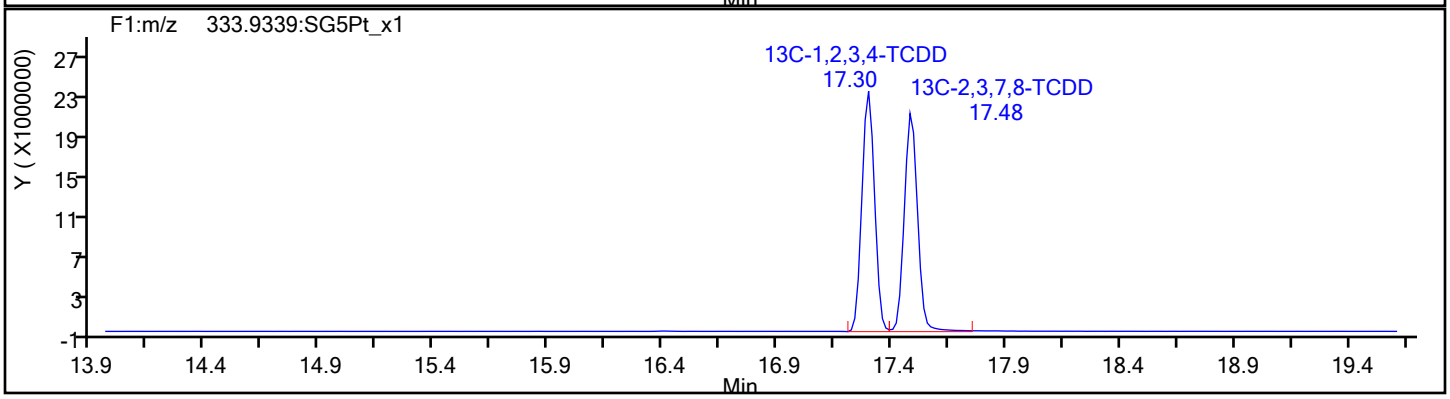

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d		
Injection Date:	17-Sep-2019 16:55:33	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

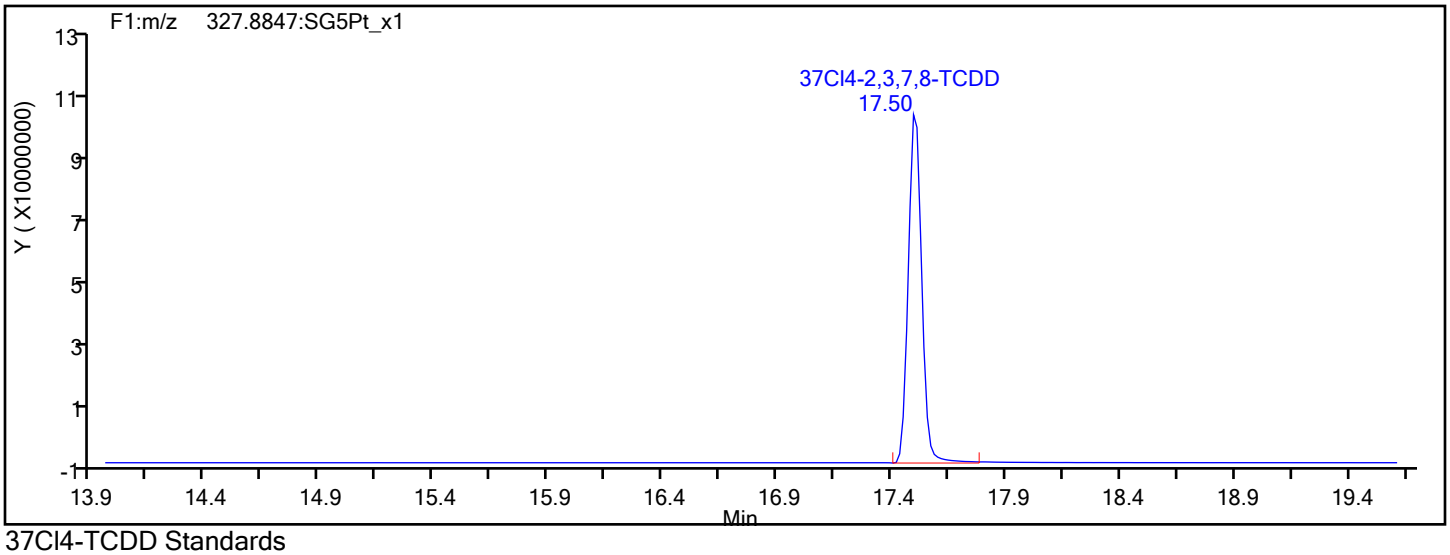

37Cl4-TCDD Standards

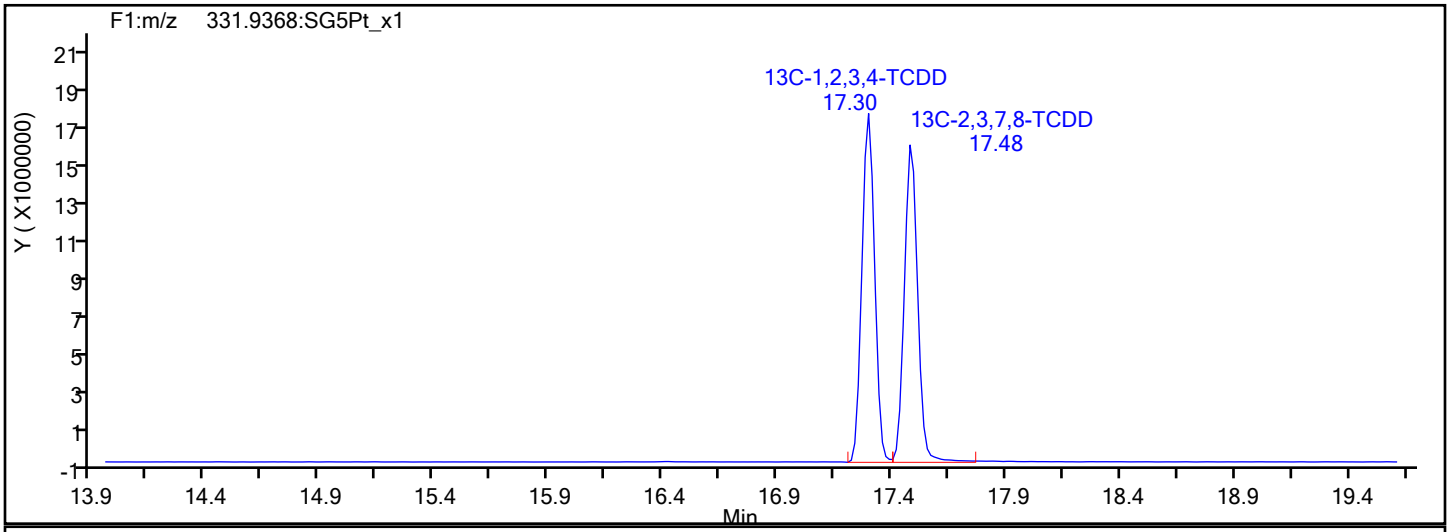

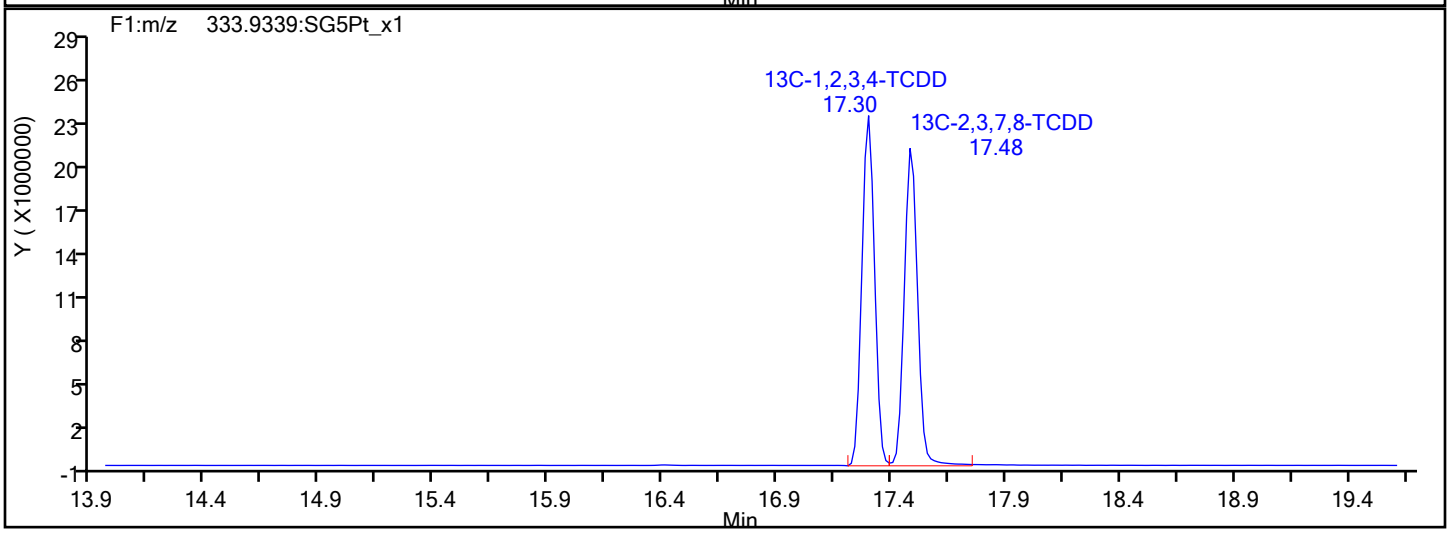

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d		
Injection Date:	17-Sep-2019 16:55:33	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

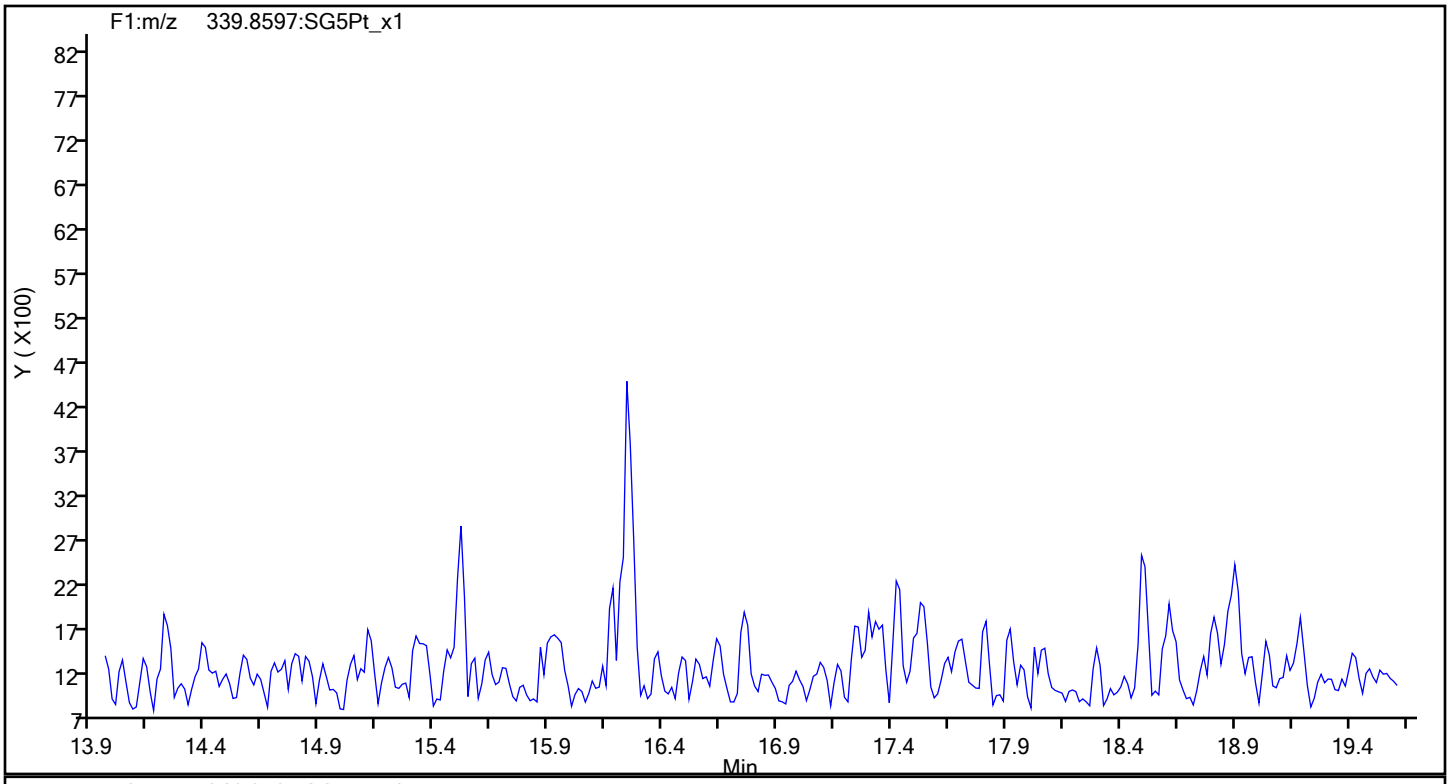

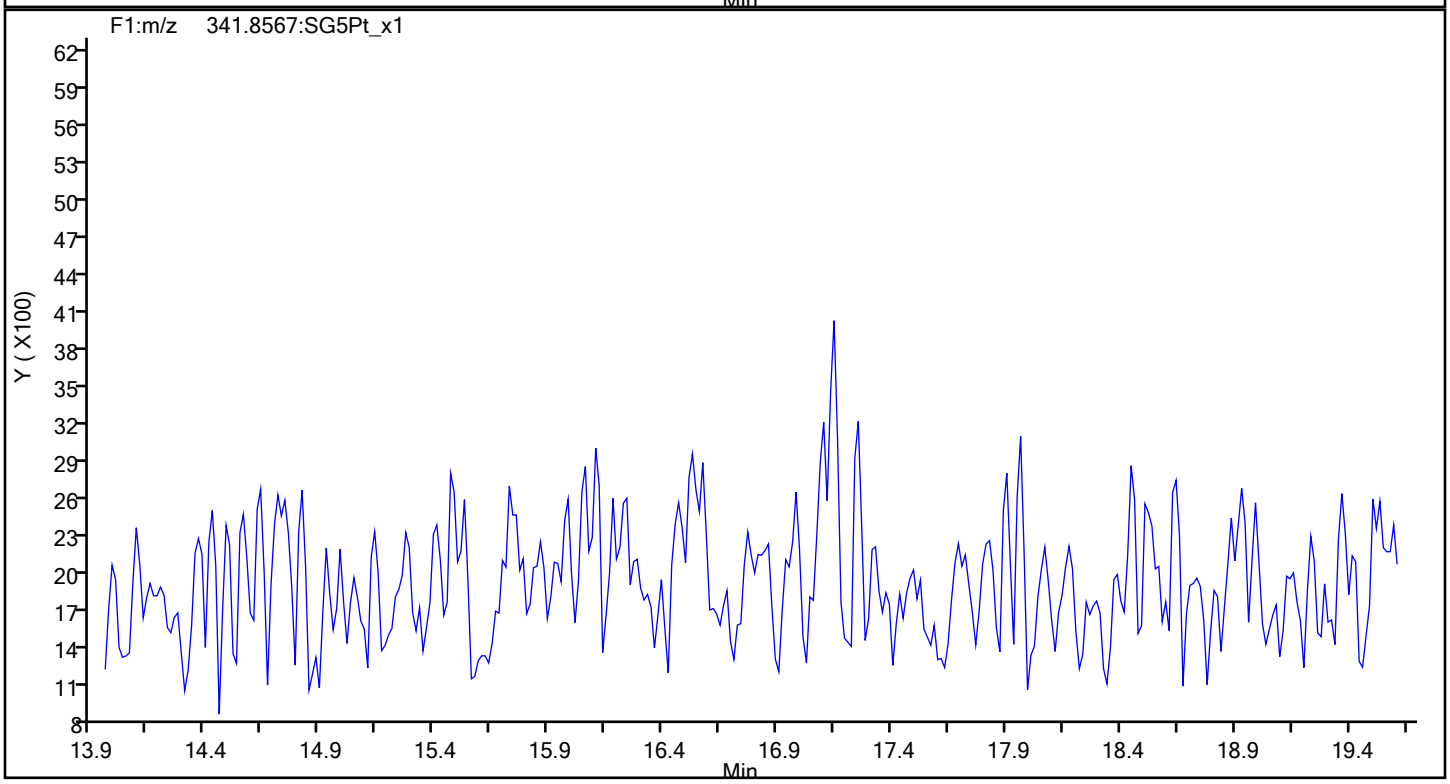

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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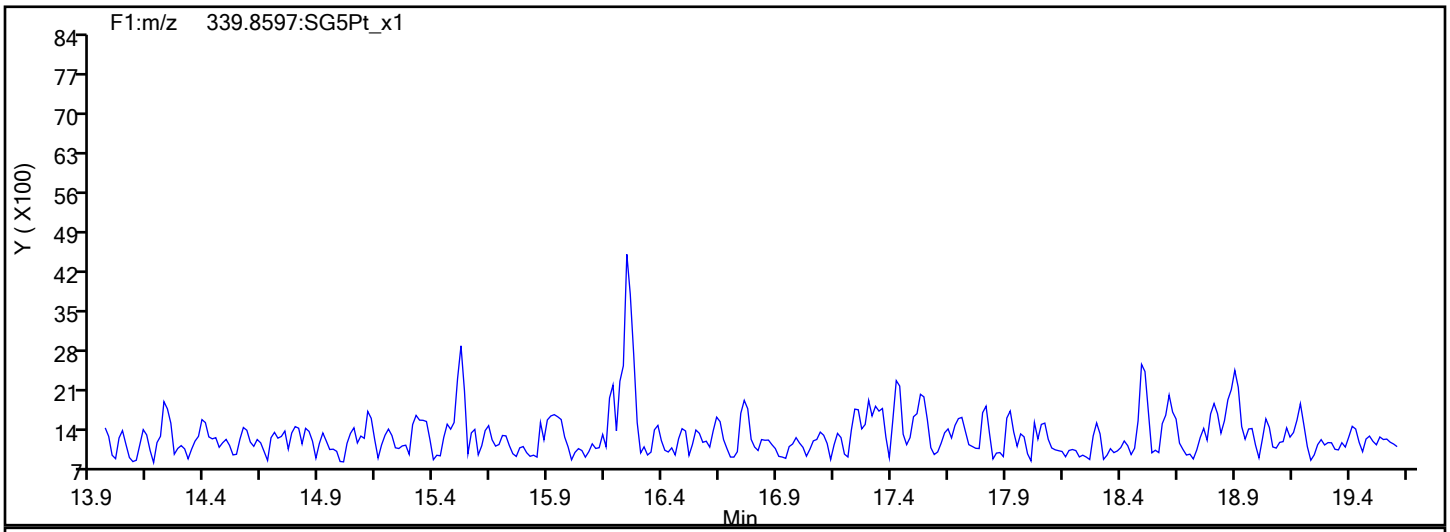

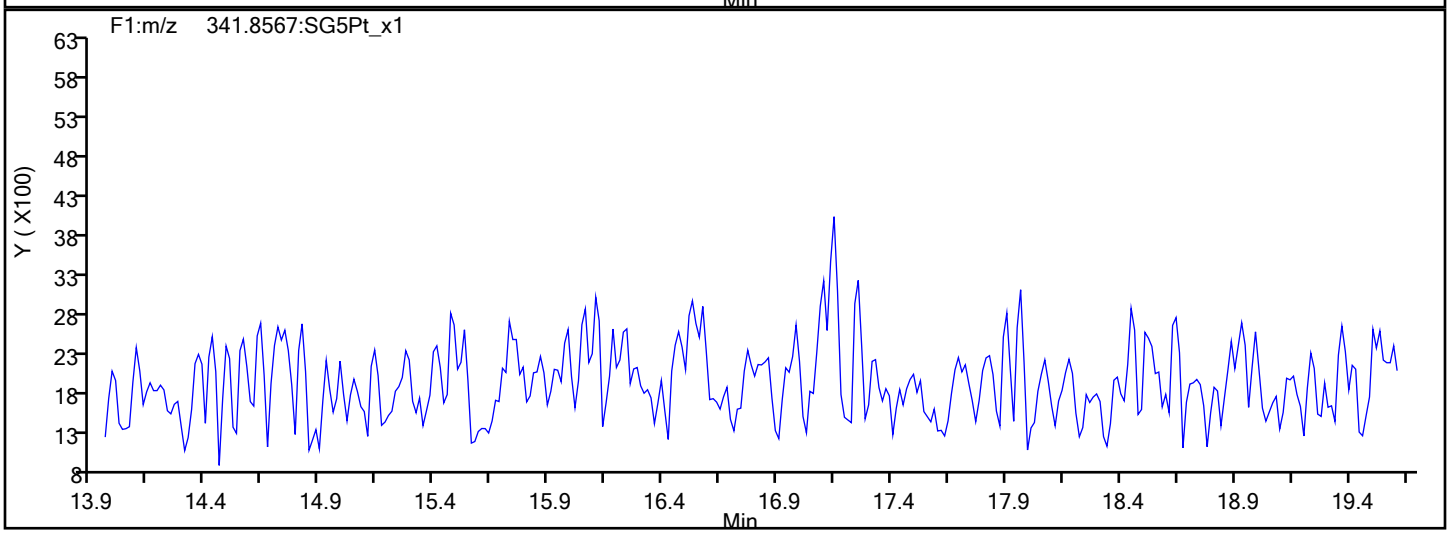

F1 PeCDFs Interference Mass

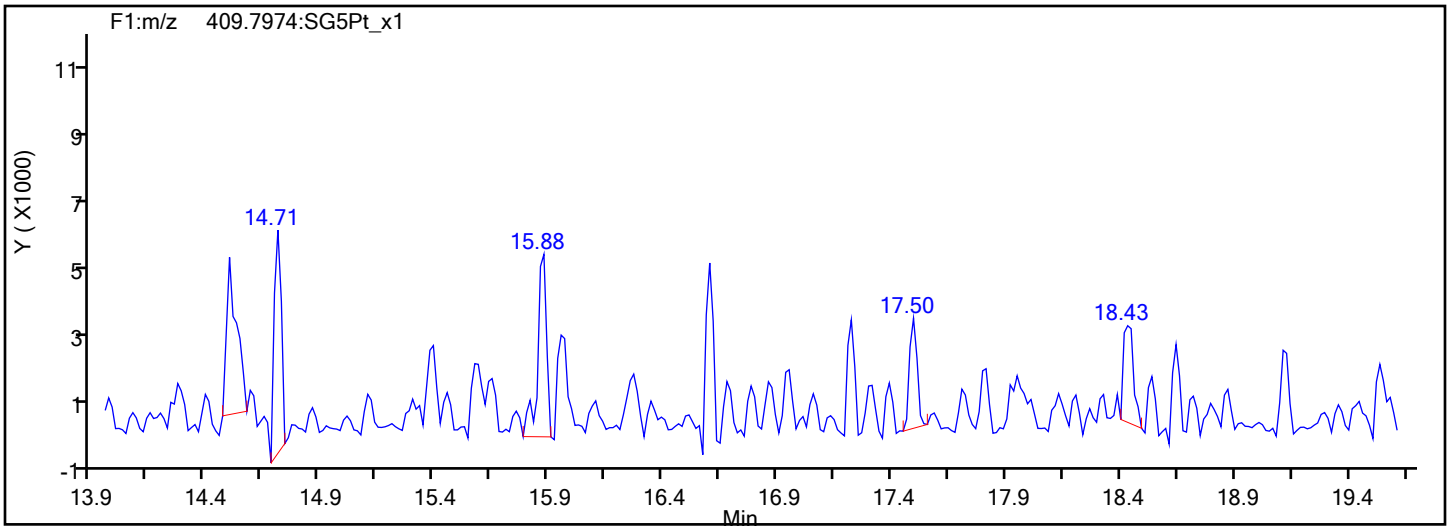

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Eurofins TestAmerica, Sacramento

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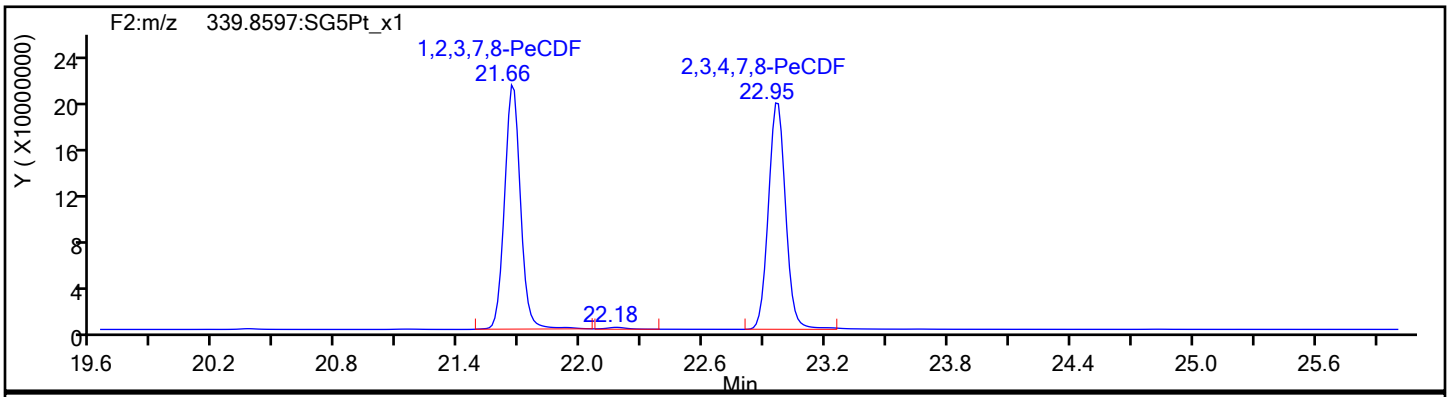

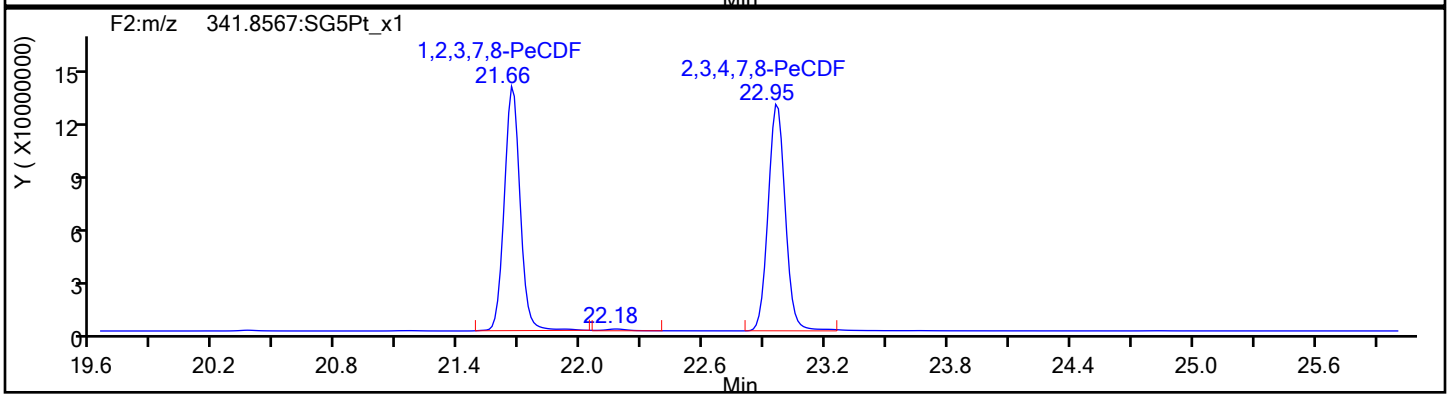

PeCDF Standards

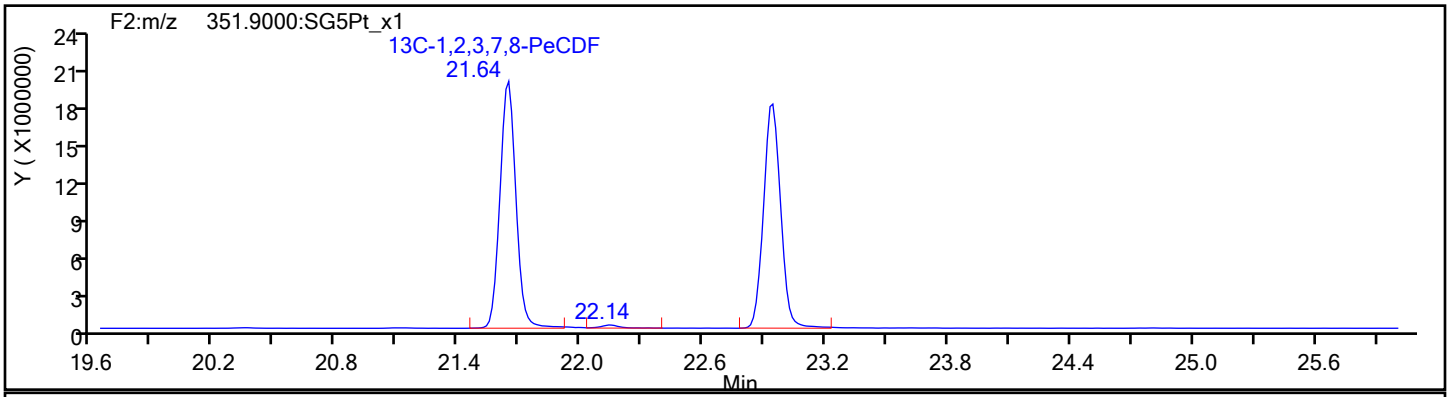

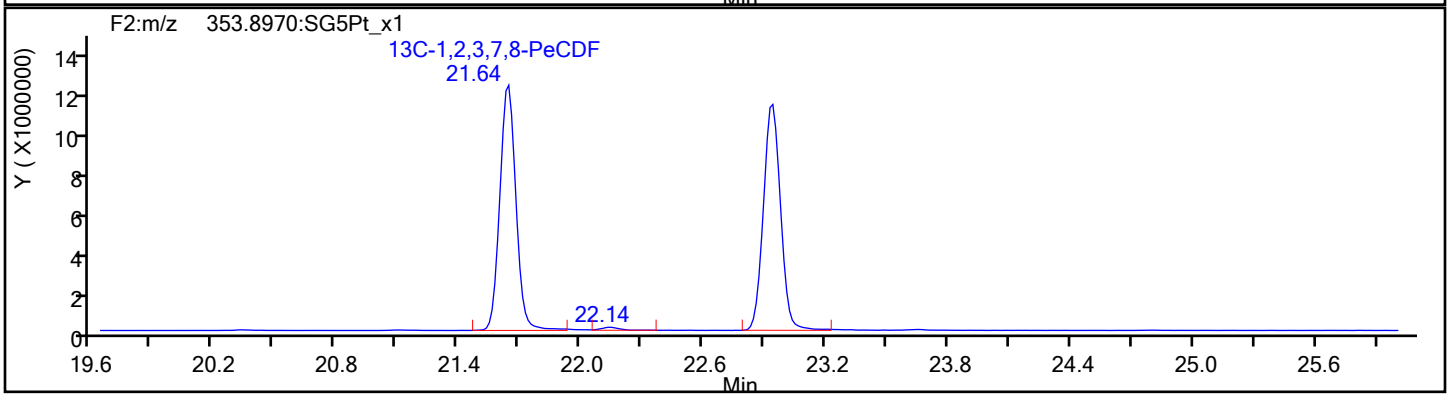

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Eurofins TestAmerica, Sacramento

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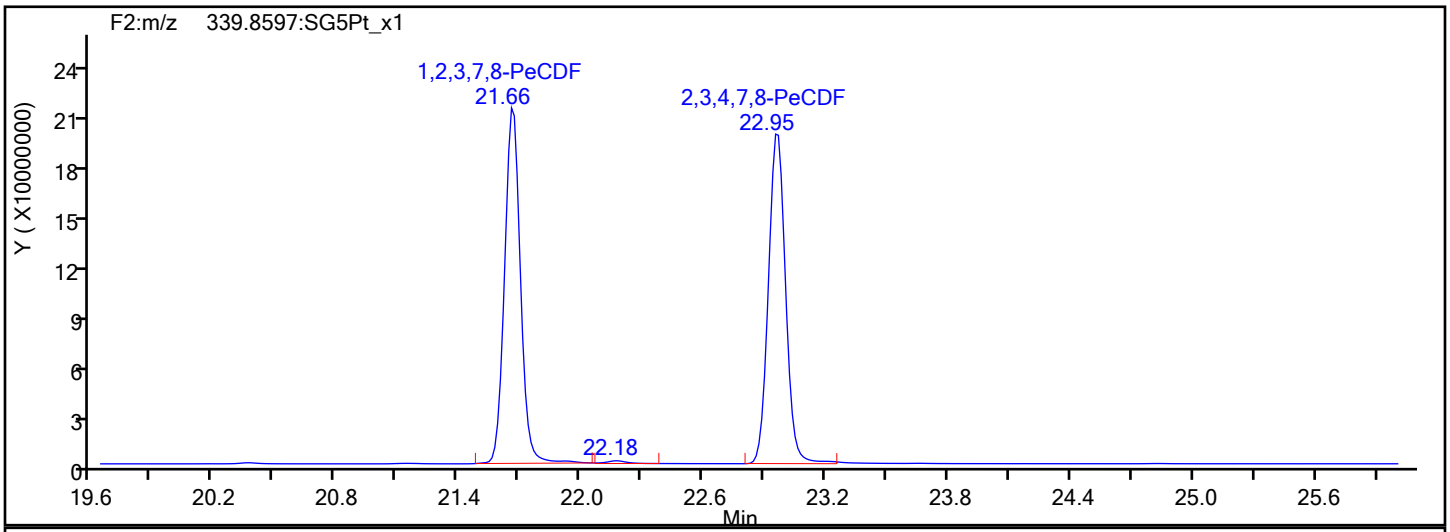

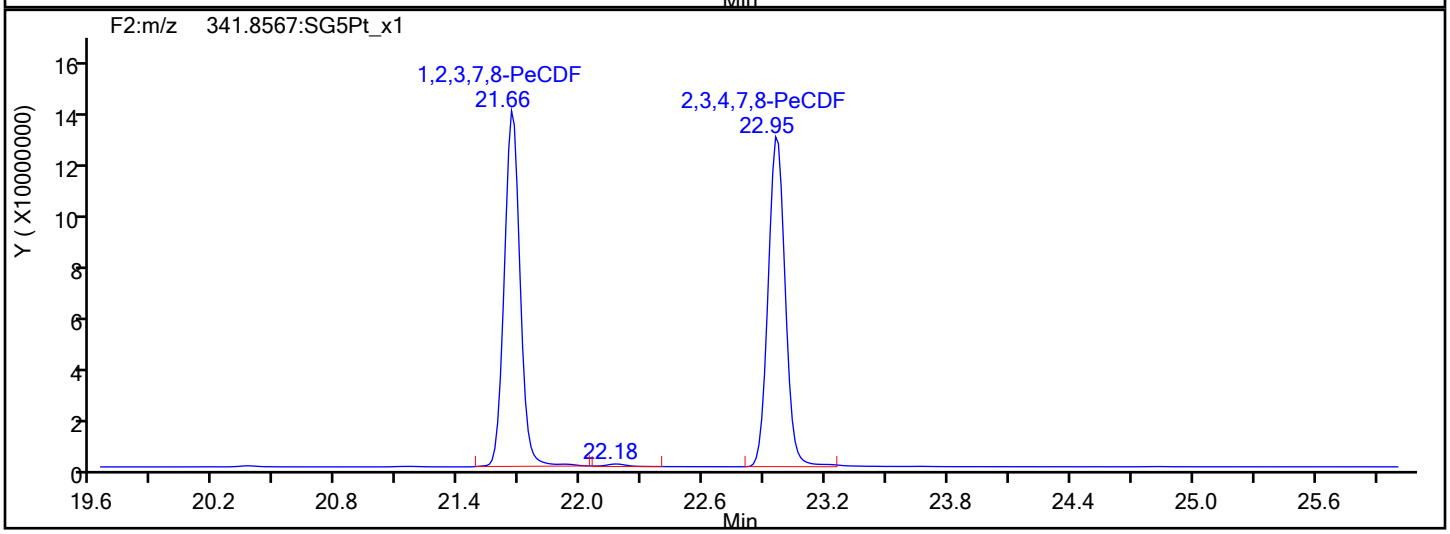

PeCDF Interference Mass

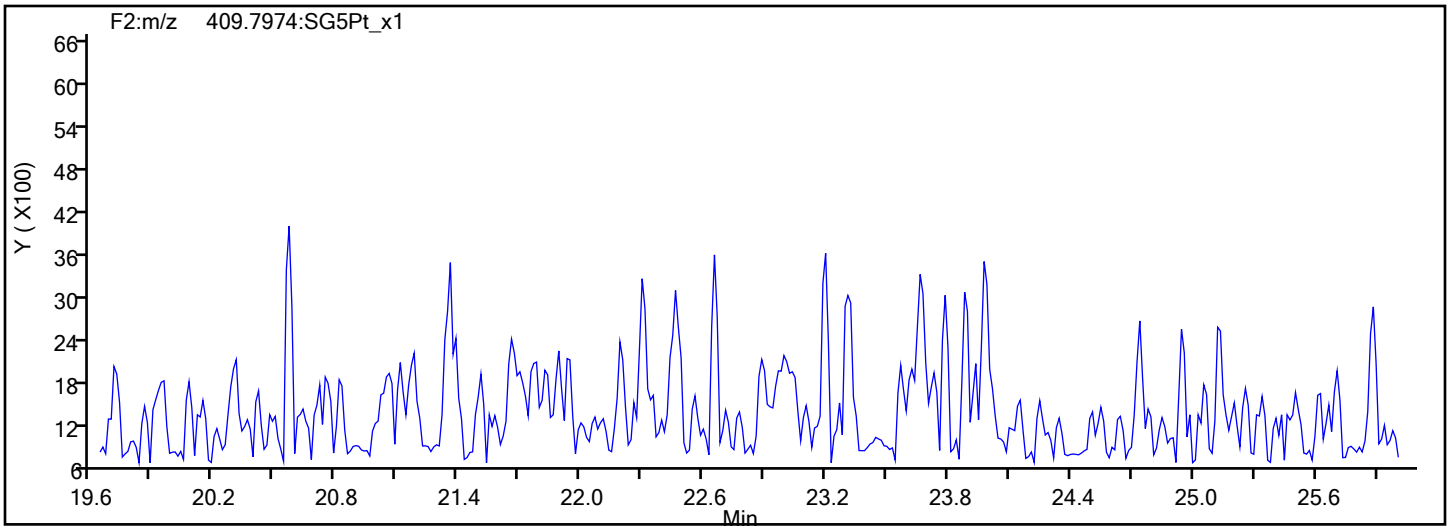

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Eurofins TestAmerica, Sacramento

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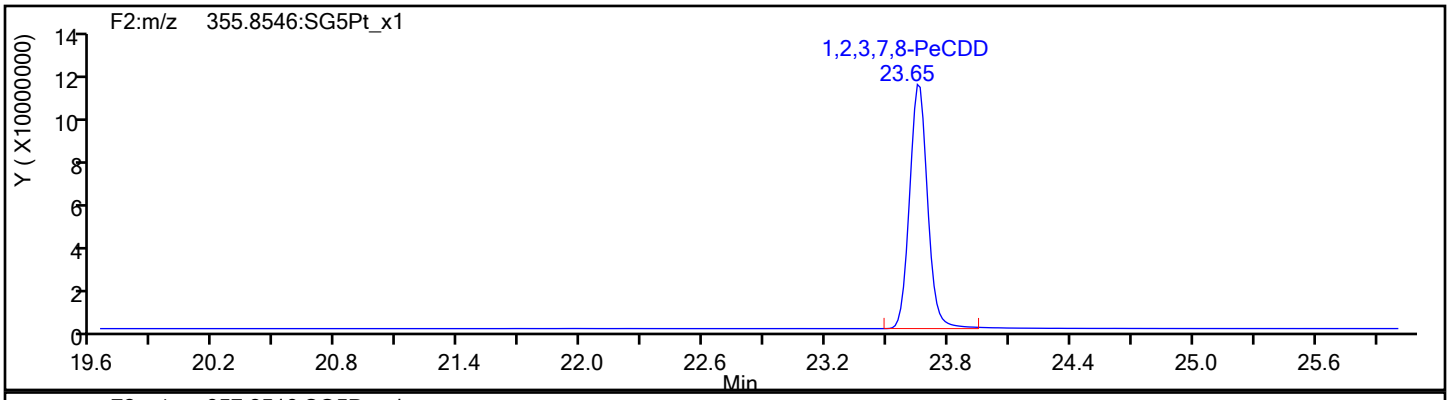

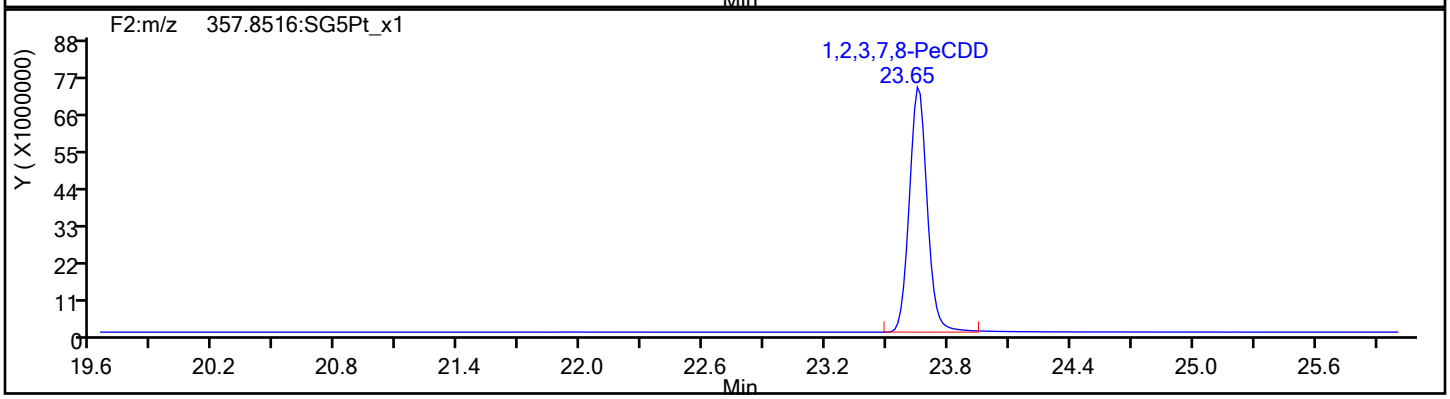

PeCDD Standards

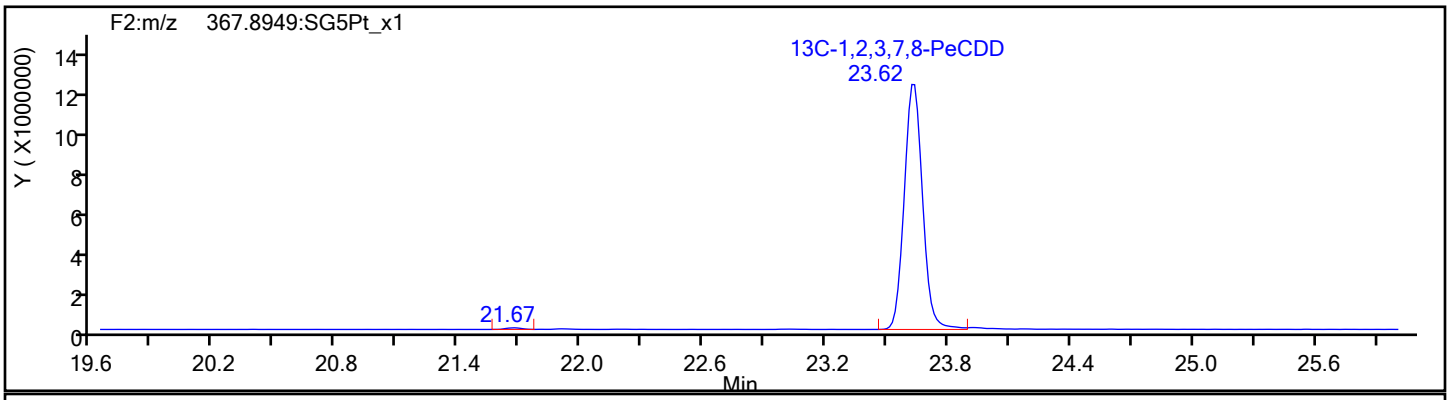

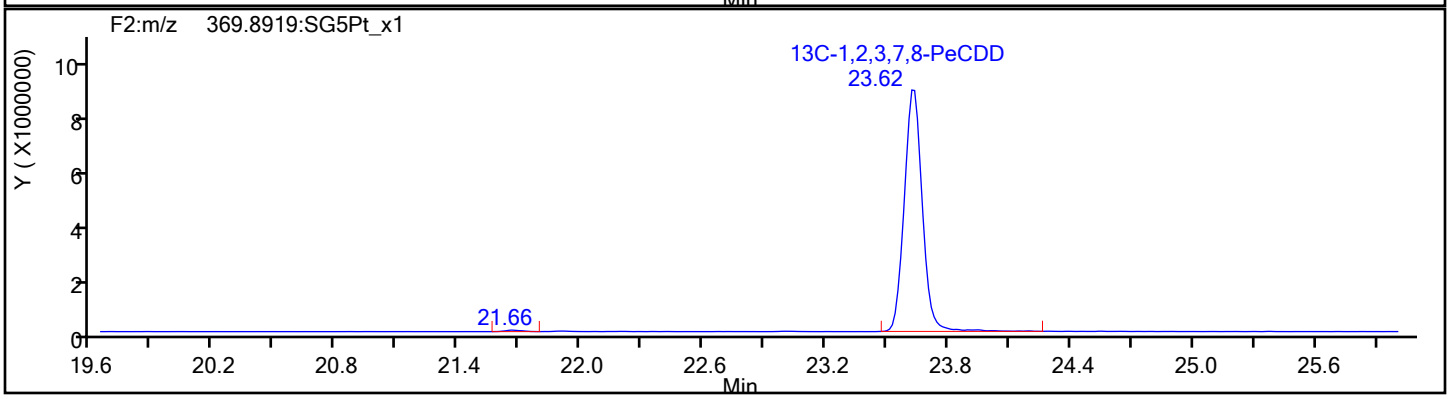

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Eurofins TestAmerica, Sacramento

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HxCDF

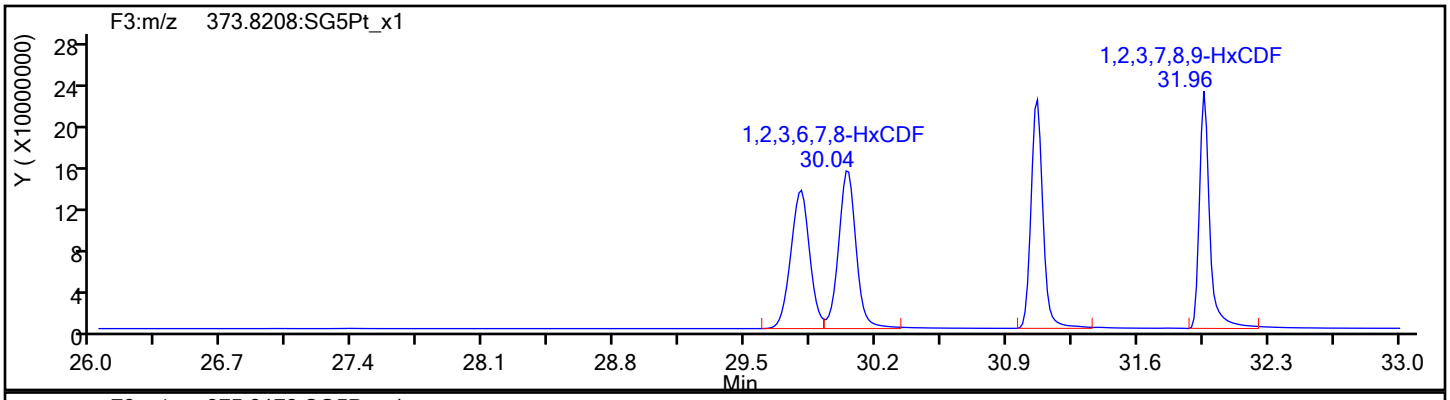

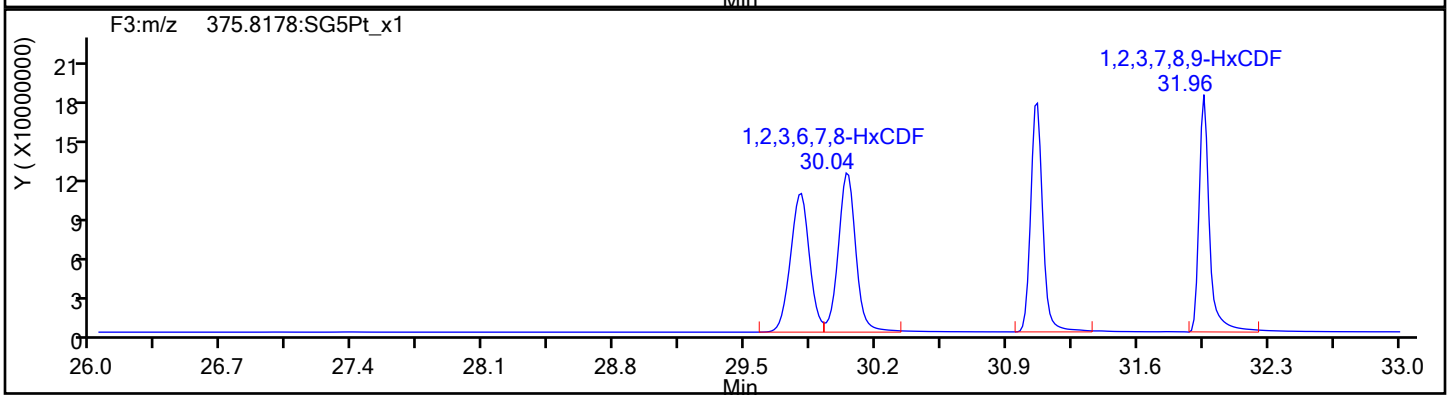

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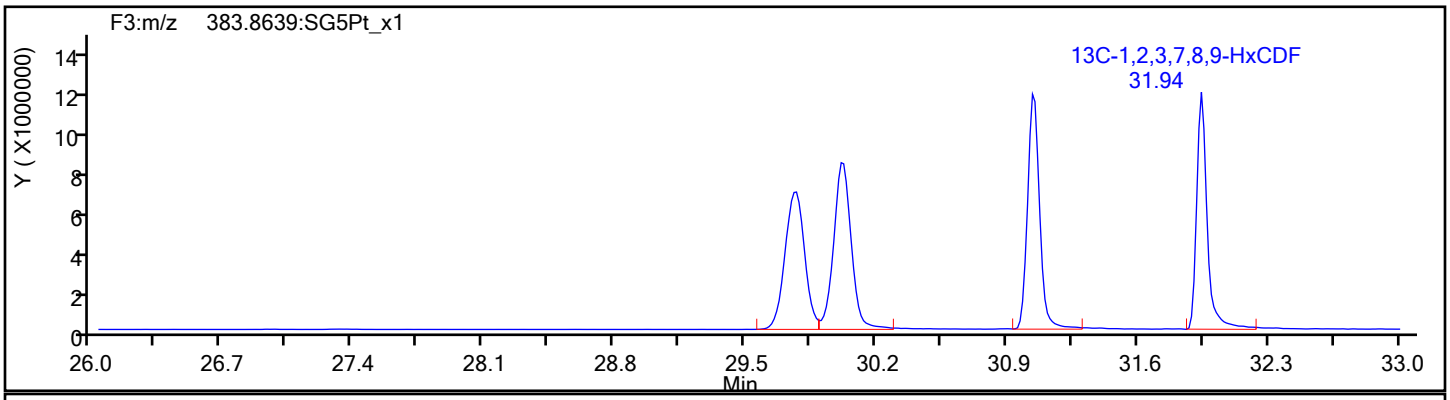

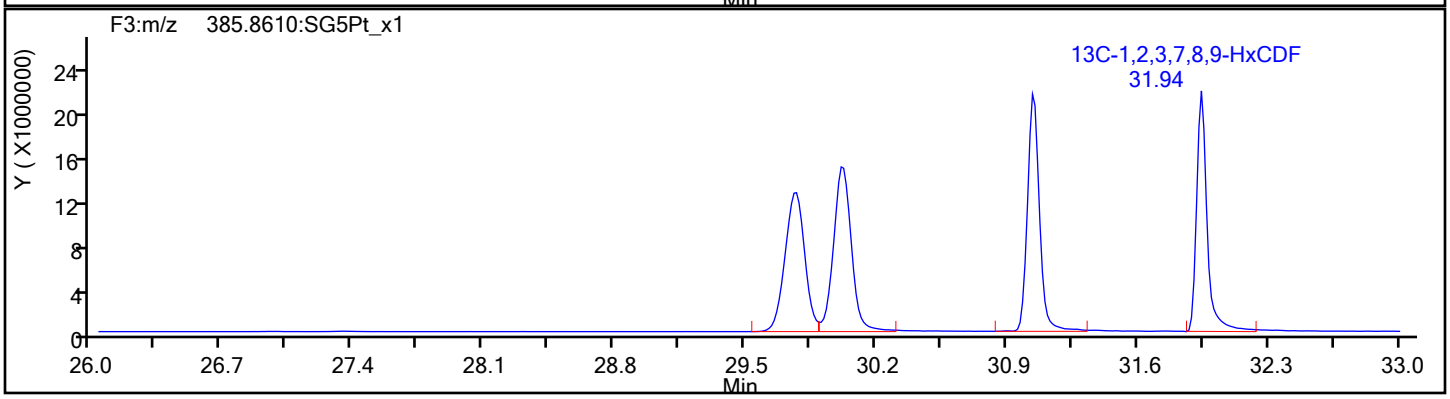

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Eurofins TestAmerica, Sacramento

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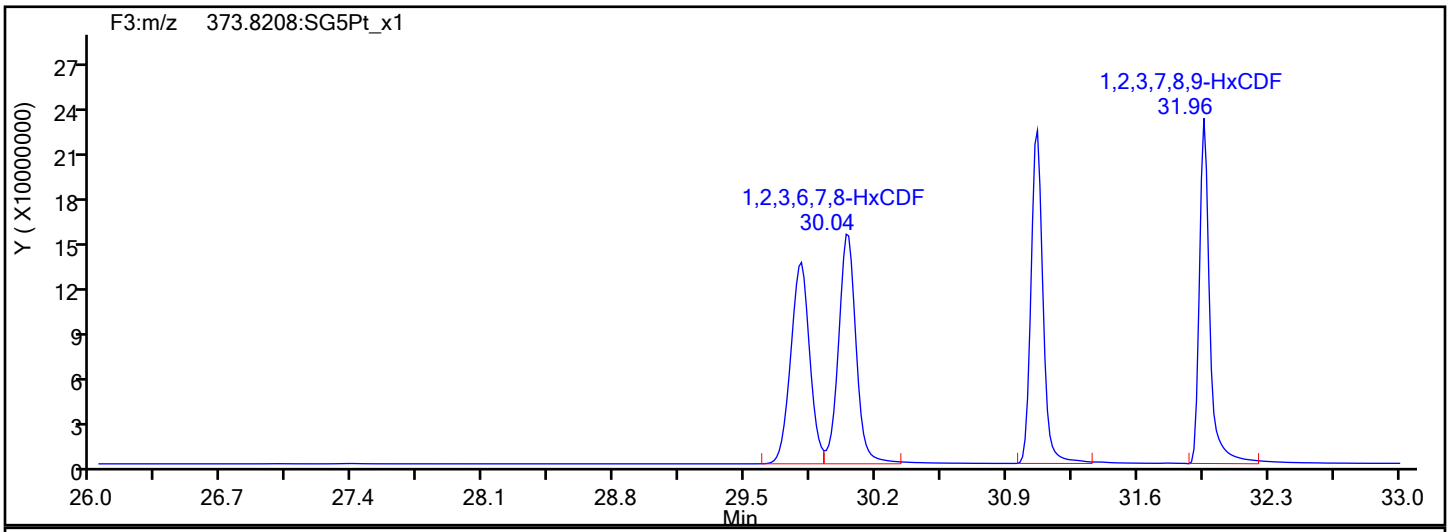

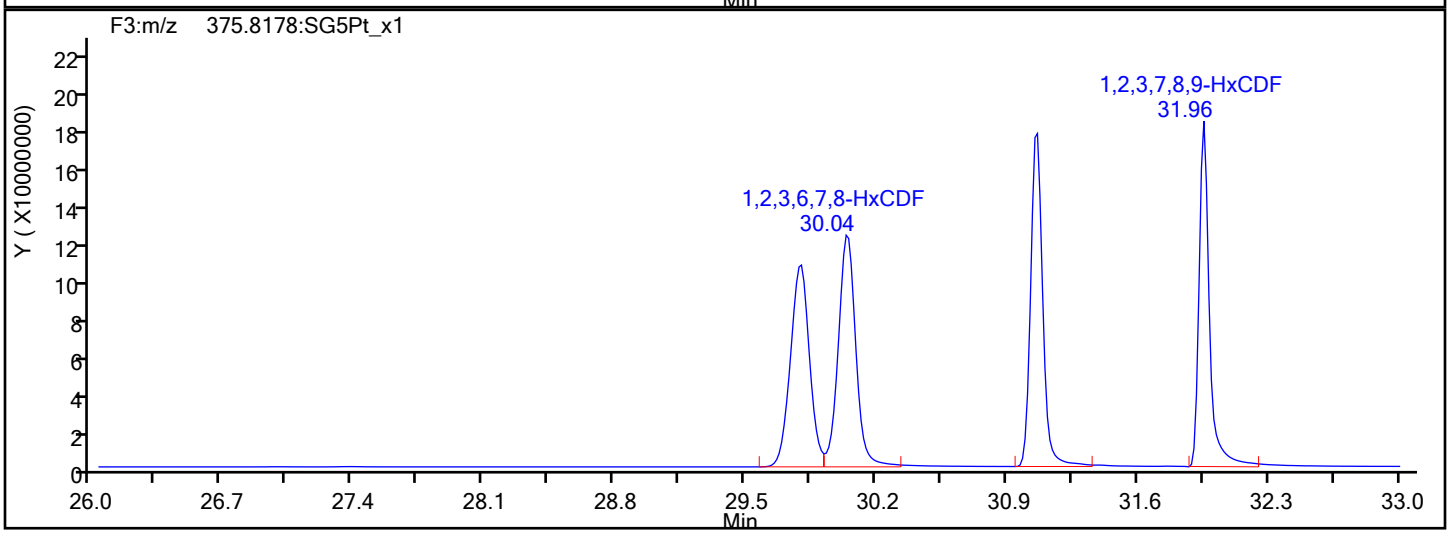

HxCDF Interference Mass

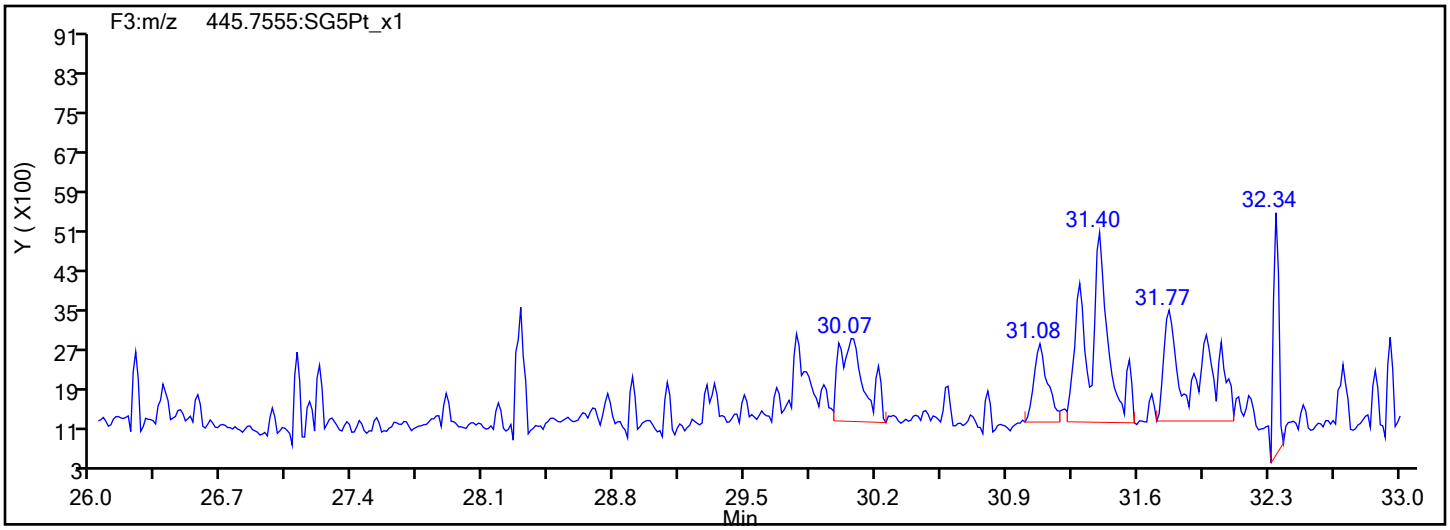

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Eurofins TestAmerica, Sacramento

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HxCDD

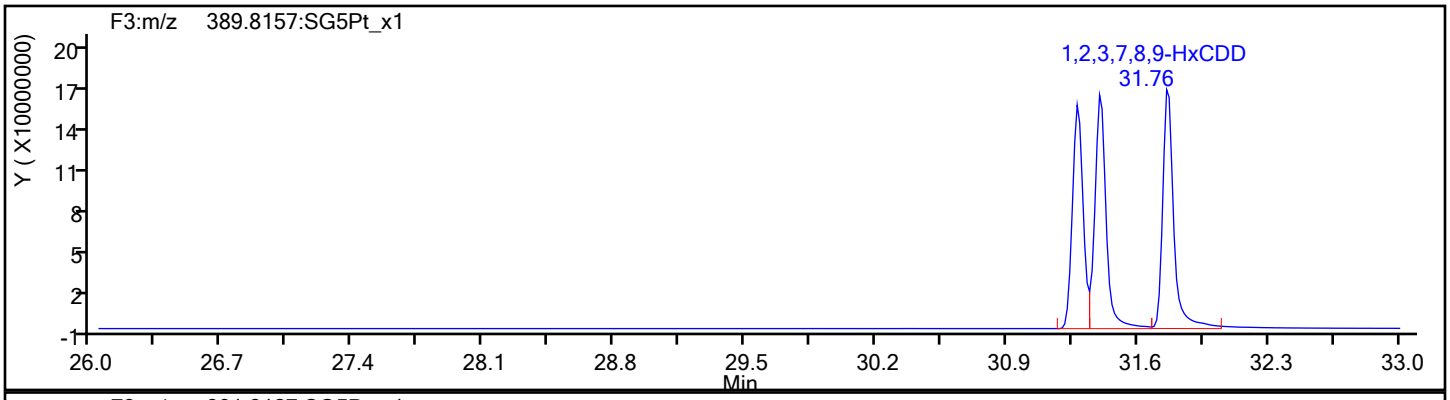

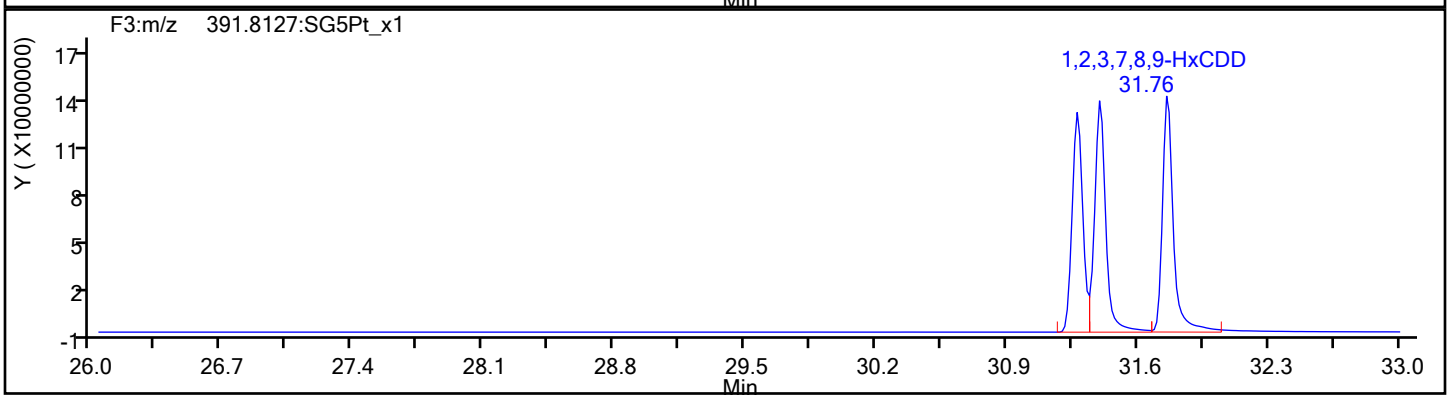

HxCDD Standards

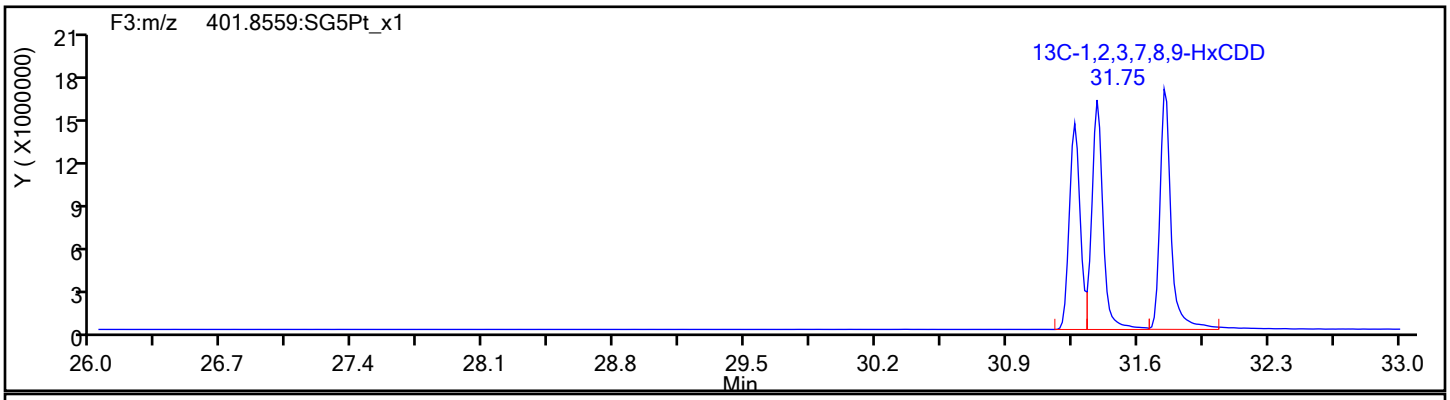

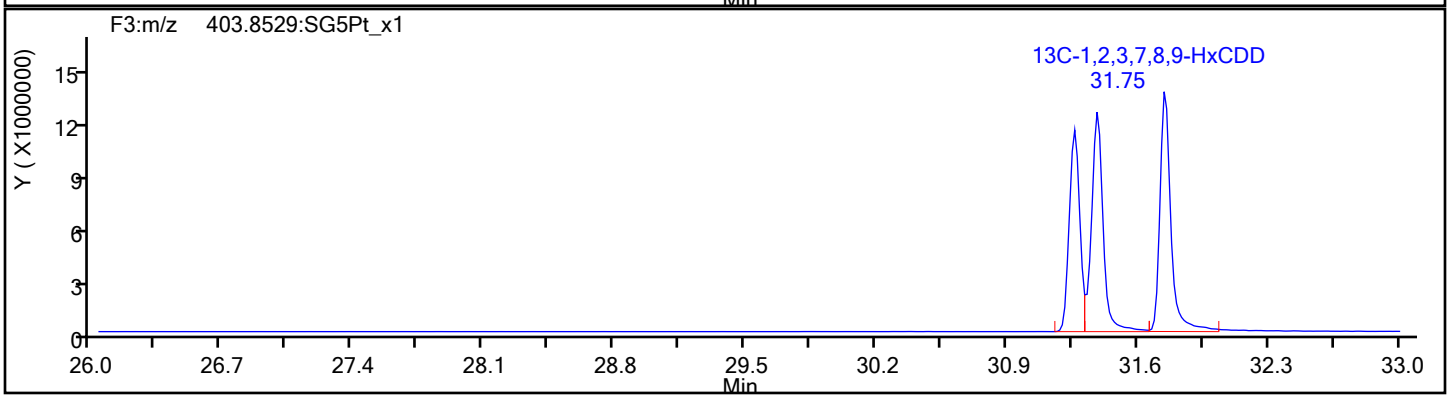

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Eurofins TestAmerica, Sacramento

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HpCDF

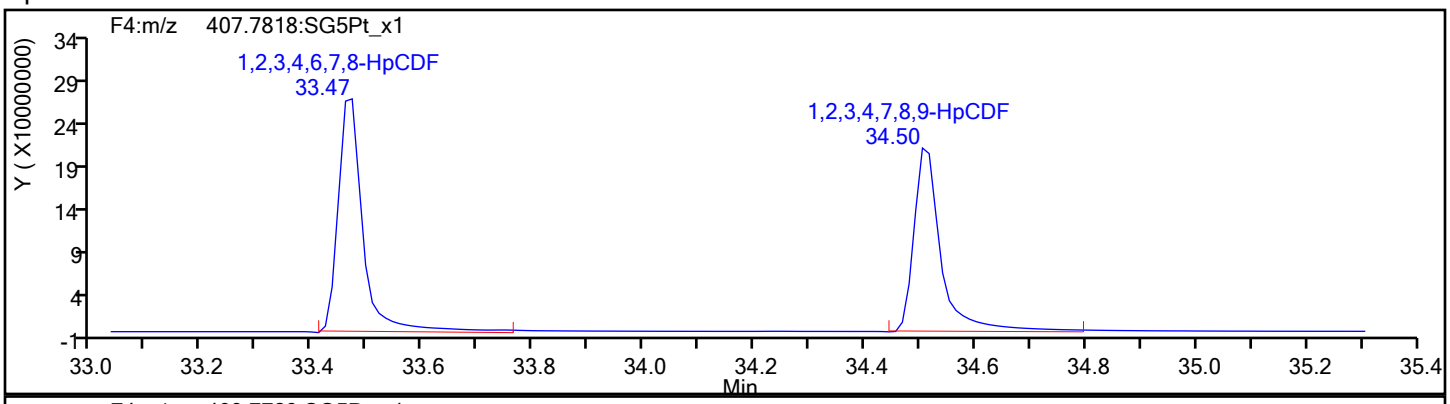

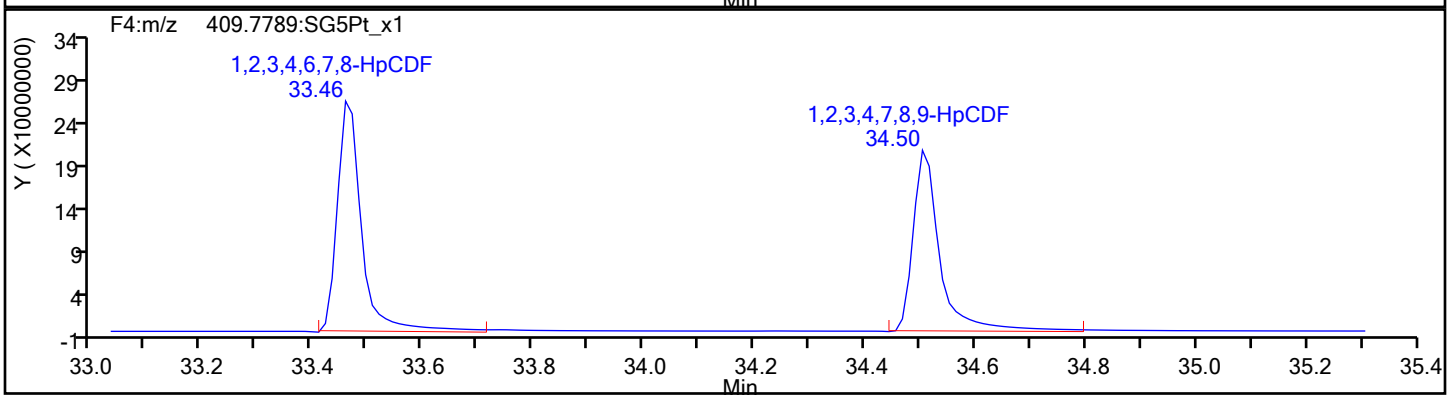

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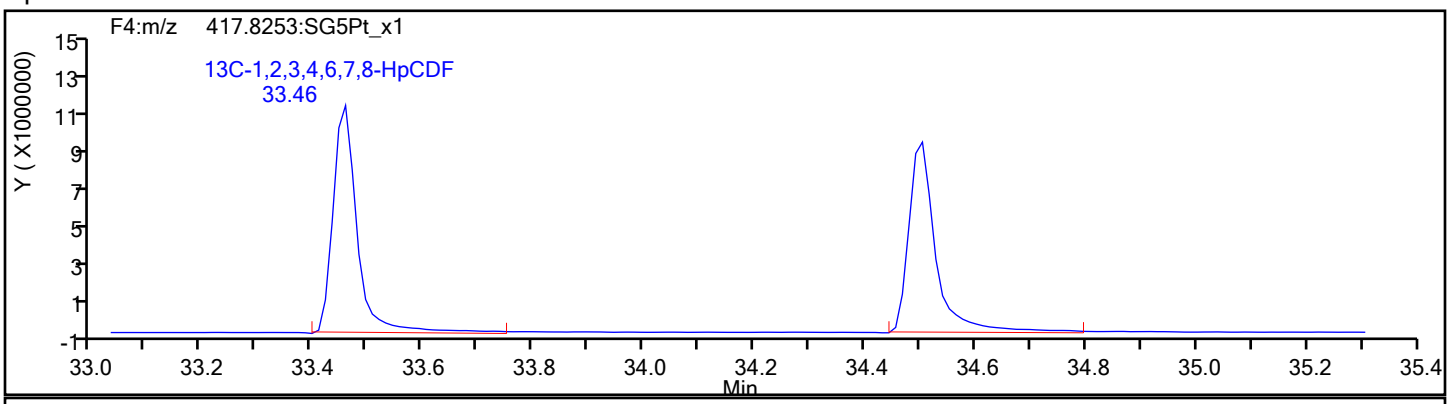

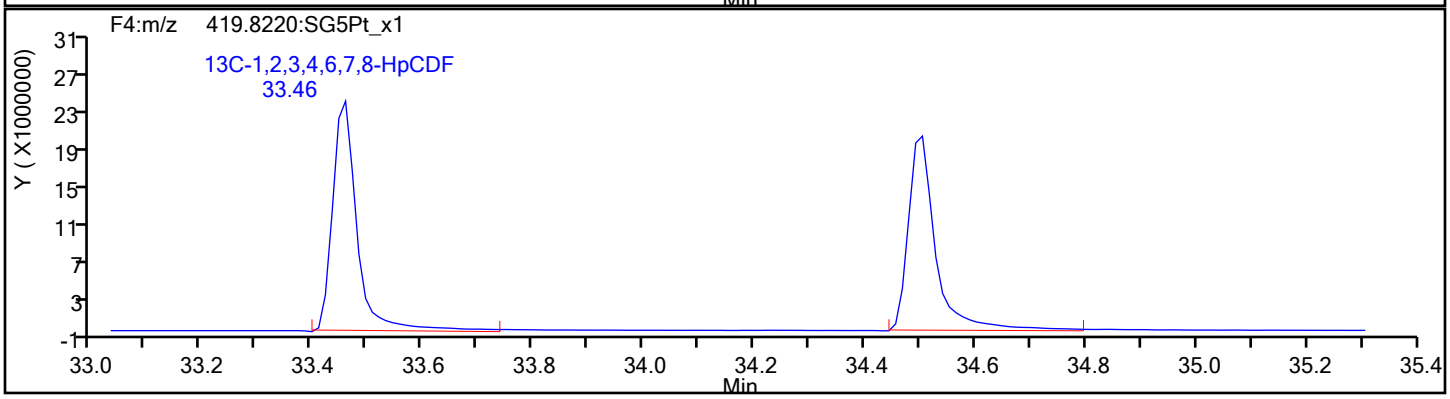

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Eurofins TestAmerica, Sacramento

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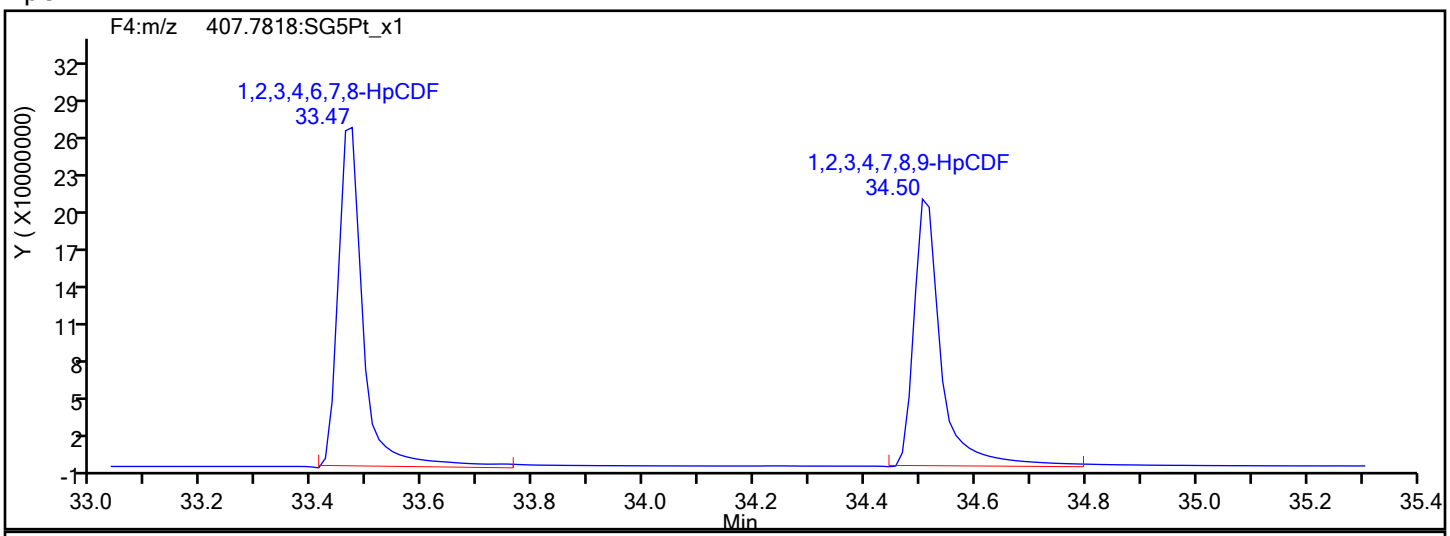

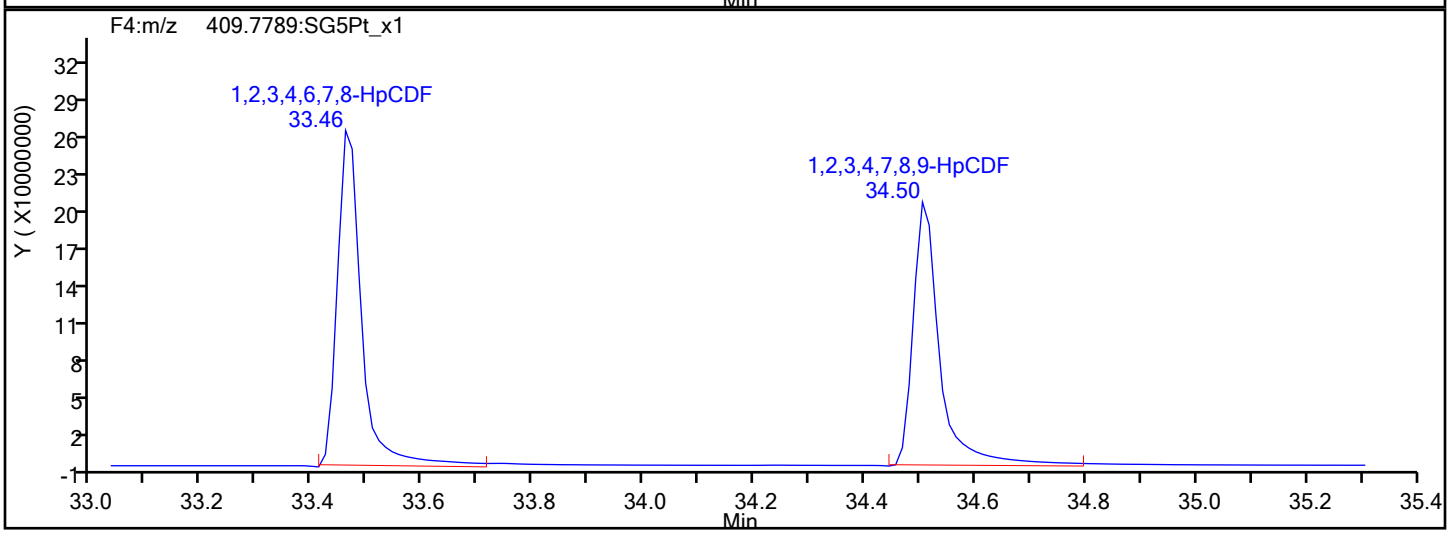

HpCDF Interference Mass

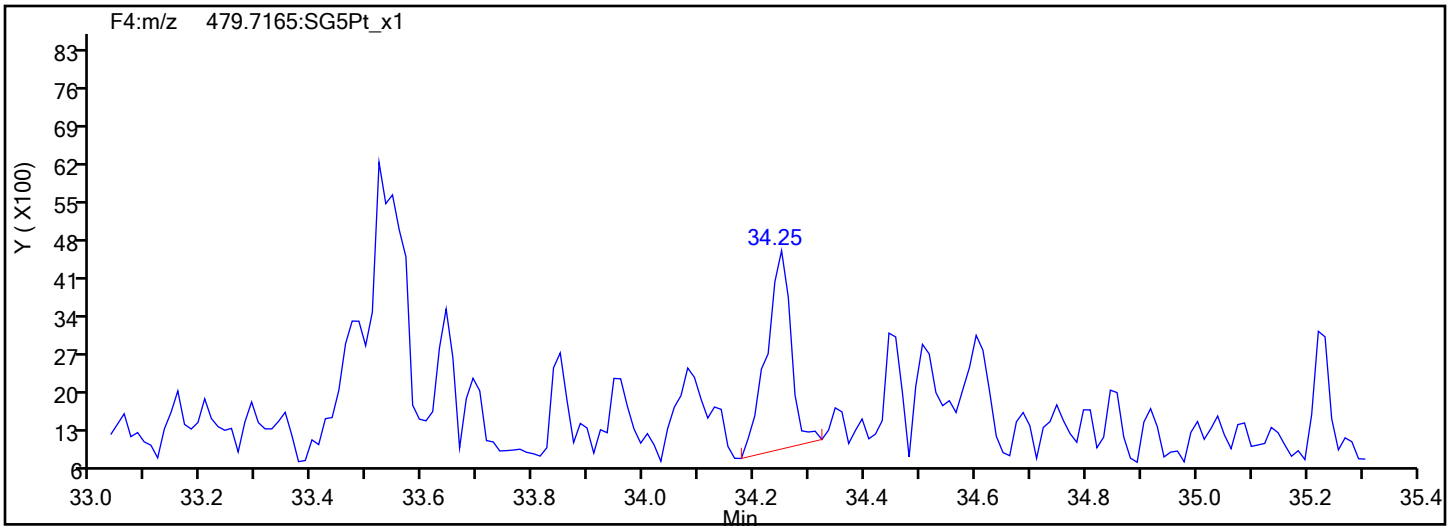

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Eurofins TestAmerica, Sacramento

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HpCDD

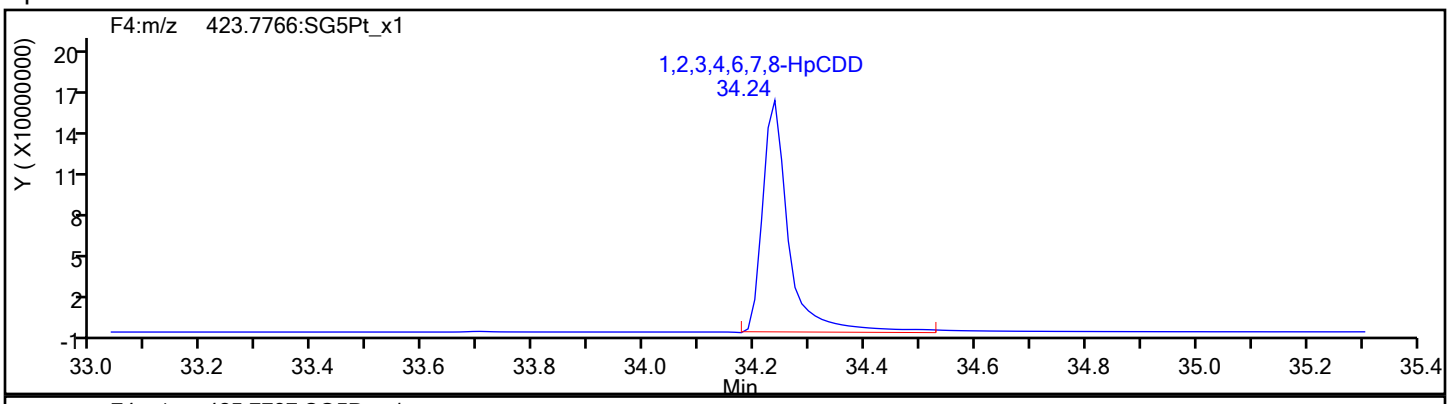

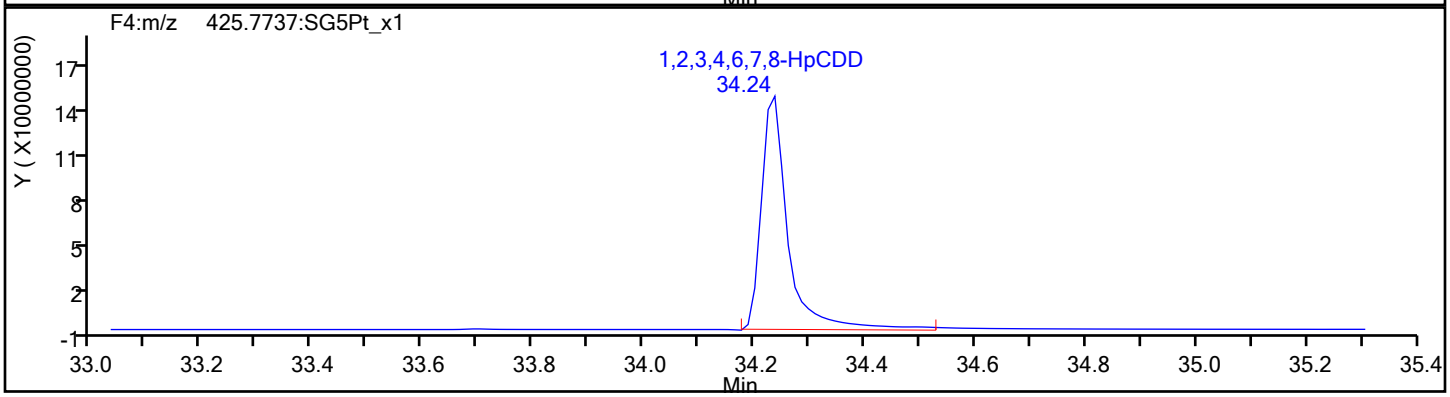

HpCDD Standards

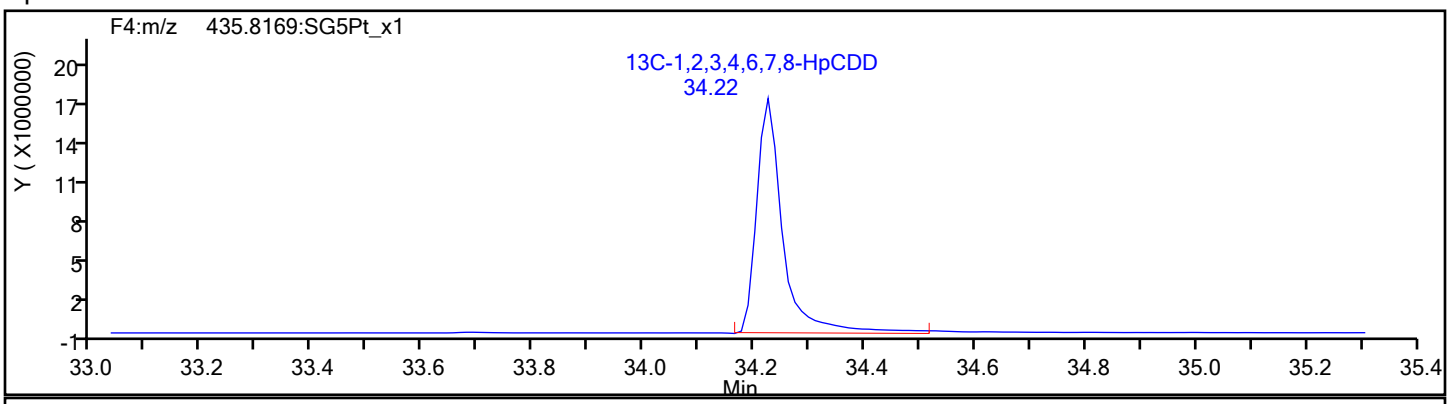

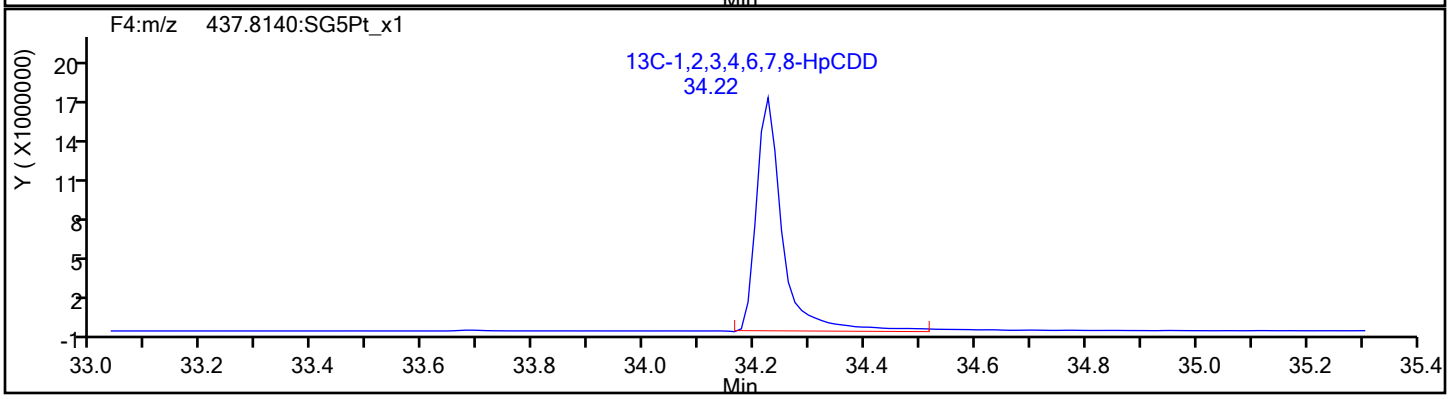

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Eurofins TestAmerica, Sacramento

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OCDF

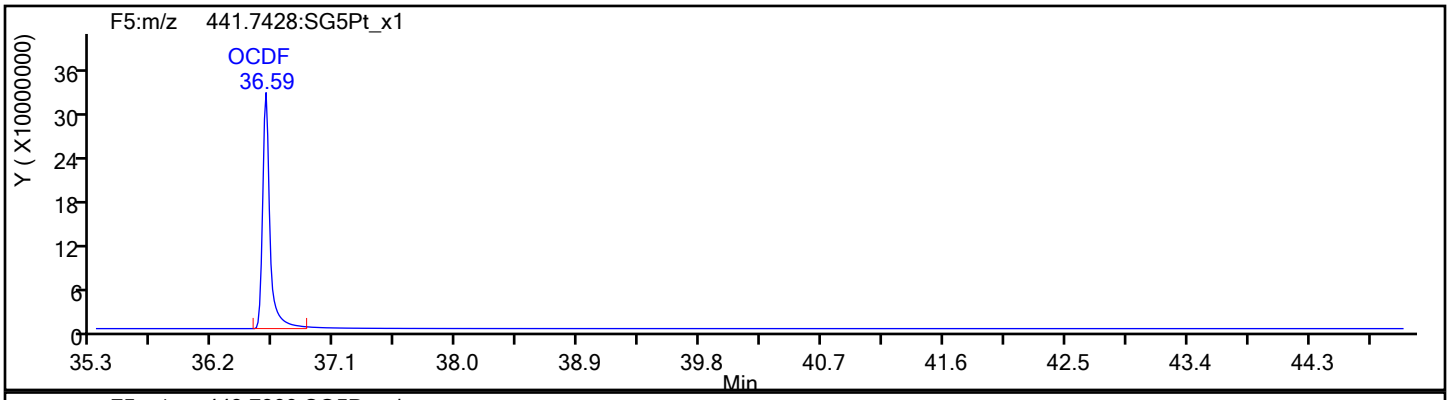

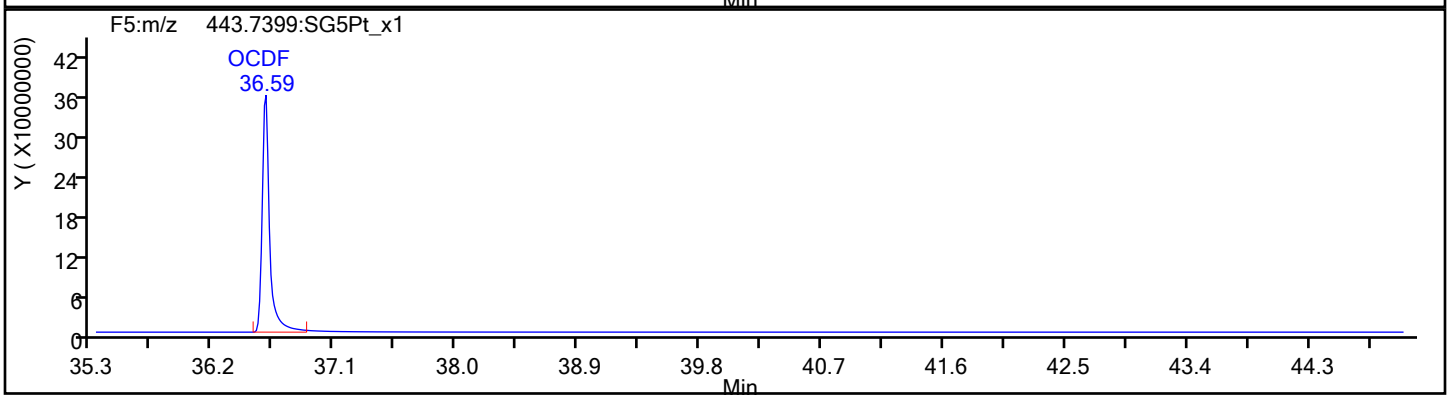

OCDF Standards

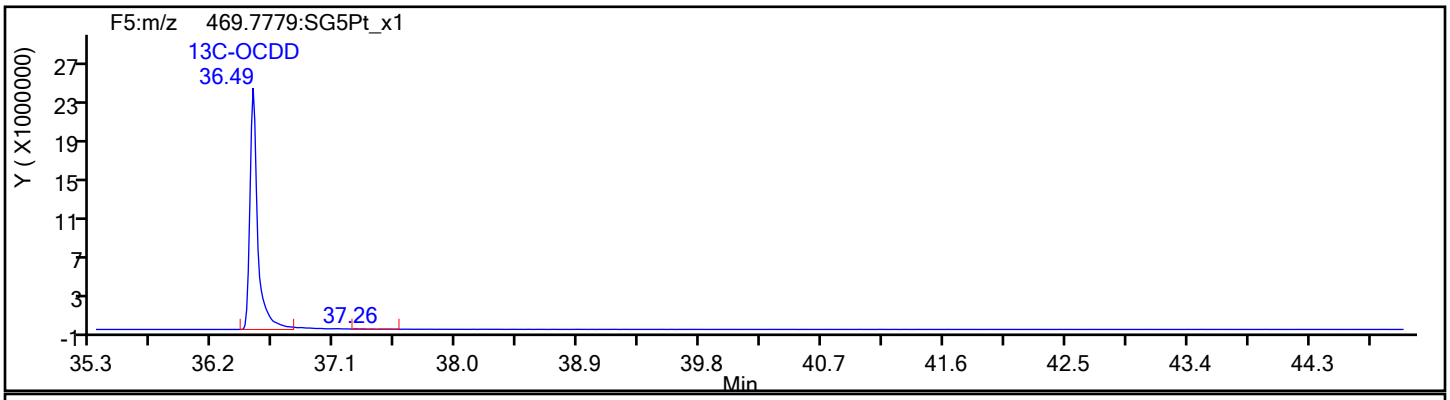

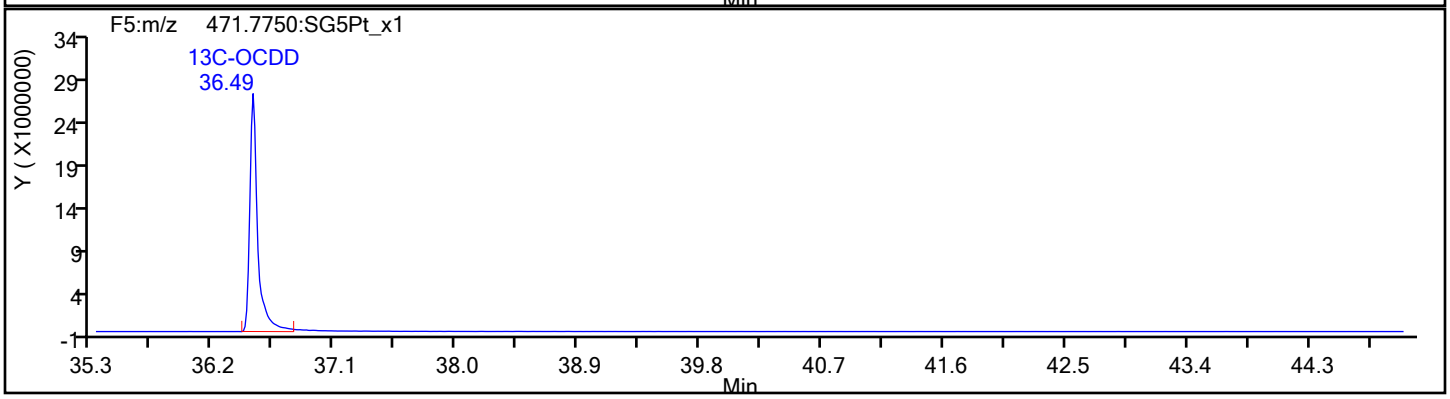

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d		
Injection Date:	17-Sep-2019 16:55:33	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

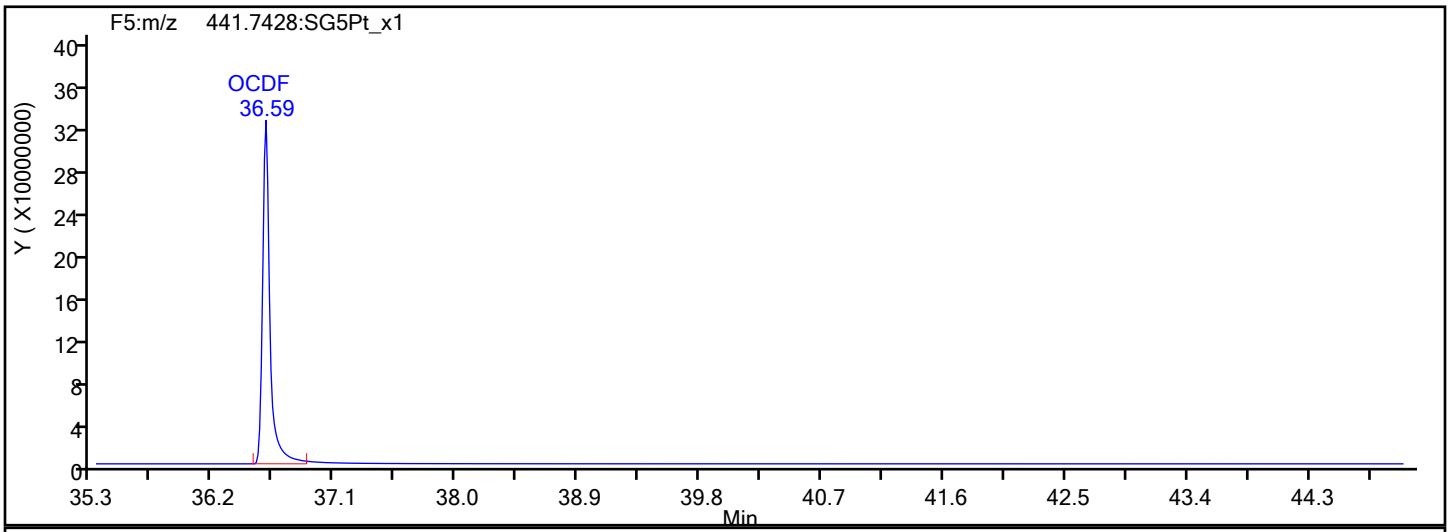

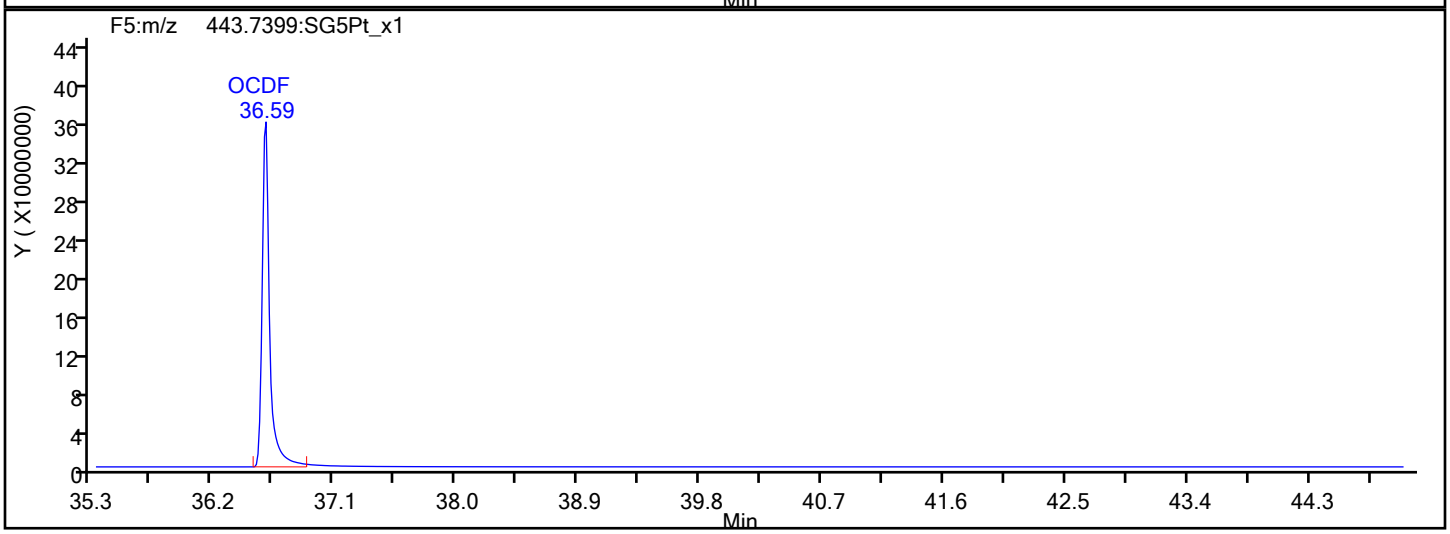

OCDF Interference Mass

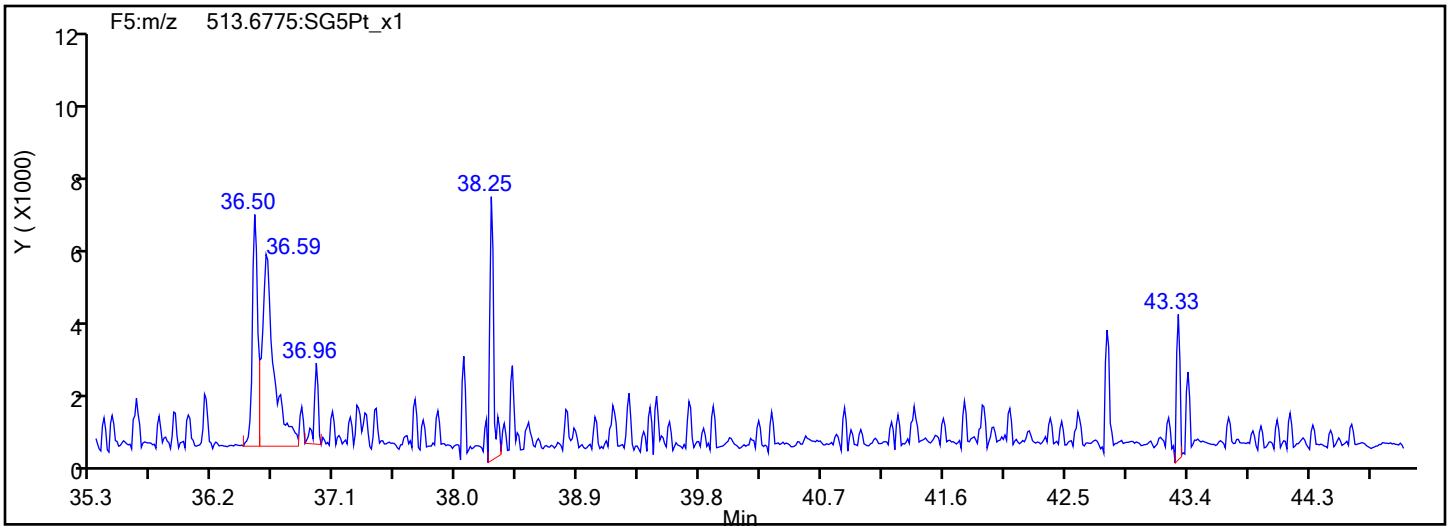

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d		
Injection Date:	17-Sep-2019 16:55:33	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

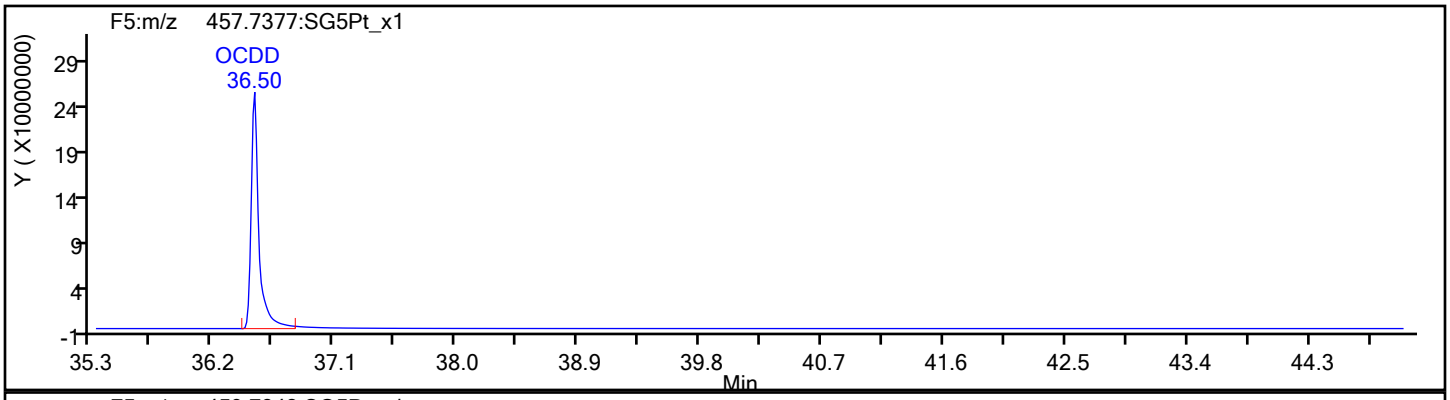

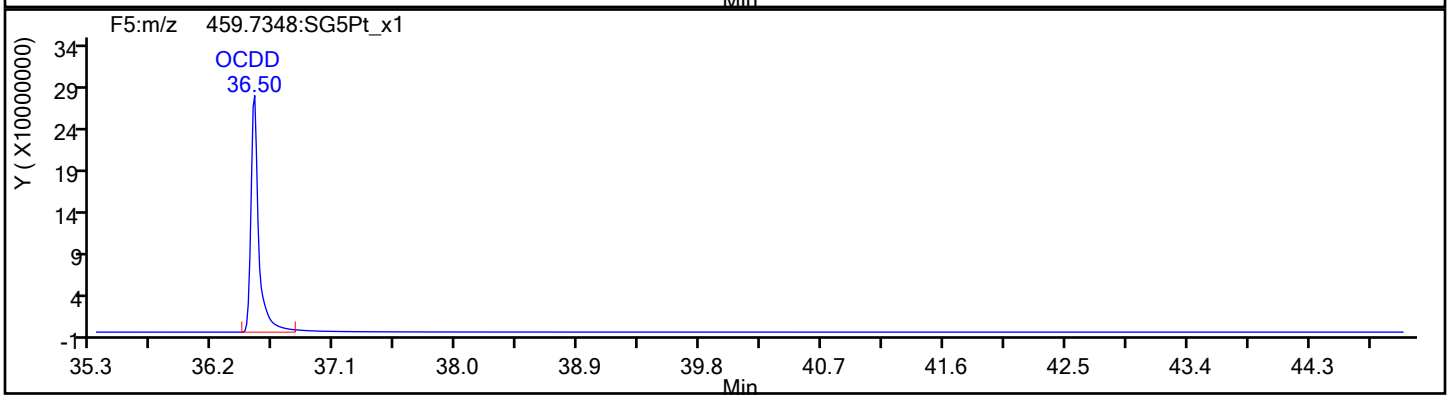

OCDD Standards

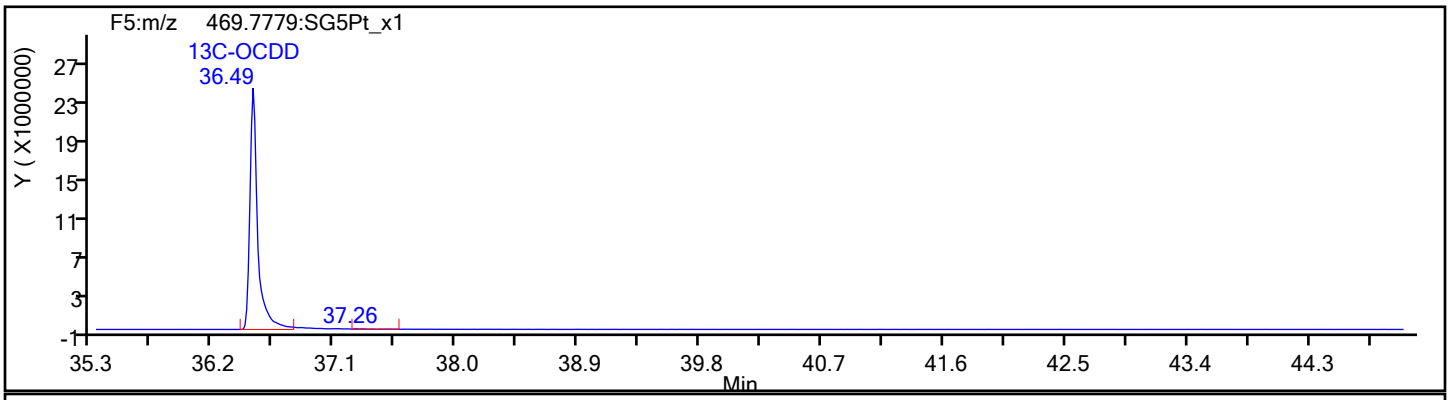

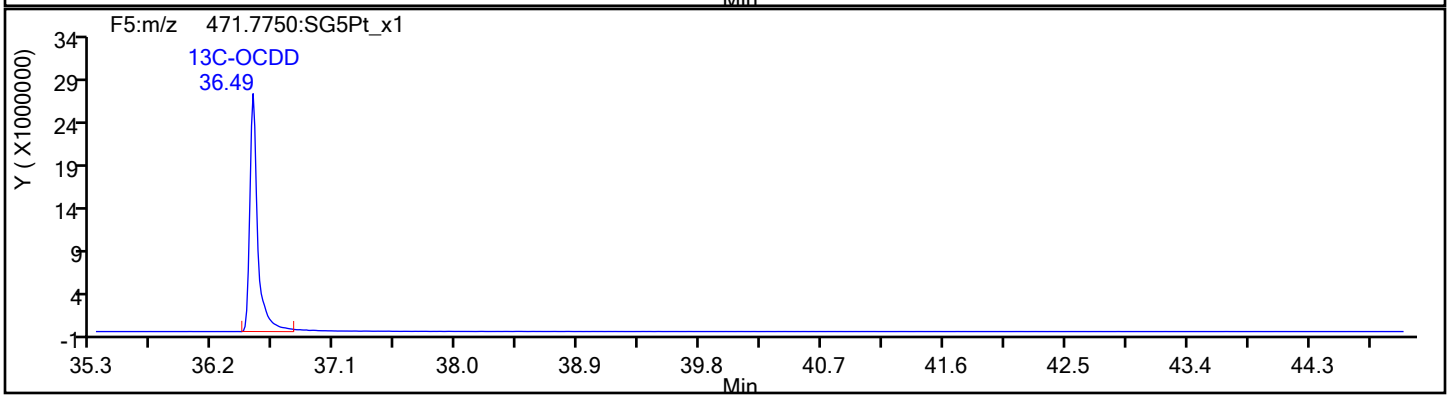

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d		
Injection Date:	17-Sep-2019 16:55:33	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

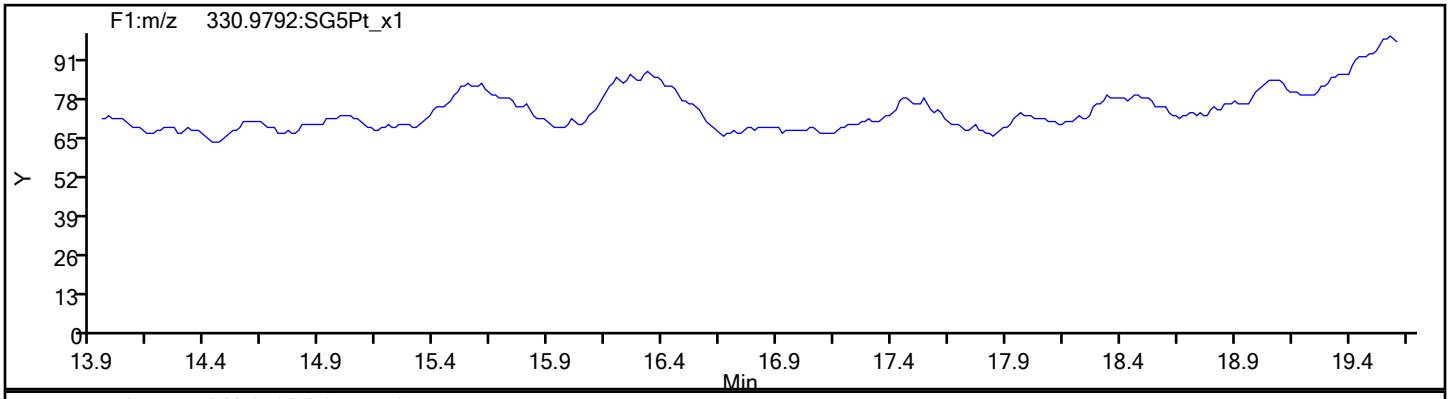

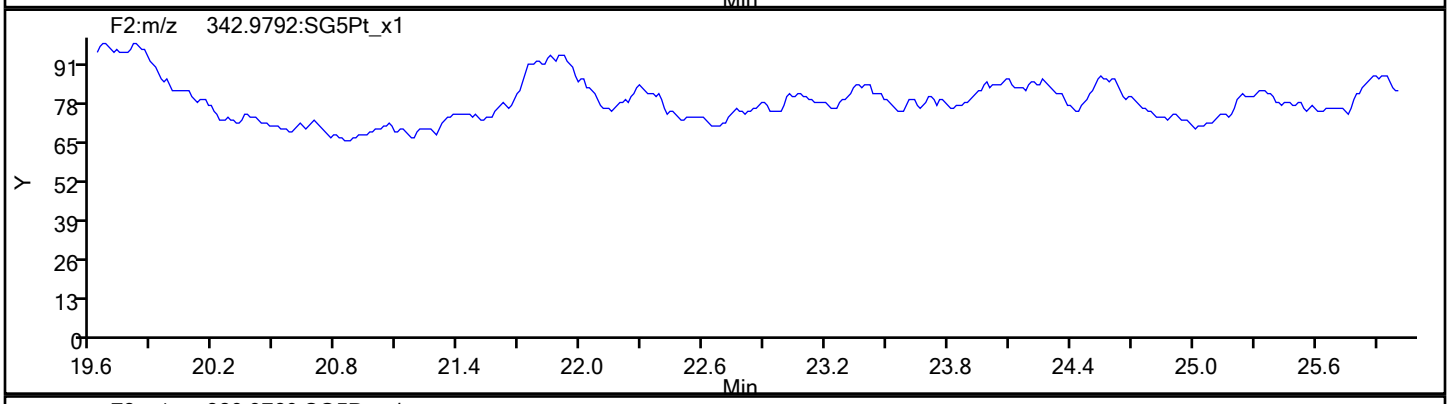

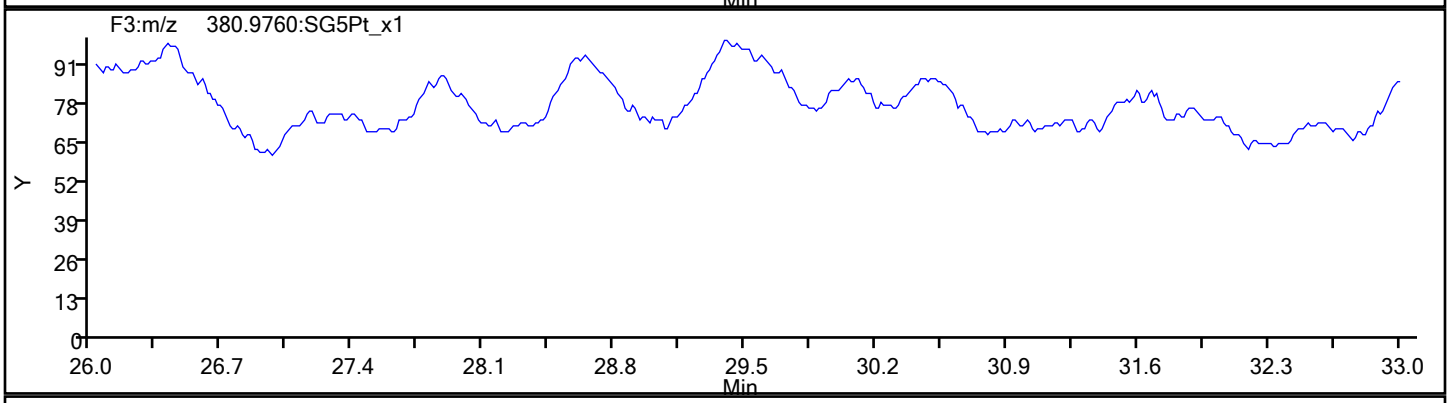

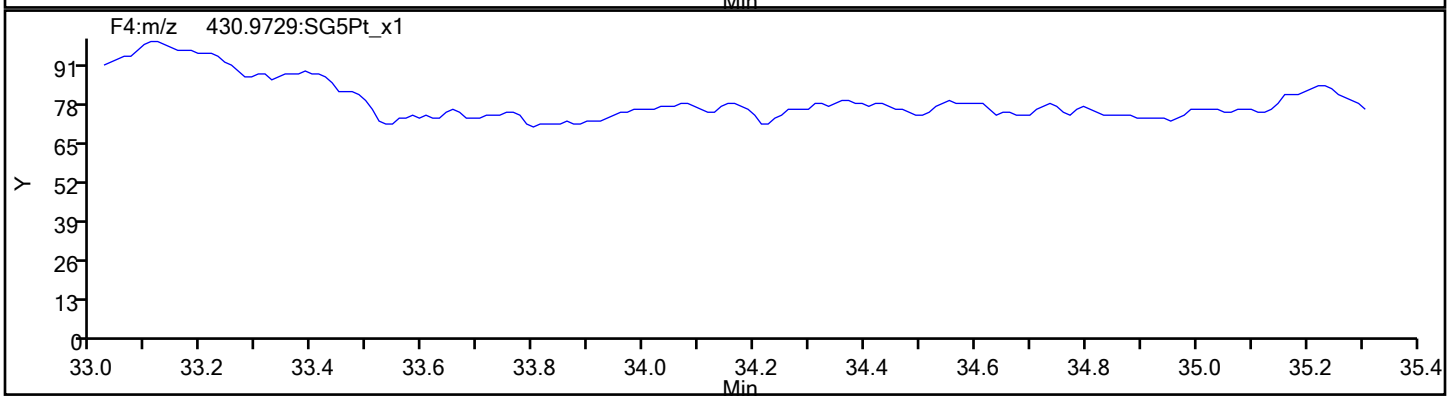

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d		
Injection Date:	17-Sep-2019 16:55:33	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

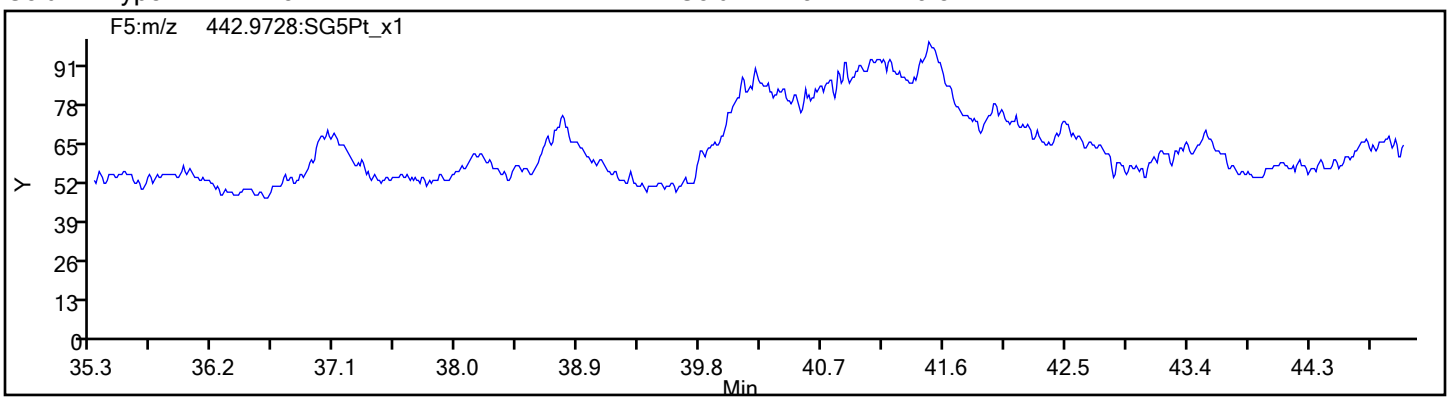

Calibration / 1,2,3,4,6,7,8-HpCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.9316

Error Coefficients

Standard Error:	523000000
Relative Standard Error:	5.9
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.124544	100.0	12148019.0	0.849818	Y
2	IC 320-324128/4	10.0	9.887454	100.0	25630510.0	0.988745	Y
3	IC 320-324128/7	50.0	45.909677	100.0	69249272.0	0.918194	Y
4	IC 320-324128/6	200.0	195.08816	100.0	90130025.0	0.975441	Y
5	IC 320-324128/8	1000.0	925.794044	100.0	111298169.0	0.925794	Y

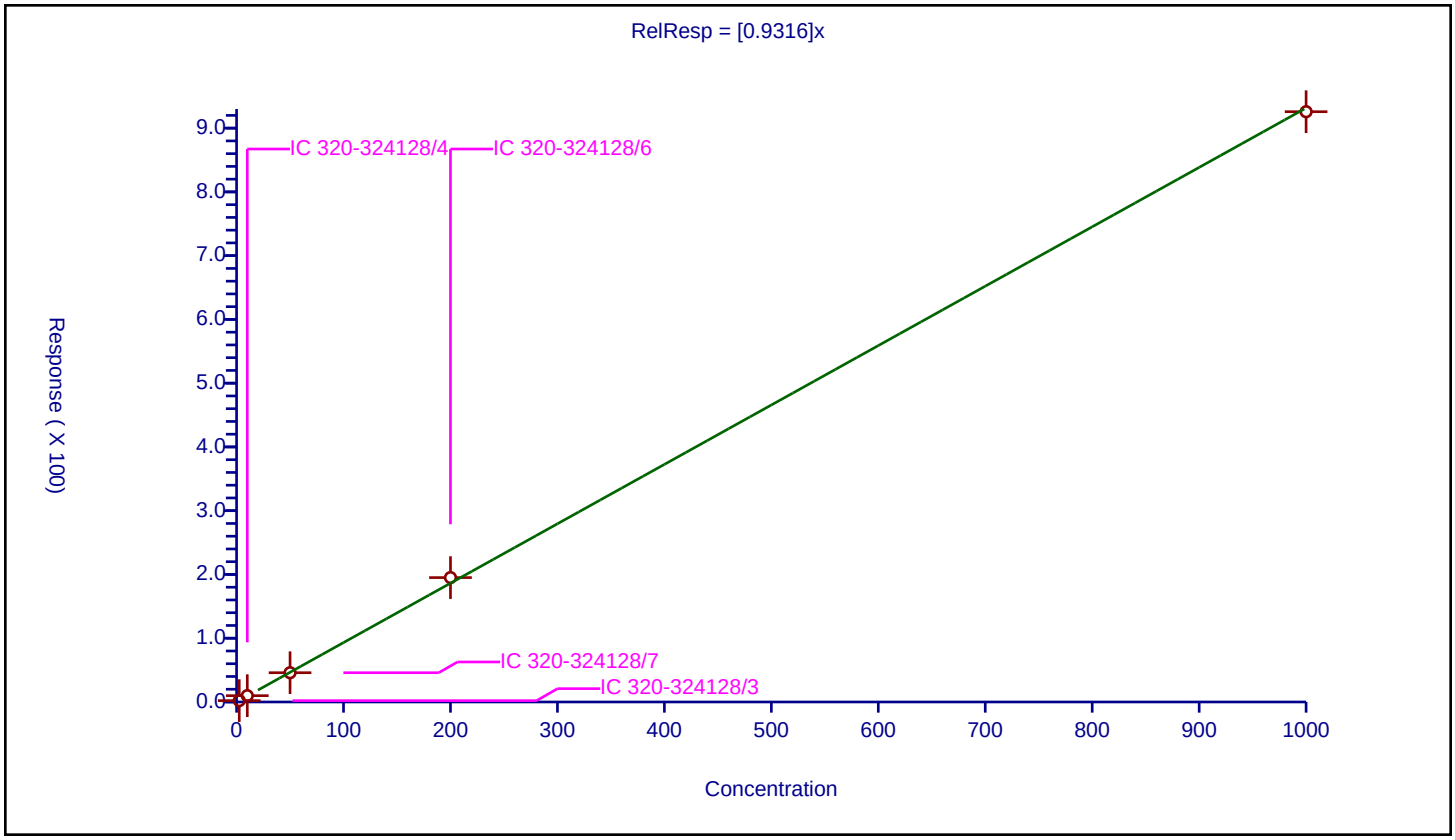

Calibration / 1,2,3,4,6,7,8-HpCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.556

Error Coefficients

Standard Error:	820000000
Relative Standard Error:	3.7
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	3.793804	100.0	12214839.0	1.517521	Y
2	IC 320-324128/4	10.0	16.415452	100.0	25015698.0	1.641545	Y
3	IC 320-324128/7	50.0	76.006177	100.0	70034446.0	1.520124	Y
4	IC 320-324128/6	200.0	317.335133	100.0	88816288.0	1.586676	Y
5	IC 320-324128/8	1000.0	1511.883696	100.0	106743815.0	1.511884	Y

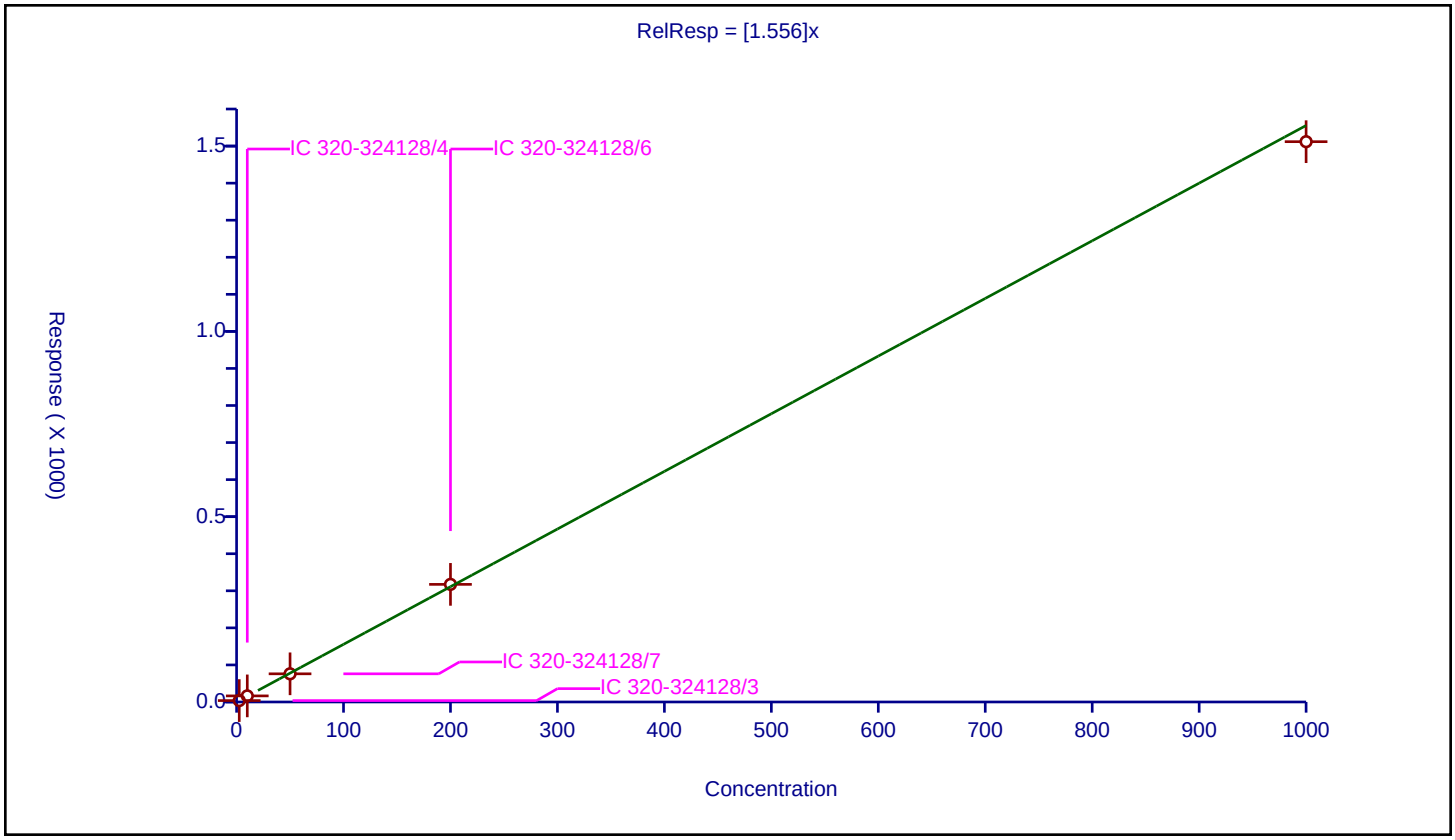

Calibration / 1,2,3,4,7,8,9-HpCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.386

Error Coefficients

Standard Error:	706000000
Relative Standard Error:	6.7
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	3.136969	100.0	11417456.0	1.254787	Y
2	IC 320-324128/4	10.0	14.795935	100.0	23641905.0	1.479594	Y
3	IC 320-324128/7	50.0	67.401124	100.0	62459777.0	1.348022	Y
4	IC 320-324128/6	200.0	294.076652	100.0	81274920.0	1.470383	Y
5	IC 320-324128/8	1000.0	1378.459208	100.0	100973962.0	1.378459	Y

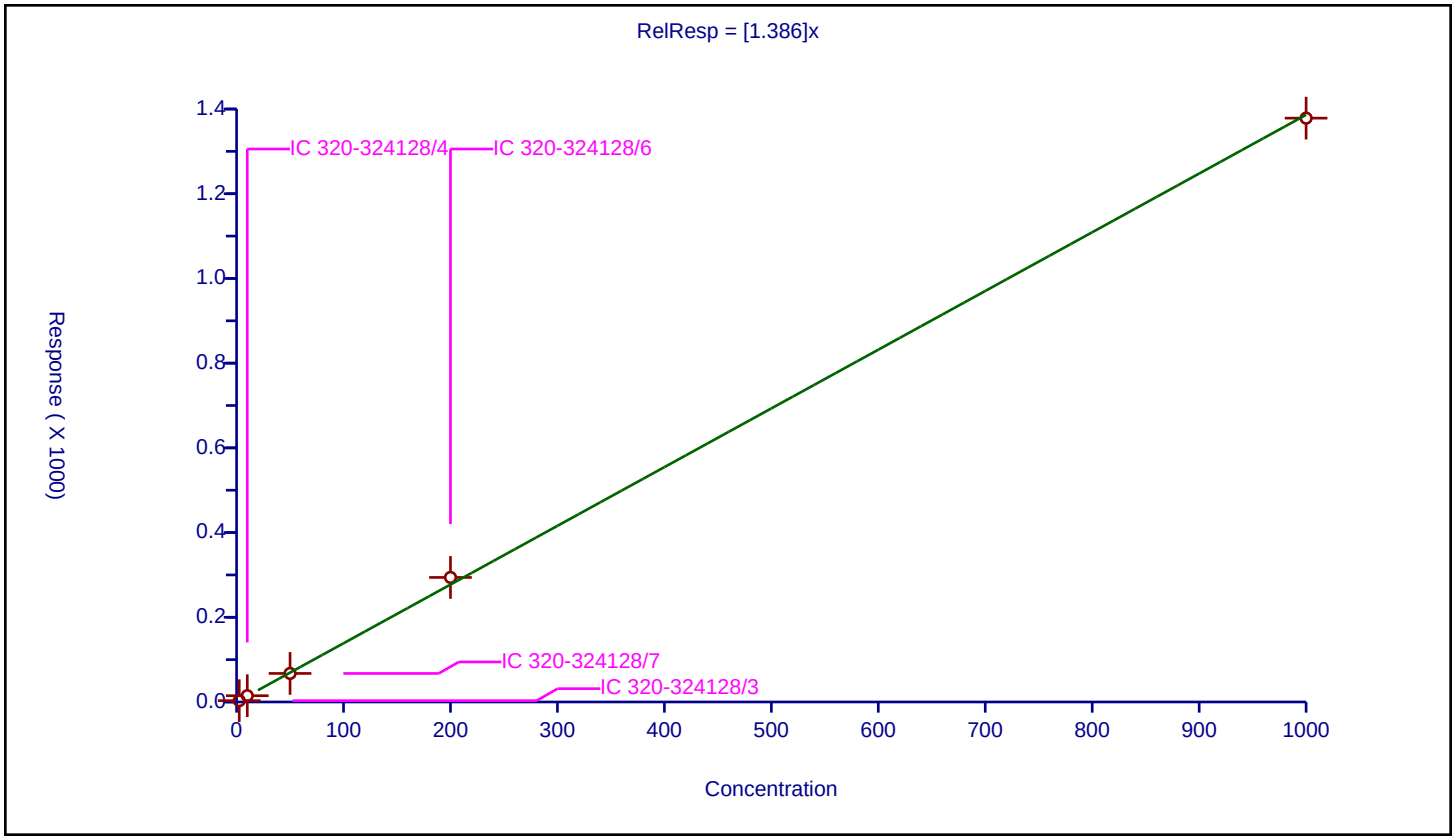

Calibration / 1,2,3,4,7,8-HxCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.109

Error Coefficients

Standard Error:	574000000
Relative Standard Error:	4.0
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.624315	100.0	10572054.0	1.049726	Y
2	IC 320-324128/4	10.0	11.313402	100.0	23739455.0	1.13134	Y
3	IC 320-324128/7	50.0	53.811098	100.0	61001305.0	1.076222	Y
4	IC 320-324128/6	200.0	231.704316	100.0	80372897.0	1.158522	Y
5	IC 320-324128/8	1000.0	1128.178019	100.0	100374877.0	1.128178	Y

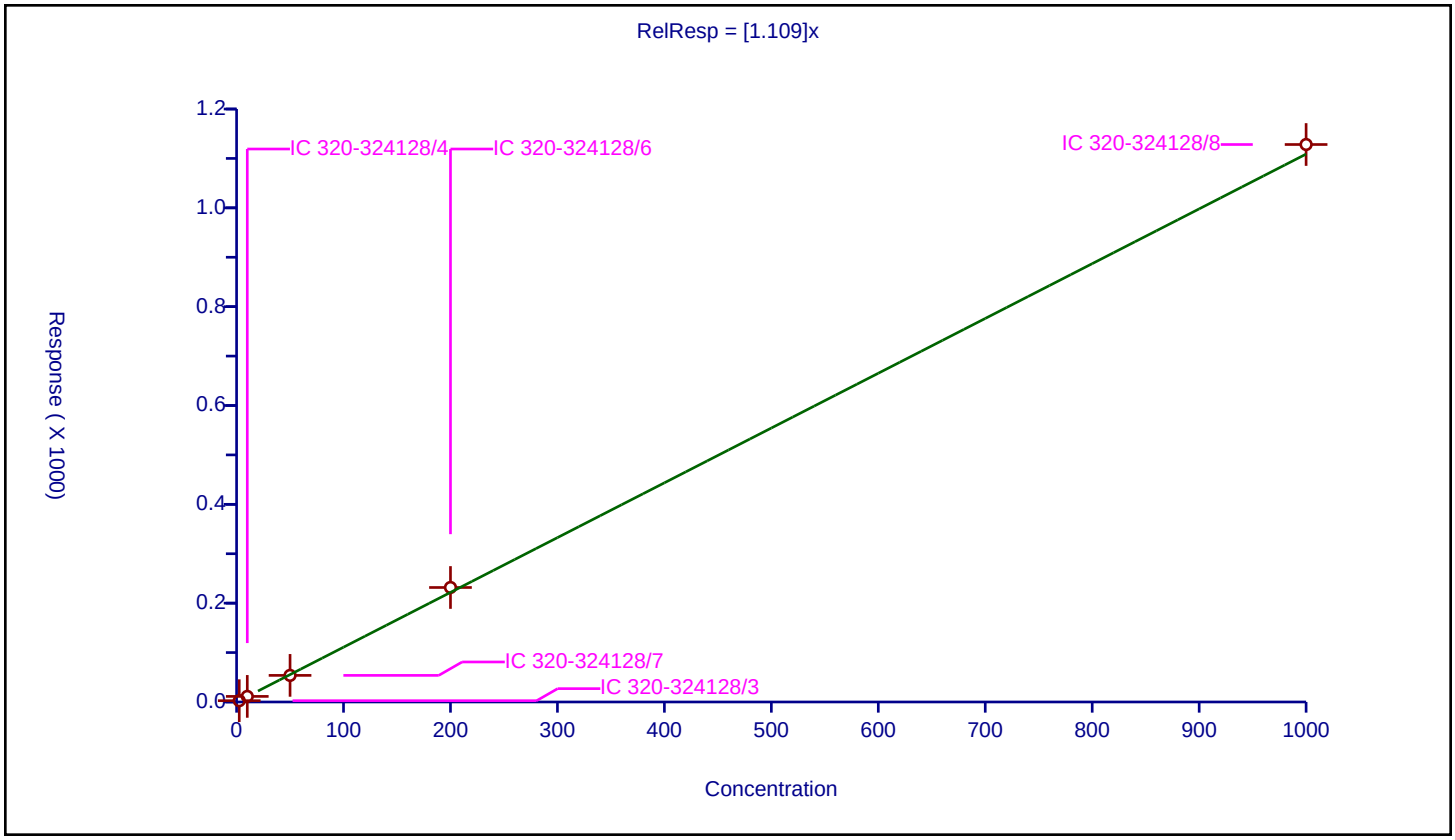

Calibration / 1,2,3,4,7,8-HxCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.197

Error Coefficients

Standard Error:	857000000
Relative Standard Error:	5.9
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.751048	100.0	16433122.0	1.100419	Y
2	IC 320-324128/4	10.0	12.643334	100.0	36418536.0	1.264333	Y
3	IC 320-324128/7	50.0	57.806584	100.0	88972191.0	1.156132	Y
4	IC 320-324128/6	200.0	252.902057	100.0	115322048.0	1.26451	Y
5	IC 320-324128/8	1000.0	1201.28113	100.0	140595624.0	1.201281	Y

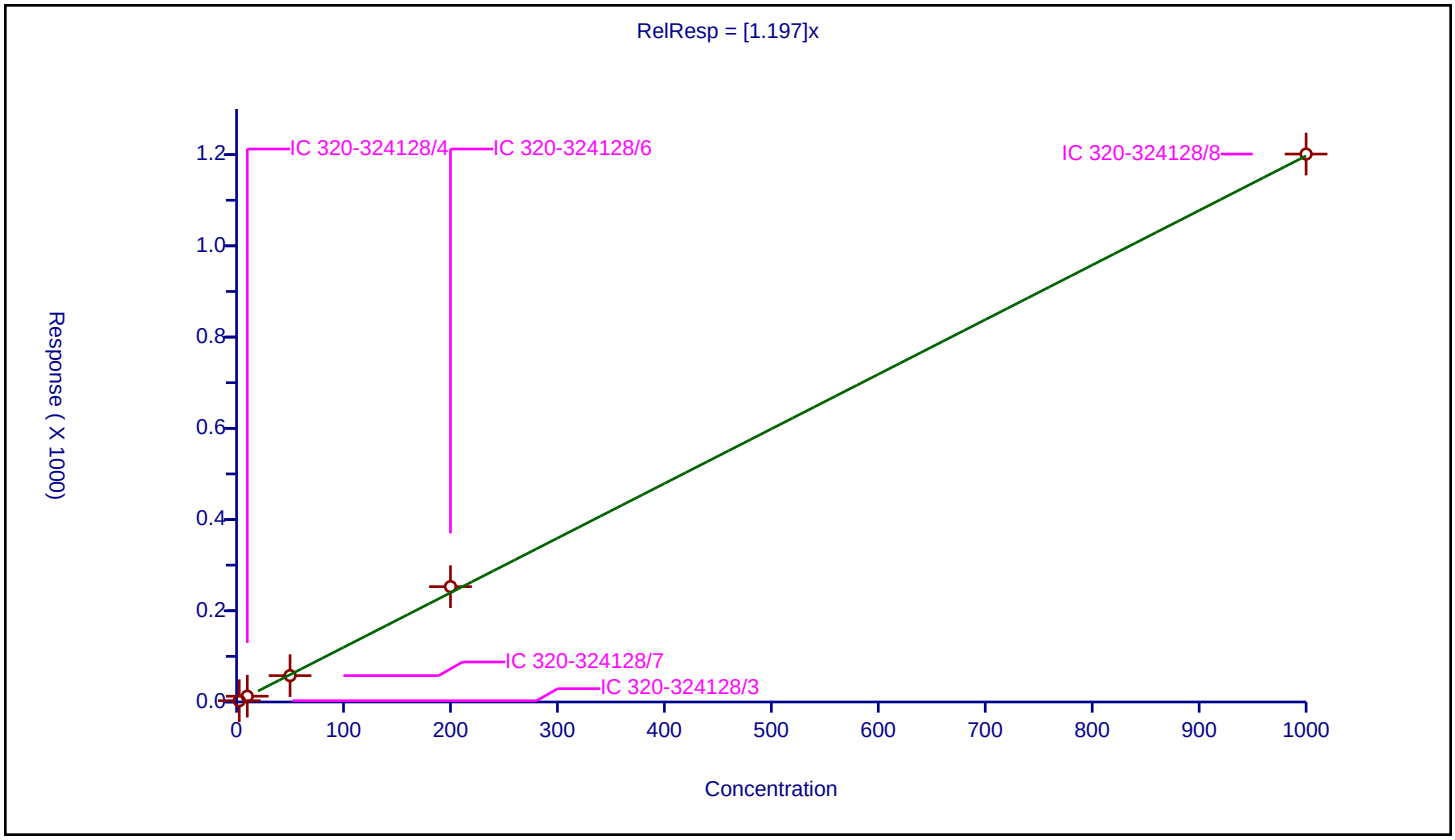

Calibration / 1,2,3,6,7,8-HxCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.081

Error Coefficients

Standard Error:	630000000
Relative Standard Error:	4.9
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.556253	100.0	12508423.0	1.022501	Y
2	IC 320-324128/4	10.0	11.525838	100.0	27633426.0	1.152584	Y
3	IC 320-324128/7	50.0	52.478256	100.0	72157657.0	1.049565	Y
4	IC 320-324128/6	200.0	223.531818	100.0	95002970.0	1.117659	Y
5	IC 320-324128/8	1000.0	1064.760649	100.0	116499868.0	1.064761	Y

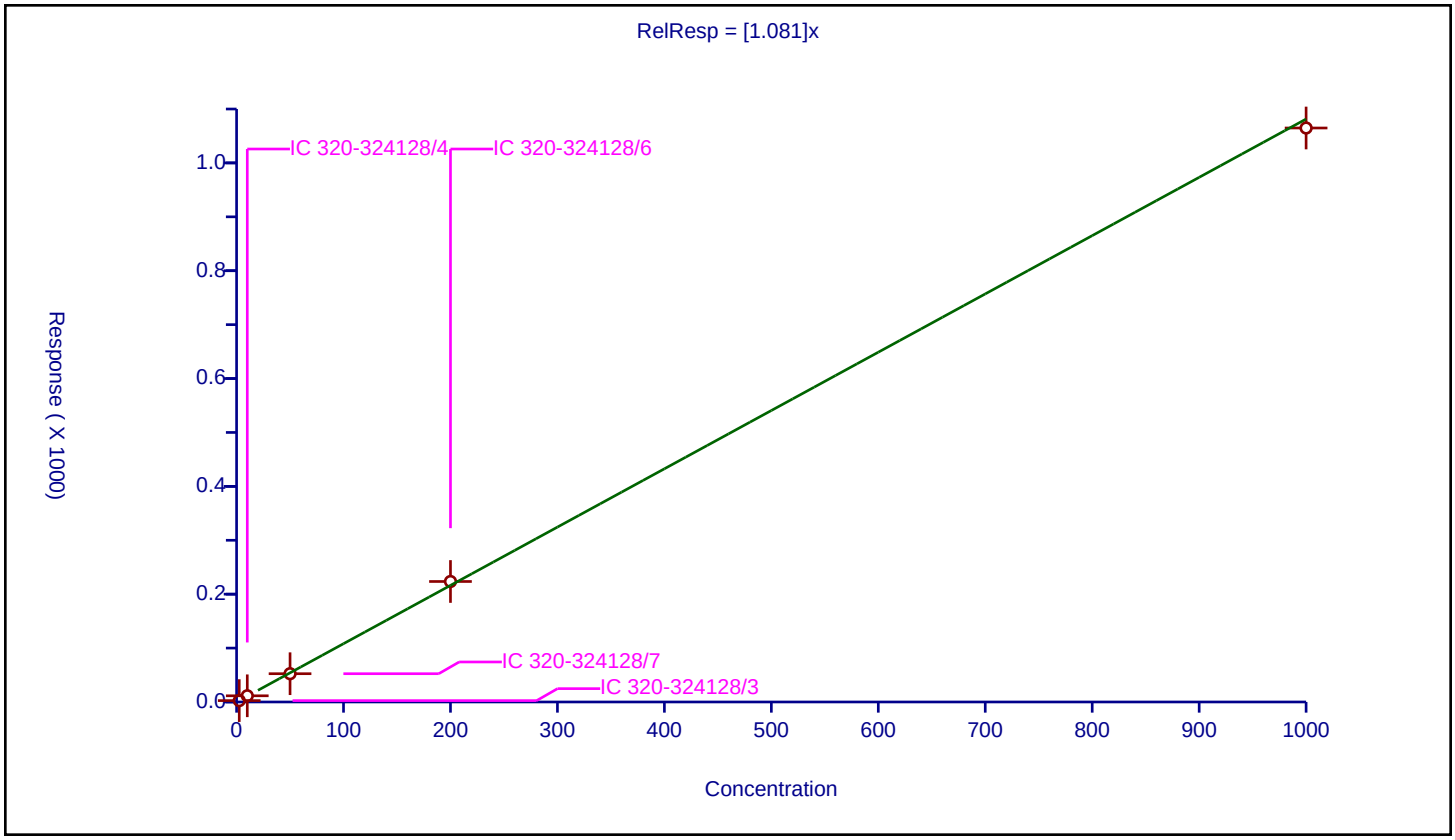

Calibration / 1,2,3,6,7,8-HxCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.181

Error Coefficients

Standard Error:	909000000
Relative Standard Error:	6.6
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.667131	100.0	17668349.0	1.066852	Y
2	IC 320-324128/4	10.0	12.704364	100.0	38486861.0	1.270436	Y
3	IC 320-324128/7	50.0	57.669759	100.0	97064883.0	1.153395	Y
4	IC 320-324128/6	200.0	246.681655	100.0	126224651.0	1.233408	Y
5	IC 320-324128/8	1000.0	1179.211783	100.0	151833452.0	1.179212	Y

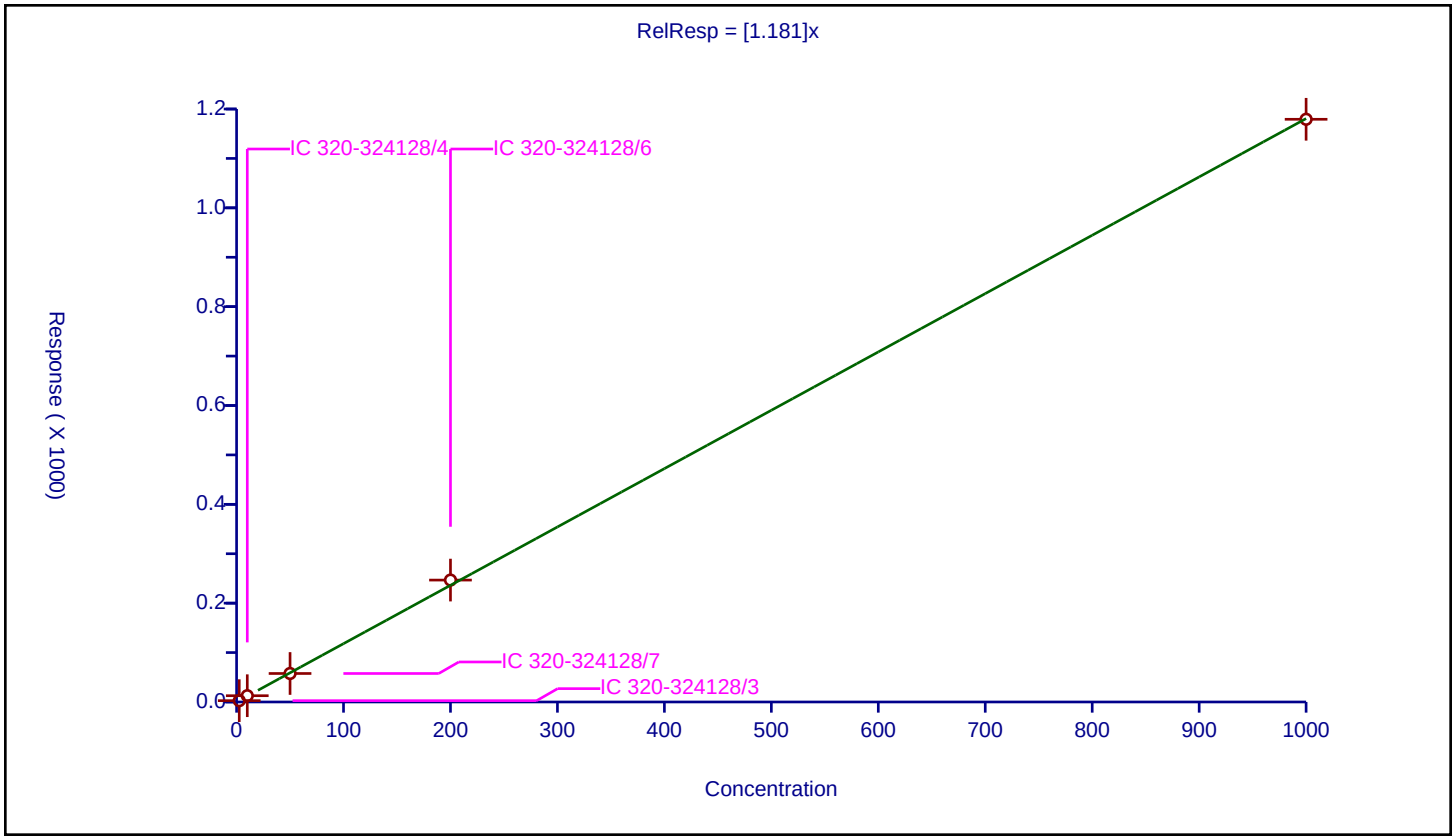

Calibration / 1,2,3,7,8,9-HxCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.318

Error Coefficients

Standard Error:	639000000
Relative Standard Error:	5.4
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	3.149823	100.0	10572054.0	1.259929	Y
2	IC 320-324128/4	10.0	14.21552	100.0	23739455.0	1.421552	Y
3	IC 320-324128/7	50.0	64.86943	100.0	61001305.0	1.297389	Y
4	IC 320-324128/6	200.0	271.297093	100.0	80372897.0	1.356485	Y
5	IC 320-324128/8	1000.0	1254.773605	100.0	100374877.0	1.254774	Y

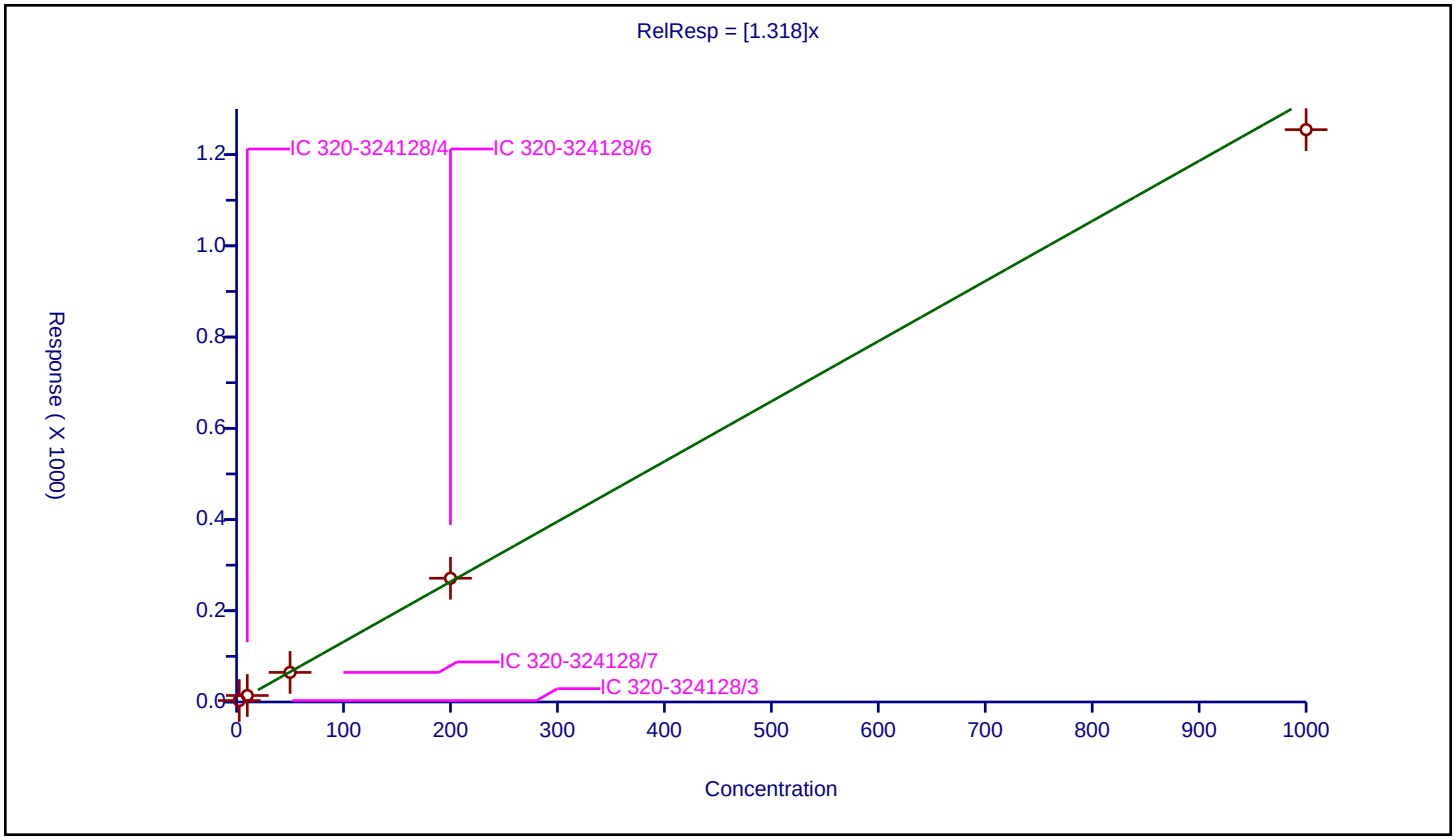

Calibration / 1,2,3,7,8,9-HxCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.245

Error Coefficients

Standard Error:	802000000
Relative Standard Error:	3.0
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	3.063166	100.0	15096147.0	1.225266	Y
2	IC 320-324128/4	10.0	12.975655	100.0	33293009.0	1.297566	Y
3	IC 320-324128/7	50.0	60.502108	100.0	83967924.0	1.210042	Y
4	IC 320-324128/6	200.0	254.314863	100.0	107073331.0	1.271574	Y
5	IC 320-324128/8	1000.0	1221.183573	100.0	129353689.0	1.221184	Y

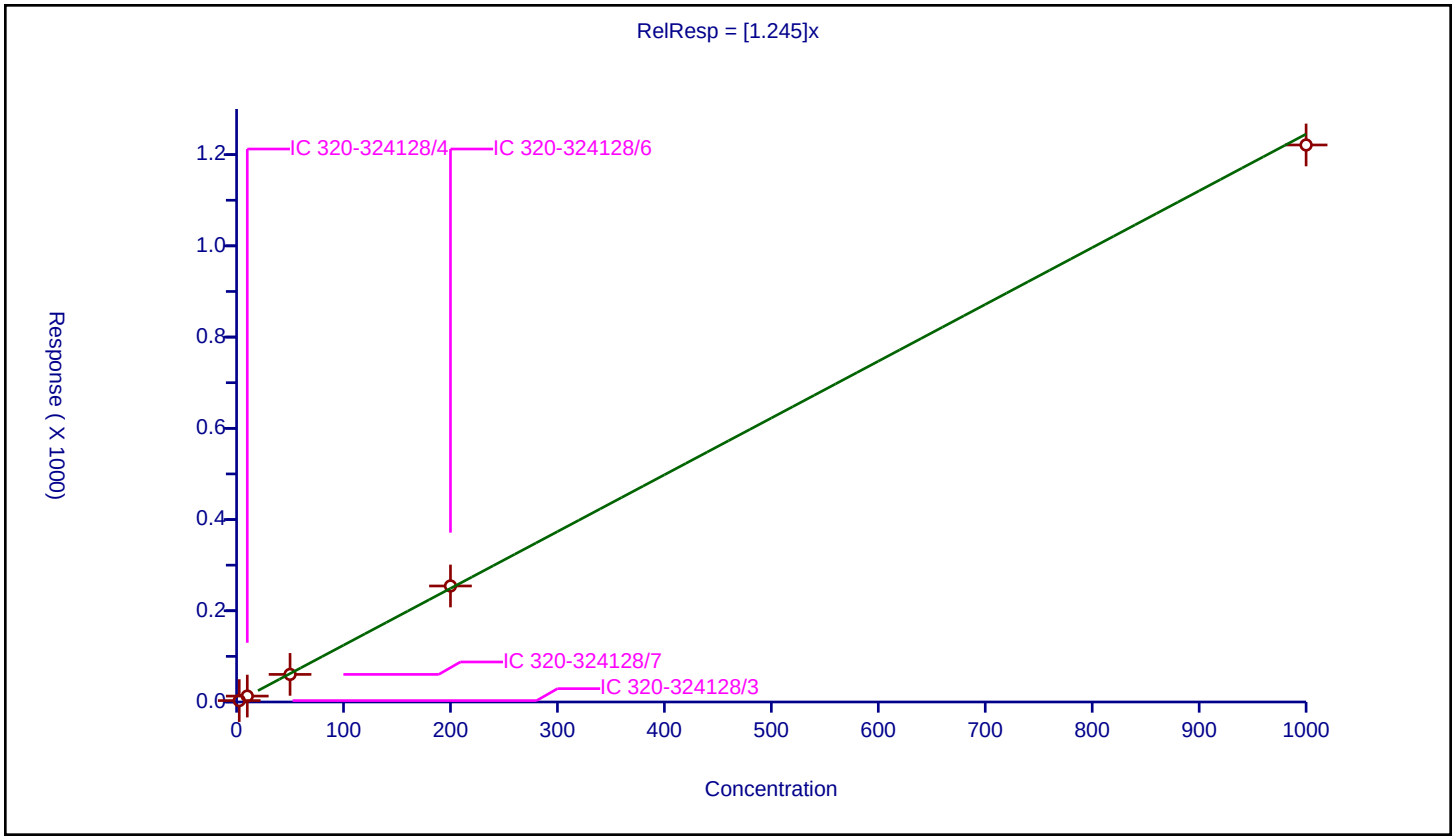

Calibration / 1,2,3,7,8-PeCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.905

Error Coefficients

Standard Error:	590000000
Relative Standard Error:	4.8
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.148594	100.0	15668897.0	0.859438	Y
2	IC 320-324128/4	10.0	9.575806	100.0	33098301.0	0.957581	Y
3	IC 320-324128/7	50.0	43.349327	100.0	84755636.0	0.866987	Y
4	IC 320-324128/6	200.0	188.20818	100.0	108225317.0	0.941041	Y
5	IC 320-324128/8	1000.0	900.148235	100.0	129152474.0	0.900148	Y

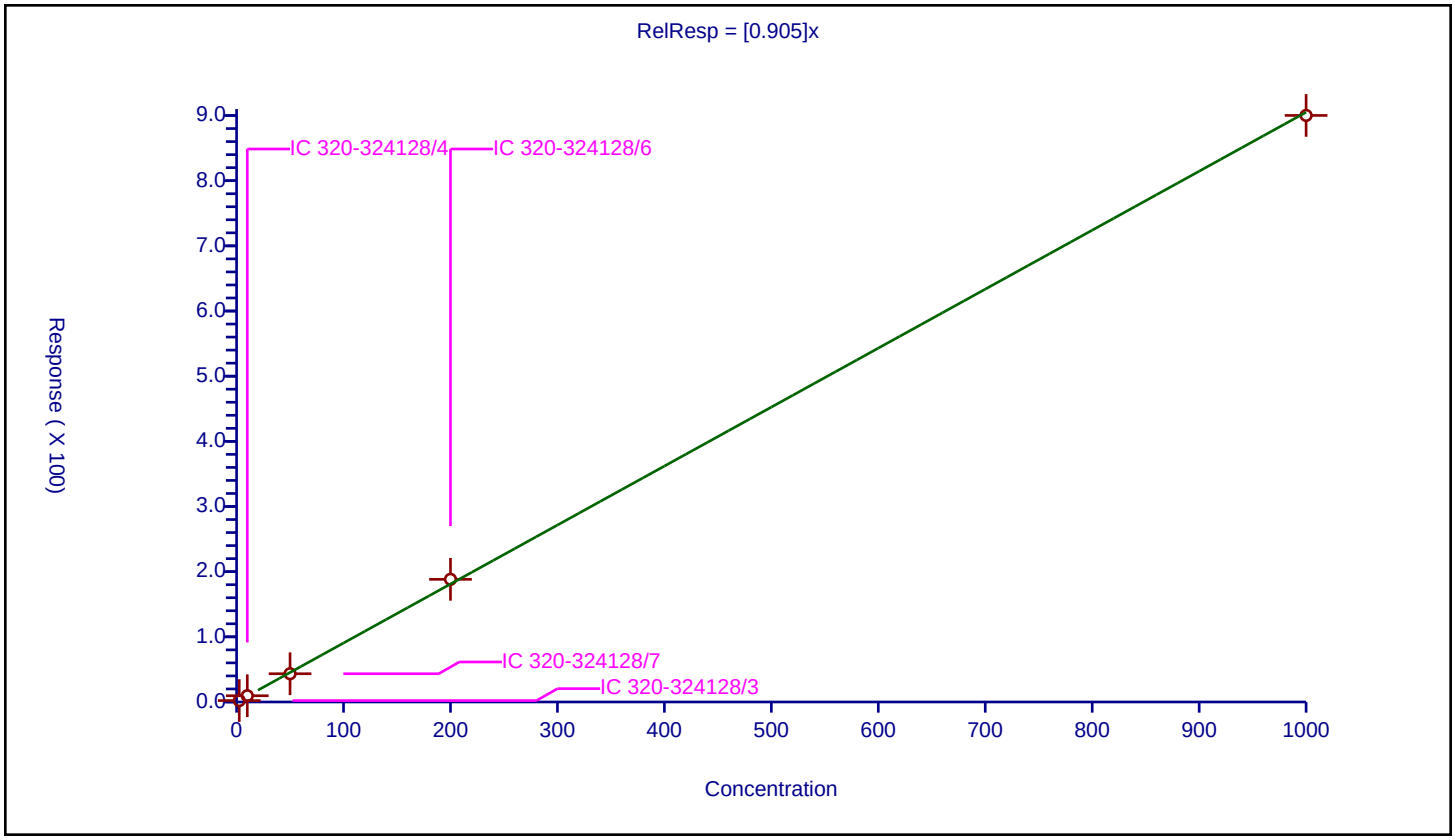

Calibration / 1,2,3,7,8-PeCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.082

Error Coefficients

Standard Error:	938000000
Relative Standard Error:	6.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.502683	100.0	22013977.0	1.001073	Y
2	IC 320-324128/4	10.0	11.601265	100.0	46755351.0	1.160126	Y
3	IC 320-324128/7	50.0	52.158277	100.0	117067384.0	1.043166	Y
4	IC 320-324128/6	200.0	226.621934	100.0	146707284.0	1.13311	Y
5	IC 320-324128/8	1000.0	1073.749438	100.0	171862914.0	1.073749	Y

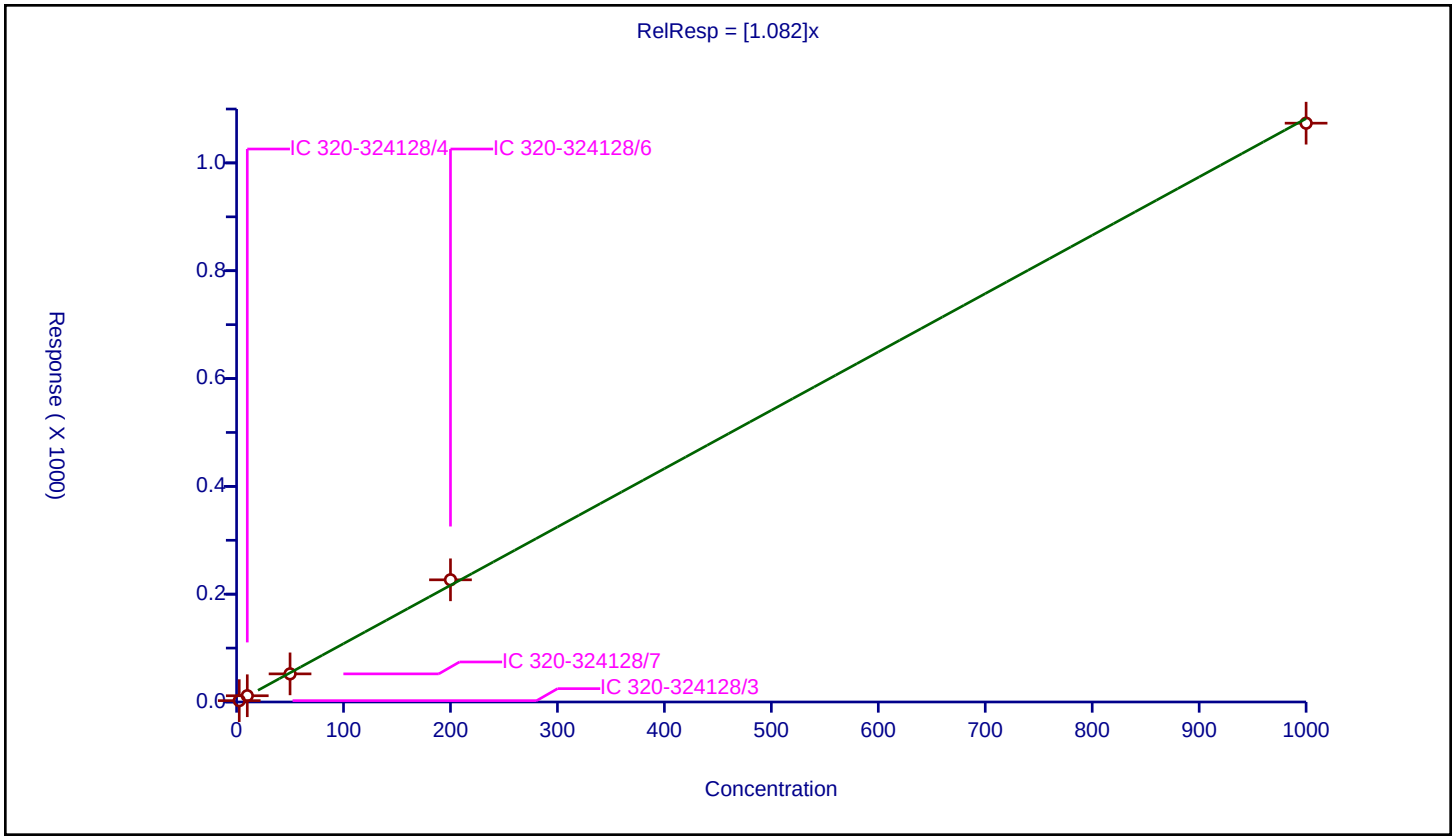

Calibration / 2,3,4,6,7,8-HxCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.212

Error Coefficients

Standard Error:	900000000
Relative Standard Error:	4.7
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.831839	100.0	16591902.0	1.132736	Y
2	IC 320-324128/4	10.0	12.683235	100.0	35886090.0	1.268323	Y
3	IC 320-324128/7	50.0	59.276675	100.0	90467566.0	1.185533	Y
4	IC 320-324128/6	200.0	253.147566	100.0	118677202.0	1.265738	Y
5	IC 320-324128/8	1000.0	1205.597186	100.0	147071003.0	1.205597	Y

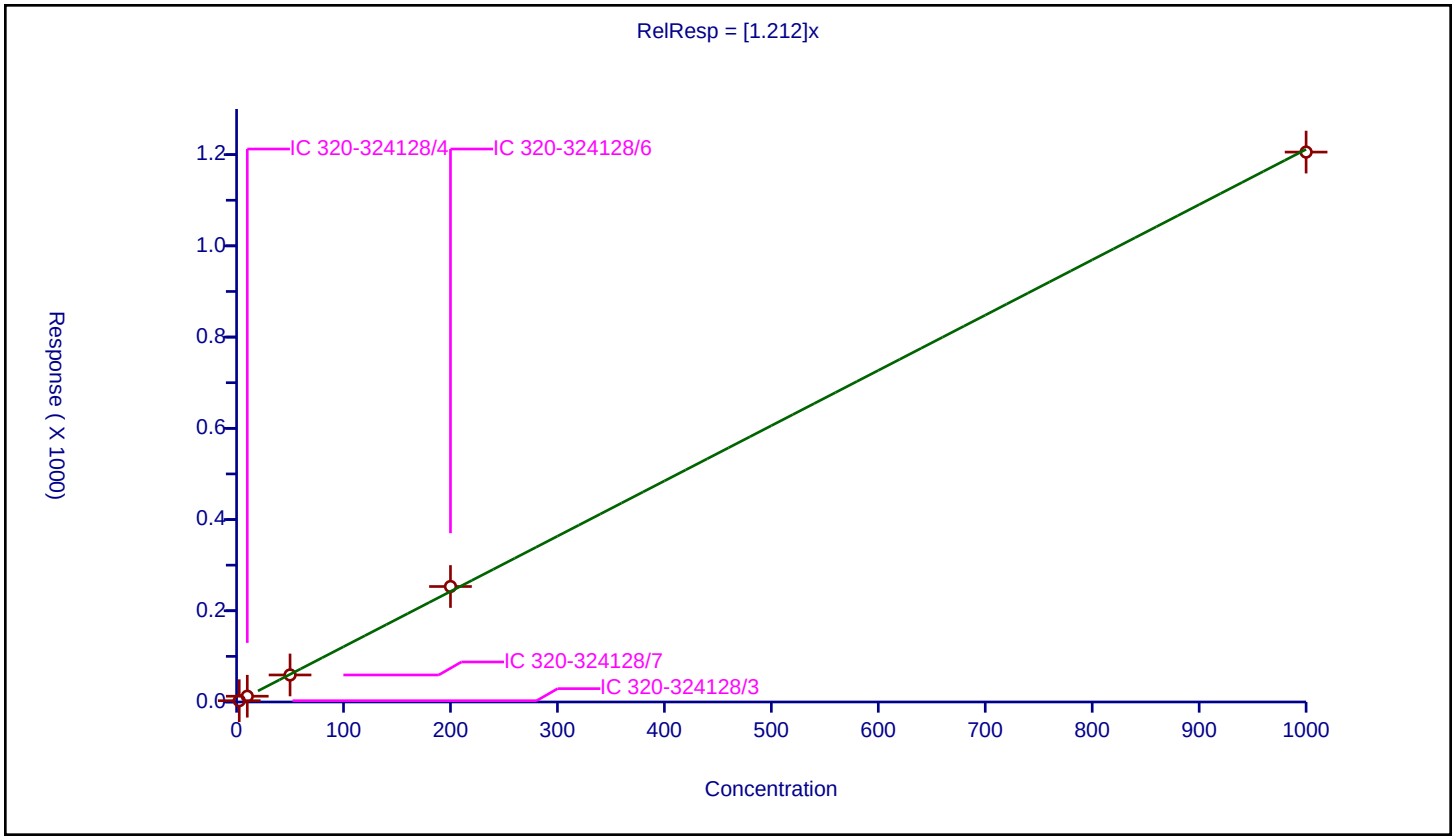

Calibration / 2,3,4,7,8-PeCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.103

Error Coefficients

Standard Error:	942000000
Relative Standard Error:	8.1
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.406506	100.0	20818900.0	0.962602	Y
2	IC 320-324128/4	10.0	11.888412	100.0	45184985.0	1.188841	Y
3	IC 320-324128/7	50.0	54.321476	100.0	108494277.0	1.08643	Y
4	IC 320-324128/6	200.0	234.558175	100.0	140755634.0	1.172791	Y
5	IC 320-324128/8	1000.0	1105.351196	100.0	167797734.0	1.105351	Y

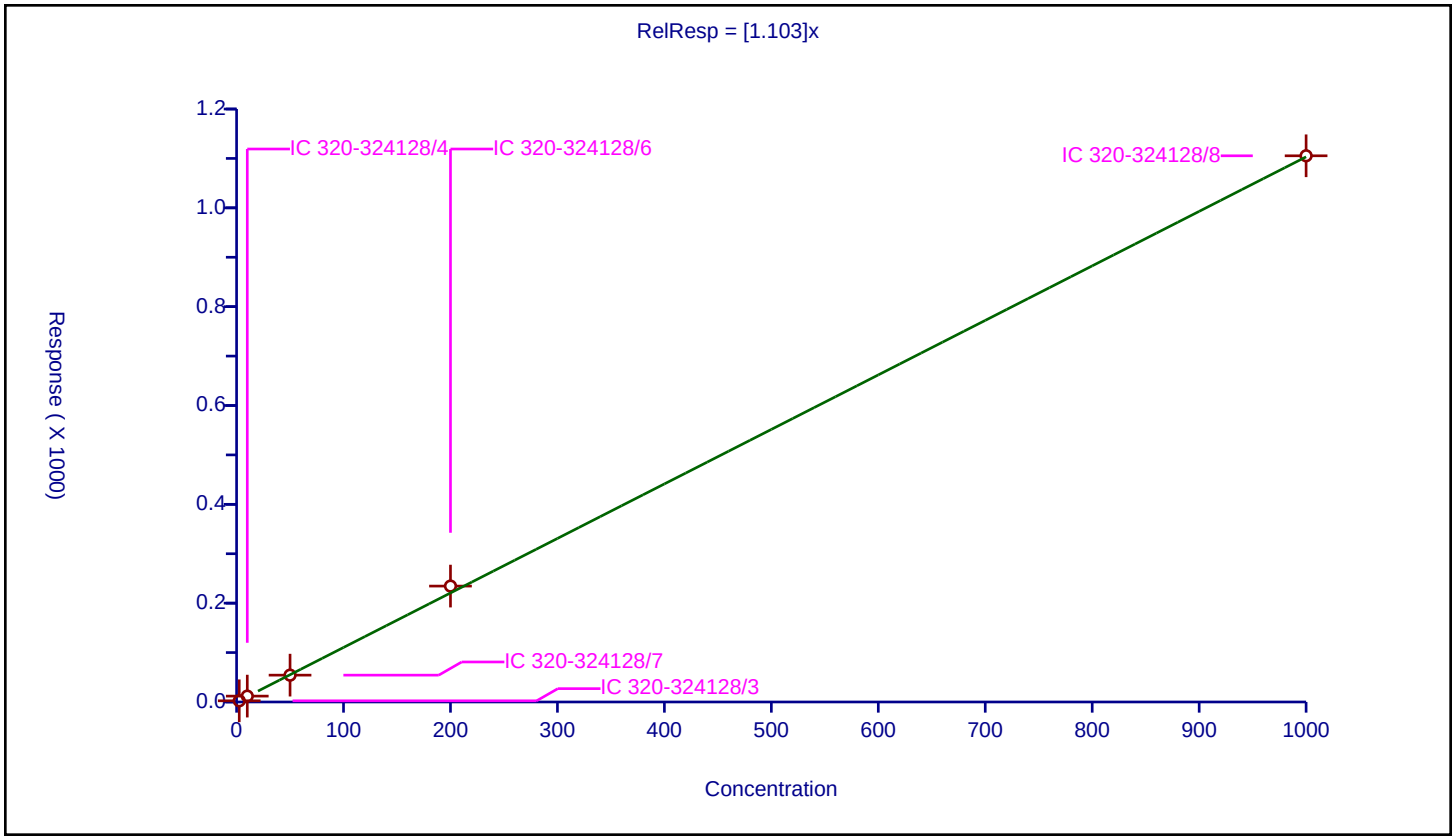

Calibration / 2,3,7,8-TCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.106

Error Coefficients

Standard Error:	167000000
Relative Standard Error:	4.9
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	0.5	0.583856	100.0	21165335.0	1.167711	Y
2	IC 320-324128/4	2.0	2.253252	100.0	45389691.0	1.126626	Y
3	IC 320-324128/7	10.0	10.23923	100.0	110088290.0	1.023923	Y
4	IC 320-324128/6	40.0	45.044682	100.0	131023361.0	1.126117	Y
5	IC 320-324128/8	200.0	217.531474	100.0	150666513.0	1.087657	Y

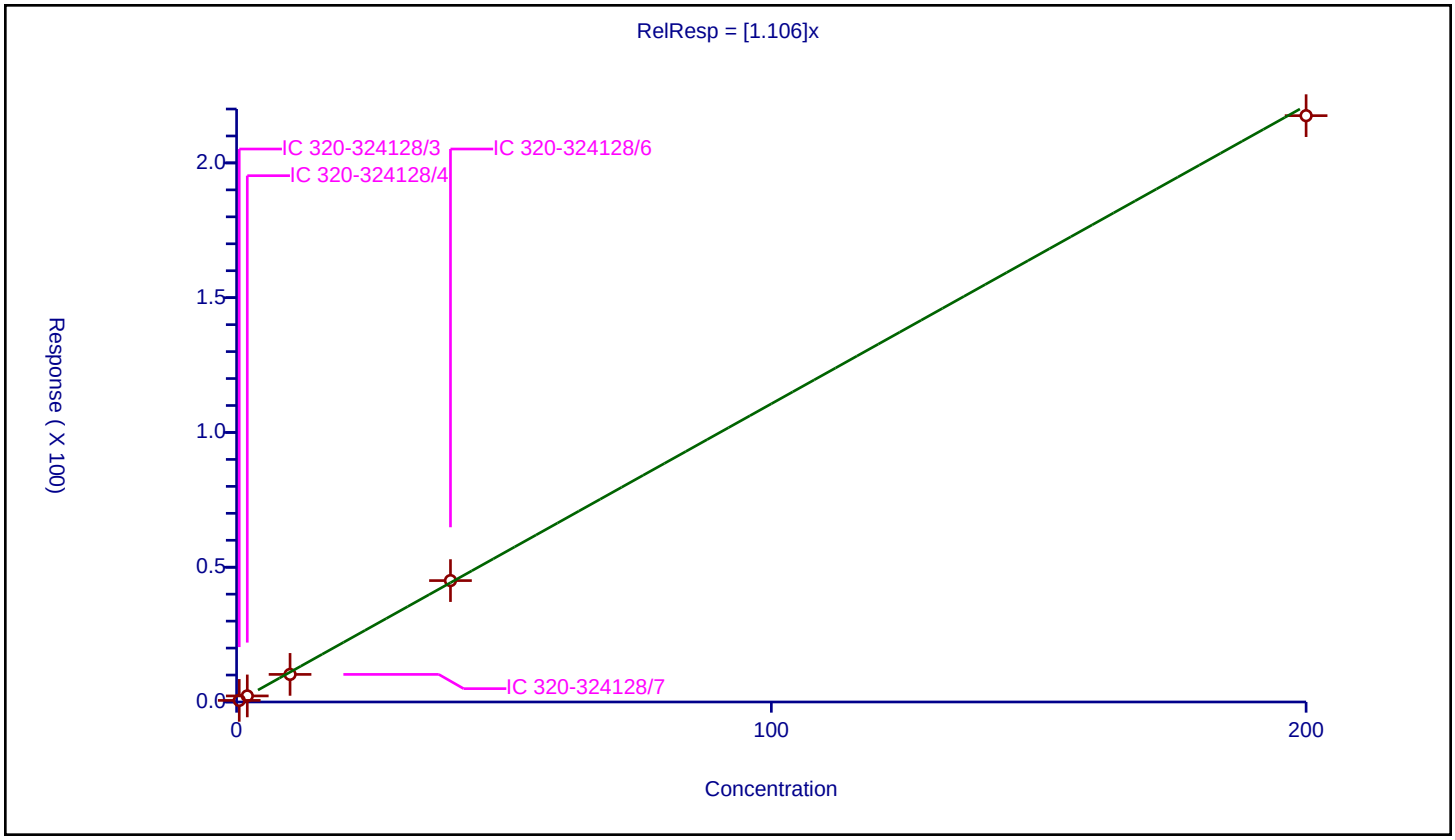

Calibration / 2,3,7,8-TCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.051

Error Coefficients

Standard Error:	235000000
Relative Standard Error:	4.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	0.5	0.535593	100.0	32121801.0	1.071185	Y
2	IC 320-324128/4	2.0	2.204382	100.0	69364385.0	1.102191	Y
3	IC 320-324128/7	10.0	9.929077	100.0	164292495.0	0.992908	Y
4	IC 320-324128/6	40.0	42.465661	100.0	197671153.0	1.061642	Y
5	IC 320-324128/8	200.0	205.145738	100.0	225533576.0	1.025729	Y

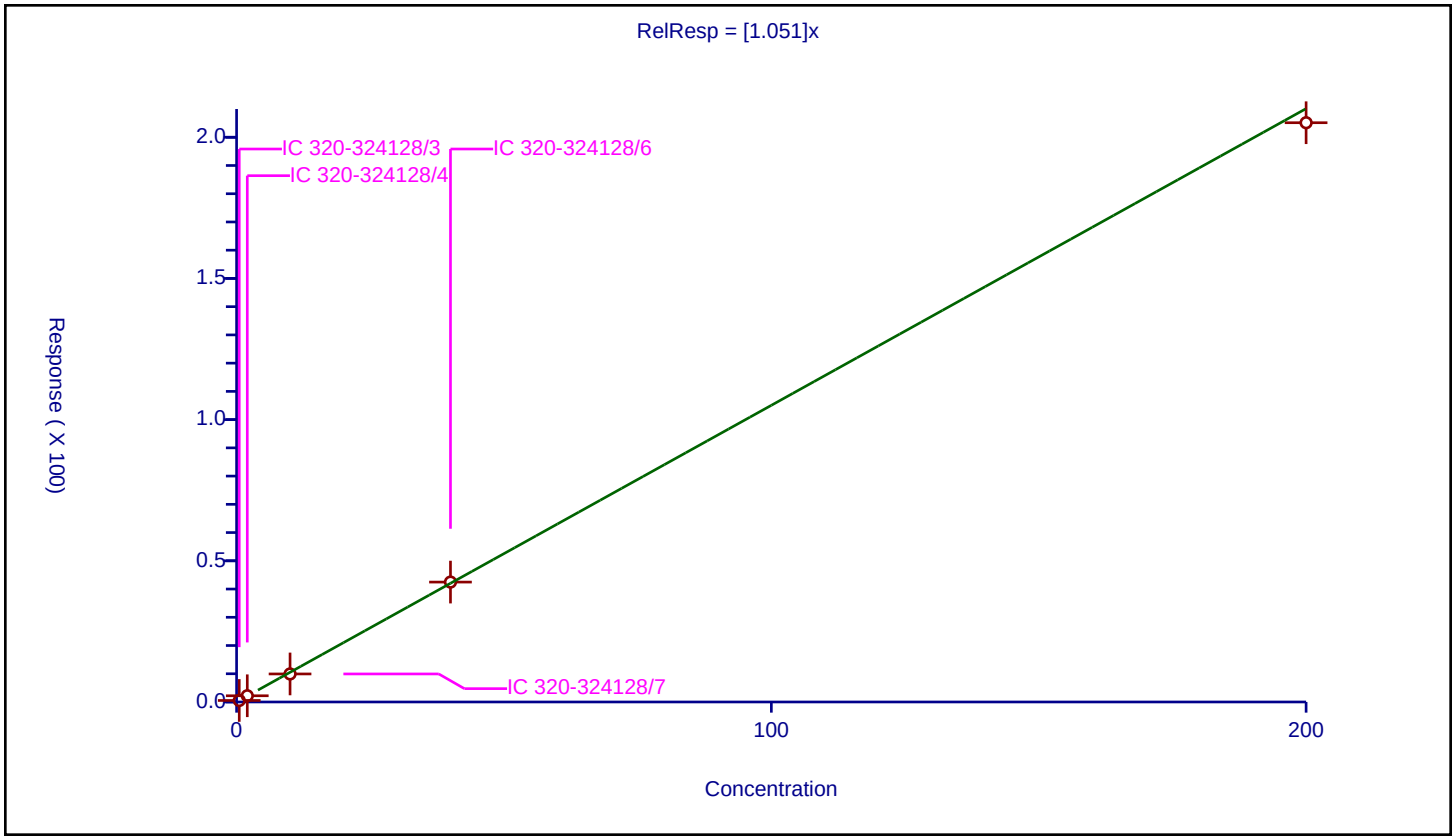

Calibration / 37Cl4-2,3,7,8-TCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.222

Error Coefficients

Standard Error:	205000000
Relative Standard Error:	5.7
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	0.5	0.559577	100.0	21989821.0	1.119154	Y
2	IC 320-324128/4	2.0	2.425047	100.0	48020971.0	1.212523	Y
3	IC 320-324128/7	8.0	9.665731	100.0	116862140.0	1.208216	Y
4	IC 320-324128/6	40.0	51.600573	100.0	136791650.0	1.290014	Y
5	IC 320-324128/8	200.0	256.418271	100.0	157084773.0	1.282091	Y

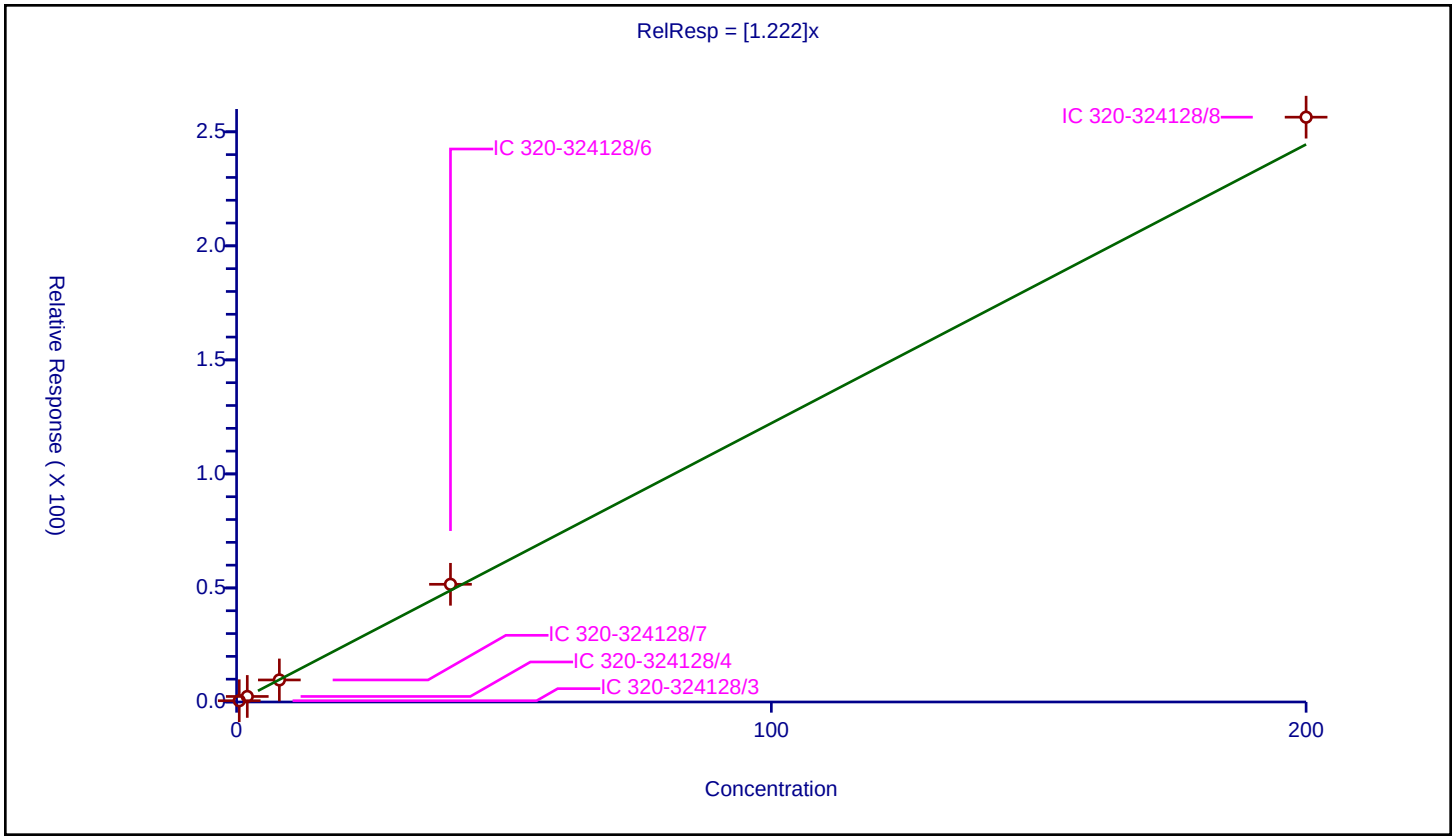

Calibration / OCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.062

Error Coefficients

Standard Error:	1080000000
Relative Standard Error:	6.6
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	5.0	4.995683	200.0	22323676.0	0.999137	Y
2	IC 320-324128/4	20.0	23.429889	200.0	43388861.0	1.171494	Y
3	IC 320-324128/7	100.0	101.887088	200.0	117978202.0	1.018871	Y
4	IC 320-324128/6	400.0	436.552854	200.0	158997965.0	1.091382	Y
5	IC 320-324128/8	2000.0	2058.960862	200.0	206464776.0	1.02948	Y

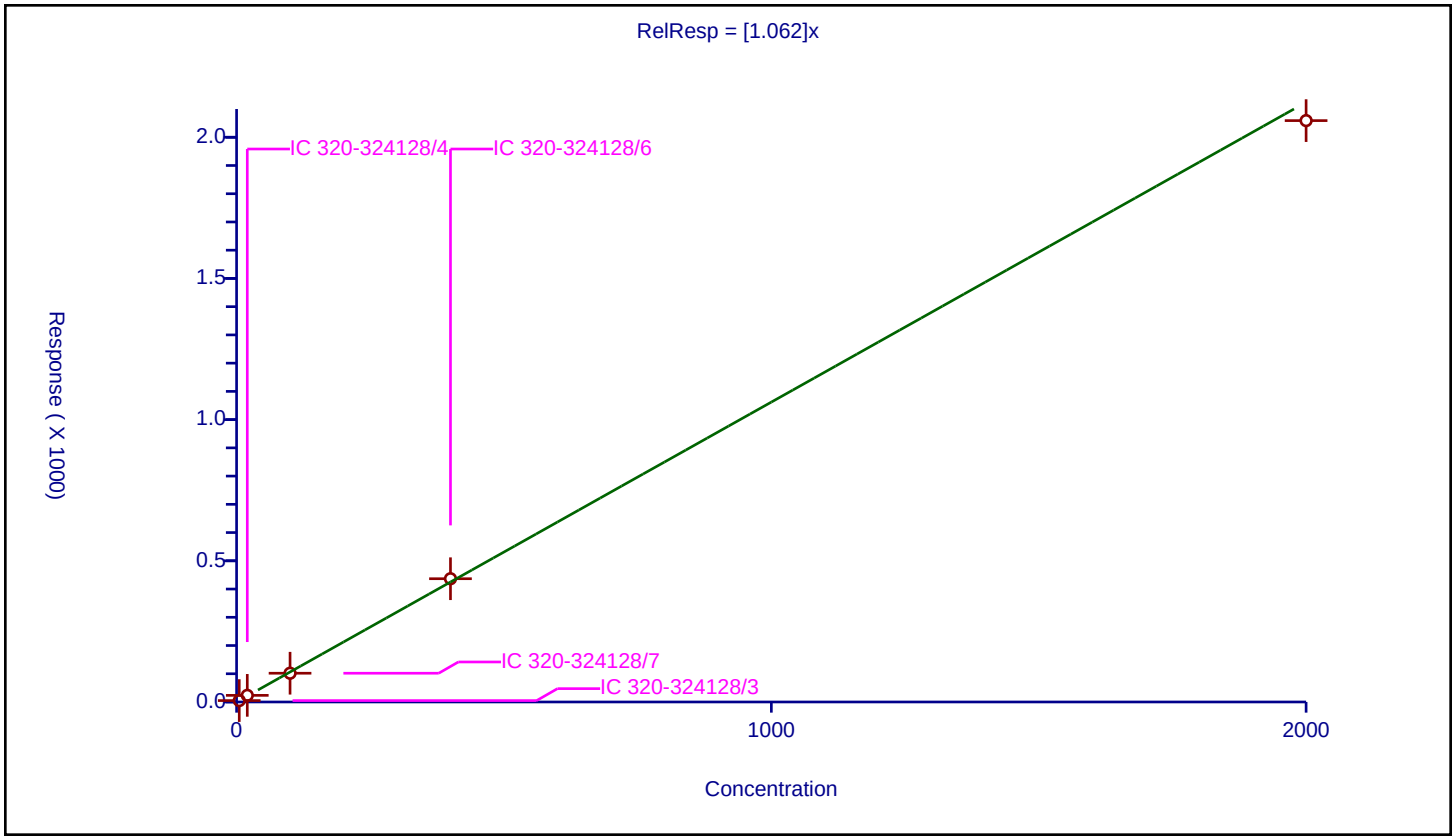

Calibration / OCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.26

Error Coefficients

Standard Error:	1330000000
Relative Standard Error:	6.0
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	5.0	5.709875	200.0	22323676.0	1.141975	Y
2	IC 320-324128/4	20.0	26.627996	200.0	43388861.0	1.3314	Y
3	IC 320-324128/7	100.0	123.985768	200.0	117978202.0	1.239858	Y
4	IC 320-324128/6	400.0	526.877314	200.0	158997965.0	1.317193	Y
5	IC 320-324128/8	2000.0	2535.017728	200.0	206464776.0	1.267509	Y

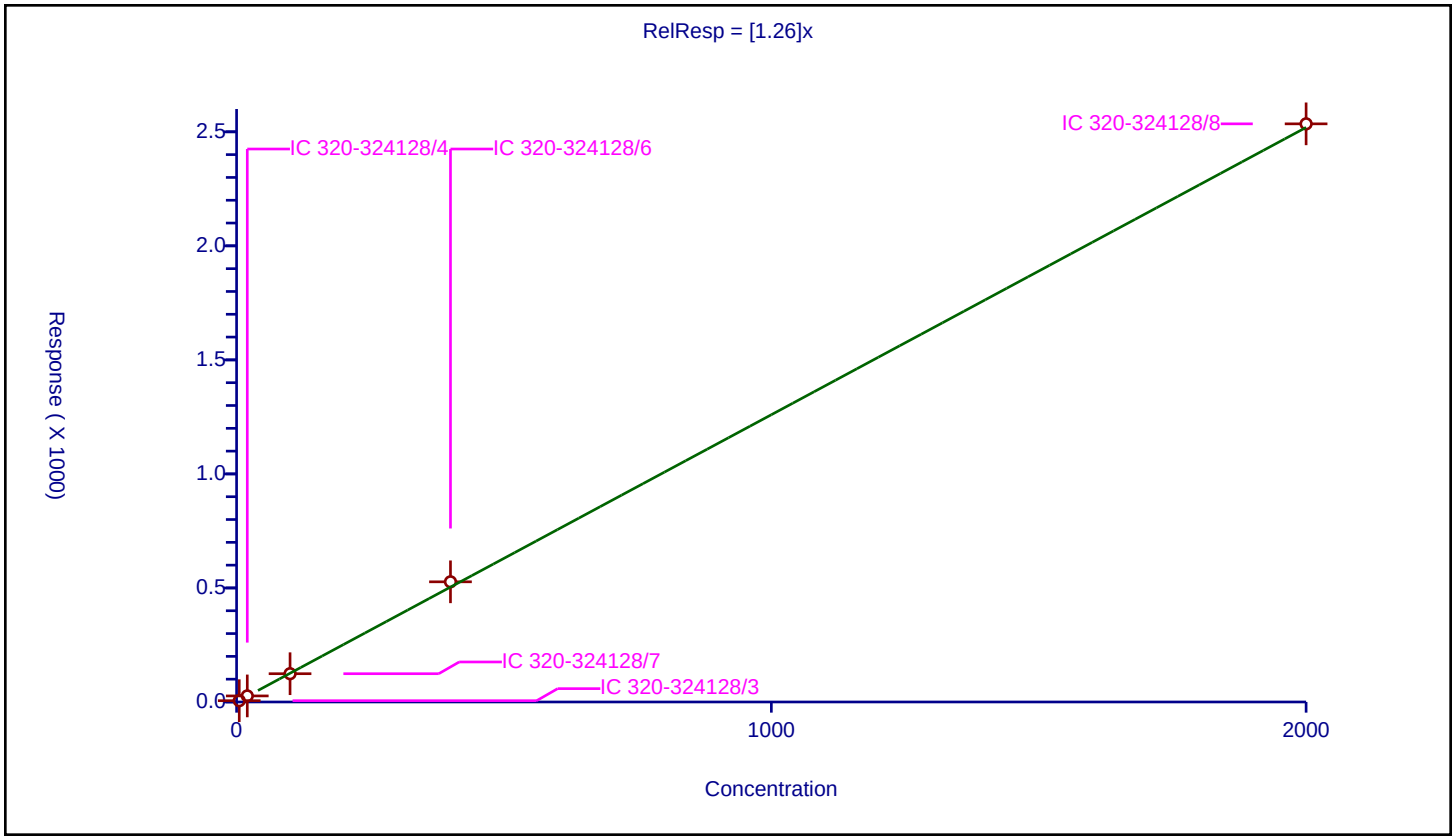

FORM VI
DIOXIN BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1 Analy Batch No.: 312067

SDG No.:

Instrument ID: 11D2 GC Column: DB-225 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/02/2019 02:52 Calibration End Date: 08/02/2019 05:25 Calibration ID: 46494

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-312067/3	02AU1911D2_003.d
Level 2	IC 320-312067/4	02AU1911D2_004.d
Level 3	IC 320-312067/5	02AU1911D2_005.d
Level 4	IC 320-312067/6	02AU1911D2_006.d
Level 5	IC 320-312067/7	02AU1911D2_007.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
2,3,7,8-TCDD	1.4072	1.1517	0.9928	1.1253	1.0921	AveID		1.1538				13.3		20.0			
2,3,7,8-TCDF	0.9508	0.8634	0.7802	0.8060	0.7939	AveID		0.8389				8.4		20.0			
13C-2,3,7,8-TCDD	0.9860	0.9016	0.9603	0.9300	0.9162	Ave		0.9388				3.6		35.0			
13C-2,3,7,8-TCDF	1.4126	1.2992	1.3548	1.2560	1.3671	Ave		1.3379				4.6		35.0			
37Cl4-2,3,7,8-TCDD	1.2464	1.0504	1.1674	1.2313	1.2128	Ave		1.1816				6.7					

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
DIOXIN BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1 Analy Batch No.: 312067

SDG No.:

Instrument ID: 11D2 GC Column: DB-225 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/02/2019 02:52 Calibration End Date: 08/02/2019 05:25 Calibration ID: 46494

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-312067/3	02AU1911D2_003.d
Level 2	IC 320-312067/4	02AU1911D2_004.d
Level 3	IC 320-312067/5	02AU1911D2_005.d
Level 4	IC 320-312067/6	02AU1911D2_006.d
Level 5	IC 320-312067/7	02AU1911D2_007.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (PG/UL)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
2,3,7,8-TCDD		AveID	766838	2408989	10136940	48146783	221171643	0.500	2.00	10.0	40.0	200
2,3,7,8-TCDF		AveID	742351	2602621	11238394	46575552	239921851	0.500	2.00	10.0	40.0	200
13C-2,3,7,8-TCDD	13CTC	Ave	108987233	104587968	102100937	106968299	101263855	100	100	100	100	100
13C-2,3,7,8-TCDF	13CTC	Ave	156147949	150712836	144041178	144459393	151101344	100	100	100	100	100
37Cl4-2,3,7,8-TCDD	13CTC	Ave	688870	2436945	9929024	56650769	268090229	0.500	2.00	8.00	40.0	200

Curve Type Legend:

Ave = Average ISTD
AveID = Average isotope dilution

Data file	Smp	Work Order	Sample ID	FV-uL	Method/Matrix	Box	Size	U
02AU1911D2	1	CPS 080219	CPS HRDXNCP_00038		Dioxin		1.00000	
02AU1911D2	2	SB 080219	SB Solvent Blank C-14				1.00000	
02AU1911D2	3	IC 080219	CS-2 HRDXNL2_00027		Dioxin		1.00000	
02AU1911D2	4	IC 080219A	CS-3 HRDXNL3_00025		Dioxin		1.00000	
02AU1911D2	5	IC 080219B	CS-4 HRDXNL4_00084		Dioxin		1.00000	
02AU1911D2	6	IC 080219C	CS-5 HRDXNL5_00028		Dioxin		1.00000	
02AU1911D2	7	IC 080219D	CS-6 HRDXNL6_00024		Dioxin		1.00000	
02AU1911D2	8	ICV 080219	ICV HRDXNIC_00042		Dioxin		1.00000	
02AU1911D2	9						1.00000	
02AU1911D2	10						1.00000	
02AU1911D2	11						1.00000	
02AU1911D2	12						1.00000	
02AU1911D2	13						1.00000	
02AU1911D2	14						1.00000	
02AU1911D2	15						1.00000	
02AU1911D2	16						1.00000	
02AU1911D2	17		ALM 08-02-19				1.00000	
02AU1911D2	18						1.00000	

Logfile checked
08/02/19 SMA

Peak Locate Examination: 2-AUG-2019:01:33 File:02AU1911D2
Experiment:DB225RES Function:1 Reference:PFK

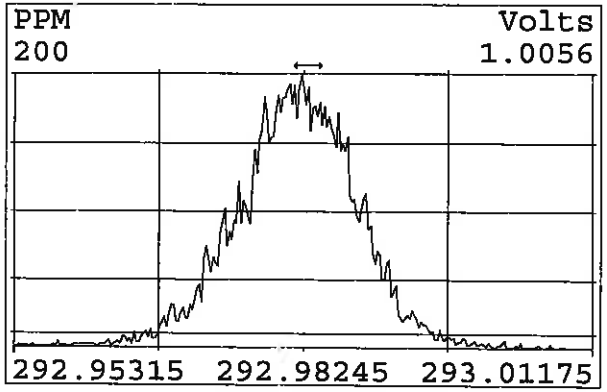

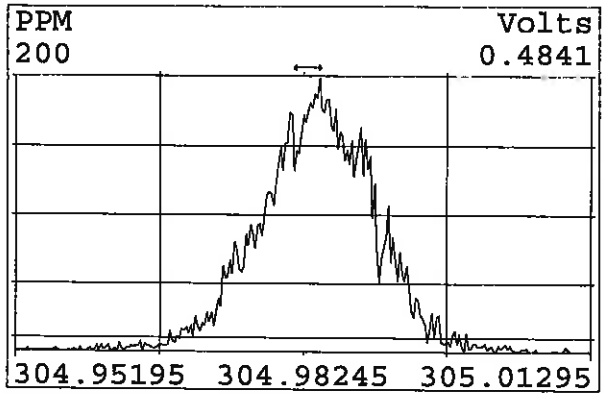

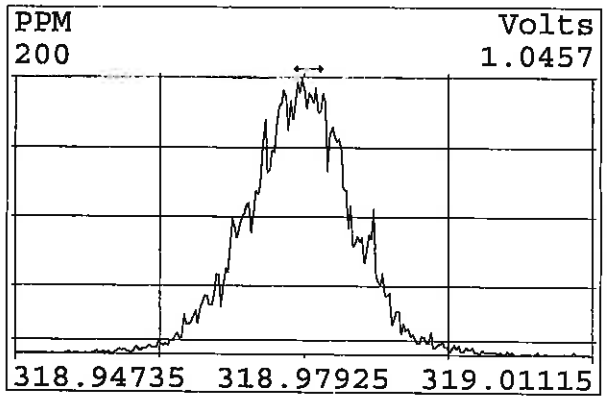

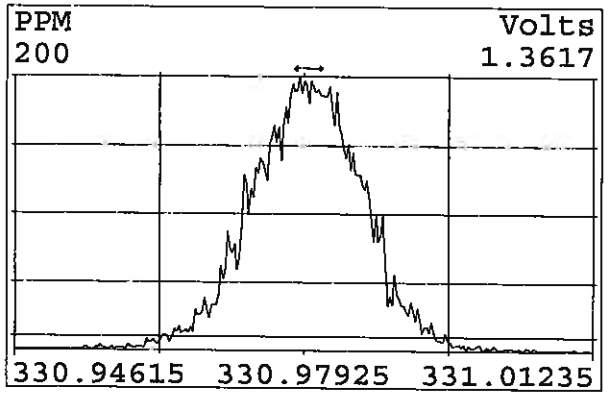

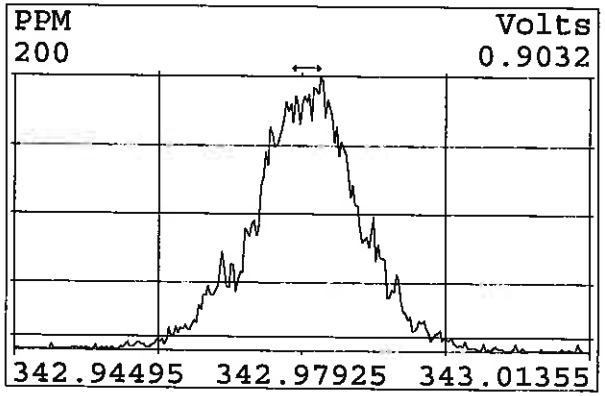

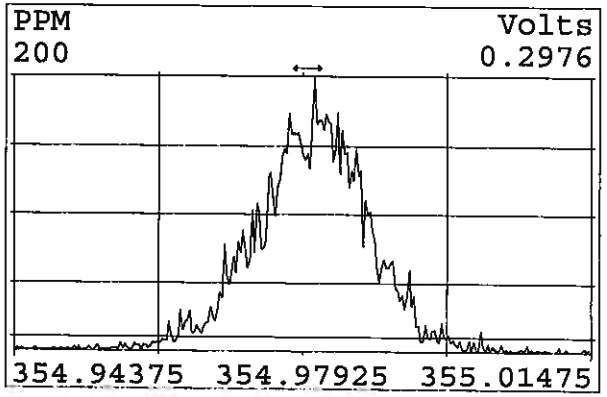

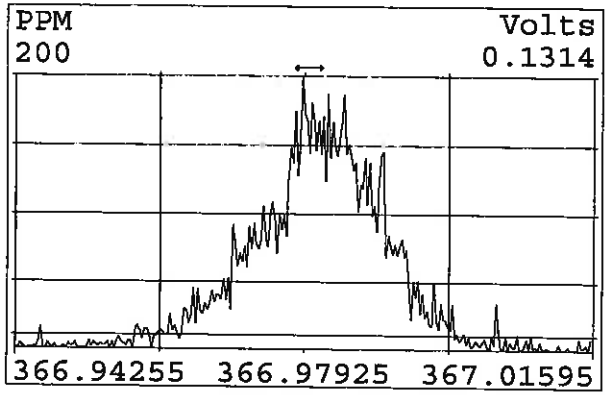

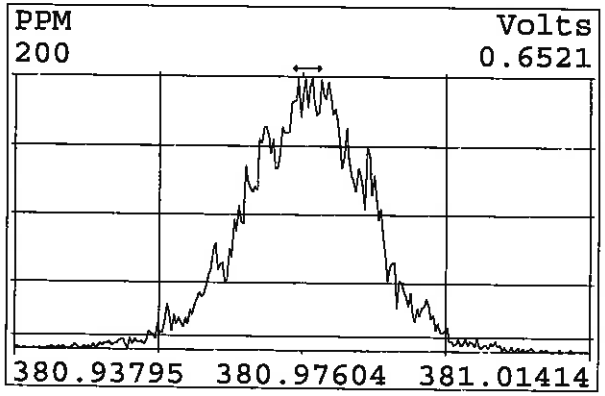

Peak Locate Examination: 2-AUG-2019:07:38 File:RESCHECK11D2
Experiment:DB225RES Function:1 Reference:PFK

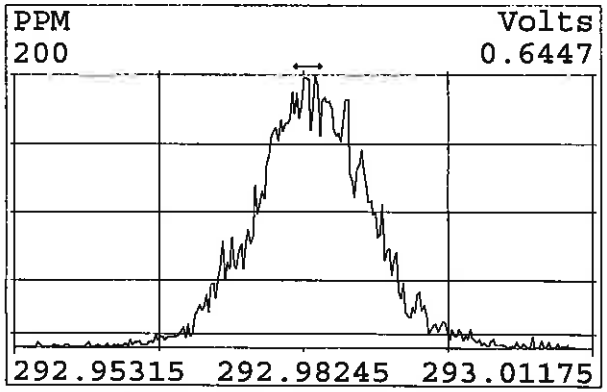

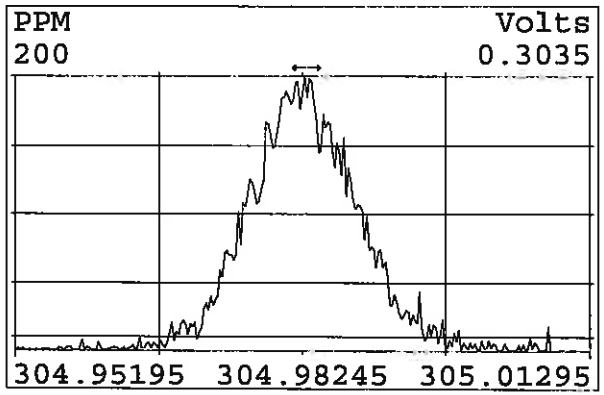

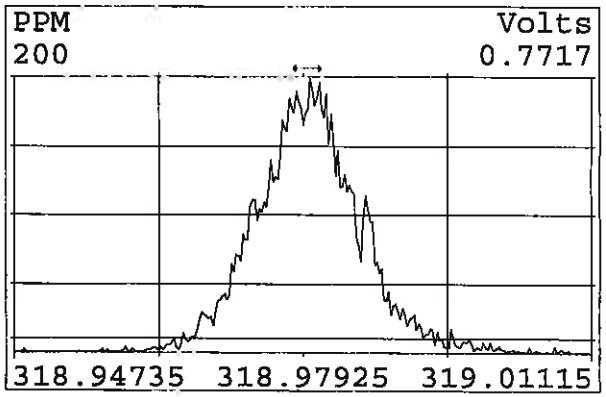

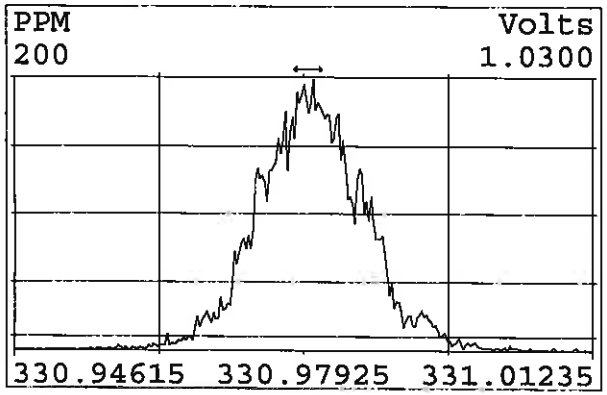

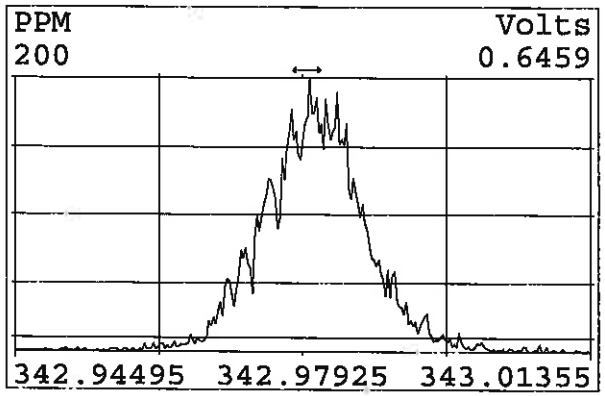

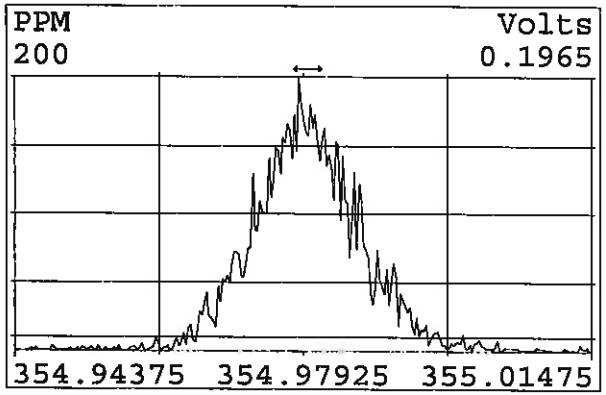

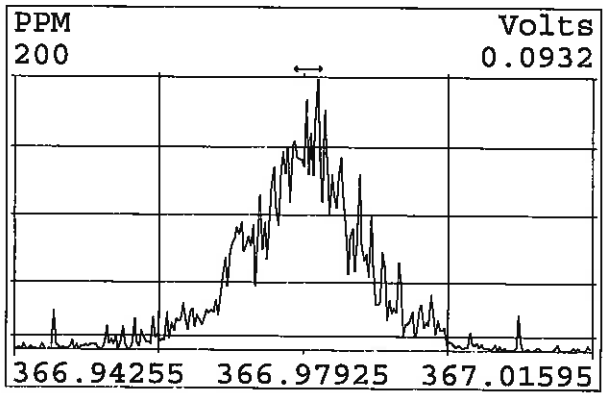

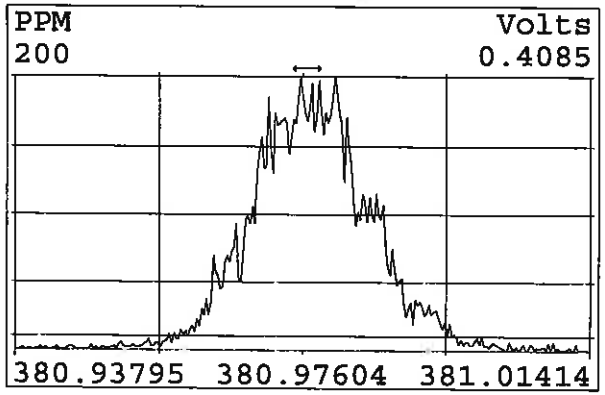

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

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Lims ID: IC 2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 02-Aug-2019 02:52:03 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-2 HRDXNL2_00027
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:50:46 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:43:34

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.424	110538697	0.80	1.1E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.591	156147949	0.76	1.3379	105.6	105.6	0.5565	0.5565	106	
2,3,7,8-TCDF	16.618	742351	0.68	0.8389	0.5667	0.5667	0.0601	0.0601	113	
D 13C-2,3,7,8-TCDD	15.150	108987233	0.78	0.9388	105.0	105.0	0.3029	0.3029	105	
2,3,7,8-TCDD	15.164	766838	0.66	1.1538	0.6098	0.6098	0.1272	0.1272	122	n
$ 37Cl4-2,3,7,8-TCDD	15.177	688870		1.1816	0.5274	0.5274	0.0799	0.0799	105	
S Total 2378-Chlorinated							0.000100	0.000100		

QC Flag Legend

Processing Flags
n - Failed Sig-To-Noise Test

Reagents:

HRDXNL2_00027 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_003.d
Lims ID: IC 2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 02-Aug-2019 02:52:03 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-2 HRDXNL2_00027
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:50:46 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:43:34

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.424	15.416	0		49211451	11686880	18543	46357	630		
333.9339	15.424	15.416	0		61327246	14873725	11665	29162	1275	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.591	16.580	1	1.076	67180120	14400770	53937	134842	267		
317.9389	16.591	16.580	1	1.076	88967829	19171242	25172	62930	762	0.76(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.618	16.599	1	1.002	300768	58292	2710	6775	22		
305.8987	16.604	16.599	0	1.001	441583	80440	4062	10155	20	0.68(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.150	15.136	1	0.982	47916340	11905033	18543	46357	642		
333.9339	15.150	15.136	1	0.982	61070893	14985948	11665	29162	1285	0.78(0.65-0.89)	
2,3,7,8-TCDD											n
319.8965	15.164	15.156	0	1.001	304053	63475	6504	16260	10		
321.8936	15.177	15.156	1	1.002	462785	92174	9277	23192	10	0.66(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.177	15.158	1	0.984	688870	148959	10036	25090	15		

Total 2378-Chlorinated Dioxins & Furans
0.0 0

QC Flag Legend

Processing Flags
n - Failed Sig-To-Noise Test

Reagents:

HRDXNL2_00027 Amount Added: 1.00 Units: mL

Report Date: 02-Aug-2019 11:50:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_003.d		
Injection Date:	02-Aug-2019 02:52:03	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	3
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

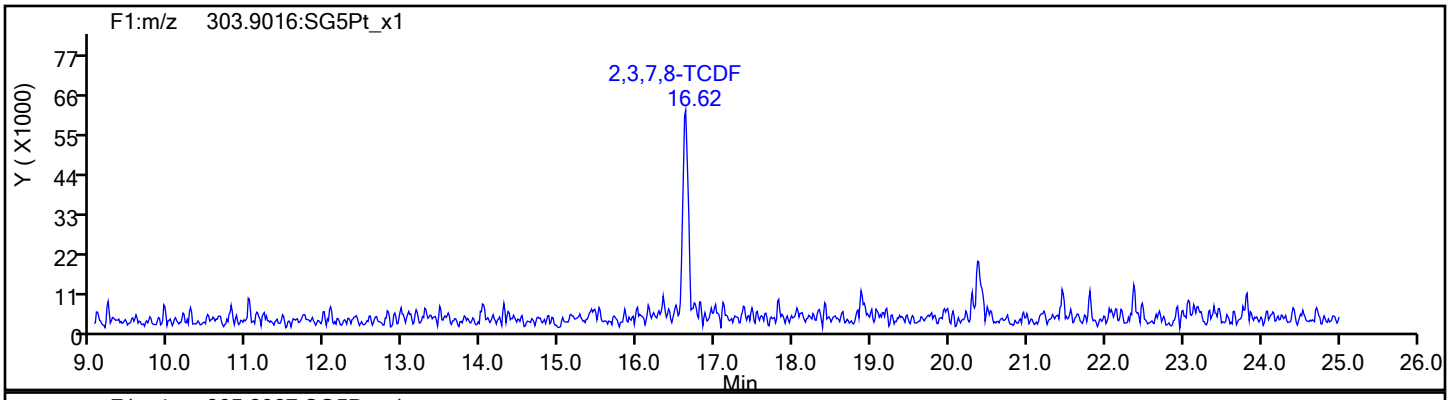

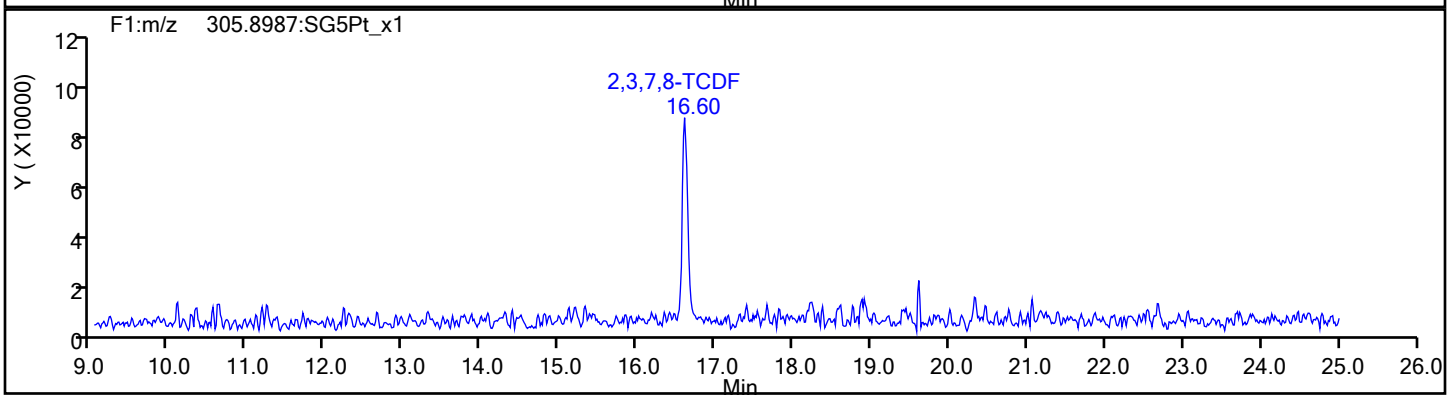

TCDF Standards

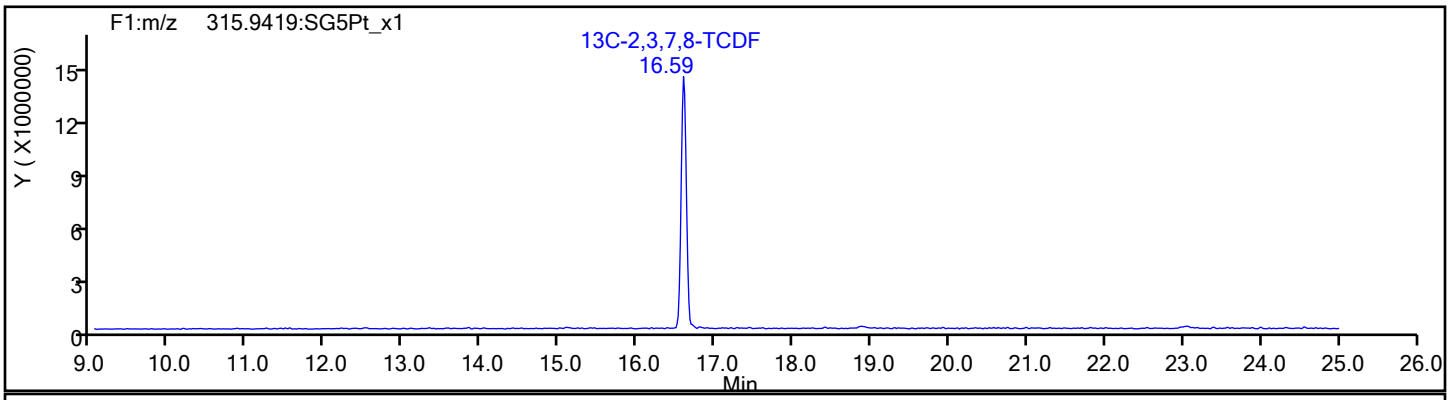

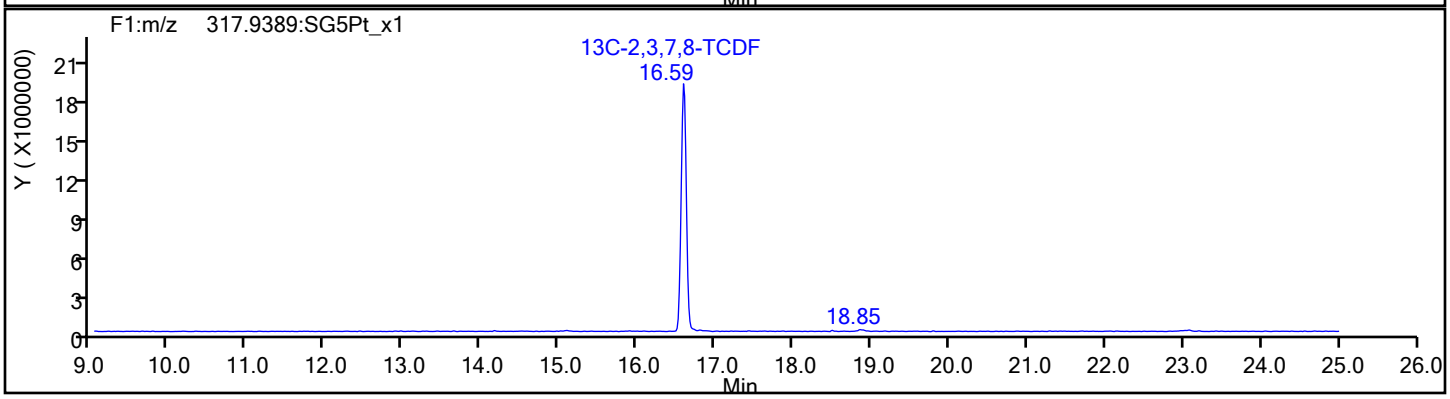

Report Date: 02-Aug-2019 11:50:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_003.d		
Injection Date:	02-Aug-2019 02:52:03	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	3
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

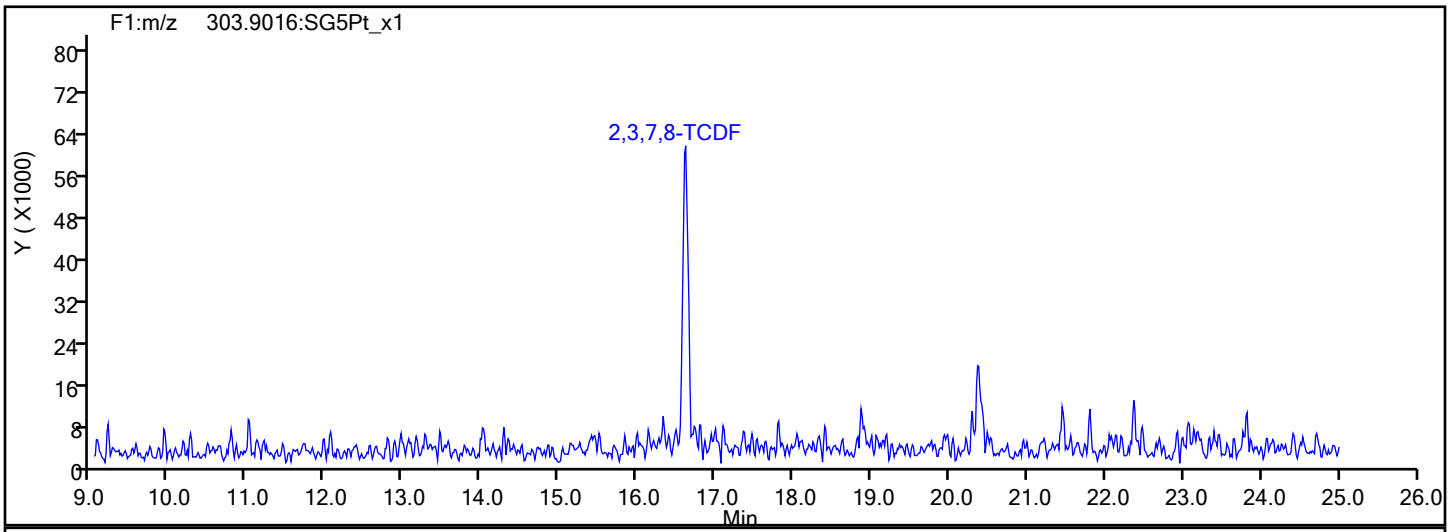

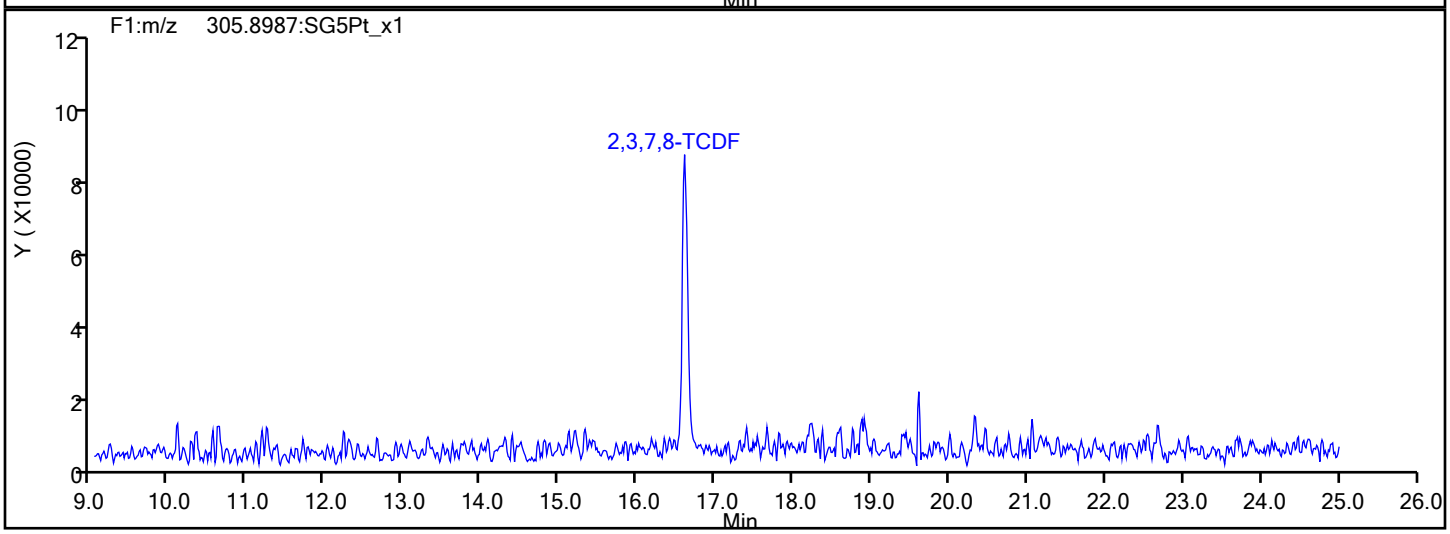

TCDF Interference Mass

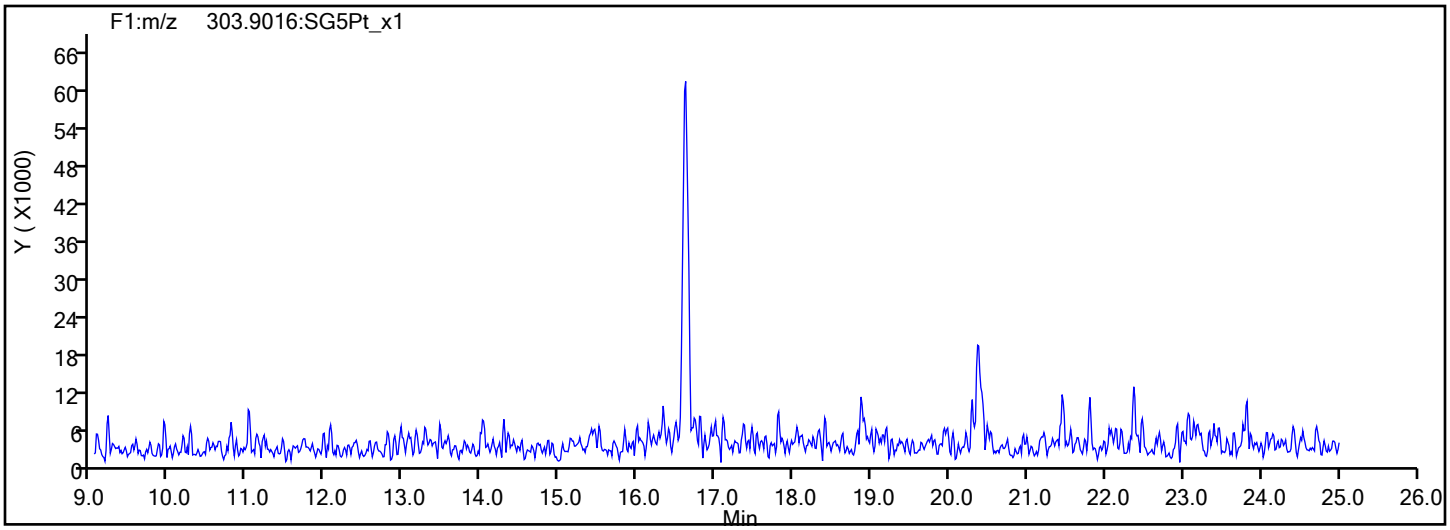

Report Date: 02-Aug-2019 11:50:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_003.d		
Injection Date:	02-Aug-2019 02:52:03	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	3
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

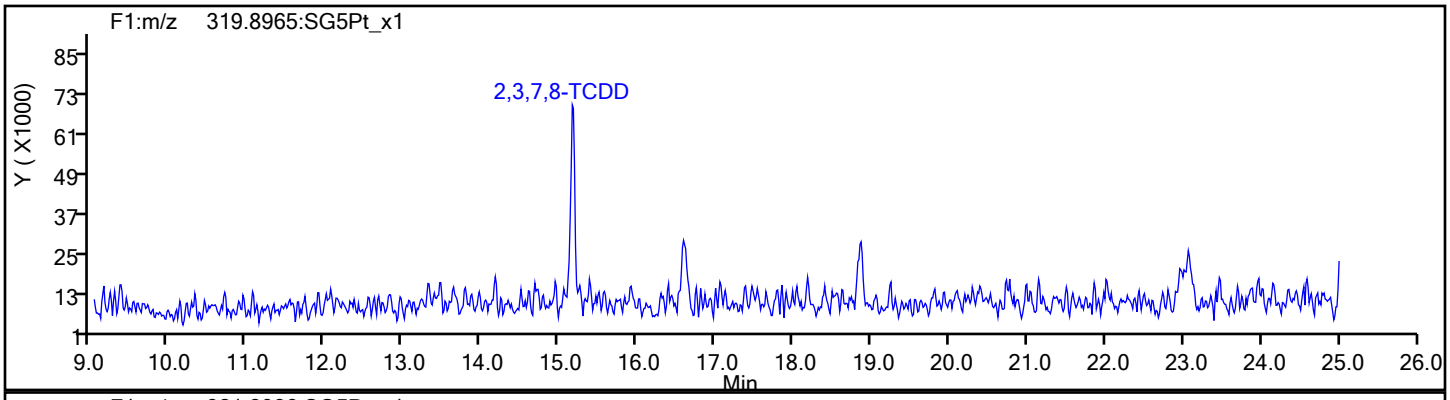

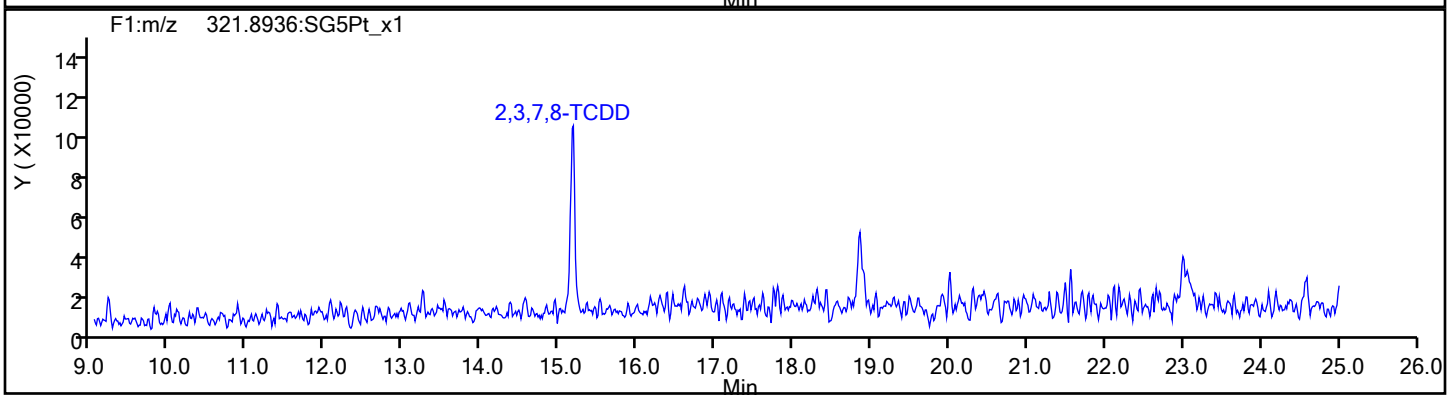

TCDD Standards

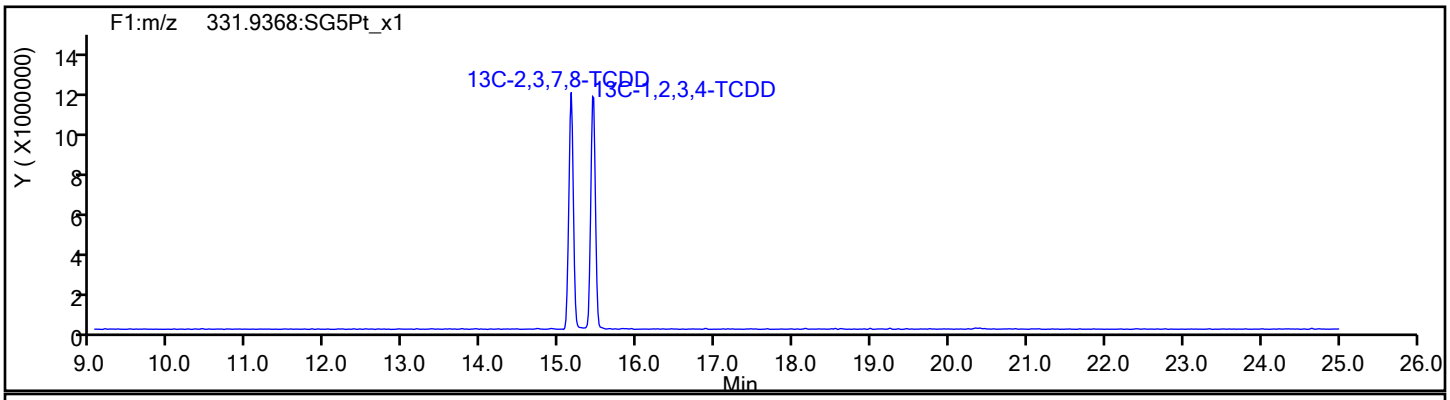

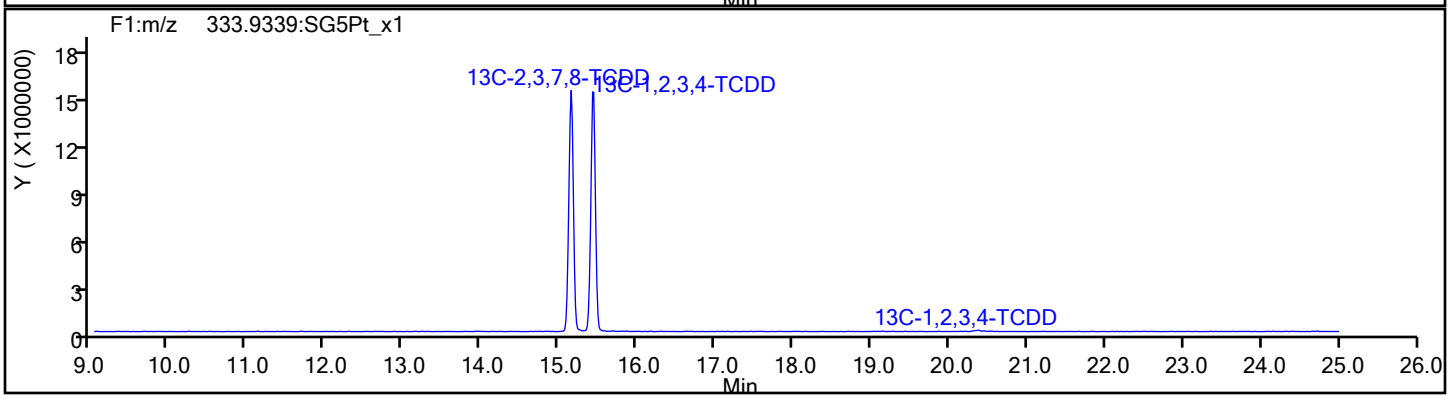

Report Date: 02-Aug-2019 11:50:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_003.d		
Injection Date:	02-Aug-2019 02:52:03	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	3
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

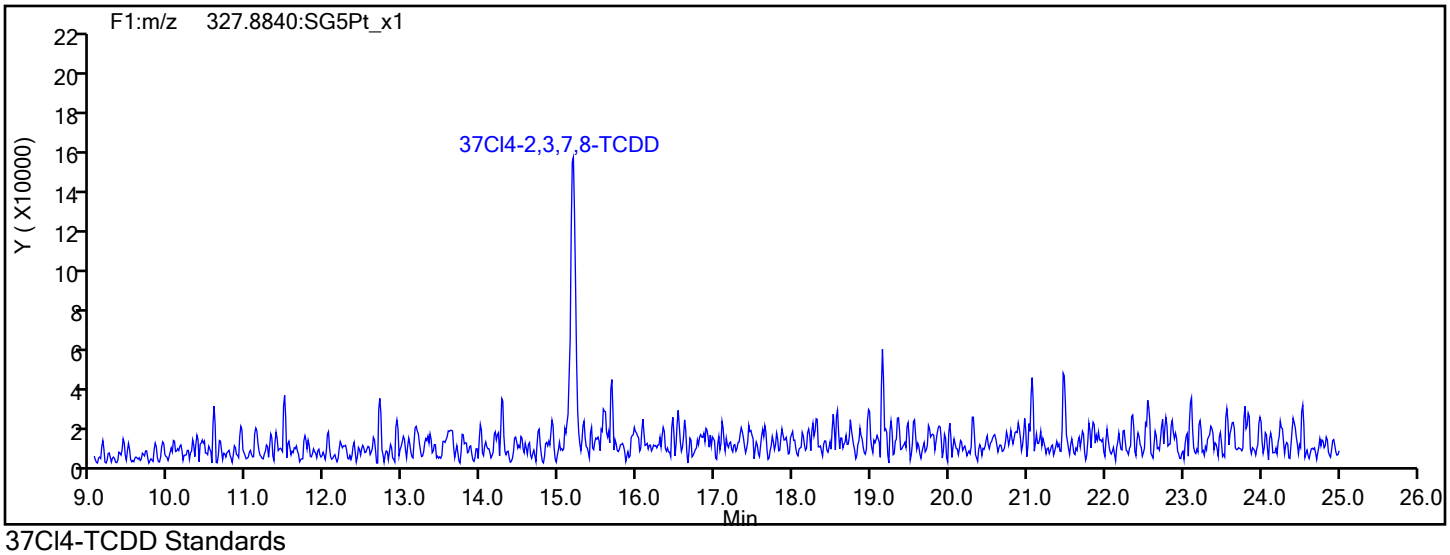

37Cl4-TCDD Standards

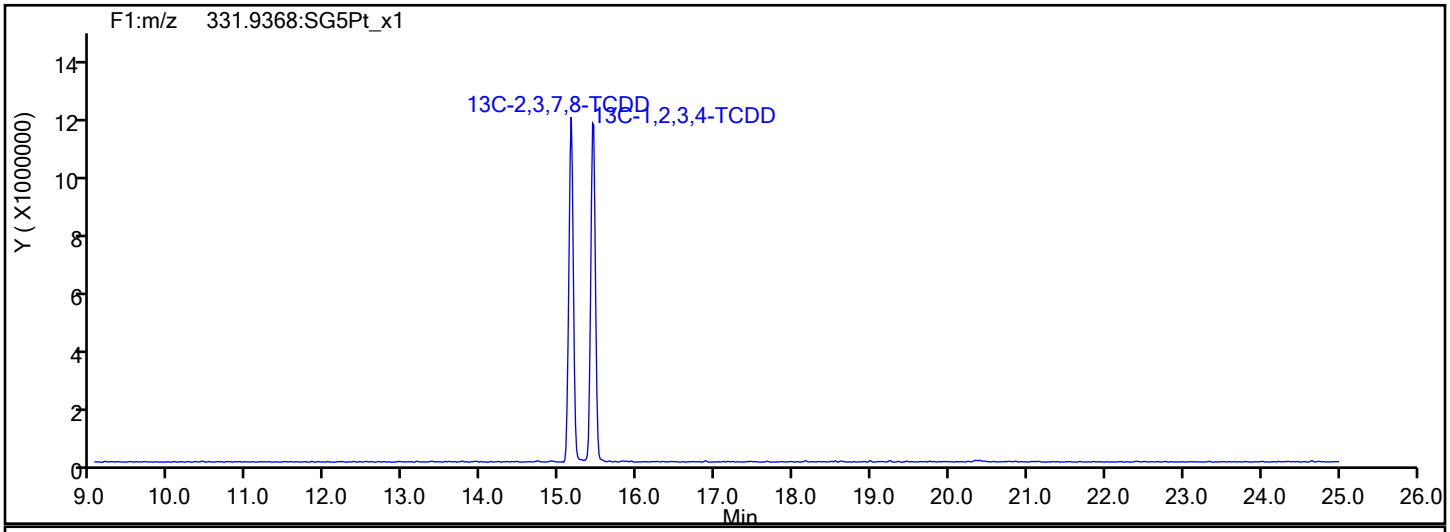

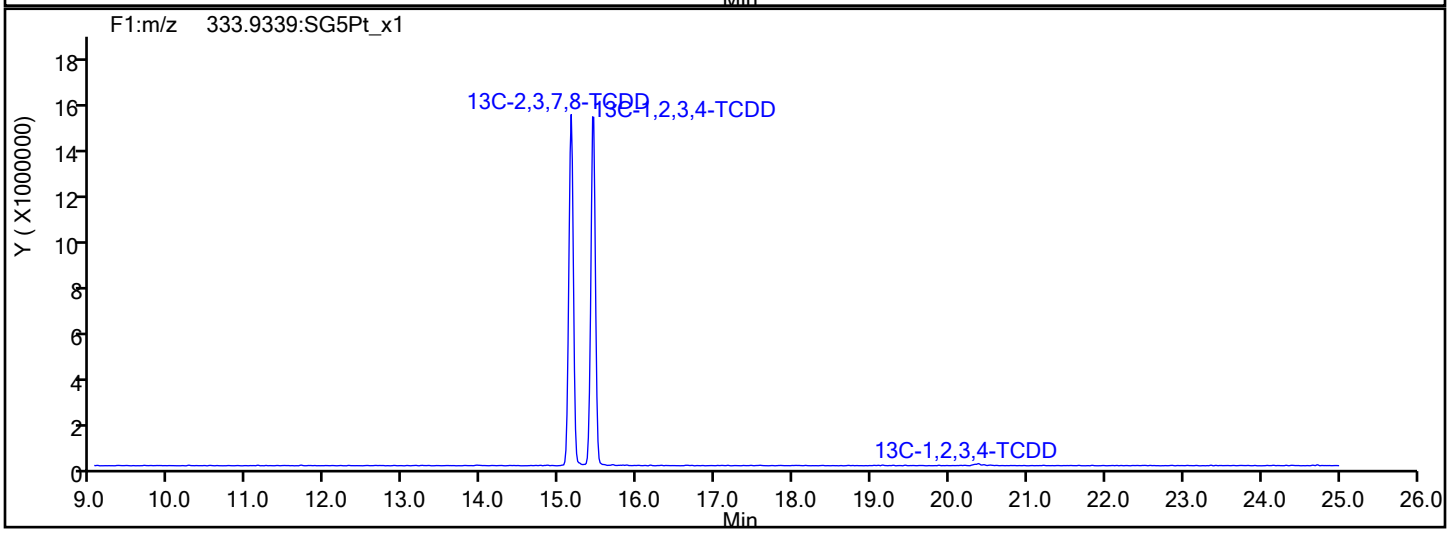

Report Date: 02-Aug-2019 11:50:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_003.d		
Injection Date:	02-Aug-2019 02:52:03	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	3
Column Type:	DB-225	Column Dia:	0.32 mm

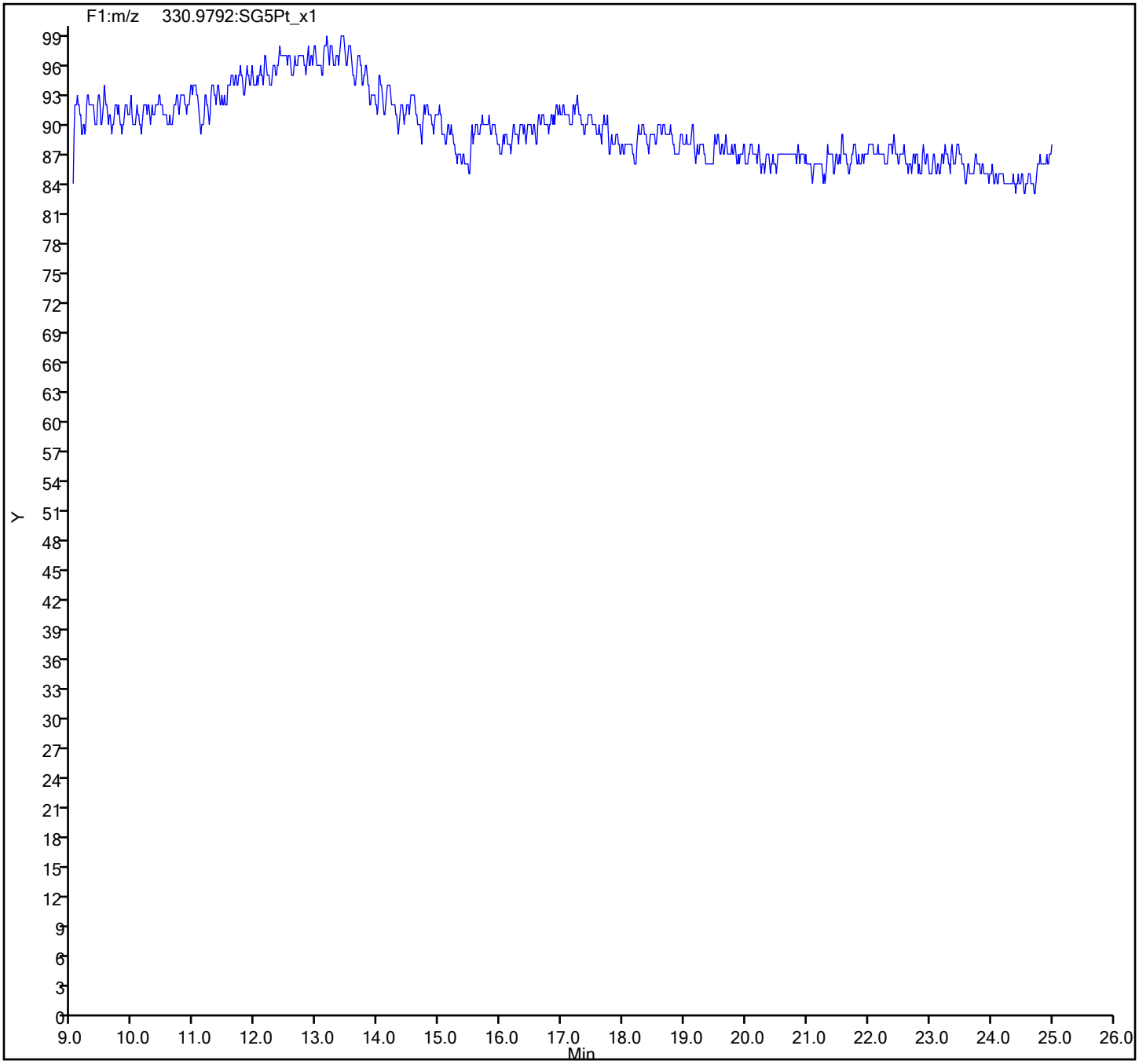

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_004.d
Lims ID: IC 3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 02-Aug-2019 03:30:21 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-3 HRDXNL3_00025
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:51:18 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:43:45

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.422	116003371	0.79	1.1E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.588	150712836	0.76	1.3379	97.1	97.1	0.5017	0.5017	97.11	
2,3,7,8-TCDF	16.602	2602621	0.77	0.8389	2.059	2.059	0.0697	0.0697	103	
D 13C-2,3,7,8-TCDD	15.134	104587968	0.77	0.9388	96.0	96.0	0.2954	0.2954	96.04	
2,3,7,8-TCDD	15.161	2408989	0.76	1.1538	1.996	1.996	0.1402	0.1402	99.81	
$ 37Cl4-2,3,7,8-TCDD	15.161	2436945		1.1816	1.778	1.778	0.0697	0.0697	88.89	
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNL3_00025 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_004.d
Lims ID: IC 3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 02-Aug-2019 03:30:21 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-3 HRDXNL3_00025
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:51:18 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:43:45

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.422	15.416	0		51108109	12518707	19618	49045	638		
333.9339	15.422	15.416	0		64895262	16017022	12040	30100	1330	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.588	16.580	0	1.076	65303459	13590544	55233	138082	246		
317.9389	16.588	16.580	0	1.076	85409377	18139250	21388	53470	848	0.76(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.602	16.599	0	1.001	1128784	210338	2933	7332	72		
305.8987	16.602	16.599	0	1.001	1473837	306111	4488	11220	68	0.77(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.134	15.136	0	0.981	45657518	11153304	19618	49045	569		
333.9339	15.134	15.136	0	0.981	58930450	14086226	12040	30100	1170	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.161	15.156	0	1.002	1042745	248740	6492	16230	38		
321.8936	15.161	15.156	0	1.002	1366244	315049	9844	24610	32	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.161	15.158	0	0.983	2436945	572005	9406	23515	61		
Total 2378-Chlorinated Dioxins & Furans											
		0.0	0								

Reagents:

HRDXNL3_00025 Amount Added: 1.00 Units: mL

Report Date: 02-Aug-2019 11:51:36 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_004.d		
Injection Date:	02-Aug-2019 03:30:21	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

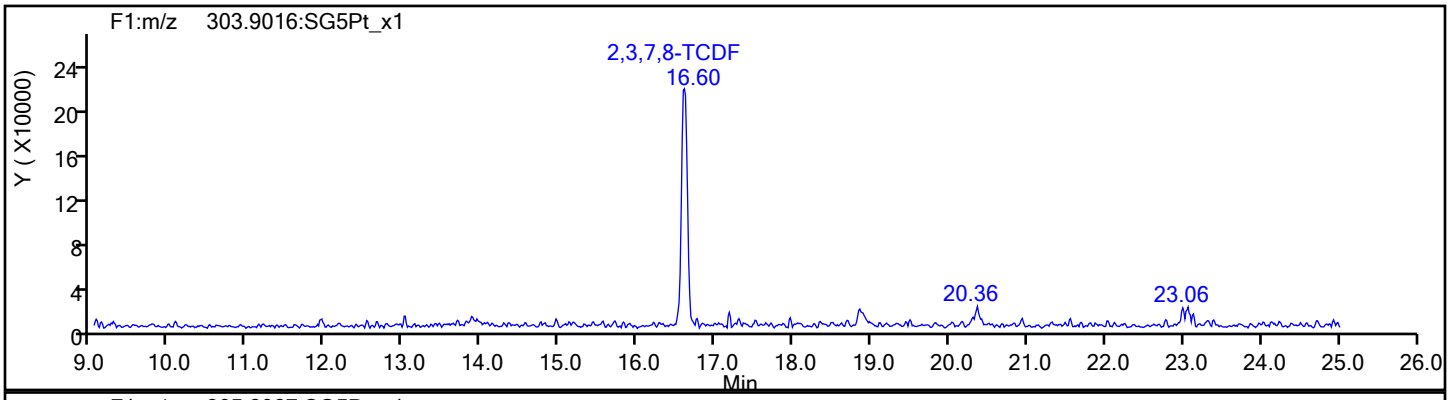

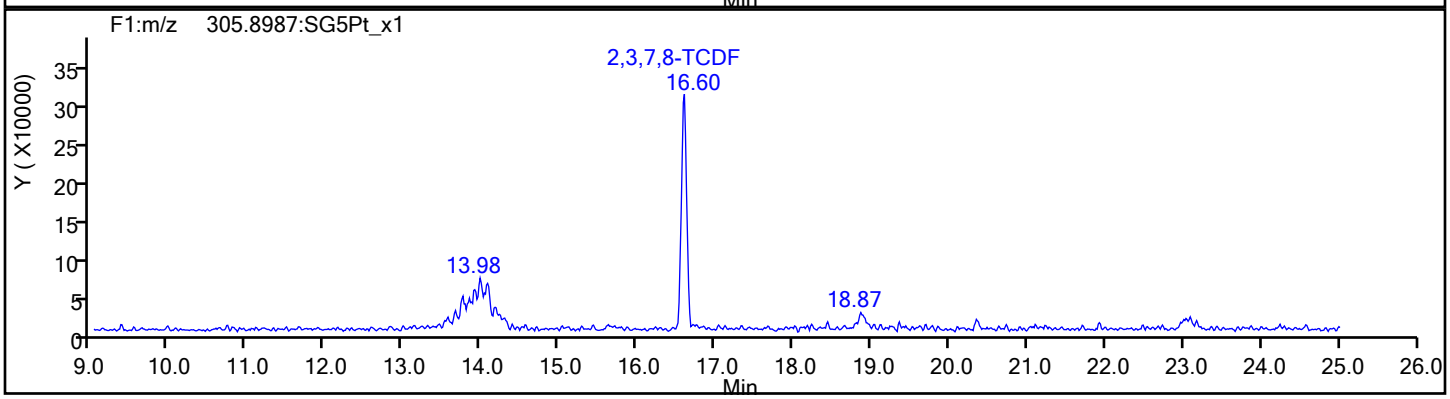

TCDF Standards

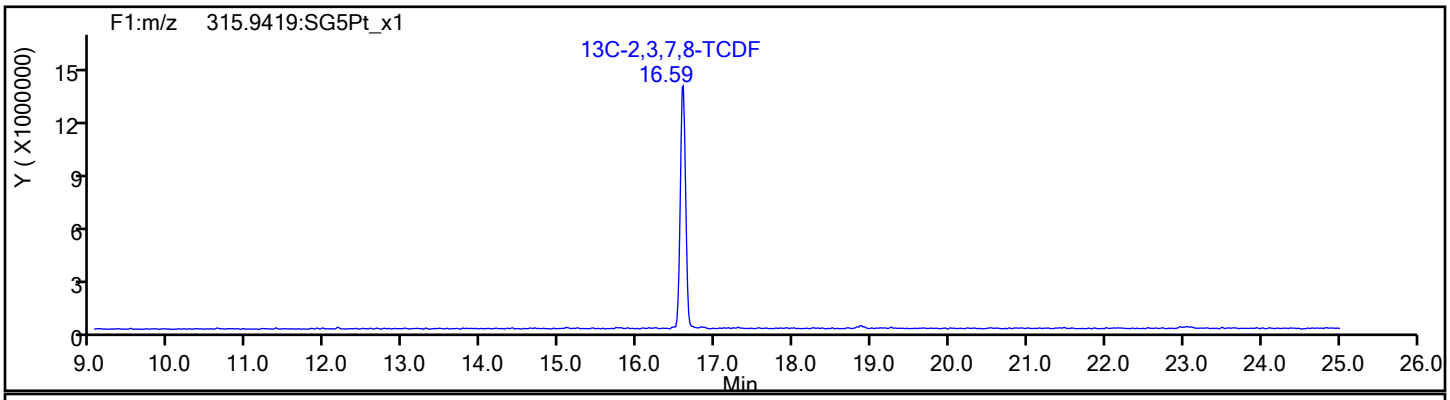

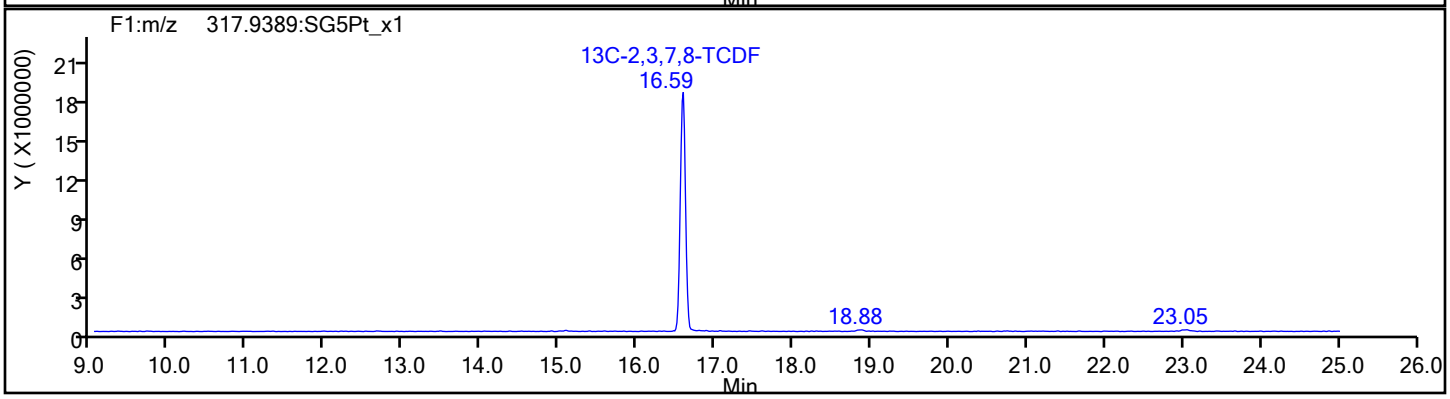

Report Date: 02-Aug-2019 11:51:36 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_004.d		
Injection Date:	02-Aug-2019 03:30:21	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

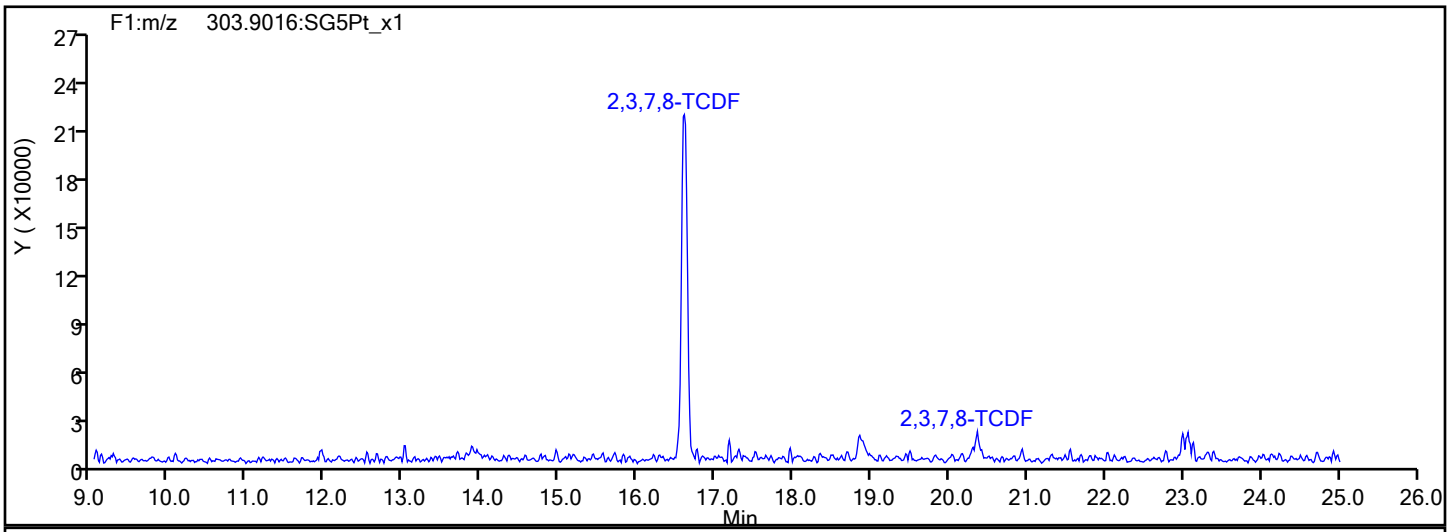

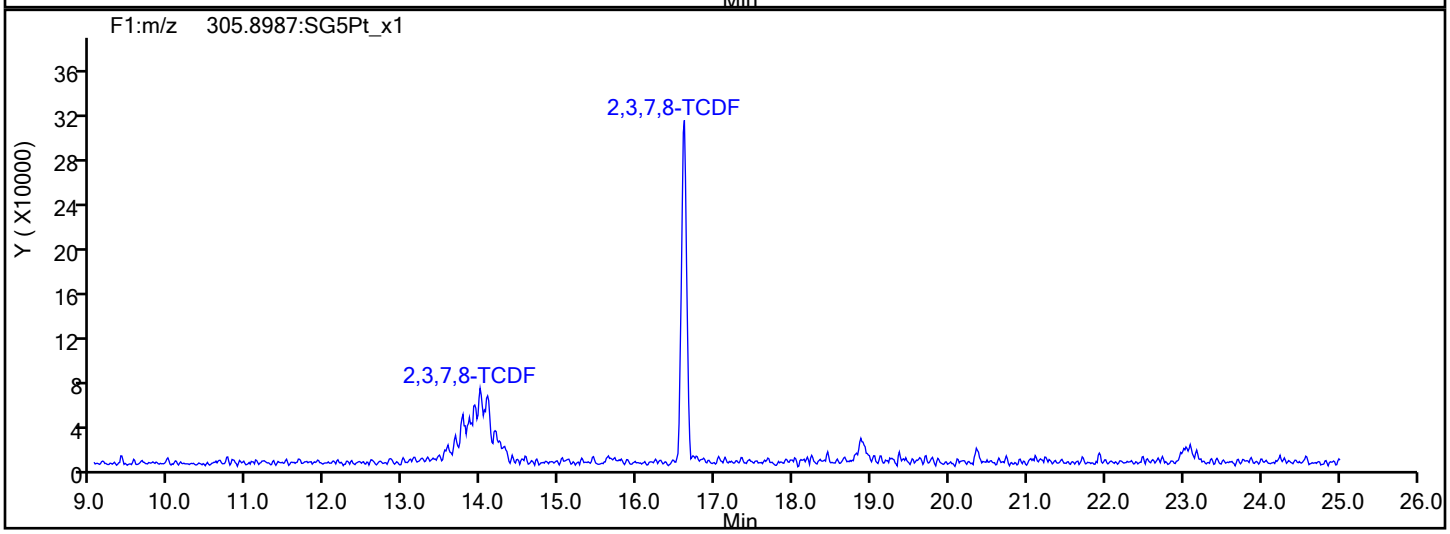

TCDF Interference Mass

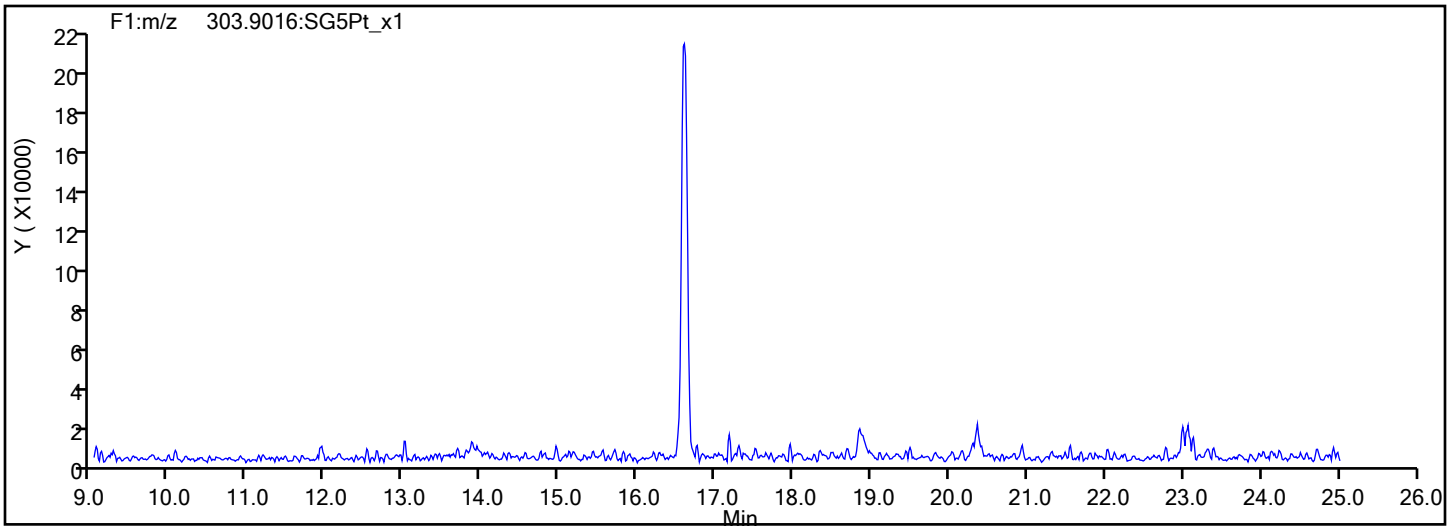

Report Date: 02-Aug-2019 11:51:36 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_004.d		
Injection Date:	02-Aug-2019 03:30:21	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

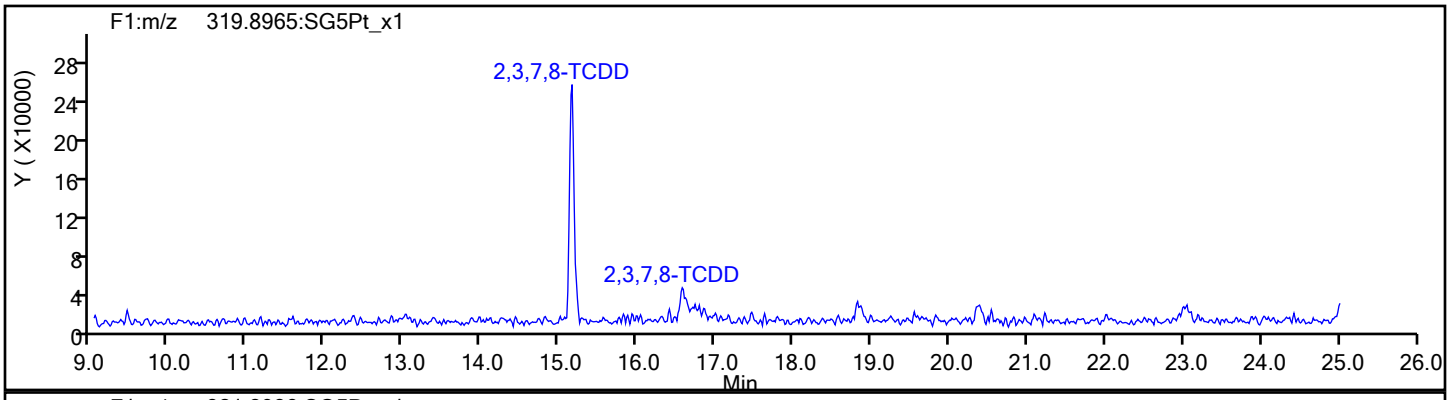

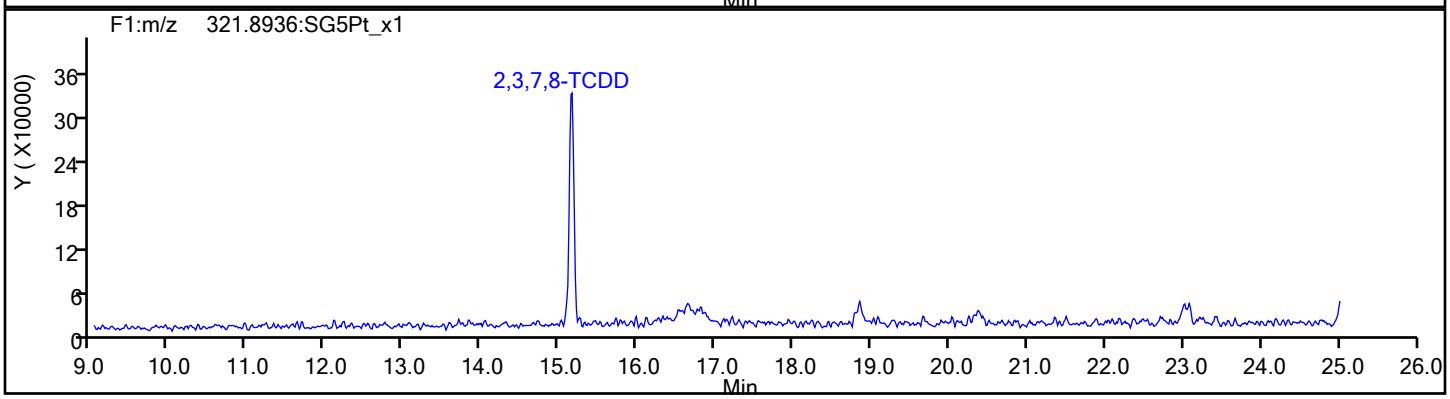

TCDD Standards

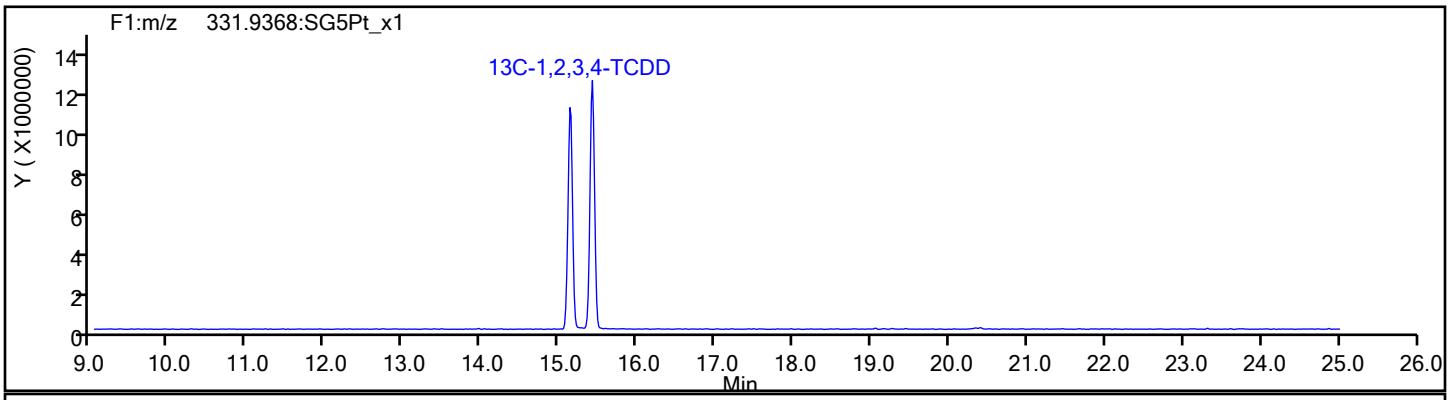

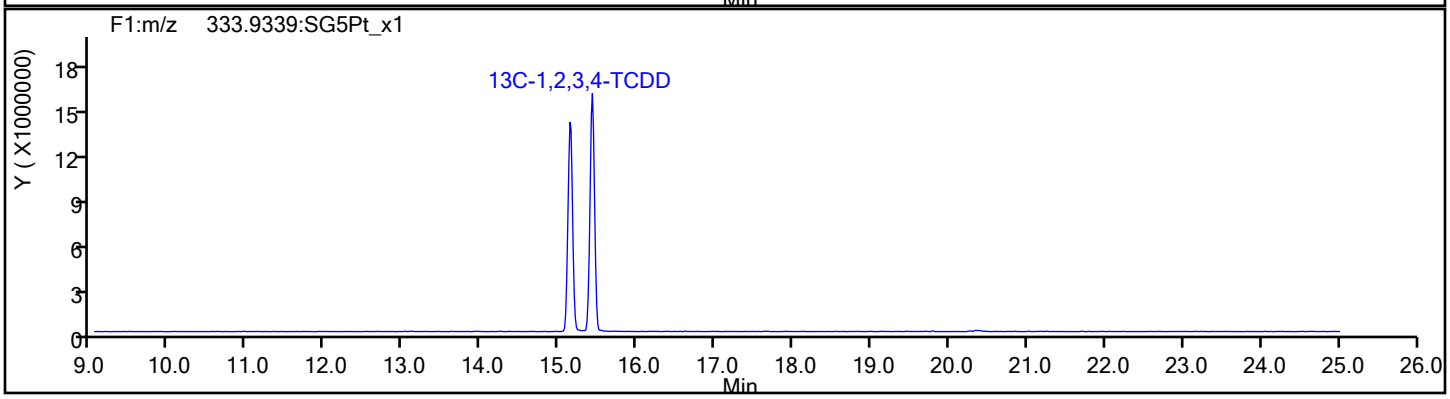

Report Date: 02-Aug-2019 11:51:36 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_004.d		
Injection Date:	02-Aug-2019 03:30:21	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

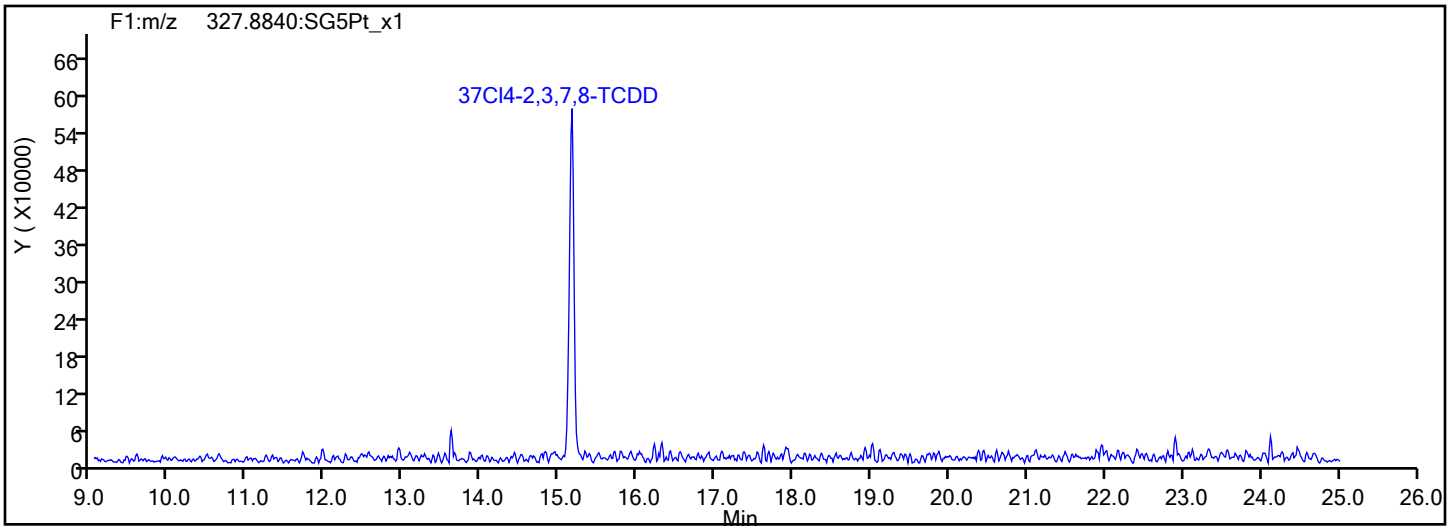

37Cl4-TCDD Standards

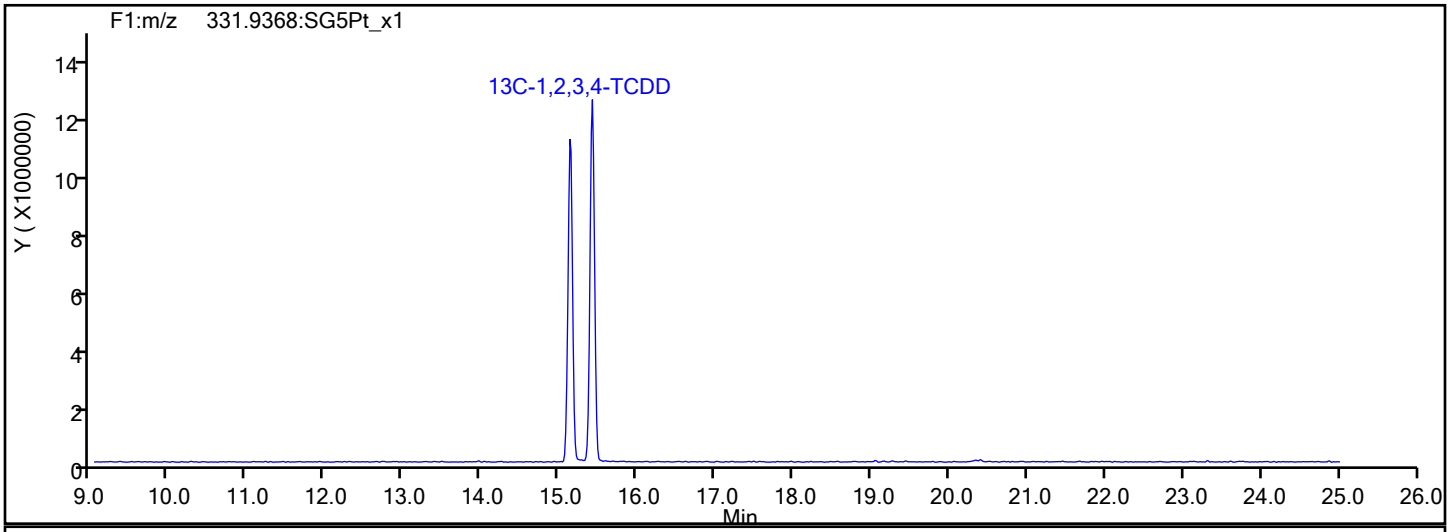

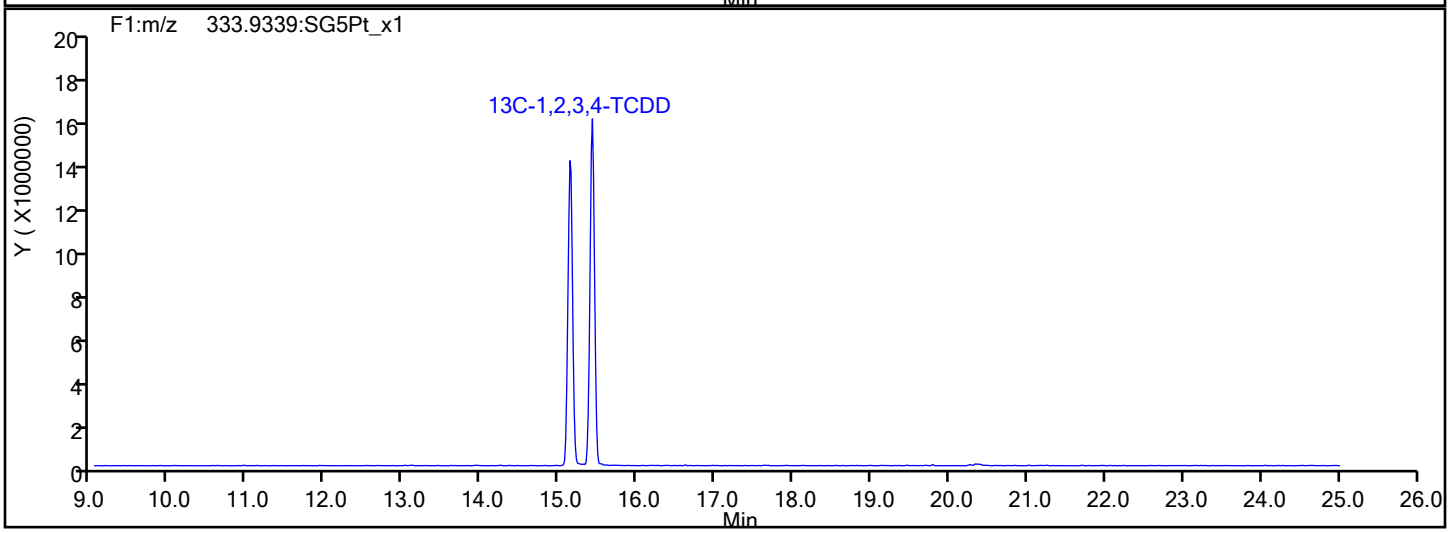

Report Date: 02-Aug-2019 11:51:37 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_004.d		
Injection Date:	02-Aug-2019 03:30:21	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm

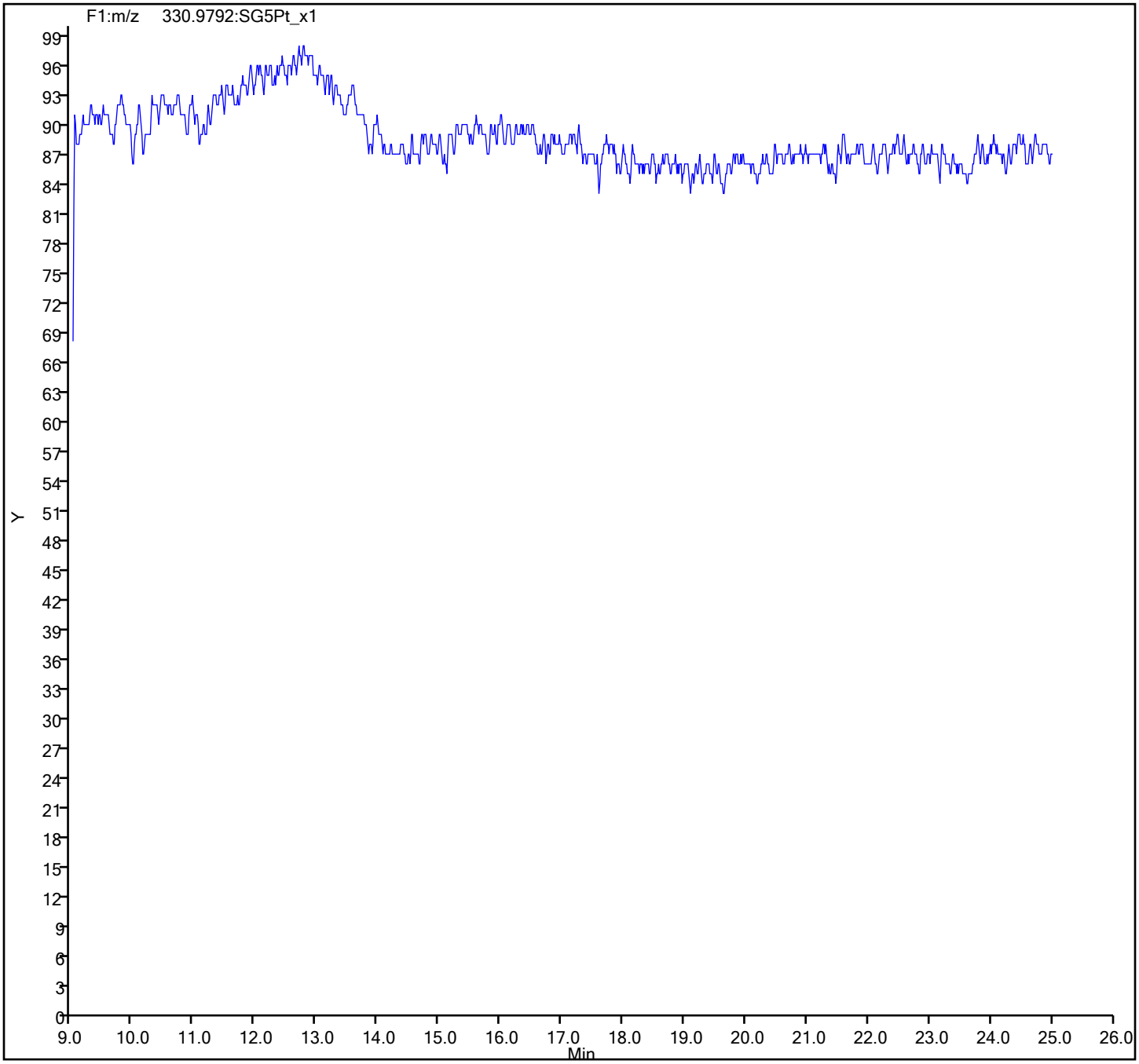

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_005.d
Lims ID: IC 4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 02-Aug-2019 04:08:39 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-4 HRDXNL4_00084
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:50:13 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 11:50:13

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.424	106319859	0.78	1.1E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.591	144041178	0.79	1.3379	101.3	101.3	0.5534	0.5534	101	
2,3,7,8-TCDF	16.604	11238394	0.76	0.8389	9.301	9.301	0.0827	0.0827	93.01	
D 13C-2,3,7,8-TCDD	15.136	102100937	0.77	0.9388	102.3	102.3	0.2809	0.2809	102	
2,3,7,8-TCDD	15.164	10136940	0.76	1.1538	8.605	8.605	0.1498	0.1498	86.05	
$ 37Cl4-2,3,7,8-TCDD	15.164	9929024		1.1816	7.903	7.903	0.1068	0.1068	98.79	
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNL4_00084 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_005.d
Lims ID: IC 4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 02-Aug-2019 04:08:39 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-4 HRDXNL4_00084
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:50:13 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 11:50:13

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.424	15.416	0		46708197	10977681	16216	40540	677		
333.9339	15.424	15.416	0		59611662	14687691	10856	27140	1353	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.591	16.580	1	1.076	63548576	13720043	50935	127337	269		
317.9389	16.591	16.580	1	1.076	80492602	17728003	25076	62690	707	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.604	16.599	0	1.001	4865871	1034824	3394	8485	305		
305.8987	16.604	16.599	0	1.001	6372523	1366111	5328	13320	256	0.76(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.136	15.136	0	0.981	44311856	10806558	16216	40540	666		
333.9339	15.136	15.136	0	0.981	57789081	13912119	10856	27140	1282	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.164	15.156	0	1.002	4381105	1087501	6755	16887	161		
321.8936	15.164	15.156	0	1.002	5755835	1373692	10330	25825	133	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.164	15.158	0	0.983	9929024	2303011	12961	32402	178		
Total 2378-Chlorinated Dioxins & Furans											
		0.0	0								

Reagents:

HRDXNL4_00084 Amount Added: 1.00 Units: mL

Report Date: 02-Aug-2019 11:50:37 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_005.d		
Injection Date:	02-Aug-2019 04:08:39	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

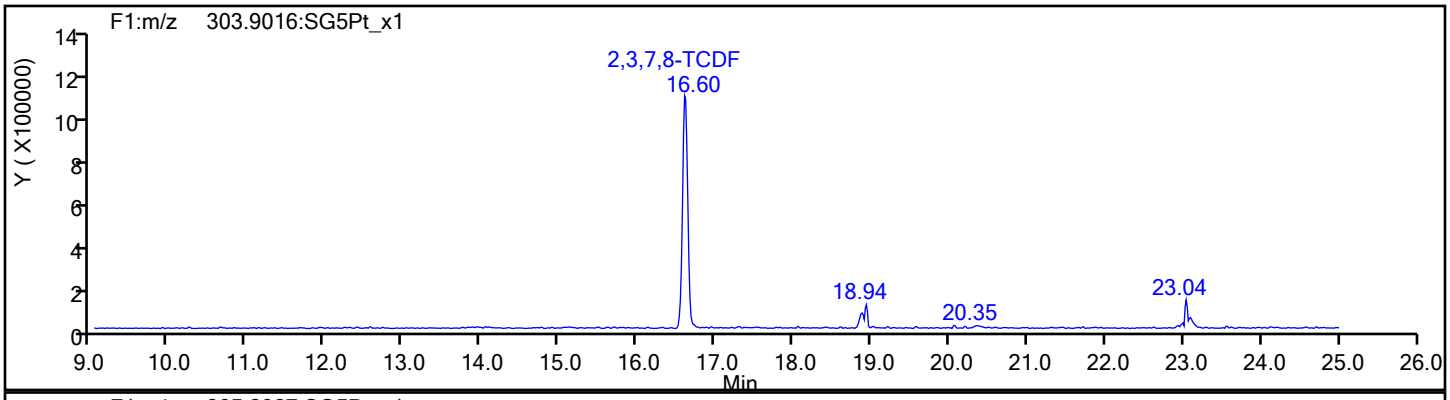

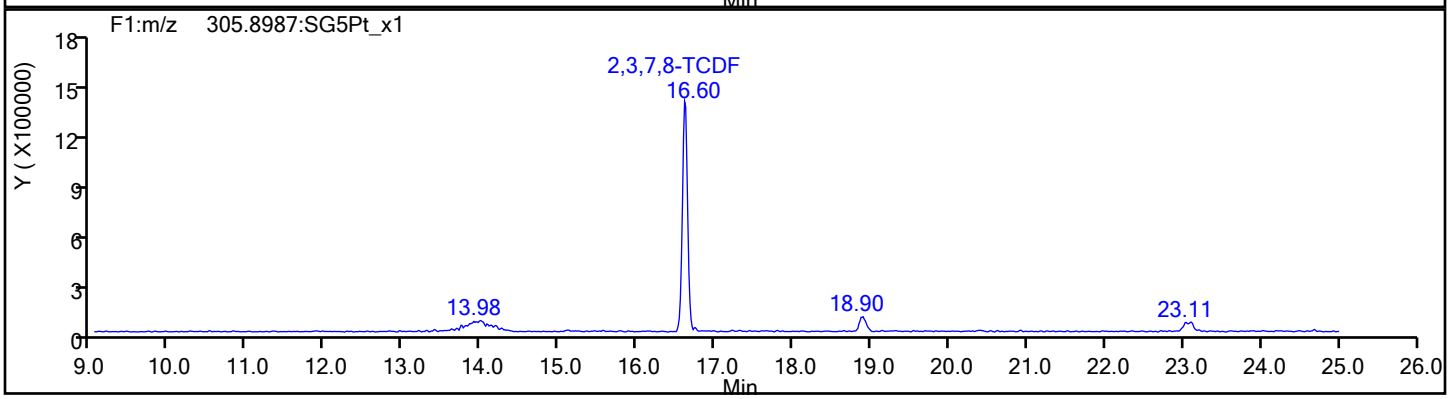

TCDF Standards

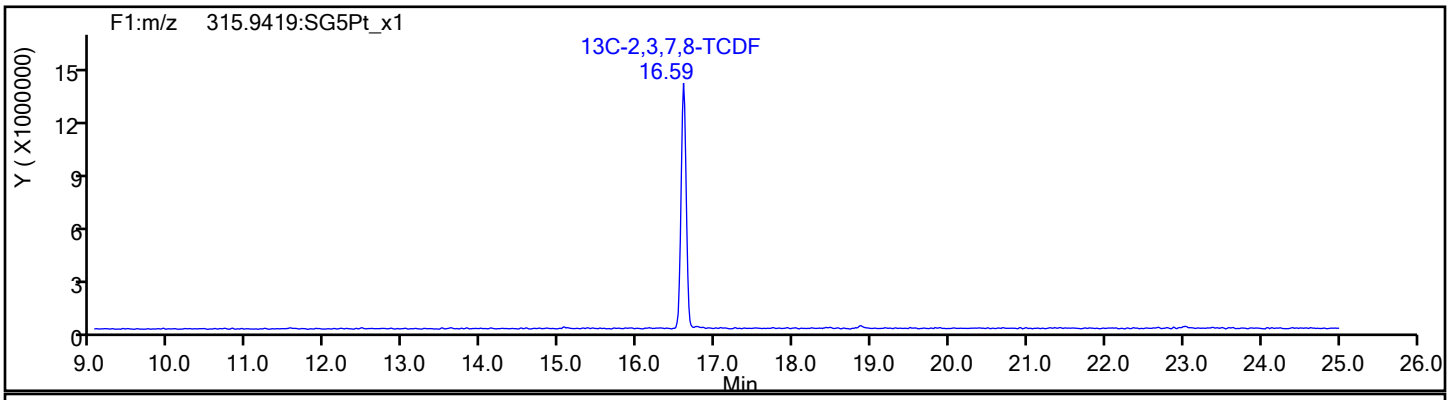

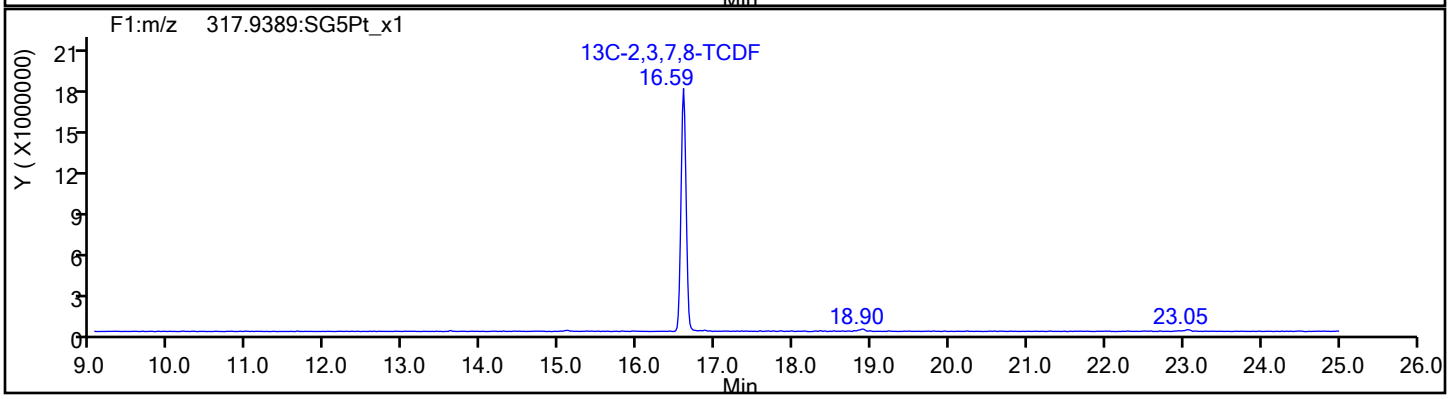

Report Date: 02-Aug-2019 11:50:37 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_005.d		
Injection Date:	02-Aug-2019 04:08:39	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

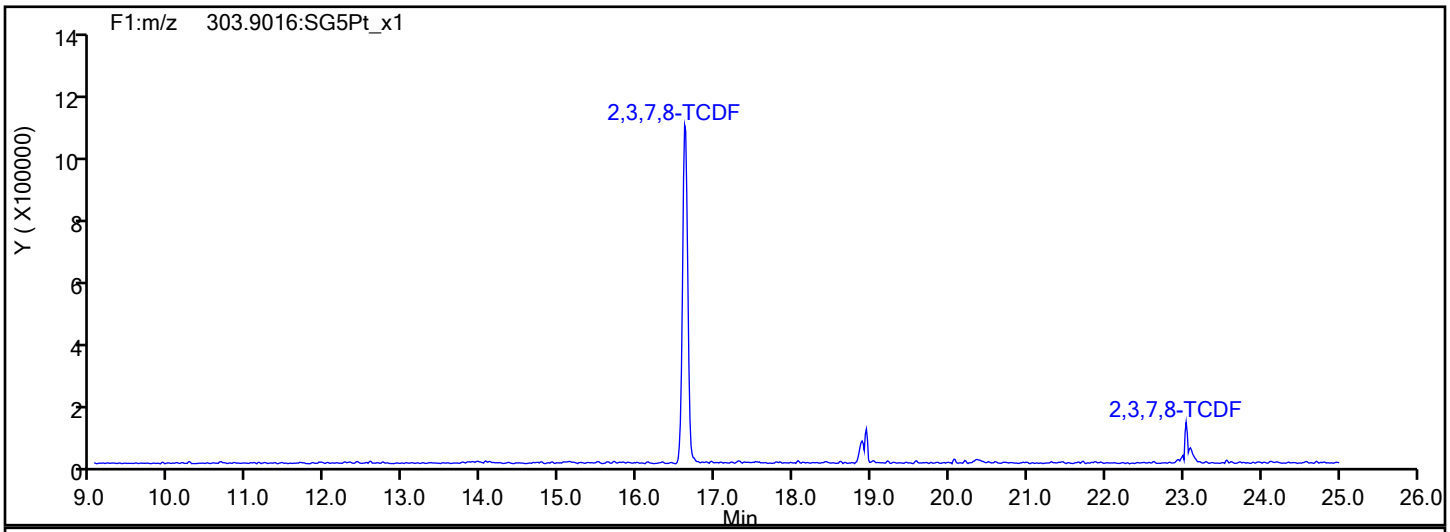

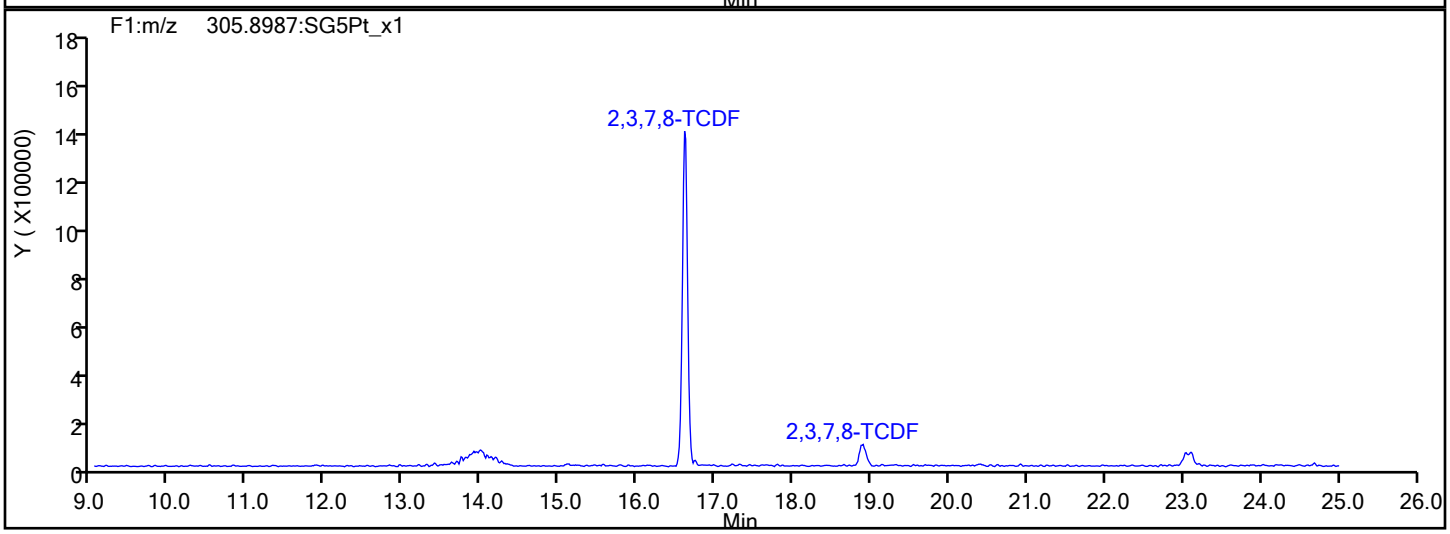

TCDF Interference Mass

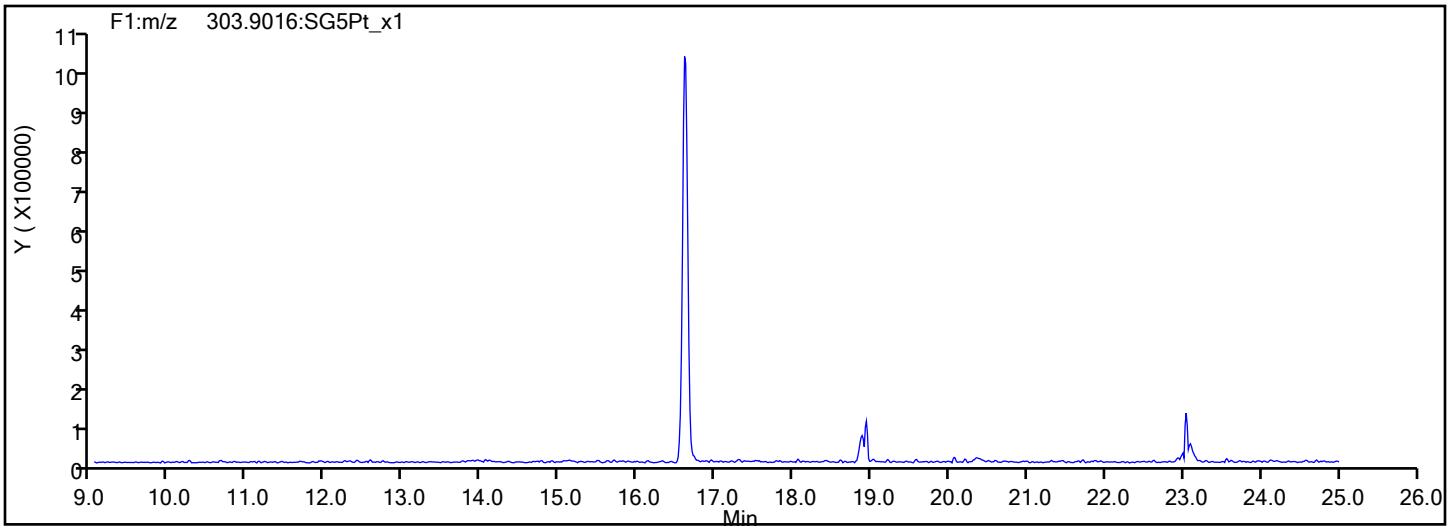

Report Date: 02-Aug-2019 11:50:37 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_005.d		
Injection Date:	02-Aug-2019 04:08:39	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

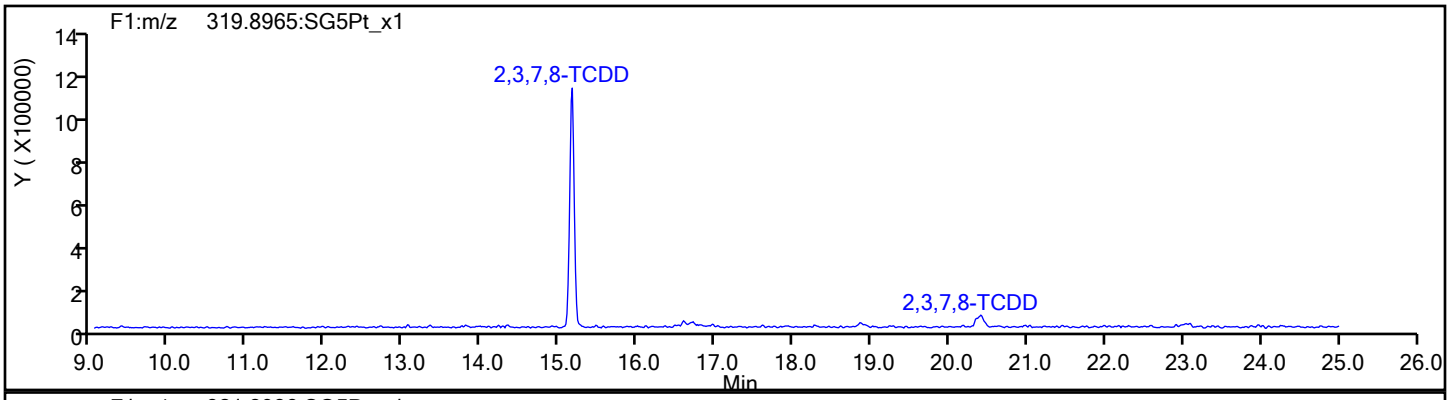

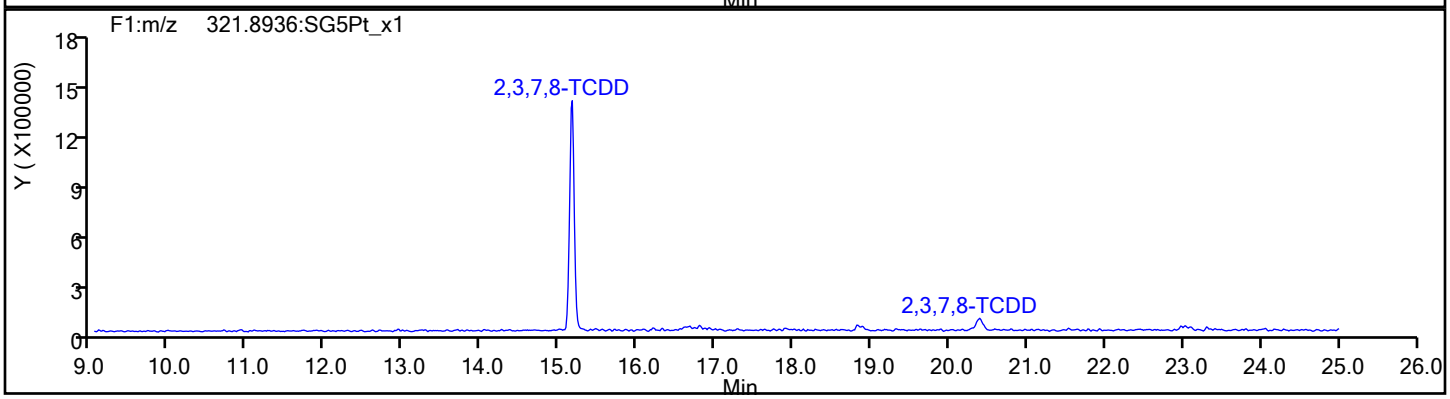

TCDD Standards

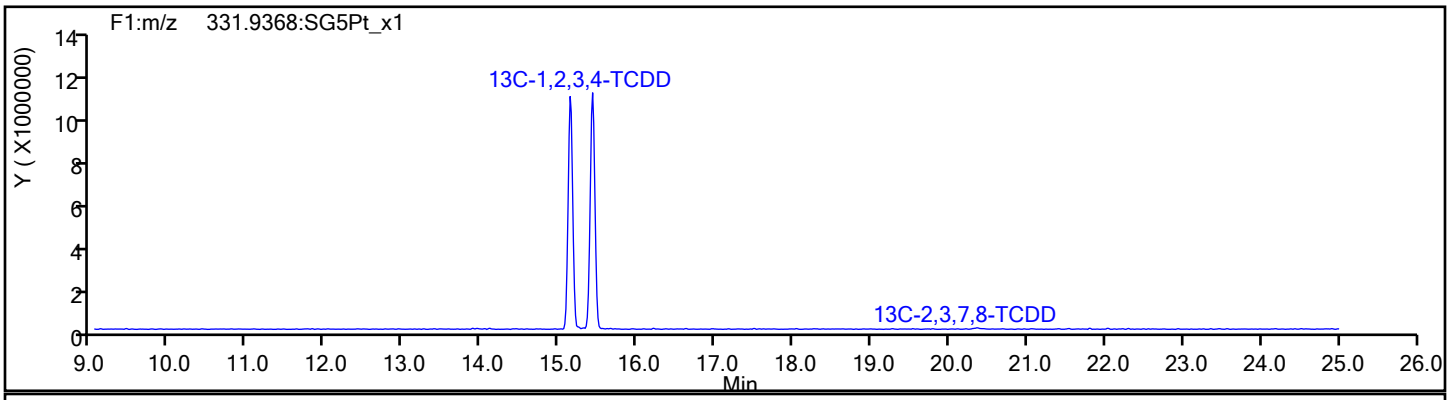

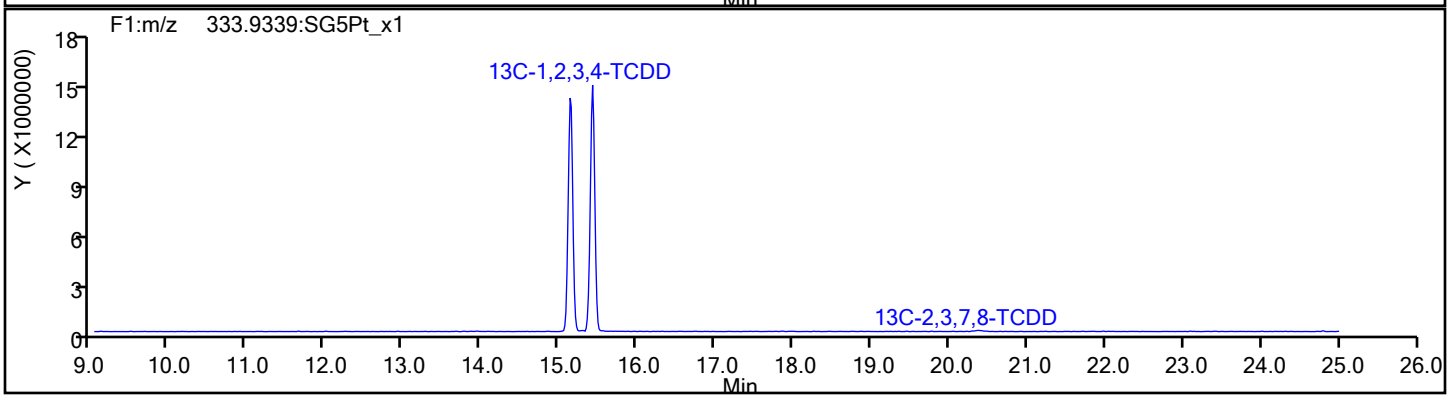

Report Date: 02-Aug-2019 11:50:37 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_005.d		
Injection Date:	02-Aug-2019 04:08:39	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

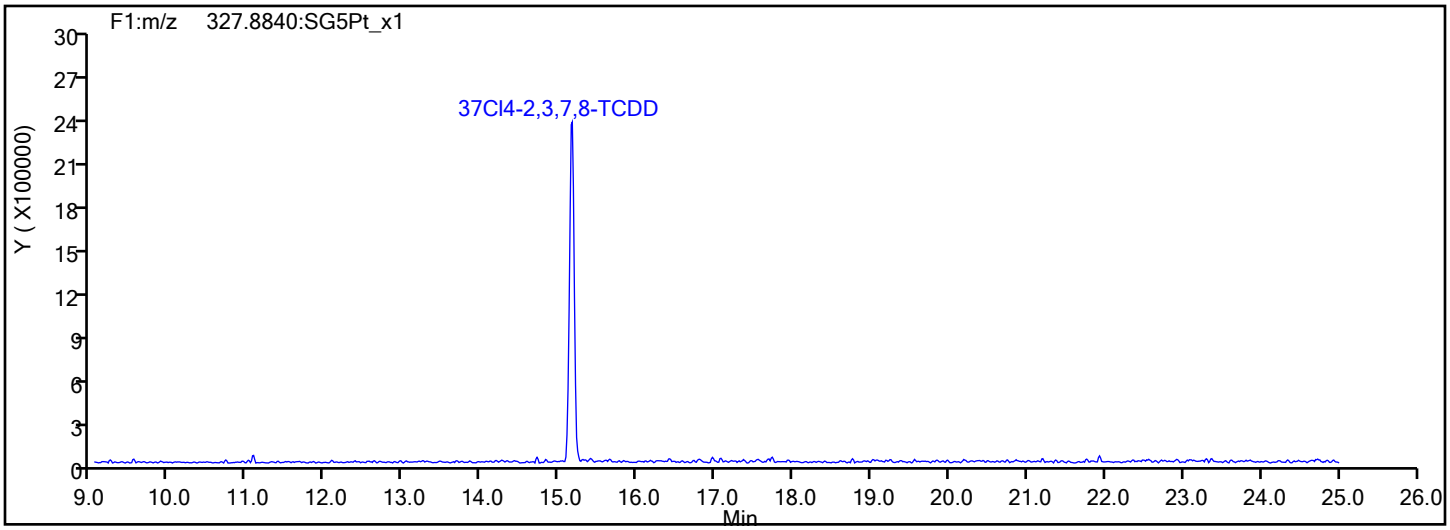

37Cl4-TCDD Standards

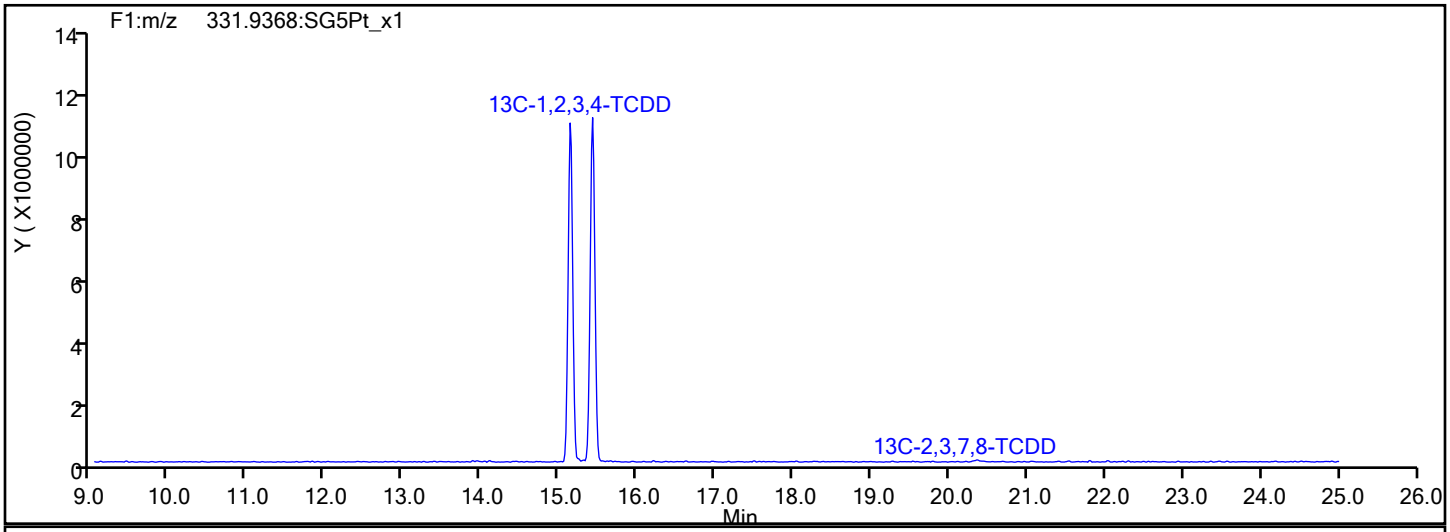

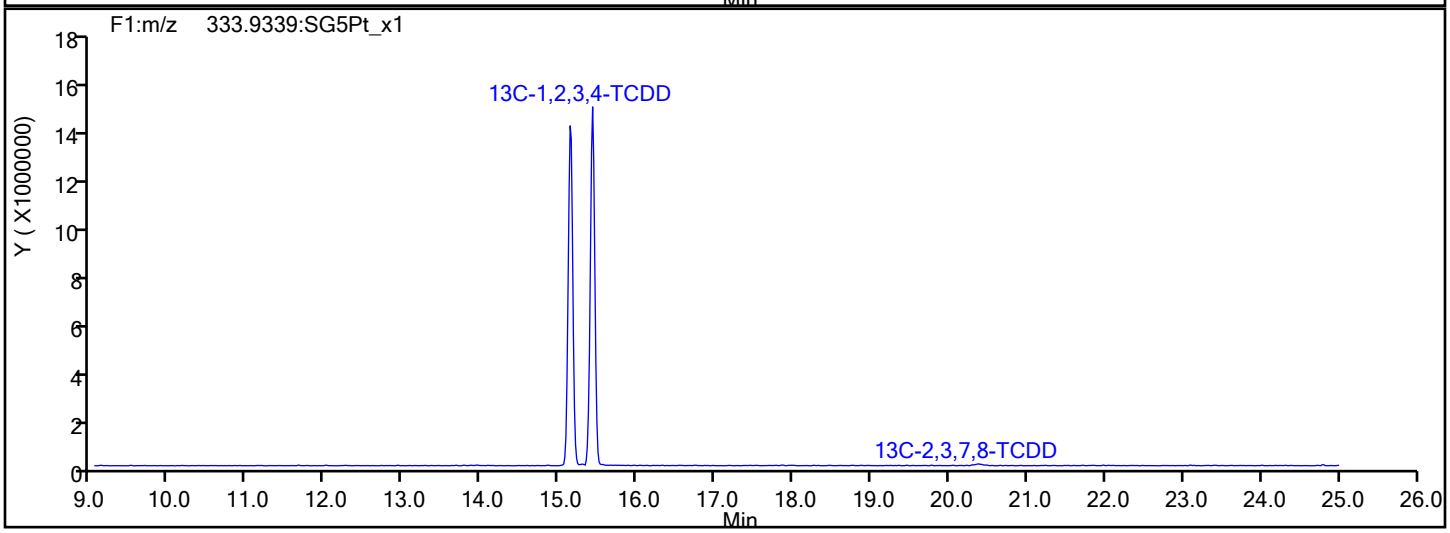

Report Date: 02-Aug-2019 11:50:37 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_005.d		
Injection Date:	02-Aug-2019 04:08:39	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

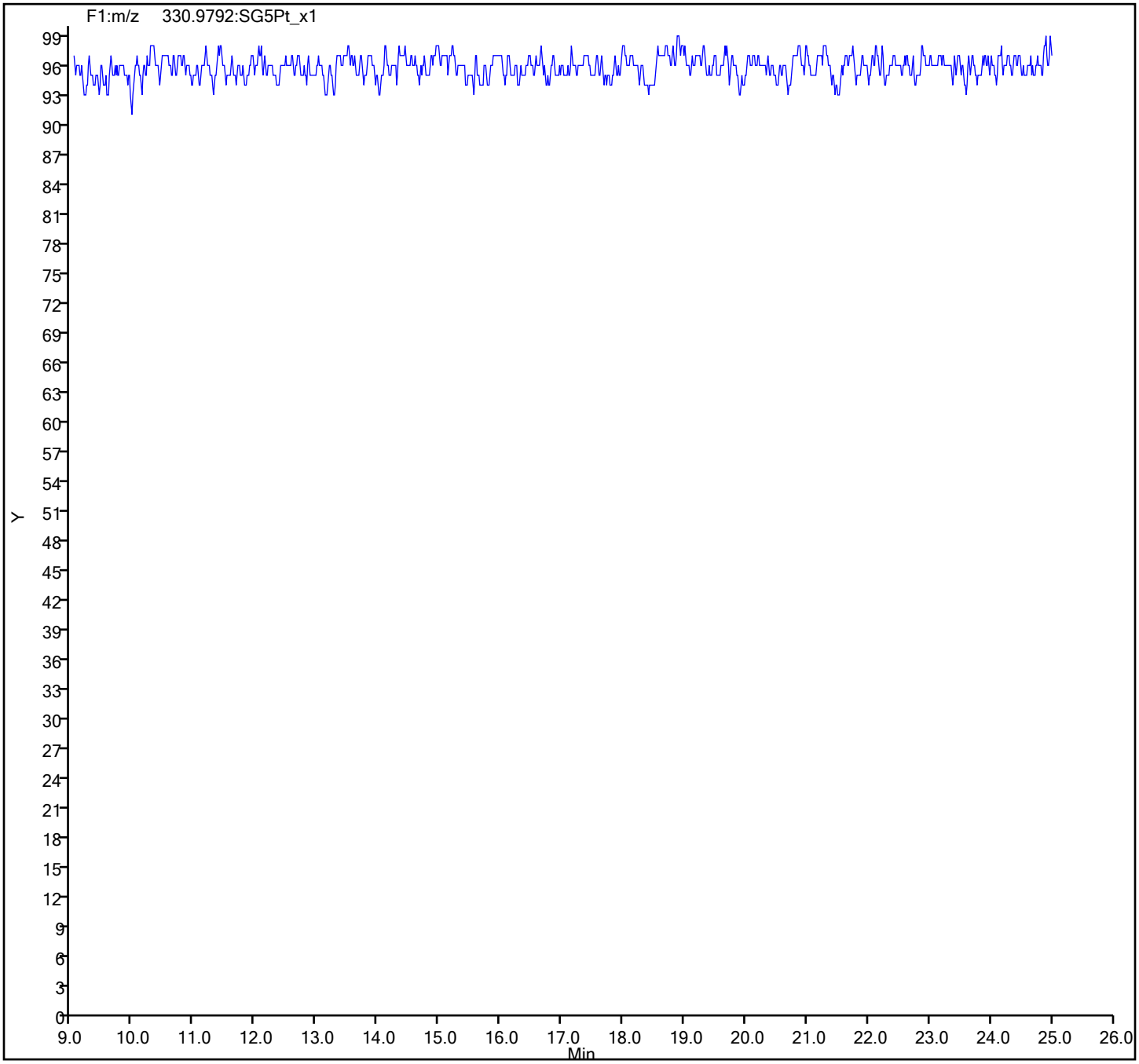

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_006.d
Lims ID: IC 5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 02-Aug-2019 04:46:57 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-5 HRDXNL5_00028
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:52:00 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:44:08

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.407	115018689	0.78	1.1E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.573	144459393	0.77	1.3379	93.9	93.9	0.5274	0.5274	93.87	
2,3,7,8-TCDF	16.586	46575552	0.77	0.8389	38.4	38.4	0.1167	0.1167	96.08	
D 13C-2,3,7,8-TCDD	15.132	106968299	0.77	0.9388	99.1	99.1	0.2830	0.2830	99.06	
2,3,7,8-TCDD	15.146	48146783	0.76	1.1538	39.0	39.0	0.1640	0.1640	97.53	
$ 37Cl4-2,3,7,8-TCDD	15.146	56650769		1.1816	41.7	41.7	0.0894	0.0894	104	
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNL5_00028 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_006.d
Lims ID: IC 5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 02-Aug-2019 04:46:57 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-5 HRDXNL5_00028
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:52:00 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:44:08

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.407	15.416	-1		50351038	12128425	19106	47765	635		
333.9339	15.407	15.416	-1		64667651	15935590	10721	26802	1486	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.573	16.580	0	1.076	62832695	14048507	53452	133630	263		
317.9389	16.573	16.580	0	1.076	81626698	17801662	25764	64410	691	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.586	16.599	-1	1.001	20335382	4486199	5024	12560	893		
305.8987	16.586	16.599	-1	1.001	26240170	5630982	7452	18630	756	0.77(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.132	15.136	0	0.982	46501097	11086056	19106	47765	580		
333.9339	15.118	15.136	-1	0.981	60467202	14396233	10721	26802	1343	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.146	15.156	-1	1.001	20863773	5196689	8344	20860	623		
321.8936	15.146	15.156	-1	1.001	27283010	6610856	10939	27347	604	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.146	15.158	-1	0.983	56650769	13763841	11857	29642	1161		
Total 2378-Chlorinated Dioxins & Furans											
		0.0	0								

Reagents:

HRDXNL5_00028 Amount Added: 1.00 Units: mL

Report Date: 02-Aug-2019 11:52:18 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_006.d		
Injection Date:	02-Aug-2019 04:46:57	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

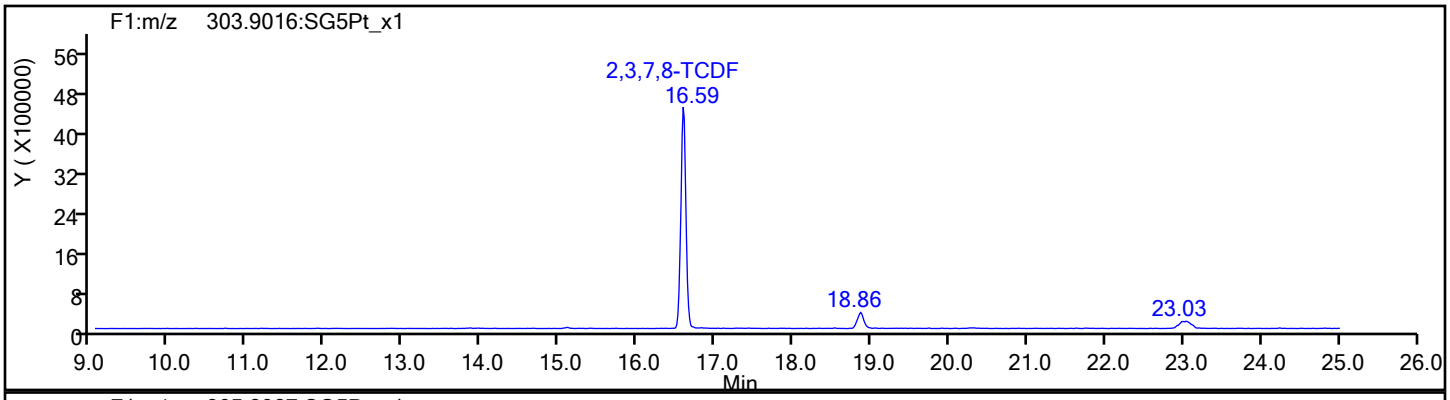

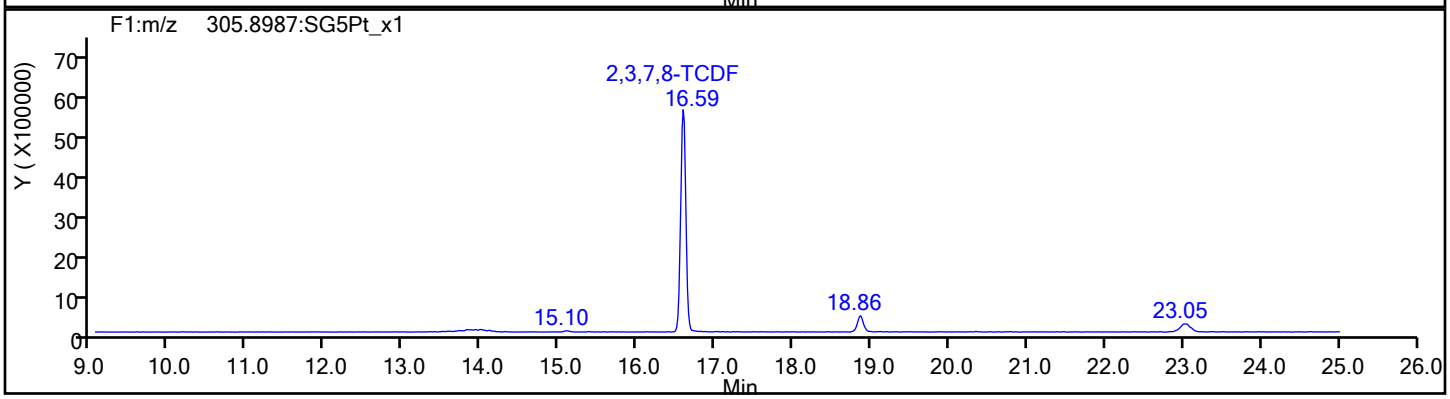

TCDF Standards

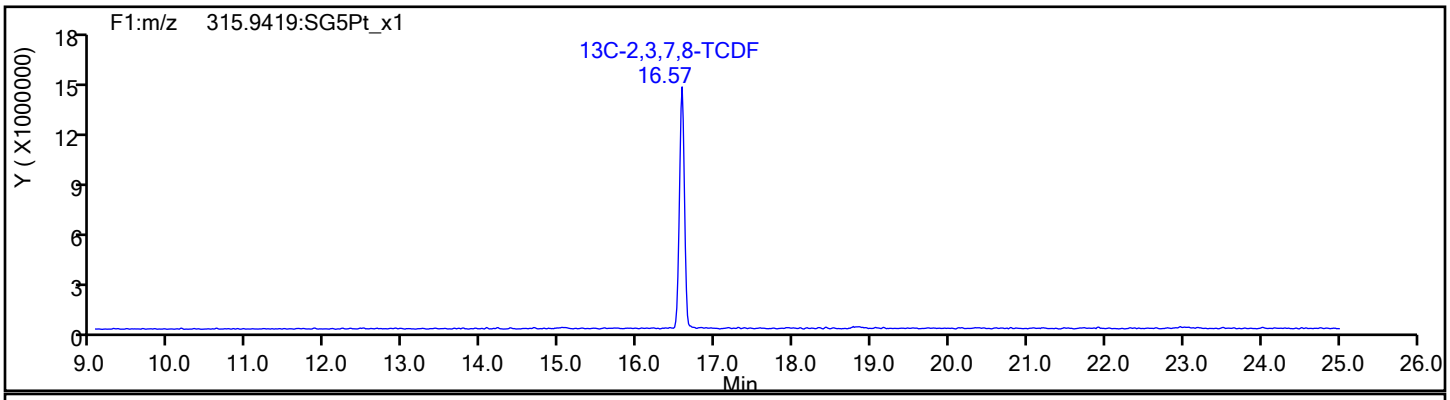

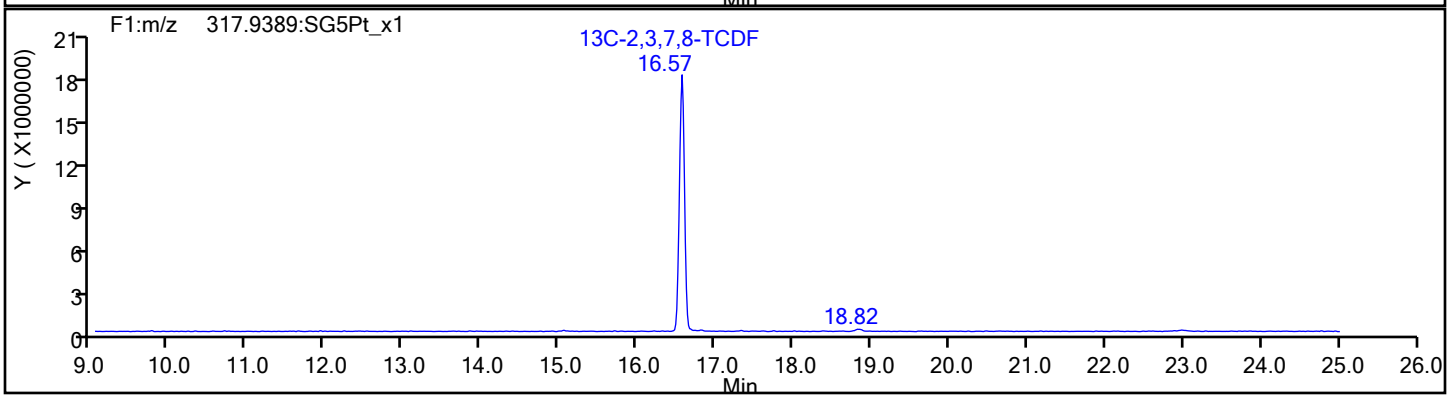

Report Date: 02-Aug-2019 11:52:18 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_006.d		
Injection Date:	02-Aug-2019 04:46:57	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

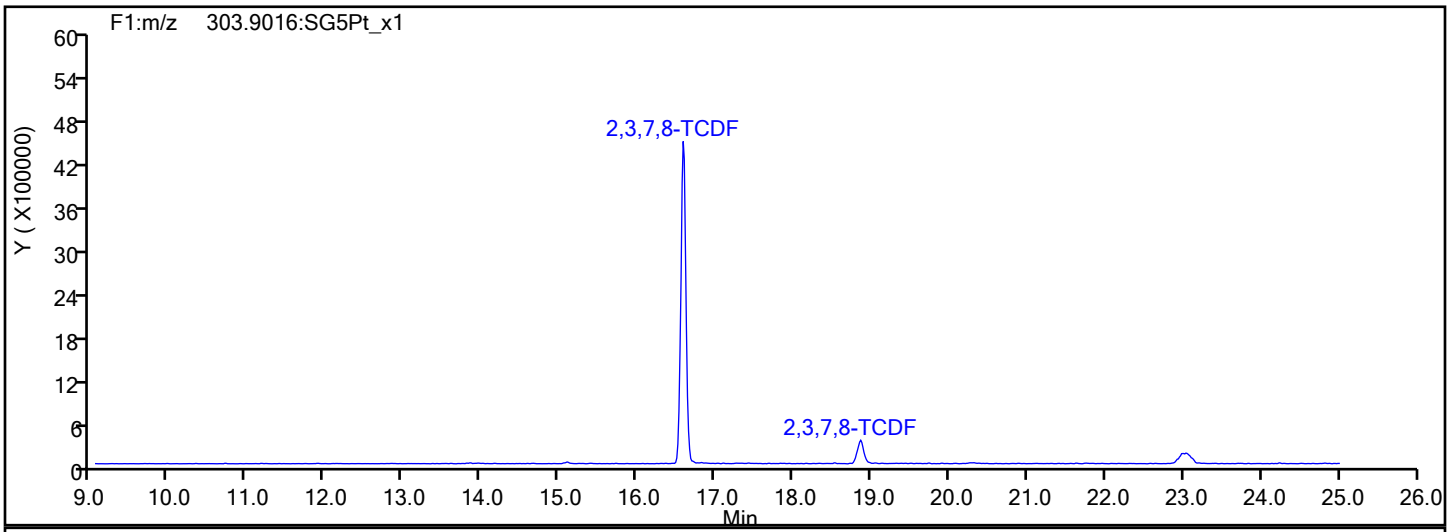

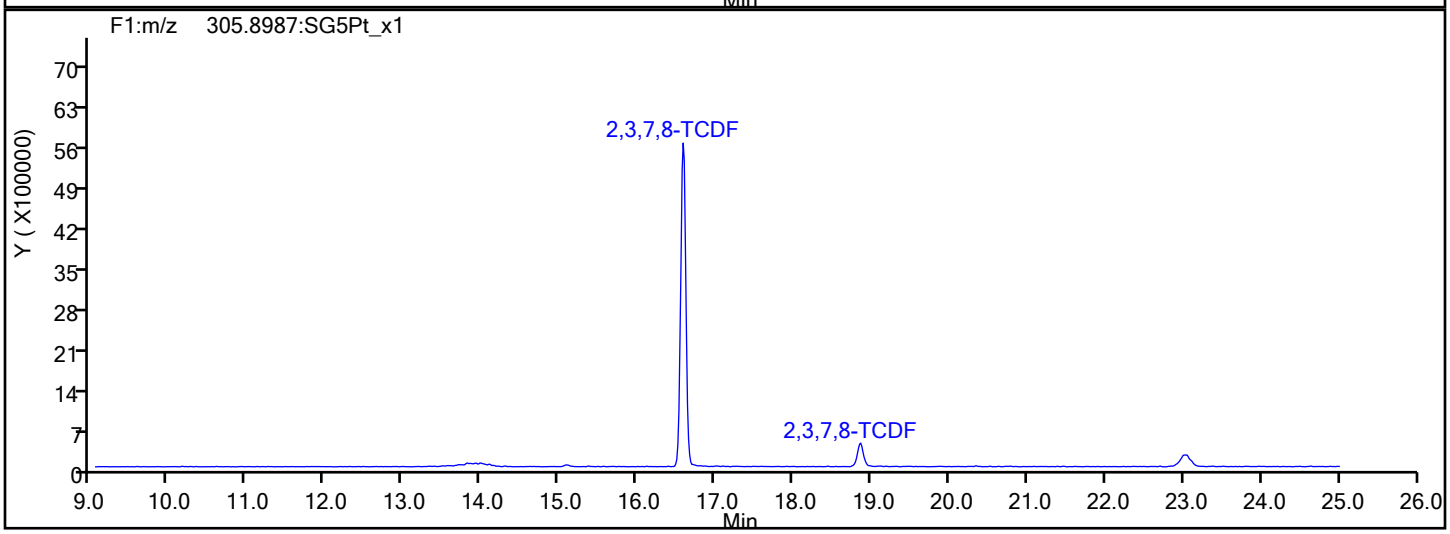

TCDF Interference Mass

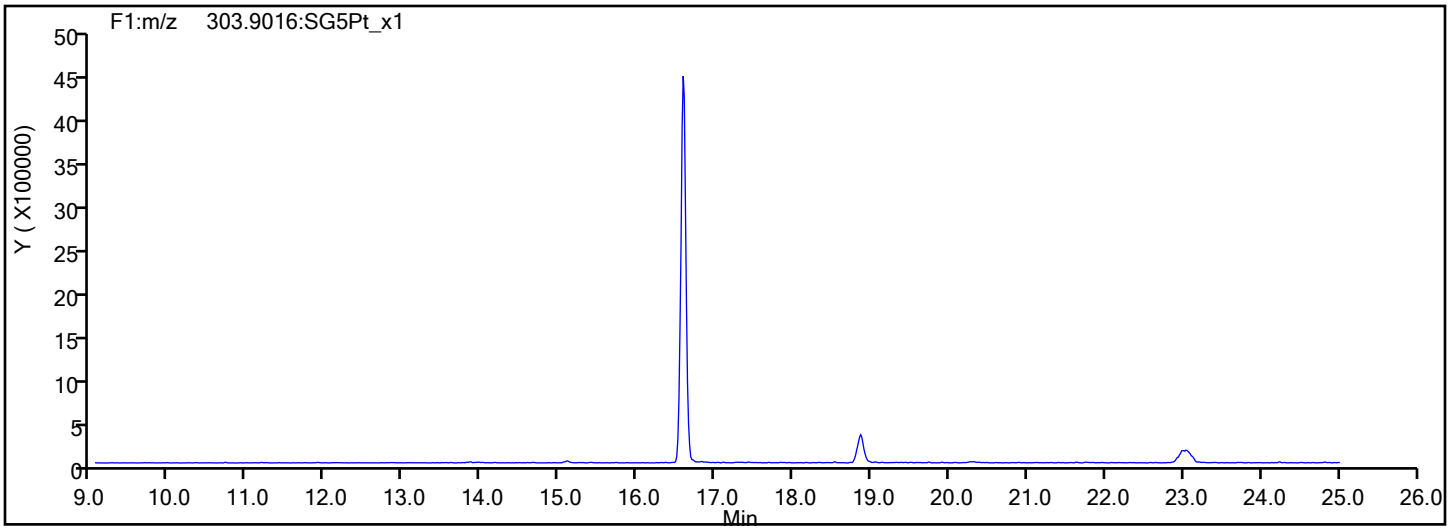

Report Date: 02-Aug-2019 11:52:18 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_006.d		
Injection Date:	02-Aug-2019 04:46:57	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

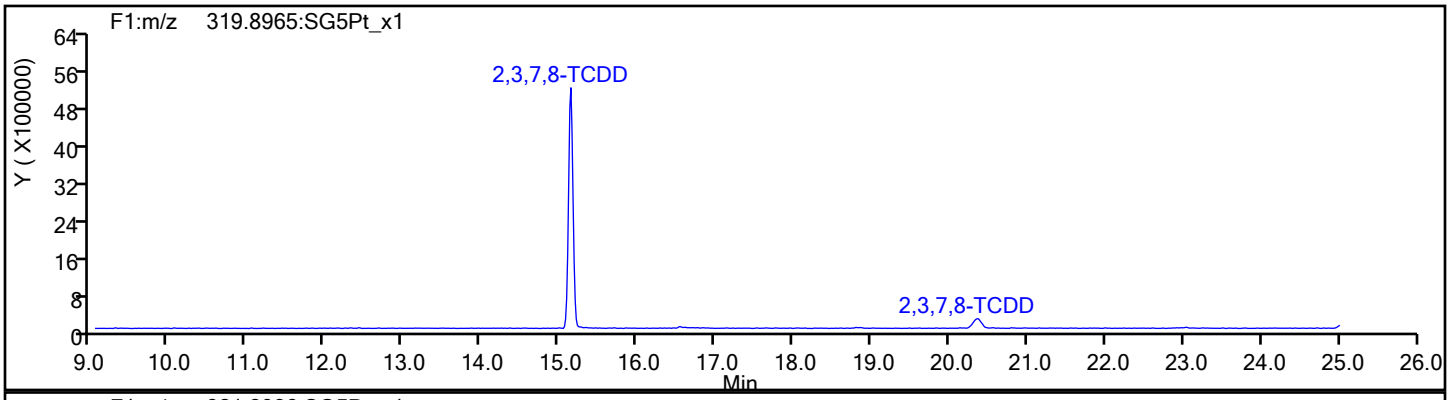

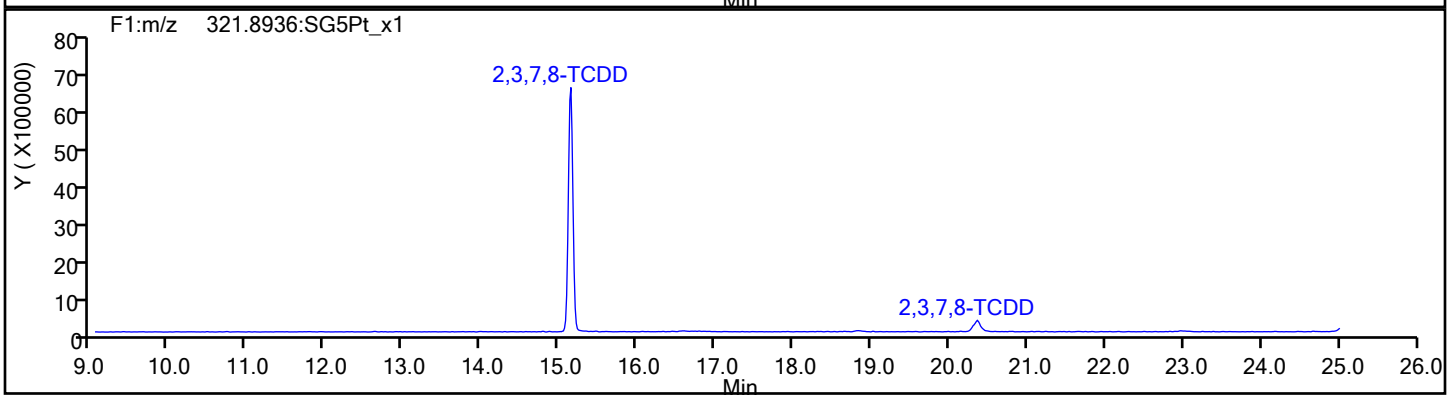

TCDD Standards

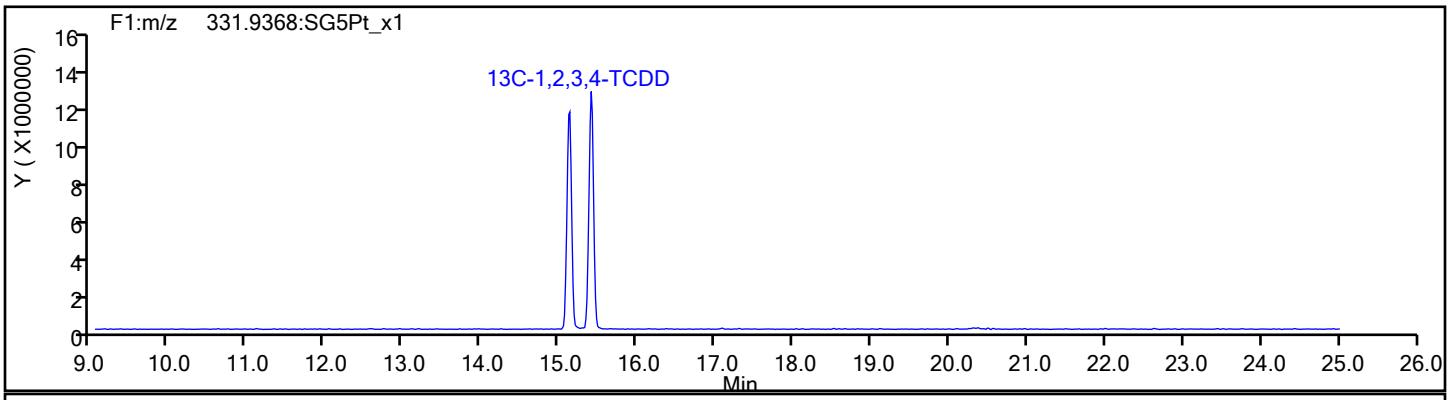

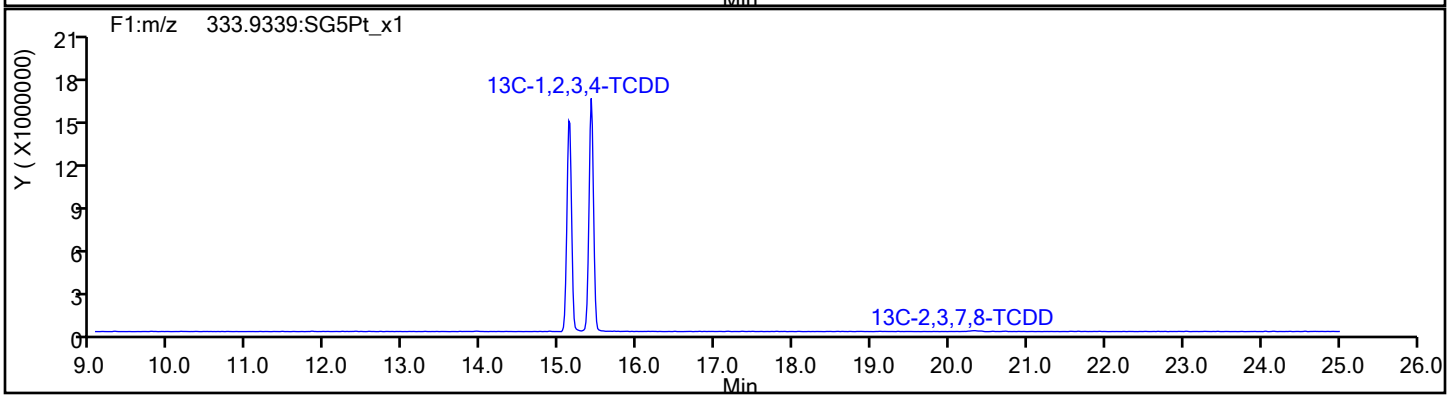

Report Date: 02-Aug-2019 11:52:18 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_006.d		
Injection Date:	02-Aug-2019 04:46:57	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

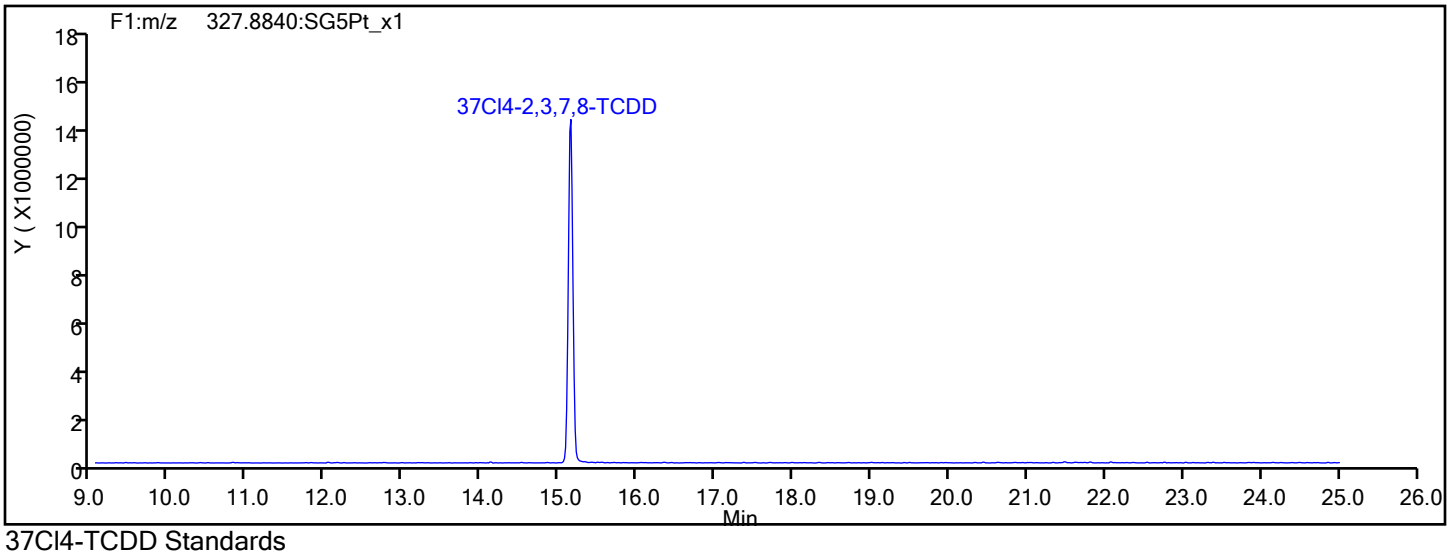

37Cl4-TCDD Standards

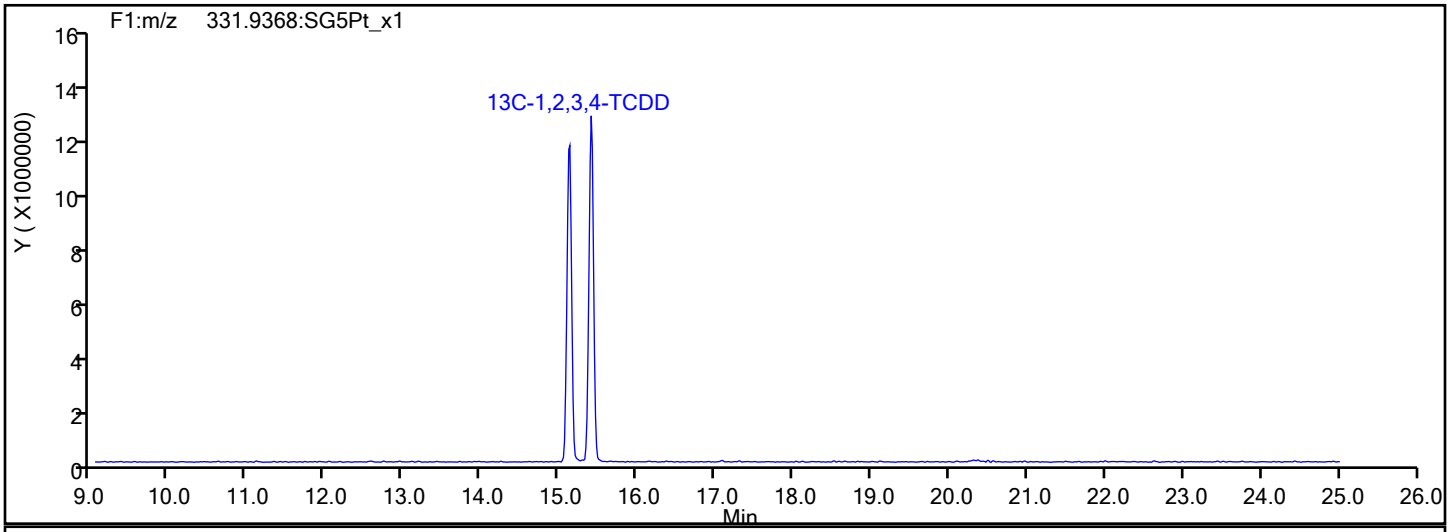

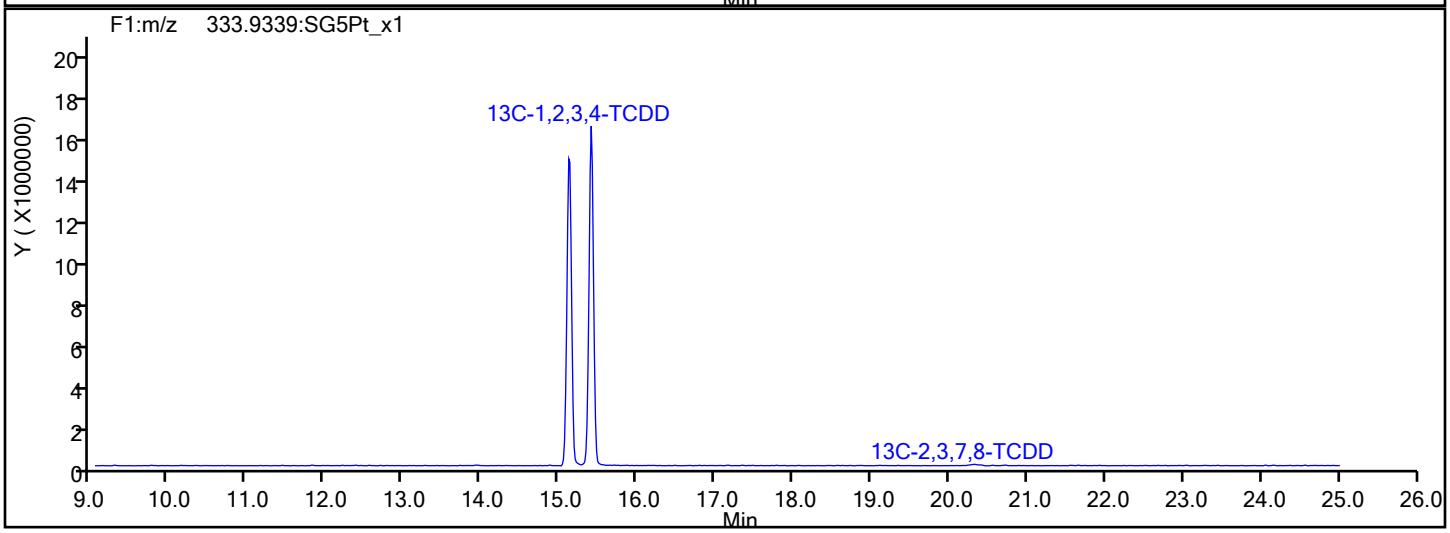

Report Date: 02-Aug-2019 11:52:19 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_006.d		
Injection Date:	02-Aug-2019 04:46:57	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

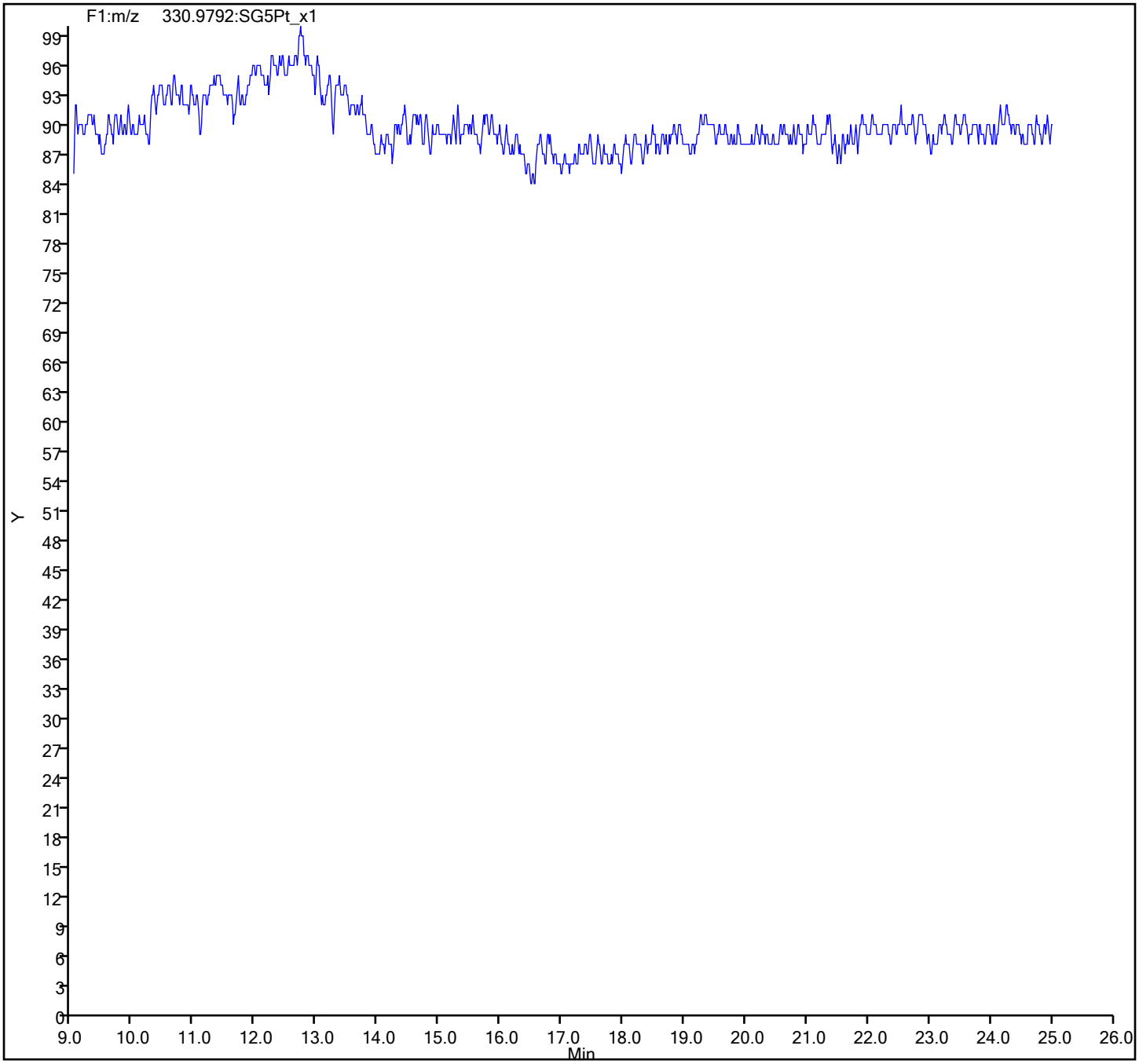

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d
Lims ID: IC 6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 02-Aug-2019 05:25:19 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-6 HRDXNL6_00024
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:52:36 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:44:20

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.404	110526038	0.77	1.1E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.556	151101344	0.75	1.3379	102.2	102.2	0.5415	0.5415	102	
2,3,7,8-TCDF	16.584	239921851	0.78	0.8389	189.3	189.3	0.1707	0.1707	94.64	
D 13C-2,3,7,8-TCDD	15.130	101263855	0.79	0.9388	97.6	97.6	0.2909	0.2909	97.59	
2,3,7,8-TCDD	15.143	221171643	0.78	1.1538	189.3	189.3	0.2031	0.2031	94.65	
$ 37Cl4-2,3,7,8-TCDD	15.143	268090229		1.1816	205.3	205.3	0.1091	0.1091	103	
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNL6_00024 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d
Lims ID: IC 6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 02-Aug-2019 05:25:19 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-6 HRDXNL6_00024
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:52:36 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:44:20

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.404	15.416	-1		48112289	11729044	18185	45462	645		
333.9339	15.404	15.416	-1		62413749	15576756	11642	29105	1338	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.556	16.580	-1	1.075	64986610	14150118	57009	142522	248		
317.9389	16.556	16.580	-1	1.075	86114734	18279234	22119	55297	826	0.75(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.584	16.599	-1	1.002	104966823	22470376	8972	22430	2505		
305.8987	16.584	16.599	-1	1.002	134955028	28495262	9607	24017	2966	0.78(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.130	15.136	0	0.982	44673635	10986883	18185	45462	604		
333.9339	15.130	15.136	0	0.982	56590220	13637893	11642	29105	1171	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.143	15.156	-1	1.001	96586623	23829881	9066	22665	2628		
321.8936	15.143	15.156	-1	1.001	124585020	30700236	14012	35030	2191	0.78(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.143	15.158	-1	0.983	268090229	64785114	14075	35187	4603		

Total 2378-Chlorinated Dioxins & Furans
0.0 0

Reagents:

HRDXNL6_00024 Amount Added: 1.00 Units: mL

Report Date: 02-Aug-2019 11:52:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d		
Injection Date:	02-Aug-2019 05:25:19	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

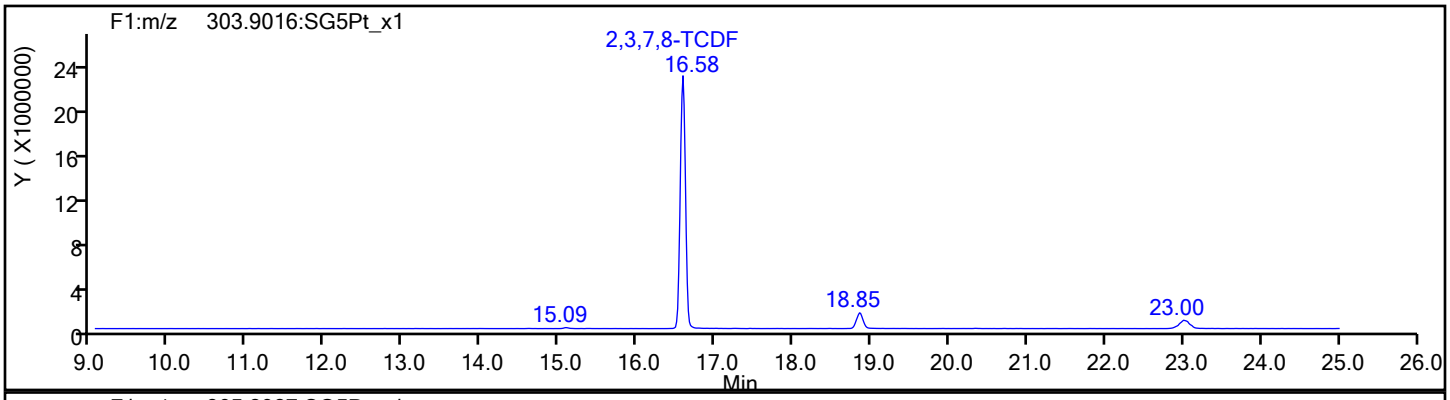

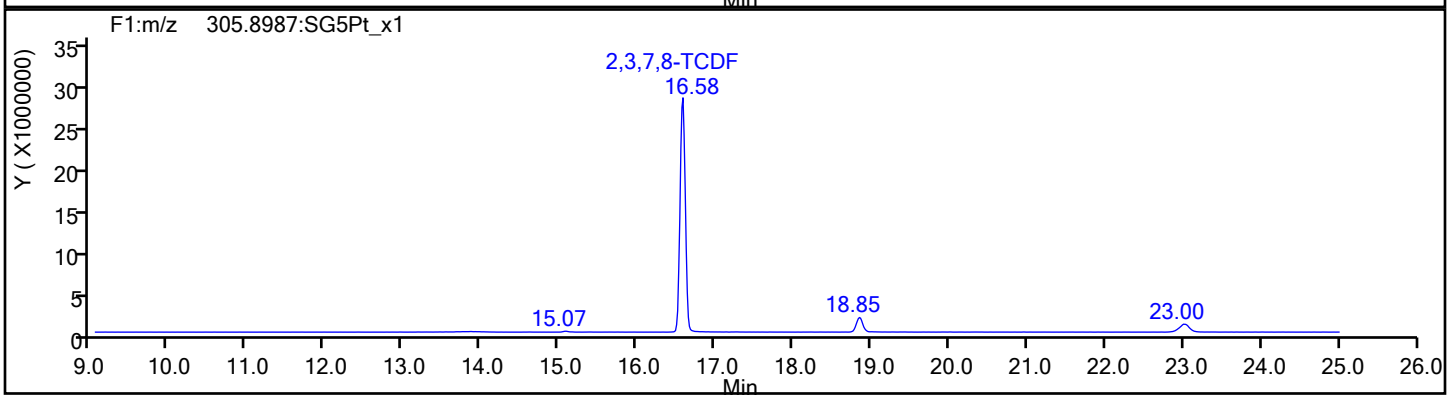

TCDF Standards

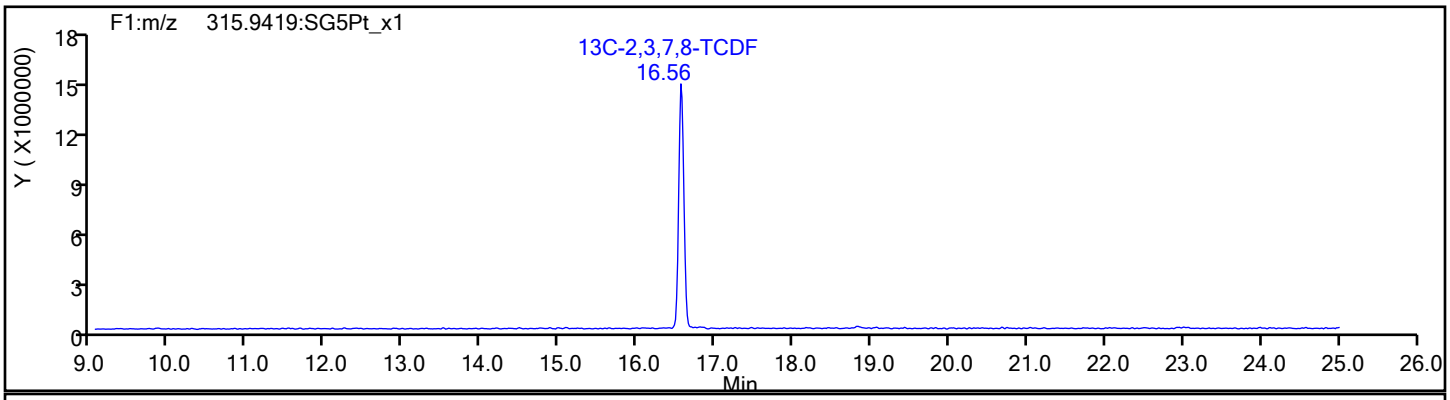

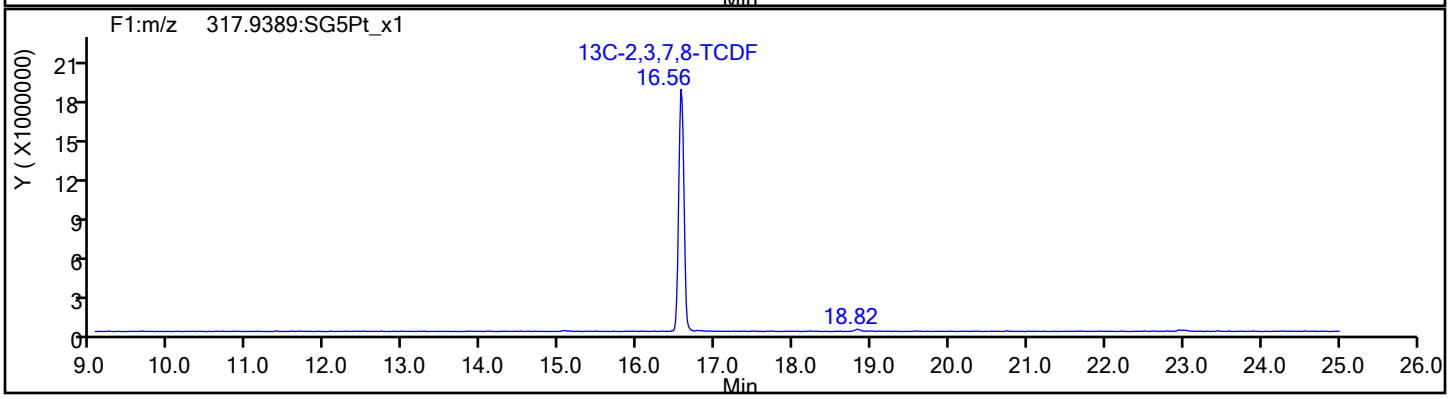

Report Date: 02-Aug-2019 11:52:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

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Injection Date:	02-Aug-2019 05:25:19	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

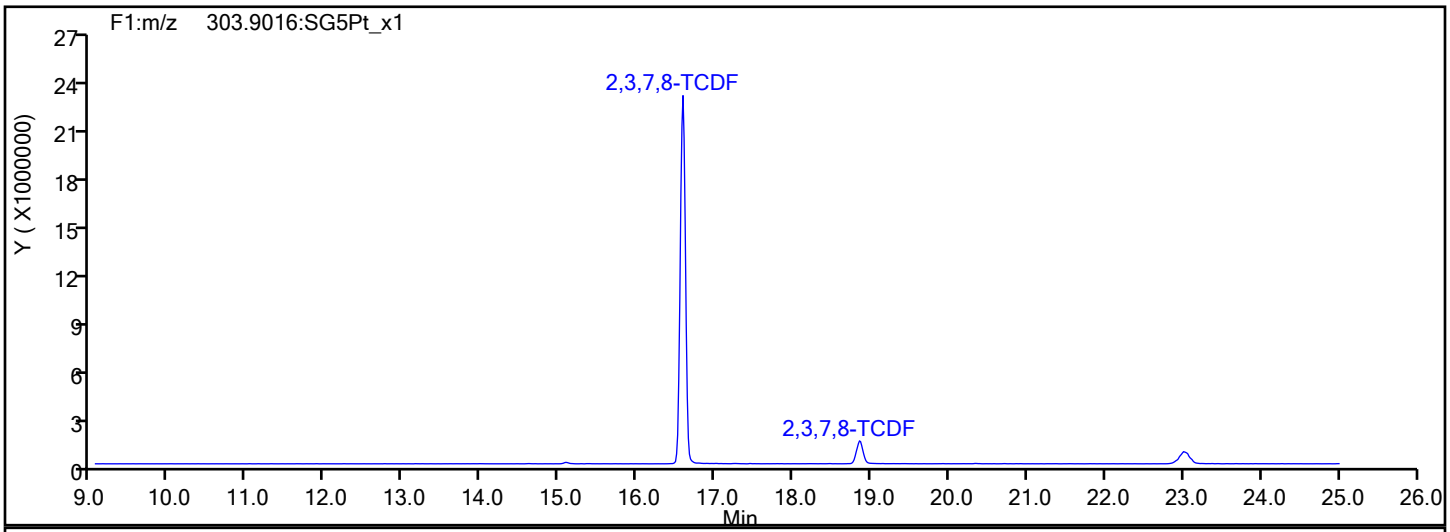

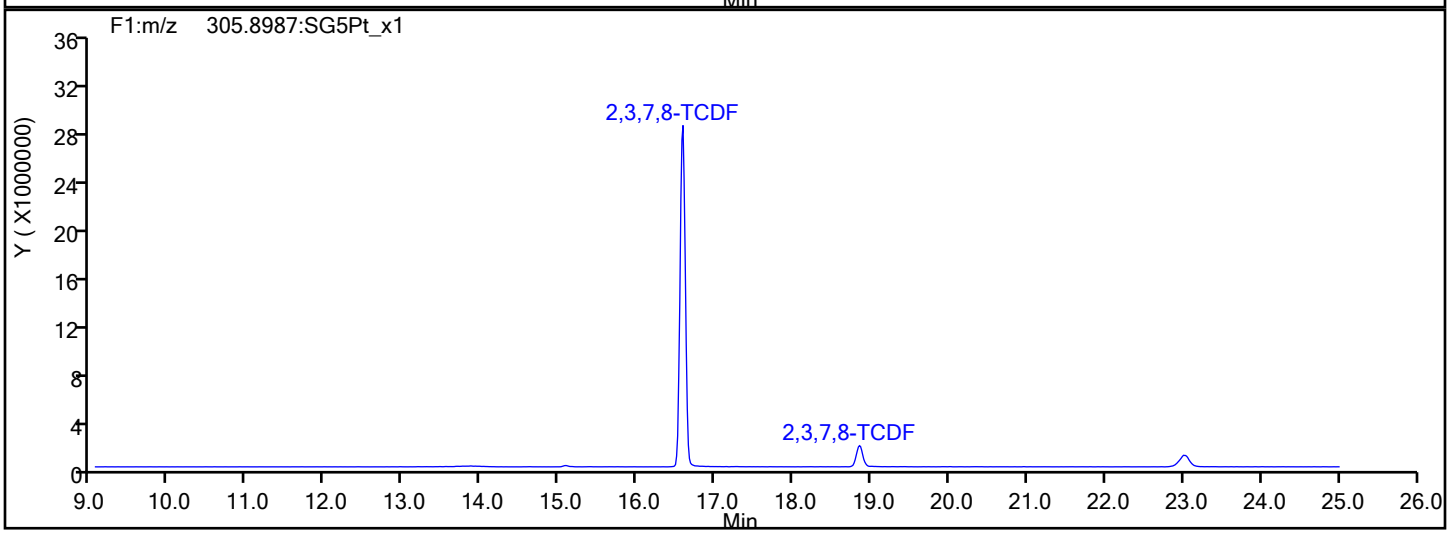

TCDF Interference Mass

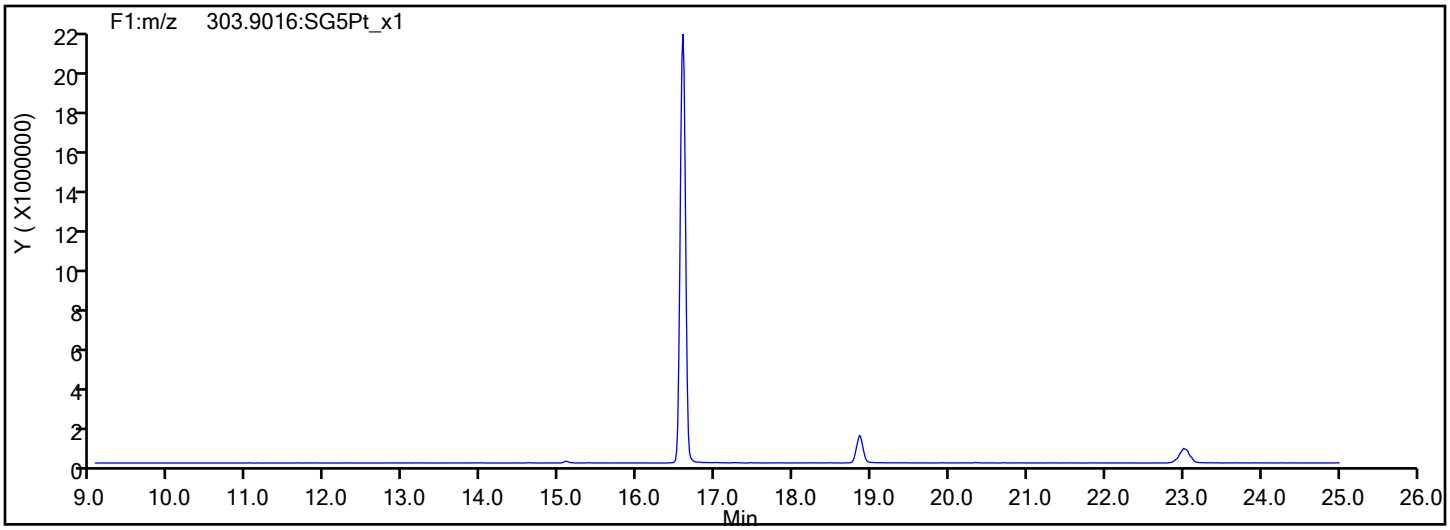

Report Date: 02-Aug-2019 11:52:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d		
Injection Date:	02-Aug-2019 05:25:19	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

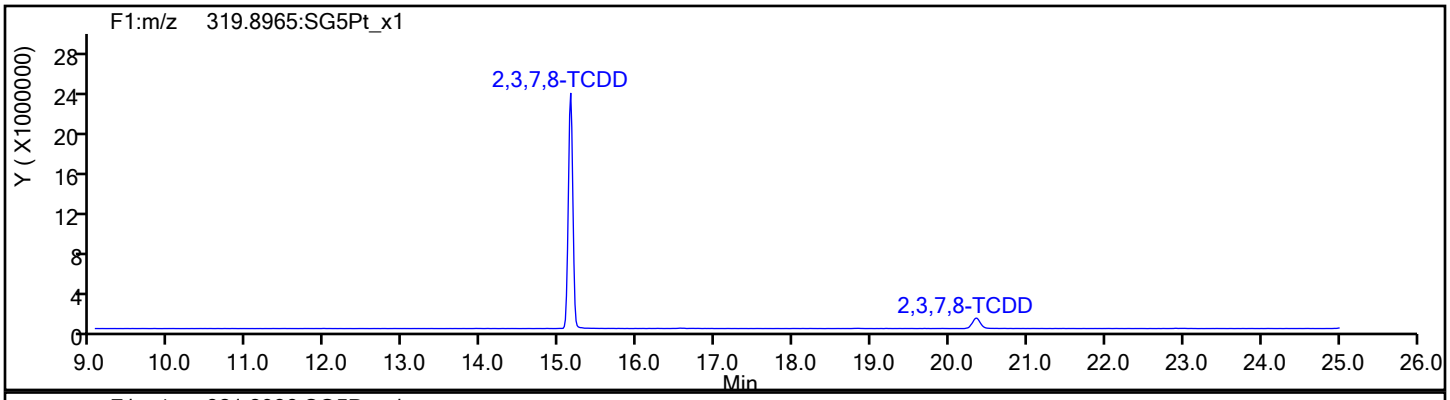

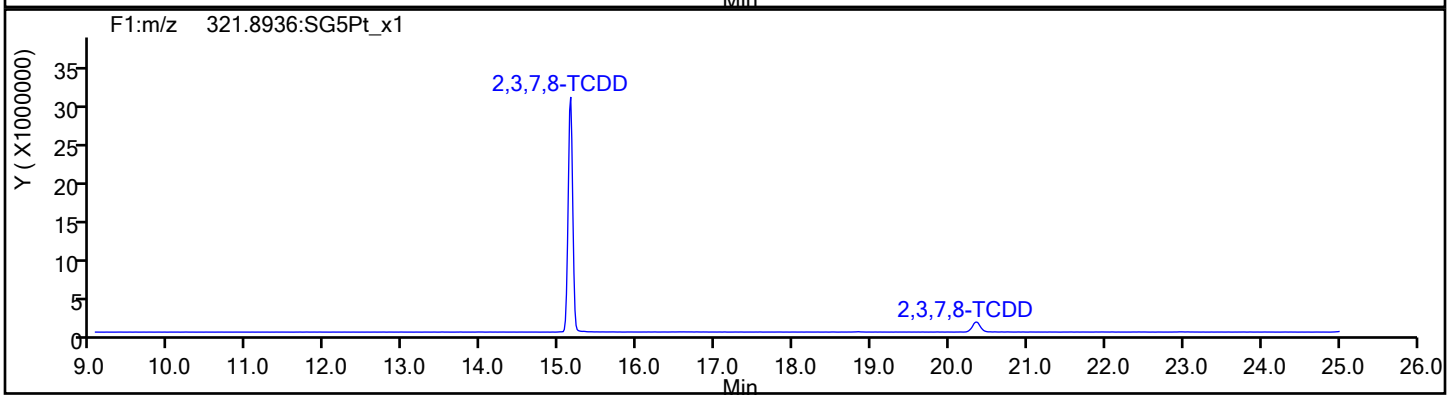

TCDD Standards

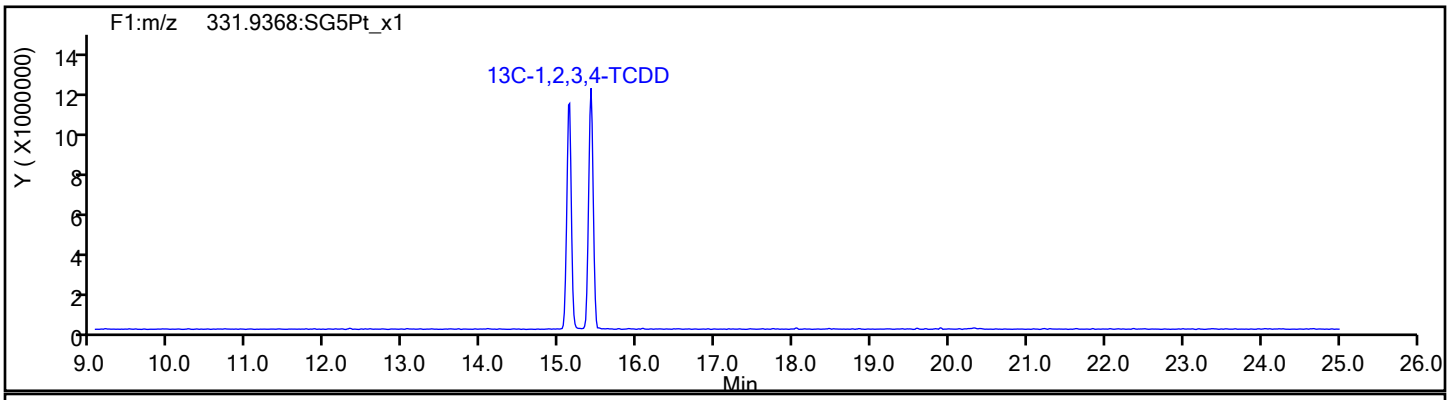

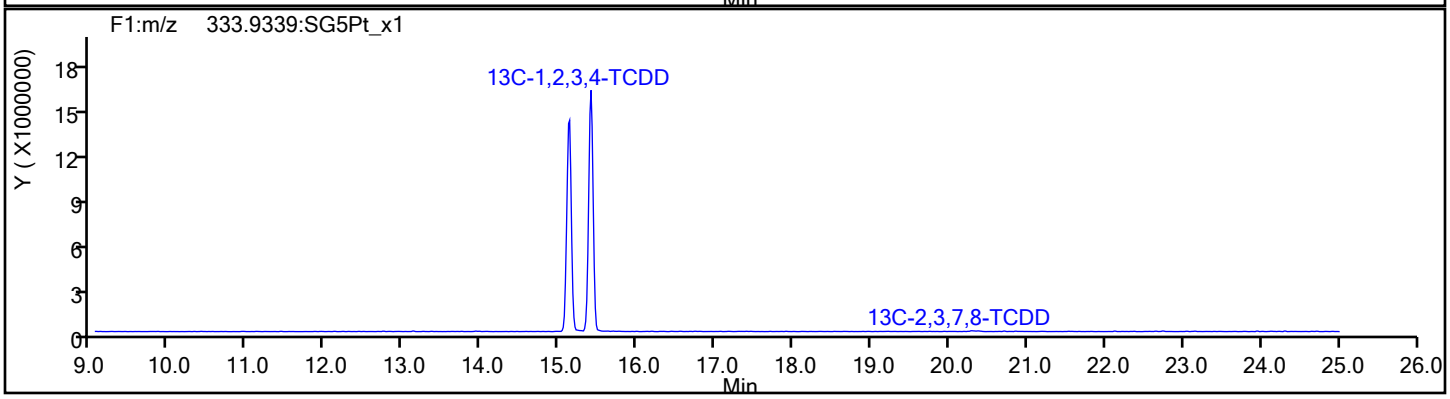

Report Date: 02-Aug-2019 11:52:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d		
Injection Date:	02-Aug-2019 05:25:19	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

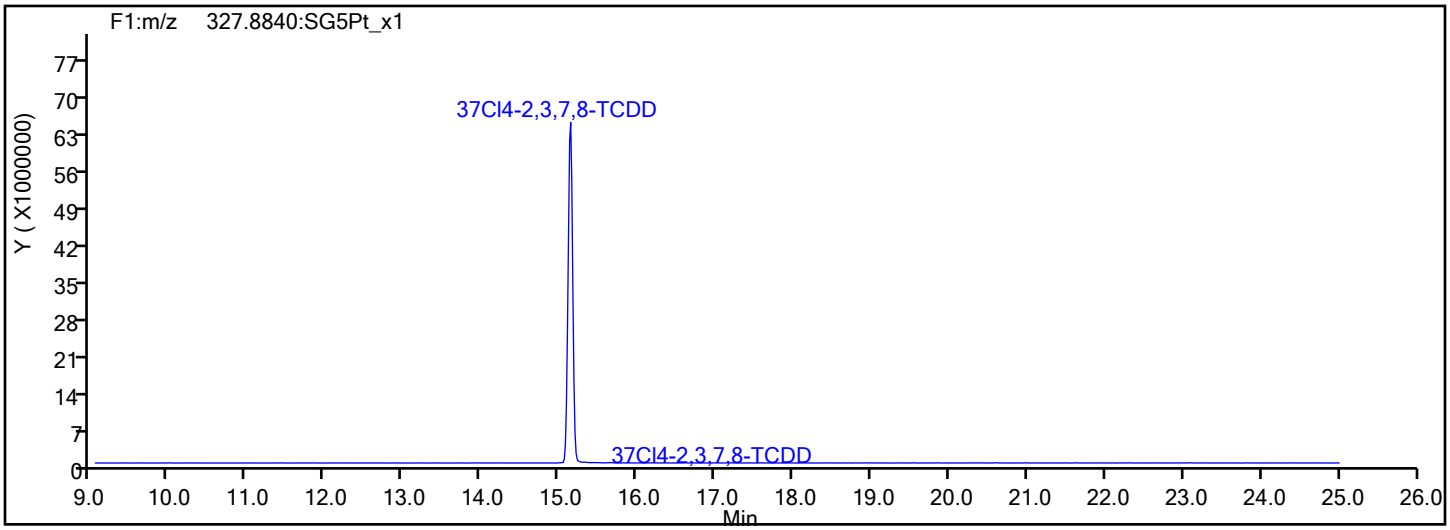

37Cl4-TCDD Standards

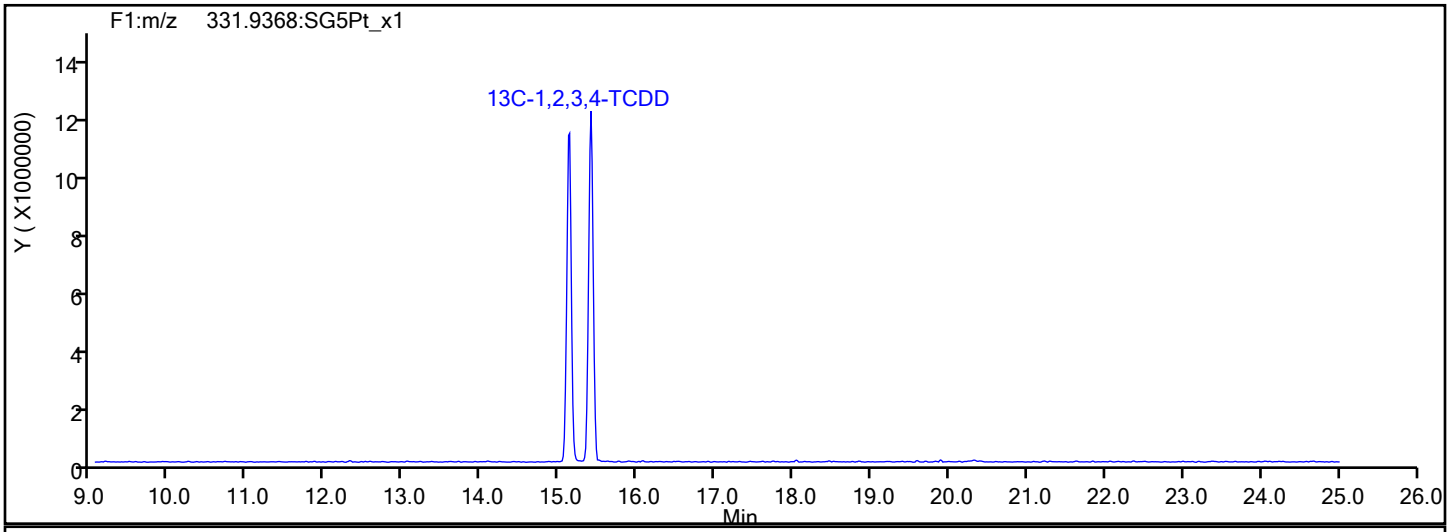

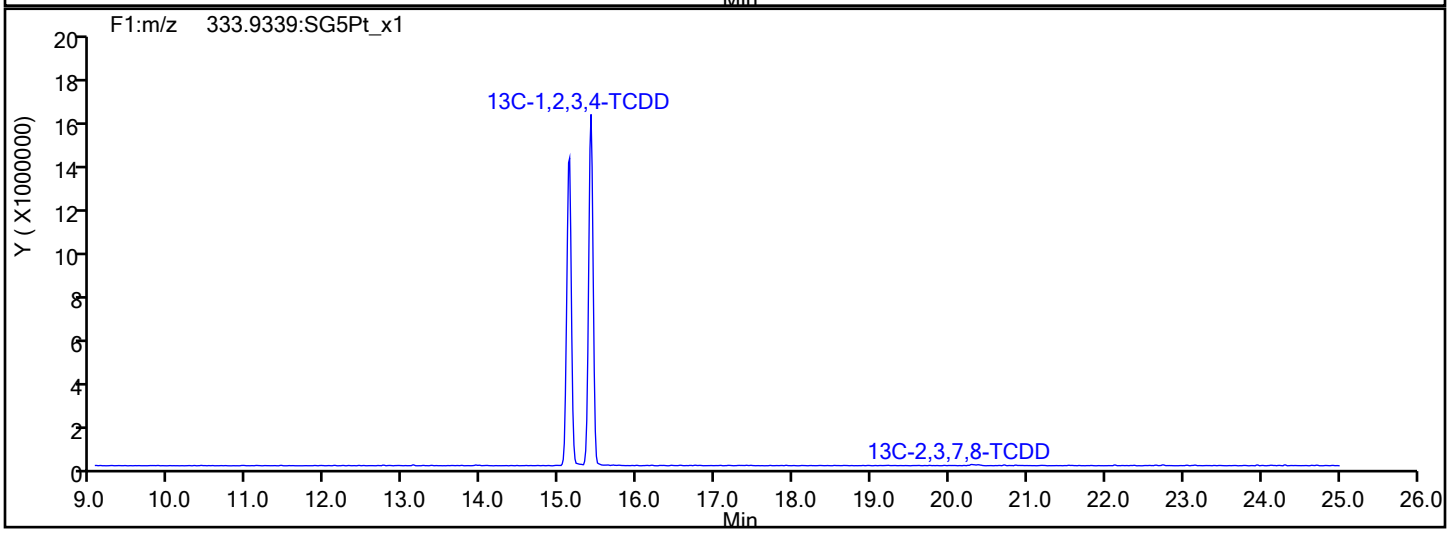

Report Date: 02-Aug-2019 11:52:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d		
Injection Date:	02-Aug-2019 05:25:19	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

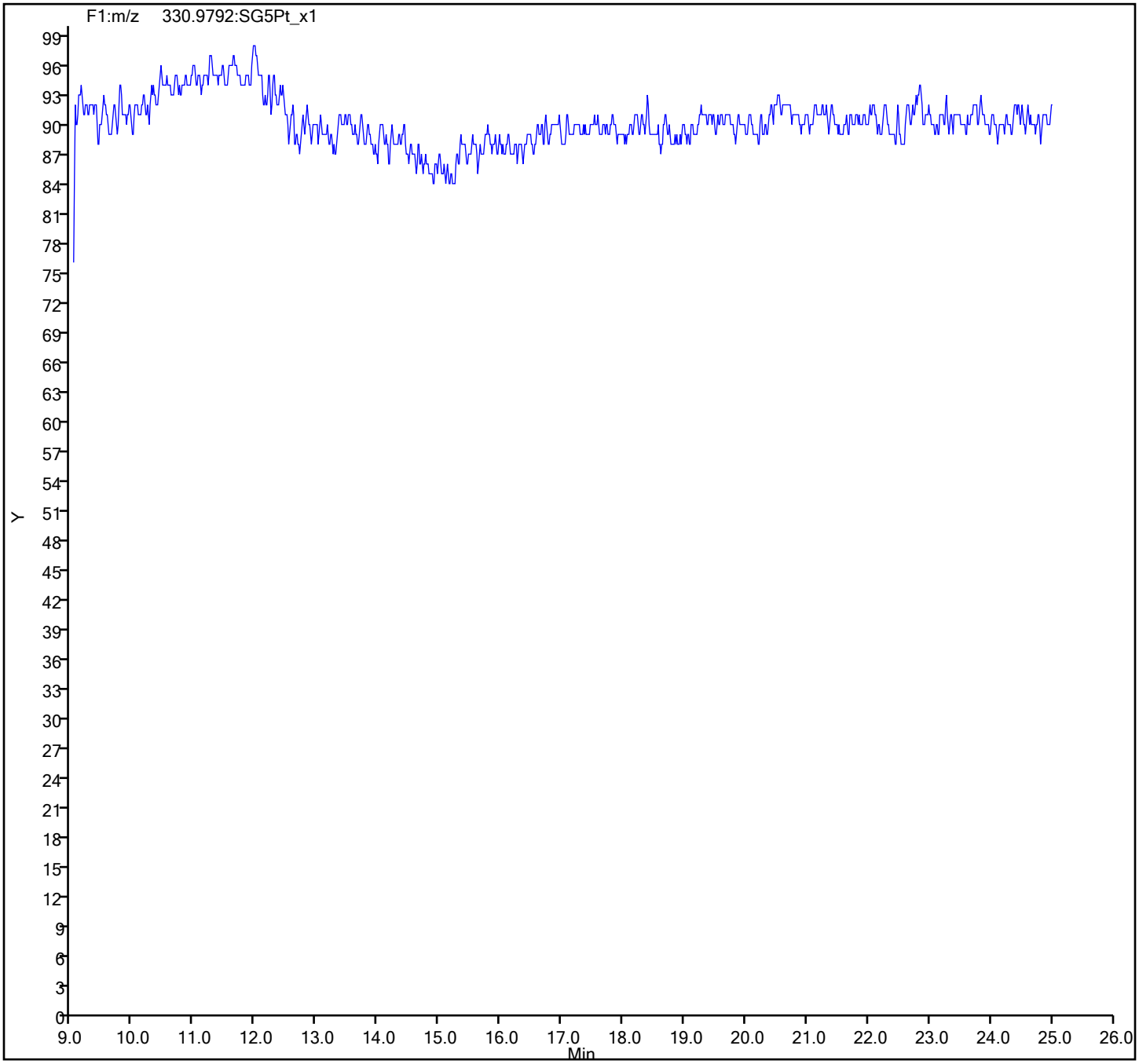

FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Lab Sample ID (1): CPS 320-312067/1 Instrument ID (1): 11D2

GC Column (1): DB-225 ID: 0.32(mm) Date Analyzed (1): 08/02/2019 01:35

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDF	16.64	13

Resolution Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_001.d				
Injection Date:	02-Aug-2019 01:35:28	Instrument ID:	11D2		
Lims ID:	CPS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	2.0 ul	Column:	DB-225 (0.32 mm)		
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL		

2,3,7,8-TCDF

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 944750
H (Peak Height) = 7515097

%R = 13 <= 25
Passed

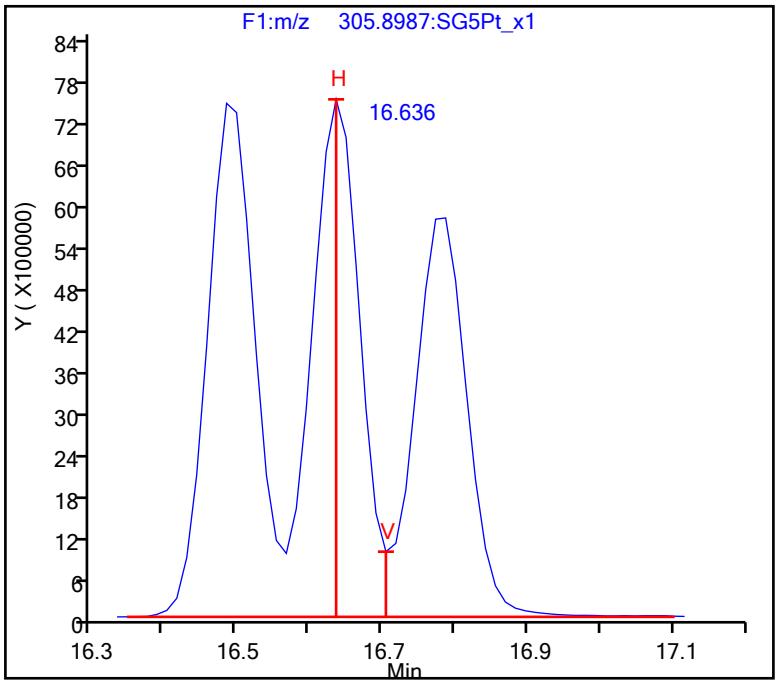

Resolution Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_001.d				
Injection Date:	02-Aug-2019 01:35:28	Instrument ID:	11D2		
Lims ID:	CPS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	2.0 ul	Column:	DB-225 (0.32 mm)		
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL		

FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Lab Sample ID (1): WDM 320-324128/1 Instrument ID (1): 10D5

GC Column (1): DB-5 ID: 0.32(mm) Date Analyzed (1): 09/17/2019 11:28

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDD	17.51	22

Resolution Report

Eurofins TestAmerica, Sacramento

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d
Injection Date: 17-Sep-2019 11:28:41 Instrument ID: 10D5
Lims ID: WDM
Client ID:
Operator ID: AJS ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Column: DB-5 (0.32 mm)
Method: Dioxin_10D5 Limit Group: HR - 1613B - ICAL

2,3,7,8-TCDD

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 1464421
H (Peak Height) = 6639771

%R = 22 <= 25
Passed

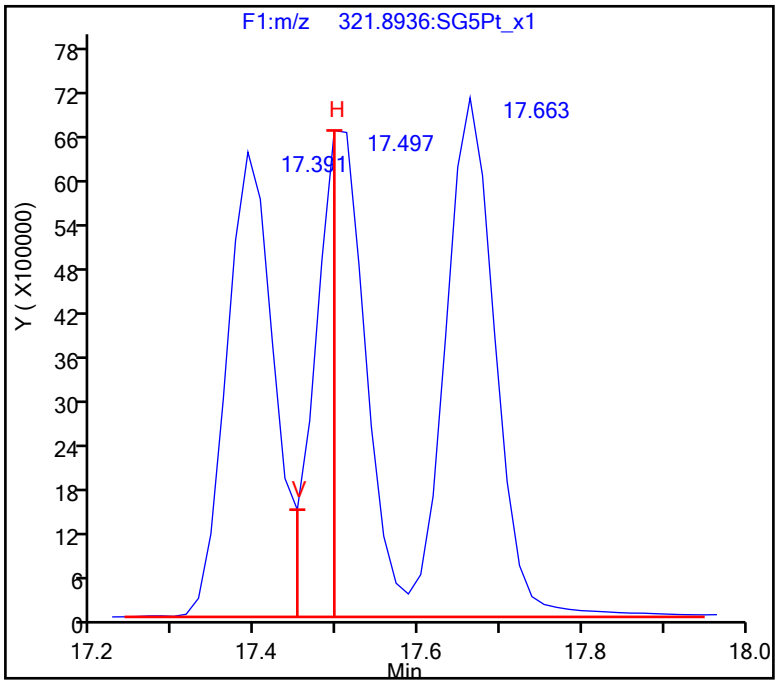

FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Lab Sample ID (1): WDM 320-330145/1 Instrument ID (1): 10D5

GC Column (1): DB-5 ID: 0.32(mm) Date Analyzed (1): 10/10/2019 16:02

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDD	18.18	17

Resolution Report

Eurofins TestAmerica, Sacramento

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_1.d
Injection Date: 10-Oct-2019 16:02:04 Instrument ID: 10D5
Lims ID: WDM
Client ID:
Operator ID: ALM ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Column: DB-5 (0.32 mm)
Method: Dioxin_10D5 Limit Group: HR - 1613B - ICAL

2,3,7,8-TCDD

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 737677
H (Peak Height) = 4392066

%R = 17 <= 25
Passed

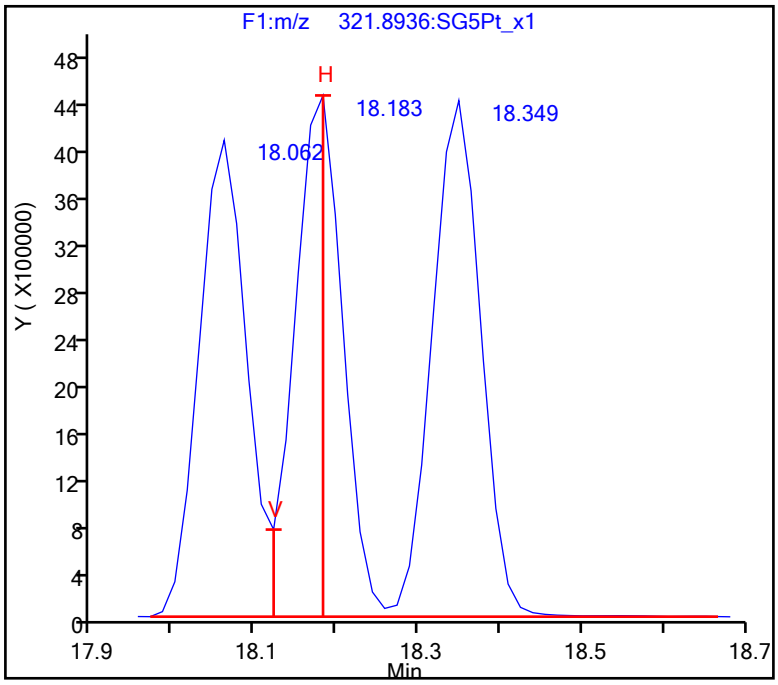

FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Lab Sample ID (1): WDM 320-330148/15 Instrument ID (1): 10D5

GC Column (1): DB-5 ID: 0.32(mm) Date Analyzed (1): 10/11/2019 03:05

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDD	18.17	19

Resolution Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_15.d				
Injection Date:	11-Oct-2019 03:05:54	Instrument ID:	10D5		
Lims ID:	WDM				
Client ID:					
Operator ID:	SMA	ALS Bottle#:	1	Worklist Smp#:	15
Injection Vol:	2.0 ul	Column:	DB-5 (0.32 mm)		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		

2,3,7,8-TCDD

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 777512
H (Peak Height) = 4200312

%R = 19 <= 25
Passed

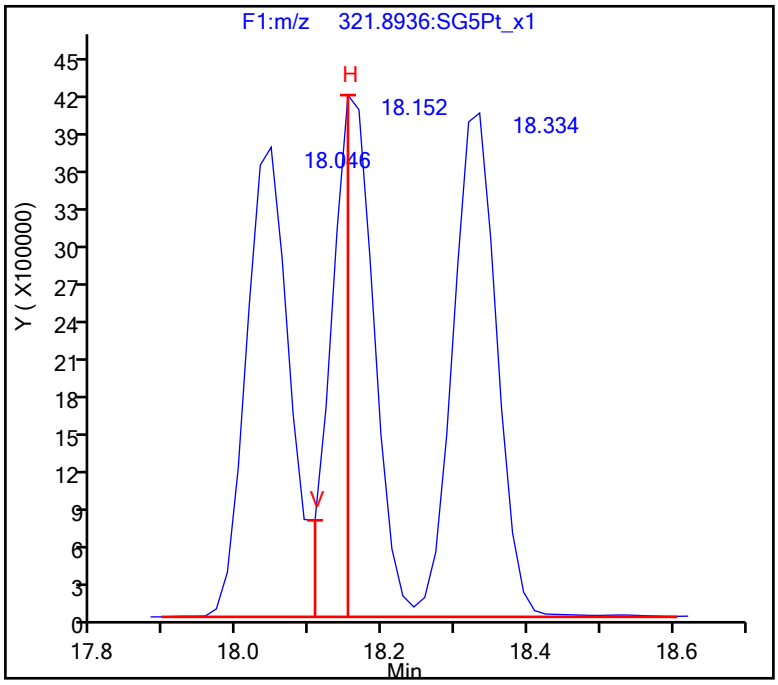

FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Lab Sample ID (1): CPS 320-330473/1 Instrument ID (1): 11D2

GC Column (1): DB-225 ID: 0.32(mm) Date Analyzed (1): 10/11/2019 15:27

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDF	16.46	25

Resolution Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191011-84792.b\11OC19A11D2_001.d				
Injection Date:	11-Oct-2019 15:27:22	Instrument ID:	11D2		
Lims ID:	CPS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	2.0 ul	Column:	DB-225 (0.32 mm)		
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL		

2,3,7,8-TCDF

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 1272012
H (Peak Height) = 5115031

%R = 25 <= 25
Passed

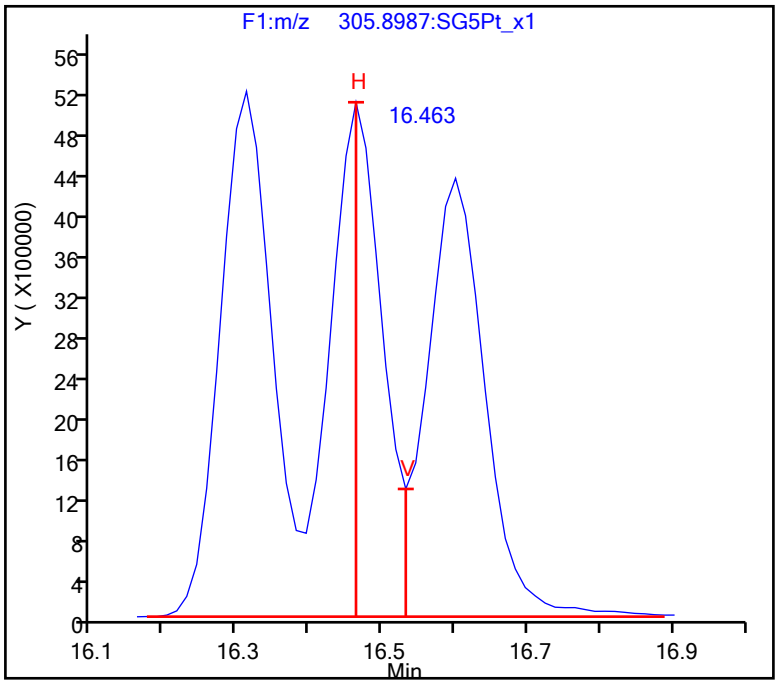

Resolution Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191011-84792.b\11OC19A11D2_001.d				
Injection Date:	11-Oct-2019 15:27:22	Instrument ID:	11D2		
Lims ID:	CPS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	2.0 ul	Column:	DB-225 (0.32 mm)		
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL		

FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Lab Sample ID: ICV 320-324128/10 Calibration Date: 09/17/2019 18:27

Instrument ID: 10D5 Calib Start Date: 09/17/2019 13:03

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 09/17/2019 16:55

Lab File ID: 17SE1910D5_10.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
2,3,7,8-TCDF	AveID	1.051	1.063		40.5	40.0	101	70-130
2,3,7,8-TCDD	AveID	1.106	1.174		42.4	40.0	106	70-130
1,2,3,7,8-PeCDF	AveID	1.082	1.106		204	200	102	70-130
2,3,4,7,8-PeCDF	AveID	1.103	1.244		225	200	113	70-130
1,2,3,7,8-PeCDD	AveID	0.9050	0.8964		198	200	99	70-130
1,2,3,4,7,8-HxCDF	AveID	1.197	1.255		210	200	105	70-130
1,2,3,6,7,8-HxCDF	AveID	1.181	1.257		213	200	106	70-130
2,3,4,6,7,8-HxCDF	AveID	1.212	1.320		218	200	109	70-130
1,2,3,4,7,8-HxCDD	AveID	1.109	1.145		207	200	103	70-130
1,2,3,6,7,8-HxCDD	AveID	1.081	1.184		219	200	110	70-130
1,2,3,7,8,9-HxCDD	AveID	1.212	1.218		201	200	100	70-130
1,2,3,7,8,9-HxCDF	AveID	1.245	1.236		199	200	99	70-130
1,2,3,4,6,7,8-HpCDF	AveID	1.556	1.657		213	200	107	70-130
1,2,3,4,6,7,8-HpCDD	AveID	0.9316	0.998		214	200	107	70-130
1,2,3,4,7,8,9-HpCDF	AveID	1.386	1.411		204	200	102	70-130
OCDD	AveID	1.062	1.127		424	400	106	70-130
OCDF	AveID	1.260	1.349		428	400	107	70-130
13C-2,3,7,8-TCDF	Ave	1.438	1.425		99.1	100	99	71-140
13C-2,3,7,8-TCDD	Ave	0.9533	0.9336		97.9	100	98	82-121
13C-1,2,3,7,8-PeCDF	Ave	1.029	0.9861		95.9	100	96	76-130
13C-2,3,4,7,8-PeCDF	Ave	0.9827	0.9562		97.3	100	97	77-130
13C-1,2,3,7,8-PeCDD	Ave	0.7481	0.7047		94.2	100	94	62-160
13C-1,2,3,4,7,8-HxCDF	Ave	1.152	1.159		101	100	101	76-131
13C-1,2,3,6,7,8-HxCDF	Ave	1.243	1.240		99.7	100	100	70-143
13C-2,3,4,6,7,8-HxCDF	Ave	1.172	1.154		98.5	100	98	73-137
13C-1,2,3,4,7,8-HxCDD	Ave	0.7812	0.7992		102	100	102	85-117
13C-1,2,3,6,7,8-HxCDD	Ave	0.9175	0.9192		100	100	100	85-118
13C-1,2,3,7,8,9-HxCDF	Ave	1.065	1.109		104	100	104	74-135
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.8628	0.8505		98.6	100	99	78-129
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.8739	0.8563		98.0	100	98	72-138
13C-1,2,3,4,7,8,9-HpCDF	Ave	0.7991	0.8106		101	100	101	77-129
13C-OCDD	Ave	0.7744	0.7279		188	200	94	48-208
37Cl4-2,3,7,8-TCDD	Ave	1.222	1.294		42.3	40.0	106	79-127

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 17-Sep-2019 18:27:31 ALS Bottle#: 8 Worklist Smp#: 10
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ICV 091719 ICV HRDXNIC_00042
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:45:36 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 18-Sep-2019 10:13:21

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.300	67370901	0.78	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.801	96014490	0.79	1.4384	99.1	99.1	0.1729	0.1729	99.08	
2,3,7,8-TCDF	16.816	40836689	0.78	1.0507	40.5	40.5	0.0773	0.0773	101	
A Non-2,3,7,8-sub-TCDF	16.536	382036	0.65	1.0507	0.3787	0.3787	0.0773	0.3787		
S Total TCDF					40.9	40.9	0.0773	0.0773		
D 13C-2,3,7,8-TCDD	17.481	62894294	0.76	0.9533	97.9	97.9	0.2237	0.2237	97.92	
$ 37Cl4-2,3,7,8-TCDD	17.496	34873369		1.2224	42.3	42.3	0.0461	0.0461	106	
2,3,7,8-TCDD	17.496	29522708	0.80	1.1064	42.4	42.4	0.0612	0.0612	106	
A Non-2,3,7,8-sub-TCDD	16.967	525494	0.73	1.1064	0.7552	0.7552	0.0612	0.7552		
S Total TCDD					43.2	43.2	0.0612	0.0612		
D 13C-1,2,3,7,8-PeCDF	21.631	66432578	1.62	1.0286	95.9	95.9	0.2311	0.2311	95.86	
1,2,3,7,8-PeCDF	21.659	146883848	1.58	1.0822	204.3	204.3	0.8368	0.8368	102	
D 13C-2,3,4,7,8-PeCDF	22.927	64416378	1.60	0.9827	97.3	97.3	0.2419	0.2419	97.30	
2,3,4,7,8-PeCDF	22.954	160234857	1.58	1.1032	225.5	225.5	0.8770	0.8770	113	
A F1 PeCDFs	19.213						0.0389	0.0389		
A Non-2,3,7,8-sub-PeCDF	22.240	3672840	1.54	1.0927	5.137	5.137	0.8562	5.137		
S Total PeCDF					434.9	434.9	0.8569	0.8569		
D 13C-1,2,3,7,8-PeCDD	23.622	47479187	1.52	0.7481	94.2	94.2	0.1489	0.1489	94.21	
1,2,3,7,8-PeCDD	23.649	85119562	1.59	0.9050	198.1	198.1	0.2925	0.2925	99.04	
A Non-2,3,7,8-sub-PeCDD	22.586						0.2925	0.2925		
S Total PeCDD					198.1	198.1	0.2925	0.2925		
D 13C-1,2,3,4,7,8-HxCDF	29.749	49457191	0.51	1.1520	100.6	100.6	0.4713	0.4713	101	
1,2,3,4,7,8-HxCDF	29.789	124121058	1.25	1.1973	209.6	209.6	1.675	1.675	105	
D 13C-1,2,3,6,7,8-HxCDF	30.015	52922376	0.52	1.2434	99.7	99.7	0.4366	0.4366	99.75	
1,2,3,6,7,8-HxCDF	30.042	133083395	1.26	1.1807	213.0	213.0	1.419	1.419	106	
D 13C-2,3,4,6,7,8-HxCDF	31.040	49241959	0.52	1.1720	98.5	98.5	0.4633	0.4633	98.47	
2,3,4,6,7,8-HxCDF	31.053	129960147	1.26	1.2116	217.8	217.8	0.991	0.991	109	
D 13C-1,2,3,7,8,9-HxCDF	31.945	47302373	0.52	1.0655	104.0	104.0	0.5096	0.5096	104	
1,2,3,7,8,9-HxCDF	31.958	116914998	1.26	1.2451	198.5	198.5	0.9326	0.9326	99.25	

Report Date: 18-Sep-2019 10:45:43 Chrom Revision: 2.3 16-Sep-2019 16:29:24
Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
A Non-2,3,7,8-sub-HxCDF	29.523						1.186	1.186		
S Total HxCDF					838.9	838.9	1.254	1.254		
* 13C-1,2,3,7,8,9-HxCDD	31.746	42668857	1.30	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.253	34098921	1.27	0.7812	102.3	102.3	0.4071	0.4071	102	
1,2,3,4,7,8-HxCDD	31.280	78082823	1.25	1.1088	206.5	206.5	0.6584	0.6584	103	
D 13C-1,2,3,6,7,8-HxCDD	31.386	39221134	1.28	0.9175	100.2	100.2	0.3466	0.3466	100	
1,2,3,6,7,8-HxCDD	31.399	92914323	1.26	1.0814	219.1	219.1	0.6428	0.6428	110	
1,2,3,7,8,9-HxCDD	31.759	89269632	1.25	1.2123	200.9	200.9	0.5874	0.5874	100	
A Non-2,3,7,8-sub-HxCDD	30.122						0.6279	0.6279		
S Total HxCDD					626.4	626.4	0.6295	0.6295		
D 13C-1,2,3,4,6,7,8-HpCDF	33.447	36291011	0.44	0.8628	98.6	98.6	1.994	1.994	98.58	
1,2,3,4,6,7,8-HpCDF	33.459	120291721	1.05	1.5555	213.1	213.1	3.639	3.639	107	
D 13C-1,2,3,4,7,8,9-HpCDF	34.492	34587656	0.46	0.7991	101.4	101.4	2.153	2.153	101	
1,2,3,4,7,8,9-HpCDF	34.505	97615037	1.05	1.3862	203.6	203.6	4.551	4.551	102	
A Non-2,3,7,8-sub-HpCDF	33.994						4.057	4.057		
S Total HpCDF					416.7	416.7	4.095	4.095		
D 13C-1,2,3,4,6,7,8-HpCDD	34.225	36539034	1.04	0.8739	98.0	98.0	1.031	1.031	97.99	
1,2,3,4,6,7,8-HpCDD	34.237	72937959	1.06	0.9316	214.3	214.3	1.992	1.992	107	
A Non-2,3,7,8-sub-HpCDD	34.747						1.992	1.992		
S Total HpCDD					214.3	214.3	1.992	1.992		
D 13C-OCDD	36.481	62112704	0.88	0.7744	188.0	188.0	0.2936	0.2936	93.99	
OCDF	36.577	167539399	0.89	1.2596	428.3	428.3	0.3535	0.3535	107	
OCDD	36.493	139967536	0.89	1.0621	424.3	424.3	0.7084	0.7084	106	

Reagents:

HRDXNIC_00042 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 17-Sep-2019 18:27:31 ALS Bottle#: 8 Worklist Smp#: 10
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ICV 091719 ICV HRDXNIC_00042
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:45:36 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 18-Sep-2019 10:13:21

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.300	17.303	0		29455042	7639810	8241	20602	927		
333.9339	17.300	17.303	0		37915859	9845728	6678	16695	1474	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.801	16.810	-1	0.971	42465138	11244673	10966	27415	1025		
317.9389	16.801	16.810	-1	0.971	53549352	14070507	6431	16077	2188	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.816	16.825	-1	1.001	17881787	4687286	3306	8265	1418		
305.8987	16.816	16.825	-1	1.001	22954902	6067198	4917	12292	1234	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.181	16.536	-21	0.963	150479	42137	3306	8265	13		
305.8987	16.181	16.536	-21	0.963	231557	66065	4917	12292	13	0.65(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.481	17.490	-1	1.010	27226687	6700376	8241	20602	813		
333.9339	17.481	17.490	-1	1.010	35667607	8761174	6678	16695	1312	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.496	17.505	-1	1.011	34873369	8455974	3941	9852	2146		
2,3,7,8-TCDD											
319.8965	17.496	17.505	-1	1.001	13120222	3217297	2237	5592	1438		
321.8936	17.496	17.505	-1	1.001	16402486	4023041	1952	4880	2061	0.80(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.390	16.967	25	0.995	222164	64639	2237	5592	29		
321.8936	17.390	16.967	25	0.995	303330	90345	1952	4880	46	0.73(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	21.631	21.637	0	1.250	41083226	7478063	9807	24517	763		
353.8970	21.631	21.637	0	1.250	25349352	4675180	6821	17052	685	1.62(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.659	21.661	0	1.001	89907564	16611935	26800	67000	620		
341.8567	21.659	21.661	0	1.001	56976284	10456656	17226	43065	607	1.58(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	22.927	22.932	0	1.325	39631399	6951299	9807	24517	709		
353.8970	22.927	22.932	0	1.325	24784979	4425218	6821	17052	649	1.60(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.954	22.954	0	1.001	98027709	17129852	26800	67000	639		
341.8567	22.954	22.954	0	1.001	62207148	10879372	17226	43065	632	1.58(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.213						668	1670			
341.8567	19.213						1335	3337			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.163	22.240	-5	1.025	2224818	397069	26800	67000	15		
341.8567	22.163	22.240	-5	1.025	1448022	262924	17226	43065	15	1.54(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.622	23.625	0	1.365	28638297	4704684	4809	12022	978		
369.8919	23.622	23.625	0	1.365	18840890	3127045	2980	7450	1049	1.52(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.649	23.649	0	1.001	52211902	8528858	5129	12822	1663		
357.8516	23.649	23.649	0	1.001	32907660	5353813	3165	7912	1692	1.59(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.586						5129	12822			
357.8516	22.586						3165	7912			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.749	29.754	0	0.937	16783019	2305975	8392	20980	275		
385.8610	29.749	29.754	0	0.937	32674172	4470351	14587	36467	306	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.789	29.789	0	1.001	69045128	9453733	30387	75967	311		
375.8178	29.775	29.789	-1	1.001	55075930	7523990	23973	59932	314	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.015	30.015	0	0.945	18211588	2742205	8392	20980	327		
385.8610	30.015	30.015	0	0.945	34710788	5371147	14587	36467	368	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.042	30.039	0	1.001	74259363	11344582	30387	75967	373		
375.8178	30.042	30.039	0	1.001	58824032	8990409	23973	59932	375	1.26(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.040	31.043	0	0.978	16769047	3887903	8392	20980	463		
385.8610	31.040	31.043	0	0.978	32472912	7433271	14587	36467	510	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.053	31.059	0	1.000	72528944	16377855	30387	75967	539		
375.8178	31.053	31.059	0	1.000	57431203	13006467	23973	59932	543	1.26(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.945	31.942	0	1.006	16145070	4056563	8392	20980	483		
385.8610	31.932	31.942	-1	1.006	31157303	7646982	14587	36467	524	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.958	31.956	0	1.000	65143100	16181388	30387	75967	533		
375.8178	31.945	31.956	-1	1.000	51771898	12593354	23973	59932	525	1.26(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.523						30387	75967			
375.8178	29.523						23973	59932			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.746	31.748	0		24093370	5996349	7373	18432	813		
403.8529	31.746	31.748	0		18575487	4584542	6087	15217	753	1.30(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.253	31.261	0	0.984	19067739	4877709	7373	18432	662		
403.8529	31.253	31.261	0	0.984	15031182	3764902	6087	15217	619	1.27(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.280	31.280	0	1.001	43405983	11110603	13706	34265	811		
391.8127	31.280	31.280	0	1.001	34676840	8762067	11530	28825	760	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.386	31.383	0	0.989	22009497	5092252	7373	18432	691		
403.8529	31.386	31.383	0	0.989	17211637	3983328	6087	15217	654	1.28(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.399	31.402	0	1.000	51803707	12059771	13706	34265	880		
391.8127	31.399	31.402	0	1.000	41110616	9596745	11530	28825	832	1.26(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.759	31.761	0	1.016	49558046	12233722	13706	34265	893		
391.8127	31.759	31.761	0	1.016	39711586	9800201	11530	28825	850	1.25(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.122						13706	34265			
391.8127	30.122						11530	28825			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.447	33.457	-1	1.054	11153017	3493417	22598	56495	155		
419.8220	33.447	33.457	-1	1.054	25137994	7912988	50198	125495	158	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.459	33.469	-1	1.000	61596095	19963137	127078	317695	157		
409.7789	33.459	33.469	-1	1.000	58695626	19415847	131220	328050	148	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.492	34.502	-1	1.087	10832835	3186792	22598	56495	141		
419.8220	34.492	34.502	-1	1.087	23754821	7049867	50198	125495	140	0.46(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.505	34.509	0	1.000	49933667	15052745	127078	317695	118		
409.7789	34.505	34.509	0	1.000	47681370	14419271	131220	328050	110	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.994						127078	317695			
409.7789	33.994						131220	328050			

Report Date: 18-Sep-2019 10:45:43 Chrom Revision: 2.3 16-Sep-2019 16:29:24
Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.225	34.227	0	1.078	18596591	5512324	17647	44117	312		
437.8140	34.225	34.227	0	1.078	17942443	5332324	20497	51242	260	1.04(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.237	34.235	0	1.000	37482197	10854741	40264	100660	270		
425.7737	34.225	34.235	-1	1.000	35455762	10447161	40249	100622	260	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.747						40264	100660			
425.7737	34.747						40249	100622			
13C-OCDD											
469.7779	36.481	36.486	0	1.149	29137548	7503938	4581	11452	1638		
471.7750	36.481	36.486	0	1.149	32975156	8356787	5042	12605	1657	0.88(0.76-1.02)	
OCDF											
441.7428	36.577	36.581	0	1.003	78967974	20796742	6473	16182	3213		
443.7399	36.577	36.581	0	1.003	88571425	23028045	7652	19130	3009	0.89(0.76-1.02)	
OCDD											
457.7377	36.493	36.497	0	1.000	66062365	16751505	9012	22530	1859		
459.7348	36.493	36.497	0	1.000	73905171	18415996	14853	37132	1240	0.89(0.76-1.02)	

Reagents:

HRDXNIC_00042 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d
Lims ID: ICV
Client ID:
Inject. Date: 17-Sep-2019 18:27:31 Dil. Factor: 1.0000
Sample Type: ICV, ICal Verification
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 324128 Lims Sample ID: 10
Sublist: chrom-Dioxin_10D5*sub1

Non-2,3,7,8-sub-TCDF, RT: 16.536

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.051	D 13C-2,3,7,8-TCDF	100.000	96014490	25315180

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.051		100.000	96014490	25315180

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
16.181	150479	42137	231557	66065	0.3787	0.65	
Signal Totals:							
	150479	42137	231557	66065			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	382036	108202				0.65	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.3787 = (382036 * 100.000) / (96014490 * 1.051)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d
Lims ID: ICV
Client ID:
Inject. Date: 17-Sep-2019 18:27:31 Dil. Factor: 1.0000
Sample Type: ICV, ICal Verification
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 324128 Lims Sample ID: 10
Sublist: chrom-Dioxin_10D5*sub1

Non-2,3,7,8-sub-TCDD, RT: 16.967

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.106	D 13C-2,3,7,8-TCDD	100.000	62894294	15461550

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.106		100.000	62894294	15461550

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
17.390	222164	64639	303330	90345	0.7552	0.73	
Signal Totals:							
	222164	64639	303330	90345			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	525494	154984				0.73	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.7552 = (525494 * 100.000) / (62894294 * 1.106)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d
Lims ID: ICV
Client ID:
Inject. Date: 17-Sep-2019 18:27:31 Dil. Factor: 1.0000
Sample Type: ICV, ICal Verification
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 324128 Lims Sample ID: 10
Sublist: chrom-Dioxin_10D5*sub1

Non-2,3,7,8-sub-PeCDF, RT: 22.240

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.082	D 13C-1,2,3,7,8-PeCDF	100.000	66432578	12153243
2,3,4,7,8-PeCDF	1.103	D 13C-2,3,4,7,8-PeCDF	100.000	64416378	11376517

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.093		100.000	65424478	11764880

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
22.163	2224818	397069	1448022	262924	5.14	1.54	
Signal Totals:							
	2224818	397069	1448022	262924			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	3672840	659993				1.54	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 5.137 = (3672840 * 100.000) / (65424478 * 1.093)

Report Date: 18-Sep-2019 10:45:43 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d		
Injection Date:	17-Sep-2019 18:27:31	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

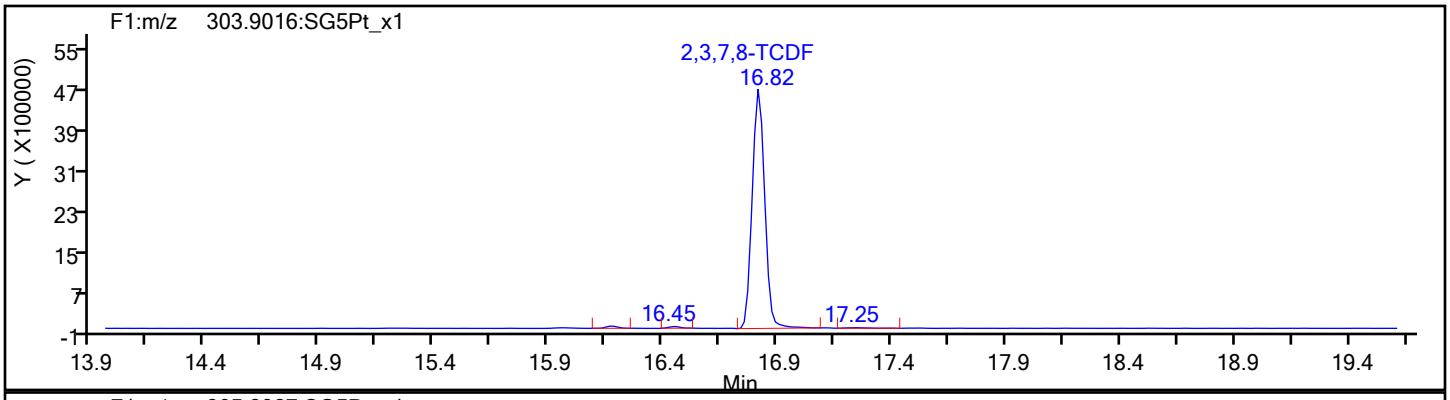

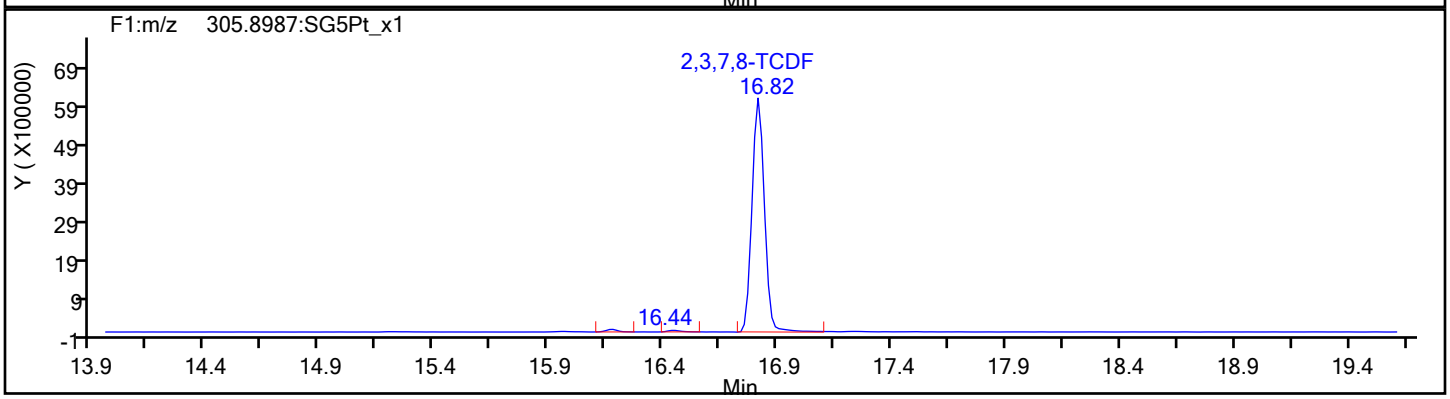

TCDF Standards

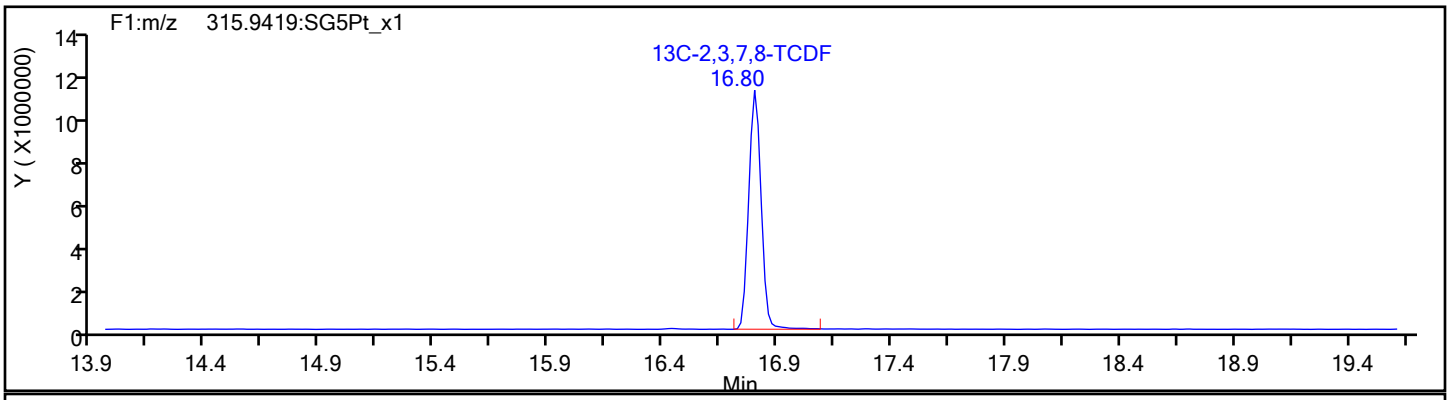

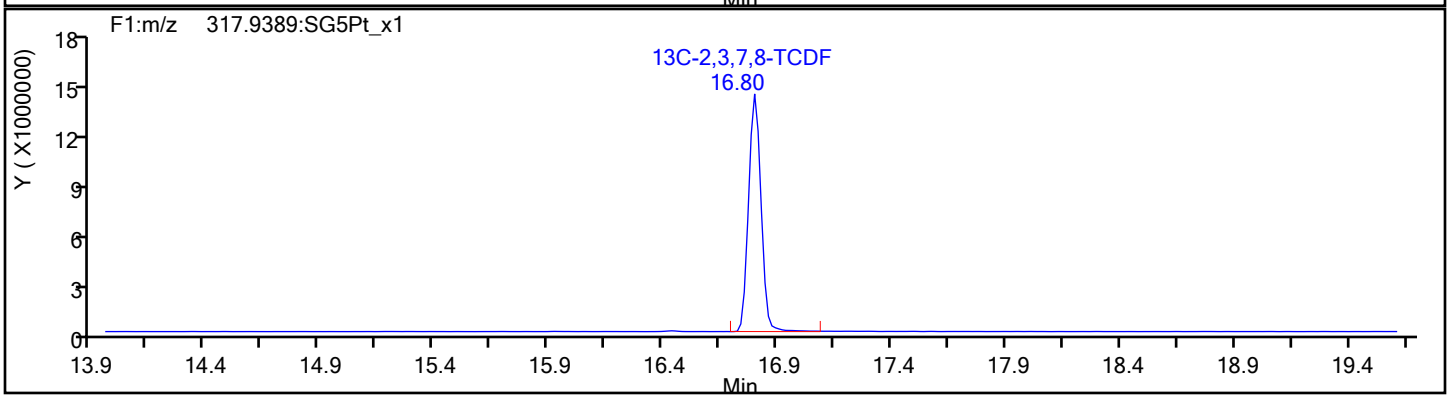

Report Date: 18-Sep-2019 10:45:43 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d		
Injection Date:	17-Sep-2019 18:27:31	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

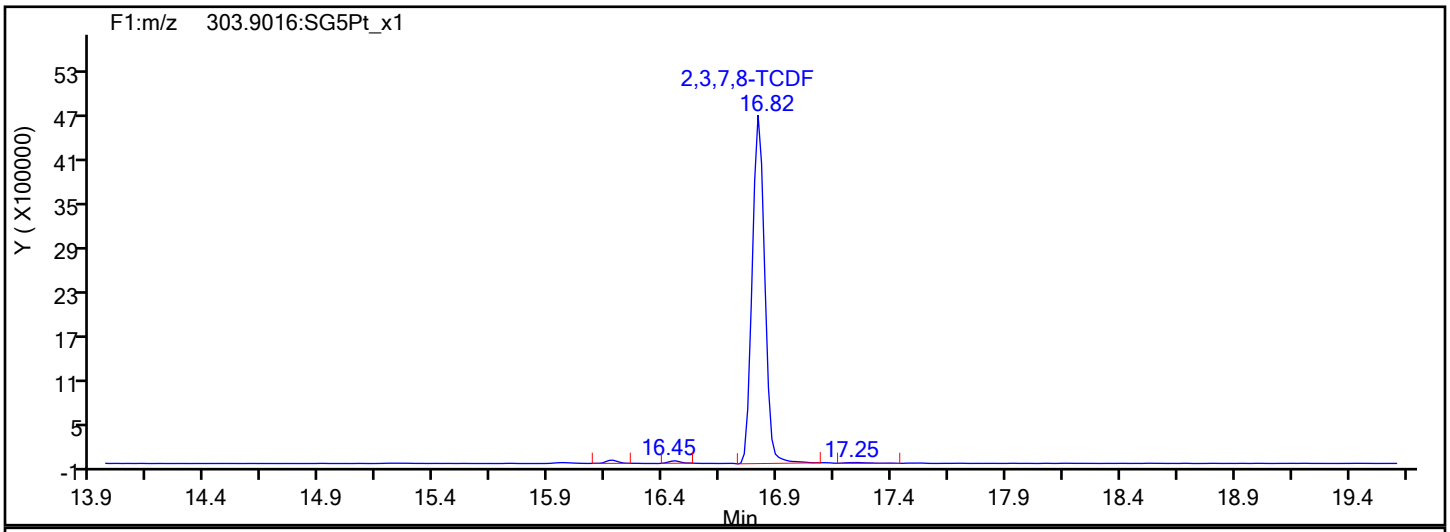

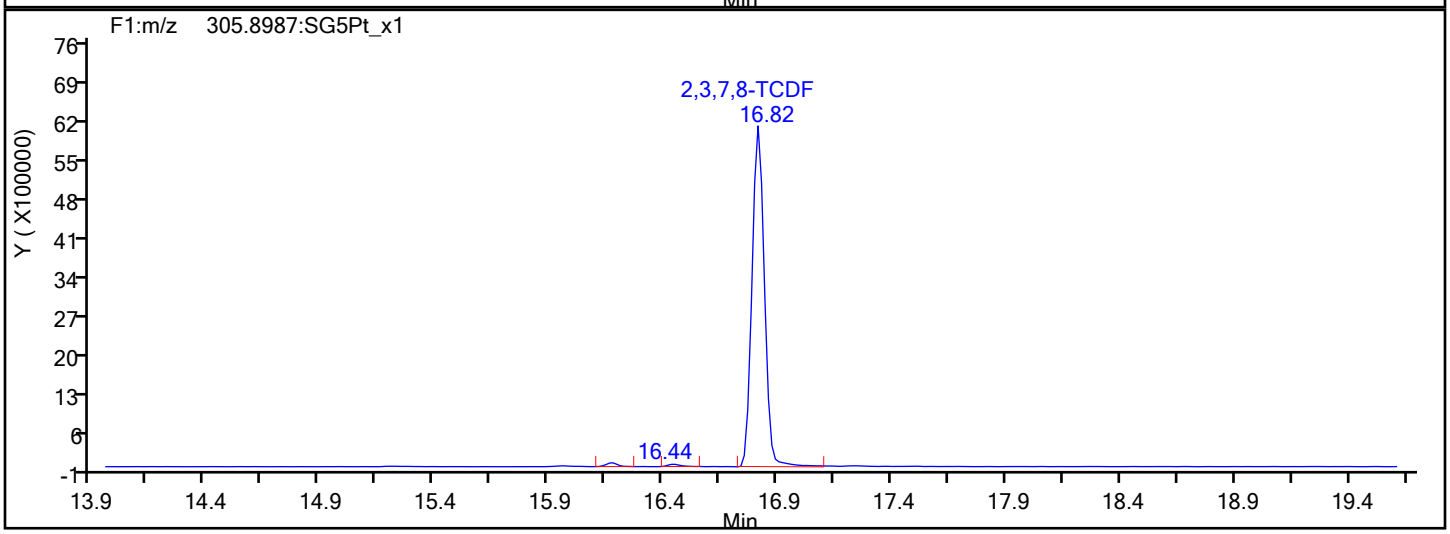

TCDF Interference Mass

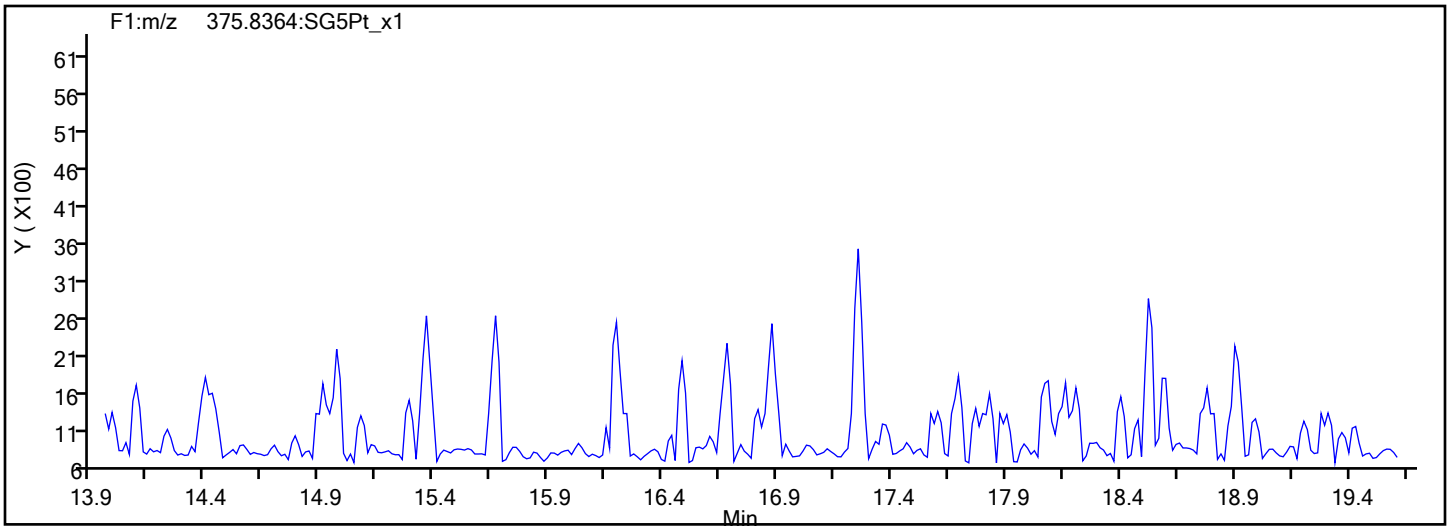

Report Date: 18-Sep-2019 10:45:43 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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TCDD

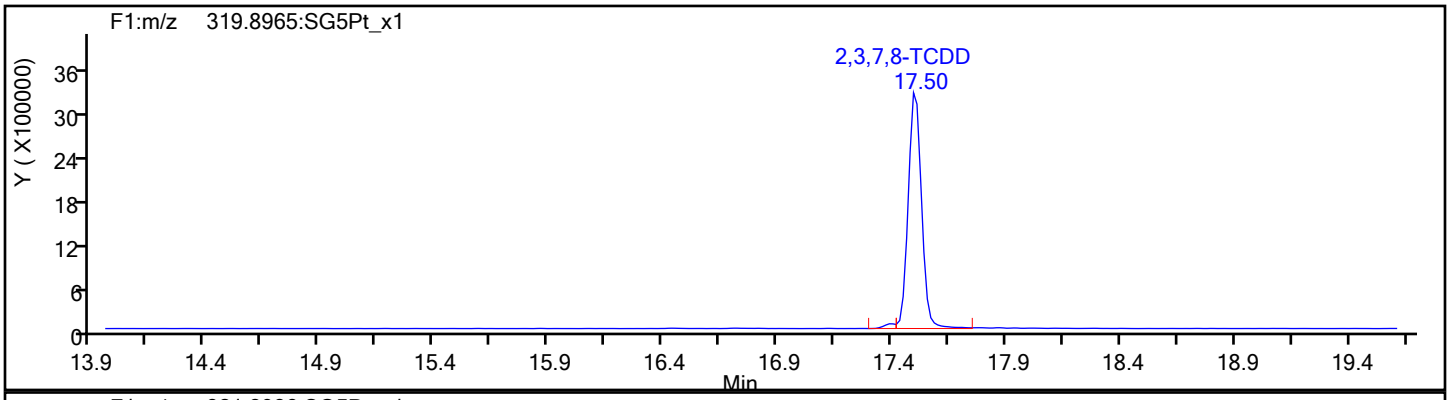

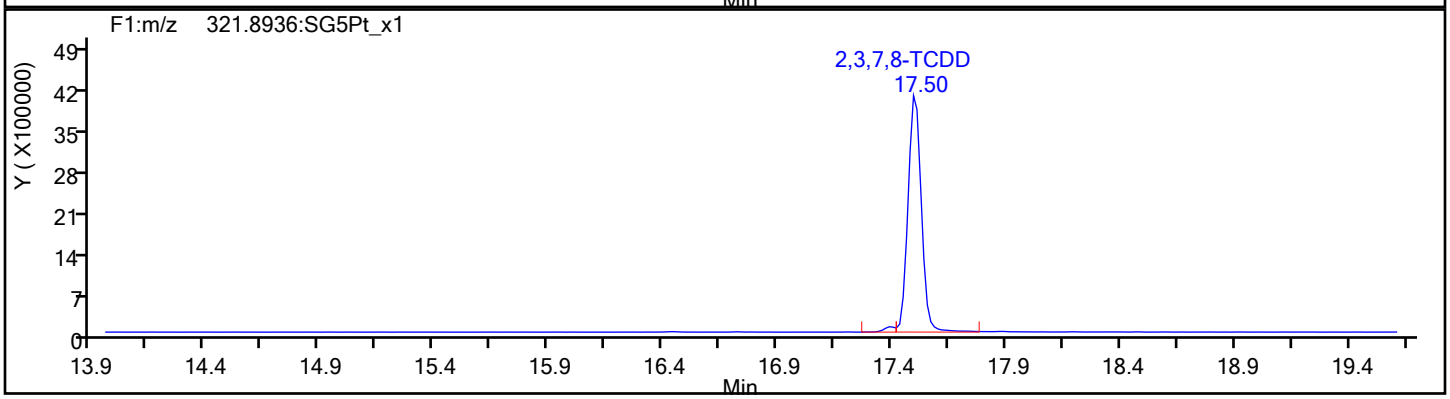

TCDD Standards

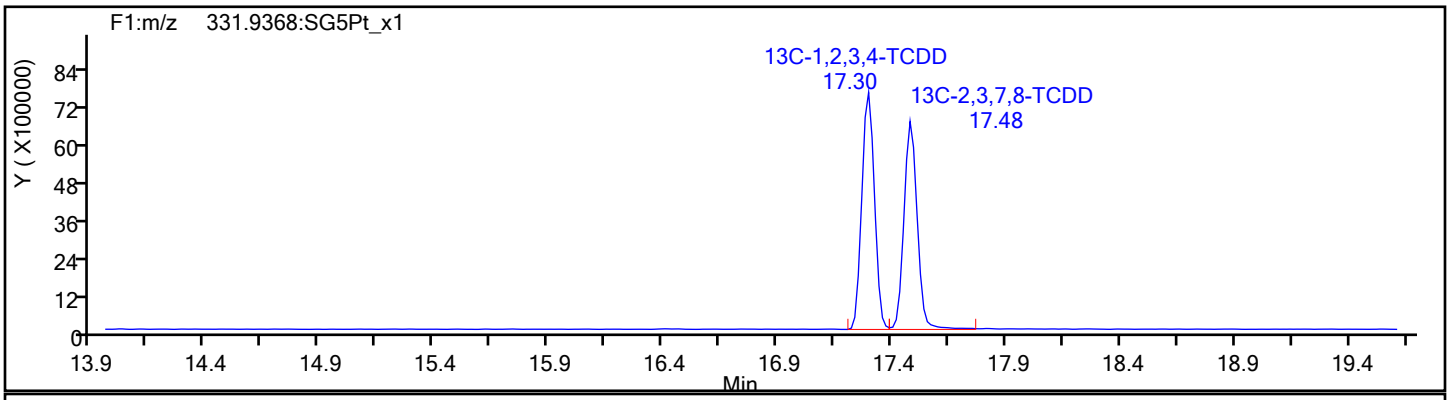

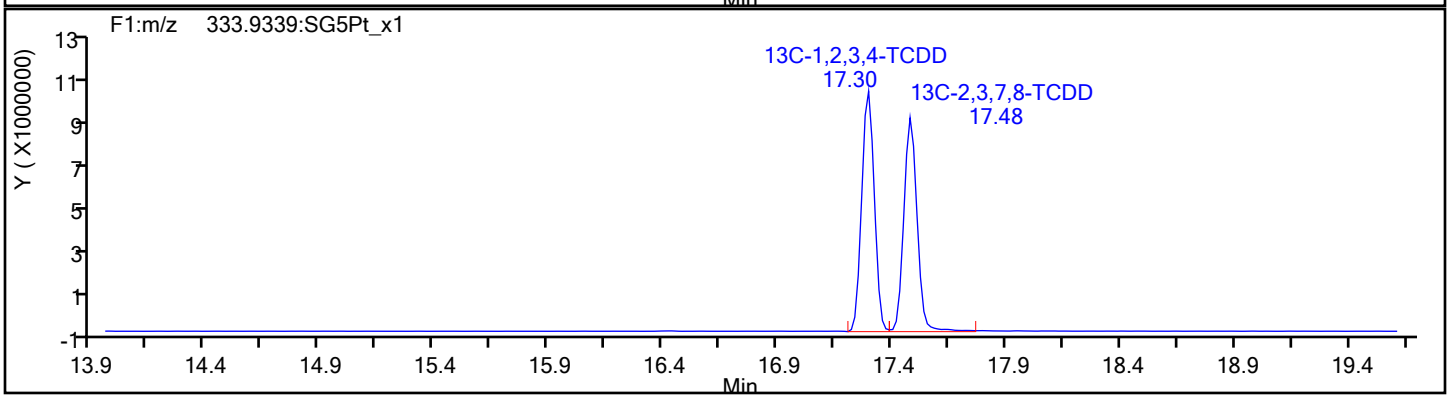

Report Date: 18-Sep-2019 10:45:43 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

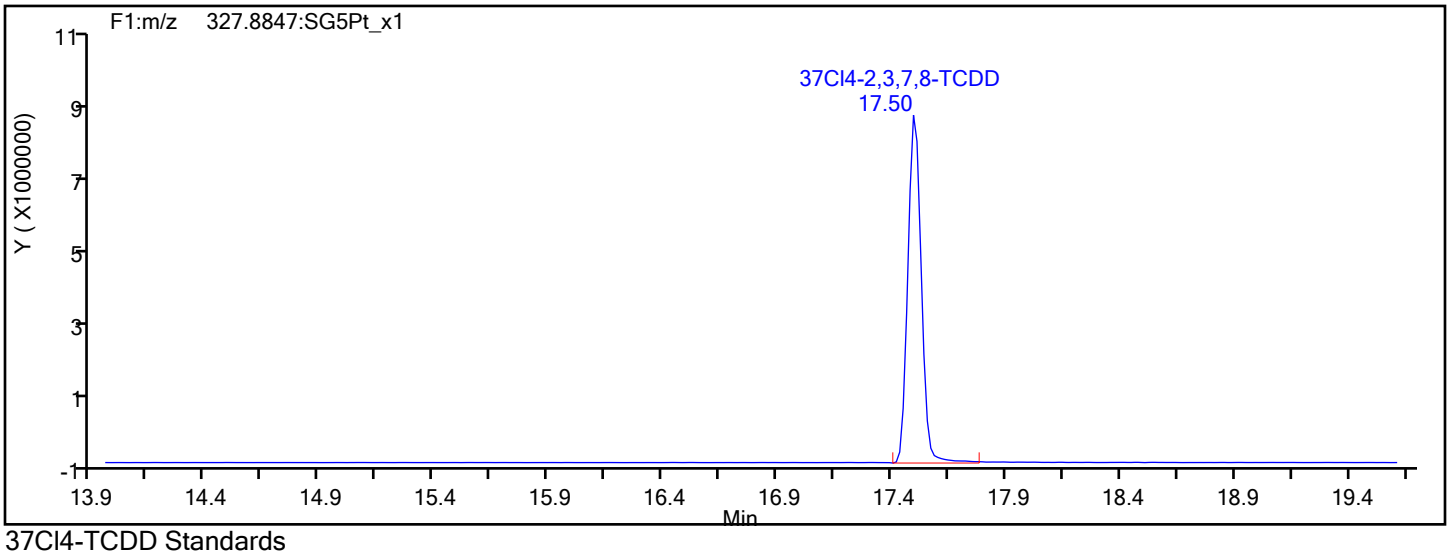

37Cl4-TCDD Standards

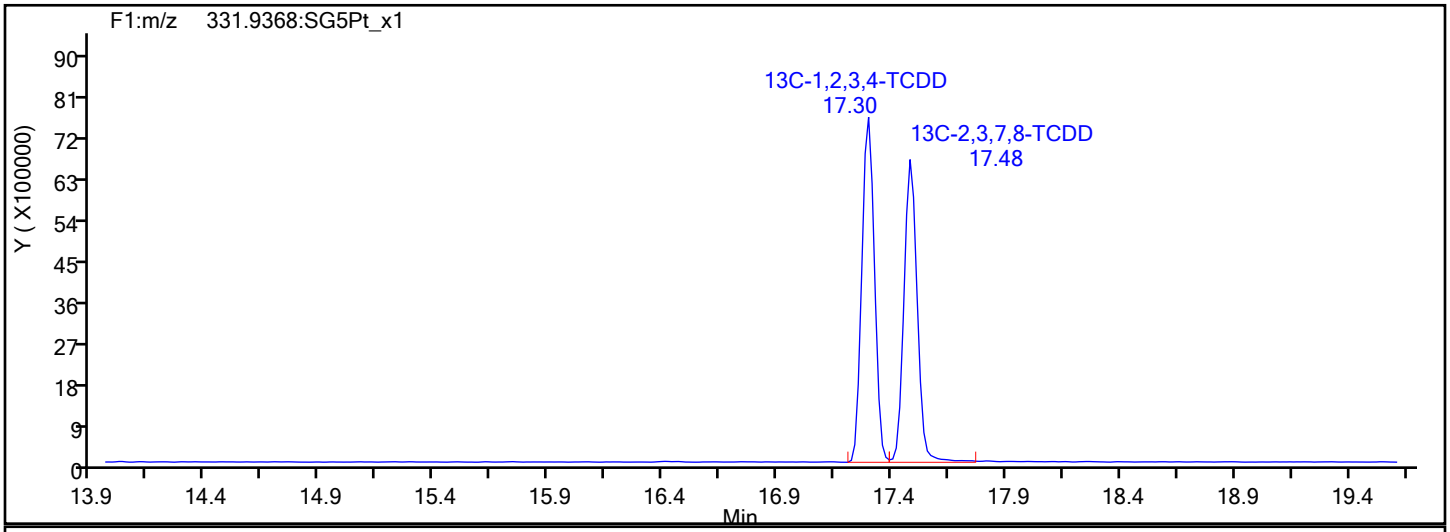

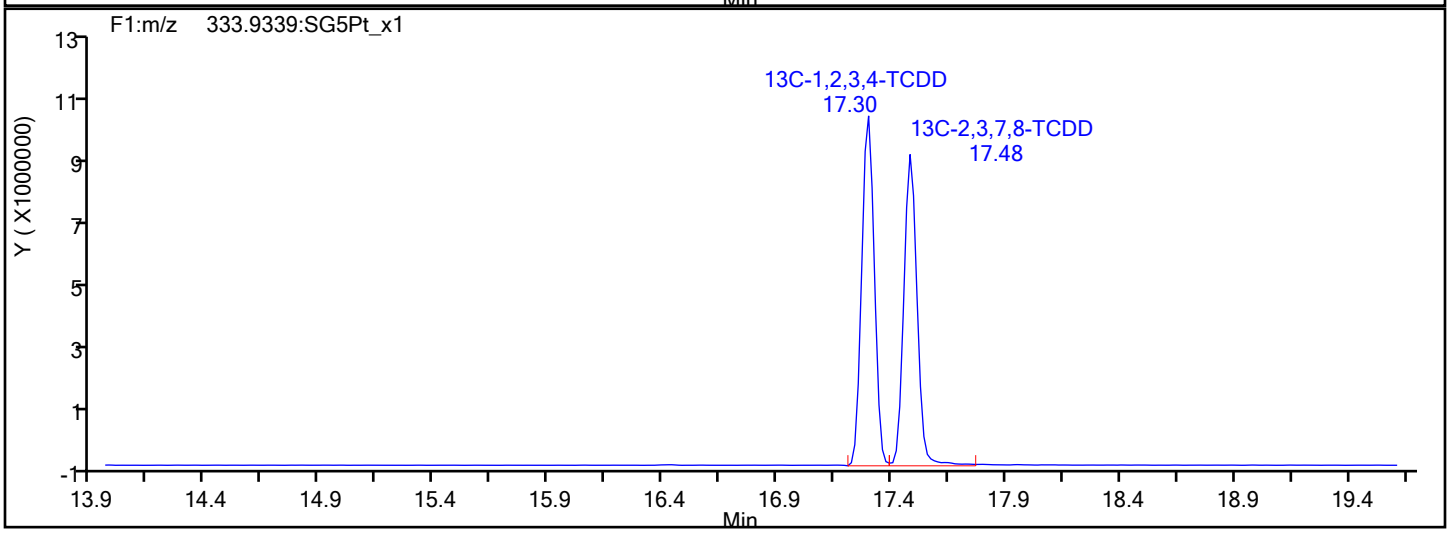

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

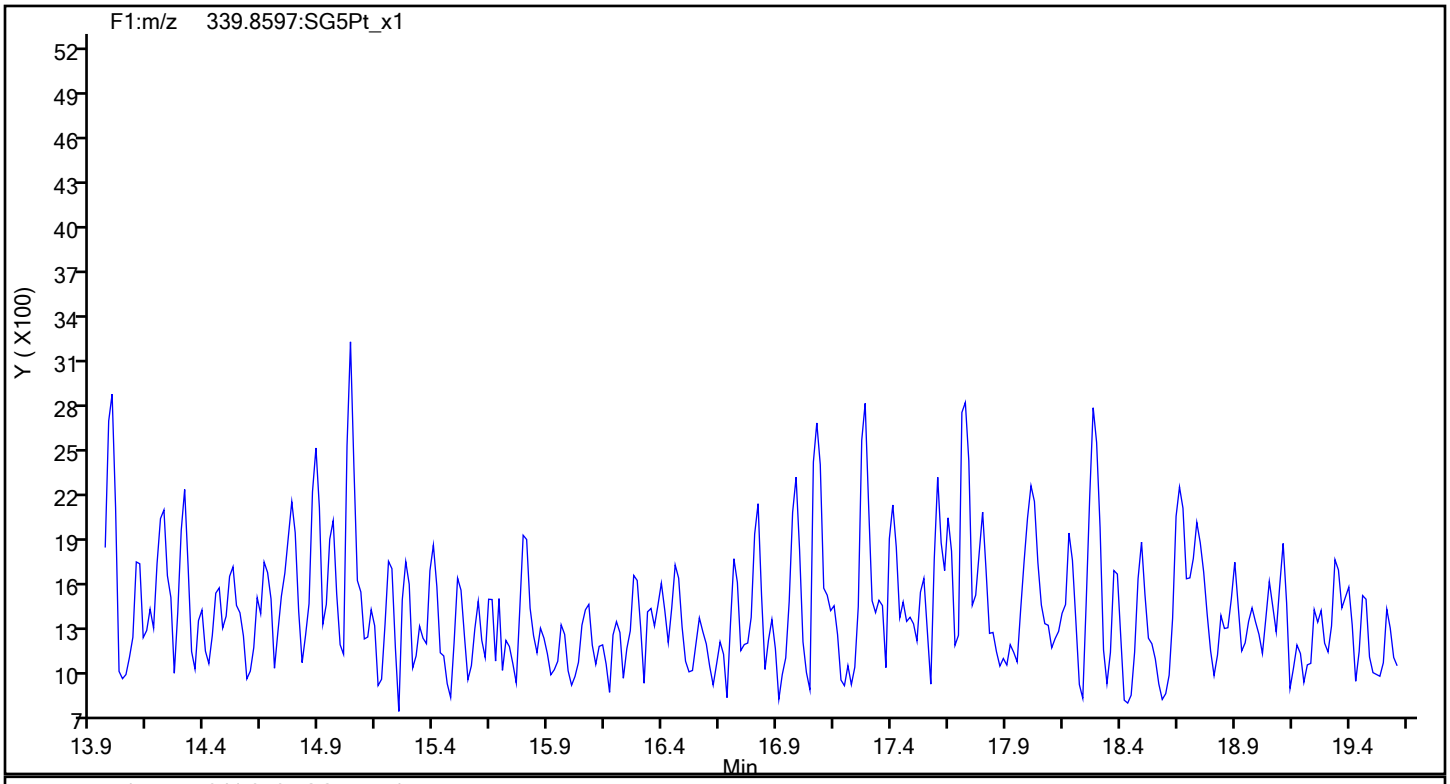

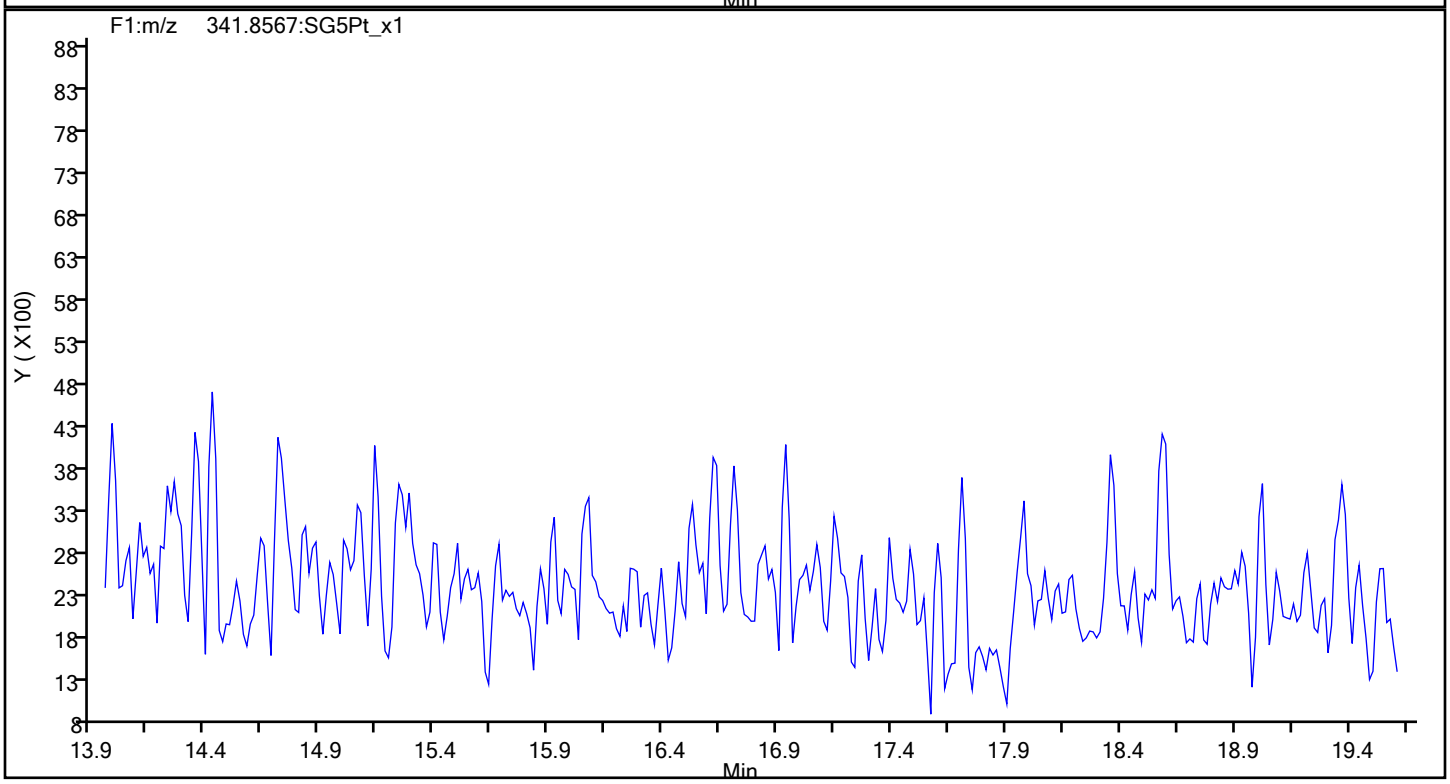

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

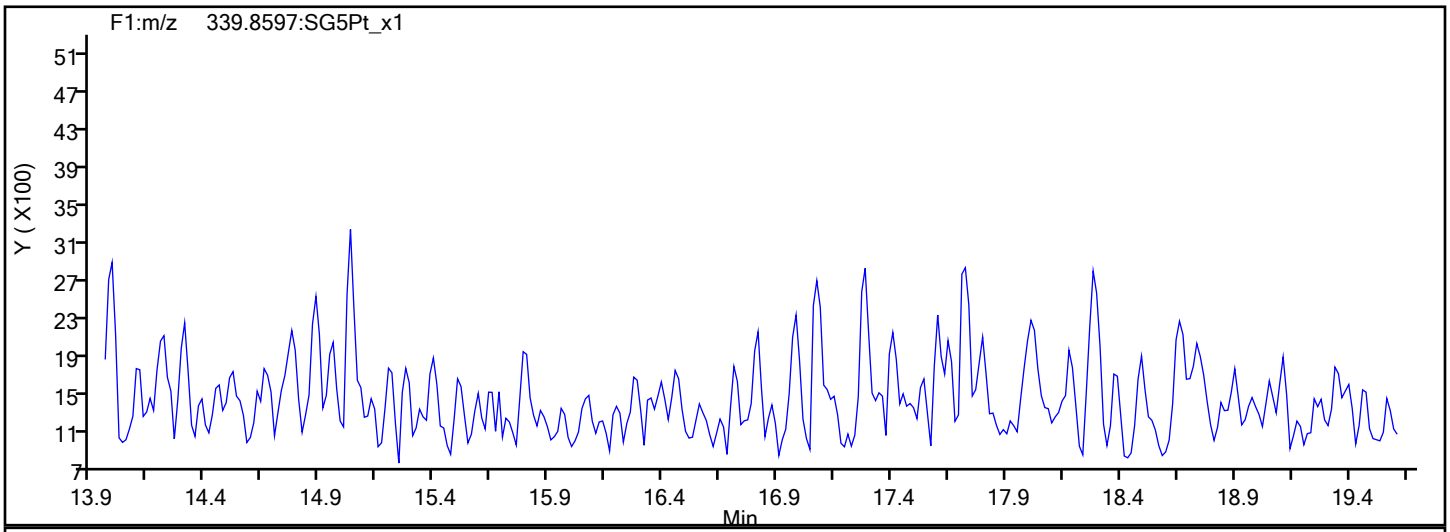

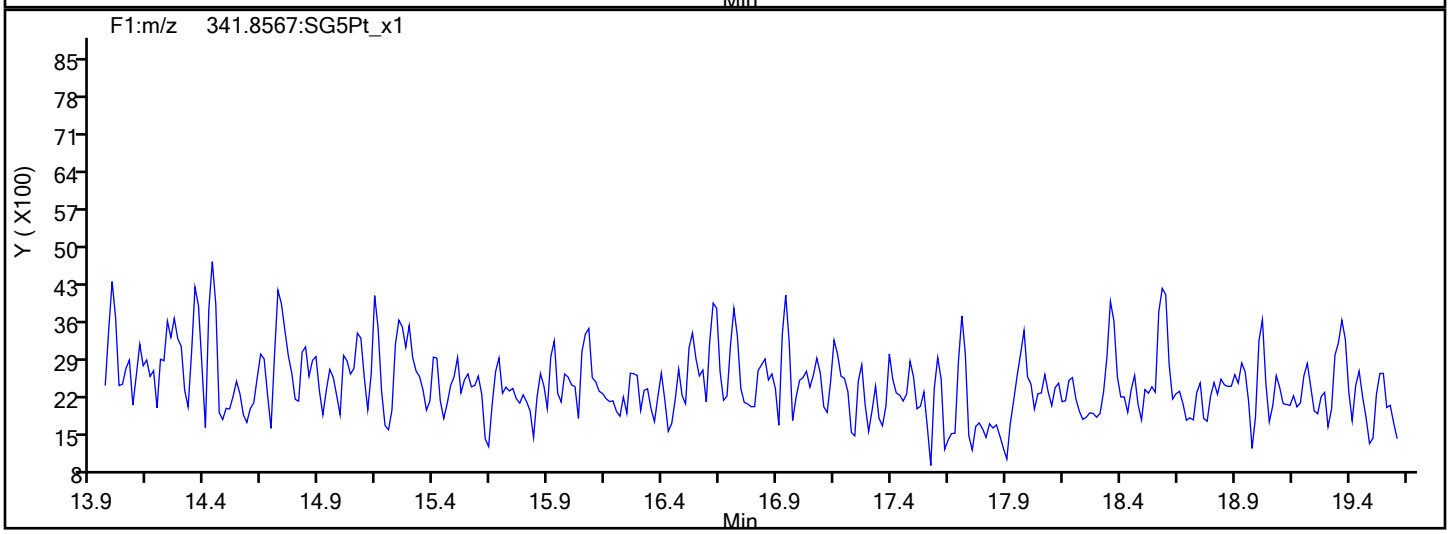

F1 PeCDFs Interference Mass

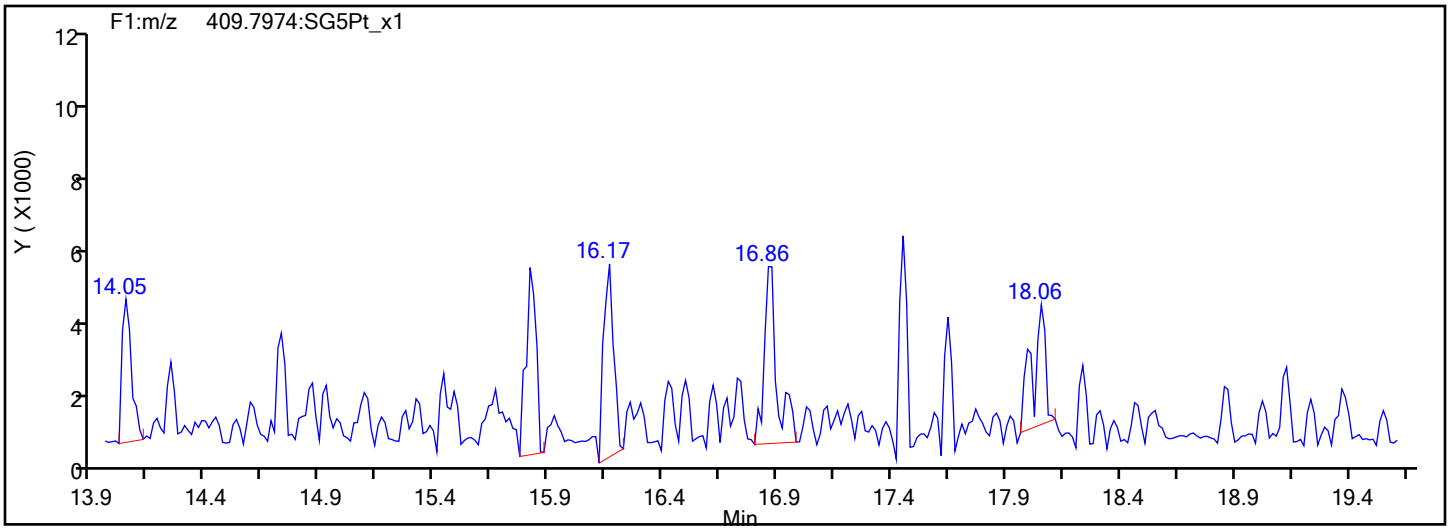

Report Date: 18-Sep-2019 10:45:43 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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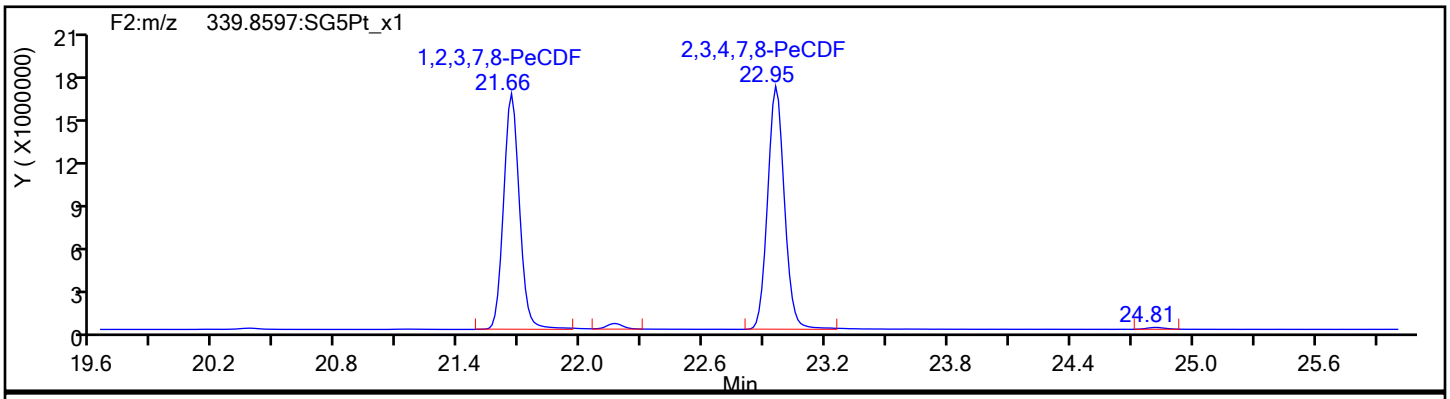

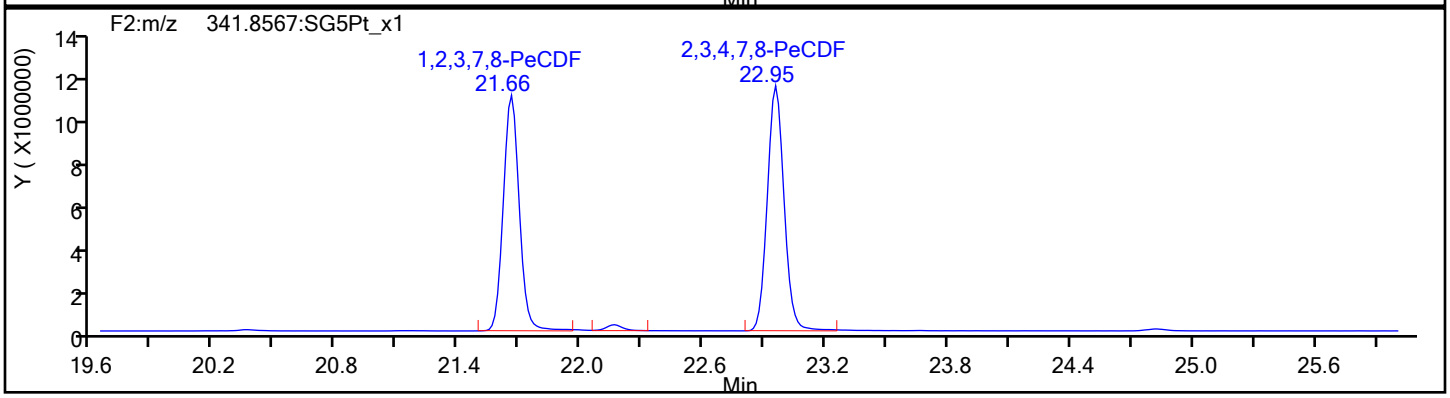

PeCDF Standards

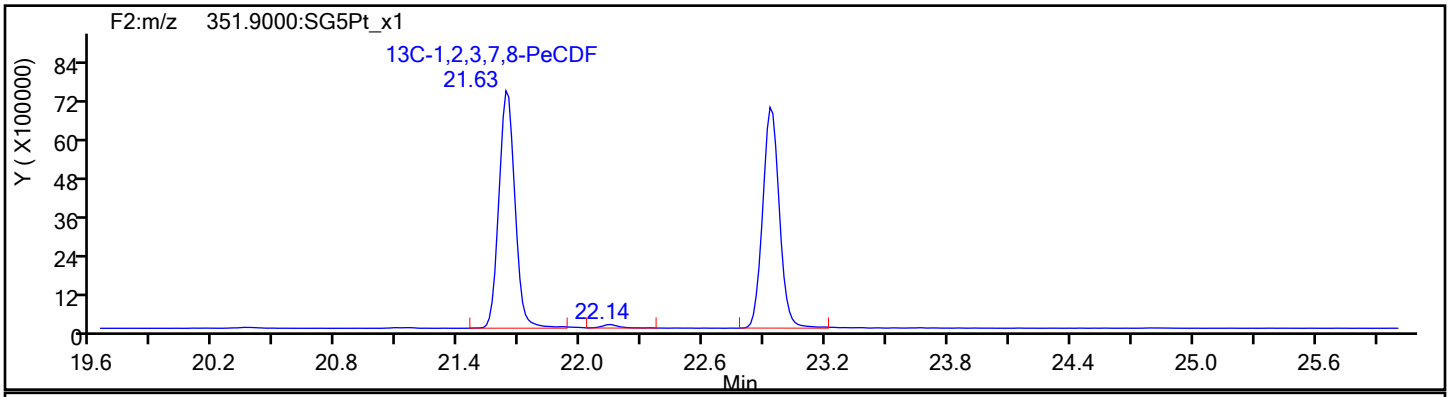

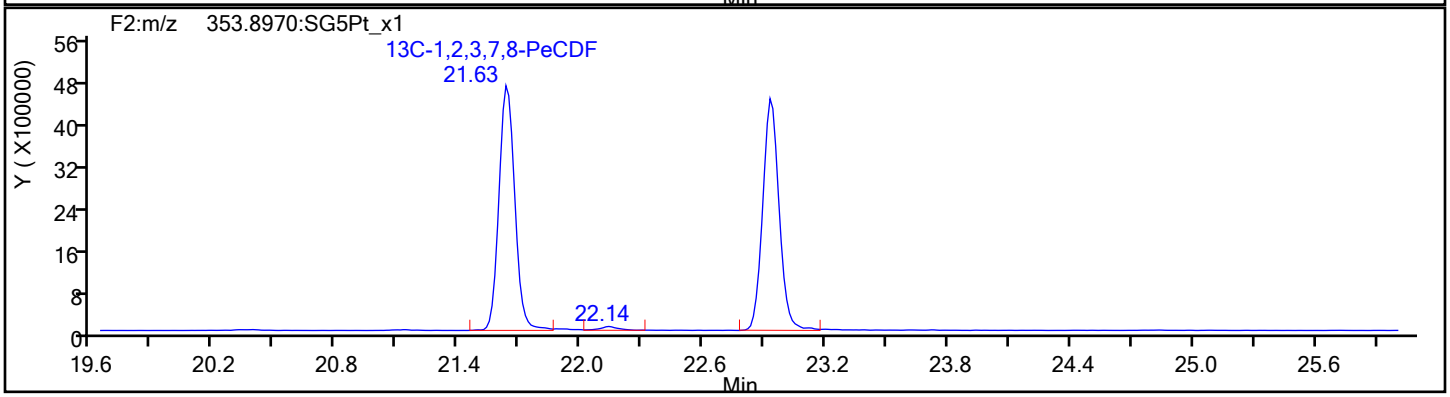

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Eurofins TestAmerica, Sacramento

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PeCDF

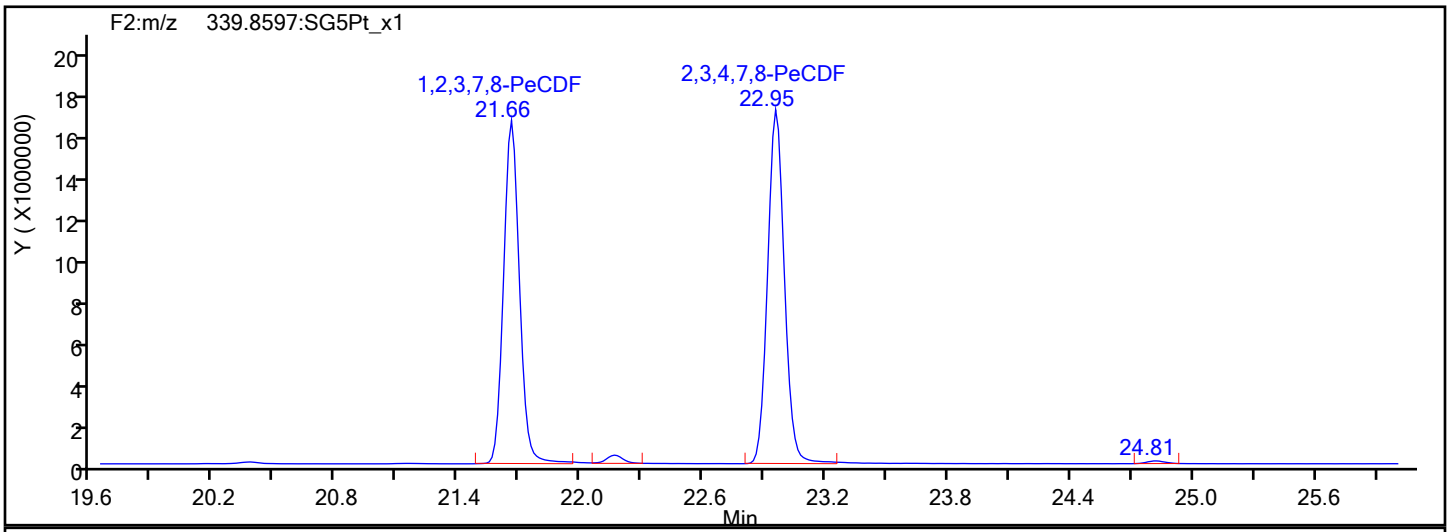

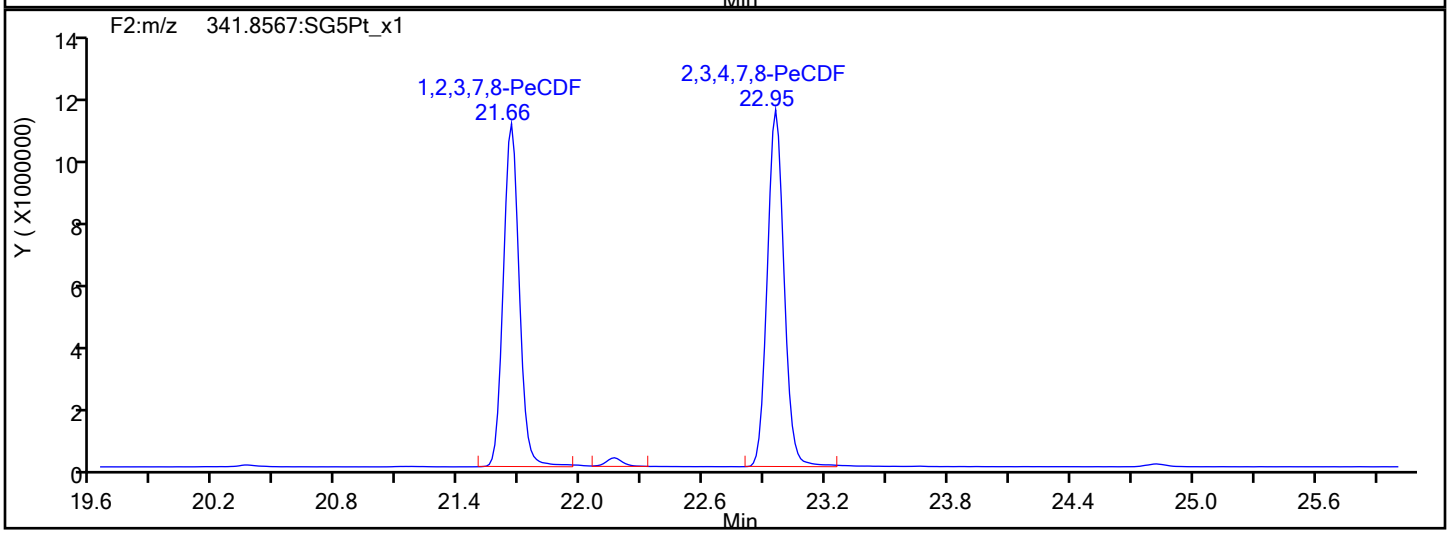

PeCDF Interference Mass

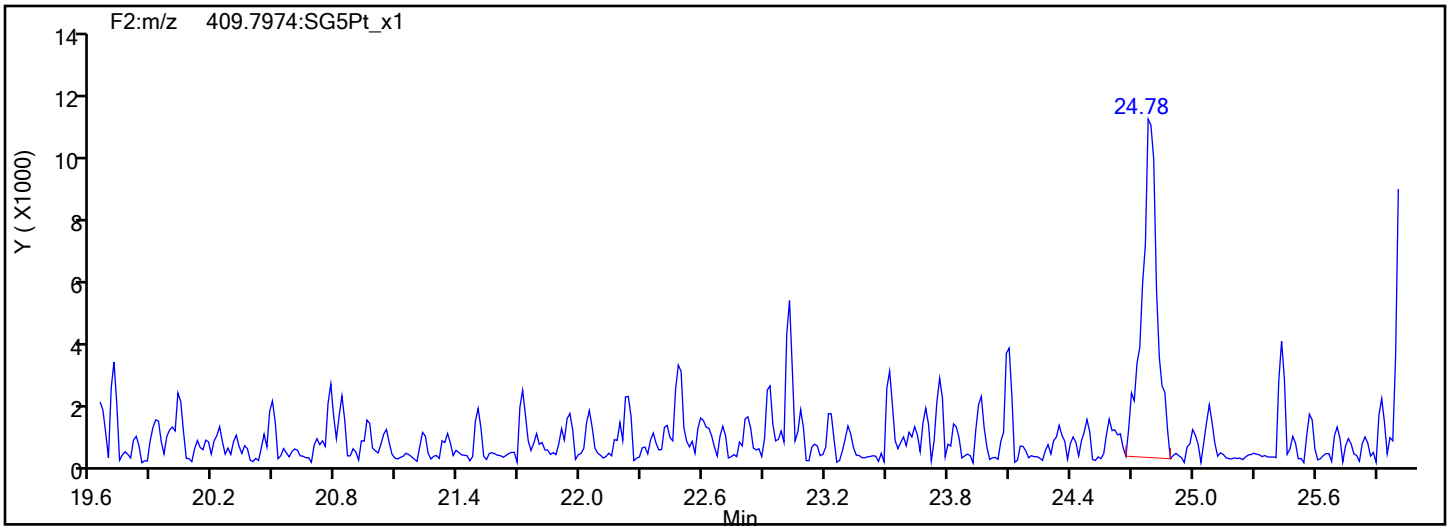

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Eurofins TestAmerica, Sacramento

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PeCDD

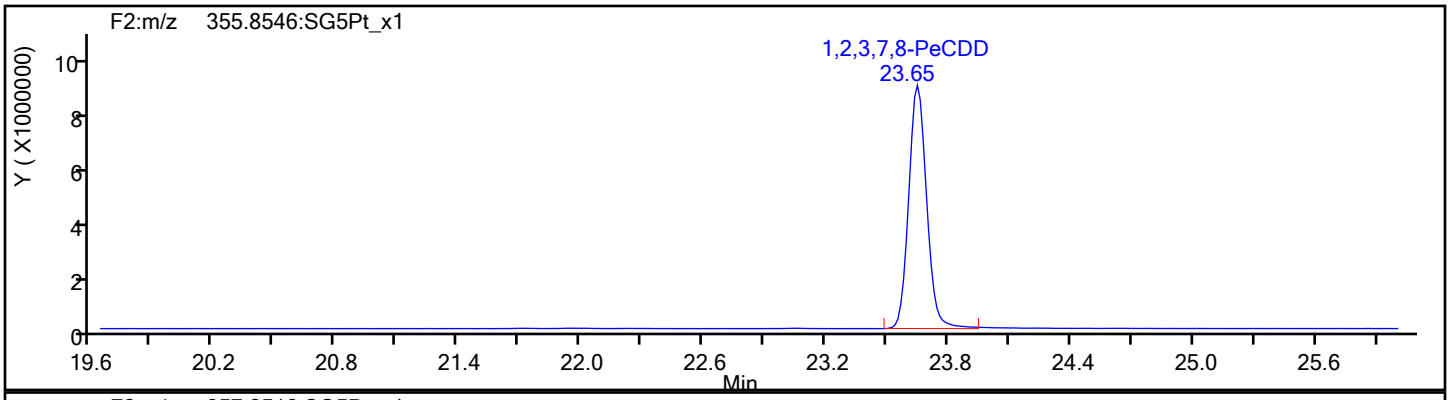

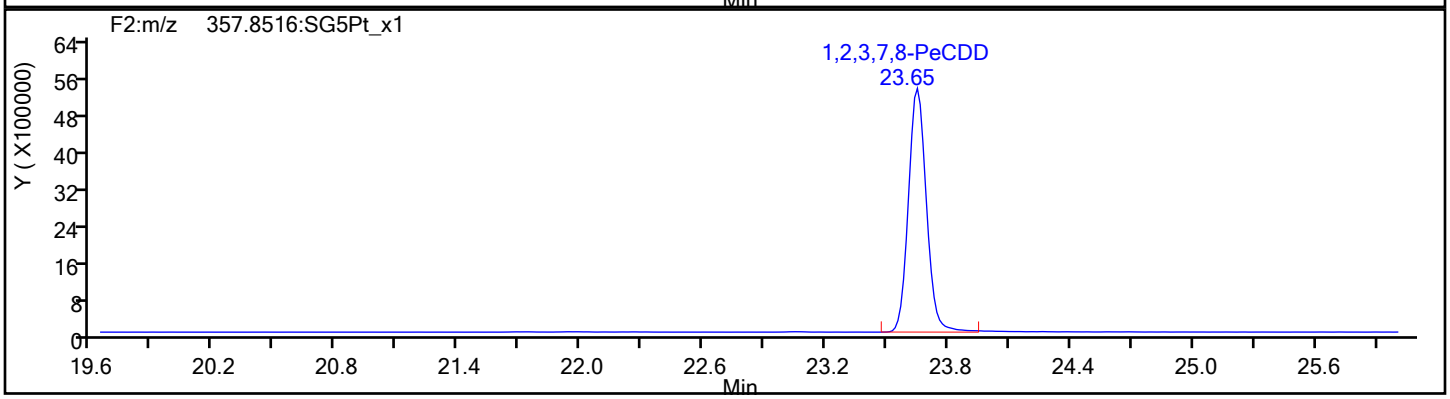

PeCDD Standards

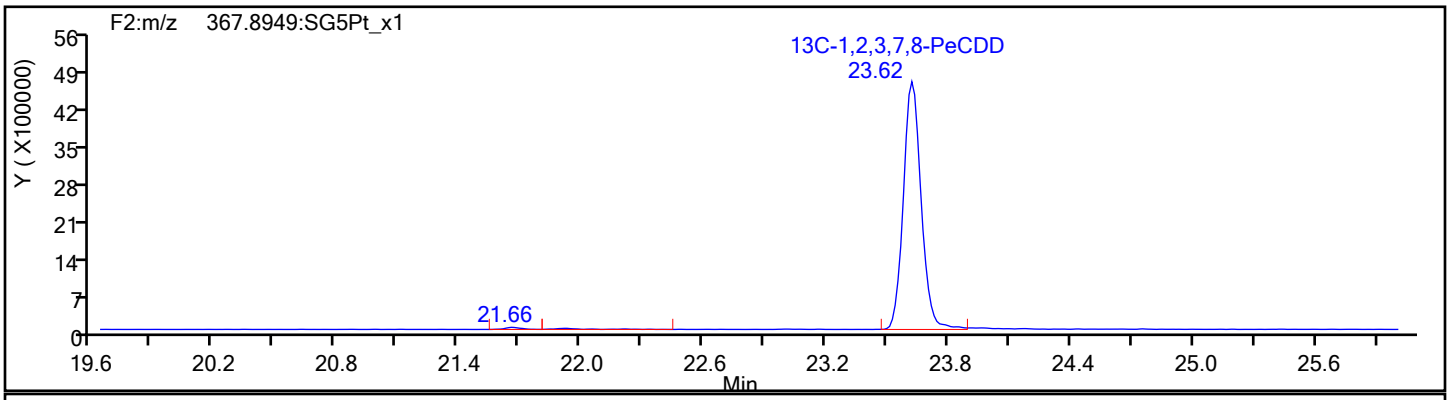

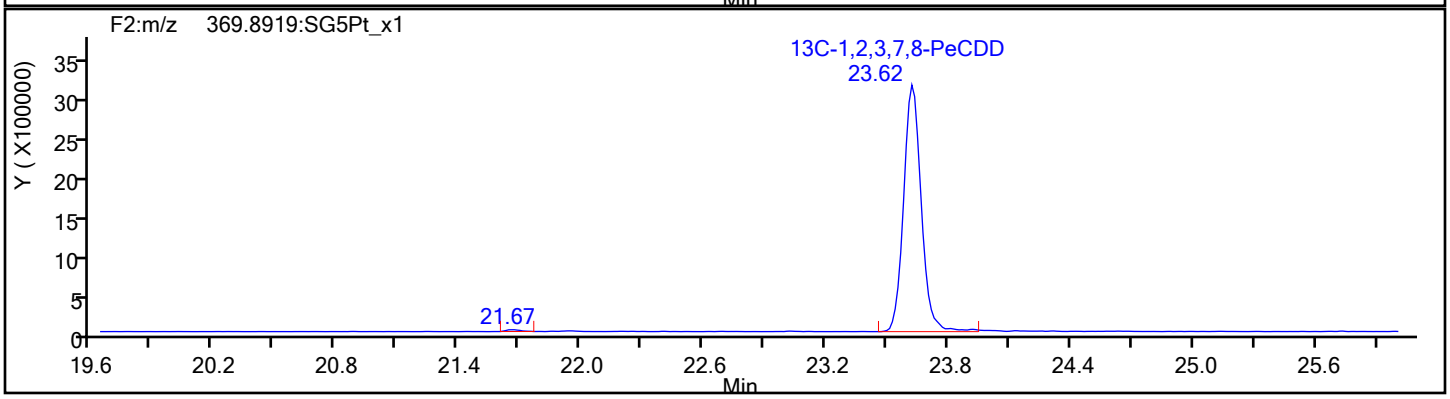

Report Date: 18-Sep-2019 10:45:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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HxCDF

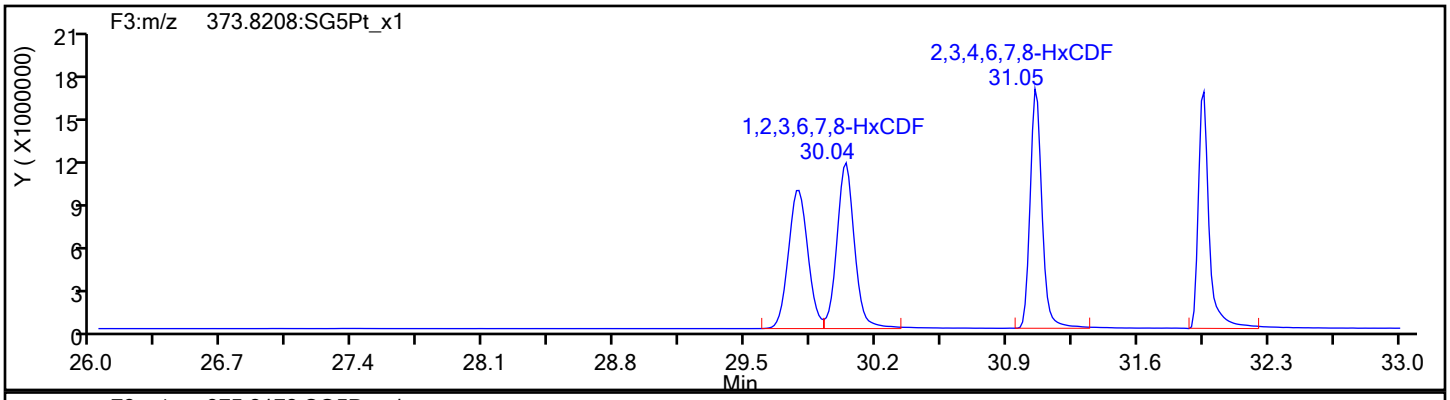

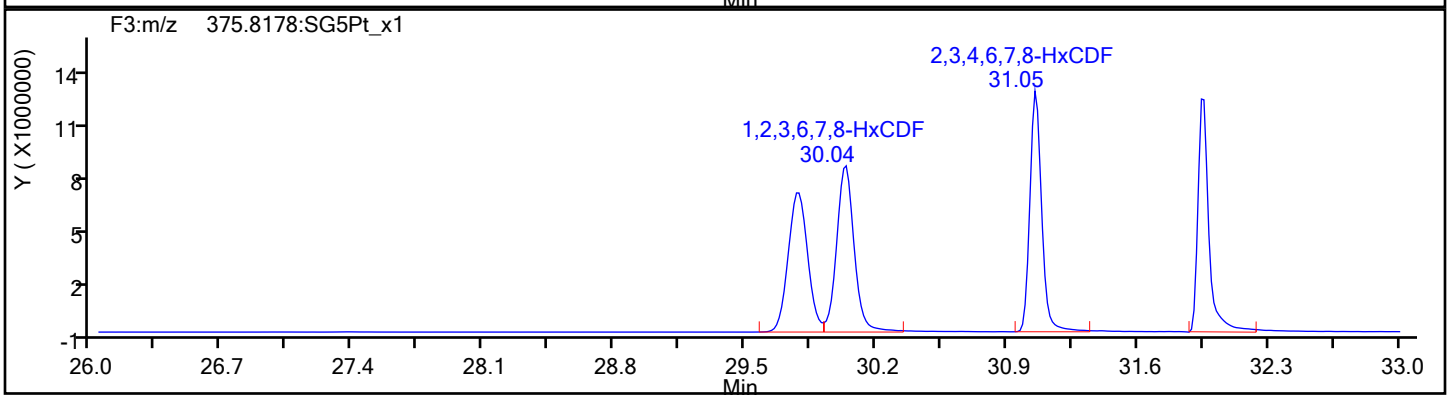

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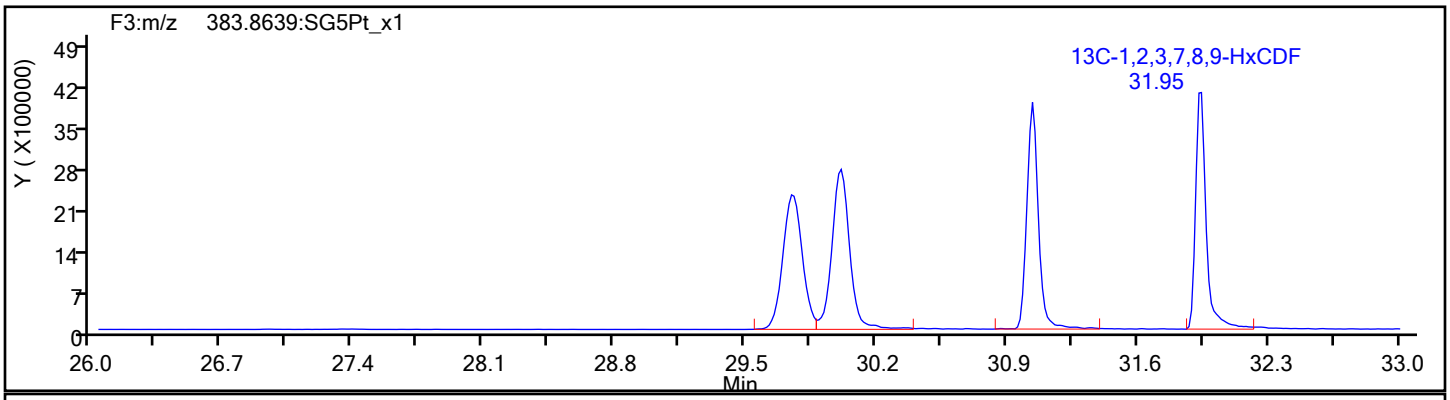

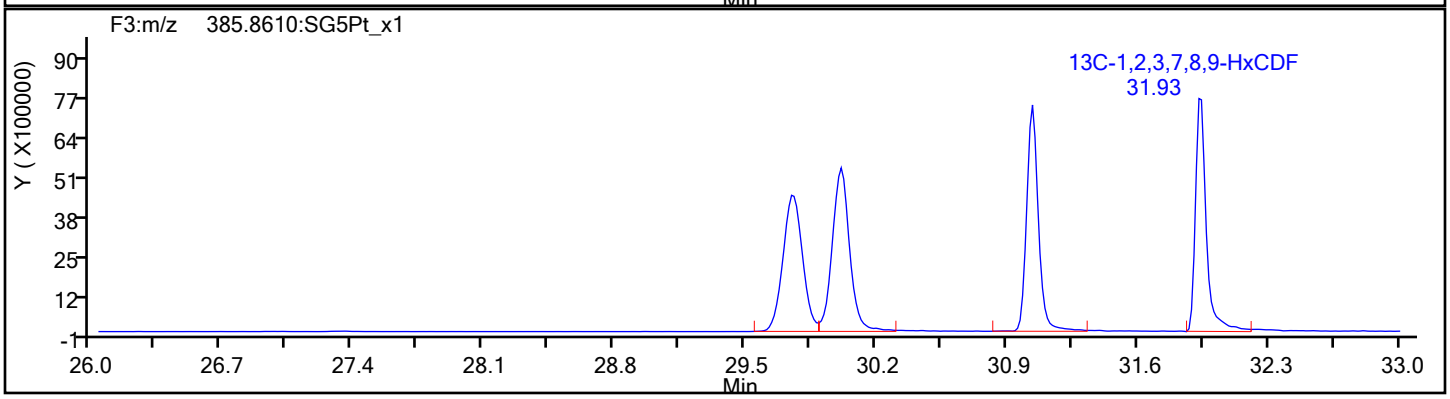

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Eurofins TestAmerica, Sacramento

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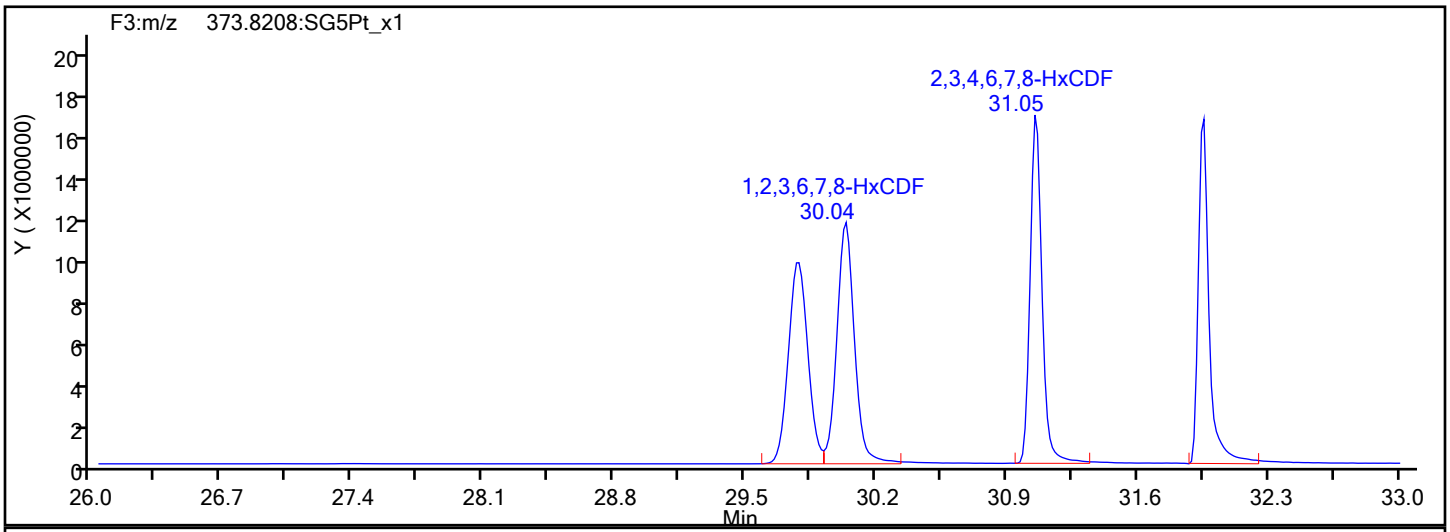

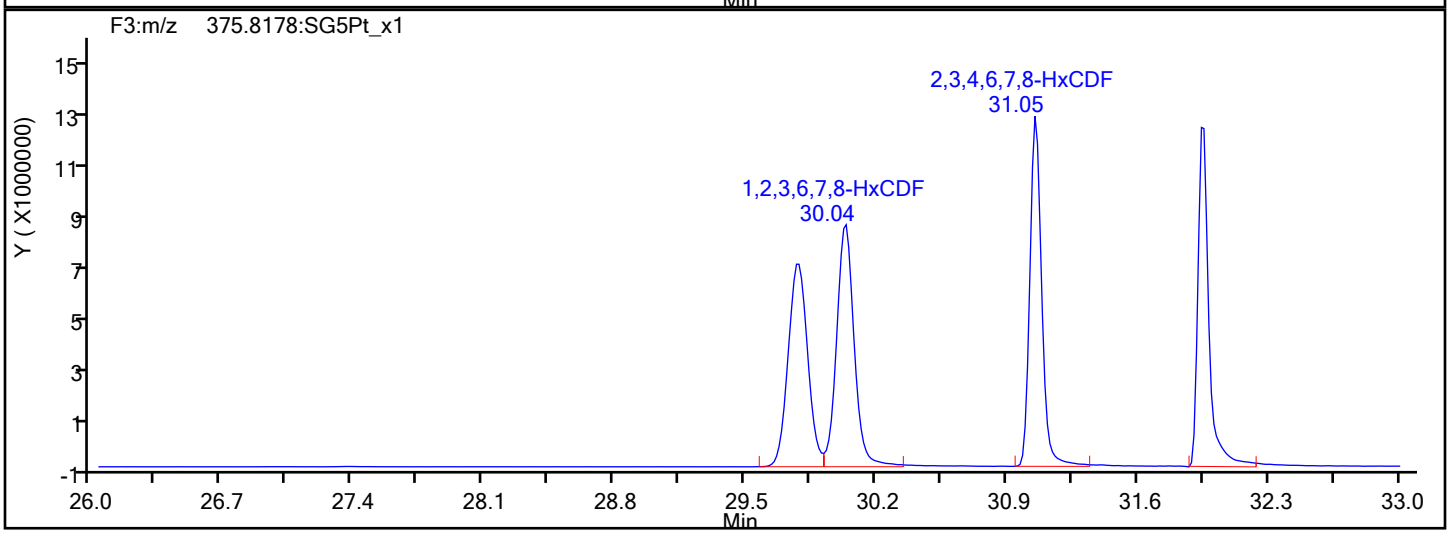

HxCDF Interference Mass

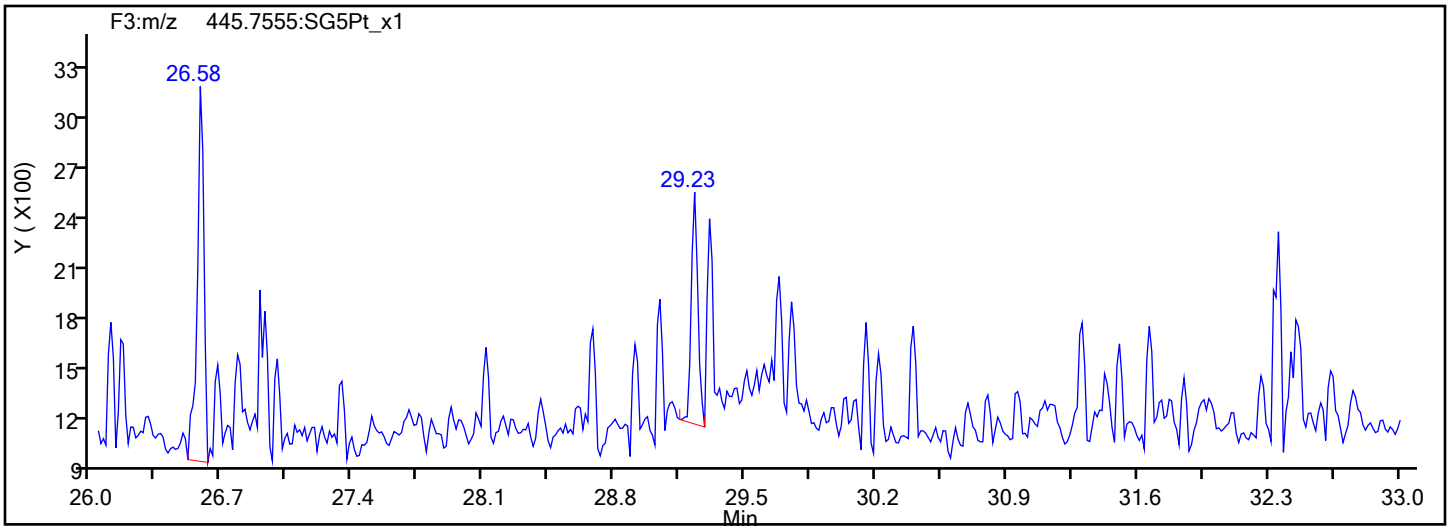

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Eurofins TestAmerica, Sacramento

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HxCDD

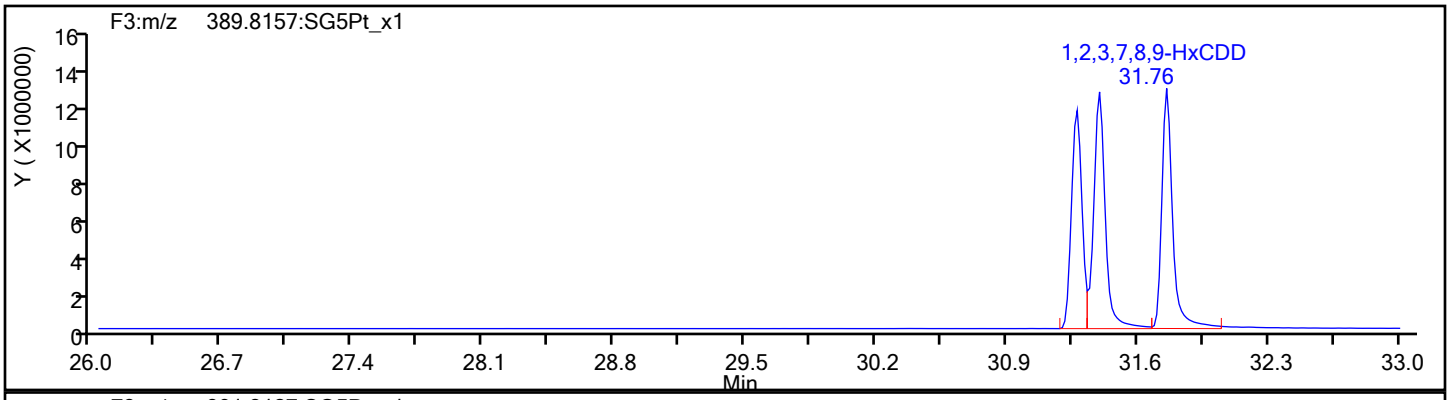

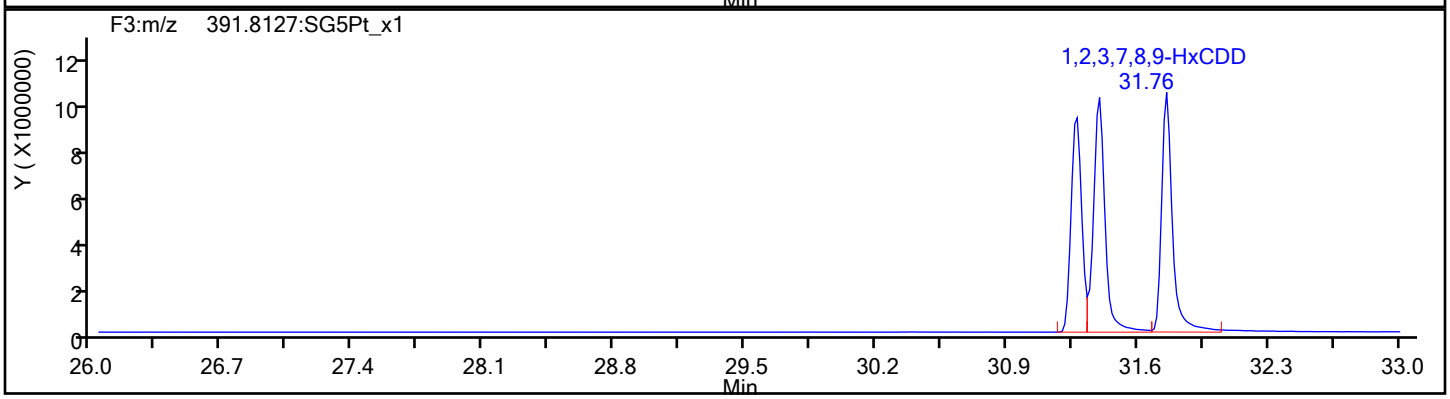

HxCDD Standards

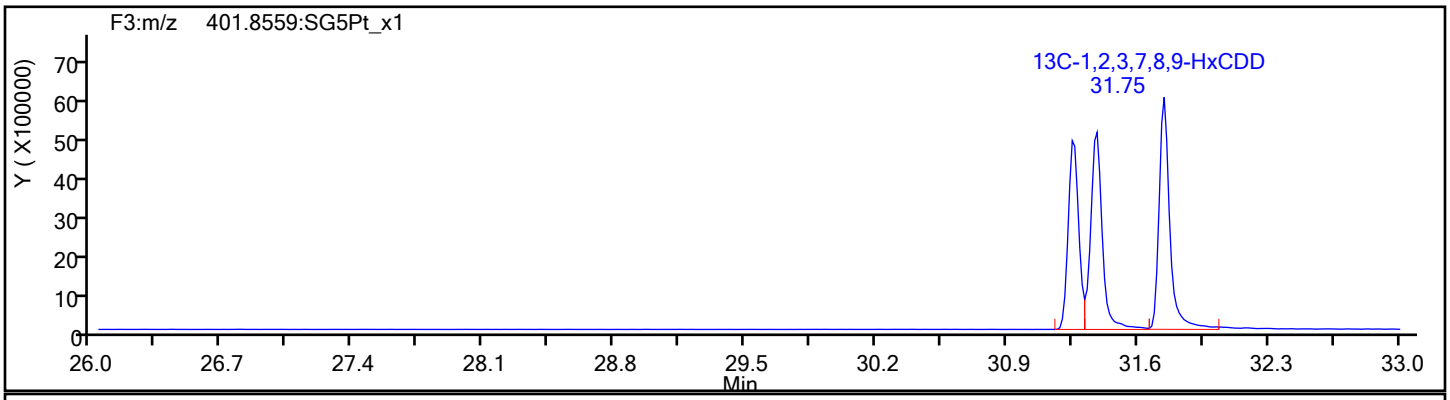

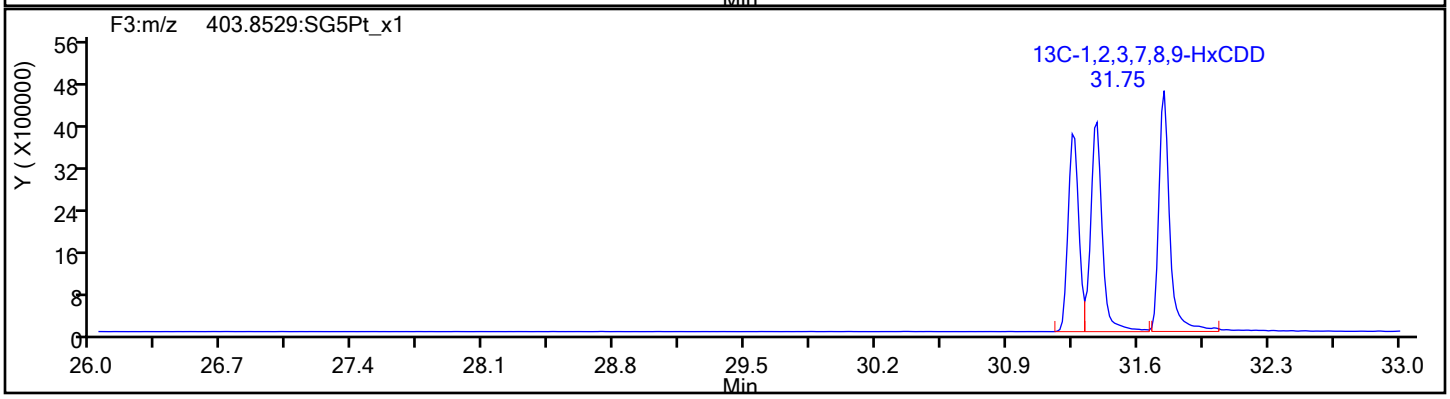

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Eurofins TestAmerica, Sacramento

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HpCDF

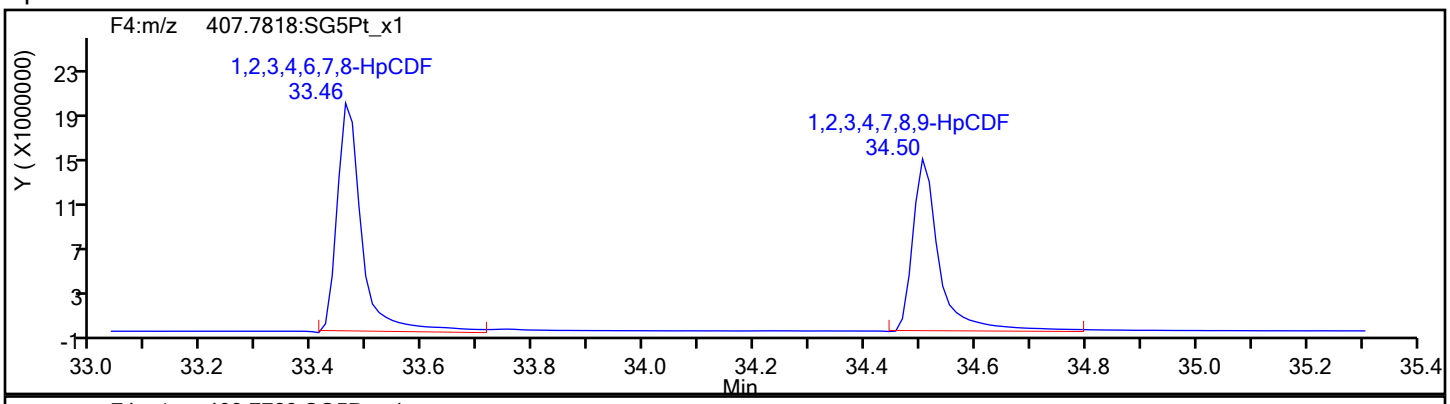

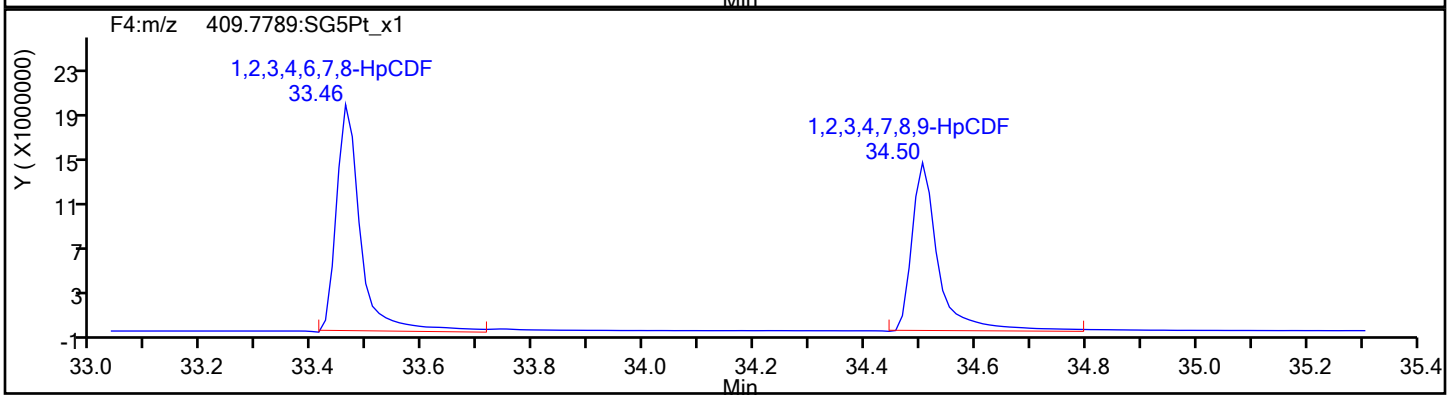

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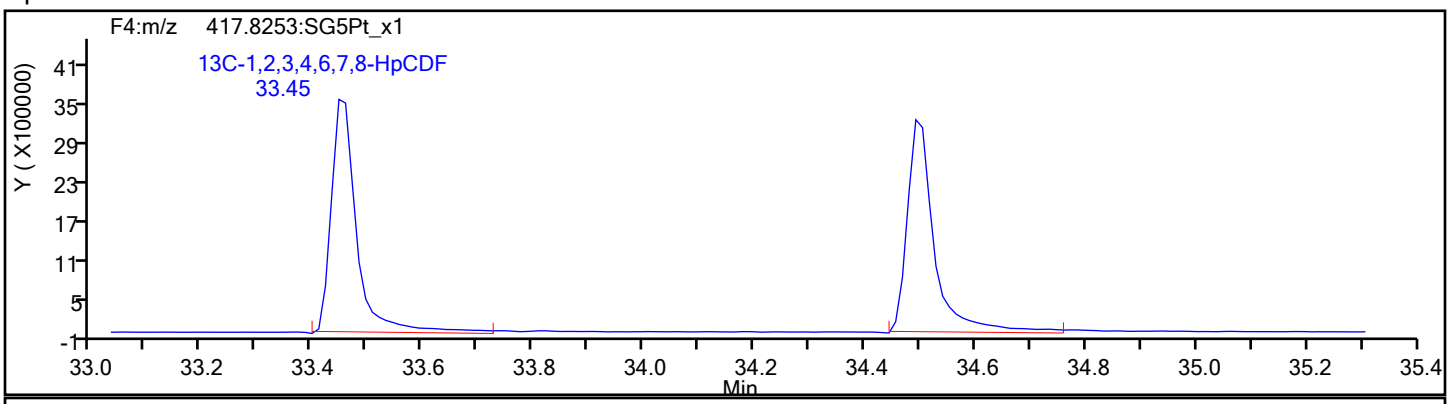

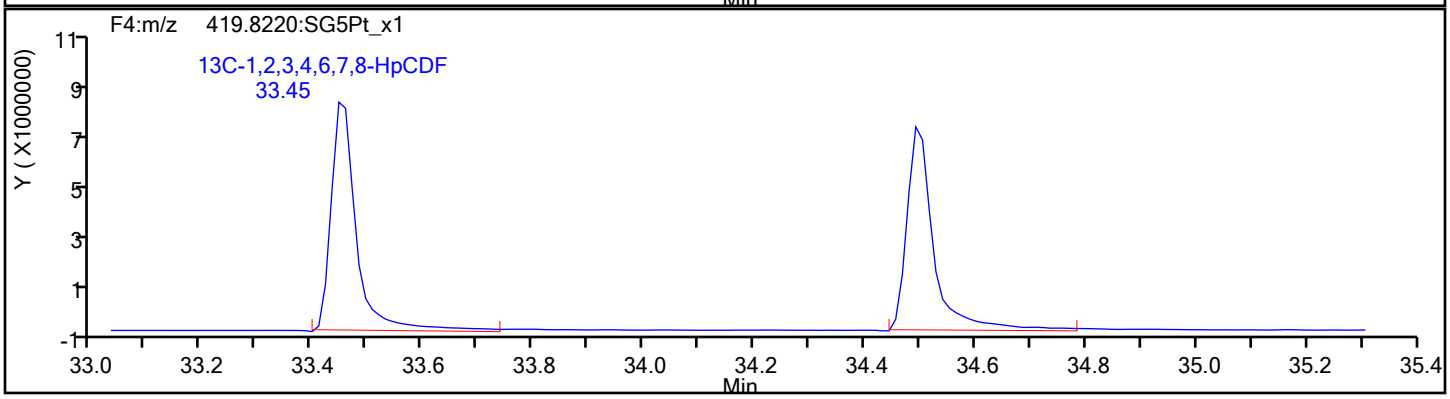

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HpCDF

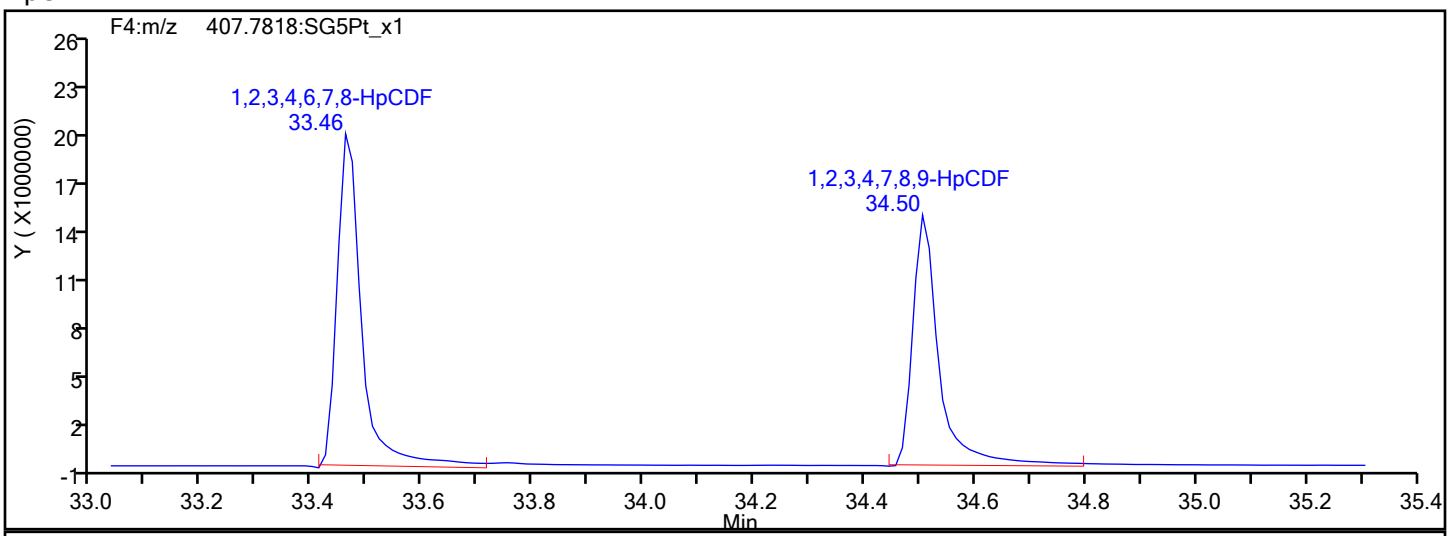

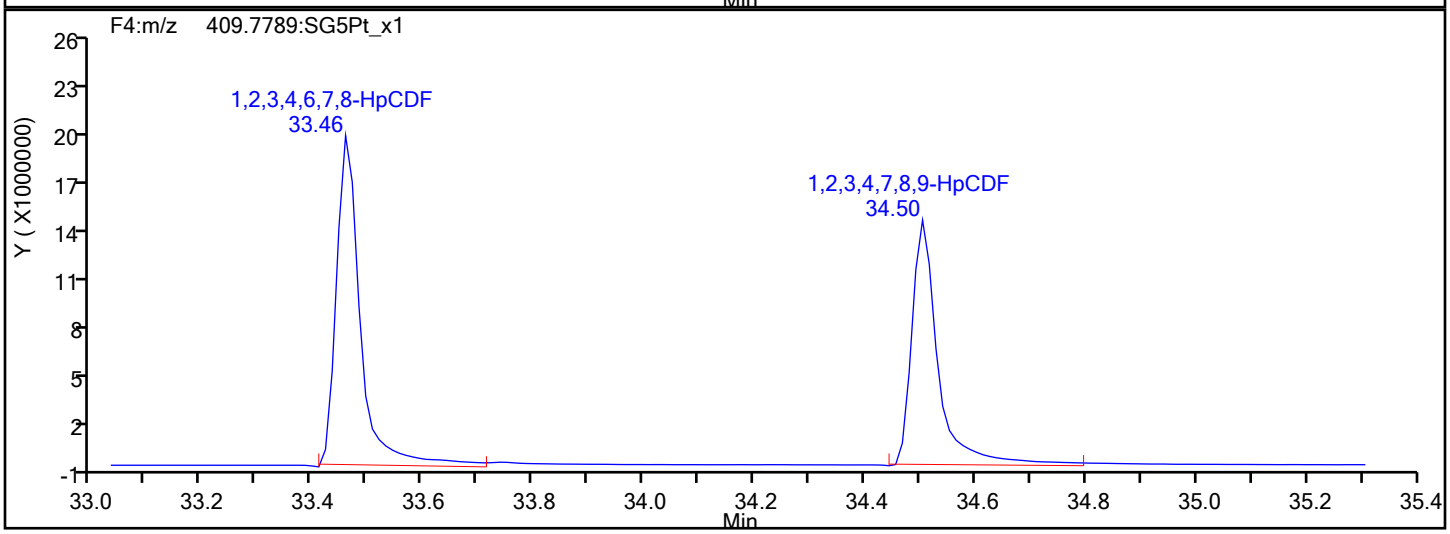

HpCDF Interference Mass

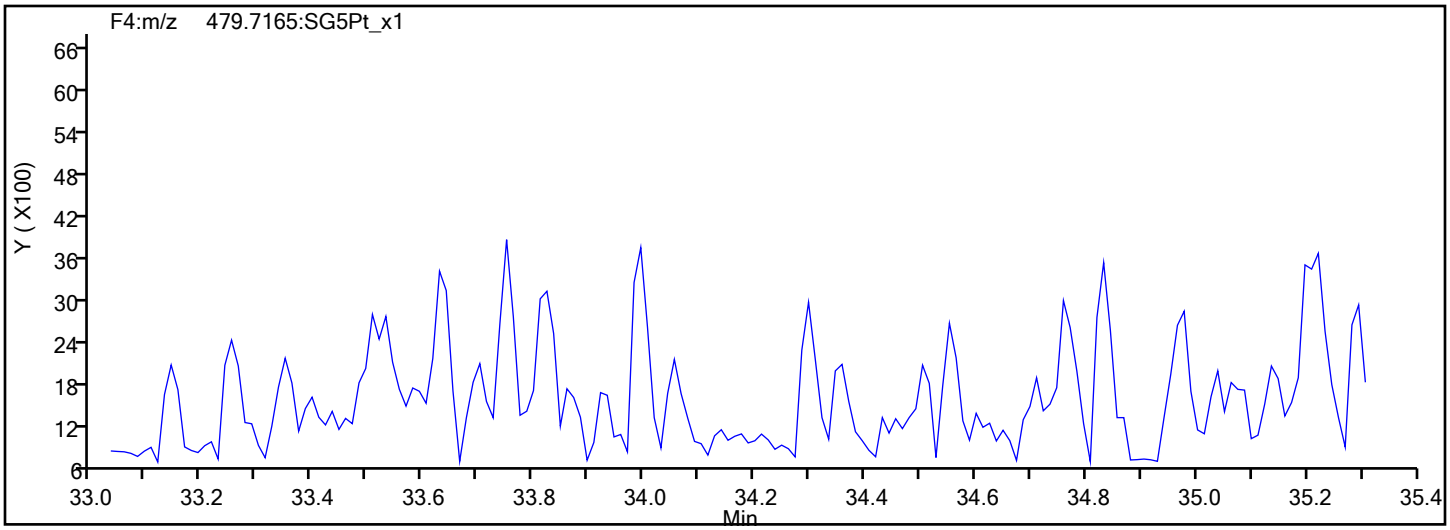

Report Date: 18-Sep-2019 10:45:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d		
Injection Date:	17-Sep-2019 18:27:31	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

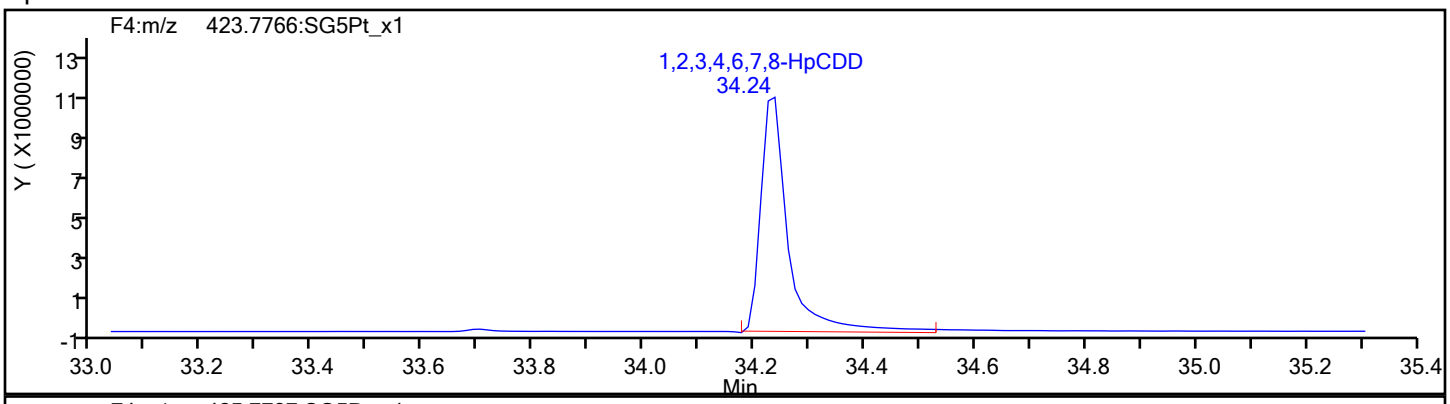

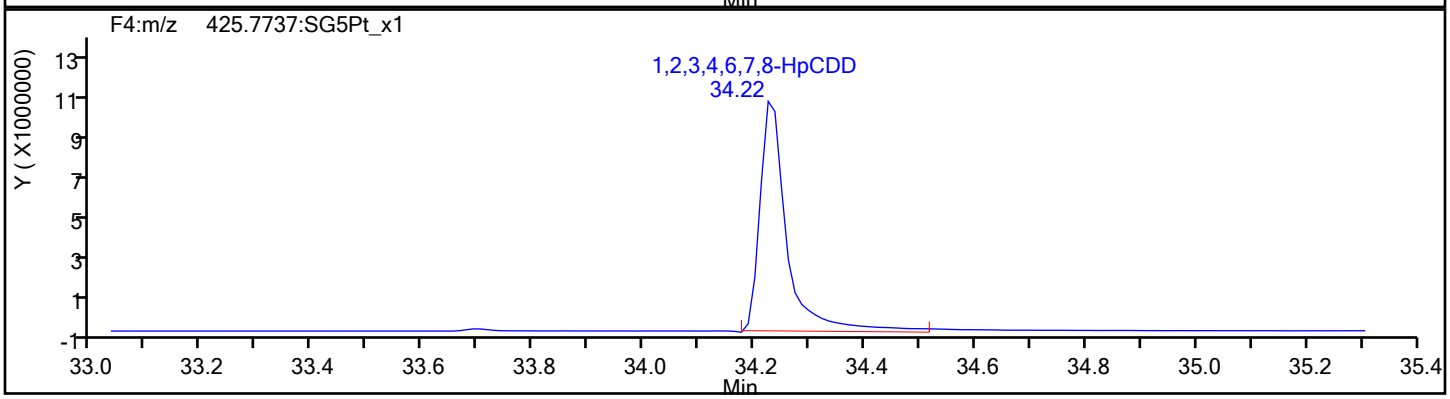

HpCDD Standards

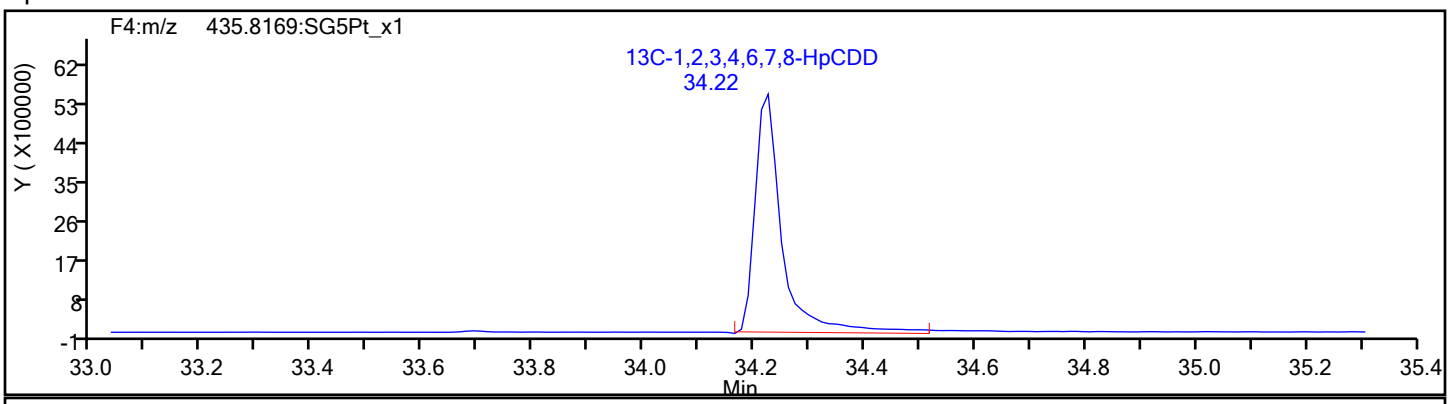

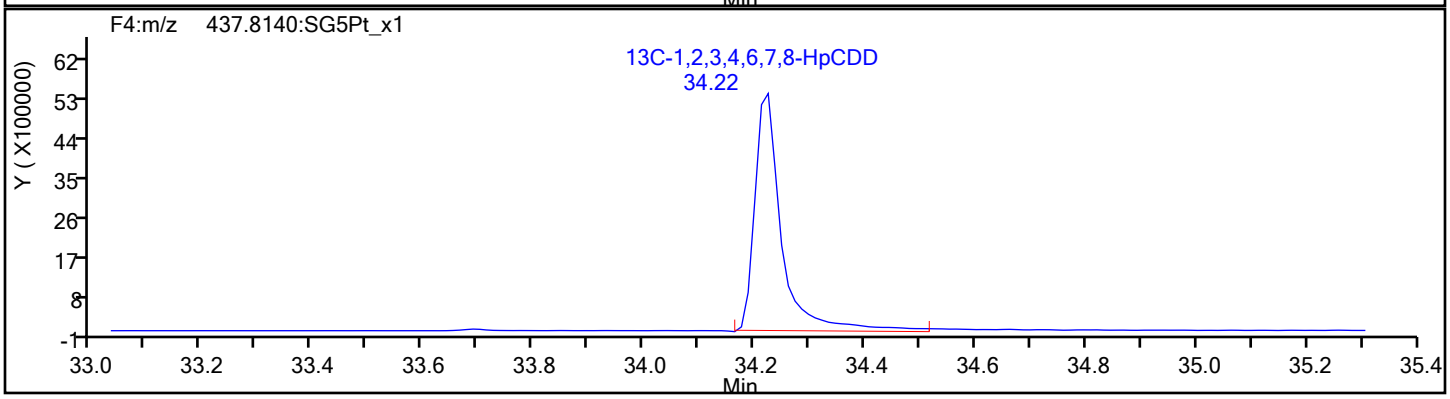

Report Date: 18-Sep-2019 10:45:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

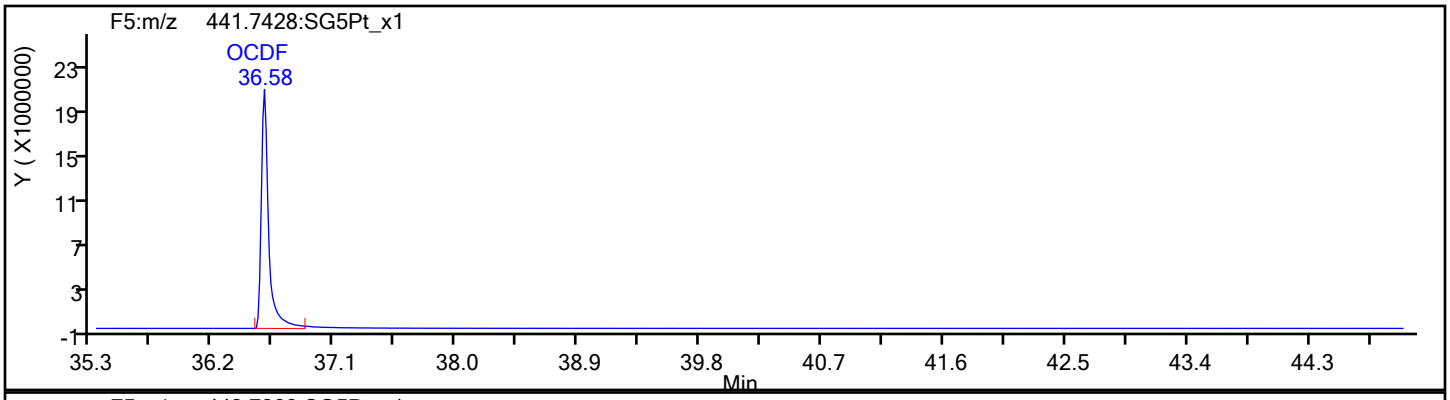

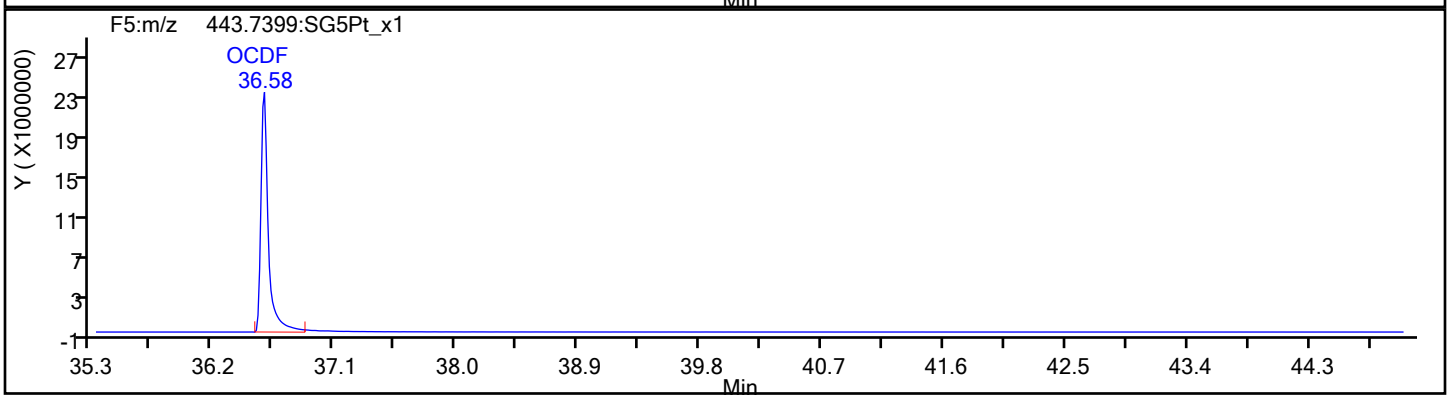

OCDF Standards

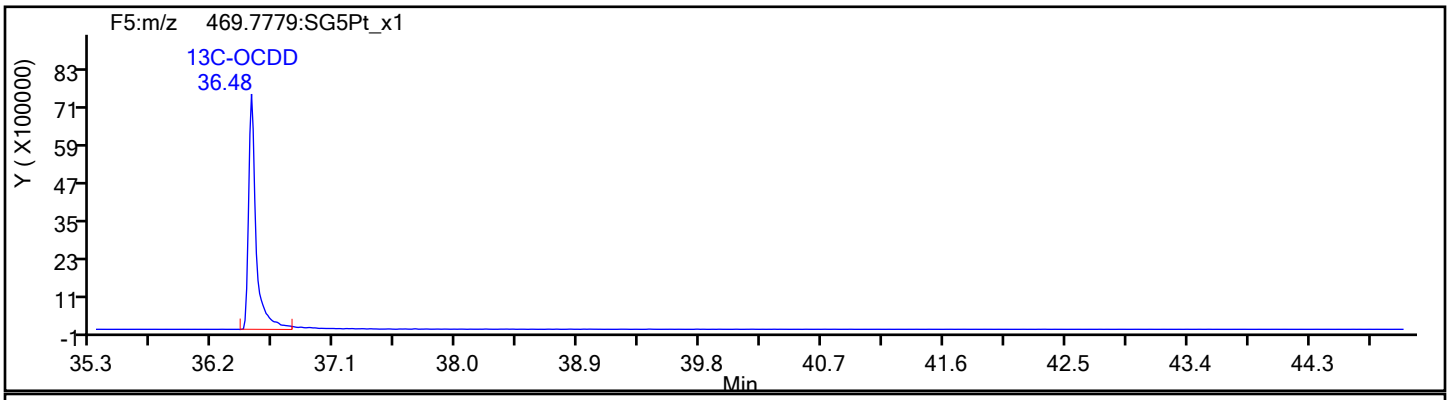

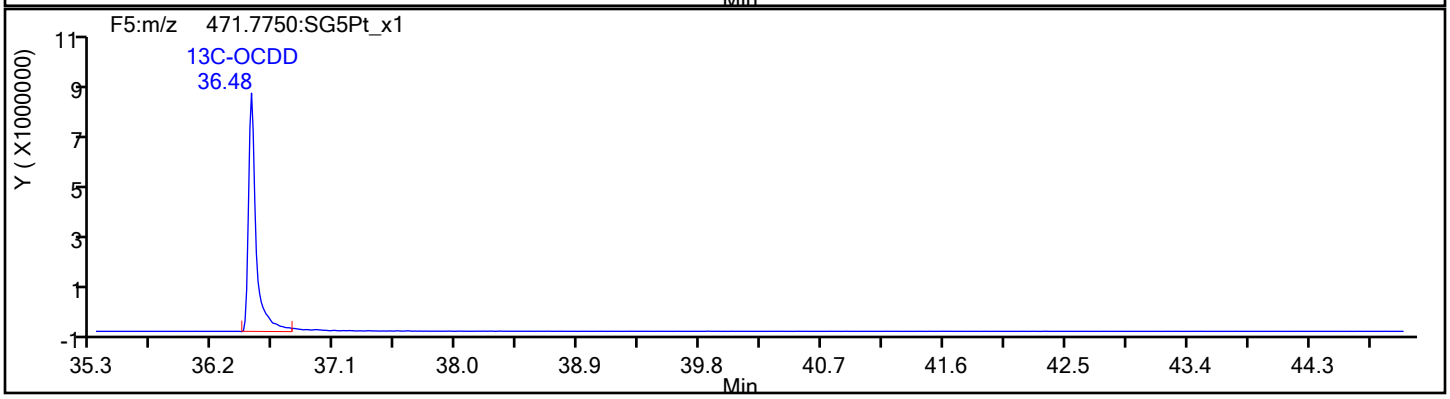

Report Date: 18-Sep-2019 10:45:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

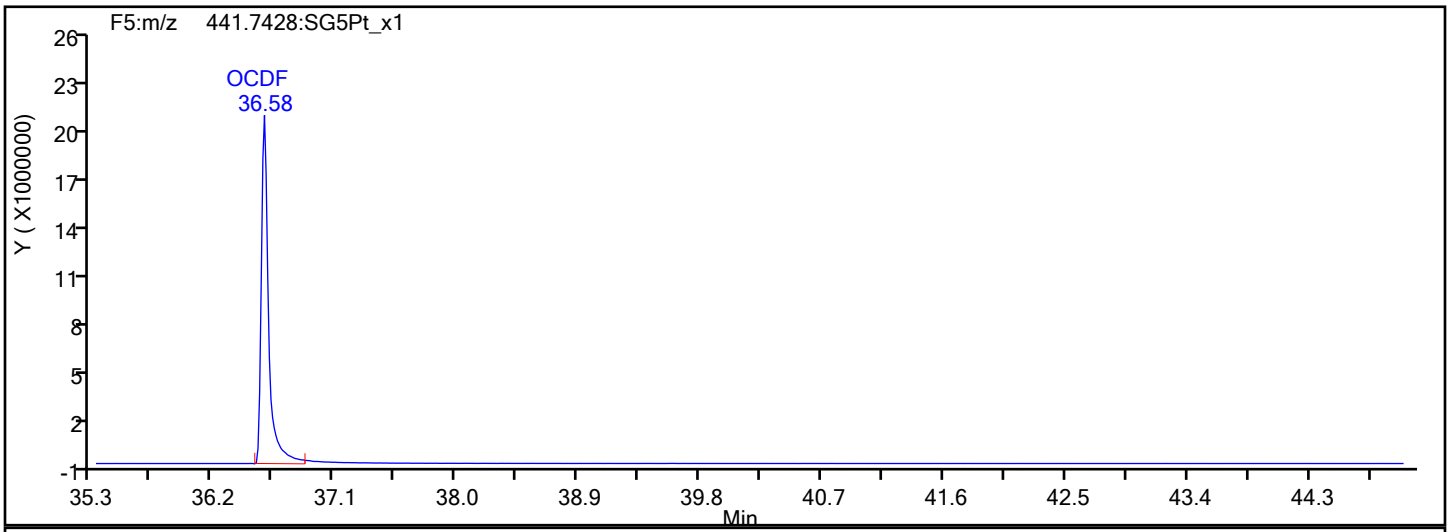

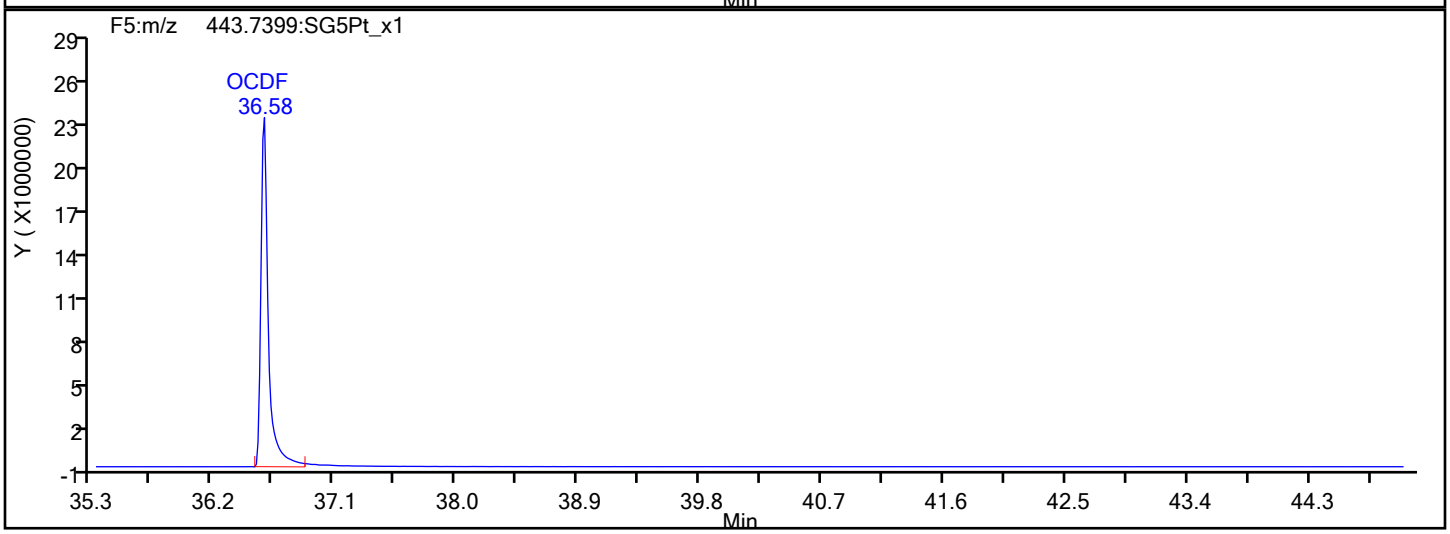

OCDF Interference Mass

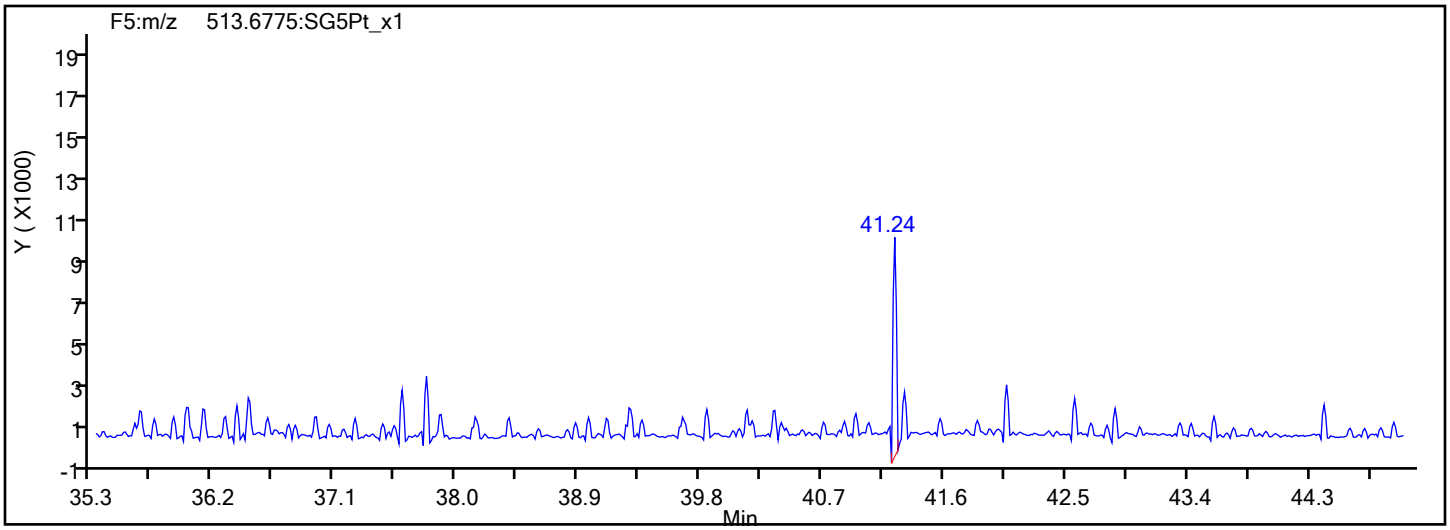

Report Date: 18-Sep-2019 10:45:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

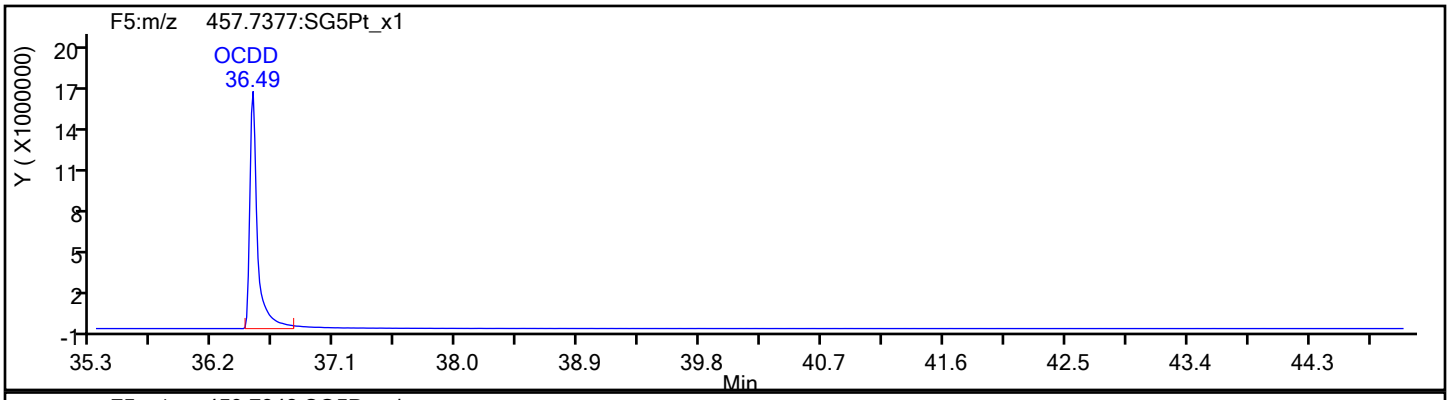

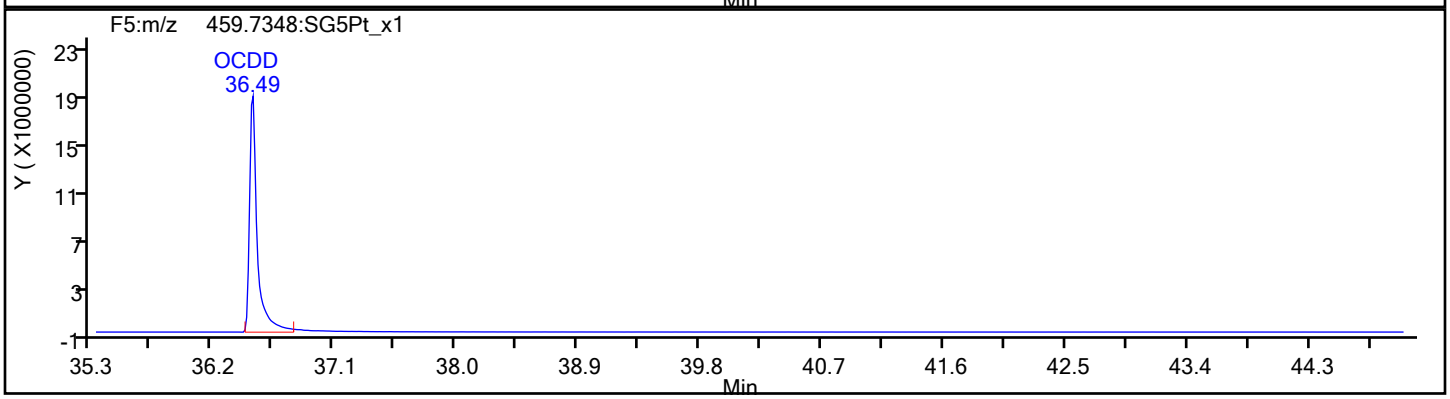

OCDD Standards

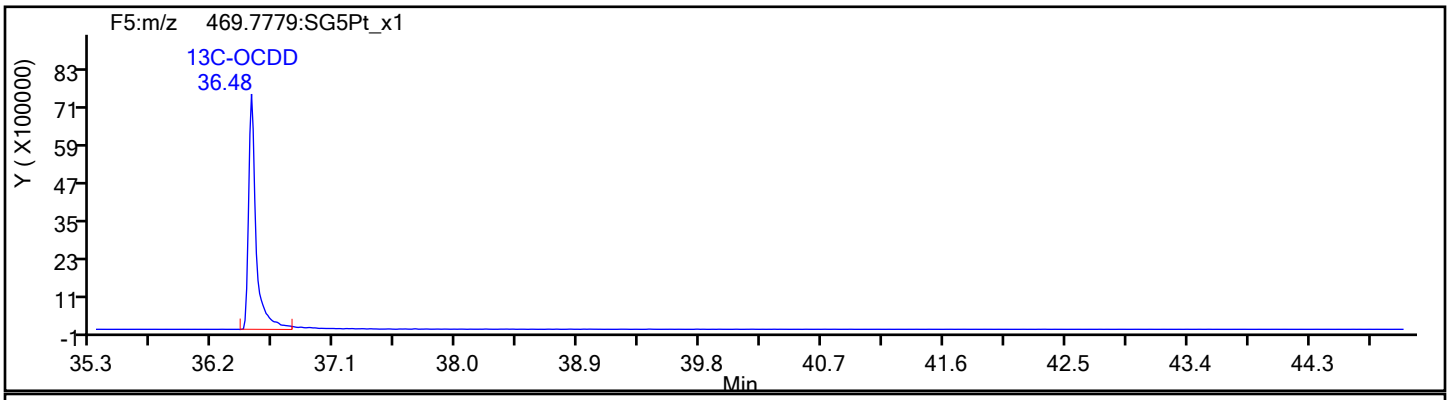

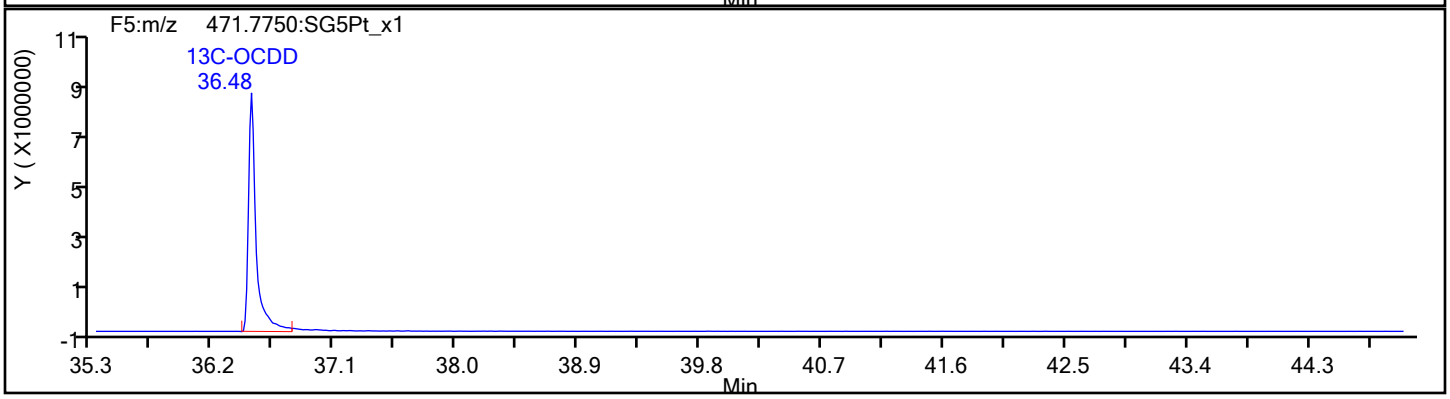

Report Date: 18-Sep-2019 10:45:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

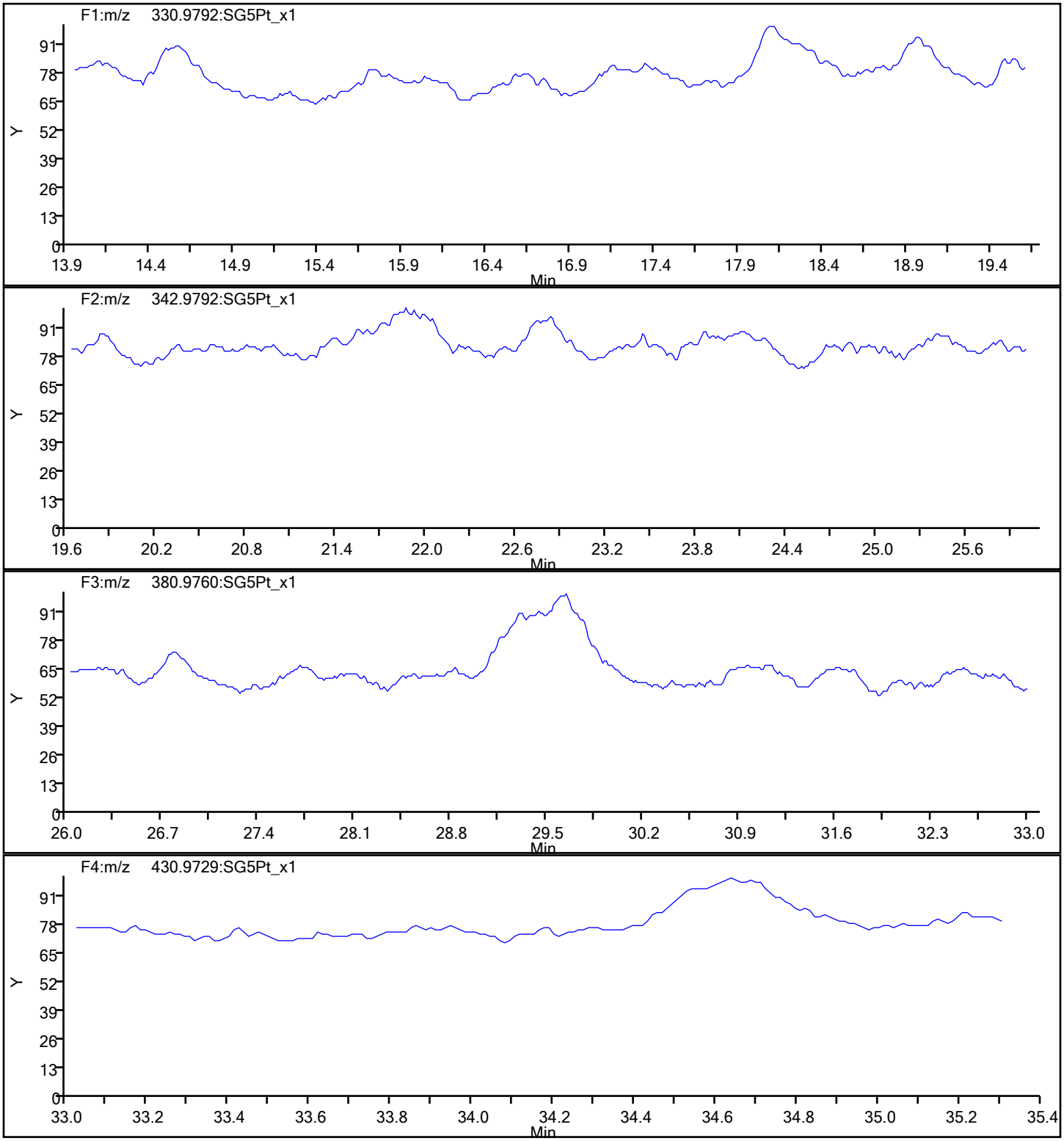

Report Date: 18-Sep-2019 10:45:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

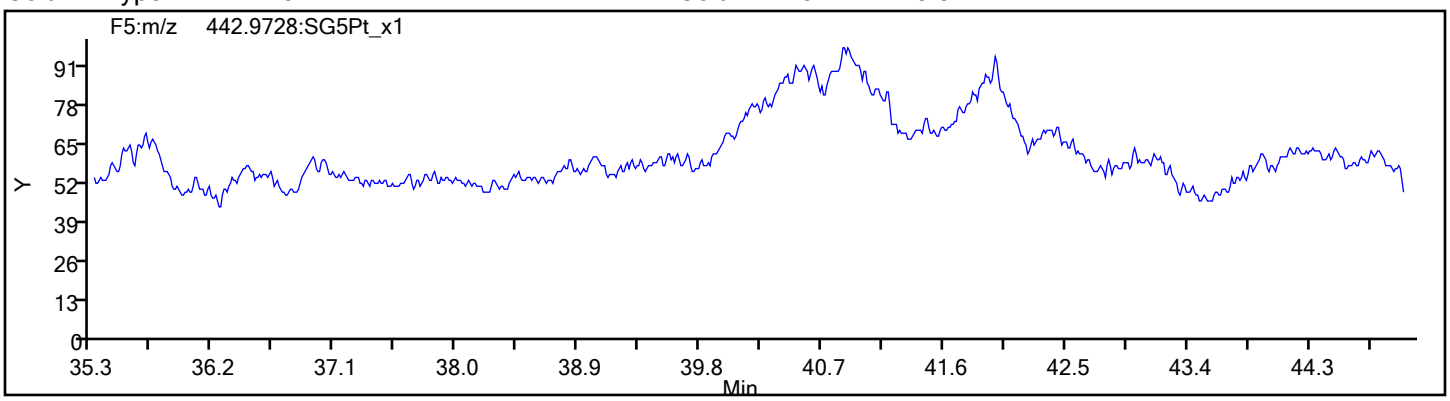

FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Lab Sample ID: CCV 320-330145/2 Calibration Date: 10/10/2019 16:48

Instrument ID: 10D5 Calib Start Date: 09/17/2019 13:03

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 09/17/2019 16:55

Lab File ID: 10OC1910D5_2.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
2,3,7,8-TCDF	AveID	1.051	1.035		9.85	10.0	99	84-120
2,3,7,8-TCDD	AveID	1.106	0.9835		8.89	10.0	89	78-129
1,2,3,7,8-PeCDF	AveID	1.082	1.013		46.8	50.0	94	82-120
2,3,4,7,8-PeCDF	AveID	1.103	1.037		47.0	50.0	94	82-122
1,2,3,7,8-PeCDD	AveID	0.9050	0.9157		50.6	50.0	101	78-130
1,2,3,4,7,8-HxCDF	AveID	1.197	1.170		48.9	50.0	98	90-112
1,2,3,6,7,8-HxCDF	AveID	1.181	1.154		48.9	50.0	98	88-114
2,3,4,6,7,8-HxCDF	AveID	1.212	1.166		48.1	50.0	96	88-114
1,2,3,4,7,8-HxCDD	AveID	1.109	1.084		48.9	50.0	98	78-128
1,2,3,6,7,8-HxCDD	AveID	1.081	1.057		48.9	50.0	98	78-128
1,2,3,7,8,9-HxCDD	AveID	1.212	1.214		50.1	50.0	100	82-122
1,2,3,7,8,9-HxCDF	AveID	1.245	1.194		47.9	50.0	96	90-112
1,2,3,4,6,7,8-HpCDF	AveID	1.556	1.494		48.0	50.0	96	90-110
1,2,3,4,6,7,8-HpCDD	AveID	0.9316	0.9240		49.6	50.0	99	86-116
1,2,3,4,7,8,9-HpCDF	AveID	1.386	1.363		49.2	50.0	98	86-116
OCDD	AveID	1.062	1.035		97.4	100	97	79-126
OCDF	AveID	1.260	1.279		102	100	102	63-159
13C-2,3,7,8-TCDF	Ave	1.438	1.259		87.5	100	88	71-140
13C-2,3,7,8-TCDD	Ave	0.9533	0.9471		99.3	100	99	82-121
13C-1,2,3,7,8-PeCDF	Ave	1.029	1.024		99.5	100	100	76-130
13C-2,3,4,7,8-PeCDF	Ave	0.9827	0.9805		99.8	100	100	77-130
13C-1,2,3,7,8-PeCDD	Ave	0.7481	0.7978		107	100	107	62-160
13C-1,2,3,4,7,8-HxCDF	Ave	1.152	1.094		94.9	100	95	76-131
13C-1,2,3,6,7,8-HxCDF	Ave	1.243	1.125		90.4	100	90	70-143
13C-2,3,4,6,7,8-HxCDF	Ave	1.172	1.100		93.9	100	94	73-137
13C-1,2,3,4,7,8-HxCDD	Ave	0.7812	0.7824		100	100	100	85-117
13C-1,2,3,6,7,8-HxCDD	Ave	0.9175	0.8363		91.2	100	91	85-118
13C-1,2,3,7,8,9-HxCDF	Ave	1.065	1.027		96.4	100	96	74-135
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.8628	0.7528		87.3	100	87	78-129
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.8739	0.8248		94.4	100	94	72-138
13C-1,2,3,4,7,8,9-HpCDF	Ave	0.7991	0.7065		88.4	100	88	77-129
13C-OCDD	Ave	0.7744	0.6001		155	200	78	48-208
37Cl4-2,3,7,8-TCDD	Ave	1.222	1.204		7.88	8.00	98	79-127

Sample List Report **MassLynx 4.1**

Sample List: C:\MassLynx\DATA 2019.PRO\SampleDB\10OC1910D5.SPL
Last Modified: Thursday, October 10, 2019 16:41:01 Pacific Daylight Time
Printed: Thursday, October 10, 2019 17:12:48 Pacific Daylight Time

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #	User
1	10OC1910D5_1	WDM HRDXNCP_00038	WDM 101019	Tray01:1	Dioxin		SMA
2	10OC1910D5_2	CS-4 HRDXNL4_00084	CCV 101019	Tray01:2	Dioxin		SMA
3	10OC1910D5_3	Solvent Blank C-14	SB 101019	Tray01:3	---		SMA
4	10OC1910D5_4	MB 320-329656/1-A	MB 320-329656/1-A	Tray01:4	8290/Solid	54	SMA
5	10OC1910D5_5	LCS 320-329656/2-A	LCS 320-329656/2-A	Tray01:5	8290/Solid		SMA
6	10OC1910D5_6	LCSD 320-329656/3-A	LCSD 320-329656/3-A	Tray01:6	8290/Solid		SMA
7	10OC1910D5_7	MB 320-329339/1-A	MB 320-329339/1-A	Tray01:7	1613B/Water	D98	SMA
8	10OC1910D5_8	LCS 320-329339/2-A	LCS 320-329339/2-A	Tray01:8	1613B/Water		SMA
9	10OC1910D5_9	LCSD 320-329339/3-A	LCSD 320-329339/3-A	Tray01:9	1613B/Water		SMA
10	10OC1910D5_10	320-55086-A-4-A	320-55086-A-4-A	Tray01:10	8290/Solid	54	SMA
11	10OC1910D5_11	320-54830-A-27-A	320-54830-A-27-A	Tray01:11	8290/Solid		SMA
12	10OC1910D5_12	320-54830-A-28-A	320-54830-A-28-A	Tray01:12	8290/Solid		SMA
13	10OC1910D5_13	Solvent Blank C-14	SB 101019A	Tray01:3	---		SMA
14	10OC1910D5_14	CS-4 HRDXNL4_00084	CCV 101019A	Tray01:2	Dioxin		SMA
15	10OC1910D5_15	WDM HRDXNCP_00038	WDM 101019A	Tray01:1	Dioxin		SMA
16	10OC1910D5_16	Solvent Blank C-14	SB 101019B	Tray01:3	---		SMA
17	10OC1910D5_17	320-54852-A-1-A	320-54852-A-1-A	Tray01:15	1613B/Water	D98	SMA
18	10OC1910D5_18	320-54852-A-2-A	320-54852-A-2-A	Tray01:16	1613B/Water		SMA
19	10OC1910D5_19	320-54852-A-3-A	320-54852-A-3-A	Tray01:17	1613B/Water		SMA
20	10OC1910D5_20	320-54852-A-4-A	320-54852-A-4-A	Tray01:18	1613B/Water		SMA
21	10OC1910D5_21	320-54852-A-5-A	320-54852-A-5-A	Tray01:19	1613B/Water		SMA
22	10OC1910D5_22	320-54852-A-6-A	320-54852-A-6-A	Tray01:20	1613B/Water		SMA
23	10OC1910D5_23	680-174617-A-1-A	680-174617-A-1-A	Tray01:21	1613B_T/Water		SMA
24	10OC1910D5_24	Solvent Blank C-14	SB 101019C	Tray01:3	---		SMA
25	10OC1910D5_25	CS-4 HRDXNL4_00084	CCV 101019B	Tray01:2	Dioxin		SMA
26	10OC1910D5_26	WDM HRDXNCP_00038	WDM 101019B	Tray01:1	Dioxin		SMA
27	10OC1910D5_27	Solvent Blank C-14	SB 101019D	Tray01:3	---		SMA

Log file checked
AJS
10-10-19

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed: Thursday, October 10, 2019 15:57:45 Pacific Daylight Time

M 292.9824 R 12686

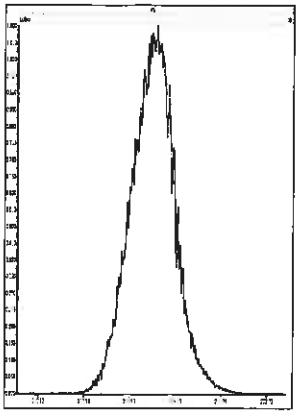

M 304.9824 R 13159

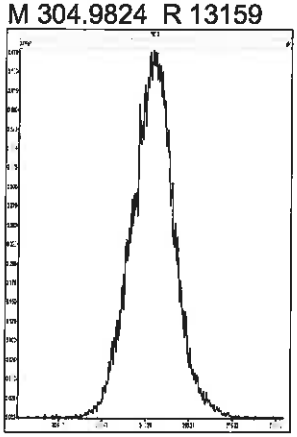

M 318.9792 R 13811

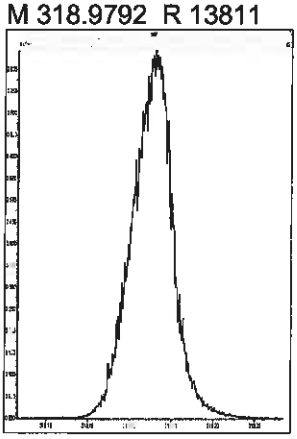

M 330.9792 R 13024

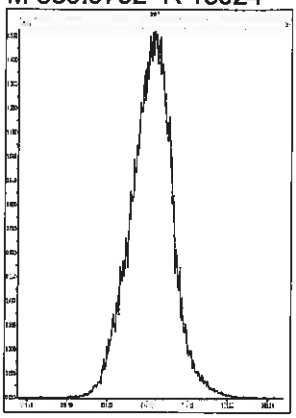

M 342.9792 R 12686

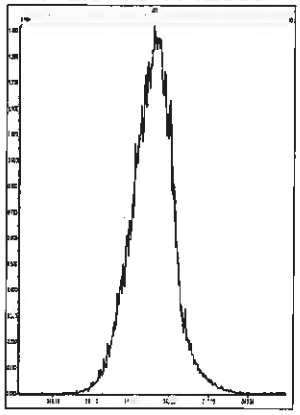

M 354.9792 R 13020

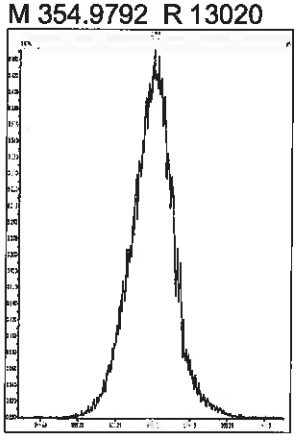

M 366.9792 R 11470

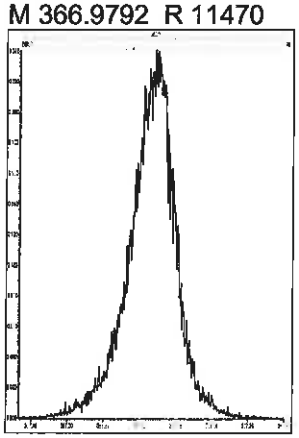

M 380.9760 R 12317

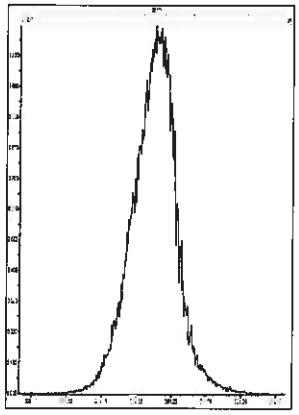

M 392.9760 R 12136

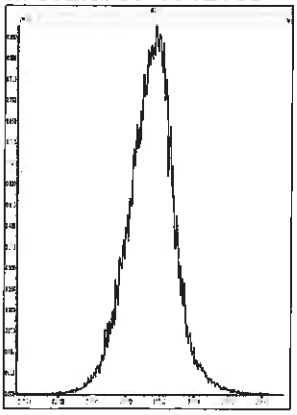

M 404.9760 R 11626

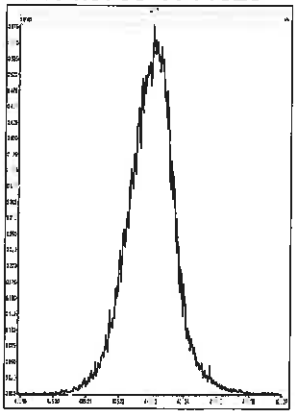

M 416.9760 R 12377

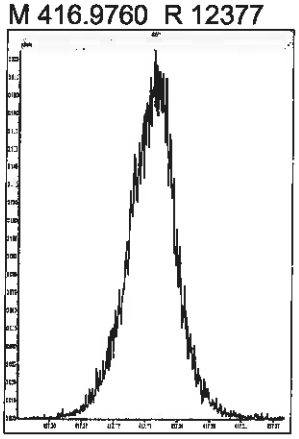

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 2 @ 200 (ppm)

Printed: Thursday, October 10, 2019 15:58:28 Pacific Daylight Time

M 318.9792 R 14124

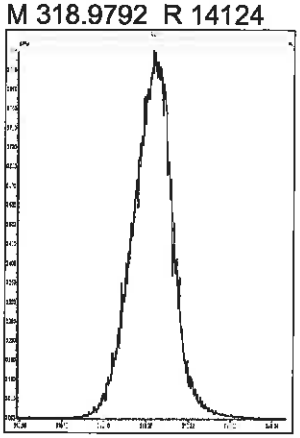

M 330.9792 R 13438

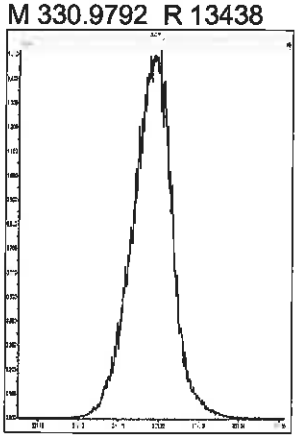

M 342.9792 R 13294

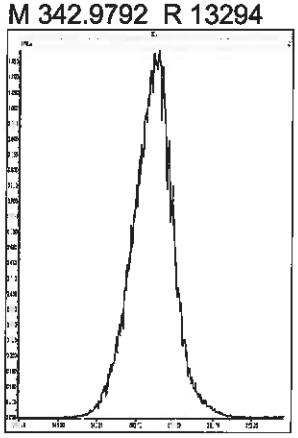

M 354.9792 R 13089

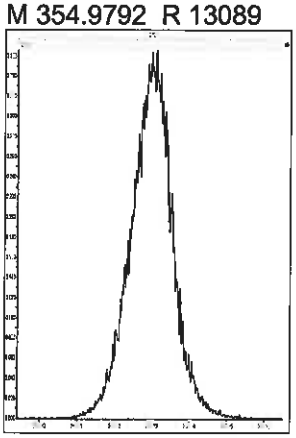

M 366.9792 R 11680

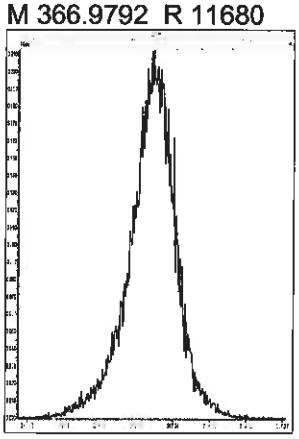

M 380.9760 R 12257

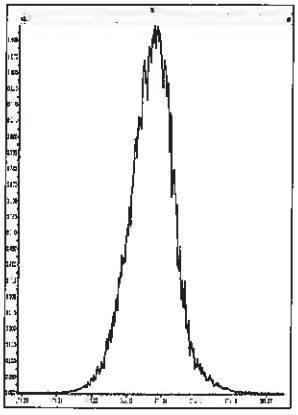

M 392.9760 R 11848

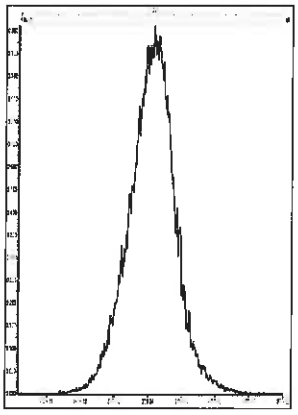

M 404.9760 R 11164

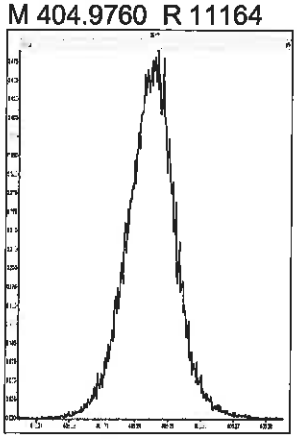

M 416.9760 R 11059

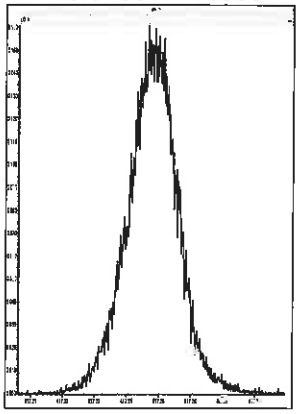

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

Printed: Thursday, October 10, 2019 15:59:07 Pacific Daylight Time

M 366.9792 R 12255

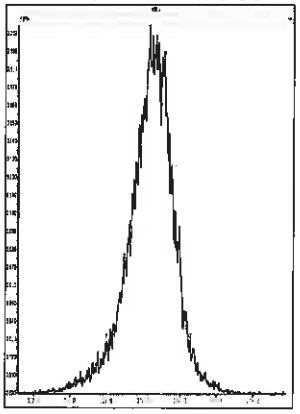

M 380.9760 R 13440

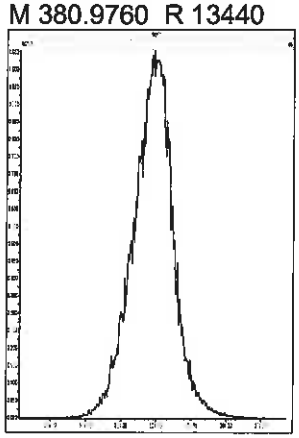

M 392.9760 R 13300

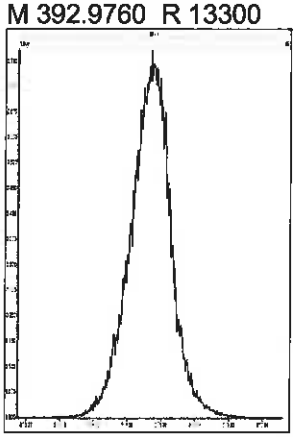

M 404.9760 R 13090

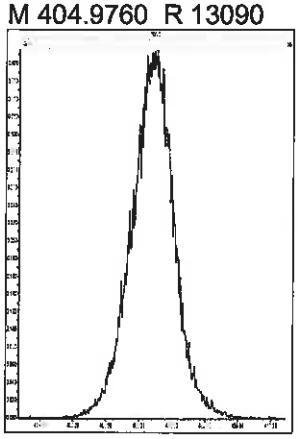

M 416.9760 R 13513

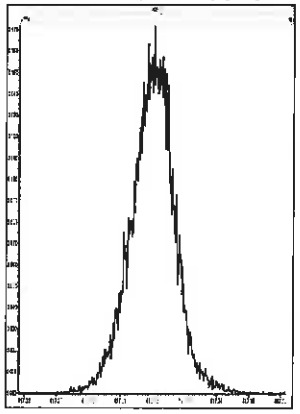

M 430.9728 R 12314

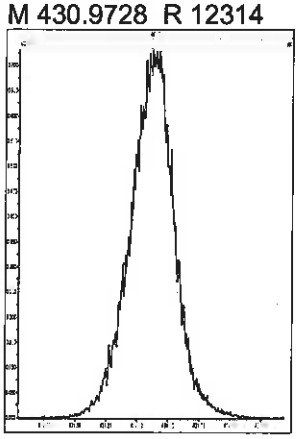

M 442.9728 R 12192

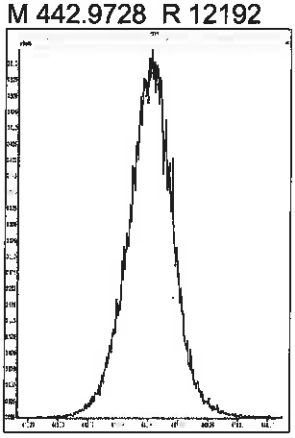

M 454.9728 R 11415

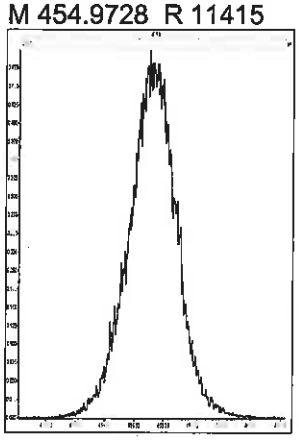

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 4 @ 200 (ppm)

Printed: Thursday, October 10, 2019 15:59:49 Pacific Daylight Time

M 380.9760 R 14285

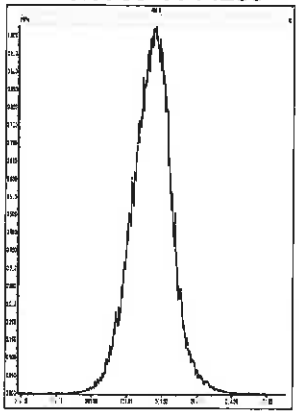

M 392.9760 R 13225

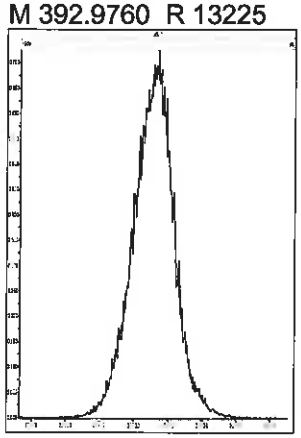

M 404.9760 R 12883

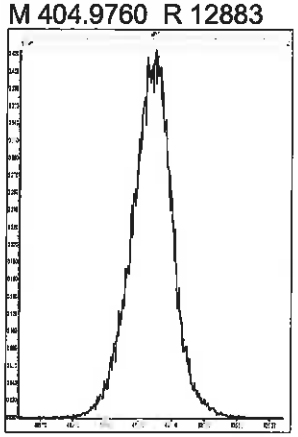

M 416.9760 R 13369

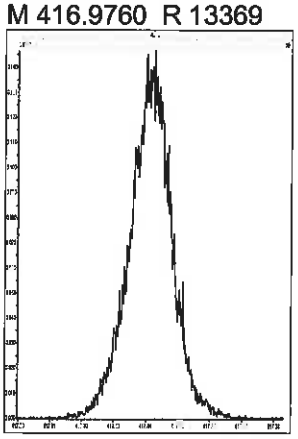

M 430.9728 R 12625

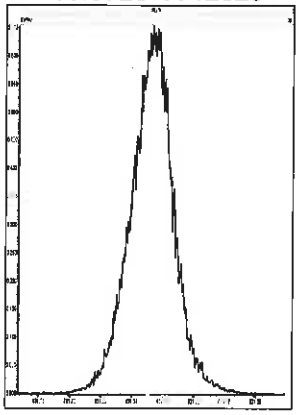

M 442.9728 R 12021

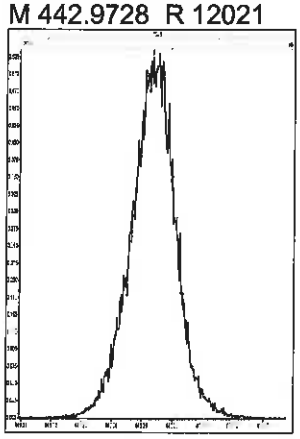

M 454.9728 R 12312

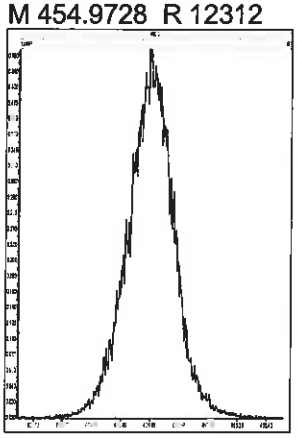

M 466.9728 R 11210

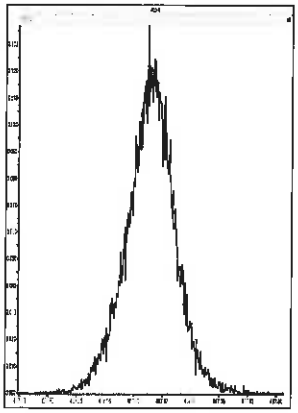

M 480.9696 R 11110

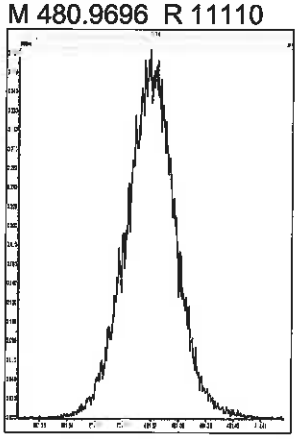

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 5 @ 200 (ppm)

Printed: Thursday, October 10, 2019 16:00:25 Pacific Daylight Time

M 380.9760 R 13812

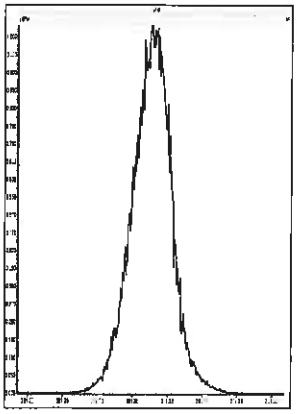

M 392.9760 R 13225

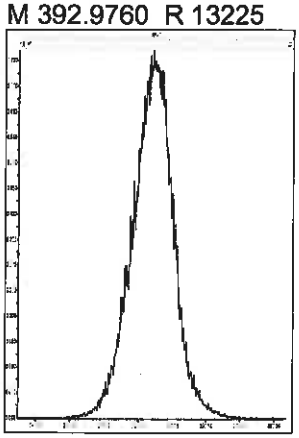

M 404.9760 R 12822

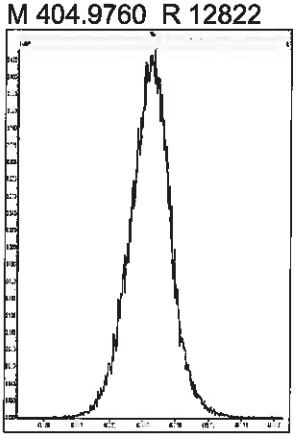

M 416.9760 R 13227

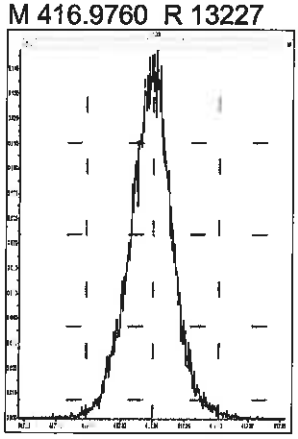

M 430.9728 R 12689

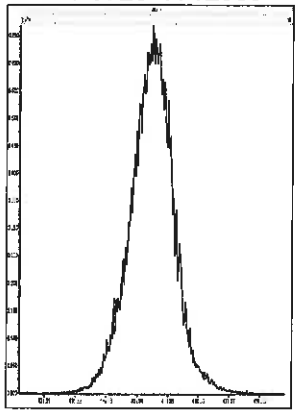

M 442.9728 R 13225

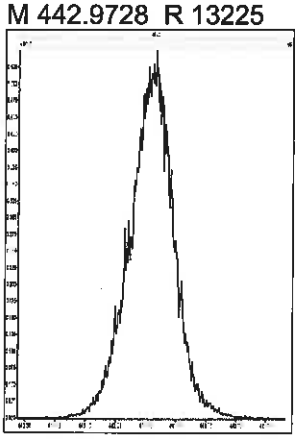

M 454.9728 R 11793

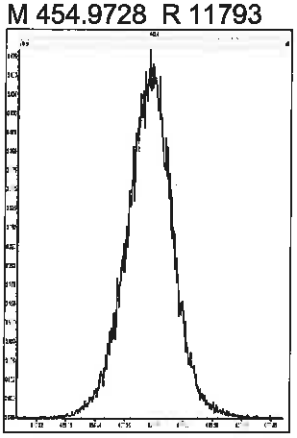

M 466.9728 R 11792

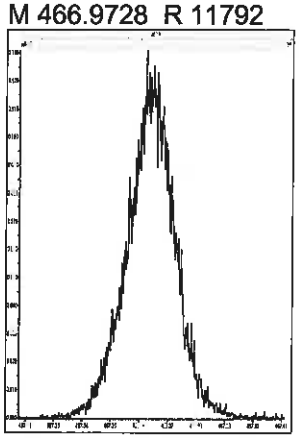

M 480.9696 R 10915

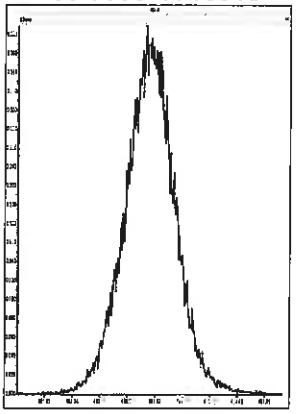

M 492.9696 R 10914

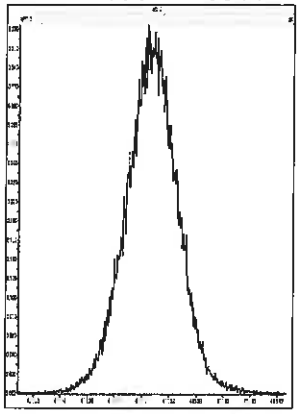

M 504.9696 R 10683

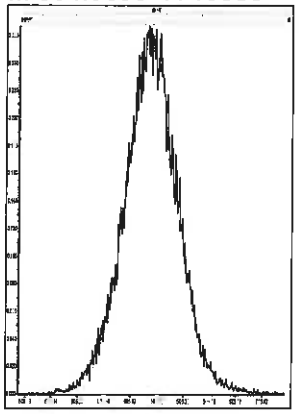

M 516.9697 R 10967

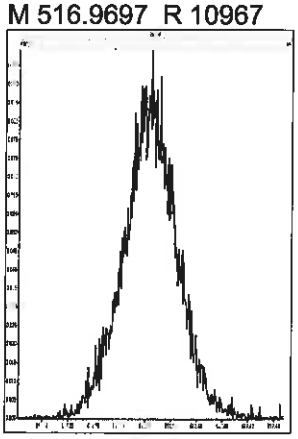

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M 292.9824 R 13021

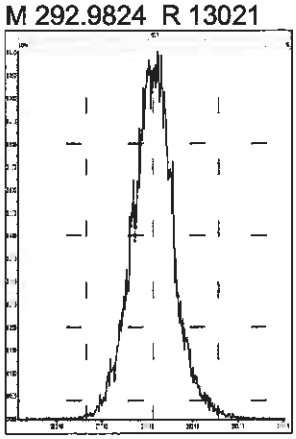

M 304.9824 R 12820

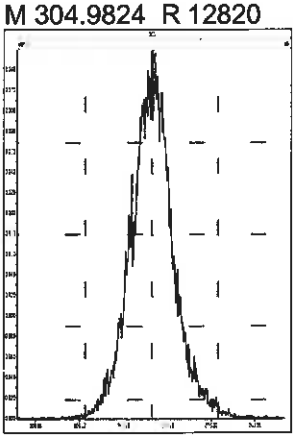

M 318.9792 R 13199

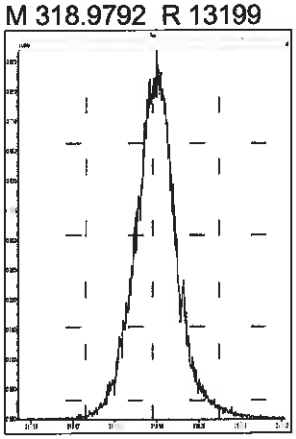

M 330.9792 R 12500

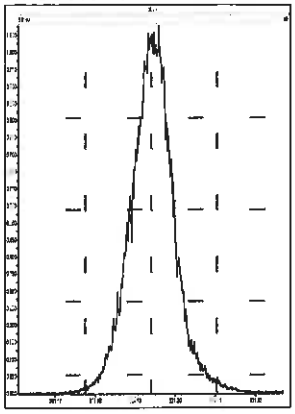

M 342.9792 R 11907

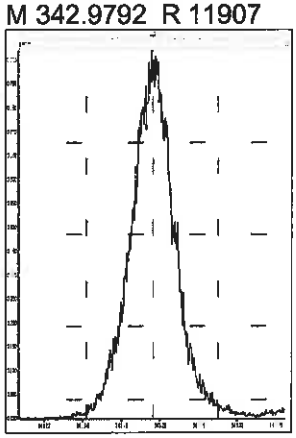

M 354.9792 R 11878

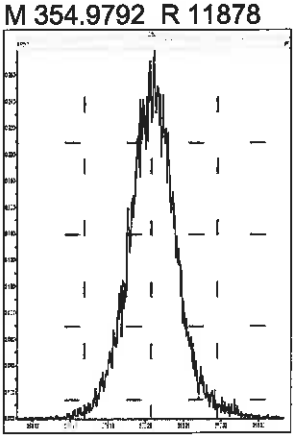

M 366.9792 R 11392

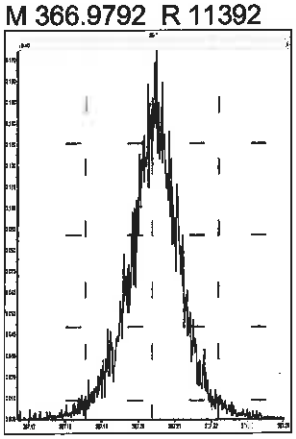

M 380.9760 R 10940

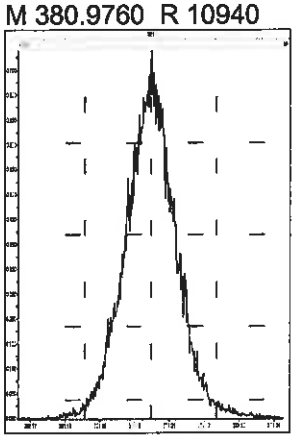

M 392.9760 R 10782

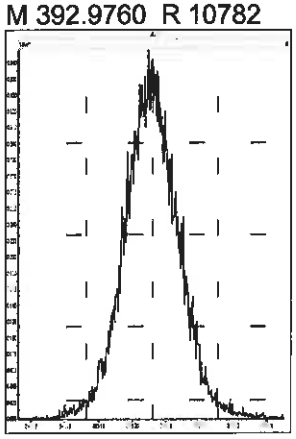

M 404.9760 R 9930

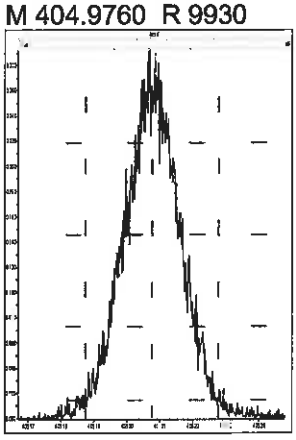

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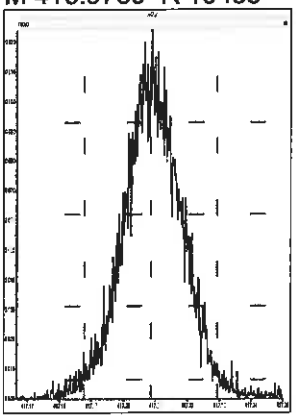

M 318.9792 R 14045

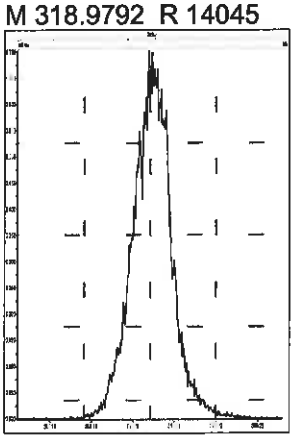

M 330.9792 R 13552

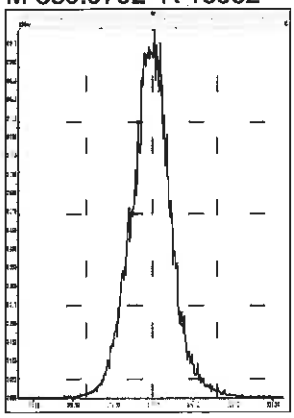

M 342.9792 R 13192

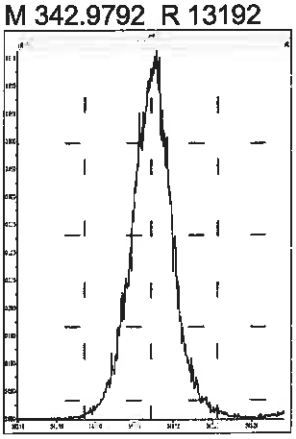

M 354.9792 R 13349

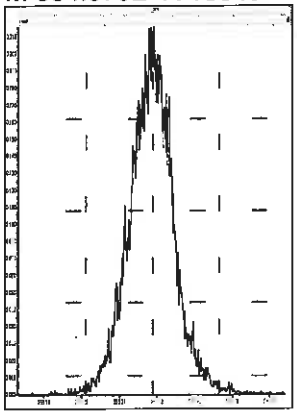

M 366.9792 R 12652

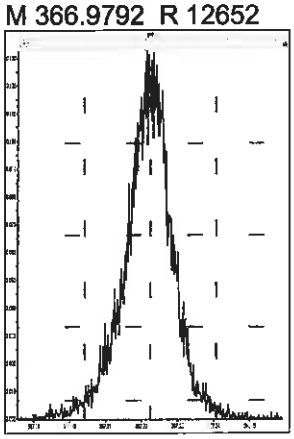

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M 380.9760 R 11914

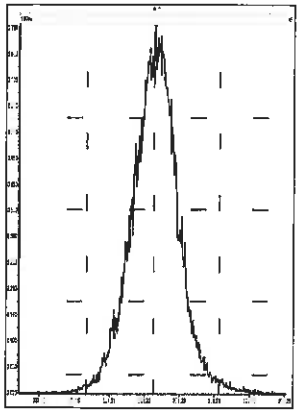

M 392.9760 R 11601

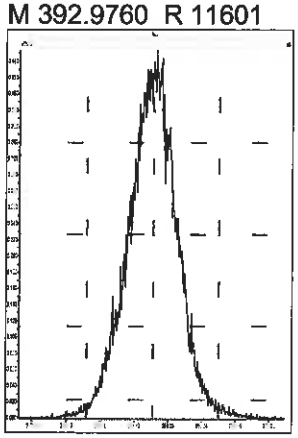

M 404.9760 R 11340

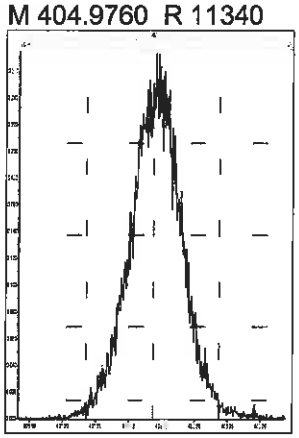

M 416.9760 R 11788

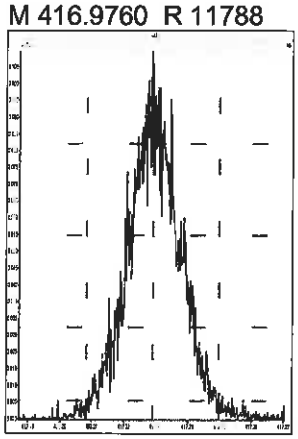

M 366.9792 R 14506

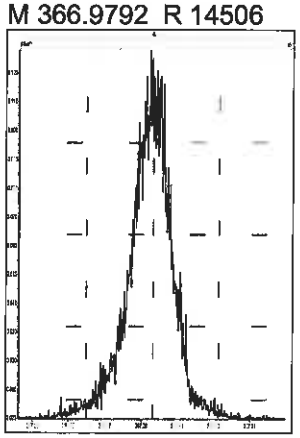

M 380.9760 R 13405

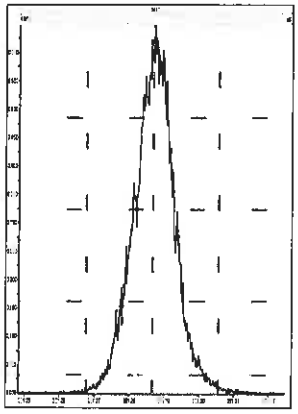

M 392.9760 R 13552

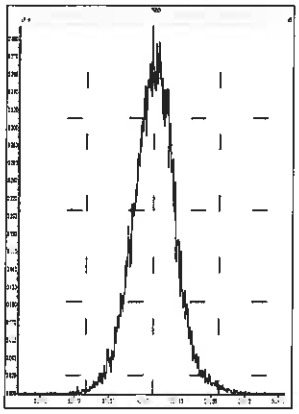

M 404.9760 R 13088

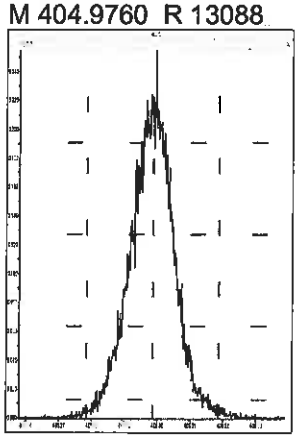

M 416.9760 R 13203

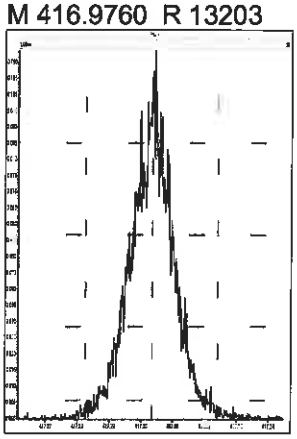

M 430.9728 R 12637

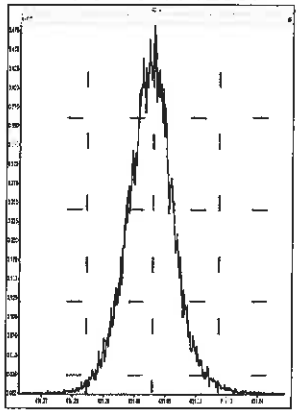

M 442.9728 R 11601

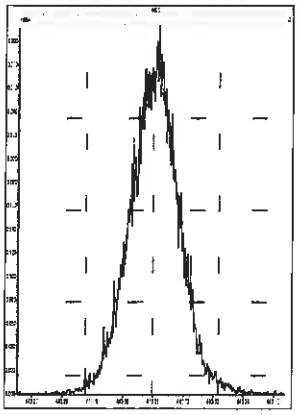

M 454.9728 R 11112

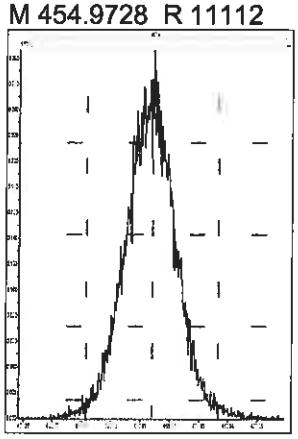

M 380.9760 R 13230

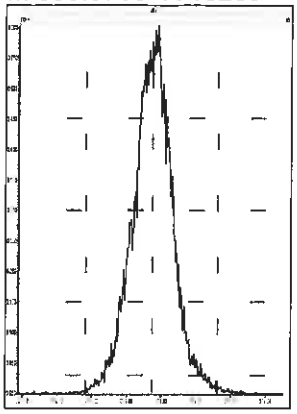

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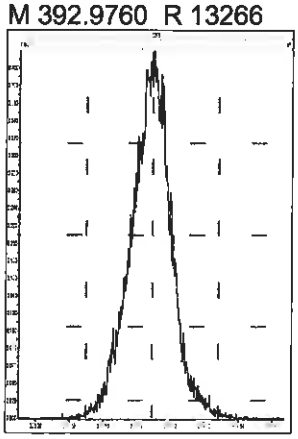

M 404.9760 R 12853

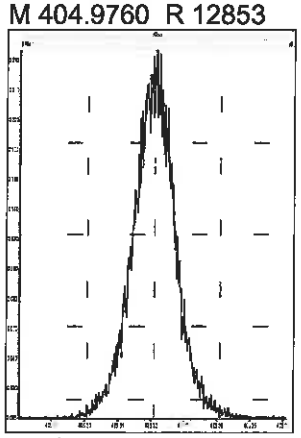

M 416.9760 R 13266

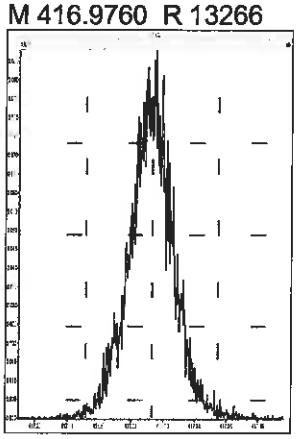

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M 430.9728 R 12408

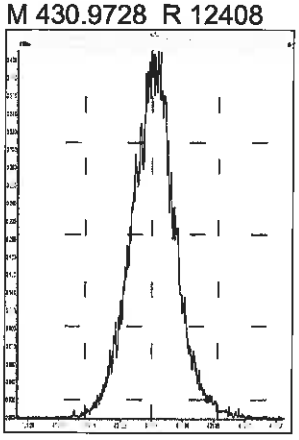

M 442.9728 R 12254

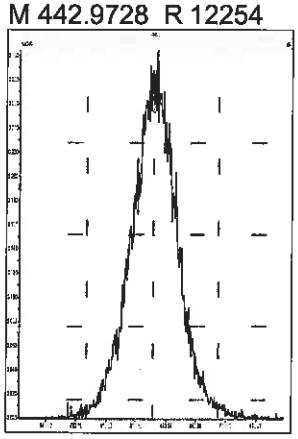

M 454.9728 R 11709

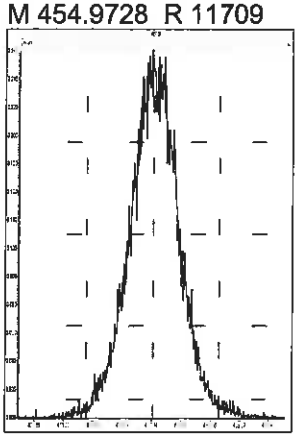

M 466.9728 R 11629

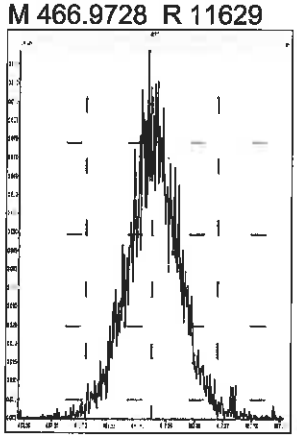

M 480.9696 R 10917

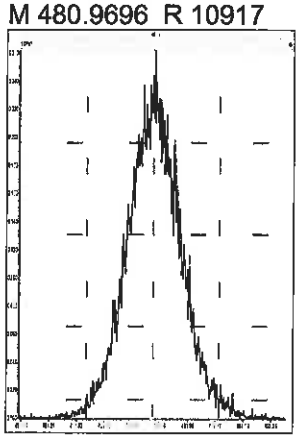

M 380.9760 R 13850

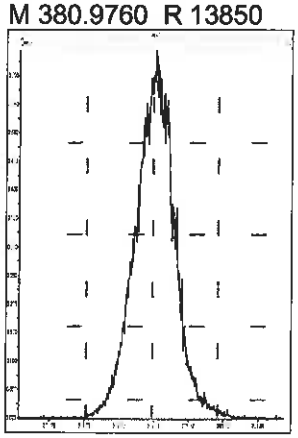

M 392.9760 R 13335

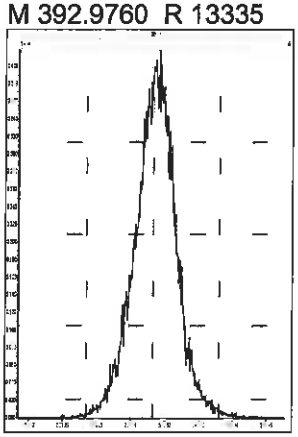

M 404.9760 R 13037

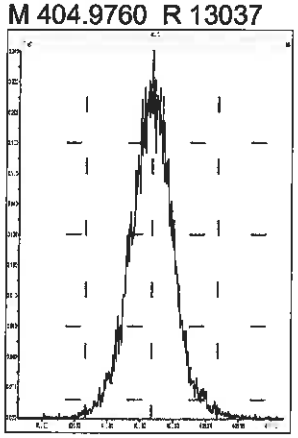

M 416.9760 R 13227

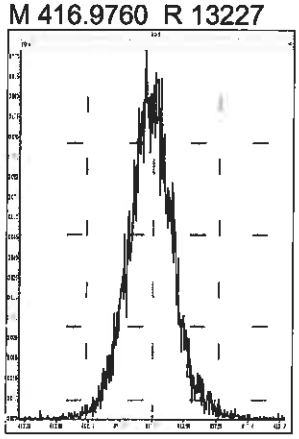

M 430.9728 R 12496

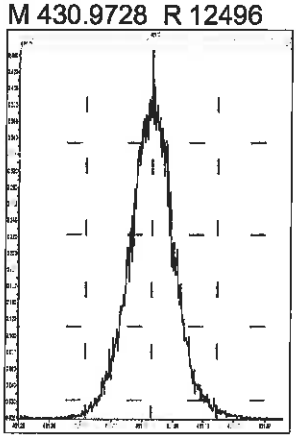

M 442.9728 R 12255

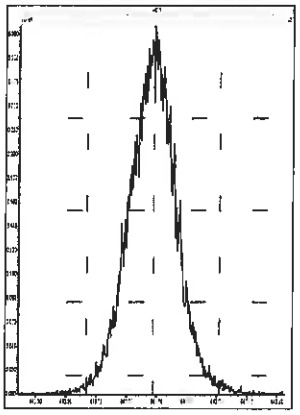

M 454.9728 R 11524

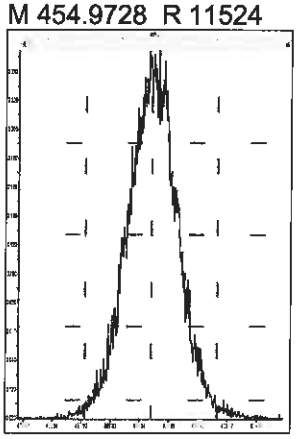

M 466.9728 R 11998

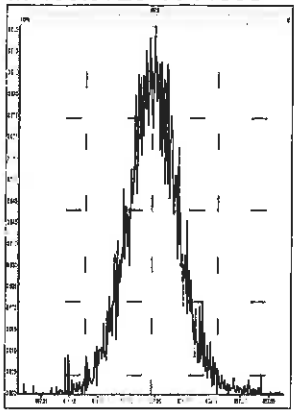

M 480.9696 R 10645

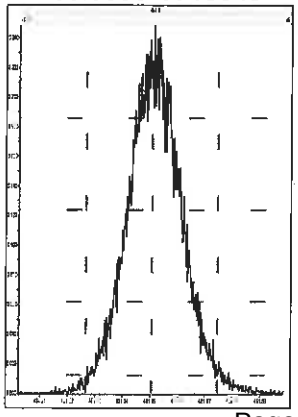

M 492.9696 R 10548

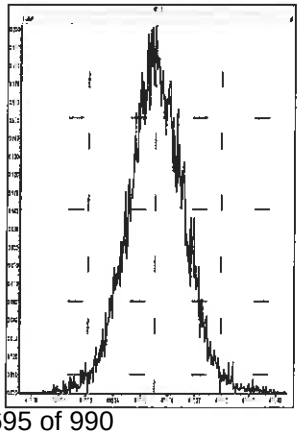

M 504.9696 R 10328

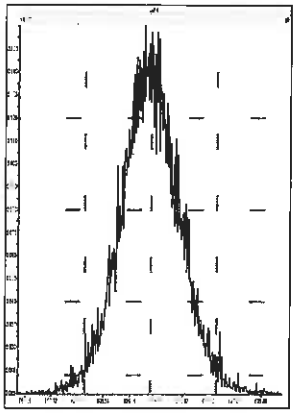

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M 516.9697 R 10438

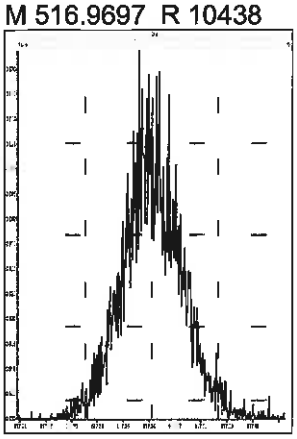

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M 292.9824 R 13094

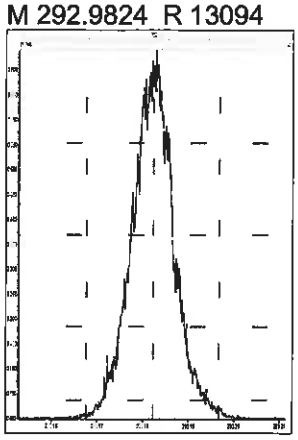

M 304.9824 R 12695

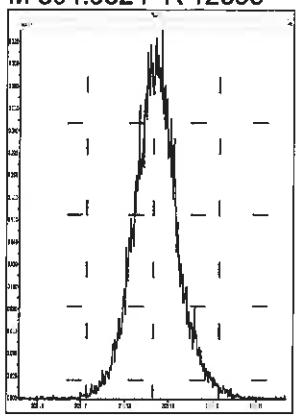

M 318.9792 R 12351

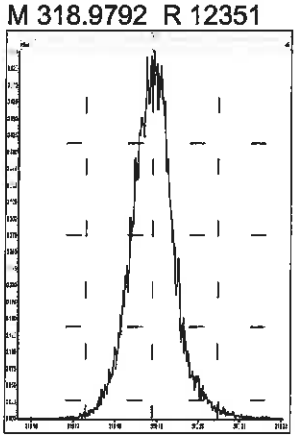

M 330.9792 R 11769

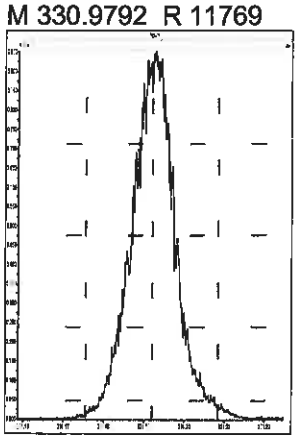

M 342.9792 R 11740

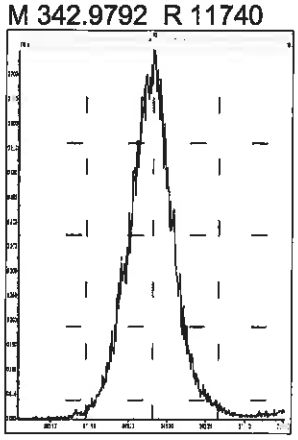

M 354.9792 R 11365

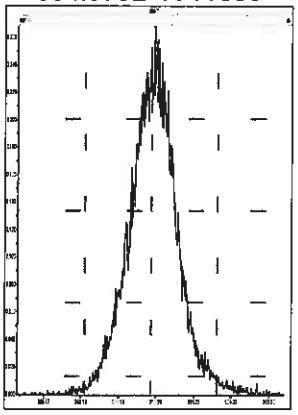

M 366.9792 R 11344

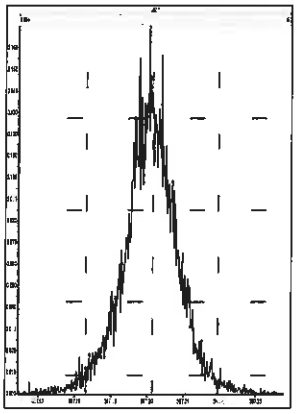

M 380.9760 R 10869

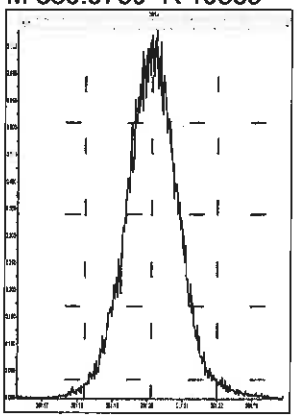

M 392.9760 R 10482

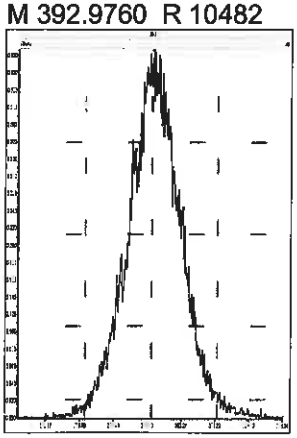

M 404.9760 R 10100

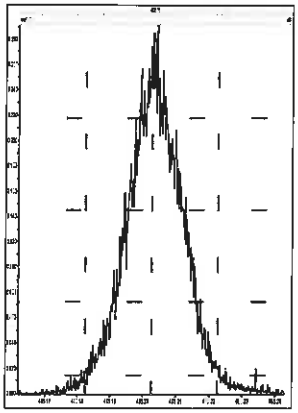

M 416.9760 R 10261

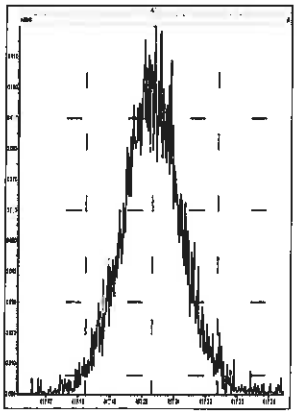

M 318.9792 R 13371

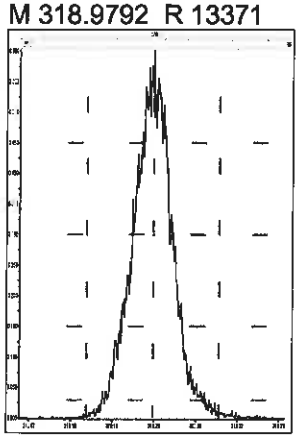

M 330.9792 R 13477

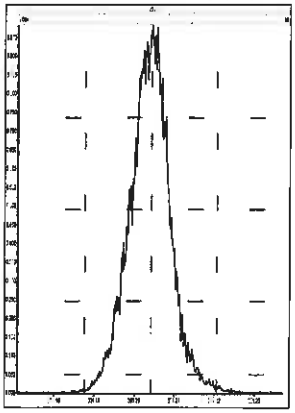

M 342.9792 R 13513

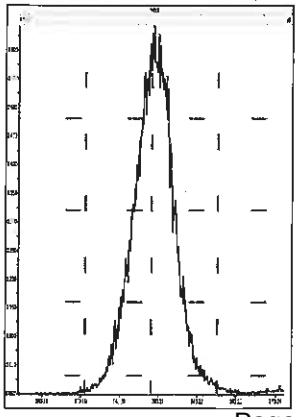

M 354.9792 R 13693

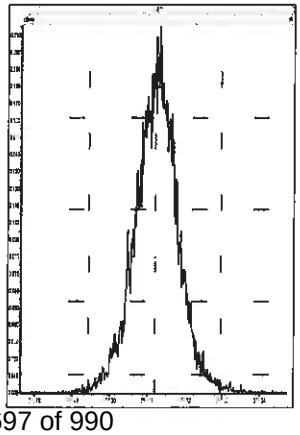

M 366.9792 R 12535

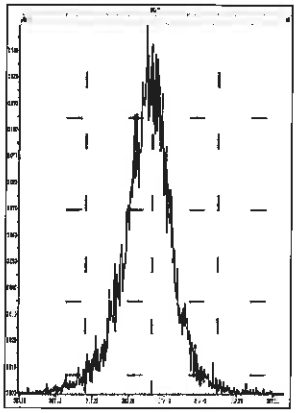

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M 380.9760 R 12278

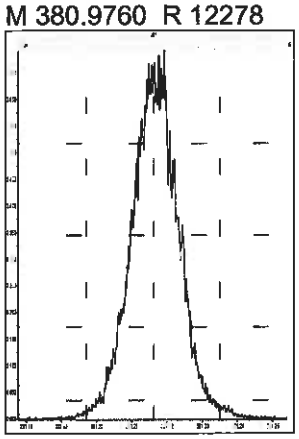

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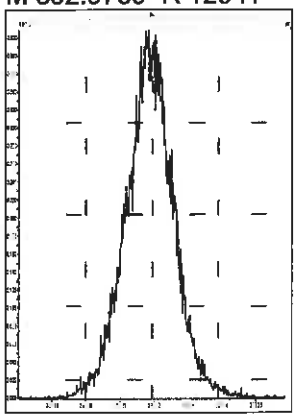

M 404.9760 R 11338

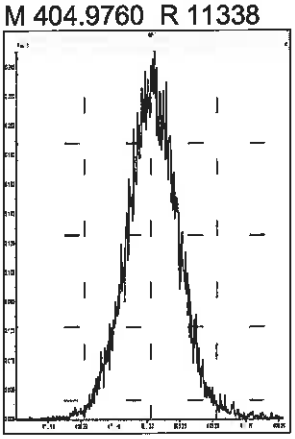

M 416.9760 R 11767

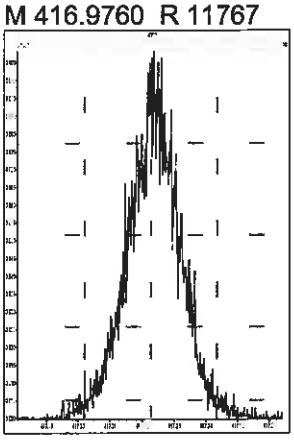

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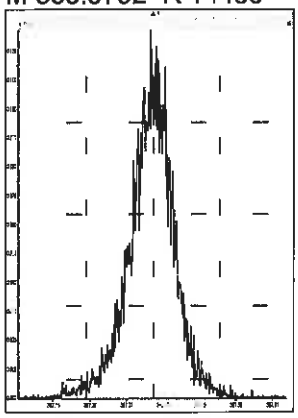

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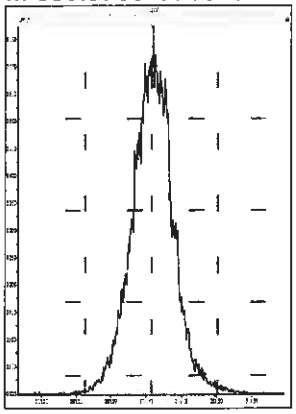

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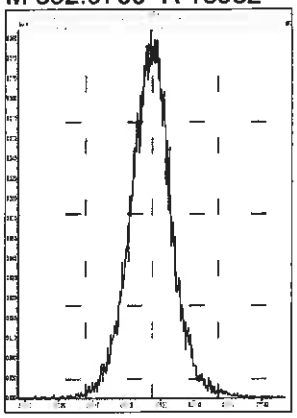

M 404.9760 R 12831

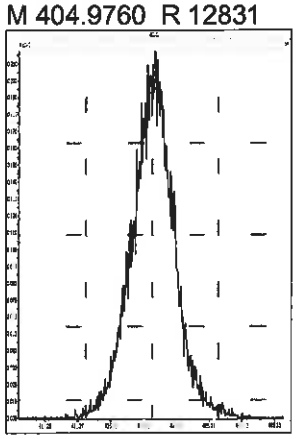

M 416.9760 R 12695

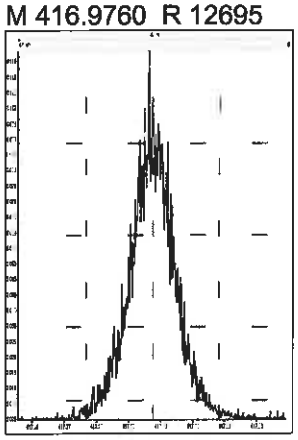

M 430.9728 R 12261

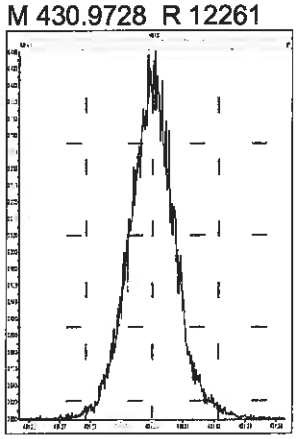

M 442.9728 R 11749

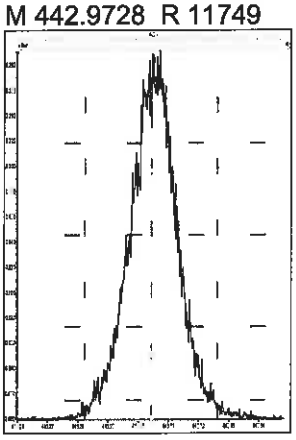

M 454.9728 R 10990

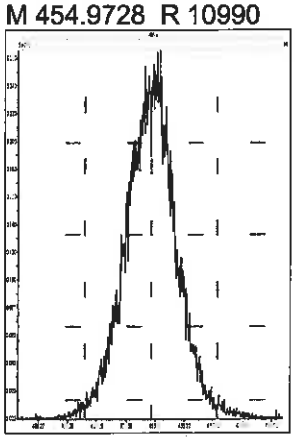

M 380.9760 R 13476

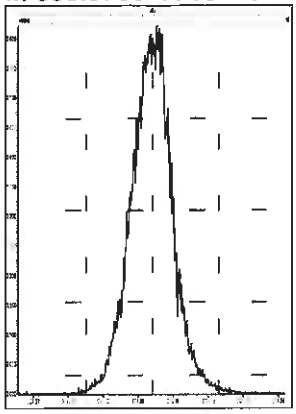

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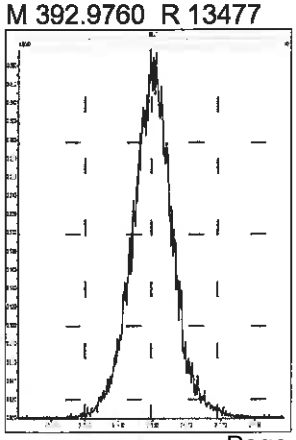

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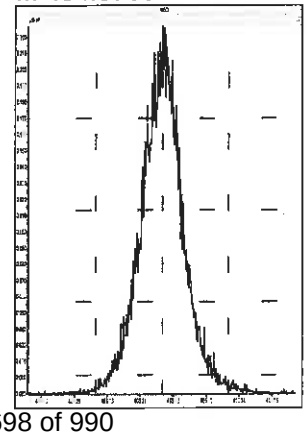

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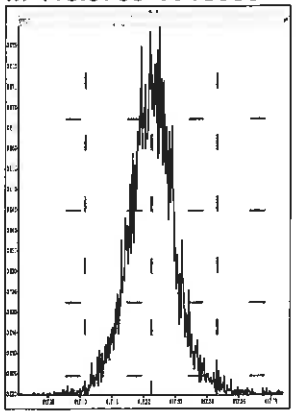

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M 430.9728 R 12628

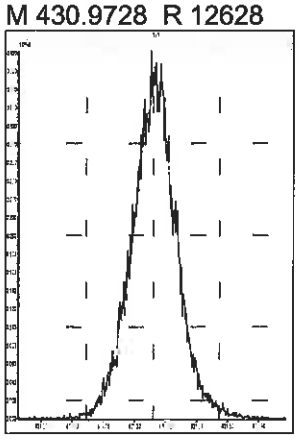

M 442.9728 R 11762

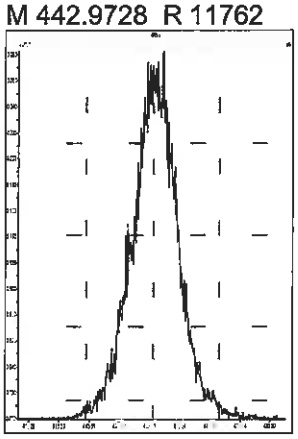

M 454.9728 R 11879

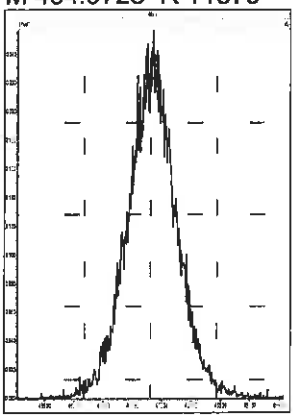

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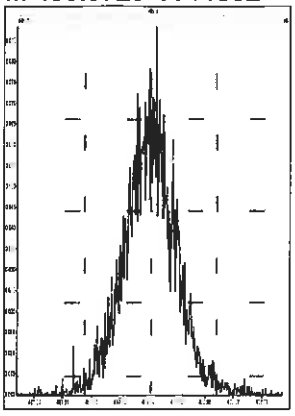

M 480.9696 R 11312

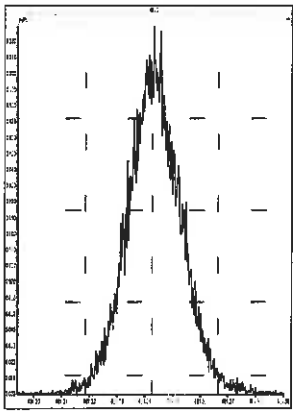

M 380.9760 R 13774

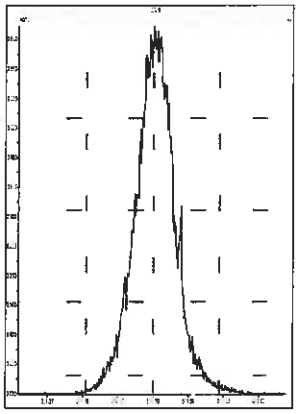

M 392.9760 R 13370

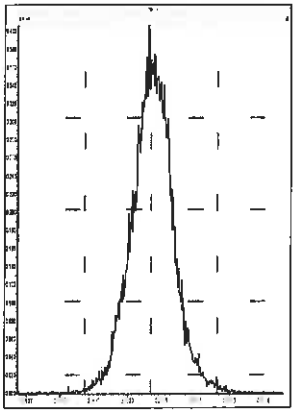

M 404.9760 R 13592

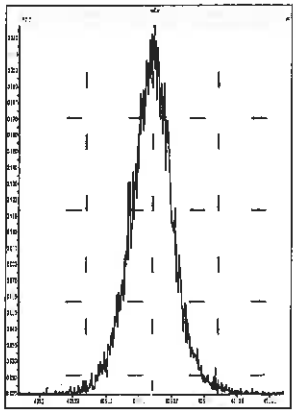

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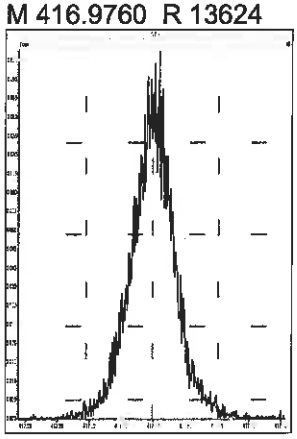

M 430.9728 R 12408

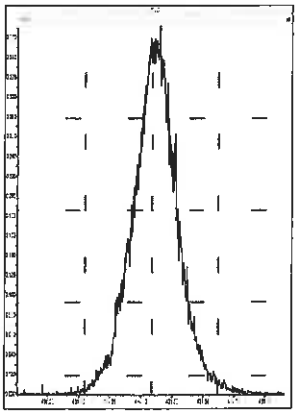

M 442.9728 R 12078

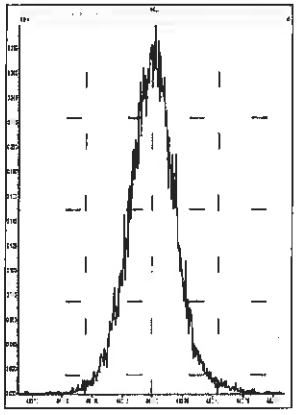

M 454.9728 R 11550

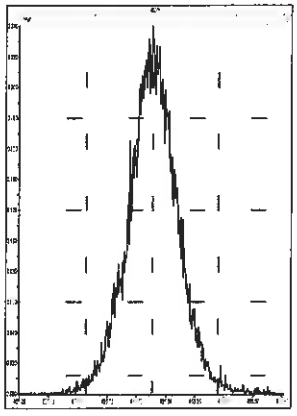

M 466.9728 R 12574

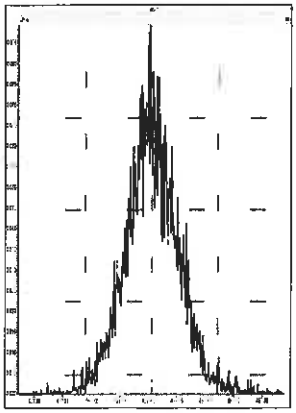

M 480.9696 R 10941

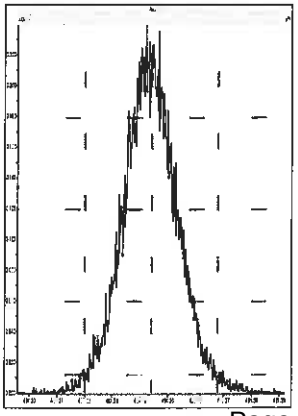

M 492.9696 R 10438

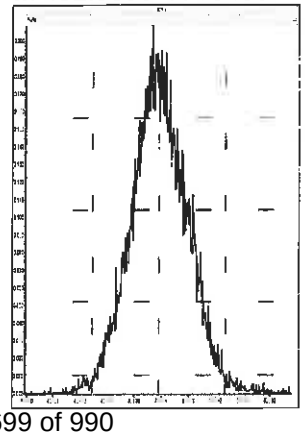

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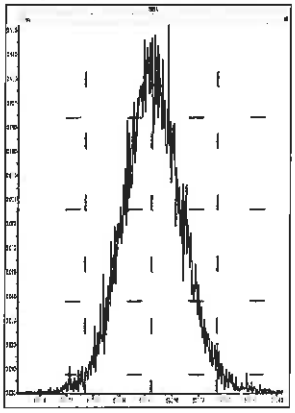

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M 516.9697 R 10638

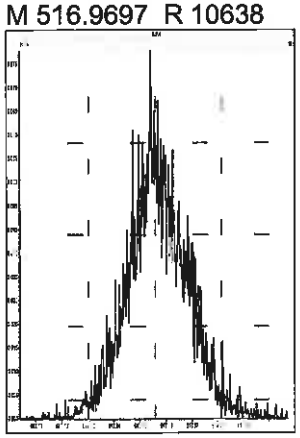

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_2.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 10-Oct-2019 16:48:09 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 101019 CS-4 HRDXNL4_00084
Misc. Info.: 10OC1910D5
Operator ID: ALM Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 11-Oct-2019 12:50:56 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0340

First Level Reviewer: shardaa Date: 10-Oct-2019 18:03:04

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.986	86557952	0.80	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.472	108997083	0.79	1.4384	87.5	87.5	0.1552	0.1552	87.55	
2,3,7,8-TCDF	17.487	11284339	0.76	1.0507	9.853	9.853	0.0297	0.0297	98.53	
A Non-2,3,7,8-sub-TCDF	17.162						0.0297	0.0297		n
S Total TCDF					9.853	9.853	0.0297	0.0297		
D 13C-2,3,7,8-TCDD	18.183	81981228	0.79	0.9533	99.3	99.3	0.1189	0.1189	99.35	
$ 37Cl4-2,3,7,8-TCDD	18.198	8336972		1.2224	7.879	7.879	0.008968	0.008968	98.49	
2,3,7,8-TCDD	18.213	8062408	0.79	1.1064	8.889	8.889	0.0307	0.0307	88.89	
A Non-2,3,7,8-sub-TCDD	17.616						0.0307	0.0307		
S Total TCDD					8.889	8.889	0.0307	0.0307		
D 13C-1,2,3,7,8-PeCDF	22.556	88627267	1.52	1.0286	99.5	99.5	0.1838	0.1838	99.54	
1,2,3,7,8-PeCDF	22.570	44905779	1.61	1.0822	46.8	46.8	0.1209	0.1209	93.64	
D 13C-2,3,4,7,8-PeCDF	23.920	84866805	1.54	0.9827	99.8	99.8	0.1923	0.1923	99.78	
2,3,4,7,8-PeCDF	23.947	44008857	1.60	1.1032	47.0	47.0	0.1373	0.1373	94.01	
A F1 PeCDFs	20.035						0.0167	0.0167		
A Non-2,3,7,8-sub-PeCDF	23.226						0.1285	0.1285		n
S Total PeCDF					93.8	93.8	0.1291	0.1291		
D 13C-1,2,3,7,8-PeCDD	24.643	69058491	1.58	0.7481	106.6	106.6	0.1232	0.1232	107	
1,2,3,7,8-PeCDD	24.670	31617813	1.55	0.9050	50.6	50.6	0.0691	0.0691	101	
A Non-2,3,7,8-sub-PeCDD	23.531						0.0691	0.0691		
S Total PeCDD					50.6	50.6	0.0691	0.0691		
D 13C-1,2,3,4,7,8-HxCDF	30.682	76646701	0.53	1.1520	94.9	94.9	0.2175	0.2175	94.93	
1,2,3,4,7,8-HxCDF	30.695	44854822	1.26	1.1973	48.9	48.9	0.1468	0.1468	97.75	
D 13C-1,2,3,6,7,8-HxCDF	30.855	78821720	0.52	1.2434	90.4	90.4	0.2015	0.2015	90.45	
1,2,3,6,7,8-HxCDF	30.868	45485802	1.25	1.1807	48.9	48.9	0.1416	0.1416	97.75	
D 13C-2,3,4,6,7,8-HxCDF	31.640	77104933	0.52	1.1720	93.9	93.9	0.2138	0.2138	93.87	
2,3,4,6,7,8-HxCDF	31.653	44952860	1.26	1.2116	48.1	48.1	0.1134	0.1134	96.24	
D 13C-1,2,3,7,8,9-HxCDF	32.412	71972502	0.52	1.0655	96.4	96.4	0.2352	0.2352	96.38	
1,2,3,7,8,9-HxCDF	32.426	42952401	1.25	1.2451	47.9	47.9	0.1042	0.1042	95.86	
A Non-2,3,7,8-sub-HxCDF	30.363						0.1242	0.1242		

Report Date: 11-Oct-2019 12:50:56 Chrom Revision: 2.3 09-Oct-2019 11:13:36
Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_2.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					193.8	193.8	0.1265	0.1265		
* 13C-1,2,3,7,8,9-HxCDD	32.239	70085090	1.23	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.813	54832150	1.23	0.7812	100.1	100.1	0.1691	0.1691	100	
1,2,3,4,7,8-HxCDD	31.826	29711535	1.29	1.1088	48.9	48.9	0.0843	0.0843	97.74	
D 13C-1,2,3,6,7,8-HxCDD	31.920	58610082	1.23	0.9175	91.2	91.2	0.1440	0.1440	91.15	
1,2,3,6,7,8-HxCDD	31.933	30965548	1.28	1.0814	48.9	48.9	0.0824	0.0824	97.71	
1,2,3,7,8,9-HxCDD	32.252	34430365	1.28	1.2123	50.1	50.1	0.0753	0.0753	100	
A Non-2,3,7,8-sub-HxCDD	30.995						0.0804	0.0804		
S Total HxCDD					147.8	147.8	0.0807	0.0807		
D 13C-1,2,3,4,6,7,8-HpCDF	33.819	52763007	0.44	0.8628	87.3	87.3	0.5065	0.5065	87.26	
1,2,3,4,6,7,8-HpCDF	33.819	39409380	1.06	1.5555	48.0	48.0	0.2060	0.2060	96.03	
D 13C-1,2,3,4,7,8,9-HpCDF	34.889	49518122	0.44	0.7991	88.4	88.4	0.5468	0.5468	88.42	
1,2,3,4,7,8,9-HpCDF	34.901	33746498	1.05	1.3862	49.2	49.2	0.2668	0.2668	98.32	
A Non-2,3,7,8-sub-HpCDF	34.360						0.2335	0.2335		
S Total HpCDF					97.2	97.2	0.2364	0.2364		
D 13C-1,2,3,4,6,7,8-HpCDD	34.609	57808222	1.04	0.8739	94.4	94.4	0.3249	0.3249	94.39	
1,2,3,4,6,7,8-HpCDD	34.609	26706699	1.04	0.9316	49.6	49.6	0.1968	0.1968	99.18	
A Non-2,3,7,8-sub-HpCDD	35.190						0.1968	0.1968		
S Total HpCDD					49.6	49.6	0.1968	0.1968		
D 13C-OCDD	36.941	84121893	0.88	0.7744	155.0	155.0	0.0880	0.0880	77.50	
OCDF	37.049	53816050	0.92	1.2596	101.6	101.6	0.0504	0.0504	102	
OCDD	36.953	43528428	0.88	1.0621	97.4	97.4	0.0545	0.0545	97.44	

Reagents:

HRDXNL4_00084 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_2.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 10-Oct-2019 16:48:09 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 101019 CS-4 HRDXNL4_00084
Misc. Info.: 10OC1910D5
Operator ID: ALM Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 11-Oct-2019 12:50:56 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0340

First Level Reviewer: shardaa Date: 10-Oct-2019 18:03:04

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.986	17.986	0		38503417	9470976	5768	14420	1642		
333.9339	17.986	17.986	0		48054535	12056740	3992	9980	3020	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.472	17.472	0	0.971	48217649	12547811	12352	30880	1016		
317.9389	17.472	17.472	0	0.971	60779434	15904221	6871	17177	2315	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.487	17.487	0	1.001	4874657	1246015	1296	3240	961		
305.8987	17.487	17.487	0	1.001	6409682	1663470	2254	5635	738	0.76(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.094	17.162	-4	0.978	25089	6593	1296	3240	5		
305.8987	17.094	17.162	-4	0.978	30640	8670	2254	5635	4	0.82(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	18.183	18.183	0	1.011	36243384	8906287	5768	14420	1544		
333.9339	18.183	18.183	0	1.011	45737844	11129279	3992	9980	2788	0.79(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.198	18.198	0	1.012	8336972	2041209	944	2360	2162		
2,3,7,8-TCDD											
319.8965	18.213	18.213	0	1.002	3552865	856072	1550	3875	552		
321.8936	18.198	18.213	-1	1.001	4509543	1098448	1175	2937	935	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.616						1550	3875			
321.8936	17.616						1175	2937			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	22.556	22.556	0	1.254	53462027	9983497	9654	24135	1034		
353.8970	22.556	22.556	0	1.254	35165240	6502339	6622	16555	982	1.52(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.570	22.570	0	1.001	27724022	5081215	4977	12442	1021		
341.8567	22.570	22.570	0	1.001	17181757	3191482	3650	9125	874	1.61(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	23.920	23.920	0	1.330	51416290	8701405	9654	24135	901		
353.8970	23.920	23.920	0	1.330	33450515	5532269	6622	16555	835	1.54(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.947	23.947	0	1.001	27052977	4502433	4977	12442	905		
341.8567	23.934	23.947	-1	1.001	16955880	2885888	3650	9125	791	1.60(1.32-1.78)	
A F1 PeCDFs											
339.8597	20.035						274	685			
341.8567	20.035						848	2120			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.115	23.226	-7	1.025	222804	36960	4977	12442	7		
341.8567	23.115	23.226	-7	1.025	147285	21052	3650	9125	6	1.51(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	24.643	24.643	0	1.370	42255396	6905081	4692	11730	1472		
369.8919	24.643	24.643	0	1.370	26803095	4506634	3247	8117	1388	1.58(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.670	24.670	0	1.001	19219404	3155671	1800	4500	1753		
357.8516	24.670	24.670	0	1.001	12398409	2045831	1053	2632	1943	1.55(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.531						1800	4500			
357.8516	23.531						1053	2632			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.682	30.682	0	0.952	26486323	5319480	6232	15580	854		
385.8610	30.682	30.682	0	0.952	50160378	10036722	12949	32372	775	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.695	30.695	0	1.000	24997722	5115783	6167	15417	830		
375.8178	30.695	30.695	0	1.000	19857100	4065224	4633	11582	877	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.855	30.855	0	0.957	27107286	5632205	6232	15580	904		
385.8610	30.855	30.855	0	0.957	51714434	10516601	12949	32372	812	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.868	30.868	0	1.000	25313804	5313258	6167	15417	862		
375.8178	30.868	30.868	0	1.000	20171998	4240313	4633	11582	915	1.25(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.640	31.640	0	0.981	26442045	6751574	6232	15580	1083		
385.8610	31.640	31.640	0	0.981	50662888	12905424	12949	32372	997	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.653	31.653	0	1.000	25023662	6469363	6167	15417	1049		
375.8178	31.653	31.653	0	1.000	19929198	5123062	4633	11582	1106	1.26(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.412	32.412	0	1.005	24672383	7085924	6232	15580	1137		
385.8610	32.412	32.412	0	1.005	47300119	13717029	12949	32372	1059	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.426	32.426	0	1.000	23835310	6959953	6167	15417	1129		
375.8178	32.426	32.426	0	1.000	19117091	5629298	4633	11582	1215	1.25(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.363						6167	15417			
375.8178	30.363						4633	11582			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.239	32.239	0		38641628	10518468	5054	12635	2081		
403.8529	32.239	32.239	0		31443462	8616691	5059	12647	1703	1.23(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.813	31.813	0	0.987	30275440	8411906	5054	12635	1664		
403.8529	31.813	31.813	0	0.987	24556710	6808585	5059	12647	1346	1.23(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.826	31.826	0	1.000	16724490	4601985	3513	8782	1310		
391.8127	31.826	31.826	0	1.000	12987045	3594832	2175	5437	1653	1.29(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.920	31.920	0	0.990	32320735	8740164	5054	12635	1729		
403.8529	31.920	31.920	0	0.990	26289347	7209635	5059	12647	1425	1.23(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.933	31.933	0	1.000	17354327	4748359	3513	8782	1352		
391.8127	31.933	31.933	0	1.000	13611221	3760382	2175	5437	1729	1.28(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.252	32.252	0	1.014	19302378	5429201	3513	8782	1545		
391.8127	32.239	32.252	-1	1.013	15127987	4173443	2175	5437	1919	1.28(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.995						3513	8782			
391.8127	30.995						2175	5437			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.819	33.819	0	1.049	16219695	5317256	10986	27465	484		
419.8220	33.819	33.819	0	1.049	36543312	11858097	22459	56147	528	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.819	33.819	0	1.000	20292525	6613018	11334	28335	583		
409.7789	33.819	33.819	0	1.000	19116855	6428109	10682	26705	602	1.06(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.889	34.889	0	1.082	15044701	4538702	10986	27465	413		
419.8220	34.889	34.889	0	1.082	34473421	10340734	22459	56147	460	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.901	34.901	0	1.000	17302492	5228923	11334	28335	461		
409.7789	34.901	34.901	0	1.000	16444006	5015354	10682	26705	470	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.360						11334	28335			
409.7789	34.360						10682	26705			

Report Date: 11-Oct-2019 12:50:56 Chrom Revision: 2.3 09-Oct-2019 11:13:36
Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_2.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.609	34.609	0	1.074	29416002	8800319	9904	24760	889		
437.8140	34.597	34.609	-1	1.073	28392220	8528269	11831	29577	721	1.04(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.609	34.609	0	1.000	13615134	4166404	6304	15760	661		
425.7737	34.609	34.609	0	1.000	13091565	4052511	6405	16012	633	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	35.190						6304	15760			
425.7737	35.190						6405	16012			
13C-OCDD											
469.7779	36.941	36.941	0	1.146	39282997	10212581	2872	7180	3556		
471.7750	36.941	36.941	0	1.146	44838896	11750837	2343	5857	5015	0.88(0.76-1.02)	
OCDF											
441.7428	37.049	37.049	0	1.003	25717480	6797362	1272	3180	5344		
443.7399	37.049	37.049	0	1.003	28098570	7332438	1516	3790	4837	0.92(0.76-1.02)	
OCDD											
457.7377	36.953	36.953	0	1.000	20414599	5472821	1054	2635	5192		
459.7348	36.953	36.953	0	1.000	23113829	6216854	1491	3727	4170	0.88(0.76-1.02)	

Reagents:

HRDXNL4_00084 Amount Added: 1.00 Units: mL

Report Date: 11-Oct-2019 12:50:57 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_2.d		
Injection Date:	10-Oct-2019 16:48:09	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330145	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

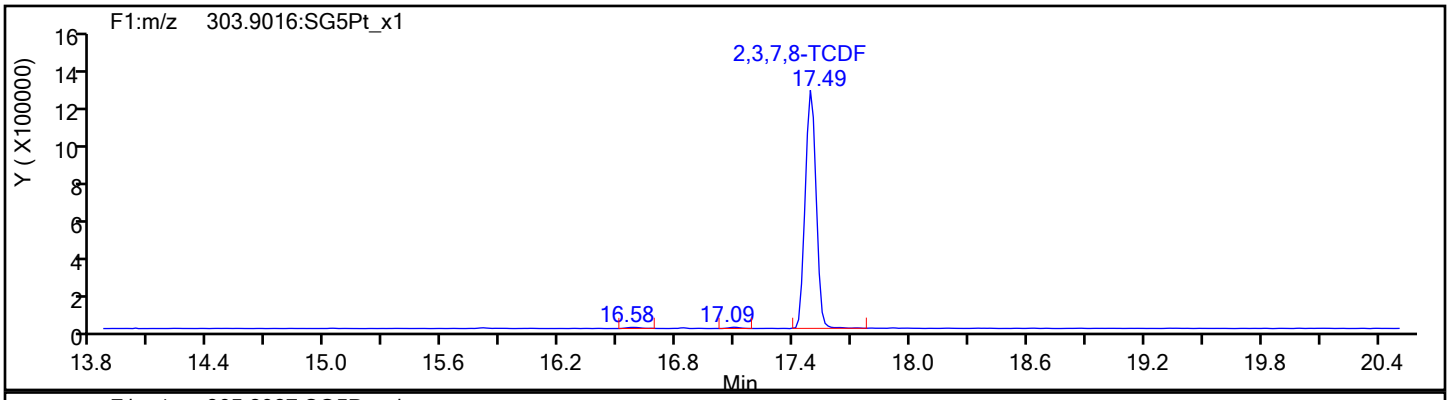

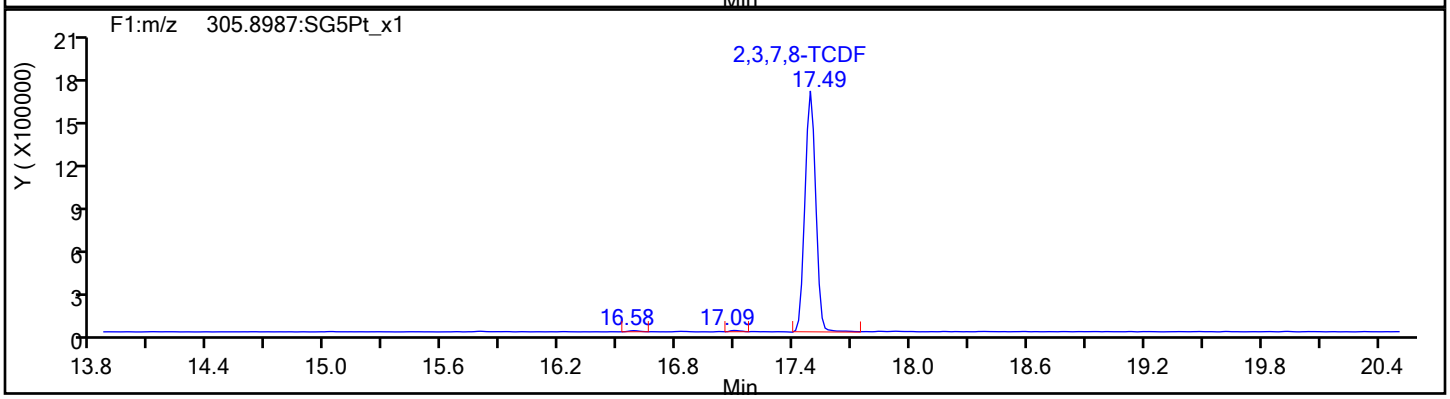

TCDF Standards

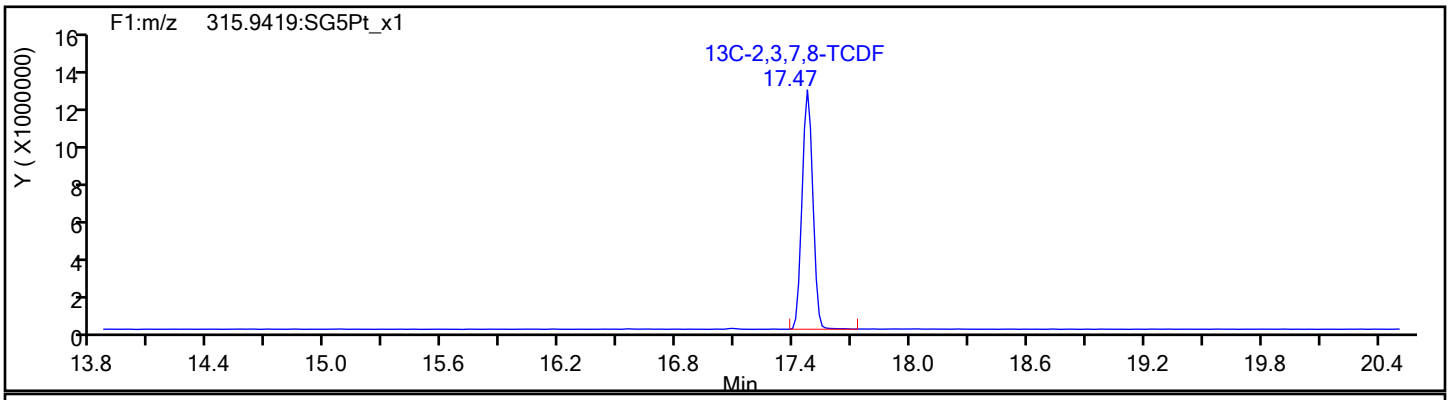

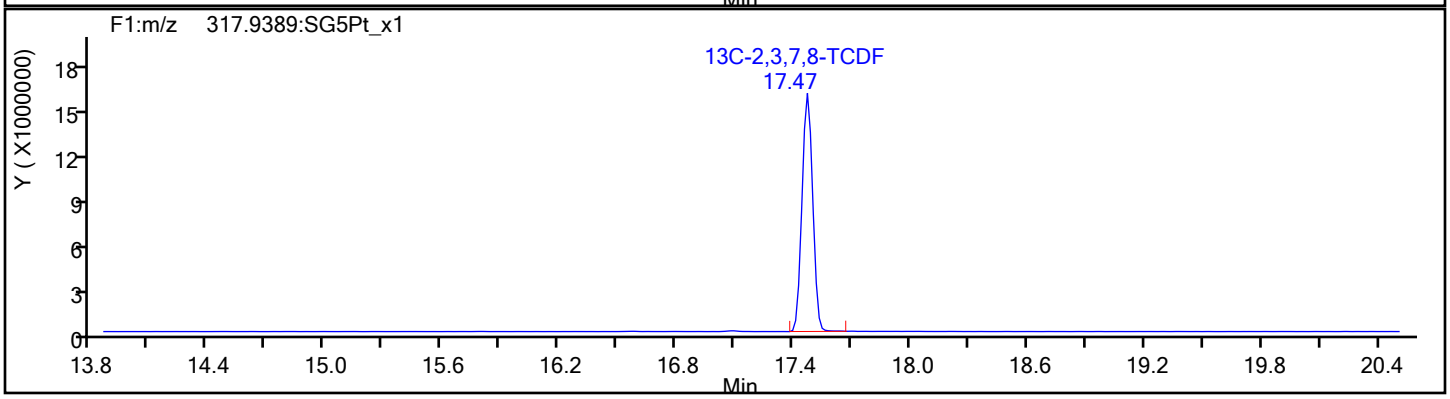

Report Date: 11-Oct-2019 12:50:57 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_2.d		
Injection Date:	10-Oct-2019 16:48:09	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330145	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

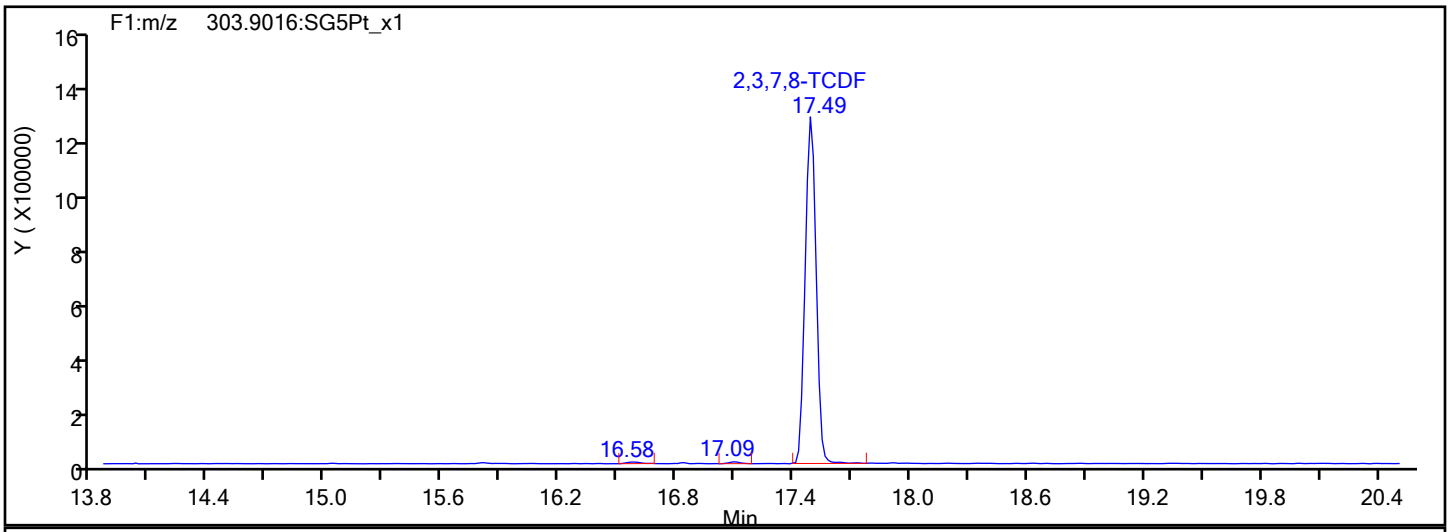

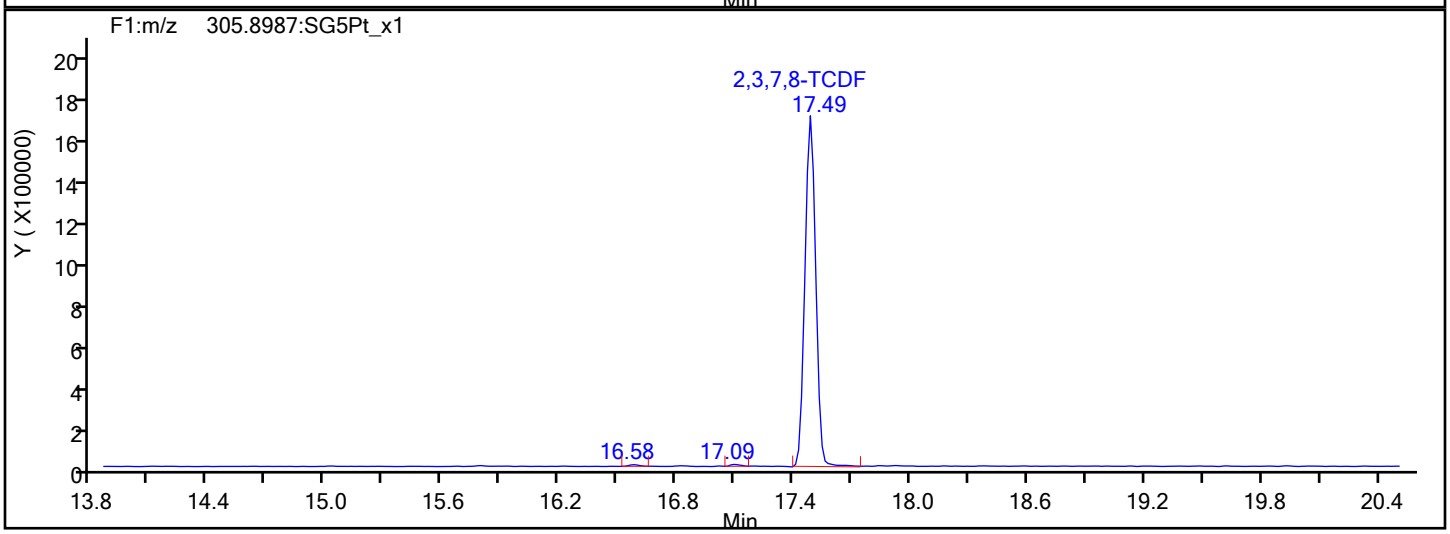

TCDF Interference Mass

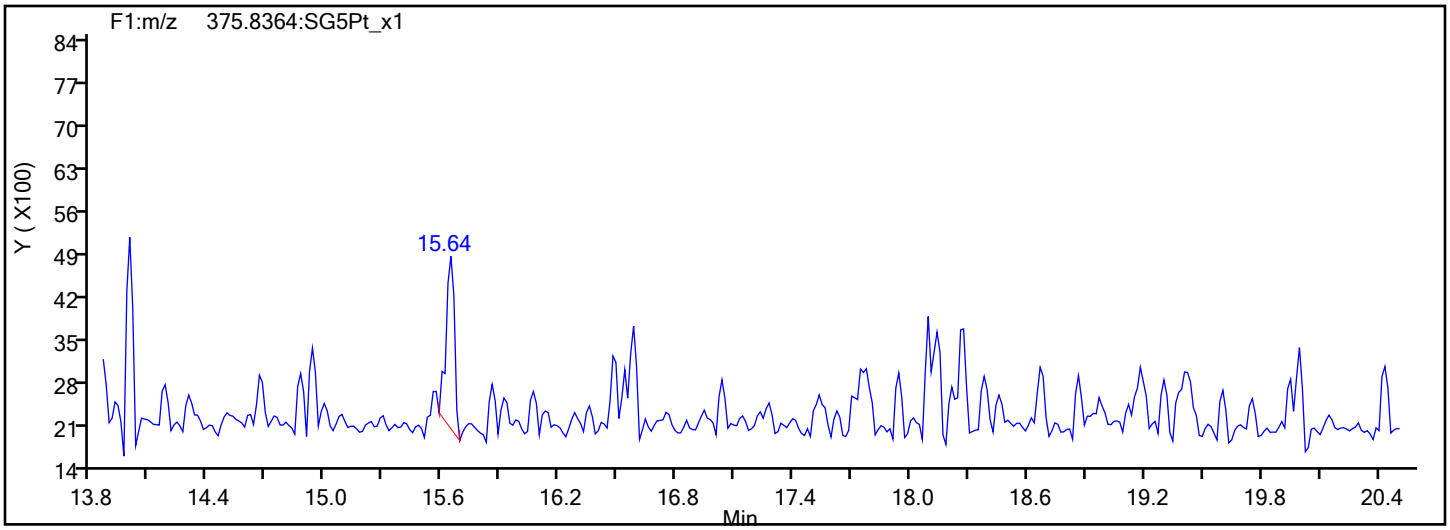

Report Date: 11-Oct-2019 12:50:57 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_2.d		
Injection Date:	10-Oct-2019 16:48:09	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330145	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

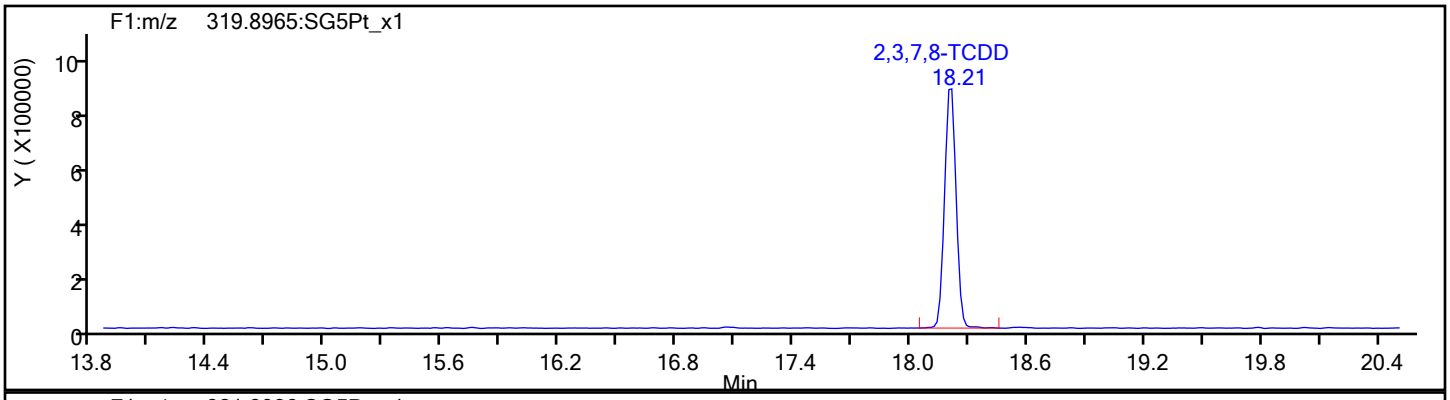

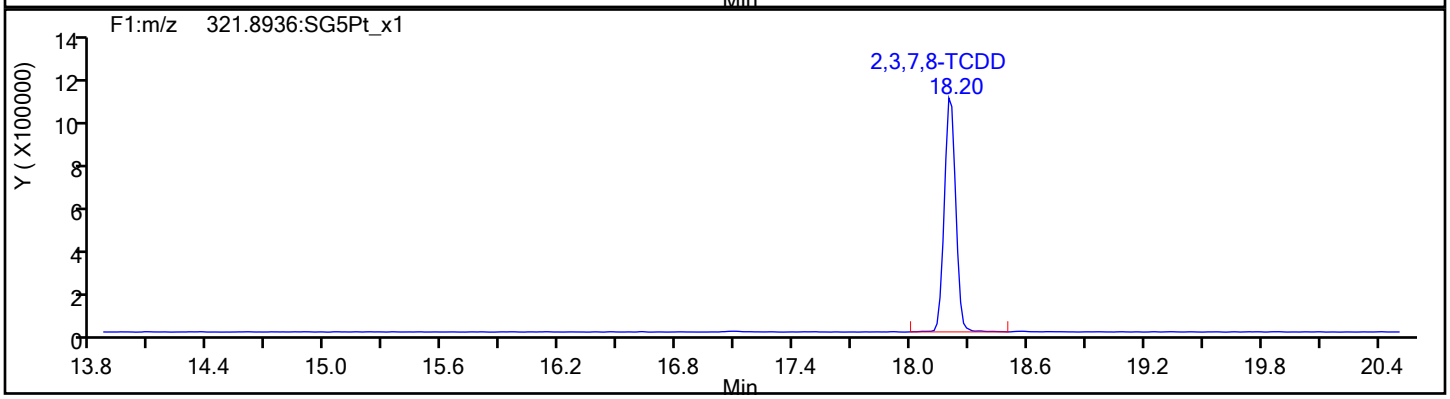

TCDD Standards

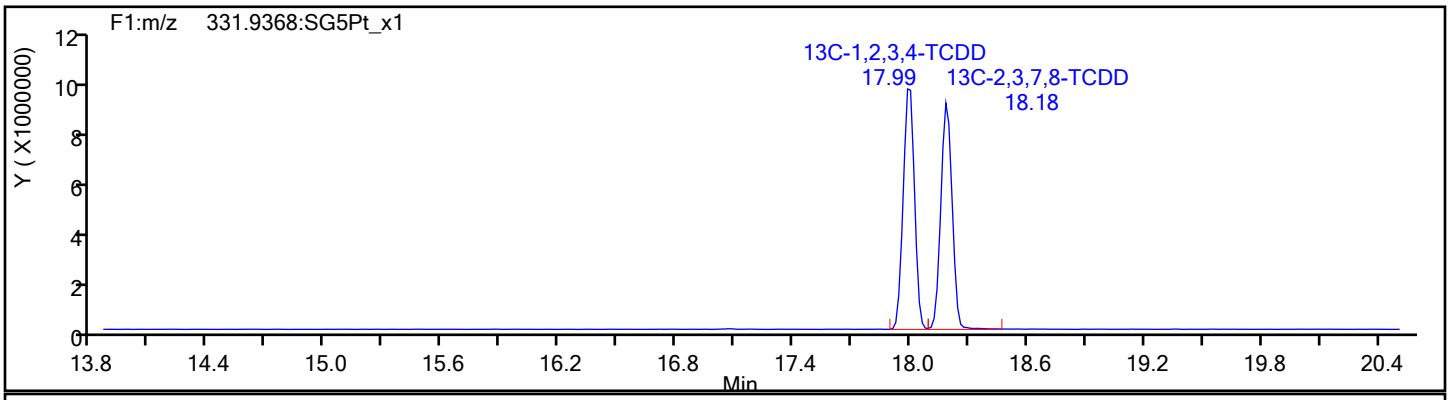

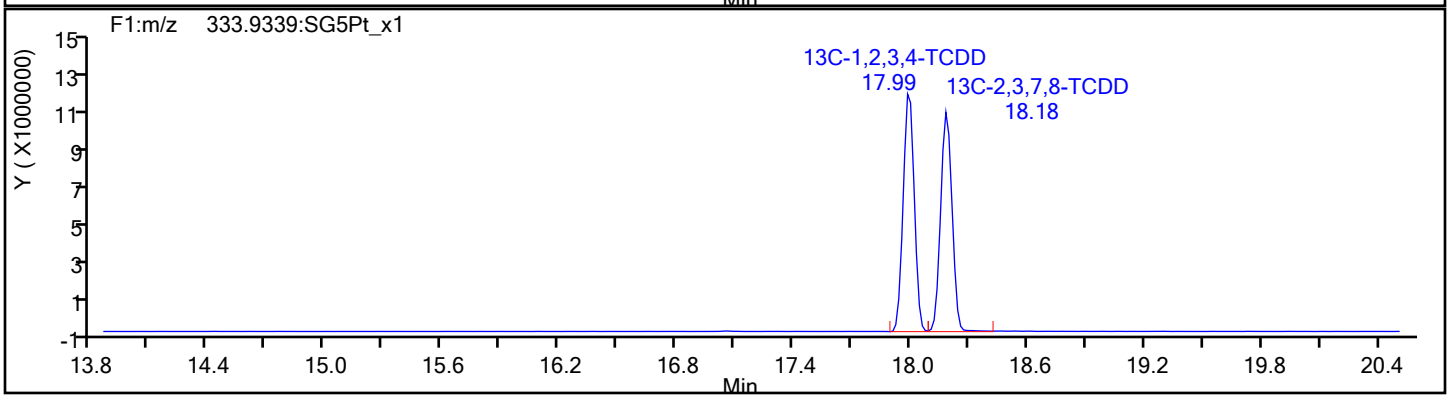

Report Date: 11-Oct-2019 12:50:57 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

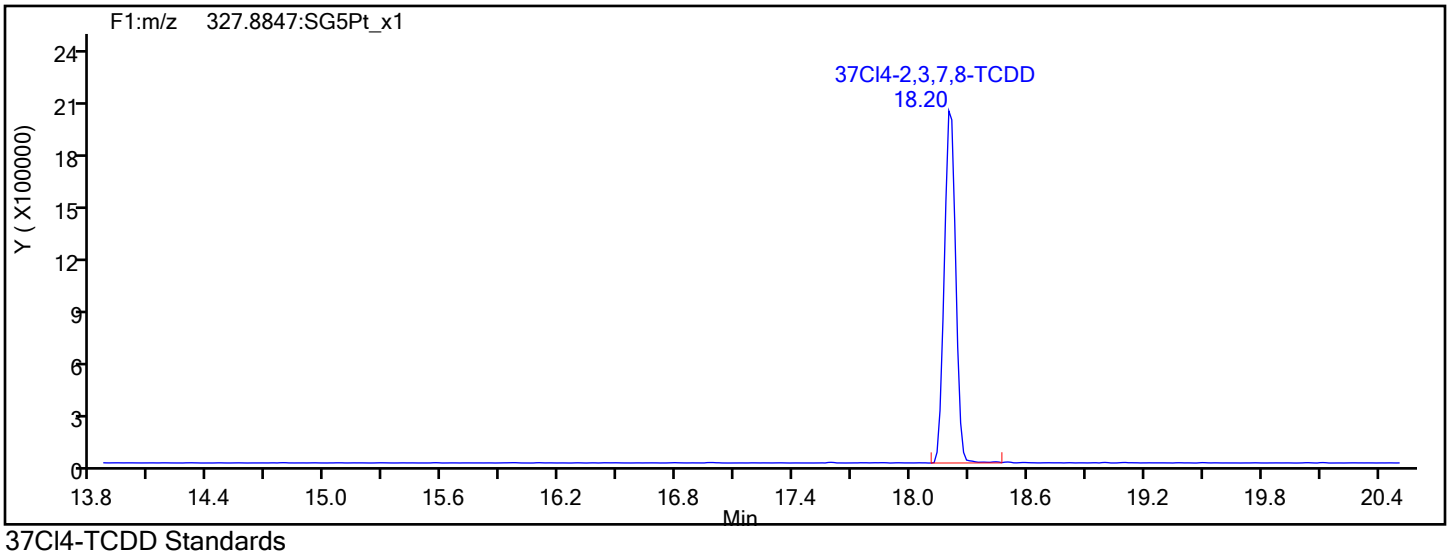

37Cl4-TCDD Standards

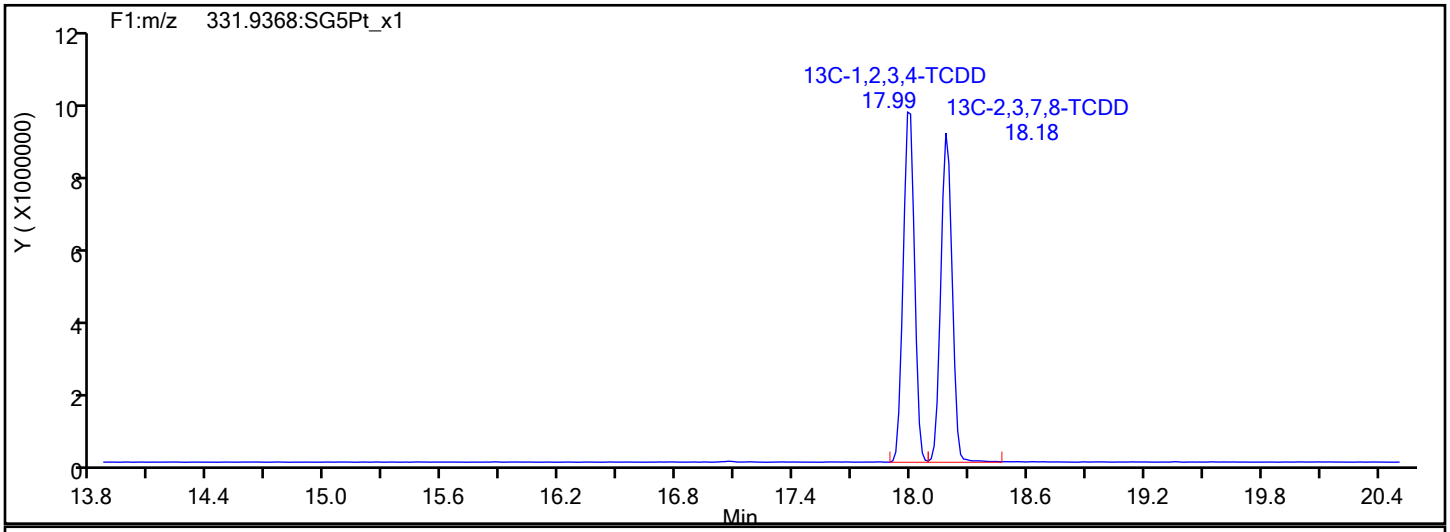

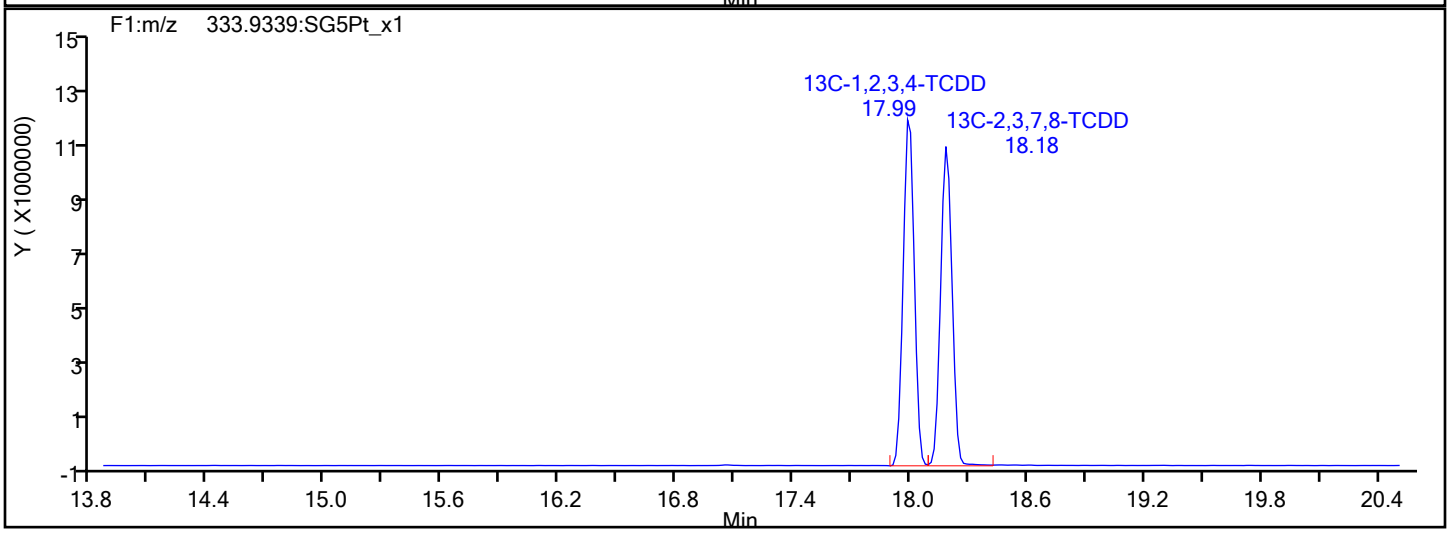

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

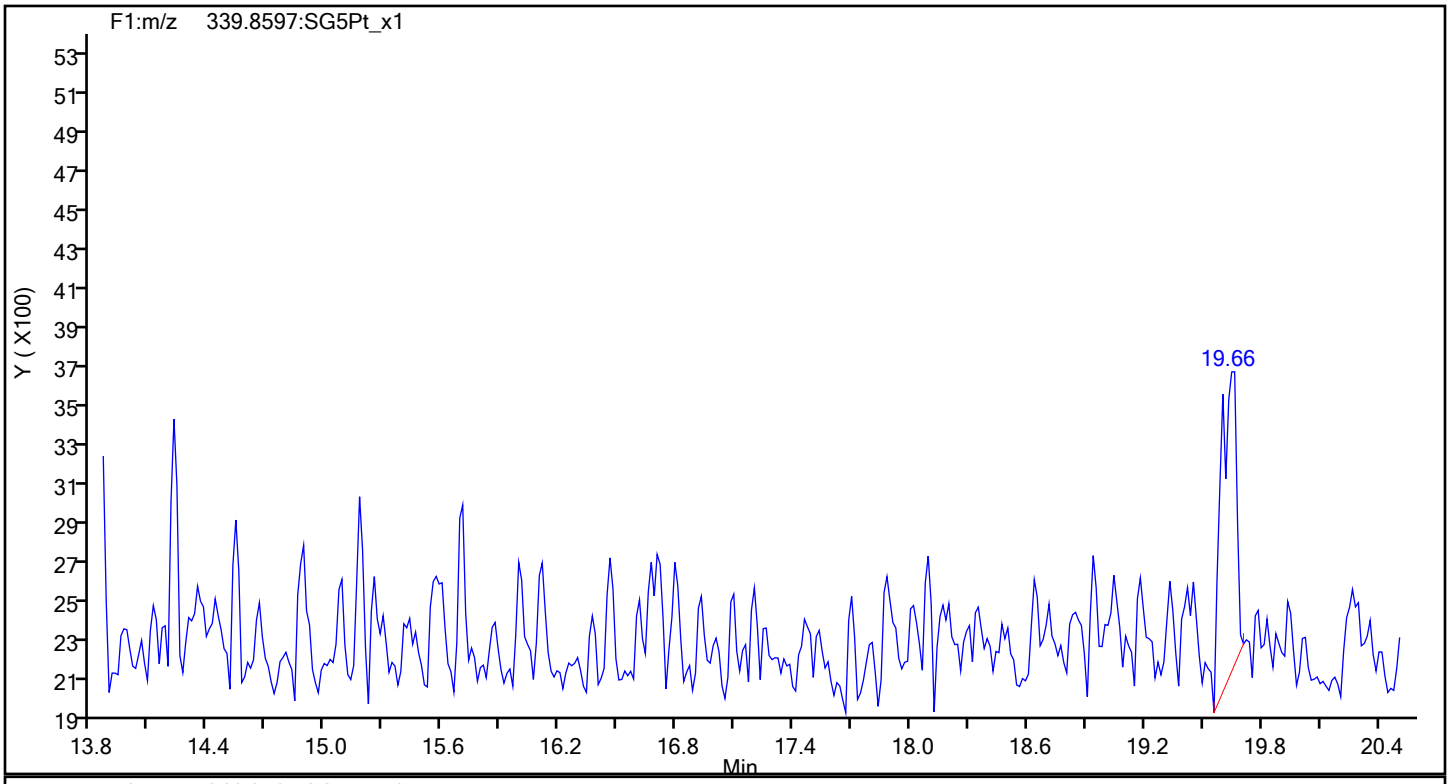

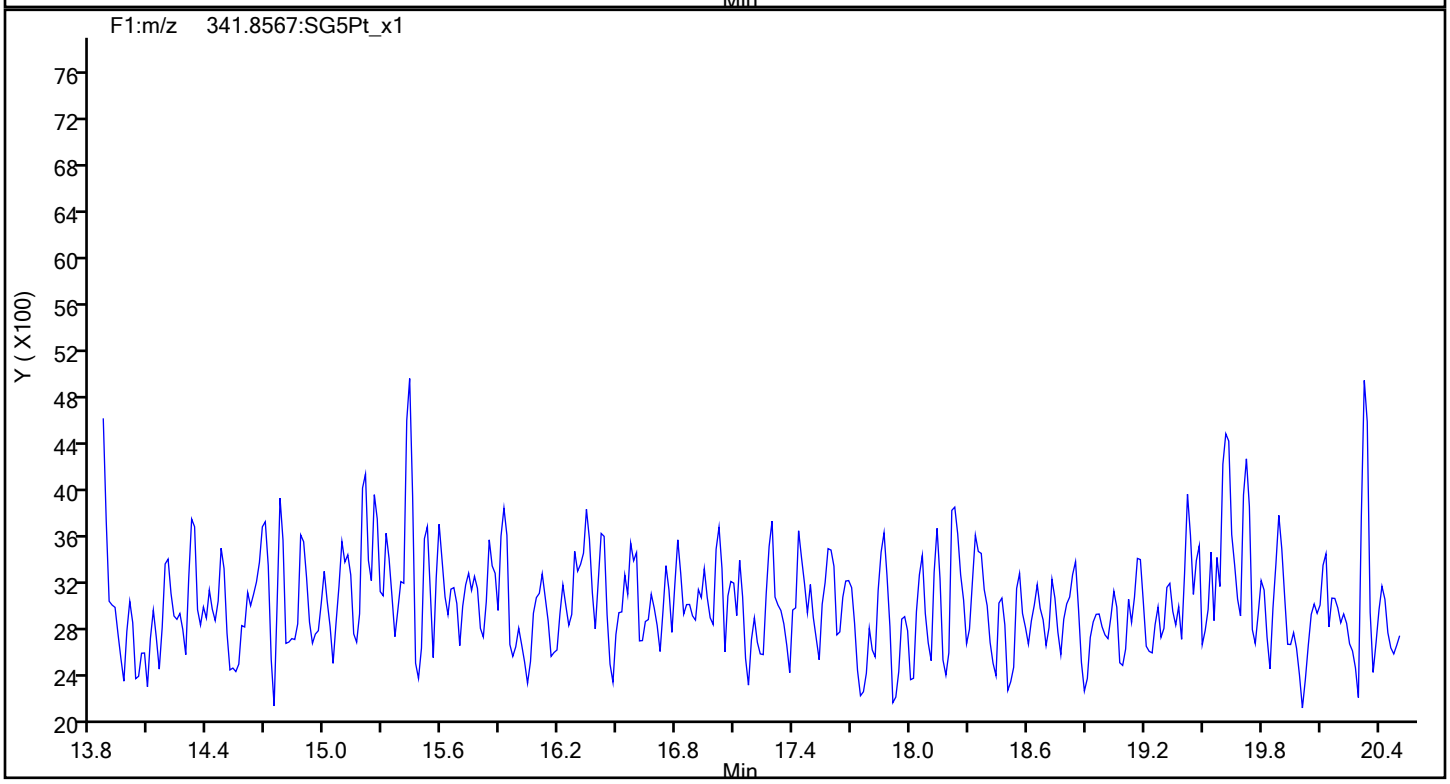

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

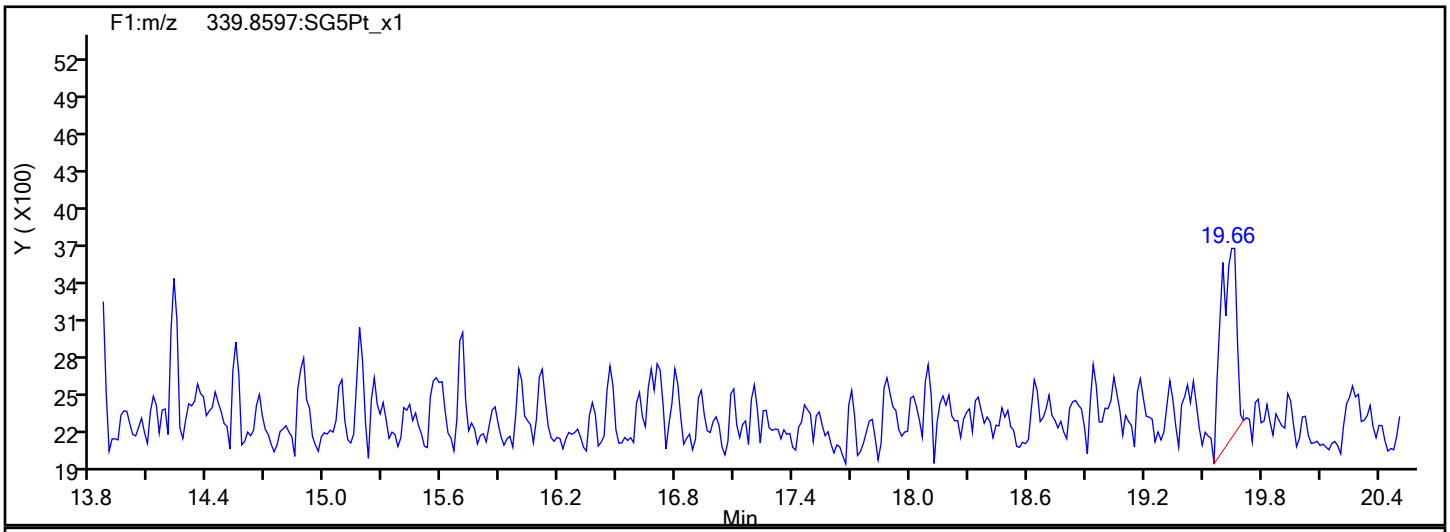

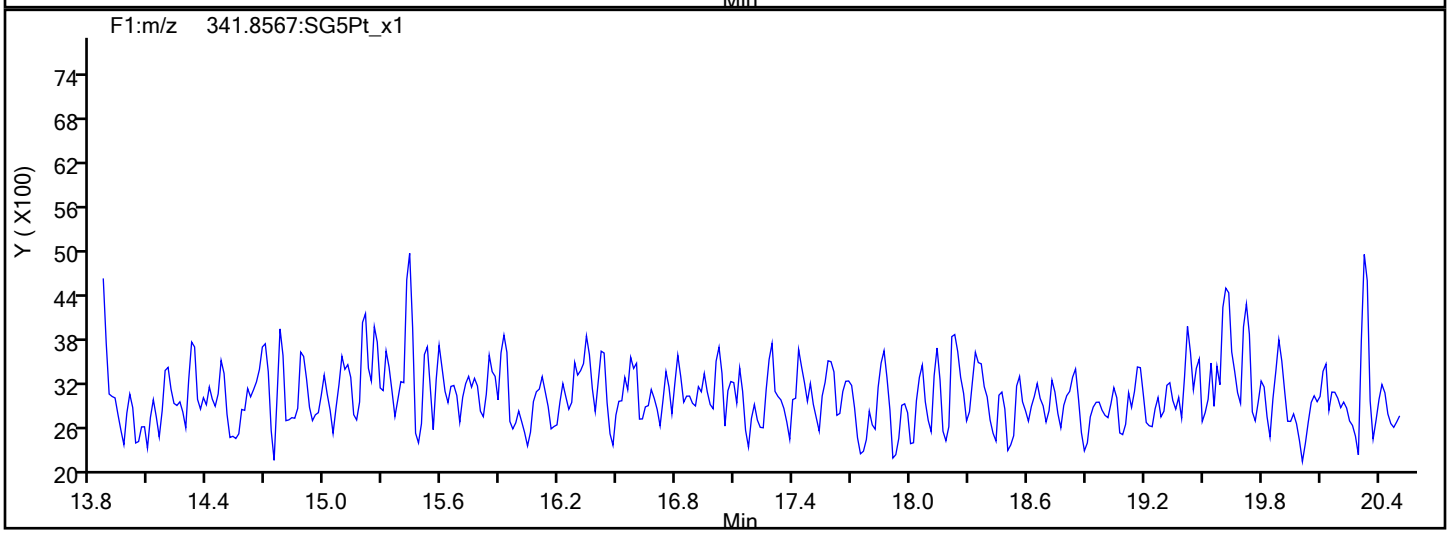

F1 PeCDFs Interference Mass

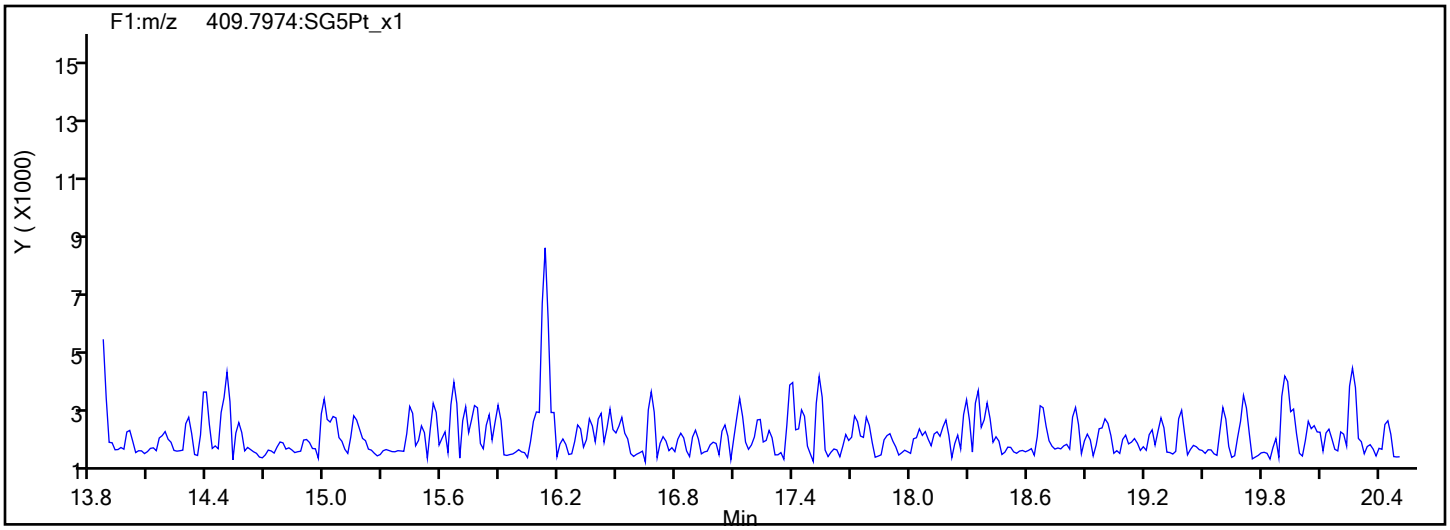

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Eurofins TestAmerica, Sacramento

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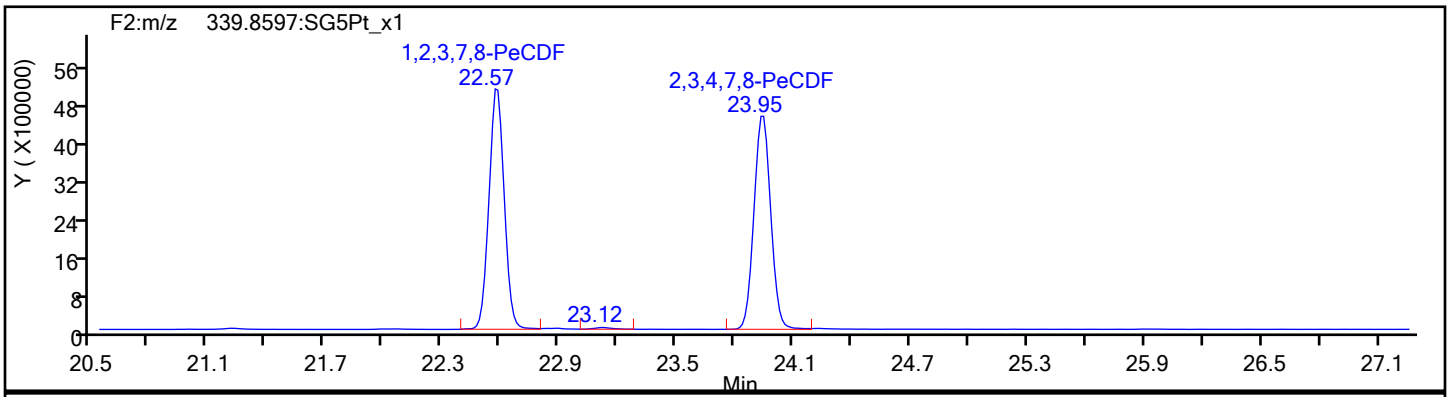

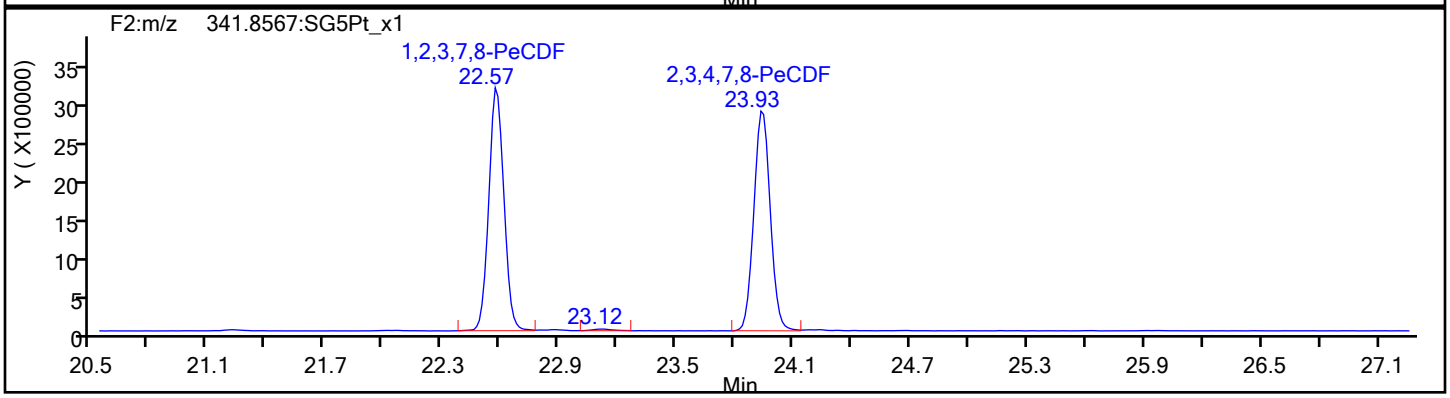

PeCDF Standards

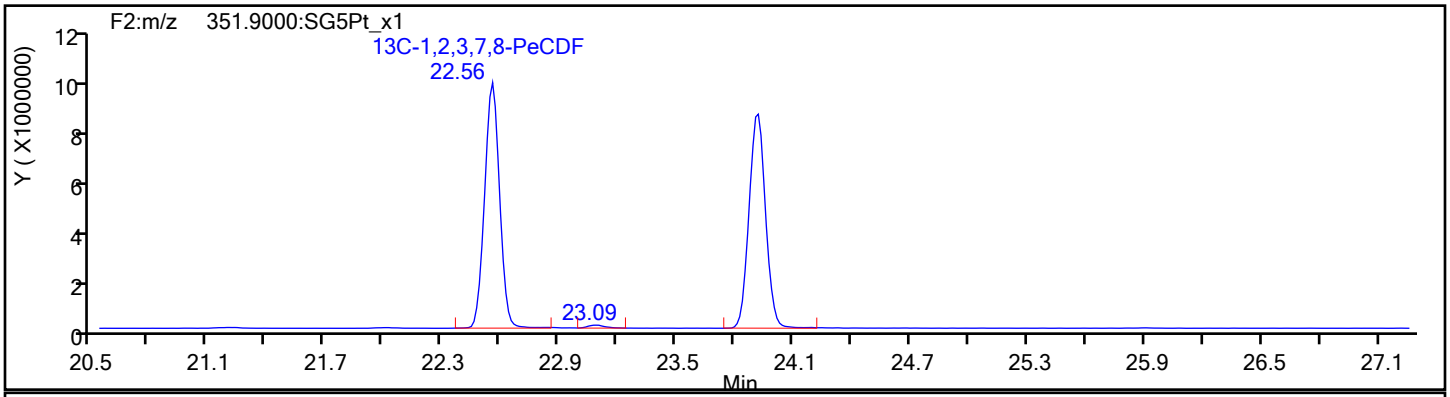

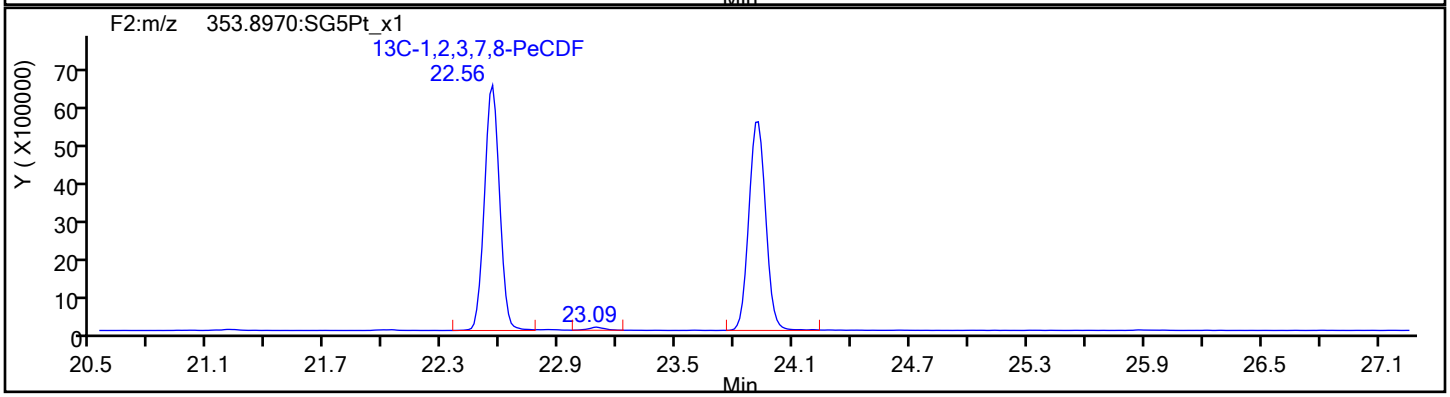

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Eurofins TestAmerica, Sacramento

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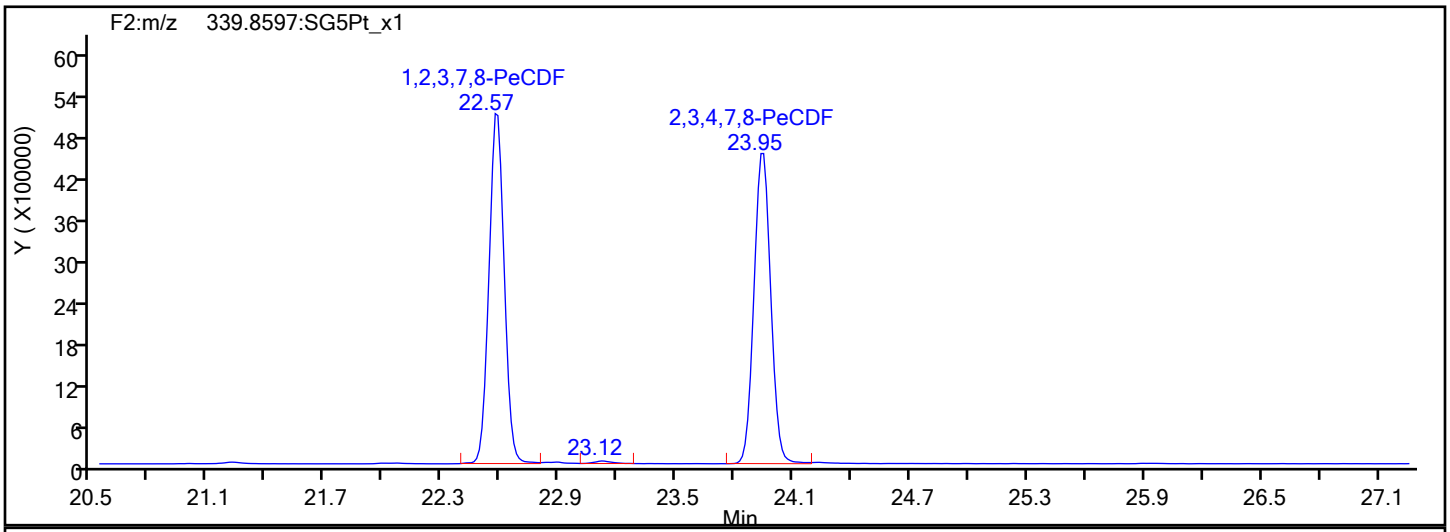

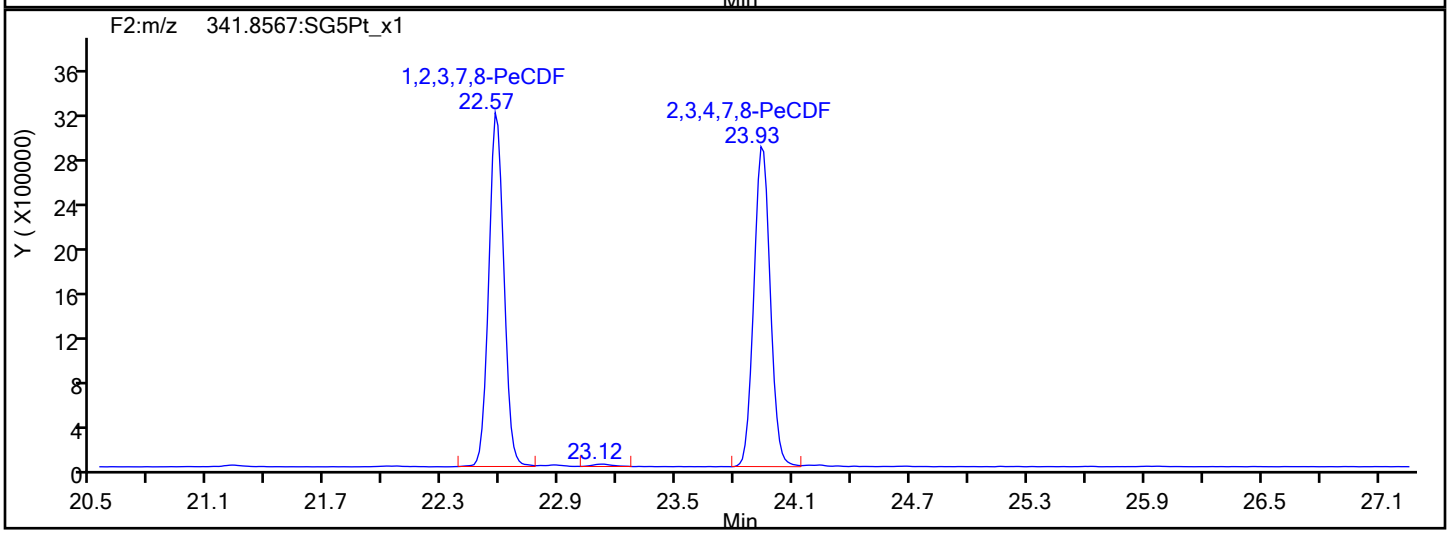

PeCDF Interference Mass

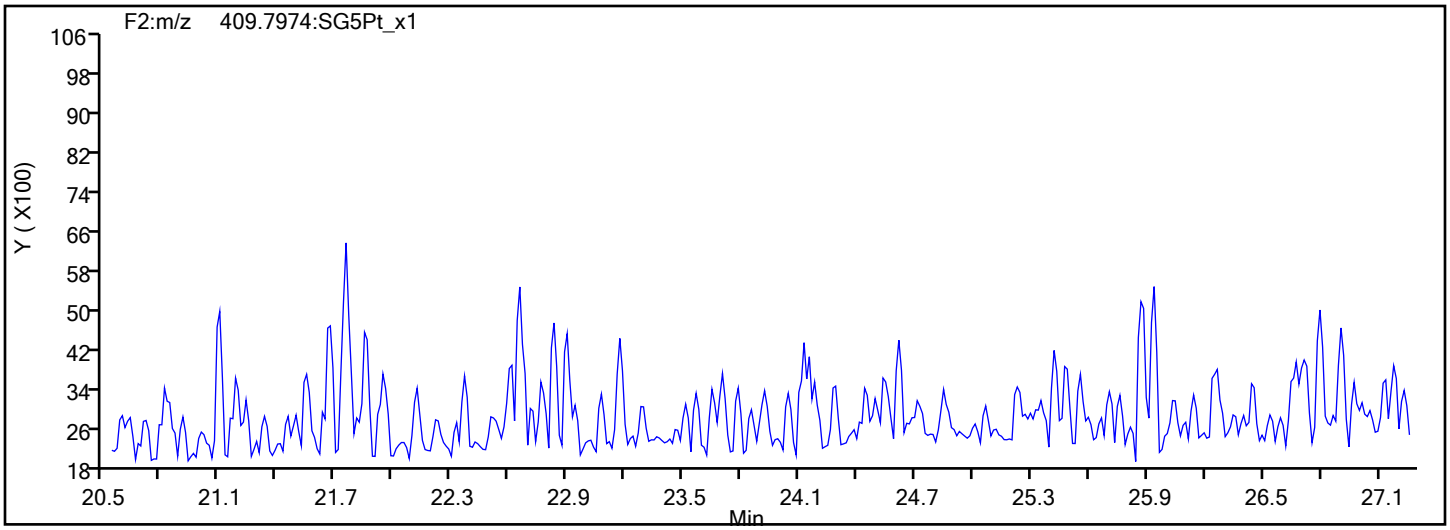

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Eurofins TestAmerica, Sacramento

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PeCDD

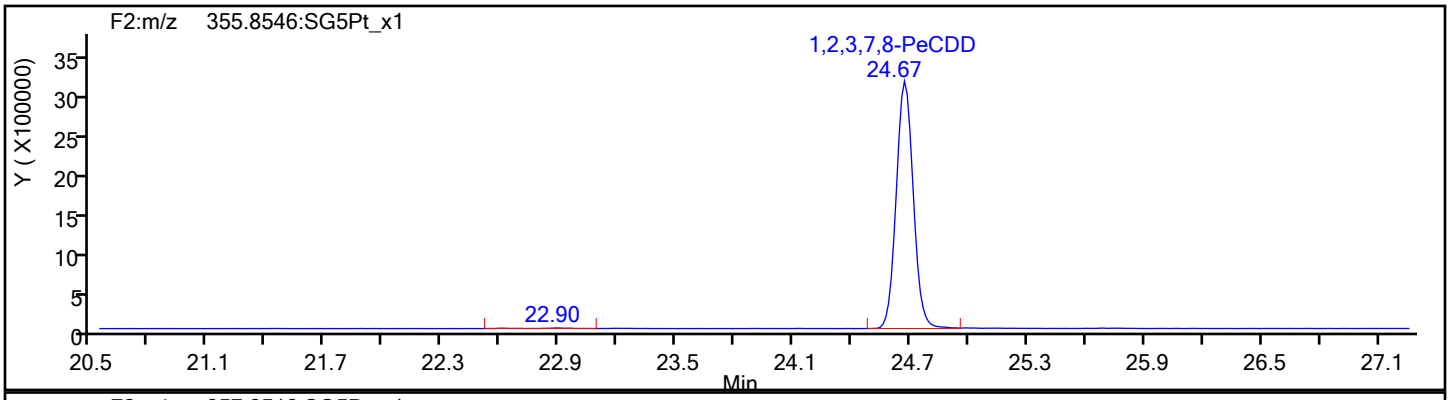

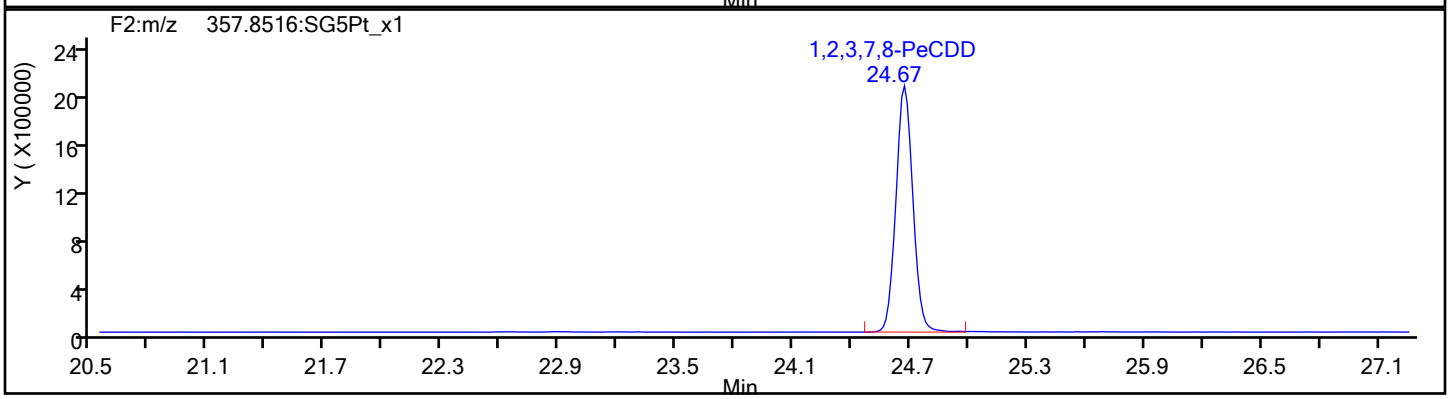

PeCDD Standards

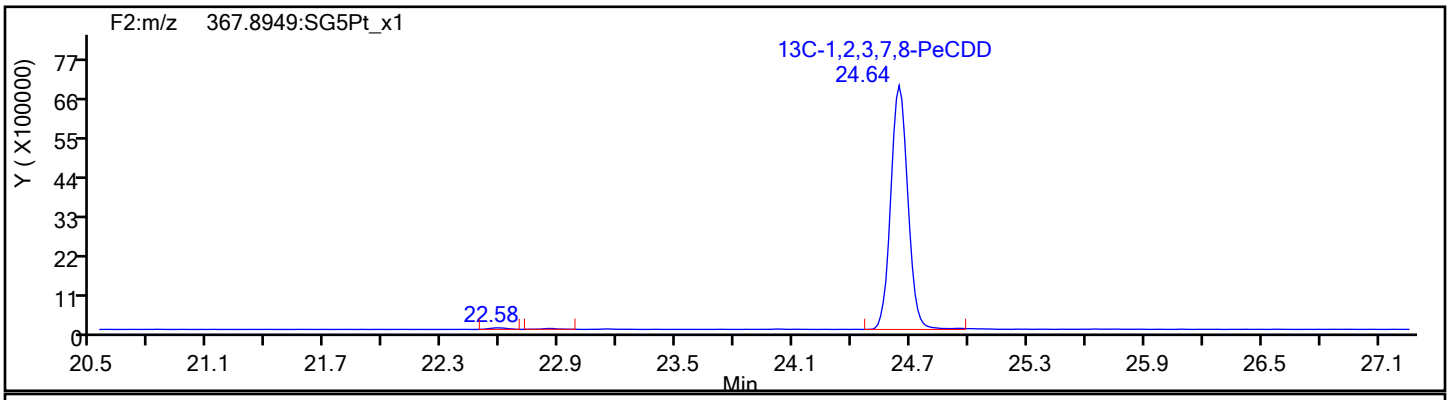

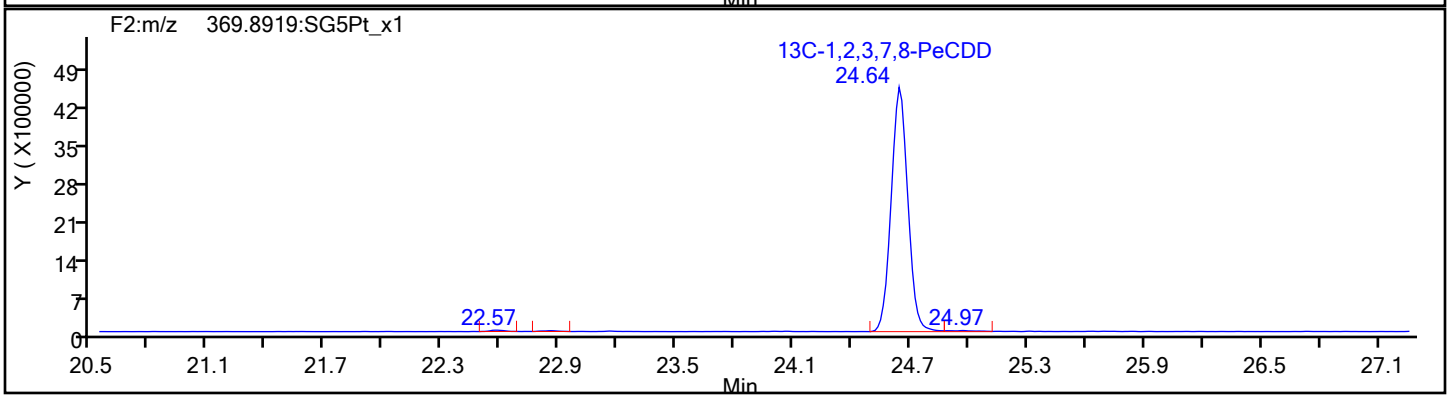

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Eurofins TestAmerica, Sacramento

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HxCDF

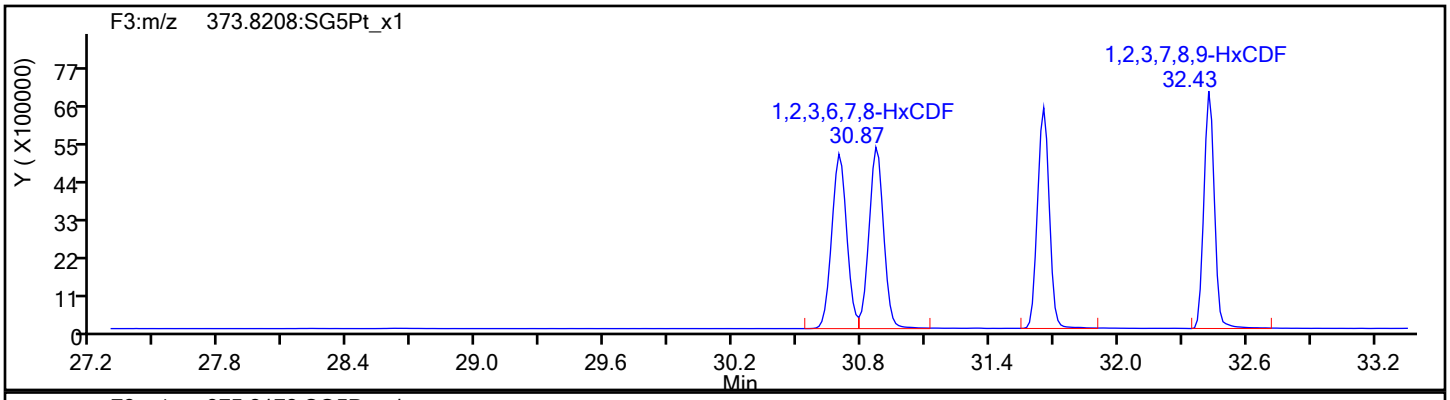

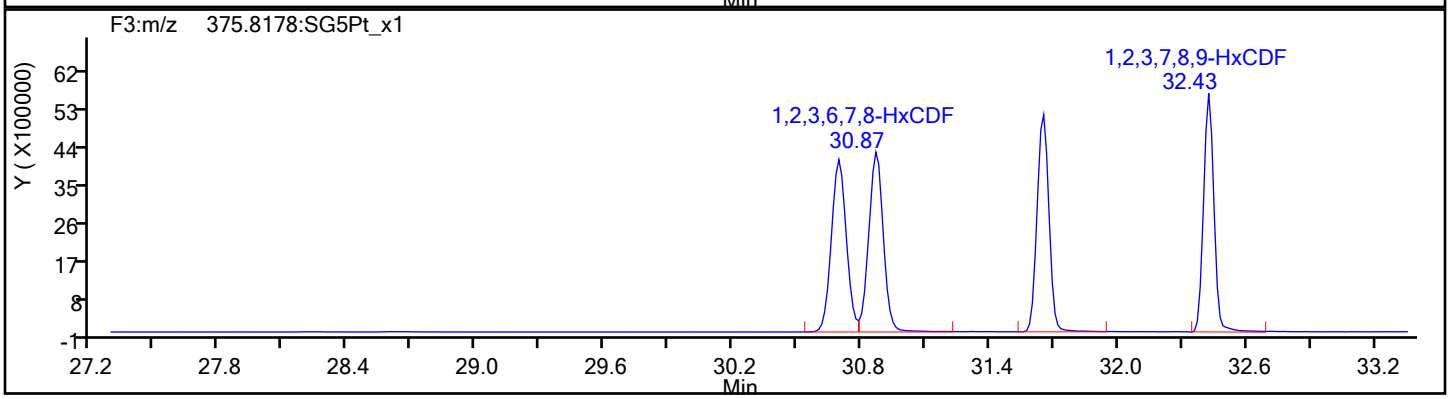

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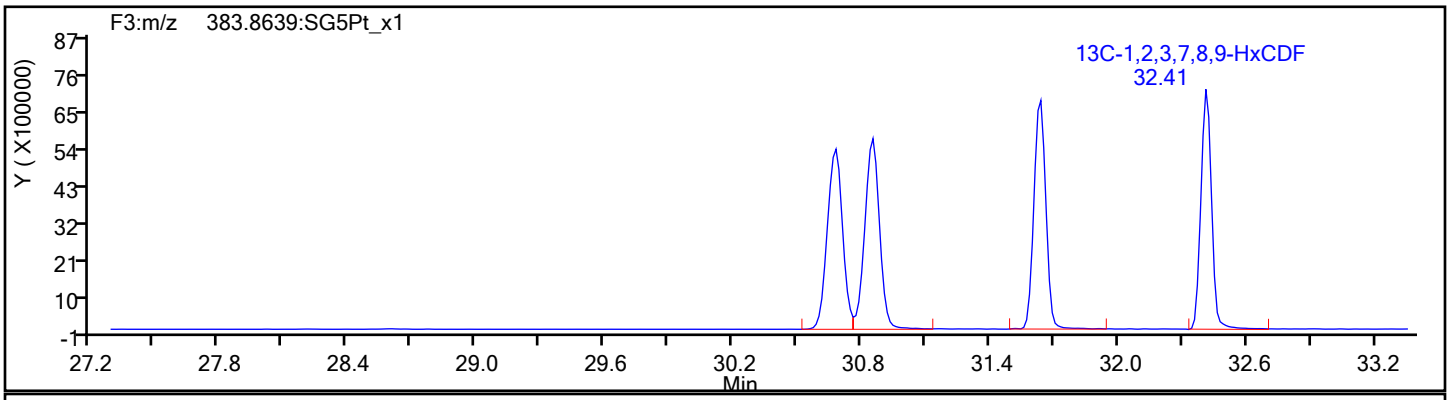

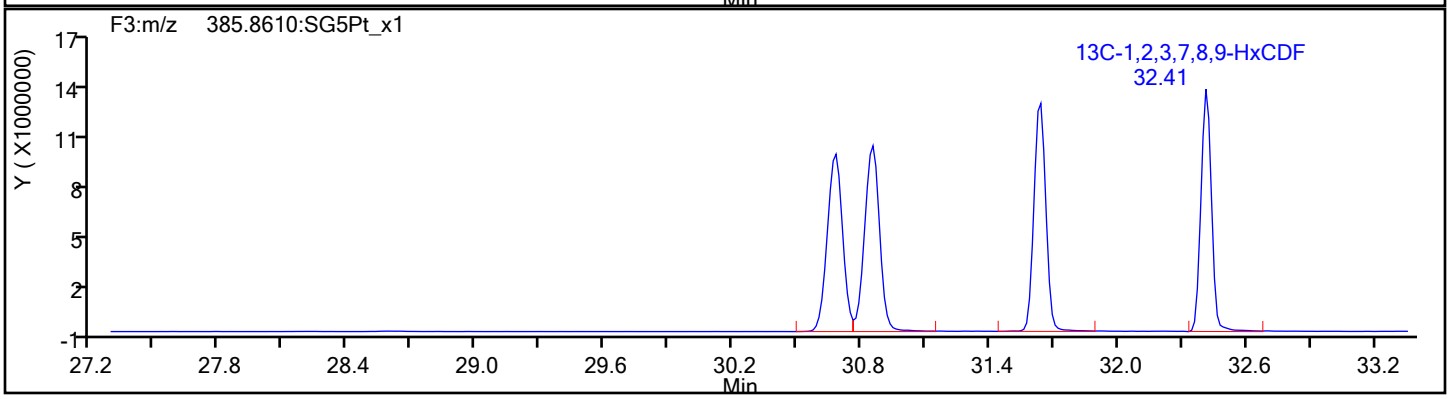

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Eurofins TestAmerica, Sacramento

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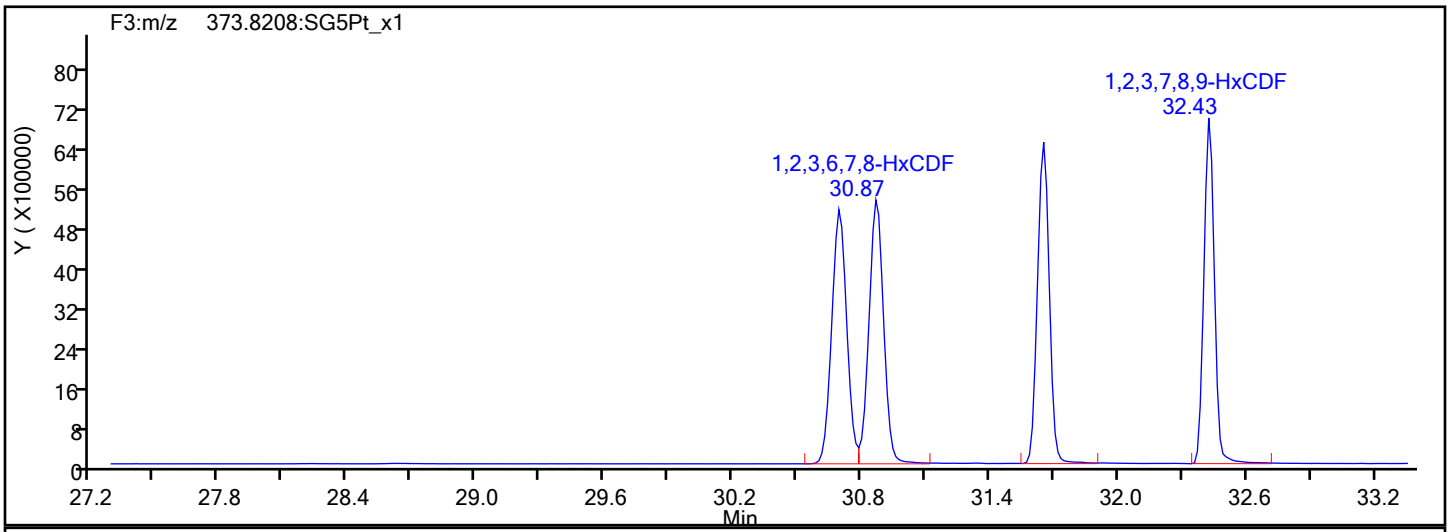

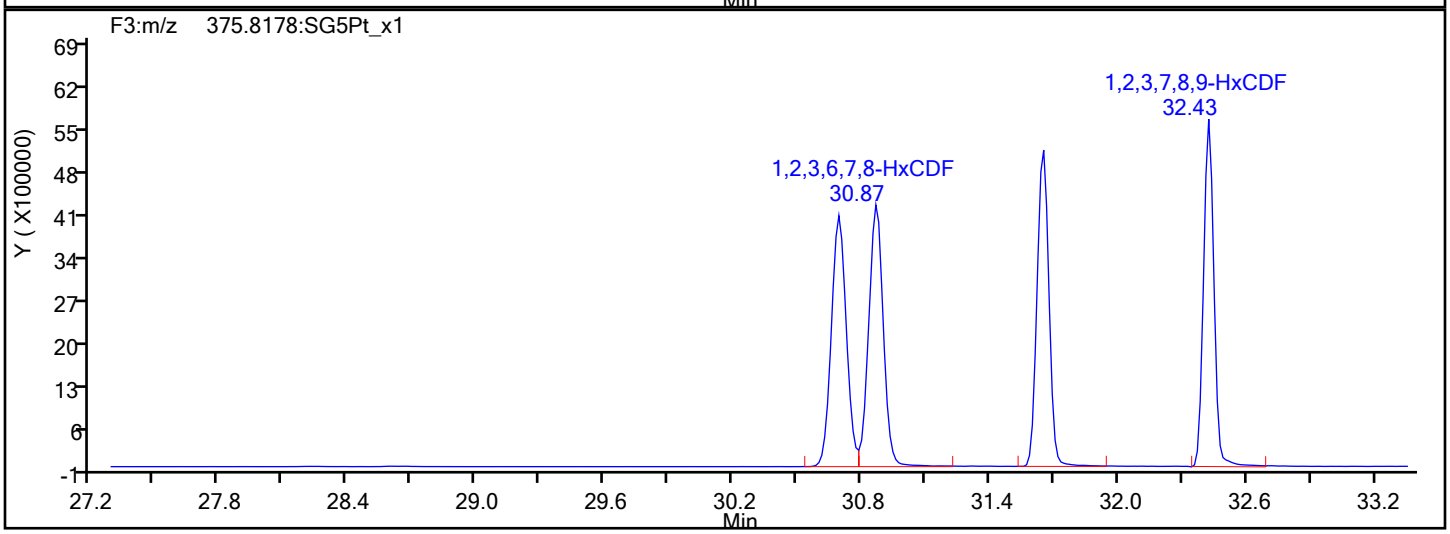

HxCDF Interference Mass

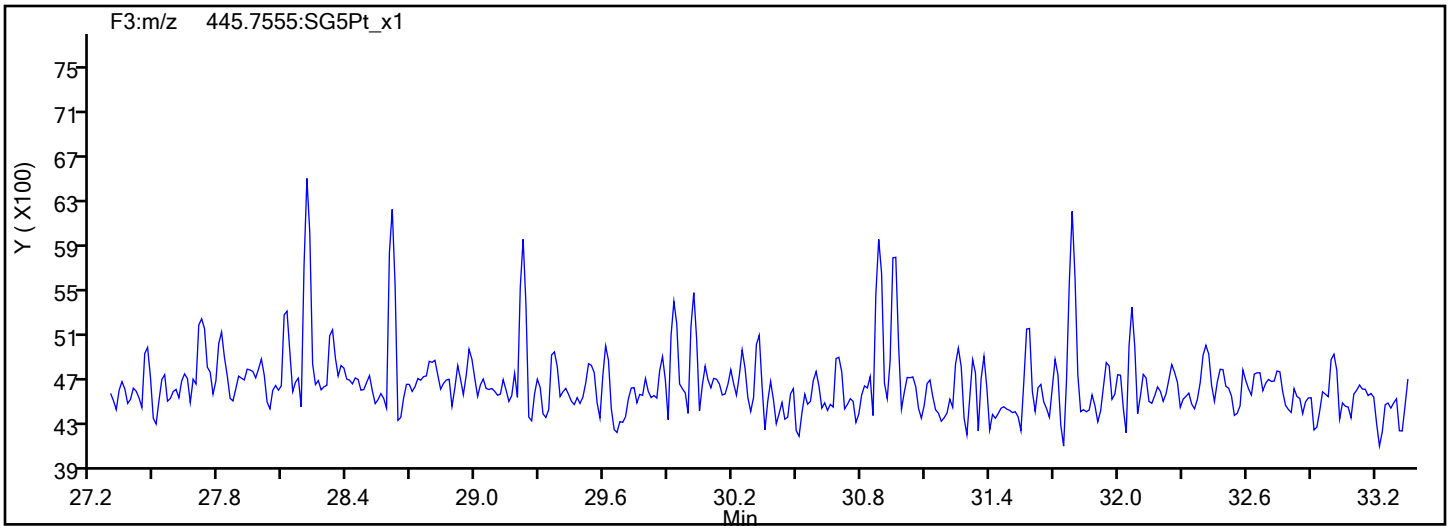

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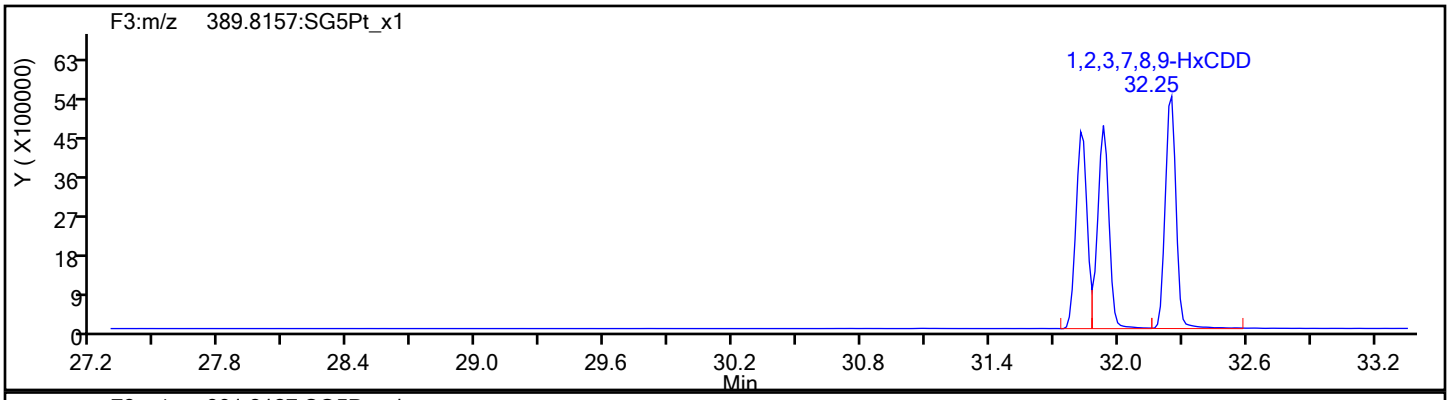

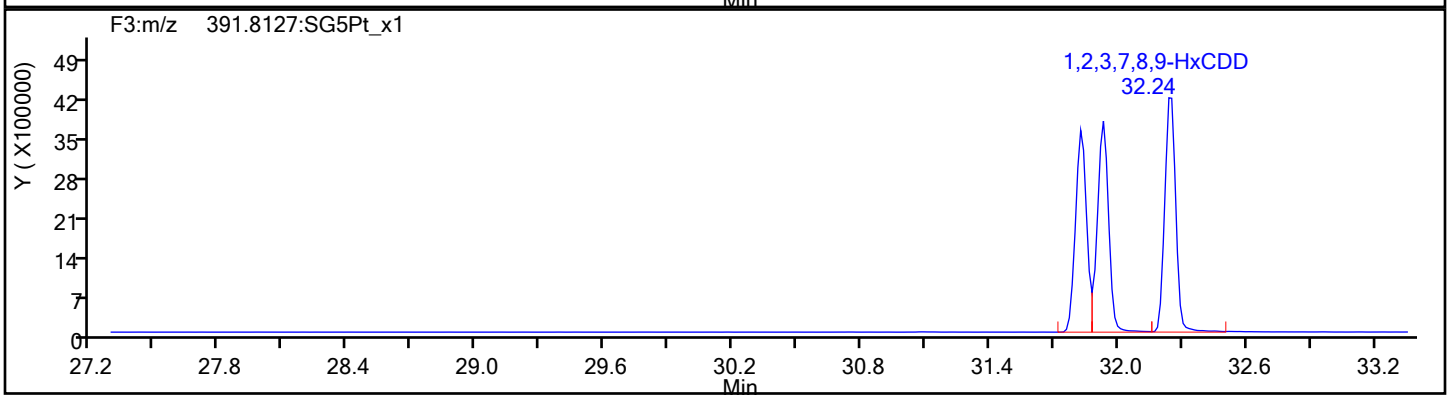

HxCDD Standards

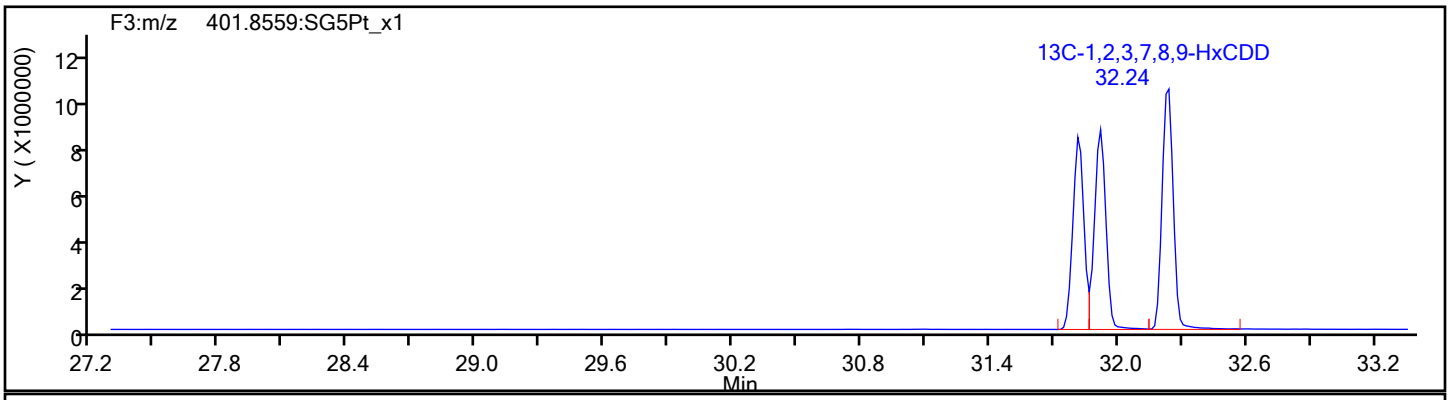

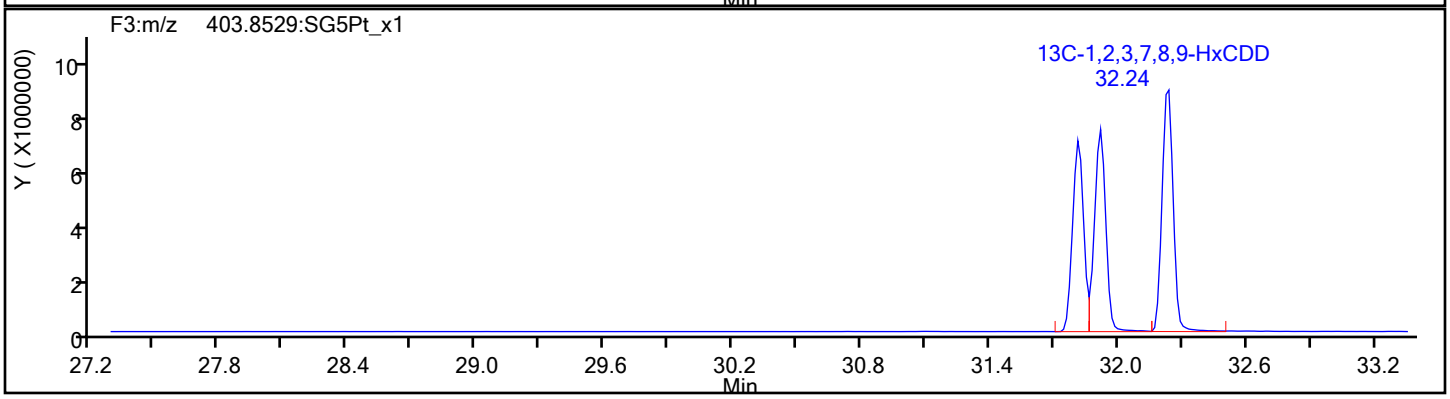

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Eurofins TestAmerica, Sacramento

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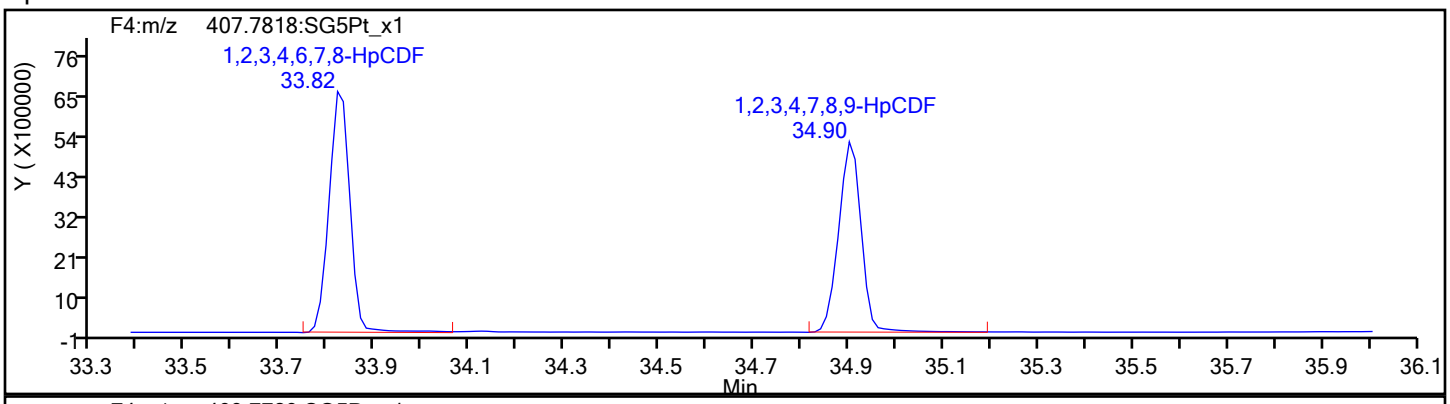

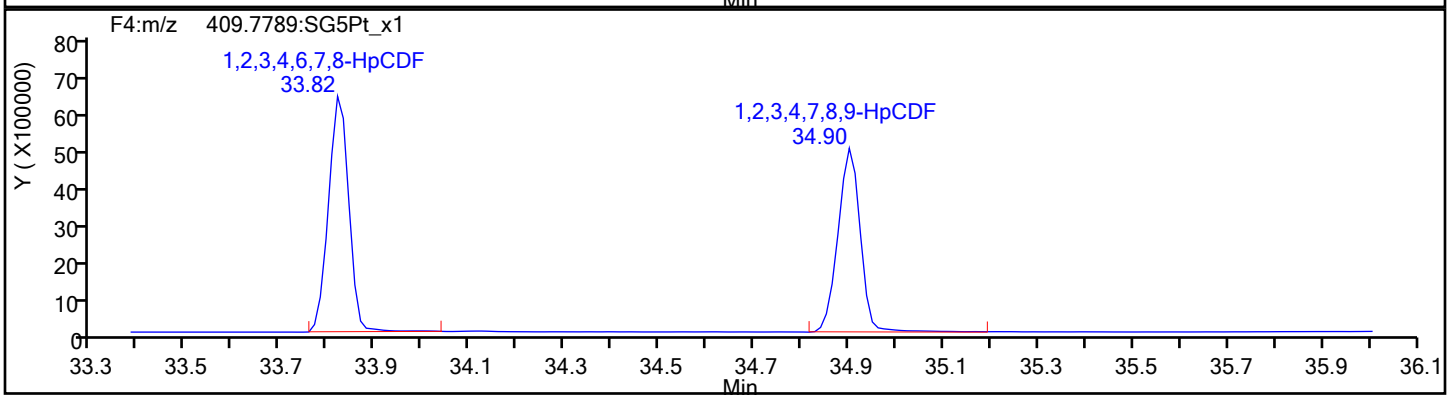

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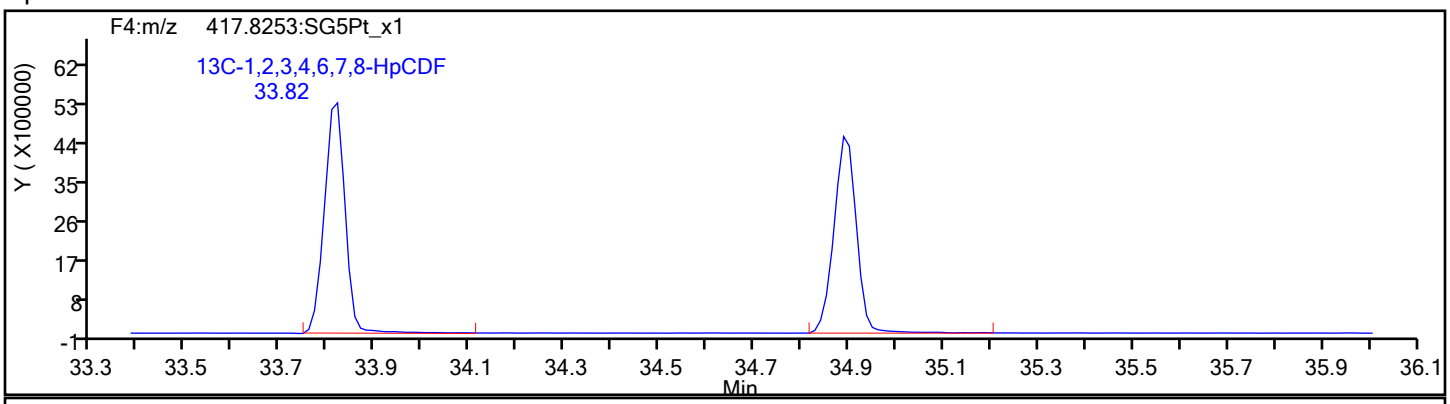

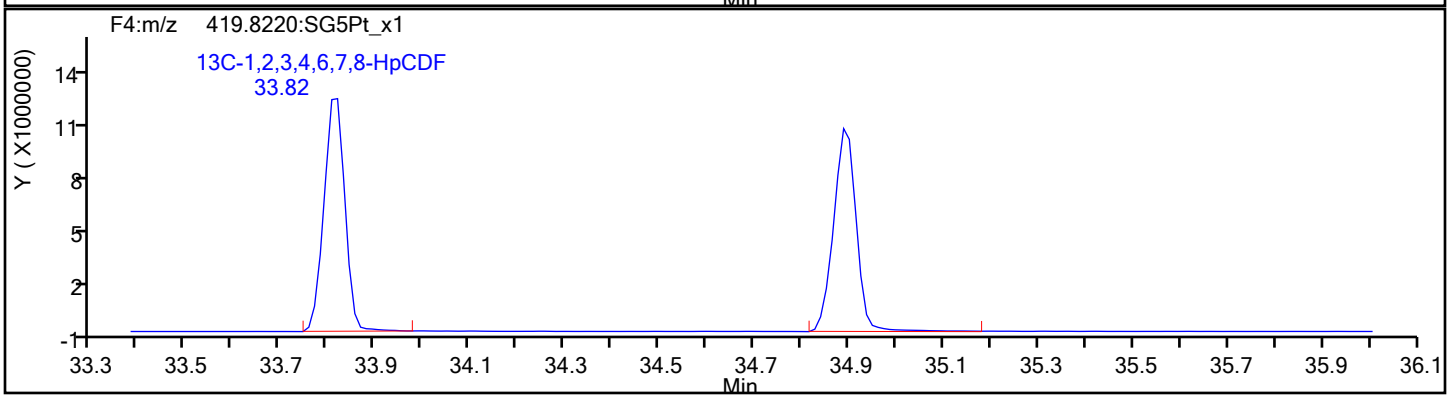

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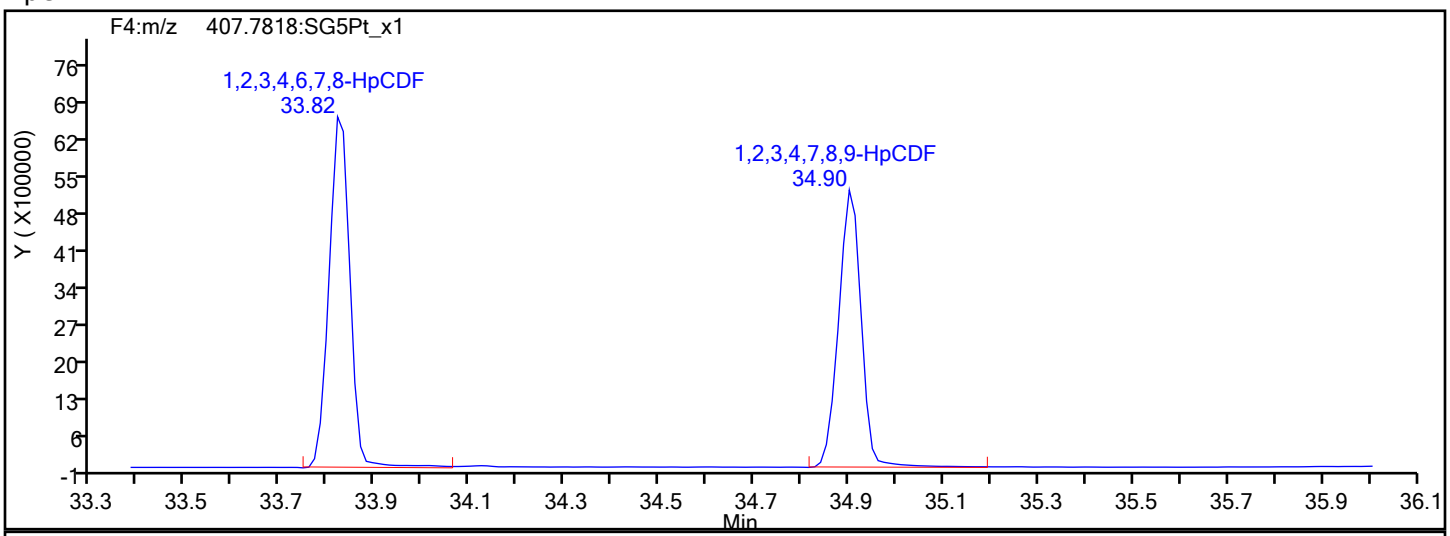

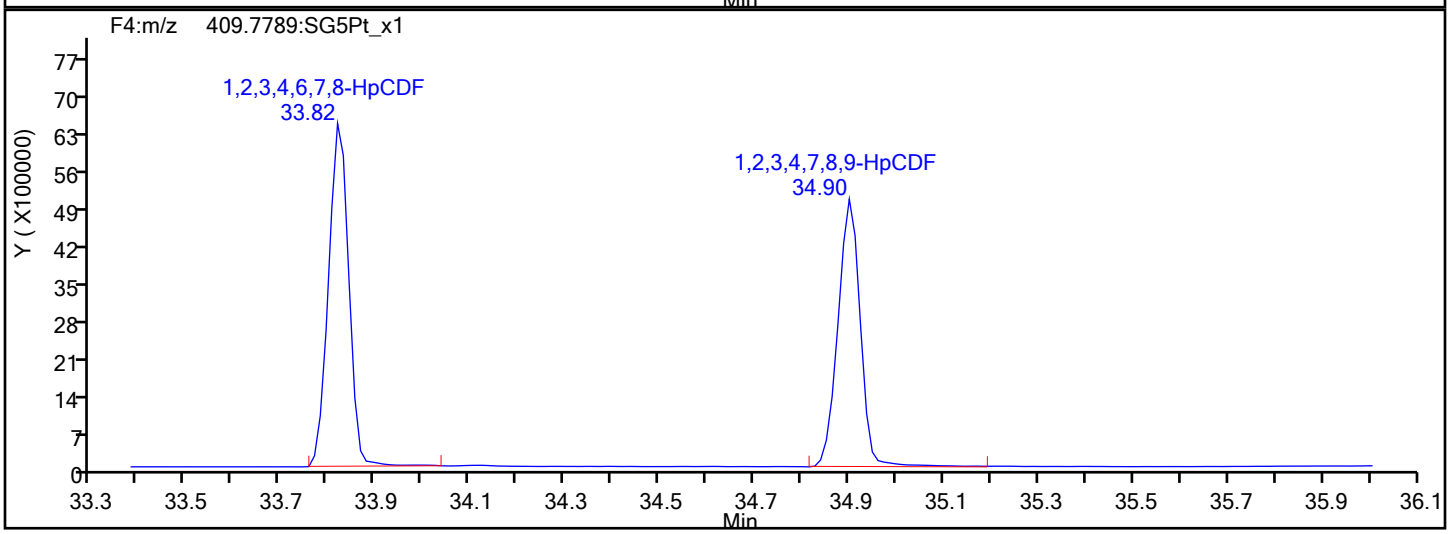

HpCDF Interference Mass

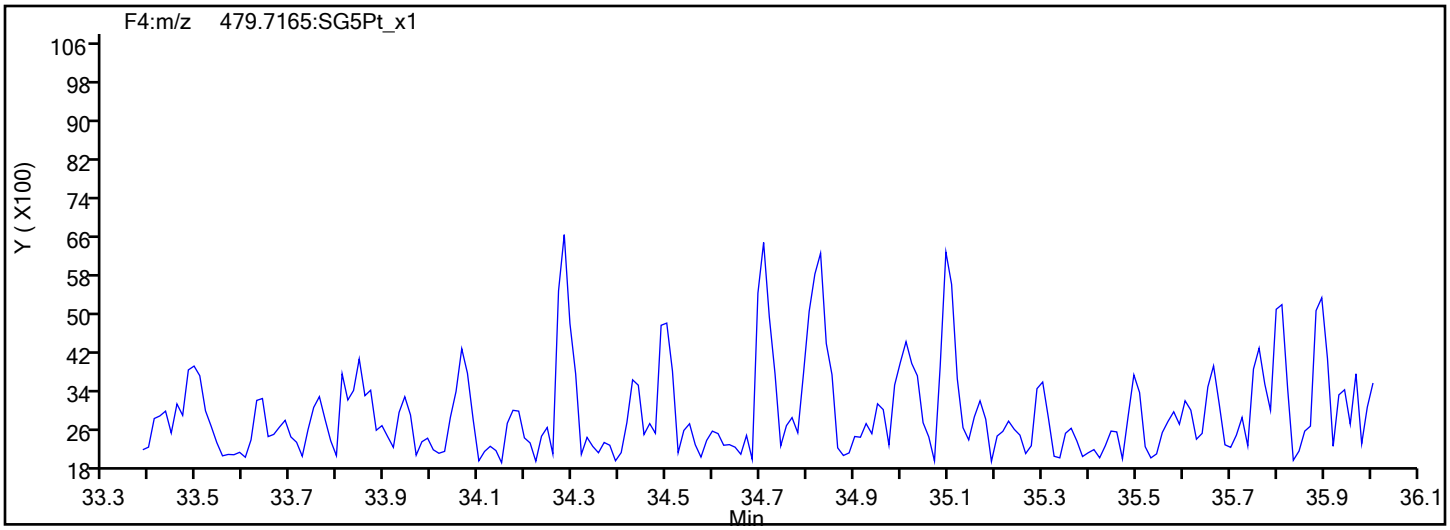

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Eurofins TestAmerica, Sacramento

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HpCDD

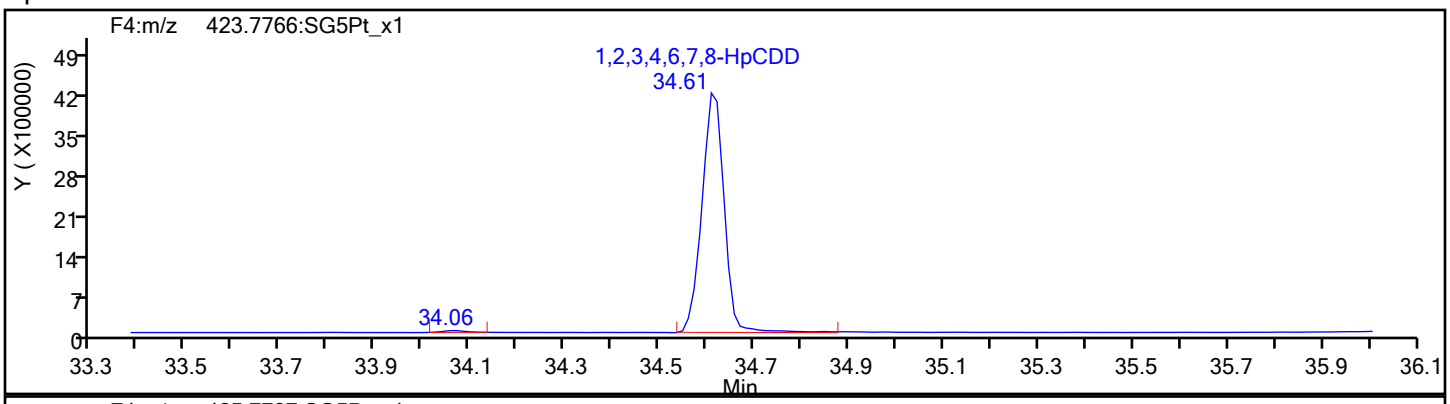

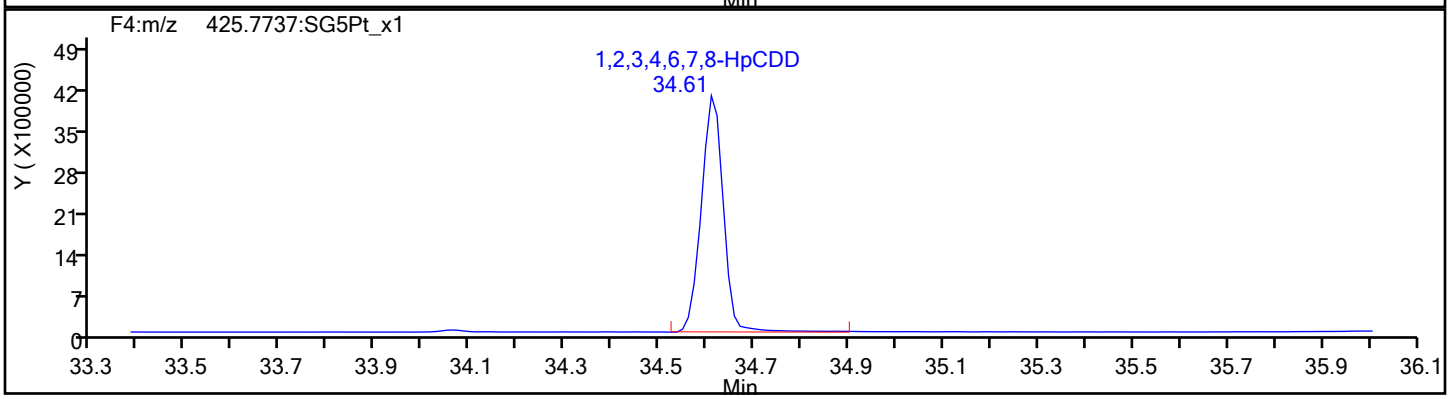

HpCDD Standards

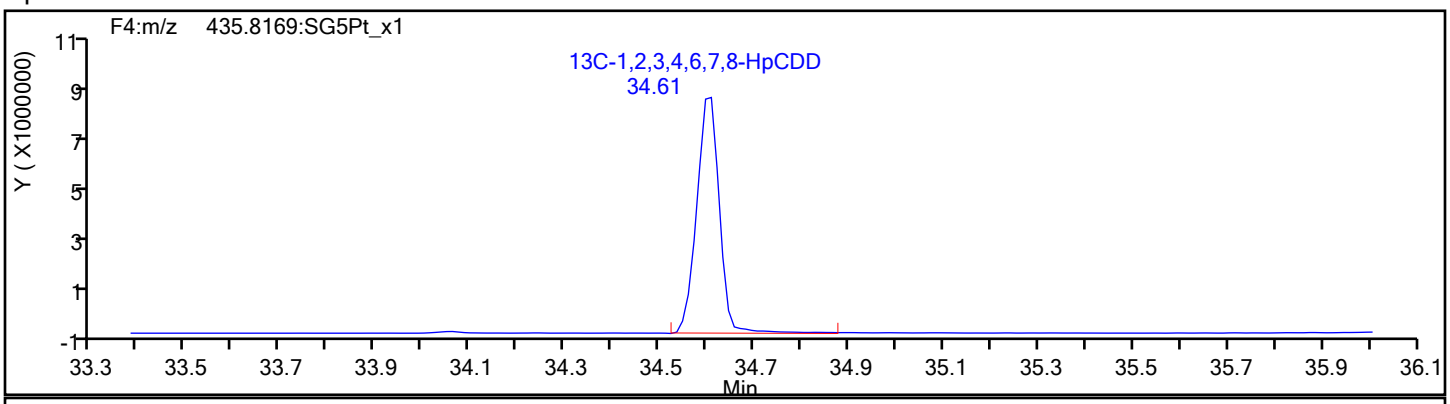

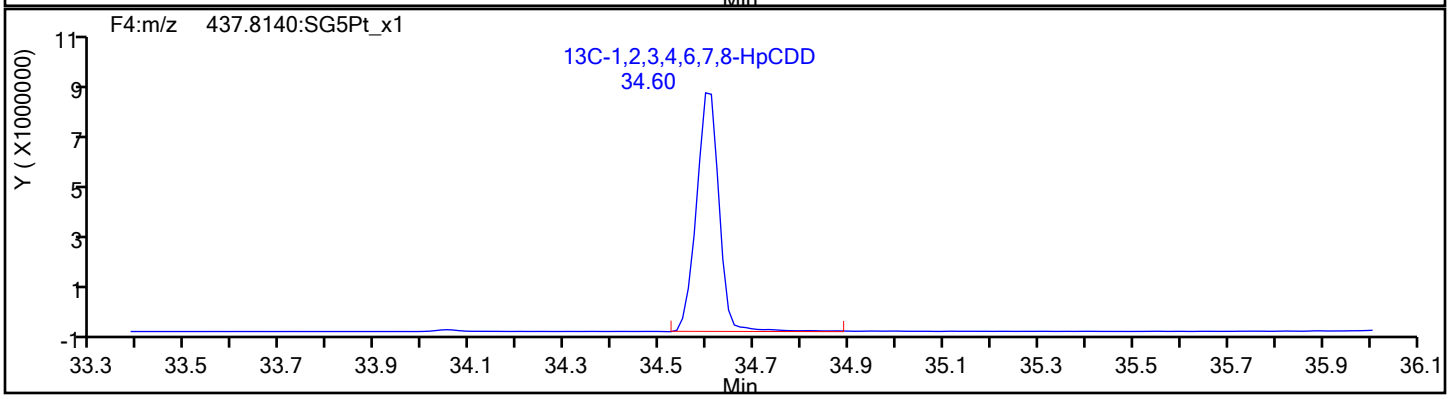

Report Date: 11-Oct-2019 12:50:57 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_2.d		
Injection Date:	10-Oct-2019 16:48:09	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330145	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

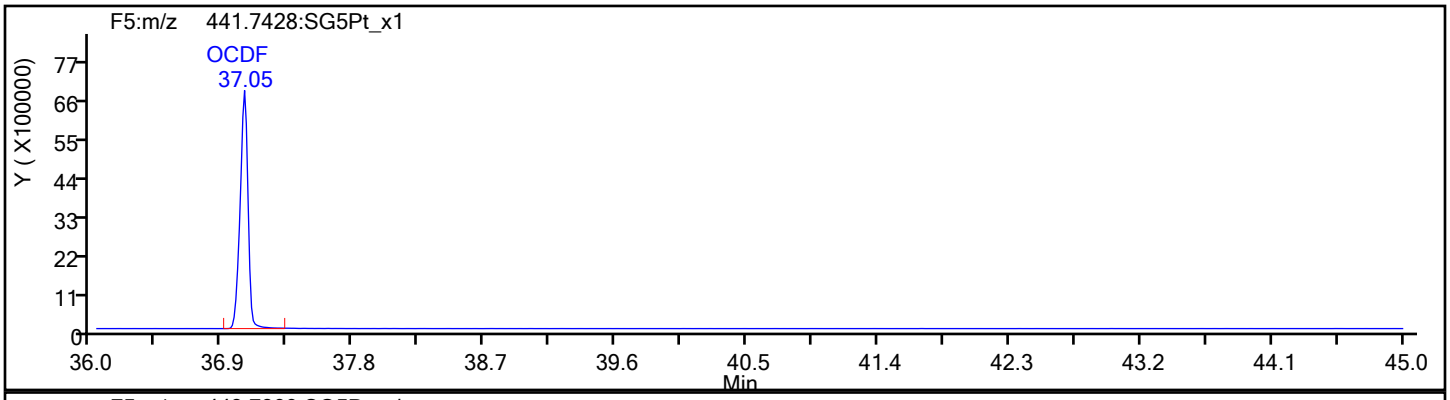

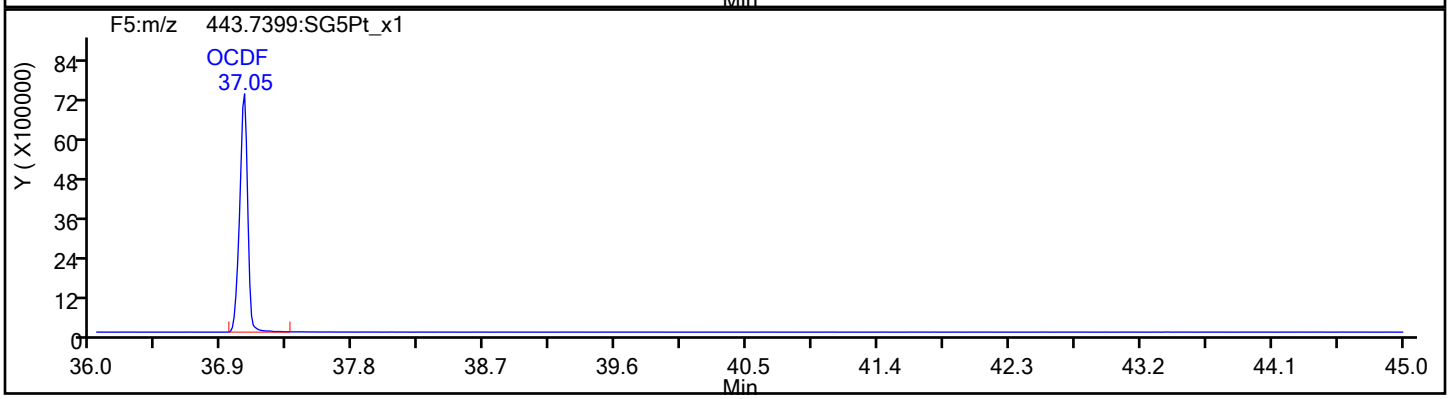

OCDF Standards

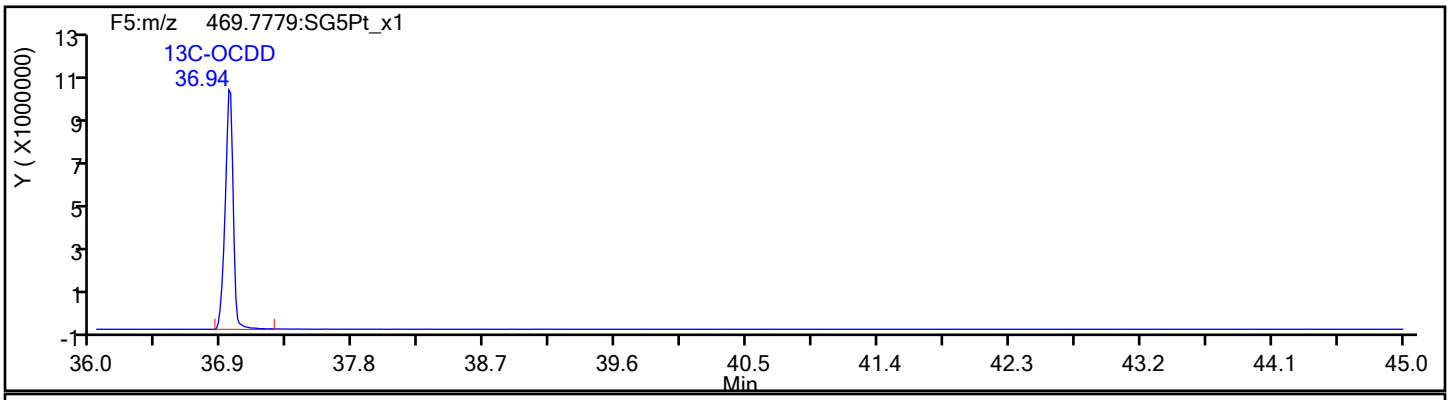

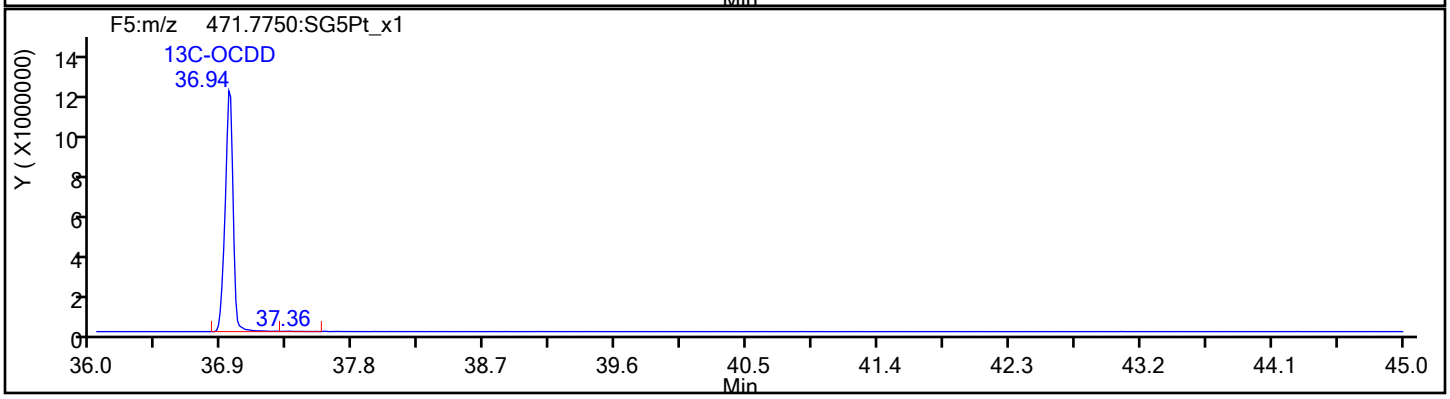

Report Date: 11-Oct-2019 12:50:57 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330145	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

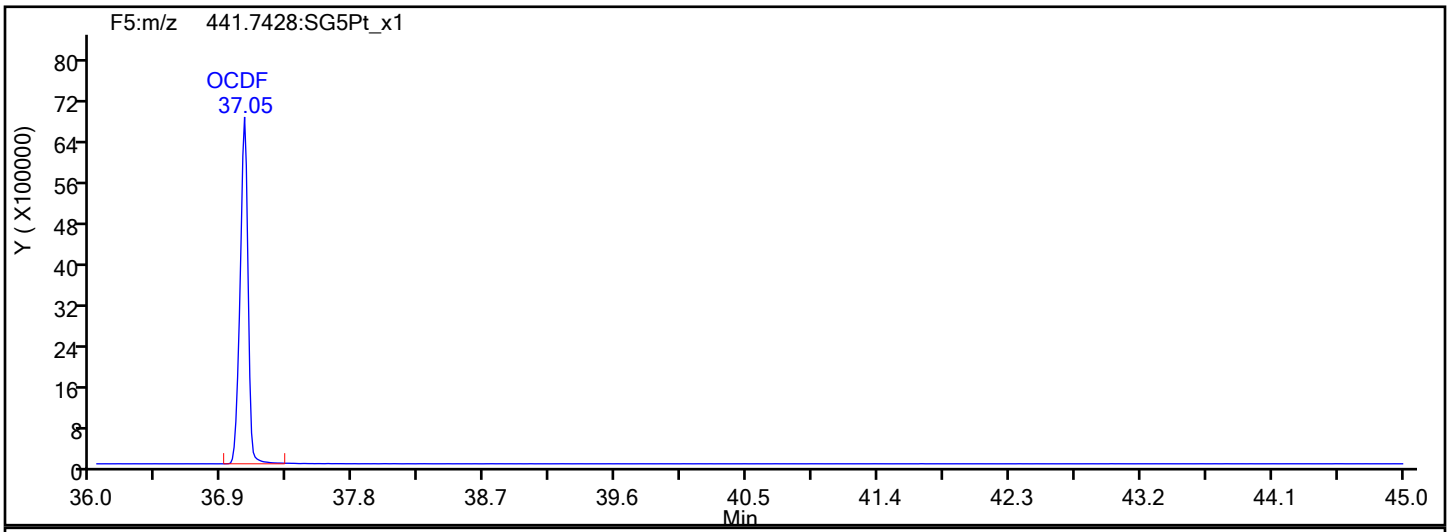

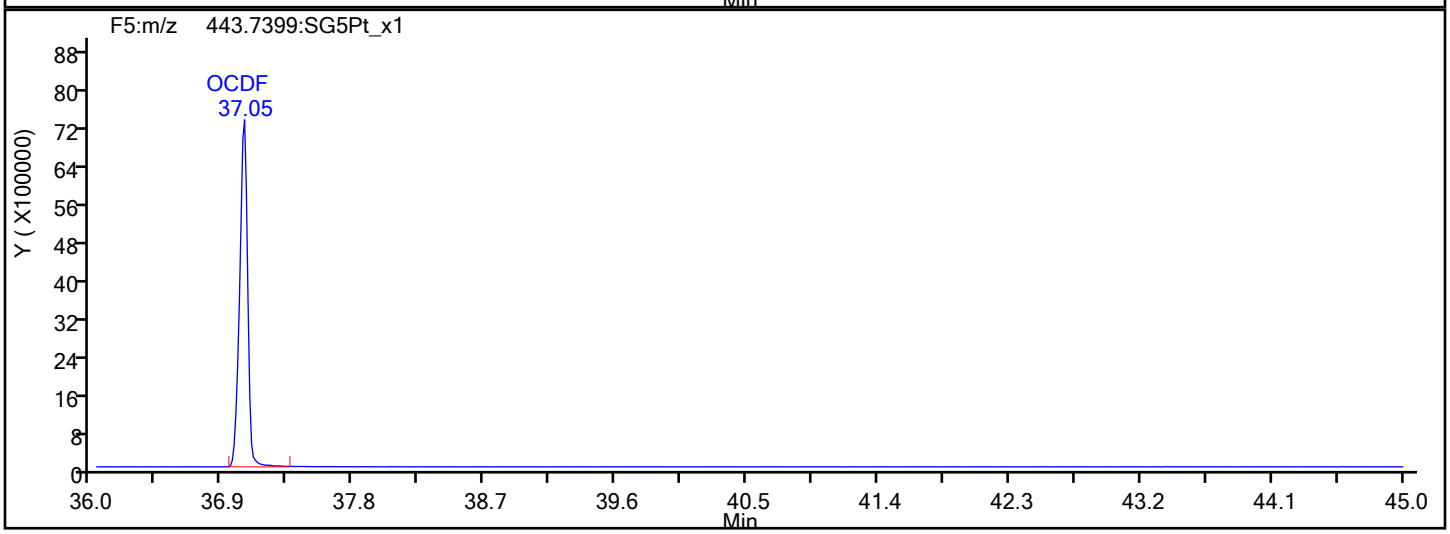

OCDF Interference Mass

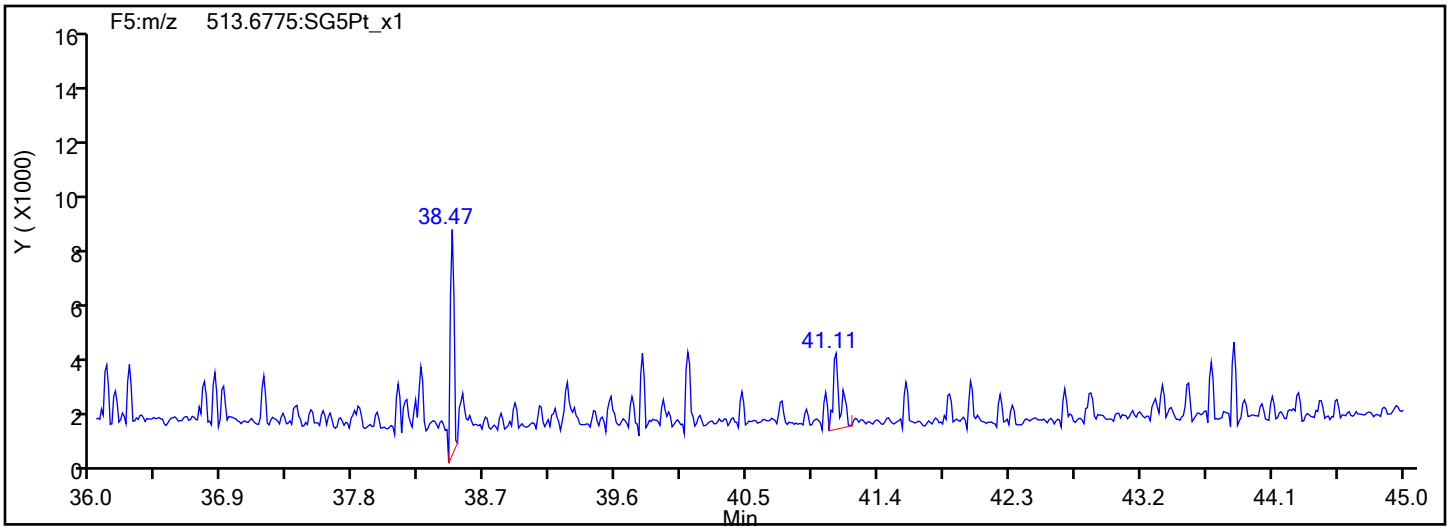

Report Date: 11-Oct-2019 12:50:57 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_2.d		
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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330145	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

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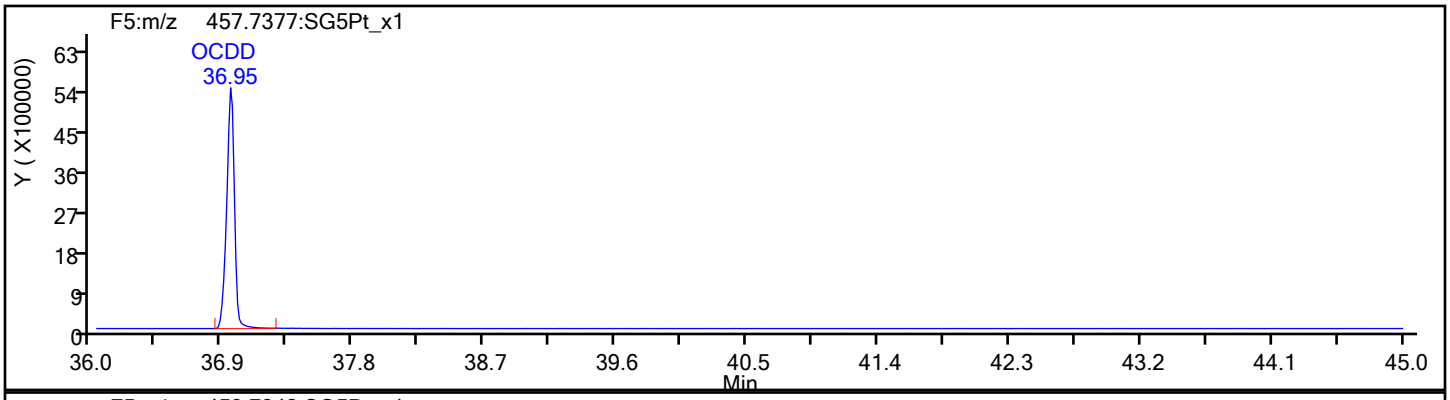

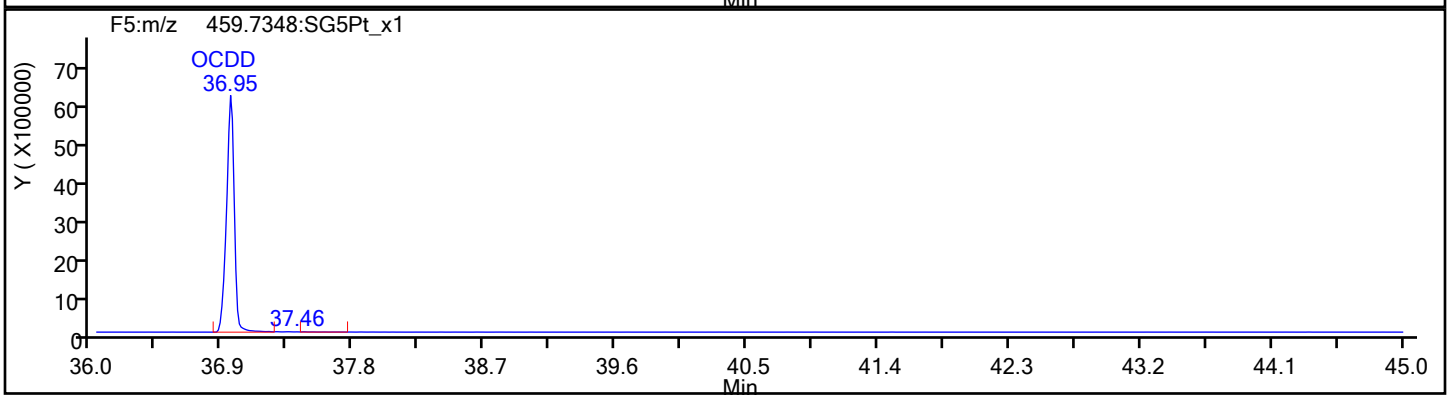

OCDD Standards

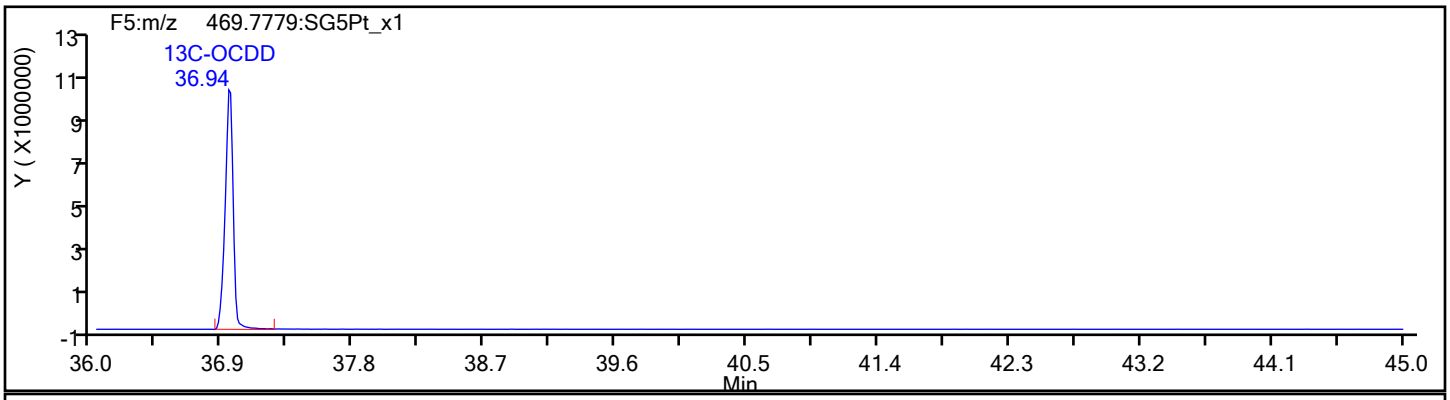

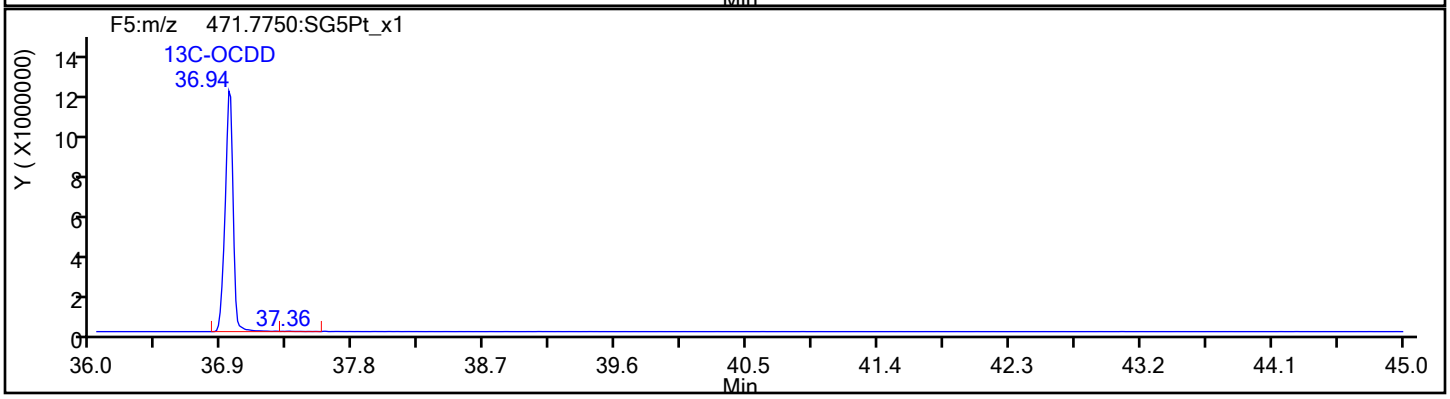

Report Date: 11-Oct-2019 12:50:57 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

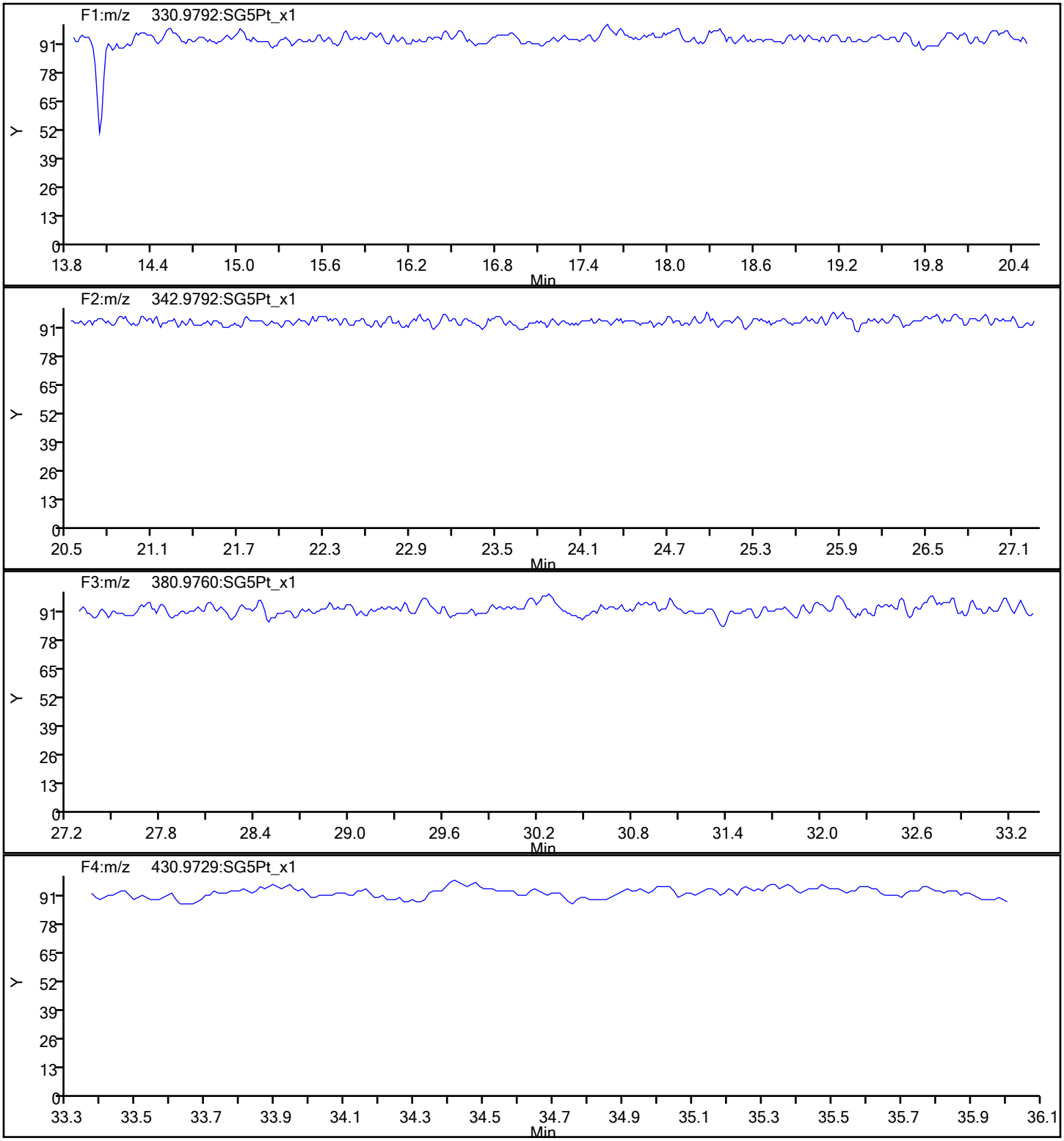

Report Date: 11-Oct-2019 12:50:57 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_2.d		
Injection Date:	10-Oct-2019 16:48:09	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330145	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

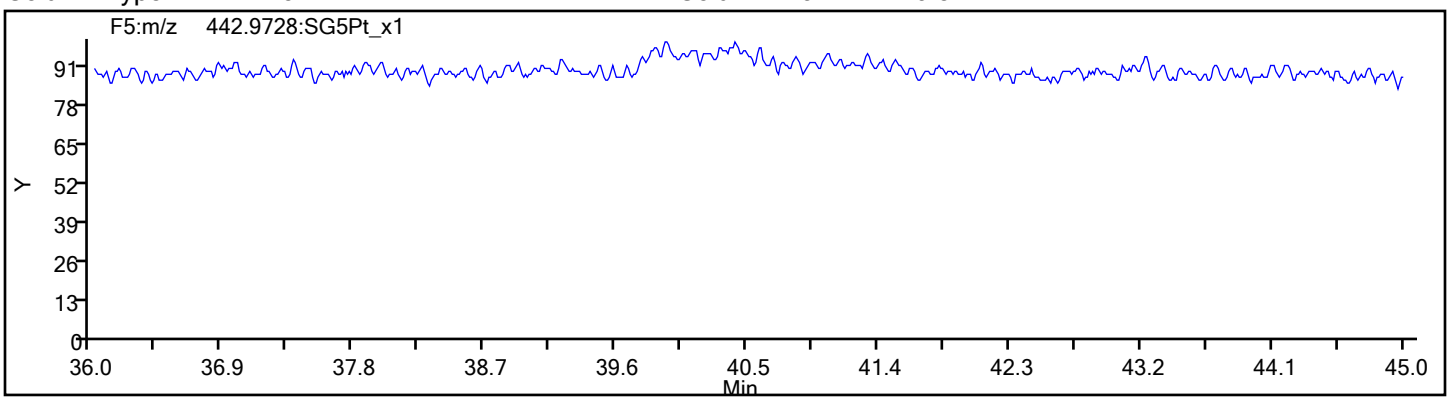

FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Lab Sample ID: CCV 320-330148/14 Calibration Date: 10/11/2019 02:09

Instrument ID: 10D5 Calib Start Date: 09/17/2019 13:03

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 09/17/2019 16:55

Lab File ID: 10OC1910D5_14.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
2,3,7,8-TCDF	AveID	1.051	1.033		9.83	10.0	98	84-120
2,3,7,8-TCDD	AveID	1.106	0.9749		8.81	10.0	88	78-129
1,2,3,7,8-PeCDF	AveID	1.082	1.047		48.4	50.0	97	82-120
2,3,4,7,8-PeCDF	AveID	1.103	1.073		48.6	50.0	97	82-122
1,2,3,7,8-PeCDD	AveID	0.9050	0.9243		51.1	50.0	102	78-130
1,2,3,4,7,8-HxCDF	AveID	1.197	1.178		49.2	50.0	98	90-112
1,2,3,6,7,8-HxCDF	AveID	1.181	1.165		49.3	50.0	99	88-114
2,3,4,6,7,8-HxCDF	AveID	1.212	1.189		49.1	50.0	98	88-114
1,2,3,4,7,8-HxCDD	AveID	1.109	1.116		50.3	50.0	101	78-128
1,2,3,6,7,8-HxCDD	AveID	1.081	1.089		50.3	50.0	101	78-128
1,2,3,7,8,9-HxCDD	AveID	1.212	1.253		51.7	50.0	103	82-122
1,2,3,7,8,9-HxCDF	AveID	1.245	1.200		48.2	50.0	96	90-112
1,2,3,4,6,7,8-HpCDF	AveID	1.556	1.470		47.2	50.0	94	90-110
1,2,3,4,6,7,8-HpCDD	AveID	0.9316	0.9358		50.2	50.0	100	86-116
1,2,3,4,7,8,9-HpCDF	AveID	1.386	1.355		48.9	50.0	98	86-116
OCDD	AveID	1.062	1.058		99.6	100	100	79-126
OCDF	AveID	1.260	1.322		105	100	105	63-159
13C-2,3,7,8-TCDF	Ave	1.438	1.282		89.1	100	89	71-140
13C-2,3,7,8-TCDD	Ave	0.9533	0.9568		100	100	100	82-121
13C-1,2,3,7,8-PeCDF	Ave	1.029	1.017		98.9	100	99	76-130
13C-2,3,4,7,8-PeCDF	Ave	0.9827	0.9830		100	100	100	77-130
13C-1,2,3,7,8-PeCDD	Ave	0.7481	0.7791		104	100	104	62-160
13C-1,2,3,4,7,8-HxCDF	Ave	1.152	1.138		98.7	100	99	76-131
13C-1,2,3,6,7,8-HxCDF	Ave	1.243	1.181		95.0	100	95	70-143
13C-2,3,4,6,7,8-HxCDF	Ave	1.172	1.131		96.5	100	97	73-137
13C-1,2,3,4,7,8-HxCDD	Ave	0.7812	0.7878		101	100	101	85-117
13C-1,2,3,6,7,8-HxCDD	Ave	0.9175	0.8280		90.3	100	90	85-118
13C-1,2,3,7,8,9-HxCDF	Ave	1.065	1.073		101	100	101	74-135
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.8628	0.8036		93.1	100	93	78-129
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.8739	0.8781		100	100	100	72-138
13C-1,2,3,4,7,8,9-HpCDF	Ave	0.7991	0.7570		94.7	100	95	77-129
13C-OCDD	Ave	0.7744	0.6199		160	200	80	48-208
37Cl4-2,3,7,8-TCDD	Ave	1.222	1.231		8.05	8.00	101	79-127

Sample List Report **MassLynx 4.1**

Sample List: C:\MassLynx\DATA 2019.PRO\SampleDB\10OC1910D5.SPL
Last Modified: Thursday, October 10, 2019 16:41:01 Pacific Daylight Time
Printed: Thursday, October 10, 2019 17:12:48 Pacific Daylight Time

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #	User
1	10OC1910D5_1	WDM HRDXNCP_00038	WDM 101019	Tray01:1	Dioxin		SMA
2	10OC1910D5_2	CS-4 HRDXNL4_00084	CCV 101019	Tray01:2	Dioxin		SMA
3	10OC1910D5_3	Solvent Blank C-14	SB 101019	Tray01:3	---		SMA
4	10OC1910D5_4	MB 320-329656/1-A	MB 320-329656/1-A	Tray01:4	8290/Solid	54	SMA
5	10OC1910D5_5	LCS 320-329656/2-A	LCS 320-329656/2-A	Tray01:5	8290/Solid		SMA
6	10OC1910D5_6	LCSD 320-329656/3-A	LCSD 320-329656/3-A	Tray01:6	8290/Solid		SMA
7	10OC1910D5_7	MB 320-329339/1-A	MB 320-329339/1-A	Tray01:7	1613B/Water	D98	SMA
8	10OC1910D5_8	LCS 320-329339/2-A	LCS 320-329339/2-A	Tray01:8	1613B/Water		SMA
9	10OC1910D5_9	LCSD 320-329339/3-A	LCSD 320-329339/3-A	Tray01:9	1613B/Water		SMA
10	10OC1910D5_10	320-55086-A-4-A	320-55086-A-4-A	Tray01:10	8290/Solid	54	SMA
11	10OC1910D5_11	320-54830-A-27-A	320-54830-A-27-A	Tray01:11	8290/Solid		SMA
12	10OC1910D5_12	320-54830-A-28-A	320-54830-A-28-A	Tray01:12	8290/Solid		SMA
13	10OC1910D5_13	Solvent Blank C-14	SB 101019A	Tray01:3	---		SMA
14	10OC1910D5_14	CS-4 HRDXNL4_00084	CCV 101019A	Tray01:2	Dioxin		SMA
15	10OC1910D5_15	WDM HRDXNCP_00038	WDM 101019A	Tray01:1	Dioxin		SMA
16	10OC1910D5_16	Solvent Blank C-14	SB 101019B	Tray01:3	---		SMA
17	10OC1910D5_17	320-54852-A-1-A	320-54852-A-1-A	Tray01:15	1613B/Water	D98	SMA
18	10OC1910D5_18	320-54852-A-2-A	320-54852-A-2-A	Tray01:16	1613B/Water		SMA
19	10OC1910D5_19	320-54852-A-3-A	320-54852-A-3-A	Tray01:17	1613B/Water		SMA
20	10OC1910D5_20	320-54852-A-4-A	320-54852-A-4-A	Tray01:18	1613B/Water		SMA
21	10OC1910D5_21	320-54852-A-5-A	320-54852-A-5-A	Tray01:19	1613B/Water		SMA
22	10OC1910D5_22	320-54852-A-6-A	320-54852-A-6-A	Tray01:20	1613B/Water		SMA
23	10OC1910D5_23	680-174617-A-1-A	680-174617-A-1-A	Tray01:21	1613B_T/Water		SMA
24	10OC1910D5_24	Solvent Blank C-14	SB 101019C	Tray01:3	---		SMA
25	10OC1910D5_25	CS-4 HRDXNL4_00084	CCV 101019B	Tray01:2	Dioxin		SMA
26	10OC1910D5_26	WDM HRDXNCP_00038	WDM 101019B	Tray01:1	Dioxin		SMA
27	10OC1910D5_27	Solvent Blank C-14	SB 101019D	Tray01:3	---		SMA

Log file checked
AJS
10-10-19

Printed: Friday, October 11, 2019 02:09:51 Pacific Daylight Time

M 292.9824 R 13021

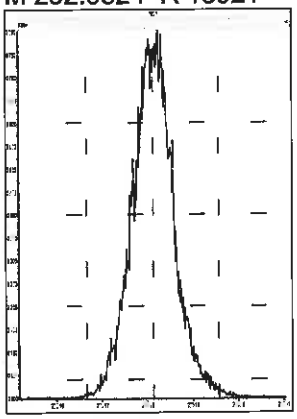

M 304.9824 R 12820

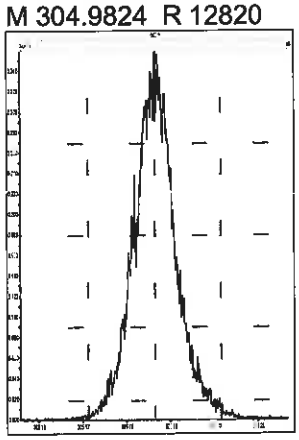

M 318.9792 R 13199

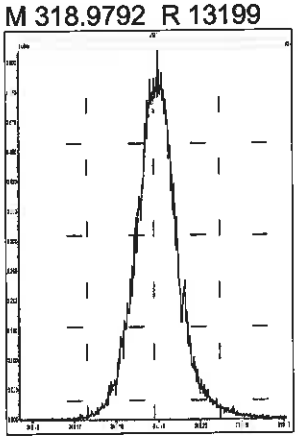

M 330.9792 R 12500

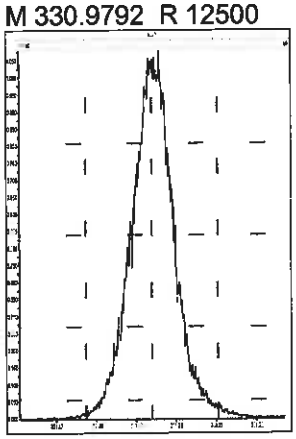

M 342.9792 R 11907

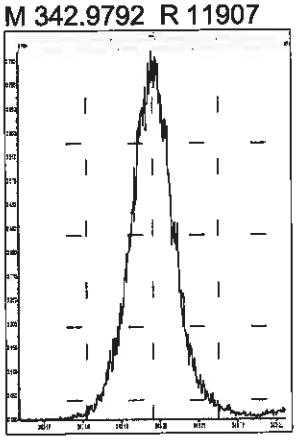

M 354.9792 R 11878

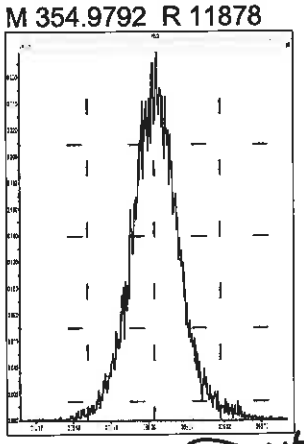

M 366.9792 R 11392

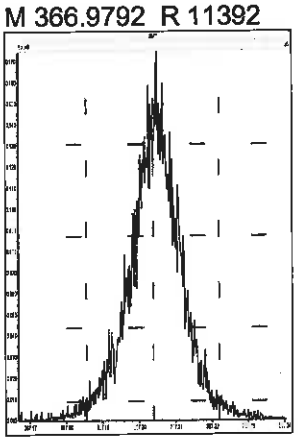

M 380.9760 R 10940

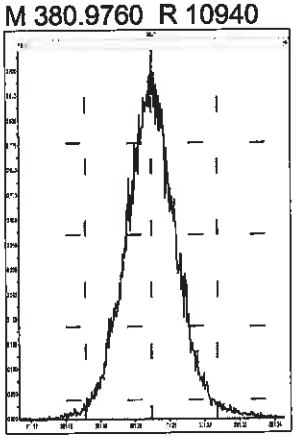

M 392.9760 R 10782

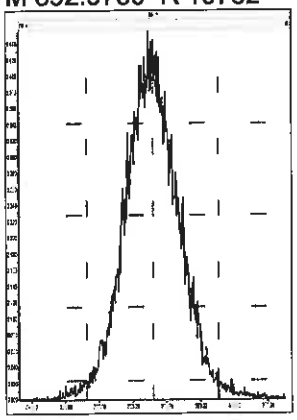

M 404.9760 R 9930 XCG 10/11/19

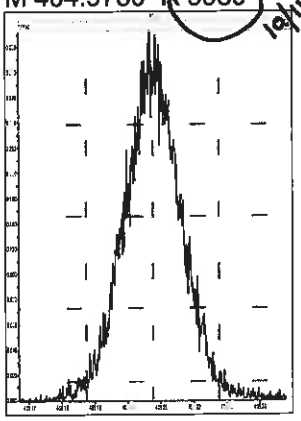

M 416.9760 R 10438

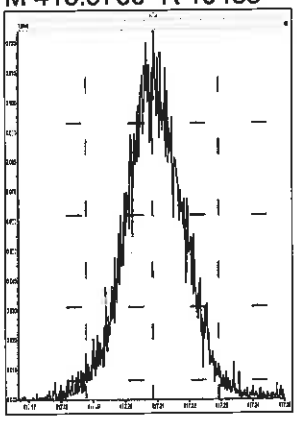

M 318.9792 R 14045

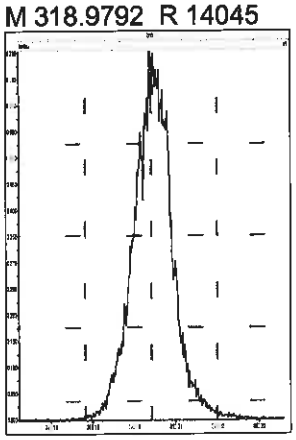

M 330.9792 R 13552

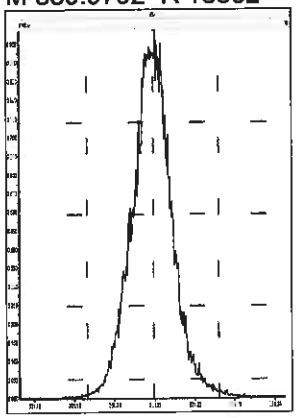

M 342.9792 R 13192

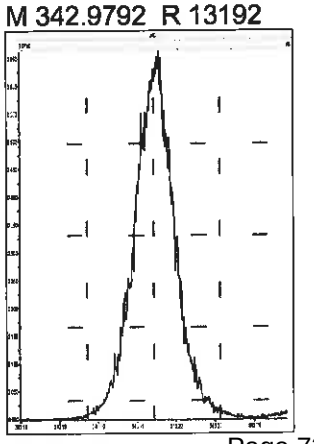

M 354.9792 R 13349

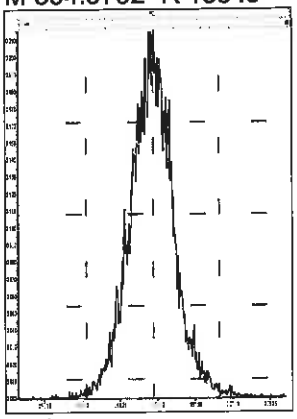

M 366.9792 R 12652

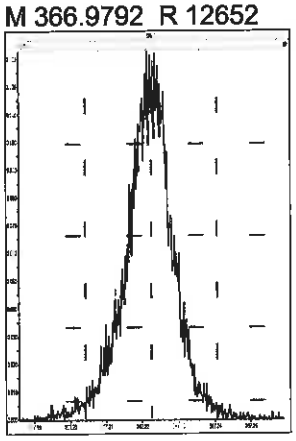

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M 380.9760 R 11914

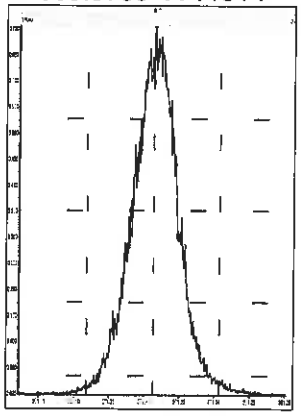

M 392.9760 R 11601

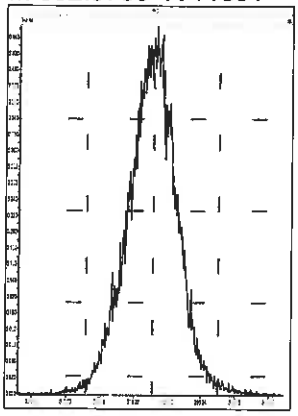

M 404.9760 R 11340

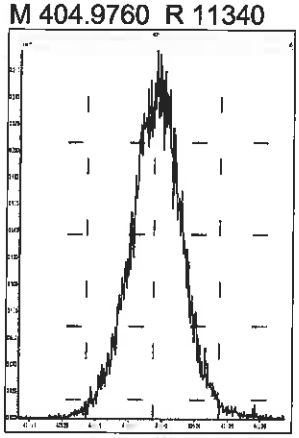

M 416.9760 R 11788

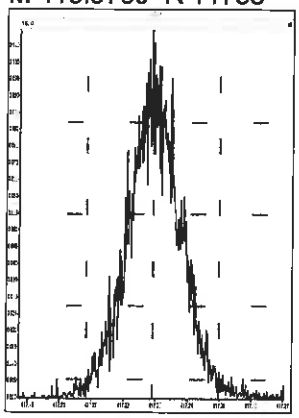

M 366.9792 R 14506

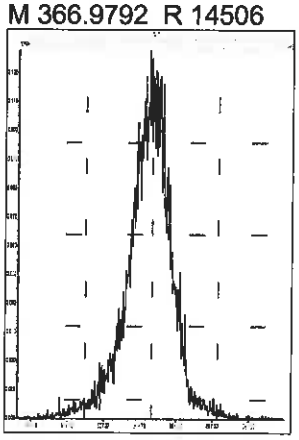

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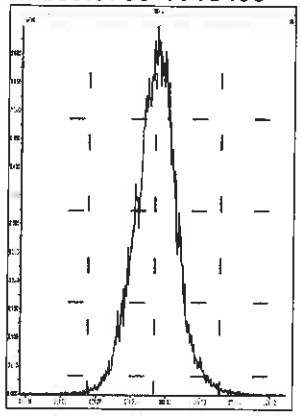

M 392.9760 R 13552

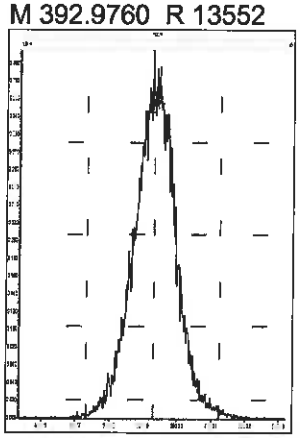

M 404.9760 R 13088

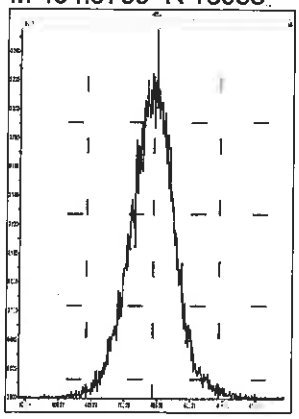

M 416.9760 R 13203

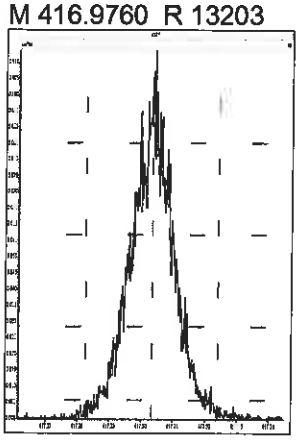

M 430.9728 R 12637

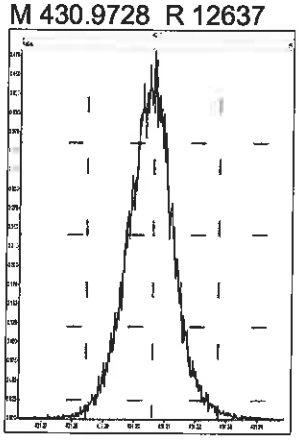

M 442.9728 R 11601

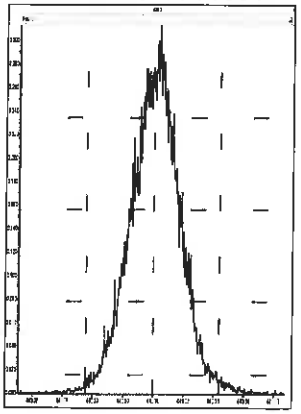

M 454.9728 R 11112

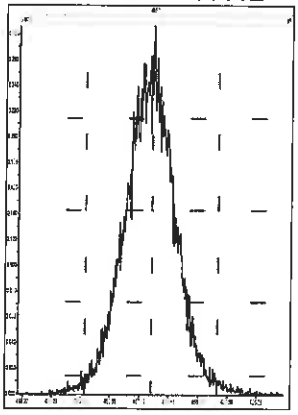

M 380.9760 R 13230

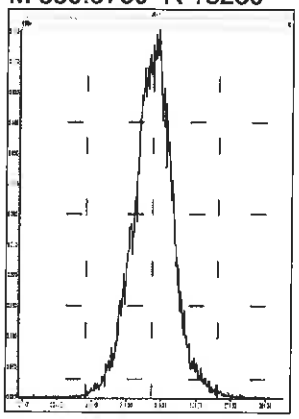

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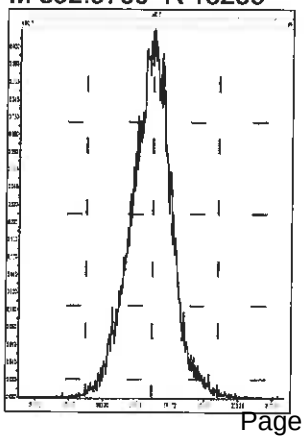

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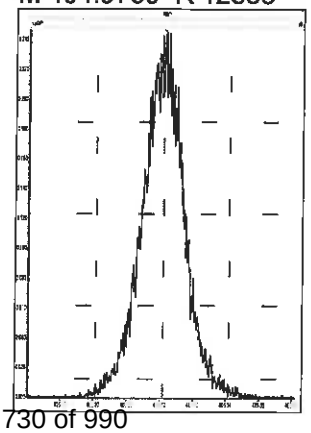

M 416.9760 R 13266

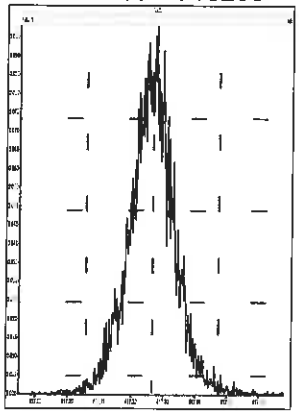

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M 430.9728 R 12408

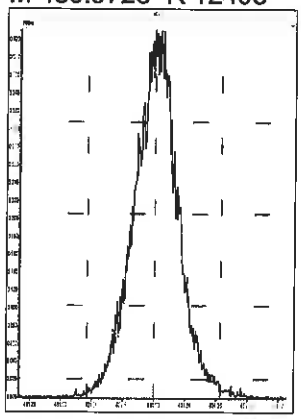

M 442.9728 R 12254

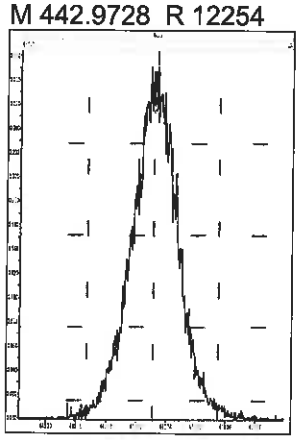

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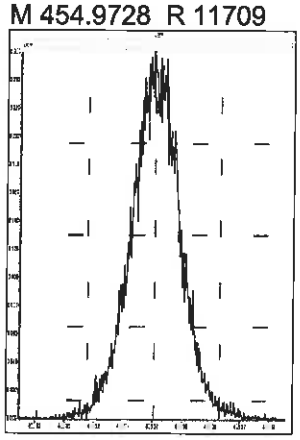

M 466.9728 R 11629

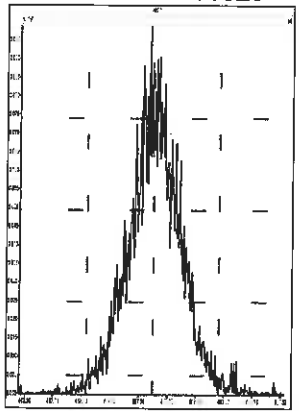

M 480.9696 R 10917

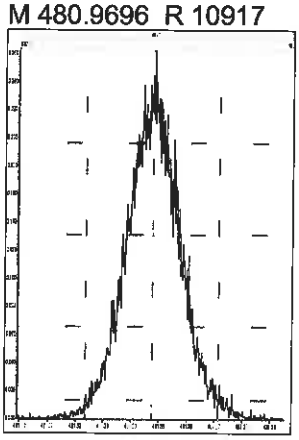

M 380.9760 R 13850

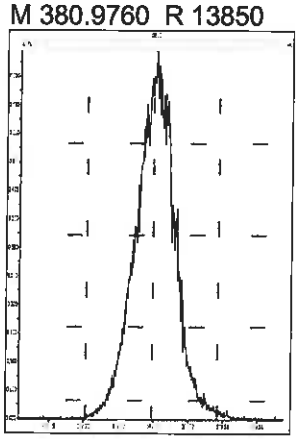

M 392.9760 R 13335

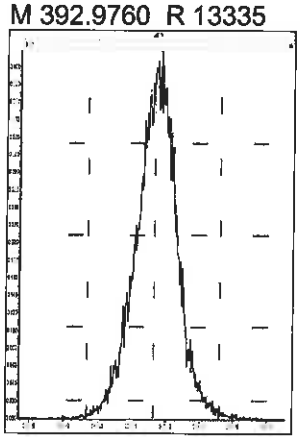

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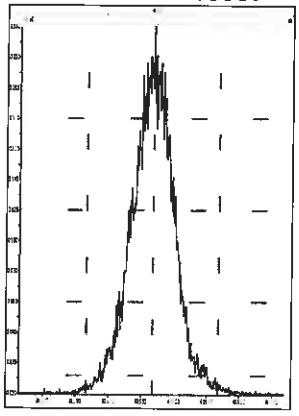

M 416.9760 R 13227

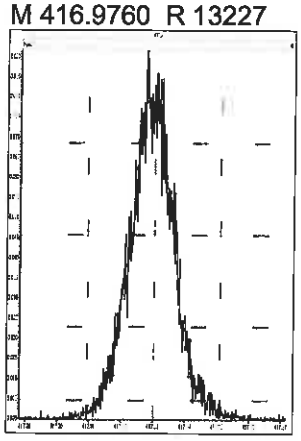

M 430.9728 R 12496

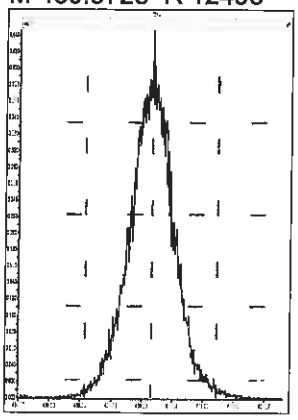

M 442.9728 R 12255

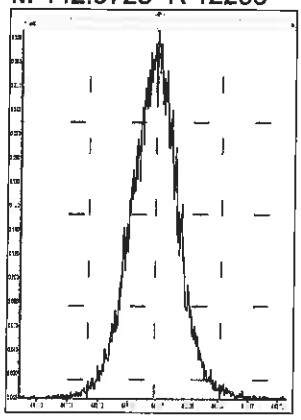

M 454.9728 R 11524

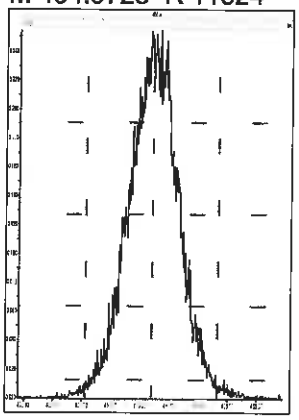

M 466.9728 R 11998

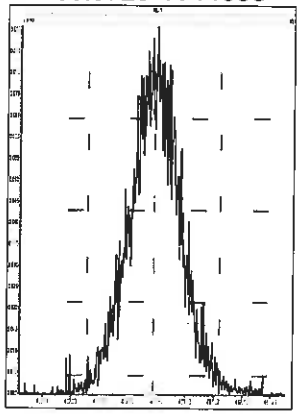

M 480.9696 R 10645

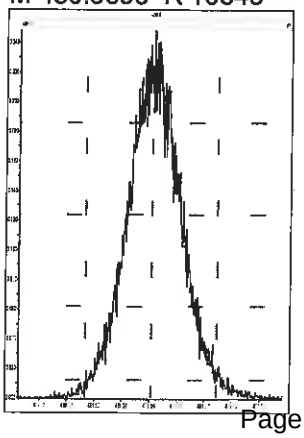

M 492.9696 R 10548

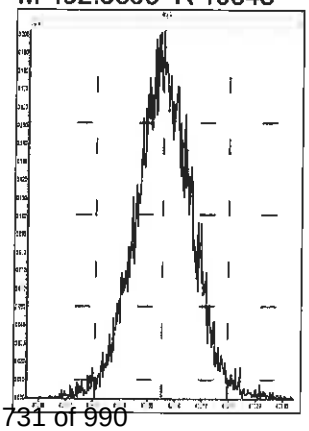

M 504.9696 R 10328

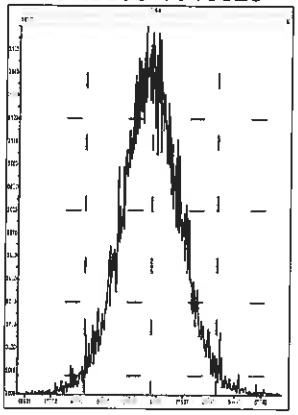

M 516.9697 R 10438

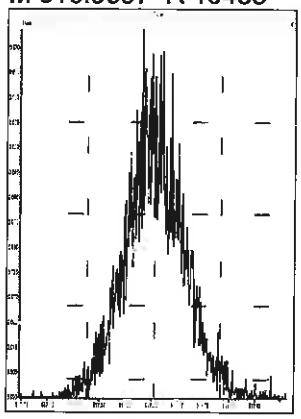

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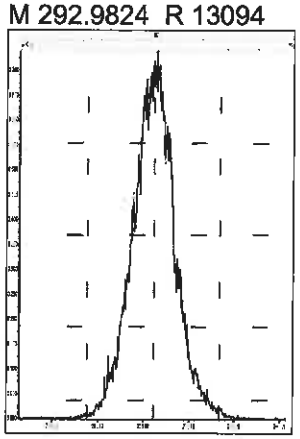

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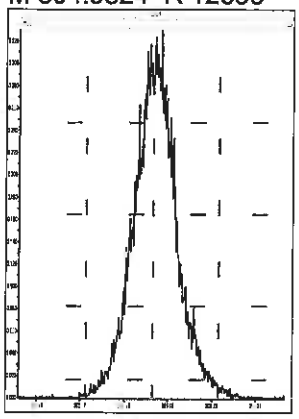

M 318.9792 R 12351

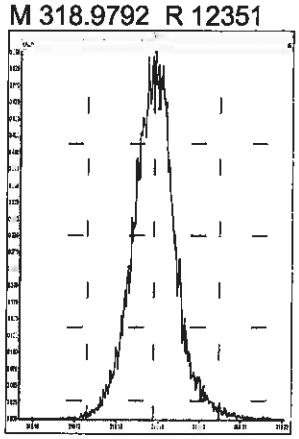

M 330.9792 R 11769

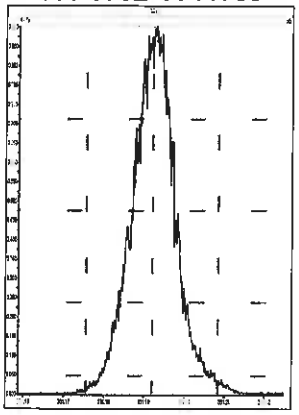

M 342.9792 R 11740

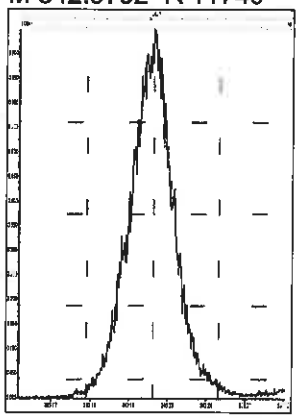

M 354.9792 R 11365

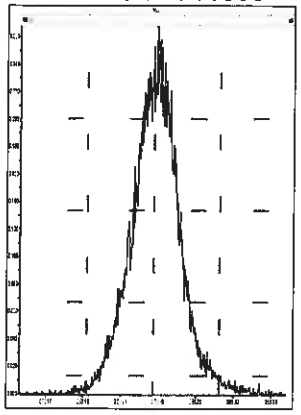

M 366.9792 R 11344

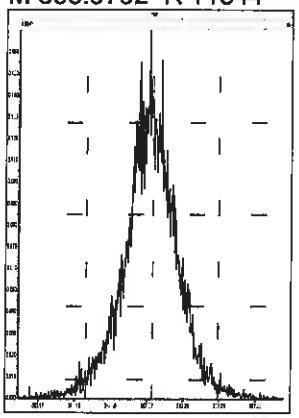

M 380.9760 R 10869

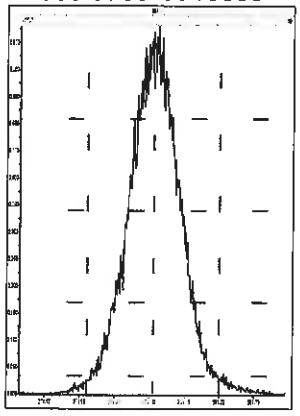

M 392.9760 R 10482

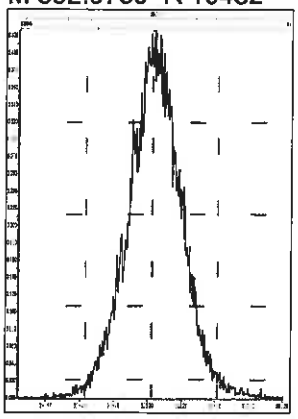

M 404.9760 R 10100

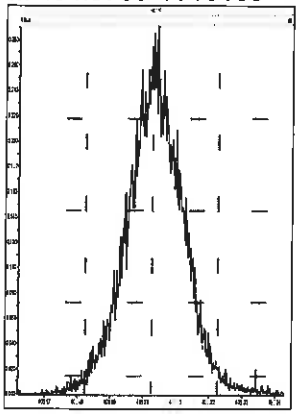

M 416.9760 R 10261

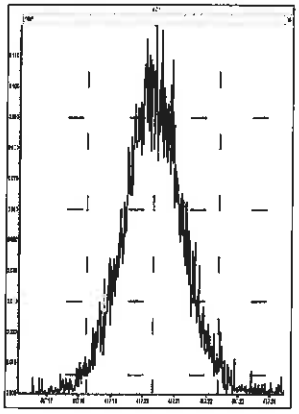

M 318.9792 R 13371

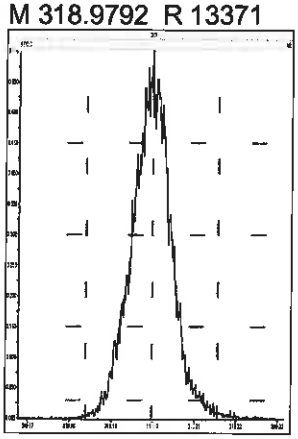

M 330.9792 R 13477

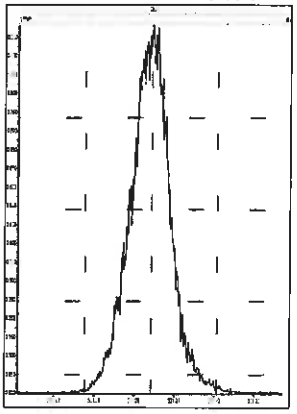

M 342.9792 R 13513

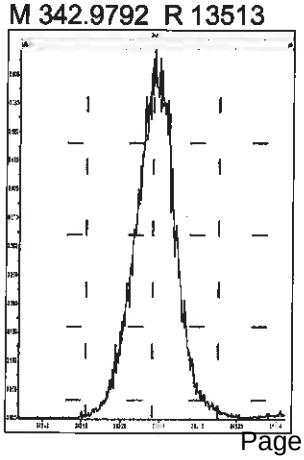

M 354.9792 R 13693

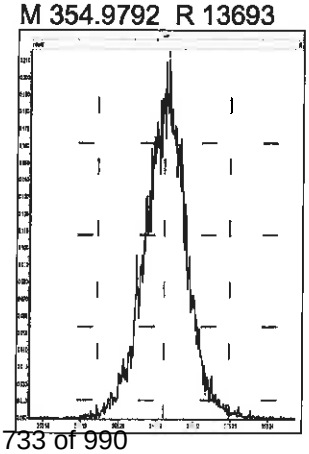

M 366.9792 R 12535

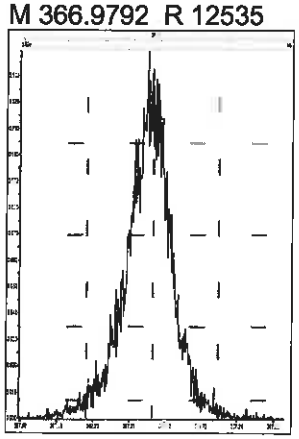

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M 380.9760 R 12278

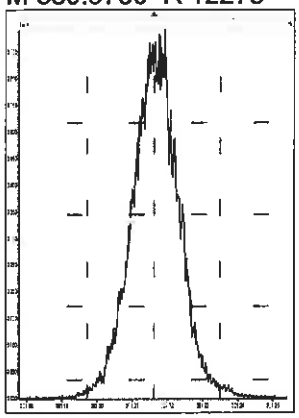

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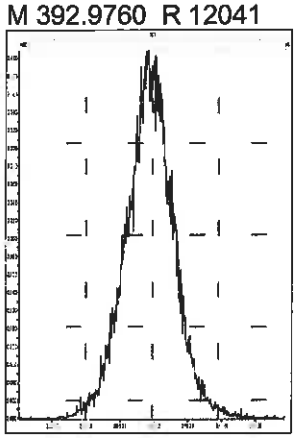

M 404.9760 R 11338

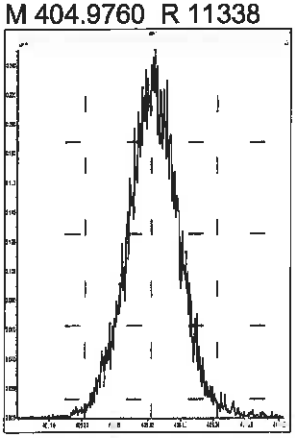

M 416.9760 R 11767

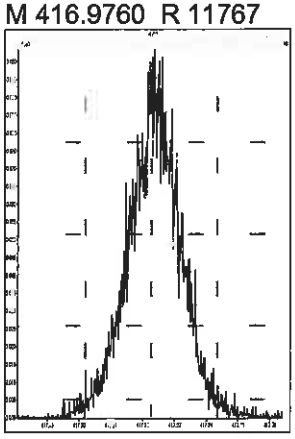

M 366.9792 R 14450

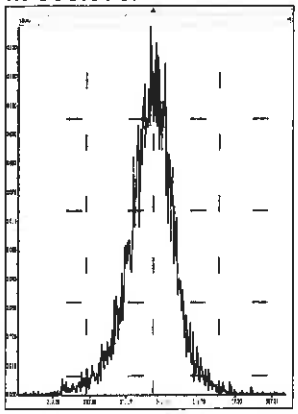

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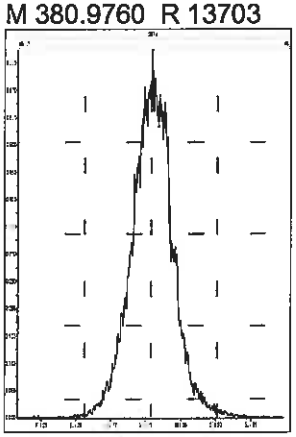

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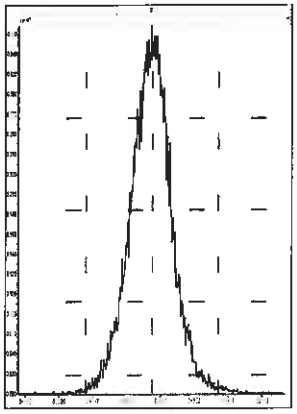

M 404.9760 R 12831

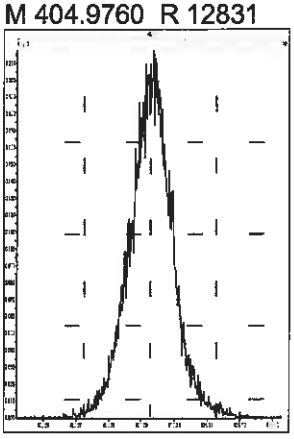

M 416.9760 R 12695

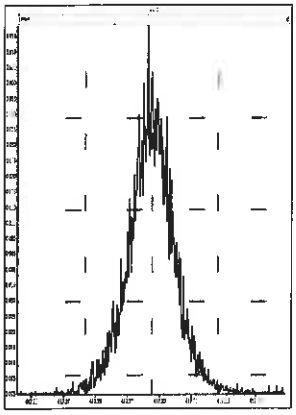

M 430.9728 R 12261

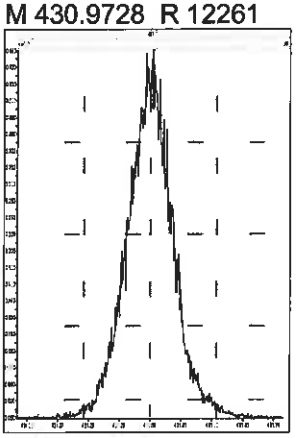

M 442.9728 R 11749

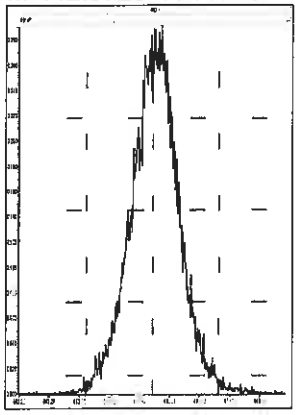

M 454.9728 R 10990

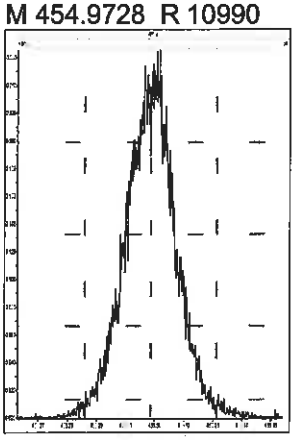

M 380.9760 R 13476

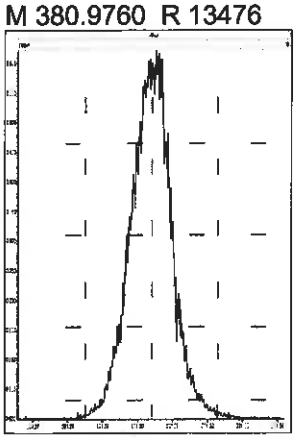

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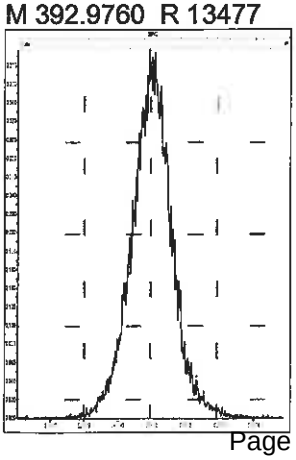

M 404.9760 R 12762

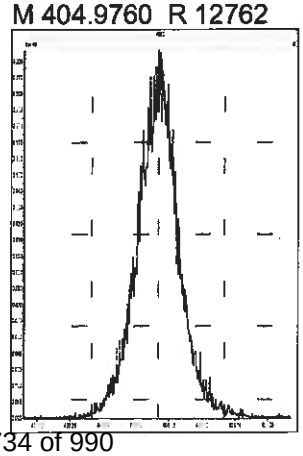

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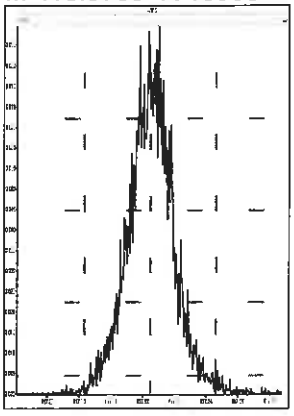

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M 430.9728 R 12628

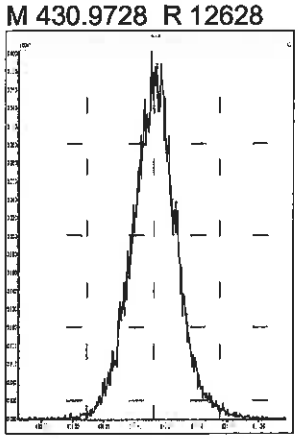

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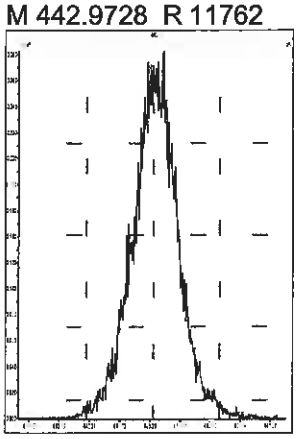

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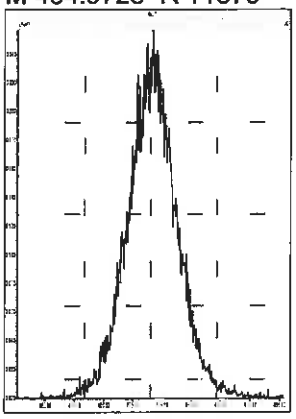

M 466.9728 R 11852

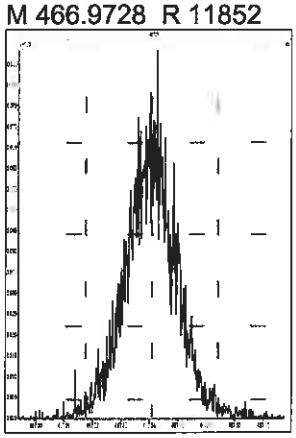

M 480.9696 R 11312

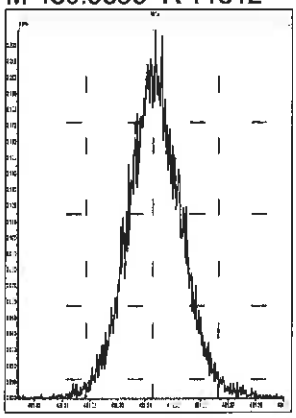

M 380.9760 R 13774

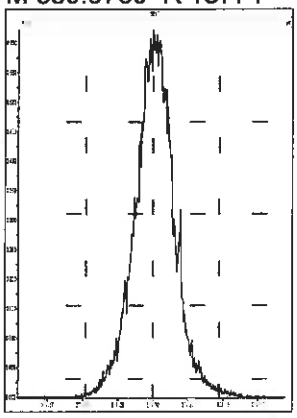

M 392.9760 R 13370

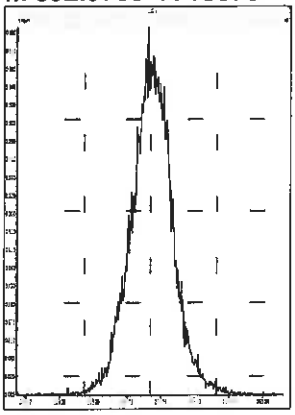

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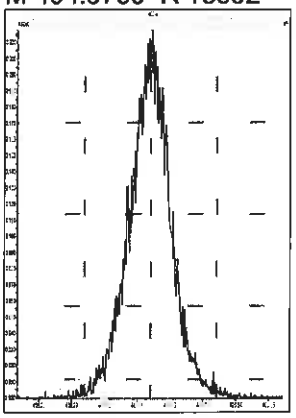

M 416.9760 R 13624

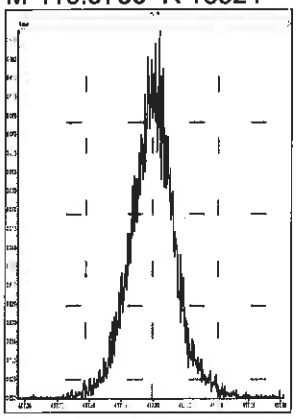

M 430.9728 R 12408

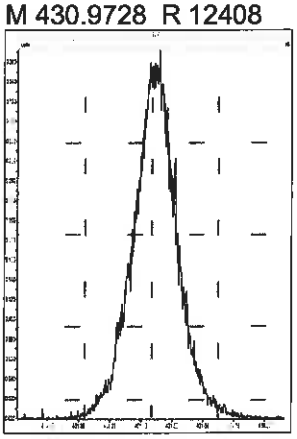

M 442.9728 R 12078

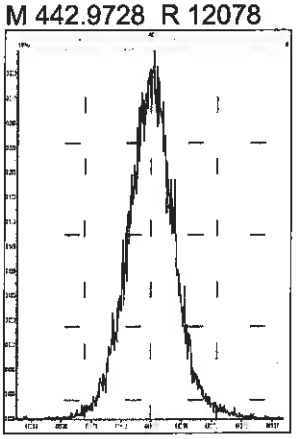

M 454.9728 R 11550

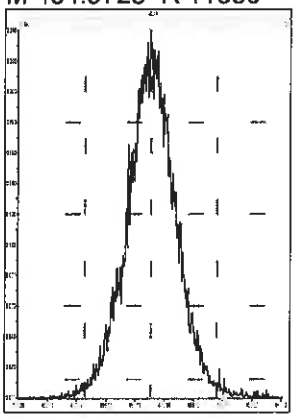

M 466.9728 R 12574

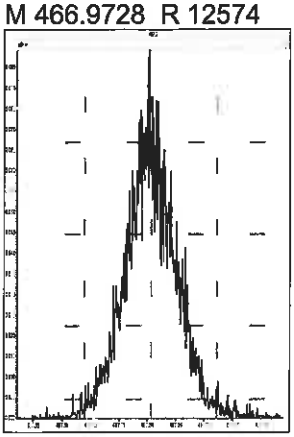

M 480.9696 R 10941

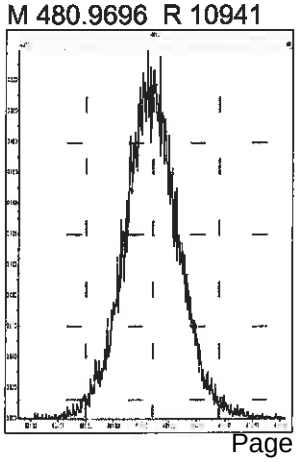

M 492.9696 R 10438

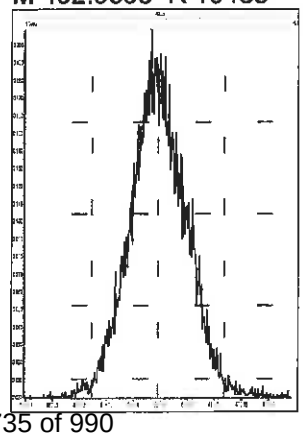

M 504.9696 R 10309

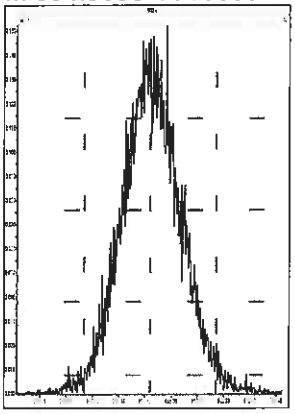

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M 516.9697 R 10638

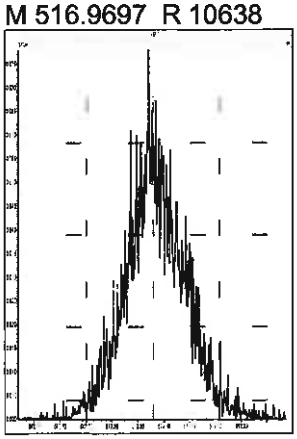

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M 292.9824 R 13193

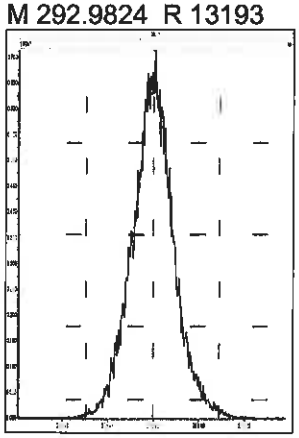

M 304.9824 R 12894

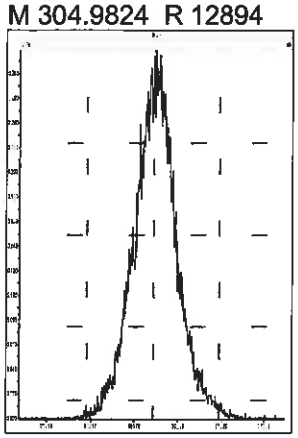

M 318.9792 R 12448

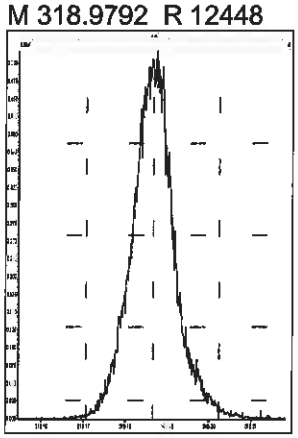

M 330.9792 R 12502

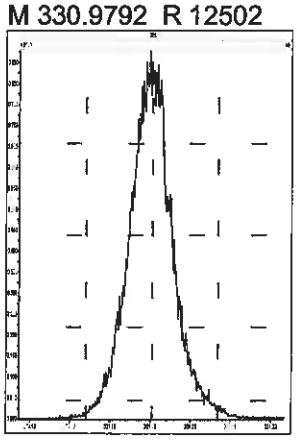

M 342.9792 R 11441

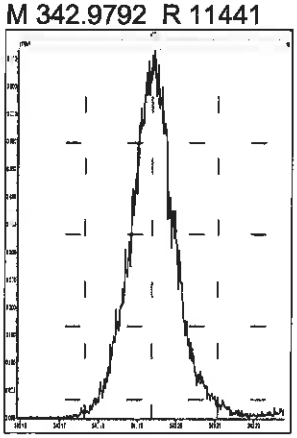

M 354.9792 R 11878

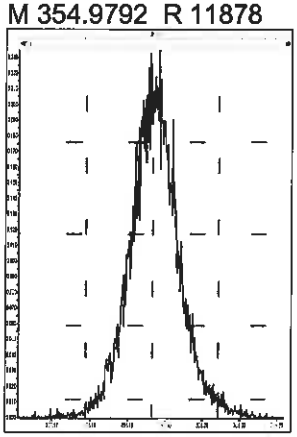

M 366.9792 R 10964

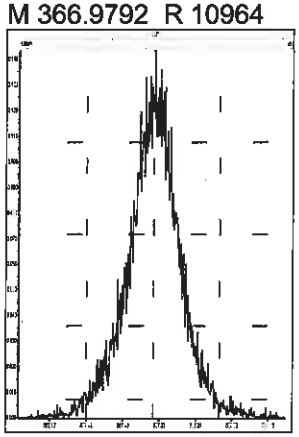

M 380.9760 R 11188

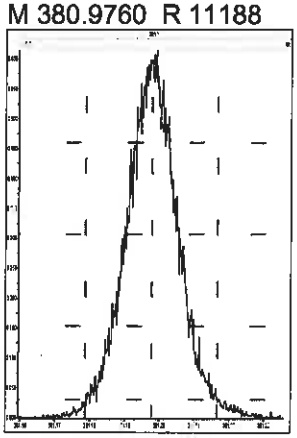

M 392.9760 R 10638

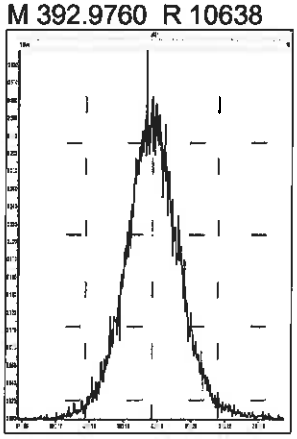

M 404.9760 R 10151

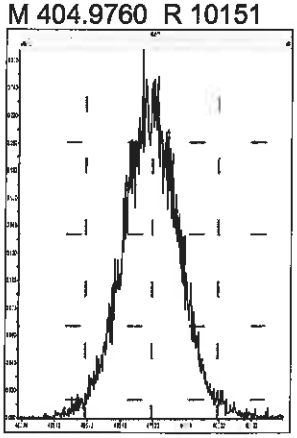

M 416.9760 R 11444

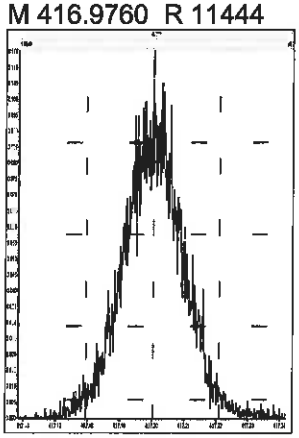

M 318.9792 R 13623

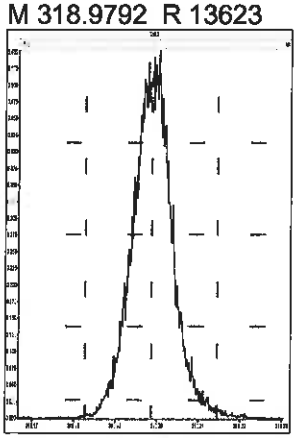

M 330.9792 R 13813

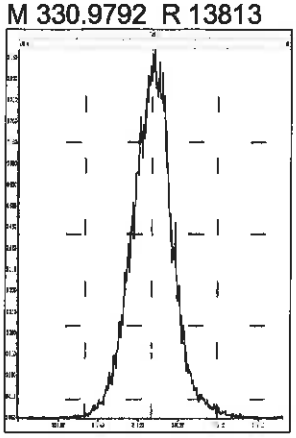

M 342.9792 R 13033

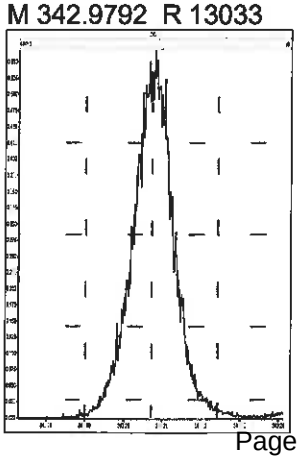

M 354.9792 R 12986

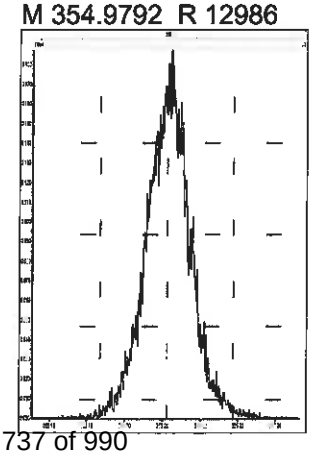

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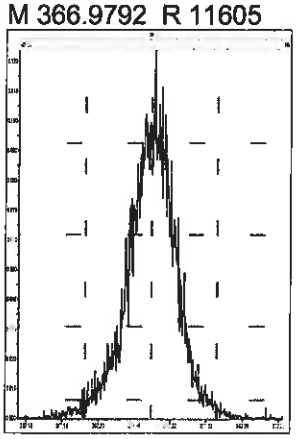

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M 380.9760 R 11995

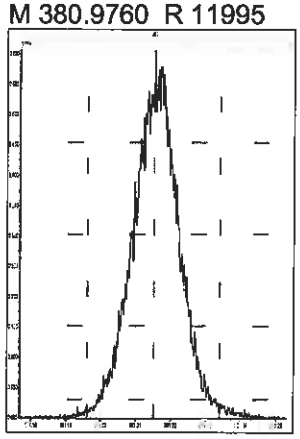

M 392.9760 R 11765

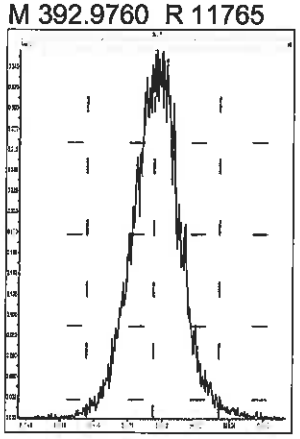

M 404.9760 R 11390

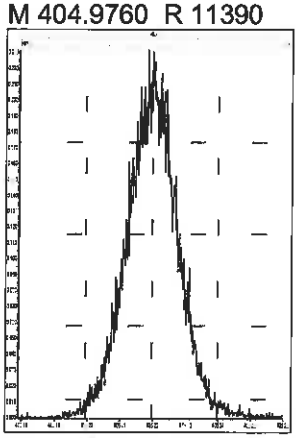

M 416.9760 R 11201

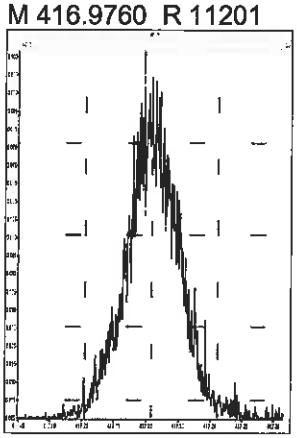

M 366.9792 R 13138

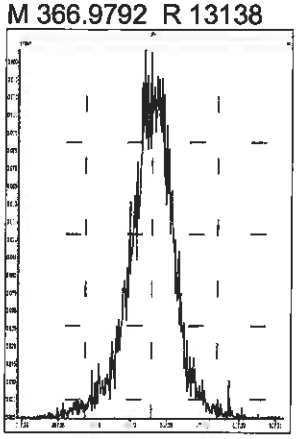

M 380.9760 R 13699

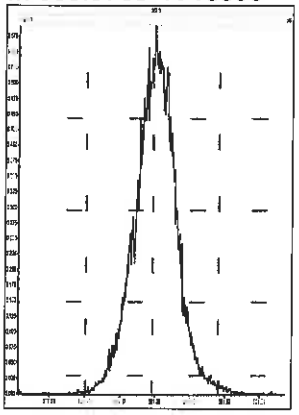

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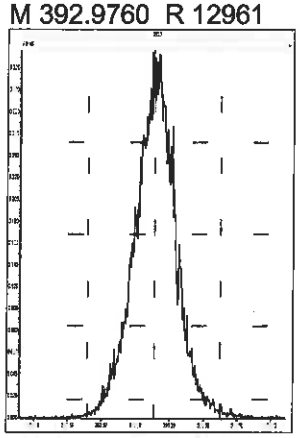

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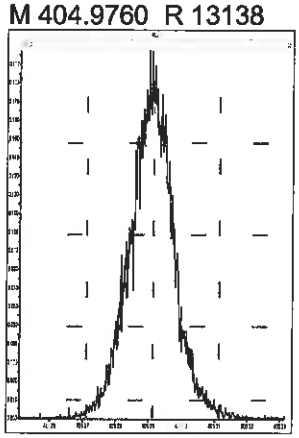

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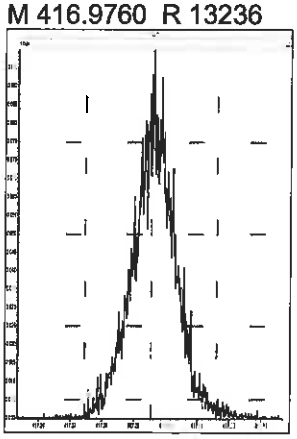

M 430.9728 R 12026

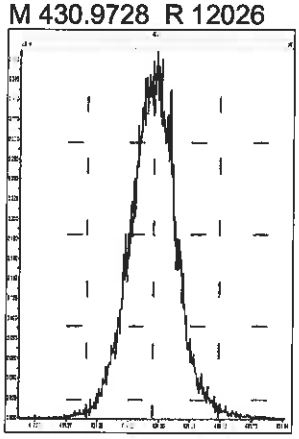

M 442.9728 R 11991

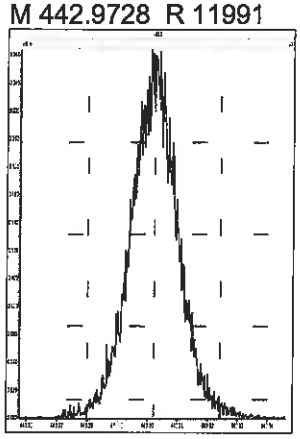

M 454.9728 R 11111

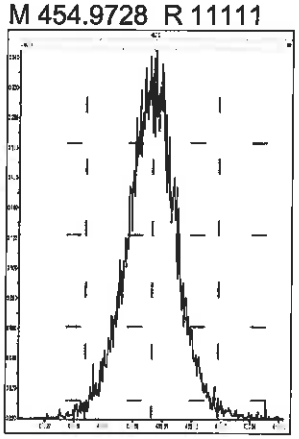

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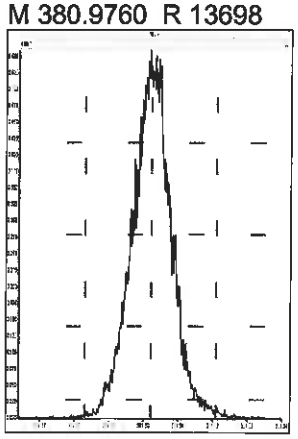

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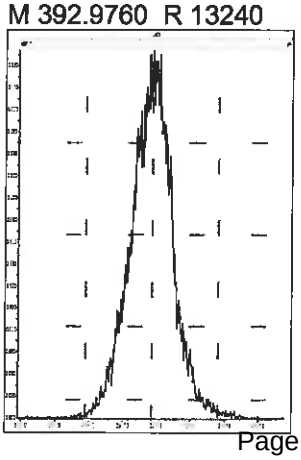

M 404.9760 R 13590

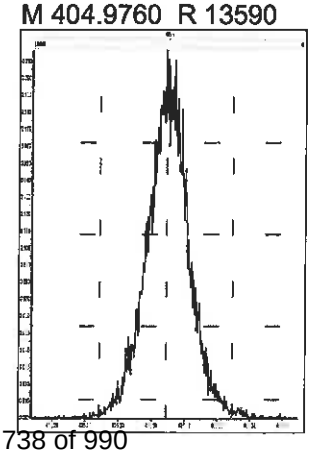

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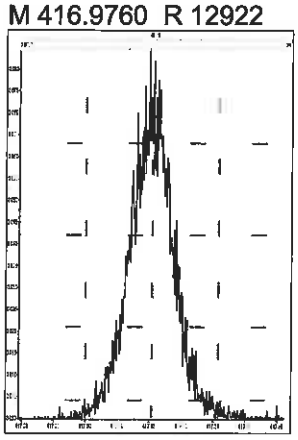

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M 430.9728 R 12230

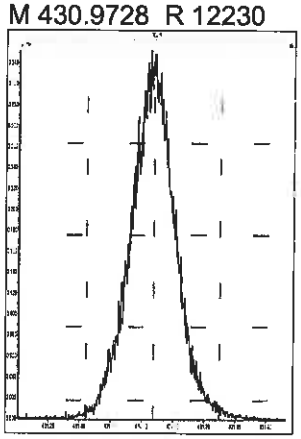

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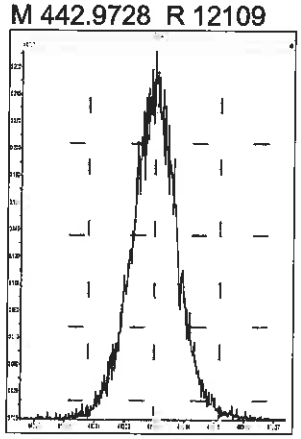

M 454.9728 R 11432

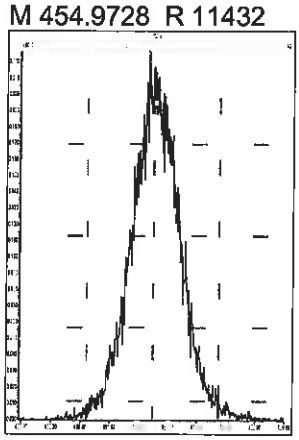

M 466.9728 R 12197

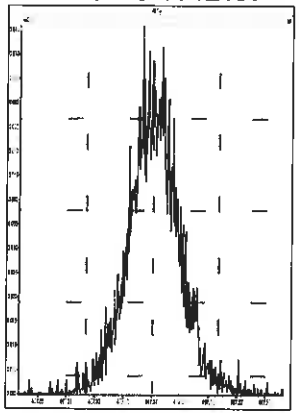

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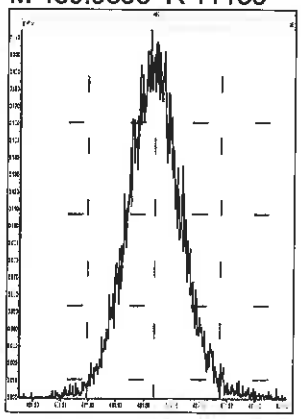

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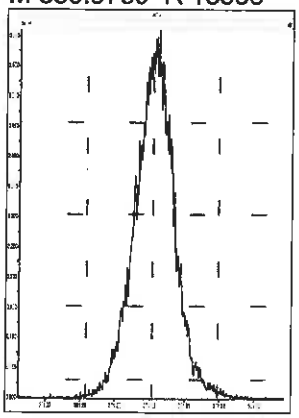

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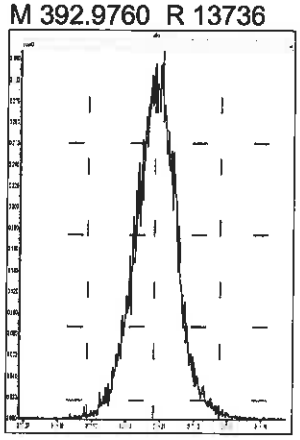

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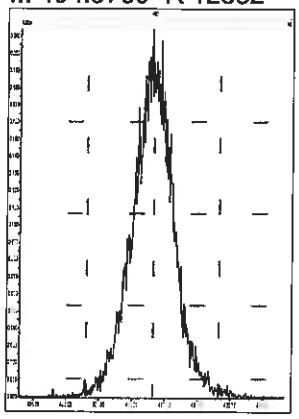

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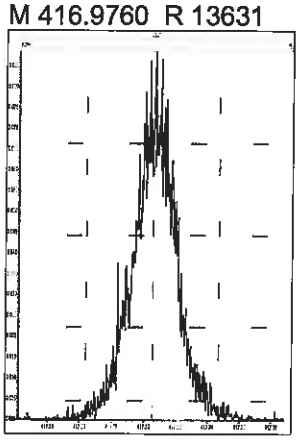

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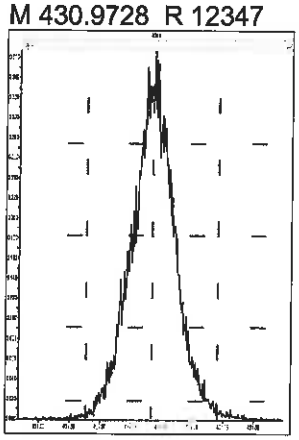

M 442.9728 R 12445

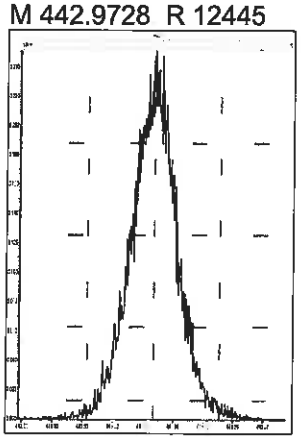

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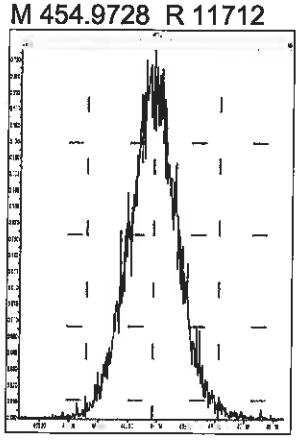

M 466.9728 R 12351

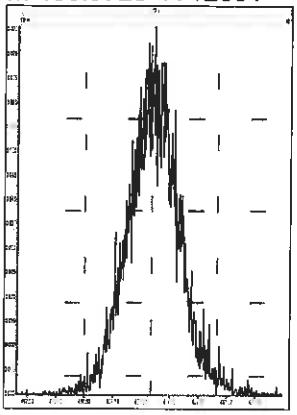

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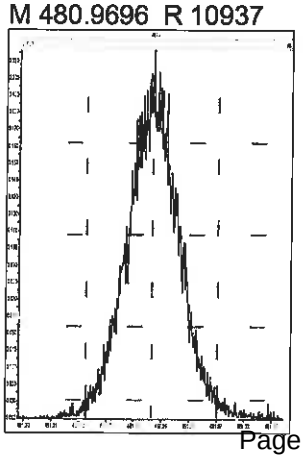

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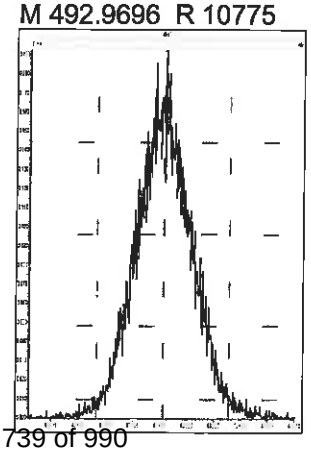

M 504.9696 R 9940

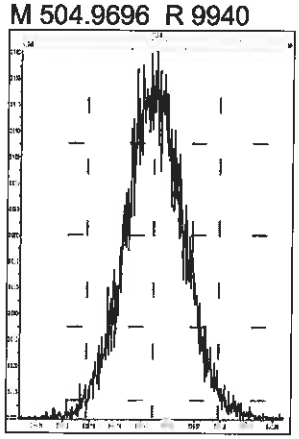

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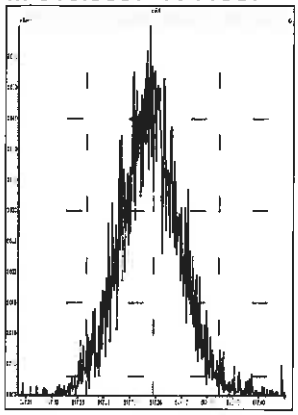

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M 292.9824 R 13513

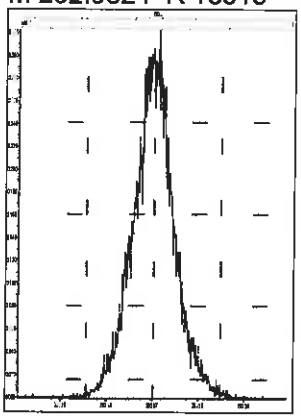

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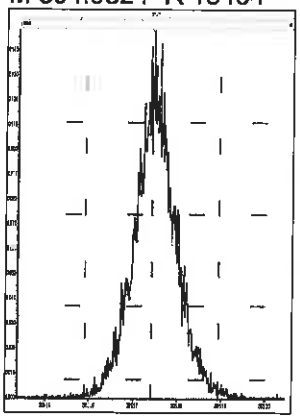

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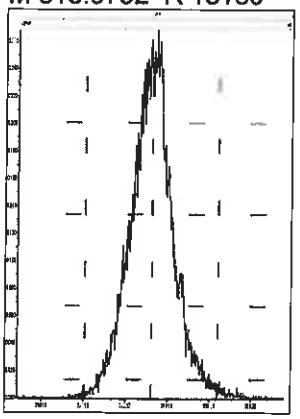

M 330.9792 R 12195

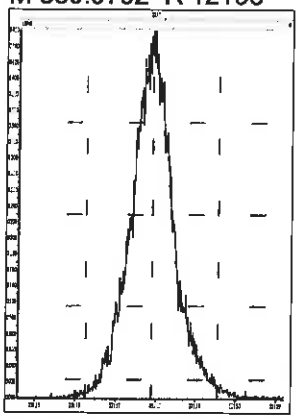

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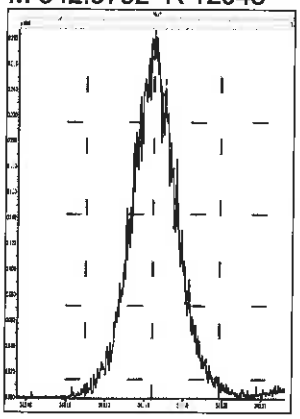

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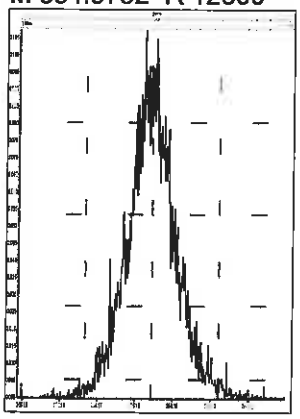

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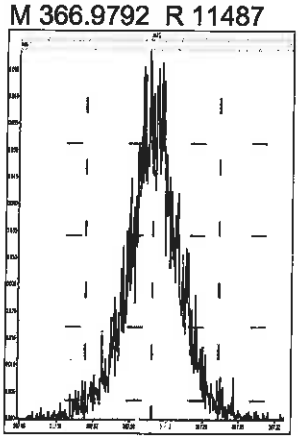

M 380.9760 R 10989

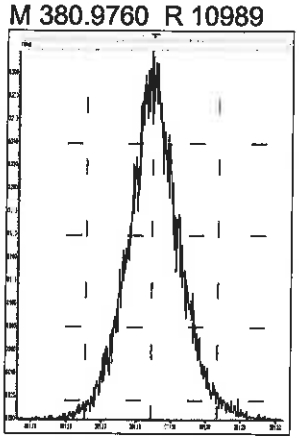

M 392.9760 R 10782

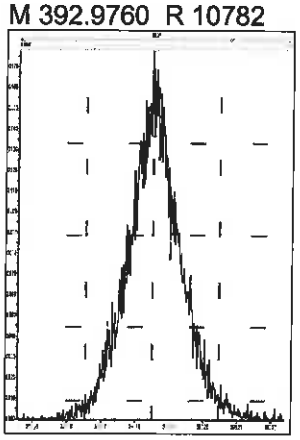

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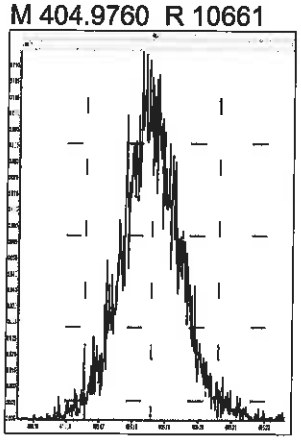

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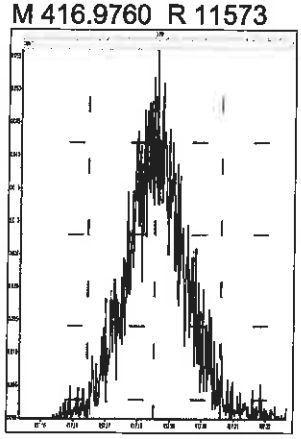

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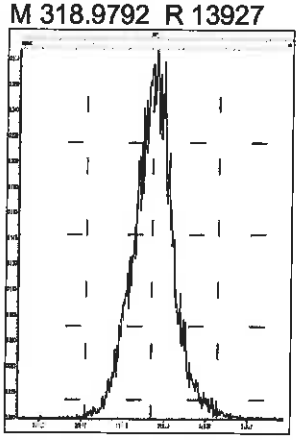

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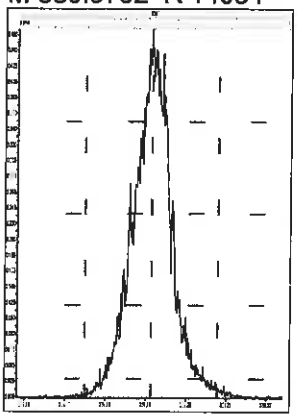

M 342.9792 R 13340

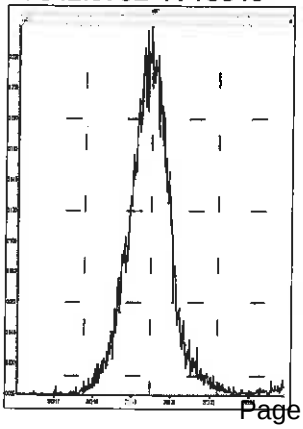

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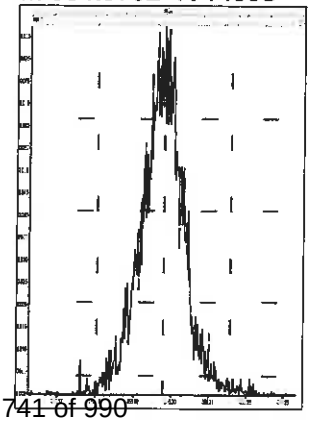

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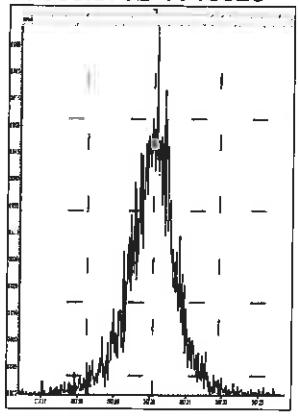

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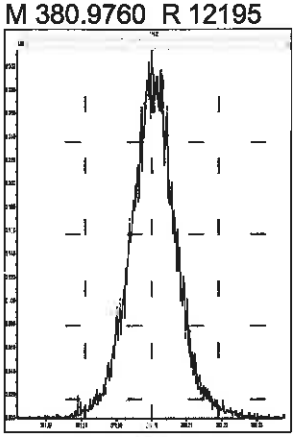

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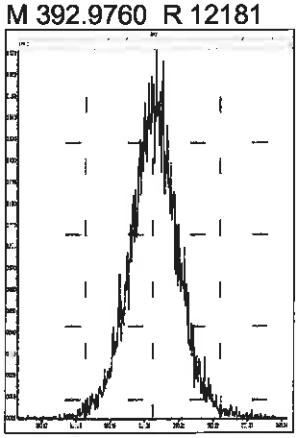

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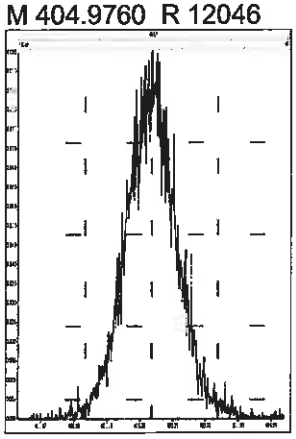

M 416.9760 R 12868

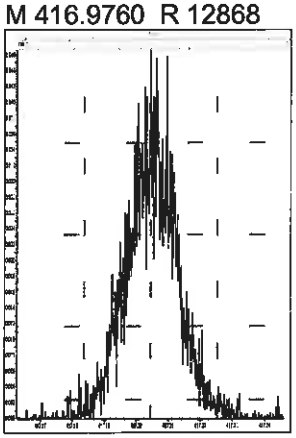

M 366.9792 R 15198

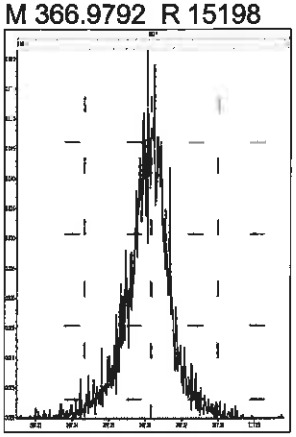

M 380.9760 R 14124

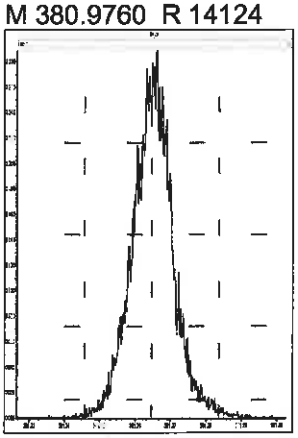

M 392.9760 R 14326

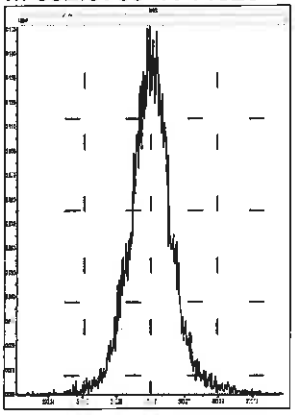

M 404.9760 R 14166

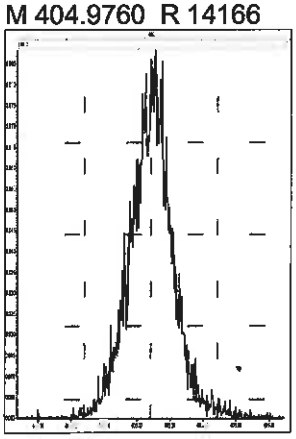

M 416.9760 R 14844

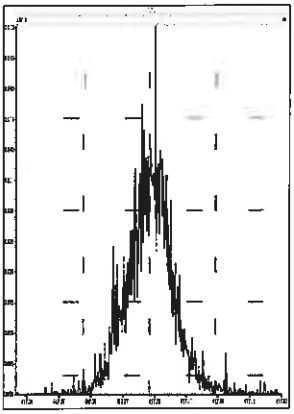

M 430.9728 R 12658

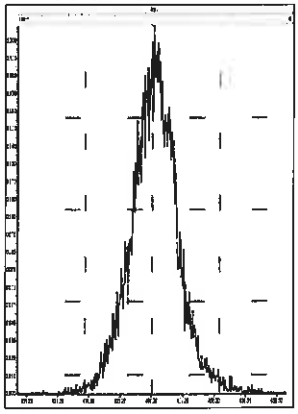

M 442.9728 R 13181

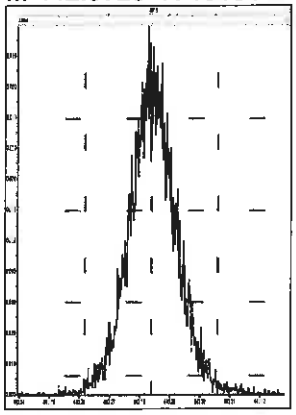

M 454.9728 R 11905

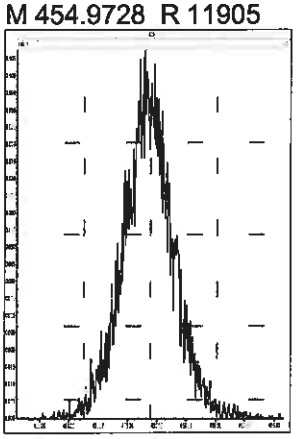

M 380.9760 R 14778

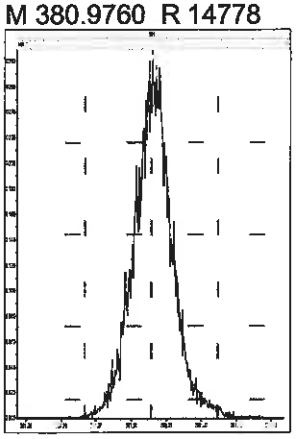

M 392.9760 R 14046

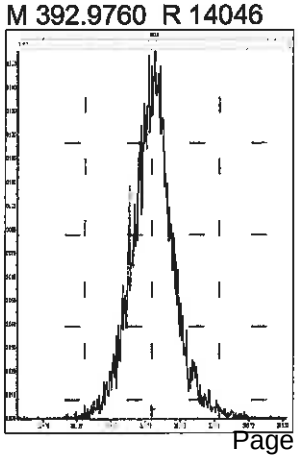

M 404.9760 R 13646

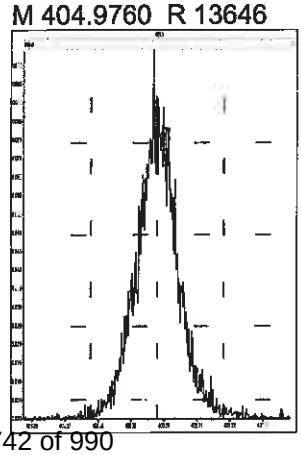

M 416.9760 R 14214

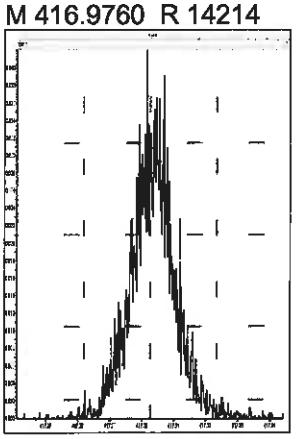

Printed: Friday, October 11, 2019 11:05:50 Pacific Daylight Time

M 430.9728 R 13138

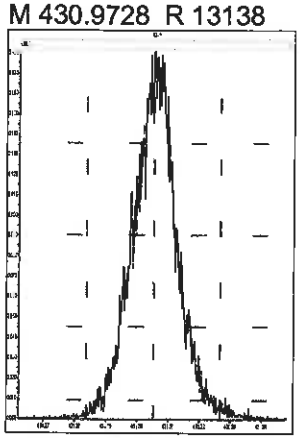

M 442.9728 R 12853

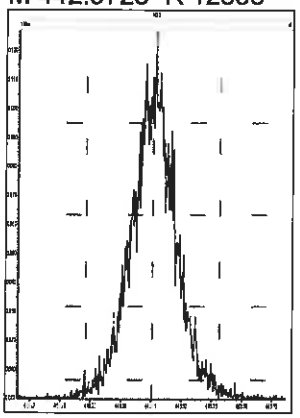

M 454.9728 R 11895

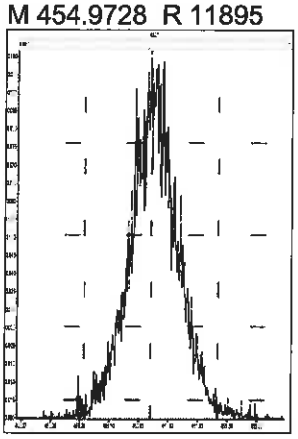

M 466.9728 R 12781

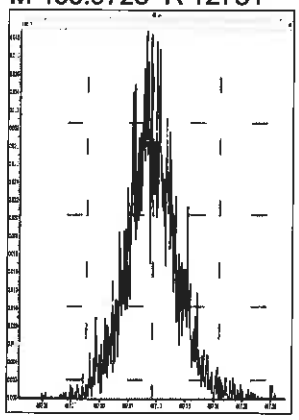

M 480.9696 R 12063

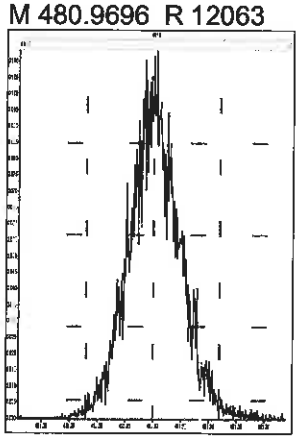

M 380.9760 R 14244

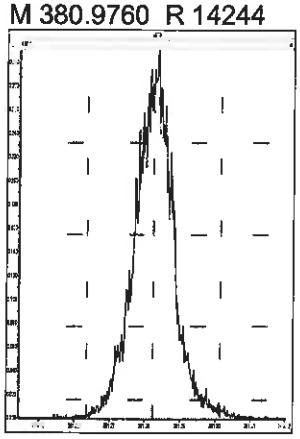

M 392.9760 R 14369

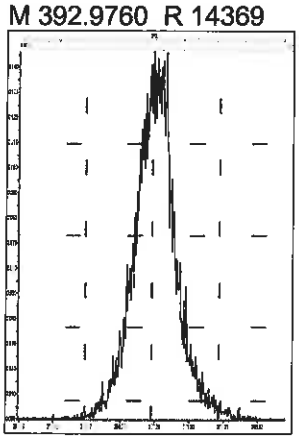

M 404.9760 R 13774

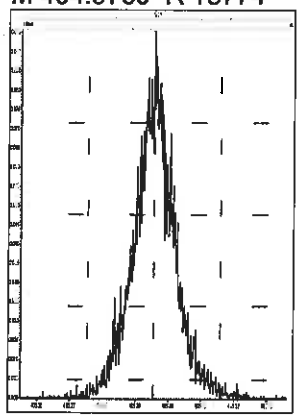

M 416.9760 R 15460

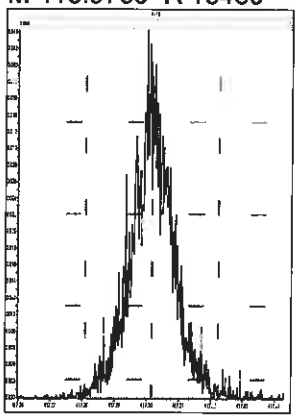

M 430.9728 R 12570

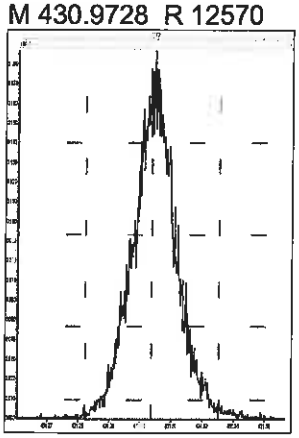

M 442.9728 R 12724

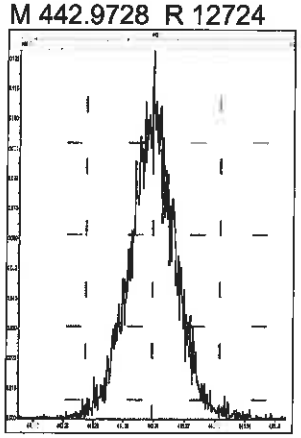

M 454.9728 R 11670

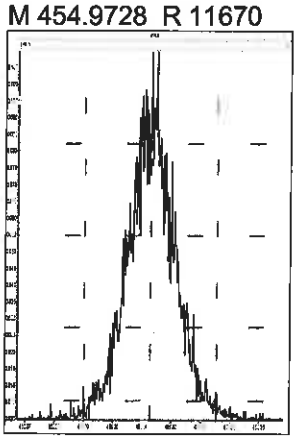

M 466.9728 R 12646

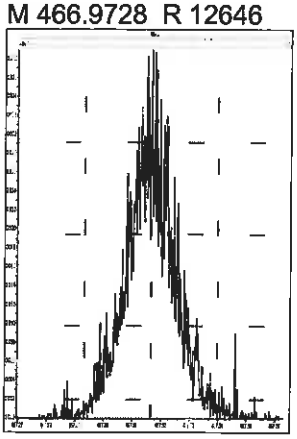

M 480.9696 R 11237

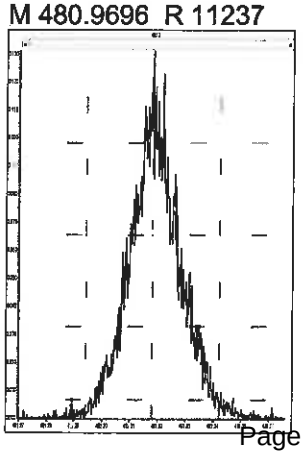

M 492.9696 R 11468

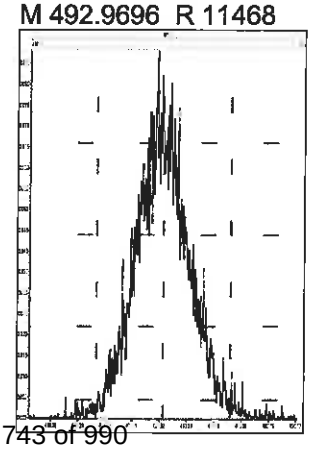

M 504.9696 R 11215

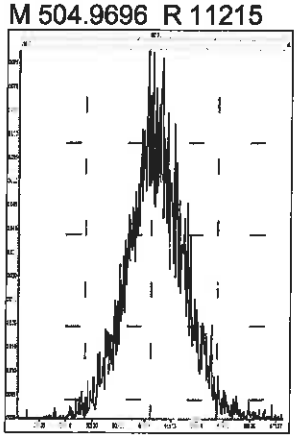

Printed: Friday, October 11, 2019 11:05:50 Pacific Daylight Time

M 516.9697 R 11574

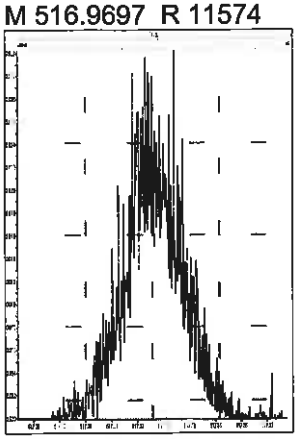

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_14.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 11-Oct-2019 02:09:54 ALS Bottle#: 2 Worklist Smp#: 14
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 101019A CS-4 HRDXNL4_00084
Misc. Info.: 10OC1910D5
Operator ID: SMA Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 11-Oct-2019 10:47:28 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0340

First Level Reviewer: arghestanis Date: 11-Oct-2019 07:56:00

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.971	86154992	0.79	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.457	110447358	0.80	1.4384	89.1	89.1	0.1512	0.1512	89.13	
2,3,7,8-TCDF	17.472	11403669	0.77	1.0507	9.826	9.826	0.0221	0.0221	98.26	
A Non-2,3,7,8-sub-TCDF	17.162						0.0221	0.0221		Rn
S Total TCDF					9.826	9.826	0.0221	0.0221		
D 13C-2,3,7,8-TCDD	18.167	82428681	0.79	0.9533	100.4	100.4	0.1129	0.1129	100	
2,3,7,8-TCDD	18.183	8035565	0.77	1.1064	8.811	8.811	0.0302	0.0302	88.11	
$ 37Cl4-2,3,7,8-TCDD	18.183	8482106		1.2224	8.054	8.054	0.0116	0.0116	101	
A Non-2,3,7,8-sub-TCDD	17.601						0.0302	0.0302		
S Total TCDD					8.811	8.811	0.0302	0.0302		
D 13C-1,2,3,7,8-PeCDF	22.529	87628782	1.54	1.0286	98.9	98.9	0.1646	0.1646	98.88	
1,2,3,7,8-PeCDF	22.556	45887994	1.62	1.0822	48.4	48.4	0.1111	0.1111	96.77	
D 13C-2,3,4,7,8-PeCDF	23.893	84689973	1.54	0.9827	100.0	100.0	0.1723	0.1723	100	
2,3,4,7,8-PeCDF	23.920	45448567	1.59	1.1032	48.6	48.6	0.1249	0.1249	97.29	
A F1 PeCDFs	20.027						0.0223	0.0223		
A Non-2,3,7,8-sub-PeCDF	23.226						0.1175	0.1175		n
S Total PeCDF					97.0	97.0	0.1180	0.1180		
D 13C-1,2,3,7,8-PeCDD	24.616	67124546	1.59	0.7481	104.1	104.1	0.1047	0.1047	104	
1,2,3,7,8-PeCDD	24.643	31022688	1.57	0.9050	51.1	51.1	0.0620	0.0620	102	
A Non-2,3,7,8-sub-PeCDD	23.511						0.0620	0.0620		
S Total PeCDD					51.1	51.1	0.0620	0.0620		
D 13C-1,2,3,4,7,8-HxCDF	30.656	80720844	0.52	1.1520	98.7	98.7	0.2005	0.2005	98.74	
1,2,3,4,7,8-HxCDF	30.682	47552612	1.26	1.1973	49.2	49.2	0.1436	0.1436	98.40	
D 13C-1,2,3,6,7,8-HxCDF	30.829	83801091	0.53	1.2434	95.0	95.0	0.1858	0.1858	94.98	
1,2,3,6,7,8-HxCDF	30.855	48821524	1.25	1.1807	49.3	49.3	0.1380	0.1380	98.69	
D 13C-2,3,4,6,7,8-HxCDF	31.614	80282491	0.52	1.1720	96.5	96.5	0.1971	0.1971	96.54	
2,3,4,6,7,8-HxCDF	31.640	47747601	1.24	1.2116	49.1	49.1	0.1147	0.1147	98.18	
D 13C-1,2,3,7,8,9-HxCDF	32.399	76162951	0.53	1.0655	100.7	100.7	0.2168	0.2168	101	
1,2,3,7,8,9-HxCDF	32.412	45693868	1.27	1.2451	48.2	48.2	0.1027	0.1027	96.37	
A Non-2,3,7,8-sub-HxCDF	30.336						0.1227	0.1227		

Report Date: 11-Oct-2019 10:47:35 Chrom Revision: 2.3 09-Oct-2019 11:13:36
Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_14.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					195.8	195.8	0.1248	0.1248		
* 13C-1,2,3,7,8,9-HxCDD	32.226	70959865	1.23	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.800	55903021	1.24	0.7812	100.8	100.8	0.1546	0.1546	101	
1,2,3,4,7,8-HxCDD	31.813	31183616	1.27	1.1088	50.3	50.3	0.0732	0.0732	101	
D 13C-1,2,3,6,7,8-HxCDD	31.907	58757217	1.20	0.9175	90.3	90.3	0.1316	0.1316	90.25	
1,2,3,6,7,8-HxCDD	31.920	31989827	1.28	1.0814	50.3	50.3	0.0707	0.0707	101	
1,2,3,7,8,9-HxCDD	32.239	35904868	1.28	1.2123	51.7	51.7	0.0649	0.0649	103	
A Non-2,3,7,8-sub-HxCDD	30.975						0.0694	0.0694		
S Total HxCDD					152.3	152.3	0.0696	0.0696		
D 13C-1,2,3,4,6,7,8-HpCDF	33.807	57021453	0.44	0.8628	93.1	93.1	0.3851	0.3851	93.14	
1,2,3,4,6,7,8-HpCDF	33.819	41901937	1.04	1.5555	47.2	47.2	0.3029	0.3029	94.48	
D 13C-1,2,3,4,7,8,9-HpCDF	34.889	53715308	0.44	0.7991	94.7	94.7	0.4158	0.4158	94.73	
1,2,3,4,7,8,9-HpCDF	34.889	36380456	1.05	1.3862	48.9	48.9	0.4142	0.4142	97.71	
A Non-2,3,7,8-sub-HpCDF	34.347						0.3519	0.3519		
S Total HpCDF					96.1	96.1	0.3585	0.3585		
D 13C-1,2,3,4,6,7,8-HpCDD	34.597	62308824	1.03	0.8739	100.5	100.5	0.3131	0.3131	100	
1,2,3,4,6,7,8-HpCDD	34.609	29155641	1.03	0.9316	50.2	50.2	0.1740	0.1740	100	
A Non-2,3,7,8-sub-HpCDD	35.190						0.1740	0.1740		
S Total HpCDD					50.2	50.2	0.1740	0.1740		
D 13C-OCDD	36.929	87978489	0.88	0.7744	160.1	160.1	0.0765	0.0765	80.06	
OCDF	37.037	58142087	0.92	1.2596	104.9	104.9	0.0458	0.0458	105	
OCDD	36.941	46556081	0.87	1.0621	99.6	99.6	0.0501	0.0501	99.65	

Reagents:

HRDXNL4_00084 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_14.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 11-Oct-2019 02:09:54 ALS Bottle#: 2 Worklist Smp#: 14
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 101019A CS-4 HRDXNL4_00084
Misc. Info.: 10OC1910D5
Operator ID: SMA Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 11-Oct-2019 10:47:28 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0340

First Level Reviewer: arghestanis Date: 11-Oct-2019 07:56:00

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.971	17.971	0		38107770	9587713	5552	13880	1727		
333.9339	17.971	17.971	0		48047222	12052825	3765	9412	3201	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.457	17.457	0	0.971	49199104	12721969	9898	24745	1285		
317.9389	17.457	17.457	0	0.971	61248254	15642258	8931	22327	1751	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.472	17.472	0	1.001	4955186	1280937	1227	3067	1044		
305.8987	17.472	17.472	0	1.001	6448483	1680213	1410	3525	1192	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.094	17.139	-3	0.979	22961	5667	1227	3067	5		
305.8987	17.079	17.139	-4	0.978	39195	7477	1410	3525	5	0.59(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	18.167	18.167	0	1.011	36402099	9022080	5552	13880	1625		
333.9339	18.167	18.167	0	1.011	46026582	11385255	3765	9412	3024	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.183	18.183	0	1.001	3506016	849445	1688	4220	503		
321.8936	18.183	18.183	0	1.001	4529549	1111105	1036	2590	1072	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.183	18.183	0	1.012	8482106	2074161	1227	3067	1690		
A Non-2,3,7,8-sub-TCDD											
319.8965	17.601						1688	4220			
321.8936	17.601						1036	2590			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	22.529	22.529	0	1.254	53104406	9924769	8751	21877	1134		
353.8970	22.529	22.529	0	1.254	34524376	6498157	5907	14767	1100	1.54(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.556	22.556	0	1.001	28401667	5216085	4573	11432	1141		
341.8567	22.556	22.556	0	1.001	17486327	3211368	3327	8317	965	1.62(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	23.893	23.893	0	1.330	51396689	8644357	8751	21877	988		
353.8970	23.893	23.893	0	1.330	33293284	5693783	5907	14767	964	1.54(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.920	23.920	0	1.001	27900873	4630839	4573	11432	1013		
341.8567	23.906	23.920	-1	1.001	17547694	2952245	3327	8317	887	1.59(1.32-1.78)	
A F1 PeCDFs											
339.8597	20.027						631	1577			
341.8567	20.027						868	2170			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.102	23.212	-7	1.025	230048	38285	4573	11432	8		
341.8567	23.088	23.212	-7	1.025	138083	21379	3327	8317	6	1.67(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	24.616	24.616	0	1.370	41243404	6836585	4071	10177	1679		
369.8919	24.616	24.616	0	1.370	25881142	4303207	2709	6772	1588	1.59(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.643	24.643	0	1.001	18937382	3115455	1619	4047	1924		
357.8516	24.643	24.643	0	1.001	12085306	1984068	880	2200	2255	1.57(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.511						1619	4047			
357.8516	23.511						880	2200			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.656	30.656	0	0.951	27652905	5487948	6474	16185	848		
385.8610	30.656	30.656	0	0.951	53067939	10710013	12054	30135	889	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.682	30.682	0	1.001	26508948	5195274	6367	15917	816		
375.8178	30.669	30.682	-1	1.000	21043664	4140266	4776	11940	867	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.829	30.829	0	0.957	29029511	5938238	6474	16185	917		
385.8610	30.829	30.829	0	0.957	54771580	11161835	12054	30135	926	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.855	30.855	0	1.001	27123837	5596150	6367	15917	879		
375.8178	30.855	30.855	0	1.001	21697687	4480157	4776	11940	938	1.25(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.614	31.614	0	0.981	27619982	6874964	6474	16185	1062		
385.8610	31.614	31.614	0	0.981	52662509	13166286	12054	30135	1092	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.640	31.640	0	1.001	26422458	6698799	6367	15917	1052		
375.8178	31.640	31.640	0	1.001	21325143	5335045	4776	11940	1117	1.24(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.399	32.399	0	1.005	26344664	7581576	6474	16185	1171		
385.8610	32.399	32.399	0	1.005	49818287	14192562	12054	30135	1177	0.53(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.412	32.412	0	1.000	25543113	7347738	6367	15917	1154		
375.8178	32.412	32.412	0	1.000	20150755	5818299	4776	11940	1218	1.27(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.336						6367	15917			
375.8178	30.336						4776	11940			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.226	32.226	0		39174242	11122584	5232	13080	2126		
403.8529	32.226	32.226	0		31785623	8928561	4453	11132	2005	1.23(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.800	31.800	0	0.987	30893917	8421231	5232	13080	1610		
403.8529	31.800	31.800	0	0.987	25009104	6684579	4453	11132	1501	1.24(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.813	31.813	0	1.000	17441144	4712901	2636	6590	1788		
391.8127	31.813	31.813	0	1.000	13742472	3768792	2269	5672	1661	1.27(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.907	31.907	0	0.990	32056883	8820019	5232	13080	1686		
403.8529	31.907	31.907	0	0.990	26700334	7222562	4453	11132	1622	1.20(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.920	31.920	0	1.000	17960293	4940489	2636	6590	1874		
391.8127	31.920	31.920	0	1.000	14029534	3771982	2269	5672	1662	1.28(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.239	32.239	0	1.014	20152620	5606376	2636	6590	2127		
391.8127	32.239	32.239	0	1.014	15752248	4431998	2269	5672	1953	1.28(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.975						2636	6590			
391.8127	30.975						2269	5672			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.807	33.807	0	1.049	17376296	5663722	7019	17547	807		
419.8220	33.807	33.807	0	1.049	39645157	12717794	19630	49075	648	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.819	33.819	0	1.000	21380558	6927107	18119	45297	382		
409.7789	33.819	33.819	0	1.000	20521379	6374257	16522	41305	386	1.04(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.889	34.889	0	1.083	16506491	4622887	7019	17547	659		
419.8220	34.889	34.889	0	1.083	37208817	10460182	19630	49075	533	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.889	34.889	0	1.000	18621269	5269291	18119	45297	291		
409.7789	34.889	34.889	0	1.000	17759187	5074090	16522	41305	307	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.347						18119	45297			
409.7789	34.347						16522	41305			

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Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_14.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.597	34.597	0	1.074	31664299	9405723	11514	28785	817		
437.8140	34.597	34.597	0	1.074	30644525	8923718	10433	26082	855	1.03(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.609	34.609	0	1.000	14796780	4278249	5920	14800	723		
425.7737	34.609	34.609	0	1.000	14358861	4107669	5966	14915	689	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	35.190						5920	14800			
425.7737	35.190						5966	14915			
13C-OCDD											
469.7779	36.929	36.929	0	1.146	41078170	10291484	2489	6222	4135		
471.7750	36.929	36.929	0	1.146	46900319	11598301	2260	5650	5132	0.88(0.76-1.02)	
OCDF											
441.7428	37.037	37.037	0	1.003	27829921	6934426	1113	2782	6230		
443.7399	37.037	37.037	0	1.003	30312166	7616204	1414	3535	5386	0.92(0.76-1.02)	
OCDD											
457.7377	36.941	36.941	0	1.000	21717594	5369463	1211	3027	4434		
459.7348	36.941	36.941	0	1.000	24838487	6291573	1118	2795	5628	0.87(0.76-1.02)	

Reagents:

HRDXNL4_00084 Amount Added: 1.00 Units: mL

Report Date: 11-Oct-2019 10:47:35 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_14.d		
Injection Date:	11-Oct-2019 02:09:54	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330148	Sample Line#:	14
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

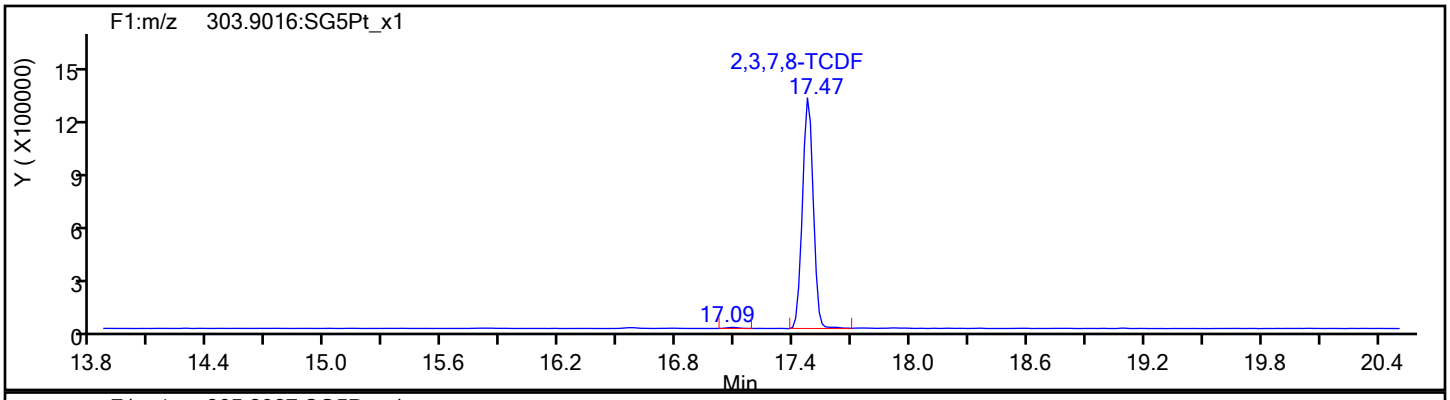

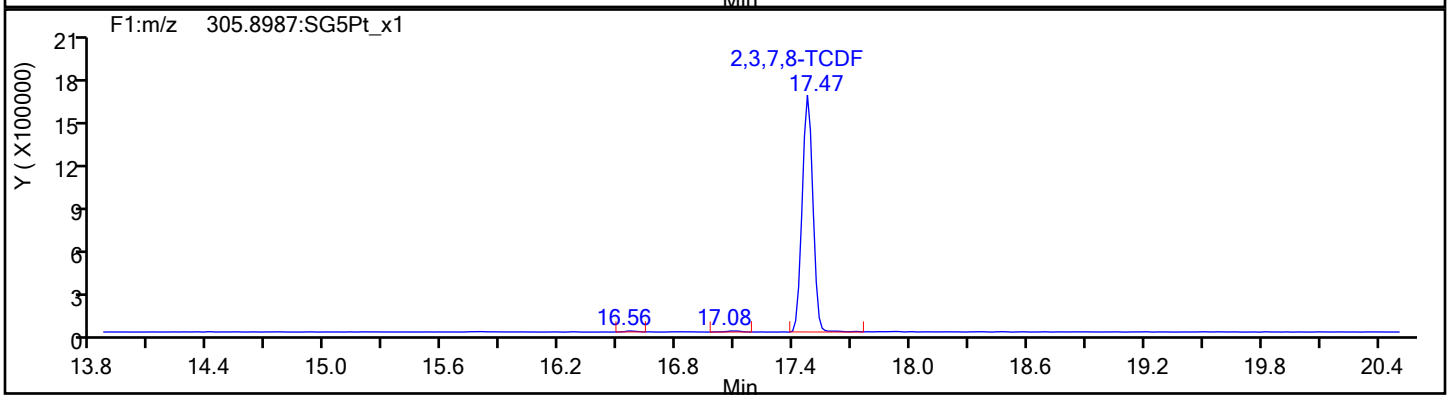

TCDF Standards

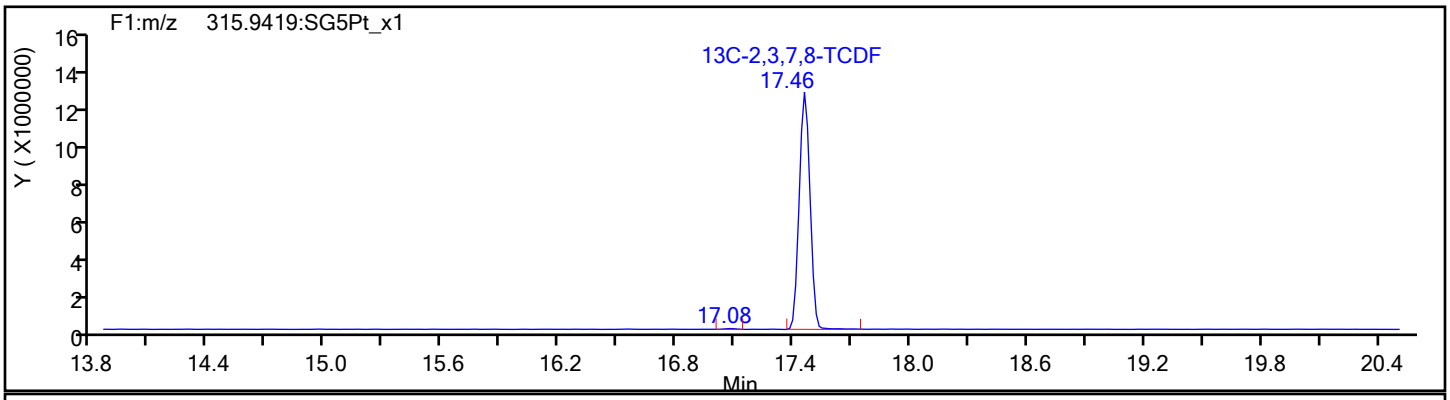

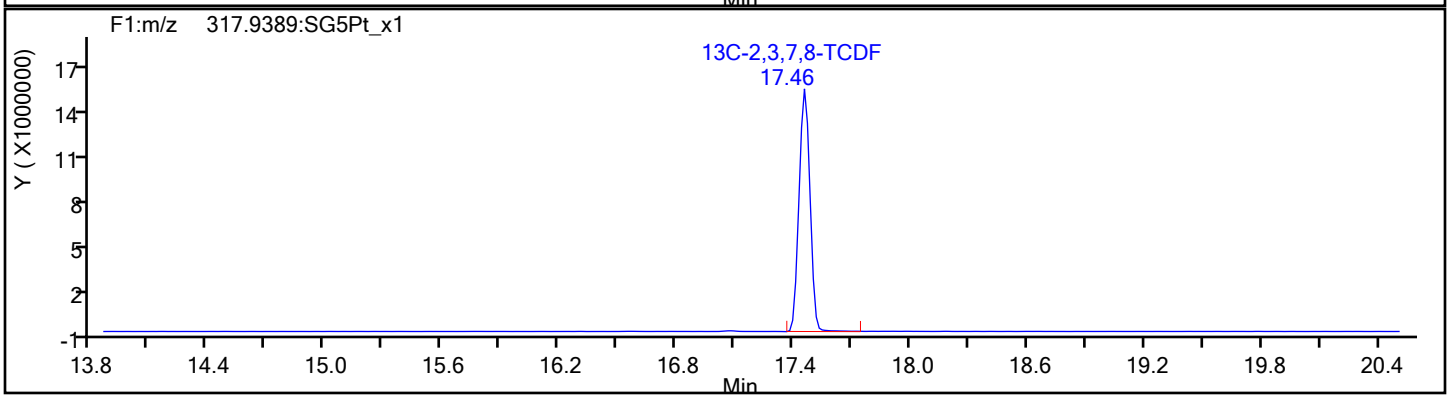

Report Date: 11-Oct-2019 10:47:35 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_14.d		
Injection Date:	11-Oct-2019 02:09:54	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330148	Sample Line#:	14
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

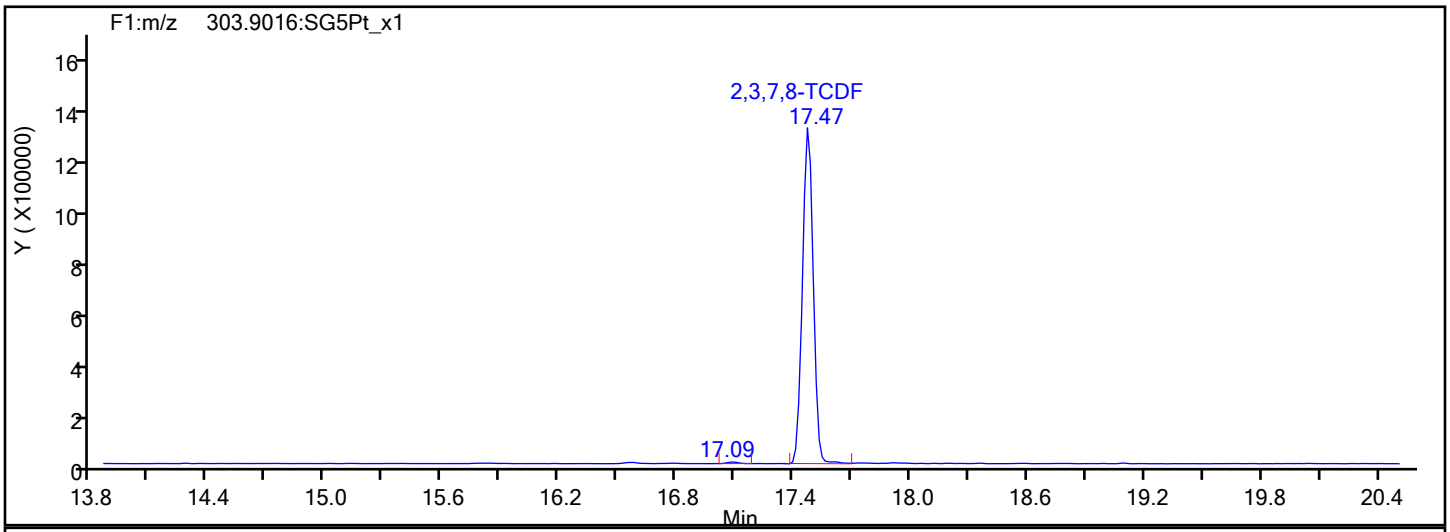

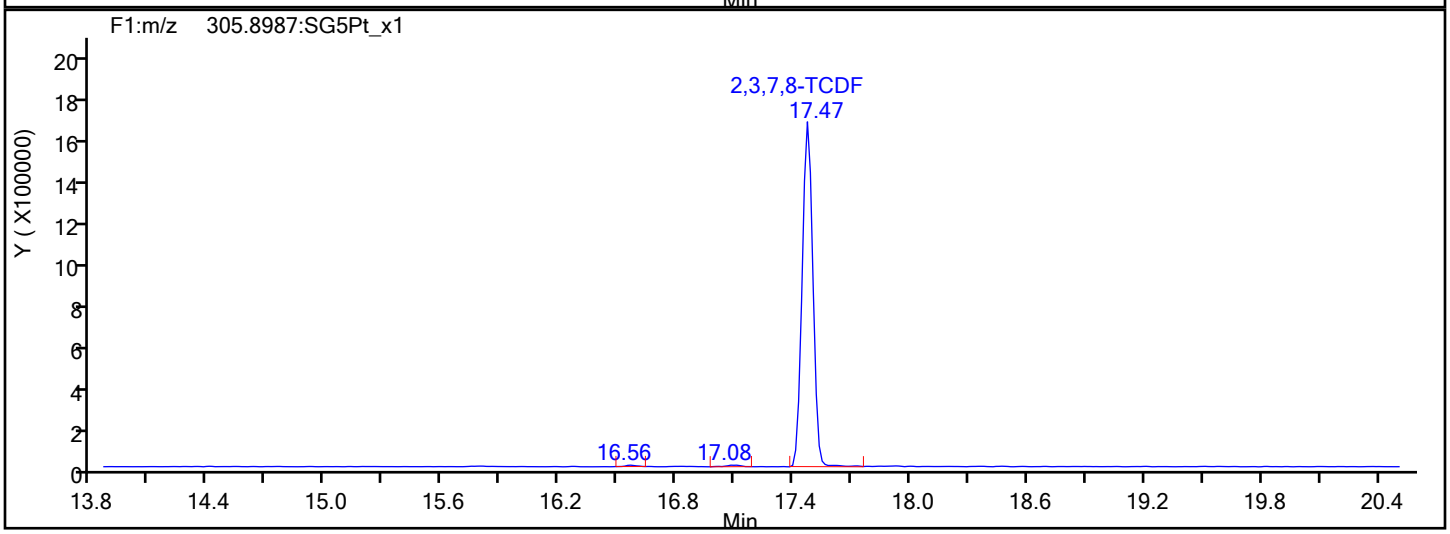

TCDF Interference Mass

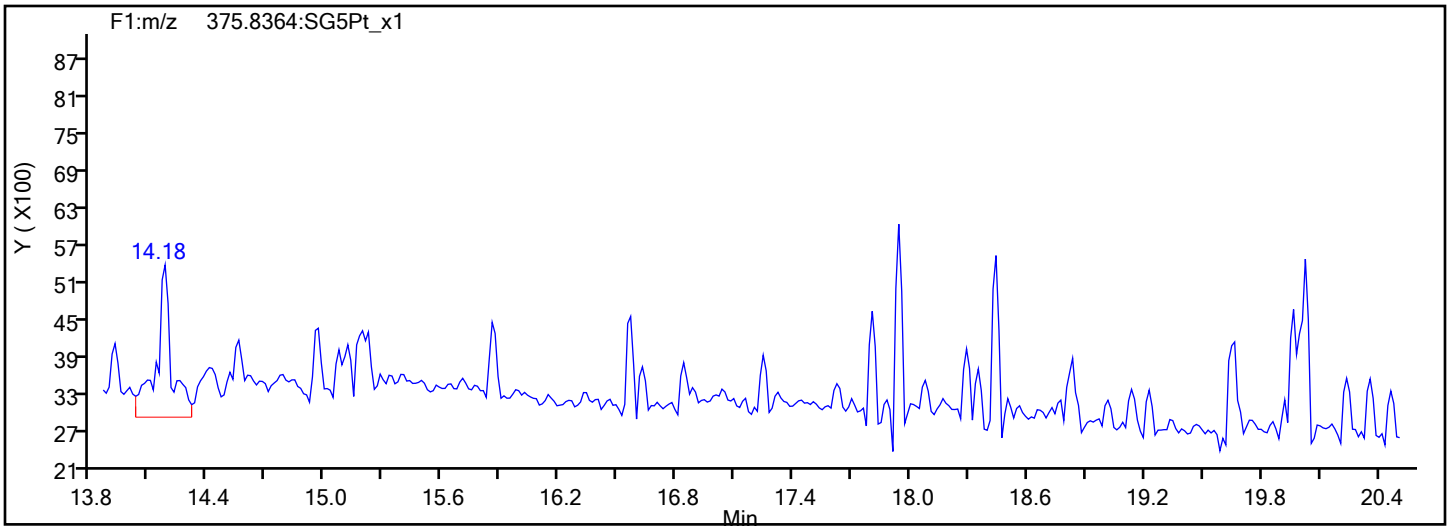

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Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_14.d		
Injection Date:	11-Oct-2019 02:09:54	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330148	Sample Line#:	14
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

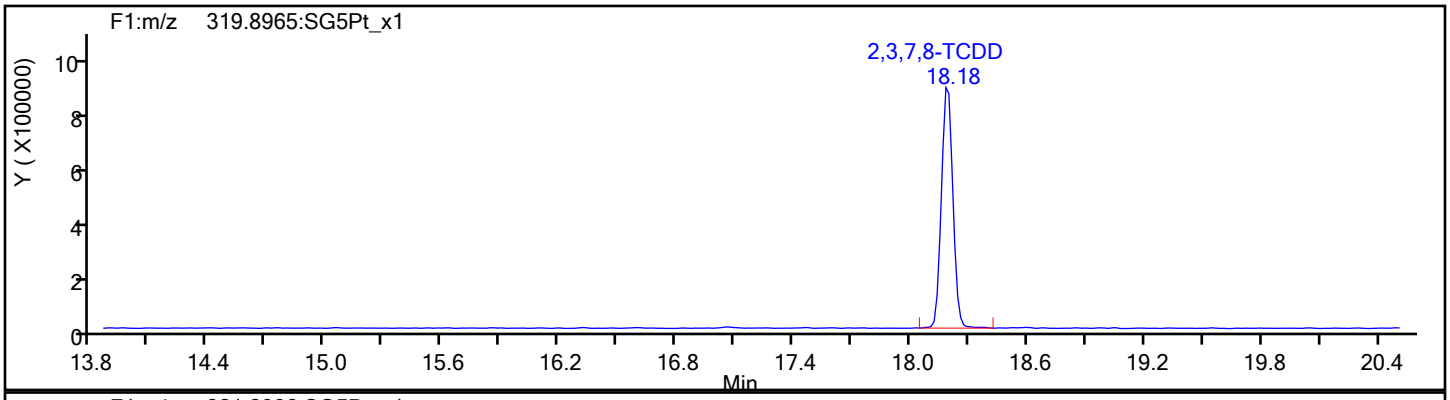

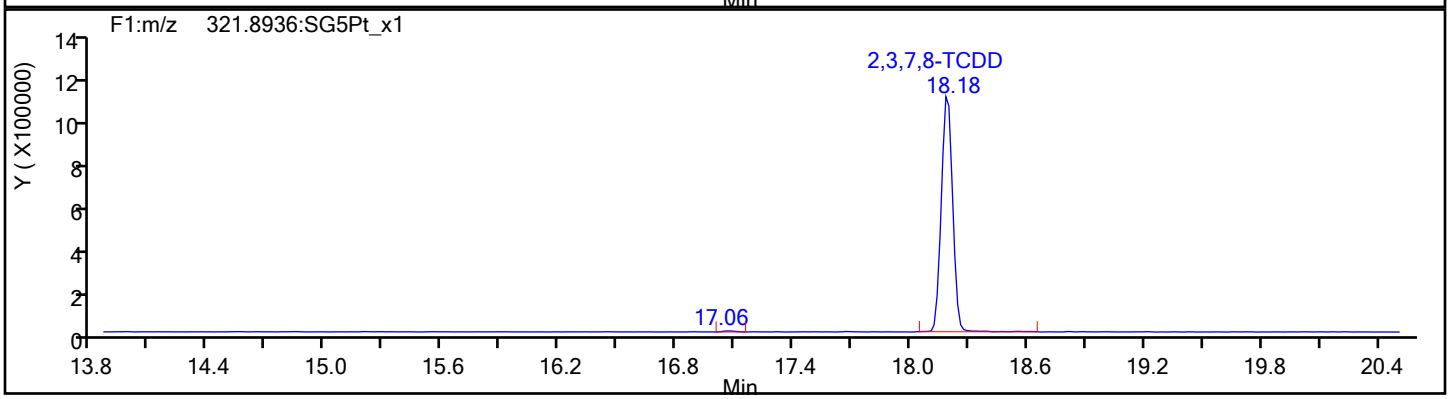

TCDD Standards

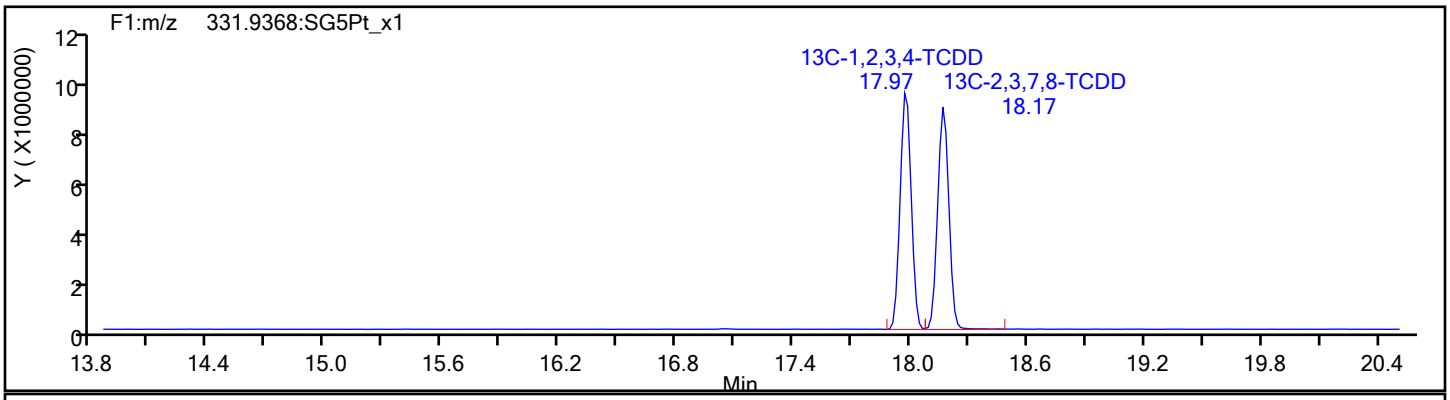

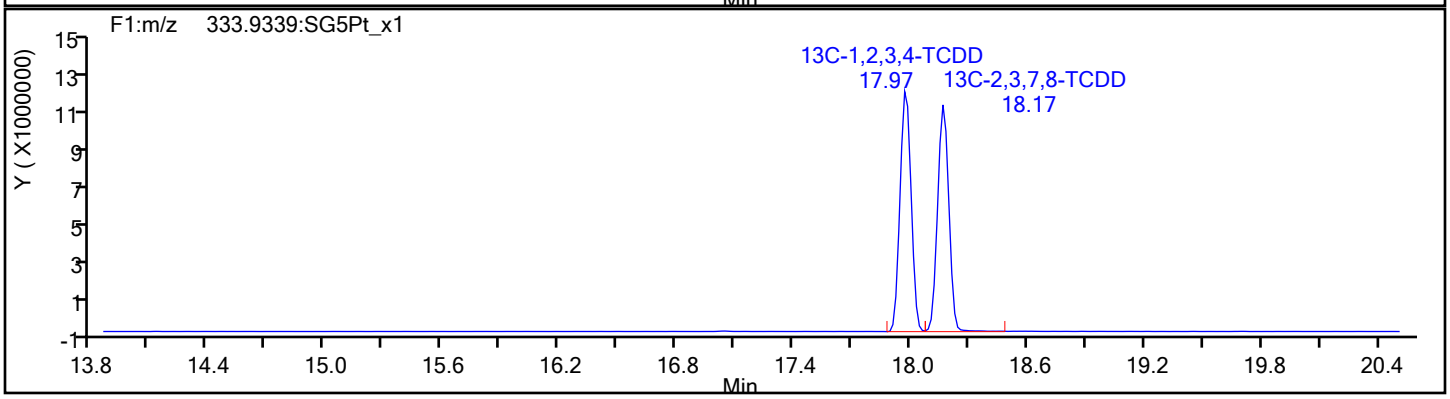

Report Date: 11-Oct-2019 10:47:35 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_14.d		
Injection Date:	11-Oct-2019 02:09:54	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330148	Sample Line#:	14
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

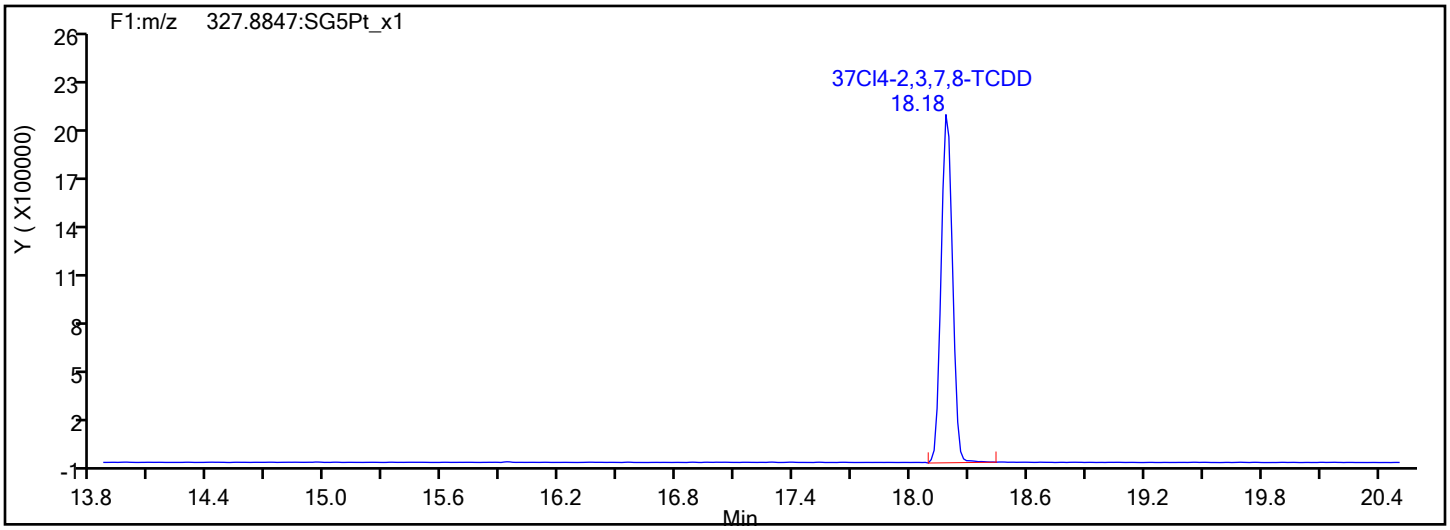

37Cl4-TCDD Standards

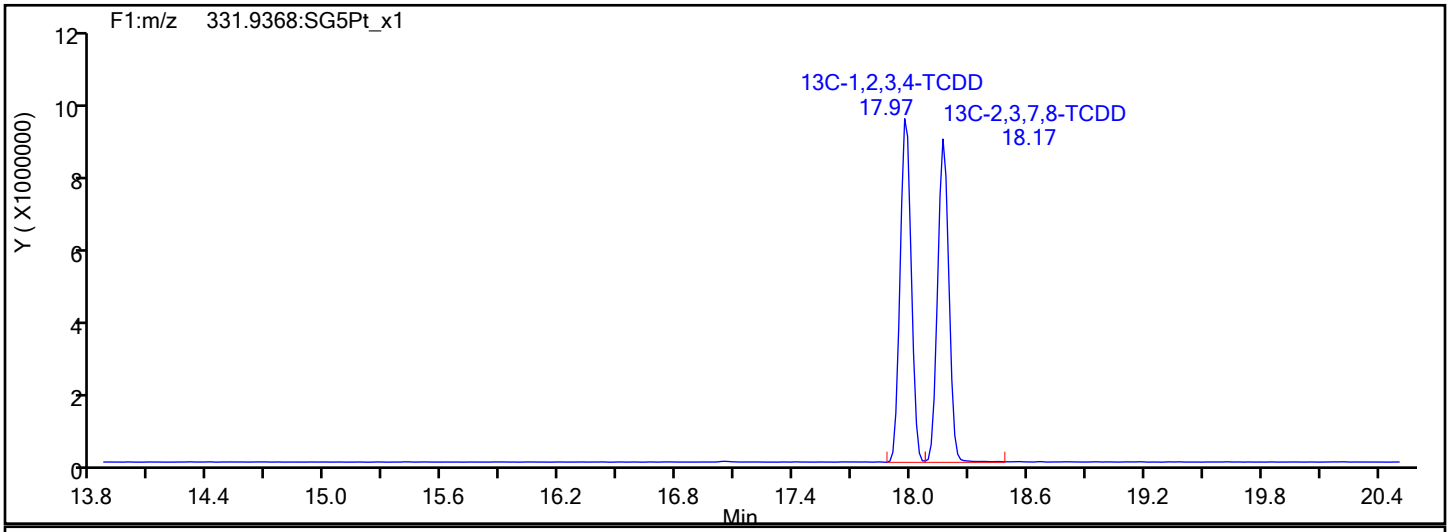

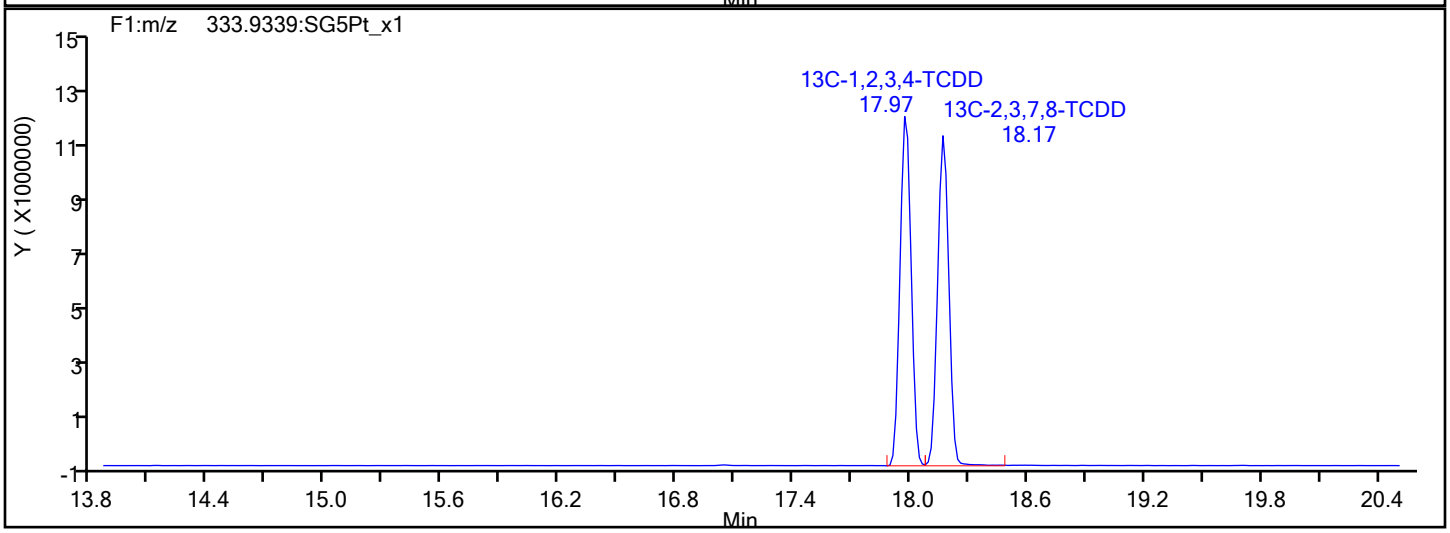

Report Date: 11-Oct-2019 10:47:35 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_14.d		
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Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330148	Sample Line#:	14
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

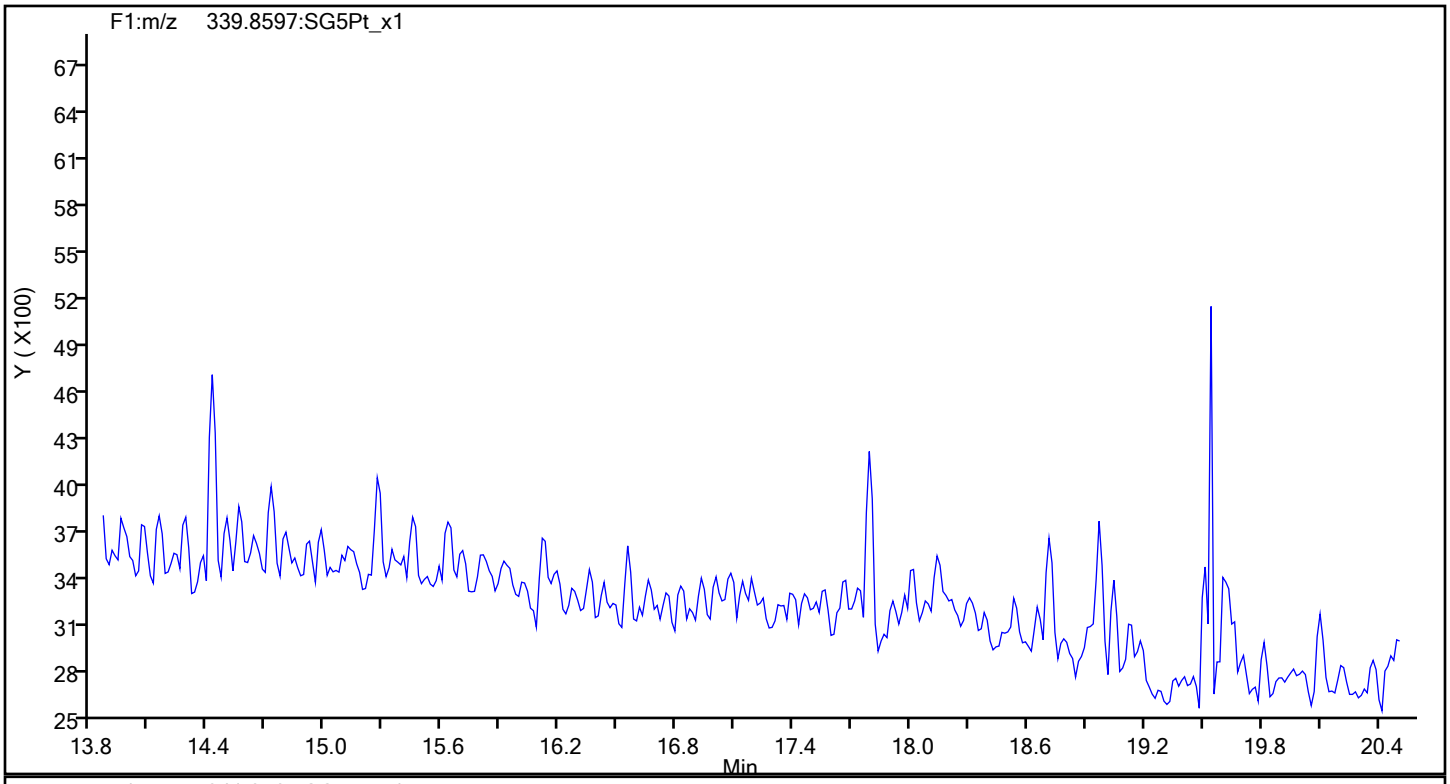

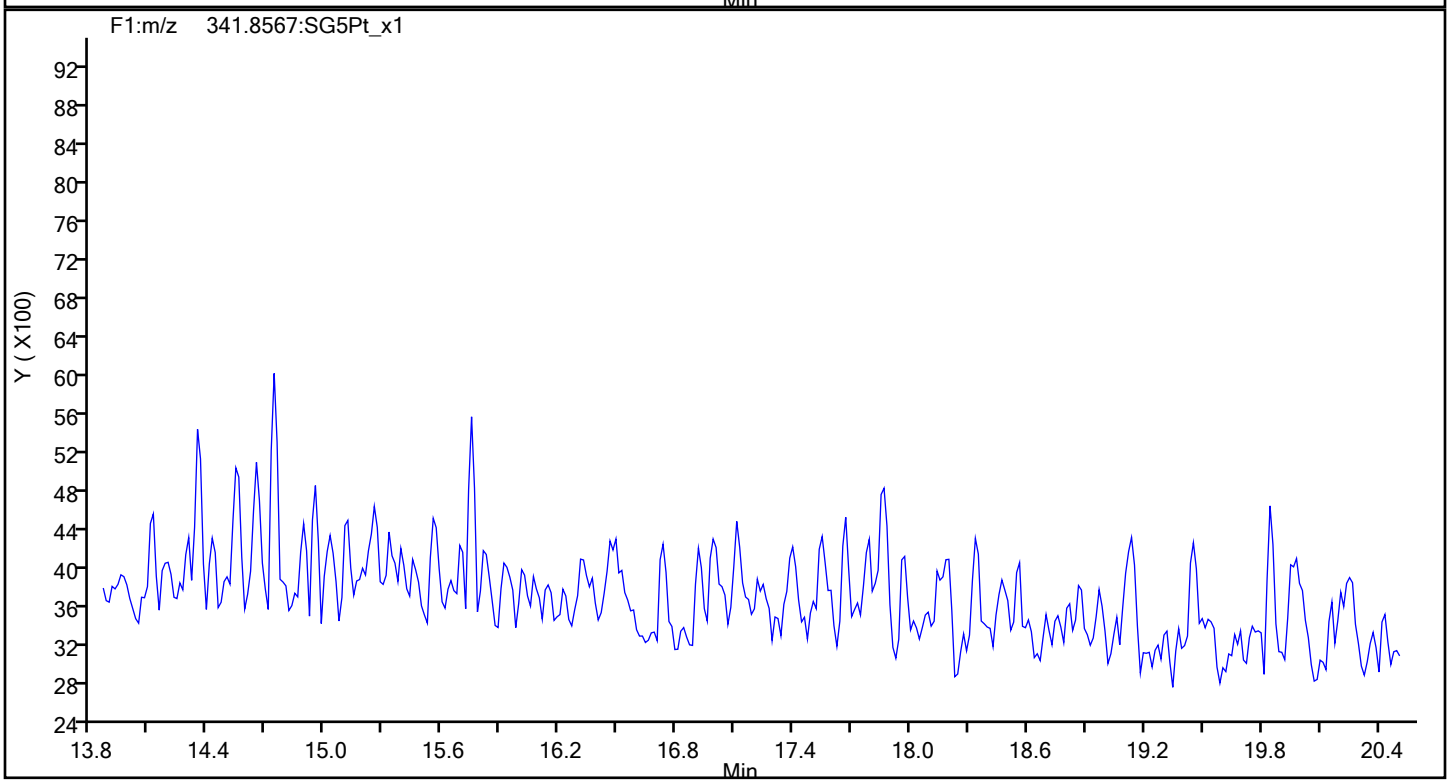

Report Date: 11-Oct-2019 10:47:35 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_14.d		
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Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330148	Sample Line#:	14
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

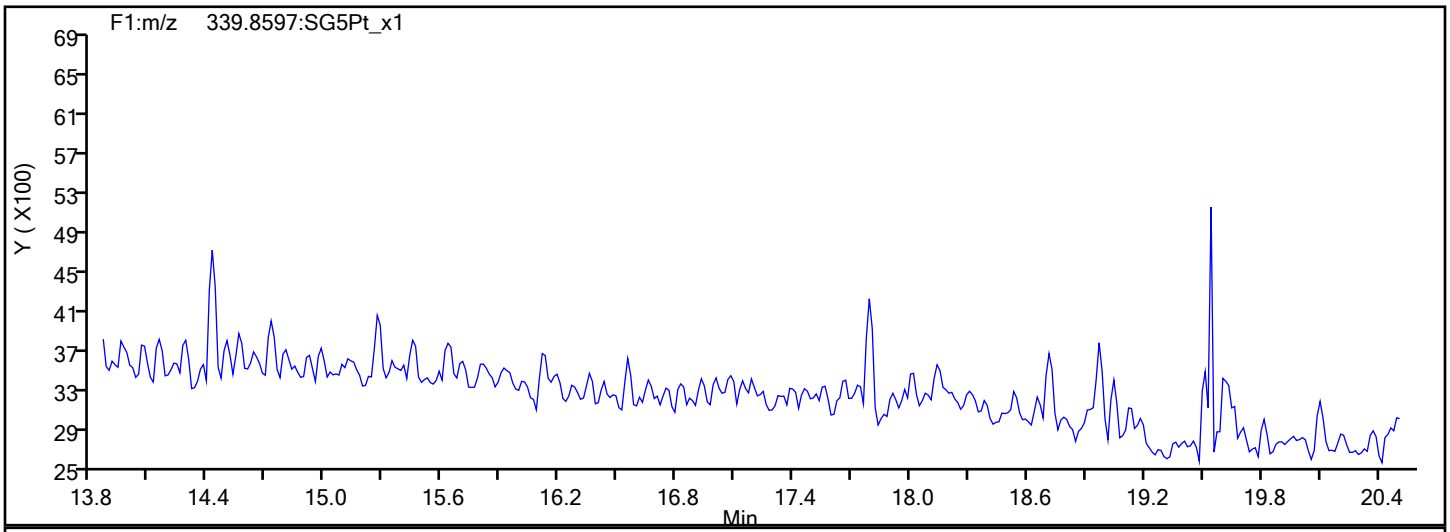

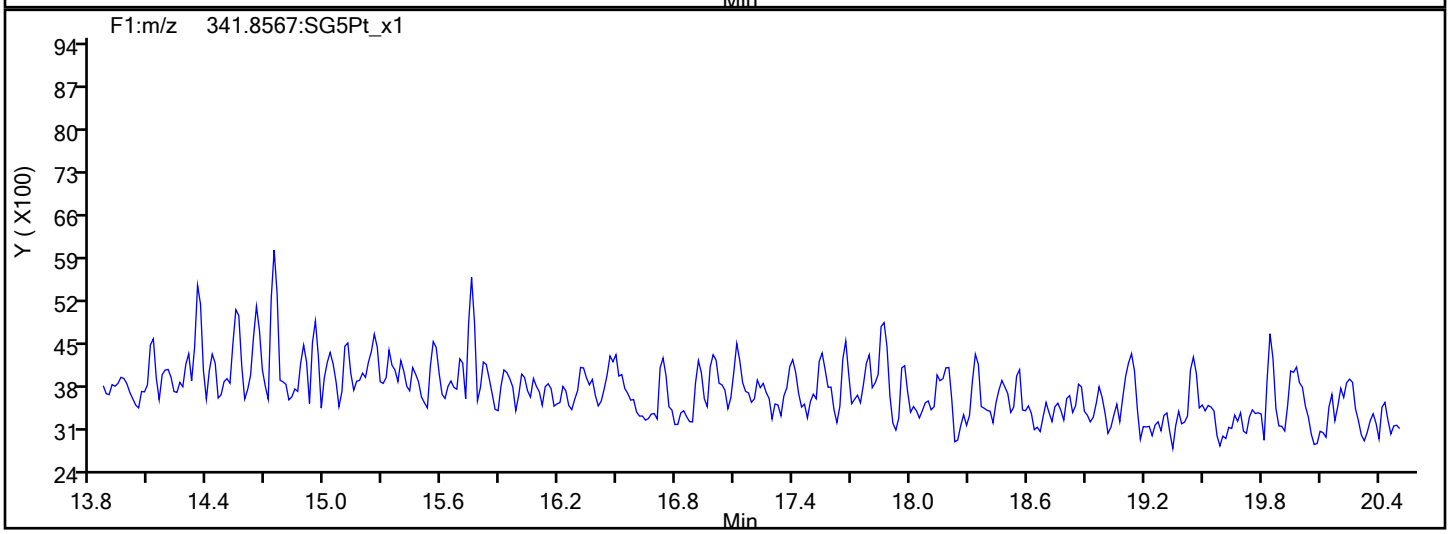

F1 PeCDFs Interference Mass

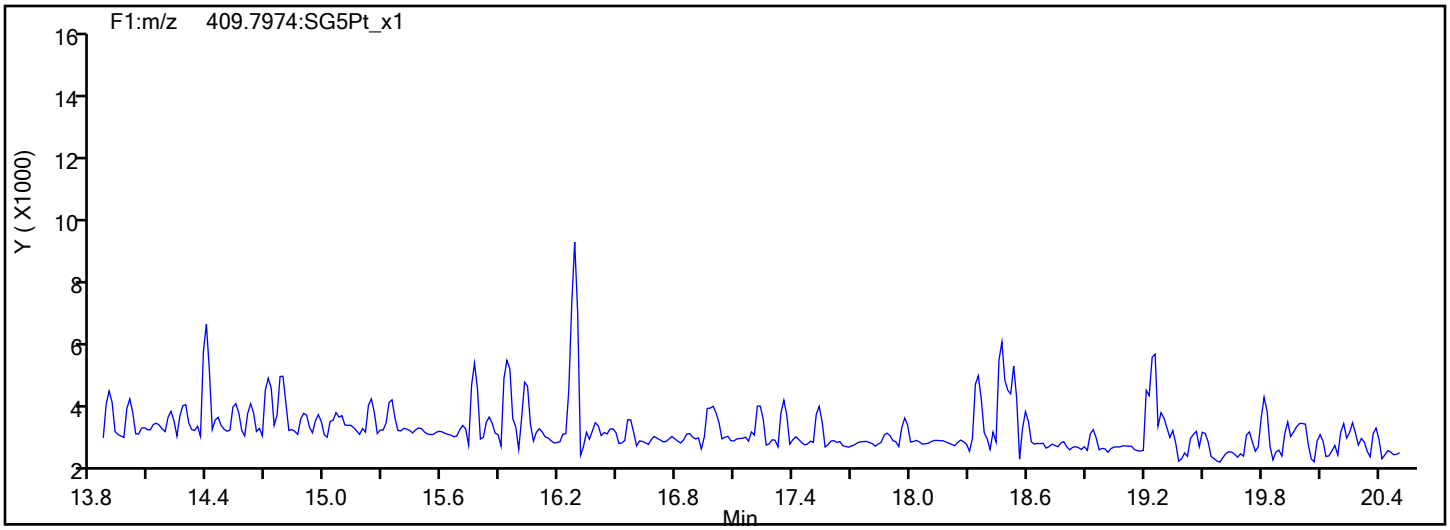

Report Date: 11-Oct-2019 10:47:35 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

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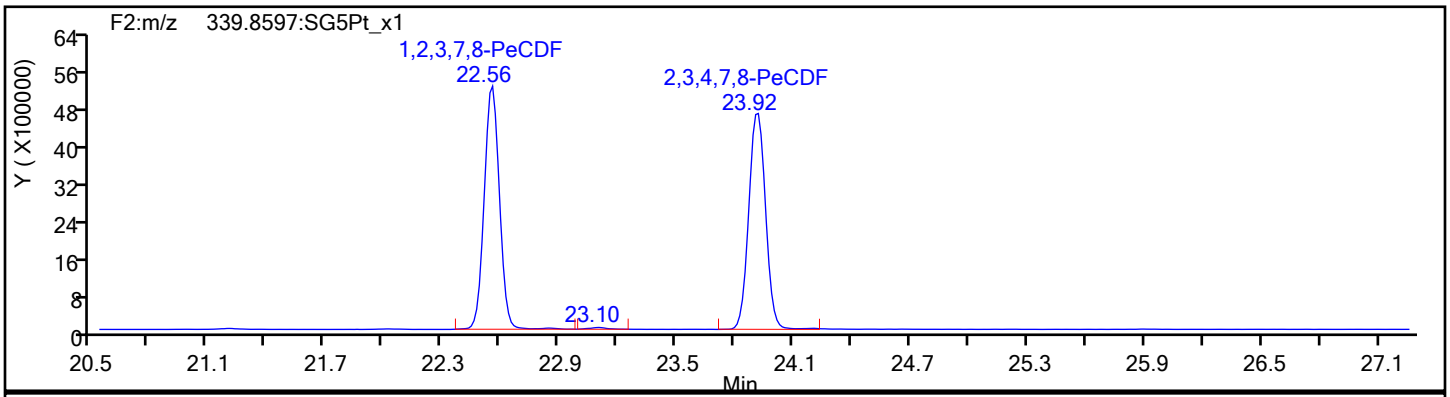

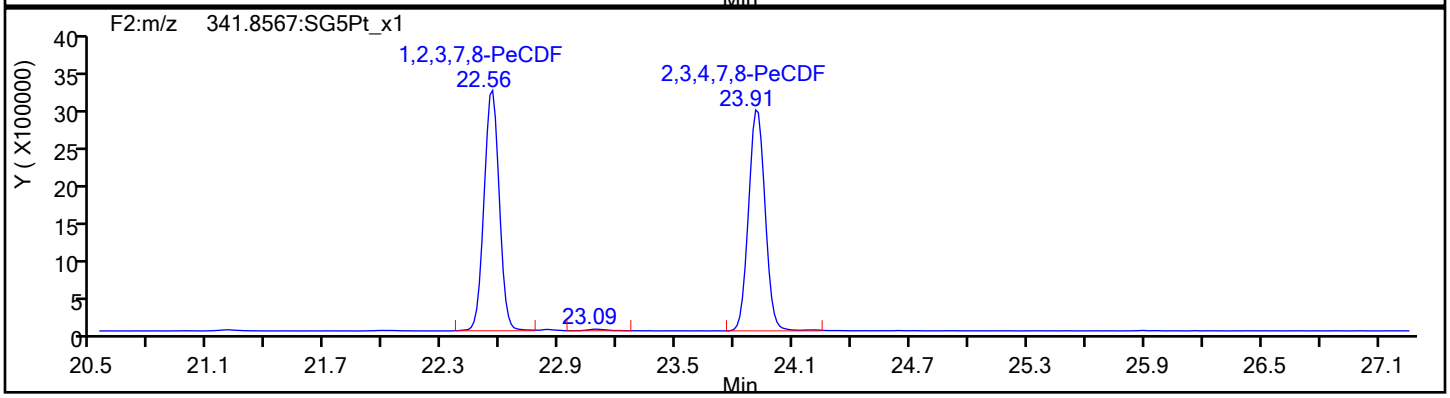

PeCDF Standards

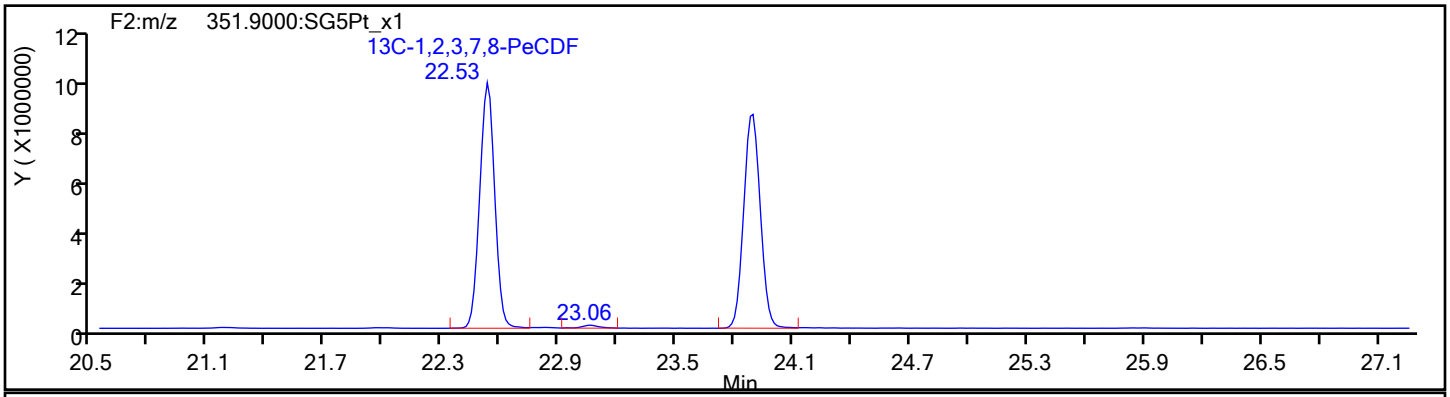

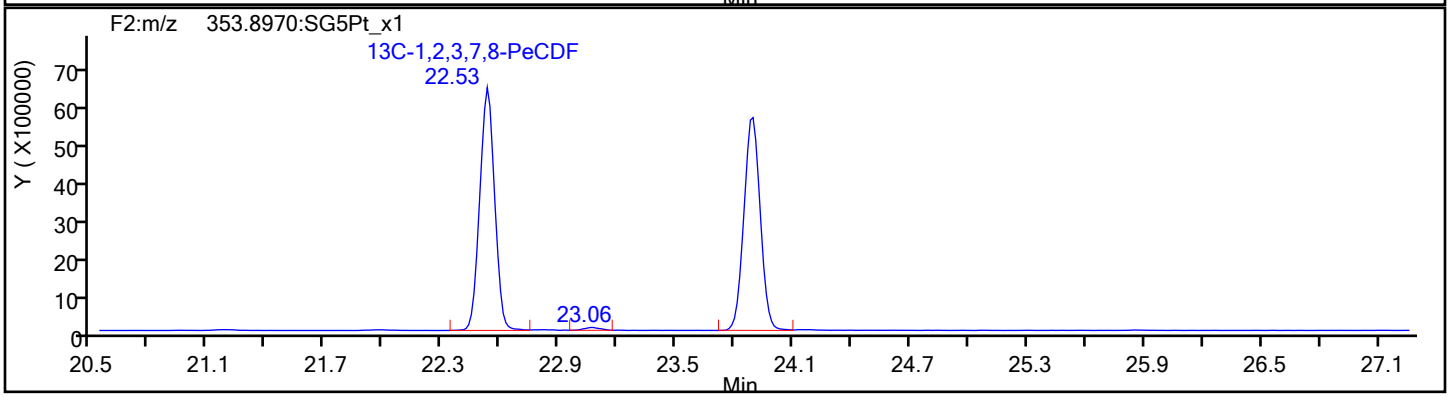

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Eurofins TestAmerica, Sacramento

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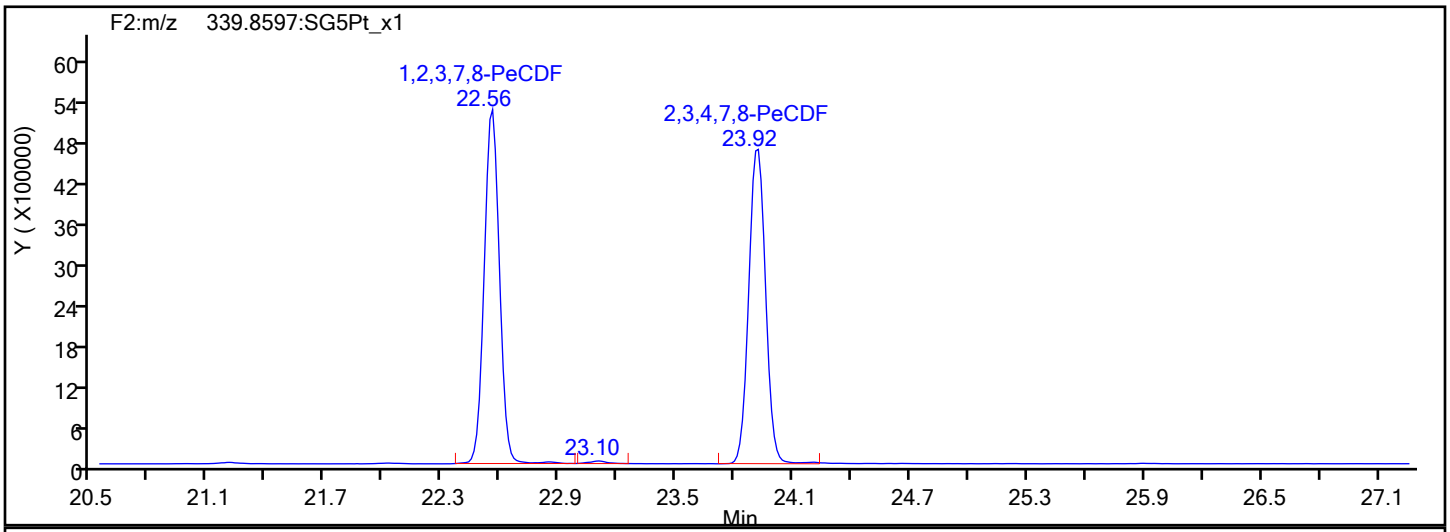

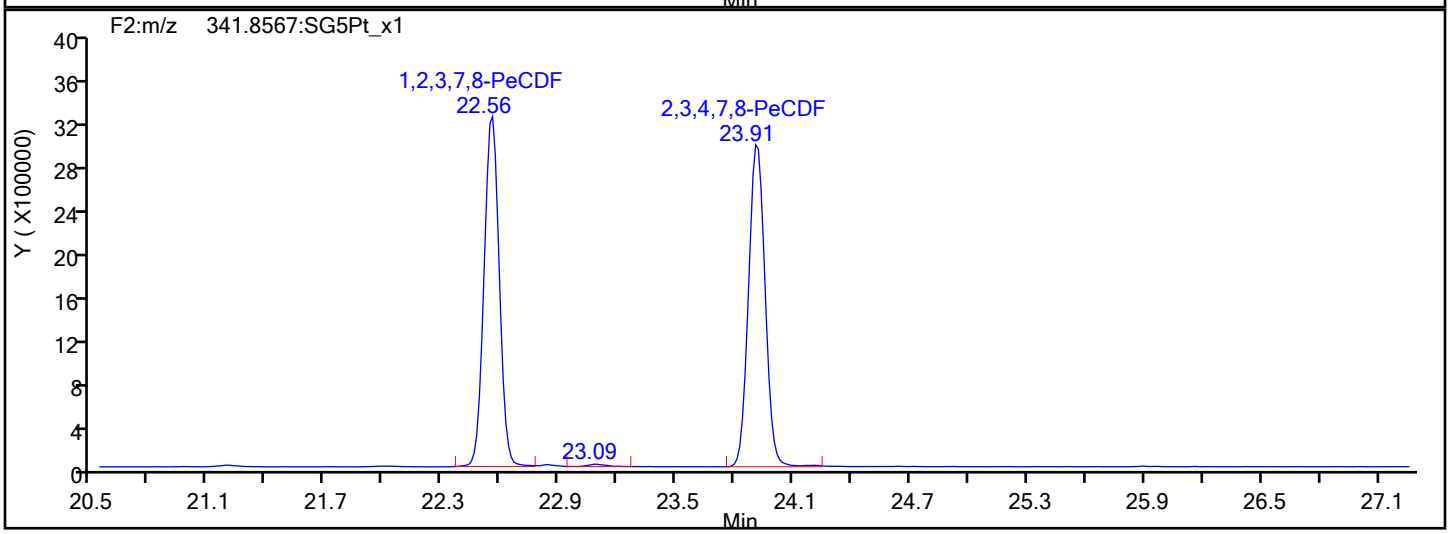

PeCDF Interference Mass

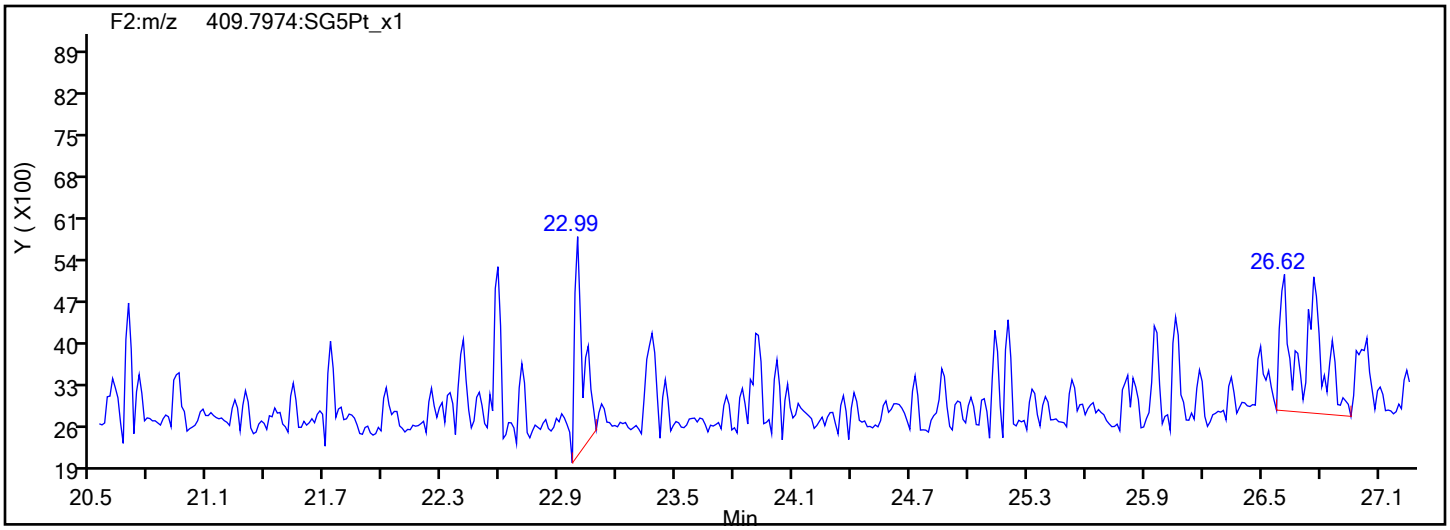

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Eurofins TestAmerica, Sacramento

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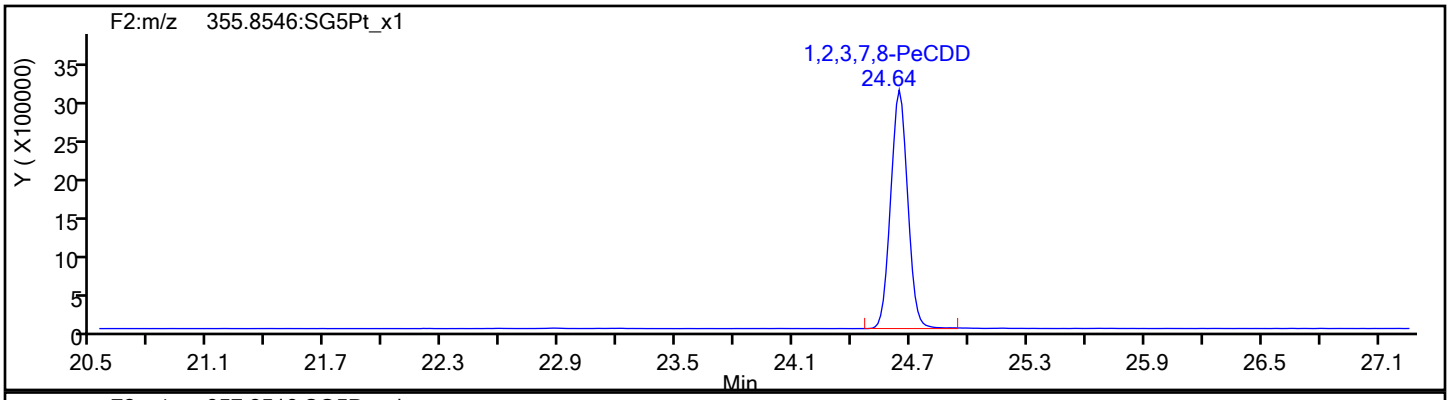

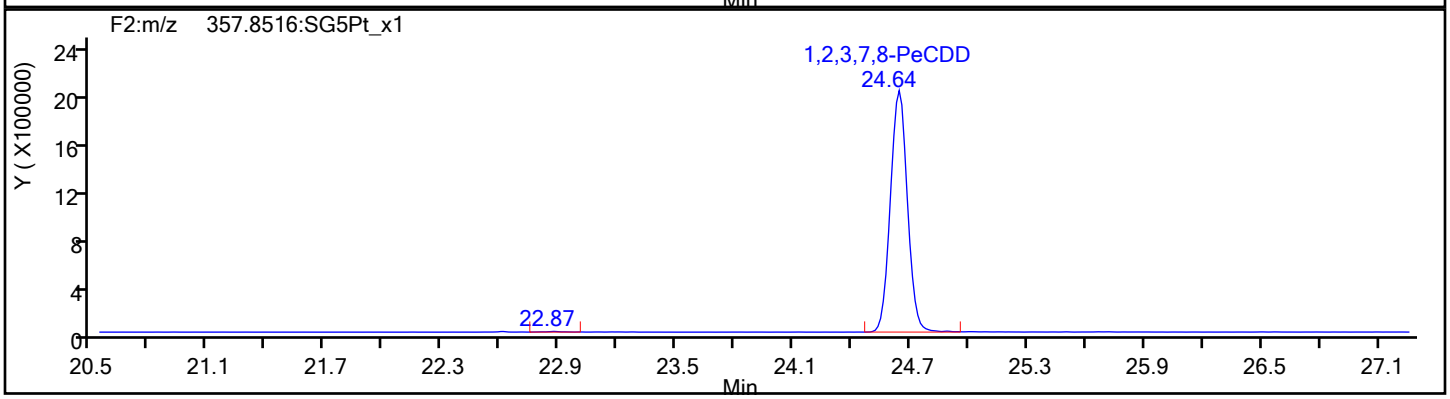

PeCDD Standards

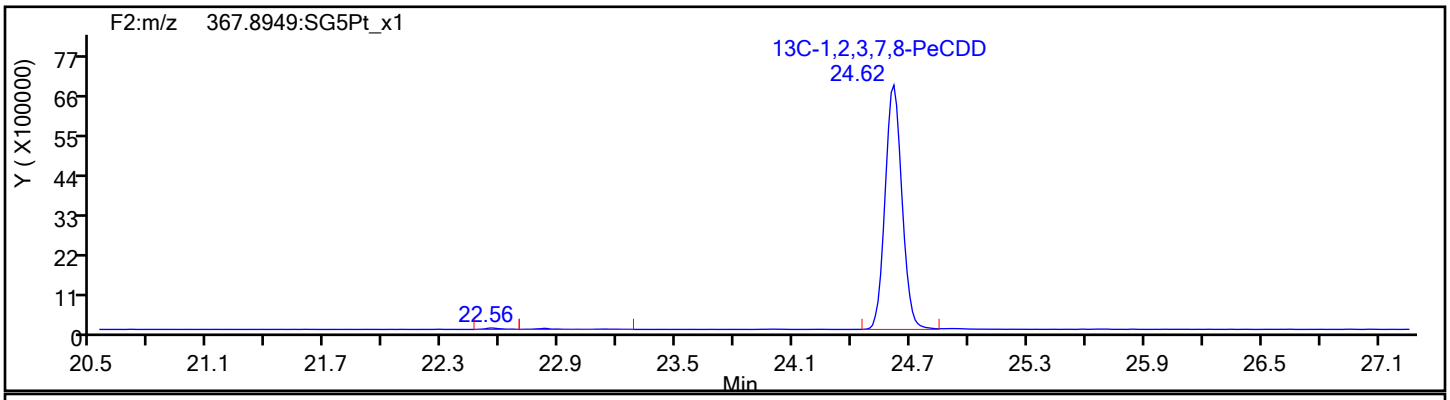

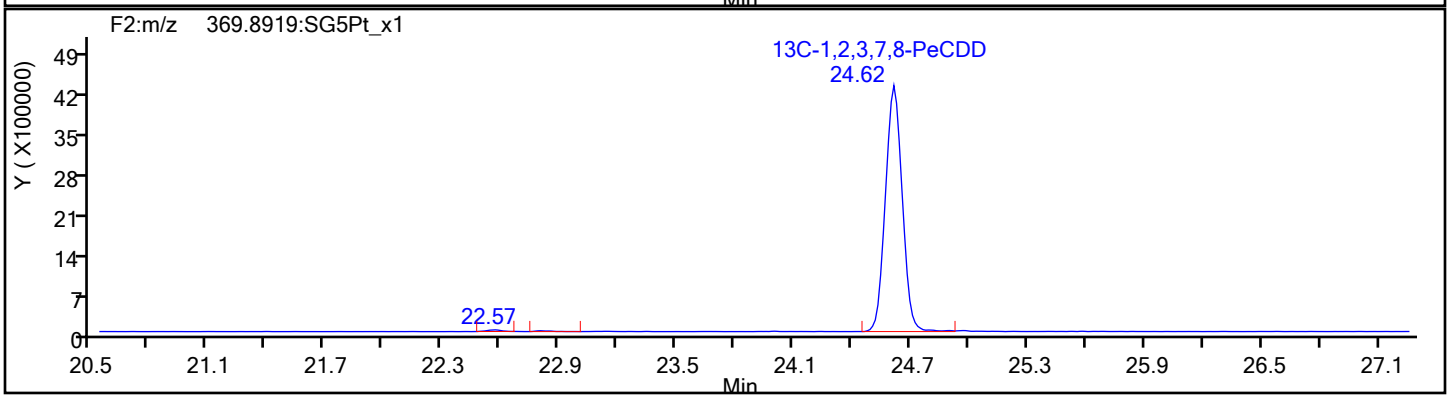

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Eurofins TestAmerica, Sacramento

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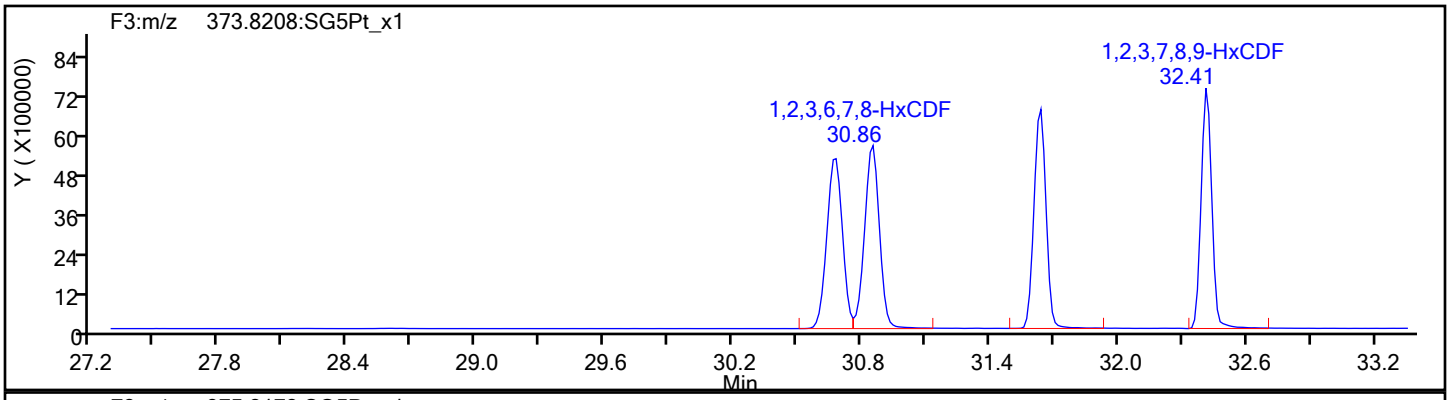

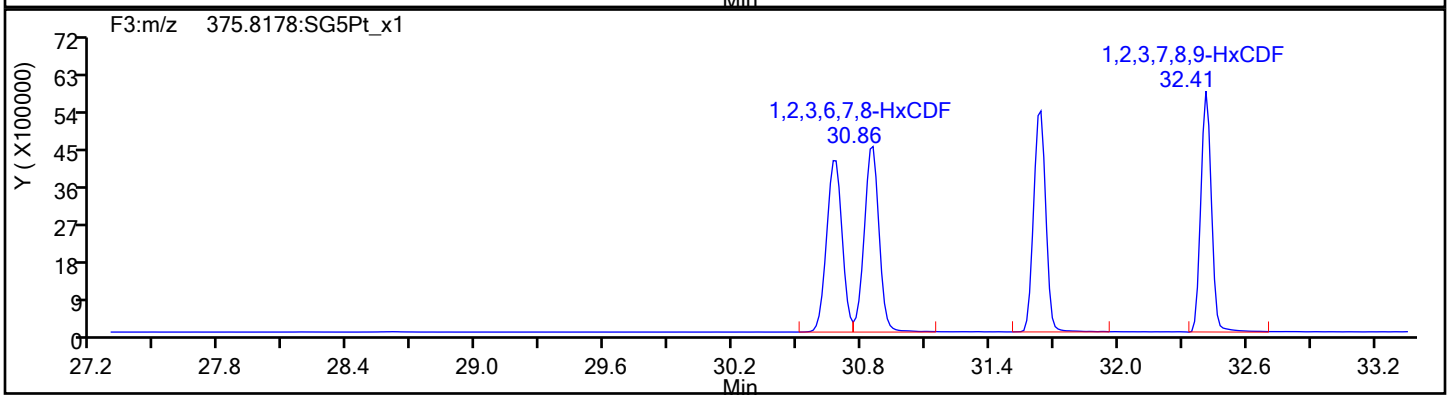

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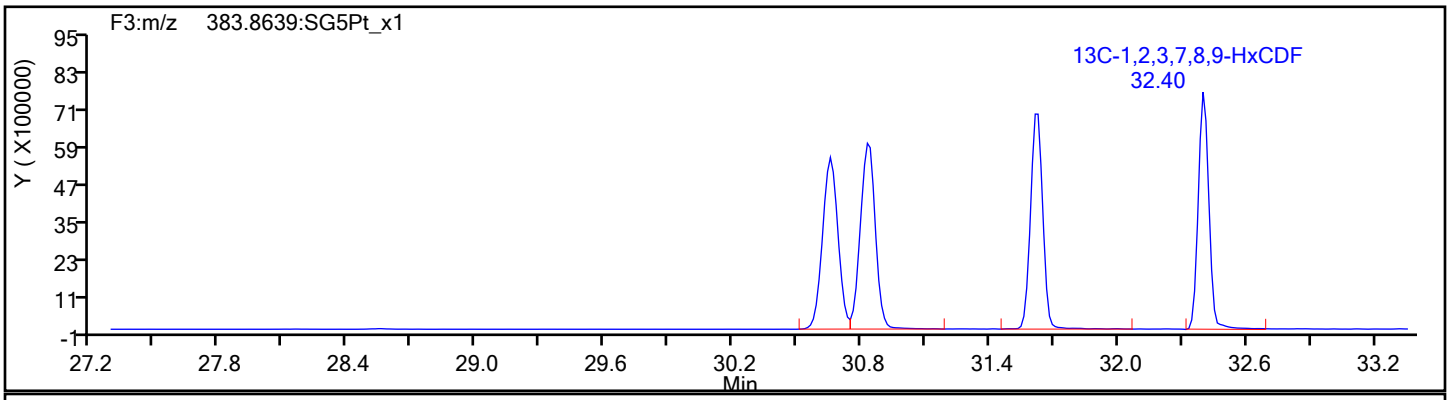

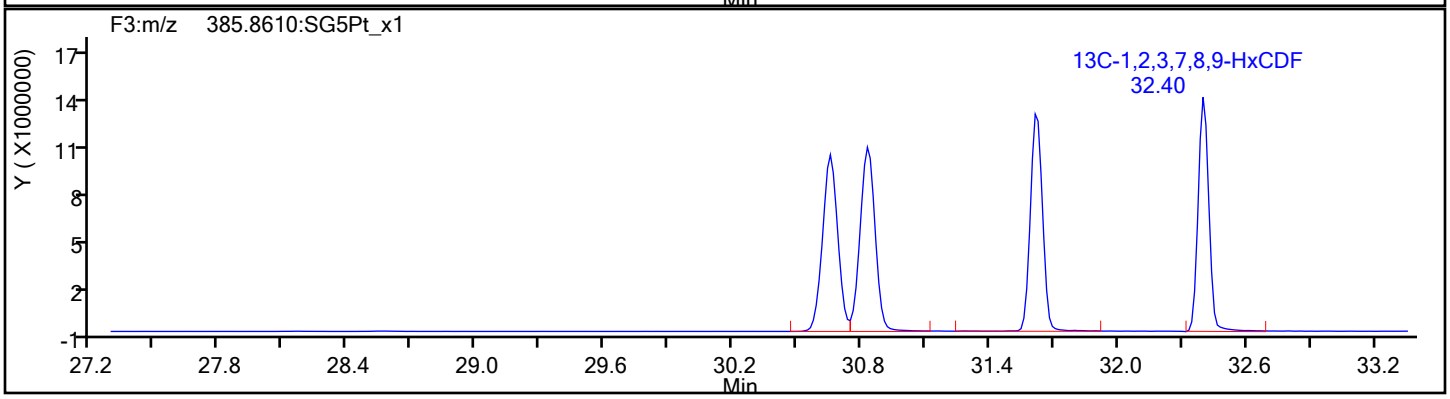

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Eurofins TestAmerica, Sacramento

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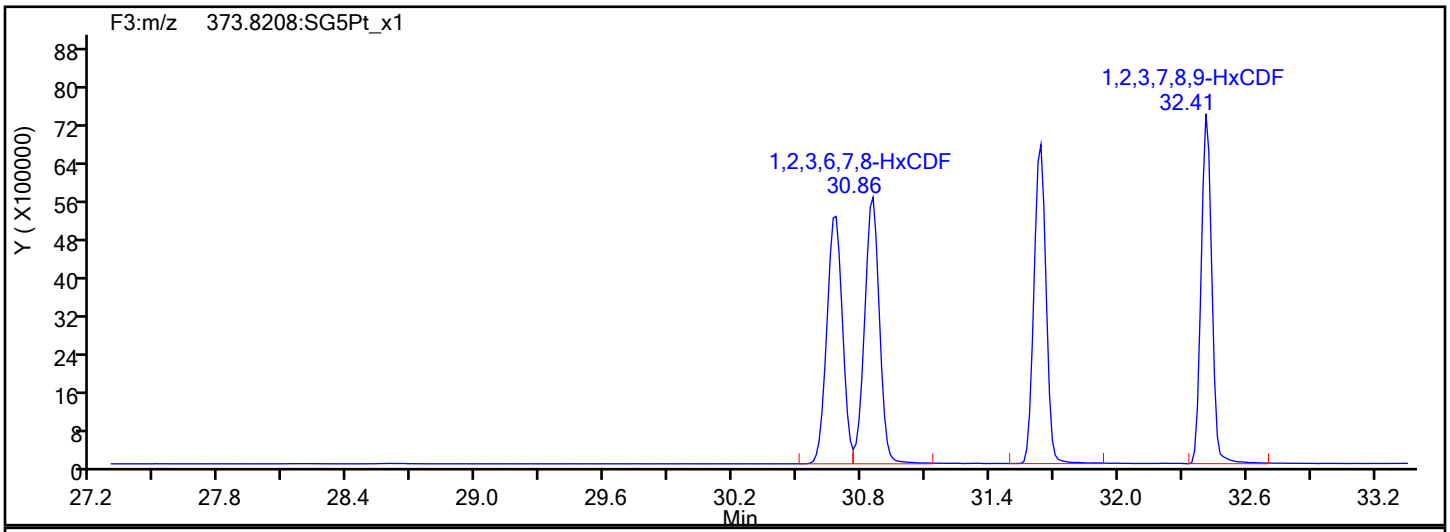

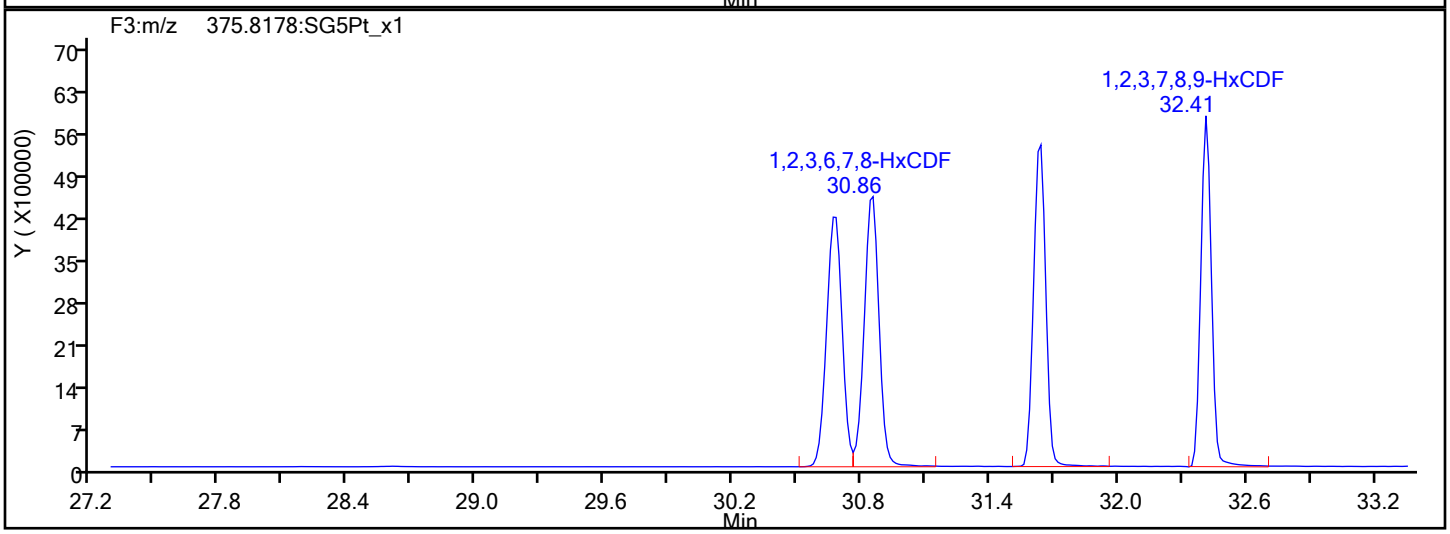

HxCDF Interference Mass

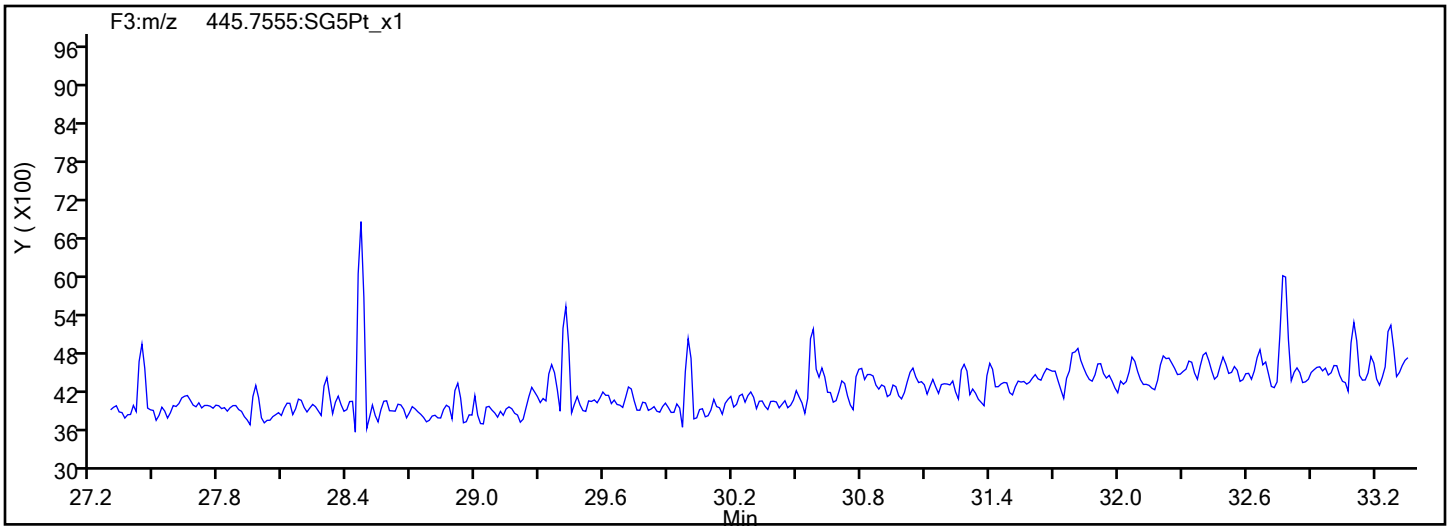

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Eurofins TestAmerica, Sacramento

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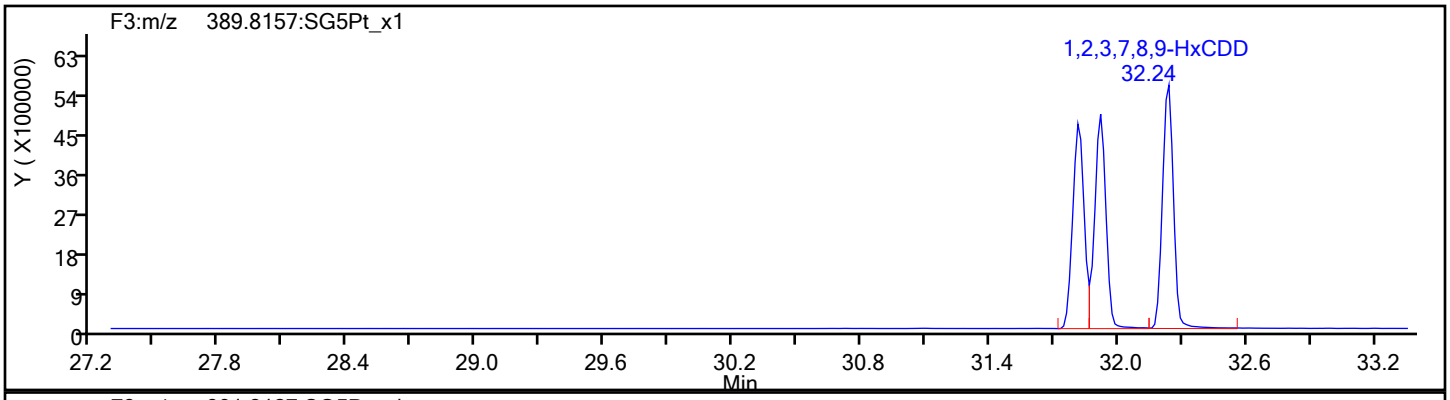

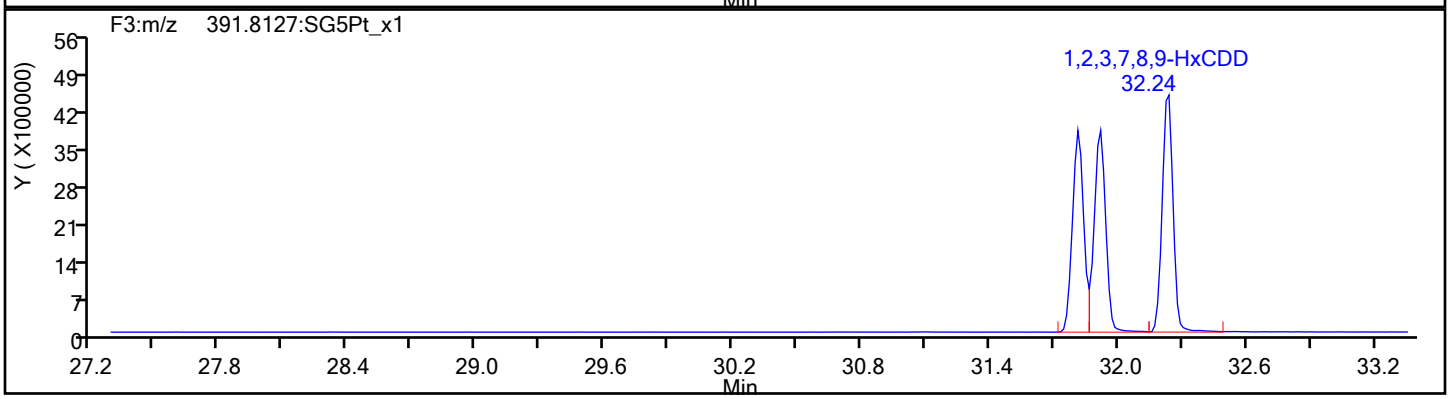

HxCDD Standards

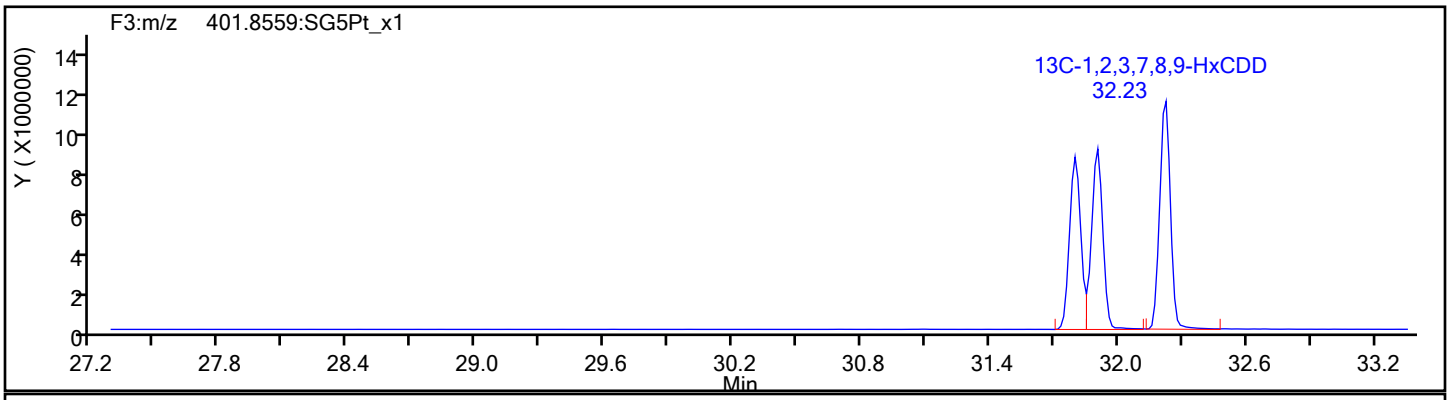

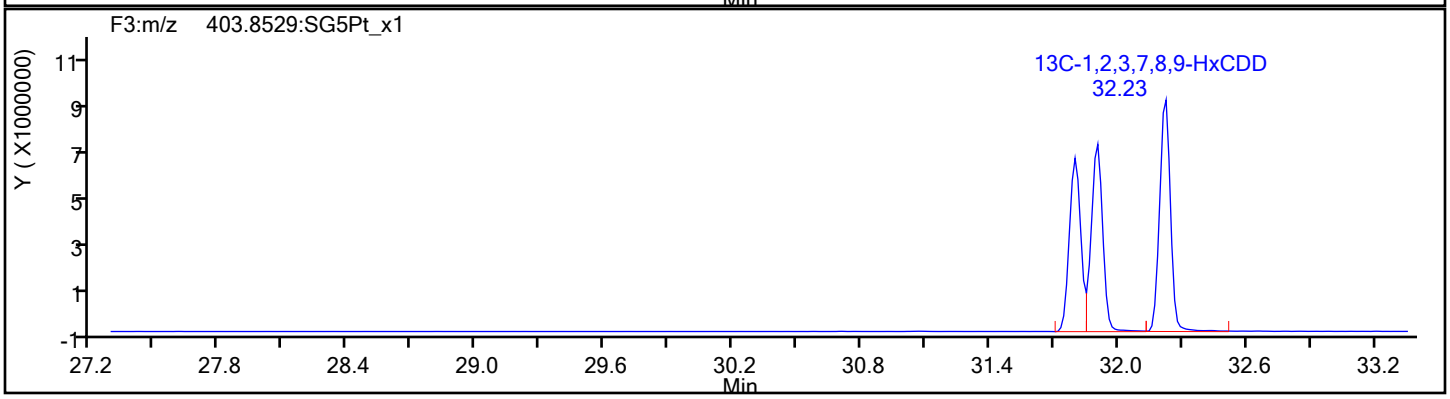

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Eurofins TestAmerica, Sacramento

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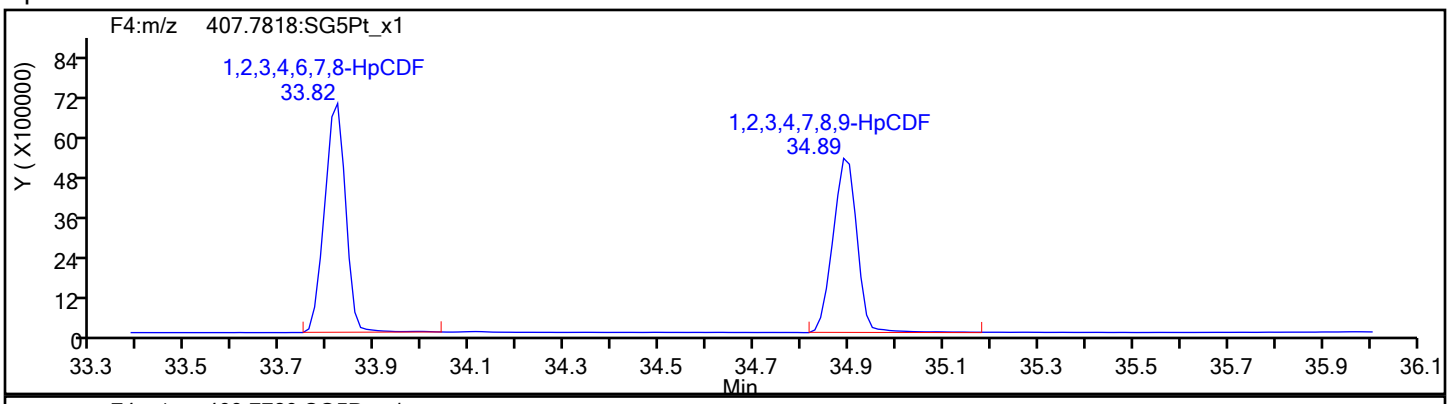

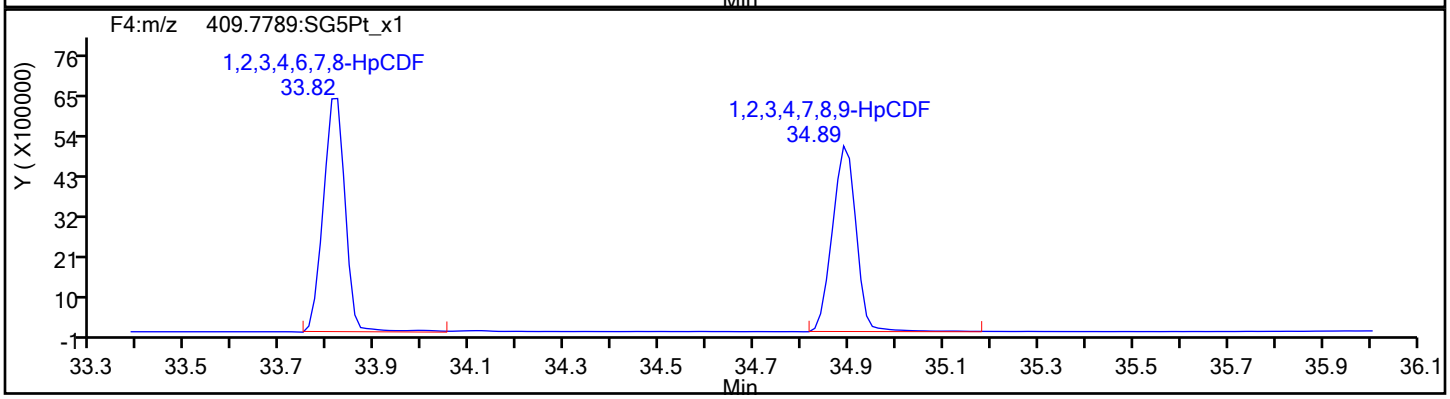

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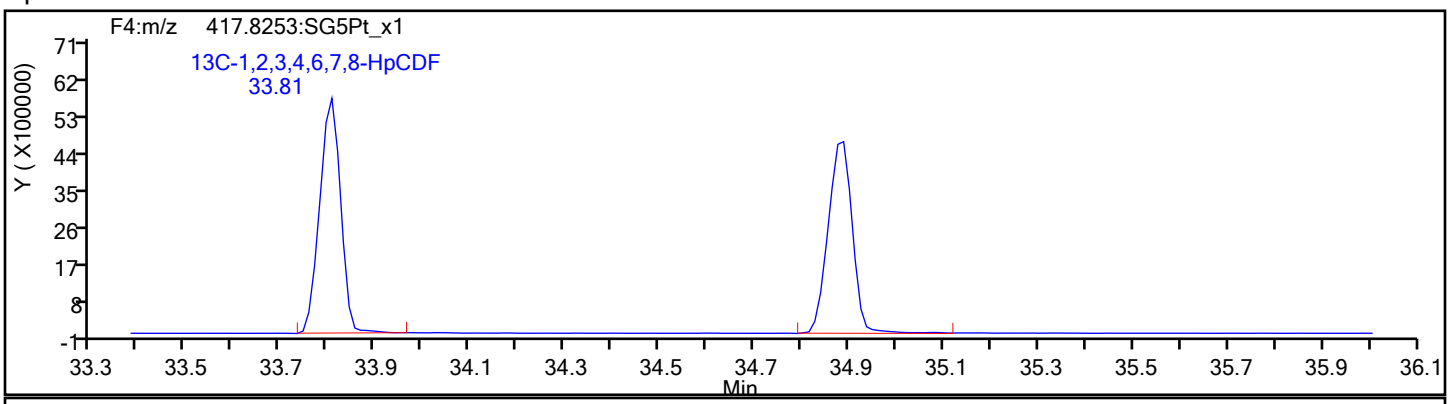

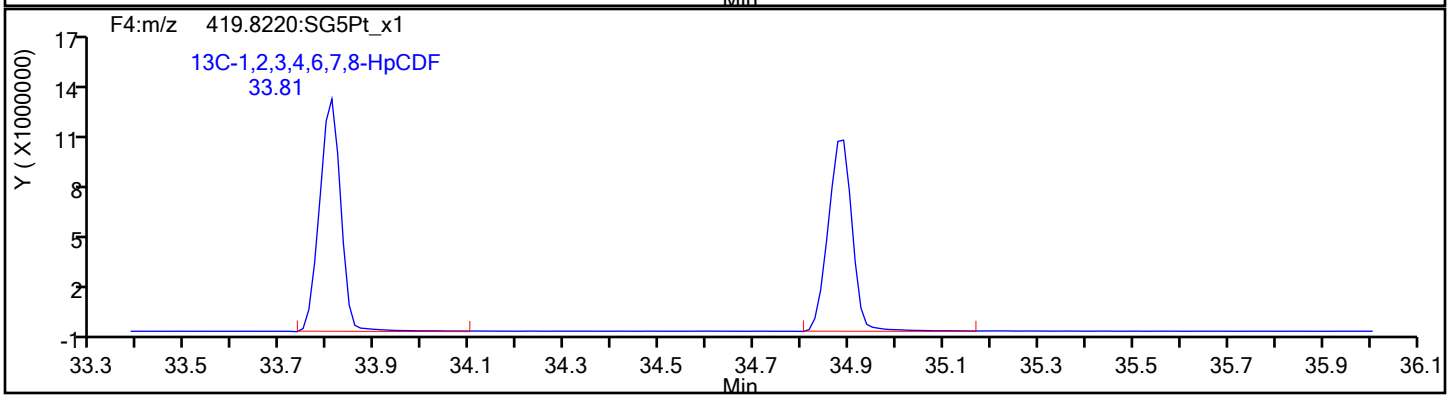

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Eurofins TestAmerica, Sacramento

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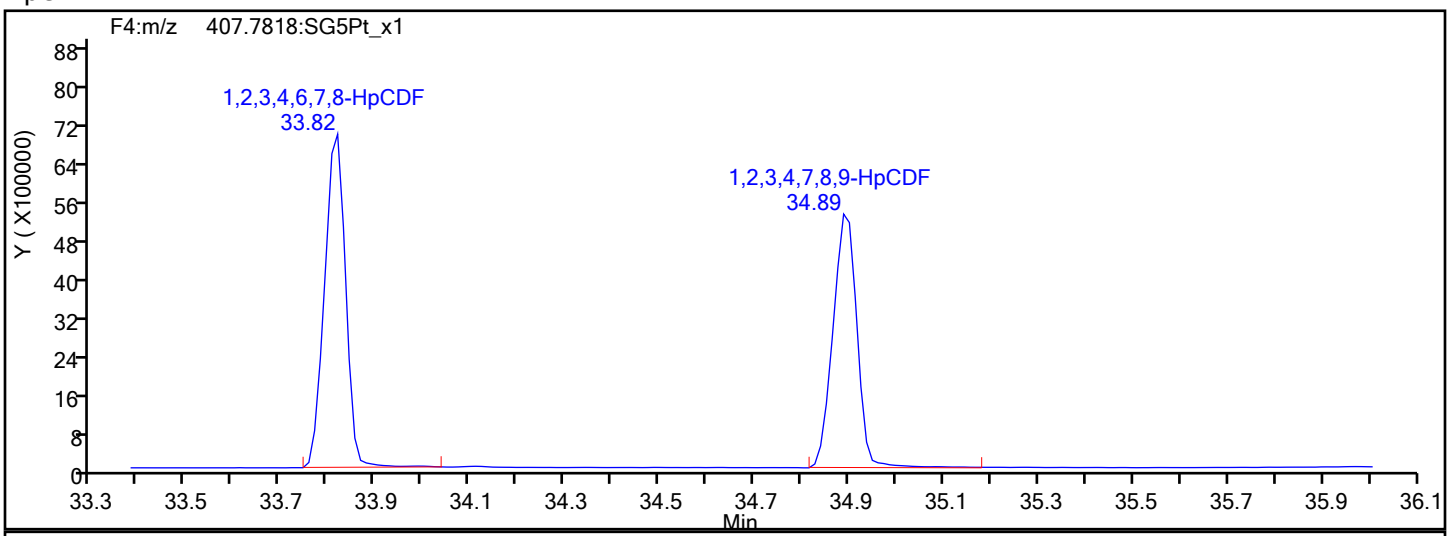

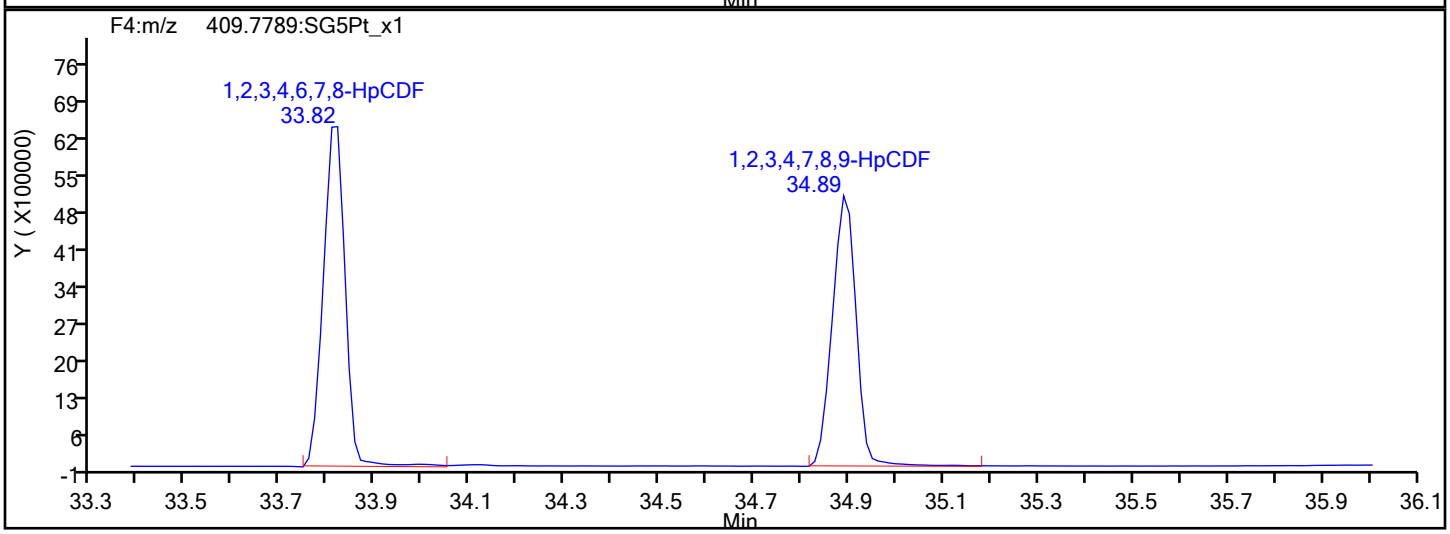

HpCDF Interference Mass

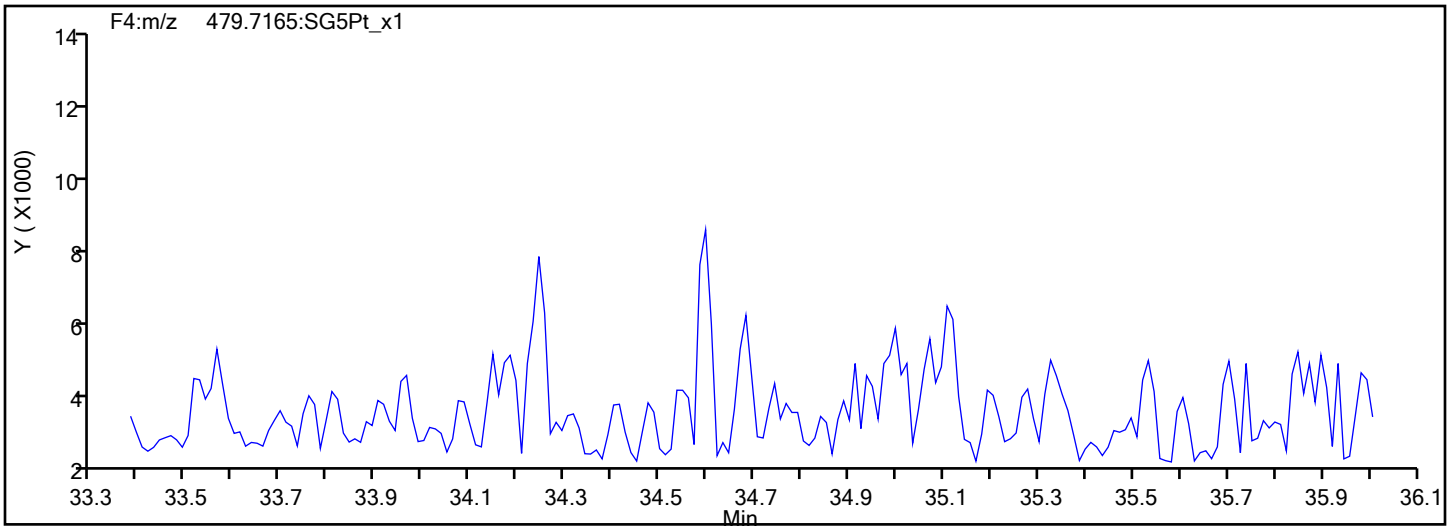

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Eurofins TestAmerica, Sacramento

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HpCDD

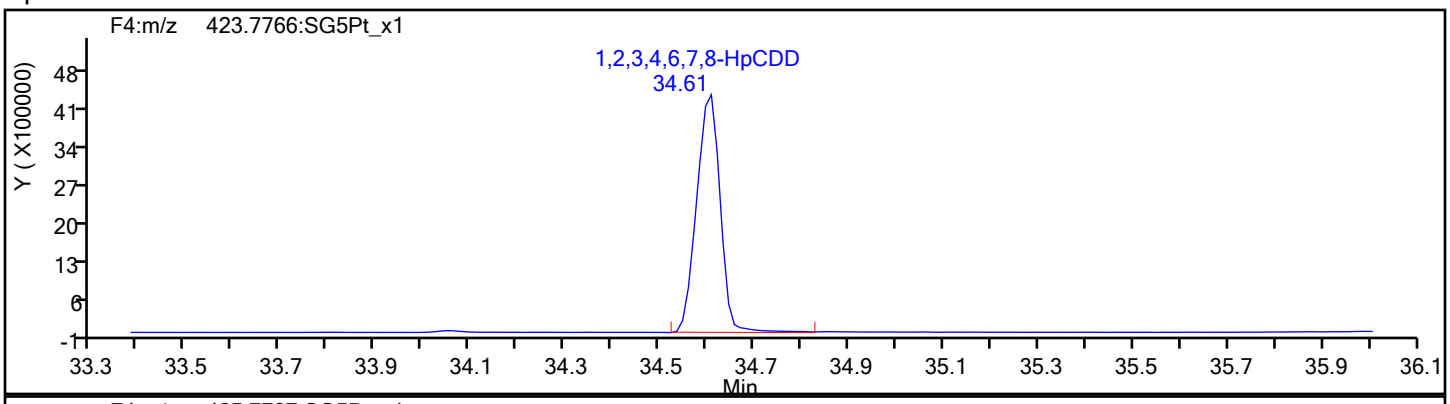

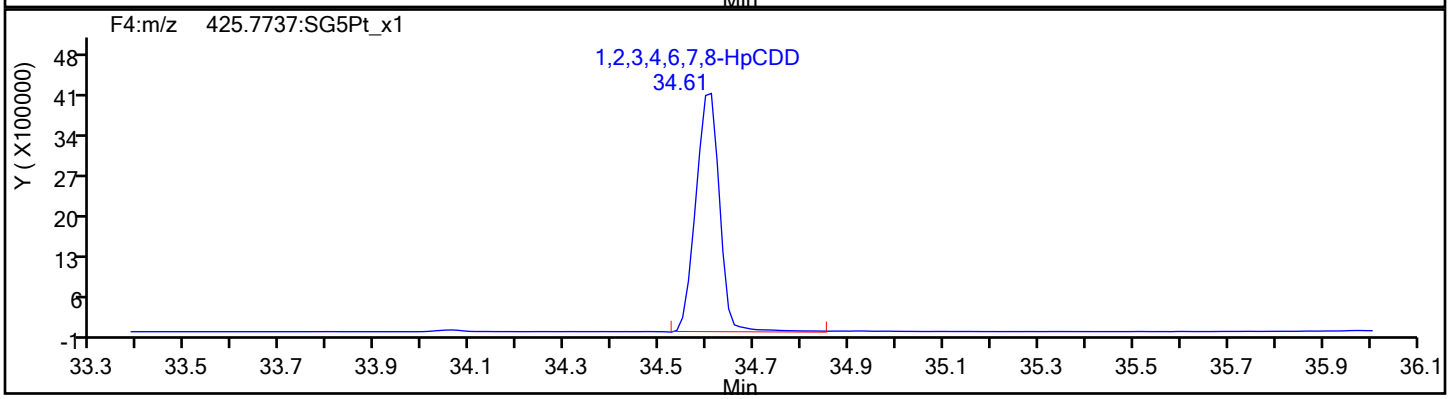

HpCDD Standards

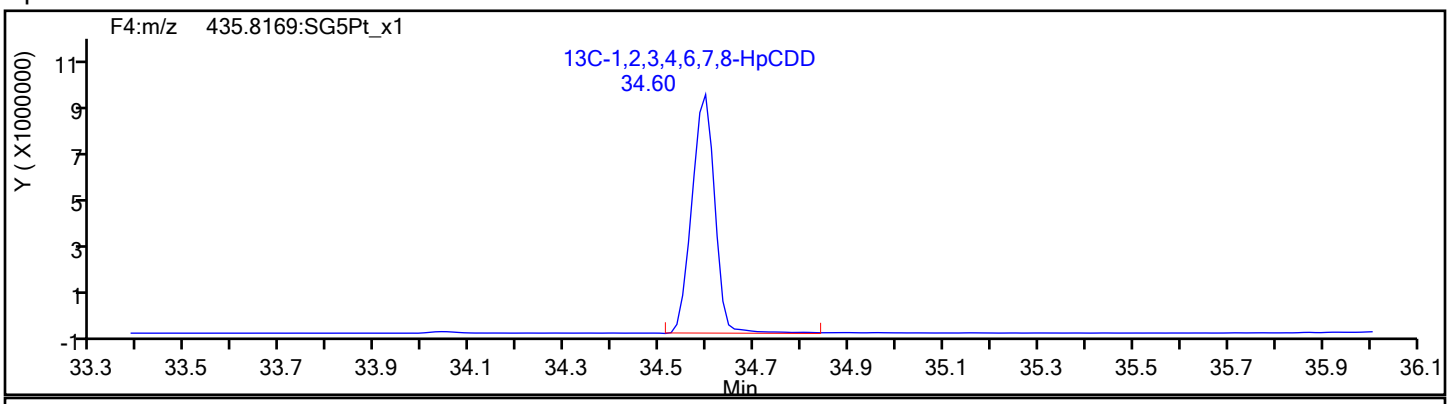

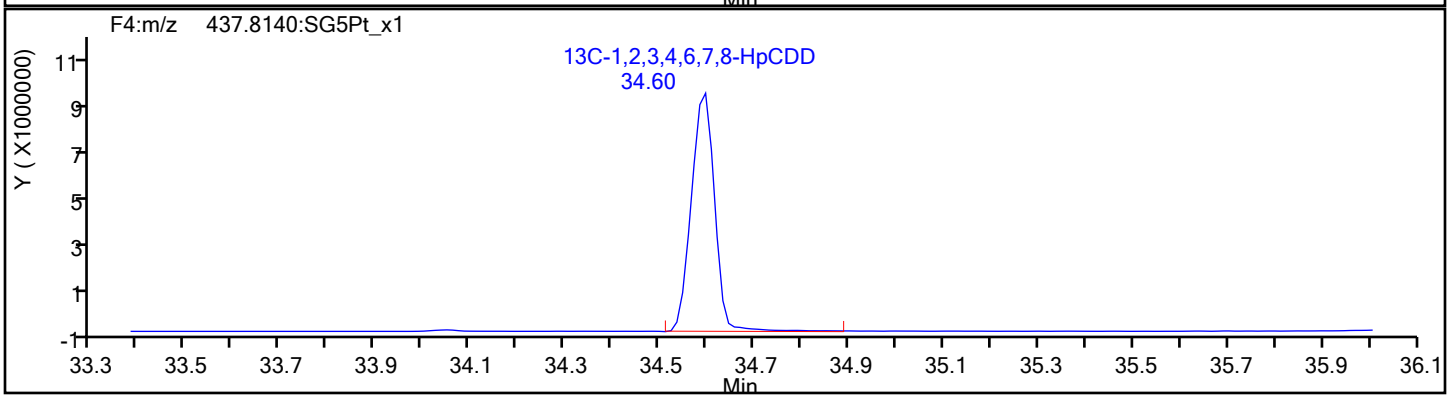

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Eurofins TestAmerica, Sacramento

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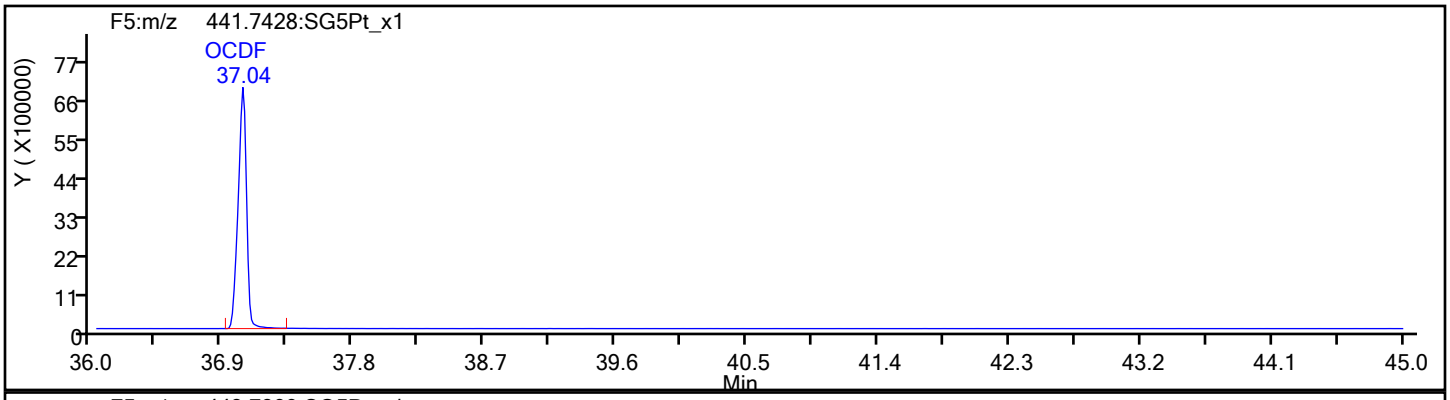

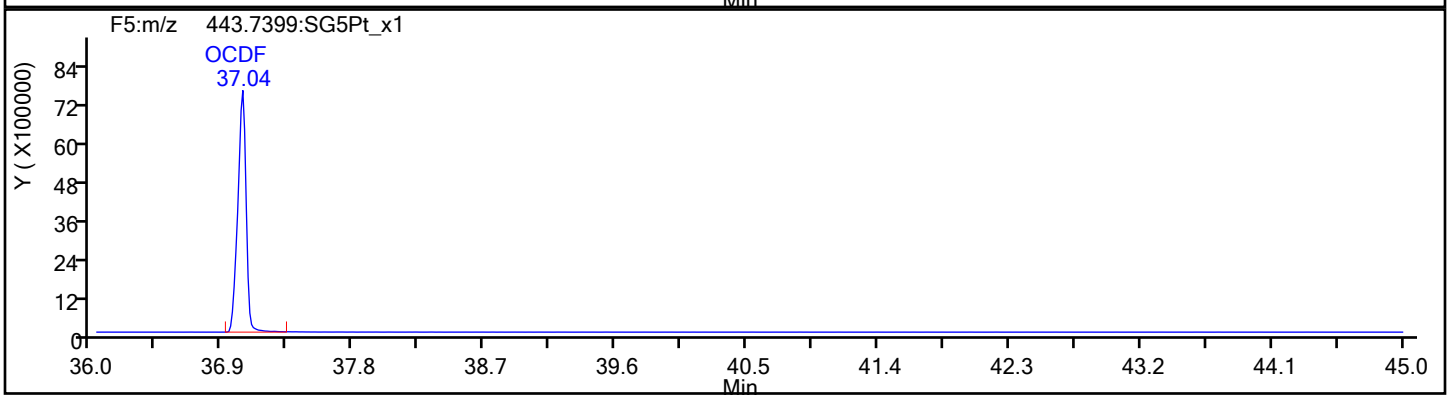

OCDF Standards

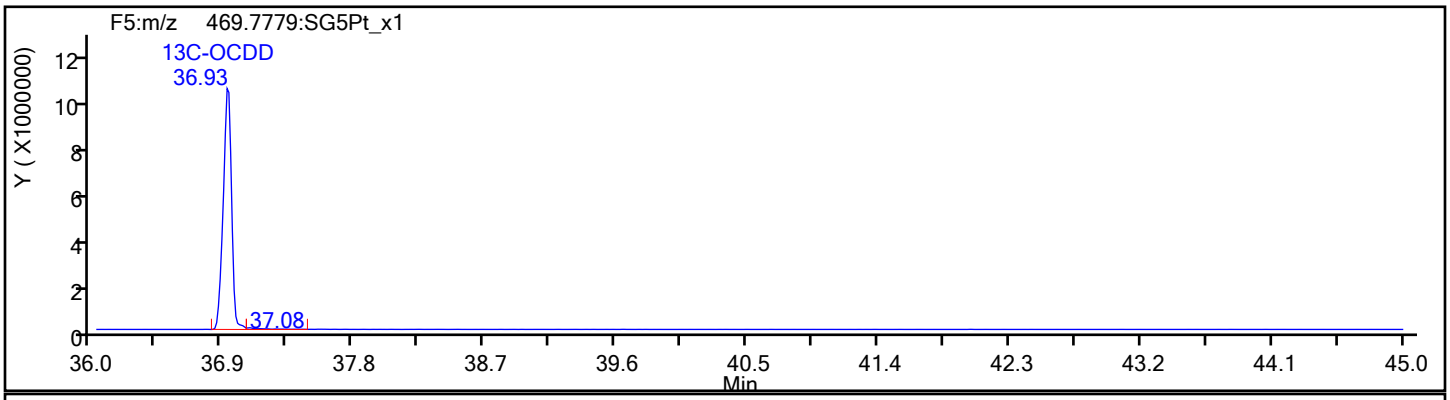

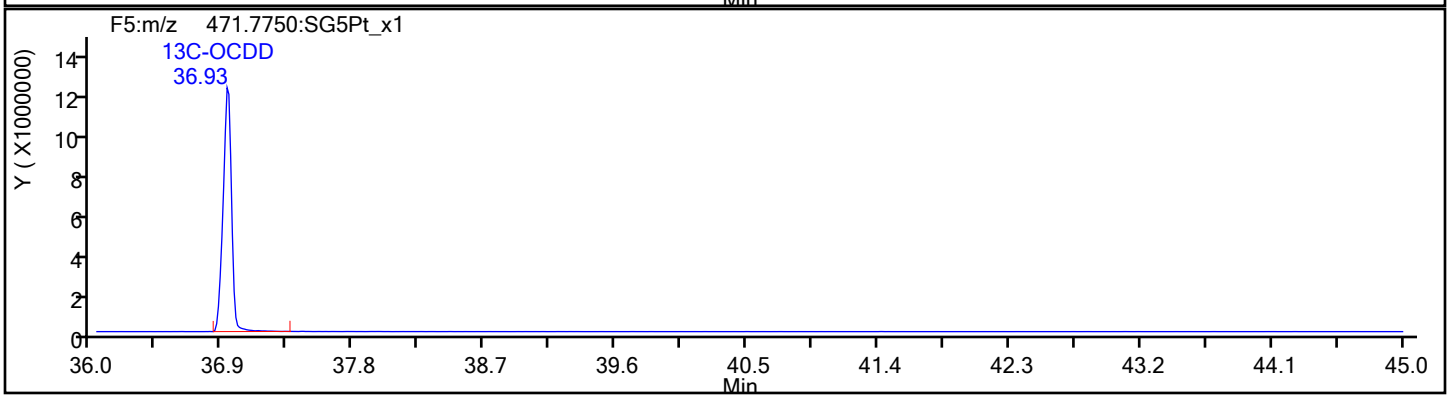

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Eurofins TestAmerica, Sacramento

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OCDF

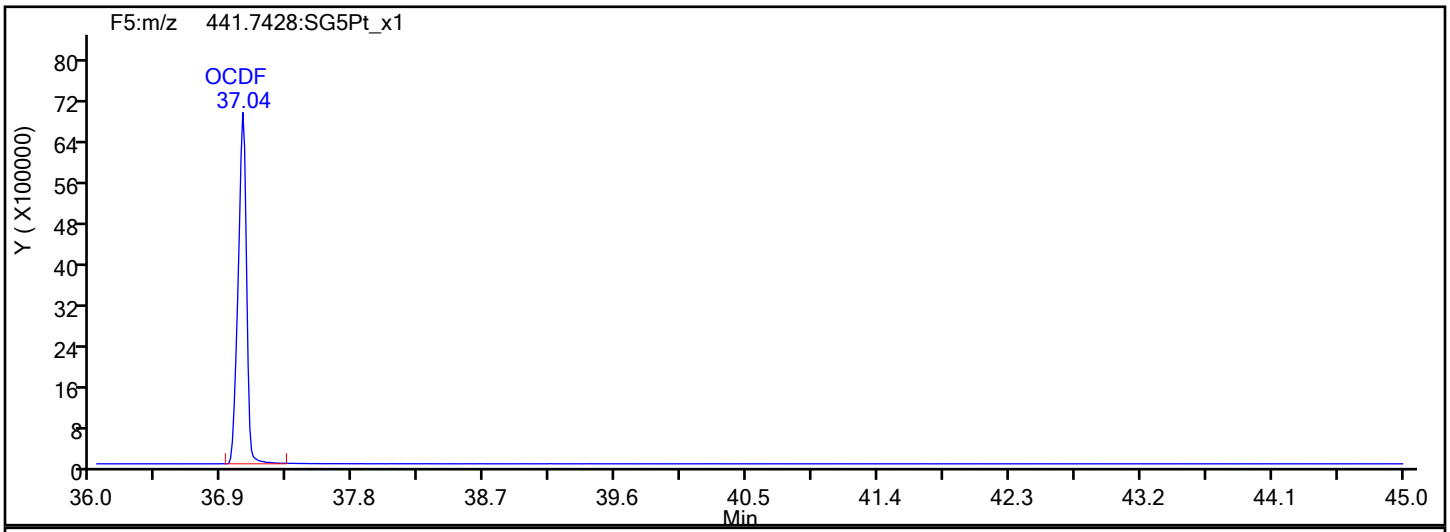

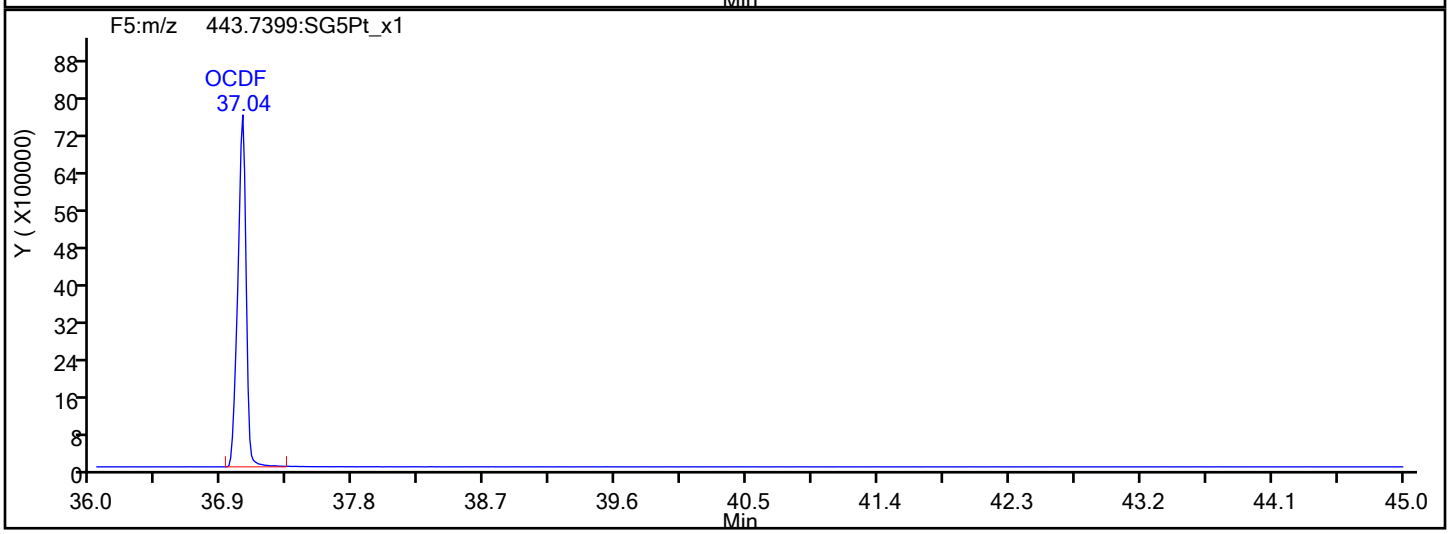

OCDF Interference Mass

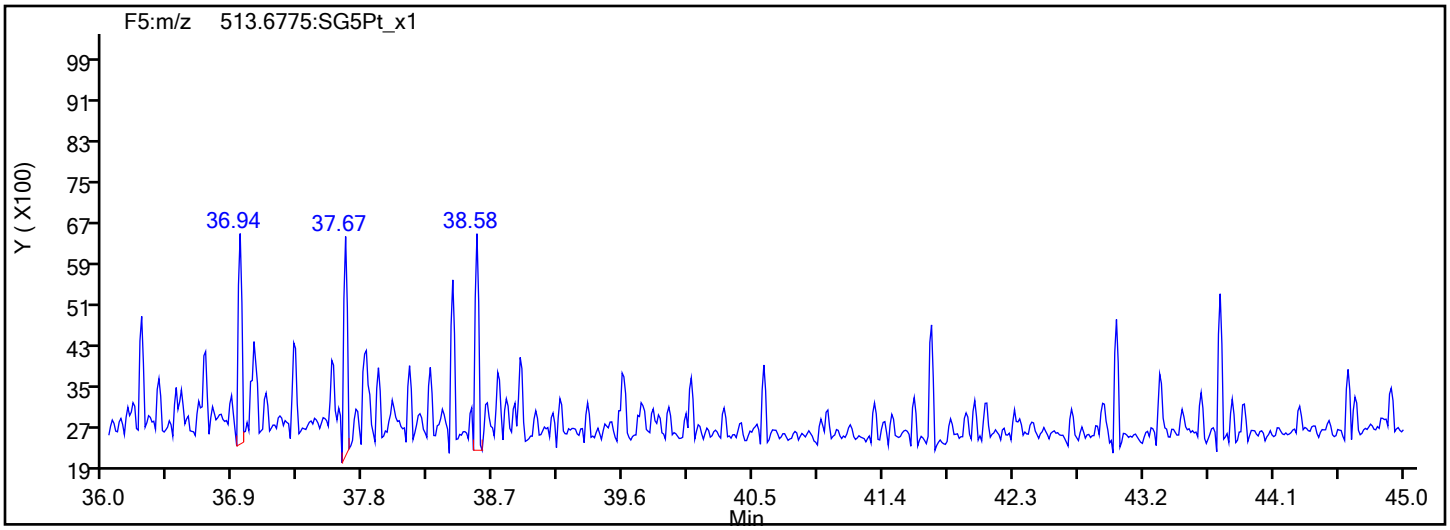

Report Date: 11-Oct-2019 10:47:35 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_14.d		
Injection Date:	11-Oct-2019 02:09:54	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330148	Sample Line#:	14
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

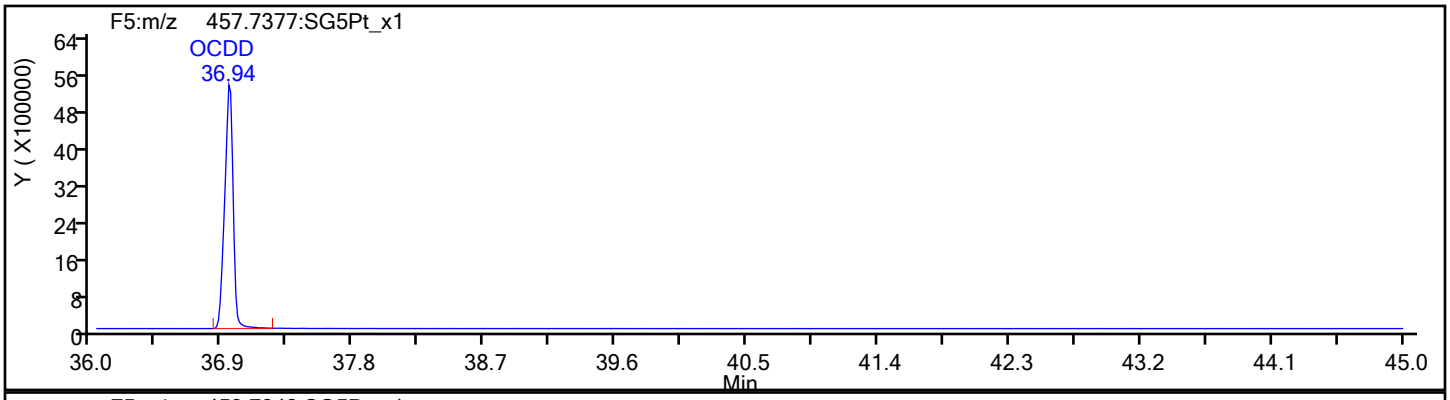

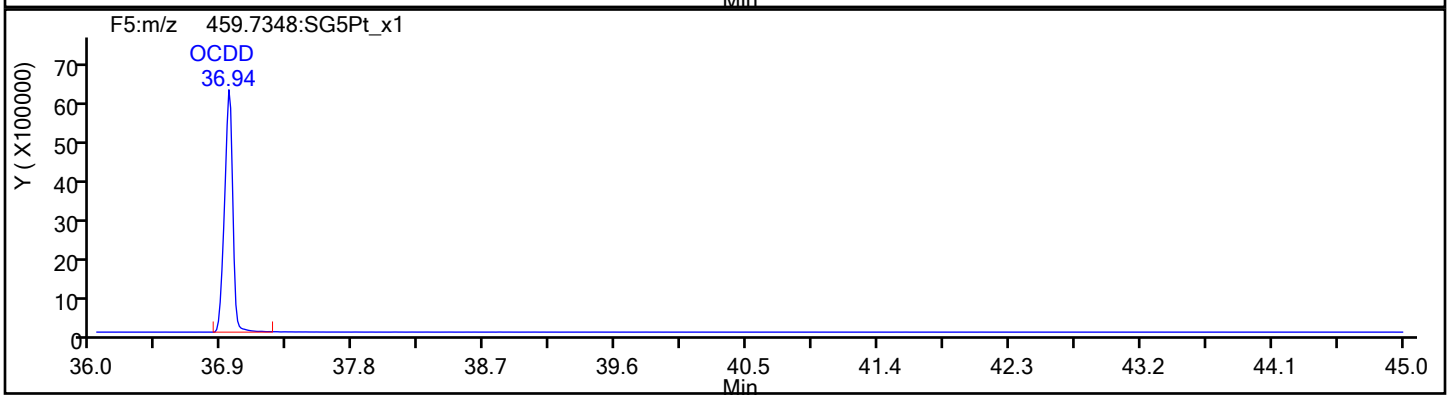

OCDD Standards

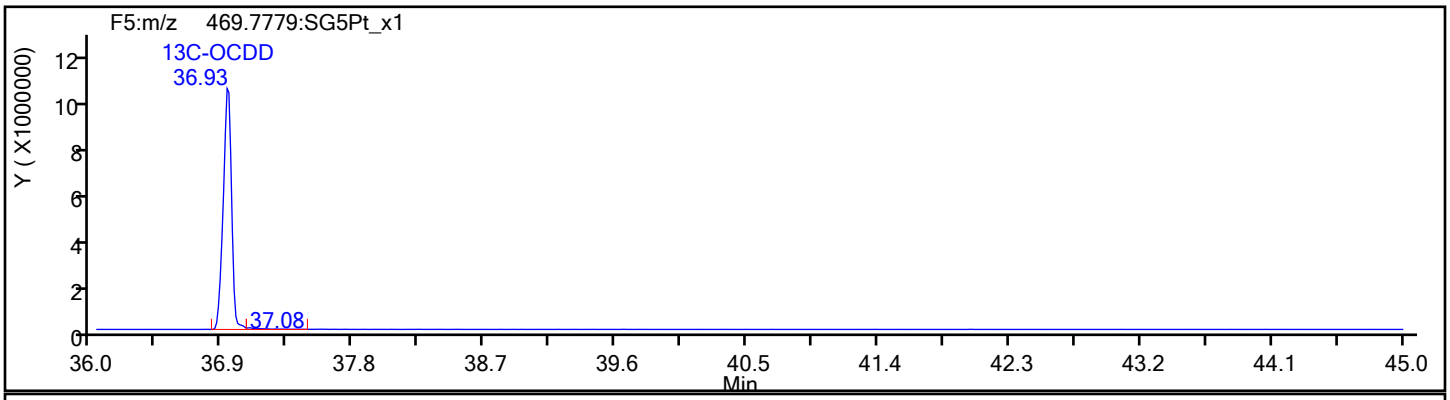

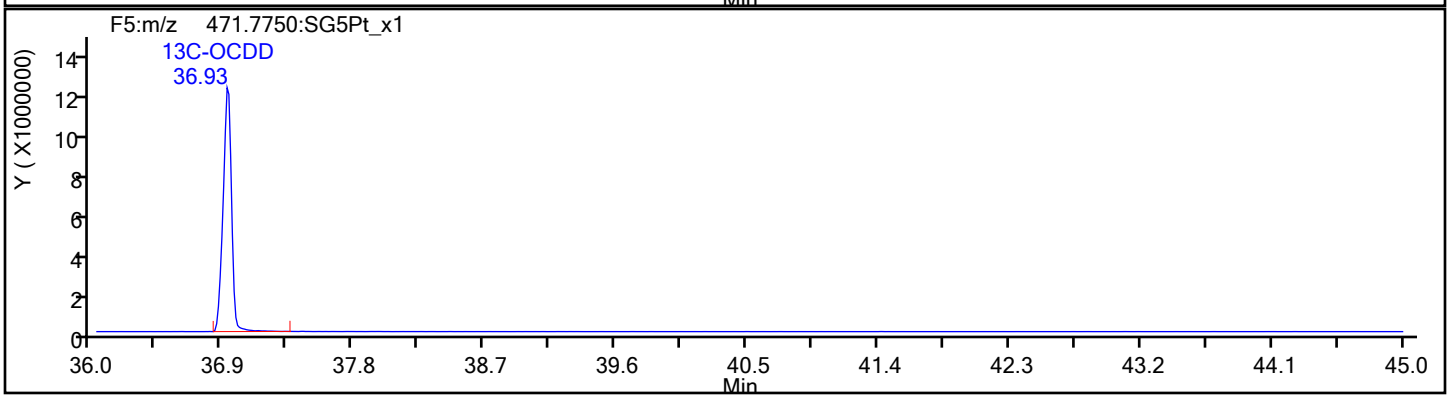

Report Date: 11-Oct-2019 10:47:35 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_14.d		
Injection Date:	11-Oct-2019 02:09:54	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330148	Sample Line#:	14
Column Type:	DB-5	Column Dia:	0.32 mm

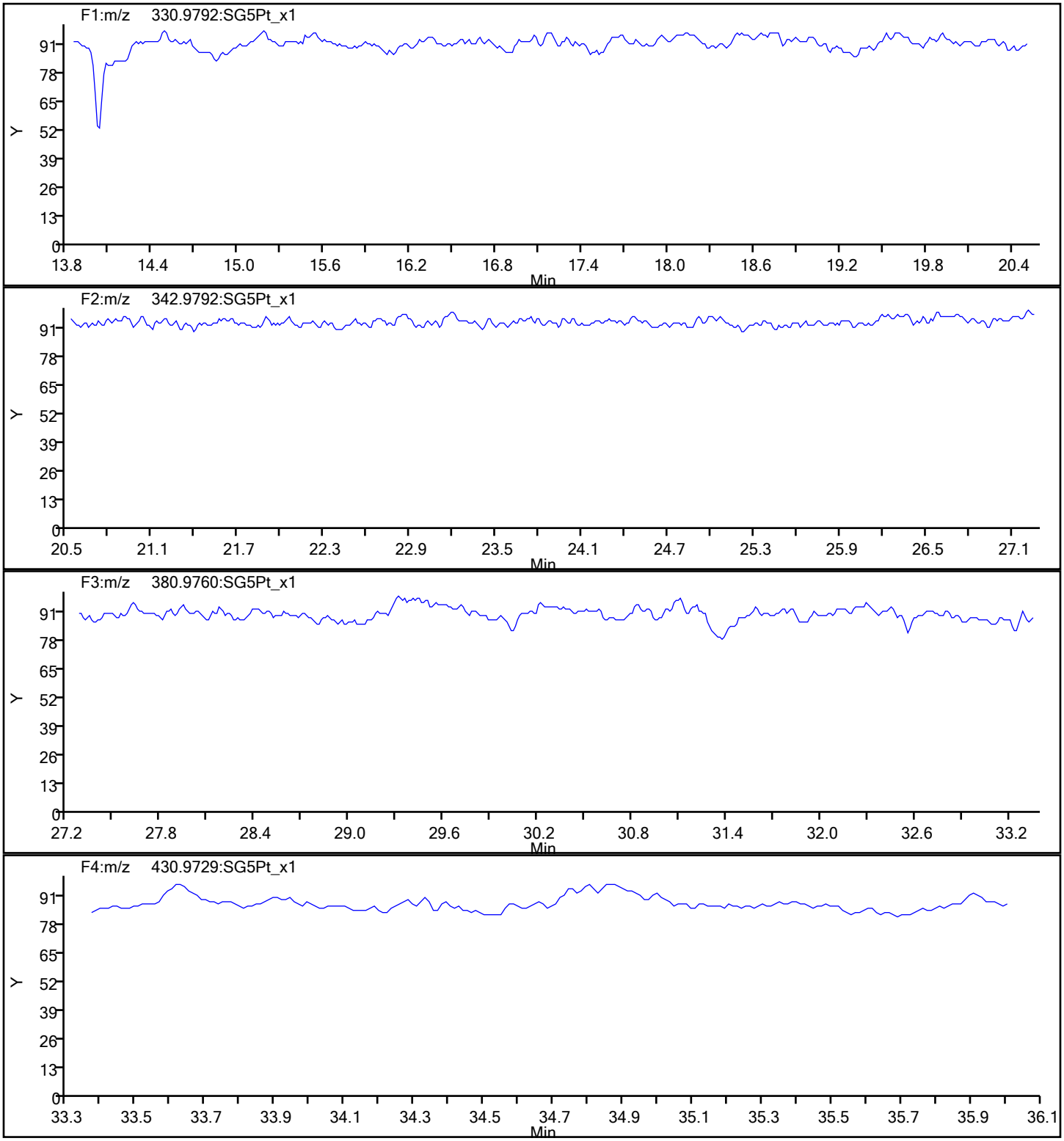

Report Date: 11-Oct-2019 10:47:35 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_14.d		
Injection Date:	11-Oct-2019 02:09:54	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330148	Sample Line#:	14
Column Type:	DB-5	Column Dia:	0.32 mm

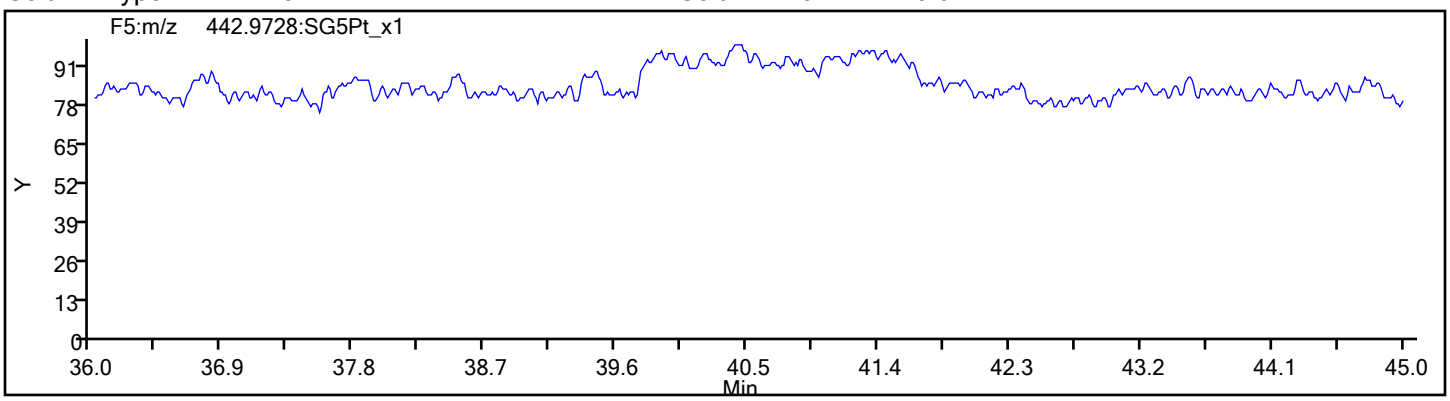

FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Lab Sample ID: ICV 320-312067/8 Calibration Date: 08/02/2019 06:03

Instrument ID: 11D2 Calib Start Date: 08/02/2019 02:52

GC Column: DB-225 ID: 0.32(mm) Calib End Date: 08/02/2019 05:25

Lab File ID: 02AU1911D2_008.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
2,3,7,8-TCDD	AveID	1.154	1.135		39.4	40.0	98	70-130
2,3,7,8-TCDF	AveID	0.8389	0.7719		36.8	40.0	92	70-130
13C-2,3,7,8-TCDD	Ave	0.9388	0.8798		93.7	100	94	82-121
13C-2,3,7,8-TCDF	Ave	1.338	1.270		94.9	100	95	71-140
37Cl4-2,3,7,8-TCDD	Ave	1.182	1.222		41.4	40.0	103	79-127

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_008.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 02-Aug-2019 06:03:41 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ICV HRDXNIC_00042
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist:

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:56:54 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:47:16

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.394	97001968	0.78	1.1E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.547	123207943	0.74	1.3379	94.9	94.9	0.6094	0.6094	94.93	
2,3,7,8-TCDF	16.574	38039883	0.78	0.8389	36.8	36.8	0.1052	0.1052	92.01	
D 13C-2,3,7,8-TCDD	15.106	85337698	0.79	0.9388	93.7	93.7	0.3453	0.3453	93.71	
2,3,7,8-TCDD	15.120	38758960	0.76	1.1538	39.4	39.4	0.1979	0.1979	98.41	
$ 37Cl4-2,3,7,8-TCDD	15.120	47417283		1.1816	41.4	41.4	0.1032	0.1032	103	
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNIC_00042 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_008.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 02-Aug-2019 06:03:41 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ICV HRDXNIC_00042
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist:

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:56:54 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:47:16

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.394	15.416	-1		42407295	9957761	17234	43085	578		
333.9339	15.394	15.416	-1		54594673	12831179	12314	30785	1042	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.547	16.580	-2	1.075	52595032	11688678	51826	129565	226		
317.9389	16.547	16.580	-2	1.075	70612911	15460441	22495	56237	687	0.74(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.574	16.599	-1	1.002	16681516	3535451	3682	9205	960		
305.8987	16.574	16.599	-1	1.002	21358367	4522824	5899	14747	767	0.78(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.106	15.136	-2	0.981	37657541	9362808	17234	43085	543		
333.9339	15.106	15.136	-2	0.981	47680157	11686095	12314	30785	949	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.120	15.156	-2	1.001	16757833	4095456	8475	21187	483		
321.8936	15.120	15.156	-2	1.001	22001127	5354648	10746	26865	498	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.120	15.158	-2	0.982	47417283	11432123	11111	27777	1029		

Total 2378-Chlorinated Dioxins & Furans
0.0 0

Reagents:

HRDXNIC_00042 Amount Added: 1.00 Units: mL

Report Date: 02-Aug-2019 11:57:05 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_008.d		
Injection Date:	02-Aug-2019 06:03:41	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	8
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

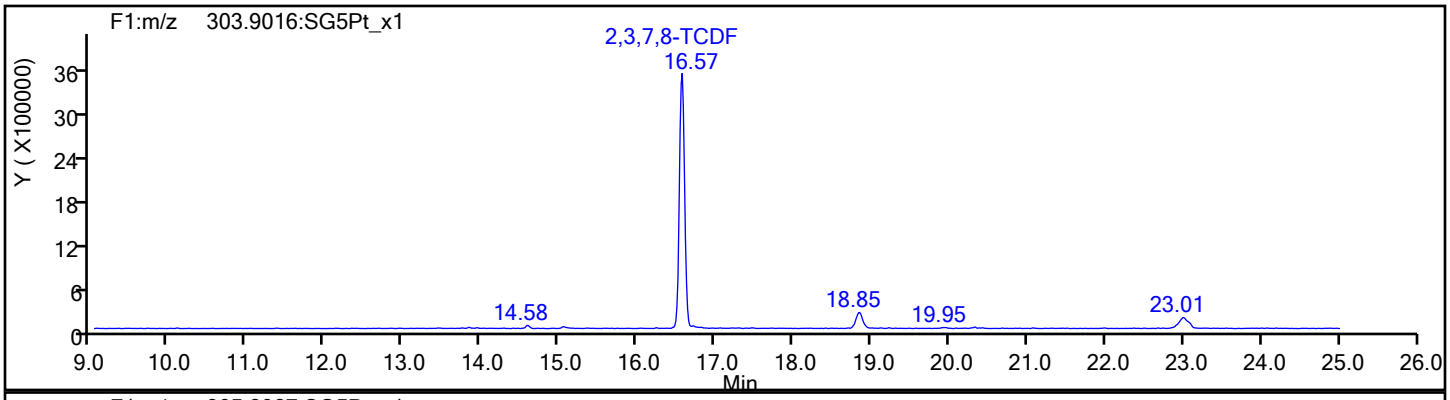

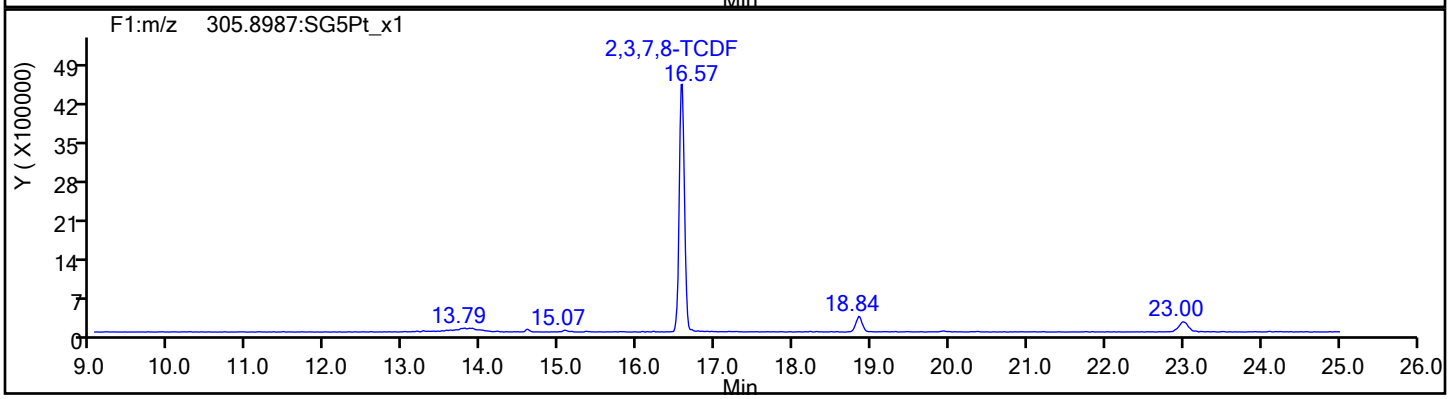

TCDF Standards

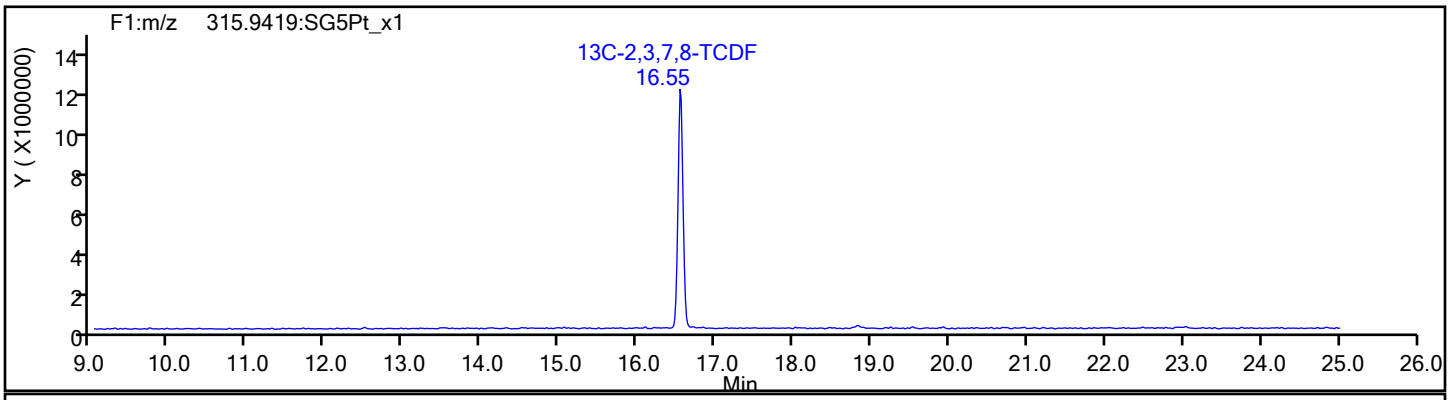

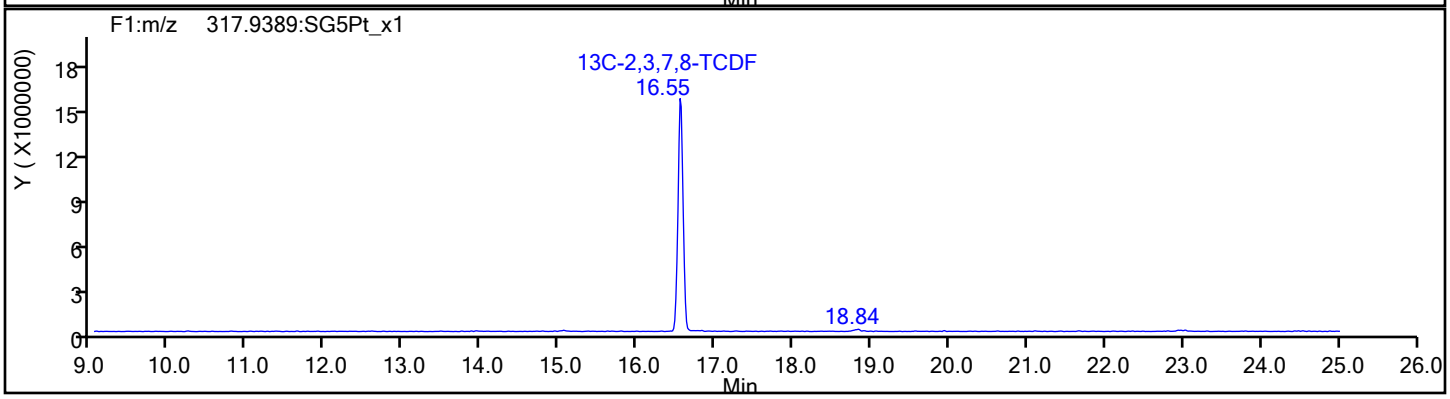

Report Date: 02-Aug-2019 11:57:05 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_008.d		
Injection Date:	02-Aug-2019 06:03:41	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	8
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

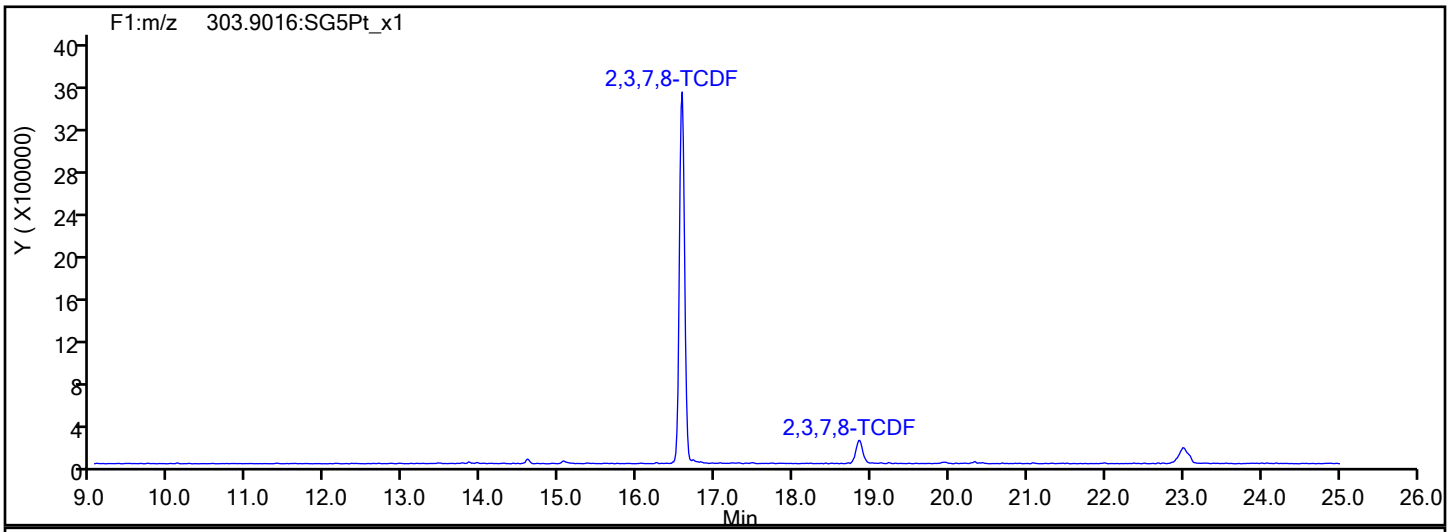

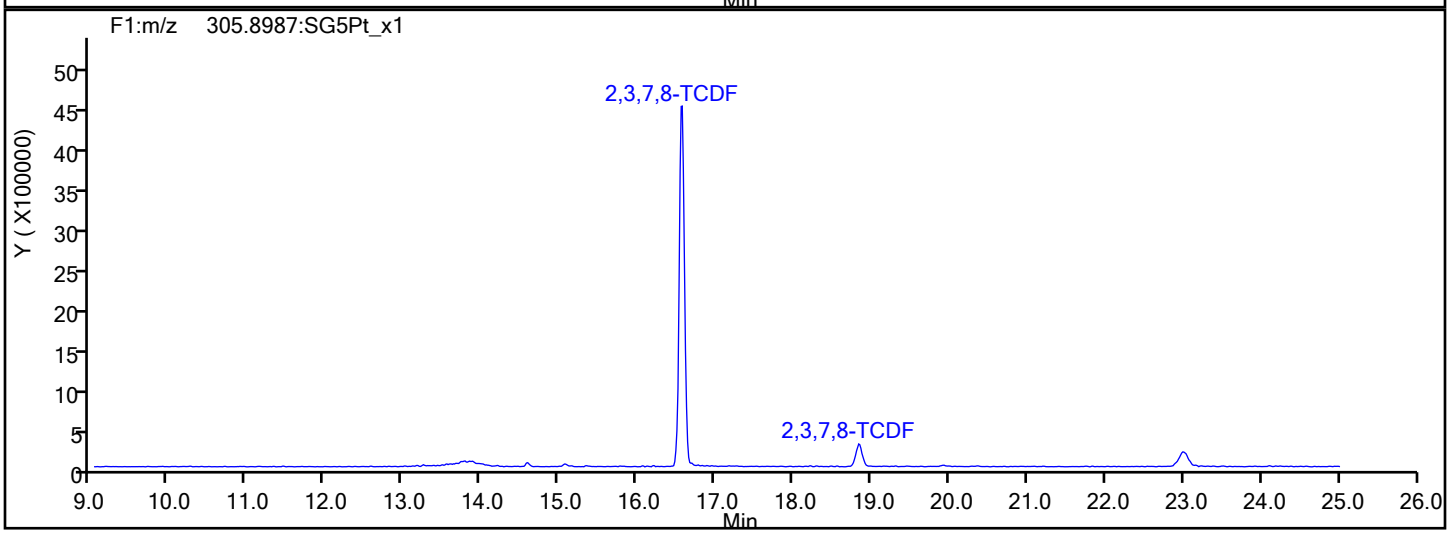

TCDF Interference Mass

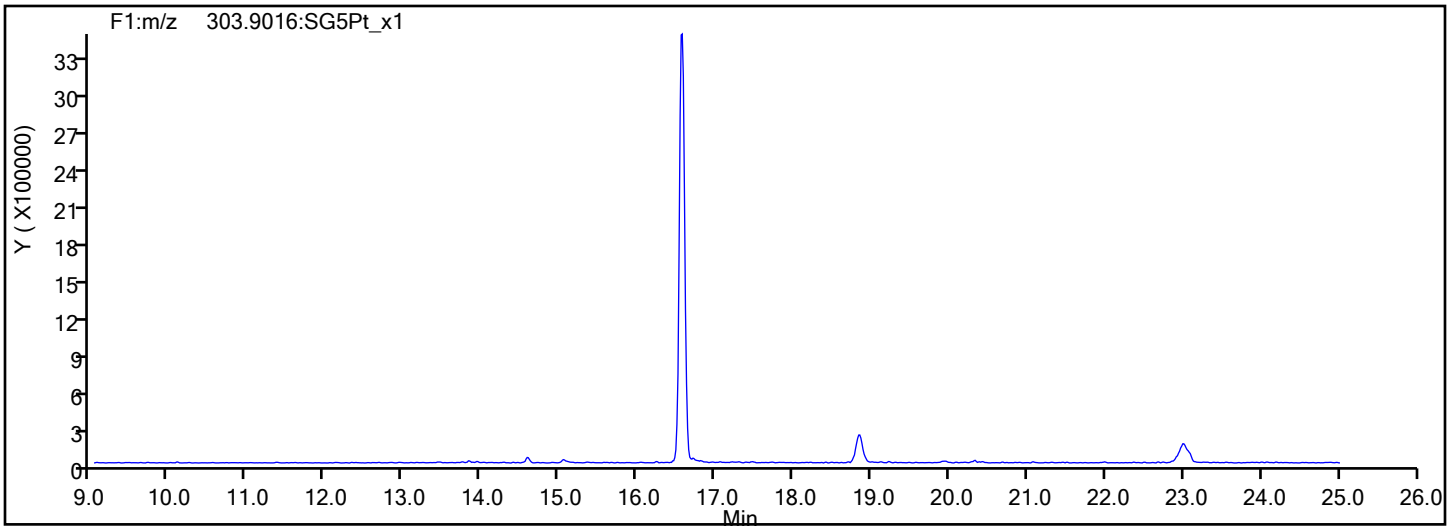

Report Date: 02-Aug-2019 11:57:05 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_008.d		
Injection Date:	02-Aug-2019 06:03:41	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	8
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

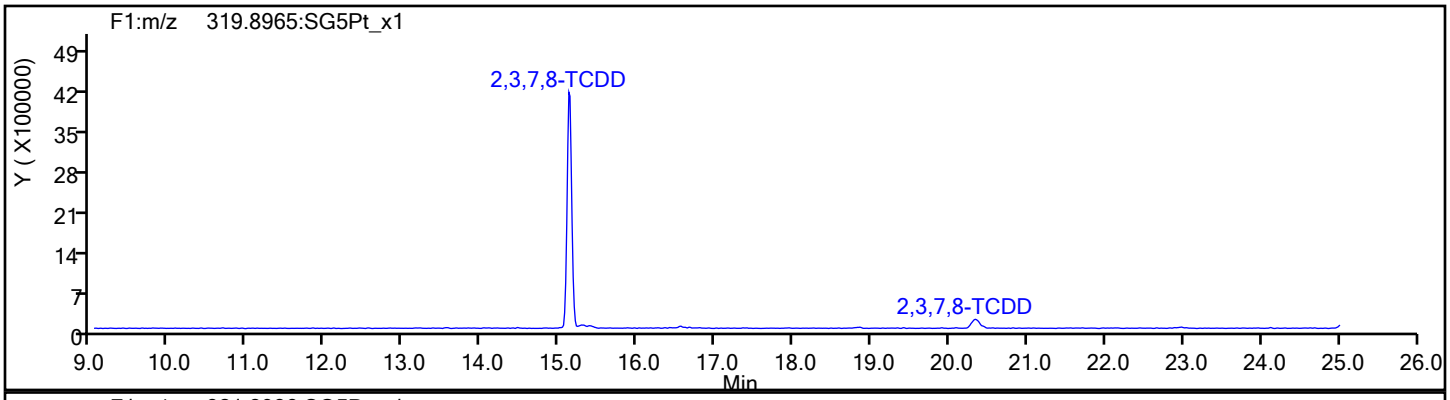

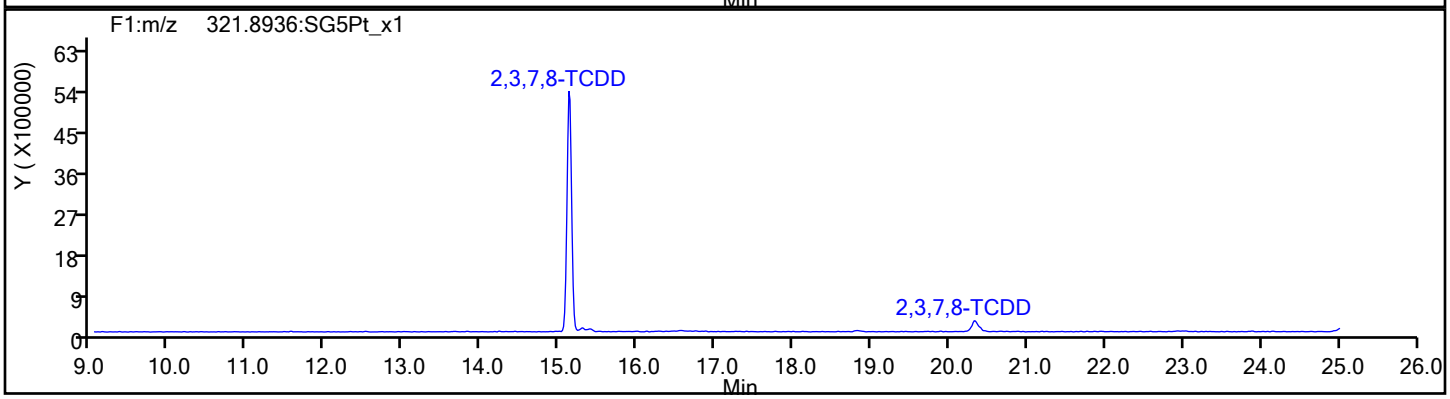

TCDD Standards

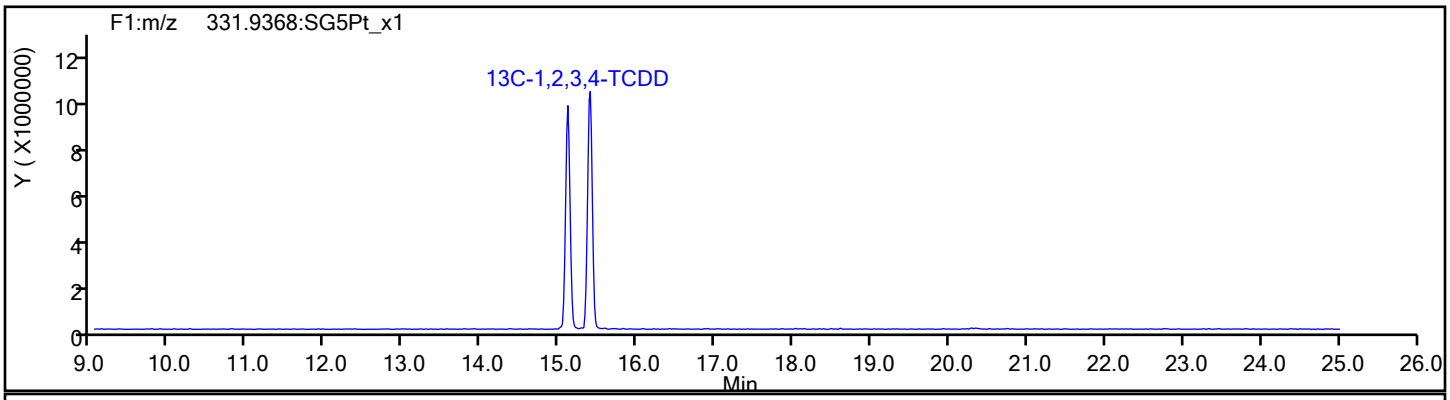

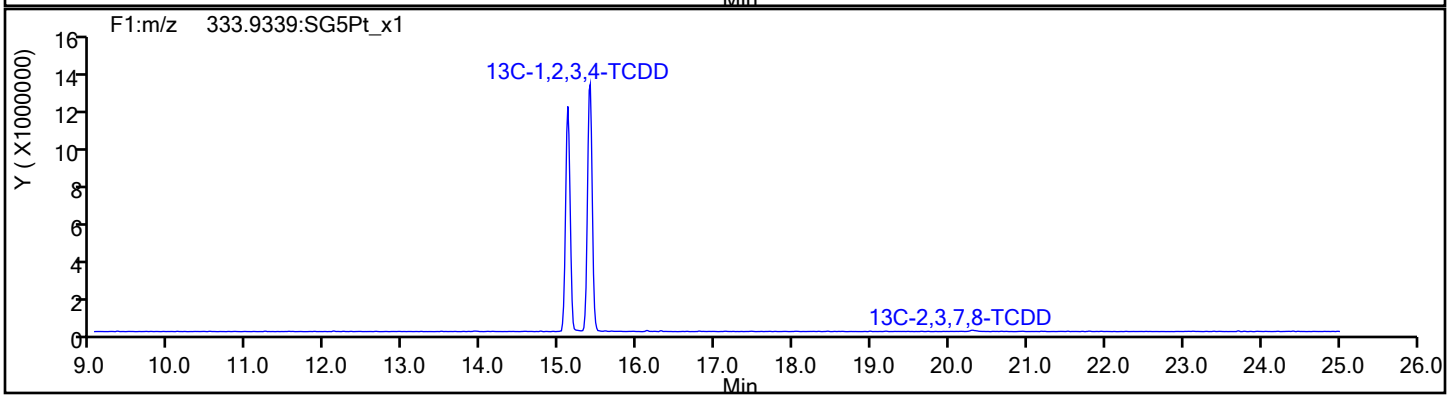

Report Date: 02-Aug-2019 11:57:05 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_008.d		
Injection Date:	02-Aug-2019 06:03:41	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	8
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

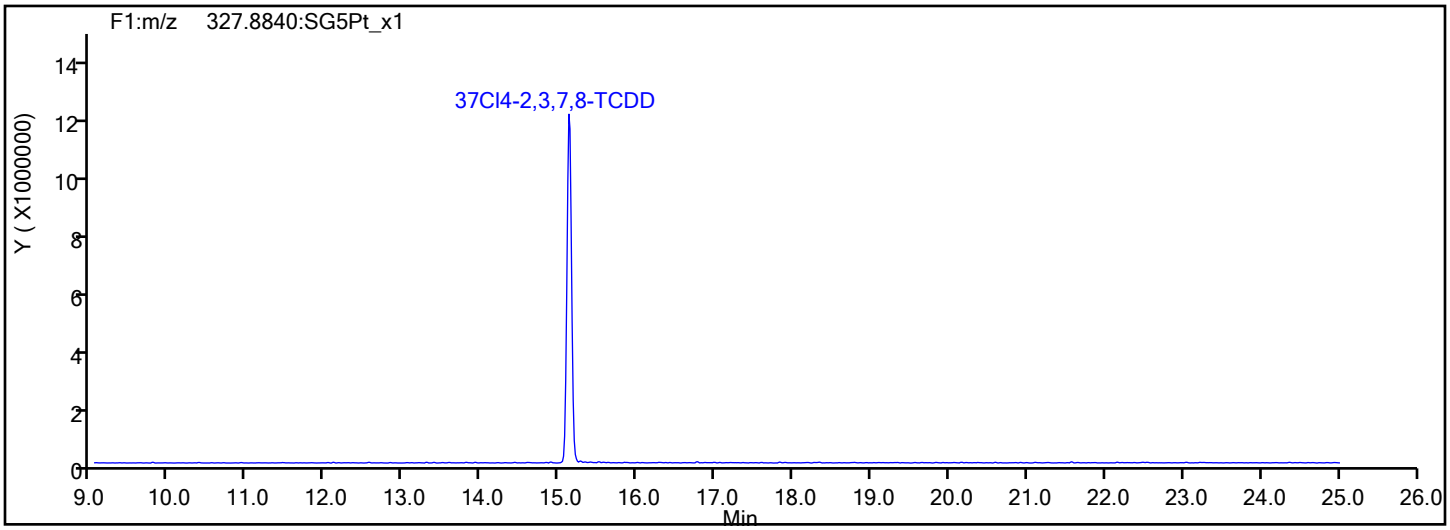

37Cl4-TCDD Standards

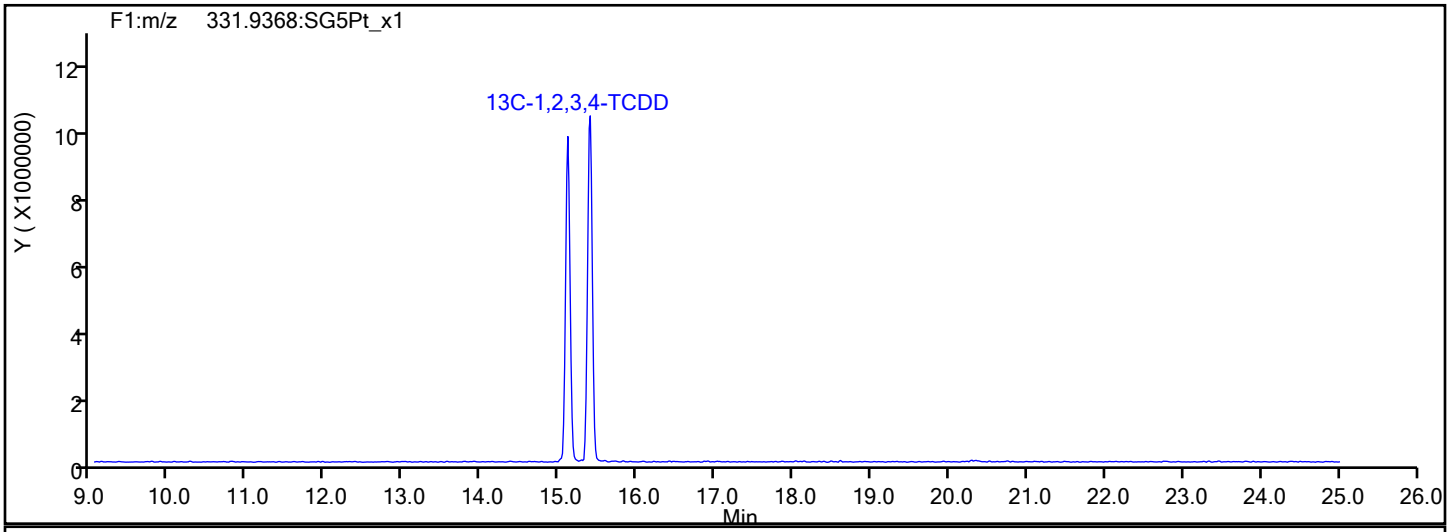

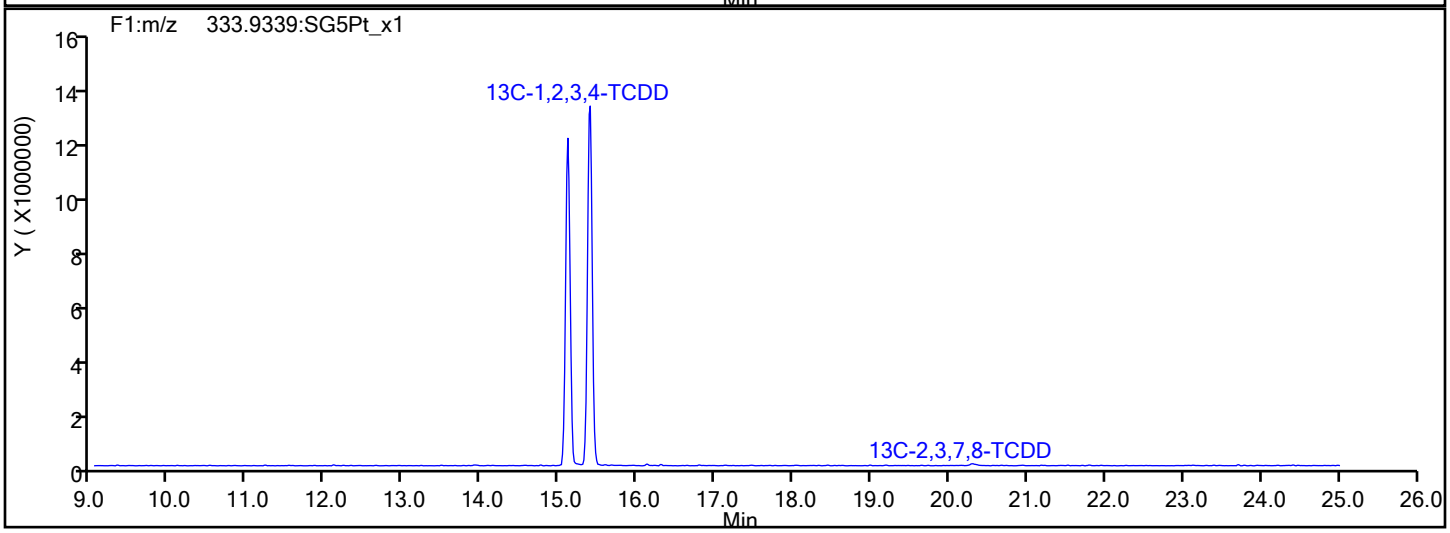

Report Date: 02-Aug-2019 11:57:05 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_008.d		
Injection Date:	02-Aug-2019 06:03:41	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	8
Column Type:	DB-225	Column Dia:	0.32 mm

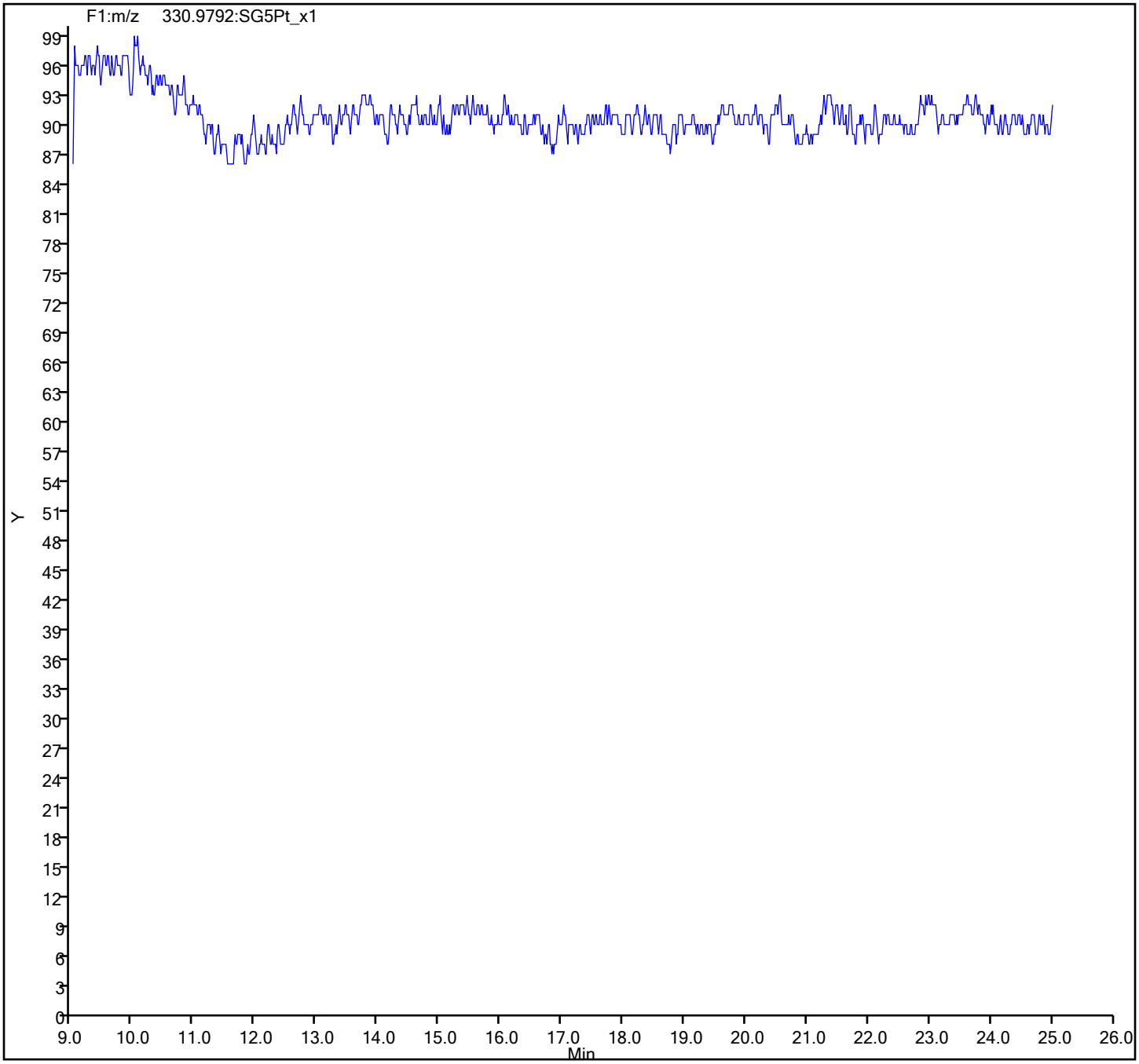

FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Lab Sample ID: CCV 320-330473/2 Calibration Date: 10/11/2019 16:05

Instrument ID: 11D2 Calib Start Date: 08/02/2019 02:52

GC Column: DB-225 ID: 0.32(mm) Calib End Date: 08/02/2019 05:25

Lab File ID: 11OC19A11D2_002.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
2,3,7,8-TCDD	AveID	1.154	1.097		9.51	10.0	95	78-129
2,3,7,8-TCDF	AveID	0.8389	0.9218		11.0	10.0	110	84-120
13C-2,3,7,8-TCDD	Ave	0.9388	0.8664		92.3	100	92	82-121
13C-2,3,7,8-TCDF	Ave	1.338	1.335		99.8	100	100	71-140
37Cl4-2,3,7,8-TCDD	Ave	1.182	1.057		7.16	8.00	89	79-127

Data file	Smp	Work Order	Sample ID	FV-uL	Method/Matrix	Box	Size	U
11OC19A11D2	1	CPS 101119	CPS HRDXNCP_00040				1.00000	
11OC19A11D2	2	CCV 101119	CCV CS-4 HRDXNL4_00084				1.00000	
11OC19A11D2	3	SB 101119	SB Solvent Blank C-14				1.00000	
11OC19A11D2	4	320-329339	320-54852-A-3-A	20	1613B/Water	D98	1.00000	L
11OC19A11D2	5	320-329339	320-54852-A-1-A	20	1613B/Water		1.00000	L
11OC19A11D2	6	320-329339	320-54852-A-2-A	20	1613B/Water		1.00000	L
11OC19A11D2	7	SB 101119A	SB Solvent Blank C-14				1.00000	
11OC19A11D2	8						1.00000	
11OC19A11D2	9						1.00000	
11OC19A11D2	10						1.00000	
11OC19A11D2	11						1.00000	
11OC19A11D2	12						1.00000	
11OC19A11D2	13						1.00000	
11OC19A11D2	14		KSS, AJS 10-11-19				1.00000	
11OC19A11D2	15						1.00000	

logfile checked
10-11-19 ALM

Peak Locate Examination:11-OCT-2019:15:26 File:11OC19A11D2
Experiment:DB225RES Function:1 Reference:PFK

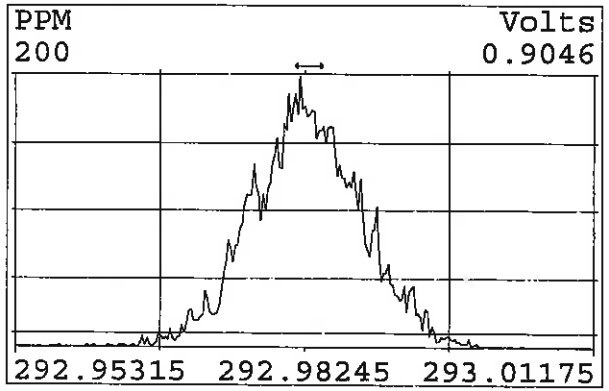

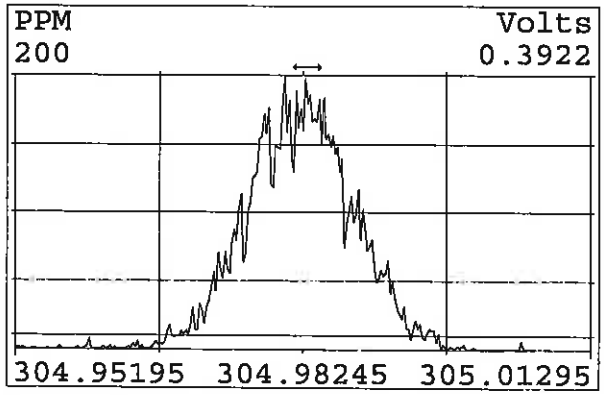

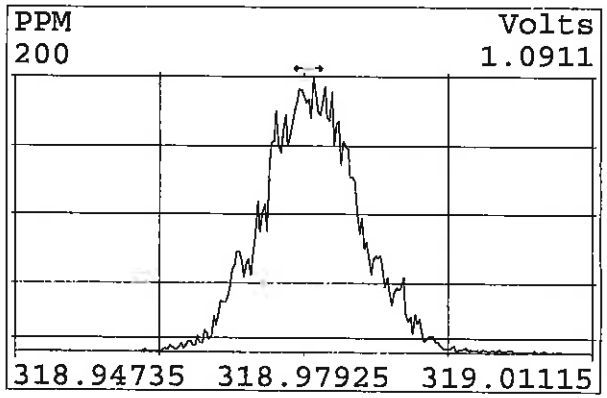

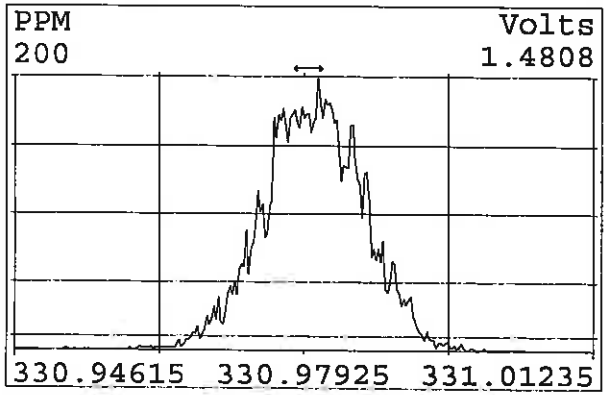

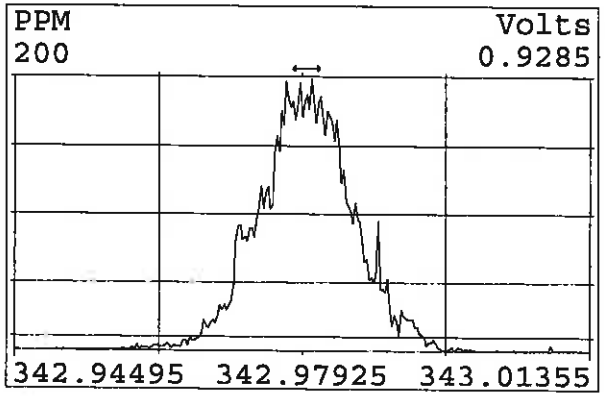

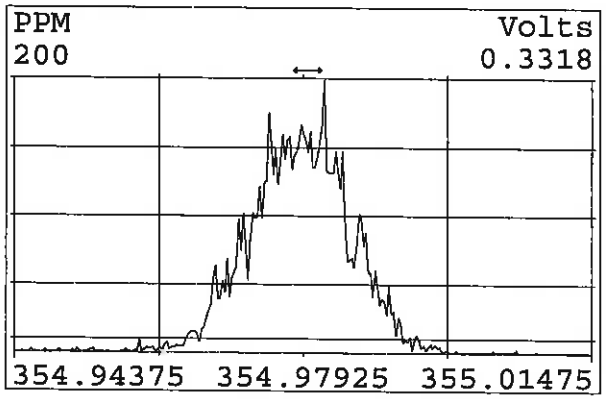

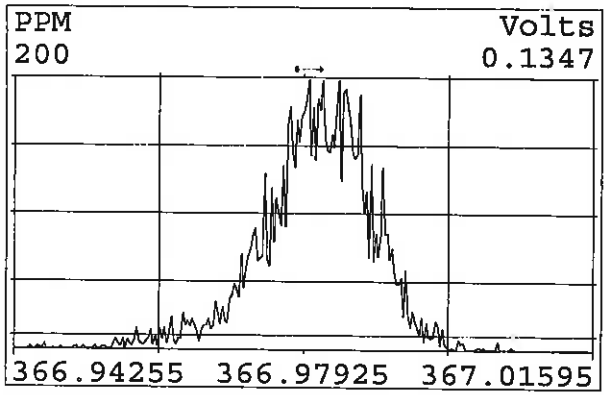

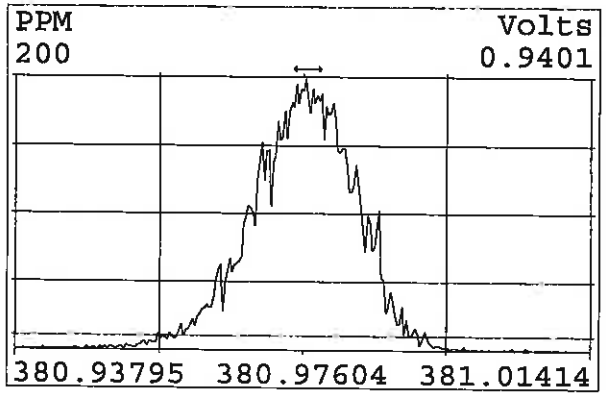

Peak Locate Examination:11-OCT-2019:20:12 File:RESCHK11OC19A11D2
Experiment:DB225RES Function:1 Reference:PFK

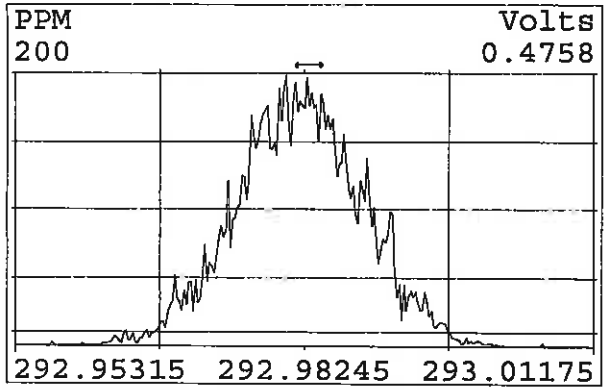

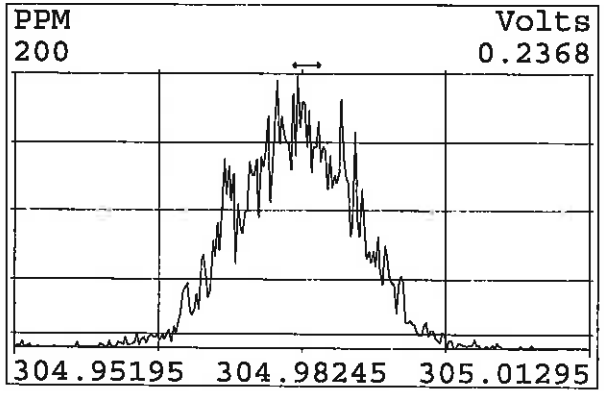

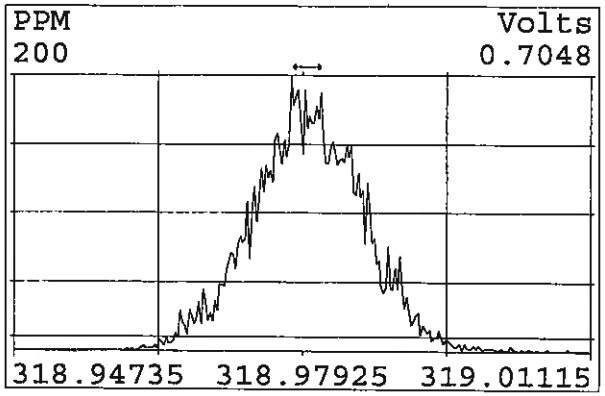

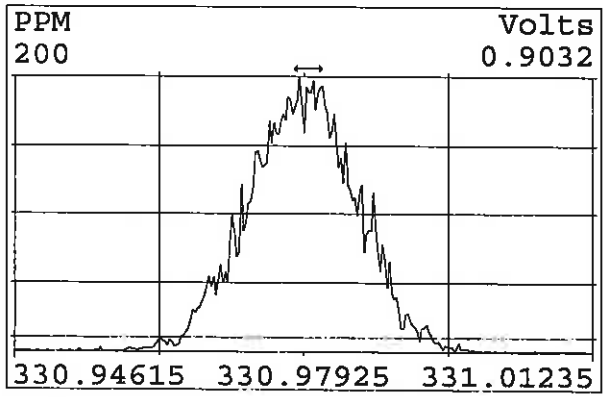

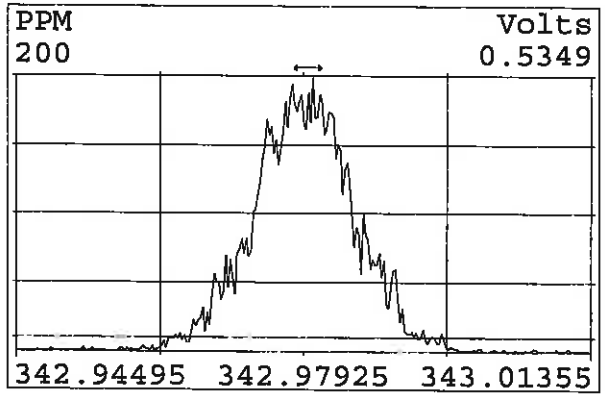

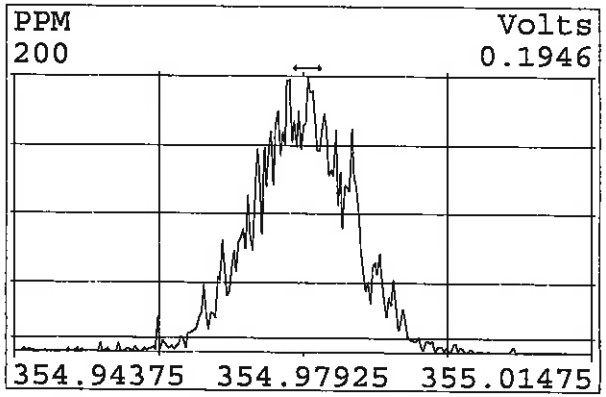

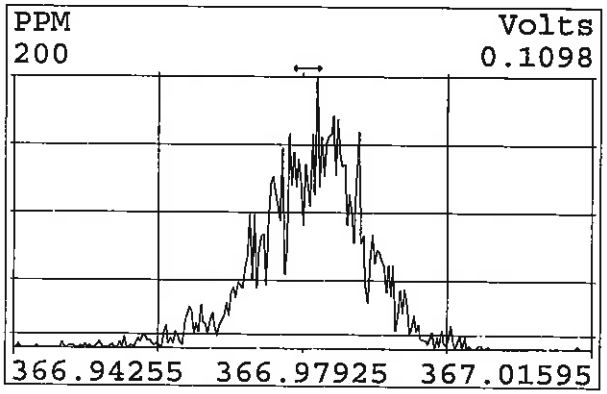

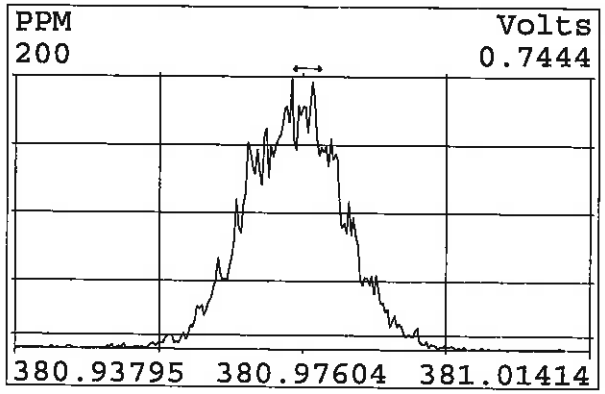

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20191011-84792.b\11OC19A11D2_002.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 11-Oct-2019 16:05:40 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV CS-4 HRDXNL4_00084
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20191011-84792.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 11-Oct-2019 20:37:40 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0305

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.269	67894876	0.76	1.1E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.435	90647478	0.78	1.3379	99.8	99.8	0.3115	0.3115	99.79	
2,3,7,8-TCDF	16.449	8355623	0.77	0.8389	11.0	11.0	0.0728	0.0728	110	
D 13C-2,3,7,8-TCDD	15.036	58825446	0.78	0.9388	92.3	92.3	0.3506	0.3506	92.29	
2,3,7,8-TCDD	15.050	6453424	0.81	1.1538	9.508	9.508	0.0980	0.0980	95.08	
$ 37Cl4-2,3,7,8-TCDD	15.050	5743356		1.1816	7.159	7.159	0.0563	0.0563	89.48	
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNL4_00084 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20191011-84792.b\11OC19A11D2_002.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 11-Oct-2019 16:05:40 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV CS-4 HRDXNL4_00084
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20191011-84792.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 11-Oct-2019 20:37:40 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0305

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.269	15.269	0		29233377	6394697	13138	32845	487		
333.9339	15.269	15.269	0		38661499	8329447	6246	15615	1334	0.76(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.435	16.435	0	1.076	39740404	8215177	12676	31690	648		
317.9389	16.435	16.435	0	1.076	50907074	10142351	11872	29680	854	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.449	16.449	0	1.001	3636654	712554	1579	3947	451		
305.8987	16.463	16.449	1	1.002	4718969	848809	2907	7267	292	0.77(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.036	15.036	0	0.985	25719497	5536956	13138	32845	421		
333.9339	15.036	15.036	0	0.985	33105949	7149315	6246	15615	1145	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.050	15.050	0	1.001	2882355	605212	3780	9450	160		
321.8936	15.050	15.050	0	1.001	3571069	762998	1961	4902	389	0.81(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.050	15.050	0	0.986	5743356	1177987	3918	9795	301		
Total 2378-Chlorinated Dioxins & Furans											
		0.0	0								

Reagents:

HRDXNL4_00084 Amount Added: 2.00 Units: uL

Report Date: 11-Oct-2019 20:37:41 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191011-84792.b\11OC19A11D2_002.d		
Injection Date:	11-Oct-2019 16:05:40	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330473	Sample Line#:	2
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

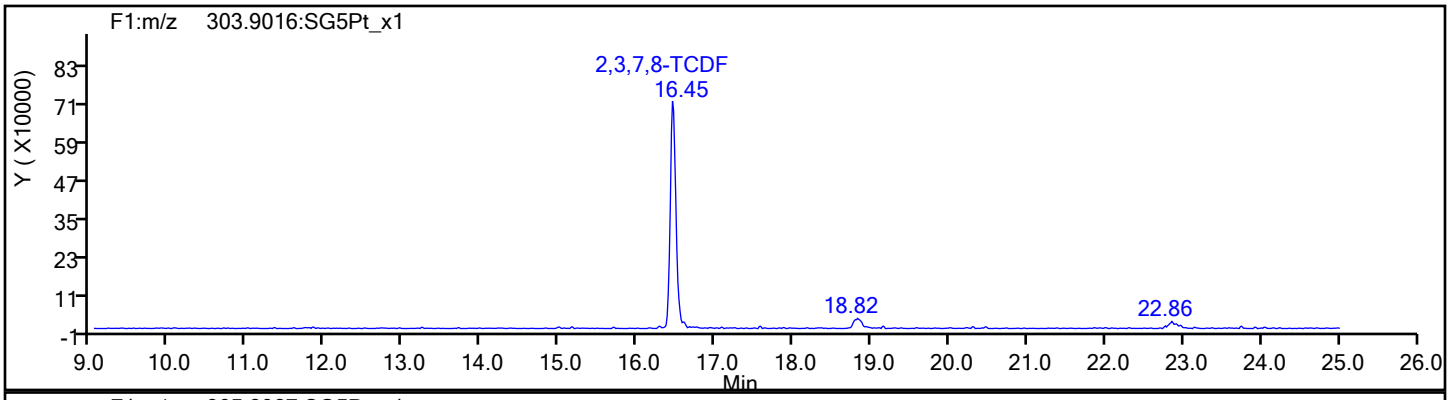

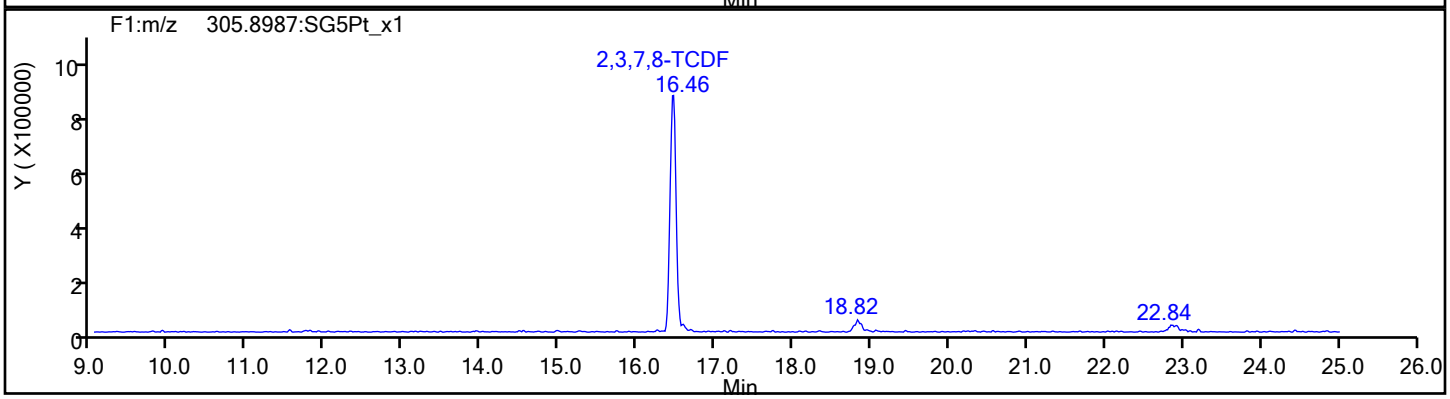

TCDF Standards

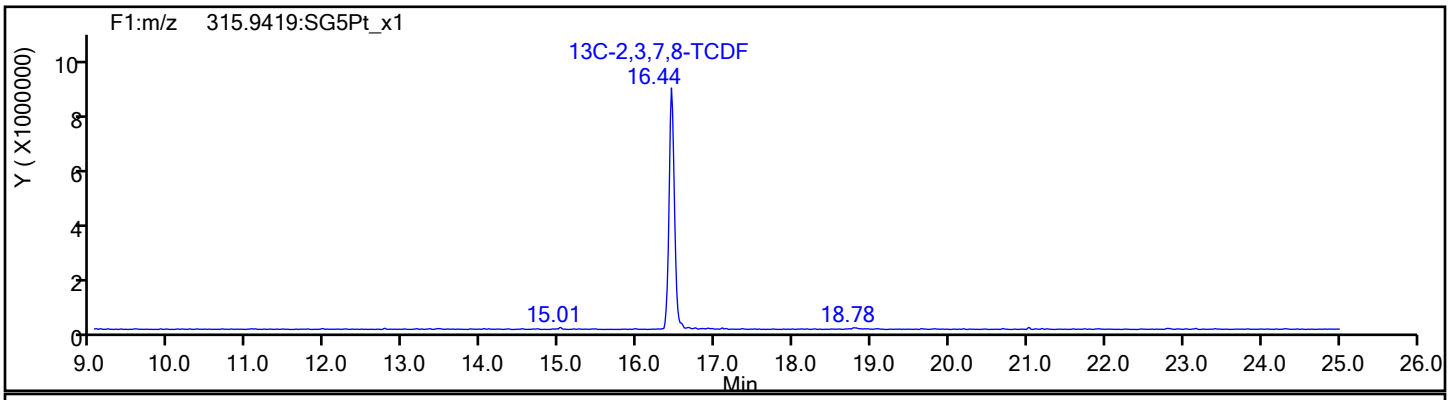

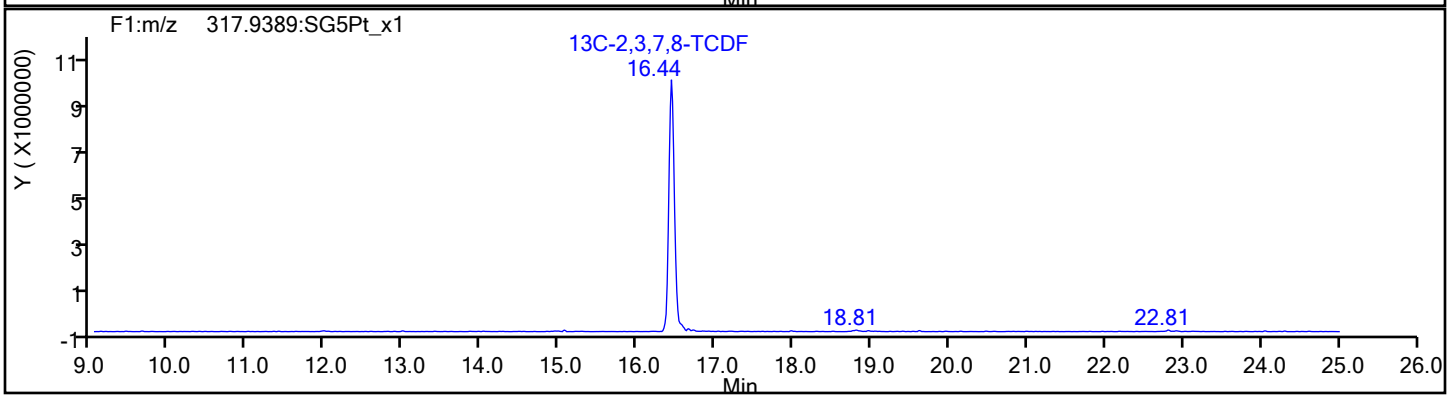

Report Date: 11-Oct-2019 20:37:41 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191011-84792.b\11OC19A11D2_002.d		
Injection Date:	11-Oct-2019 16:05:40	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330473	Sample Line#:	2
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

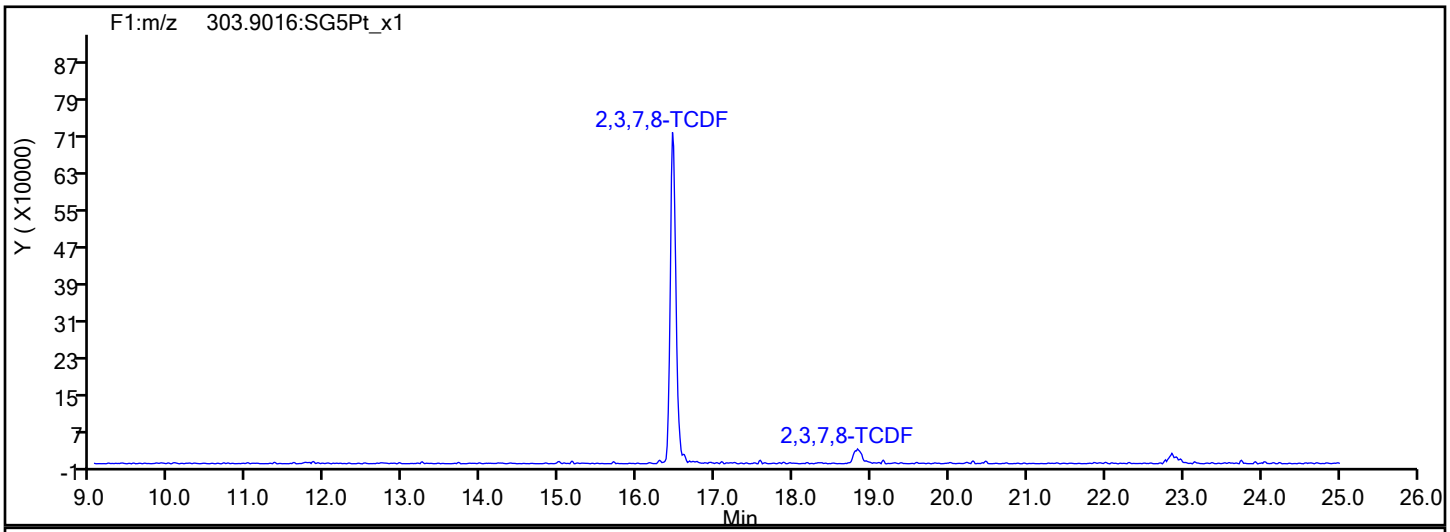

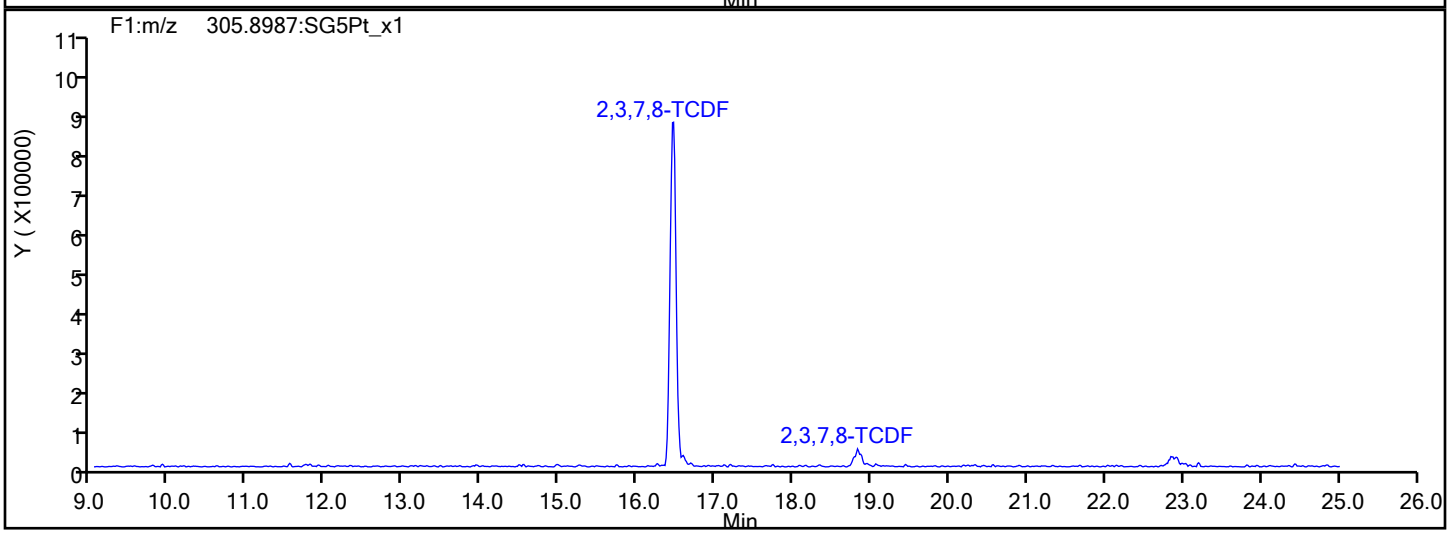

TCDF Interference Mass

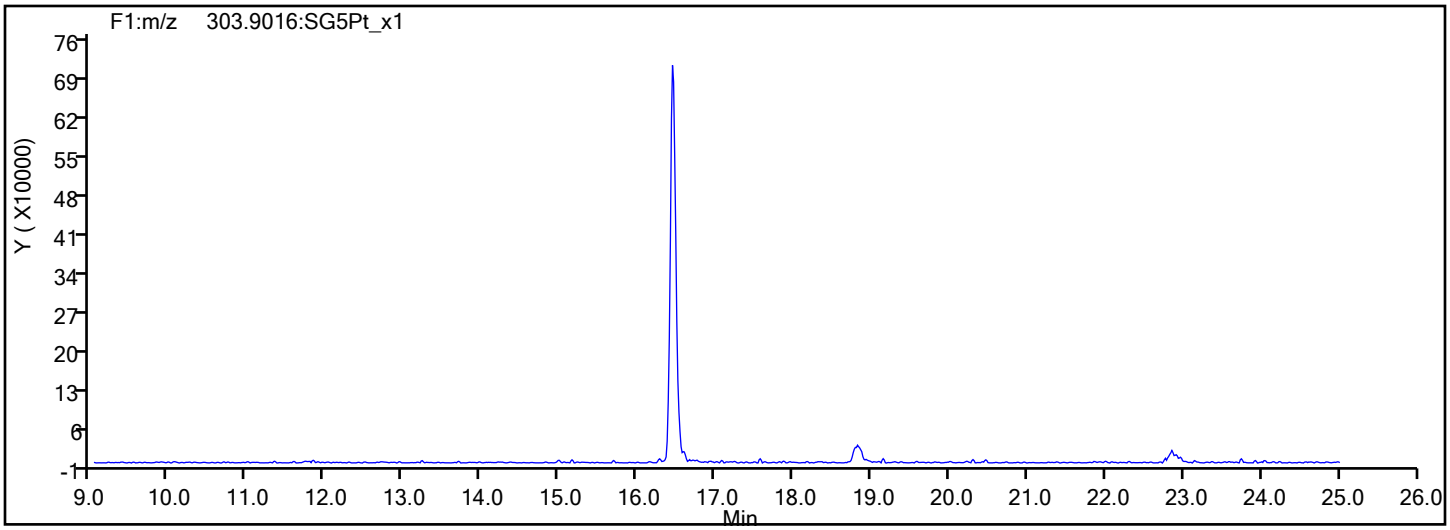

Report Date: 11-Oct-2019 20:37:41 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191011-84792.b\11OC19A11D2_002.d		
Injection Date:	11-Oct-2019 16:05:40	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330473	Sample Line#:	2
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

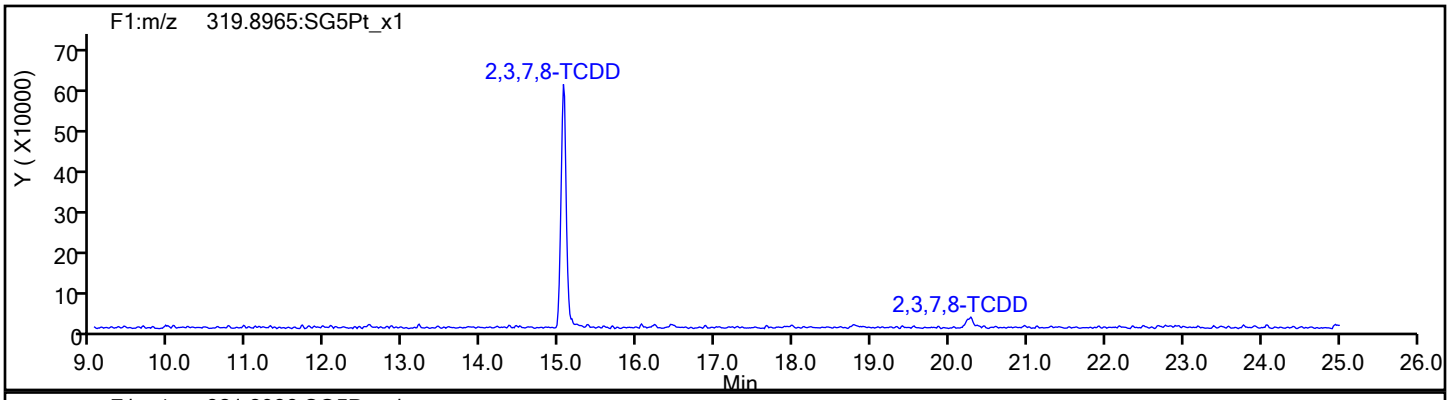

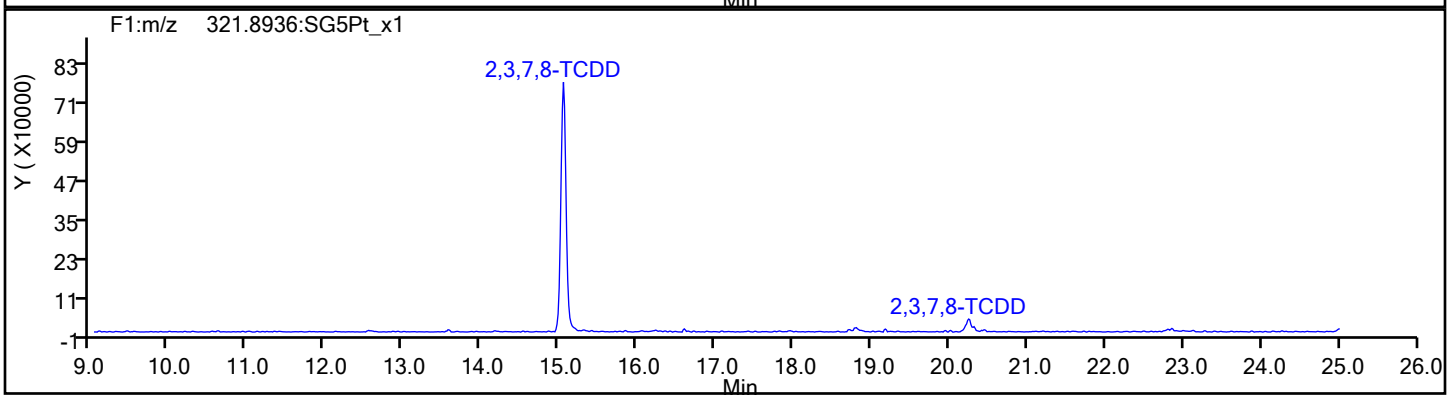

TCDD Standards

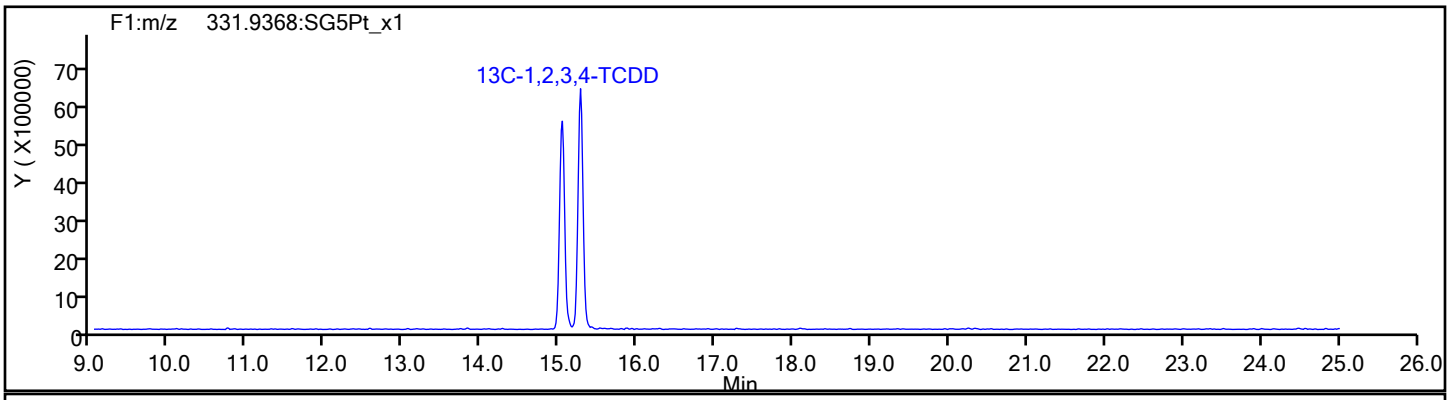

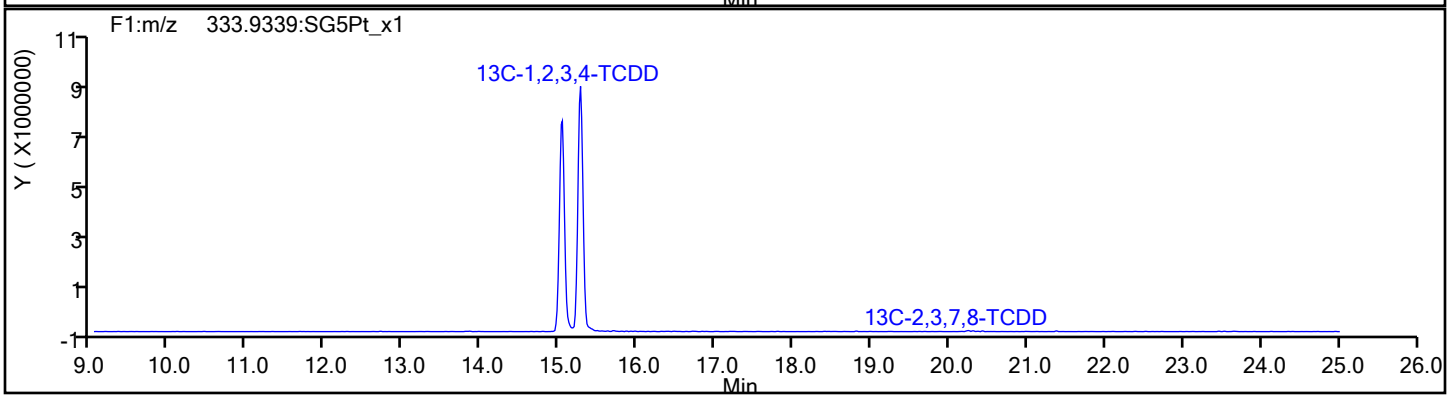

Report Date: 11-Oct-2019 20:37:41 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191011-84792.b\11OC19A11D2_002.d		
Injection Date:	11-Oct-2019 16:05:40	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330473	Sample Line#:	2
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

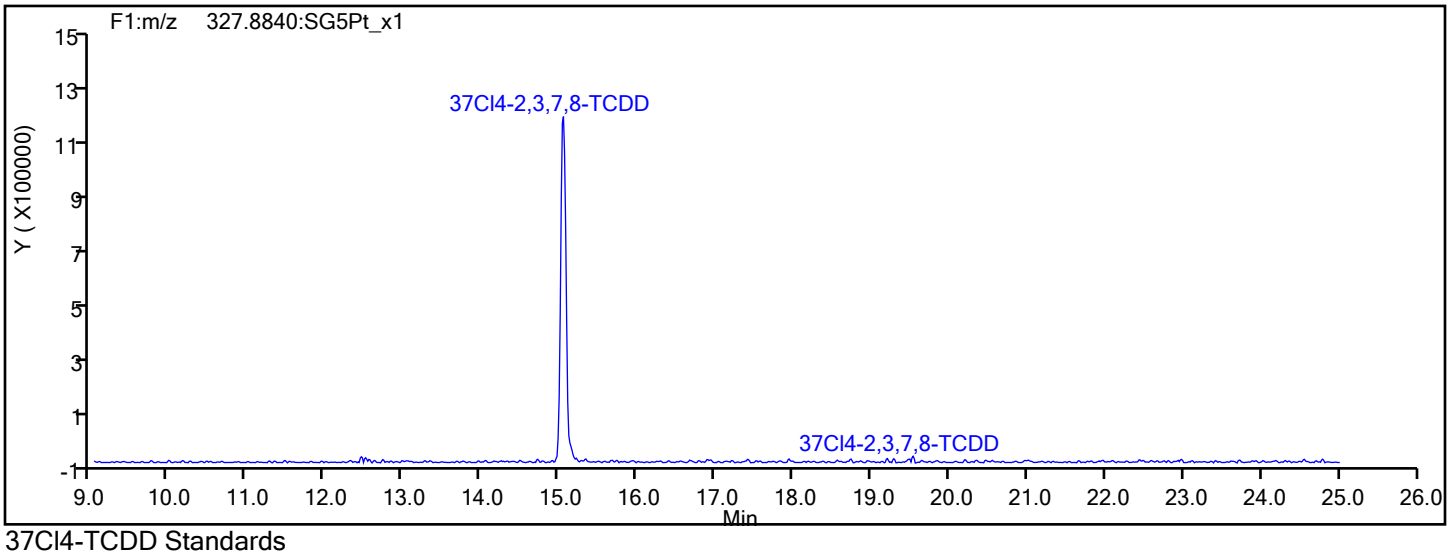

37Cl4-TCDD Standards

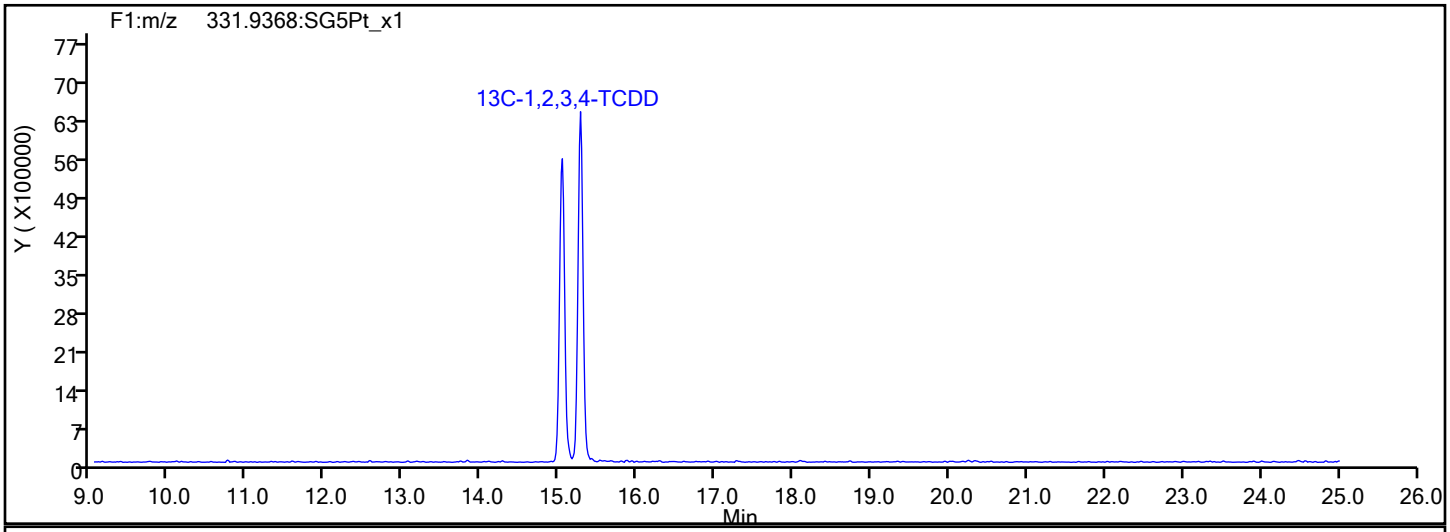

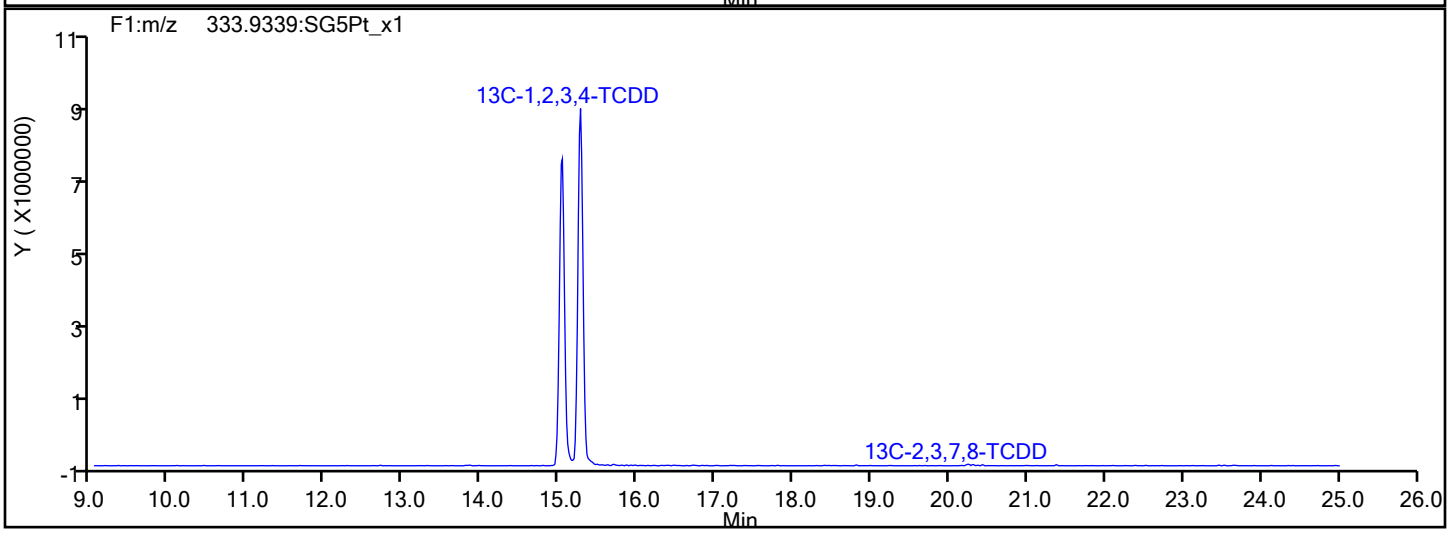

Report Date: 11-Oct-2019 20:37:41 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191011-84792.b\11OC19A11D2_002.d		
Injection Date:	11-Oct-2019 16:05:40	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330473	Sample Line#:	2
Column Type:	DB-225	Column Dia:	0.32 mm

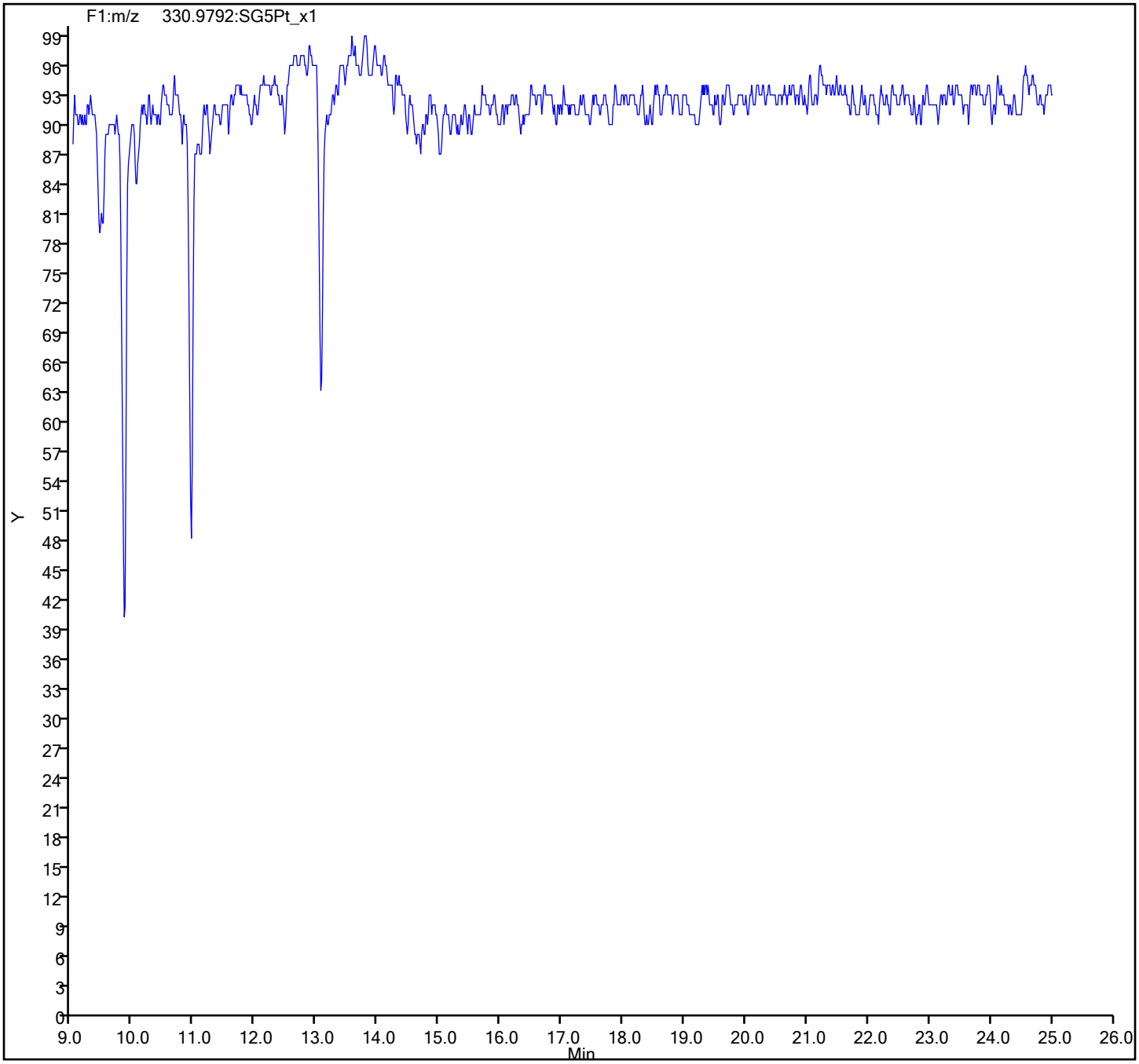

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 17-Sep-2019 11:28:41 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 091719 WDM HRDXNCP_00038
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:18:43 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 18-Sep-2019 10:13:54

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	16.801	74367795	0.80	1.4384					0.00	
2,3,7,8-TCDF	16.831	156834377	0.79	1.0507	80.3	80.3	0.2541	0.2541		
A Non-2,3,7,8-sub-TCDF	16.536	2055813	0.78	1.0507	1.052	1.052	0.2541	1.052		
S Total TCDF					81.3	81.3	0.2541	0.2541		
D 13C-2,3,7,8-TCDD	17.481	45805066	0.76	0.9533					0.00	
2,3,7,8-TCDD	17.512	50150496	0.80	1.1064	39.6	39.6	0.2281	0.2281		
A Non-2,3,7,8-sub-TCDD	16.967						0.2281	0.2281		
S Total TCDD					39.6	39.6	0.2281	0.2281		
A F1 PeCDFs	19.213						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	22.240	1178726	1.55	0.0000						RQ
S Total PeCDF										RQ
A Non-2,3,7,8-sub-PeCDD	22.586						0.0	0.0		
S Total PeCDD										
A Non-2,3,7,8-sub-HxCDF	29.523	507819	1.21	0.0000						
S Total HxCDF										
A Non-2,3,7,8-sub-HxCDD	30.122						0.0	0.0		
S Total HxCDD										
1,2,3,4,6,7,8-HpCDF	33.472	47694823	1.04	1.5555						
1,2,3,4,7,8,9-HpCDF	34.517	39534106	1.05	1.3862						
A Non-2,3,7,8-sub-HpCDF	33.994						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	34.237	29636099	1.06	0.9316						
A Non-2,3,7,8-sub-HpCDD	34.747						0.0	0.0		
S Total HpCDD										
1,3,6,8-TCDF	14.488	89161286	0.78							
1,3,6,8-TCDD	15.365	54383612	0.79							
2,3,4,7-TCDF	16.831	156834377	0.79							
1,2,3,7-TCDD	17.391	45444920	0.79							
1,2,3,9-TCDF	17.663	66087659	0.78							
1,2,3,9-TCDD	17.663	54421114	0.81							

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,8,9-TCDD	18.570	21836286								
1,2,8,9-TCDF	18.585	68251653	0.79							
1,3,4,6,8-PeCDF	18.842	74458412	1.55							
1,2,4,7,9-PeCDD	20.554	39318036	1.57							
1,2,3,8,9-PeCDD	24.618	35221850	1.59							
1,2,3,8,9-PeCDF	24.822	48913515	1.59							
1,2,3,4,6,8-HxCDF	26.994	55295494	1.27							
1,2,4,6,7,9-HxCDD	28.524	38980760	1.26							
1,2,3,4,6,7-HxCDD	31.719	36577416	1.24							
1,2,3,4,8,9-HxCDF	32.052	45645713	1.26							
1,2,3,4,6,7,9-HpCDD	33.703	34402979	1.05							

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNCP_00040 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 17-Sep-2019 11:28:41 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 091719 WDM HRDXNCP_00038
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:18:43 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 18-Sep-2019 10:13:54

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	16.801	16.810	-1	1.000	33117024	8540569	9349	23372	914		
317.9389	16.801	16.810	-1	1.000	41250771	10559691	5760	14400	1833	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.831	16.825	0	1.002	69083696	16415981	20767	51917	790		
305.8987	16.831	16.825	0	1.002	87750681	20749596	30221	75552	687	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	18.857	16.536	139	1.122	898473	190404	20767	51917	9		
305.8987	18.857	16.536	139	1.122	1157340	261558	30221	75552	9	0.78(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.481	17.490	-1	1.000	19801343	4630824	8865	22162	522		
333.9339	17.481	17.490	-1	1.000	26003723	6181636	6015	15037	1028	0.76(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.512	17.505	0	1.002	22347514	5318193	11305	28262	470		
321.8936	17.497	17.505	-1	1.001	27802982	6639771	15982	39955	415	0.80(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	16.967						11305	28262			
321.8936	16.967						15982	39955			
A F1 PeCDFs											
339.8597	19.213						2693	6732			
341.8567	19.213						2089	5222			
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	21.113	22.240	-67	1.000	202355	35160	5300	13250	7		
341.8567	21.113	22.240	-67	1.000	114927	17891	3855	9637	5	1.76(1.32-1.78)	
339.8597	21.645	22.240	-36	1.000	239041	34085	5300	13250	6		
341.8567	21.659	22.240	-35	1.000	131189	19977	3855	9637	5	1.82(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
339.8597	22.191	22.240	-3	1.000	315658	51688	5300	13250	10		
341.8567	22.177	22.240	-4	1.000	211255	31694	3855	9637	8	1.49(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.586						4581	11452			
357.8516	22.586						3055	7637			
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.028	29.523	30	1.000	278236	49481	8176	20440	6		
375.8178	30.042	29.523	31	1.000	229583	36177	6671	16677	5	1.21(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.122						5433	13582			
391.8127	30.122						6604	16510			
1,2,3,4,6,7,8-HpCDF											
407.7818	33.472	33.469	0	1.000	24299928	7730426	61070	152675	127		
409.7789	33.472	33.469	0	1.000	23394895	7311037	39924	99810	183	1.04(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.517	34.509	0	1.000	20253287	5933051	61070	152675	97		
409.7789	34.517	34.509	0	1.000	19280819	5509190	39924	99810	138	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.994						61070	152675			
409.7789	33.994						39924	99810			
1,2,3,4,6,7,8-HpCDD											
423.7766	34.237	34.235	0	1.000	15256366	4663971	35304	88260	132		
425.7737	34.237	34.235	0	1.000	14379733	4409600	34613	86532	127	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.747						35304	88260			
425.7737	34.747						34613	86532			
1,3,6,8-TCDF											
303.9016	14.488	14.488	0		39118253	12838055	20767	51917	618		
305.8987	14.488	14.488	0		50043033	16128115	30221	75552	534	0.78(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	15.365	15.365	0		24059145	7321607	11305	28262	648		
321.8936	15.365	15.365	0		30324467	9231636	15982	39955	578	0.79(0.65-0.89)	
2,3,4,7-TCDF											
303.9016	16.831	16.831	0		69083696	16415981	20767	51917	790		
305.8987	16.831	16.831	0		87750681	20749596	30221	75552	687	0.79(0.65-0.89)	
1,2,3,7-TCDD											
319.8965	17.391	17.391	0		20069259	5099643	11305	28262	451		
321.8936	17.391	17.391	0		25375661	6343382	15982	39955	397	0.79(0.65-0.89)	
1,2,3,9-TCDF											
303.9016	17.663	17.663	0		29002988	7032027	20767	51917	339		
305.8987	17.663	17.663	0		37084671	8886704	30221	75552	294	0.78(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	17.663	17.663	0		24424977	5852364	11305	28262	518		
321.8936	17.663	17.663	0		29996137	7085191	15982	39955	443	0.81(0.65-0.89)	
1,2,8,9-TCDD											
319.8965	18.570	18.570	0		21836286	4950341	11305	28262	438		

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24
Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,8,9-TCDF											
303.9016	18.585	18.585	0		30191180	6742364	20767	51917	325		
305.8987	18.570	18.585	-1		38060473	8553075	30221	75552	283	0.79(0.65-0.89)	
1,3,4,6,8-PeCDF											
339.8597	18.842	18.842	0		45288053	10371829	2693	6732	3851		
341.8567	18.842	18.842	0		29170359	6722620	2089	5222	3218	1.55(1.32-1.78)	
1,2,4,7,9-PeCDD											
355.8546	20.554	20.554	0		24016179	4397141	4581	11452	960		
357.8516	20.554	20.554	0		15301857	2775727	3055	7637	909	1.57(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	24.618	24.618	0		21631397	3212377	4581	11452	701		
357.8516	24.604	24.618	-1		13590453	2031351	3055	7637	665	1.59(1.32-1.78)	
1,2,3,8,9-PeCDF											
339.8597	24.822	24.822	0		30054464	4482222	5300	13250	846		
341.8567	24.822	24.822	0		18859051	2839059	3855	9637	736	1.59(1.32-1.78)	
1,2,3,4,6,8-HxCDF											
373.8208	26.994	26.994	0		30936266	4258539	8176	20440	521		
375.8178	26.994	26.994	0		24359228	3386340	6671	16677	508	1.27(1.05-1.43)	
1,2,4,6,7,9-HxCDD											
389.8157	28.524	28.524	0		21762419	2707092	5433	13582	498		
391.8127	28.511	28.524	-1		17218341	2108446	6604	16510	319	1.26(1.05-1.43)	
1,2,3,4,6,7-HxCDD											
389.8157	31.719	31.719	0		20281545	5118478	5433	13582	942		
391.8127	31.719	31.719	0		16295871	4102330	6604	16510	621	1.24(1.05-1.43)	
1,2,3,4,8,9-HxCDF											
373.8208	32.052	32.052	0		25462999	6697653	8176	20440	819		
375.8178	32.052	32.052	0		20182714	5358635	6671	16677	803	1.26(1.05-1.43)	
1,2,3,4,6,7,9-HpCDD											
423.7766	33.703	33.703	0		17582544	5481736	35304	88260	155		
425.7737	33.703	33.703	0		16820435	5298193	34613	86532	153	1.05(0.88-1.20)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Reagents:

HRDXNCP_00040 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d
Lims ID: WDM
Client ID:
Inject. Date: 17-Sep-2019 11:28:41 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 324128 Lims Sample ID: 1

Non-2,3,7,8-sub-TCDF, RT: 16.536

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.051	D 13C-2,3,7,8-TCDF	40.000	74367795	19100260

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.051		40.000	74367795	19100260

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
18.857	898473	190404	1157340	261558	1.05	0.78	
Signal Totals:							
	898473	190404	1157340	261558			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2055813	451962				0.78	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.052 = (2055813 * 40.000) / (74367795 * 1.051)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d
Lims ID: WDM
Client ID:
Inject. Date: 17-Sep-2019 11:28:41 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 324128 Lims Sample ID: 1

Non-2,3,7,8-sub-PeCDF, RT: 22.240

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.082				
2,3,4,7,8-PeCDF	1.103				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
21.113	202355	35160	114927	17891		1.76	
21.645	239041	34085	131189	19977		1.82	R
22.191	315658	51688	211255	31694		1.49	
Signal Totals:							
	757054	120933	457371	69562			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1214425	190495				1.66	RQ
	1178726	187374					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (1214425 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (1178726 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d
Lims ID: WDM
Client ID:
Inject. Date: 17-Sep-2019 11:28:41 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 324128 Lims Sample ID: 1

Non-2,3,7,8-sub-HxCDF, RT: 29.523

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.197				
1,2,3,6,7,8-HxCDF	1.181				
2,3,4,6,7,8-HxCDF	1.212				
1,2,3,7,8,9-HxCDF	1.245				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
30.028	278236	49481	229583	36177		1.21	
Signal Totals:							
	278236	49481	229583	36177			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	507819	85658				1.21	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (507819 * 0.0) / (0 * 0.000)

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d		
Injection Date:	17-Sep-2019 11:28:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

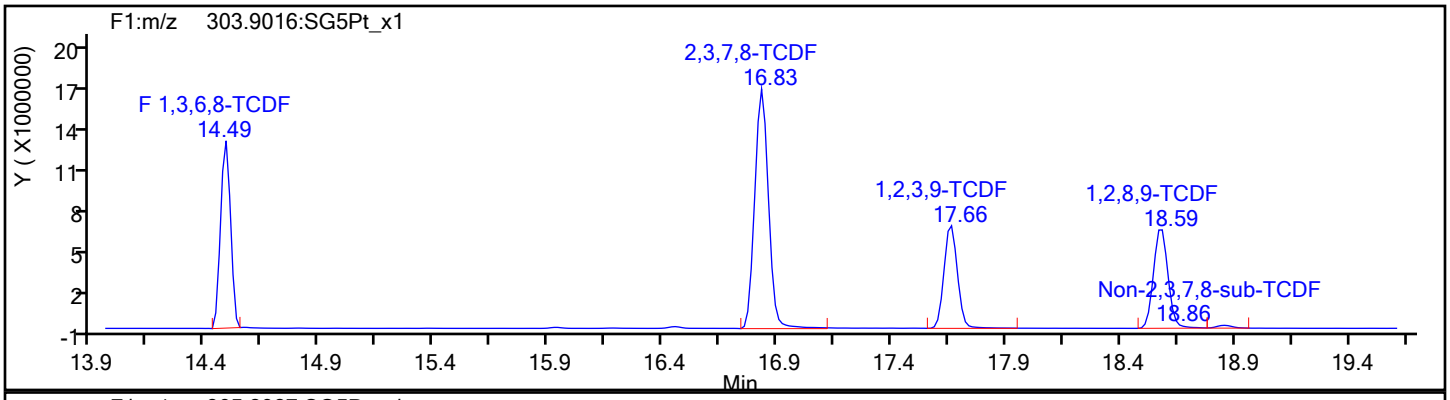

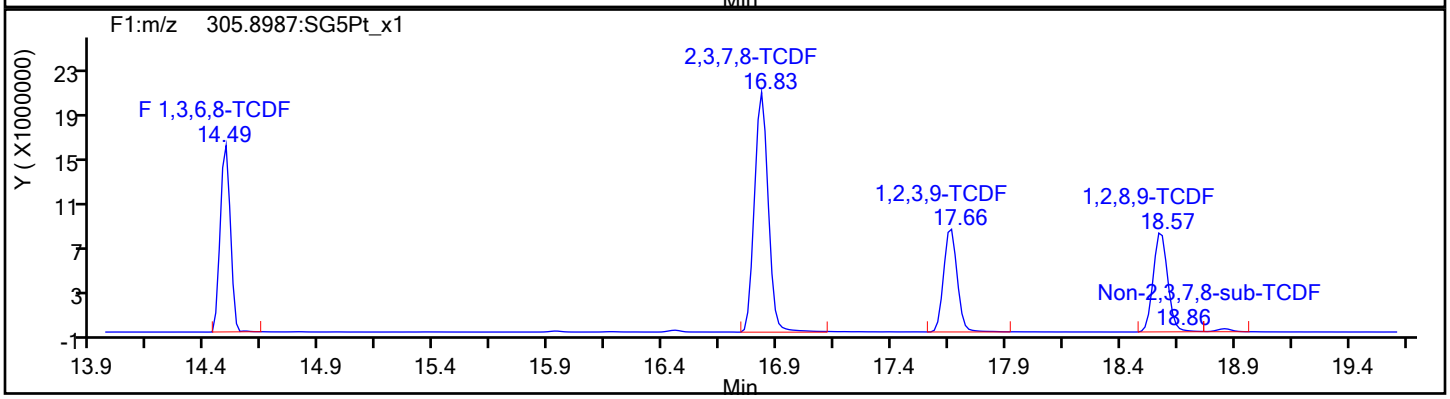

TCDF Standards

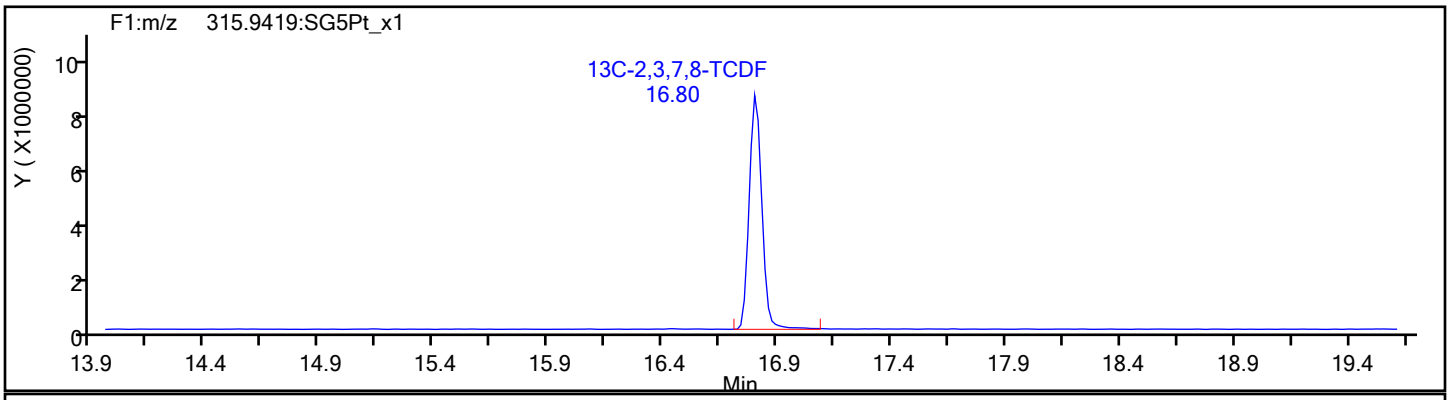

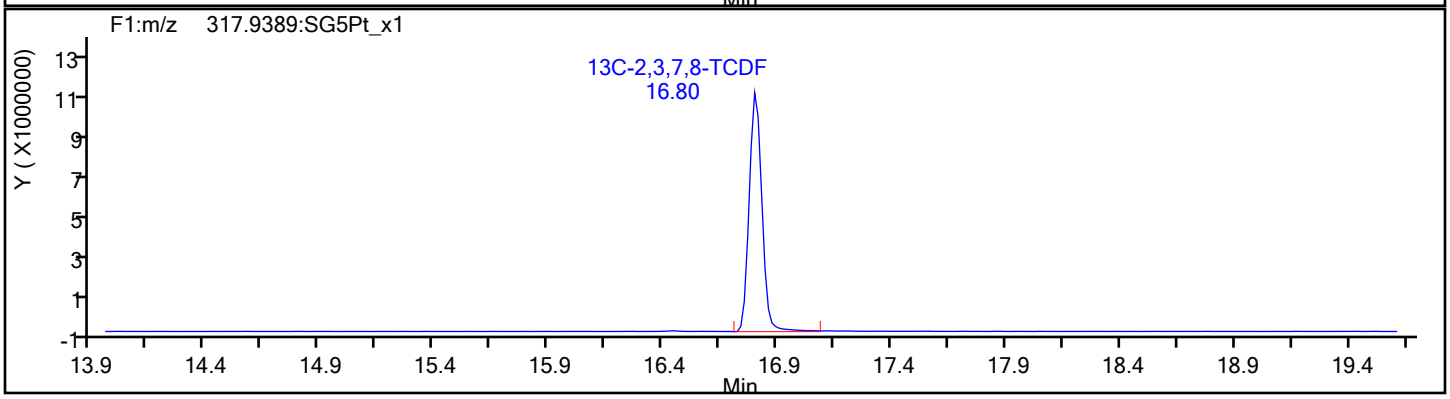

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d		
Injection Date:	17-Sep-2019 11:28:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

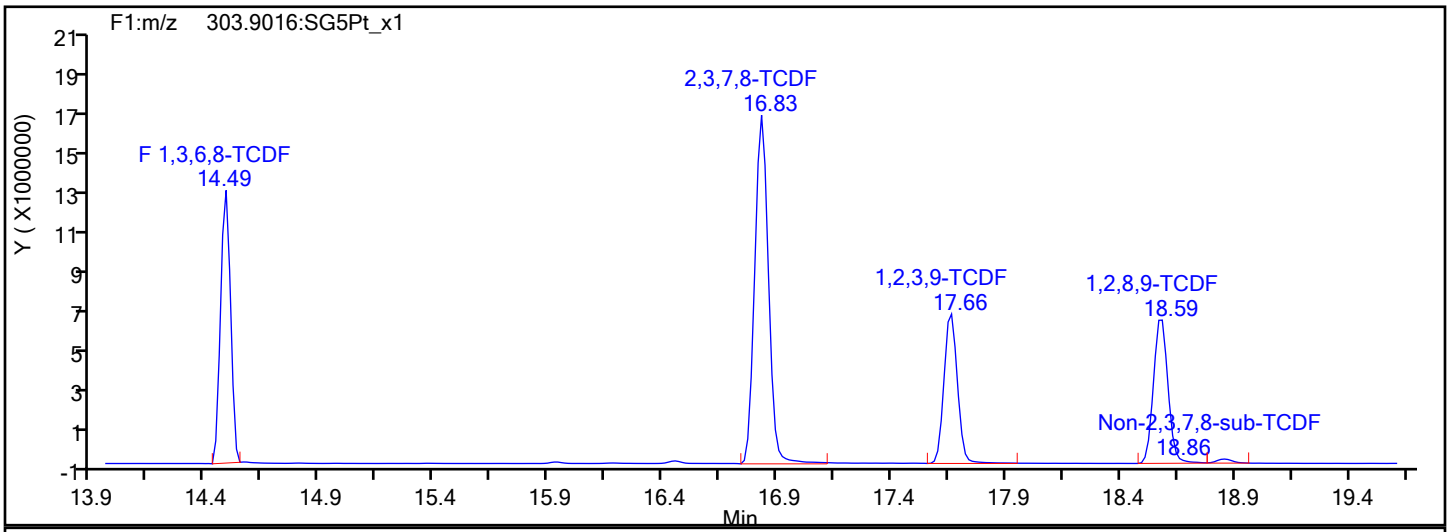

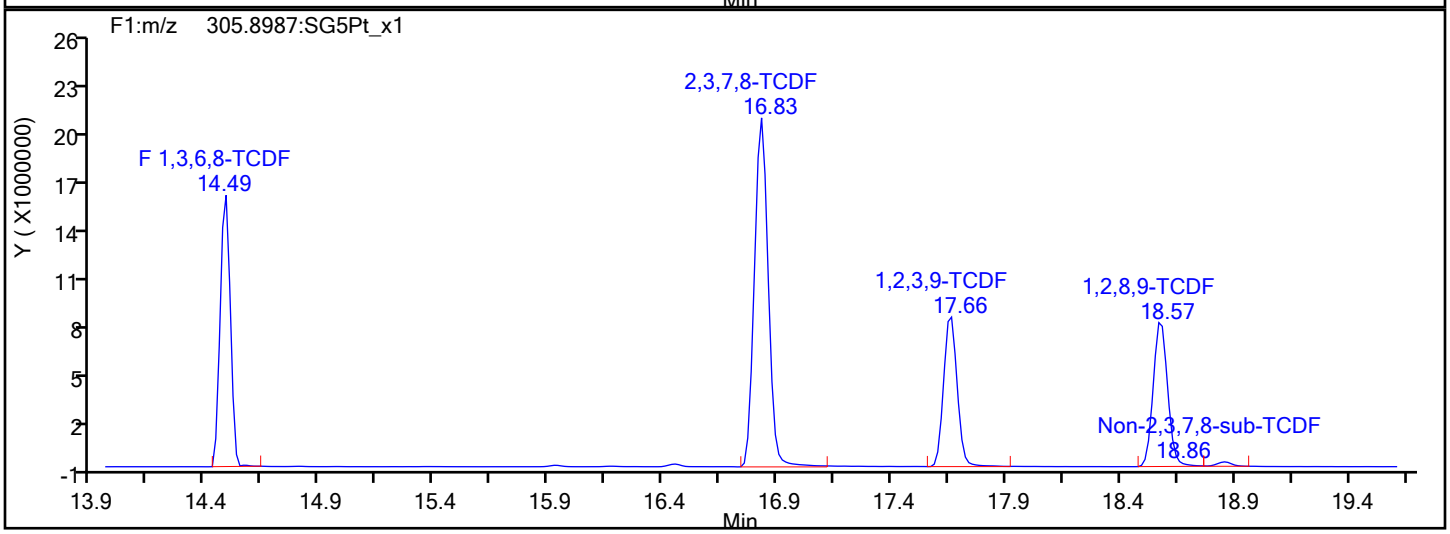

TCDF Interference Mass

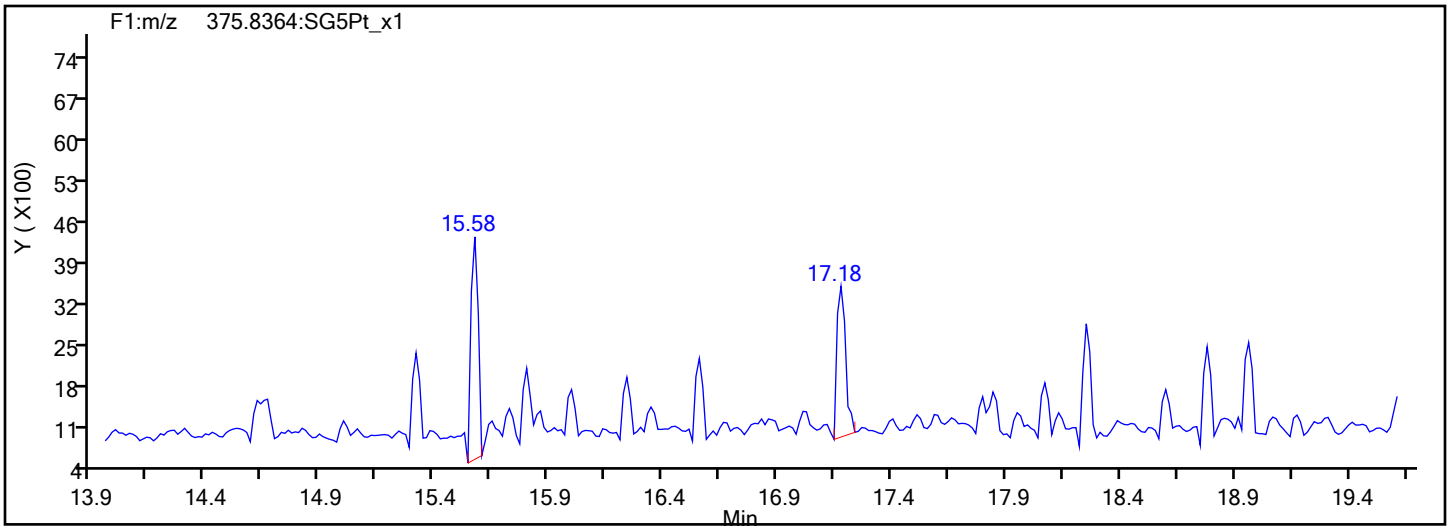

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d		
Injection Date:	17-Sep-2019 11:28:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

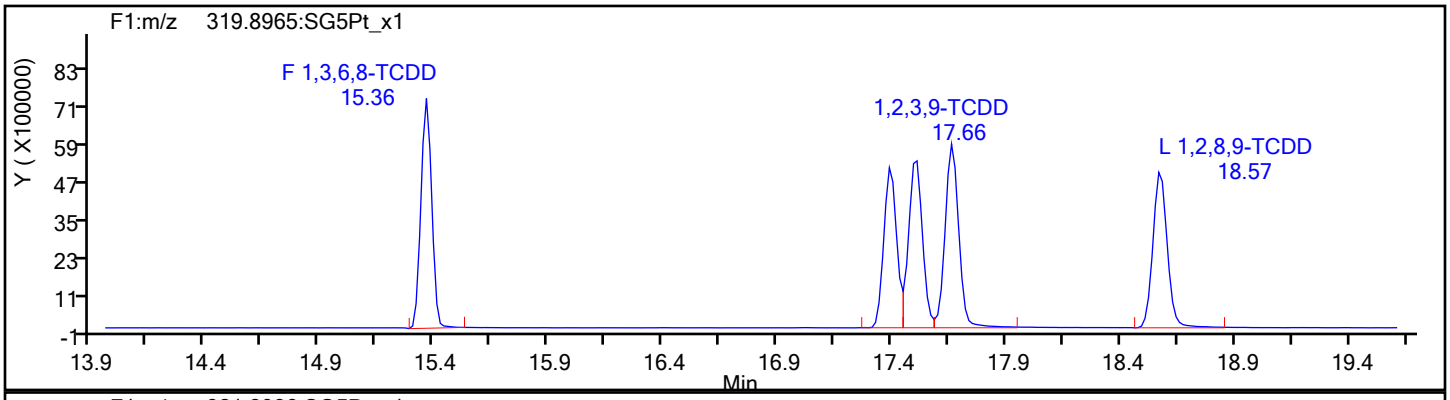

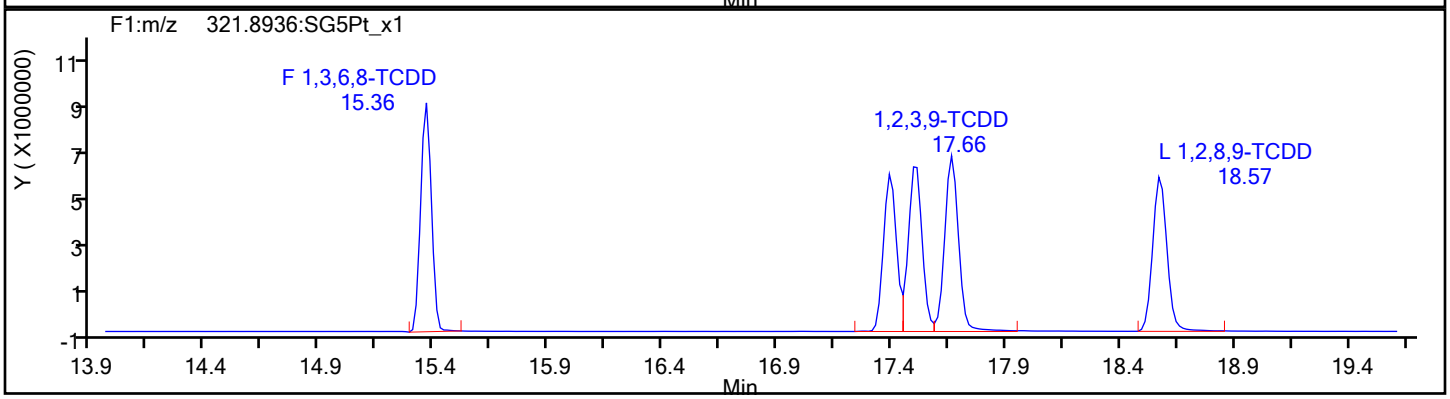

TCDD Standards

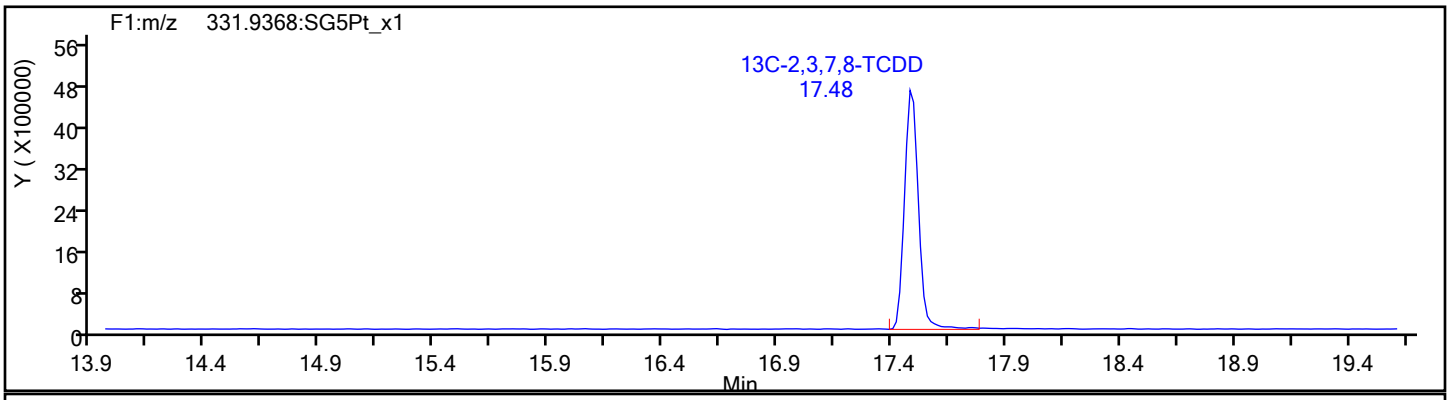

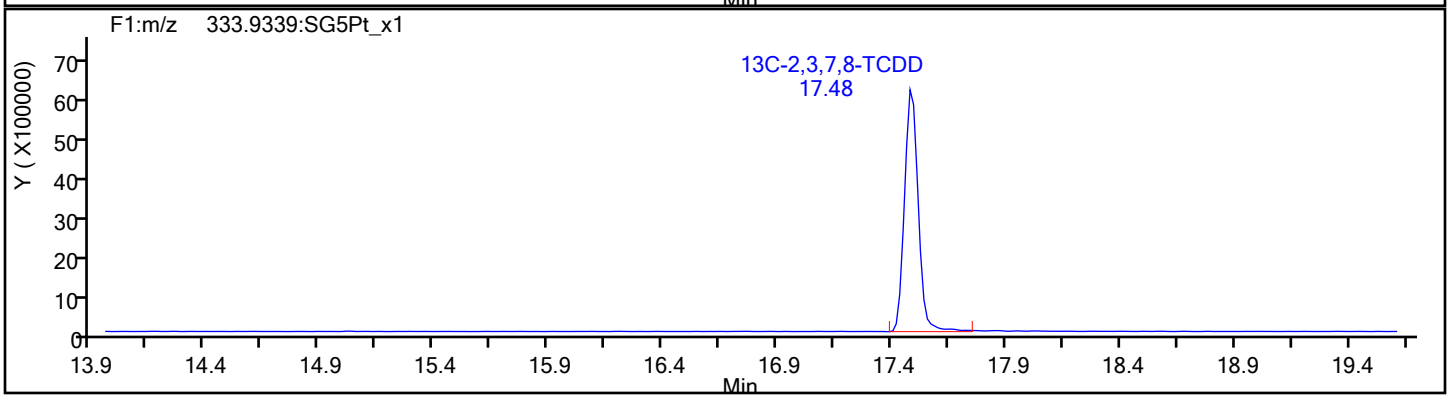

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

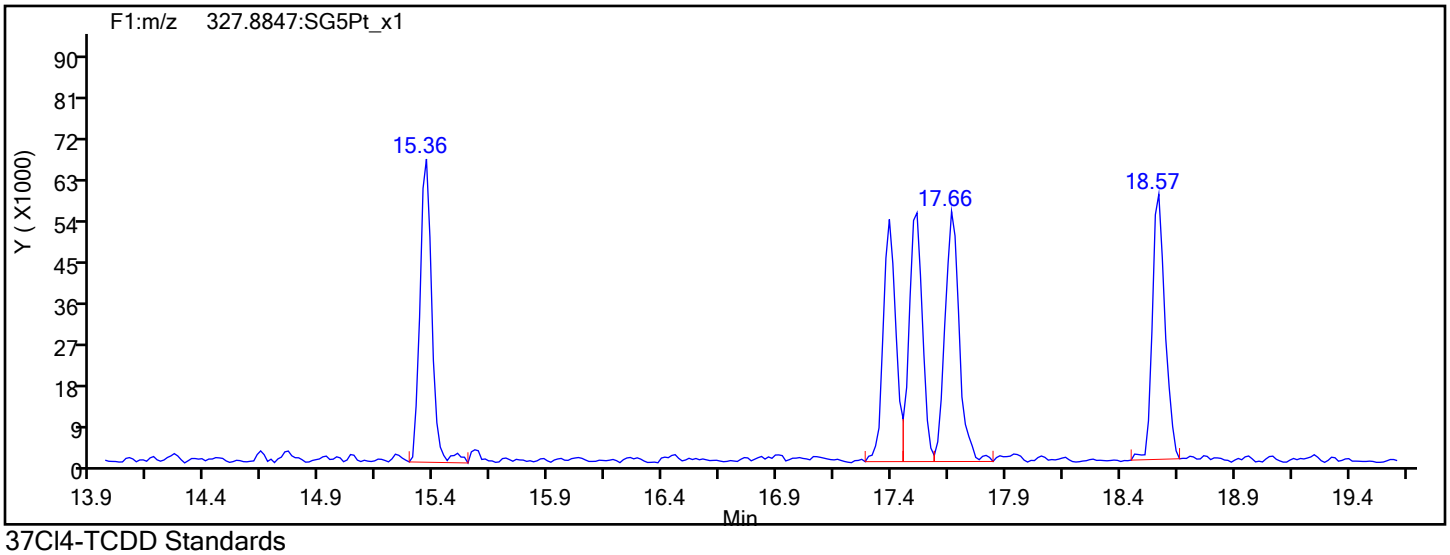

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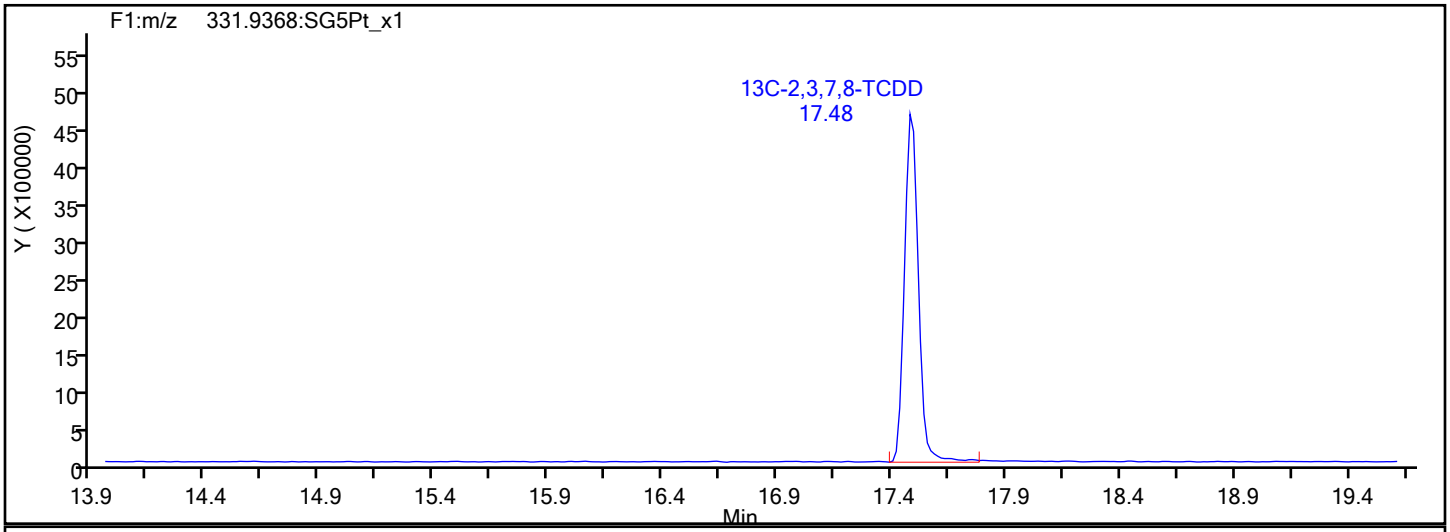

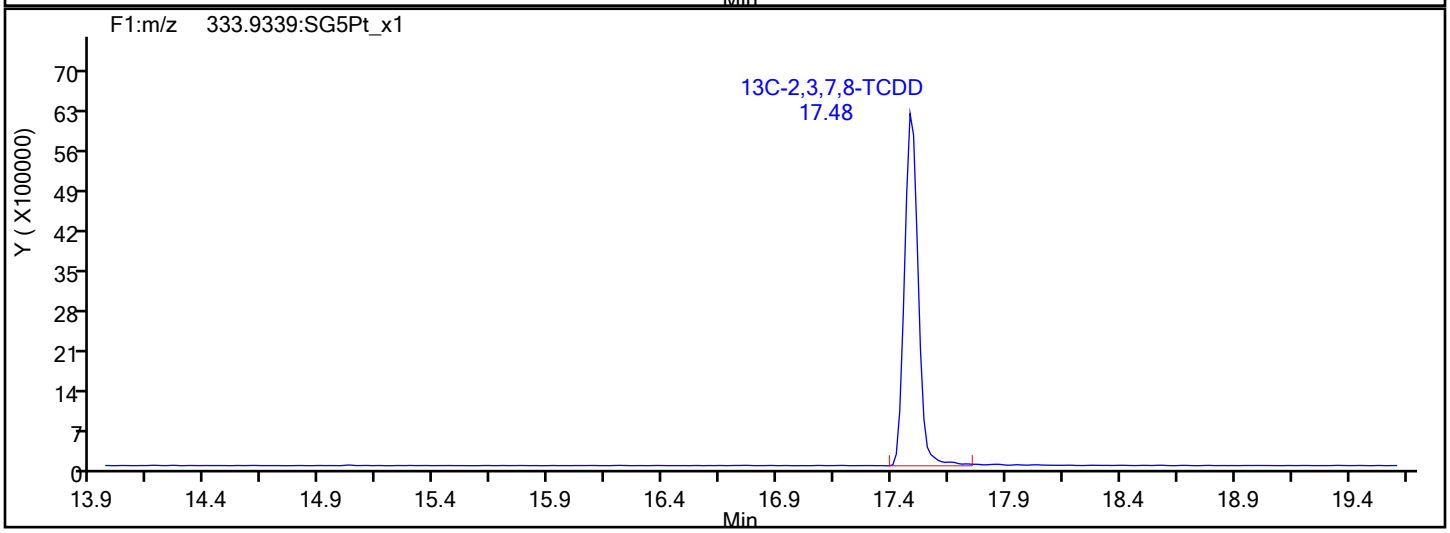

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F1 PeCDFs

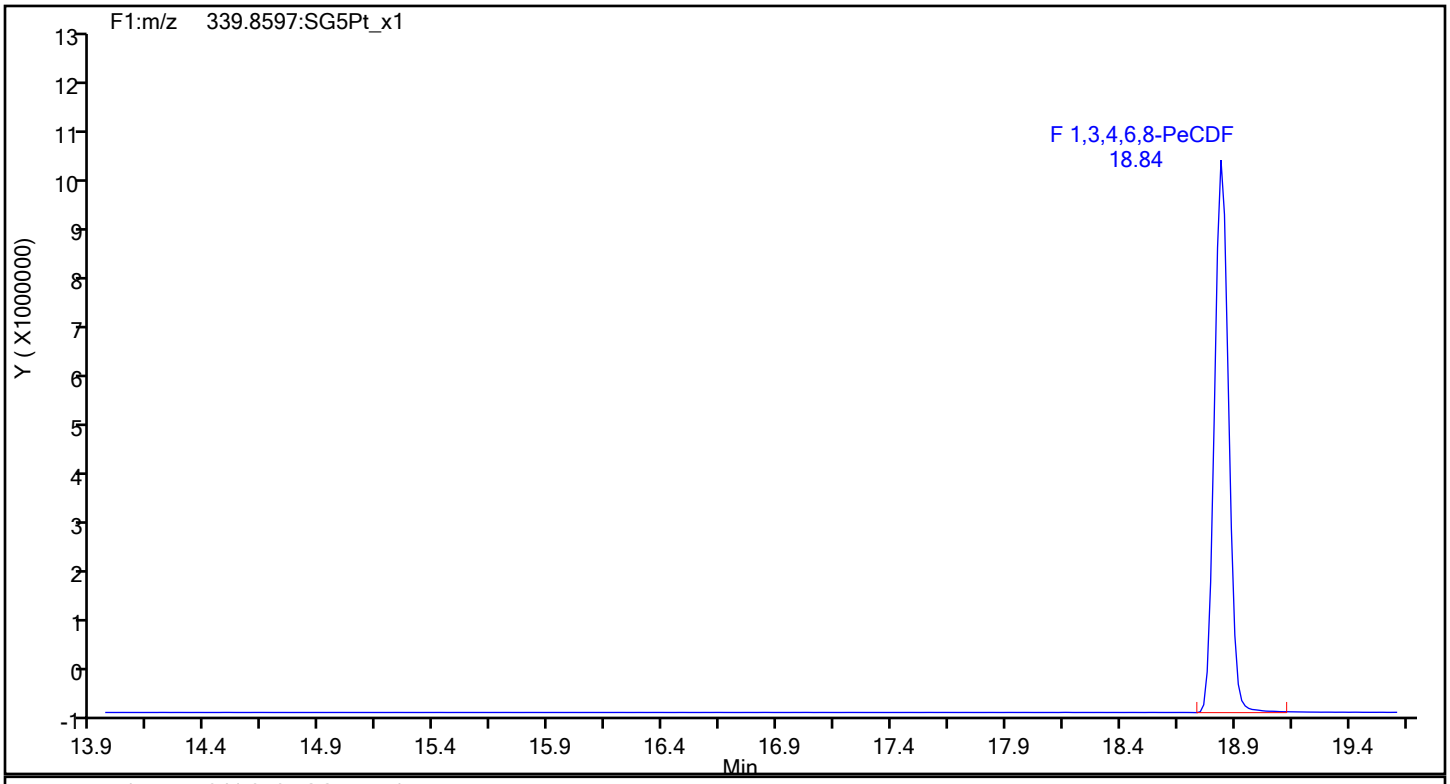

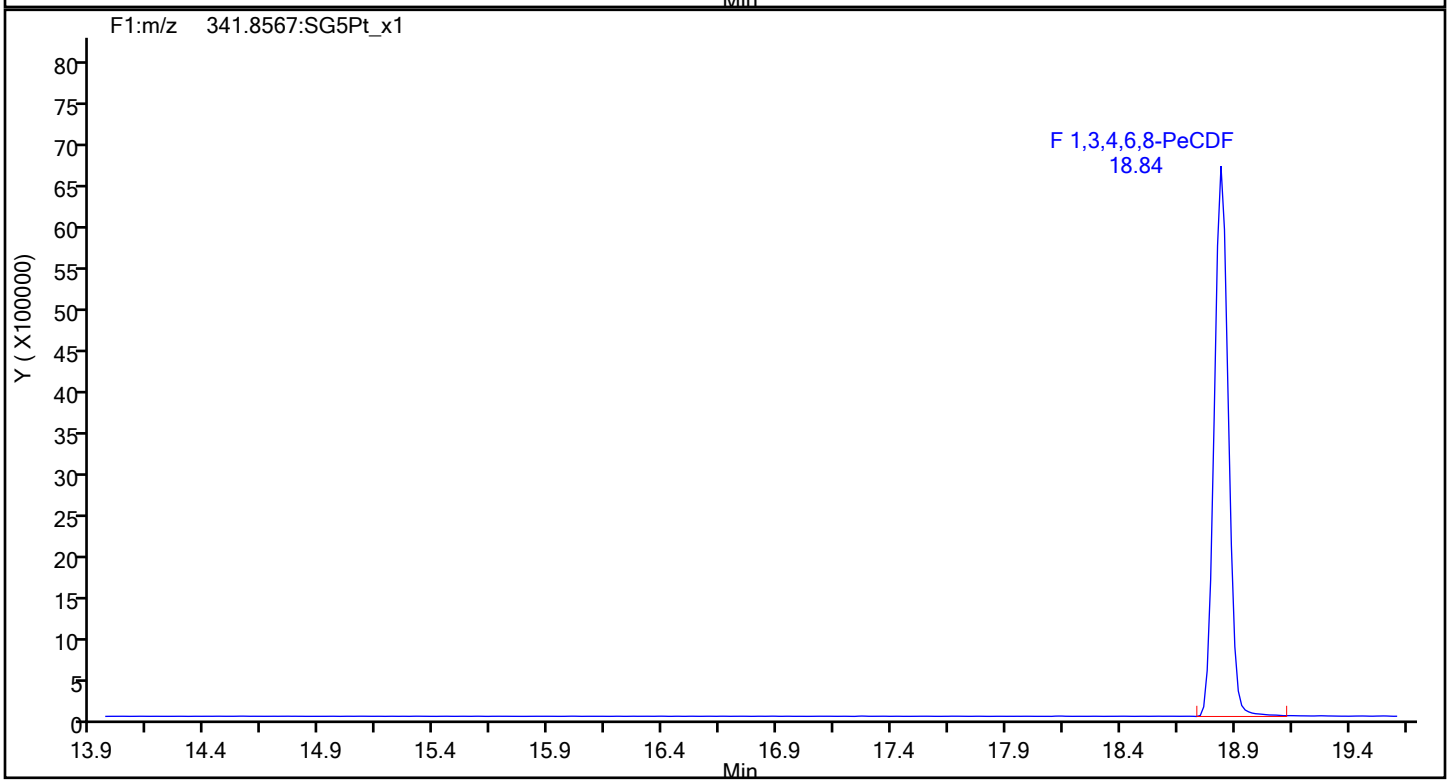

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

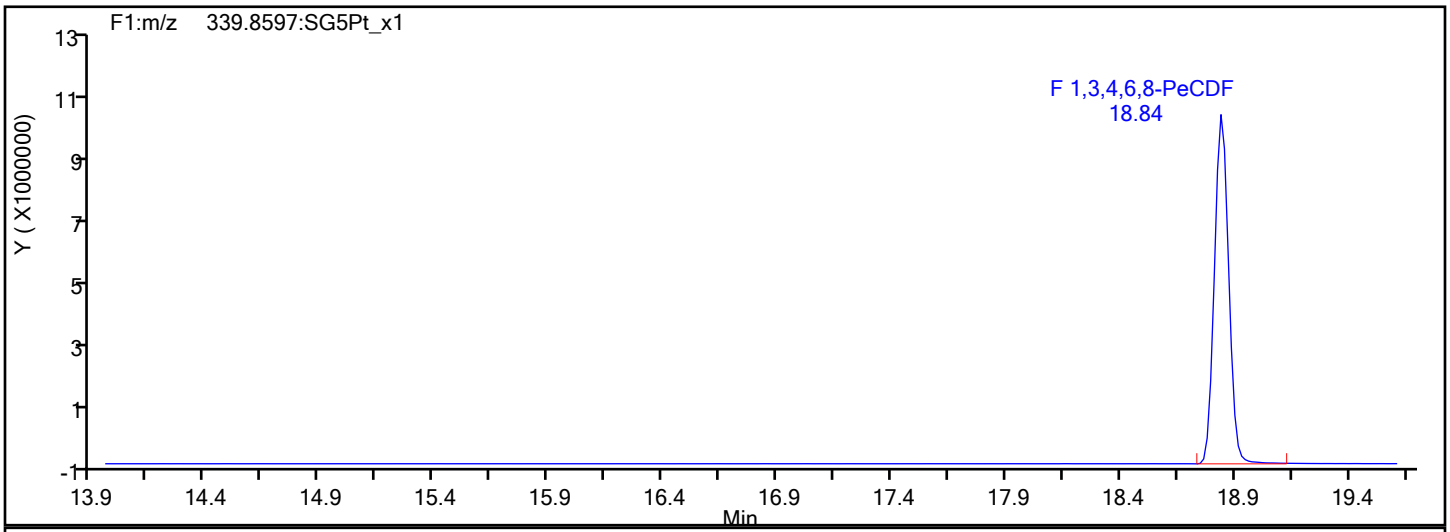

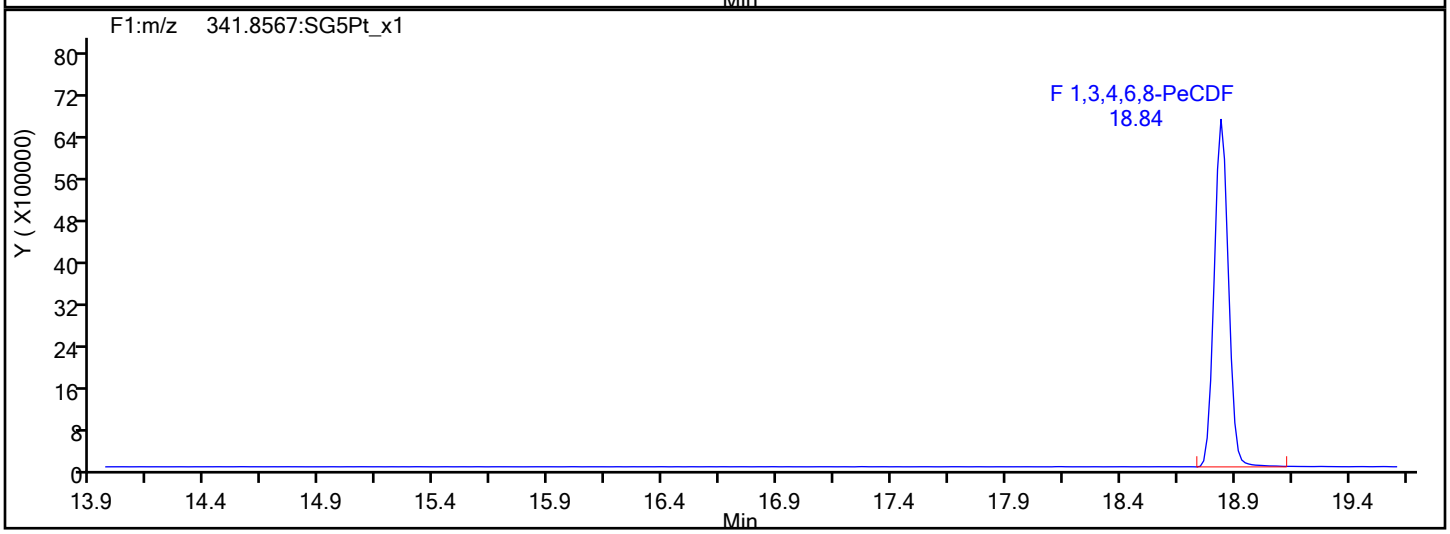

F1 PeCDFs Interference Mass

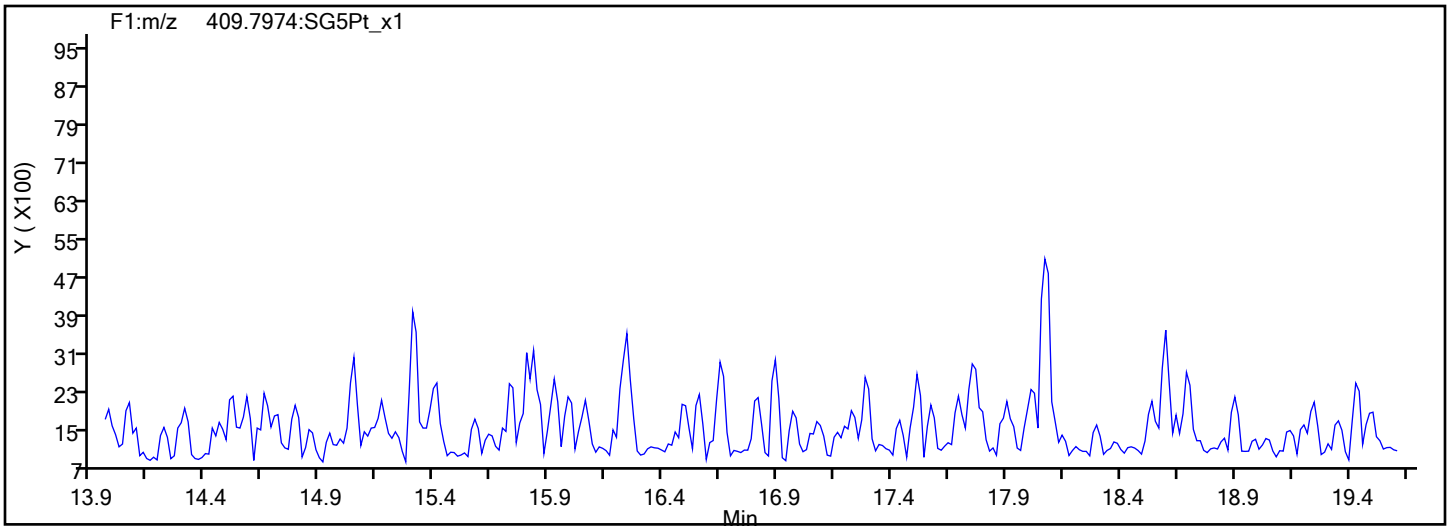

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Eurofins TestAmerica, Sacramento

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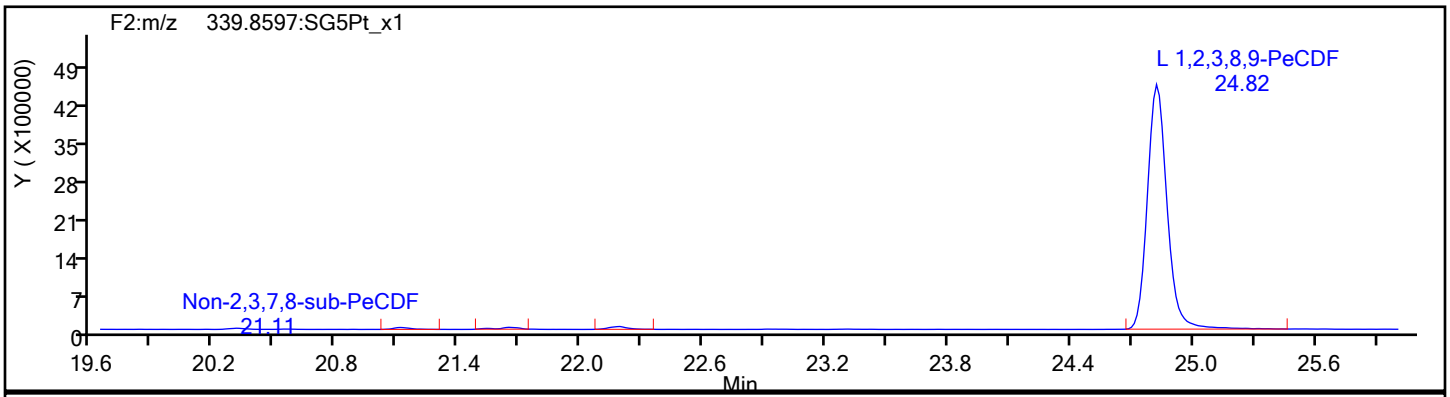

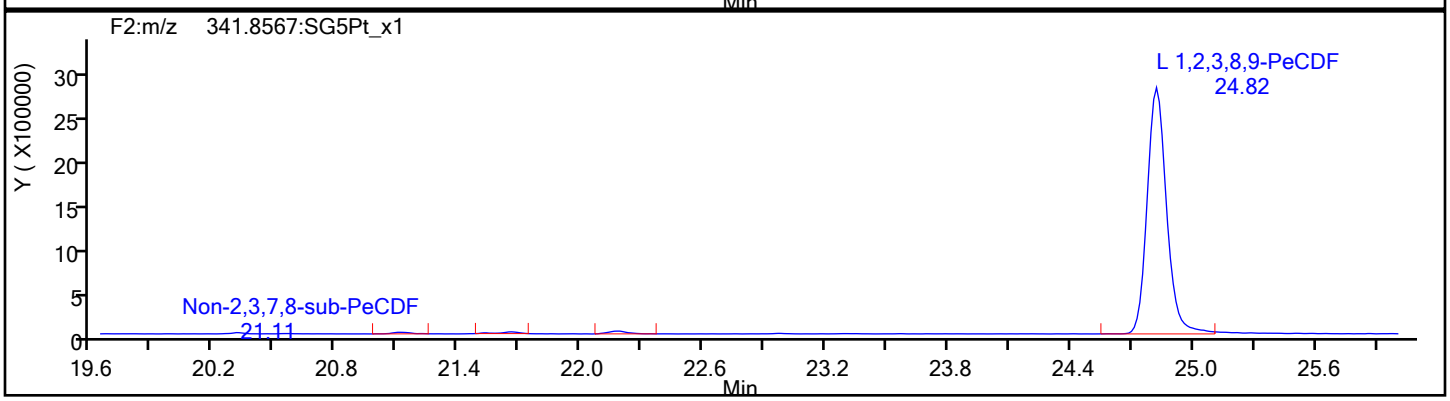

PeCDF Standards

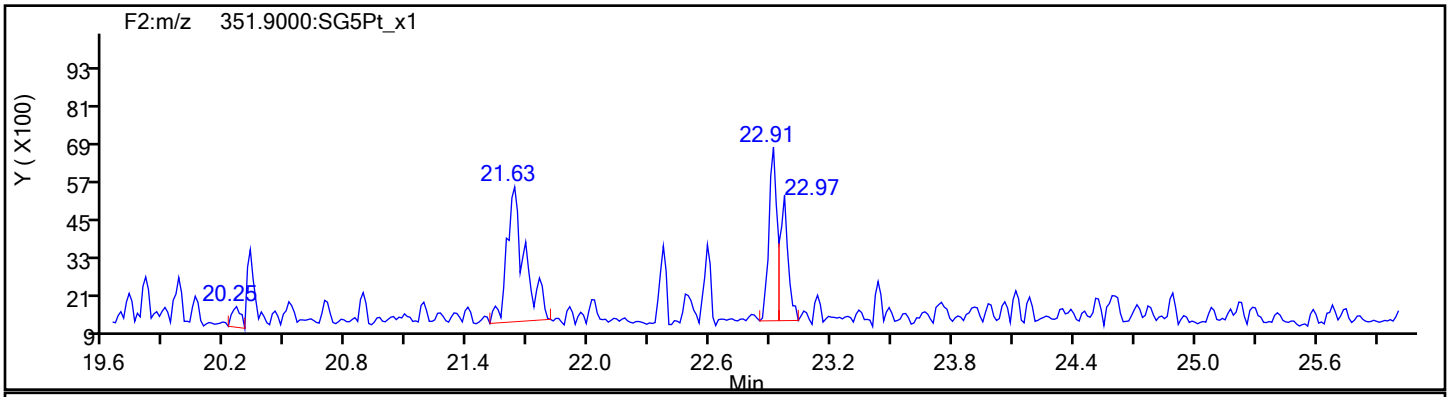

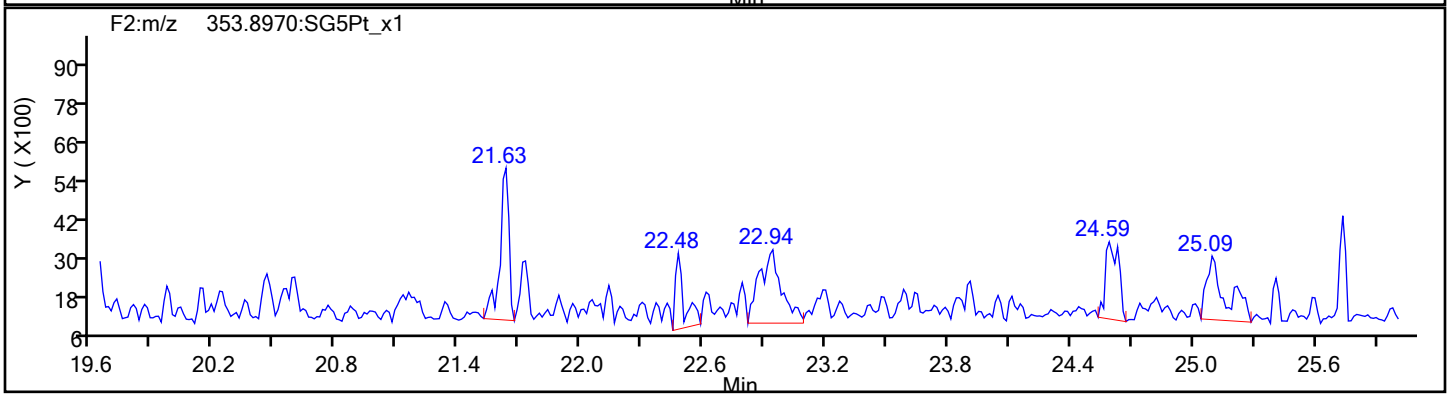

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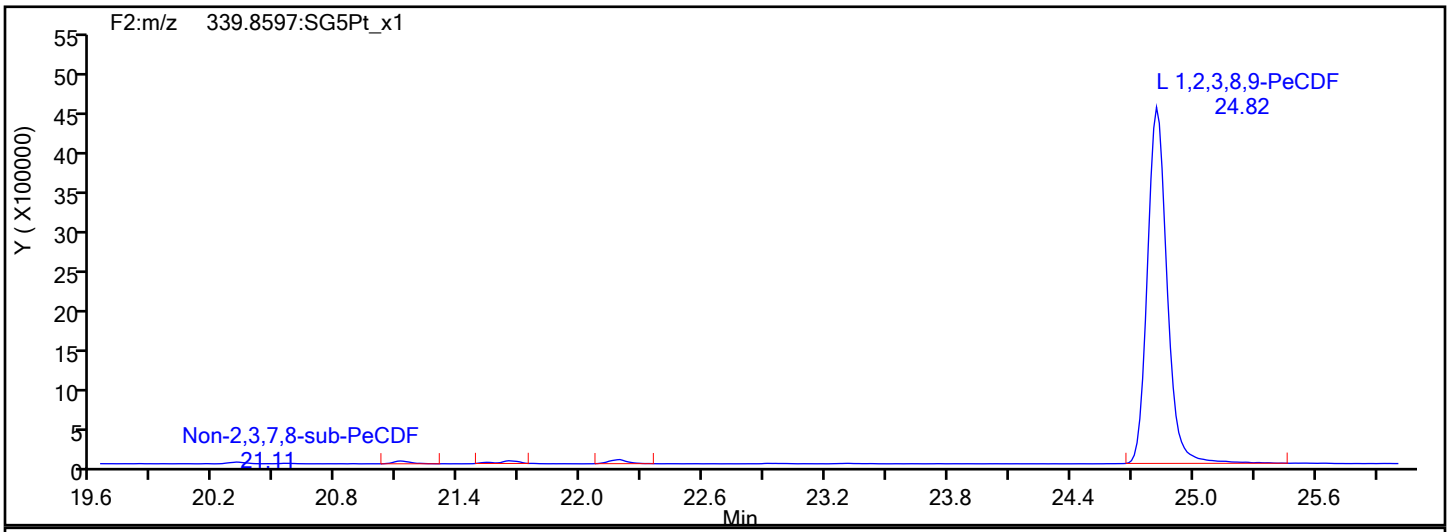

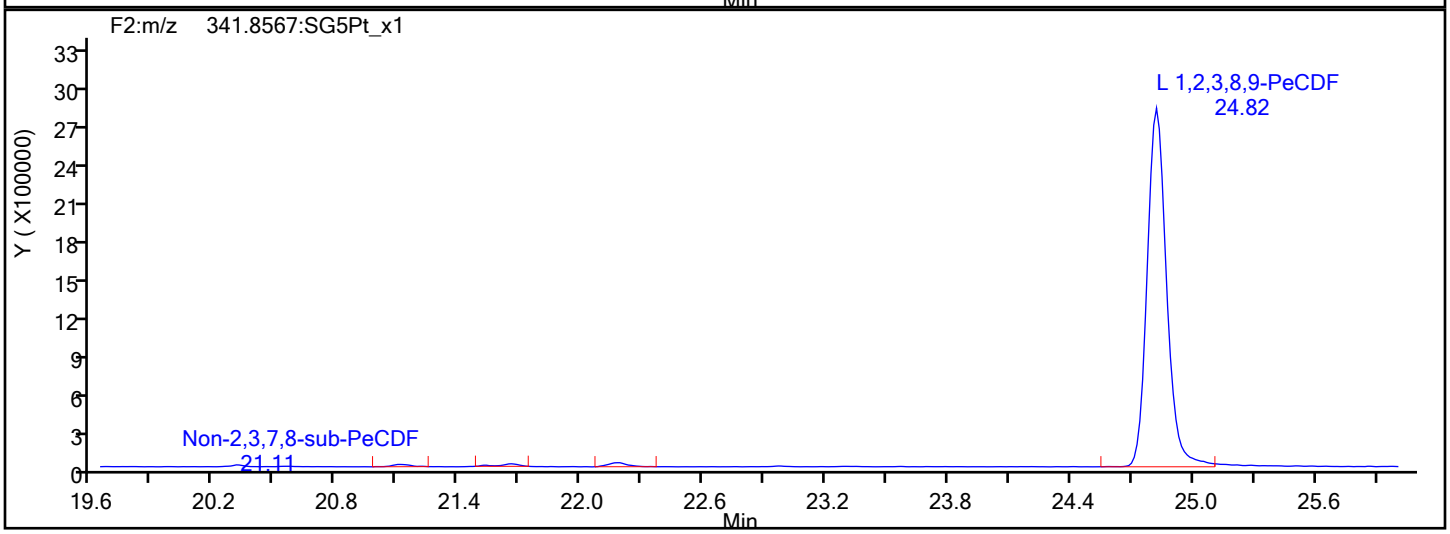

PeCDF Interference Mass

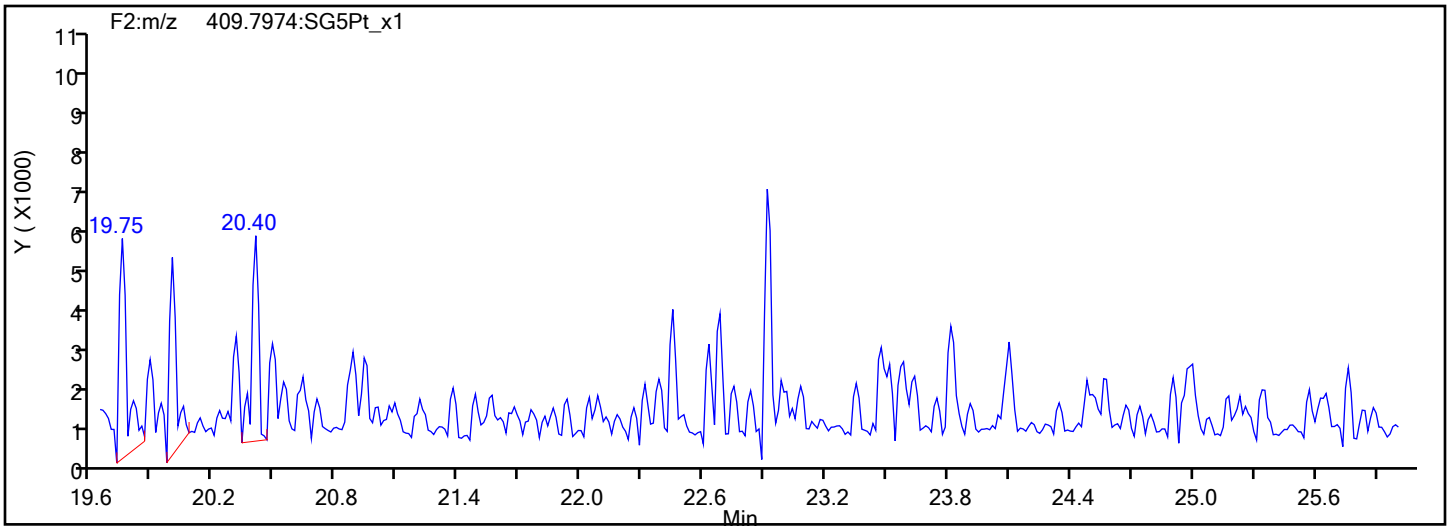

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Eurofins TestAmerica, Sacramento

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PeCDD

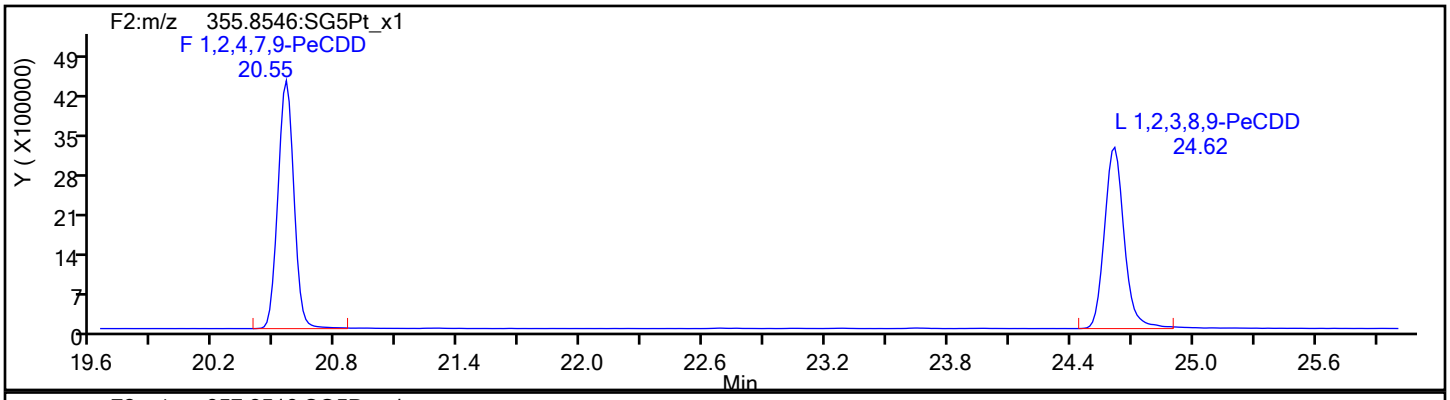

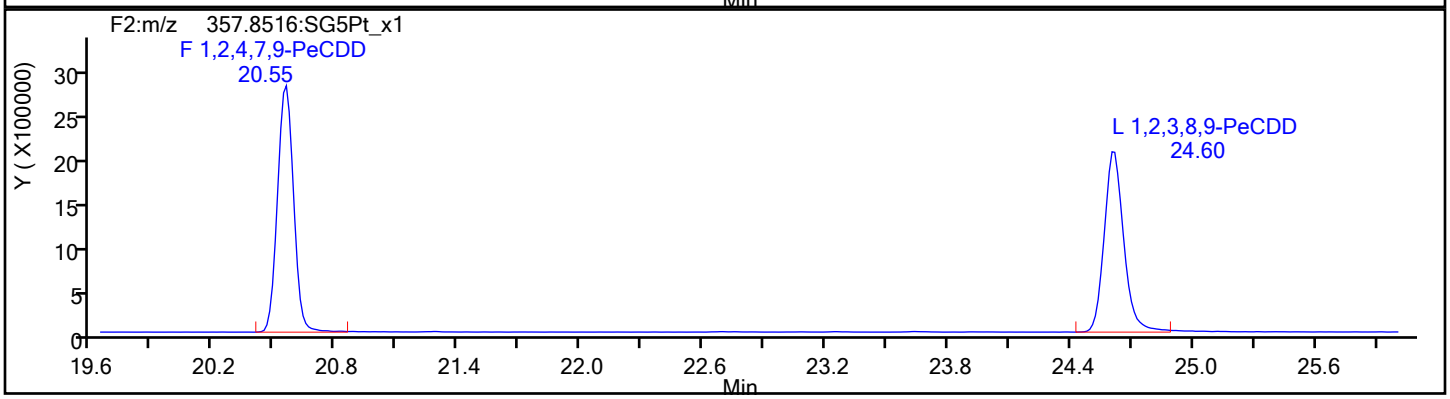

PeCDD Standards

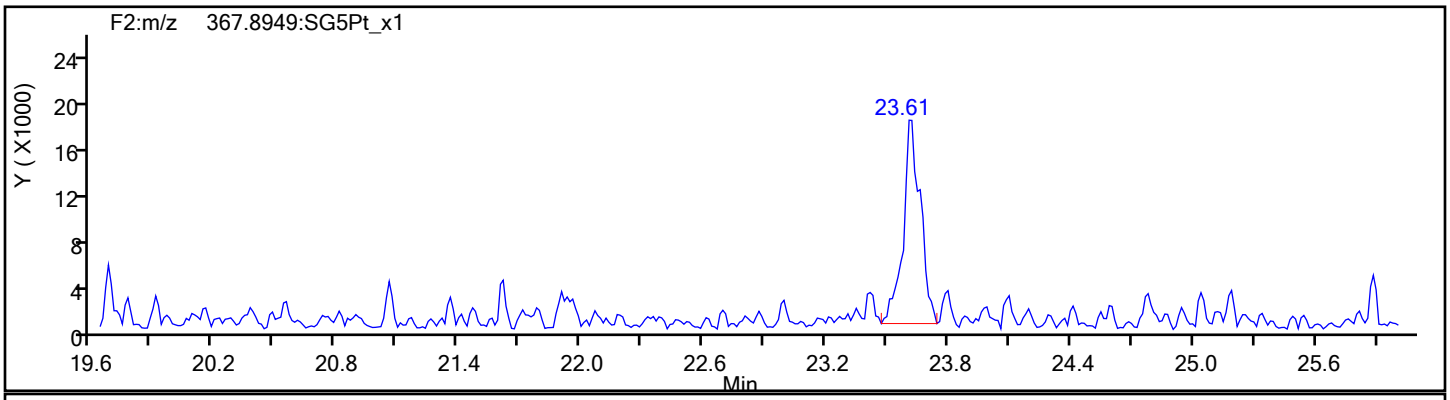

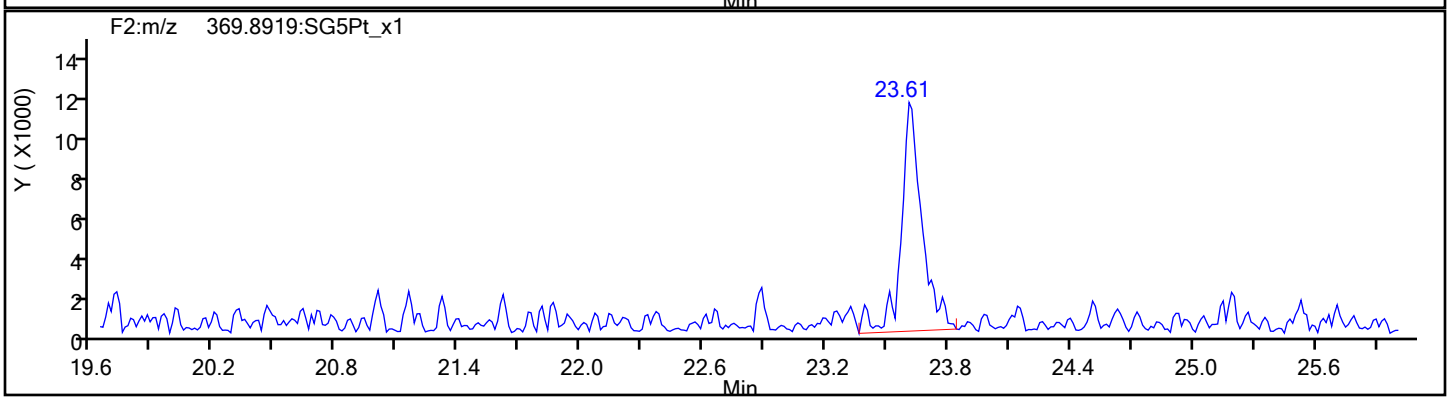

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HxCDF

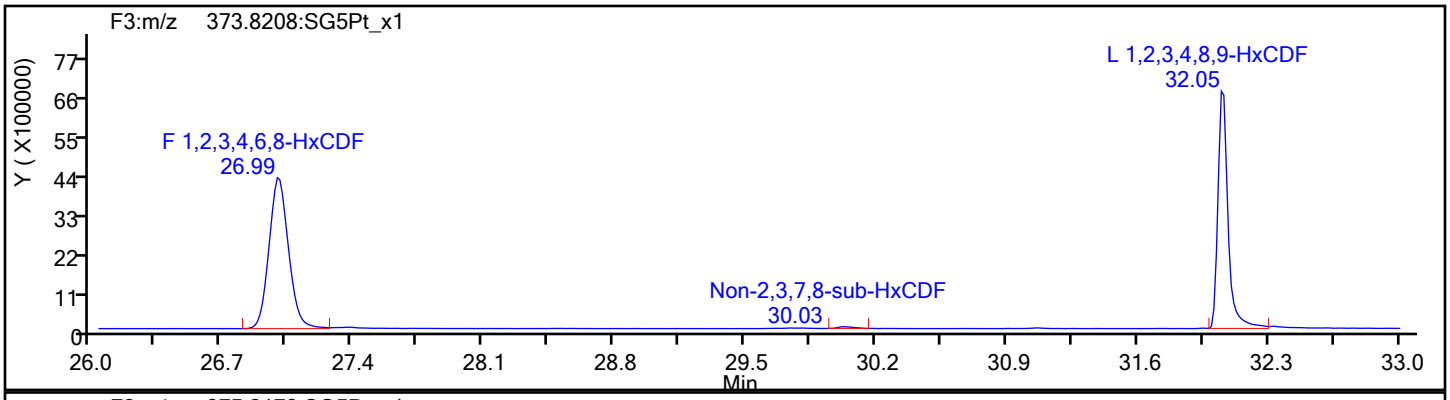

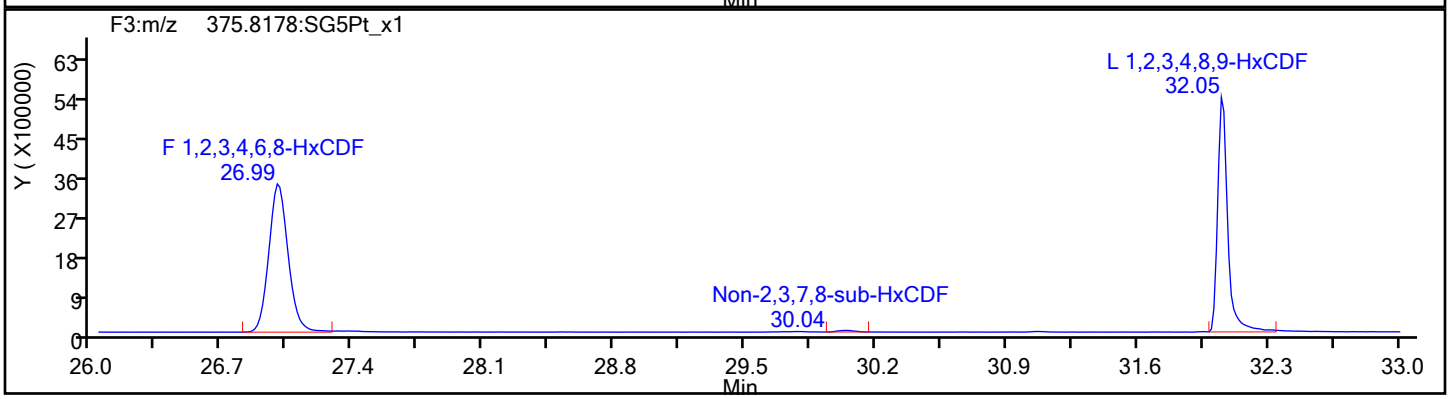

HxCDF Standards

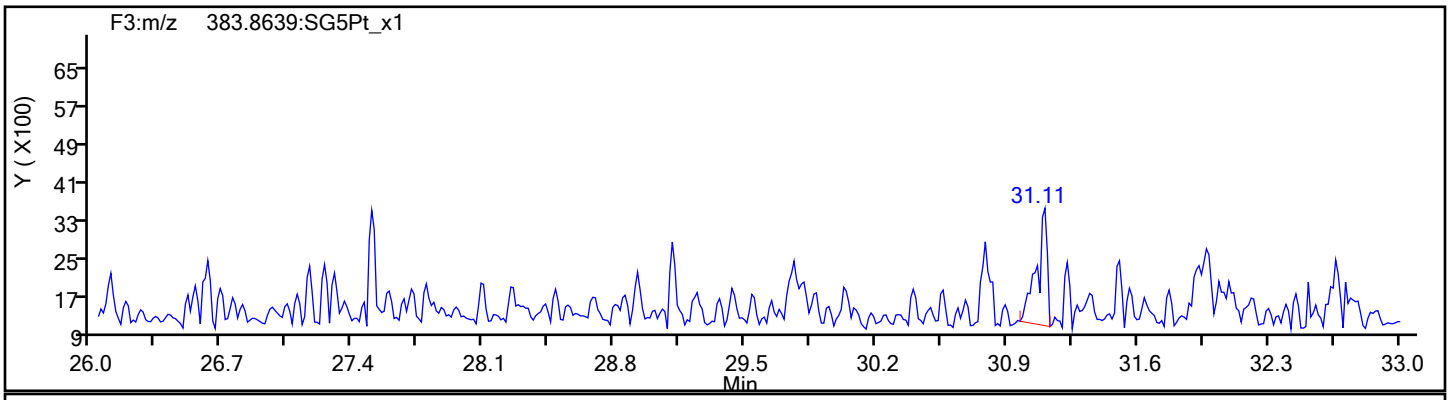

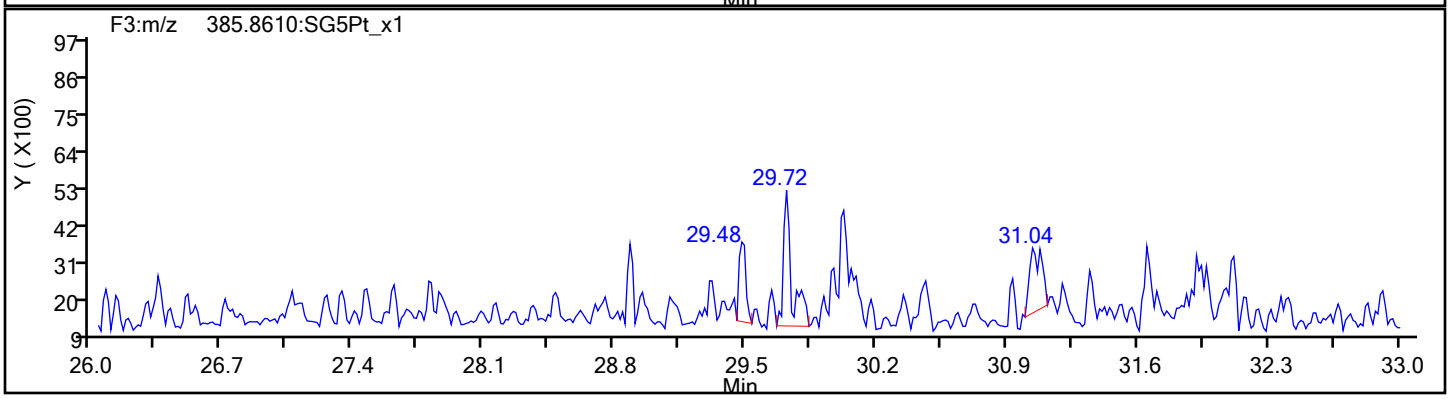

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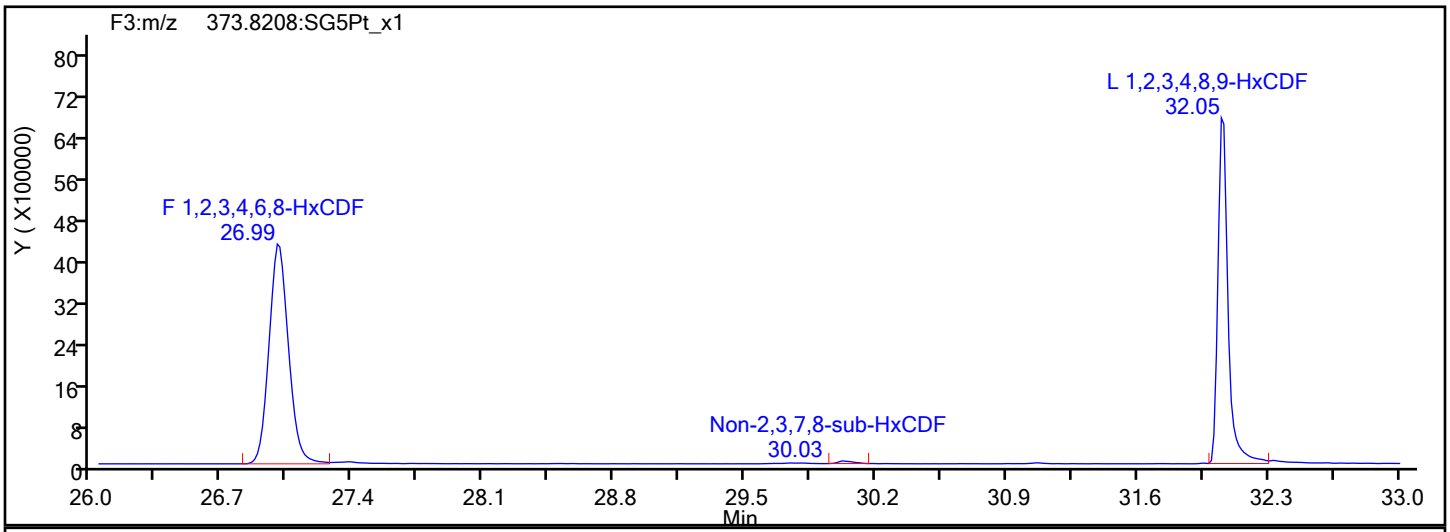

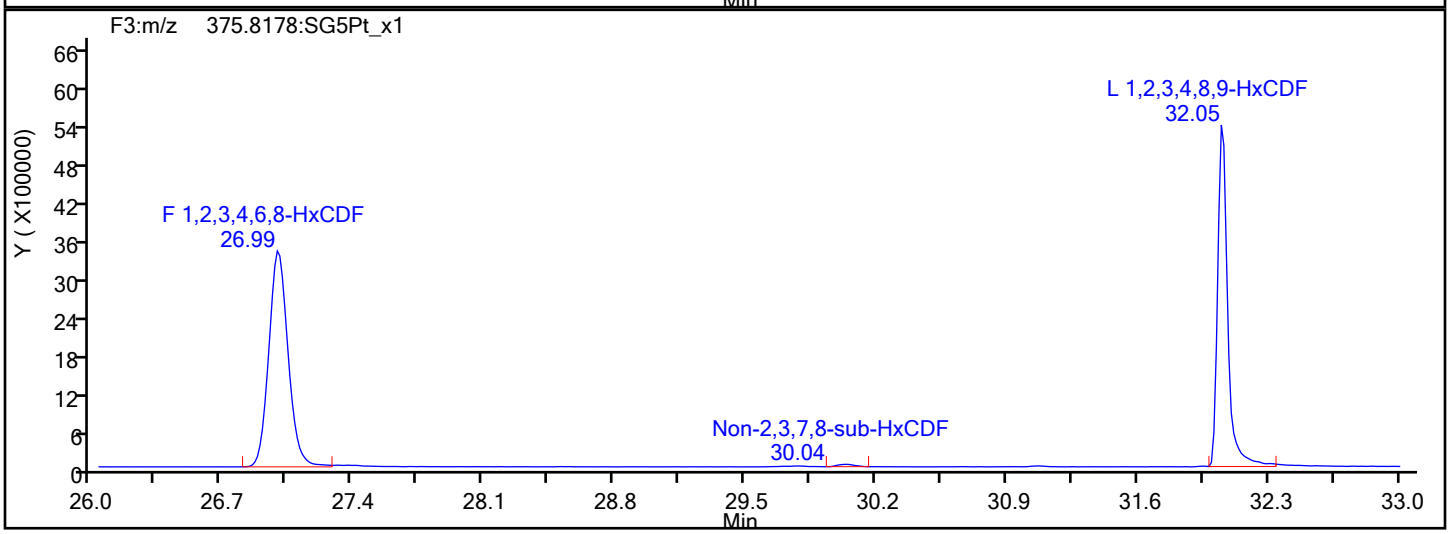

HxCDF Interference Mass

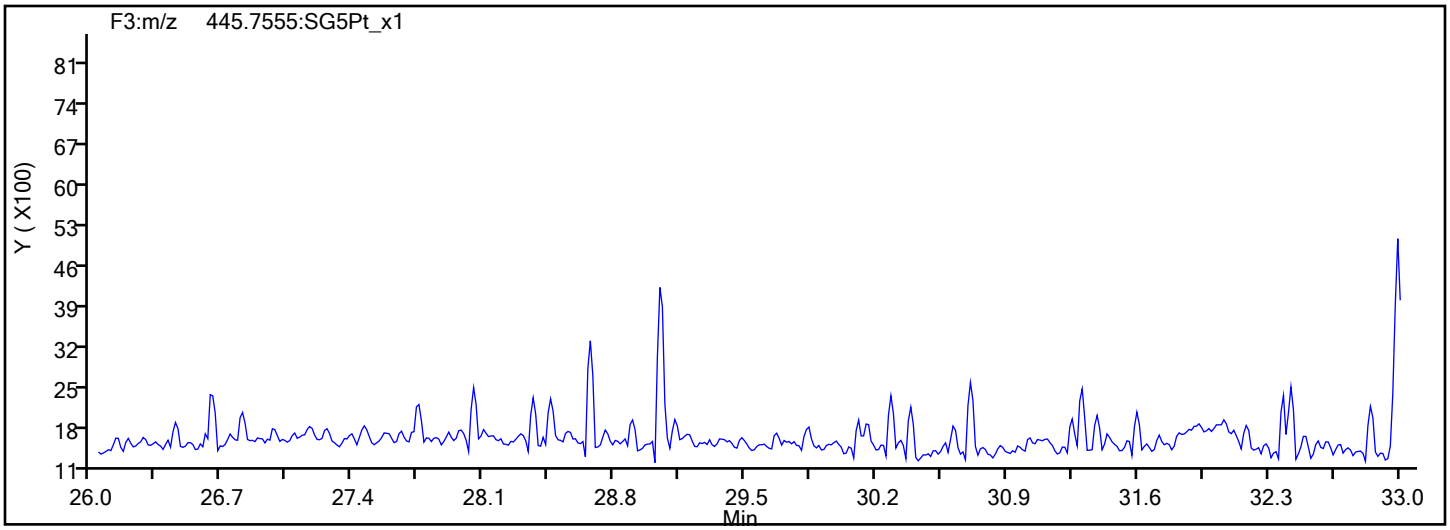

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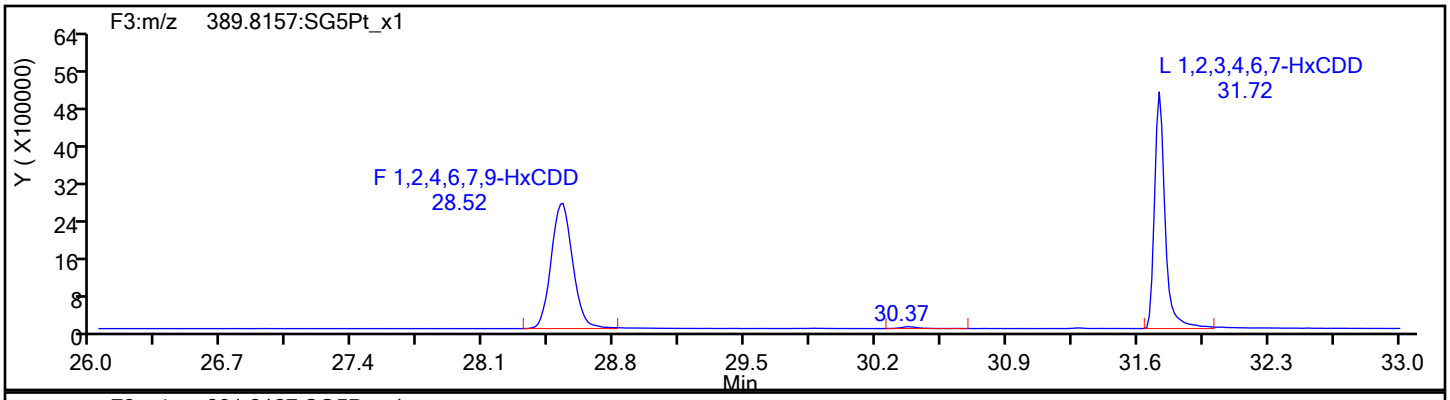

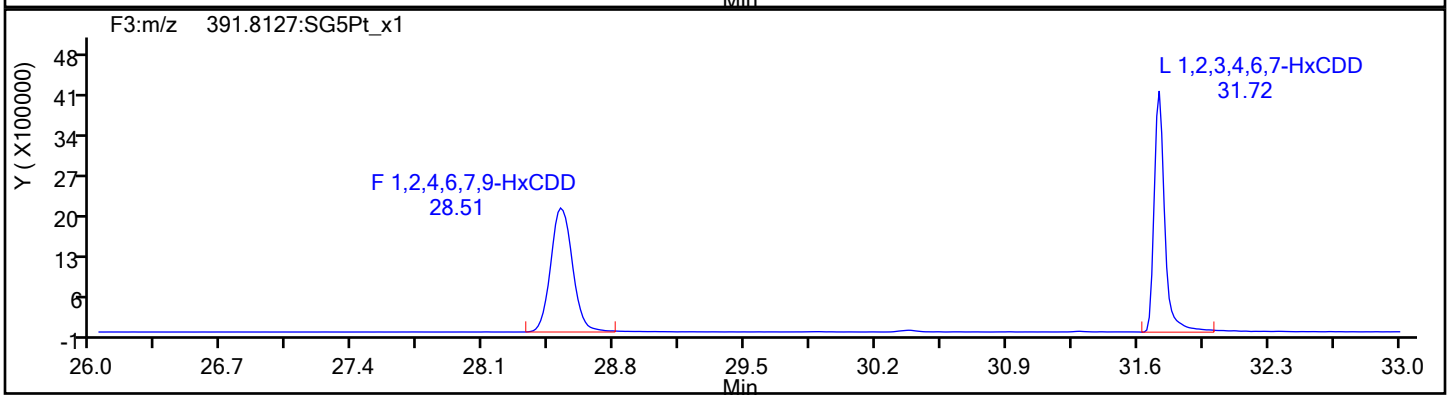

HxCDD Standards

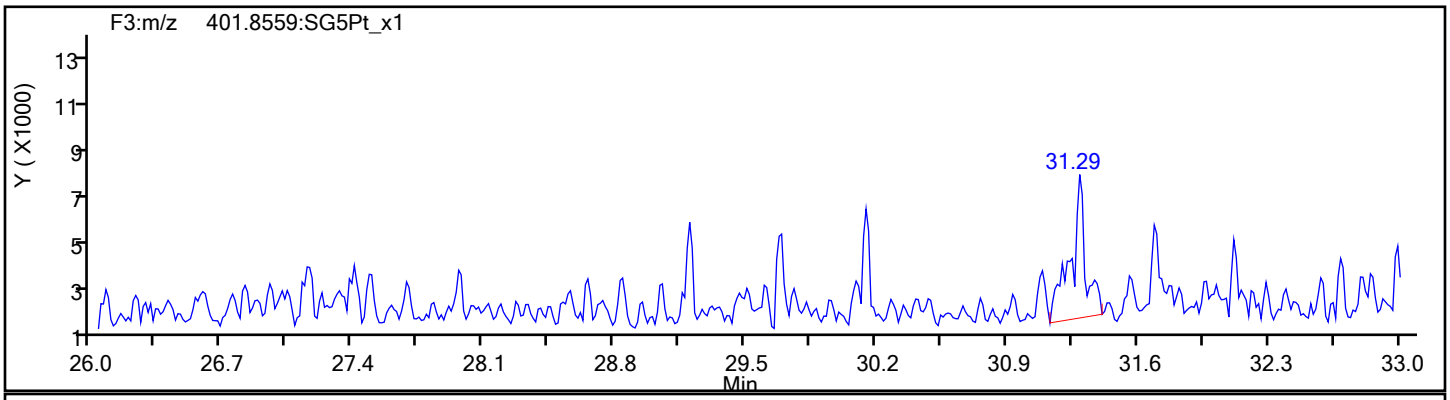

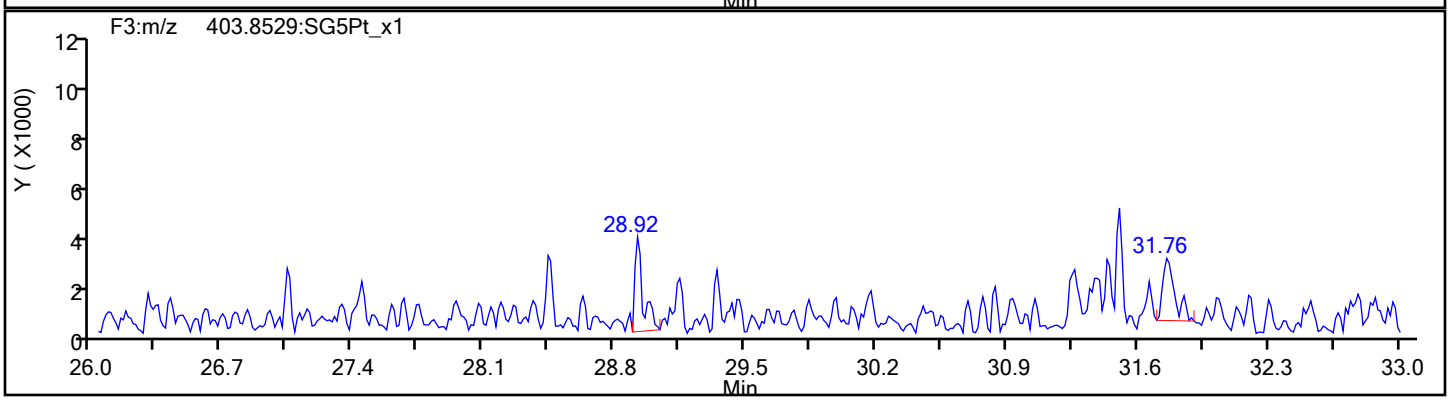

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Eurofins TestAmerica, Sacramento

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HpCDF

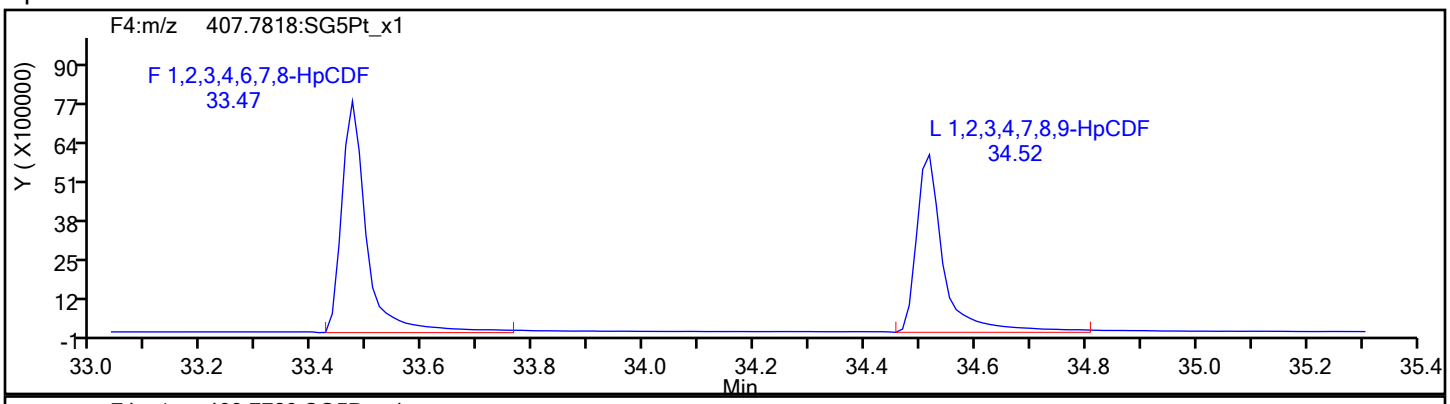

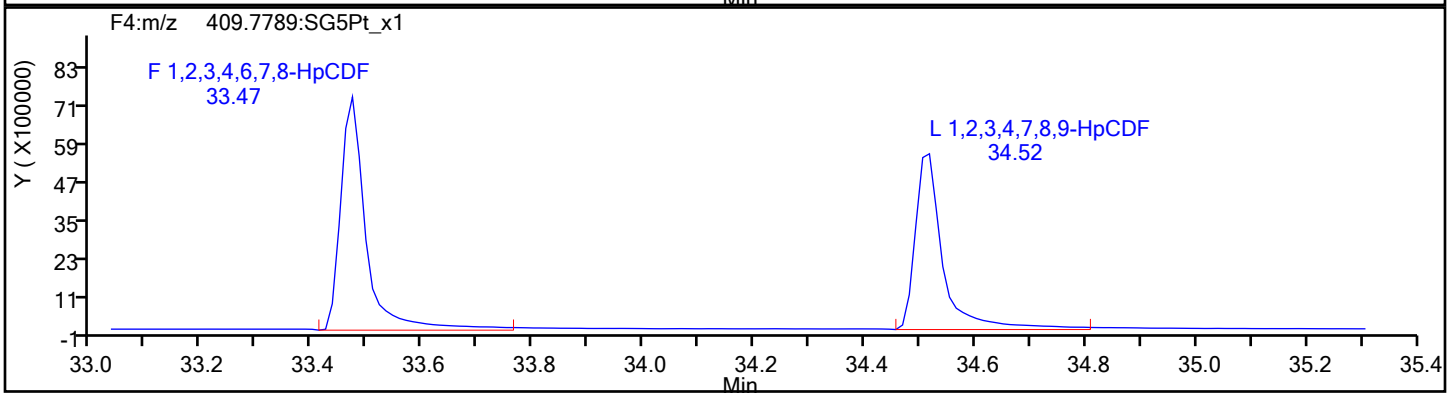

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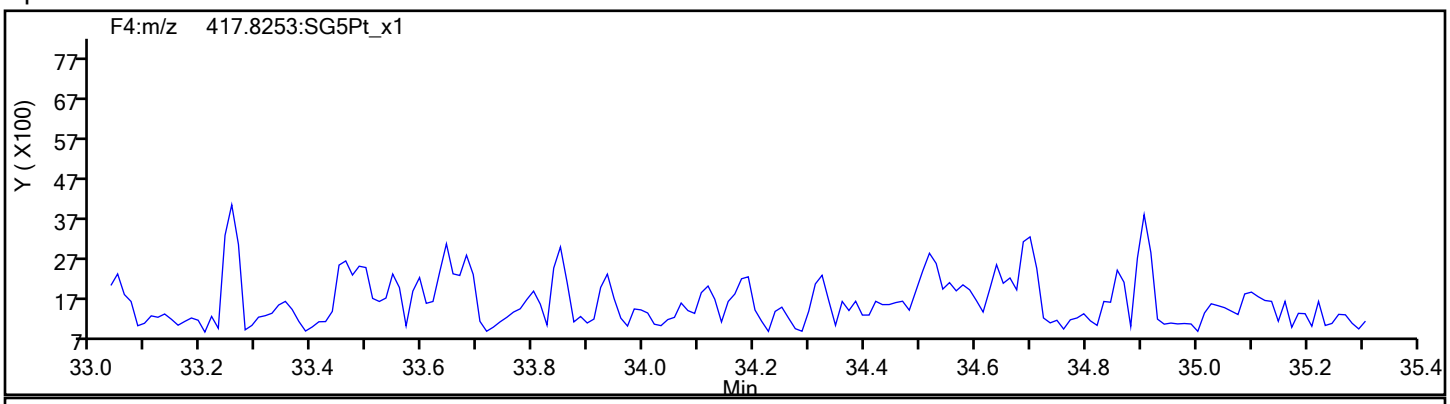

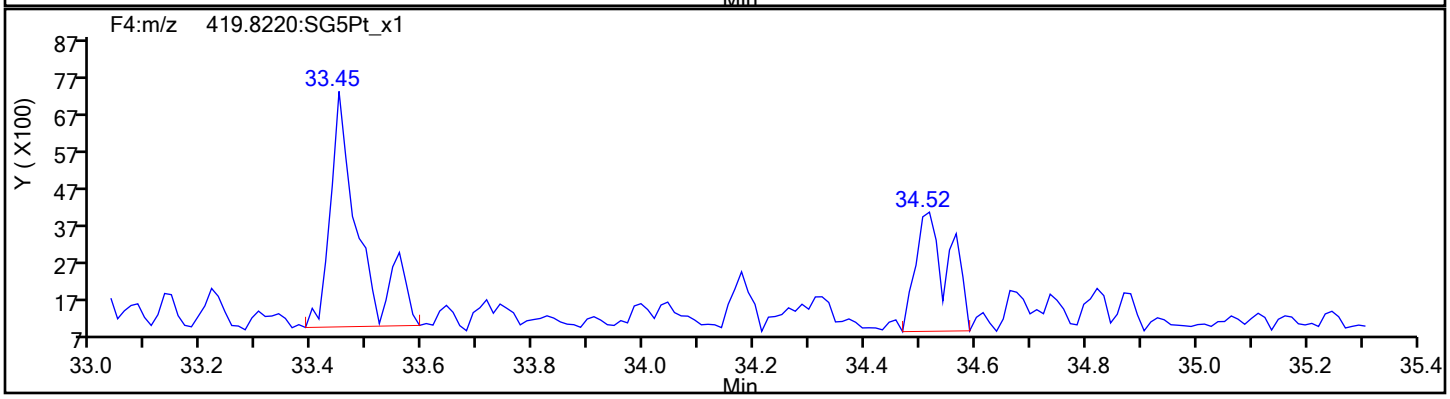

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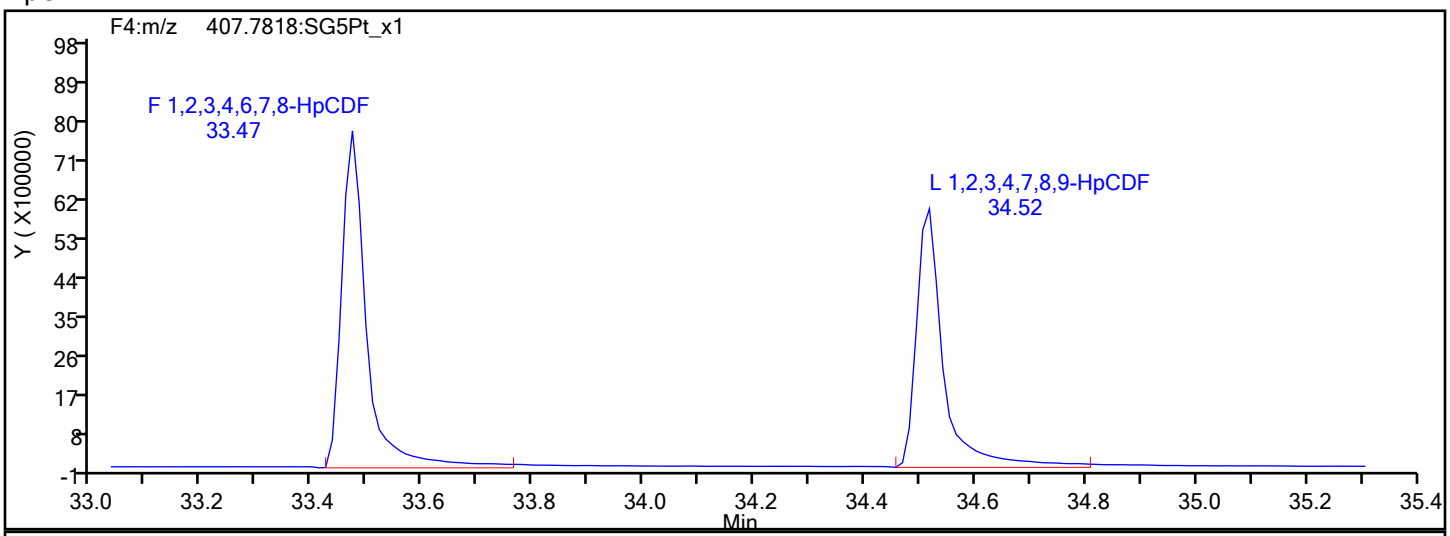

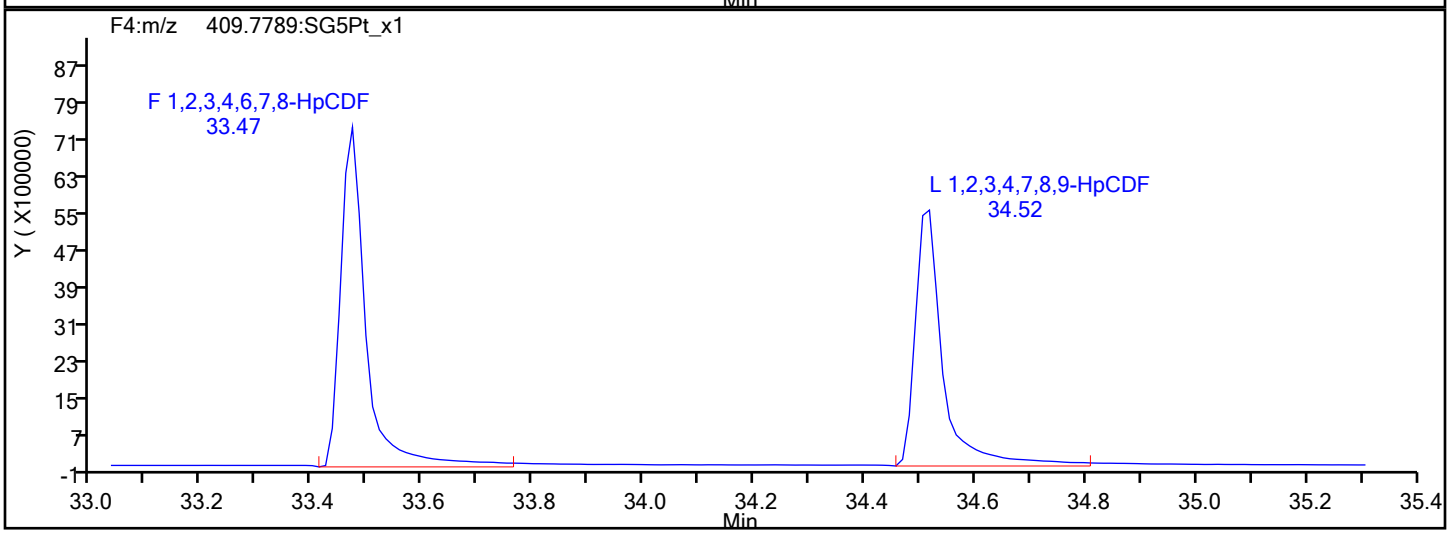

HpCDF Interference Mass

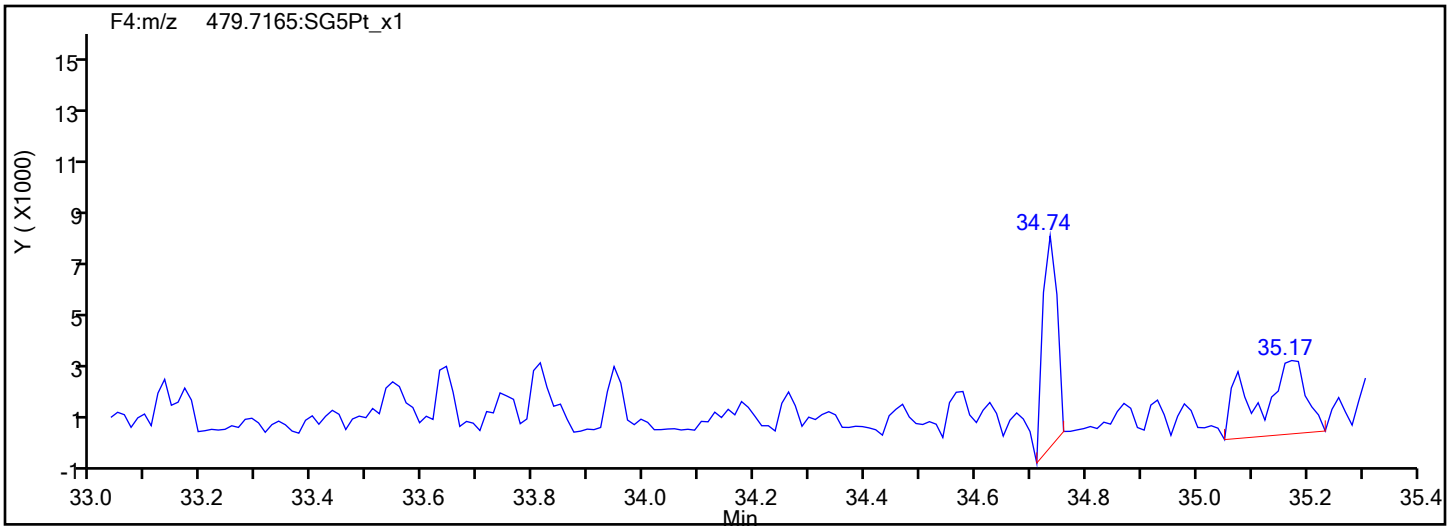

Report Date: 18-Sep-2019 10:18:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d		
Injection Date:	17-Sep-2019 11:28:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

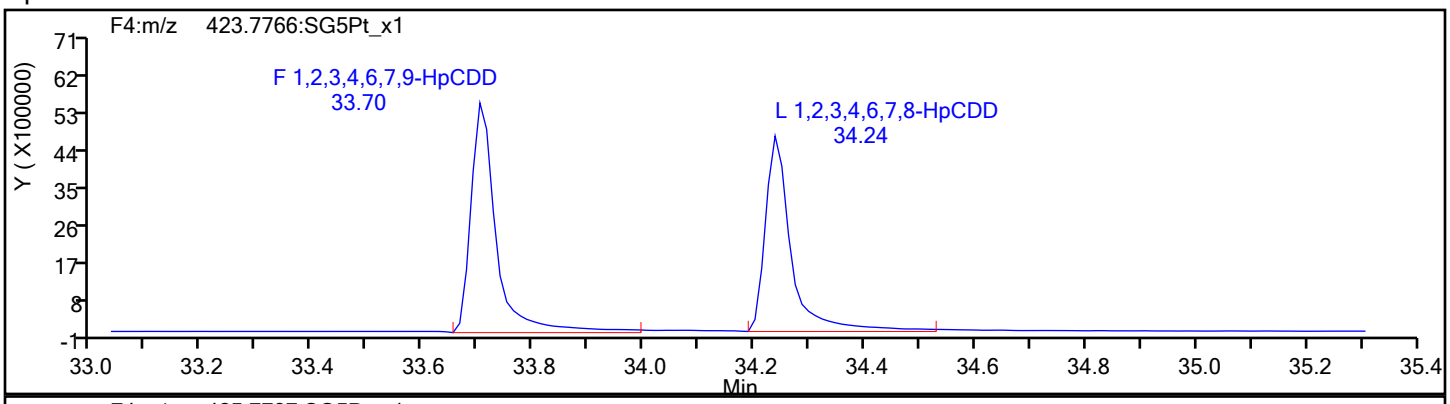

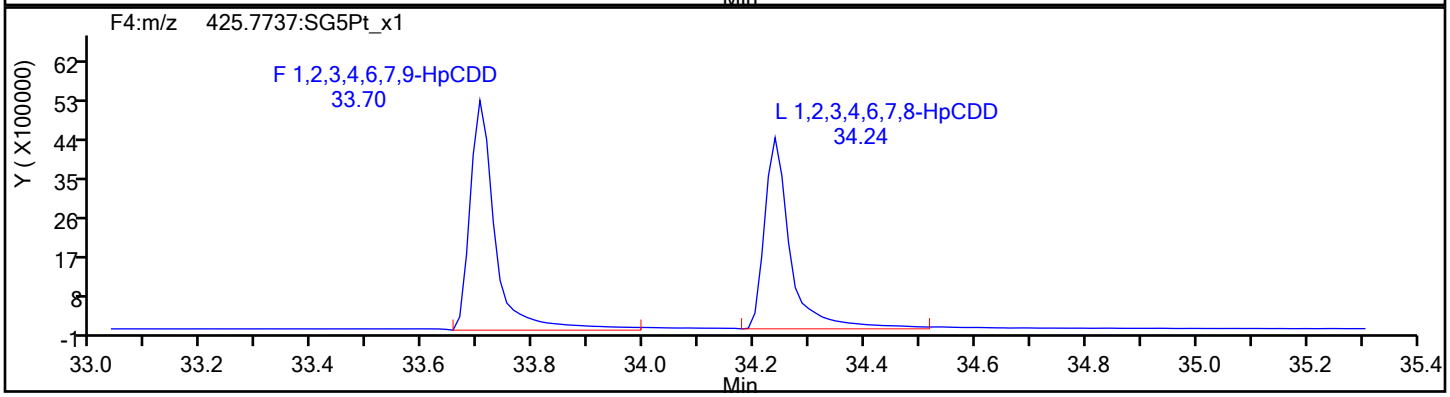

HpCDD Standards

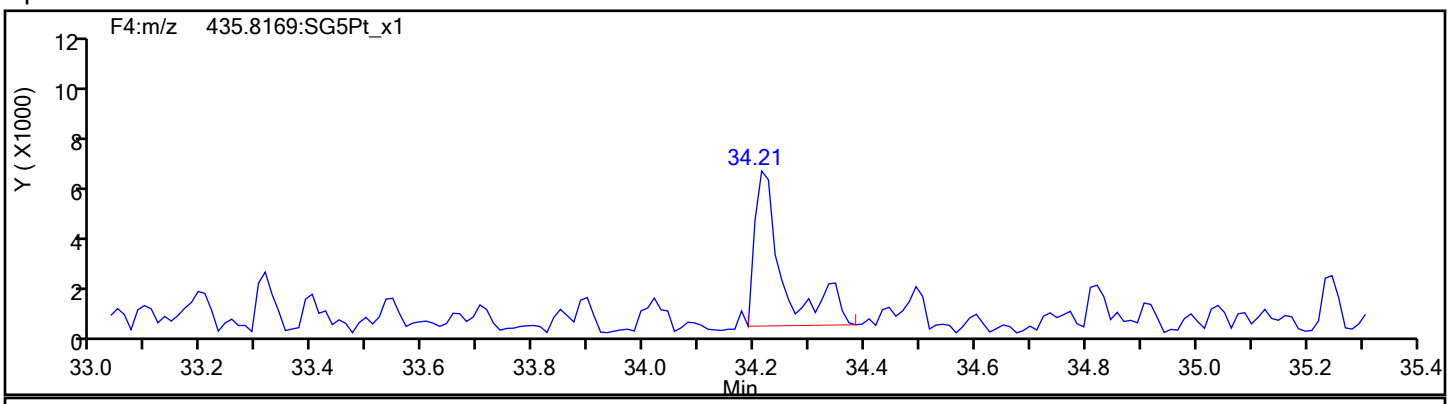

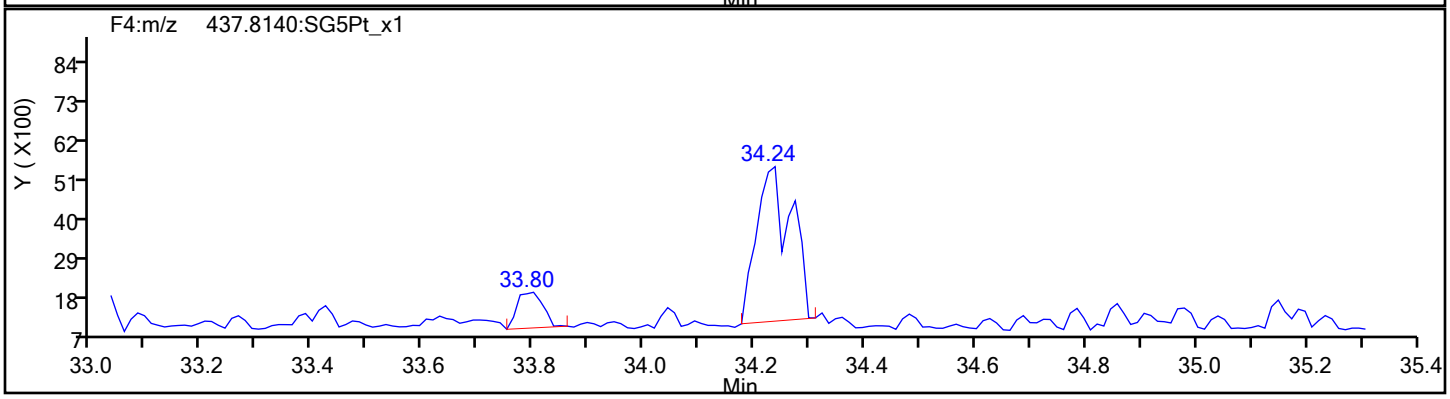

Report Date: 18-Sep-2019 10:18:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d		
Injection Date:	17-Sep-2019 11:28:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

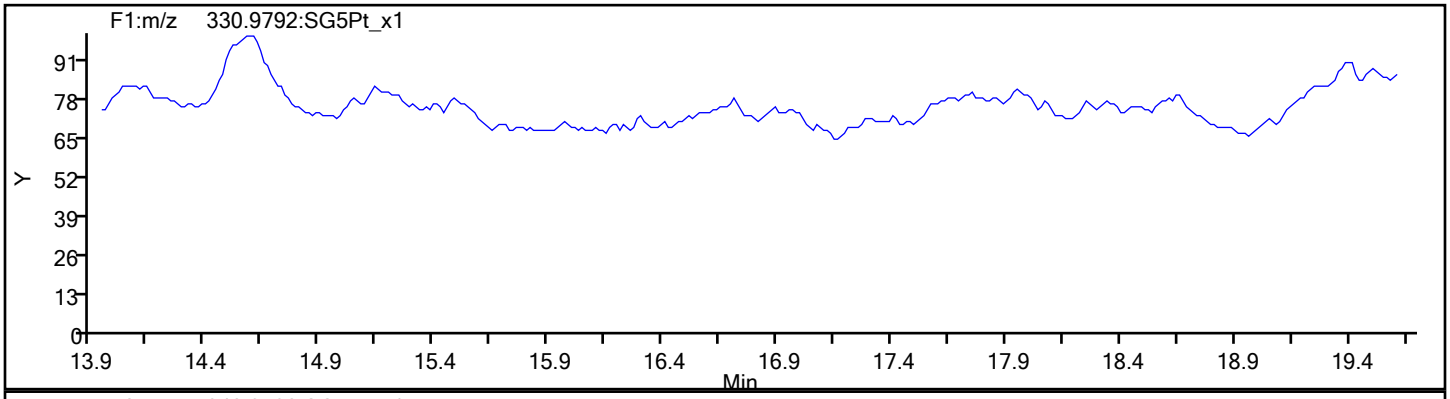

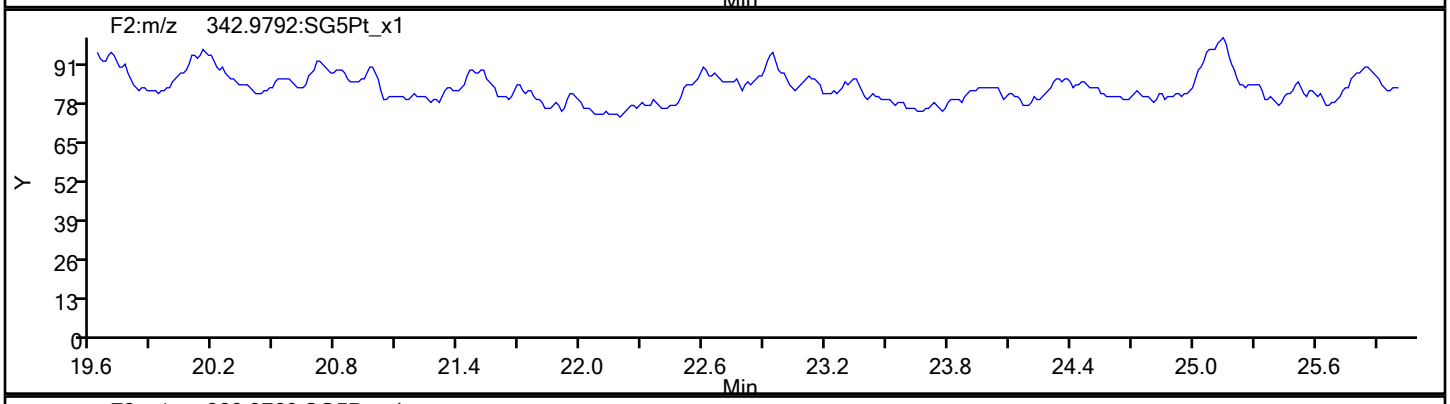

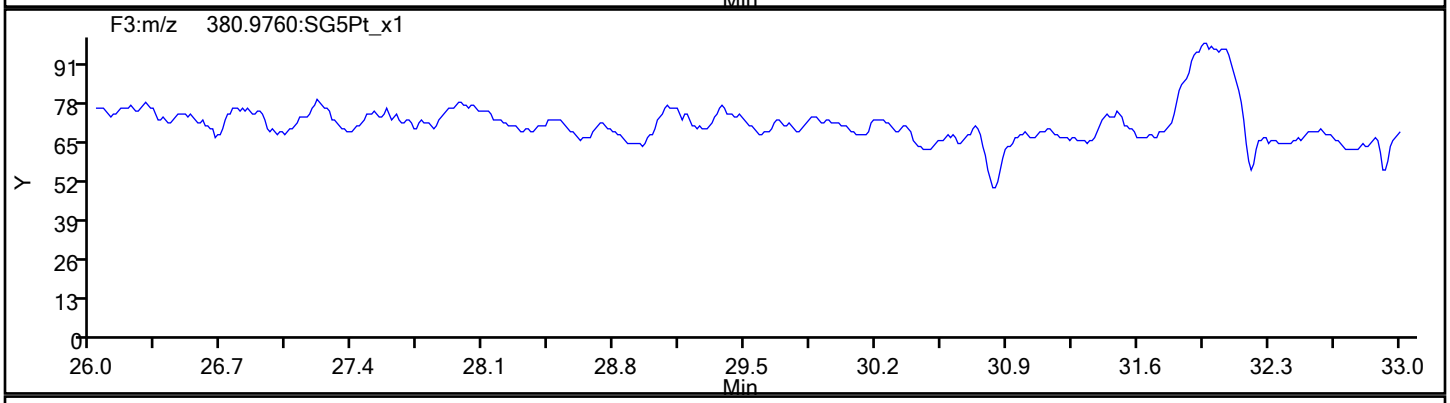

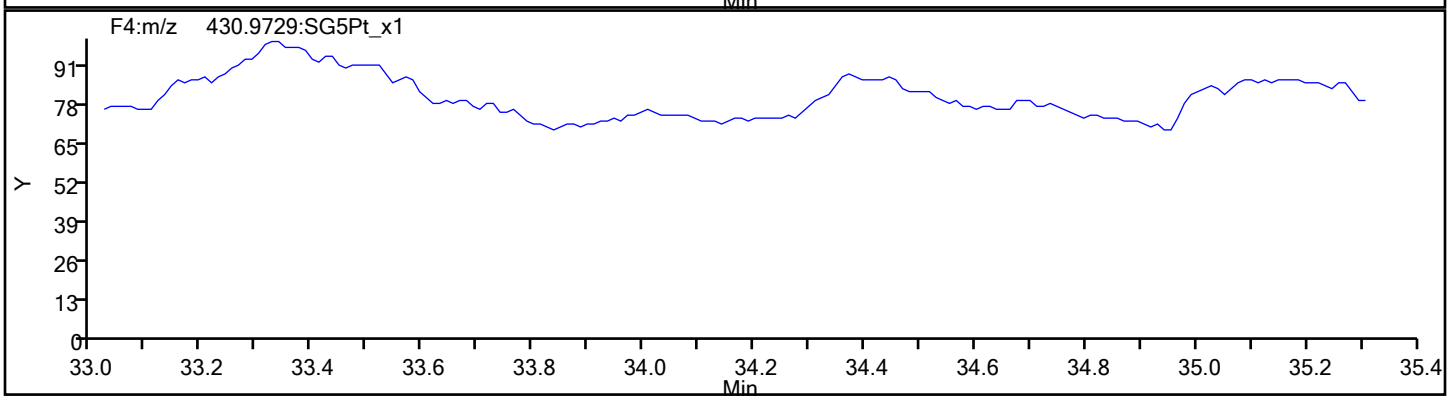

Report Date: 18-Sep-2019 10:18:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d		
Injection Date:	17-Sep-2019 11:28:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

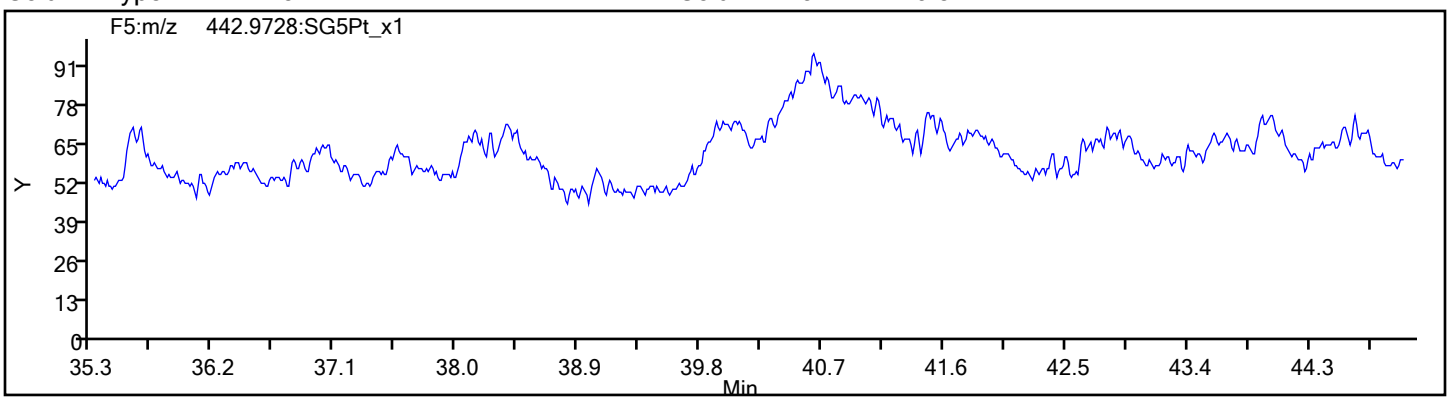

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_1.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 10-Oct-2019 16:02:04 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 101019 WDM HRDXNCP_00038
Misc. Info.: 10OC1910D5
Operator ID: ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 11-Oct-2019 12:50:48 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0340

First Level Reviewer: shardaa Date: 10-Oct-2019 18:02:46

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	17.442	42749301	0.78	1.4384					0.00	
2,3,7,8-TCDF	17.472	92551298	0.78	1.0507	82.4	82.4	0.2481	0.2481		
A Non-2,3,7,8-sub-TCDF	17.162						0.2481	0.2481		
S Total TCDF					82.4	82.4	0.2481	0.2481		
D 13C-2,3,7,8-TCDD	18.152	31095643	0.77	0.9533					0.00	
2,3,7,8-TCDD	18.183	31672671	0.79	1.1064	36.8	36.8	0.0651	0.0651		
A Non-2,3,7,8-sub-TCDD	17.616						0.0651	0.0651		
S Total TCDD					36.8	36.8	0.0651	0.0651		
A F1 PeCDFs	20.035						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.226	449417	1.55	0.0000						RQ
S Total PeCDF										RQ
A Non-2,3,7,8-sub-PeCDD	23.531						0.0	0.0		
S Total PeCDD										
A Non-2,3,7,8-sub-HxCDF	30.363						0.0	0.0		
S Total HxCDF										
A Non-2,3,7,8-sub-HxCDD	30.995	340897	1.21	0.0000						
S Total HxCDD										
1,2,3,4,6,7,8-HpCDF	33.819	29933190	1.05	1.5555						
1,2,3,4,7,8,9-HpCDF	34.901	24985311	1.06	1.3862						
A Non-2,3,7,8-sub-HpCDF	34.360						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	34.609	19929544	1.05	0.9316						
A Non-2,3,7,8-sub-HpCDD	35.190						0.0	0.0		
S Total HpCDD										
1,3,6,8-TCDF	15.008	50822366	0.77							
1,3,6,8-TCDD	15.930	31530096	0.79							
2,3,4,7-TCDF	17.472	92551298	0.78							
1,2,3,7-TCDD	18.062	28980783	0.78							
1,2,3,9-TCDF	18.349	40060990	0.77							
1,2,3,9-TCDD	18.349	32310816	0.78							

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,8,9-TCDD	19.302	13400107								
1,2,8,9-TCDF	19.316	42262417	0.78							
1,3,4,6,8-PeCDF	19.589	44046229	1.57							
1,2,4,7,9-PeCDD	21.384	27014269	1.54							
1,2,3,8,9-PeCDD	25.679	25968108	1.56							
1,2,3,8,9-PeCDF	25.897	31628221	1.58							
1,2,3,4,6,8-HxCDF	28.219	34624131	1.28							
1,2,4,6,7,9-HxCDD	29.790	24914564	1.25							
1,2,3,4,6,7-HxCDD	32.200	24576846	1.29							
1,2,3,4,8,9-HxCDF	32.506	32262310	1.25							
1,2,3,4,6,7,9-HpCDD	34.062	22283524	1.01							

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNCP_00038 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_1.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 10-Oct-2019 16:02:04 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 101019 WDM HRDXNCP_00038
Misc. Info.: 10OC1910D5
Operator ID: ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 11-Oct-2019 12:50:48 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0340

First Level Reviewer: shardaa Date: 10-Oct-2019 18:02:46

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	17.442	17.442	0	1.000	18791320	4954256	11881	29702	417		
317.9389	17.442	17.442	0	1.000	23957981	6239151	5242	13105	1190	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.472	17.472	0	1.002	40519355	9525971	11781	29452	809		
305.8987	17.472	17.472	0	1.002	52031943	12160495	17397	43492	699	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.162						11781	29452			
305.8987	17.162						17397	43492			
13C-2,3,7,8-TCDD											
331.9368	18.152	18.152	0	1.000	13490626	3255085	4993	12482	652		
333.9339	18.152	18.152	0	1.000	17605017	4318122	2381	5952	1814	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.183	18.183	0	1.002	13964743	3461373	2961	7402	1169		
321.8936	18.183	18.183	0	1.002	17707928	4392166	2492	6230	1763	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.616						2961	7402			
321.8936	17.616						2492	6230			
A F1 PeCDFs											
339.8597	20.035						1859	4647			
341.8567	20.035						1149	2872			
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	21.997	23.226	-74	1.000	67653	12536	2739	6847	5		
341.8567	21.997	23.226	-74	1.000	62163	11244	2411	6027	5	1.09(1.32-1.78)	
339.8597	22.556	23.226	-40	1.000	118783	24762	2739	6847	9		
341.8567	22.556	23.226	-40	1.000	122652	18232	2411	6027	8	0.97(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
339.8597	23.143	23.226	-5	1.000	114367	20070	2739	6847	7		
341.8567	23.115	23.226	-7	1.000	55961	9852	2411	6027	4	2.04(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.531						2204	5510			
357.8516	23.531						1223	3057			
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.363						4081	10202			
375.8178	30.363						2975	7437			
A Non-2,3,7,8-sub-HxCDD											
389.8157	31.095	30.995	6	1.000	186505	40667	2606	6515	16		
391.8127	31.095	30.995	6	1.000	154392	36184	2402	6005	15	1.21(1.05-1.43)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.819	33.819	0	1.000	15344750	5295153	12779	31947	414		
409.7789	33.819	33.819	0	1.000	14588440	4954888	13215	33037	375	1.05(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.901	34.901	0	1.000	12871680	3931834	12779	31947	308		
409.7789	34.901	34.901	0	1.000	12113631	3678628	13215	33037	278	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.360						12779	31947			
409.7789	34.360						13215	33037			
1,2,3,4,6,7,8-HpCDD											
423.7766	34.609	34.609	0	1.000	10202188	3322588	5246	13115	633		
425.7737	34.609	34.609	0	1.000	9727356	3149754	6397	15992	492	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	35.190						5246	13115			
425.7737	35.190						6397	15992			
1,3,6,8-TCDF											
303.9016	15.008	15.008	0		22179511	6862359	11781	29452	582		
305.8987	15.008	15.008	0		28642855	8696557	17397	43492	500	0.77(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	15.930	15.930	0		13891082	4048490	2961	7402	1367		
321.8936	15.930	15.930	0		17639014	5090189	2492	6230	2043	0.79(0.65-0.89)	
2,3,4,7-TCDF											
303.9016	17.472	17.472	0		40519355	9525971	11781	29452	809		
305.8987	17.472	17.472	0		52031943	12160495	17397	43492	699	0.78(0.65-0.89)	
1,2,3,7-TCDD											
319.8965	18.062	18.062	0		12665667	3172439	2961	7402	1071		
321.8936	18.062	18.062	0		16315116	4015529	2492	6230	1611	0.78(0.65-0.89)	
1,2,3,9-TCDF											
303.9016	18.349	18.349	0		17467790	4191568	11781	29452	356		
305.8987	18.349	18.349	0		22593200	5430661	17397	43492	312	0.77(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	18.349	18.349	0		14195249	3431435	2961	7402	1159		
321.8936	18.349	18.349	0		18115567	4349001	2492	6230	1745	0.78(0.65-0.89)	
1,2,8,9-TCDD											
319.8965	19.302	19.302	0		13400107	3037757	2961	7402	1026		

Report Date: 11-Oct-2019 12:50:48 Chrom Revision: 2.3 09-Oct-2019 11:13:36
Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_1.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,8,9-TCDF											
303.9016	19.316	19.316	0		18510697	4200392	11781	29452	357		
305.8987	19.316	19.316	0		23751720	5339974	17397	43492	307	0.78(0.65-0.89)	
1,3,4,6,8-PeCDF											
339.8597	19.589	19.589	0		26922606	6048856	1859	4647	3254		
341.8567	19.589	19.589	0		17123623	3912613	1149	2872	3405	1.57(1.32-1.78)	
1,2,4,7,9-PeCDD											
355.8546	21.384	21.384	0		16398466	2920448	2204	5510	1325		
357.8516	21.384	21.384	0		10615803	1922559	1223	3057	1572	1.54(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	25.679	25.679	0		15832467	2447904	2204	5510	1111		
357.8516	25.679	25.679	0		10135641	1582255	1223	3057	1294	1.56(1.32-1.78)	
1,2,3,8,9-PeCDF											
339.8597	25.897	25.897	0		19387985	2873533	2739	6847	1049		
341.8567	25.911	25.897	1		12240236	1837820	2411	6027	762	1.58(1.32-1.78)	
1,2,3,4,6,8-HxCDF											
373.8208	28.219	28.219	0		19431971	2588389	4081	10202	634		
375.8178	28.219	28.219	0		15192160	2022190	2975	7437	680	1.28(1.05-1.43)	
1,2,4,6,7,9-HxCDD											
389.8157	29.790	29.790	0		13842028	2027286	2606	6515	778		
391.8127	29.790	29.790	0		11072536	1631672	2402	6005	679	1.25(1.05-1.43)	
1,2,3,4,6,7-HxCDD											
389.8157	32.200	32.200	0		13829967	4132567	2606	6515	1586		
391.8127	32.200	32.200	0		10746879	3234228	2402	6005	1346	1.29(1.05-1.43)	
1,2,3,4,8,9-HxCDF											
373.8208	32.506	32.506	0		17952527	5727094	4081	10202	1403		
375.8178	32.506	32.506	0		14309783	4540789	2975	7437	1526	1.25(1.05-1.43)	
1,2,3,4,6,7,9-HpCDD											
423.7766	34.062	34.062	0		11191640	3705502	5246	13115	706		
425.7737	34.050	34.062	-1		11091884	3643945	6397	15992	570	1.01(0.88-1.20)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Reagents:

HRDXNCP_00038 Amount Added: 1.00 Units: mL

Report Date: 11-Oct-2019 12:50:49 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_1.d
Lims ID: WDM
Client ID:
Inject. Date: 10-Oct-2019 16:02:04 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 330145 Lims Sample ID: 1

Non-2,3,7,8-sub-PeCDF, RT: 23.226

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.082				
2,3,4,7,8-PeCDF	1.103				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
21.997	67653	12536	62163	11244		1.09	R
22.556	118783	24762	122652	18232		0.97	R
23.143	114367	20070	55961	9852		2.04	R
Signal Totals:							
	300803	57368	240776	39328			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	541579	96696				1.25	RQ
	449417	86482					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (541579 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (449417 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Report Date: 11-Oct-2019 12:50:49 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_1.d
Lims ID: WDM
Client ID:
Inject. Date: 10-Oct-2019 16:02:04 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 330145 Lims Sample ID: 1

Non-2,3,7,8-sub-HxCDD, RT: 30.995

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.109				
1,2,3,6,7,8-HxCDD	1.081				
1,2,3,7,8,9-HxCDD	1.212				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
31.095	186505	40667	154392	36184		1.21	
Signal Totals:							
	186505	40667	154392	36184			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	340897	76851				1.21	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (340897 * 0.0) / (0 * 0.000)

Report Date: 11-Oct-2019 12:50:49 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_1.d		
Injection Date:	10-Oct-2019 16:02:04	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330145	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

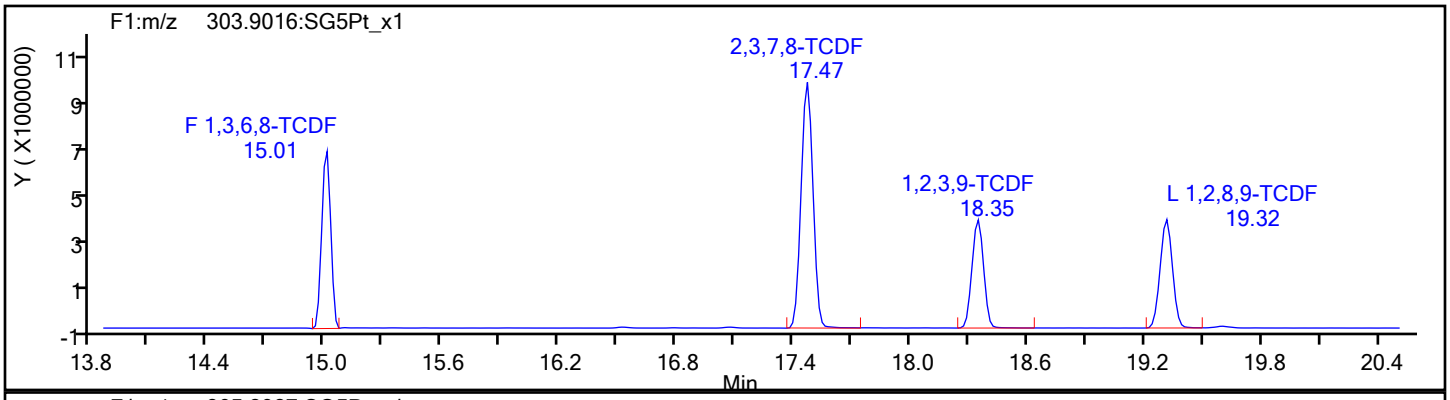

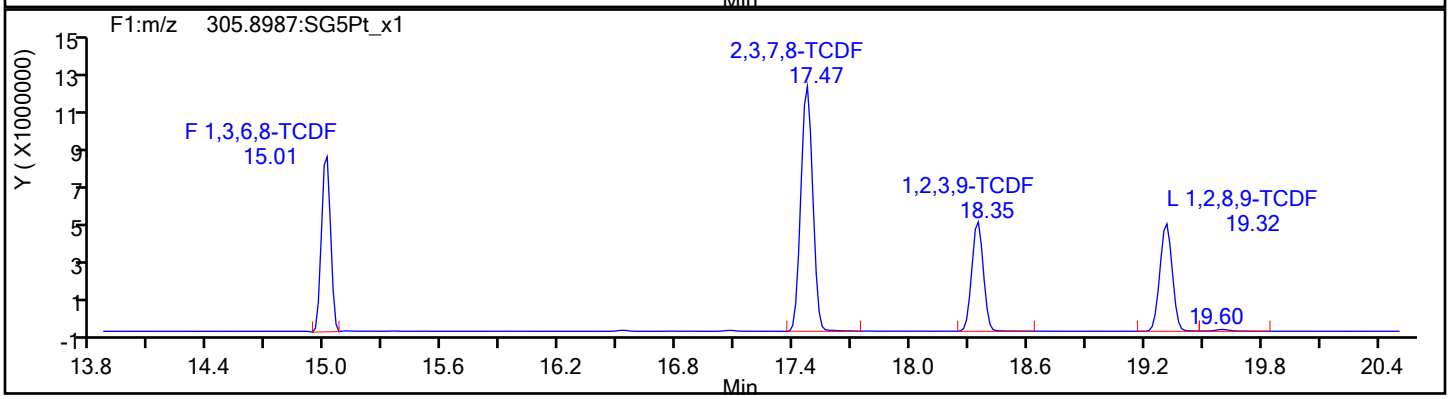

TCDF Standards

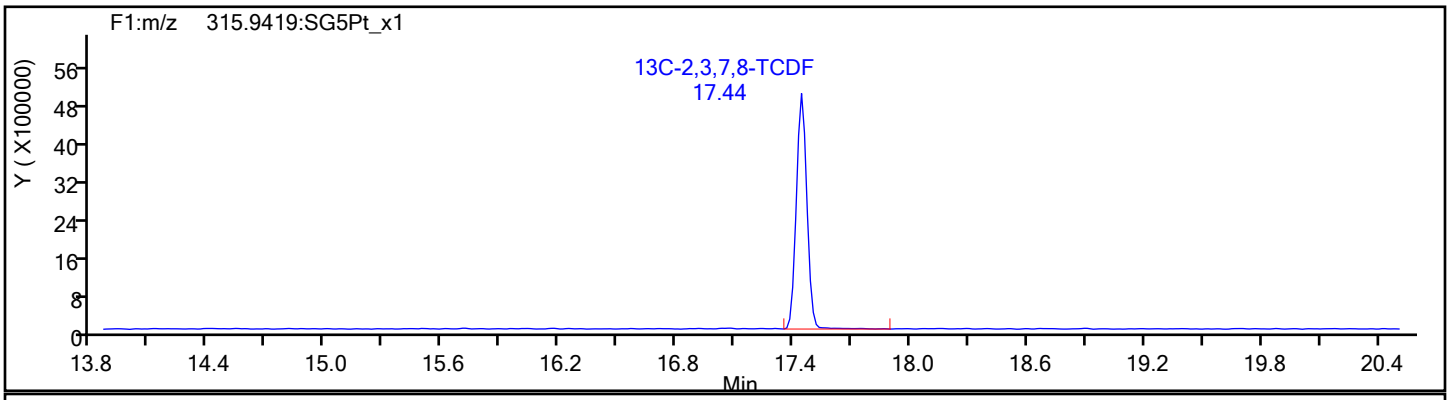

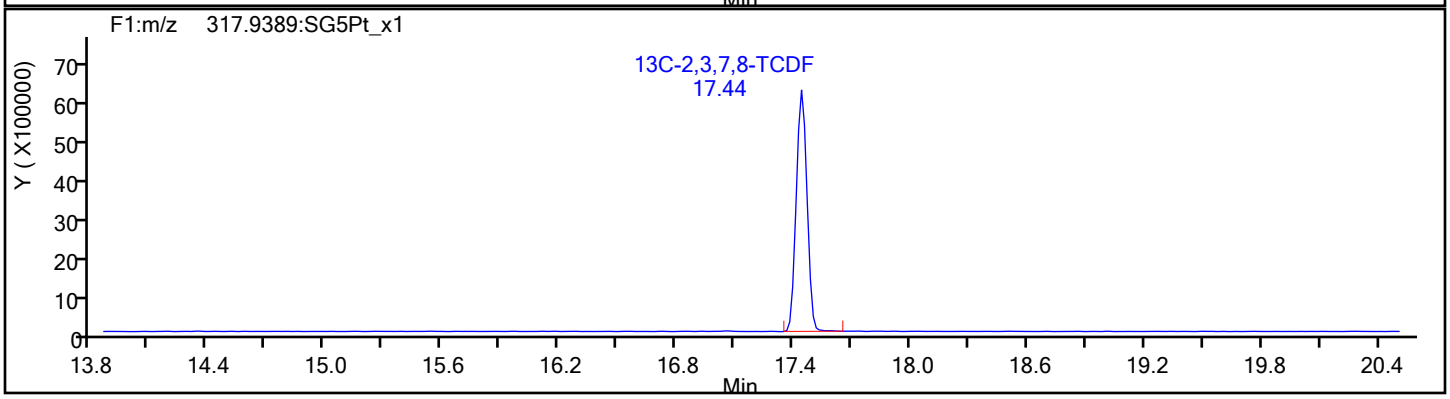

Report Date: 11-Oct-2019 12:50:49 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

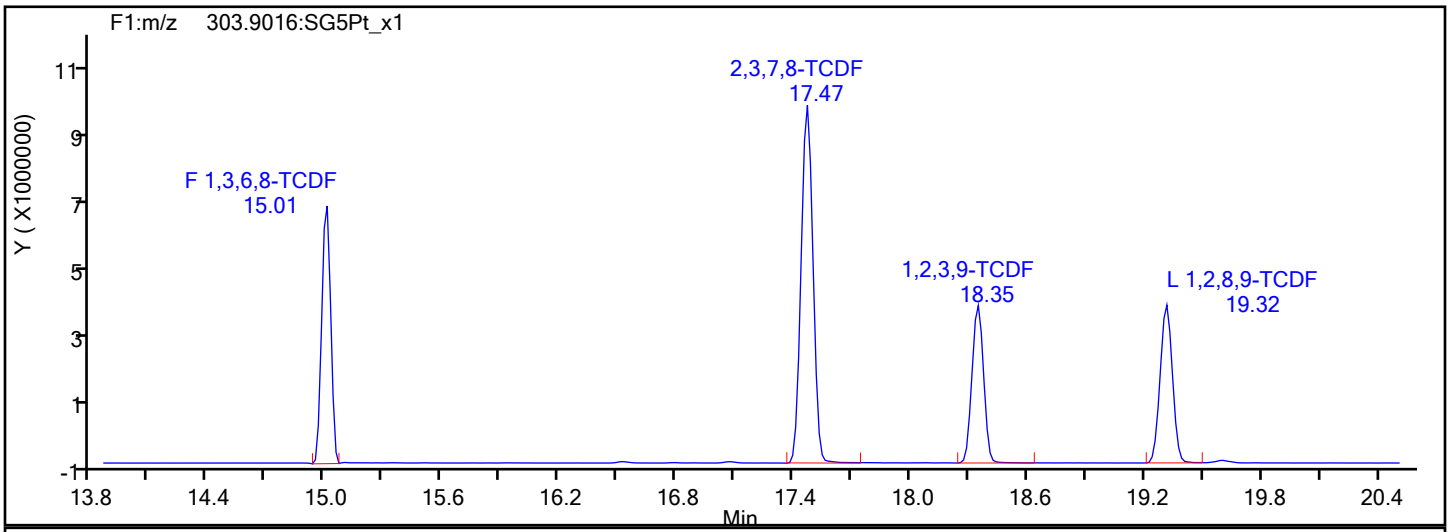

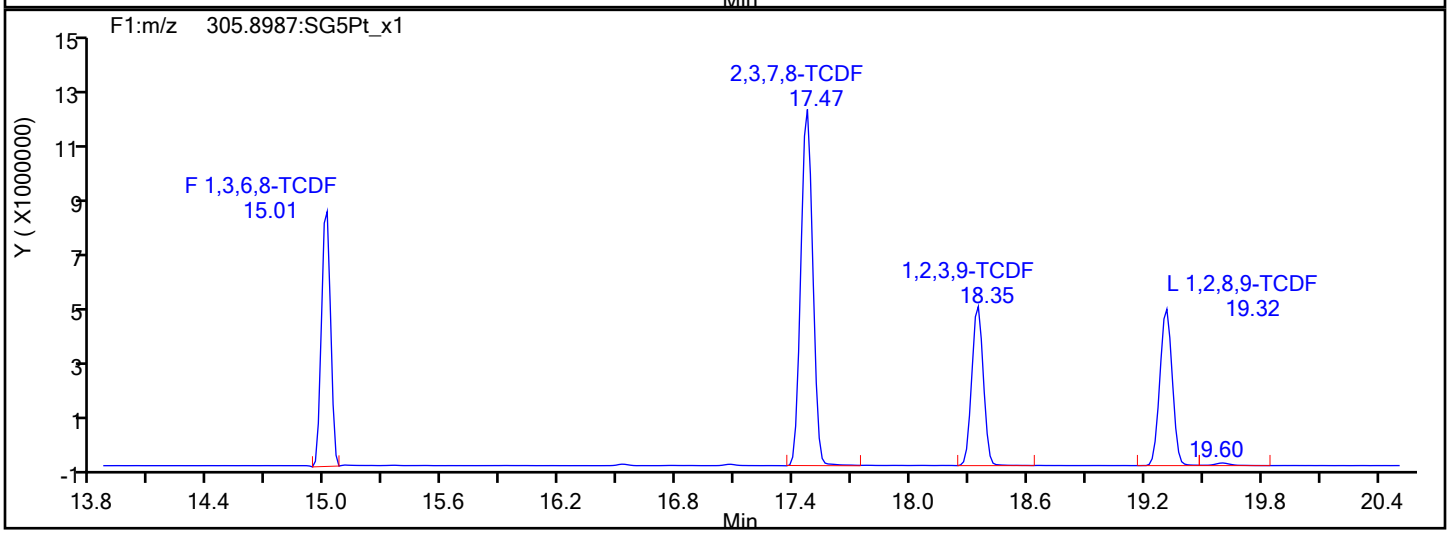

TCDF Interference Mass

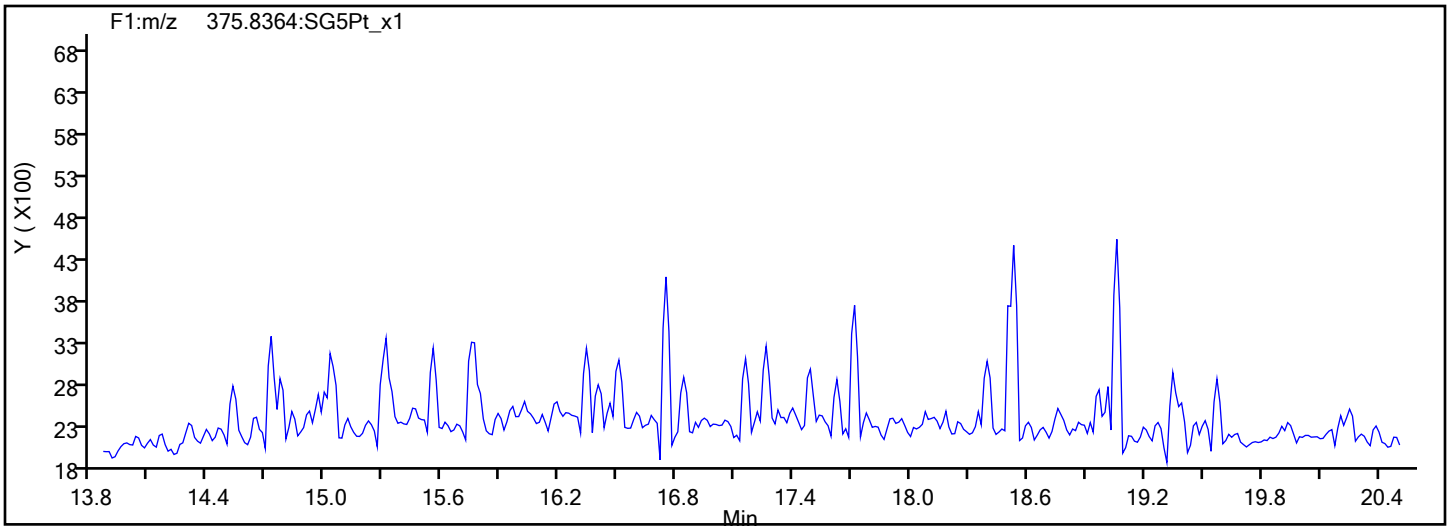

Report Date: 11-Oct-2019 12:50:49 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

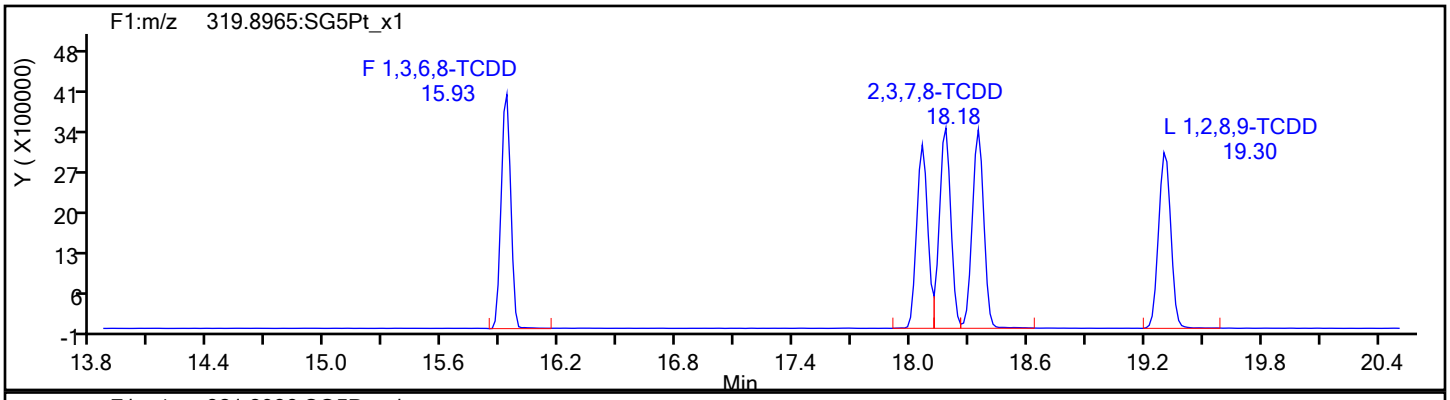

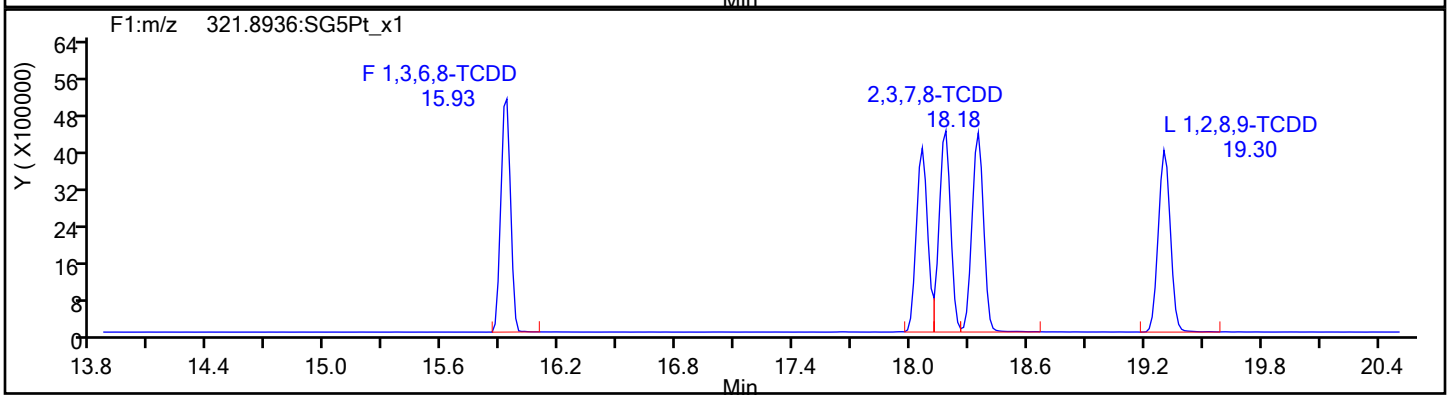

TCDD Standards

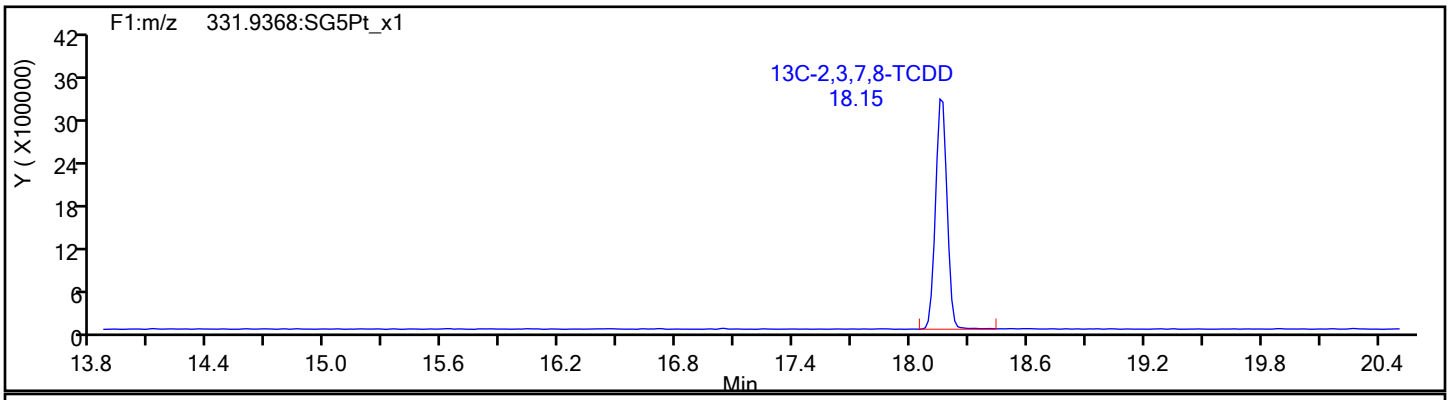

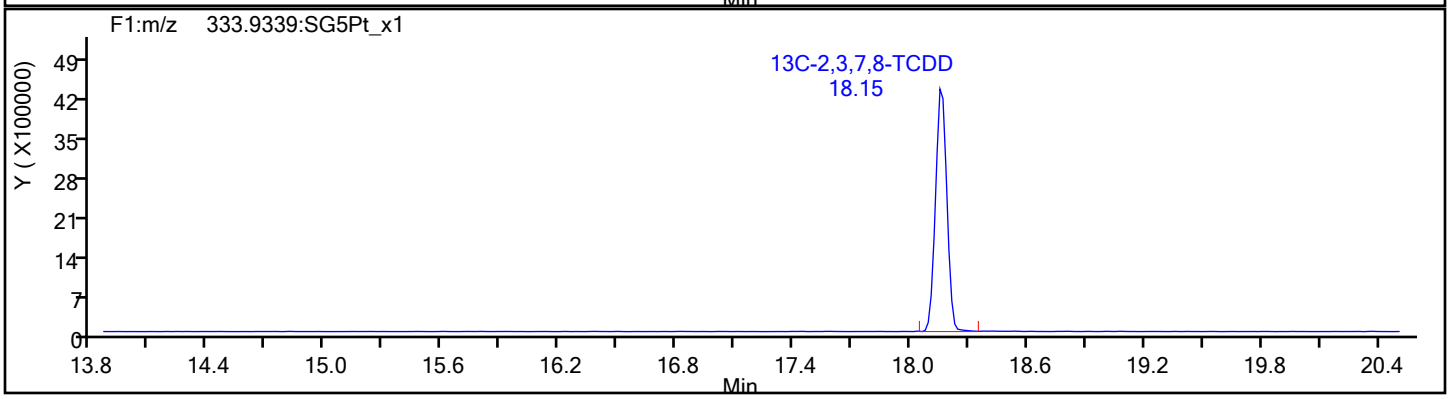

Report Date: 11-Oct-2019 12:50:49 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

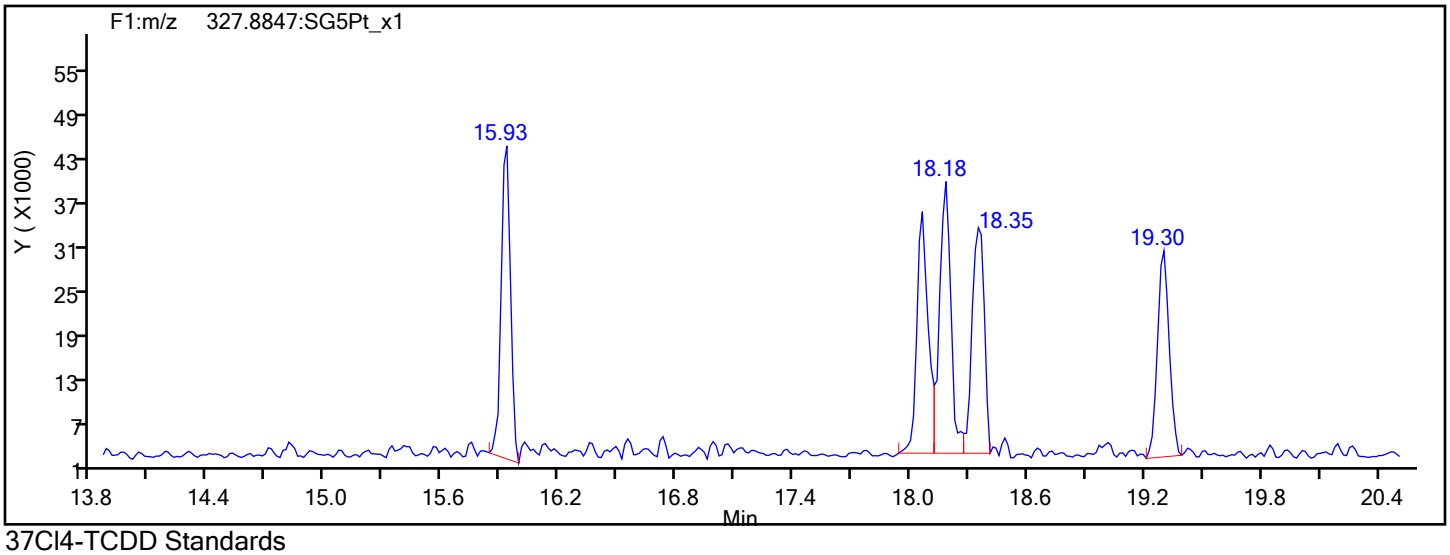

37Cl4-TCDD Standards

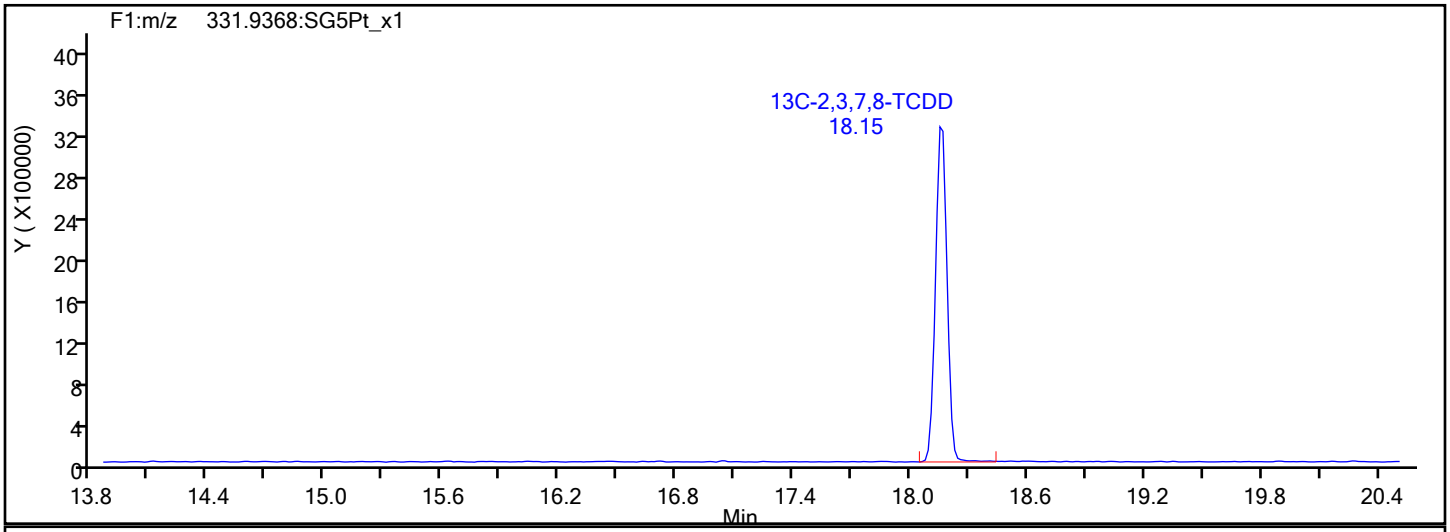

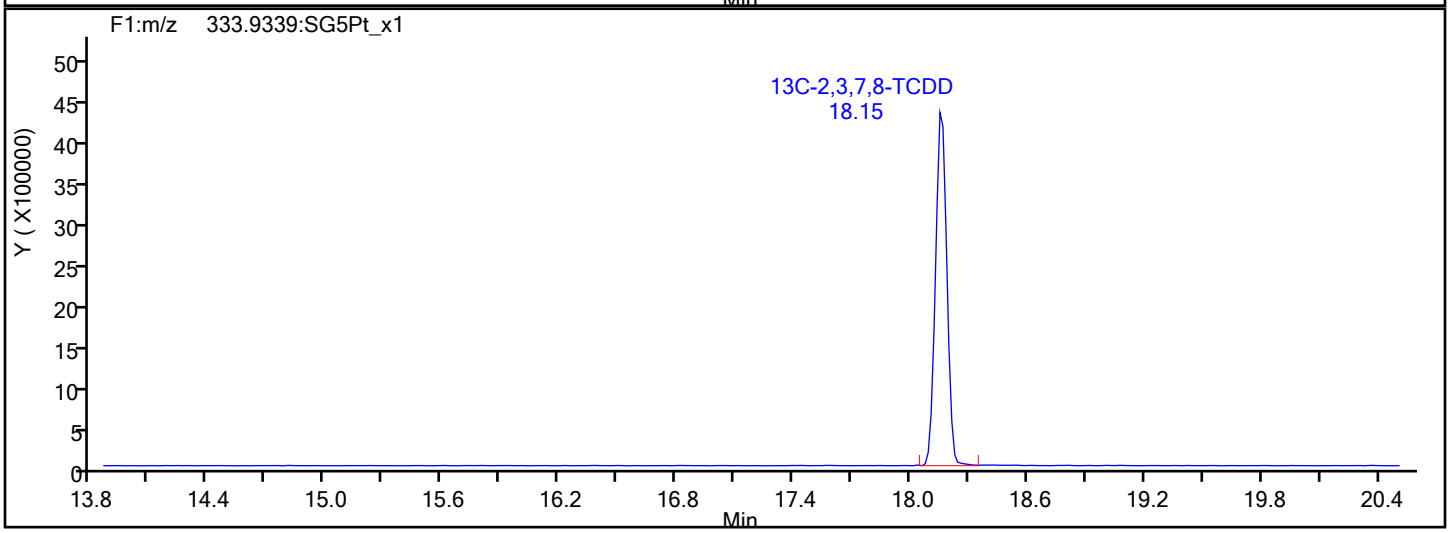

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

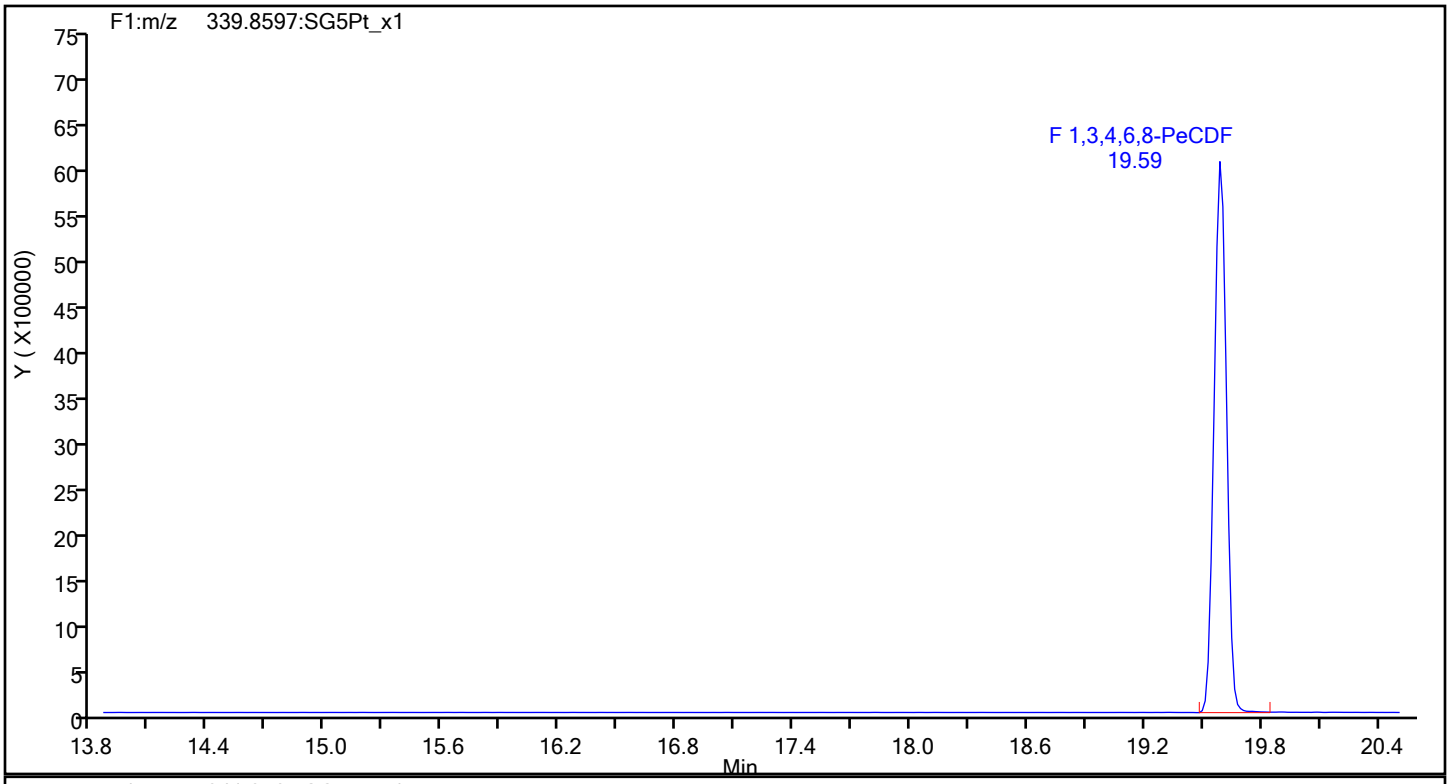

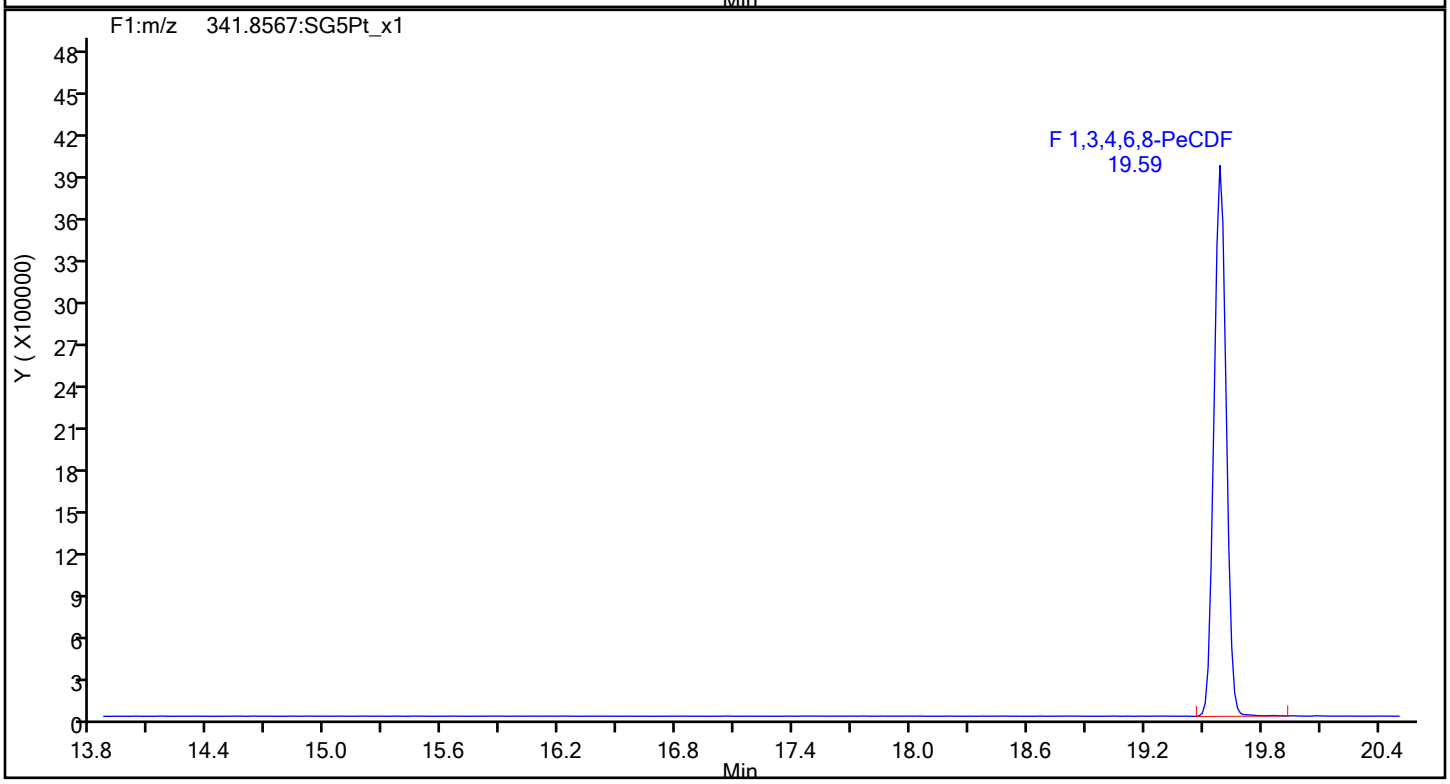

Report Date: 11-Oct-2019 12:50:49 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

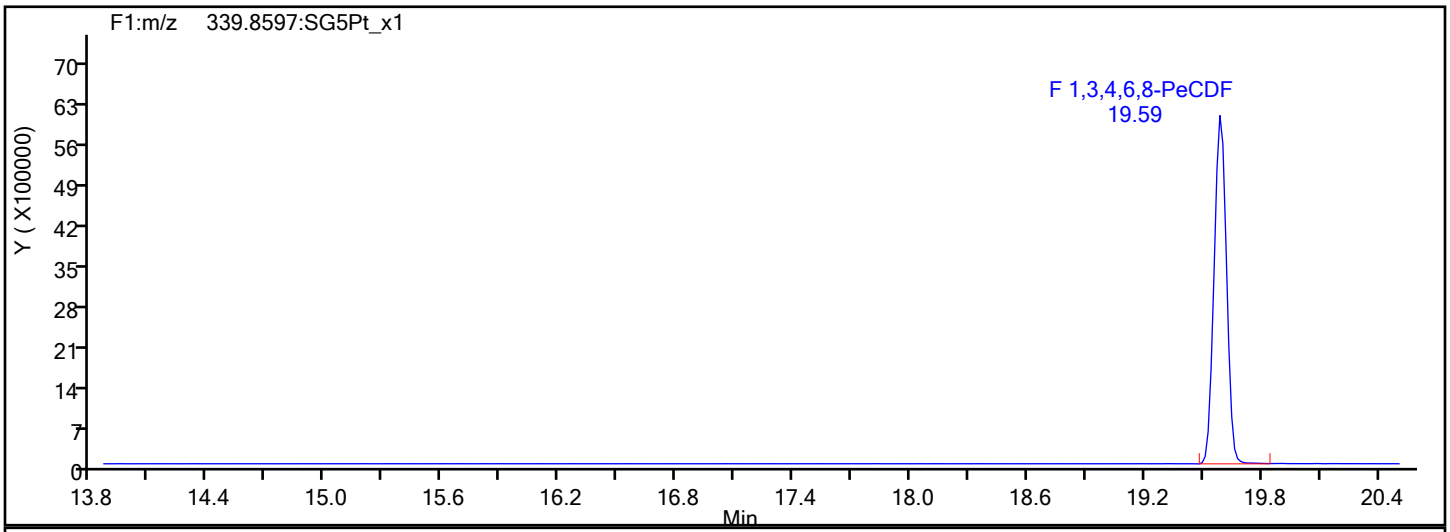

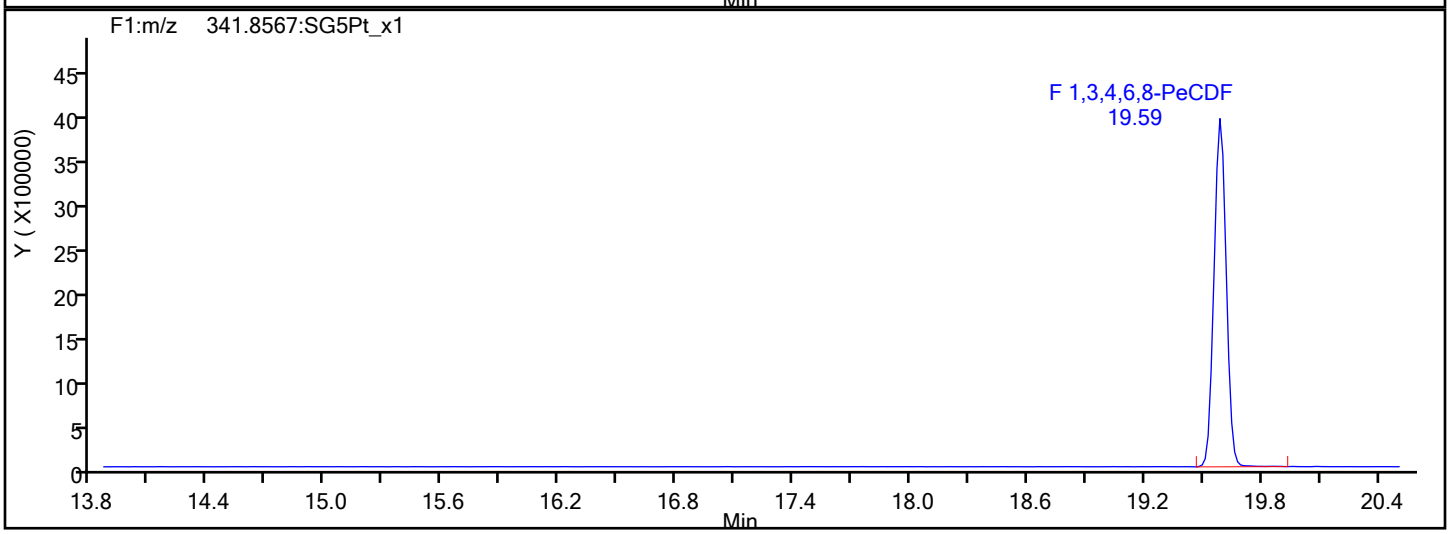

F1 PeCDFs Interference Mass

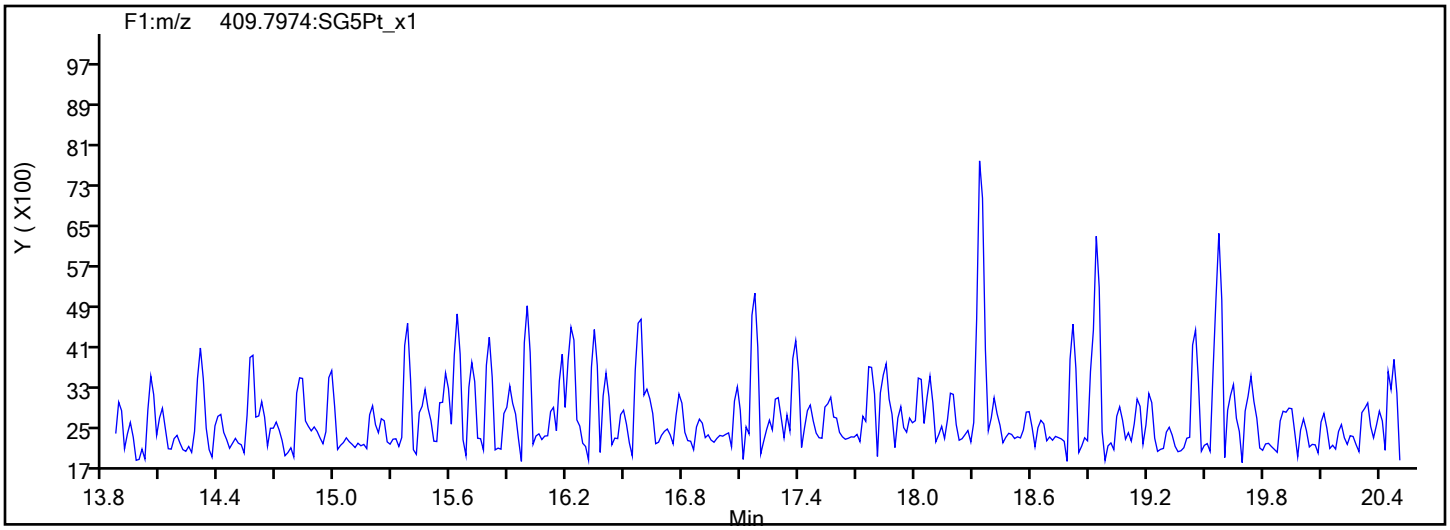

Report Date: 11-Oct-2019 12:50:49 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_1.d		
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PeCDF

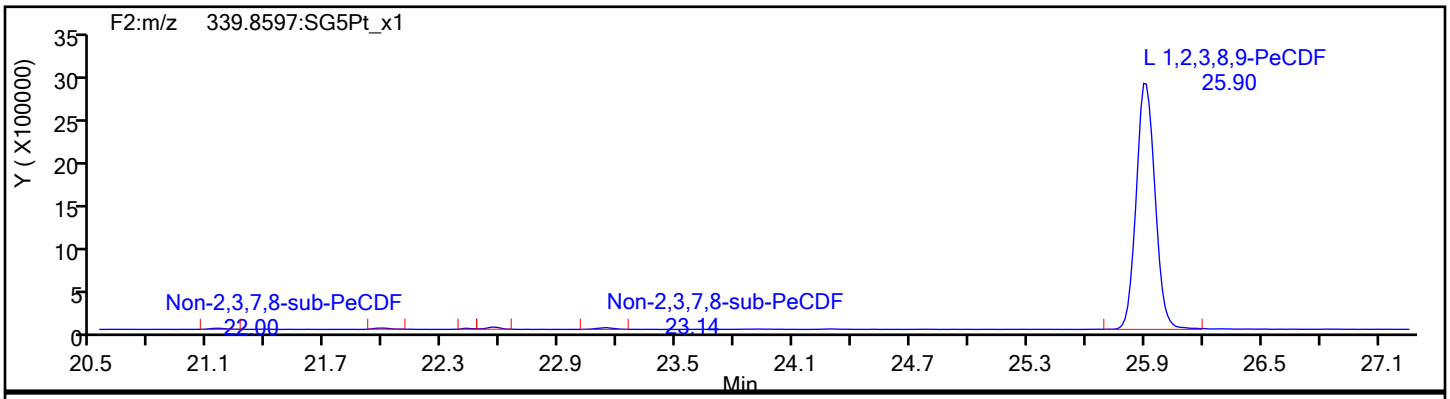

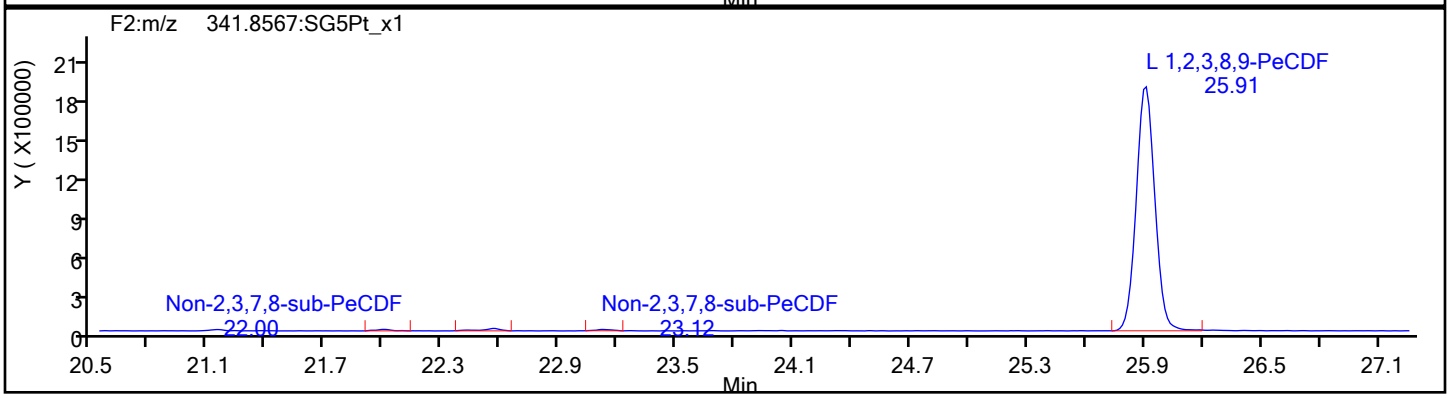

PeCDF Standards

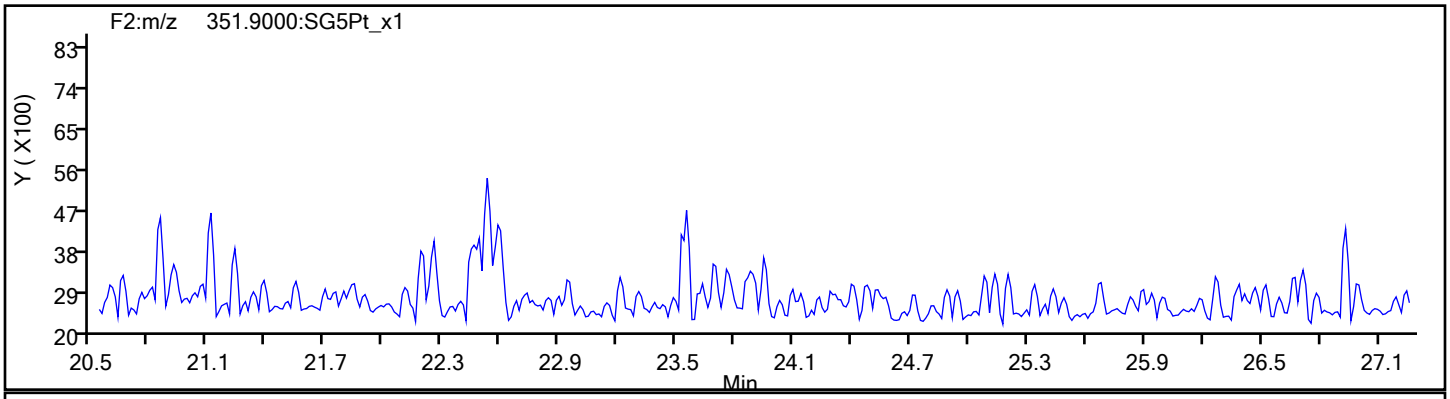

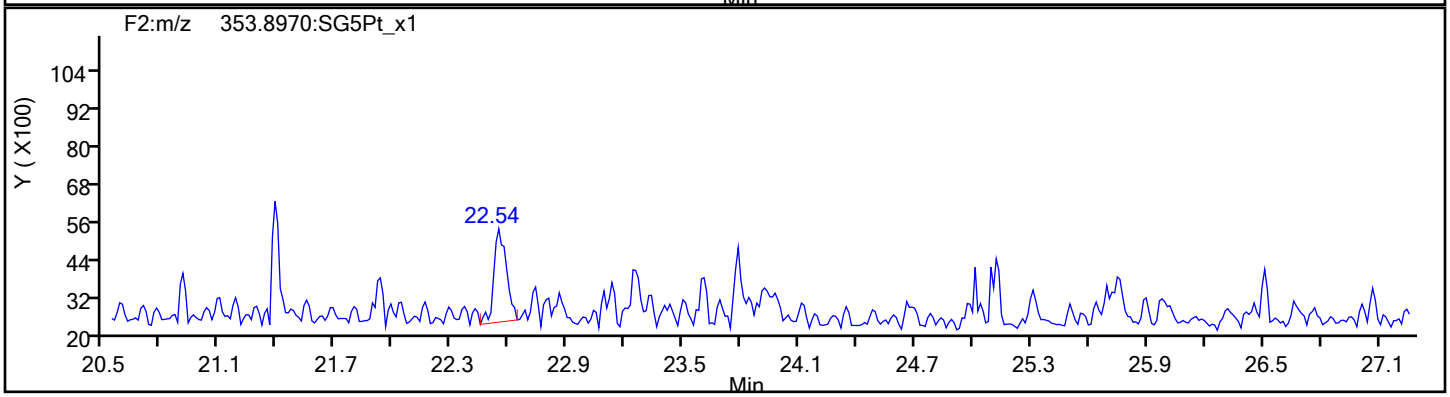

Report Date: 11-Oct-2019 12:50:49 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

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PeCDF

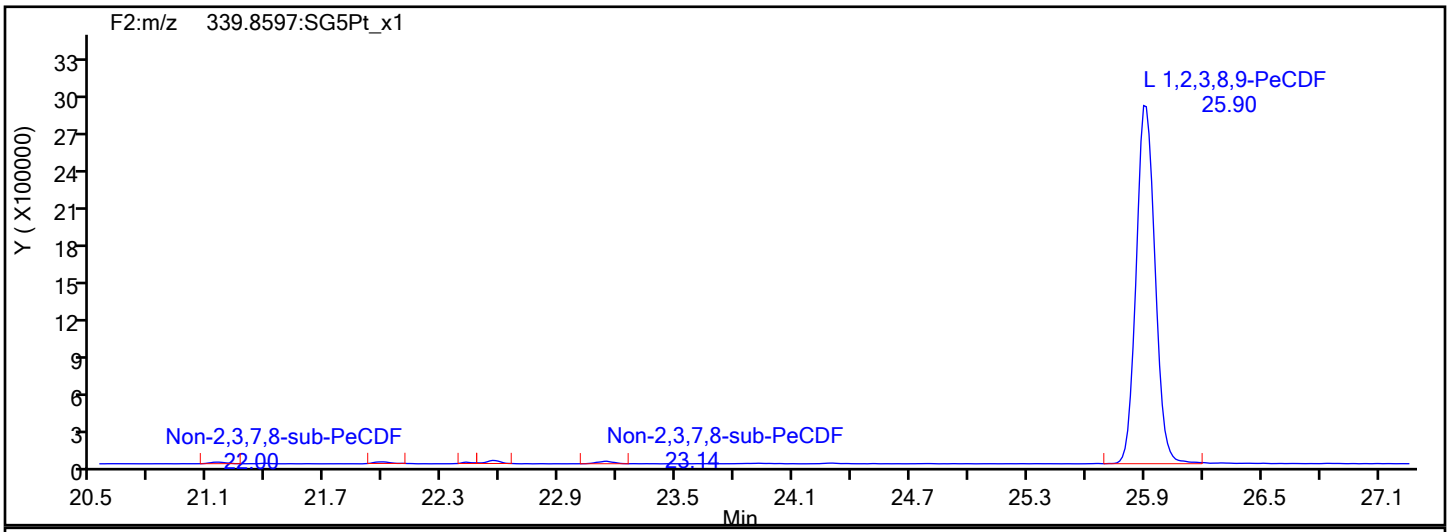

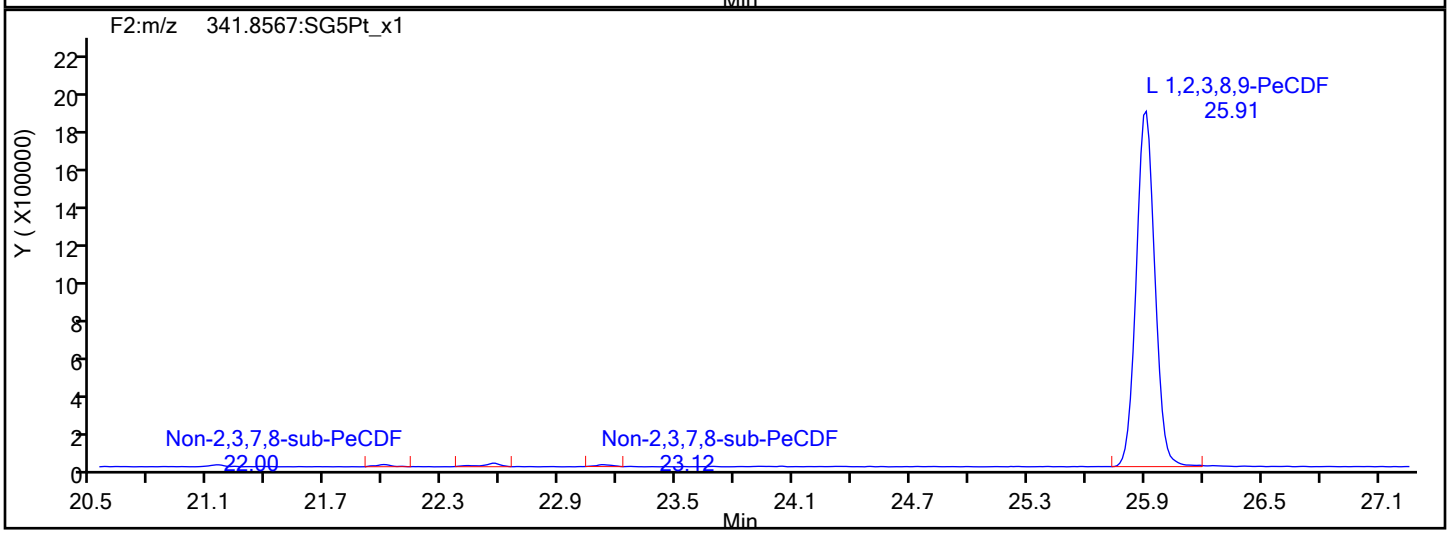

PeCDF Interference Mass

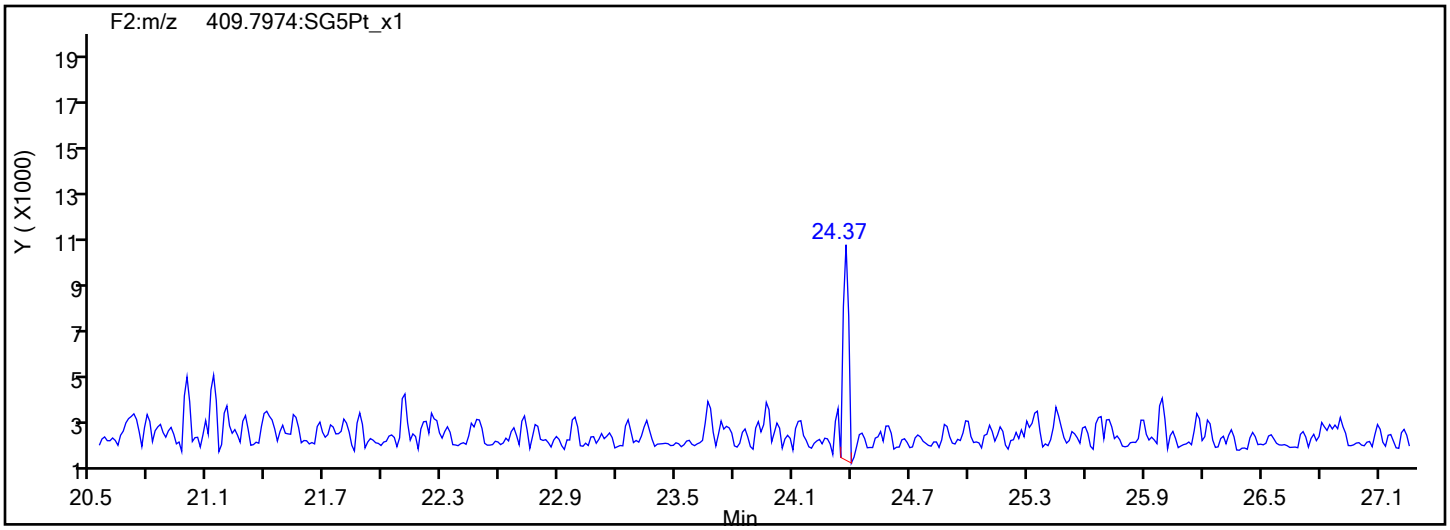

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Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

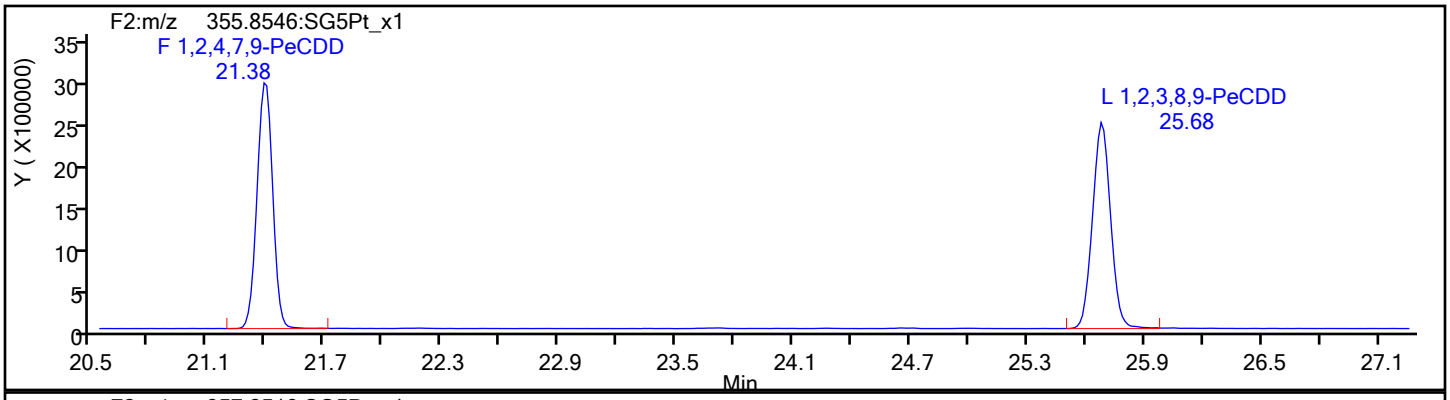

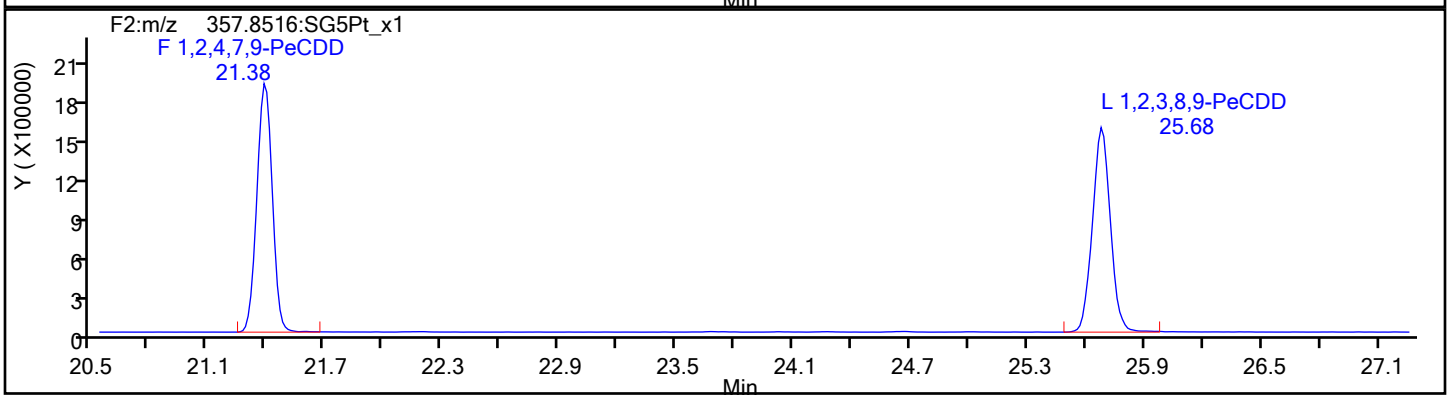

PeCDD Standards

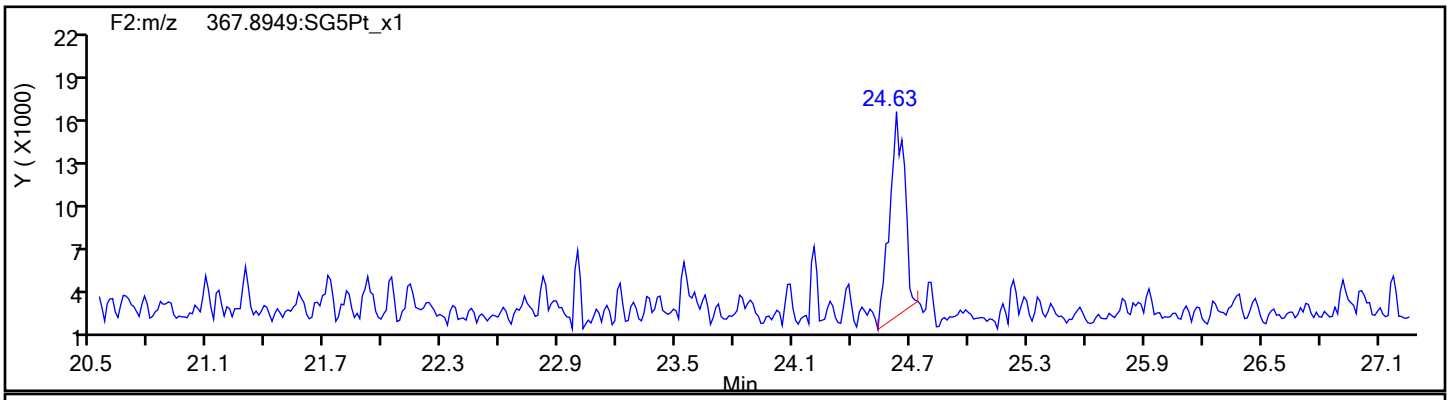

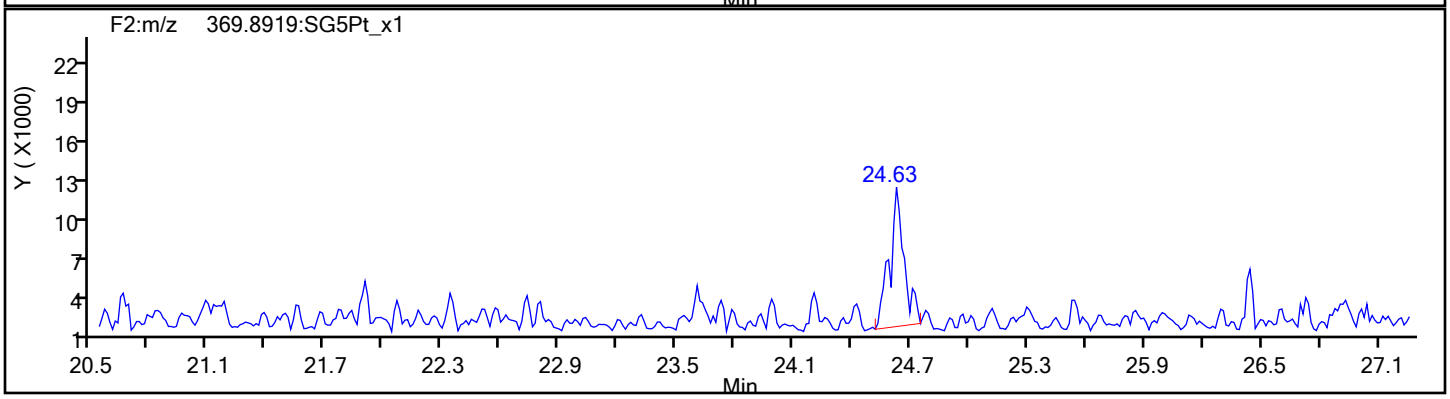

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HxCDF

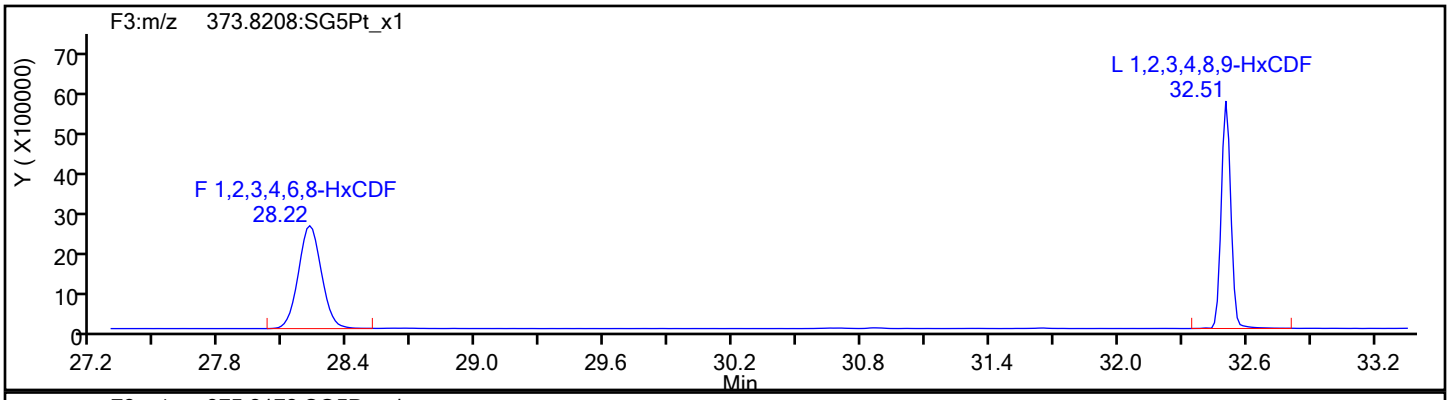

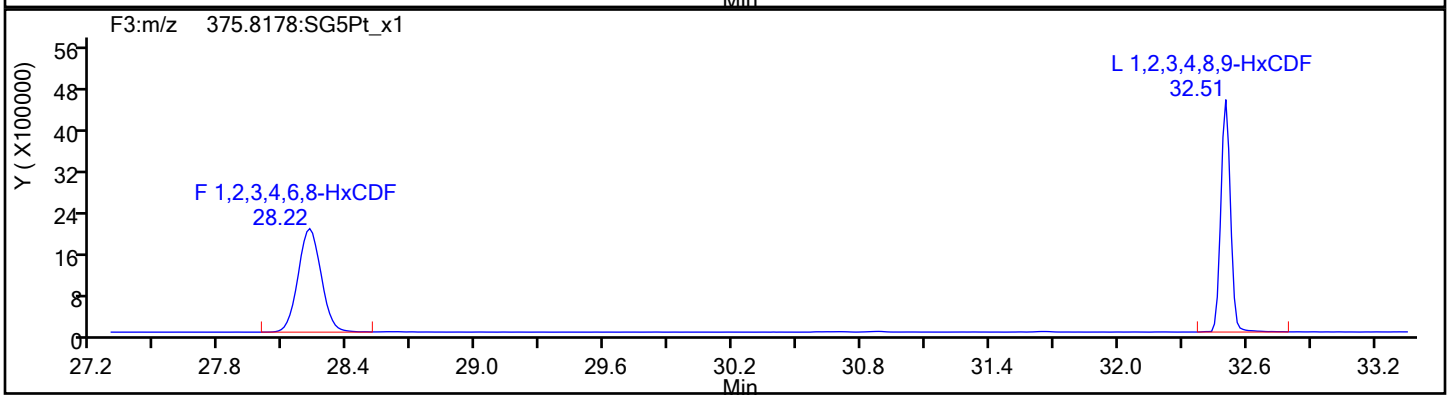

HxCDF Standards

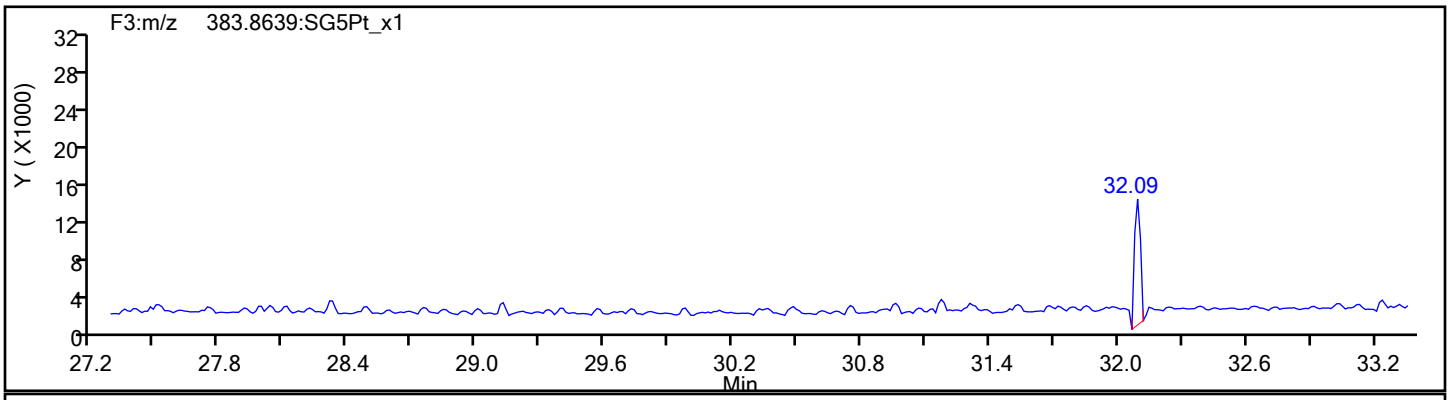

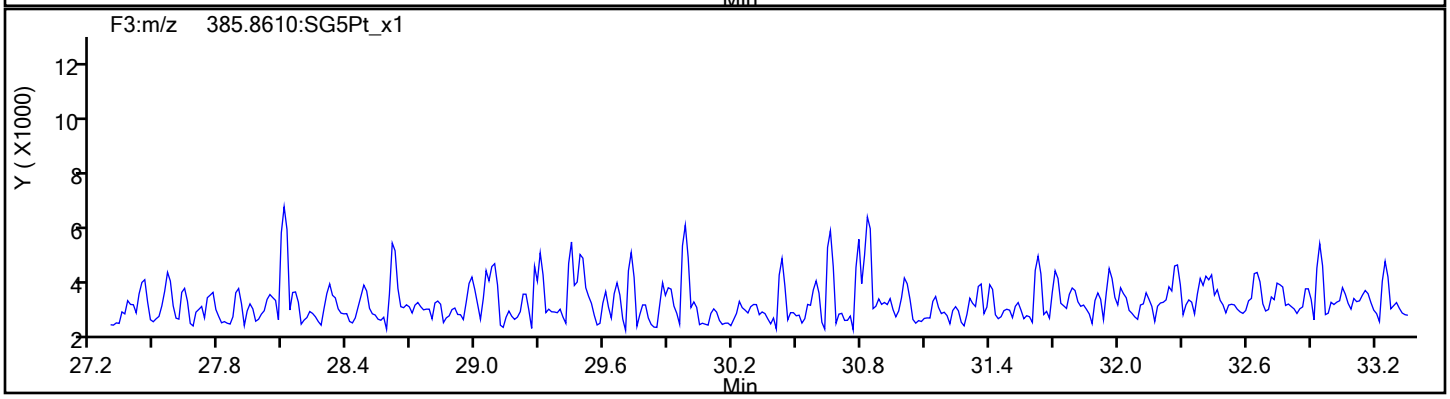

Report Date: 11-Oct-2019 12:50:49 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

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Injection Date:	10-Oct-2019 16:02:04	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

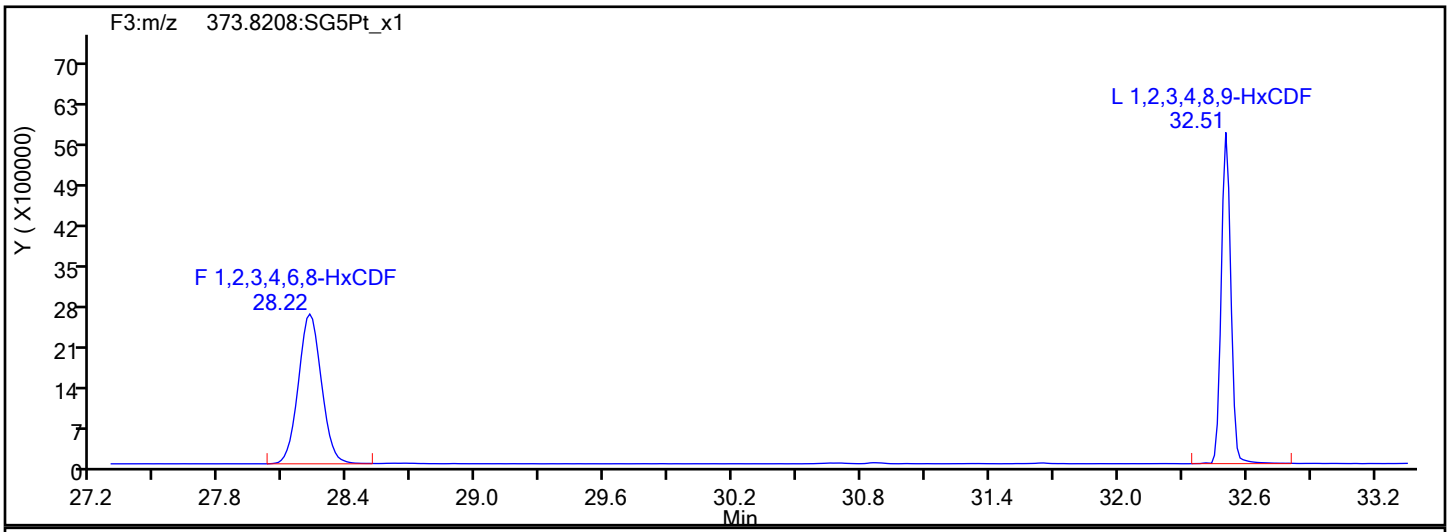

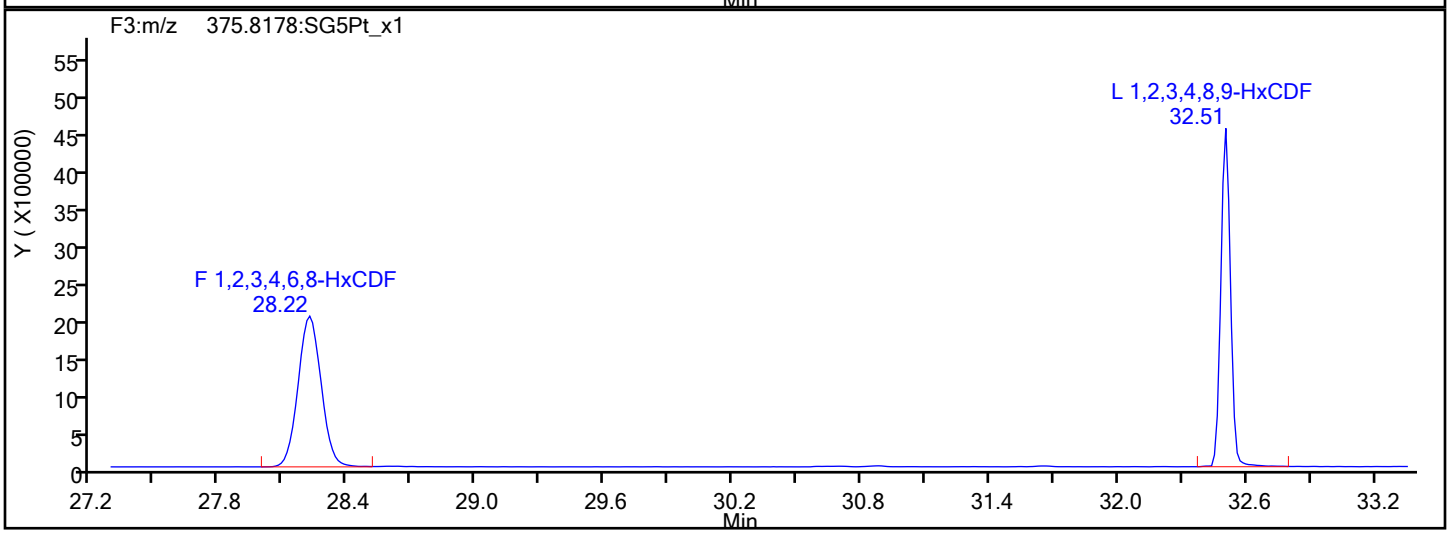

HxCDF Interference Mass

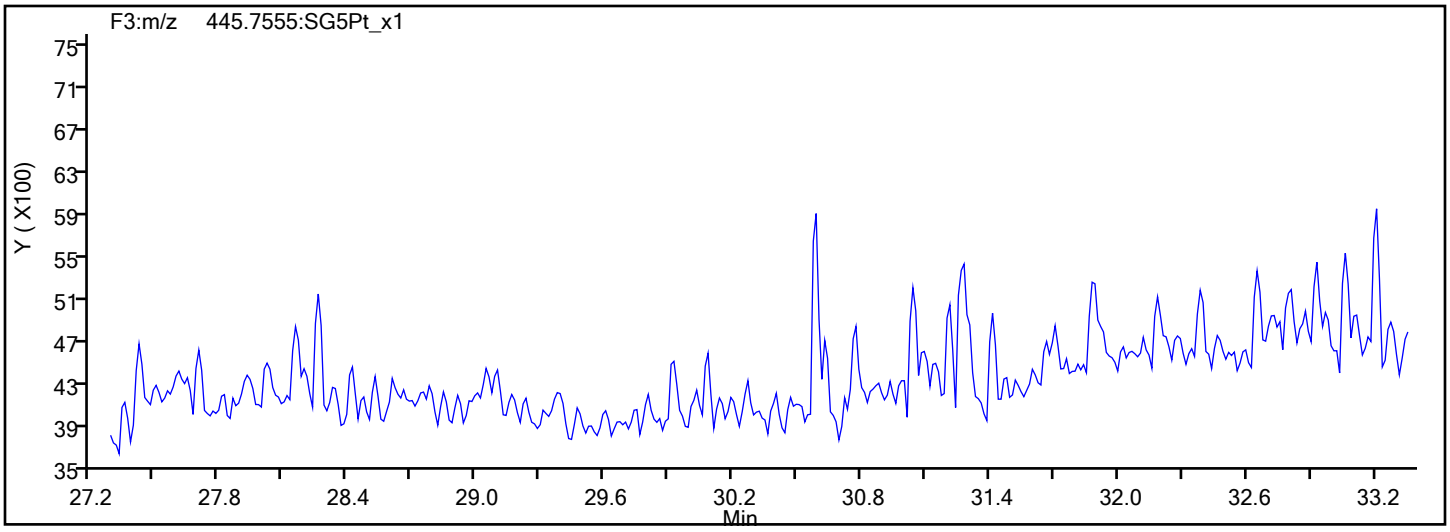

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Column Type:	DB-5	Column Dia:	0.32 mm

HxCDD

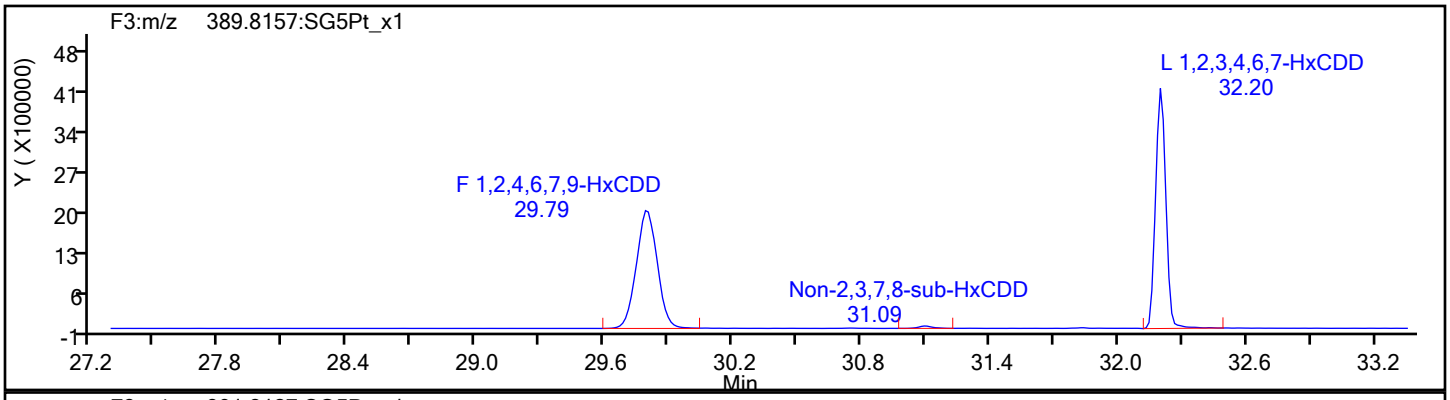

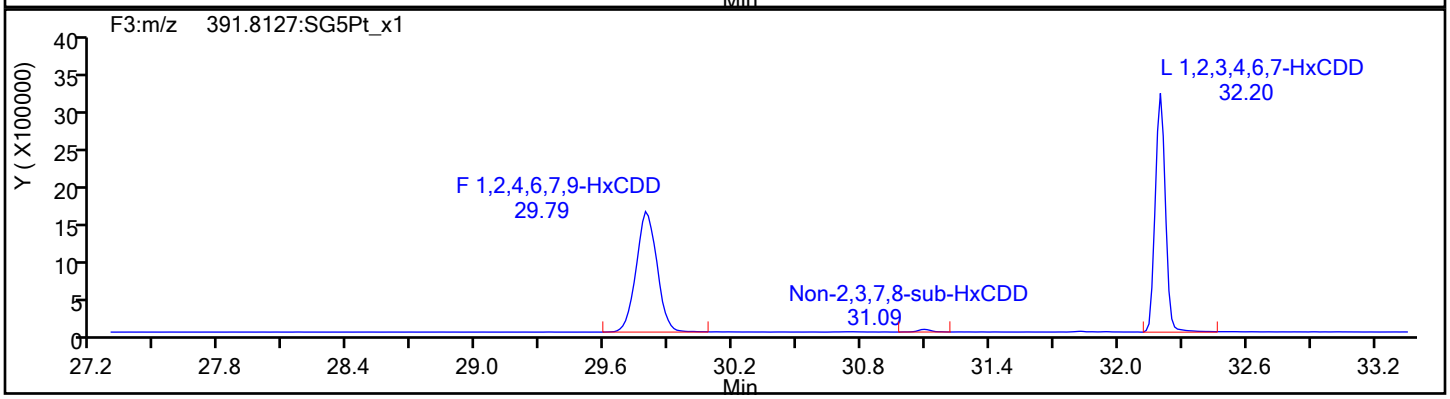

HxCDD Standards

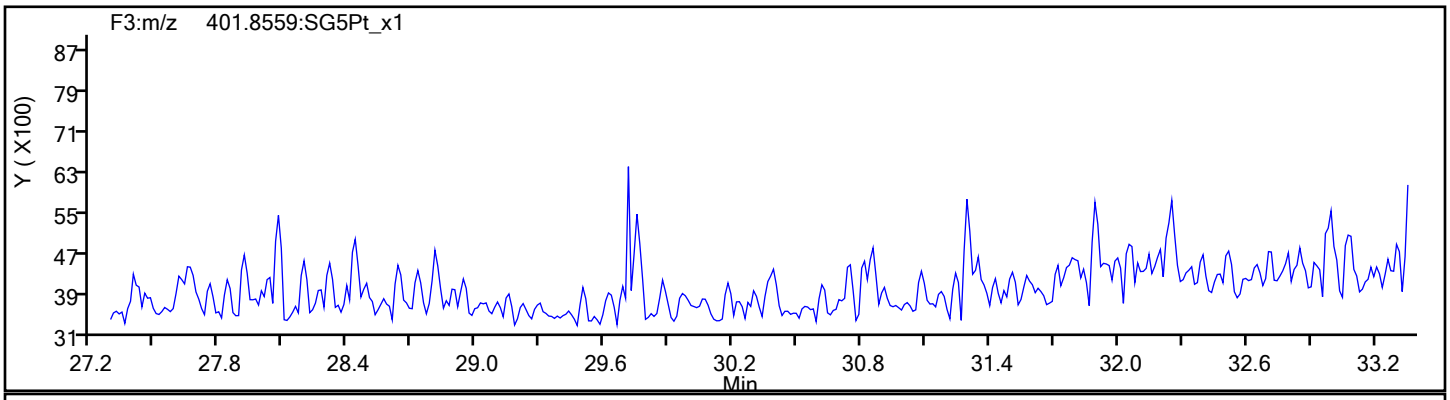

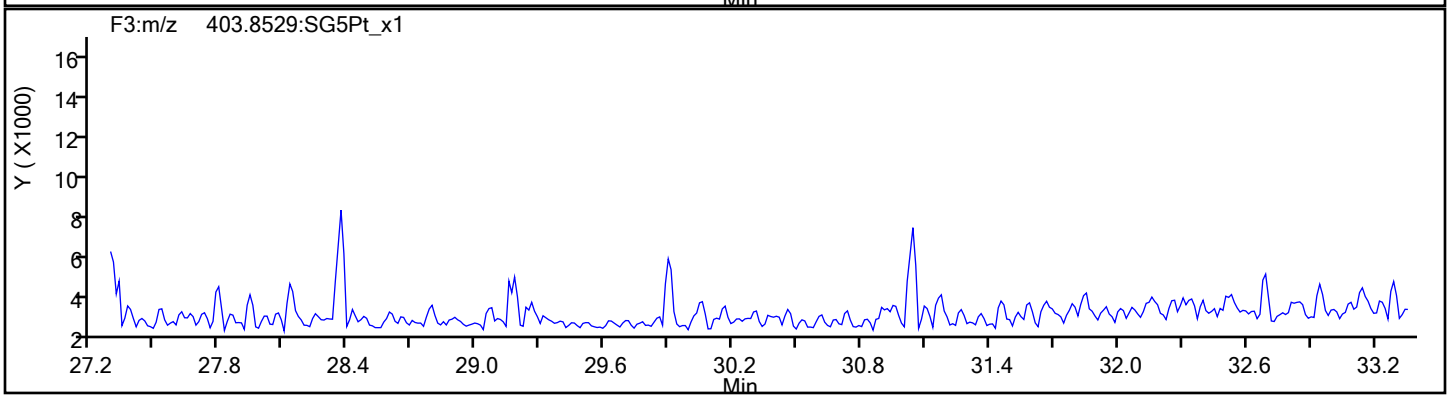

Report Date: 11-Oct-2019 12:50:49 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_1.d		
Injection Date:	10-Oct-2019 16:02:04	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330145	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

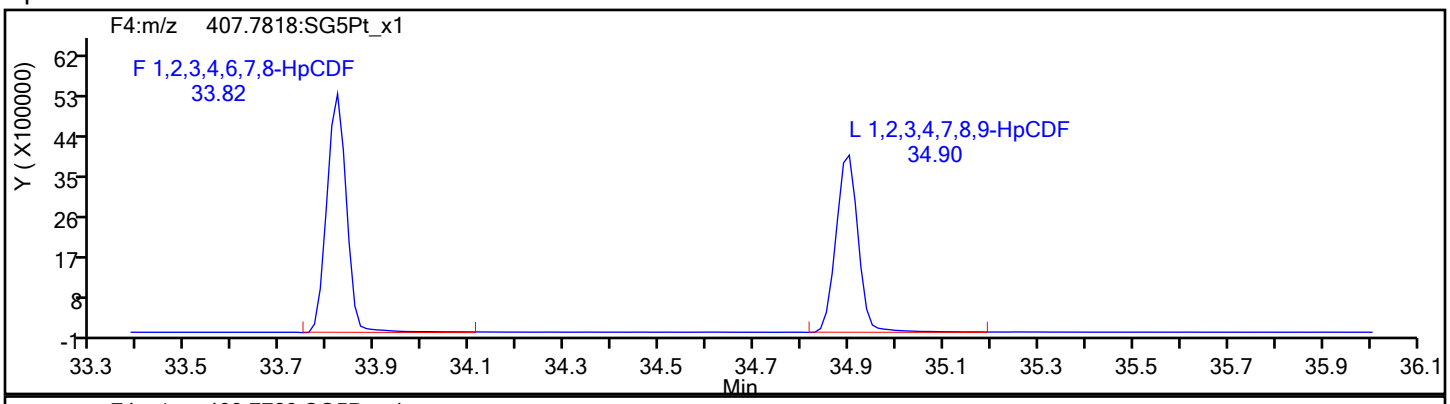

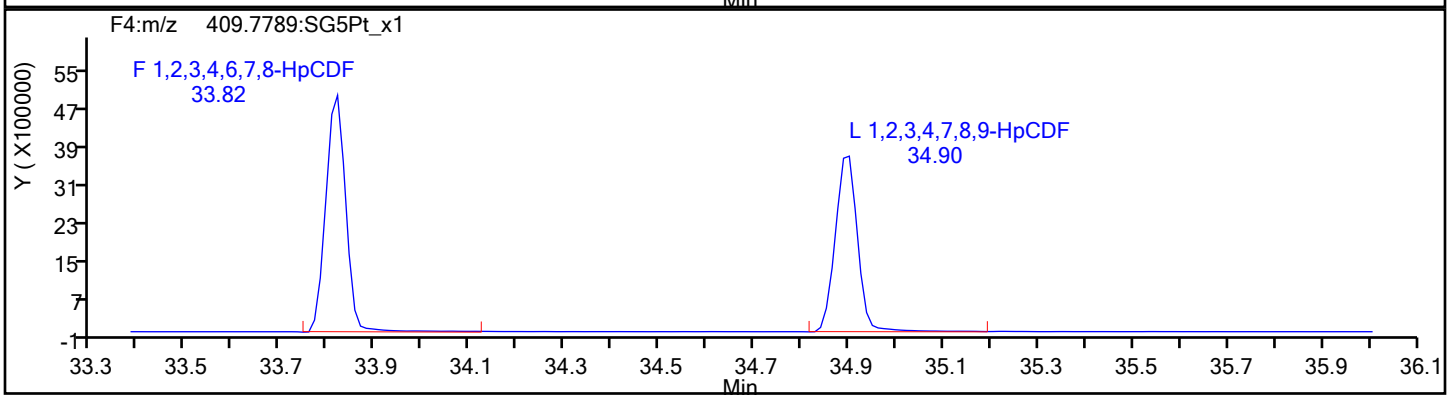

HpCDF Standards

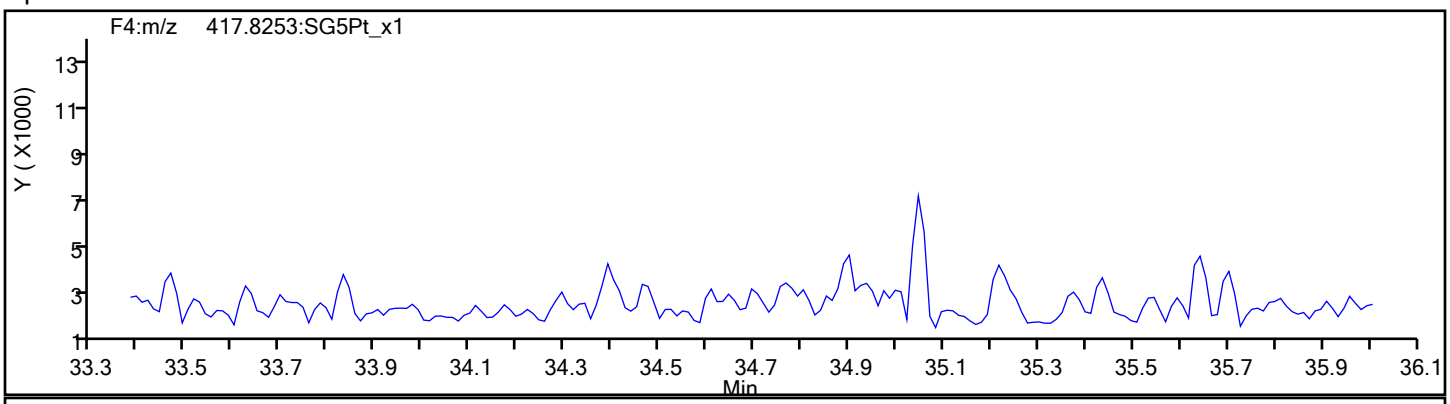

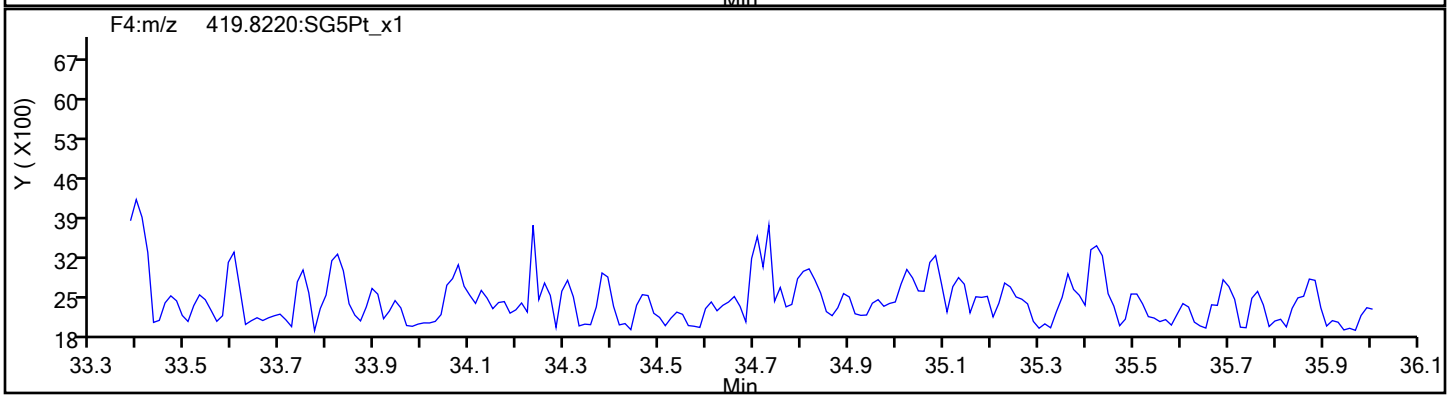

Report Date: 11-Oct-2019 12:50:49 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_1.d		
Injection Date:	10-Oct-2019 16:02:04	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330145	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

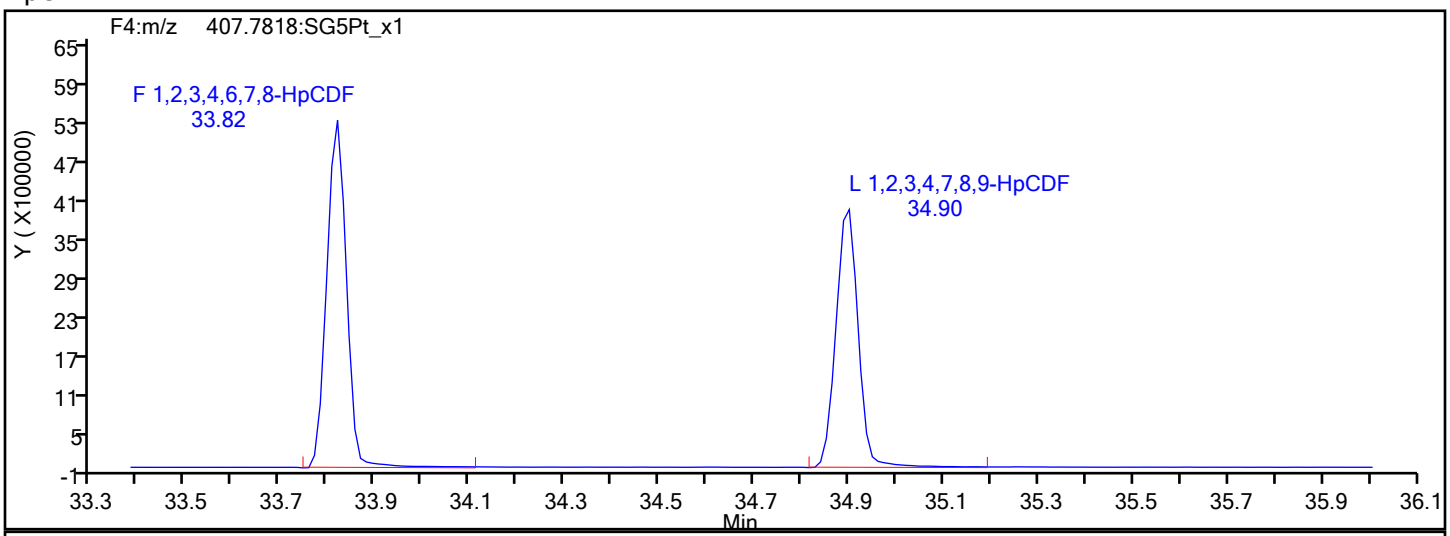

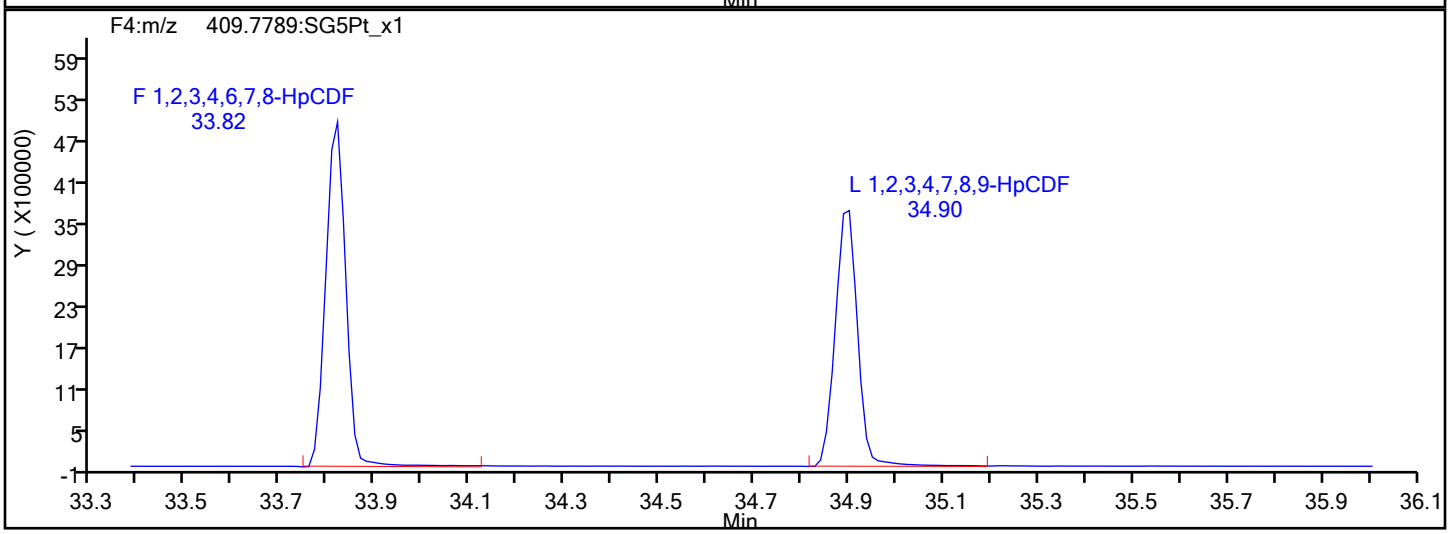

HpCDF Interference Mass

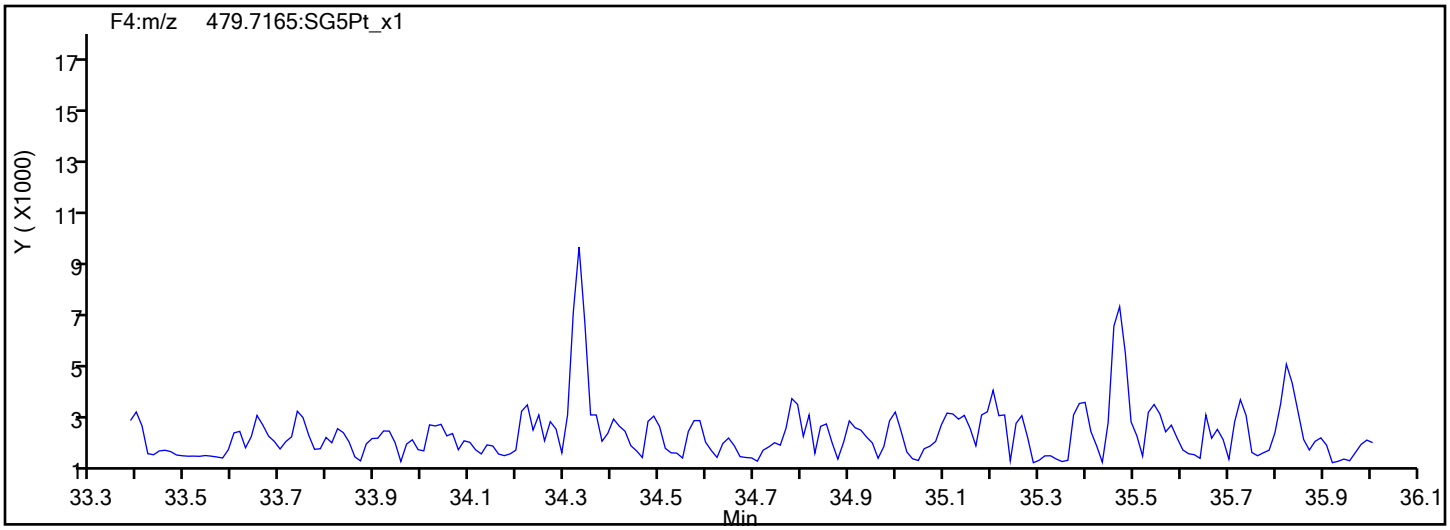

Report Date: 11-Oct-2019 12:50:49 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_1.d		
Injection Date:	10-Oct-2019 16:02:04	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330145	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

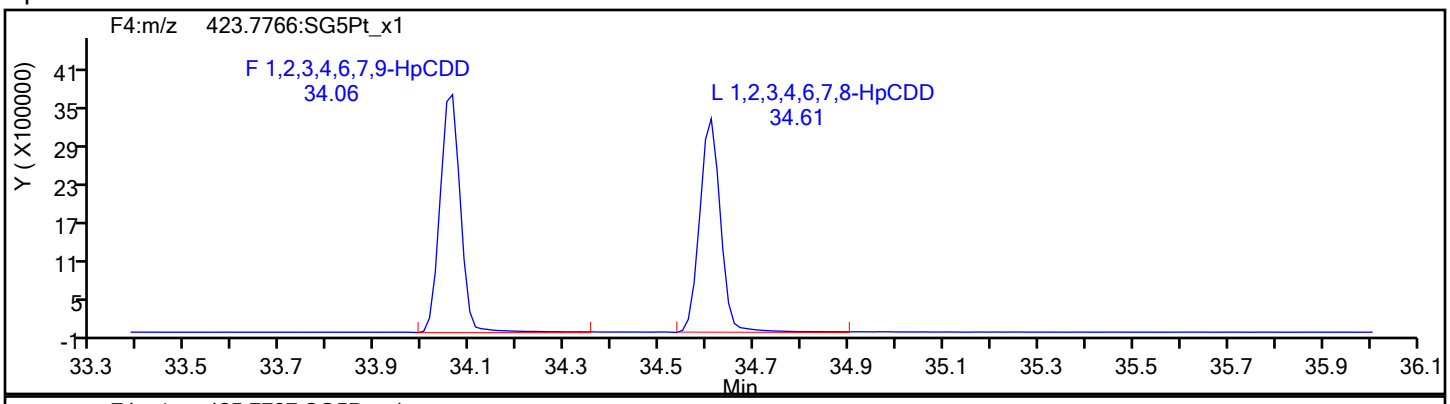

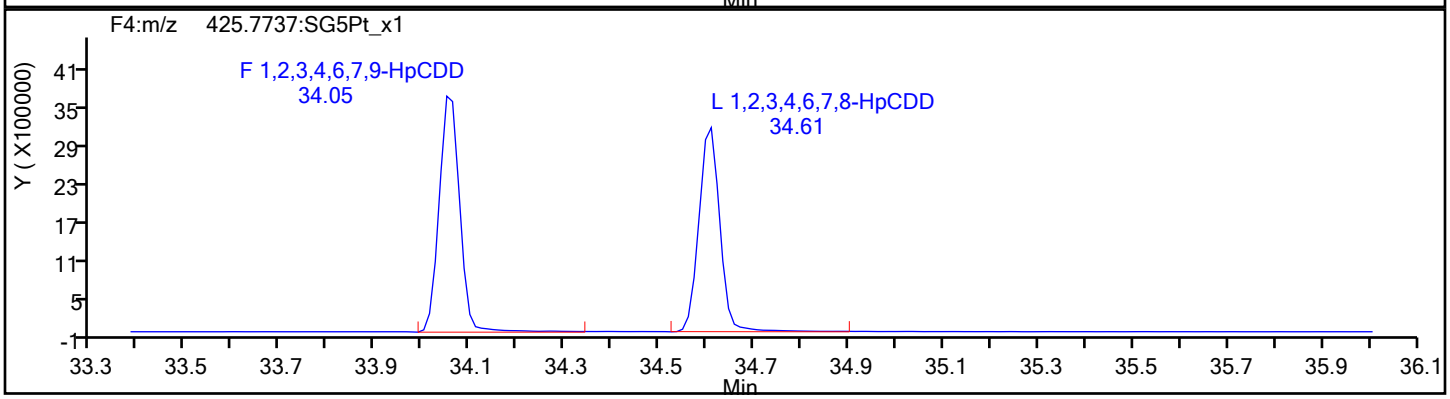

HpCDD Standards

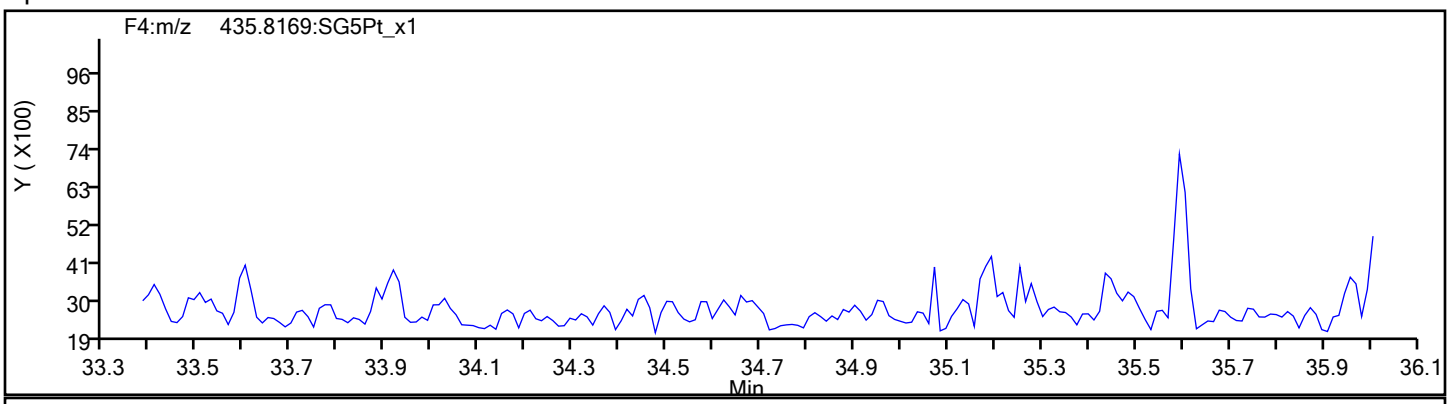

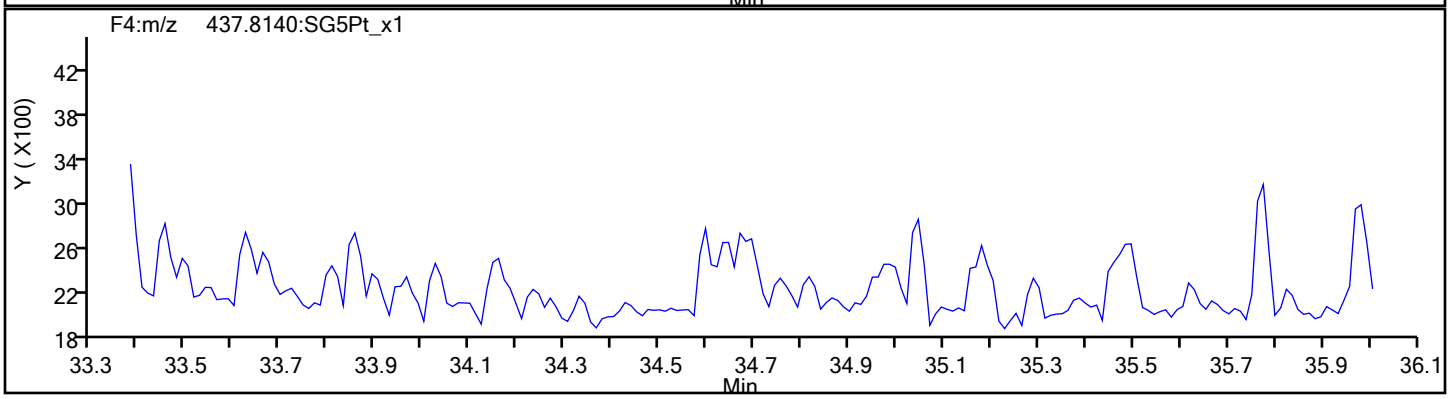

Report Date: 11-Oct-2019 12:50:49 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_1.d		
Injection Date:	10-Oct-2019 16:02:04	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330145	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

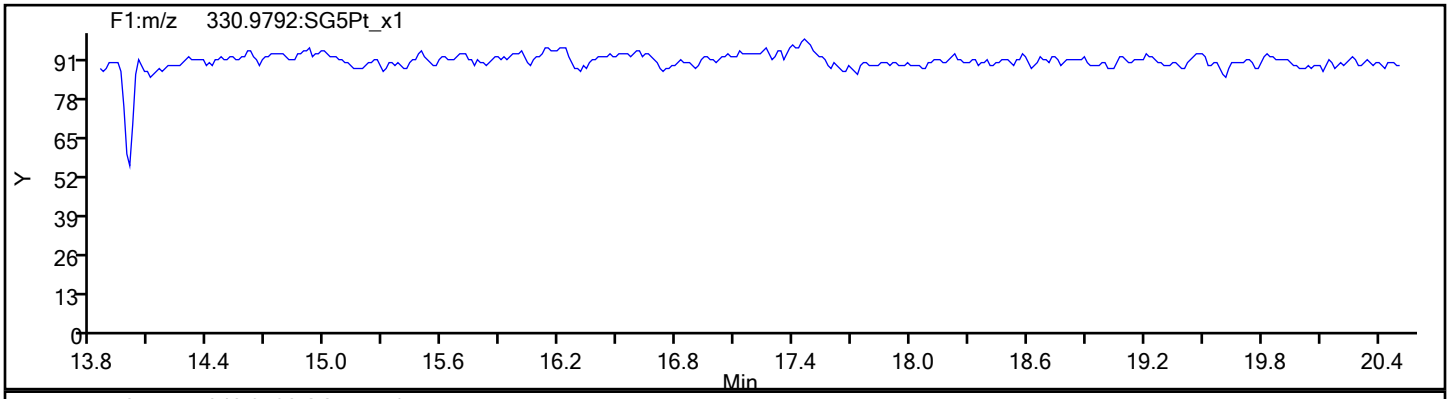

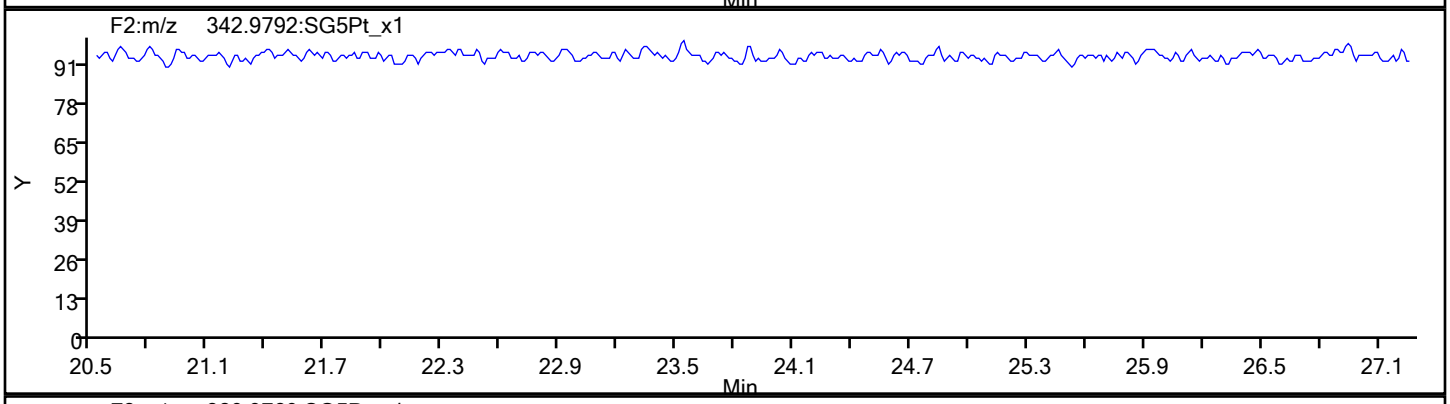

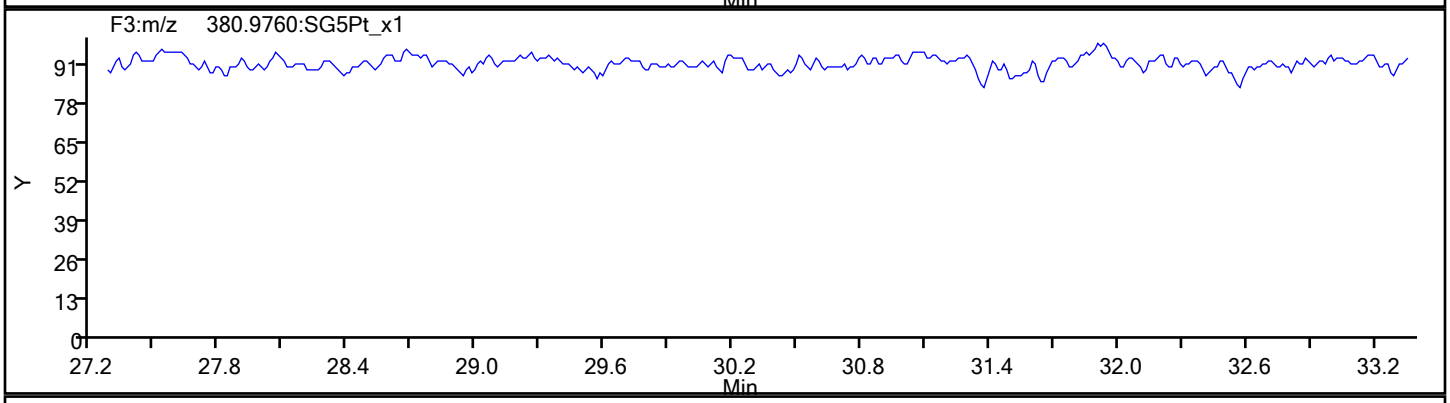

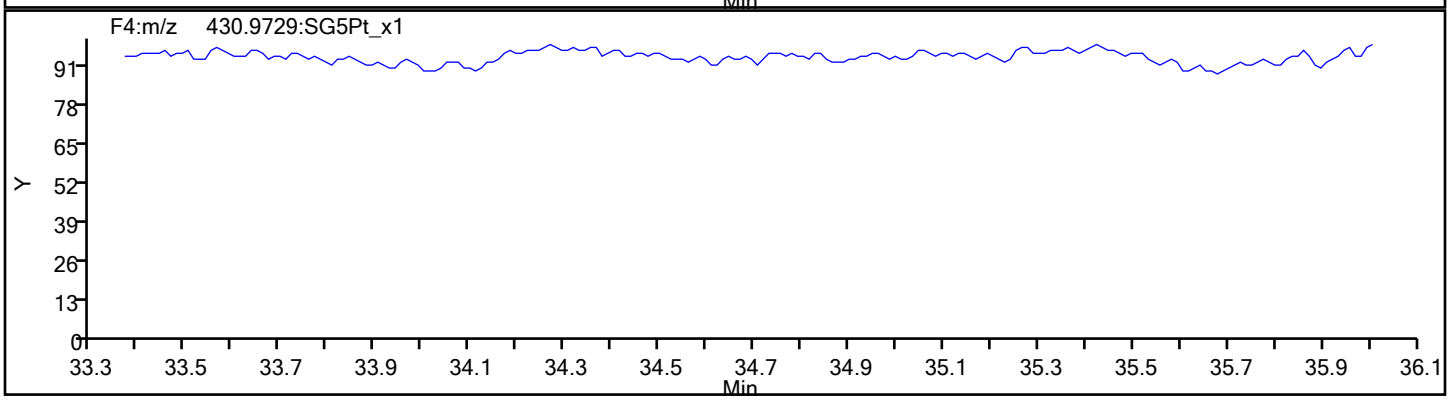

Report Date: 11-Oct-2019 12:50:49 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_1.d		
Injection Date:	10-Oct-2019 16:02:04	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330145	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

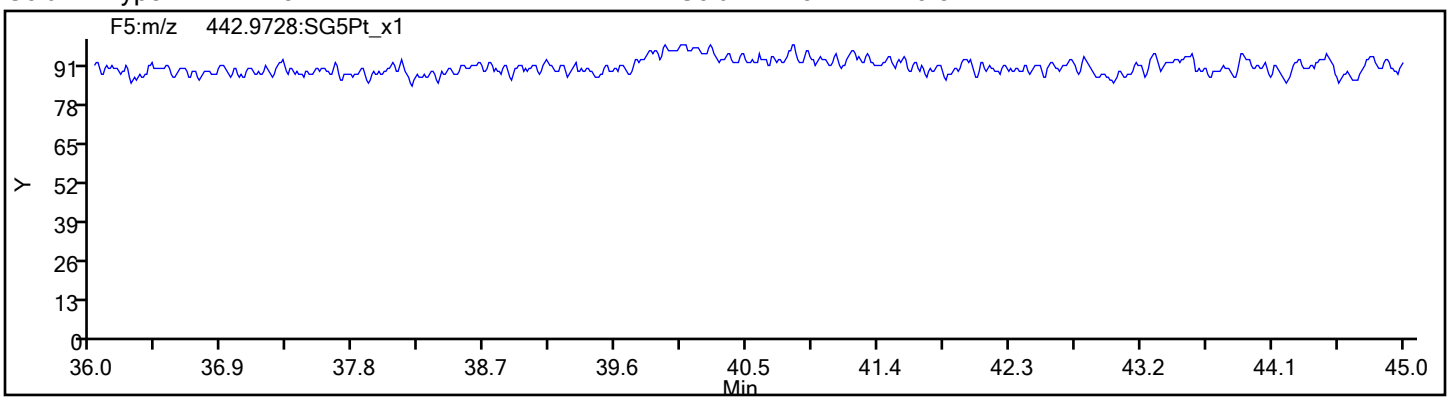

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_15.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 11-Oct-2019 03:05:54 ALS Bottle#: 1 Worklist Smp#: 15
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 101019A WDM HRDXNCP_00038
Misc. Info.: 10OC1910D5
Operator ID: SMA Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 11-Oct-2019 10:58:26 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0340

First Level Reviewer: shardaa Date: 11-Oct-2019 10:40:30

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	17.427	41324510	0.79	1.4384					0.00	
2,3,7,8-TCDF	17.457	87077514	0.78	1.0507	80.2	80.2	0.2190	0.2190		
A Non-2,3,7,8-sub-TCDF	17.139	860070	0.80	1.0507	0.7923	0.7923	0.2190	0.7923		
S Total TCDF					81.0	81.0	0.2190	0.2190		
D 13C-2,3,7,8-TCDD	18.137	28974276	0.78	0.9533					0.00	
2,3,7,8-TCDD	18.167	30124280	0.79	1.1064	37.6	37.6	0.1185	0.1185		
A Non-2,3,7,8-sub-TCDD	17.601						0.1185	0.1185		
S Total TCDD					37.6	37.6	0.1185	0.1185		
A F1 PeCDFs	20.027						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.212	575514	1.55	0.0000						RQ
S Total PeCDF										RQ
A Non-2,3,7,8-sub-PeCDD	23.511						0.0	0.0		
S Total PeCDD										
A Non-2,3,7,8-sub-HxCDF	30.336						0.0	0.0		
S Total HxCDF										
A Non-2,3,7,8-sub-HxCDD	30.975	287321	1.21	0.0000						
S Total HxCDD										
1,2,3,4,6,7,8-HpCDF	33.807	29162079	1.03	1.5555						
1,2,3,4,7,8,9-HpCDF	34.888	25560920	1.04	1.3862						
A Non-2,3,7,8-sub-HpCDF	34.347						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	34.597	20382374	1.04	0.9316						
A Non-2,3,7,8-sub-HpCDD	35.190						0.0	0.0		
S Total HpCDD										
1,3,6,8-TCDF	14.993	48028238	0.79							
1,3,6,8-TCDD	15.915	30278447	0.79							
2,3,4,7-TCDF	17.457	87077514	0.78							
1,2,3,7-TCDD	18.046	27738614	0.77							
1,2,3,9-TCDF	18.334	38230317	0.77							
1,2,3,9-TCDD	18.334	30631365	0.79							

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,8,9-TCDD	19.286	12856372								
1,2,8,9-TCDF	19.286	39845215	0.78							
1,3,4,6,8-PeCDF	19.574	40632265	1.54							
1,2,4,7,9-PeCDD	21.370	24517423	1.54							
1,2,3,8,9-PeCDD	25.652	24345625	1.58							
1,2,3,8,9-PeCDF	25.870	31192502	1.61							
1,2,3,4,6,8-HxCDF	28.180	34437704	1.25							
1,2,4,6,7,9-HxCDD	29.763	24176561	1.27							
1,2,3,4,6,7-HxCDD	32.186	24092231	1.26							
1,2,3,4,8,9-HxCDF	32.492	32957799	1.25							
1,2,3,4,6,7,9-HpCDD	34.050	22186558	1.07							

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNCP_00038 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_15.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 11-Oct-2019 03:05:54 ALS Bottle#: 1 Worklist Smp#: 15
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 101019A WDM HRDXNCP_00038
Misc. Info.: 10OC1910D5
Operator ID: SMA Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 11-Oct-2019 10:58:26 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0340

First Level Reviewer: shardaa Date: 11-Oct-2019 10:40:30

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	17.427	17.427	0	1.000	18264905	4753870	5897	14742	806		
317.9389	17.427	17.427	0	1.000	23059605	6044633	3059	7647	1976	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.457	17.457	0	1.002	38037884	8909689	10114	25285	881		
305.8987	17.457	17.457	0	1.002	49039630	11307898	14734	36835	767	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	19.574	17.139	146	1.123	382478	85731	10114	25285	8		
305.8987	19.589	17.139	147	1.124	477592	102339	14734	36835	7	0.80(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	18.137	18.137	0	1.000	12706355	3103309	5947	14867	522		
333.9339	18.137	18.137	0	1.000	16267921	4071567	2465	6162	1652	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.167	18.167	0	1.002	13262236	3267679	6694	16735	488		
321.8936	18.152	18.167	-1	1.001	16862044	4199943	2716	6790	1546	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.601						6694	16735			
321.8936	17.601						2716	6790			
A F1 PeCDFs											
339.8597	20.027						973	2432			
341.8567	20.027						1239	3097			
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	21.956	23.212	-75	1.000	116423	15267	2671	6677	6		
341.8567	21.970	23.212	-74	1.000	47659	8413	2125	5312	4	2.44(1.32-1.78)	
339.8597	22.543	23.212	-40	1.000	183041	25187	2671	6677	9		
341.8567	22.529	23.212	-41	1.000	126028	15539	2125	5312	7	1.45(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
339.8597	23.102	23.212	-7	1.000	88086	18136	2671	6677	7		
341.8567	23.102	23.212	-7	1.000	68478	10691	2125	5312	5	1.29(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.511						1703	4257			
357.8516	23.511						1170	2925			
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.336						3867	9667			
375.8178	30.336						3041	7602			
A Non-2,3,7,8-sub-HxCDD											
389.8157	31.081	30.975	6	1.000	157581	33251	2603	6507	13		
391.8127	31.081	30.975	6	1.000	129740	27016	2247	5617	12	1.21(1.05-1.43)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.807	33.807	0	1.000	14816681	5202343	11937	29842	436		
409.7789	33.807	33.807	0	1.000	14345398	4961730	12607	31517	394	1.03(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.888	34.888	0	1.000	13046341	4109722	11937	29842	344		
409.7789	34.888	34.888	0	1.000	12514579	3840382	12607	31517	305	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.347						11937	29842			
409.7789	34.347						12607	31517			
1,2,3,4,6,7,8-HpCDD											
423.7766	34.597	34.597	0	1.000	10397709	3457233	4899	12247	706		
425.7737	34.597	34.597	0	1.000	9984665	3259233	4695	11737	694	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	35.190						4899	12247			
425.7737	35.190						4695	11737			
1,3,6,8-TCDF											
303.9016	14.993	14.993	0		21170323	6620703	10114	25285	655		
305.8987	14.993	14.993	0		26857915	8279281	14734	36835	562	0.79(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	15.915	15.915	0		13328947	3833934	6694	16735	573		
321.8936	15.915	15.915	0		16949500	4812901	2716	6790	1772	0.79(0.65-0.89)	
2,3,4,7-TCDF											
303.9016	17.457	17.457	0		38037884	8909689	10114	25285	881		
305.8987	17.457	17.457	0		49039630	11307898	14734	36835	767	0.78(0.65-0.89)	
1,2,3,7-TCDD											
319.8965	18.046	18.046	0		12088381	2959448	6694	16735	442		
321.8936	18.046	18.046	0		15650233	3780419	2716	6790	1392	0.77(0.65-0.89)	
1,2,3,9-TCDF											
303.9016	18.334	18.334	0		16611642	3889171	10114	25285	385		
305.8987	18.319	18.334	-1		21618675	5041140	14734	36835	342	0.77(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	18.334	18.334	0		13512527	3226730	6694	16735	482		
321.8936	18.334	18.334	0		17118838	4056456	2716	6790	1494	0.79(0.65-0.89)	
1,2,8,9-TCDD											
319.8965	19.286	19.286	0		12856372	2897426	6694	16735	433		

Report Date: 11-Oct-2019 10:58:26 Chrom Revision: 2.3 09-Oct-2019 11:13:36
Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_15.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,8,9-TCDF											
303.9016	19.286	19.286	0		17448281	3813367	10114	25285	377		
305.8987	19.286	19.286	0		22396934	4937697	14734	36835	335	0.78(0.65-0.89)	
1,3,4,6,8-PeCDF											
339.8597	19.574	19.574	0		24618095	5658505	973	2432	5816		
341.8567	19.574	19.574	0		16014170	3615928	1239	3097	2918	1.54(1.32-1.78)	
1,2,4,7,9-PeCDD											
355.8546	21.370	21.370	0		14876662	2704166	1703	4257	1588		
357.8516	21.370	21.370	0		9640761	1730084	1170	2925	1479	1.54(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	25.652	25.652	0		14895653	2241378	1703	4257	1316		
357.8516	25.652	25.652	0		9449972	1453221	1170	2925	1242	1.58(1.32-1.78)	
1,2,3,8,9-PeCDF											
339.8597	25.870	25.870	0		19235173	2868522	2671	6677	1074		
341.8567	25.870	25.870	0		11957329	1791191	2125	5312	843	1.61(1.32-1.78)	
1,2,3,4,6,8-HxCDF											
373.8208	28.180	28.180	0		19148009	2502658	3867	9667	647		
375.8178	28.180	28.180	0		15289695	1994995	3041	7602	656	1.25(1.05-1.43)	
1,2,4,6,7,9-HxCDD											
389.8157	29.763	29.763	0		13540057	1976773	2603	6507	759		
391.8127	29.763	29.763	0		10636504	1532458	2247	5617	682	1.27(1.05-1.43)	
1,2,3,4,6,7-HxCDD											
389.8157	32.186	32.186	0		13450313	3985084	2603	6507	1531		
391.8127	32.186	32.186	0		10641918	3157729	2247	5617	1405	1.26(1.05-1.43)	
1,2,3,4,8,9-HxCDF											
373.8208	32.492	32.492	0		18335815	5756453	3867	9667	1489		
375.8178	32.492	32.492	0		14621984	4606082	3041	7602	1515	1.25(1.05-1.43)	
1,2,3,4,6,7,9-HpCDD											
423.7766	34.050	34.050	0		11456769	3863788	4899	12247	789		
425.7737	34.050	34.050	0		10729789	3646316	4695	11737	777	1.07(0.88-1.20)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Reagents:

HRDXNCP_00038 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_15.d
Lims ID: WDM
Client ID:
Inject. Date: 11-Oct-2019 03:05:54 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 10D5 Operator: SMA
Lims Batch ID: 330148 Lims Sample ID: 15

Non-2,3,7,8-sub-TCDF, RT: 17.139

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.051	D 13C-2,3,7,8-TCDF	40.000	41324510	10798503

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.051		40.000	41324510	10798503

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
19.574	382478	85731	477592	102339	0.7923	0.80	
Signal Totals:							
	382478	85731	477592	102339			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	860070	188070				0.80	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.7923 = (860070 * 40.000) / (41324510 * 1.051)

Report Date: 11-Oct-2019 10:58:26 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_15.d
Lims ID: WDM
Client ID:
Inject. Date: 11-Oct-2019 03:05:54 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 10D5 Operator: SMA
Lims Batch ID: 330148 Lims Sample ID: 15

Non-2,3,7,8-sub-PeCDF, RT: 23.212

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.082				
2,3,4,7,8-PeCDF	1.103				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
21.956	116423	15267	47659	8413		2.44	R
22.543	183041	25187	126028	15539		1.45	
23.102	88086	18136	68478	10691		1.29	R
Signal Totals:							
	387550	58590	242165	34643			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	629715	93233				1.60	RQ
	575514	92015					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (629715 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (575514 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Report Date: 11-Oct-2019 10:58:26 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_15.d
Lims ID: WDM
Client ID:
Inject. Date: 11-Oct-2019 03:05:54 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 10D5 Operator: SMA
Lims Batch ID: 330148 Lims Sample ID: 15

Non-2,3,7,8-sub-HxCDD, RT: 30.975

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.109				
1,2,3,6,7,8-HxCDD	1.081				
1,2,3,7,8,9-HxCDD	1.212				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
31.081	157581	33251	129740	27016		1.21	
Signal Totals:							
	157581	33251	129740	27016			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	287321	60267				1.21	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (287321 * 0.0) / (0 * 0.000)

Report Date: 11-Oct-2019 10:58:26 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_15.d		
Injection Date:	11-Oct-2019 03:05:54	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330148	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

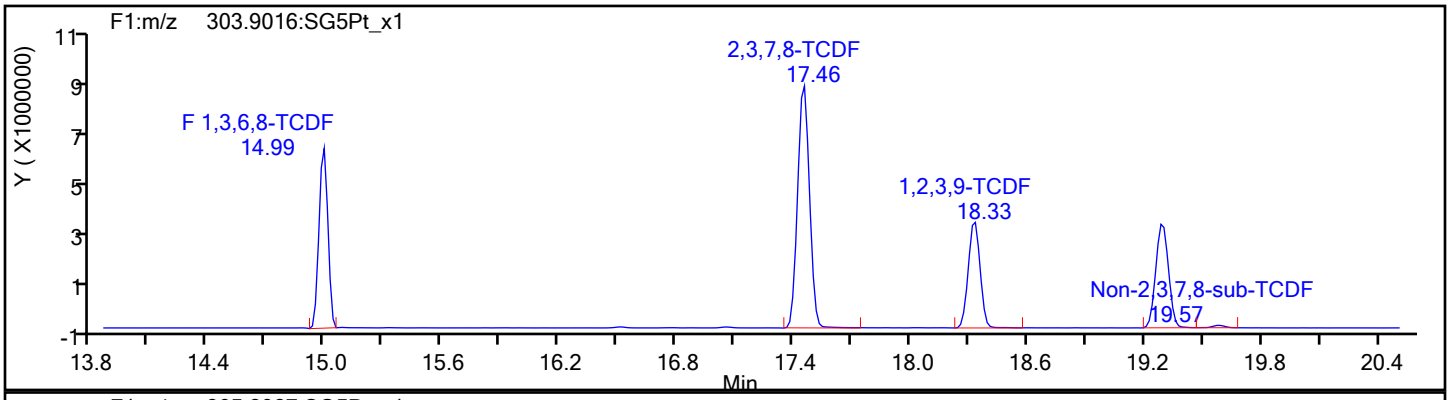

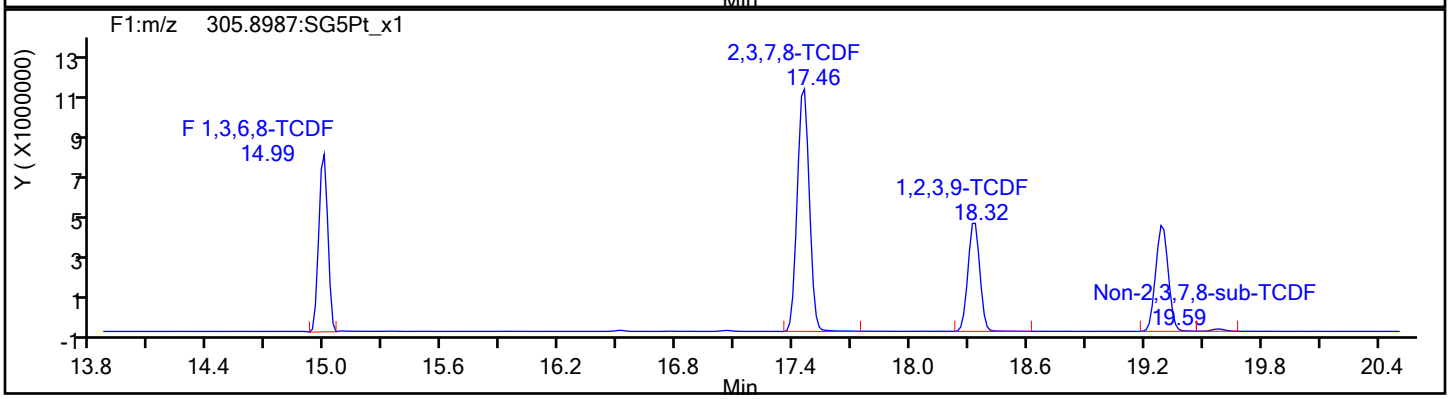

TCDF Standards

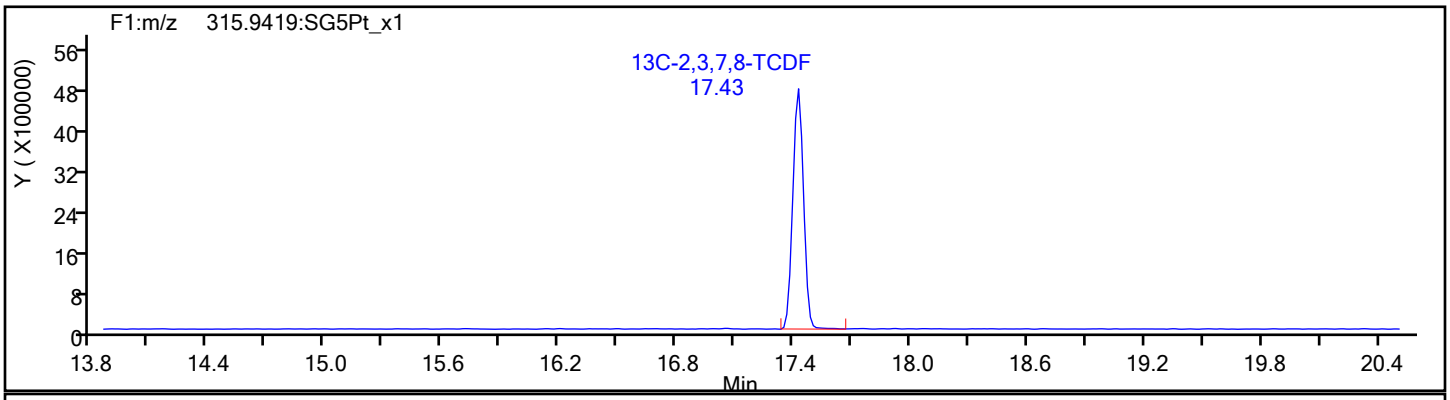

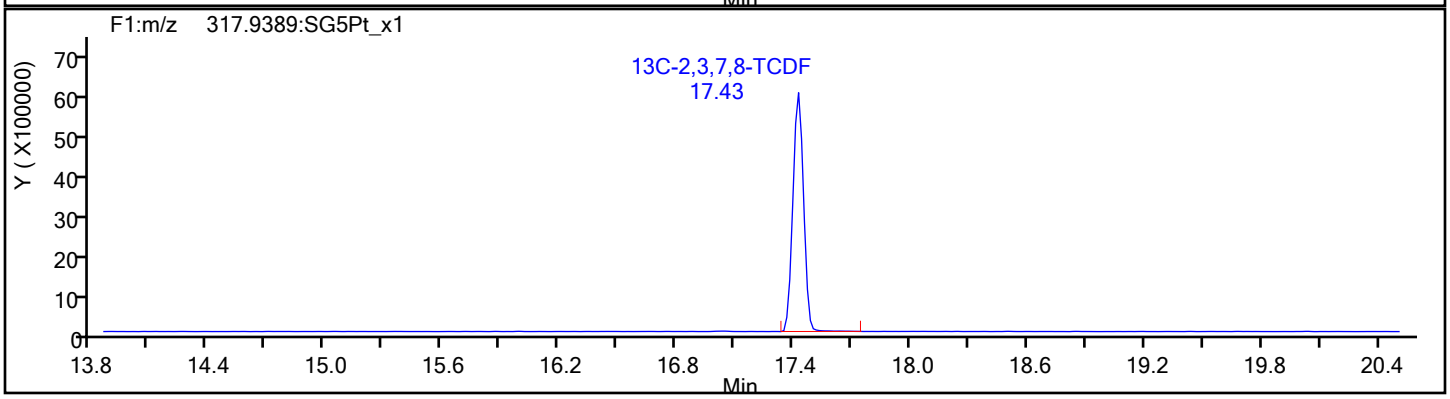

Report Date: 11-Oct-2019 10:58:27 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_15.d		
Injection Date:	11-Oct-2019 03:05:54	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330148	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

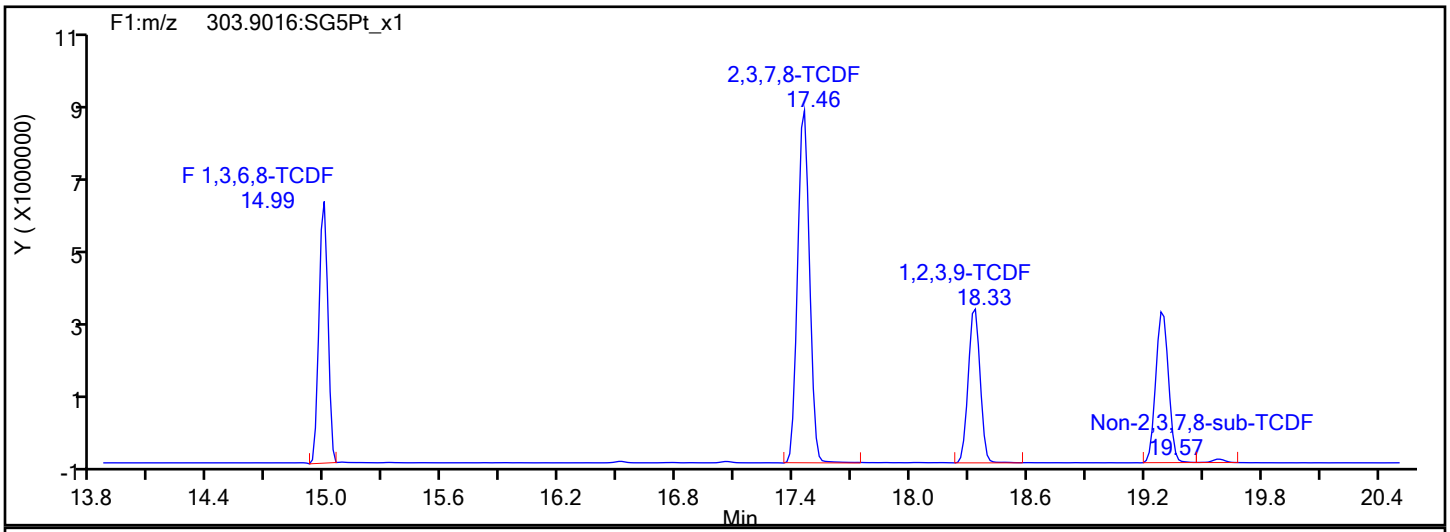

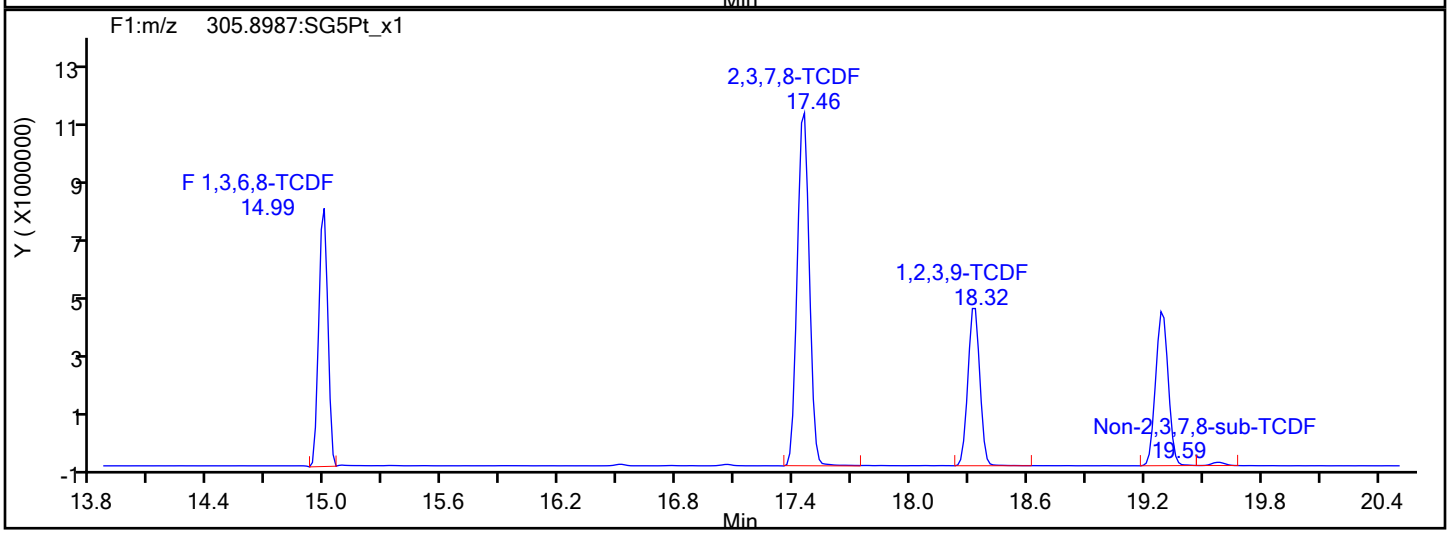

TCDF Interference Mass

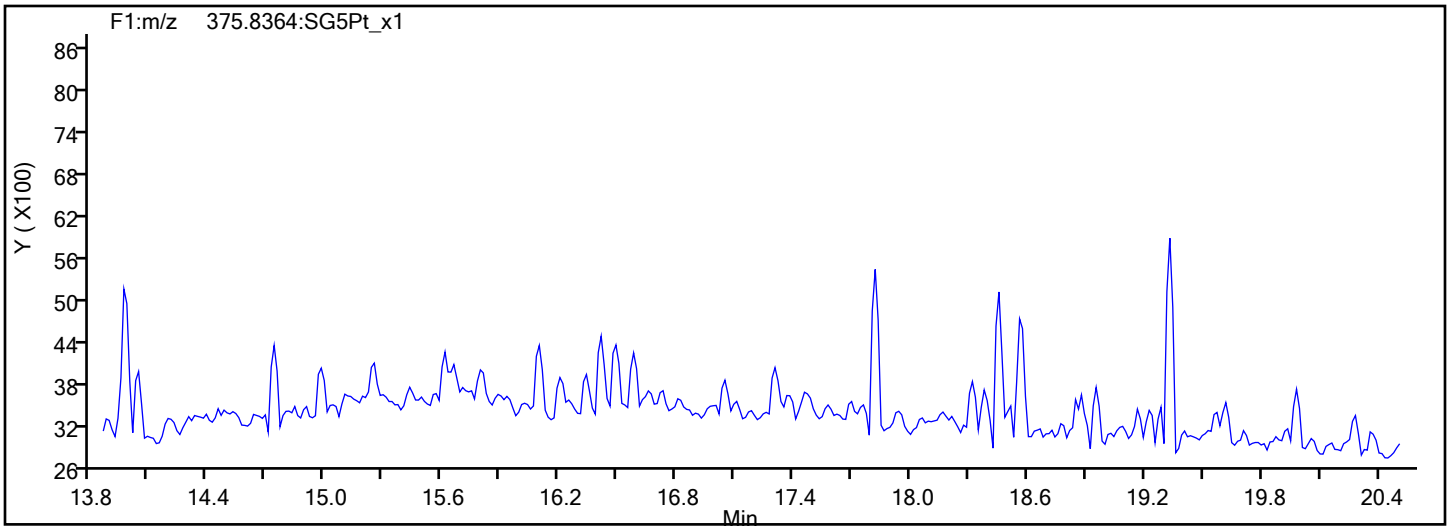

Report Date: 11-Oct-2019 10:58:27 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_15.d		
Injection Date:	11-Oct-2019 03:05:54	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330148	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

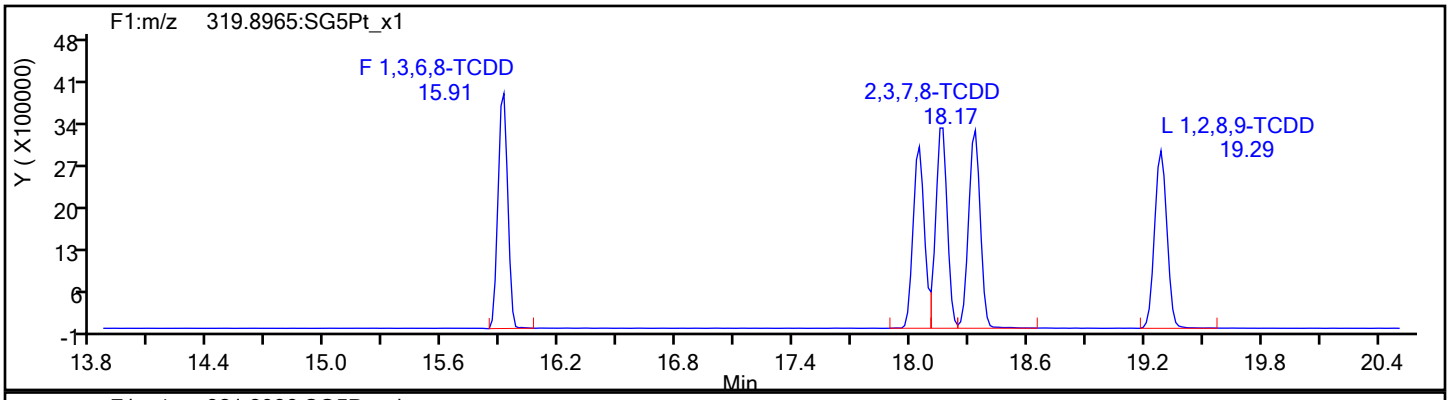

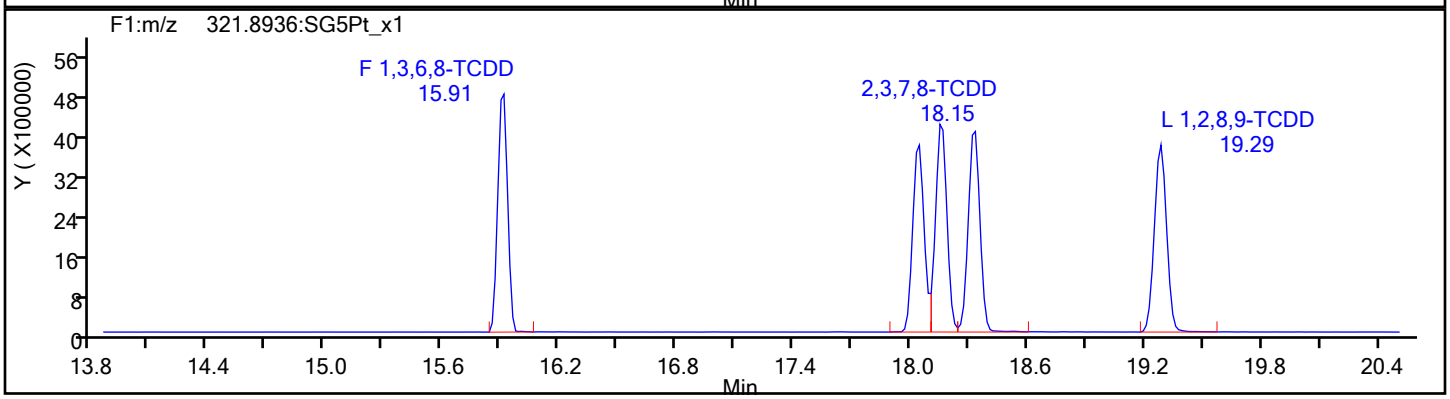

TCDD Standards

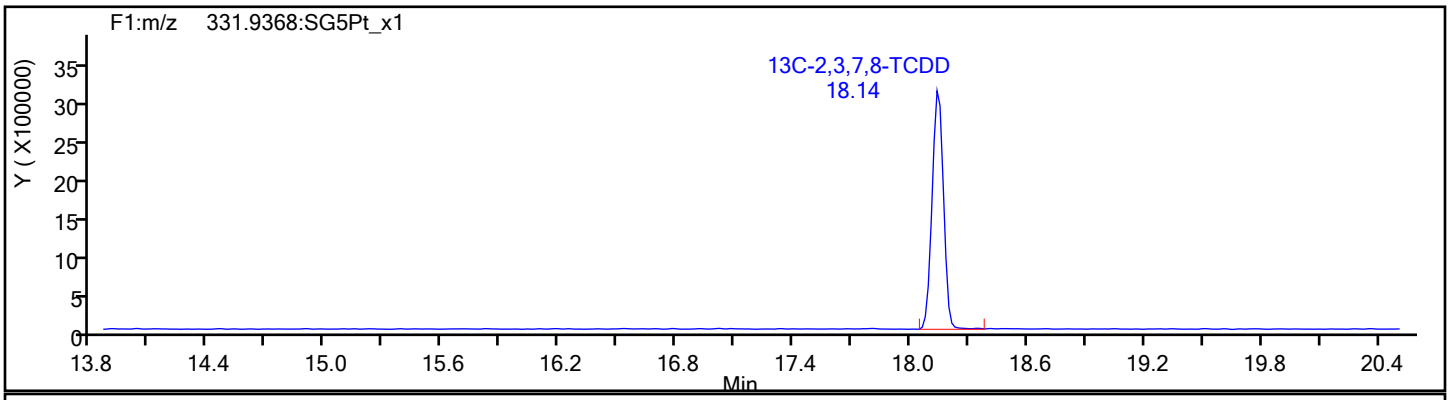

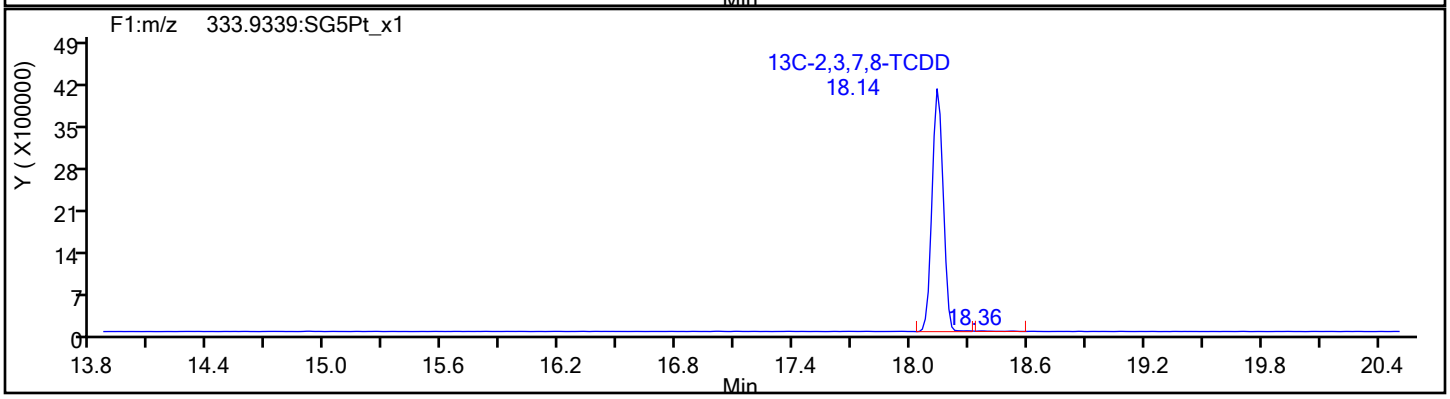

Report Date: 11-Oct-2019 10:58:27 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_15.d		
Injection Date:	11-Oct-2019 03:05:54	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330148	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

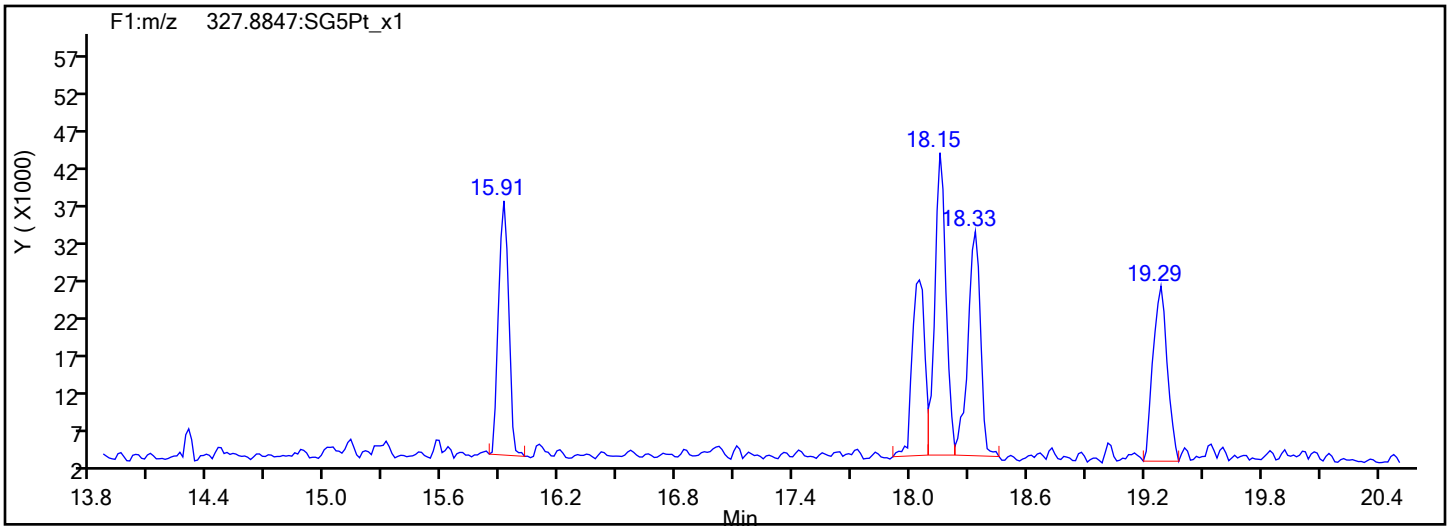

37Cl4-TCDD Standards

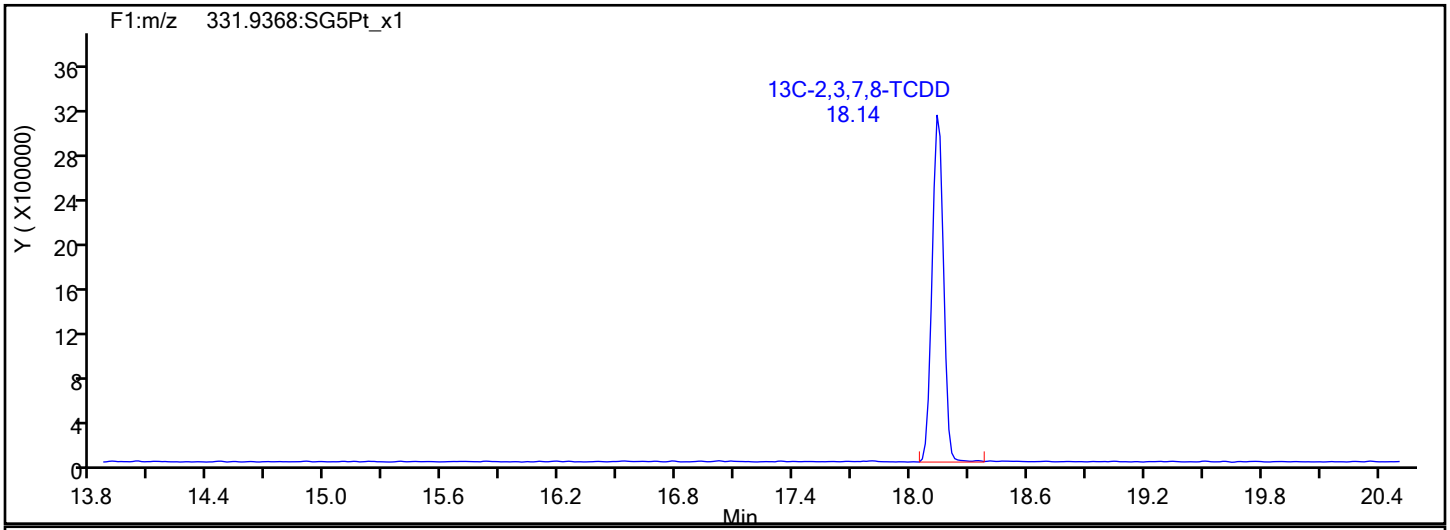

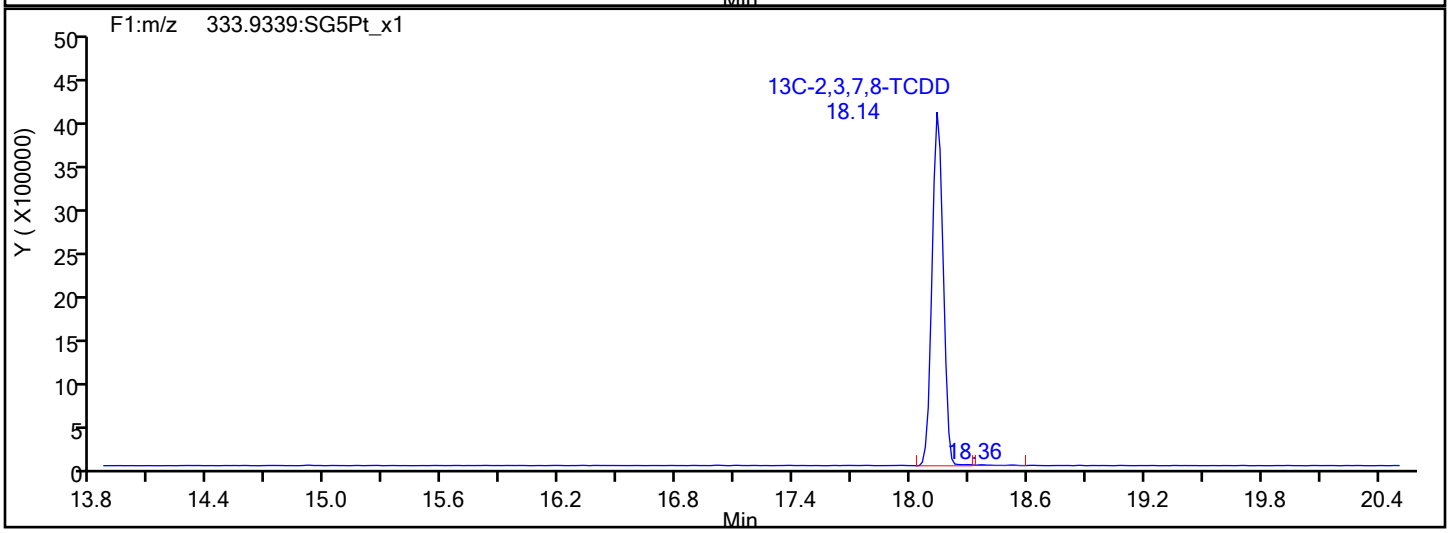

Report Date: 11-Oct-2019 10:58:27 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_15.d		
Injection Date:	11-Oct-2019 03:05:54	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330148	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

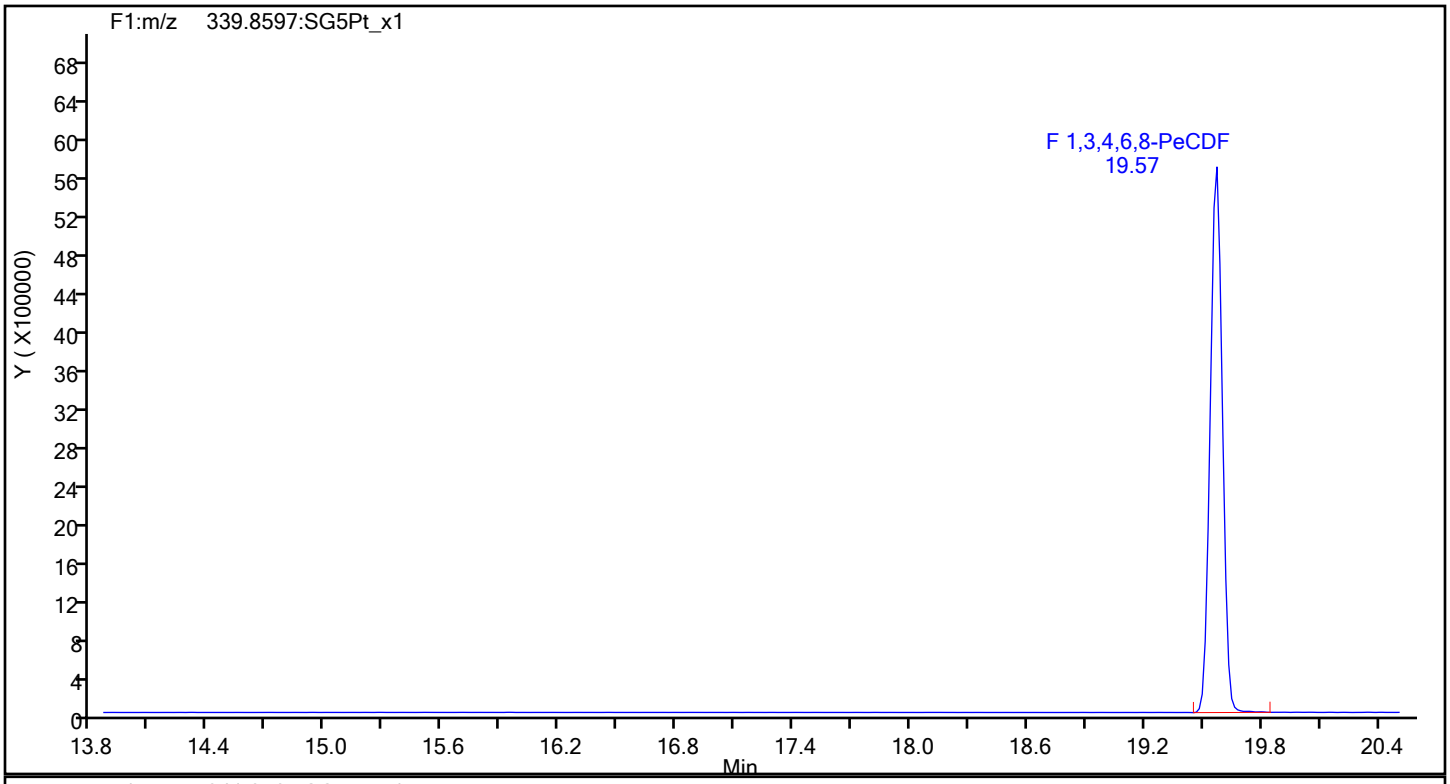

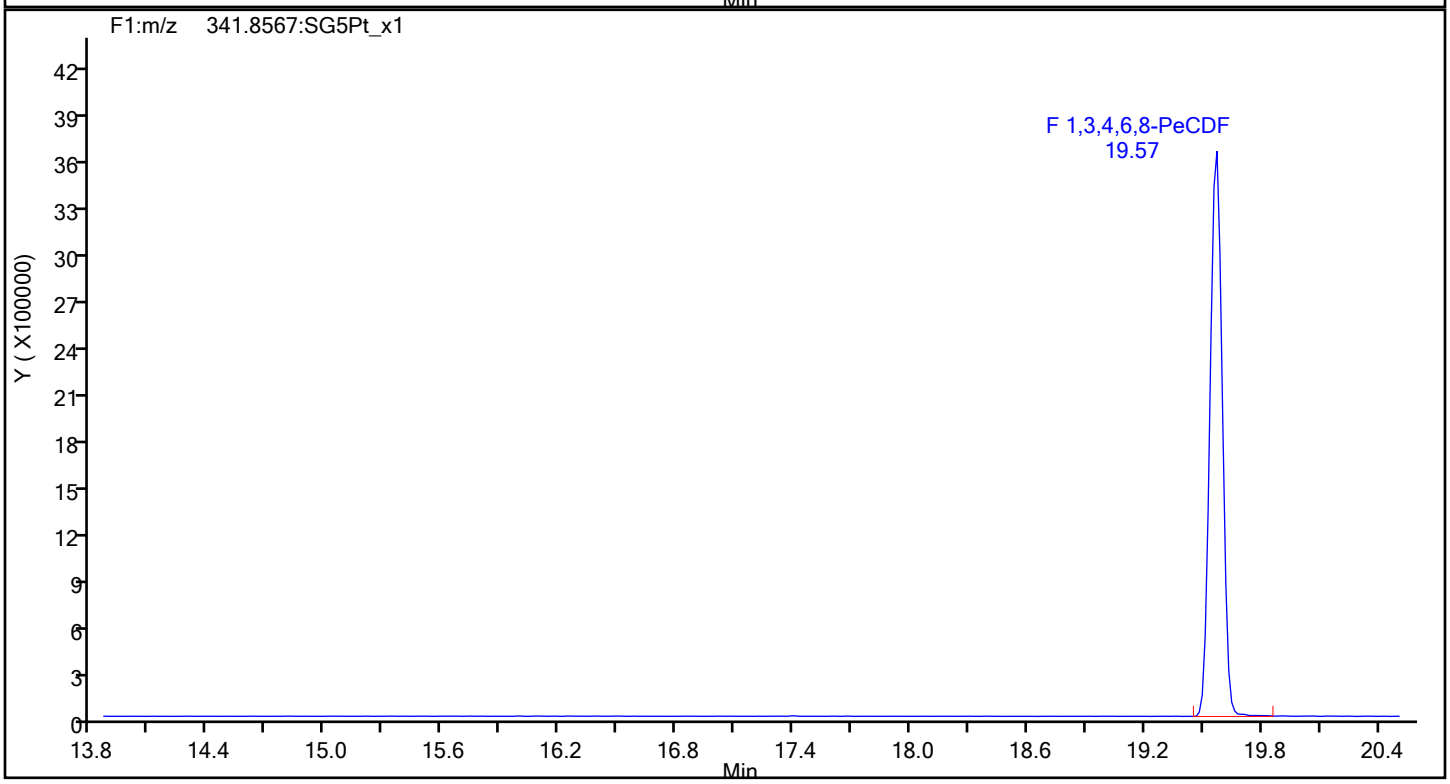

Report Date: 11-Oct-2019 10:58:27 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_15.d		
Injection Date:	11-Oct-2019 03:05:54	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330148	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

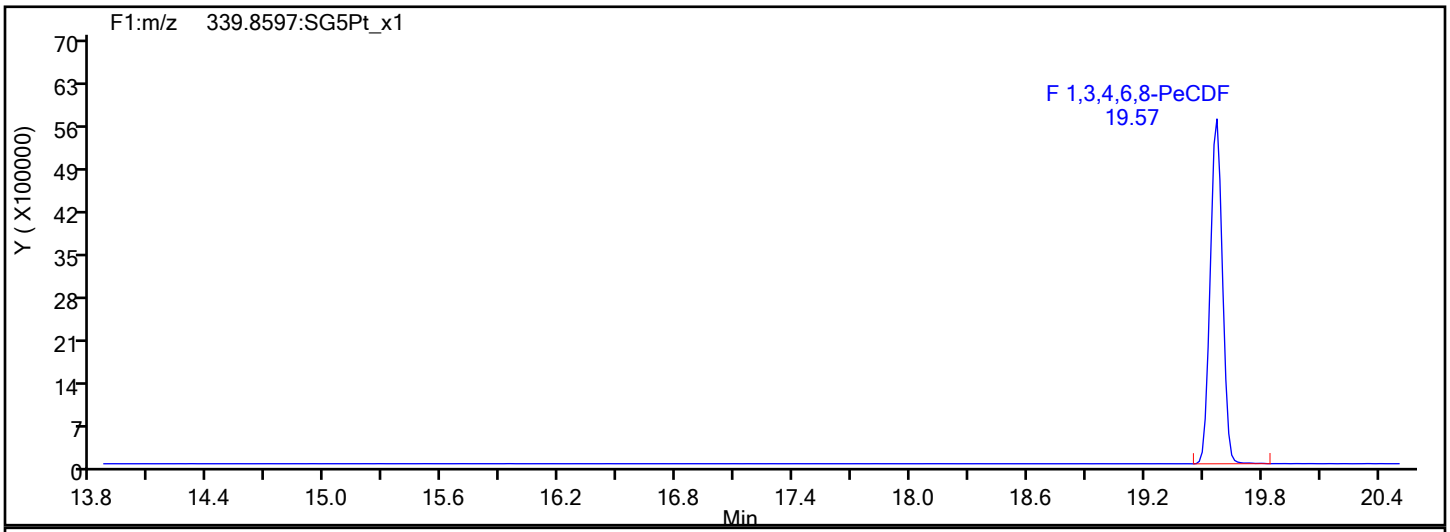

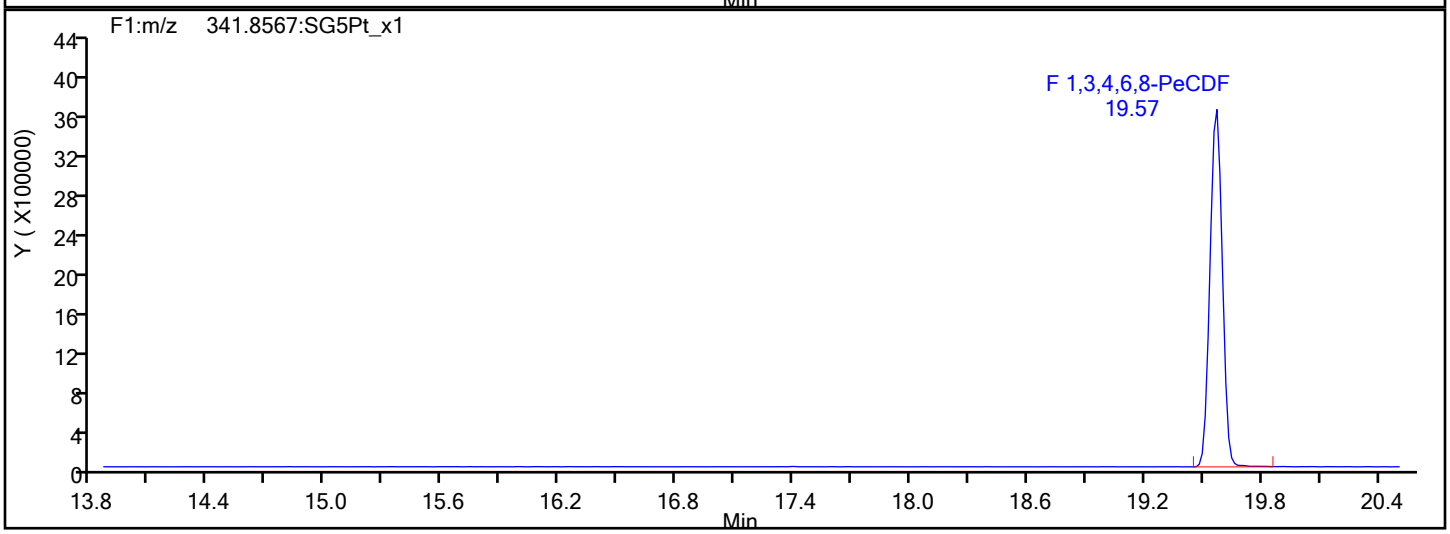

F1 PeCDFs Interference Mass

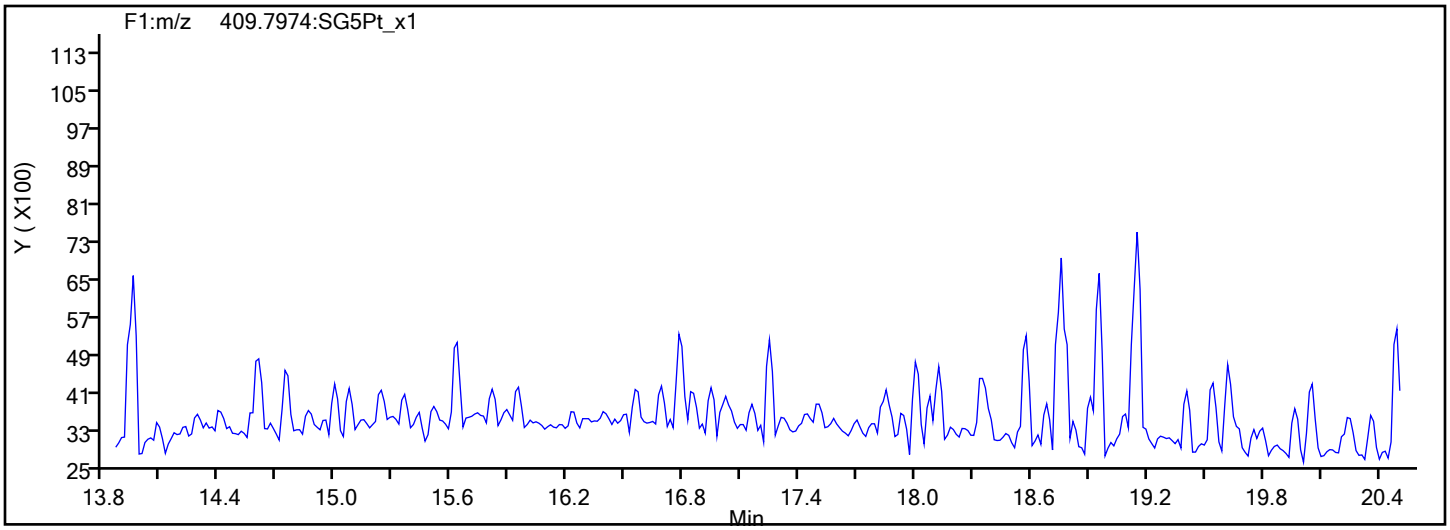

Report Date: 11-Oct-2019 10:58:27 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_15.d		
Injection Date:	11-Oct-2019 03:05:54	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330148	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

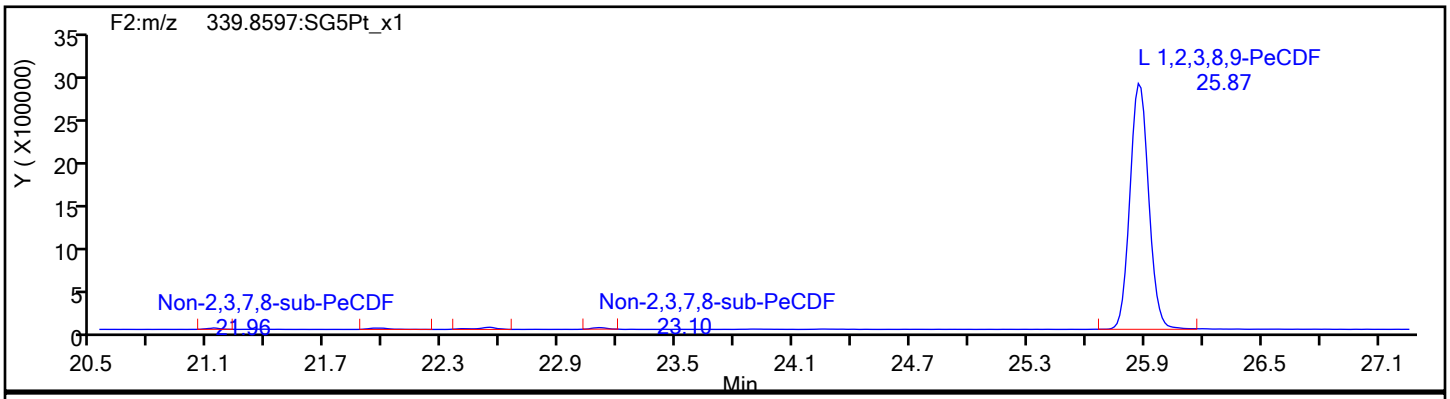

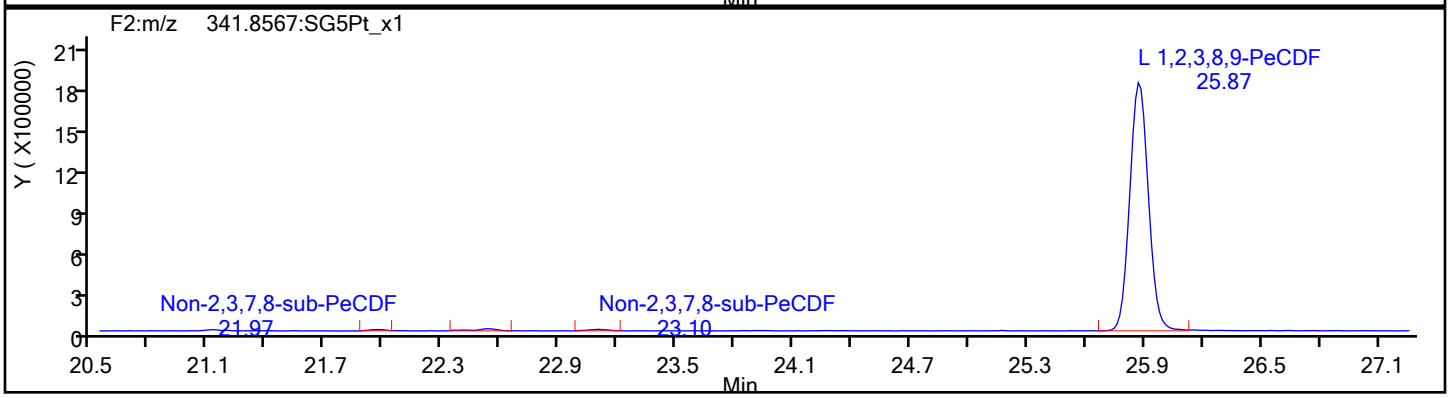

PeCDF Standards

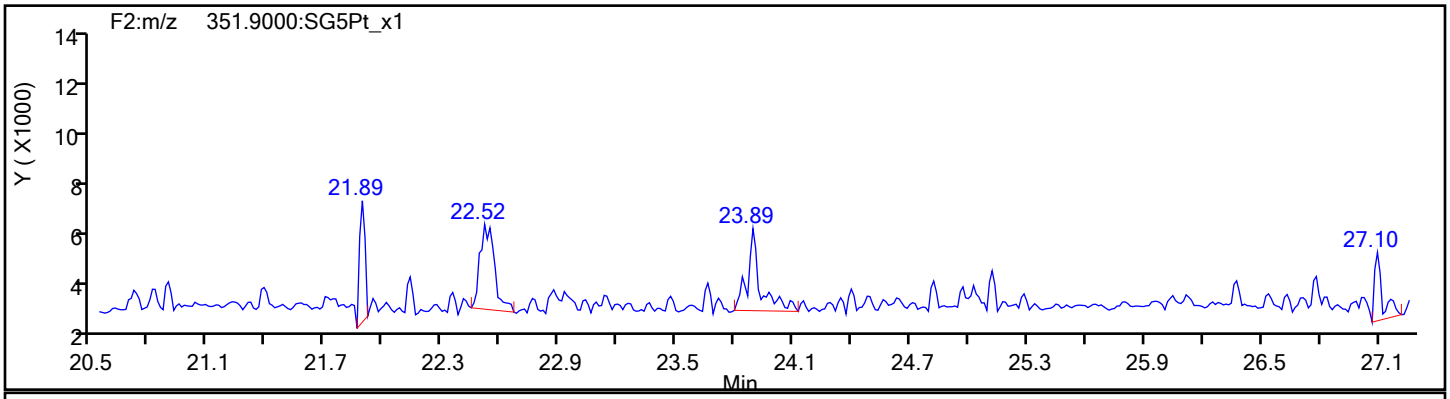

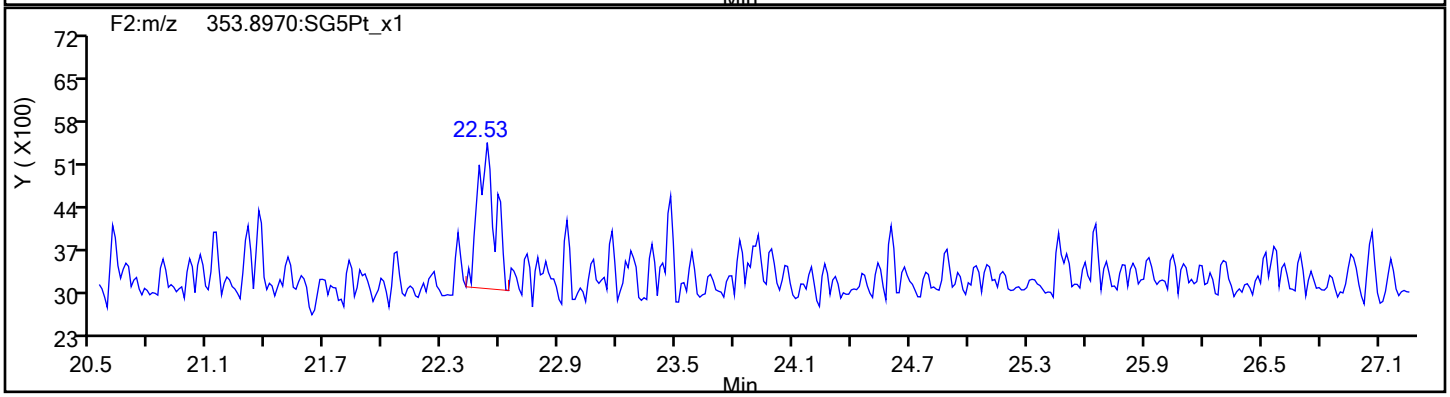

Report Date: 11-Oct-2019 10:58:27 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_15.d		
Injection Date:	11-Oct-2019 03:05:54	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330148	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

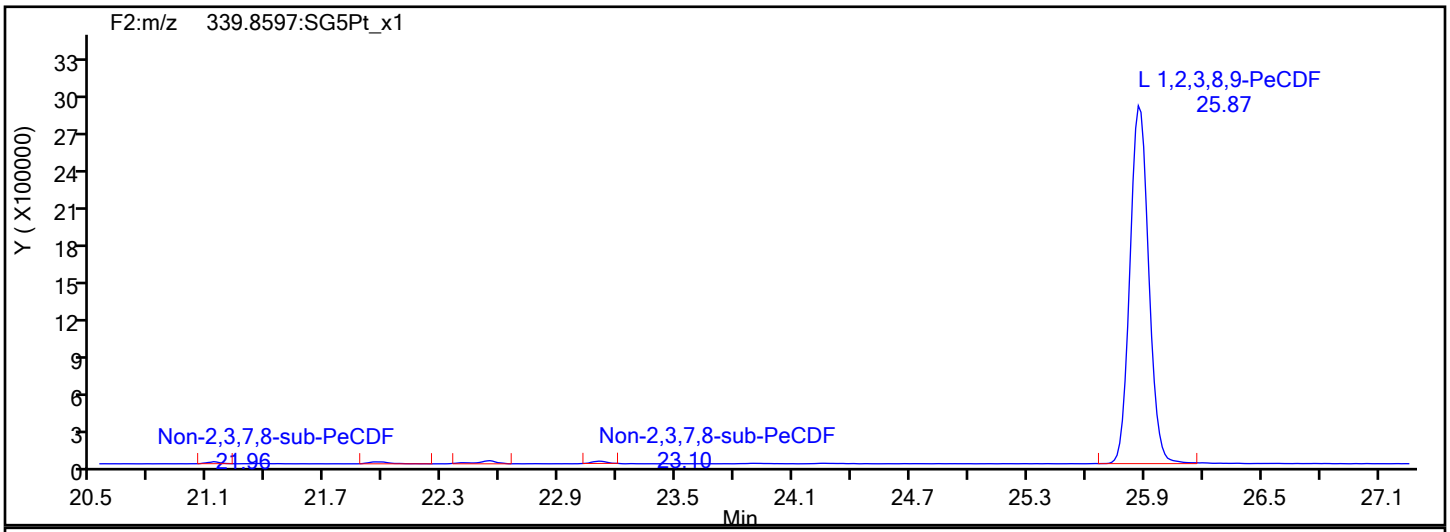

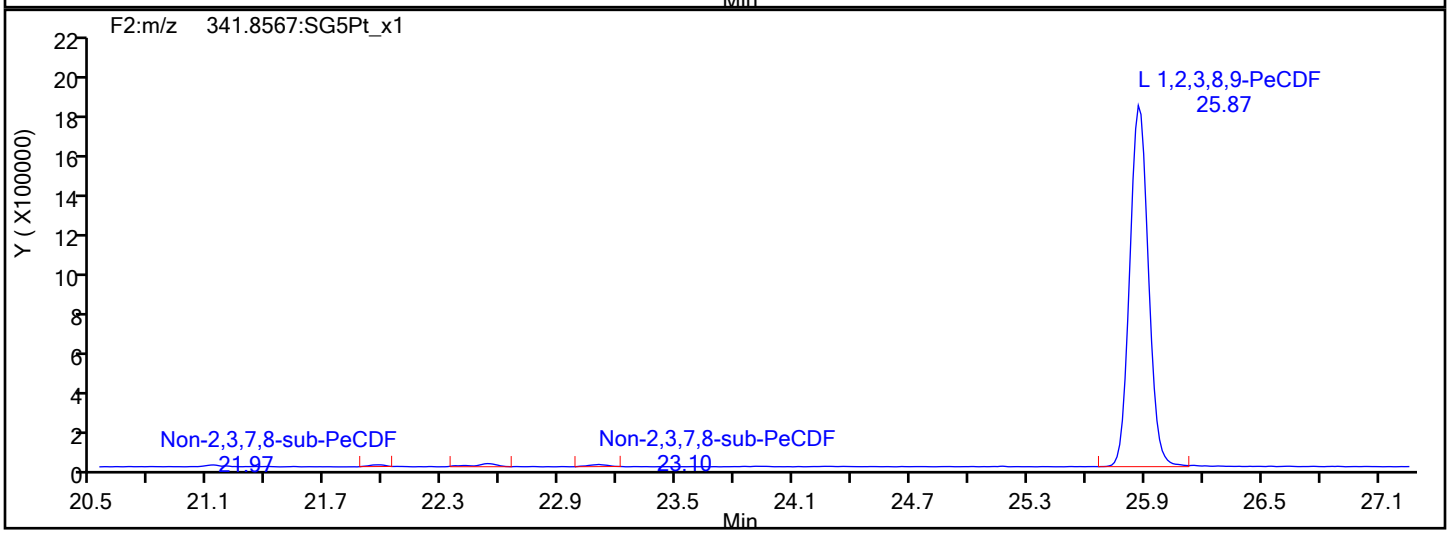

PeCDF Interference Mass

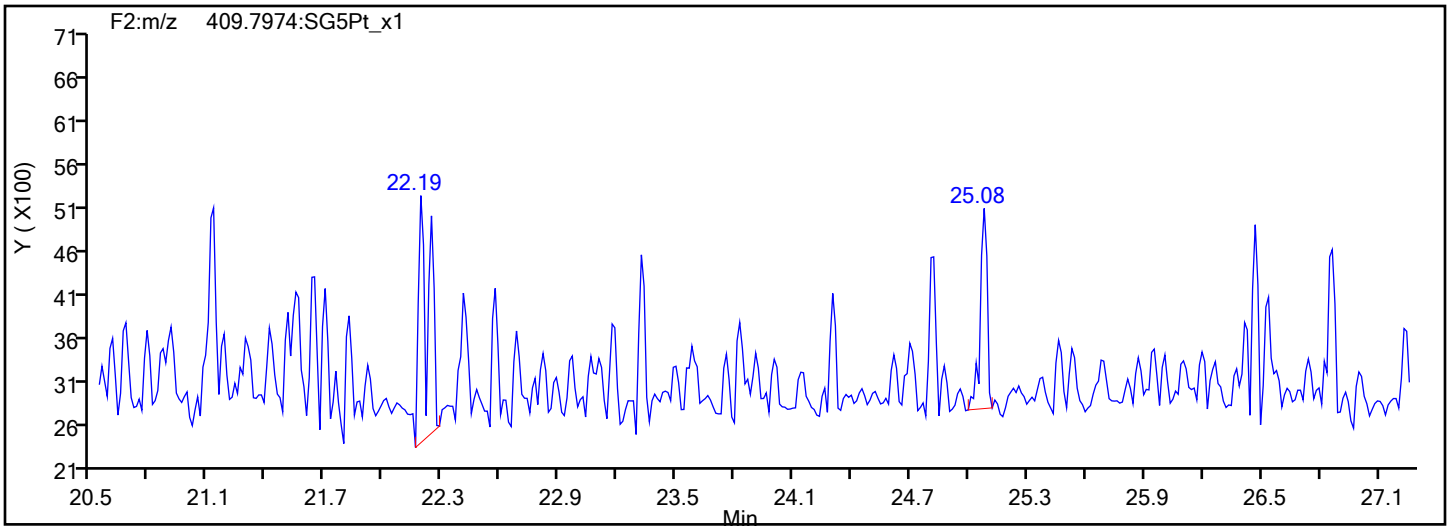

Report Date: 11-Oct-2019 10:58:27 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_15.d		
Injection Date:	11-Oct-2019 03:05:54	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330148	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

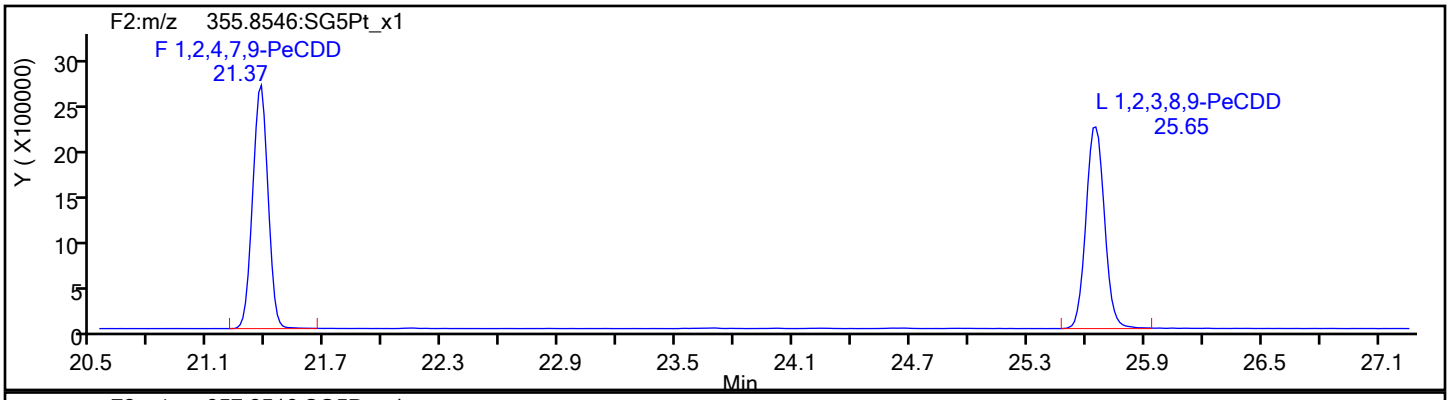

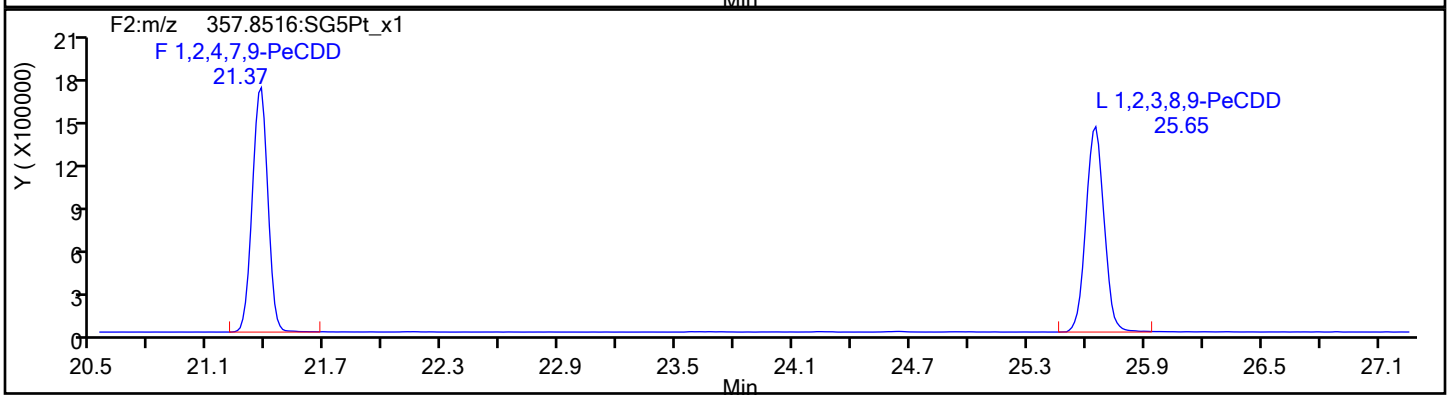

PeCDD Standards

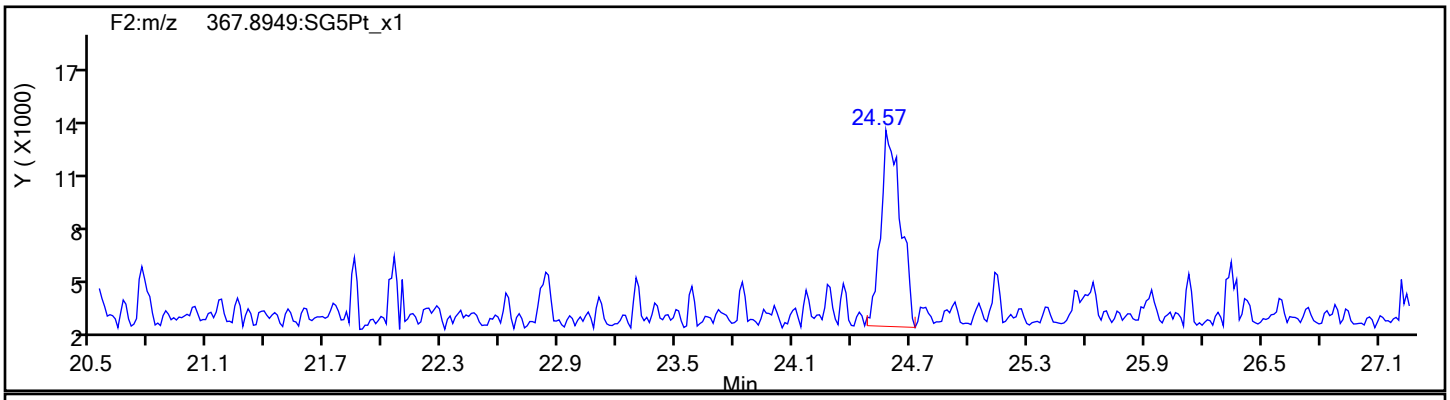

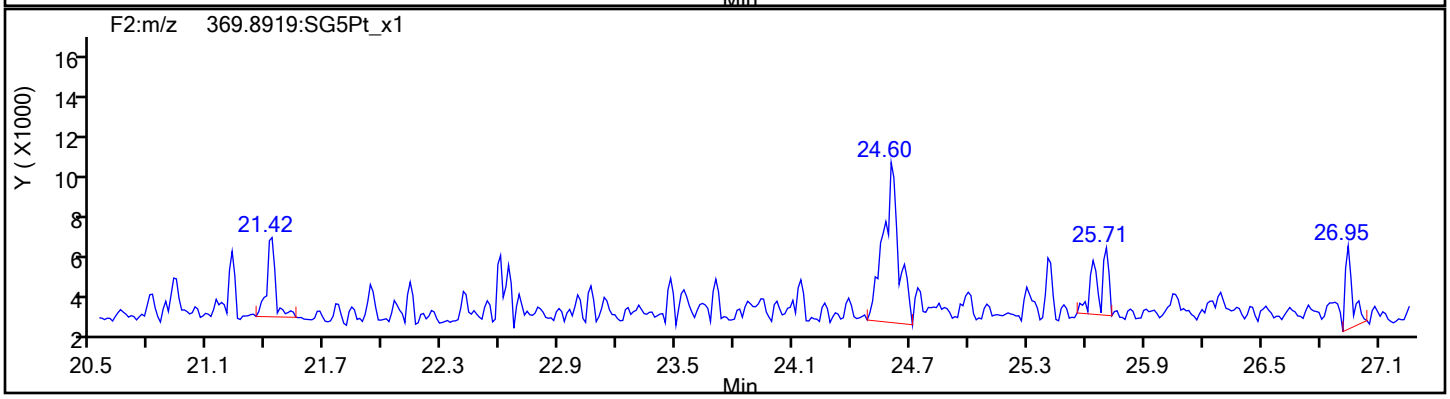

Report Date: 11-Oct-2019 10:58:27 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_15.d		
Injection Date:	11-Oct-2019 03:05:54	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330148	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

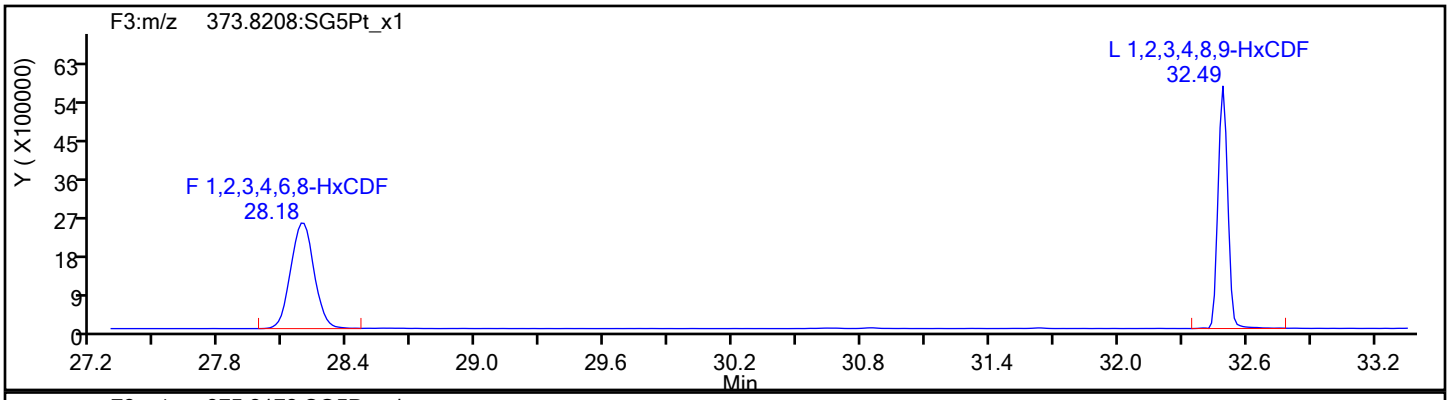

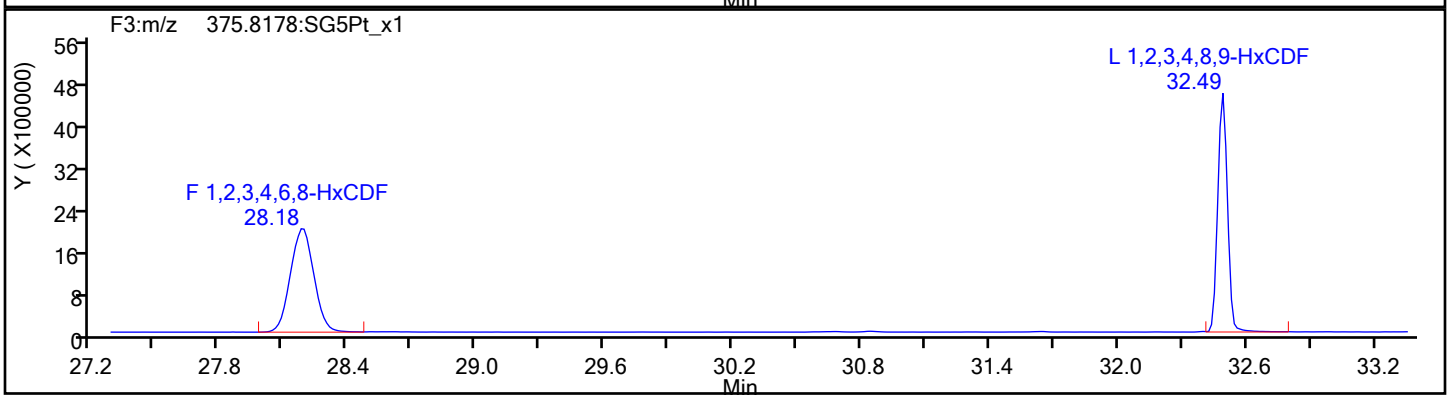

HxCDF Standards

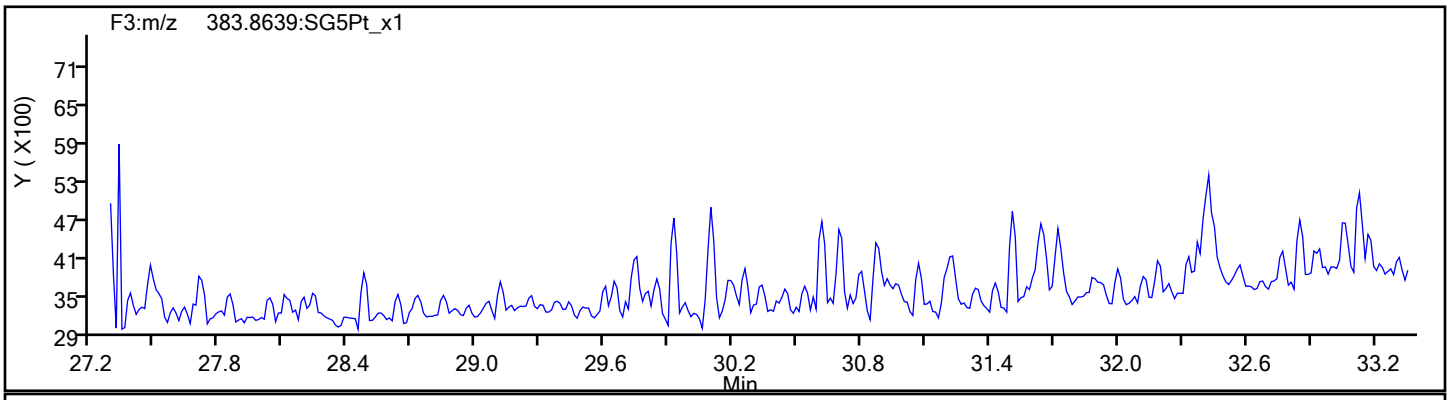

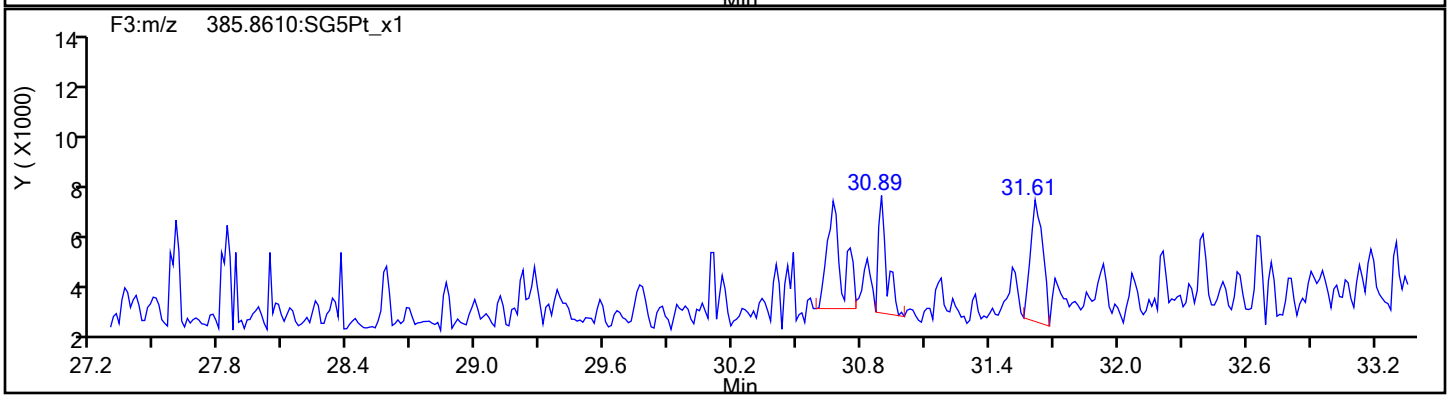

Report Date: 11-Oct-2019 10:58:27 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_15.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330148	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

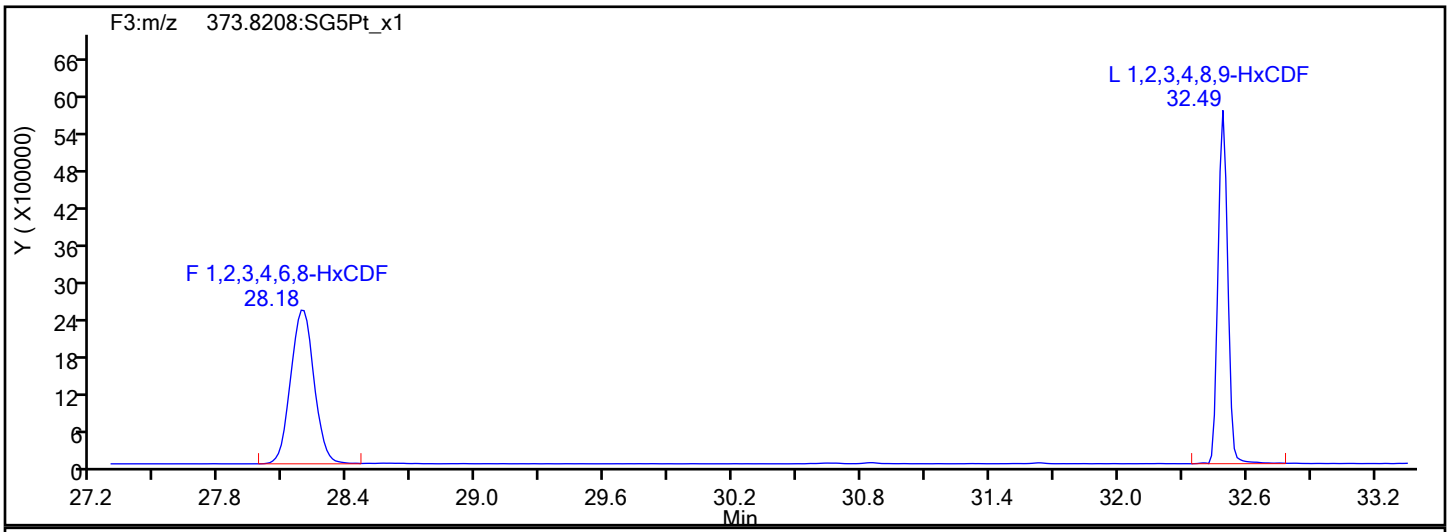

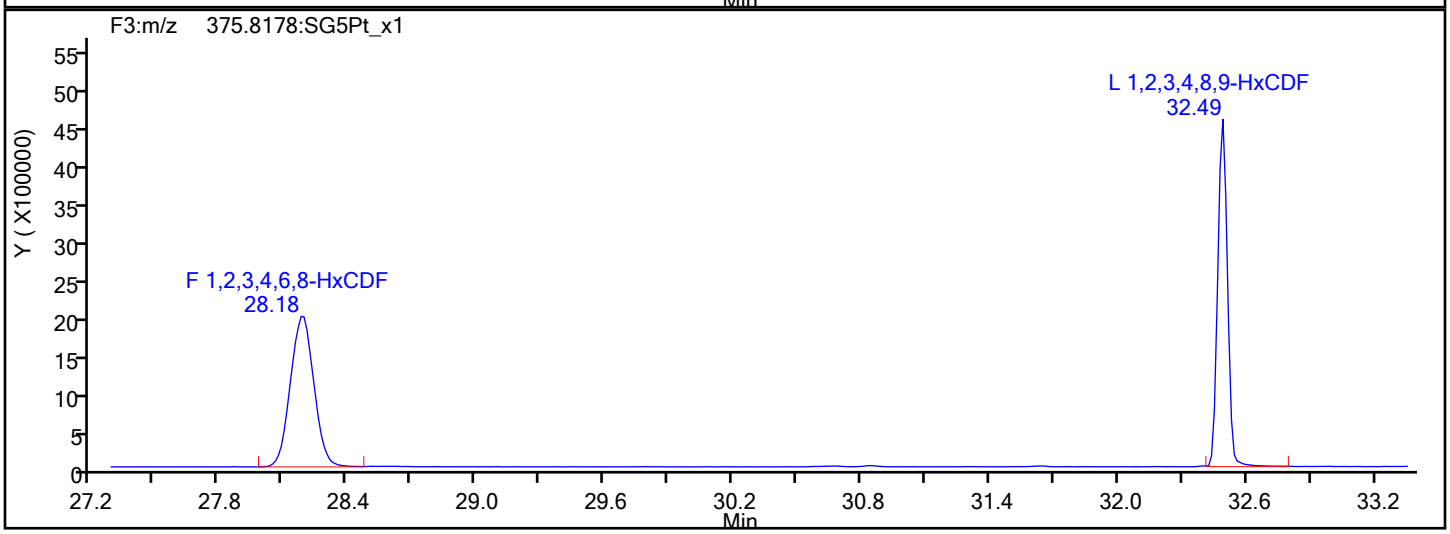

HxCDF Interference Mass

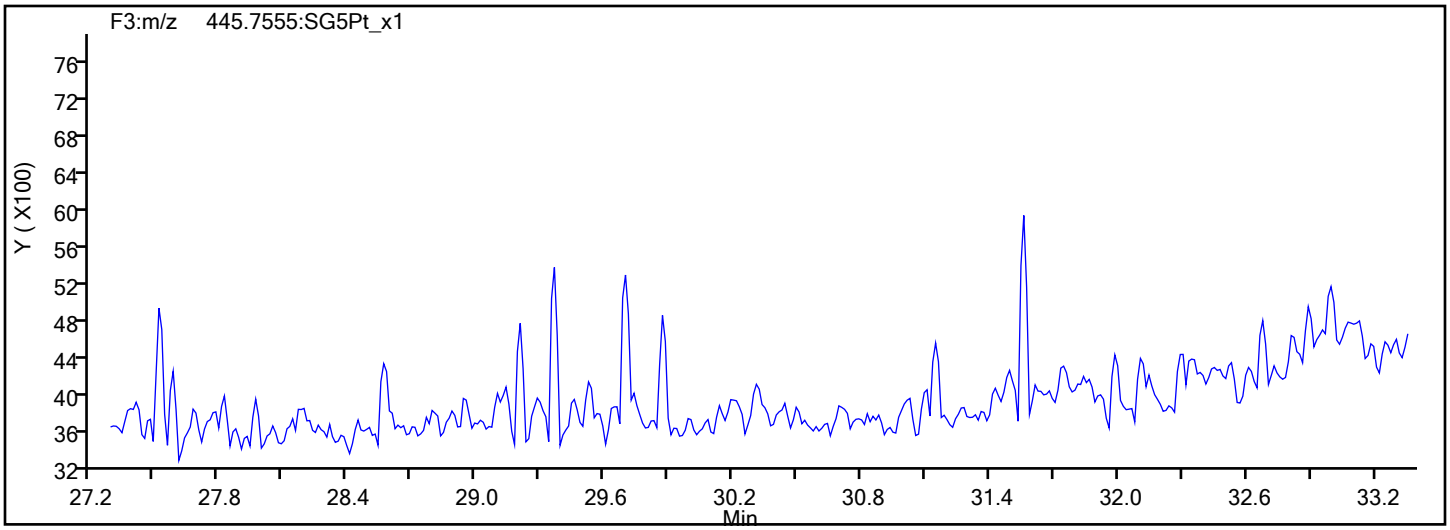

Report Date: 11-Oct-2019 10:58:27 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_15.d		
Injection Date:	11-Oct-2019 03:05:54	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330148	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDD

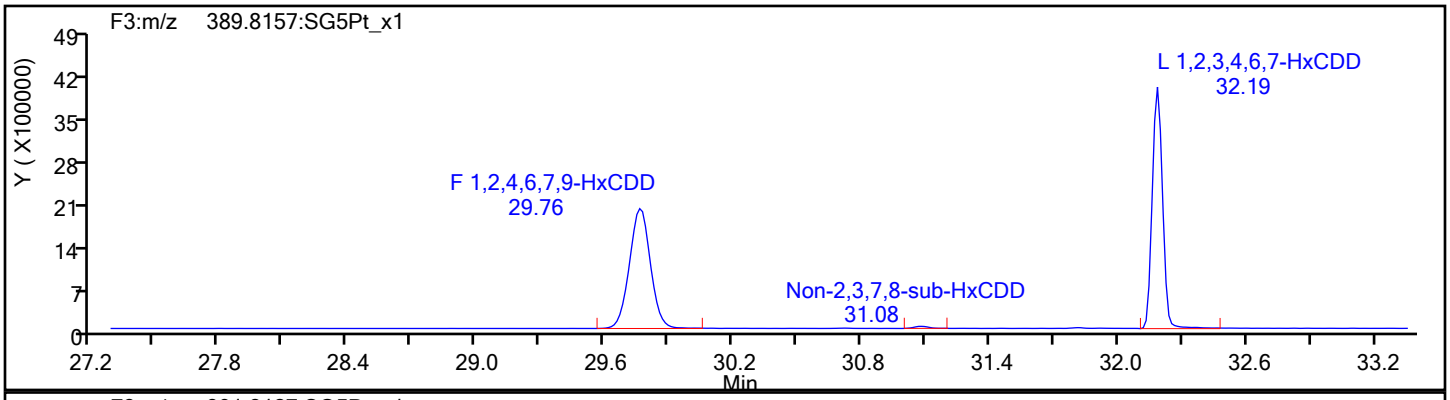

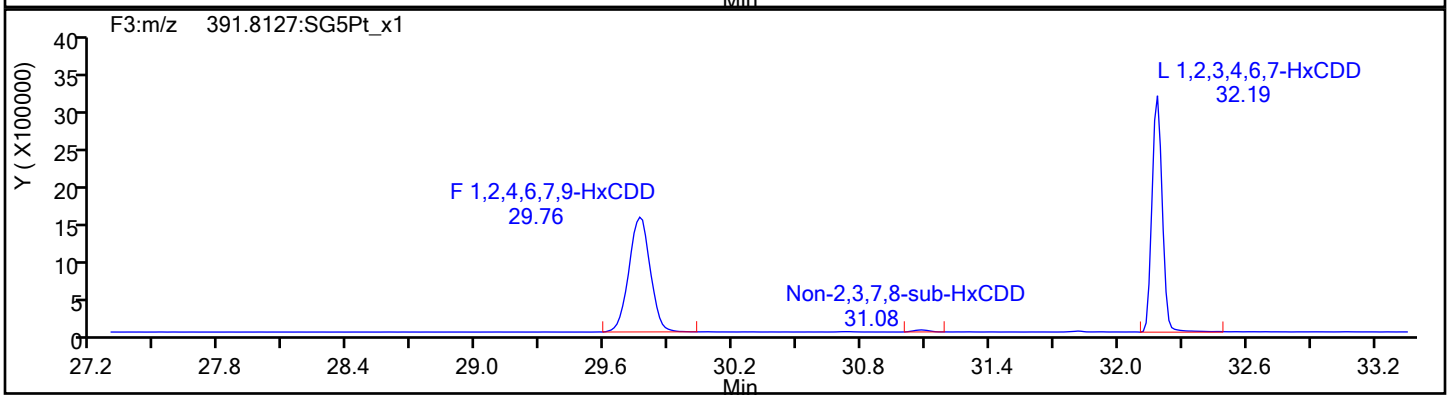

HxCDD Standards

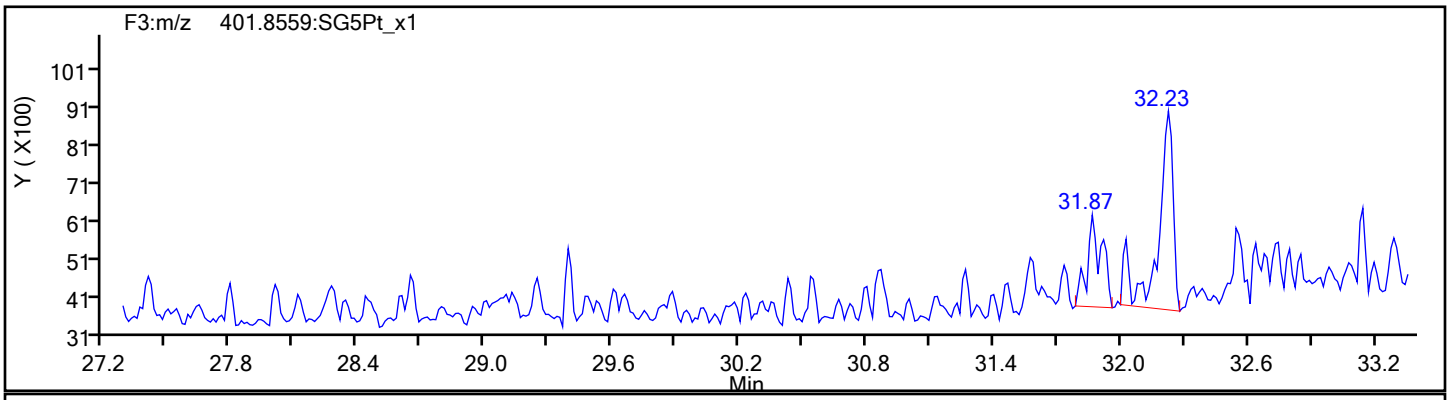

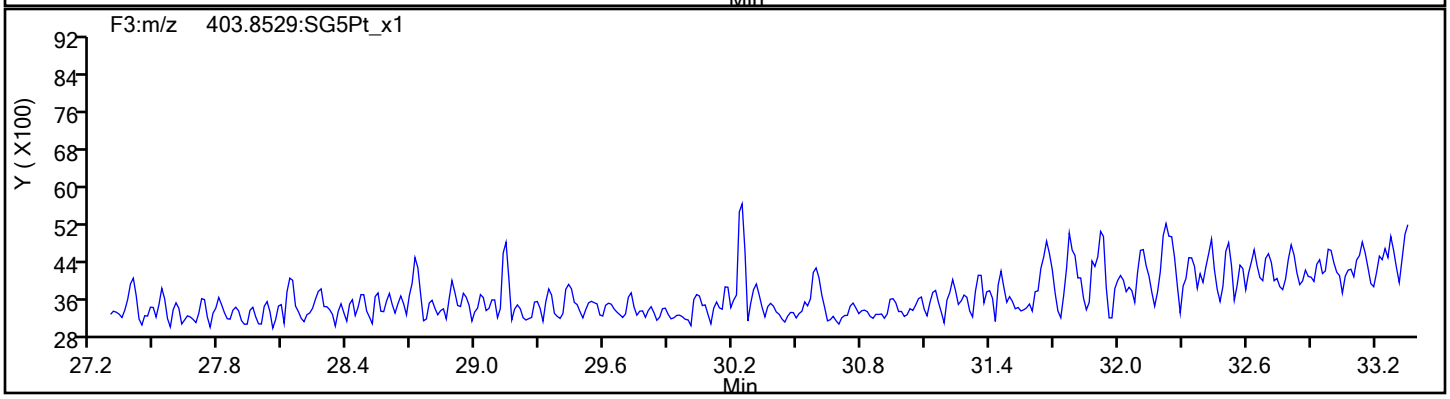

Report Date: 11-Oct-2019 10:58:27 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_15.d		
Injection Date:	11-Oct-2019 03:05:54	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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HpCDF

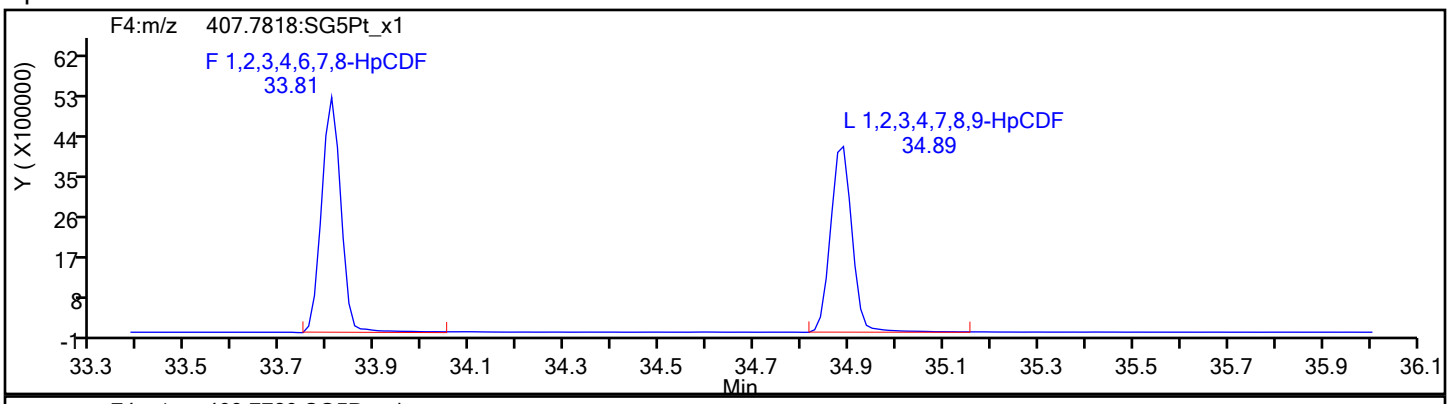

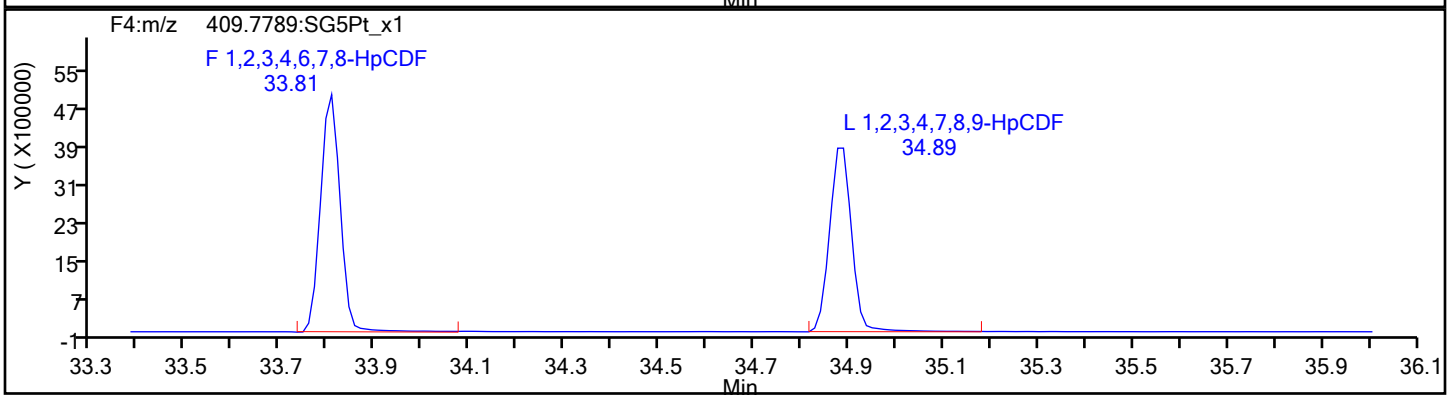

HpCDF Standards

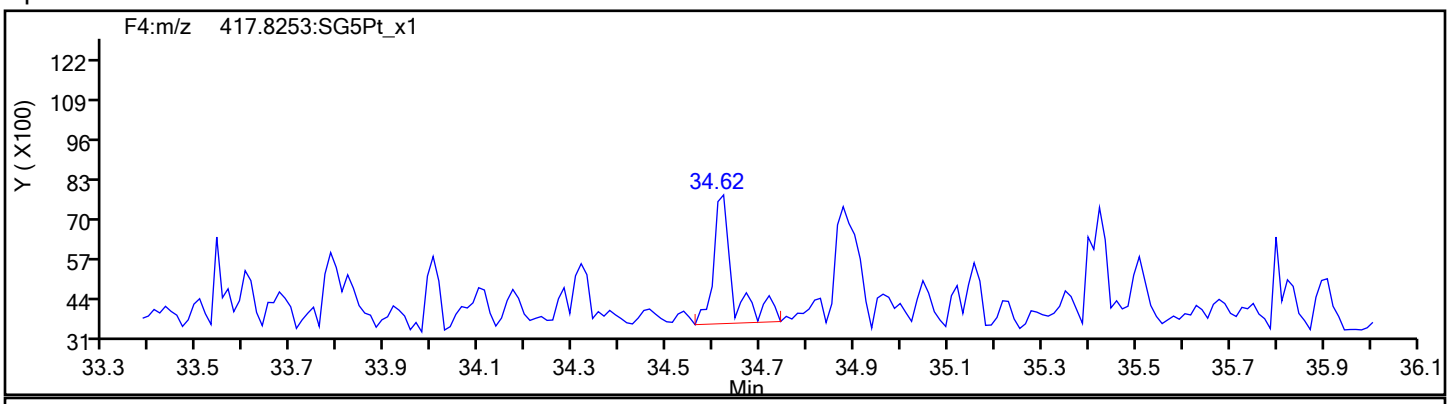

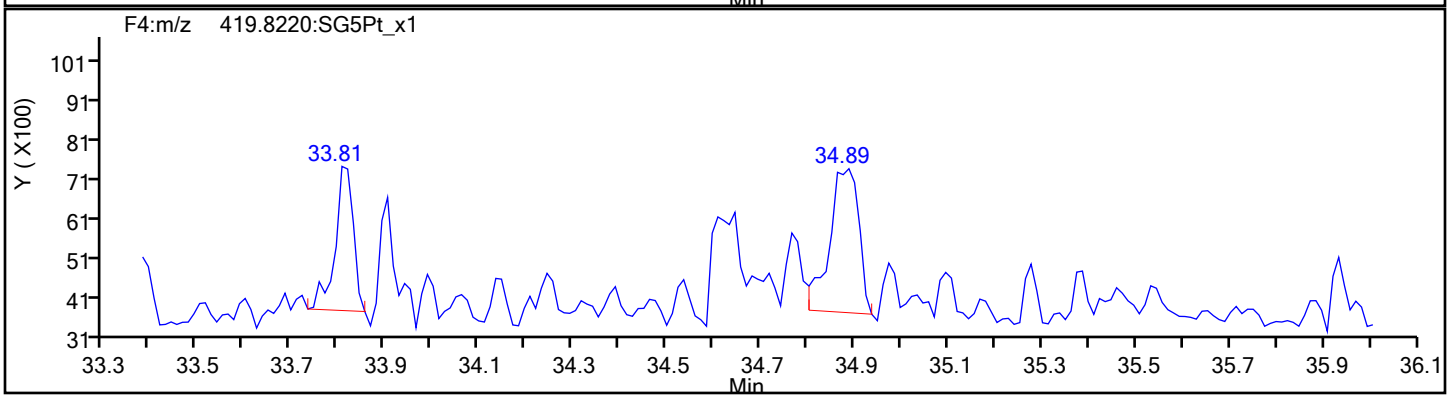

Report Date: 11-Oct-2019 10:58:27 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_15.d		
Injection Date:	11-Oct-2019 03:05:54	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

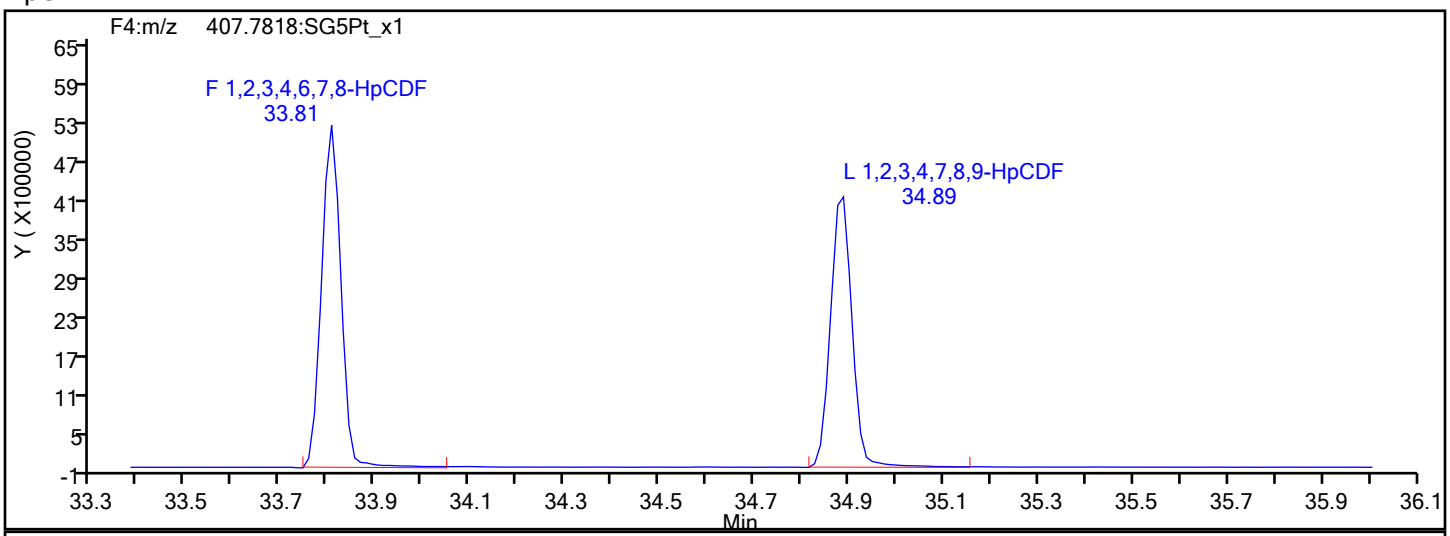

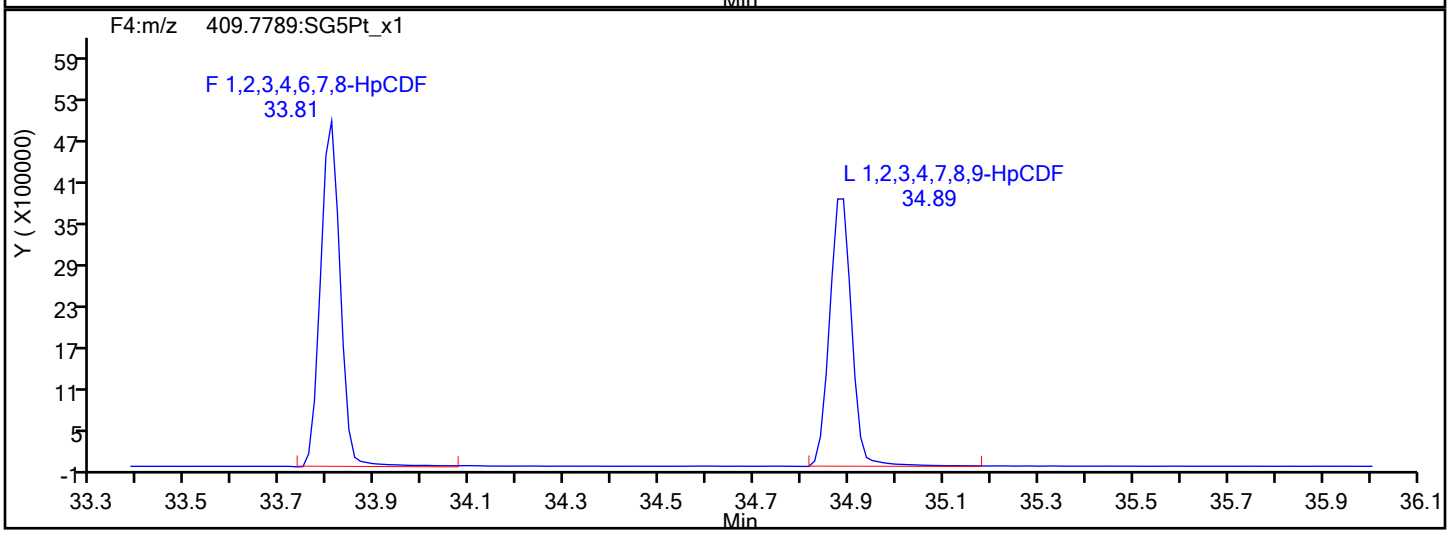

HpCDF Interference Mass

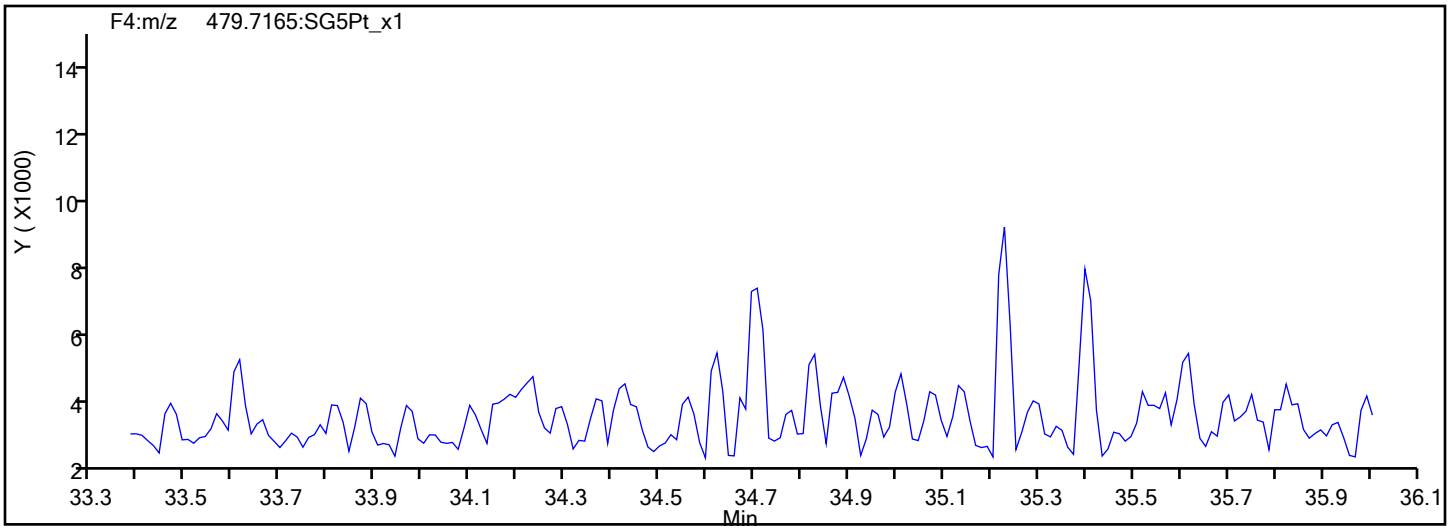

Report Date: 11-Oct-2019 10:58:27 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_15.d		
Injection Date:	11-Oct-2019 03:05:54	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330148	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

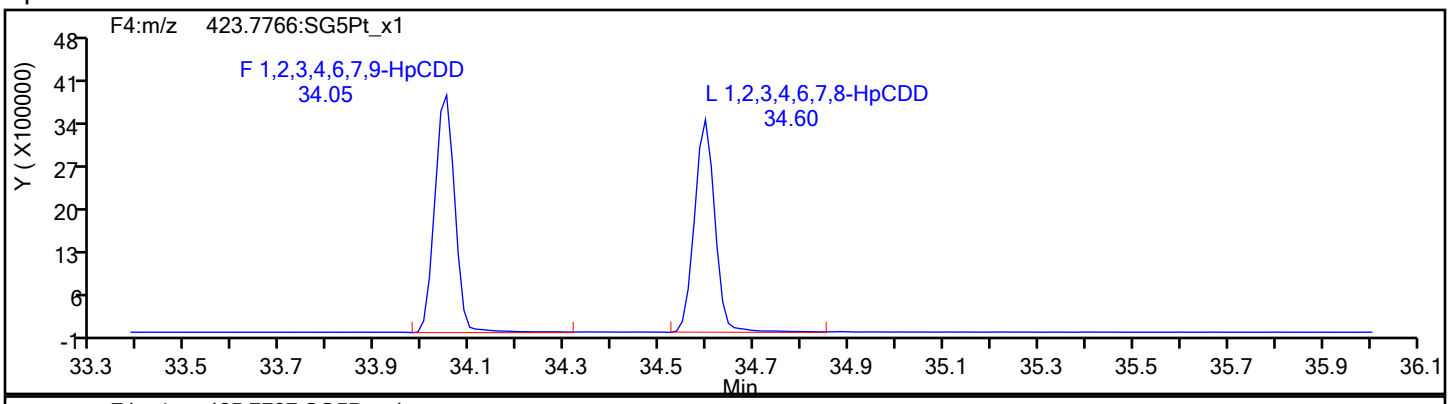

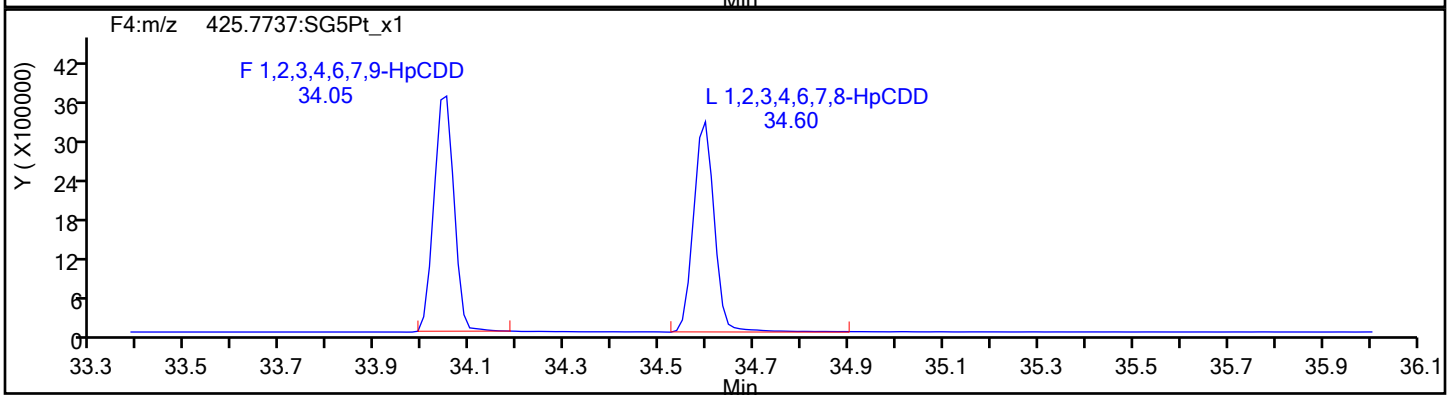

HpCDD Standards

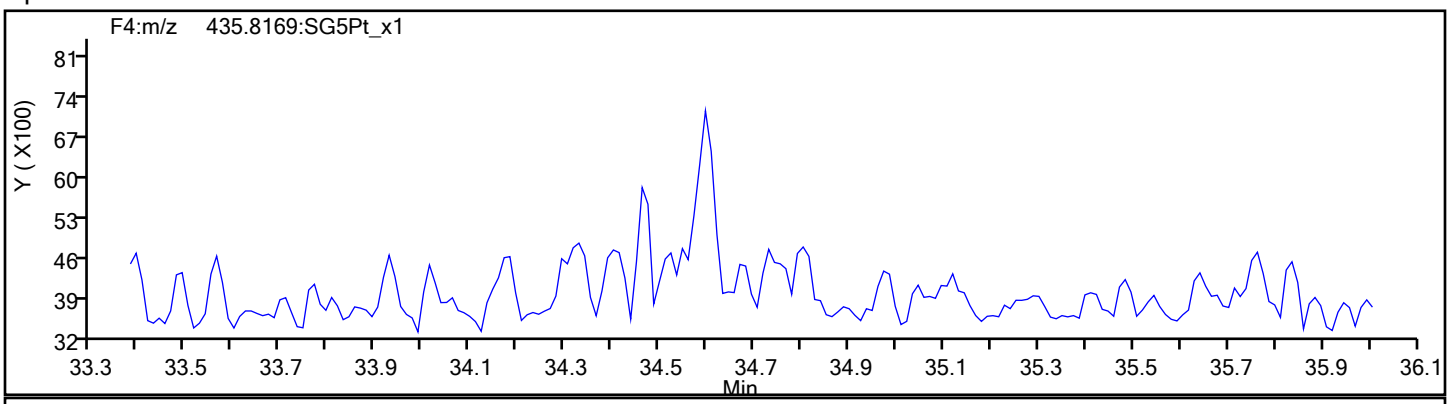

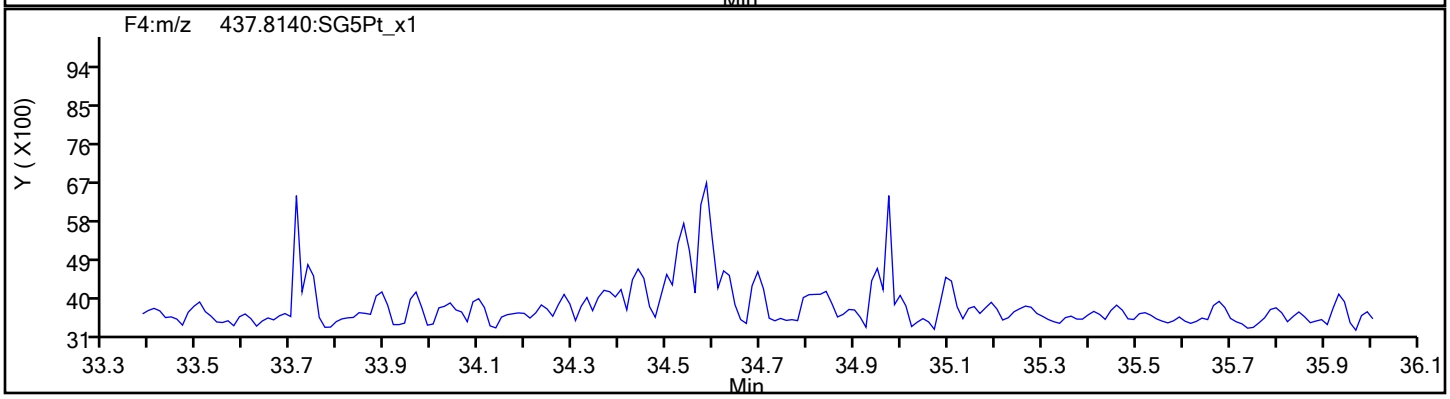

Report Date: 11-Oct-2019 10:58:27 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_15.d		
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Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330148	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

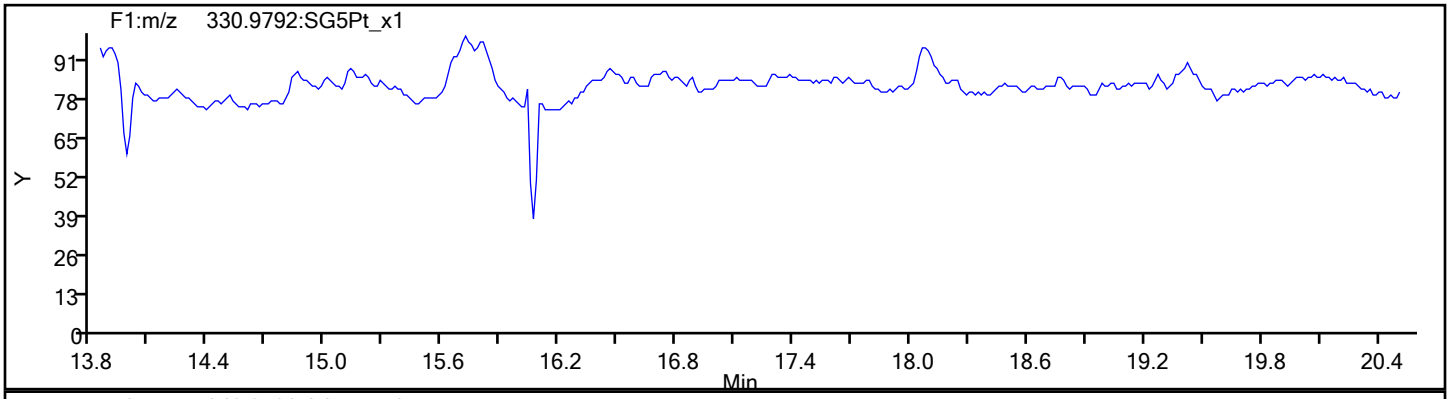

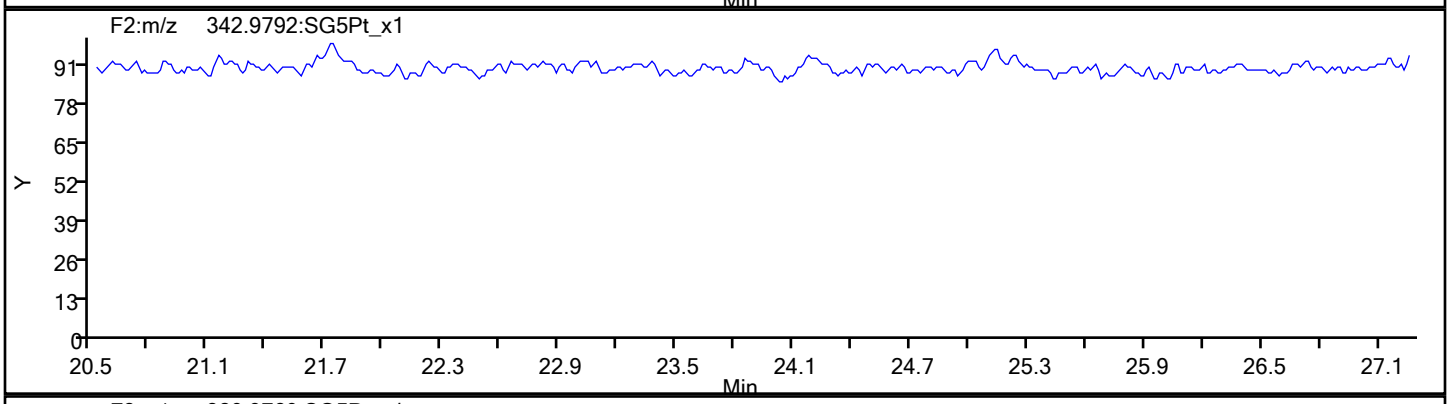

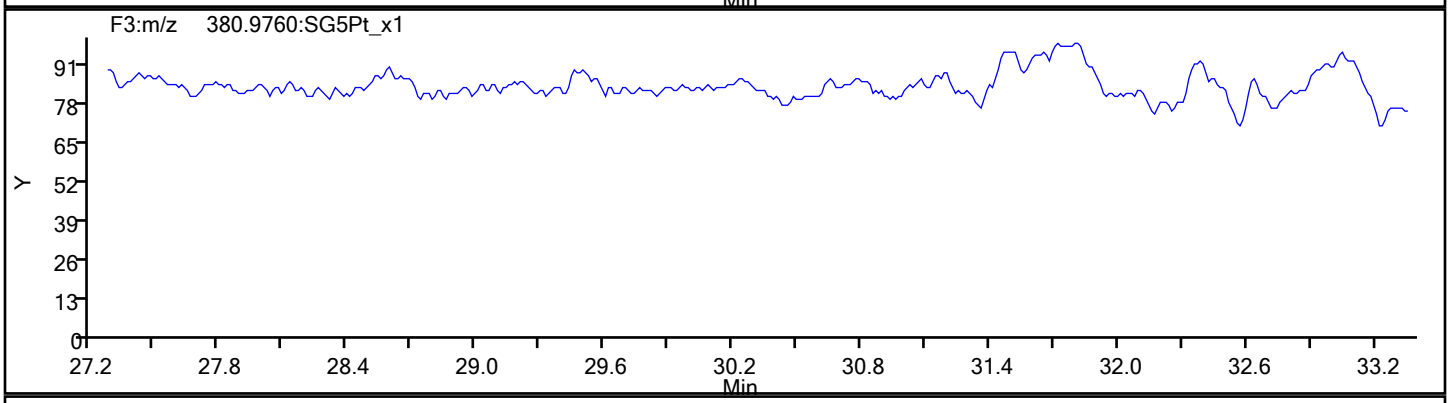

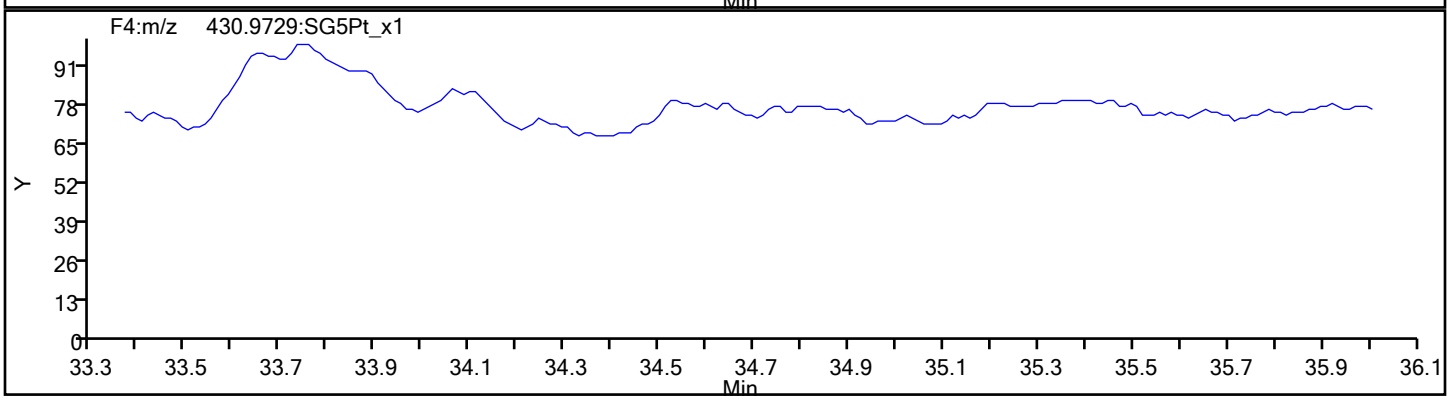

Report Date: 11-Oct-2019 10:58:27 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_15.d		
Injection Date:	11-Oct-2019 03:05:54	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330148	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

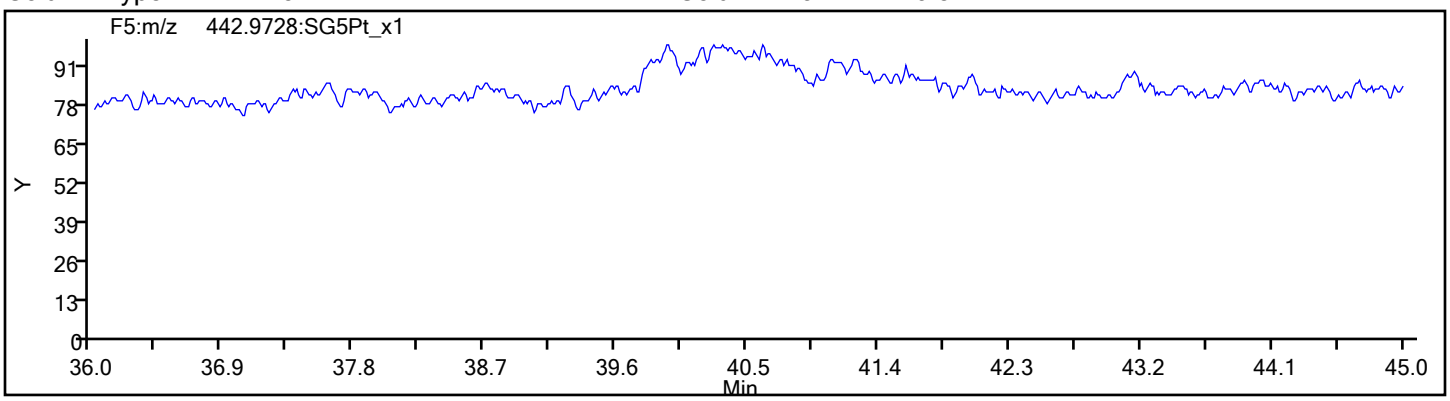

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_001.d
Lims ID: CPS
Client ID:
Sample Type: CPS
Inject. Date: 02-Aug-2019 01:35:28 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info:
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:55:43 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:42:14

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	16.622	61074380	0.81	1.3379					0.00	
2,3,7,8-TCDF	16.636	61037608	0.79	0.8389	47.7	47.7	0.1209	0.1209		
D 13C-2,3,7,8-TCDD	15.154	40433427	0.78	0.9388					0.00	
2,3,7,8-TCDD	15.182	44564745	0.76	1.1538	38.2	38.2	0.1633	0.1633		
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNCP_00038 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_001.d
Lims ID: CPS
Client ID:
Sample Type: CPS
Inject. Date: 02-Aug-2019 01:35:28 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info:
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:55:43 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:42:14

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	16.622	16.580	3	1.000	27419709	5797675	45703	114257	127		
317.9389	16.622	16.580	3	1.000	33654671	7331370	15961	39902	459	0.81(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.636	16.599	2	1.001	26963677	5682254	5764	14410	986		
305.8987	16.636	16.599	2	1.001	34073931	7516270	7547	18867	996	0.79(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.154	15.136	1	1.000	17780107	4066450	14178	35445	287		
333.9339	15.154	15.136	1	1.000	22653320	5347910	7990	19975	669	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.182	15.156	2	1.002	19294731	4574819	7190	17975	636		
321.8936	15.182	15.156	2	1.002	25270014	5985037	10548	26370	567	0.76(0.65-0.89)	
Total 2378-Chlorinated Dioxins & Furans											
		0.0	0								

Reagents:

HRDXNCP_00038 Amount Added: 1.00 Units: mL

Report Date: 02-Aug-2019 11:55:58 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_001.d		
Injection Date:	02-Aug-2019 01:35:28	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

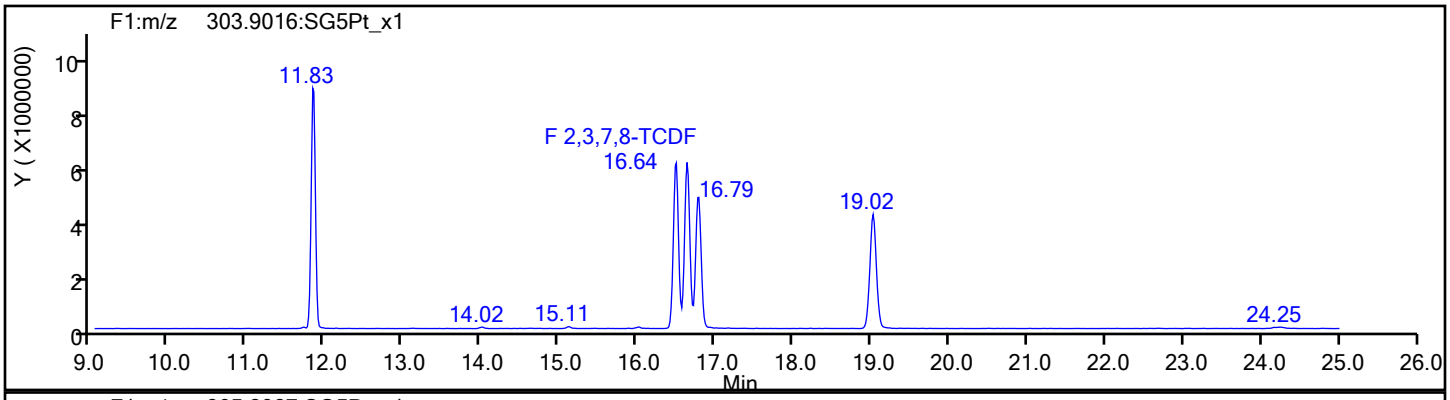

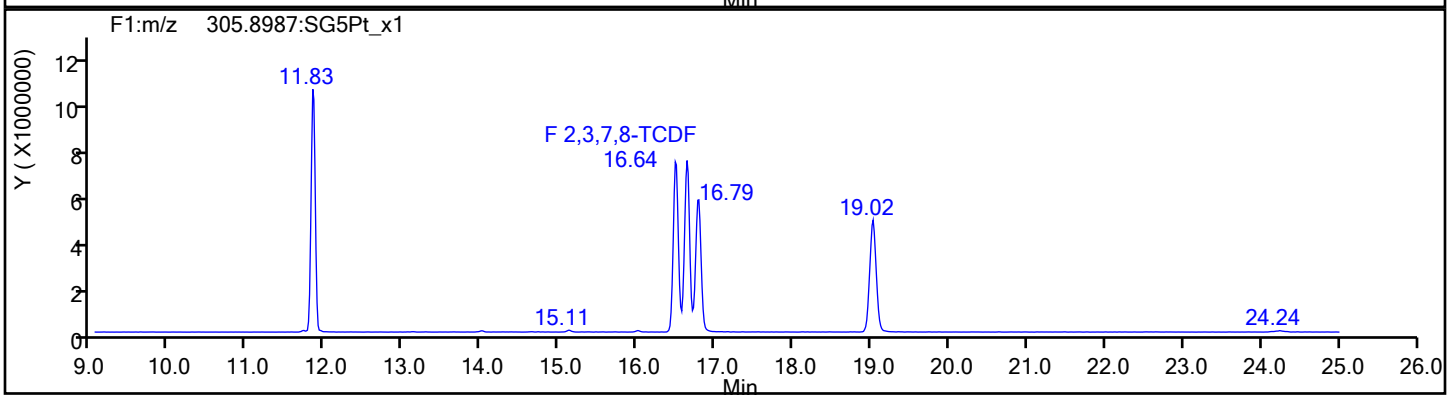

TCDF Standards

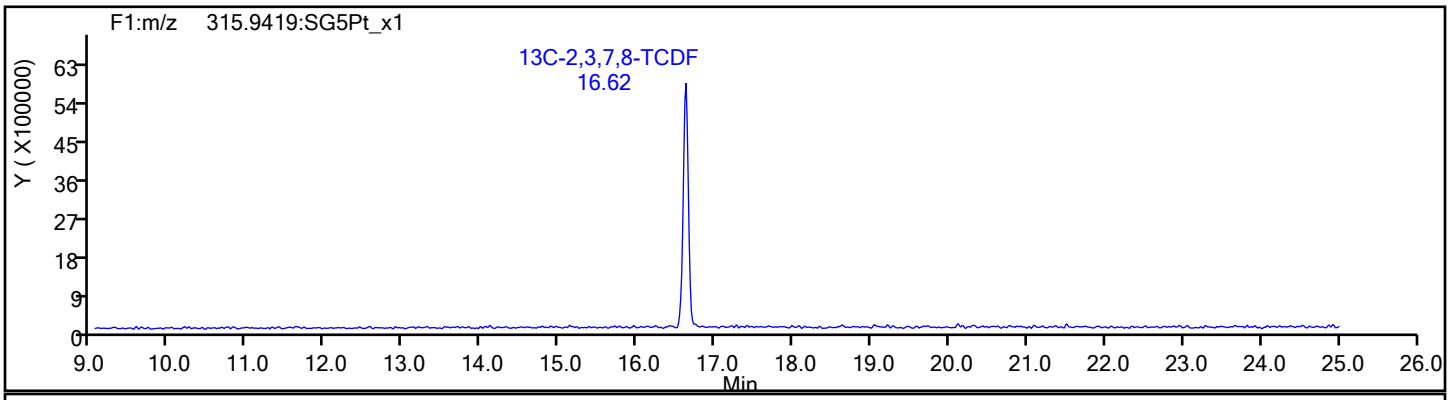

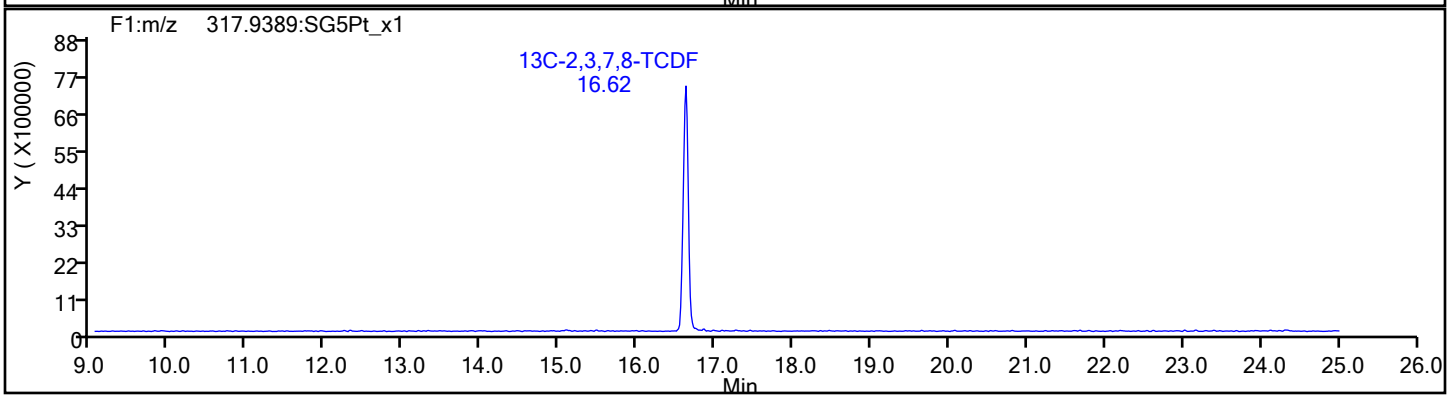

Report Date: 02-Aug-2019 11:55:58 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_001.d		
Injection Date:	02-Aug-2019 01:35:28	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

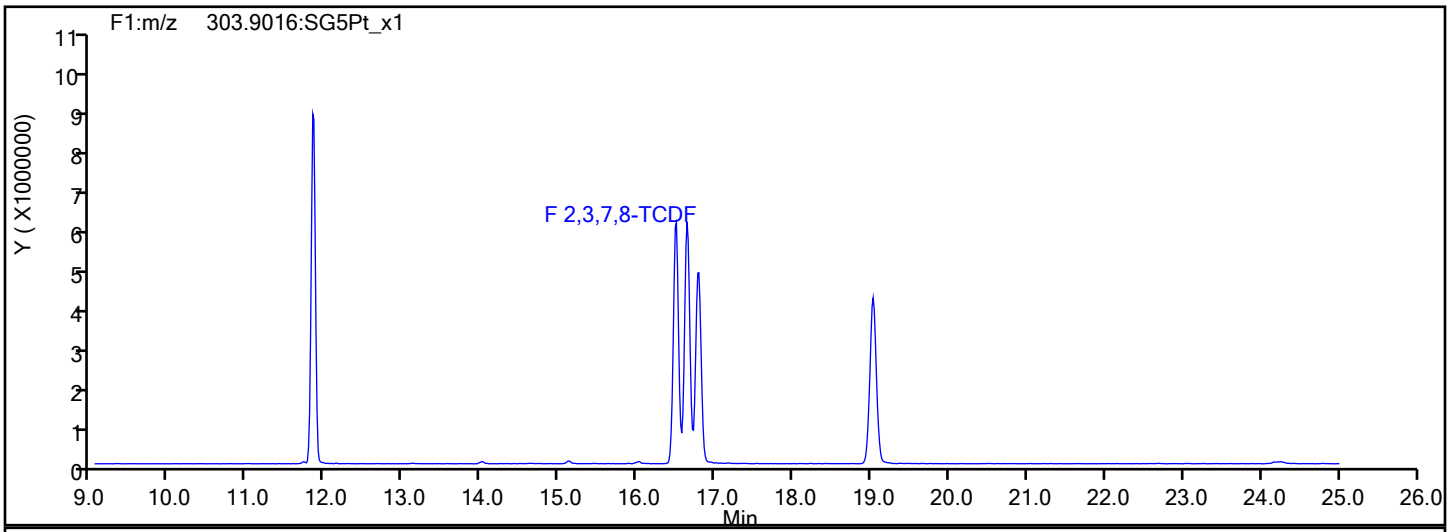

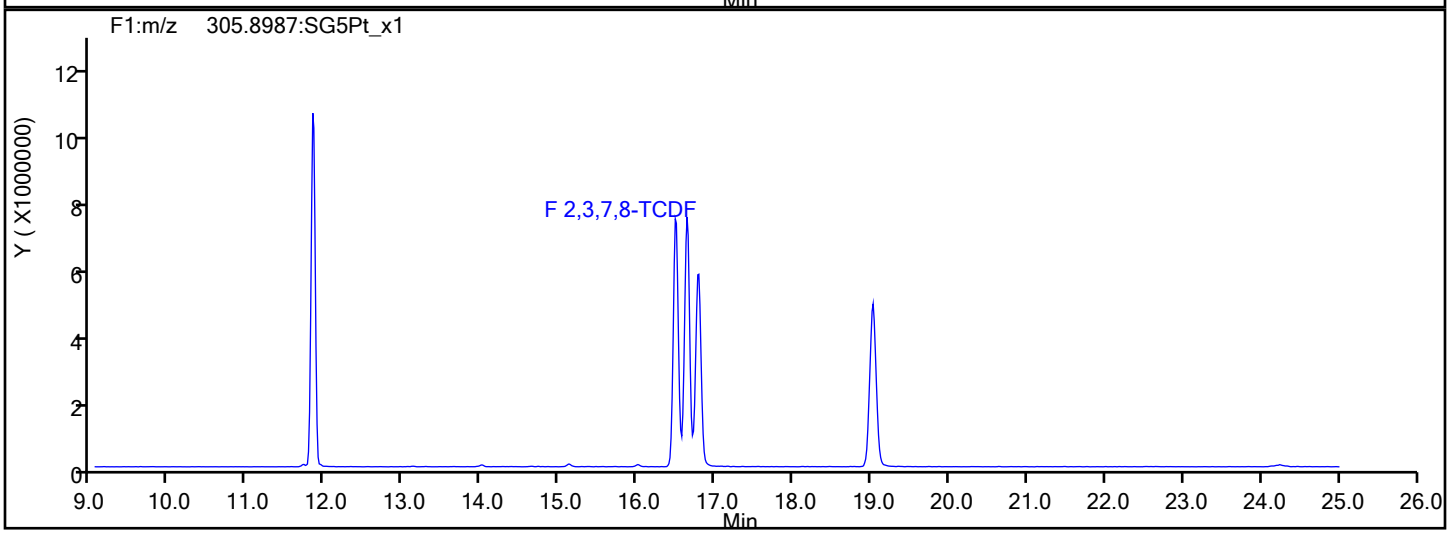

TCDF Interference Mass

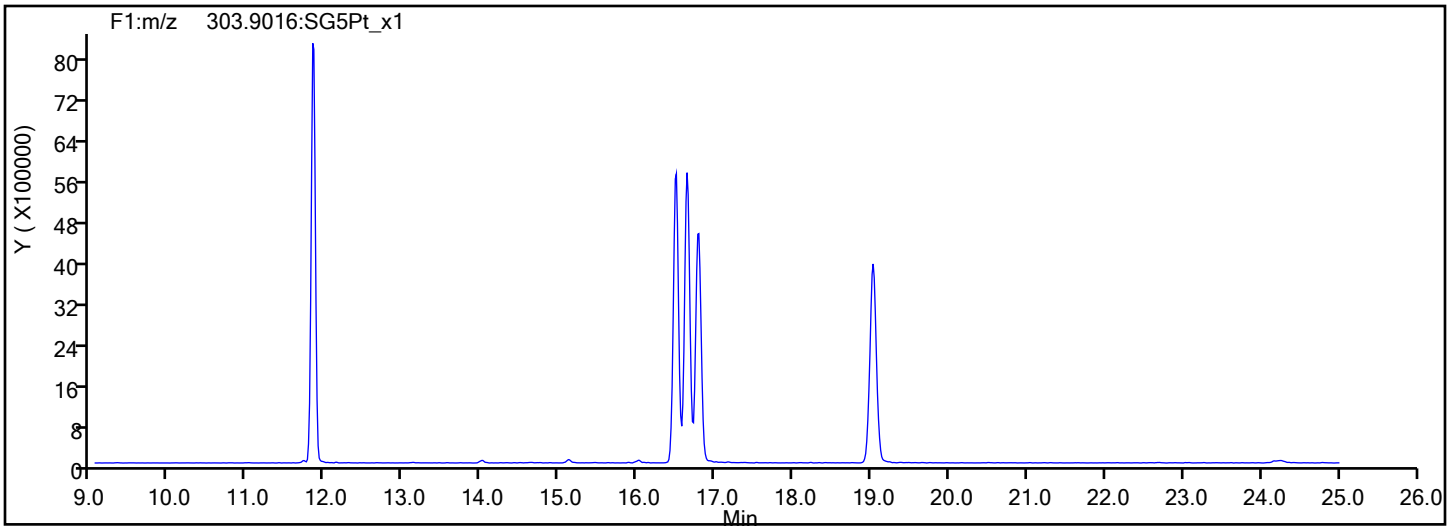

Report Date: 02-Aug-2019 11:55:58 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_001.d		
Injection Date:	02-Aug-2019 01:35:28	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

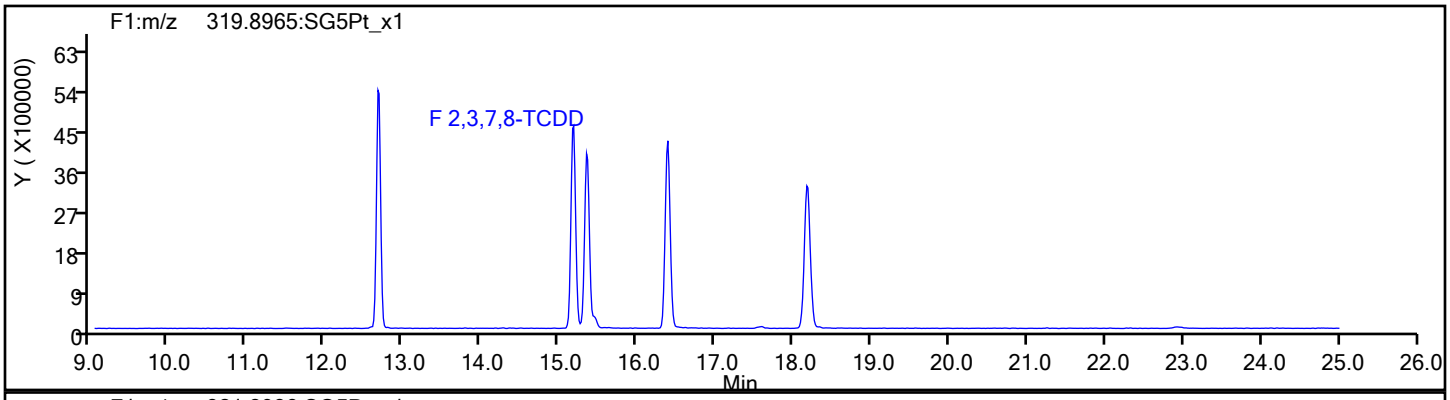

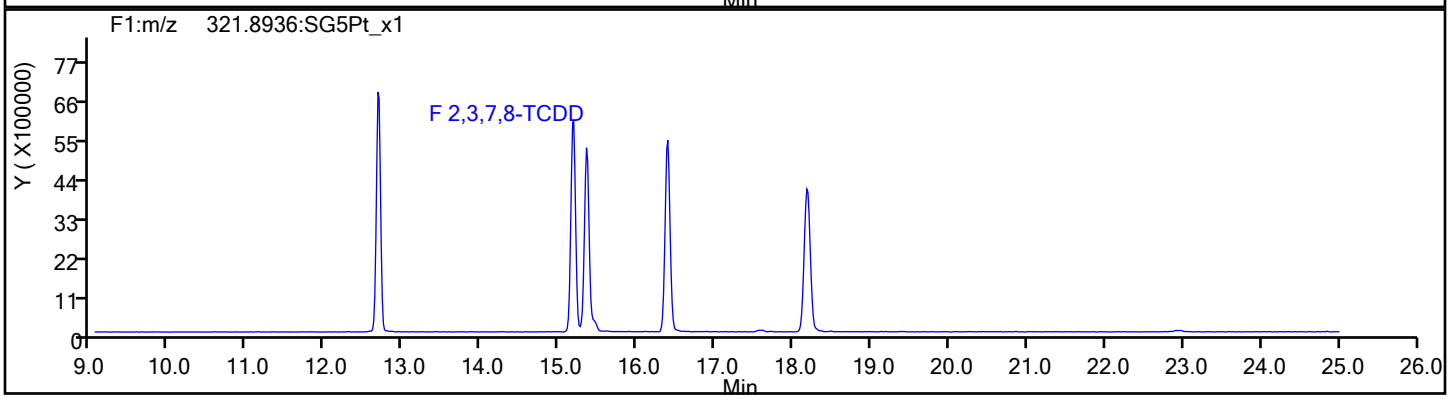

TCDD Standards

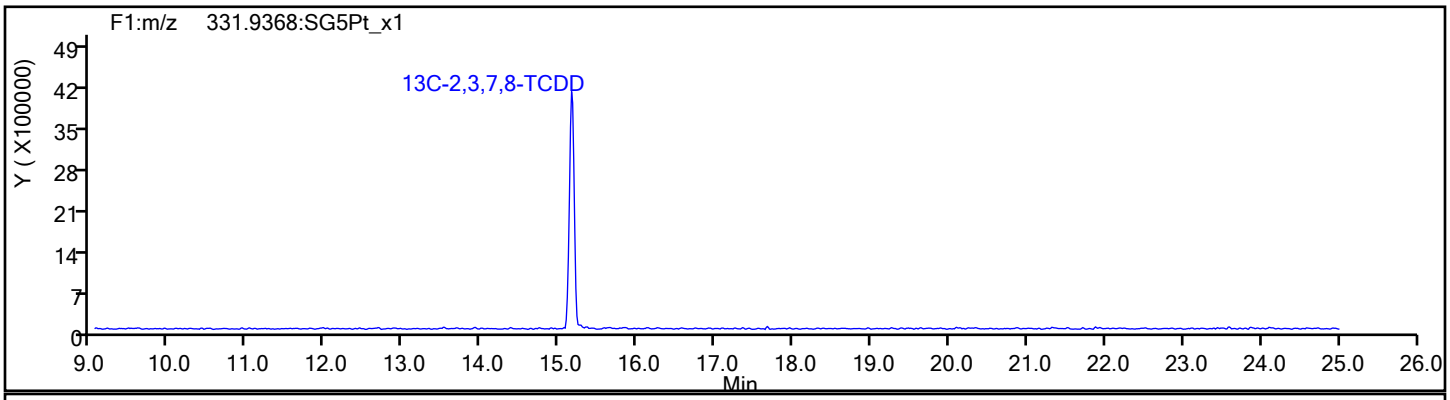

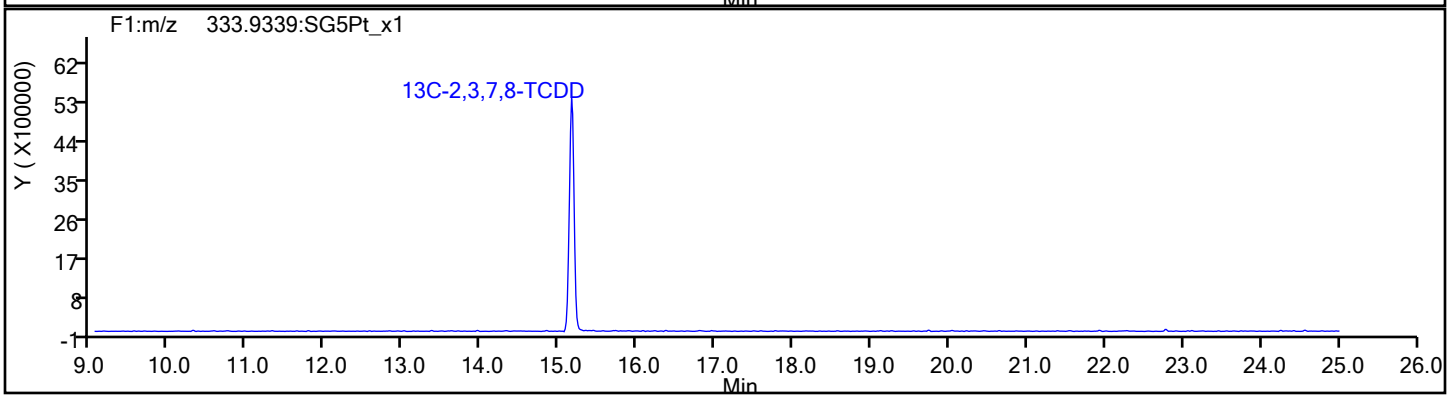

Report Date: 02-Aug-2019 11:55:58 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_001.d		
Injection Date:	02-Aug-2019 01:35:28	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

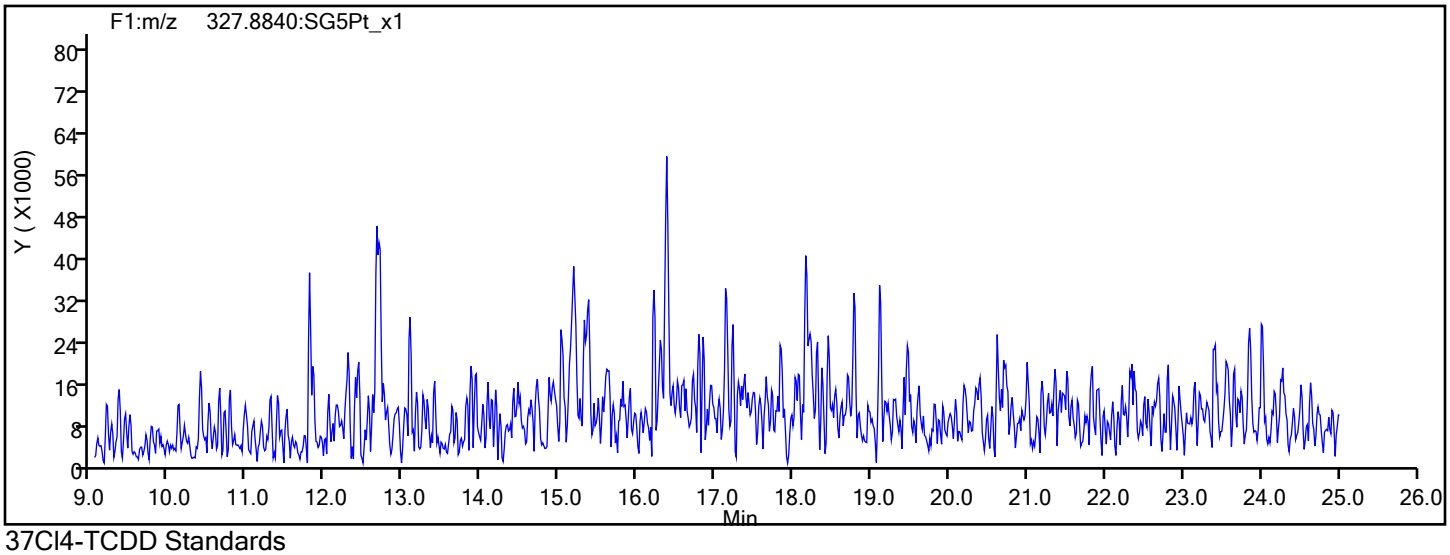

37Cl4-TCDD Standards

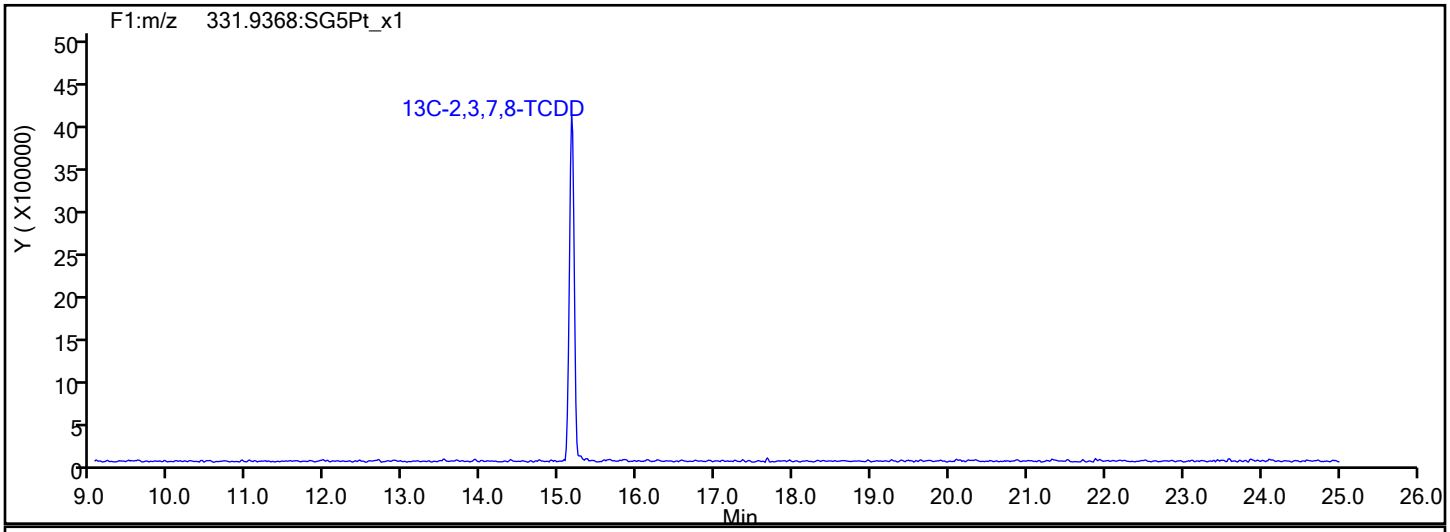

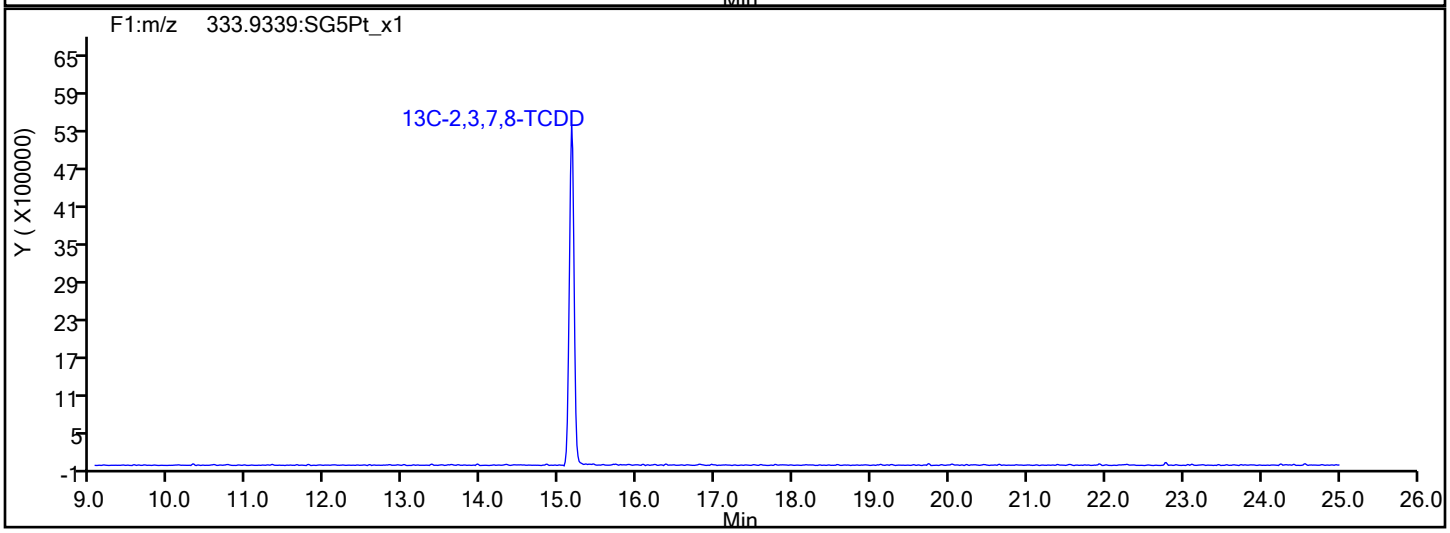

Report Date: 02-Aug-2019 11:55:58 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_001.d		
Injection Date:	02-Aug-2019 01:35:28	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

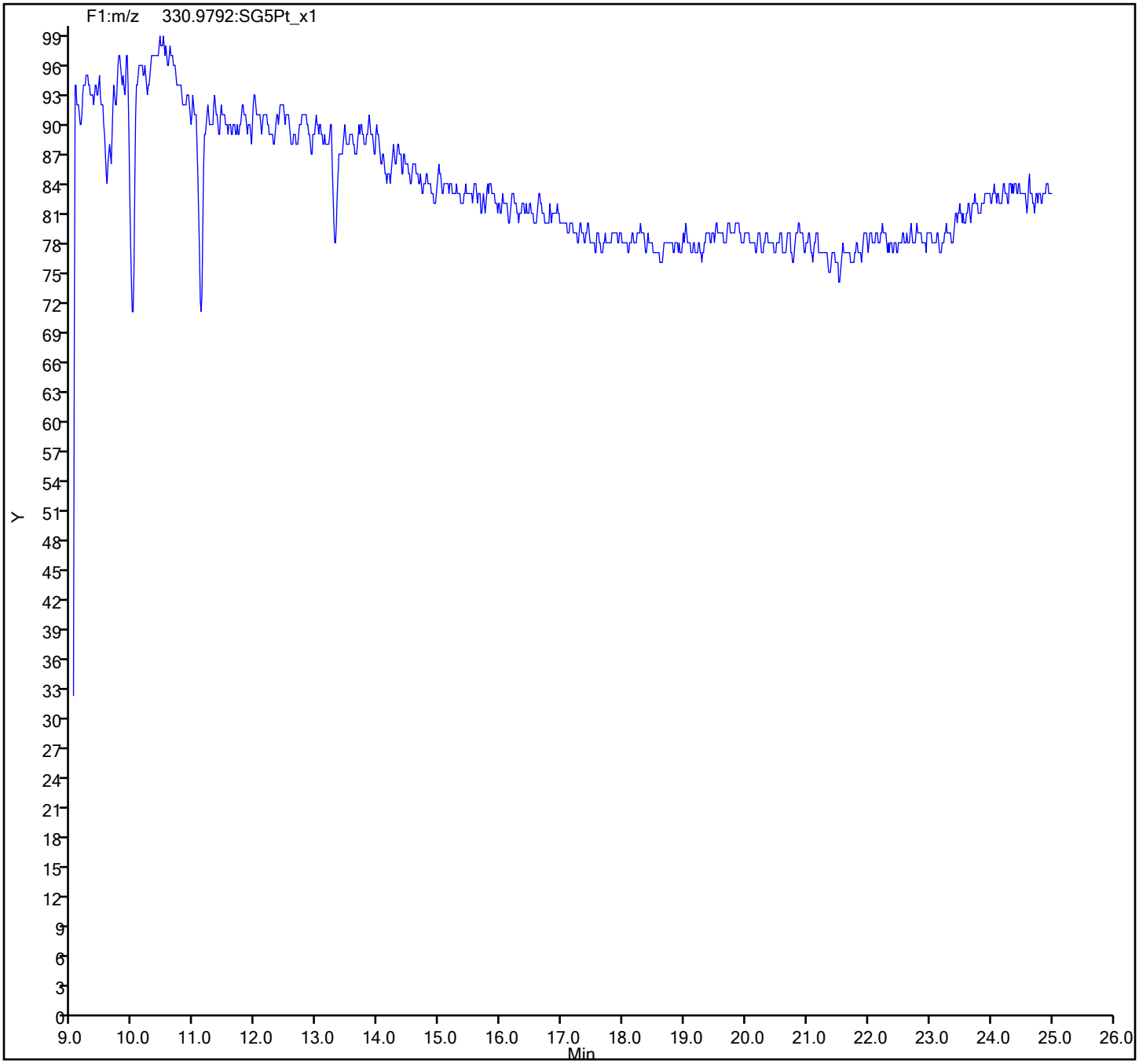

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20191011-84792.b\11OC19A11D2_001.d
Lims ID: CPS
Client ID:
Sample Type: CPS
Inject. Date: 11-Oct-2019 15:27:22 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info:
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20191011-84792.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 11-Oct-2019 20:37:39 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0305

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	16.450	44896974	0.78	1.3379					0.00	
2,3,7,8-TCDF	16.463	44681214	0.79	0.8389	47.5	47.5	0.1319	0.1319		
D 13C-2,3,7,8-TCDD	15.037	30669338	0.76	0.9388					0.00	
2,3,7,8-TCDD	15.050	34381627	0.76	1.1538	38.9	38.9	0.1284	0.1284		
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNCP_00040 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20191011-84792.b\11OC19A11D2_001.d
Lims ID: CPS
Client ID:
Sample Type: CPS
Inject. Date: 11-Oct-2019 15:27:22 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info:
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20191011-84792.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 11-Oct-2019 20:37:39 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0305

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	16.450	16.450	0	1.000	19740157	3865036	11768	29420	328		
317.9389	16.450	16.450	0	1.000	25156817	4496960	8341	20852	539	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.463	16.463	0	1.001	19684777	3968622	3752	9380	1058		
305.8987	16.463	16.463	0	1.001	24996437	5116479	5498	13745	931	0.79(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.037	15.037	0	1.000	13229215	2979921	11680	29200	255		
333.9339	15.037	15.037	0	1.000	17440123	3694433	3331	8327	1109	0.76(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.050	15.050	0	1.001	14859416	3383400	5703	14257	593		
321.8936	15.050	15.050	0	1.001	19522211	4361910	4188	10470	1042	0.76(0.65-0.89)	
Total 2378-Chlorinated Dioxins & Furans											
		0.0	0								

Reagents:

HRDXNCP_00040 Amount Added: 2.00 Units: uL

Report Date: 11-Oct-2019 20:37:39 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191011-84792.b\11OC19A11D2_001.d		
Injection Date:	11-Oct-2019 15:27:22	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330473	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

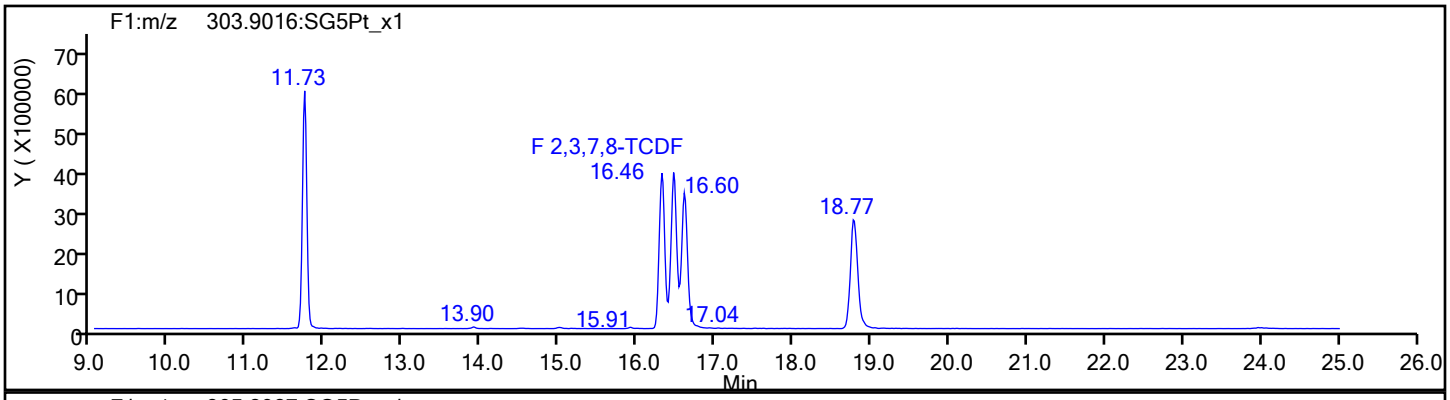

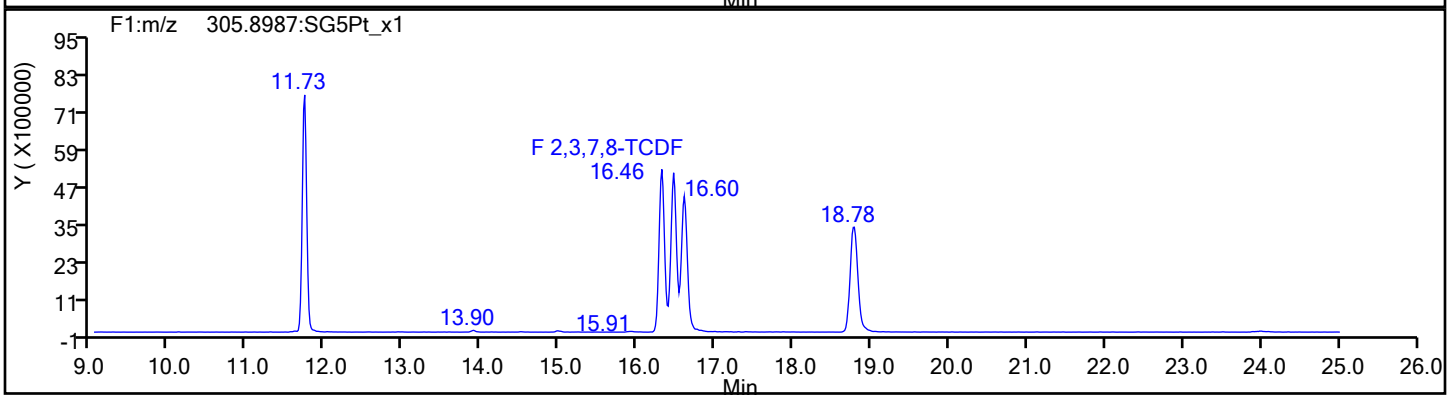

TCDF Standards

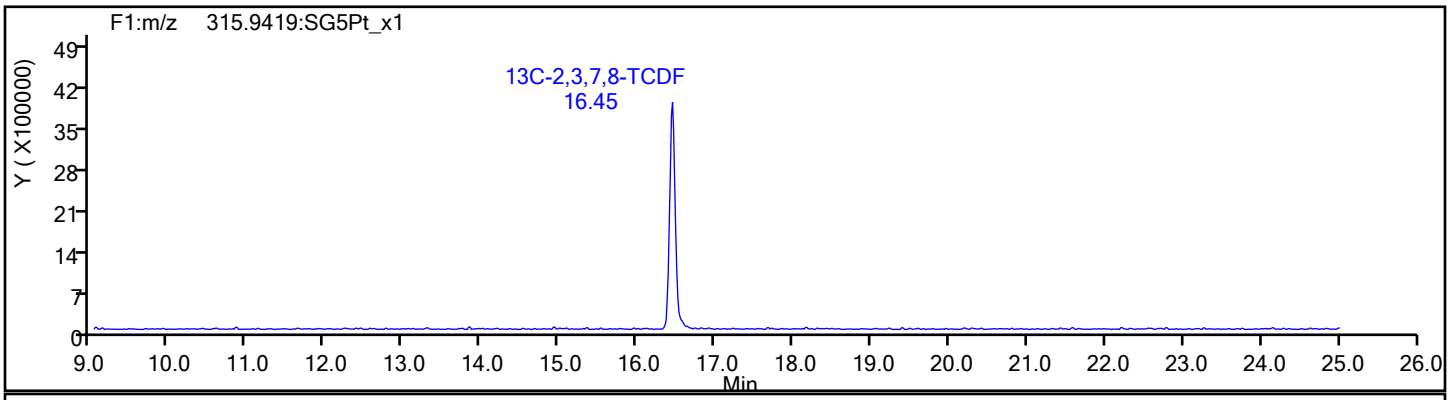

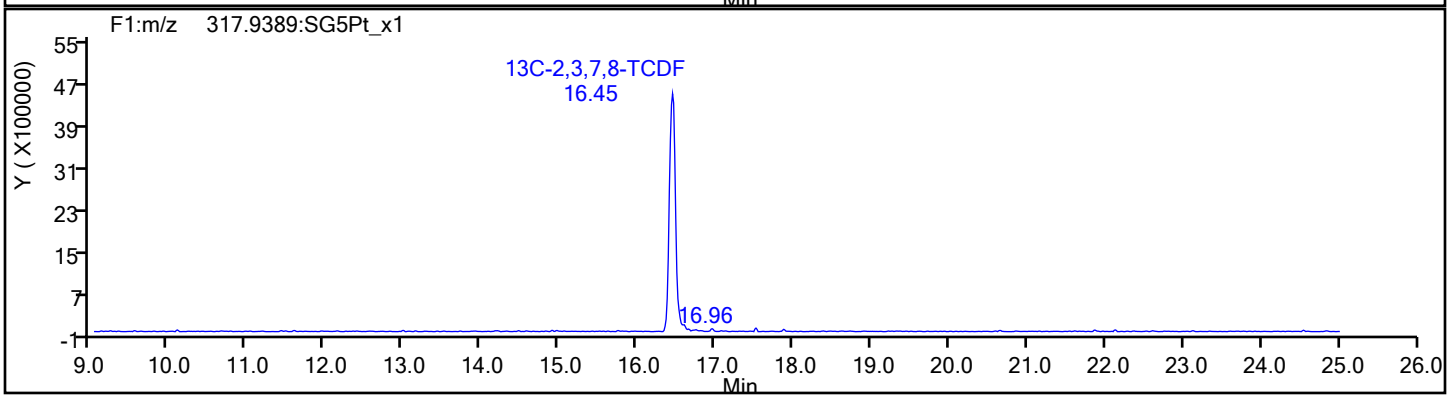

Report Date: 11-Oct-2019 20:37:39 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191011-84792.b\11OC19A11D2_001.d		
Injection Date:	11-Oct-2019 15:27:22	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330473	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

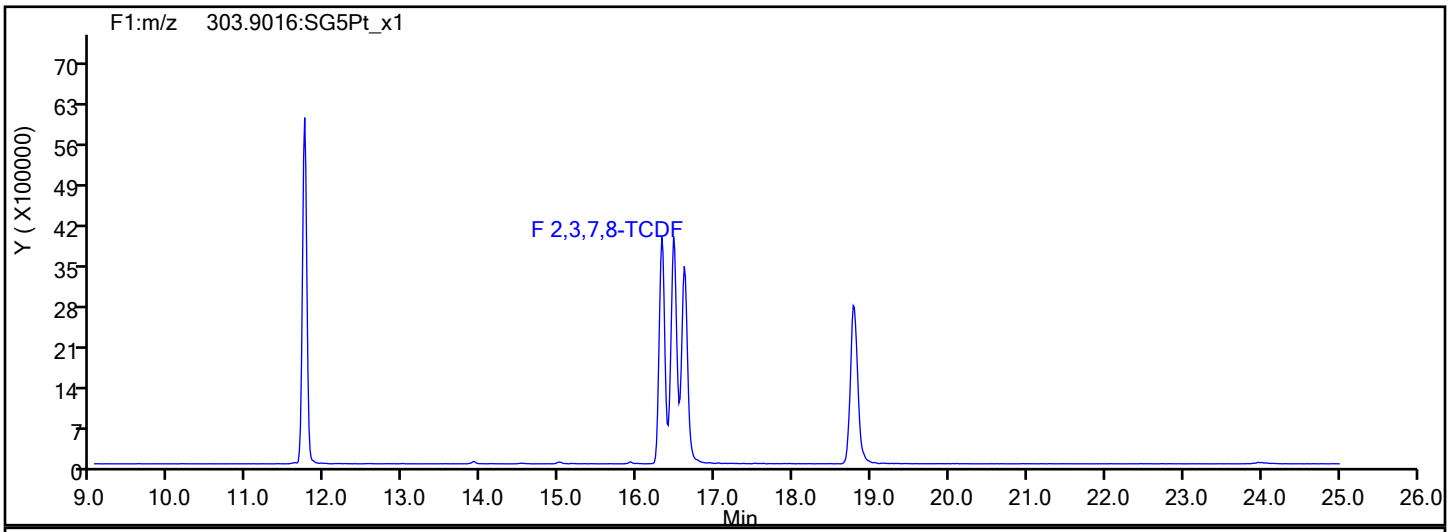

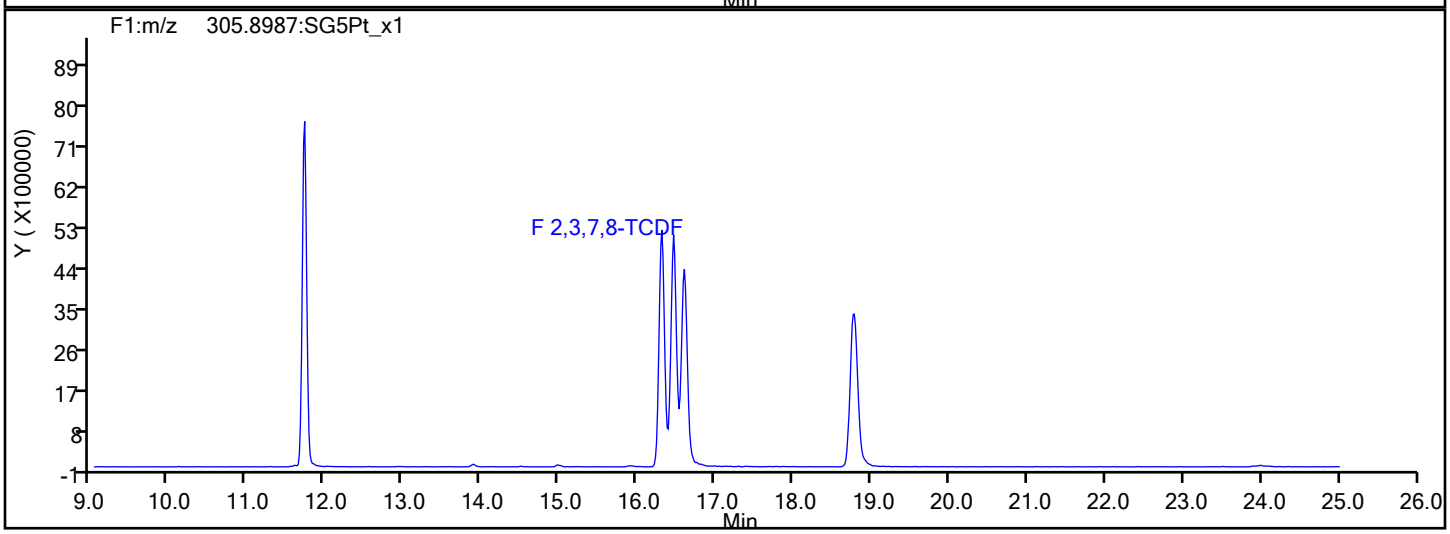

TCDF Interference Mass

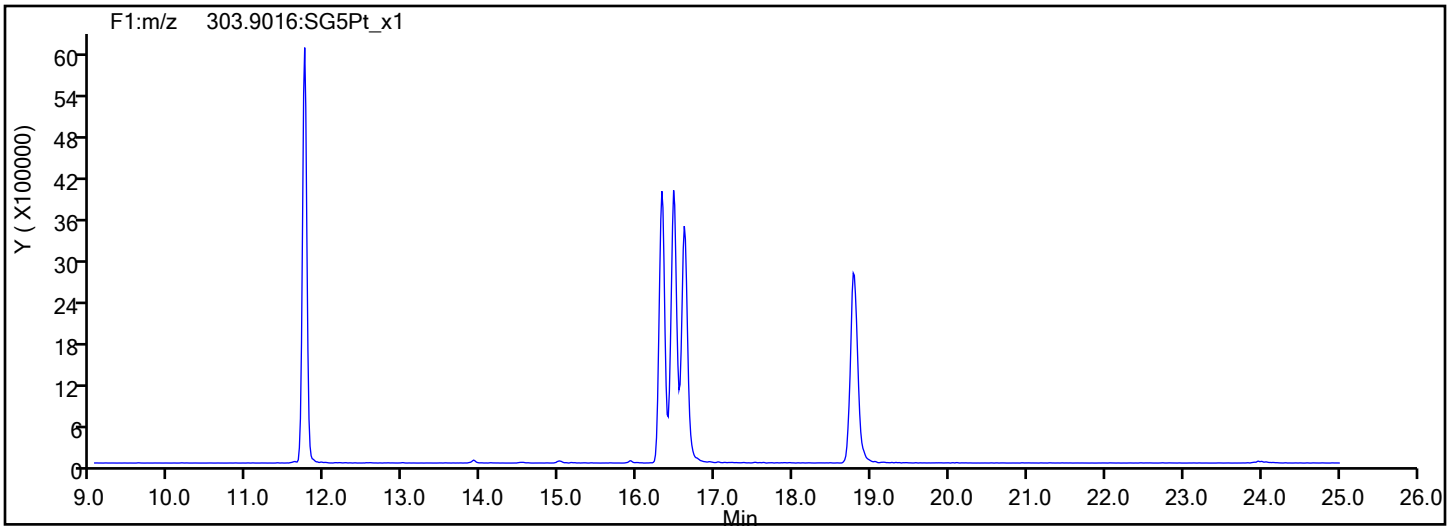

Report Date: 11-Oct-2019 20:37:40 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191011-84792.b\11OC19A11D2_001.d		
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Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330473	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

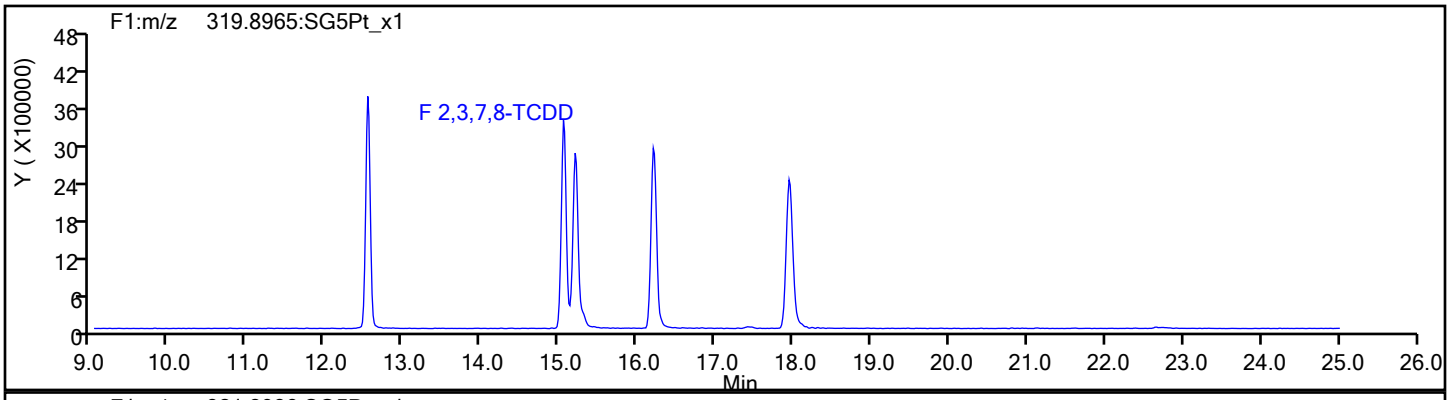

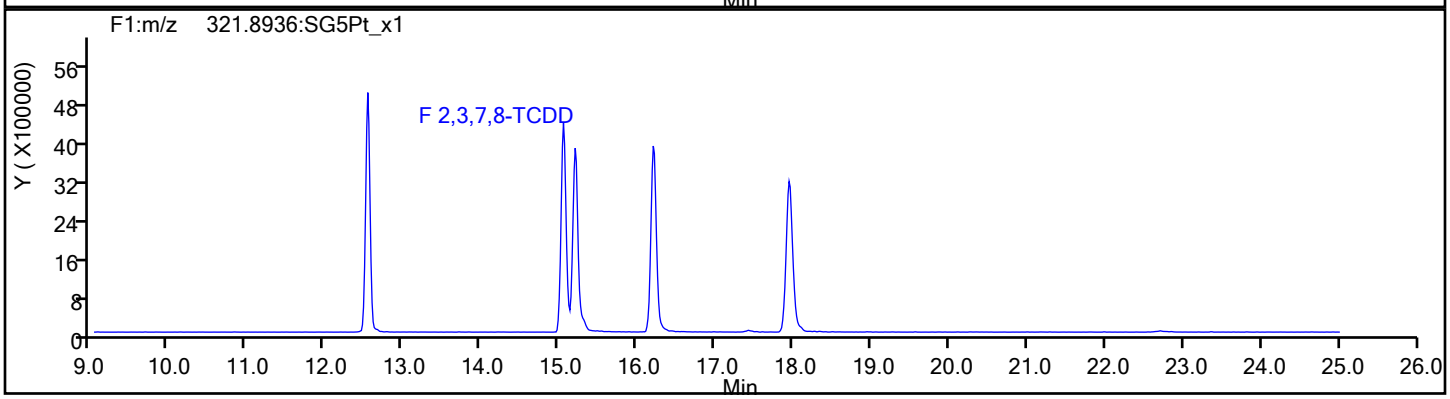

TCDD Standards

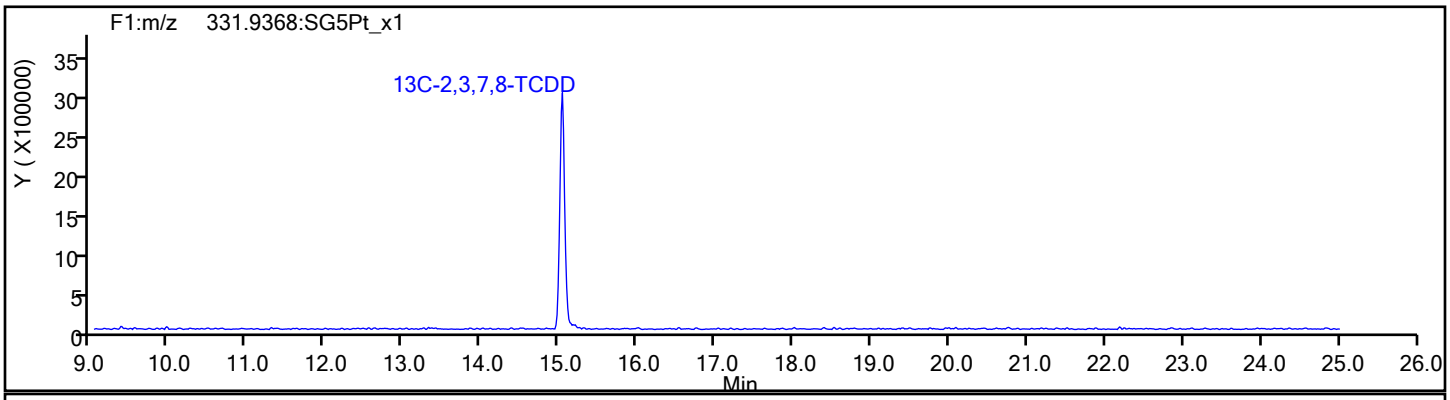

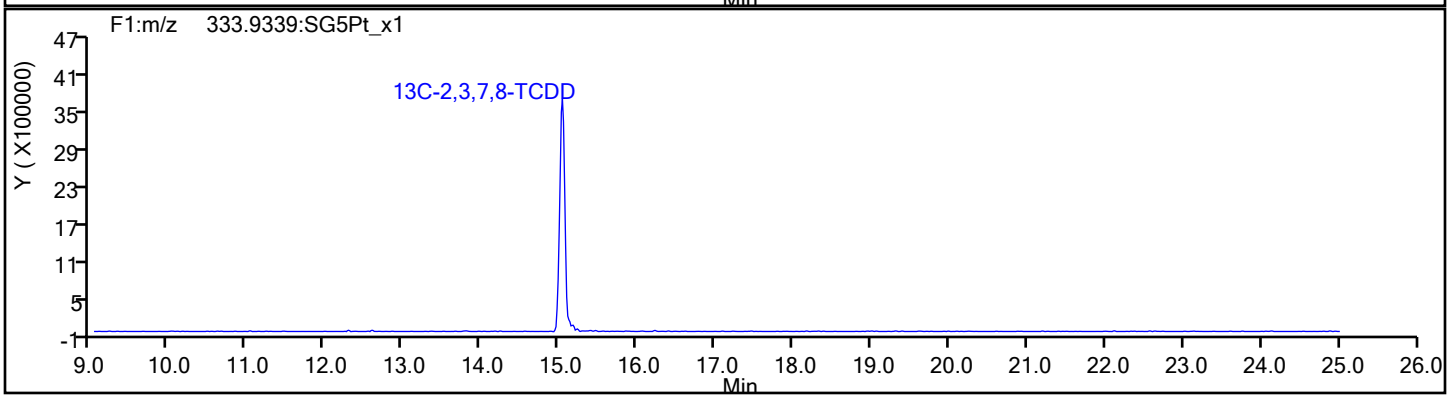

Report Date: 11-Oct-2019 20:37:40 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191011-84792.b\11OC19A11D2_001.d		
Injection Date:	11-Oct-2019 15:27:22	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330473	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

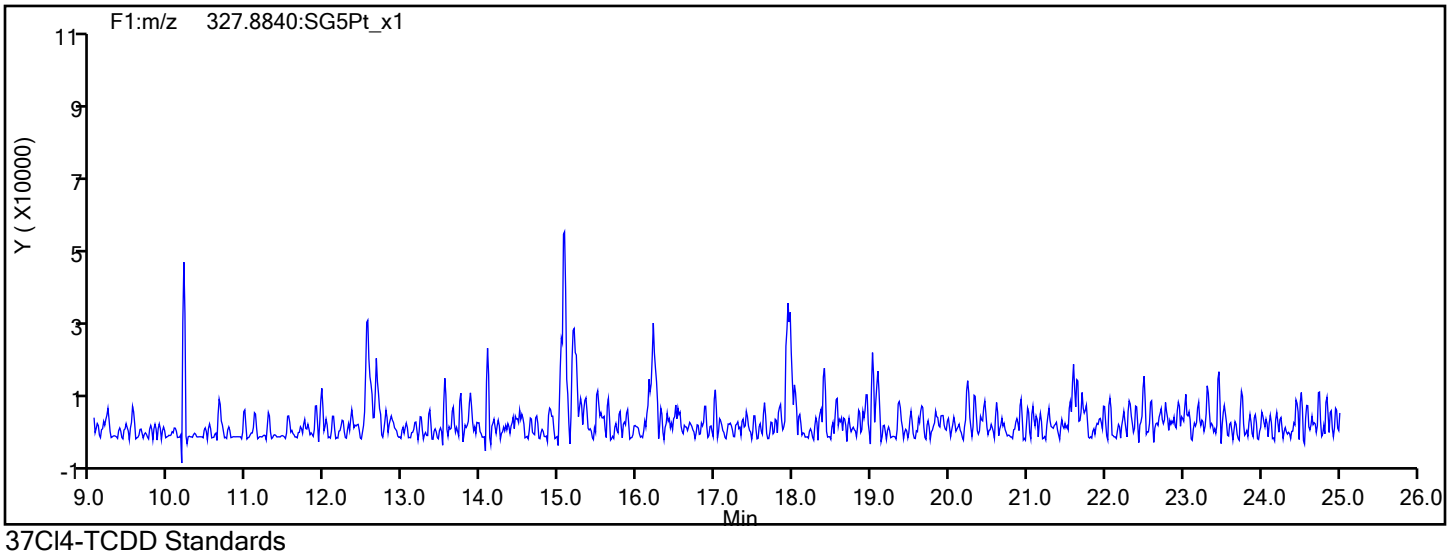

37Cl4-TCDD Standards

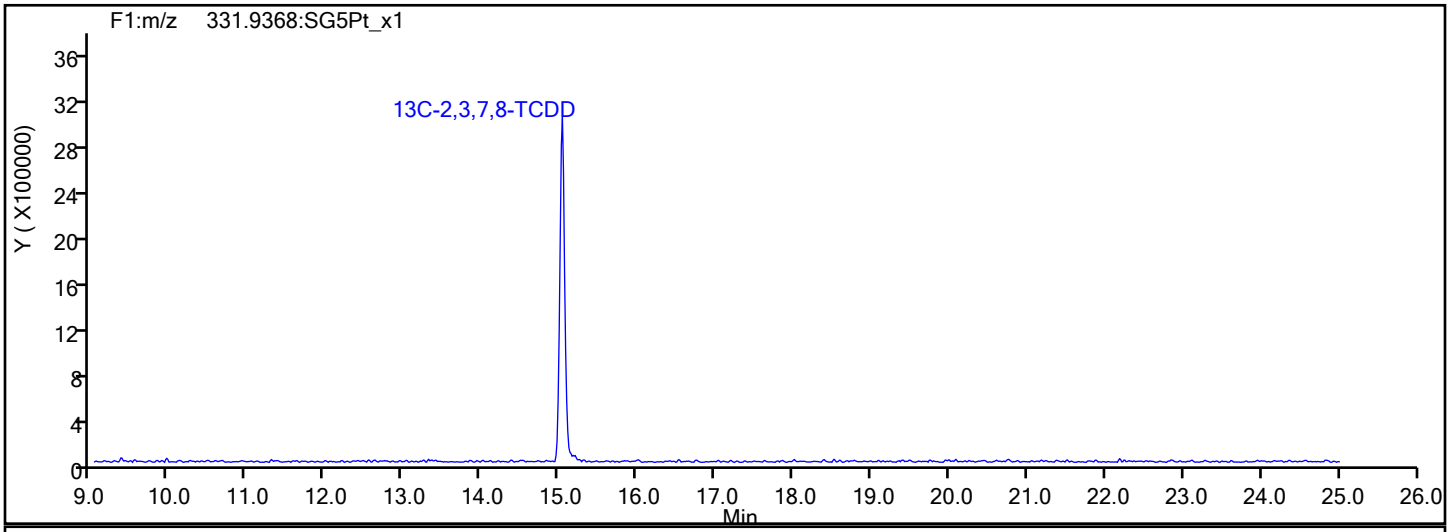

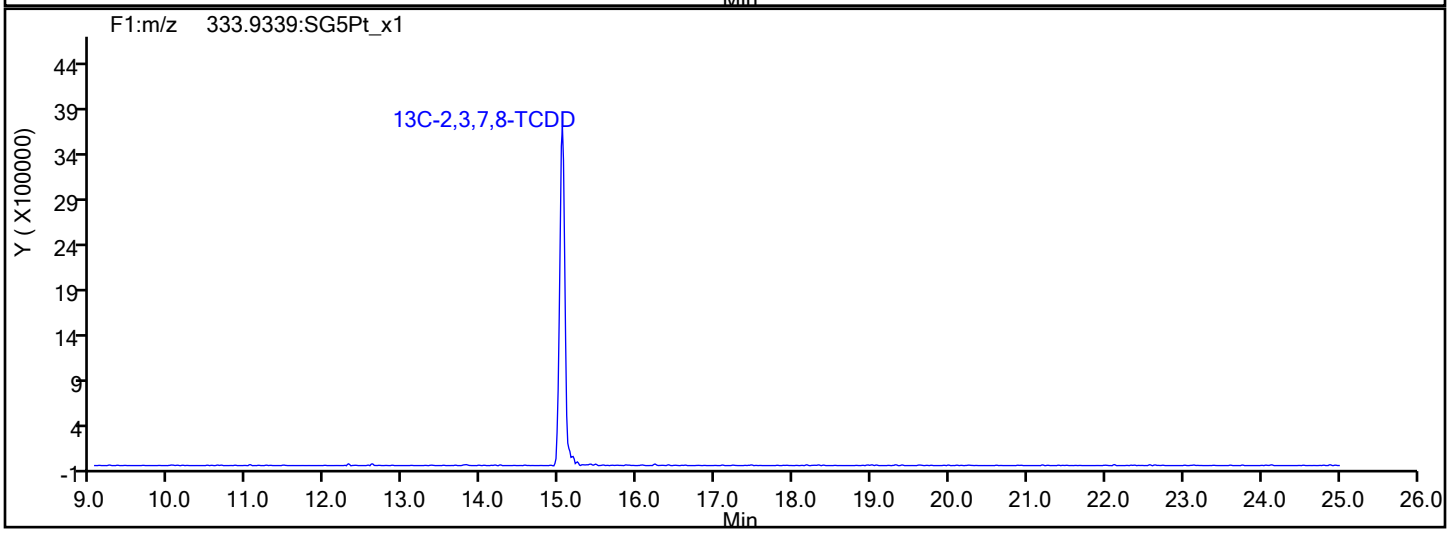

Report Date: 11-Oct-2019 20:37:40 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191011-84792.b\11OC19A11D2_001.d		
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Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330473	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

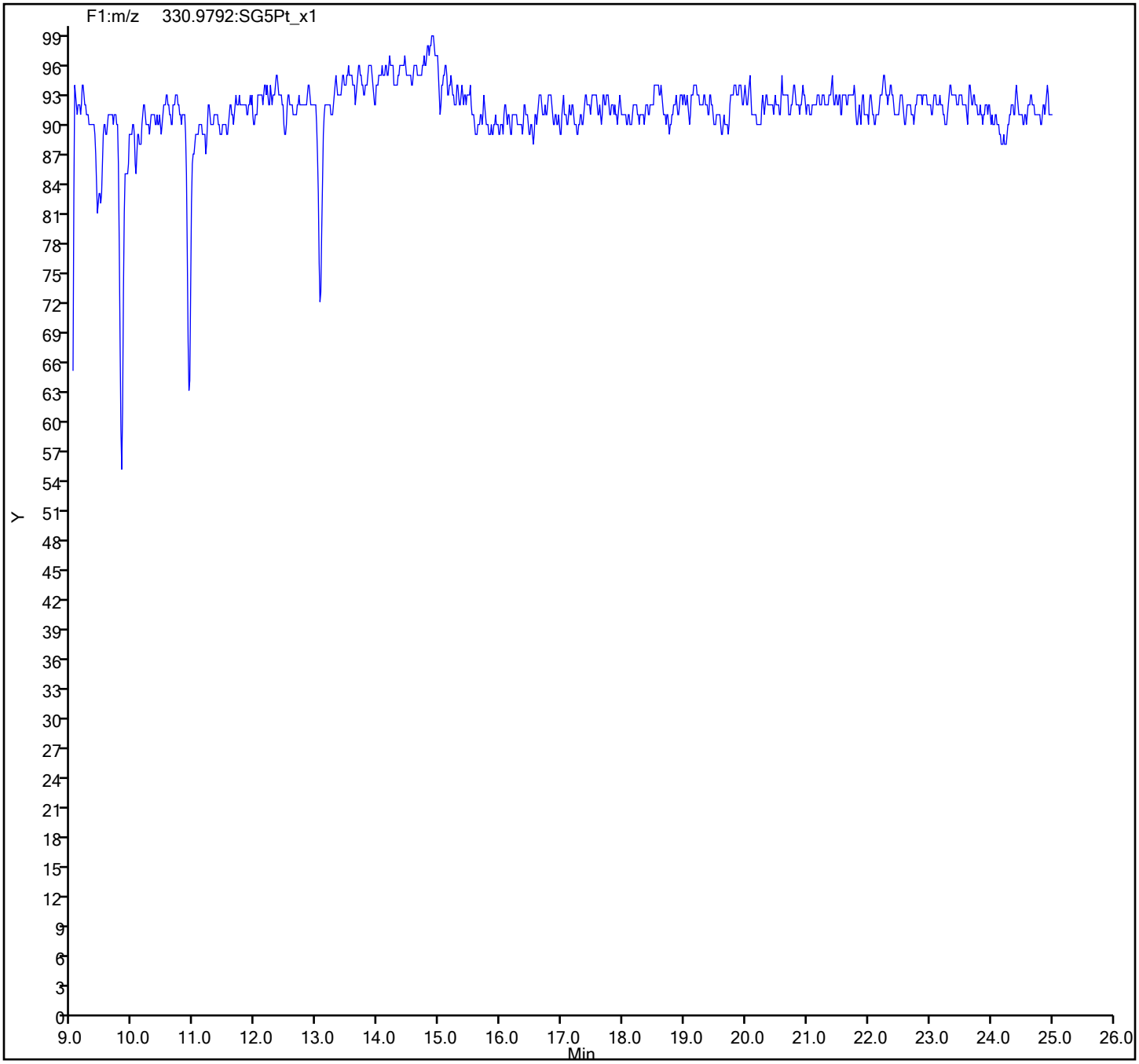

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 320-54852-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 320-329339/1-A
Matrix: Water
Lab File ID: 10OC1910D5_7.d
Analysis Method: 1613B
Date Collected:
Extract. Method: 1613B
Date Extracted: 10/08/2019 14:19
Sample wt/vol: 1000(mL)
Date Analyzed: 10/10/2019 20:38
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 330145
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		10	1.1
51207-31-9	2,3,7,8-TCDF	ND		10	0.56
40321-76-4	1,2,3,7,8-PeCDD	ND		50	0.78
57117-41-6	1,2,3,7,8-PeCDF	ND		50	0.57
57117-31-4	2,3,4,7,8-PeCDF	ND		50	0.57
39227-28-6	1,2,3,4,7,8-HxCDD	2.39	J	50	0.46
57653-85-7	1,2,3,6,7,8-HxCDD	1.30	J	50	0.49
19408-74-3	1,2,3,7,8,9-HxCDD	2.03	J	50	0.43
70648-26-9	1,2,3,4,7,8-HxCDF	1.22	J	50	0.45
57117-44-9	1,2,3,6,7,8-HxCDF	1.18	J	50	0.46
72918-21-9	1,2,3,7,8,9-HxCDF	1.28	J	50	0.35
60851-34-5	2,3,4,6,7,8-HxCDF	1.18	J	50	0.35
35822-46-9	1,2,3,4,6,7,8-HpCDD	2.32	J	50	0.47
67562-39-4	1,2,3,4,6,7,8-HpCDF	2.14	J	50	0.34
55673-89-7	1,2,3,4,7,8,9-HpCDF	1.95	J	50	0.42
3268-87-9	OCDD	8.11	J	100	0.55
39001-02-0	OCDF	5.52	J	100	1.0
41903-57-5	Total TCDD	ND		10	1.1
30402-14-3	Total TCDF	ND		10	0.56
36088-22-9	Total PeCDD	ND		50	0.78
30402-15-4	Total PeCDF	ND		50	0.66
34465-46-8	Total HxCDD	5.71	J	50	0.46
55684-94-1	Total HxCDF	4.86	J	50	0.40
37871-00-4	Total HpCDD	3.91	J	50	0.47
38998-75-3	Total HpCDF	4.09	J	50	0.38

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 320-329339/1-A

Matrix: Water Lab File ID: 10OC1910D5_7.d

Analysis Method: 1613B Date Collected:

Extract. Method: 1613B Date Extracted: 10/08/2019 14:19

Sample wt/vol: 1000(mL) Date Analyzed: 10/10/2019 20:38

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 330145 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	47		25-164
89059-46-1	13C-2,3,7,8-TCDF	44		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	50		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	47		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	53		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	54		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	46		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	52		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	47		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	50		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	50		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	46		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	44		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	47		26-138
114423-97-1	13C-OCDD	34		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	95		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_7.d
Lims ID: MB 320-329339/1-A
Client ID:
Sample Type: MB
Inject. Date: 10-Oct-2019 20:38:07 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: MB 320-329339/1-A MB 320-329339/1-A
Misc. Info.: 10OC1910D5
Operator ID: SMA Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Oct-2019 14:34:17 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0335

First Level Reviewer: dadunj Date: 14-Oct-2019 14:34:17

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.986	79672364	0.79	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.472	50405131	0.80	1.4384	44.0	44.0	0.1250	0.1250	43.98	
2,3,7,8-TCDF	17.487						0.0280	0.0280		
A Non-2,3,7,8-sub-TCDF	17.162						0.0280	0.0280		
S Total TCDF							0.0280	0.0280		
D 13C-2,3,7,8-TCDD	18.183	35967401	0.77	0.9533	47.4	47.4	0.1389	0.1389	47.35	
$ 37Cl4-2,3,7,8-TCDD	18.198	36824796		1.2224	37.8	37.8	0.0243	0.0243	94.53	
2,3,7,8-TCDD	18.213						0.0540	0.0540		
A Non-2,3,7,8-sub-TCDD	17.616						0.0540	0.0540		
S Total TCDD							0.0540	0.0540		
D 13C-1,2,3,7,8-PeCDF	22.543	38906816	1.60	1.0286	47.5	47.5	0.0911	0.0911	47.48	
1,2,3,7,8-PeCDF	22.570						0.0284	0.0284		
D 13C-2,3,4,7,8-PeCDF	23.906	41122881	1.54	0.9827	52.5	52.5	0.0954	0.0954	52.53	
2,3,4,7,8-PeCDF	23.947						0.0283	0.0283		
A F1 PeCDFs	20.035						0.0332	0.0332		
A Non-2,3,7,8-sub-PeCDF	23.226						0.0283	0.0283		
S Total PeCDF							0.0332	0.0332		
D 13C-1,2,3,7,8-PeCDD	24.629	29914417	1.62	0.7481	50.2	50.2	0.0796	0.0796	50.19	
1,2,3,7,8-PeCDD	24.670						0.0392	0.0392		
A Non-2,3,7,8-sub-PeCDD	23.531						0.0392	0.0392		
S Total PeCDD							0.0392	0.0392		
D 13C-1,2,3,4,7,8-HxCDF	30.669	37669278	0.53	1.1520	52.0	52.0	0.1204	0.1204	52.04	
1,2,3,4,7,8-HxCDF	30.669	27585	1.24	1.1973	0.0686	0.0612	0.0226	0.0226		RQM
D 13C-1,2,3,6,7,8-HxCDF	30.842	36617368	0.52	1.2434	46.9	46.9	0.1116	0.1116	46.87	
1,2,3,6,7,8-HxCDF	30.868	25492	1.29	1.1807	0.0590	0.0590	0.0228	0.0228		Ma
D 13C-2,3,4,6,7,8-HxCDF	31.627	36760474	0.51	1.1720	49.9	49.9	0.1184	0.1184	49.92	
2,3,4,6,7,8-HxCDF	31.640	26362	1.24	1.2116	0.0682	0.0592	0.0177	0.0177		RQM
D 13C-1,2,3,7,8,9-HxCDF	32.412	33533474	0.51	1.0655	50.1	50.1	0.1302	0.1302	50.09	
1,2,3,7,8,9-HxCDF	32.426	26662	1.24	1.2451	0.0698	0.0639	0.0173	0.0173		RQM
A Non-2,3,7,8-sub-HxCDF	30.363						0.0198	0.0198		
S Total HxCDF					0.2655	0.2432	0.0201	0.0201		RQ

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	32.226	62827926	1.22	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.813	26570170	1.31	0.7812	54.1	54.1	0.1096	0.1096	54.13	
1,2,3,4,7,8-HxCDD	31.827	35156	1.24	1.1088	0.1331	0.1193	0.0232	0.0232		RQM
D 13C-1,2,3,6,7,8-HxCDD	31.920	26459295	1.13	0.9175	45.9	45.9	0.0934	0.0934	45.90	
1,2,3,6,7,8-HxCDD	31.933	18625	1.24	1.0814	0.0759	0.0651	0.0246	0.0246		RQMa
1,2,3,7,8,9-HxCDD	32.253	32552	1.10	1.2123	0.1013	0.1013	0.0216	0.0216		
A Non-2,3,7,8-sub-HxCDD	30.995						0.0231	0.0231		
S Total HxCDD					0.3102	0.2857	0.0231	0.0231		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	33.807	23979846	0.42	0.8628	44.2	44.2	0.1566	0.1566	44.24	
1,2,3,4,6,7,8-HpCDF	33.831	39957	0.98	1.5555	0.1071	0.1071	0.0171	0.0171		
D 13C-1,2,3,4,7,8,9-HpCDF	34.889	23716932	0.43	0.7991	47.2	47.2	0.1691	0.1691	47.24	
1,2,3,4,7,8,9-HpCDF	34.913	32068	1.09	1.3862	0.0975	0.0975	0.0211	0.0211		
A Non-2,3,7,8-sub-HpCDF	34.360						0.0189	0.0189		
S Total HpCDF					0.2047	0.2047	0.0191	0.0191		
D 13C-1,2,3,4,6,7,8-HpCDD	34.597	25383149	1.05	0.8739	46.2	46.2	0.1811	0.1811	46.23	
1,2,3,4,6,7,8-HpCDD	34.609	27452	1.04	0.9316	0.1273	0.1161	0.0235	0.0235		RQ
A Non-2,3,7,8-sub-HpCDD	35.190	18805	1.04	0.9316	0.0881	0.0795	0.0235	0.0795		RQa
S Total HpCDD					0.2154	0.1956	0.0235	0.0235		RQ
D 13C-OCDD	36.941	33500328	0.88	0.7744	68.9	68.9	0.0616	0.0616	34.43	
OCDF	37.037	58235	0.81	1.2596	0.2760	0.2760	0.0500	0.0500		M
OCDD	36.953	72133	0.81	1.0621	0.4055	0.4055	0.0275	0.0275		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_7.d
Lims ID: MB 320-329339/1-A
Client ID:
Sample Type: MB
Inject. Date: 10-Oct-2019 20:38:07 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: MB 320-329339/1-A MB 320-329339/1-A
Misc. Info.: 10OC1910D5
Operator ID: SMA Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Oct-2019 14:34:17 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0335

First Level Reviewer: dadunj Date: 14-Oct-2019 14:34:17

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.986	17.986	0		35258368	8954045	4703	11757	1904		
333.9339	17.986	17.986	0		44413996	11274425	6009	15022	1876	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.472	17.472	0	0.971	22391733	5687246	9788	24470	581		
317.9389	17.472	17.472	0	0.971	28013398	7191670	4756	11890	1512	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.487						388	970			
305.8987	17.487						1127	2817			
A Non-2,3,7,8-sub-TCDF											
303.9016	17.162						388	970			
305.8987	17.162						1127	2817			
13C-2,3,7,8-TCDD											
331.9368	18.183	18.183	0	1.011	15699637	3840393	4703	11757	817		
333.9339	18.183	18.183	0	1.011	20267764	5010918	6009	15022	834	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.198	18.198	0	1.012	36824796	9013945	2400	6000	3756		
2,3,7,8-TCDD											
319.8965	18.213						1569	3922			
321.8936	18.213						545	1362			
A Non-2,3,7,8-sub-TCDD											
319.8965	17.616						1569	3922			
321.8936	17.616						545	1362			
13C-1,2,3,7,8-PeCDF											
351.9000	22.543	22.556	-1	1.253	23929531	4358931	4611	11527	945		
353.8970	22.543	22.556	-1	1.253	14977285	2700952	2972	7430	909	1.60(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	22.570						229	572			
341.8567	22.570						639	1597			
13C-2,3,4,7,8-PeCDF											
351.9000	23.906	23.920	-1	1.329	24935965	4263220	4611	11527	925		
353.8970	23.906	23.920	-1	1.329	16186916	2690667	2972	7430	905	1.54(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.947						229	572			
341.8567	23.947						639	1597			
A F1 PeCDFs											
339.8597	20.035						237	592			
341.8567	20.035						781	1952			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.226						229	572			
341.8567	23.226						639	1597			
13C-1,2,3,7,8-PeCDD											
367.8949	24.629	24.643	-1	1.369	18512247	3036542	2831	7077	1073		
369.8919	24.629	24.643	-1	1.369	11402170	1810263	1989	4972	910	1.62(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.670						510	1275			
357.8516	24.670						178	445			
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.531						510	1275			
357.8516	23.531						178	445			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.669	30.682	-1	0.952	12991433	2629166	3274	8185	803		
385.8610	30.669	30.682	-1	0.952	24677845	4954577	6626	16565	748	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											RQM
373.8208	30.669	30.695	-2	1.000	18604	3466	453	1132	8		
	Empc Correction				15270	3233	453	1132	7		
375.8178	30.682	30.695	-1	1.000	12315	2608	369	922	7	1.51(1.05-1.43)	M
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.842	30.855	-1	0.957	12477054	2594798	3274	8185	793		
385.8610	30.842	30.855	-1	0.957	24140314	5047510	6626	16565	762	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											Ma
373.8208	30.868	30.868	0	1.001	14344	3902	453	1132	9		M
375.8178	30.882	30.868	1	1.001	11148	2030	369	922	6	1.29(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.627	31.640	-1	0.981	12491075	3260118	3274	8185	996		
385.8610	31.627	31.640	-1	0.981	24269399	6340470	6626	16565	957	0.51(0.43-0.59)	
2,3,4,6,7,8-HxCDF											RQM
373.8208	31.640	31.653	-1	1.000	18609	4983	453	1132	11		M
	Empc Correction				14593	3233	453	1132	7		
375.8178	31.667	31.653	1	1.001	11769	2608	369	922	7	1.58(1.05-1.43)	M
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.412	32.412	0	1.006	11392234	3303301	3274	8185	1009		
385.8610	32.412	32.412	0	1.006	22141240	6260553	6626	16565	945	0.51(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											RQM
373.8208	32.426	32.426	0	1.000	17223	4332	453	1132	10		
	Empc Correction				14759	3391	453	1132	7		
375.8178	32.439	32.426	1	1.001	11903	2735	369	922	7	1.45(1.05-1.43)	M
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.363						453	1132			
375.8178	30.363						369	922			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.226	32.239	-1		34464716	9730033	3360	8400	2896		
403.8529	32.226	32.239	-1		28363210	8106668	2751	6877	2947	1.22(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.813	31.813	0	0.987	15078768	3929814	3360	8400	1170		
403.8529	31.813	31.813	0	0.987	11491402	3163100	2751	6877	1150	1.31(1.05-1.43)	
1,2,3,4,7,8-HxCDD											RQM
389.8157	31.827	31.826	0	1.000	23507	5874	339	847	17		M
	Empc Correction				19461	4023	339	847	12		
391.8127	31.840	31.826	1	1.001	15695	3245	392	980	8	1.50(1.05-1.43)	M
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.920	31.920	0	0.990	14059631	3718847	3360	8400	1107		
403.8529	31.907	31.920	-1	0.990	12399664	3143325	2751	6877	1143	1.13(1.05-1.43)	
1,2,3,6,7,8-HxCDD											RQMa
389.8157	31.933	31.933	0	1.000	13397	2861	339	847	8		M
	Empc Correction				10310	2700	339	847	8		
391.8127	31.920	31.933	-1	1.000	8315	2178	392	980	6	1.61(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.253	32.252	0	1.014	17045	5466	339	847	16		
391.8127	32.253	32.252	0	1.014	15507	3967	392	980	10	1.10(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.995						339	847			
391.8127	30.995						392	980			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.807	33.819	-1	1.049	7134272	2391250	3487	8717	686		
419.8220	33.807	33.819	-1	1.049	16845574	5457868	6155	15387	887	0.42(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.831	33.819	1	1.001	19827	6615	529	1322	13		
409.7789	33.819	33.819	0	1.000	20130	6033	307	767	20	0.98(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.889	34.889	0	1.083	7166693	2174174	3487	8717	624		
419.8220	34.889	34.889	0	1.083	16550239	4975988	6155	15387	808	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.913	34.901	1	1.001	16751	4389	529	1322	8		
409.7789	34.889	34.901	-1	1.000	15317	4731	307	767	15	1.09(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.360						529	1322			
409.7789	34.360						307	767			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.597	34.609	-1	1.074	12998525	4122933	6014	15035	686		
437.8140	34.597	34.609	-1	1.074	12384624	3934358	5278	13195	745	1.05(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											RQ
423.7766	34.609	34.609	0	1.000	16640	5913	460	1150	13		
	Empc Correction				13995	5674	460	1150	12		
425.7737	34.609	34.609	0	1.000	13457	5456	247	617	22	1.24(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											RQa
423.7766	34.062	35.190	-68	0.985	9587	2793	460	1150	6		a
425.7737	34.062	35.190	-68	0.985	11251	3041	247	617	12	0.85(0.88-1.20)	
	Empc Correction				9218	2685	247	617	11		
13C-OCDD											
469.7779	36.941	36.941	0	1.146	15662167	4240787	1731	4327	2450		
471.7750	36.941	36.941	0	1.146	17838161	4878304	1675	4187	2912	0.88(0.76-1.02)	
OCDF											M
441.7428	37.037	37.049	-1	1.003	26070	5875	386	965	15		
443.7399	37.037	37.049	-1	1.003	32165	6710	762	1905	9	0.81(0.76-1.02)	M
OCDD											
457.7377	36.953	36.953	0	1.000	32245	9577	263	657	36		
459.7348	36.953	36.953	0	1.000	39888	11374	269	672	42	0.81(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_7.d
Lims ID: MB 320-329339/1-A
Client ID:
Inject. Date: 10-Oct-2019 20:38:07 Dil. Factor: 1.0000
Sample Type: MB, Method Blank
Instrument ID: 10D5 Operator: SMA
Lims Batch ID: 330145 Lims Sample ID: 7

Non-2,3,7,8-sub-HpCDD, RT: 35.190

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.932	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	25383149	8057291

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.932		100.000	25383149	8057291

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.062	9587	2793	11251	3041	0.0881	0.85	RQa
34.062	9587	2793	9218	2685	0.0795		Empc Correction
Signal Totals:							
	9587	2793	9218	2685			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	20838	5834				0.85	RQa
	18805	5478					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0881 = (20838 * 100.000) / (25383149 * 0.932)
Empc Amount: 0.0795 = (18805 * 100.000) / (25383149 * 0.932)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
a - User Assigned ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_7.d				
Injection Date:	10-Oct-2019 20:38:07	Instrument ID:	10D5		
Lims ID:	MB 320-329339/1-A				
Client ID:					
Operator ID:	SMA	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDF, CAS: 70648-26-9

Signal: 2

Processing Integration Results

RT: 30.68
Area: 13453
Amount: 0.071075
Amount Units: pg/ul

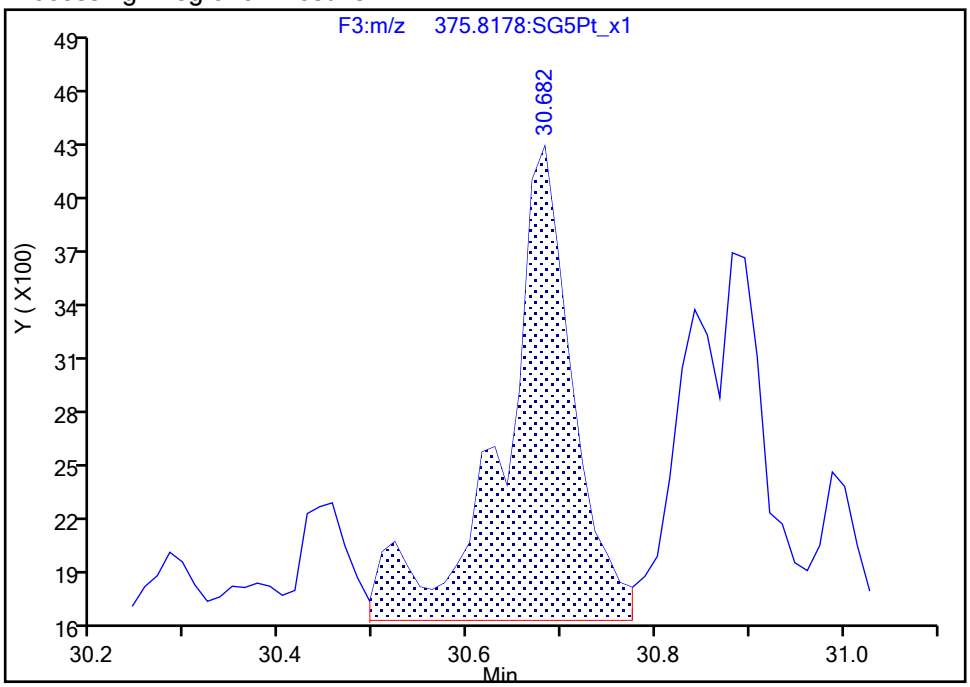

Manual Integration Results

RT: 30.68
Area: 12315
Amount: 0.068552
Amount Units: pg/ul

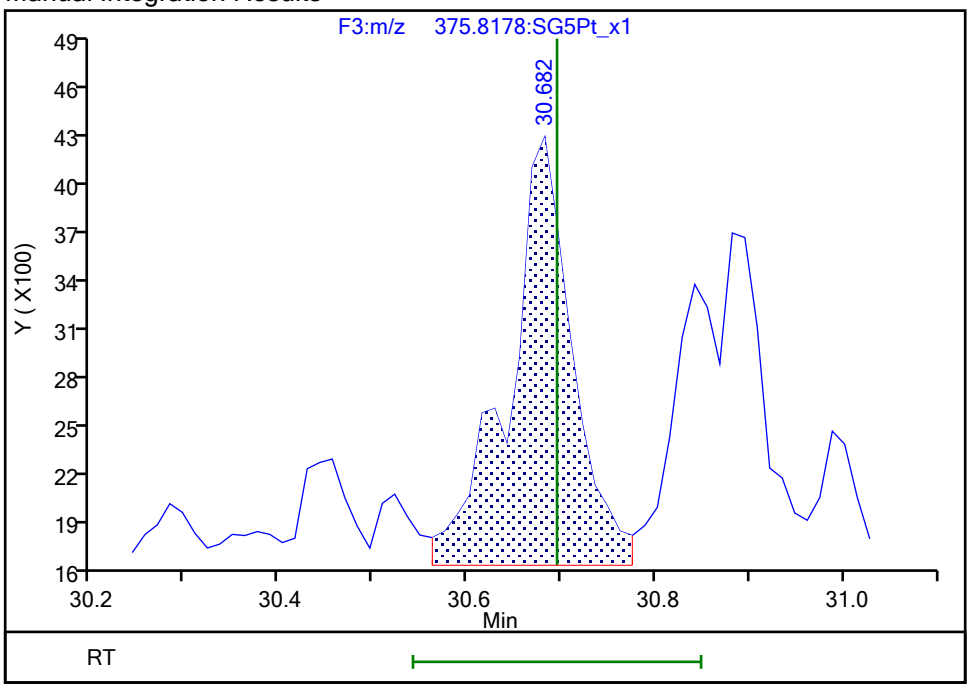

Reviewer: dadunj, 14-Oct-2019 14:32:21

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_7.d				
Injection Date:	10-Oct-2019 20:38:07	Instrument ID:	10D5		
Lims ID:	MB 320-329339/1-A				
Client ID:					
Operator ID:	SMA	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDF, CAS: 57117-44-9

Signal: 2

Processing Integration Results

RT: 30.88
Area: 13762
Amount: 0.065011
Amount Units: pg/ul

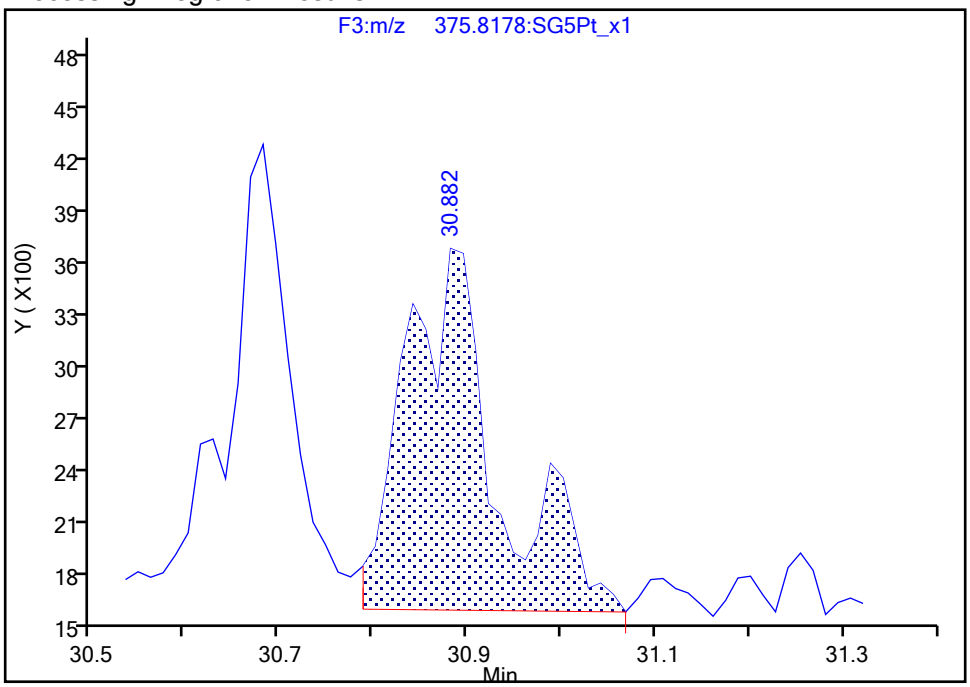

Manual Integration Results

RT: 30.88
Area: 11148
Amount: 0.058965
Amount Units: pg/ul

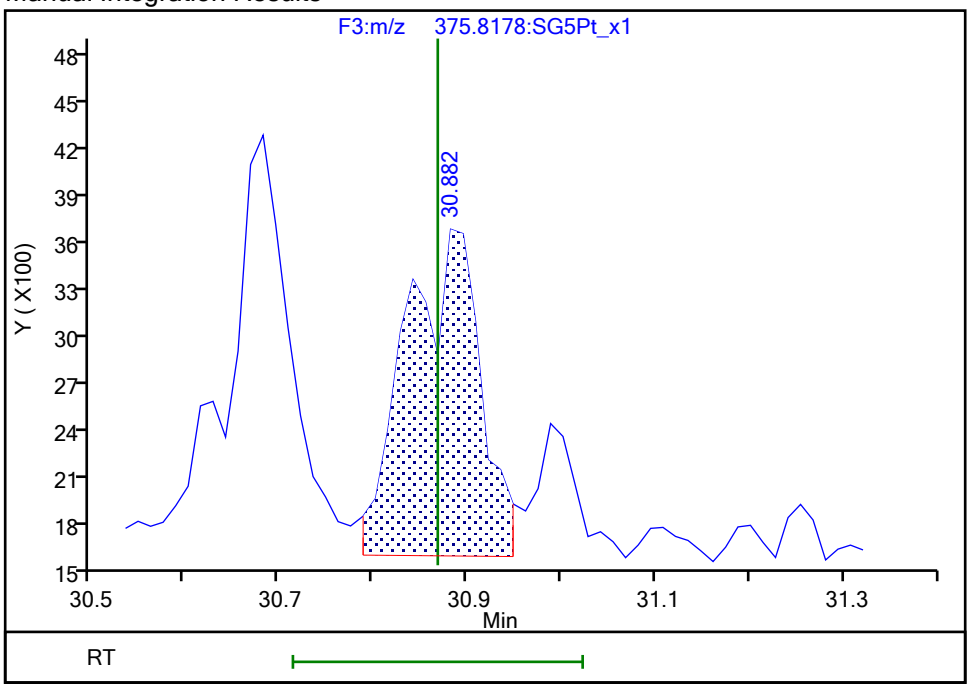

Reviewer: dadunj, 14-Oct-2019 14:32:28

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_7.d				
Injection Date:	10-Oct-2019 20:38:07	Instrument ID:	10D5		
Lims ID:	MB 320-329339/1-A				
Client ID:					
Operator ID:	SMA	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDF, CAS: 57117-44-9

Signal: 3

Processing Integration Results

RT: 30.87
Area: 28106
Amount: 0.065011
Amount Units: pg/ul

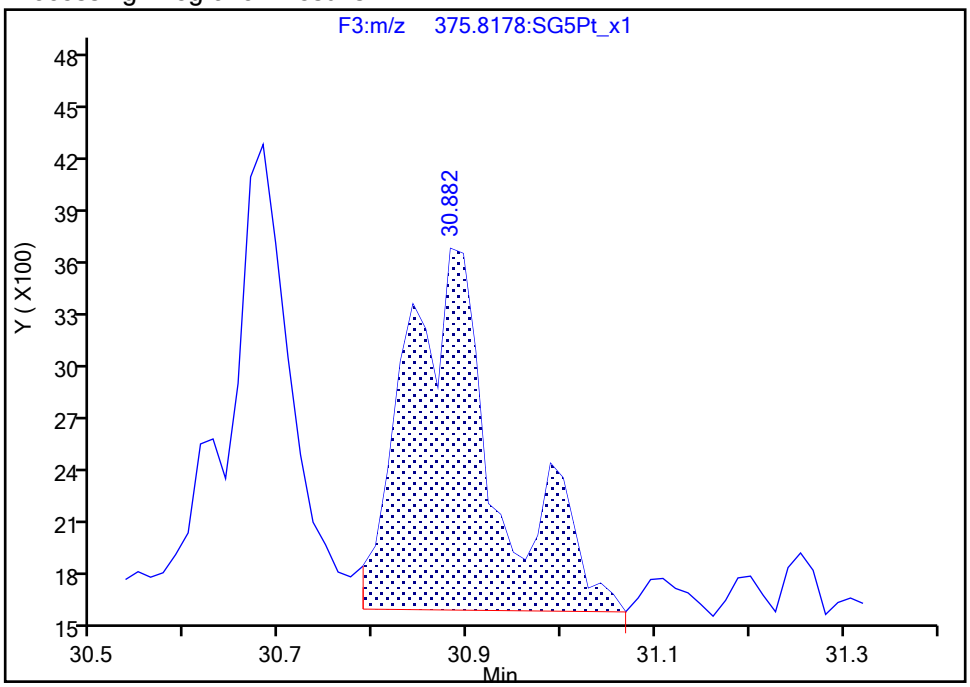

Manual Integration Results

RT: 30.87
Area: 25492
Amount: 0.058965
Amount Units: pg/ul
Reviewer: dadunj, 14-Oct-2019 14:32:28
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_7.d				
Injection Date:	10-Oct-2019 20:38:07	Instrument ID:	10D5		
Lims ID:	MB 320-329339/1-A				
Client ID:					
Operator ID:	SMA	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDF, CAS: 57117-44-9

Signal: 1

Processing Integration Results

RT: 30.87
Area: 14344
Amount: 0.065011
Amount Units: pg/ul

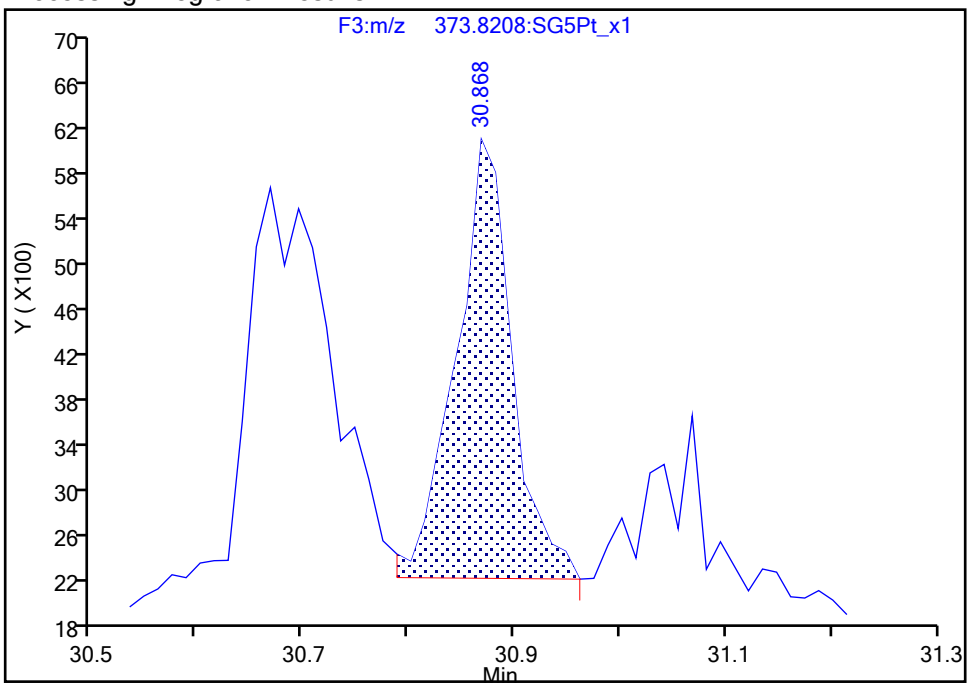

Manual Integration Results

RT: 30.87
Area: 14344
Amount: 0.058965
Amount Units: pg/ul

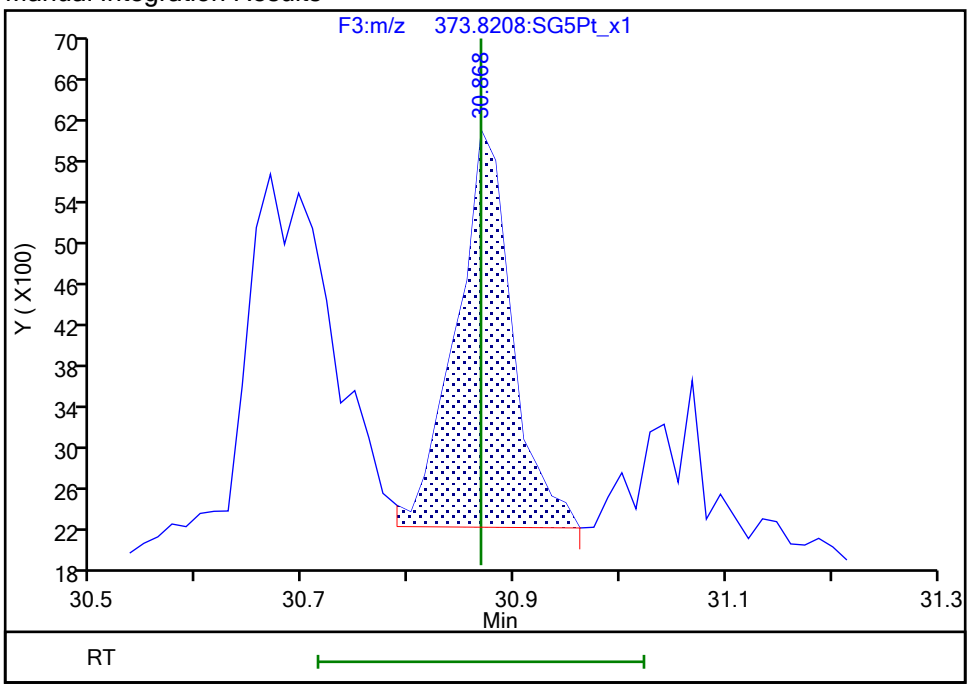

Reviewer: dadunj, 14-Oct-2019 14:32:30

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_7.d				
Injection Date:	10-Oct-2019 20:38:07	Instrument ID:	10D5		
Lims ID:	MB 320-329339/1-A				
Client ID:					
Operator ID:	SMA	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

2,3,4,6,7,8-HxCDF, CAS: 60851-34-5

Signal: 1

Processing Integration Results

RT: 31.64
Area: 16950
Amount: 0.069643
Amount Units: pg/ul

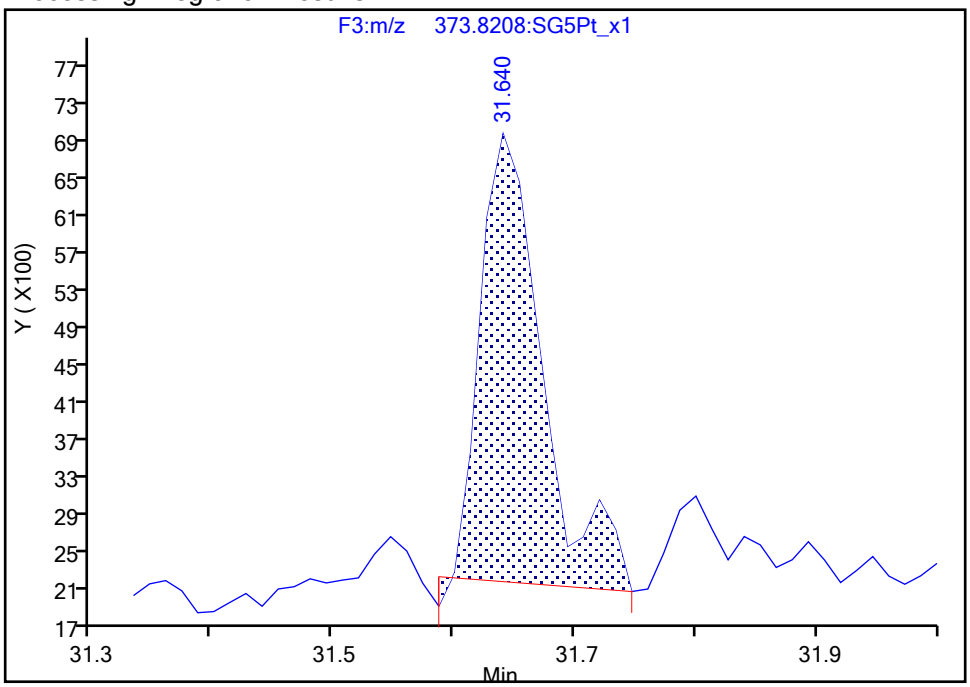

Manual Integration Results

RT: 31.64
Area: 18609
Amount: 0.068206
Amount Units: pg/ul

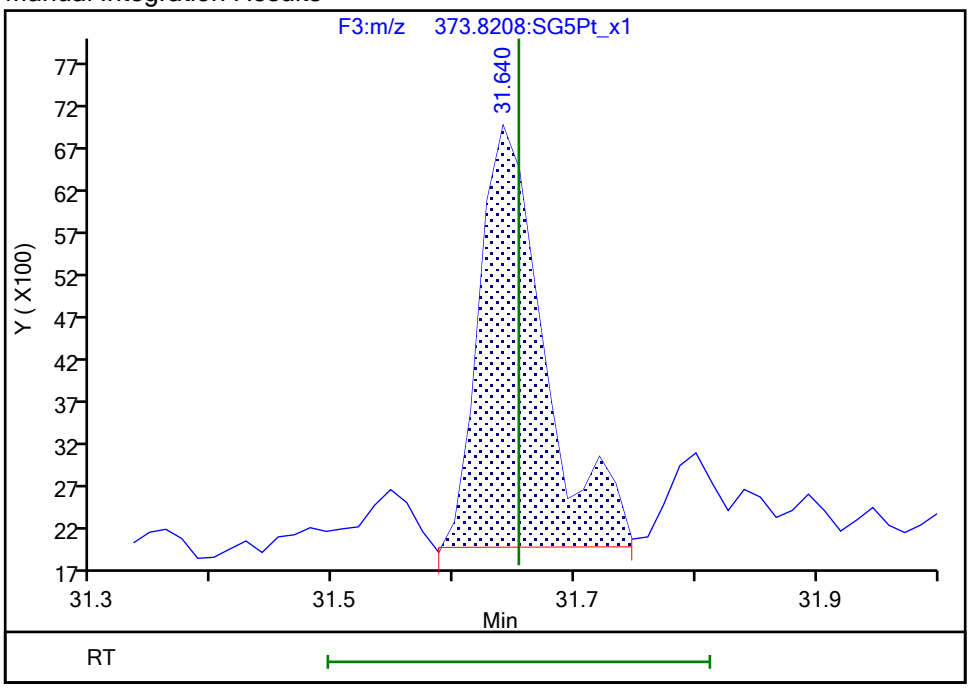

Reviewer: dadunj, 14-Oct-2019 14:32:50

Audit Action: Manually Integrated Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_7.d				
Injection Date:	10-Oct-2019 20:38:07	Instrument ID:	10D5		
Lims ID:	MB 320-329339/1-A				
Client ID:					
Operator ID:	SMA	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

2,3,4,6,7,8-HxCDF, CAS: 60851-34-5

Signal: 2

Processing Integration Results

RT: 31.67
Area: 14068
Amount: 0.069643
Amount Units: pg/ul

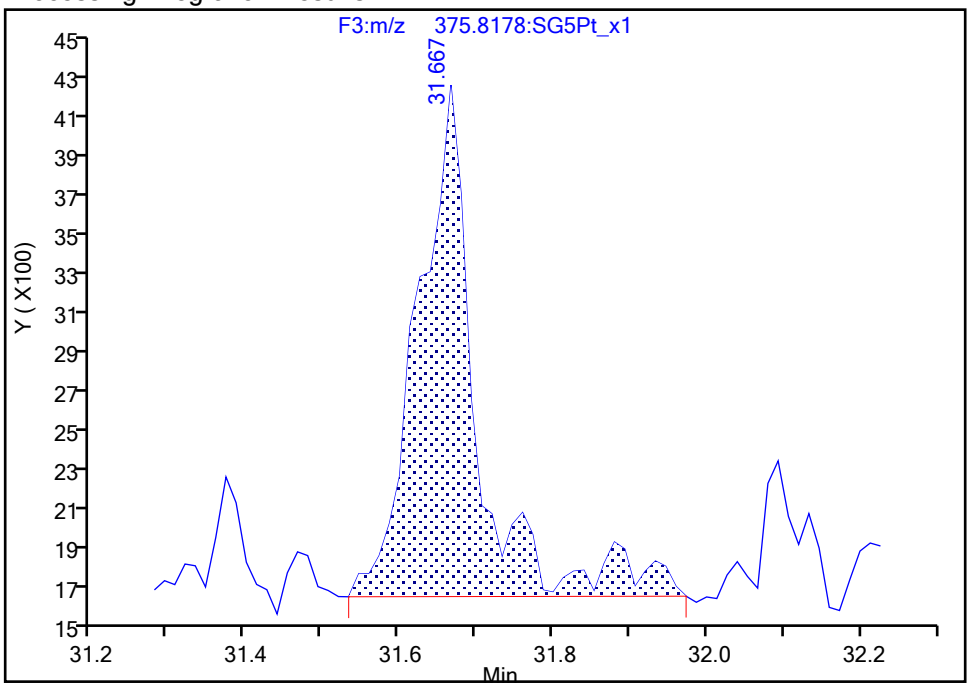

Manual Integration Results

RT: 31.67
Area: 11769
Amount: 0.068206
Amount Units: pg/ul

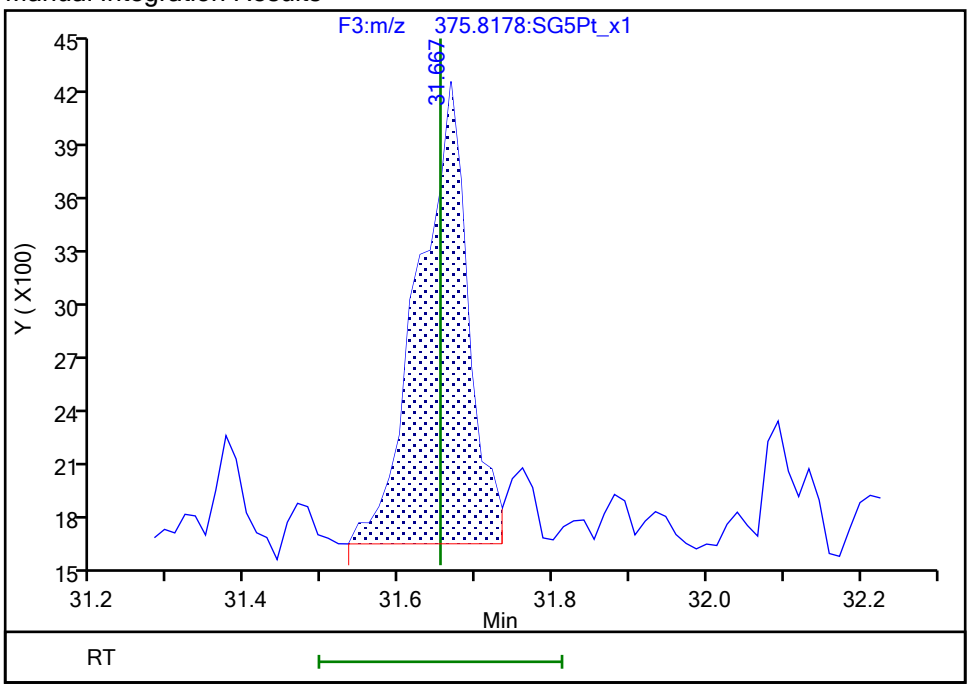

Reviewer: dadunj, 14-Oct-2019 14:32:50

Audit Action: Manually Integrated Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_7.d				
Injection Date:	10-Oct-2019 20:38:07	Instrument ID:	10D5		
Lims ID:	MB 320-329339/1-A				
Client ID:					
Operator ID:	SMA	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 2

Processing Integration Results

RT: 32.44
Area: 15314
Amount: 0.077927
Amount Units: pg/ul

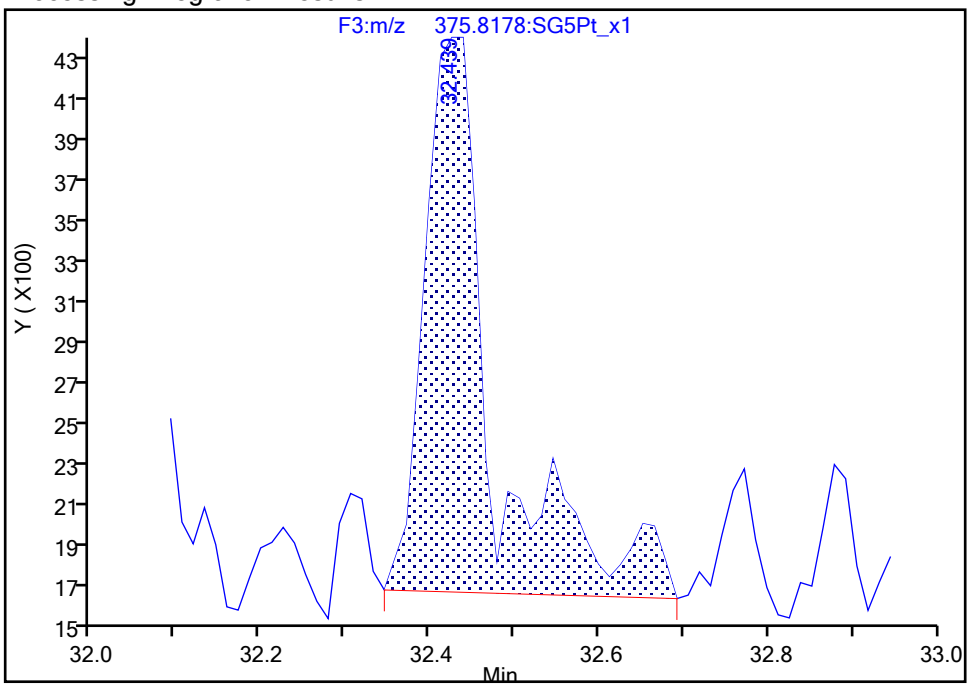

Manual Integration Results

RT: 32.44
Area: 11903
Amount: 0.069757
Amount Units: pg/ul

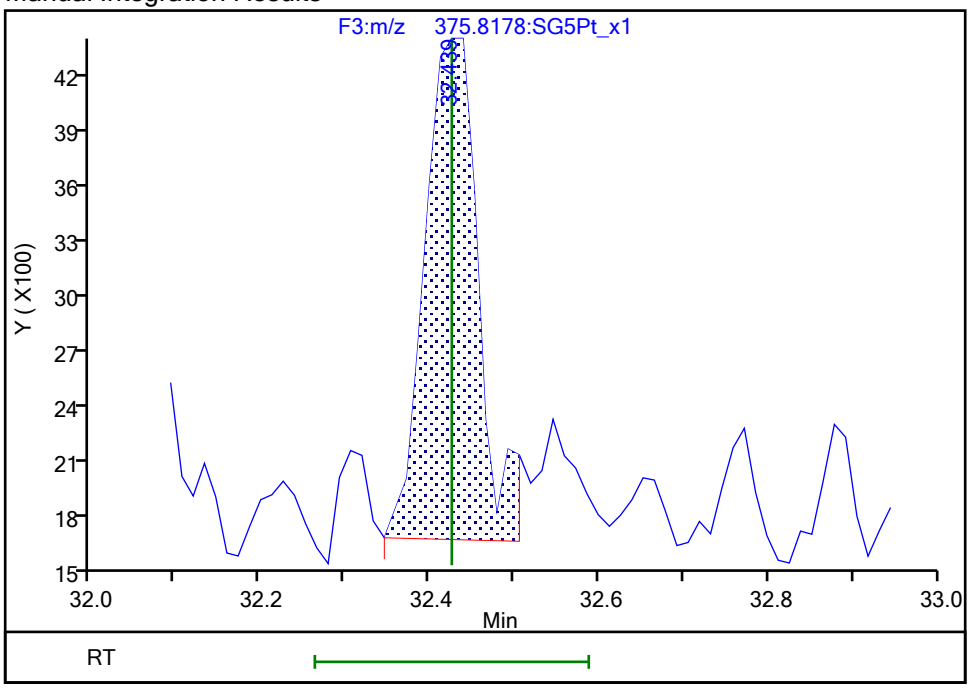

Reviewer: dadunj, 14-Oct-2019 14:33:00

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_7.d				
Injection Date:	10-Oct-2019 20:38:07	Instrument ID:	10D5		
Lims ID:	MB 320-329339/1-A				
Client ID:					
Operator ID:	SMA	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 1

Processing Integration Results

RT: 31.83
Area: 33493
Amount: 0.195187
Amount Units: pg/ul

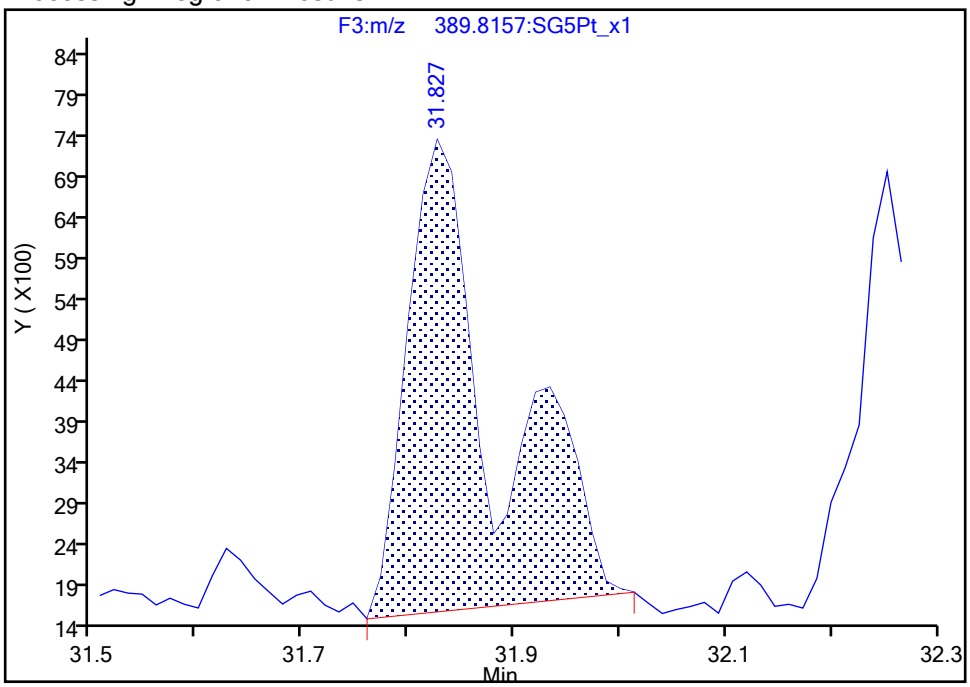

Manual Integration Results

RT: 31.83
Area: 23507
Amount: 0.133064
Amount Units: pg/ul

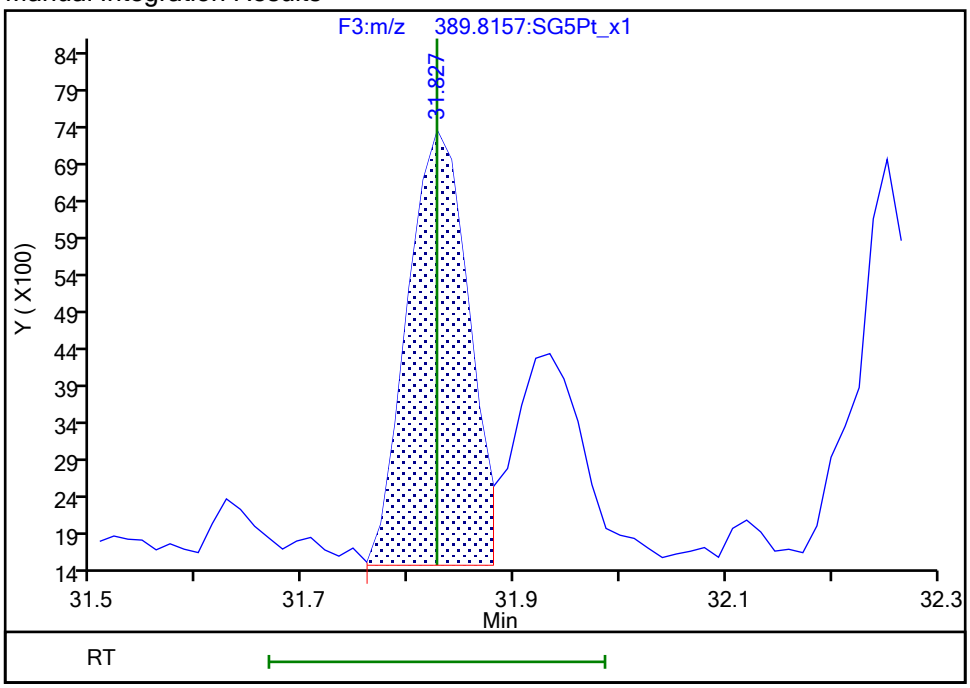

Reviewer: dadunj, 14-Oct-2019 14:33:16

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_7.d				
Injection Date:	10-Oct-2019 20:38:07	Instrument ID:	10D5		
Lims ID:	MB 320-329339/1-A				
Client ID:					
Operator ID:	SMA	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 2

Processing Integration Results

RT: 31.84
Area: 24011
Amount: 0.195187
Amount Units: pg/ul

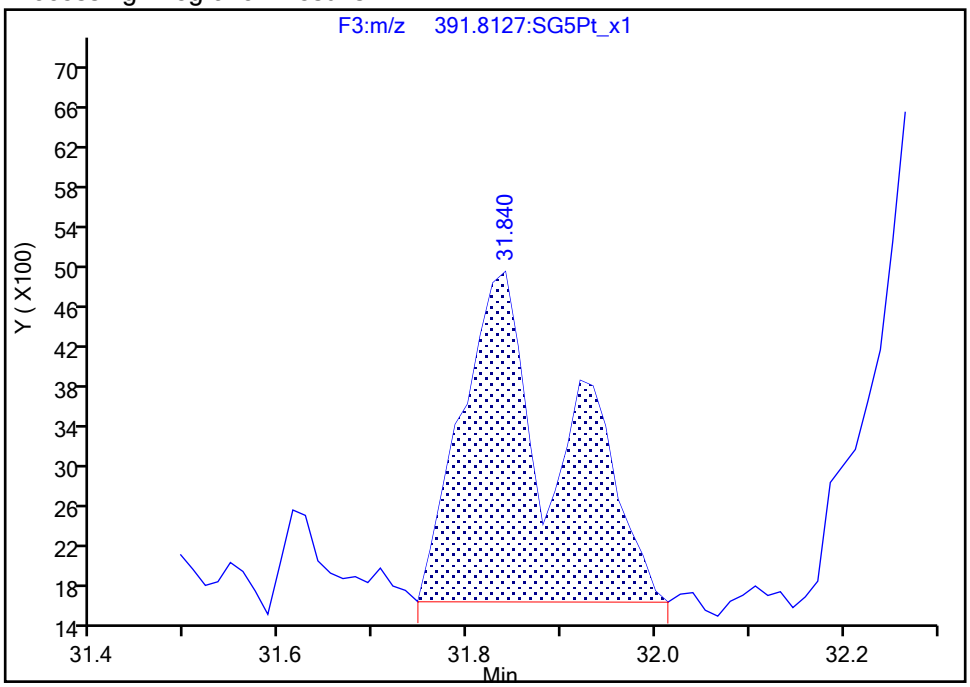

Manual Integration Results

RT: 31.84
Area: 15695
Amount: 0.133064
Amount Units: pg/ul

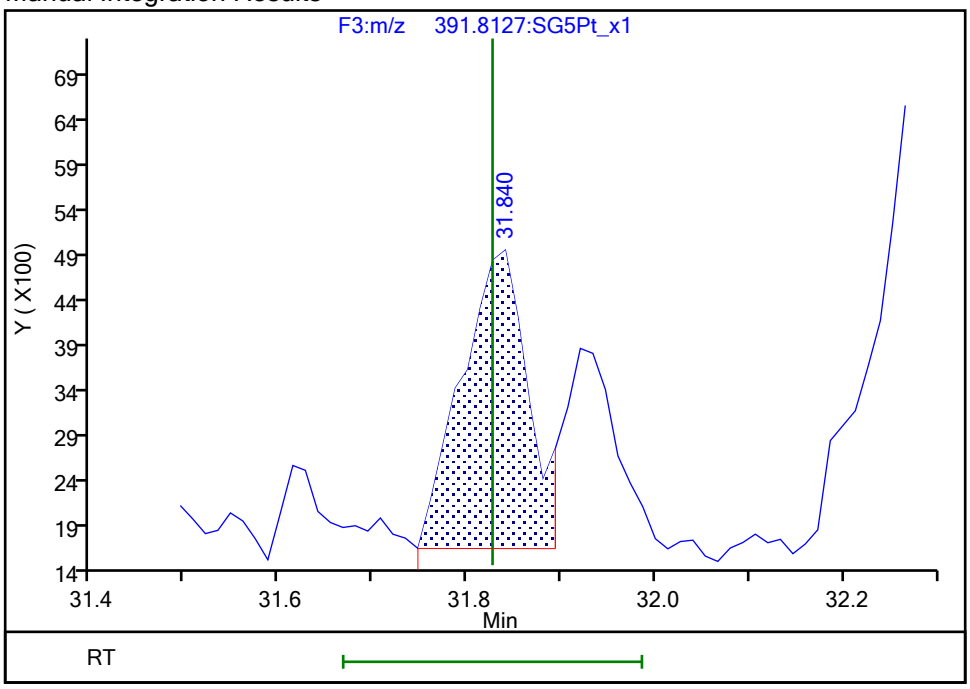

Reviewer: dadunj, 14-Oct-2019 14:33:19

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_7.d				
Injection Date:	10-Oct-2019 20:38:07	Instrument ID:	10D5		
Lims ID:	MB 320-329339/1-A				
Client ID:					
Operator ID:	SMA	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 2

Processing Integration Results

RT: 31.84
Area: 24011
Amount: 0.200968
Amount Units: pg/ul

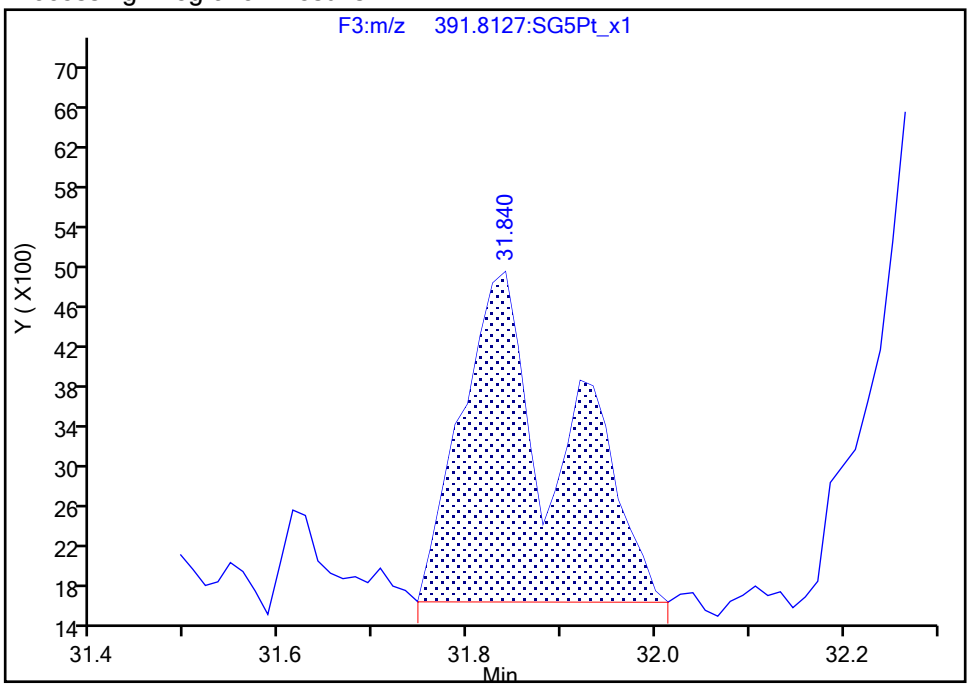

Manual Integration Results

RT: 31.92
Area: 8315
Amount: 0.075880
Amount Units: pg/ul

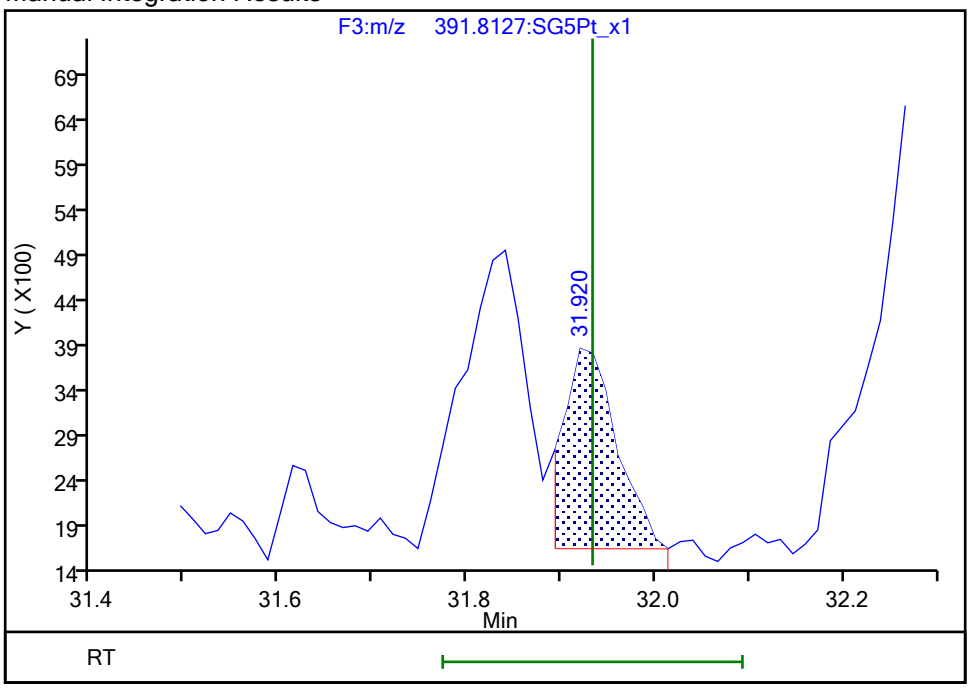

Reviewer: dadunj, 14-Oct-2019 14:33:21

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_7.d				
Injection Date:	10-Oct-2019 20:38:07	Instrument ID:	10D5		
Lims ID:	MB 320-329339/1-A				
Client ID:					
Operator ID:	SMA	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 3

Processing Integration Results

RT: 31.83
Area: 57504
Amount: 0.200968
Amount Units: pg/ul

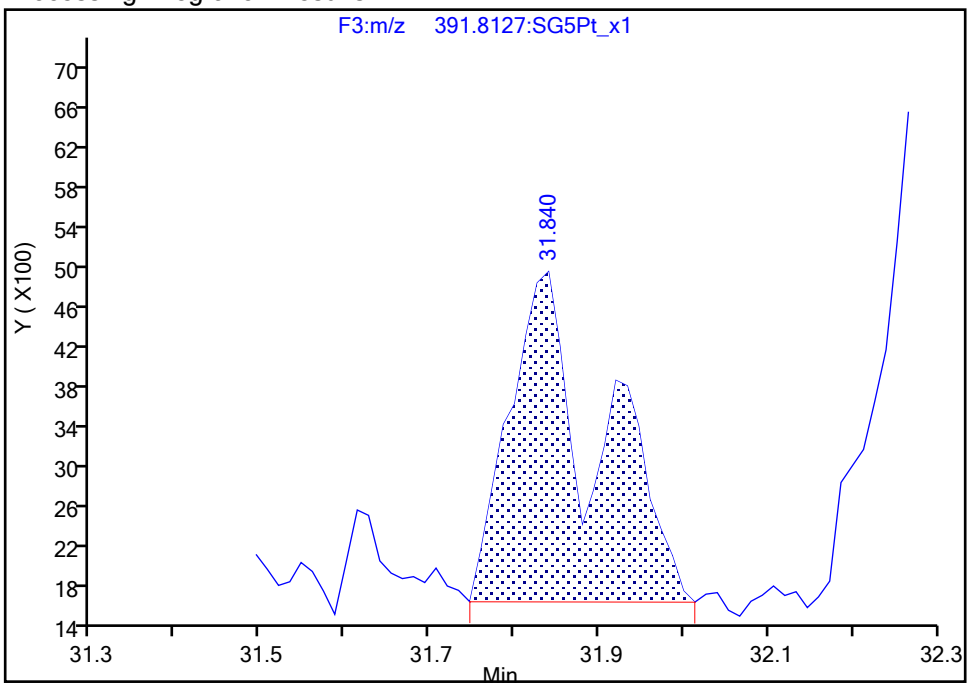

Manual Integration Results

RT: 31.93
Area: 21712
Amount: 0.075880
Amount Units: pg/ul
Reviewer: dadunj, 14-Oct-2019 14:33:21
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_7.d				
Injection Date:	10-Oct-2019 20:38:07	Instrument ID:	10D5		
Lims ID:	MB 320-329339/1-A				
Client ID:					
Operator ID:	SMA	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 1

Processing Integration Results

RT: 31.83
Area: 33493
Amount: 0.200968
Amount Units: pg/ul

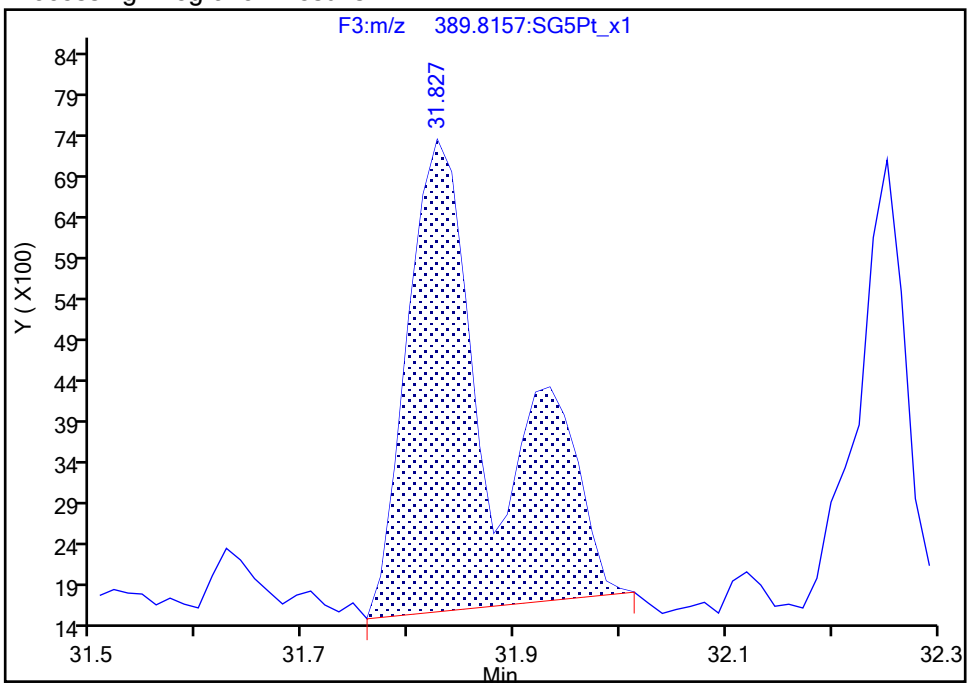

Manual Integration Results

RT: 31.93
Area: 13397
Amount: 0.075880
Amount Units: pg/ul

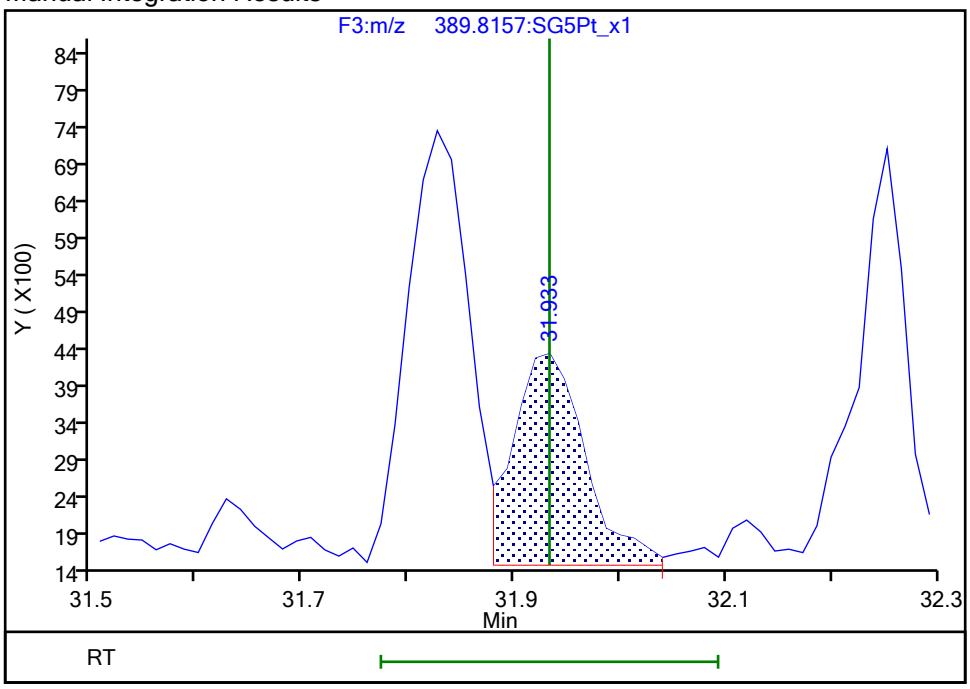

Reviewer: dadunj, 14-Oct-2019 14:33:23

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_7.d				
Injection Date:	10-Oct-2019 20:38:07	Instrument ID:	10D5		
Lims ID:	MB 320-329339/1-A				
Client ID:					
Operator ID:	SMA	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5:HRSIR		

OCDF, CAS: 39001-02-0

Signal: 2

Processing Integration Results

RT: 37.04
Area: 37517
Amount: 0.301385
Amount Units: pg/ul

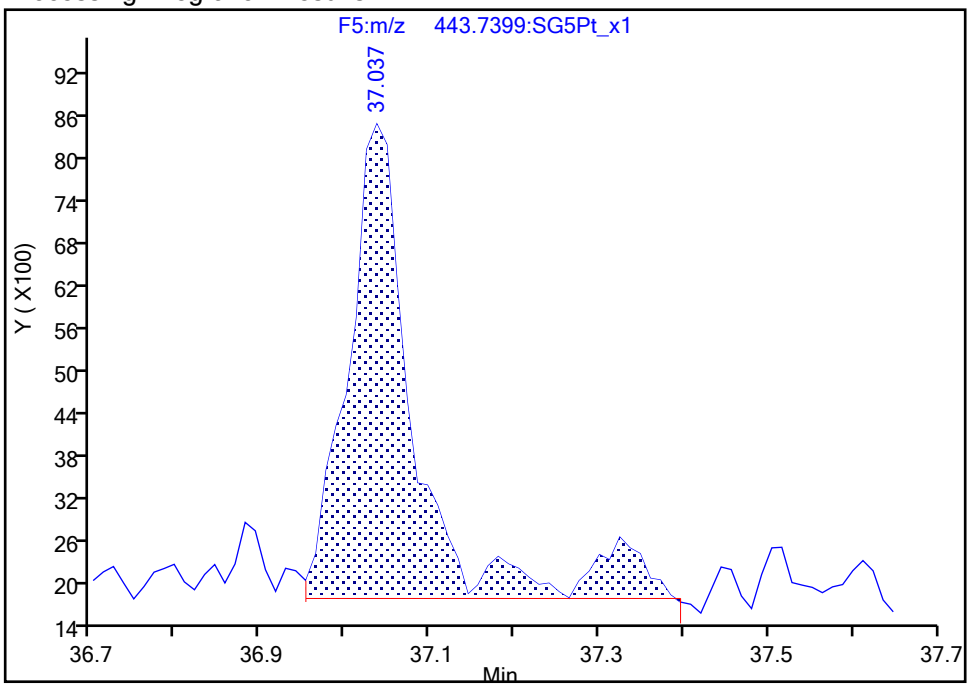

Manual Integration Results

RT: 37.04
Area: 32165
Amount: 0.276018
Amount Units: pg/ul

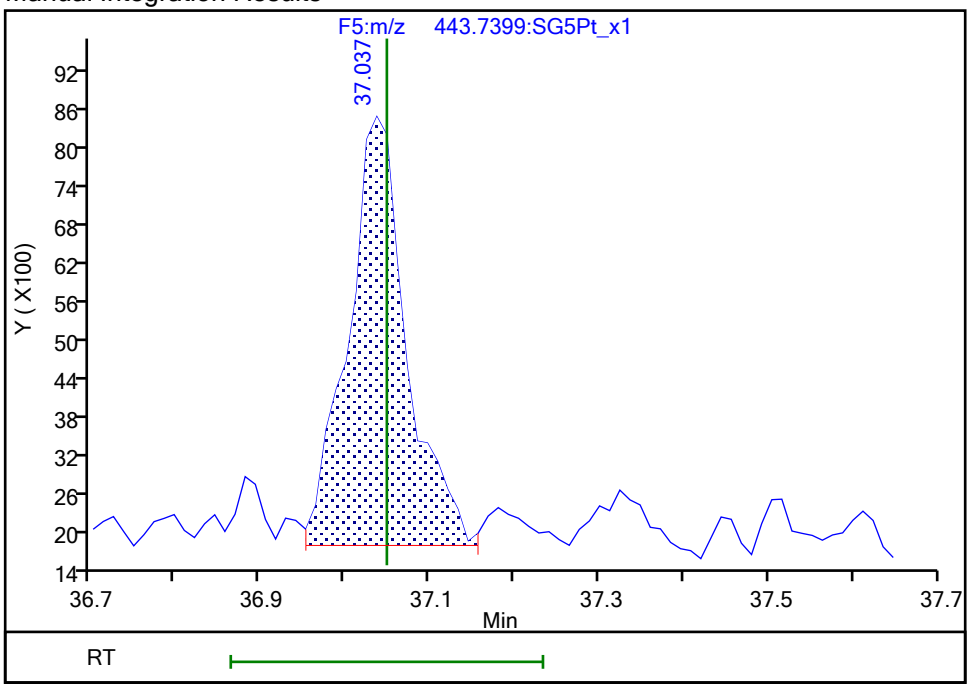

Reviewer: dadunj, 14-Oct-2019 14:33:46

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 14-Oct-2019 14:34:18 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_7.d		
Injection Date:	10-Oct-2019 20:38:07	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330145	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

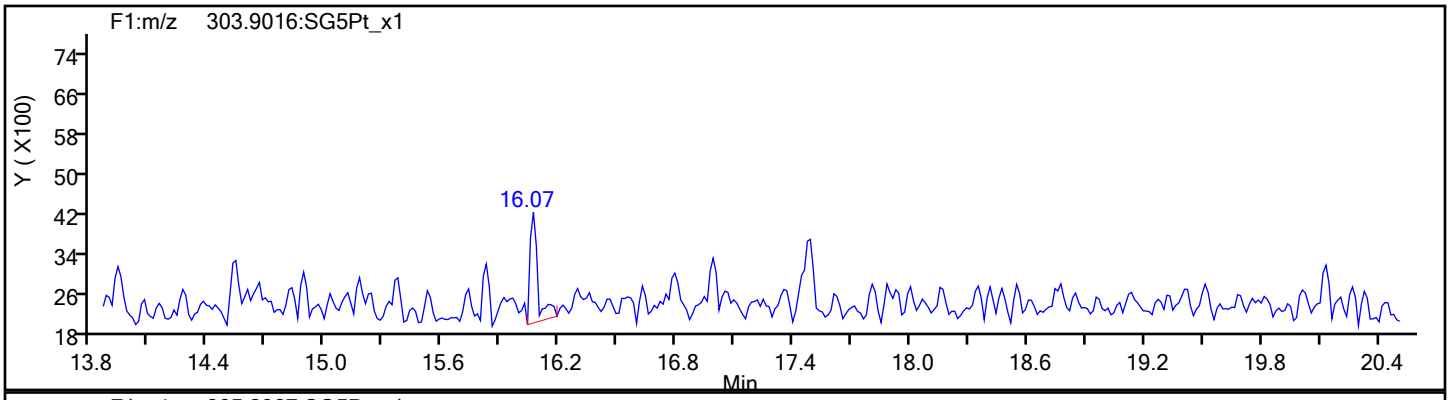

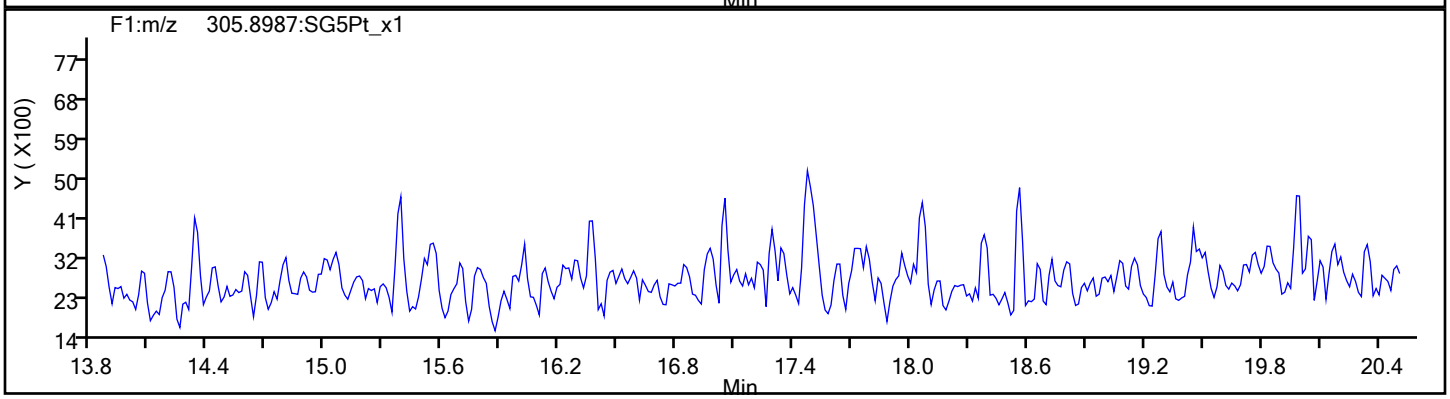

TCDF Standards

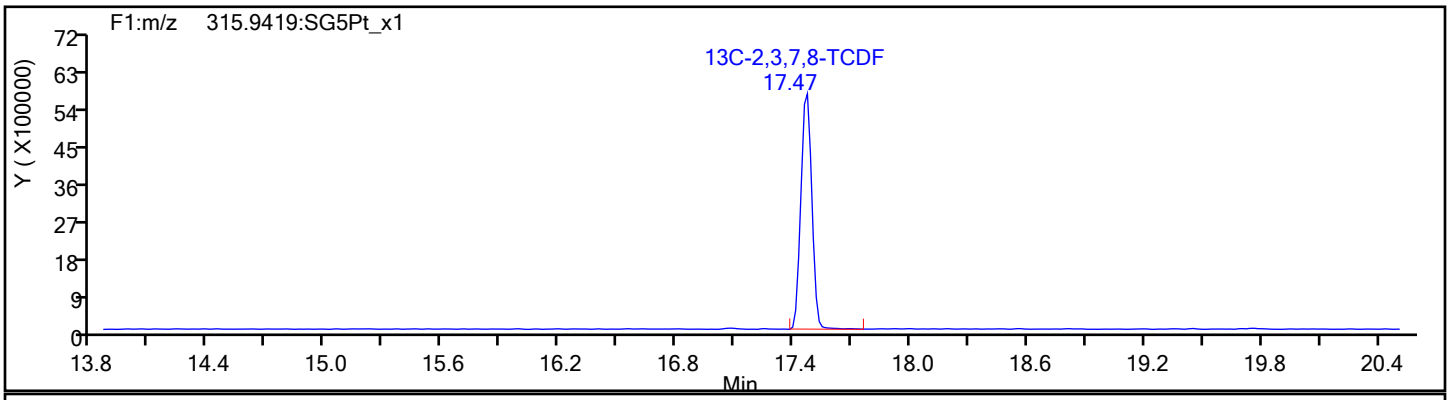

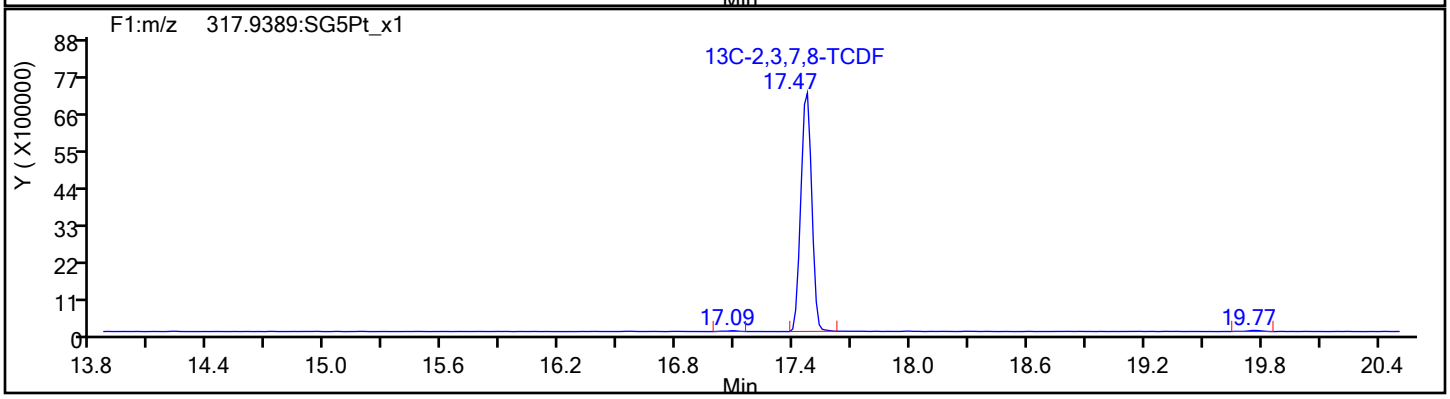

Report Date: 14-Oct-2019 14:34:18 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_7.d		
Injection Date:	10-Oct-2019 20:38:07	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330145	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

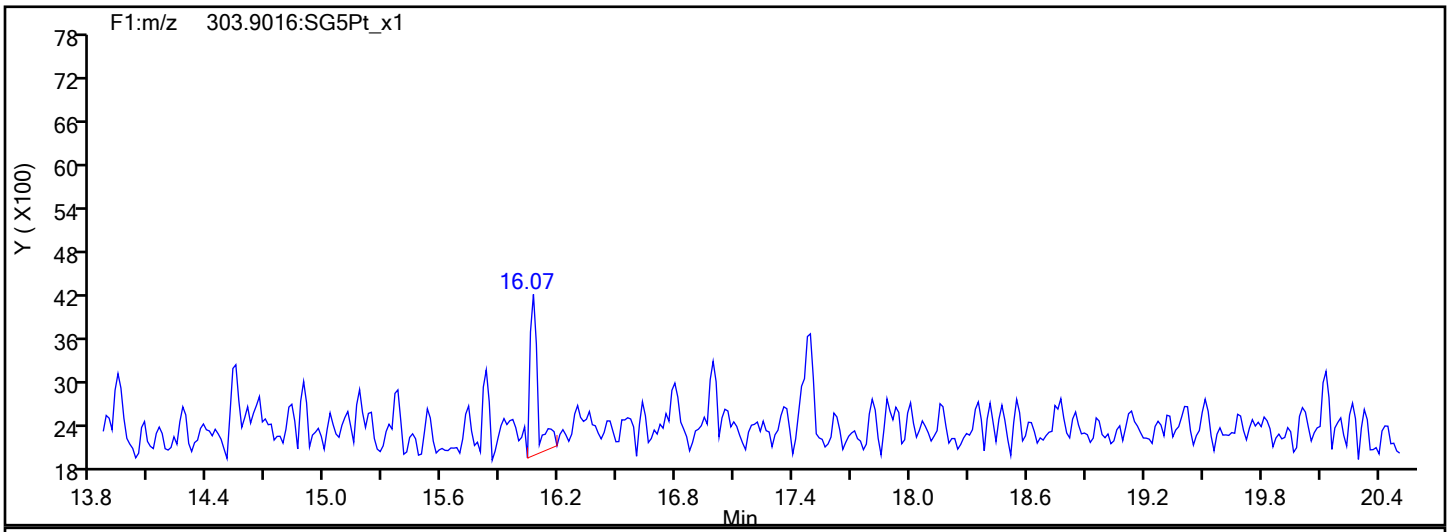

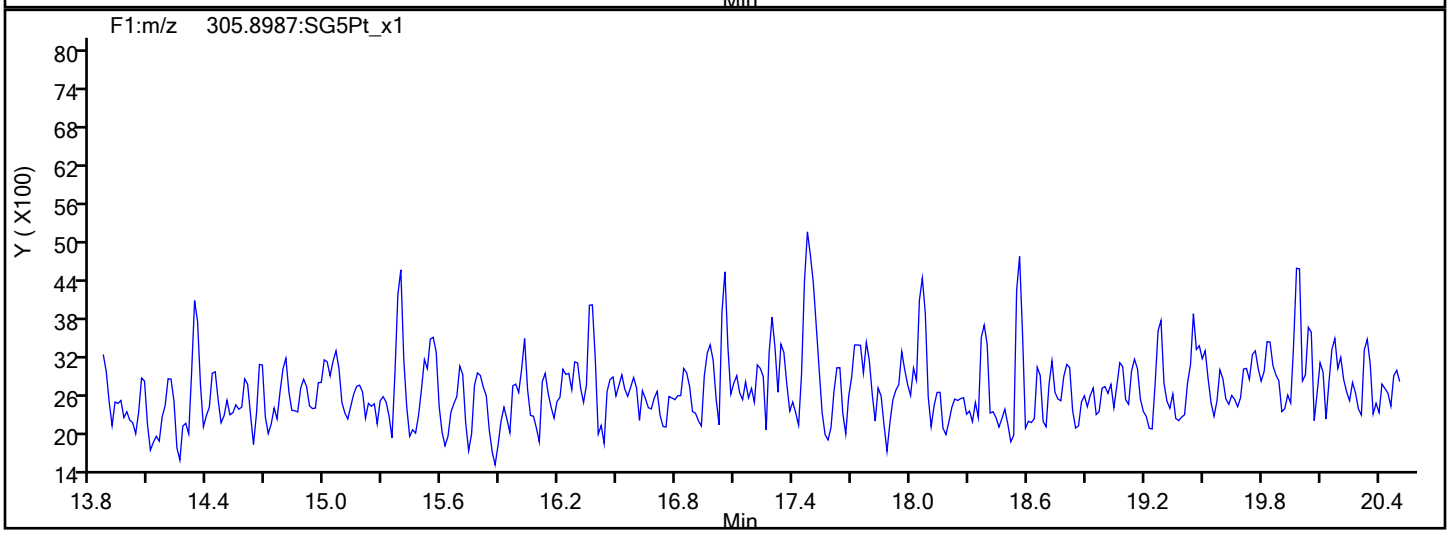

TCDF Interference Mass

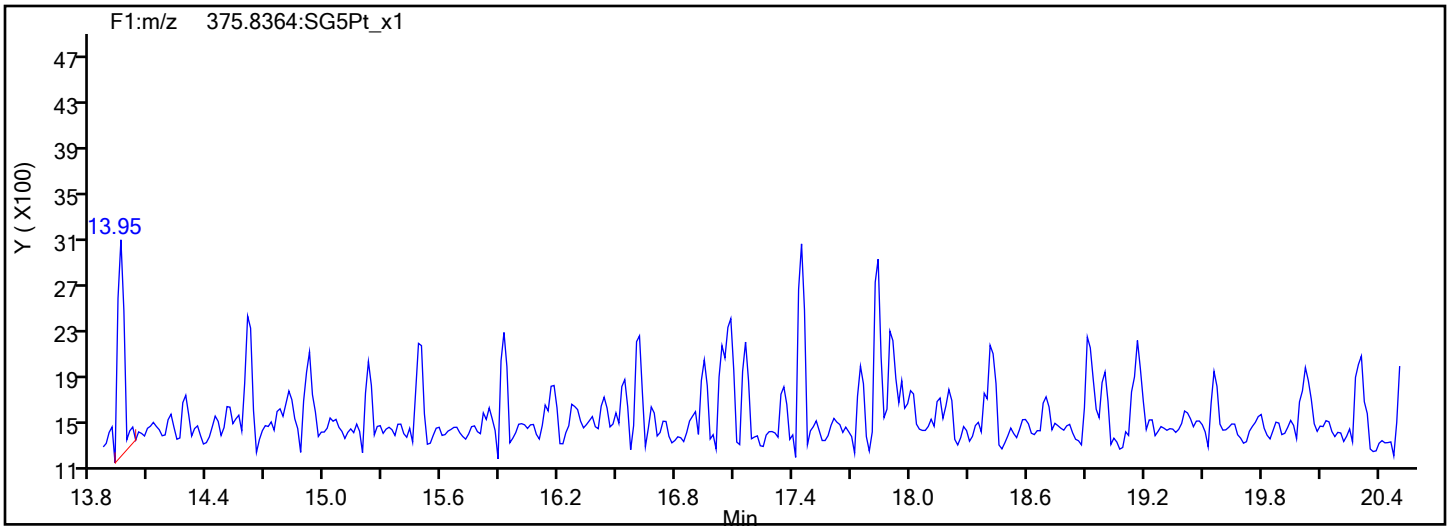

Report Date: 14-Oct-2019 14:34:18 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_7.d		
Injection Date:	10-Oct-2019 20:38:07	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330145	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

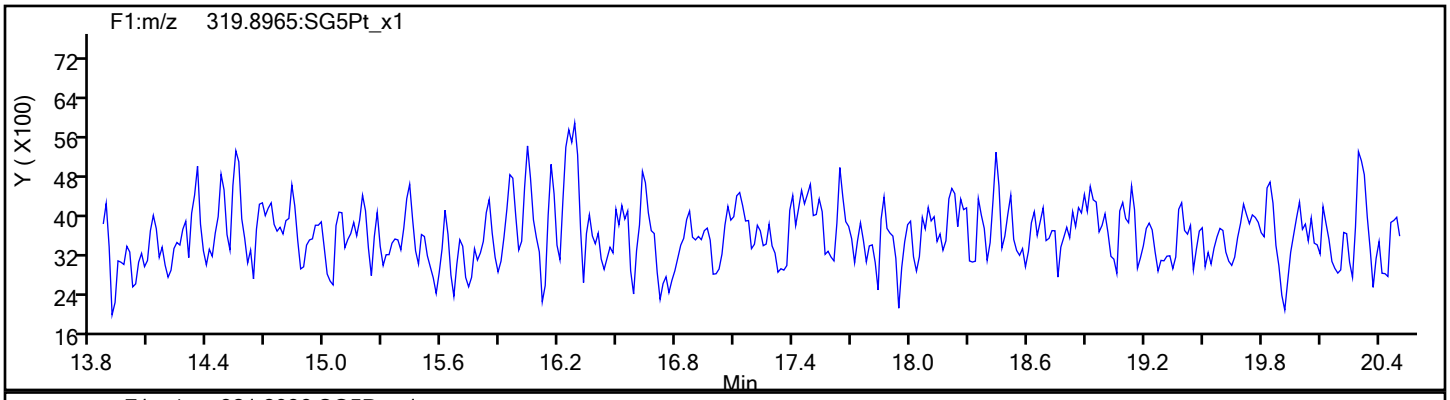

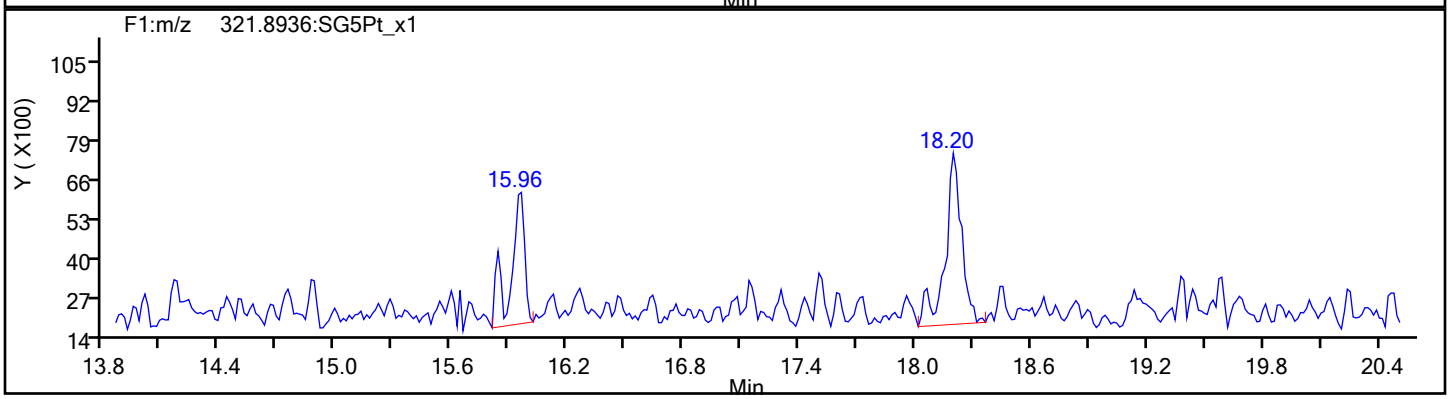

TCDD Standards

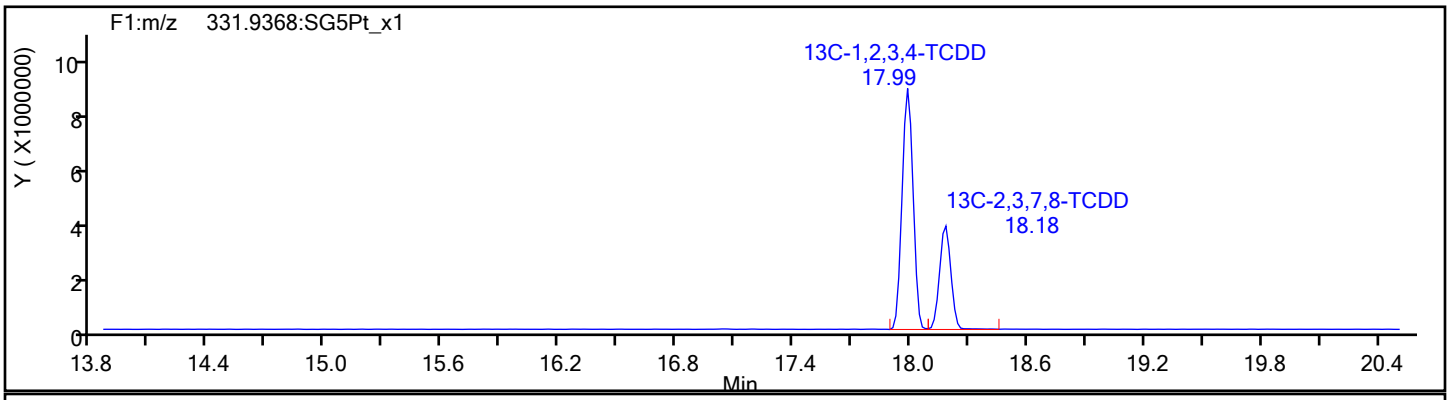

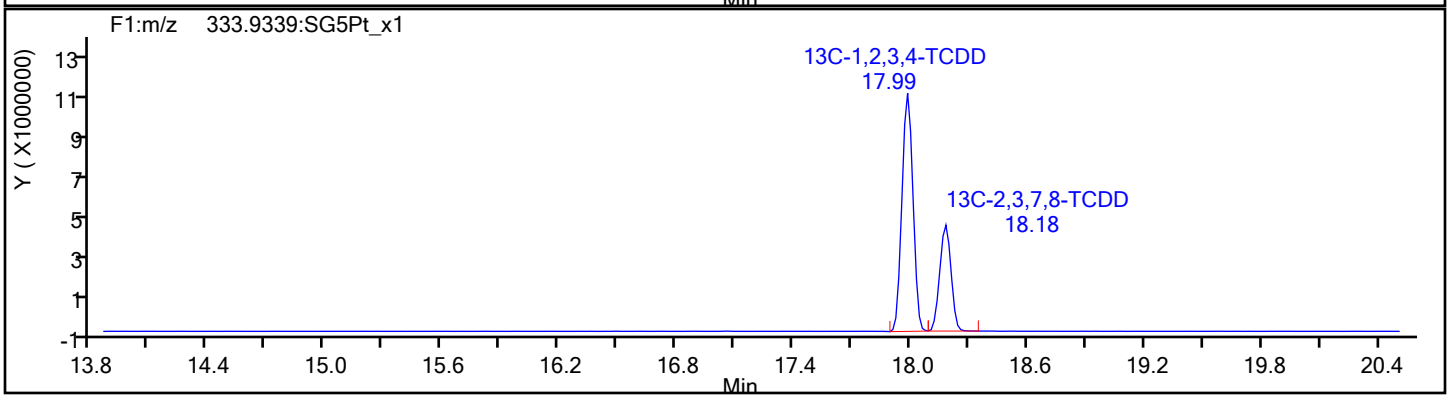

Report Date: 14-Oct-2019 14:34:18 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_7.d		
Injection Date:	10-Oct-2019 20:38:07	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330145	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

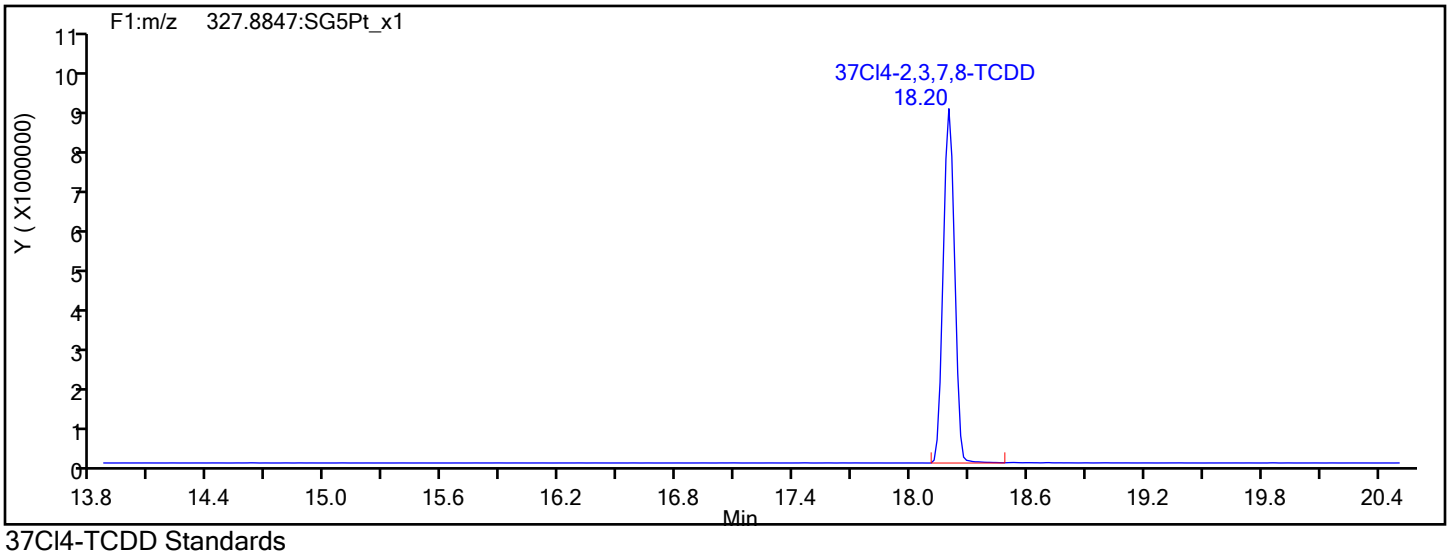

37Cl4-TCDD Standards

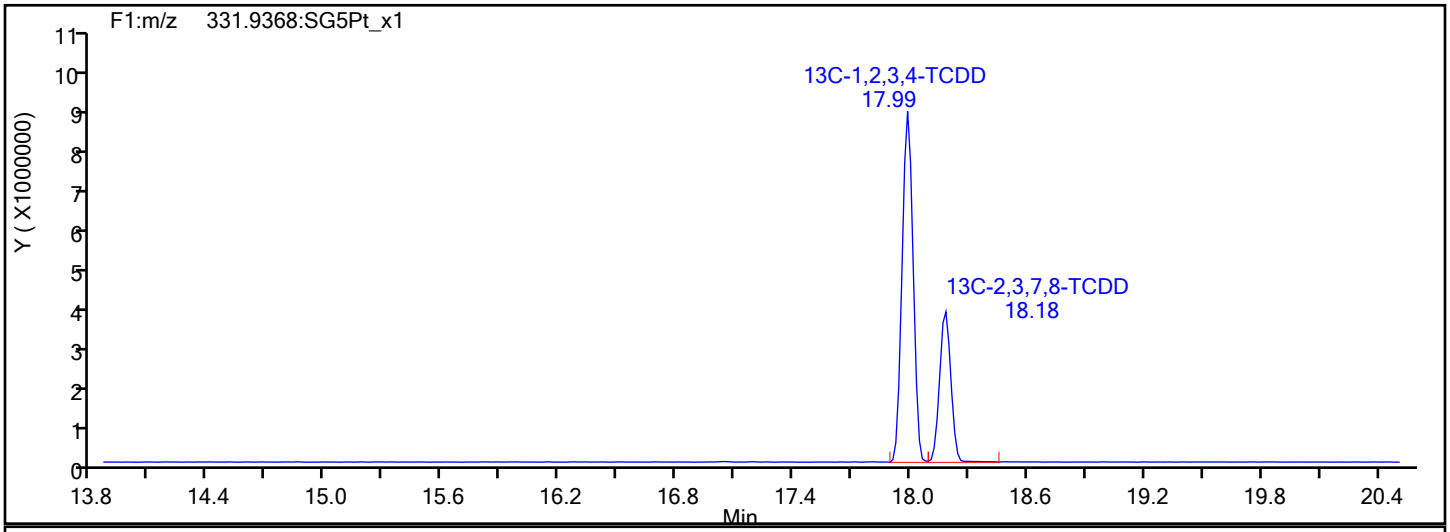

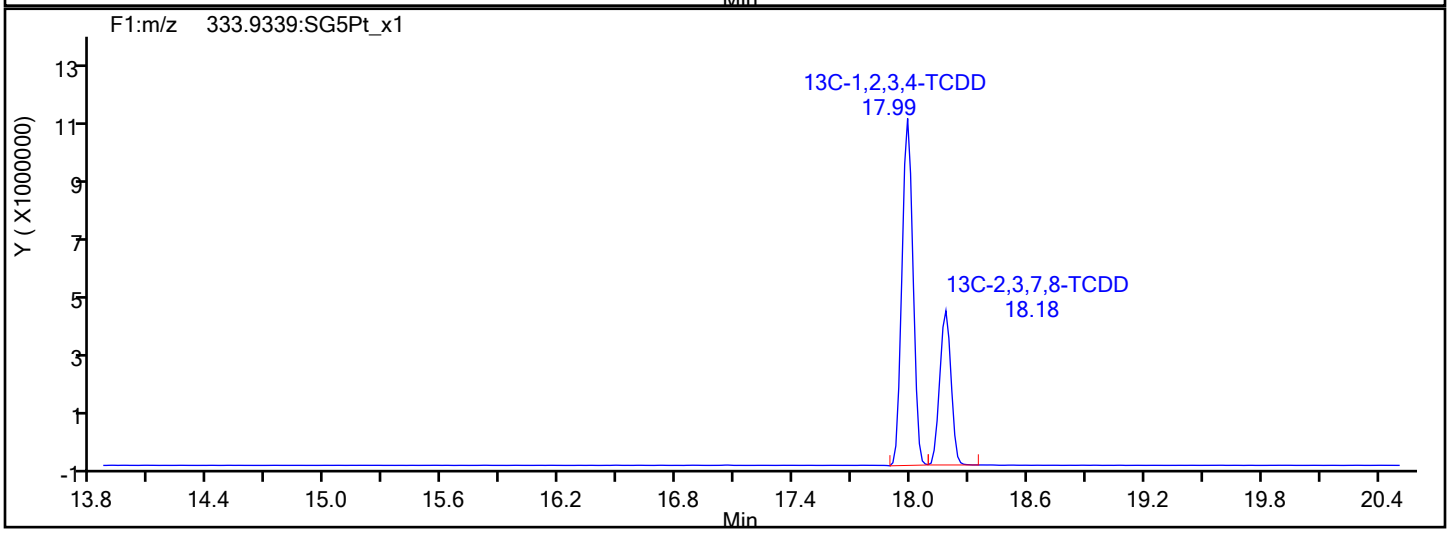

Report Date: 14-Oct-2019 14:34:18 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_7.d		
Injection Date:	10-Oct-2019 20:38:07	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330145	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

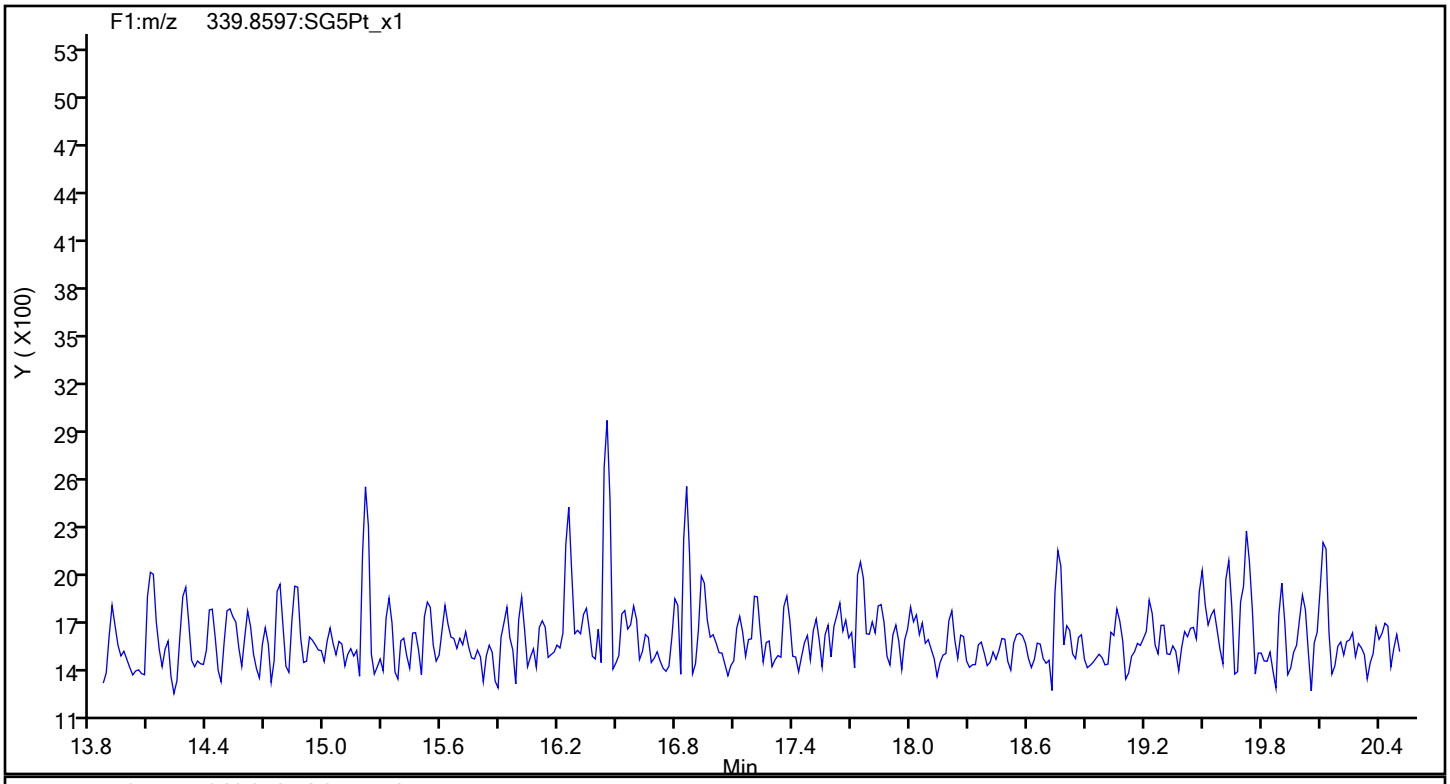

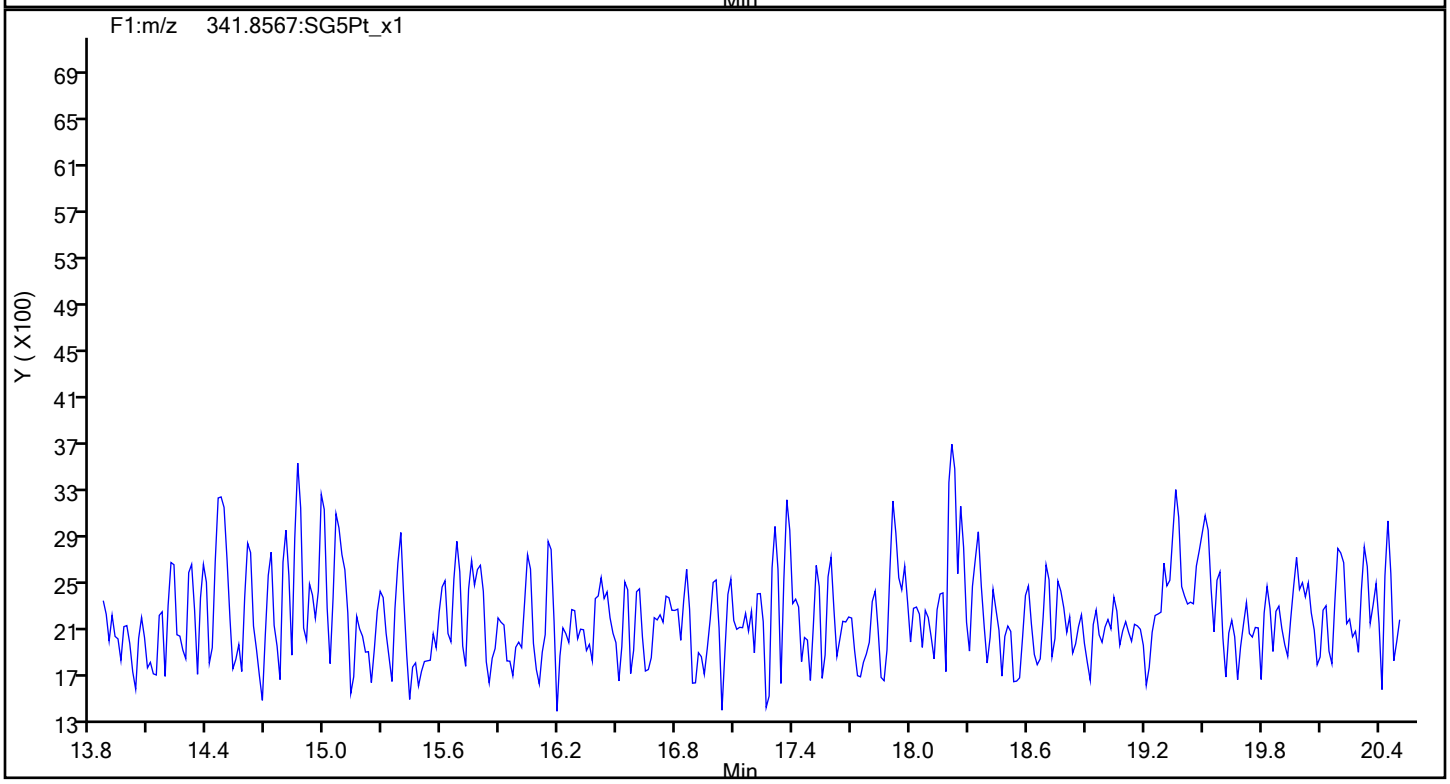

Report Date: 14-Oct-2019 14:34:18 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_7.d		
Injection Date:	10-Oct-2019 20:38:07	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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F1 PeCDFs

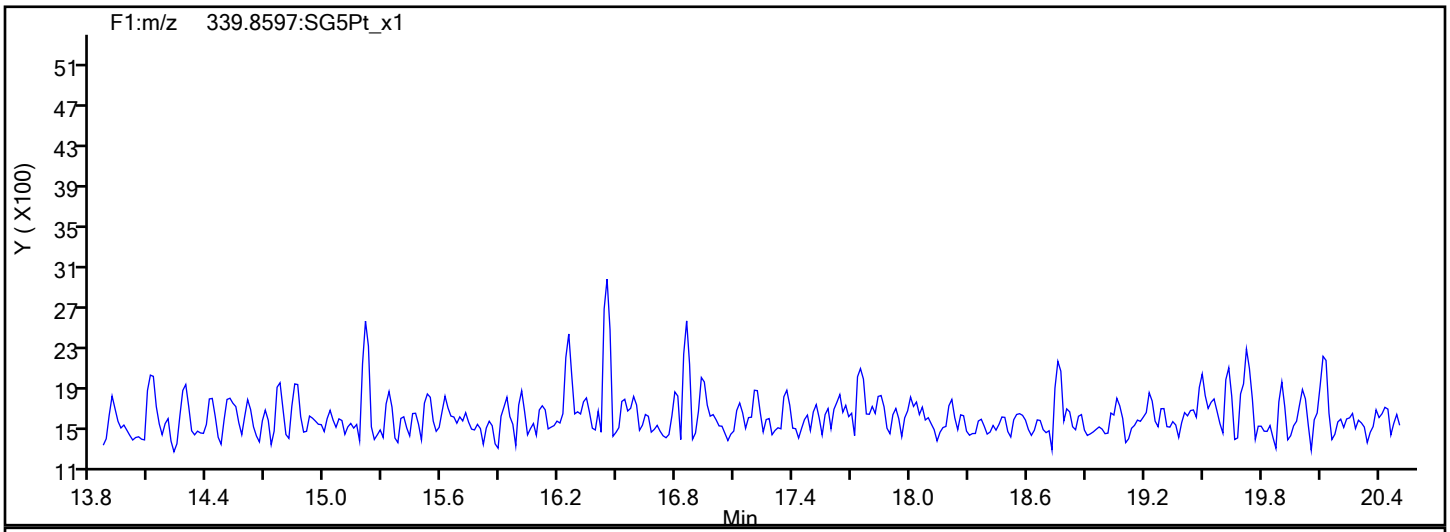

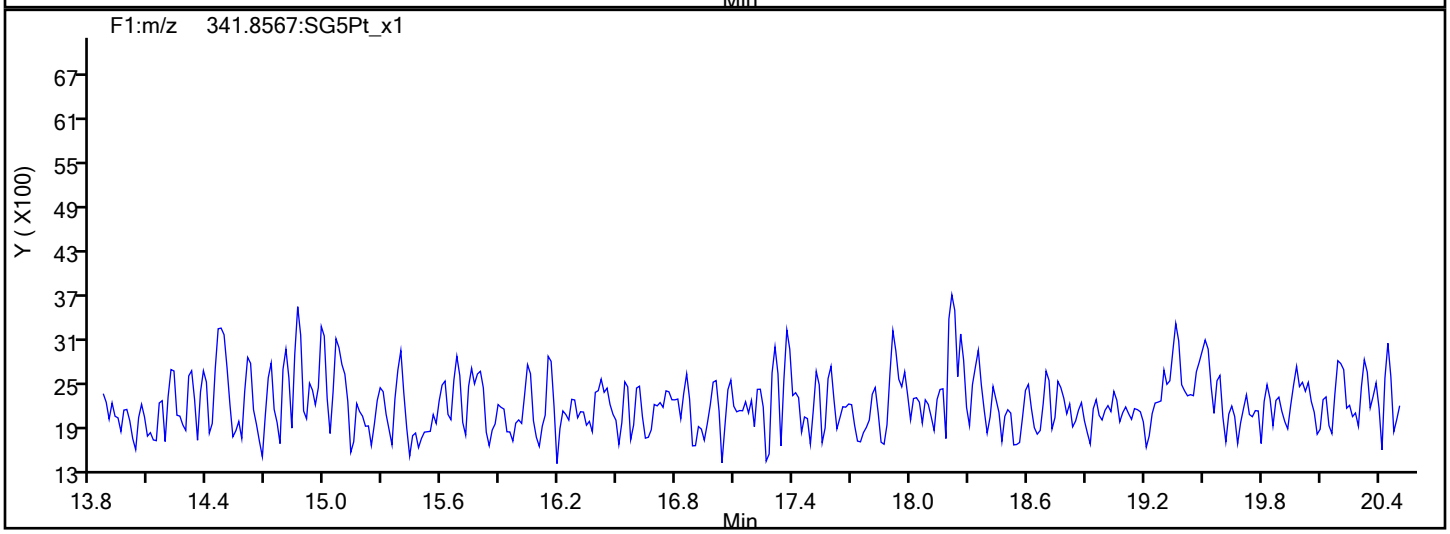

F1 PeCDFs Interference Mass

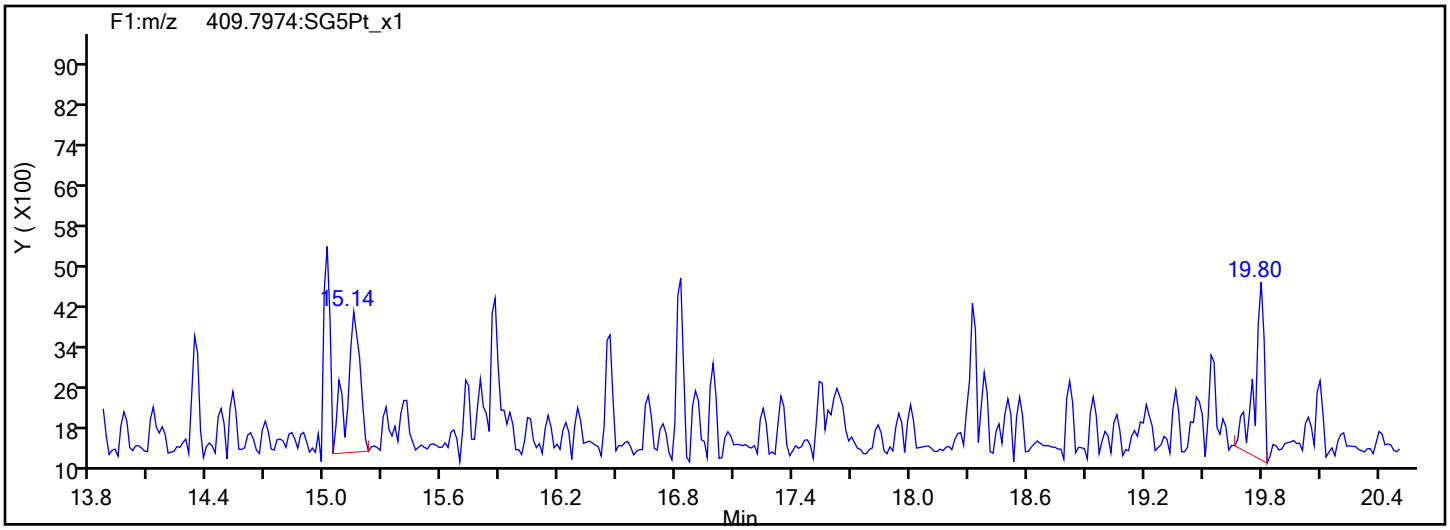

Report Date: 14-Oct-2019 14:34:18 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_7.d		
Injection Date:	10-Oct-2019 20:38:07	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330145	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

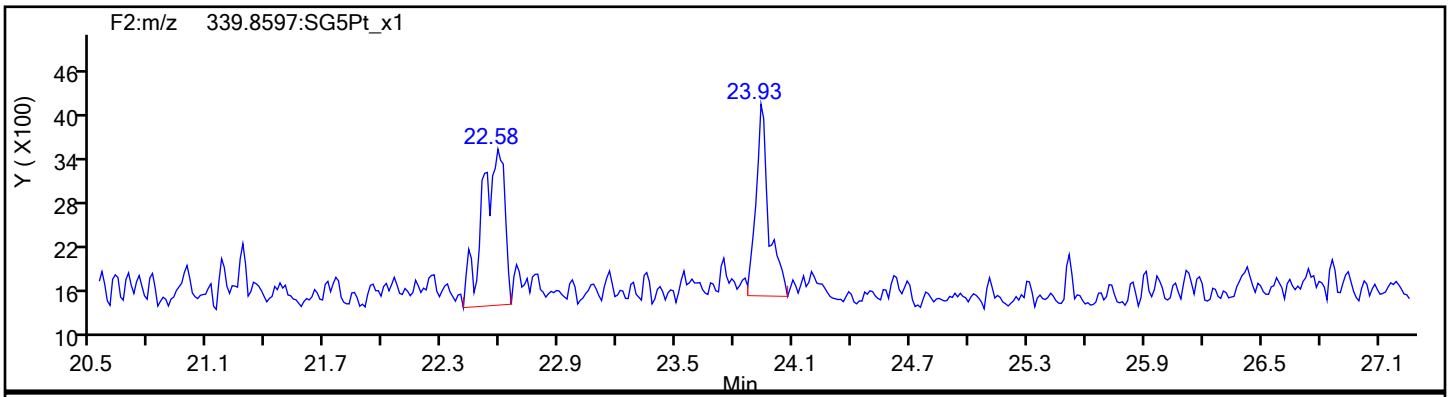

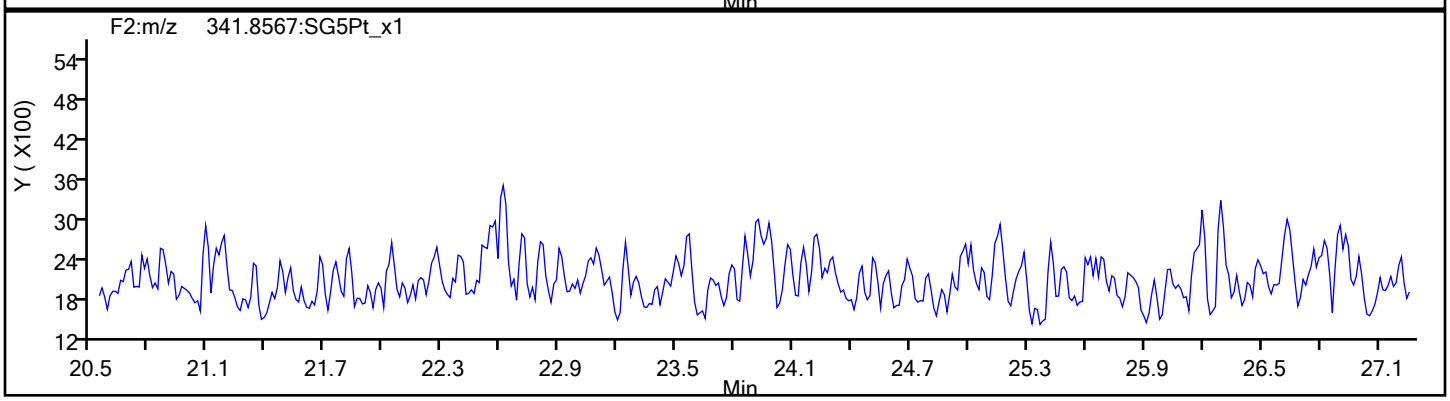

PeCDF Standards

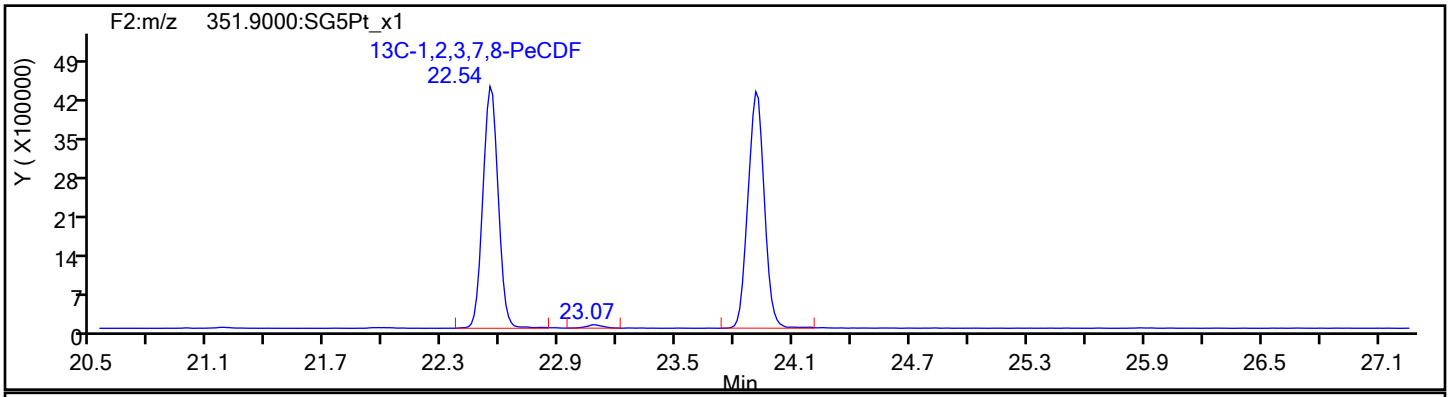

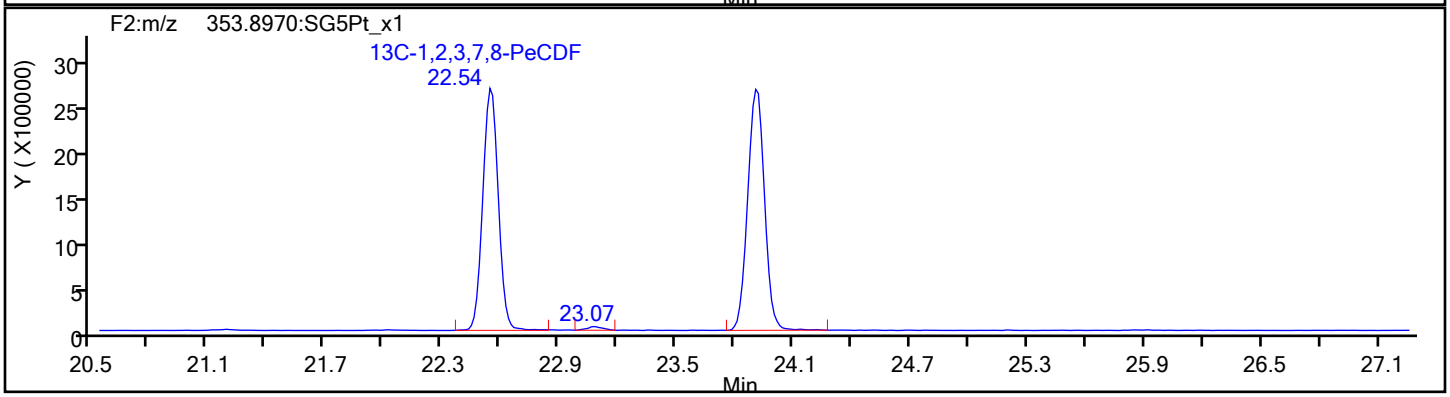

Report Date: 14-Oct-2019 14:34:18 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_7.d		
Injection Date:	10-Oct-2019 20:38:07	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330145	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

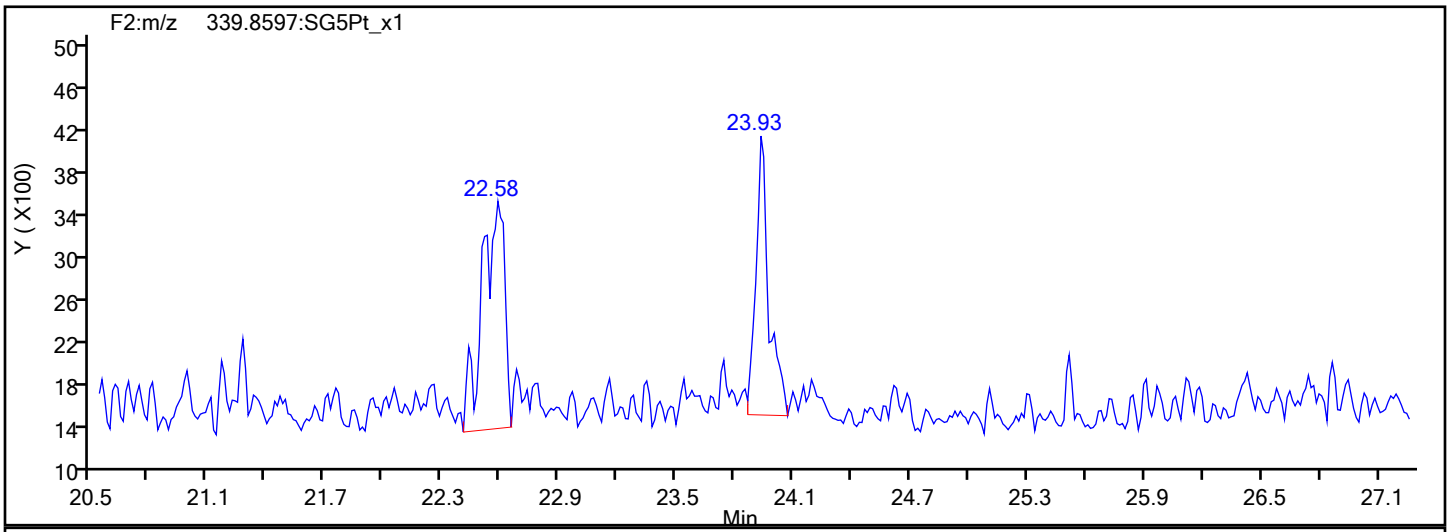

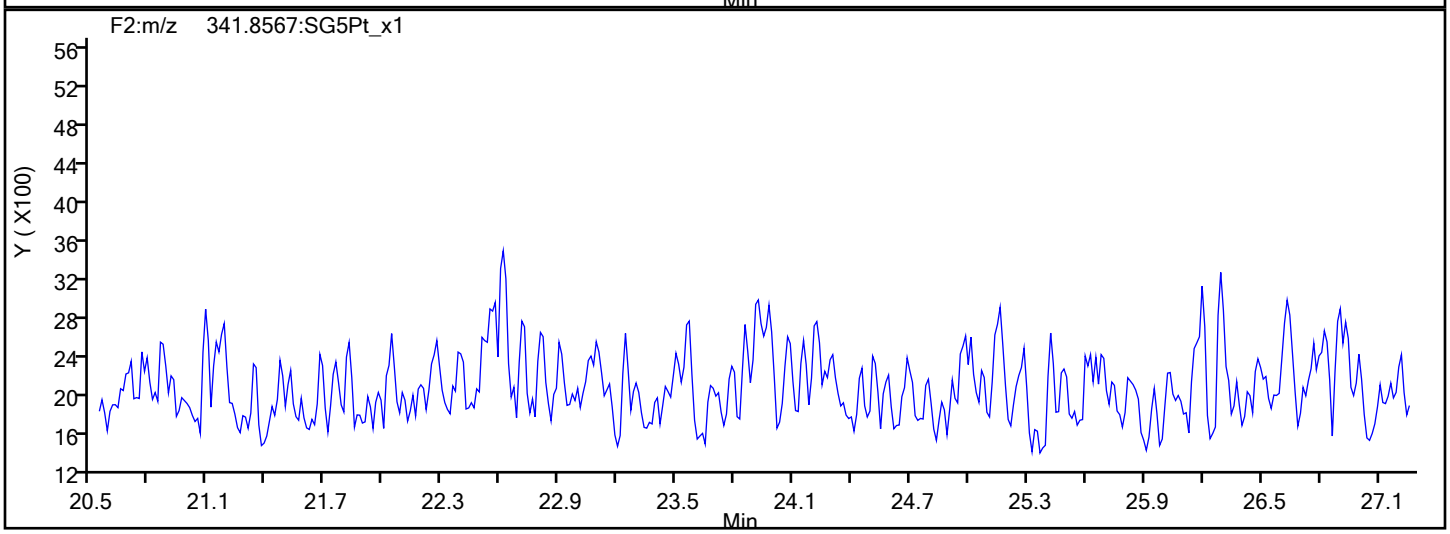

PeCDF Interference Mass

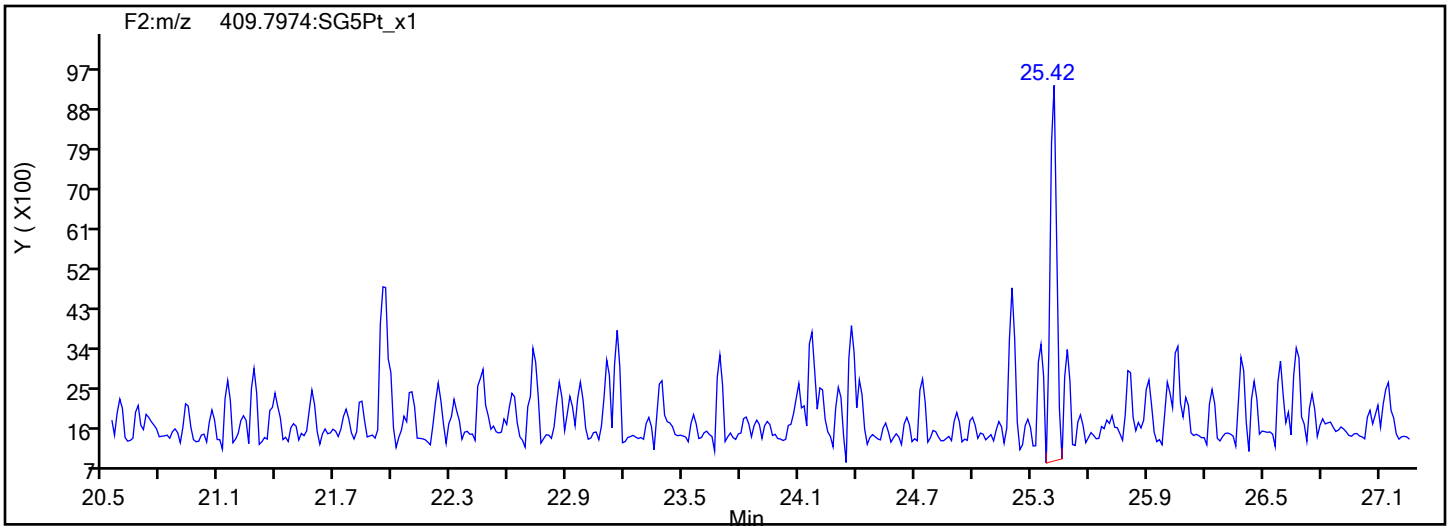

Report Date: 14-Oct-2019 14:34:18 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_7.d		
Injection Date:	10-Oct-2019 20:38:07	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330145	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

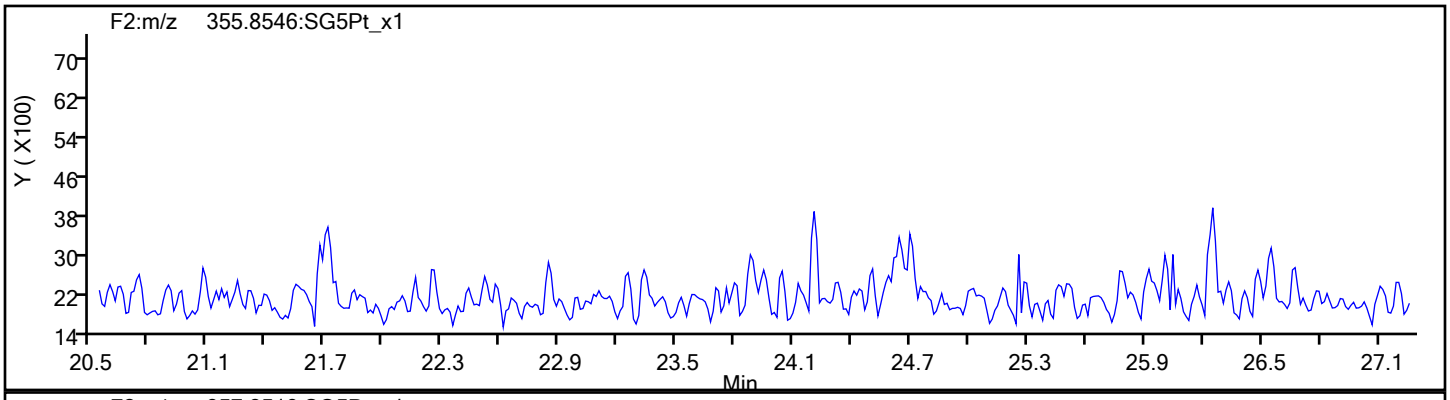

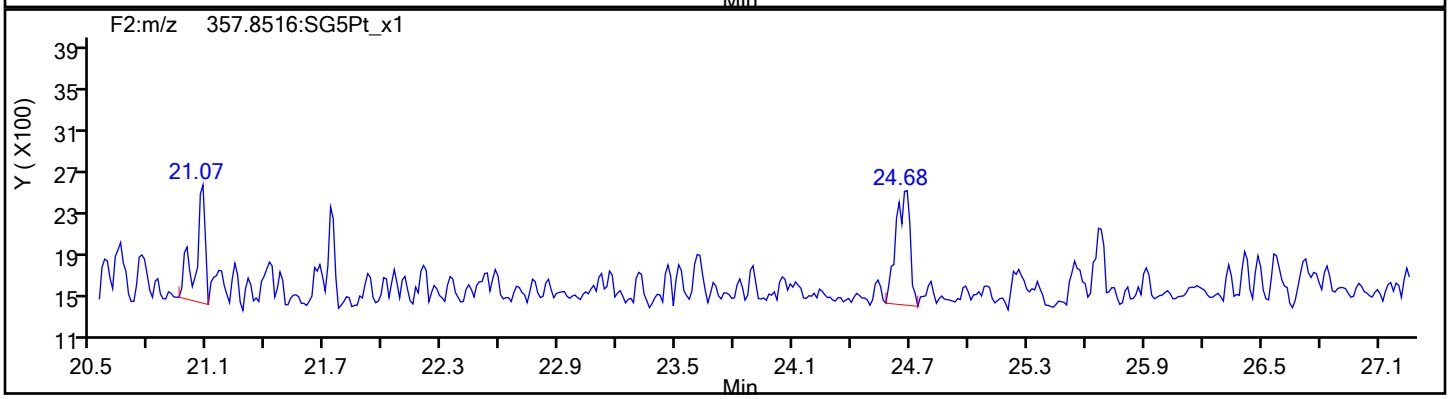

PeCDD Standards

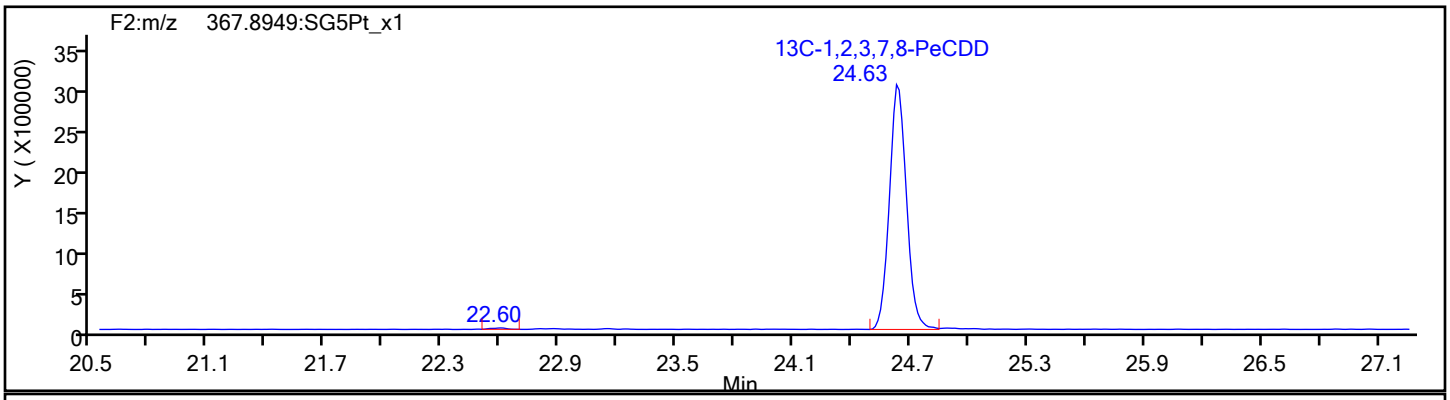

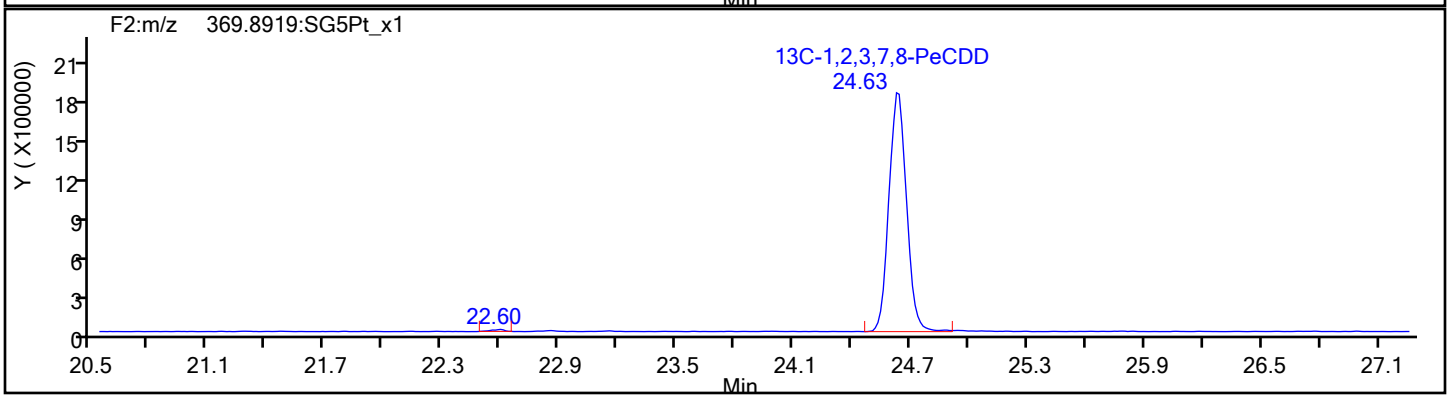

Report Date: 14-Oct-2019 14:34:18 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_7.d		
Injection Date:	10-Oct-2019 20:38:07	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330145	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

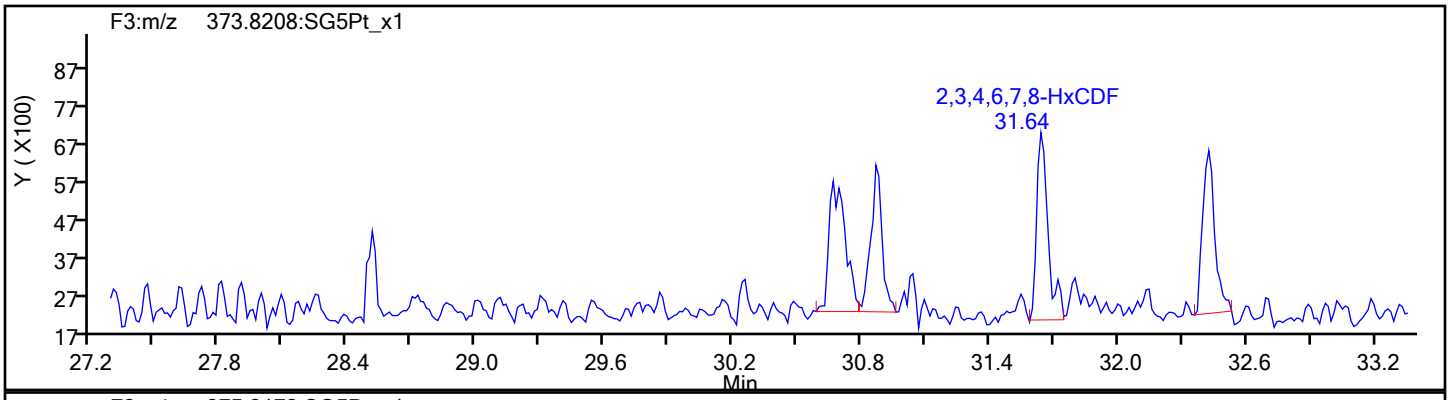

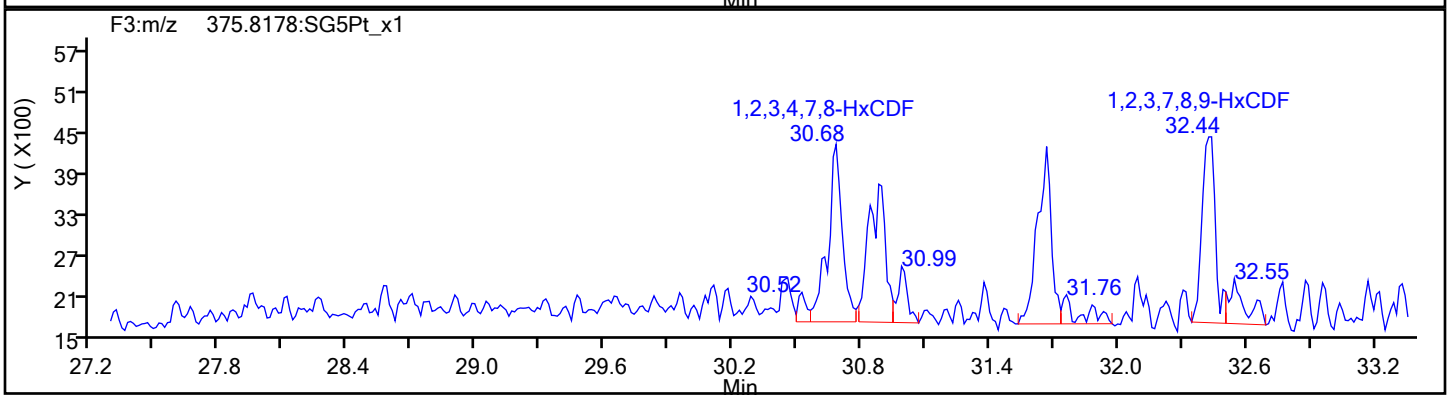

HxCDF Standards

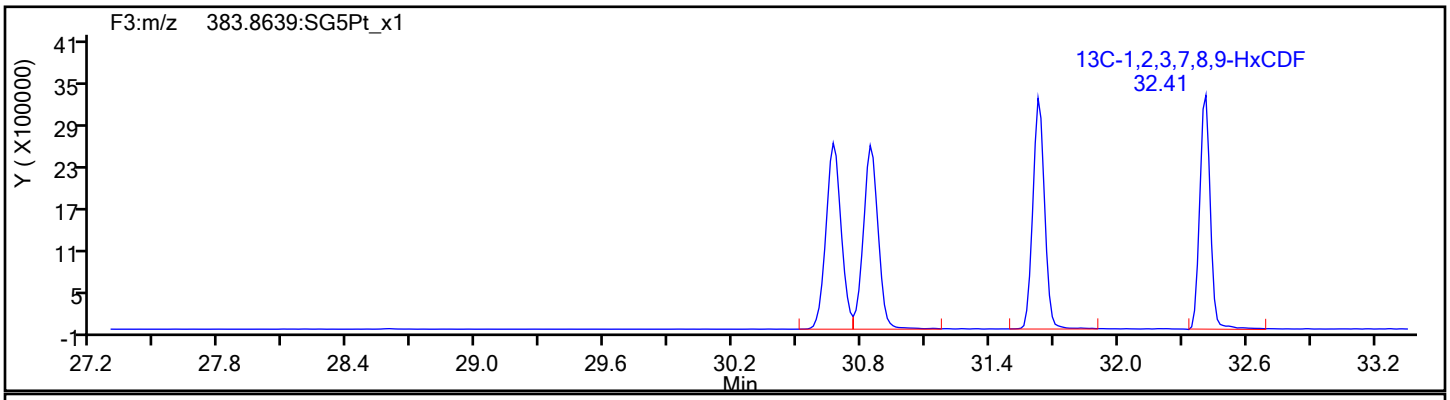

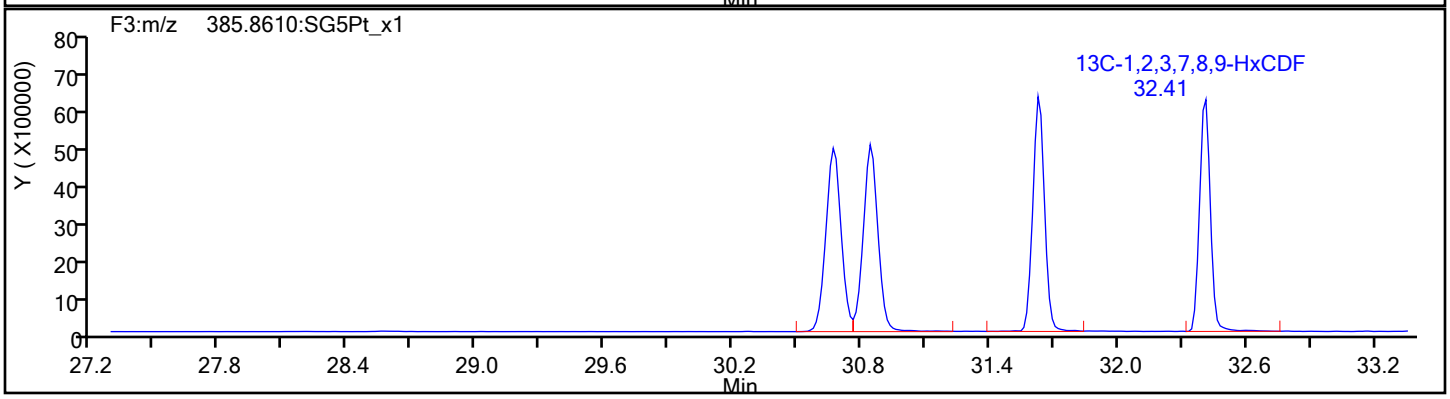

Report Date: 14-Oct-2019 14:34:18 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_7.d		
Injection Date:	10-Oct-2019 20:38:07	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330145	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

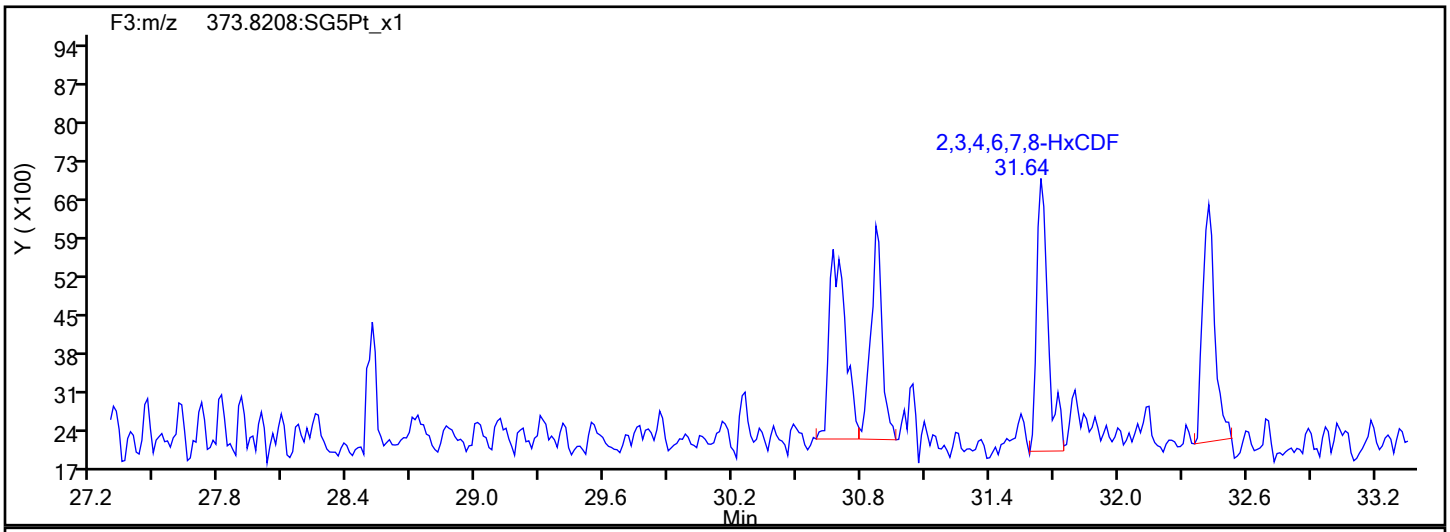

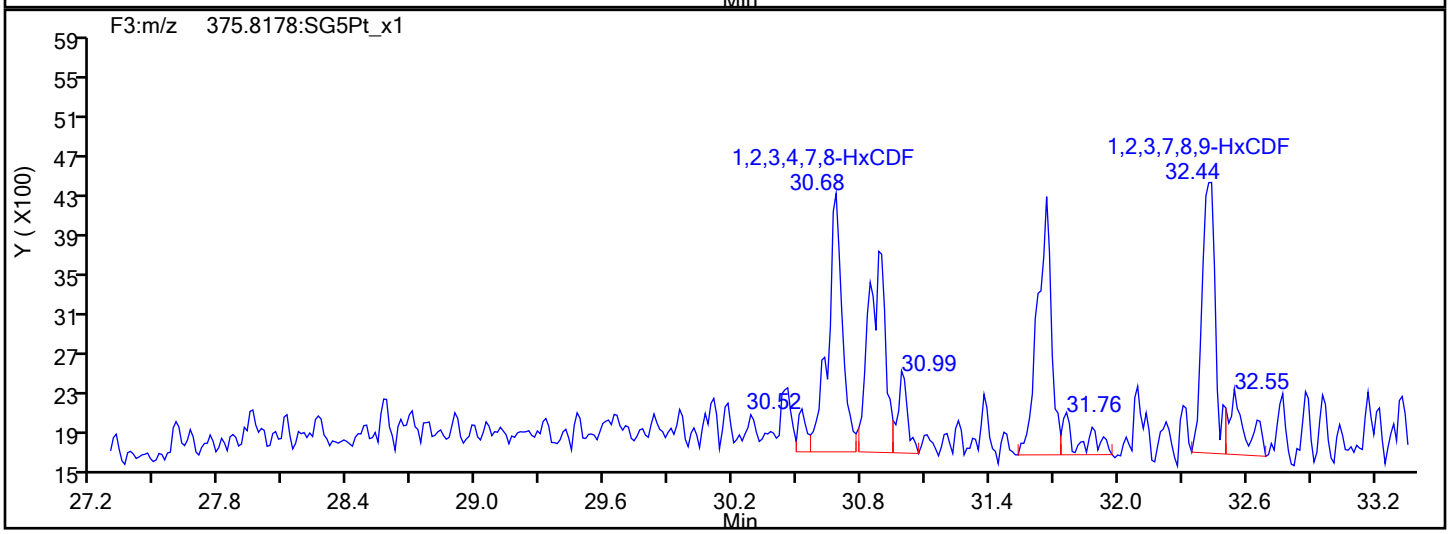

HxCDF Interference Mass

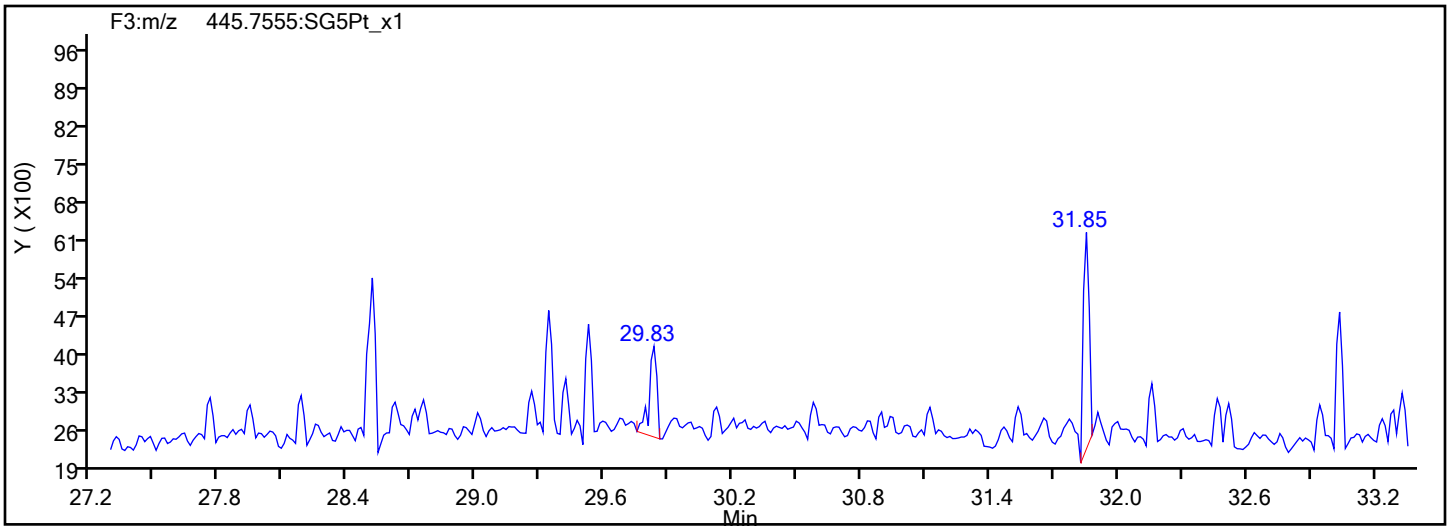

Report Date: 14-Oct-2019 14:34:18 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_7.d		
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Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330145	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

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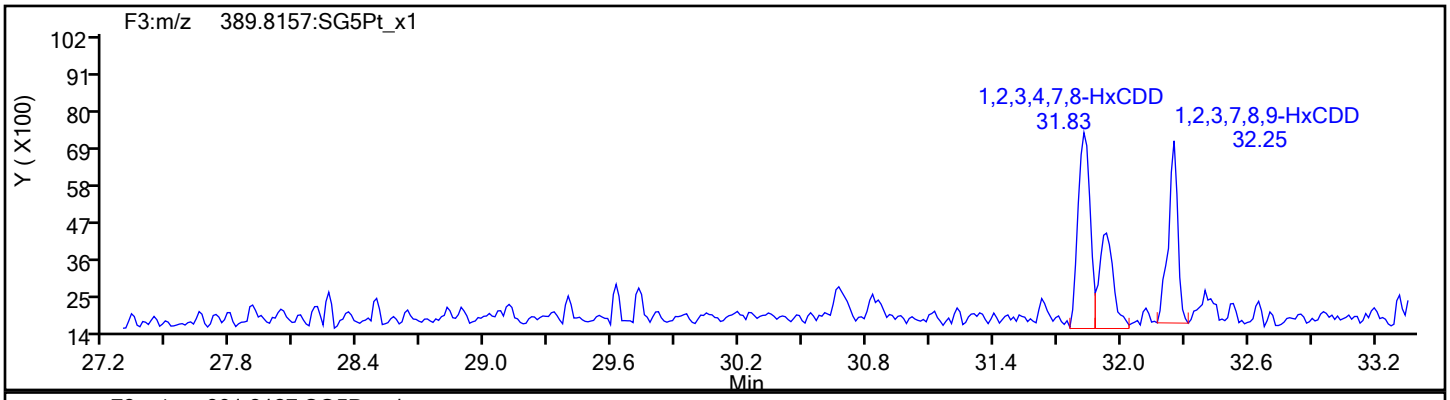

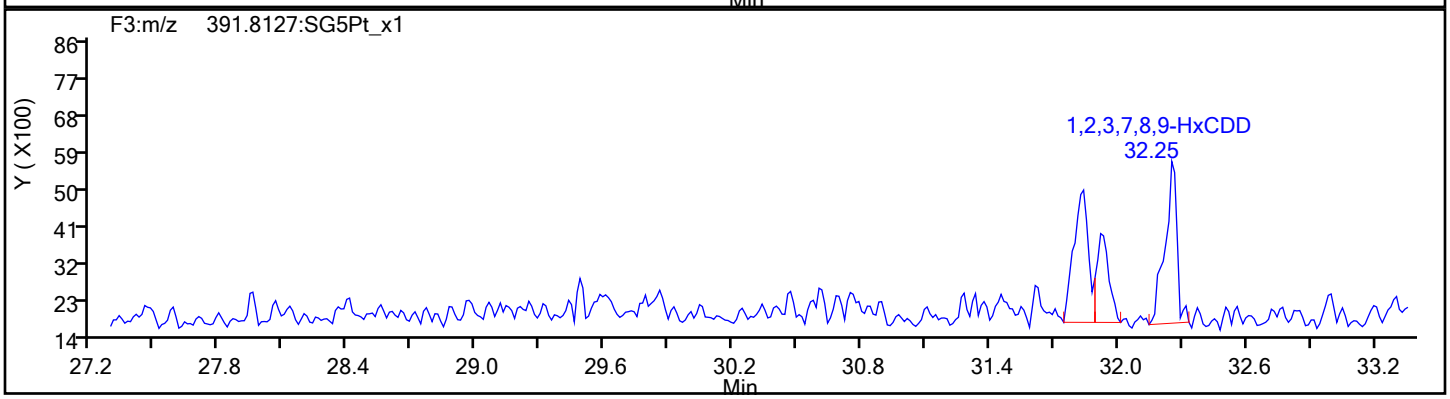

HxCDD Standards

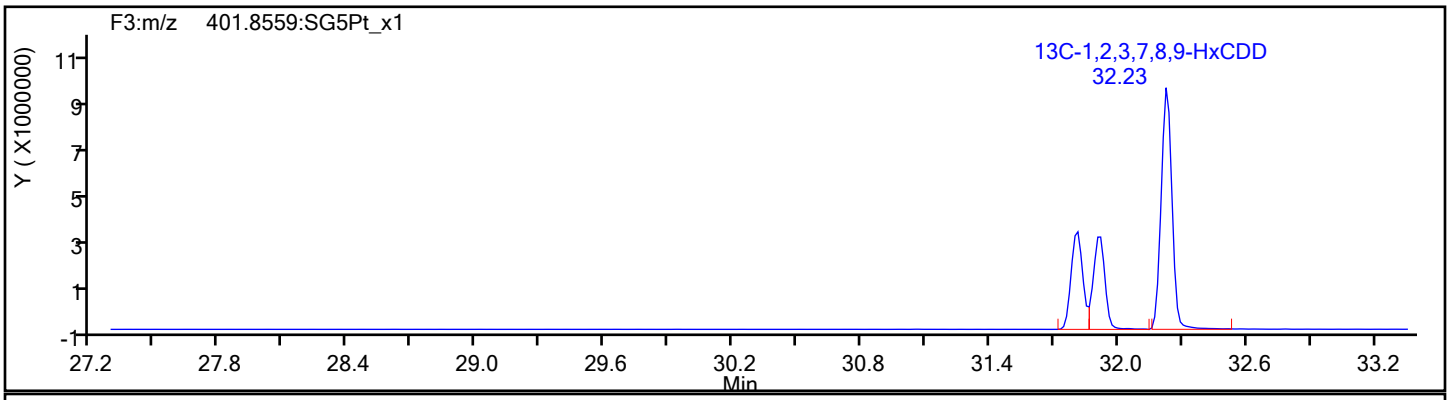

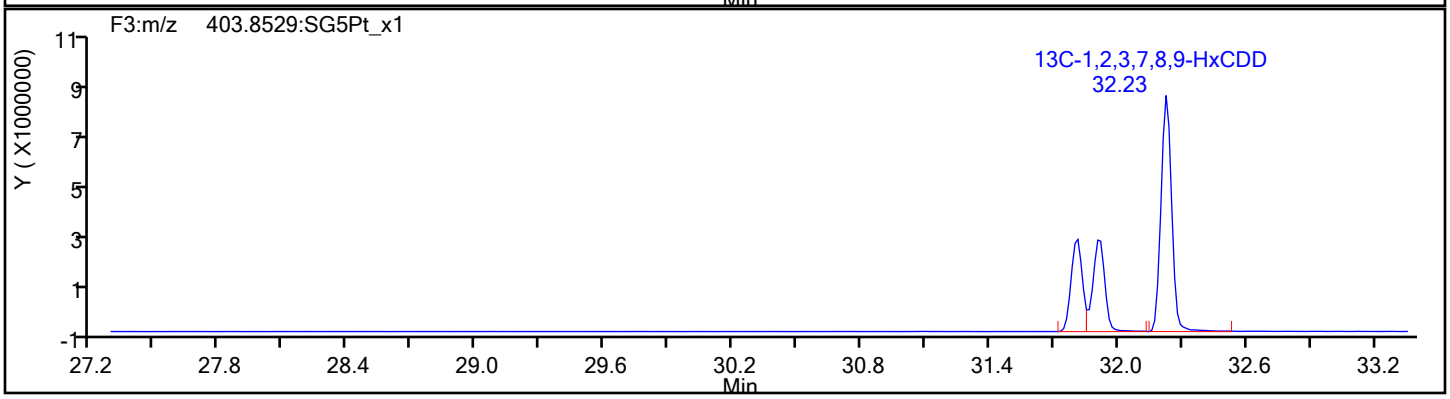

Report Date: 14-Oct-2019 14:34:18 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_7.d		
Injection Date:	10-Oct-2019 20:38:07	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

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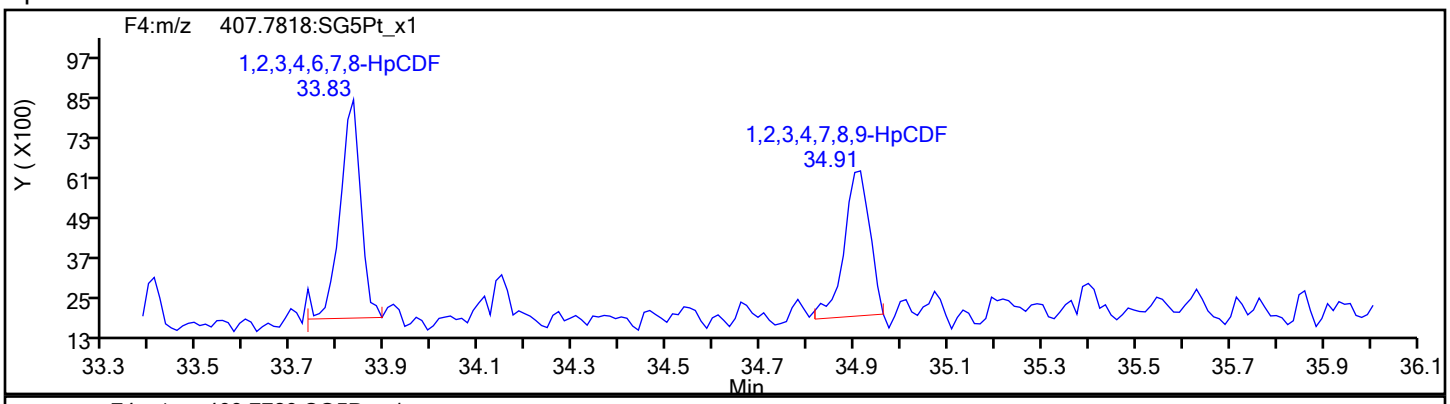

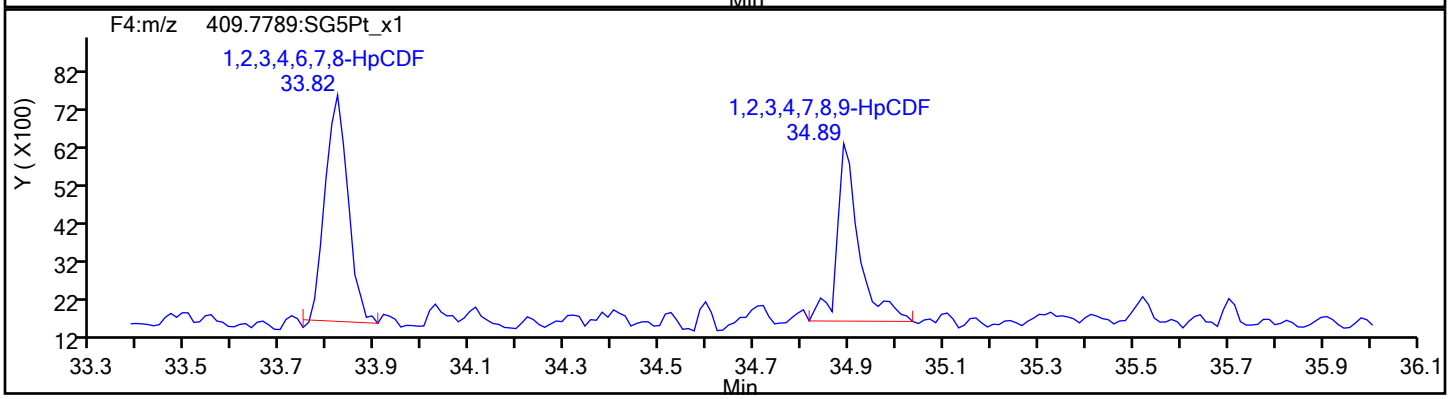

HpCDF Standards

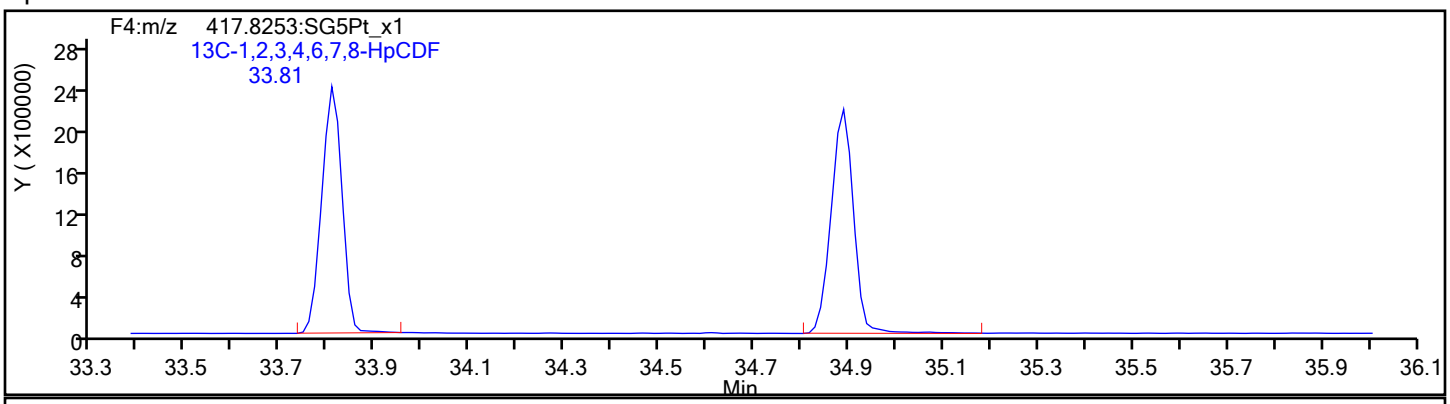

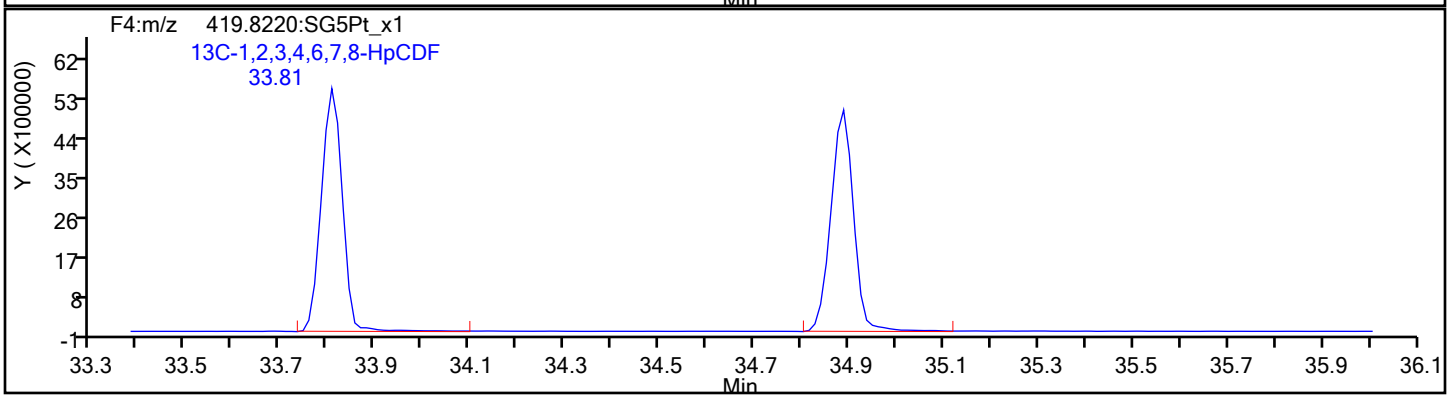

Report Date: 14-Oct-2019 14:34:18 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_7.d		
Injection Date:	10-Oct-2019 20:38:07	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330145	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

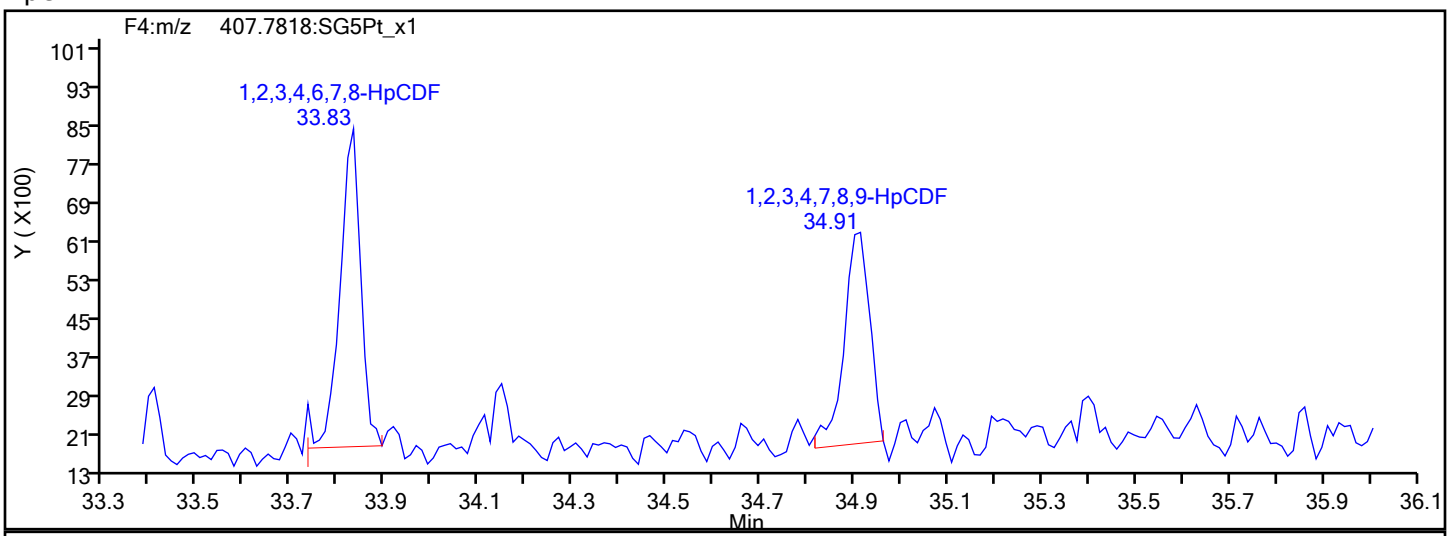

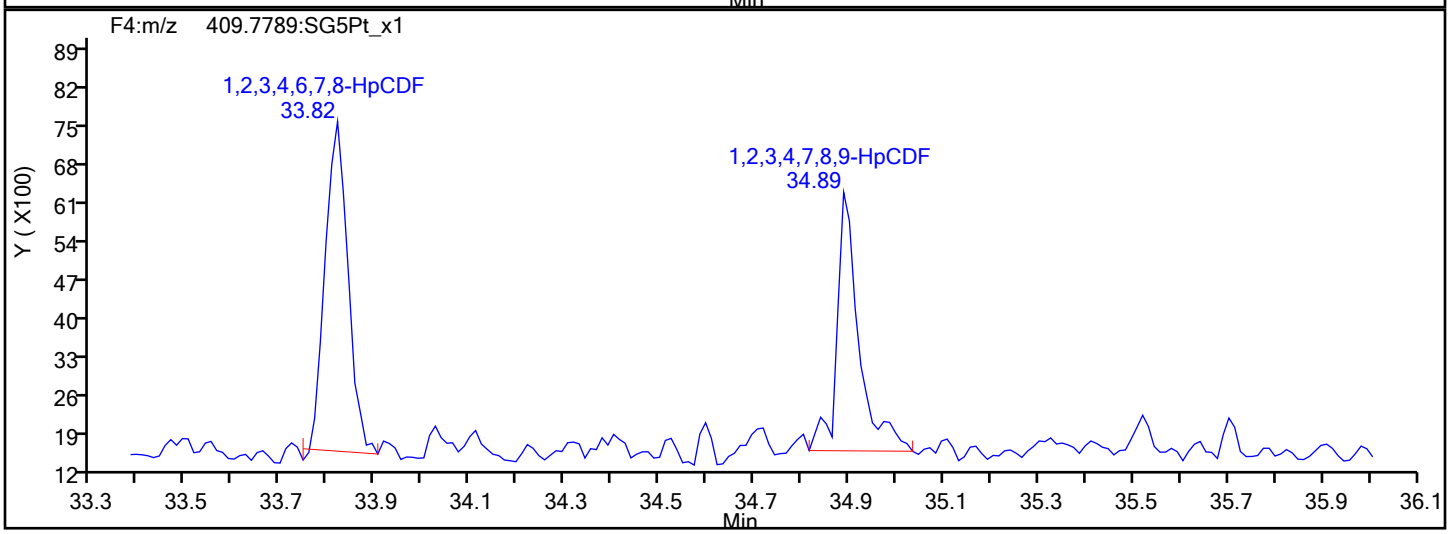

HpCDF Interference Mass

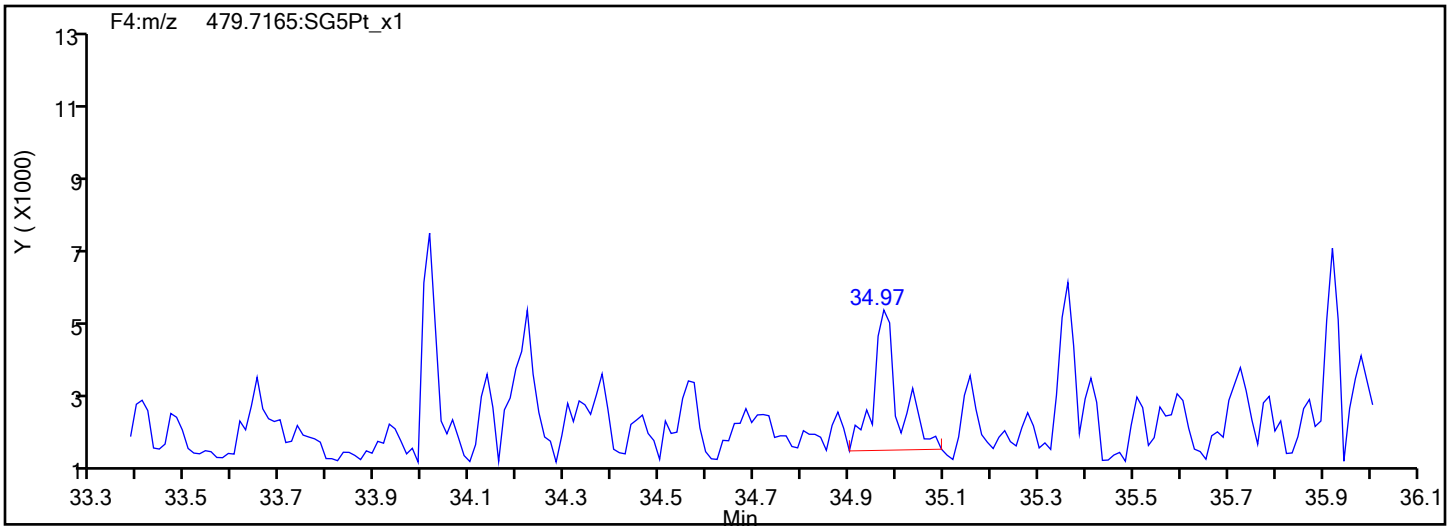

Report Date: 14-Oct-2019 14:34:18 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_7.d		
Injection Date:	10-Oct-2019 20:38:07	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

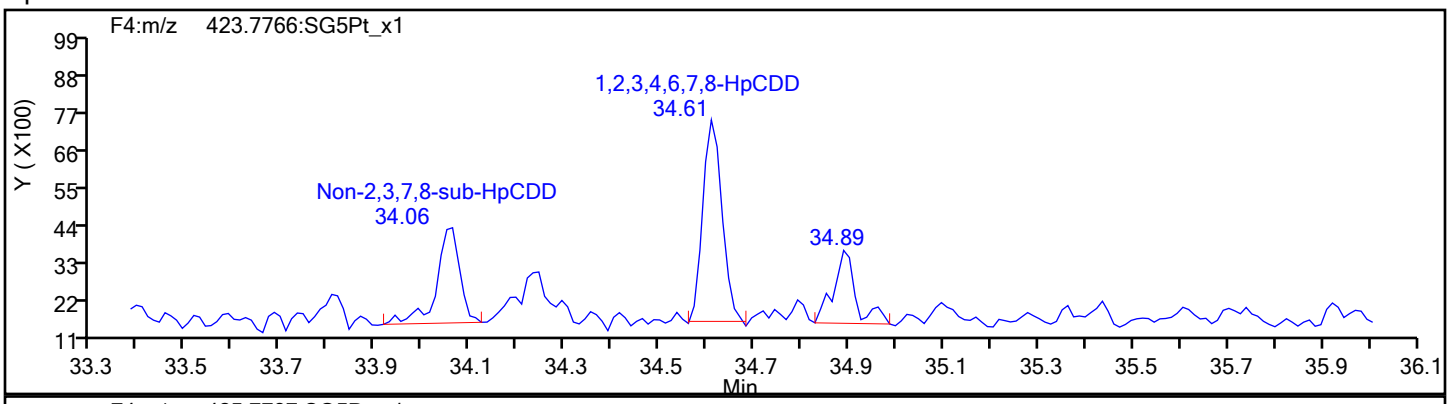

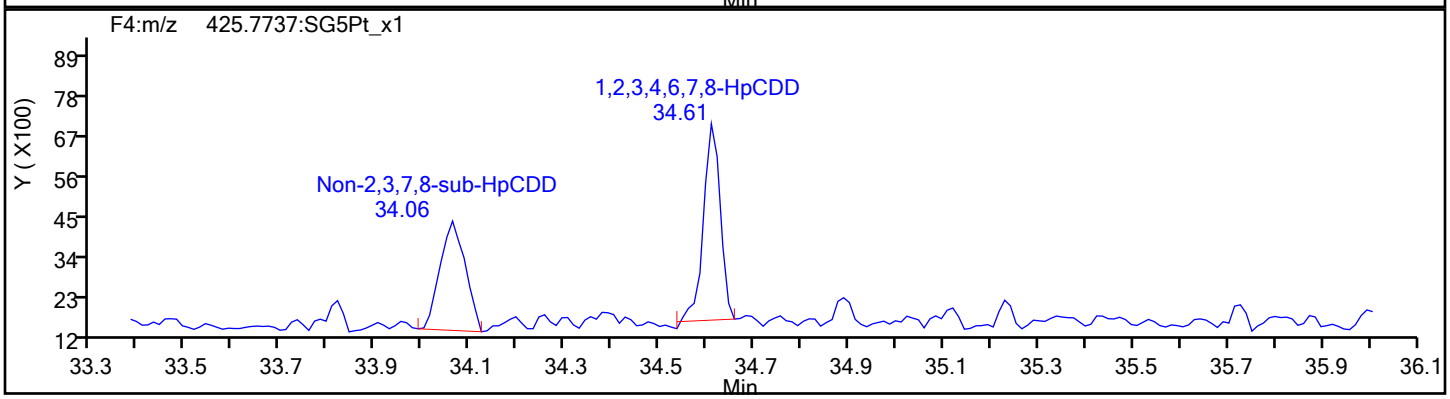

HpCDD Standards

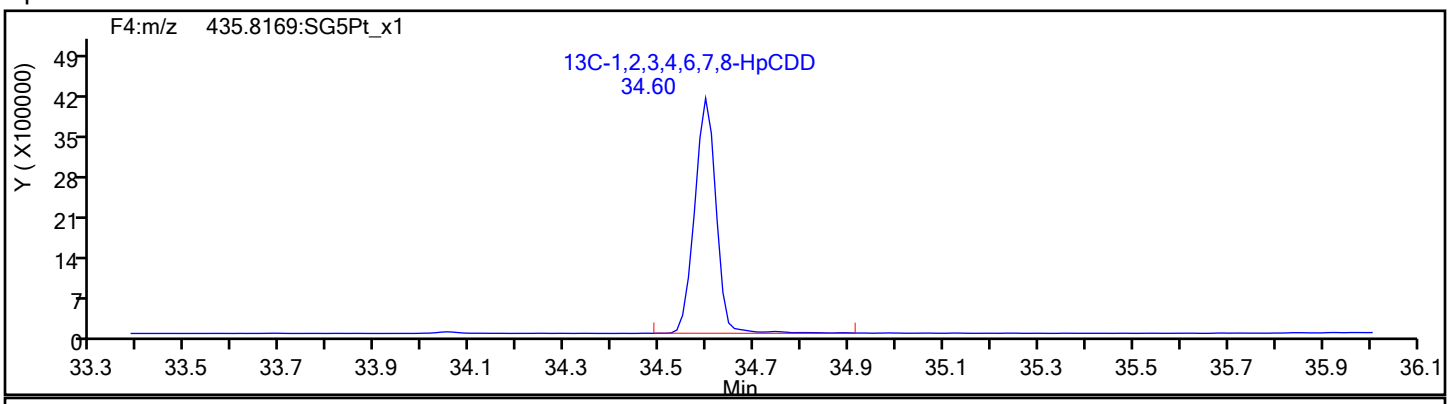

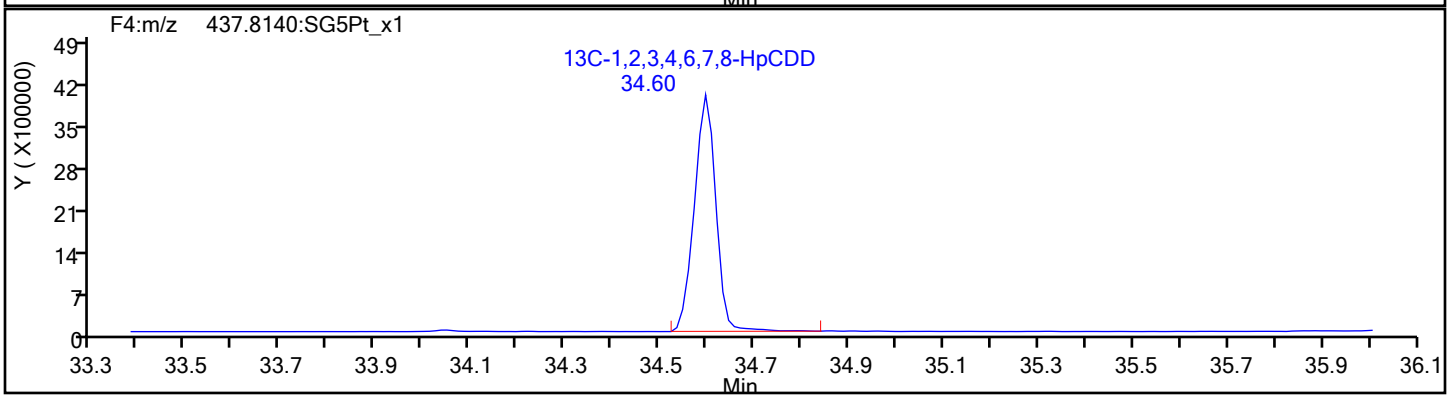

Report Date: 14-Oct-2019 14:34:18 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_7.d		
Injection Date:	10-Oct-2019 20:38:07	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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OCDF

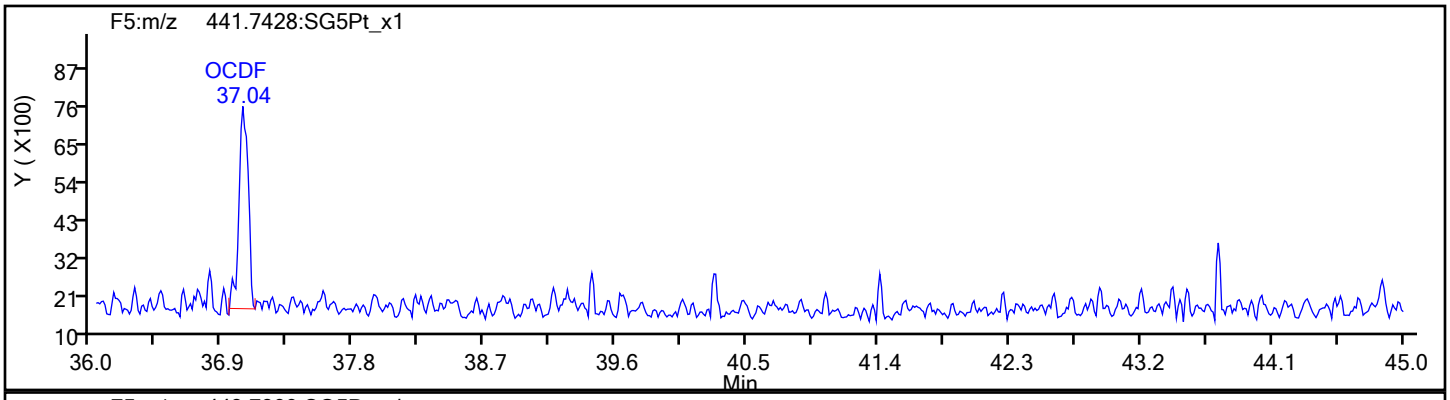

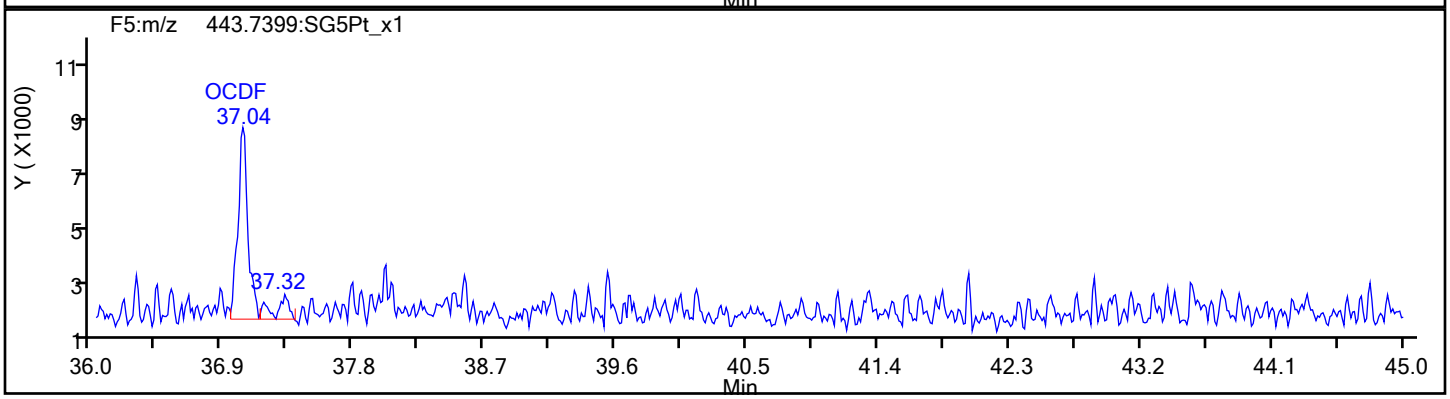

OCDF Standards

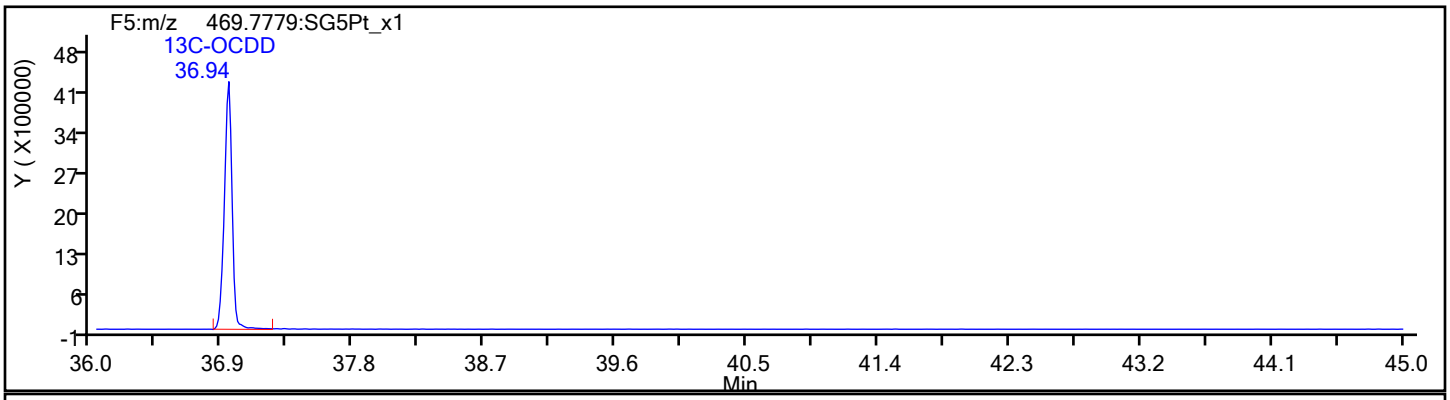

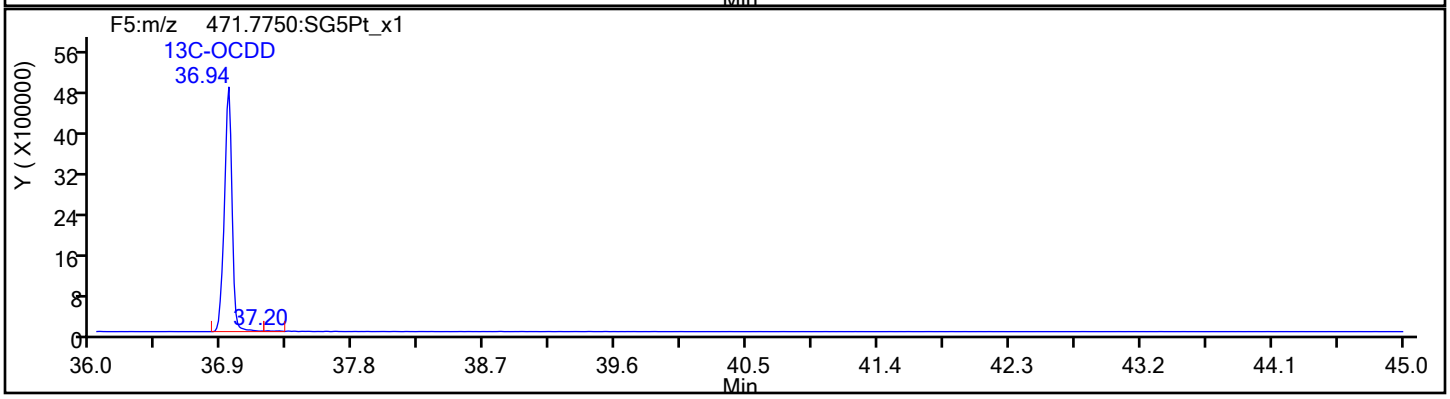

Report Date: 14-Oct-2019 14:34:18 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_7.d		
Injection Date:	10-Oct-2019 20:38:07	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330145	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

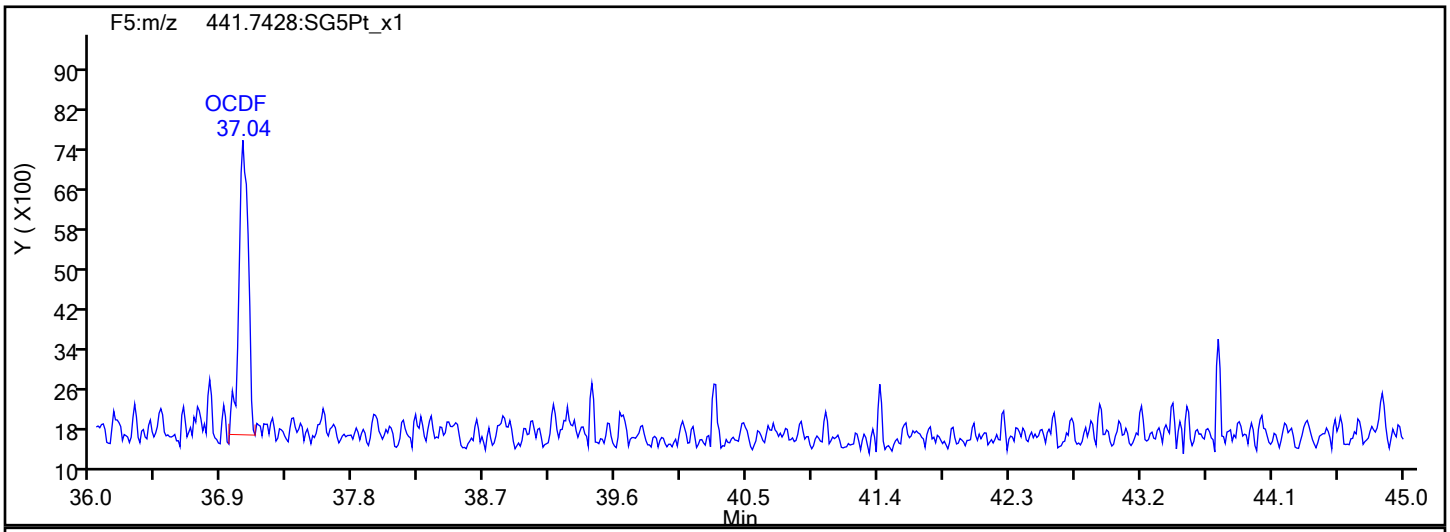

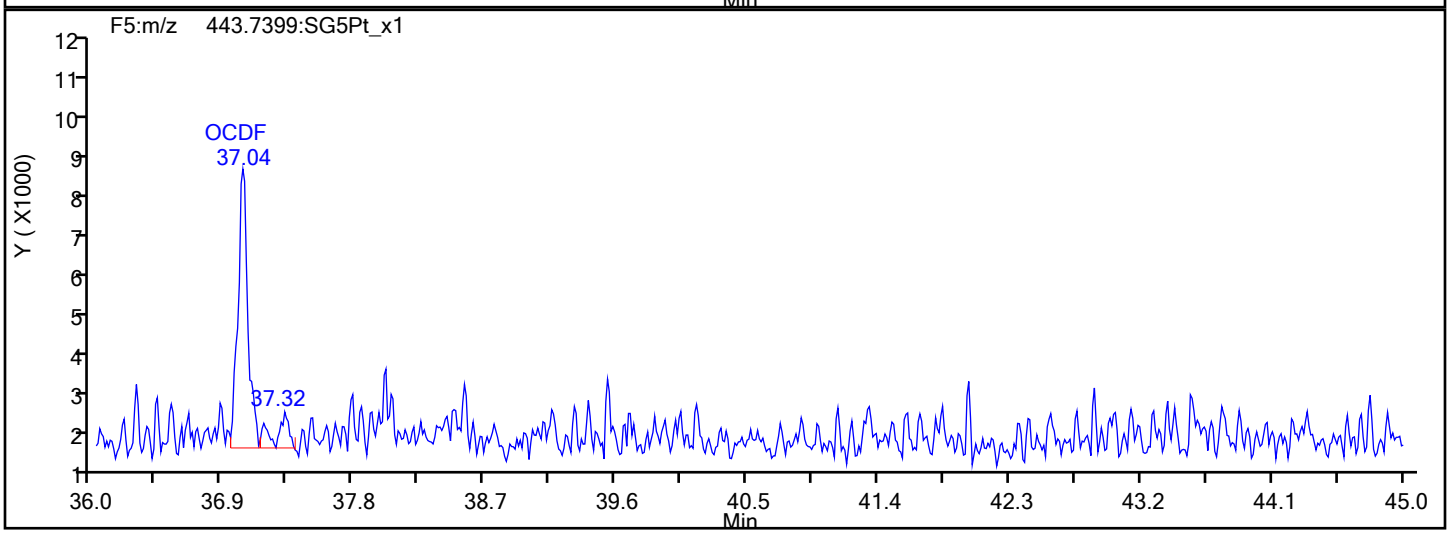

OCDF Interference Mass

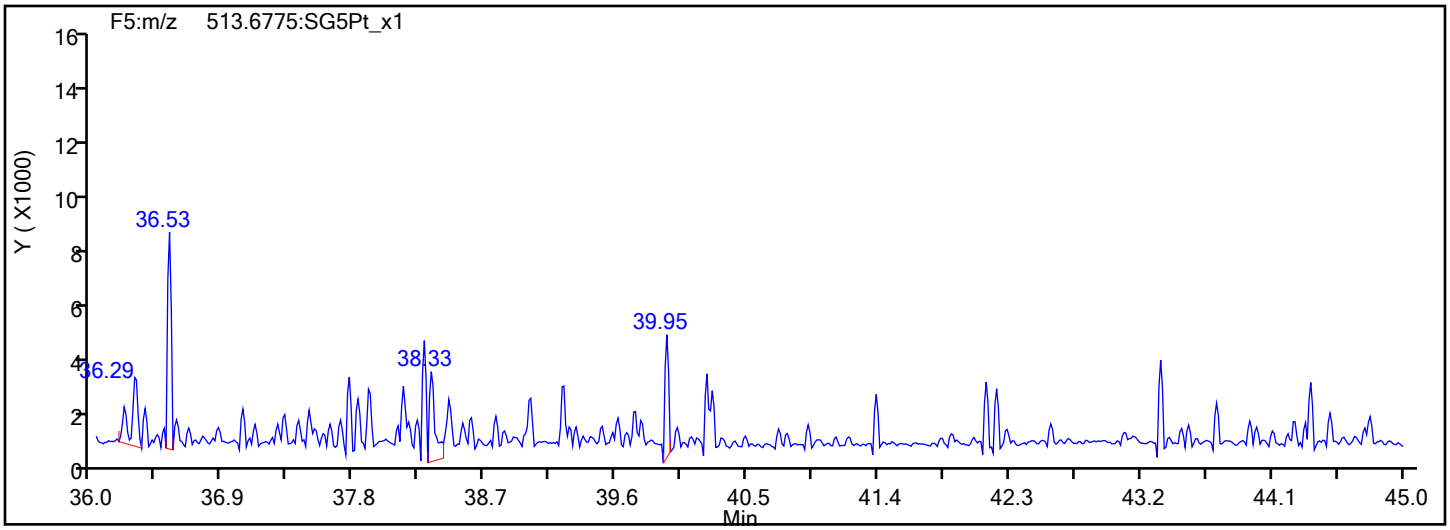

Report Date: 14-Oct-2019 14:34:18 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_7.d		
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Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330145	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

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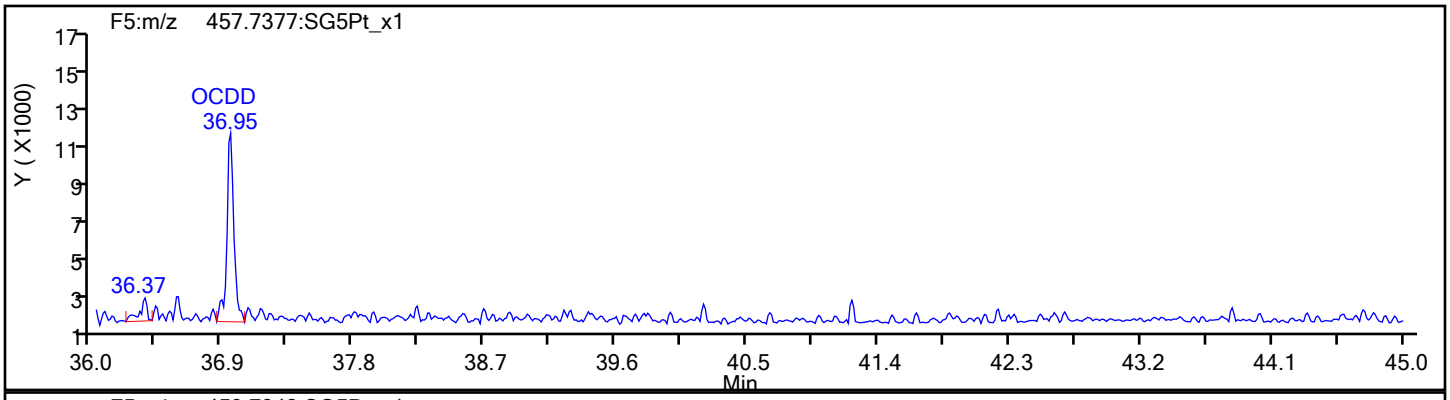

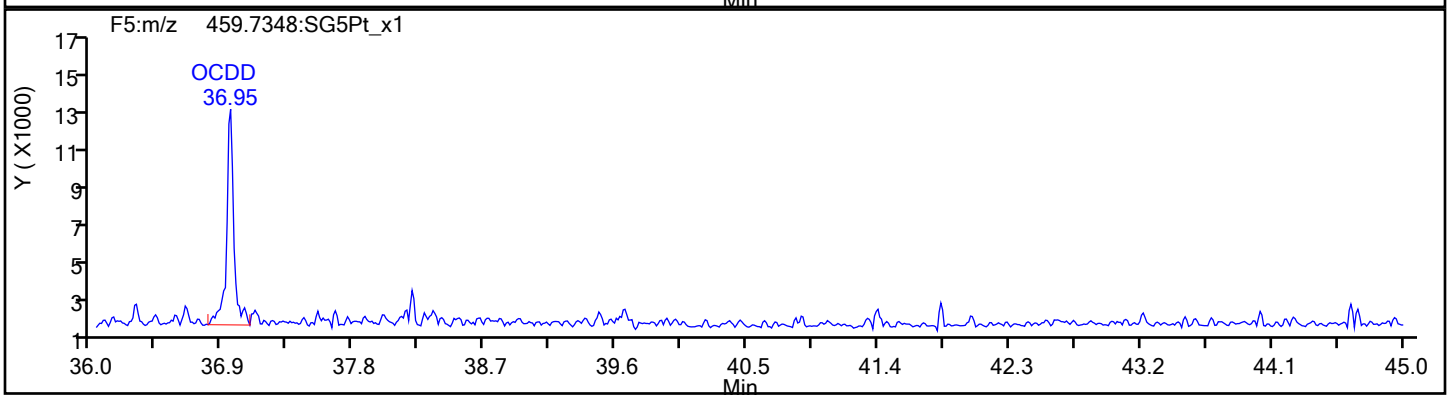

OCDD Standards

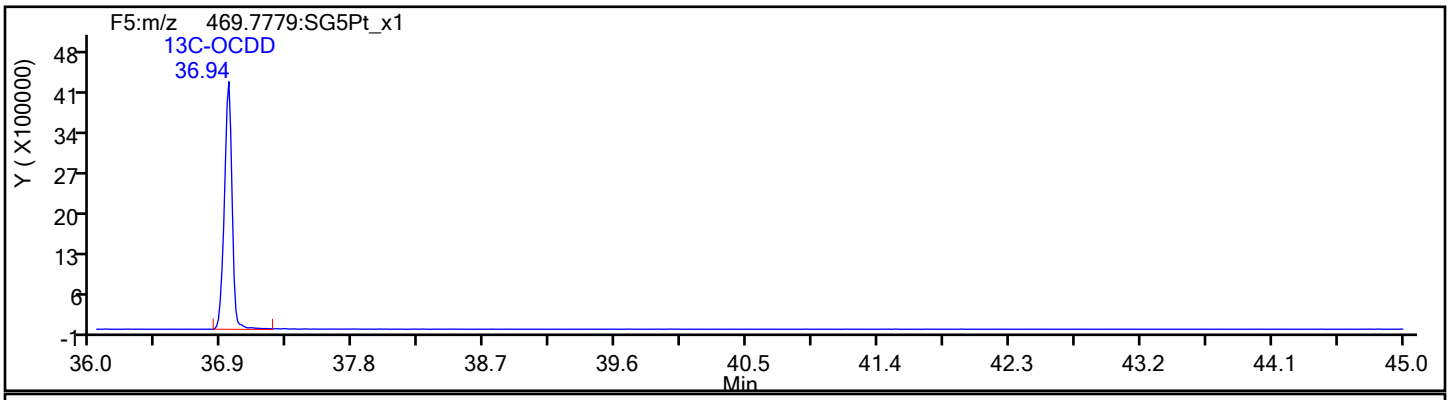

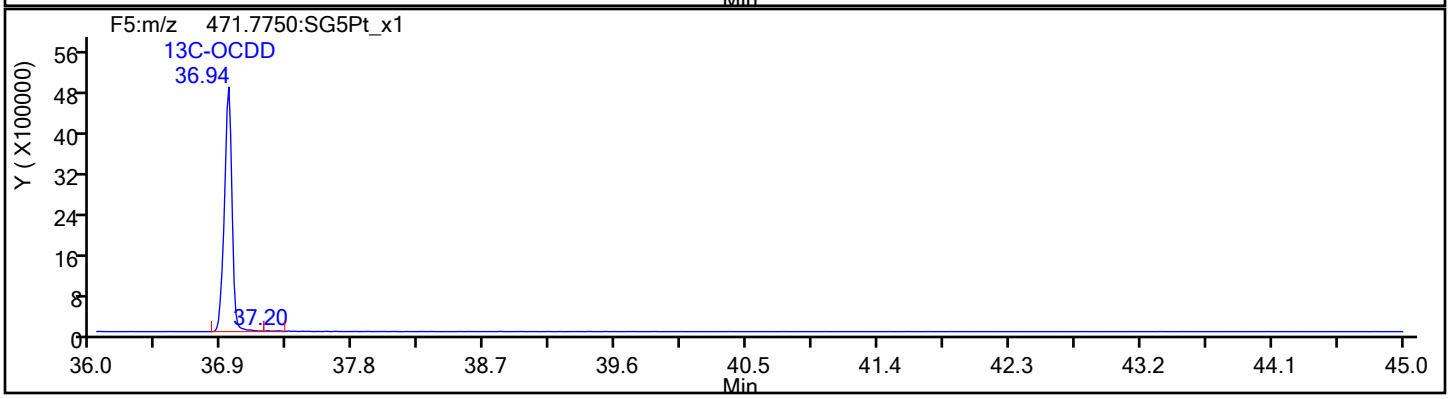

Report Date: 14-Oct-2019 14:34:18 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_7.d		
Injection Date:	10-Oct-2019 20:38:07	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330145	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

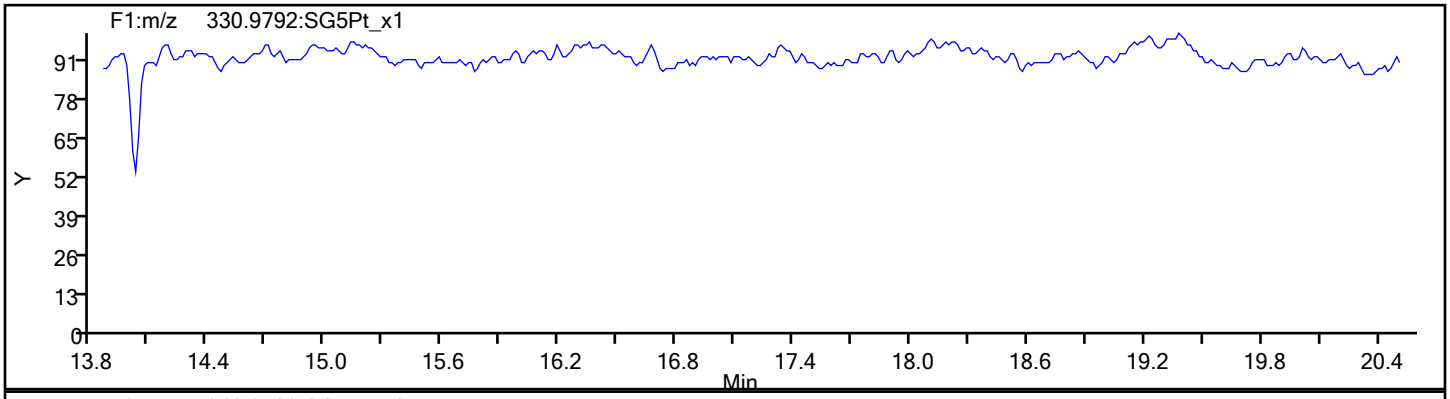

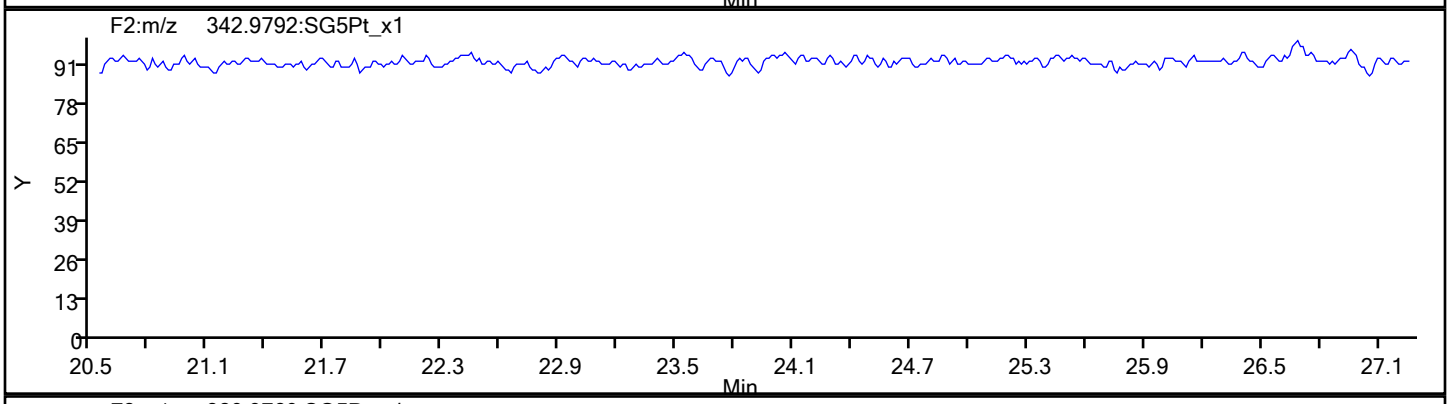

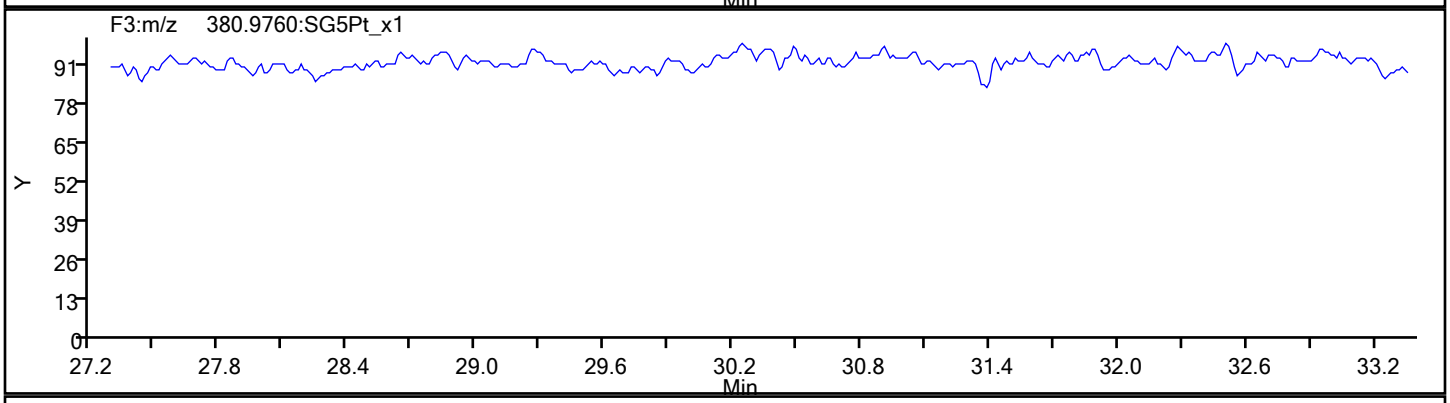

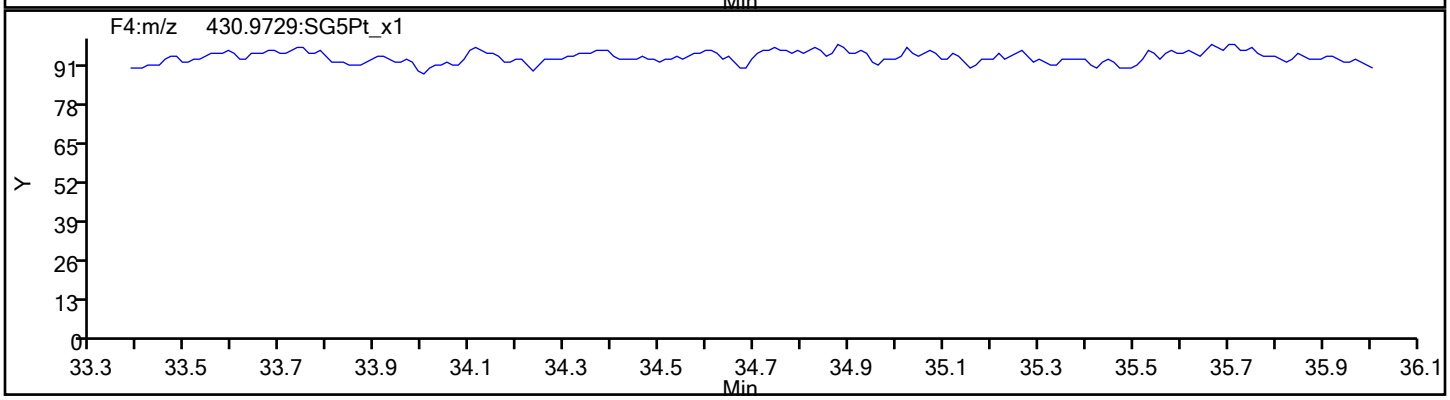

Report Date: 14-Oct-2019 14:34:18 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_7.d		
Injection Date:	10-Oct-2019 20:38:07	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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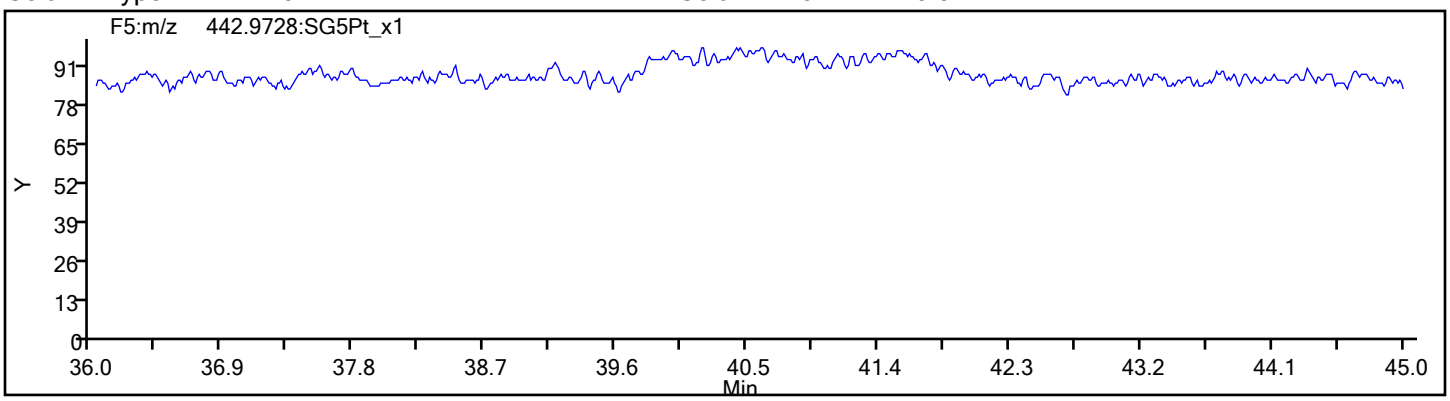

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 320-54852-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 320-329339/2-A
Matrix: Water
Lab File ID: 10OC1910D5_8.d
Analysis Method: 1613B
Date Collected:
Extract. Method: 1613B
Date Extracted: 10/08/2019 14:19
Sample wt/vol: 1000(mL)
Date Analyzed: 10/10/2019 21:24
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 330145
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	209		10	1.1
51207-31-9	2,3,7,8-TCDF	237		10	1.0
40321-76-4	1,2,3,7,8-PeCDD	1170		50	1.6
57117-41-6	1,2,3,7,8-PeCDF	1090		50	2.7
57117-31-4	2,3,4,7,8-PeCDF	1080		50	2.8
39227-28-6	1,2,3,4,7,8-HxCDD	1050		50	2.0
57653-85-7	1,2,3,6,7,8-HxCDD	1060		50	2.0
19408-74-3	1,2,3,7,8,9-HxCDD	1050		50	1.8
70648-26-9	1,2,3,4,7,8-HxCDF	1030		50	3.4
57117-44-9	1,2,3,6,7,8-HxCDF	1050		50	3.5
72918-21-9	1,2,3,7,8,9-HxCDF	1060		50	2.5
60851-34-5	2,3,4,6,7,8-HxCDF	1100		50	2.6
35822-46-9	1,2,3,4,6,7,8-HpCDD	1040		50	3.8
67562-39-4	1,2,3,4,6,7,8-HpCDF	1020		50	6.9
55673-89-7	1,2,3,4,7,8,9-HpCDF	972		50	8.8
3268-87-9	OCDD	2040		100	1.7
39001-02-0	OCDF	2130		100	1.8
41903-57-5	Total TCDD	209		10	1.1
30402-14-3	Total TCDF	237		10	1.0
36088-22-9	Total PeCDD	1170		50	1.6
30402-15-4	Total PeCDF	2170		50	2.8
34465-46-8	Total HxCDD	3170		50	1.9
55684-94-1	Total HxCDF	4240		50	3.0
37871-00-4	Total HpCDD	1040		50	3.8
38998-75-3	Total HpCDF	1990		50	7.8

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 320-329339/2-A

Matrix: Water Lab File ID: 10OC1910D5_8.d

Analysis Method: 1613B Date Collected:

Extract. Method: 1613B Date Extracted: 10/08/2019 14:19

Sample wt/vol: 1000(mL) Date Analyzed: 10/10/2019 21:24

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 330145 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	57		20-175
89059-46-1	13C-2,3,7,8-TCDF	52		22-152
109719-79-1	13C-1,2,3,7,8-PeCDD	60		21-227
109719-77-9	13C-1,2,3,7,8-PeCDF	57		21-192
116843-02-8	13C-2,3,4,7,8-PeCDF	61		13-328
109719-80-4	13C-1,2,3,4,7,8-HxCDD	60		21-193
109719-81-5	13C-1,2,3,6,7,8-HxCDD	53		25-163
114423-98-2	13C-1,2,3,4,7,8-HxCDF	58		19-202
116843-03-9	13C-1,2,3,6,7,8-HxCDF	53		21-159
116843-04-0	13C-1,2,3,7,8,9-HxCDF	57		17-205
116843-05-1	13C-2,3,4,6,7,8-HxCDF	56		22-176
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	55		26-166
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	50		21-158
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	56		20-186
114423-97-1	13C-OCDD	43		13-199

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	101		31-191

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_8.d
Lims ID: LCS 320-329339/2-A
Client ID:
Sample Type: LCS
Inject. Date: 10-Oct-2019 21:24:06 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCS 320-329339/2-A LCS 320-329339/2-A
Misc. Info.: 10OC1910D5
Operator ID: SMA Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Oct-2019 14:34:17 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0335

First Level Reviewer: dadunj Date: 14-Oct-2019 14:34:49

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.986	75349697	0.79	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.472	55917123	0.80	1.4384	51.6	51.6	0.1741	0.1741	51.59	
2,3,7,8-TCDF	17.487	6970444	0.77	1.0507	11.9	11.9	0.0513	0.0513	119	
A Non-2,3,7,8-sub-TCDF	17.162						0.0513	0.0513		
S Total TCDF					11.9	11.9	0.0513	0.0513		
D 13C-2,3,7,8-TCDD	18.183	40852556	0.80	0.9533	56.9	56.9	0.1362	0.1362	56.87	
$ 37Cl4-2,3,7,8-TCDD	18.198	37180485		1.2224	40.4	40.4	0.0303	0.0303	101	
2,3,7,8-TCDD	18.198	4731904	0.80	1.1064	10.5	10.5	0.0568	0.0568	105	
A Non-2,3,7,8-sub-TCDD	17.616						0.0568	0.0568		
S Total TCDD					10.5	10.5	0.0568	0.0568		
D 13C-1,2,3,7,8-PeCDF	22.543	43845607	1.55	1.0286	56.6	56.6	0.1087	0.1087	56.57	
1,2,3,7,8-PeCDF	22.570	25909547	1.58	1.0822	54.6	54.6	0.1357	0.1357	109	
D 13C-2,3,4,7,8-PeCDF	23.906	45369314	1.56	0.9827	61.3	61.3	0.1138	0.1138	61.27	
2,3,4,7,8-PeCDF	23.934	26929022	1.61	1.1032	53.8	53.8	0.1400	0.1400	108	
A F1 PeCDFs	20.035						0.0271	0.0271		
A Non-2,3,7,8-sub-PeCDF	23.226						0.1378	0.1378		
S Total PeCDF					108.4	108.4	0.1378	0.1378		
D 13C-1,2,3,7,8-PeCDD	24.629	33776222	1.61	0.7481	59.9	59.9	0.0846	0.0846	59.92	
1,2,3,7,8-PeCDD	24.656	17929313	1.56	0.9050	58.7	58.7	0.0778	0.0778	117	
A Non-2,3,7,8-sub-PeCDD	23.531						0.0778	0.0778		
S Total PeCDD					58.7	58.7	0.0778	0.0778		
D 13C-1,2,3,4,7,8-HxCDF	30.669	41552905	0.52	1.1520	58.0	58.0	0.1304	0.1304	58.01	
1,2,3,4,7,8-HxCDF	30.682	25588823	1.26	1.1973	51.4	51.4	0.1715	0.1715	103	
D 13C-1,2,3,6,7,8-HxCDF	30.841	41059611	0.52	1.2434	53.1	53.1	0.1208	0.1208	53.11	
1,2,3,6,7,8-HxCDF	30.855	25473872	1.26	1.1807	52.5	52.5	0.1728	0.1728	105	
D 13C-2,3,4,6,7,8-HxCDF	31.627	41133454	0.51	1.1720	56.4	56.4	0.1281	0.1281	56.45	
2,3,4,6,7,8-HxCDF	31.640	27383596	1.25	1.2116	54.9	54.9	0.1312	0.1312	110	
D 13C-1,2,3,7,8,9-HxCDF	32.399	37876741	0.51	1.0655	57.2	57.2	0.1409	0.1409	57.18	
1,2,3,7,8,9-HxCDF	32.412	25062663	1.24	1.2451	53.1	53.1	0.1272	0.1272	106	
A Non-2,3,7,8-sub-HxCDF	30.363						0.1479	0.1479		
S Total HxCDF					212.1	212.1	0.1507	0.1507		

Report Date: 14-Oct-2019 14:34:50 Chrom Revision: 2.3 11-Oct-2019 15:46:24
Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_8.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	32.226	62177068	1.22	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.800	28935778	1.26	0.7812	59.6	59.6	0.1168	0.1168	59.57	
1,2,3,4,7,8-HxCDD	31.826	16858949	1.25	1.1088	52.5	52.5	0.0984	0.0984	105	
D 13C-1,2,3,6,7,8-HxCDD	31.906	30119275	1.26	0.9175	52.8	52.8	0.0995	0.0995	52.80	
1,2,3,6,7,8-HxCDD	31.920	17342965	1.28	1.0814	53.2	53.2	0.0995	0.0995	106	
1,2,3,7,8,9-HxCDD	32.239	18816981	1.26	1.2123	52.6	52.6	0.0894	0.0894	105	
A Non-2,3,7,8-sub-HxCDD	30.995						0.0955	0.0955		
S Total HxCDD					158.4	158.4	0.0958	0.0958		
D 13C-1,2,3,4,6,7,8-HpCDF	33.807	26925533	0.44	0.8628	50.2	50.2	0.2261	0.2261	50.19	
1,2,3,4,6,7,8-HpCDF	33.819	21287175	1.04	1.5555	50.8	50.8	0.3447	0.3447	102	
D 13C-1,2,3,4,7,8,9-HpCDF	34.888	27579336	0.44	0.7991	55.5	55.5	0.2442	0.2442	55.51	
1,2,3,4,7,8,9-HpCDF	34.888	18588239	1.06	1.3862	48.6	48.6	0.4379	0.4379	97.24	
A Non-2,3,7,8-sub-HpCDF	34.360						0.3872	0.3872		
S Total HpCDF					99.4	99.4	0.3913	0.3913		
D 13C-1,2,3,4,6,7,8-HpCDD	34.597	29717844	1.04	0.8739	54.7	54.7	0.2025	0.2025	54.69	
1,2,3,4,6,7,8-HpCDD	34.609	14417941	1.04	0.9316	52.1	52.1	0.1898	0.1898	104	
A Non-2,3,7,8-sub-HpCDD	35.190						0.1898	0.1898		
S Total HpCDD					52.1	52.1	0.1898	0.1898		
D 13C-OCDD	36.929	41235298	0.86	0.7744	85.6	85.6	0.0483	0.0483	42.82	
OCDF	37.036	27635113	0.90	1.2596	106.4	106.4	0.0885	0.0885	106	
OCDD	36.941	22377035	0.91	1.0621	102.2	102.2	0.0828	0.0828	102	

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_8.d
Lims ID: LCS 320-329339/2-A
Client ID:
Sample Type: LCS
Inject. Date: 10-Oct-2019 21:24:06 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCS 320-329339/2-A LCS 320-329339/2-A
Misc. Info.: 10OC1910D5
Operator ID: SMA Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Oct-2019 14:34:17 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0335

First Level Reviewer: dadunj Date: 14-Oct-2019 14:34:49

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.986	17.986	0		33317636	8580564	6024	15060	1424		
333.9339	17.986	17.986	0		42032061	10647284	3966	9915	2685	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.472	17.472	0	0.971	24816519	6356241	14144	35360	449		
317.9389	17.472	17.472	0	0.971	31100604	7940870	5116	12790	1552	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.487	17.487	0	1.001	3024744	762392	1151	2877	662		
305.8987	17.487	17.487	0	1.001	3945700	999853	1934	4835	517	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.162						1151	2877			
305.8987	17.162						1934	4835			
13C-2,3,7,8-TCDD											
331.9368	18.183	18.183	0	1.011	18142767	4493483	6024	15060	746		
333.9339	18.183	18.183	0	1.011	22709789	5682606	3966	9915	1433	0.80(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.198	18.198	0	1.012	37180485	9238030	2844	7110	3248		
2,3,7,8-TCDD											
319.8965	18.198	18.213	-1	1.001	2108300	521348	1730	4325	301		
321.8936	18.198	18.213	-1	1.001	2623604	657953	830	2075	793	0.80(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.616						1730	4325			
321.8936	17.616						830	2075			
13C-1,2,3,7,8-PeCDF											
351.9000	22.543	22.556	-1	1.253	26627745	5079840	5281	13202	962		
353.8970	22.543	22.556	-1	1.253	17217862	3363024	3318	8295	1014	1.55(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	22.570	22.570	0	1.001	15884485	2964942	2731	6827	1086		
341.8567	22.570	22.570	0	1.001	10025062	1869981	2227	5567	840	1.58(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	23.906	23.920	-1	1.329	27654099	4864531	5281	13202	921		
353.8970	23.906	23.920	-1	1.329	17715215	3158883	3318	8295	952	1.56(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.934	23.947	-1	1.001	16600478	2825865	2731	6827	1035		
341.8567	23.934	23.947	-1	1.001	10328544	1737680	2227	5567	780	1.61(1.32-1.78)	
A F1 PeCDFs											
339.8597	20.035						266	665			
341.8567	20.035						708	1770			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.226						2731	6827			
341.8567	23.226						2227	5567			
13C-1,2,3,7,8-PeCDD											
367.8949	24.629	24.643	-1	1.369	20848452	3442554	2602	6505	1323		
369.8919	24.643	24.643	0	1.370	12927770	2135385	2265	5662	943	1.61(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.656	24.670	-1	1.001	10923011	1807485	1018	2545	1776		
357.8516	24.656	24.670	-1	1.001	7006302	1166426	554	1385	2105	1.56(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.531						1018	2545			
357.8516	23.531						554	1385			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.669	30.682	-1	0.952	14208995	2829989	3749	9372	755		
385.8610	30.669	30.682	-1	0.952	27343910	5390488	6827	17067	790	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.682	30.695	-1	1.000	14290403	2823541	3752	9380	753		
375.8178	30.682	30.695	-1	1.000	11298420	2231151	3001	7502	743	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.841	30.855	-1	0.957	13985218	2825705	3749	9372	754		
385.8610	30.841	30.855	-1	0.957	27074393	5451155	6827	17067	798	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.855	30.868	-1	1.000	14194781	2962594	3752	9380	790		
375.8178	30.855	30.868	-1	1.000	11279091	2356445	3001	7502	785	1.26(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.627	31.640	-1	0.981	13932652	3599866	3749	9372	960		
385.8610	31.627	31.640	-1	0.981	27200802	7022785	6827	17067	1029	0.51(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.640	31.653	-1	1.000	15213840	3939121	3752	9380	1050		
375.8178	31.640	31.653	-1	1.000	12169756	3183444	3001	7502	1061	1.25(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.399	32.412	-1	1.005	12845442	3609215	3749	9372	963		
385.8610	32.399	32.412	-1	1.005	25031299	7047397	6827	17067	1032	0.51(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	32.412	32.426	-1	1.000	13896597	3840088	3752	9380	1023		
375.8178	32.412	32.426	-1	1.000	11166066	3146030	3001	7502	1048	1.24(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.363						3752	9380			
375.8178	30.363						3001	7502			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.226	32.239	-1		34148245	9723998	3412	8530	2850		
403.8529	32.226	32.239	-1		28028823	7882152	3016	7540	2613	1.22(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.800	31.813	-1	0.987	16127239	4375965	3412	8530	1283		
403.8529	31.800	31.813	-1	0.987	12808539	3448169	3016	7540	1143	1.26(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.826	31.826	0	1.001	9377333	2559300	1902	4755	1346		
391.8127	31.813	31.826	-1	1.000	7481616	1996598	1513	3782	1320	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.906	31.920	-1	0.990	16784191	4380175	3412	8530	1284		
403.8529	31.906	31.920	-1	0.990	13335084	3551316	3016	7540	1177	1.26(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.920	31.933	-1	1.000	9731156	2554696	1902	4755	1343		
391.8127	31.920	31.933	-1	1.000	7611809	2030299	1513	3782	1342	1.28(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.239	32.252	-1	1.014	10486412	2992722	1902	4755	1573		
391.8127	32.239	32.252	-1	1.014	8330569	2373924	1513	3782	1569	1.26(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.995						1902	4755			
391.8127	30.995						1513	3782			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.807	33.819	-1	1.049	8254174	2659056	4989	12472	533		
419.8220	33.807	33.819	-1	1.049	18671359	5997158	8751	21877	685	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.819	33.819	0	1.000	10831887	3445402	9836	24590	350		
409.7789	33.807	33.819	-1	1.000	10455288	3240119	8732	21830	371	1.04(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.888	34.889	0	1.083	8418015	2321870	4989	12472	465		
419.8220	34.876	34.889	-1	1.082	19161321	5324616	8751	21877	608	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.888	34.901	-1	1.000	9543267	2703537	9836	24590	275		
409.7789	34.888	34.901	-1	1.000	9044972	2584820	8732	21830	296	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.360						9836	24590			
409.7789	34.360						8732	21830			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.597	34.609	-1	1.074	15175558	4300370	6728	16820	639		
437.8140	34.597	34.609	-1	1.074	14542286	4135103	5736	14340	721	1.04(0.88-1.20)	

Report Date: 14-Oct-2019 14:34:50 Chrom Revision: 2.3 11-Oct-2019 15:46:24
Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_8.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.609	34.609	0	1.000	7342655	2054093	3128	7820	657		
425.7737	34.597	34.609	-1	1.000	7075286	2037473	2837	7092	718	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	35.190						3128	7820			
425.7737	35.190						2837	7092			
13C-OCDD											
469.7779	36.929	36.941	-1	1.146	19091333	4333442	1287	3217	3367		
471.7750	36.929	36.941	-1	1.146	22143965	5025999	1345	3362	3737	0.86(0.76-1.02)	
OCDF											
441.7428	37.036	37.049	-1	1.003	13069346	2996739	1003	2507	2988		
443.7399	37.036	37.049	-1	1.003	14565767	3271688	1084	2710	3018	0.90(0.76-1.02)	
OCDD											
457.7377	36.941	36.953	-1	1.000	10634673	2444695	690	1725	3543		
459.7348	36.941	36.953	-1	1.000	11742362	2724488	956	2390	2850	0.91(0.76-1.02)	

Report Date: 14-Oct-2019 14:34:50 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_8.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

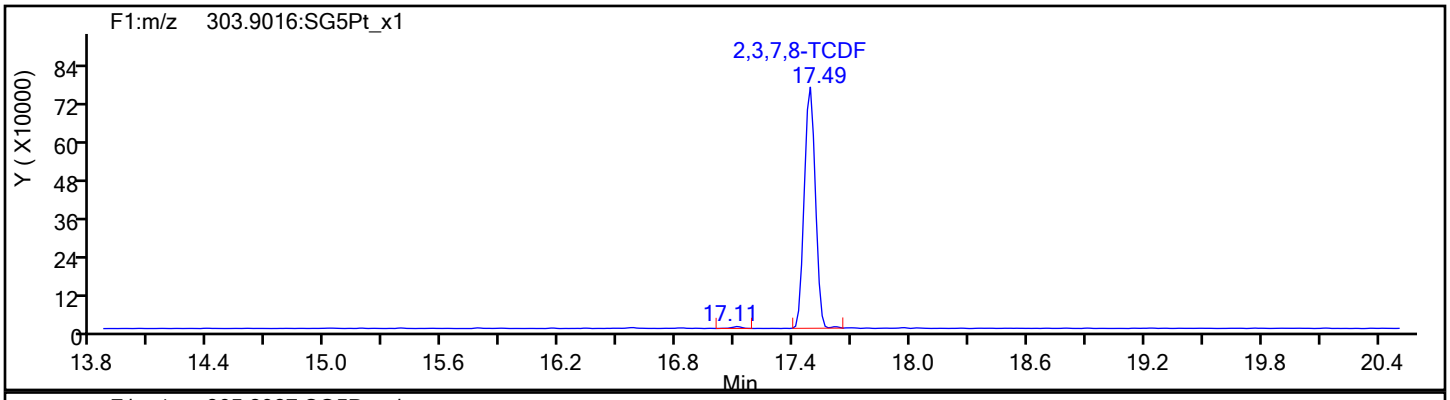

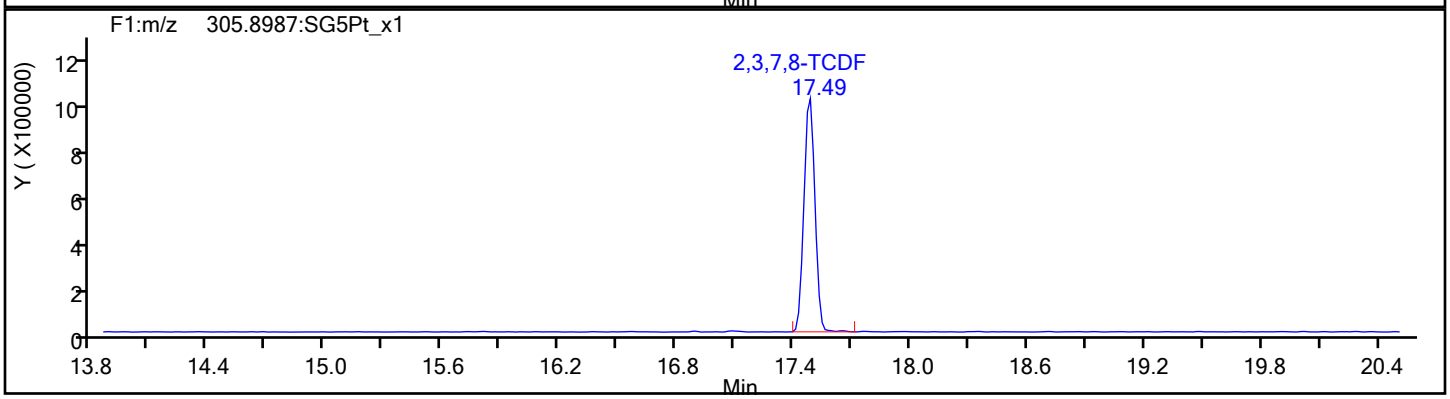

TCDF Standards

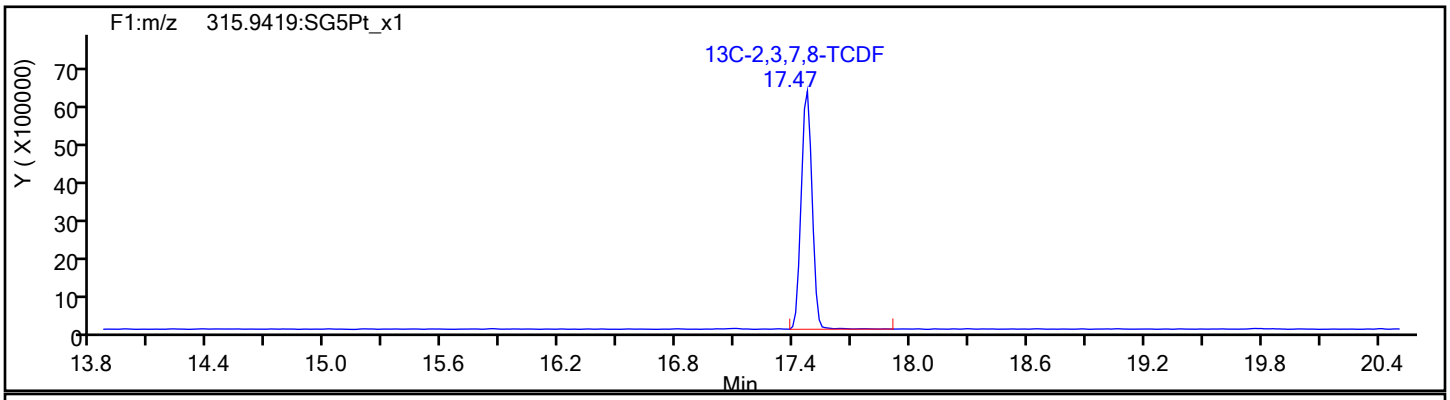

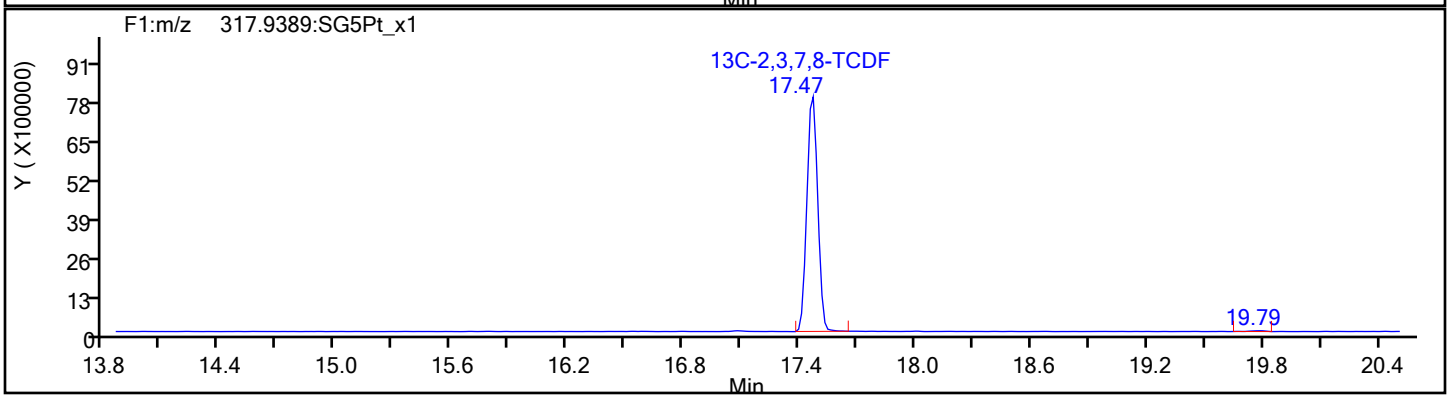

Report Date: 14-Oct-2019 14:34:50 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

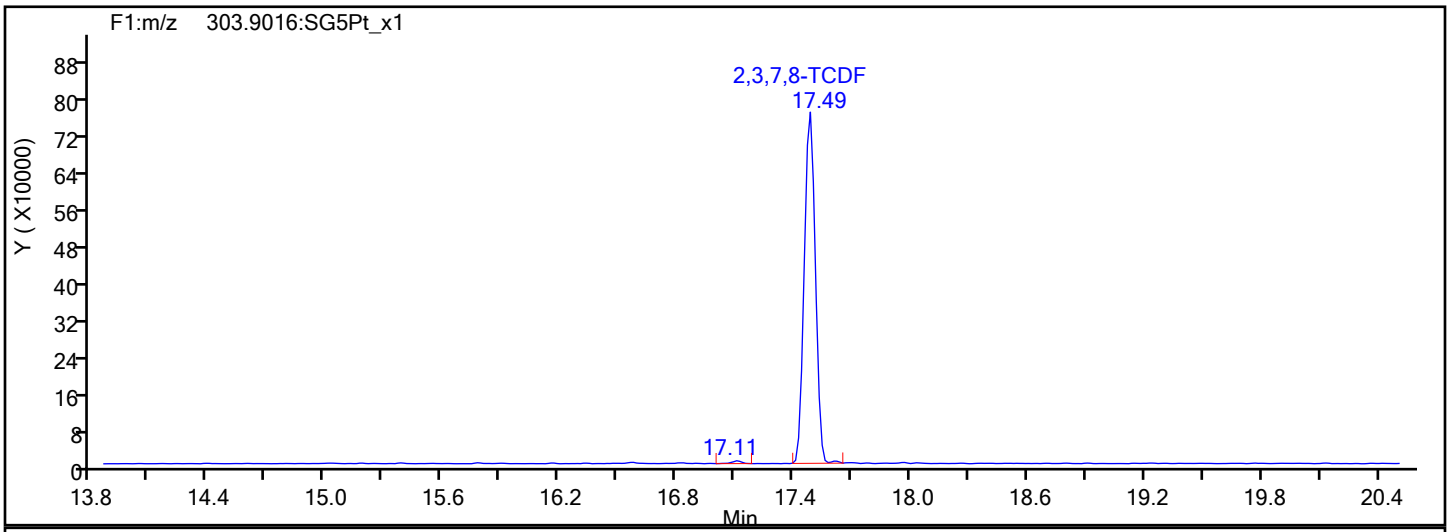

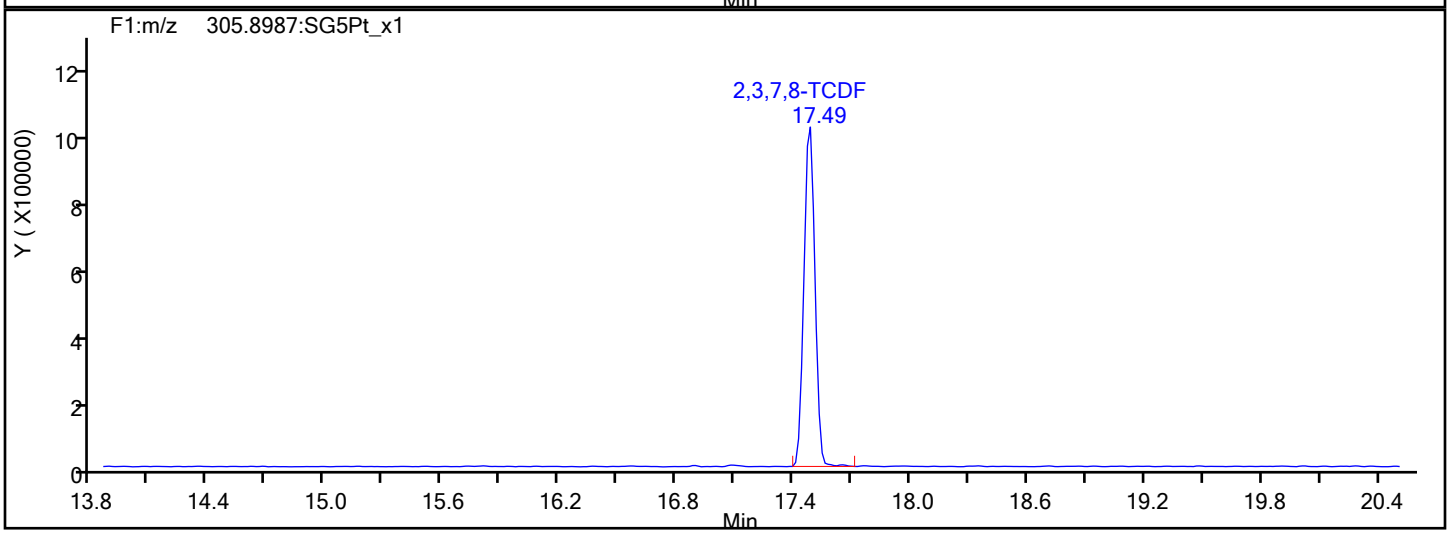

TCDF Interference Mass

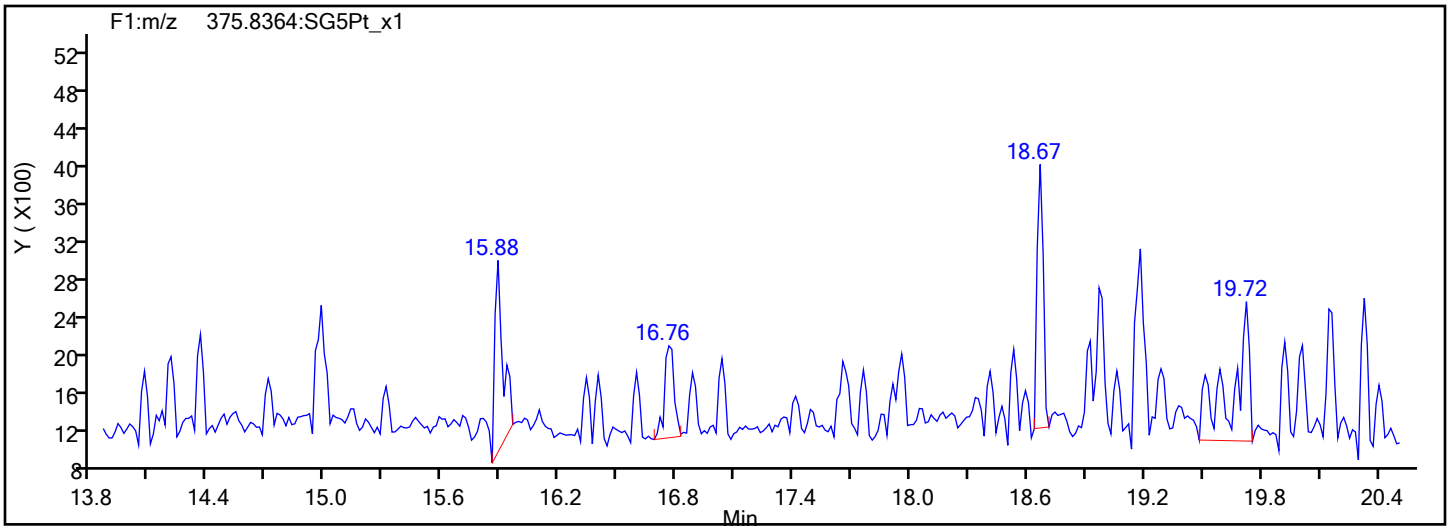

Report Date: 14-Oct-2019 14:34:50 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

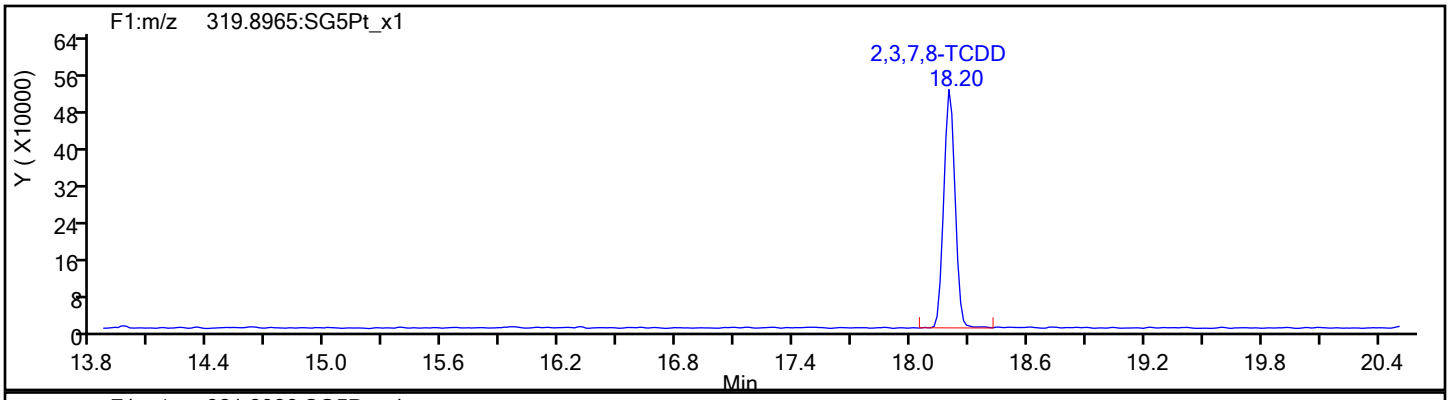

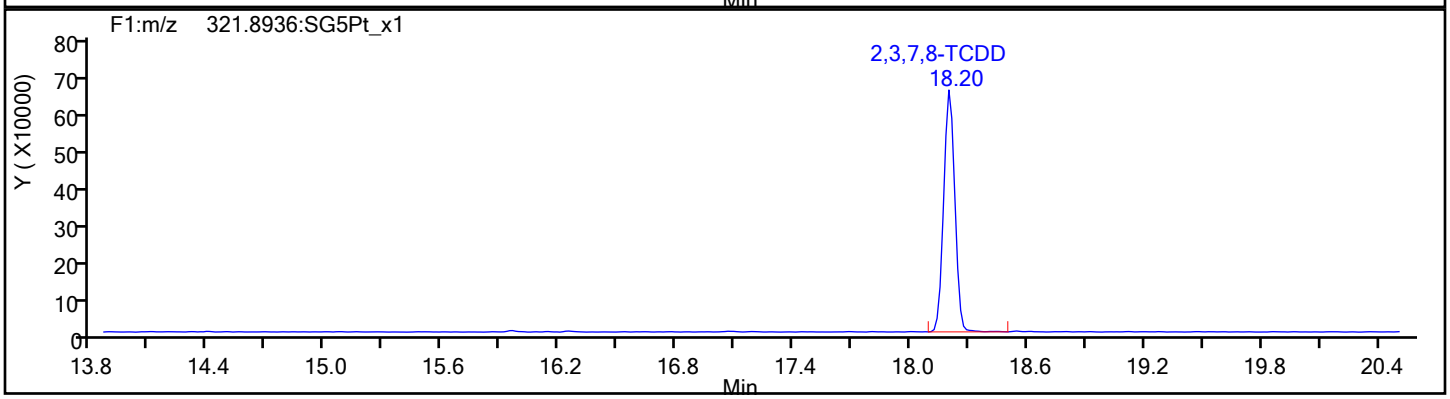

TCDD Standards

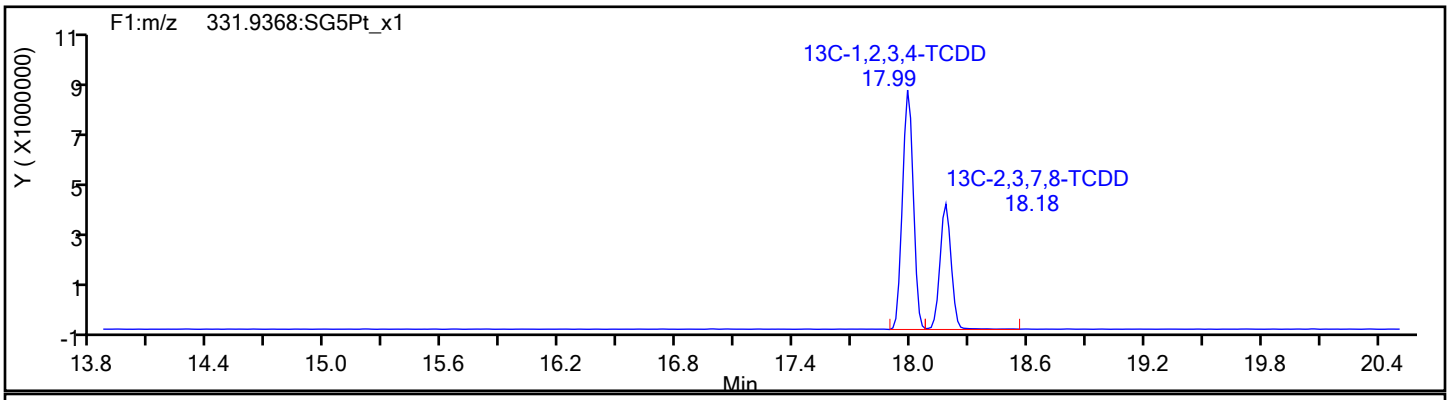

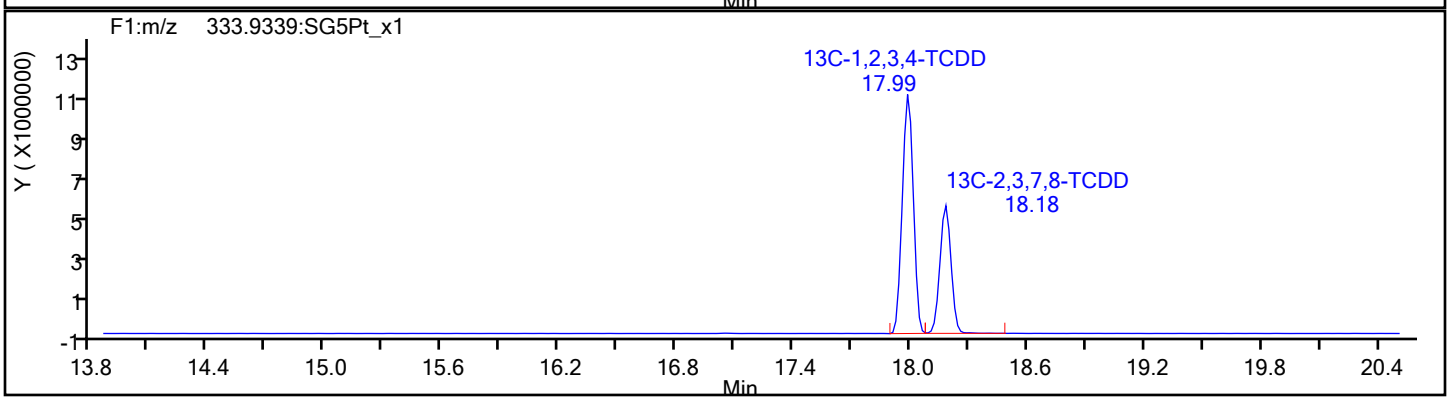

Report Date: 14-Oct-2019 14:34:50 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_8.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

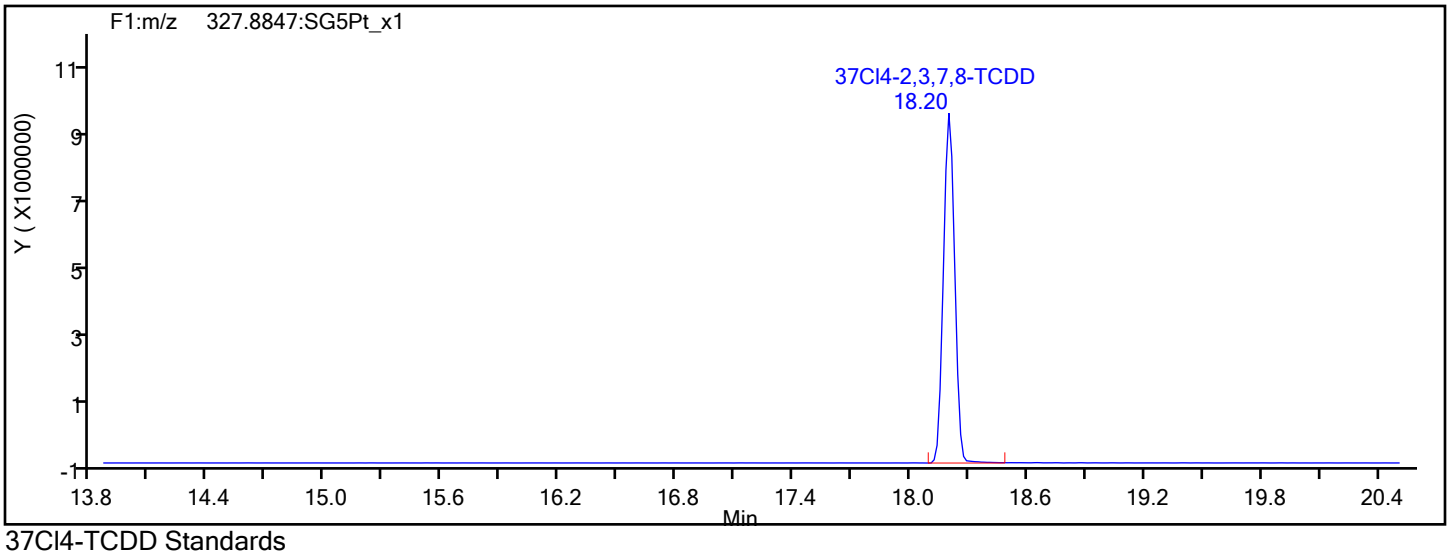

37Cl4-TCDD Standards

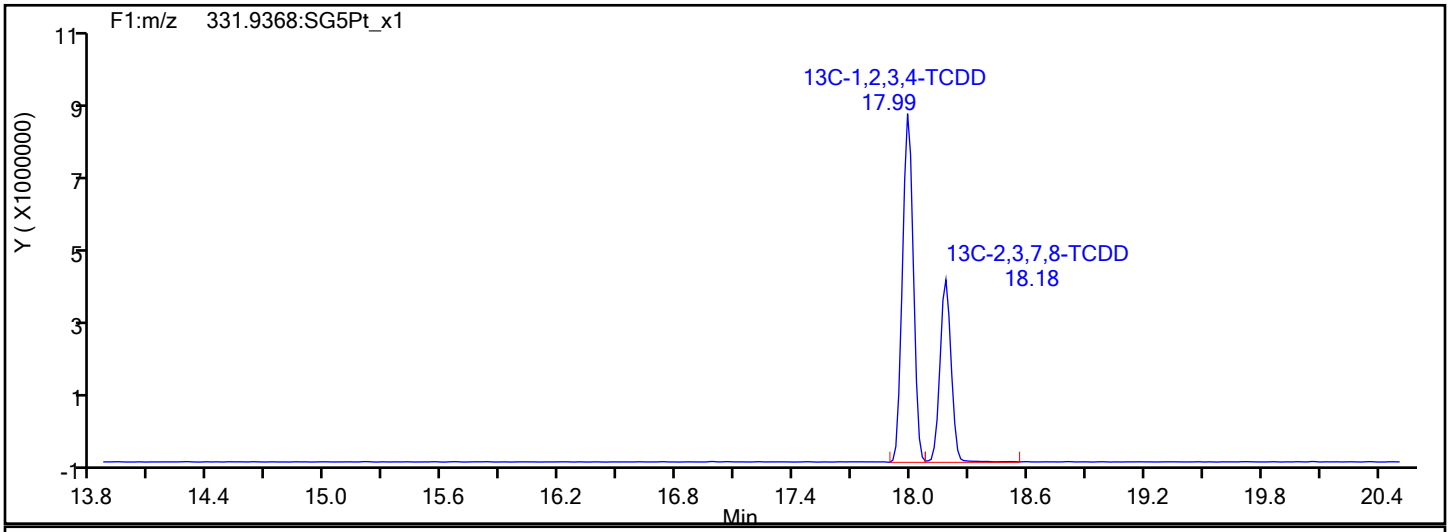

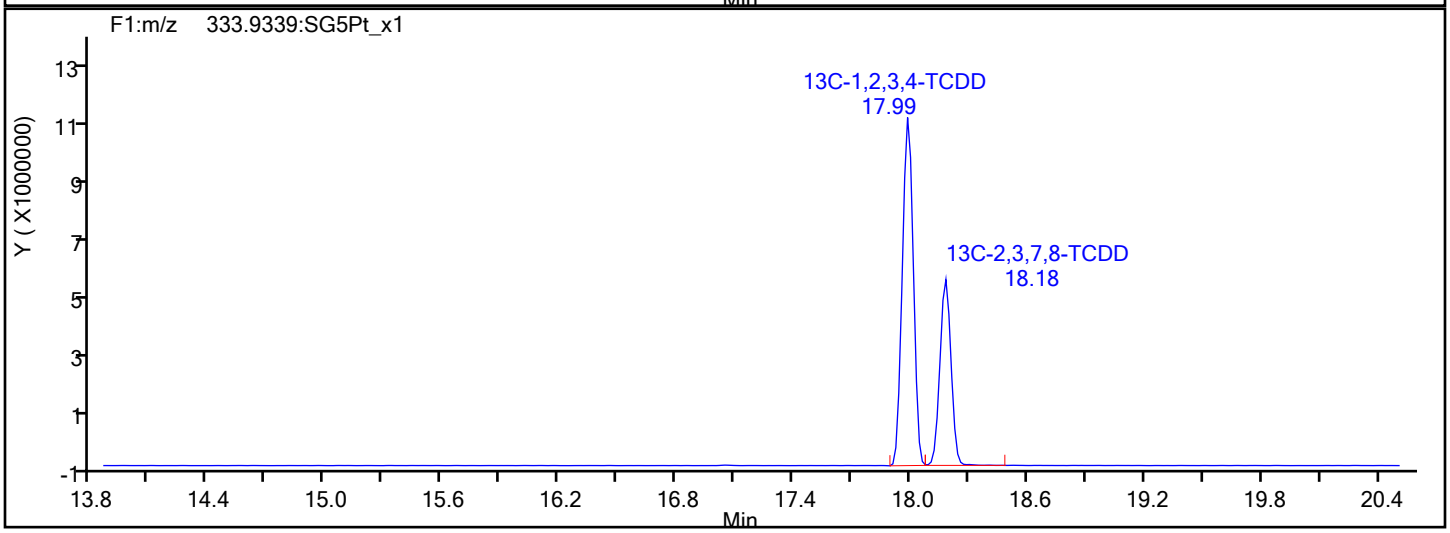

Report Date: 14-Oct-2019 14:34:50 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

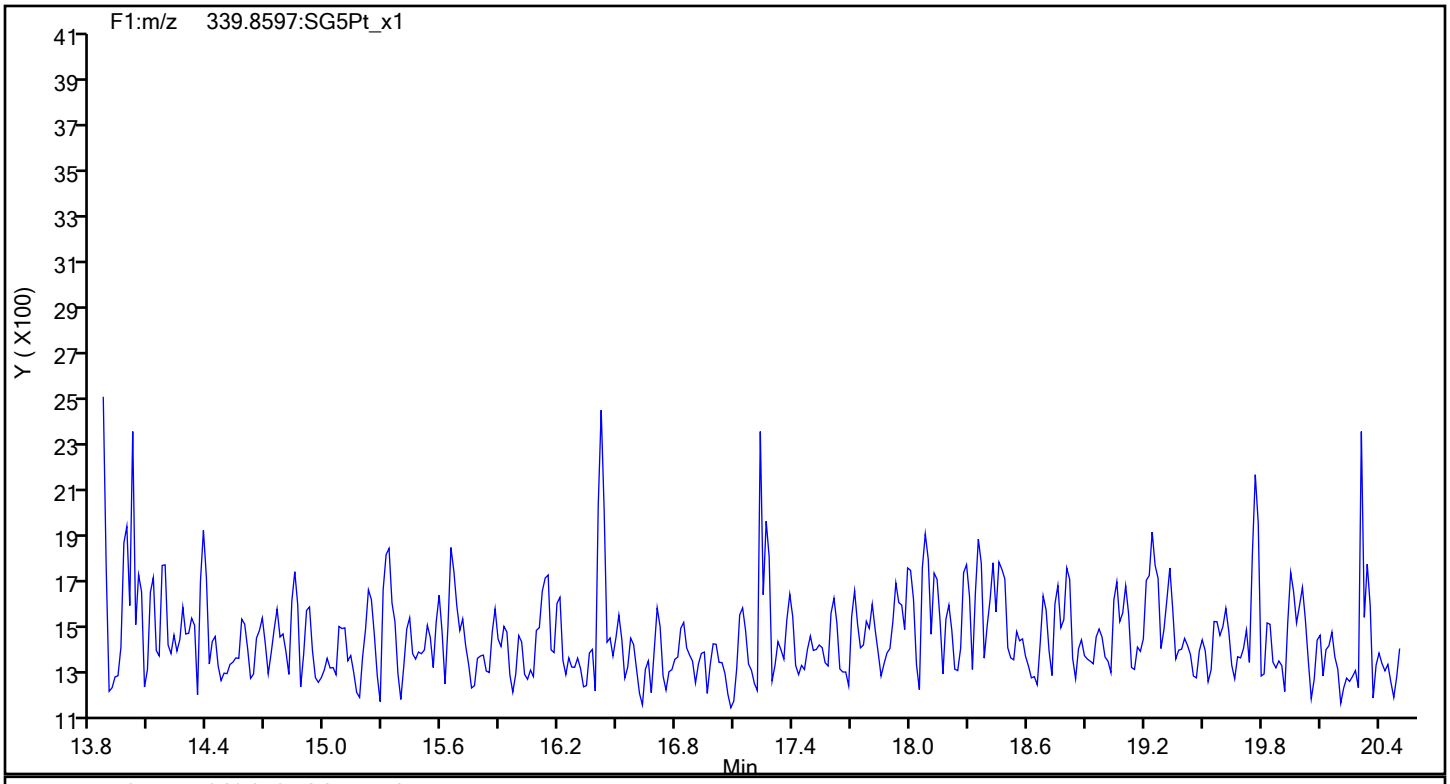

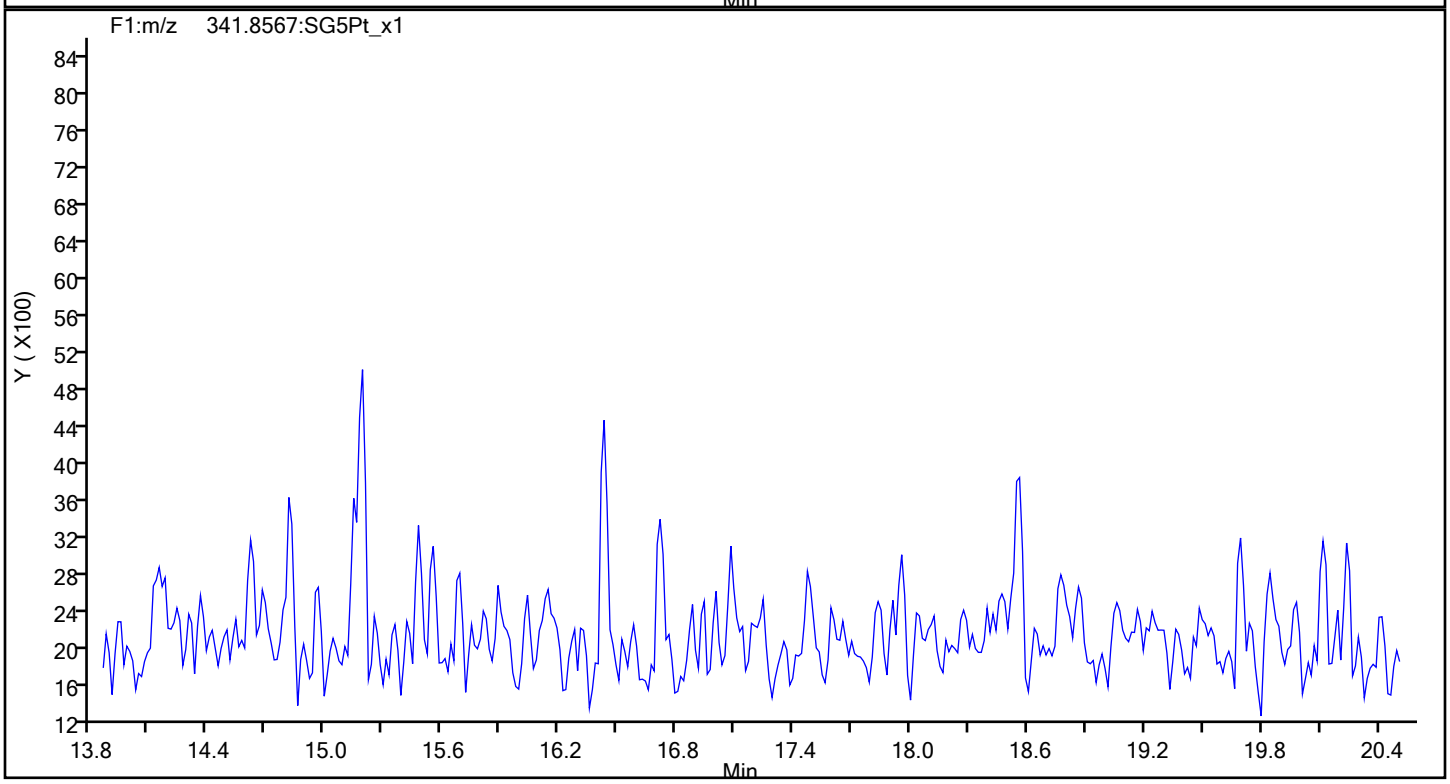

Report Date: 14-Oct-2019 14:34:50 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

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Client ID:			
Worklist#:	330145	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

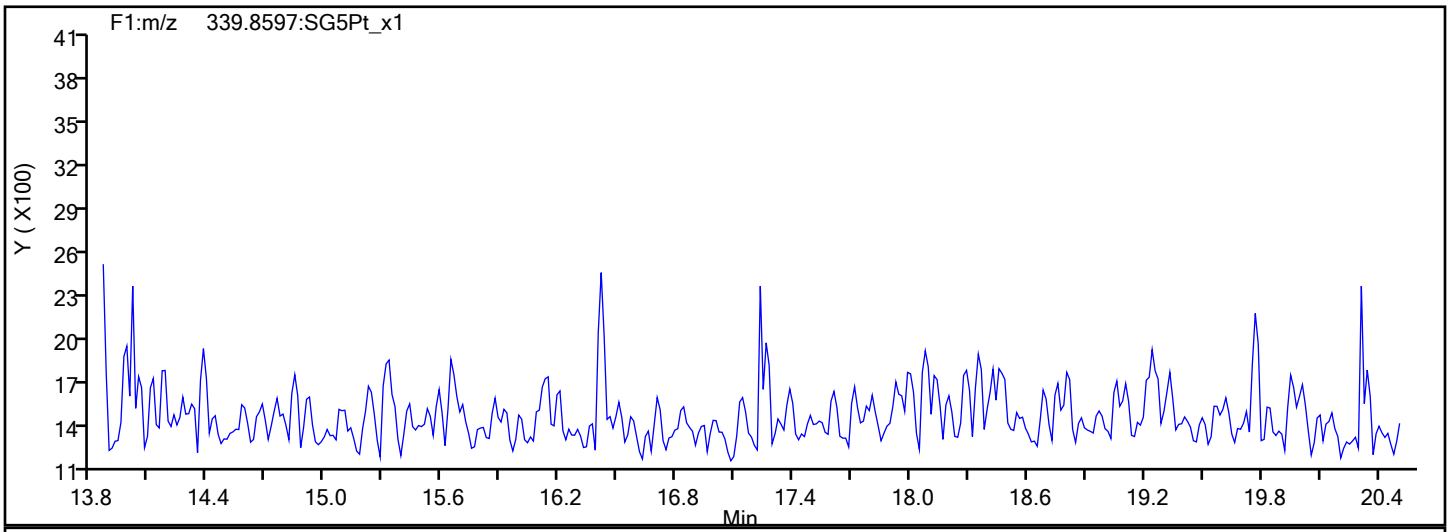

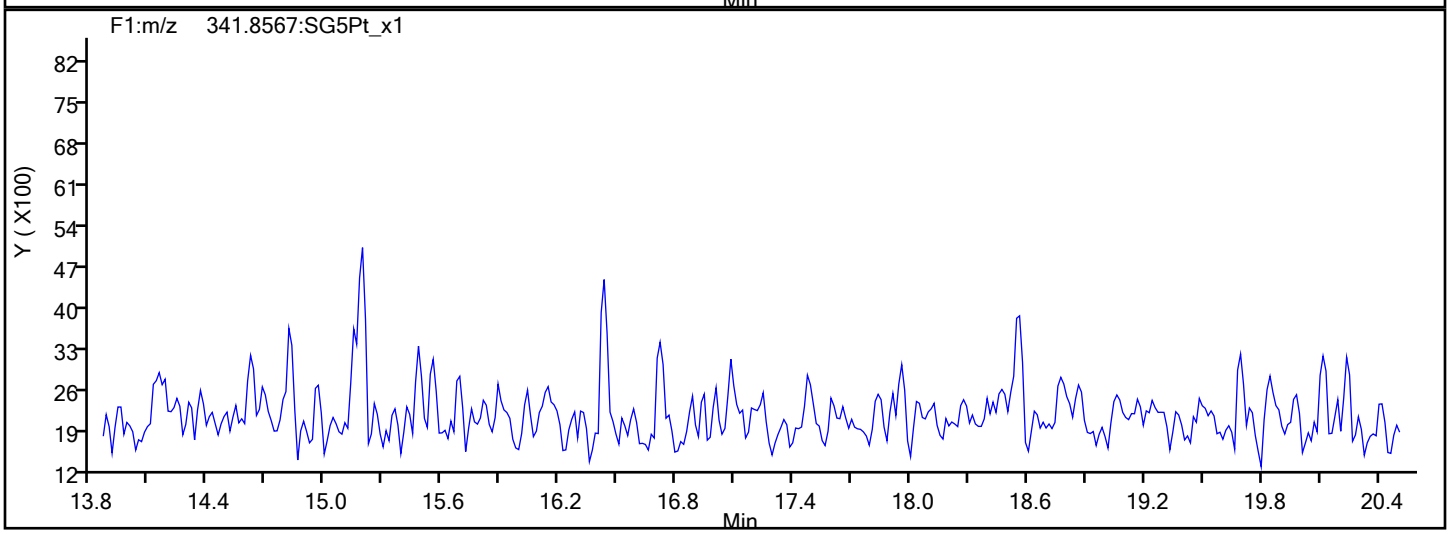

F1 PeCDFs Interference Mass

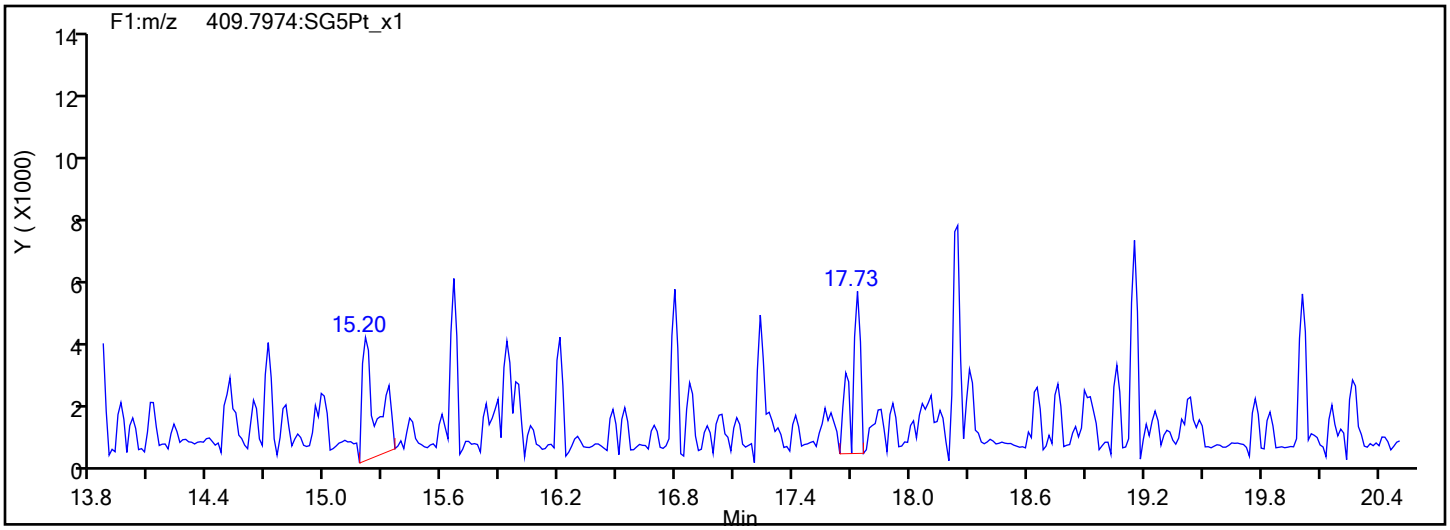

Report Date: 14-Oct-2019 14:34:50 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

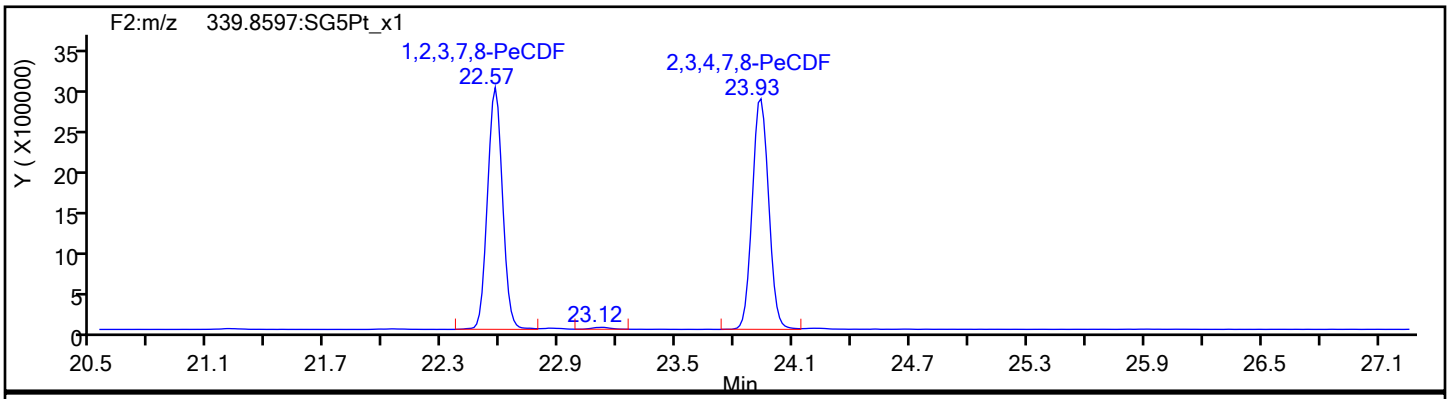

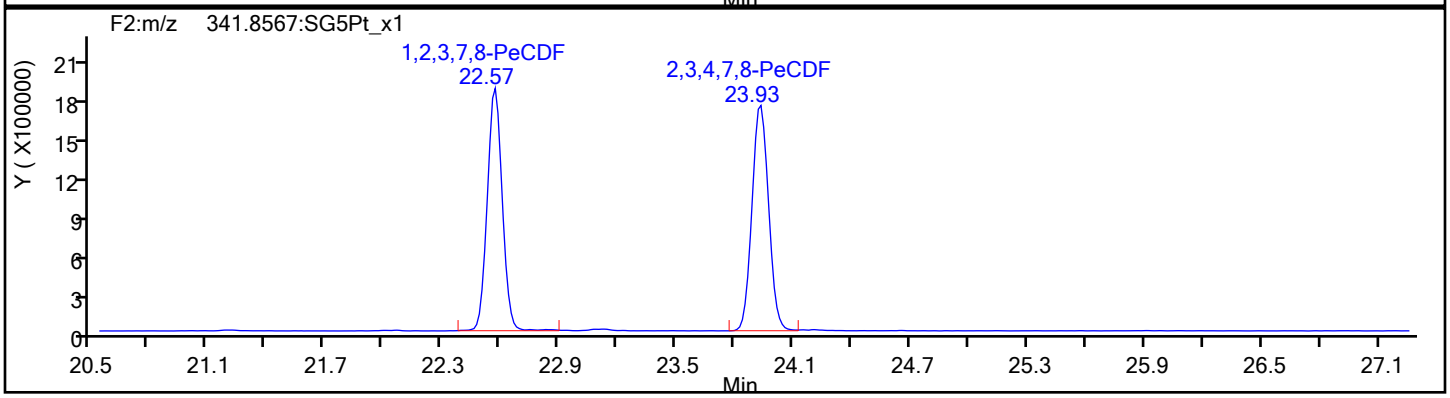

PeCDF Standards

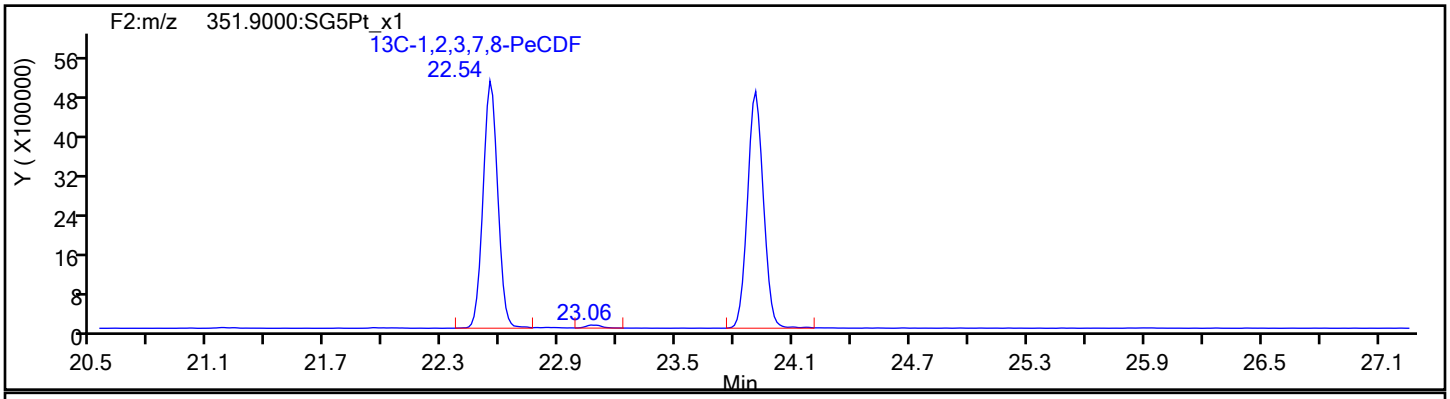

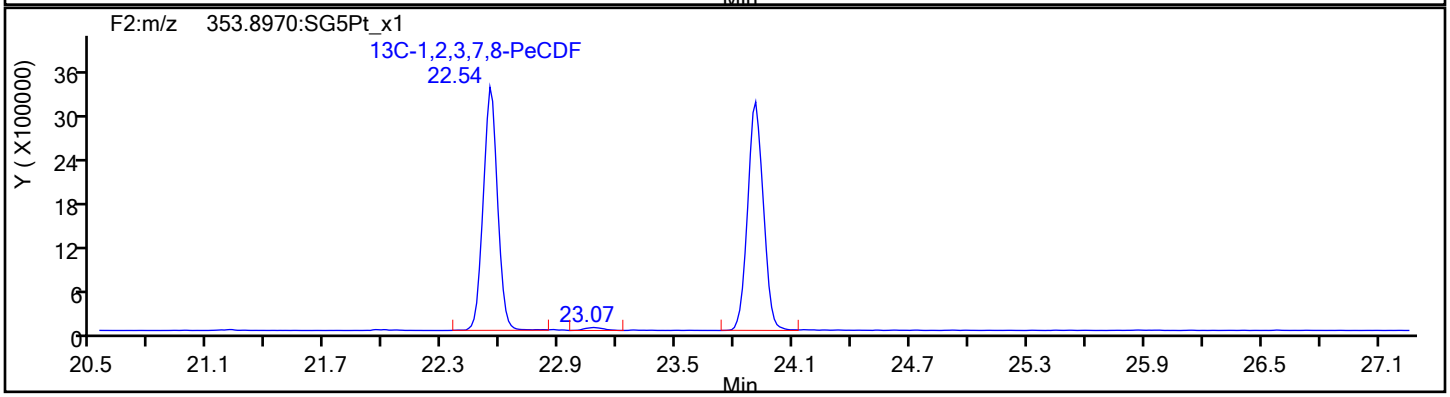

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Eurofins TestAmerica, Sacramento

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PeCDF

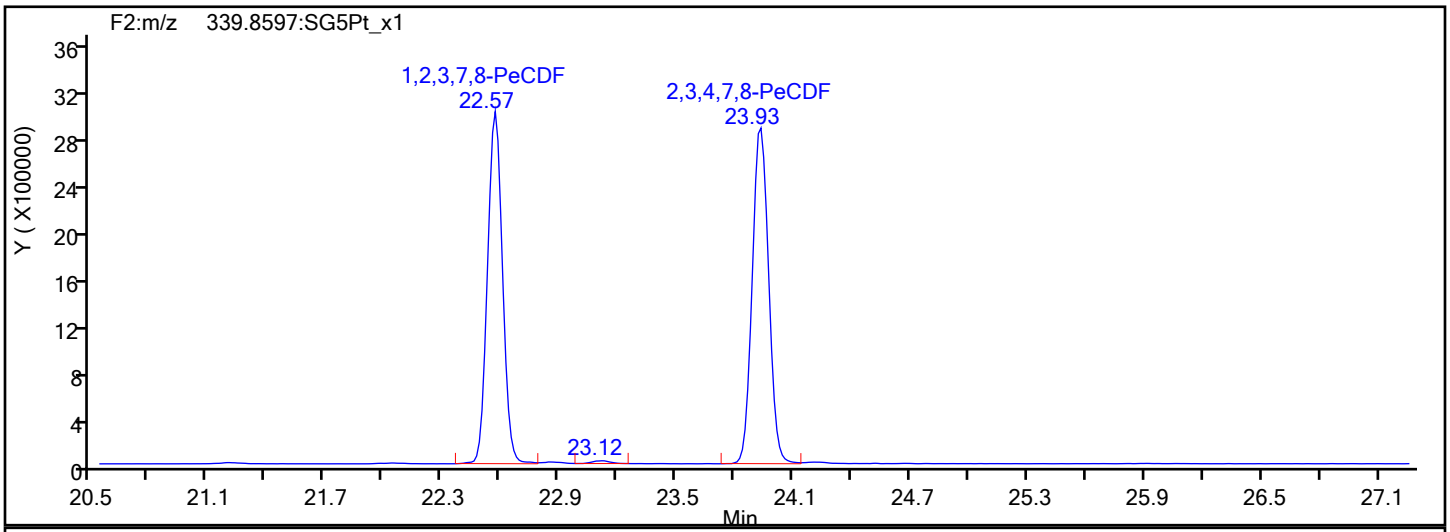

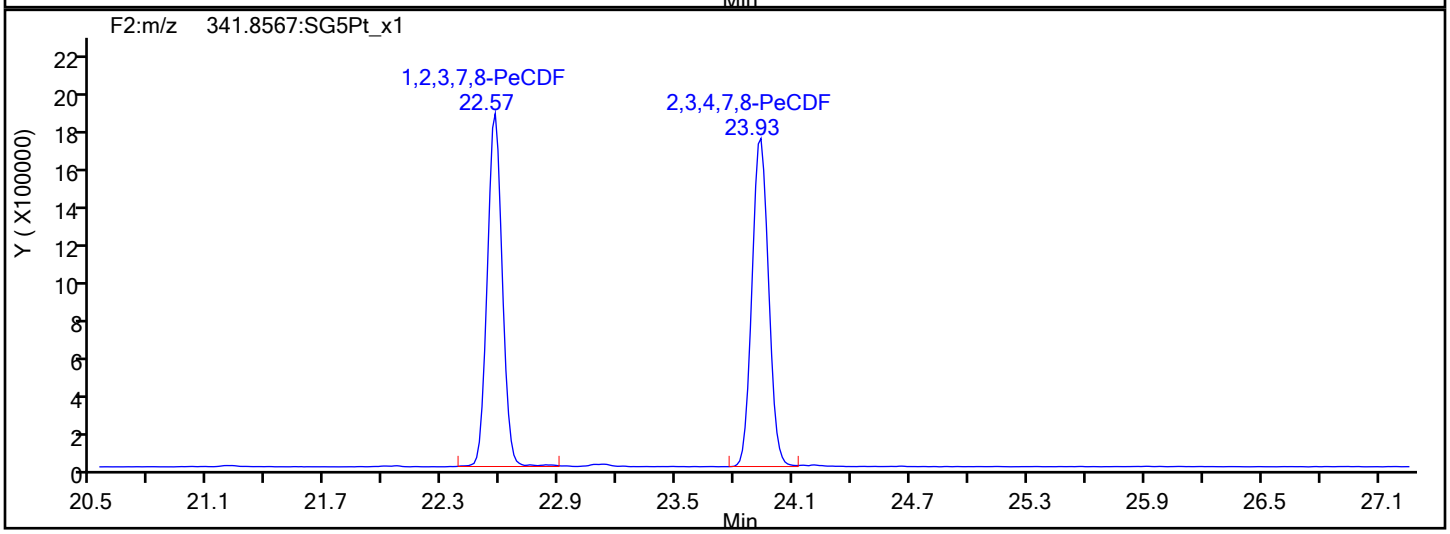

PeCDF Interference Mass

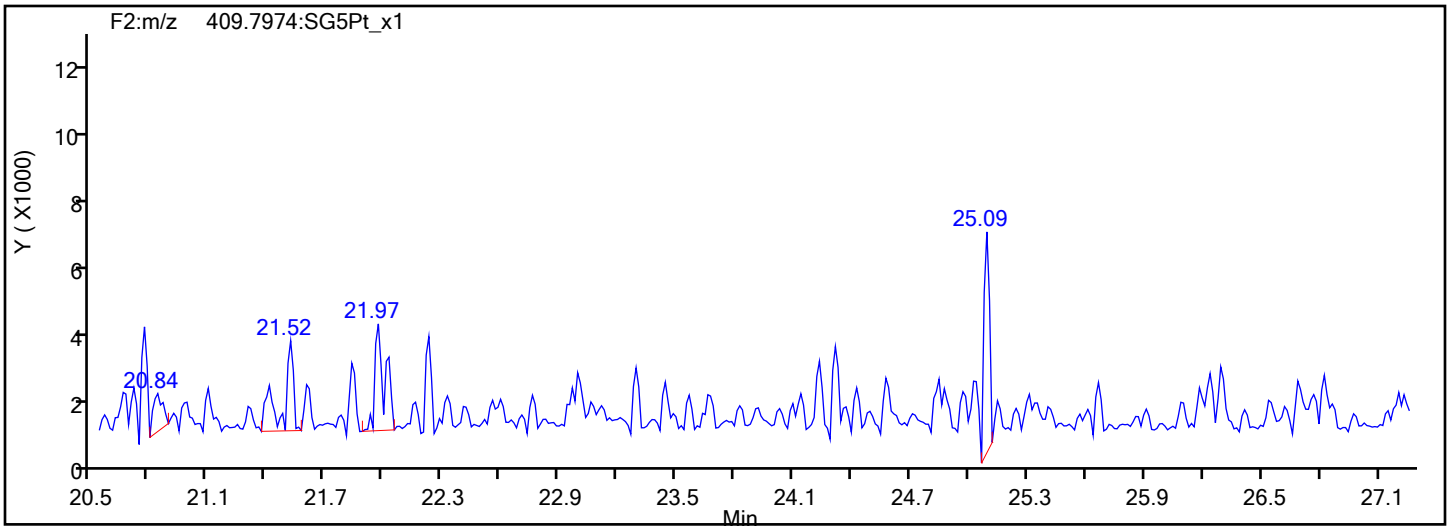

Report Date: 14-Oct-2019 14:34:50 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

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PeCDD

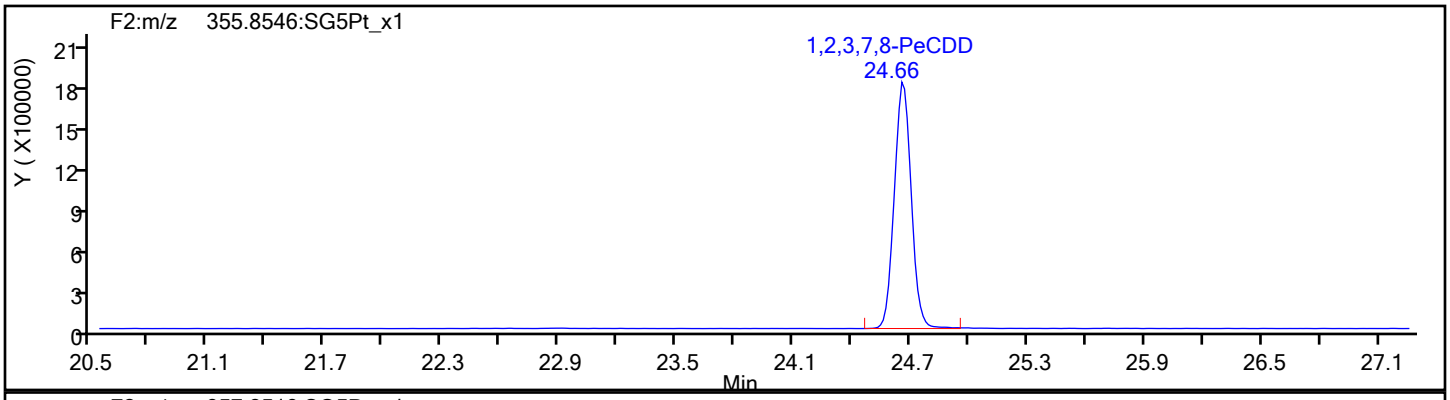

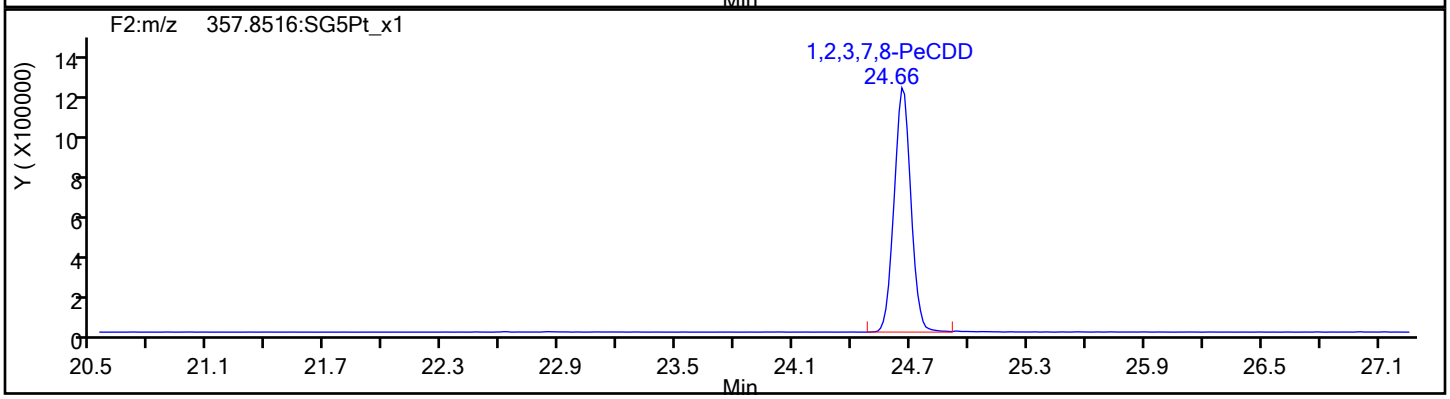

PeCDD Standards

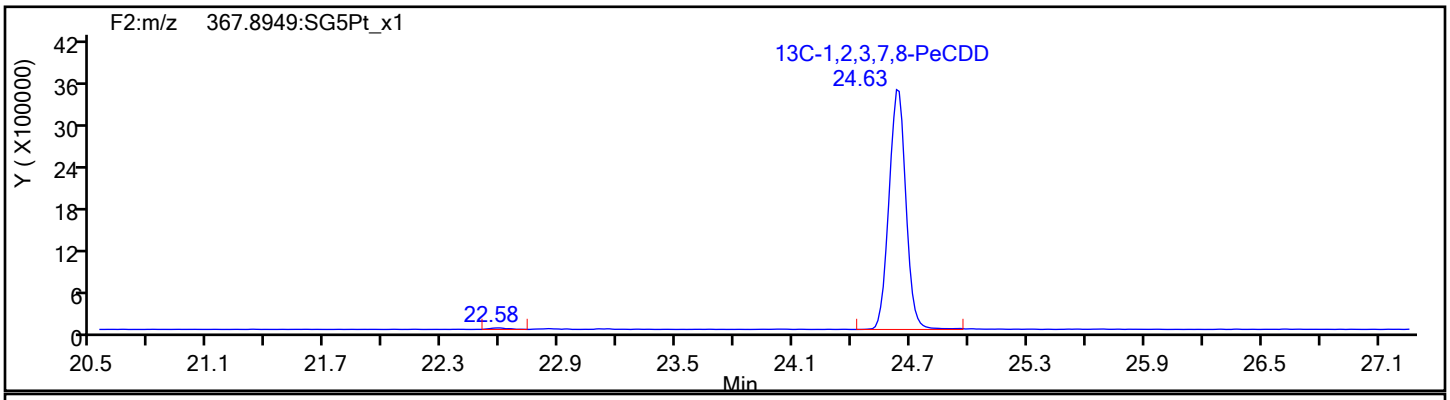

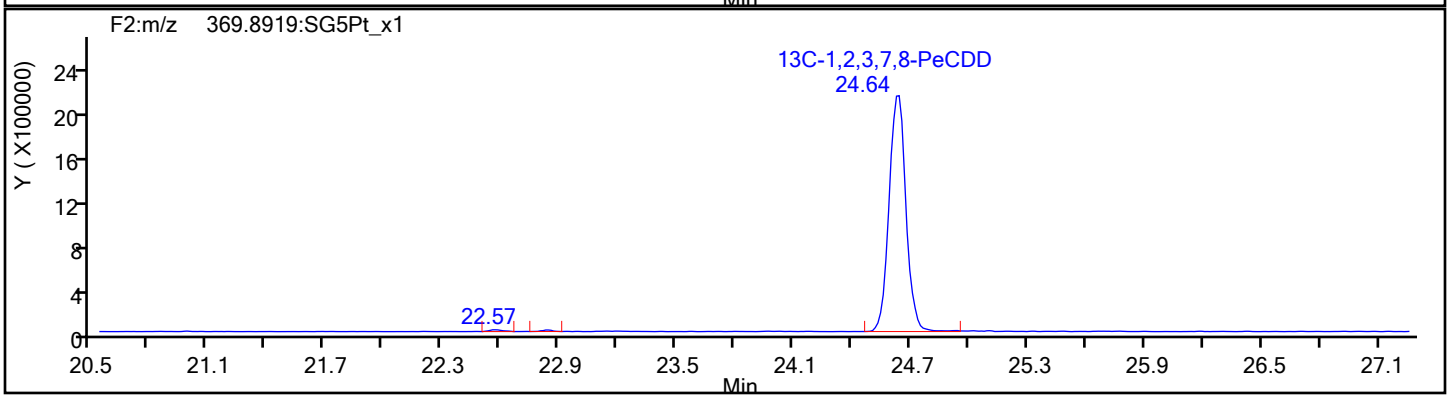

Report Date: 14-Oct-2019 14:34:50 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

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HxCDF

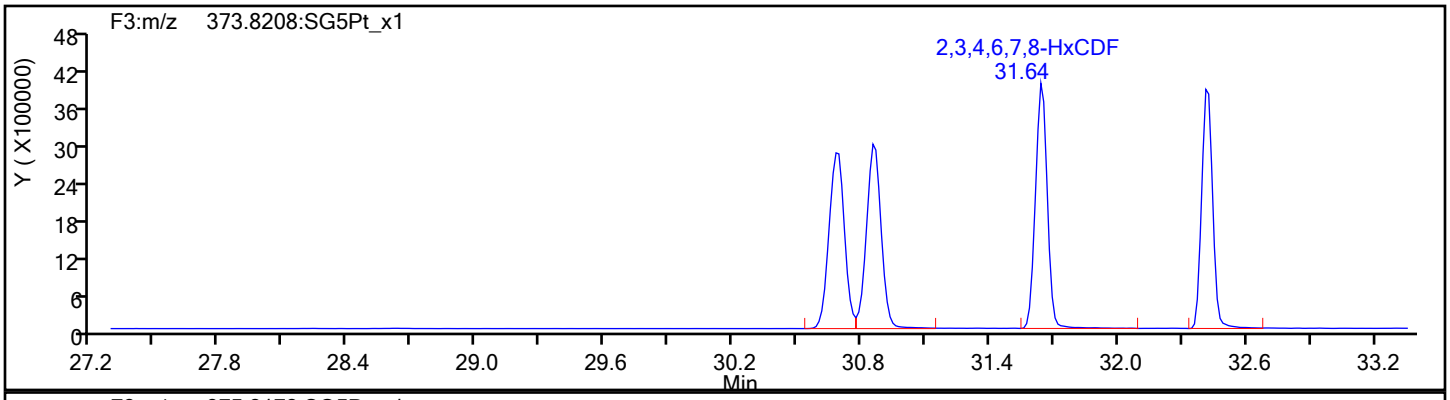

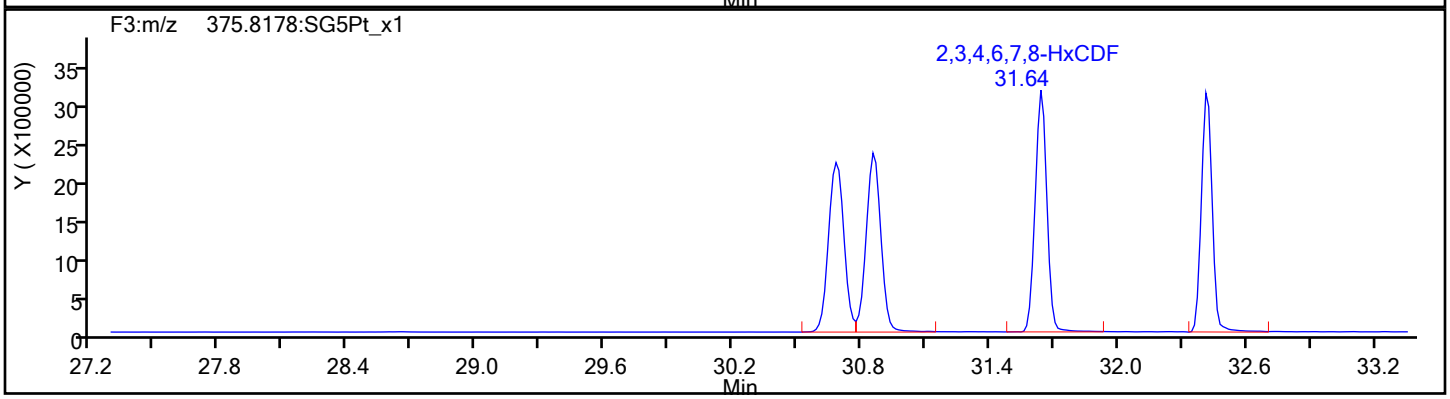

HxCDF Standards

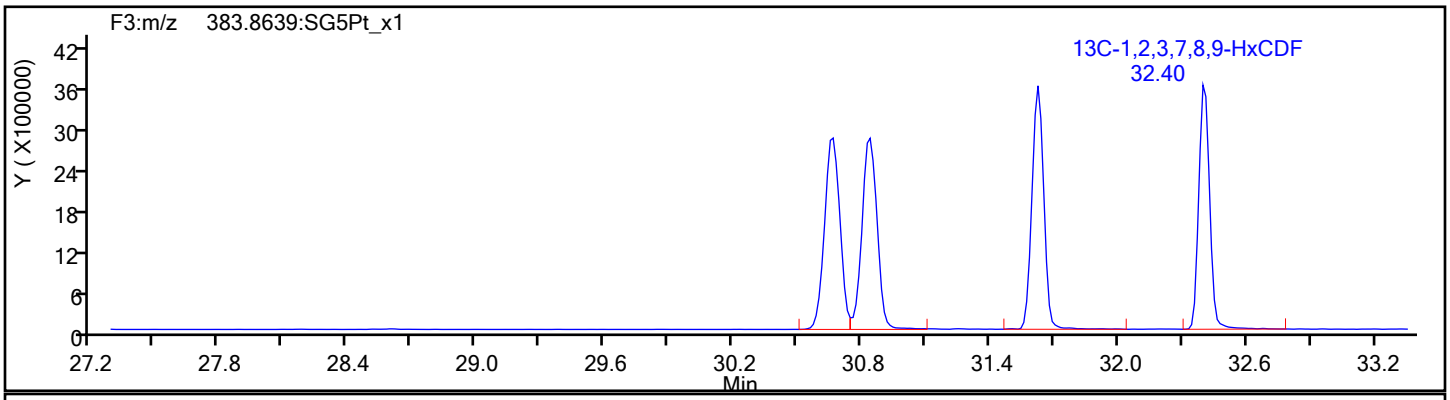

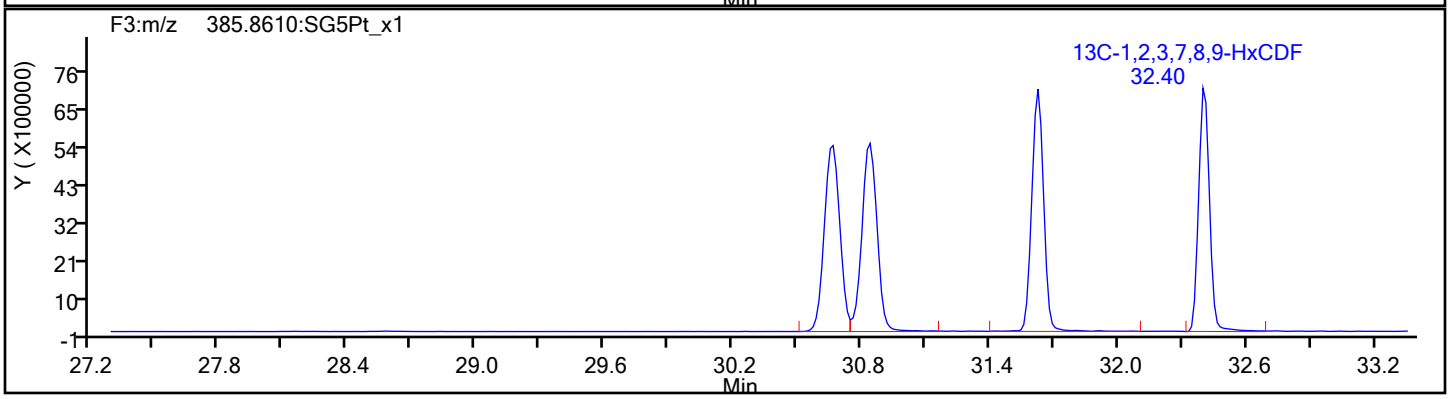

Report Date: 14-Oct-2019 14:34:50 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_8.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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HxCDF

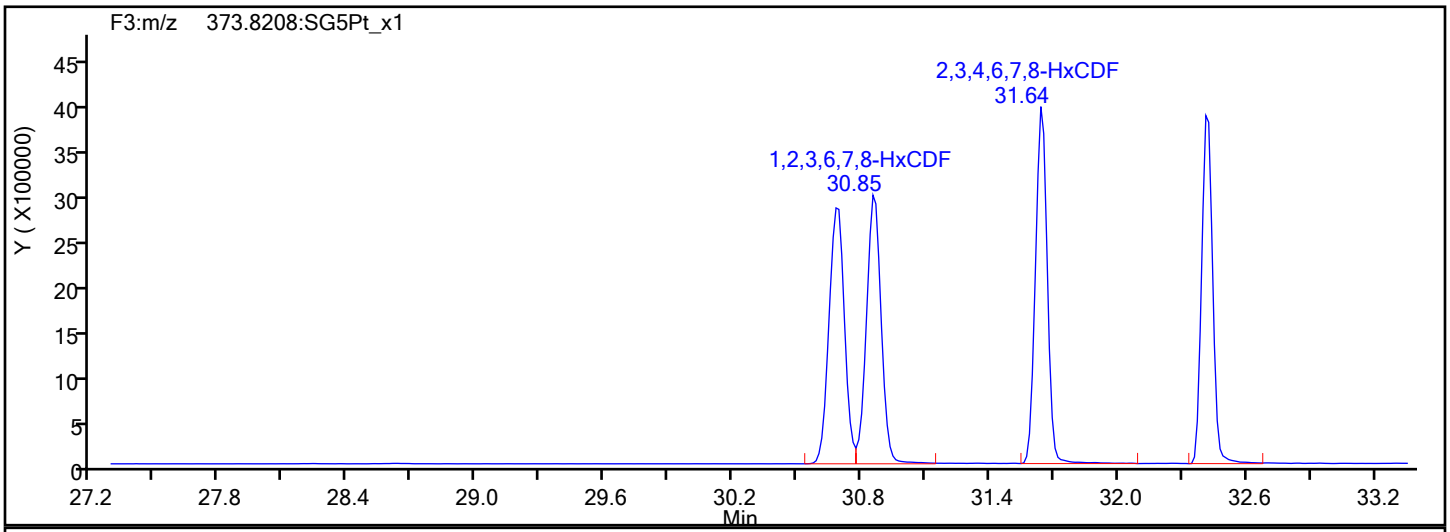

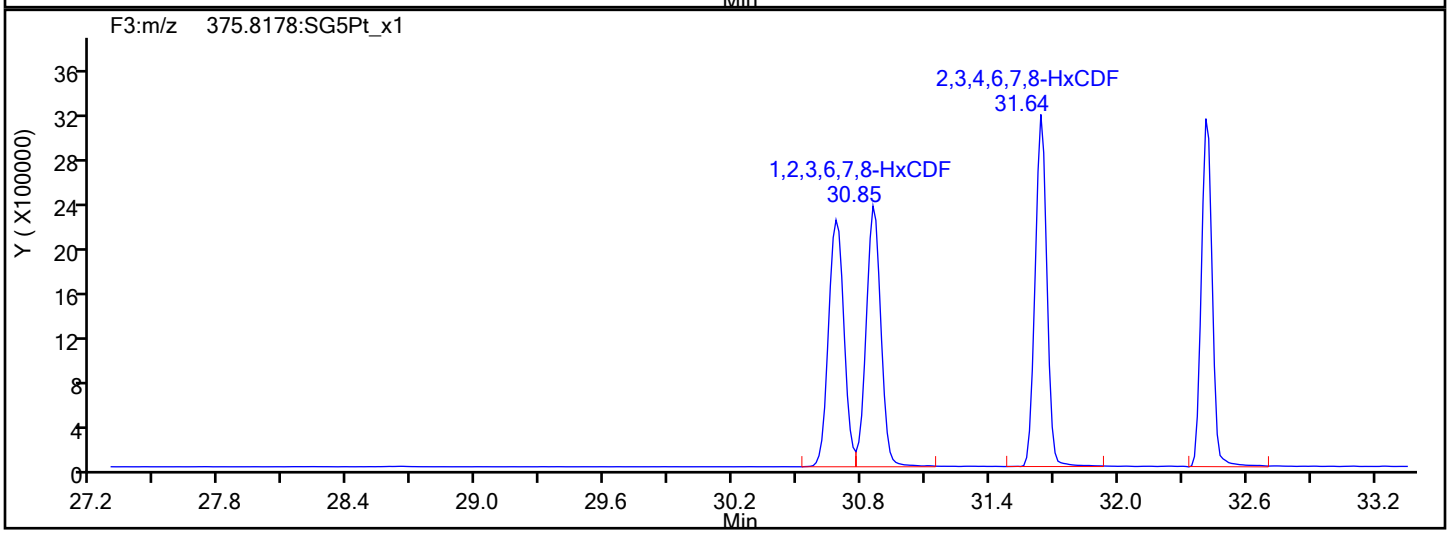

HxCDF Interference Mass

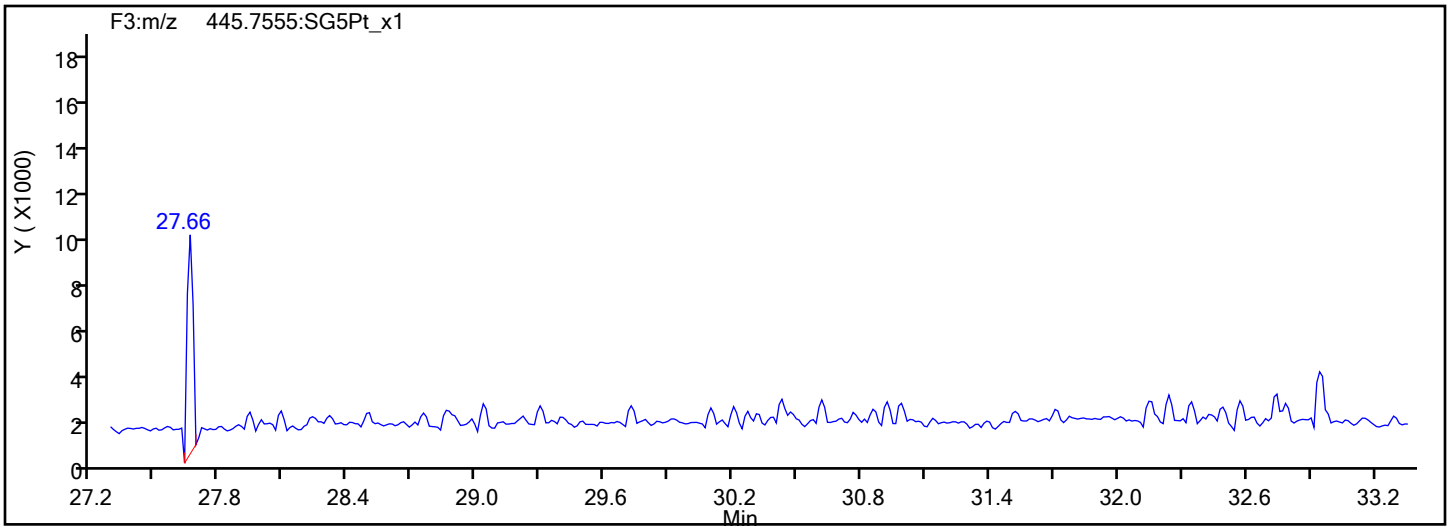

Report Date: 14-Oct-2019 14:34:51 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

HxCDD

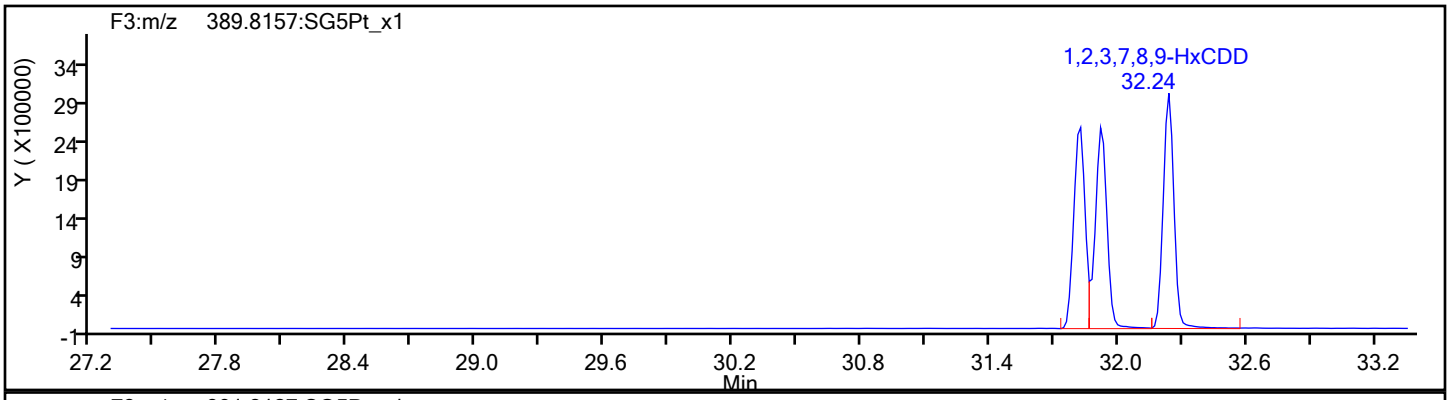

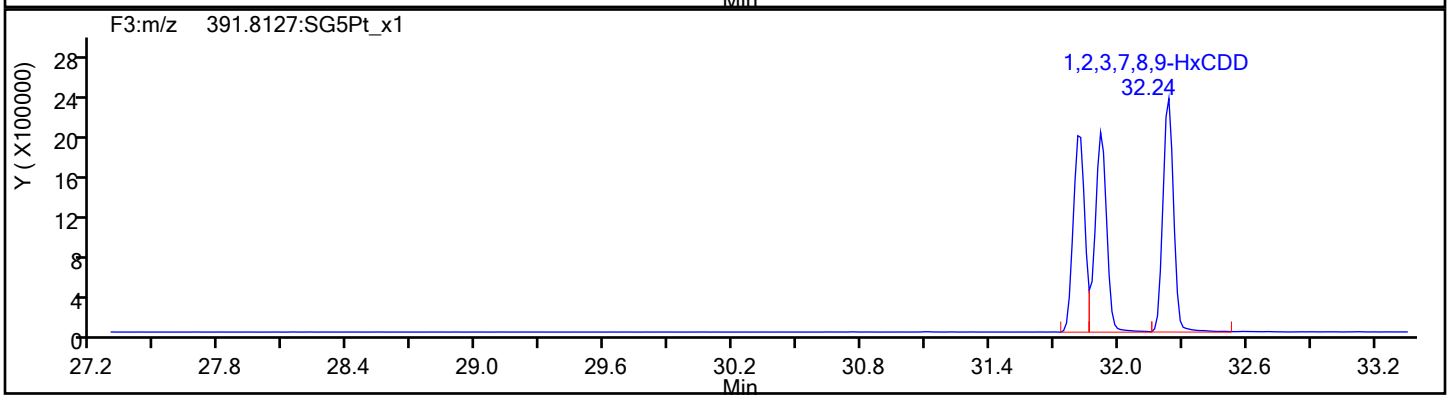

HxCDD Standards

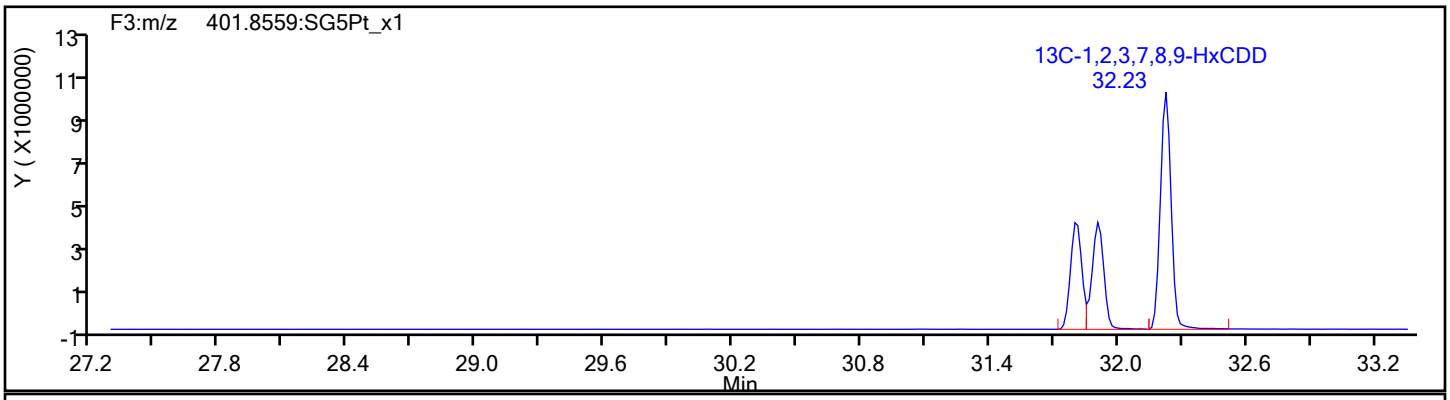

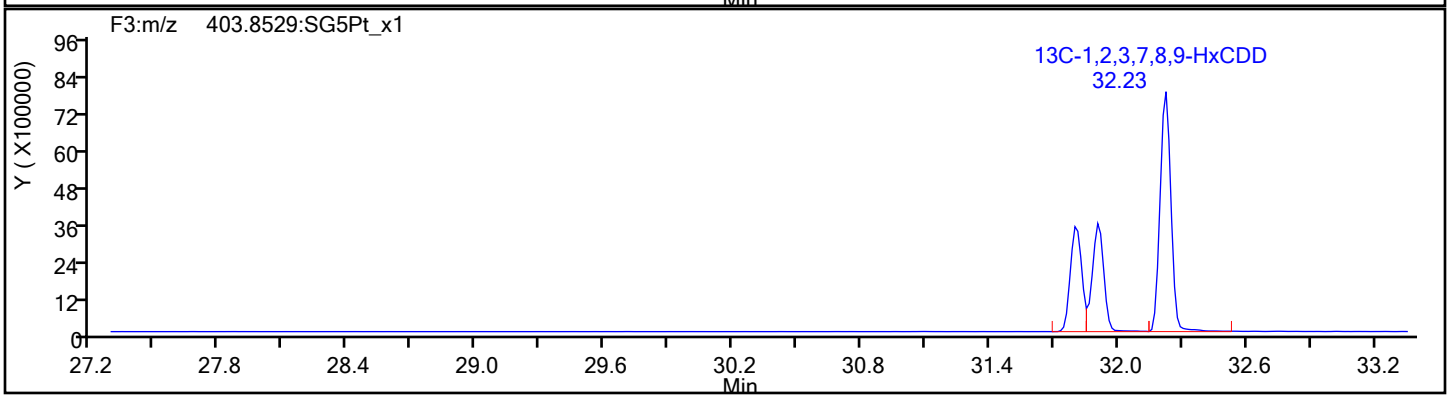

Report Date: 14-Oct-2019 14:34:51 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_8.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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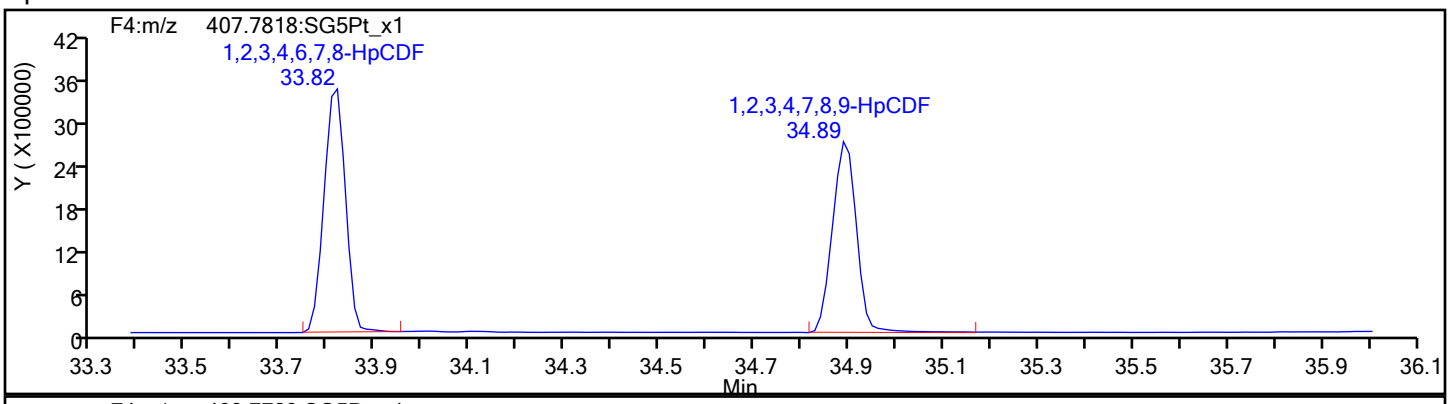

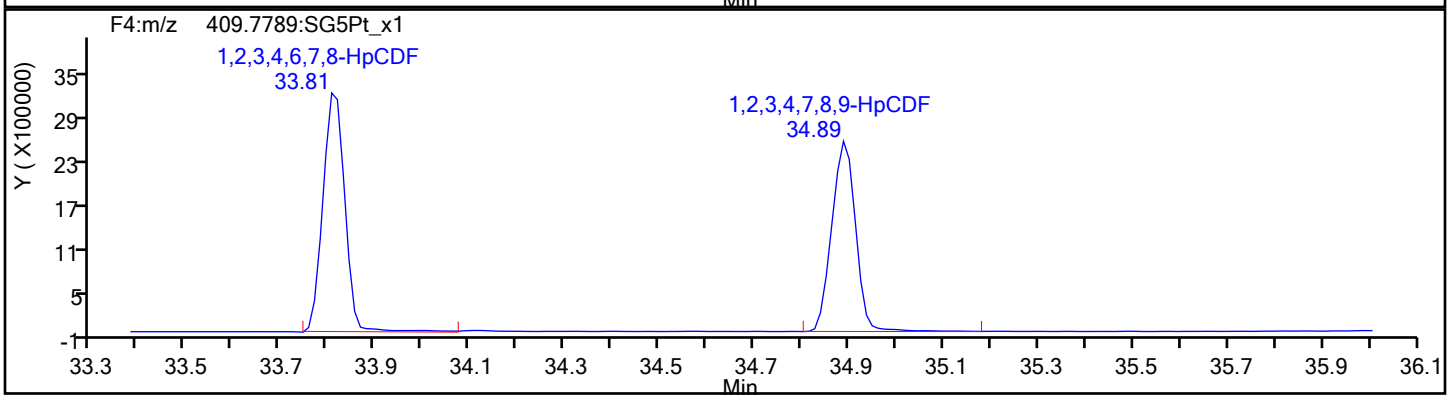

HpCDF Standards

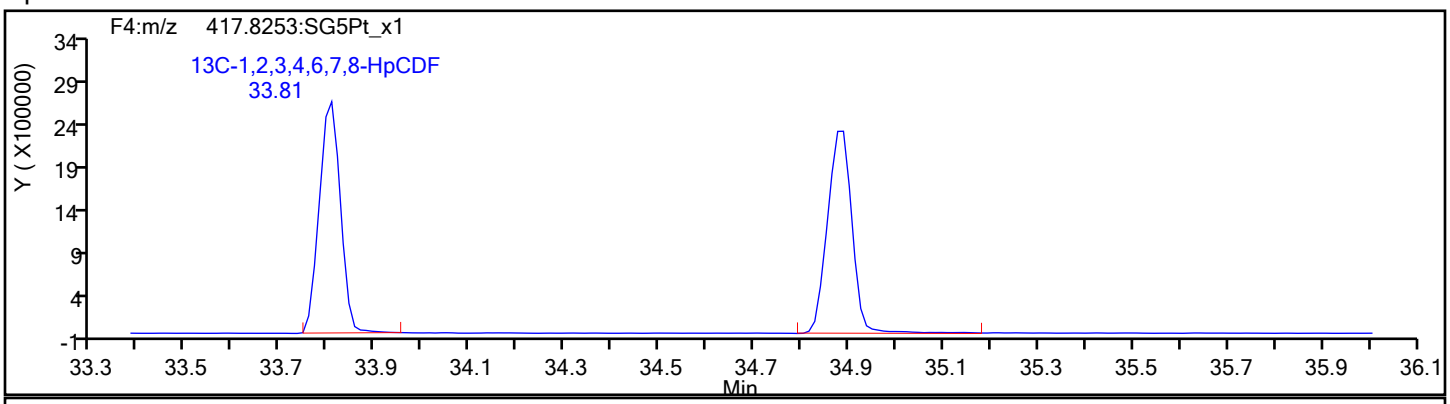

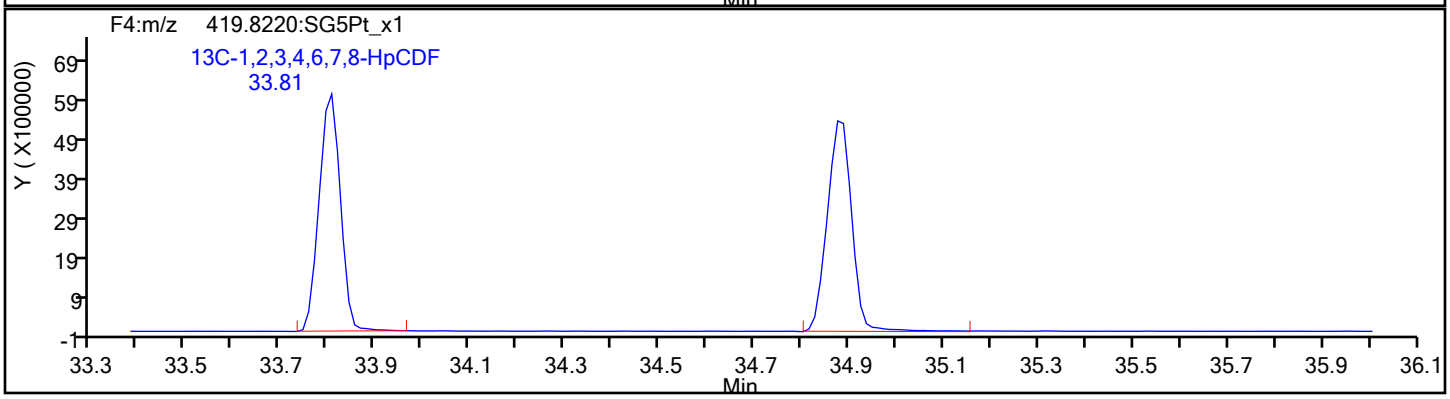

Report Date: 14-Oct-2019 14:34:51 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_8.d		
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Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330145	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

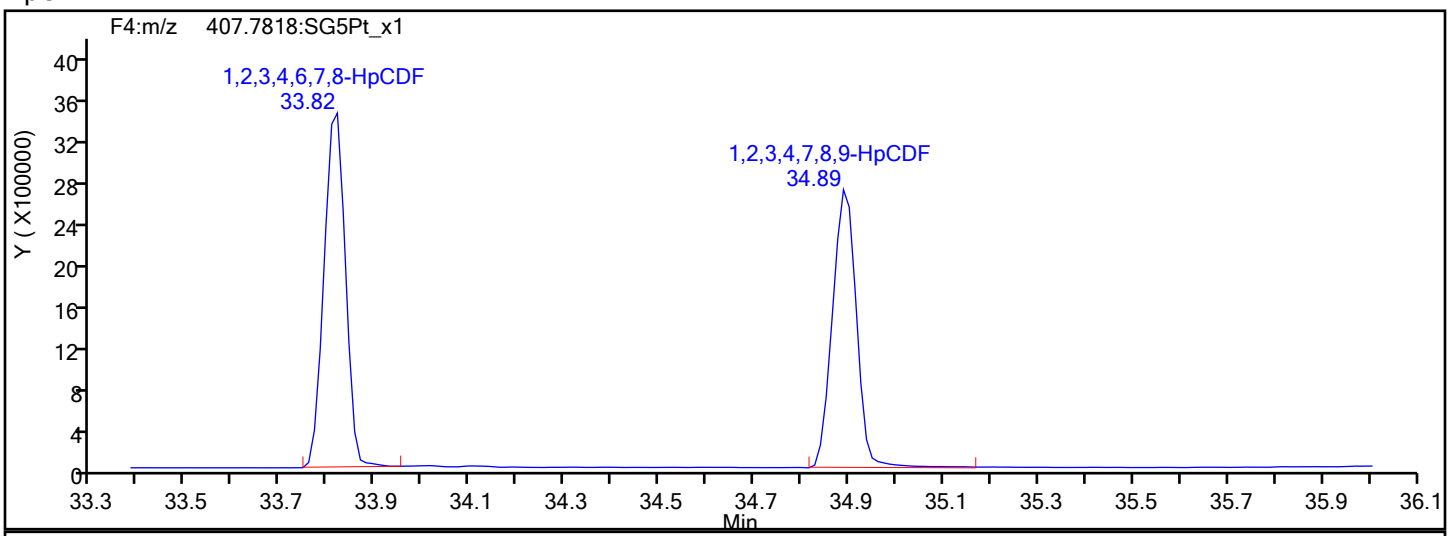

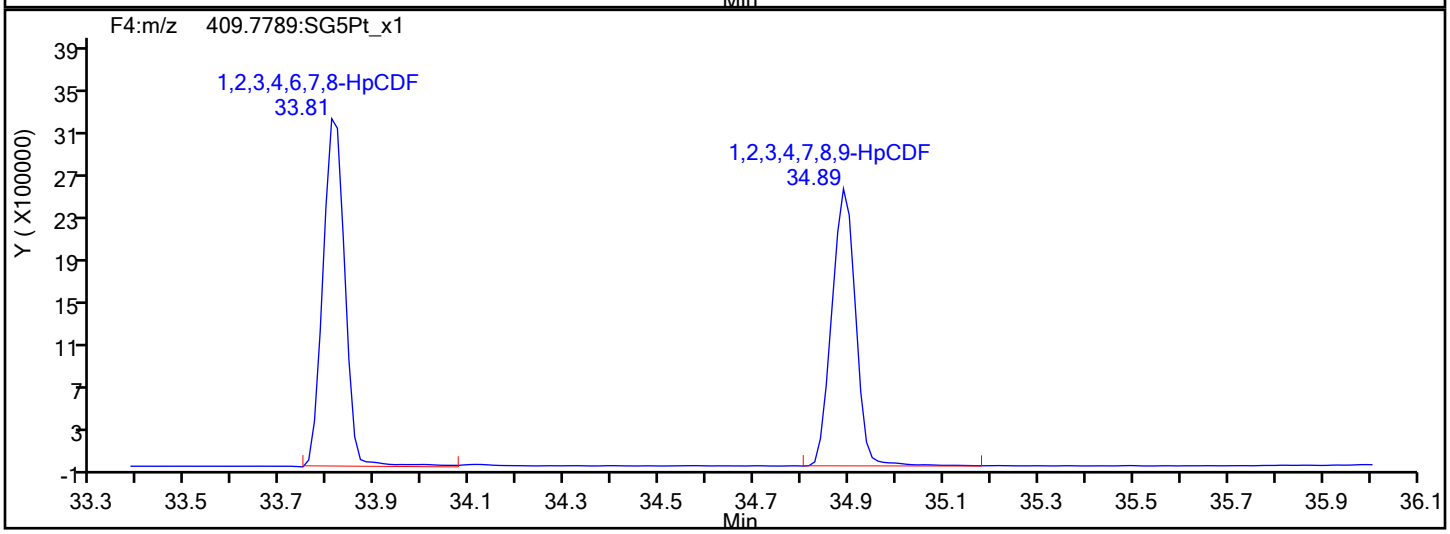

HpCDF Interference Mass

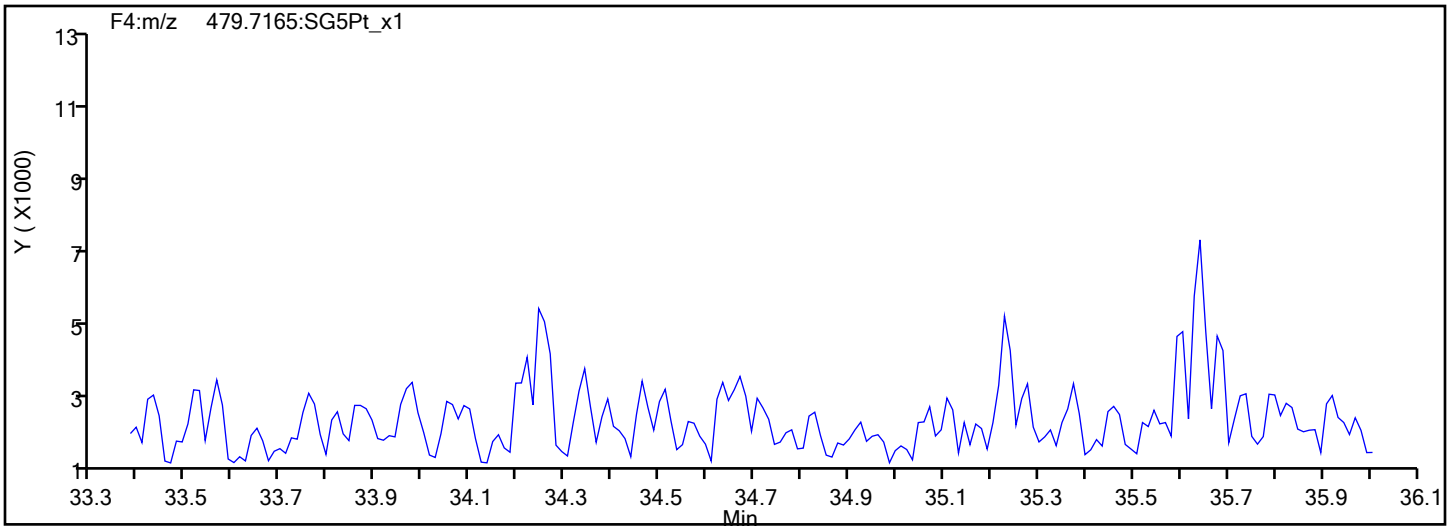

Report Date: 14-Oct-2019 14:34:51 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_8.d		
Injection Date:	10-Oct-2019 21:24:06	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330145	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

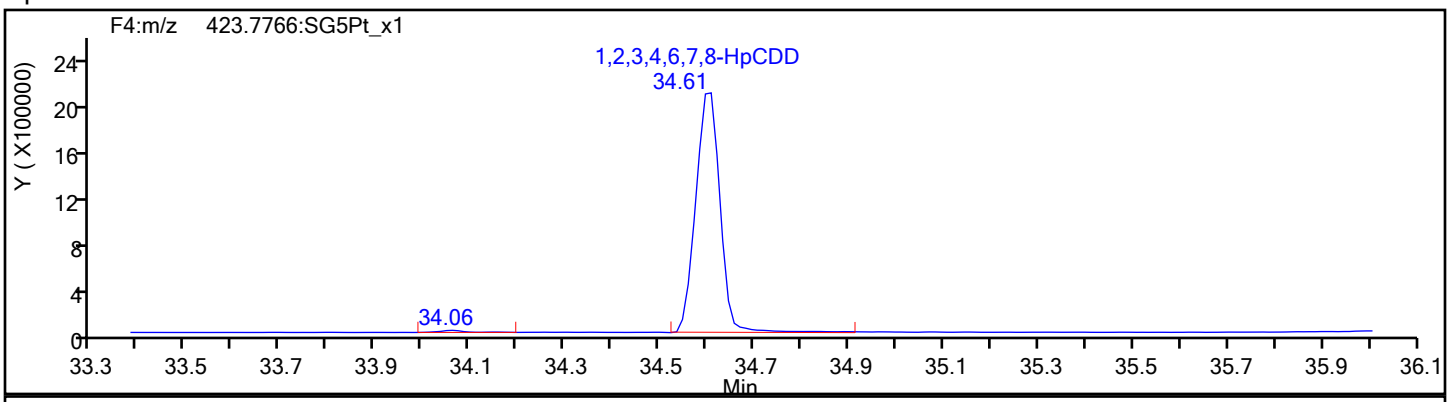

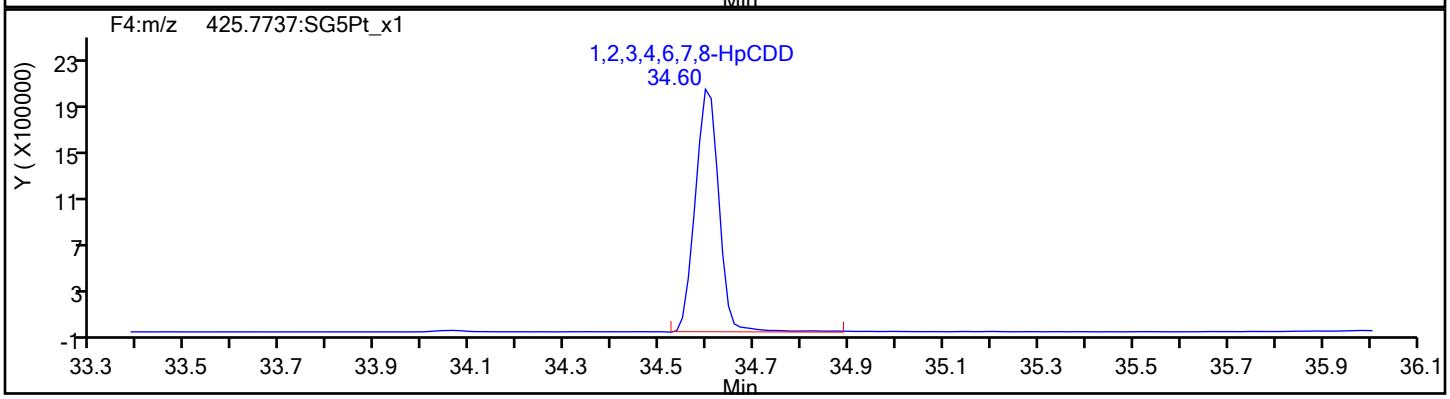

HpCDD Standards

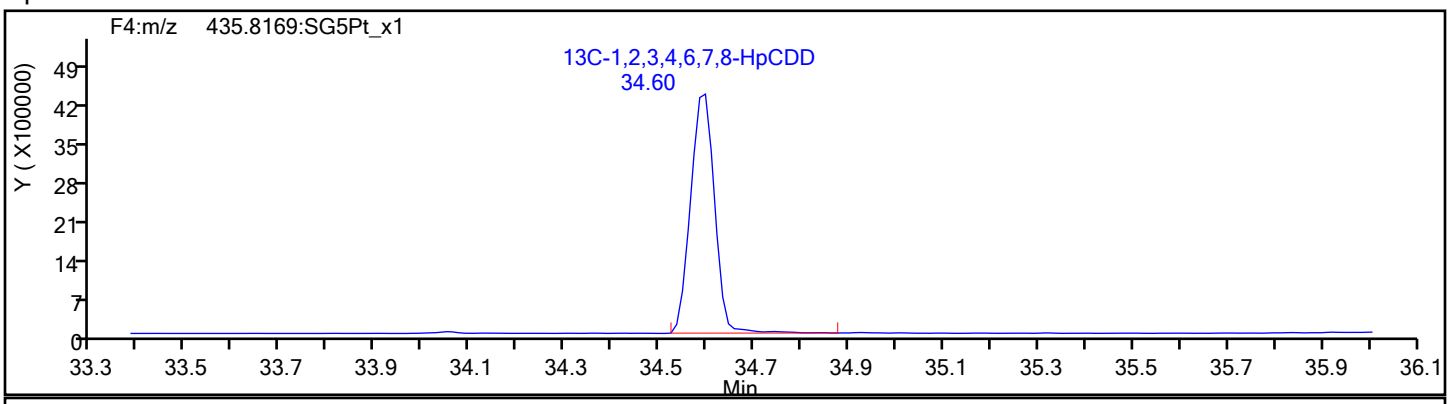

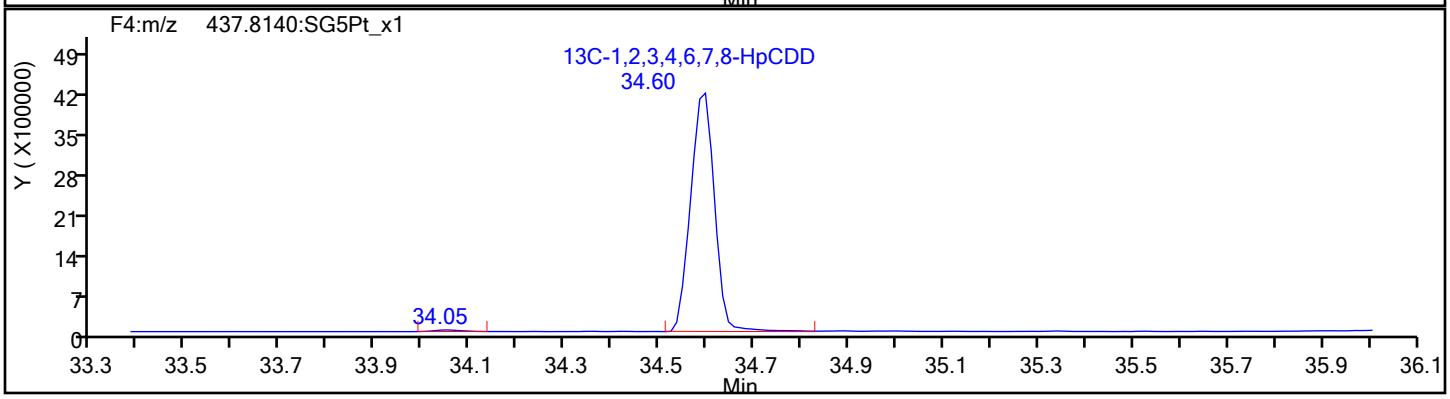

Report Date: 14-Oct-2019 14:34:51 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_8.d		
Injection Date:	10-Oct-2019 21:24:06	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330145	Sample Line#:	8
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OCDF

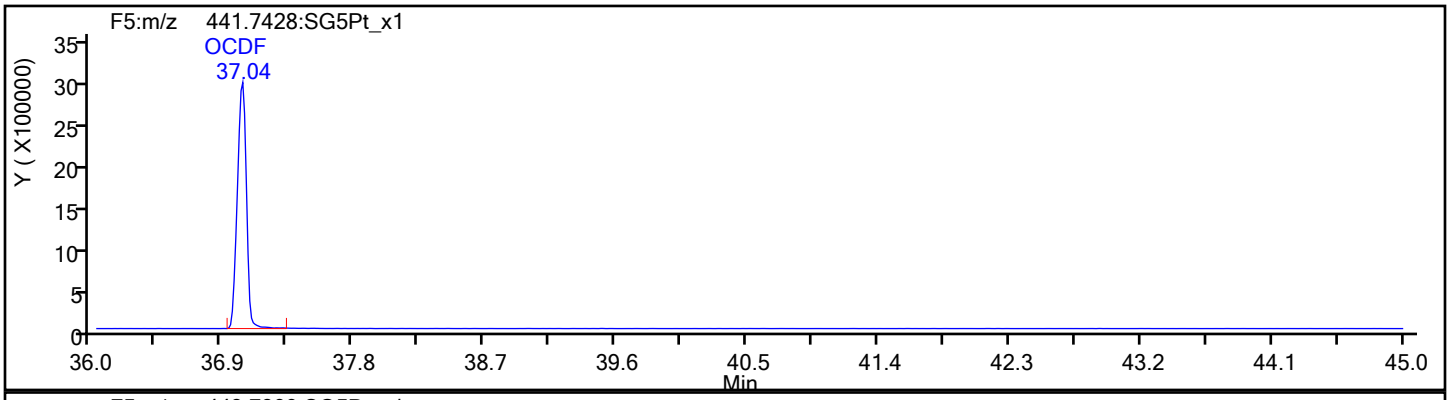

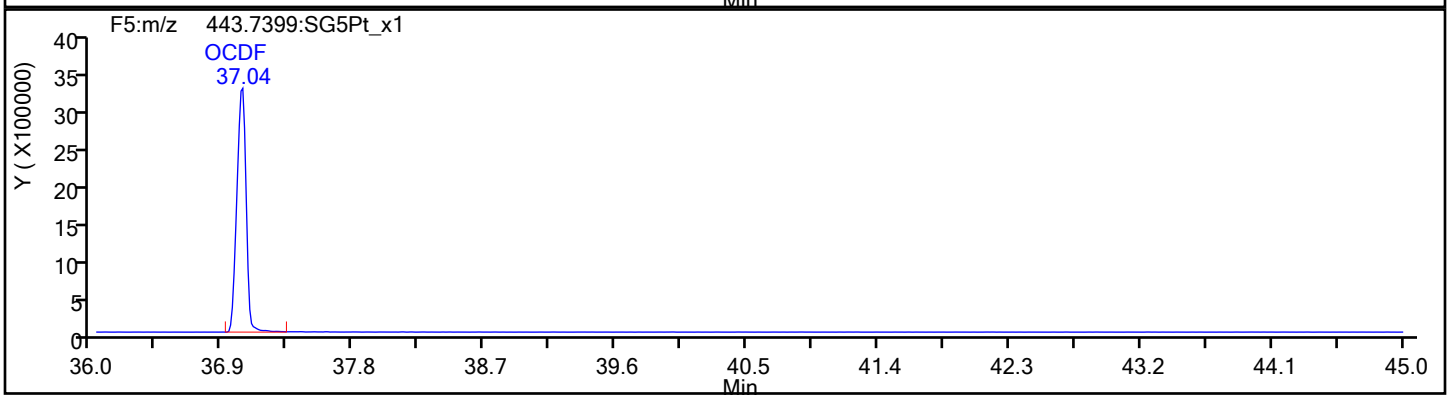

OCDF Standards

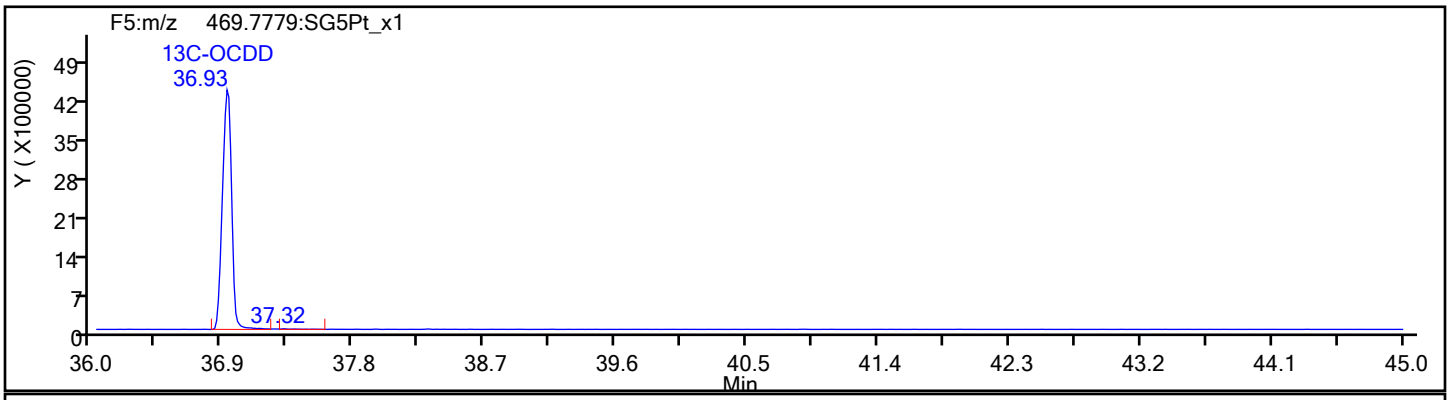

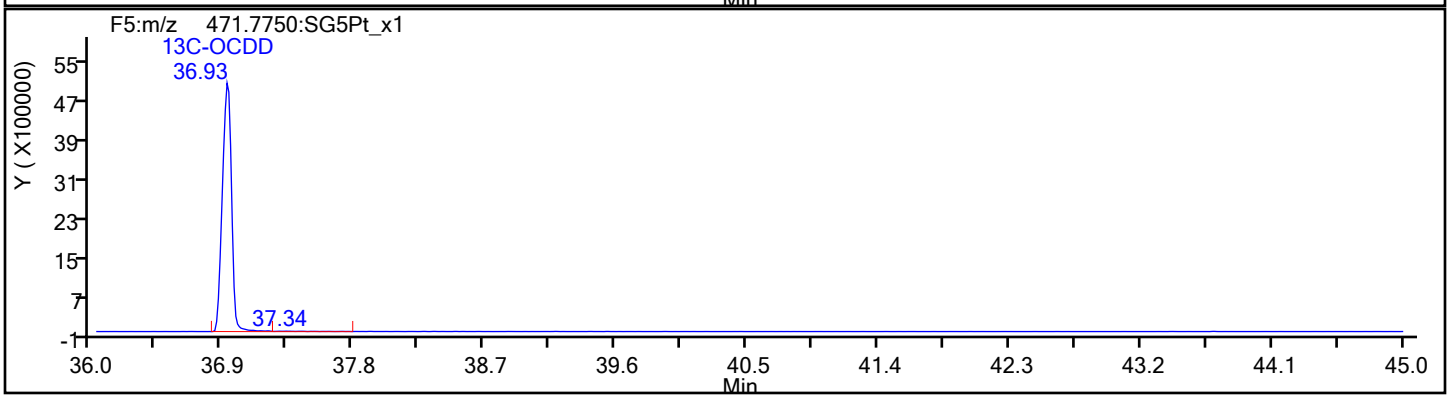

Report Date: 14-Oct-2019 14:34:51 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_8.d		
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Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

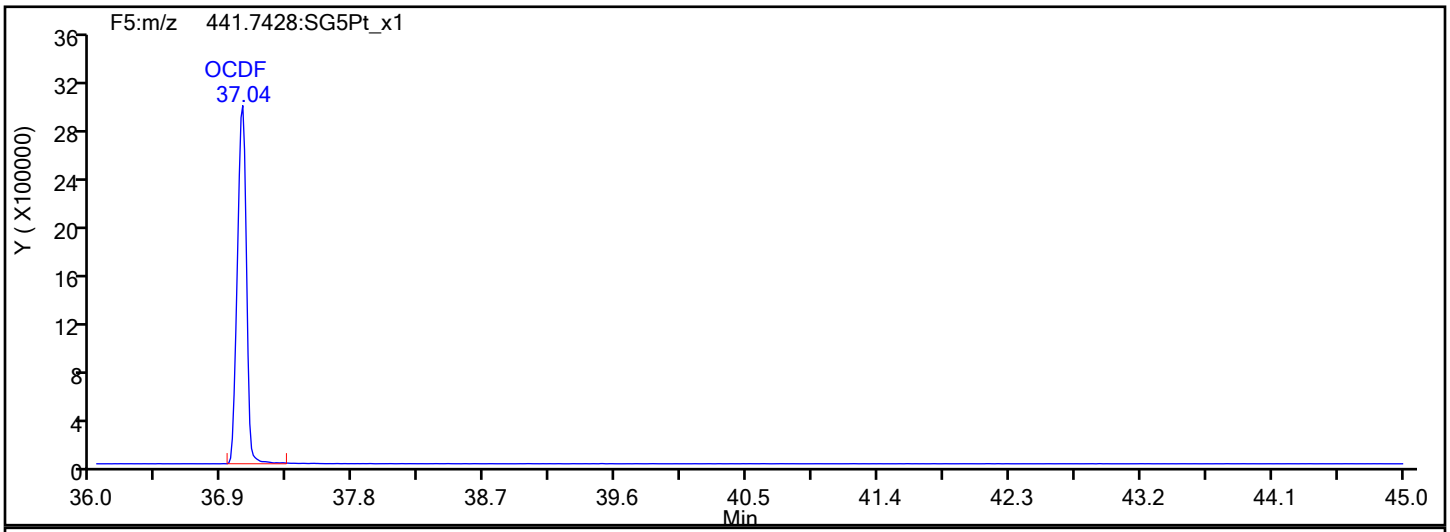

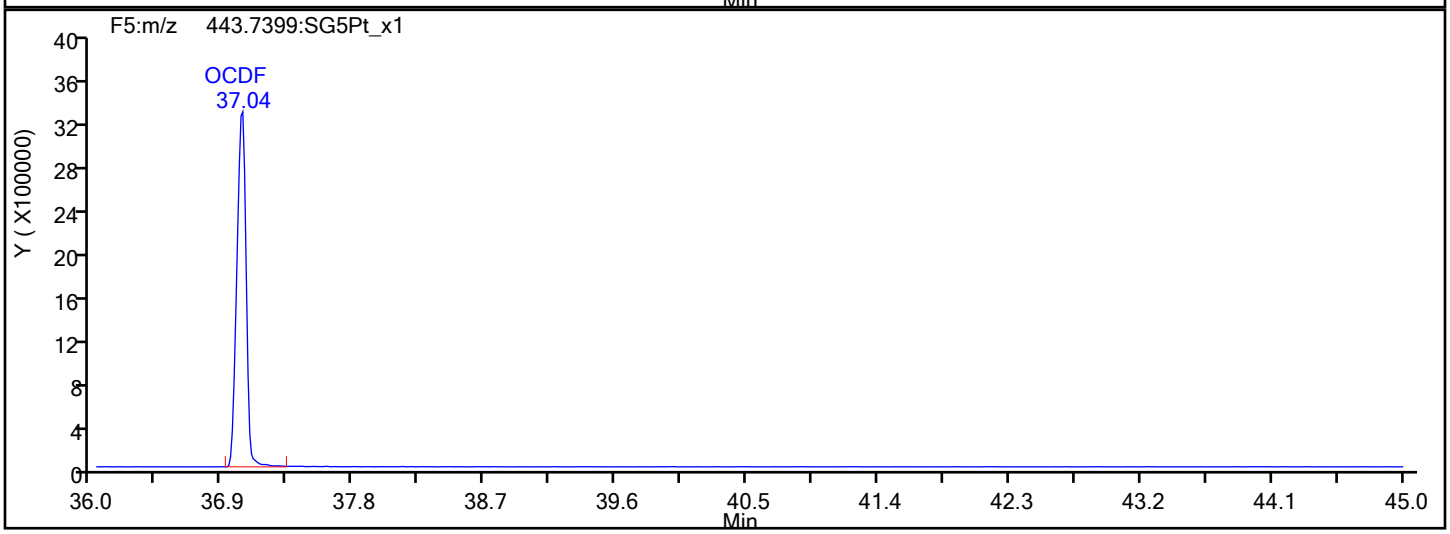

OCDF Interference Mass

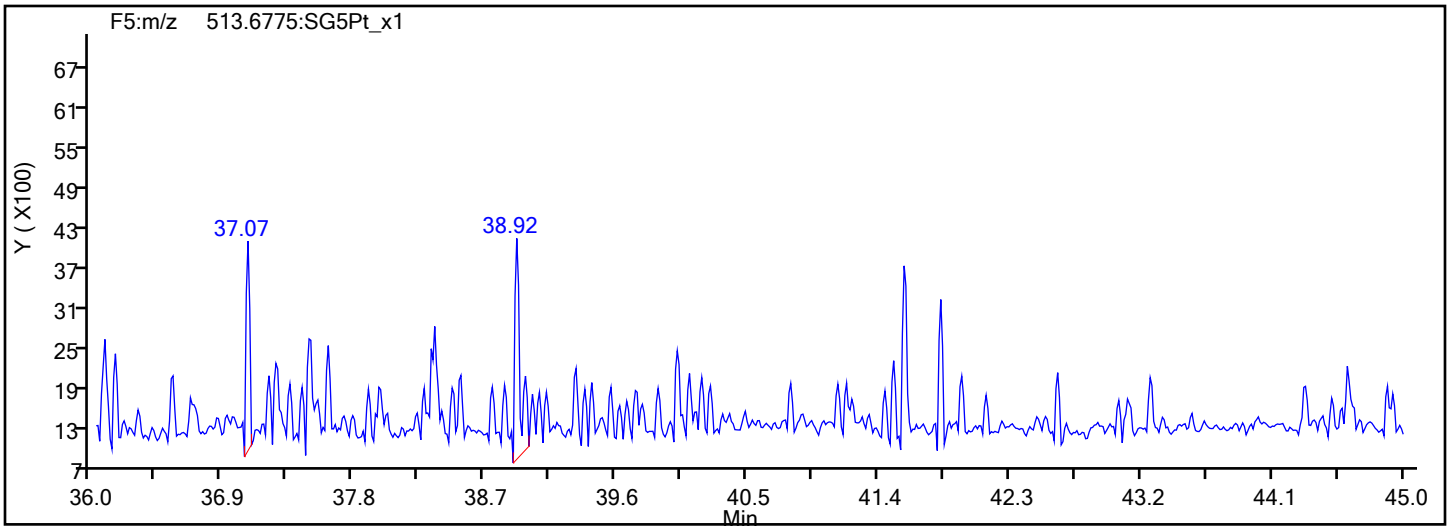

Report Date: 14-Oct-2019 14:34:51 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_8.d		
Injection Date:	10-Oct-2019 21:24:06	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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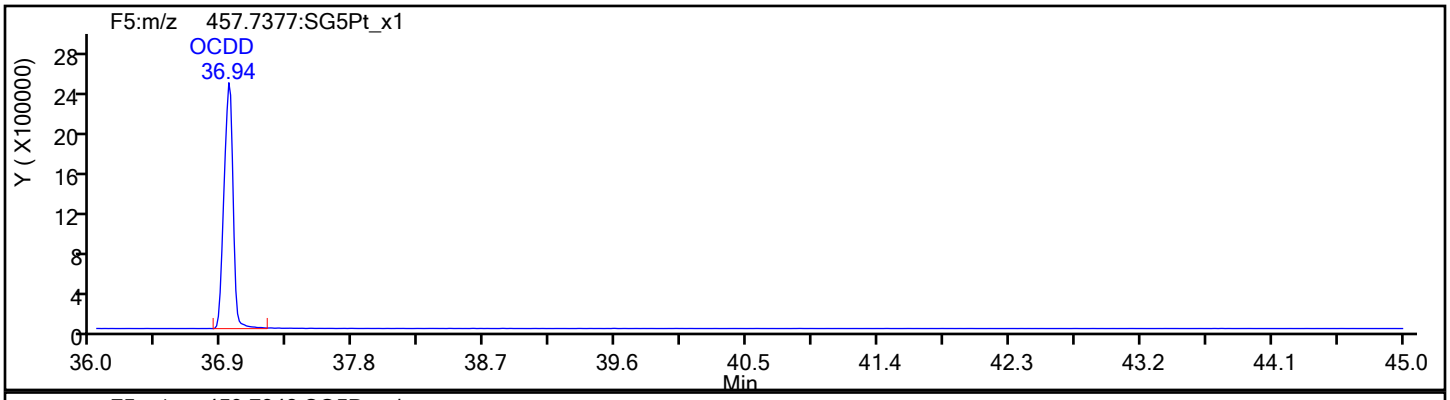

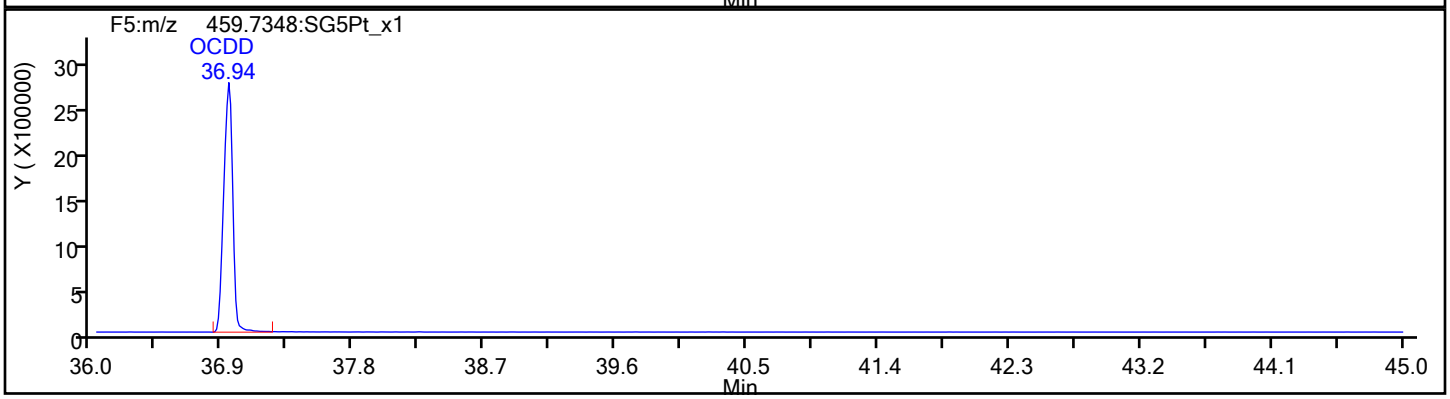

OCDD Standards

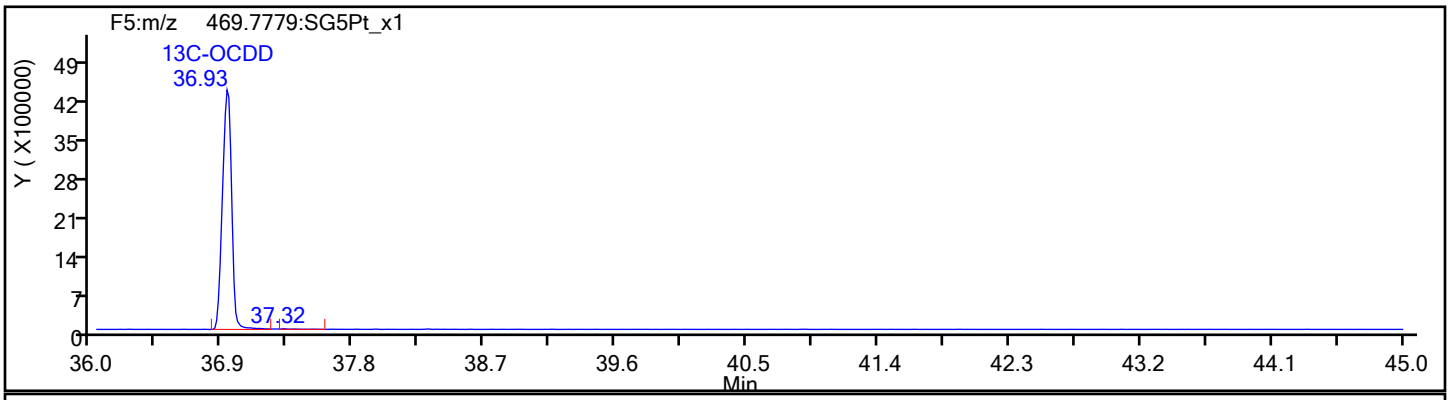

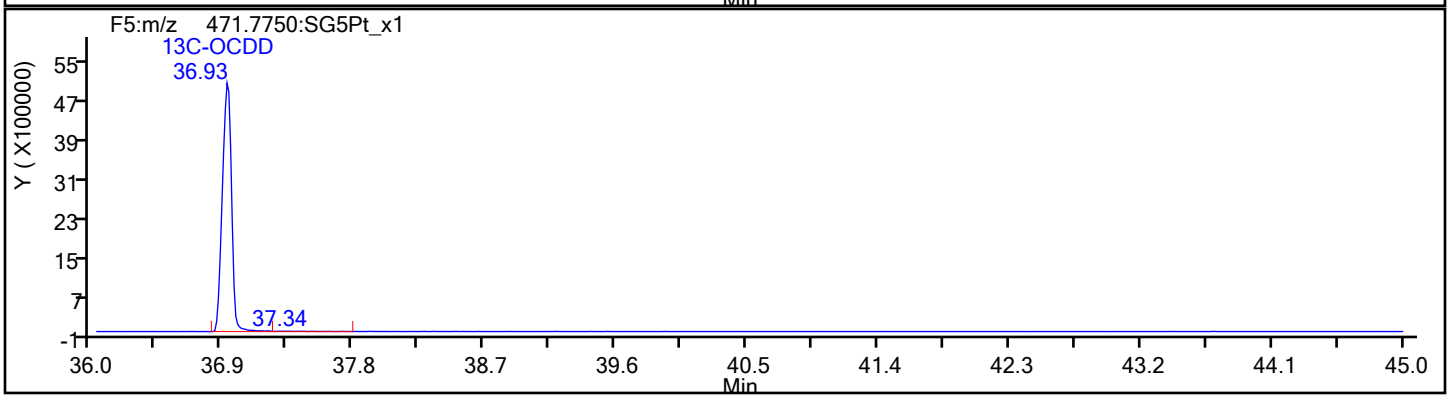

Report Date: 14-Oct-2019 14:34:51 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_8.d		
Injection Date:	10-Oct-2019 21:24:06	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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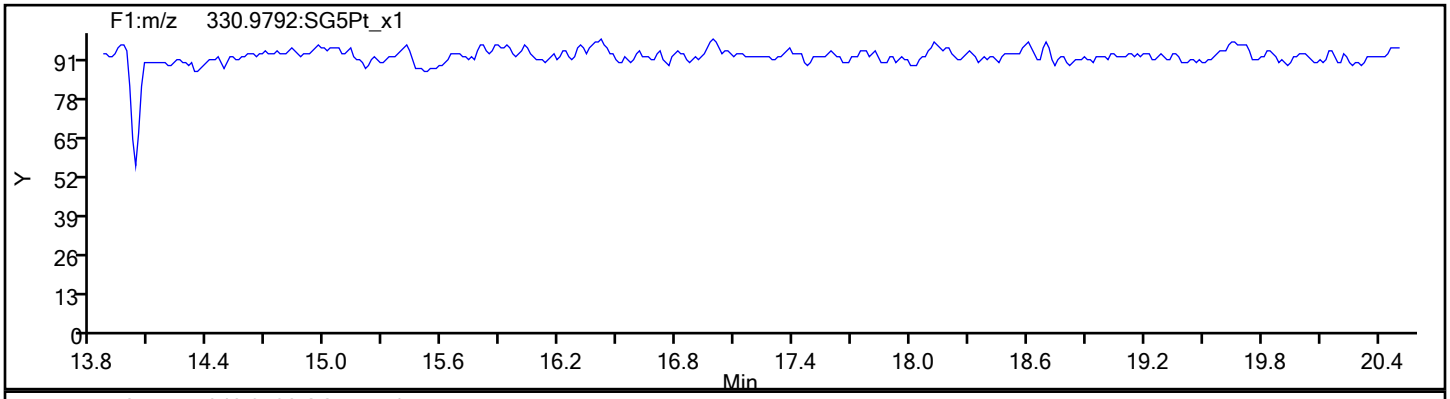

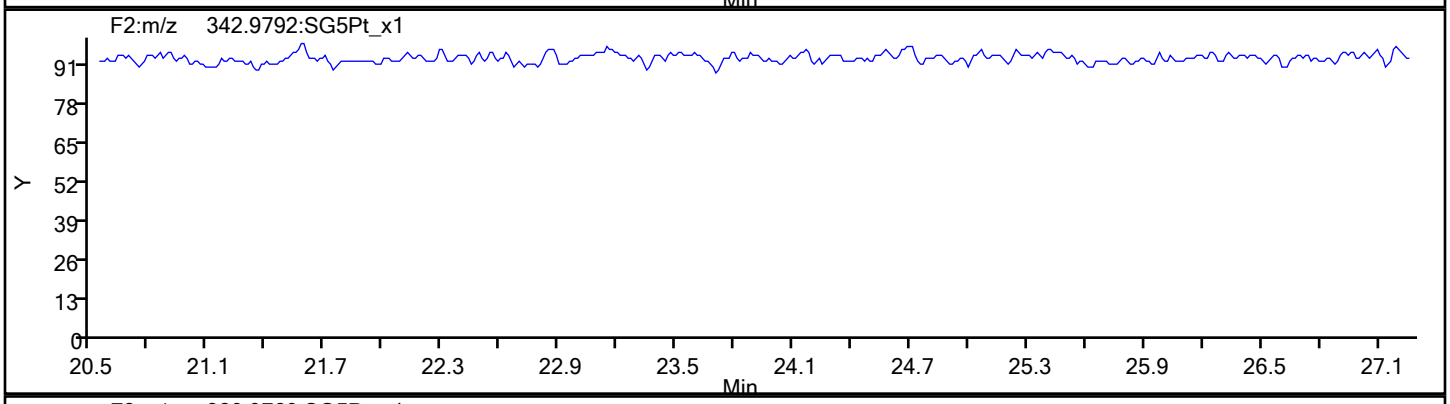

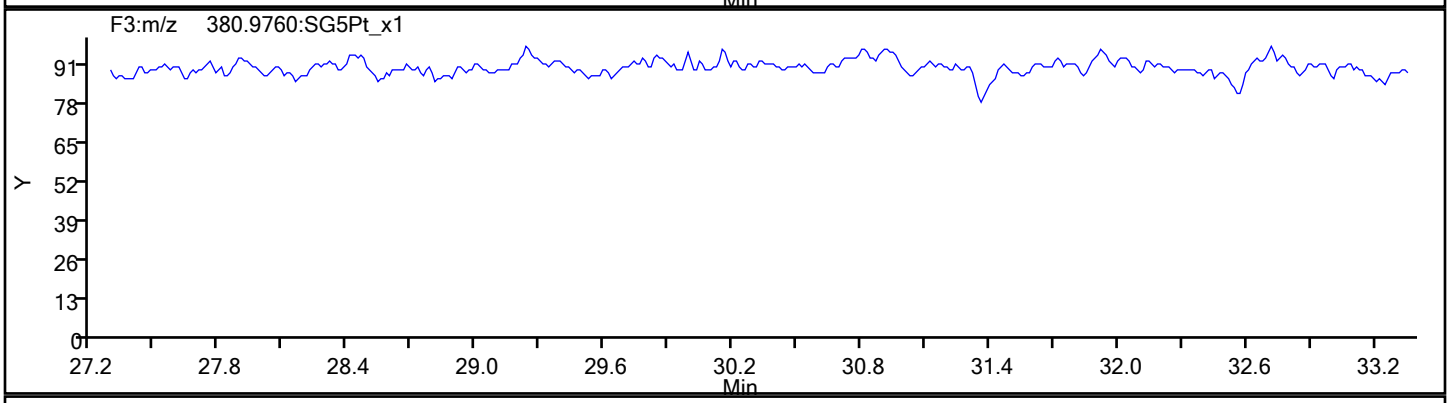

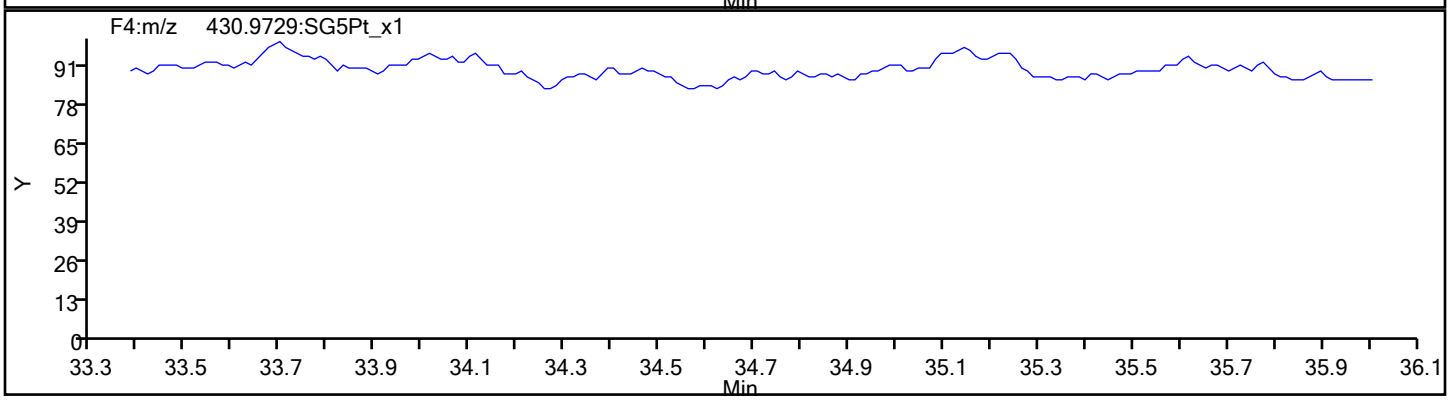

Report Date: 14-Oct-2019 14:34:51 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330145	Sample Line#:	8
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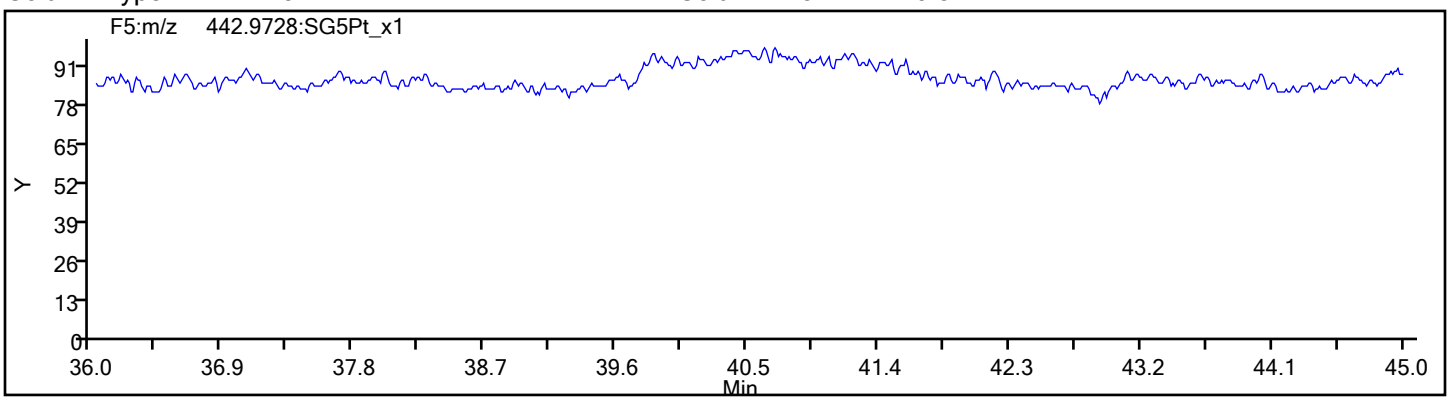

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 320-54852-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCSD 320-329339/3-A
Matrix: Water
Lab File ID: 10OC1910D5_9.d
Analysis Method: 1613B
Date Collected:
Extract. Method: 1613B
Date Extracted: 10/08/2019 14:19
Sample wt/vol: 1000(mL)
Date Analyzed: 10/10/2019 22:10
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 330145
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	219		10	1.6
51207-31-9	2,3,7,8-TCDF	240		10	0.91
40321-76-4	1,2,3,7,8-PeCDD	1290		50	2.0
57117-41-6	1,2,3,7,8-PeCDF	1200		50	3.5
57117-31-4	2,3,4,7,8-PeCDF	1140		50	3.4
39227-28-6	1,2,3,4,7,8-HxCDD	1170		50	2.3
57653-85-7	1,2,3,6,7,8-HxCDD	1220		50	2.4
19408-74-3	1,2,3,7,8,9-HxCDD	1180		50	2.1
70648-26-9	1,2,3,4,7,8-HxCDF	1170		50	4.4
57117-44-9	1,2,3,6,7,8-HxCDF	1180		50	4.2
72918-21-9	1,2,3,7,8,9-HxCDF	1180		50	3.1
60851-34-5	2,3,4,6,7,8-HxCDF	1220		50	3.1
35822-46-9	1,2,3,4,6,7,8-HpCDD	1210		50	4.2
67562-39-4	1,2,3,4,6,7,8-HpCDF	1180		50	6.5
55673-89-7	1,2,3,4,7,8,9-HpCDF	1120		50	8.2
3268-87-9	OCDD	2410		100	1.9
39001-02-0	OCDF	2600		100	2.3
41903-57-5	Total TCDD	219		10	1.6
30402-14-3	Total TCDF	240		10	0.91
36088-22-9	Total PeCDD	1290		50	2.0
30402-15-4	Total PeCDF	2360		50	3.4
34465-46-8	Total HxCDD	3570		50	2.3
55684-94-1	Total HxCDF	4750		50	3.7
37871-00-4	Total HpCDD	1210		50	4.2
38998-75-3	Total HpCDF	2290		50	7.4

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 320-329339/3-A

Matrix: Water Lab File ID: 10OC1910D5_9.d

Analysis Method: 1613B Date Collected:

Extract. Method: 1613B Date Extracted: 10/08/2019 14:19

Sample wt/vol: 1000(mL) Date Analyzed: 10/10/2019 22:10

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 330145 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	38		20-175
89059-46-1	13C-2,3,7,8-TCDF	36		22-152
109719-79-1	13C-1,2,3,7,8-PeCDD	37		21-227
109719-77-9	13C-1,2,3,7,8-PeCDF	34		21-192
116843-02-8	13C-2,3,4,7,8-PeCDF	39		13-328
109719-80-4	13C-1,2,3,4,7,8-HxCDD	36		21-193
109719-81-5	13C-1,2,3,6,7,8-HxCDD	31		25-163
114423-98-2	13C-1,2,3,4,7,8-HxCDF	35		19-202
116843-03-9	13C-1,2,3,6,7,8-HxCDF	32		21-159
116843-04-0	13C-1,2,3,7,8,9-HxCDF	35		17-205
116843-05-1	13C-2,3,4,6,7,8-HxCDF	36		22-176
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	31		26-166
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	30		21-158
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	32		20-186
114423-97-1	13C-OCDD	22		13-199

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	88		31-191

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_9.d
Lims ID: LCSD 320-329339/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 10-Oct-2019 22:10:05 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 320-329339/3-A LCSD 320-329339/3-A
Misc. Info.: 10OC1910D5
Operator ID: SMA Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Oct-2019 14:34:17 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0335

First Level Reviewer: dadunj Date: 14-Oct-2019 14:35:16

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.986	75713873	0.80	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.457	39716650	0.78	1.4384	36.5	36.5	0.1422	0.1422	36.47	
2,3,7,8-TCDF	17.472	4998664	0.79	1.0507	12.0	12.0	0.0457	0.0457	120	
A Non-2,3,7,8-sub-TCDF	17.162						0.0457	0.0457		
S Total TCDF					12.0	12.0	0.0457	0.0457		
D 13C-2,3,7,8-TCDD	18.168	27627479	0.78	0.9533	38.3	38.3	0.1168	0.1168	38.28	
$ 37Cl4-2,3,7,8-TCDD	18.198	32464398		1.2224	35.1	35.1	0.0502	0.0502	87.69	
2,3,7,8-TCDD	18.198	3348332	0.78	1.1064	11.0	11.0	0.0808	0.0808	110	
A Non-2,3,7,8-sub-TCDD	17.616						0.0808	0.0808		
S Total TCDD					11.0	11.0	0.0808	0.0808		
D 13C-1,2,3,7,8-PeCDF	22.543	26290153	1.55	1.0286	33.8	33.8	0.0667	0.0667	33.76	
1,2,3,7,8-PeCDF	22.556	17136430	1.63	1.0822	60.2	60.2	0.1741	0.1741	120	
D 13C-2,3,4,7,8-PeCDF	23.906	29152713	1.56	0.9827	39.2	39.2	0.0699	0.0699	39.18	
2,3,4,7,8-PeCDF	23.920	18393124	1.61	1.1032	57.2	57.2	0.1692	0.1692	114	
A F1 PeCDFs	20.035						0.0435	0.0435		
A Non-2,3,7,8-sub-PeCDF	23.226	132747	1.55	1.0927	0.5015	0.4382	0.1717	0.4382	0.00	RQ
S Total PeCDF					117.9	117.9	0.1717	0.1717		RQ
D 13C-1,2,3,7,8-PeCDD	24.629	20972263	1.59	0.7481	37.0	37.0	0.0667	0.0667	37.03	
1,2,3,7,8-PeCDD	24.656	12234458	1.54	0.9050	64.5	64.5	0.0995	0.0995	129	
A Non-2,3,7,8-sub-PeCDD	23.531						0.0995	0.0995		
S Total PeCDD					64.5	64.5	0.0995	0.0995		
D 13C-1,2,3,4,7,8-HxCDF	30.669	24210768	0.52	1.1520	35.1	35.1	0.0865	0.0865	35.10	
1,2,3,4,7,8-HxCDF	30.682	16924338	1.26	1.1973	58.4	58.4	0.2177	0.2177	117	
D 13C-1,2,3,6,7,8-HxCDF	30.842	23977736	0.52	1.2434	32.2	32.2	0.0801	0.0801	32.20	
1,2,3,6,7,8-HxCDF	30.855	16763675	1.26	1.1807	59.2	59.2	0.2105	0.2105	118	
D 13C-2,3,4,6,7,8-HxCDF	31.627	25262610	0.52	1.1720	36.0	36.0	0.0850	0.0850	36.00	
2,3,4,6,7,8-HxCDF	31.640	18721545	1.24	1.2116	61.2	61.2	0.1555	0.1555	122	
D 13C-1,2,3,7,8,9-HxCDF	32.399	22338977	0.51	1.0655	35.0	35.0	0.0935	0.0935	35.01	
1,2,3,7,8,9-HxCDF	32.412	16352011	1.26	1.2451	58.8	58.8	0.1549	0.1549	118	
A Non-2,3,7,8-sub-HxCDF	30.363						0.1803	0.1803		
S Total HxCDF					237.6	237.6	0.1846	0.1846		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	32.226	59878961	1.19	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.800	16999679	1.22	0.7812	36.3	36.3	0.1083	0.1083	36.34	
1,2,3,4,7,8-HxCDD	31.813	11035342	1.29	1.1088	58.5	58.5	0.1166	0.1166	117	
D 13C-1,2,3,6,7,8-HxCDD	31.907	17235214	1.25	0.9175	31.4	31.4	0.0922	0.0922	31.37	
1,2,3,6,7,8-HxCDD	31.920	11365082	1.28	1.0814	61.0	61.0	0.1209	0.1209	122	
1,2,3,7,8,9-HxCDD	32.239	12205220	1.23	1.2123	58.8	58.8	0.1072	0.1072	118	
A Non-2,3,7,8-sub-HxCDD	30.995						0.1146	0.1146		
S Total HxCDD					178.3	178.3	0.1149	0.1149		
D 13C-1,2,3,4,6,7,8-HpCDF	33.807	15459845	0.43	0.8628	29.9	29.9	0.1565	0.1565	29.93	
1,2,3,4,6,7,8-HpCDF	33.819	14135794	1.04	1.5555	58.8	58.8	0.3269	0.3269	118	
D 13C-1,2,3,4,7,8,9-HpCDF	34.889	15450862	0.43	0.7991	32.3	32.3	0.1689	0.1689	32.29	
1,2,3,4,7,8,9-HpCDF	34.889	11966045	1.09	1.3862	55.9	55.9	0.4110	0.4110	112	
A Non-2,3,7,8-sub-HpCDF	34.360						0.3653	0.3653		
S Total HpCDF					114.6	114.6	0.3690	0.3690		
D 13C-1,2,3,4,6,7,8-HpCDD	34.597	16376784	1.05	0.8739	31.3	31.3	0.1257	0.1257	31.30	
1,2,3,4,6,7,8-HpCDD	34.609	9206301	1.02	0.9316	60.3	60.3	0.2125	0.2125	121	
A Non-2,3,7,8-sub-HpCDD	35.190						0.2125	0.2125		
S Total HpCDD					60.3	60.3	0.2125	0.2125		
D 13C-OCDD	36.941	20526183	0.89	0.7744	44.3	44.3	0.0534	0.0534	22.13	
OCDF	37.037	16779014	0.89	1.2596	129.8	129.8	0.1127	0.1127	130	
OCDD	36.941	13124774	0.88	1.0621	120.4	120.4	0.0975	0.0975	120	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_9.d
Lims ID: LCSD 320-329339/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 10-Oct-2019 22:10:05 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 320-329339/3-A LCSD 320-329339/3-A
Misc. Info.: 10OC1910D5
Operator ID: SMA Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Oct-2019 14:34:17 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0335

First Level Reviewer: dadunj Date: 14-Oct-2019 14:35:16

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.986	17.986	0		33588443	8417746	5080	12700	1657		
333.9339	17.986	17.986	0		42125430	10463166	3331	8327	3141	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.457	17.472	-1	0.971	17447929	4449798	9733	24332	457		
317.9389	17.457	17.472	-1	0.971	22268721	5714214	5718	14295	999	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.472	17.487	-1	1.001	2206105	558162	783	1957	713		
305.8987	17.472	17.487	-1	1.001	2792559	727482	1168	2920	623	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.162						783	1957			
305.8987	17.162						1168	2920			
13C-2,3,7,8-TCDD											
331.9368	18.168	18.183	-1	1.010	12085115	2822280	5080	12700	556		
333.9339	18.168	18.183	-1	1.010	15542364	3822652	3331	8327	1148	0.78(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.198	18.198	0	1.012	32464398	7852081	4639	11597	1693		
2,3,7,8-TCDD											
319.8965	18.198	18.213	-1	1.002	1472450	359916	1480	3700	243		
321.8936	18.198	18.213	-1	1.002	1875882	457319	896	2240	510	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.616						1480	3700			
321.8936	17.616						896	2240			
13C-1,2,3,7,8-PeCDF											
351.9000	22.543	22.556	-1	1.253	15987525	2973541	3023	7557	984		
353.8970	22.543	22.556	-1	1.253	10302628	1896134	2161	5402	877	1.55(1.32-1.78)	

Report Date: 14-Oct-2019 14:35:17 Chrom Revision: 2.3 11-Oct-2019 15:46:24
Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_9.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	22.556	22.570	-1	1.001	10619159	1936163	1956	4890	990		
341.8567	22.556	22.570	-1	1.001	6517271	1162387	1715	4287	678	1.63(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	23.906	23.920	-1	1.329	17766549	2990954	3023	7557	989		
353.8970	23.906	23.920	-1	1.329	11386164	1924047	2161	5402	890	1.56(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.920	23.947	-2	1.001	11340397	1982816	1956	4890	1014		
341.8567	23.920	23.947	-2	1.001	7052727	1214895	1715	4287	708	1.61(1.32-1.78)	
A F1 PeCDFs											
339.8597	20.035						288	720			
341.8567	20.035						643	1607			
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	23.102	23.226	-7	1.025	99868	14538	1956	4890	7		
	Empc Correction				80689	14332	1956	4890	7		
341.8567	23.102	23.226	-7	1.025	52058	9247	1715	4287	5	1.92(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	24.629	24.643	-1	1.369	12861951	2064844	2209	5522	935		
369.8919	24.629	24.643	-1	1.369	8110312	1283258	1557	3892	824	1.59(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.656	24.670	-1	1.001	7424981	1187750	810	2025	1466		
357.8516	24.656	24.670	-1	1.001	4809477	755639	396	990	1908	1.54(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.531						810	2025			
357.8516	23.531						396	990			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.669	30.682	-1	0.952	8308208	1619897	2256	5640	718		
385.8610	30.669	30.682	-1	0.952	15902560	3144280	4519	11297	696	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.682	30.695	-1	1.000	9424168	1944057	2847	7117	683		
375.8178	30.682	30.695	-1	1.000	7500170	1526052	2120	5300	720	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.842	30.855	-1	0.957	8228034	1717244	2256	5640	761		
385.8610	30.842	30.855	-1	0.957	15749702	3278621	4519	11297	726	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.855	30.868	-1	1.000	9352377	1957394	2847	7117	688		
375.8178	30.855	30.868	-1	1.000	7411298	1562378	2120	5300	737	1.26(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.627	31.640	-1	0.981	8594131	2271903	2256	5640	1007		
385.8610	31.627	31.640	-1	0.981	16668479	4319129	4519	11297	956	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.640	31.653	-1	1.000	10366847	2693205	2847	7117	946		
375.8178	31.640	31.653	-1	1.000	8354698	2170013	2120	5300	1024	1.24(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.399	32.412	-1	1.005	7565412	2163151	2256	5640	959		
385.8610	32.399	32.412	-1	1.005	14773565	4274648	4519	11297	946	0.51(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	32.412	32.426	-1	1.000	9106058	2593428	2847	7117	911		
375.8178	32.412	32.426	-1	1.000	7245953	2087181	2120	5300	985	1.26(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.363						2847	7117			
375.8178	30.363						2120	5300			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.226	32.239	-1		32589727	9216311	3306	8265	2788		
403.8529	32.226	32.239	-1		27289234	7789043	2448	6120	3182	1.19(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.800	31.813	-1	0.987	9353958	2581215	3306	8265	781		
403.8529	31.800	31.813	-1	0.987	7645721	2141601	2448	6120	875	1.22(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.813	31.826	-1	1.000	6207300	1696240	1379	3447	1230		
391.8127	31.813	31.826	-1	1.000	4828042	1328524	1063	2657	1250	1.29(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.907	31.920	-1	0.990	9569090	2599782	3306	8265	786		
403.8529	31.907	31.920	-1	0.990	7666124	2070708	2448	6120	846	1.25(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.920	31.933	-1	1.000	6372705	1732929	1379	3447	1257		
391.8127	31.920	31.933	-1	1.000	4992377	1351321	1063	2657	1271	1.28(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.239	32.252	-1	1.014	6728532	1950142	1379	3447	1414		
391.8127	32.239	32.252	-1	1.014	5476688	1569011	1063	2657	1476	1.23(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.995						1379	3447			
391.8127	30.995						1063	2657			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.807	33.819	-1	1.049	4633950	1535271	2817	7042	545		
419.8220	33.807	33.819	-1	1.049	10825895	3667532	6365	15912	576	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.819	33.819	0	1.000	7203933	2369511	6546	16365	362		
409.7789	33.807	33.819	-1	1.000	6931861	2214852	4036	10090	549	1.04(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.889	34.889	0	1.083	4633276	1381615	2817	7042	490		
419.8220	34.889	34.889	0	1.083	10817586	3261334	6365	15912	512	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.889	34.901	-1	1.000	6227599	1853668	6546	16365	283		
409.7789	34.889	34.901	-1	1.000	5738446	1734700	4036	10090	430	1.09(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.360						6546	16365			
409.7789	34.360						4036	10090			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.597	34.609	-1	1.074	8405332	2599496	3837	9592	677		
437.8140	34.597	34.609	-1	1.074	7971452	2473287	3638	9095	680	1.05(0.88-1.20)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.609	34.609	0	1.000	4642468	1442255	2152	5380	670		
425.7737	34.609	34.609	0	1.000	4563833	1364827	1865	4662	732	1.02(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	35.190						2152	5380			
425.7737	35.190						1865	4662			
13C-OCDD											
469.7779	36.941	36.941	0	1.146	9639420	2613616	1238	3095	2111		
471.7750	36.929	36.941	-1	1.146	10886763	3002067	1575	3937	1906	0.89(0.76-1.02)	
OCDF											
441.7428	37.037	37.049	-1	1.003	7892312	2230894	641	1602	3480		
443.7399	37.037	37.049	-1	1.003	8886702	2458550	953	2382	2580	0.89(0.76-1.02)	
OCDD											
457.7377	36.941	36.953	-1	1.000	6149041	1697427	512	1280	3315		
459.7348	36.941	36.953	-1	1.000	6975733	1927158	651	1627	2960	0.88(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Report Date: 14-Oct-2019 14:35:17 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_9.d
Lims ID: LCSD 320-329339/3-A
Client ID:
Inject. Date: 10-Oct-2019 22:10:05 Dil. Factor: 1.0000
Sample Type: LCSD, LCS Duplicate
Instrument ID: 10D5 Operator: SMA
Lims Batch ID: 330145 Lims Sample ID: 9

Non-2,3,7,8-sub-PeCDF, RT: 23.226

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.082	D 13C-1,2,3,7,8-PeCDF	100.000	26290153	4869675
2,3,4,7,8-PeCDF	1.103	D 13C-2,3,4,7,8-PeCDF	100.000	29152713	4915001

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.093		100.000	27721433	4892338

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
23.102	99868	14538	52058	9247	0.5015	1.92	RQ
23.102	80689	14332	52058	9247	0.4382		Empc Correction
Signal Totals:							
	80689	14332	52058	9247			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	151926	23785				1.92	RQ
	132747	23579					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.5015 = (151926 * 100.000) / (27721433 * 1.093)
Empc Amount: 0.4382 = (132747 * 100.000) / (27721433 * 1.093)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Report Date: 14-Oct-2019 14:35:17 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_9.d		
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Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330145	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

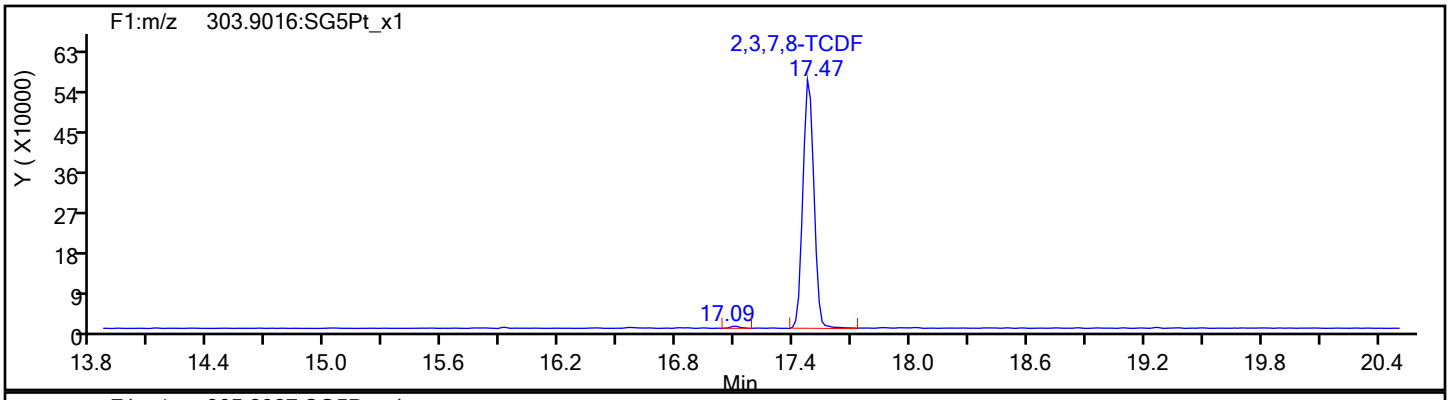

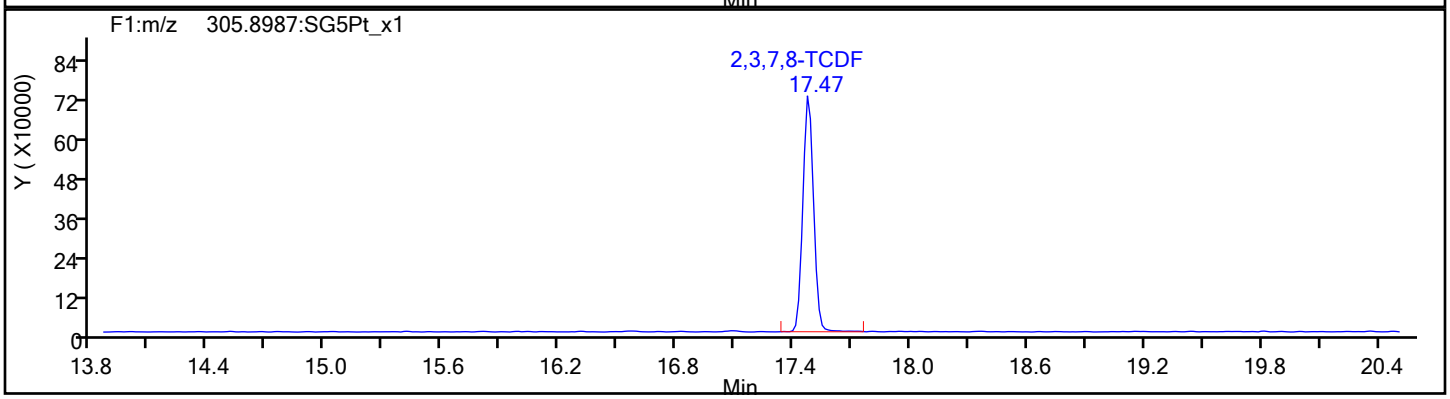

TCDF Standards

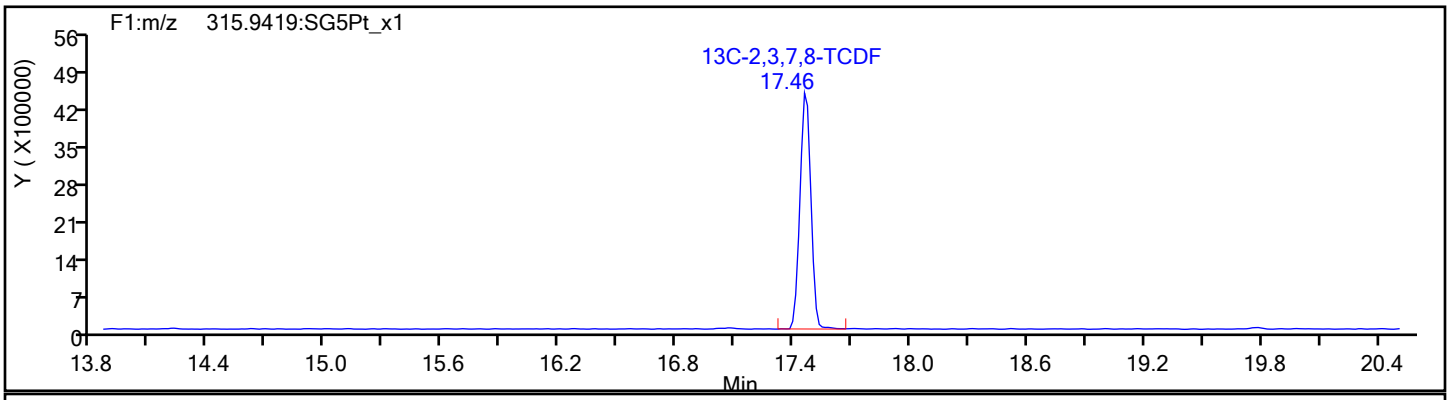

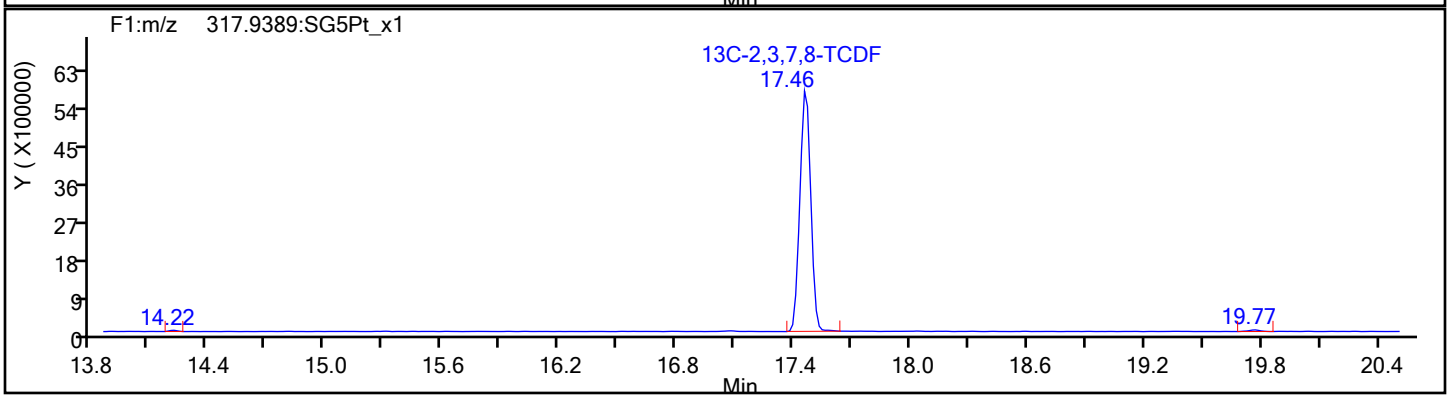

Report Date: 14-Oct-2019 14:35:17 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

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Client ID:			
Worklist#:	330145	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

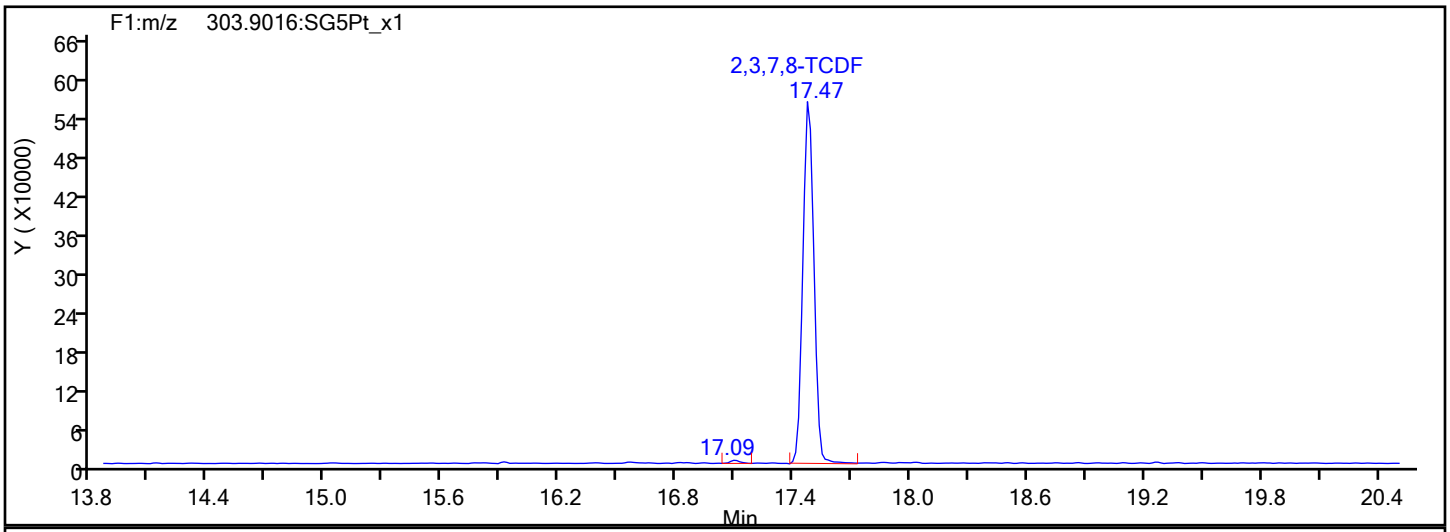

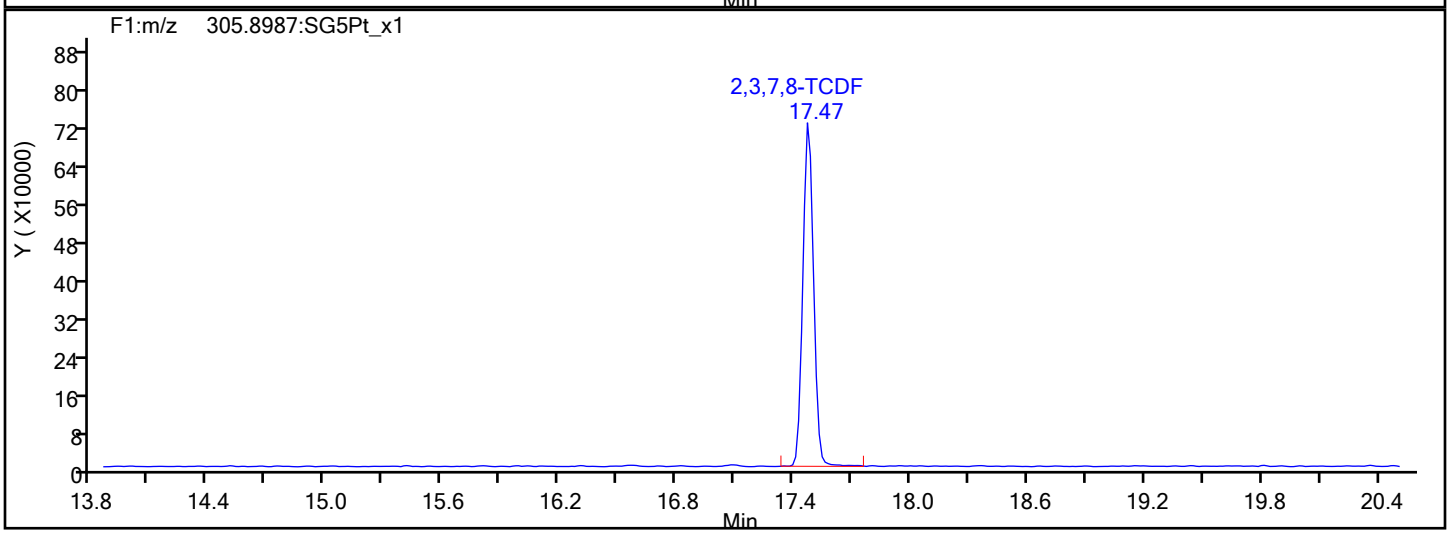

TCDF Interference Mass

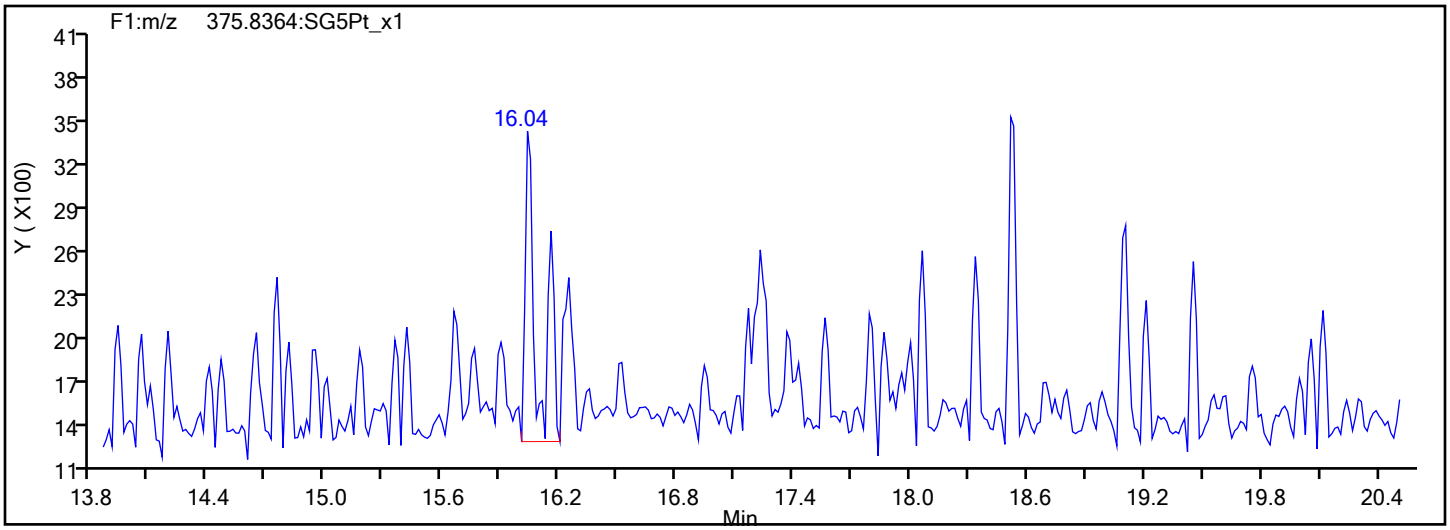

Report Date: 14-Oct-2019 14:35:17 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

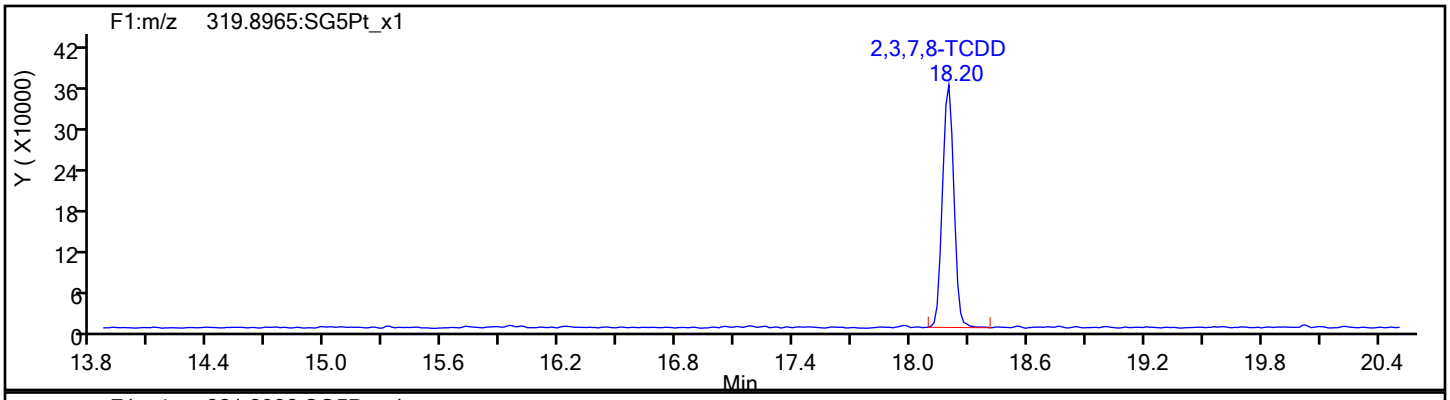

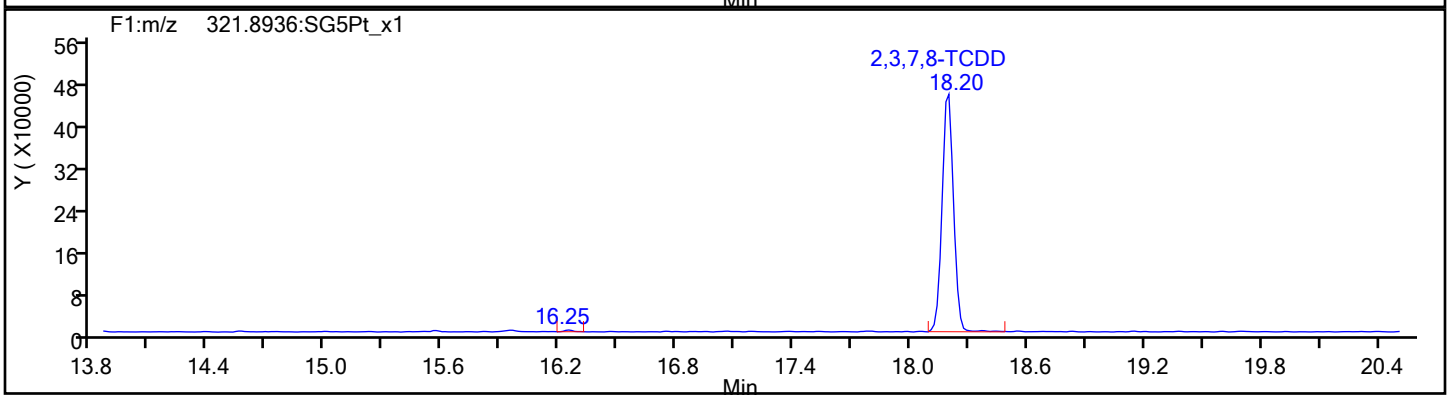

TCDD Standards

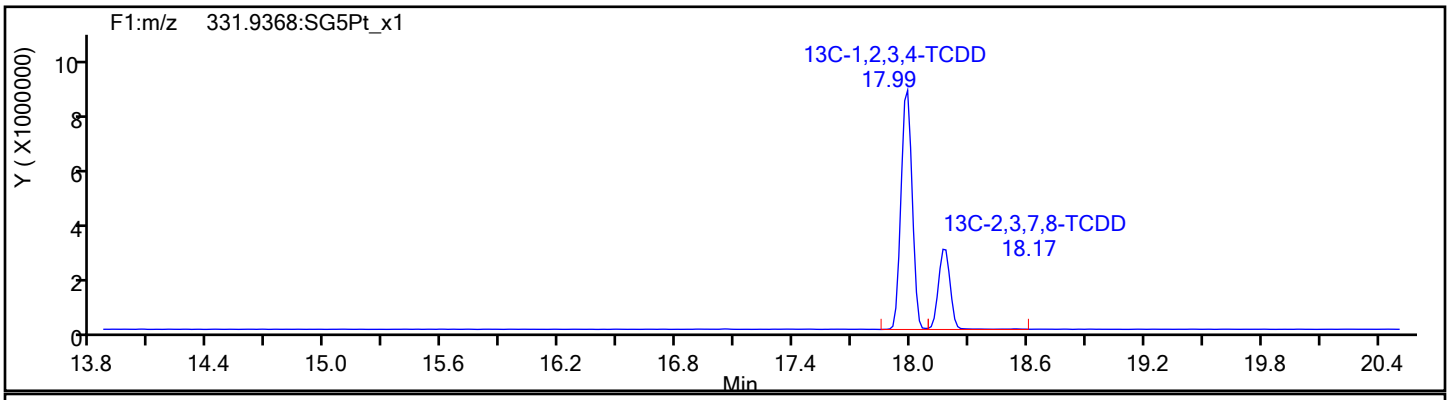

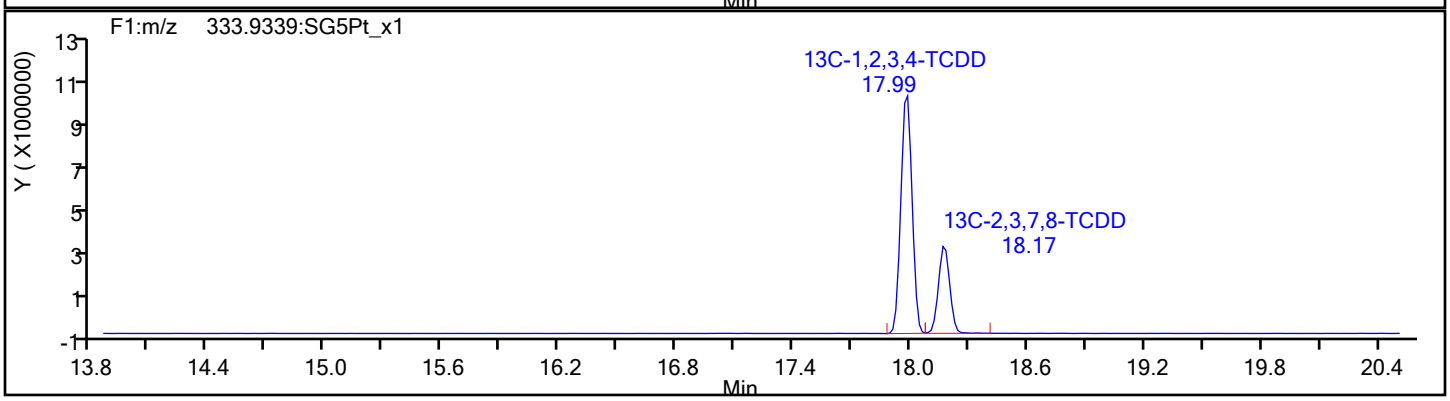

Report Date: 14-Oct-2019 14:35:17 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

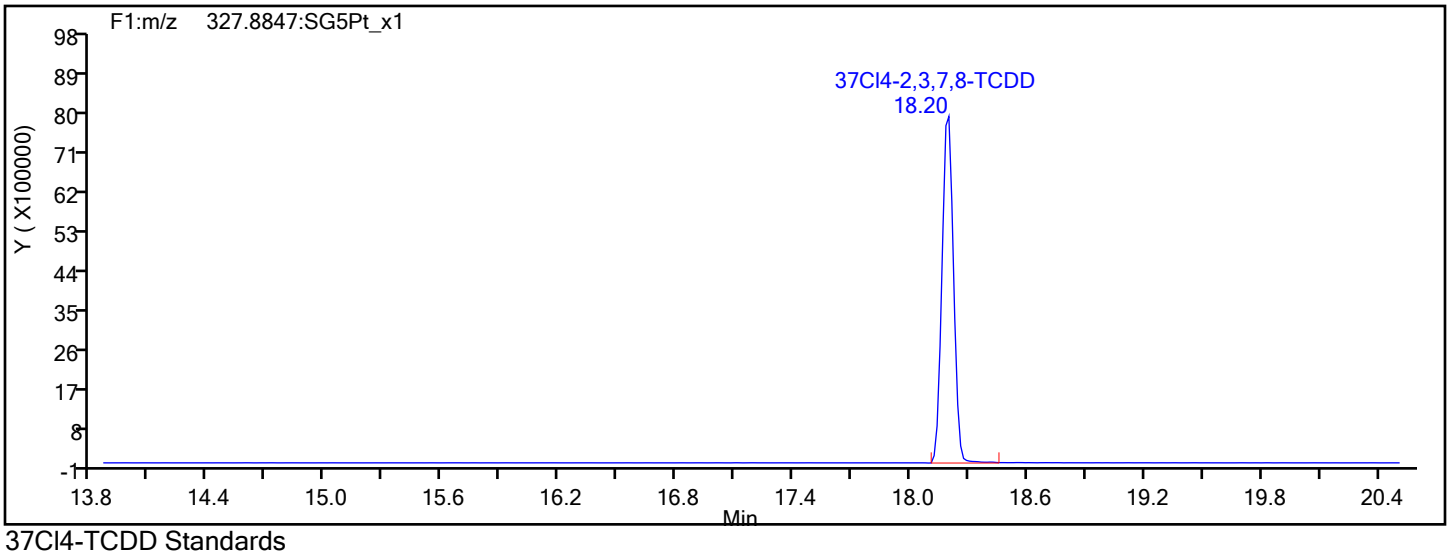

37Cl4-TCDD Standards

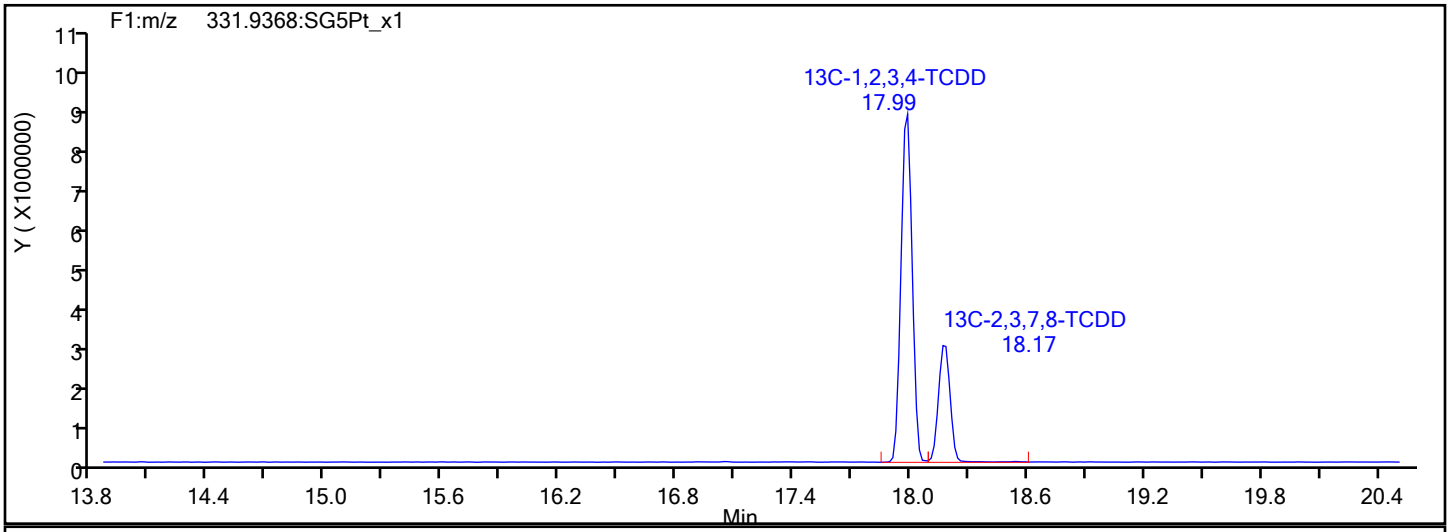

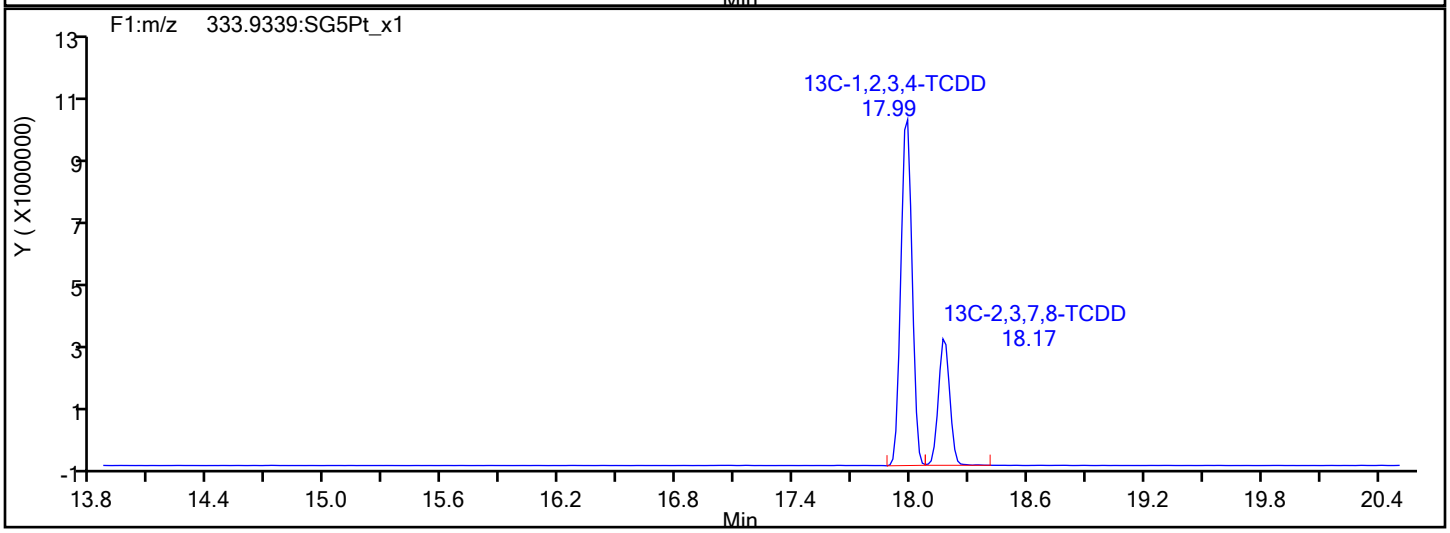

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

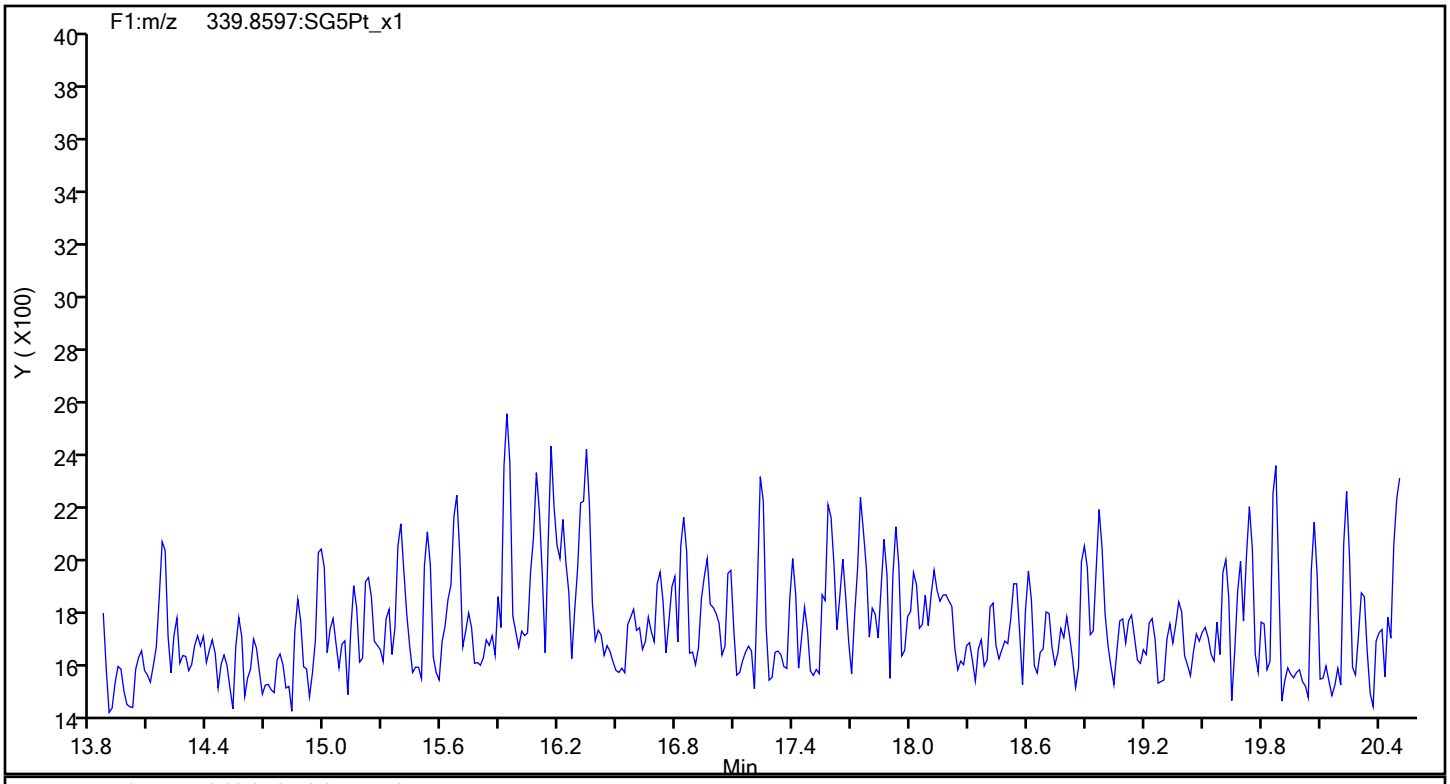

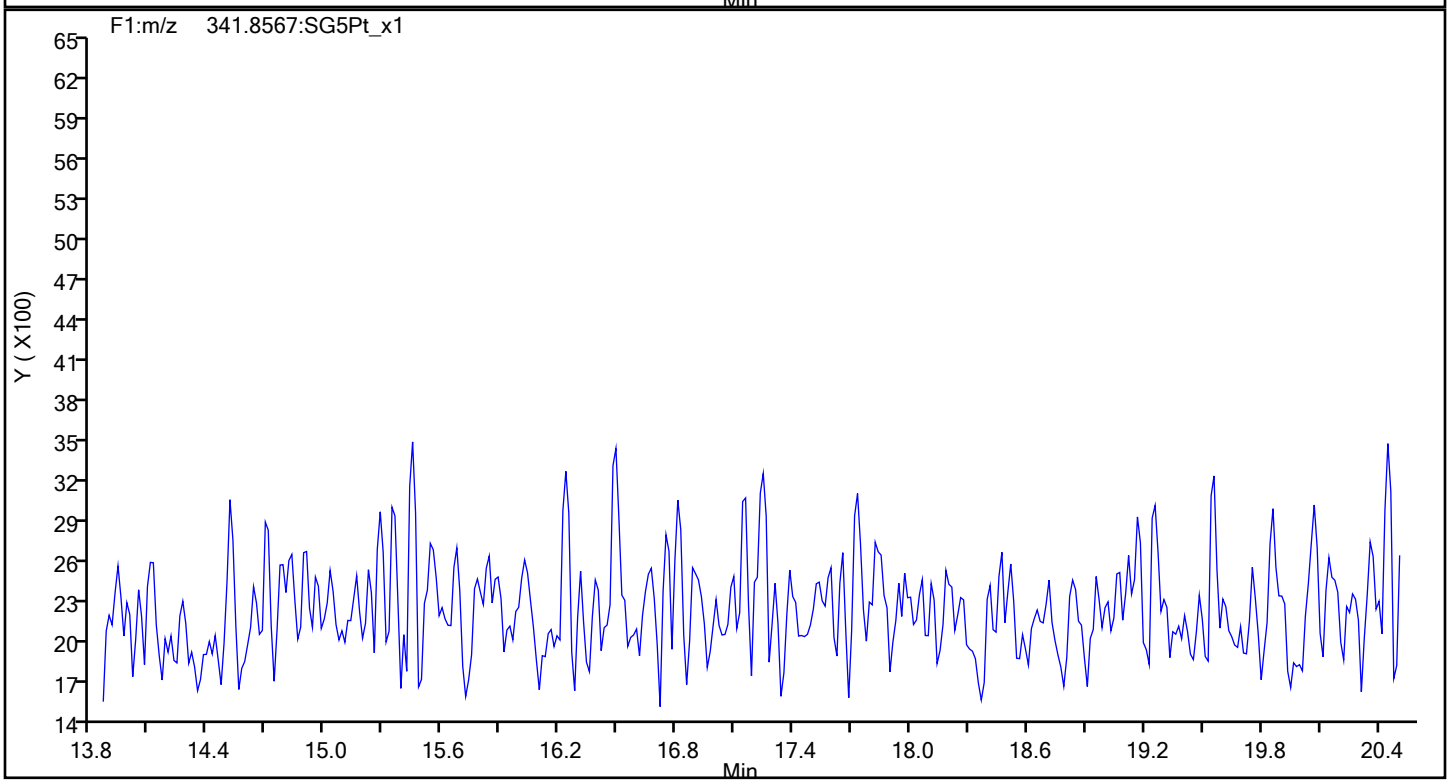

Report Date: 14-Oct-2019 14:35:17 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

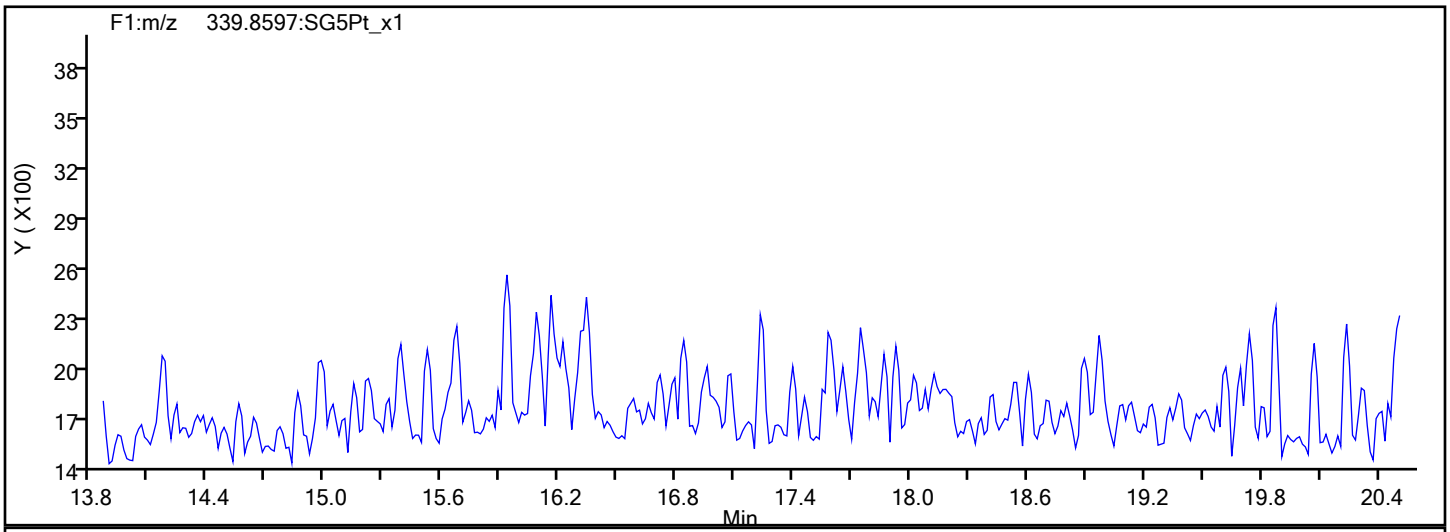

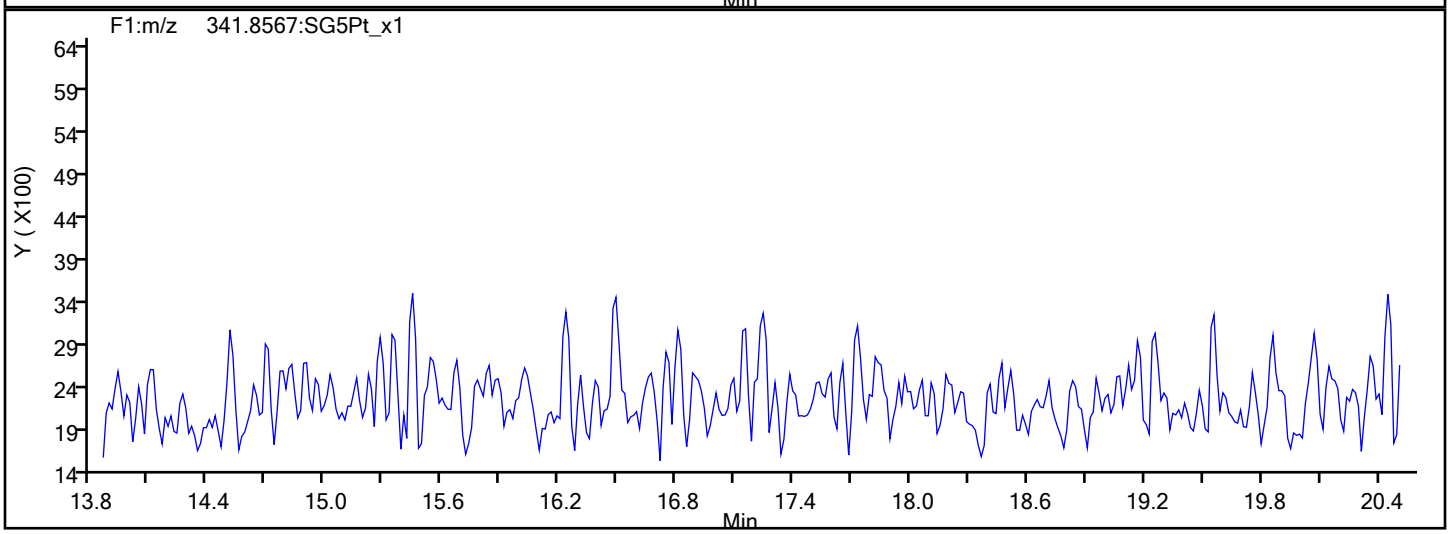

F1 PeCDFs Interference Mass

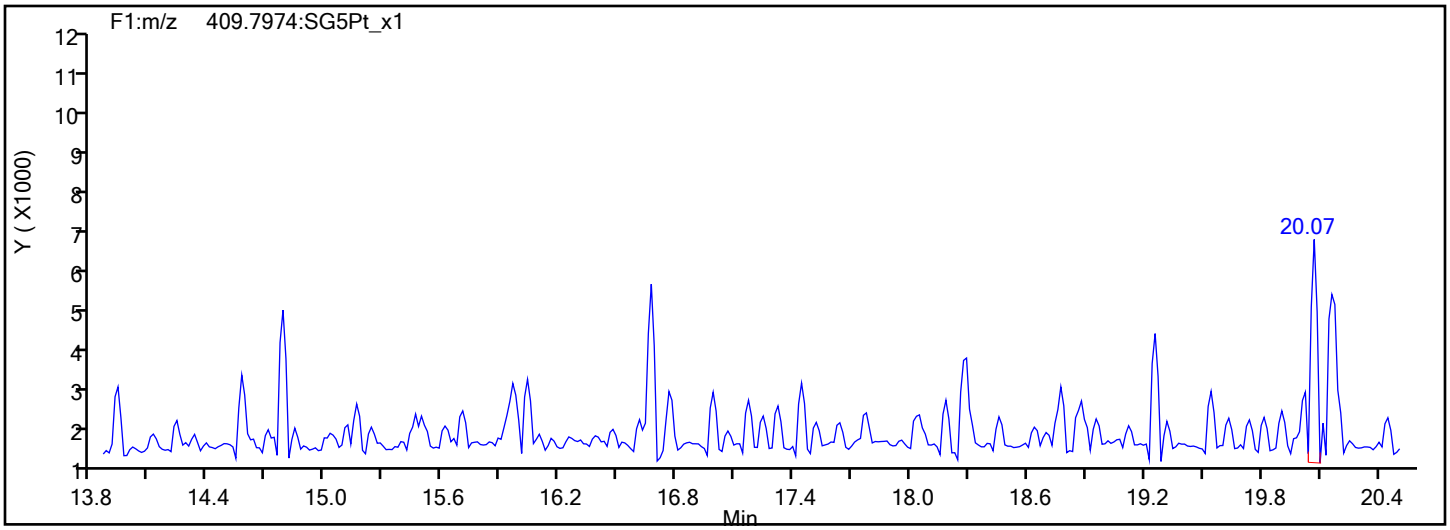

Report Date: 14-Oct-2019 14:35:17 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

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PeCDF

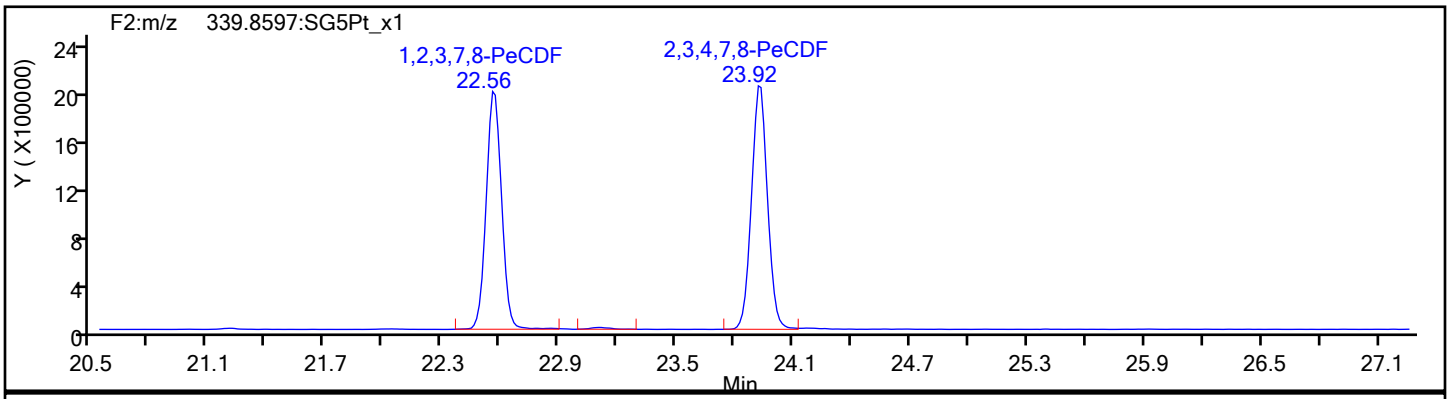

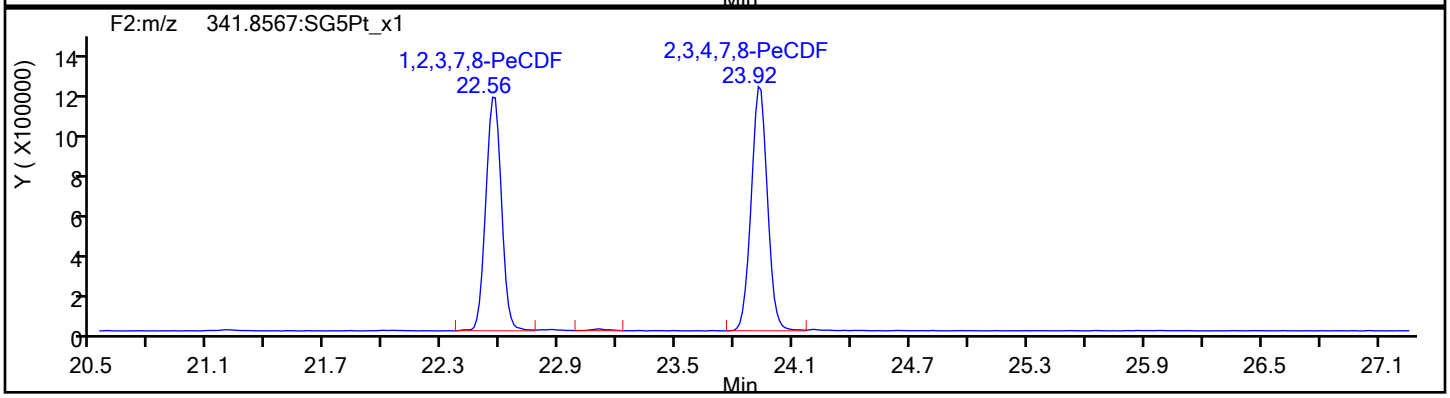

PeCDF Standards

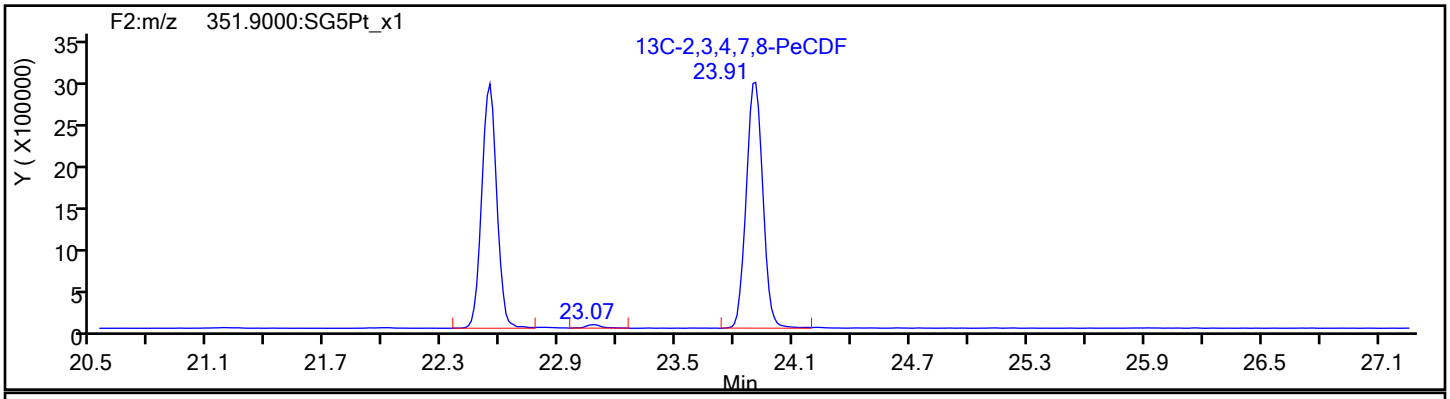

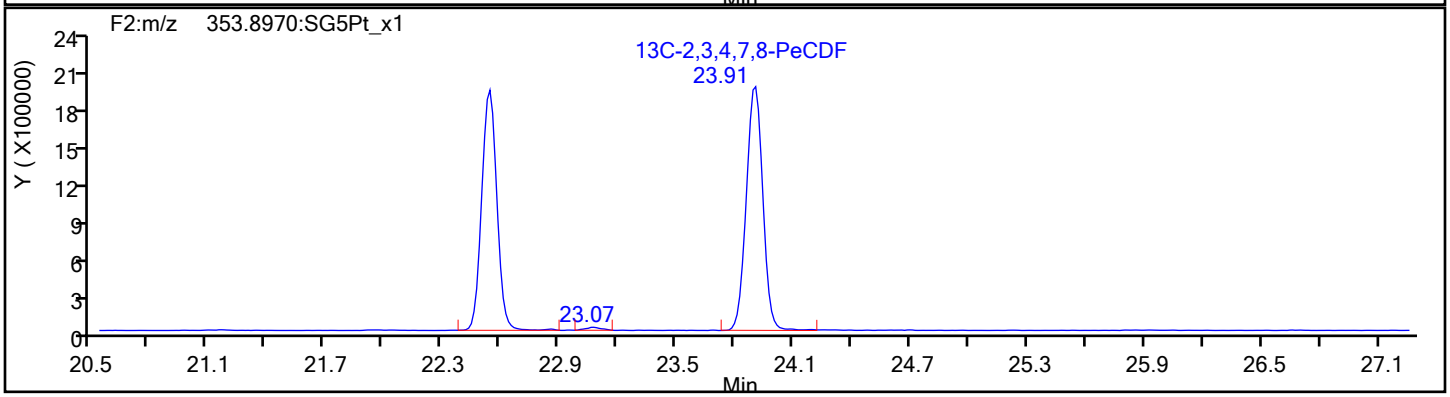

Report Date: 14-Oct-2019 14:35:17 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

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PeCDF

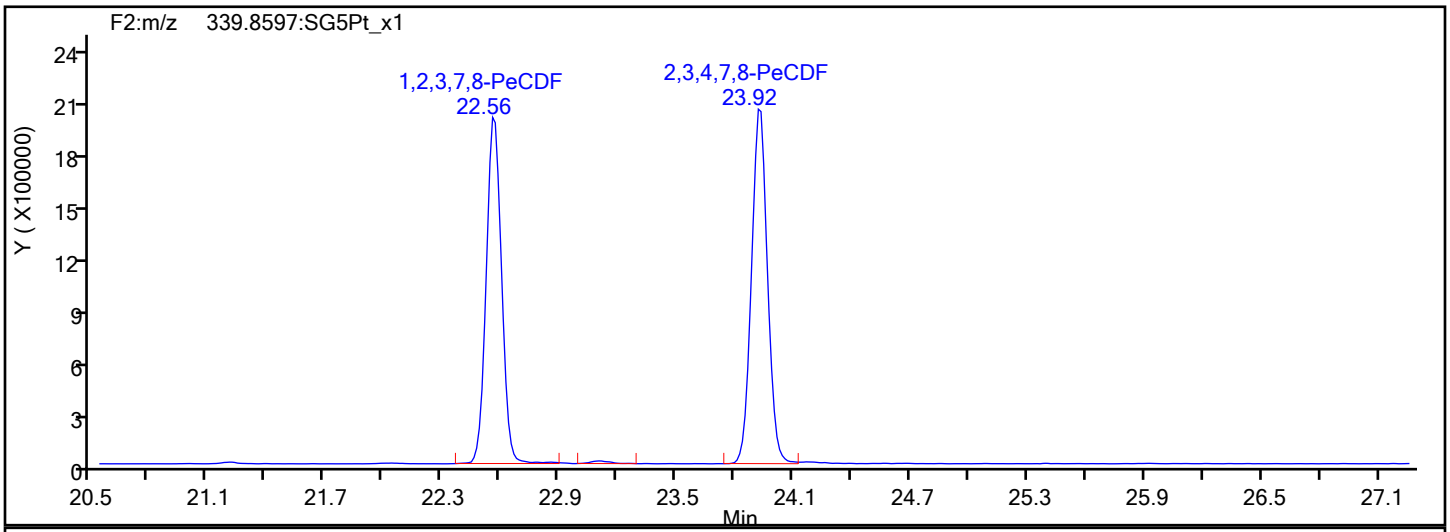

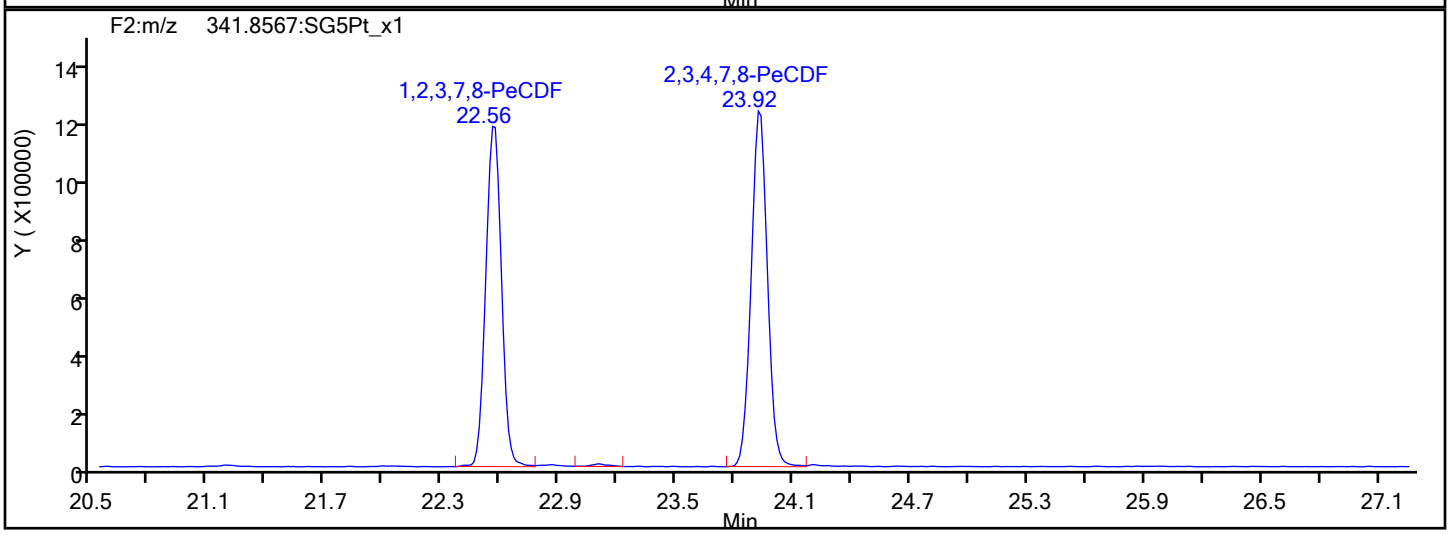

PeCDF Interference Mass

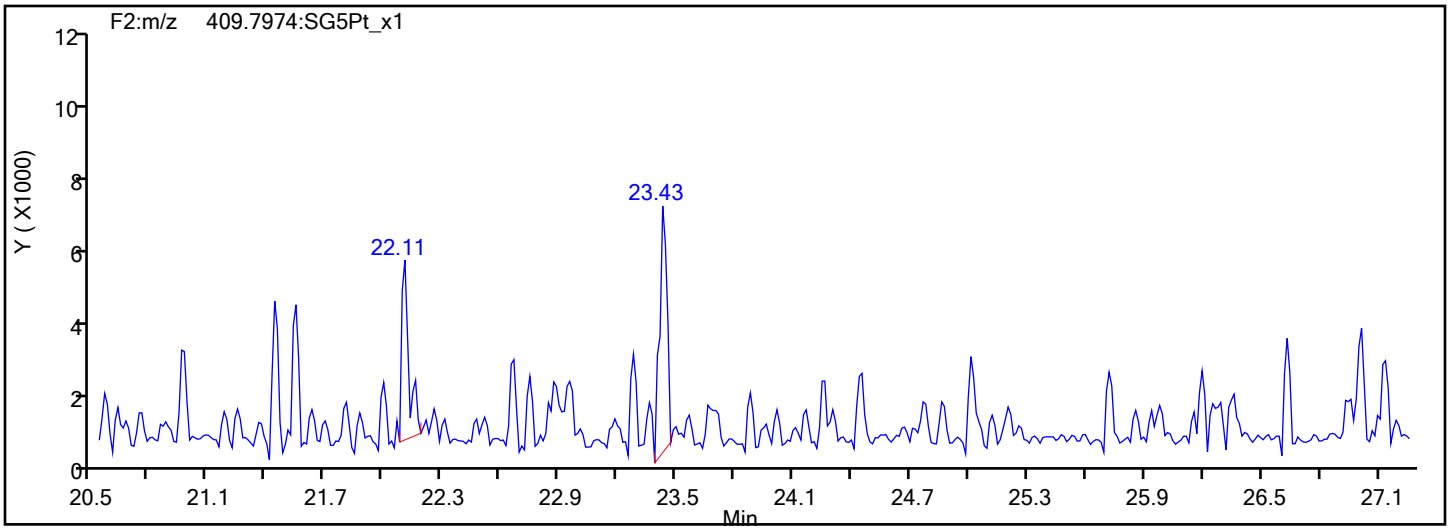

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Eurofins TestAmerica, Sacramento

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PeCDD

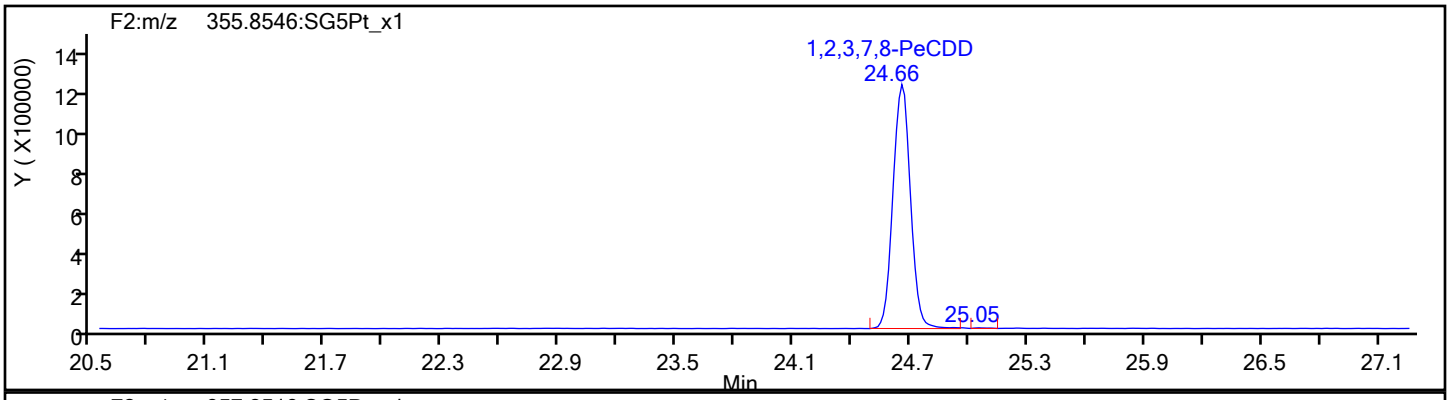

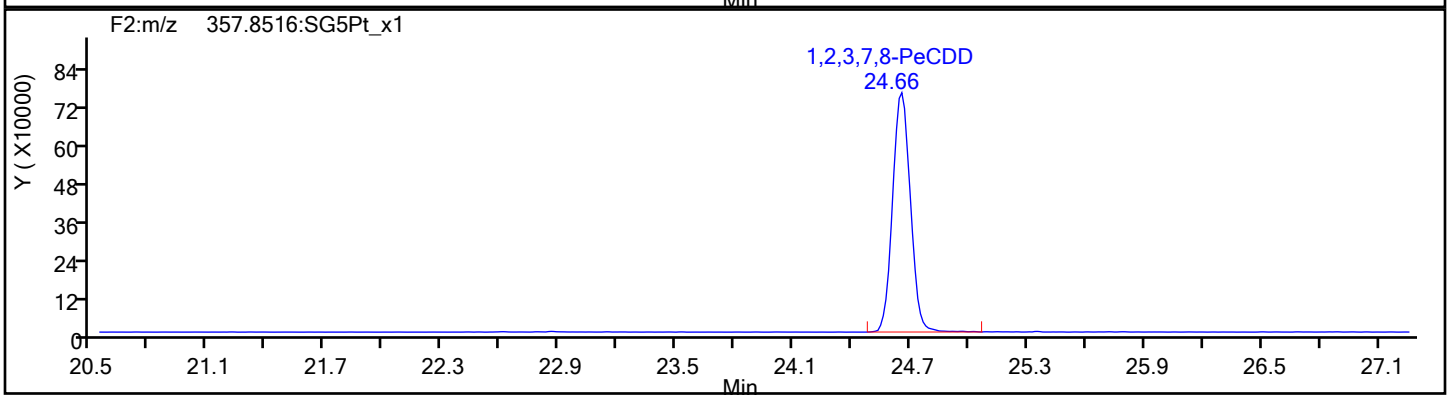

PeCDD Standards

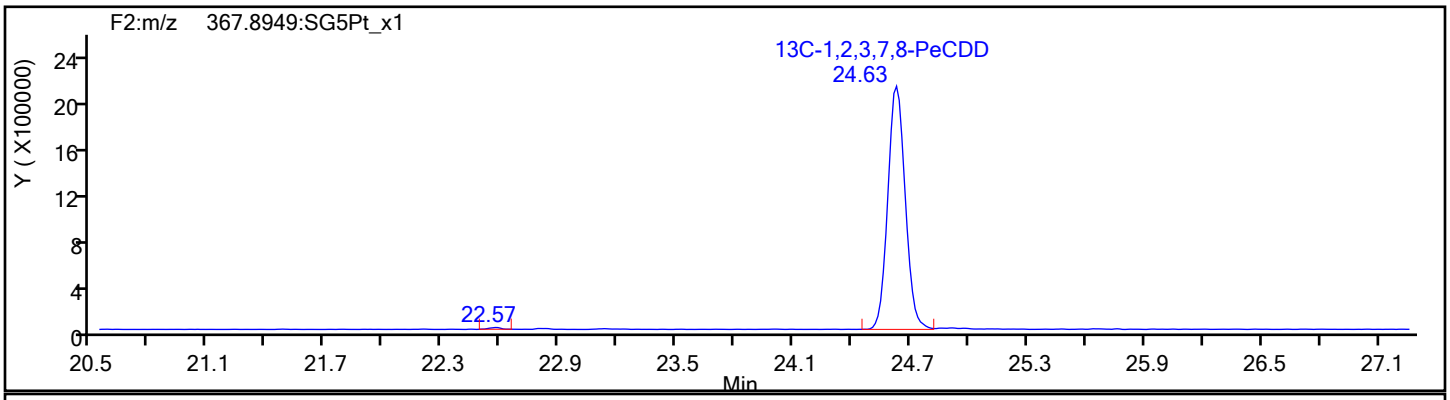

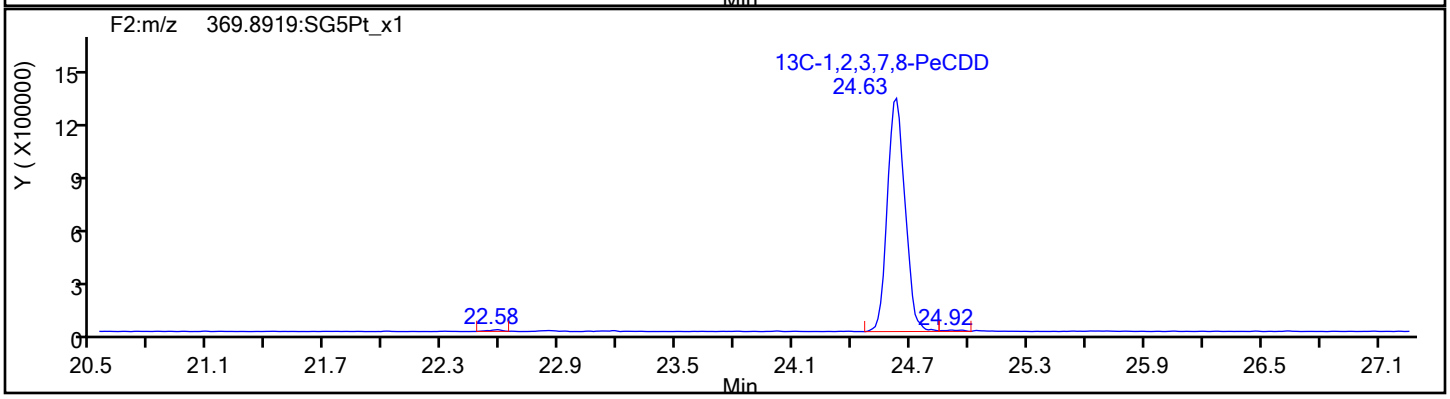

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Eurofins TestAmerica, Sacramento

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HxCDF

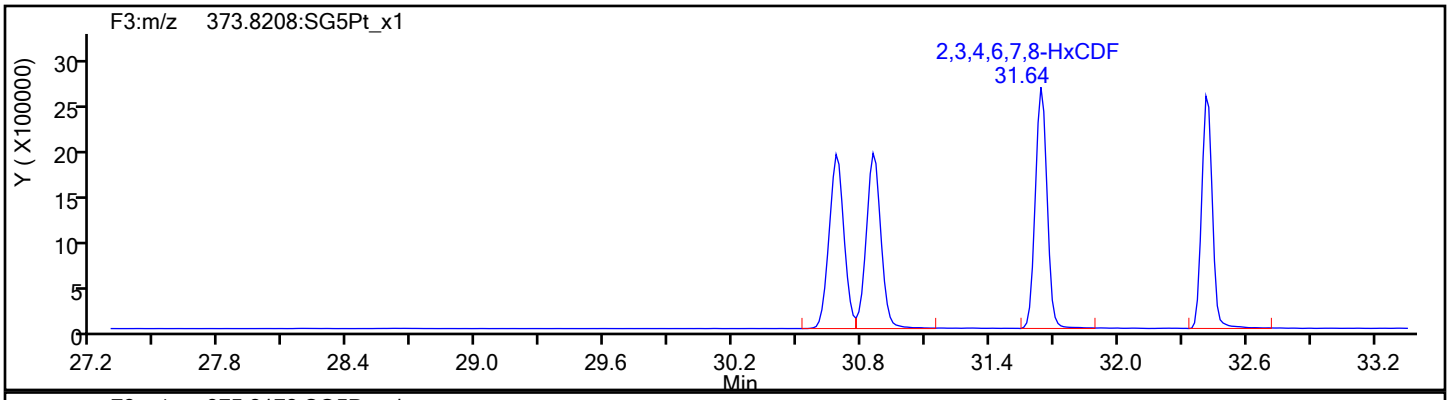

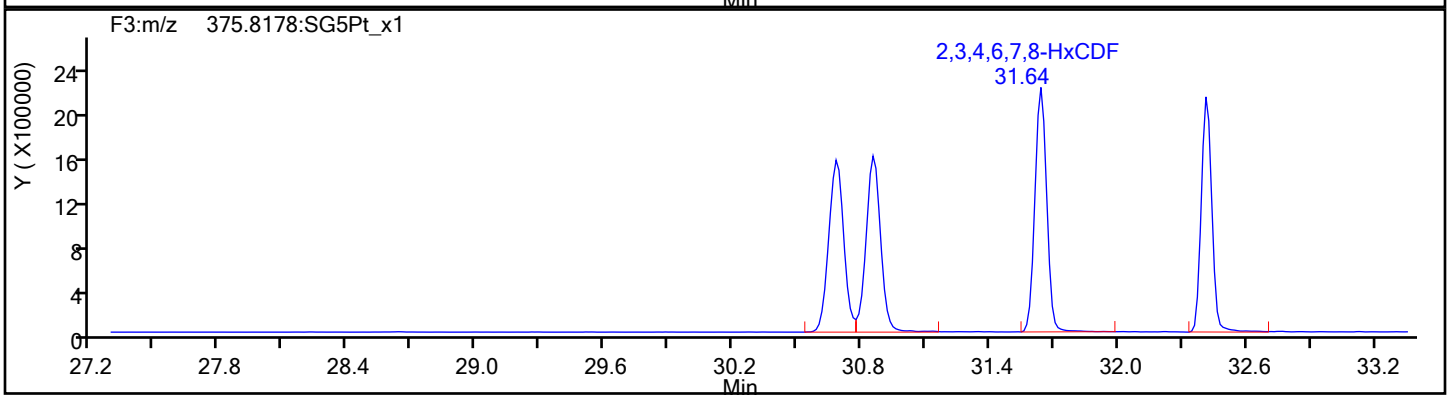

HxCDF Standards

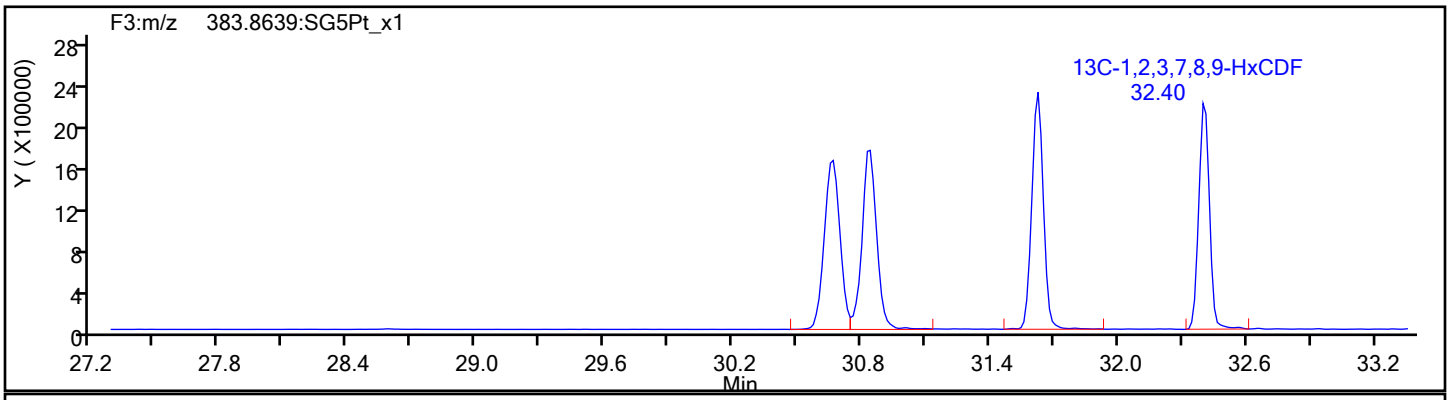

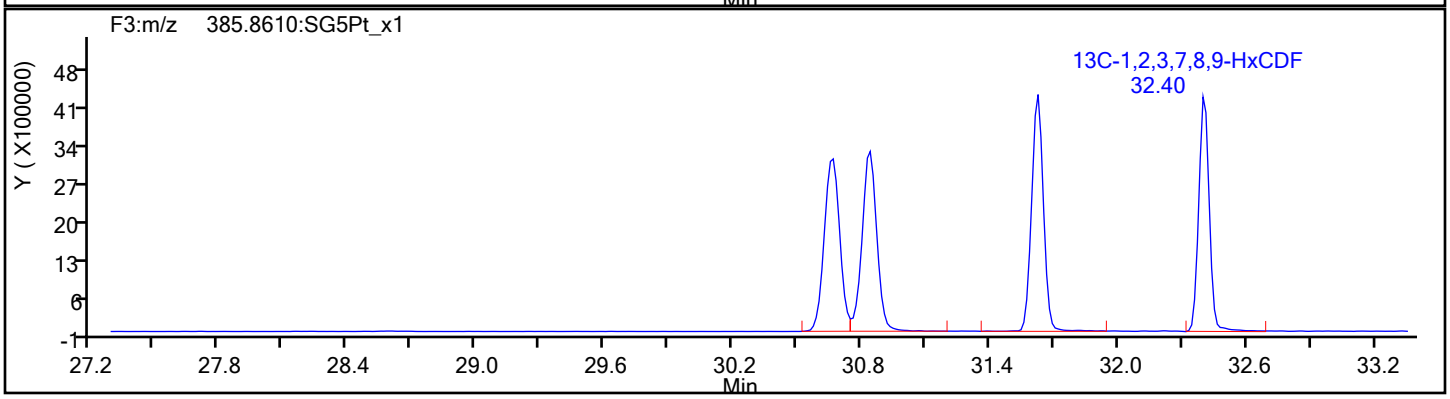

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Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	SMA
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HxCDF

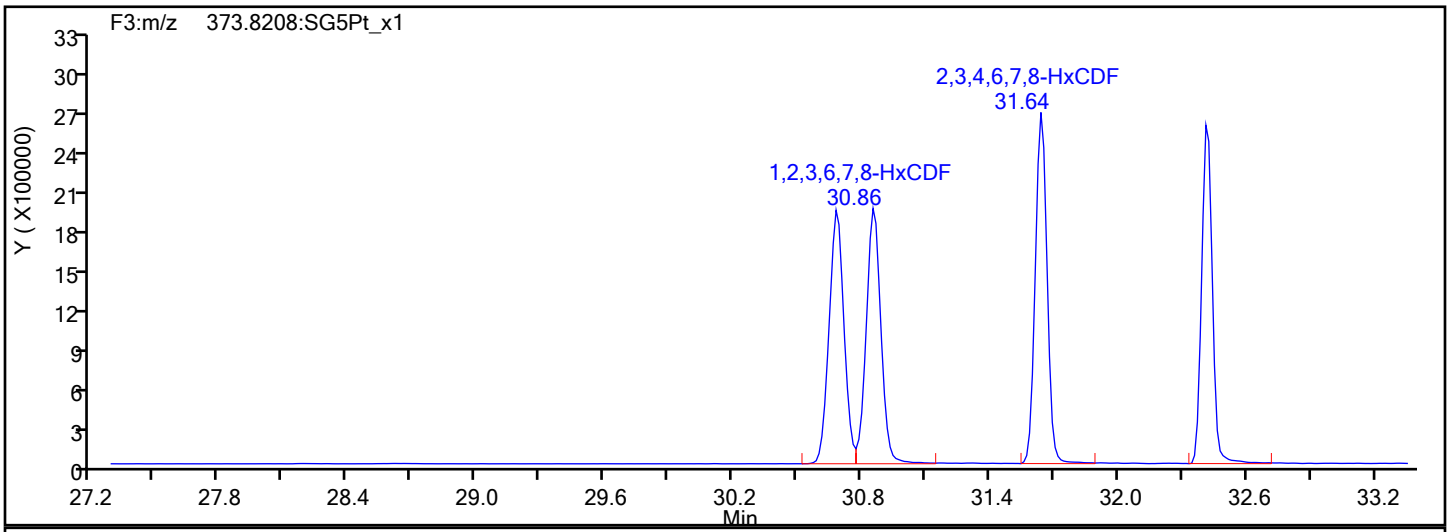

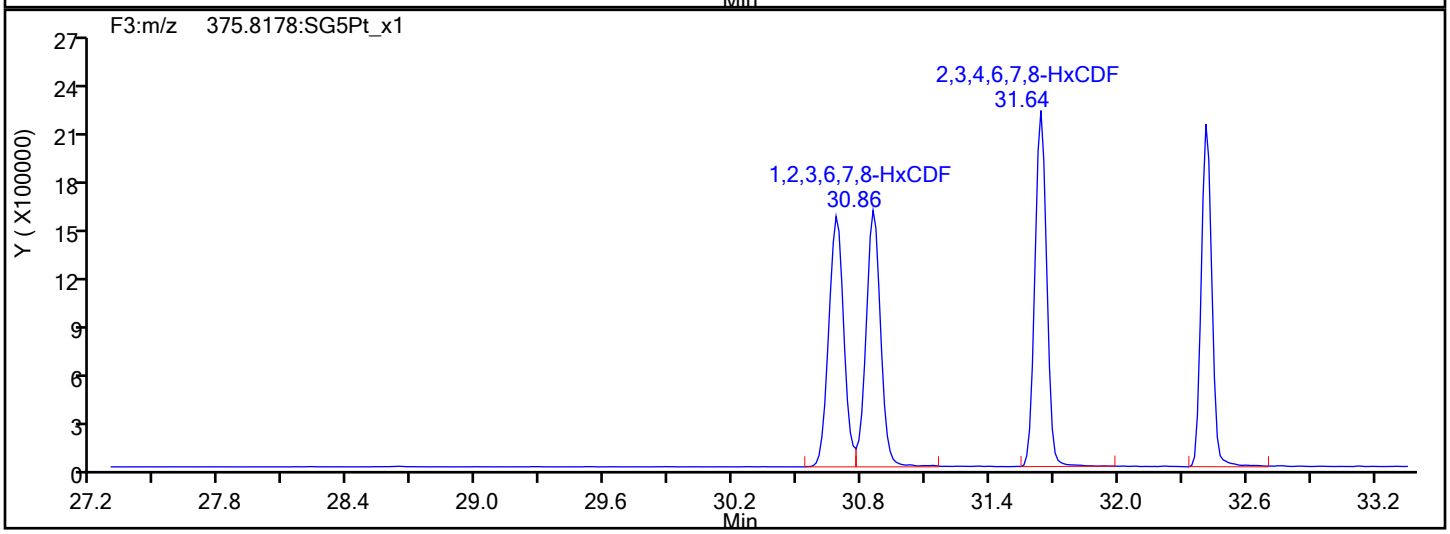

HxCDF Interference Mass

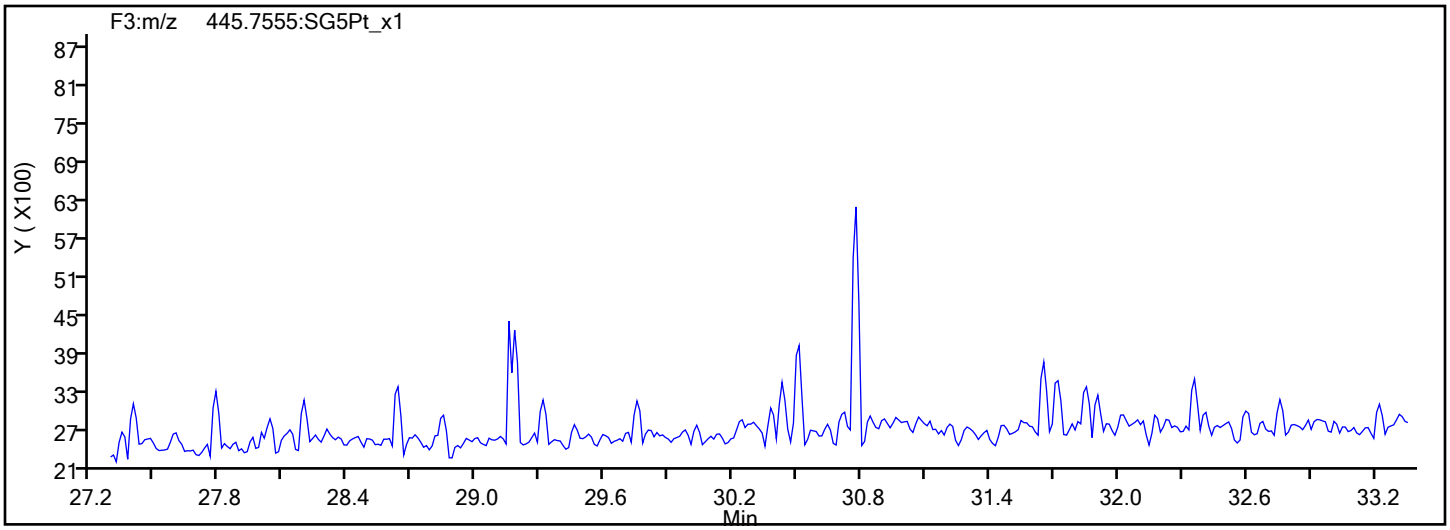

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Column Type:	DB-5	Column Dia:	0.32 mm

HxCDD

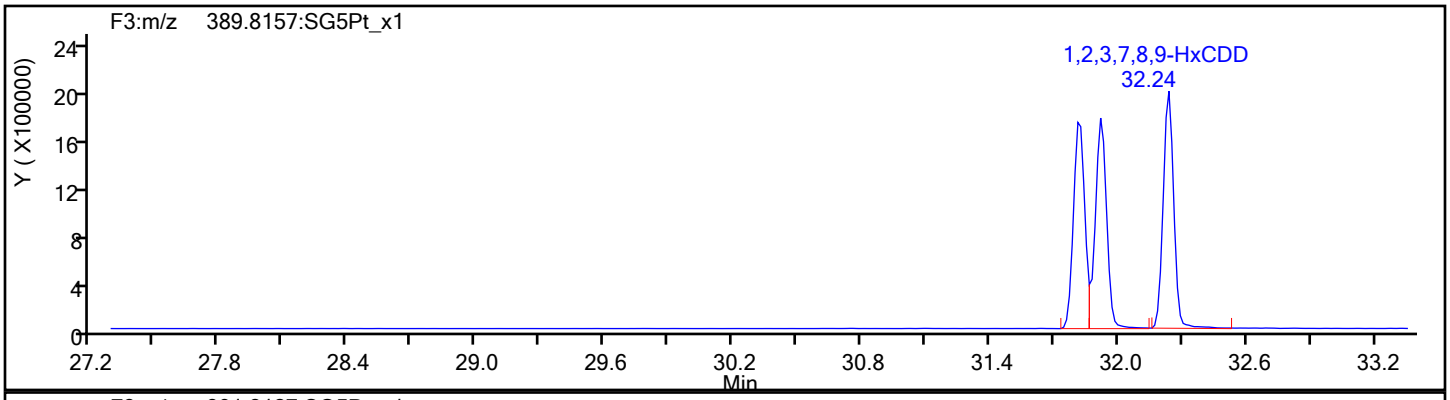

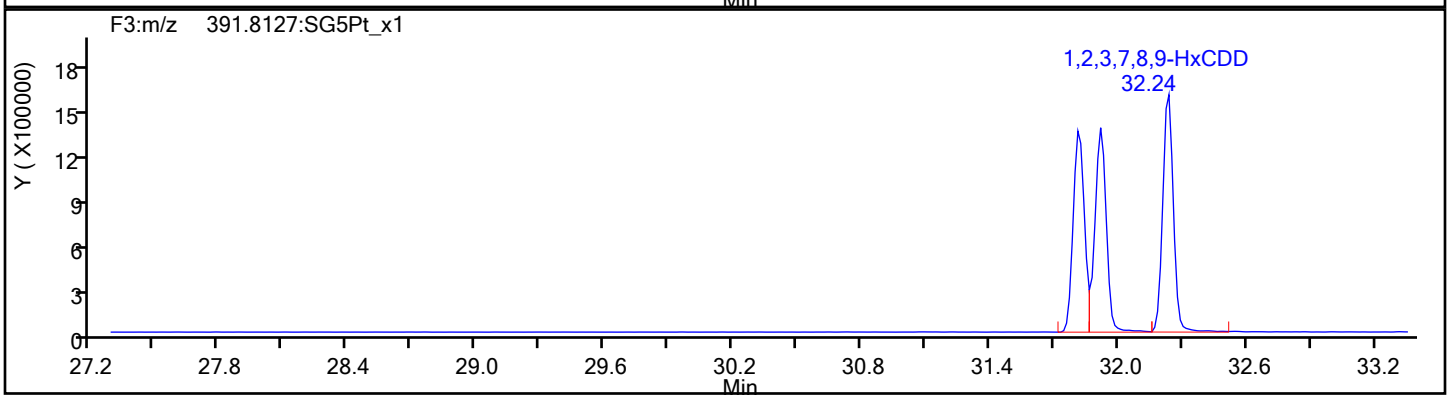

HxCDD Standards

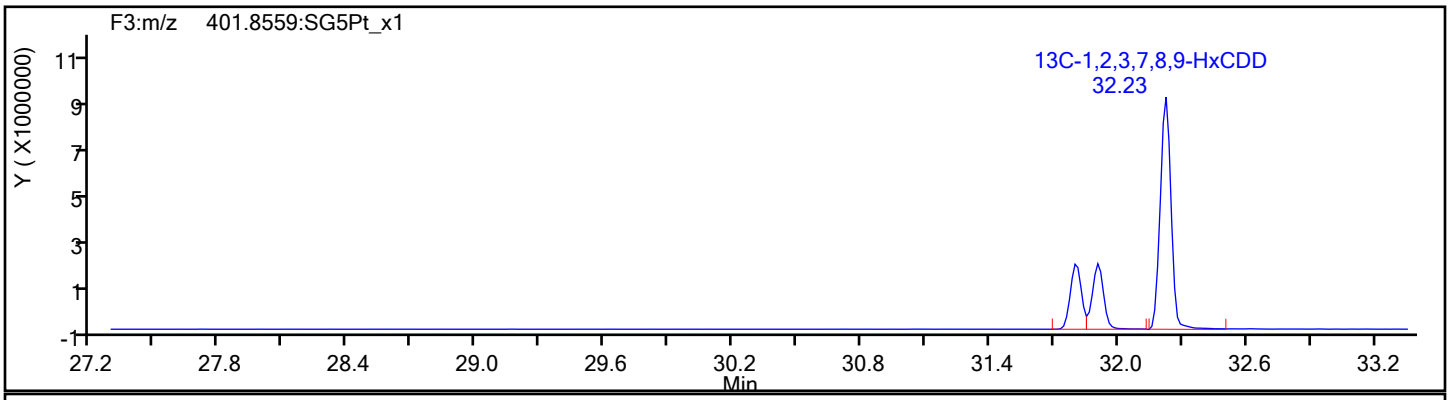

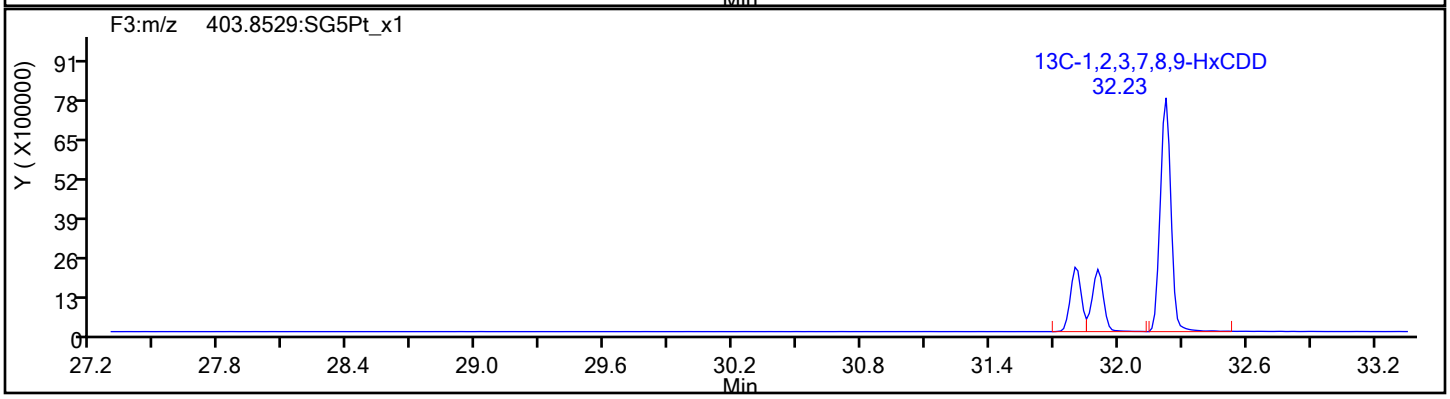

Report Date: 14-Oct-2019 14:35:17 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_9.d		
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Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330145	Sample Line#:	9
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HpCDF

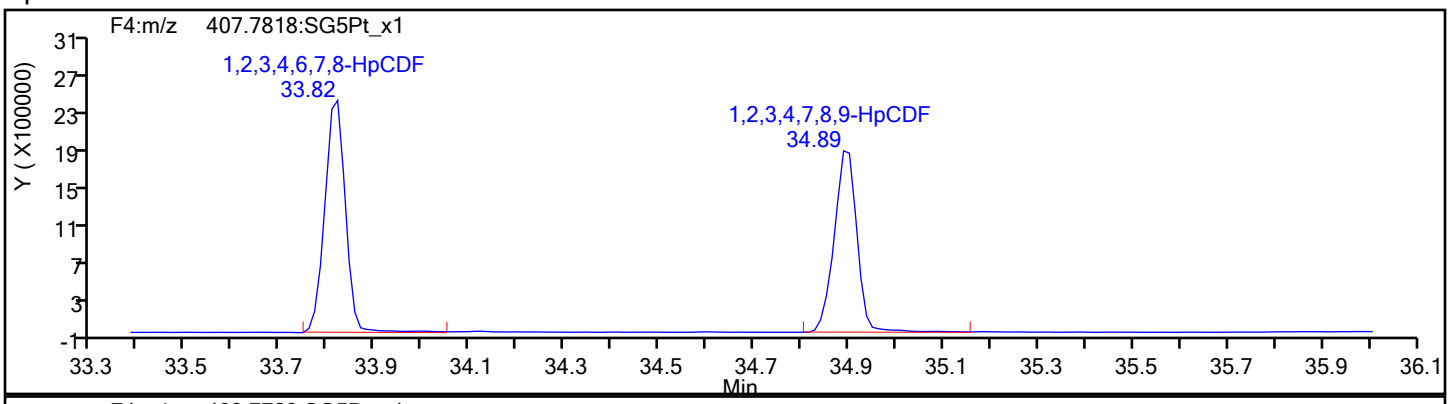

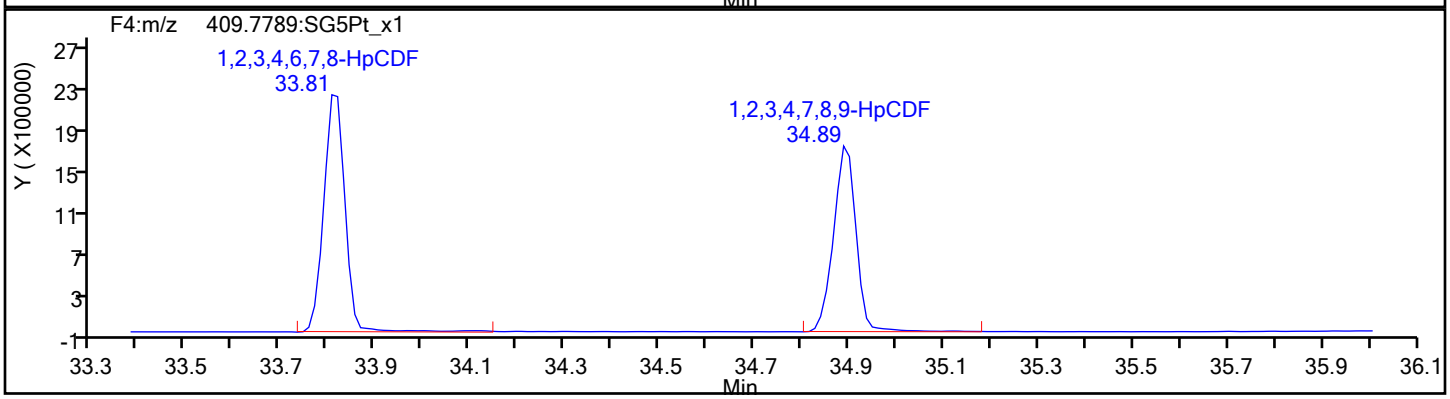

HpCDF Standards

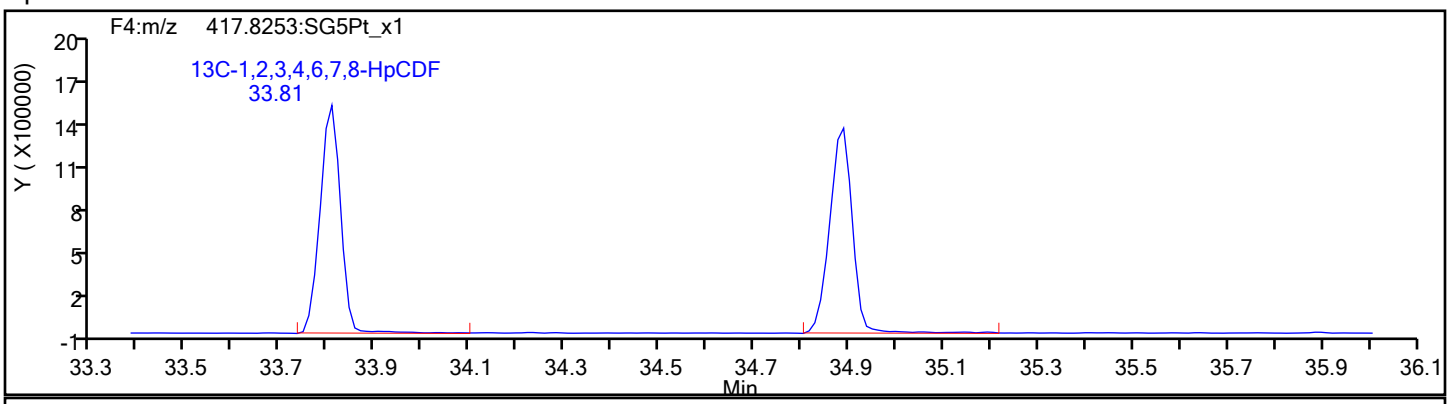

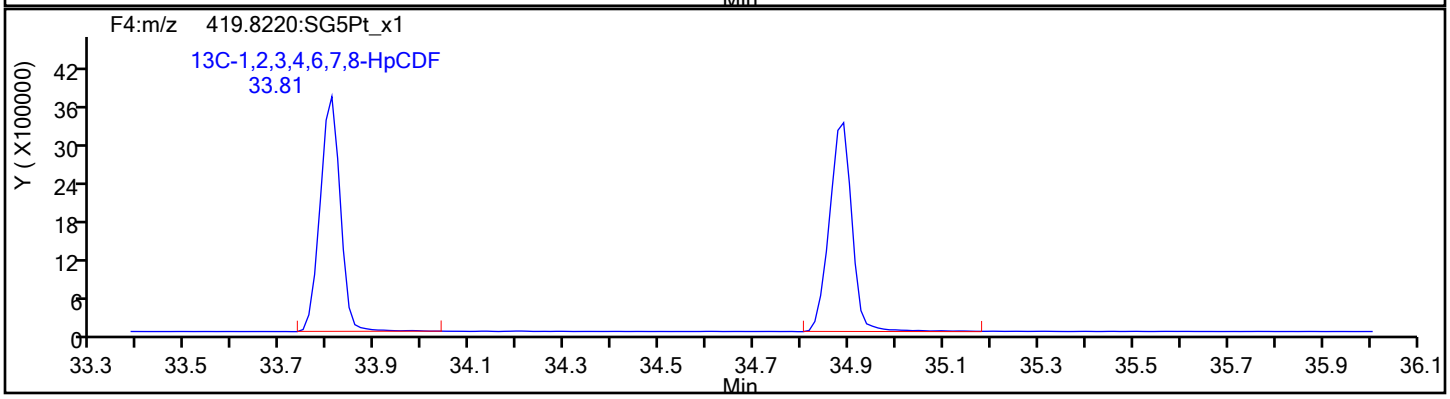

Report Date: 14-Oct-2019 14:35:17 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_9.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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HpCDF

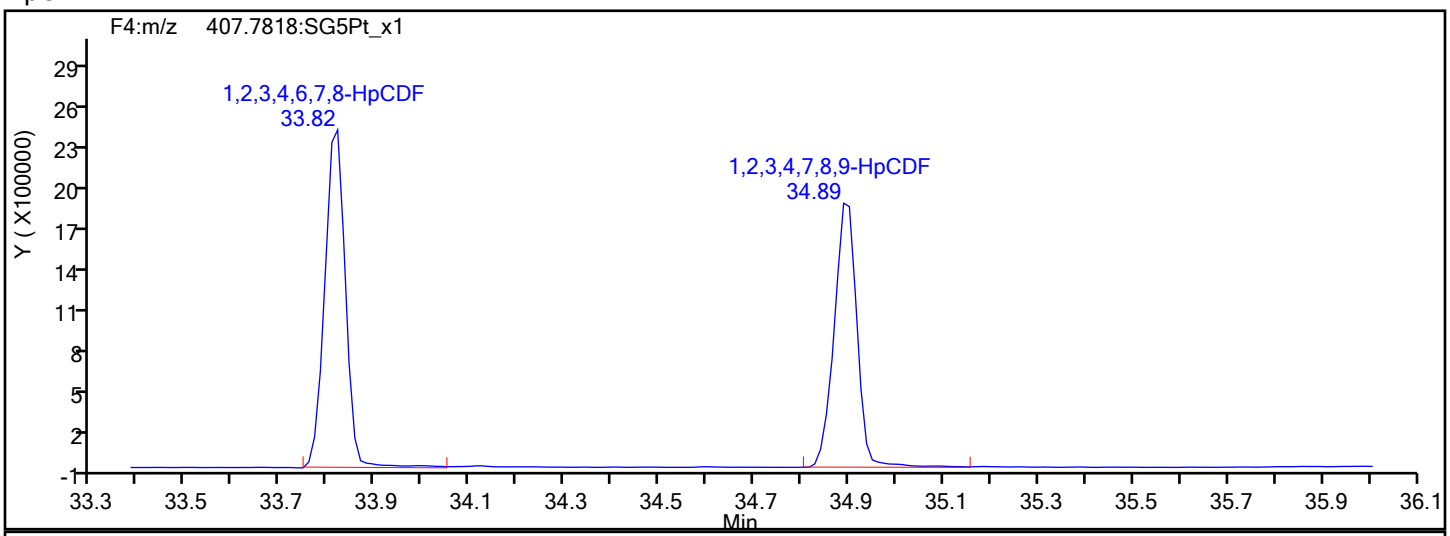

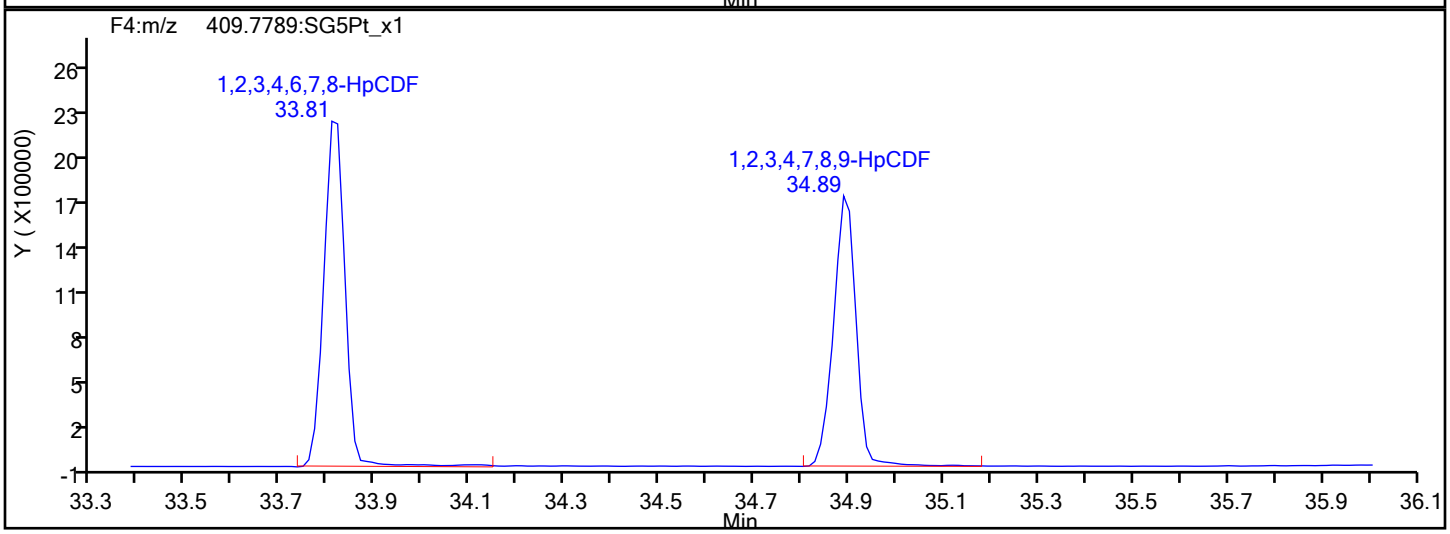

HpCDF Interference Mass

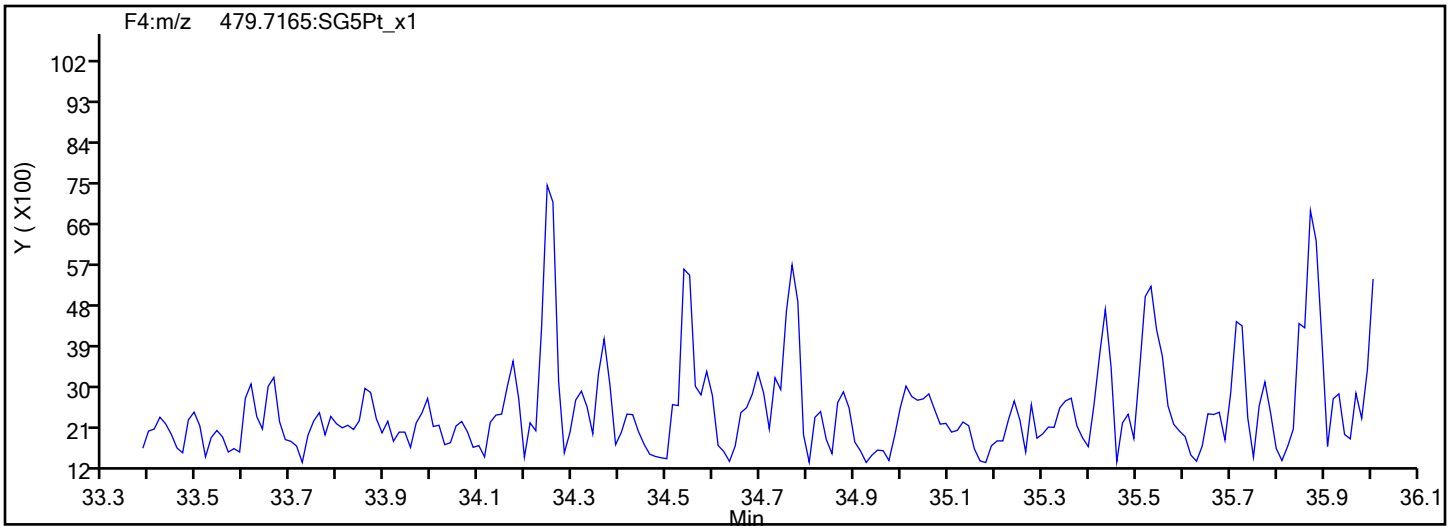

Report Date: 14-Oct-2019 14:35:17 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_9.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

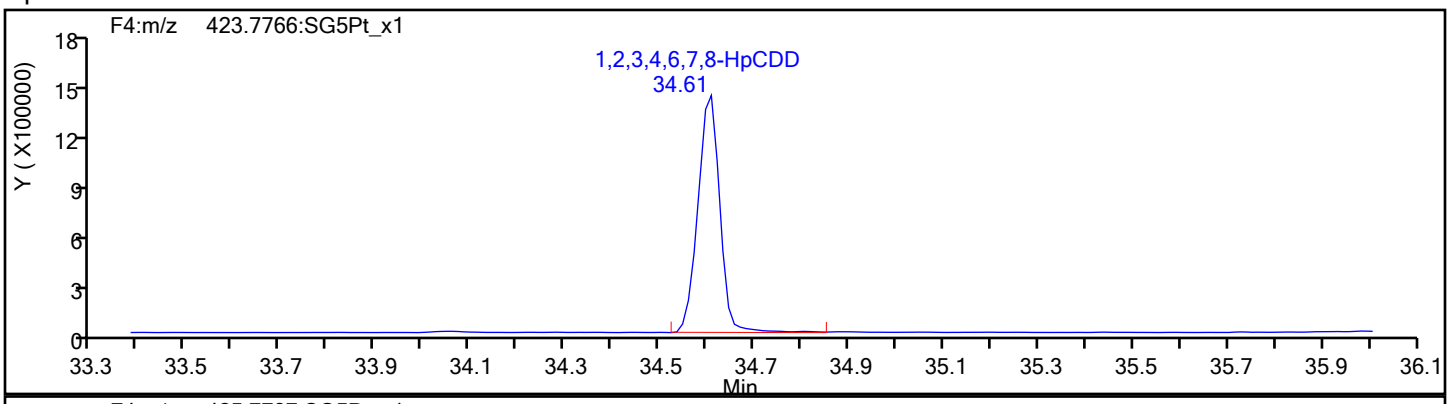

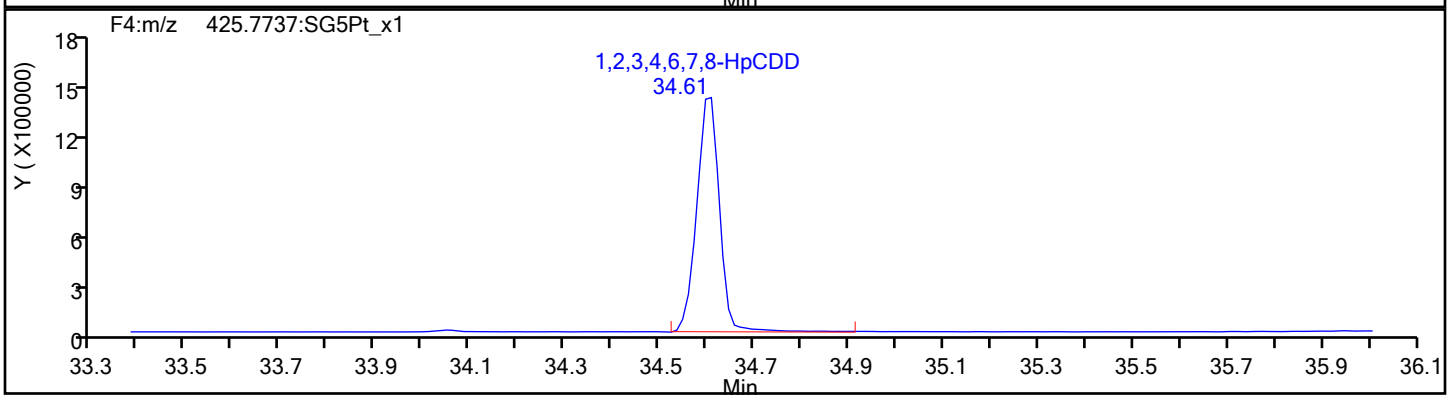

HpCDD Standards

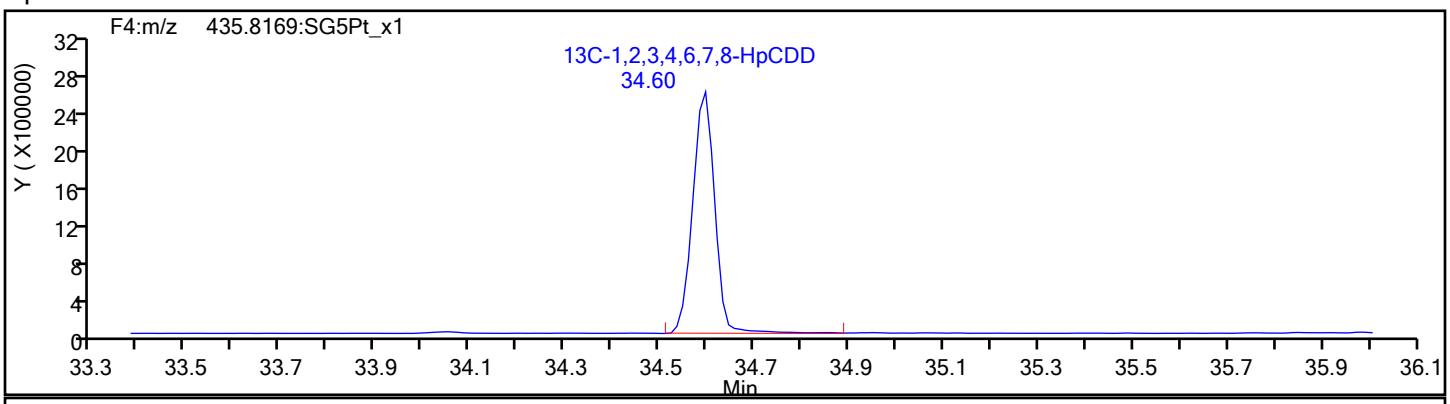

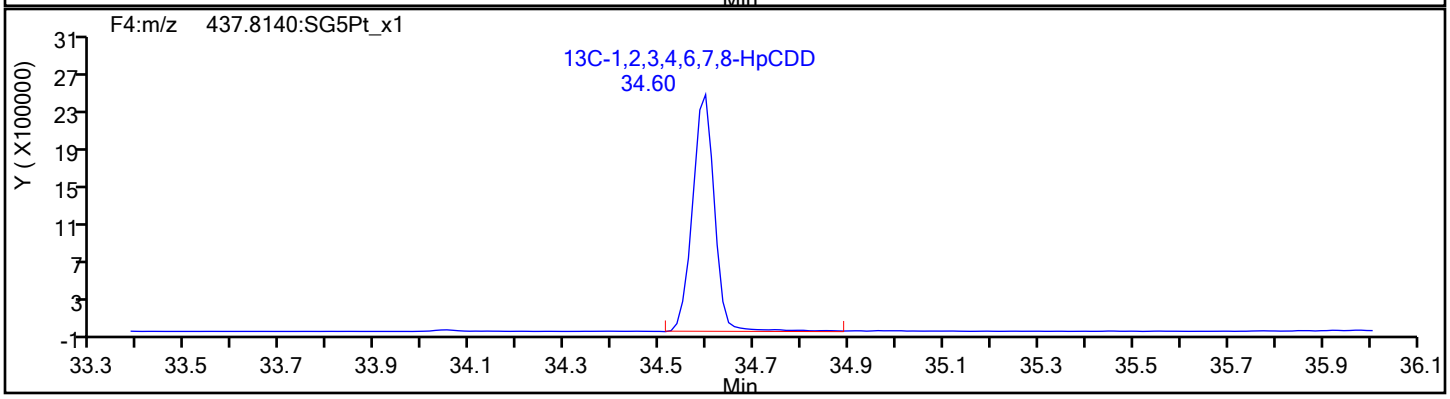

Report Date: 14-Oct-2019 14:35:17 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_9.d		
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Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330145	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

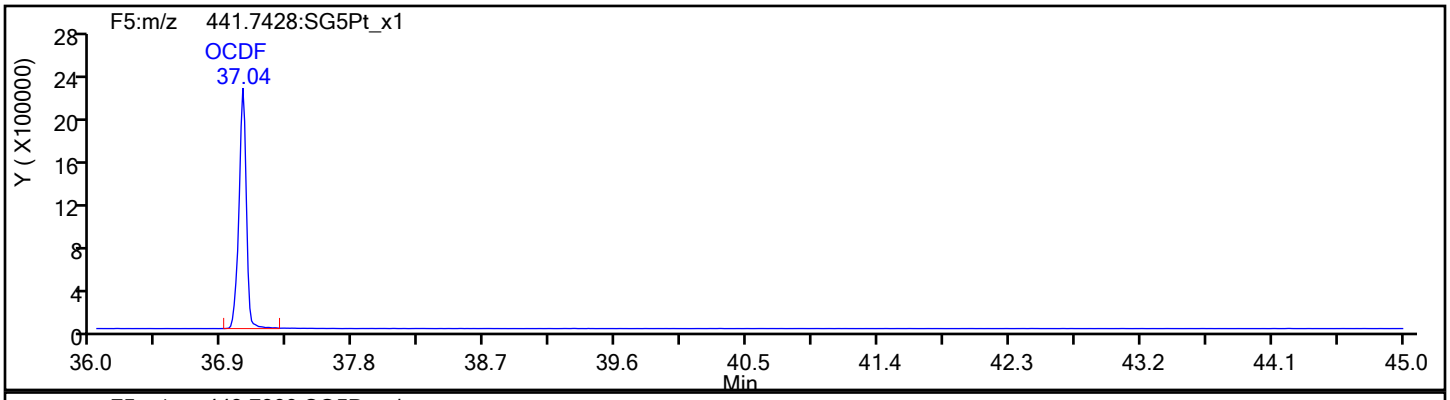

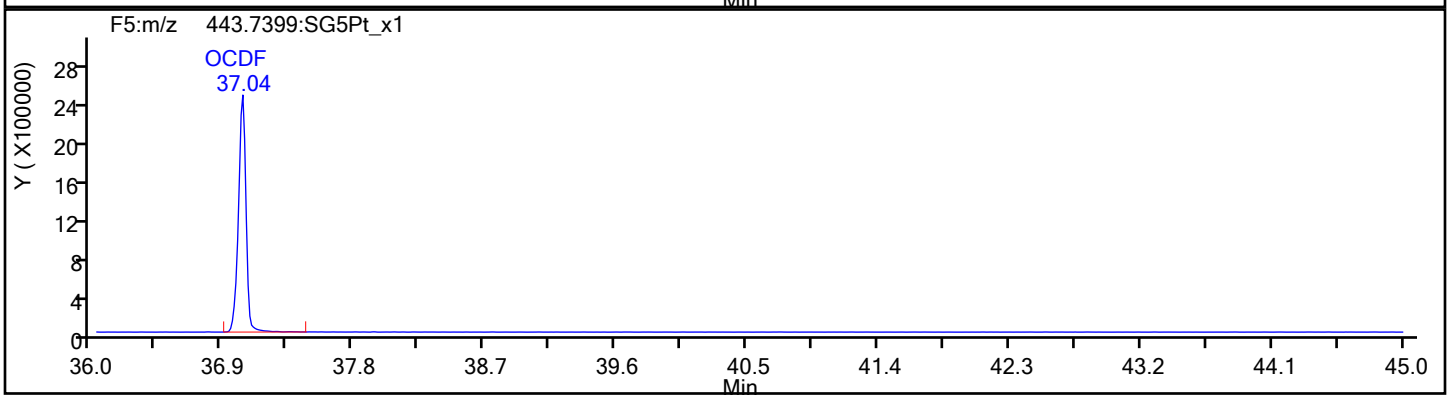

OCDF Standards

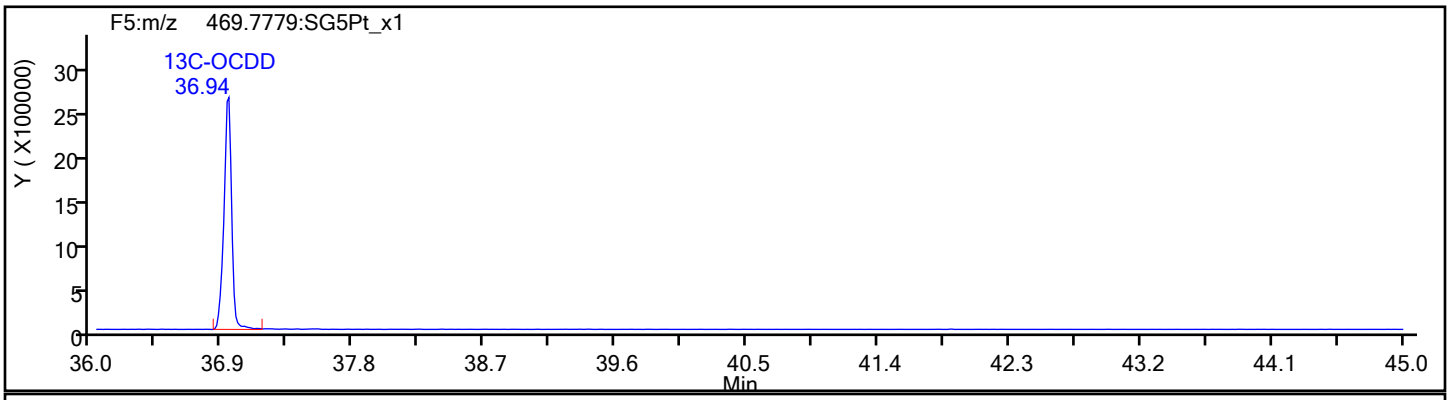

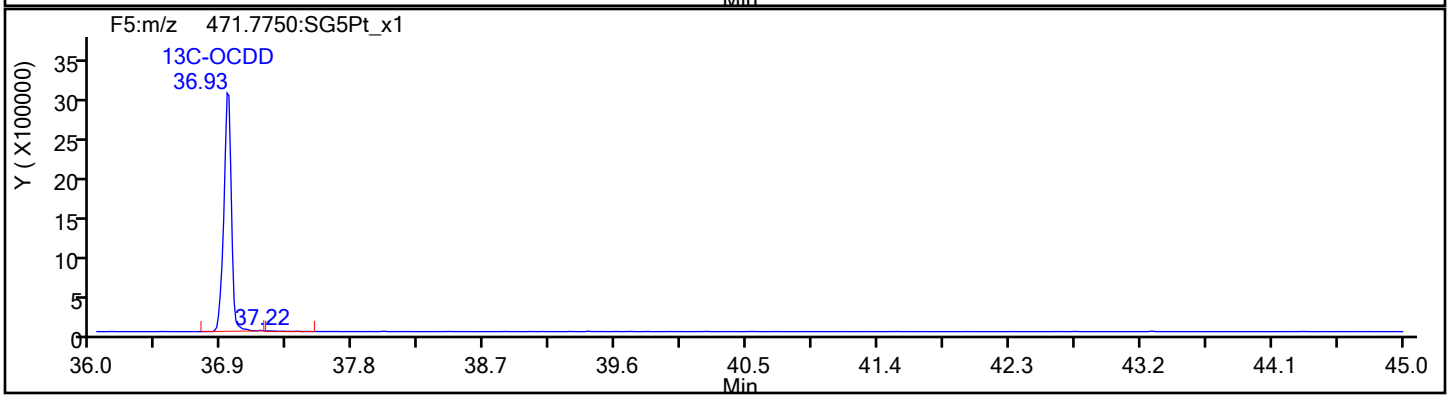

Report Date: 14-Oct-2019 14:35:17 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_9.d		
Injection Date:	10-Oct-2019 22:10:05	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

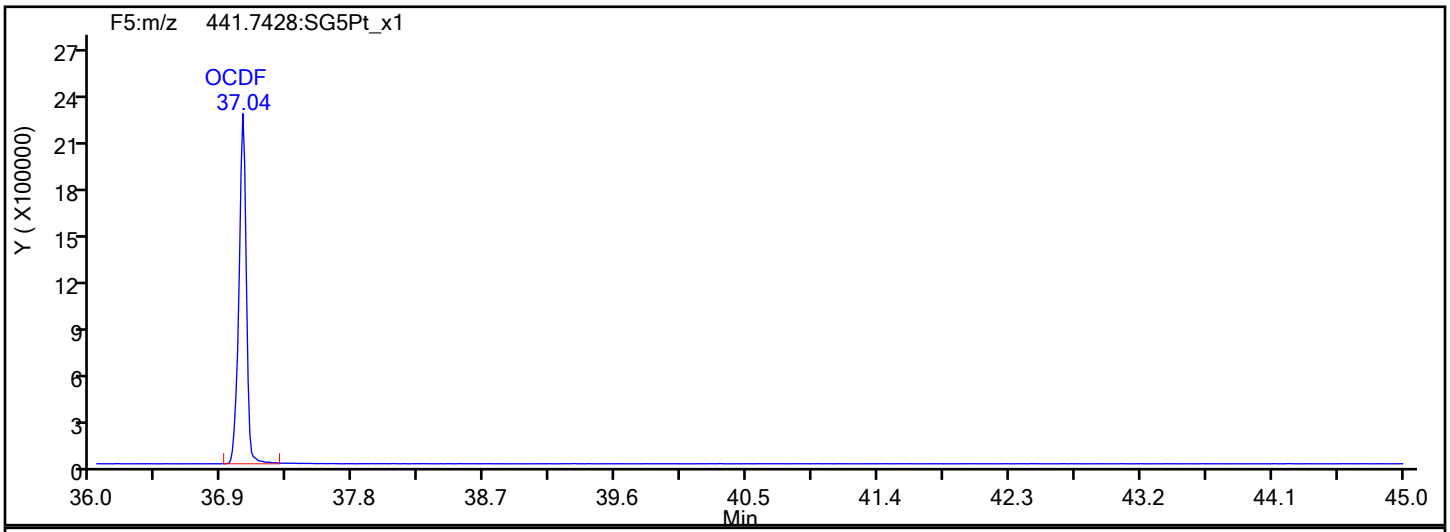

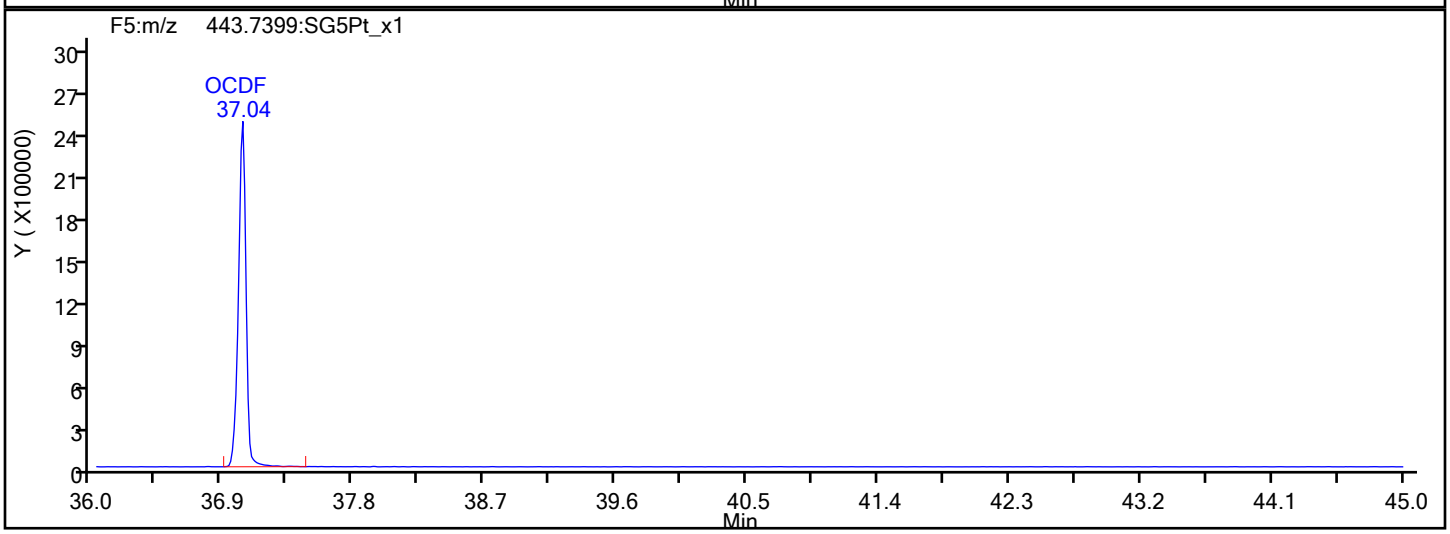

OCDF Interference Mass

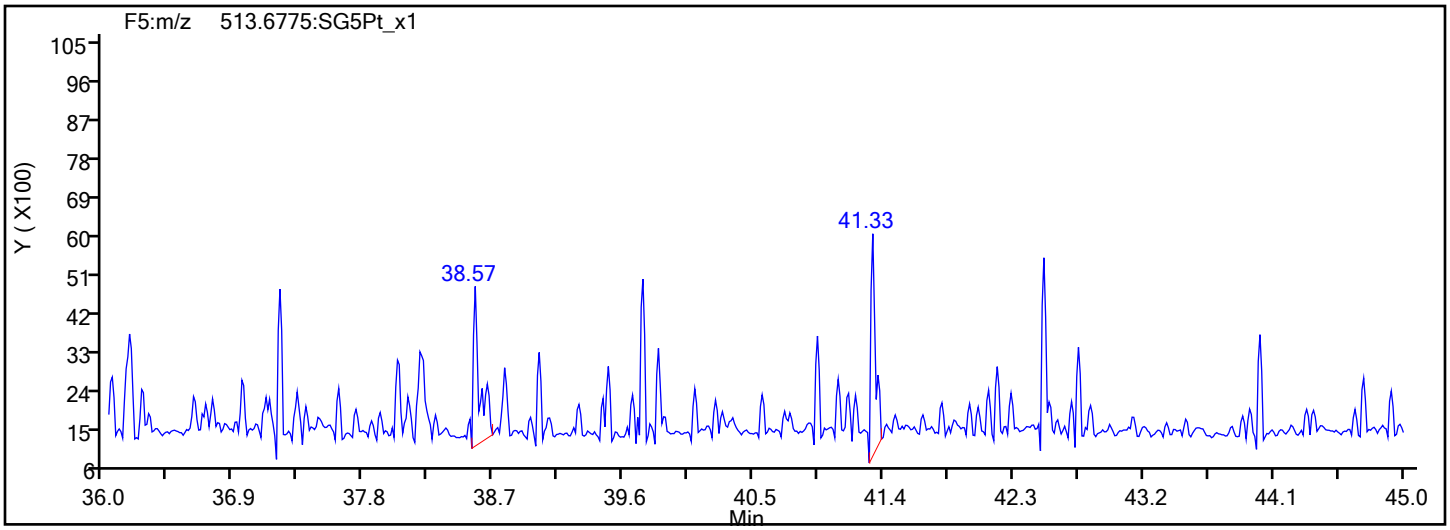

Report Date: 14-Oct-2019 14:35:17 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_9.d		
Injection Date:	10-Oct-2019 22:10:05	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330145	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

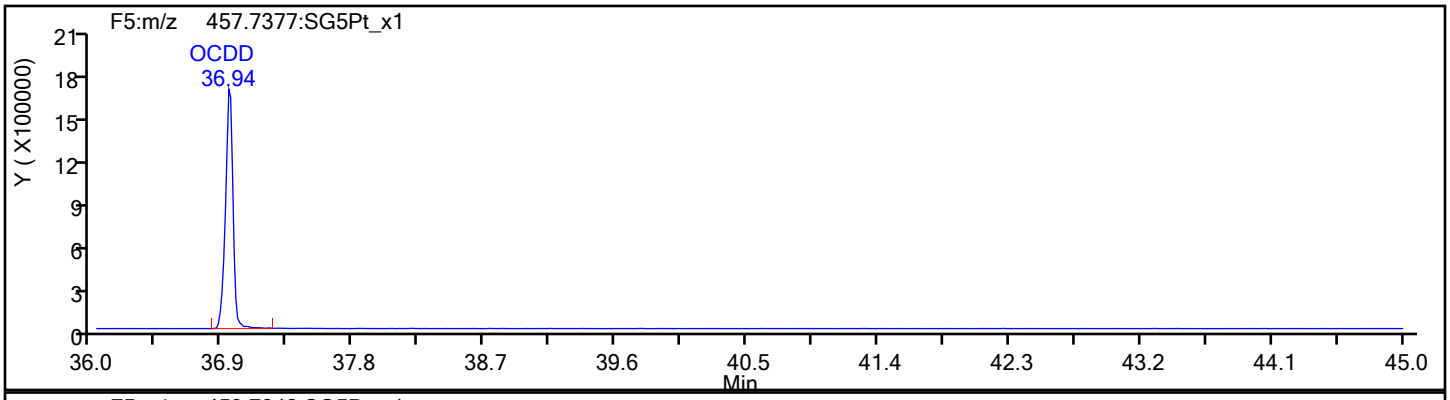

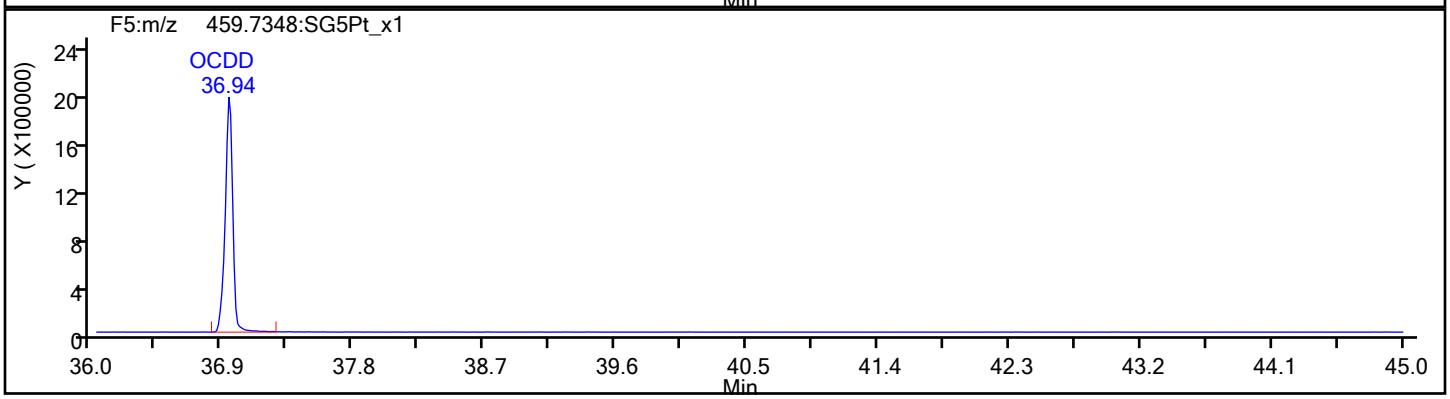

OCDD Standards

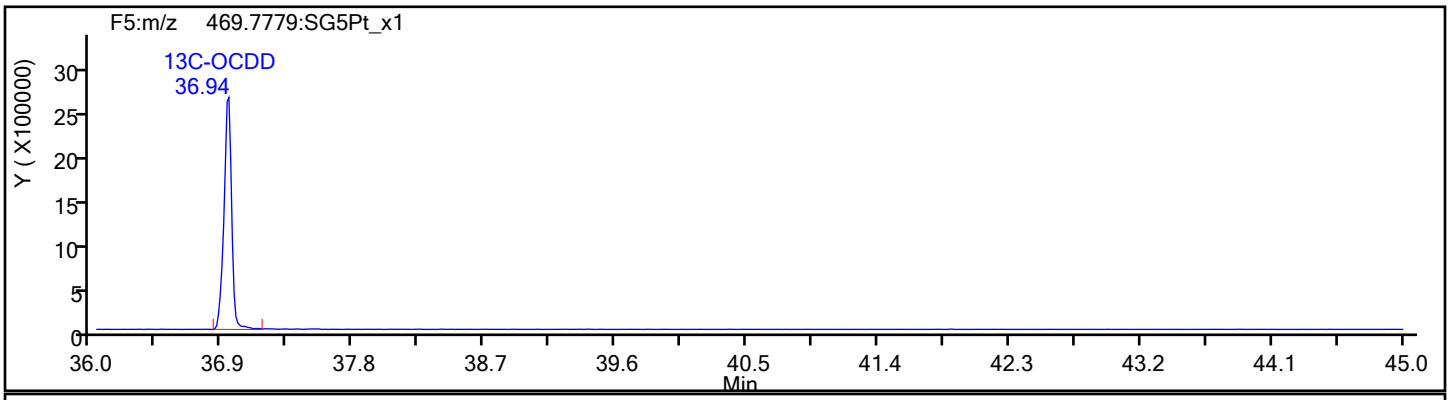

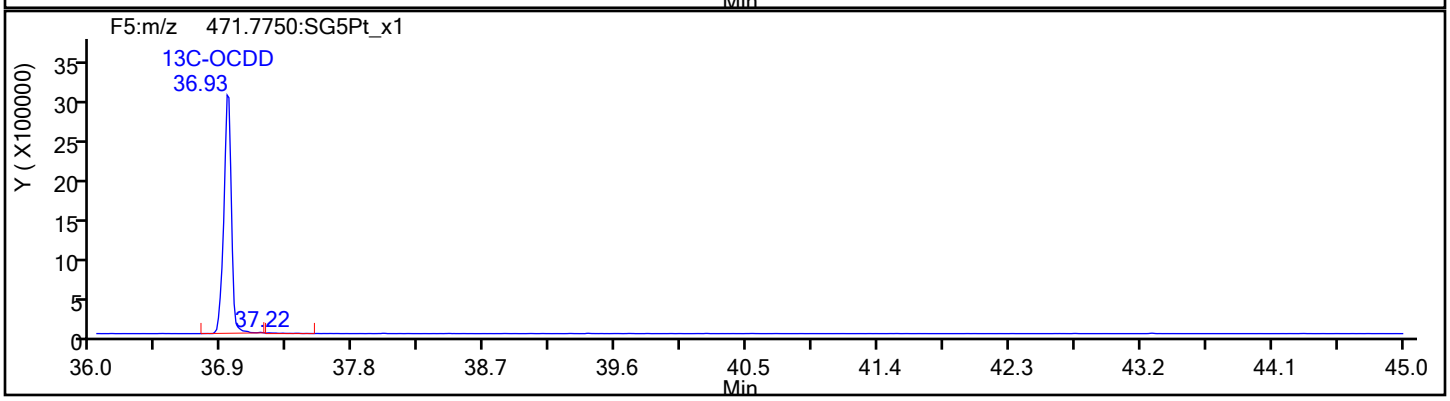

Report Date: 14-Oct-2019 14:35:17 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_9.d		
Injection Date:	10-Oct-2019 22:10:05	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330145	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

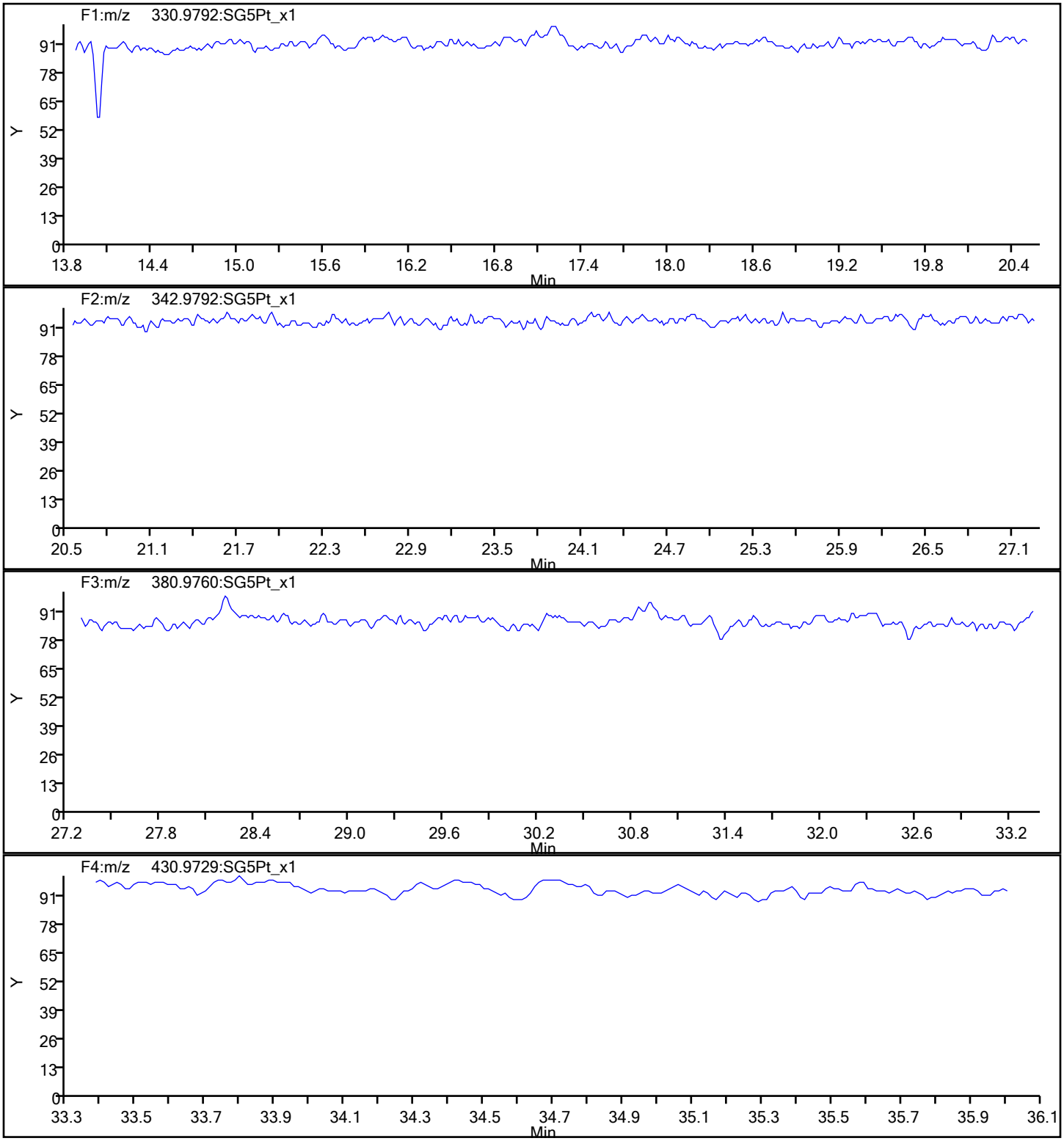

Report Date: 14-Oct-2019 14:35:17 Chrom Revision: 2.3 11-Oct-2019 15:46:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191010-84724.b\10OC1910D5_9.d		
Injection Date:	10-Oct-2019 22:10:05	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330145	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

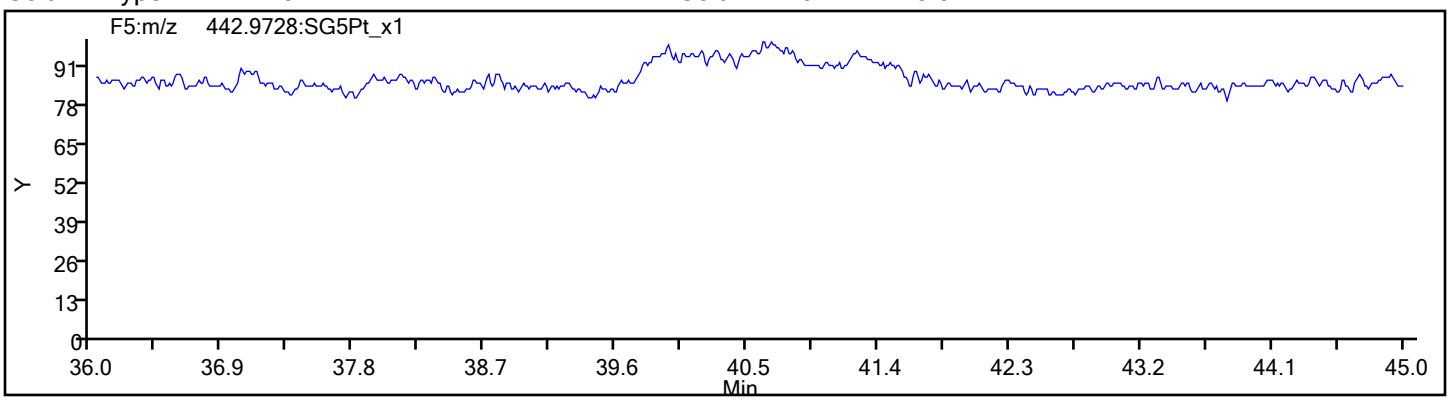

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Instrument ID: 11D2 Start Date: 08/02/2019 01:35

Analysis Batch Number: 312067 End Date: 08/02/2019 06:03

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CPS 320-312067/1		08/02/2019 01:35	1	02AU1911D2_001.d	DB-225 0.32(mm)
IC 320-312067/3		08/02/2019 02:52	1	02AU1911D2_003.d	DB-225 0.32(mm)
IC 320-312067/4		08/02/2019 03:30	1	02AU1911D2_004.d	DB-225 0.32(mm)
IC 320-312067/5		08/02/2019 04:08	1	02AU1911D2_005.d	DB-225 0.32(mm)
IC 320-312067/6		08/02/2019 04:46	1	02AU1911D2_006.d	DB-225 0.32(mm)
IC 320-312067/7		08/02/2019 05:25	1	02AU1911D2_007.d	DB-225 0.32(mm)
ICV 320-312067/8		08/02/2019 06:03	1	02AU1911D2_008.d	DB-225 0.32(mm)

1613B

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Instrument ID: 10D5 Start Date: 09/17/2019 11:28

Analysis Batch Number: 324128 End Date: 09/17/2019 18:27

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
WDM 320-324128/1		09/17/2019 11:28	1	17SE1910D5_1.d	DB-5 0.32(mm)
IC 320-324128/3		09/17/2019 13:03	1	17SE1910D5_3.d	DB-5 0.32(mm)
IC 320-324128/4		09/17/2019 13:49	1	17SE1910D5_4.d	DB-5 0.32(mm)
IC 320-324128/6		09/17/2019 15:21	1	17SE1910D5_6.d	DB-5 0.32(mm)
IC 320-324128/7		09/17/2019 16:09	1	17SE1910D5_7.d	DB-5 0.32(mm)
IC 320-324128/8		09/17/2019 16:55	1	17SE1910D5_8.d	DB-5 0.32(mm)
ICV 320-324128/10		09/17/2019 18:27	1	17SE1910D5_10.d	DB-5 0.32(mm)

1613B

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Instrument ID: 10D5 Start Date: 10/10/2019 16:02

Analysis Batch Number: 330145 End Date: 10/11/2019 02:09

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
WDM 320-330145/1		10/10/2019 16:02	1	10OC1910D5_1.d	DB-5 0.32(mm)
CCV 320-330145/2		10/10/2019 16:48	1	10OC1910D5_2.d	DB-5 0.32(mm)
MB 320-329339/1-A		10/10/2019 20:38	1	10OC1910D5_7.d	DB-5 0.32(mm)
LCS 320-329339/2-A		10/10/2019 21:24	1	10OC1910D5_8.d	DB-5 0.32(mm)
LCSD 320-329339/3-A		10/10/2019 22:10	1	10OC1910D5_9.d	DB-5 0.32(mm)
ZZZZZ		10/11/2019 02:09	1		DB-5 0.32(mm)

1613B

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Instrument ID: 10D5 Start Date: 10/11/2019 02:09

Analysis Batch Number: 330148 End Date: 10/11/2019 08:37

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 320-330148/14		10/11/2019 02:09	1	10OC1910D5_14.d	DB-5 0.32(mm)
WDM 320-330148/15		10/11/2019 03:05	1	10OC1910D5_15.d	DB-5 0.32(mm)
320-54852-1		10/11/2019 04:47	1	10OC1910D5_17.d	DB-5 0.32(mm)
ZZZZZ		10/11/2019 05:33	1		DB-5 0.32(mm)
320-54852-3		10/11/2019 06:19	1	10OC1910D5_19.d	DB-5 0.32(mm)
320-54852-4		10/11/2019 07:05	1	10OC1910D5_20.d	DB-5 0.32(mm)
320-54852-5		10/11/2019 07:51	1	10OC1910D5_21.d	DB-5 0.32(mm)
320-54852-6		10/11/2019 08:37	1	10OC1910D5_22.d	DB-5 0.32(mm)

1613B

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-54852-1

SDG No.:

Instrument ID: 11D2 Start Date: 10/11/2019 15:27

Analysis Batch Number: 330473 End Date: 10/11/2019 18:39

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CPS 320-330473/1		10/11/2019 15:27	1	11OC19A11D2_001.d	DB-225 0.32(mm)
CCV 320-330473/2		10/11/2019 16:05	1	11OC19A11D2_002.d	DB-225 0.32(mm)
320-54852-3 RA		10/11/2019 17:22	1	11OC19A11D2_004.d	DB-225 0.32(mm)
320-54852-1 RA		10/11/2019 18:00	1	11OC19A11D2_005.d	DB-225 0.32(mm)
ZZZZZ		10/11/2019 18:39	1		DB-225 0.32(mm)

1613B

DIOXIN BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Sacramen Job No.: 320-54852-1

SDG No.:

Batch Number: 329339 Batch Start Date: 10/08/19 14:19 Batch Analyst: Aguayo, Alonso

Batch Method: 1613B Batch End Date: 10/10/19 09:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	ExtractionID	RotoVapID
MB 320-329339/1		1613B, 1613B				1000 mL	20 uL	SS1-1	8
LCS 320-329339/2		1613B, 1613B				1000 mL	20 uL	2	6
LCSD 320-329339/3		1613B, 1613B				1000 mL	20 uL	3	8
320-54852-A-1	11187072-Filter Test-1	1613B, 1613B	T	1563.4 g	513.53 g	1049.9 mL	20 uL	4	6
320-54852-A-3	11187072-Filter Test-3	1613B, 1613B	T	1558.4 g	507.70 g	1050.7 mL	20 uL	6	6
320-54852-A-4	11187072-Filter Test-4	1613B, 1613B	T	1558.1 g	505.02 g	1053.1 mL	20 uL	SS2-1	8
320-54852-A-5	11187072-Filter Test-5	1613B, 1613B	T	1556.3 g	504.59 g	1051.7 mL	20 uL	2	6
320-54852-A-6	11187072-Filter Test-6	1613B, 1613B	T	1557.4 g	504.52 g	1052.9 mL	20 uL	3	8

Lab Sample ID	Client Sample ID	Method Chain	Basis	HRDXNIDA 00390	HRDXNIS 00117	HRDXNSU 00220	HRDXNTA 00116		
MB 320-329339/1		1613B, 1613B		1 mL	20 uL	1 mL			
LCS 320-329339/2		1613B, 1613B		1 mL	20 uL	1 mL	50 uL		
LCSD 320-329339/3		1613B, 1613B		1 mL	20 uL	1 mL	50 uL		
320-54852-A-1	11187072-Filter Test-1	1613B, 1613B	T	1 mL	20 uL	1 mL			
320-54852-A-3	11187072-Filter Test-3	1613B, 1613B	T	1 mL	20 uL	1 mL			
320-54852-A-4	11187072-Filter Test-4	1613B, 1613B	T	1 mL	20 uL	1 mL			
320-54852-A-5	11187072-Filter Test-5	1613B, 1613B	T	1 mL	20 uL	1 mL			
320-54852-A-6	11187072-Filter Test-6	1613B, 1613B	T	1 mL	20 uL	1 mL			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

DIOXIN BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Sacramen Job No.: 320-54852-1

SDG No.:

Batch Number: 329339 Batch Start Date: 10/08/19 14:19 Batch Analyst: Aguayo, Alonso

Batch Method: 1613B Batch End Date: 10/10/19 09:00

Batch Notes	
20% DCM:Hexane ID	1740986 mL
65% DCM:Hexane ID	1761449 mL
Acid Silica Gel ID	1762363
Acid Alumina ID	18X
Balance ID	QA-73
C14 ID	NR 10/08/19 STBJ0716
Hexane ID	0000226435 mL
IFB Clean Up	GLB 10-10-19
MeCL2 ID	0000236097 mL
Na2SO4 ID	0000220237
Analyst ID - IDA Reagent Drop	A1A 10/08/19 HD05018 B-5/10
Analyst ID - IDA Reagent Drop Witness	RDR 10/08/19
Analyst ID - IS Reagent Drop	GLB 10-10-19 DB15270 B 4/4
Analyst ID - IS Reagent Drop Witness	A1A 10/10/2019
Analyst ID - SU Reagent Drop	GLB 10-10-19 HD05018 B 2/4
Analyst ID - SU Reagent Drop Witness	TGL 10-10-19
Analyst ID - TA Reagent Drop	A1A 10/08/19 DB15270 B 6/10
Analyst ID - TA Reagent Drop Witness	RDR 10/08/19
Silica Gel ID	1740988
Soxhlet/Soxtherm End	NR 10/08/19 19:00
Soxhlet/Soxtherm Start	NR 10/08/19 16:00
Storage Box ID	DXN 98
Toluene ID	0000219926 mL

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

TestAmerica THE LEADER IN ENVIRONMENTAL TESTING	Test America – Sacramento Sample Dilution Record

Method ID 1613B **Job #** 320-54852

Analyst (Print Name) Adrian Messecar **Analyst Initials** ALM

Date 10-11-19

Sample#	Original F.V. (uL)	Aliquot (uL)	Dilution F.V. (uL)	Dilution Factor
A-2-A	20	4.0	12	3X

Comments:

Shipping and Receiving Documents

CHAIN OF CUSTODY RECORD

COC NO.: 59350

Address: 2055 Niagara Falls Blvd PAGE ___ OF ___

Phone: 716-297-6150 Fax:

Project No/ Phase/Task Code: 11187072	Laboratory Name: Eurofins / TestAmerica	Lab Location: Sacramento	SSOW ID:
Project Name: San Jacinto	Lab Contact: Carrie Gamber		Cooler No:
Project Location: Texas			Carrier:
GHD Chemistry Contact: Debbie Brennan			Airbill No:
Sampler(s): Don Pope			Total # of Containers: 6

Item	Sample Identification (Containers for each sample may be combined on one line)	Date (mm/dd/yy)	Time (hh:mm)	Matrix Code (see back of COC)	Grab (G) or Comp (C)	Filtered (Y/N)	Dioxins/Furans												Total Containers/sample	MS/MSD Request	Comments/ Special Instructions:
	PRESERVATION - (SEE BACK OF COC FOR ABBREVIATIONS)																				
1	11187072-Filter Test-1	9/30/19	08:00	WG			X												1		Std. TAT
	-2						X														
	-3						X														* Project#: 18020662
	-4						X														
	-5						X														
6	-6						X														
7																					
8																					
9																					
10																					
11																					
12																					

320-54852 Chain of Custody

TAT Required in business days (use separate COCs for different TATs):

☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 1 Week ☑ 2 Week ☐ Other:

Notes/ Special Requirements:

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1. Don Pope	GHD	9/30/19	15:00	1. [signature]	eta Sac	10/1/19	920
2.				2.			
3.				3.			

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT – ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE – Fully Executed Copy (CRA) YELLOW – Receiving Laboratory Copy PINK – Shipper GOLDENROD – Sampling Crew

GHD Form: COC-10B (20110804)

eurofins | Environment Testing TestAmerica

Sacramento Sample Receiving Notes

Job: 320-54852 Field Sheet

Tracking #: 4576 5883 8795

SO / PO / FO / 2-Day / Ground / UPS / CDO / Courier
GSO / OnTrac / Goldstreak / USPS / Other

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations. File in the job folder with the COC.

Notes: * Cooler received with two bags of ice on top of the samples. Cooler covered with bubble wrap. MAN ~~10/1/19~~ 10/1/19 MAN 10/1/19

Therm. ID: AK 5 Corr. Factor: +0.1

Ice ✓ Wet ✓ Gel ____ Other ____

Cooler Custody Seal: –

Sample Custody Seal: –

Cooler ID: –

Temp Observed: * 10.5 °C Corrected: 10.6°C

From: Temp Blank ☐ Sample ☑

NCM Filed: Yes ☐ No ☐

	Yes	No	NA
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
CoC is complete w/o discrepancies?	☑	☐	☐
Samples received within holding time?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Cooler compromised/tampered with?	☐	☑	☐
Samples compromised/tampered with?	☐	☑	☐
Samples w/o discrepancies?	☑	☐	☐
Sample containers have legible labels?	☑	☐	☐
Containers are not broken or leaking?	☑	☐	☐
Sample date/times are provided.	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐
Sample temp OK?	☐	☑	☐
Sample out of temp?	☑	☐	☐

Initials: MAN Date: 10/1/19

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

ORIGIN ID:DKKA (716) 297-2160
BRITT GEBHARDT
GHD
2055 NIAGARA FALLS BLVD

NIAGARA FALLS, NY 14304
UNITED STATES US

SHIP DATE: 30SEP19
ACTWGT: 35.00 LB MAN
CAD: 68417/CAFE3211

BILL SENDER

TO **SAMPLE RECEIVING**
EUROFINS/TEST AMERICA
880 RIVERSIDE PARKWAY

W. SACRAMENTO CA 95605
(916) 373-5600
REF: 11187072 - NI0402 GEB (POPE)

FedEx Express

TRK# 0201 **4576 5883 8795**

TUE - 01 OCT 10:30A
PRIORITY OVERNIGHT

XH BLUA

95605
CA-US SMF

551C3/2A3C/104C

J181118069501aw

Part # 155954-254 RIT EXP 02/20

RT 0
8795
FZ 0
10.01

CHAIN OF CUSTODY RECORD

COC NO.: 59350

Address: 2055 Niagara Falls Blvd

Phone: 716-297-6150 Fax:

PAGE ___ OF ___

Project No/ Phase/Task Code: 11187072	Laboratory Name: Eurofins/TestAmerica	Lab Location: Sacramento	SSOW ID:
Project Name: San Jacinto	Lab Contact: Carrie Gamber		Cooler No:
Project Location: Texas			Carrier:
GHD Chemistry Contact: Debbie Brennan			Airbill No:
Sampler(s): Don Pope			Total # of Containers: 6

Item	Sample Identification (Containers for each sample may be combined on one line)	Date (mm/dd//yy)	Time (hh:mm)	Matrix Code (see back of COC)	Grab (G) or Comp (C)	Filtered (Y/N)	Dioxins/Furans												Total Containers/sample	MS/MSD Request	Comments/ Special Instructions:
	PRESERVATION - (SEE BACK OF COC FOR ABBREVIATIONS)																				
1	11187072-Filter Test-1	9/30/19	08:00	WG			X												1		Std. TAT
	-2						X														
	-3						X														* Project #: 18020662
	-4						X														
	-5						X														
6	-6						X														
7																					
8																					
9																					
10																					
11																					
12																					

TAT Required in business days (use separate COCs for different TATs):

☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 1 Week ☒ 2 Week ☐ Other:

Notes/ Special Requirements:

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1. Don Pope	GHD	9/30/19	15:00	1. [illegible]	eta Sac	10/1/19	920
2.				2.			
3.				3.			

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT – ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE – Fully Executed Copy (CRA) YELLOW – Receiving Laboratory Copy PINK – Shipper GOLDENROD – Sampling Crew

GHD Form: COC-108 (20110804)

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 320-54852-1

Login Number: 54852
List Number: 1
Creator: Oropeza, Salvador

List Source: Eurofins TestAmerica, Sacramento

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	False	Refer to Job Narrative for details.
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

Job Number: 320-56102-1

Job Description: San Jacinto River Waste Pits Superfund

For:
GHD Services Inc.
5551 Corporate Boulevard
Suite 200
Baton Rouge, LA 70808

Attention: Janie Smith

Approved for release.
Carrie L Gamber
Senior Project Manager
5/19/2020 12:46 PM

Carrie L Gamber, Senior Project Manager
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2428
carrie.gamber@testamericainc.com
05/19/2020
Revision: 1

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of TestAmerica and its client. All questions regarding this report should be directed to the TestAmerica Project Manager or designee who has signed this report.

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Eurofins TestAmerica, Sacramento
880 Riverside Parkway, West Sacramento, CA 95605
Tel (916) 373-5600 Fax (916) 372-1059 www.testamericainc.com

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Definitions/Glossary

Client: GHD Services Inc. Job ID: 320-56102-1
Project/Site: San Jacinto River Waste Pits Superfund

Qualifiers

Dioxin

Qualifier	Qualifier Description
*	Isotope Dilution analyte is outside acceptance limits.
B	Compound was found in the blank and sample.
G	The reported quantitation limit has been raised due to an exhibited elevated noise or matrix interference
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE

Client: GHD Services Inc.

Project: San Jacinto River Waste Pits Superfund

Report Number: 320-56102-1 REVISED

NOTE: This report has been revised to report only the dioxin and metals results per the client's request.

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 11/08/2019; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 7.6 C.

The following samples were received at the laboratory outside the required temperature criteria: FEFF-Filtered (320-56102-1), CEFF-Filtered (320-56102-2), 11187072-CEFF-pH-10-CON (320-56102-3), 11187072-CEFF-pH-10-5MG (320-56102-4), 11187072-CEFF-pH-10-10MG (320-56102-5), 11187072-CEFF-CON (320-56102-6), 11187072-CEFF-5MG (320-56102-7), 11187072-CEFF-10MG (320-56102-8), 11187072-CEFF-CON-POST (320-56102-9), 11187072-CEFF-5MG-POST (320-56102-10) and 11187072-CEFF-10MG-POST (320-56102-11). The client was notified and the analyses proceeded.

The Chain-of-Custody (COC) was incomplete as received and/or improperly completed: 11187072-CEFF-pH-10-5MG (320-56102-4), 11187072-CEFF-pH-10-10MG (320-56102-5), 11187072-CEFF-5MG (320-56102-7), 11187072-CEFF-10MG (320-56102-8), 11187072-CEFF-5MG-POST (320-56102-10) and 11187072-CEFF-10MG-POST (320-56102-11)

Sample 4, COC list ID as -5MG but container has ID as 11187072-CEFF-pH10-5MG. Date and time on container match COC. Labeled according to container.

Sample 5, COC list ID as -10MG but container has ID as 11187072-CEFF-pH10-10MG. Date and time on container match COC. Labeled according to container.

Sample 7, COC list ID as -5MG but container has ID as 11187072-CEFF-5MG. Date and time on container match COC. Labeled according to container.

Sample 8, COC list ID as -10MG but container has ID as 11187072-CEFF-10MG. Date and time on container match COC. Labeled according to container.

Sample 10, COC list ID as -5MG-POST but container has ID as 11187072-CEFF-5MG-POST. Date and time on container match COC. Labeled according to container.

Sample 11, COC list ID as -10MG but containers have ID as 11187072-CEFF-10MG-POST. Date and time on containers match COC. Labeled according to container.

The container label for the following samples did not match the information listed on the Chain-of-Custody (COC): FEFF-Filtered (320-56102-1) and CEFF-Filtered (320-56102-2).

All containers for sample #1 have ID as FEFF1-Filtered but COC has ID as FEFF-Filtered. Time and date of container matches that of COC. Labeled according to COC.

All containers for sample #2 have ID as CEFF1-Filtered but COC has ID as CEFF-Filtered. Time and date of container matches that of COC. Labeled according to COC.

DIOXINS

EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD and 13C-1,2,3,7,8,9-HxCDD associated with the following samples run on instrument 3D5 exceeded this criteria: FEFF-Filtered (320-56102-1), CEFF-Filtered (320-56102-2), 11187072-CEFF-CON-POST

(320-56102-9), 11187072-CEFF-5MG-POST (320-56102-10), 11187072-CEFF-10MG-POST (320-56102-11), (CCV 320-338227/35), (LCS 320-337526/2-A), (LCSD 320-337526/3-A) and (MB 320-337526/1-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

OCDD and Total HpCDD were detected in method blank MB 320-337526/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

LOW LEVEL MERCURY

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

METALS

The following samples were diluted to bring the concentration of target analytes within the calibration range: FEFF-Filtered (320-56102-1), CEFF-Filtered (320-56102-2), 11187072-CEFF-pH-10-CON (320-56102-3), 11187072-CEFF-pH-10-5MG (320-56102-4), 11187072-CEFF-pH-10-10MG (320-56102-5), 11187072-CEFF-CON (320-56102-6), 11187072-CEFF-5MG (320-56102-7), 11187072-CEFF-10MG (320-56102-8), 11187072-CEFF-CON-POST (320-56102-9), 11187072-CEFF-5MG-POST (320-56102-10) and 11187072-CEFF-10MG-POST (320-56102-11). Elevated reporting limits (RLs) are provided.

Calcium and Strontium failed the recovery criteria low for the MS of sample 11187072-CEFF-CON-POST (320-56102-9) in batch 320-338646. Sodium failed the recovery criteria high. The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

Detection Summary

Client: GHD Services Inc.
Job ID: 320-56102-1
Project/Site: San Jacinto River Waste Pits Superfund

Client Sample ID: FEFF-Filtered — Lab Sample ID: 320-56102-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDD	4.6	J q	51	2.0	pg/L	1		1613B	Total/NA
1,2,3,7,8-PeCDF	3.2	J	51	1.2	pg/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	4.9	J	51	1.0	pg/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	4.4	J	51	1.1	pg/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	4.8	J	51	0.98	pg/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	3.1	J	51	1.4	pg/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	3.5	J	51	1.4	pg/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	3.8	J	51	0.92	pg/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	3.0	J q	51	0.97	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	6.4	J	51	0.67	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	6.0	J	51	1.0	pg/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	4.9	J q	51	1.2	pg/L	1		1613B	Total/NA
OCDD	29	J B	100	1.1	pg/L	1		1613B	Total/NA
OCDF	22	J	100	1.7	pg/L	1		1613B	Total/NA
Total PeCDD	4.6	J q	51	2.0	pg/L	1		1613B	Total/NA
Total PeCDF	3.2	J	51	1.3	pg/L	1		1613B	Total/NA
Total HxCDD	14	J	51	1.0	pg/L	1		1613B	Total/NA
Total HxCDF	13	J q	51	1.2	pg/L	1		1613B	Total/NA
Total HpCDD	6.4	J B	51	0.67	pg/L	1		1613B	Total/NA
Total HpCDF	11	J q	51	1.1	pg/L	1		1613B	Total/NA
Mercury	1.7		0.50	0.14	ng/L	1		1631E	Dissolved
Barium	0.32		0.0050	0.0025	mg/L	1		6010C	Dissolved
Calcium	57		0.50	0.050	mg/L	1		6010C	Dissolved
Copper	0.0053	J	0.010	0.0021	mg/L	1		6010C	Dissolved
Magnesium	31		0.50	0.040	mg/L	1		6010C	Dissolved
Manganese	0.028		0.0050	0.0025	mg/L	1		6010C	Dissolved
Molybdenum	0.0096	J	0.020	0.0027	mg/L	1		6010C	Dissolved
Potassium	13		1.0	0.093	mg/L	1		6010C	Dissolved
Sodium	330		2.0	0.50	mg/L	2		6010C	Dissolved
Strontium	0.49		0.050	0.0050	mg/L	1		6010C	Dissolved
Vanadium	0.0035	J	0.0050	0.0019	mg/L	1		6010C	Dissolved
Zinc	0.014		0.010	0.0030	mg/L	1		6010C	Dissolved

Client Sample ID: CEFF-Filtered — Lab Sample ID: 320-56102-2

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDF	2.7	J	10	1.1	pg/L	1		1613B	Total/NA
1,2,3,7,8-PeCDD	3.1	J	50	1.4	pg/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	2.9	J	50	0.97	pg/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	1.9	J	50	0.60	pg/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	1.5	J	50	0.64	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	2.4	J q	50	0.90	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	2.5	J	50	0.92	pg/L	1		1613B	Total/NA
OCDD	21	J B	100	1.1	pg/L	1		1613B	Total/NA
OCDF	13	J	100	1.5	pg/L	1		1613B	Total/NA
Total TCDF	2.7	J	10	1.1	pg/L	1		1613B	Total/NA
Total PeCDD	4.4	J q	50	1.4	pg/L	1		1613B	Total/NA
Total HxCDD	2.9	J	50	1.0	pg/L	1		1613B	Total/NA
Total HxCDF	3.4	J	50	0.76	pg/L	1		1613B	Total/NA
Total HpCDD	2.4	J B q	50	0.90	pg/L	1		1613B	Total/NA
Total HpCDF	2.5	J	50	0.99	pg/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: GHD Services Inc.
Job ID: 320-56102-1
Project/Site: San Jacinto River Waste Pits Superfund

Client Sample ID: CEFF-Filtered (Continued) — Lab Sample ID: 320-56102-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Mercury	1.7		0.50	0.14	ng/L	1		1631E	Dissolved
Barium	0.30		0.0050	0.0025	mg/L	1		6010C	Dissolved
Calcium	59		0.50	0.050	mg/L	1		6010C	Dissolved
Copper	0.0072	J	0.010	0.0021	mg/L	1		6010C	Dissolved
Iron	0.056	J	0.10	0.020	mg/L	1		6010C	Dissolved
Magnesium	32		0.50	0.040	mg/L	1		6010C	Dissolved
Manganese	0.064		0.0050	0.0025	mg/L	1		6010C	Dissolved
Molybdenum	0.010	J	0.020	0.0027	mg/L	1		6010C	Dissolved
Potassium	14		1.0	0.093	mg/L	1		6010C	Dissolved
Sodium	330		2.0	0.50	mg/L	2		6010C	Dissolved
Strontium	0.51		0.050	0.0050	mg/L	1		6010C	Dissolved
Vanadium	0.0038	J	0.0050	0.0019	mg/L	1		6010C	Dissolved
Zinc	0.012		0.010	0.0030	mg/L	1		6010C	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 320-56102-1

Client Sample ID: FEFF-Filtered

Date Collected: 11/05/19 14:00
Date Received: 11/08/19 09:00

Lab Sample ID: 320-56102-1

Matrix: Water

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		10	1.6	pg/L		11/11/19 08:47	11/13/19 12:34	1
2,3,7,8-TCDF	ND		10	1.1	pg/L		11/11/19 08:47	11/13/19 12:34	1
1,2,3,7,8-PeCDD	**4.6**	**J q**	51	2.0	pg/L		11/11/19 08:47	11/13/19 12:34	1
1,2,3,7,8-PeCDF	**3.2**	**J**	51	1.2	pg/L		11/11/19 08:47	11/13/19 12:34	1
2,3,4,7,8-PeCDF	ND		51	1.3	pg/L		11/11/19 08:47	11/13/19 12:34	1
1,2,3,4,7,8-HxCDD	**4.9**	**J**	51	1.0	pg/L		11/11/19 08:47	11/13/19 12:34	1
1,2,3,6,7,8-HxCDD	**4.4**	**J**	51	1.1	pg/L		11/11/19 08:47	11/13/19 12:34	1
1,2,3,7,8,9-HxCDD	**4.8**	**J**	51	0.98	pg/L		11/11/19 08:47	11/13/19 12:34	1
1,2,3,4,7,8-HxCDF	**3.1**	**J**	51	1.4	pg/L		11/11/19 08:47	11/13/19 12:34	1
1,2,3,6,7,8-HxCDF	**3.5**	**J**	51	1.4	pg/L		11/11/19 08:47	11/13/19 12:34	1
1,2,3,7,8,9-HxCDF	**3.8**	**J**	51	0.92	pg/L		11/11/19 08:47	11/13/19 12:34	1
2,3,4,6,7,8-HxCDF	**3.0**	**J q**	51	0.97	pg/L		11/11/19 08:47	11/13/19 12:34	1
1,2,3,4,6,7,8-HpCDD	**6.4**	**J**	51	0.67	pg/L		11/11/19 08:47	11/13/19 12:34	1
1,2,3,4,6,7,8-HpCDF	**6.0**	**J**	51	1.0	pg/L		11/11/19 08:47	11/13/19 12:34	1
1,2,3,4,7,8,9-HpCDF	**4.9**	**J q**	51	1.2	pg/L		11/11/19 08:47	11/13/19 12:34	1
OCDD	**29**	**J B**	100	1.1	pg/L		11/11/19 08:47	11/13/19 12:34	1
OCDF	**22**	**J**	100	1.7	pg/L		11/11/19 08:47	11/13/19 12:34	1
Total TCDD	ND		10	1.6	pg/L		11/11/19 08:47	11/13/19 12:34	1
Total TCDF	ND		10	1.1	pg/L		11/11/19 08:47	11/13/19 12:34	1
Total PeCDD	**4.6**	**J q**	51	2.0	pg/L		11/11/19 08:47	11/13/19 12:34	1
Total PeCDF	**3.2**	**J**	51	1.3	pg/L		11/11/19 08:47	11/13/19 12:34	1
Total HxCDD	**14**	**J**	51	1.0	pg/L		11/11/19 08:47	11/13/19 12:34	1
Total HxCDF	**13**	**J q**	51	1.2	pg/L		11/11/19 08:47	11/13/19 12:34	1
Total HpCDD	**6.4**	**J B**	51	0.67	pg/L		11/11/19 08:47	11/13/19 12:34	1
Total HpCDF	**11**	**J q**	51	1.1	pg/L		11/11/19 08:47	11/13/19 12:34	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*67*		*25 - 164*	*11/11/19 08:47*	*11/13/19 12:34*	*1*
13C-2,3,7,8-TCDF	*69*		*24 - 169*	*11/11/19 08:47*	*11/13/19 12:34*	*1*
13C-1,2,3,7,8-PeCDD	*66*		*25 - 181*	*11/11/19 08:47*	*11/13/19 12:34*	*1*
13C-1,2,3,7,8-PeCDF	*67*		*24 - 185*	*11/11/19 08:47*	*11/13/19 12:34*	*1*
13C-2,3,4,7,8-PeCDF	*70*		*21 - 178*	*11/11/19 08:47*	*11/13/19 12:34*	*1*
13C-1,2,3,4,7,8-HxCDD	*68*		*32 - 141*	*11/11/19 08:47*	*11/13/19 12:34*	*1*
13C-1,2,3,6,7,8-HxCDD	*63*		*28 - 130*	*11/11/19 08:47*	*11/13/19 12:34*	*1*
13C-1,2,3,4,7,8-HxCDF	*73*		*26 - 152*	*11/11/19 08:47*	*11/13/19 12:34*	*1*
13C-1,2,3,6,7,8-HxCDF	*63*		*26 - 123*	*11/11/19 08:47*	*11/13/19 12:34*	*1*
13C-1,2,3,7,8,9-HxCDF	*71*		*29 - 147*	*11/11/19 08:47*	*11/13/19 12:34*	*1*
13C-2,3,4,6,7,8-HxCDF	*67*		*28 - 136*	*11/11/19 08:47*	*11/13/19 12:34*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*69*		*23 - 140*	*11/11/19 08:47*	*11/13/19 12:34*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*65*		*28 - 143*	*11/11/19 08:47*	*11/13/19 12:34*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*77*		*26 - 138*	*11/11/19 08:47*	*11/13/19 12:34*	*1*
13C-OCDD	*67*		*17 - 157*	*11/11/19 08:47*	*11/13/19 12:34*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*121*		*35 - 197*	*11/11/19 08:47*	*11/13/19 12:34*	*1*

Method: 1631E - Mercury, Low Level (CVAFS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**1.7**		0.50	0.14	ng/L		11/11/19 15:30	11/12/19 12:01	1

Client Sample ID: FEFF-Filtered — Lab Sample ID: 320-56102-1

Date Collected: 11/05/19 14:00 **Matrix: Water**
Date Received: 11/08/19 09:00

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		0.20	0.048	mg/L		11/11/19 07:00	11/12/19 17:50	1
Antimony	ND		0.020	0.0098	mg/L		11/11/19 07:00	11/12/19 17:50	1
Arsenic	ND		0.020	0.012	mg/L		11/11/19 07:00	11/12/19 17:50	1
Barium	**0.32**		0.0050	0.0025	mg/L		11/11/19 07:00	11/12/19 17:50	1
Beryllium	ND		0.0020	0.00030	mg/L		11/11/19 07:00	11/12/19 17:50	1
Cadmium	ND		0.0020	0.00050	mg/L		11/11/19 07:00	11/12/19 17:50	1
Calcium	**57**		0.50	0.050	mg/L		11/11/19 07:00	11/12/19 17:50	1
Chromium	ND		0.0080	0.0012	mg/L		11/11/19 07:00	11/12/19 17:50	1
Cobalt	ND		0.0050	0.0030	mg/L		11/11/19 07:00	11/12/19 17:50	1
Copper	**0.0053**	**J**	0.010	0.0021	mg/L		11/11/19 07:00	11/12/19 17:50	1
Iron	ND		0.10	0.020	mg/L		11/11/19 07:00	11/12/19 17:50	1
Lead	ND		0.0050	0.0025	mg/L		11/11/19 07:00	11/12/19 17:50	1
Magnesium	**31**		0.50	0.040	mg/L		11/11/19 07:00	11/12/19 17:50	1
Manganese	**0.028**		0.0050	0.0025	mg/L		11/11/19 07:00	11/12/19 17:50	1
Molybdenum	**0.0096**	**J**	0.020	0.0027	mg/L		11/11/19 07:00	11/12/19 17:50	1
Nickel	ND		0.0050	0.0024	mg/L		11/11/19 07:00	11/12/19 17:50	1
Phosphorus	ND		0.50	0.050	mg/L		11/11/19 07:00	11/12/19 17:50	1
Potassium	**13**		1.0	0.093	mg/L		11/11/19 07:00	11/12/19 17:50	1
Selenium	ND		0.020	0.013	mg/L		11/11/19 07:00	11/12/19 17:50	1
Silver	ND		0.0050	0.00084	mg/L		11/11/19 07:00	11/12/19 17:50	1
Sodium	**330**		2.0	0.50	mg/L		11/11/19 07:00	11/14/19 12:23	2
Strontium	**0.49**		0.050	0.0050	mg/L		11/11/19 07:00	11/12/19 17:50	1
Thallium	ND		0.020	0.0090	mg/L		11/11/19 07:00	11/12/19 17:50	1
Vanadium	**0.0035**	**J**	0.0050	0.0019	mg/L		11/11/19 07:00	11/12/19 17:50	1
Zinc	**0.014**		0.010	0.0030	mg/L		11/11/19 07:00	11/12/19 17:50	1

Client Sample ID: CEFF-Filtered — Lab Sample ID: 320-56102-2

Date Collected: 11/05/19 14:00 **Matrix: Water**
Date Received: 11/08/19 09:00

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		10	1.1	pg/L		11/11/19 08:47	11/13/19 13:22	1
2,3,7,8-TCDF	**2.7**	**J**	10	1.1	pg/L		11/11/19 08:47	11/13/19 13:22	1
1,2,3,7,8-PeCDD	**3.1**	**J**	50	1.4	pg/L		11/11/19 08:47	11/13/19 13:22	1
1,2,3,7,8-PeCDF	ND		50	1.2	pg/L		11/11/19 08:47	11/13/19 13:22	1
2,3,4,7,8-PeCDF	ND		50	1.2	pg/L		11/11/19 08:47	11/13/19 13:22	1
1,2,3,4,7,8-HxCDD	**2.9**	**J**	50	0.97	pg/L		11/11/19 08:47	11/13/19 13:22	1
1,2,3,6,7,8-HxCDD	ND		50	1.1	pg/L		11/11/19 08:47	11/13/19 13:22	1
1,2,3,7,8,9-HxCDD	ND		50	0.97	pg/L		11/11/19 08:47	11/13/19 13:22	1
1,2,3,4,7,8-HxCDF	ND		50	0.91	pg/L		11/11/19 08:47	11/13/19 13:22	1
1,2,3,6,7,8-HxCDF	ND		50	0.89	pg/L		11/11/19 08:47	11/13/19 13:22	1
1,2,3,7,8,9-HxCDF	**1.9**	**J**	50	0.60	pg/L		11/11/19 08:47	11/13/19 13:22	1
2,3,4,6,7,8-HxCDF	**1.5**	**J**	50	0.64	pg/L		11/11/19 08:47	11/13/19 13:22	1
1,2,3,4,6,7,8-HpCDD	**2.4**	**J q**	50	0.90	pg/L		11/11/19 08:47	11/13/19 13:22	1
1,2,3,4,6,7,8-HpCDF	**2.5**	**J**	50	0.92	pg/L		11/11/19 08:47	11/13/19 13:22	1
1,2,3,4,7,8,9-HpCDF	ND		50	1.1	pg/L		11/11/19 08:47	11/13/19 13:22	1
OCDD	**21**	**J B**	100	1.1	pg/L		11/11/19 08:47	11/13/19 13:22	1
OCDF	**13**	**J**	100	1.5	pg/L		11/11/19 08:47	11/13/19 13:22	1
Total TCDD	ND		10	1.1	pg/L		11/11/19 08:47	11/13/19 13:22	1

Client Sample ID: CEFF-Filtered — Lab Sample ID: 320-56102-2

Date Collected: 11/05/19 14:00 **Matrix: Water**
Date Received: 11/08/19 09:00

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TCDF	**2.7**	**J**	10	1.1	pg/L		11/11/19 08:47	11/13/19 13:22	1
Total PeCDD	**4.4**	**J q**	50	1.4	pg/L		11/11/19 08:47	11/13/19 13:22	1
Total PeCDF	ND		50	1.3	pg/L		11/11/19 08:47	11/13/19 13:22	1
Total HxCDD	**2.9**	**J**	50	1.0	pg/L		11/11/19 08:47	11/13/19 13:22	1
Total HxCDF	**3.4**	**J**	50	0.76	pg/L		11/11/19 08:47	11/13/19 13:22	1
Total HpCDD	**2.4**	**J B q**	50	0.90	pg/L		11/11/19 08:47	11/13/19 13:22	1
Total HpCDF	**2.5**	**J**	50	0.99	pg/L		11/11/19 08:47	11/13/19 13:22	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*67*		*25 - 164*	*11/11/19 08:47*	*11/13/19 13:22*	*1*
13C-2,3,7,8-TCDF	*66*		*24 - 169*	*11/11/19 08:47*	*11/13/19 13:22*	*1*
13C-1,2,3,7,8-PeCDD	*69*		*25 - 181*	*11/11/19 08:47*	*11/13/19 13:22*	*1*
13C-1,2,3,7,8-PeCDF	*67*		*24 - 185*	*11/11/19 08:47*	*11/13/19 13:22*	*1*
13C-2,3,4,7,8-PeCDF	*71*		*21 - 178*	*11/11/19 08:47*	*11/13/19 13:22*	*1*
13C-1,2,3,4,7,8-HxCDD	*70*		*32 - 141*	*11/11/19 08:47*	*11/13/19 13:22*	*1*
13C-1,2,3,6,7,8-HxCDD	*64*		*28 - 130*	*11/11/19 08:47*	*11/13/19 13:22*	*1*
13C-1,2,3,4,7,8-HxCDF	*76*		*26 - 152*	*11/11/19 08:47*	*11/13/19 13:22*	*1*
13C-1,2,3,6,7,8-HxCDF	*67*		*26 - 123*	*11/11/19 08:47*	*11/13/19 13:22*	*1*
13C-1,2,3,7,8,9-HxCDF	*75*		*29 - 147*	*11/11/19 08:47*	*11/13/19 13:22*	*1*
13C-2,3,4,6,7,8-HxCDF	*69*		*28 - 136*	*11/11/19 08:47*	*11/13/19 13:22*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*70*		*23 - 140*	*11/11/19 08:47*	*11/13/19 13:22*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*69*		*28 - 143*	*11/11/19 08:47*	*11/13/19 13:22*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*80*		*26 - 138*	*11/11/19 08:47*	*11/13/19 13:22*	*1*
13C-OCDD	*70*		*17 - 157*	*11/11/19 08:47*	*11/13/19 13:22*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*121*		*35 - 197*	*11/11/19 08:47*	*11/13/19 13:22*	*1*

Method: 1631E - Mercury, Low Level (CVAFS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**1.7**		0.50	0.14	ng/L		11/11/19 15:30	11/12/19 12:05	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		0.20	0.048	mg/L		11/11/19 07:00	11/12/19 18:10	1
Antimony	ND		0.020	0.0098	mg/L		11/11/19 07:00	11/12/19 18:10	1
Arsenic	ND		0.020	0.012	mg/L		11/11/19 07:00	11/12/19 18:10	1
Barium	**0.30**		0.0050	0.0025	mg/L		11/11/19 07:00	11/12/19 18:10	1
Beryllium	ND		0.0020	0.00030	mg/L		11/11/19 07:00	11/12/19 18:10	1
Cadmium	ND		0.0020	0.00050	mg/L		11/11/19 07:00	11/12/19 18:10	1
Calcium	**59**		0.50	0.050	mg/L		11/11/19 07:00	11/12/19 18:10	1
Chromium	ND		0.0080	0.0012	mg/L		11/11/19 07:00	11/12/19 18:10	1
Cobalt	ND		0.0050	0.0030	mg/L		11/11/19 07:00	11/12/19 18:10	1
Copper	**0.0072**	**J**	0.010	0.0021	mg/L		11/11/19 07:00	11/12/19 18:10	1
Iron	**0.056**	**J**	0.10	0.020	mg/L		11/11/19 07:00	11/12/19 18:10	1
Lead	ND		0.0050	0.0025	mg/L		11/11/19 07:00	11/12/19 18:10	1
Magnesium	**32**		0.50	0.040	mg/L		11/11/19 07:00	11/12/19 18:10	1
Manganese	**0.064**		0.0050	0.0025	mg/L		11/11/19 07:00	11/12/19 18:10	1
Molybdenum	**0.010**	**J**	0.020	0.0027	mg/L		11/11/19 07:00	11/12/19 18:10	1
Nickel	ND		0.0050	0.0024	mg/L		11/11/19 07:00	11/12/19 18:10	1
Phosphorus	ND		0.50	0.050	mg/L		11/11/19 07:00	11/12/19 18:10	1

Client Sample Results

Client: GHD Services Inc.
Job ID: 320-56102-1
Project/Site: San Jacinto River Waste Pits Superfund

Client Sample ID: CEFF-Filtered
Lab Sample ID: 320-56102-2

Date Collected: 11/05/19 14:00
Matrix: Water
Date Received: 11/08/19 09:00

Method: 6010C - Metals (ICP) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	**14**		1.0	0.093	mg/L		11/11/19 07:00	11/12/19 18:10	1
Selenium	ND		0.020	0.013	mg/L		11/11/19 07:00	11/12/19 18:10	1
Silver	ND		0.0050	0.00084	mg/L		11/11/19 07:00	11/12/19 18:10	1
Sodium	**330**		2.0	0.50	mg/L		11/11/19 07:00	11/14/19 12:43	2
Strontium	**0.51**		0.050	0.0050	mg/L		11/11/19 07:00	11/12/19 18:10	1
Thallium	ND		0.020	0.0090	mg/L		11/11/19 07:00	11/12/19 18:10	1
Vanadium	**0.0038**	**J**	0.0050	0.0019	mg/L		11/11/19 07:00	11/12/19 18:10	1
Zinc	**0.012**		0.010	0.0030	mg/L		11/11/19 07:00	11/12/19 18:10	1

Default Detection Limits

Client: GHD Services Inc.
Job ID: 320-56102-1
Project/Site: San Jacinto River Waste Pits Superfund

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Prep: 1613B

Analyte	RL		Units
1,2,3,4,6,7,8-HpCDD	50		pg/L
1,2,3,4,6,7,8-HpCDF	50		pg/L
1,2,3,4,7,8,9-HpCDF	50		pg/L
1,2,3,4,7,8-HxCDD	50		pg/L
1,2,3,4,7,8-HxCDF	50		pg/L
1,2,3,6,7,8-HxCDD	50		pg/L
1,2,3,6,7,8-HxCDF	50		pg/L
1,2,3,7,8,9-HxCDD	50		pg/L
1,2,3,7,8,9-HxCDF	50		pg/L
1,2,3,7,8-PeCDD	50		pg/L
1,2,3,7,8-PeCDF	50		pg/L
2,3,4,6,7,8-HxCDF	50		pg/L
2,3,4,7,8-PeCDF	50		pg/L
2,3,7,8-TCDD	10		pg/L
2,3,7,8-TCDF	10		pg/L
OCDD	100		pg/L
OCDF	100		pg/L
Total HpCDD	50		pg/L
Total HpCDF	50		pg/L
Total HxCDD	50		pg/L
Total HxCDF	50		pg/L
Total PeCDD	50		pg/L
Total PeCDF	50		pg/L
Total TCDD	10		pg/L
Total TCDF	10		pg/L

Method: 1631E - Mercury, Low Level (CVAFS) - Dissolved

Prep: 1631E

Analyte	RL	MDL	Units
Mercury	0.50	0.14	ng/L

Method: 6010C - Metals (ICP) - Dissolved

Prep: 3010A

Analyte	RL	MDL	Units
Aluminum	0.20	0.048	mg/L
Antimony	0.020	0.0098	mg/L
Arsenic	0.020	0.012	mg/L
Barium	0.0050	0.0025	mg/L
Beryllium	0.0020	0.00030	mg/L
Cadmium	0.0020	0.00050	mg/L
Calcium	0.50	0.050	mg/L
Chromium	0.0080	0.0012	mg/L
Cobalt	0.0050	0.0030	mg/L
Copper	0.010	0.0021	mg/L
Iron	0.10	0.020	mg/L
Lead	0.0050	0.0025	mg/L
Magnesium	0.50	0.040	mg/L
Manganese	0.0050	0.0025	mg/L
Molybdenum	0.020	0.0027	mg/L
Nickel	0.0050	0.0024	mg/L
Phosphorus	0.50	0.050	mg/L

Default Detection Limits

Client: GHD Services Inc.
Job ID: 320-56102-1
Project/Site: San Jacinto River Waste Pits Superfund

Method: 6010C - Metals (ICP) - Dissolved (Continued)

Prep: 3010A

Analyte	RL	MDL	Units
Potassium	1.0	0.093	mg/L
Selenium	0.020	0.013	mg/L
Silver	0.0050	0.00084	mg/L
Sodium	1.0	0.25	mg/L
Strontium	0.050	0.0050	mg/L
Thallium	0.020	0.0090	mg/L
Vanadium	0.0050	0.0019	mg/L
Zinc	0.010	0.0030	mg/L

Surrogate Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 320-56102-1

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	**Client Sample ID**	**37TCDD (35-197)**							
320-56102-1	FEFF-Filtered	121							
320-56102-2	CEFF-Filtered	121							
MB 320-337526/1-A	Method Blank	121							

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	**Client Sample ID**	**37TCDD (31-191)**							
LCS 320-337526/2-A	Lab Control Sample	121							
LCSD 320-337526/3-A	Lab Control Sample Dup	124							

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 320-56102-1

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		TCDD	TCDF	PeCDD	PeCDF	PeCF	HxCDD	HxDD	HxCDF
Lab Sample ID	Client Sample ID	(25-164)	(24-169)	(25-181)	(24-185)	(21-178)	(32-141)	(28-130)	(26-152)
320-56102-1	FEFF-Filtered	67	69	66	67	70	68	63	73
320-56102-2	CEFF-Filtered	67	66	69	67	71	70	64	76
MB 320-337526/1-A	Method Blank	74	75	74	75	79	75	71	83

		Percent Isotope Dilution Recovery (Acceptance Limits)						
		HxDF	HxCF	13CHxCF	HpCDD	HpCDF	HpCDF2	OCDD
Lab Sample ID	Client Sample ID	(26-123)	(29-147)	(28-136)	(23-140)	(28-143)	(26-138)	(17-157)
320-56102-1	FEFF-Filtered	63	71	67	69	65	77	67
320-56102-2	CEFF-Filtered	67	75	69	70	69	80	70
MB 320-337526/1-A	Method Blank	74	82	75	61	76	84	73

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		TCDD	TCDF	PeCDD	PeCDF	PeCF	HxCDD	HxDD	HxCDF
Lab Sample ID	Client Sample ID	(20-175)	(22-152)	(21-227)	(21-192)	(13-328)	(21-193)	(25-163)	(19-202)
LCS 320-337526/2-A	Lab Control Sample	68	68	68	68	72	69	63	76
LCSD 320-337526/3-A	Lab Control Sample Dup	75	78	78	77	80	76	70	85

		Percent Isotope Dilution Recovery (Acceptance Limits)						
		HxDF	HxCF	13CHxCF	HpCDD	HpCDF	HpCDF2	OCDD
Lab Sample ID	Client Sample ID	(21-159)	(17-205)	(22-176)	(26-166)	(21-158)	(20-186)	(13-199)
LCS 320-337526/2-A	Lab Control Sample	67	74	69	68	68	82	67
LCSD 320-337526/3-A	Lab Control Sample Dup	73	83	76	76	77	85	75

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF

Isotope Dilution Summary

Client: GHD Services Inc. Job ID: 320-56102-1

Project/Site: San Jacinto River Waste Pits Superfund

HxDF = 13C-1,2,3,6,7,8-HxCDF

HxCF = 13C-1,2,3,7,8,9-HxCDF

13CHxCF = 13C-2,3,4,6,7,8-HxCDF

HpCDD = 13C-1,2,3,4,6,7,8-HpCDD

HpCDF = 13C-1,2,3,4,6,7,8-HpCDF

HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF

OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-337526/1-A
Matrix: Water
Analysis Batch: 338227

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 337526

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		10	1.5	pg/L		11/11/19 08:47	11/13/19 10:11	1
2,3,7,8-TCDF	ND		10	1.4	pg/L		11/11/19 08:47	11/13/19 10:11	1
1,2,3,7,8-PeCDD	ND		50	3.5	pg/L		11/11/19 08:47	11/13/19 10:11	1
1,2,3,7,8-PeCDF	ND		50	1.3	pg/L		11/11/19 08:47	11/13/19 10:11	1
2,3,4,7,8-PeCDF	ND		50	1.3	pg/L		11/11/19 08:47	11/13/19 10:11	1
1,2,3,4,7,8-HxCDD	ND		50	0.90	pg/L		11/11/19 08:47	11/13/19 10:11	1
1,2,3,6,7,8-HxCDD	ND		50	0.92	pg/L		11/11/19 08:47	11/13/19 10:11	1
1,2,3,7,8,9-HxCDD	ND		50	0.86	pg/L		11/11/19 08:47	11/13/19 10:11	1
1,2,3,4,7,8-HxCDF	ND		50	0.91	pg/L		11/11/19 08:47	11/13/19 10:11	1
1,2,3,6,7,8-HxCDF	ND		50	0.92	pg/L		11/11/19 08:47	11/13/19 10:11	1
1,2,3,7,8,9-HxCDF	ND		50	0.61	pg/L		11/11/19 08:47	11/13/19 10:11	1
2,3,4,6,7,8-HxCDF	ND		50	0.66	pg/L		11/11/19 08:47	11/13/19 10:11	1
1,2,3,4,6,7,8-HpCDD	ND		50	0.92	pg/L		11/11/19 08:47	11/13/19 10:11	1
1,2,3,4,6,7,8-HpCDF	ND		50	0.98	pg/L		11/11/19 08:47	11/13/19 10:11	1
1,2,3,4,7,8,9-HpCDF	ND		50	1.2	pg/L		11/11/19 08:47	11/13/19 10:11	1
OCDD	6.14	J	100	1.1	pg/L		11/11/19 08:47	11/13/19 10:11	1
OCDF	ND		100	1.6	pg/L		11/11/19 08:47	11/13/19 10:11	1
Total TCDD	ND		10	1.5	pg/L		11/11/19 08:47	11/13/19 10:11	1
Total TCDF	ND		10	1.4	pg/L		11/11/19 08:47	11/13/19 10:11	1
Total PeCDD	ND		50	3.5	pg/L		11/11/19 08:47	11/13/19 10:11	1
Total PeCDF	ND		50	1.3	pg/L		11/11/19 08:47	11/13/19 10:11	1
Total HxCDD	ND		50	0.92	pg/L		11/11/19 08:47	11/13/19 10:11	1
Total HxCDF	ND		50	0.92	pg/L		11/11/19 08:47	11/13/19 10:11	1
Total HpCDD	1.89	J q	50	0.92	pg/L		11/11/19 08:47	11/13/19 10:11	1
Total HpCDF	ND		50	1.2	pg/L		11/11/19 08:47	11/13/19 10:11	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*74*		*25 - 164*	*11/11/19 08:47*	*11/13/19 10:11*	*1*
13C-2,3,7,8-TCDF	*75*		*24 - 169*	*11/11/19 08:47*	*11/13/19 10:11*	*1*
13C-1,2,3,7,8-PeCDD	*74*		*25 - 181*	*11/11/19 08:47*	*11/13/19 10:11*	*1*
13C-1,2,3,7,8-PeCDF	*75*		*24 - 185*	*11/11/19 08:47*	*11/13/19 10:11*	*1*
13C-2,3,4,7,8-PeCDF	*79*		*21 - 178*	*11/11/19 08:47*	*11/13/19 10:11*	*1*
13C-1,2,3,4,7,8-HxCDD	*75*		*32 - 141*	*11/11/19 08:47*	*11/13/19 10:11*	*1*
13C-1,2,3,6,7,8-HxCDD	*71*		*28 - 130*	*11/11/19 08:47*	*11/13/19 10:11*	*1*
13C-1,2,3,4,7,8-HxCDF	*83*		*26 - 152*	*11/11/19 08:47*	*11/13/19 10:11*	*1*
13C-1,2,3,6,7,8-HxCDF	*74*		*26 - 123*	*11/11/19 08:47*	*11/13/19 10:11*	*1*
13C-1,2,3,7,8,9-HxCDF	*82*		*29 - 147*	*11/11/19 08:47*	*11/13/19 10:11*	*1*
13C-2,3,4,6,7,8-HxCDF	*75*		*28 - 136*	*11/11/19 08:47*	*11/13/19 10:11*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*61*		*23 - 140*	*11/11/19 08:47*	*11/13/19 10:11*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*76*		*28 - 143*	*11/11/19 08:47*	*11/13/19 10:11*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*84*		*26 - 138*	*11/11/19 08:47*	*11/13/19 10:11*	*1*
13C-OCDD	*73*		*17 - 157*	*11/11/19 08:47*	*11/13/19 10:11*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*121*		*35 - 197*	*11/11/19 08:47*	*11/13/19 10:11*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-337526/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 338227 **Prep Batch: 337526**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	200	204		pg/L		102	67 - 158
2,3,7,8-TCDF	200	206		pg/L		103	75 - 158
1,2,3,7,8-PeCDD	1000	1010		pg/L		101	70 - 142
1,2,3,7,8-PeCDF	1000	1040		pg/L		104	80 - 134
2,3,4,7,8-PeCDF	1000	1030		pg/L		103	68 - 160
1,2,3,4,7,8-HxCDD	1000	926		pg/L		93	70 - 164
1,2,3,6,7,8-HxCDD	1000	1030		pg/L		103	76 - 134
1,2,3,7,8,9-HxCDD	1000	1050		pg/L		105	64 - 162
1,2,3,4,7,8-HxCDF	1000	898		pg/L		90	72 - 134
1,2,3,6,7,8-HxCDF	1000	1000		pg/L		100	84 - 130
1,2,3,7,8,9-HxCDF	1000	1020		pg/L		102	78 - 130
2,3,4,6,7,8-HxCDF	1000	1030		pg/L		103	70 - 156
1,2,3,4,6,7,8-HpCDD	1000	967		pg/L		97	70 - 140
1,2,3,4,6,7,8-HpCDF	1000	973		pg/L		97	82 - 122
1,2,3,4,7,8,9-HpCDF	1000	894		pg/L		89	78 - 138
OCDD	2000	1980		pg/L		99	78 - 144
OCDF	2000	1940		pg/L		97	63 - 170

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*68*		*20 - 175*
13C-2,3,7,8-TCDF	*68*		*22 - 152*
13C-1,2,3,7,8-PeCDD	*68*		*21 - 227*
13C-1,2,3,7,8-PeCDF	*68*		*21 - 192*
13C-2,3,4,7,8-PeCDF	*72*		*13 - 328*
13C-1,2,3,4,7,8-HxCDD	*69*		*21 - 193*
13C-1,2,3,6,7,8-HxCDD	*63*		*25 - 163*
13C-1,2,3,4,7,8-HxCDF	*76*		*19 - 202*
13C-1,2,3,6,7,8-HxCDF	*67*		*21 - 159*
13C-1,2,3,7,8,9-HxCDF	*74*		*17 - 205*
13C-2,3,4,6,7,8-HxCDF	*69*		*22 - 176*
13C-1,2,3,4,6,7,8-HpCDD	*68*		*26 - 166*
13C-1,2,3,4,6,7,8-HpCDF	*68*		*21 - 158*
13C-1,2,3,4,7,8,9-HpCDF	*82*		*20 - 186*
13C-OCDD	*67*		*13 - 199*

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
37Cl4-2,3,7,8-TCDD	*121*		*31 - 191*

Lab Sample ID: LCSD 320-337526/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 338227 **Prep Batch: 337526**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD	200	208		pg/L		104	67 - 158	2	50
2,3,7,8-TCDF	200	200		pg/L		100	75 - 158	3	50
1,2,3,7,8-PeCDD	1000	1040		pg/L		104	70 - 142	3	50
1,2,3,7,8-PeCDF	1000	1070		pg/L		107	80 - 134	3	50
2,3,4,7,8-PeCDF	1000	1020		pg/L		102	68 - 160	1	50

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-337526/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 338227 **Prep Batch: 337526**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3,4,7,8-HxCDD			1000	978		pg/L		98	70 - 164	5	50
1,2,3,6,7,8-HxCDD			1000	1050		pg/L		105	76 - 134	2	50
1,2,3,7,8,9-HxCDD			1000	1070		pg/L		107	64 - 162	2	50
1,2,3,4,7,8-HxCDF			1000	906		pg/L		91	72 - 134	1	50
1,2,3,6,7,8-HxCDF			1000	1020		pg/L		102	84 - 130	1	50
1,2,3,7,8,9-HxCDF			1000	1010		pg/L		101	78 - 130	1	50
2,3,4,6,7,8-HxCDF			1000	1010		pg/L		101	70 - 156	1	50
1,2,3,4,6,7,8-HpCDD			1000	1000		pg/L		100	70 - 140	4	50
1,2,3,4,6,7,8-HpCDF			1000	1010		pg/L		101	82 - 122	4	50
1,2,3,4,7,8,9-HpCDF			1000	961		pg/L		96	78 - 138	7	50
OCDD			2000	2000		pg/L		100	78 - 144	1	50
OCDF			2000	2060		pg/L		103	63 - 170	6	50

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*75*		*20 - 175*
13C-2,3,7,8-TCDF	*78*		*22 - 152*
13C-1,2,3,7,8-PeCDD	*78*		*21 - 227*
13C-1,2,3,7,8-PeCDF	*77*		*21 - 192*
13C-2,3,4,7,8-PeCDF	*80*		*13 - 328*
13C-1,2,3,4,7,8-HxCDD	*76*		*21 - 193*
13C-1,2,3,6,7,8-HxCDD	*70*		*25 - 163*
13C-1,2,3,4,7,8-HxCDF	*85*		*19 - 202*
13C-1,2,3,6,7,8-HxCDF	*73*		*21 - 159*
13C-1,2,3,7,8,9-HxCDF	*83*		*17 - 205*
13C-2,3,4,6,7,8-HxCDF	*76*		*22 - 176*
13C-1,2,3,4,6,7,8-HpCDD	*76*		*26 - 166*
13C-1,2,3,4,6,7,8-HpCDF	*77*		*21 - 158*
13C-1,2,3,4,7,8,9-HpCDF	*85*		*20 - 186*
13C-OCDD	*75*		*13 - 199*

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
37Cl4-2,3,7,8-TCDD	*124*		*31 - 191*

Method: 1631E - Mercury, Low Level (CVAFS)

Lab Sample ID: MB 240-410290/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 410613 **Prep Batch: 410290**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.50	0.14	ng/L		11/11/19 15:30	11/12/19 09:43	1

Lab Sample ID: LCS 240-410290/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 410613 **Prep Batch: 410290**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			5.00	4.38		ng/L		88	77 - 123		

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 320-337500/1-A
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 338157
Prep Batch: 337500

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		0.20	0.048	mg/L		11/11/19 07:00	11/12/19 17:07	1
Antimony	ND		0.020	0.0098	mg/L		11/11/19 07:00	11/12/19 17:07	1
Arsenic	ND		0.020	0.012	mg/L		11/11/19 07:00	11/12/19 17:07	1
Barium	ND		0.0050	0.0025	mg/L		11/11/19 07:00	11/12/19 17:07	1
Beryllium	ND		0.0020	0.00030	mg/L		11/11/19 07:00	11/12/19 17:07	1
Cadmium	ND		0.0020	0.00050	mg/L		11/11/19 07:00	11/12/19 17:07	1
Calcium	ND		0.50	0.050	mg/L		11/11/19 07:00	11/12/19 17:07	1
Chromium	ND		0.0080	0.0012	mg/L		11/11/19 07:00	11/12/19 17:07	1
Cobalt	ND		0.0050	0.0030	mg/L		11/11/19 07:00	11/12/19 17:07	1
Copper	ND		0.010	0.0021	mg/L		11/11/19 07:00	11/12/19 17:07	1
Iron	ND		0.10	0.020	mg/L		11/11/19 07:00	11/12/19 17:07	1
Lead	ND		0.0050	0.0025	mg/L		11/11/19 07:00	11/12/19 17:07	1
Magnesium	ND		0.50	0.040	mg/L		11/11/19 07:00	11/12/19 17:07	1
Manganese	ND		0.0050	0.0025	mg/L		11/11/19 07:00	11/12/19 17:07	1
Molybdenum	ND		0.020	0.0027	mg/L		11/11/19 07:00	11/12/19 17:07	1
Nickel	ND		0.0050	0.0024	mg/L		11/11/19 07:00	11/12/19 17:07	1
Phosphorus	ND		0.50	0.050	mg/L		11/11/19 07:00	11/12/19 17:07	1
Potassium	ND		1.0	0.093	mg/L		11/11/19 07:00	11/12/19 17:07	1
Selenium	ND		0.020	0.013	mg/L		11/11/19 07:00	11/12/19 17:07	1
Silver	ND		0.0050	0.00084	mg/L		11/11/19 07:00	11/12/19 17:07	1
Strontium	ND		0.050	0.0050	mg/L		11/11/19 07:00	11/12/19 17:07	1
Thallium	ND		0.020	0.0090	mg/L		11/11/19 07:00	11/12/19 17:07	1
Vanadium	ND		0.0050	0.0019	mg/L		11/11/19 07:00	11/12/19 17:07	1
Zinc	ND		0.010	0.0030	mg/L		11/11/19 07:00	11/12/19 17:07	1

Lab Sample ID: MB 320-337500/1-A
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 338646
Prep Batch: 337500

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	ND		1.0	0.25	mg/L		11/11/19 07:00	11/14/19 12:08	1

Lab Sample ID: LCS 320-337500/2-A
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 338157
Prep Batch: 337500

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	5.00	5.18		mg/L		104	80 - 120
Antimony	0.500	0.464		mg/L		93	80 - 120
Arsenic	0.500	0.513		mg/L		103	80 - 120
Barium	0.500	0.535		mg/L		107	80 - 120
Beryllium	0.250	0.267		mg/L		107	80 - 120
Cadmium	0.250	0.251		mg/L		100	80 - 120
Calcium	25.0	26.8		mg/L		107	80 - 120
Chromium	0.250	0.258		mg/L		103	80 - 120
Cobalt	0.250	0.250		mg/L		100	80 - 120
Copper	0.250	0.247		mg/L		99	80 - 120
Iron	5.00	5.39		mg/L		108	80 - 120
Lead	0.250	0.255		mg/L		102	80 - 120

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCS 320-337500/2-A
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 338157
Prep Batch: 337500

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Magnesium	25.0	25.7		mg/L		103	80 - 120
Manganese	0.250	0.257		mg/L		103	80 - 120
Molybdenum	0.250	0.253		mg/L		101	80 - 120
Nickel	0.250	0.250		mg/L		100	80 - 120
Phosphorus	5.00	5.41		mg/L		108	80 - 120
Potassium	25.0	26.1		mg/L		104	80 - 120
Selenium	0.500	0.519		mg/L		104	80 - 120
Silver	0.0500	0.0495		mg/L		99	80 - 120
Strontium	0.250	0.266		mg/L		106	80 - 120
Thallium	0.500	0.506		mg/L		101	80 - 120
Vanadium	0.250	0.262		mg/L		105	80 - 120
Zinc	0.499	0.524		mg/L		105	80 - 120

Lab Sample ID: LCS 320-337500/2-A
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 338646
Prep Batch: 337500

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sodium	25.0	23.6		mg/L		94	80 - 120

Lab Sample ID: 320-56102-1 MS
Client Sample ID: FEFF-Filtered
Matrix: Water
Prep Type: Dissolved
Analysis Batch: 338157
Prep Batch: 337500

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	ND		5.00	4.89		mg/L		98	75 - 125
Antimony	ND		0.500	0.435		mg/L		87	75 - 125
Arsenic	ND		0.500	0.497		mg/L		99	75 - 125
Barium	0.32		0.500	0.787		mg/L		94	75 - 125
Beryllium	ND		0.250	0.250		mg/L		100	75 - 125
Cadmium	ND		0.250	0.236		mg/L		95	75 - 125
Calcium	57		25.0	80.8		mg/L		96	75 - 125
Chromium	ND		0.250	0.245		mg/L		98	75 - 125
Cobalt	ND		0.250	0.234		mg/L		94	75 - 125
Copper	0.0053	J	0.250	0.240		mg/L		94	75 - 125
Iron	ND		5.00	5.02		mg/L		100	75 - 125
Lead	ND		0.250	0.237		mg/L		95	75 - 125
Magnesium	31		25.0	54.2		mg/L		94	75 - 125
Manganese	0.028		0.250	0.269		mg/L		96	75 - 125
Molybdenum	0.0096	J	0.250	0.252		mg/L		97	75 - 125
Nickel	ND		0.250	0.234		mg/L		94	75 - 125
Phosphorus	ND		5.00	5.31		mg/L		106	75 - 125
Potassium	13		25.0	38.1		mg/L		100	75 - 125
Selenium	ND		0.500	0.495		mg/L		99	75 - 125
Silver	ND		0.0500	0.0473		mg/L		95	75 - 125
Strontium	0.49		0.250	0.732		mg/L		98	75 - 125
Thallium	ND		0.500	0.449		mg/L		90	75 - 125
Vanadium	0.0035	J	0.250	0.255		mg/L		101	75 - 125
Zinc	0.014		0.499	0.508		mg/L		99	75 - 125

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: 320-56102-1 MS **Client Sample ID: FEFF-Filtered**
Matrix: Water **Prep Type: Dissolved**
Analysis Batch: 338646 **Prep Batch: 337500**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sodium	330		25.0	355	4	mg/L		91	75 - 125		

Lab Sample ID: 320-56102-1 MSD **Client Sample ID: FEFF-Filtered**
Matrix: Water **Prep Type: Dissolved**
Analysis Batch: 338157 **Prep Batch: 337500**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	ND		5.00	4.96		mg/L		99	75 - 125	1	20
Antimony	ND		0.500	0.443		mg/L		89	75 - 125	2	20
Arsenic	ND		0.500	0.502		mg/L		100	75 - 125	1	20
Barium	0.32		0.500	0.804		mg/L		97	75 - 125	2	20
Beryllium	ND		0.250	0.252		mg/L		101	75 - 125	1	20
Cadmium	ND		0.250	0.238		mg/L		95	75 - 125	1	20
Calcium	57		25.0	82.4		mg/L		103	75 - 125	2	20
Chromium	ND		0.250	0.249		mg/L		99	75 - 125	1	20
Cobalt	ND		0.250	0.235		mg/L		94	75 - 125	1	20
Copper	0.0053	J	0.250	0.243		mg/L		95	75 - 125	1	20
Iron	ND		5.00	5.05		mg/L		101	75 - 125	1	20
Lead	ND		0.250	0.237		mg/L		95	75 - 125	0	20
Magnesium	31		25.0	55.4		mg/L		99	75 - 125	2	20
Manganese	0.028		0.250	0.272		mg/L		98	75 - 125	1	20
Molybdenum	0.0096	J	0.250	0.254		mg/L		98	75 - 125	1	20
Nickel	ND		0.250	0.235		mg/L		94	75 - 125	1	20
Phosphorus	ND		5.00	5.36		mg/L		107	75 - 125	1	20
Potassium	13		25.0	38.6		mg/L		103	75 - 125	2	20
Selenium	ND		0.500	0.497		mg/L		99	75 - 125	0	20
Silver	ND		0.0500	0.0487		mg/L		97	75 - 125	3	20
Strontium	0.49		0.250	0.746		mg/L		103	75 - 125	2	20
Thallium	ND		0.500	0.455		mg/L		91	75 - 125	1	20
Vanadium	0.0035	J	0.250	0.259		mg/L		102	75 - 125	1	20
Zinc	0.014		0.499	0.515		mg/L		100	75 - 125	2	20

Lab Sample ID: 320-56102-1 MSD **Client Sample ID: FEFF-Filtered**
Matrix: Water **Prep Type: Dissolved**
Analysis Batch: 338646 **Prep Batch: 337500**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sodium	330		25.0	360	4	mg/L		112	75 - 125	1	20

QC Association Summary

Client: GHD Services Inc.
Job ID: 320-56102-1
Project/Site: San Jacinto River Waste Pits Superfund

Specialty Organics

Prep Batch: 337526

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-56102-1	FEFF-Filtered	Total/NA	Water	1613B	
320-56102-2	CEFF-Filtered	Total/NA	Water	1613B	
MB 320-337526/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-337526/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-337526/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 338227

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-56102-1	FEFF-Filtered	Total/NA	Water	1613B	337526
320-56102-2	CEFF-Filtered	Total/NA	Water	1613B	337526
MB 320-337526/1-A	Method Blank	Total/NA	Water	1613B	337526
LCS 320-337526/2-A	Lab Control Sample	Total/NA	Water	1613B	337526
LCSD 320-337526/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	337526

Metals

Prep Batch: 337500

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-56102-1	FEFF-Filtered	Dissolved	Water	3010A	
320-56102-2	CEFF-Filtered	Dissolved	Water	3010A	
MB 320-337500/1-A	Method Blank	Total/NA	Water	3010A	
LCS 320-337500/2-A	Lab Control Sample	Total/NA	Water	3010A	
320-56102-1 MS	FEFF-Filtered	Dissolved	Water	3010A	
320-56102-1 MSD	FEFF-Filtered	Dissolved	Water	3010A	

Analysis Batch: 338157

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-56102-1	FEFF-Filtered	Dissolved	Water	6010C	337500
320-56102-2	CEFF-Filtered	Dissolved	Water	6010C	337500
MB 320-337500/1-A	Method Blank	Total/NA	Water	6010C	337500
LCS 320-337500/2-A	Lab Control Sample	Total/NA	Water	6010C	337500
320-56102-1 MS	FEFF-Filtered	Dissolved	Water	6010C	337500
320-56102-1 MSD	FEFF-Filtered	Dissolved	Water	6010C	337500

Analysis Batch: 338646

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-56102-1	FEFF-Filtered	Dissolved	Water	6010C	337500
320-56102-2	CEFF-Filtered	Dissolved	Water	6010C	337500
MB 320-337500/1-A	Method Blank	Total/NA	Water	6010C	337500
LCS 320-337500/2-A	Lab Control Sample	Total/NA	Water	6010C	337500
320-56102-1 MS	FEFF-Filtered	Dissolved	Water	6010C	337500
320-56102-1 MSD	FEFF-Filtered	Dissolved	Water	6010C	337500

Prep Batch: 410290

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-56102-1	FEFF-Filtered	Dissolved	Water	1631E	
320-56102-2	CEFF-Filtered	Dissolved	Water	1631E	
MB 240-410290/1-A	Method Blank	Total/NA	Water	1631E	
LCS 240-410290/2-A	Lab Control Sample	Total/NA	Water	1631E	

QC Association Summary

Client: GHD Services Inc.
Job ID: 320-56102-1
Project/Site: San Jacinto River Waste Pits Superfund

Metals

Analysis Batch: 410613

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-56102-1	FEFF-Filtered	Dissolved	Water	1631E	410290
320-56102-2	CEFF-Filtered	Dissolved	Water	1631E	410290
MB 240-410290/1-A	Method Blank	Total/NA	Water	1631E	410290
LCS 240-410290/2-A	Lab Control Sample	Total/NA	Water	1631E	410290

Lab Chronicle

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 320-56102-1

Client Sample ID: FEFF-Filtered

Lab Sample ID: 320-56102-1

Date Collected: 11/05/19 14:00

Matrix: Water

Date Received: 11/08/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			337526	11/11/19 08:47	RDR	TAL SAC
Total/NA	Analysis	1613B		1	338227	11/13/19 12:34	AS	TAL SAC
Dissolved	Prep	1631E			410290	11/11/19 15:30	AJC	TAL CAN
Dissolved	Analysis	1631E		1	410613	11/12/19 12:01	AJC	TAL CAN
Dissolved	Prep	3010A			337500	11/11/19 07:00	NIM	TAL SAC
Dissolved	Analysis	6010C		1	338157	11/12/19 17:50	GSH	TAL SAC
Dissolved	Prep	3010A			337500	11/11/19 07:00	NIM	TAL SAC
Dissolved	Analysis	6010C		2	338646	11/14/19 12:23	GSH	TAL SAC

Client Sample ID: CEFF-Filtered

Lab Sample ID: 320-56102-2

Date Collected: 11/05/19 14:00

Matrix: Water

Date Received: 11/08/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			337526	11/11/19 08:47	RDR	TAL SAC
Total/NA	Analysis	1613B		1	338227	11/13/19 13:22	AS	TAL SAC
Dissolved	Prep	1631E			410290	11/11/19 15:30	AJC	TAL CAN
Dissolved	Analysis	1631E		1	410613	11/12/19 12:05	AJC	TAL CAN
Dissolved	Prep	3010A			337500	11/11/19 07:00	NIM	TAL SAC
Dissolved	Analysis	6010C		1	338157	11/12/19 18:10	GSH	TAL SAC
Dissolved	Prep	3010A			337500	11/11/19 07:00	NIM	TAL SAC
Dissolved	Analysis	6010C		2	338646	11/14/19 12:43	GSH	TAL SAC

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GHD Services Inc. Job ID: 320-56102-1
Project/Site: San Jacinto River Waste Pits Superfund

Laboratory: Eurofins TestAmerica, Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704399	05-31-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
6010C	3010A	Water	Aluminum
6010C	3010A	Water	Antimony
6010C	3010A	Water	Arsenic
6010C	3010A	Water	Barium
6010C	3010A	Water	Beryllium
6010C	3010A	Water	Cadmium
6010C	3010A	Water	Calcium
6010C	3010A	Water	Chromium
6010C	3010A	Water	Cobalt
6010C	3010A	Water	Copper
6010C	3010A	Water	Iron
6010C	3010A	Water	Lead
6010C	3010A	Water	Magnesium
6010C	3010A	Water	Manganese
6010C	3010A	Water	Molybdenum
6010C	3010A	Water	Nickel
6010C	3010A	Water	Phosphorus
6010C	3010A	Water	Potassium
6010C	3010A	Water	Selenium
6010C	3010A	Water	Silver
6010C	3010A	Water	Sodium
6010C	3010A	Water	Strontium
6010C	3010A	Water	Thallium
6010C	3010A	Water	Vanadium
6010C	3010A	Water	Zinc

Accreditation/Certification Summary

Client: GHD Services Inc. Job ID: 320-56102-1
Project/Site: San Jacinto River Waste Pits Superfund

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-20
Connecticut	State	PH-0590	12-31-19
Florida	NELAP	E87225	06-30-20
Georgia	State	4062	02-23-20
Illinois	NELAP	004498	07-31-20
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-20
Kentucky (UST)	State	112225	02-23-20
Kentucky (WW)	State	KY98016	12-31-19
Minnesota	NELAP	OH00048	12-31-19
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-20
New York	NELAP	10975	03-31-20
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-23-20
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-18-00281	09-17-21
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-20
West Virginia DEP	State	210	12-31-19

Laboratory: Eurofins TestAmerica, Pittsburgh

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704528-15-2	03-31-20

Method Summary

Client: GHD Services Inc.
Job ID: 320-56102-1
Project/Site: San Jacinto River Waste Pits Superfund

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	TAL SAC
1631E	Mercury, Low Level (CVAFS)	EPA	TAL CAN
6010C	Metals (ICP)	SW846	TAL SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	TAL SAC
1631E	Preparation, Mercury, Low Level	EPA	TAL CAN
3010A	Preparation, Total Metals	SW846	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GHD Services Inc.
Job ID: 320-56102-1
Project/Site: San Jacinto River Waste Pits Superfund

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
320-56102-1	FEFF-Filtered	Water	11/05/19 14:00	11/08/19 09:00	
320-56102-2	CEFF-Filtered	Water	11/05/19 14:00	11/08/19 09:00	

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Sacram Job No.: 320-56102-1

SDG No.:

Instrument ID: 3D5 Analysis Batch Number: 296020

Lab Sample ID: IC 320-296020/3 Client Sample ID:

Date Analyzed: 05/21/19 13:31 Lab File ID: 21MY193D5_3.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,3,7,8-TCDF	17.92	Poor chromatography	shardaa	05/21/19 17:52
2,3,7,8-TCDD	18.64	Poor chromatography	shardaa	05/21/19 17:52
13C-2,3,4,7,8-PeCDF	24.48	Peak assignment corrected	shardaa	05/21/19 17:48
13C-1,2,3,4,7,8-HxCDF	31.05	Peak assignment corrected	shardaa	05/21/19 17:49
13C-1,2,3,4,7,8-HxCDD	32.10	Peak assignment corrected	shardaa	05/21/19 17:49
13C-1,2,3,4,7,8,9-HpCDF	35.23	Peak assignment corrected	shardaa	05/21/19 17:49

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Sacram Job No.: 320-56102-1

SDG No.:

Instrument ID: 3D5 Analysis Batch Number: 338227

Lab Sample ID: MB 320-337526/1-A Client Sample ID:

Date Analyzed: 11/13/19 10:11 Lab File ID: 12NO193D5_38.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
OCDD	36.65	Split Peak	dadunj	11/14/19 09:47

Lab Sample ID: 320-56102-1 Client Sample ID: FEFF-Filtered

Date Analyzed: 11/13/19 12:34 Lab File ID: 12NO193D5_41.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,7,8-PeCDF	21.77	Baseline	dadunj	11/14/19 09:49
1,2,3,7,8-PeCDD	23.75	Baseline	dadunj	11/14/19 09:49
1,2,3,6,7,8-HxCDF	30.11	Baseline	dadunj	11/14/19 09:49
1,2,3,7,8,9-HxCDD	31.80	Split Peak	dadunj	11/14/19 09:51
1,2,3,7,8,9-HxCDF	32.00	Baseline	dadunj	11/14/19 09:50
1,2,3,4,6,7,8-HpCDF	33.52	Split Peak	dadunj	11/14/19 09:51
1,2,3,4,6,7,8-HpCDD	34.32	Baseline	dadunj	11/14/19 09:52
1,2,3,4,7,8,9-HpCDF	34.60	Baseline	dadunj	11/14/19 09:52
OCDD	36.65	Split Peak	dadunj	11/14/19 09:52

Lab Sample ID: 320-56102-2 Client Sample ID: CEFF-Filtered

Date Analyzed: 11/13/19 13:22 Lab File ID: 12NO193D5_42.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,6,7,8-HxCDD		Invalid Compound ID	dadunj	11/14/19 09:54
2,3,7,8-TCDF	16.95	Split Peak	dadunj	11/14/19 09:53
1,2,3,7,8-PeCDD	23.73	Baseline	dadunj	11/14/19 09:55
1,2,3,4,7,8-HxCDD	31.32	Split Peak	dadunj	11/14/19 09:54
1,2,3,7,8,9-HxCDF	32.00	Baseline	dadunj	11/14/19 09:54
1,2,3,4,6,7,8-HpCDF	33.53	Split Peak	dadunj	11/14/19 09:55

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
HRDXNCP_00038	10/16/19	10/16/18	C14, Lot STBH5862	6 mL	HRDXNCP_00037	1.2 mL	1,2,3,4,6,7,9-HpCDD	40 pg/uL
							1,2,3,4,6,7-HxCDD	40 pg/uL
							1,2,3,4,6,8-HxCDF	40 pg/uL
							1,2,3,4,8,9-HxCDF	40 pg/uL
							1,2,3,7-TCDD	40 pg/uL
							1,2,3,8,9-PeCDD	40 pg/uL
							1,2,3,8,9-PeCDF	40 pg/uL
							1,2,3,9-TCDD	40 pg/uL
							1,2,3,9-TCDF	40 pg/uL
							1,2,4,6,7,9-HxCDD	40 pg/uL
							1,2,4,7,9-PeCDD	40 pg/uL
							1,2,8,9-TCDD	40 pg/uL
							1,2,8,9-TCDF	40 pg/uL
							1,3,4,6,8-PeCDF	40 pg/uL
							1,3,6,8-TCDD	40 pg/uL
							1,3,6,8-TCDF	40 pg/uL
							13C-2,3,7,8-TCDD	40 pg/uL
							13C-2,3,7,8-TCDF	40 pg/uL
							2,3,4,7-TCDF	40 pg/uL
							2,3,7,8-TCDD	40 pg/uL
							2,3,7,8-TCDF	40 pg/uL
.HRDXNCP_00037	03/31/25		CIL, Lot ER03111502		(Purchased Reagent)		1,2,3,4,6,7,9-HpCDD	200 ng/mL
							1,2,3,4,6,7-HxCDD	200 ng/mL
							1,2,3,4,6,8-HxCDF	200 ng/mL
							1,2,3,4,8,9-HxCDF	200 ng/mL
							1,2,3,7-TCDD	200 ng/mL
							1,2,3,8,9-PeCDD	200 ng/mL
							1,2,3,8,9-PeCDF	200 ng/mL
							1,2,3,9-TCDD	200 ng/mL
							1,2,3,9-TCDF	200 ng/mL
							1,2,4,6,7,9-HxCDD	200 ng/mL
							1,2,4,7,9-PeCDD	200 ng/mL
							1,2,8,9-TCDD	200 ng/mL
							1,2,8,9-TCDF	200 ng/mL
							1,3,4,6,8-PeCDF	200 ng/mL
							1,3,6,8-TCDD	200 ng/mL
							1,3,6,8-TCDF	200 ng/mL
							13C-2,3,7,8-TCDD	200 ng/mL
							13C-2,3,7,8-TCDF	200 ng/mL
							2,3,4,7-TCDF	200 ng/mL
							2,3,7,8-TCDD	200 ng/mL
							2,3,7,8-TCDF	200 ng/mL
HRDXNCP_00040	08/30/20	08/30/19	C14, Lot STBH7678	6 mL	HRDXNCP_00039	1.2 mL	1,2,3,4,6,7,9-HpCDD	40 pg/uL
							1,2,3,4,6,7-HxCDD	40 pg/uL
							1,2,3,4,6,8-HxCDF	40 pg/uL
							1,2,3,4,8,9-HxCDF	40 pg/uL
							1,2,3,7-TCDD	40 pg/uL

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,8,9-PeCDD	40 pg/uL
							1,2,3,8,9-PeCDF	40 pg/uL
							1,2,3,9-TCDD	40 pg/uL
							1,2,3,9-TCDF	40 pg/uL
							1,2,4,6,7,9-HxCDD	40 pg/uL
							1,2,4,7,9-PeCDD	40 pg/uL
							1,2,8,9-TCDD	40 pg/uL
							1,2,8,9-TCDF	40 pg/uL
							1,3,4,6,8-PeCDF	40 pg/uL
							1,3,6,8-TCDD	40 pg/uL
							1,3,6,8-TCDF	40 pg/uL
							13C-2,3,7,8-TCDD	40 pg/uL
							13C-2,3,7,8-TCDF	40 pg/uL
							2,3,4,7-TCDF	40 pg/uL
							2,3,7,8-TCDD	40 pg/uL
							2,3,7,8-TCDF	40 pg/uL
.HRDXNCP_00039	03/31/25		CIL, Lot ER03111502		(Purchased Reagent)		1,2,3,4,6,7,9-HpCDD	200 ng/mL
							1,2,3,4,6,7-HxCDD	200 ng/mL
							1,2,3,4,6,8-HxCDF	200 ng/mL
							1,2,3,4,8,9-HxCDF	200 ng/mL
							1,2,3,7-TCDD	200 ng/mL
							1,2,3,8,9-PeCDD	200 ng/mL
							1,2,3,8,9-PeCDF	200 ng/mL
							1,2,3,9-TCDD	200 ng/mL
							1,2,3,9-TCDF	200 ng/mL
							1,2,4,6,7,9-HxCDD	200 ng/mL
							1,2,4,7,9-PeCDD	200 ng/mL
							1,2,8,9-TCDD	200 ng/mL
							1,2,8,9-TCDF	200 ng/mL
							1,3,4,6,8-PeCDF	200 ng/mL
							1,3,6,8-TCDD	200 ng/mL
							1,3,6,8-TCDF	200 ng/mL
							13C-2,3,7,8-TCDD	200 ng/mL
							13C-2,3,7,8-TCDF	200 ng/mL
							2,3,4,7-TCDF	200 ng/mL
							2,3,7,8-TCDD	200 ng/mL
							2,3,7,8-TCDF	200 ng/mL
HRDXNIC_00038	10/25/19	01/31/19	C14, Lot STBH5862	0.5 mL	HRDXNIDA_00303	0.125 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.25 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNSU_00196	0.05 mL	37Cl4-2,3,7,8-TCDD	40 ng/mL
					HRDXNTA_00098	0.5 mL	1,2,3,4,6,7,8-HpCDD	200 ng/mL
							1,2,3,4,6,7,8-HpCDF	200 ng/mL
							1,2,3,4,7,8,9-HpCDF	200 ng/mL
							1,2,3,4,7,8-HxCDD	200 ng/mL
							1,2,3,4,7,8-HxCDF	200 ng/mL
							1,2,3,6,7,8-HxCDD	200 ng/mL
							1,2,3,6,7,8-HxCDF	200 ng/mL
							1,2,3,7,8,9-HxCDD	200 ng/mL
							1,2,3,7,8,9-HxCDF	200 ng/mL
							1,2,3,7,8-PeCDD	200 ng/mL
							1,2,3,7,8-PeCDF	200 ng/mL
							2,3,4,6,7,8-HxCDF	200 ng/mL
							2,3,4,7,8-PeCDF	200 ng/mL
							2,3,7,8-TCDD	40 ng/mL
							2,3,7,8-TCDF	40 ng/mL
							OCDD	400 ng/mL
							OCDF	400 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00098	03/01/25	Wellington Labs, Lot 13PAR0418			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	200 ng/mL
							1,2,3,4,6,7,8-HpCDF	200 ng/mL
							1,2,3,4,7,8,9-HpCDF	200 ng/mL
							1,2,3,4,7,8-HxCDD	200 ng/mL
							1,2,3,4,7,8-HxCDF	200 ng/mL
							1,2,3,6,7,8-HxCDD	200 ng/mL
							1,2,3,6,7,8-HxCDF	200 ng/mL
							1,2,3,7,8,9-HxCDD	200 ng/mL
							1,2,3,7,8,9-HxCDF	200 ng/mL
							1,2,3,7,8-PeCDD	200 ng/mL
							1,2,3,7,8-PeCDF	200 ng/mL
							2,3,4,6,7,8-HxCDF	200 ng/mL
							2,3,4,7,8-PeCDF	200 ng/mL
							2,3,7,8-TCDD	40 ng/mL
							2,3,7,8-TCDF	40 ng/mL
							OCDD	400 ng/mL
							OCDF	400 ng/mL
HRDXNIDA_00392	10/24/20	10/24/19	Acetone, Lot 0000236139	500 mL	HRDXNIDA_00364	5 mL	13C-1,2,3,4,6,7,8-HpCDD	2 pg/uL
							13C-1,2,3,4,6,7,8-HpCDF	2 pg/uL
							13C-2,3,7,8-TCDF	2 pg/uL
							13C-2,3,7,8-TCDD	2 pg/uL
							13C-1,2,3,6,7,8-HxCDF	2 pg/uL
							13C-1,2,3,7,8,9-HxCDF	2 pg/uL
							13C-2,3,4,6,7,8-HxCDF	2 pg/uL
							13C-1,2,3,7,8-PeCDD	2 pg/uL
							13C-1,2,3,7,8-PeCDF	2 pg/uL
							13C-1,2,3,6,7,8-HxCDD	2 pg/uL
							13C-OCDD	4 pg/uL
					HRDXNIDA_00379	2.5 mL	13C-1,2,3,4,7,8,9-HpCDF	2 pg/uL
							13C-2,3,4,7,8-PeCDF	2 pg/uL
							13C-1,2,3,4,7,8-HxCDD	2 pg/uL
							13C-1,2,3,4,7,8-HxCDF	2 pg/uL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20		CIL, Lot ER111010-01		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24		CIL, Lot ER08101404		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26		CIL, Lot ER09131601		(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26		CIL, Lot ER03031601		(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26		CIL, Lot ER02241603		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20		CIL, Lot ER100610-01		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20		CIL, Lot ER100610-02		(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21		CIL, Lot ER012111-01		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28		CIL, Lot ER03151801		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27		CIL, Lot ER04051701		(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIDA_00379	04/11/26	04/11/19	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00375	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00376	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00377	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00378	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00375	05/31/26		CIL, Lot ER04251601		(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00376	01/31/27		CIL, Lot ER01061701		(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00377	06/30/26		CIL, Lot ER04211601		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00378	07/31/27		CIL, Lot ER04211701		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
HRDXNIS_00121	10/09/20	10/09/19	C14, Lot STBJ0716	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
.HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
..HRDXNIS_00110	09/30/26		CIL, Lot ER08221601		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
..HRDXNIS_00111	01/31/27		CIL, Lot ER11081602		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
HRDXNL2_00024	09/07/19	01/29/19	C14, Lot STBH5862	1 mL	HRDXNIDA_00303	0.25 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.5 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIS_00113	1 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00205	0.625 mL	37Cl4-2,3,7,8-TCDD	0.5 ng/mL
					HRDXNTA_00100	0.125 mL	1,2,3,4,6,7,8-HpCDD	2.5 ng/mL
							1,2,3,4,6,7,8-HpCDF	2.5 ng/mL
							1,2,3,4,7,8,9-HpCDF	2.5 ng/mL
							1,2,3,4,7,8-HxCDD	2.5 ng/mL
							1,2,3,4,7,8-HxCDF	2.5 ng/mL
							1,2,3,6,7,8-HxCDD	2.5 ng/mL
							1,2,3,6,7,8-HxCDF	2.5 ng/mL
							1,2,3,7,8,9-HxCDD	2.5 ng/mL
							1,2,3,7,8,9-HxCDF	2.5 ng/mL
							1,2,3,7,8-PeCDD	2.5 ng/mL
							1,2,3,7,8-PeCDF	2.5 ng/mL
							2,3,4,6,7,8-HxCDF	2.5 ng/mL
							2,3,4,7,8-PeCDF	2.5 ng/mL
							2,3,7,8-TCDD	0.5 ng/mL
							2,3,7,8-TCDF	0.5 ng/mL
							OCDD	5 ng/mL
							OCDF	5 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00113	10/25/19	10/25/18	C14, Lot STBH5862	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26	CIL, Lot ER08221601			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27	CIL, Lot ER11081602			(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00205	09/07/19	01/08/19	Isooctane, Lot 0000192372	500 mL	HRDXNSU_00192	1000 uL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
..HRDXNSU_00192	09/07/19	09/07/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00169	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
...HRDXNSU_00169	07/31/25	09/19/17	Isooctane, Lot 0000134126	10 mL	HRDXNSU_00123	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
....HRDXNSU_00123	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00100	01/08/20	01/08/19	Acetone, Lot 00000164215	25 mL	HRDXNTA_00091	0.25 mL	1,2,3,4,6,7,8-HpCDD	20 ng/mL
							1,2,3,4,6,7,8-HpCDF	20 ng/mL
							1,2,3,4,7,8,9-HpCDF	20 ng/mL
							1,2,3,4,7,8-HxCDD	20 ng/mL
							1,2,3,4,7,8-HxCDF	20 ng/mL
							1,2,3,6,7,8-HxCDD	20 ng/mL
							1,2,3,6,7,8-HxCDF	20 ng/mL
							1,2,3,7,8,9-HxCDD	20 ng/mL
							1,2,3,7,8,9-HxCDF	20 ng/mL
							1,2,3,7,8-PeCDD	20 ng/mL
							1,2,3,7,8-PeCDF	20 ng/mL
							2,3,4,6,7,8-HxCDF	20 ng/mL
							2,3,4,7,8-PeCDF	20 ng/mL
							2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL
							OCDD	40 ng/mL
							OCDF	40 ng/mL
..HRDXNTA_00091	04/30/26	CIL, Lot ER02241602			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL3_00022	09/07/19	01/29/19	C14, Lot STBH5862	0.5 mL	HRDXNIDA_00303	0.125 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.25 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIS_00113	0.5 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00205	1.25 mL	37Cl4-2,3,7,8-TCDD	2 ng/mL
					HRDXNTA_00100	0.25 mL	1,2,3,4,6,7,8-HpCDD	10 ng/mL
							1,2,3,4,6,7,8-HpCDF	10 ng/mL
							1,2,3,4,7,8,9-HpCDF	10 ng/mL
							1,2,3,4,7,8-HxCDD	10 ng/mL
							1,2,3,4,7,8-HxCDF	10 ng/mL
							1,2,3,6,7,8-HxCDD	10 ng/mL
							1,2,3,6,7,8-HxCDF	10 ng/mL
							1,2,3,7,8,9-HxCDD	10 ng/mL
							1,2,3,7,8,9-HxCDF	10 ng/mL
							1,2,3,7,8-PeCDD	10 ng/mL
							1,2,3,7,8-PeCDF	10 ng/mL
							2,3,4,6,7,8-HxCDF	10 ng/mL
							2,3,4,7,8-PeCDF	10 ng/mL
							2,3,7,8-TCDD	2 ng/mL
							2,3,7,8-TCDF	2 ng/mL
							OCDD	20 ng/mL
							OCDF	20 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00113	10/25/19	10/25/18	C14, Lot STBH5862	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26	CIL, Lot ER08221601			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27	CIL, Lot ER11081602			(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00205	09/07/19	01/08/19	Isooctane, Lot 0000192372	500 mL	HRDXNSU_00192	1000 uL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
..HRDXNSU_00192	09/07/19	09/07/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00169	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
...HRDXNSU_00169	07/31/25	09/19/17	Isooctane, Lot 0000134126	10 mL	HRDXNSU_00123	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
....HRDXNSU_00123	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00100	01/08/20	01/08/19	Acetone, Lot 00000164215	25 mL	HRDXNTA_00091	0.25 mL	1,2,3,4,6,7,8-HpCDD	20 ng/mL
							1,2,3,4,6,7,8-HpCDF	20 ng/mL
							1,2,3,4,7,8,9-HpCDF	20 ng/mL
							1,2,3,4,7,8-HxCDD	20 ng/mL
							1,2,3,4,7,8-HxCDF	20 ng/mL
							1,2,3,6,7,8-HxCDD	20 ng/mL
							1,2,3,6,7,8-HxCDF	20 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,7,8,9-HxCDD	20 ng/mL
							1,2,3,7,8,9-HxCDF	20 ng/mL
							1,2,3,7,8-PeCDD	20 ng/mL
							1,2,3,7,8-PeCDF	20 ng/mL
							2,3,4,6,7,8-HxCDF	20 ng/mL
							2,3,4,7,8-PeCDF	20 ng/mL
							2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL
							OCDD	40 ng/mL
							OCDF	40 ng/mL
..HRDXNTA_00091	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL4_00077	10/25/19	01/29/19	C14, Lot STBH5862	1 mL	HRDXNIDA_00303	0.25 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.5 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIS_00113	1 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00196	0.025 mL	37Cl4-2,3,7,8-TCDD	10 ng/mL
					HRDXNTA_00092	0.025 mL	1,2,3,4,6,7,8-HpCDD	50 ng/mL
							1,2,3,4,6,7,8-HpCDF	50 ng/mL

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,4,7,8,9-HpCDF	50 ng/mL
							1,2,3,4,7,8-HxCDD	50 ng/mL
							1,2,3,4,7,8-HxCDF	50 ng/mL
							1,2,3,6,7,8-HxCDD	50 ng/mL
							1,2,3,6,7,8-HxCDF	50 ng/mL
							1,2,3,7,8,9-HxCDD	50 ng/mL
							1,2,3,7,8,9-HxCDF	50 ng/mL
							1,2,3,7,8-PeCDD	50 ng/mL
							1,2,3,7,8-PeCDF	50 ng/mL
							2,3,4,6,7,8-HxCDF	50 ng/mL
							2,3,4,7,8-PeCDF	50 ng/mL
							2,3,7,8-TCDD	10 ng/mL
							2,3,7,8-TCDF	10 ng/mL
							OCDD	100 ng/mL
							OCDF	100 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00113	10/25/19	10/25/18	C14, Lot STBH5862	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26	CIL, Lot ER08221601			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27	CIL, Lot ER11081602			(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00092	04/30/26	CIL, Lot ER02241602			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL4_00084	04/29/20	07/11/19	C14, Lot STBH7678	1 mL	HRDXNIDA_00364	0.5 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIDA_00379	0.25 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNSU_00196	0.02 mL	37Cl4-2,3,7,8-TCDD	8 ng/mL
					HRDXNTA_00093	0.025 mL	1,2,3,4,6,7,8-HpCDD	50 ng/mL
							1,2,3,4,6,7,8-HpCDF	50 ng/mL
							1,2,3,4,7,8,9-HpCDF	50 ng/mL
							1,2,3,4,7,8-HxCDD	50 ng/mL

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,4,7,8-HxCDF	50 ng/mL
							1,2,3,6,7,8-HxCDD	50 ng/mL
							1,2,3,6,7,8-HxCDF	50 ng/mL
							1,2,3,7,8,9-HxCDD	50 ng/mL
							1,2,3,7,8,9-HxCDF	50 ng/mL
							1,2,3,7,8-PeCDD	50 ng/mL
							1,2,3,7,8-PeCDF	50 ng/mL
							2,3,4,6,7,8-HxCDF	50 ng/mL
							2,3,4,7,8-PeCDF	50 ng/mL
							2,3,7,8-TCDD	10 ng/mL
							2,3,7,8-TCDF	10 ng/mL
							OCDD	100 ng/mL
							OCDF	100 ng/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIDA_00379	04/11/26	04/11/19	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00375	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00376	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00377	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00378	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00375	05/31/26	CIL, Lot ER04251601			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00376	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00377	06/30/26	CIL, Lot ER04211601			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00378	07/31/27	CIL, Lot ER04211701			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00093	04/30/26	CIL, Lot ER02241602			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL5_00025	10/25/19	01/29/19	C14, Lot STBH5862	0.2 mL	HRDXNIDA_00303	0.05 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.1 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIS_00113	0.2 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00196	0.02 mL	37Cl4-2,3,7,8-TCDD	40 ng/mL
					HRDXNTA_00092	0.02 mL	1,2,3,4,6,7,8-HpCDD	200 ng/mL
							1,2,3,4,6,7,8-HpCDF	200 ng/mL
							1,2,3,4,7,8,9-HpCDF	200 ng/mL
							1,2,3,4,7,8-HxCDD	200 ng/mL
							1,2,3,4,7,8-HxCDF	200 ng/mL
							1,2,3,6,7,8-HxCDD	200 ng/mL
							1,2,3,6,7,8-HxCDF	200 ng/mL
							1,2,3,7,8,9-HxCDD	200 ng/mL
							1,2,3,7,8,9-HxCDF	200 ng/mL
							1,2,3,7,8-PeCDD	200 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,7,8-PeCDF	200 ng/mL
							2,3,4,6,7,8-HxCDF	200 ng/mL
							2,3,4,7,8-PeCDF	200 ng/mL
							2,3,7,8-TCDD	40 ng/mL
							2,3,7,8-TCDF	40 ng/mL
							OCDD	400 ng/mL
							OCDF	400 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00113	10/25/19	10/25/18	C14, Lot STBH5862	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26	CIL, Lot ER08221601			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27	CIL, Lot ER11081602			(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00092	04/30/26	CIL, Lot ER02241602			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL6_00021	10/25/19	01/29/19	C14, Lot STBH5862	0.2 mL	HRDXNIDA_00303	0.05 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.1 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIS_00113	0.2 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00196	0.1 mL	37Cl4-2,3,7,8-TCDD	200 ng/mL
					HRDXNTA_00092	0.1 mL	1,2,3,4,6,7,8-HpCDD	1000 ng/mL
							1,2,3,4,6,7,8-HpCDF	1000 ng/mL
							1,2,3,4,7,8,9-HpCDF	1000 ng/mL
							1,2,3,4,7,8-HxCDD	1000 ng/mL
							1,2,3,4,7,8-HxCDF	1000 ng/mL
							1,2,3,6,7,8-HxCDD	1000 ng/mL
							1,2,3,6,7,8-HxCDF	1000 ng/mL
							1,2,3,7,8,9-HxCDD	1000 ng/mL
							1,2,3,7,8,9-HxCDF	1000 ng/mL
							1,2,3,7,8-PeCDD	1000 ng/mL

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,7,8-PeCDF	1000 ng/mL
							2,3,4,6,7,8-HxCDF	1000 ng/mL
							2,3,4,7,8-PeCDF	1000 ng/mL
							2,3,7,8-TCDD	200 ng/mL
							2,3,7,8-TCDF	200 ng/mL
							OCDD	2000 ng/mL
							OCDF	2000 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00113	10/25/19	10/25/18	C14, Lot STBH5862	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26	CIL, Lot ER08221601			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27	CIL, Lot ER11081602			(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00092	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNSU_00222	11/06/20	11/06/19	Isooctane, Lot 0000221197	500 mL	HRDXNSU_00196	1000 uL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
HRDXNTA_00117	10/18/20	10/18/19	Acetone, Lot 00000236139	25 mL	HRDXNTA_00093	0.25 mL	1,2,3,4,6,7,8-HpCDD	20 ng/mL
							1,2,3,4,6,7,8-HpCDF	20 ng/mL
							1,2,3,4,7,8,9-HpCDF	20 ng/mL
							1,2,3,4,7,8-HxCDD	20 ng/mL
							1,2,3,4,7,8-HxCDF	20 ng/mL
							1,2,3,6,7,8-HxCDD	20 ng/mL
							1,2,3,6,7,8-HxCDF	20 ng/mL
							1,2,3,7,8,9-HxCDD	20 ng/mL
							1,2,3,7,8,9-HxCDF	20 ng/mL
							1,2,3,7,8-PeCDD	20 ng/mL
							1,2,3,7,8-PeCDF	20 ng/mL
							2,3,4,6,7,8-HxCDF	20 ng/mL
							2,3,4,7,8-PeCDF	20 ng/mL
							2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL
							OCDD	40 ng/mL
							OCDF	40 ng/mL
.HRDXNTA_00093	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
MT6010CCV_00084	03/13/20	10/30/19	HNO3/HCL, Lot --	500 mL	MT-CALSTD1_00026	250 mL	Aluminum	25 mg/L
							Arsenic	0.5 mg/L
							Barium	2.5 mg/L
							Beryllium	0.5 mg/L
							Cadmium	0.5 mg/L
							Calcium	25 mg/L
							Chromium	2.5 mg/L
							Cobalt	2.5 mg/L
							Copper	2.5 mg/L
							Iron	25 mg/L
							Lead	0.5 mg/L
							Magnesium	25 mg/L
							Manganese	2.5 mg/L
							Nickel	2.5 mg/L
							Phosphorus	2.5 mg/L
							Potassium	25 mg/L
							Selenium	0.5 mg/L
							Silver	0.5 mg/L
							Sodium	25 mg/L
							Strontium	2.5 mg/L
							Thallium	0.5 mg/L
							Vanadium	2.5 mg/L
							Zinc	2.5 mg/L
							Antimony	0.5 mg/L
							Molybdenum	1 mg/L
.MT-CALSTD1_00026	03/13/20	10/07/19	HNO3/HCL, Lot --	1000 mL	MT6010MIX1_00005	20 mL	Aluminum	50 mg/L
							Arsenic	1 mg/L
							Barium	5 mg/L
							Beryllium	1 mg/L
							Cadmium	1 mg/L
							Calcium	50 mg/L
							Chromium	5 mg/L
							Cobalt	5 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Copper	5 mg/L
							Iron	50 mg/L
							Lead	1 mg/L
							Magnesium	50 mg/L
							Manganese	5 mg/L
							Nickel	5 mg/L
							Phosphorus	5 mg/L
							Potassium	50 mg/L
							Selenium	1 mg/L
							Silver	1 mg/L
							Sodium	50 mg/L
							Strontium	5 mg/L
							Thallium	1 mg/L
							Vanadium	5 mg/L
							Zinc	5 mg/L
					MT6010MIX2_00005	20 mL	Antimony	1 mg/L
							Molybdenum	2 mg/L
..MT6010MIX1_00005	03/13/20	Inorganic Ventures, Lot N2-MEB666854			(Purchased Reagent)		Aluminum	2500 mg/L
							Arsenic	50 mg/L
							Barium	250 mg/L
							Beryllium	50 mg/L
							Cadmium	50 mg/L
							Calcium	2500 mg/L
							Chromium	250 mg/L
							Cobalt	250 mg/L
							Copper	250 mg/L
							Iron	2500 mg/L
							Lead	50 mg/L
							Magnesium	2500 mg/L
							Manganese	250 mg/L
							Nickel	250 mg/L
							Phosphorus	250 mg/L
							Potassium	2500 mg/L
							Selenium	50 mg/L
							Silver	50 mg/L
							Sodium	2500 mg/L
							Strontium	250 mg/L
							Thallium	50 mg/L
							Vanadium	250 mg/L
							Zinc	250 mg/L
..MT6010MIX2_00005	03/13/20	Inorganic Ventures, Lot N2-MEB666853			(Purchased Reagent)		Antimony	50 mg/L
							Molybdenum	100 mg/L
MT6010CRI_QSM_00044	11/24/19	09/09/19	HNO3/HCL, Lot --	1000 mL	MTAgXXXTA_00011	0.005 mL	Silver	0.004995 mg/L
					MTAlXXXXTA_00004	0.02 mL	Aluminum	0.2006 mg/L
					MTAsXXXTA_00009	0.04 mL	Arsenic	0.04 mg/L
					MTBaXXXTA_00009	0.02 mL	Barium	0.02 mg/L
					MTBeXXXTA_00008	0.003 mL	Beryllium	0.002988 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					MTCaXXXXTA_00004	0.05 mL	Calcium	0.4998 mg/L
					MTCdXXXTA_00008	0.003 mL	Cadmium	0.003 mg/L
					MTCoXXXTA_00008	0.01 mL	Cobalt	0.01001 mg/L
					MTCrXXXTA_00009	0.01 mL	Chromium	0.01003 mg/L
					MTCuXXXTA_00008	0.015 mL	Copper	0.014865 mg/L
					MTFeXXXXTA_00005	0.01 mL	Iron	0.1002 mg/L
					MTKXXXXTA_00015	0.1 mL	Potassium	0.9965 mg/L
					MTMgXXXTA_00018	0.05 mL	Magnesium	0.5005 mg/L
					MTMnXXXTA_00008	0.01 mL	Manganese	0.01001 mg/L
					MTMoXXXTA_00008	0.02 mL	Molybdenum	0.01998 mg/L
					MTNaXXXXTA_00004	0.05 mL	Sodium	0.5035 mg/L
					MTNiXXXTA_00008	0.01 mL	Nickel	0.00995 mg/L
					MTPbXXXTA_00010	0.01 mL	Lead	0.01009 mg/L
					MTPXXXTA_00003	0.05 mL	Phosphorus	0.5 mg/L
					MTSbXXXTA_00008	0.03 mL	Antimony	0.03 mg/L
					MTSeXXXTA_00008	0.04 mL	Selenium	0.04016 mg/L
					MTSrXXXTA_00008	0.05 mL	Strontium	0.05 mg/L
					MTTlXXXTA_00009	0.03 mL	Thallium	0.03006 mg/L
					MTVXXXXTA_00009	0.02 mL	Vanadium	0.01996 mg/L
					MTZnXXXTA_00011	0.02 mL	Zinc	0.01994 mg/L
.MTAgXXXTA_00011	11/24/19	Inorganic Ventures, Lot M2-AG666654			(Purchased Reagent)		Silver	999 ug/mL
.MTAlXXXXTA_00004	07/30/20	CPI International, Lot 169484-37			(Purchased Reagent)		Aluminum	10030 ug/mL
.MTAsXXXTA_00009	01/18/20	CPI, Lot 175385-43			(Purchased Reagent)		Arsenic	1000 ug/mL
.MTBaXXXTA_00009	01/16/20	CPI international, Lot 273421-52			(Purchased Reagent)		Barium	1000 ug/mL
.MTBeXXXTA_00008	01/16/20	CPI international, Lot 660981-36			(Purchased Reagent)		Beryllium	996 ug/mL
.MTCaXXXXTA_00004	07/30/20	CPI International, Lot 855297-64			(Purchased Reagent)		Calcium	9996 ug/mL
.MTCdXXXTA_00008	01/16/20	CPI International, Lot 160499-92			(Purchased Reagent)		Cadmium	1000 ug/mL
.MTCoXXXTA_00008	01/16/20	CPI, Lot 161693-95			(Purchased Reagent)		Cobalt	1001 ug/mL
.MTCrXXXTA_00009	01/16/20	CPI International, Lot 975466-53			(Purchased Reagent)		Chromium	1003 ug/mL
.MTCuXXXTA_00008	01/16/20	CPI International, Lot 982446-3			(Purchased Reagent)		Copper	991 ug/mL
.MTFeXXXXTA_00005	07/30/20	CPI International, Lot 998527-9			(Purchased Reagent)		Iron	10020 ug/mL
.MTKXXXXTA_00015	07/30/20	CPI International, Lot 172053-80			(Purchased Reagent)		Potassium	9965 ug/mL
.MTMgXXXTA_00018	07/30/20	CPI International, Lot 982185-24			(Purchased Reagent)		Magnesium	10010 ug/mL
.MTMnXXXTA_00008	01/16/20	CPI International, Lot 167539-78			(Purchased Reagent)		Manganese	1001 ug/mL
.MTMoXXXTA_00008	01/16/20	CPI International, Lot 169424-45			(Purchased Reagent)		Molybdenum	999 ug/mL
.MTNaXXXXTA_00004	07/30/20	CPI International, Lot 752887-33			(Purchased Reagent)		Sodium	10070 ug/mL
.MTNiXXXTA_00008	01/16/20	CPI, Lot 166665-108			(Purchased Reagent)		Nickel	995 ug/mL
.MTPbXXXTA_00010	01/16/20	CPI, Lot 981329-18			(Purchased Reagent)		Lead	1009 ug/mL
.MTPXXXTA_00003	01/16/20	CPI, Lot 451077-22			(Purchased Reagent)		Phosphorus	10000 ug/mL
.MTSbXXXTA_00008	01/16/20	CPI, Lot 153992-34			(Purchased Reagent)		Antimony	1000 ug/mL
.MTSeXXXTA_00008	01/16/20	CPI, Lot 982461-7			(Purchased Reagent)		Selenium	1004 ug/mL
.MTSrXXXTA_00008	01/16/20	CPI, Lot 168227-43			(Purchased Reagent)		Strontium	1000 ug/mL
.MTTlXXXTA_00009	01/16/20	CPI, Lot 148983-92			(Purchased Reagent)		Thallium	1002 ug/mL
.MTVXXXXTA_00009	01/16/20	CPI International, Lot 152207-102			(Purchased Reagent)		Vanadium	998 ug/mL
.MTZnXXXTA_00011	01/16/20	CPI International, Lot 166918-115			(Purchased Reagent)		Zinc	997 ug/mL
MT6010CRI_STD_00028	11/24/19	09/09/19	HNO3/HCL, Lot --	1000 mL	MTAgXXXTA_00011	0.005 mL	Silver	0.004995 mg/L
					MTAlXXXXTA_00004	0.02 mL	Aluminum	0.2006 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					MTAsXXXTA_00009	0.02 mL	Arsenic	0.02 mg/L
					MTBaXXXTA_00009	0.005 mL	Barium	0.005 mg/L
					MTBeXXXTA_00008	0.002 mL	Beryllium	0.001992 mg/L
					MTCaXXXXTA_00004	0.05 mL	Calcium	0.4998 mg/L
					MTCdXXXTA_00008	0.002 mL	Cadmium	0.002 mg/L
					MTCoXXXTA_00008	0.005 mL	Cobalt	0.005005 mg/L
					MTCrXXXTA_00009	0.005 mL	Chromium	0.005015 mg/L
					MTCuXXXTA_00008	0.01 mL	Copper	0.00991 mg/L
					MTFeXXXXTA_00005	0.01 mL	Iron	0.1002 mg/L
					MTKXXXXTA_00015	0.1 mL	Potassium	0.9965 mg/L
					MTMgXXXTA_00018	0.05 mL	Magnesium	0.5005 mg/L
					MTMnXXXTA_00008	0.005 mL	Manganese	0.005005 mg/L
					MTMoXXXTA_00008	0.02 mL	Molybdenum	0.01998 mg/L
					MTNaXXXXTA_00004	0.05 mL	Sodium	0.5035 mg/L
					MTNiXXXTA_00008	0.005 mL	Nickel	0.004975 mg/L
					MTPbXXXTA_00010	0.005 mL	Lead	0.005045 mg/L
					MTPXXXTA_00002	0.5 mL	Phosphorus	0.501 mg/L
					MTSbXXXTA_00008	0.02 mL	Antimony	0.02 mg/L
					MTSeXXXTA_00008	0.02 mL	Selenium	0.02008 mg/L
					MTSrXXXTA_00008	0.05 mL	Strontium	0.05 mg/L
					MTTlXXXTA_00009	0.02 mL	Thallium	0.02004 mg/L
					MTVXXXXTA_00009	0.005 mL	Vanadium	0.00499 mg/L
					MTZnXXXTA_00011	0.01 mL	Zinc	0.00997 mg/L
.MTAgXXXTA_00011	11/24/19	Inorganic Ventures, Lot M2-AG666654			(Purchased Reagent)		Silver	999 ug/mL
.MTAlXXXXTA_00004	07/30/20	CPI International, Lot 169484-37			(Purchased Reagent)		Aluminum	10030 ug/mL
.MTAsXXXTA_00009	01/18/20	CPI, Lot 175385-43			(Purchased Reagent)		Arsenic	1000 ug/mL
.MTBaXXXTA_00009	01/16/20	CPI international, Lot 273421-52			(Purchased Reagent)		Barium	1000 ug/mL
.MTBeXXXTA_00008	01/16/20	CPI international, Lot 660981-36			(Purchased Reagent)		Beryllium	996 ug/mL
.MTCaXXXXTA_00004	07/30/20	CPI International, Lot 855297-64			(Purchased Reagent)		Calcium	9996 ug/mL
.MTCdXXXTA_00008	01/16/20	CPI International, Lot 160499-92			(Purchased Reagent)		Cadmium	1000 ug/mL
.MTCoXXXTA_00008	01/16/20	CPI, Lot 161693-95			(Purchased Reagent)		Cobalt	1001 ug/mL
.MTCrXXXTA_00009	01/16/20	CPI International, Lot 975466-53			(Purchased Reagent)		Chromium	1003 ug/mL
.MTCuXXXTA_00008	01/16/20	CPI International, Lot 982446-3			(Purchased Reagent)		Copper	991 ug/mL
.MTFeXXXXTA_00005	07/30/20	CPI International, Lot 998527-9			(Purchased Reagent)		Iron	10020 ug/mL
.MTKXXXXTA_00015	07/30/20	CPI International, Lot 172053-80			(Purchased Reagent)		Potassium	9965 ug/mL
.MTMgXXXTA_00018	07/30/20	CPI International, Lot 982185-24			(Purchased Reagent)		Magnesium	10010 ug/mL
.MTMnXXXTA_00008	01/16/20	CPI International, Lot 167539-78			(Purchased Reagent)		Manganese	1001 ug/mL
.MTMoXXXTA_00008	01/16/20	CPI International, Lot 169424-45			(Purchased Reagent)		Molybdenum	999 ug/mL
.MTNaXXXXTA_00004	07/30/20	CPI International, Lot 752887-33			(Purchased Reagent)		Sodium	10070 ug/mL
.MTNiXXXTA_00008	01/16/20	CPI, Lot 166665-108			(Purchased Reagent)		Nickel	995 ug/mL
.MTPbXXXTA_00010	01/16/20	CPI, Lot 981329-18			(Purchased Reagent)		Lead	1009 ug/mL
.MTPXXXTA_00002	01/08/20	CPI, Lot 978200-10			(Purchased Reagent)		Phosphorus	1002 ug/mL
.MTSbXXXTA_00008	01/16/20	CPI, Lot 153992-34			(Purchased Reagent)		Antimony	1000 ug/mL
.MTSeXXXTA_00008	01/16/20	CPI, Lot 982461-7			(Purchased Reagent)		Selenium	1004 ug/mL
.MTSrXXXTA_00008	01/16/20	CPI, Lot 168227-43			(Purchased Reagent)		Strontium	1000 ug/mL
.MTTlXXXTA_00009	01/16/20	CPI, Lot 148983-92			(Purchased Reagent)		Thallium	1002 ug/mL
.MTVXXXXTA_00009	01/16/20	CPI International, Lot 152207-102			(Purchased Reagent)		Vanadium	998 ug/mL
.MTZnXXXTA_00011	01/16/20	CPI International, Lot 166918-115			(Purchased Reagent)		Zinc	997 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
MT6010ICSA_00044	01/08/20	10/30/19	HNO3/HCL, Lot --	100 mL	MT-ICP-ICSA_00001	10 mL	Aluminum	500 ug/mL
							Calcium	500 ug/mL
							Iron	200 ug/mL
							Magnesium	500 ug/mL
.MT-ICP-ICSA_00001	01/08/20	CPI, Lot 982821-1			(Purchased Reagent)		Aluminum	5000 mg/L
							Calcium	5000 mg/L
							Iron	2000 mg/L
							Magnesium	5000 mg/L
MT6010ICSAB_00031	01/08/20	10/30/19	HNO3/HCL, Lot --	100 mL	MT-ICP-ICSA_00001	10 mL	Aluminum	500 mg/L
							Calcium	500 mg/L
							Iron	200 mg/L
							Magnesium	500 mg/L
					MT-ICP-ICSB2_00001	1 mL	Arsenic	1 mg/L
							B	10 mg/L
							Barium	1.001 mg/L
							Beryllium	0.5002 mg/L
							Cadmium	1 mg/L
							Chromium	0.9998 mg/L
							Cobalt	1 mg/L
							Copper	1 mg/L
							Lead	1 mg/L
							Manganese	1.001 mg/L
							Nickel	1.001 mg/L
							Phosphorus	10 mg/L
							Potassium	10 mg/L
							Selenium	1 mg/L
							Silver	1 mg/L
							Sodium	10 mg/L
							Strontium	1 mg/L
							Thallium	1 mg/L
							Vanadium	1 mg/L
							Zinc	1.001 mg/L
.MT-ICP-ICSA_00001	01/08/20	CPI, Lot 982821-1			(Purchased Reagent)		Aluminum	5000 mg/L
							Calcium	5000 mg/L
							Iron	2000 mg/L
							Magnesium	5000 mg/L
.MT-ICP-ICSB2_00001	01/08/20	CPI, Lot 990626-2			(Purchased Reagent)		Arsenic	100 mg/L
							B	1000 mg/L
							Barium	100.1 mg/L
							Beryllium	50.02 mg/L
							Cadmium	100 mg/L
							Chromium	99.98 mg/L
							Cobalt	100 mg/L
							Copper	100 mg/L
							Lead	100 mg/L
							Manganese	100.1 mg/L
							Nickel	100.1 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phosphorus	1000 mg/L
							Potassium	1000 mg/L
							Selenium	100 mg/L
							Silver	100 mg/L
							Sodium	1000 mg/L
							Strontium	100 mg/L
							Thallium	100 mg/L
							Vanadium	100 mg/L
							Zinc	100.1 mg/L
MT6010ICV_00039	11/24/19	10/23/19	5% HCl +2%HNO3, Lot NA	100 mL	MT_CalMix1-SS_00001	1 mL	Antimony	1 ppm
							Arsenic	1 ppm
							Barium	1 ppm
							Beryllium	1 ppm
							Cadmium	1.001 ppm
							Chromium	1 ppm
							Cobalt	1 ppm
							Copper	1.001 ppm
							Lead	1 ppm
							Manganese	1 ppm
							Molybdenum	1 ppm
							Nickel	1 ppm
							Selenium	1 ppm
							Strontium	1 ppm
							Thallium	1 ppm
							Vanadium	1 ppm
					MT_CalMix2-SS_00001	0.5 mL	Aluminum	10 ppm
							Calcium	10 ppm
							Iron	10 ppm
							Magnesium	10 ppm
							Potassium	10.005 ppm
							Sodium	10.005 ppm
					MT_CalMix3-SS_00001	0.2 mL	Phosphorus	2 ppm
					MTAgXXXTA-SS_00001	0.025 mL	Silver	0.249 ppm
					MTZnXXXTA-SS_00001	0.1 mL	Zinc	0.997 ppm
.MT_CalMix1-SS_00001	11/24/19	CPI International, Lot 982733-2			(Purchased Reagent)		Antimony	100 mg/L
							Arsenic	100 mg/L
							Barium	100 mg/L
							Beryllium	100 mg/L
							Cadmium	100.1 mg/L
							Chromium	100 mg/L
							Cobalt	100 mg/L
							Copper	100.1 mg/L
							Lead	100 mg/L
							Manganese	100 mg/L
							Molybdenum	100 mg/L
							Nickel	100 mg/L
							Selenium	100 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Strontium	100 mg/L
							Thallium	100 mg/L
							Vanadium	100 mg/L
.MT_CalMix2-SS_00001	11/24/19	CPI International, Lot 982735-2			(Purchased Reagent)		Aluminum	2000 mg/L
							Calcium	2000 mg/L
							Iron	2000 mg/L
							Magnesium	2000 mg/L
							Potassium	2001 mg/L
							Sodium	2001 mg/L
.MT_CalMix3-SS_00001	11/24/19	CPI International, Lot 982739-1			(Purchased Reagent)		Phosphorus	1000 mg/L
.MTAgXXXTA-SS_00001	11/28/19	CPI International, Lot 975475-12			(Purchased Reagent)		Silver	996 ug/mL
.MTZnXXXTA-SS_00001	11/28/19	CPI International, Lot 166918-115			(Purchased Reagent)		Zinc	997 ug/mL
MT6010LCS1_00014	01/16/20	09/19/19	5% HNO3, Lot na	1000 mL	MT_spike1_00002	250 mL	Arsenic	50 mg/L
							Barium	50 mg/L
							Beryllium	25 mg/L
							Cadmium	25 mg/L
							Chromium	25 mg/L
							Cobalt	25 mg/L
							Copper	25 mg/L
							Lead	25.025 mg/L
							Li	25 mg/L
							Manganese	25.025 mg/L
							Molybdenum	25 mg/L
							Nickel	25 mg/L
							Selenium	50 mg/L
							Si	50 mg/L
							Sn	50 mg/L
							Strontium	25 mg/L
							Thallium	50 mg/L
							Ti	25 mg/L
							Vanadium	25 mg/L
.MT_spike1_00002	09/19/20	CPI, Lot 993218-2			(Purchased Reagent)		Arsenic	200 mg/L
							Barium	200 mg/L
							Beryllium	100 mg/L
							Cadmium	100 mg/L
							Chromium	100 mg/L
							Cobalt	100 mg/L
							Copper	100 mg/L
							Lead	100.1 mg/L
							Li	100 mg/L
							Manganese	100.1 mg/L
							Molybdenum	100 mg/L
							Nickel	100 mg/L
							Selenium	200 mg/L
							Si	200 mg/L
							Sn	200 mg/L
							Strontium	100 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Thallium	200 mg/L
							Ti	100 mg/L
							Vanadium	100 mg/L
MT6010LCS2_00013	12/27/19	09/19/19	5% HNO3, Lot na	1000 mL	MT_spike2_00002	500 mL	Aluminum	500 mg/L
							Calcium	2500 mg/L
							Iron	500 mg/L
							Magnesium	2500 mg/L
							Potassium	2500 mg/L
							Sodium	2500 mg/L
.MT_spike2_00002	07/26/20	CPI, Lot 982744-1			(Purchased Reagent)		Aluminum	1000 mg/L
							Calcium	5000 mg/L
							Iron	1000 mg/L
							Magnesium	5000 mg/L
							Potassium	5000 mg/L
							Sodium	5000 mg/L
MT6010LCS3_00014	11/24/19	10/22/19	5%HNO3, Lot na	100 mL	MTAgXXXTA_00011	0.5 mL	Silver	4.995 mg/L
					MTBXXXXTA_00010	5 mL	B	500.5 mg/L
					MTPXXXTA_00003	5 mL	Phosphorus	500 mg/L
					MTSbXXXTA_00008	5 mL	Antimony	50 mg/L
					MTSiXXXTA_00018	4.5 mL	Si	434.79 mg/L
							SiO2	930.015 mg/L
					MTSXXXXTA_00015	5 mL	Sulfur	498.3 mg/L
					MTZnXXXTA_00010	5 mL	Zinc	49.85 mg/L
.MTAgXXXTA_00011	11/24/19	Inorganic Ventures, Lot M2-AG666654			(Purchased Reagent)		Silver	999 ug/mL
.MTBXXXXTA_00010	02/04/20	CPI, Lot 982186-5			(Purchased Reagent)		B	10010 ug/mL
.MTPXXXTA_00003	01/16/20	CPI, Lot 451077-22			(Purchased Reagent)		Phosphorus	10000 ug/mL
.MTSbXXXTA_00008	01/16/20	CPI, Lot 153992-34			(Purchased Reagent)		Antimony	1000 ug/mL
.MTSiXXXTA_00018	03/11/20	CPI, Lot 167061R-32			(Purchased Reagent)		Si	9662 ug/mL
							SiO2	20667 ug/mL
.MTSXXXXTA_00015	01/16/20	CPI, Lot 987745-10			(Purchased Reagent)		Sulfur	9966 ug/mL
.MTZnXXXTA_00010	11/24/19	Inorganic Ventures, Lot N2-ZN668257			(Purchased Reagent)		Zinc	997 ug/mL
MT6010PDS_00006	01/08/20	11/04/19	5% HNO3, Lot n/a	100 mL	MT-ICP-ICSA_00001	5 mL	Aluminum	250 mg/L
							Calcium	250 mg/L
							Iron	100 mg/L
							Magnesium	250 mg/L
					MT-ICP-ICSB1_00001	2.5 mL	Antimony	2.5 mg/L
							Molybdenum	2.5 mg/L
					MT-ICP-ICSB2_00001	2.5 mL	Arsenic	2.5 mg/L
							Barium	2.5025 mg/L
							Beryllium	1.2505 mg/L
							Cadmium	2.5 mg/L
							Chromium	2.4995 mg/L
							Cobalt	2.5 mg/L
							Copper	2.5 mg/L
							Lead	2.5 mg/L
							Manganese	2.5025 mg/L
							Nickel	2.5025 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phosphorus	25 mg/L
							Potassium	249.213 mg/L
							Selenium	2.5 mg/L
							Silver	2.5 mg/L
							Sodium	251.575 mg/L
							Strontium	2.5 mg/L
							Thallium	2.5 mg/L
							Vanadium	2.5 mg/L
							Zinc	2.5025 mg/L
					MTKXXXXTA_00014	2.25 mL	Potassium	249.213 mg/L
					MTNaXXXXTA_00003	2.25 mL	Sodium	251.575 mg/L
.MT-ICP-ICSA_00001	01/08/20	CPI, Lot 982821-1			(Purchased Reagent)		Aluminum	5000 mg/L
							Calcium	5000 mg/L
							Iron	2000 mg/L
							Magnesium	5000 mg/L
.MT-ICP-ICSB1_00001	01/08/20	CPI, Lot 990624-2			(Purchased Reagent)		Antimony	100 mg/L
							Molybdenum	100 mg/L
.MT-ICP-ICSB2_00001	01/08/20	CPI, Lot 990626-2			(Purchased Reagent)		Arsenic	100 mg/L
							Barium	100.1 mg/L
							Beryllium	50.02 mg/L
							Cadmium	100 mg/L
							Chromium	99.98 mg/L
							Cobalt	100 mg/L
							Copper	100 mg/L
							Lead	100 mg/L
							Manganese	100.1 mg/L
							Nickel	100.1 mg/L
							Phosphorus	1000 mg/L
							Potassium	1000 mg/L
							Selenium	100 mg/L
							Silver	100 mg/L
							Sodium	1000 mg/L
							Strontium	100 mg/L
							Thallium	100 mg/L
							Vanadium	100 mg/L
							Zinc	100.1 mg/L
.MTKXXXXTA_00014	01/08/20	CPI International, Lot 172053-56			(Purchased Reagent)		Potassium	9965 ug/mL
.MTNaXXXXTA_00003	01/08/20	CPI International, Lot 752887-20			(Purchased Reagent)		Sodium	10070 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Canton Job No.: 320-56102-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
1N BrCl_00041	12/11/20	10/04/19	DIWATER, Lot NA	500 mL	LLHg_KBr_00002	5.4 g	Potassium Bromide	10756.8 mL
					LLHg_KBrO3_00001	7.6 g	Potassium Bromate	15169.6 mL
					MTTMHCL_00266	500 mL	Hydrogen Chloride	1000000 mL
.LLHg_KBr_00002	12/11/20	Fisher Scientific, Lot 149360			(Purchased Reagent)		Potassium Bromide	99.6 %
.LLHg_KBrO3_00001	01/06/21	Alfa Aesar, Lot Y13B049			(Purchased Reagent)		Potassium Bromate	99.8 %
.MTTMHCL_00266	09/04/21	JT Baker(Avantor), Lot 0000229504			(Purchased Reagent)		Hydrogen Chloride	100 %
1N BrCl_00042	12/11/20	10/24/19	DIWATER, Lot NA	500 mL	LLHg_KBr_00002	5.4 g	Potassium Bromide	10756.8 mL
					LLHg_KBrO3_00001	7.6 g	Potassium Bromate	15169.6 mL
					MTTMHCL_00272	500 mL	Hydrogen Chloride	1000000 mL
.LLHg_KBr_00002	12/11/20	Fisher Scientific, Lot 149360			(Purchased Reagent)		Potassium Bromide	99.6 %
.LLHg_KBrO3_00001	01/06/21	Alfa Aesar, Lot Y13B049			(Purchased Reagent)		Potassium Bromate	99.8 %
.MTTMHCL_00272	10/15/21	JT Baker(Avantor), Lot 0000240180			(Purchased Reagent)		Hydrogen Chloride	100 %
LLHg-1631-ICV_00052	11/03/19	06/03/19	DIWATER, Lot NONE	100 mL	1N BrCl_00029	0.5 mL	Potassium Bromide	59162.4 ug/L
							Potassium Bromate	83432.8 ug/L
							Hydrogen Chloride	5500000 ug/L
					LLHg-ICV Int_00036	10 mL	Potassium Bromide	59162.4 ug/L
							Potassium Bromate	83432.8 ug/L
							Hydrogen Chloride	5500000 ug/L
							Mercury	1 ug/L
.1N BrCl_00029	11/03/19	05/03/19	DIWATER, Lot NA	500 mL	LLHg_KBr_00002	5.4 g	Potassium Bromide	10756.8 mL
					LLHg_KBrO3_00001	7.6 g	Potassium Bromate	15169.6 mL
					MTTMHCL_00242	500 mL	Hydrogen Chloride	1000000 mL
..LLHg_KBr_00002	12/11/20	Fisher Scientific, Lot 149360			(Purchased Reagent)		Potassium Bromide	99.6 %
..LLHg_KBrO3_00001	01/06/21	Alfa Aesar, Lot Y13B049			(Purchased Reagent)		Potassium Bromate	99.8 %
..MTTMHCL_00242	03/28/21	JT Baker(Avantor), Lot 0000217157			(Purchased Reagent)		Hydrogen Chloride	100 %
.LLHg-ICV Int_00036	11/03/19	06/03/19	DIWATER, Lot NONE	100 mL	1N BrCl_00029	0.5 mL	Potassium Bromide	53.784 ug/mL
							Potassium Bromate	75.848 ug/mL
							Hydrogen Chloride	5000 ug/mL
					LLHG-cal_00008	0.1 mL	Mercury	0.01 ug/mL
..1N BrCl_00029	11/03/19	05/03/19	DIWATER, Lot NA	500 mL	LLHg_KBr_00002	5.4 g	Potassium Bromide	10756.8 mL
					LLHg_KBrO3_00001	7.6 g	Potassium Bromate	15169.6 mL
					MTTMHCL_00242	500 mL	Hydrogen Chloride	1000000 mL
...LLHg_KBr_00002	12/11/20	Fisher Scientific, Lot 149360			(Purchased Reagent)		Potassium Bromide	99.6 %
...LLHg_KBrO3_00001	01/06/21	Alfa Aesar, Lot Y13B049			(Purchased Reagent)		Potassium Bromate	99.8 %
...MTTMHCL_00242	03/28/21	JT Baker(Avantor), Lot 0000217157			(Purchased Reagent)		Hydrogen Chloride	100 %
..LLHG-cal_00008	05/31/20	ESI, Lot 1910030			(Purchased Reagent)		Mercury	10 ug/mL
LLHg-1631-ICV_00054	04/30/20	11/04/19	DIWATER, Lot NONE	100 mL	1N BrCl_00042	0.5 mL	Potassium Bromide	59162.4 ug/L
							Potassium Bromate	83432.8 ug/L
							Hydrogen Chloride	5500000 ug/L
					LLHg-ICV Int_00038	10 mL	Potassium Bromide	59162.4 ug/L
							Potassium Bromate	83432.8 ug/L
							Hydrogen Chloride	5500000 ug/L
							Mercury	1 ug/L
.1N BrCl_00042	12/11/20	10/24/19	DIWATER, Lot NA	500 mL	LLHg_KBr_00002	5.4 g	Potassium Bromide	10756.8 mL
					LLHg_KBrO3_00001	7.6 g	Potassium Bromate	15169.6 mL
					MTTMHCL_00272	500 mL	Hydrogen Chloride	1000000 mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Canton Job No.: 320-56102-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..LLHg_KBr_00002	12/11/20	Fisher Scientific, Lot 149360			(Purchased Reagent)		Potassium Bromide	99.6 %
..LLHg_KBrO3_00001	01/06/21	Alfa Aesar, Lot Y13B049			(Purchased Reagent)		Potassium Bromate	99.8 %
..MTTMHCL_00272	10/15/21	JT Baker(Avantor), Lot 0000240180			(Purchased Reagent)		Hydrogen Chloride	100 %
.LLHg-ICV Int_00038	04/30/20	10/30/19	DIWATER, Lot NONE	100 mL	1N BrCl_00042	0.5 mL	Potassium Bromide	53.784 ug/mL
							Potassium Bromate	75.848 ug/mL
							Hydrogen Chloride	5000 ug/mL
					LLHG-cal_00008	0.1 mL	Mercury	0.01 ug/mL
..1N BrCl_00042	12/11/20	10/24/19	DIWATER, Lot NA	500 mL	LLHg_KBr_00002	5.4 g	Potassium Bromide	10756.8 mL
					LLHg_KBrO3_00001	7.6 g	Potassium Bromate	15169.6 mL
					MTTMHCL_00272	500 mL	Hydrogen Chloride	1000000 mL
...LLHg_KBr_00002	12/11/20	Fisher Scientific, Lot 149360			(Purchased Reagent)		Potassium Bromide	99.6 %
...LLHg_KBrO3_00001	01/06/21	Alfa Aesar, Lot Y13B049			(Purchased Reagent)		Potassium Bromate	99.8 %
...MTTMHCL_00272	10/15/21	JT Baker(Avantor), Lot 0000240180			(Purchased Reagent)		Hydrogen Chloride	100 %
..LLHG-cal_00008	05/31/20	ESI, Lot 1910030			(Purchased Reagent)		Mercury	10 ug/mL
LLHg-CCV_00221	01/31/20	11/04/19	DIWATER, Lot NA	1 L	LLHg-ICal Int_00053	0.5 mL	Mercury	5 ppt
.LLHg-ICal Int_00053	01/31/20	10/30/19	DIWATER, Lot NONE	100 mL	LLHG-cal_00007	0.1 mL	Mercury	0.01 ug/mL
..LLHG-cal_00007	01/31/20	High-Purity Standards, Lot 1831020			(Purchased Reagent)		Mercury	10 ug/mL

Reagent

HRDXNCP_00039

received 8/30/19 KSS

(pg 1/6)

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

PCDD/PCDF Window Defining and Isomer Specificity Mix (DB-5)

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number:	EDF-4147
Solution Lot:	ER03111502
Expiration Date:	March 2025
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/ analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies.
- Ampules are overfilled to ensure a minimum 1 2 mL volume We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

March 24, 2015
Date

Component	Chromatographic Purity	Concentration
1,3,6,8-Tetrachlorodibenzo-p-dioxin	99.9%	200.3 ± 2.0 ng/mL
1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin	99.8%	200.6 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzo-p-dioxin	99.2%	200.3 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	98.9%	200.1 ± 2.0 ng/mL
1,2,3,9-Tetrachlorodibenzo-p-dioxin	99.6%	199.9 ± 2.0 ng/mL
1,2,8,9-Tetrachlorodibenzo-p-dioxin	99.2%	200.2 ± 2.0 ng/mL
1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin	98.9%	200.6 ± 2.0 ng/mL
1,2,3,8,9-Pentachlorodibenzo-p-dioxin	99.0%	200.1 ± 2.0 ng/mL
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin	98.7%	200.2 ± 2.0 ng/mL
1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin	99.0%	200.5 ± 2.0 ng/mL
1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin	98.9%	200.1 ± 2.0 ng/mL
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	99.8%	200.3 ± 2.0 ng/mL
1,3,6,8-Tetrachlorodibenzofuran	98.5%	200.1 ± 2.0 ng/mL
1,2,3,9-Tetrachlorodibenzofuran	98.2%	200.4 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzofuran	99.4%	200.0 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	99.2%	200.5 ± 2.0 ng/mL
2,3,4,7-Tetrachlorodibenzofuran	98.7%	200.2 ± 2.0 ng/mL
1,2,8,9-Tetrachlorodibenzofuran	99.3%	199.9 ± 2.0 ng/mL
1,3,4,6,8-Pentachlorodibenzofuran	99.5%	200.6 ± 2.0 ng/mL
1,2,3,8,9-Pentachlorodibenzofuran	99.0%	200.5 ± 2.0 ng/mL
1,2,3,4,6,8-Hexachlorodibenzofuran	98.6%	200.5 ± 2.0 ng/mL
1,2,3,4,8,9-Hexachlorodibenzofuran	99.7%	200.5 ± 2.0 ng/mL
1,2,3,4,6,7,8-Heptachlorodibenzofuran	98.9%	200.6 ± 2.0 ng/mL
1,2,3,4,7,8,9-Heptachlorodibenzofuran	99.1%	200.1 ± 2.0 ng/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Stock solution concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.

Standard Solution Assay Parameters

Analysis Method:	GC/MS
Column:	DB-5ms 30 m x 0.25 mm ID, 0.25 µm film thickness
Temp Program:	140°C to 200°C at 40°C/min 200°C to 300°C at 4°C/min
Injector Temp:	Cool-on-Column
Detector Temp:	280°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	1

Solution Standard Verification and Homogeneity

Compound	Verified Concentration ng/mL	Acceptance Criteria	%RSD - Homogeneity %	Acceptance Criteria
1,3,6,8-Tetrachlorodibenzo-p-dioxin	200 4	± 10%	1 6	≤ 5%
1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin/ 2,3,7,8-Tetrachlorodibenzo-p-dioxin/ 1,2,3,9-Tetrachlorodibenzo-p-dioxin [1]	591.2	± 10%	1 6	≤ 5%
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	196 8	± 10%	2 7	≤ 5%
1,2,8,9-Tetrachlorodibenzo-p-dioxin	197 2	± 10%	2 8	≤ 5%
1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin	194 6	± 10%	2 8	≤ 5%
1,2,3,8,9-Pentachlorodibenzo-p-dioxin	194 7	± 10%	2 3	≤ 5%
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin	195 3	± 10%	1 7	≤ 5%
1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin	192.6	± 10%	2 3	≤ 5%
1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin	191.2	± 10%	2 5	≤ 5%
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	196 7	± 10%	2 1	≤ 5%
1,3,6,8-Tetrachlorodibenzofuran	202 3	± 10%	2 1	≤ 5%
1,2,3,9-Tetrachlorodibenzofuran	194 4	± 10%	2 4	≤ 5%
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	198 0	± 10%	3.3	≤ 5%
2,3,4,7-Tetrachlorodibenzofuran/ 2,3,7,8-Tetrachlorodibenzofuran [1]	399.3	± 10%	2.4	≤ 5%
1,2,8,9-Tetrachlorodibenzofuran	198 9	± 10%	2.9	≤ 5%
1,3,4,6,8-Pentachlorodibenzofuran	195 0	± 10%	2.1	≤ 5%
1,2,3,8,9-Pentachlorodibenzofuran	199.6	± 10%	2.1	≤ 5%
1,2,3,4,6,8-Hexachlorodibenzofuran	195.5	± 10%	2.4	≤ 5%
1,2,3,4,8,9-Hexachlorodibenzofuran	196.4	± 10%	1.8	≤ 5%
1,2,3,4,6,7,8-Heptachlorodibenzofuran	197.4	± 10%	2.9	≤ 5%
1,2,3,4,7,8,9-Heptachlorodibenzofuran	195.3	± 10%	2.1	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The %RSD of samples pulled from across the lot demonstrate homogeneity.
- Product is compared to prior lot and meets acceptance criteria of ± 10%.

[1] Compounds co-elute. Concentration is the sum of both or all analytes.

Neat Material Data

Compound	Lot Number	CAS Number	Chemical Formula	Molecular Weight	Chromatographic Purity
1,3,6,8-Tetrachlorodibenzo-p-dioxin	ER040811-02	33423-92-6	$C_{12}H_4Cl_4O_2$	321.97	99.9%
1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin	ER021510-01	NA	$C_{12}H_4Cl_4O_2$	321.97	99.8%
2,3,7,8-Tetrachlorodibenzo-p-dioxin	ER061009-02	1746-01-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	ER01031401	76523-40-5	$^{13}C_{12}H_4Cl_4O_2$	333.84	98.9%
1,2,3,9-Tetrachlorodibenzo-p-dioxin	ER0529401	71669-26-6	$C_{12}H_4Cl_4O_2$	321.97	99.6%
1,2,8,9-Tetrachlorodibenzo-p-dioxin	ER11201301	62470-54-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%
1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin	ER11051302	NA	$C_{12}H_3Cl_5O_2$	356.42	98.9%
1,2,3,8,9-Pentachlorodibenzo-p-dioxin	ER05161401	NA	$C_{12}H_3Cl_5O_2$	356.42	99.0%
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin	ER08101402	NA	$C_{12}H_2Cl_6O_2$	390.86	98.7%
1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin	ER030107-01	NA	$C_{12}H_2Cl_6O_2$	390.86	99.0%
1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin	ER01201502	58200-70-7	$C_{12}HCl_7O_2$	425.31	98.9%
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	ER100207-02	35822-46-9	$C_{12}HCl_7O_2$	425.31	99.8%
1,3,6,8-Tetrachlorodibenzofuran	ER021808-01	71998-72-6	$C_{12}H_4Cl_4O$	305.98	98.5%
1,2,3,9-Tetrachlorodibenzofuran	ER071107-01	NA	$C_{12}H_4Cl_4O$	305.98	98.2%
2,3,7,8-Tetrachlorodibenzofuran	ER101211-02	51207-31-9	$C_{12}H_4Cl_4O$	305.98	99.4%
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	ER12101304	89059-46-1	$^{13}C_{12}H_4Cl_4O$	317.88	99.2%
2,3,4,7-Tetrachlorodibenzofuran	ER052307-01	NA	$C_{12}H_4Cl_4O$	305.98	98.7%
1,2,8,9-Tetrachlorodibenzofuran	ER041508-03	NA	$C_{12}H_4Cl_4O$	305.98	99.3%
1,3,4,6,8-Pentachlorodibenzofuran	ER04231401	NA	$C_{12}H_3Cl_5O$	340.42	99.5%
1,2,3,8,9-Pentachlorodibenzofuran	ER12101303	NA	$C_{12}H_3Cl_5O$	340.42	99.0%
1,2,3,4,6,8-Hexachlorodibenzofuran	ER04231402	NA	$C_{12}H_2Cl_6O$	374.86	98.6%
1,2,3,4,8,9-Hexachlorodibenzofuran	ER12091401	92341-07-6	$C_{12}H_2Cl_6O$	374.86	99.7%
1,2,3,4,6,7,8-Heptachlorodibenzofuran	ER02281403	67562-39-4	$C_{12}HCl_7O$	409.31	98.9%
1,2,3,4,7,8,9-Heptachlorodibenzofuran	ER01121503	55673-89-7	$C_{12}HCl_7O$	409.31	99.1%

Product Analysis

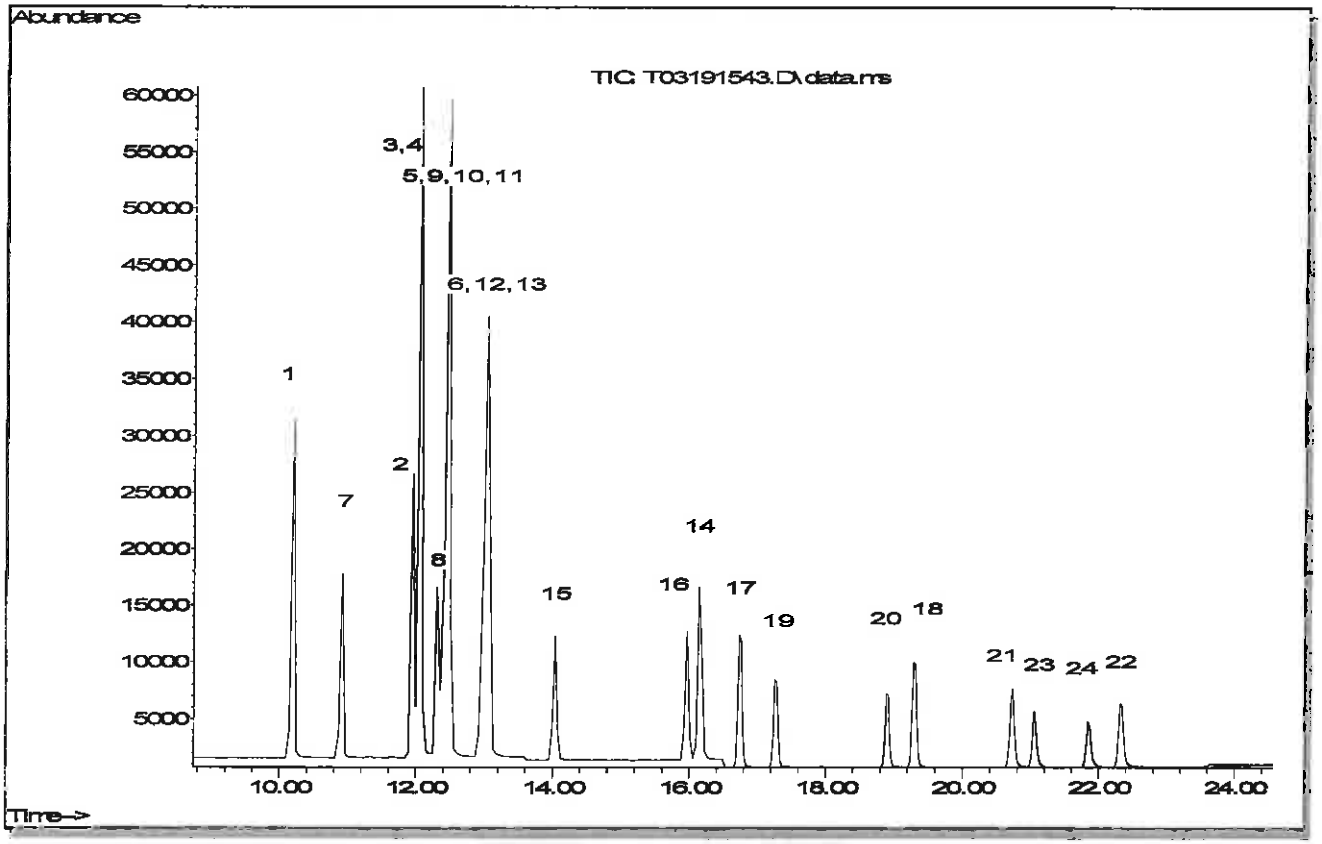

1 1,3,6,8-Tetrachlorodibenzofuran
2 2,3,4,7-Tetrachlorodibenzofuran
3 2,3,7,8-Tetrachlorodibenzofuran
4 2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$
5 1,2,3,9-Tetrachlorodibenzofuran
6 1,2,8,9-Tetrachlorodibenzofuran
7 1,3,6,8-Tetrachlorodibenzo-p-dioxin
8 1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin
9 1,2,3,9-Tetrachlorodibenzo-p-dioxin
10 2,3,7,8-Tetrachlorodibenzo-p-dioxin
11 2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$
12 1,2,8,9-Tetrachlorodibenzo-p-dioxin
13 1,3,4,6,8-Pentachlorodibenzofuran
14 1,2,3,8,9-Pentachlorodibenzofuran
15 1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin
16 1,2,3,8,9-Pentachlorodibenzo-p-dioxin
17 1,2,3,4,6,8-Hexachlorodibenzofuran
18 1,2,3,4,8,9-Hexachlorodibenzofuran
19 1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin
20 1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin
21 1,2,3,4,6,7,8-Heptachlorodibenzofuran
22 1,2,3,4,7,8,9-Heptachlorodibenzofuran
23 1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin
24 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin

COA Revision History

Revision No.	Date	Reason for Revision
00	March 24, 2015	Initial version

Reagent

HRDXNIDA_00075

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-$^{13}C_{12}$

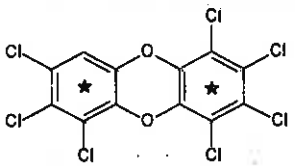

Catalog Number:	ED-972
Solution Lot:	ER111010-01
Expiration Date:	November 2020
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature Do not store cold
Intended Use:	For laboratory use only Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-$^{13}C_{12}$	98.9%	50.03 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER111010-01	50.5	± 5%	0.5	≤ 3%
Previous Lot	ER011807-01	47.4	± 5%	1.8	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

January 15, 2016
Date

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}HO_2Cl_7$
Compound Lot:	ER100110-01	**CAS Number:**	NA
		Molecular Weight:	437.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.9%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.10% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		98.91%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

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Spectral and Physical Data

GC/FID

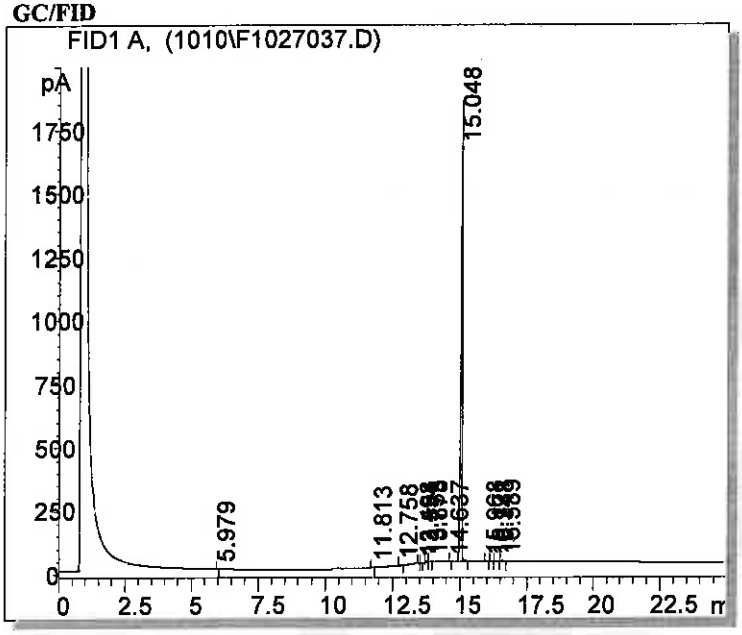

Column:	DB-5ms, 30m x 0.53mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-column
Detector Temp:	325°C
Data File Name:	S:\GC\GC6\2010\1010\F1027037.D
Instrument:	GC#6
Sample Name:	ER100110-01
Acquired:	October 28, 2010

Peak #	Ret Time	Area	Height	Area %
1	5.98	0.34	0.18	0.00
2	11.81	1.00	0.08	0.01
3	12.76	10.96	2.89	0.16
4	13.50	1.19	0.32	0.02
5	13.55	2.63	0.80	0.04
6	13.75	13.39	3.28	0.19
7	13.88	7.04	1.81	0.10
8	14.64	0.86	0.28	0.01
9	15.05	6900.70	1812.09	98.81
10	15.97	3.15	0.73	0.05
11	16.17	2.25	0.55	0.03
12	16.35	5.12	1.10	0.07
13	16.59	18.93	4.26	0.27
14	26.99	15.17	0.35	0.22
15	35.58	0.06	0.21	0.00
16	41.80	0.77	0.13	0.01

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Spectral and Physical Data (cont.)

GC/MS

Compound Name : 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-13C
Lab Number : [illegible]
Instrument : Agilent 5973N MSD/5890 GC
Operator-Inst ID : [illegible] - 010106
Date Reported : Wed Oct 27 [illegible] 2010
Column Type : [illegible]
Temp. Program : [illegible]
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : [illegible] mL/min
Transfer Line Temp. : [illegible]

Scan Range : 50-650

Total Ion Chromatogram

Mass Spectrum

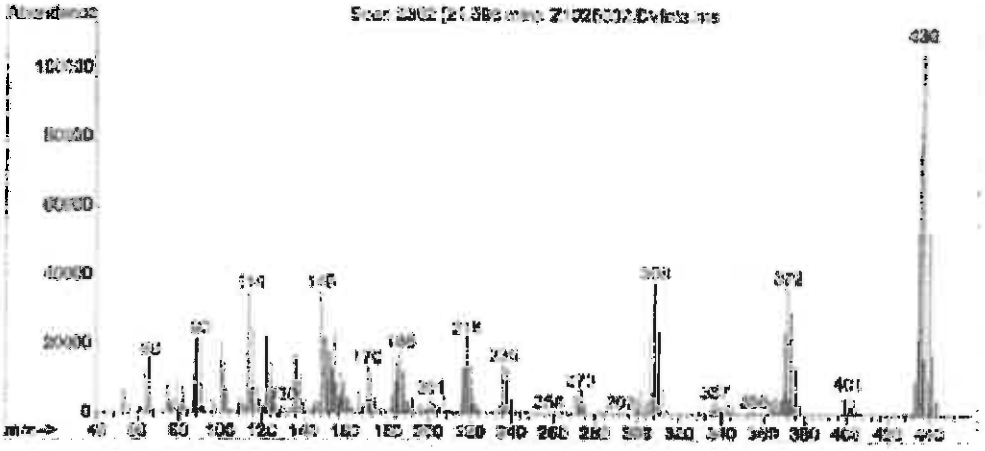

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

COA Revision History

Revision No.	Date	Reason for Revision
00	November 24, 2010	Initial version
01	January 15, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

Reagent

HRDXNIDA_00247

Recd 8-17-16

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$

HpCDF

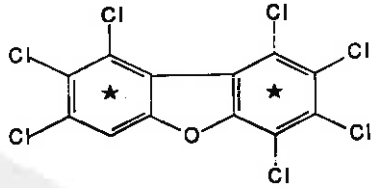

Catalog Number: EF-988
Solution Lot: ER04251601
Expiration Date: March 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	99.1%	49.99 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04251601	49.11	± 5%	0.2	≤ 3%
Previous Lot	ER053107-02	50.58	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

June 21, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}HCl_7O$
Compound Lot:	ER04041602	**CAS Number:**	109719-94-0
		Molecular Weight:	421.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.1%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS SIM	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.16% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.10%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data (cont.)

GC/FID

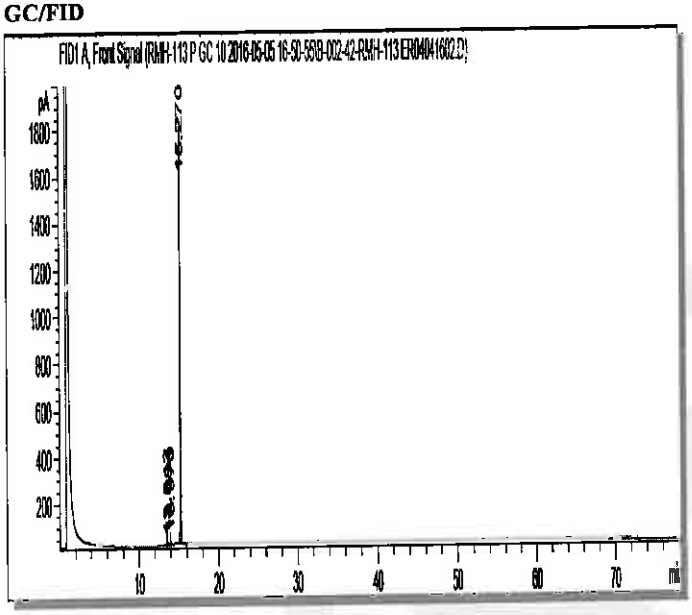

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Data File Name:	RMH-113 P GC 10 2016-05-05 16-50-55\B-002-42.D
Instrument:	GC#10
Sample Name:	ER04041602
Acquired:	May 05, 2016

Peak #	Ret Time	Area	Height	Area %
1	13.51	8.76	2.52	0.12
2	13.68	17.42	7.45	0.24
3	13.97	39.65	15.48	0.54
4	15.27	7226.95	1798.33	99.10

Spectral and Physical Data (cont.)

GC/MS

```
Compound Name          : 1,2,3,4,7,8,9-Heptachlorodibenzofuran-13C12
Lot Number             : ER04041602
Instrument             : Agilent GCMS
Operator               : ECM(SGIUFFRE)
Date Reported          : Wed May 04 15:34:28 2016
Column Type            : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program          : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.         : Cool on-column
Carrier Gas            : Helium
Flow Rate (mL\min)     : 0.80 mL/min
Transfer Line Temp.    : 280°C
Scan Range             : 50-550
```

Total Ion Chromatogram

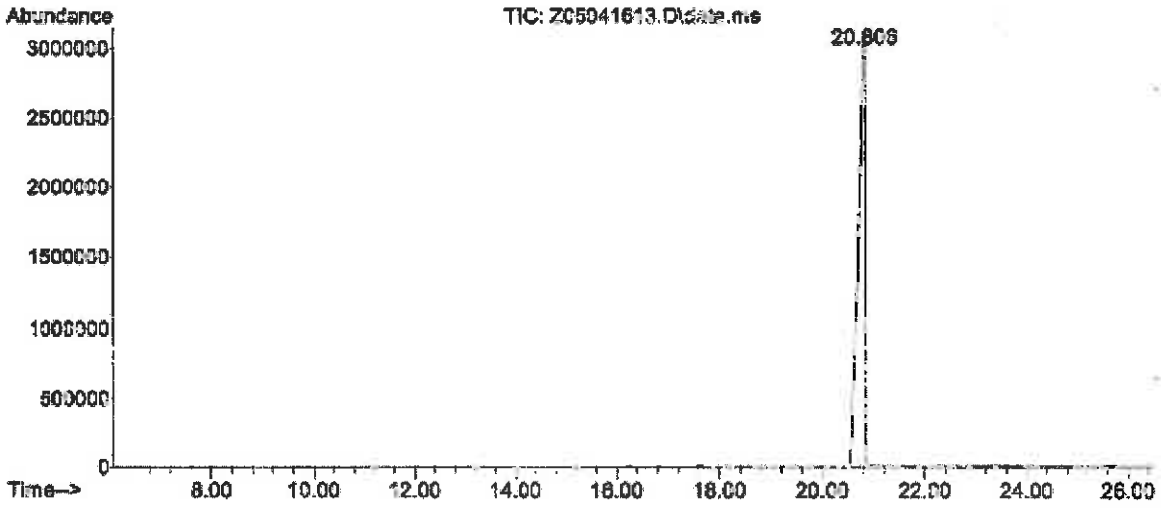

Mass Spectrum

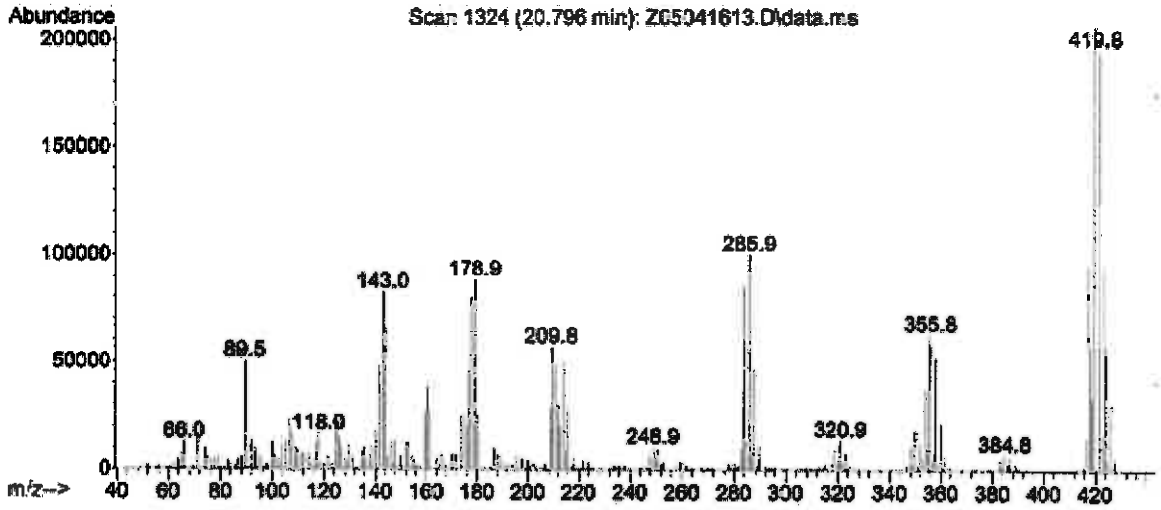

COA Revision History

Revision No.	Date	Reason for Revision
00	June 21, 2016	Initial version

Reagent

HRDXNIDA_00297

r: 9/28/17 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

1042065
ID: HRDXNIDA_00297
Exp: 01/31/27 Prpd: SKV
13C-2,3,4,7,8-PeCDF [50ug

CIL

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$

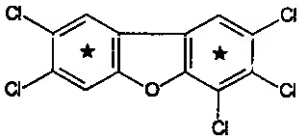

Catalog Number: EF-958
Solution Lot: ER01061701
Expiration Date: January 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	97.9%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s); measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER01061701	50.51	± 5%	0.1	≤ 3%
Previous Lot	ER11041601	49.56	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

January 27, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3Cl_5O$
Compound Lot:	ER11101601	**CAS Number:**	116843-02-8
		Molecular Weight:	352.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0102	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.02% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 0.5%
Mass Balance Purity Factor		98.33%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

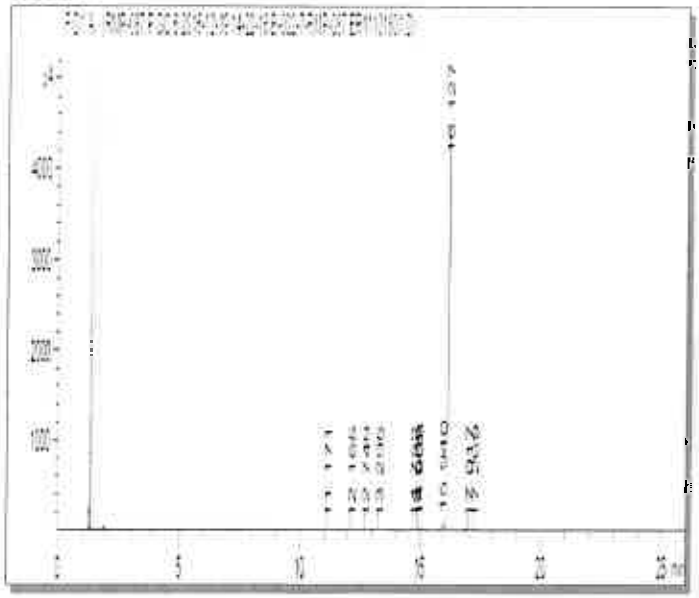

Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 100°C to 300°C at 15°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: RMP-087 P GC 6 2016-12-19 14-22-16\B-002-7.D
Instrument: GC#6
Sample Name: ER11101601
Acquired: December 19, 2016

Peak #	Ret Time	Area	Height	Area %
1	11.17	0.94	0.40	0.01
2	12.17	1.30	0.39	0.01
3	12.75	0.47	0.20	0.00
4	13.30	0.90	0.35	0.01
5	14.75	1.70	0.87	0.02
6	14.91	1.09	0.56	0.01
7	14.97	32.24	17.54	0.29
8	15.94	124.38	64.36	1.13
9	16.13	10866.60	4688.80	98.41
10	17.02	6.31	2.46	0.06
11	17.27	6.76	2.34	0.06

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 2,3,4,7,8-Pentachlorodibenzofuran-13C12
Lot Number	: ER11101601
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRS)
Date Reported	: Tue Dec 20 12:19:55 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.50 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

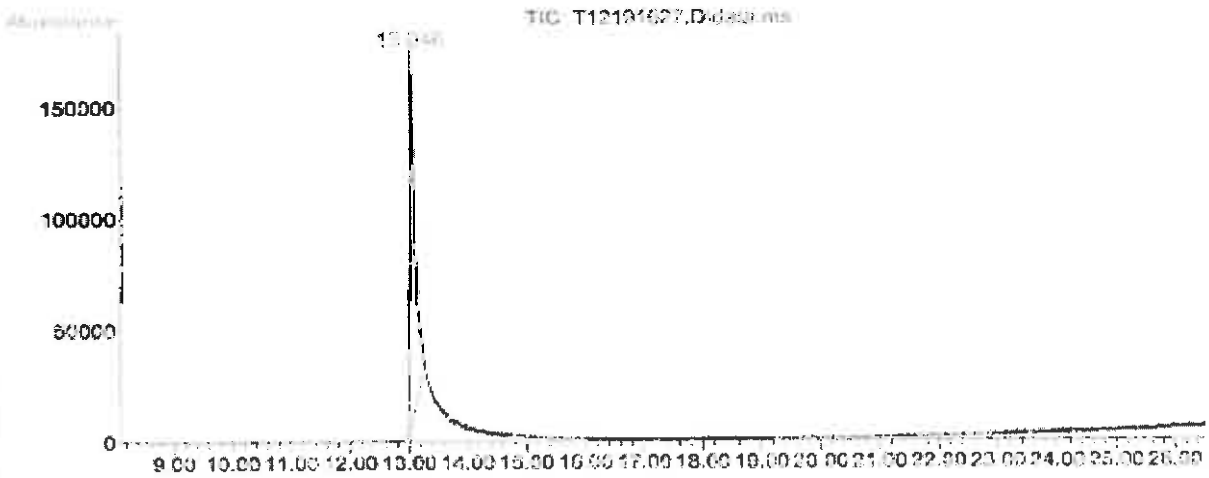

Mass Spectrum

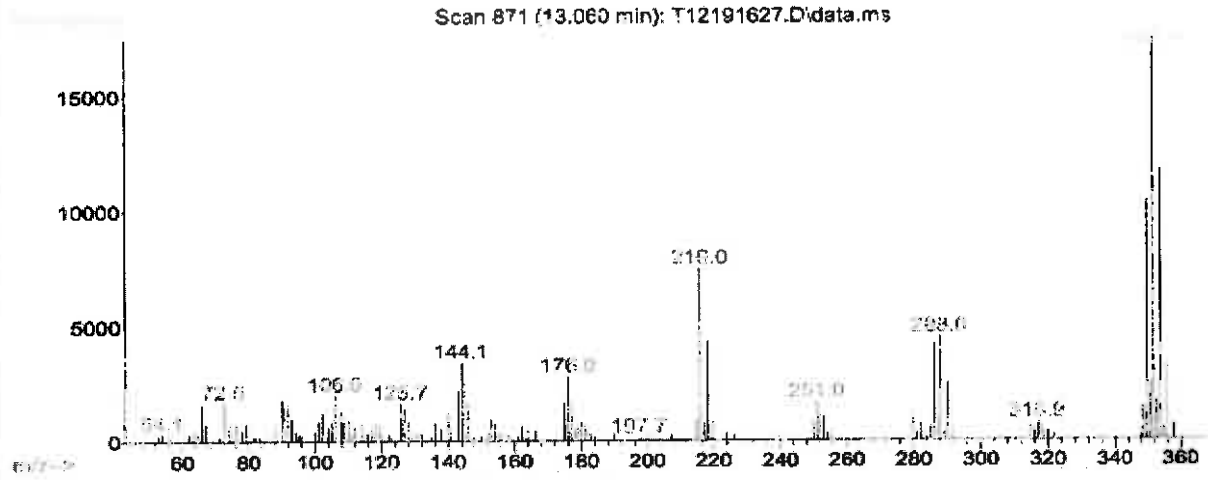

Reagent

HRDXNIDA_00301

n: 9/20/17 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

1042073
ID: HRDXNIDA_00301
Exp: 10/31/21 Prpd: SKV
13C-1,2,3,4,7,8-HxCDD [50

CIL

Certificate of Analysis

Certificate Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 9001
GMP/GLP

1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

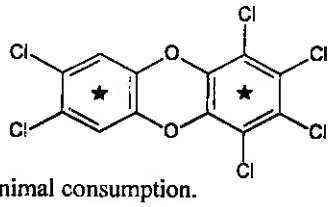

Catalog Number: ED-946
Solution Lot: ER102711-01
Expiration Date: October 2021
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.0%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER102711-01	48.2	± 5%	0.2	≤ 3%
Previous Lot	ER012208-01	49.6	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS ACCREDITED
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

September 17, 2015
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O_2$
Compound Lot:	ER011008-01	**CAS Number:**	109719-80-4
		Molecular Weight:	402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.2%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.08% $^{13}C_0$ vs $^{13}C_{12}$
		0.19% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.19%

- Chromatographic purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

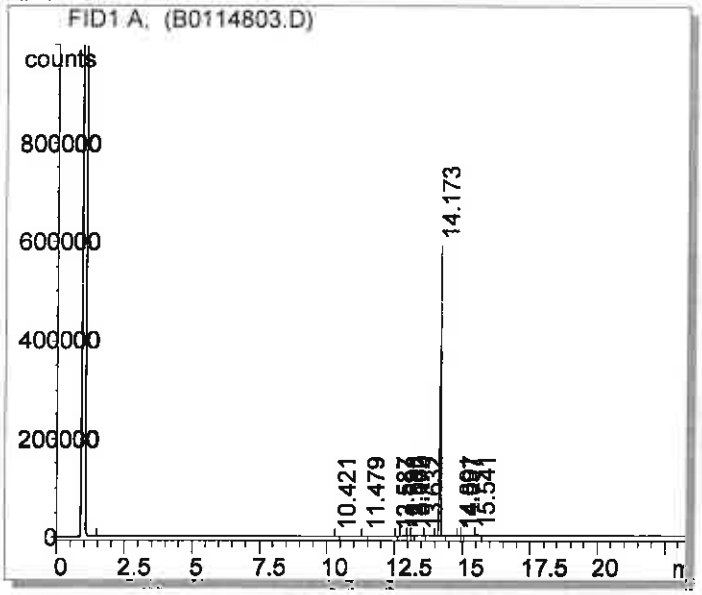

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0114803.D
Instrument:	GC#2
Sample Name:	ER011008-01
Acquired:	January 14, 2008

Peak #	Ret Time	Area	Height	Area %
1	10.42	287.44	132.33	0.02
2	11.48	242.24	92.03	0.01
3	12.59	389.12	196.33	0.02
4	12.90	3015.36	1199.07	0.17
5	13.06	2243.36	788.13	0.13
6	13.17	2243.90	754.45	0.13
7	13.63	2349.03	134.07	0.02
8	14.17	427.02	588610.00	99.20
9	14.89	1731980.00	110.79	0.03
10	15.00	512.26	86.41	0.02
11	15.54	4077.63	1008.44	0.23

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

Compound Name : 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-13C12
Lot Number : [illegible]-01
Instrument : Agilent 5973N MSD/6890N GC
Operator-Inst ID : REC - C1010E
Date Reported : Wed Jan 16 11:15:58 2008
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 300°C@6°C/min (5 min)
Injection Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 280°C

Scan Range : 50-550

Total Ion Chromatogram

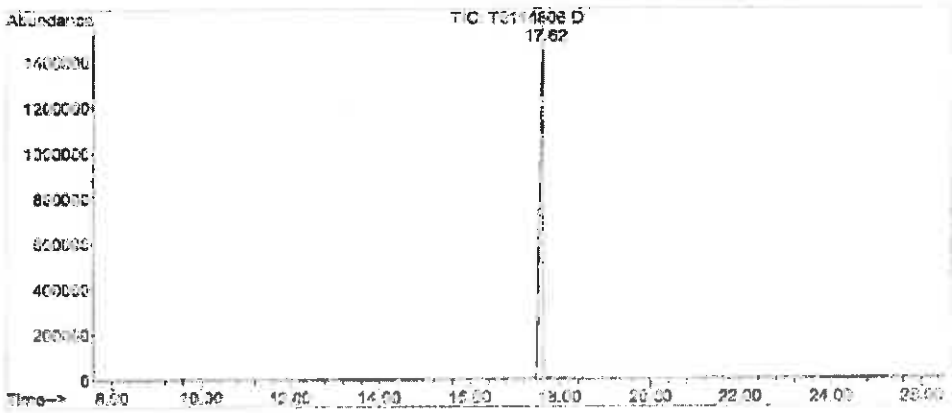

Mass Spectrum

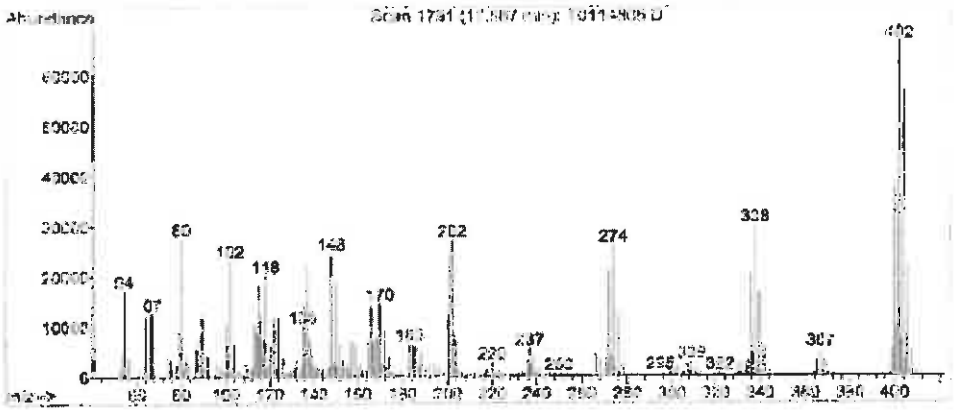

COA Revision History

Revision No.	Date	Reason for Revision
00	November 12, 2011	Initial version
01	September 17, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet"

Reagent

HRDXNIDA_00302

r: 9/20/17 SKV

1042074
ID: HRDXNIDA_00302
Exp: 07/31/20 Prpd: SKV
13C-1,2,3,4,7,8-HxCDF [50

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

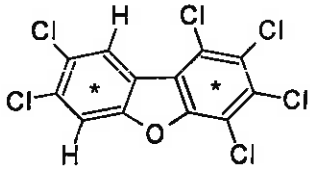

Catalog Number:	EF-963
Solution Lot:	ER072810-02
Expiration Date:	July 2020
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Protect from air and light, store at room temperature. Do not store cold.
Intended Use:	For laboratory use only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration.

Component	Chromatographic Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.6%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Acceptance Criteria	%RSD - Homogeneity Actual Results	Acceptance Criteria
New Lot	ER072810-02	47.4	± 5%	0.3	≤ 3%
Previous Lot	LR011907-01	46.6	—	1.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

November 15, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$
Compound Lot:	35135-45

Chemical Formula:	$^{13}C_{12}H_2OCl_6$
CAS Number:	114423-98-2
Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.6%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% C_0 vs C_{12}
		0.13% C_6 vs C_{12}
Purity Factor		99.57%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

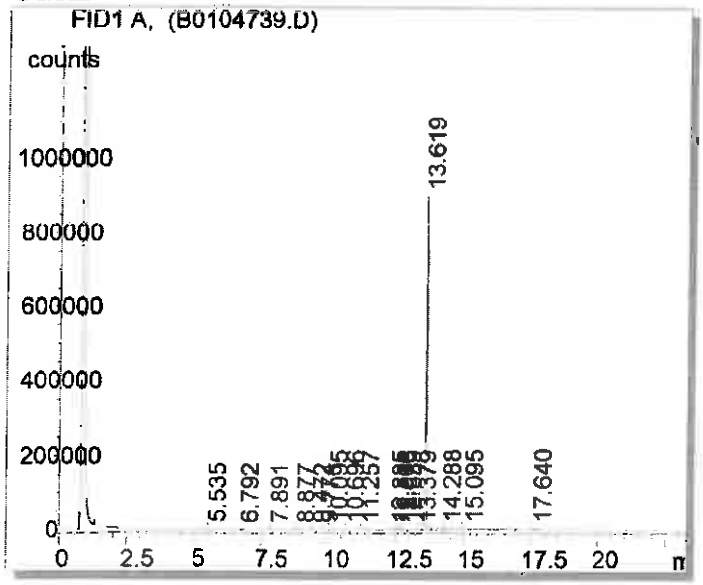

Column:	DB-5ms, 30m x 0.53mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0104739.D
Instrument:	GC#2
Sample Name:	35135-45
Acquired:	January 05, 2007

Peak #	Ret Time	Area	Height	Area %
1	4.21	615.24	161.26	0.02
2	5.21	1024.94	292.85	0.04
3	6.09	326.05	83.67	0.01
4	7.10	301.83	31.69	0.01
5	7.75	169.71	40.31	0.01
6	8.38	136.91	47.17	0.01
7	8.97	123.76	38.29	0.00
8	12.30	2684.80	1153.73	0.10
9	12.48	1162.83	467.42	0.04
10	12.56	1893.94	719.41	0.07
11	12.68	466.69	180.24	0.02
12	12.86	690.32	301.63	0.03
13	13.62	2651450.00	979725.00	99.58
14	14.34	274.11	82.01	0.01
15	15.17	1208.09	320.67	0.05
16	19.00	166.44	32.66	0.01

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

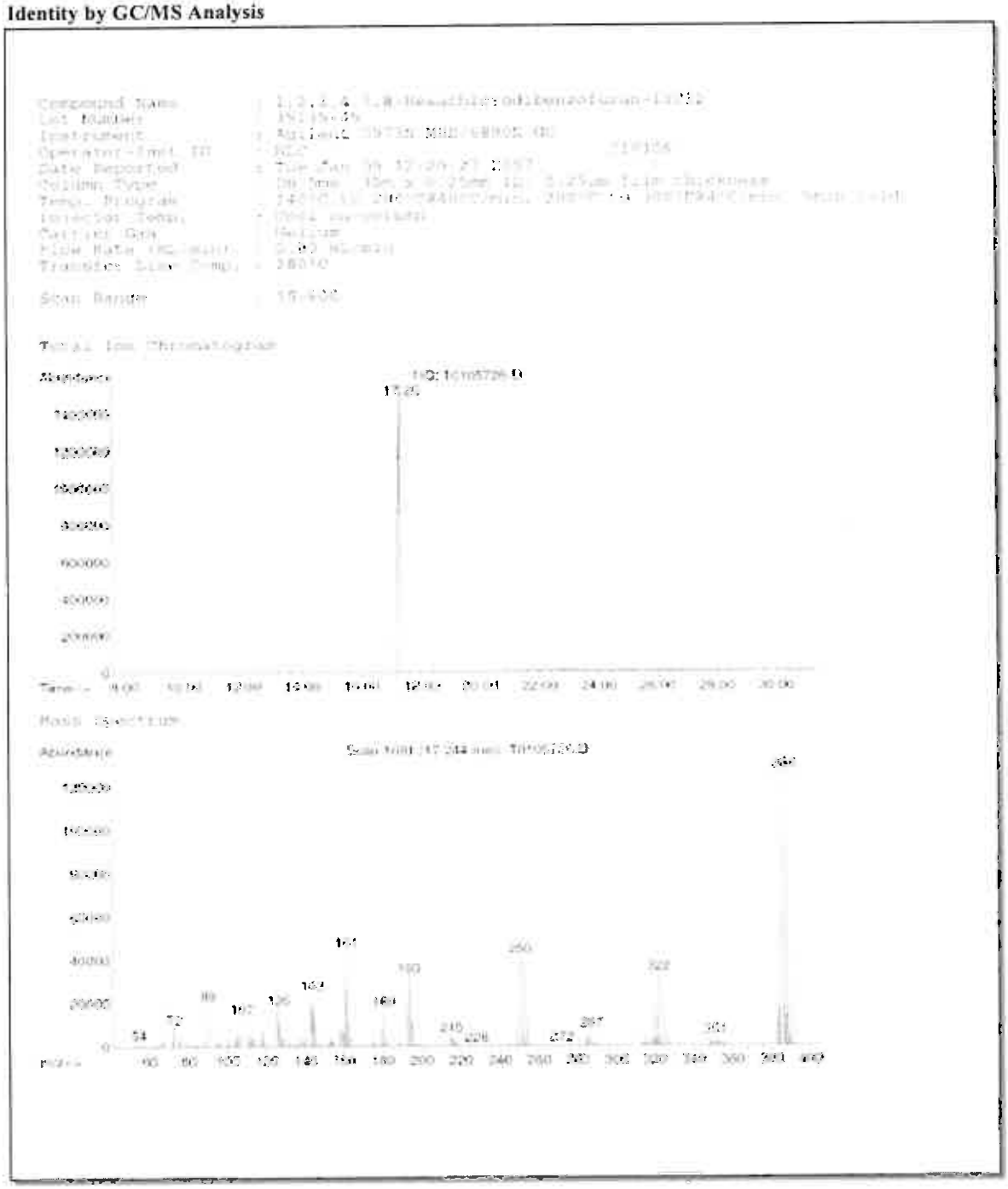

COA Revision History

Revision No.	Date	Reason for Revision
00	September 22, 2010	Initial version
01	September 22, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet"
02	November 15, 2016	Corrected Molecular Weight from 368.77 to 386.77

Reagent

HRDXNIDA_00353

r: 11/28/18 SKV

Cerilliant Analytical Reference Standards
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CIL

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Certificate of Analysis

1,2,3,4,6,7,8-Heptachlorodibenzofuran-$^{13}C_{12}$

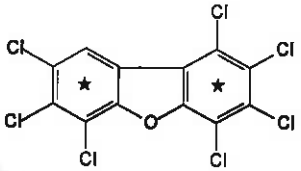

Catalog Number: EF-974
Solution Lot: ER08101404
Expiration Date: November 2024
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,6,7,8-Heptachlorodibenzofuran-$^{13}C_{12}$	98.3%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER08101404	48.75	± 5%	0.3	≤ 3%
Previous Lot	ER102711-02	51.49	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

December 03, 2015
Date

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 60°C to 300°C at 40°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 4
Linearity (r): 1.000

Neat Material Data

Compound Name: 1,2,3,4,6,7,8-Heptachlorodibenzofuran-$^{13}C_{12}$
Compound Lot: ER020507-02

Chemical Formula: $^{13}C_{12}HCl_7O$
CAS Number: 109719-84-8
Molecular Weight: 421.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	98.7%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.16% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS	SP10-0105	Pass
		no single DD/DF impurity ≥1.0%
Purity Factor		98.69%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

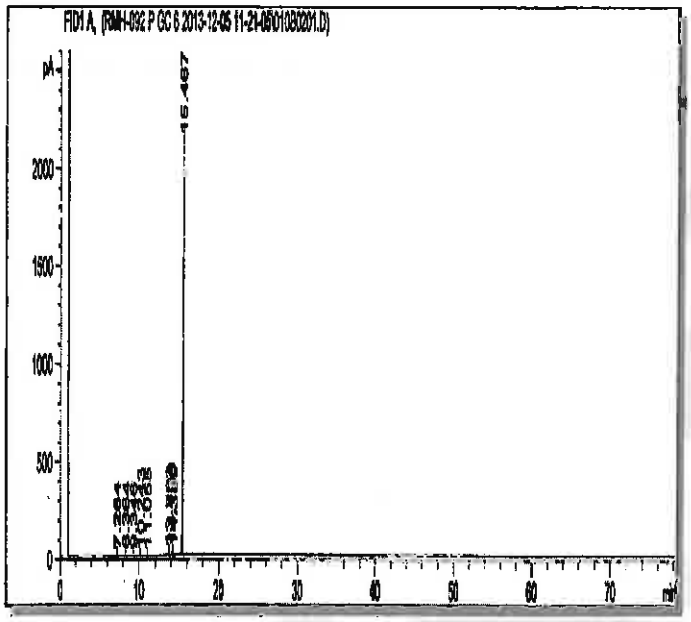

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-092 P GC 6 2013-12-05 11-21-05\010B0201.D
Instrument:	GC#6
Sample Name:	ER020507-02
Acquired:	December 05, 2013

Peak #	Ret Time	Area	Height	Area %
1	7.26	4.41	2.08	0.05
2	8.36	11 76	5.45	0.12
3	9 35	5 20	2.32	0.05
4	10 24	1 47	0.62	0.02
5	11 06	0 34	0.17	0.00
6	13 75	8 81	4.38	0.09
7	13.80	23 67	9.98	0.25
8	14.13	43 07	16.42	0.45
9	14.20	21 73	8.77	0.23
10	14.39	4 79	1.81	0.05
11	15.47	9349 36	2200.33	98.68

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 1,2,3,4,6,7,8-Heptachlorodibenzofuran-13C12
Lot Number : ER020507-02
Instrument : Agilent GCMS
Operator : ECM(BRYAN_DOCKERY)
Date Reported : Tue Dec 17 09:08:58 2013
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL\min) : 0.80 mL/min
Transfer Line Temp. : 280°C
Scan Range : 50-550

Total Ion Chromatogram

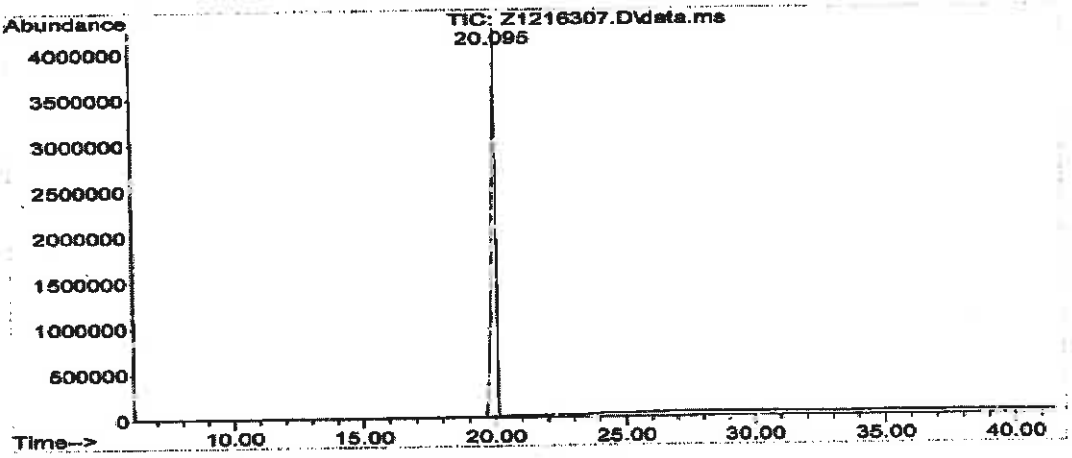

Mass Spectrum

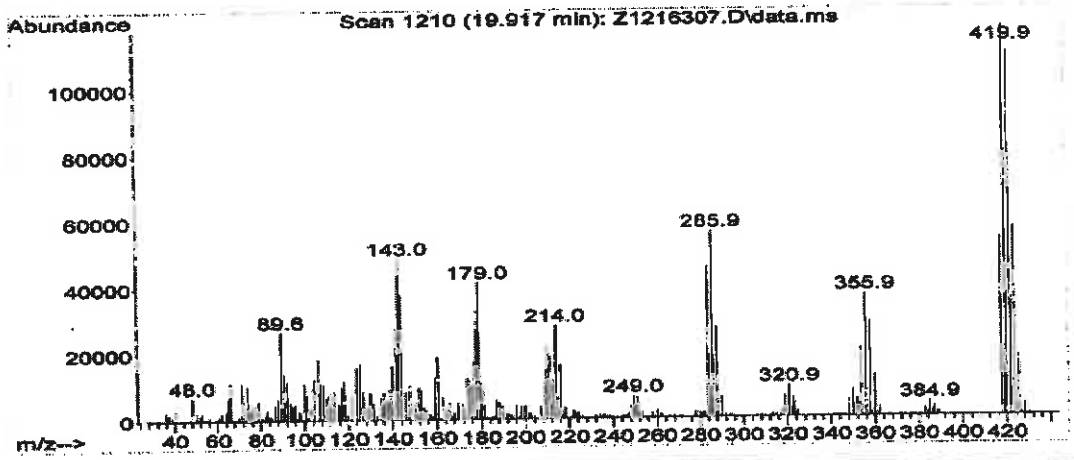

COA Revision History

Revision No.	Date	Reason for Revision
00	January 19, 2015	Initial version
01	December 04, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet"

Reagent

HRDXNIDA_00354

Rec: 11/28/18 SKV

Cerilliant Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$

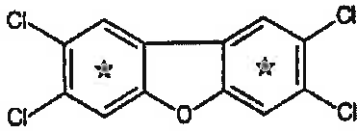

Catalog Number: EF-904
Solution Lot: ER09131601
Expiration Date: September 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	99.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER09131601	49.91	± 5%	0.2	≤ 3%
Previous Lot	ER12101304	51.13	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

November 02, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_4Cl_4O$
Compound Lot:	ER01161401	**CAS Number:**	89059-46-1
		Molecular Weight:	317.88

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.2%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS SIM	SP10-0105	No single DD/DF ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.00% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.24%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

GC/FID

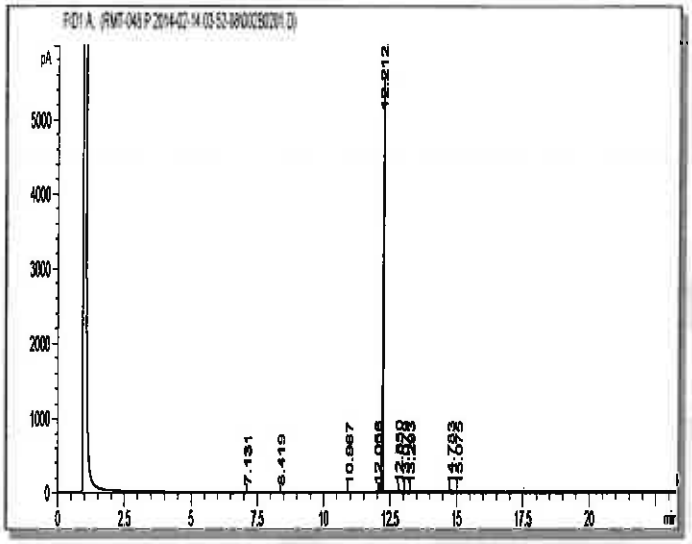

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMT-048 P 2014-02-14 03-52-08\002B0201.D
Instrument:	GC#10
Sample Name:	ER01161401
Acquired:	February 14, 2014

Peak #	Ret Time	Area	Height	Area %
1	7.13	1.19	0.61	0.01
2	8.42	3.23	1.42	0.03
3	10.97	3.57	1.04	0.03
4	12.06	20.86	12.47	0.18
5	12.21	11764.70	5466.96	99.29
6	12.85	30.72	15.48	0.26
7	13.08	7.62	4.03	0.06
8	13.29	5.47	2.91	0.05
9	14.78	7.62	2.76	0.06
10	15.08	3.87	1.33	0.03

GC/MS

Compound Name	: 2,3,7,8-Tetrachlorodibenzofuran-13C12
Lot Number	: ER01161401
Instrument	: Agilent GCMS
Operator	: ECM(SAMUEL_GIUFFRE)
Date Reported	: Thu Feb 13 11:57:07 2014
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

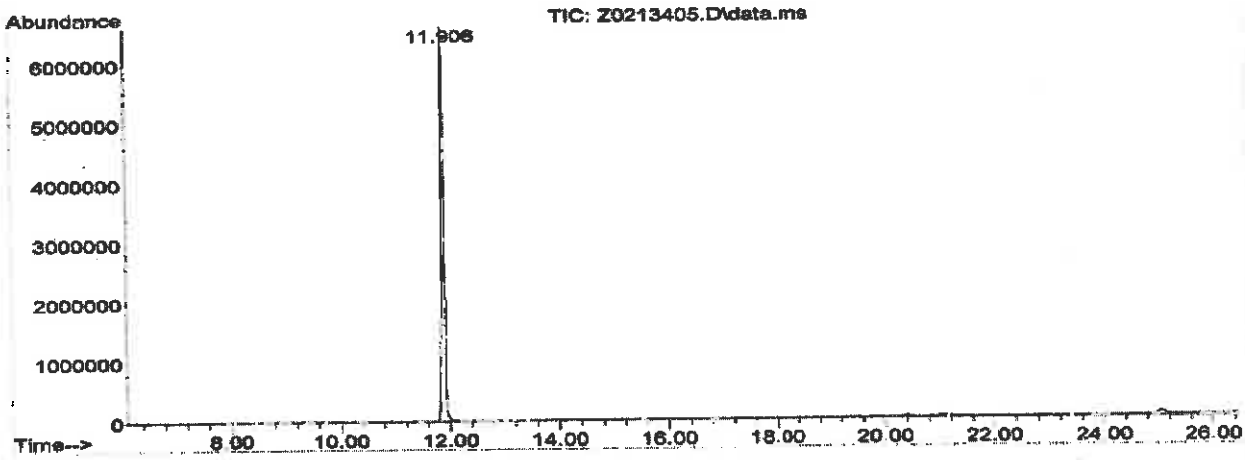

Mass Spectrum

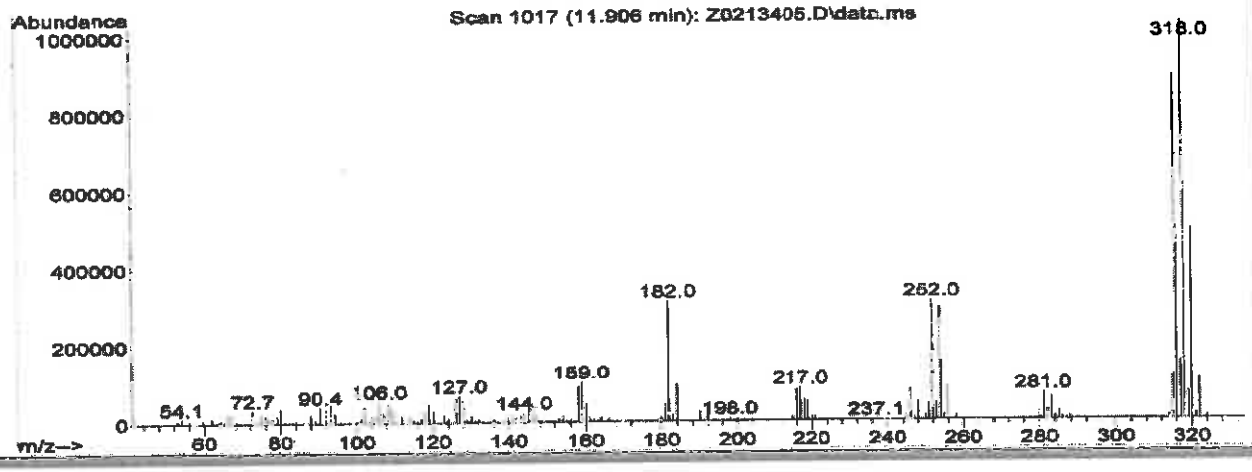

COA Revision History

Revision No.	Date	Reason for Revision
00	November 02, 2016	Initial version

Reagent

HRDXNIDA_00355

Rec: 11/28/18 SJV

Cerilliant
Analytical Reference Standards
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CIL

Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$

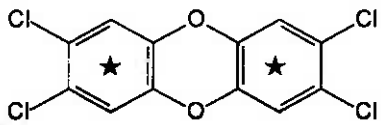

Catalog Number: ED-900
Solution Lot: ER03031601
Expiration Date: March 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.4%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution, and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER03031601	52.66	± 5%	0.3	≤ 3%
Previous Lot	ER01031401	49.83	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

March 24, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-35ms 30 m x 0.53 mm ID, 1.0 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_4Cl_4O_2$
Compound Lot:	ER01201405	**CAS Number:**	76523-40-5
		Molecular Weight:	333.88

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity and Distribution by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.05% $^{13}C_6$ vs $^{13}C_{12}$
Impurities by GC/MS SIM Analysis	SP10-0105	no single DD/DF impurity $\geq$0.5%
Mass Balance Purity Factor		99.34%

- The primary chromatographic purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Mass Balance Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

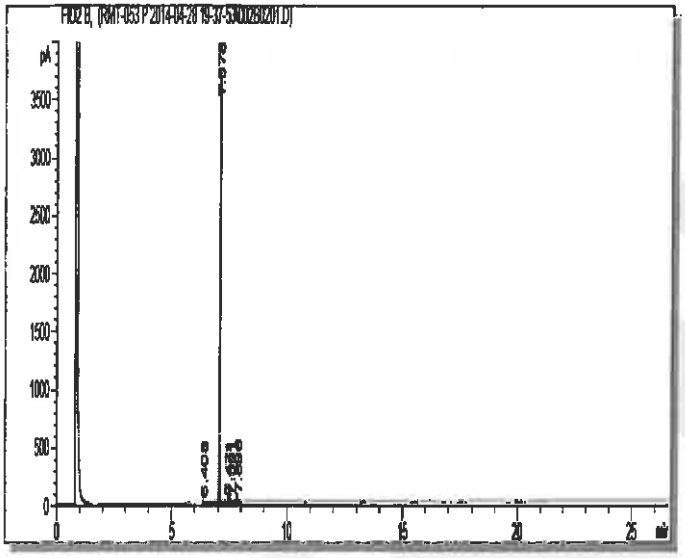

Column:	DB-35ms, 30 m x 0.53 mm ID, 1.0 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMT-053 P 2014-04-28 19-37-53\002B0201.D
Instrument:	GC#6
Sample Name:	ER01201405
Acquired:	April 28, 2014

Peak #	Ret Time	Area	Height	Area %
1	6.41	4 36	2.80	0.08
2	7 08	5225 21	3678.99	99.32
3	7 47	5 29	3.00	0.10
4	7 59	9 11	4.81	0.17
5	7.90	17 05	9.22	0.32

GC/MS

Compound Name	: 2,3,7,8-Tetrachlorodibenzo-p-dioxin-13C12
Lot Number	: ERS1201405
Instrument	: Agilent GCMS
Operator	: ECM(SAMUEL_GIUITRE)
Date Reported	: Tue May 06 09:30:26 2014
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 220°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

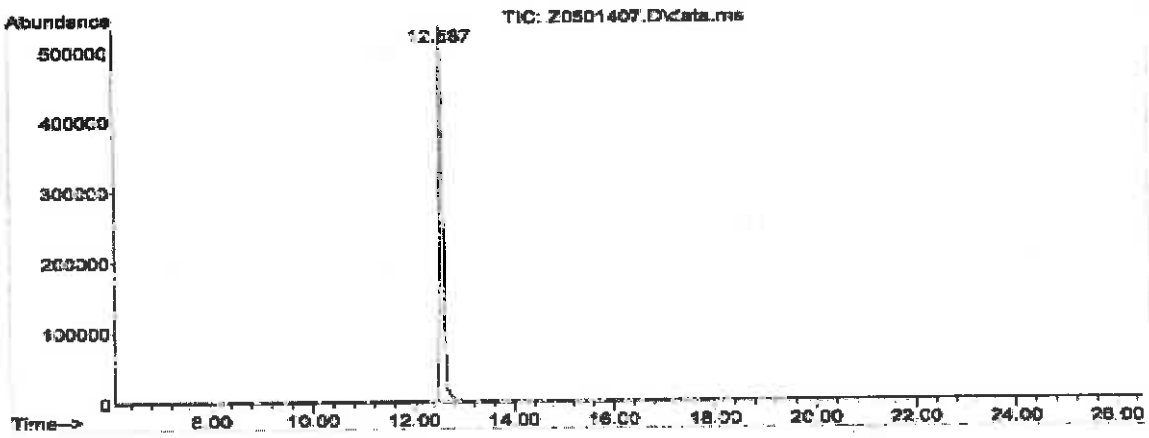

Mass Spectrum

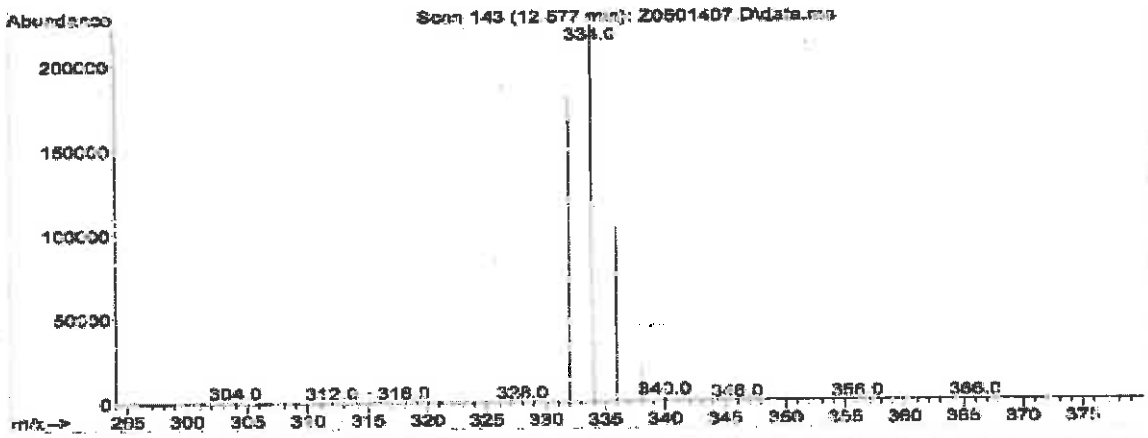

Reagent

HRDXNIDA_00357

r: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

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ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Certificate of Analysis

1,2,3,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

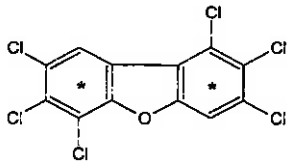

Catalog Number: EF-985
Solution Lot: ER02241603
Expiration Date: April 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.6%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER02241603	50.09	± 5%	0.4	≤ 3%
Previous Lot	ER053107-03	50.81	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

May 04, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O$
Compound Lot:	ER051607-01	**CAS Number:**	116843-03-9
		Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.06% $^{13}C_6$ vs $^{13}C_{12}$
Impurities by GC/MS SIM Analysis	SP10-0105	no single DD/DF impurity ≥ 0.5%
Mass Balance Purity Factor		99.01%

- The chromatographic purity is calculated as the average of two independently performed analyses utilizing two different methods Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Mass Balance Purity Factor
- Mass Balance Purity Factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

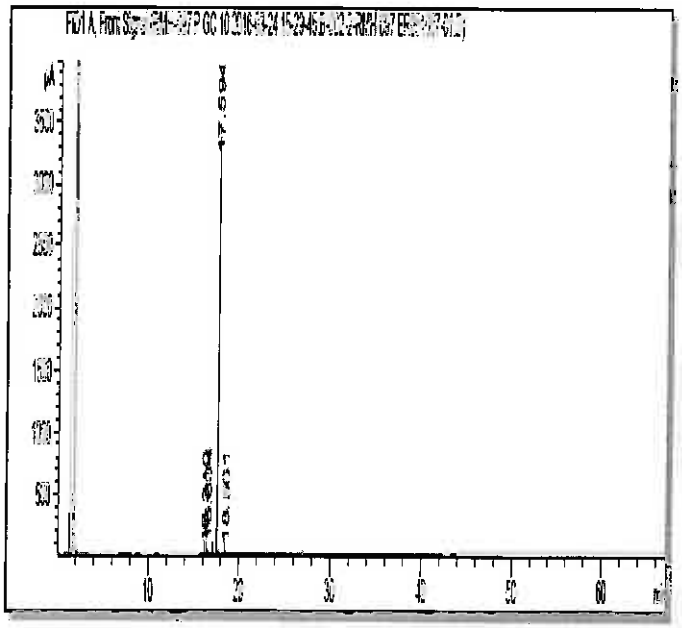

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	40°C to 300°C at 15°C/min hold 50 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-097 P GC 10 2016-03-24 15-29-45\B-002-2.D
Instrument:	GC#10
Sample Name:	ER051607-01
Acquired:	March 24, 2016

Peak #	Ret Time	Area	Height	Area %
1	16.31	6.97	3.21	0.08
2	16.60	77.08	33.51	0.83
3	17.59	9156.82	3458.38	99.00
4	18.56	8.48	2.69	0.09

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 1,2,3,6,7,8-Hexachlorodibenzofuran-13C12
Lot Number	: ER051607-01
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Fri Mar 18 07:08:54 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

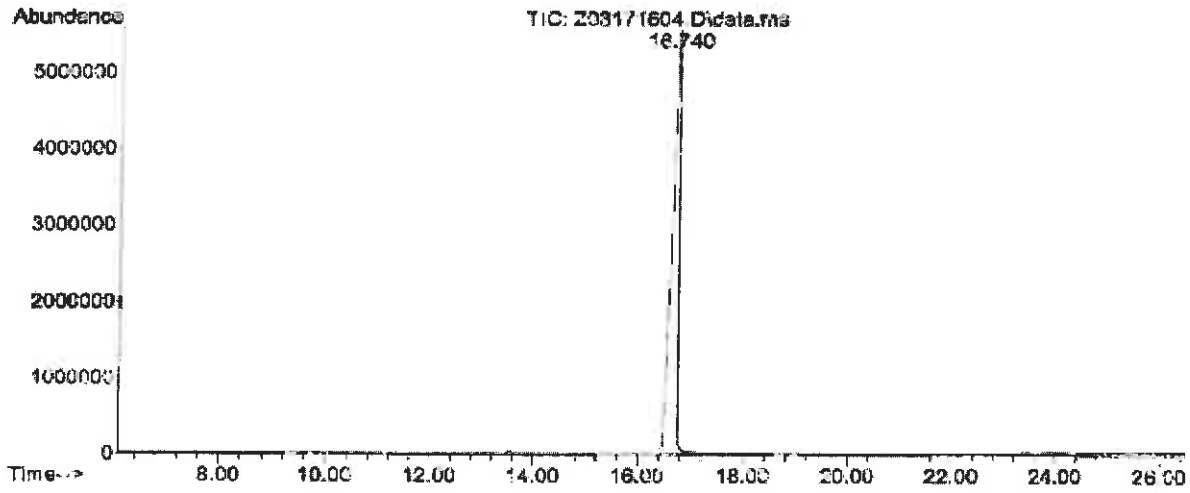

Mass Spectrum

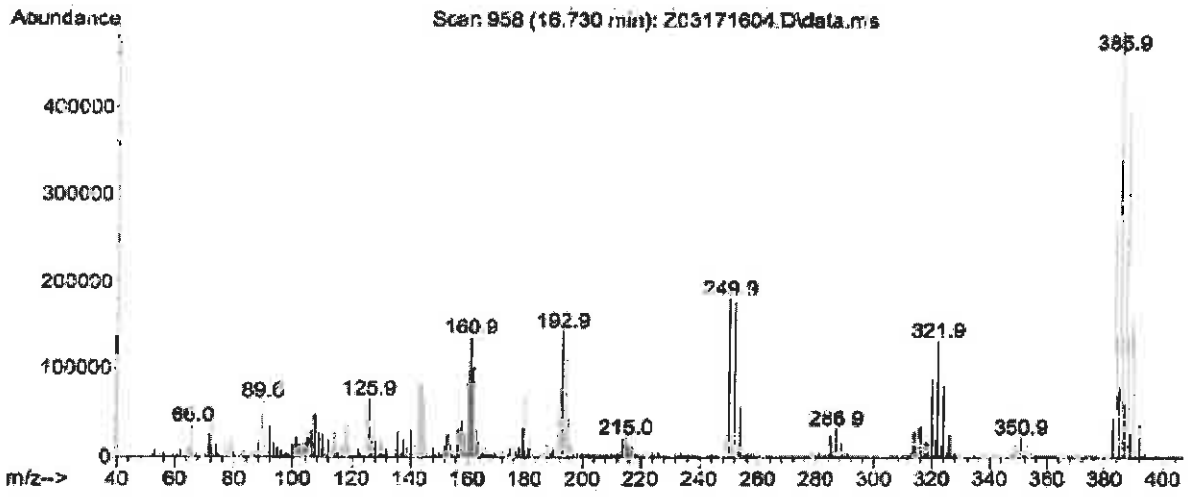

COA Revision History

Revision No.	Date	Reason for Revision
00	May 04, 2016	Initial version

Reagent

HRDXNIDA_00358

r: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,7,8,9-Hexachlorodibenzofuran-$^{13}C_{12}$

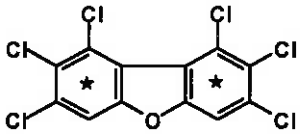

Catalog Number: EF-986
Solution Lot: ER100610-01
Expiration Date: December 2020
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For laboratory use only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
1,2,3,7,8,9-Hexachlorodibenzofuran-$^{13}C_{12}$	99.5%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER100610-01	51.2	± 5%	0.4	≤ 3%
Previous Lot	ER100107-01	49.9	± 5%	1.4	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

February 14, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2OCl_6$
Compound Lot:	ER080108-03	**CAS Number:**	116843-04-0
		Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.5%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.03% $^{13}C_0$ vs $^{13}C_{12}$
		0.09% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.49%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

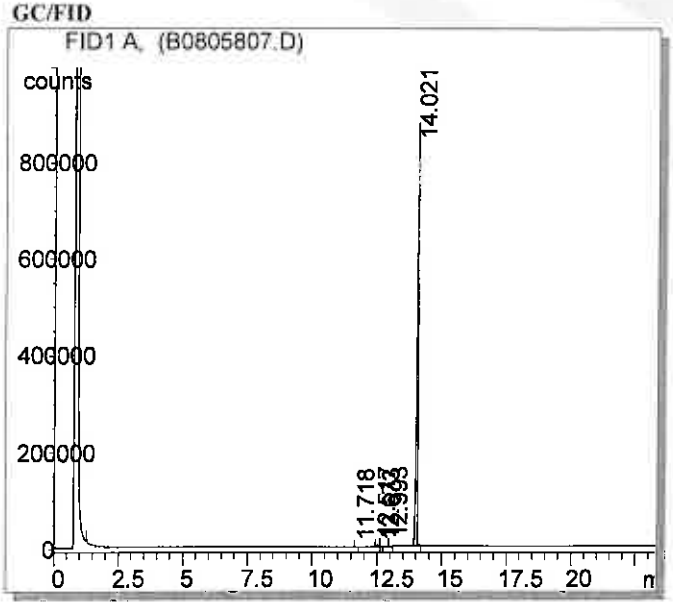

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0805807.D
Instrument:	GC#2
Sample Name:	ER080108-03
Acquired:	August 05, 2008

Peak #	Ret Time	Area	Height	Area %
1	11.72	318.47	152.10	0.01
2	12.52	8294.54	2994.64	0.30
3	12.67	155.17	67.29	0.01
4	12.99	4248.66	1646.53	0.16
5	14.02	2708910.00	880320.00	99.52

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

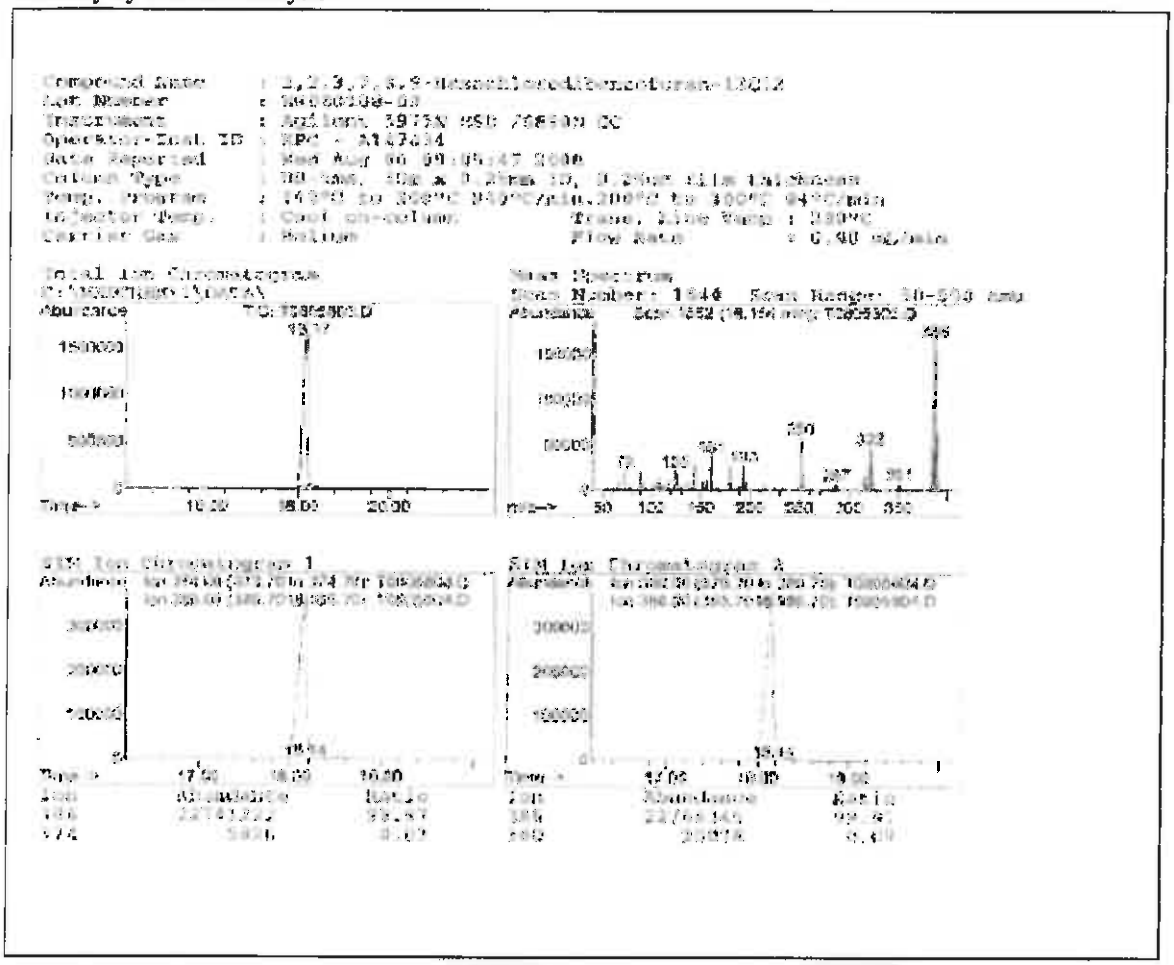

COA Revision History

Revision No.	Date	Reason for Revision
00	January 12, 2011	Initial version
01	November 05, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".
02	February 14, 2017	Corrected Isotopic Purity by GC/MS SIM from C to ^{13}C.

Reagent

HRDXNIDA_00359

r: 1/15/19 SKV

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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

2,3,4,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

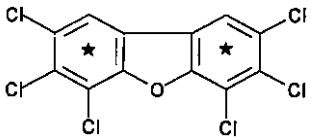

Catalog Number: EF-987
Solution Lot: ER100610-02
Expiration Date: December 2020
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For laboratory use only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
2,3,4,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.4%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER100610-02	50.9	± 5%	0.6	≤ 3%
Previous Lot	ER031507-03	50.3	± 5%	1.8	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

January 15, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,4,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O$
Compound Lot:	ER061906-02	**CAS Number:**	116843-05-1
		Molecular Weight:	386.73

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.4%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.04% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.40%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

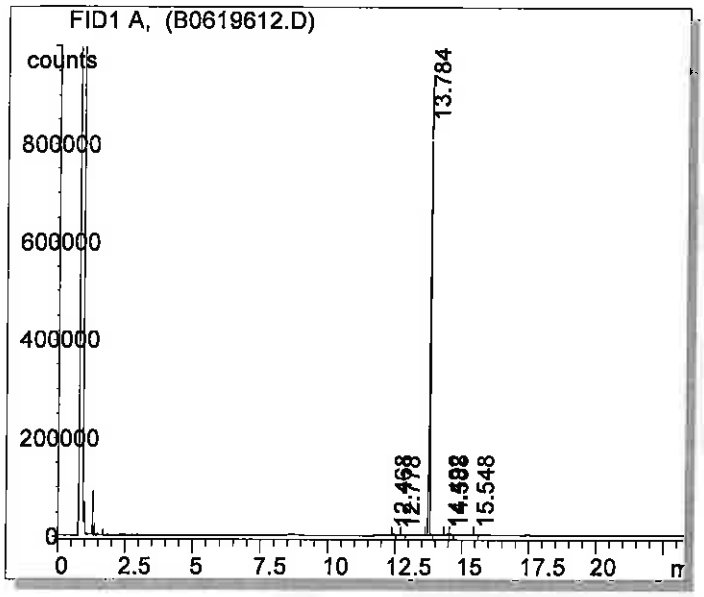

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0619612.D
Instrument:	GC#2
Sample Name:	ER061906-02
Acquired:	June 19, 2006

Peak #	Ret Time	Area	Height	Area %
1	12.47	4458	1822	0.18
2	12.78	3496	1304	0.14
3	13.78	2443150	925399	99.39
4	14.49	1528	387	0.06
5	14.59	4236	1332	0.17
6	15.55	1361	348	0.06

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 2,3,4,6,7,8-Hexachlorodibenzofuran-13C12
Lab Number : ZR061906-02
Instrument : Agilent 5975N MSD /6890N GC
Operator Inst ID : RPC - A147434
Date Reported : Tue Jun 20 08:44:12 2006
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C 8.0°C/min,200°C to 320°C @4°C/min
Injector Temp. : Cool on-column Trans. Line Temp : 280°C
Carrier Gas : Helium Flow Rate : 0.80 mL/min

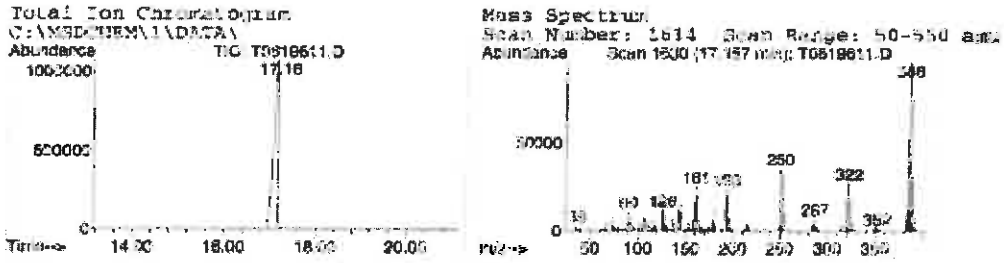

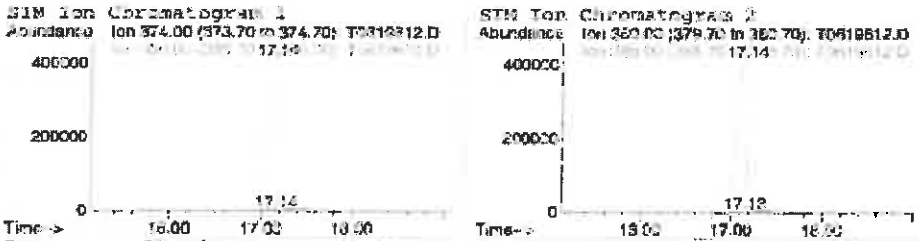

COA Revision History

Revision No.	Date	Reason for Revision
00	January 04, 2011	Initial version
01	January 15, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Reagent

HRDXNIDA_00360

r: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
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Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,7,8-Pentachlorodibenzo-p-dioxin-$^{13}C_{12}$

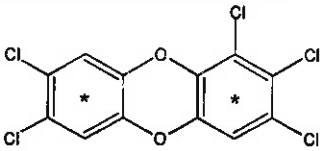

Catalog Number: ED-955
Solution Lot: ER08041401
Expiration Date: August 2024
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,7,8-Pentachlorodibenzo-p-dioxin-$^{13}C_{12}$	98.2%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER08041401	48.80	± 5%	0.3	≤ 3%
Previous Lot	ER030907-02	49.84	± 5%	0.4	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

February 10, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,7,8-Pentachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3Cl_5O_2$
Compound Lot:	ER06241403	**CAS Number:**	109719-79-1
		Molecular Weight:	368.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.9%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS-SIM Analysis	SP10-0105	0.07% $^{13}C_0$ vs $^{13}C_{12}$
		0.14% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS	SP10-0105	No single DD/DF $\geq$ 0.5%
Mass Balance Purity Factor		98.90%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

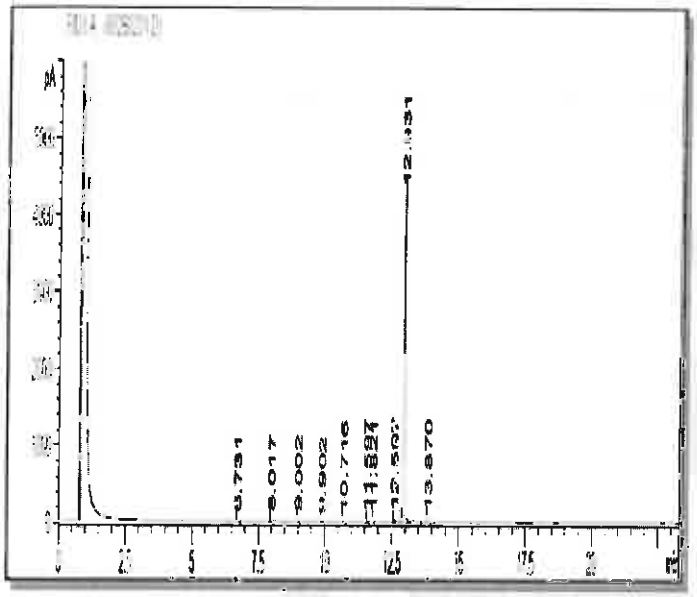

Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 100°C to 300°C at 15°C/min, hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: RMP-085 P GC 6 2014-07-30 18-11-11\002B0201.D
Instrument: GC#6
Sample Name: ER06241403
Acquired: July 30, 2014

Peak #	Ret Time	Area	Height	Area %
1	6.73	7.32	3.42	0.07
2	8.02	3.79	1.60	0.04
3	9.00	8.74	3.64	0.08
4	9.90	3.38	1.35	0.03
5	10.72	1.31	0.45	0.01
6	11.60	14.46	6.69	0.14
7	11.82	2.21	1.11	0.02
8	12.60	68.05	28.10	0.64
9	12.93	10594.10	4235.85	98.91
10	13.87	7.09	2.57	0.07

Spectral and Physical Data (cont.)

GC/MS

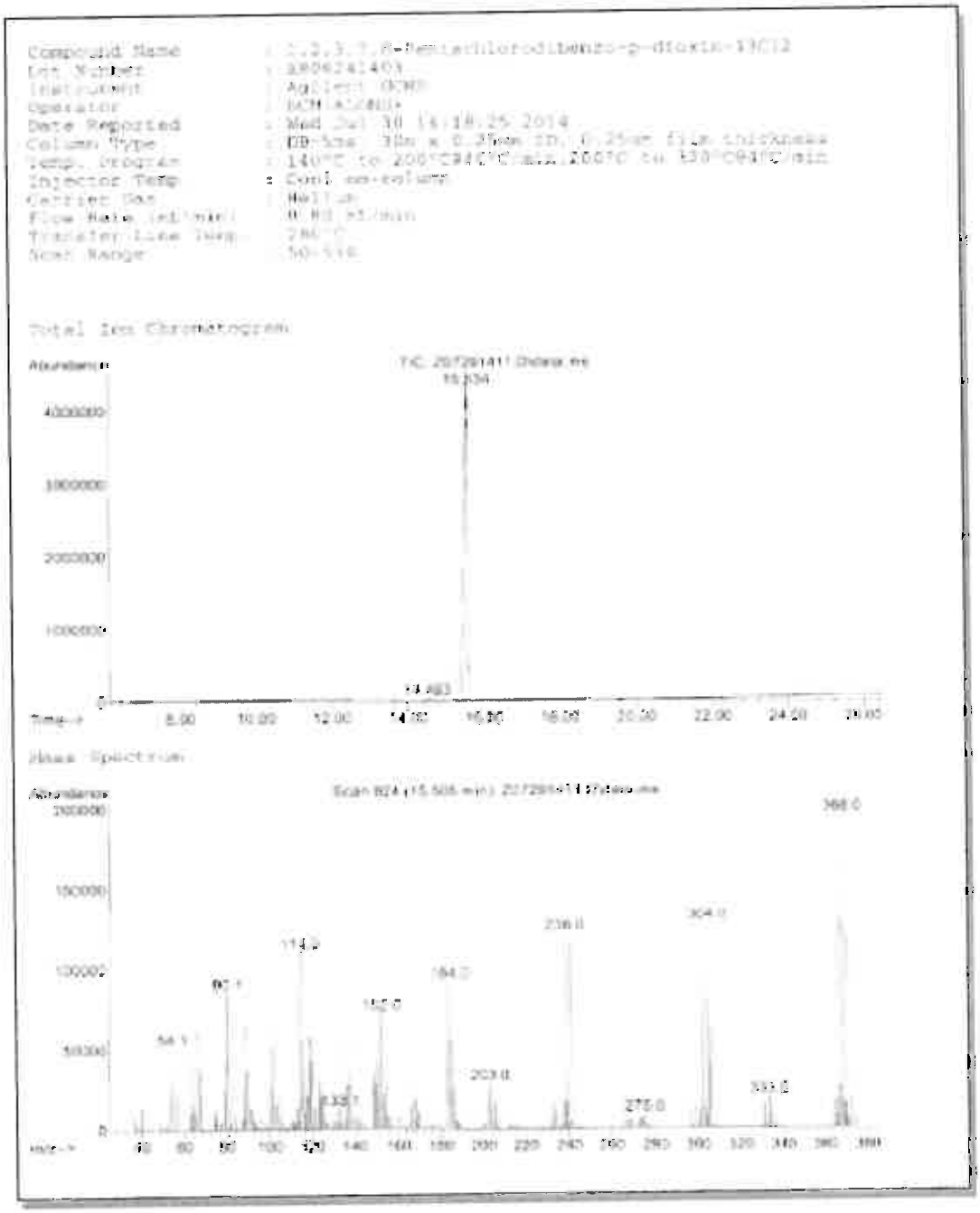

COA Revision History

Revision No.	Date	Reason for Revision
00	September 24, 2014	Initial version
01	February 10, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Reagent

HRDXNIDA_00361

r: 1/15/19 SKV

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Analytical Reference Standards
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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$

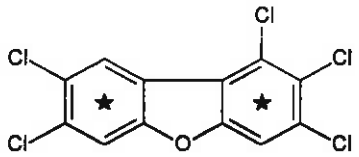

Catalog Number: EF-952
Solution Lot: ER012111-01
Expiration Date: January 2021
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For laboratory use only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
1,2,3,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	99.2%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER012111-01	50.7	± 5%	0.4	≤ 3%
Previous Lot	ER0100407-02	51.0	± 5%	0.5	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

February 15, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3OCl_5$
Compound Lot:	ER090110-01	**CAS Number:**	109719-77-9
		Molecular Weight:	352.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.2%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.03% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.17%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

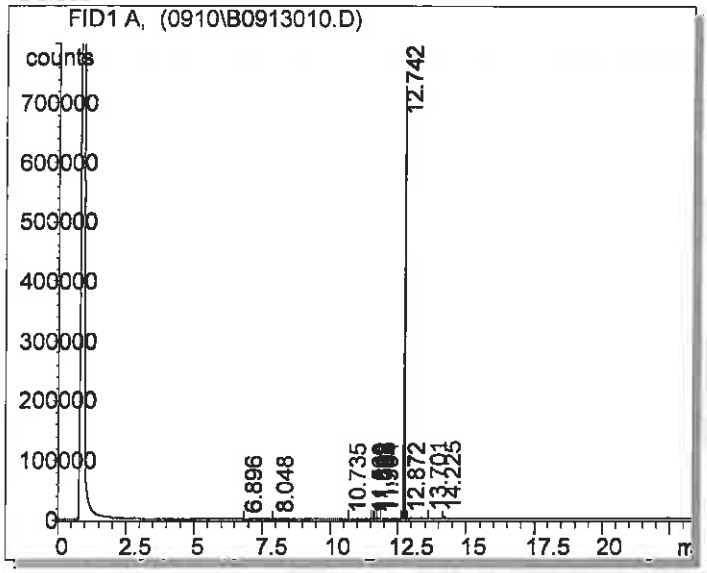

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	S:\GC\GC2\2010\0910\B0913010.D
Instrument:	GC#2
Sample Name:	ER090110-01
Acquired:	September 13, 2010

Peak #	Ret Time	Area	Height	Area %
1	6.90	618.64	296.84	0.04
2	8.05	254 50	102.70	0.01
3	10.74	162 25	70.86	0.01
4	11 57	145 03	82.11	0.01
5	11 62	468 46	216.27	0.03
6	11 69	1863 76	870.51	0.11
7	11.79	1631 76	576.35	0.10
8	11.90	421 31	184.81	0.02
9	12.74	1702290 00	729831.00	99.20
10	12.87	308 15	147.54	0.02
11	13.70	3743 55	1299.40	0.22
12	14.23	4032 24	1491.01	0.23

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

Compound Name : 1,2,3,7,8-Pentachlorodibenzofuran-13C12
Lot Number : EX090110-01
Instrument : Agilent 5973N MSD/6890N GC
Operator-Inst ID : RPC - C10106
Date Reported : Tue Sep 14 11:05:33 2010
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 280°C

Scan Range : 50-550

Total Ion Chromatogram

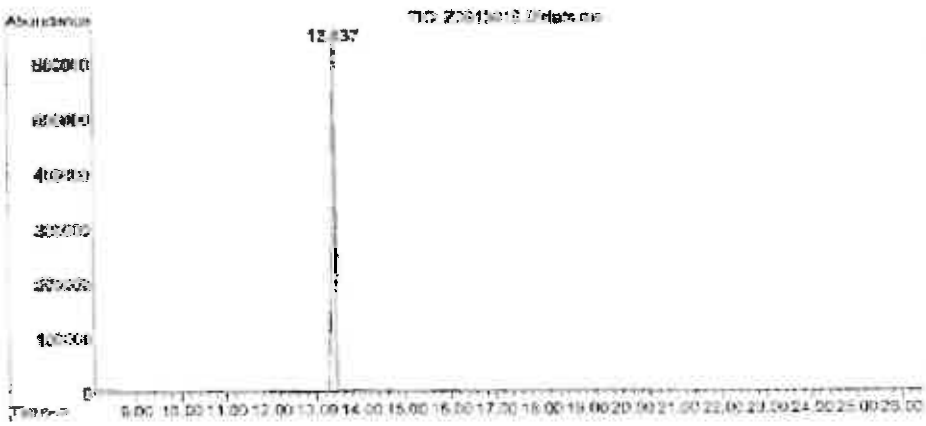

Mass Spectrum

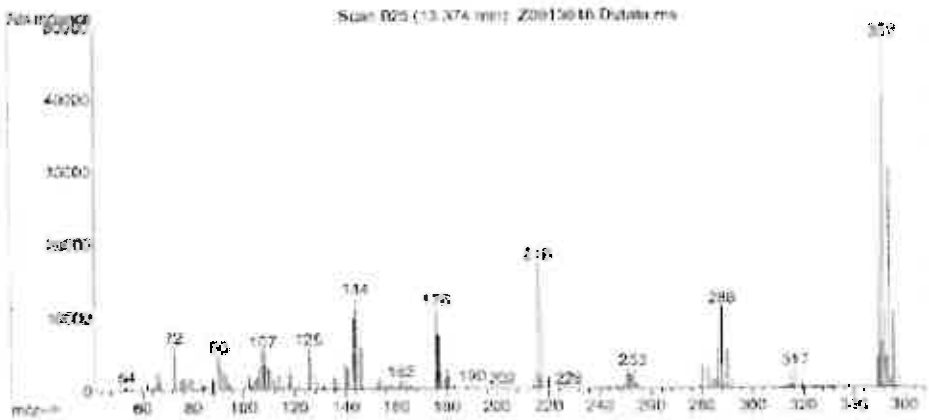

COA Revision History

Revision No.	Date	Reason for Revision
00	February 11, 2011	Initial version
01	March 01, 2011	Corrected typographical error: Chemical Structure
02	February 15, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Reagent

HRDXNIDA_00362

P: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
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CIL

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

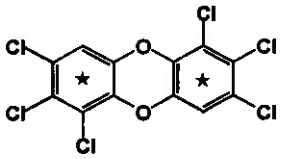

Catalog Number:	ED-966
Solution Lot:	ER03151801
Expiration Date:	March 2028
Solvent:	n-Nonane:Toluene (80:20) (v/v)
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	> 99.9%	50.03 ± 0.28 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER03151801	52.29	± 5%	0.2	≤ 3%
Previous Lot	ER010209-01	48.05	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using balances that have been qualified and calibrated to ISO 17025 requirements. All calibrations utilize NIST traceable weights which are calibrated externally by a qualified ISO 17025 accredited calibration laboratory to NIST standards. Qualification of each balance includes the assignment of a minimum weighing by a qualified and ISO 17025 accredited calibration vendor taking into consideration the balance and installed environmental conditions to ensure compliance with USP tolerances of NMT 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

April 19, 2018
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O_2$
Compound Lot:	FN01151802	**CAS Number:**	109719-81-5
		Molecular Weight:	402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.04% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 1.0%
Mass Balance Purity Factor		98.96%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

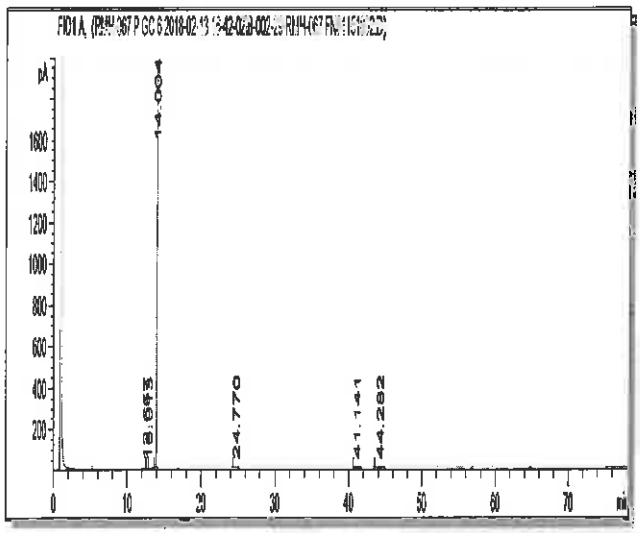

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-067 P GC 6 2018-02-13 16-42-02\B-002-29.D
Instrument:	GC#6
Sample Name:	FN01151802
Acquired:	February 13, 2018

Peak #	Ret Time	Area	Height	Area %
1	12.66	1 69	0.62	0.03
2	13.01	1 96	0.53	0.03
3	14 00	5617 62	1952.76	98.87
4	24 77	5.26	0.34	0.09
5	41 14	10.58	0.38	0.19
6	44 28	44.69	1.49	0.79

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-13C12
Lot Number	: FN01151802
Instrument	: Agilent GCMS
Operator	: FCM(SGIUFTRE)
Date Reported	: Mon Mar 05 10:17:32 2018
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

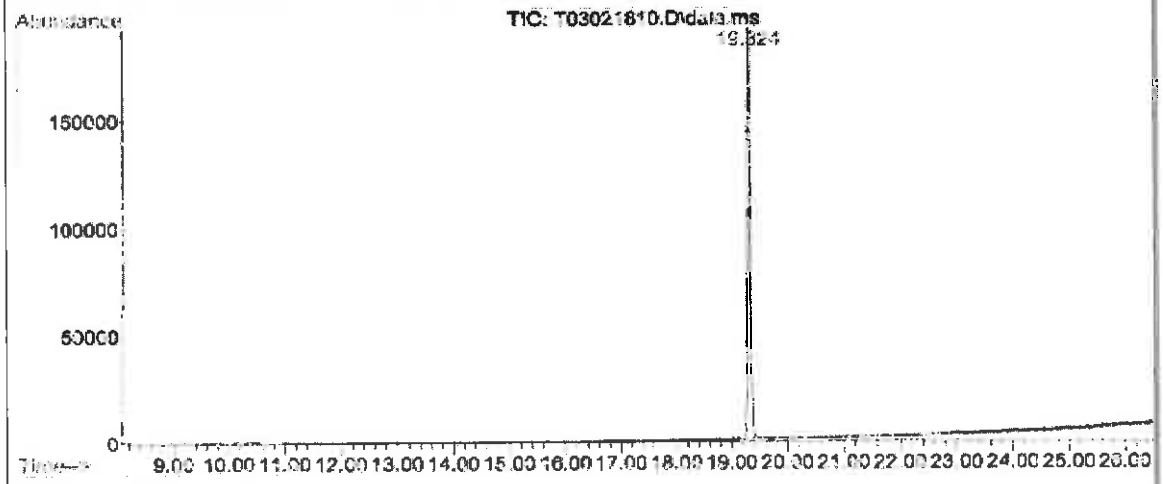

Mass Spectrum

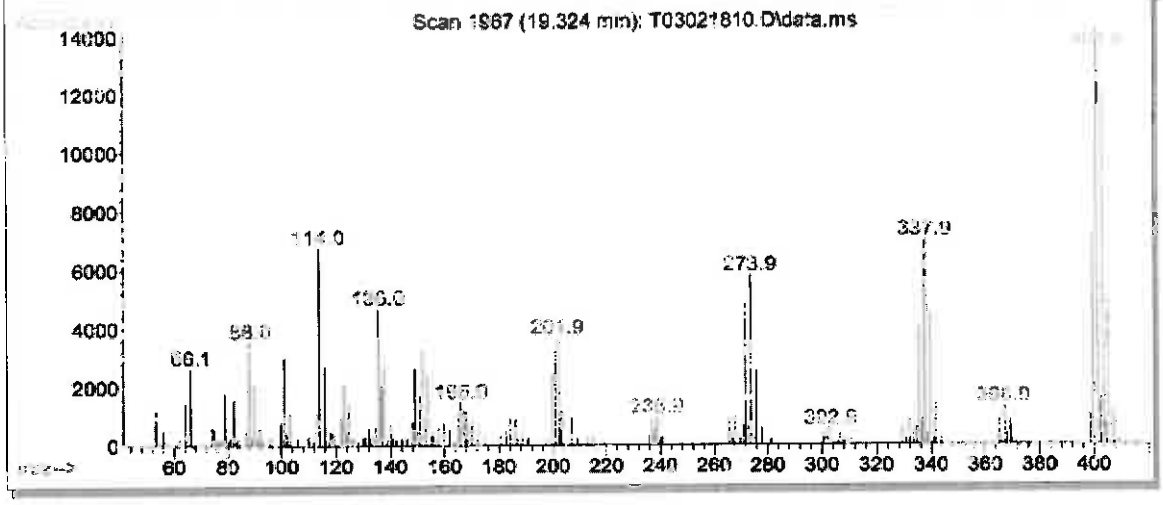

Reagent

HRDXNIDA_00365

Rec 11/28/18 SKV

1450145
ID: HRDXNIDA_00347
Exp: 04/30/27 Prpd: SKV
13C-OCDD [10 ug/mL]

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Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Octachlorodibenzo-p-dioxin-$^{13}C_{12}$

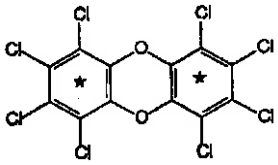

Catalog Number: ED-981-1.2
Solution Lot: ER04051701
Expiration Date: April 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
Octachlorodibenzo-p-dioxin-$^{13}C_{12}$	> 99.9%	10.00 ± 0.05 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04057101	10.22	± 5%	1.1	≤ 5%
Previous Lot	ER06061601	10.17	± 5%	0 8	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

May 19, 2017
Date

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-5ms, 30 m x 0.25 mm ID, 0.25 µm film thickness
Temp Program: 70°C to 200°C at 40°C/min
200°C to 280°C at 10°C/min hold 15 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 3
Linearity (r): 0.997

Neat Material Data

Compound Name: Octachlorodibenzo-p-dioxin-$^{13}C_{12}$
Compound Lot: ER04041601

Chemical Formula: $^{13}C_{12}Cl_8O_2$
CAS Number: 114423-97-1
Molecular Weight: 471.66

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.1%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.07% $^{13}C_0$ vs $^{13}C_{12}$
		0.96% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.15%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

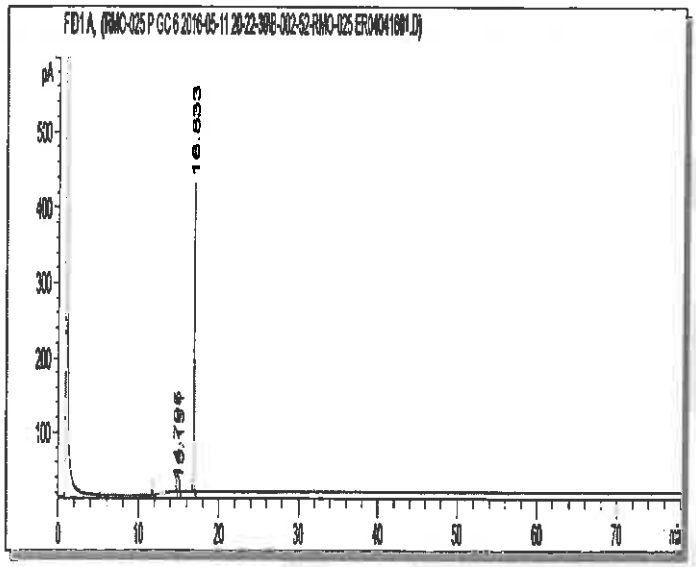

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMO-025 P GC 6 2016-05-11 20-22-39\B-002-52.D
Instrument:	GC#6
Sample Name:	ER04041601
Acquired:	May 11, 2016

Peak #	Ret Time	Area	Height	Area %
1	14.80	12.12	3.62	0.61
2	15.15	4.72	1.32	0.24
3	16.83	1980.56	409.54	99.16

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: Octachlorodibenzo-p-dioxin-13C12
Lot Number	: ERC4041601
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Wed May 04 13:45:40 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

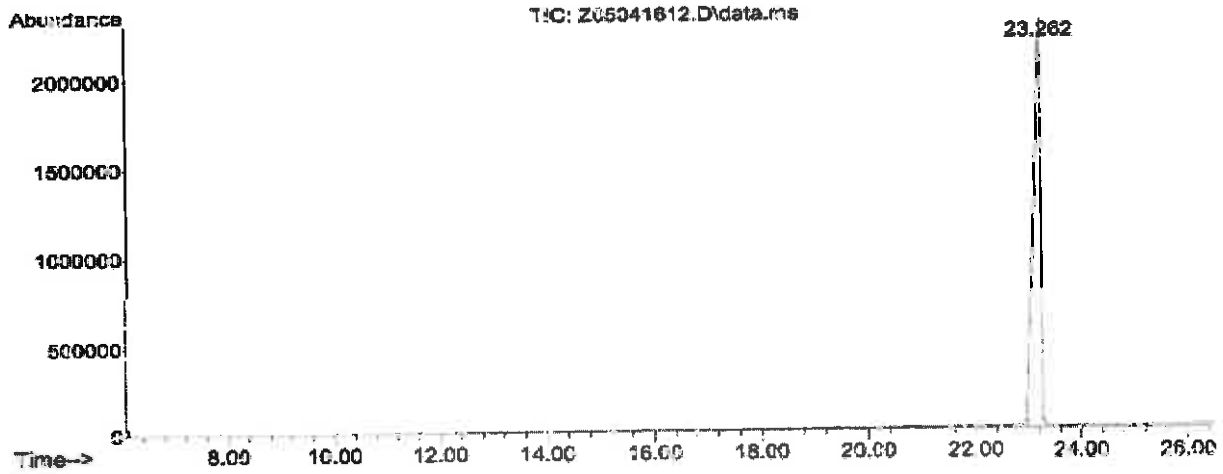

Mass Spectrum

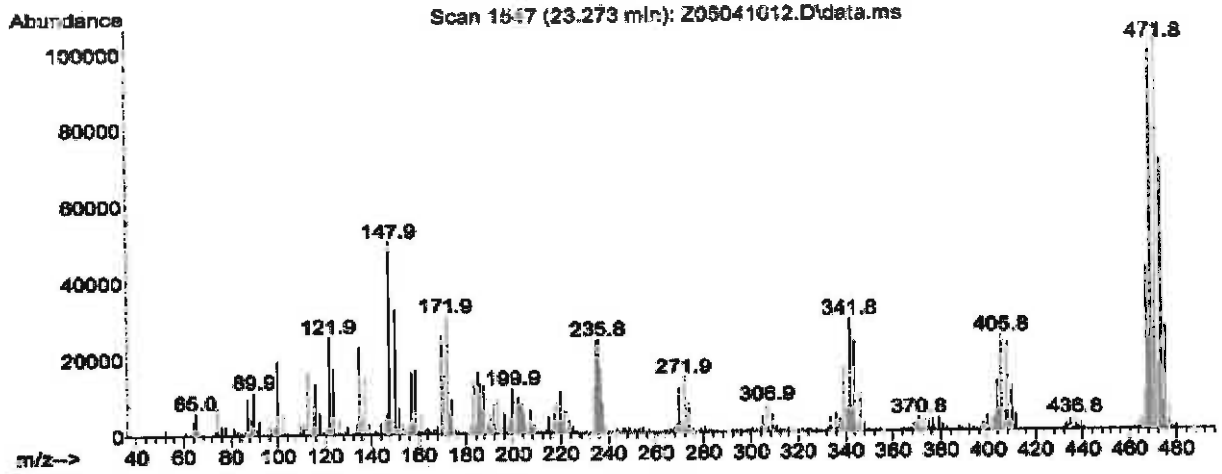

Reagent

HRDXNIDA_00375

nc 4/8/16 BWJ

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Analytical Reference Standards
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Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$

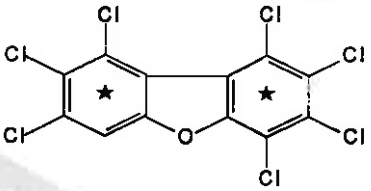

Catalog Number: EF-988
Solution Lot: ER04251601
Expiration Date: May 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	99.1%	49.99 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass, Purity Factor of the analyte(s), measured mass of the solution, and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04251601	49.11	± 5%	0.2	≤ 3%
Previous Lot	ER053107-02	50.58	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

November 09, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}HCl_7O$
Compound Lot:	ER04041602	**CAS Number:**	109719-94-0
		Molecular Weight:	421.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.1%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS SIM	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.16% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.10%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data (cont.)

GC/FID

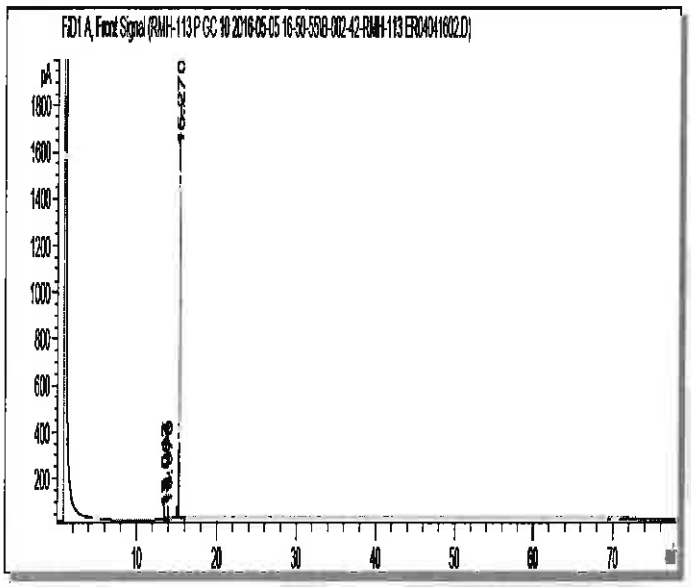

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-113 P GC 10 2016-05-05 16-50-55\B-002-42.D
Instrument:	GC#10
Sample Name:	ER04041602
Acquired:	May 05, 2016

Peak #	Ret Time	Area	Height	Area %
1	13.51	8.76	2.52	0.12
2	13.68	17.42	7.45	0.24
3	13.97	39.65	15.48	0.54
4	15.27	7226.95	1798.33	99.10

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 1,2,3,4,7,8,9-Heptachlorodibenzofuran-13C12
Lot Number	: ER04041602
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Wed May 04 15:34:28 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

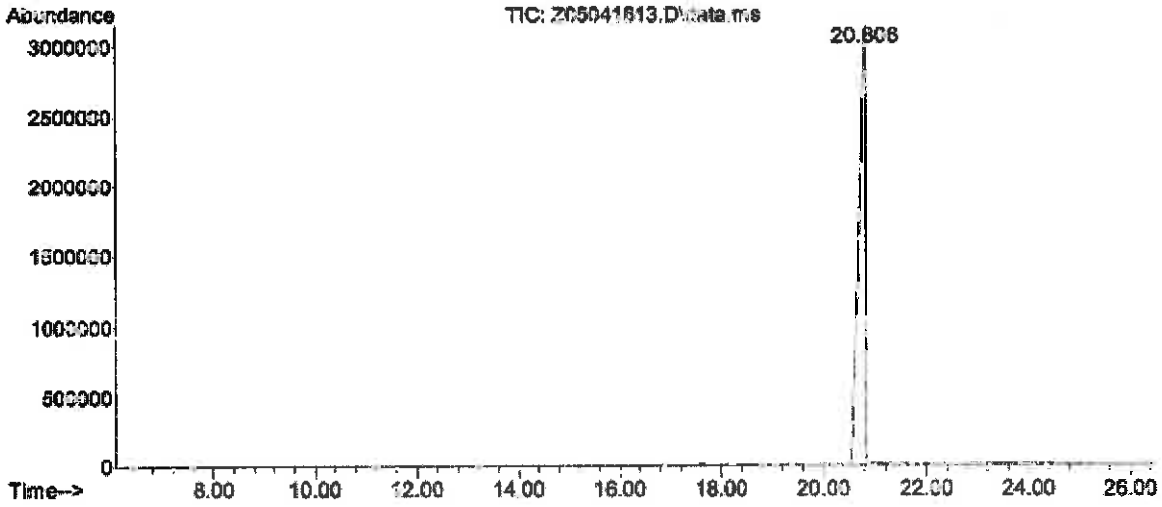

Mass Spectrum

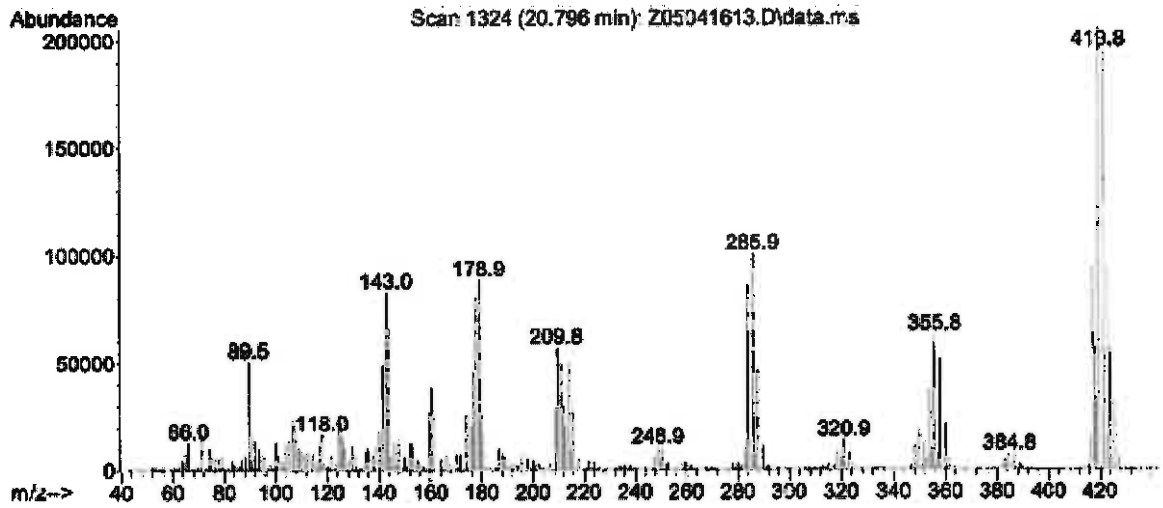

COA Revision History

Revision No.	Date	Reason for Revision
00	June 21, 2016	Initial version
01	November 09, 2016	Corrected Expiration Date from March 2026 to May 2026.

Reagent

HRDXNIDA_00376

N: 4/8/19 SW

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$

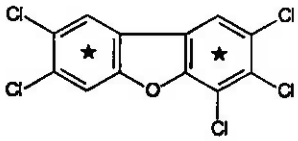

Catalog Number: EF-958
Solution Lot: ER01061701
Expiration Date: January 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	97.9%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass, Purity Factor of the analyte(s), measured mass of the solution, and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Acceptance Criteria	%RSD - Homogeneity Actual Results	Acceptance Criteria
New Lot	ER01061701	50.51	± 5%	0.1	≤ 3%
Previous Lot	ER11041601	49.56	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

January 27, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3Cl_5O$
Compound Lot:	ER11101601	**CAS Number:**	116843-02-8
		Molecular Weight:	352.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0102	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.02% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 0.5%
Mass Balance Purity Factor		**98.33%**

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

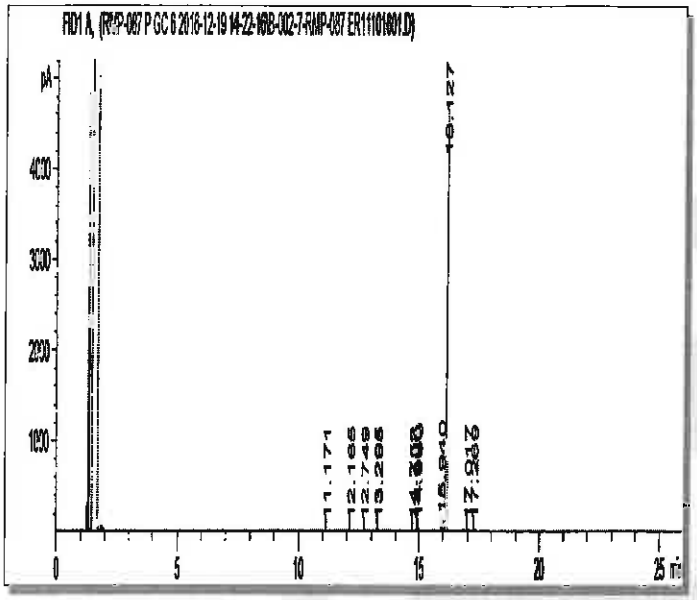

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMP-087 P GC 6 2016-12-19 14-22-16\B-002-7.D
Instrument:	GC#6
Sample Name:	ER11101601
Acquired:	December 19, 2016

Peak #	Ret Time	Area	Height	Area %
1	11 17	0.94	0.40	0.01
2	12 17	1 30	0.39	0.01
3	12 75	0 47	0.20	0.00
4	13 30	0 90	0.35	0.01
5	14 75	1 70	0.87	0.02
6	14 91	1 09	0.56	0.01
7	14 97	32 24	17.54	0.29
8	15.94	124 38	64.36	1.13
9	16.13	10866 60	4688.80	98.41
10	17.02	6 31	2.46	0.06
11	17.27	6 76	2.34	0.06

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 2,3,4,7,8-Pentachlorodibenzofuran-13C12
Lot Number	: ER11101601
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Tue Dec 20 12:19:55 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

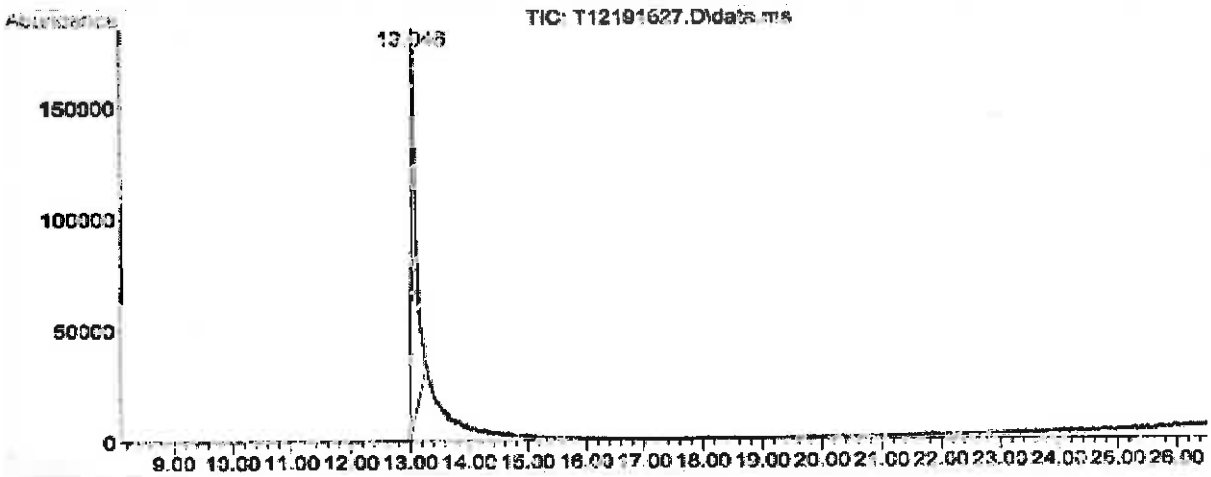

Mass Spectrum

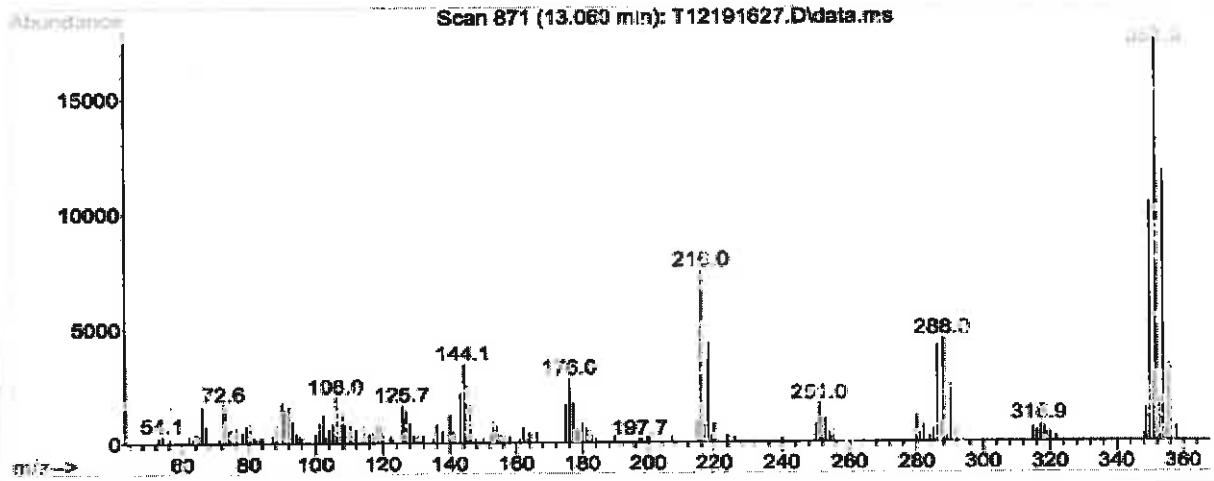

Reagent

HRDXNIDA_00377

r: 4/8/16 SKJ

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CIL

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

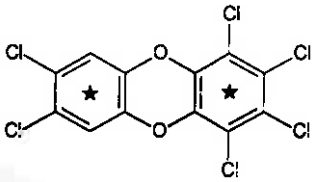

Catalog Number:	ED-946
Solution Lot:	ER04211601
Expiration Date:	June 2026
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.3%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04211601	49.24	± 5%	0.4	≤ 3%
Previous Lot	ER102711-01	49.69	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

August 11, 2016
Date

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 60°C to 300°C at 40°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 4
Linearity (r): 1.000

Neat Material Data

Compound Name: 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$
Compound Lot: ER011008-01

Chemical Formula: $^{13}C_{12}H_2Cl_6O_2$
CAS Number: 109719-80-4
Molecular Weight: 402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.08% $^{13}C_0$ vs $^{13}C_{12}$
		0.21% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.26%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

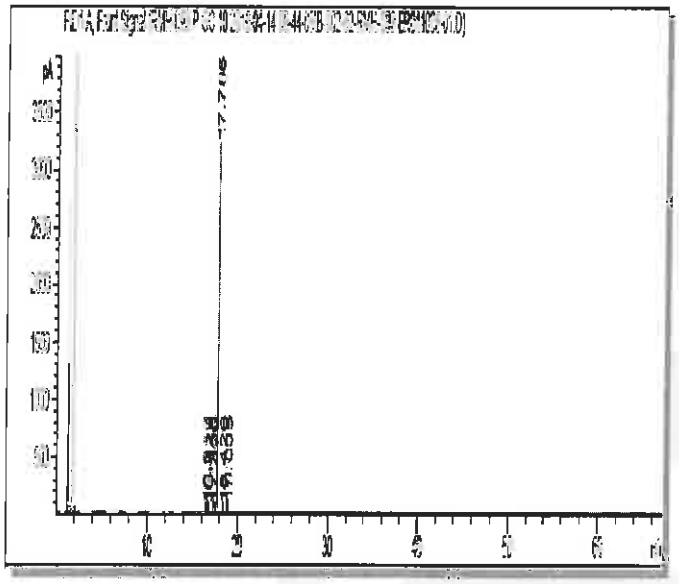

Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 40°C to 300°C at 15°C/min hold 50 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: RMH-098 P GC 10 2016-04-14 08-44-08\B-002-62.D
Instrument: GC#10
Sample Name: ER011008-01
Acquired: April 14, 2016

Peak #	Ret Time	Area	Height	Area %
1	16.56	16.58	7.74	0.19
2	16.72	11.25	5.08	0.13
3	16.83	8.45	4.05	0.10
4	17.30	1.81	0.71	0.02
5	17.48	1.07	0.50	0.01
6	17.79	8682.22	3203.58	99.29
7	18.43	1.99	0.68	0.02
8	19.01	20.62	6.08	0.24

Spectral and Physical Data (cont.)

GC/MS

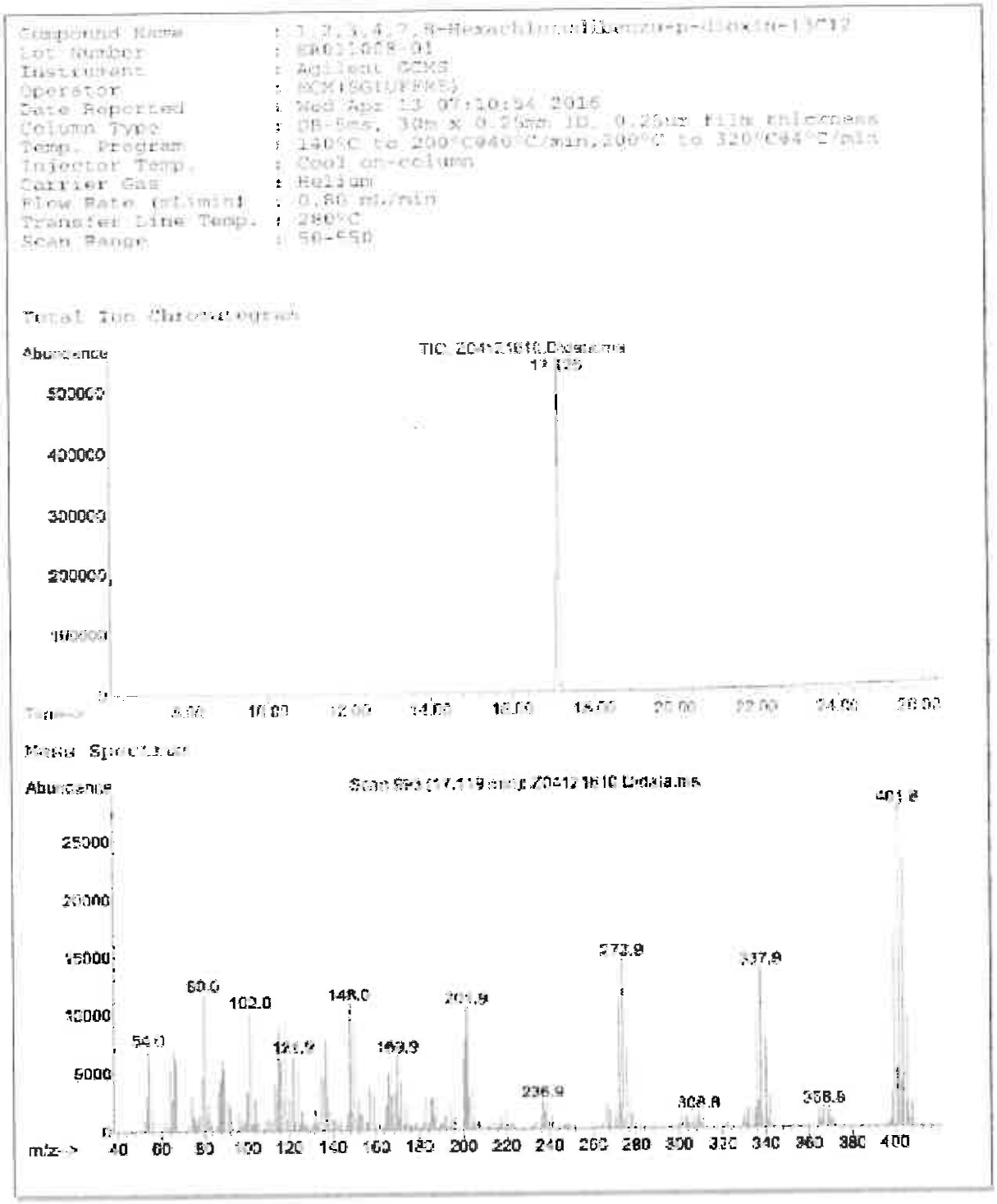

Reagent

HRDXNIDA_00378

r: 4/8/19 SKJ

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Analytical Reference Standards
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Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

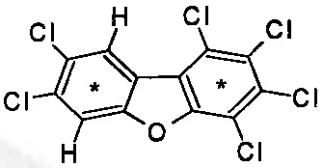

Catalog Number:	EF-963
Solution Lot:	ER04211701
Expiration Date:	July 2027
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.4%	50.00 ± 0.28 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04211701	49.47	± 5%	0.2	≤ 3%
Previous Lot	ER072810-02	45.87	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release

Traceability

- Gravemetrically prepared using balances that have been qualified and calibrated to ISO 17025 requirements. All calibrations utilize NIST traceable weights which are calibrated externally by a qualified ISO 17025 accredited calibration laboratory to NIST standards. Qualification of each balance includes the assignment of a minimum weighing by a qualified and ISO 17025 accredited calibration vendor taking into consideration the balance and installed environmental conditions to ensure compliance with USP tolerances of NMT 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

September 11, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}Cl_6H_2O$
Compound Lot:	ER11281601	**CAS Number:**	114423-98-2
		Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0102	99.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.06% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 0.5%
Mass Balance Purity Factor		99.31%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

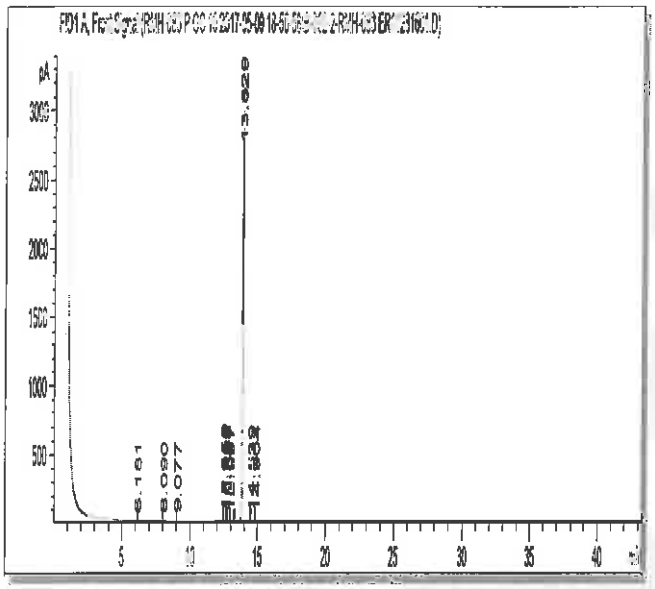

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 30 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-083 P GC 10 2017-05-09 18-50-58\B-002-2.D
Instrument:	GC#10
Sample Name:	ER11281601
Acquired:	May 09, 2017

Peak #	Ret Time	Area	Height	Area %
1	6.18	1.10	0.64	0.01
2	8.09	2.00	0.70	0.02
3	9.08	1.17	0.48	0.01
4	12.55	14.76	7.25	0.16
5	12.73	32.67	11.32	0.36
6	12.84	5.45	2.50	0.06
7	13.00	2.51	1.30	0.03
8	13.83	8993.56	3122.16	99.30
9	14.54	1.11	0.20	0.01
10	14.90	2.71	0.86	0.03

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 1,2,3,4,7,8-hexachlorodibenzofuran-13C12
Lot Number : SRI1281601
Instrument : Agilent GCMS
Operator : ECM(SGIDEFKE)
Date Reported : Mon May 08 09:30:09 2017
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@60°C/min,200°C to 320°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL\min) : 0.80 mL/min
Transfer Line Temp. : 280°C
Scan Range : 50-550

Total Ion Chromatogram

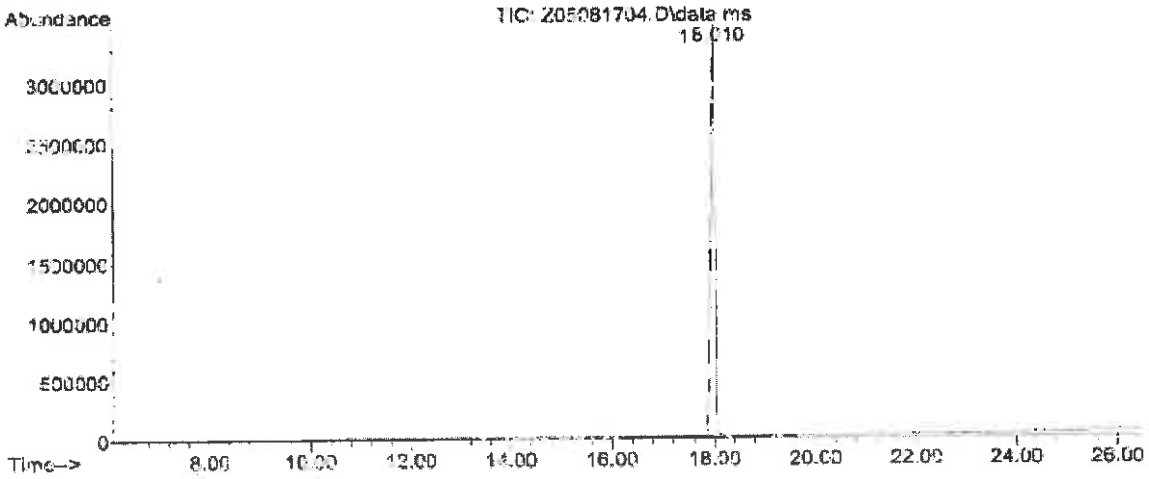

Mass Spectrum

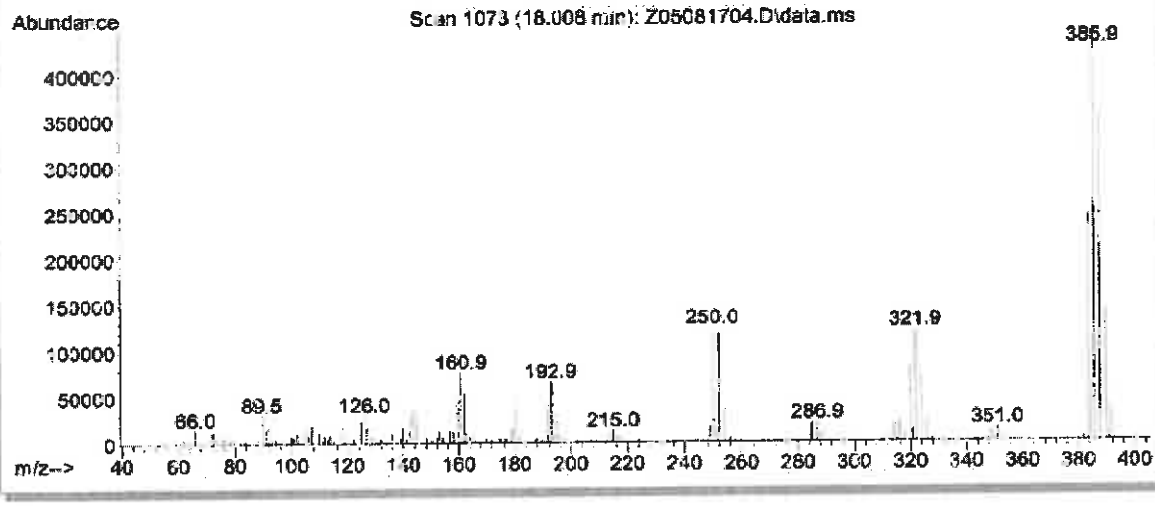

Reagent

HRDXNIS_00110

r: 9/4/18 SKV

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Analytical Reference Standards
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CIL

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

Catalog Number: ED-996
Solution Lot: ER08221601
Expiration Date: September 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER08221601	49.20	± 5%	0.3	≤ 3%
Previous Lot	ER021313-01	49.56	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

September 28, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O_2$
Compound Lot:	ER110510-01	**CAS Number:**	109719-82-6
		Molecular Weight:	402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.04% $^{13}C_0$ vs $^{13}C_{12}$
		0.27% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.02%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

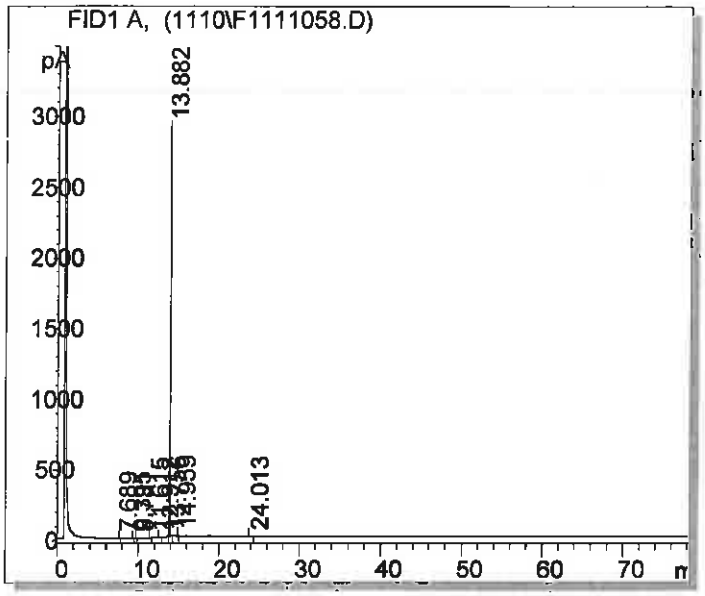

Column:	DB-5ms 30m x 0.53mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-column
Detector Temp:	325°C
Data File Name:	S:\GC\GC6\2010\1110\F1111058.D
Instrument:	GC#6
Sample Name:	ER110510-01
Acquired:	November 12, 2010

Peak #	Ret Time	Area	Height	Area %
1	4 69	0.45	0.10	0.01
2	9.40	0 72	0.14	0.01
3	9.78	0 80	0.13	0.01
4	11 62	7.34	2.54	0.09
5	12 91	2.59	0.23	0.03
6	13 76	1.91	1.00	0.02
7	13 88	8026.07	2938.74	99.11
8	14.96	36.82	11.38	0.45
9	24.01	21.08	1.62	0.26

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-13C12
Lot Number : ER110510-01
Instrument : Agilent 5973N MSD /6890N GC
Operator-Inst ID : RPC - A147434
Date Reported : Fri Nov 12 16:41:14 2010
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C @40°C/min,200°C to 320°C @4°C/min
Injector Temp. : Cool on-column Trans. Line Temp : 280°C
Carrier Gas : Helium Flow Rate : 0.80 mL/min

Total Ion Chromatogram
S:\GCMS\GCMS2\2010\1110\

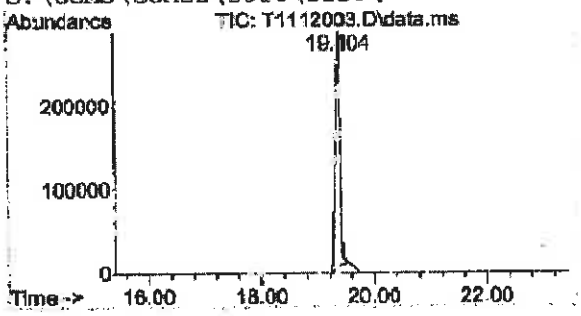

Mass Spectrum
Scan Number: 1976 Scan Range: 50-550 amu

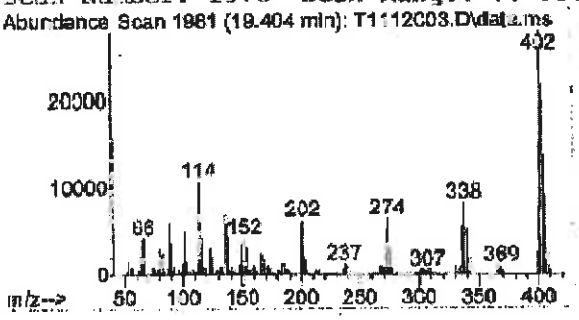

SIM Ion Chromatogram 1

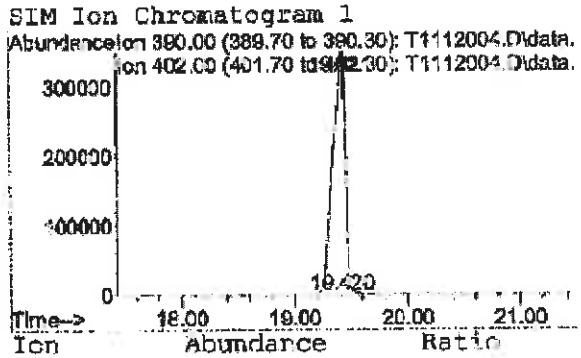

Ion	Abundance	Ratio
402	26368380	99.96
390	9776	0.04

SIM Ion Chromatogram 2

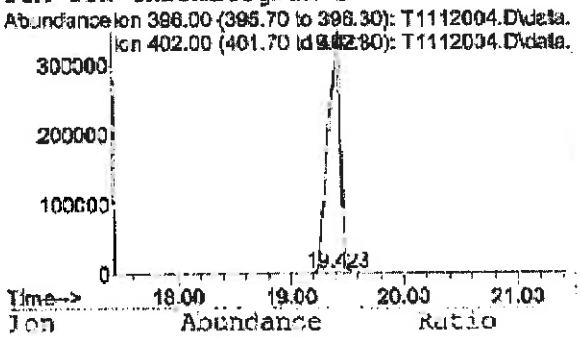

Ion	Abundance	Ratio
402	26368380	99.73
396	71626	0.27

Reagent

HRDXNIS_00111

Rec: 9/4/18 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$

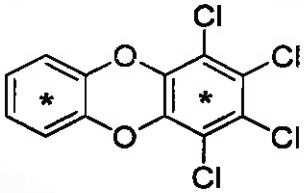

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number: ED-911
Solution Lot: ER11081602
Expiration Date: January 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.7%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER11081602	51.01	± 10%	0.1	≤ 3%
Previous Lot	ER060710-01	50.59	± 10%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

January 23, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_4Cl_4O_2$
Compound Lot:	ER02021602	**CAS Number:**	114423-99-3
		Molecular Weight:	333.88

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS	SP10-0105	no single DD/DF impurity ≥ 1.0%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.03% $^{13}C_0$ vs $^{13}C_{12}$
		0.01% $^{13}C_6$ vs $^{13}C_{12}$
Identity by ^{1}H-NMR Analysis	USP <761>, SP10-0116	Consistent with Structure
Residual Solvent by ^{1}H-NMR Analysis	USP <761>, SP10-0116	0.31% Dichloromethane
Mass Balance Purity Factor		98.71%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

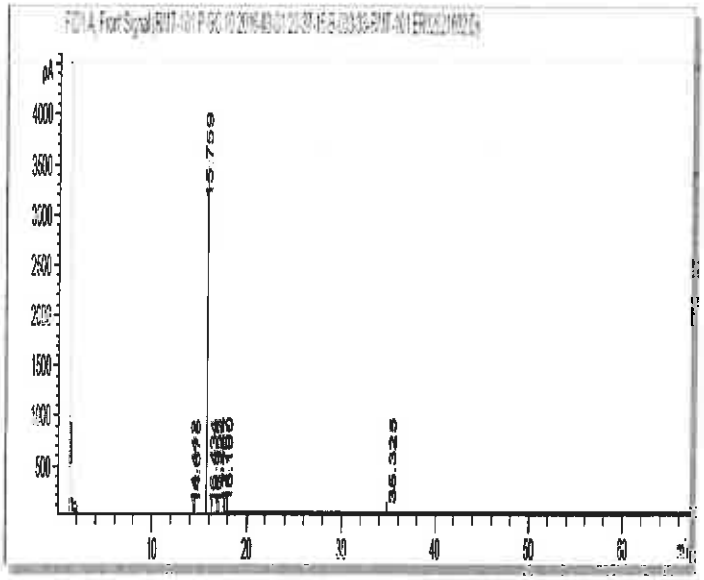

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	40°C to 300°C at 15°C/min hold 50 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMT-101 P GC 10 2016-03-01 20-37-15\B-003-33.D
Instrument:	GC#10
Sample Name:	ER02021602
Acquired:	March 01, 2016

Peak #	Ret Time	Area	Height	Area %
1	14.44	1.34	0.53	0.02
2	14.68	3.60	0.58	0.05
3	15.76	7522.29	3054.11	99.22
4	16.43	3.51	0.80	0.05
5	16.96	2.38	1.09	0.03
6	17.13	4.79	2.26	0.06
7	17.77	8.72	3.38	0.11
8	18.10	1.68	0.54	0.02
9	35.33	32.94	1.28	0.43

^{1}H NMR

Instrument:	JEOL ECS 400
Solvent:	Chloroform-D

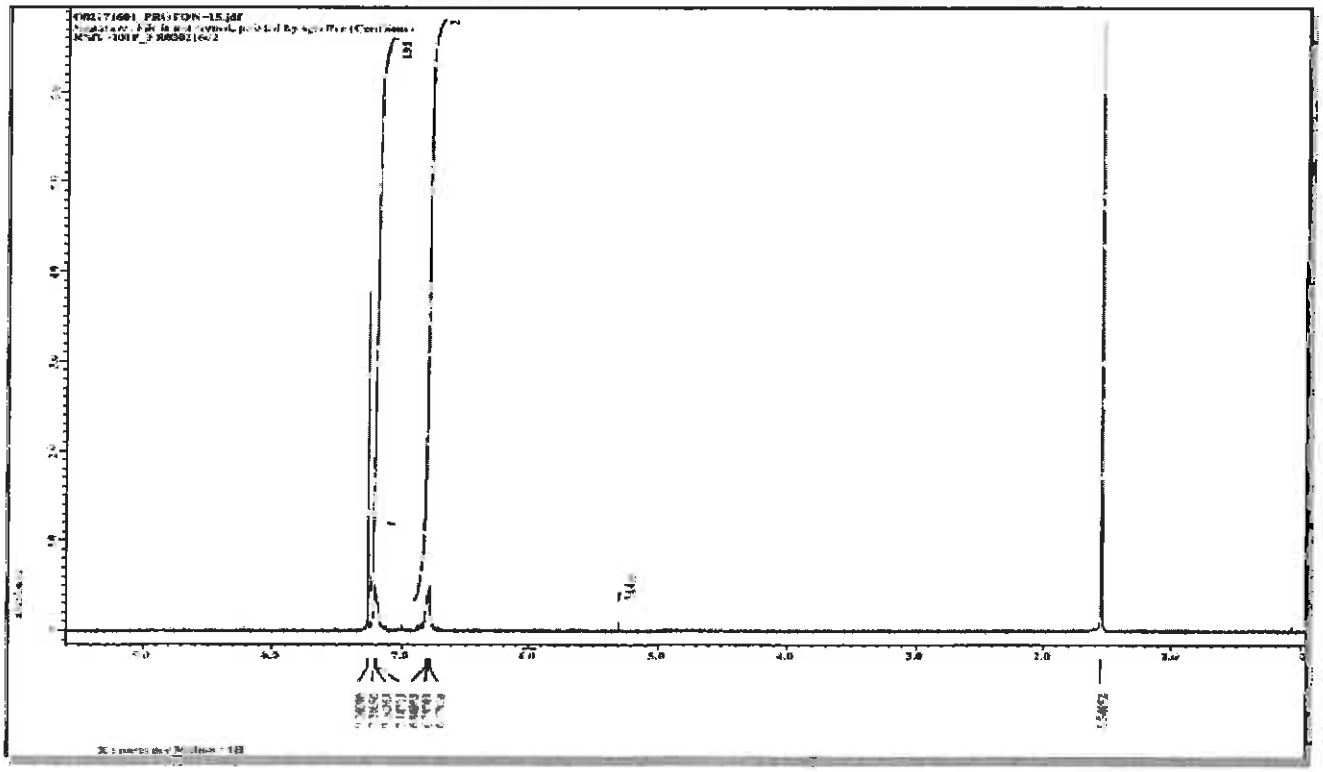

Spectral and Physical Data (cont.)

GC/MS

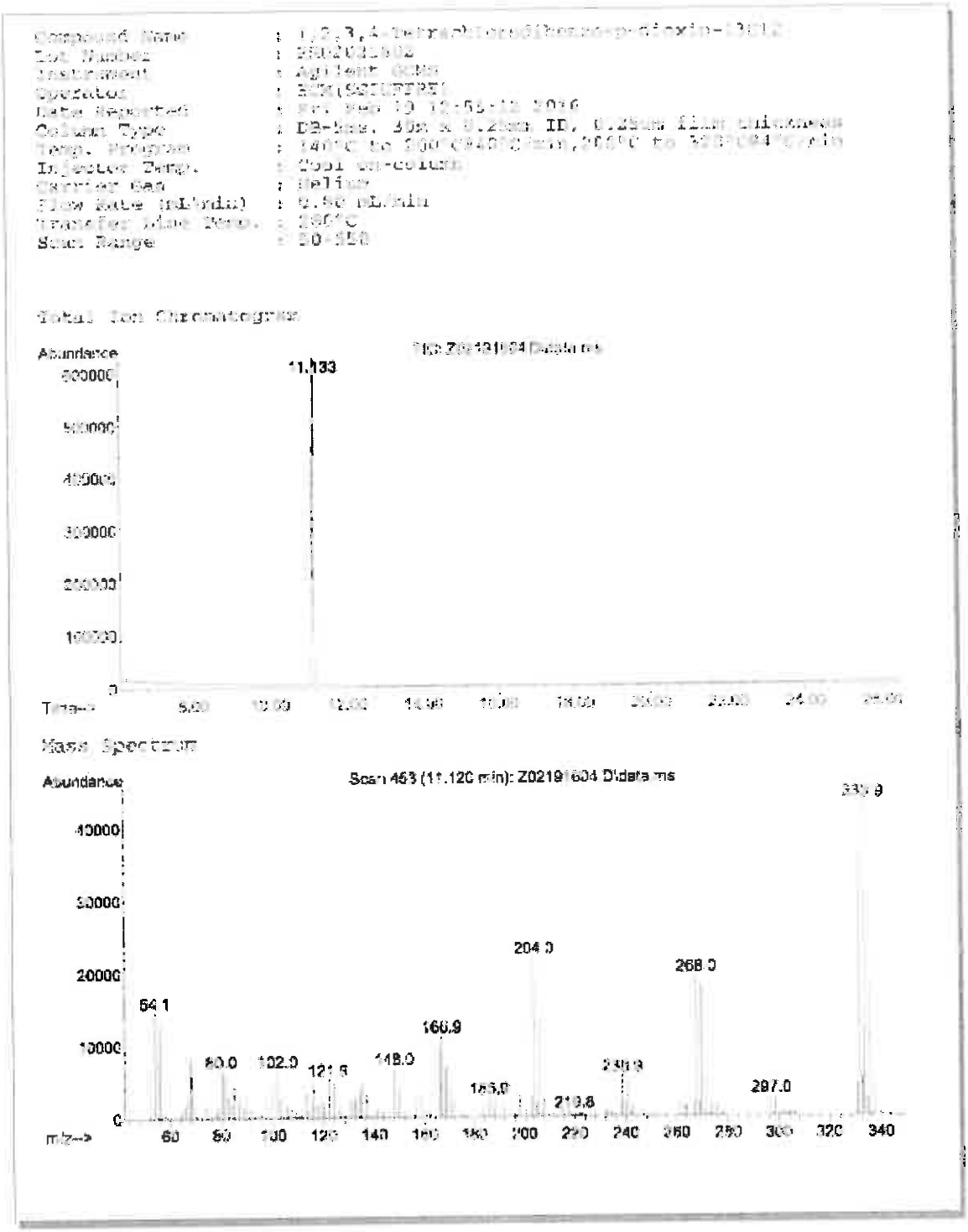

Reagent

HRDXNSU_00123

Richard Wolstenholme

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$

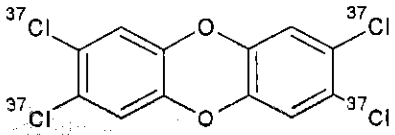

Catalog Number: ED-907
Solution Lot: ER05211501
Expiration Date: July 2025
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Shipping: Ambient.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Instructions for Use: Sonicate before use.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies.
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.
- For MS Applications, we advise laboratories not to mix lots during a single sequence.

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$	98.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s); measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER05211501	50.60	± 10%	0.2	≤ 5%
Previous Lot	ER052010-02	49.73	± 10%	0.5	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after

ACLASS ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

August 03, 2015
Date

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$	**Chemical Formula:**	$C_{12}H_4O_2{}^{37}Cl_4$
Compound Lot:	ER040510-01	**CAS Number:**	85508-50-5
		Molecular Weight:	328.02

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{37}Cl_0$ vs $^{37}Cl_4$
Identity by ^{1}H-NMR Analysis	USP <761>, SP10-0116	Consistent with Structure
Residual Solvent Analysis by ^{1}H-NMR	USP <761>, SP10-0116	1.2% Chloroform
Purity Factor		97.14%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

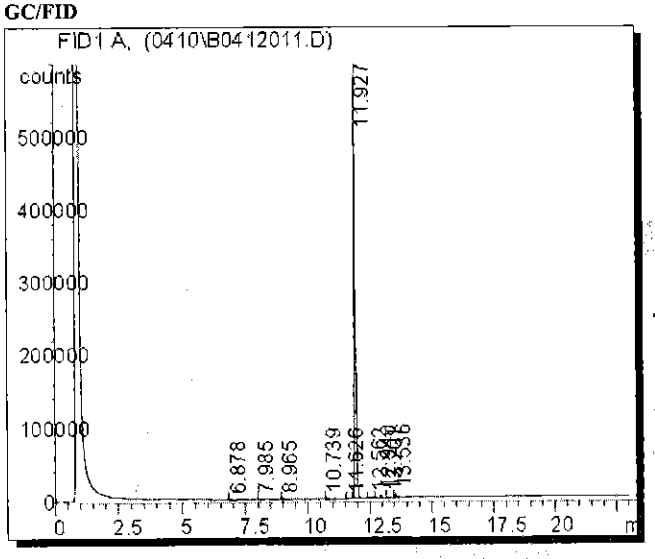

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	S:\GC\GC2\2010\0410\B0412011.D
Instrument:	GC#2
Sample Name:	ER040510-01
Acquired:	April 13, 2010

Peak #	Ret Time	Area	Height	Area %
1	6.88	245.58	89.37	0.01
2	7.99	304.03	131.27	0.01
3	8.97	233.91	72.32	0.01
4	10.74	931.14	265.29	0.04
5	11.63	127.86	46.74	0.01
6	11.93	2261830.00	580792.00	98.34
7	12.56	6435.54	1838.17	0.28
8	12.94	13336.80	4373.86	0.58
9	13.20	2178.30	729.98	0.09
10	13.54	14483.30	5038.43	0.63

^{1}H NMR

Instrument:	JEOL ECS 400
Solvent:	Toluene-D_8

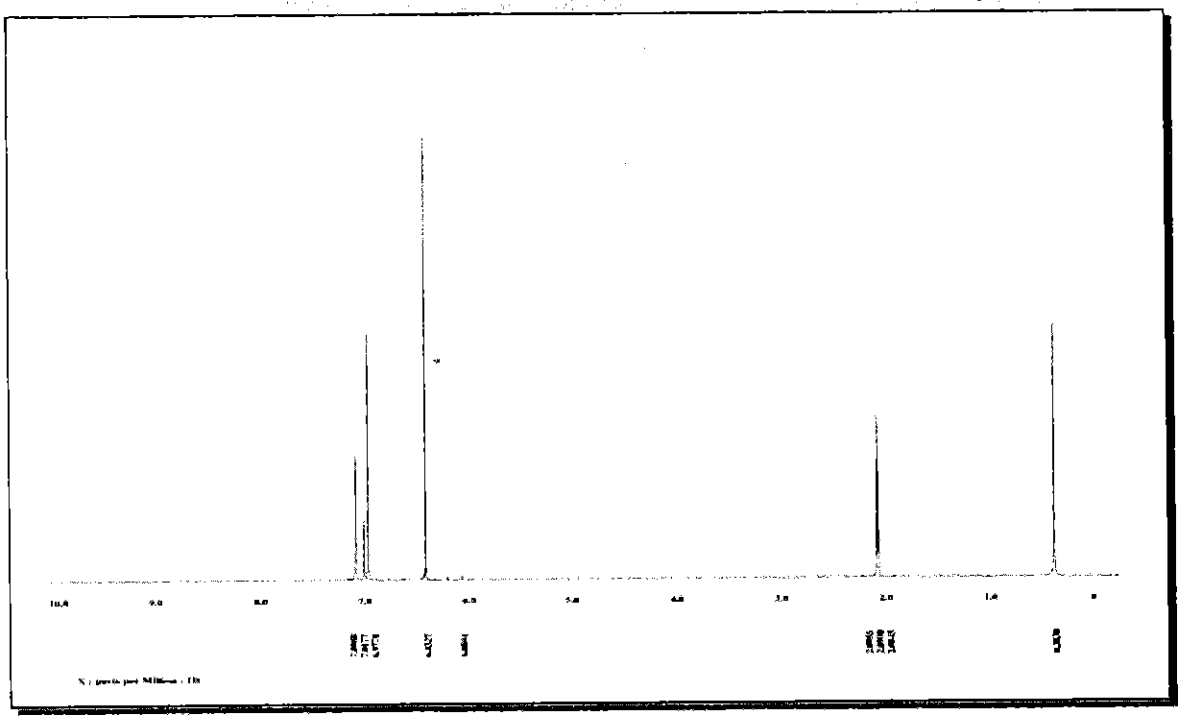

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

```
Compound Name          : 2,3,7,8-Tetrachlorodibenzo-p-dioxin-37Cl4
Lot Number             : ER040510-01
Instrument             : Agilent 5973N MSD/6890N GC
Operator-Inst ID       : RPC - C10106
Date Reported          : Mon Apr 19 13:23:09 2010
Column Type            : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program          : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.         : Cool on-column
Carrier Gas            : Helium
Flow Rate (mL\min)     : 0.80 mL/min
Transfer Line Temp.    : 280°C

Scan Range             : 50-550
```

Total Ion Chromatogram

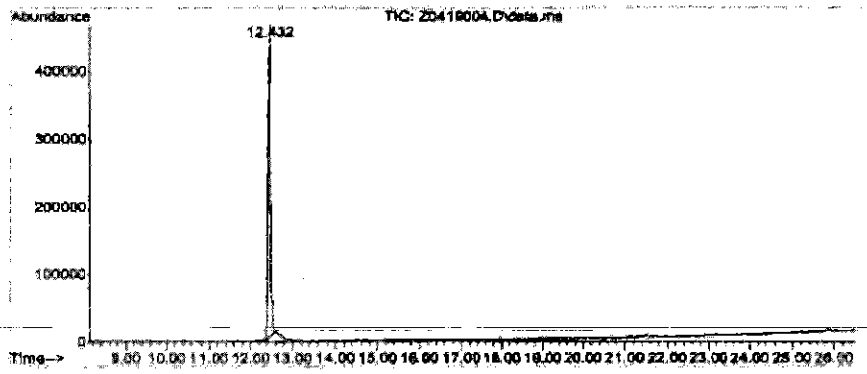

Mass Spectrum

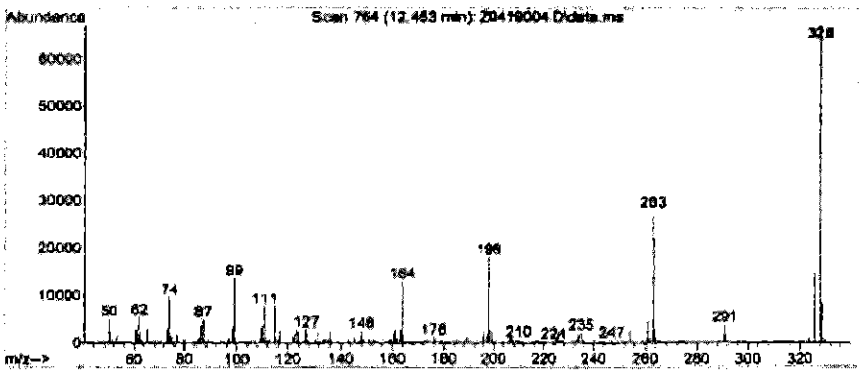

Reagent

HRDXNSU_00187

r: 7/30/18 SKN

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$

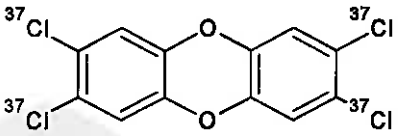

Catalog Number: ED-907
Solution Lot: ER05211501
Expiration Date: July 2025
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold
Shipping: Ambient.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Instructions for Use: Sonicate before use.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration
- For MS Applications, we advise laboratories not to mix lots during a single sequence.

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$	98.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Acceptance Criteria	%RSD - Homogeneity Actual Results	Acceptance Criteria
New Lot	ER05211501	50.60	± 10%	0.2	≤ 5%
Previous Lot	ER052010-02	49.73	± 10%	0.5	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after

ACLASS ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

August 03, 2015
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$	**Chemical Formula:**	$C_{12}H_4O_2{}^{37}Cl_4$
Compound Lot:	ER040510-01	**CAS Number**	85508-50-5
		Molecular Weight	328.02

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{37}Cl_0$ vs $^{37}Cl_4$
Identity by ^{1}H-NMR Analysis	USP <761>, SP10-0116	Consistent with Structure
Residual Solvent Analysis by ^{1}H-NMR	USP <761>, SP10-0116	1.2% Chloroform
Purity Factor		97.14%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

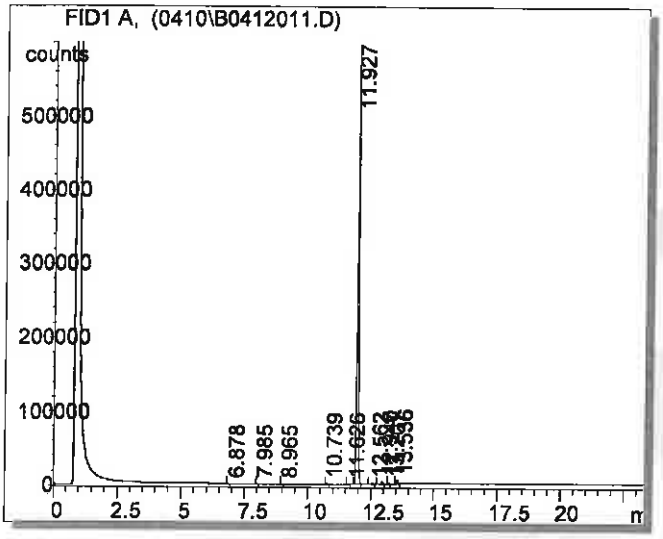

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	S:\GC\GC2\2010\0410\B0412011.D
Instrument:	GC#2
Sample Name:	ER040510-01
Acquired:	April 13, 2010

Peak #	Ret Time	Area	Height	Area %
1	6.88	245.58	89.37	0.01
2	7.99	304.03	131.27	0.01
3	8.97	233.91	72.32	0.01
4	10.74	931.14	265.29	0.04
5	11.63	127.86	46.74	0.01
6	11.93	2261830.00	580792.00	98.34
7	12.56	6435.54	1838.17	0.28
8	12.94	13336.80	4373.86	0.58
9	13.20	2178.30	729.98	0.09
10	13.54	14483.80	5038.43	0.63

^{1}H NMR

Instrument:	JEOL ECS 400
Solvent:	Toluene-D_8

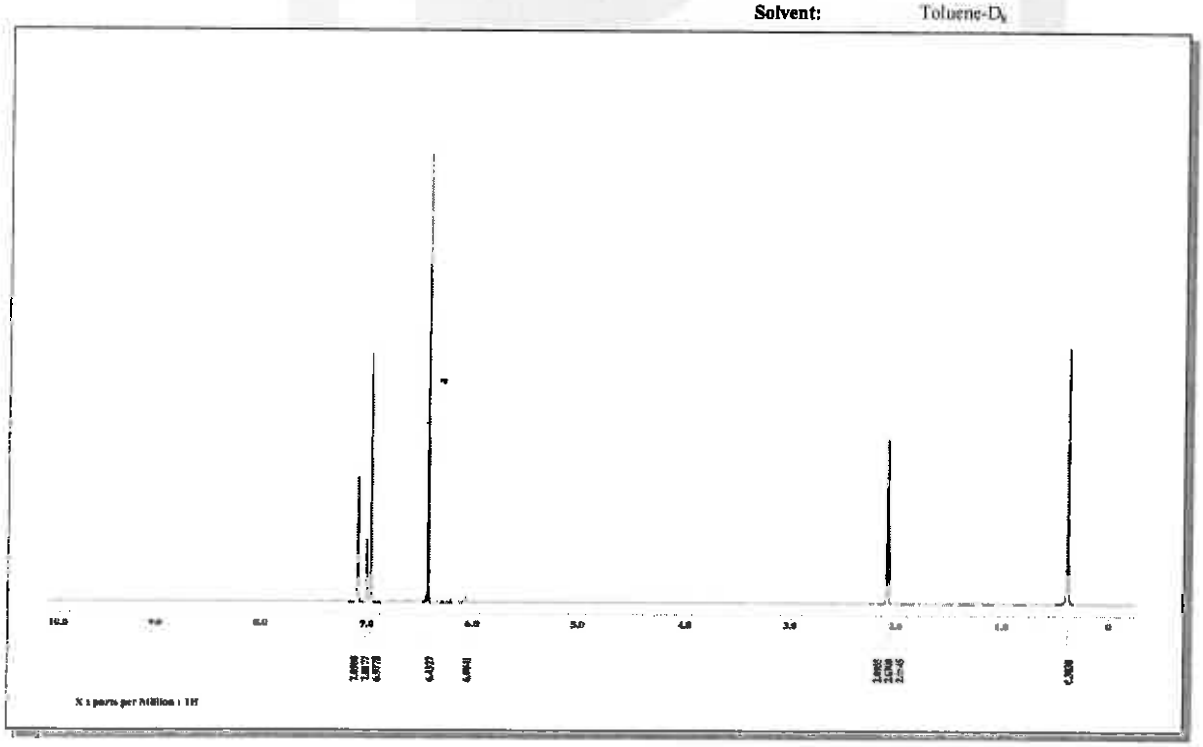

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

Compound Name : 2,3,7,8-Tetrachlorodibenzo-p-dioxin-37C14
Lot Number : KR060510-02
Instrument : Agilent 5973N MSD/6890N GC
Operator-Inst ID : RPC - C10106
Date Acquired : Mon Apr 19 23:23:00 2010
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 320°C@10°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 280°C

Scan Range : 50-550

Total Ion Chromatogram

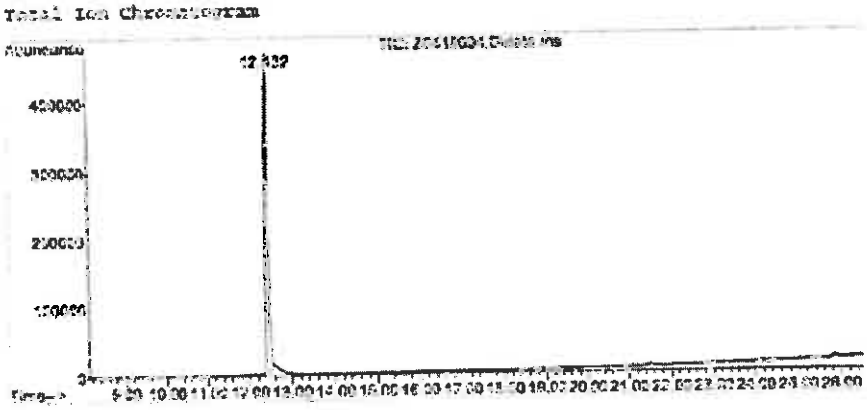

Mass Spectrum

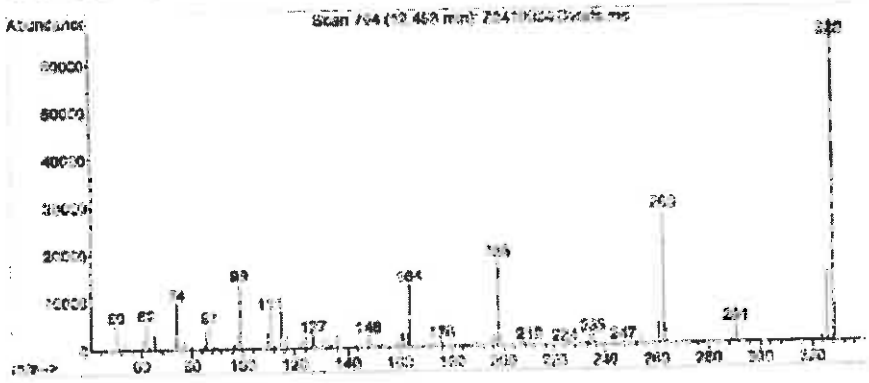

Reagent

HRDXNTA_00091

R: 7/6/18 SKJ

Cerilliant
Analytical Reference Standards
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Certificate of Analysis

Method 1613 PAR Stock Solution

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number: EDF-7999-10X
Solution Lot: ER02241602
Expiration Date: April 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/ analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 volume. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Lot Number	CAS Number	Chemical Formula	Molecular Weight	Chromatographic Purity	Concentration
2,3,7,8-TeCDD	ER04271502	1746-01-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%	399.9 ± 4.0 ng/mL
2,3,7,8-TeCDF	ER101211-02	51207-31-9	$C_{12}H_4Cl_4O$	305.97	99.4%	399.9 ± 4.0 ng/mL
1,2,3,7,8-PeCDD	ER110909-02	40321-76-4	$C_{12}H_3Cl_5O_2$	356.42	99.2%	2000 ± 20 ng/mL
1,2,3,7,8-PeCDF	ER03121401	57117-41-6	$C_{12}H_3Cl_5O$	340.42	99.5%	1999 ± 20 ng/mL
2,3,4,7,8-PeCDF	ER070710-01	57117-31-4	$C_{12}H_3Cl_5O$	340.42	99.4%	1999 ± 20 ng/mL
1,2,3,4,7,8-HxCDD	ER080108-02	39227-28-6	$C_{12}H_2Cl_6O_2$	390.86	98.6%	2000 ± 20 ng/mL
1,2,3,6,7,8-HxCDD	ER03231501	57653-85-7	$C_{12}H_2Cl_6O_2$	390.86	99.6%	2000 ± 20 ng/mL
1,2,3,7,8,9-HxCDD	ER02041601	19408-74-3	$C_{12}H_2Cl_6O_2$	390.86	99.2%	2000 ± 20 ng/mL
1,2,3,4,7,8-HxCDF	ER021110-01	70648-26-9	$C_{12}H_2Cl_6O$	374.86	99.0%	2000 ± 20 ng/mL
1,2,3,6,7,8-HxCDF	ER04161501	57117-44-9	$C_{12}H_2Cl_6O$	374.86	99.8%	2000 ± 20 ng/mL
1,2,3,7,8,9-HxCDF	ER060107-01	72918-21-9	$C_{12}H_2Cl_6O$	374.86	97.5%	1999 ± 20 ng/mL
2,3,4,6,7,8-HxCDF	ER02041602	60851-34-5	$C_{12}H_2Cl_6O$	374.86	99.1%	2001 ± 20 ng/mL
1,2,3,4,6,7,8-HpCDD	ER01201504	35822-46-9	$C_{12}HCl_7O_2$	425.31	98.5%	1999 ± 20 ng/mL
1,2,3,4,6,7,8-HpCDF	ER02281403	67562-39-4	$C_{12}HCl_7O$	409.31	98.9%	1999 ± 20 ng/mL
1,2,3,4,7,8,9-HpCDF	ER01121503	55673-89-7	$C_{12}HCl_7O$	409.31	99.1%	1999 ± 20 ng/mL
OCDD	ER05221301	3268-87-9	$C_{12}Cl_8O_2$	459.75	99.9%	3999 ± 40 ng/mL
OCDF	ER040811-01	39001-02-0	$C_{12}Cl_8O$	443.75	98.9%	4000 ± 40 ng/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Stock solution concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

April 28, 2016
Date

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.

Standard Solution Assay Parameters

Analysis Method: GC/ECD
Column: DB-5ms, 30 m x 0.25 mm ID, 0 25 µm film thickness
Temp Program: 140°C to 200°C at 40°C/min, 200°C to 300°C at 4°C/min hold 3 min
Injector Temp: Cool on-column
Detector Temp: 280°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 1

Solution Standard Verification and Homogeneity

Compound	Verified Concentration ng/mL	Acceptance Criteria	%RSD - Homogeneity %	Acceptance Criteria
2,3,7,8-TeCDD	397 1	± 10%	0.7	≤ 5%
2,3,7,8-TeCDF	386 6	± 10%	0.7	≤ 5%
1,2,3,7,8-PeCDD	1937	± 10%	0 8	≤ 5%
1,2,3,7,8-PeCDF	1919	± 10%	0.8	≤ 5%
2,3,4,7,8-PeCDF	1941	± 10%	0.8	≤ 5%
1,2,3,4,7,8-HxCDD	1932	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDD	1987	± 10%	0 8	≤ 5%
1,2,3,7,8,9-HxCDD	1943	± 10%	0 7	≤ 5%
1,2,3,4,7,8-HxCDF	1933	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDF	1909	± 10%	0.9	≤ 5%
1,2,3,7,8,9-HxCDF	1942	± 10%	0.7	≤ 5%
2,3,4,6,7,8-HxCDF	1950	± 10%	0.8	≤ 5%
1.2.3.4.6.7.8-HpCDD	1930	± 10%	0.9	≤ 5%
1,2,3,4,6,7,8-HpCDF	1919	± 10%	0.9	≤ 5%
1,2,3,4,7,8,9-HpCDF	1943	± 10%	1.0	≤ 5%
OCDD	3844	± 10%	1.0	≤ 5%
OCDF	3906	± 10%	0.9	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The %RSD of samples pulled from across the lot demonstrate homogeneity.
- Product is compared to prior lot and meets acceptance criteria of ± 10%.

Product Analysis

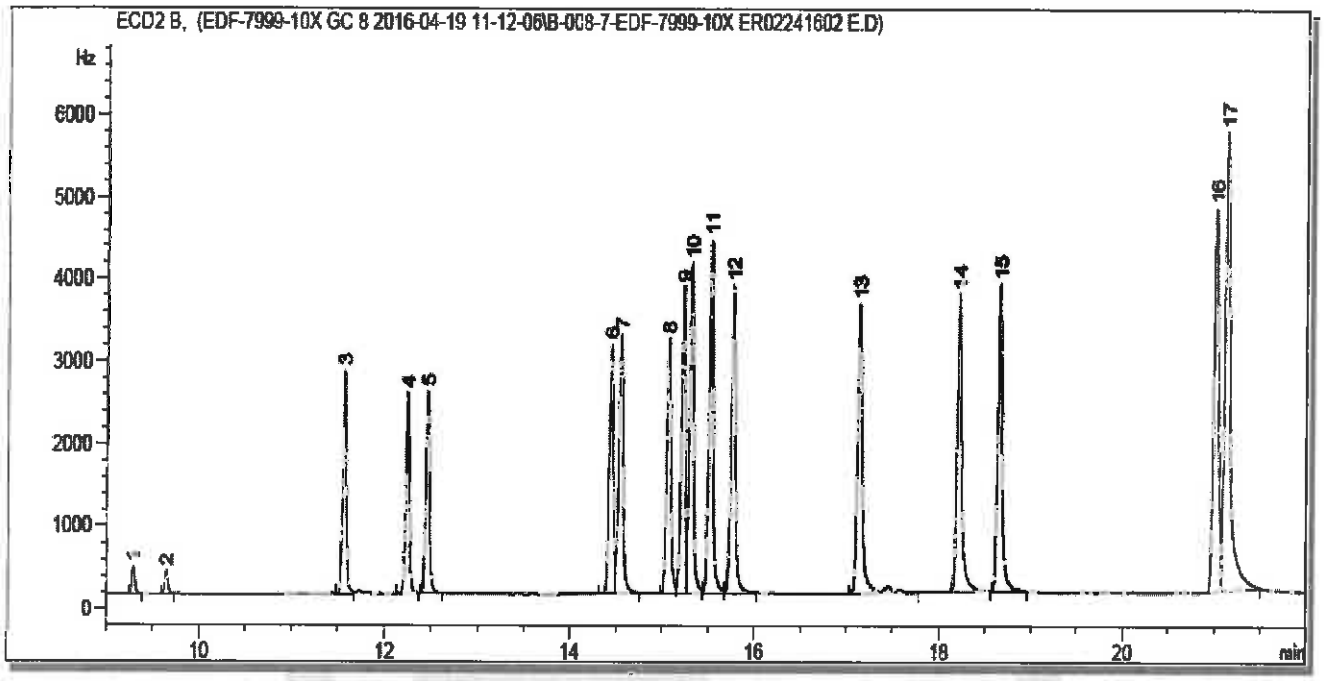

Peak:	Analyte:
1	2,3,7,8-Tetrachlorodibenzofuran
2	2,3,7,8-Tetrachloro-p-dioxin
3	1,2,3,7,8-Pentachlorodibenzofuran
4	2,3,4,7,8-Pentachlorodibenzofuran
5	1,2,3,7,8-Pentachlorodibenzo-p-dioxin
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11	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin
12	1,2,3,7,8,9-Hexachlorodibenzofuran
13	1,2,3,4,6,7,8-Heptachlorodibenzofuran
14	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin
15	1,2,3,4,7,8,9-Heptachlorodibenzofuran
16	Octachlorodibenzo-p-dioxin
17	Octachlorodibenzofuran

COA Revision History

Revision No.	Date	Reason for Revision
00	April 28, 2016	Initial version

Reagent

HRDXNTA_00092

R: 7/6/18 SKJ

Cerilliant
Analytical Reference Standards
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Certificate of Analysis

Method 1613 PAR Stock Solution

Certificant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number: EDF-7999-10X
Solution Lot: ER02241602
Expiration Date: April 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/ analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
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ANAB ACCREDITED
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

April 28, 2016
Date

Traceability

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Detector Temp: 280°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 1

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1,2,3,6,7,8-HxCDD	1987	± 10%	0 8	≤ 5%
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1.2.3.4.6.7.8-HpCDD	1930	± 10%	0.9	≤ 5%
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Product Analysis

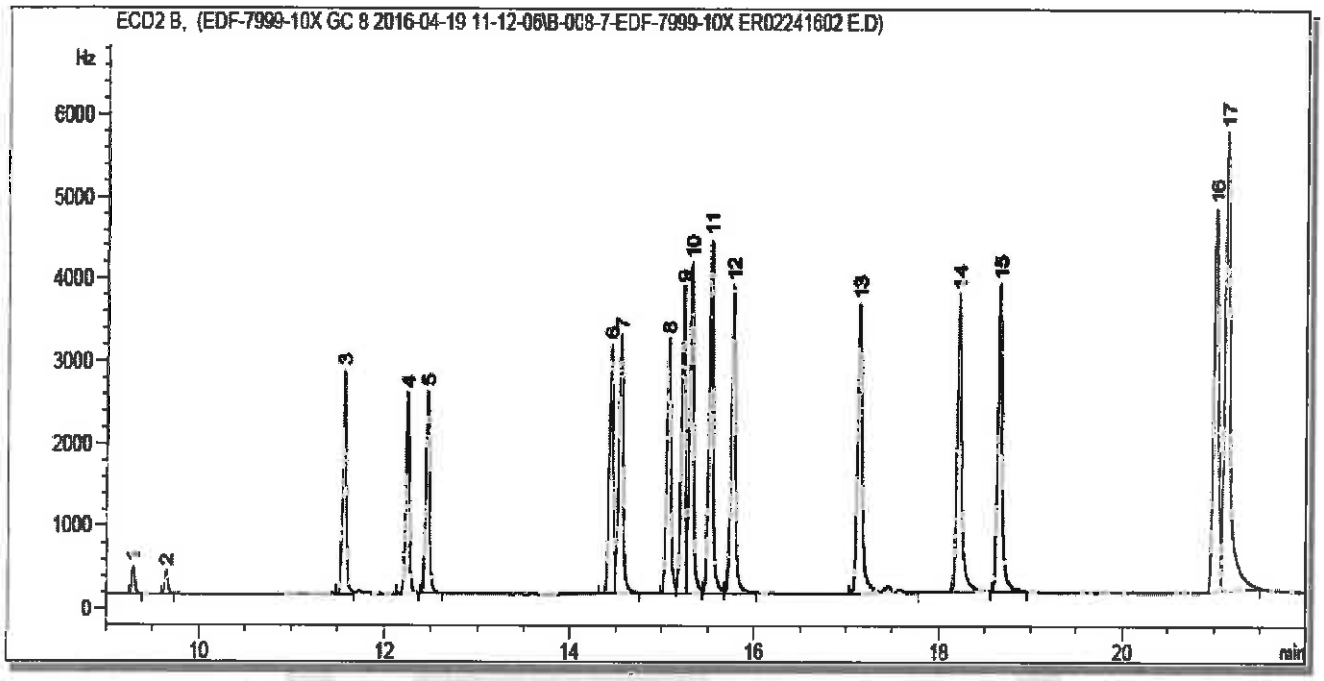

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16	Octachlorodibenzo-p-dioxin
17	Octachlorodibenzofuran

COA Revision History

Revision No.	Date	Reason for Revision
00	April 28, 2016	Initial version

Reagent

HRDXNTA_00093

R: 7/6/18 SKJ

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Method 1613 PAR Stock Solution

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number: EDF-7999-10X
Solution Lot: ER02241602
Expiration Date: April 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/ analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

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2,3,7,8-TeCDF	ER101211-02	51207-31-9	$C_{12}H_4Cl_4O$	305.97	99.4%	399.9 ± 4.0 ng/mL
1,2,3,7,8-PeCDD	ER110909-02	40321-76-4	$C_{12}H_3Cl_5O_2$	356.42	99.2%	2000 ± 20 ng/mL
1,2,3,7,8-PeCDF	ER03121401	57117-41-6	$C_{12}H_3Cl_5O$	340.42	99.5%	1999 ± 20 ng/mL
2,3,4,7,8-PeCDF	ER070710-01	57117-31-4	$C_{12}H_3Cl_5O$	340.42	99.4%	1999 ± 20 ng/mL
1,2,3,4,7,8-HxCDD	ER080108-02	39227-28-6	$C_{12}H_2Cl_6O_2$	390.86	98.6%	2000 ± 20 ng/mL
1,2,3,6,7,8-HxCDD	ER03231501	57653-85-7	$C_{12}H_2Cl_6O_2$	390.86	99.6%	2000 ± 20 ng/mL
1,2,3,7,8,9-HxCDD	ER02041601	19408-74-3	$C_{12}H_2Cl_6O_2$	390.86	99.2%	2000 ± 20 ng/mL
1,2,3,4,7,8-HxCDF	ER021110-01	70648-26-9	$C_{12}H_2Cl_6O$	374.86	99.0%	2000 ± 20 ng/mL
1,2,3,6,7,8-HxCDF	ER04161501	57117-44-9	$C_{12}H_2Cl_6O$	374.86	99.8%	2000 ± 20 ng/mL
1,2,3,7,8,9-HxCDF	ER060107-01	72918-21-9	$C_{12}H_2Cl_6O$	374.86	97.5%	1999 ± 20 ng/mL
2,3,4,6,7,8-HxCDF	ER02041602	60851-34-5	$C_{12}H_2Cl_6O$	374.86	99.1%	2001 ± 20 ng/mL
1,2,3,4,6,7,8-HpCDD	ER01201504	35822-46-9	$C_{12}HCl_7O_2$	425.31	98.5%	1999 ± 20 ng/mL
1,2,3,4,6,7,8-HpCDF	ER02281403	67562-39-4	$C_{12}HCl_7O$	409.31	98.9%	1999 ± 20 ng/mL
1,2,3,4,7,8,9-HpCDF	ER01121503	55673-89-7	$C_{12}HCl_7O$	409.31	99.1%	1999 ± 20 ng/mL
OCDD	ER05221301	3268-87-9	$C_{12}Cl_8O_2$	459.75	99.9%	3999 ± 40 ng/mL
OCDF	ER040811-01	39001-02-0	$C_{12}Cl_8O$	443.75	98.9%	4000 ± 40 ng/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Stock solution concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

April 28, 2016
Date

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.

Standard Solution Assay Parameters

Analysis Method: GC/ECD
Column: DB-5ms, 30 m x 0.25 mm ID, 0 25 µm film thickness
Temp Program: 140°C to 200°C at 40°C/min, 200°C to 300°C at 4°C/min hold 3 min
Injector Temp: Cool on-column
Detector Temp: 280°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 1

Solution Standard Verification and Homogeneity

Compound	Verified Concentration ng/mL	Acceptance Criteria	%RSD - Homogeneity %	Acceptance Criteria
2,3,7,8-TeCDD	397 1	± 10%	0.7	≤ 5%
2,3,7,8-TeCDF	386 6	± 10%	0.7	≤ 5%
1,2,3,7,8-PeCDD	1937	± 10%	0 8	≤ 5%
1,2,3,7,8-PeCDF	1919	± 10%	0.8	≤ 5%
2,3,4,7,8-PeCDF	1941	± 10%	0.8	≤ 5%
1,2,3,4,7,8-HxCDD	1932	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDD	1987	± 10%	0 8	≤ 5%
1,2,3,7,8,9-HxCDD	1943	± 10%	0 7	≤ 5%
1,2,3,4,7,8-HxCDF	1933	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDF	1909	± 10%	0.9	≤ 5%
1,2,3,7,8,9-HxCDF	1942	± 10%	0.7	≤ 5%
2,3,4,6,7,8-HxCDF	1950	± 10%	0.8	≤ 5%
1.2.3.4.6.7.8-HpCDD	1930	± 10%	0.9	≤ 5%
1,2,3,4,6,7,8-HpCDF	1919	± 10%	0.9	≤ 5%
1,2,3,4,7,8,9-HpCDF	1943	± 10%	1.0	≤ 5%
OCDD	3844	± 10%	1.0	≤ 5%
OCDF	3906	± 10%	0.9	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The %RSD of samples pulled from across the lot demonstrate homogeneity.
- Product is compared to prior lot and meets acceptance criteria of ± 10%.

Product Analysis

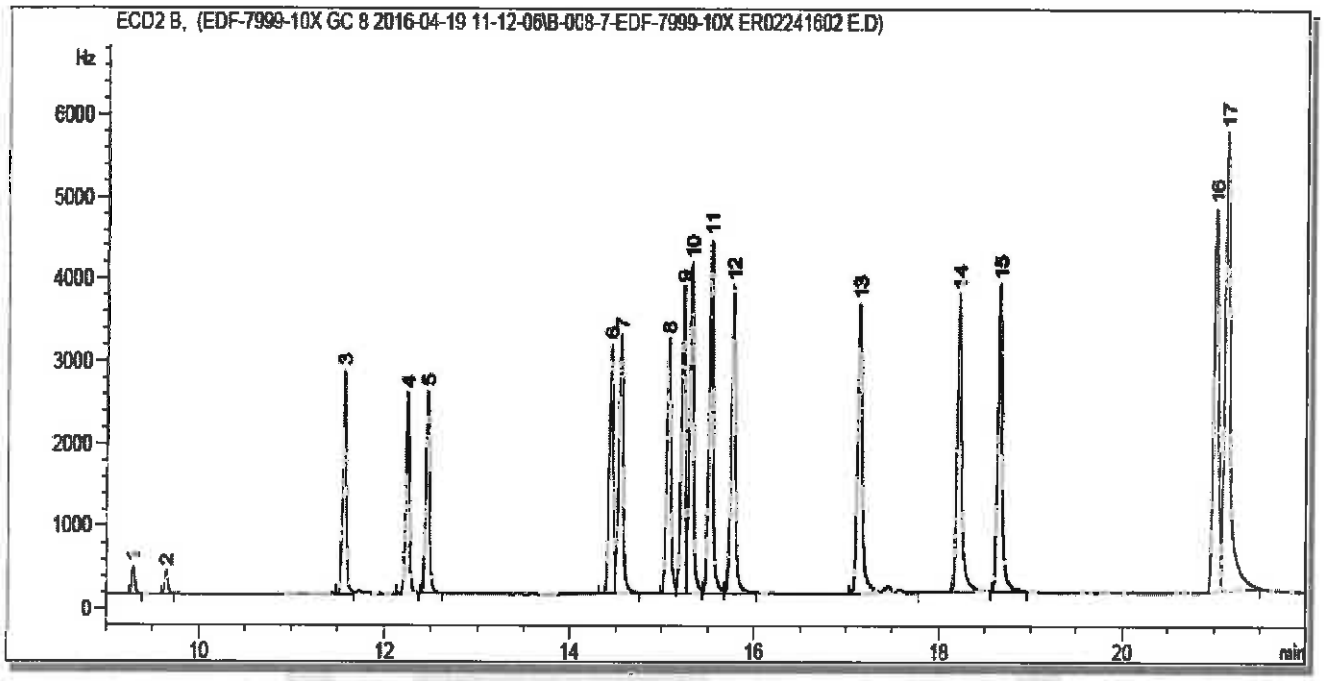

Peak:	Analyte:
1	2,3,7,8-Tetrachlorodibenzofuran
2	2,3,7,8-Tetrachloro-p-dioxin
3	1,2,3,7,8-Pentachlorodibenzofuran
4	2,3,4,7,8-Pentachlorodibenzofuran
5	1,2,3,7,8-Pentachlorodibenzo-p-dioxin
6	1,2,3,4,7,8-Hexachlorodibenzofuran
7	1,2,3,6,7,8-Hexachlorodibenzofuran
8	2,3,4,6,7,8-Hexachlorodibenzofuran
9	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin
10	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin
11	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin
12	1,2,3,7,8,9-Hexachlorodibenzofuran
13	1,2,3,4,6,7,8-Heptachlorodibenzofuran
14	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin
15	1,2,3,4,7,8,9-Heptachlorodibenzofuran
16	Octachlorodibenzo-p-dioxin
17	Octachlorodibenzofuran

COA Revision History

Revision No.	Date	Reason for Revision
00	April 28, 2016	Initial version

Reagent

HRDXNTA_00098

r: 11/2/18 SKJ

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

EPA-1613PAR

U.S. EPA Method 1613 Native PCDD/PCDF
Precision and Recovery Stock Solution

PRODUCT CODE:	EPA-1613PAR
LOT NUMBER:	13PAR0418
SOLVENT(S):	Nonane/Toluene
DATE PREPARED: (mm/dd/yyyy)	04/11/2018
LAST TESTED: (mm/dd/yyyy)	04/12/2018
EXPIRY DATE: (mm/dd/yyyy)	03/01/2025
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION:

EPA-1613PAR is a solution/mixture of all the 2,3,7,8-substituted chlorinated dibenzo-p-dioxins (PCDDs) and 2,3,7,8-substituted dibenzofurans (PCDFs). The components and their concentrations are given in Table A.

EPA-1613PAR was designed for, and prepared to be used according to, U.S. EPA Method 1613 (Revision B).

The individual PCDDs and PCDFs all have chemical purities of >98%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: HRGC/HRMS Data (SIR; 10,000 mass resolving power)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Table A: **EPA-1613PAR; Components and Concentrations (ng/ml, ± 5% in nonane/ 2.4% toluene)**

	Concentration (ng/ml)
PCDDs:	
2,3,7,8-Tetrachlorodibenzo-p-dioxin	40
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	200
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	200
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	200
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	200
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	200
Octachlorodibenzo-p-dioxin	400
PCDFs:	
2,3,7,8-Tetrachlorodibenzofuran	40
1,2,3,7,8-Pentachlorodibenzofuran	200
2,3,4,7,8-Pentachlorodibenzofuran	200
1,2,3,4,7,8-Hexachlorodibenzofuran	200
1,2,3,6,7,8-Hexachlorodibenzofuran	200
1,2,3,7,8,9-Hexachlorodibenzofuran	200
2,3,4,6,7,8-Hexachlorodibenzofuran	200
1,2,3,4,6,7,8-Heptachlorodibenzofuran	200
1,2,3,4,7,8,9-Heptachlorodibenzofuran	200
Octachlorodibenzofuran	400

Certified By: _____ **Date:** 04/16/2018
(mm/dd/yyyy)
B.G. Chittim, General Manager

Figure 1: **EPA-1613PAR; HRGC/HRMS Data (60 m DB-5 Column)**

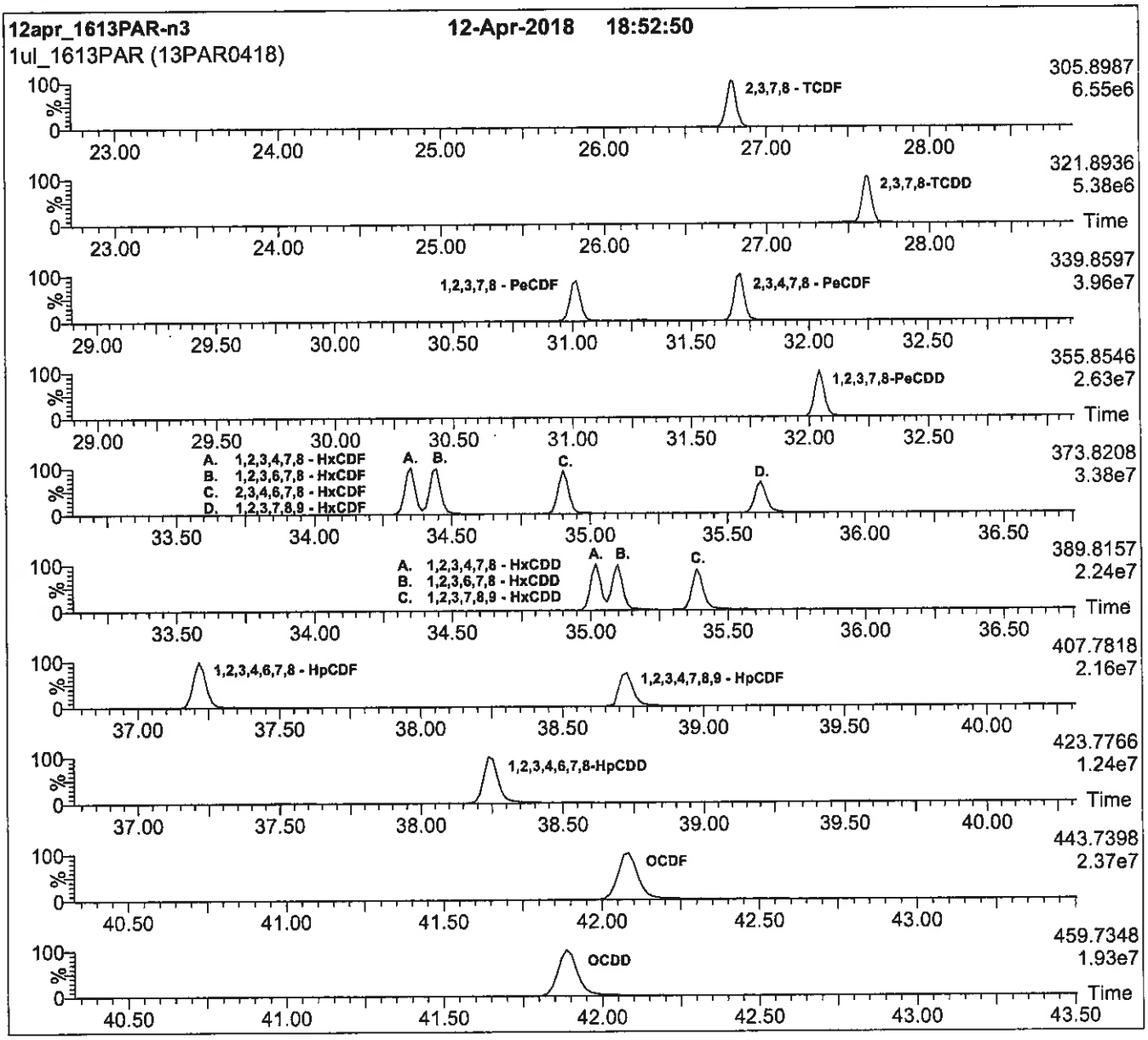

HRGC/HRMS:

Agilent 6890N (HRGC)
Autospec Ultima (HRMS)

Chromatographic Conditions:

Column: 60 m DB-5 (0.25 mm id, 0.25 µm film thickness) Agilent J&W

Flow:	Constant at 1 ml/min	Oven:	150 °C (1 min)
Injector:	280 °C (Splitless Injection)		12 °C/min to 200 °C
Ionization:	EI+		3 °C/min to 235 °C
Detector:	280 °C		235 °C (8 min)
	SIR at 10,000 mass resolving power		8 °C/min to 310 °C
			310 °C (8 min)

Reagent

MT-ICP-ICSA_00001

CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

Product #: TA-ICP-ICSA

ICP ICSA Mix

Lot #: 982821-1

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
Al	5000 ± 25 mg/L	Fe	2000 ± 10 mg/L
Ca	5000 ± 25 mg/L	Mg	5000 ± 25 mg/L

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see reverse side)**. The solution was stabilized using high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentrations were determined based upon gravimetric procedures. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see reverse side)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 21, 2018
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

Cont# 1480942.
Re'cd: 1/7/19. sw

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Europe
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1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM		Analyte	Aq. SRM	MO SRM		Analyte	Aq. SRM	MO SRM
Ag	3151	1077a		Hf	3122	—		S	3154	2770
Al	3101a	1075a		Hg	3133	3133		Sb	3102a	3102a
As	3103a	3103a		Ho	3123a	—		Sc	3148a	3148a
Au	3121	—		In	3124a	3124a		Se	3149	3149
B	3107	3107		K	3141a	3141a		Si	3150	1066a
Ba	3104a	1051b		La	3127a	3127a		Sm	3147a	—
Be	3105a	3105a		Li	3129a	3129a		Sn	3161a	1057b
Bi	3106	3106		Lu	3130a	—		SO_4^{-2}	3181	—
Br^-	3184	—		Mg	3131a	3131a		Sr	3153a	3153a
Ca	3109a	3109a		Mn	3132	3132		Ta	3155	—
Cd	3108	1053a		Mo	3134	3134		Tb	3157a	—
Ce	3110	3110		Na	3152a	3152a		Te	3156	—
Cl^-	3182	1818a		Nb	3137	—		Th	3159	—
Co	3113	3113		Nd	3135a	—		Ti	3162a	3162a
Cr	3112a	1078b		Ni	3136	1065b		Tl	3158	3158
Cs	3111a	—		NO_3^-	3185	—		Tm	3160a	—
Cu	3114	1080a		P	3139a	3139a		U	3164	—
Dy	3115a	—		Pb	3128	3128		V	3165	1052b
Er	3116a	—		Pd	3138	—		W	3163	3163
Eu	3117a	—		PO_4^{-3}	3186	—		Y	3167a	3167a
F^-	3183	—		Pr	3142a	—		Yb	3166a	—
Fe	3126a	1079b		Pt	3140	3140		Zn	3168a	3168a
Ga	3119a	—		Rb	3145a	—		Zr	3169	3169
Gd	3118a	—		Re	3143	—				
Ge	3120a	—		Rh	3144	3144				

Reagent

MT-ICP-ICSB1_00001

CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

Product #: TA-ICP-ICSAB-1

ICP ICSAB Mix Solution 1

Lot #: 990624-2

Matrix: 5% HNO_3/0.5% HF

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
Mo	100.0 ± 0.5 mg/L	Si	1000 ± 5 mg/L	Tl	100.0 ± 0.5 mg/L
Sb	100.0 ± 0.5 mg/L	Sn	100.0 ± 0.5 mg/L		

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see reverse side)**. The solution was stabilized using high purity nitric acid (HNO_3), hydrofluoric acid (HF) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentrations were determined based upon gravimetric procedures. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see reverse side)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 21, 2018
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

Re'ced 1/7/19 LW
Cont # 1480967

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F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
  - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM		Analyte	Aq. SRM	MO SRM		Analyte	Aq. SRM	MO SRM
Ag	3151	1077a		Hf	3122	—		S	3154	2770
Al	3101a	1075a		Hg	3133	3133		Sb	3102a	3102a
As	3103a	3103a		Ho	3123a	—		Sc	3148a	3148a
Au	3121	—		In	3124a	3124a		Se	3149	3149
B	3107	3107		K	3141a	3141a		Si	3150	1066a
Ba	3104a	1051b		La	3127a	3127a		Sm	3147a	—
Be	3105a	3105a		Li	3129a	3129a		Sn	3161a	1057b
Bi	3106	3106		Lu	3130a	—		SO_4^{-2}	3181	—
Br^-	3184	—		Mg	3131a	3131a		Sr	3153a	3153a
Ca	3109a	3109a		Mn	3132	3132		Ta	3155	—
Cd	3108	1053a		Mo	3134	3134		Tb	3157a	—
Ce	3110	3110		Na	3152a	3152a		Te	3156	—
Cl^-	3182	1818a		Nb	3137	—		Th	3159	—
Co	3113	3113		Nd	3135a	—		Ti	3162a	3162a
Cr	3112a	1078b		Ni	3136	1065b		Tl	3158	3158
Cs	3111a	—		NO_3^-	3185	—		Tm	3160a	—
Cu	3114	1080a		P	3139a	3139a		U	3164	—
Dy	3115a	—		Pb	3128	3128		V	3165	1052b
Er	3116a	—		Pd	3138	—		W	3163	3163
Eu	3117a	—		PO_4^{-3}	3186	—		Y	3167a	3167a
F^-	3183	—		Pr	3142a	—		Yb	3166a	—
Fe	3126a	1079b		Pt	3140	3140		Zn	3168a	3168a
Ga	3119a	—		Rb	3145a	—		Zr	3169	3169
Gd	3118a	—		Re	3143	—				
Ge	3120a	—		Rh	3144	3144				

Reagent

MT-ICP-ICSB2_00001

CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

Product #: TA-ICP-ICSAB-2

ICP ICSAB Mix Solution 2

Lot #: 990626-2

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
Ag	100.0 ± 0.5 mg/L	Cr	99.98 ± 0.50 mg/L	Pb	100.0 ± 0.5 mg/L
As	100.0 ± 0.5 mg/L	Cu	100.0 ± 0.5 mg/L	Se	100.0 ± 0.5 mg/L
B	1000 ± 5 mg/L	K	1000 ± 5 mg/L	Sr	100.0 ± 0.5 mg/L
Ba	100.1 ± 0.5 mg/L	Mn	100.1 ± 0.5 mg/L	Tl	100.0 ± 0.5 mg/L
Be	50.02 ± 0.25 mg/L	Na	1000 ± 5 mg/L	V	100.0 ± 0.5 mg/L
Cd	100.0 ± 0.5 mg/L	Ni	100.1 ± 0.5 mg/L	Zn	100.1 ± 0.5 mg/L
Co	100.0 ± 0.5 mg/L	P	1000 ± 5 mg/L		

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see reverse side)**. The solution was stabilized using high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentrations were determined based upon gravimetric procedures. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see reverse side)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 21, 2018

Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

Cont #1 148 1050
Rec'd 1/7/19 LW

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1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
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Analyte	Aq. SRM	MO SRM		Analyte	Aq. SRM	MO SRM		Analyte	Aq. SRM	MO SRM
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Al	3101a	1075a		Hg	3133	3133		Sb	3102a	3102a
As	3103a	3103a		Ho	3123a	—		Sc	3148a	3148a
Au	3121	—		In	3124a	3124a		Se	3149	3149
B	3107	3107		K	3141a	3141a		Si	3150	1066a
Ba	3104a	1051b		La	3127a	3127a		Sm	3147a	—
Be	3105a	3105a		Li	3129a	3129a		Sn	3161a	1057b
Bi	3106	3106		Lu	3130a	—		SO_4^{-2}	3181	—
Br^-	3184	—		Mg	3131a	3131a		Sr	3153a	3153a
Ca	3109a	3109a		Mn	3132	3132		Ta	3155	—
Cd	3108	1053a		Mo	3134	3134		Tb	3157a	—
Ce	3110	3110		Na	3152a	3152a		Te	3156	—
Cl^-	3182	1818a		Nb	3137	—		Th	3159	—
Co	3113	3113		Nd	3135a	—		Ti	3162a	3162a
Cr	3112a	1078b		Ni	3136	1065b		Tl	3158	3158
Cs	3111a	—		NO_3^-	3185	—		Tm	3160a	—
Cu	3114	1080a		P	3139a	3139a		U	3164	—
Dy	3115a	—		Pb	3128	3128		V	3165	1052b
Er	3116a	—		Pd	3138	—		W	3163	3163
Eu	3117a	—		PO_4^{-3}	3186	—		Y	3167a	3167a
F^-	3183	—		Pr	3142a	—		Yb	3166a	—
Fe	3126a	1079b		Pt	3140	3140		Zn	3168a	3168a
Ga	3119a	—		Rb	3145a	—		Zr	3169	3169
Gd	3118a	—		Re	3143	—				
Ge	3120a	—		Rh	3144	3144				

Reagent

MT_CalMix1-SS_00001

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

ICP ICPMS CAL Mix # 1

Matrix: 5% HNO_3/tr. HF

1427789
ID MT_CalMix1-SS_00001
Exp. 04/26/20 Prpd CJH
Second Source Cal Mix 1 f

Product #: TA-CAL1-SS

Lot #: 982733-2

Received: 11/6/18

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
As	100.0 ± 0.5 mg/L	Li	100.0 ± 0.5 mg/L	Si	1000 ± 5 mg/L
Ba	100.0 ± 0.5 mg/L	Mn	100.0 ± 0.5 mg/L	Sn	100.1 ± 0.5 mg/L
Be	100.0 ± 0.5 mg/L	Mo	100.0 ± 0.5 mg/L	Sr	100.0 ± 0.5 mg/L
Cd	100.1 ± 0.5 mg/L	Ni	100.0 ± 0.5 mg/L	Ti	100.1 ± 0.5 mg/L
Co	100.0 ± 0.5 mg/L	Pb	100.0 ± 0.5 mg/L	Tl	100.0 ± 0.5 mg/L
Cr	100.0 ± 0.5 mg/L	Sb	100.0 ± 0.5 mg/L	V	100.0 ± 0.5 mg/L
Cu	100.1 ± 0.5 mg/L	Se	100.0 ± 0.5 mg/L		

Intended Use: This solution is intended for use as a second source certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

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Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

October 26, 2018
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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The Netherlands

www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
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This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM		Analyte	Aq. SRM	MO SRM		Analyte	Aq. SRM	MO SRM
Ag	3151	1077a		Hf	3122	—		S	3154	2770
Al	3101a	1075a		Hg	3133	3133		Sb	3102a	3102a
As	3103a	3103a		Ho	3123a	—		Sc	3148a	3148a
Au	3121	—		In	3124a	3124a		Se	3149	3149
B	3107	3107		K	3141a	3141a		Si	3150	1066a
Ba	3104a	1051b		La	3127a	3127a		Sm	3147a	—
Be	3105a	3105a		Li	3129a	3129a		Sn	3161a	1057b
Bi	3106	3106		Lu	3130a	—		SO_4^{-2}	3181	—
Br^-	3184	—		Mg	3131a	3131a		Sr	3153a	3153a
Ca	3109a	3109a		Mn	3132	3132		Ta	3155	—
Cd	3108	1053a		Mo	3134	3134		Tb	3157a	—
Ce	3110	3110		Na	3152a	3152a		Te	3156	—
Cl^-	3182	1818a		Nb	3137	—		Th	3159	—
Co	3113	3113		Nd	3135a	—		Ti	3162a	3162a
Cr	3112a	1078b		Ni	3136	1065b		Tl	3158	3158
Cs	3111a	—		NO_3^-	3185	—		Tm	3160a	—
Cu	3114	1080a		P	3139a	3139a		U	3164	—
Dy	3115a	—		Pb	3128	3128		V	3165	1052b
Er	3116a	—		Pd	3138	—		W	3163	3163
Eu	3117a	—		PO_4^{-3}	3186	—		Y	3167a	3167a
F^-	3183	—		Pr	3142a	—		Yb	3166a	—
Fe	3126a	1079b		Pt	3140	3140		Zn	3168a	3168a
Ga	3119a	—		Rb	3145a	—		Zr	3169	3169
Gd	3118a	—		Re	3143	—				
Ge	3120a	—		Rh	3144	3144				

Reagent

MT_CalMix2-SS_00001

CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

1427812
ID MT_CalMix2-SS_00001
Exp 04/26/20 Prpd CJH
Second Source Cal Mix 2 f

Product #: TA-CAL2-SS

ICP ICPMS CAL Mix # 2

Lot #: 982735-2

Matrix: 5% HNO_3

Received 11/6/18

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
Al	2000 ± 10 mg/L	Fe	2000 ± 10 mg/L	Mg	2000 ± 10 mg/L
Ca	2000 ± 10 mg/L	K	2001 ± 10 mg/L	Na	2001 ± 10 mg/L

Intended Use: This solution is intended for use as a second source certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

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Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

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Chuck Goudreau

Chuck Goudreau, Certifying Officer

October 26, 2018
Certification Date

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

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Al	3101a	1075a		Hg	3133	3133		Sb	3102a	3102a
As	3103a	3103a		Ho	3123a	—		Sc	3148a	3148a
Au	3121	—		In	3124a	3124a		Se	3149	3149
B	3107	3107		K	3141a	3141a		Si	3150	1066a
Ba	3104a	1051b		La	3127a	3127a		Sm	3147a	—
Be	3105a	3105a		Li	3129a	3129a		Sn	3161a	1057b
Bi	3106	3106		Lu	3130a	—		SO_4^{-2}	3181	—
Br^-	3184	—		Mg	3131a	3131a		Sr	3153a	3153a
Ca	3109a	3109a		Mn	3132	3132		Ta	3155	—
Cd	3108	1053a		Mo	3134	3134		Tb	3157a	—
Ce	3110	3110		Na	3152a	3152a		Te	3156	—
Cl^-	3182	1818a		Nb	3137	—		Th	3159	—
Co	3113	3113		Nd	3135a	—		Ti	3162a	3162a
Cr	3112a	1078b		Ni	3136	1065b		Tl	3158	3158
Cs	3111a	—		NO_3^-	3185	—		Tm	3160a	—
Cu	3114	1080a		P	3139a	3139a		U	3164	—
Dy	3115a	—		Pb	3128	3128		V	3165	1052b
Er	3116a	—		Pd	3138	—		W	3163	3163
Eu	3117a	—		PO_4^{-3}	3186	—		Y	3167a	3167a
F^-	3183	—		Pr	3142a	—		Yb	3166a	—
Fe	3126a	1079b		Pt	3140	3140		Zn	3168a	3168a
Ga	3119a	—		Rb	3145a	—		Zr	3169	3169
Gd	3118a	—		Re	3143	—				
Ge	3120a	—		Rh	3144	3144				

Reagent

MT_CalMix3-SS_00001

CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

1427814
ID MT_CalMix3-SS_00001
Exp. 04/26/20 Prpd CJH
Second Source Cal Mix 3 f

Product #: TA-CAL3-SS

ICP ICPMS CAL Mix # 3

Lot #: 982739-1

Matrix: 5% HNO_3/tr. HF

Received 11/6/18

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
P	1000 ± 5 mg/L	U	100.0 ± 0.5 mg/L
S	1001 ± 5 mg/L	W	100.0 ± 0.5 mg/L

Intended Use: This solution is intended for use as a second source certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

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Chuck Goudreau

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October 26, 2018
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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
  - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM		Analyte	Aq. SRM	MO SRM		Analyte	Aq. SRM	MO SRM
Ag	3151	1077a		Hf	3122	—		S	3154	2770
Al	3101a	1075a		Hg	3133	3133		Sb	3102a	3102a
As	3103a	3103a		Ho	3123a	—		Sc	3148a	3148a
Au	3121	—		In	3124a	3124a		Se	3149	3149
B	3107	3107		K	3141a	3141a		Si	3150	1066a
Ba	3104a	1051b		La	3127a	3127a		Sm	3147a	—
Be	3105a	3105a		Li	3129a	3129a		Sn	3161a	1057b
Bi	3106	3106		Lu	3130a	—		SO_4^{-2}	3181	—
Br^-	3184	—		Mg	3131a	3131a		Sr	3153a	3153a
Ca	3109a	3109a		Mn	3132	3132		Ta	3155	—
Cd	3108	1053a		Mo	3134	3134		Tb	3157a	—
Ce	3110	3110		Na	3152a	3152a		Te	3156	—
Cl^-	3182	1818a		Nb	3137	—		Th	3159	—
Co	3113	3113		Nd	3135a	—		Ti	3162a	3162a
Cr	3112a	1078b		Ni	3136	1065b		Tl	3158	3158
Cs	3111a	—		NO_3^-	3185	—		Tm	3160a	—
Cu	3114	1080a		P	3139a	3139a		U	3164	—
Dy	3115a	—		Pb	3128	3128		V	3165	1052b
Er	3116a	—		Pd	3138	—		W	3163	3163
Eu	3117a	—		PO_4^{-3}	3186	—		Y	3167a	3167a
F^-	3183	—		Pr	3142a	—		Yb	3166a	—
Fe	3126a	1079b		Pt	3140	3140		Zn	3168a	3168a
Ga	3119a	—		Rb	3145a	—		Zr	3169	3169
Gd	3118a	—		Re	3143	—				
Ge	3120a	—		Rh	3144	3144				

Reagent

MT_spike1_00002

Re: 8/14/19

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

Product #: TA-SPIKE1+

Spike Mix # 1

Lot #: 993218-2

Matrix: 5% HNO_3/tr. HF

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
As	200.0 ± 1.0 mg/L	Li	100.0 ± 0.5 mg/L	Sn	200.0 ± 1.0 mg/L
Ba	200.0 ± 1.0 mg/L	Mn	100.1 ± 0.5 mg/L	Sr	100.0 ± 0.5 mg/L
Be	100.0 ± 0.5 mg/L	Mo	100.0 ± 0.5 mg/L	Ti	100.0 ± 0.5 mg/L
Cd	100.0 ± 0.5 mg/L	Ni	100.0 ± 0.5 mg/L	Tl	200.0 ± 1.0 mg/L
Co	100.0 ± 0.5 mg/L	Pb	100.1 ± 0.5 mg/L	V	100.0 ± 0.5 mg/L
Cr	100.0 ± 0.5 mg/L	Se	200.0 ± 1.0 mg/L		
Cu	100.0 ± 0.5 mg/L	Sl	200.0 ± 1.0 mg/L		

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see reverse side)**. The solution was stabilized using high purity nitric acid (HNO_3), trace hydrofluoric acid (HF) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentrations were determined based upon gravimetric procedures. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see reverse side)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

April 4, 2019
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
  - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM		Analyte	Aq. SRM	MO SRM		Analyte	Aq. SRM	MO SRM
Ag	3151	1077a		Hf	3122	—		S	3154	2770
Al	3101a	1075a		Hg	3133	3133		Sb	3102a	3102a
As	3103a	3103a		Ho	3123a	—		Sc	3148a	3148a
Au	3121	—		In	3124a	3124a		Se	3149	3149
B	3107	3107		K	3141a	3141a		Si	3150	1066a
Ba	3104a	1051b		La	3127a	3127a		Sm	3147a	—
Be	3105a	3105a		Li	3129a	3129a		Sn	3161a	1057b
Bi	3106	3106		Lu	3130a	—		SO_4^{-2}	3181	—
Br^-	3184	—		Mg	3131a	3131a		Sr	3153a	3153a
Ca	3109a	3109a		Mn	3132	3132		Ta	3155	—
Cd	3108	1053a		Mo	3134	3134		Tb	3157a	—
Ce	3110	3110		Na	3152a	3152a		Te	3156	—
Cl^-	3182	1818a		Nb	3137	—		Th	3159	—
Co	3113	3113		Nd	3135a	—		Ti	3162a	3162a
Cr	3112a	1078b		Ni	3136	1065b		Tl	3158	3158
Cs	3111a	—		NO_3^-	3185	—		Tm	3160a	—
Cu	3114	1080a		P	3139a	3139a		U	3164	—
Dy	3115a	—		Pb	3128	3128		V	3165	1052b
Er	3116a	—		Pd	3138	—		W	3163	3163
Eu	3117a	—		PO_4^{-3}	3186	—		Y	3167a	3167a
F^-	3183	—		Pr	3142a	—		Yb	3166a	—
Fe	3126a	1079b		Pt	3140	3140		Zn	3168a	3168a
Ga	3119a	—		Rb	3145a	—		Zr	3169	3169
Gd	3118a	—		Re	3143	—				
Ge	3120a	—		Rh	3144	3144				

Reagent

MT_spike2_00002

CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

Product #: TA-SPIKE2

Spike Mix # 2

Lot #: 982744-1

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
Al	1000 ± 5 mg/L	Fe	1000 ± 5 mg/L	Mg	5000 ± 25 mg/L
Ca	5000 ± 25 mg/L	K	5000 ± 25 mg/L	Na	5000 ± 25 mg/L

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see reverse side)**. The solution was stabilized using high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentrations were determined based upon gravimetric procedures. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see reverse side)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

March 11, 2019
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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The Netherlands

www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
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- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM		Analyte	Aq. SRM	MO SRM		Analyte	Aq. SRM	MO SRM
Ag	3151	1077a		Hf	3122	—		S	3154	2770
Al	3101a	1075a		Hg	3133	3133		Sb	3102a	3102a
As	3103a	3103a		Ho	3123a	—		Sc	3148a	3148a
Au	3121	—		In	3124a	3124a		Se	3149	3149
B	3107	3107		K	3141a	3141a		Si	3150	1066a
Ba	3104a	1051b		La	3127a	3127a		Sm	3147a	—
Be	3105a	3105a		Li	3129a	3129a		Sn	3161a	1057b
Bi	3106	3106		Lu	3130a	—		SO_4^{-2}	3181	—
Br^-	3184	—		Mg	3131a	3131a		Sr	3153a	3153a
Ca	3109a	3109a		Mn	3132	3132		Ta	3155	—
Cd	3108	1053a		Mo	3134	3134		Tb	3157a	—
Ce	3110	3110		Na	3152a	3152a		Te	3156	—
Cl^-	3182	1818a		Nb	3137	—		Th	3159	—
Co	3113	3113		Nd	3135a	—		Ti	3162a	3162a
Cr	3112a	1078b		Ni	3136	1065b		Tl	3158	3158
Cs	3111a	—		NO_3^-	3185	—		Tm	3160a	—
Cu	3114	1080a		P	3139a	3139a		U	3164	—
Dy	3115a	—		Pb	3128	3128		V	3165	1052b
Er	3116a	—		Pd	3138	—		W	3163	3163
Eu	3117a	—		PO_4^{-3}	3186	—		Y	3167a	3167a
F^-	3183	—		Pr	3142a	—		Yb	3166a	—
Fe	3126a	1079b		Pt	3140	3140		Zn	3168a	3168a
Ga	3119a	—		Rb	3145a	—		Zr	3169	3169
Gd	3118a	—		Re	3143	—				
Ge	3120a	—		Rh	3144	3144				

Reagent

MTAgXXXTA-SS_00001

CERTIFICATE OF ANALYSIS

1427826
ID MTAgXXXTA-SS_00001
Exp 04/26/20 Prpd CJH
Cal Std - Silver 1000 ug/

Single-Element Aqueous CRM

SE Std Silver (Ag) – 1000 µg/mL

Matrix: 5% HNO_3

Product #: TA-1000511

Lot #: 975475-12

Received 11/6/18

Element	Certified Concentration & Uncertainty
Ag	996 ± 3 µg/mL (w/v)
	987 ± 3 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure silver (Ag) metal dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3151, lot #992212**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	MAJOR	Co	<0.5	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	<2	Cs	<1	Hf	<0.2	Mg	<5	Pb	2	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	3	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	2	Cu	9	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	2	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

October 26, 2018
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

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- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTAgXXXTA_00011

INORGANIC VENTURES
300 Technology Drive
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inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGAG1
Lot Number:	N2-AG666654
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Silver
Starting Material:	Ag Shot
Starting Material Lot#:	2042 and 1575
Starting Material Purity:	99.9994%

1427824
ID MTAgXXXTA_00011
Exp 04/10/22 Prpd CJh
Silver 1000 ug/mL

Received: 11/5/18

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 999 ± 6 µg/mL

Density: 1.026 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **1003 ± 4 µg/mL**
ICP Assay NIST SRM 3151 Lot Number: 992212

Assay Method #2 **997 ± 2 µg/mL**
Volhard NIST SRM 999c Lot Number: 999c

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

s	Ag	<		M	Eu	<	0.000253	O	Na		0.000861	M	Se	<	0.001010	O	Zn		0.000568
O	Al		0.000157	O	Fe		0.000297	M	Nb	<	0.000253	O	Si		0.000957	M	Zr	<	0.000507
M	As	<	0.001776	M	Ga	<	0.000253	M	Nd	<	0.000253	M	Sm	<	0.000253				
M	Au	<	0.001010	M	Gd	<	0.000253	O	Ni		0.000218	M	Sn		0.000240				
O	B		0.000244	M	Ge	<	0.000507	n	Os	<		O	Sr		0.000017				
M	Ba	<	0.001269	M	Hf	<	0.000253	O	P	<	0.021220	M	Ta	<	0.000253				
O	Be	<	0.000318	M	Hg	<	0.002525	M	Pb		0.000292	M	Tb	<	0.000253				
M	Bi		0.000146	M	Ho	<	0.000253	M	Pd		0.000177	M	Te	<	0.006346				
O	Ca		0.000887	M	In	<	0.002538	M	Pr	<	0.000253	M	Th	<	0.000253				
M	Cd	<	0.000253	M	Ir	<	0.001010	M	Pt	<	0.000253	O	Ti	<	0.002864				
M	Ce	<	0.000253	O	K	<	0.006366	M	Rb	<	0.000507	M	Tl	<	0.000253				
O	Co	<	0.002228	M	La	<	0.000253	M	Re	<	0.000253	M	Tm	<	0.000253				
O	Cr	<	0.002122	O	Li	<	0.000212	M	Rh	<	0.000253	M	U	<	0.000253				
M	Cs	<	0.000253	M	Lu	<	0.000253	M	Ru	<	0.000252	M	V	<	0.001776				
O	Cu		0.000599	O	Mg		0.000104	O	S	<	0.045623	M	W	<	0.000253				
M	Dy	<	0.000253	O	Mn	<	0.001061	M	Sb	<	0.009138	M	Y	<	0.000253				
M	Er	<	0.000253	M	Mo	<	0.001015	M	Sc	<	0.000761	M	Yb	<	0.000253				

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 107.87 +1 6 Ag(H2O)6+
Chemical Compatibility -Stable in HNO3, and HF. Avoid basic media. Ag forms more insoluble salts than any other metal. It also is subject to photochemical reduction to the metal in HCl media although 10 µg/mL solutions in 10% HCl [AgClx1-x] are commonly used in the analytical laboratory. The most common solubility problems exist with arsenate, arsenite , bromide, chloride, iodide, carbonate , chromate, cyanide, iodate, oxalate, oxide, sulfate, sulfide, tartrate, and thiocyanate in aqueous media. The addition of nitric acid renders many of these salts soluble.
Stability - 2-100 ppb levels stable for 75+ days when mixed with equivalent levels of all other elements including the precious metals (where chloride is present) when in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO3 / LDPE container.
Ag Containing Samples (Preparation and Solution) -Metal (Soluble in HNO3); Oxides (Soluble in HNO3); Ores (Digestion with conc. HNO3).
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 107 amu	1 ppt	N/A	91Zr16O
ICP-OES 243.779 nm	0.12/0.01 µg/mL	1	Mn, Th, Ni, Rh
ICP-OES 328.068 nm	0.007/0.0007 µg/mL	1	Ce, Rh, V
ICP-OES 338.289 nm	0.013/0.001 µg/mL	1	Ce, Cr, Th

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

April 10, 2018

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **April 10, 2022**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Michael J Booth

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Paul R Gaines

Reagent

MTAlXXXXTA_00004

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

RC: 6/24/19

Product #: TA-10M11

SE Std Aluminum (Al) – 10,000 µg/mL

Lot #: 169484-37

Matrix: 5% HNO_3

1687335

ID: MTAIXXXXTA_00004

Exp 07/30/20 Prod JMD Gen 07-30-19

Aluminum 10,000 ug/mL

Element	Certified Concentration & Uncertainty
Al	10,030 ± 20 µg/mL (w/v)
	9428 ± 22 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.999% pure aluminum nitrate [$Al(NO_3)_3$] dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3101a, lot #140903**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	<10	Ge	<5	Mg	<50	Pd	<5	Si	<1000	V	<10
Al	MAJOR	Cs	<5	Hf	<2	Mn	<10	Pr	<2	Sm	<2	W	16
As	<20	Cr	89	Hg	<5	Mo	<5	Pt	<5	Sn	<5	Y	<5
Au	<5	Cu	<10	Ho	<2	Na	3315	Rb	<5	Sr	<10	Yb	<2
B	<50	Dy	<2	In	nd	Nb	<5	Re	<2	Ta	<5	Zn	30
Ba	<10	Er	<2	Ir	<2	Nd	<2	Rh	<5	Tb	<5		
Bi	<2	Eu	<2	K	<250	Ni	<20	Ru	<5	Te	<10		
Ca	330	Fe	890	La	<5	Os	<5	Sb	<5	Ti	<20		
Cd	<5	Ga	681	Li	<20	P	<1000	Sc	<50	Tl	10		
Ce	<2	Gd	<2	Lu	<2	Pb	<10	Se	<20	Tm	<2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

June 10, 2019

Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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Europe
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1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTAsXXXTA_00009

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-100031

SE Std Arsenic (As) – 1000 µg/mL

Lot #: 175385-43

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty
As	1000 ± 2 µg/mL (w/v)
	983 ± 2 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure arsenic (As) metal dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3103a, lot #100818**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Mg	<5	Pd	<0.5	Si	<100	V	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mn	<1	Pr	<0.2	Sm	<0.2	W	<0.5
As	MAJOR	Cr	0.7	Hg	<0.5	Mo	0.7	Pt	<0.5	Sn	1	Y	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Na	<25	Rb	<0.5	Sr	<1	Yb	<0.2
B	<5	Dy	<0.2	In	nd	Nb	<0.5	Re	<0.2	Ta	<0.5	Zn	<2
Ba	2	Er	<0.2	Ir	<0.2	Nd	<0.2	Rh	13	Tb	<0.5		
Bi	<0.2	Eu	<0.2	K	<25	Ni	3	Ru	6	Te	<1		
Ca	<25	Fe	<10	La	<0.5	Os	<0.5	Sb	<0.5	Ti	<2		
Cd	<0.5	Ga	<0.5	Li	<2	P	<100	Sc	<5	Tl	<0.5		
Ce	<0.2	Gd	<0.2	Lu	<0.2	Pb	<1	Se	<2	Tm	<0.2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

January 10, 2019
Certification Date

Rec'd 1/17/19
Cont # 1489813

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1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTBaXXXTA_00009

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM — Product #: TA-100041

SE Std Barium (Ba) – 1000 µg/mL — Lot #: 273421-52

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty
Ba	1000 ± 3 µg/mL (w/v)
	994 ± 3 µg/g (w/w)

1477001
ID: MTBaXXXTA_C0009
Exp: 05/17/20 Prpd: JMD
Barium 1000 ug/mL

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure barium nitrate [$Ba(NO_3)_2$] dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3104a, lot #140909**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	3	Co	<1	Ge	<0.5	Mg	<5	Pd	<0.5	Si	<100	V	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mn	<1	Pr	<0.2	Sm	0.9	W	<0.5
As	<2	Cr	<0.5	Hg	<0.5	Mo	0.7	Pt	<0.5	Sn	<0.5	Y	1
Au	<0.5	Cu	<1	Ho	<0.2	Na	<25	Rb	2	Sr	3	Yb	<0.2
B	<5	Dy	<0.2	In	nd	Nb	<0.5	Re	<0.2	Ta	<0.5	Zn	<2
Ba	MAJOR	Er	<0.2	Ir	<0.2	Nd	<0.2	Rh	<0.5	Tb	<0.5		
Bi	<0.2	Eu	14	K	<25	Ni	<2	Ru	<0.5	Te	<1		
Ca	<25	Fe	<10	La	2	Os	<0.5	Sb	<0.5	Ti	<2		
Cd	<0.5	Ga	<0.5	Li	<2	P	<100	Sc	<5	Tl	<0.5		
Ce	<0.2	Gd	<0.2	Lu	<0.2	Pb	<1	Se	<2	Tm	<0.2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 17, 2018
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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The Netherlands

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTBeXXXTA_00008

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-100051

SE Std Beryllium (Be) – 1000 µg/mL

Lot #: 660981-36

Matrix: 5% HNO_3

1477002
ID: MTBeXXXTA_00008
Exp: 05/17/20 Prpd: JMO
Beryllium 1000 ug/mL

Element	Certified Concentration & Uncertainty
Be	996 ± 5 µg/mL (w/v)
	983 ± 5 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.995% pure beryllium acetate [$Be_4O(C_2H_3O_2)_6$] dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3105a, lot #090514**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Mg	<5	Pd	<0.5	Si	<100	V	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mn	<1	Pr	<0.2	Sm	<0.2	W	<0.5
As	<2	Cr	<0.5	Hg	<0.5	Mo	<0.5	Pt	<0.5	Sn	<0.5	Y	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Na	<25	Rb	<0.5	Sr	<1	Yb	<0.2
B	<5	Dy	<0.2	In	nd	Nb	<0.5	Re	<0.2	Ta	<0.5	Zn	<2
Ba	<1	Er	<0.2	Ir	<0.2	Nd	<0.2	Rh	<0.5	Tb	<0.5		
Bi	<0.2	Eu	<0.2	K	<25	Ni	<2	Ru	<0.5	Te	<1		
Ca	<25	Fe	<10	La	<0.5	Os	<0.5	Sb	<0.5	Ti	<2		
Cd	<0.5	Ga	<0.5	Li	<2	P	<100	Sc	<5	Tl	<0.5		
Ce	<0.2	Gd	<0.2	Lu	<0.2	Pb	<1	Se	<2	Tm	<0.2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau, Certifying Officer

December 17, 2018
Certification Date

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www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTBXXXXTA_00010

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: G34-S4400-10M76

Boron (B) – 10,000 µg/mL

Lot #: 982186-5

Matrix: NH_4OH

Element	Certified Concentration & Uncertainty
B	10,010 ± 20 µg/mL (w/v)
	9825 ± 22 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO Guide 34**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.9995% pure boric acid (H_3BO_3) dissolved in high purity ammonium hydroxide (NH_4OH) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3107, lot #110830**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	240	Co	<10	Ge	<5	Lu	<2	P	<1000	Sb	10	Te	<10
Al	72	Cs	<5	Hf	19	Mg	<50	Pb	<10	Sc	<50	Ti	<20
As	<20	Cr	15	Hg	82	Mn	<10	Pd	233	Se	<20	Tl	<5
Au	196	Cu	<10	Ho	<2	Mo	15	Pr	<2	Si	<1000	Tm	<2
B	MAJOR	Dy	<2	In	nd	Na	<250	Pt	<5	Sm	<2	V	<10
Ba	<10	Er	<2	Ir	5	Nb	10	Rb	<5	Sn	507	W	90
Bi	5	Eu	<2	K	<250	Nd	<2	Re	<2	Sr	<10	Y	<5
Ca	<250	Fe	<100	La	<5	Ni	<20	Rh	70	Ta	286	Yb	<2
Cd	<5	Ga	<5	Li	<20	Os	10	Ru	11	Tb	<5	Zn	<20
Ce	<2	Gd	<2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Cont # 1491638

Chuck Goudreau

Chuck Goudreau, Certifying Officer

January 15, 2019

Certification Date

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTCaXXXXTA_00004

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

RC: 6/24/19

Product #: TA-10M91

SE Std Calcium (Ca) – 10,000 µg/mL

Lot #: 855297-64

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty
Ca	9996 ± 20 µg/mL (w/v)
	9683 ± 19 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001, ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.999% pure calcium carbonate ($CaCO_3$) dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3109a, lot #130213**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	<10	Ge	<5	Mg	<50	Pd	<5	Si	<1000	V	<10
Al	<20	Cs	<5	Hf	<2	Mn	<10	Pr	3	Sm	<2	W	<5
As	<20	Cr	<5	Hg	<5	Mo	<5	Pt	<5	Sn	<5	Y	<5
Au	<5	Cu	<10	Ho	<2	Na	<250	Rb	<5	Sr	148	Yb	<2
B	<50	Dy	<2	In	nd	Nb	<5	Re	<2	Ta	<5	Zn	<20
Ba	<10	Er	<2	Ir	<2	Nd	<2	Rh	<5	Tb	<5		
Bi	<2	Eu	<2	K	<250	Ni	<20	Ru	<5	Te	<10		
Ca	MAJOR	Fe	<100	La	<5	Os	<5	Sb	<5	Ti	<20		
Cd	<5	Ga	<5	Li	<20	P	<1000	Sc	<50	Tl	<5		
Ce	<2	Gd	<2	Lu	<2	Pb	<10	Se	<20	Tm	<2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau, Certifying Officer

June 10, 2019
Certification Date

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTCdXXXTA_00008

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-100081

SE Std Cadmium (Cd) – 1000 µg/mL

Lot #: 160499-92

Matrix: 5% HNO_3

1477003
ID: MTCdXXXTA_00008
Exp: 05/17/20 Prpd: JMC
Cadmium 1000 ug/mL

Element	Certified Concentration & Uncertainty
Cd	1000 ± 5 µg/mL (w/v)
	997 ± 5 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.9997% pure cadmium (Cd) metal dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3108, lot #130116**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	<10	Ge	<5	Mg	<50	Pd	<5	Si	<1000	V	<10
Al	<20	Cs	<5	Hf	<2	Mn	22	Pr	<2	Sm	<2	W	<5
As	<20	Cr	<5	Hg	<5	Mo	<5	Pt	<5	Sn	<5	Y	<5
Au	10	Cu	<10	Ho	<2	Na	<250	Rb	<5	Sr	<10	Yb	<2
B	<50	Dy	<2	In	nd	Nb	<5	Re	<2	Ta	<5	Zn	<20
Ba	<10	Er	<2	Ir	<2	Nd	<2	Rh	6	Tb	<5		
Bi	<2	Eu	<2	K	<250	Ni	<20	Ru	<5	Te	<10		
Ca	<250	Fe	<100	La	<5	Os	6	Sb	<5	Ti	<20		
Cd	MAJOR	Ga	<5	Li	<20	P	<1000	Sc	<50	Tl	12		
Ce	<2	Gd	<2	Lu	<2	Pb	<10	Se	<20	Tm	17		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 17, 2018
Certification Date

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTCoXXXTA_00008

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-1000131

SE Std Cobalt (Co) – 1000 µg/mL

Lot #: 161693-95

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty
Co	1001 ± 2 µg/mL (w/v)
	997 ± 2 µg/g (w/w)

1477006
ID: MTCoXXXTA_00008
Exp: 05/17/20 Prpd: JMD
Cobalt 1000 ug/mL

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure cobalt (Co) dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3113, lot #000630**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	MAJOR	Ge	<0.5	Mg	<5	Pd	1	Si	<100	V	<1
Al	10	Cs	<0.5	Hf	<0.2	Mn	<1	Pr	<0.2	Sm	<0.2	W	2
As	<2	Cr	<0.5	Hg	<0.5	Mo	<0.5	Pt	<0.5	Sn	<0.5	Y	<0.5
Au	<0.5	Cu	4	Ho	<0.2	Na	<25	Rb	<0.5	Sr	<1	Yb	<0.2
B	<5	Dy	<0.2	In	nd	Nb	<0.5	Re	<0.2	Ta	<0.5	Zn	<2
Ba	<1	Er	<0.2	Ir	<0.2	Nd	<0.2	Rh	<0.5	Tb	<0.5		
Bi	<0.2	Eu	<0.2	K	<25	Ni	<2	Ru	2	Te	<1		
Ca	<25	Fe	<10	La	<0.5	Os	<0.5	Sb	<0.5	Ti	<2		
Cd	<0.5	Ga	<0.5	Li	<2	P	<100	Sc	<5	Tl	<0.5		
Ce	0.4	Gd	<0.2	Lu	<0.2	Pb	3	Se	<2	Tm	<0.2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 17, 2018
Certification Date

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTCrXXXTA_00009

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-1000121

SE Std Chromium (Cr) – 1000 µg/mL

Lot #: 975466-53

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty
Cr	1003 ± 3 µg/mL (w/v)
	994 ± 3 µg/g (w/w)

1477004
ID: MTCrXXXTA_00009
Exp: 05/11/20 Prpd: JMD
Chromium 1000 ug/mL

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.996% pure chromium (Cr) metal dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3112a, lot #030730**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	2	Co	<1	Ge	<0.5	Mg	<5	Pd	2	Si	<100	V	<1
Al	<2	Cs	<0.5	Hf	2	Mn	<1	Pr	<0.2	Sm	<0.2	W	<0.5
As	<2	Cr	MAJOR	Hg	<0.5	Mo	2	Pt	<0.5	Sn	<0.5	Y	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Na	<25	Rb	<0.5	Sr	<1	Yb	<0.2
B	<5	Dy	<0.2	In	nd	Nb	<0.5	Re	<0.2	Ta	<0.5	Zn	<2
Ba	<1	Er	<0.2	Ir	<0.2	Nd	<0.2	Rh	<0.5	Tb	<0.5		
Bi	<0.2	Eu	<0.2	K	<25	Ni	<2	Ru	<0.5	Te	<1		
Ca	<25	Fe	16	La	<0.5	Os	<0.5	Sb	<0.5	Ti	<2		
Cd	<0.5	Ga	<0.5	Li	<2	P	<100	Sc	<5	Tl	<0.5		
Ce	<0.2	Gd	<0.2	Lu	<0.2	Pb	<1	Se	<2	Tm	<0.2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 17, 2018
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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The Netherlands

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTCuXXXTA_00008

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-1000141

SE Std Copper (Cu) – 1000 µg/mL

Lot #: 982446-3

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty
Cu	991 ± 2 µg/mL (w/v)
	988 ± 2 µg/g (w/w)

1477035
ID: MTCuXXXTA_00008
Exp: 05/17/20 Prpd: JMO
Copper 1000 ug/mL

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001, ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.9999% pure copper (Cu) metal dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3114, lot #121207**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	MAJOR	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 17, 2018
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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The Netherlands

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTFeXXXXTA_00005

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

RE: 6/24/19

Product #: TA-10M261

SE Std Iron (Fe) – 10,000 µg/mL

Lot #: 998527-9

Matrix: 5% HNO_3

1667338
ID: MTFeXXXXTA_00005
Exp:07/30/20 Prpd:JMD Opn:07/30/19
Iron 10,000 ug/mL

Element	Certified Concentration & Uncertainty
Fe	10,020 ± 30 µg/mL (w/v)
	9643 ± 33 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.999% pure iron nitrate nonahydrate [$Fe(NO_3)_3$] dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3126a, lot #140812.** The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	20	Ge	<5	Lu	<2	P	<1000	Sb	9	Te	<10
Al	60	Cs	<5	Hf	4	Mg	<50	Pb	<10	Sc	<50	Ti	<20
As	<20	Cr	46	Hg	<5	Mn	11	Pd	<5	Se	<20	Tl	<5
Au	<5	Cu	90	Ho	<2	Mo	<5	Pr	<2	Si	<1000	Tm	<2
B	<50	Dy	<2	In	nd	Na	704	Pt	<5	Sm	<2	V	<10
Ba	<10	Er	<2	Ir	<2	Nb	<5	Rb	<5	Sn	9	W	<5
Bi	15	Eu	<2	K	<250	Nd	<2	Re	<2	Sr	<10	Y	<5
Ca	<250	Fe	MAJOR	La	<5	Ni	117	Rh	<5	Ta	<5	Yb	21
Cd	6	Ga	6	Li	<20	Os	<5	Ru	<5	Tb	<5	Zn	109
Ce	<2	Gd	<2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

June 10, 2019
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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The Netherlands

www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTKXXXXTA_00014

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-10M411

SE Std Potassium (K) – 10,000 µg/mL

Lot #: 172053-56

Matrix: 5% HNO_3

1477052
ID: MTKXXXXTA_00014
Exp: 05/17/20 Prpd: JMD
Potassium 10,000 ug/mL

Element	Certified Concentration & Uncertainty
K	9965 ± 50 µg/mL (w/v)
	9744 ± 50 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.997% pure potassium nitrate (KNO_3) dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3141a, lot #140813** The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	<10	Ge	<5	Mg	<50	Pd	<5	Si	<1000	V	<10
Al	<20	Cs	<5	Hf	<2	Mn	<10	Pr	<2	Sm	<2	W	<5
As	<20	Cr	<5	Hg	<5	Mo	<5	Pt	<5	Sn	<5	Y	<5
Au	<5	Cu	<10	Ho	<2	Na	<250	Rb	79	Sr	<10	Yb	<2
B	<50	Dy	<2	In	nd	Nb	<5	Re	<2	Ta	<5	Zn	<20
Ba	<10	Er	<2	Ir	<2	Nd	<2	Rh	<5	Tb	<5		
Bi	<2	Eu	<2	K	MAJOR	Ni	<20	Ru	<5	Te	<10		
Ca	<250	Fe	<100	La	<5	Os	<5	Sb	<5	Ti	<20		
Cd	<5	Ga	<5	Li	<20	P	<1000	Sc	<50	Tl	<5		
Ce	<2	Gd	<2	Lu	<2	Pb	<10	Se	<20	Tm	<2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau, Certifying Officer

December 17, 2018
Certification Date

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The Netherlands

www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTKXXXXTA_00015

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

SE Std Potassium (K) – 10,000 µg/mL

Matrix: 5% HNO_3

RC: 6/24/19

Product #: TA-10M411

Lot #: 172053-80

1687354

B: MTKXXXXTA_00515

Exp 07/30/20 Prod JMD Con 07/30/19

Potassium 10,000 µg/mL

Element	Certified Concentration & Uncertainty
K	9965 ± 50 µg/mL (w/v)
	9744 ± 50 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.997% pure potassium nitrate (KNO_3) dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3141a, lot #140813** The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	<10	Ge	<5	Mg	<50	Pd	<5	Si	<1000	V	<10
Al	<20	Cs	<5	Hf	<2	Mn	<10	Pr	<2	Sm	<2	W	<5
As	<20	Cr	<5	Hg	<5	Mo	<5	Pt	<5	Sn	<5	Y	<5
Au	<5	Cu	<10	Ho	<2	Na	<250	Rb	79	Sr	<10	Yb	<2
B	<50	Dy	<2	In	nd	Nb	<5	Re	<2	Ta	<5	Zn	<20
Ba	<10	Er	<2	Ir	<2	Nd	<2	Rh	<5	Tb	<5		
Bi	<2	Eu	<2	K	MAJOR	Ni	<20	Ru	<5	Te	<10		
Ca	<250	Fe	<100	La	<5	Os	<5	Sb	<5	Ti	<20		
Cd	<5	Ga	<5	Li	<20	P	<1000	Sc	<50	Tl	<5		
Ce	<2	Gd	<2	Lu	<2	Pb	<10	Se	<20	Tm	<2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

June 14, 2019

Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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The Netherlands

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTMgXXXTA_00018

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-10M311

SE Std Magnesium (Mg) – 10,000 µg/mL RE: 6/24/19

Lot #: 982185-24

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty
Mg	10,010 ± 30 µg/mL (w/v)
	9543 ± 29 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.999% pure magnesium nitrate [$Mg(NO_3)_2$] dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3131a, lot #140110**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	<10	Ge	<5	Lu	<2	P	<1000	Sb	<5	Te	<10
Al	<20	Cs	<5	Hf	<2	Mg	Major	Pb	<10	Sc	<50	Ti	<20
As	<20	Cr	<5	Hg	<5	Mn	22	Pd	<5	Se	<20	Tl	<5
Au	<5	Cu	<10	Ho	<2	Mo	7	Pr	<2	Si	<1000	Tm	<2
B	<50	Dy	<2	In	nd	Na	<250	Pt	<5	Sm	<2	V	<10
Ba	<10	Er	<2	Ir	<2	Nb	<5	Rb	<5	Sn	<5	W	<5
Bi	<2	Eu	<2	K	<250	Nd	<2	Re	<2	Sr	<10	Y	<5
Ca	359	Fe	<100	La	<5	Ni	<20	Rh	<5	Ta	<5	Yb	<2
Cd	<5	Ga	<5	Li	<20	Os	<5	Ru	<5	Tb	<5	Zn	<20
Ce	<2	Gd	<2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

June 10, 2019
Certification Date

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The Netherlands

www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTMnXXXTA_00008

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-1000321

SE Std Manganese (Mn) – 1000 µg/mL

Lot #: 167539-78

Matrix: 5% HNO_3

1477007
ID: MTMnXXXTA_00008
Exp: 05/17/20 Prpd: JWD
Manganese 1000 ug/mL

Element	Certified Concentration & Uncertainty
Mn	1001 ± 3 µg/mL (w/v)
	995 ± 3 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.98% pure manganese (Mn) dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3132, lot #050429**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	2	Ge	<0.5	Mg	63	Pd	<0.5	Si	<100	V	3
Al	3	Cs	<0.5	Hf	<0.2	Mn	MAJOR	Pr	<0.2	Sm	<0.2	W	<0.5
As	<2	Cr	<0.5	Hg	<0.5	Mo	<0.5	Pt	<0.5	Sn	<0.5	Y	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Na	<25	Rb	<0.5	Sr	<1	Yb	<0.2
B	<5	Dy	<0.2	In	nd	Nb	<0.5	Re	<0.2	Ta	<0.5	Zn	<2
Ba	<1	Er	<0.2	Ir	<0.2	Nd	<0.2	Rh	<0.5	Tb	<0.5		
Bi	<0.2	Eu	<0.2	K	<25	Ni	<2	Ru	<0.5	Te	<1		
Ca	<25	Fe	<10	La	<0.5	Os	<0.5	Sb	<0.5	Ti	<2		
Cd	<0.5	Ga	<0.5	Li	<2	P	<100	Sc	<5	Tl	<0.5		
Ce	<0.2	Gd	<0.2	Lu	<0.2	Pb	2	Se	<2	Tm	<0.2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 17, 2018
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTMoXXXTA_00008

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-1000343

SE Std Molybdenum (Mo) – 1000 µg/mL

Lot #: 169424-45

Matrix: 5% HNO_3/tr. HF

1477008
ID: MTMoXXXTA_00008
Exp: 05/17/20 Prpd: JMD
Molybdenum 1000 ug/mL

Element	Certified Concentration & Uncertainty
Mo	999 ± 3 µg/mL (w/v)
	980 ± 3 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure molybdenum (Mo) metal dissolved in high purity nitric acid (HNO_3), trace hydrofluoric acid (HF) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3134, lot #891307**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Mg	<5	Pd	<0.5	Si	<100	V	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mn	<1	Pr	<0.2	Sm	<0.2	W	60
As	<2	Cr	<0.5	Hg	<0.5	Mo	MAJOR	Pt	<0.5	Sn	<0.5	Y	<0.5
Au	1	Cu	<1	Ho	<0.2	Na	<25	Rb	<0.5	Sr	<1	Yb	<0.2
B	<5	Dy	<0.2	In	nd	Nb	<0.5	Re	6	Ta	2	Zn	<2
Ba	<1	Er	<0.2	Ir	<0.2	Nd	<0.2	Rh	<0.5	Tb	<0.5		
Bi	<0.2	Eu	<0.2	K	<25	Ni	<2	Ru	<0.5	Te	<1		
Ca	<25	Fe	<10	La	<0.5	Os	<0.5	Sb	<0.5	Ti	<5		
Cd	<0.5	Ga	<0.5	Li	<2	P	<100	Sc	<5	Tl	<0.5		
Ce	<0.2	Gd	<0.2	Lu	<0.2	Pb	<1	Se	<2	Tm	<0.2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 17, 2018
Certification Date

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTNaXXXXTA_00003

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-10M521

SE Std Sodium (Na) – 10,000 µg/mL

Lot #: 752887-20

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty
Na	10,070 ± 20 µg/mL (w/v)
	9771 ± 24 µg/g (w/w)

1477061
ID: MTNaXXXXTA_00003
Exp: 05/17/20 Prpd: JMD
Sodium 10,000 ug/mL

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.997% pure sodium carbonate (Na_2CO_3) dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3152a, lot #120715.** The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	<10	Ge	<5	Mg	<50	Pd	<5	Si	<1000	V	<10
Al	<20	Cs	11	Hf	<2	Mn	<10	Pr	<2	Sm	<2	W	<5
As	<20	Cr	<5	Hg	<5	Mo	<5	Pt	<5	Sn	<5	Y	<5
Au	<5	Cu	<10	Ho	<2	Na	MAJOR	Rb	70	Sr	14	Yb	<2
B	<50	Dy	<2	In	nd	Nb	<5	Re	<2	Ta	<5	Zn	<20
Ba	26	Er	<2	Ir	<2	Nd	<2	Rh	<5	Tb	<5		
Bi	<2	Eu	<2	K	<250	Ni	<20	Ru	<5	Te	<10		
Ca	<250	Fe	<100	La	<5	Os	<5	Sb	<5	Ti	<20		
Cd	<5	Ga	<5	Li	<20	P	<1000	Sc	<50	Tl	<5		
Ce	<2	Gd	<2	Lu	<2	Pb	<10	Se	<20	Tm	<2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau, Certifying Officer

December 17, 2018
Certification Date

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTNaXXXXTA_00004

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

SE Std Sodium (Na) – 10,000 µg/mL

Matrix: 5% HNO_3

RC: 6/24/19

Product #: TA-10M521

Lot #: 752887-33

Element	Certified Concentration & Uncertainty
Na	10,070 ± 20 µg/mL (w/v)
	9771 ± 24 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.997% pure sodium carbonate (Na_2CO_3) dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3152a, lot #120715.** The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	<10	Ge	<5	Mg	<50	Pd	<5	Si	<1000	V	<10
Al	<20	Cs	11	Hf	<2	Mn	<10	Pr	<2	Sm	<2	W	<5
As	<20	Cr	<5	Hg	<5	Mo	<5	Pt	<5	Sn	<5	Y	<5
Au	<5	Cu	<10	Ho	<2	Na	MAJOR	Rb	70	Sr	14	Yb	<2
B	<50	Dy	<2	In	nd	Nb	<5	Re	<2	Ta	<5	Zn	<20
Ba	26	Er	<2	Ir	<2	Nd	<2	Rh	<5	Tb	<5		
Bi	<2	Eu	<2	K	<250	Ni	<20	Ru	<5	Te	<10		
Ca	<250	Fe	<100	La	<5	Os	<5	Sb	<5	Ti	<20		
Cd	<5	Ga	<5	Li	<20	P	<1000	Sc	<50	Tl	<5		
Ce	<2	Gd	<2	Lu	<2	Pb	<10	Se	<20	Tm	<2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau, Certifying Officer

June 10, 2019
Certification Date

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTNiXXXTA_00008

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-1000361

SE Std Nickel (Ni) – 1000 µg/mL

Lot #: 166665-108

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty
Ni	995 ± 5 µg/mL (w/v)
	990 ± 5 µg/g (w/w)

1477010
ID: MTNiXXXTA_000C8
Exp: 05/17/20 Prpd: JMD
Nickel 1000 ug/mL

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.996% pure nickel (Ni) metal dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3136, lot #120619**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	4	Co	<1	Ge	<0.5	Mg	<5	Pd	<0.5	Si	<100	V	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mn	<1	Pr	<0.2	Sm	<0.2	W	14
As	<2	Cr	<0.5	Hg	<0.5	Mo	<0.5	Pt	<0.5	Sn	<0.5	Y	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Na	<25	Rb	<0.5	Sr	<1	Yb	<0.2
B	<5	Dy	<0.2	In	nd	Nb	<0.5	Re	<0.2	Ta	<0.5	Zn	<2
Ba	<1	Er	<0.2	Ir	<0.2	Nd	<0.2	Rh	<0.5	Tb	<0.5		
Bi	<0.2	Eu	<0.2	K	<25	Ni	MAJOR	Ru	<0.5	Te	<1		
Ca	<25	Fe	31	La	<0.5	Os	<0.5	Sb	<0.5	Ti	<2		
Cd	<0.5	Ga	<0.5	Li	<2	P	<100	Sc	<5	Tl	<0.5		
Ce	<0.2	Gd	<0.2	Lu	<0.2	Pb	<1	Se	<2	Tm	<0.2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 17, 2018
Certification Date

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTPbXXXTA_00010

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-1000281

SE Std Lead (Pb) – 1000 µg/mL

Lot #: 981329-18

Matrix: 5% HNO_3

1477012
ID: MTPbXXXTA_00010
Exp: 05/17/20 Prpd: JMD
Lead 1000 ug/mL

Element	Certified Concentration & Uncertainty
Pb	1009 ± 2 µg/mL (w/v)
	1003 ± 2 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure lead (Pb) metal dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3128, lot #101026**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	<2	Cs	1	Hf	<0.2	Mg	<5	Pb	MAJOR	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	0.9
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 17, 2018
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTPXXXTA_00002

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-1000391

SE Std Phosphorous (P) – 1000 µg/mL

Lot #: 978200-10

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty
P	1002 ± 4 µg/mL (w/v)
	997 ± 4 µg/g (w/w)

1477C11
ID: MTPXXXTA_00002
Exp: 05/17/20 Prpd: JMO
Phosphorus 1,000 ug/mL

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.7% pure phosphoric acid (H_3PO_4) dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3139a, lot #060717**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	MAJOR	Sb	<0.5	Te	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau, Certifying Officer

December 17, 2018
Certification Date

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTPXXXTA_00003

Rec'd 1/15/19

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM — Product #: G34-S4400-10M391

Phosphorus (P) – 10,000 µg/mL — Lot #: 451077-22

Matrix: 0.05% HNO_3

Element	Certified Concentration & Uncertainty
P	10,000 ± 50 µg/mL (w/v)
	9867 ± 50 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO Guide 34**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using a single-element concentrate dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3139a**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Ce	<2	Gd	<2	Lu	<2	Pb	<10	Se	<20	Tl	<5
Al	<20	Co	<10	Ge	<5	Mg	<50	Pd	<5	Si	<1000	Tm	<2
As	<20	Cs	<5	Hf	<2	Mn	<10	Pr	<2	Sm	<2	U	<5
Au	<5	Cr	<5	Hg	<5	Mo	146	Pt	<5	Sn	<5	V	<10
B	<50	Cu	<10	Ho	<2	Na	<250	Rb	<5	Sr	<10	W	<5
Ba	<10	Dy	<2	In	nd	Nb	<5	Re	<2	Ta	<5	Y	<5
Be	<5	Er	<2	Ir	<2	Nd	<2	Rh	<5	Tb	<5	Yb	<2
Bi	<2	Eu	<2	K	<250	Ni	<20	Ru	<5	Te	<10	Zn	<20
Ca	<250	Fe	<100	La	<5	Os	<5	Sb	<5	Th	<5	Zr	<5
Cd	<5	Ga	<5	Li	<20	P	MAJOR	Sc	<50	Ti	<20		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Cont # 1487296

Chuck Goudreau

Chuck Goudreau, Certifying Officer

January 7, 2019
Certification Date

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTSbXXXTA_00008

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-100023

SE Std Antimony (Sb) – 1000 µg/mL

Lot #: 153992-34

Matrix: 5% HNO_3/tr. HF

1477015
ID: MTSbXXXTA_00008
Exp: 05/17/20 Prpd: JMD
Antimony 1000 ug/mL

Element	Certified Concentration & Uncertainty
Sb	1000 ± 5 µg/mL (w/v)
	977 ± 5 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure antimony (Sb) metal dissolved in high purity nitric acid (HNO_3), trace hydrofluoric acid (HF) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3102a, lot #140911**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Mg	<5	Pd	<0.5	Si	<1000	V	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mn	<1	Pr	<0.2	Sm	<0.2	W	<0.5
As	<2	Cr	<0.5	Hg	<0.5	Mo	<0.5	Pt	<0.5	Sn	<0.5	Y	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Na	<25	Rb	<0.5	Sr	<1	Yb	<0.2
B	<5	Dy	<0.2	In	nd	Nb	0.6	Re	<0.2	Ta	<0.5	Zn	<2
Ba	<1	Er	<0.2	Ir	<0.2	Nd	<0.2	Rh	<0.5	Tb	<0.5		
Bi	<0.2	Eu	<0.2	K	<25	Ni	<2	Ru	<0.5	Te	<1		
Ca	<25	Fe	<10	La	4	Os	<0.5	Sb	MAJOR	Ti	<2		
Cd	<0.5	Ga	<0.5	Li	<2	P	<100	Sc	<5	Tl	<0.5		
Ce	<0.2	Gd	<0.2	Lu	<0.2	Pb	<1	Se	<2	Tm	<0.2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau, Certifying Officer

December 17, 2018
Certification Date

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www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTSeXXXTA_00008

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-1000491

SE Std Selenium (Se) – 1000 µg/mL

Lot #: 982461-7

Matrix: 5% HNO_3

1477014
ID: MTSeXXXTA_00008
Exp: 05/17/20 Prpd: JMD
Selenium 1000 ug/mL

Element	Certified Concentration & Uncertainty
Se	1004 ± 7 µg/mL (w/v)
	996 ± 7 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure selenium (Se) metal dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3149, lot #100901**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	MAJOR	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 17, 2018
Certification Date

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The Netherlands

www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTSiXXXTA_00018

REPORT OF ANALYSIS

Single-Element Aqueous RM

Product #: S4400-10M504F

Silicon (Si) – 10,000 µg/mL

Lot #: 167061R-32

Matrix: H_2O

Rec'd 3/6/19 LW

Element	Certified Concentration
Si	10,000 µg/mL (w/v)
	9662 µg/g (w/w)

Intended Use: This solution is intended for use as a reference material (RM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This RM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO Guide 34**, and **ISO/IEC 17025**. This RM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.999% pure ammonium hexafluorosilicate [$(NH_4)_2SiF_6$] dissolved in and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this RM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration was determined based upon gravimetric procedures. Secondary verification of the certified concentration was performed using ICP-OES and is traceable to **NIST SRM 3150**. The uncertainty associated with the certified concentration is ±0.5% relative, which is the sum of the estimated errors due to the purity of the raw materials, the gravimetric preparation of the solution, and transpiration through the container. This represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Ce	<2	Gd	<2	Lu	<2	Pb	<10	Se	<20	Tl	<5
Al	<20	Co	<10	Ge	11	Mg	<50	Pd	<5	Si	MAJOR	Tm	<2
As	<20	Cs	<5	Hf	<2	Mn	<10	Pr	<2	Sm	<2	U	<5
Au	<5	Cr	<5	Hg	<5	Mo	<5	Pt	<5	Sn	<5	V	<10
B	<50	Cu	<10	Ho	<2	Na	<250	Rb	<5	Sr	<10	W	<5
Ba	<10	Dy	<2	In	nd	Nb	<5	Re	<2	Ta	<5	Y	<5
Be	<5	Er	<2	Ir	<2	Nd	<2	Rh	<5	Tb	<5	Yb	<2
Bi	<2	Eu	<2	K	<250	Ni	<20	Ru	<5	Te	<10	Zn	<20
Ca	<250	Fe	<100	La	<5	Os	<5	Sb	<5	Th	<5	Zr	<5
Cd	<5	Ga	<5	Li	<20	P	<1000	Sc	<50	Ti	<20		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the RM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original RM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Cert # 153 2020
MTSi0XXTA_02018

Chuck Goudreau

Chuck Goudreau, Certifying Officer

February 8, 2019
Certification Date

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Reagent

MTSrXXXTA_00008

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-1000531

SE Std Strontium (Sr) – 1000 µg/mL

Lot #: 168227-43

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty
Sr	1000 ± 5 µg/mL (w/v)
	992 ± 5 µg/g (w/w)

1477013
ID: MTSrXXXTA_00008
Exp: 05/17/20 Prpd: JMD
Strontium 1000 ug/mL

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.9965% pure strontium nitrate [$Sr(NO_3)_2$] dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3153a, lot #990906**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Mg	<5	Pd	<0.5	Si	<100	V	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mn	<1	Pr	<0.2	Sm	<0.2	W	<0.5
As	<2	Cr	<0.5	Hg	<0.5	Mo	<0.5	Pt	<0.5	Sn	<0.5	Y	1
Au	<0.5	Cu	<1	Ho	<0.2	Na	<25	Rb	<0.5	Sr	MAJOR	Yb	<0.2
B	<5	Dy	<0.2	In	nd	Nb	<0.5	Re	<0.2	Ta	<0.5	Zn	<2
Ba	56	Er	<0.2	Ir	<0.2	Nd	<0.2	Rh	<0.5	Tb	<0.5		
Bi	<0.2	Eu	<0.2	K	<25	Ni	<2	Ru	<0.5	Te	<1		
Ca	<25	Fe	<10	La	<0.5	Os	<0.5	Sb	<0.5	Ti	<2		
Cd	<0.5	Ga	<0.5	Li	<2	P	<100	Sc	<5	Tl	<0.5		
Ce	0.9	Gd	<0.2	Lu	<0.2	Pb	<1	Se	<2	Tm	<0.2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 17, 2018
Certification Date

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTSXXXXTA_00015

CPI INTERNATIONAL

Rec'd 1/15/19

REPORT OF ANALYSIS

Single-Element Aqueous RM

Product #: S4400-10M544

Sulfur (S) – 10,000 µg/mL

Lot #: 987745-10

Matrix: H_2O

Element	Certified Concentration
S	9966 µg/mL (w/v)
	9790 µg/g (w/w)

Intended Use: This solution is intended for use as a reference material (RM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This RM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO Guide 34**, and **ISO/IEC 17025**. This RM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.999% pure ammonium sulfate [$(NH_4)_2SO_4$] dissolved and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this RM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration was determined based upon gravimetric procedures. Secondary verification of the certified concentration was performed using ICP-OES and is traceable to **NIST SRM 3154**. The uncertainty associated with the certified concentration is ±0.5% relative, which is the sum of the estimated errors due to the purity of the raw materials, the gravimetric preparation of the solution, and transpiration through the container. This represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	<10	Ge	<5	Lu	<2	P	<1000	Sb	<5	Te	<10
Al	<20	Cs	<5	Hf	<2	Mg	<50	Pb	<10	Sc	<50	Ti	<20
As	<20	Cr	289	Hg	<5	Mn	<10	Pd	<5	Se	<20	Tl	<5
Au	<5	Cu	<10	Ho	<2	Mo	<5	Pr	<2	Si	<1000	Tm	<2
B	<50	Dy	<2	In	nd	Na	<250	Pt	<5	Sm	<2	V	<10
Ba	<10	Er	<2	Ir	<2	Nb	<5	Rb	<5	Sn	<5	W	<5
Bi	<2	Eu	<2	K	<250	Nd	<2	Re	<2	Sr	<10	Y	<5
Ca	<250	Fe	<100	La	6	Ni	<20	Rh	<5	Ta	<5	Yb	<2
Cd	<5	Ga	<5	Li	<20	Os	<5	Ru	<5	Tb	<5	Zn	<20
Ce	<2	Gd	<2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the RM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original RM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Cont# 1487295

Chuck Goudreau

Chuck Goudreau, Certifying Officer

January 4, 2019
Certification Date

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Reagent

MTTlXXXTA_00009

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-1000581

SE Std Thallium (Tl) – 1000 µg/mL

Lot #: 148983-92

Matrix: 5% HNO_3

1477021
ID: MTTIXXXTA_00009
Exp: 05/17/20 Prpd: JMD
Thallium 1000 ug/mL

Element	Certified Concentration & Uncertainty
Tl	1002 ± 3 µg/mL (w/v)
	997 ± 3 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.99% pure thallium (Tl) metal dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3158, lot #993012**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<1	Co	<1	Ge	<0.5	Mg	<5	Pd	<0.5	Si	<100	V	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mn	<1	Pr	<0.2	Sm	<0.2	W	<0.5
As	<2	Cr	<0.5	Hg	13	Mo	<0.5	Pt	<0.5	Sn	<0.5	Y	<0.5
Au	<0.5	Cu	2	Ho	<0.2	Na	<25	Rb	<0.5	Sr	<1	Yb	<0.2
B	<5	Dy	<0.2	In	nd	Nb	<0.5	Re	<0.2	Ta	<0.5	Zn	<2
Ba	<1	Er	<0.2	Ir	<0.2	Nd	<0.2	Rh	<0.5	Tb	<0.5		
Bi	0.3	Eu	<0.2	K	<25	Ni	<2	Ru	<0.5	Te	<1		
Ca	<25	Fe	<10	La	<0.5	Os	<0.5	Sb	<0.5	Ti	<2		
Cd	<0.5	Ga	<0.5	Li	<2	P	<100	Sc	<5	Tl	MAJOR		
Ce	<0.2	Gd	<0.2	Lu	<0.2	Pb	5	Se	<2	Tm	<0.2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau, Certifying Officer

December 17, 2018
Certification Date

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTVXXXXTA_00009

CERTIFICATE OF ANALYSIS

f

Single-Element Aqueous CRM

Product #: TA-1000651

SE Std Vanadium (V) – 1000 µg/mL

Lot #: 152207-102

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty
V	998 ± 4 µg/mL (w/v)
	989 ± 4 µg/g (w/w)

1477028
ID: MTVXXXXTA_00009
Exp: 06/17/20 Prpd: JMD
Vanadium 1000 ug/mL

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.995% pure vanadium pentoxide (V_2O_5) dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3165, lot #992706**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Mg	<5	Pd	<0.5	Si	141	V	MAJOR
Al	8	Cs	<0.5	Hf	<0.2	Mn	<1	Pr	<0.2	Sm	<0.2	W	<0.5
As	<2	Cr	8	Hg	<0.5	Mo	<0.5	Pt	<0.5	Sn	<0.5	Y	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Na	<25	Rb	5	Sr	<1	Yb	<0.2
B	<5	Dy	<0.2	In	nd	Nb	<0.5	Re	<0.2	Ta	<0.5	Zn	<2
Ba	28	Er	<0.2	Ir	<0.2	Nd	<0.2	Rh	<0.5	Tb	<0.5		
Bi	<0.2	Eu	<0.2	K	<25	Ni	<2	Ru	1	Te	<1		
Ca	<25	Fe	18	La	<0.5	Os	<0.5	Sb	1	Ti	6		
Cd	<0.5	Ga	<0.5	Li	<2	P	<100	Sc	<5	Tl	<0.5		
Ce	<0.2	Gd	<0.2	Lu	<0.2	Pb	<1	Se	<2	Tm	<0.2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 17, 2018
Certification Date

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTZnXXXTA-SS_00001

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

SE Std Zinc (Zn) – 1000 µg/mL

Matrix: 5% HNO_3

1427841
ID MTZnXXXTA-SS_00001
Exp. 04/26/20 Prpd CJH
Cal Std - Zinc 1000 ug/mL

Product #: TA-1000681

Lot #: 166918-115

Received 11/6/18

Element	Certified Concentration & Uncertainty
Zn	997 ± 3 µg/mL (w/v)
	991 ± 3 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.9999% pure zinc (Zn) metal dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3168a, lot #120629**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Mg	<5	Pd	<0.5	Si	<100	V	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mn	<1	Pr	<0.2	Sm	<0.2	W	<0.5
As	32	Cr	<0.5	Hg	<0.5	Mo	<0.5	Pt	<0.5	Sn	<0.5	Y	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Na	<25	Rb	<0.5	Sr	<1	Yb	<0.2
B	<5	Dy	<0.2	In	nd	Nb	<0.5	Re	<0.2	Ta	<0.5	Zn	MAJOR
Ba	<1	Er	<0.2	Ir	<0.2	Nd	<0.2	Rh	<0.5	Tb	<0.5		
Bi	<0.2	Eu	<0.2	K	<25	Ni	<2	Ru	<0.5	Te	<1		
Ca	<25	Fe	<10	La	<0.5	Os	<0.5	Sb	<0.5	Ti	<2		
Cd	<0.5	Ga	<0.5	Li	<2	P	<100	Sc	<5	Tl	<0.5		
Ce	<0.2	Gd	<0.2	Lu	<0.2	Pb	3	Se	<2	Tm	<0.2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

October 26, 2018
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTZnXXXTA_00010

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

1427840
ID MTZnXXXTA_00010
Exp 06/20/22 Prpd CJH
Zinc 1000 ug/mL

Received 11/5/17

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGZN1
Lot Number:	N2-ZN668257
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Zinc
Starting Material:	Zn Metal
Starting Material Lot#:	580919
Starting Material Purity:	99.9998%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 997 ± 5 µg/mL

Density: 1.011 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **996 ± 4 µg/mL**
ICP Assay NIST SRM 3168a Lot Number: 120629

Assay Method #2 **998 ± 3 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM by one method

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

O	Ag		0.000724	M	Eu	<	0.000500	O	Na		0.001892	O	Se	<	0.020160	s	Zn	<	
O	Al		0.000544	O	Fe		0.004803	M	Nb	<	0.000500	O	Si		0.001248	M	Zr	<	0.000500
M	As	<	0.005009	M	Ga	<	0.008015	M	Nd	<	0.000500	M	Sm	<	0.000500				
M	Au	<	0.001497	M	Gd	<	0.000500	O	Ni		0.002721	M	Sn	<	0.004007				
O	B	<	0.044800	M	Ge	<	0.004508	M	Os	<	0.011977	O	Sr		0.000022				
M	Ba		0.000078	M	Hf	<	0.000500	O	P	<	0.022400	M	Ta	<	0.000500				
M	Be	<	0.000500	M	Hg	<	0.002994	M	Pb		0.012038	M	Tb	<	0.000500				
M	Bi	<	0.001502	M	Ho	<	0.000500	M	Pd	<	0.001001	M	Te	<	0.000500				
O	Ca		0.002529	M	In	<	0.002003	M	Pr	<	0.000500	M	Th	<	0.000500				
M	Cd		0.000547	M	Ir	<	0.002495	M	Pt	<	0.000500	O	Ti	<	0.001568				
M	Ce	<	0.000500	M	K		0.000725	M	Rb	<	0.004007	M	Tl	<	0.002003				
M	Co	<	0.005009	M	La	<	0.000500	M	Re	<	0.000500	M	Tm	<	0.000500				
M	Cr	<	0.001001	O	Li	<	0.000112	M	Rh	<	0.000500	M	U	<	0.000500				
M	Cs	<	0.000500	M	Lu	<	0.000500	O	Ru	<	0.007840	M	V	<	0.001001				
O	Cu		0.004681	O	Mg		0.000549	O	S	<	0.044800	M	W	<	0.001001				
M	Dy	<	0.000500	O	Mn		0.001429	M	Sb	<	0.009017	M	Y	<	0.000500				
M	Er	<	0.000500	M	Mo	<	0.003506	M	Sc	<	0.002003	M	Yb	<	0.000500				

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 65.39 +2 4 Zn(OH)(aq)1+
Chemical Compatibility -Stable in HCl, HNO3, H2SO4 ,HF, H3PO4. Avoid basic media forming insoluble carbonate and hydroxide. Stable with most metals and inorganic anions in acidic media.
Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO3 / LDPE container.
Zn Containing Samples (Preparation and Solution) -Metal (soluble in HNO3); Oxides (Soluble in HCl); Ores (Dissolve in HCl / HNO3); Organic based (dry ash at 4500C and dissolve ash in HCl) (sulfuric/peroxide acid digestion)
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 66 amu	7 ppt	N/A	50Ti16O,50Cr16O, 50V16O, 34S16O2, 32S16O18O, 32S17O2, 33S16O17O, 32S34S, 33S2
ICP-OES 202.548 nm	0.004/0.0002 µg/mL	1	Nb, Cu, Co, Hf
ICP-OES 206.200 nm	0.006/0.0006 µg/mL	1	Sb, Ta, Bi, Os
ICP-OES 213.856 nm	0.002/0.0004 µg/mL	1	Ni, Cu, V

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a **minimum** sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

June 20, 2018

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **June 20, 2022**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Michael J Booth

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Paul R Gaines

Reagent

MTZnXXXTA_00011

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-1000681

SE Std Zinc (Zn) – 1000 µg/mL

Lot #: 166918-115

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty
Zn	997 ± 3 µg/mL (w/v)
	991 ± 3 µg/g (w/w)

1477033
ID: MTZnXXXTA_00011
Exp: 05/17/20 Prpd: JMD
Zinc 1000 ug/mL

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.9999% pure zinc (Zn) metal dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3168a, lot #120629**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Mg	<5	Pd	<0.5	Si	<100	V	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mn	<1	Pr	<0.2	Sm	<0.2	W	<0.5
As	32	Cr	<0.5	Hg	<0.5	Mo	<0.5	Pt	<0.5	Sn	<0.5	Y	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Na	<25	Rb	<0.5	Sr	<1	Yb	<0.2
B	<5	Dy	<0.2	In	nd	Nb	<0.5	Re	<0.2	Ta	<0.5	Zn	MAJOR
Ba	<1	Er	<0.2	Ir	<0.2	Nd	<0.2	Rh	<0.5	Tb	<0.5		
Bi	<0.2	Eu	<0.2	K	<25	Ni	<2	Ru	<0.5	Te	<1		
Ca	<25	Fe	<10	La	<0.5	Os	<0.5	Sb	<0.5	Ti	<2		
Cd	<0.5	Ga	<0.5	Li	<2	P	<100	Sc	<5	Tl	<0.5		
Ce	<0.2	Gd	<0.2	Lu	<0.2	Pb	3	Se	<2	Tm	<0.2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 17, 2018
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

LLHG-cal_00007

7221 Investment Drive • North Charleston, SC 29418
843.767.7900 • info@highpuritystandards.com • www.highpuritystandards.com

Certificate of Analysis

Certified Reference Material

ISO Guide 34:2009 (RMP) Accreditation
Certificate Number AR-1436

ISO/IEC 17025:2005 Accreditation
Certificate Number AT-1529

Product Description:

Mercury

Product Number:	**10 33-2**
Lot Number:	**1831020**
Matrix:	2% (v/v) HCl

Certified Value:

Element	(µg/mL)	SRM ID	SRM Lot#
Hg	10.0 ± 0.2	3177	090925

The Certified value is based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor *k* is about 2.

* Refer to Traceability Information, Section d

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned glass bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for twelve months from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date: **January 2019**

Certificate Issue Date: January 10, 2019

Moven Mututuvari

Moven Mututuvari, Ph. D, Laboratory Manager

Preparation Information:

This standard is prepared using **99.9995%** pure **mercury chloride** which was purchased from a qualified vendor per ISO 9001 guidelines and assayed by analytical methods for conformity prior to use. This standard was manufactured under appropriate laboratory conditions using the methods developed at NIST for SRM Spectrometric Standard Solutions. Sub-boiling distilled high-purity acid has been used to place the materials in solution and to stabilize the standard. The matrix is as noted above in 18 megaohm deionized water.

Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. This testing includes, but is not limited to, the effect of temperature and packaging on the product. If during the period of validity, a recall is instituted due to substantial changes in the stability of this product, the purchaser will be notified.

Homogeneity:

This product is determined to be homogeneous following in-house procedures developed in accordance with the requirements of ISO Guide 34 and ISO Guide 35.

Intended Use:

This product is intended for use as a calibration standard, quality control standard, and/or for the validation of analytical methods. The standard is confirmed homogeneous; therefore, the minimum sample size should be consistent with the end user's measurement capabilities.

Traceability Information:

The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties. The maintenance of the base and derived units of International System of Units (SI) with traceability of measurement results (contemporary metrology) to SI ensures their comparability over time as follows.

a. **Standard Weight and Analytical Balance**
   The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in "NIST Weights and Measures Measurement Assurance Program" with a certificate of measurement traceability to NIST primary standards.
   The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.
b. **Volumetric Device**
   The calibrations of volumetric vessels are verified using the ASTM method E542.
c. **Thermometer**
   The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.
d. **Calibration Standards**
   The Calibration Standard is traceable to SRM 3100 Series Spectrometric Standard Solutions. If an SRM is not available, a second source standard or independent lot is used.

Refer to Safety Datasheet (SDS) for hazardous information.

NOTICE: HPS products are intended for laboratory use only. All products should be handled and used by trained professional personnel. The responsibility for the safe handling and use of these products rests solely with the buyer and/or user. The data and information as stated was furnished by the manufacturer of the product. The information provided in this certificate pertains only to the lot number specified. None of the information provided in this certificate may be used, reproduced or transmitted in any form or by any means without written approval from High-Purity Standards.

Reagent

LLHG-cal_00008

Received 05/24/19 DTN

Elemental Scientific

Evolution of Automation
ICP | ICPMS | AA

Certificate of Analysis

Product Description: **Mercury**

Product Number: **S1-Hg-10xVol**

Lot Number: **1910030**

Matrix: 5% (v/v) HNO_3

Certified Value:

Element	(µg/mL)	SRM ID	SRM Lot#
Mercury	10.0 ± 0.2	3133	061204

The Certified value is based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor *k* is about 2.

* Refer to Traceability Information, Section d

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for twelve months from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date: **May 2019**

Certificate Issue Date: **May 14, 2019**

Chris Ramsgard, Product Manager Standard Solutions

7277 World Communications Dr. | Omaha, NE 68122 USA | Phone: +1.402.991.7800 | Fax: +1.402.991.7799
Email: esi@icpms.com | Web: www.icpms.com

Preparation Information:

This standard was prepared using **99.9995%** pure **mercury metal** which was purchased from a qualified vendor per ISO 9001 guidelines and assayed by analytical methods for conformity prior to use. This standard was manufactured under appropriate laboratory conditions using the methods developed at NIST for SRM Spectrometric Standard Solutions. Sub-boiling distilled high-purity acid has been used to place the materials in solution and to stabilize the standard. The matrix is as noted above in 18 megaohm deionized water.

Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. This testing includes, but is not limited to, the effect of temperature and packaging on the product.

Intended Use:

This product is intended for use as a calibration standard, quality control standard, and/or for the validation of analytical methods. The standard is confirmed homogeneous; therefore, the minimum sample size should be consistent with the end user's measurement capabilities.

Traceability Information:

The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties. The maintenance of the base and derived units of International System of Units (SI) with traceability of measurement results (contemporary metrology) to SI ensures their comparability over time as follows.

a. **Standard Weight and Analytical Balance**
   The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in "NIST Weights and Measures Measurement Assurance Program" with a certificate of measurement traceability to NIST primary standards.
   The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.
b. **Volumetric Device**
   The calibrations of volumetric vessels are verified using the ASTM method E542.
c. **Thermometer**
   The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.
d. **Calibration Standards:**
   The Calibration Standard is traceable to SRM 3100 Series Spectrometric Standard Solutions. If an SRM is not available, a second source standard or independent lot is used.

Accreditation:

This product has been manufactured by an ISO 9001 registered and ISO/IEC 17025 and ISO 17034 accredited laboratory.

Refer to Safety Datasheet (SDS) for hazardous information.

NOTICE: HPS products are intended for laboratory use only. All products should be handled and used by trained professional personnel. The responsibility for the safe handling and use of these products rests solely with the buyer and/or user. The data and information as stated was furnished by the manufacturer of the product. The information provided in this certificate pertains only to the lot number specified. None of the information provided in this certificate may be used, reproduced or transmitted in any form or by any means without written approval from High-Purity Standards.

Method 1613B

Dioxins and Furans (HRGC/HRMS) by Method 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCDF #	TCDD #	37TCDD #	PeCDF #	PeCF #	PeCDD #	HxCDF #	HxDF #
	LCS 320-337526/2-A	68	68	121	68	72	68	76	67
	LCSD 320-337526/3-A	78	75	124	77	80	78	85	73

	QC LIMITS
TCDF = 13C-2,3,7,8-TCDF	22-152
TCDD = 13C-2,3,7,8-TCDD	20-175
37TCDD = 37Cl4-2,3,7,8-TCDD	31-191
PeCDF = 13C-1,2,3,7,8-PeCDF	21-192
PeCF = 13C-2,3,4,7,8-PeCDF	13-328
PeCDD = 13C-1,2,3,7,8-PeCDD	21-227
HxCDF = 13C-1,2,3,4,7,8-HxCDF	19-202
HxDF = 13C-1,2,3,6,7,8-HxCDF	21-159

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	13CHxCF #	HxCDD #	HxDD #	HxCF #	HpCDF #	HpCDD #	HpCDF2 #	OCDD #
	LCS 320-337526/2-A	69	69	63	74	68	68	82	67
	LCSD 320-337526/3-A	76	76	70	83	77	76	85	75

	QC LIMITS
13CHxCF = 13C-2,3,4,6,7,8-HxCDF	22-176
HxCDD = 13C-1,2,3,4,7,8-HxCDD	21-193
HxDD = 13C-1,2,3,6,7,8-HxCDD	25-163
HxCF = 13C-1,2,3,7,8,9-HxCDF	17-205
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF	21-158
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD	26-166
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF	20-186
OCDD = 13C-OCDD	13-199

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCDF #	TCDD #	37TCDD #	PeCDF #	PeCF #	PeCDD #	HxCDF #	HxDF #
FEFF-Filtered	320-56102-1	69	67	121	67	70	66	73	63
CEFF-Filtered	320-56102-2	66	67	121	67	71	69	76	67
	MB 320-337526/1-A	75	74	121	75	79	74	83	74

	QC LIMITS
TCDF = 13C-2,3,7,8-TCDF	24-169
TCDD = 13C-2,3,7,8-TCDD	25-164
37TCDD = 37Cl4-2,3,7,8-TCDD	35-197
PeCDF = 13C-1,2,3,7,8-PeCDF	24-185
PeCF = 13C-2,3,4,7,8-PeCDF	21-178
PeCDD = 13C-1,2,3,7,8-PeCDD	25-181
HxCDF = 13C-1,2,3,4,7,8-HxCDF	26-152
HxDF = 13C-1,2,3,6,7,8-HxCDF	26-123

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	13CHxCF #	HxCDD #	HxDD #	HxCF #	HpCDF #	HpCDD #	HpCDF2 #	OCDD #
FEFF-Filtered	320-56102-1	67	68	63	71	65	69	77	67
CEFF-Filtered	320-56102-2	69	70	64	75	69	70	80	70
	MB 320-337526/1-A	75	75	71	82	76	61	84	73

	QC LIMITS
13CHxCF = 13C-2,3,4,6,7,8-HxCDF	28-136
HxCDD = 13C-1,2,3,4,7,8-HxCDD	32-141
HxDD = 13C-1,2,3,6,7,8-HxCDD	28-130
HxCF = 13C-1,2,3,7,8,9-HxCDF	29-147
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF	28-143
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD	23-140
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF	26-138
OCDD = 13C-OCDD	17-157

Column to be used to flag recovery values

FORM II 1613B

FORM III
DIOXIN LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 12NO193D5_39.d

Lab ID: LCS 320-337526/2-A Client ID:

COMPOUND	SPIKE ADDED (pg/L)	LCS CONCENTRATION (pg/L)	LCS % REC	QC LIMITS REC	#
2,3,7,8-TCDD	200	204	102	67-158	
2,3,7,8-TCDF	200	206	103	75-158	
1,2,3,7,8-PeCDD	1000	1010	101	70-142	
1,2,3,7,8-PeCDF	1000	1040	104	80-134	
2,3,4,7,8-PeCDF	1000	1030	103	68-160	
1,2,3,4,7,8-HxCDD	1000	926	93	70-164	
1,2,3,6,7,8-HxCDD	1000	1030	103	76-134	
1,2,3,7,8,9-HxCDD	1000	1050	105	64-162	
1,2,3,4,7,8-HxCDF	1000	898	90	72-134	
1,2,3,6,7,8-HxCDF	1000	1000	100	84-130	
1,2,3,7,8,9-HxCDF	1000	1020	102	78-130	
2,3,4,6,7,8-HxCDF	1000	1030	103	70-156	
1,2,3,4,6,7,8-HpCDD	1000	967	97	70-140	
1,2,3,4,6,7,8-HpCDF	1000	973	97	82-122	
1,2,3,4,7,8,9-HpCDF	1000	894	89	78-138	
OCDD	2000	1980	99	78-144	
OCDF	2000	1940	97	63-170	
13C-2,3,7,8-TCDD	2000	1370	68	20-175	
13C-2,3,7,8-TCDF	2000	1360	68	22-152	
13C-1,2,3,7,8-PeCDD	2000	1370	68	21-227	
13C-1,2,3,7,8-PeCDF	2000	1370	68	21-192	
13C-2,3,4,7,8-PeCDF	2000	1430	72	13-328	
13C-1,2,3,4,7,8-HxCDD	2000	1370	69	21-193	
13C-1,2,3,6,7,8-HxCDD	2000	1270	63	25-163	
13C-1,2,3,4,7,8-HxCDF	2000	1530	76	19-202	
13C-1,2,3,6,7,8-HxCDF	2000	1330	67	21-159	
13C-1,2,3,7,8,9-HxCDF	2000	1480	74	17-205	
13C-2,3,4,6,7,8-HxCDF	2000	1370	69	22-176	
13C-1,2,3,4,6,7,8-HpCDD	2000	1360	68	26-166	
13C-1,2,3,4,6,7,8-HpCDF	2000	1360	68	21-158	
13C-1,2,3,4,7,8,9-HpCDF	2000	1630	82	20-186	
13C-OCDD	4000	2680	67	13-199	

Column to be used to flag recovery and RPD values

FORM III 1613B

FORM III
DIOXIN LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 12NO193D5_40.d

Lab ID: LCSD 320-337526/3-A Client ID:

COMPOUND	SPIKE ADDED (pg/L)	LCSD CONCENTRATION (pg/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
2,3,7,8-TCDD	200	208	104	2	50	67-158	
2,3,7,8-TCDF	200	200	100	3	50	75-158	
1,2,3,7,8-PeCDD	1000	1040	104	3	50	70-142	
1,2,3,7,8-PeCDF	1000	1070	107	3	50	80-134	
2,3,4,7,8-PeCDF	1000	1020	102	1	50	68-160	
1,2,3,4,7,8-HxCDD	1000	978	98	5	50	70-164	
1,2,3,6,7,8-HxCDD	1000	1050	105	2	50	76-134	
1,2,3,7,8,9-HxCDD	1000	1070	107	2	50	64-162	
1,2,3,4,7,8-HxCDF	1000	906	91	1	50	72-134	
1,2,3,6,7,8-HxCDF	1000	1020	102	1	50	84-130	
1,2,3,7,8,9-HxCDF	1000	1010	101	1	50	78-130	
2,3,4,6,7,8-HxCDF	1000	1010	101	1	50	70-156	
1,2,3,4,6,7,8-HpCDD	1000	1000	100	4	50	70-140	
1,2,3,4,6,7,8-HpCDF	1000	1010	101	4	50	82-122	
1,2,3,4,7,8,9-HpCDF	1000	961	96	7	50	78-138	
OCDD	2000	2000	100	1	50	78-144	
OCDF	2000	2060	103	6	50	63-170	
13C-2,3,7,8-TCDD	2000	1500	75			20-175	
13C-2,3,7,8-TCDF	2000	1550	78			22-152	
13C-1,2,3,7,8-PeCDD	2000	1560	78			21-227	
13C-1,2,3,7,8-PeCDF	2000	1540	77			21-192	
13C-2,3,4,7,8-PeCDF	2000	1610	80			13-328	
13C-1,2,3,4,7,8-HxCDD	2000	1520	76			21-193	
13C-1,2,3,6,7,8-HxCDD	2000	1410	70			25-163	
13C-1,2,3,4,7,8-HxCDF	2000	1710	85			19-202	
13C-1,2,3,6,7,8-HxCDF	2000	1460	73			21-159	
13C-1,2,3,7,8,9-HxCDF	2000	1650	83			17-205	
13C-2,3,4,6,7,8-HxCDF	2000	1520	76			22-176	
13C-1,2,3,4,6,7,8-HpCDD	2000	1520	76			26-166	
13C-1,2,3,4,6,7,8-HpCDF	2000	1540	77			21-158	
13C-1,2,3,4,7,8,9-HpCDF	2000	1690	85			20-186	
13C-OCDD	4000	3010	75			13-199	

Column to be used to flag recovery and RPD values

FORM III 1613B

FORM IV
DIOXIN METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Lab File ID: 12NO193D5_38.d Lab Sample ID: MB 320-337526/1-A

Matrix: Water Date Extracted: 11/11/2019 08:47

Instrument ID: 3D5 Date Analyzed: 11/13/2019 10:11

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 320-337526/2-A	12NO193D5_39.d	11/13/2019 10:59
	LCSD 320-337526/3-A	12NO193D5_40.d	11/13/2019 11:46
FEFF-Filtered	320-56102-1	12NO193D5_41.d	11/13/2019 12:34
CEFF-Filtered	320-56102-2	12NO193D5_42.d	11/13/2019 13:22

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Client Sample ID: FEFF-Filtered Lab Sample ID: 320-56102-1

Matrix: Water Lab File ID: 12NO193D5_41.d

Analysis Method: 1613B Date Collected: 11/05/2019 14:00

Extract. Method: 1613B Date Extracted: 11/11/2019 08:47

Sample wt/vol: 977.6(mL) Date Analyzed: 11/13/2019 12:34

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 338227 Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		10	1.6
51207-31-9	2,3,7,8-TCDF	ND		10	1.1
40321-76-4	1,2,3,7,8-PeCDD	4.6	J q	51	2.0
57117-41-6	1,2,3,7,8-PeCDF	3.2	J	51	1.2
57117-31-4	2,3,4,7,8-PeCDF	ND		51	1.3
39227-28-6	1,2,3,4,7,8-HxCDD	4.9	J	51	1.0
57653-85-7	1,2,3,6,7,8-HxCDD	4.4	J	51	1.1
19408-74-3	1,2,3,7,8,9-HxCDD	4.8	J	51	0.98
70648-26-9	1,2,3,4,7,8-HxCDF	3.1	J	51	1.4
57117-44-9	1,2,3,6,7,8-HxCDF	3.5	J	51	1.4
72918-21-9	1,2,3,7,8,9-HxCDF	3.8	J	51	0.92
60851-34-5	2,3,4,6,7,8-HxCDF	3.0	J q	51	0.97
35822-46-9	1,2,3,4,6,7,8-HpCDD	6.4	J	51	0.67
67562-39-4	1,2,3,4,6,7,8-HpCDF	6.0	J	51	1.0
55673-89-7	1,2,3,4,7,8,9-HpCDF	4.9	J q	51	1.2
3268-87-9	OCDD	29	J B	100	1.1
39001-02-0	OCDF	22	J	100	1.7
41903-57-5	Total TCDD	ND		10	1.6
30402-14-3	Total TCDF	ND		10	1.1
36088-22-9	Total PeCDD	4.6	J q	51	2.0
30402-15-4	Total PeCDF	3.2	J	51	1.3
34465-46-8	Total HxCDD	14	J	51	1.0
55684-94-1	Total HxCDF	13	J q	51	1.2
37871-00-4	Total HpCDD	6.4	J B	51	0.67
38998-75-3	Total HpCDF	11	J q	51	1.1

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Client Sample ID: FEFF-Filtered Lab Sample ID: 320-56102-1

Matrix: Water Lab File ID: 12NO193D5_41.d

Analysis Method: 1613B Date Collected: 11/05/2019 14:00

Extract. Method: 1613B Date Extracted: 11/11/2019 08:47

Sample wt/vol: 977.6(mL) Date Analyzed: 11/13/2019 12:34

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 338227 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	67		25-164
89059-46-1	13C-2,3,7,8-TCDF	69		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	66		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	67		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	70		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	68		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	63		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	73		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	63		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	71		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	67		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	69		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	65		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	77		26-138
114423-97-1	13C-OCDD	67		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	121		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_41.d
Lims ID: 320-56102-A-1-A
Client ID: FEFF-Filtered
Sample Type: Client
Inject. Date: 13-Nov-2019 12:34:38 ALS Bottle#: 35 Worklist Smp#: 41
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-56102-A-1-A 320-56102-A-1-A
Misc. Info.: 12NO193D5
Operator ID: ALM, AJS Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Nov-2019 09:53:41 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0312

First Level Reviewer: dadunj Date: 14-Nov-2019 09:53:41

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.414	212848480	0.80	3.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.930	205595819	0.79	1.3908	69.5	69.5	0.4253	0.4253	69.45	
2,3,7,8-TCDF	16.945						0.0537	0.0537		
A Non-2,3,7,8-sub-TCDF	16.651						0.0537	0.0537		
S Total TCDF							0.0537	0.0537		
D 13C-2,3,7,8-TCDD	17.596	140993655	0.81	0.9819	67.5	67.5	0.2708	0.2708	67.46	
2,3,7,8-TCDD	17.626						0.0804	0.0804		
$ 37Cl4-2,3,7,8-TCDD	17.626	125831891		1.2205	48.4	48.4	0.0954	0.0954	121	
A Non-2,3,7,8-sub-TCDD	17.097	100578	0.77	1.0447	0.1671	0.0683	0.0804	0.0804		RQM
S Total TCDD					0.1671	0.0683	0.0804	0.0804		RQ
D 13C-1,2,3,7,8-PeCDF	21.743	164047126	1.56	1.1585	66.5	66.5	0.2320	0.2320	66.53	
1,2,3,7,8-PeCDF	21.771	247093	1.67	0.9633	0.1564	0.1564	0.0604	0.0604		M
D 13C-2,3,4,7,8-PeCDF	23.039	171136580	1.65	1.1532	69.7	69.7	0.2331	0.2331	69.72	
2,3,4,7,8-PeCDF	23.066						0.0624	0.0624		
A F1 PeCDFs	19.599						0.0664	0.0664		
A Non-2,3,7,8-sub-PeCDF	22.617						0.0614	0.0614		
S Total PeCDF					0.1564	0.1564	0.0614	0.0614		
D 13C-1,2,3,7,8-PeCDD	23.734	105064981	1.61	0.7431	66.4	66.4	0.1382	0.1382	66.43	
1,2,3,7,8-PeCDD	23.748	251659	1.55	1.0635	0.3300	0.2252	0.0988	0.0988		RQM
A Non-2,3,7,8-sub-PeCDD	22.698						0.0988	0.0988		
S Total PeCDD					0.3300	0.2252	0.0988	0.0988		RQ
D 13C-1,2,3,4,7,8-HxCDF	29.844	147840781	0.53	0.9837	73.4	73.4	0.3385	0.3385	73.38	
1,2,3,4,7,8-HxCDF	29.871	276748	1.13	1.2173	0.1538	0.1538	0.0665	0.0665		
D 13C-1,2,3,6,7,8-HxCDF	30.084	149709249	0.51	1.1554	63.3	63.3	0.2882	0.2882	63.26	
1,2,3,6,7,8-HxCDF	30.111	293575	1.12	1.1311	0.1734	0.1734	0.0694	0.0694		Ma
D 13C-2,3,4,6,7,8-HxCDF	31.096	141972047	0.52	1.0361	66.9	66.9	0.3214	0.3214	66.90	
2,3,4,6,7,8-HxCDF	31.110	241815	1.24	1.1710	0.1622	0.1455	0.0476	0.0476		RQ
D 13C-1,2,3,7,8,9-HxCDF	31.988	131891985	0.52	0.9034	71.3	71.3	0.3685	0.3685	71.28	
1,2,3,7,8,9-HxCDF	32.002	287744	1.29	1.1787	0.1851	0.1851	0.0448	0.0448		M
A Non-2,3,7,8-sub-HxCDF	29.618						0.0549	0.0549		
S Total HxCDF					0.6745	0.6577	0.0571	0.0571		RQ

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.789	204820250	1.29	2.6E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.309	114729046	1.30	0.8287	67.6	67.6	0.2514	0.2514	67.59	
1,2,3,4,7,8-HxCDD	31.323	283044	1.13	1.0267	0.2403	0.2403	0.0490	0.0490		
D 13C-1,2,3,6,7,8-HxCDD	31.429	122137421	1.30	0.9495	62.8	62.8	0.2195	0.2195	62.81	
1,2,3,6,7,8-HxCDD	31.442	259458	1.23	0.9771	0.2174	0.2174	0.0530	0.0530		
1,2,3,7,8,9-HxCDD	31.802	294698	1.22	1.0616	0.2344	0.2344	0.0481	0.0481		M
A Non-2,3,7,8-sub-HxCDD	30.264						0.0499	0.0499		U
S Total HxCDD					0.6921	0.6921	0.0500	0.0500		
D 13C-1,2,3,4,6,7,8-HpCDF	33.508	96607171	0.44	0.7285	64.7	64.7	0.8560	0.8560	64.75	
1,2,3,4,6,7,8-HpCDF	33.520	405889	1.08	1.4373	0.2923	0.2923	0.0500	0.0500		M
D 13C-1,2,3,4,7,8,9-HpCDF	34.589	103146574	0.44	0.6556	76.8	76.8	0.9512	0.9512	76.81	
1,2,3,4,7,8,9-HpCDF	34.602	323913	1.04	1.3091	0.2758	0.2399	0.0563	0.0563		RQM
A Non-2,3,7,8-sub-HpCDF	34.073						0.0530	0.0530		
S Total HpCDF					0.5681	0.5322	0.0531	0.0531		RQ
D 13C-1,2,3,4,6,7,8-HpCDD	34.310	98468801	1.05	0.6978	68.9	68.9	0.4651	0.4651	68.89	
1,2,3,4,6,7,8-HpCDD	34.322	309840	0.95	1.0102	0.3115	0.3115	0.0329	0.0329		M
A Non-2,3,7,8-sub-HpCDD	34.990						0.0329	0.1305		RQU
S Total HpCDD					0.3115	0.3115	0.0329	0.0329		
D 13C-OCDD	36.641	130271193	0.91	0.4780	133.1	133.1	0.1745	0.1745	66.54	
OCDF	36.737	932666	0.96	1.3501	1.061	1.061	0.0812	0.0812		
OCDD	36.653	973736	0.83	1.0627	1.407	1.407	0.0559	0.0559		M

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_41.d
Lims ID: 320-56102-A-1-A
Client ID: FEFF-Filtered
Sample Type: Client
Inject. Date: 13-Nov-2019 12:34:38 ALS Bottle#: 35 Worklist Smp#: 41
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-56102-A-1-A 320-56102-A-1-A
Misc. Info.: 12NO193D5
Operator ID: ALM, AJS Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Nov-2019 09:53:41 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0312

First Level Reviewer: dadunj Date: 14-Nov-2019 09:53:41

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.414	17.414	0		94611686	24762776	44427	111067	557		
333.9339	17.414	17.414	0		118236794	30791291	14658	36645	2101	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.930	16.930	0	0.972	90910842	21488142	50754	126885	423		
317.9389	16.930	16.930	0	0.972	114684977	26802309	80702	201755	332	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.961						3516	8790			
305.8987	16.961						6556	16390			
A Non-2,3,7,8-sub-TCDF											
303.9016	16.651						3516	8790			
305.8987	16.651						6556	16390			
13C-2,3,7,8-TCDD											
331.9368	17.596	17.611	-1	1.010	62890314	14062193	44427	111067	317		
333.9339	17.596	17.611	-1	1.010	78103341	18041368	14658	36645	1231	0.81(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.626						8515	21287			
321.8936	17.626						2269	5672			
37Cl4-2,3,7,8-TCDD											
327.8847	17.626	17.626	0	1.012	125831891	28536379	25870	64675	1103		
A Non-2,3,7,8-sub-TCDD											RQM
319.8965	16.930	17.097	-10	0.962	189273	41916	8515	21287	5		M
	Empc Correction				43754	8095	8515	21287	1		
321.8936	16.900	17.097	-12	0.960	56824	10514	2269	5672	5	3.33(0.65-0.89)	M

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	21.743	21.743	0	1.249	100062625	17319241	35462	88655	488		
353.8970	21.743	21.743	0	1.249	63984501	11069725	24258	60645	456	1.56(1.32-1.78)	
1,2,3,7,8-PeCDF											M
339.8597	21.771	21.771	0	1.001	154377	27387	1978	4945	14		
341.8567	21.771	21.771	0	1.001	92716	20505	4628	11570	4	1.67(1.32-1.78)	M
13C-2,3,4,7,8-PeCDF											
351.9000	23.039	23.052	-1	1.323	106445996	17347712	35462	88655	489		
353.8970	23.039	23.052	-1	1.323	64690584	10521397	24258	60645	434	1.65(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.066						1978	4945			
341.8567	23.066						4628	11570			
A F1 PeCDFs											
339.8597	19.599						2041	5102			
341.8567	19.599						5101	12752			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.617						1978	4945			
341.8567	22.617						4628	11570			
13C-1,2,3,7,8-PeCDD											
367.8949	23.734	23.734	0	1.363	64743330	9896697	13925	34812	711		
369.8919	23.734	23.734	0	1.363	40321651	6177824	8904	22260	694	1.61(1.32-1.78)	
1,2,3,7,8-PeCDD											RQM
355.8546	23.748	23.748	0	1.001	270001	37255	5272	13180	7		
	Empc Correction				152969	20774	5272	13180	4		
357.8516	23.789	23.748	2	1.002	98690	13403	1487	3717	9	2.74(1.32-1.78)	M
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.698						5272	13180			
357.8516	22.698						1487	3717			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.844	29.845	0	0.939	50924444	7108698	23474	58685	303		
385.8610	29.844	29.845	0	0.939	96916337	13920244	45299	113247	307	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.871	29.871	0	1.001	146930	22195	4652	11630	5		
375.8178	29.871	29.871	0	1.001	129818	16561	2162	5405	8	1.13(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.084	30.084	0	0.946	50799325	7502681	23474	58685	320		
385.8610	30.097	30.084	1	0.947	98909924	14188667	45299	113247	313	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											Ma
373.8208	30.111	30.111	0	1.001	155040	20558	4652	11630	4		M
375.8178	30.111	30.111	0	1.001	138535	19694	2162	5405	9	1.12(1.05-1.43)	M
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.096	31.096	0	0.978	48369656	10577464	23474	58685	451		
385.8610	31.096	31.096	0	0.978	93602391	20004588	45299	113247	442	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											RQ
373.8208	31.110	31.110	0	1.000	133862	27113	4652	11630	6		
375.8178	31.110	31.110	0	1.000	135847	26497	2162	5405	12	0.99(1.05-1.43)	
	Empc Correction				107953	21865	2162	5405	10		

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.988	31.988	0	1.006	45397116	11219644	23474	58685	478		
385.8610	31.988	31.988	0	1.006	86494869	21067710	45299	113247	465	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											M
373.8208	32.002	32.002	0	1.000	162316	35777	4652	11630	8		M
375.8178	32.002	32.002	0	1.000	125428	28068	2162	5405	13	1.29(1.05-1.43)	M
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.618						4652	11630			
375.8178	29.618						2162	5405			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.789	31.789	0		115393298	29085719	23448	58620	1240		
403.8529	31.789	31.789	0		89426952	22552607	19593	48982	1151	1.29(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.309	31.309	0	0.985	64862564	16147795	23448	58620	689		
403.8529	31.309	31.309	0	0.985	49866482	12619141	19593	48982	644	1.30(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.323	31.323	0	1.000	149943	40929	2639	6597	16		
391.8127	31.323	31.323	0	1.000	133101	28994	3147	7867	9	1.13(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.429	31.429	0	0.989	69035603	15652058	23448	58620	668		
403.8529	31.429	31.429	0	0.989	53101818	12264587	19593	48982	626	1.30(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.442	31.442	0	1.000	142848	32369	2639	6597	12		
391.8127	31.442	31.442	0	1.000	116610	26866	3147	7867	9	1.23(1.05-1.43)	
1,2,3,7,8,9-HxCDD											M
389.8157	31.802	31.802	0	1.016	161910	42642	2639	6597	16		M
391.8127	31.815	31.802	1	1.016	132788	35700	3147	7867	11	1.22(1.05-1.43)	M
A Non-2,3,7,8-sub-HxCDD											U
389.8157	30.264						2639	6597			
391.8127	30.264						3147	7867			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.508	33.520	-1	1.054	29662039	10146096	46226	115565	219		
419.8220	33.508	33.520	-1	1.054	66945132	23031544	82584	206460	279	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											M
407.7818	33.520	33.532	-1	1.000	210507	66075	7130	17825	9		M
409.7789	33.520	33.532	-1	1.000	195382	66867	2398	5995	28	1.08(0.88-1.20)	M
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.589	34.590	0	1.088	31407485	9935526	46226	115565	215		
419.8220	34.589	34.590	0	1.088	71739089	22370814	82584	206460	271	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											RQM
407.7818	34.602	34.614	-1	1.000	213656	45729	7130	17825	6		M
	Empc Correction				165132	44666	7130	17825	6		
409.7789	34.602	34.614	-1	1.000	158781	42949	2398	5995	18	1.35(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.073						7130	17825			
409.7789	34.073						2398	5995			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.310	34.310	0	1.079	50437350	15724737	34658	86645	454		
437.8140	34.310	34.310	0	1.079	48031451	14646233	32389	80972	452	1.05(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											M
423.7766	34.322	34.322	0	1.000	150942	44980	2349	5872	19		M
425.7737	34.322	34.322	0	1.000	158898	46774	1693	4232	28	0.95(0.88-1.20)	M
A Non-2,3,7,8-sub-HpCDD											U
423.7766	34.589	34.990	-24	1.008	215383	48679	2349	5872	21		
	Empc Correction				66160	21336	2349	5872	9		
425.7737	34.589	34.990	-24	1.008	63616	20516	1693	4232	12	3.39(0.88-1.20)	
13C-OCDD											
469.7779	36.641	36.641	0	1.153	62033817	17643455	9376	23440	1882		
471.7750	36.641	36.641	0	1.153	68237376	19302102	7856	19640	2457	0.91(0.76-1.02)	
OCDF											
441.7428	36.737	36.737	0	1.003	455815	106823	3319	8297	32		
443.7399	36.737	36.737	0	1.003	476851	112750	4785	11962	24	0.96(0.76-1.02)	
OCDD											M
457.7377	36.653	36.653	0	1.000	441644	119343	2377	5942	50		M
459.7348	36.653	36.653	0	1.000	532092	136098	2013	5032	68	0.83(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

U - Marked Undetected

a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_41.d
Lims ID: 320-56102-A-1-A
Client ID: FEFF-Filtered
Inject. Date: 13-Nov-2019 12:34:38 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5 Operator: ALM, AJS
Lims Batch ID: 338227 Lims Sample ID: 41

Non-2,3,7,8-sub-TCDD, RT: 17.097

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.045	D 13C-2,3,7,8-TCDD	100.000	140993655	32103561

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.045		100.000	140993655	32103561

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
16.930	189273	41916	56824	10514	0.1671	3.33	RQM
16.930	43754	8095	56824	10514	0.0683		Empc Correction
Signal Totals:							
	43754	8095	56824	10514			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	246097	52430				3.33	RQM
	100578	18609					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.1671 = (246097 * 100.000) / (140993655 * 1.045)
Empc Amount: 0.0683 = (100578 * 100.000) / (140993655 * 1.045)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_41.d
Lims ID: 320-56102-A-1-A
Client ID: FEFF-Filtered
Inject. Date: 13-Nov-2019 12:34:38 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5 Operator: ALM, AJS
Lims Batch ID: 338227 Lims Sample ID: 41

Non-2,3,7,8-sub-HxCDD, RT: 30.264

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.027	D 13C-1,2,3,4,7,8-HxCDD	100.000	114729046	28766936
1,2,3,6,7,8-HxCDD	0.977	D 13C-1,2,3,6,7,8-HxCDD	100.000	122137421	27916645
1,2,3,7,8,9-HxCDD	1.062				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.022		100.000	118433233	28341790

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags

Compound is Marked ND

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_41.d
Lims ID: 320-56102-A-1-A
Client ID: FEFF-Filtered
Inject. Date: 13-Nov-2019 12:34:38 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5 Operator: ALM, AJS
Lims Batch ID: 338227 Lims Sample ID: 41

Non-2,3,7,8-sub-HpCDD, RT: 34.990

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.010	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	98468801	30370970

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.010		100.000	98468801	30370970

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.589	215383	48679	63616	20516	0.2805	3.39	RQ
34.589	66160	21336	63616	20516	0.1305		Empc Correction

Compound is Marked ND

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_41.d				
Injection Date:	13-Nov-2019 12:34:38	Instrument ID:	3D5		
Lims ID:	320-56102-A-1-A	Lab Sample ID:	320-56102-1		
Client ID:	FEFF-Filtered				
Operator ID:	ALM, AJS	ALS Bottle#:	35	Worklist Smp#:	41
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

Non-2,3,7,8-sub-TCDD, Signal: 1, m/z: 319.8965, RT: (15.46- 18.73)

Signal: 1

Processing Integration Results

RT = 16.930 Area = 230555

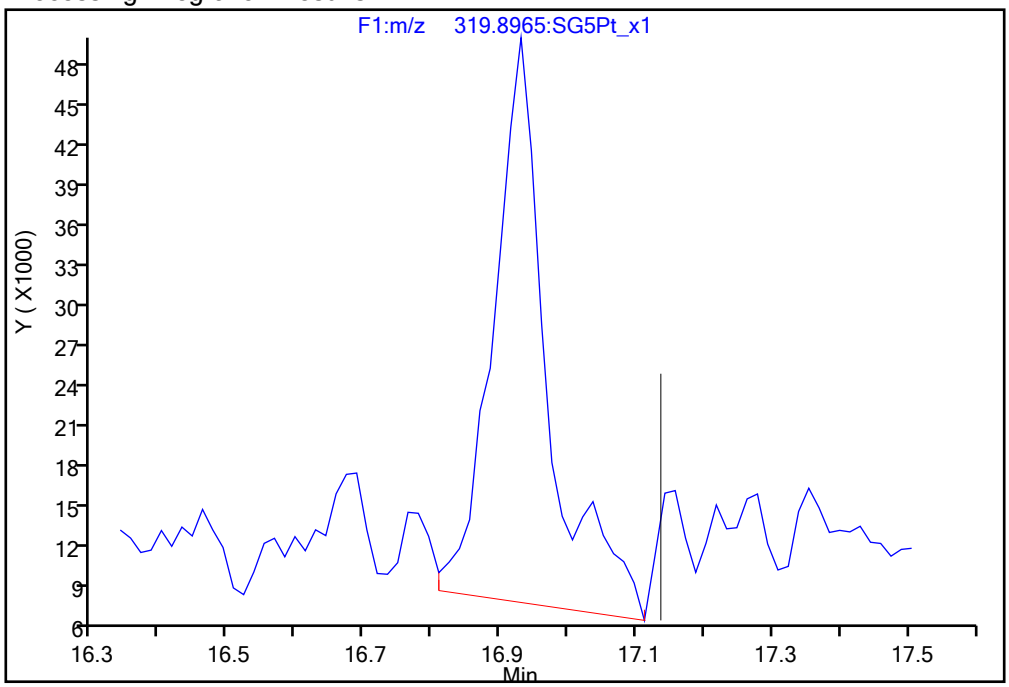

Manual Integration Results

RT = 16.930 Area = 189273 M

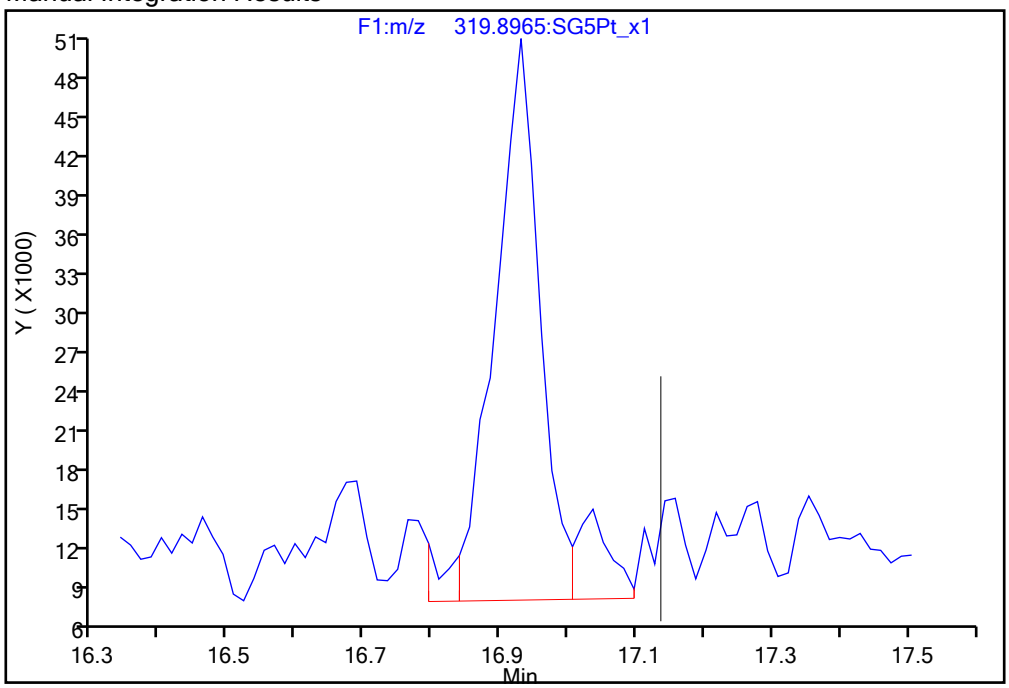

Reviewer: dadunj, 14-Nov-2019 09:53:08

Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_41.d				
Injection Date:	13-Nov-2019 12:34:38	Instrument ID:	3D5		
Lims ID:	320-56102-A-1-A	Lab Sample ID:	320-56102-1		
Client ID:	FEFF-Filtered				
Operator ID:	ALM, AJS	ALS Bottle#:	35	Worklist Smp#:	41
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

Non-2,3,7,8-sub-TCDD, Signal: 2, m/z: 321.8936, RT: (15.46- 18.73)

Signal: 2

Processing Integration Results

RT = 16.900 Area = 59952

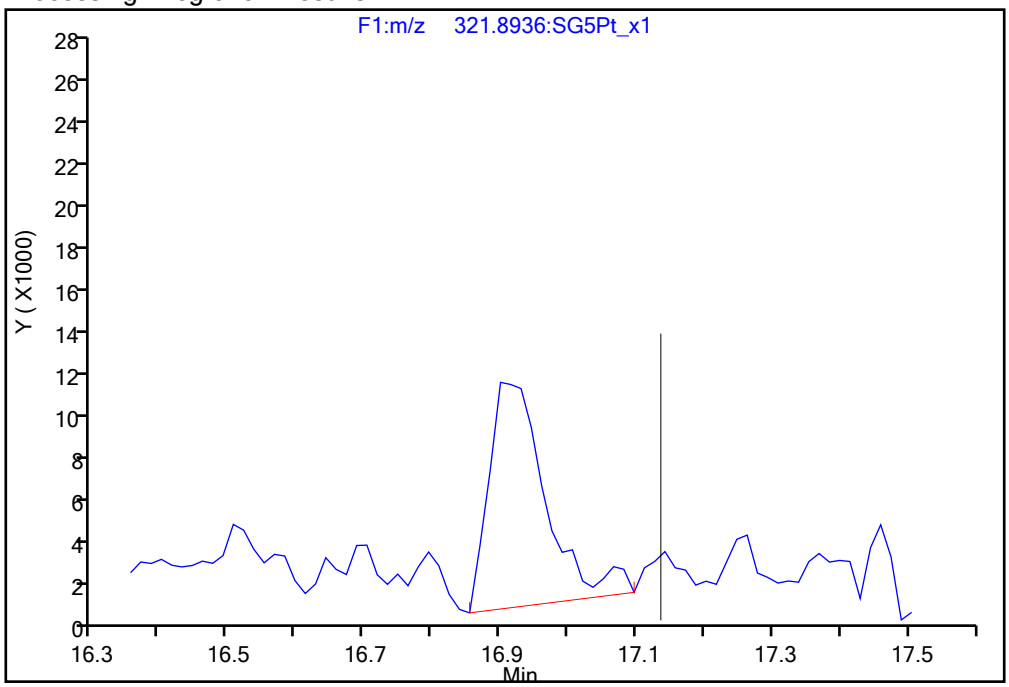

Manual Integration Results

RT = 16.900 Area = 56824 M

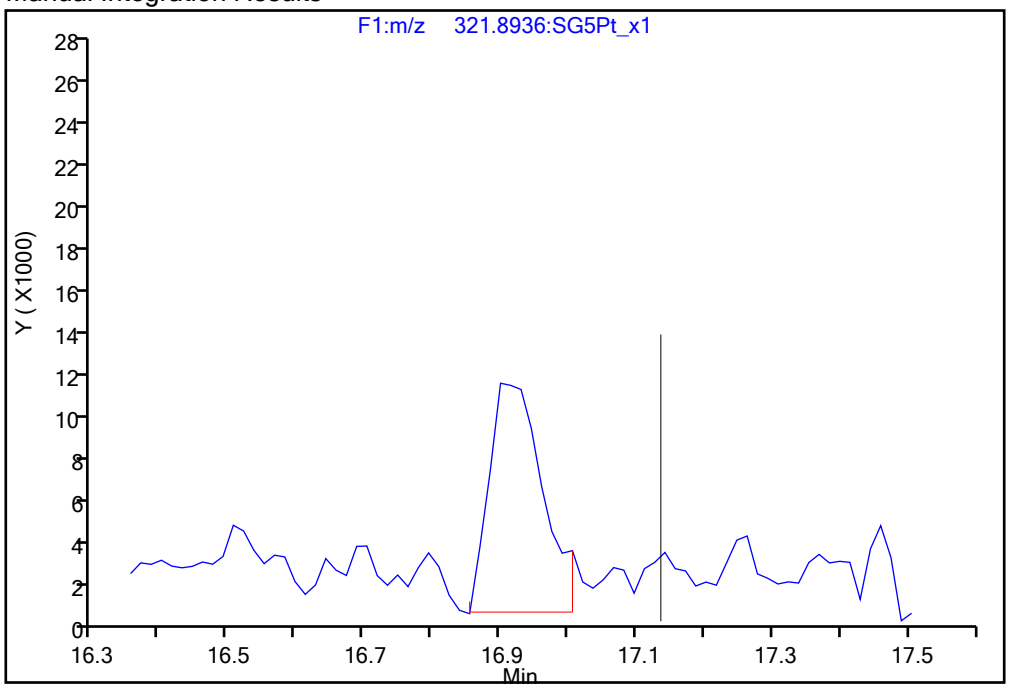

Reviewer: dadunj, 14-Nov-2019 09:53:02

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_41.d				
Injection Date:	13-Nov-2019 12:34:38	Instrument ID:	3D5		
Lims ID:	320-56102-A-1-A	Lab Sample ID:	320-56102-1		
Client ID:	FEFF-Filtered				
Operator ID:	ALM, AJS	ALS Bottle#:	35	Worklist Smp#:	41
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

1,2,3,7,8-PeCDF, CAS: 57117-41-6

Signal: 2

Processing Integration Results

RT: 21.77
Area: 148084
Amount: 0.191393
Amount Units: pg/ul

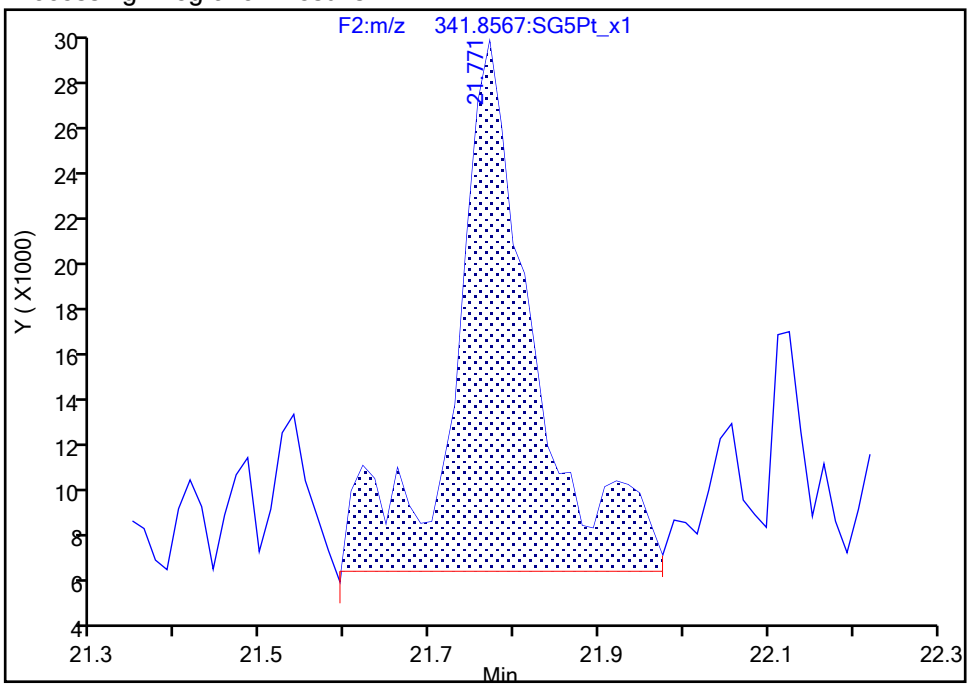

Manual Integration Results

RT: 21.77
Area: 92716
Amount: 0.156357
Amount Units: pg/ul

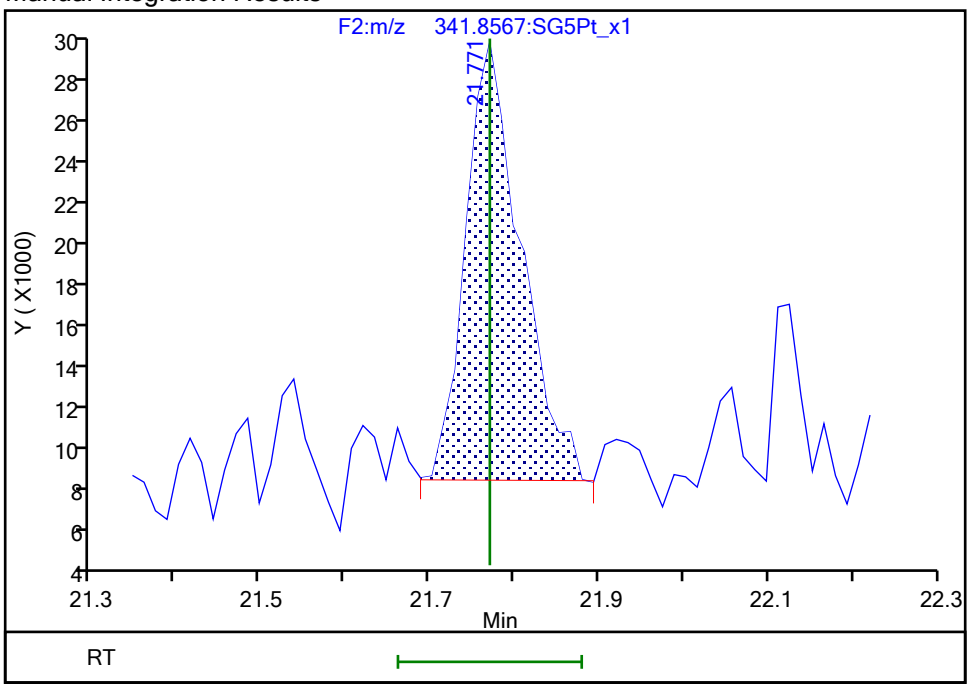

Reviewer: dadunj, 14-Nov-2019 09:49:22

Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_41.d				
Injection Date:	13-Nov-2019 12:34:38	Instrument ID:	3D5		
Lims ID:	320-56102-A-1-A	Lab Sample ID:	320-56102-1		
Client ID:	FEFF-Filtered				
Operator ID:	ALM, AJS	ALS Bottle#:	35	Worklist Smp#:	41
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

1,2,3,7,8-PeCDD, CAS: 40321-76-4

Signal: 2

Processing Integration Results

RT: 23.79
Area: 104013
Amount: 0.334741
Amount Units: pg/ul

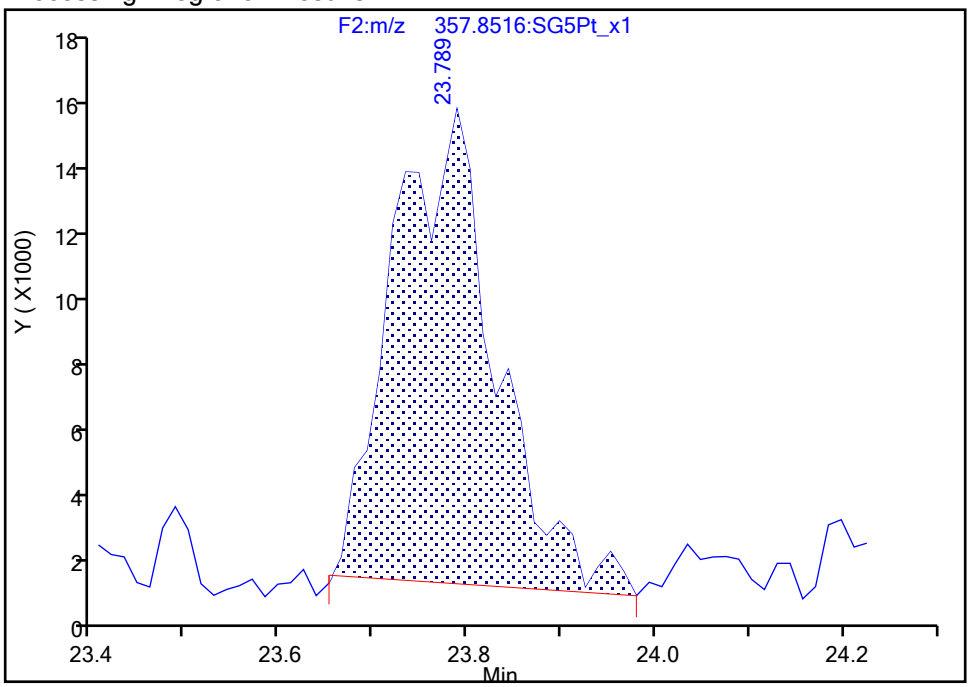

Manual Integration Results

RT: 23.79
Area: 98690
Amount: 0.329977
Amount Units: pg/ul

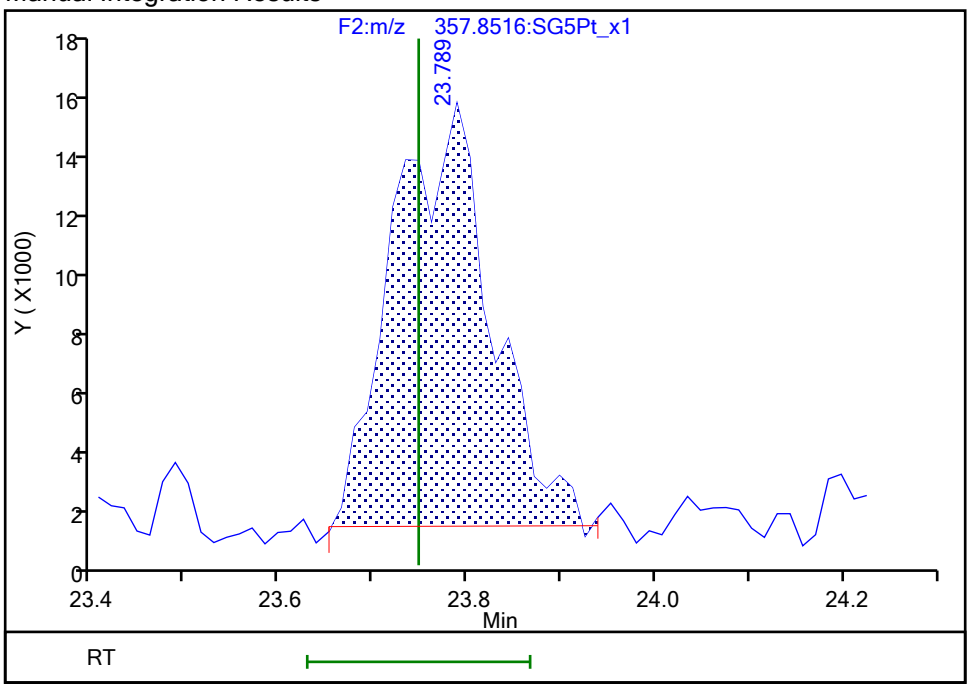

Reviewer: dadunj, 14-Nov-2019 09:49:34

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_41.d				
Injection Date:	13-Nov-2019 12:34:38	Instrument ID:	3D5		
Lims ID:	320-56102-A-1-A	Lab Sample ID:	320-56102-1		
Client ID:	FEFF-Filtered				
Operator ID:	ALM, AJS	ALS Bottle#:	35	Worklist Smp#:	41
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDF, CAS: 57117-44-9

Signal: 1

Not Detected
Expected RT: 30.11

Processing Integration Results

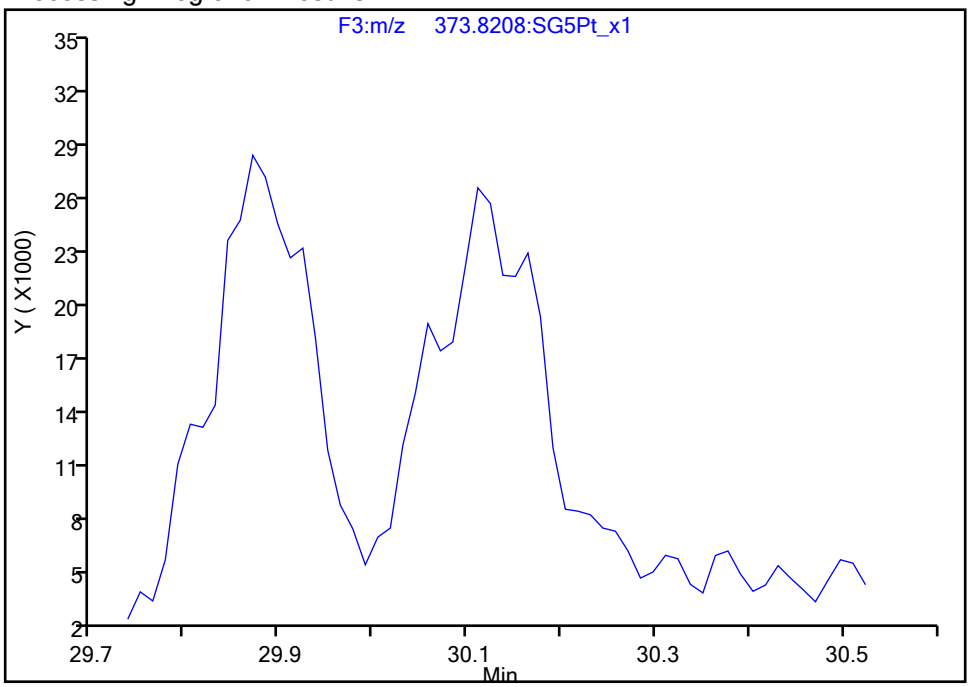

Manual Integration Results

RT: 30.11
Area: 155040
Amount: 0.173361
Amount Units: pg/ul

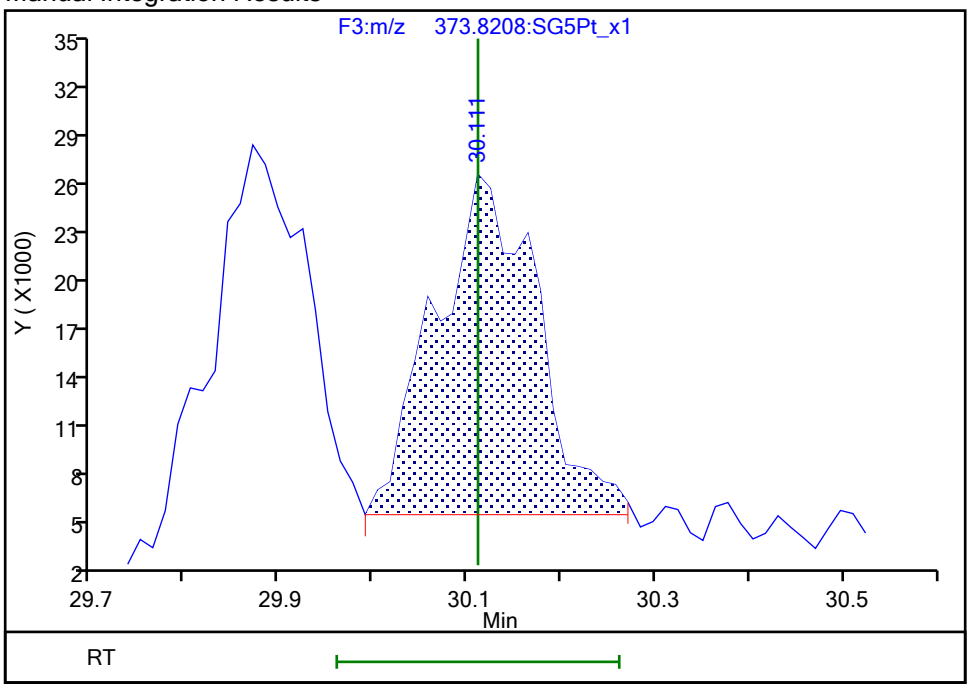

Reviewer: dadunj, 14-Nov-2019 09:49:58
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_41.d				
Injection Date:	13-Nov-2019 12:34:38	Instrument ID:	3D5		
Lims ID:	320-56102-A-1-A	Lab Sample ID:	320-56102-1		
Client ID:	FEFF-Filtered				
Operator ID:	ALM, AJS	ALS Bottle#:	35	Worklist Smp#:	41
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDF, CAS: 57117-44-9

Signal: 2

Not Detected
Expected RT: 30.11

Processing Integration Results

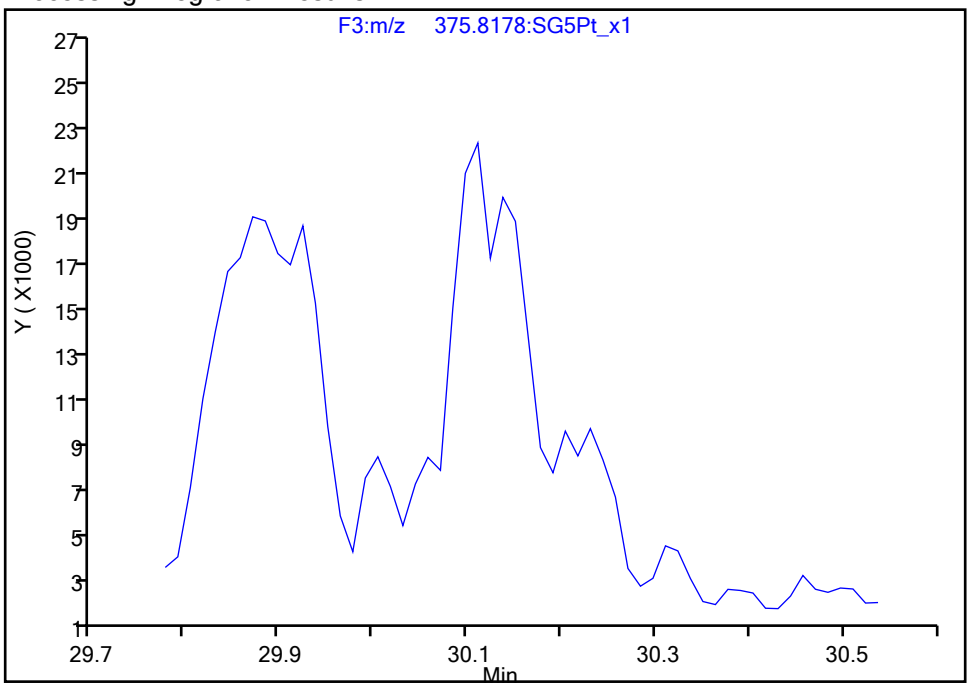

Manual Integration Results

RT: 30.11
Area: 138535
Amount: 0.173361
Amount Units: pg/ul

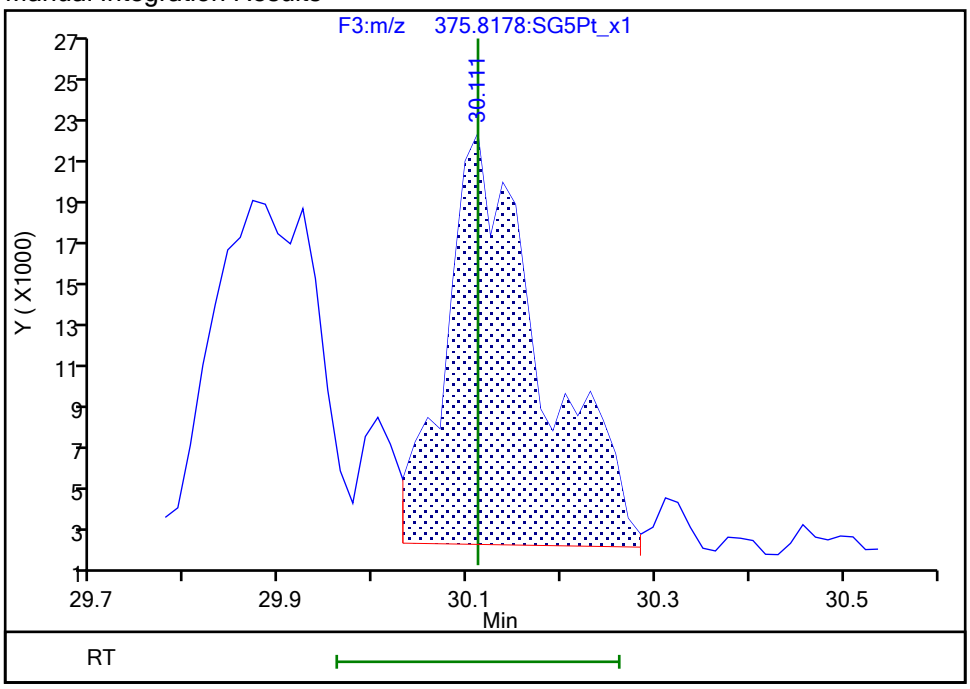

Reviewer: dadunj, 14-Nov-2019 09:50:04
Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_41.d				
Injection Date:	13-Nov-2019 12:34:38	Instrument ID:	3D5		
Lims ID:	320-56102-A-1-A	Lab Sample ID:	320-56102-1		
Client ID:	FEFF-Filtered				
Operator ID:	ALM, AJS	ALS Bottle#:	35	Worklist Smp#:	41
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 1

Processing Integration Results

RT: 32.00
Area: 175363
Amount: 0.215376
Amount Units: pg/ul

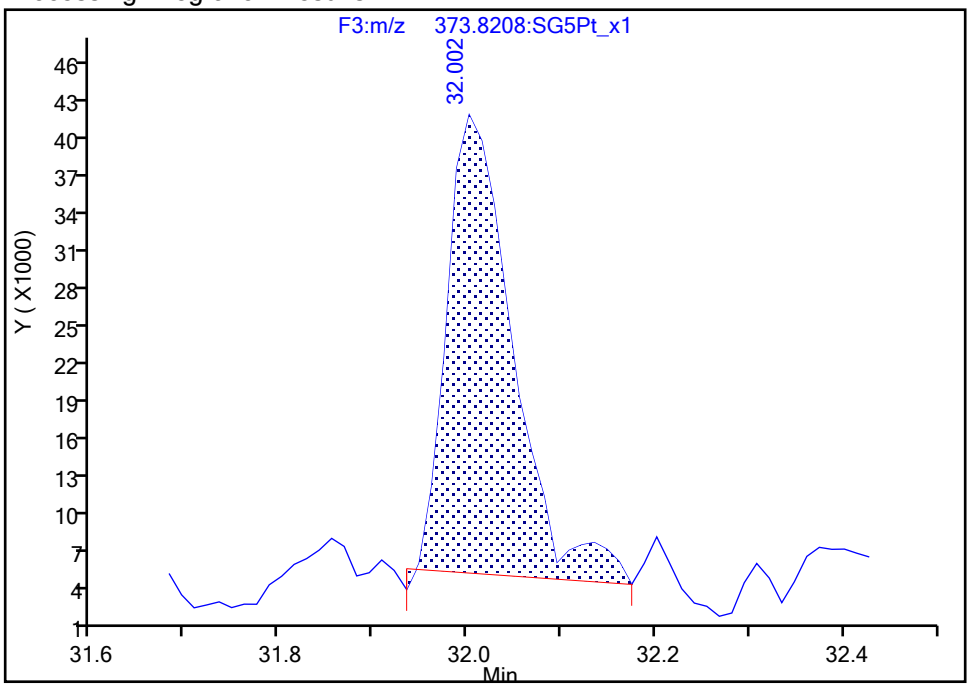

Manual Integration Results

RT: 32.00
Area: 162316
Amount: 0.185095
Amount Units: pg/ul

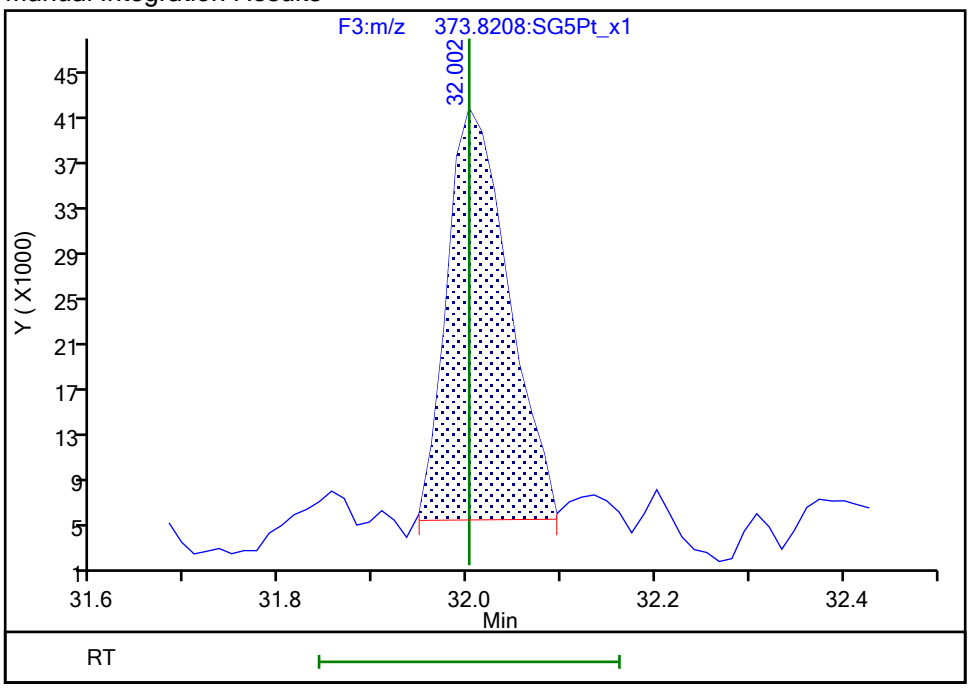

Reviewer: dadunj, 14-Nov-2019 09:50:25

Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_41.d				
Injection Date:	13-Nov-2019 12:34:38	Instrument ID:	3D5		
Lims ID:	320-56102-A-1-A	Lab Sample ID:	320-56102-1		
Client ID:	FEFF-Filtered				
Operator ID:	ALM, AJS	ALS Bottle#:	35	Worklist Smp#:	41
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 2

Processing Integration Results

RT: 32.00
Area: 159455
Amount: 0.215376
Amount Units: pg/ul

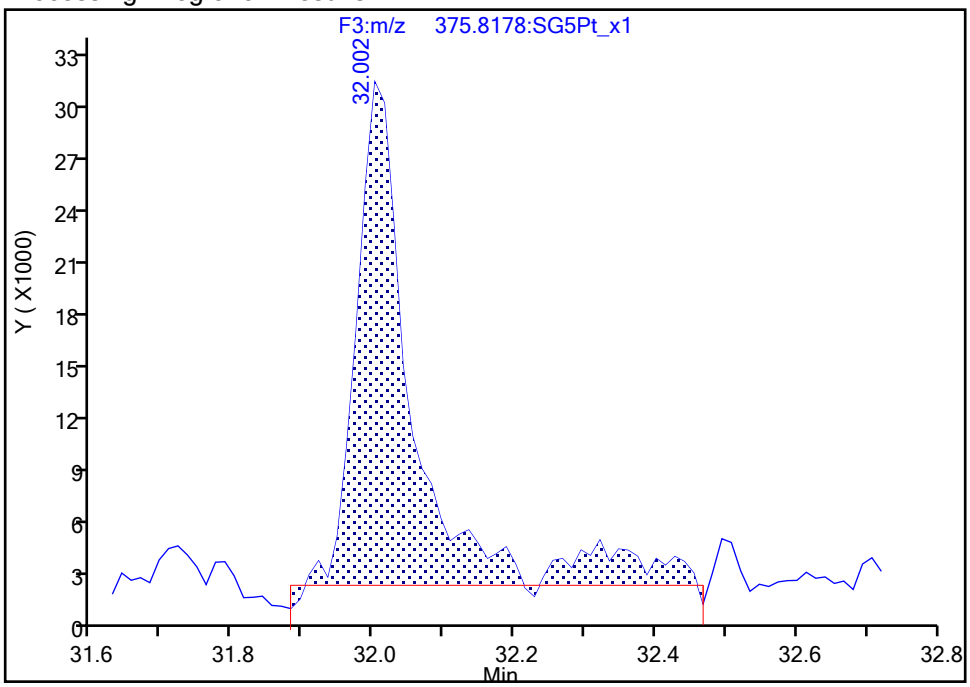

Manual Integration Results

RT: 32.00
Area: 125428
Amount: 0.185095
Amount Units: pg/ul

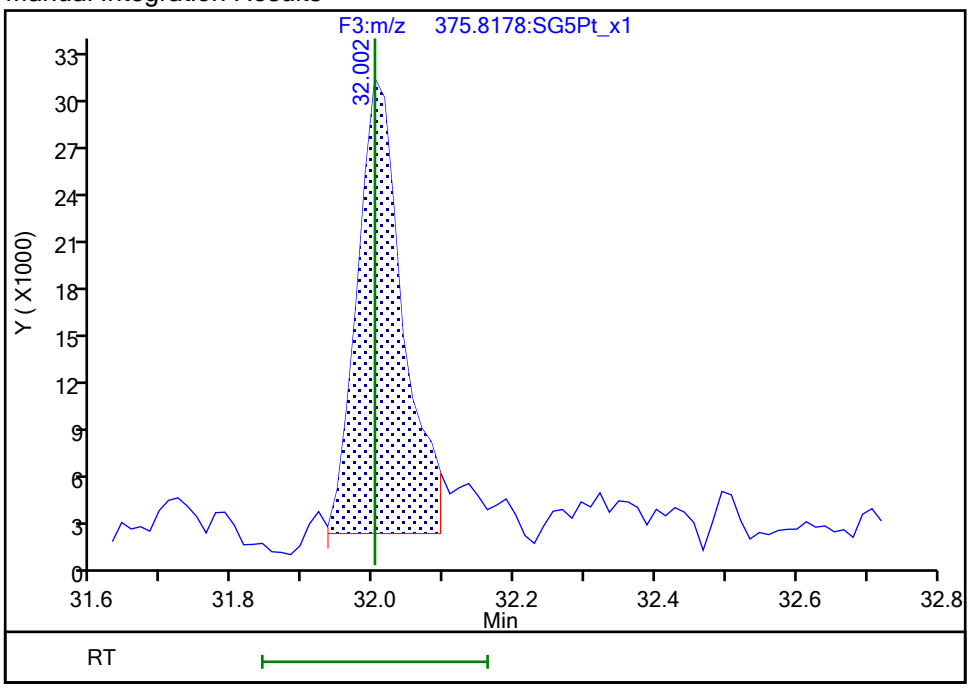

Reviewer: dadunj, 14-Nov-2019 09:50:28

Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_41.d				
Injection Date:	13-Nov-2019 12:34:38	Instrument ID:	3D5		
Lims ID:	320-56102-A-1-A	Lab Sample ID:	320-56102-1		
Client ID:	FEFF-Filtered				
Operator ID:	ALM, AJS	ALS Bottle#:	35	Worklist Smp#:	41
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 1

Processing Integration Results

RT: 31.80
Area: 167916
Amount: 0.276863
Amount Units: pg/ul

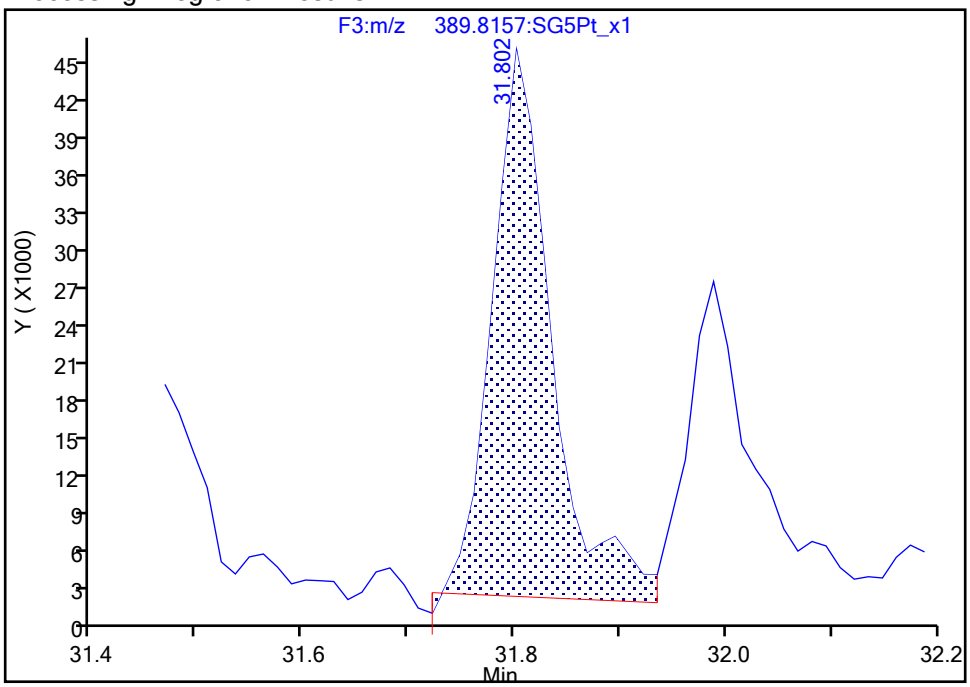

Manual Integration Results

RT: 31.80
Area: 161910
Amount: 0.234394
Amount Units: pg/ul

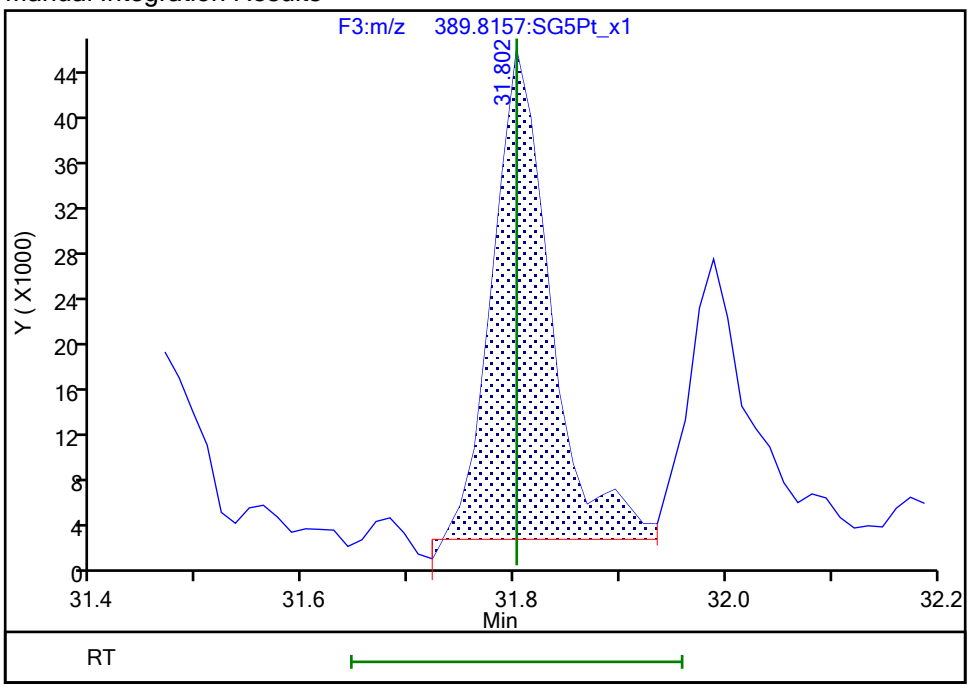

Reviewer: dadunj, 14-Nov-2019 09:51:34

Audit Action: Manually Integrated Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_41.d				
Injection Date:	13-Nov-2019 12:34:38	Instrument ID:	3D5		
Lims ID:	320-56102-A-1-A	Lab Sample ID:	320-56102-1		
Client ID:	FEFF-Filtered				
Operator ID:	ALM, AJS	ALS Bottle#:	35	Worklist Smp#:	41
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 2

Processing Integration Results

RT: 31.82
Area: 180178
Amount: 0.276863
Amount Units: pg/ul

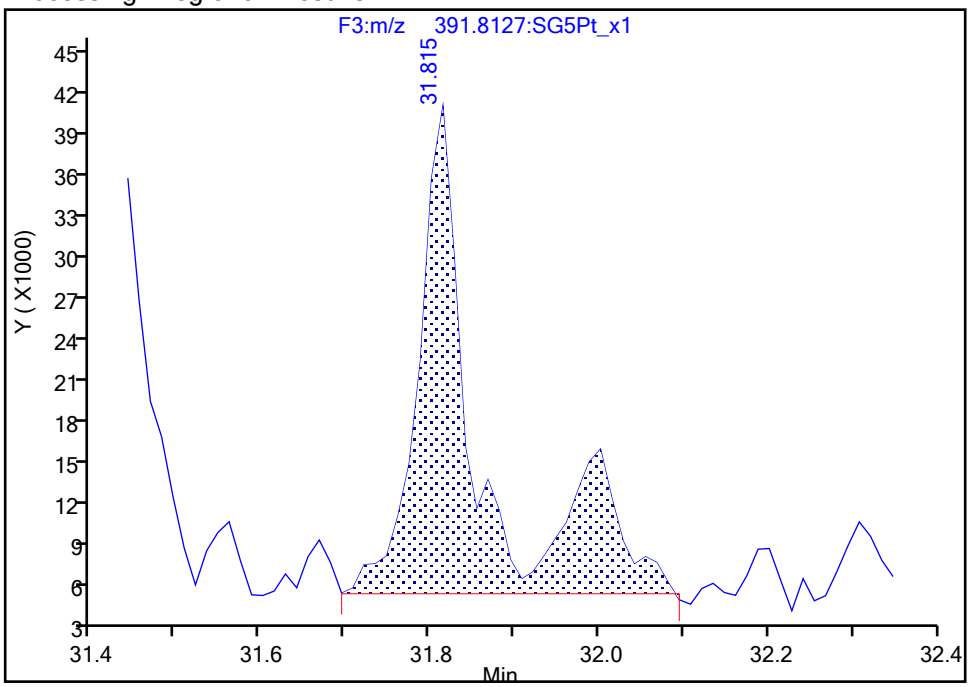

Manual Integration Results

RT: 31.82
Area: 132788
Amount: 0.234394
Amount Units: pg/ul

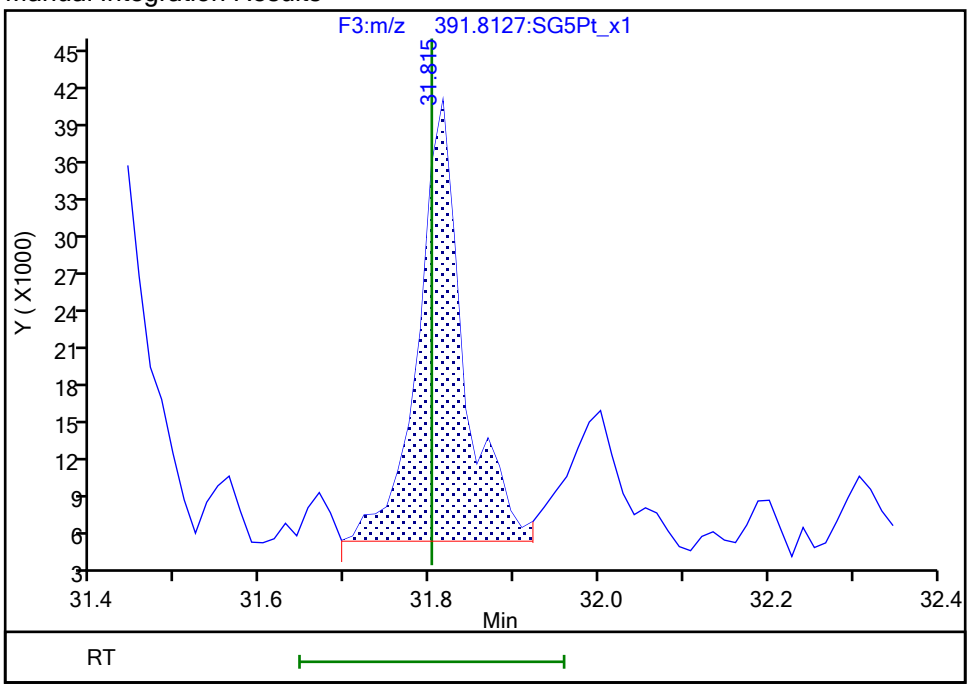

Reviewer: dadunj, 14-Nov-2019 09:51:34

Audit Action: Manually Integrated Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_41.d				
Injection Date:	13-Nov-2019 12:34:38	Instrument ID:	3D5		
Lims ID:	320-56102-A-1-A	Lab Sample ID:	320-56102-1		
Client ID:	FEFF-Filtered				
Operator ID:	ALM, AJS	ALS Bottle#:	35	Worklist Smp#:	41
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 1

Processing Integration Results

RT: 33.52
Area: 235885
Amount: 0.318426
Amount Units: pg/ul

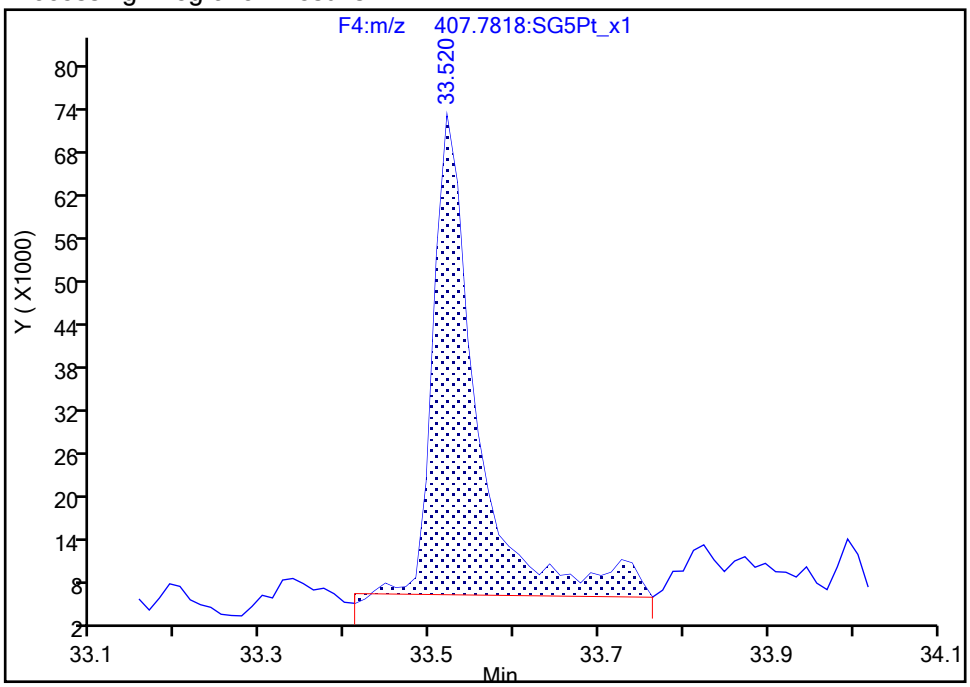

Manual Integration Results

RT: 33.52
Area: 210507
Amount: 0.292317
Amount Units: pg/ul

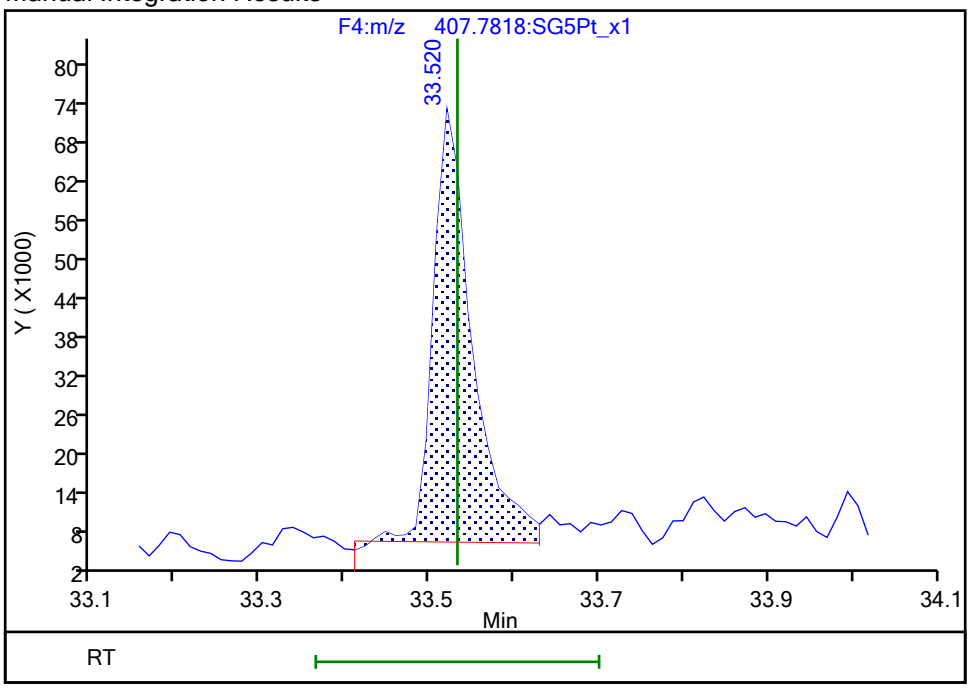

Reviewer: dadunj, 14-Nov-2019 09:51:46

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_41.d				
Injection Date:	13-Nov-2019 12:34:38	Instrument ID:	3D5		
Lims ID:	320-56102-A-1-A	Lab Sample ID:	320-56102-1		
Client ID:	FEFF-Filtered				
Operator ID:	ALM, AJS	ALS Bottle#:	35	Worklist Smp#:	41
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 2

Processing Integration Results

RT: 33.52
Area: 206258
Amount: 0.318426
Amount Units: pg/ul

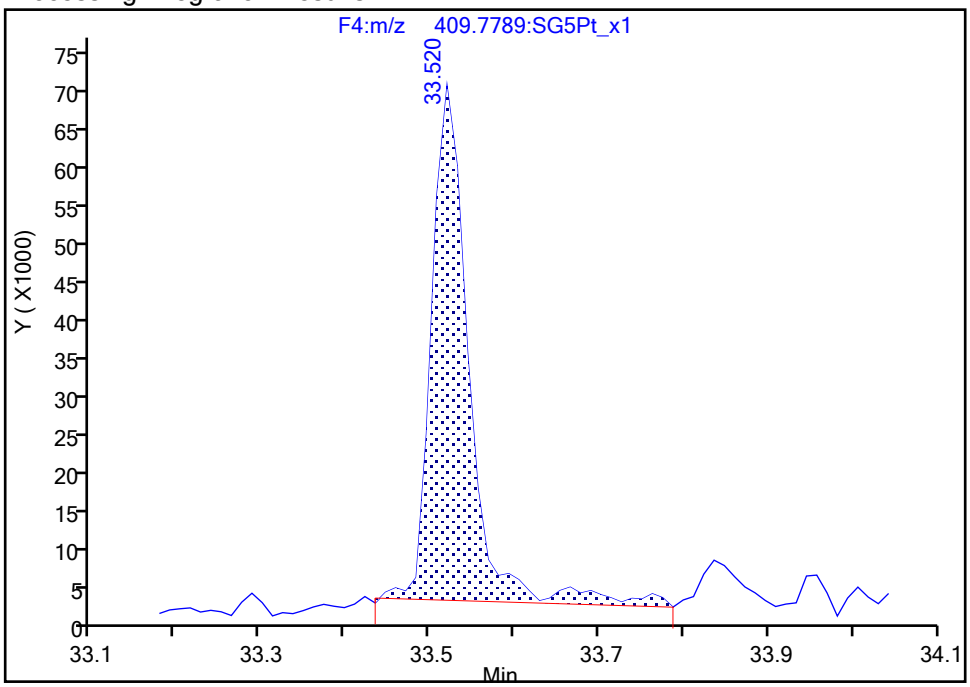

Manual Integration Results

RT: 33.52
Area: 195382
Amount: 0.292317
Amount Units: pg/ul

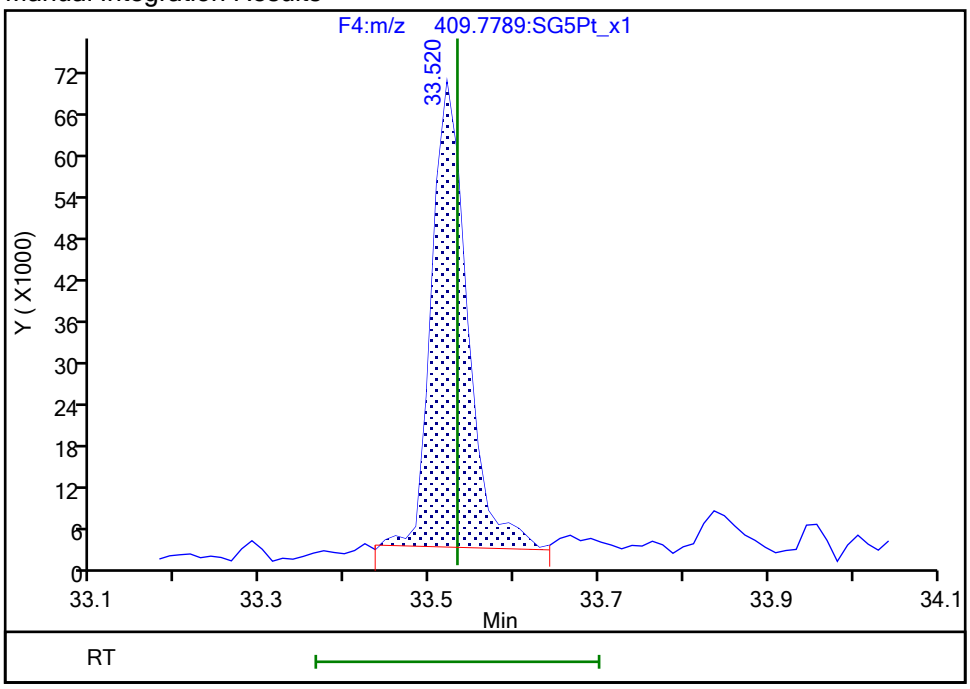

Reviewer: dadunj, 14-Nov-2019 09:51:48

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_41.d				
Injection Date:	13-Nov-2019 12:34:38	Instrument ID:	3D5		
Lims ID:	320-56102-A-1-A	Lab Sample ID:	320-56102-1		
Client ID:	FEFF-Filtered				
Operator ID:	ALM, AJS	ALS Bottle#:	35	Worklist Smp#:	41
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,7,8,9-HpCDF, CAS: 55673-89-7

Signal: 1

Processing Integration Results

RT: 34.60
Area: 297611
Amount: 0.337995
Amount Units: pg/ul

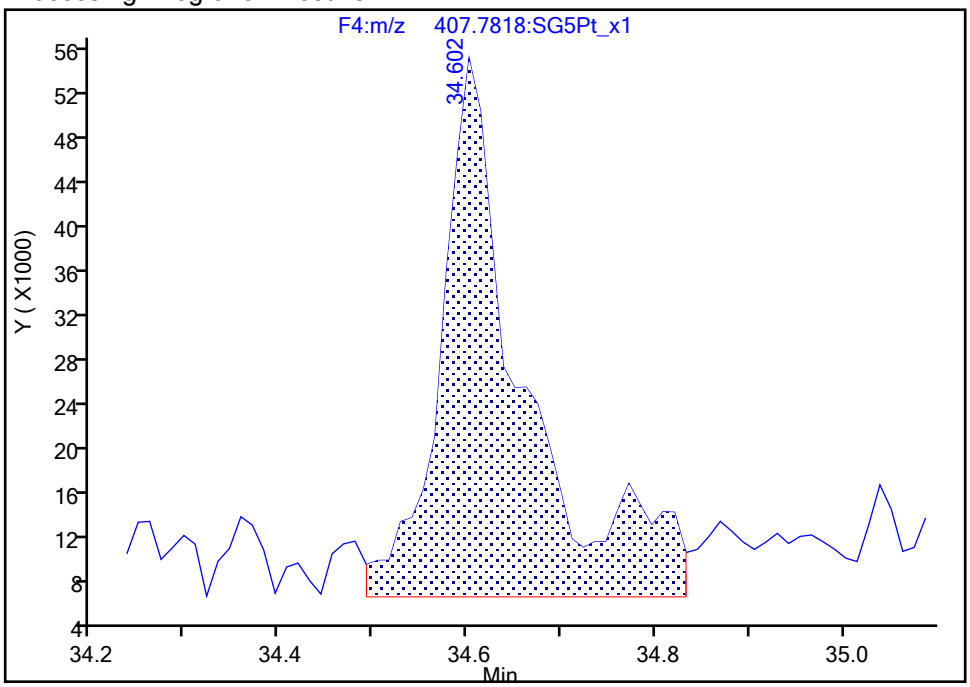

Manual Integration Results

RT: 34.60
Area: 213656
Amount: 0.275819
Amount Units: pg/ul

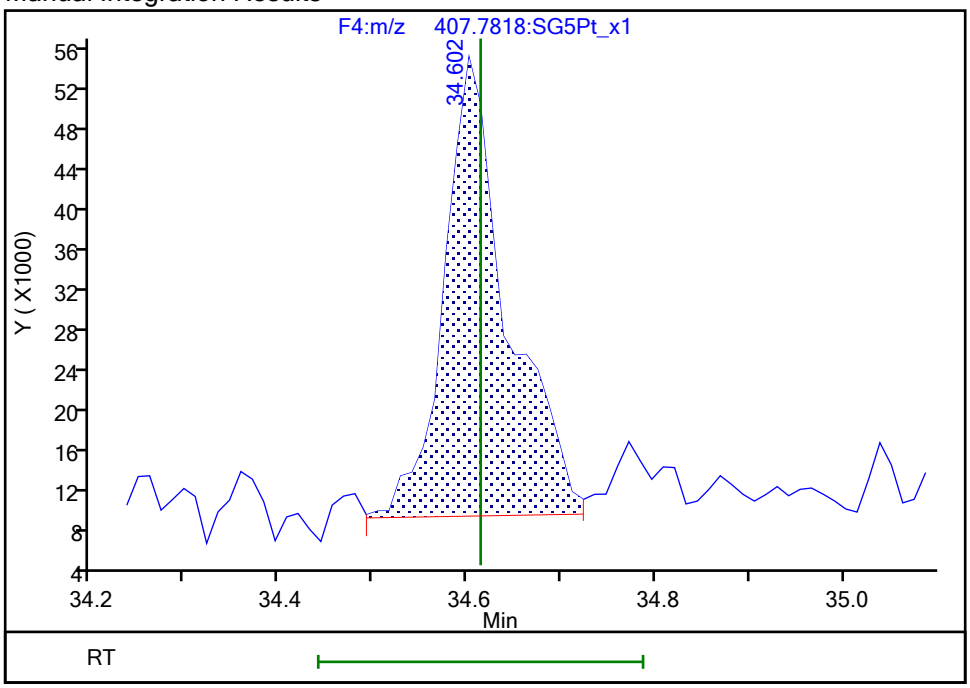

Reviewer: dadunj, 14-Nov-2019 09:52:02

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_41.d				
Injection Date:	13-Nov-2019 12:34:38	Instrument ID:	3D5		
Lims ID:	320-56102-A-1-A	Lab Sample ID:	320-56102-1		
Client ID:	FEFF-Filtered				
Operator ID:	ALM, AJS	ALS Bottle#:	35	Worklist Smp#:	41
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 1

Processing Integration Results

RT: 34.32
Area: 171525
Amount: 0.338617
Amount Units: pg/ul

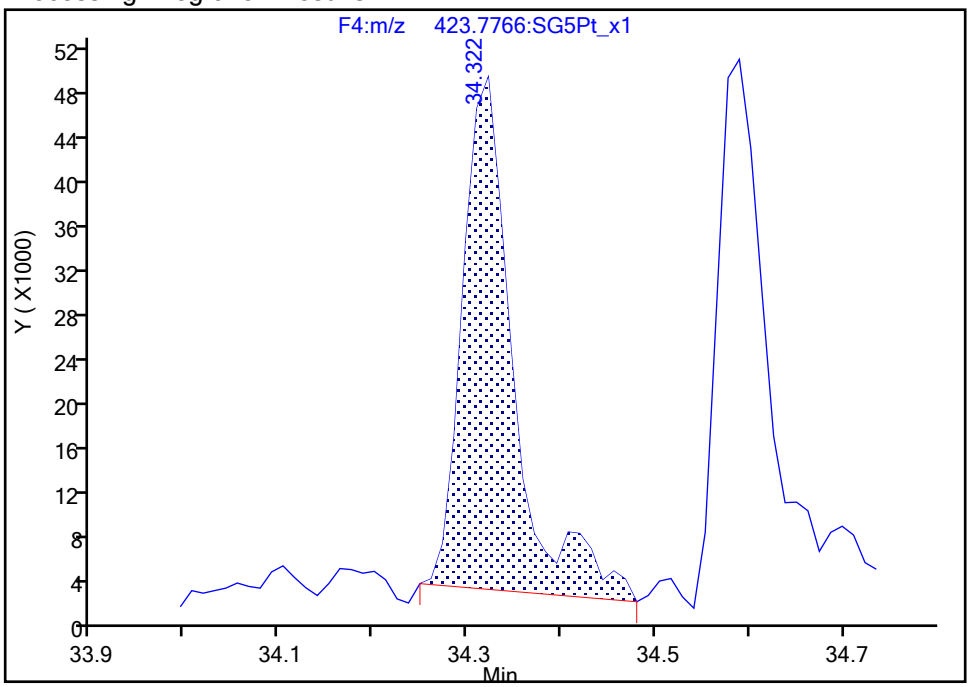

Manual Integration Results

RT: 34.32
Area: 150942
Amount: 0.311490
Amount Units: pg/ul

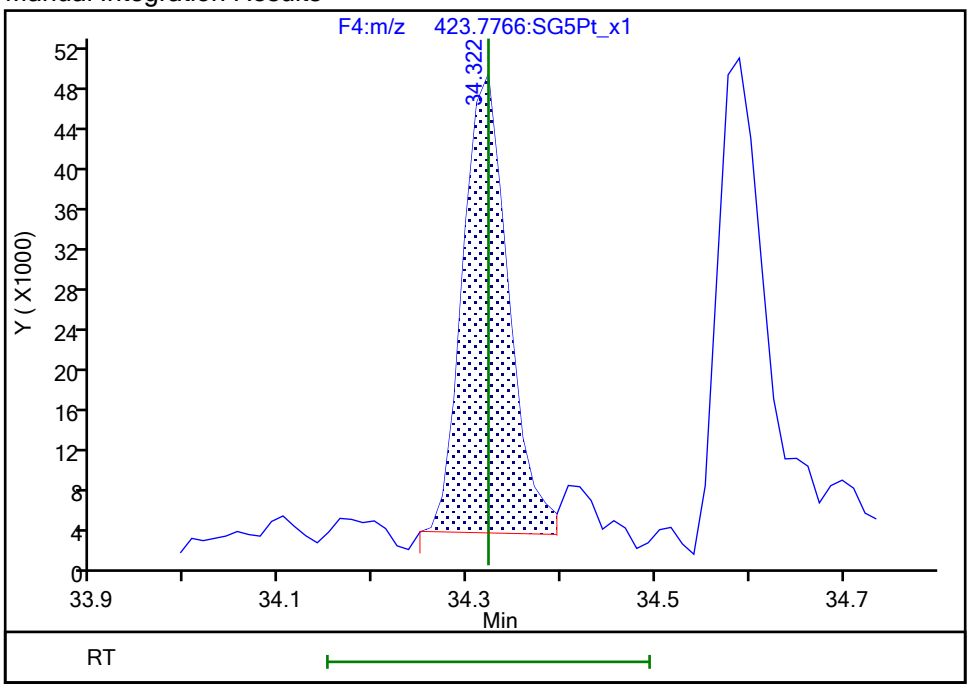

Reviewer: dadunj, 14-Nov-2019 09:52:15

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_41.d				
Injection Date:	13-Nov-2019 12:34:38	Instrument ID:	3D5		
Lims ID:	320-56102-A-1-A	Lab Sample ID:	320-56102-1		
Client ID:	FEFF-Filtered				
Operator ID:	ALM, AJS	ALS Bottle#:	35	Worklist Smp#:	41
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 2

Processing Integration Results

RT: 34.32
Area: 165298
Amount: 0.338617
Amount Units: pg/ul

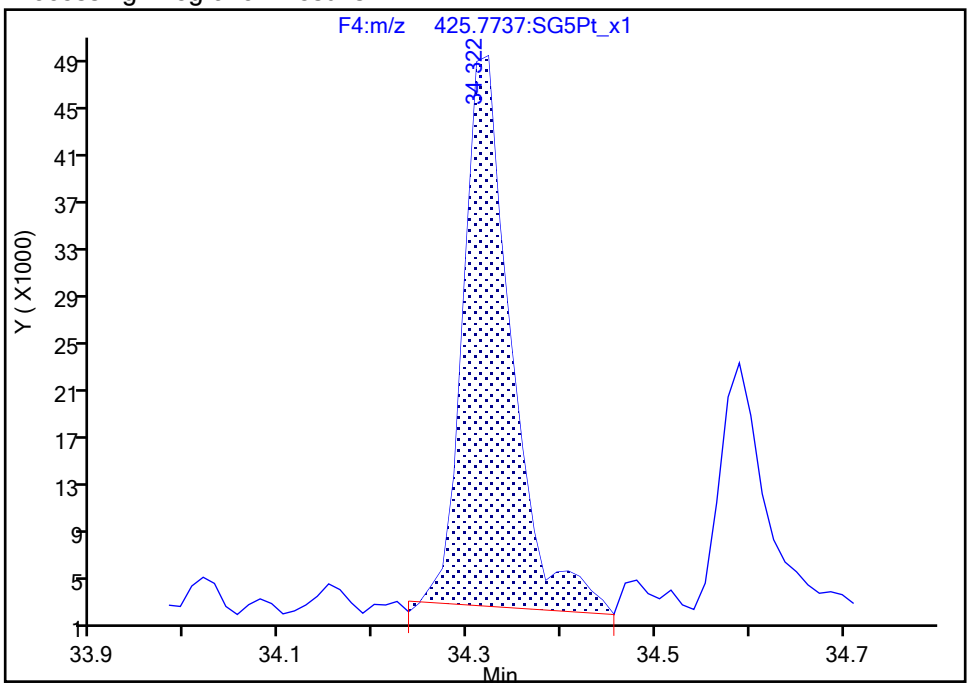

Manual Integration Results

RT: 34.32
Area: 158898
Amount: 0.311490
Amount Units: pg/ul

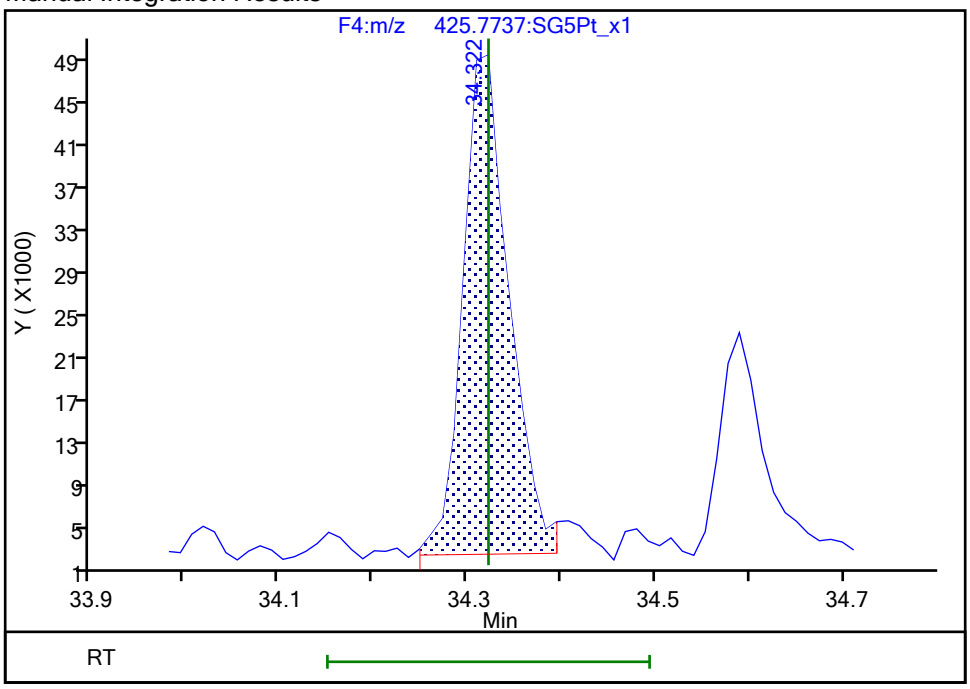

Reviewer: dadunj, 14-Nov-2019 09:52:27

Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_41.d				
Injection Date:	13-Nov-2019 12:34:38	Instrument ID:	3D5		
Lims ID:	320-56102-A-1-A	Lab Sample ID:	320-56102-1		
Client ID:	FEFF-Filtered				
Operator ID:	ALM, AJS	ALS Bottle#:	35	Worklist Smp#:	41
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5:HRSIR		

OCDD, CAS: 3268-87-9

Signal: 1

Processing Integration Results

RT: 36.65
Area: 476223
Amount: 1.456710
Amount Units: pg/ul

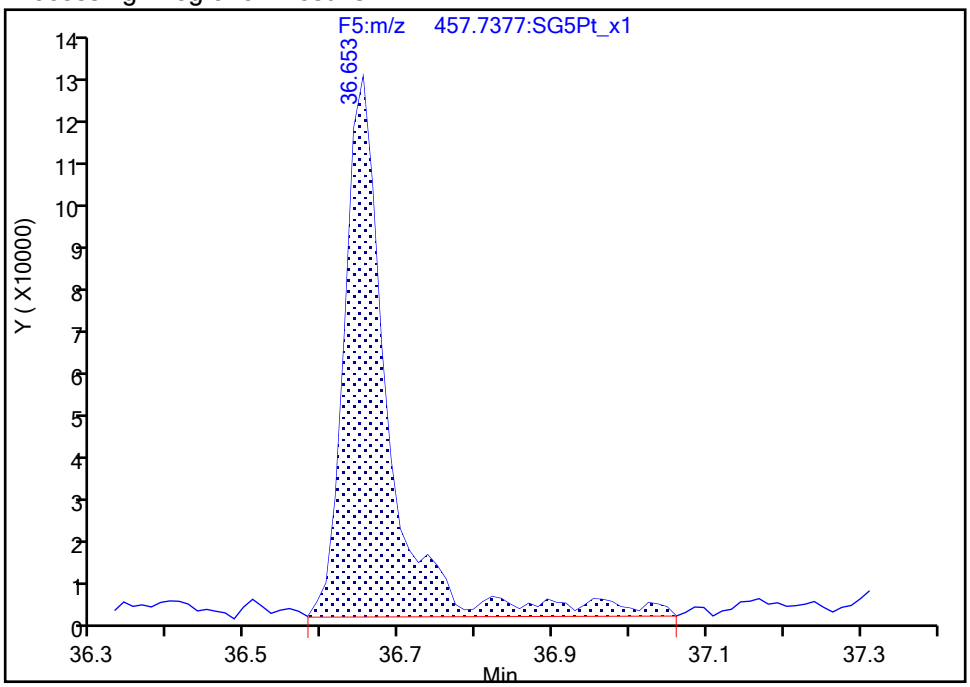

Manual Integration Results

RT: 36.65
Area: 441644
Amount: 1.406754
Amount Units: pg/ul

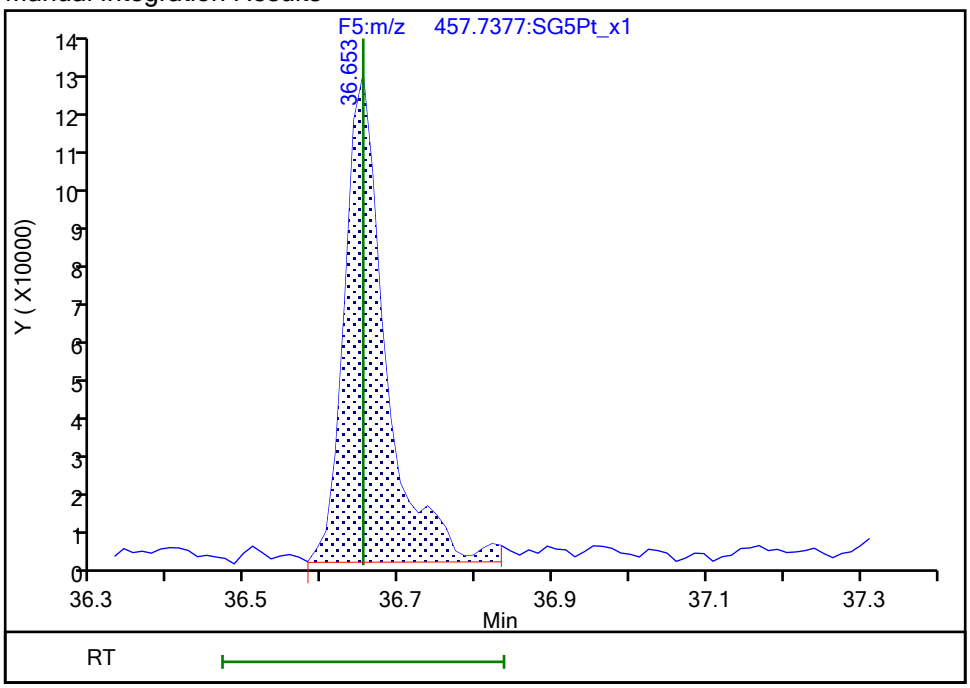

Reviewer: dadunj, 14-Nov-2019 09:52:41

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 14-Nov-2019 09:53:42 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_41.d		
Injection Date:	13-Nov-2019 12:34:38	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	FEFF-Filtered		
Worklist#:	338227	Sample Line#:	41
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

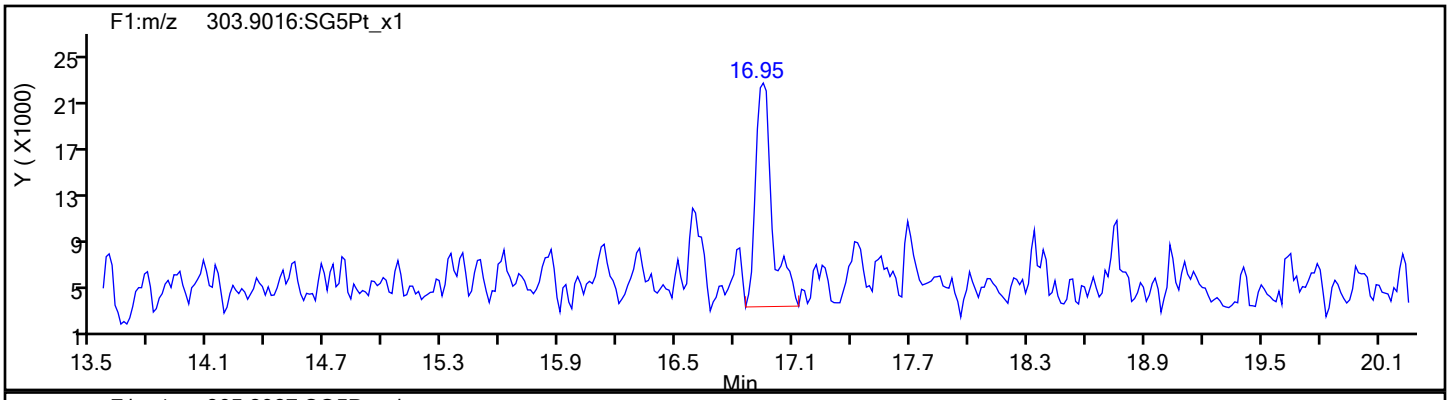

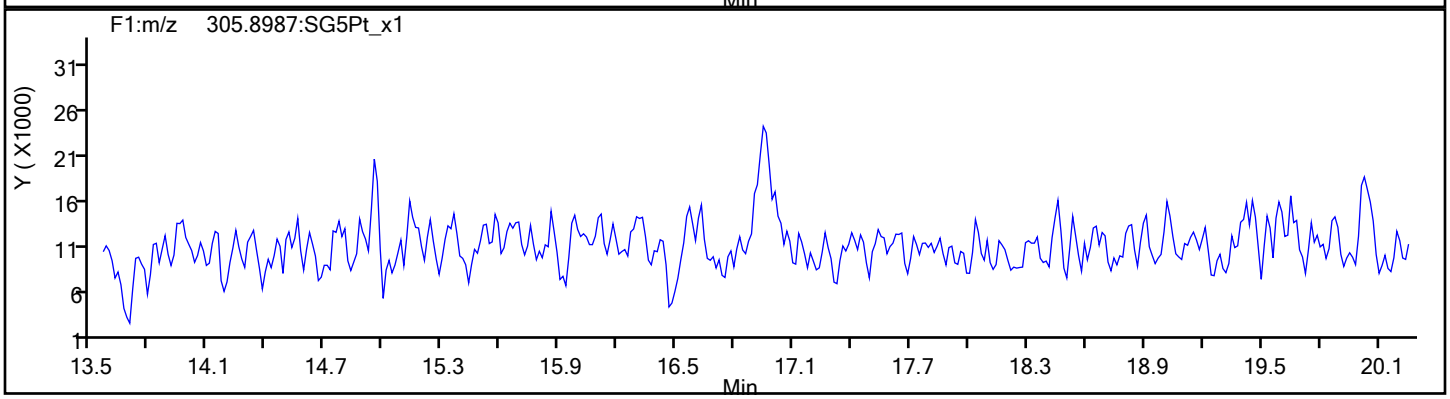

TCDF Standards

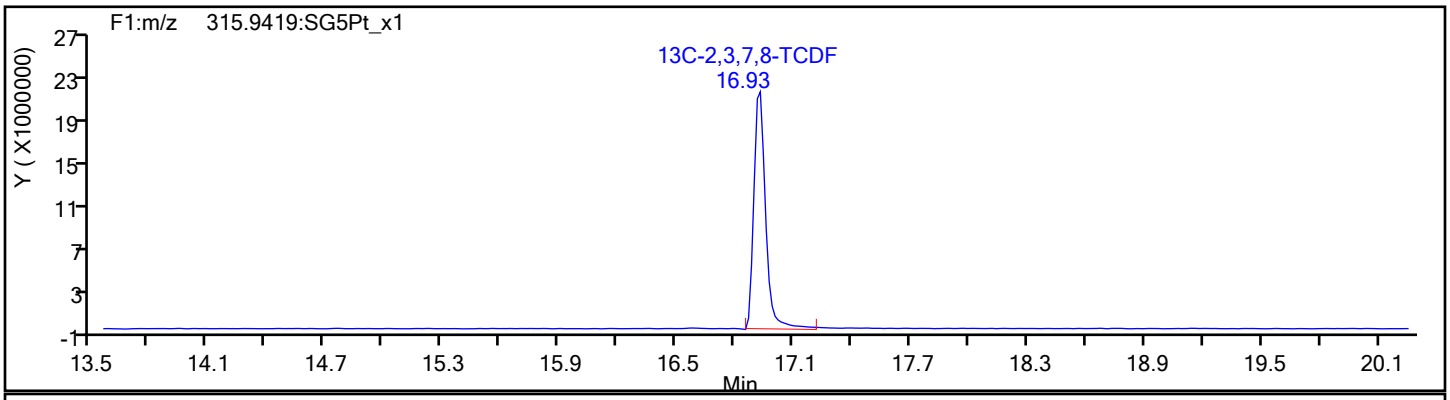

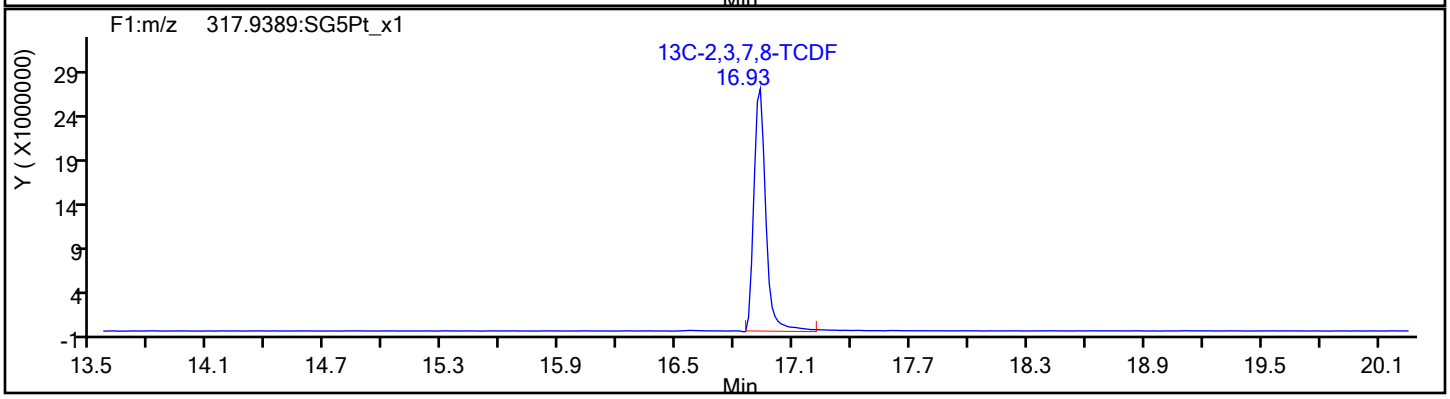

Report Date: 14-Nov-2019 09:53:42 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_41.d		
Injection Date:	13-Nov-2019 12:34:38	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	FEFF-Filtered		
Worklist#:	338227	Sample Line#:	41
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

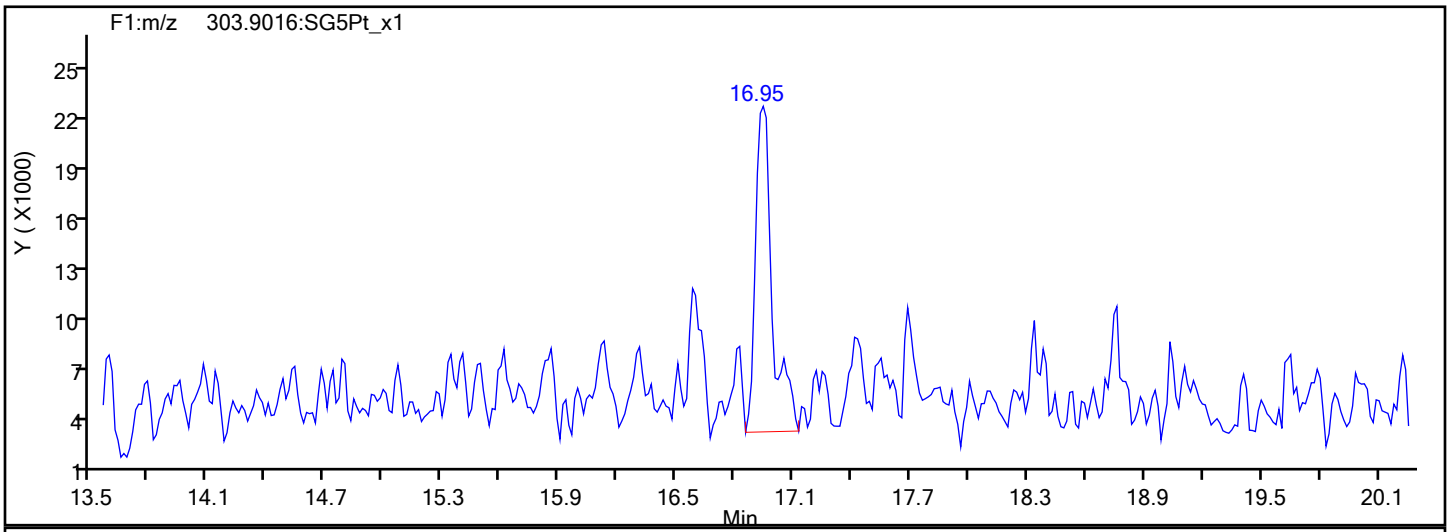

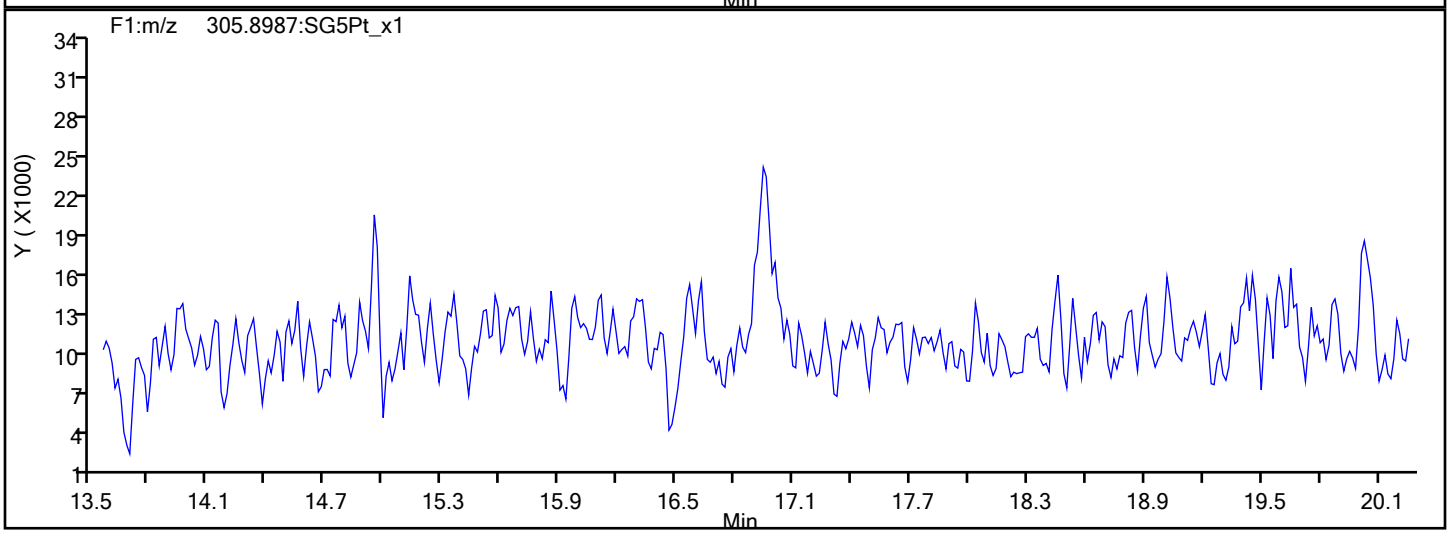

TCDF Interference Mass

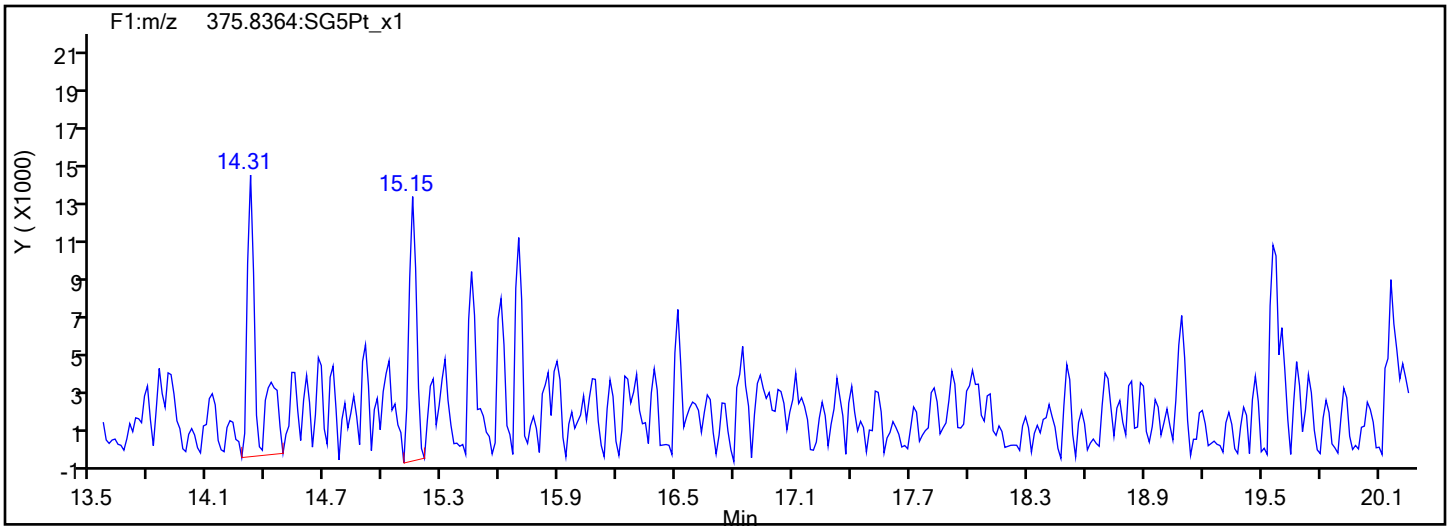

Report Date: 14-Nov-2019 09:53:42 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_41.d		
Injection Date:	13-Nov-2019 12:34:38	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	FEFF-Filtered		
Worklist#:	338227	Sample Line#:	41
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

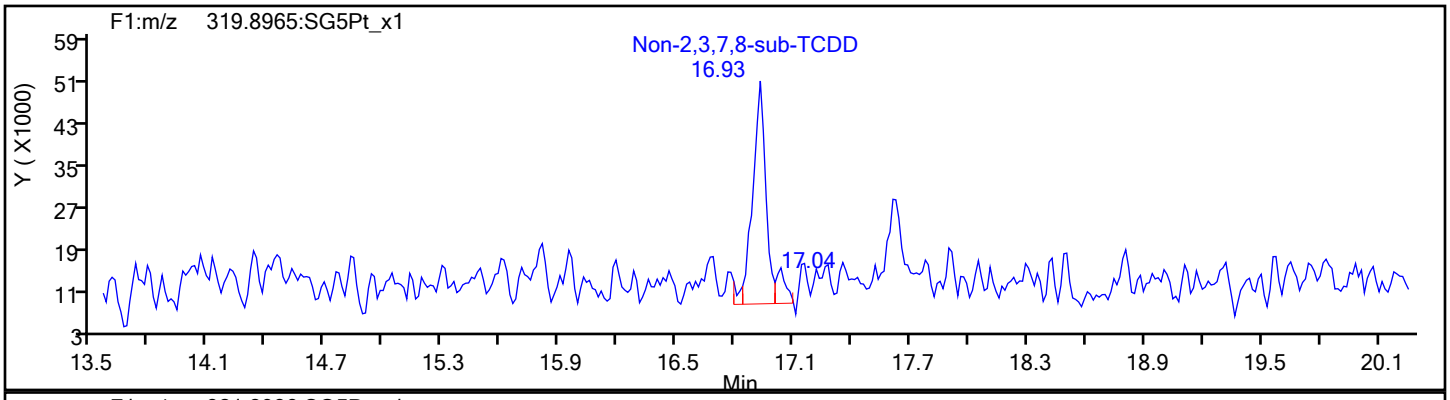

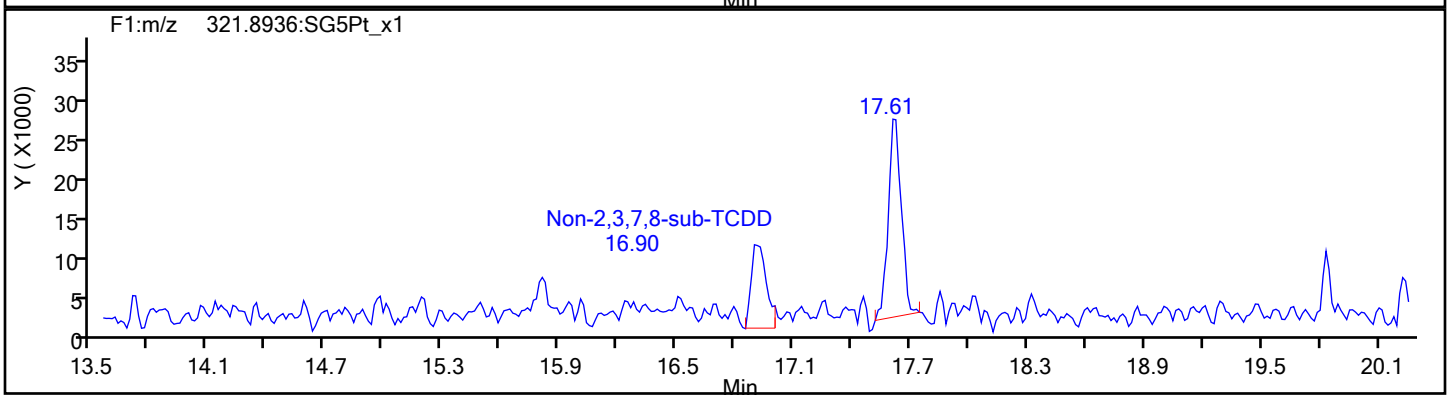

TCDD Standards

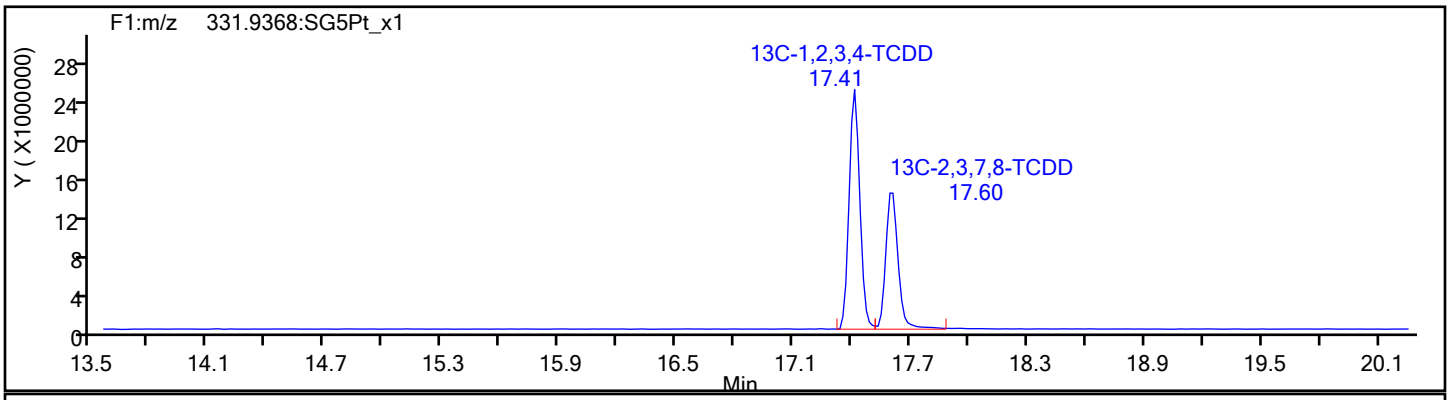

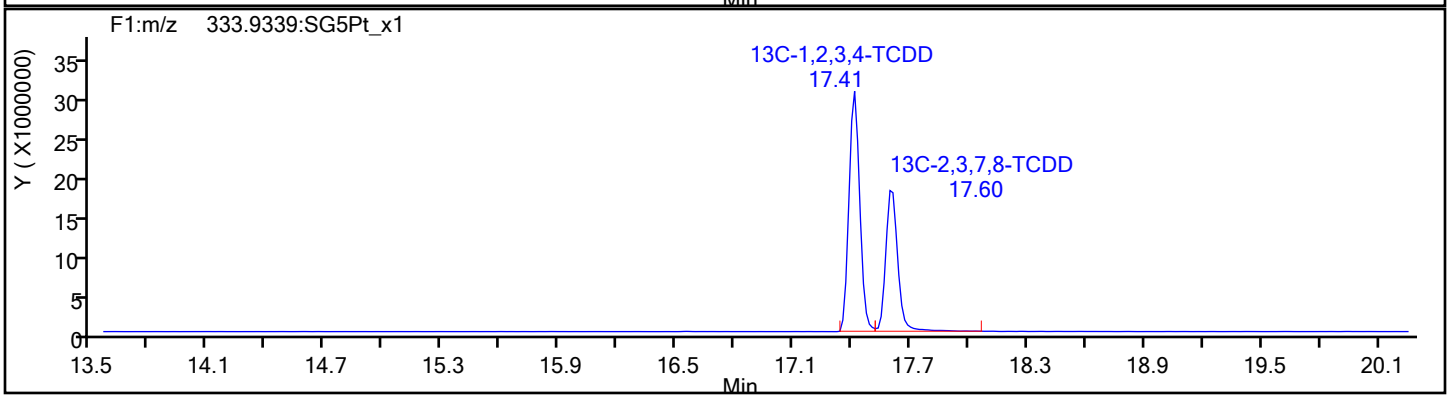

Report Date: 14-Nov-2019 09:53:42 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_41.d		
Injection Date:	13-Nov-2019 12:34:38	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

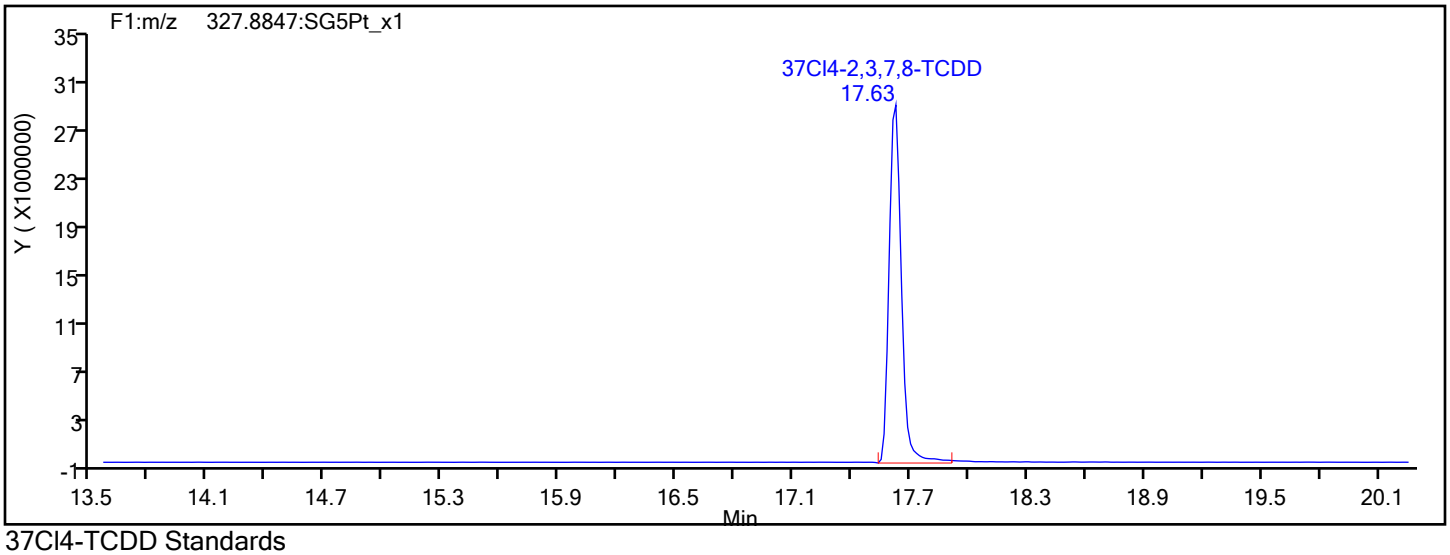

37Cl4-TCDD Standards

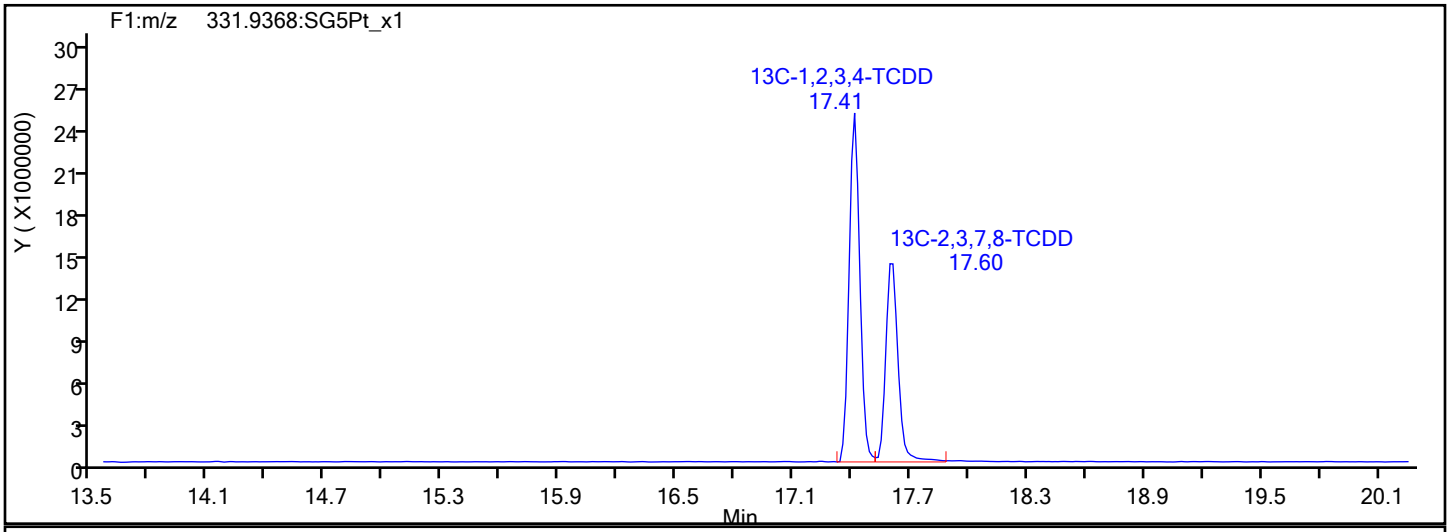

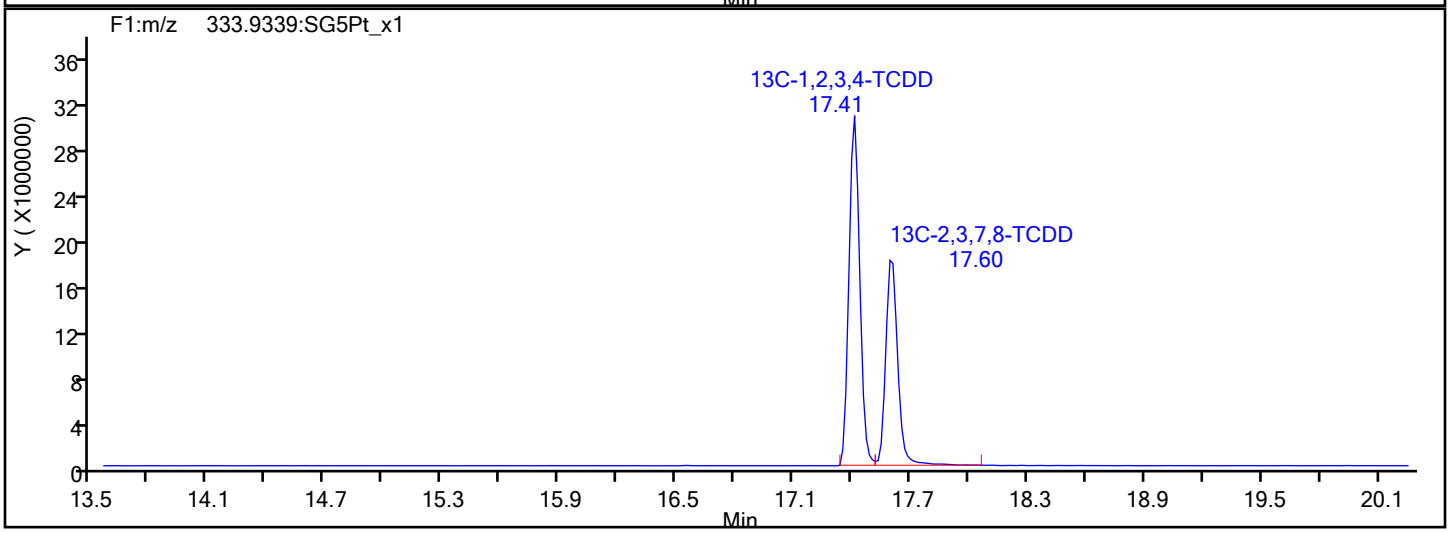

Report Date: 14-Nov-2019 09:53:42 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_41.d		
Injection Date:	13-Nov-2019 12:34:38	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	FEFF-Filtered		
Worklist#:	338227	Sample Line#:	41
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

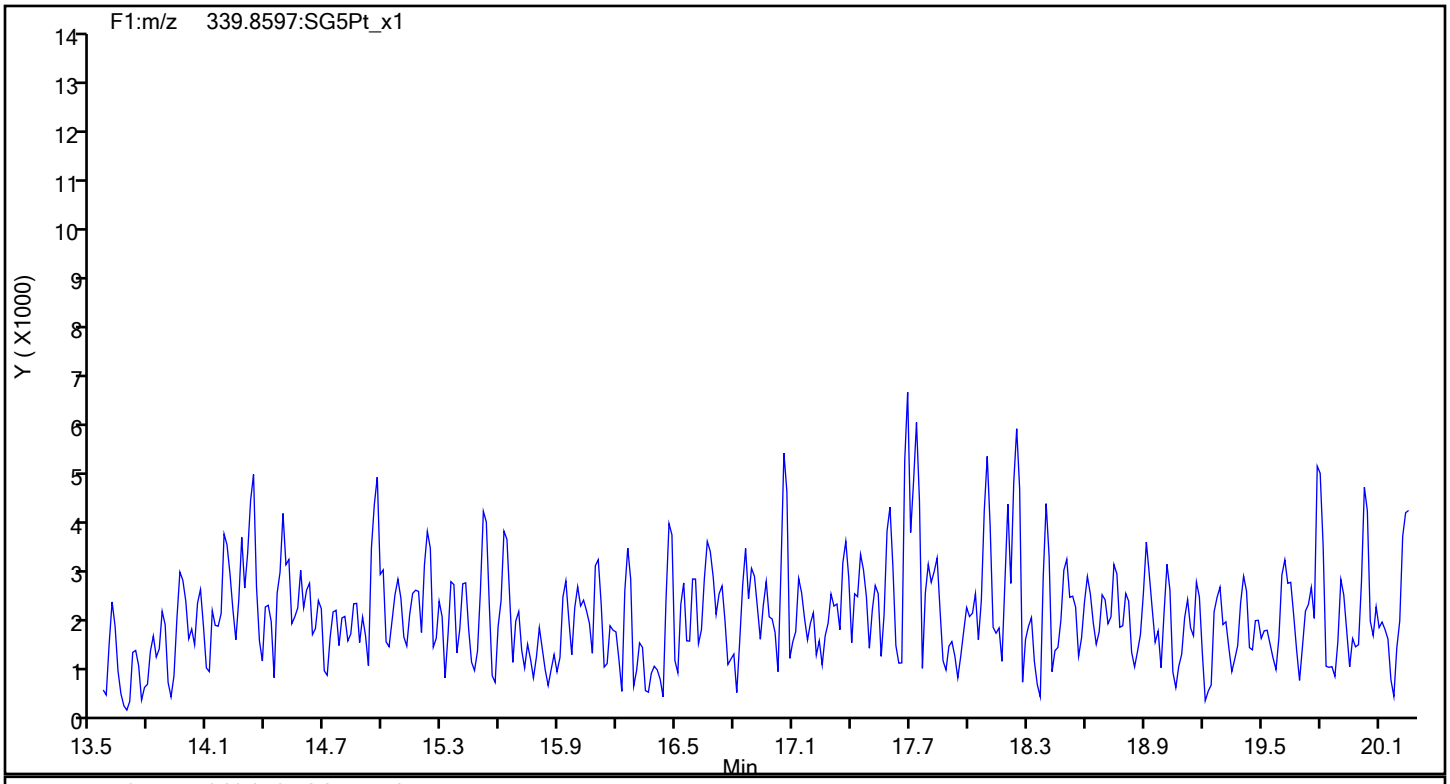

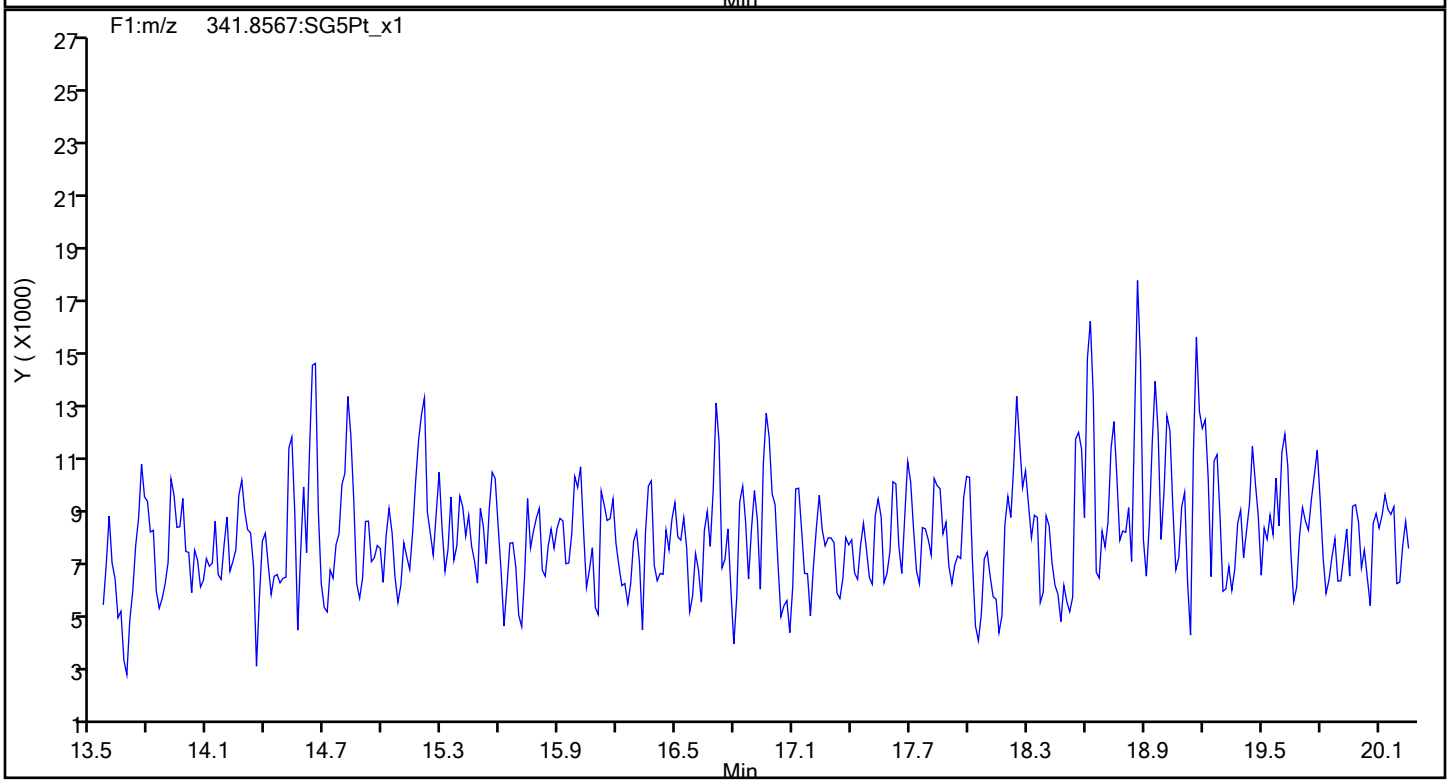

Report Date: 14-Nov-2019 09:53:42 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_41.d		
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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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F1 PeCDFs

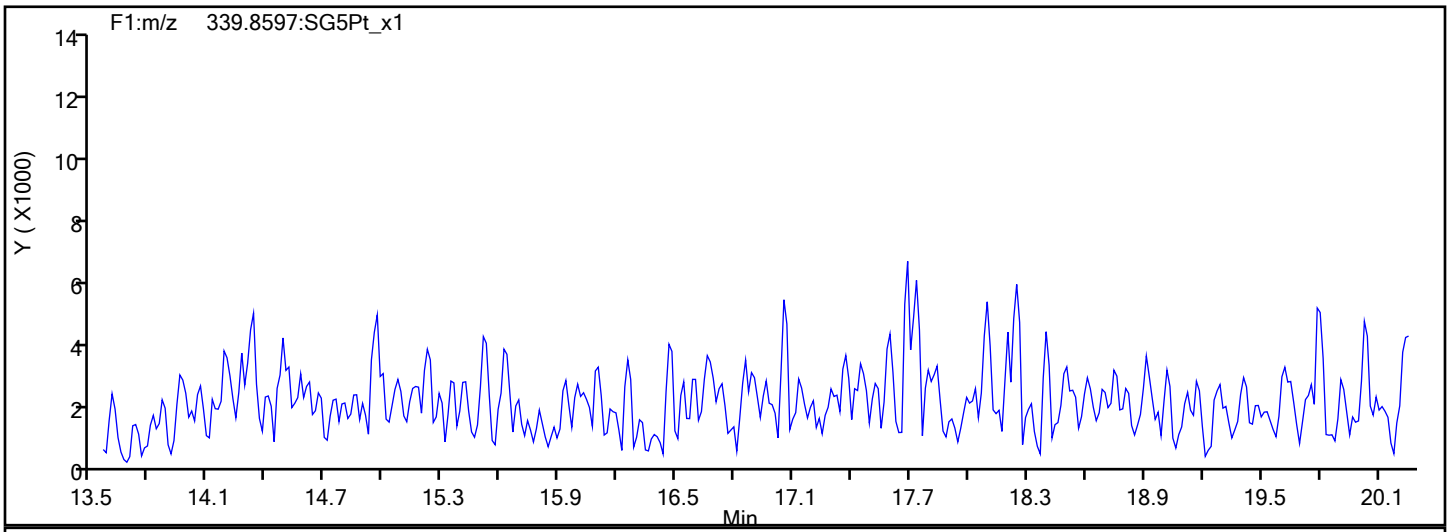

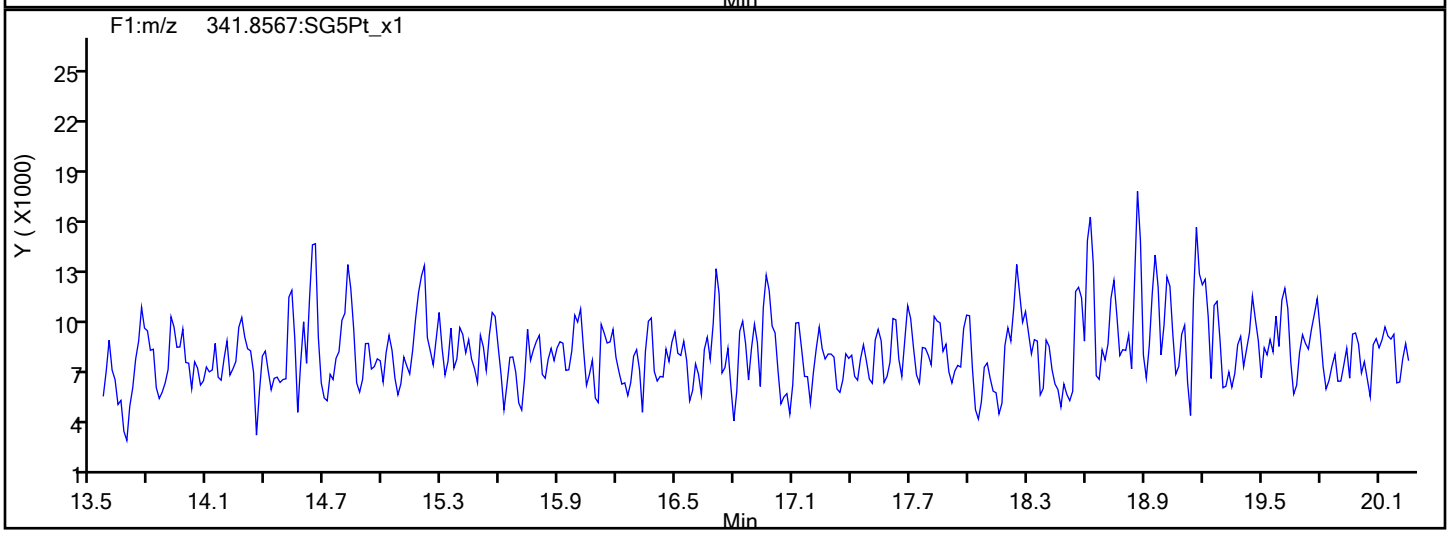

F1 PeCDFs Interference Mass

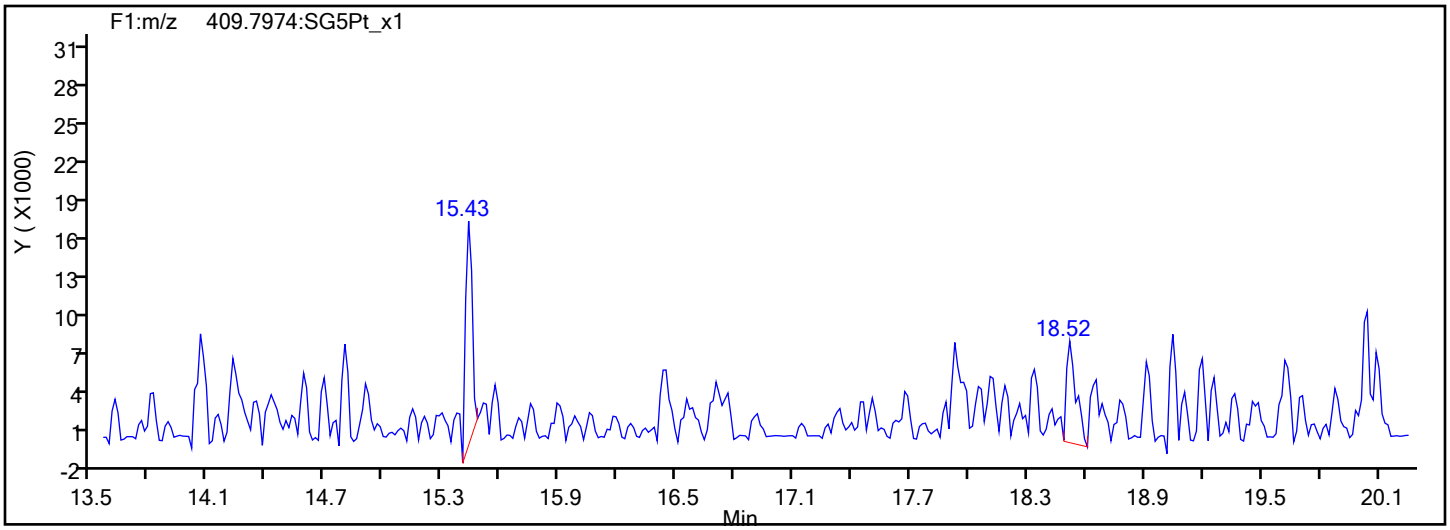

Report Date: 14-Nov-2019 09:53:42 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_41.d		
Injection Date:	13-Nov-2019 12:34:38	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	FEFF-Filtered		
Worklist#:	338227	Sample Line#:	41
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

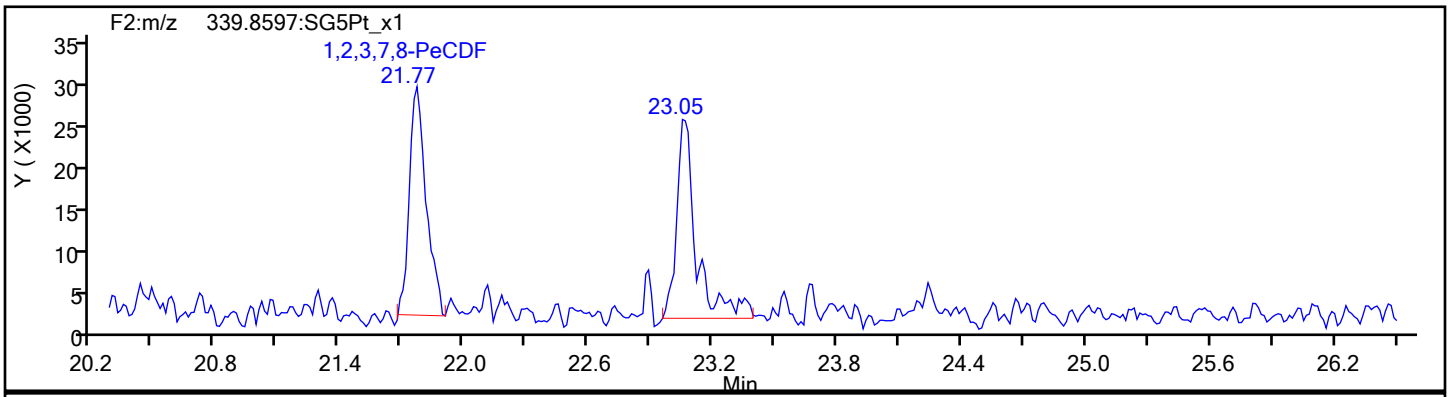

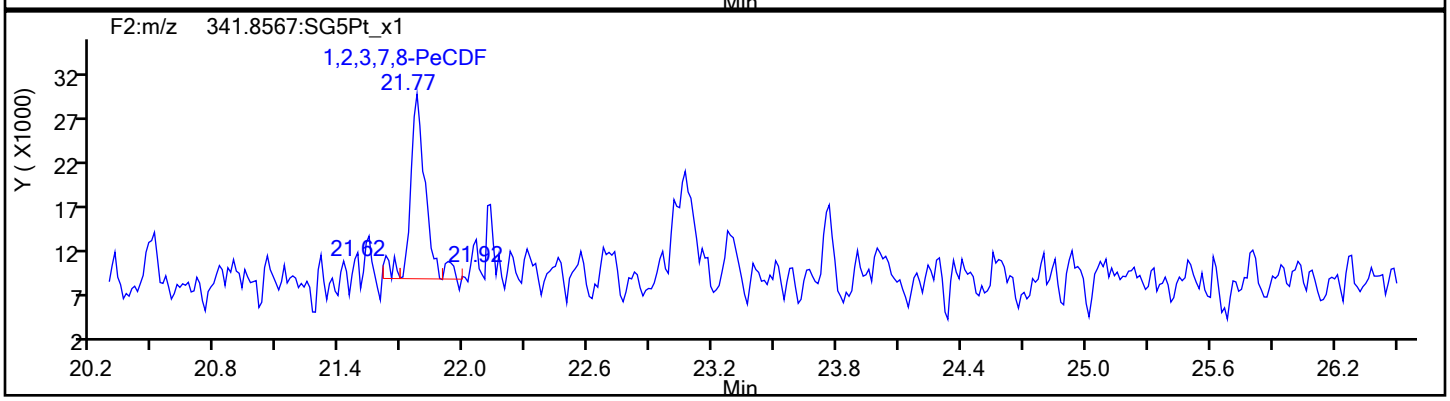

PeCDF Standards

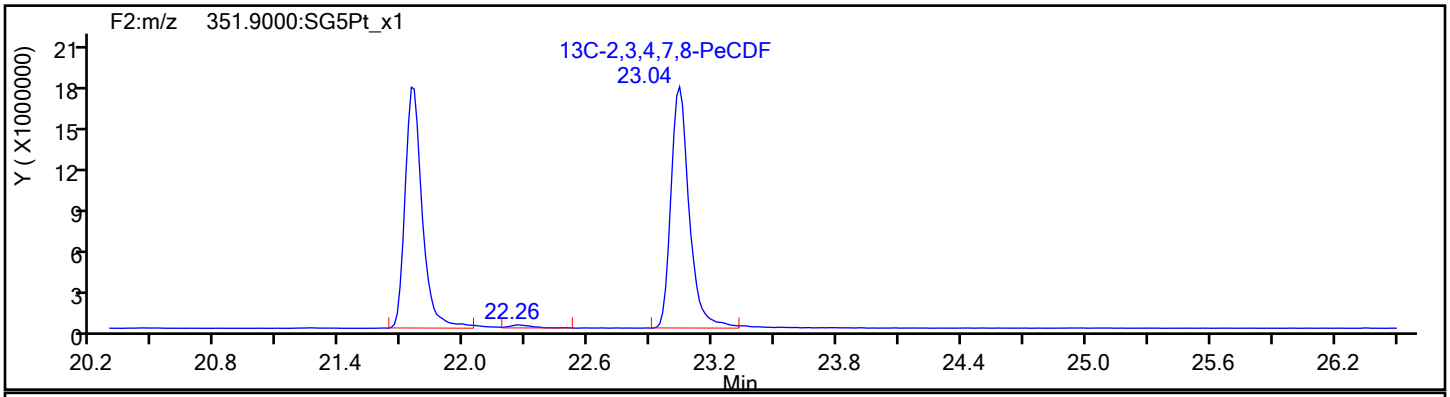

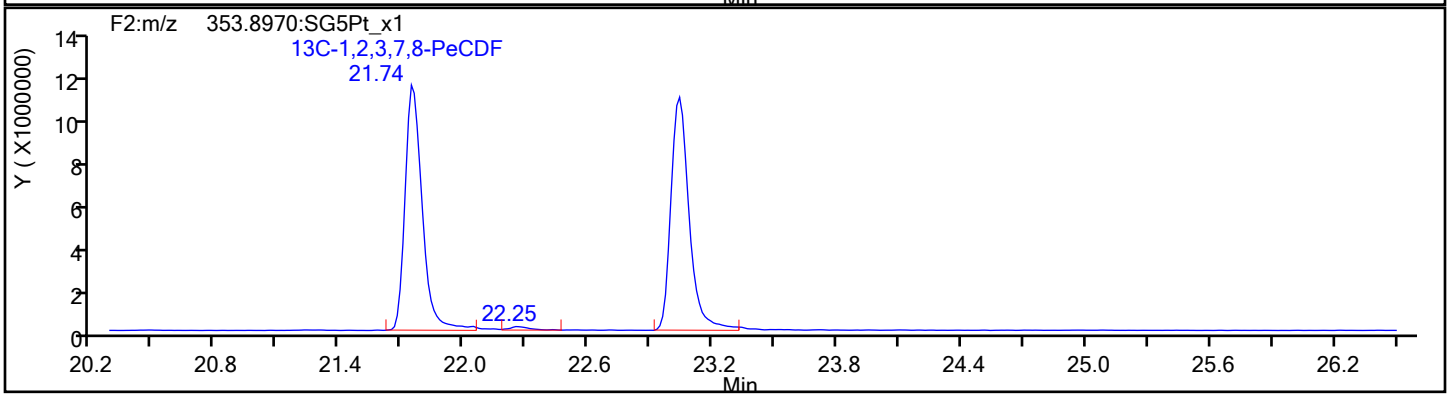

Report Date: 14-Nov-2019 09:53:42 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_41.d		
Injection Date:	13-Nov-2019 12:34:38	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	FEFF-Filtered		
Worklist#:	338227	Sample Line#:	41
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

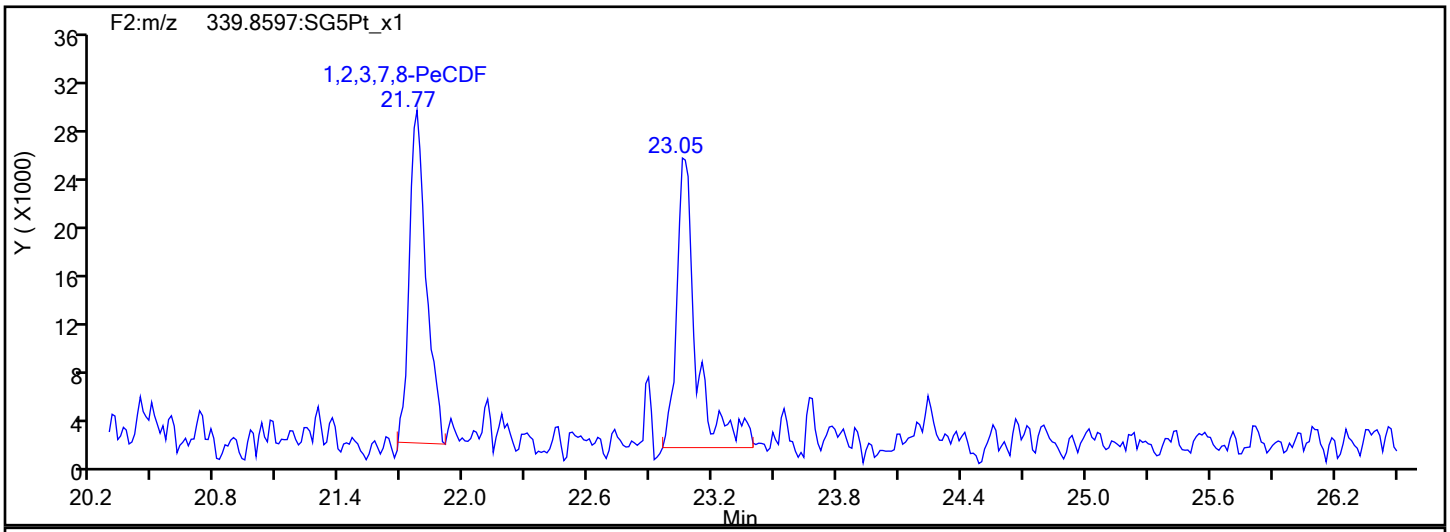

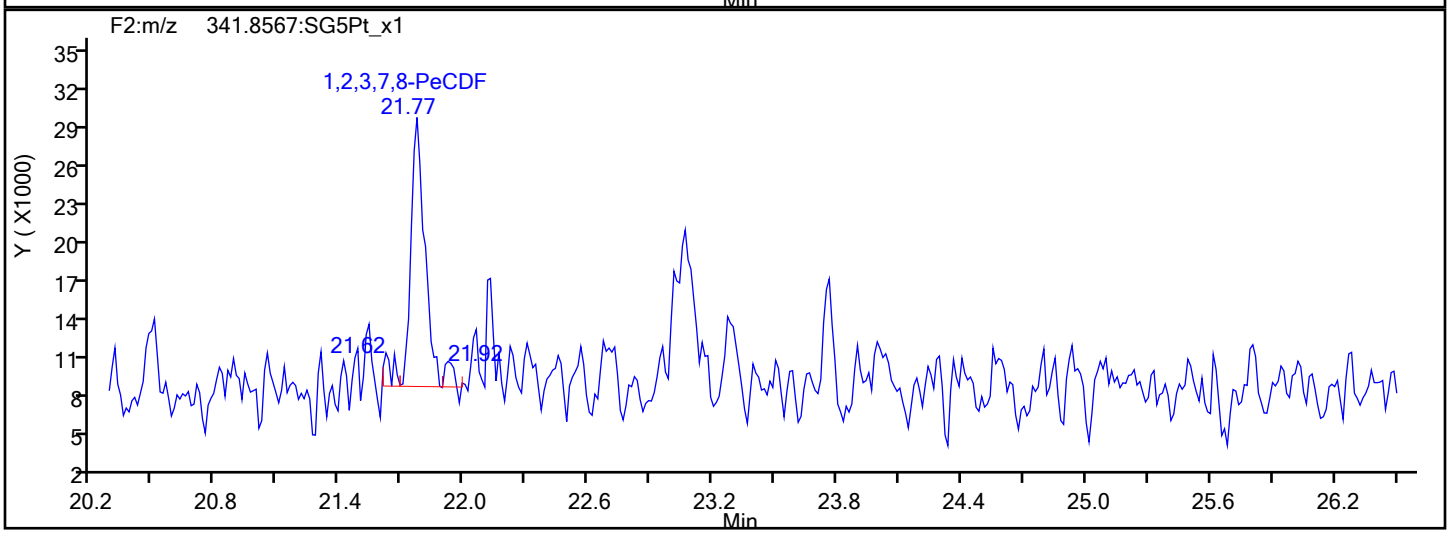

PeCDF Interference Mass

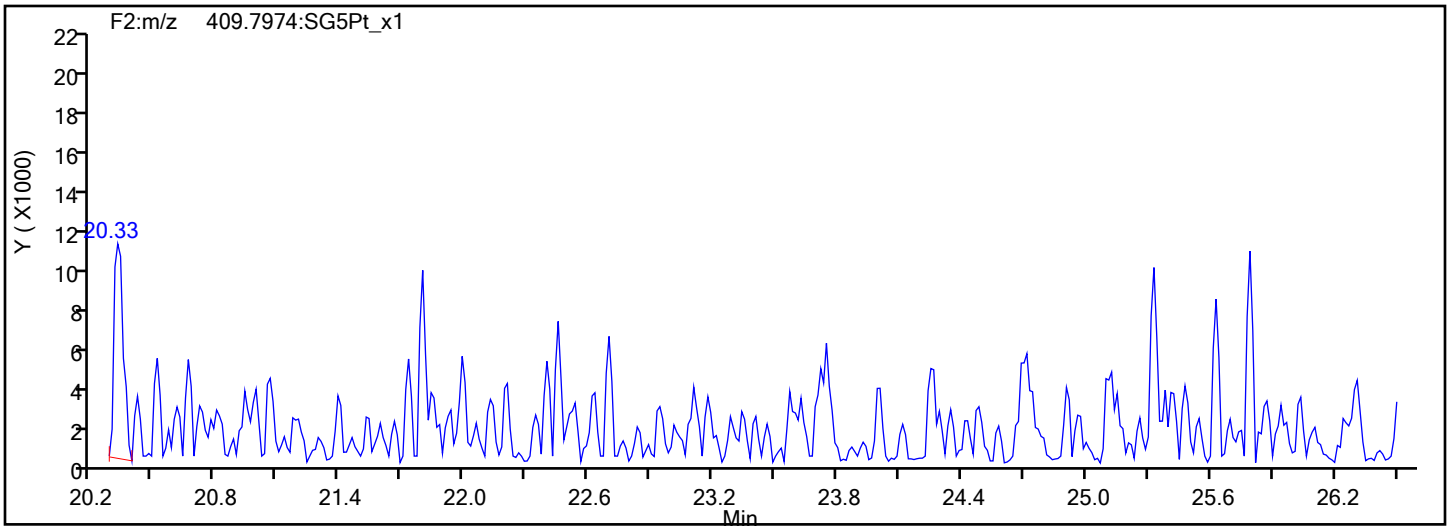

Report Date: 14-Nov-2019 09:53:42 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_41.d		
Injection Date:	13-Nov-2019 12:34:38	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	FEFF-Filtered		
Worklist#:	338227	Sample Line#:	41
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

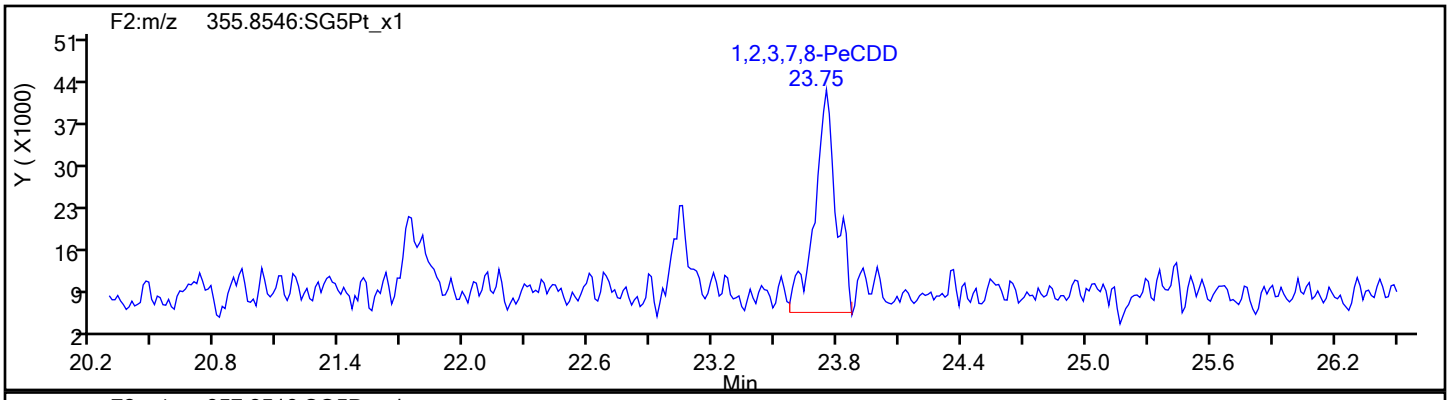

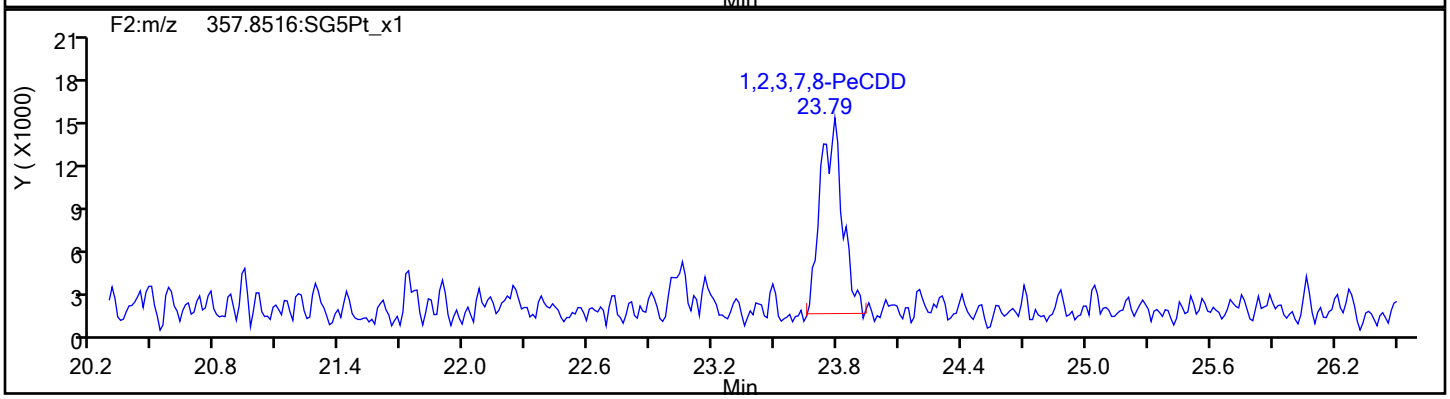

PeCDD Standards

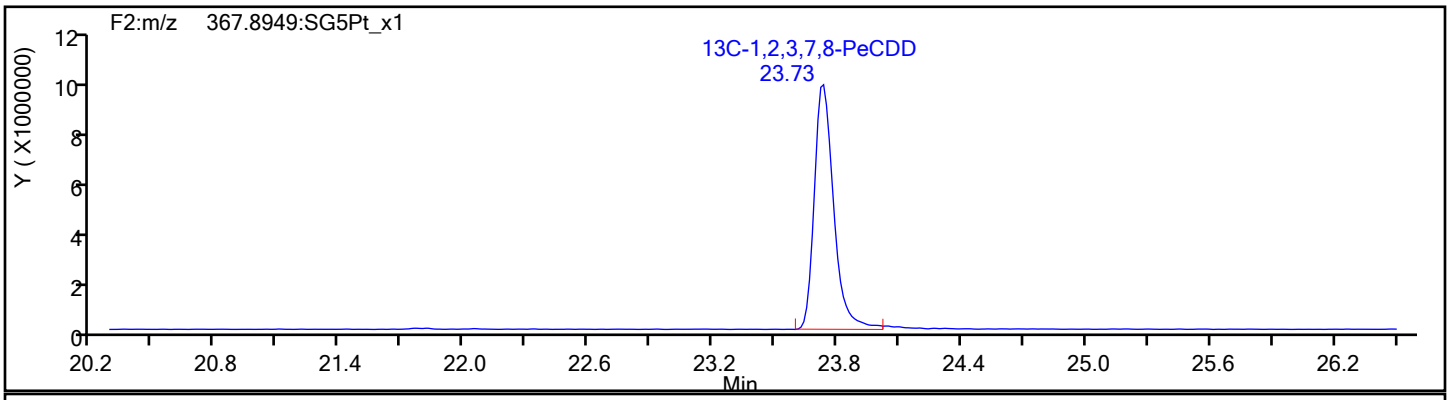

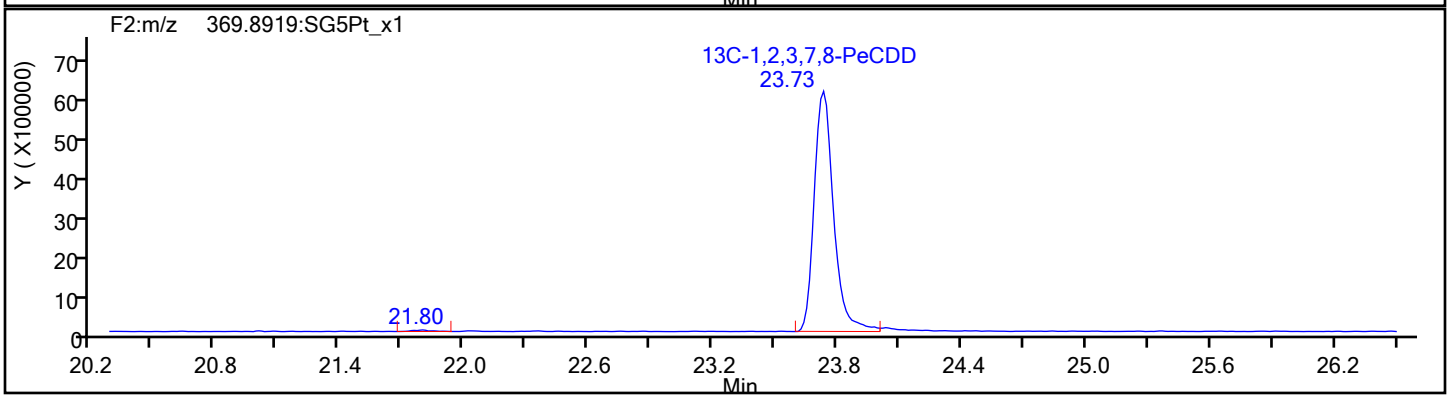

Report Date: 14-Nov-2019 09:53:42 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_41.d		
Injection Date:	13-Nov-2019 12:34:38	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	FEFF-Filtered		
Worklist#:	338227	Sample Line#:	41
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

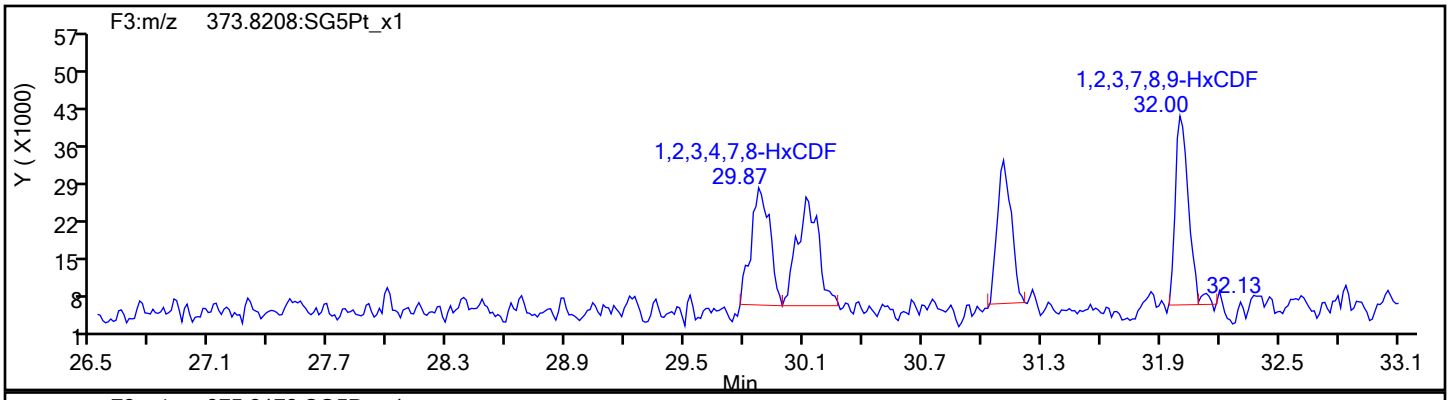

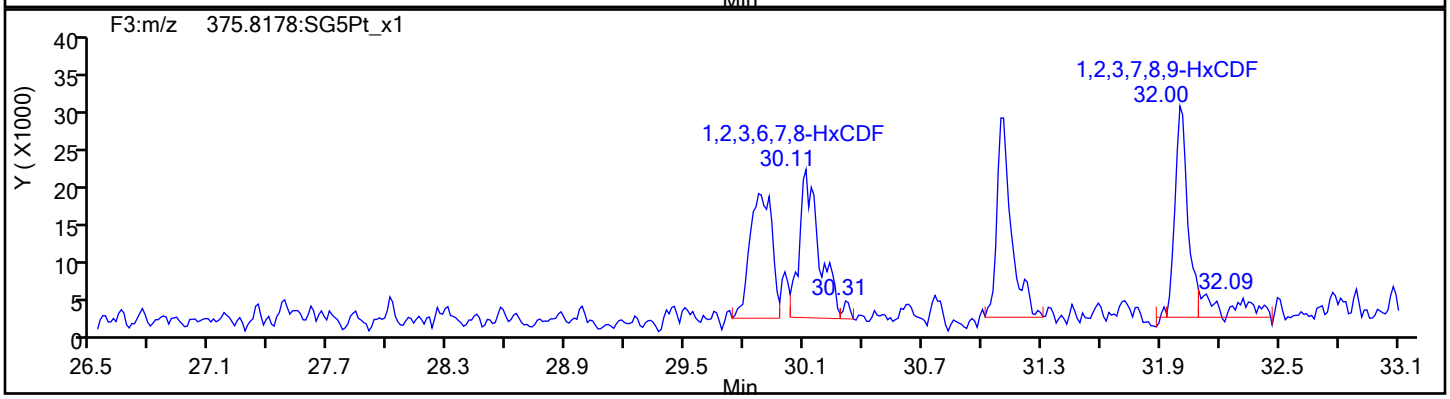

HxCDF Standards

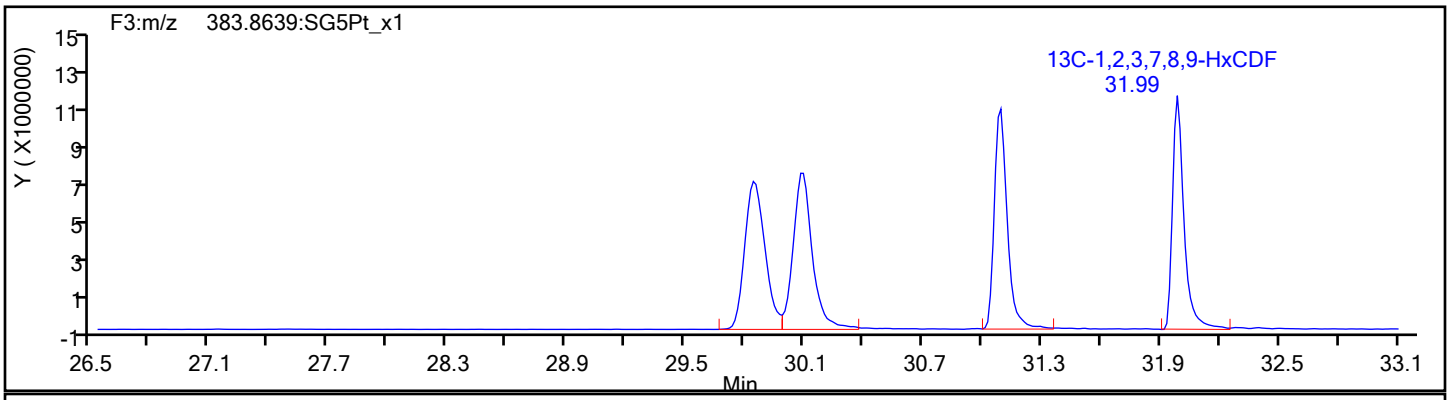

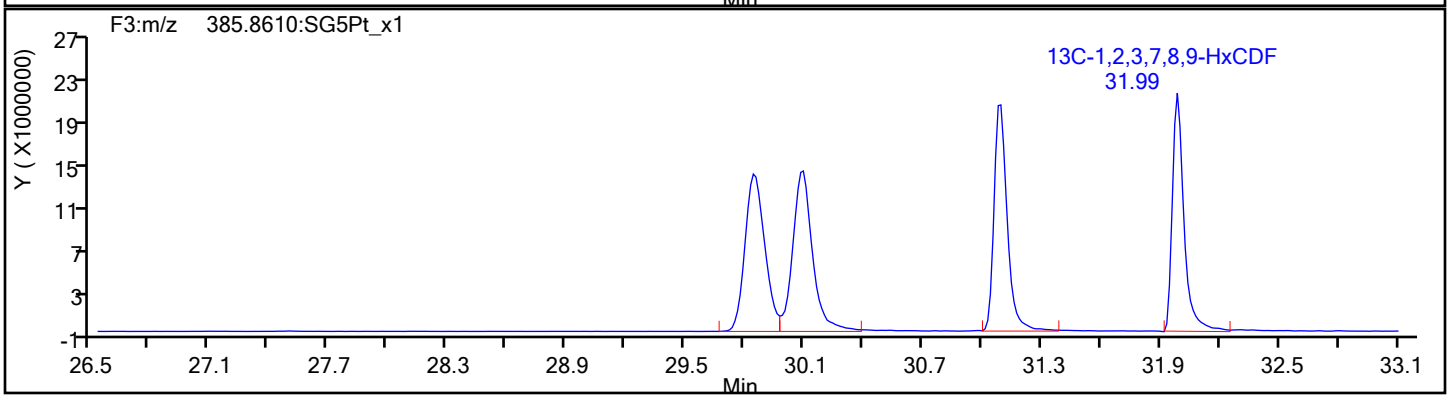

Report Date: 14-Nov-2019 09:53:42 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_41.d		
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Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	FEFF-Filtered		
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Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

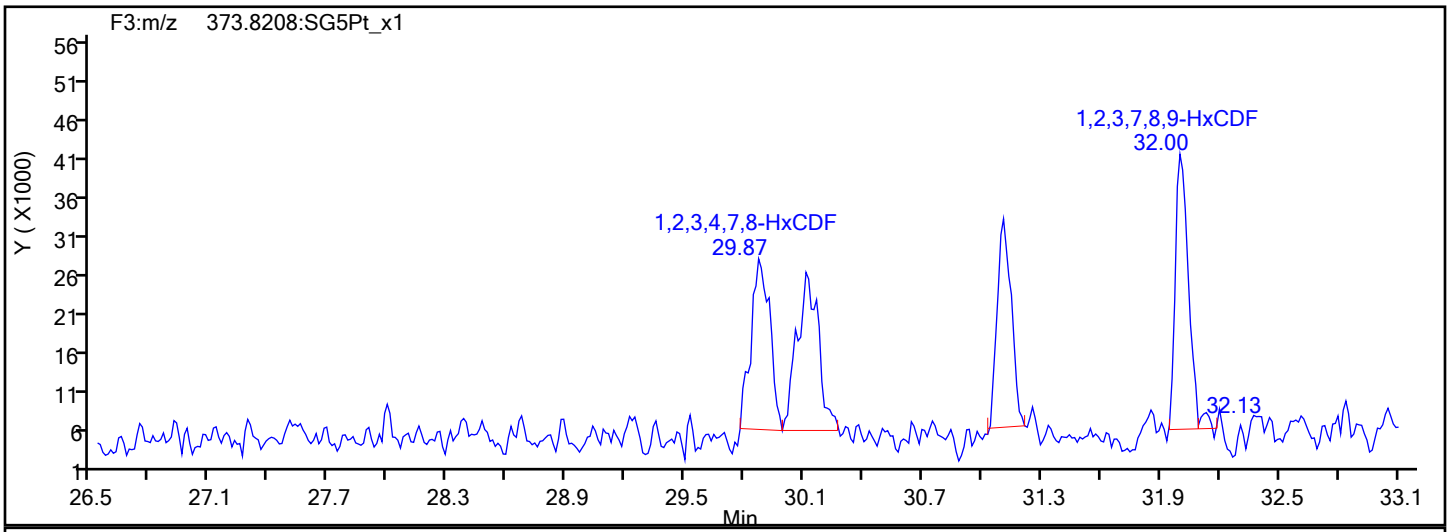

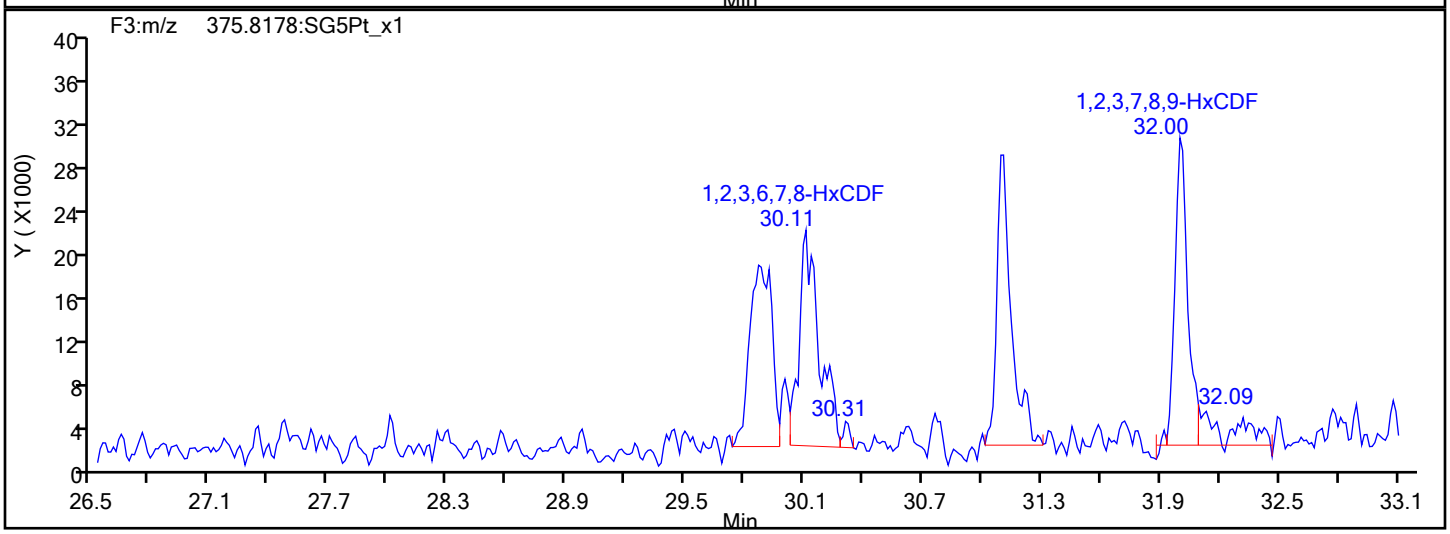

HxCDF Interference Mass

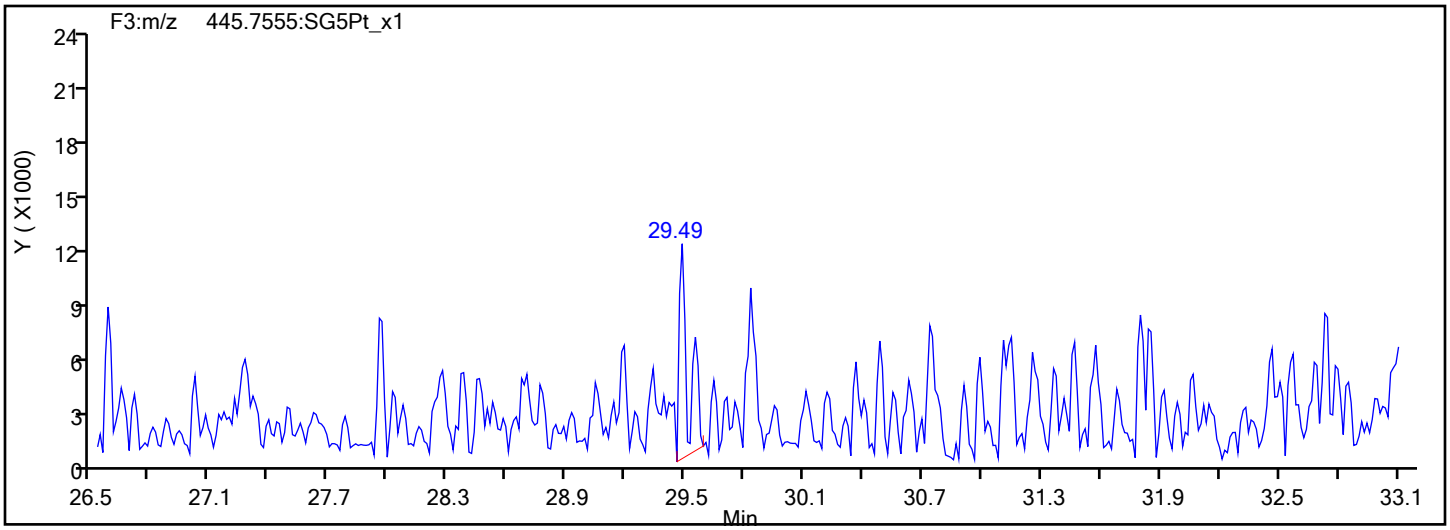

Report Date: 14-Nov-2019 09:53:42 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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HxCDD

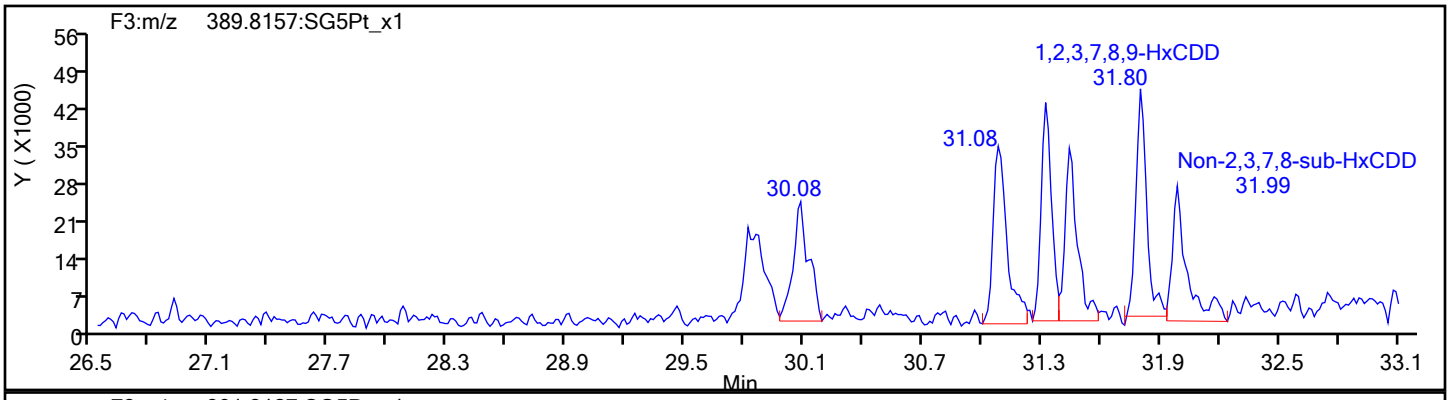

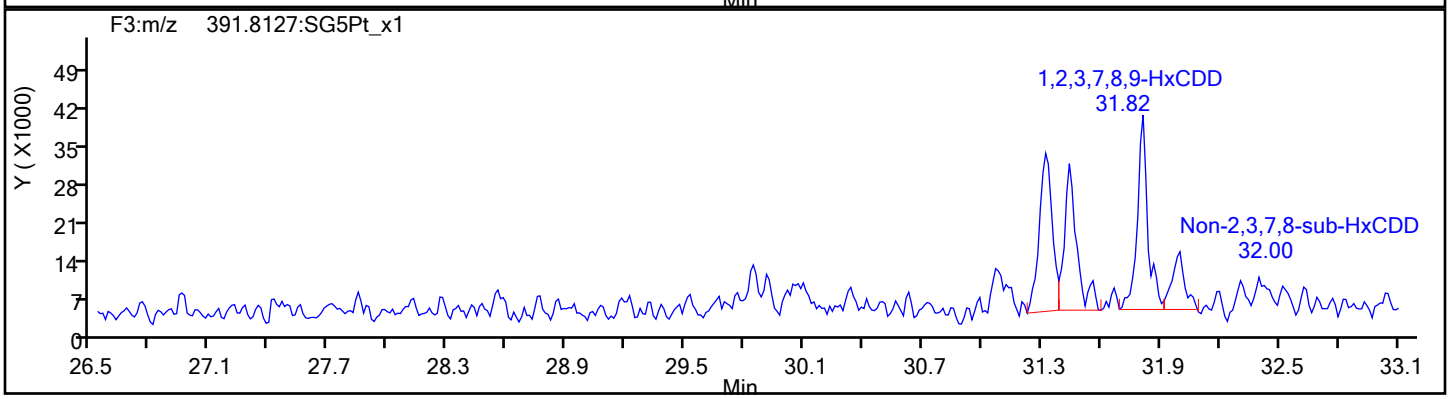

HxCDD Standards

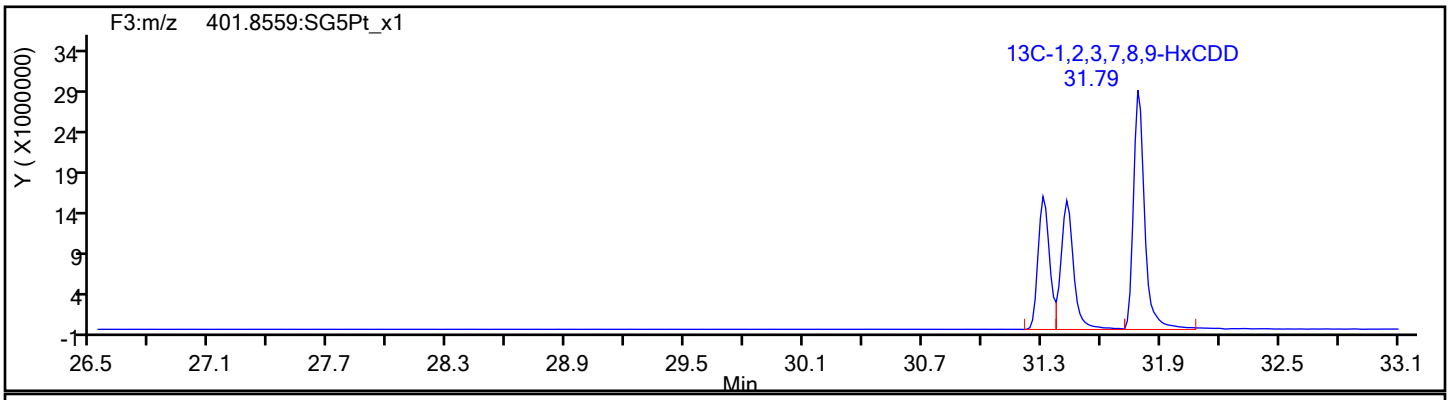

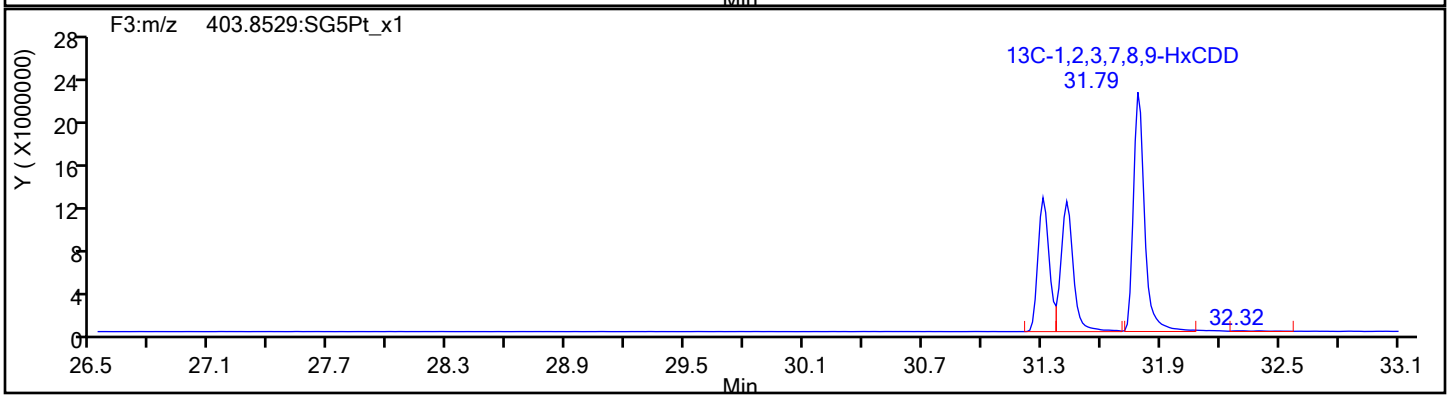

Report Date: 14-Nov-2019 09:53:42 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_41.d		
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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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HpCDF

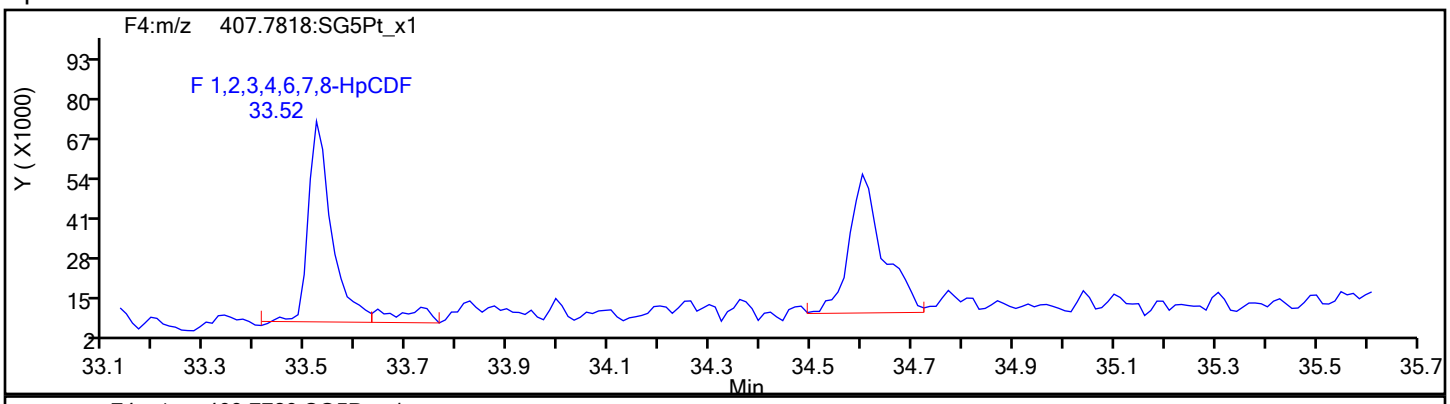

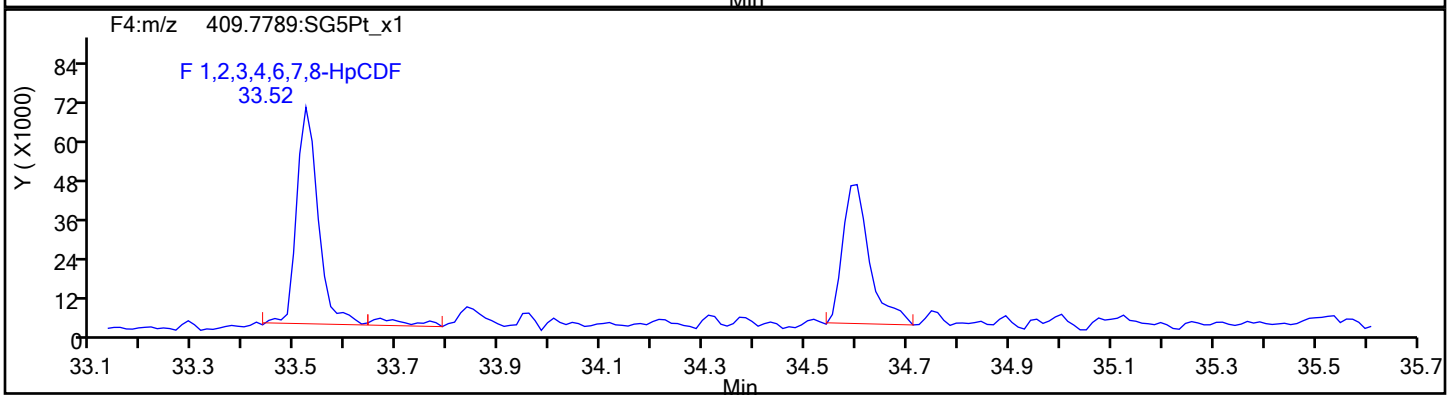

HpCDF Standards

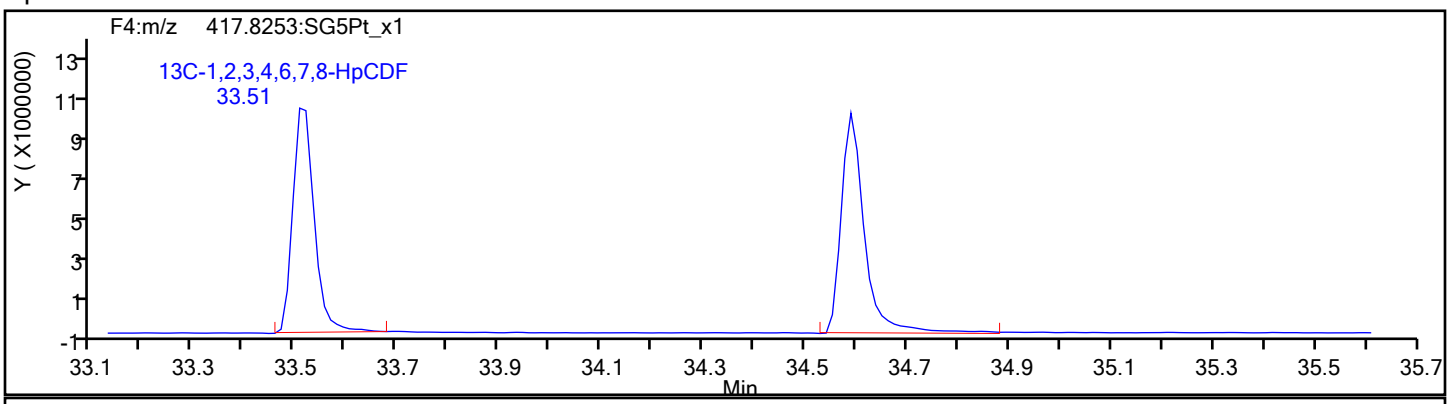

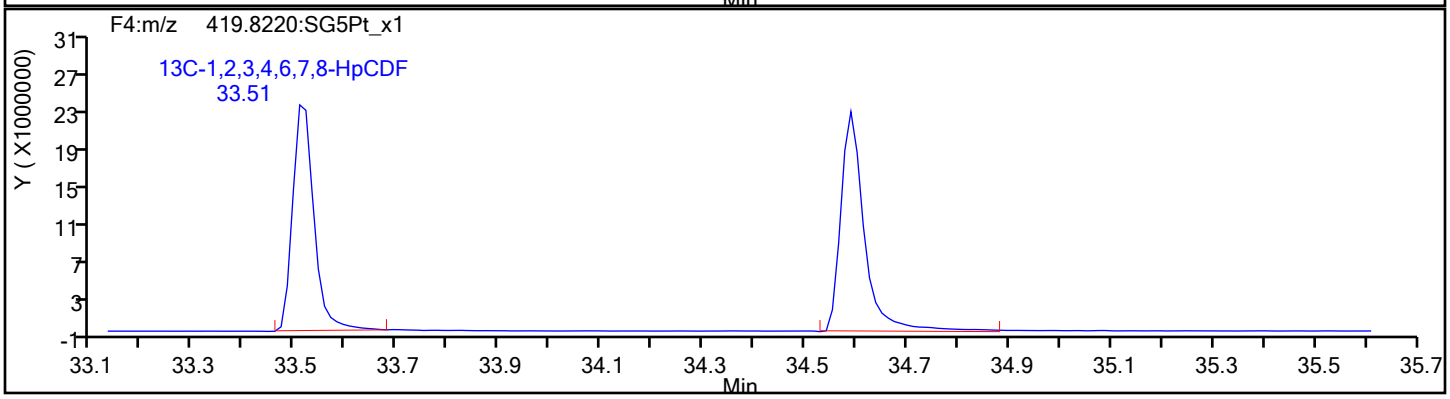

Report Date: 14-Nov-2019 09:53:42 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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HpCDF

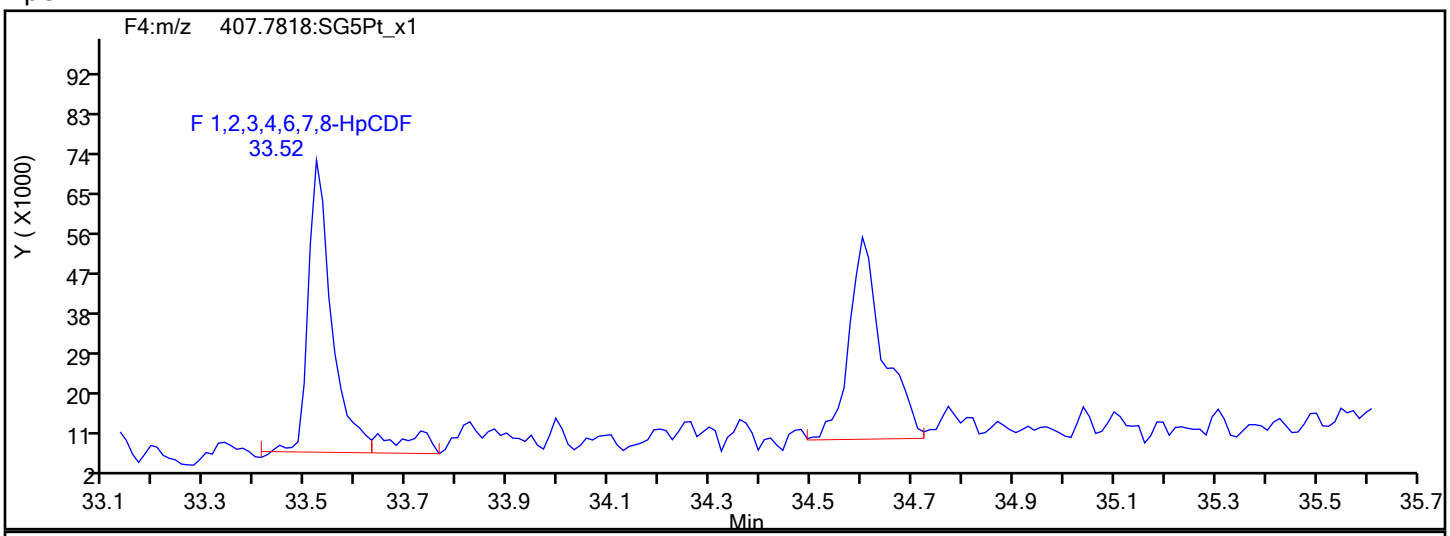

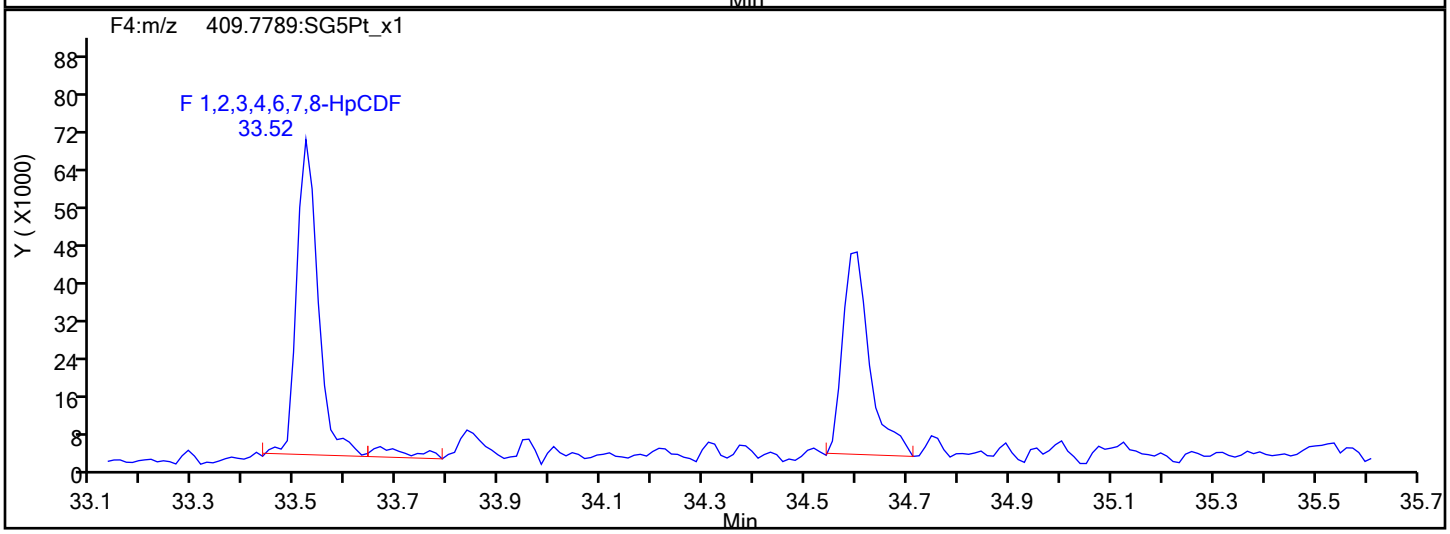

HpCDF Interference Mass

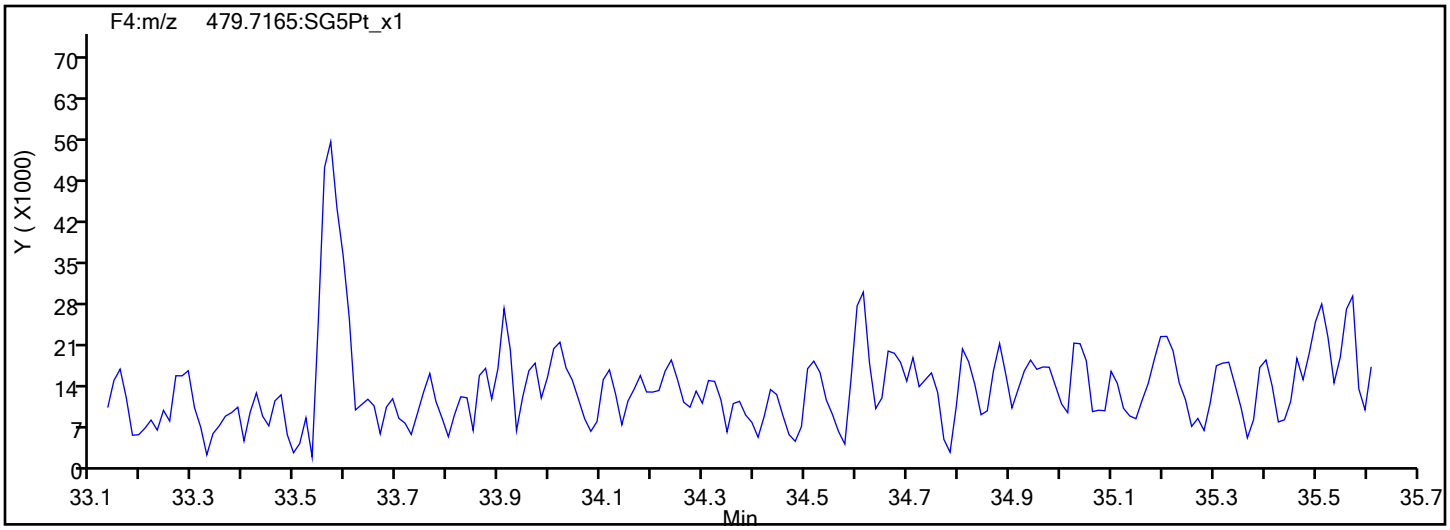

Report Date: 14-Nov-2019 09:53:42 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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HpCDD

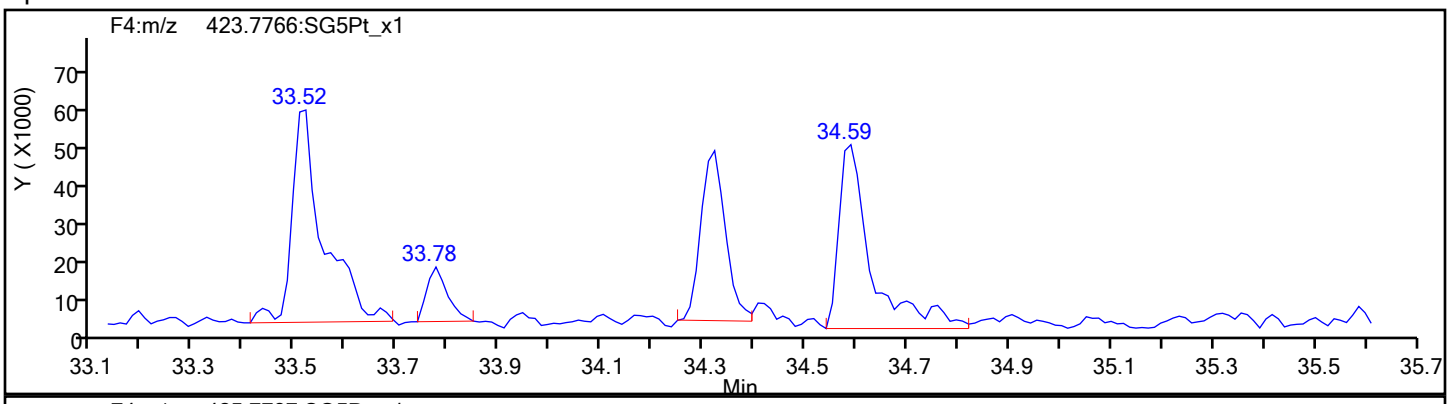

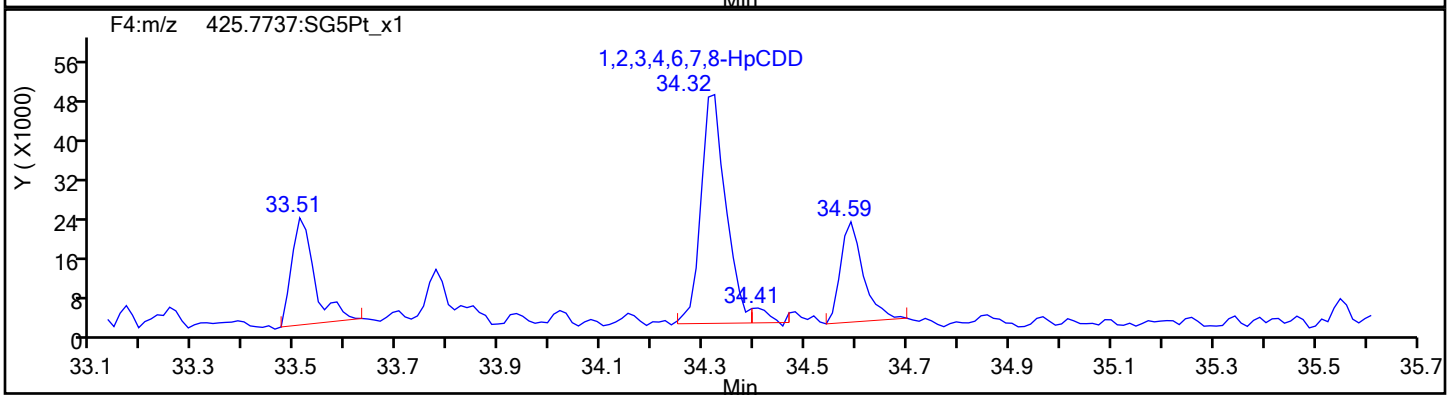

HpCDD Standards

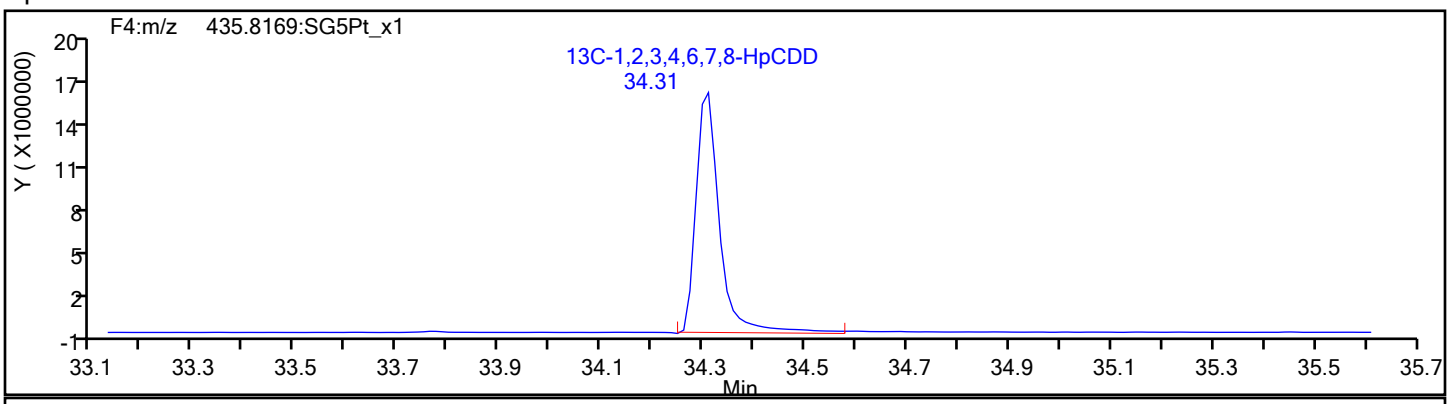

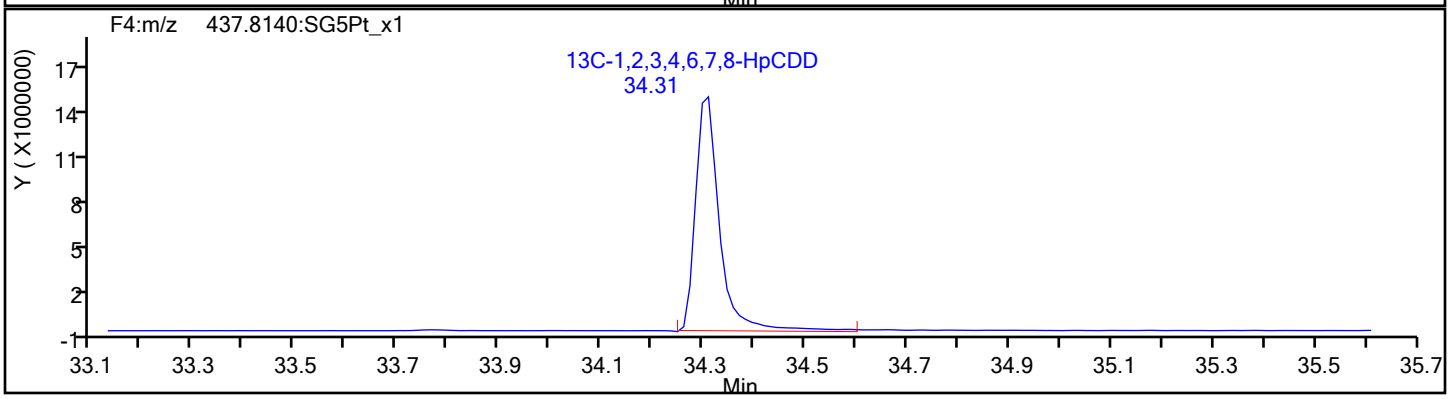

Report Date: 14-Nov-2019 09:53:42 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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OCDF

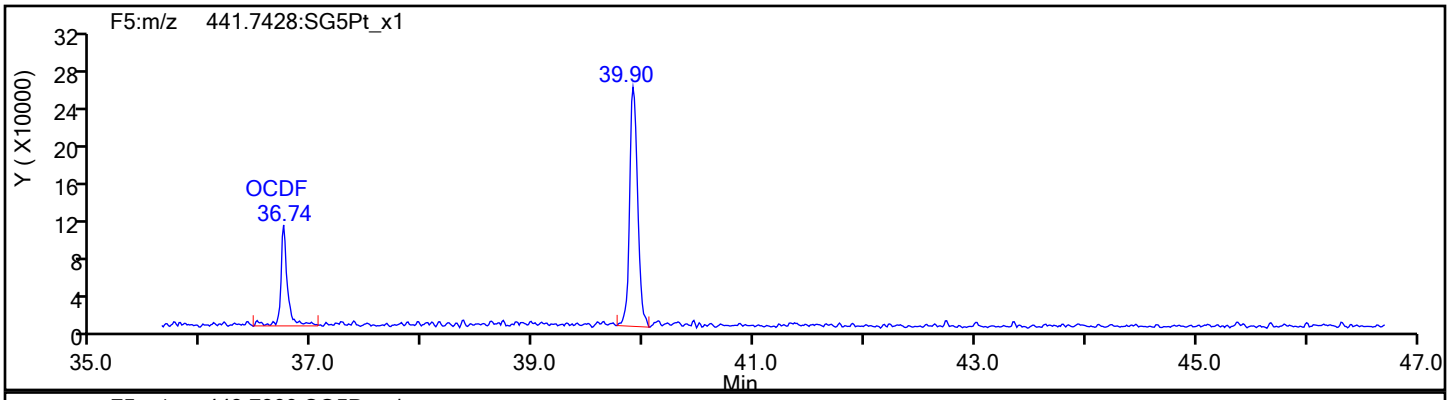

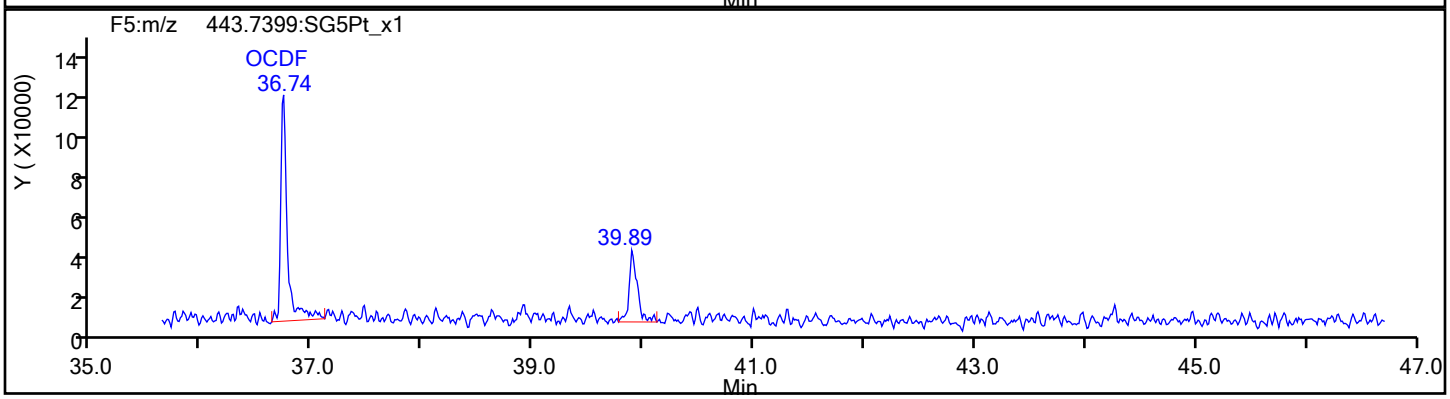

OCDF Standards

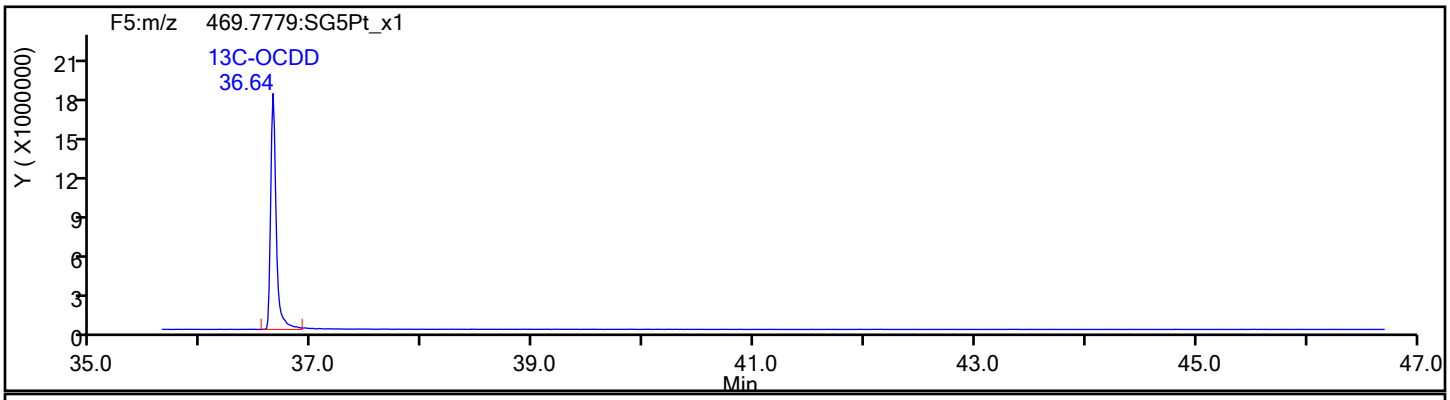

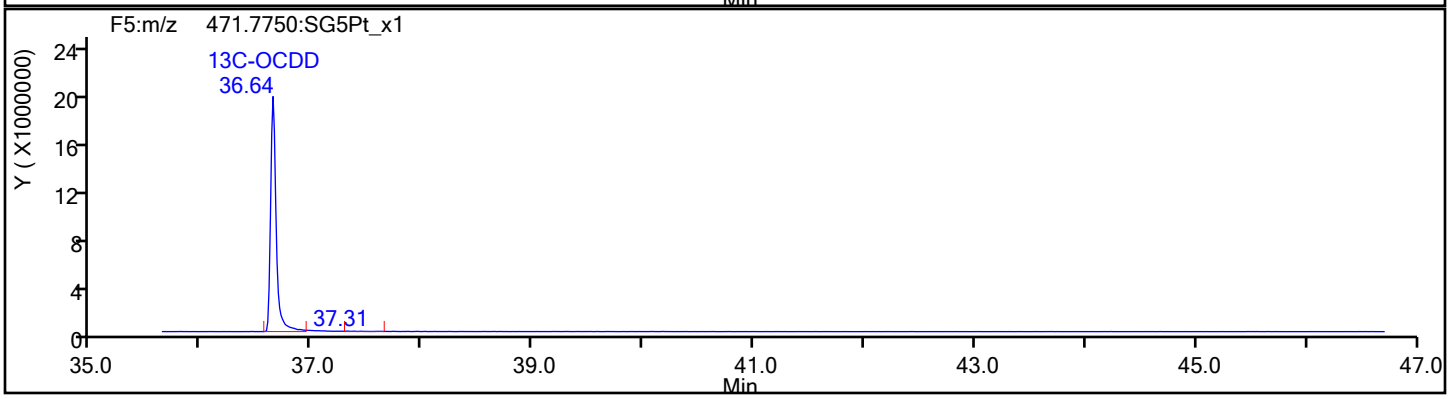

Report Date: 14-Nov-2019 09:53:42 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_41.d		
Injection Date:	13-Nov-2019 12:34:38	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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OCDF

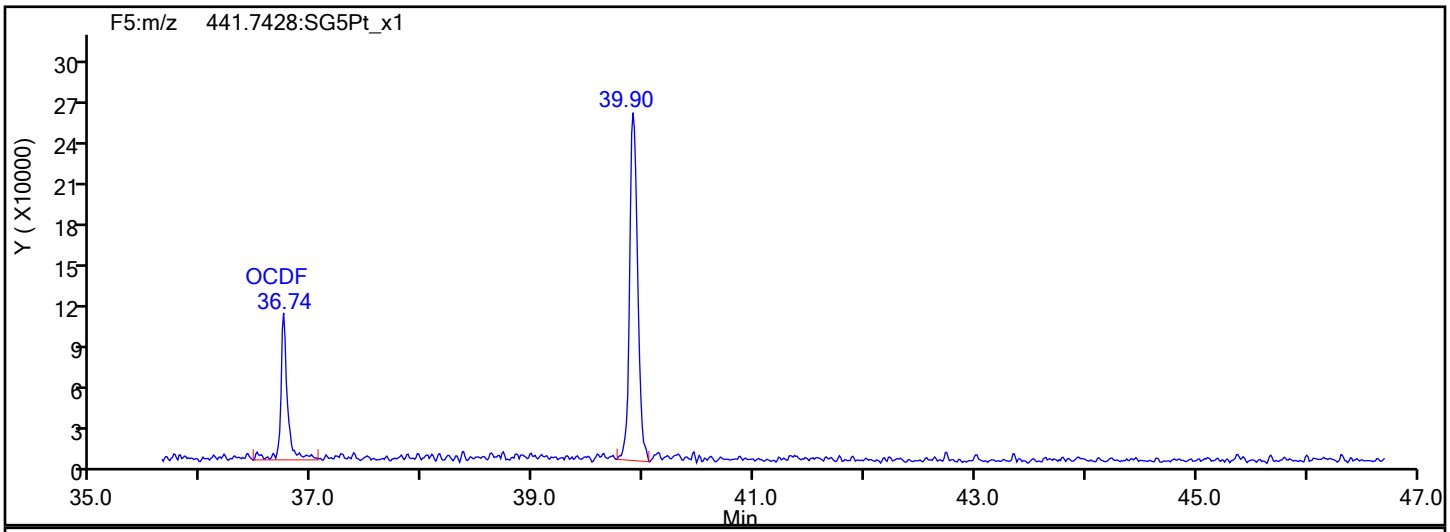

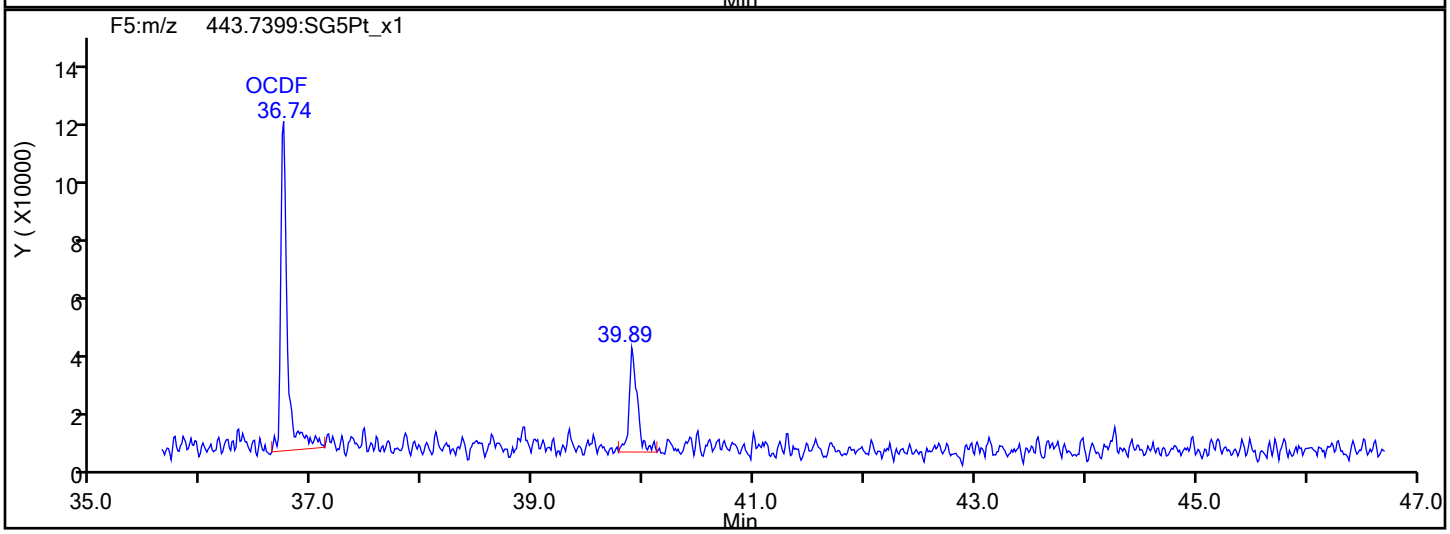

OCDF Interference Mass

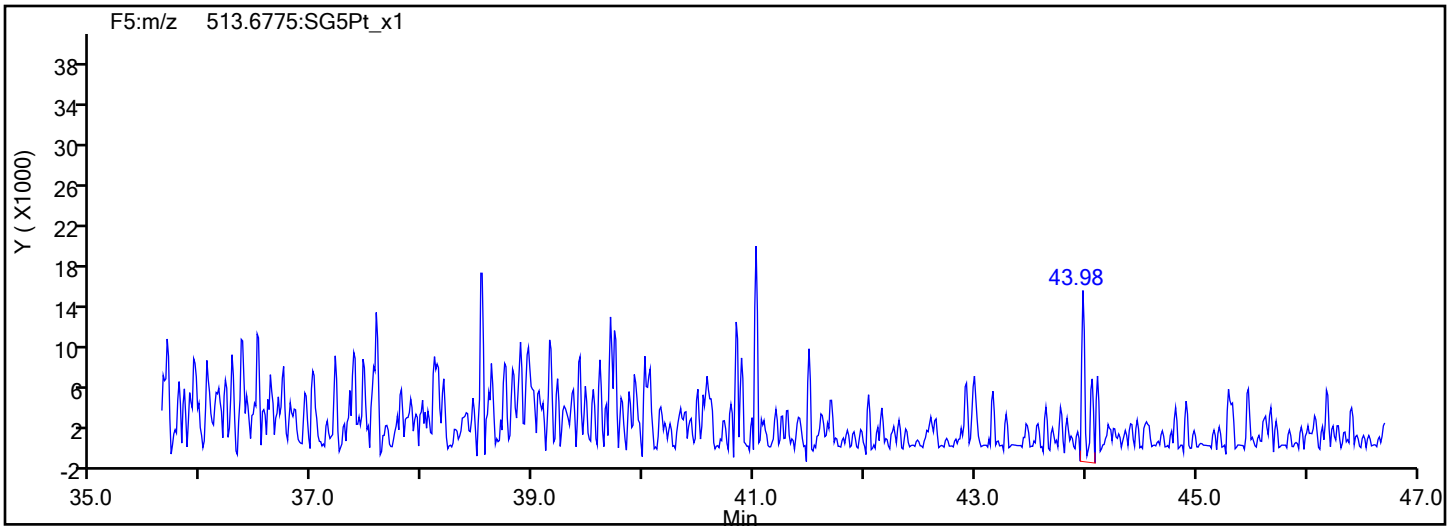

Report Date: 14-Nov-2019 09:53:42 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_41.d		
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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	FEFF-Filtered		
Worklist#:	338227	Sample Line#:	41
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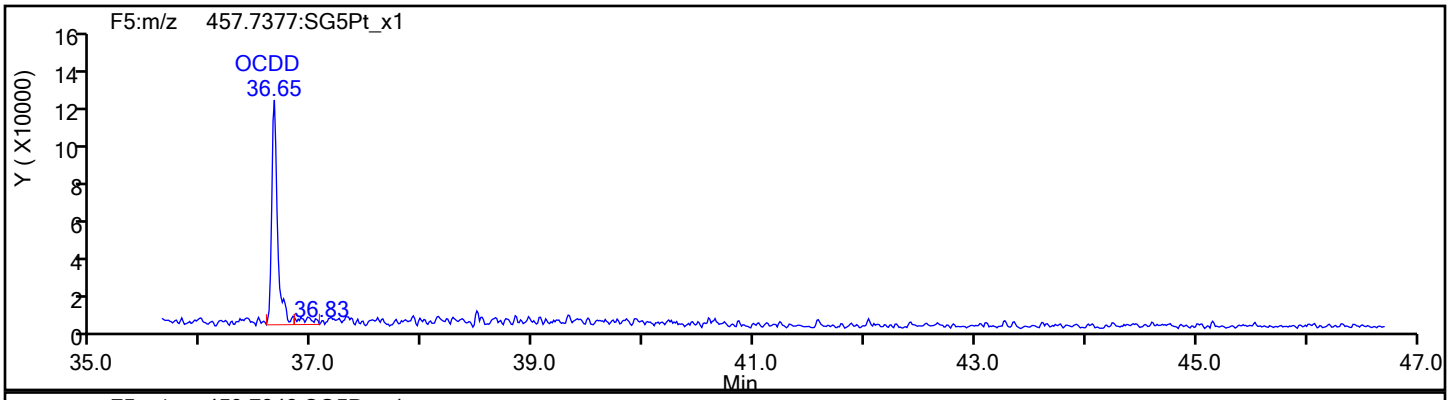

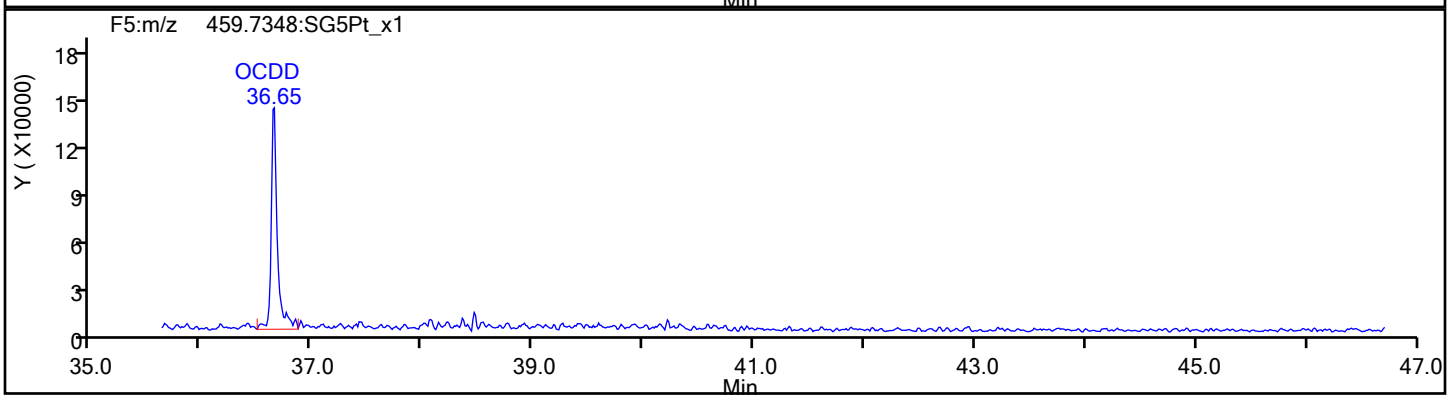

OCDD Standards

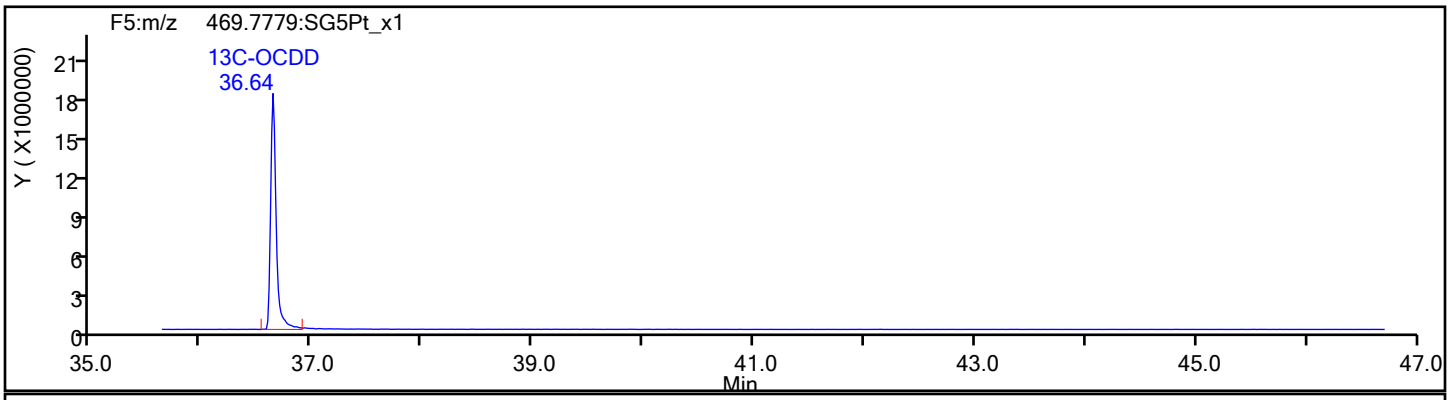

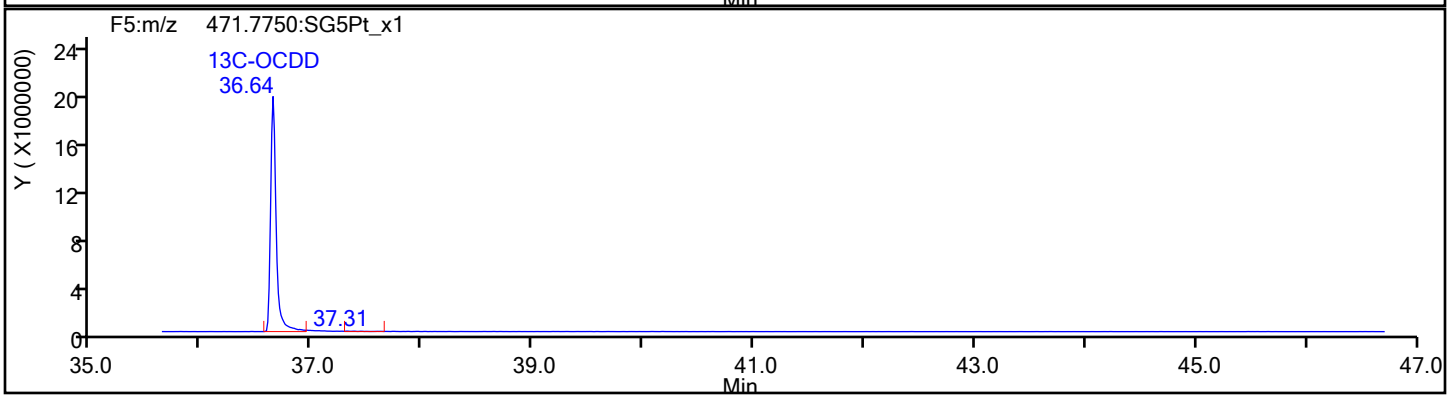

Report Date: 14-Nov-2019 09:53:42 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_41.d		
Injection Date:	13-Nov-2019 12:34:38	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	FEFF-Filtered		
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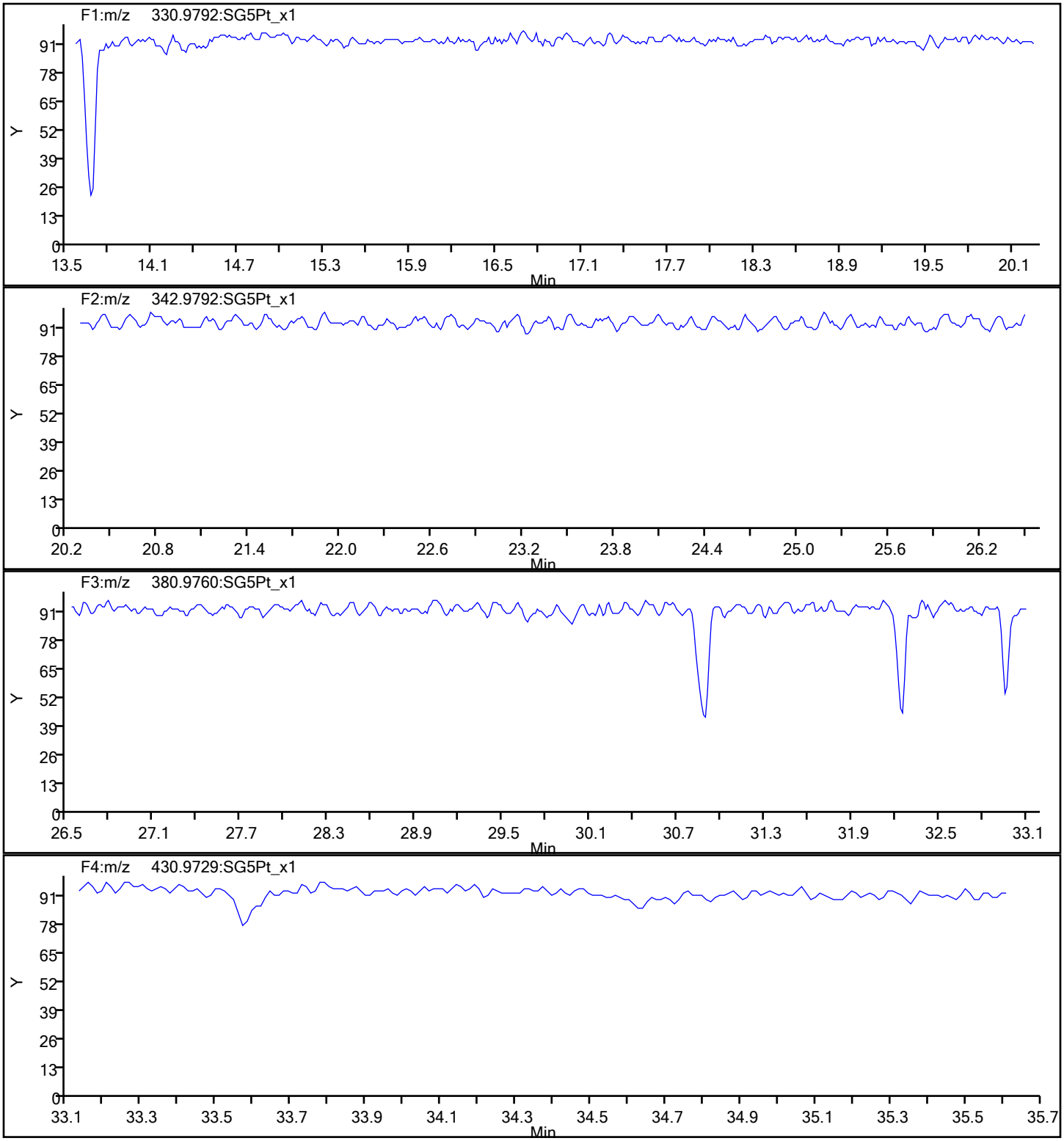

Report Date: 14-Nov-2019 09:53:42 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_41.d		
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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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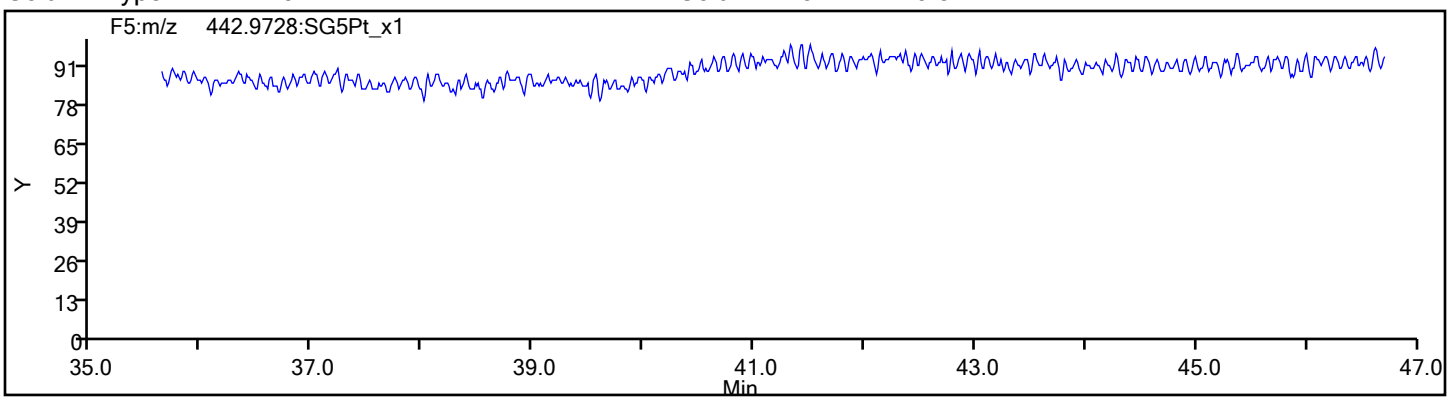

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 320-56102-1
SDG No.:
Client Sample ID: CEFF-Filtered
Lab Sample ID: 320-56102-2
Matrix: Water
Lab File ID: 12NO193D5_42.d
Analysis Method: 1613B
Date Collected: 11/05/2019 14:00
Extract. Method: 1613B
Date Extracted: 11/11/2019 08:47
Sample wt/vol: 1002.6(mL)
Date Analyzed: 11/13/2019 13:22
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 338227
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		10	1.1
51207-31-9	2,3,7,8-TCDF	2.7	J	10	1.1
40321-76-4	1,2,3,7,8-PeCDD	3.1	J	50	1.4
57117-41-6	1,2,3,7,8-PeCDF	ND		50	1.2
57117-31-4	2,3,4,7,8-PeCDF	ND		50	1.2
39227-28-6	1,2,3,4,7,8-HxCDD	2.9	J	50	0.97
57653-85-7	1,2,3,6,7,8-HxCDD	ND		50	1.1
19408-74-3	1,2,3,7,8,9-HxCDD	ND		50	0.97
70648-26-9	1,2,3,4,7,8-HxCDF	ND		50	0.91
57117-44-9	1,2,3,6,7,8-HxCDF	ND		50	0.89
72918-21-9	1,2,3,7,8,9-HxCDF	1.9	J	50	0.60
60851-34-5	2,3,4,6,7,8-HxCDF	1.5	J	50	0.64
35822-46-9	1,2,3,4,6,7,8-HpCDD	2.4	J q	50	0.90
67562-39-4	1,2,3,4,6,7,8-HpCDF	2.5	J	50	0.92
55673-89-7	1,2,3,4,7,8,9-HpCDF	ND		50	1.1
3268-87-9	OCDD	21	J B	100	1.1
39001-02-0	OCDF	13	J	100	1.5
41903-57-5	Total TCDD	ND		10	1.1
30402-14-3	Total TCDF	2.7	J	10	1.1
36088-22-9	Total PeCDD	4.4	J q	50	1.4
30402-15-4	Total PeCDF	ND		50	1.3
34465-46-8	Total HxCDD	2.9	J	50	1.0
55684-94-1	Total HxCDF	3.4	J	50	0.76
37871-00-4	Total HpCDD	2.4	J B q	50	0.90
38998-75-3	Total HpCDF	2.5	J	50	0.99

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Client Sample ID: CEFF-Filtered Lab Sample ID: 320-56102-2

Matrix: Water Lab File ID: 12NO193D5_42.d

Analysis Method: 1613B Date Collected: 11/05/2019 14:00

Extract. Method: 1613B Date Extracted: 11/11/2019 08:47

Sample wt/vol: 1002.6(mL) Date Analyzed: 11/13/2019 13:22

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 338227 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	67		25-164
89059-46-1	13C-2,3,7,8-TCDF	66		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	69		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	67		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	71		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	70		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	64		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	76		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	67		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	75		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	69		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	70		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	69		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	80		26-138
114423-97-1	13C-OCDD	70		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	121		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_42.d
Lims ID: 320-56102-A-2-A
Client ID: CEFF-Filtered
Sample Type: Client
Inject. Date: 13-Nov-2019 13:22:17 ALS Bottle#: 36 Worklist Smp#: 42
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-56102-A-2-A 320-56102-A-2-A
Misc. Info.: 12NO193D5
Operator ID: ALM, AJS Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Nov-2019 09:56:34 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0312

First Level Reviewer: dadunj Date: 14-Nov-2019 09:56:34

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.414	225608657	0.82	3.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.931	206153025	0.82	1.3908	65.7	65.7	0.2877	0.2877	65.70	
2,3,7,8-TCDF	16.945	268953	0.78	0.9710	0.1344	0.1344	0.0555	0.0555		M
A Non-2,3,7,8-sub-TCDF	16.651						0.0555	0.0555		
S Total TCDF					0.1344	0.1344	0.0555	0.0555		
D 13C-2,3,7,8-TCDD	17.611	149458610	0.80	0.9819	67.5	67.5	0.3130	0.3130	67.47	
2,3,7,8-TCDD	17.626						0.0553	0.0553		
$ 37Cl4-2,3,7,8-TCDD	17.626	133157776		1.2205	48.4	48.4	0.1920	0.1920	121	
A Non-2,3,7,8-sub-TCDD	17.097						0.0553	0.0553		
S Total TCDD							0.0553	0.0553		
D 13C-1,2,3,7,8-PeCDF	21.757	174968338	1.57	1.1585	66.9	66.9	0.2565	0.2565	66.95	
1,2,3,7,8-PeCDF	21.771						0.0608	0.0608		
D 13C-2,3,4,7,8-PeCDF	23.039	184685917	1.62	1.1532	71.0	71.0	0.2577	0.2577	70.99	
2,3,4,7,8-PeCDF	23.066						0.0623	0.0623		
A F1 PeCDFs	19.599						0.0641	0.0641		
A Non-2,3,7,8-sub-PeCDF	22.617						0.0616	0.0616		
S Total PeCDF							0.0641	0.0641		
D 13C-1,2,3,7,8-PeCDD	23.734	116510538	1.63	0.7431	69.5	69.5	0.1540	0.1540	69.50	
1,2,3,7,8-PeCDD	23.734	190350	1.74	1.0635	0.1536	0.1536	0.0706	0.0706		M
A Non-2,3,7,8-sub-PeCDD	22.698	80863	1.55	1.0635	0.1069	0.0653	0.0706	0.0706		RQ
S Total PeCDD					0.2605	0.2189	0.0706	0.0706		RQ
D 13C-1,2,3,4,7,8-HxCDF	29.858	159249945	0.53	0.9837	75.8	75.8	0.3244	0.3244	75.75	
1,2,3,4,7,8-HxCDF	29.871						0.0458	0.0458		
D 13C-1,2,3,6,7,8-HxCDF	30.098	166047808	0.52	1.1554	67.2	67.2	0.2762	0.2762	67.25	
1,2,3,6,7,8-HxCDF	30.111						0.0448	0.0448		
D 13C-2,3,4,6,7,8-HxCDF	31.096	152161452	0.53	1.0361	68.7	68.7	0.3080	0.3080	68.72	
2,3,4,6,7,8-HxCDF	31.110	130900	1.22	1.1710	0.0735	0.0735	0.0323	0.0323		
D 13C-1,2,3,7,8,9-HxCDF	31.989	144787609	0.52	0.9034	75.0	75.0	0.3533	0.3533	74.99	
1,2,3,7,8,9-HxCDF	32.002	165454	1.34	1.1787	0.0970	0.0970	0.0302	0.0302		M
A Non-2,3,7,8-sub-HxCDF	29.618						0.0369	0.0369		
S Total HxCDF					0.1704	0.1704	0.0382	0.0382		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.789	213705276	1.28	2.6E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.309	123374544	1.28	0.8287	69.7	69.7	0.2609	0.2609	69.66	
1,2,3,4,7,8-HxCDD	31.323	184606	1.34	1.0267	0.1457	0.1457	0.0485	0.0485		M
D 13C-1,2,3,6,7,8-HxCDD	31.429	130866698	1.31	0.9495	64.5	64.5	0.2278	0.2278	64.50	
1,2,3,6,7,8-HxCDD	31.323						0.0547	0.0547		QMU
1,2,3,7,8,9-HxCDD	31.802						0.0486	0.0486		
A Non-2,3,7,8-sub-HxCDD	30.264						0.0505	0.0505		U
S Total HxCDD					0.1457	0.1457	0.0506	0.0506		
D 13C-1,2,3,4,6,7,8-HpCDF	33.520	107601283	0.43	0.7285	69.1	69.1	0.9593	0.9593	69.12	
1,2,3,4,6,7,8-HpCDF	33.532	197490	1.02	1.4373	0.1277	0.1277	0.0462	0.0462		M
D 13C-1,2,3,4,7,8,9-HpCDF	34.590	112643971	0.43	0.6556	80.4	80.4	1.066	1.066	80.40	
1,2,3,4,7,8,9-HpCDF	34.614						0.0532	0.0532		
A Non-2,3,7,8-sub-HpCDF	34.073						0.0495	0.0495		U
S Total HpCDF					0.1277	0.1277	0.0497	0.0497		
D 13C-1,2,3,4,6,7,8-HpCDD	34.310	104324089	1.07	0.6978	70.0	70.0	0.3493	0.3493	69.95	
1,2,3,4,6,7,8-HpCDD	34.322	126692	1.04	1.0102	0.1391	0.1202	0.0452	0.0452		RQ
A Non-2,3,7,8-sub-HpCDD	34.990						0.0452	0.1735		RQU
S Total HpCDD					0.1391	0.1202	0.0452	0.0452		RQ
D 13C-OCDD	36.641	143717609	0.92	0.4780	140.7	140.7	0.1670	0.1670	70.35	
OCDF	36.737	648519	0.80	1.3501	0.6684	0.6684	0.0768	0.0768		
OCDD	36.653	798516	0.92	1.0627	1.046	1.046	0.0566	0.0566		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_42.d
Lims ID: 320-56102-A-2-A
Client ID: CEFF-Filtered
Sample Type: Client
Inject. Date: 13-Nov-2019 13:22:17 ALS Bottle#: 36 Worklist Smp#: 42
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-56102-A-2-A 320-56102-A-2-A
Misc. Info.: 12NO193D5
Operator ID: ALM, AJS Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Nov-2019 09:56:34 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0312

First Level Reviewer: dadunj Date: 14-Nov-2019 09:56:34

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.414	17.414	0		101780886	25706415	44648	111620	576		
333.9339	17.414	17.414	0		123827771	31695768	25915	64787	1223	0.82(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.931	16.930	0	0.972	92649843	22504026	42868	107170	525		
317.9389	16.931	16.930	0	0.972	113503182	27329285	48994	122485	558	0.82(0.65-0.89)	
2,3,7,8-TCDF											M
303.9016	16.945	16.961	-1	1.001	117636	21686	4365	10912	5		
305.8987	16.931	16.961	-2	1.000	151317	22184	6370	15925	3	0.78(0.65-0.89)	M
A Non-2,3,7,8-sub-TCDF											
303.9016	16.651						4365	10912			
305.8987	16.651						6370	15925			
13C-2,3,7,8-TCDD											
331.9368	17.611	17.611	0	1.011	66448362	15699078	44648	111620	352		
333.9339	17.611	17.611	0	1.011	83010248	19411784	25915	64787	749	0.80(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.626						5784	14460			
321.8936	17.626						2330	5825			
37Cl4-2,3,7,8-TCDD											
327.8847	17.626	17.626	0	1.012	133157776	31255395	53815	134537	581		
A Non-2,3,7,8-sub-TCDD											
319.8965	17.097						5784	14460			
321.8936	17.097						2330	5825			
13C-1,2,3,7,8-PeCDF											
351.9000	21.757	21.743	1	1.249	106840787	18459203	40881	102202	452		
353.8970	21.757	21.743	1	1.249	68127551	11768496	27341	68352	430	1.57(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	21.771						2069	5172			
341.8567	21.771						5018	12545			
13C-2,3,4,7,8-PeCDF											
351.9000	23.039	23.052	-1	1.323	114174028	18624972	40881	102202	456		
353.8970	23.039	23.052	-1	1.323	70511889	11329243	27341	68352	414	1.62(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.066						2069	5172			
341.8567	23.066						5018	12545			
A F1 PeCDFs											
339.8597	19.599						1886	4715			
341.8567	19.599						5493	13732			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.617						2069	5172			
341.8567	22.617						5018	12545			
13C-1,2,3,7,8-PeCDD											
367.8949	23.734	23.734	0	1.363	72281533	11336608	14591	36477	777		
369.8919	23.734	23.734	0	1.363	44229005	6943374	11682	29205	594	1.63(1.32-1.78)	
1,2,3,7,8-PeCDD											M
355.8546	23.734	23.748	-1	1.000	120958	19527	4074	10185	5		M
357.8516	23.748	23.748	0	1.001	69392	10168	1416	3540	7	1.74(1.32-1.78)	M
A Non-2,3,7,8-sub-PeCDD											RQ
355.8546	21.757	22.698	-56	0.917	100684	18212	4074	10185	4		
	Empc Correction				49152	14731	4074	10185	4		
357.8516	21.743	22.698	-57	0.916	31711	9504	1416	3540	7	3.18(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.858	29.845	1	0.939	54893542	7748874	23638	59095	328		
385.8610	29.858	29.845	1	0.939	104356403	14728579	44033	110082	334	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.871						3030	7575			
375.8178	29.871						1981	4952			
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.098	30.084	1	0.947	57098837	8665641	23638	59095	367		
385.8610	30.098	30.084	1	0.947	108948971	16073336	44033	110082	365	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.111						3030	7575			
375.8178	30.111						1981	4952			
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.096	31.096	0	0.978	52478739	11344667	23638	59095	480		
385.8610	31.096	31.096	0	0.978	99682713	21785260	44033	110082	495	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.110	31.110	0	1.000	71859	15564	3030	7575	5		
375.8178	31.110	31.110	0	1.000	59041	16114	1981	4952	8	1.22(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.989	31.988	0	1.006	49486615	12042264	23638	59095	509		
385.8610	31.989	31.988	0	1.006	95300994	23201228	44033	110082	527	0.52(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											M
373.8208	32.002	32.002	0	1.000	94715	18960	3030	7575	6		M
375.8178	32.002	32.002	0	1.000	70739	14123	1981	4952	7	1.34(1.05-1.43)	M
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.618						3030	7575			
375.8178	29.618						1981	4952			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.789	31.789	0		120142395	29788965	25621	64052	1163		
403.8529	31.789	31.789	0		93562881	23219628	20230	50575	1148	1.28(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.309	31.309	0	0.985	69370617	17839563	25621	64052	696		
403.8529	31.309	31.309	0	0.985	54003927	13802778	20230	50575	682	1.28(1.05-1.43)	
1,2,3,4,7,8-HxCDD											M
389.8157	31.323	31.323	0	1.000	105804	25510	2534	6335	10		M
391.8127	31.323	31.323	0	1.000	78802	16034	3772	9430	4	1.34(1.05-1.43)	M
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.429	31.429	0	0.989	74142333	16669197	25621	64052	651		
403.8529	31.429	31.429	0	0.989	56724365	12804667	20230	50575	633	1.31(1.05-1.43)	
1,2,3,6,7,8-HxCDD											QMU
389.8157	31.442						2534	6335			
391.8127	31.442						3772	9430			
1,2,3,7,8,9-HxCDD											
389.8157	31.802						2534	6335			
391.8127	31.802						3772	9430			
A Non-2,3,7,8-sub-HxCDD											U
389.8157	30.264						2534	6335			
391.8127	30.264						3772	9430			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.520	33.520	0	1.054	32545199	11163807	45660	114150	244		
419.8220	33.520	33.520	0	1.054	75056084	25569721	102527	256317	249	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											M
407.7818	33.532	33.532	0	1.000	99488	30471	7499	18747	4		M
409.7789	33.520	33.532	-1	1.000	98002	35428	2261	5652	16	1.02(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.590	34.590	0	1.088	34064321	10584931	45660	114150	232		
419.8220	34.590	34.590	0	1.088	78579650	24423734	102527	256317	238	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.614						7499	18747			
409.7789	34.614						2261	5652			
A Non-2,3,7,8-sub-HpCDF											U
407.7818	34.073						7499	18747			
409.7789	34.073						2261	5652			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.310	34.310	0	1.079	53949895	17609658	27487	68717	641		
437.8140	34.310	34.310	0	1.079	50374194	16284781	24196	60490	673	1.07(0.88-1.20)	

Report Date: 14-Nov-2019 09:56:38 Chrom Revision: 2.3 31-Oct-2019 20:21:30
Data File: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_42.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											RQ
423.7766	34.322	34.322	0	1.000	84505	28885	3914	9785	7		
	Empc Correction				64588	19480	3914	9785	5		
425.7737	34.322	34.322	0	1.000	62104	18731	2281	5702	8	1.36(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											U
423.7766	34.590	34.990	-24	1.008	162879	48445	3914	9785	12		
	Empc Correction				93220	23213	3914	9785	6		
425.7737	34.590	34.990	-24	1.008	89635	22321	2281	5702	10	1.82(0.88-1.20)	
13C-OCDD											
469.7779	36.641	36.641	0	1.153	68909280	19410141	8062	20155	2408		
471.7750	36.641	36.641	0	1.153	74808329	20707899	8864	22160	2336	0.92(0.76-1.02)	
OCDF											
441.7428	36.737	36.737	0	1.003	287465	69700	3085	7712	23		
443.7399	36.737	36.737	0	1.003	361054	86688	5234	13085	17	0.80(0.76-1.02)	
OCDD											
457.7377	36.653	36.653	0	1.000	381680	91430	2647	6617	35		
459.7348	36.653	36.653	0	1.000	416836	99197	2182	5455	45	0.92(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

U - Marked Undetected

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_42.d
Lims ID: 320-56102-A-2-A
Client ID: CEFF-Filtered
Inject. Date: 13-Nov-2019 13:22:17 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5 Operator: ALM, AJS
Lims Batch ID: 338227 Lims Sample ID: 42

Non-2,3,7,8-sub-PeCDD, RT: 22.698

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDD	1.063	D 13C-1,2,3,7,8-PeCDD	100.000	116510538	18279982

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.063		100.000	116510538	18279982

Sum the Uncalibrated Results

RT	355.8546 Area	355.8546 Height	357.8516 Area	357.8516 Height	Amount	Ratio	Flags
21.757	100684	18212	31711	9504	0.1069	3.18	RQ
21.757	49152	14731	31711	9504	0.0653		Empc Correction
Signal Totals:							
	49152	14731	31711	9504			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	132395	27716				3.18	RQ
	80863	24235					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.1069 = (132395 * 100.000) / (116510538 * 1.063)
Empc Amount: 0.0653 = (80863 * 100.000) / (116510538 * 1.063)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_42.d
Lims ID: 320-56102-A-2-A
Client ID: CEFF-Filtered
Inject. Date: 13-Nov-2019 13:22:17 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5 Operator: ALM, AJS
Lims Batch ID: 338227 Lims Sample ID: 42

Non-2,3,7,8-sub-HxCDD, RT: 30.264

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.027	D 13C-1,2,3,4,7,8-HxCDD	100.000	123374544	31642341
1,2,3,6,7,8-HxCDD	0.977	D 13C-1,2,3,6,7,8-HxCDD	100.000	130866698	29473864
1,2,3,7,8,9-HxCDD	1.062				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.022		100.000	127120621	30558102

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags

Compound is Marked ND

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_42.d
Lims ID: 320-56102-A-2-A
Client ID: CEFF-Filtered
Inject. Date: 13-Nov-2019 13:22:17 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5 Operator: ALM, AJS
Lims Batch ID: 338227 Lims Sample ID: 42

Non-2,3,7,8-sub-HpCDF, RT: 34.073

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.437	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	107601283	36733528
1,2,3,4,7,8,9-HpCDF	1.309	D 13C-1,2,3,4,7,8,9-HpCDF	100.000	112643971	35008665

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.373		100.000	110122627	35871096

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags

Compound is Marked ND

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_42.d
Lims ID: 320-56102-A-2-A
Client ID: CEFF-Filtered
Inject. Date: 13-Nov-2019 13:22:17 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5 Operator: ALM, AJS
Lims Batch ID: 338227 Lims Sample ID: 42

Non-2,3,7,8-sub-HpCDD, RT: 34.990

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.010	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	104324089	33894439

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.010		100.000	104324089	33894439

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.590	162879	48445	89635	22321	0.2396	1.82	RQ
34.590	93220	23213	89635	22321	0.1735		Empc Correction

Compound is Marked ND

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_42.d				
Injection Date:	13-Nov-2019 13:22:17	Instrument ID:	3D5		
Lims ID:	320-56102-A-2-A	Lab Sample ID:	320-56102-2		
Client ID:	CEFF-Filtered				
Operator ID:	ALM, AJS	ALS Bottle#:	36	Worklist Smp#:	42
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDF, CAS: 51207-31-9

Signal: 2

Processing Integration Results

RT: 16.93
Area: 233617
Amount: 0.175466
Amount Units: pg/ul

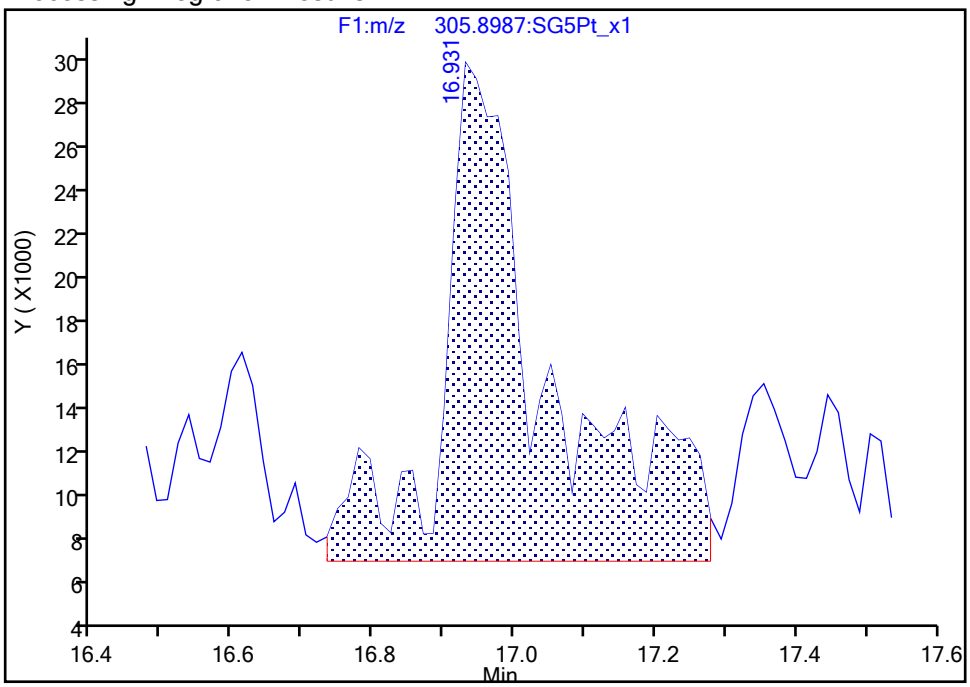

Manual Integration Results

RT: 16.93
Area: 151317
Amount: 0.134353
Amount Units: pg/ul

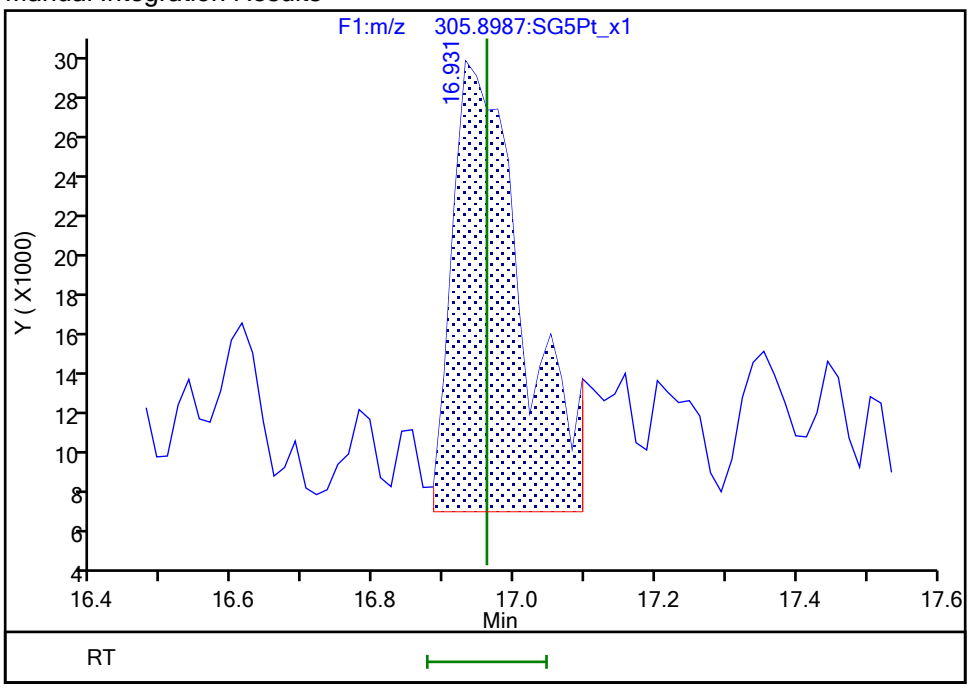

Reviewer: dadunj, 14-Nov-2019 09:53:57

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_42.d				
Injection Date:	13-Nov-2019 13:22:17	Instrument ID:	3D5		
Lims ID:	320-56102-A-2-A	Lab Sample ID:	320-56102-2		
Client ID:	CEFF-Filtered				
Operator ID:	ALM, AJS	ALS Bottle#:	36	Worklist Smp#:	42
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

1,2,3,7,8-PeCDD, CAS: 40321-76-4

Signal: 2

Processing Integration Results

RT: 23.75
Area: 77712
Amount: 0.182116
Amount Units: pg/ul

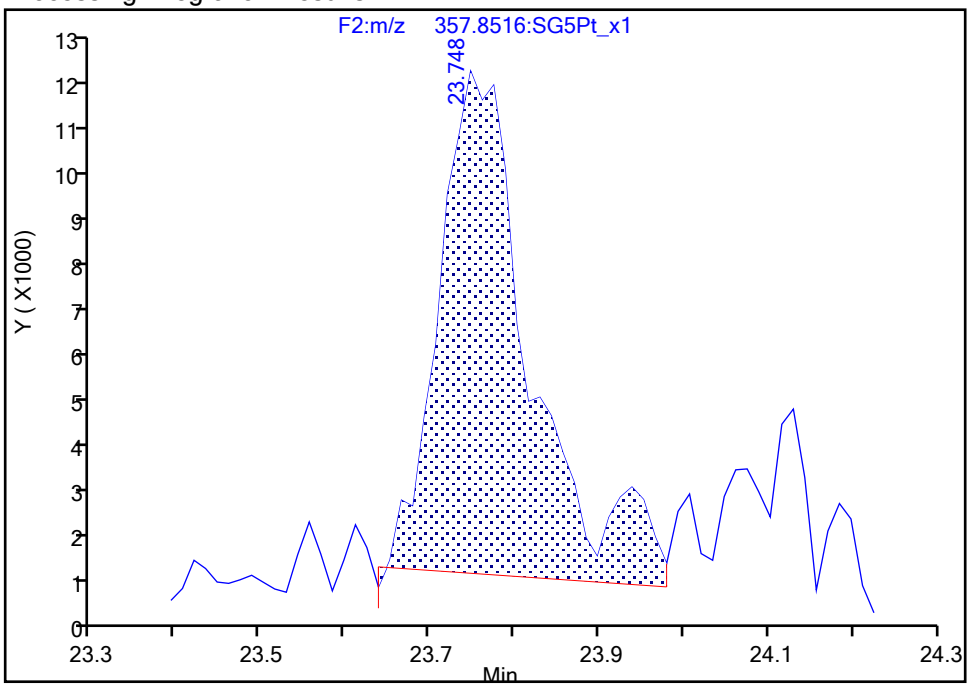

Manual Integration Results

RT: 23.75
Area: 69392
Amount: 0.153627
Amount Units: pg/ul

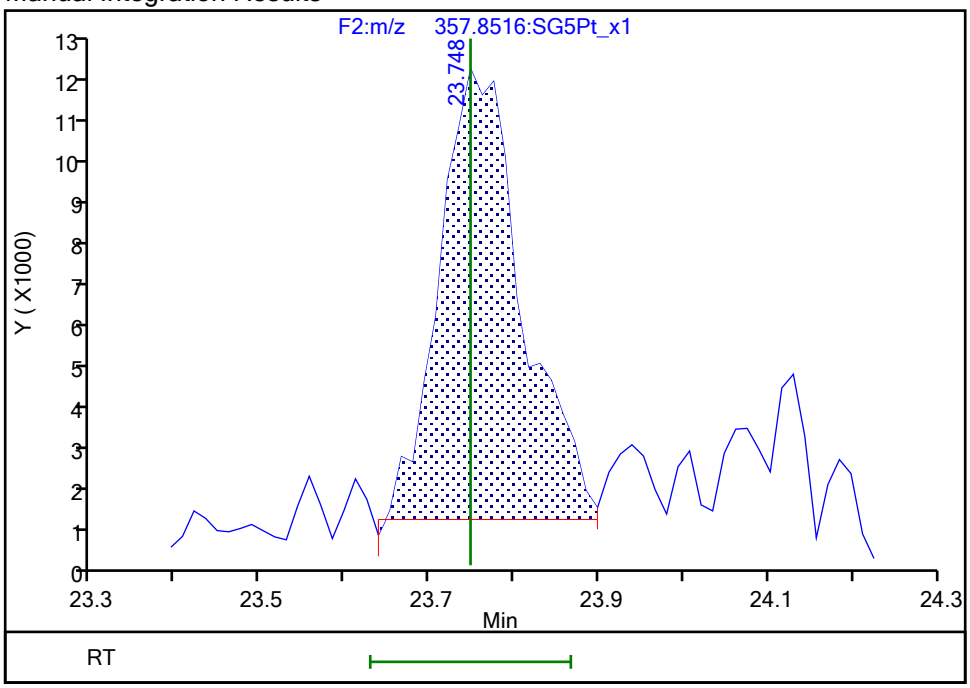

Reviewer: dadunj, 14-Nov-2019 09:55:58

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_42.d				
Injection Date:	13-Nov-2019 13:22:17	Instrument ID:	3D5		
Lims ID:	320-56102-A-2-A	Lab Sample ID:	320-56102-2		
Client ID:	CEFF-Filtered				
Operator ID:	ALM, AJS	ALS Bottle#:	36	Worklist Smp#:	42
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

1,2,3,7,8-PeCDD, CAS: 40321-76-4

Signal: 1

Processing Integration Results

RT: 23.73
Area: 147937
Amount: 0.182116
Amount Units: pg/ul

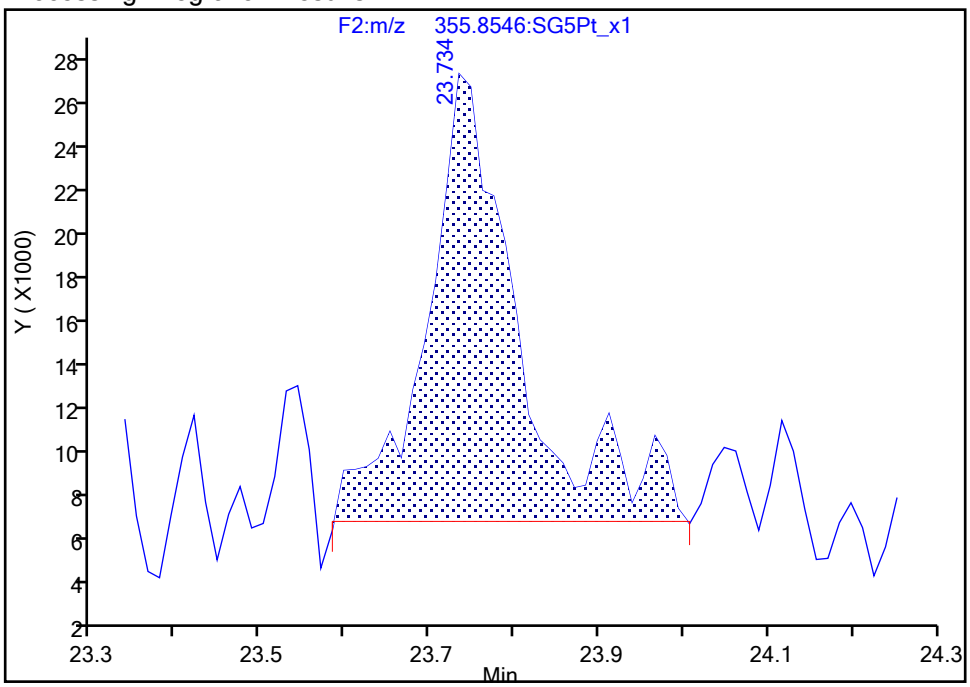

Manual Integration Results

RT: 23.73
Area: 120958
Amount: 0.153627
Amount Units: pg/ul

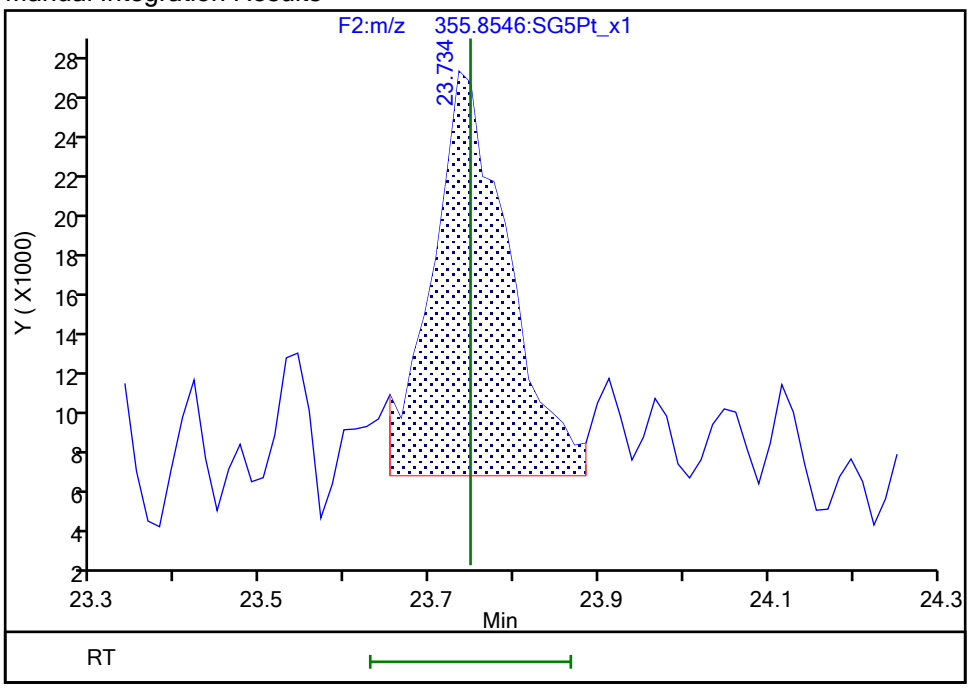

Reviewer: dadunj, 14-Nov-2019 09:56:03

Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_42.d				
Injection Date:	13-Nov-2019 13:22:17	Instrument ID:	3D5		
Lims ID:	320-56102-A-2-A	Lab Sample ID:	320-56102-2		
Client ID:	CEFF-Filtered				
Operator ID:	ALM, AJS	ALS Bottle#:	36	Worklist Smp#:	42
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 1

Processing Integration Results

RT: 32.00
Area: 82402
Amount: 0.095944
Amount Units: pg/ul

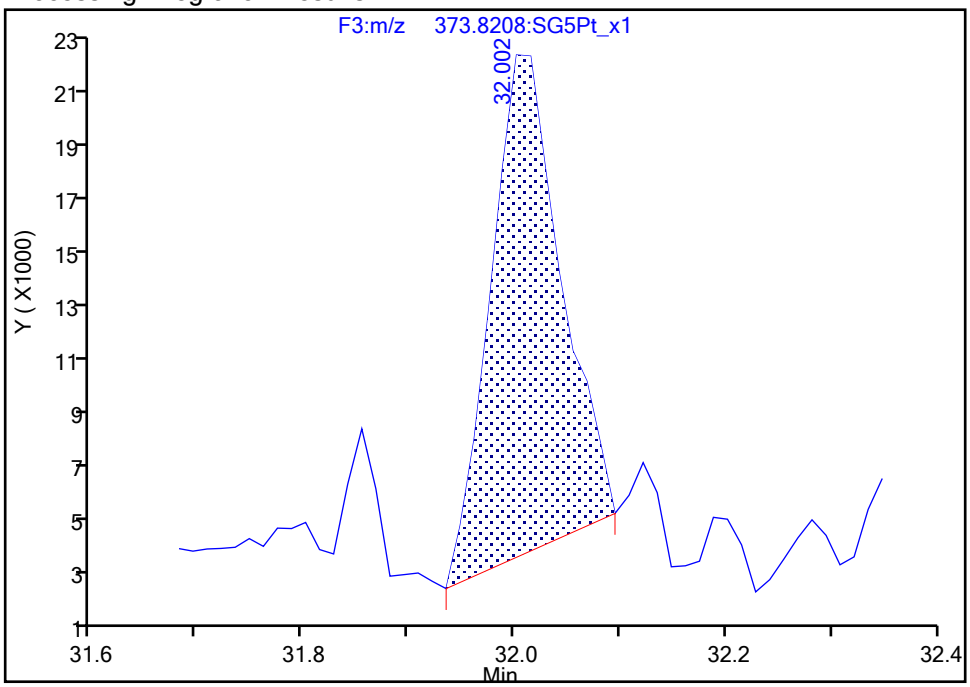

Manual Integration Results

RT: 32.00
Area: 94715
Amount: 0.096951
Amount Units: pg/ul

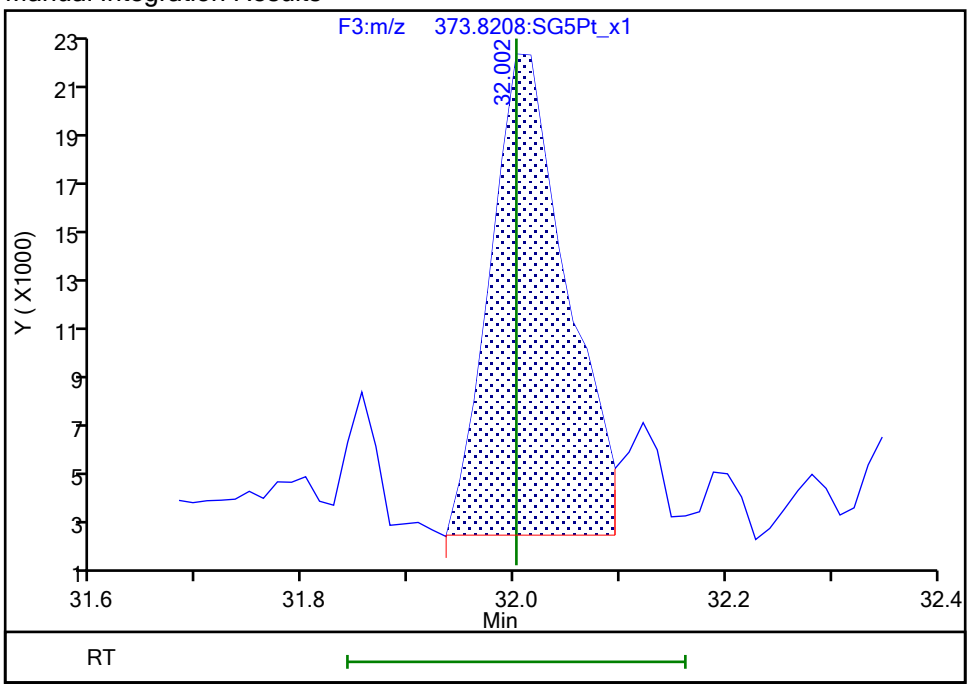

Reviewer: dadunj, 14-Nov-2019 09:54:32

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_42.d				
Injection Date:	13-Nov-2019 13:22:17	Instrument ID:	3D5		
Lims ID:	320-56102-A-2-A	Lab Sample ID:	320-56102-2		
Client ID:	CEFF-Filtered				
Operator ID:	ALM, AJS	ALS Bottle#:	36	Worklist Smp#:	42
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 2

Processing Integration Results

RT: 32.00
Area: 81333
Amount: 0.095944
Amount Units: pg/ul

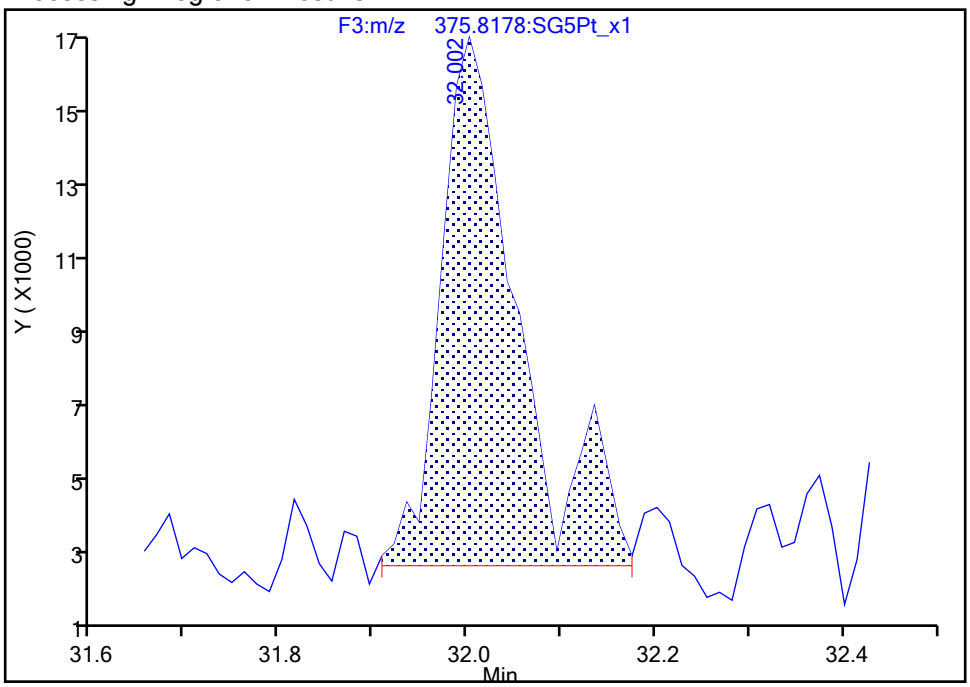

Manual Integration Results

RT: 32.00
Area: 70739
Amount: 0.096951
Amount Units: pg/ul

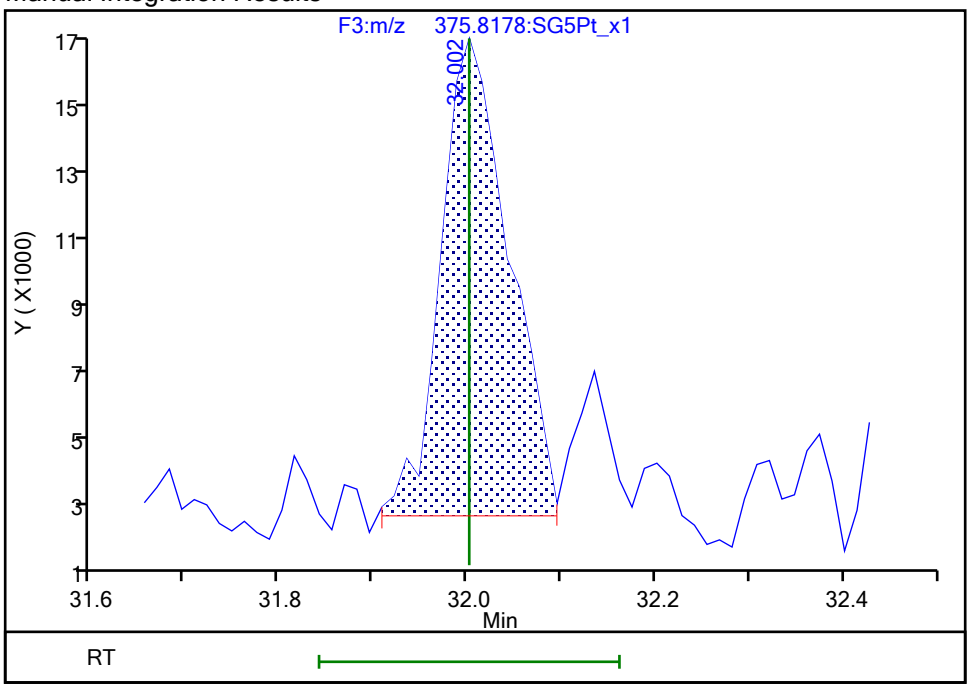

Reviewer: dadunj, 14-Nov-2019 09:54:36

Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_42.d				
Injection Date:	13-Nov-2019 13:22:17	Instrument ID:	3D5		
Lims ID:	320-56102-A-2-A	Lab Sample ID:	320-56102-2		
Client ID:	CEFF-Filtered				
Operator ID:	ALM, AJS	ALS Bottle#:	36	Worklist Smp#:	42
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 1

Processing Integration Results

RT: 31.32
Area: 165507
Amount: 0.232233
Amount Units: pg/ul

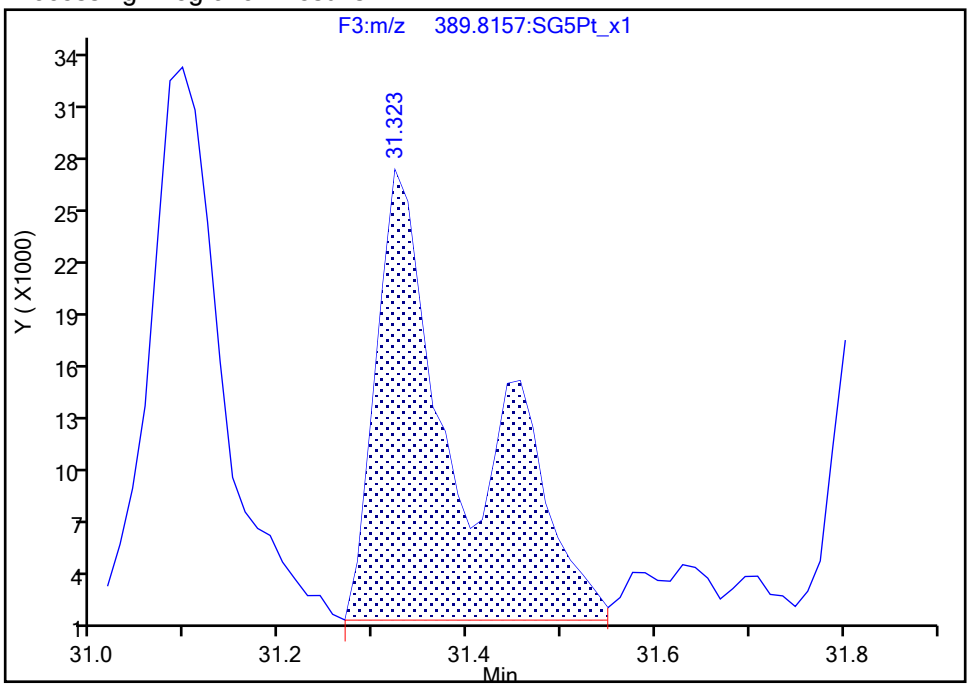

Manual Integration Results

RT: 31.32
Area: 105804
Amount: 0.145742
Amount Units: pg/ul

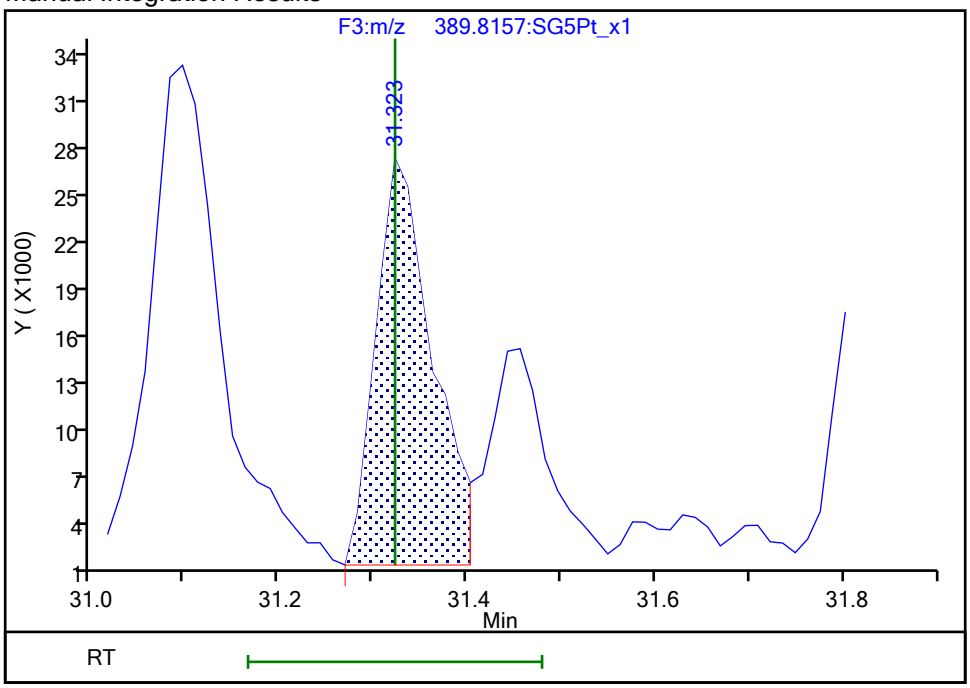

Reviewer: dadunj, 14-Nov-2019 09:54:51

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_42.d				
Injection Date:	13-Nov-2019 13:22:17	Instrument ID:	3D5		
Lims ID:	320-56102-A-2-A	Lab Sample ID:	320-56102-2		
Client ID:	CEFF-Filtered				
Operator ID:	ALM, AJS	ALS Bottle#:	36	Worklist Smp#:	42
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 2

Processing Integration Results

RT: 31.32
Area: 128655
Amount: 0.232233
Amount Units: pg/ul

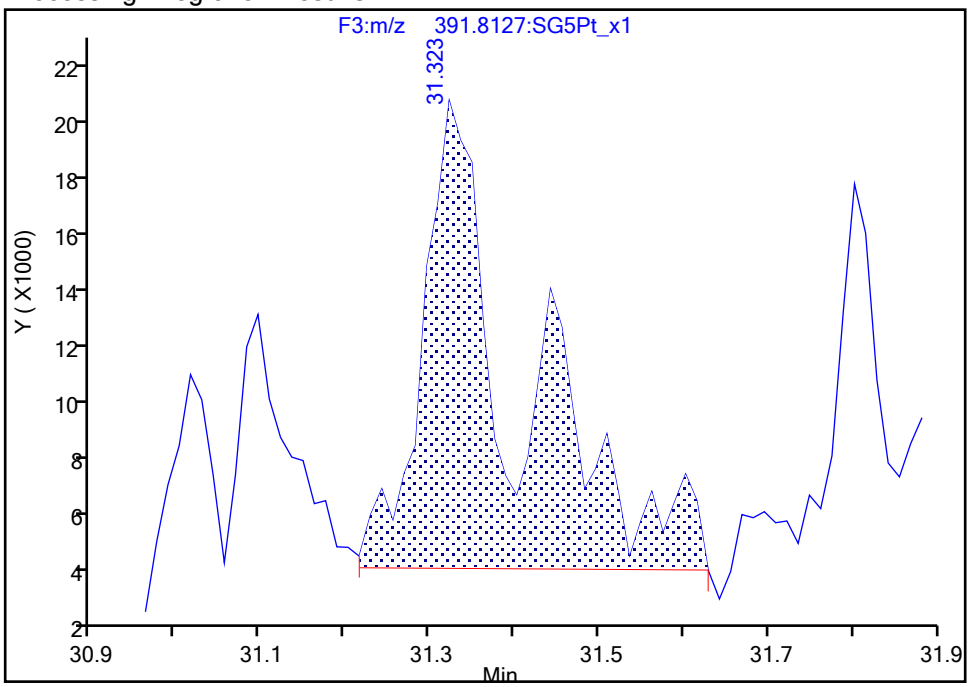

Manual Integration Results

RT: 31.32
Area: 78802
Amount: 0.145742
Amount Units: pg/ul

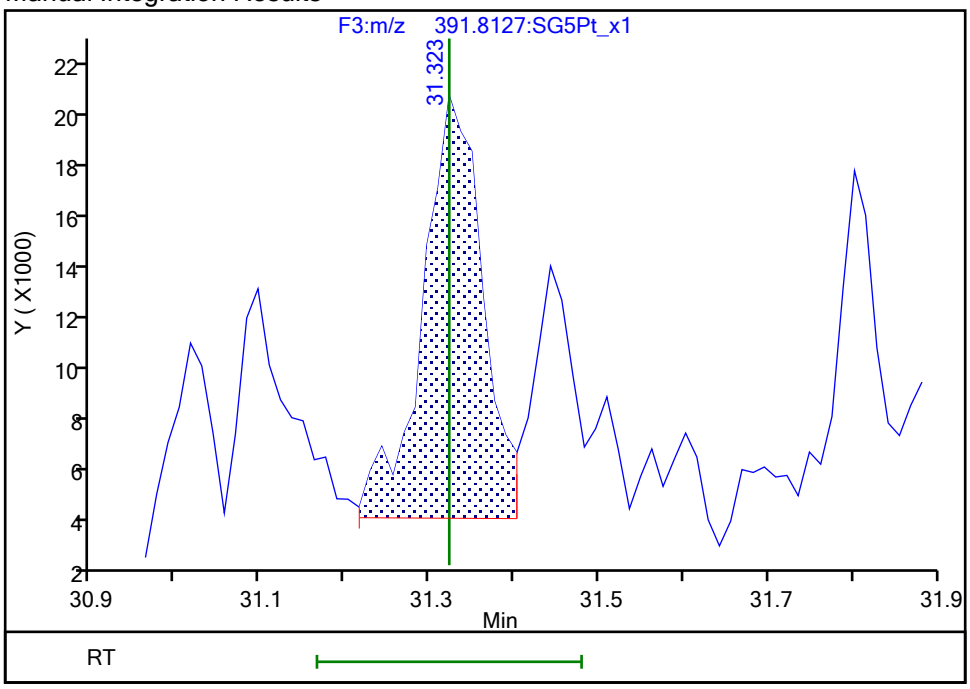

Reviewer: dadunj, 14-Nov-2019 09:54:53

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_42.d				
Injection Date:	13-Nov-2019 13:22:17	Instrument ID:	3D5		
Lims ID:	320-56102-A-2-A	Lab Sample ID:	320-56102-2		
Client ID:	CEFF-Filtered				
Operator ID:	ALM, AJS	ALS Bottle#:	36	Worklist Smp#:	42
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 1

Processing Integration Results

RT: 33.53
Area: 183125
Amount: 0.181778
Amount Units: pg/ul

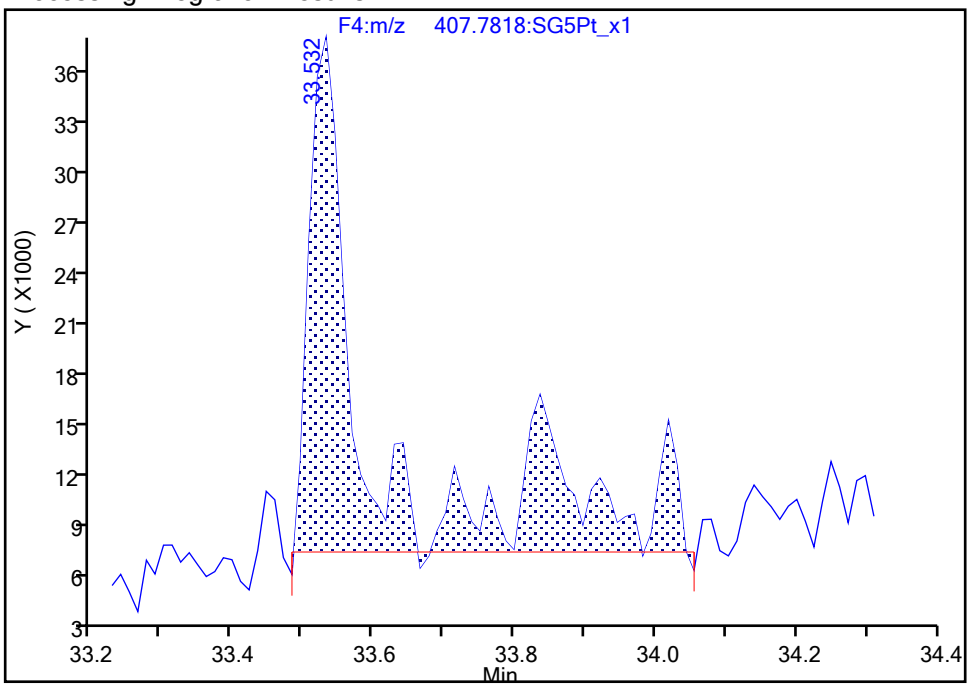

Manual Integration Results

RT: 33.53
Area: 99488
Amount: 0.127698
Amount Units: pg/ul

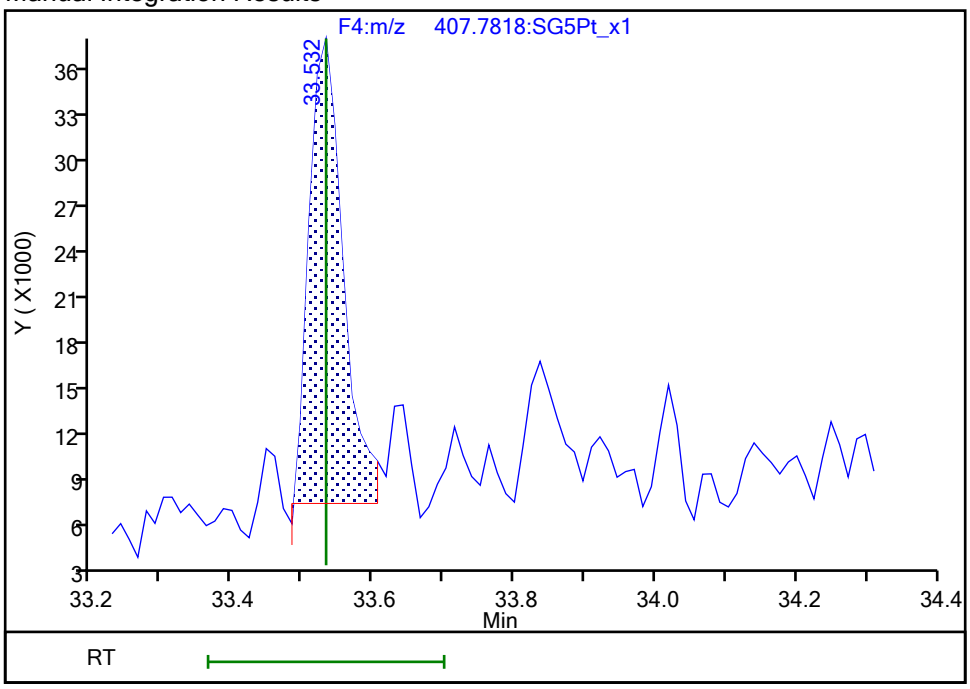

Reviewer: dadunj, 14-Nov-2019 09:55:06

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 14-Nov-2019 09:56:39 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_42.d		
Injection Date:	13-Nov-2019 13:22:17	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	CEFF-Filtered		
Worklist#:	338227	Sample Line#:	42
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

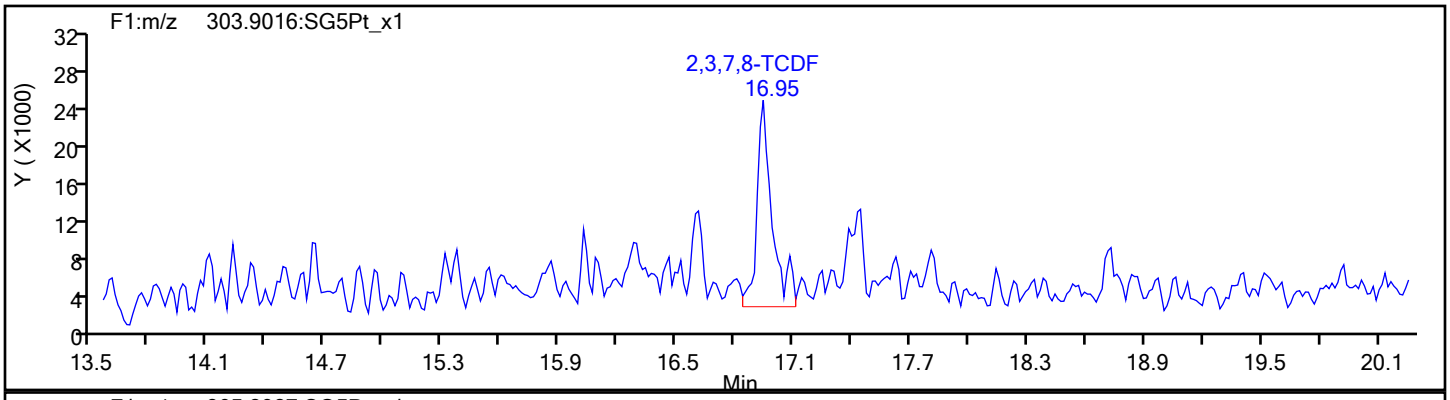

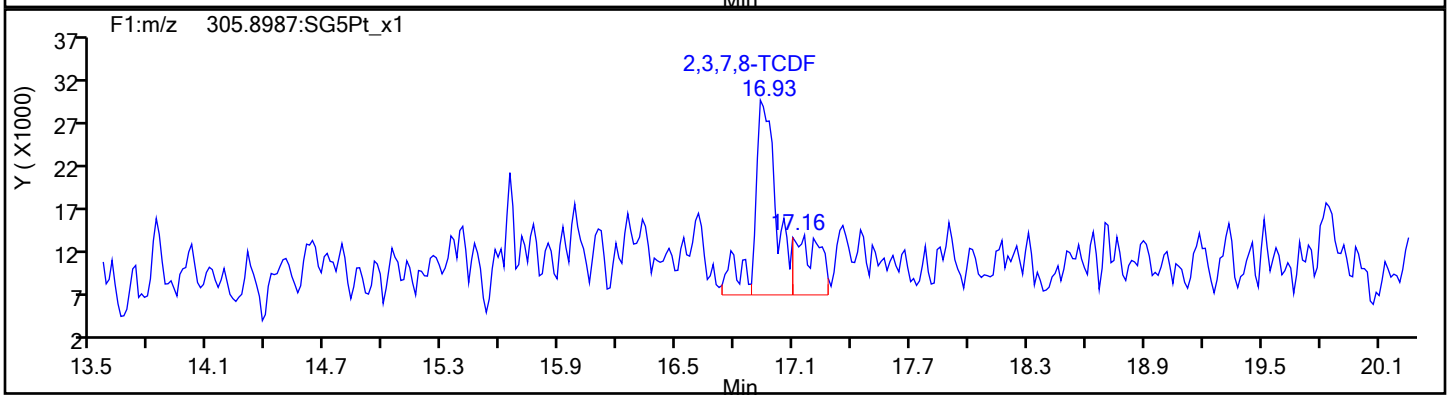

TCDF Standards

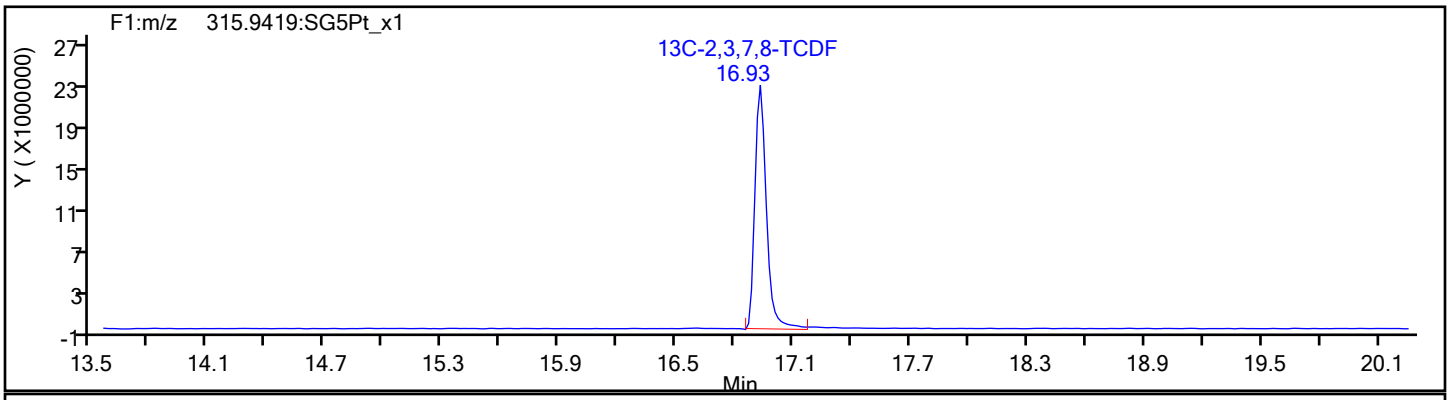

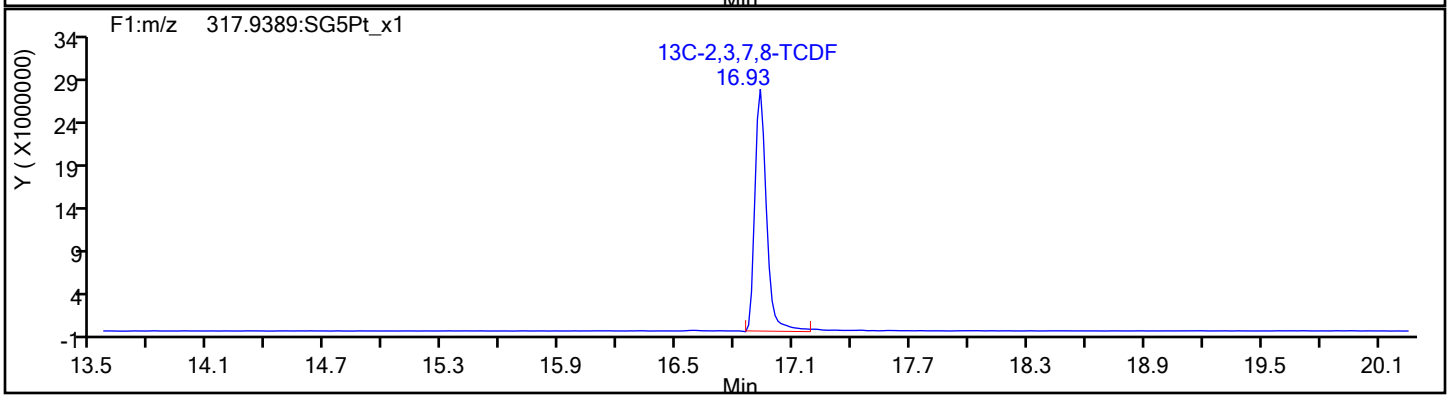

Report Date: 14-Nov-2019 09:56:39 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_42.d		
Injection Date:	13-Nov-2019 13:22:17	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	CEFF-Filtered		
Worklist#:	338227	Sample Line#:	42
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

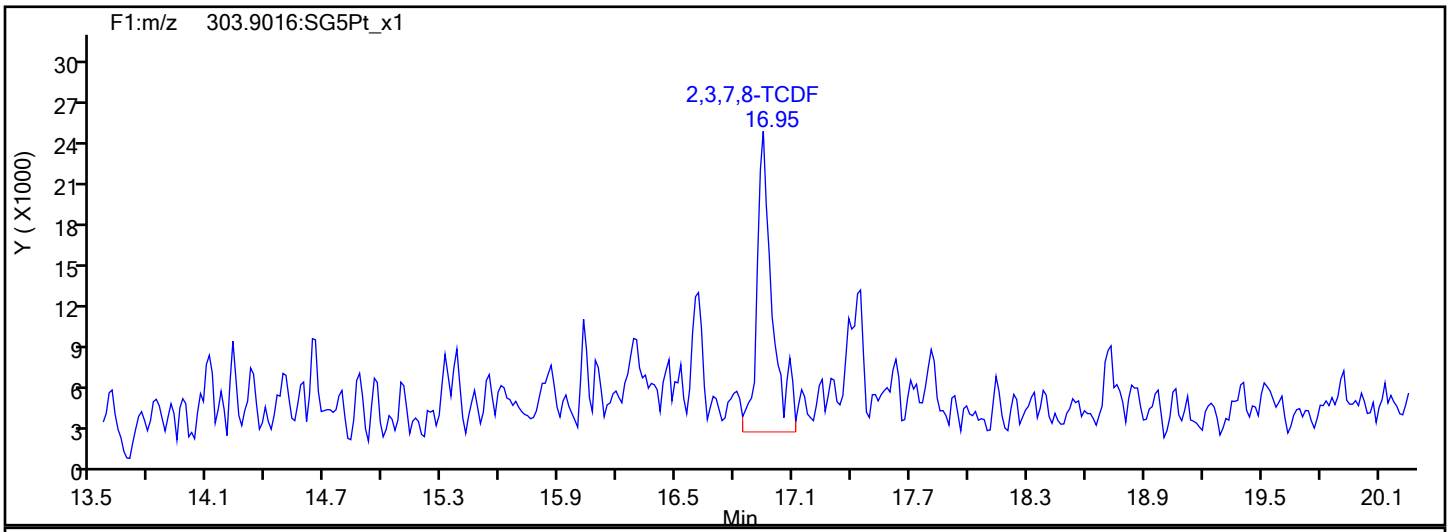

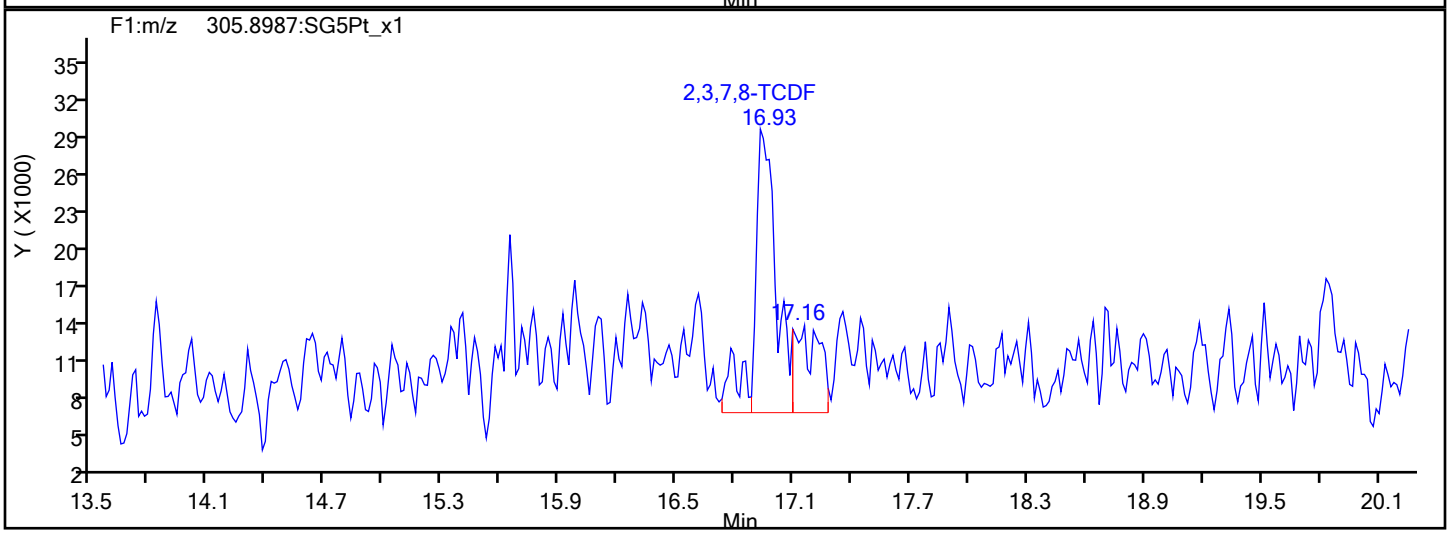

TCDF Interference Mass

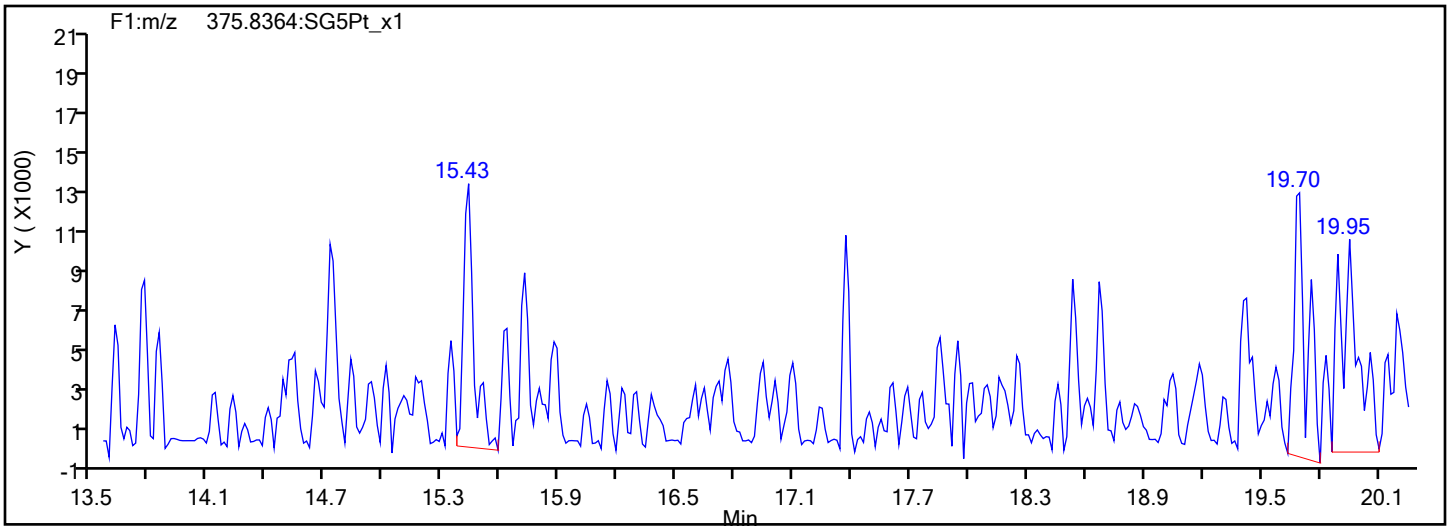

Report Date: 14-Nov-2019 09:56:39 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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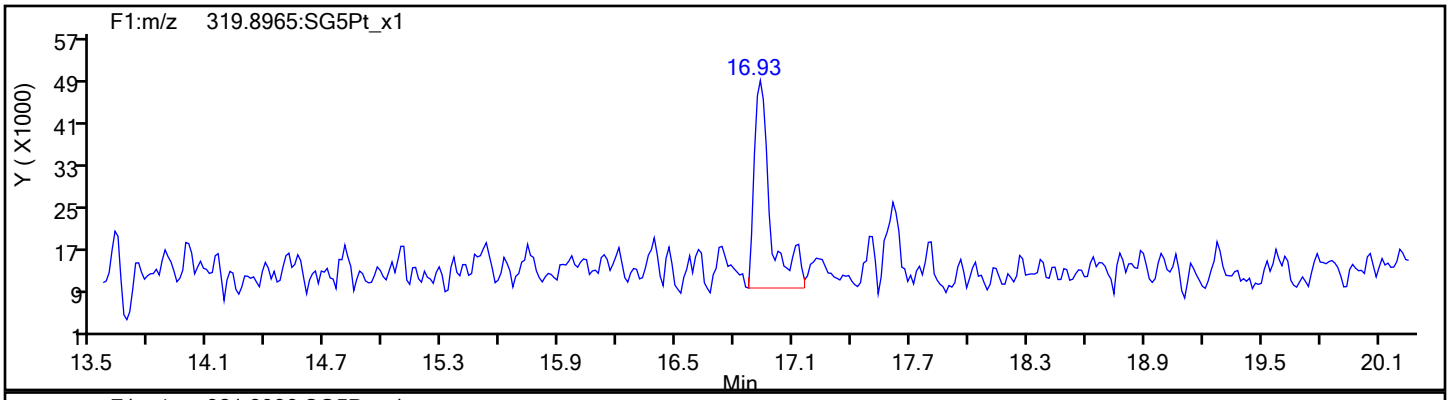

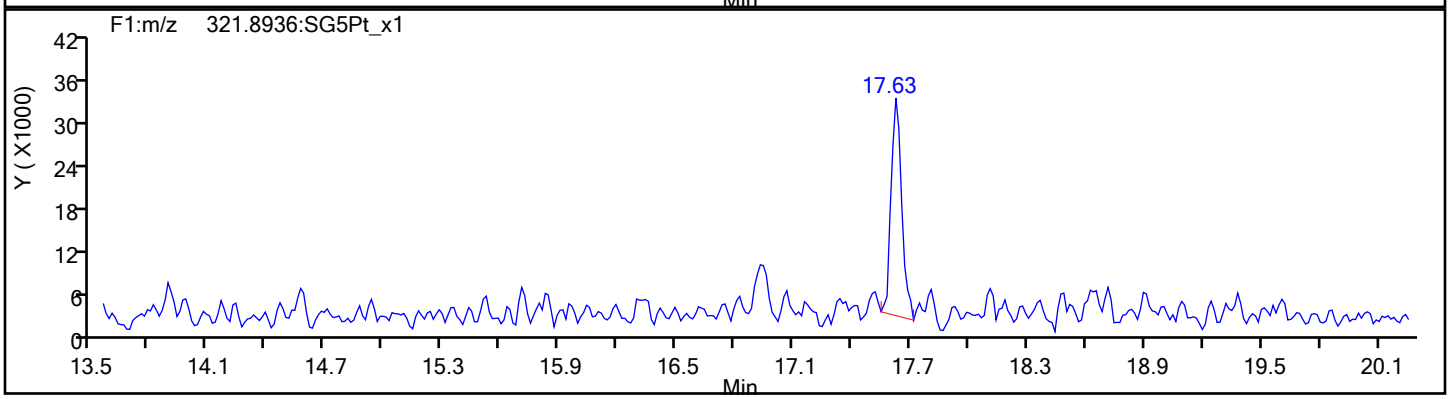

TCDD Standards

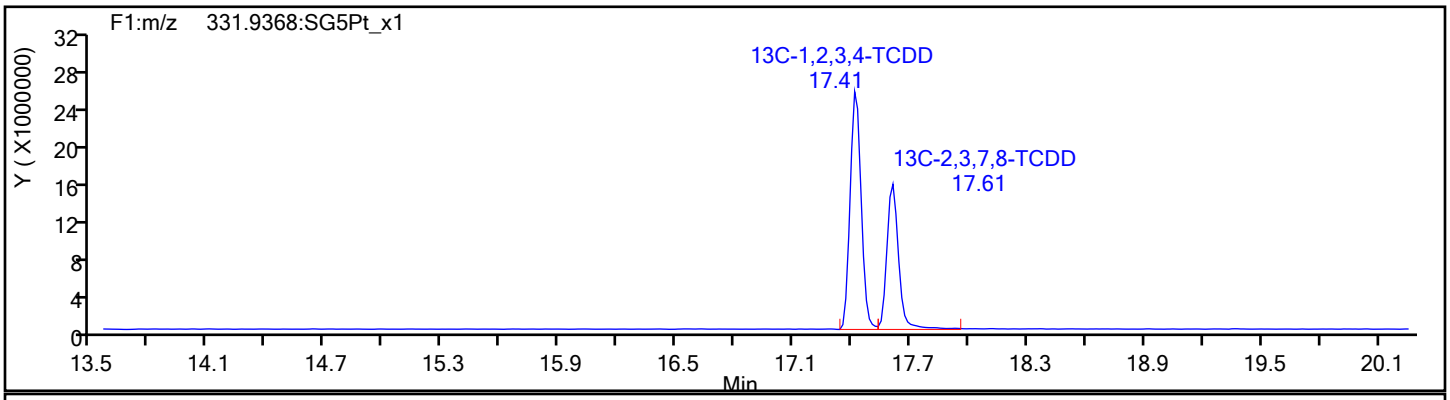

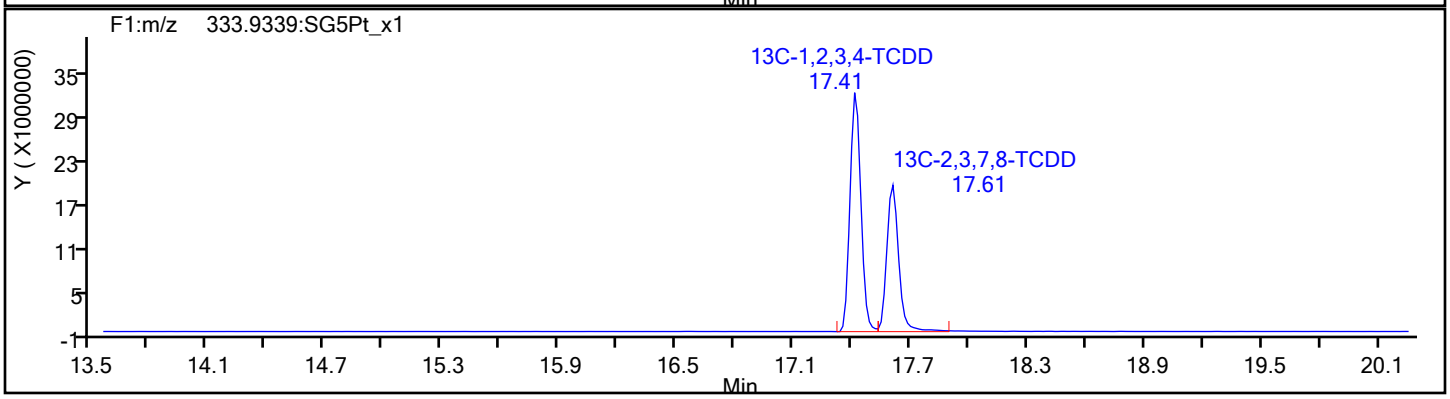

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Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

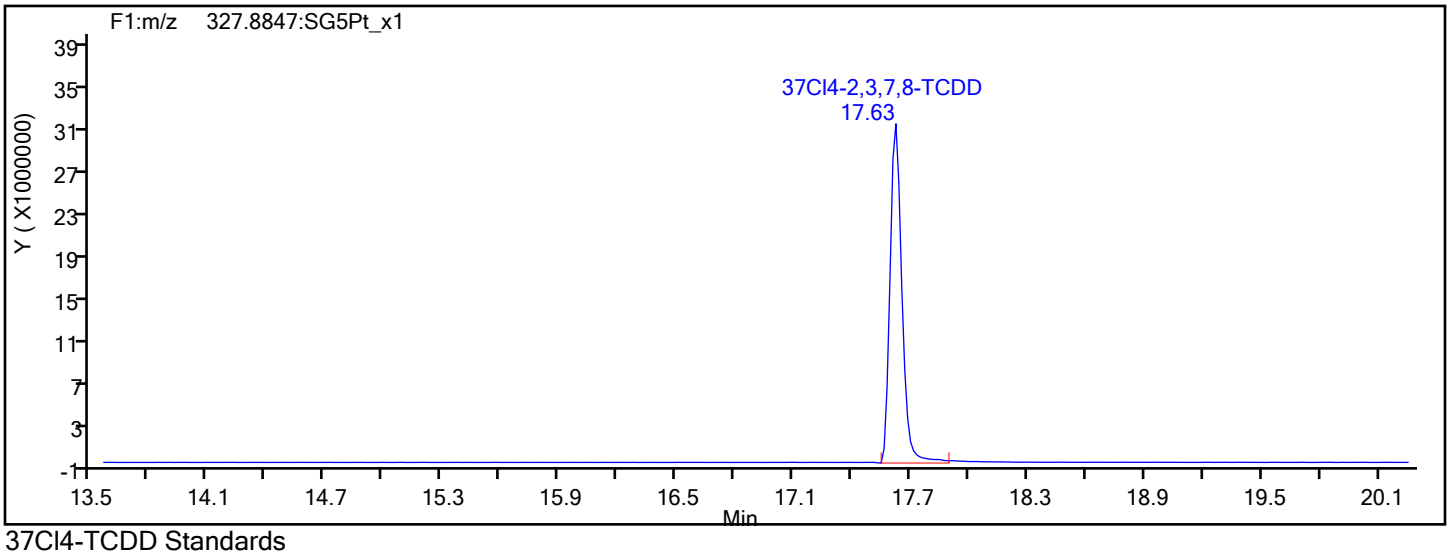

37Cl4-TCDD Standards

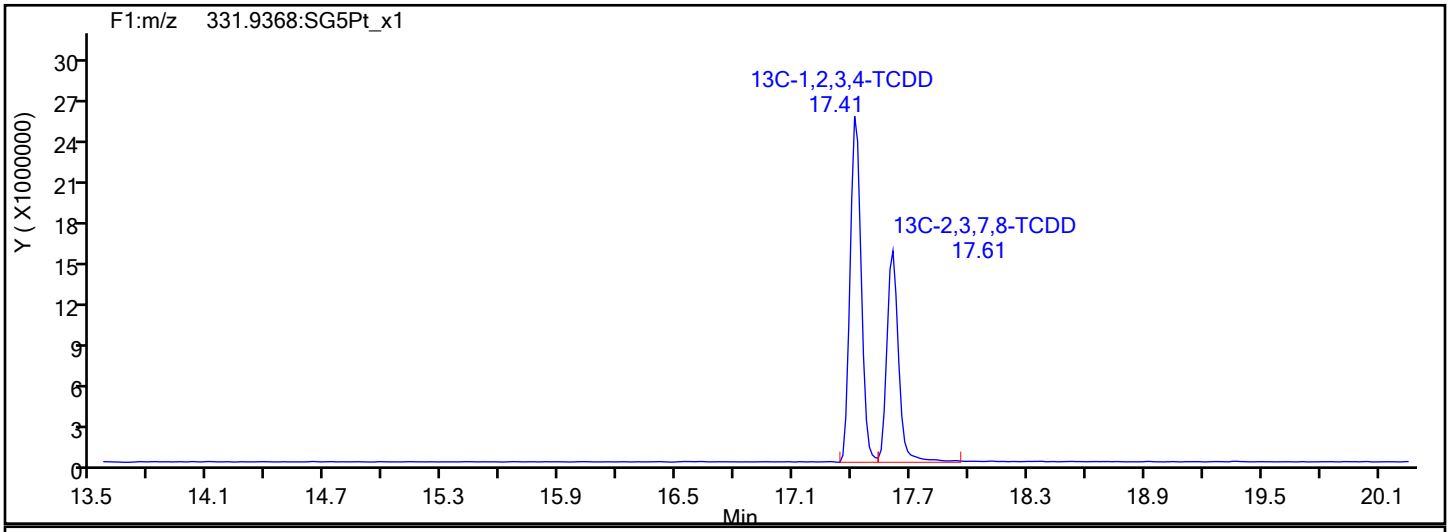

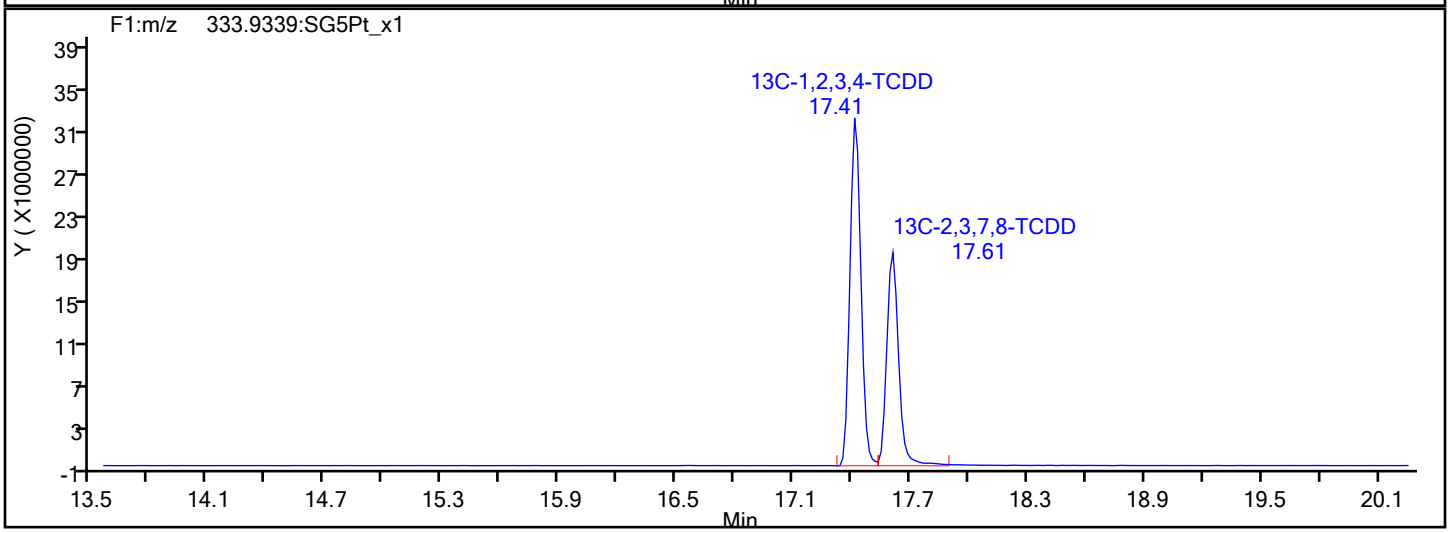

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

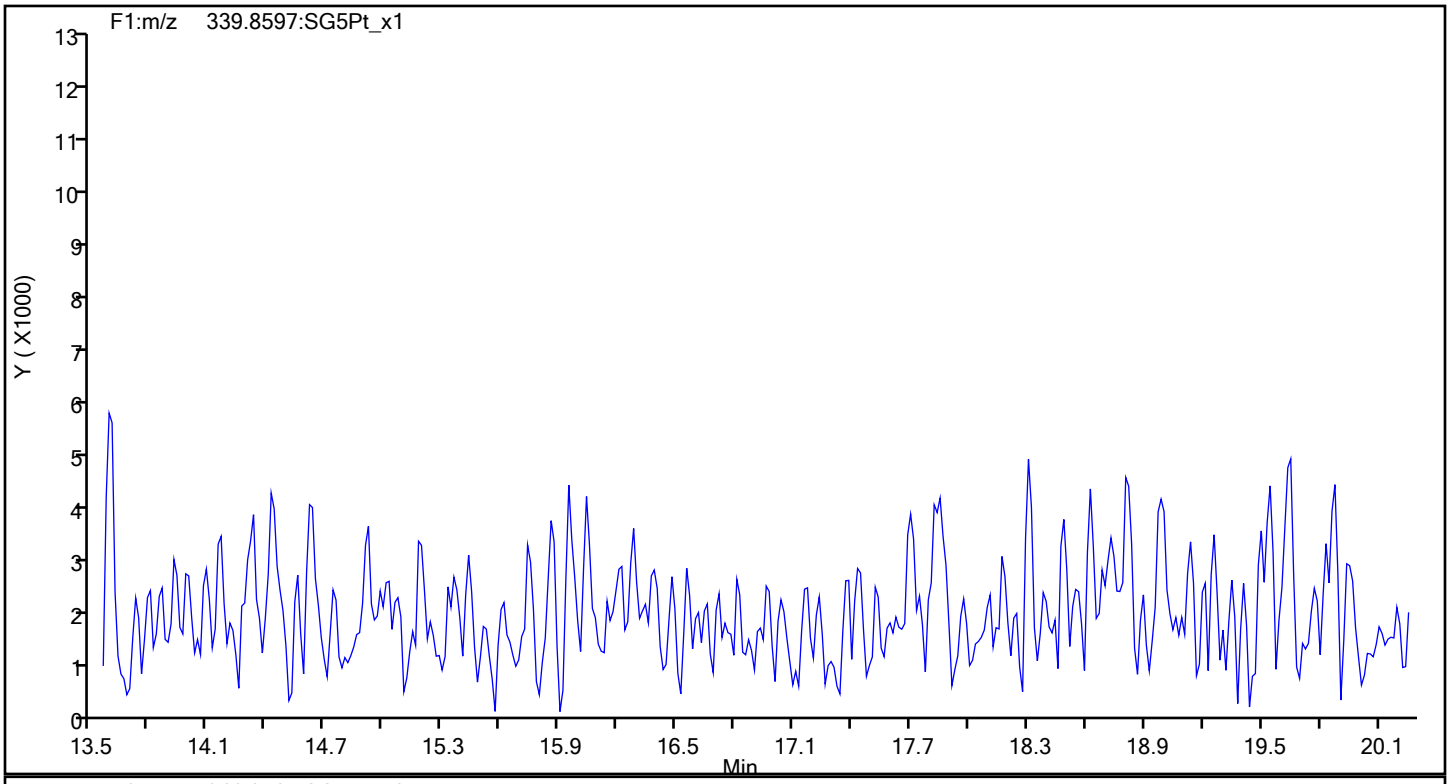

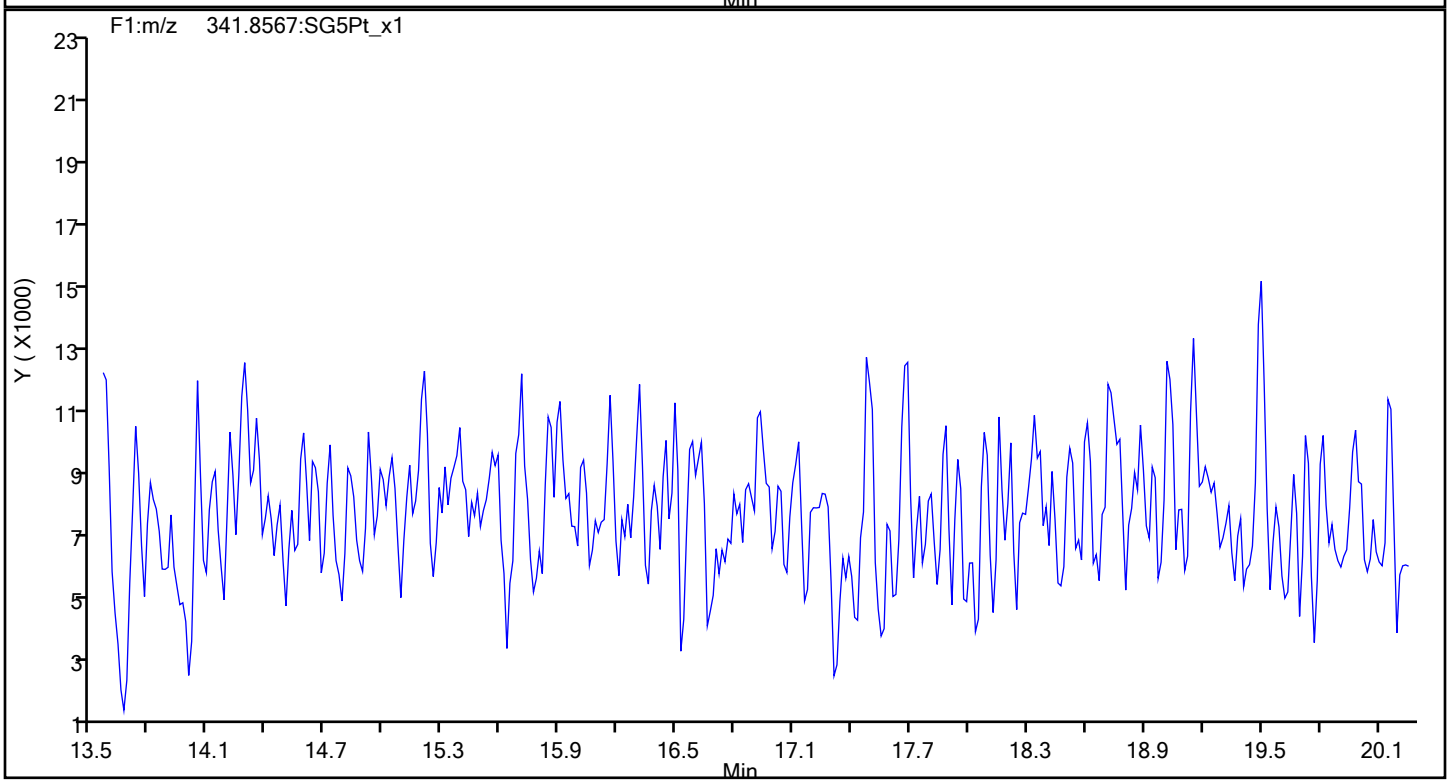

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

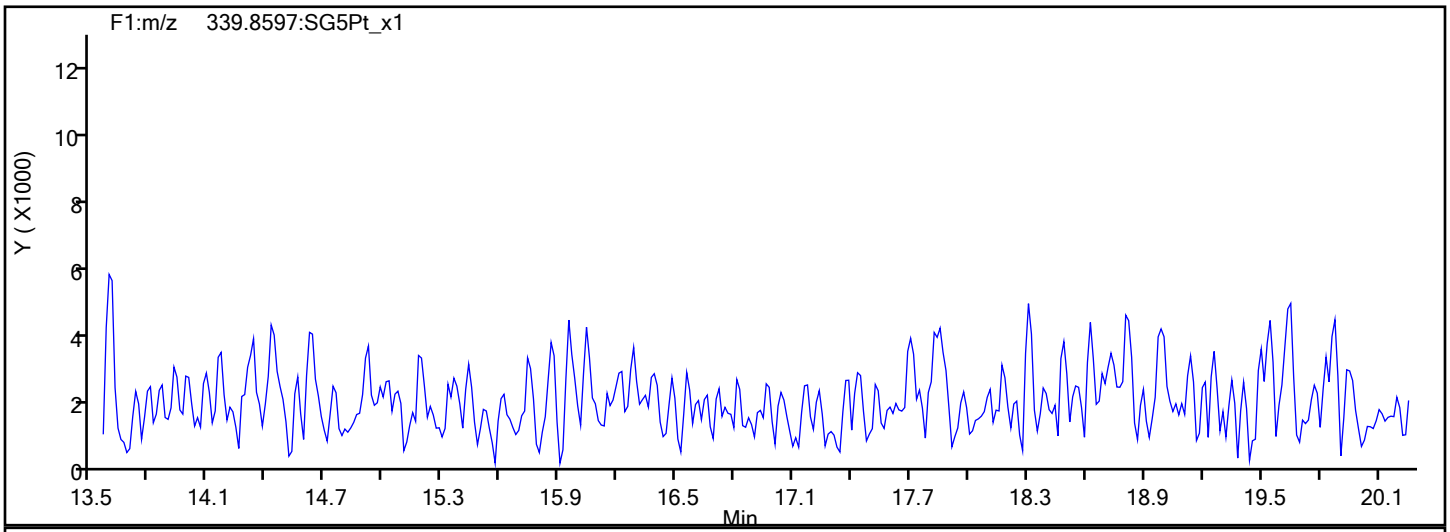

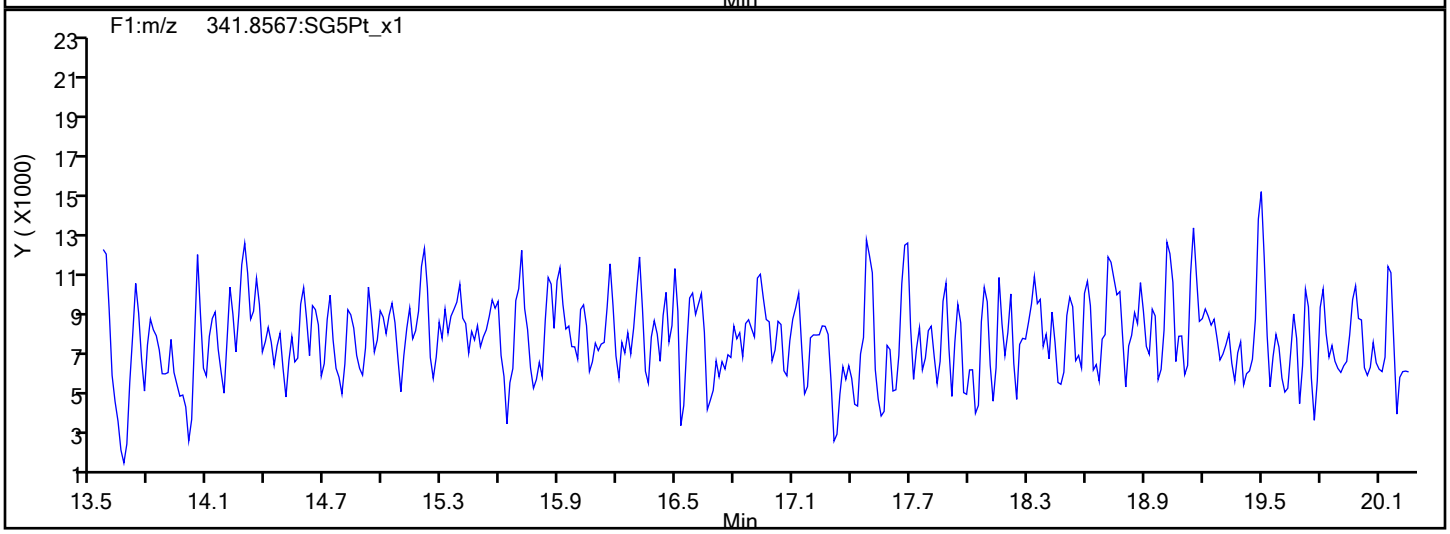

F1 PeCDFs Interference Mass

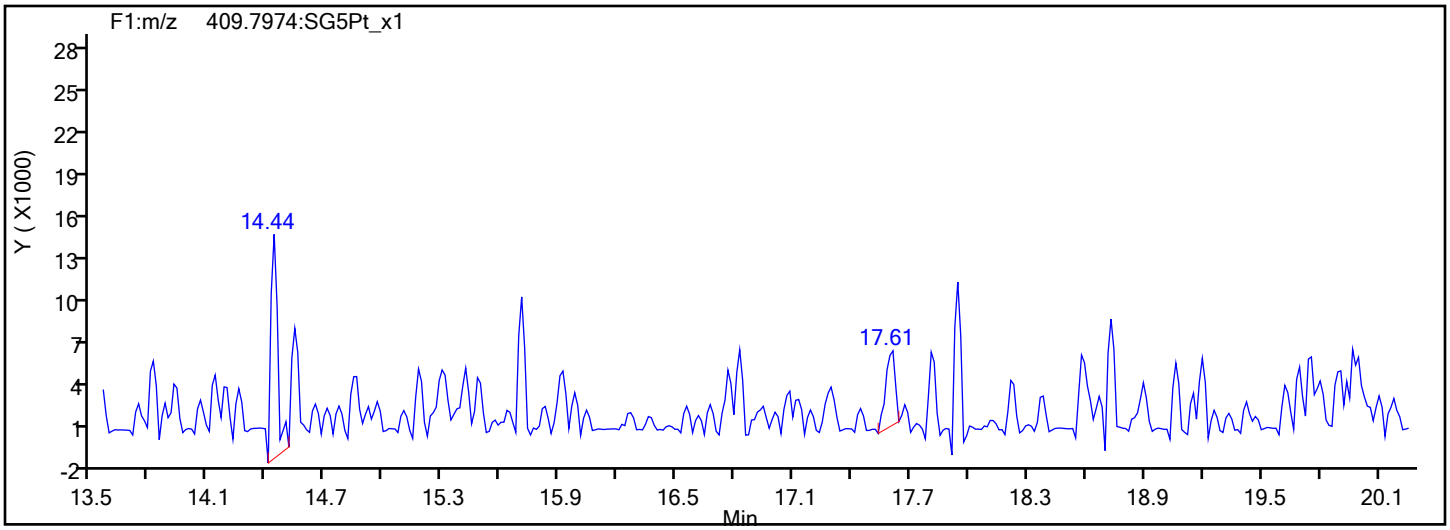

Report Date: 14-Nov-2019 09:56:39 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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PeCDF

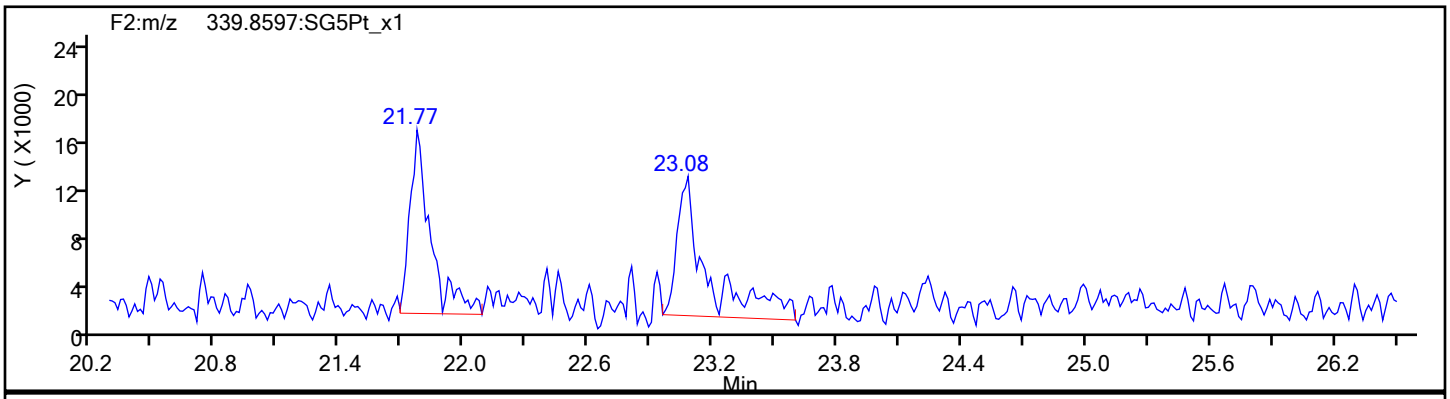

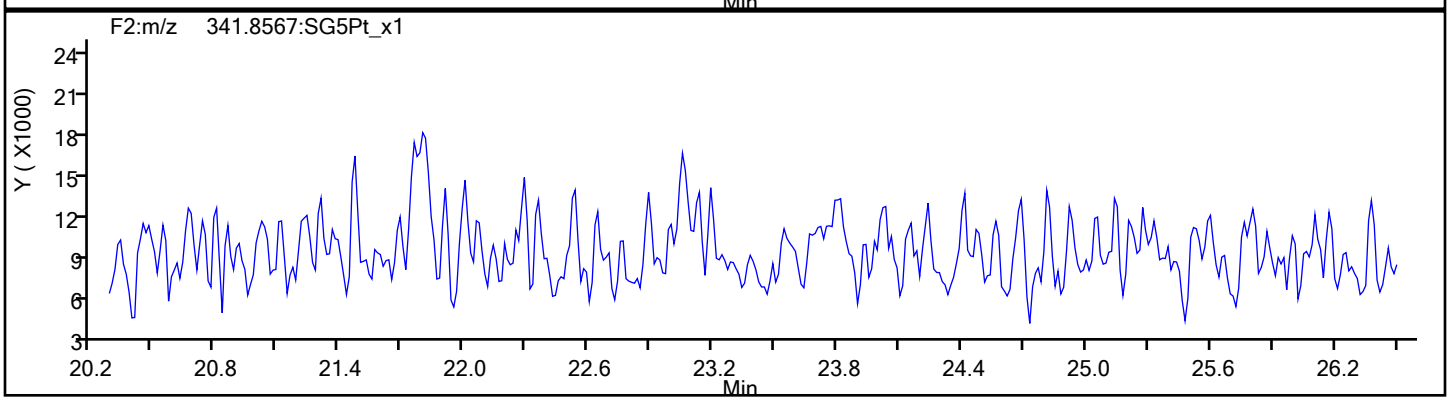

PeCDF Standards

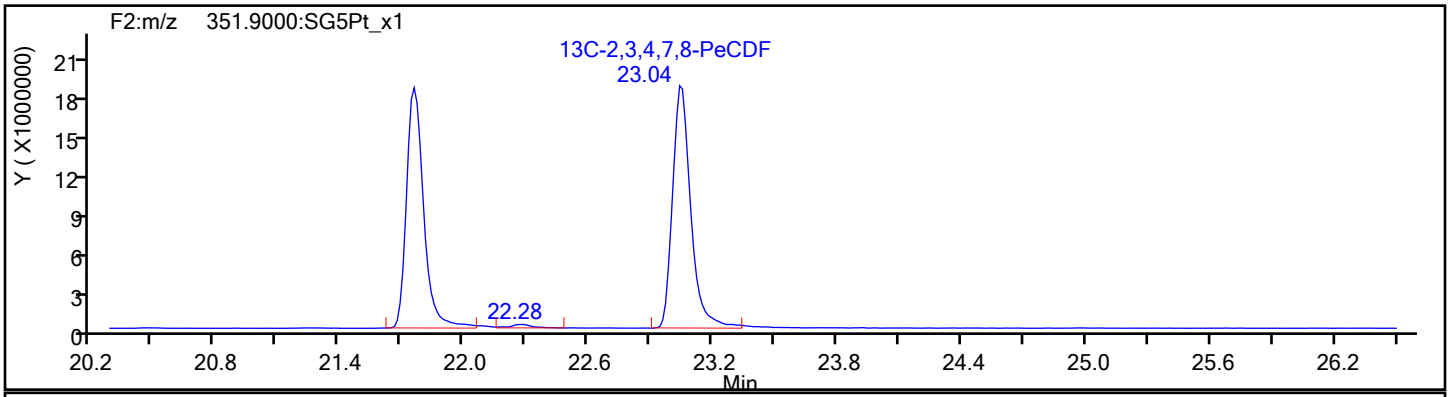

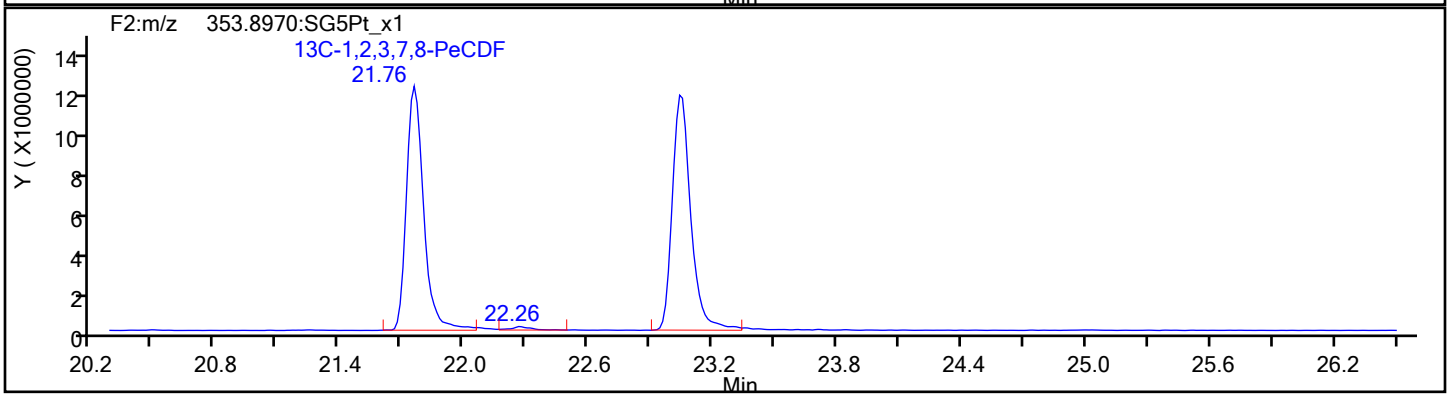

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Eurofins TestAmerica, Sacramento

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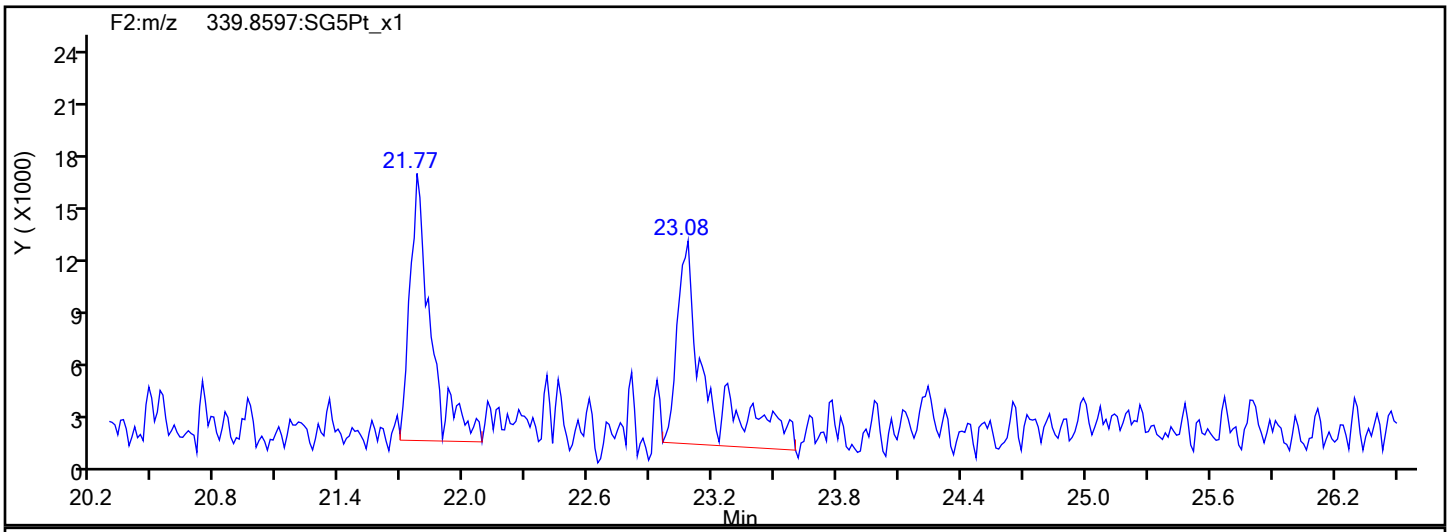

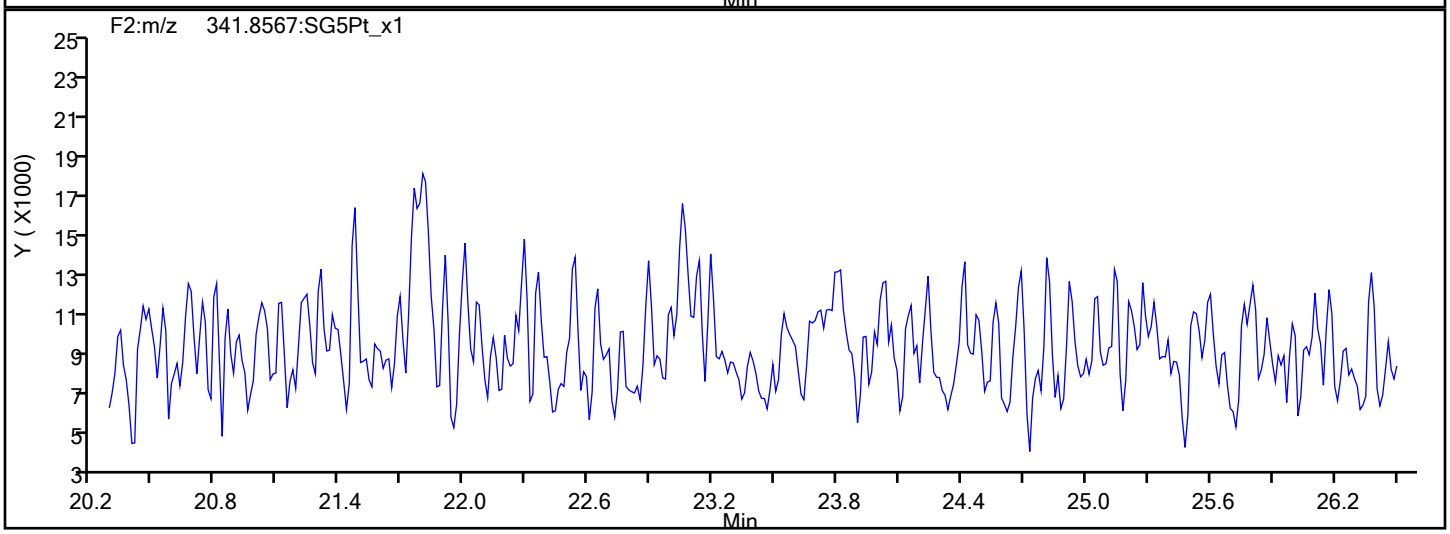

PeCDF Interference Mass

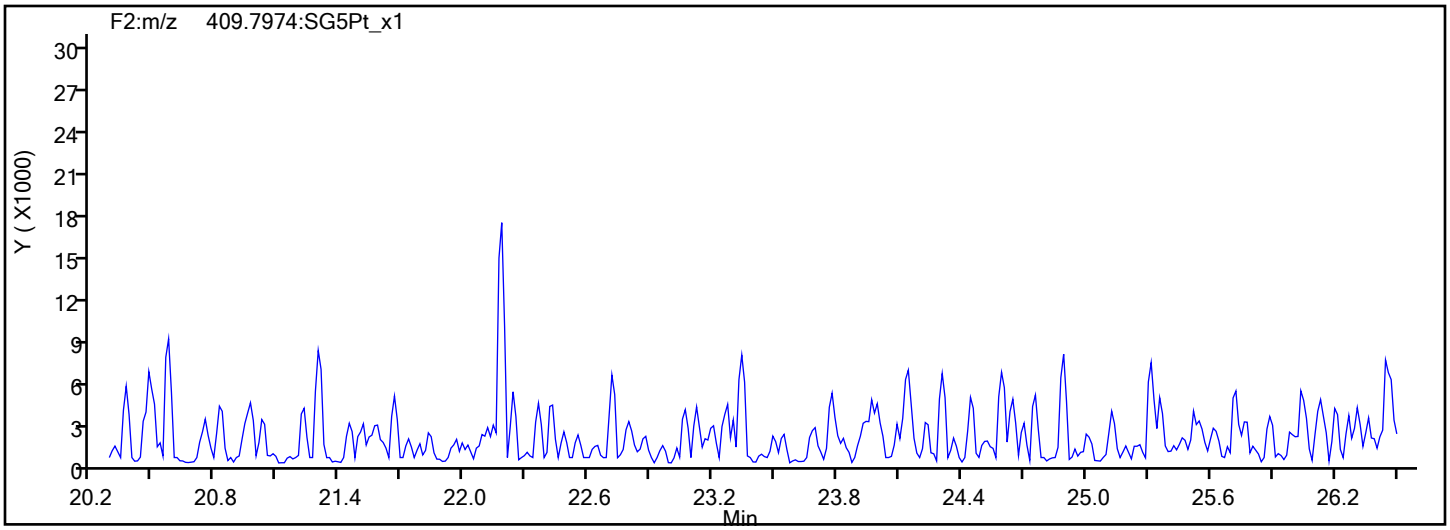

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Eurofins TestAmerica, Sacramento

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PeCDD

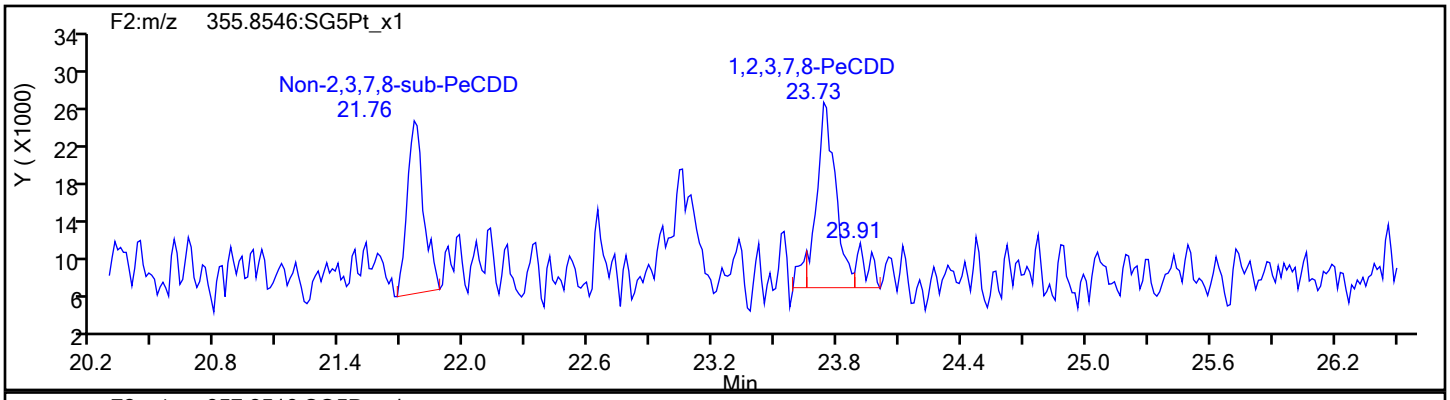

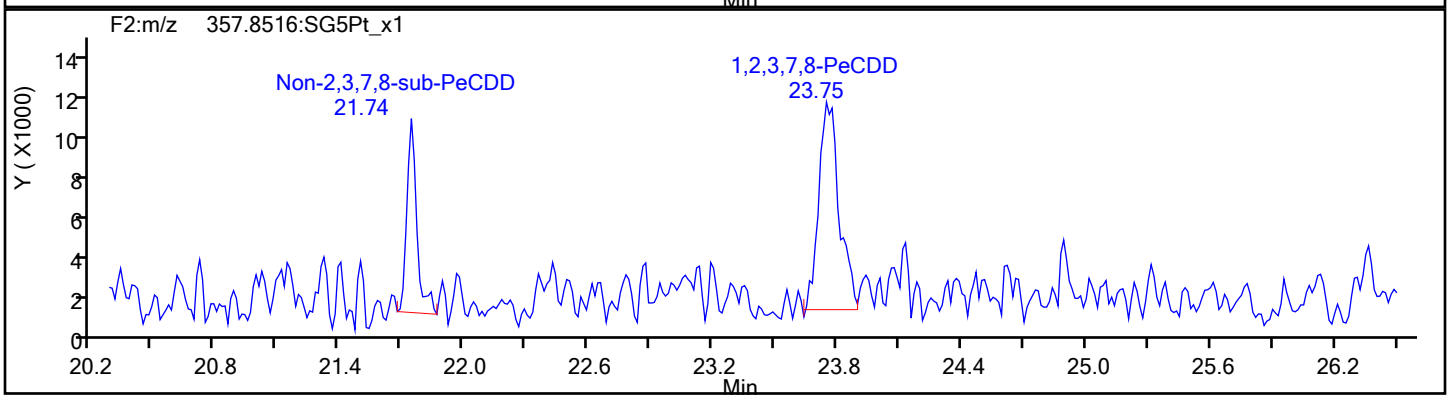

PeCDD Standards

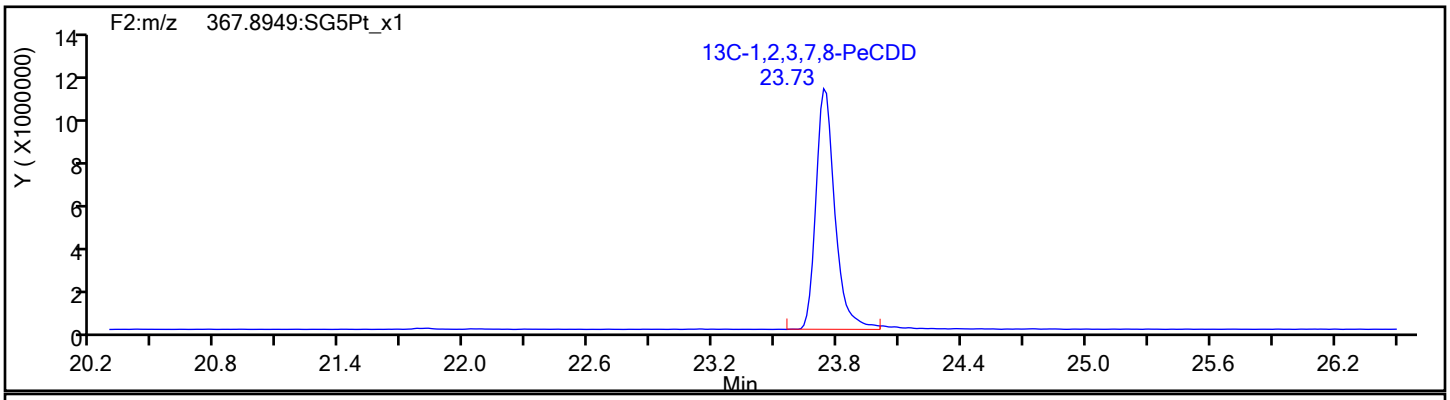

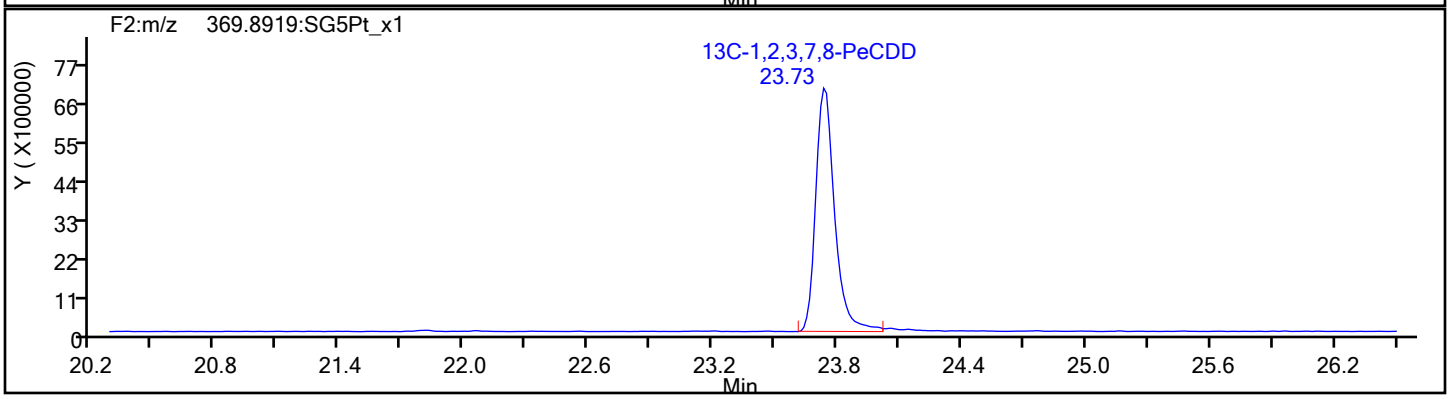

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Eurofins TestAmerica, Sacramento

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HxCDF

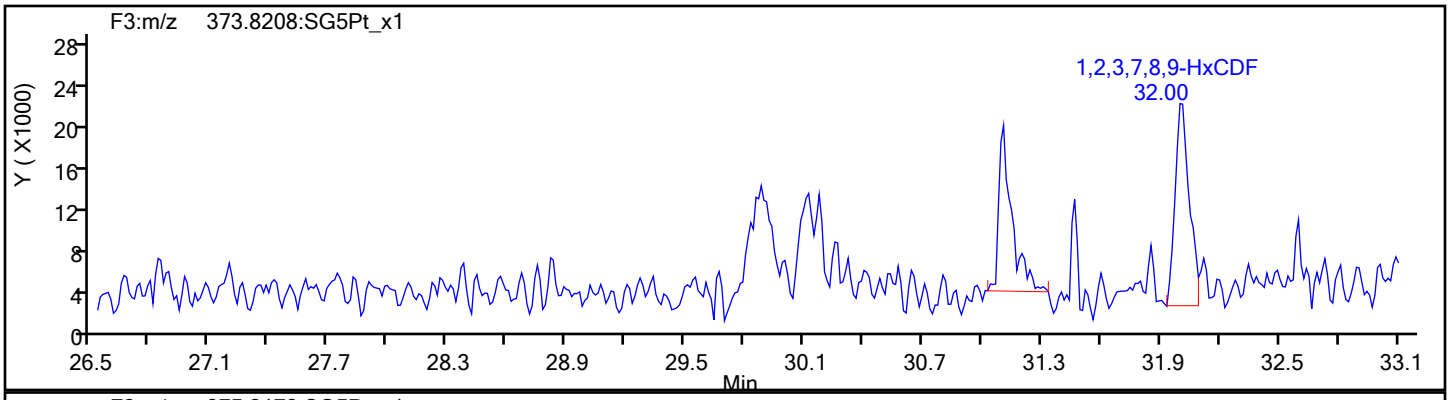

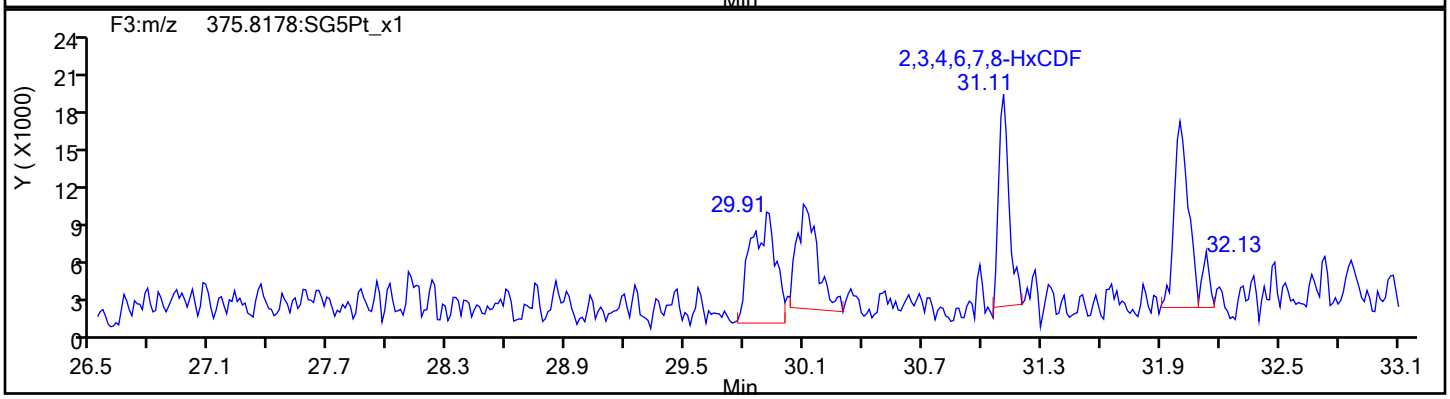

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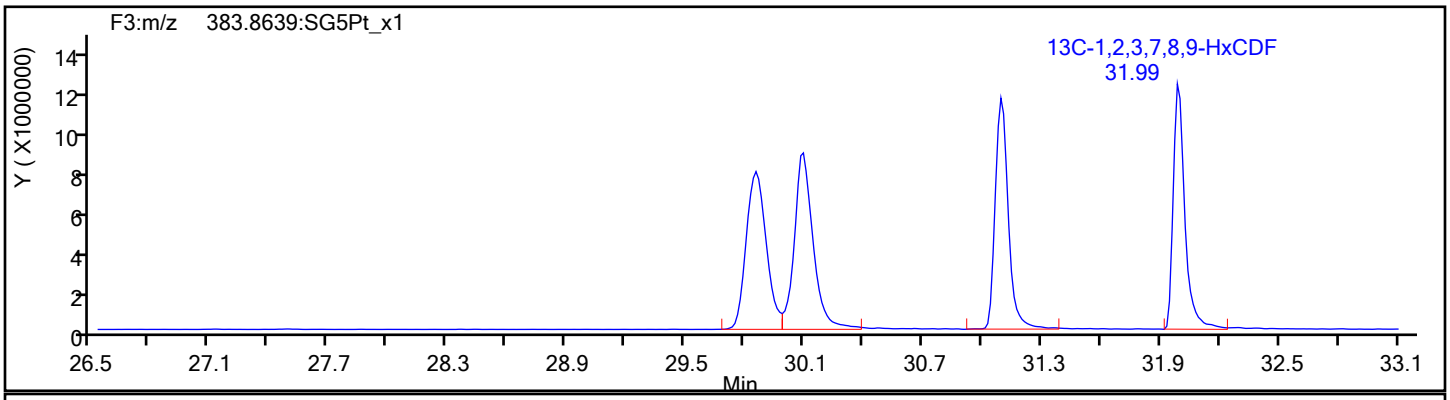

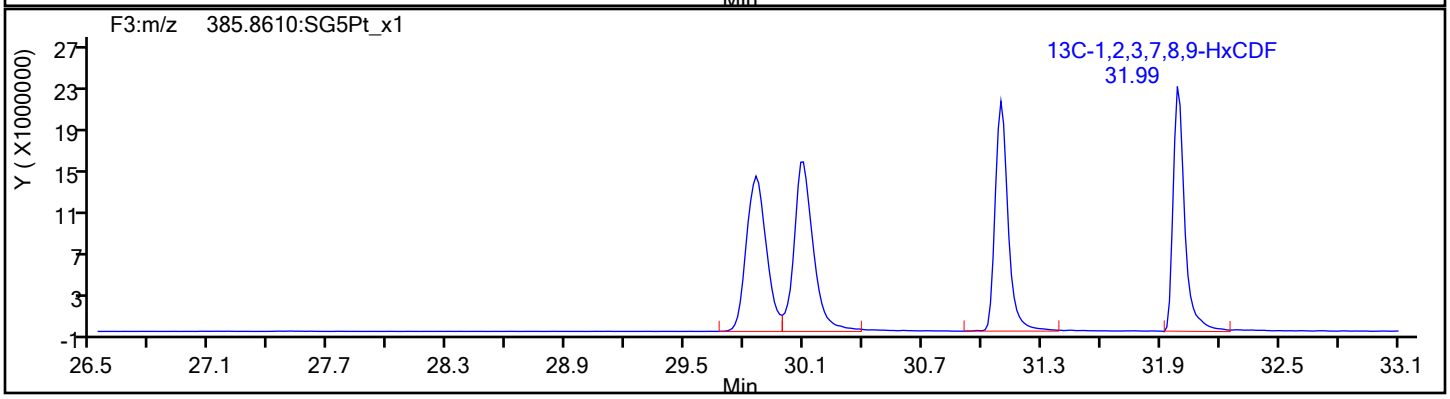

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Eurofins TestAmerica, Sacramento

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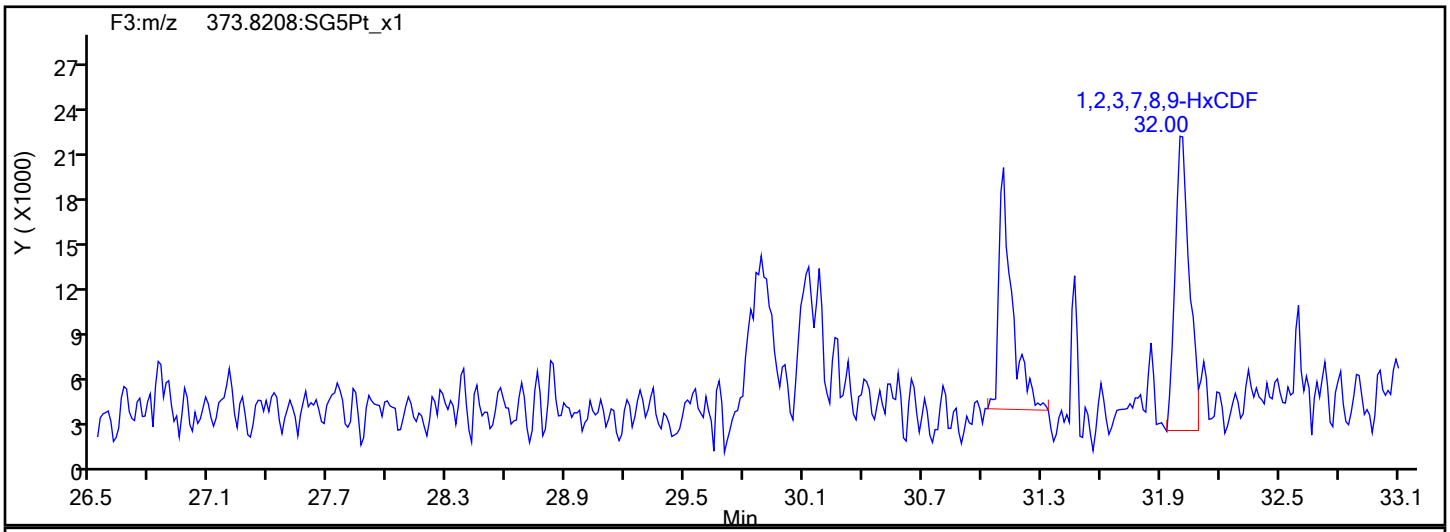

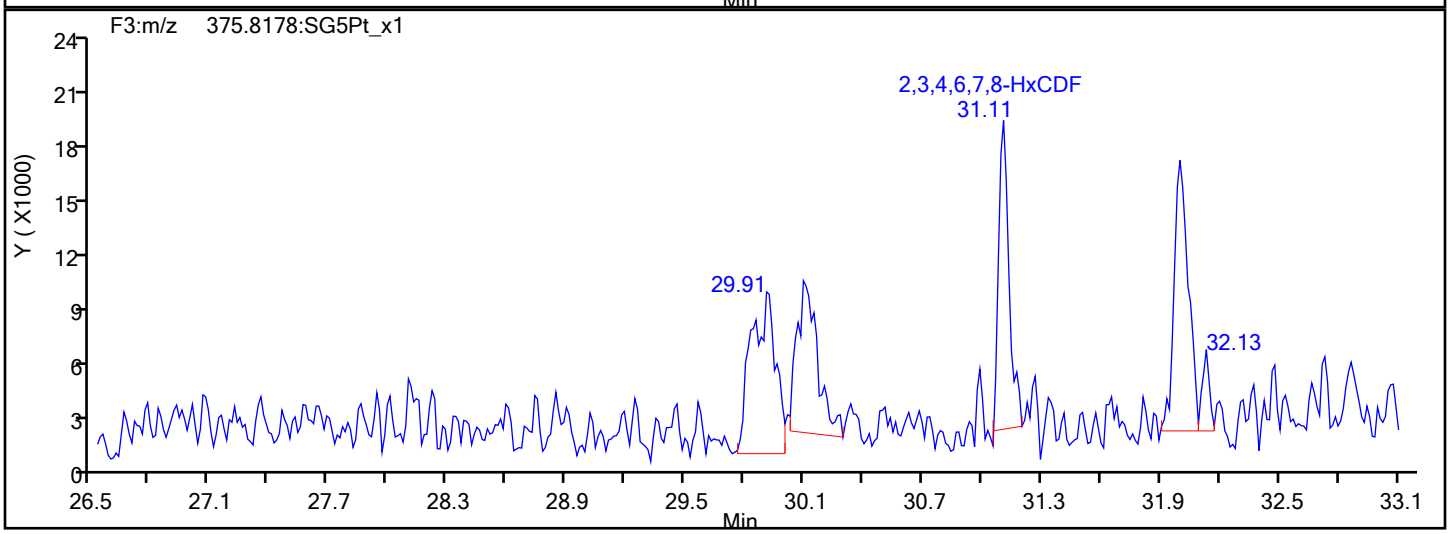

HxCDF Interference Mass

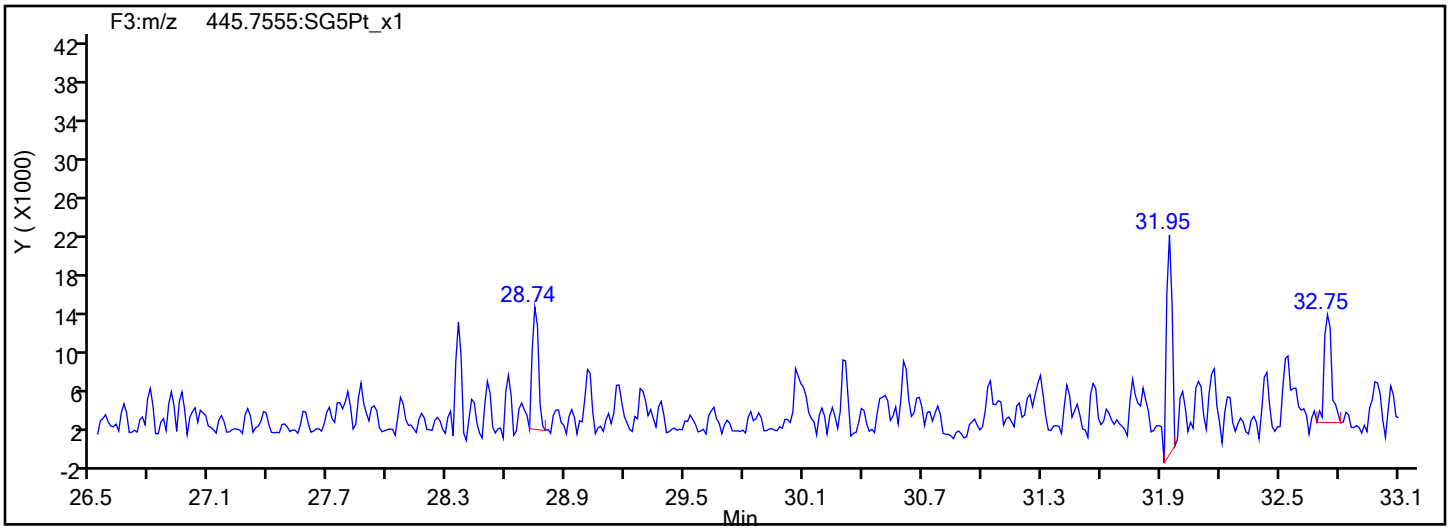

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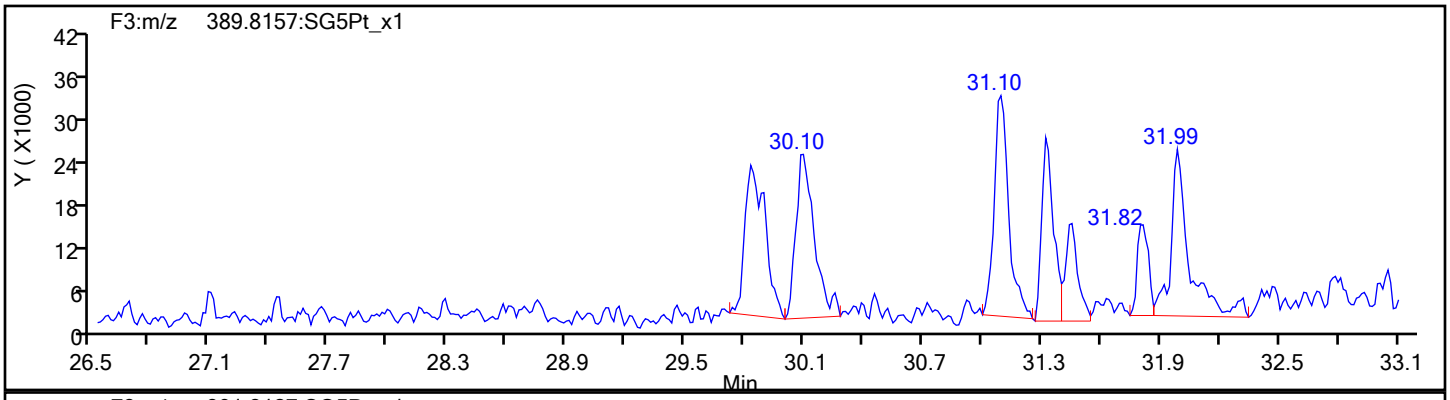

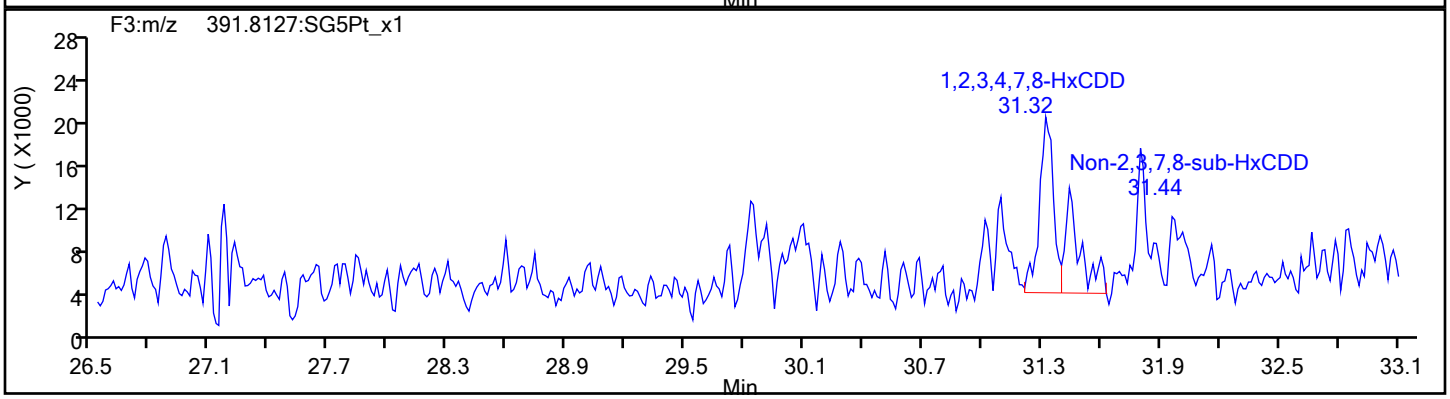

HxCDD Standards

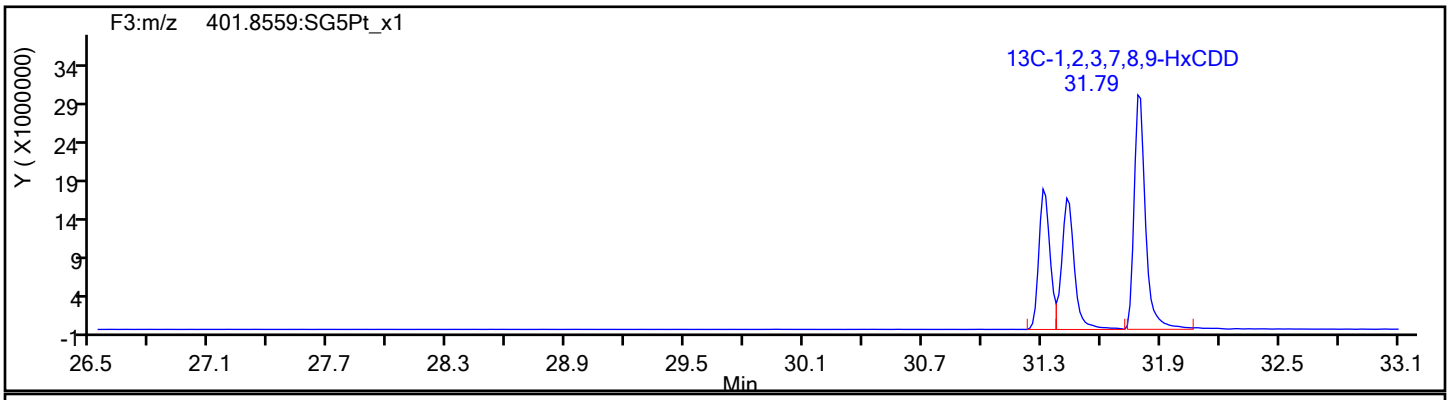

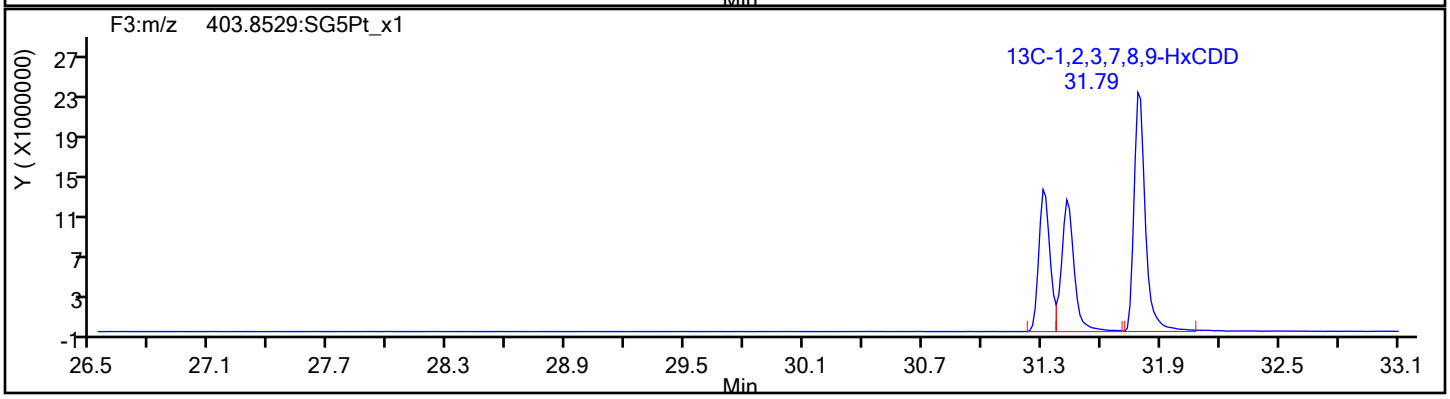

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Eurofins TestAmerica, Sacramento

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HpCDF

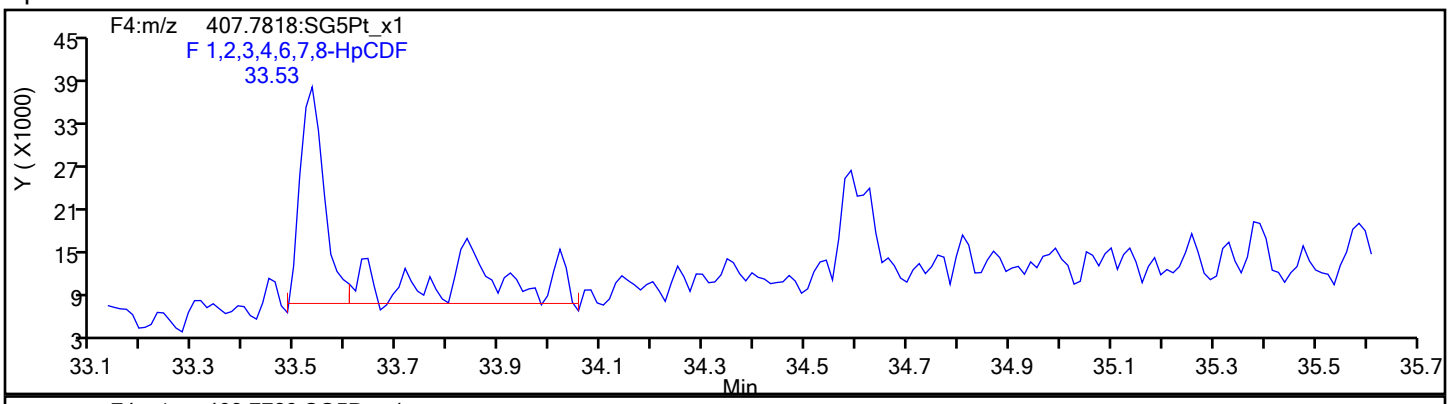

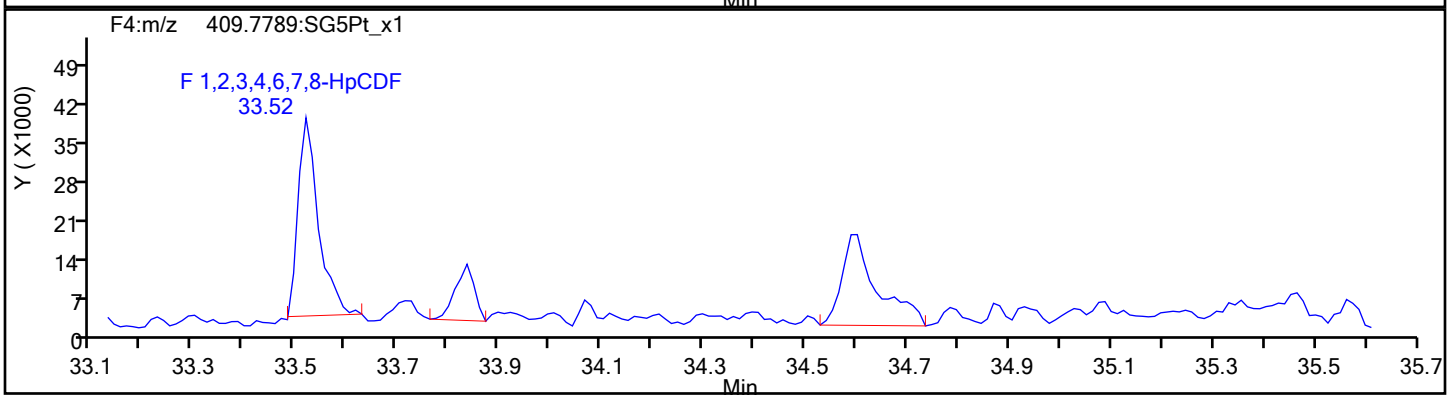

HpCDF Standards

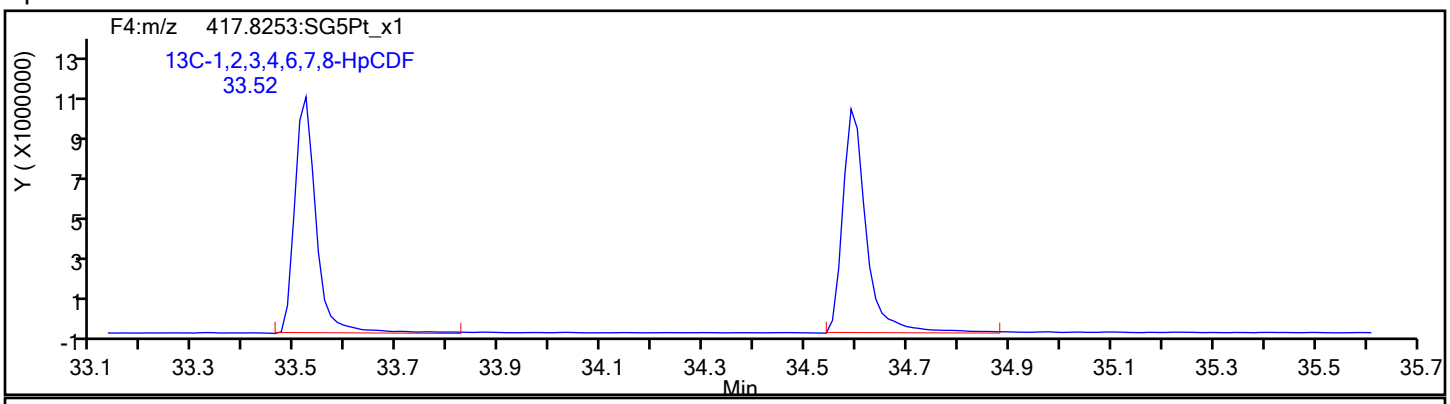

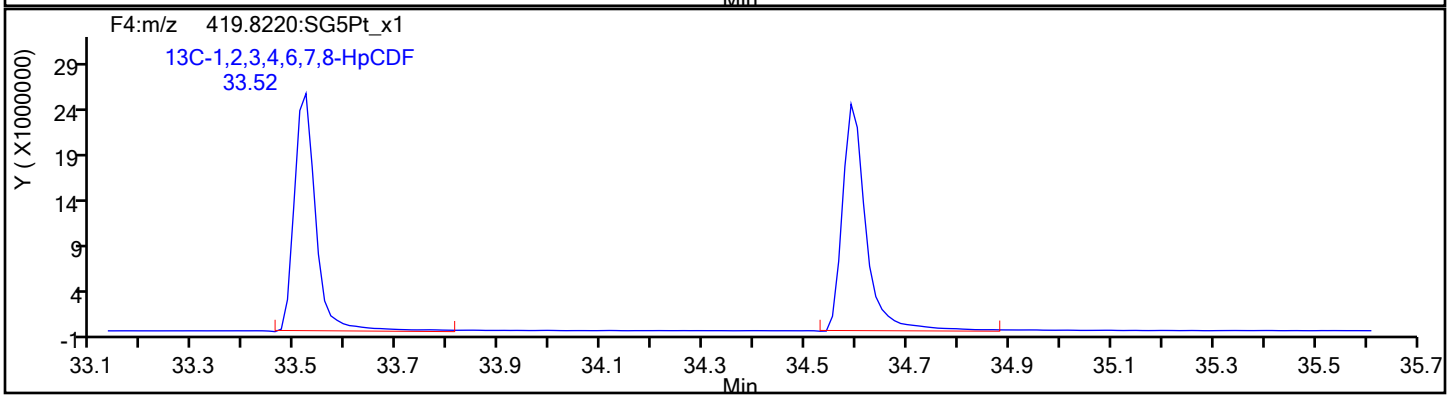

Report Date: 14-Nov-2019 09:56:39 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_42.d		
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Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	CEFF-Filtered		
Worklist#:	338227	Sample Line#:	42
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

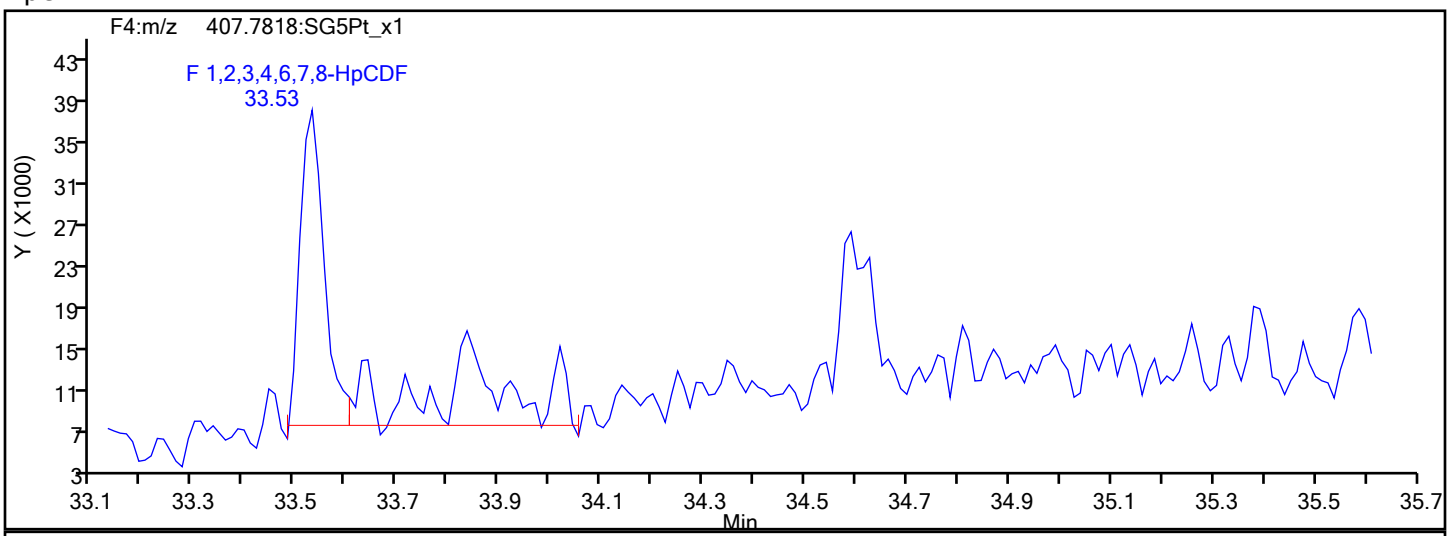

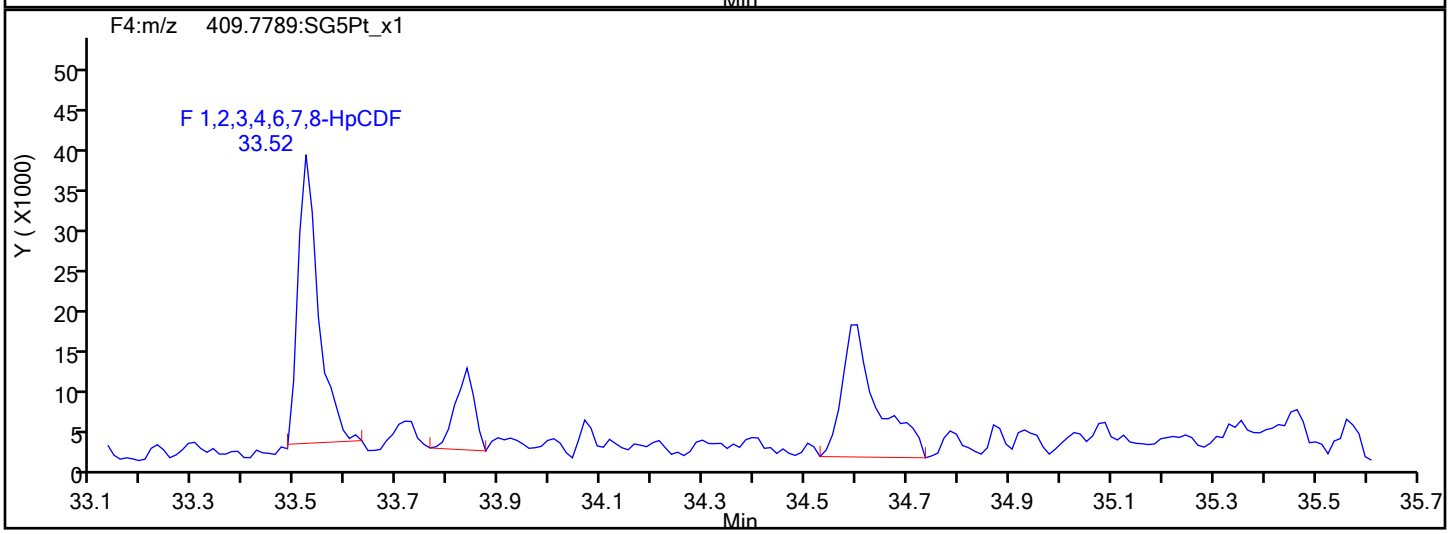

HpCDF Interference Mass

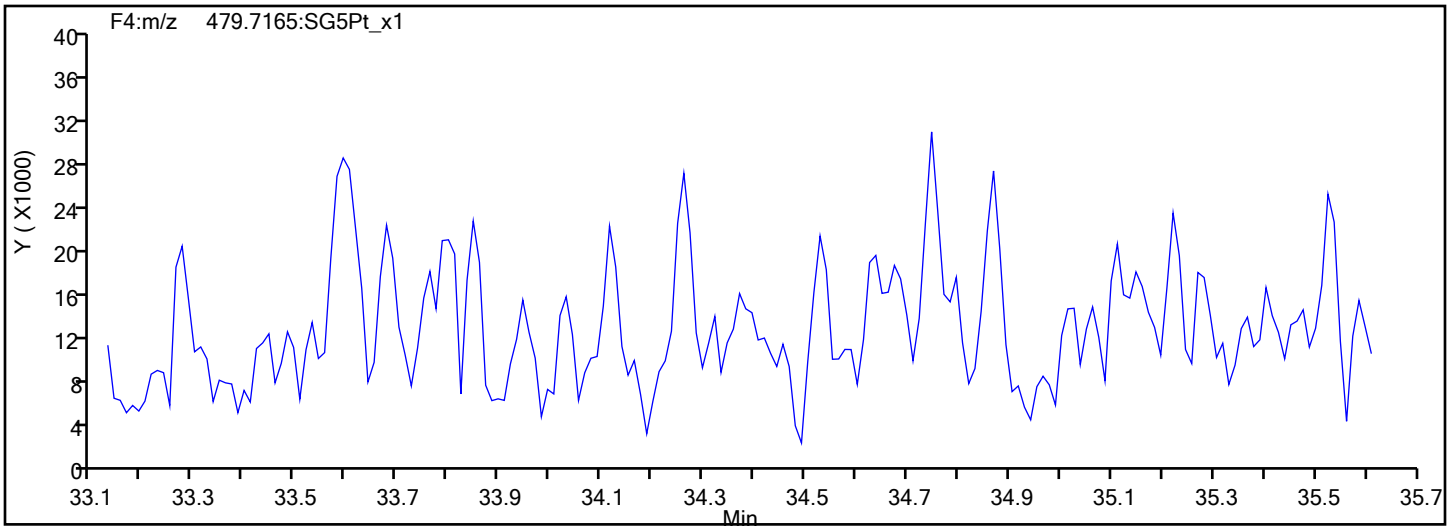

Report Date: 14-Nov-2019 09:56:39 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_42.d		
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Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	CEFF-Filtered		
Worklist#:	338227	Sample Line#:	42
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

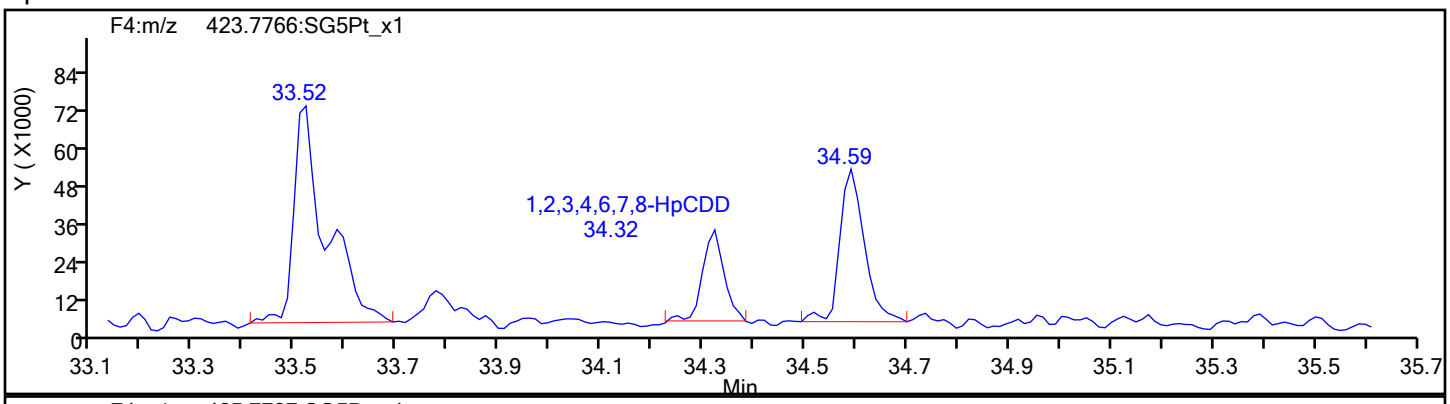

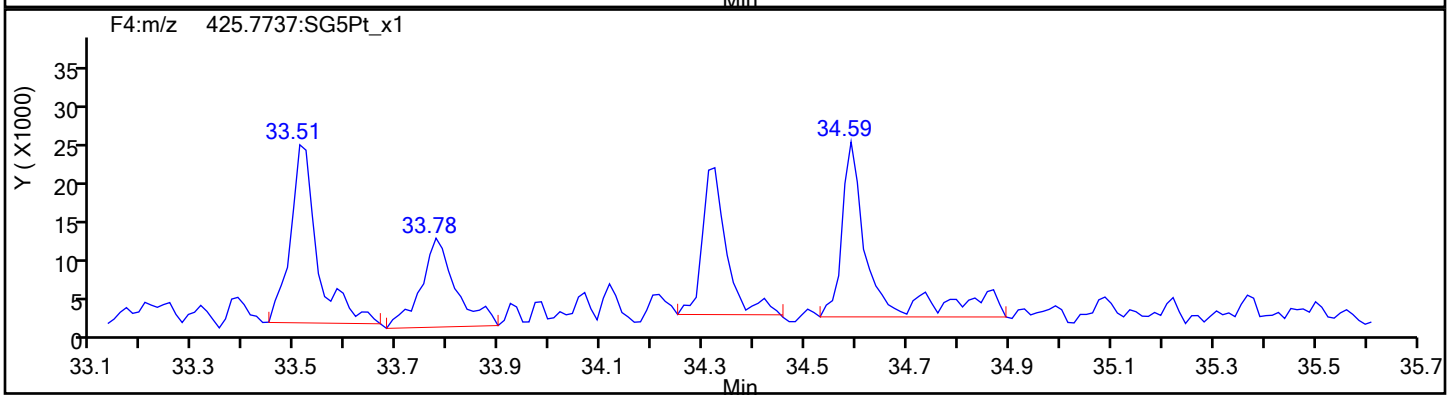

HpCDD Standards

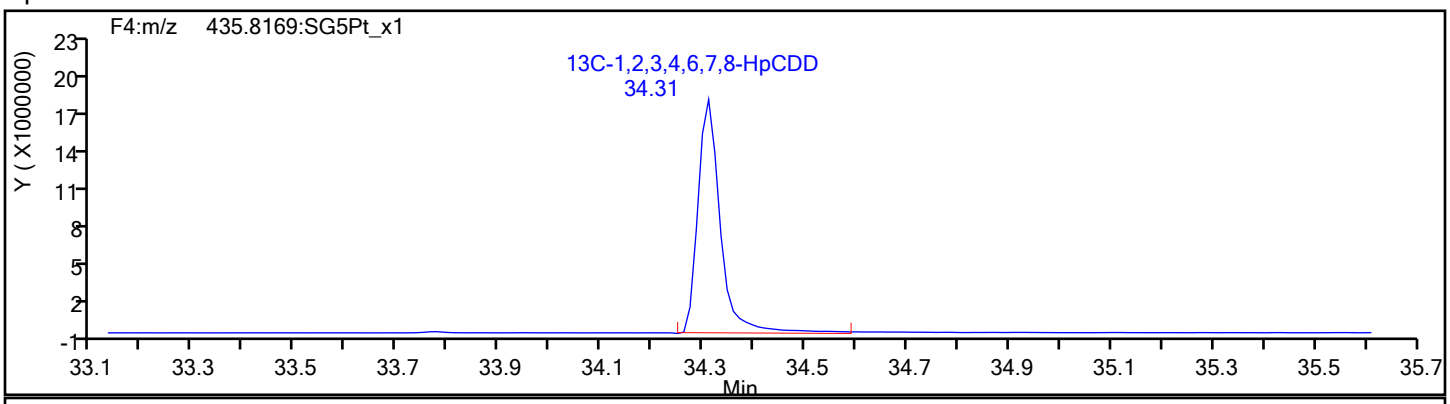

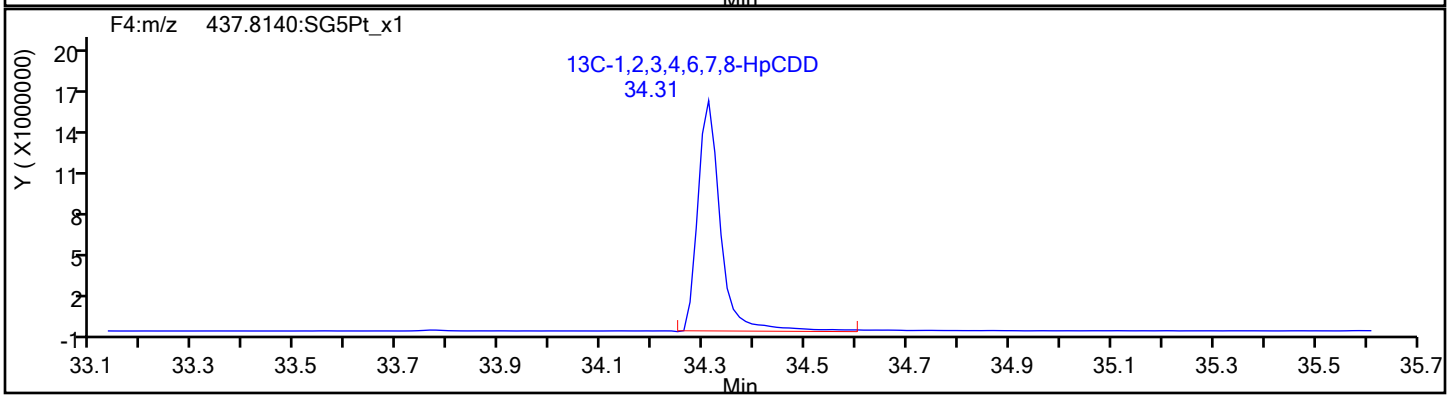

Report Date: 14-Nov-2019 09:56:39 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_42.d		
Injection Date:	13-Nov-2019 13:22:17	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	CEFF-Filtered		
Worklist#:	338227	Sample Line#:	42
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

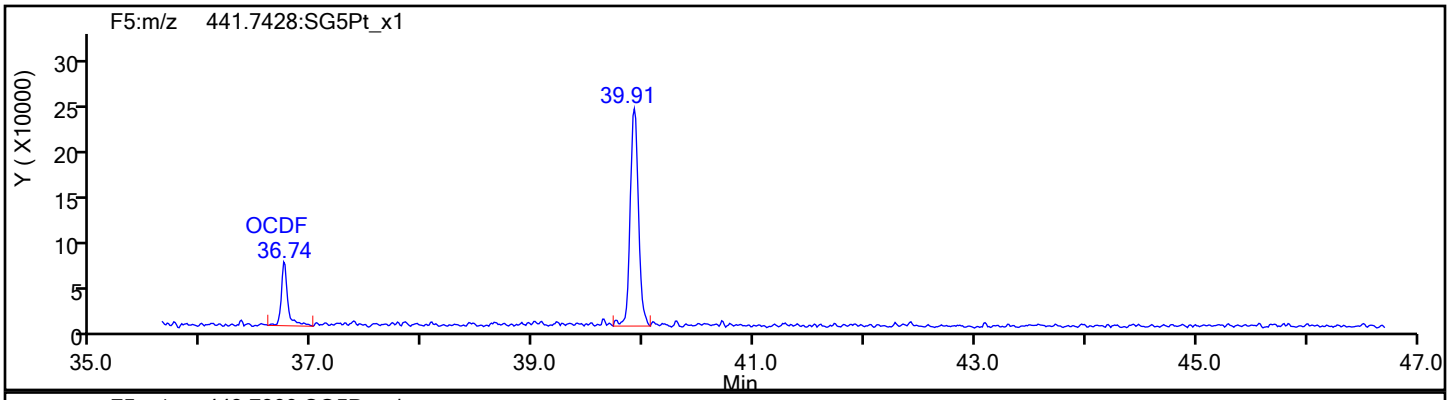

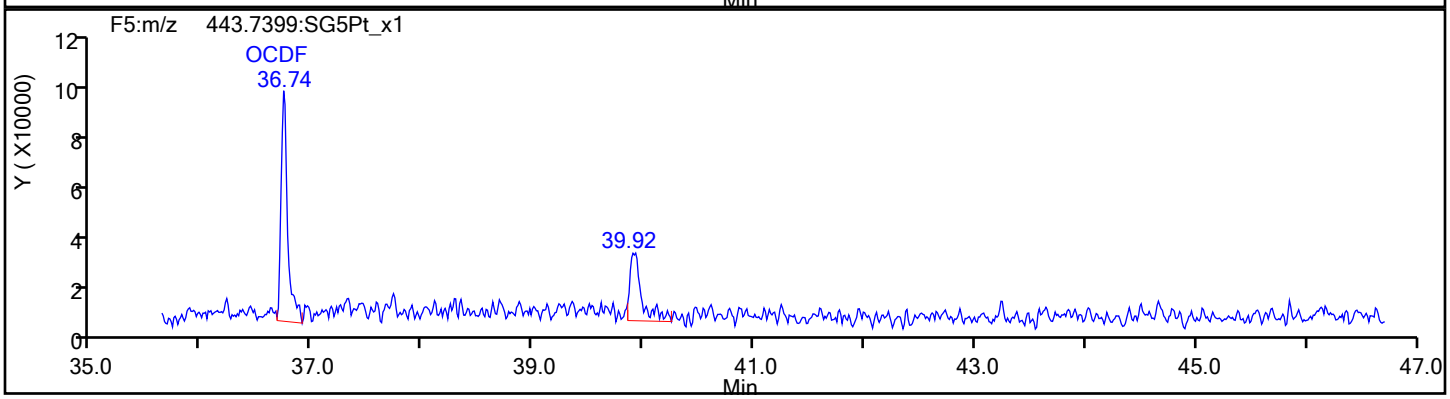

OCDF Standards

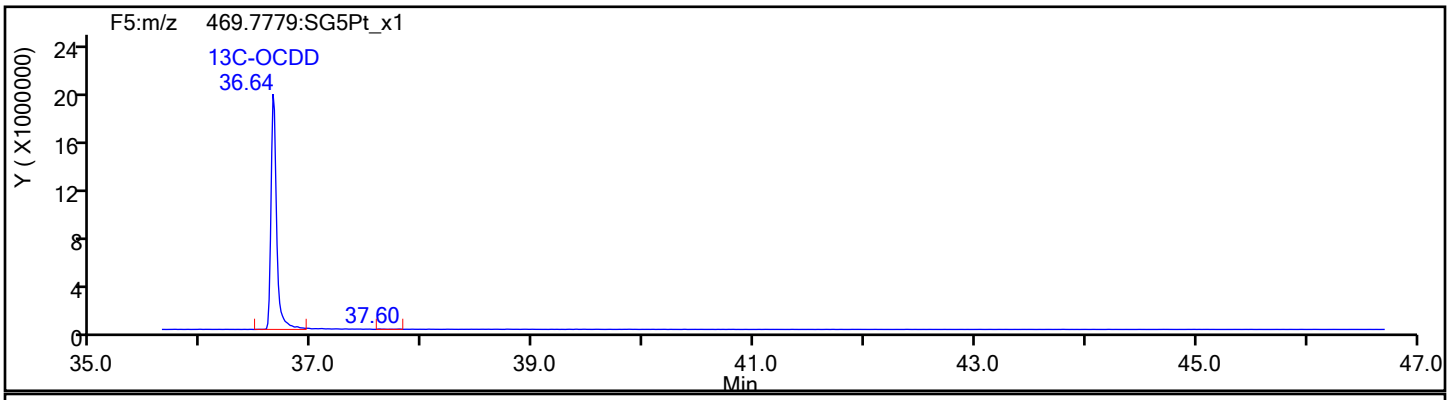

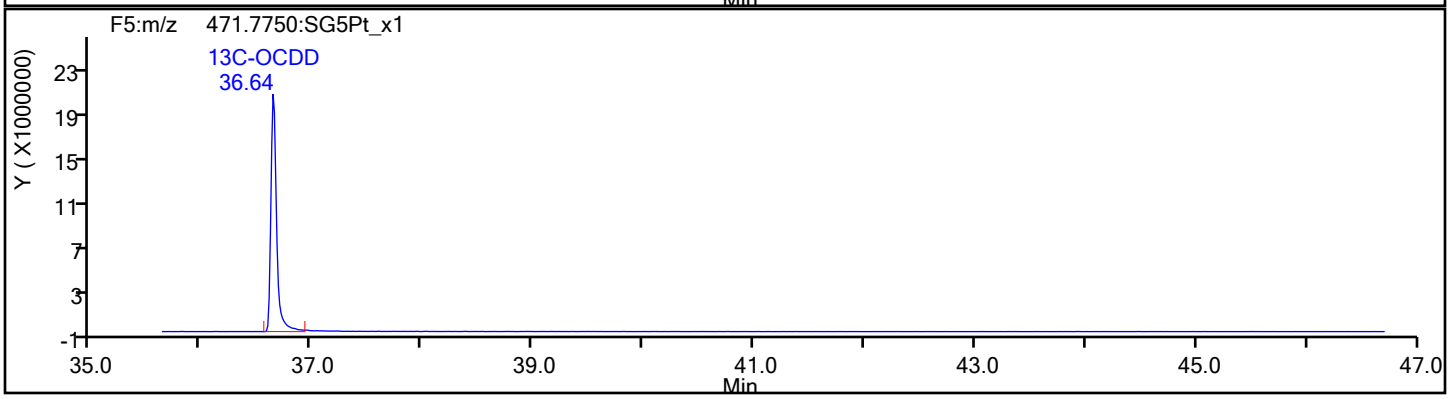

Report Date: 14-Nov-2019 09:56:39 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_42.d		
Injection Date:	13-Nov-2019 13:22:17	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	CEFF-Filtered		
Worklist#:	338227	Sample Line#:	42
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

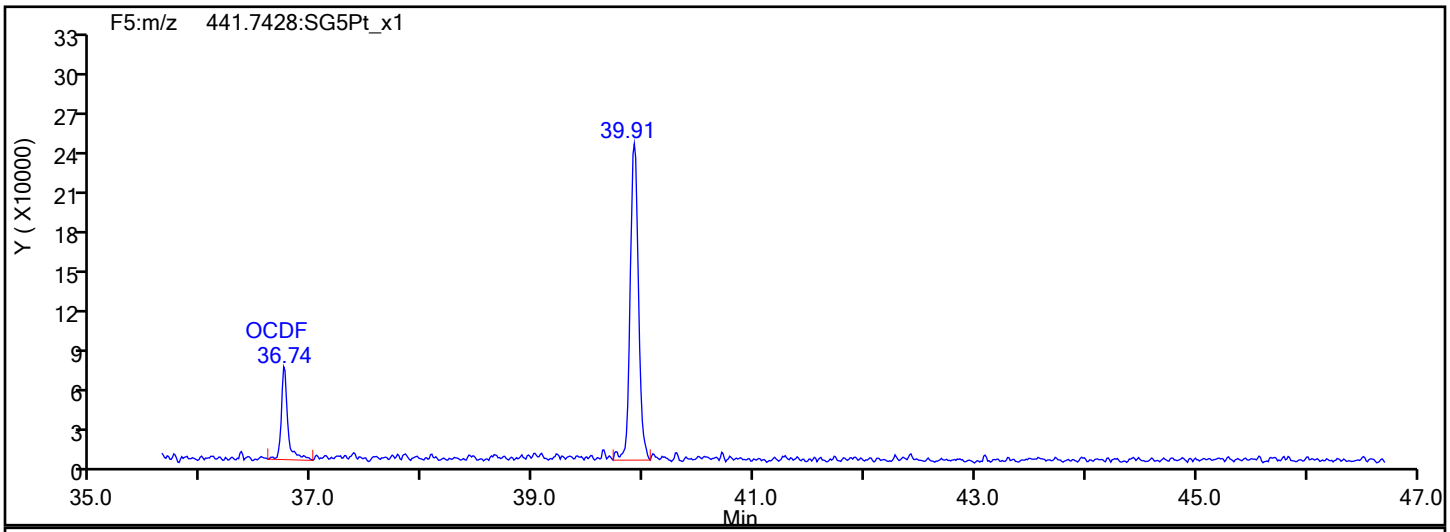

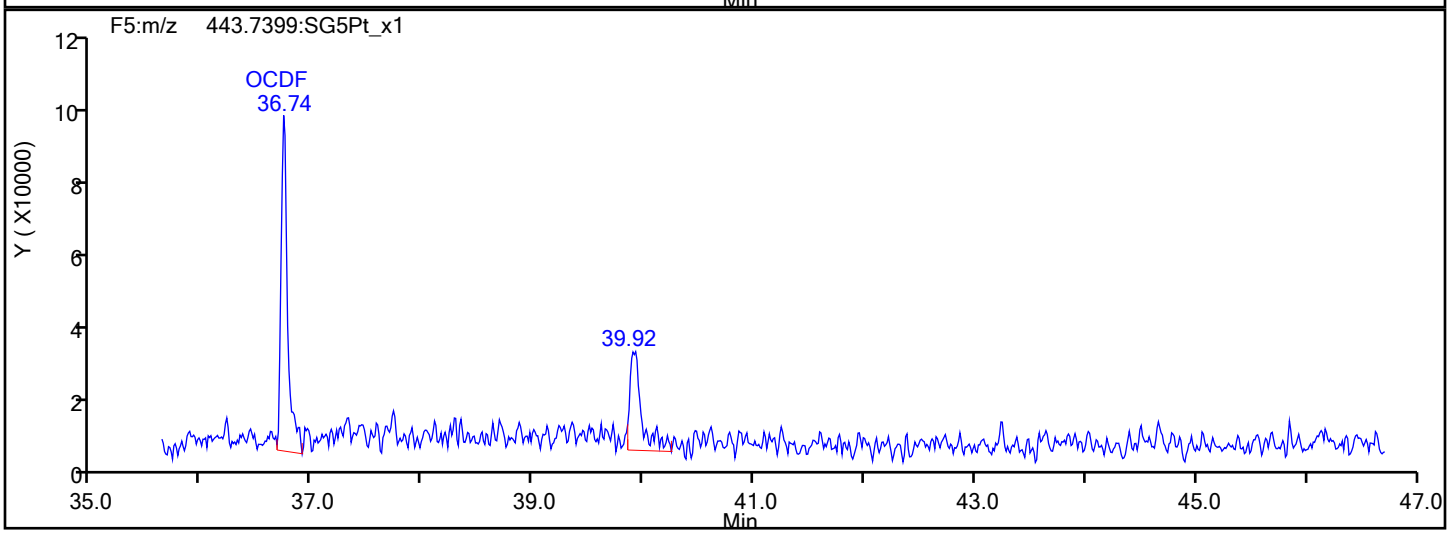

OCDF Interference Mass

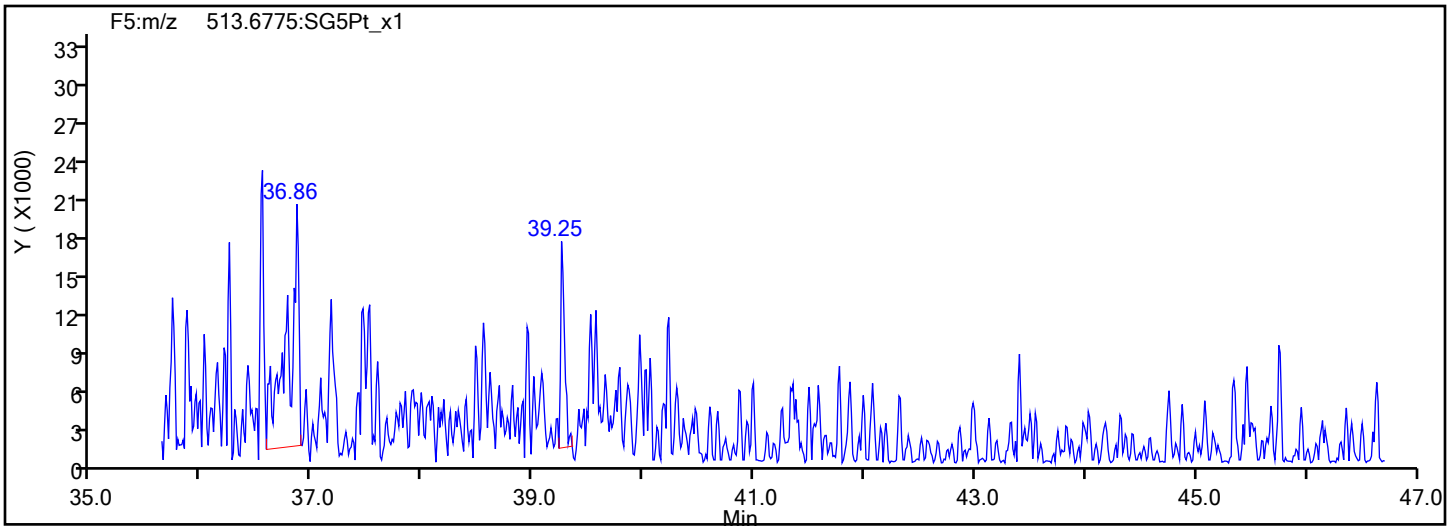

Report Date: 14-Nov-2019 09:56:39 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_42.d		
Injection Date:	13-Nov-2019 13:22:17	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	CEFF-Filtered		
Worklist#:	338227	Sample Line#:	42
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

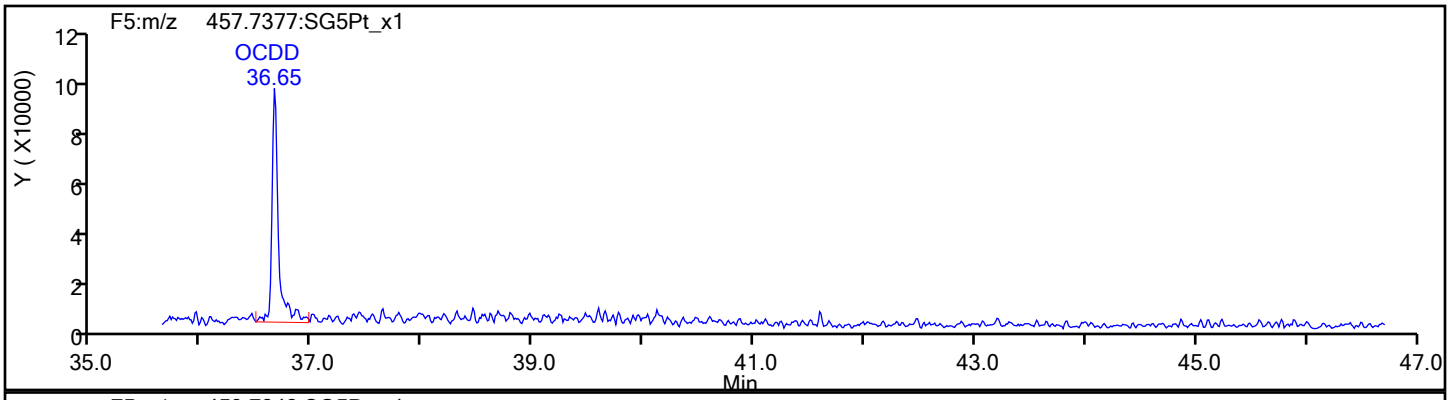

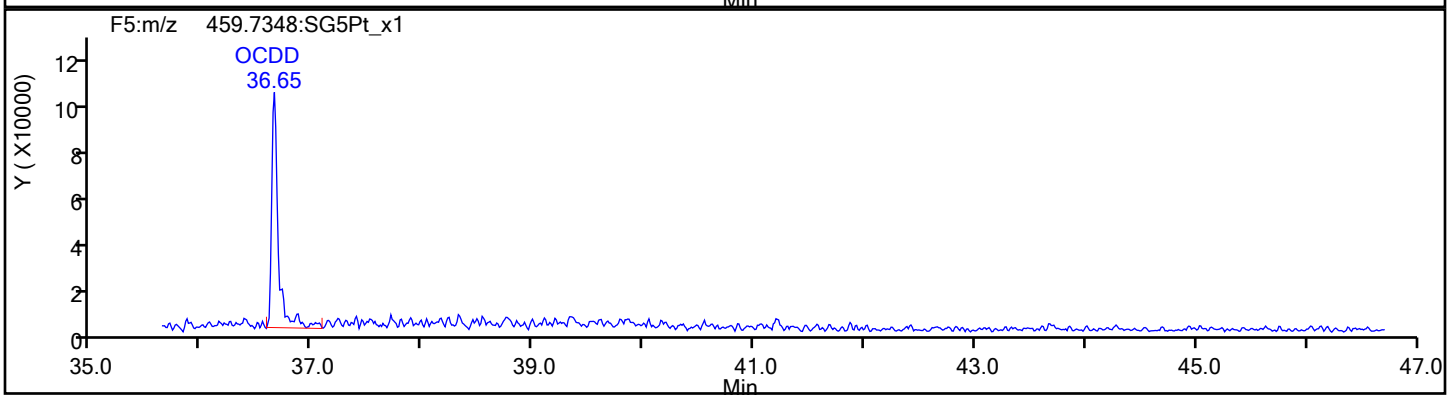

OCDD Standards

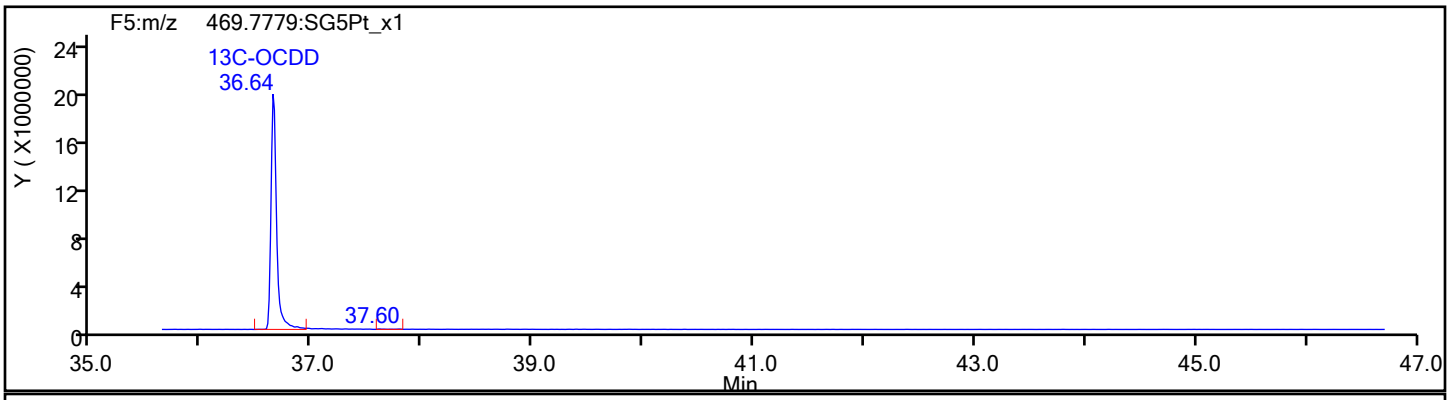

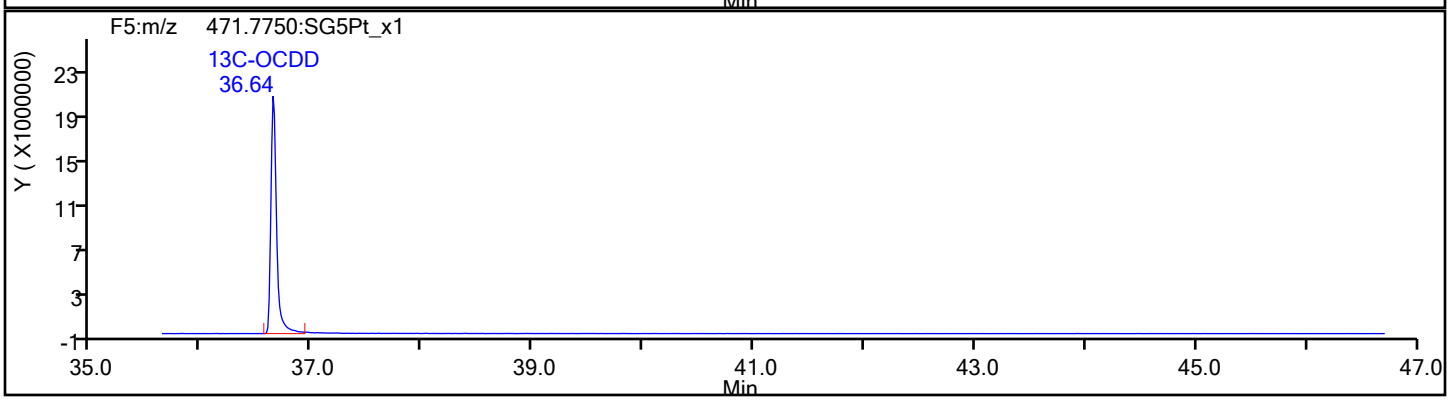

Report Date: 14-Nov-2019 09:56:40 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_42.d		
Injection Date:	13-Nov-2019 13:22:17	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	CEFF-Filtered		
Worklist#:	338227	Sample Line#:	42
Column Type:	DB-5	Column Dia:	0.32 mm

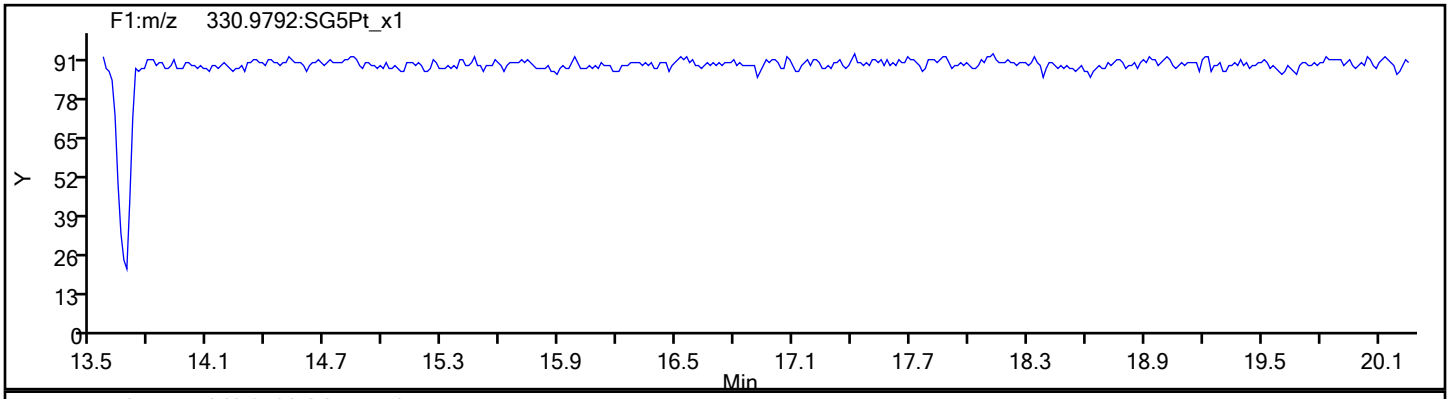

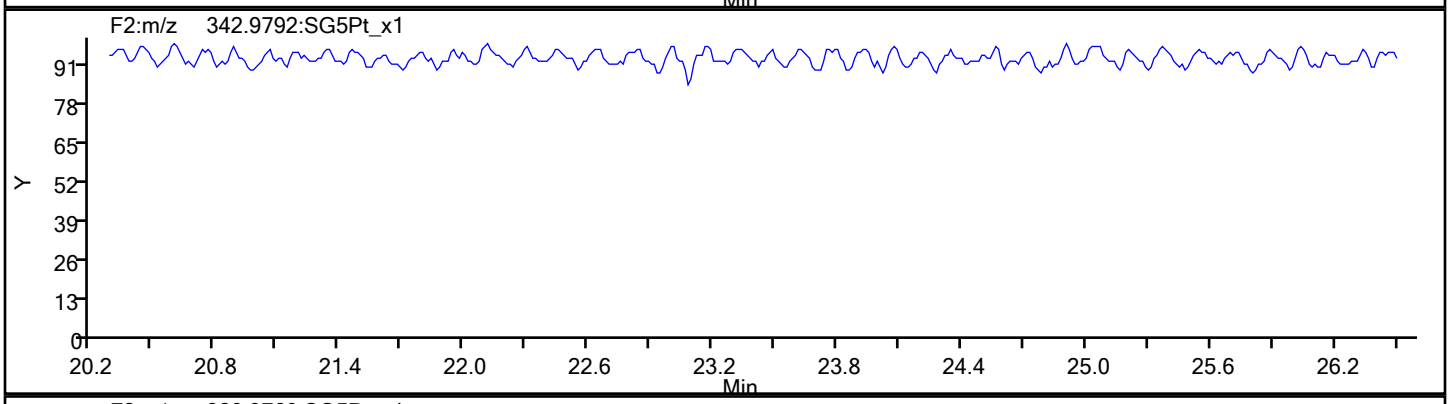

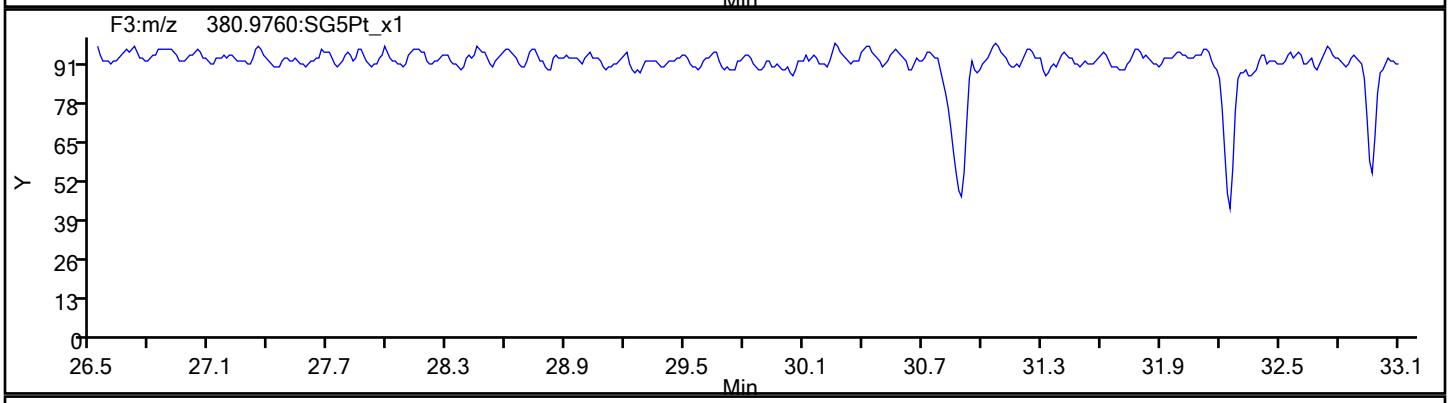

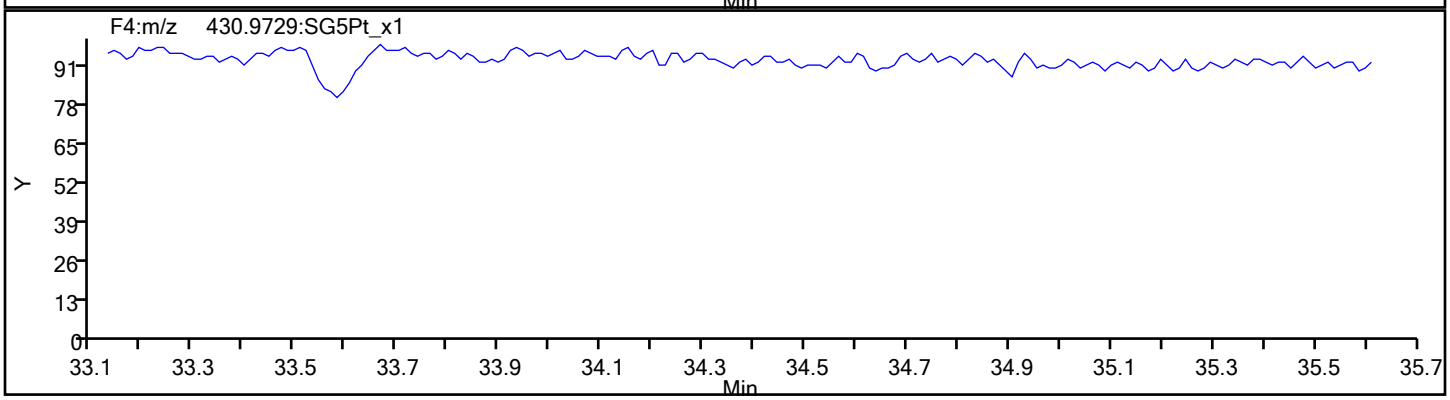

Report Date: 14-Nov-2019 09:56:40 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_42.d		
Injection Date:	13-Nov-2019 13:22:17	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	CEFF-Filtered		
Worklist#:	338227	Sample Line#:	42
Column Type:	DB-5	Column Dia:	0.32 mm

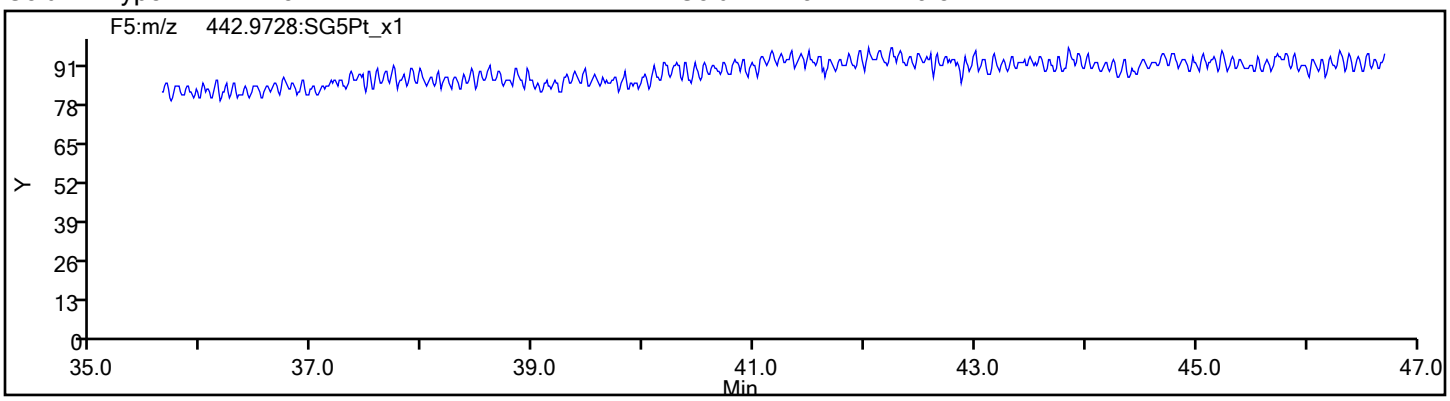

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1 Analy Batch No.: 296020

SDG No.:

Instrument ID: 3D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/21/2019 13:31 Calibration End Date: 05/21/2019 16:41 Calibration ID: 45441

Calibration Files:

LEVEL:	LAB SAMPLE ID:	EPA SAMPLE NO:	LAB FILE ID:
Level 1	IC 320-296020/3	L2	21MY193D5_3.d
Level 2	IC 320-296020/4	L3	21MY193D5_4.d
Level 3	IC 320-296020/5	L4	21MY193D5_5.d
Level 4	IC 320-296020/6	L5	21MY193D5_6.d
Level 5	IC 320-296020/7	L6	21MY193D5_7.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
2,3,7,8-TCDF	0.9235	1.0277	0.9254	0.9642	1.0145	AveID		0.9710				5.0		20.0			
2,3,7,8-TCDD	0.9868	1.0854	0.9844	1.0576	1.1094	AveID		1.0447				5.5		20.0			
1,2,3,7,8-PeCDF	0.9212	1.0165	0.9310	0.9500	0.9980	AveID		0.9633				4.4		20.0			
2,3,4,7,8-PeCDF	0.9013	0.9595	0.9315	0.9479	1.0073	AveID		0.9495				4.1		20.0			
1,2,3,7,8-PeCDD	1.0348	1.1118	1.0315	1.0467	1.0926	AveID		1.0635				3.4		20.0			
1,2,3,4,7,8-HxCDF	1.2235	1.2530	1.1683	1.1699	1.2720	AveID		1.2173				3.9		20.0			
1,2,3,6,7,8-HxCDF	1.1546	1.1775	1.0909	1.0893	1.1435	AveID		1.1311				3.5		20.0			
2,3,4,6,7,8-HxCDF	1.1529	1.2452	1.1372	1.1343	1.1854	AveID		1.1710				3.9		20.0			
1,2,3,4,7,8-HxCDD	1.0623	1.0361	0.9949	1.0012	1.0389	AveID		1.0267				2.7		20.0			
1,2,3,6,7,8-HxCDD	0.9427	1.0364	0.9432	0.9546	1.0086	AveID		0.9771				4.4		20.0			
1,2,3,7,8,9-HxCDD	1.0287	1.1350	1.0333	1.0230	1.0879	AveID		1.0616				4.6		20.0			
1,2,3,7,8,9-HxCDF	1.1727	1.2389	1.1185	1.1557	1.2075	AveID		1.1787				3.9		20.0			
1,2,3,4,6,7,8-HpCDF	1.4662	1.5189	1.3796	1.3864	1.4354	AveID		1.4373				4.0		20.0			
1,2,3,4,6,7,8-HpCDD	0.9834	1.0670	0.9676	0.9919	1.0410	AveID		1.0102				4.2		20.0			
1,2,3,4,7,8,9-HpCDF	1.3247	1.3173	1.2830	1.2914	1.3291	AveID		1.3091				1.6		20.0			
OCDD	1.0637	1.1266	1.0057	1.0394	1.0781	AveID		1.0627				4.2		20.0			
OCDF	1.2978	1.4332	1.2848	1.3407	1.3941	AveID		1.3501				4.7		20.0			
13C-2,3,7,8-TCDF	1.3836	1.3338	1.3849	1.4223	1.4295	Ave		1.3908				2.7		35.0			
13C-2,3,7,8-TCDD	0.9573	0.9495	0.9844	0.9897	1.0284	Ave		0.9819				3.2		35.0			
13C-1,2,3,7,8-PeCDF	1.1429	1.1045	1.1235	1.1955	1.2260	Ave		1.1585				4.4		35.0			
13C-2,3,4,7,8-PeCDF	1.1386	1.1650	1.0868	1.1757	1.1996	Ave		1.1532				3.7		35.0			
13C-1,2,3,7,8-PeCDD	0.7434	0.7190	0.7050	0.7662	0.7820	Ave		0.7431				4.3		35.0			
13C-1,2,3,4,7,8-HxCDF	0.9384	0.9755	0.9735	1.0280	1.0031	Ave		0.9837				3.4		35.0			
13C-1,2,3,6,7,8-HxCDF	1.1307	1.1096	1.1600	1.1851	1.1916	Ave		1.1554				3.0		35.0			
13C-2,3,4,6,7,8-HxCDF	1.0239	0.9881	1.0230	1.0763	1.0691	Ave		1.0361				3.5		35.0			
13C-1,2,3,4,7,8-HxCDD	0.8114	0.8376	0.7976	0.8574	0.8396	Ave		0.8287				2.9		35.0			
13C-1,2,3,6,7,8-HxCDD	0.9660	0.9004	0.9453	0.9731	0.9625	Ave		0.9495				3.1		35.0			
13C-1,2,3,7,8,9-HxCDF	0.8833	0.8510	0.9177	0.9172	0.9480	Ave		0.9034				4.1		35.0			
13C-1,2,3,4,6,7,8-HpCDF	0.7187	0.6940	0.7219	0.7512	0.7566	Ave		0.7285				3.5		35.0			
13C-1,2,3,4,6,7,8-HpCDD	0.6890	0.6687	0.6928	0.7169	0.7218	Ave		0.6978				3.1		35.0			
13C-1,2,3,4,7,8,9-HpCDF	0.6326	0.6528	0.6328	0.6636	0.6964	Ave		0.6556				4.0		35.0			
13C-OCDD	0.4760	0.4434	0.4715	0.4888	0.5101	Ave		0.4780				5.1		35.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1 Analy Batch No.: 296020

SDG No.:

Instrument ID: 3D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/21/2019 13:31 Calibration End Date: 05/21/2019 16:41 Calibration ID: 45441

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
37Cl4-2,3,7,8-TCDD	1.1582	1.1480	1.2123	1.2520	1.3321	Ave		1.2205				6.2					

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1 Analy Batch No.: 296020

SDG No.:

Instrument ID: 3D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/21/2019 13:31 Calibration End Date: 05/21/2019 16:41 Calibration ID: 45441

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-296020/3	21MY193D5_3.d
Level 2	IC 320-296020/4	21MY193D5_4.d
Level 3	IC 320-296020/5	21MY193D5_5.d
Level 4	IC 320-296020/6	21MY193D5_6.d
Level 5	IC 320-296020/7	21MY193D5_7.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (PG/UL)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
2,3,7,8-TCDF		AveID	2583748	8507151	34095990	180787829	840711981	0.500	2.00	10.0	40.0	200
2,3,7,8-TCDD		AveID	1910360	6396242	25780110	137985150	661466014	0.500	2.00	10.0	40.0	200
1,2,3,7,8-PeCDF		AveID	10644451	34842727	139131385	748579428	3546729328	2.50	10.0	50.0	200	1000
2,3,4,7,8-PeCDF		AveID	10376103	34688810	134668117	734611177	3502921768	2.50	10.0	50.0	200	1000
1,2,3,7,8-PeCDD		AveID	7777334	24806651	96734118	528599914	2476692315	2.50	10.0	50.0	200	1000
1,2,3,4,7,8-HxCDF		AveID	9674677	31309357	119503669	655348032	3039345430	2.50	10.0	50.0	200	1000
1,2,3,6,7,8-HxCDF		AveID	10999512	33467672	132954258	703421366	3245921873	2.50	10.0	50.0	200	1000
2,3,4,6,7,8-HxCDF		AveID	9947333	31515470	122235023	665213059	3018880889	2.50	10.0	50.0	200	1000
1,2,3,4,7,8-HxCDD		AveID	7262639	22229107	83380770	467745053	2077802739	2.50	10.0	50.0	200	1000
1,2,3,6,7,8-HxCDD		AveID	7672652	23903470	93685468	506126926	2312494869	2.50	10.0	50.0	200	1000
1,2,3,7,8,9-HxCDD		AveID	7703029	25265795	94615681	510175959	2335014918	2.50	10.0	50.0	200	1000
1,2,3,7,8,9-HxCDF		AveID	8728060	27006700	107848697	577594332	2727034804	2.50	10.0	50.0	200	1000
1,2,3,4,6,7,8-HpCDF		AveID	8879120	27002265	104642592	567482020	2587172494	2.50	10.0	50.0	200	1000
1,2,3,4,6,7,8-HpCDD		AveID	5709139	18276752	70431011	387463236	1789936585	2.50	10.0	50.0	200	1000
1,2,3,4,7,8,9-HpCDF		AveID	7060600	22029367	85304719	466922689	2204844968	2.50	10.0	50.0	200	1000
OCDD		AveID	8532557	25589607	99639255	553694600	2620168751	5.00	20.0	100	400	2000
OCDF		AveID	10410040	32555639	127299796	714185718	3388401360	5.00	20.0	100	400	2000
13C-2,3,7,8-TCDF	13CTC	Ave	559566492	413896652	368458287	468743621	414364714	100	100	100	100	100
13C-2,3,7,8-TCDD	13CTC	Ave	387167733	294655621	261889190	326174325	298123322	100	100	100	100	100
13C-1,2,3,7,8-PeCDF	13CTC	Ave	462221066	342759465	298897976	393996346	355379894	100	100	100	100	100
13C-2,3,4,7,8-PeCDF	13CTC	Ave	460498490	361518043	289155560	387486784	347746656	100	100	100	100	100
13C-1,2,3,7,8-PeCDD	13CTC	Ave	300639105	223121425	187564907	252511444	226685680	100	100	100	100	100
13C-1,2,3,4,7,8-HxCDF	13CHx	Ave	316288036	249870872	204574619	280079795	238951430	100	100	100	100	100
13C-1,2,3,6,7,8-HxCDF	13CHx	Ave	381078003	284216868	243762567	322882273	283858684	100	100	100	100	100
13C-2,3,4,6,7,8-HxCDF	13CHx	Ave	345112458	253100793	214979709	293235329	254680303	100	100	100	100	100
13C-1,2,3,4,7,8-HxCDD	13CHx	Ave	273468265	214549850	167611922	233591591	199999683	100	100	100	100	100
13C-1,2,3,6,7,8-HxCDD	13CHx	Ave	325568612	230647502	198645382	265112485	229281992	100	100	100	100	100
13C-1,2,3,7,8,9-HxCDF	13CHx	Ave	297701088	217982814	192845424	249896301	225835692	100	100	100	100	100
13C-1,2,3,4,6,7,8-HpCDF	13CHx	Ave	242234960	177773786	151704886	204661502	180241372	100	100	100	100	100
13C-1,2,3,4,6,7,8-HpCDD	13CHx	Ave	232219606	171291409	145580797	195316121	171947941	100	100	100	100	100
13C-1,2,3,4,7,8,9-HpCDF	13CHx	Ave	213198749	167226325	132981445	180782541	165887161	100	100	100	100	100
13C-OCDD	13CHx	Ave	320855579	227149918	198157571	266344587	243044959	200	200	200	200	200
37Cl4-2,3,7,8-TCDD	13CTC	Ave	2342162	7124853	32252457	165050919	772302983	0.500	2.00	10.0	40.0	200

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1 Analy Batch No.: 296020

SDG No.:

Instrument ID: 3D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/21/2019 13:31 Calibration End Date: 05/21/2019 16:41 Calibration ID: 45441

Curve Type Legend:

Ave = Average ISTD
AveID = Average isotope dilution

Sample List Report **MassLynx 4.1**

Sample List: C:\MassLynx\DATA 2019.PRO\SampleDB\21MY193D5.SPL
Last Modified: Tuesday, May 21, 2019 18:40:49 Pacific Daylight Time
Printed: Tuesday, May 21, 2019 18:41:05 Pacific Daylight Time

Page Position (1, 1)

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #	User	Sample Size
1	21MY193D5_1	WDM HRDXNCP_00038	WDM 052119	Tray01:1			AJS	1.000000
2	21MY193D5_2	Solvent Blank C-14	SB 052119	Tray01:3			AJS	1.000000
3	21MY193D5_3	CS-2 HRDXNL2_00024	IC 052119	Tray01:4	Dioxin		AJS	1.000000
4	21MY193D5_4	CS-3 HRDXNL3_00022	IC 052119A	Tray01:5	Dioxin		AJS	1.000000
5	21MY193D5_5	CS-4 HRDXNL4_00077	IC 052119B	Tray01:6	Dioxin		AJS	1.000000
6	21MY193D5_6	CS-5 HRDXNL5_00025	IC 052119C	Tray01:7	Dioxin		AJS	1.000000
7	21MY193D5_7	CS-6 HRDXNL6_00021	IC 052119D	Tray01:8	Dioxin		AJS	1.000000
8	21MY193D5_8	Solvent Blank C-14	SB 052119A	Tray01:3			AJS	1.000000
9	21MY193D5_9	ICV HRDXNIC_00038	ICV 052119	Tray01:9	Dioxin		AJS	1.000000
10	21MY193D5_10	Solvent Blank C-14	SB 052119B	Tray01:3			AJS	1.000000
11	21MY193D5_11	WDM HRDXNCP_00038	WDM 052119	Tray01:1			AJS	1.000000
12	21MY193D5_12	CS-4 HRDXNL4_00077	CCV 052119	Tray01:2			AJS	1.000000
13	21MY193D5_13	Solvent Blank C-14	SB 052119C	Tray01:3			AJS	1.000000

logfile checked
5-21-19 ALM

Units	MS File	Inlet File	Inject Volume	Sample Type	Conc A	Conc B	Conc C	Conc D	Conc E	Conc F
---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---	---	---
	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---	---	---
---	Dioxin3D5	dioxinnogc	2.000000	Analyte	0.5	2.5	5	100	200	0.25
---	Dioxin3D5	dioxinnogc	2.000000	Analyte	2	10	20	100	200	1
---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100	100	200	5
---	Dioxin3D5	dioxinnogc	2.000000	Analyte	40	200	400	100	200	20
---	Dioxin3D5	dioxinnogc	2.000000	Analyte	200	1000	2000	100	200	100
	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---	---	---
	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---	---	---
	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---	---	---
---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---	---	---
---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100	100	200	5
	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---	---	---

Conc G	Process	Process Options	Action On Error	s5
---	FBAT_ML_FileMover	---	---	C:\CHROM
---	FBAT_ML_FileMover	---	---	C:\CHROM
100	FBAT_ML_FileMover	---	---	C:\CHROM
100	FBAT_ML_FileMover	---	---	C:\CHROM
100	FBAT_ML_FileMover	---	---	C:\CHROM
100	FBAT_ML_FileMover	---	---	C:\CHROM
100	FBAT_ML_FileMover	---	---	C:\CHROM
---	FBAT_ML_FileMover	---	---	C:\CHROM
---	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error	---
---	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error	---
---	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error	---
100	FBAT_ML_FileMover	---	---	C:\CHROM
---	FBAT_ML_FileMover	---	---	C:\CHROM

Experiment Calibration Report **MassLynx 4.1**

File: Experiment: Dioxin3D5.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed: Tuesday, May 21, 2019 11:47:36 Pacific Daylight Time

M 292.9824 R 13440

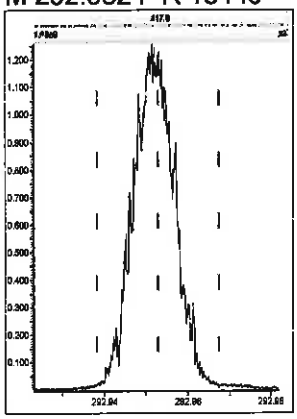

M 304.9824 R 13510

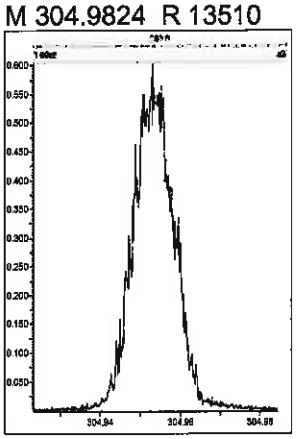

M 318.9792 R 13814

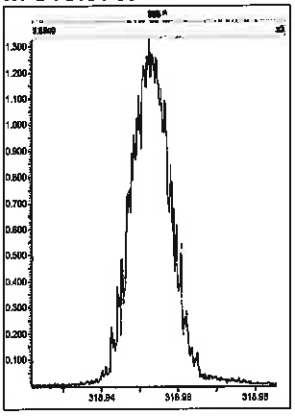

M 330.9792 R 13368

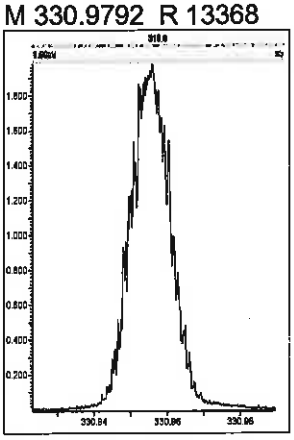

M 342.9792 R 14532

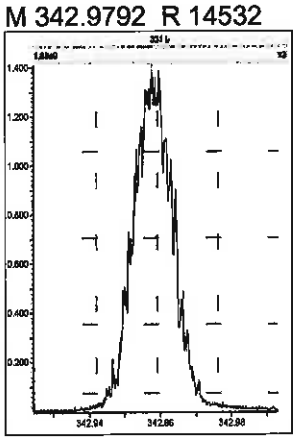

M 354.9792 R 13299

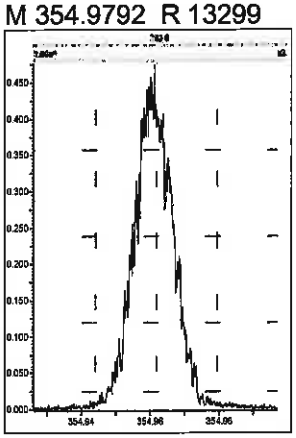

M 366.9792 R 12689

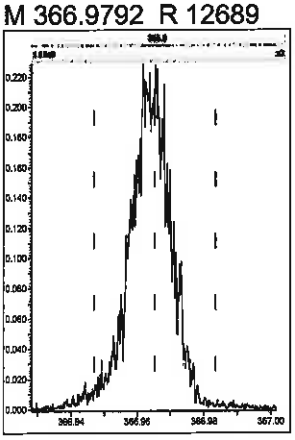

M 380.9760 R 13585

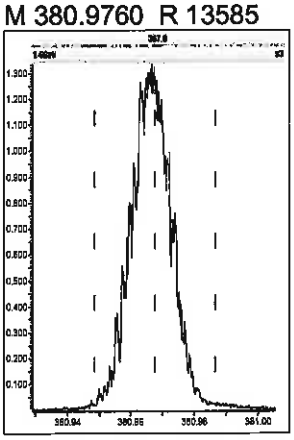

M 392.9760 R 12317

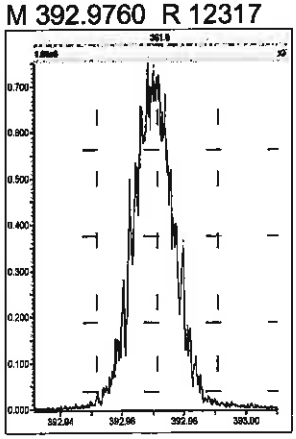

M 404.9760 R 12438

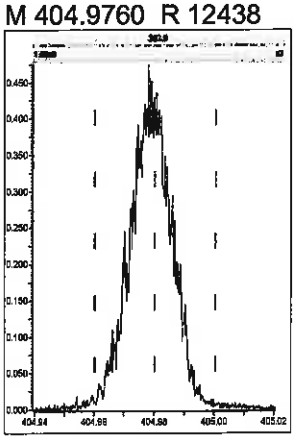

M 416.9760 R 12194

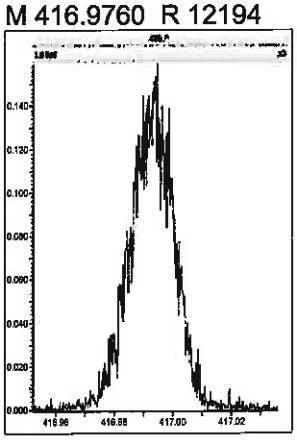

File: Experiment: Dioxin3D5.exp Reference: Pfk.ref Function: 2 @ 200 (ppm)

Printed: Tuesday, May 21, 2019 11:48:07 Pacific Daylight Time

M 318.9792 R 13657

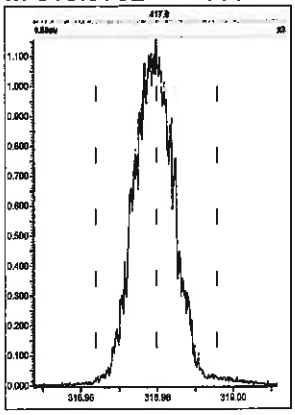

M 330.9792 R 13089

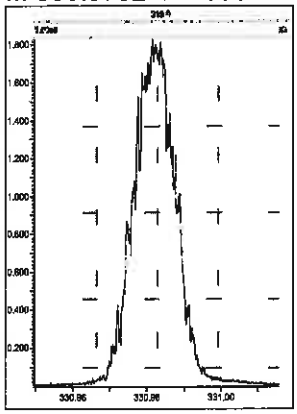

M 342.9792 R 14043

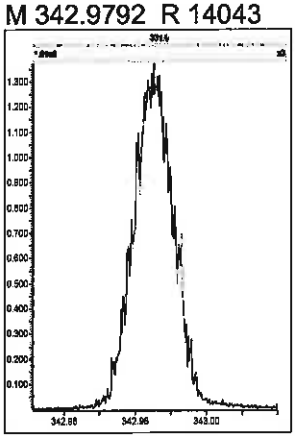

M 354.9792 R 13583

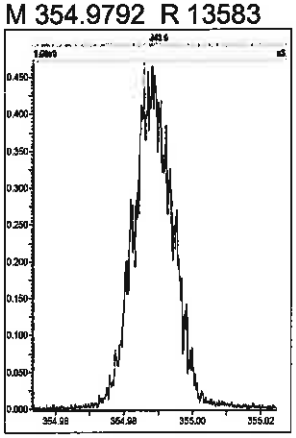

M 366.9792 R 13021

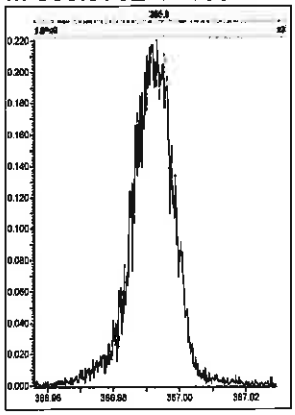

M 380.9760 R 13440

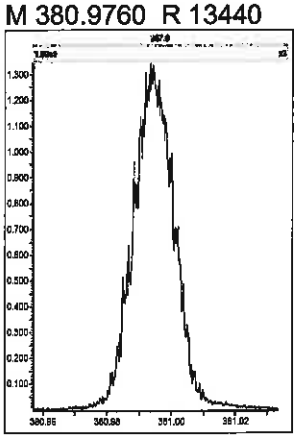

M 392.9760 R 13733

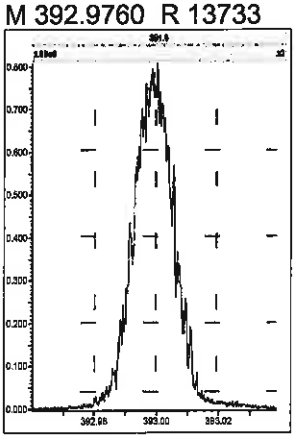

M 404.9760 R 13813

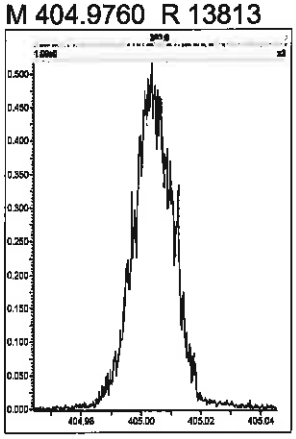

M 416.9760 R 13811

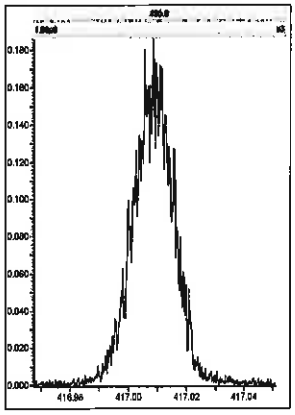

Experiment Calibration Report **MassLynx 4.1**

File: Experiment: Dioxin3D5.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

Printed: Tuesday, May 21, 2019 11:48:42 Pacific Daylight Time

M 366.9792 R 13370

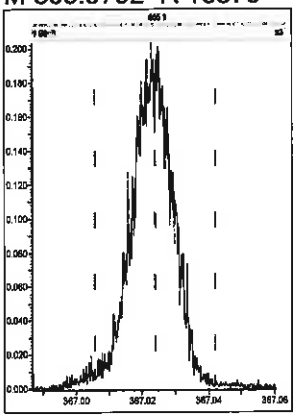

M 380.9760 R 13089

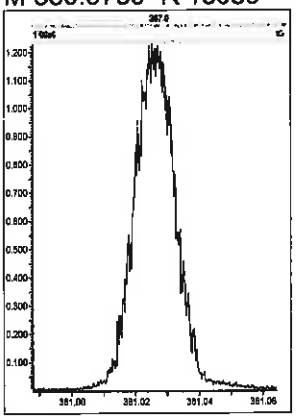

M 392.9760 R 14624

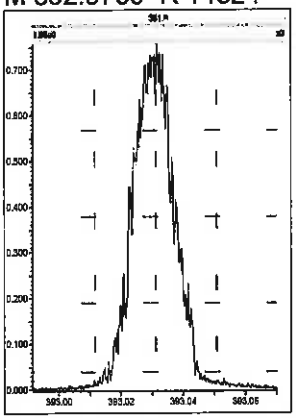

M 404.9760 R 13438

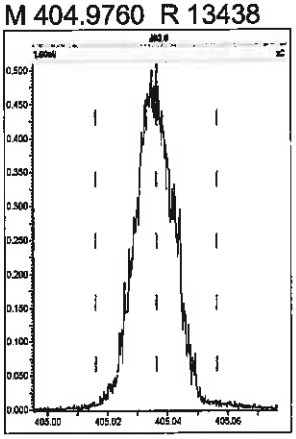

M 416.9760 R 14368

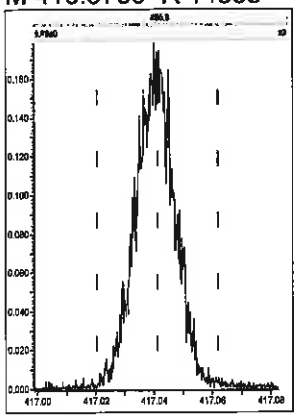

M 430.9728 R 13226

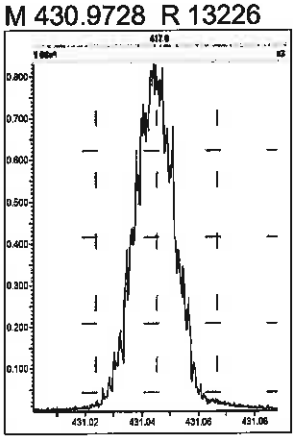

M 442.9728 R 13584

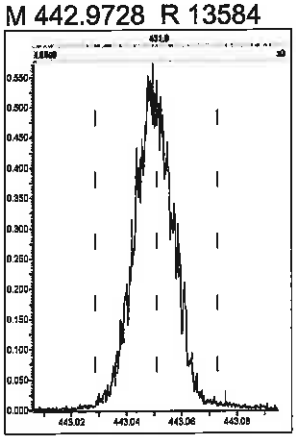

M 454.9728 R 12821

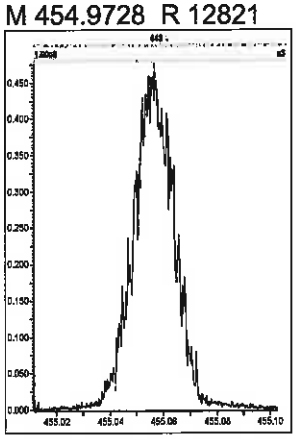

Experiment Calibration Report **MassLynx 4.1**

File: Experiment: Dioxin3D5.exp Reference: Pfk.ref Function: 4 @ 200 (ppm)

Printed: Tuesday, May 21, 2019 11:49:34 Pacific Daylight Time

M 380.9760 R 13155

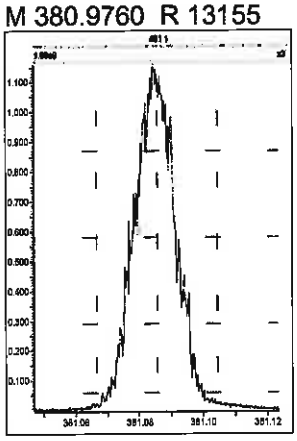

M 392.9760 R 13737

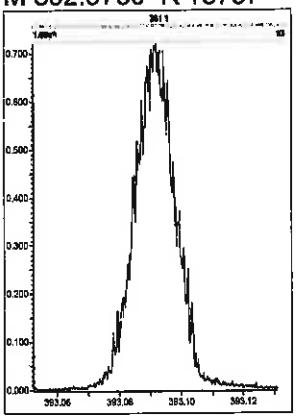

M 404.9760 R 13231

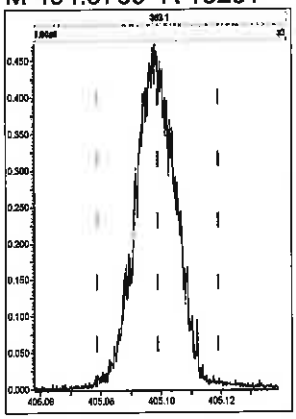

M 416.9760 R 13891

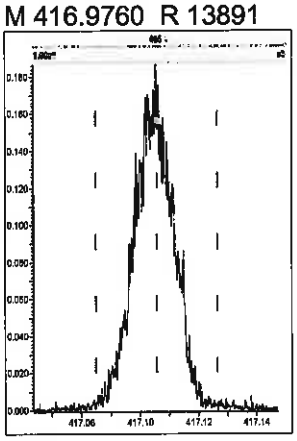

M 430.9728 R 13022

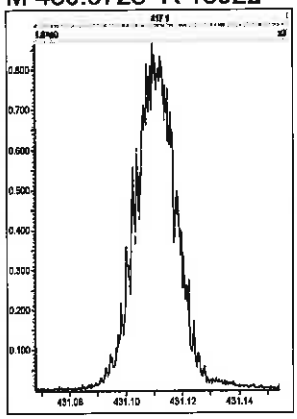

M 442.9728 R 14044

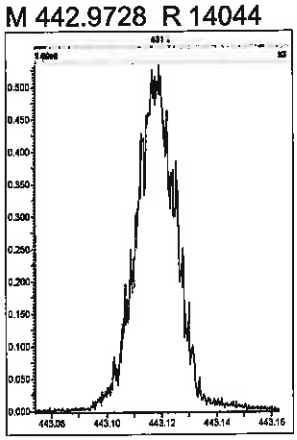

M 454.9728 R 13161

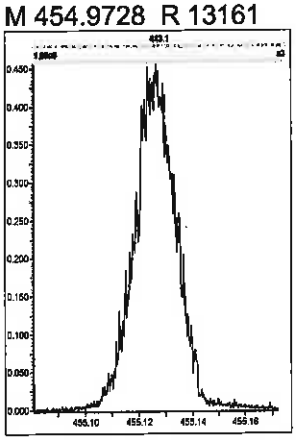

M 466.9728 R 12884

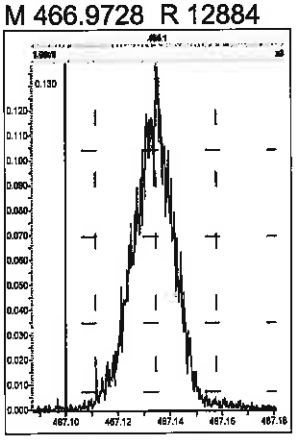

M 480.9696 R 11737

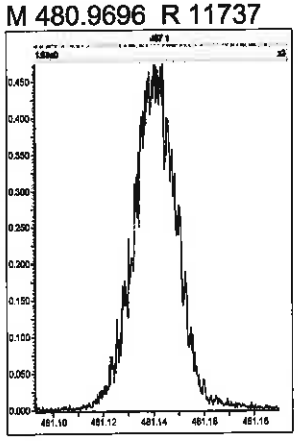

Experiment Calibration Report **MassLynx 4.1**

File: Experiment: Dioxin3D5.exp Reference: Pfk.ref Function: 5 @ 200 (ppm)

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M 380.9760 R 13510

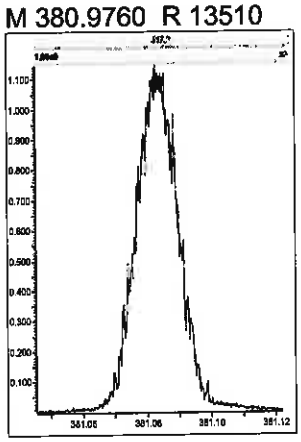

M 392.9760 R 12887

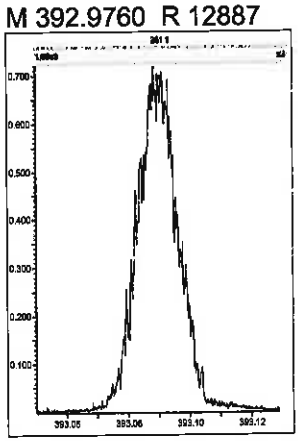

M 404.9760 R 13368

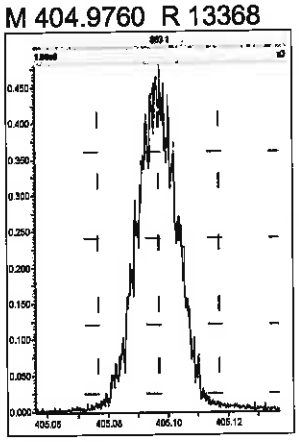

M 416.9760 R 13516

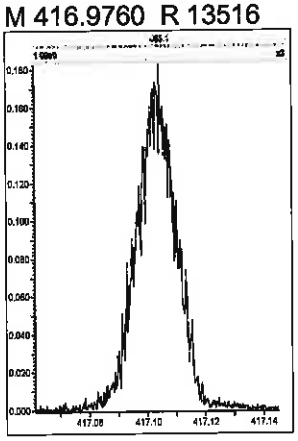

M 430.9728 R 13154

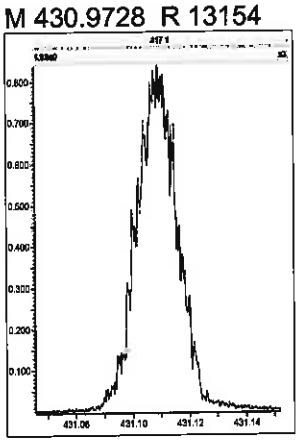

M 442.9728 R 13440

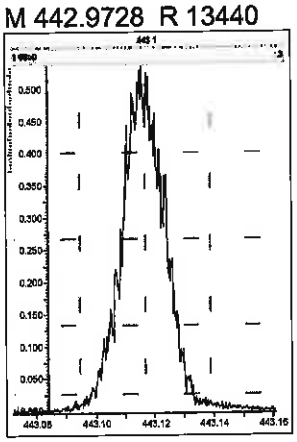

M 454.9728 R 12952

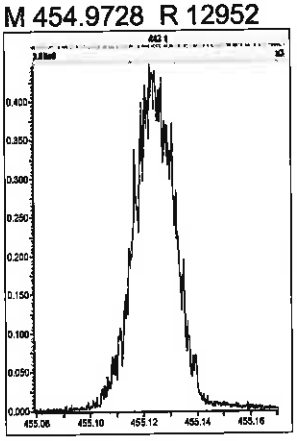

M 466.9728 R 13813

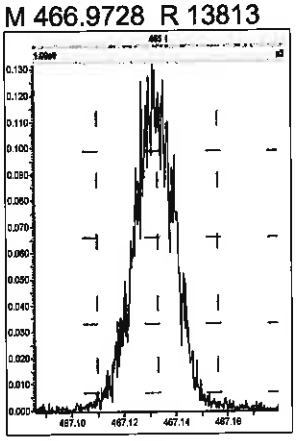

M 480.9696 R 12687

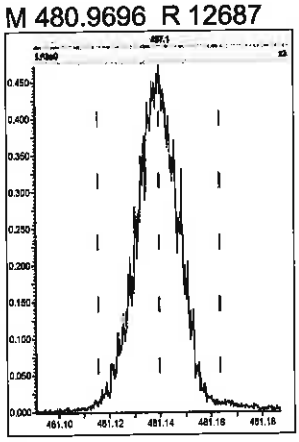

M 492.9696 R 12437

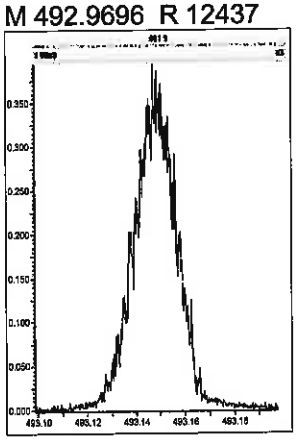

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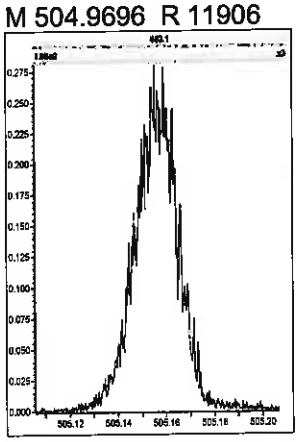

M 516.9697 R 12687

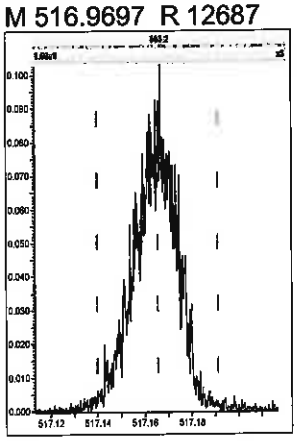

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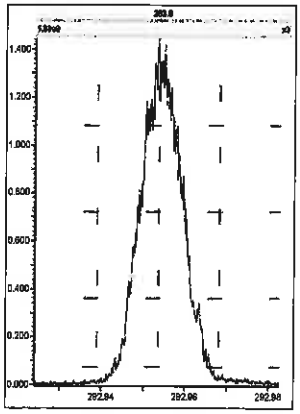

M 304.9824 R 12567

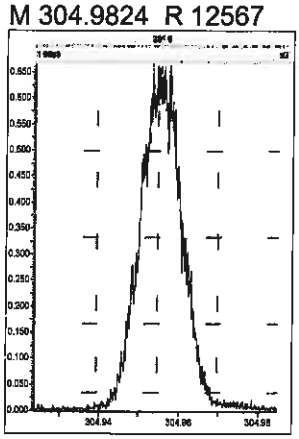

M 318.9792 R 13264

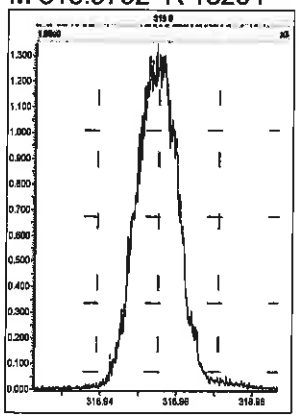

M 330.9792 R 13061

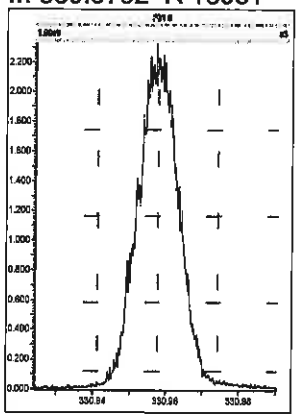

M 342.9792 R 13020

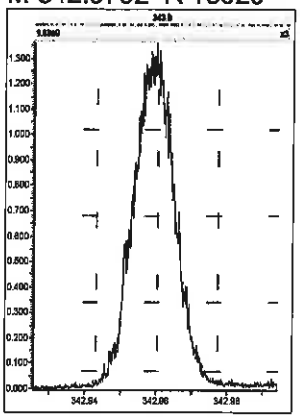

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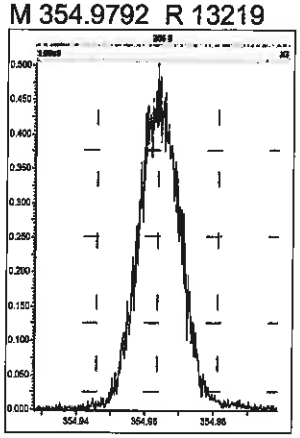

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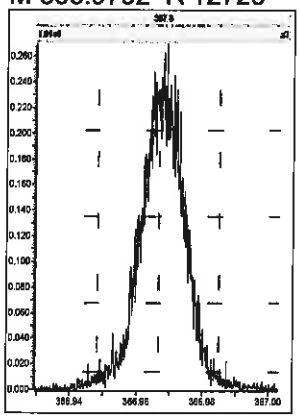

M 380.9760 R 12168

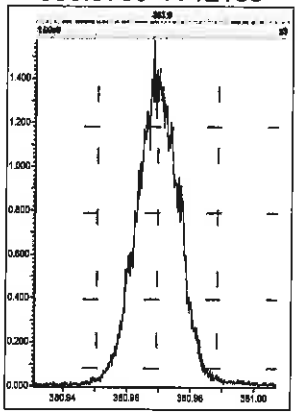

M 392.9760 R 11908

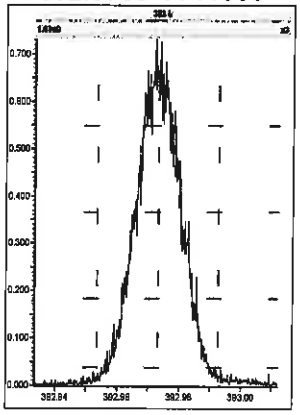

M 404.9760 R 11879

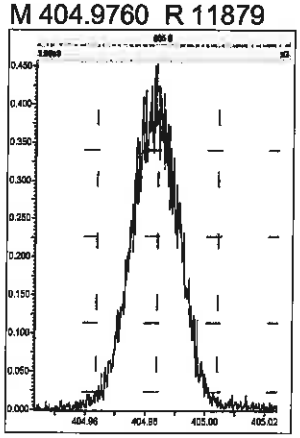

M 416.9760 R 11911

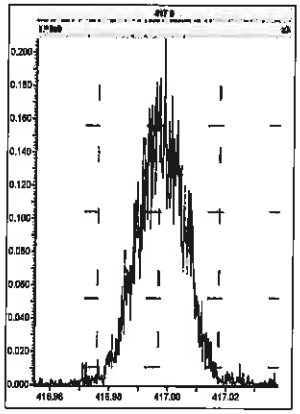

M 318.9792 R 12787

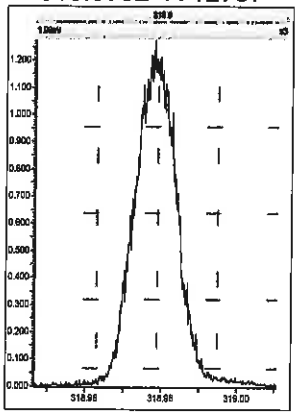

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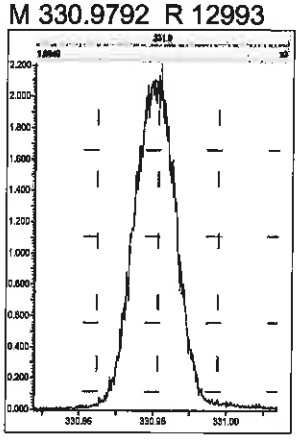

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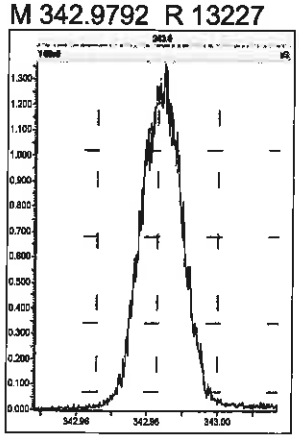

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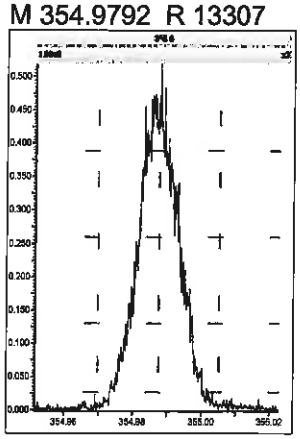

M 366.9792 R 13029

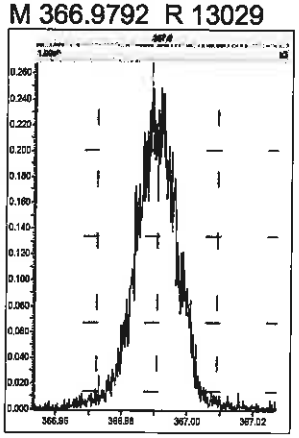

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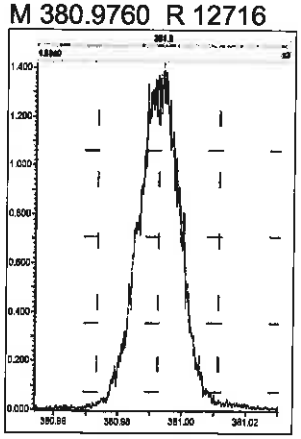

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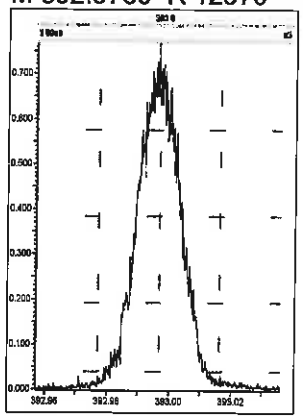

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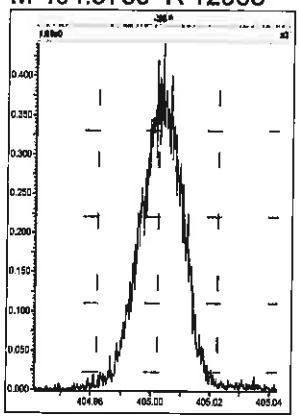

M 416.9760 R 12600

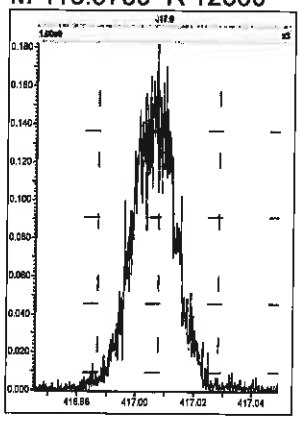

M 366.9792 R 13157

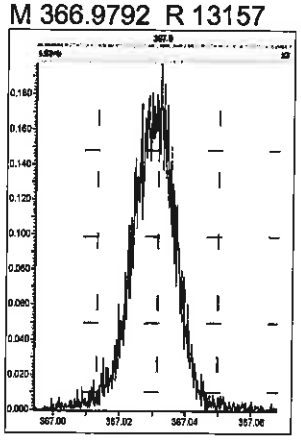

M 380.9760 R 13125

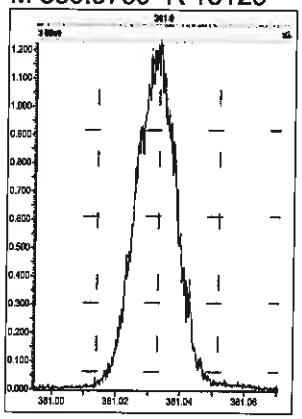

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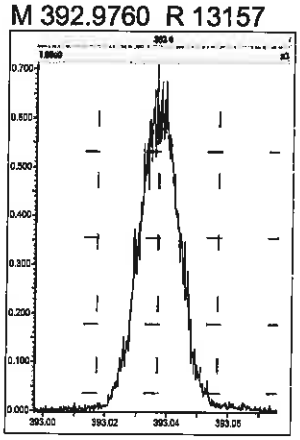

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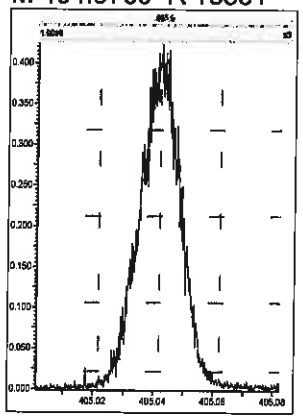

M 416.9760 R 13446

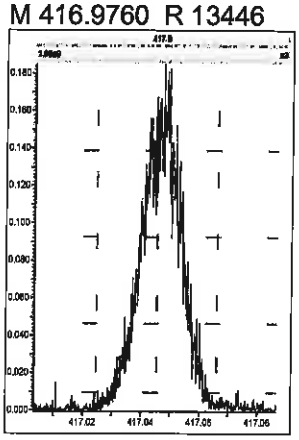

M 430.9728 R 12690

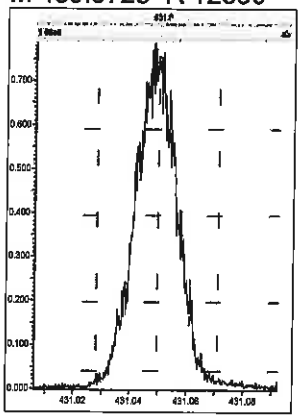

M 442.9728 R 12771

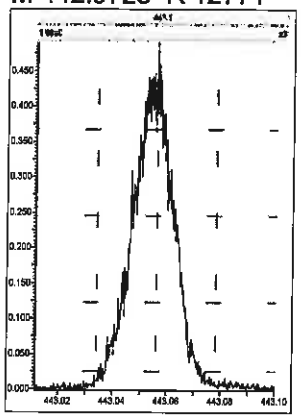

M 454.9728 R 12412

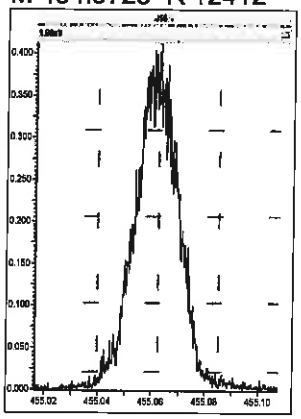

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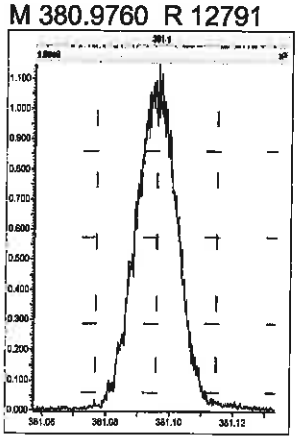

M 392.9760 R 13143

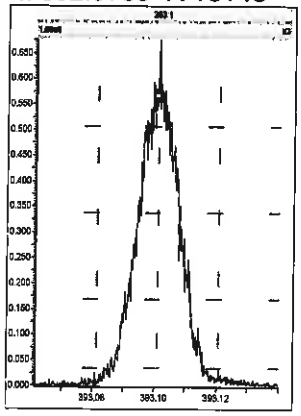

M 404.9760 R 13187

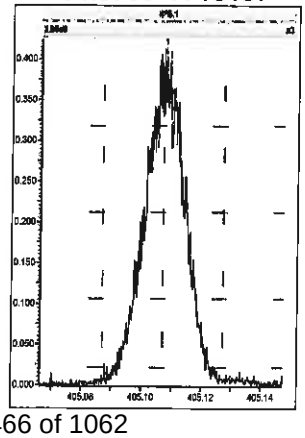

M 416.9760 R 13382

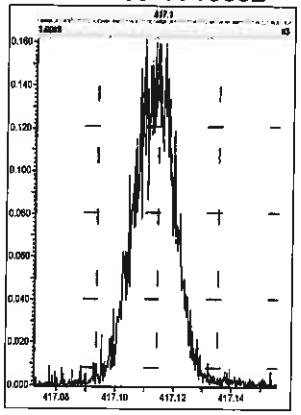

M 430.9728 R 12562

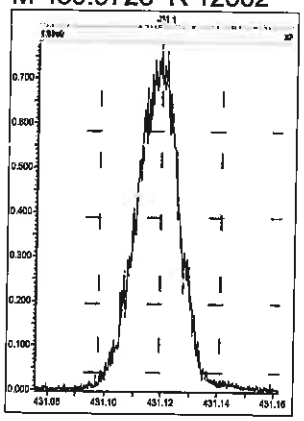

M 442.9728 R 12255

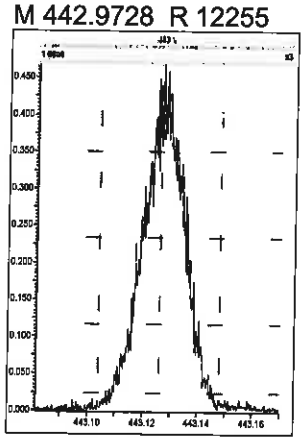

M 454.9728 R 12661

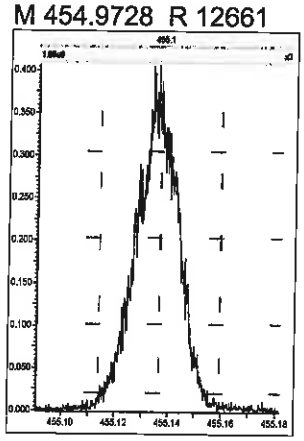

M 466.9728 R 13283

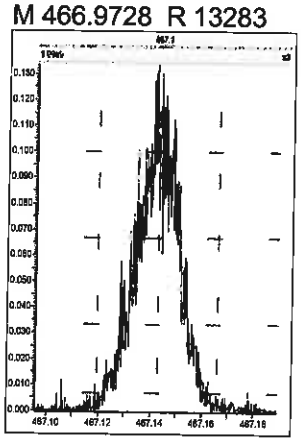

M 480.9696 R 11884

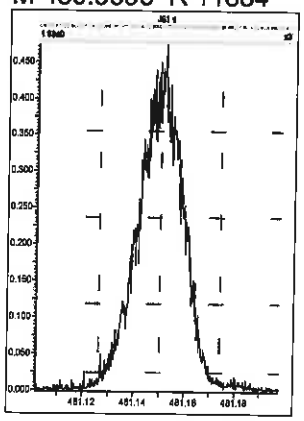

M 380.9760 R 13055

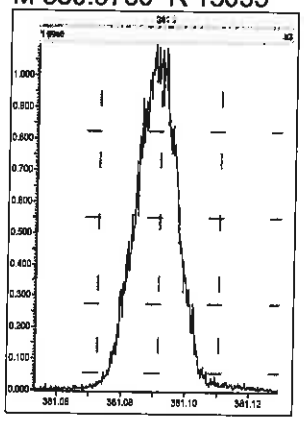

M 392.9760 R 13158

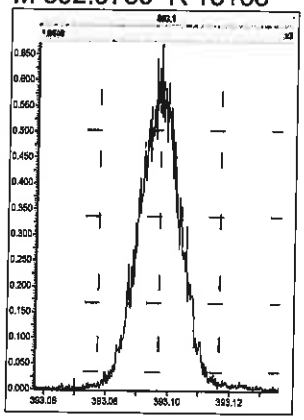

M 404.9760 R 13578

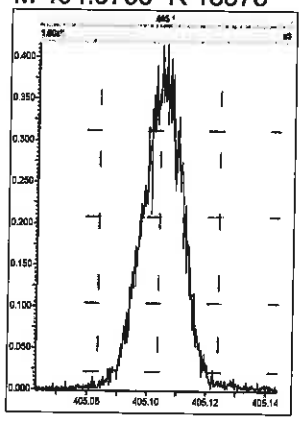

M 416.9760 R 13450

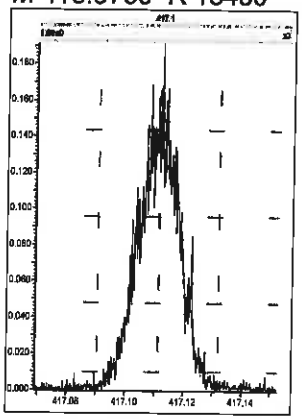

M 430.9728 R 12563

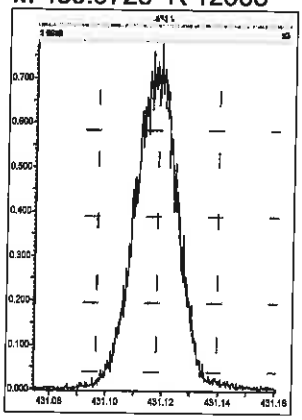

M 442.9728 R 12661

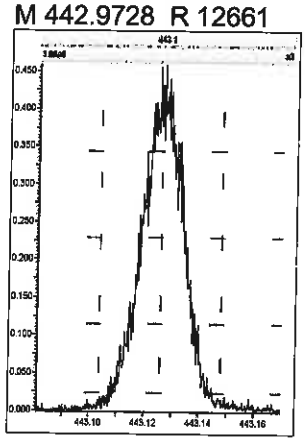

M 454.9728 R 12535

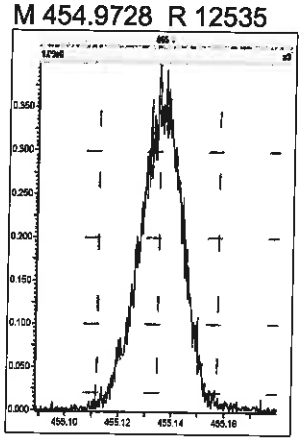

M 466.9728 R 13606

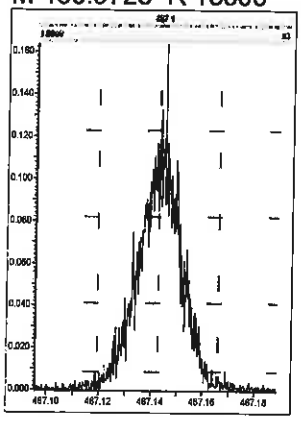

M 480.9696 R 12077

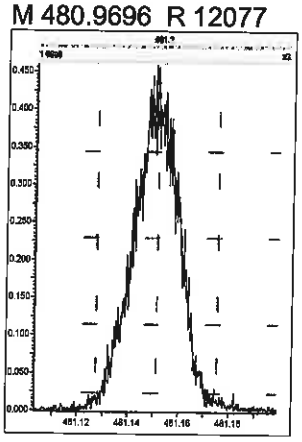

M 492.9696 R 11682

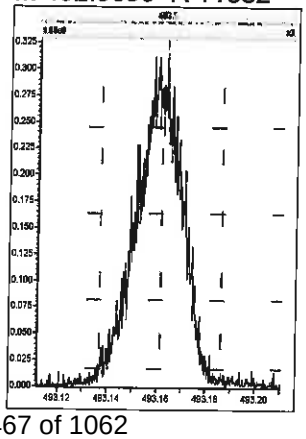

M 504.9696 R 12288

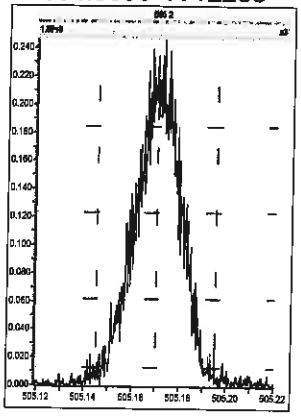

Printed: Tuesday, May 21, 2019 19:13:39 Pacific Daylight Time

M 516.9697 R 12255

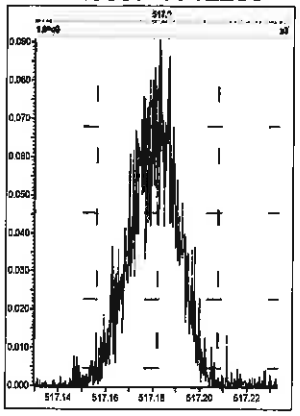

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_3.d
Lims ID: IC 2
Client ID: L2
Sample Type: IC Calib Level: 2
Inject. Date: 21-May-2019 13:31:22 ALS Bottle#: 4 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 052119 CS-2 HRDXNL2_00024
Misc. Info.: 21MY193D5
Operator ID: AJS Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 22-May-2019 11:44:07 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: shardaa Date: 21-May-2019 14:48:36

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.429	404433354	0.83	3.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.900	559566492	0.78	1.3908	99.5	99.5	0.2139	0.2139	99.48	
2,3,7,8-TCDF	17.915	2583748	0.76	0.9710	0.4755	0.4755	0.0196	0.0196	95.10	M
S Total TCDF					0.4755	0.4755	0.0196	0.0196		
D 13C-2,3,7,8-TCDD	18.626	387167733	0.81	0.9819	97.5	97.5	0.1823	0.1823	97.50	
2,3,7,8-TCDD	18.641	1910360	0.80	1.0447	0.4723	0.4723	0.0230	0.0230	94.46	M
$ 37Cl4-2,3,7,8-TCDD	18.641	2342162		1.2205	0.4745	0.4745	0.0205	0.0205	94.90	
S Total TCDD					0.4723	0.4723	0.0230	0.0230		
D 13C-1,2,3,7,8-PeCDF	23.093	462221066	1.58	1.1585	98.7	98.7	0.2621	0.2621	98.65	
1,2,3,7,8-PeCDF	23.107	10644451	1.60	0.9633	2.391	2.391	0.0337	0.0337	95.62	
D 13C-2,3,4,7,8-PeCDF	24.484	460498490	1.60	1.1532	98.7	98.7	0.2633	0.2633	98.74	a
2,3,4,7,8-PeCDF	24.511	10376103	1.52	0.9495	2.373	2.373	0.0373	0.0373	94.92	
S Total PeCDF					4.764	4.764	0.0355	0.0355		
D 13C-1,2,3,7,8-PeCDD	25.234	300639105	1.61	0.7431	100.0	100.0	0.1302	0.1302	100	
1,2,3,7,8-PeCDD	25.262	7777334	1.69	1.0635	2.433	2.433	0.0418	0.0418	97.30	
S Total PeCDD					2.433	2.433	0.0418	0.0418		
D 13C-1,2,3,4,7,8-HxCDF	31.045	316288036	0.54	0.9837	95.4	95.4	0.3407	0.3407	95.40	a
1,2,3,4,7,8-HxCDF	31.071	9674677	1.18	1.2173	2.513	2.513	0.0337	0.0337	101	
D 13C-1,2,3,6,7,8-HxCDF	31.204	381078003	0.52	1.1554	97.9	97.9	0.2901	0.2901	97.86	
1,2,3,6,7,8-HxCDF	31.218	10999512	1.21	1.1311	2.552	2.552	0.0309	0.0309	102	
D 13C-2,3,4,6,7,8-HxCDF	31.923	345112458	0.51	1.0361	98.8	98.8	0.3235	0.3235	98.83	
2,3,4,6,7,8-HxCDF	31.937	9947333	1.21	1.1710	2.461	2.461	0.0265	0.0265	98.46	
D 13C-1,2,3,7,8,9-HxCDF	32.669	297701088	0.51	0.9034	97.8	97.8	0.3710	0.3710	97.77	
1,2,3,7,8,9-HxCDF	32.696	8728060	1.23	1.1787	2.487	2.487	0.0305	0.0305	99.50	
S Total HxCDF					10.0	10.0	0.0304	0.0304		
* 13C-1,2,3,7,8,9-HxCDD	32.496	337041446	1.26	2.6E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	32.097	273468265	1.30	0.8287	97.9	97.9	0.3237	0.3237	97.91	a
1,2,3,4,7,8-HxCDD	32.110	7262639	1.27	1.0267	2.587	2.587	0.0402	0.0402	103	
D 13C-1,2,3,6,7,8-HxCDD	32.190	325568612	1.28	0.9495	101.7	101.7	0.2825	0.2825	102	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	32.203	7672652	1.11	0.9771	2.412	2.412	0.0401	0.0401	96.48	
1,2,3,7,8,9-HxCDD	32.509	7703029	1.21	1.0616	2.423	2.423	0.0379	0.0379	96.90	
S Total HxCDD					7.421	7.421	0.0394	0.0394		
D 13C-1,2,3,4,6,7,8-HpCDF	34.097	242234960	0.45	0.7285	98.7	98.7	0.6343	0.6343	98.66	
1,2,3,4,6,7,8-HpCDF	34.097	8879120	1.10	1.4373	2.550	2.550	0.0535	0.0535	102	
D 13C-1,2,3,4,7,8,9-HpCDF	35.227	213198749	0.45	0.6556	96.5	96.5	0.7048	0.7048	96.48	a
1,2,3,4,7,8,9-HpCDF	35.239	7060600	1.13	1.3091	2.530	2.530	0.0754	0.0754	101	
S Total HpCDF					5.080	5.080	0.0644	0.0644		
D 13C-1,2,3,4,6,7,8-HpCDD	34.923	232219606	1.07	0.6978	98.7	98.7	0.2838	0.2838	98.73	
1,2,3,4,6,7,8-HpCDD	34.935	5709139	1.03	1.0102	2.434	2.434	0.0321	0.0321	97.35	
S Total HpCDD					2.434	2.434	0.0321	0.0321		
D 13C-OCDD	37.395	320855579	0.90	0.4780	199.2	199.2	0.1608	0.1608	99.59	
OCDF	37.502	10410040	0.96	1.3501	4.806	4.806	0.0474	0.0474	96.12	
OCDD	37.395	8532557	0.86	1.0627	5.005	5.005	0.0395	0.0395	100	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

HRDXNL2_00024 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_3.d
Lims ID: IC 2
Client ID: L2
Sample Type: IC Calib Level: 2
Inject. Date: 21-May-2019 13:31:22 ALS Bottle#: 4 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 052119 CS-2 HRDXNL2_00024
Misc. Info.: 21MY193D5
Operator ID: AJS Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 22-May-2019 11:44:07 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: shardaa Date: 21-May-2019 14:48:36

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.429	18.432	0		183276556	43187774	40795	101987	1059		
333.9339	18.429	18.432	0		221156798	51793311	27228	68070	1902	0.83(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.900	17.900	0	0.971	244562131	57000698	37161	92902	1534		
317.9389	17.900	17.900	0	0.971	315004361	72611605	75866	189665	957	0.78(0.65-0.89)	
2,3,7,8-TCDF											M
303.9016	17.915	17.915	0	1.001	1115906	260352	3222	8055	81		
305.8987	17.915	17.915	0	1.001	1467842	319056	6633	16582	48	0.76(0.65-0.89)	M
13C-2,3,7,8-TCDD											
331.9368	18.626	18.629	0	1.011	173498327	38826204	40795	101987	952		
333.9339	18.626	18.629	0	1.011	213669406	47945107	27228	68070	1761	0.81(0.65-0.89)	
2,3,7,8-TCDD											M
319.8965	18.641	18.650	-1	1.001	847401	201535	5666	14165	36		M
321.8936	18.641	18.650	-1	1.001	1062959	247438	2690	6725	92	0.80(0.65-0.89)	M
37Cl4-2,3,7,8-TCDD											
327.8847	18.641	18.650	-1	1.011	2342162	522995	9493	23732	55		
13C-1,2,3,7,8-PeCDF											
351.9000	23.093	23.102	0	1.253	283109696	48401573	69475	173687	697		
353.8970	23.093	23.102	0	1.253	179111370	30625127	45883	114707	667	1.58(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	23.107	23.123	-1	1.001	6553697	1120472	3466	8665	323		
341.8567	23.107	23.123	-1	1.001	4090754	710881	6785	16962	105	1.60(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											a
351.9000	24.484	24.487	0	1.329	283327157	44554170	69475	173687	641		a
353.8970	24.484	24.487	0	1.329	177171333	27896316	45883	114707	608	1.60(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	24.511	24.512	0	1.001	6262580	999274	3466	8665	288		
341.8567	24.511	24.512	0	1.001	4113523	652900	6785	16962	96	1.52(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	25.234	25.237	0	1.369	185602729	27975765	24635	61587	1136		
369.8919	25.234	25.237	0	1.369	115036376	17235373	12112	30280	1423	1.61(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	25.262	25.264	0	1.001	4885021	727344	5341	13352	136		
357.8516	25.262	25.264	0	1.001	2892313	426610	2691	6727	159	1.69(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											a
383.8639	31.045	31.050	0	0.955	111273946	24331177	42287	105717	575		a
385.8610	31.045	31.050	0	0.955	205014090	43519844	81368	203420	535	0.54(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	31.071	31.069	0	1.001	5243142	1168538	6081	15202	192		
375.8178	31.071	31.069	0	1.001	4431535	1003398	5039	12597	199	1.18(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	31.204	31.202	0	0.960	130445997	28066139	42287	105717	664		
385.8610	31.204	31.202	0	0.960	250632006	51588290	81368	203420	634	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	31.218	31.223	0	1.000	6014008	1350689	6081	15202	222		
375.8178	31.218	31.223	0	1.000	4985504	1103271	5039	12597	219	1.21(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.923	31.923	0	0.982	116574906	30065507	42287	105717	711		
385.8610	31.923	31.923	0	0.982	228537552	59425776	81368	203420	730	0.51(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.937	31.942	0	1.000	5439515	1447005	6081	15202	238		
375.8178	31.937	31.942	0	1.000	4507818	1203053	5039	12597	239	1.21(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.669	32.674	0	1.005	100952587	26194980	42287	105717	619		
385.8610	32.669	32.674	0	1.005	196748501	51240494	81368	203420	630	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.696	32.690	0	1.001	4806334	1242648	6081	15202	204		
375.8178	32.682	32.690	0	1.000	3921726	1038148	5039	12597	206	1.23(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.496	32.499	0		187589634	51397165	62269	155672	825		
403.8529	32.496	32.499	0		149451812	40834427	36691	91727	1113	1.26(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											a
401.8559	32.097	32.094	0	0.988	154547817	45083952	62269	155672	724		a
403.8529	32.097	32.094	0	0.988	118920448	34258781	36691	91727	934	1.30(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	32.110	32.110	0	1.000	4058227	1118101	6673	16682	168		
391.8127	32.110	32.110	0	1.000	3204412	939416	6420	16050	146	1.27(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.190	32.192	0	0.991	182758181	46673629	62269	155672	750		
403.8529	32.190	32.192	0	0.991	142810431	36786181	36691	91727	1003	1.28(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	32.203	32.208	0	1.000	4042900	1167490	6673	16682	175		
391.8127	32.203	32.208	0	1.000	3629752	954143	6420	16050	149	1.11(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.509	32.515	0	1.013	4221414	1208684	6673	16682	181		
391.8127	32.509	32.515	0	1.013	3481615	957535	6420	16050	149	1.21(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	34.097	34.097	0	1.049	74717590	23014568	57763	144407	398		
419.8220	34.097	34.097	0	1.049	167517370	51801598	112703	281757	460	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.097	34.104	0	1.000	4657130	1359394	17814	44535	76		
409.7789	34.109	34.104	0	1.000	4221990	1264352	5187	12967	244	1.10(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											a
417.8253	35.227	35.232	0	1.084	66152303	17890837	57763	144407	310		a
419.8220	35.227	35.232	0	1.084	147046446	40389371	112703	281757	358	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.239	35.244	0	1.000	3745852	1033253	17814	44535	58		
409.7789	35.239	35.244	0	1.000	3314748	924360	5187	12967	178	1.13(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.923	34.928	0	1.075	119930467	34987461	38690	96725	904		
437.8140	34.923	34.928	0	1.075	112289139	32910155	34382	85955	957	1.07(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.935	34.940	0	1.000	2898308	888279	4127	10317	215		
425.7737	34.935	34.940	0	1.000	2810831	843795	4670	11675	181	1.03(0.88-1.20)	
13C-OCDD											
469.7779	37.395	37.392	0	1.151	152093740	38035593	16157	40392	2354		
471.7750	37.395	37.392	0	1.151	168761839	41911695	12198	30495	3436	0.90(0.76-1.02)	
OCDF											
441.7428	37.502	37.500	0	1.003	5093406	1203722	3151	7877	382		
443.7399	37.491	37.500	-1	1.003	5316634	1309164	7071	17677	185	0.96(0.76-1.02)	
OCDD											
457.7377	37.395	37.402	0	1.000	3949914	1009695	3442	8605	293		
459.7348	37.395	37.402	0	1.000	4582643	1182393	3275	8187	361	0.86(0.76-1.02)	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

HRDXNL2_00024 Amount Added: 1.00 Units: mL

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_3.d				
Injection Date:	21-May-2019 13:31:22	Instrument ID:	3D5		
Lims ID:	IC 2				
Client ID:	L2				
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDF, CAS: 51207-31-9

Signal: 2

Processing Integration Results

RT: 17.92
Area: 1565011
Amount: 0.489889
Amount Units: pg/ul

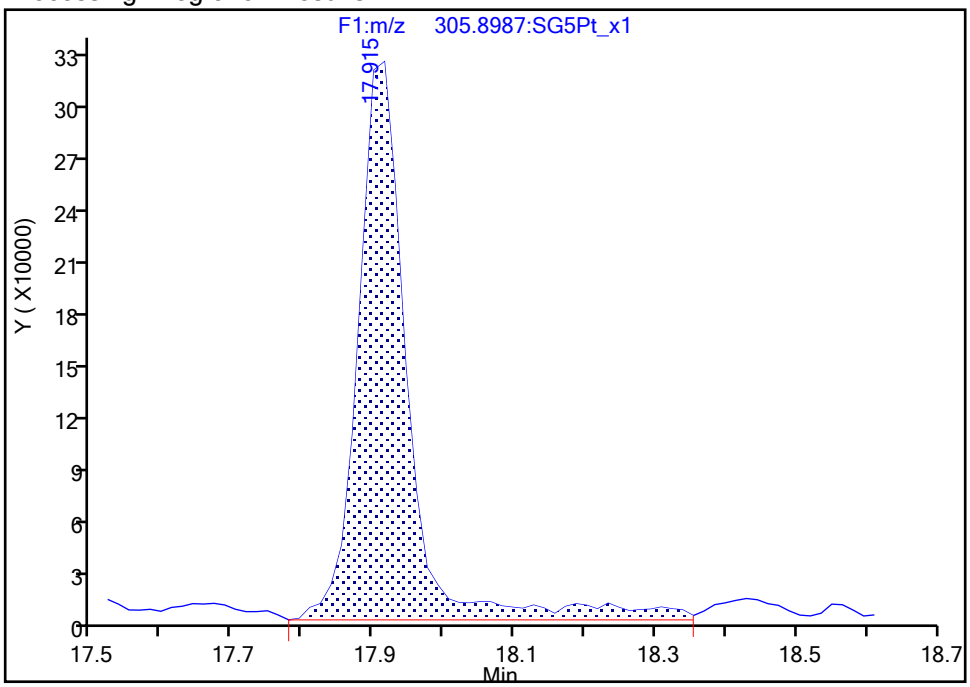

Manual Integration Results

RT: 17.92
Area: 1467842
Amount: 0.475510
Amount Units: pg/ul

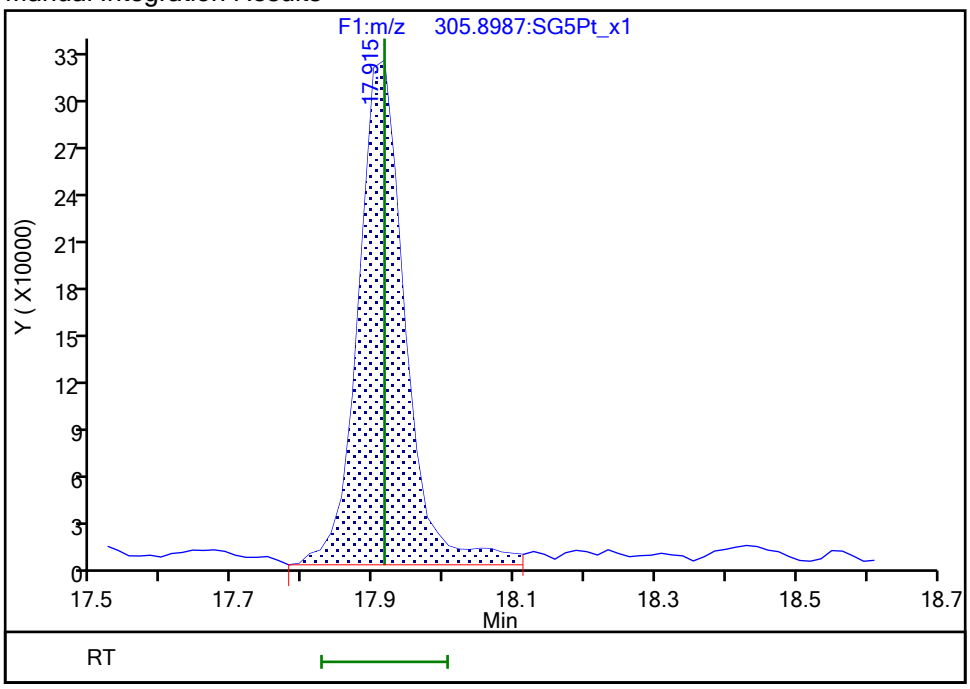

Reviewer: shardaa, 21-May-2019 17:52:10

Audit Action: Split an Integrated Peak Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_3.d				
Injection Date:	21-May-2019 13:31:22	Instrument ID:	3D5		
Lims ID:	IC 2				
Client ID:	L2				
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDD, CAS: 1746-01-6

Signal: 2

Processing Integration Results

RT: 18.64
Area: 1125060
Amount: 0.492554
Amount Units: pg/ul

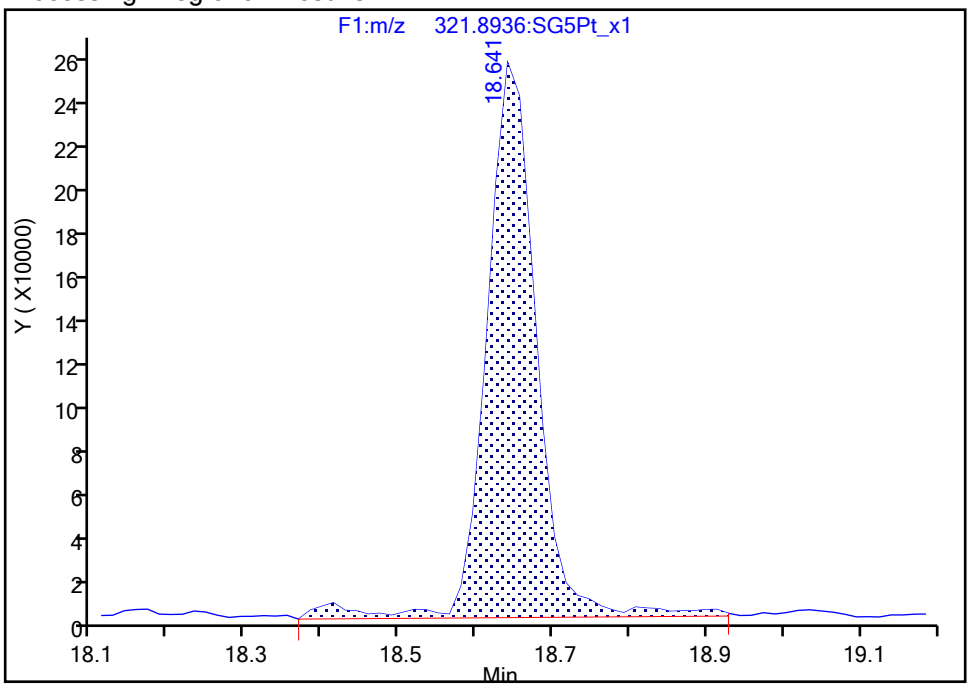

Manual Integration Results

RT: 18.64
Area: 1062959
Amount: 0.472299
Amount Units: pg/ul

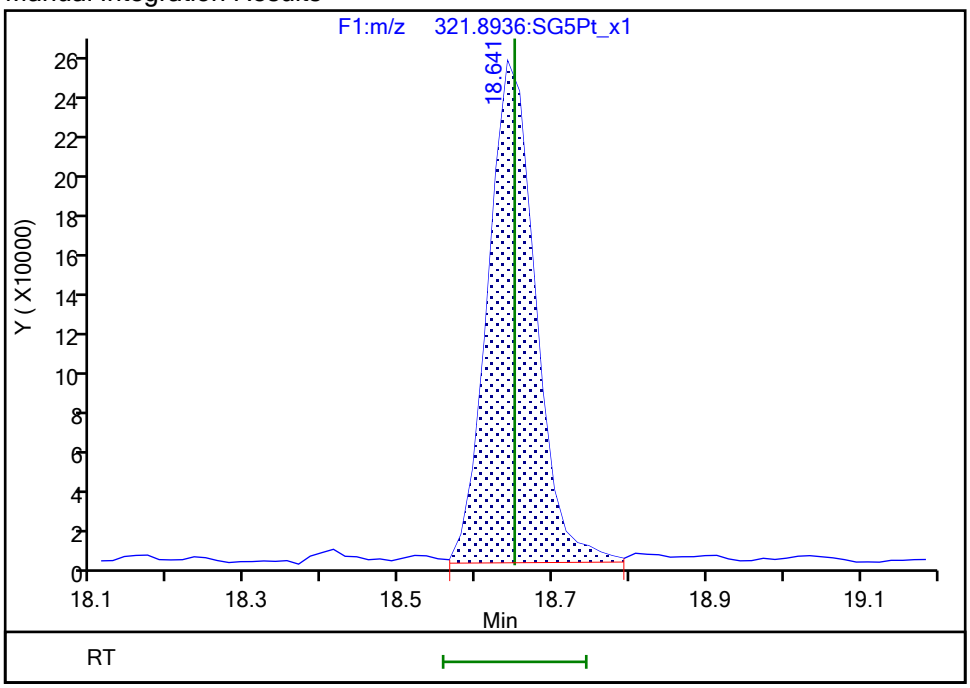

Reviewer: shardaa, 21-May-2019 17:52:42

Audit Action: Split an Integrated Peak Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_3.d				
Injection Date:	21-May-2019 13:31:22	Instrument ID:	3D5		
Lims ID:	IC 2				
Client ID:	L2				
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDD, CAS: 1746-01-6

Signal: 1

Processing Integration Results

RT: 18.64
Area: 887331
Amount: 0.492554
Amount Units: pg/ul

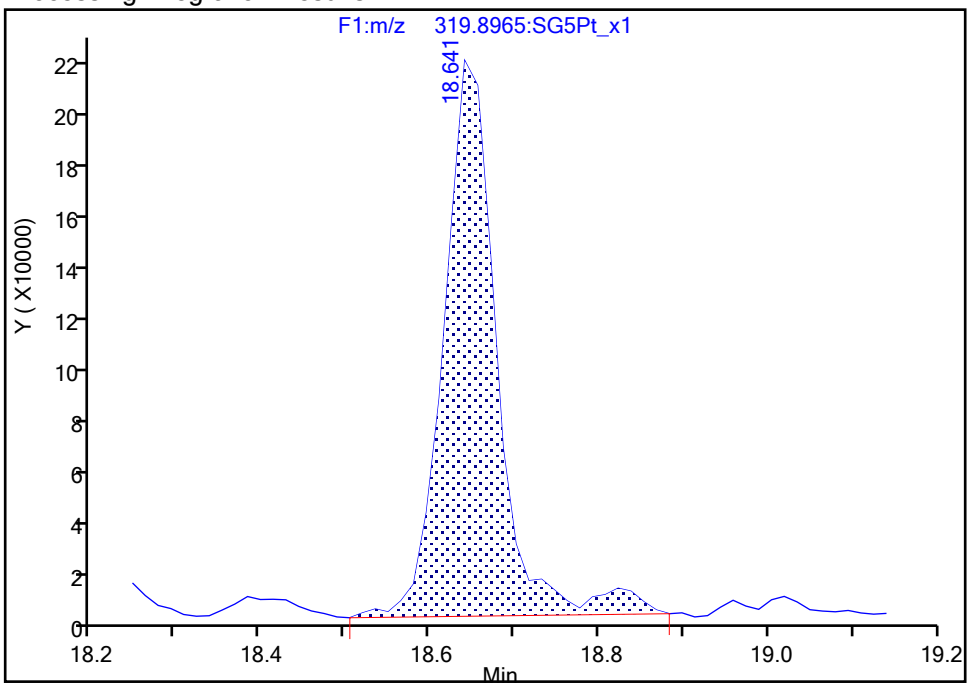

Manual Integration Results

RT: 18.64
Area: 847401
Amount: 0.472299
Amount Units: pg/ul

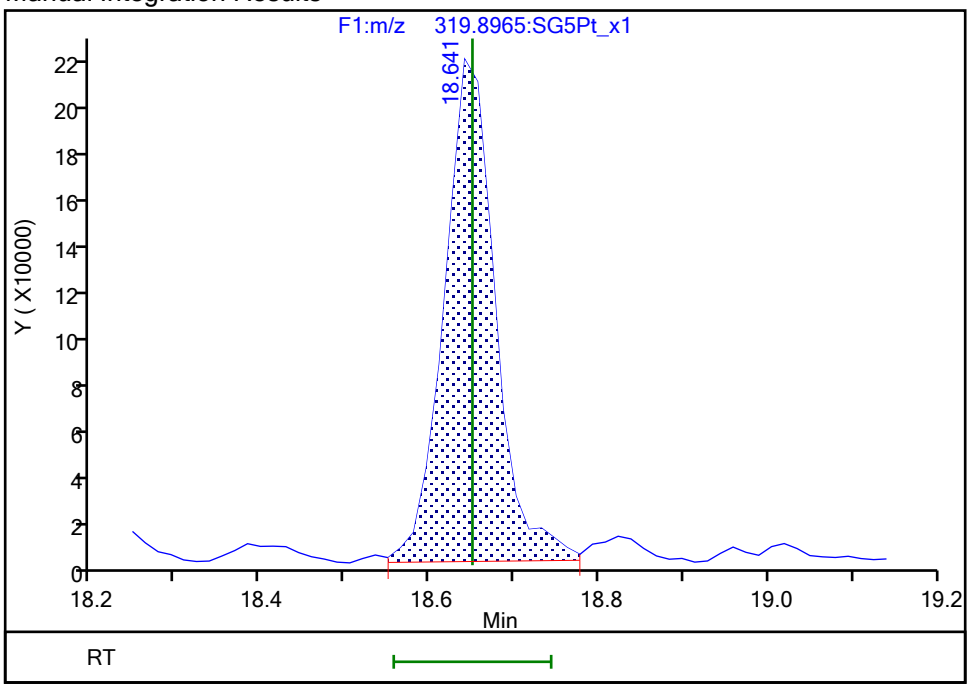

Reviewer: shardaa, 21-May-2019 17:52:45

Audit Action: Split an Integrated Peak Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_3.d				
Injection Date:	21-May-2019 13:31:22	Instrument ID:	3D5		
Lims ID:	IC 2				
Client ID:	L2				
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

13C-2,3,4,7,8-PeCDF, CAS: 116843-02-8

Signal: 1

Not Detected
Expected RT: 24.49

Processing Integration Results

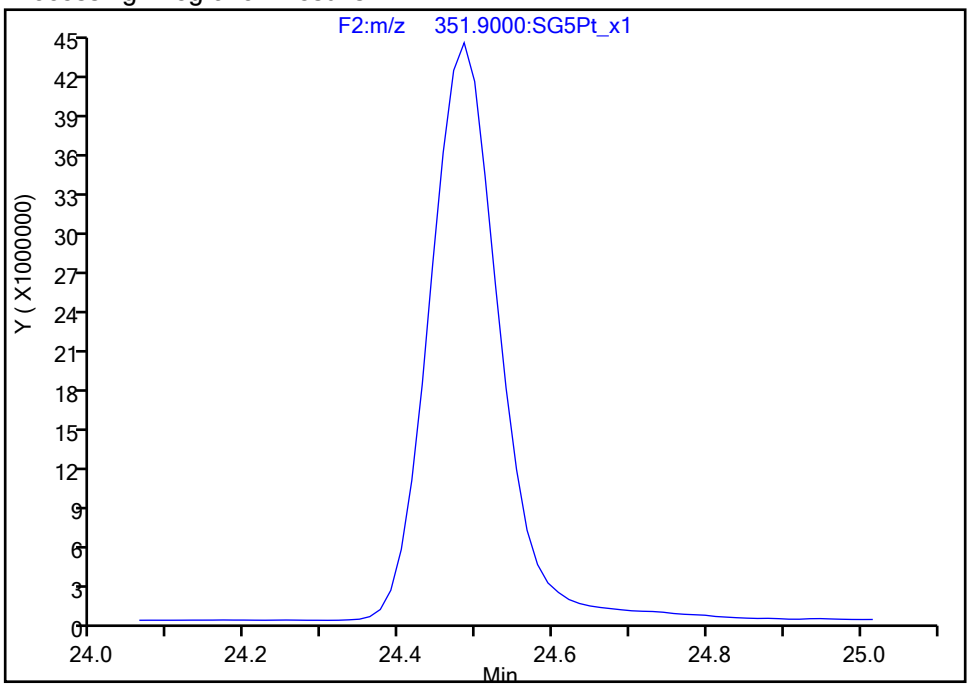

Manual Integration Results

RT: 24.48
Area: 283327157
Amount: 98.739210
Amount Units: pg/ul

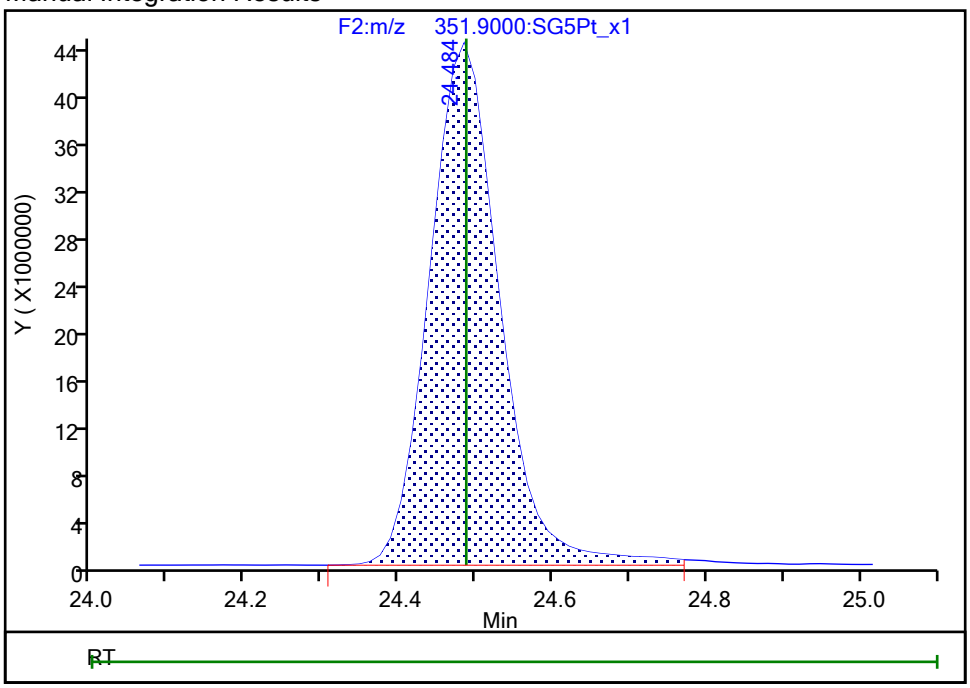

Reviewer: shardaa, 21-May-2019 17:48:59
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_3.d				
Injection Date:	21-May-2019 13:31:22	Instrument ID:	3D5		
Lims ID:	IC 2				
Client ID:	L2				
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

13C-1,2,3,4,7,8-HxCDF, CAS: 114423-98-2

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 31.05

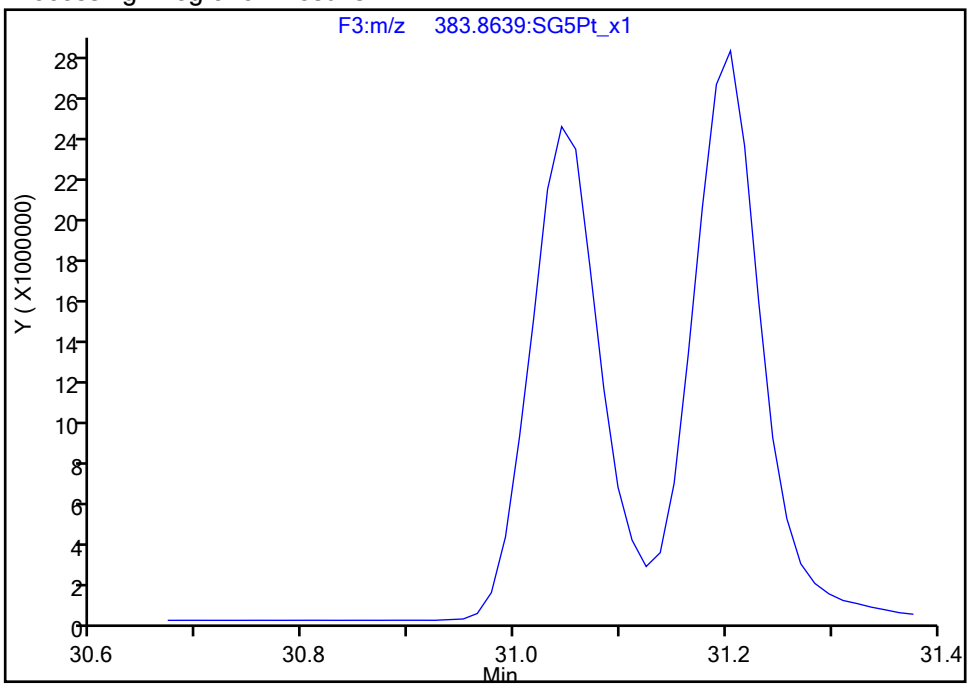

Manual Integration Results

RT: 31.04
Area: 111273946
Amount: 95.396857
Amount Units: pg/ul

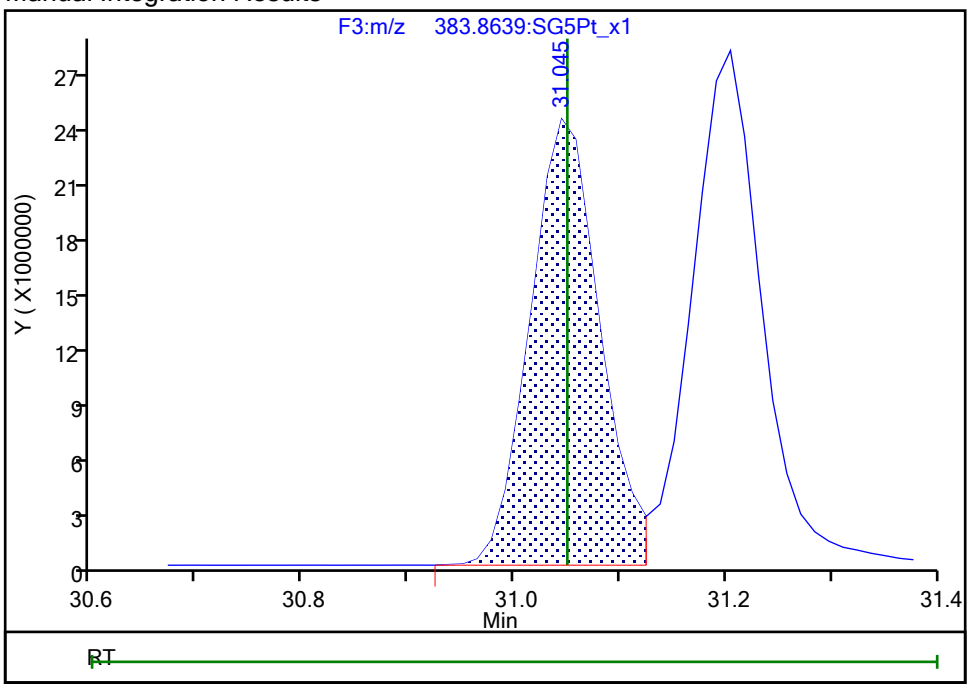

Reviewer: shardaa, 21-May-2019 17:49:07
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_3.d				
Injection Date:	21-May-2019 13:31:22	Instrument ID:	3D5		
Lims ID:	IC 2				
Client ID:	L2				
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

13C-1,2,3,4,7,8-HxCDD, CAS: 109719-80-4

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 32.09

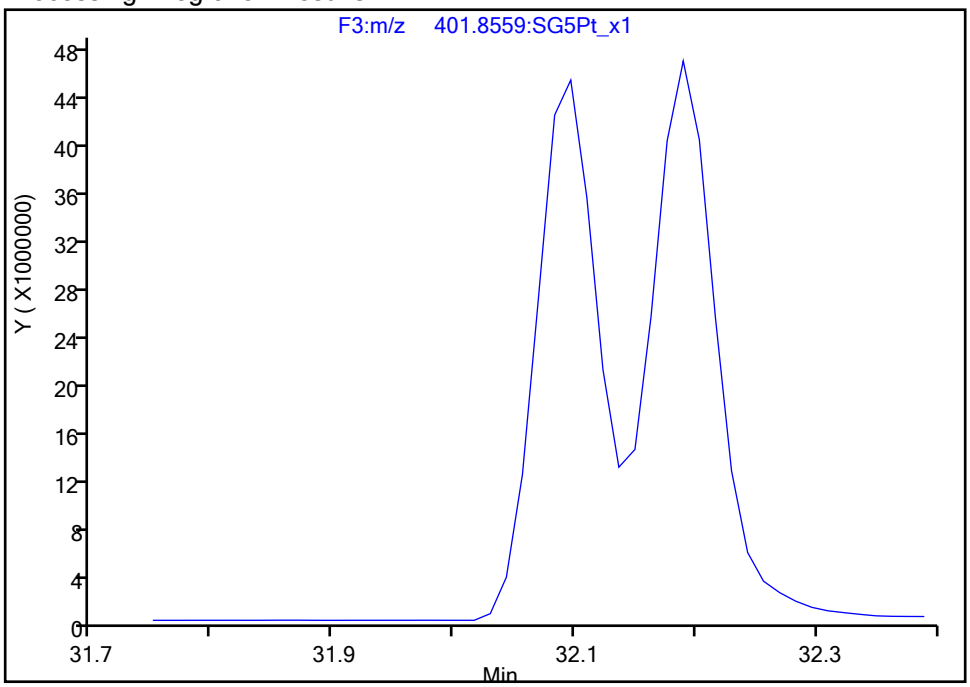

Manual Integration Results

RT: 32.10
Area: 154547817
Amount: 97.908635
Amount Units: pg/ul

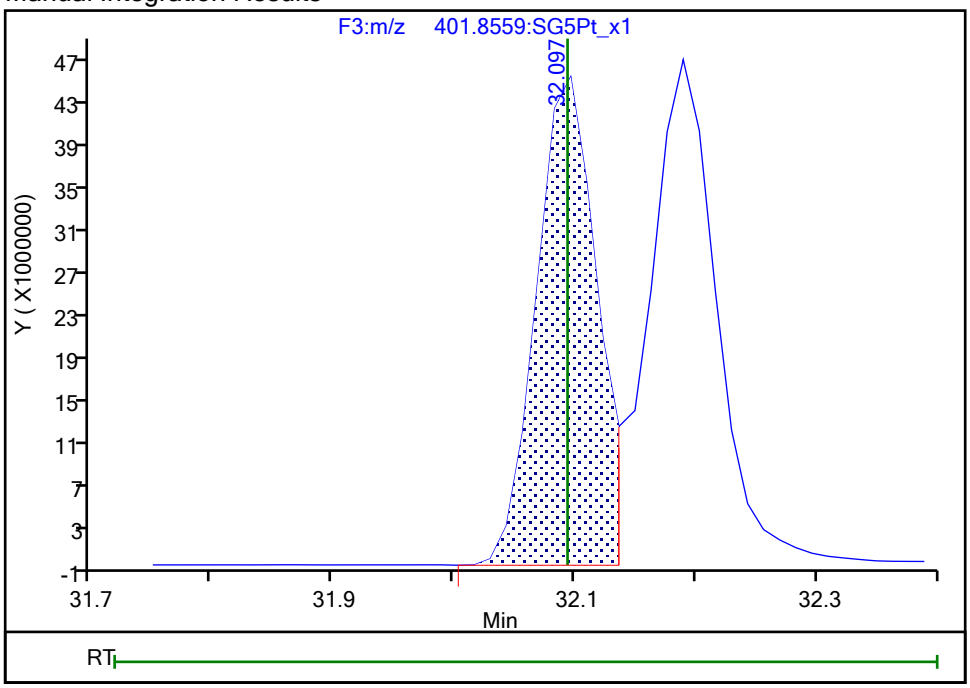

Reviewer: shardaa, 21-May-2019 17:49:16
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_3.d				
Injection Date:	21-May-2019 13:31:22	Instrument ID:	3D5		
Lims ID:	IC 2				
Client ID:	L2				
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

13C-1,2,3,4,7,8,9-HpCDF, CAS: 109719-94-0

Signal: 1

Not Detected
Expected RT: 35.23

Processing Integration Results

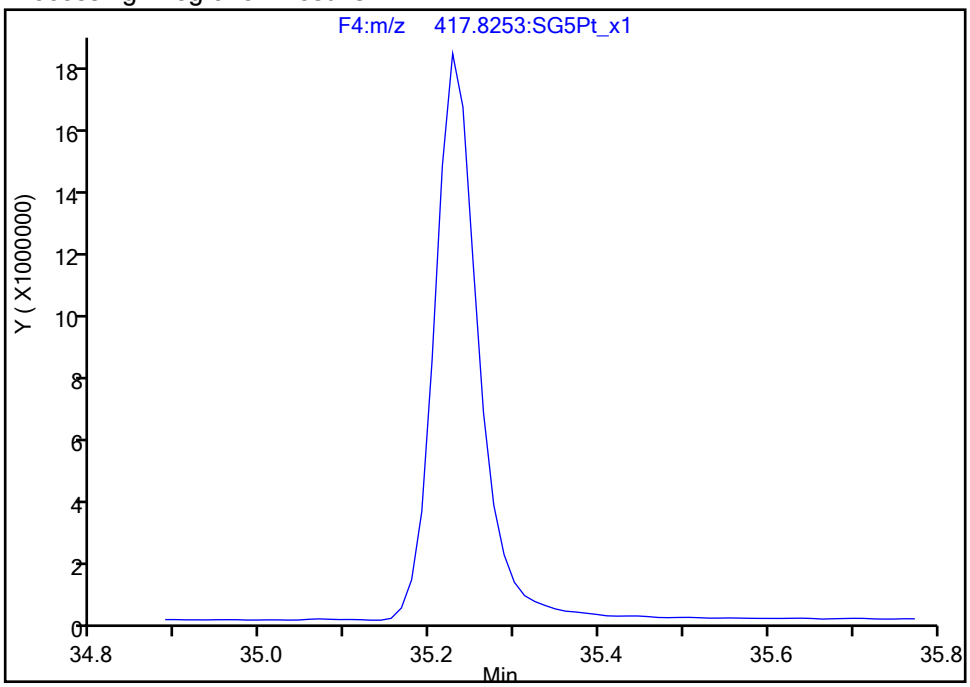

Manual Integration Results

RT:	35.23
Area:	66152303
Amount:	96.481083
Amount Units:	pg/ul

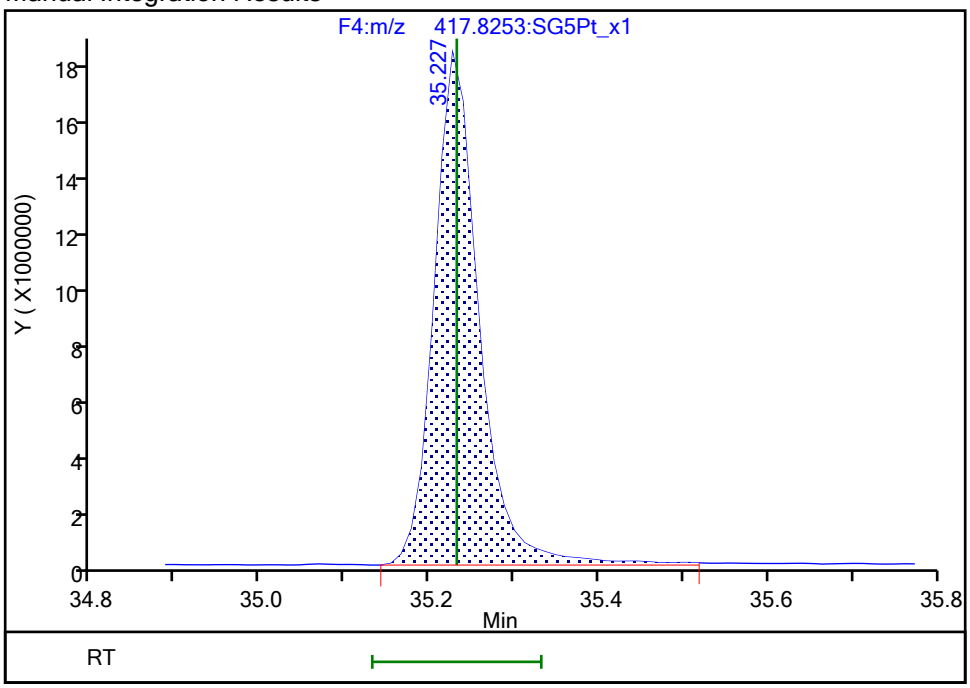

Reviewer: shardaa, 21-May-2019 17:49:23
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Report Date: 22-May-2019 11:44:12 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_3.d		
Injection Date:	21-May-2019 13:31:22	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L2		
Worklist#:	296020	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

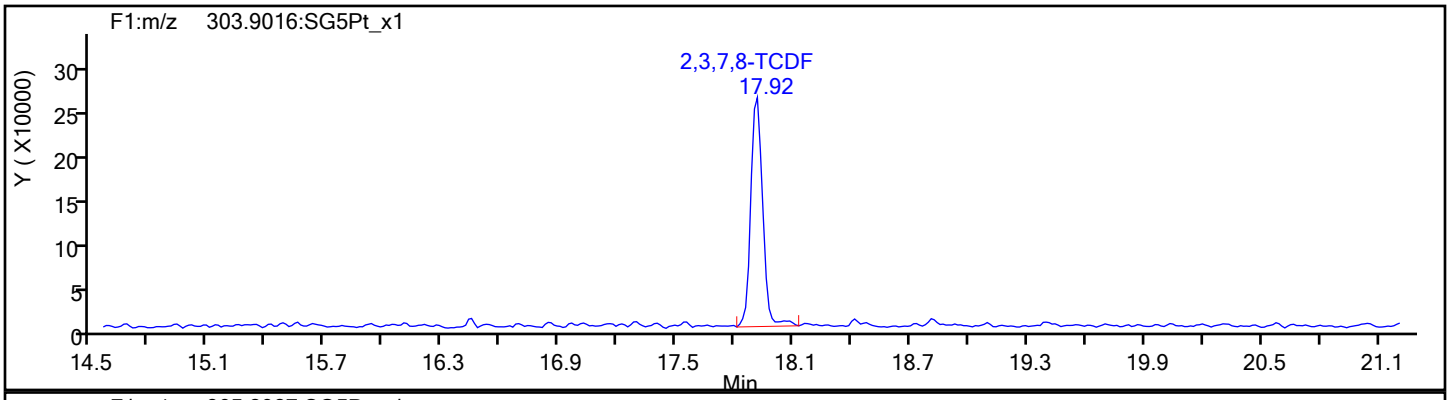

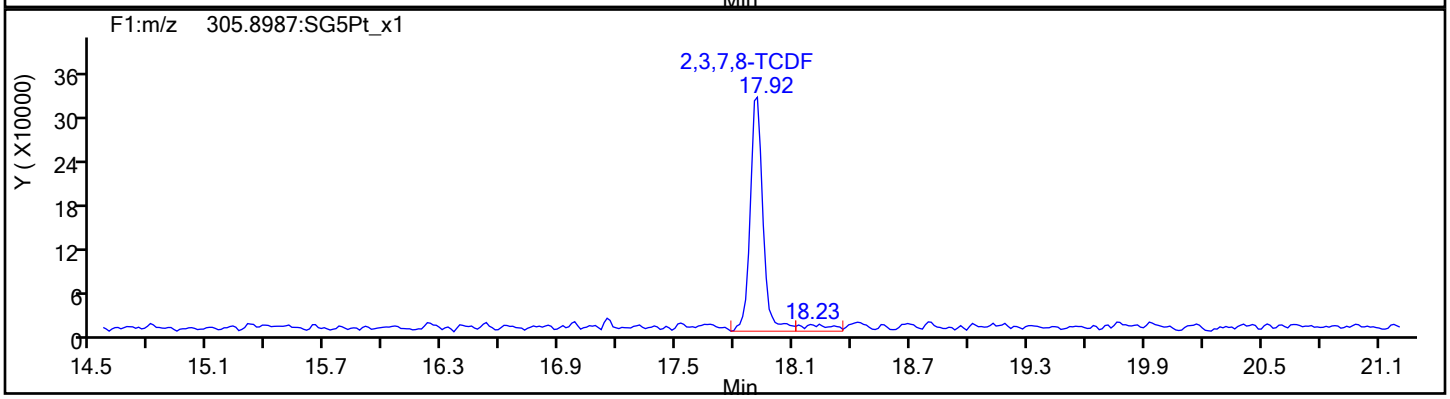

TCDF Standards

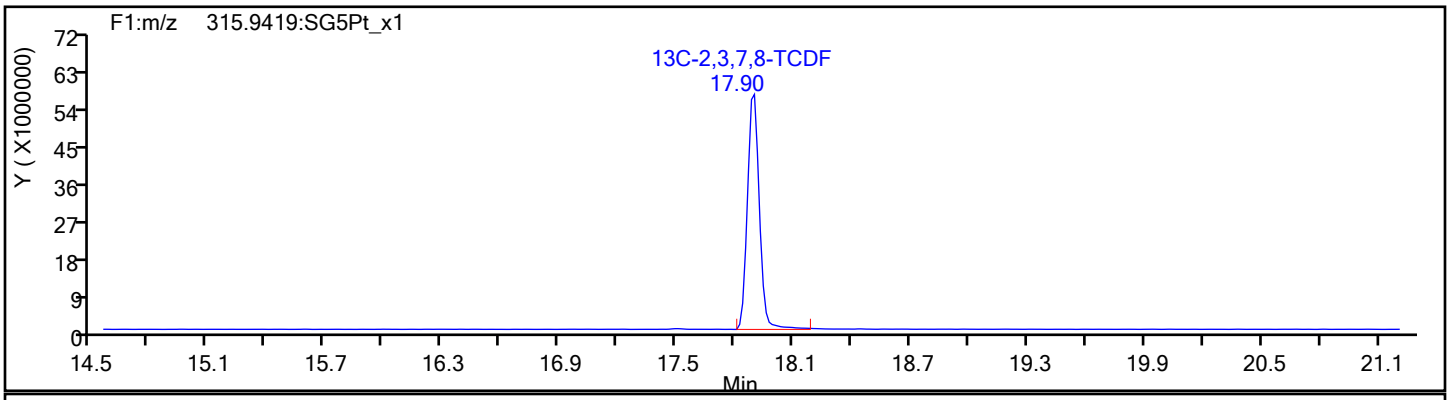

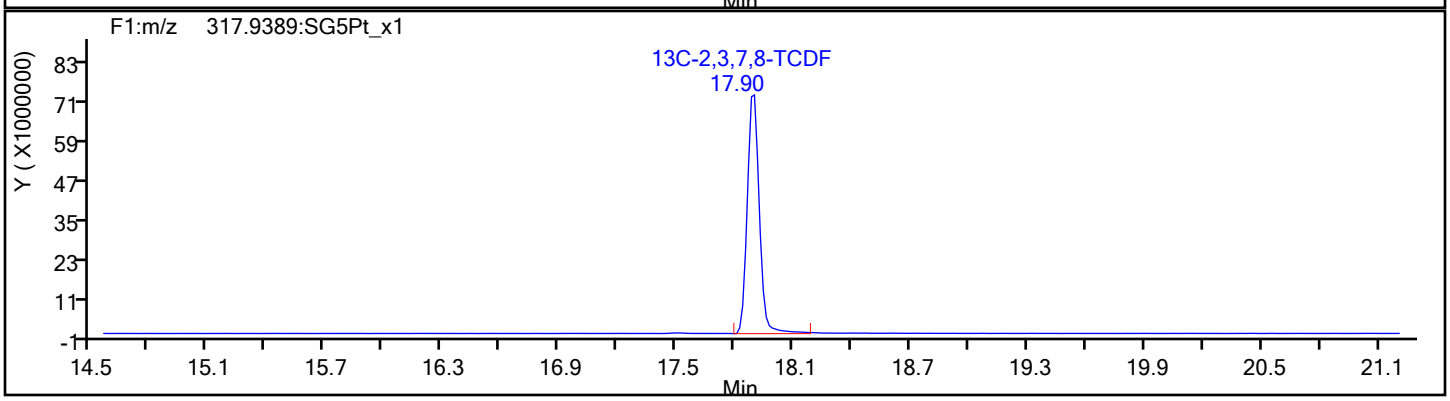

Report Date: 22-May-2019 11:44:12 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_3.d		
Injection Date:	21-May-2019 13:31:22	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L2		
Worklist#:	296020	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

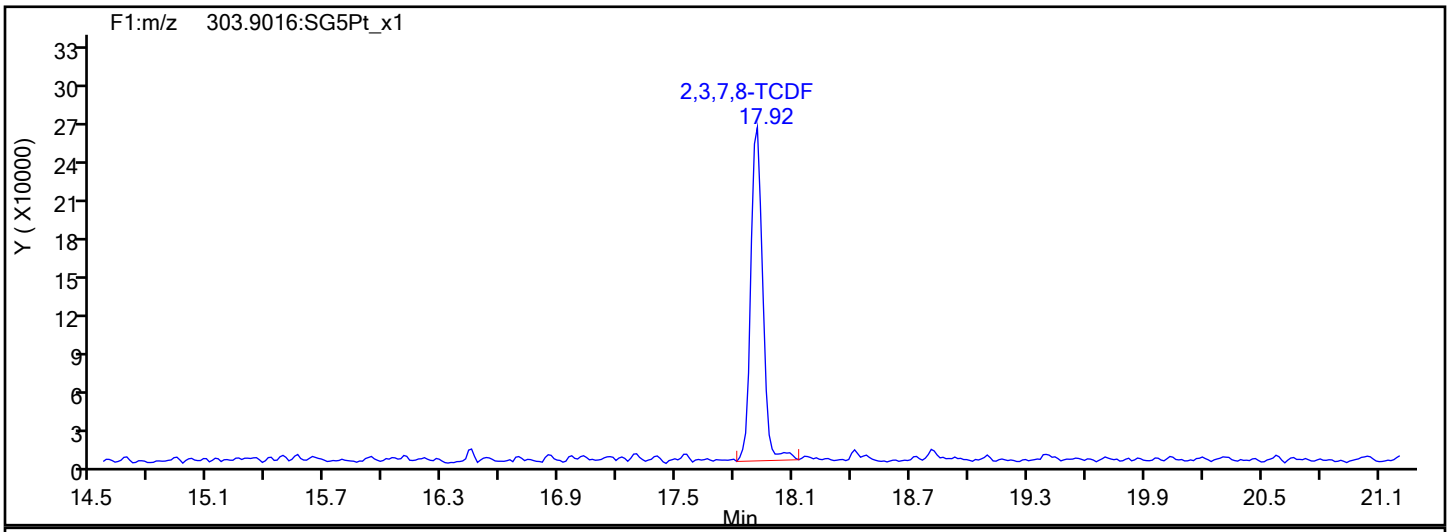

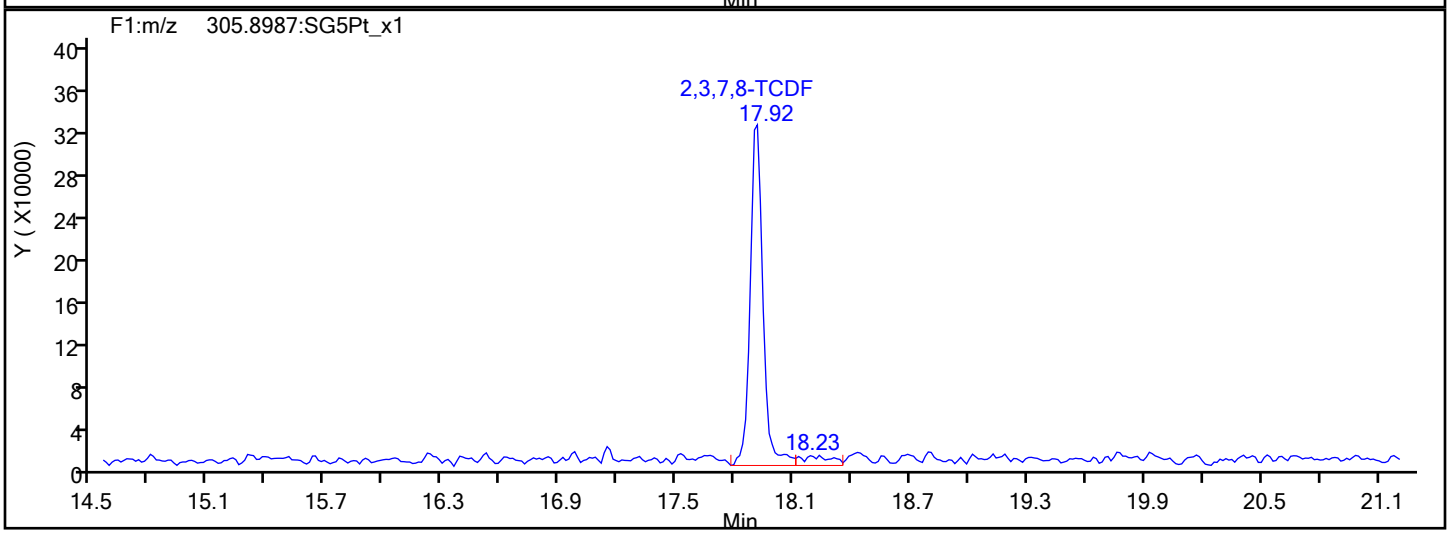

TCDF Interference Mass

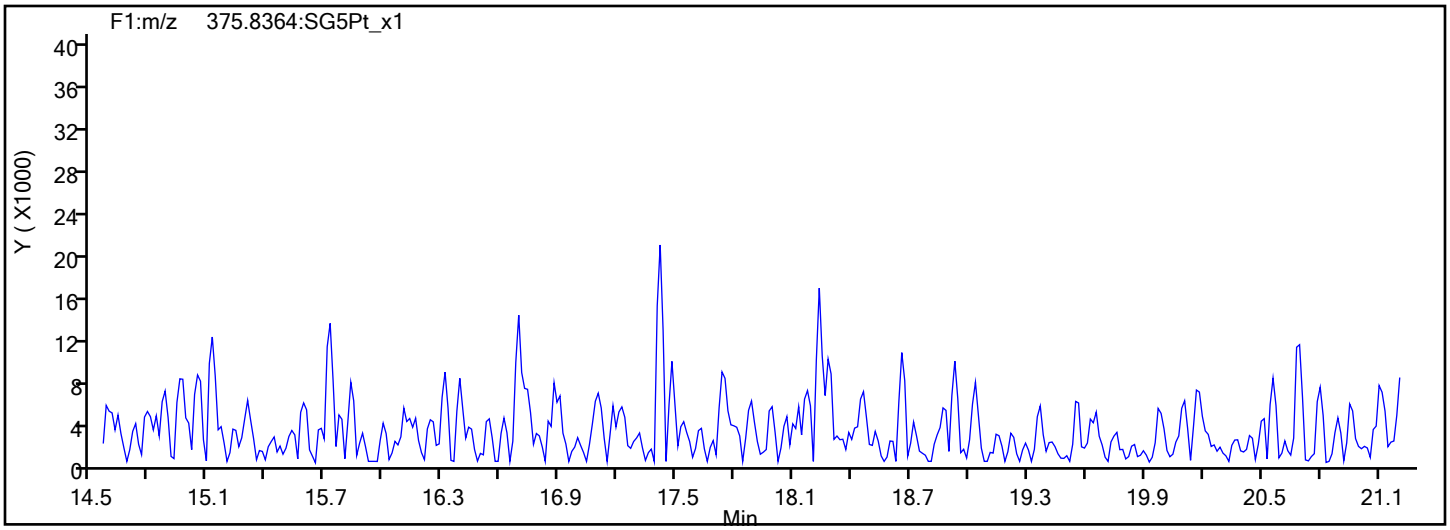

Report Date: 22-May-2019 11:44:12 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_3.d		
Injection Date:	21-May-2019 13:31:22	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L2		
Worklist#:	296020	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

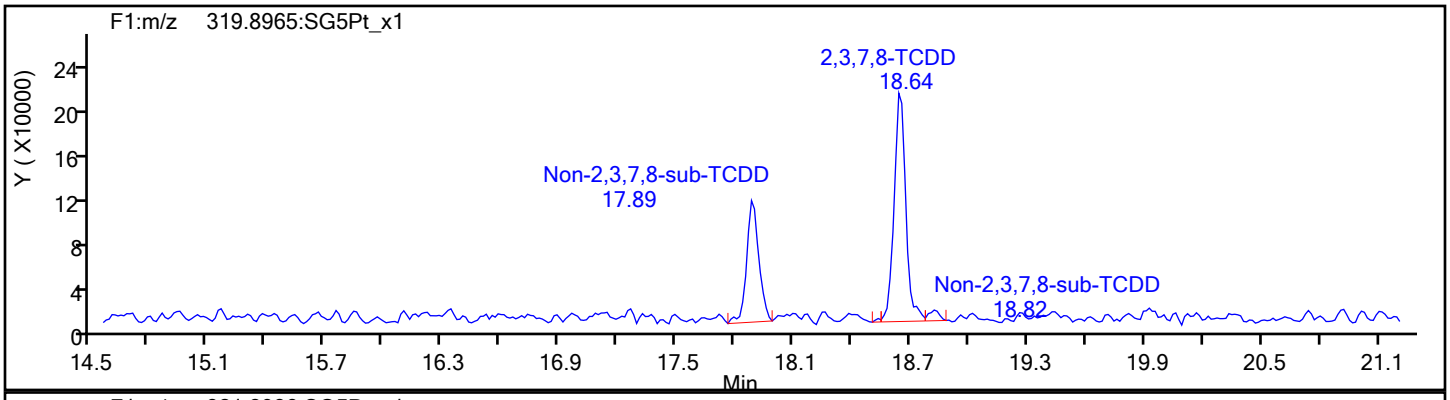

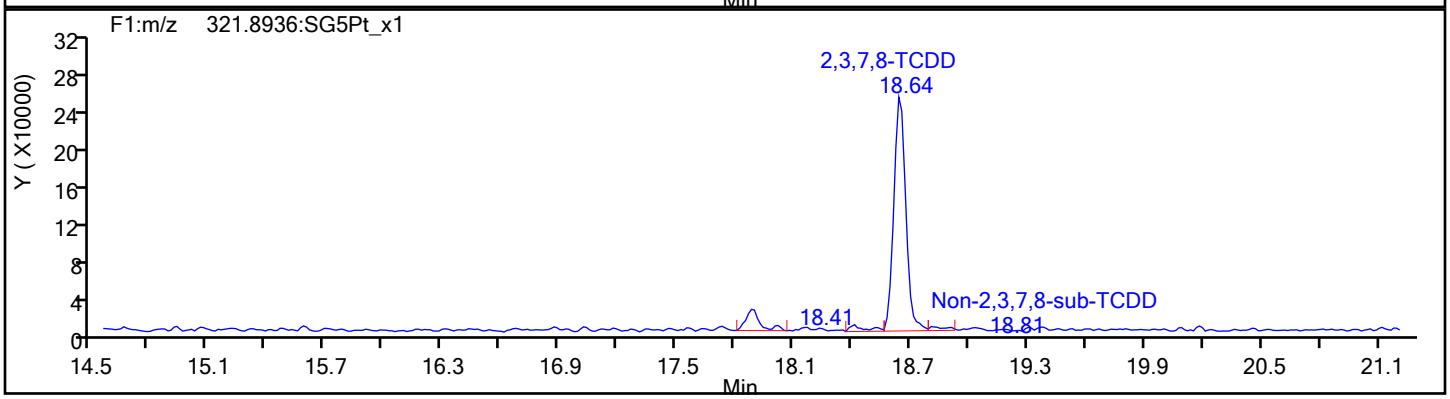

TCDD Standards

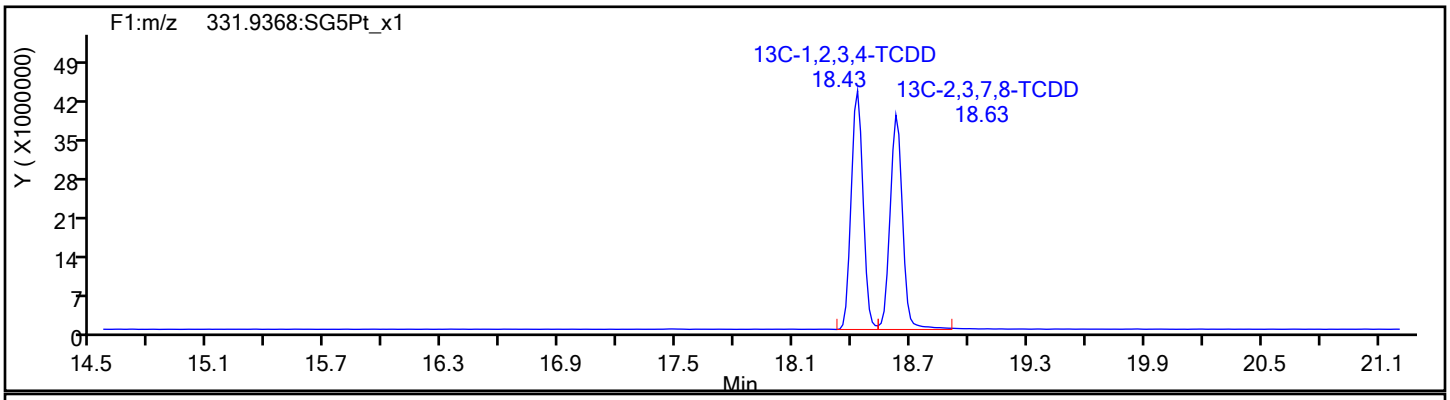

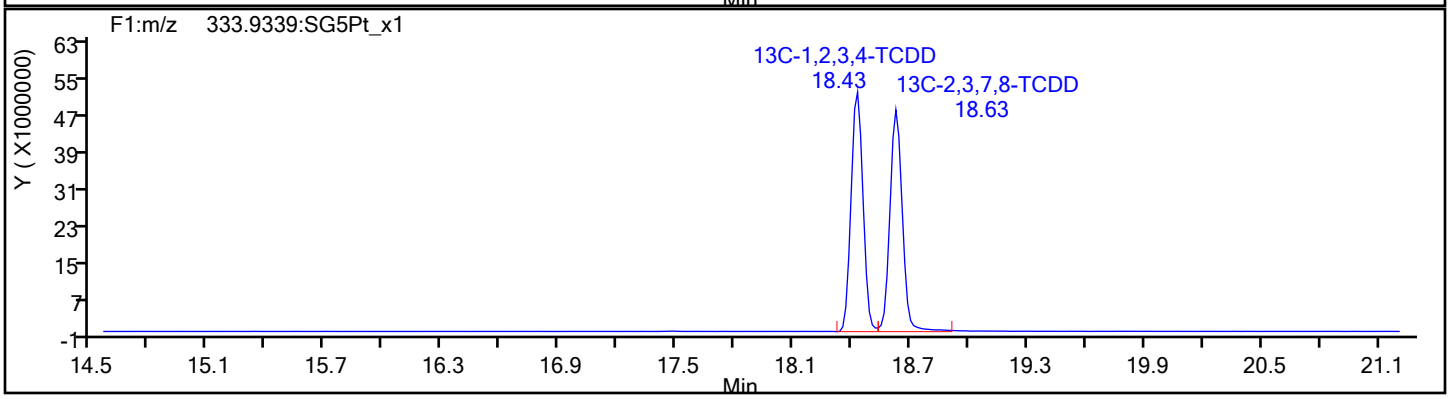

Report Date: 22-May-2019 11:44:12 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

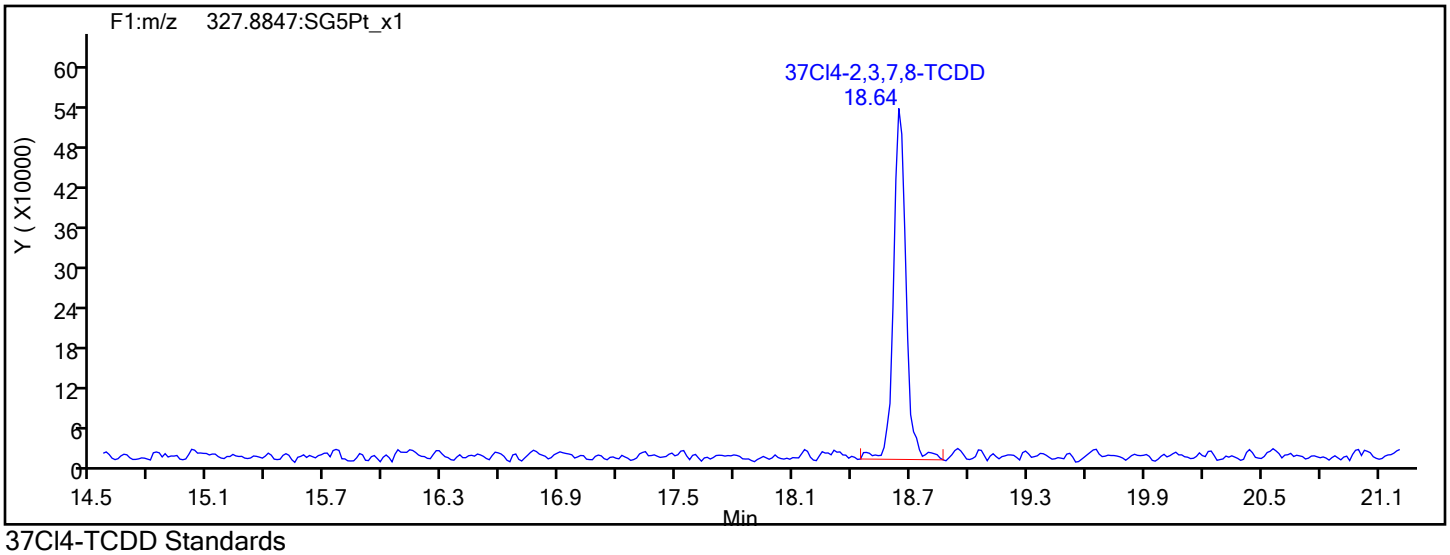

37Cl4-TCDD Standards

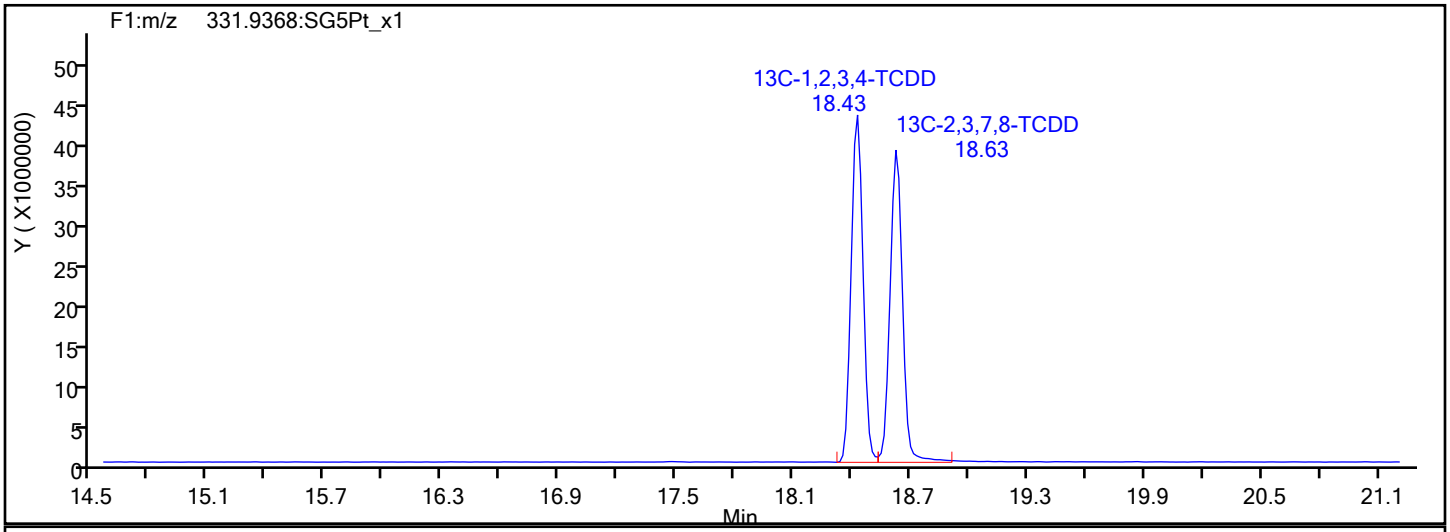

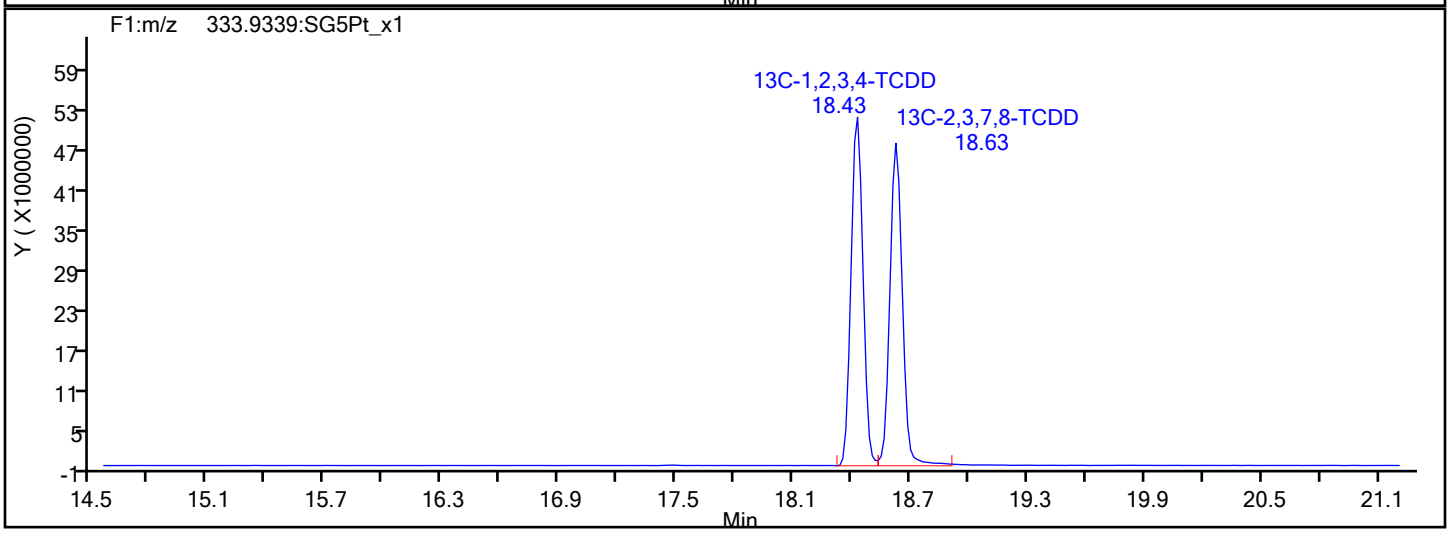

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

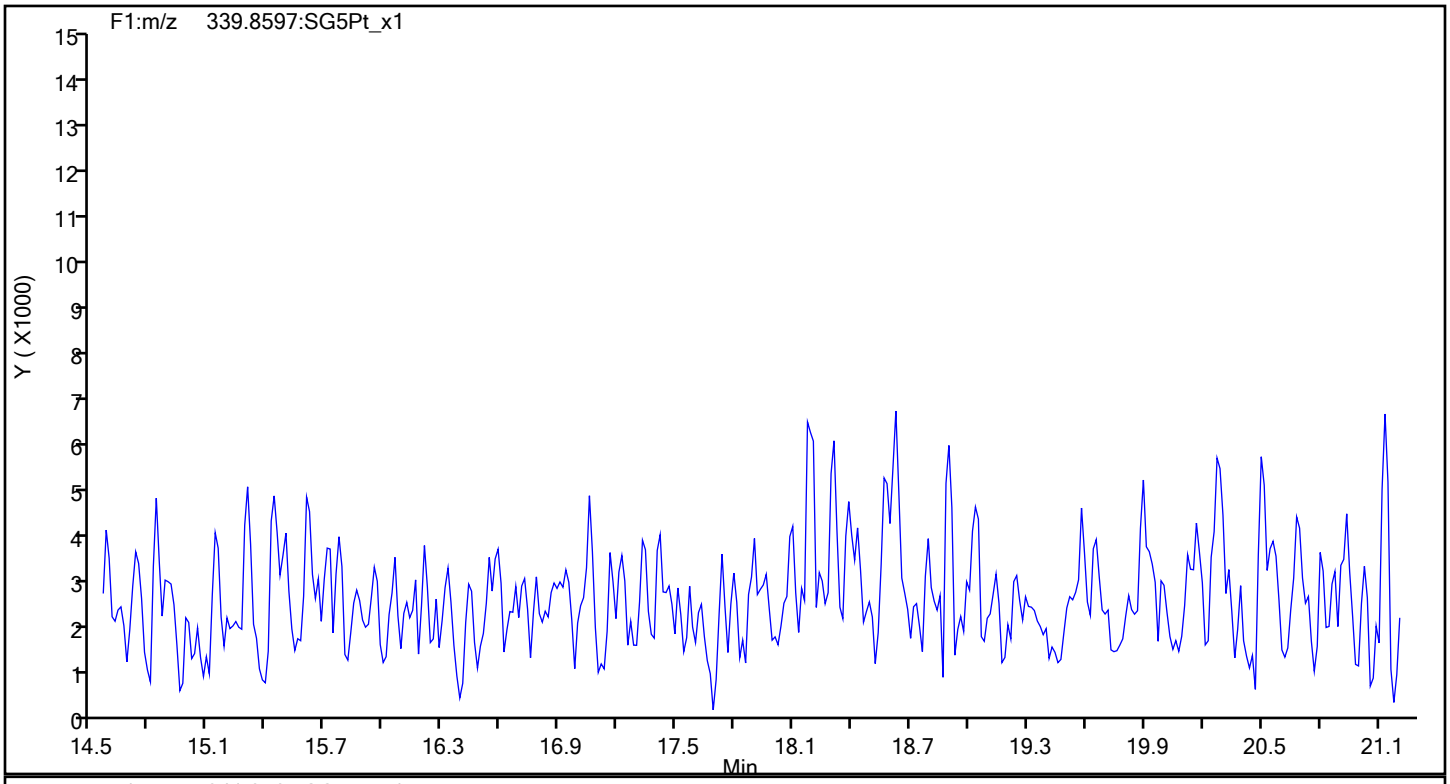

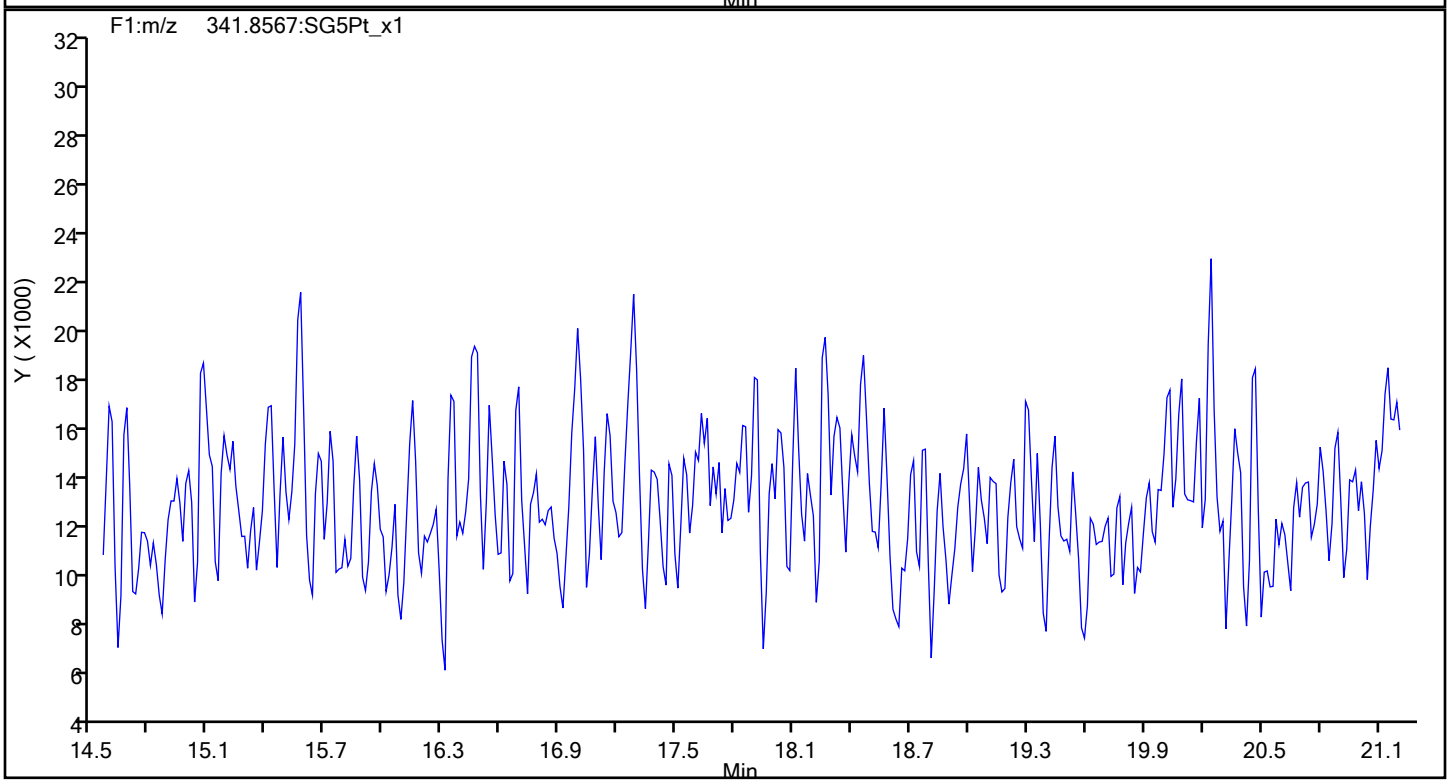

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

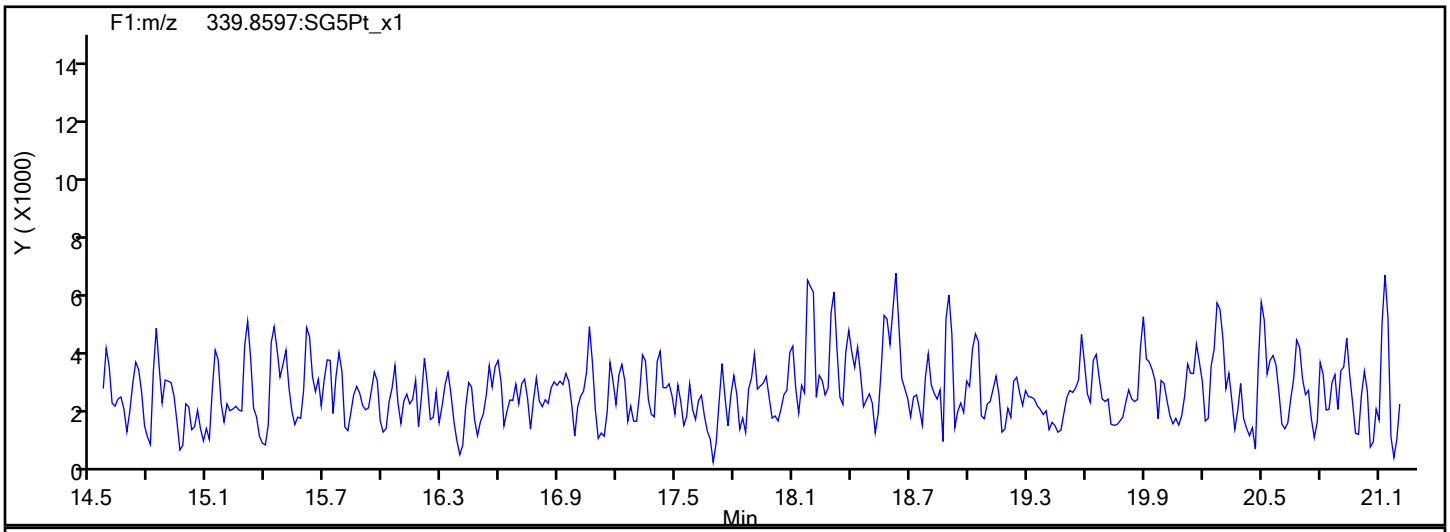

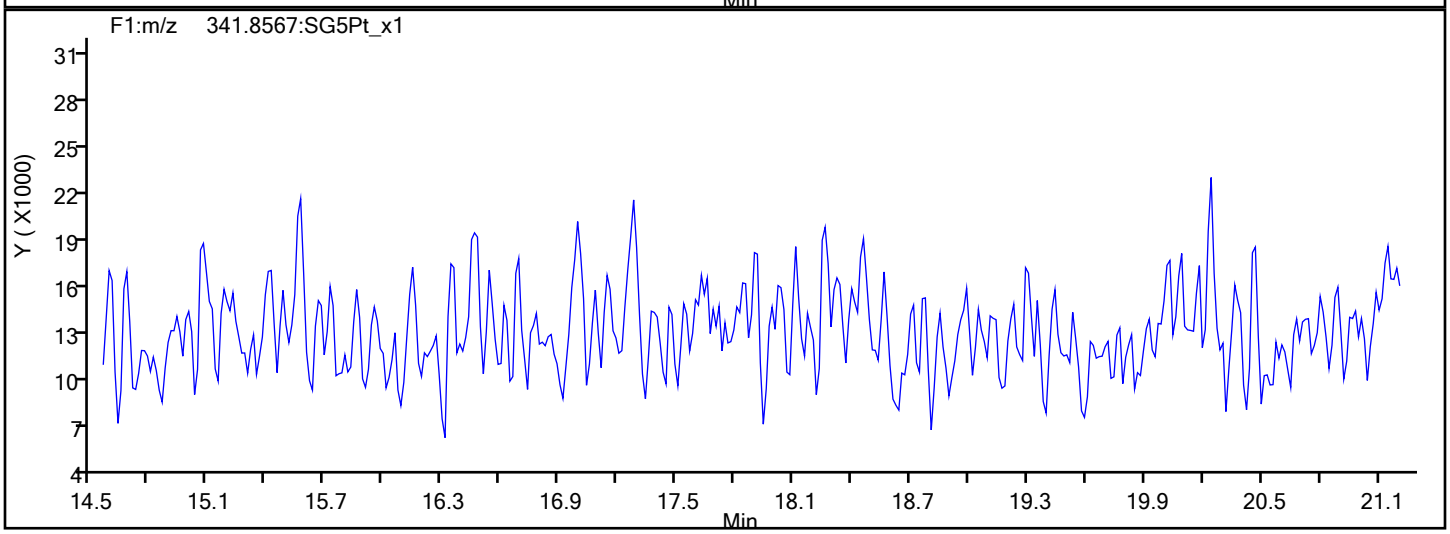

F1 PeCDFs Interference Mass

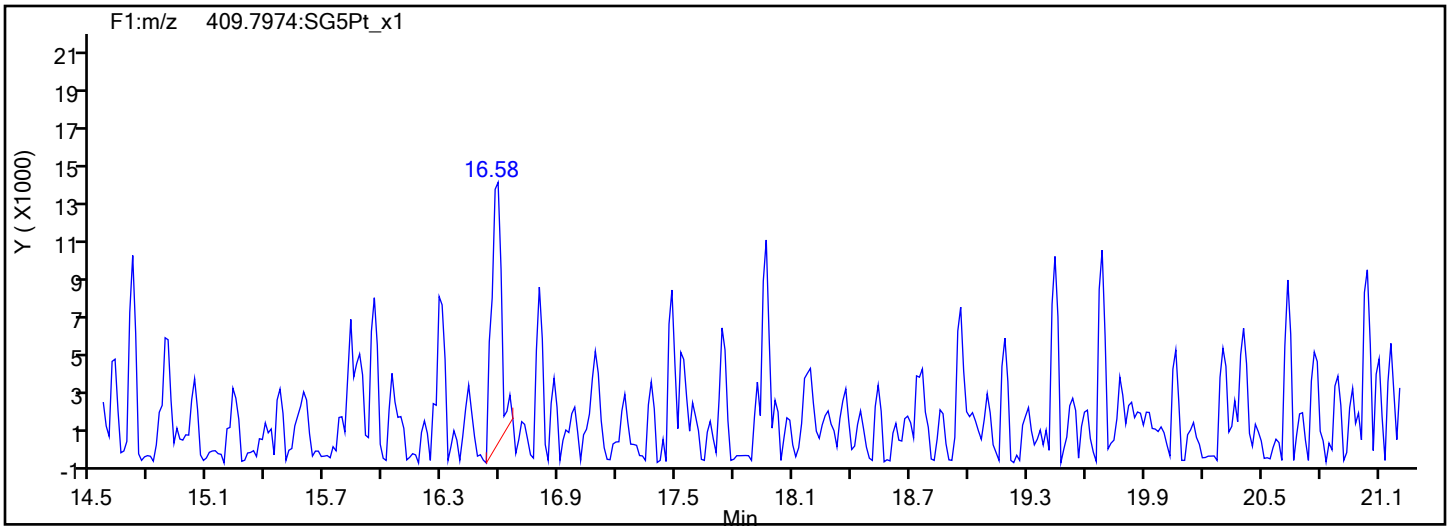

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Eurofins TestAmerica, Sacramento

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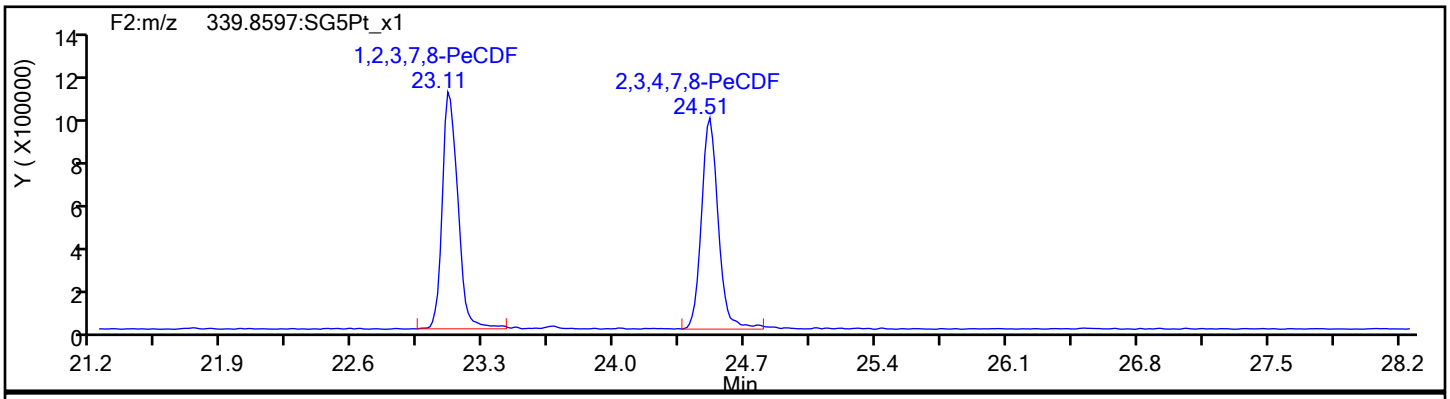

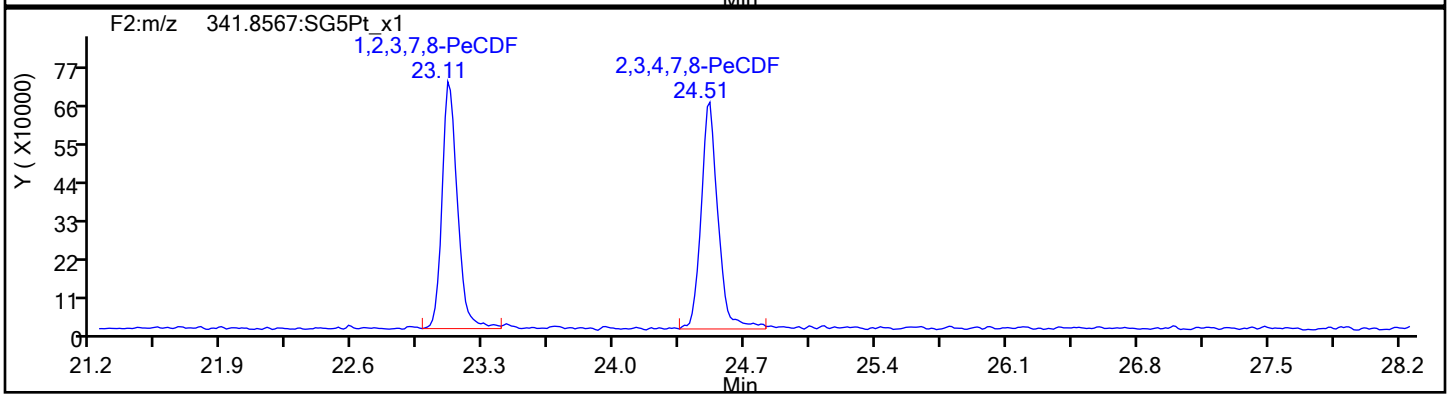

PeCDF Standards

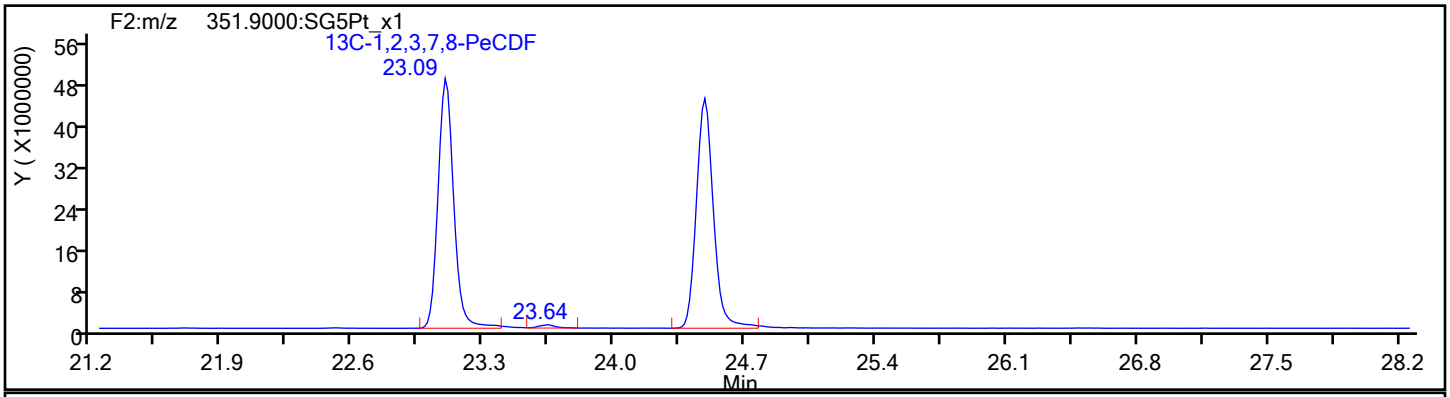

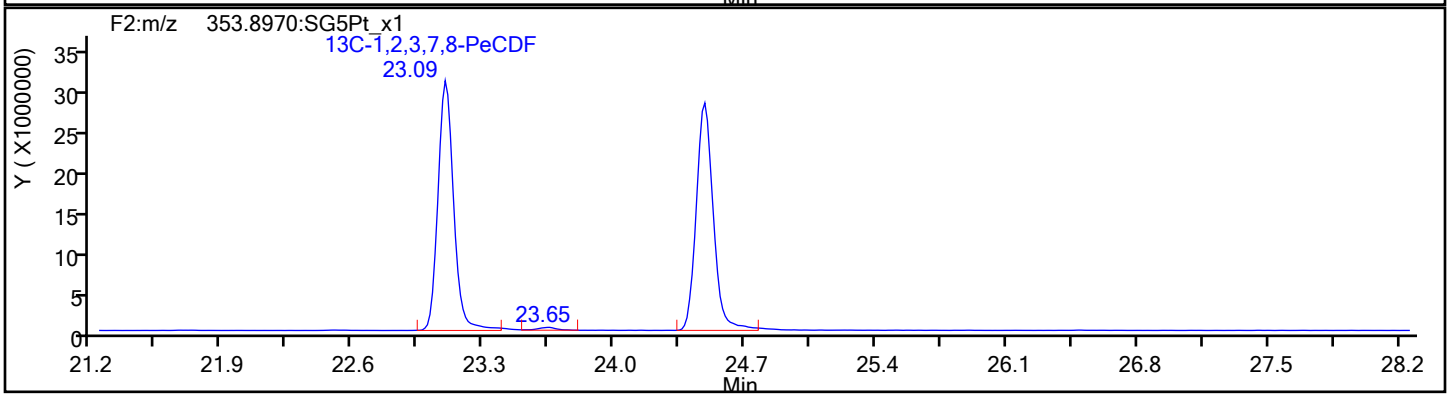

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Eurofins TestAmerica, Sacramento

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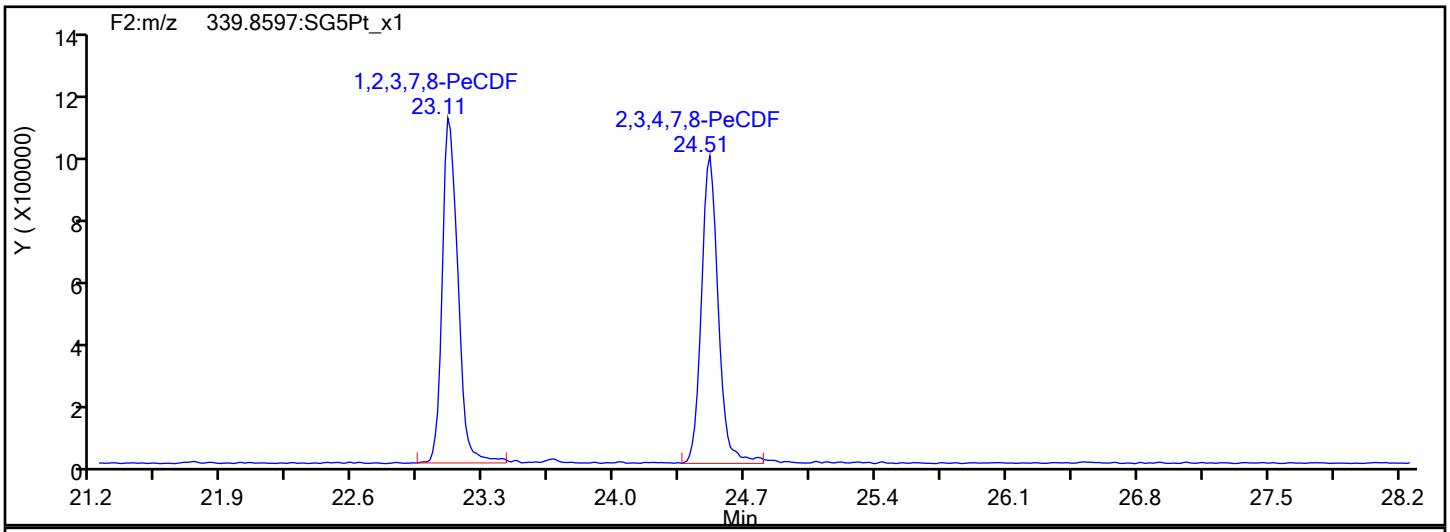

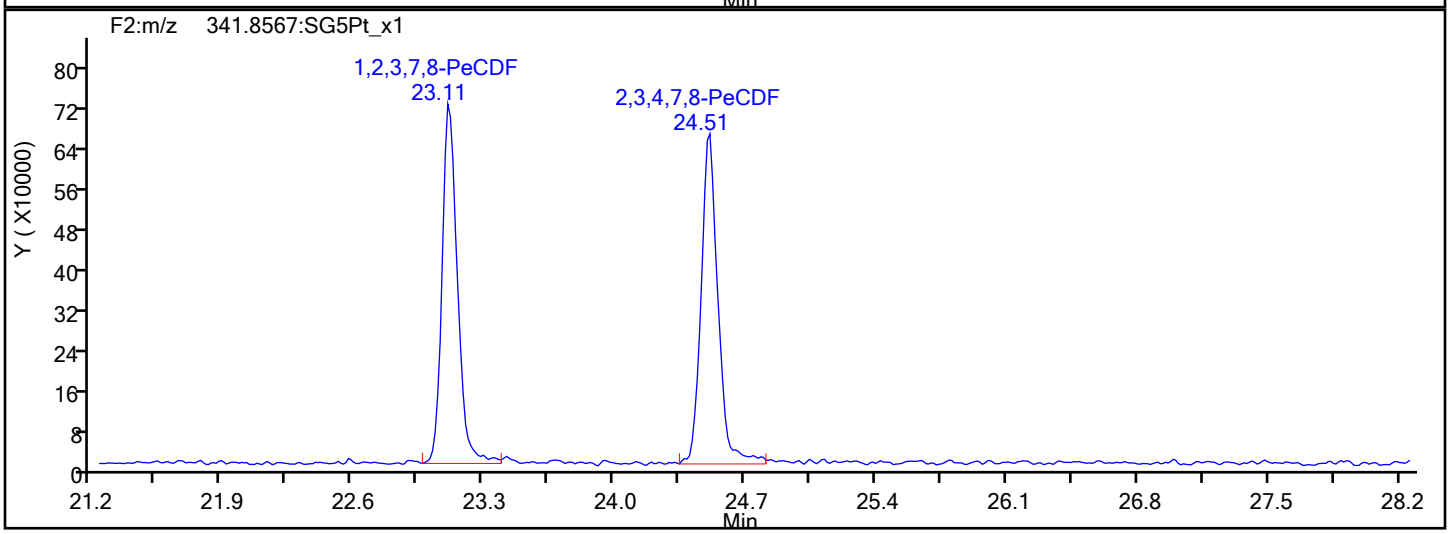

PeCDF Interference Mass

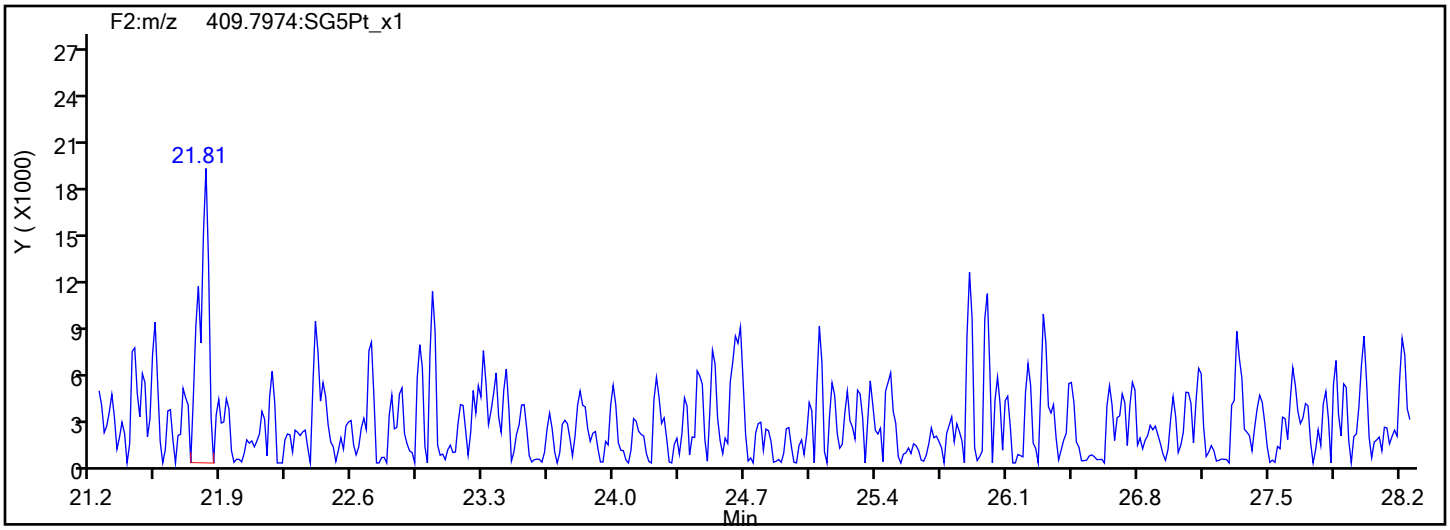

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Eurofins TestAmerica, Sacramento

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PeCDD

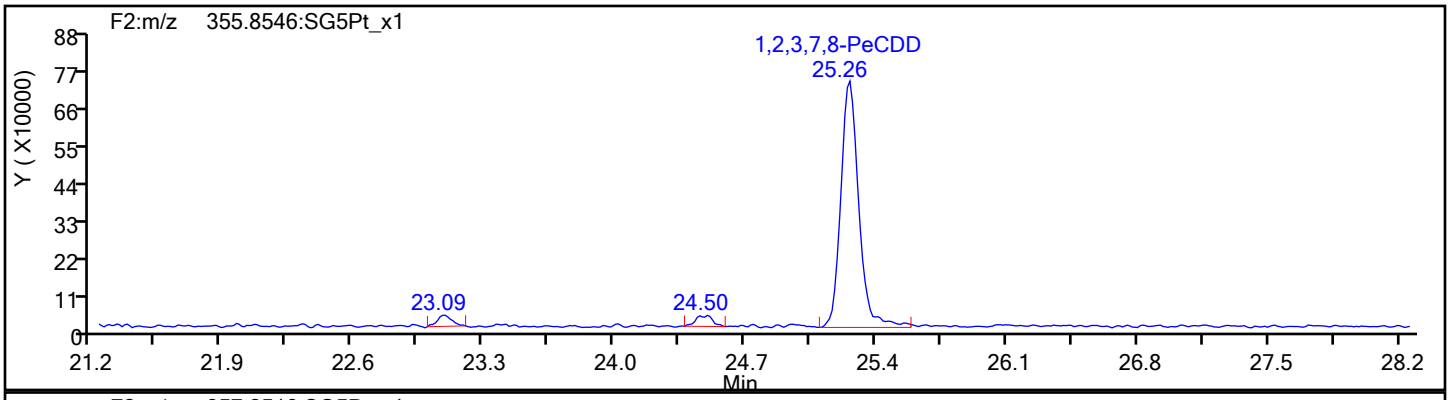

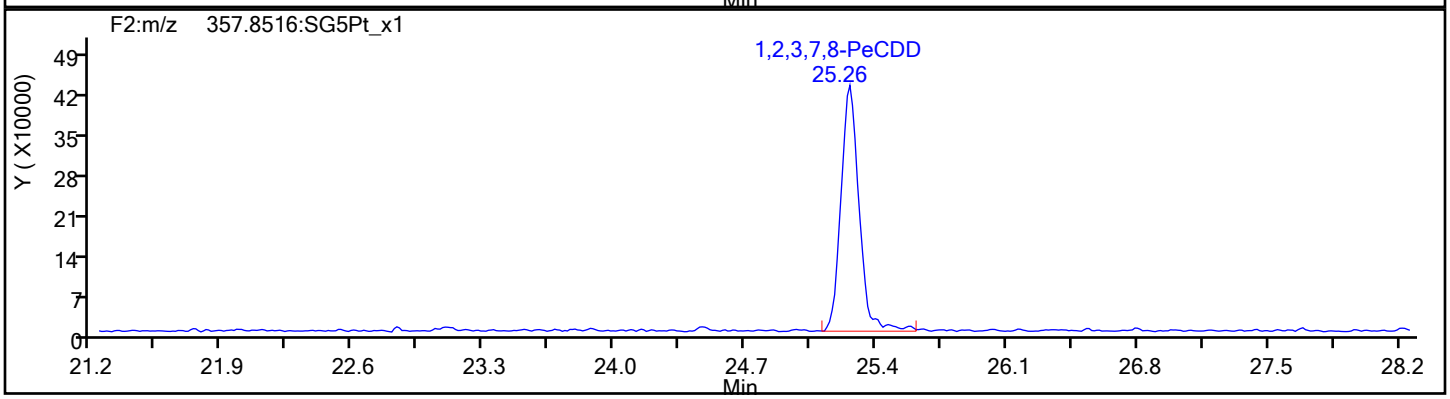

PeCDD Standards

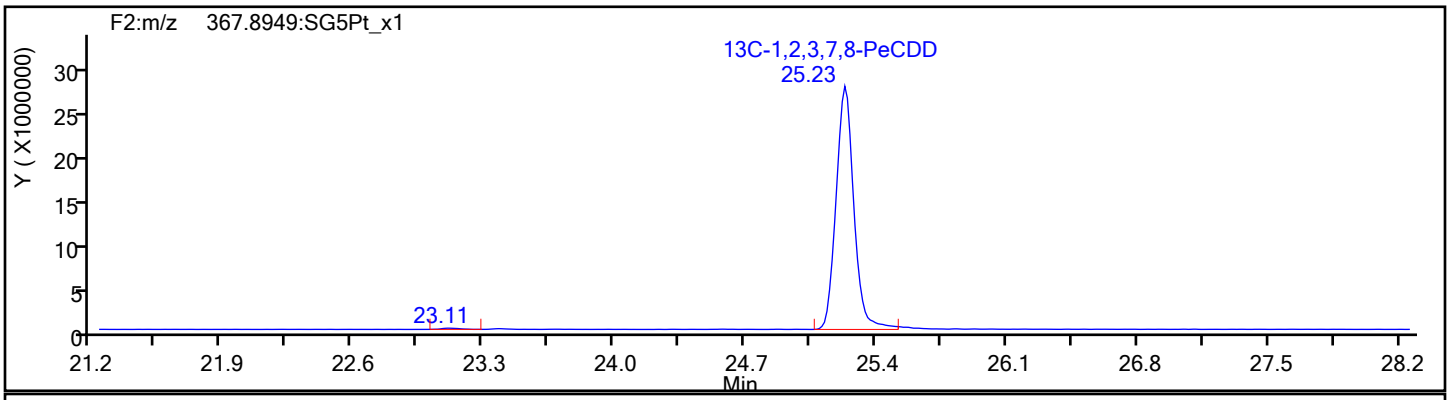

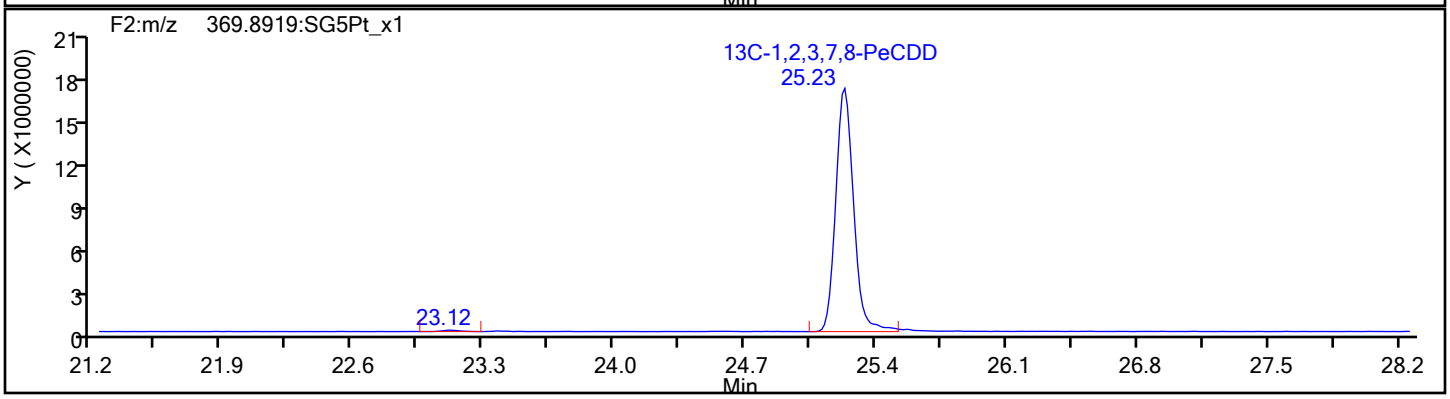

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Eurofins TestAmerica, Sacramento

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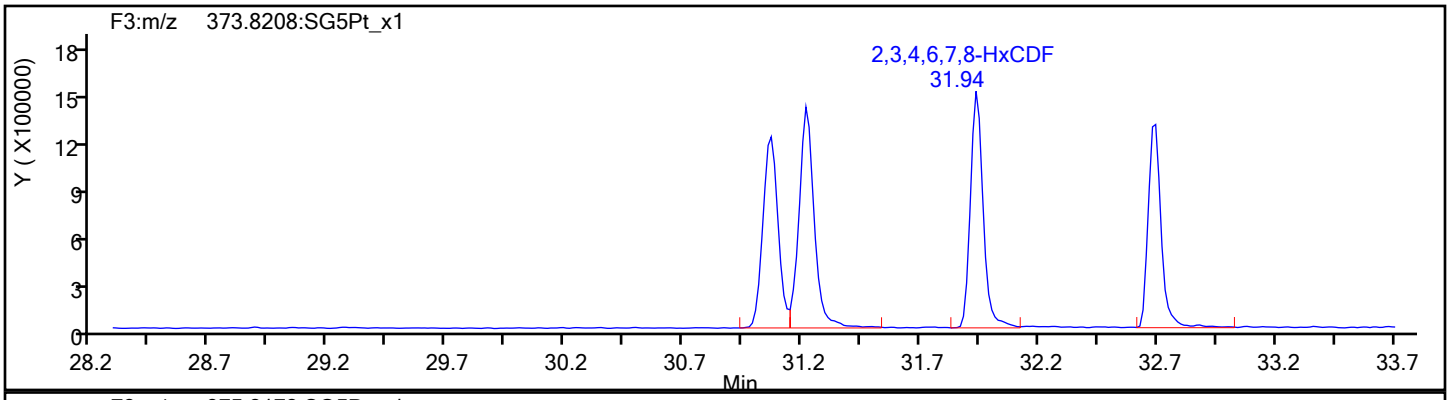

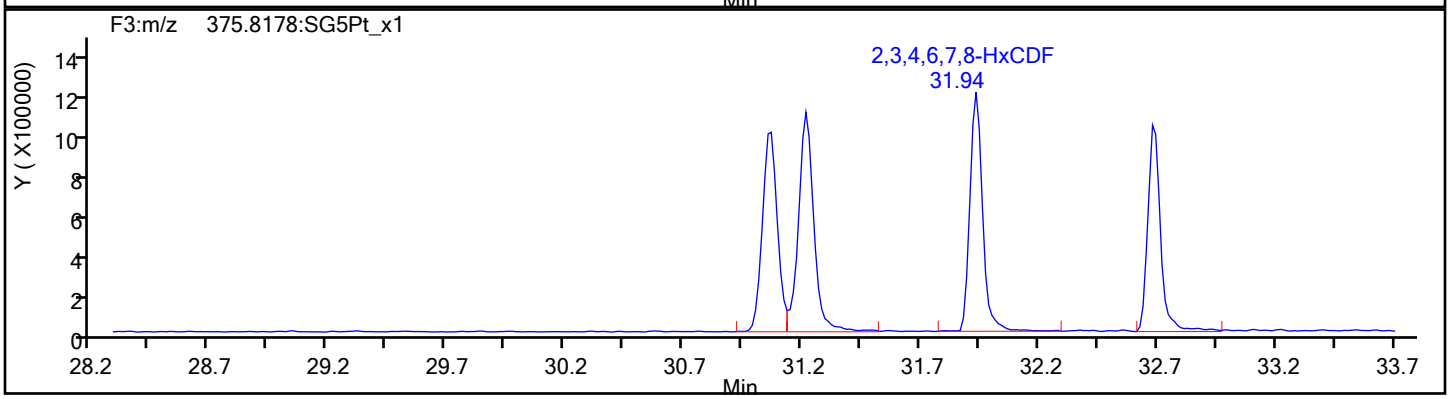

HxCDF Standards

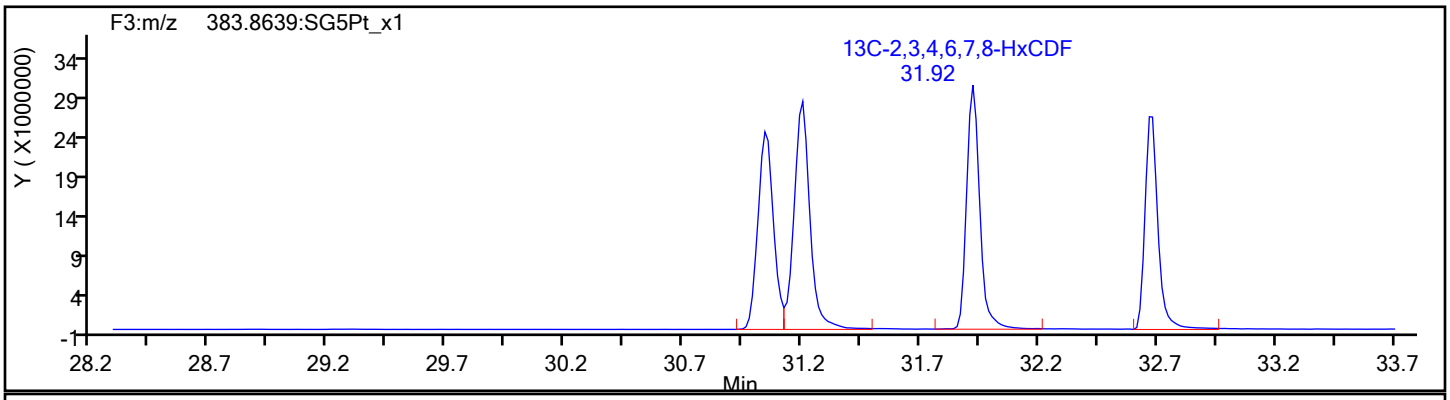

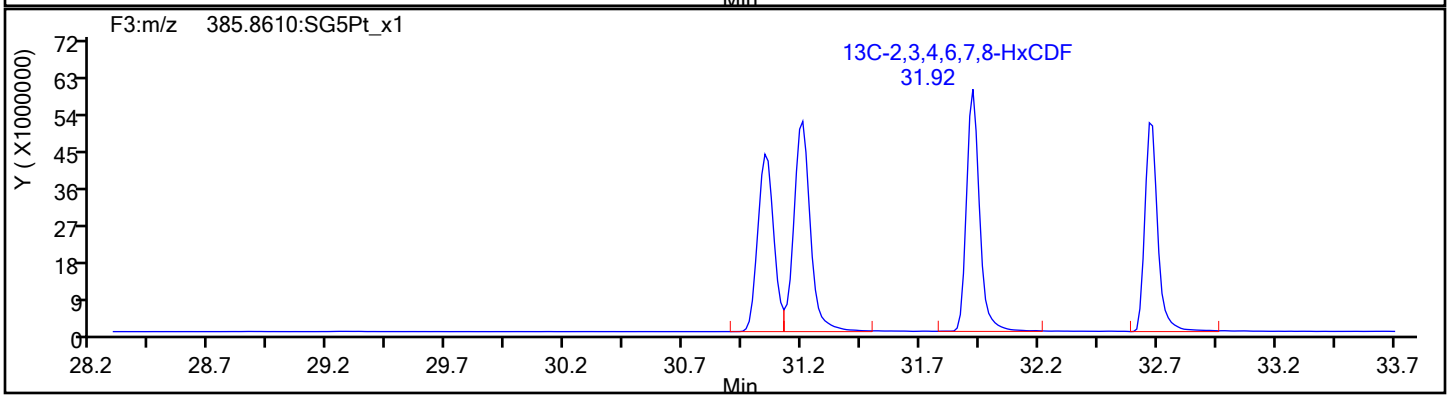

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Eurofins TestAmerica, Sacramento

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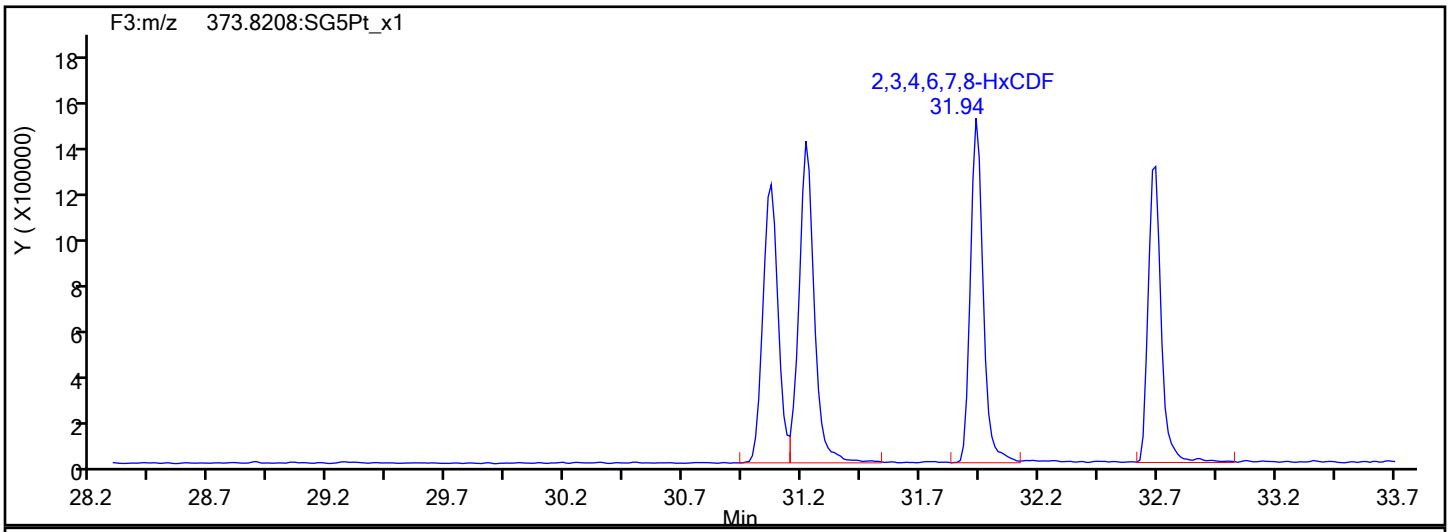

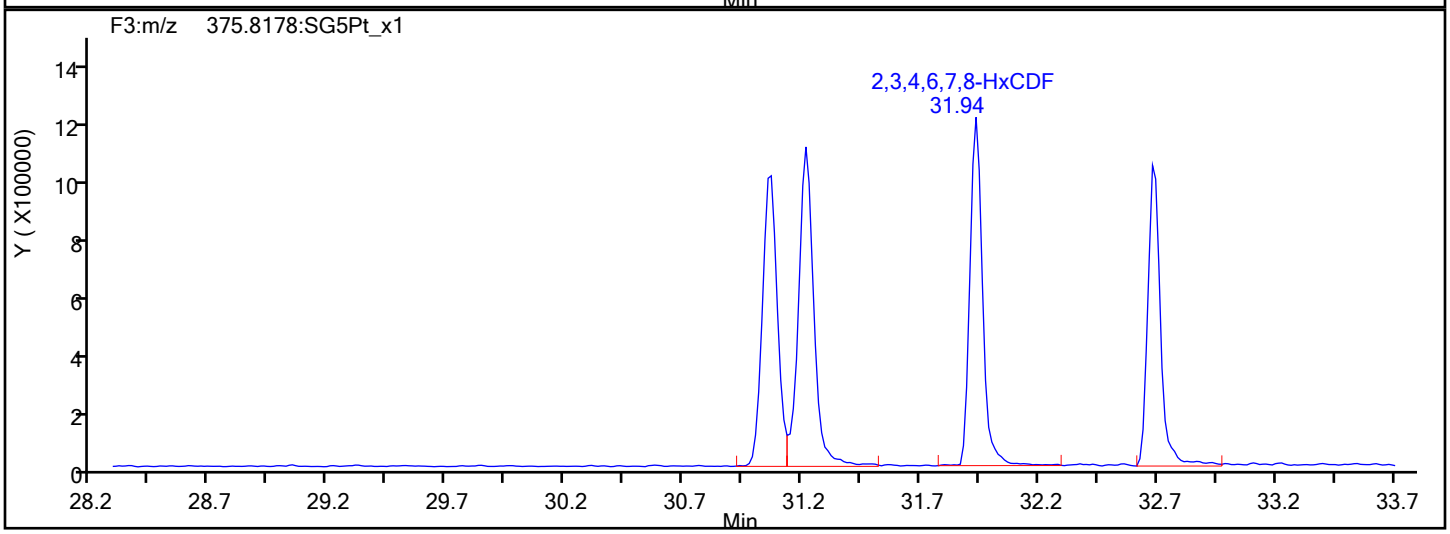

HxCDF Interference Mass

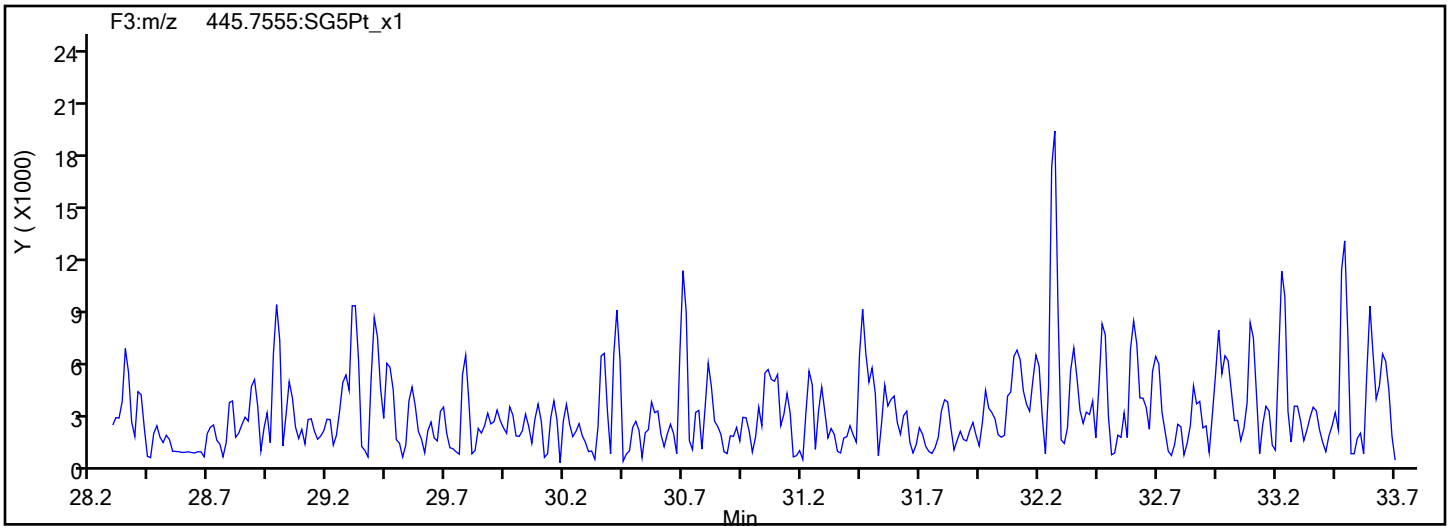

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Eurofins TestAmerica, Sacramento

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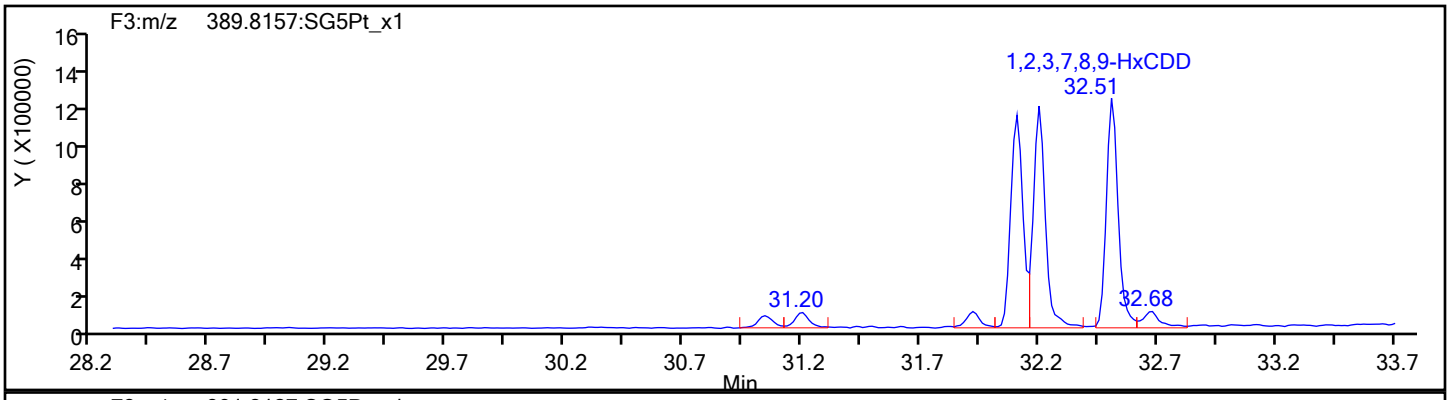

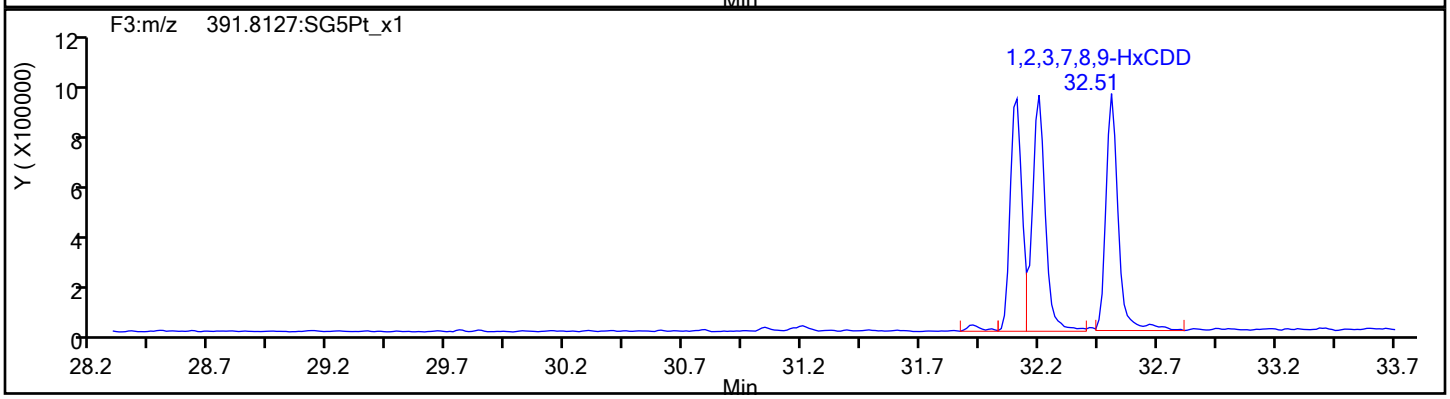

HxCDD Standards

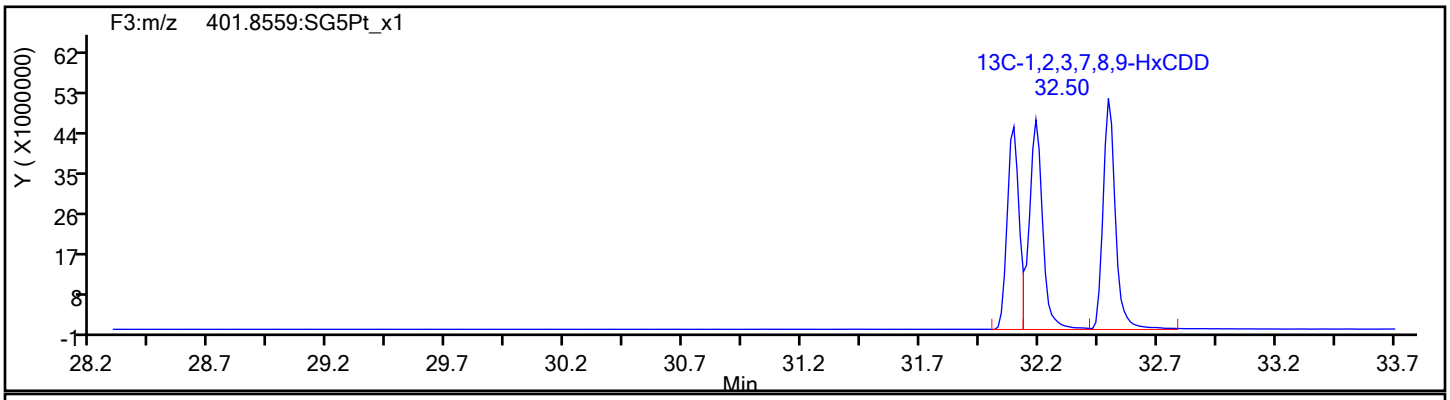

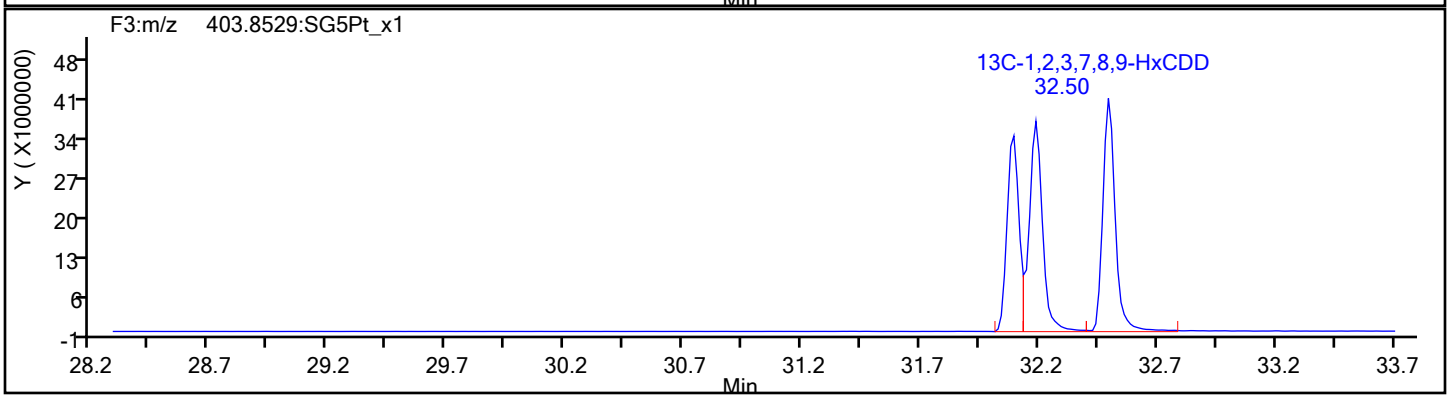

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Eurofins TestAmerica, Sacramento

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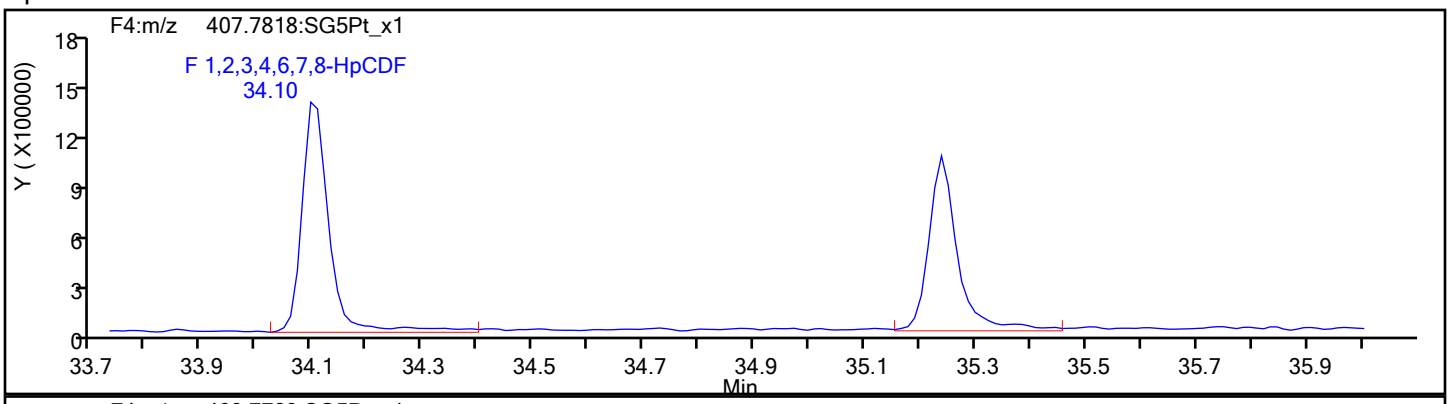

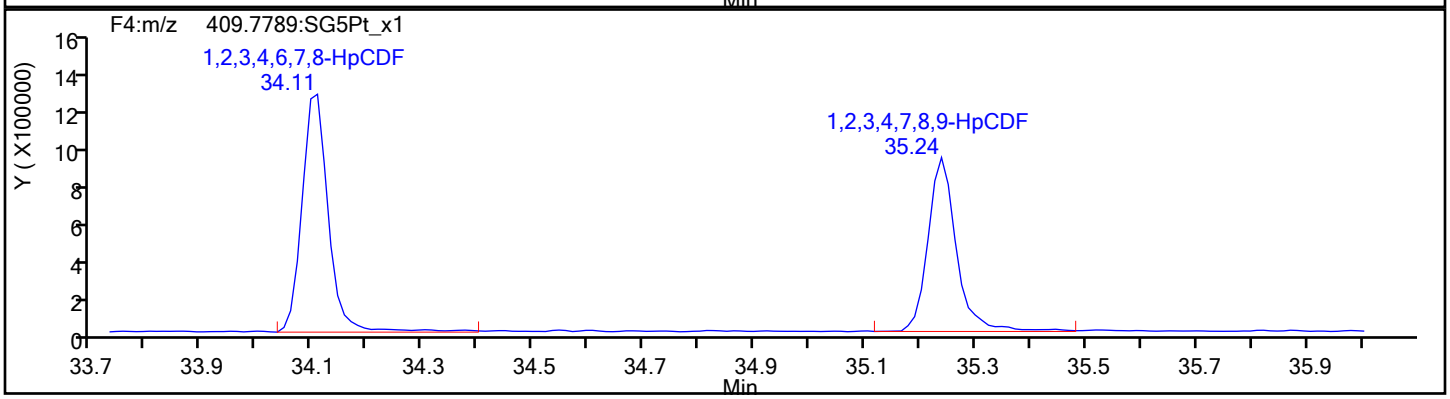

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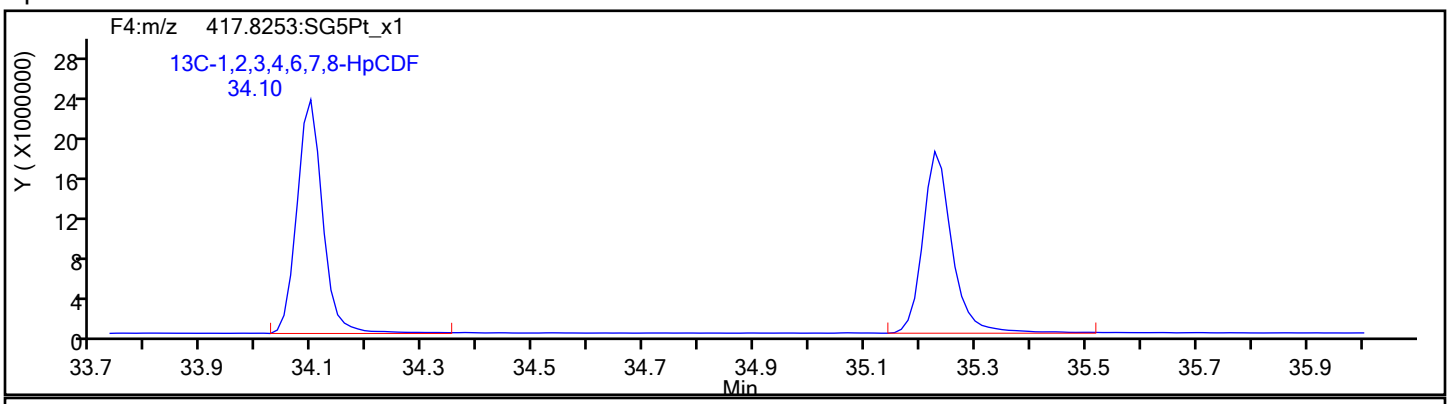

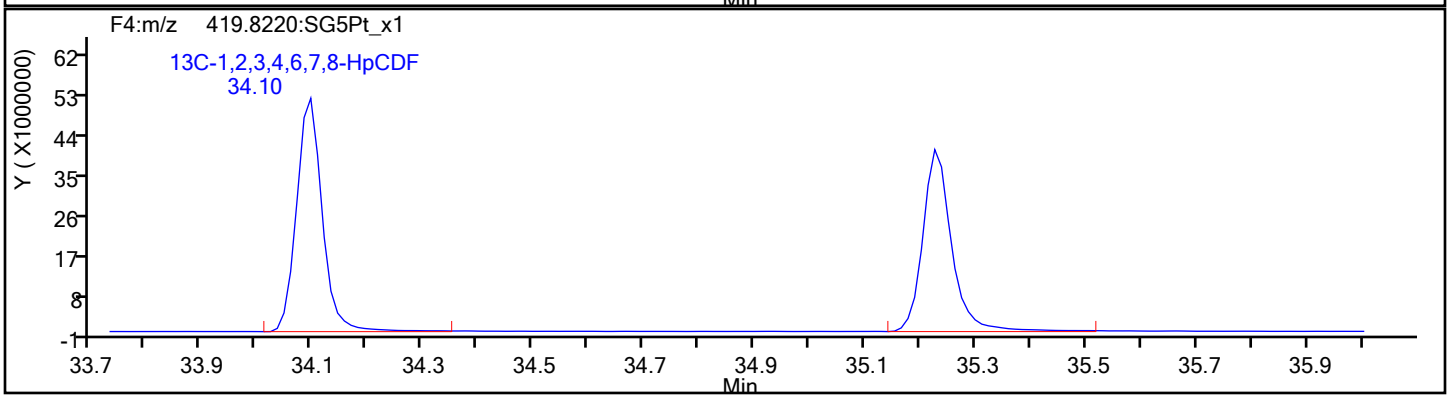

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Eurofins TestAmerica, Sacramento

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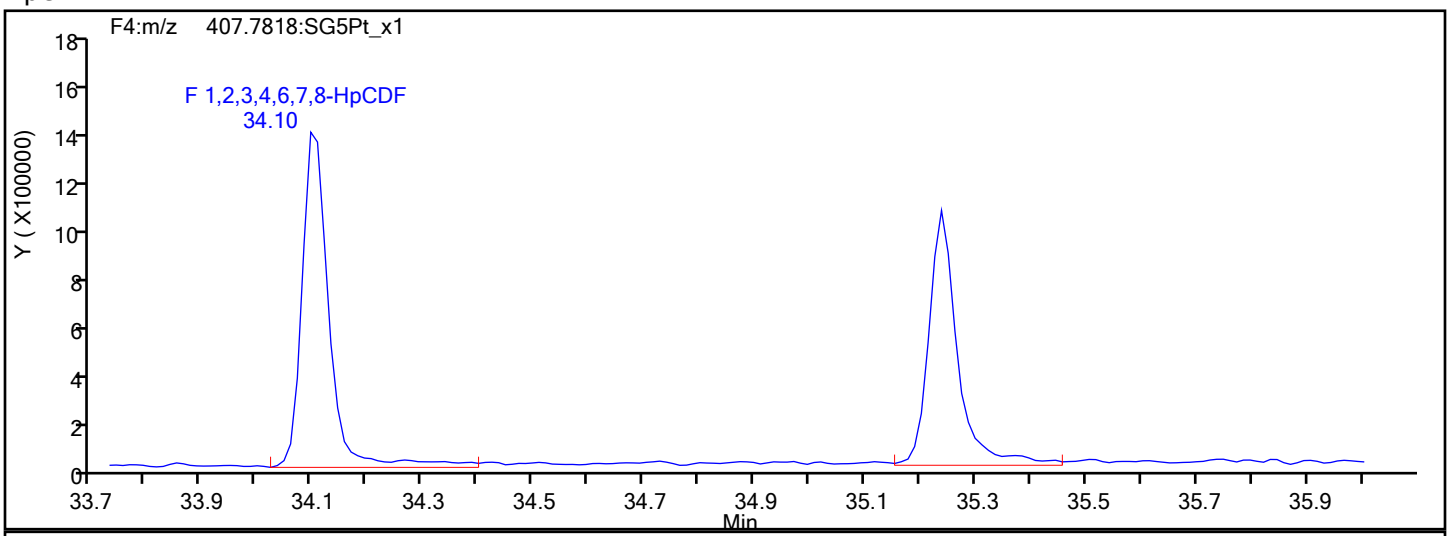

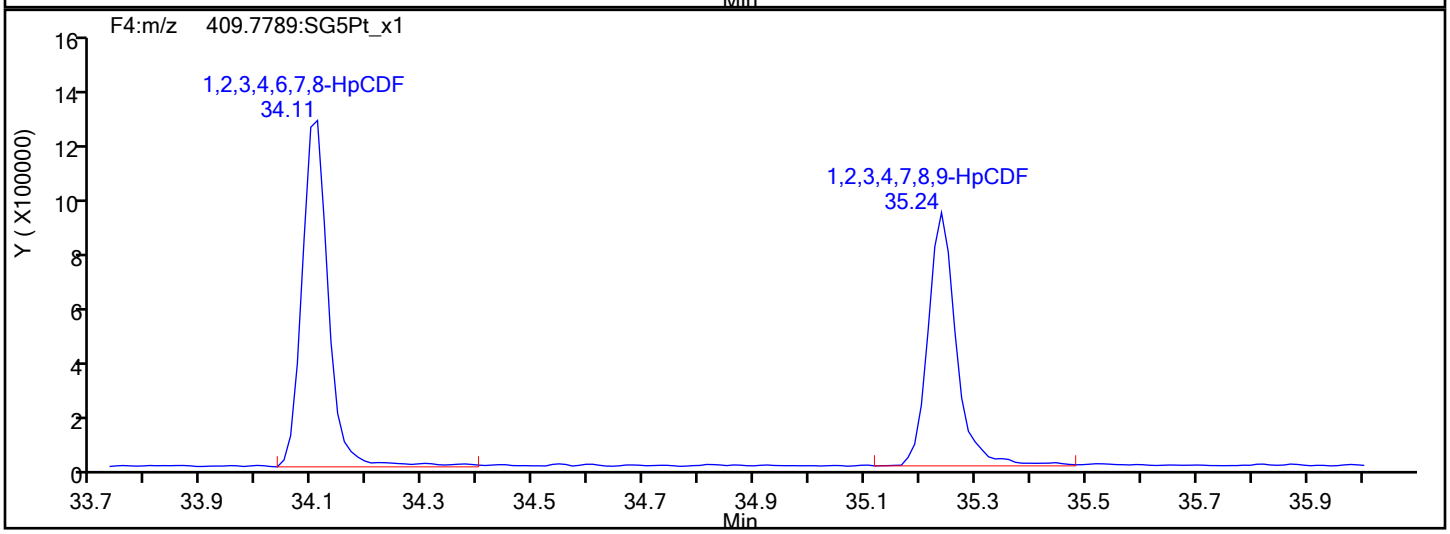

HpCDF Interference Mass

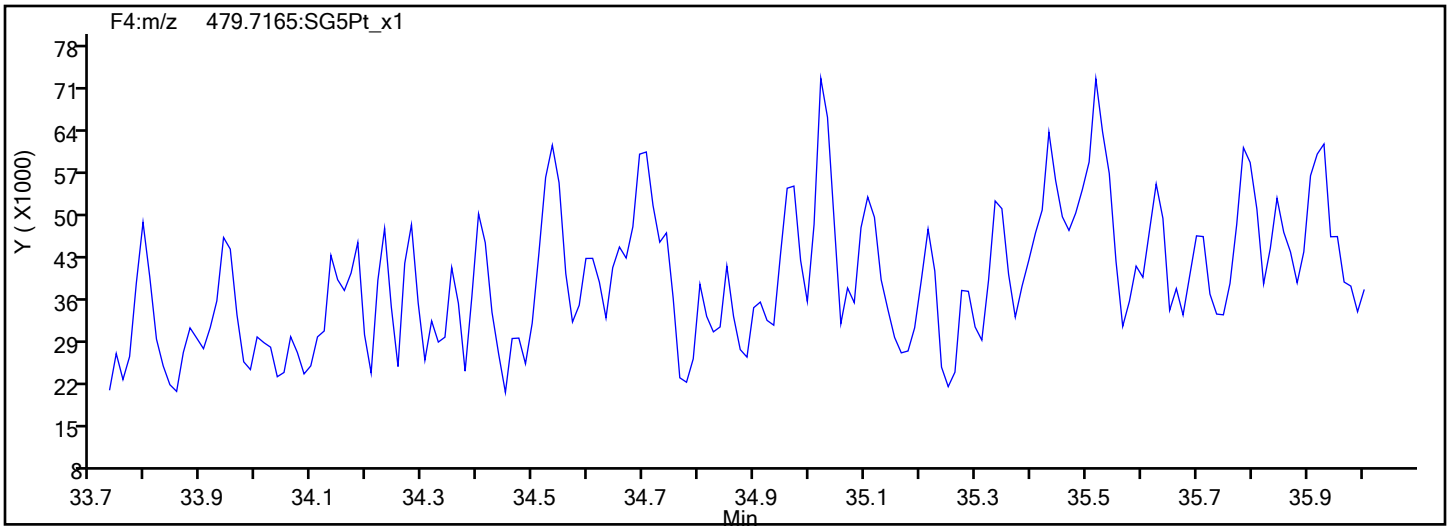

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Eurofins TestAmerica, Sacramento

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HpCDD

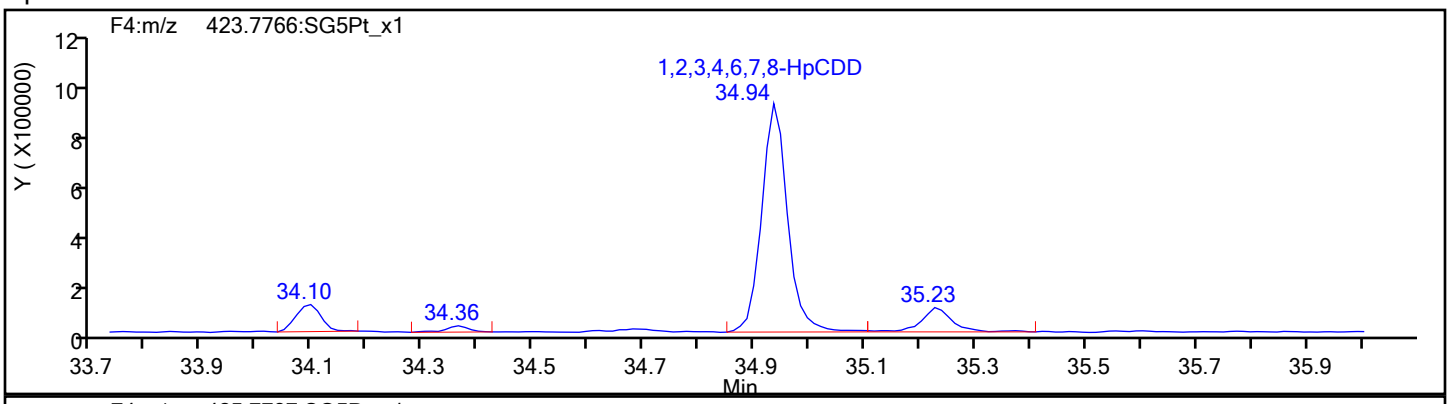

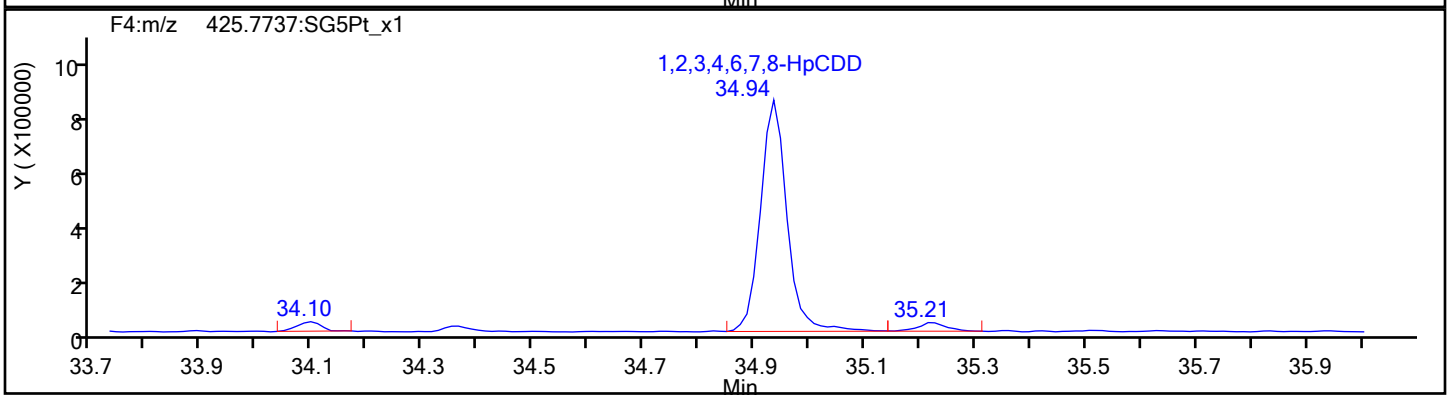

HpCDD Standards

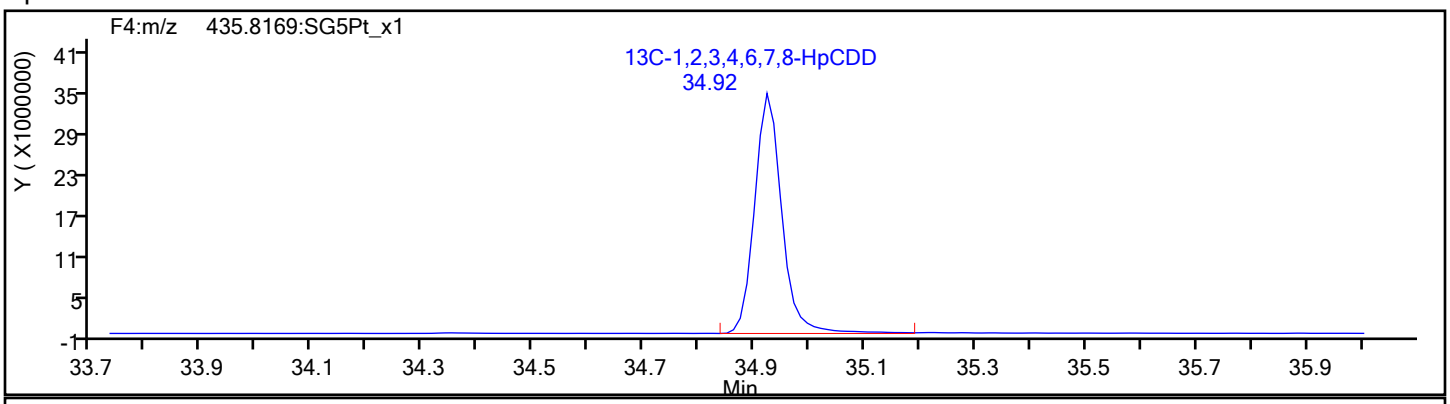

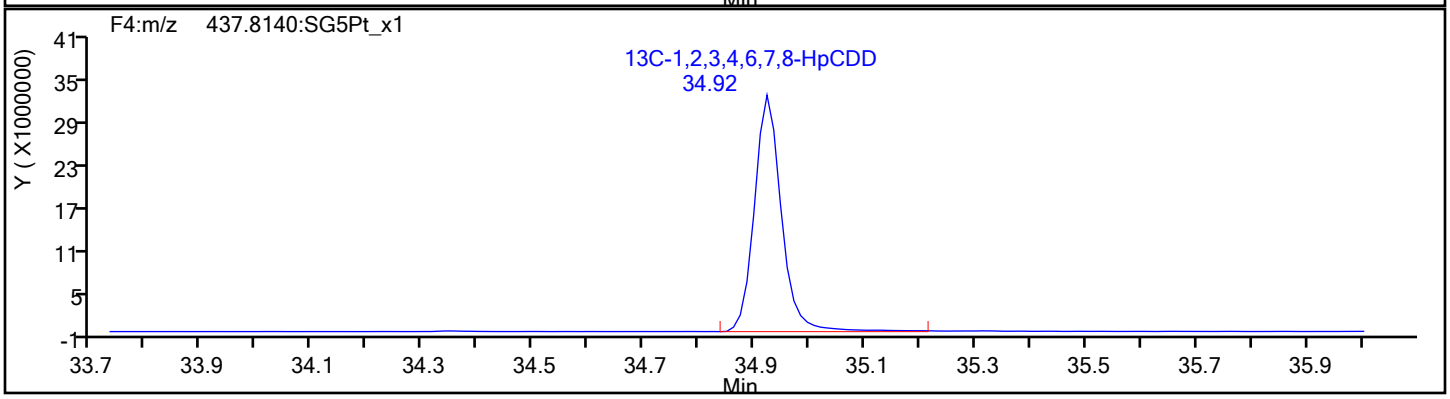

Report Date: 22-May-2019 11:44:13 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_3.d		
Injection Date:	21-May-2019 13:31:22	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L2		
Worklist#:	296020	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

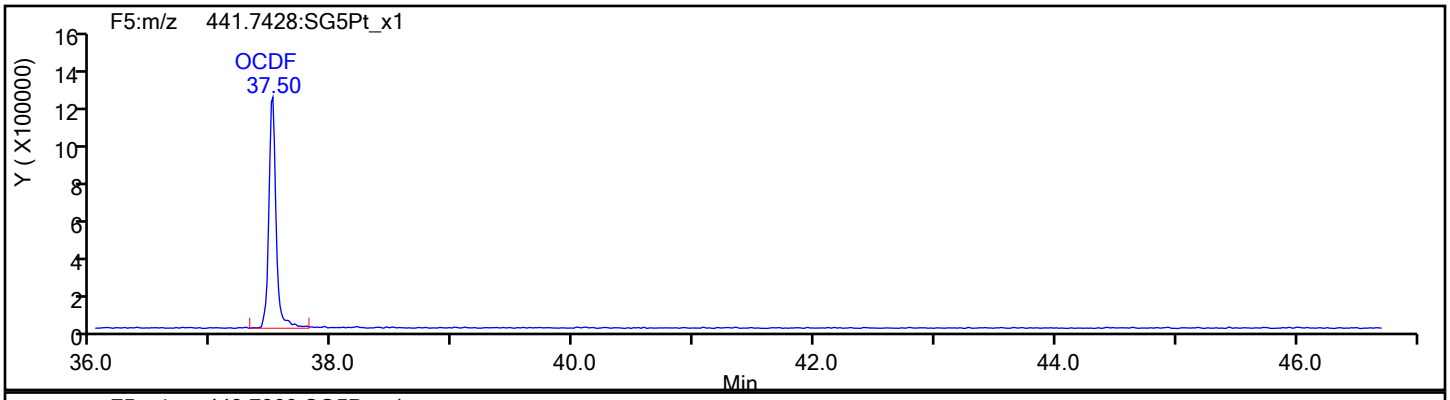

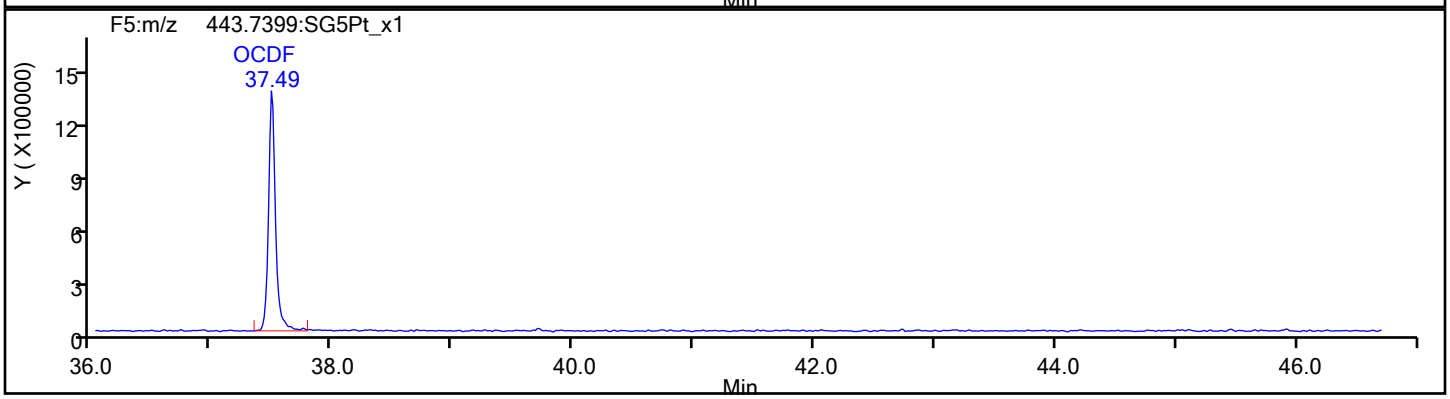

OCDF Standards

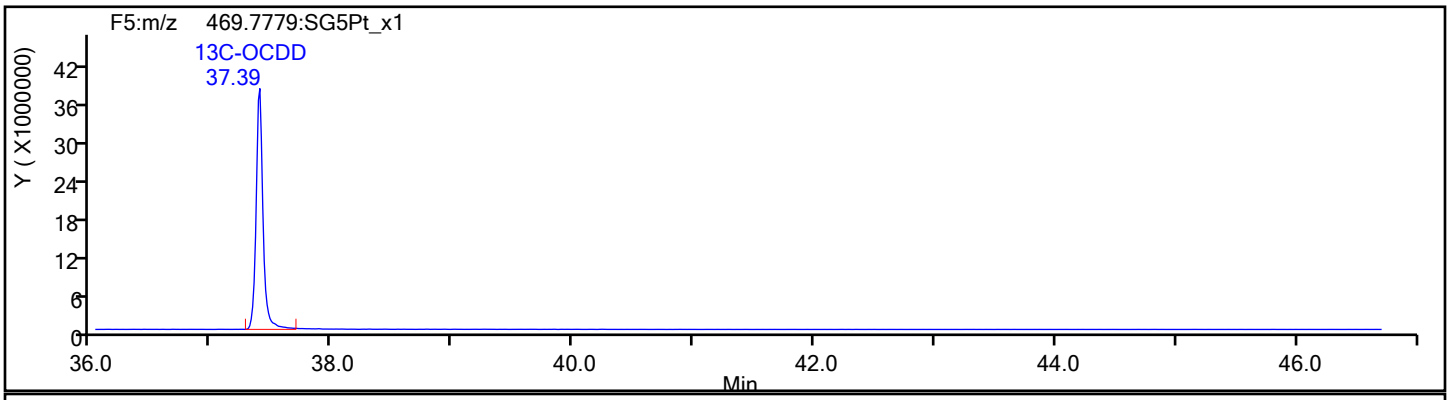

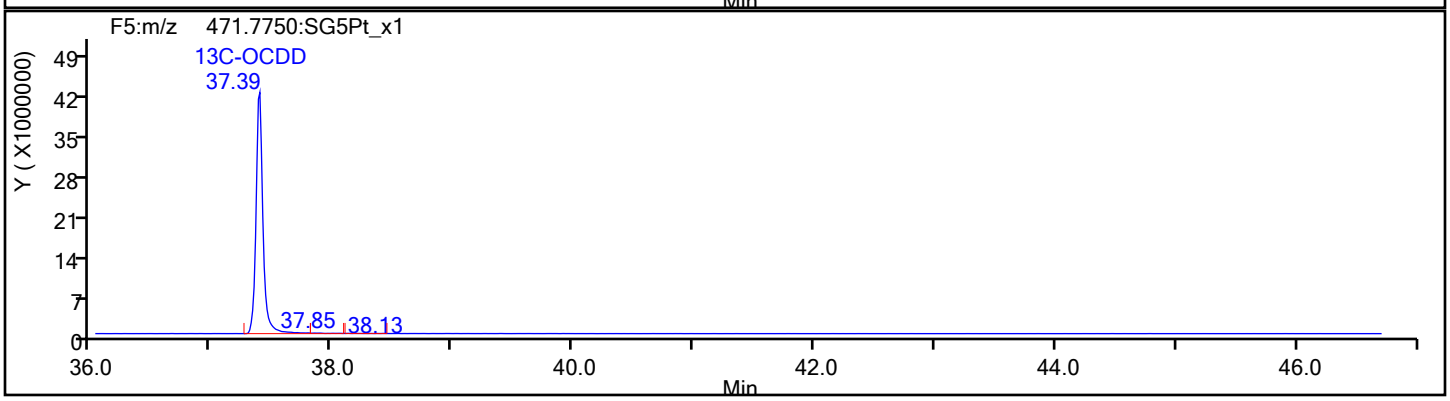

Report Date: 22-May-2019 11:44:13 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_3.d		
Injection Date:	21-May-2019 13:31:22	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L2		
Worklist#:	296020	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

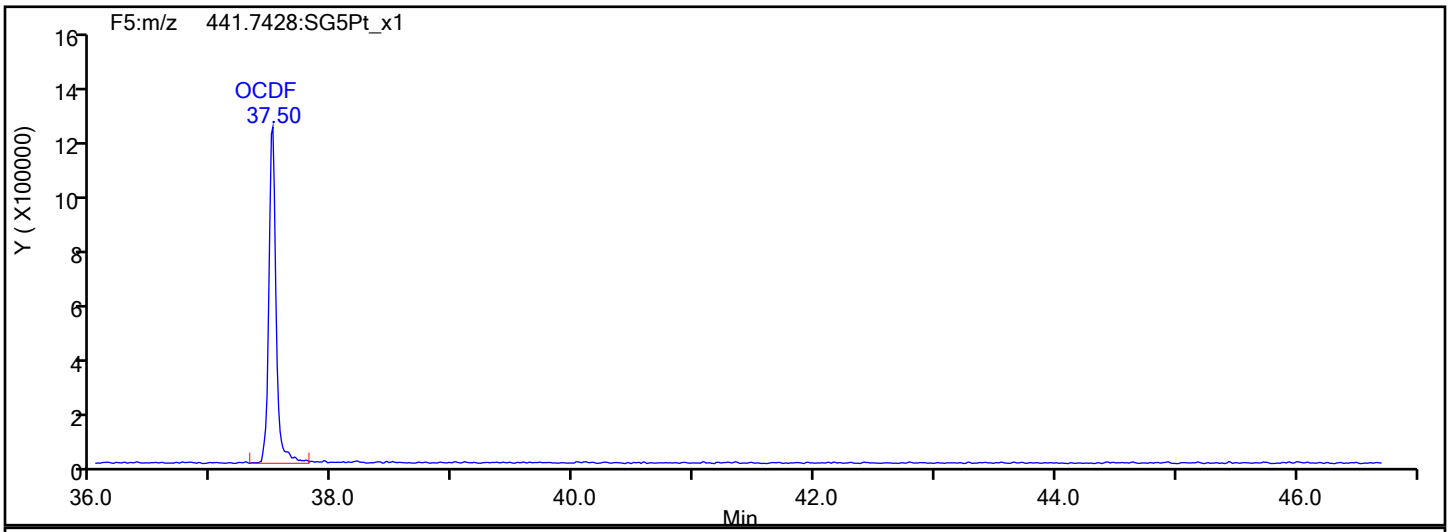

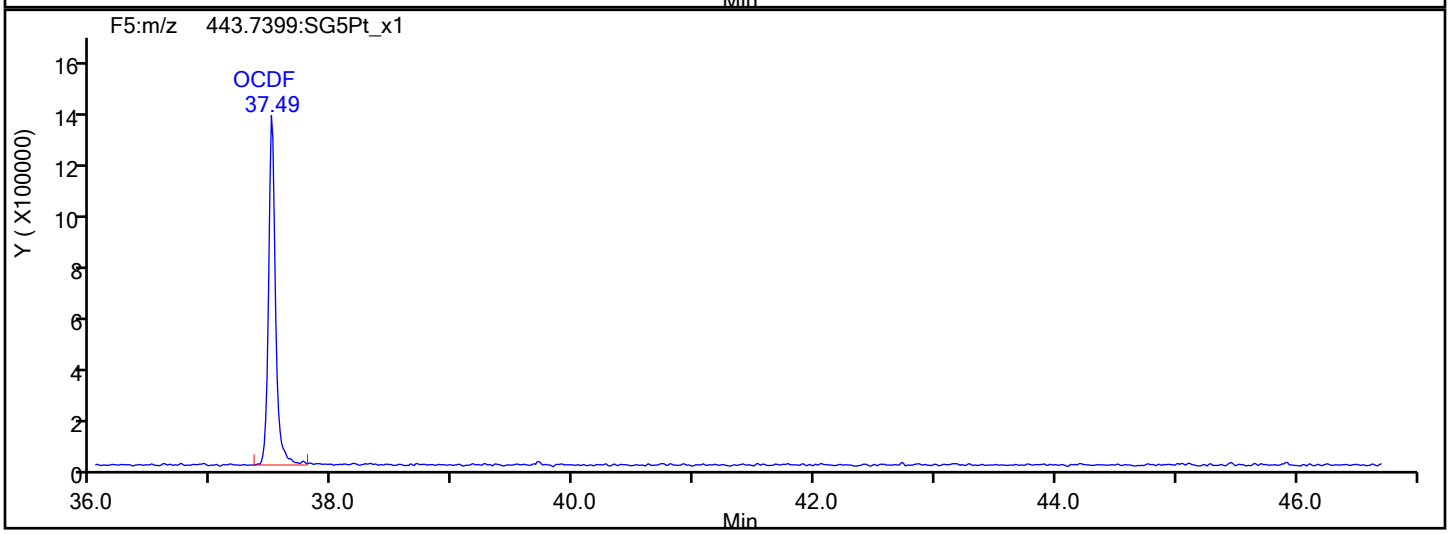

OCDF Interference Mass

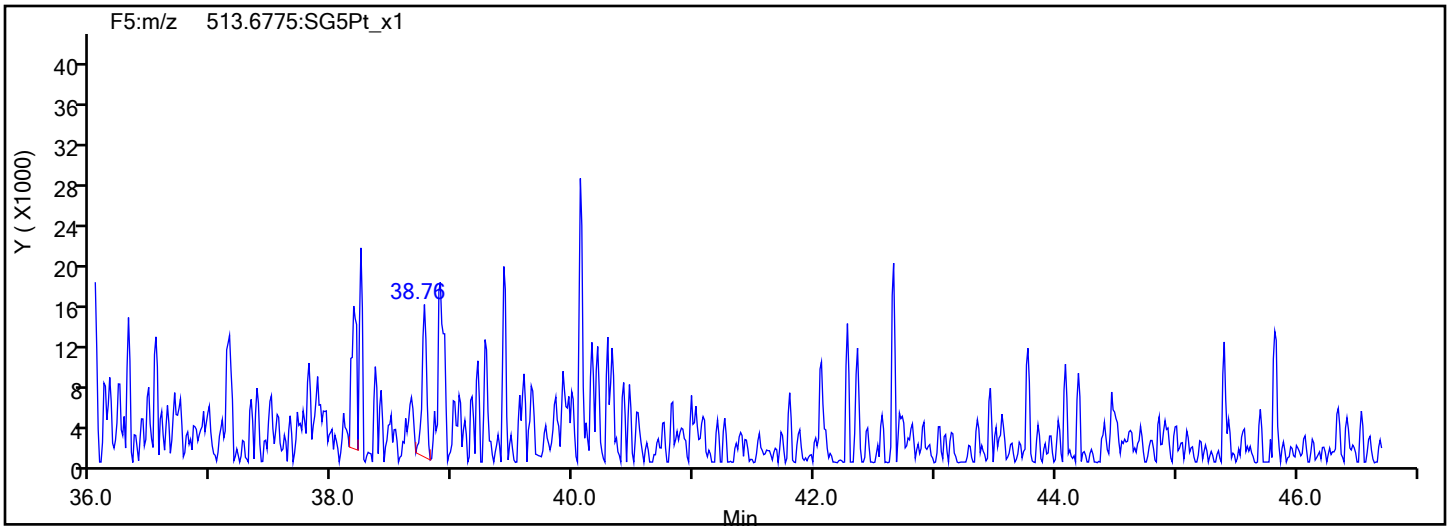

Report Date: 22-May-2019 11:44:13 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_3.d		
Injection Date:	21-May-2019 13:31:22	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L2		
Worklist#:	296020	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

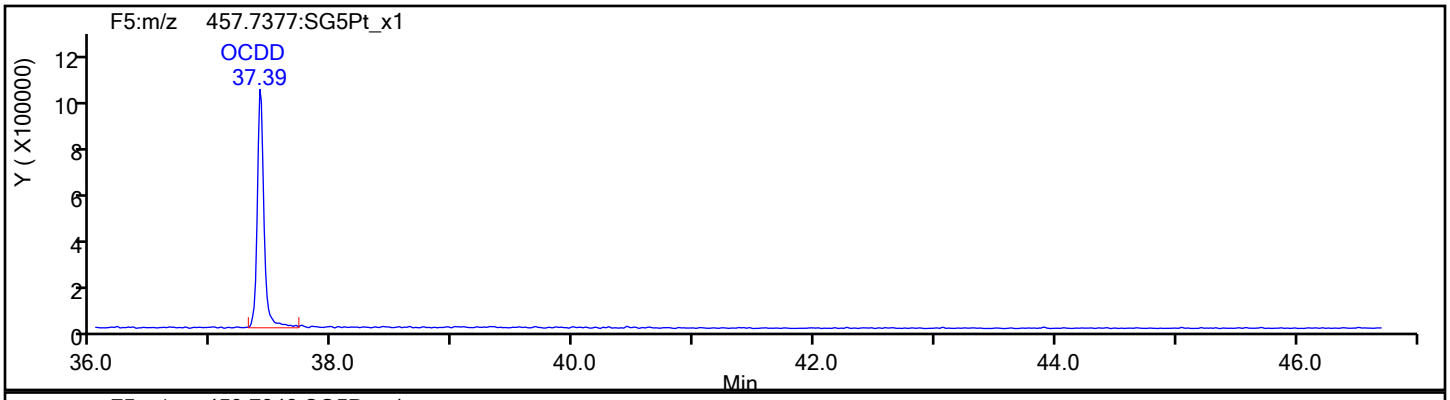

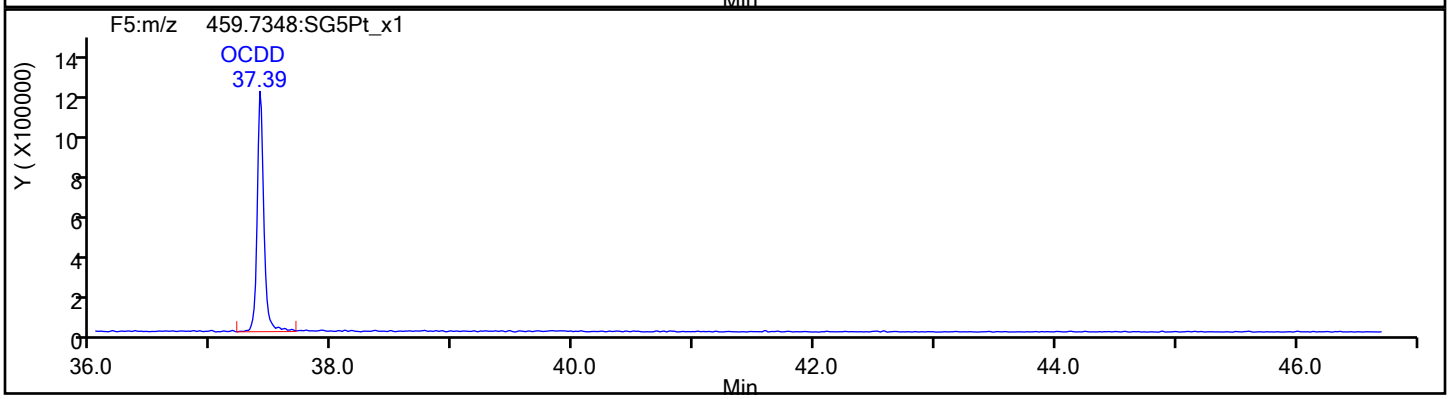

OCDD Standards

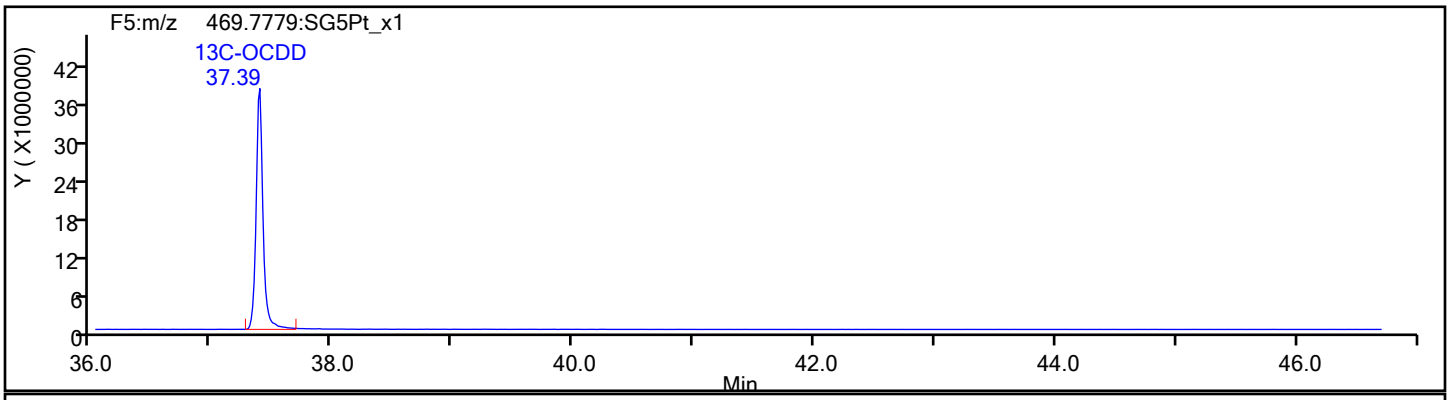

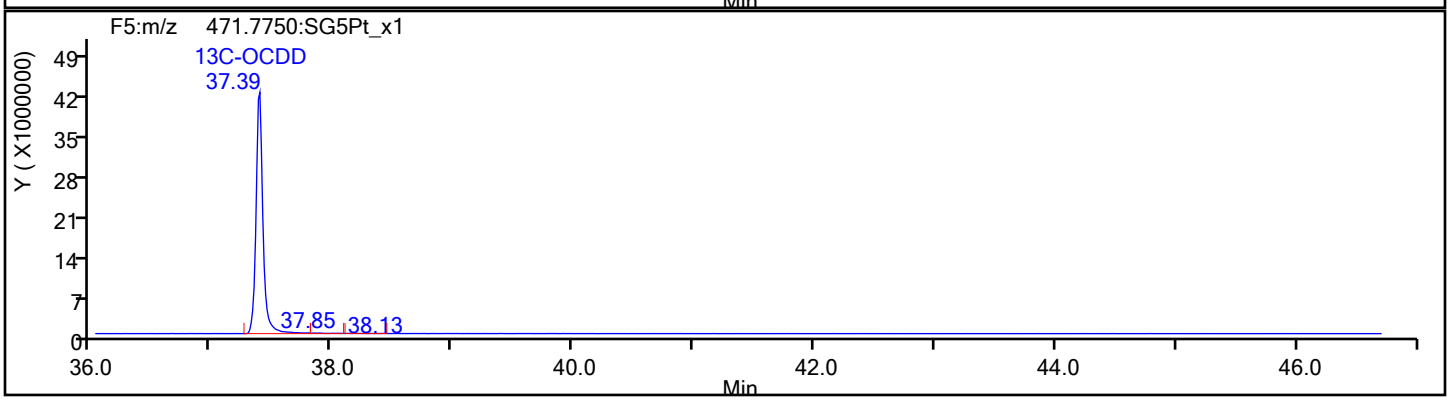

Report Date: 22-May-2019 11:44:13 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_3.d		
Injection Date:	21-May-2019 13:31:22	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L2		
Worklist#:	296020	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

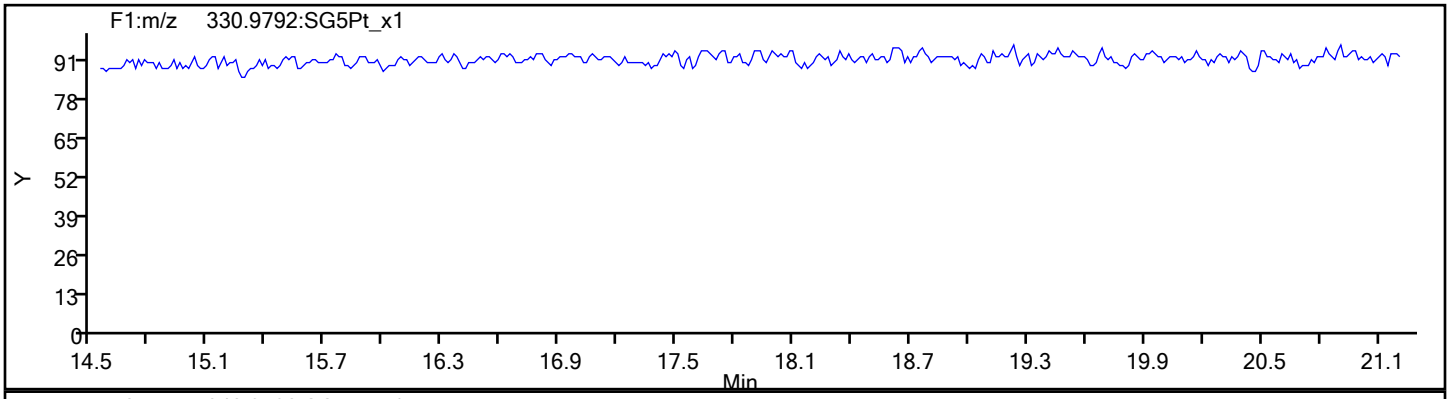

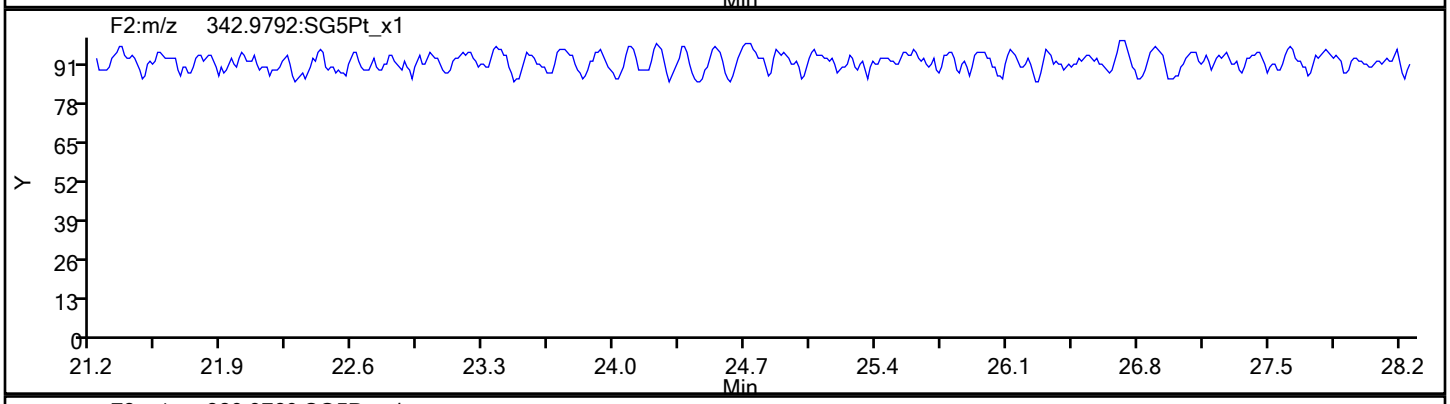

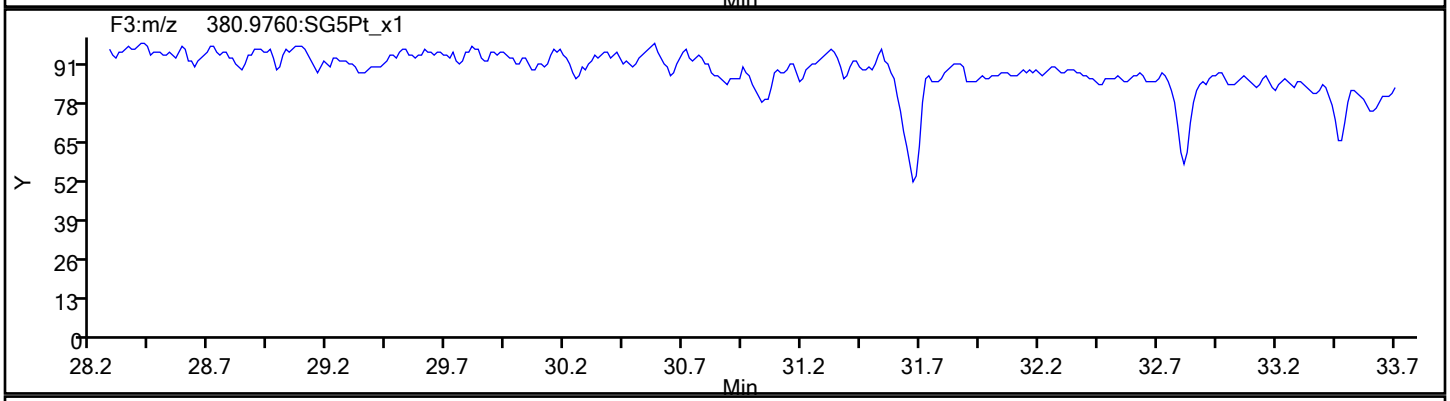

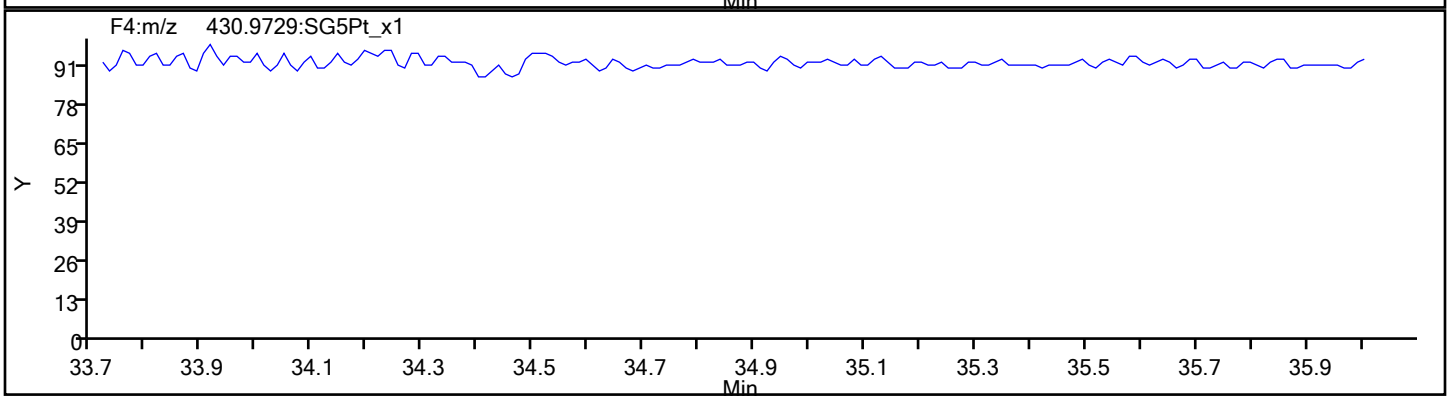

Report Date: 22-May-2019 11:44:13 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_3.d		
Injection Date:	21-May-2019 13:31:22	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L2		
Worklist#:	296020	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

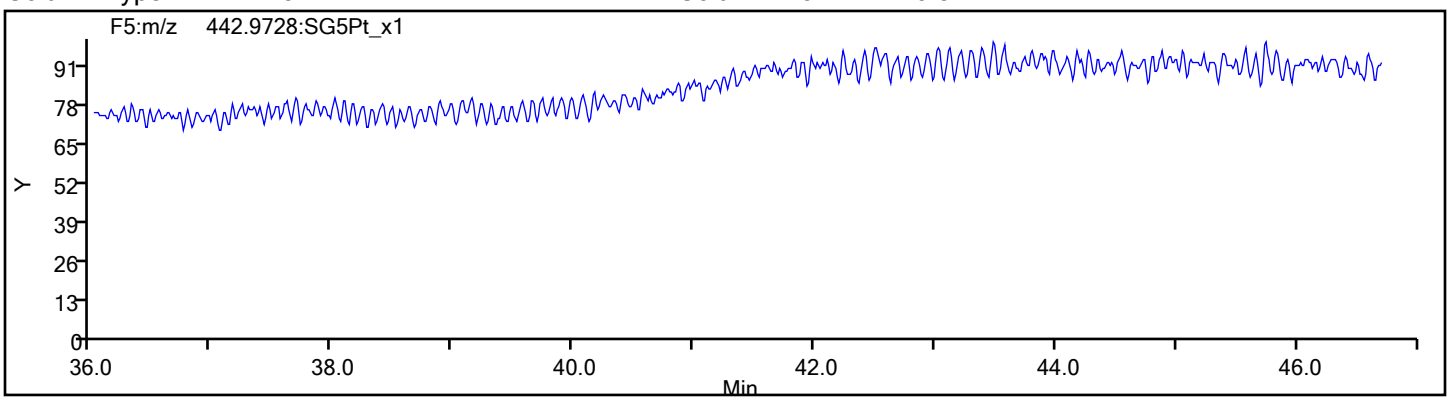

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_4.d
Lims ID: IC 3
Client ID: L3
Sample Type: IC Calib Level: 3
Inject. Date: 21-May-2019 14:18:50 ALS Bottle#: 5 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 052119A CS-3 HRDXNL3_00022
Misc. Info.: 21MY193D5
Operator ID: AJS Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 22-May-2019 11:44:24 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: shardaa Date: 21-May-2019 15:15:40

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.429	310316271	0.83	3.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.900	413896652	0.79	1.3908	95.9	95.9	0.2164	0.2164	95.90	
2,3,7,8-TCDF	17.915	8507151	0.76	0.9710	2.117	2.117	0.0265	0.0265	106	
S Total TCDF					2.117	2.117	0.0265	0.0265		
D 13C-2,3,7,8-TCDD	18.626	294655621	0.78	0.9819	96.7	96.7	0.2316	0.2316	96.71	
2,3,7,8-TCDD	18.656	6396242	0.75	1.0447	2.078	2.078	0.0329	0.0329	104	
$ 37Cl4-2,3,7,8-TCDD	18.656	7124853		1.2205	1.881	1.881	0.0280	0.0280	94.06	
S Total TCDD					2.078	2.078	0.0329	0.0329		
D 13C-1,2,3,7,8-PeCDF	23.107	342759465	1.59	1.1585	95.3	95.3	0.2653	0.2653	95.35	
1,2,3,7,8-PeCDF	23.134	34842727	1.56	0.9633	10.6	10.6	0.0668	0.0668	106	
D 13C-2,3,4,7,8-PeCDF	24.484	361518043	1.59	1.1532	101.0	101.0	0.2665	0.2665	101	
2,3,4,7,8-PeCDF	24.512	34688810	1.57	0.9495	10.1	10.1	0.0692	0.0692	101	
S Total PeCDF					20.7	20.7	0.0680	0.0680		
D 13C-1,2,3,7,8-PeCDD	25.234	223121425	1.56	0.7431	96.8	96.8	0.1324	0.1324	96.76	
1,2,3,7,8-PeCDD	25.262	24806651	1.64	1.0635	10.5	10.5	0.0773	0.0773	105	
S Total PeCDD					10.5	10.5	0.0773	0.0773		
D 13C-1,2,3,4,7,8-HxCDF	31.058	249870872	0.52	0.9837	99.2	99.2	0.3834	0.3834	99.16	
1,2,3,4,7,8-HxCDF	31.071	31309357	1.23	1.2173	10.3	10.3	0.0647	0.0647	103	
D 13C-1,2,3,6,7,8-HxCDF	31.205	284216868	0.51	1.1554	96.0	96.0	0.3264	0.3264	96.03	
1,2,3,6,7,8-HxCDF	31.231	33467672	1.24	1.1311	10.4	10.4	0.0646	0.0646	104	
D 13C-2,3,4,6,7,8-HxCDF	31.924	253100793	0.54	1.0361	95.4	95.4	0.3640	0.3640	95.37	
2,3,4,6,7,8-HxCDF	31.950	31515470	1.21	1.1710	10.6	10.6	0.0555	0.0555	106	
D 13C-1,2,3,7,8,9-HxCDF	32.682	217982814	0.51	0.9034	94.2	94.2	0.4175	0.4175	94.19	
1,2,3,7,8,9-HxCDF	32.696	27006700	1.24	1.1787	10.5	10.5	0.0613	0.0613	105	
S Total HxCDF					41.8	41.8	0.0615	0.0615		
* 13C-1,2,3,7,8,9-HxCDD	32.496	256154728	1.29	2.6E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	32.097	214549850	1.27	0.8287	101.1	101.1	0.2887	0.2887	101	
1,2,3,4,7,8-HxCDD	32.110	22229107	1.24	1.0267	10.1	10.1	0.0801	0.0801	101	
D 13C-1,2,3,6,7,8-HxCDD	32.190	230647502	1.26	0.9495	94.8	94.8	0.2520	0.2520	94.84	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	32.216	23903470	1.21	0.9771	10.6	10.6	0.0849	0.0849	106	
1,2,3,7,8,9-HxCDD	32.523	25265795	1.28	1.0616	10.7	10.7	0.0778	0.0778	107	
S Total HxCDD					31.4	31.4	0.0810	0.0810		
D 13C-1,2,3,4,6,7,8-HpCDF	34.097	177773786	0.45	0.7285	95.3	95.3	0.6497	0.6497	95.27	
1,2,3,4,6,7,8-HpCDF	34.109	27002265	1.07	1.4373	10.6	10.6	0.1000	0.1000	106	
D 13C-1,2,3,4,7,8,9-HpCDF	35.239	167226325	0.44	0.6556	99.6	99.6	0.7219	0.7219	99.57	
1,2,3,4,7,8,9-HpCDF	35.251	22029367	1.09	1.3091	10.1	10.1	0.1374	0.1374	101	
S Total HpCDF					20.6	20.6	0.1187	0.1187		
D 13C-1,2,3,4,6,7,8-HpCDD	34.935	171291409	1.04	0.6978	95.8	95.8	0.3132	0.3132	95.82	
1,2,3,4,6,7,8-HpCDD	34.947	18276752	1.12	1.0102	10.6	10.6	0.0852	0.0852	106	
S Total HpCDD					10.6	10.6	0.0852	0.0852		
D 13C-OCDD	37.395	227149918	0.91	0.4780	185.5	185.5	0.1906	0.1906	92.77	
OCDF	37.503	32555639	0.89	1.3501	21.2	21.2	0.0595	0.0595	106	
OCDD	37.407	25589607	0.86	1.0627	21.2	21.2	0.0621	0.0621	106	

Reagents:

HRDXNL3_00022 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_4.d
Lims ID: IC 3
Client ID: L3
Sample Type: IC Calib Level: 3
Inject. Date: 21-May-2019 14:18:50 ALS Bottle#: 5 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 052119A CS-3 HRDXNL3_00022
Misc. Info.: 21MY193D5
Operator ID: AJS Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 22-May-2019 11:44:24 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: shardaa Date: 21-May-2019 15:15:40

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.429	18.432	0		140590507	33497670	45867	114667	730		
333.9339	18.429	18.432	0		169725764	39965720	20964	52410	1906	0.83(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.900	17.900	0	0.971	183107277	42390083	41657	104142	1018		
317.9389	17.900	17.900	0	0.971	230789375	53791143	46798	116995	1149	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.915	17.915	0	1.001	3674027	900401	3467	8667	260		
305.8987	17.915	17.915	0	1.001	4833124	1119459	6429	16072	174	0.76(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	18.626	18.629	0	1.011	129420255	28813661	45867	114667	628		
333.9339	18.626	18.629	0	1.011	165235366	37242633	20964	52410	1777	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.656	18.650	0	1.002	2750476	616798	6357	15892	97		
321.8936	18.656	18.650	0	1.002	3645766	841077	2725	6812	309	0.75(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.656	18.650	0	1.012	7124853	1608772	10054	25135	160		
13C-1,2,3,7,8-PeCDF											
351.9000	23.107	23.102	0	1.254	210447264	35221454	53434	133585	659		
353.8970	23.107	23.102	0	1.254	132312201	22597192	36880	92200	613	1.59(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	23.134	23.123	1	1.001	21225388	3573393	6476	16190	552		
341.8567	23.121	23.123	0	1.001	13617339	2291357	8397	20992	273	1.56(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	24.484	24.487	0	1.329	222061288	34738175	53434	133585	650		
353.8970	24.484	24.487	0	1.329	139456755	21846000	36880	92200	592	1.59(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	24.512	24.512	0	1.001	21194086	3384085	6476	16190	523		
341.8567	24.512	24.512	0	1.001	13494724	2175642	8397	20992	259	1.57(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	25.234	25.237	0	1.369	135970890	20433668	15844	39610	1290		
369.8919	25.234	25.237	0	1.369	87150535	13005284	13057	32642	996	1.56(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	25.262	25.264	0	1.001	15418995	2298978	7621	19052	302		
357.8516	25.262	25.264	0	1.001	9387656	1383834	3376	8440	410	1.64(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	31.058	31.050	0	0.956	85701673	18684130	37378	93445	500		
385.8610	31.058	31.050	0	0.956	164169199	35549337	65606	164015	542	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	31.071	31.069	0	1.000	17290998	3917632	9223	23057	425		
375.8178	31.071	31.069	0	1.000	14018359	3225713	7862	19655	410	1.23(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	31.205	31.202	0	0.960	95757374	20232501	37378	93445	541		
385.8610	31.205	31.202	0	0.960	188459494	38244778	65606	164015	583	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	31.231	31.223	0	1.001	18527969	4112338	9223	23057	446		
375.8178	31.218	31.223	0	1.000	14939703	3243221	7862	19655	413	1.24(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.924	31.923	0	0.982	88513662	23049811	37378	93445	617		
385.8610	31.924	31.923	0	0.982	164587131	42702099	65606	164015	651	0.54(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.950	31.942	0	1.001	17256945	4414181	9223	23057	479		
375.8178	31.937	31.942	0	1.000	14258525	3764632	7862	19655	479	1.21(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.682	32.674	0	1.006	73751013	20239330	37378	93445	541		
385.8610	32.682	32.674	0	1.006	144231801	38919139	65606	164015	593	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.696	32.690	0	1.000	14932342	4087062	9223	23057	443		
375.8178	32.696	32.690	0	1.000	12074358	3259223	7862	19655	415	1.24(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.496	32.499	0		144204150	38298919	34068	85170	1124		
403.8529	32.496	32.499	0		111950578	29964760	31258	78145	959	1.29(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	32.097	32.094	0	0.988	120069198	34345192	34068	85170	1008		
403.8529	32.097	32.094	0	0.988	94480652	27316417	31258	78145	874	1.27(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	32.110	32.110	0	1.000	12324615	3628397	11871	29677	306		
391.8127	32.110	32.110	0	1.000	9904492	2854417	8424	21060	339	1.24(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.190	32.192	0	0.991	128802545	33910380	34068	85170	995		
403.8529	32.190	32.192	0	0.991	101844957	27227979	31258	78145	871	1.26(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	32.216	32.208	0	1.001	13090824	3508085	11871	29677	296		
391.8127	32.203	32.208	0	1.000	10812646	2902071	8424	21060	345	1.21(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.523	32.515	0	1.013	14196640	3867913	11871	29677	326		
391.8127	32.509	32.515	0	1.013	11069155	3020401	8424	21060	359	1.28(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	34.097	34.097	0	1.049	55099975	17628473	52264	130660	337		
419.8220	34.097	34.097	0	1.049	122673811	39310377	76980	192450	511	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.109	34.104	0	1.000	13964484	4503758	21394	53485	211		
409.7789	34.109	34.104	0	1.000	13037781	4336593	11338	28345	382	1.07(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	35.239	35.232	0	1.084	50958944	14097284	52264	130660	270		
419.8220	35.239	35.232	0	1.084	116267381	31392259	76980	192450	408	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.251	35.244	0	1.000	11486016	3112286	21394	53485	145		
409.7789	35.251	35.244	0	1.000	10543351	2859827	11338	28345	252	1.09(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.935	34.928	0	1.075	87511638	25757189	30110	75275	855		
437.8140	34.935	34.928	0	1.075	83779771	24379517	29574	73935	824	1.04(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.947	34.940	0	1.000	9658086	2858633	10742	26855	266		
425.7737	34.935	34.940	0	1.000	8618666	2619626	6519	16297	402	1.12(0.88-1.20)	
13C-OCDD											
469.7779	37.395	37.392	0	1.151	108329582	27793896	13191	32977	2107		
471.7750	37.395	37.392	0	1.151	118820336	30618211	11686	29215	2620	0.91(0.76-1.02)	
OCDF											
441.7428	37.503	37.500	0	1.003	15358412	3854992	3776	9440	1021		
443.7399	37.503	37.500	0	1.003	17197227	4322547	5615	14037	770	0.89(0.76-1.02)	
OCDD											
457.7377	37.407	37.402	0	1.000	11812690	3097739	3713	9282	834		
459.7348	37.407	37.402	0	1.000	13776917	3645291	4001	10002	911	0.86(0.76-1.02)	

Reagents:

HRDXNL3_00022 Amount Added: 1.00 Units: mL

Report Date: 22-May-2019 11:44:27 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L3		
Worklist#:	296020	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

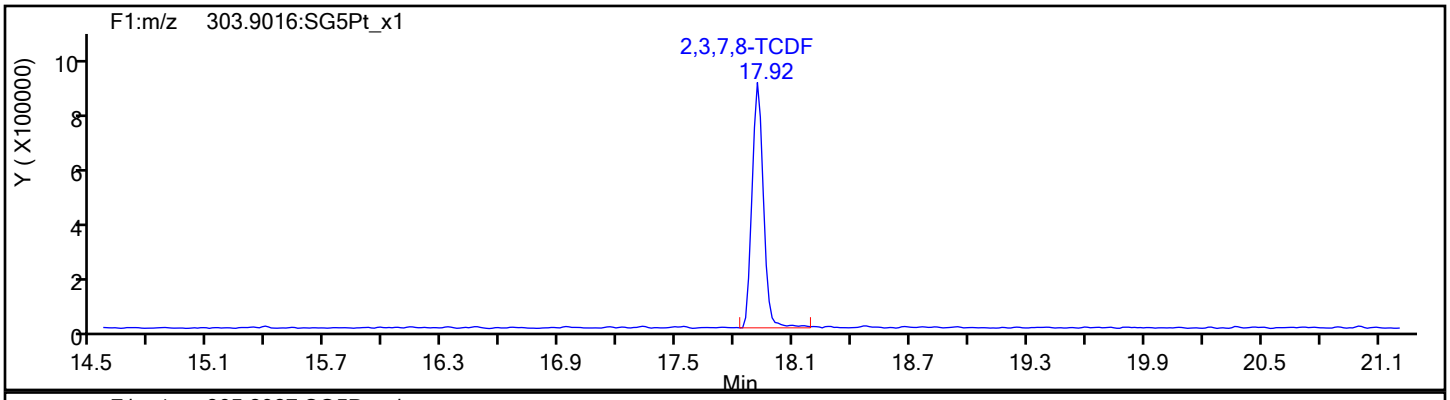

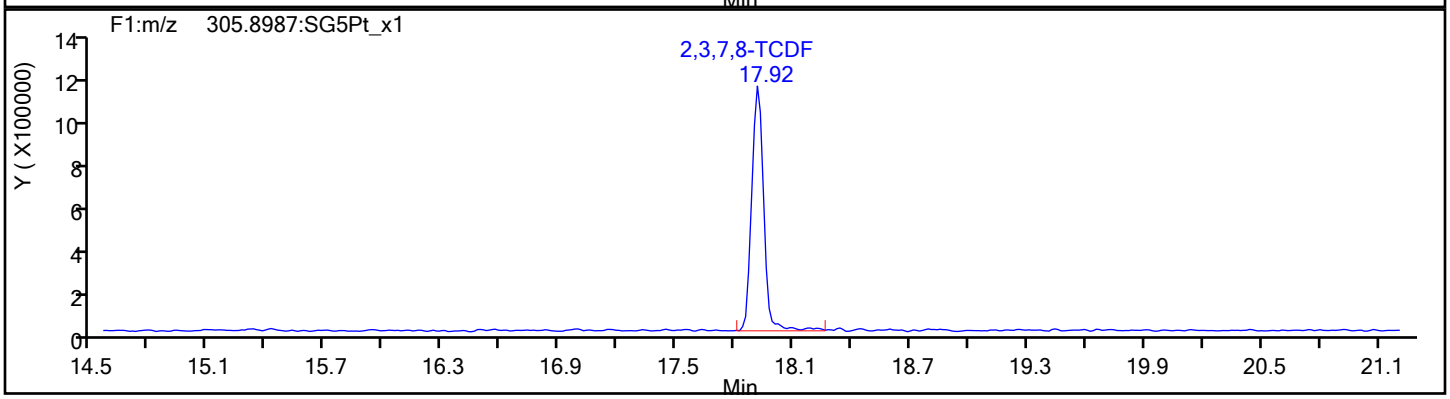

TCDF Standards

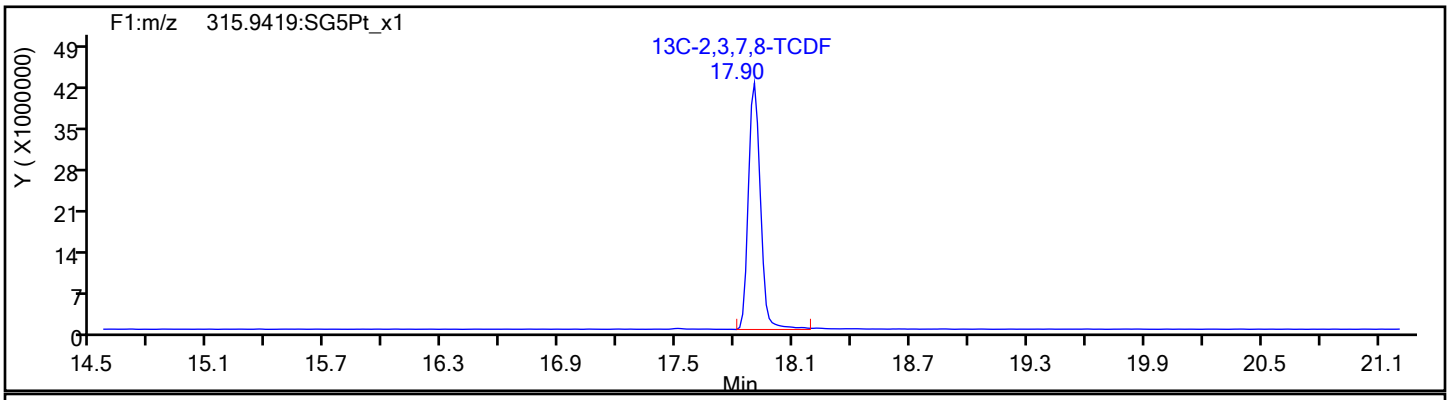

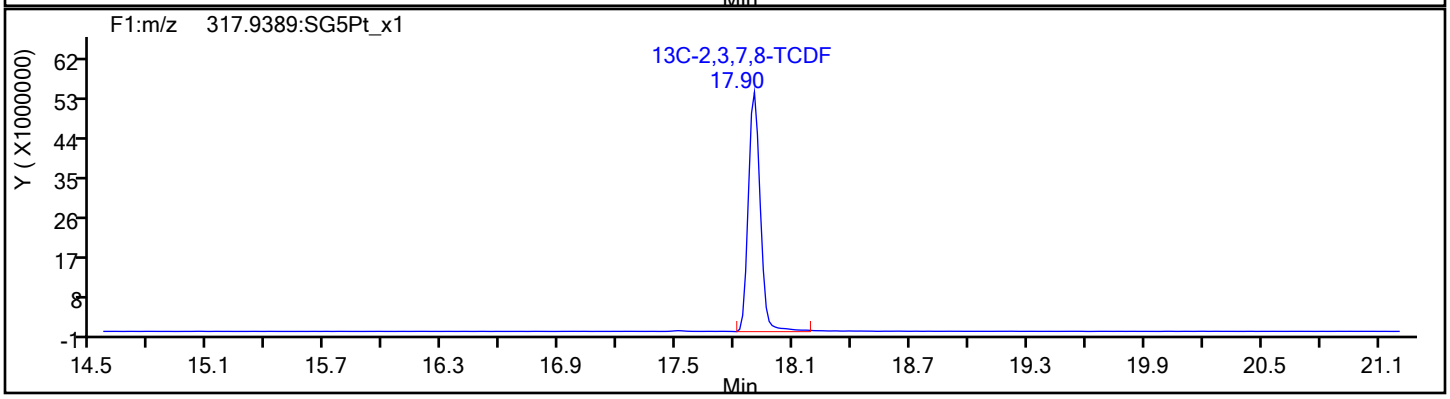

Report Date: 22-May-2019 11:44:27 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L3		
Worklist#:	296020	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

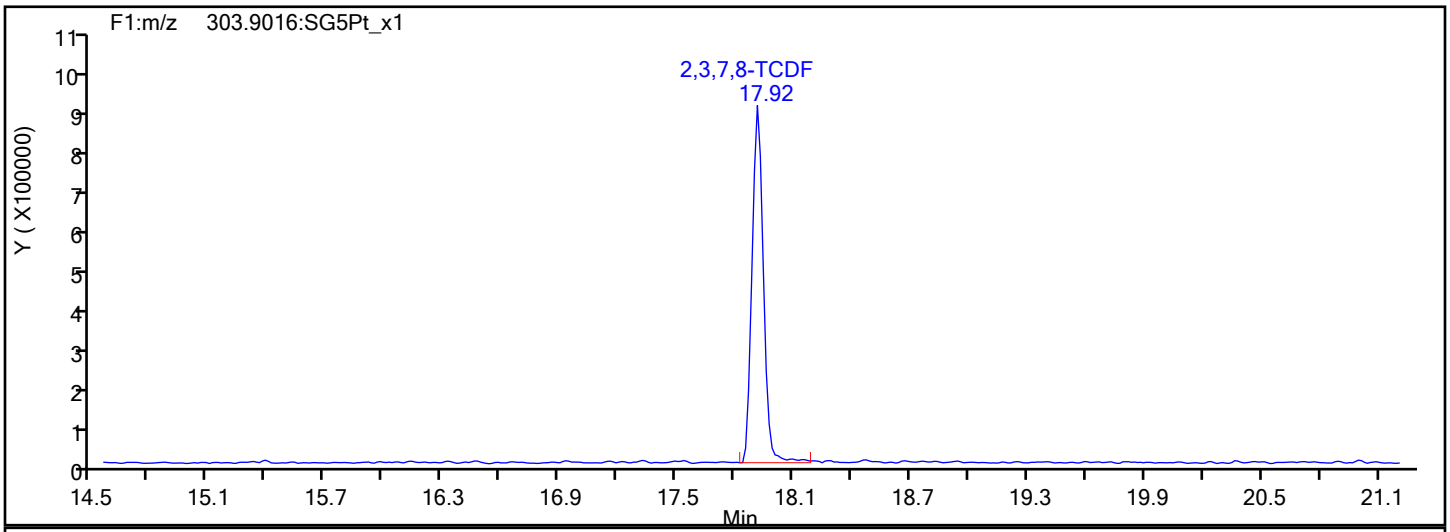

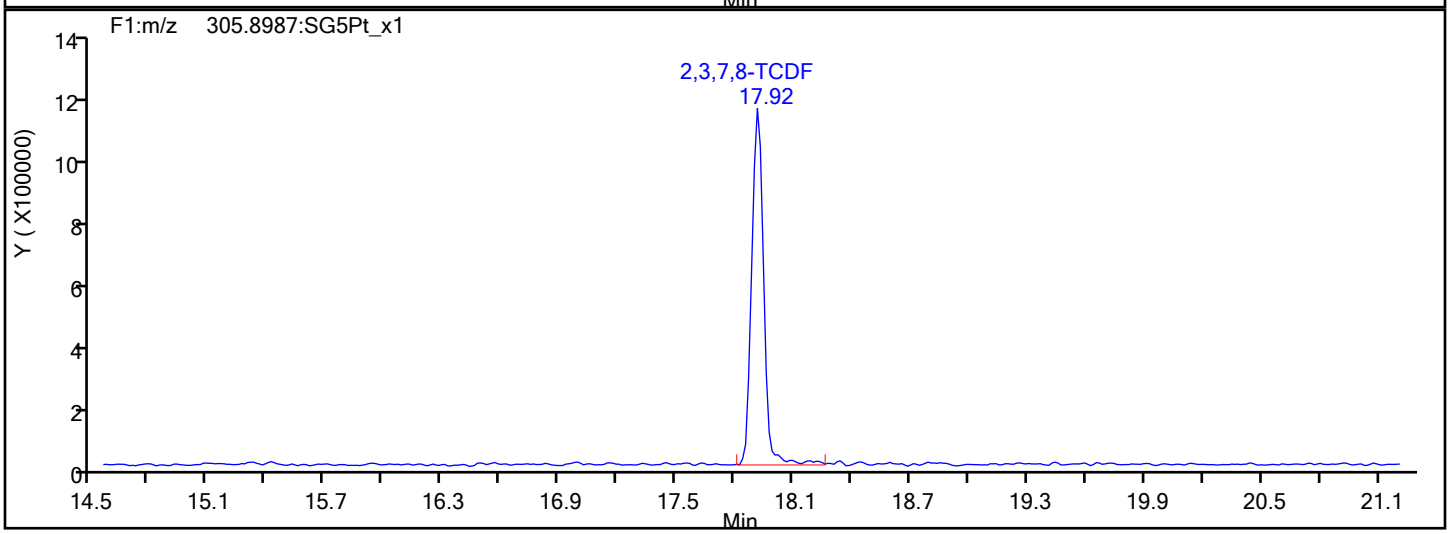

TCDF Interference Mass

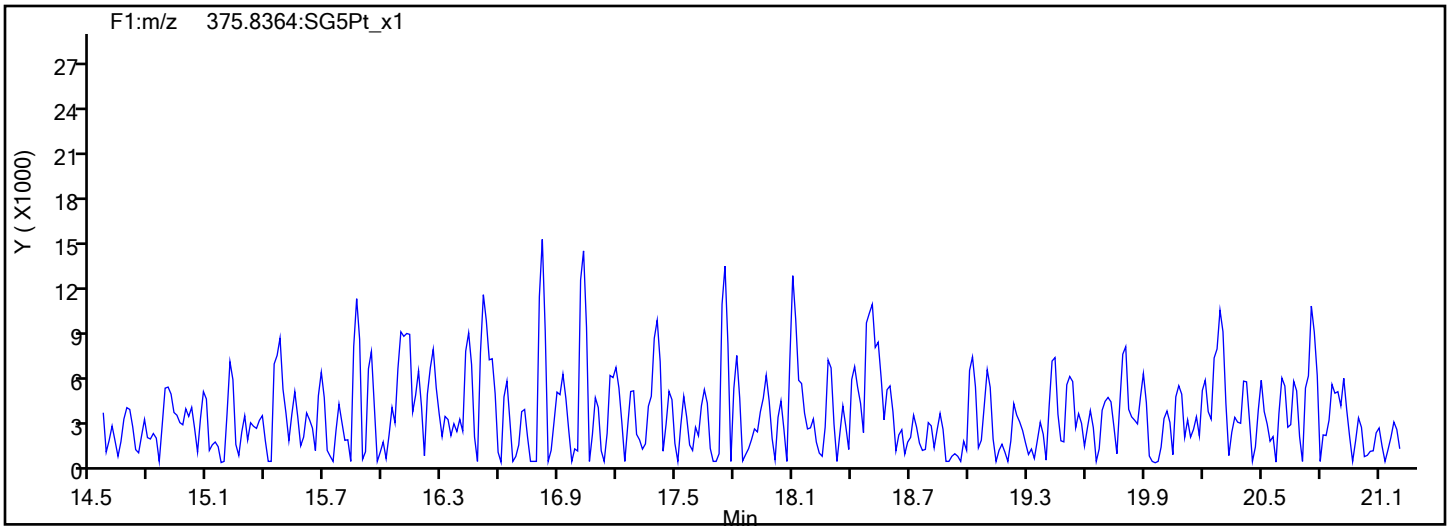

Report Date: 22-May-2019 11:44:27 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L3		
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

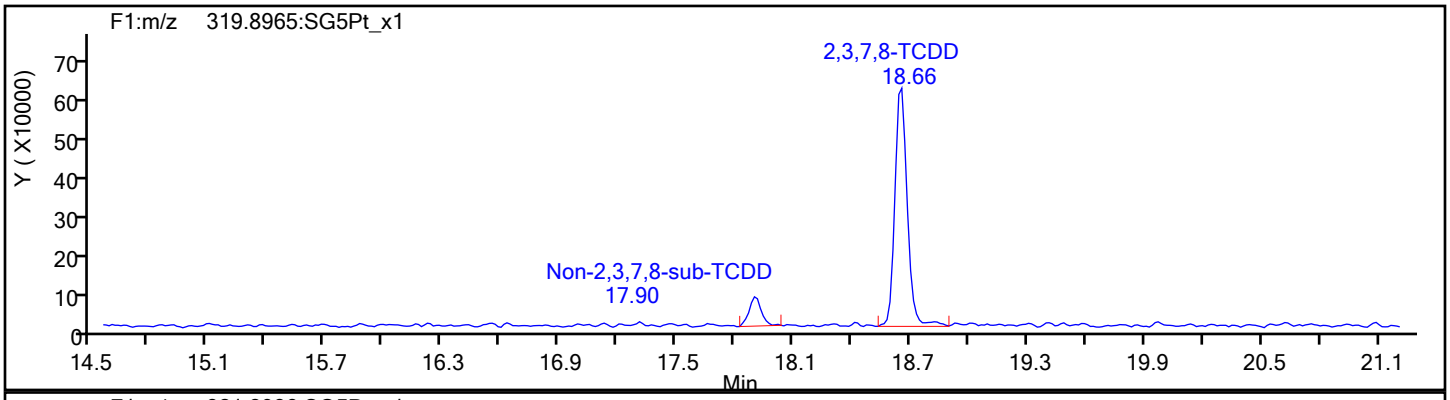

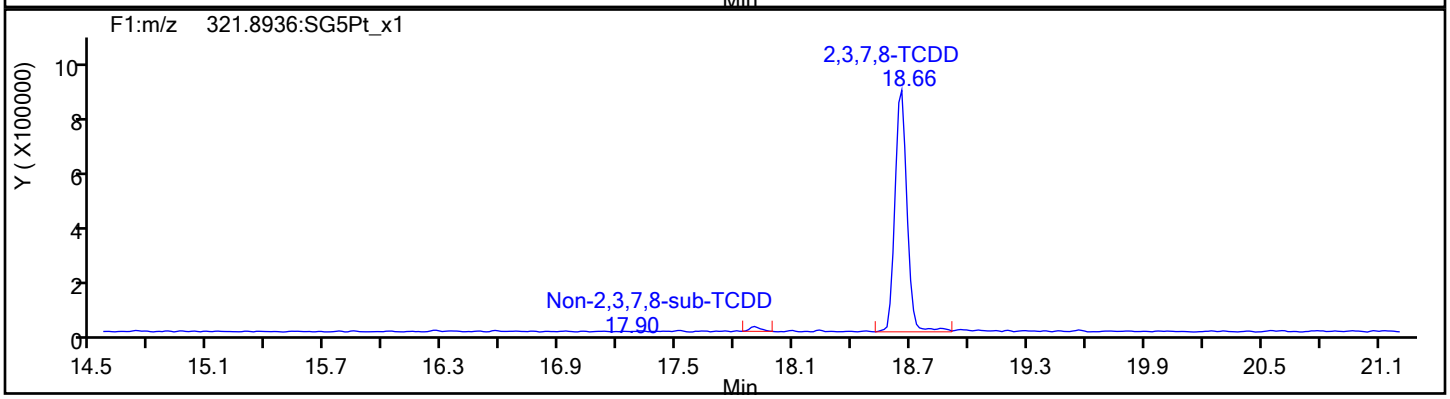

TCDD Standards

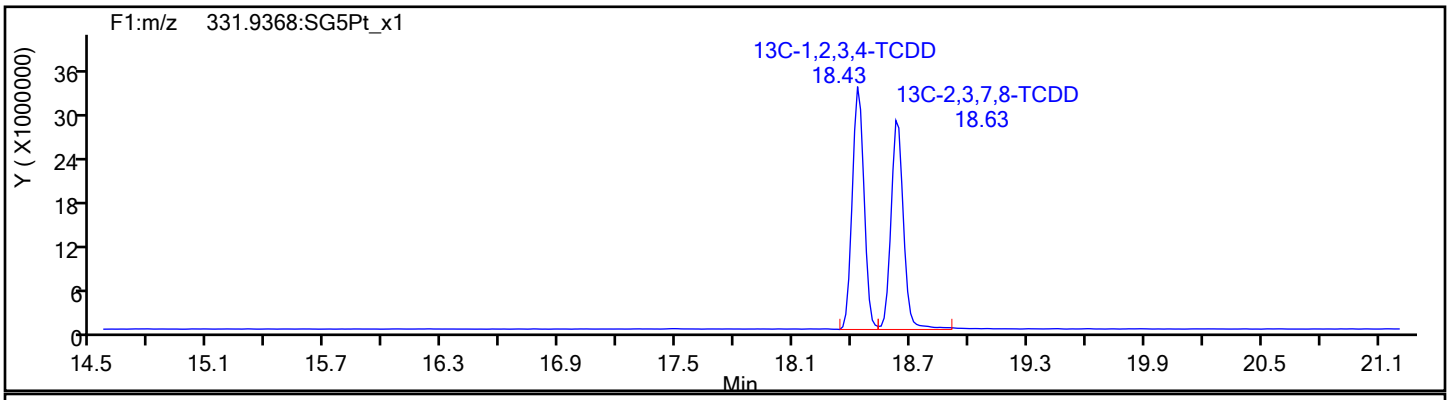

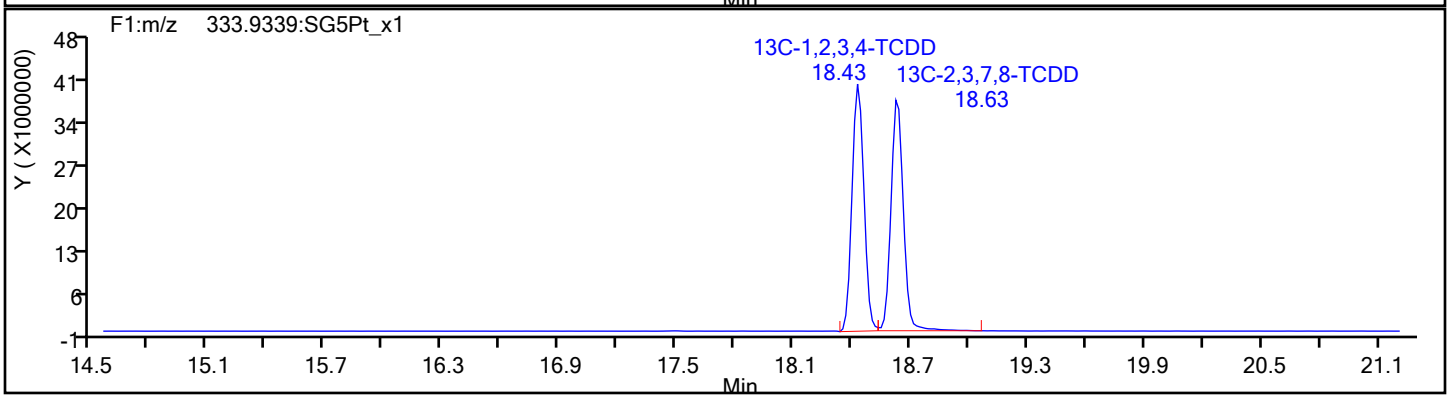

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Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

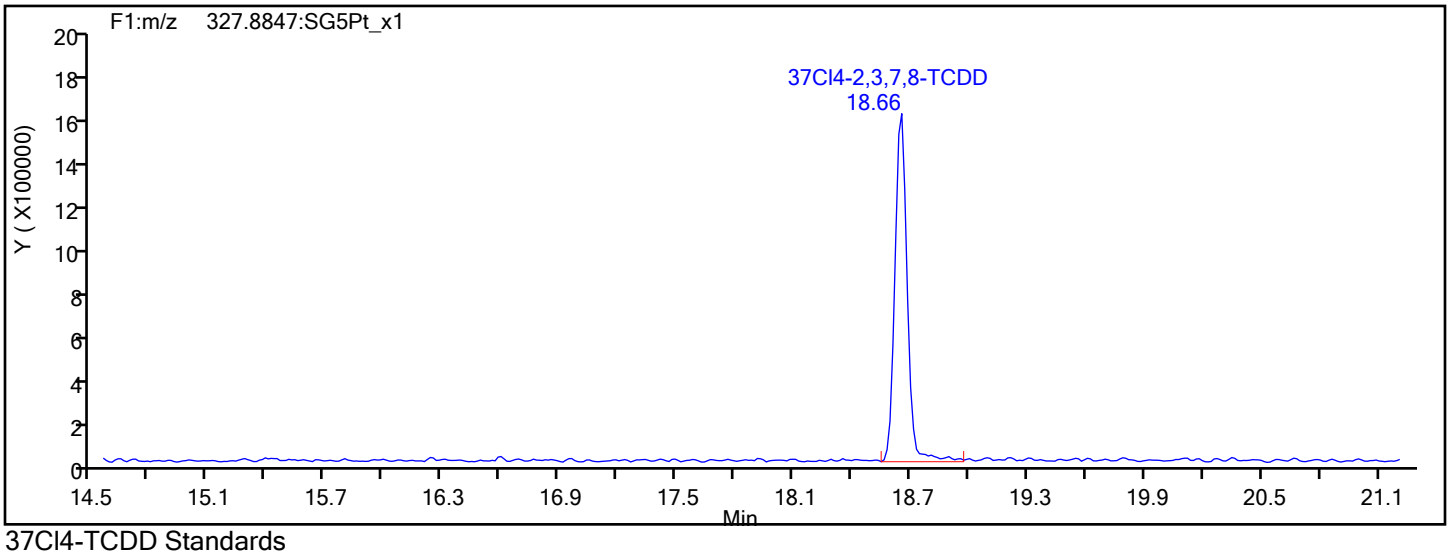

37Cl4-TCDD Standards

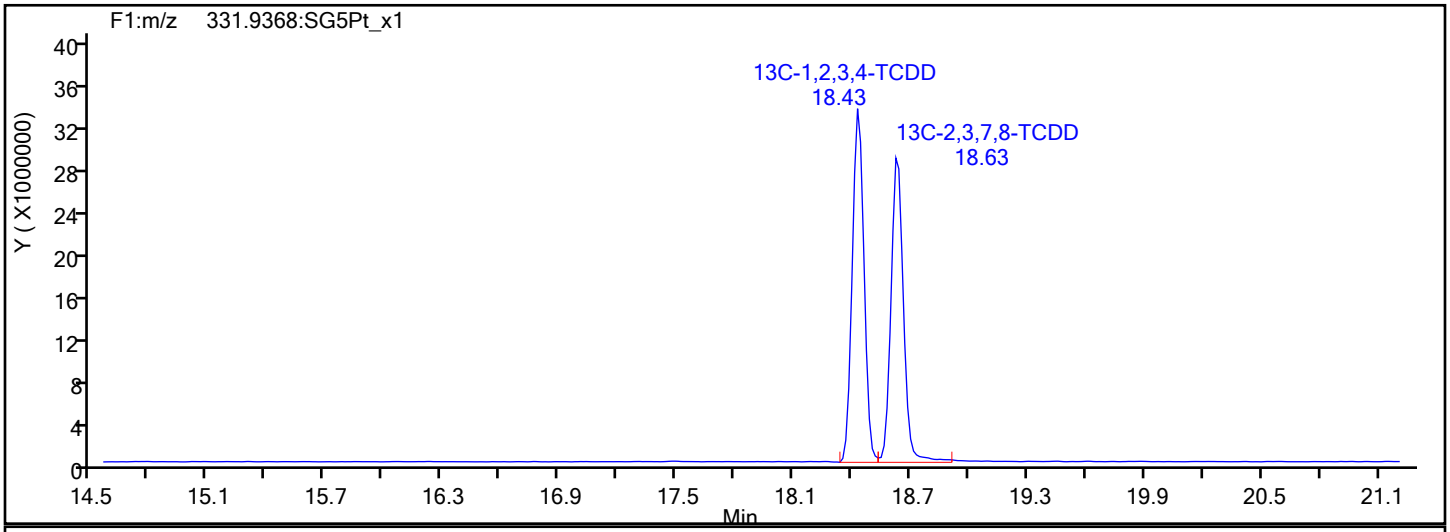

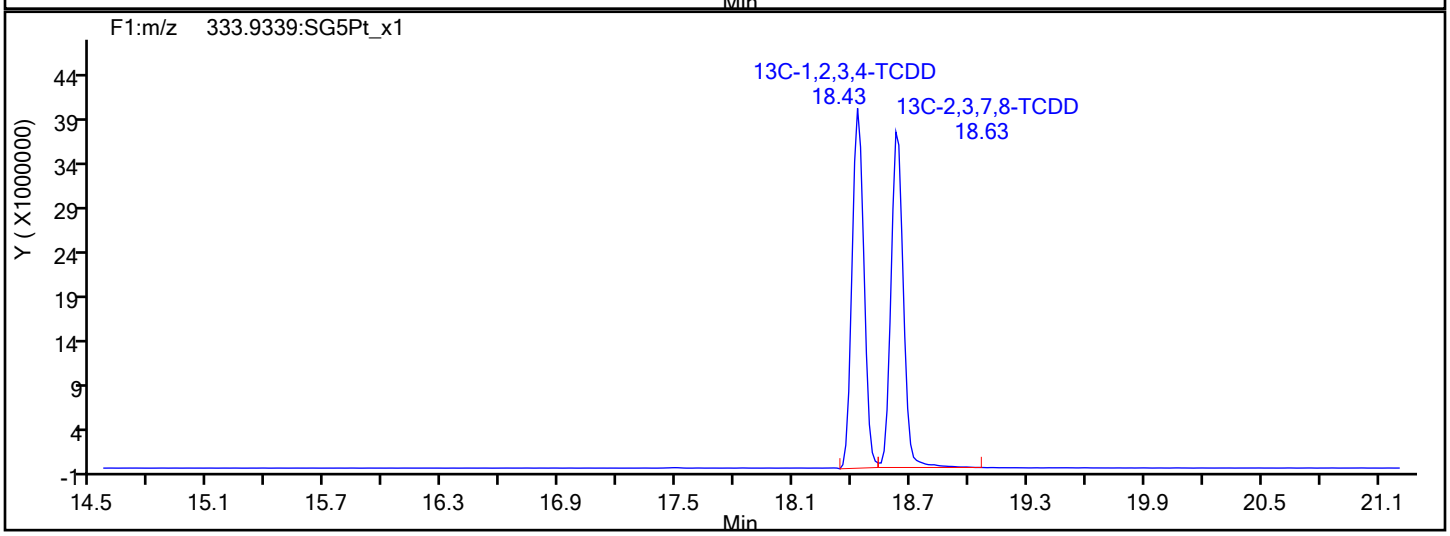

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Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

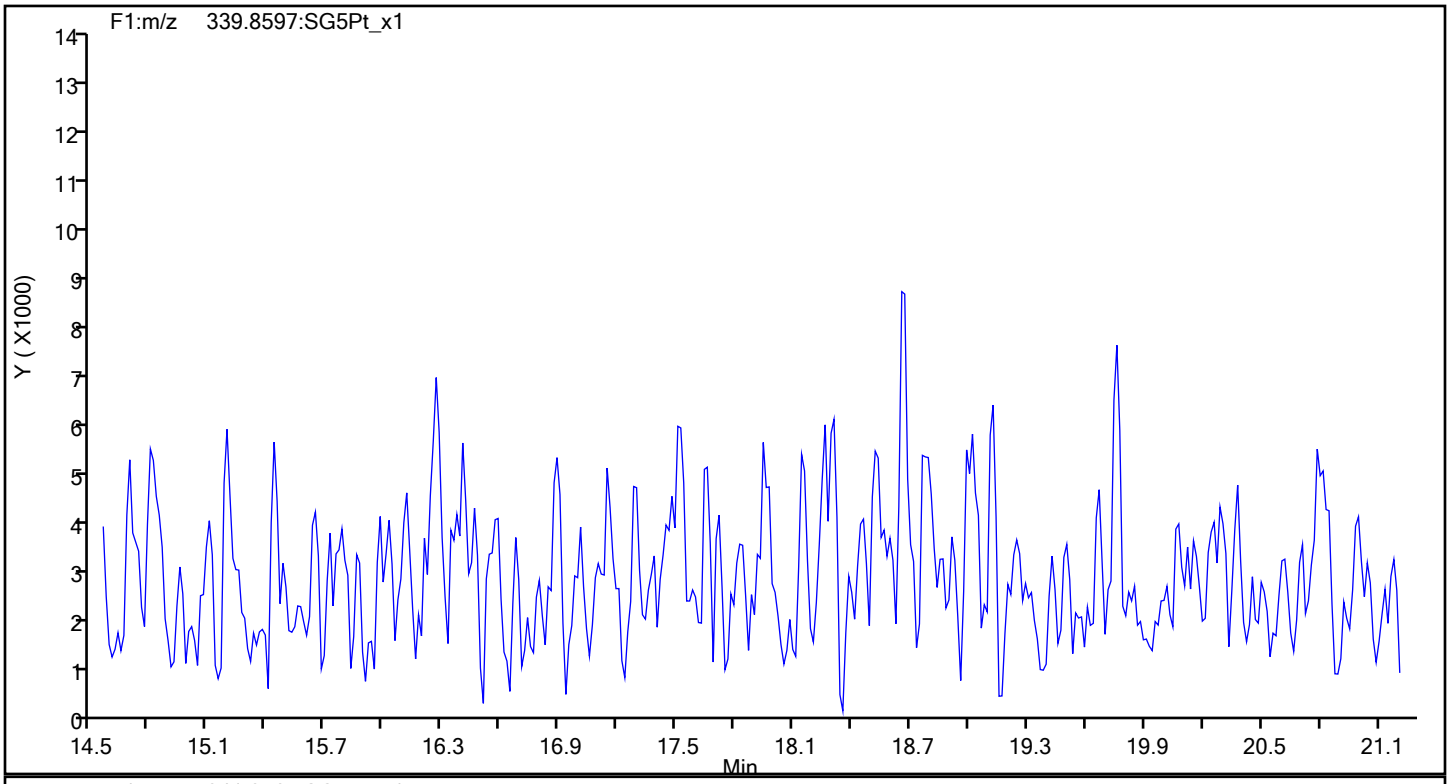

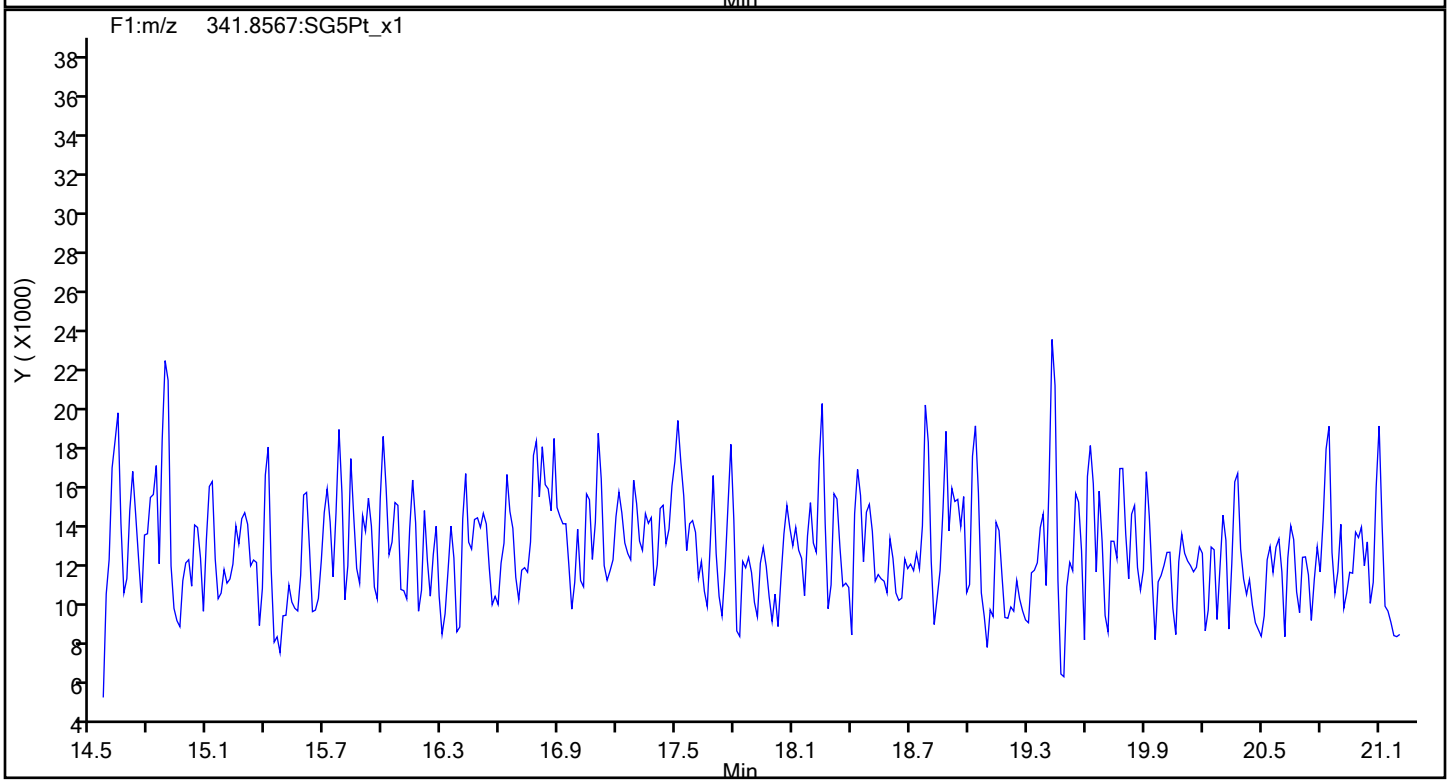

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L3		
Worklist#:	296020	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

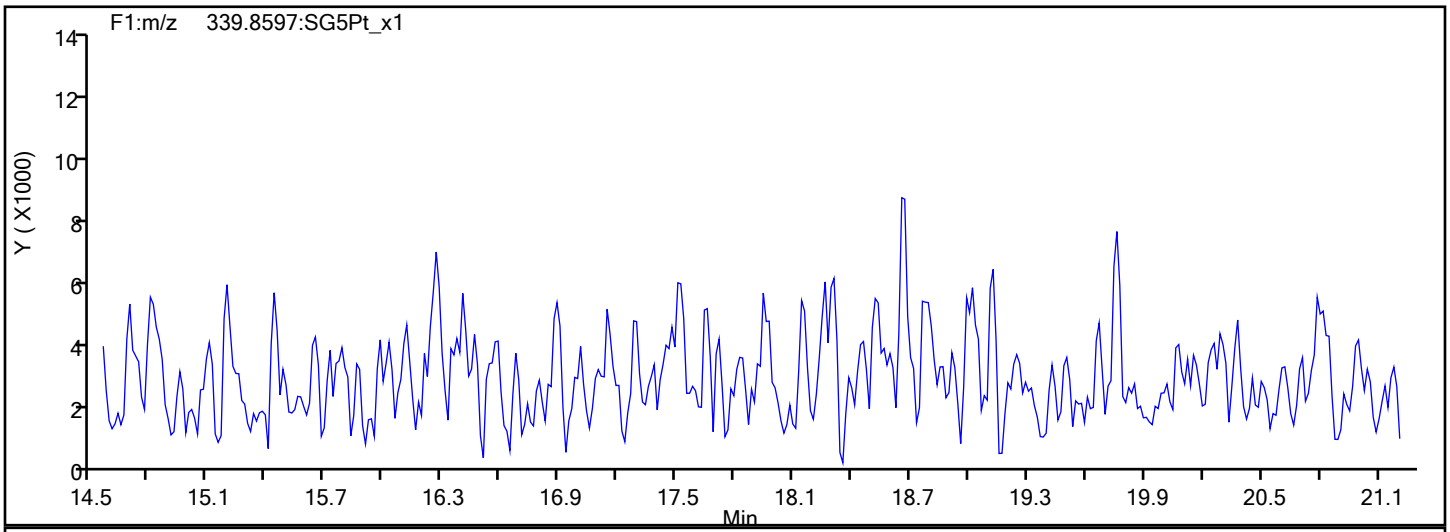

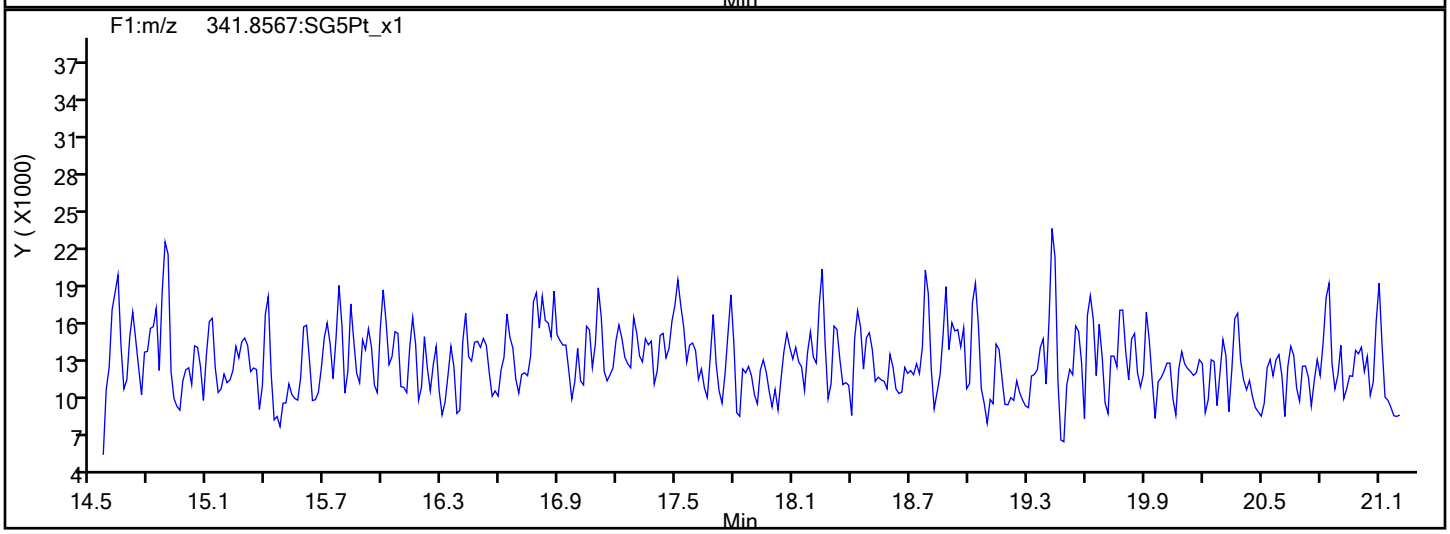

F1 PeCDFs Interference Mass

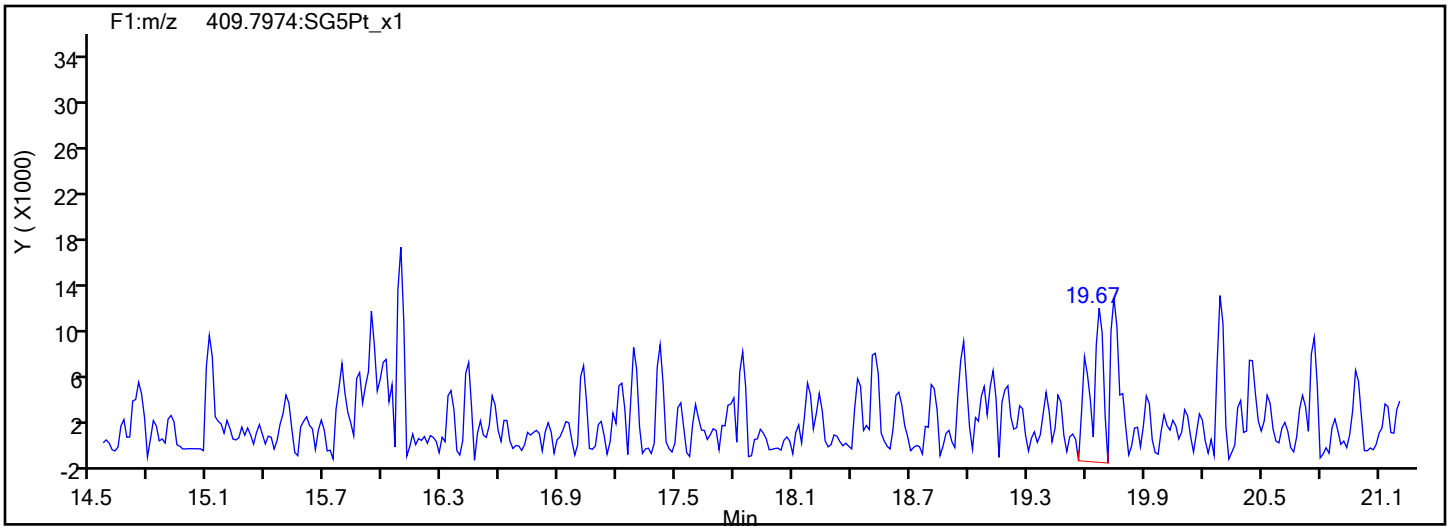

Report Date: 22-May-2019 11:44:27 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L3		
Worklist#:	296020	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

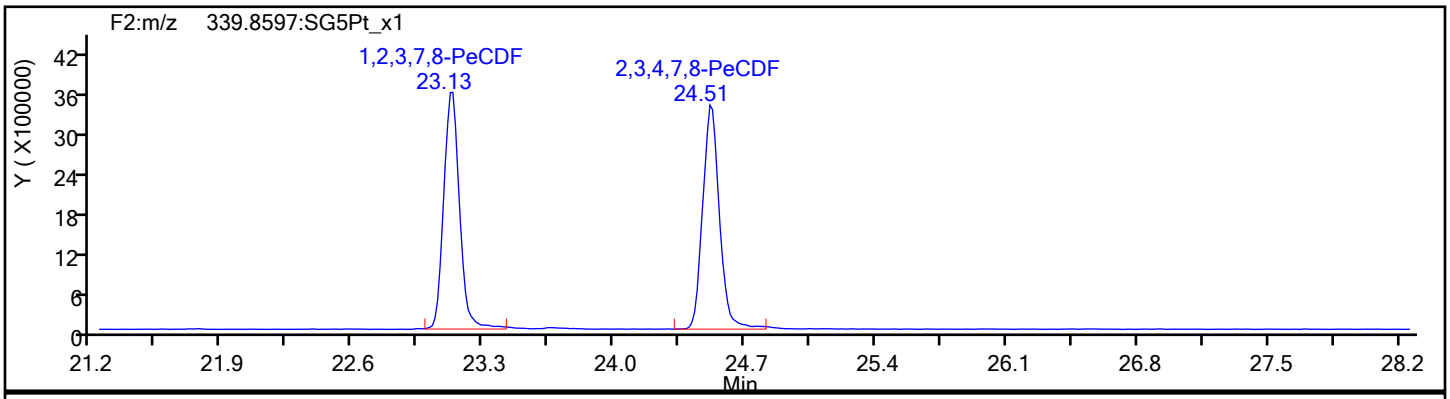

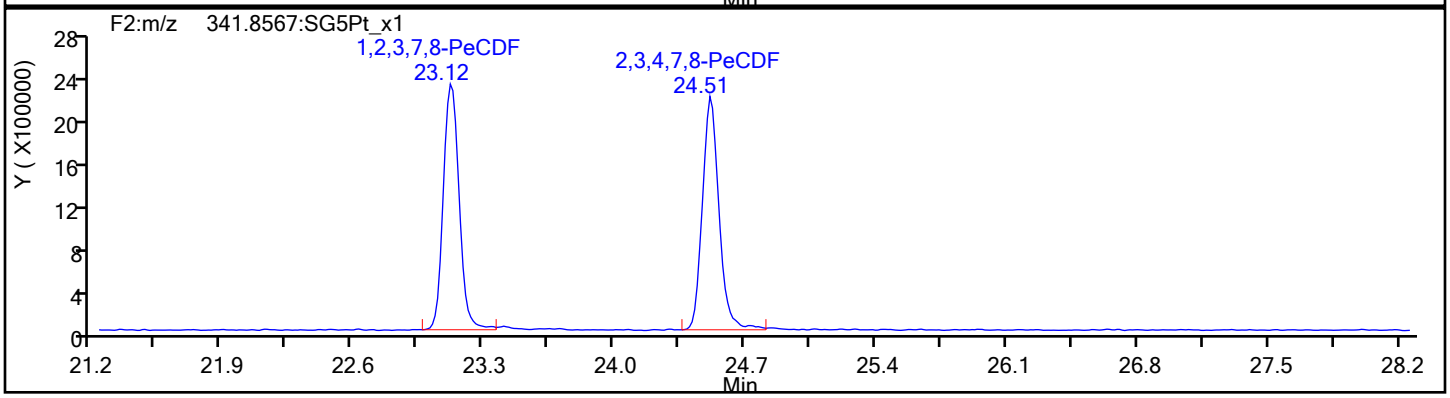

PeCDF Standards

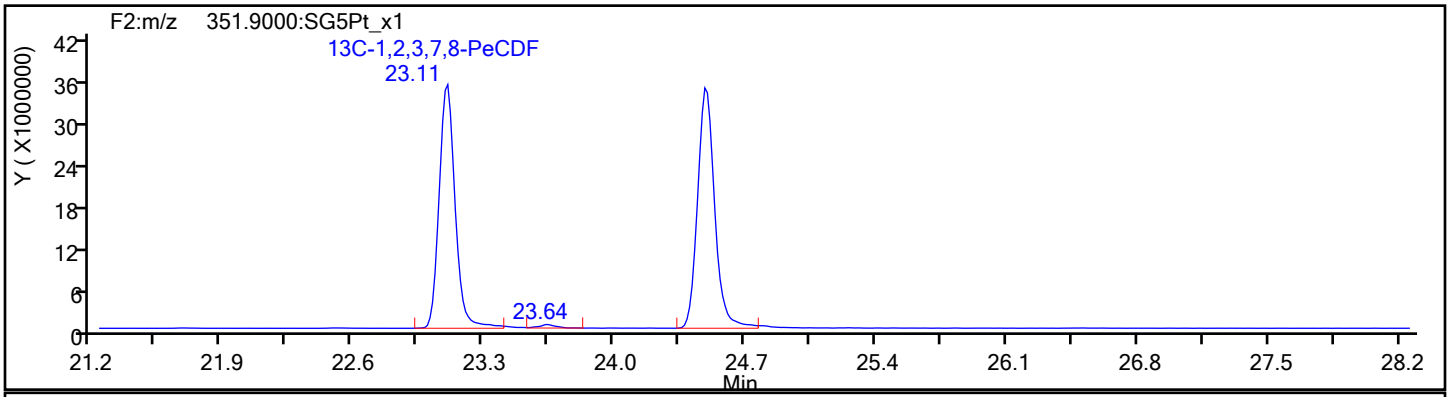

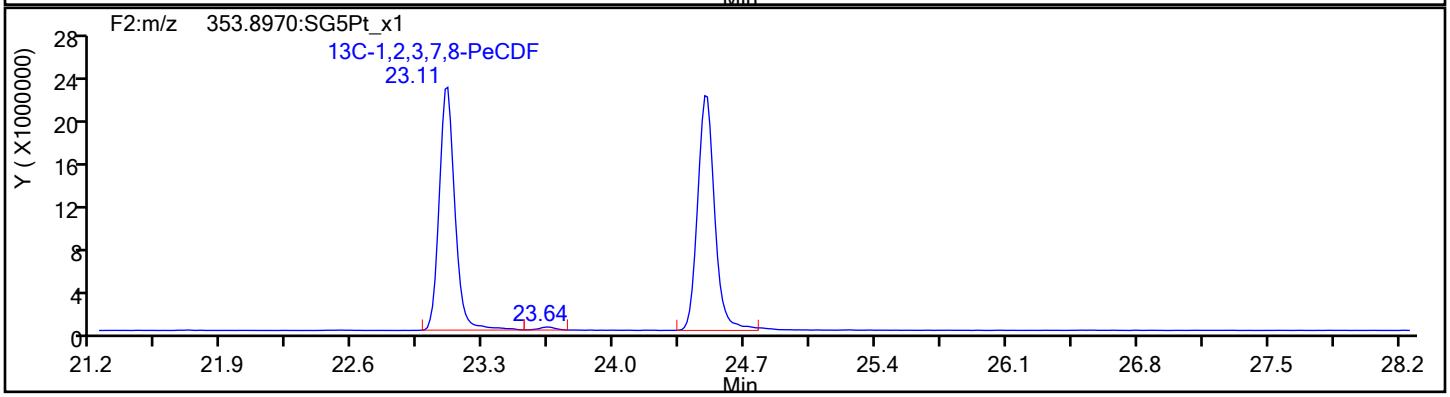

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Eurofins TestAmerica, Sacramento

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Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

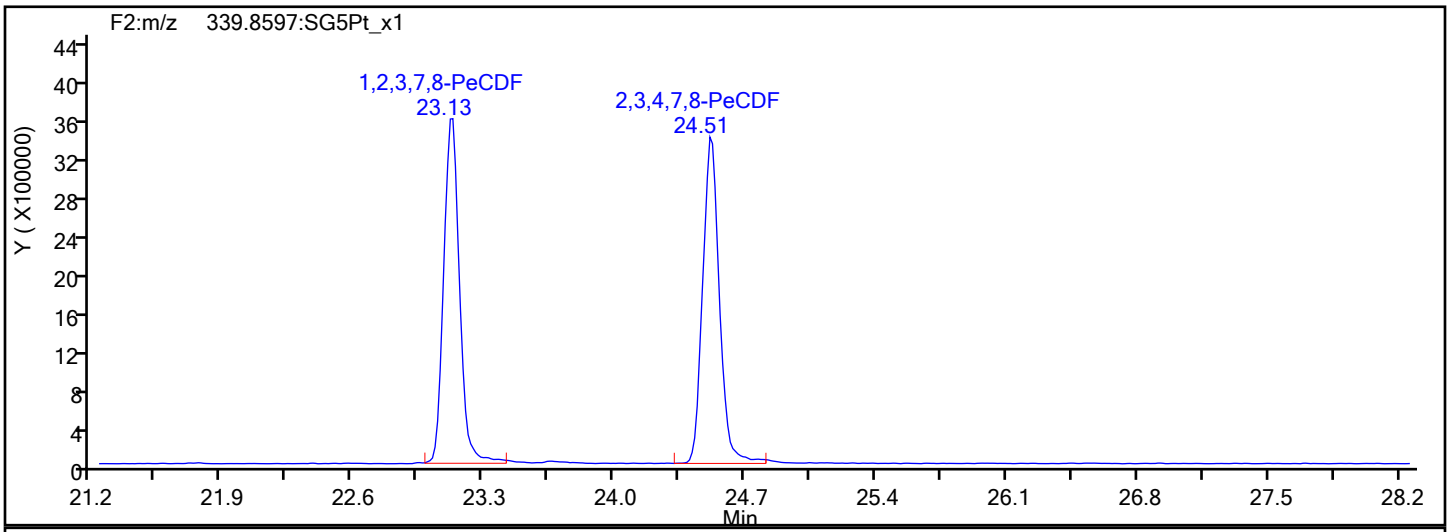

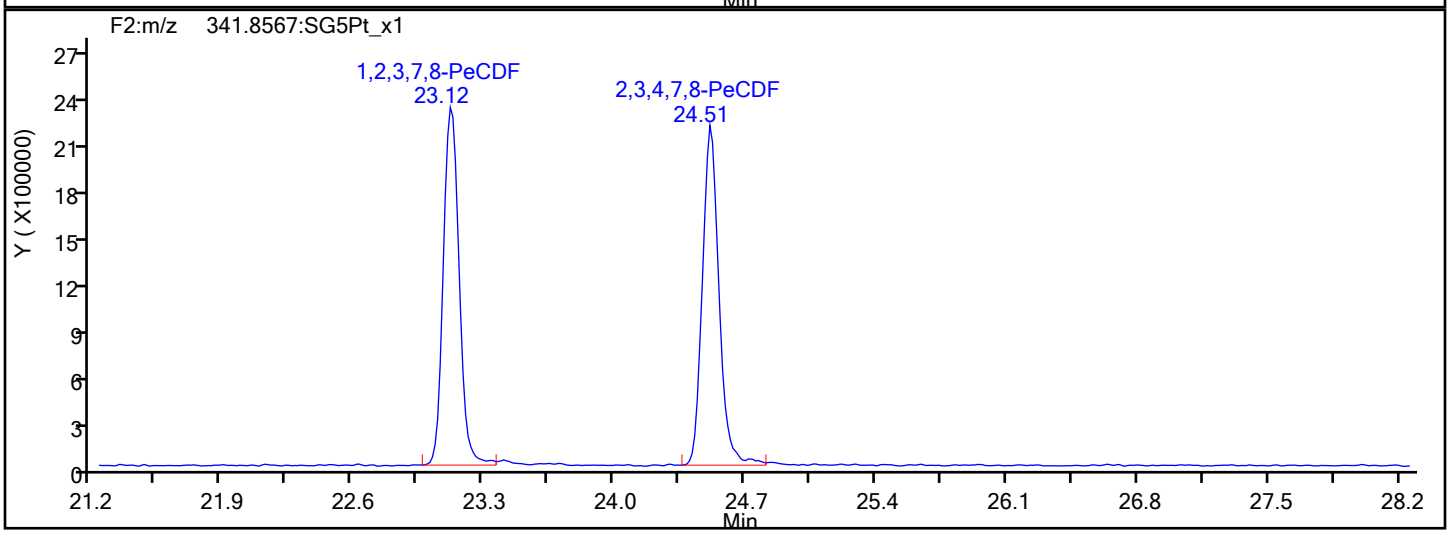

PeCDF Interference Mass

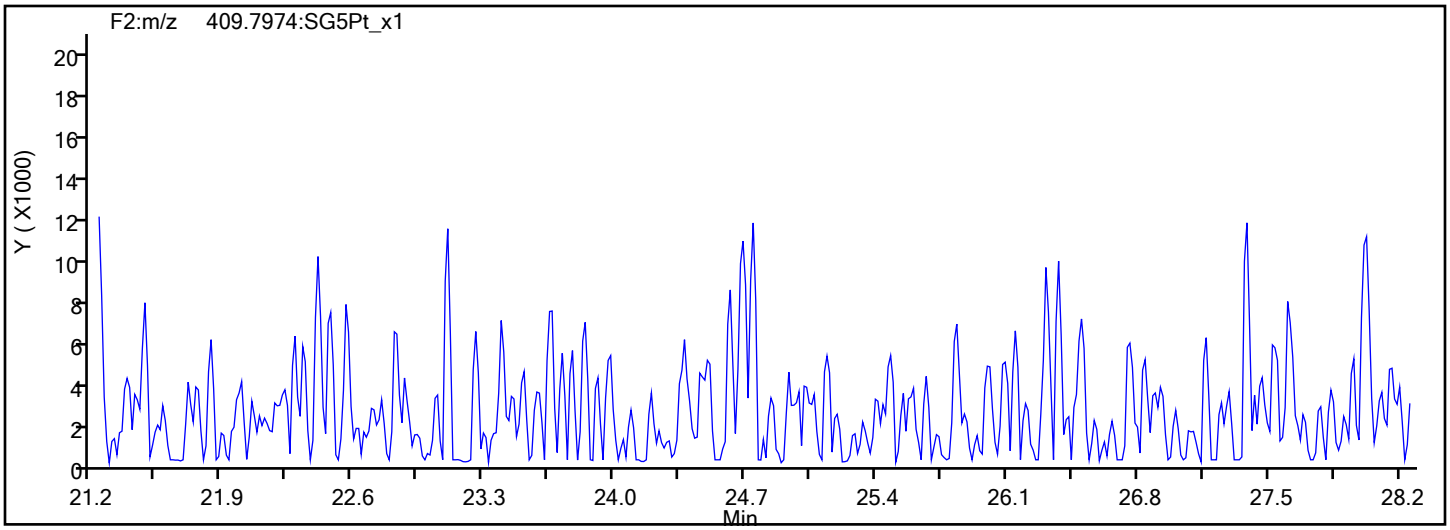

Report Date: 22-May-2019 11:44:27 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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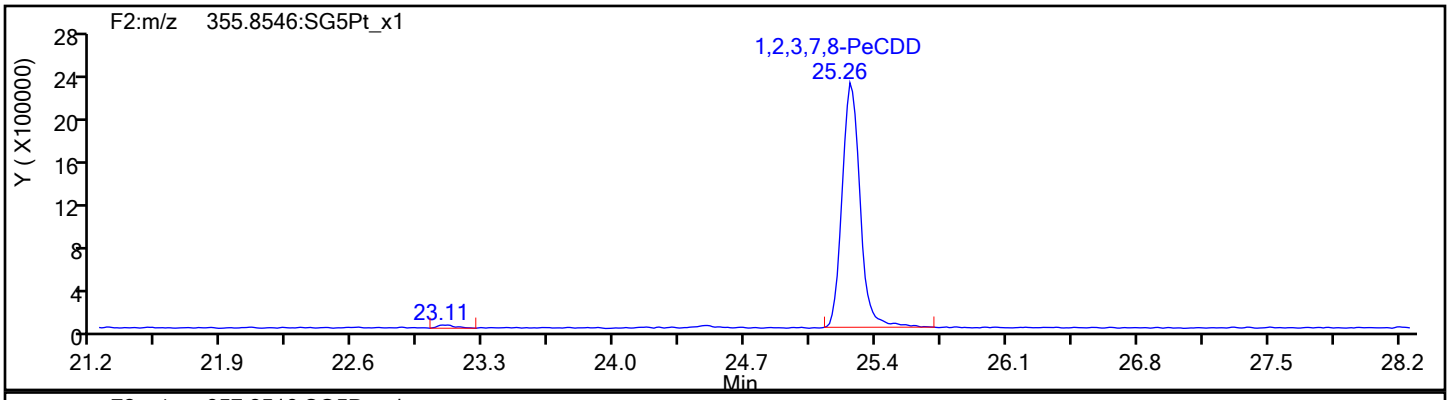

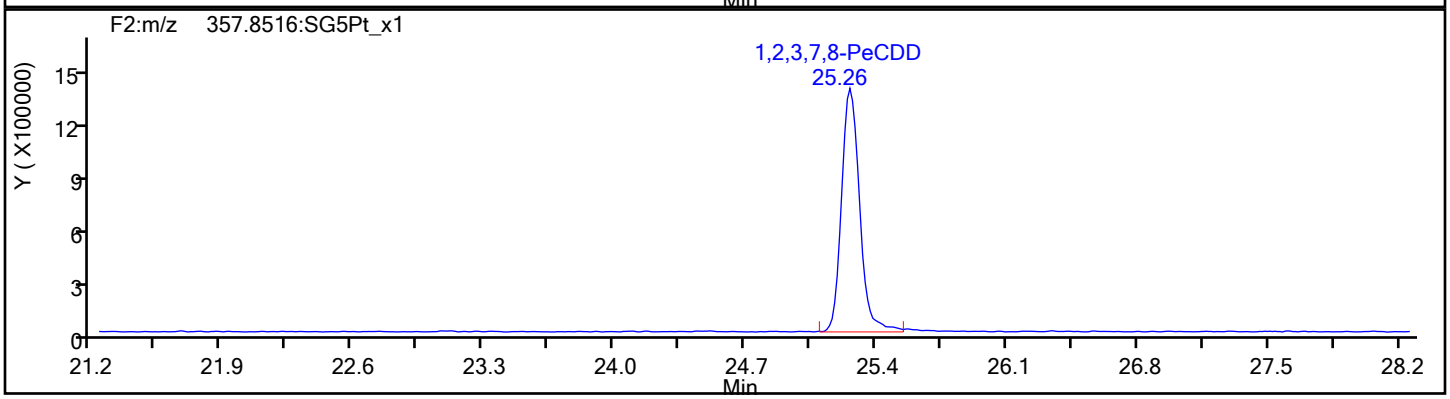

PeCDD Standards

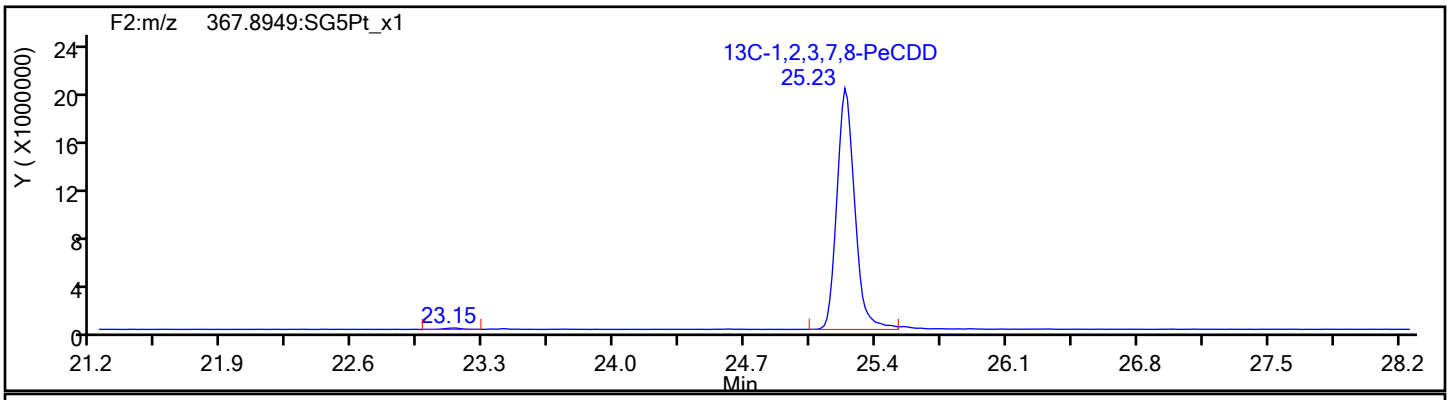

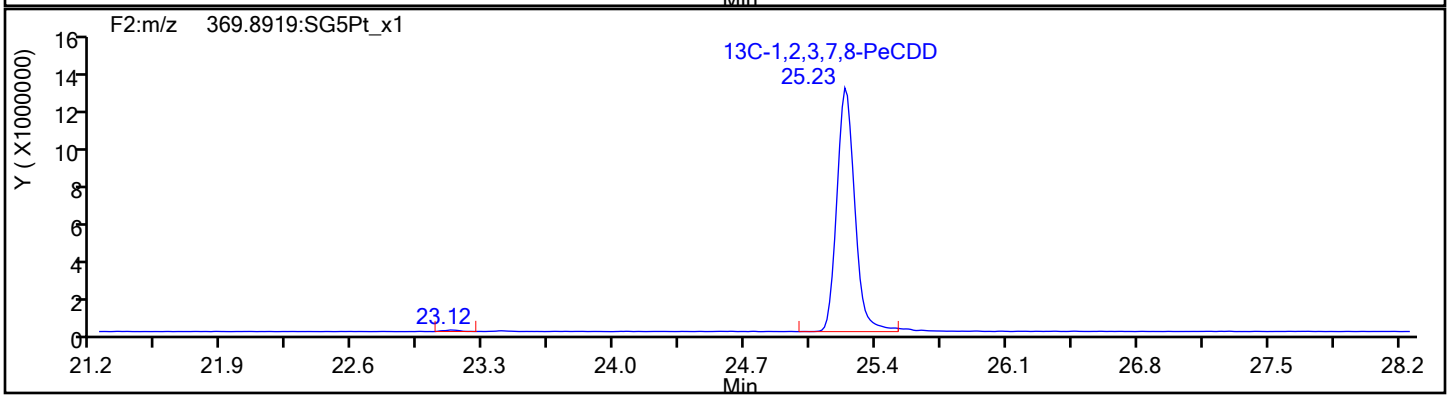

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Eurofins TestAmerica, Sacramento

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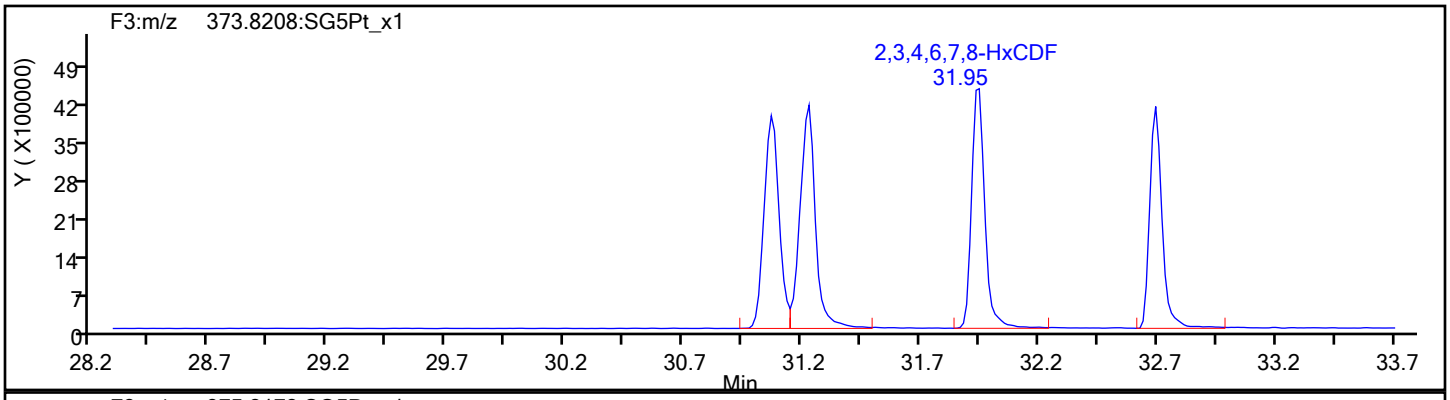

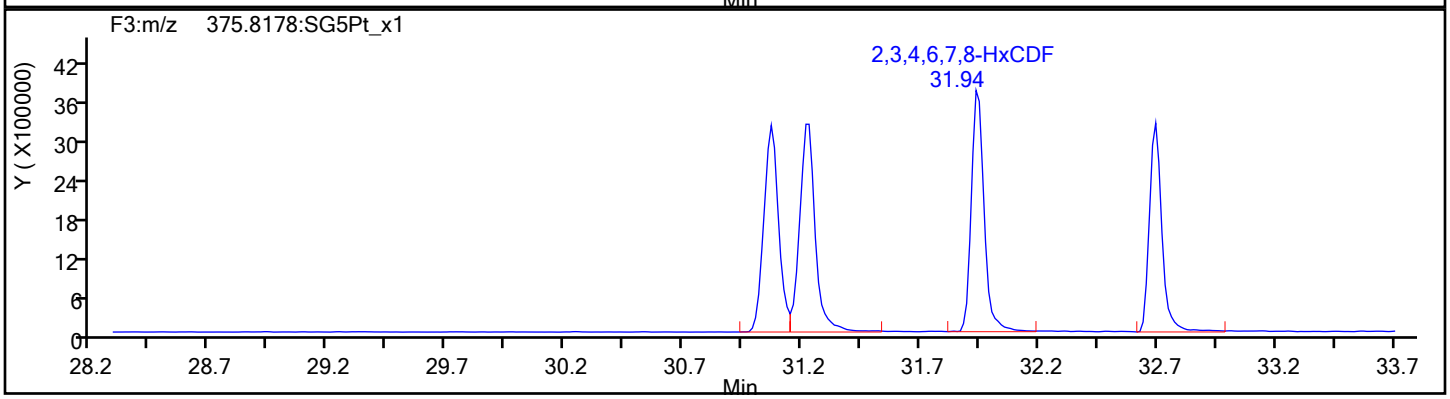

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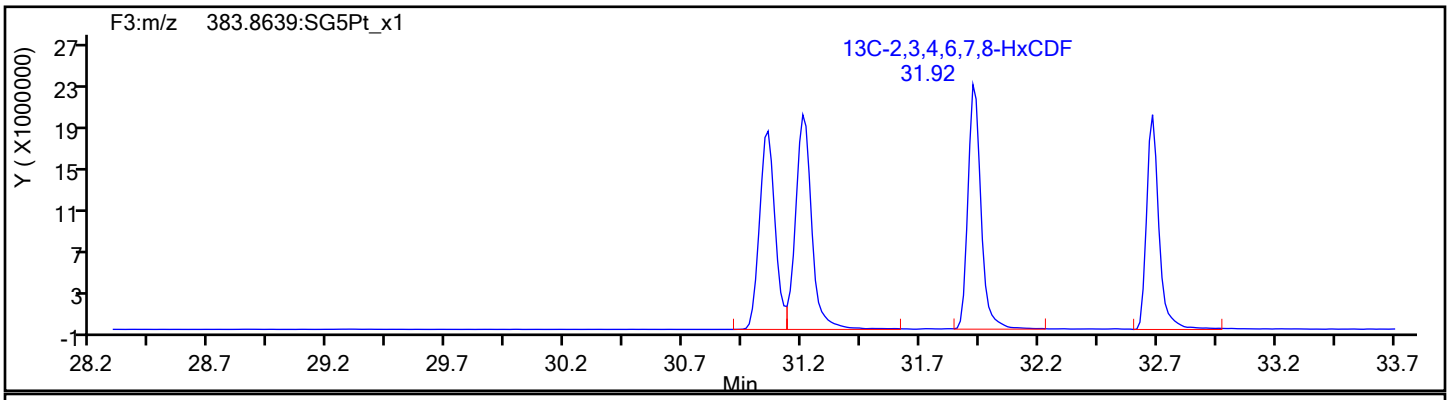

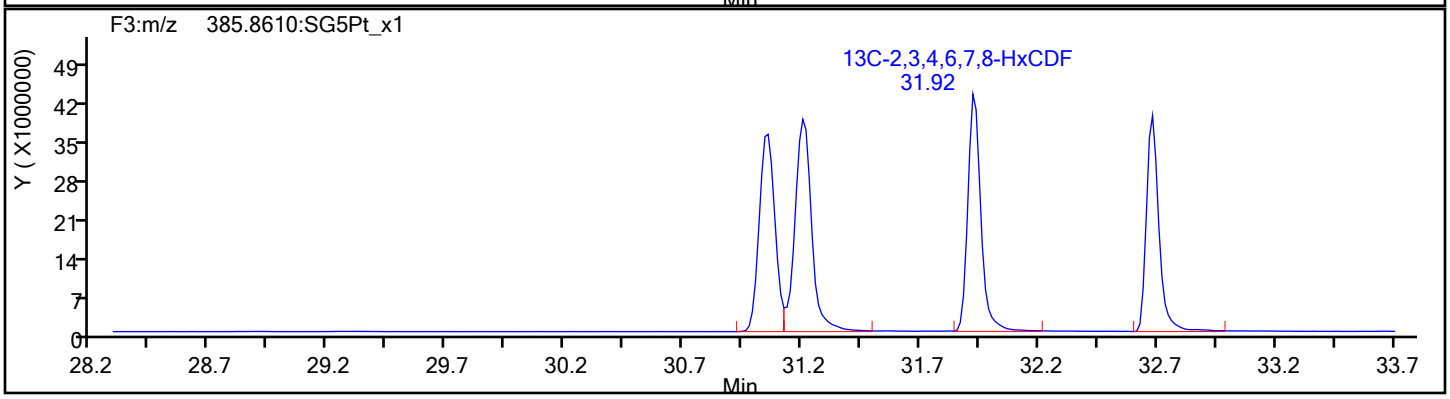

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Eurofins TestAmerica, Sacramento

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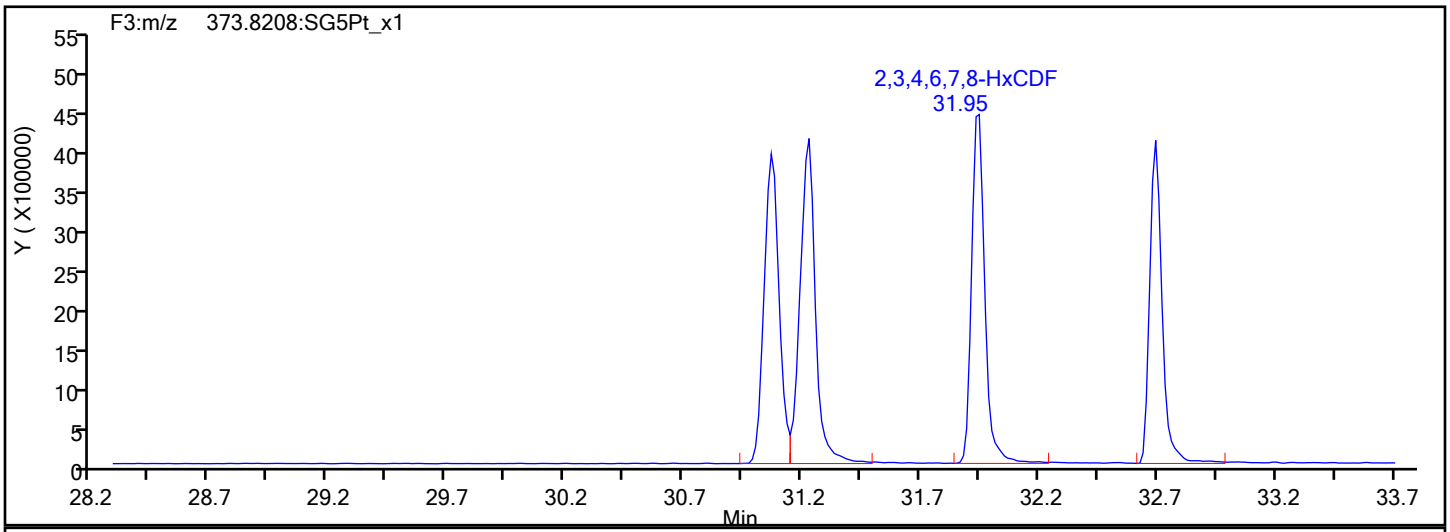

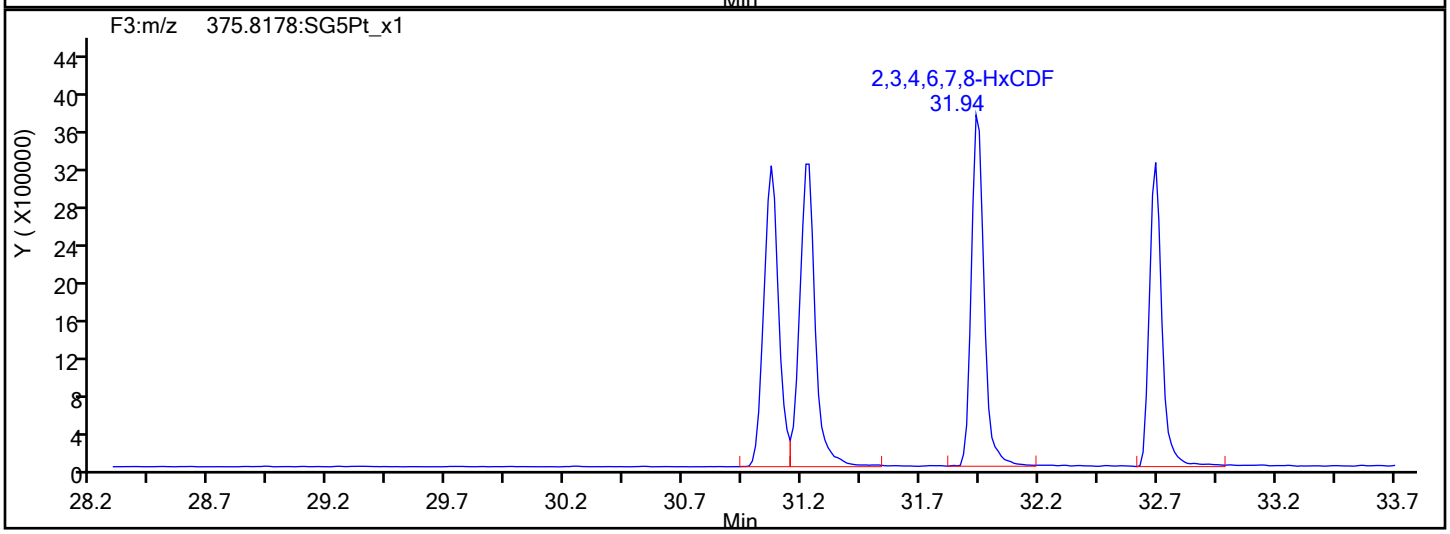

HxCDF Interference Mass

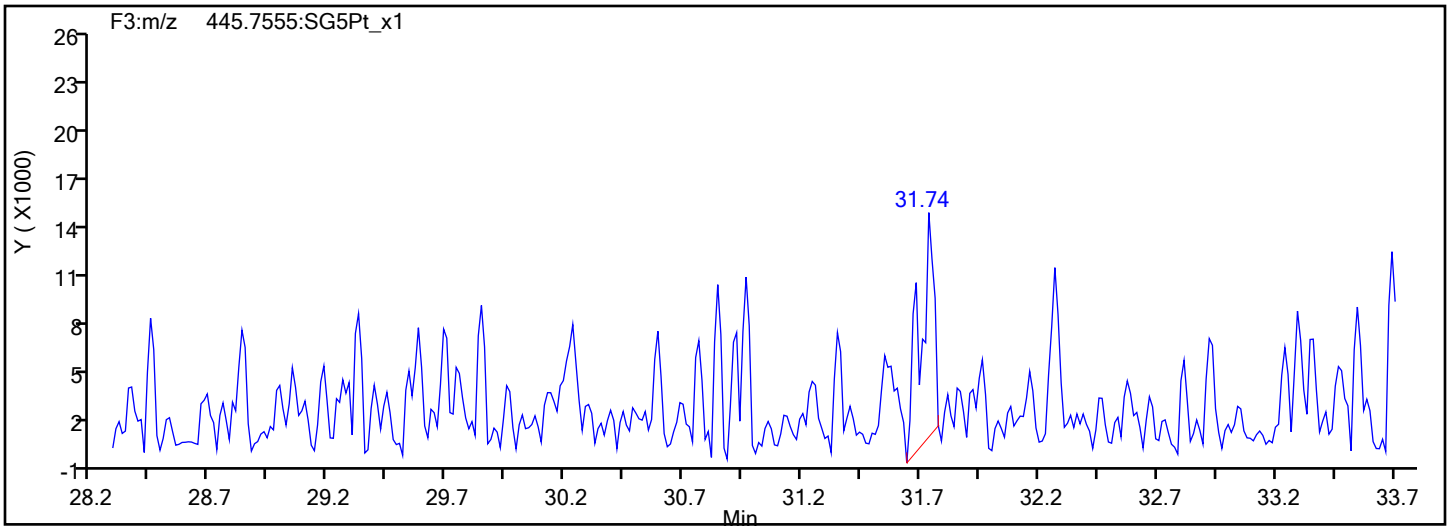

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Eurofins TestAmerica, Sacramento

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HxCDD

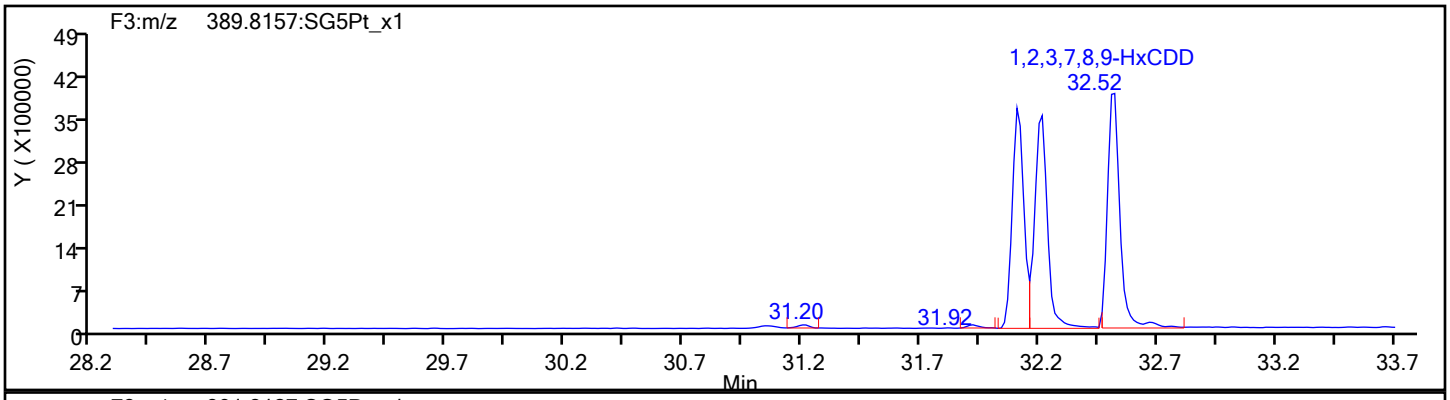

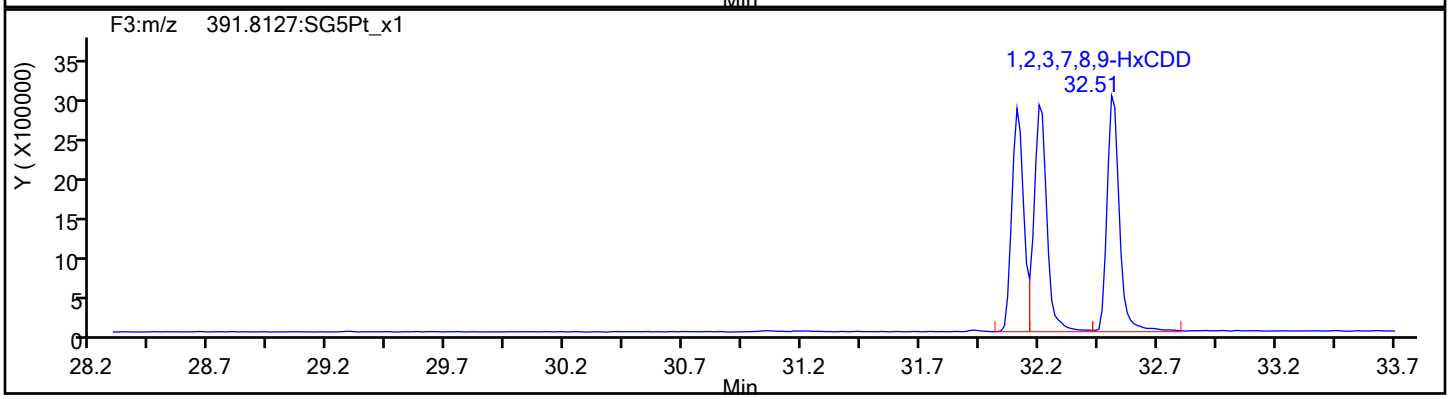

HxCDD Standards

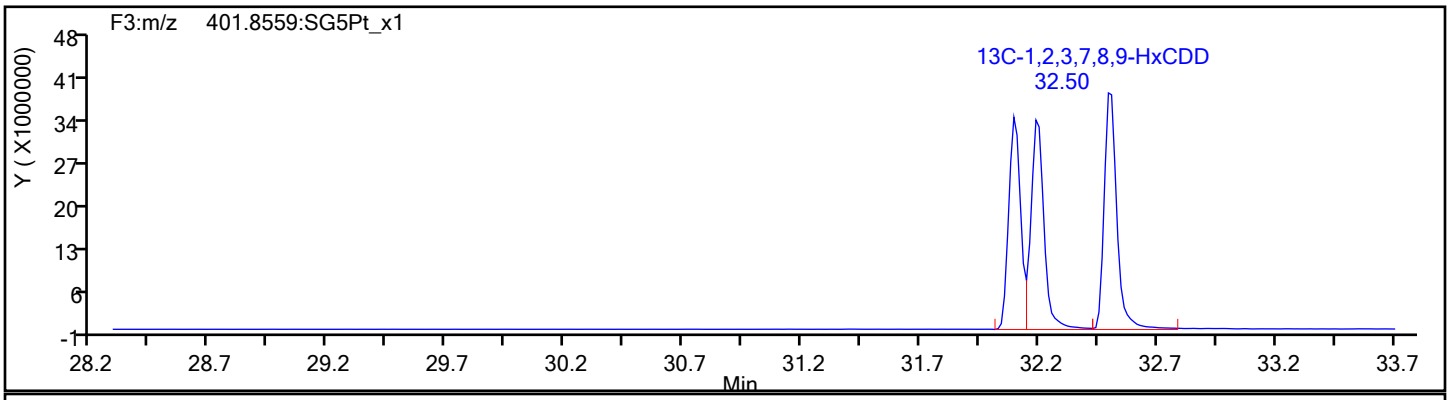

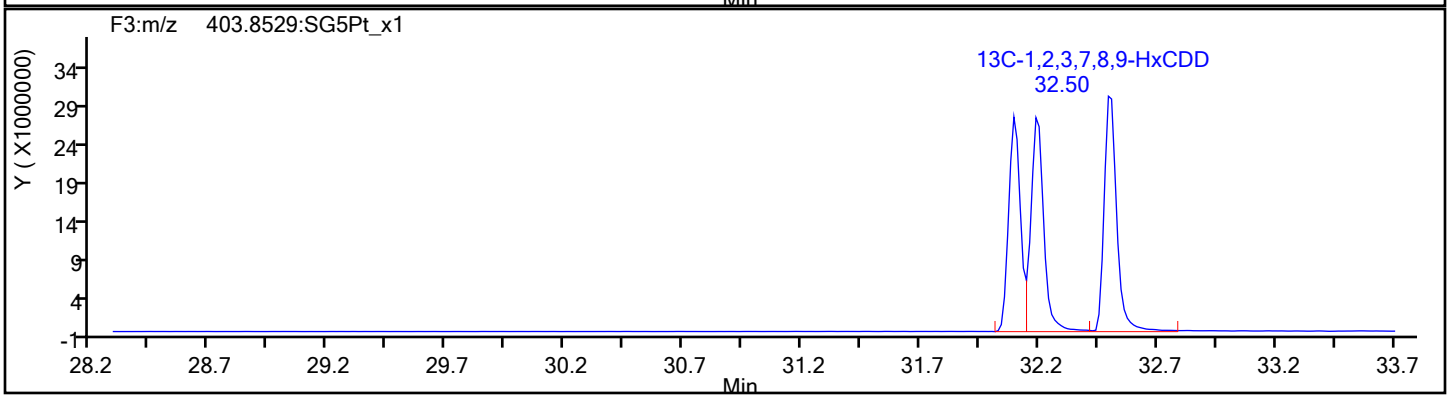

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Eurofins TestAmerica, Sacramento

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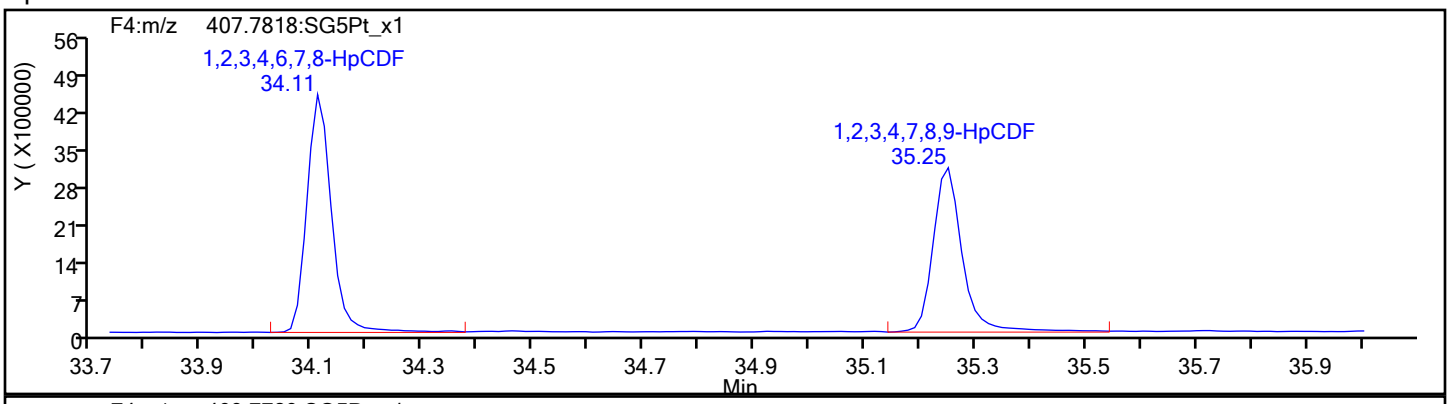

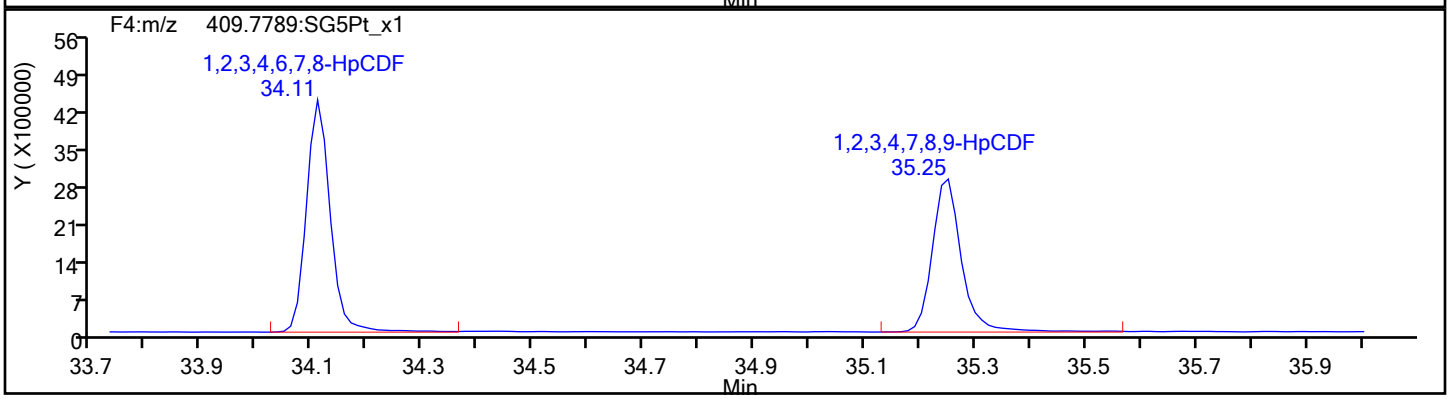

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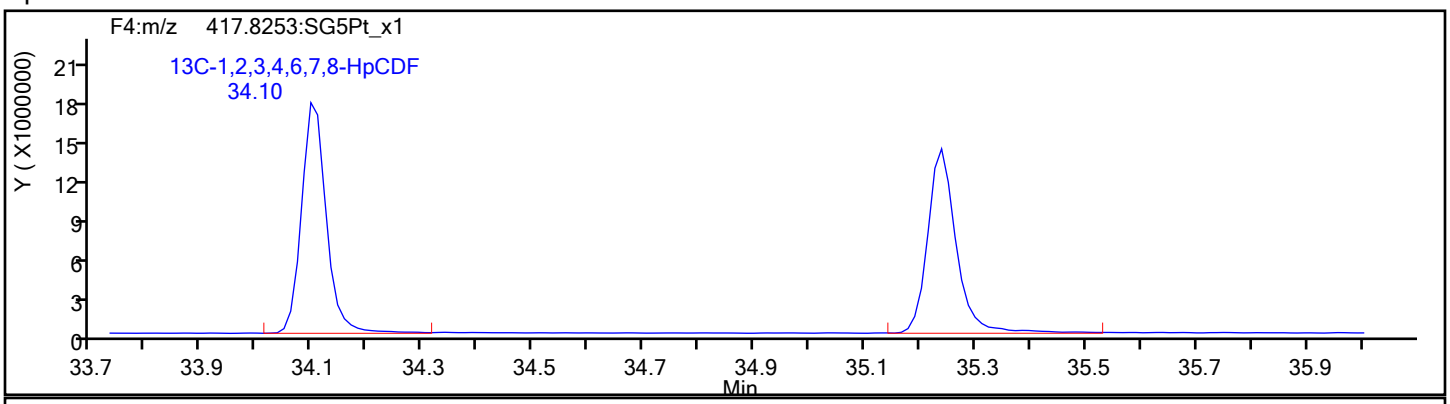

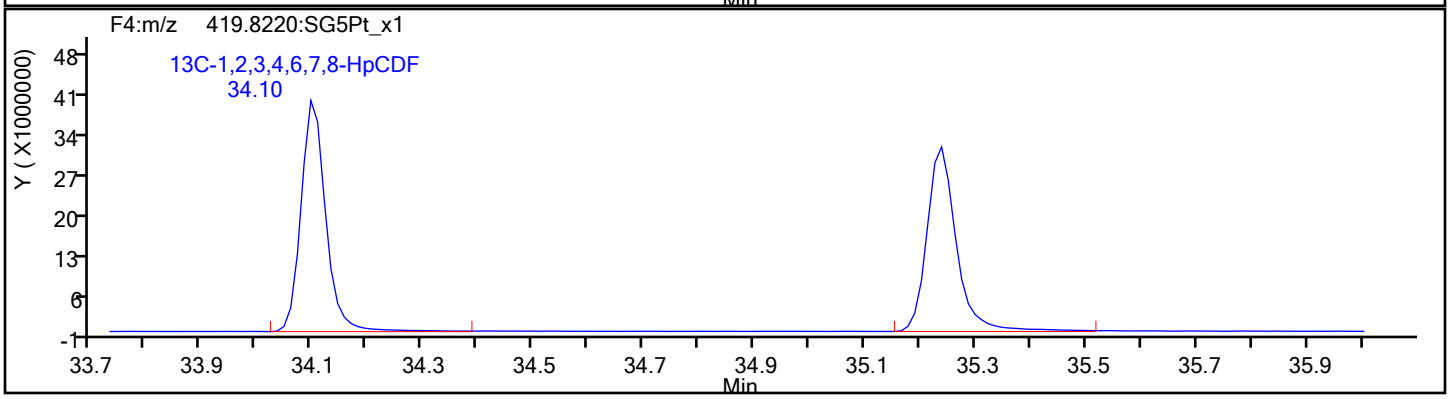

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Eurofins TestAmerica, Sacramento

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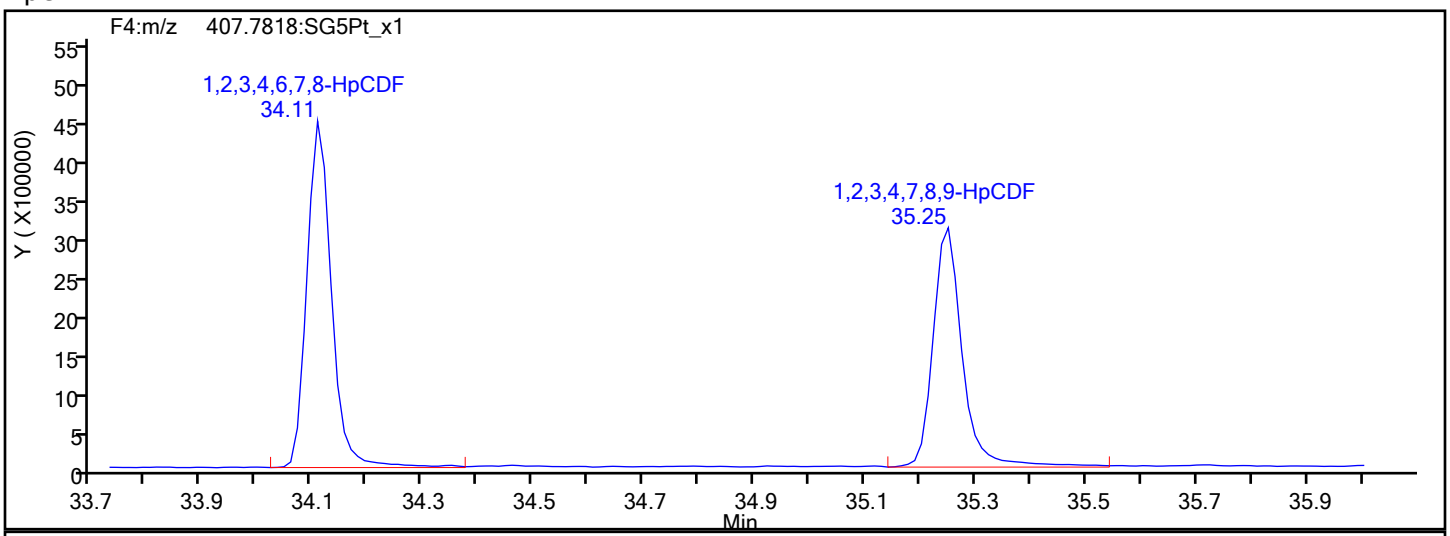

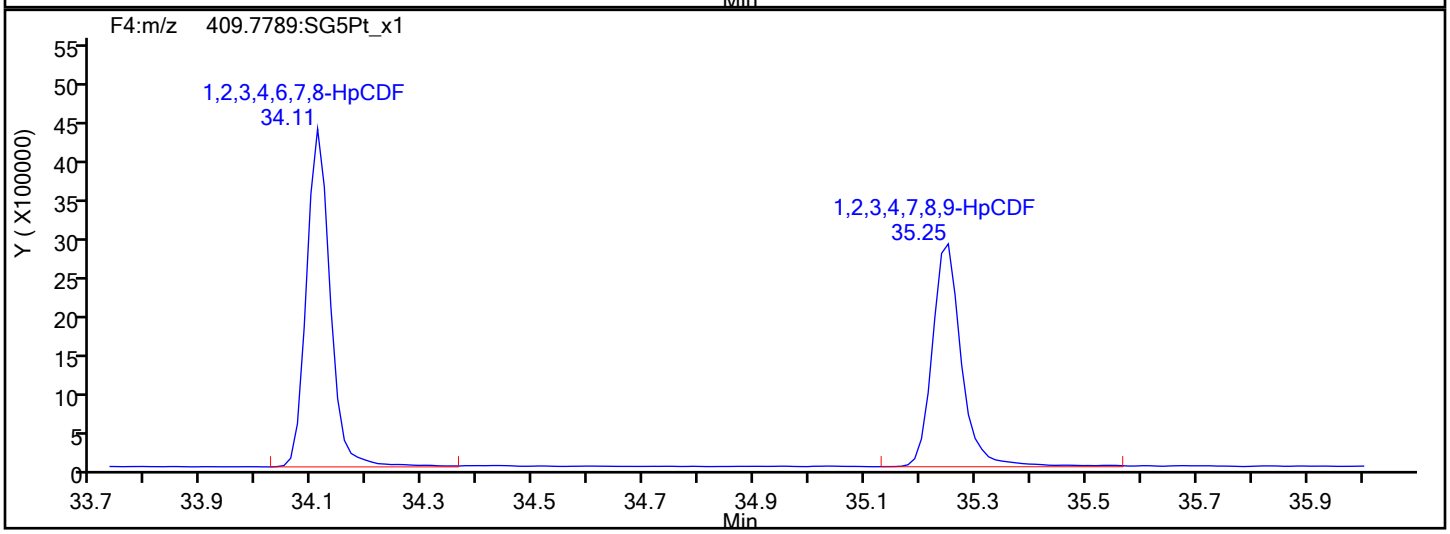

HpCDF Interference Mass

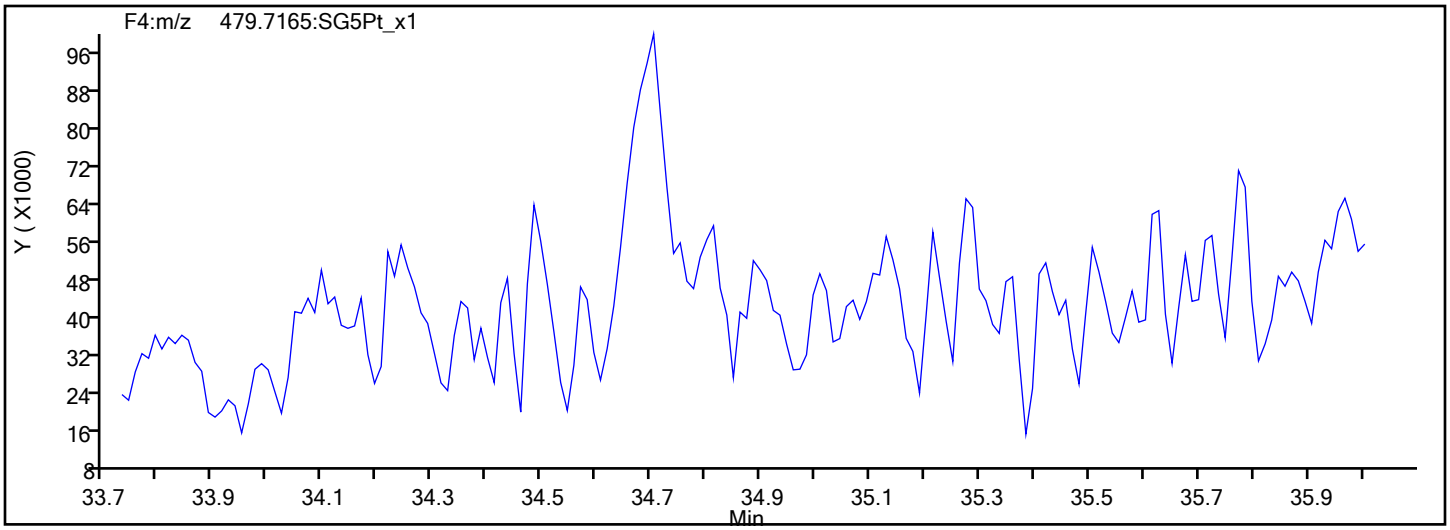

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Eurofins TestAmerica, Sacramento

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HpCDD

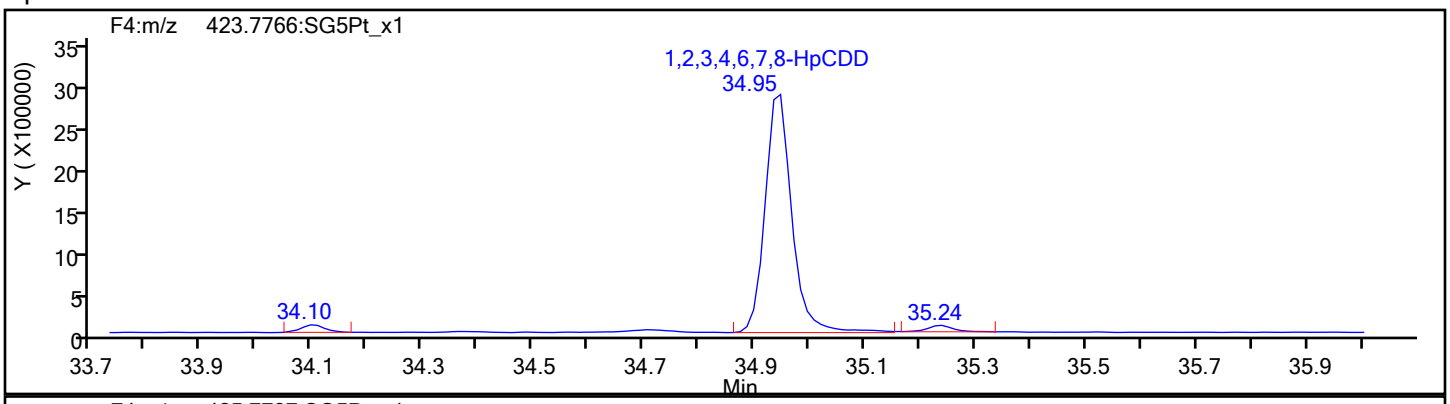

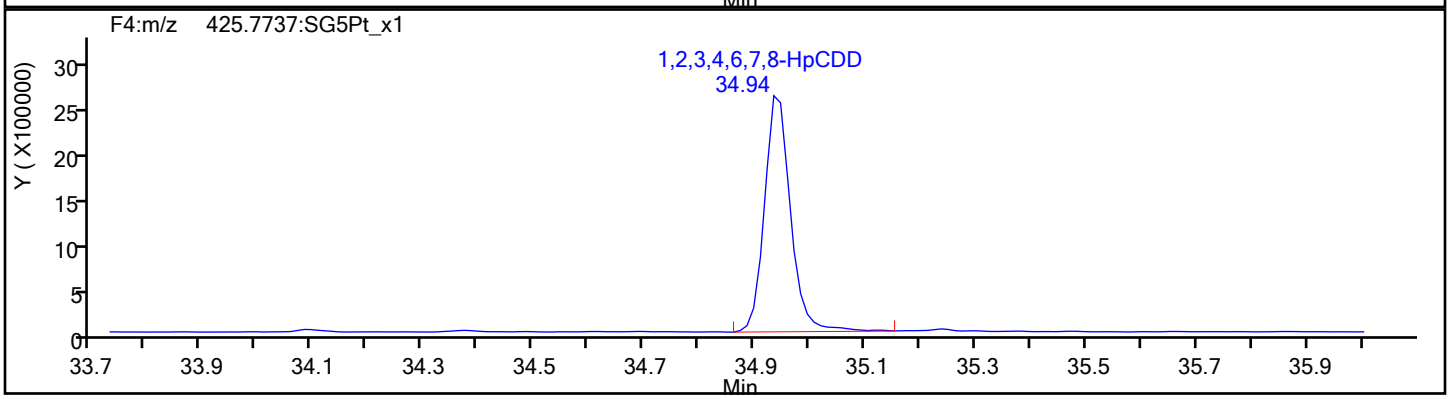

HpCDD Standards

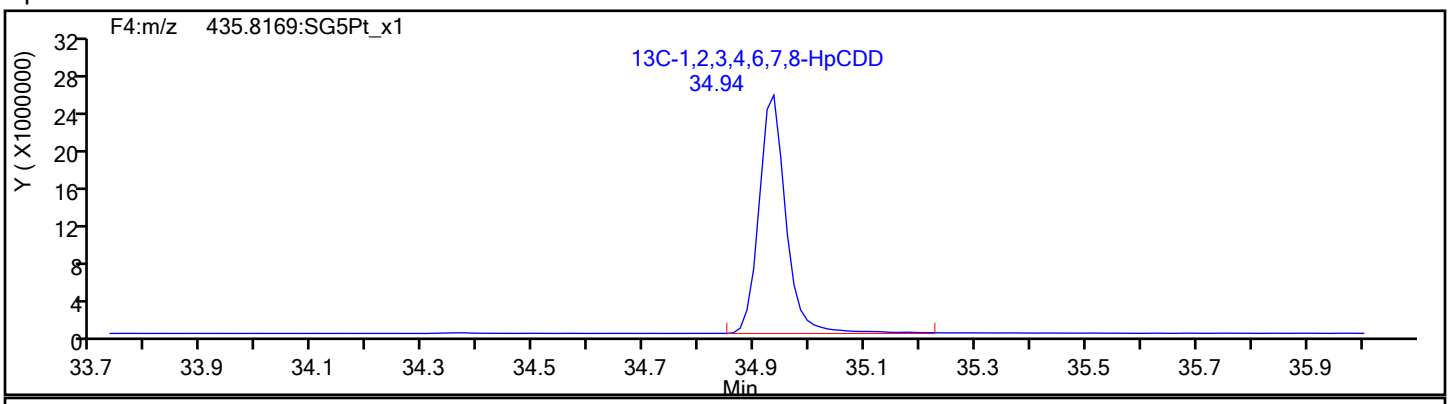

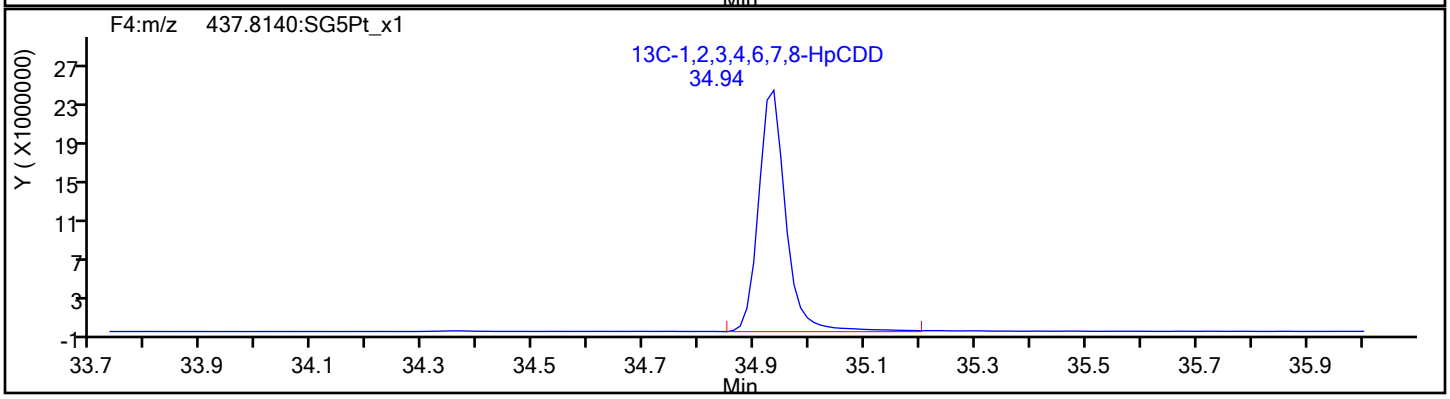

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Eurofins TestAmerica, Sacramento

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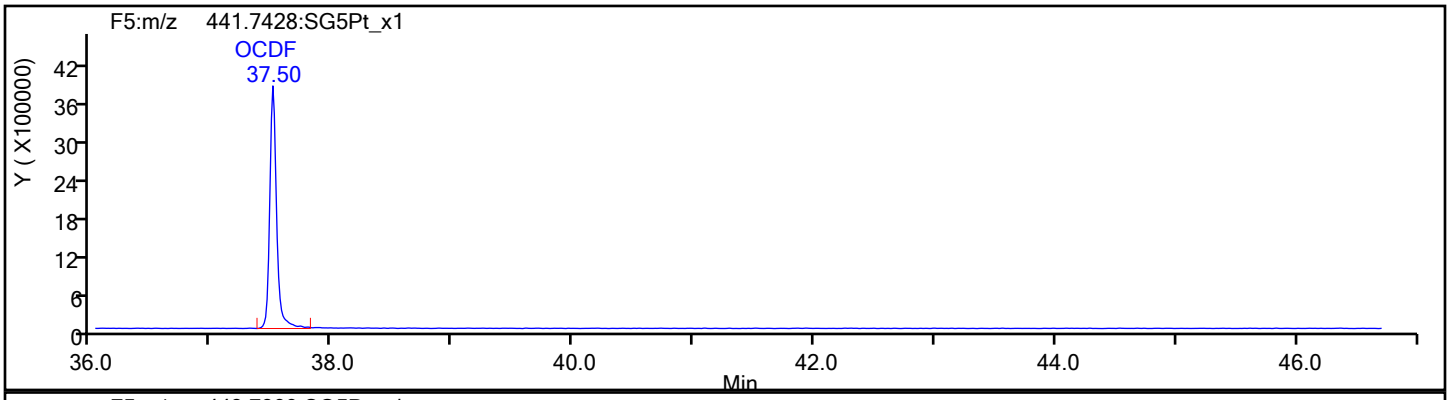

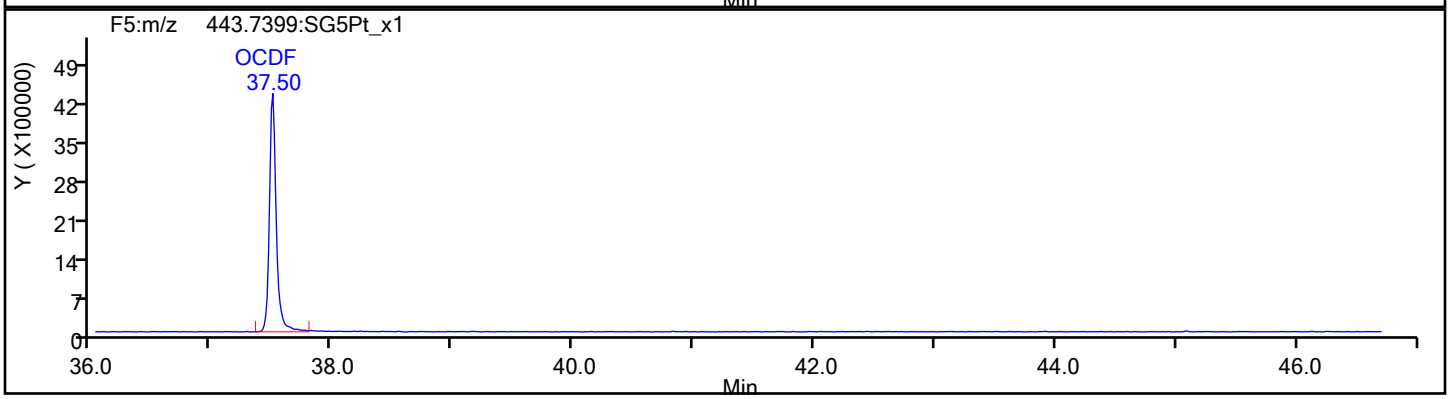

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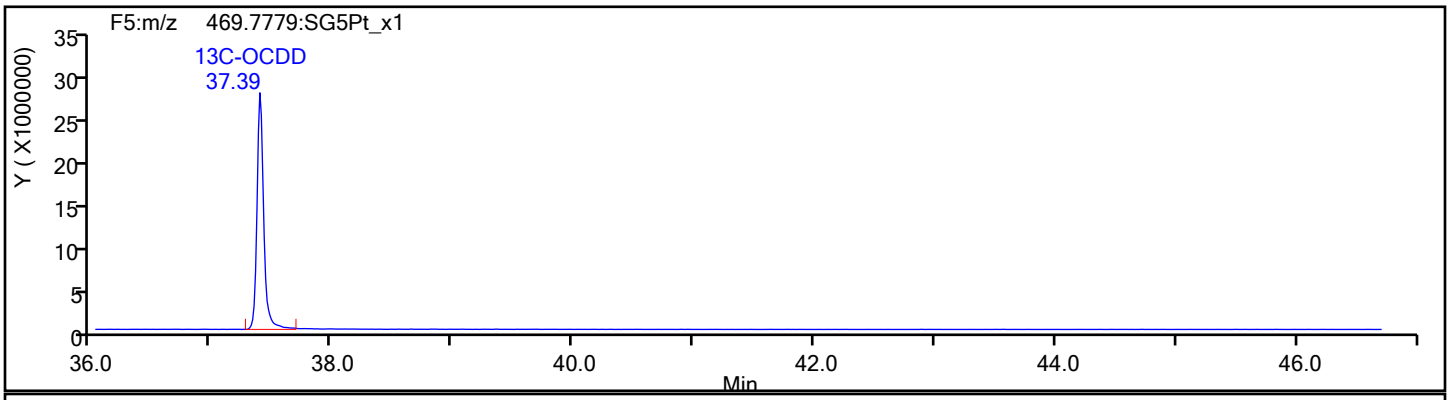

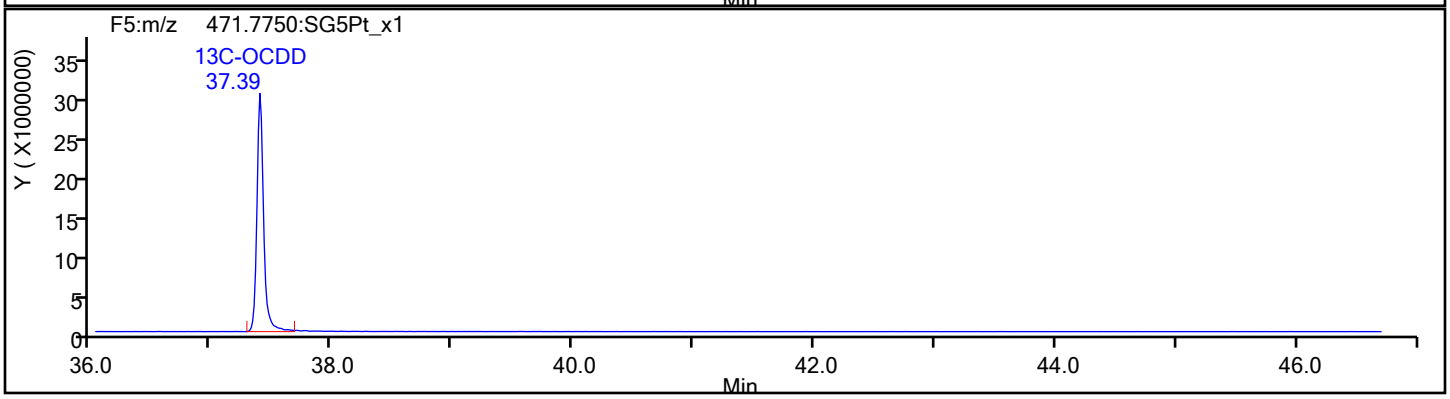

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Eurofins TestAmerica, Sacramento

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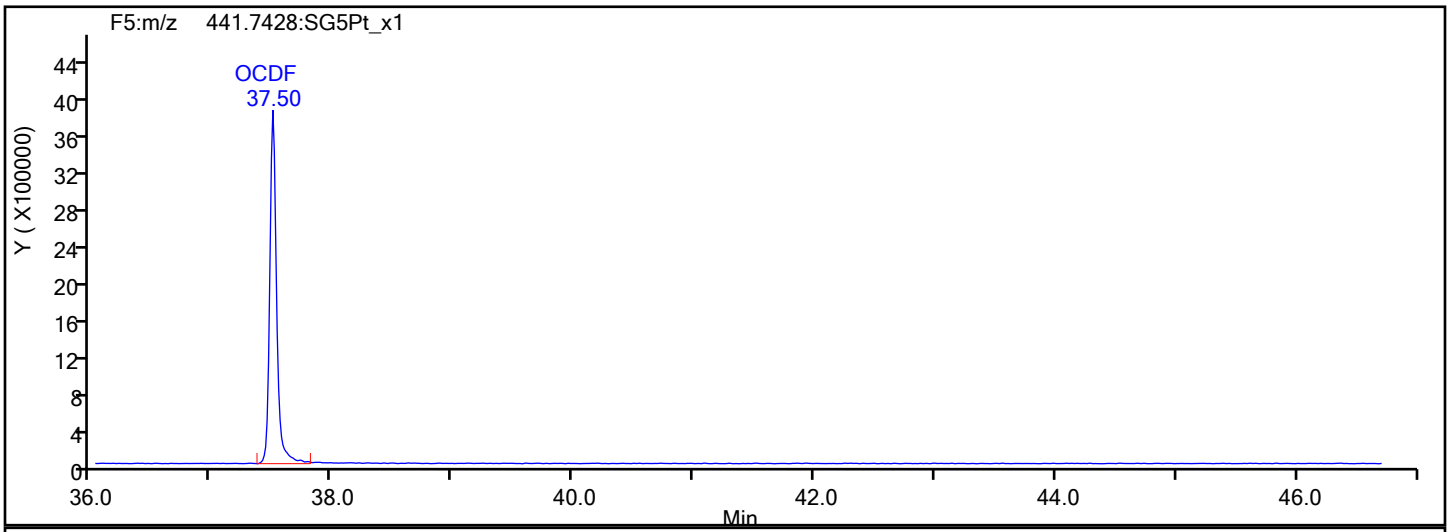

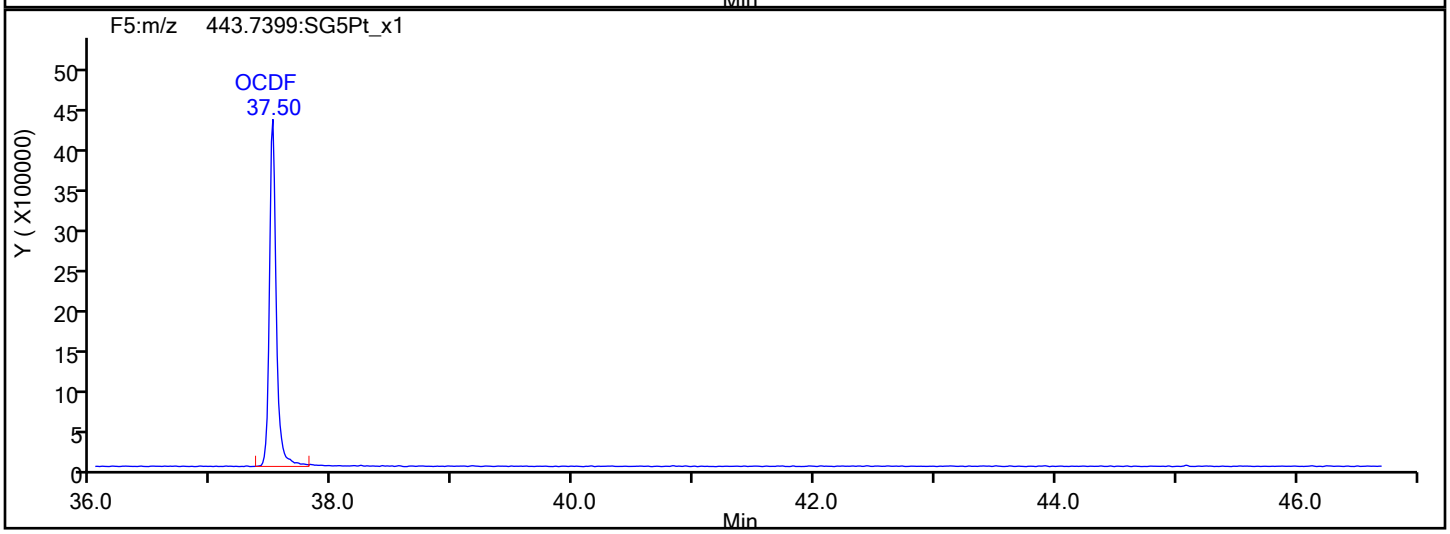

OCDF Interference Mass

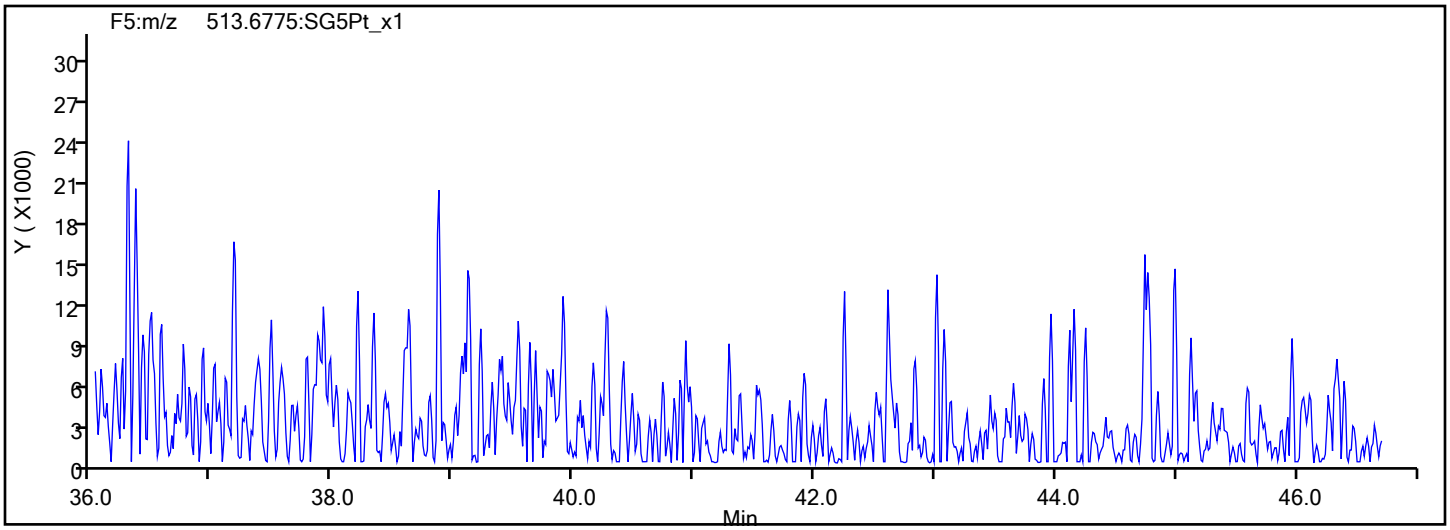

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Eurofins TestAmerica, Sacramento

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OCDD

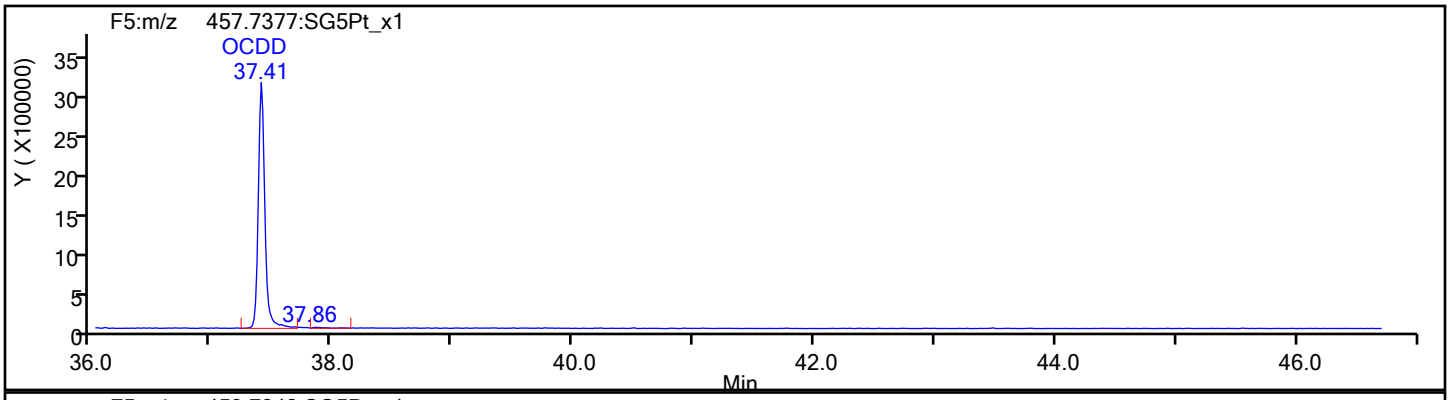

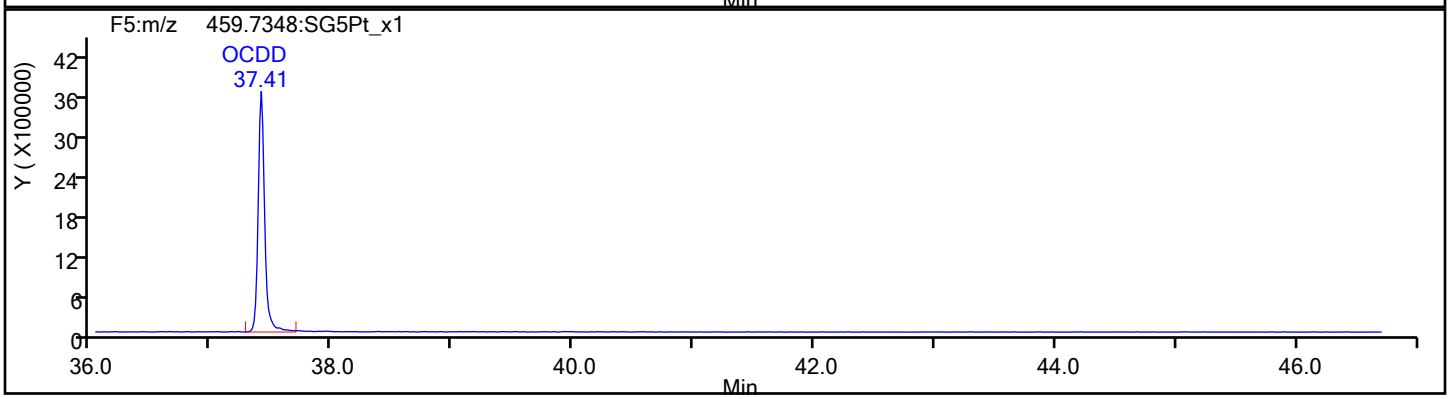

OCDD Standards

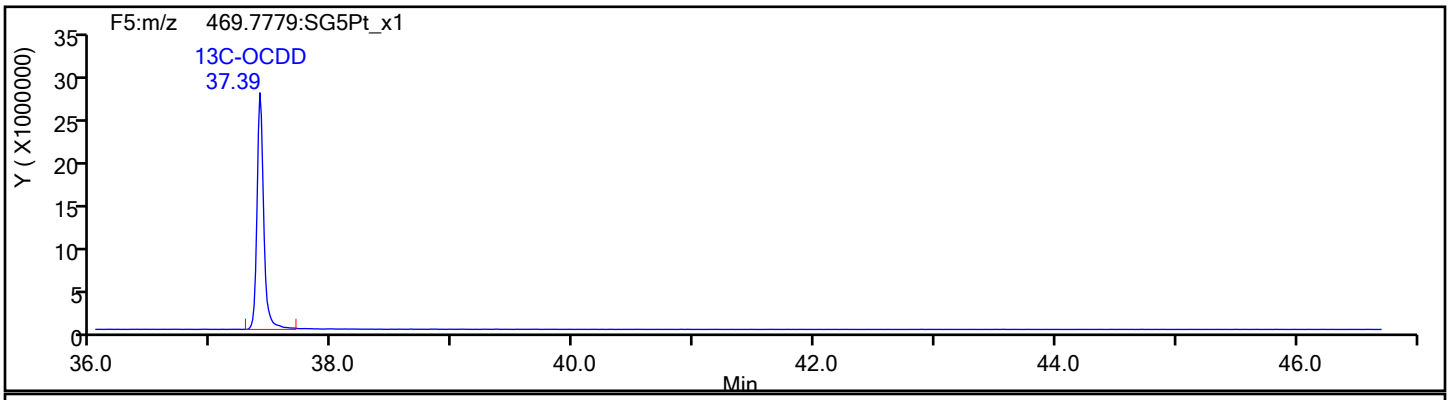

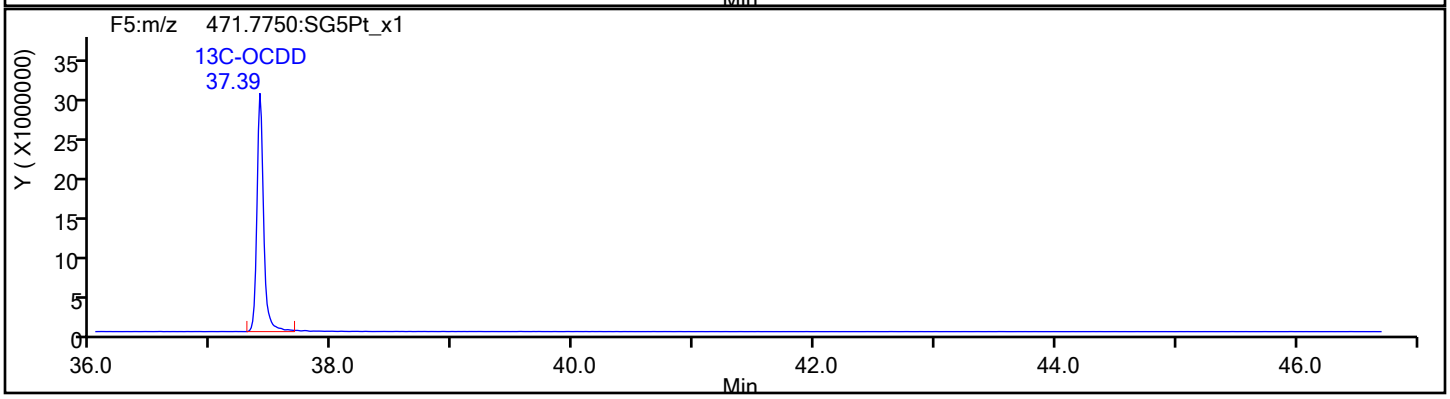

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Eurofins TestAmerica, Sacramento

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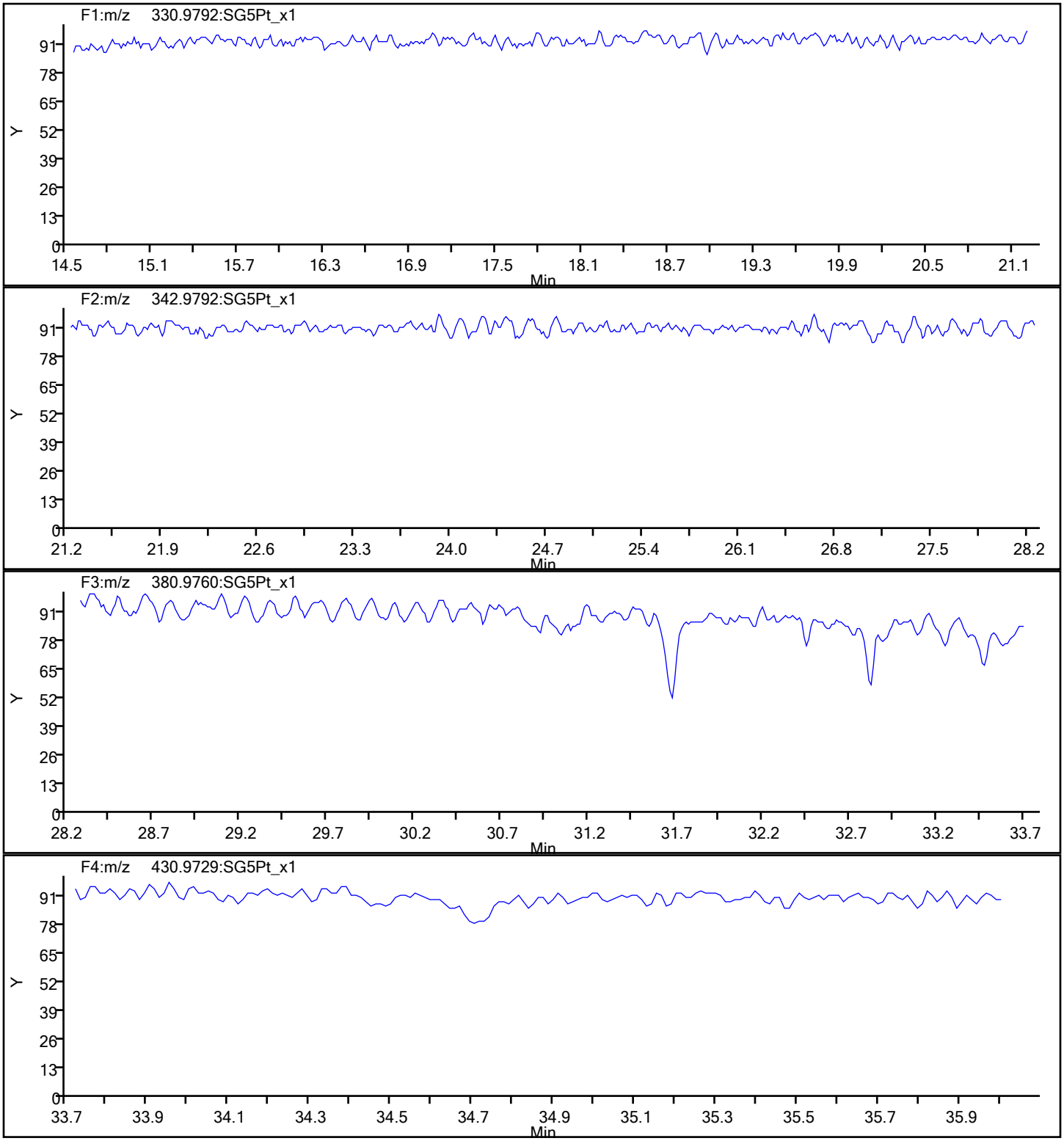

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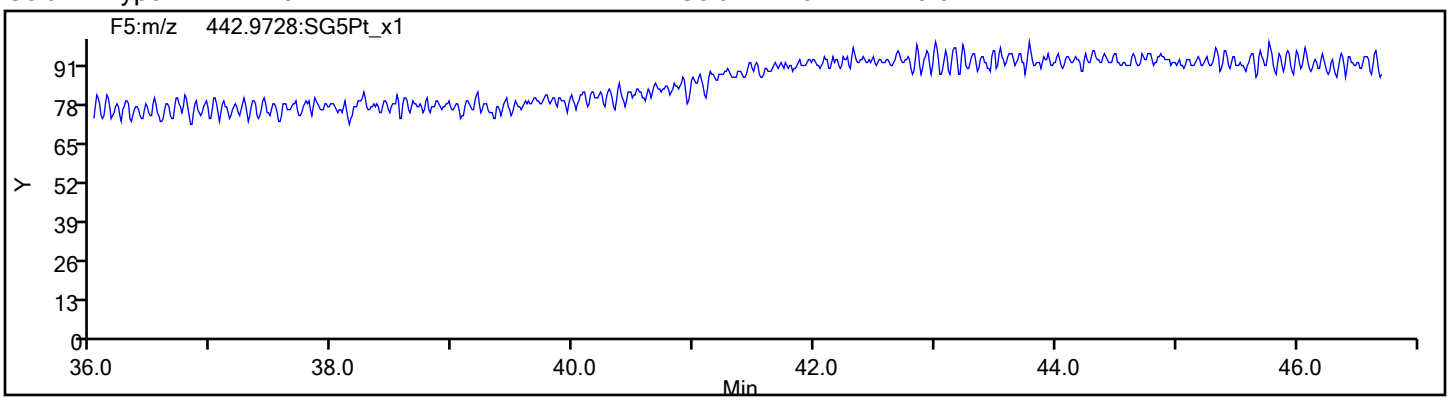

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_5.d
Lims ID: IC 4
Client ID: L4
Sample Type: IC Calib Level: 4
Inject. Date: 21-May-2019 15:06:18 ALS Bottle#: 6 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 052119B CS-4 HRDXNL4_00077
Misc. Info.: 21MY193D5
Operator ID: AJS Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 22-May-2019 11:44:36 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: shardaa Date: 21-May-2019 18:28:08

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.444	266049262	0.77	3.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.900	368458287	0.78	1.3908	99.6	99.6	0.2009	0.2009	99.58	
2,3,7,8-TCDF	17.915	34095990	0.80	0.9710	9.530	9.530	0.0358	0.0358	95.30	
S Total TCDF					9.530	9.530	0.0358	0.0358		
D 13C-2,3,7,8-TCDD	18.641	261889190	0.80	0.9819	100.3	100.3	0.2183	0.2183	100	
2,3,7,8-TCDD	18.656	25780110	0.76	1.0447	9.423	9.423	0.0450	0.0450	94.23	
$ 37Cl4-2,3,7,8-TCDD	18.656	32252457		1.2205	9.932	9.932	0.0388	0.0388	99.32	
S Total TCDD					9.423	9.423	0.0450	0.0450		
D 13C-1,2,3,7,8-PeCDF	23.107	298897976	1.58	1.1585	97.0	97.0	0.2736	0.2736	96.98	
1,2,3,7,8-PeCDF	23.134	139131385	1.59	0.9633	48.3	48.3	0.2002	0.2002	96.64	
D 13C-2,3,4,7,8-PeCDF	24.498	289155560	1.61	1.1532	94.2	94.2	0.2748	0.2748	94.25	
2,3,4,7,8-PeCDF	24.512	134668117	1.60	0.9495	49.0	49.0	0.2285	0.2285	98.10	
S Total PeCDF					97.4	97.4	0.2143	0.2143		
D 13C-1,2,3,7,8-PeCDD	25.248	187564907	1.55	0.7431	94.9	94.9	0.1307	0.1307	94.87	
1,2,3,7,8-PeCDD	25.275	96734118	1.59	1.0635	48.5	48.5	0.1237	0.1237	96.99	
S Total PeCDD					48.5	48.5	0.1237	0.1237		
D 13C-1,2,3,4,7,8-HxCDF	31.058	204574619	0.51	0.9837	99.0	99.0	0.3905	0.3905	98.96	
1,2,3,4,7,8-HxCDF	31.071	119503669	1.26	1.2173	48.0	48.0	0.2220	0.2220	95.97	
D 13C-1,2,3,6,7,8-HxCDF	31.204	243762567	0.51	1.1554	100.4	100.4	0.3325	0.3325	100	
1,2,3,6,7,8-HxCDF	31.231	132954258	1.24	1.1311	48.2	48.2	0.2080	0.2080	96.44	
D 13C-2,3,4,6,7,8-HxCDF	31.923	214979709	0.53	1.0361	98.7	98.7	0.3708	0.3708	98.74	
2,3,4,6,7,8-HxCDF	31.950	122235023	1.22	1.1710	48.6	48.6	0.1945	0.1945	97.11	
D 13C-1,2,3,7,8,9-HxCDF	32.682	192845424	0.51	0.9034	101.6	101.6	0.4252	0.4252	102	
1,2,3,7,8,9-HxCDF	32.696	107848697	1.27	1.1787	47.4	47.4	0.1963	0.1963	94.89	
S Total HxCDF					192.2	192.2	0.2052	0.2052		
* 13C-1,2,3,7,8,9-HxCDD	32.509	210143837	1.24	2.6E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	32.097	167611922	1.28	0.8287	96.2	96.2	0.3109	0.3109	96.25	
1,2,3,4,7,8-HxCDD	32.123	83380770	1.22	1.0267	48.5	48.5	0.1554	0.1554	96.91	
D 13C-1,2,3,6,7,8-HxCDD	32.203	198645382	1.25	0.9495	99.6	99.6	0.2714	0.2714	99.56	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	32.216	93685468	1.24	0.9771	48.3	48.3	0.1493	0.1493	96.54	
1,2,3,7,8,9-HxCDD	32.522	94615681	1.22	1.0616	48.7	48.7	0.1436	0.1436	97.34	
S Total HxCDD					145.4	145.4	0.1495	0.1495		
D 13C-1,2,3,4,6,7,8-HpCDF	34.109	151704886	0.44	0.7285	99.1	99.1	0.6761	0.6761	99.10	
1,2,3,4,6,7,8-HpCDF	34.109	104642592	1.05	1.4373	48.0	48.0	0.3018	0.3018	95.98	
D 13C-1,2,3,4,7,8,9-HpCDF	35.239	132981445	0.44	0.6556	96.5	96.5	0.7512	0.7512	96.52	
1,2,3,4,7,8,9-HpCDF	35.251	85304719	1.08	1.3091	49.0	49.0	0.4205	0.4205	98.00	
S Total HpCDF					97.0	97.0	0.3612	0.3612		
D 13C-1,2,3,4,6,7,8-HpCDD	34.935	145580797	1.06	0.6978	99.3	99.3	0.3229	0.3229	99.27	
1,2,3,4,6,7,8-HpCDD	34.947	70431011	1.07	1.0102	47.9	47.9	0.1683	0.1683	95.78	
S Total HpCDD					47.9	47.9	0.1683	0.1683		
D 13C-OCDD	37.395	198157571	0.91	0.4780	197.3	197.3	0.1963	0.1963	98.64	
OCDF	37.502	127299796	0.90	1.3501	95.2	95.2	0.1005	0.1005	95.16	
OCDD	37.407	99639255	0.88	1.0627	94.6	94.6	0.0948	0.0948	94.63	

Reagents:

HRDXNL4_00077 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_5.d
Lims ID: IC 4
Client ID: L4
Sample Type: IC Calib Level: 4
Inject. Date: 21-May-2019 15:06:18 ALS Bottle#: 6 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 052119B CS-4 HRDXNL4_00077
Misc. Info.: 21MY193D5
Operator ID: AJS Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 22-May-2019 11:44:36 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: shardaa Date: 21-May-2019 18:28:08

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.444	18.432	1		115409102	26876030	32374	80935	830		
333.9339	18.429	18.432	0		150640160	34794780	20496	51240	1698	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.900	17.900	0	0.970	161611339	37857902	37163	92907	1019		
317.9389	17.900	17.900	0	0.970	206846948	48544839	31755	79387	1529	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.915	17.915	0	1.001	15155491	3540914	4388	10970	807		
305.8987	17.915	17.915	0	1.001	18940499	4391318	7617	19042	577	0.80(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	18.641	18.629	1	1.011	116390874	26085587	32374	80935	806		
333.9339	18.641	18.629	1	1.011	145498316	32377032	20496	51240	1580	0.80(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.656	18.650	0	1.001	11105372	2557544	7211	18027	355		
321.8936	18.656	18.650	0	1.001	14674738	3371473	3781	9452	892	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.656	18.650	0	1.011	32252457	7507581	11695	29237	642		
13C-1,2,3,7,8-PeCDF											
351.9000	23.107	23.102	0	1.253	183093949	30991106	47422	118555	654		
353.8970	23.107	23.102	0	1.253	115804027	19703925	30757	76892	641	1.58(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	23.134	23.123	1	1.001	85372872	14692390	21519	53797	683		
341.8567	23.134	23.123	1	1.001	53758513	9133099	17591	43977	519	1.59(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	24.498	24.487	1	1.328	178351094	27915830	47422	118555	589		
353.8970	24.498	24.487	1	1.328	110804466	17158662	30757	76892	558	1.61(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	24.512	24.512	0	1.001	82957658	12768013	21519	53797	593		
341.8567	24.512	24.512	0	1.001	51710459	7992834	17591	43977	454	1.60(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	25.248	25.237	1	1.369	113879311	16891506	13841	34602	1220		
369.8919	25.248	25.237	1	1.369	73685596	10806687	10115	25287	1068	1.55(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	25.275	25.264	1	1.001	59364444	8621004	9389	23472	918		
357.8516	25.262	25.264	0	1.001	37369674	5641991	5185	12962	1088	1.59(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	31.058	31.050	0	0.955	69170755	15462791	29852	74630	518		
385.8610	31.058	31.050	0	0.955	135403864	30489139	57905	144762	527	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	31.071	31.069	0	1.000	66722074	15152198	28009	70022	541		
375.8178	31.071	31.069	0	1.000	52781595	11824196	21672	54180	546	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	31.204	31.202	0	0.960	82294114	17939751	29852	74630	601		
385.8610	31.204	31.202	0	0.960	161468453	34852309	57905	144762	602	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	31.231	31.223	0	1.001	73634652	16064424	28009	70022	574		
375.8178	31.231	31.223	0	1.001	59319606	12673810	21672	54180	585	1.24(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.923	31.923	0	0.982	74428362	19086994	29852	74630	639		
385.8610	31.937	31.923	1	0.982	140551347	35443376	57905	144762	612	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.950	31.942	0	1.001	67241149	17462291	28009	70022	623		
375.8178	31.950	31.942	0	1.001	54993874	14100239	21672	54180	651	1.22(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.682	32.674	0	1.005	65214236	18185504	29852	74630	609		
385.8610	32.682	32.674	0	1.005	127631188	35502412	57905	144762	613	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.696	32.690	0	1.000	60238244	16299014	28009	70022	582		
375.8178	32.696	32.690	0	1.000	47610453	13156851	21672	54180	607	1.27(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.509	32.499	1		116316729	31649024	31377	78442	1009		
403.8529	32.509	32.499	1		93827108	25460428	27484	68710	926	1.24(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	32.097	32.094	0	0.987	93966382	26505162	31377	78442	845		
403.8529	32.097	32.094	0	0.987	73645540	20875533	27484	68710	760	1.28(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	32.123	32.110	1	1.001	45886132	12984809	17184	42960	756		
391.8127	32.110	32.110	0	1.000	37494638	10729855	13057	32642	822	1.22(1.05-1.43)	

Report Date: 22-May-2019 11:44:38 Chrom Revision: 2.3 12-May-2019 16:28:34
Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_5.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.203	32.192	1	0.991	110256363	28819201	31377	78442	918		
403.8529	32.203	32.192	1	0.991	88389019	22989210	27484	68710	836	1.25(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	32.216	32.208	0	1.000	51880686	13336545	17184	42960	776		
391.8127	32.216	32.208	0	1.000	41804782	10671735	13057	32642	817	1.24(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.522	32.515	0	1.013	51996898	14524491	17184	42960	845		
391.8127	32.522	32.515	0	1.013	42618783	11370334	13057	32642	871	1.22(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	34.109	34.097	1	1.049	46437684	14562239	43102	107755	338		
419.8220	34.109	34.097	1	1.049	105267202	31836549	69410	173525	459	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.109	34.104	0	1.000	53669497	16365625	48996	122490	334		
409.7789	34.109	34.104	0	1.000	50973095	15923444	31519	78797	505	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	35.239	35.232	0	1.084	40848270	11335642	43102	107755	263		
419.8220	35.239	35.232	0	1.084	92133175	25226760	69410	173525	363	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.251	35.244	0	1.000	44232261	12025615	48996	122490	245		
409.7789	35.251	35.244	0	1.000	41072458	11169863	31519	78797	354	1.08(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.935	34.928	0	1.075	75046592	22172961	27595	68987	804		
437.8140	34.935	34.928	0	1.075	70534205	20663187	23874	59685	866	1.06(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.947	34.940	0	1.000	36447681	10763040	16962	42405	635		
425.7737	34.947	34.940	0	1.000	33983330	9873100	12169	30422	811	1.07(0.88-1.20)	
13C-OCDD											
469.7779	37.395	37.392	0	1.150	94612024	23602015	12332	30830	1914		
471.7750	37.395	37.392	0	1.150	103545547	26272538	9097	22742	2888	0.91(0.76-1.02)	
OCDF											
441.7428	37.502	37.500	0	1.003	60453653	15029871	5725	14312	2625		
443.7399	37.502	37.500	0	1.003	66846143	16385060	7807	19517	2099	0.90(0.76-1.02)	
OCDD											
457.7377	37.407	37.402	0	1.000	46609560	11941191	5098	12745	2342		
459.7348	37.407	37.402	0	1.000	53029695	13454490	4948	12370	2719	0.88(0.76-1.02)	

Reagents:

HRDXNL4_00077 Amount Added: 1.00 Units: mL

Report Date: 22-May-2019 11:44:38 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_5.d		
Injection Date:	21-May-2019 15:06:18	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L4		
Worklist#:	296020	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

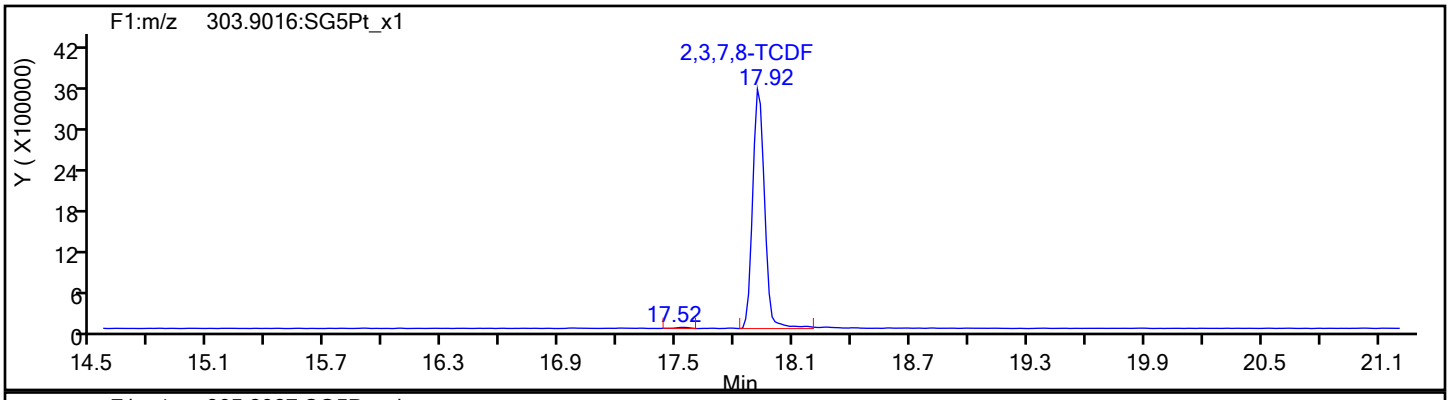

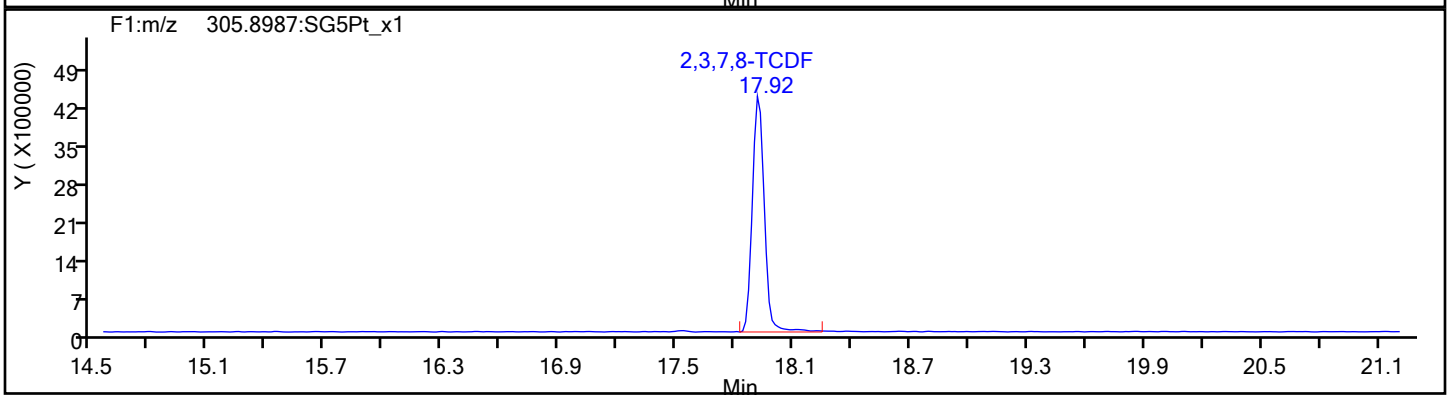

TCDF Standards

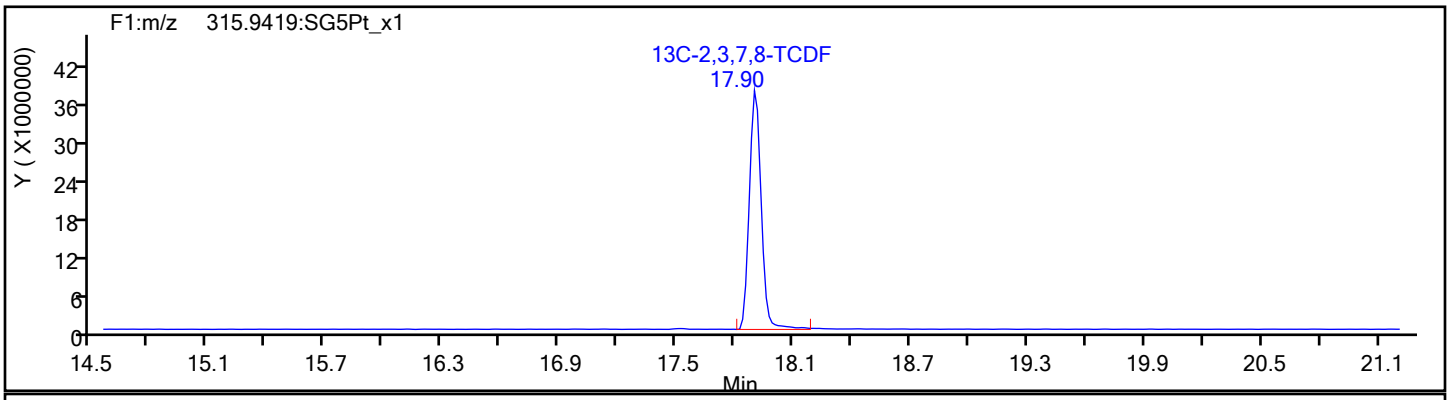

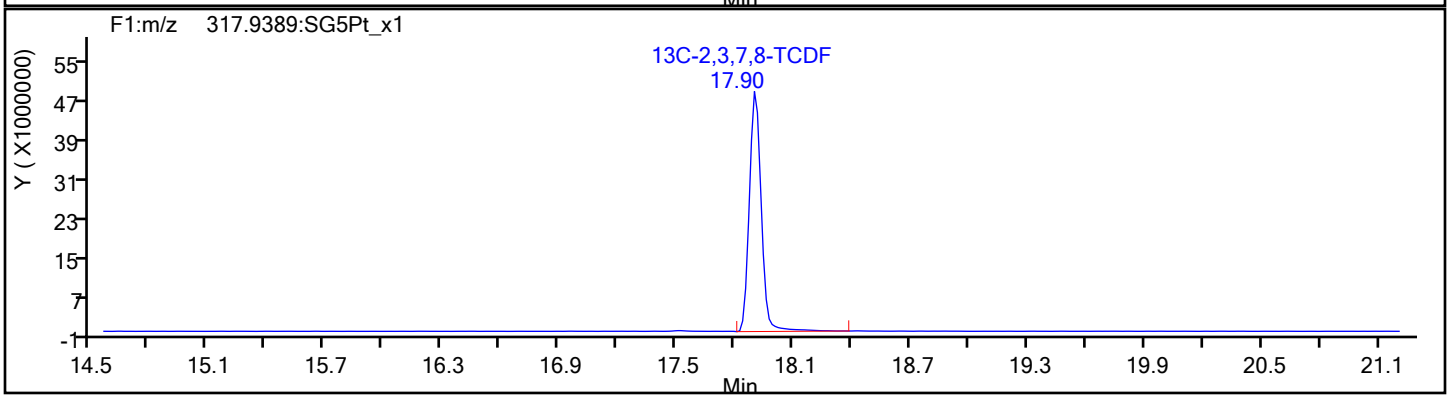

Report Date: 22-May-2019 11:44:38 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_5.d		
Injection Date:	21-May-2019 15:06:18	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L4		
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

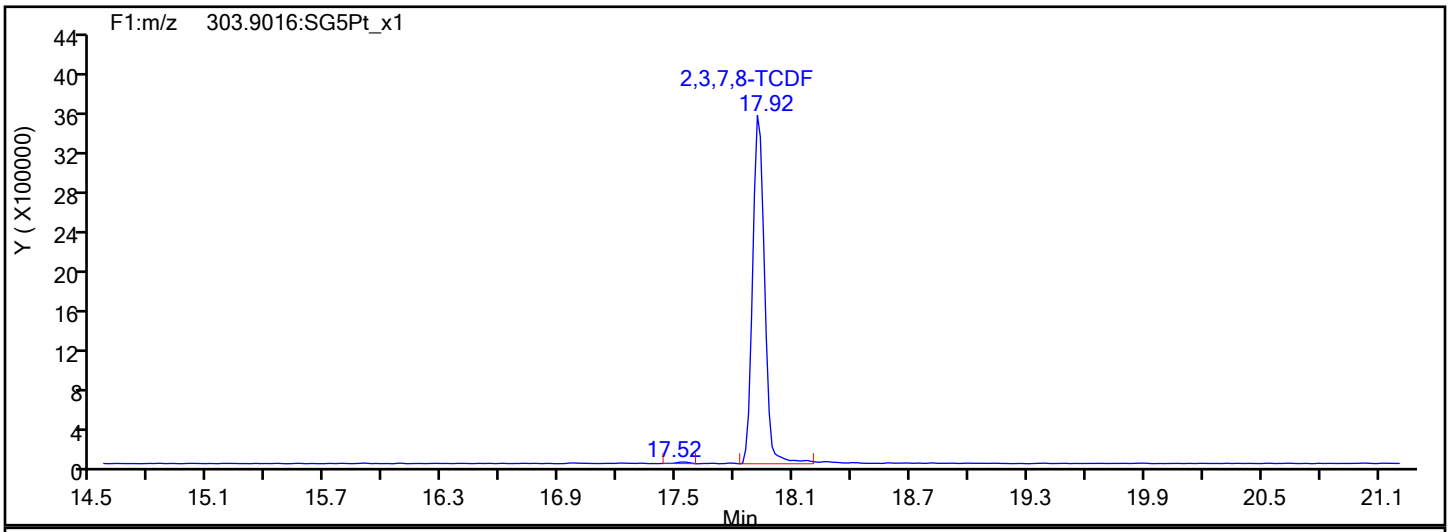

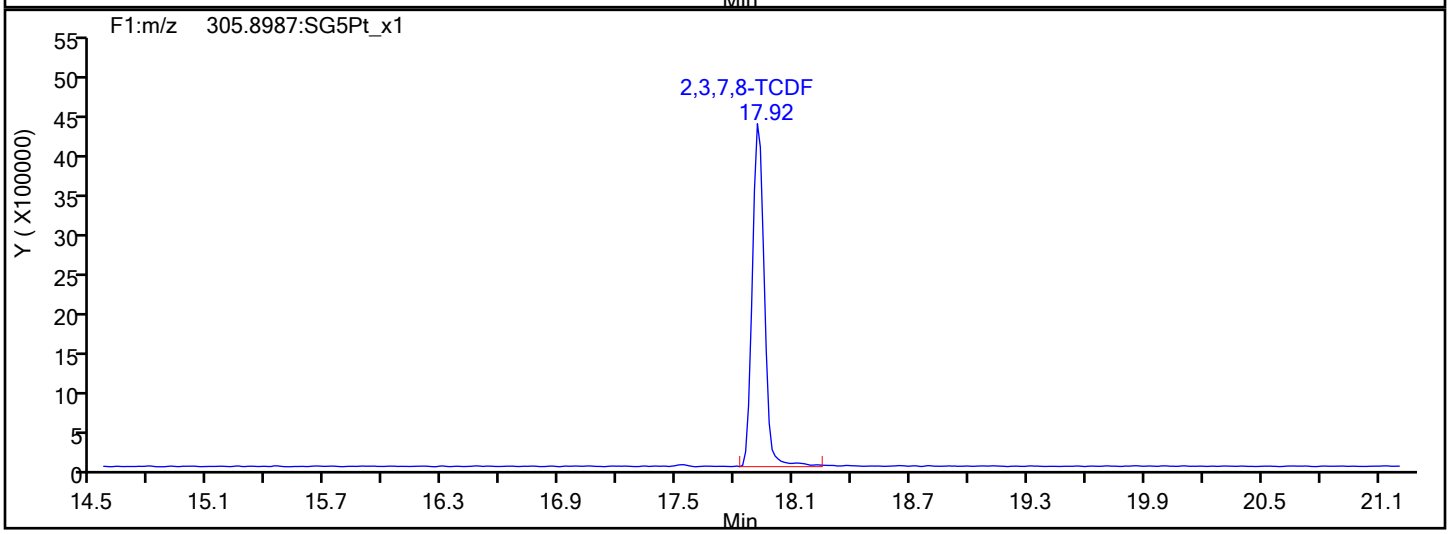

TCDF Interference Mass

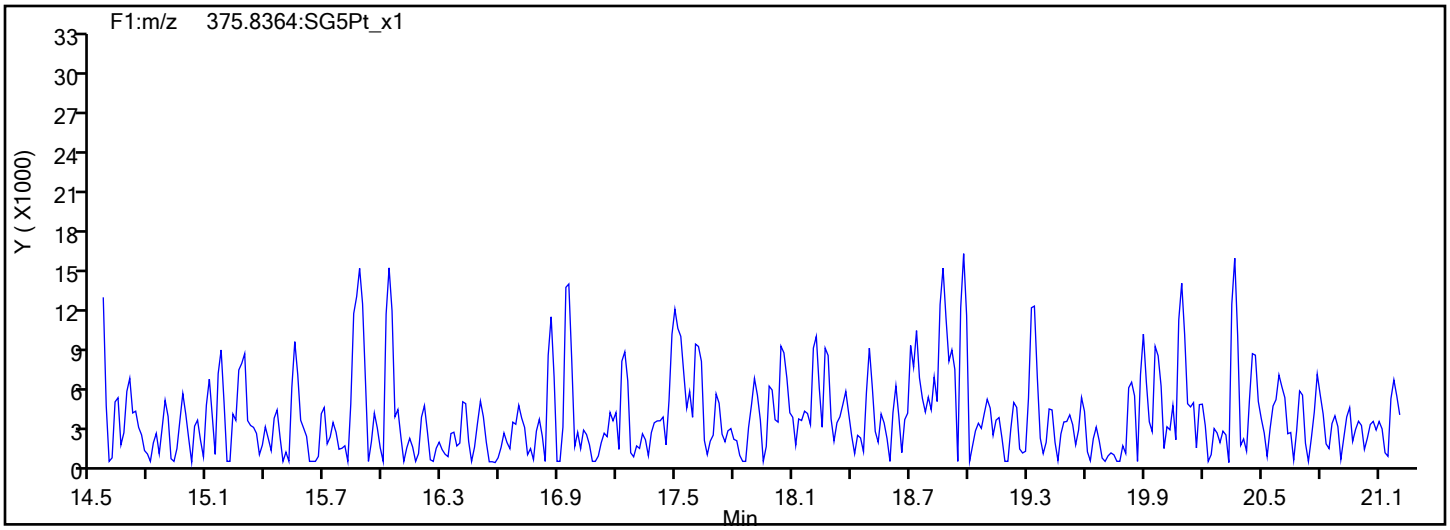

Report Date: 22-May-2019 11:44:38 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_5.d		
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

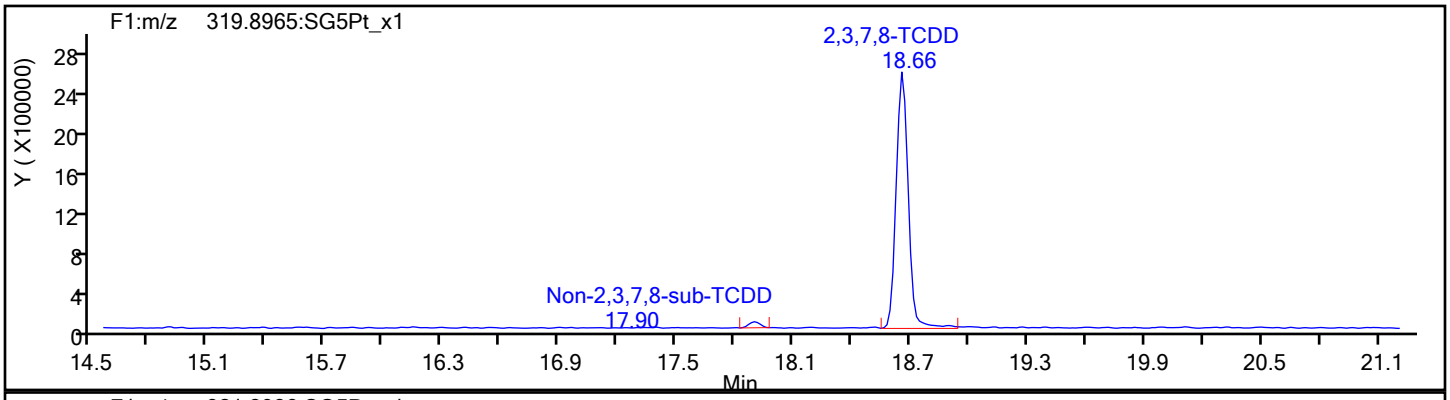

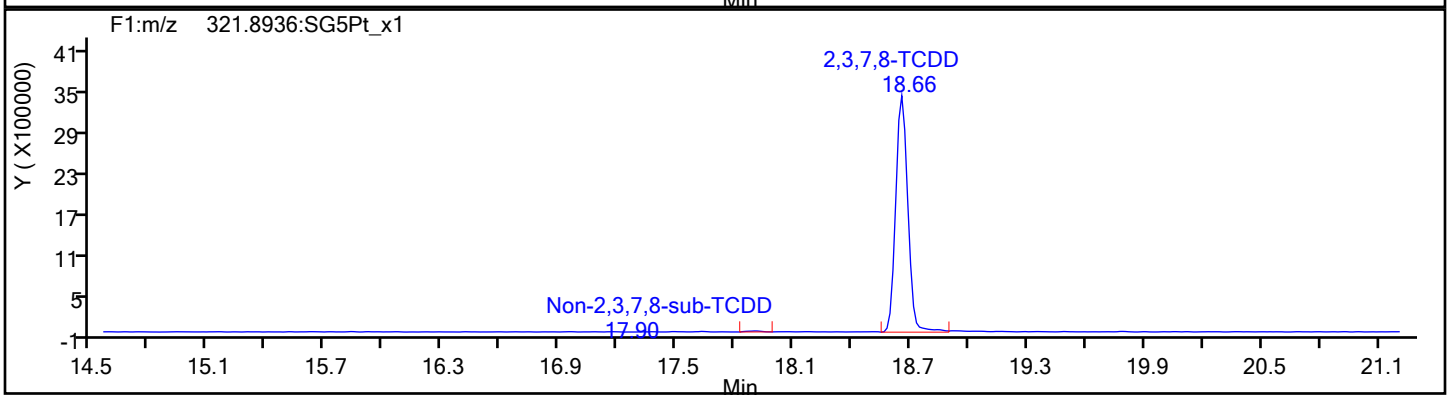

TCDD Standards

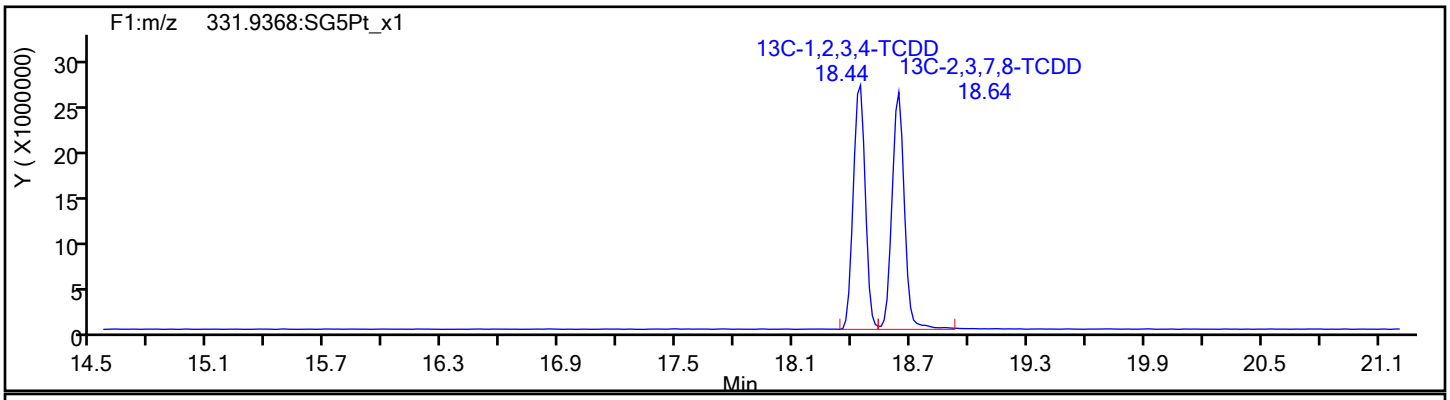

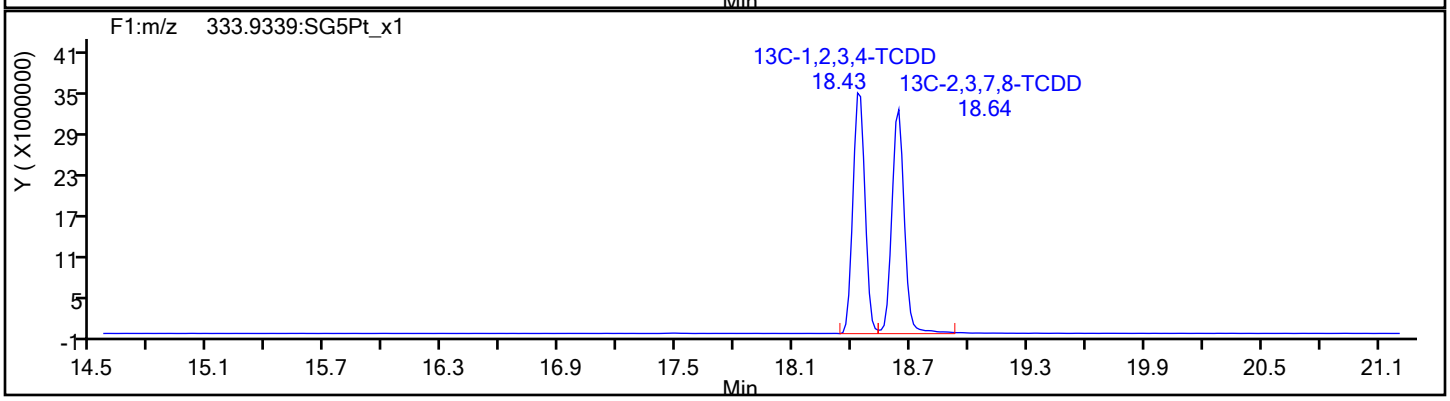

Report Date: 22-May-2019 11:44:38 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

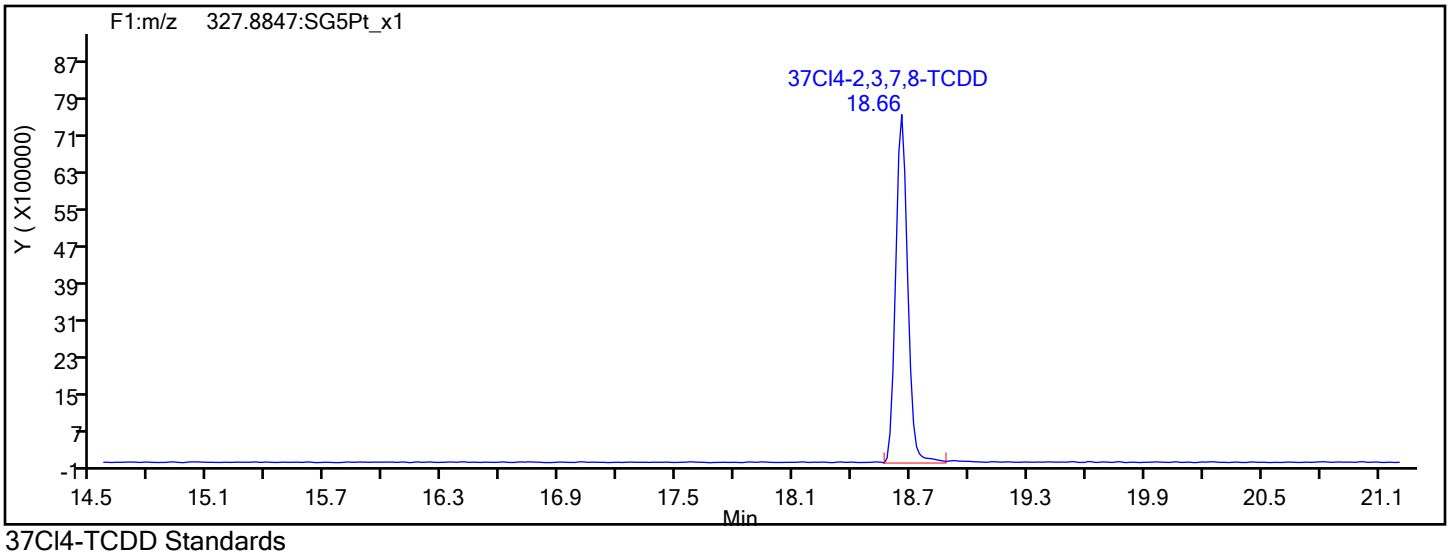

37Cl4-TCDD Standards

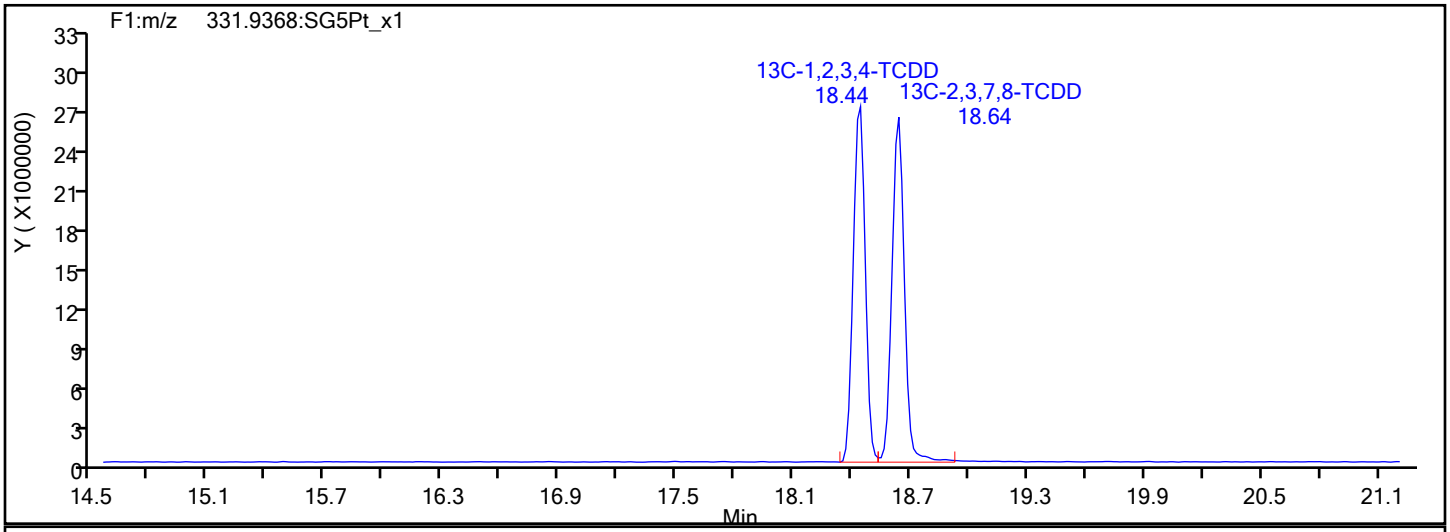

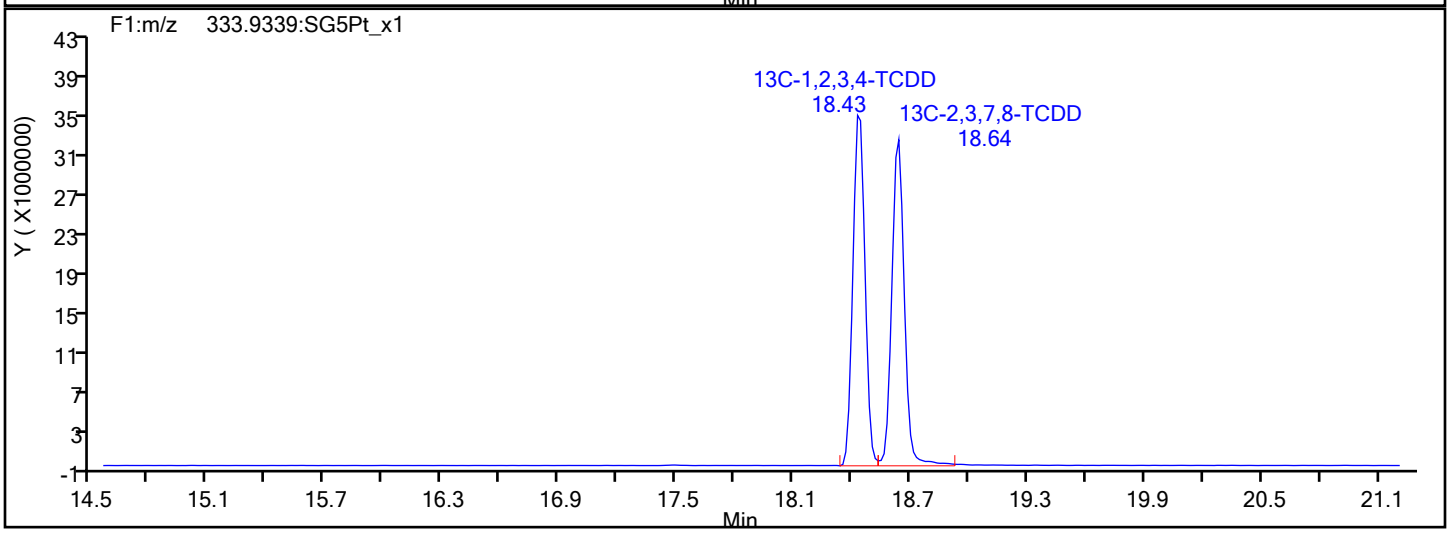

Report Date: 22-May-2019 11:44:38 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

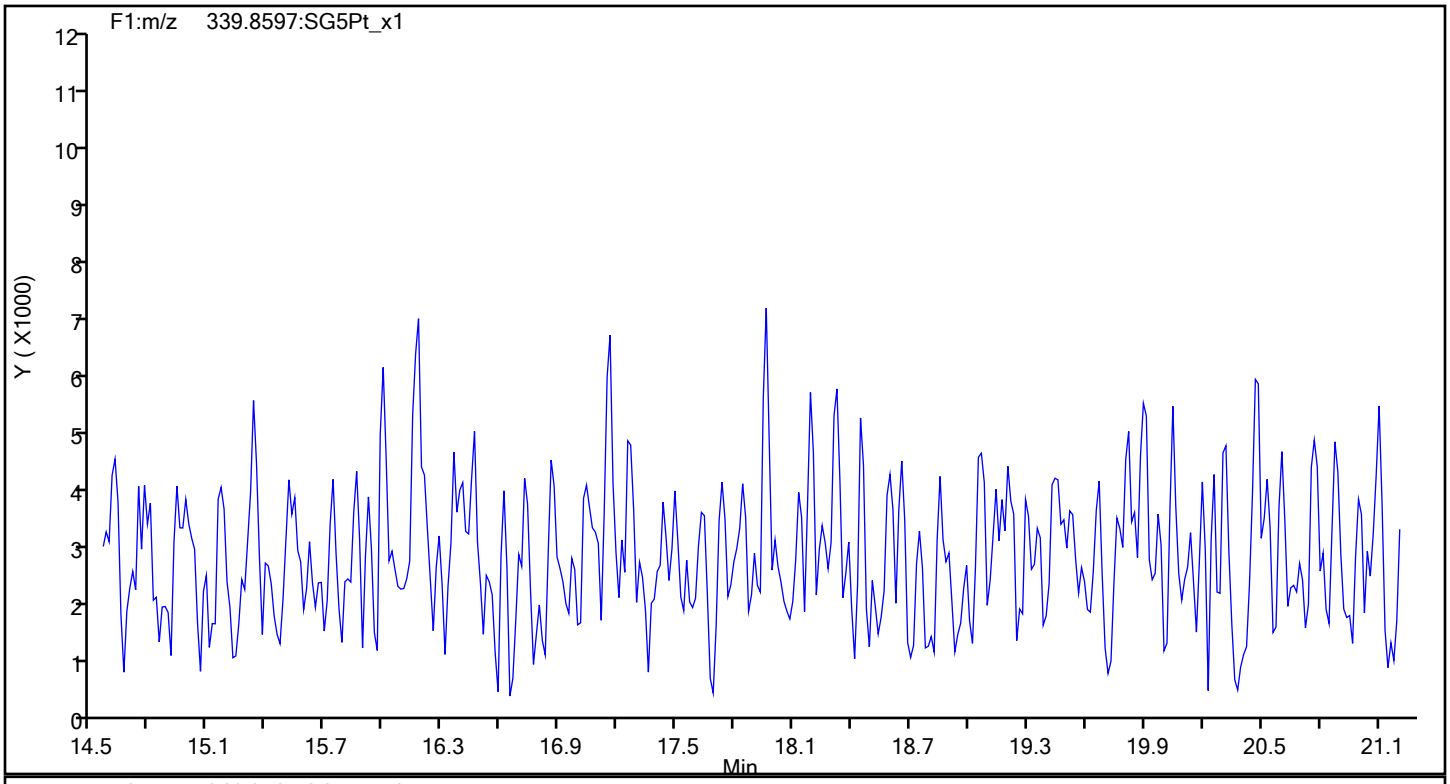

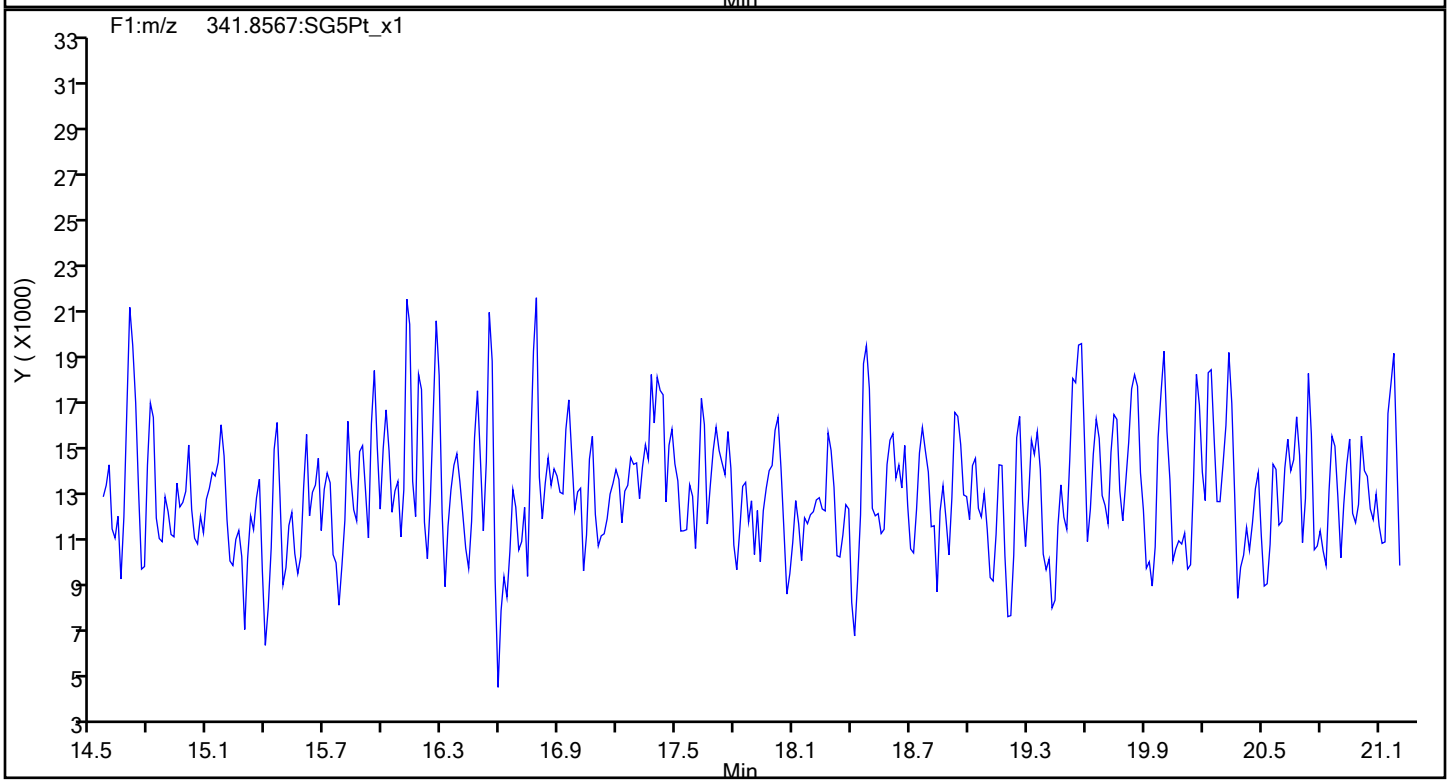

Report Date: 22-May-2019 11:44:38 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

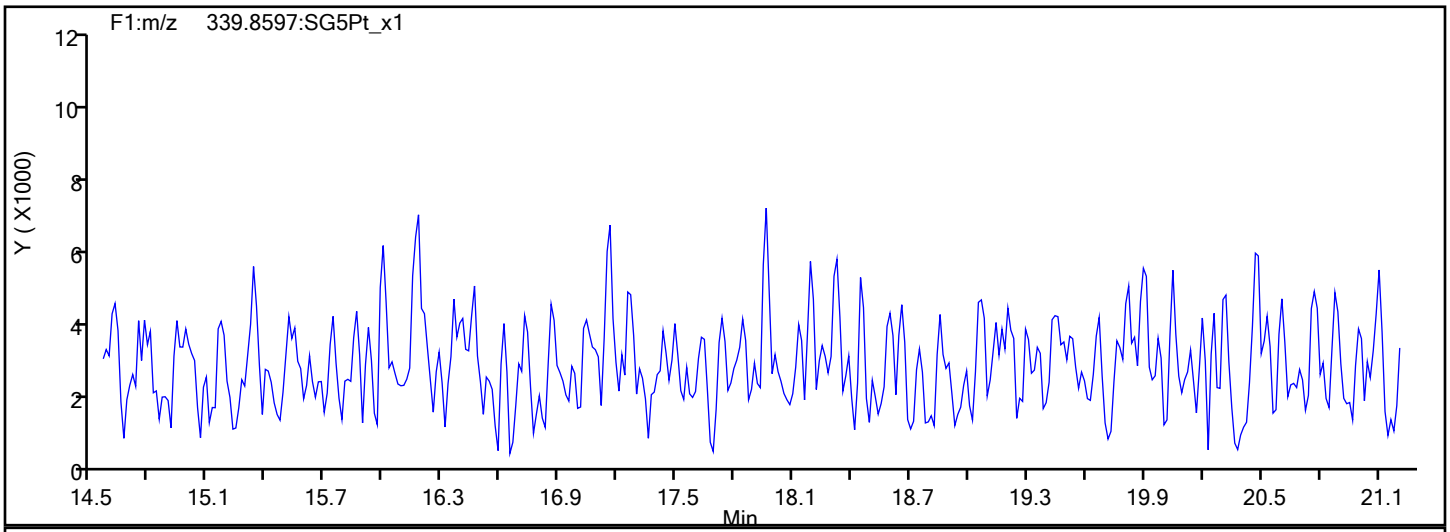

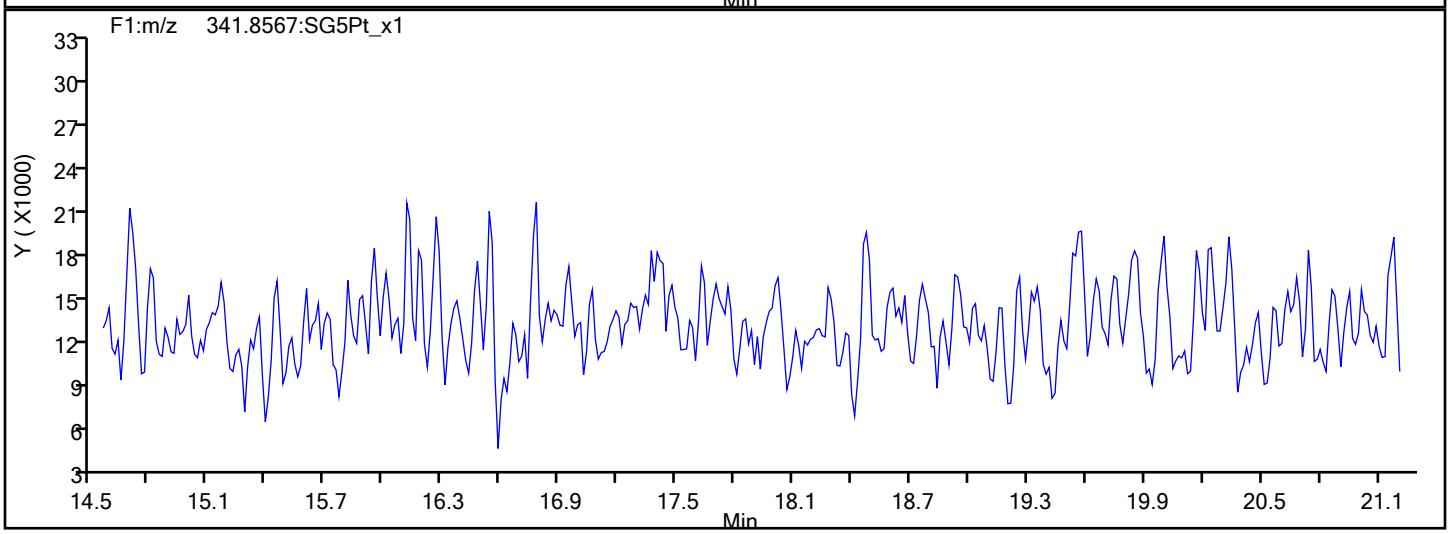

F1 PeCDFs Interference Mass

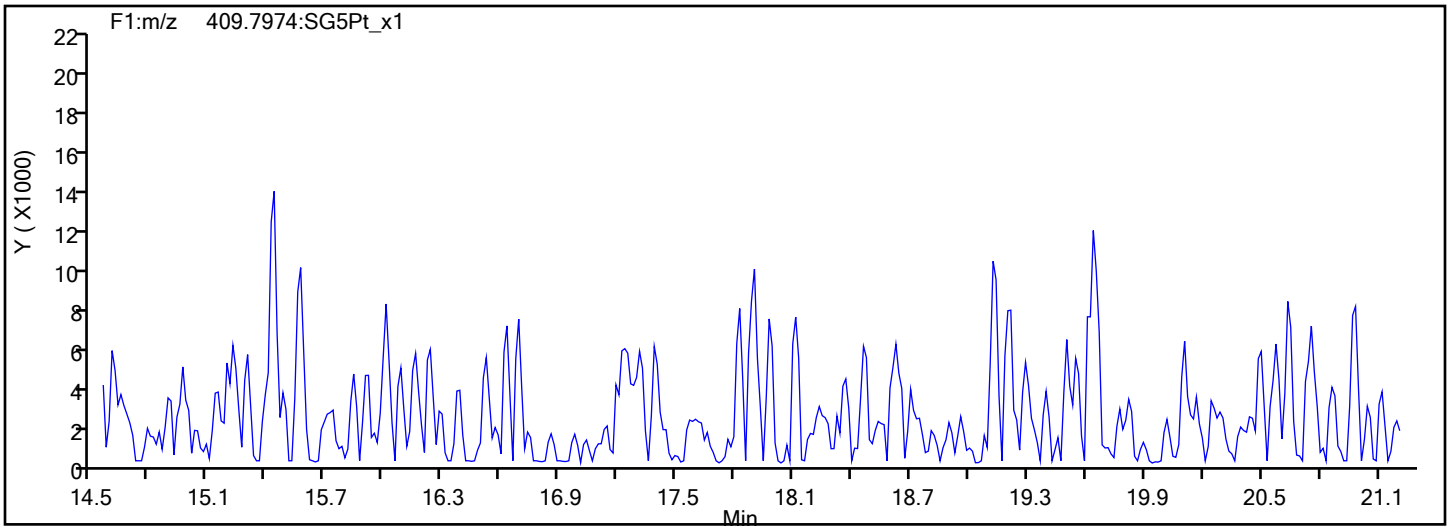

Report Date: 22-May-2019 11:44:38 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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PeCDF

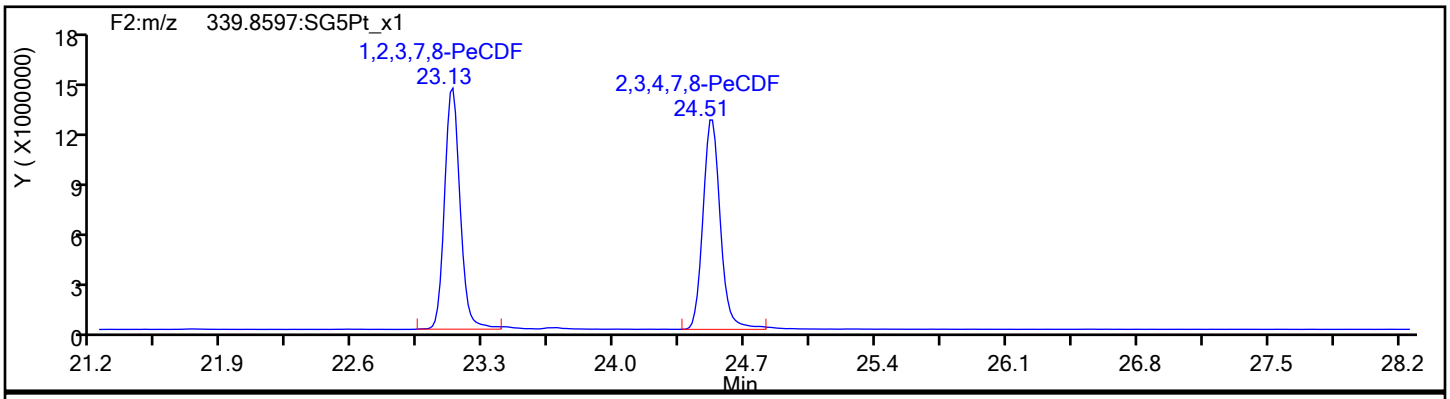

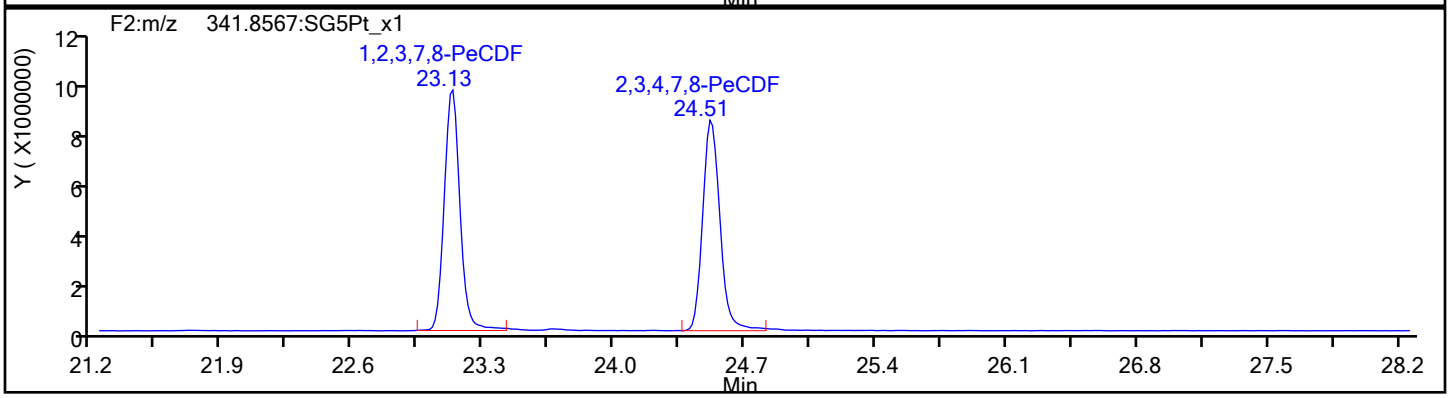

PeCDF Standards

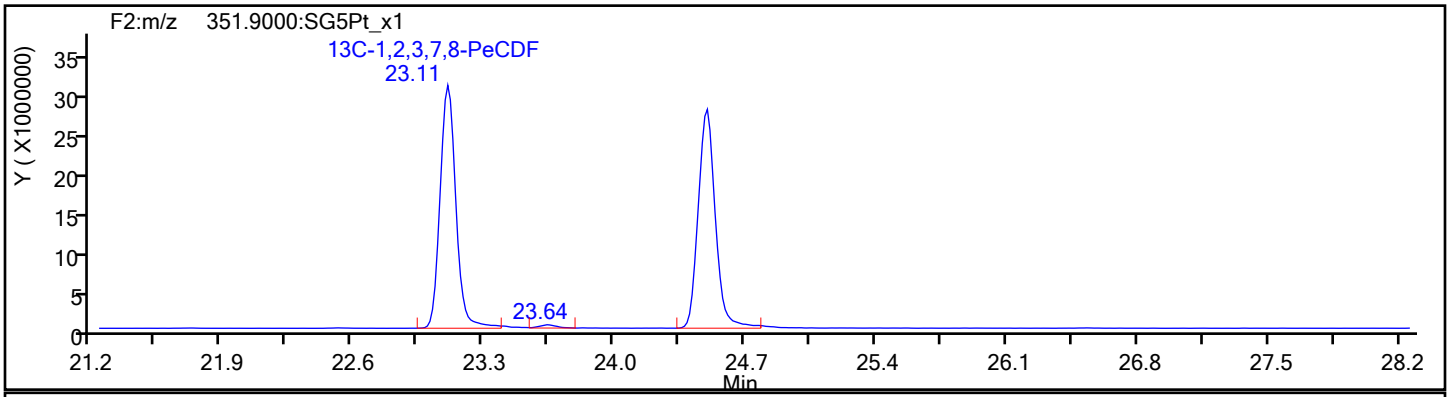

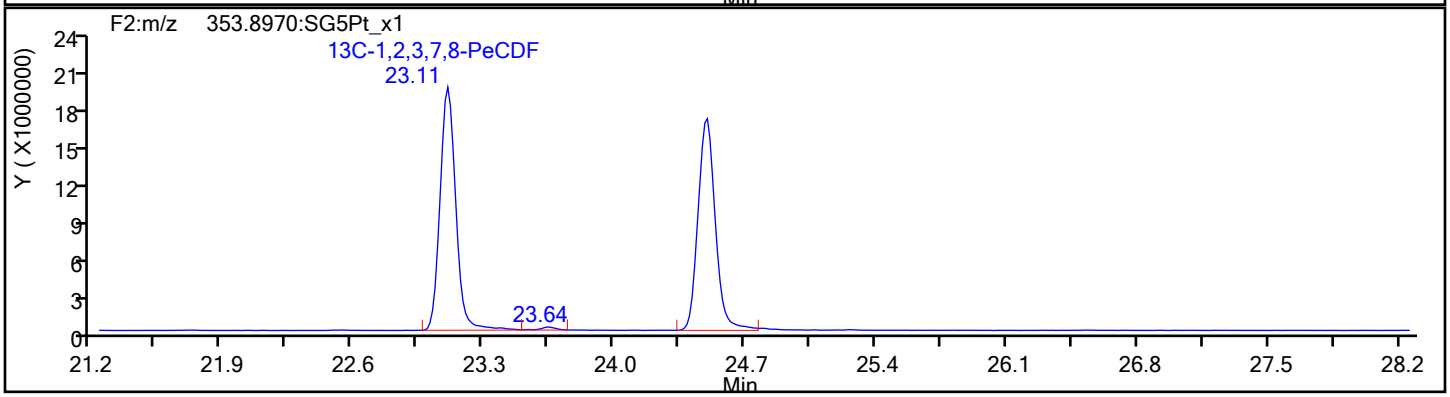

Report Date: 22-May-2019 11:44:38 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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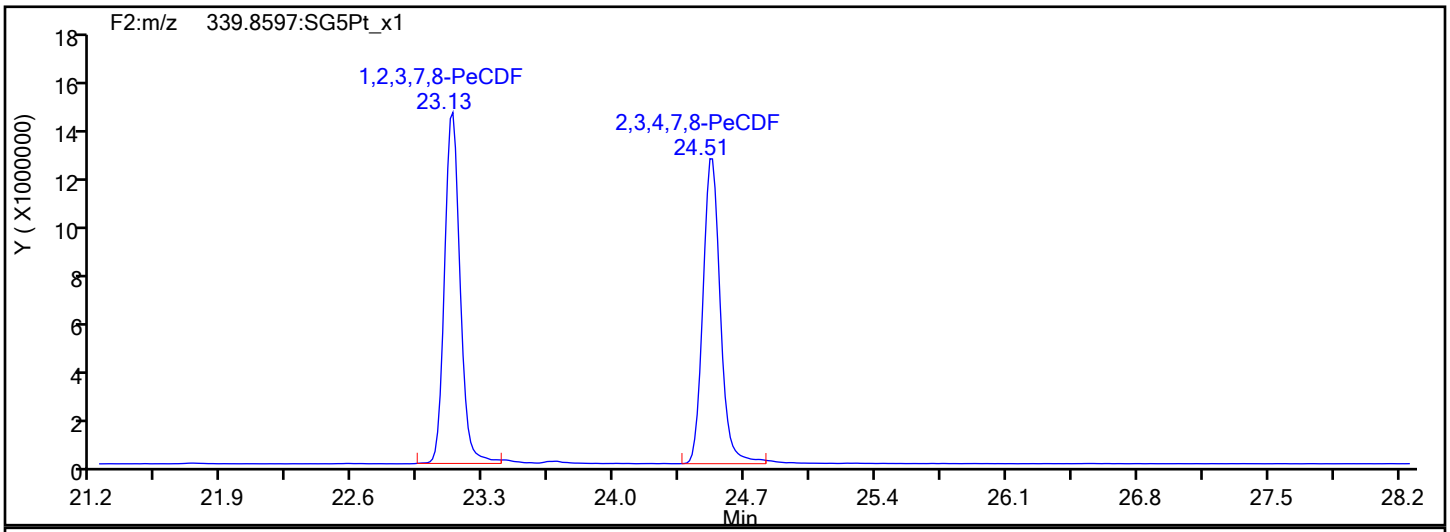

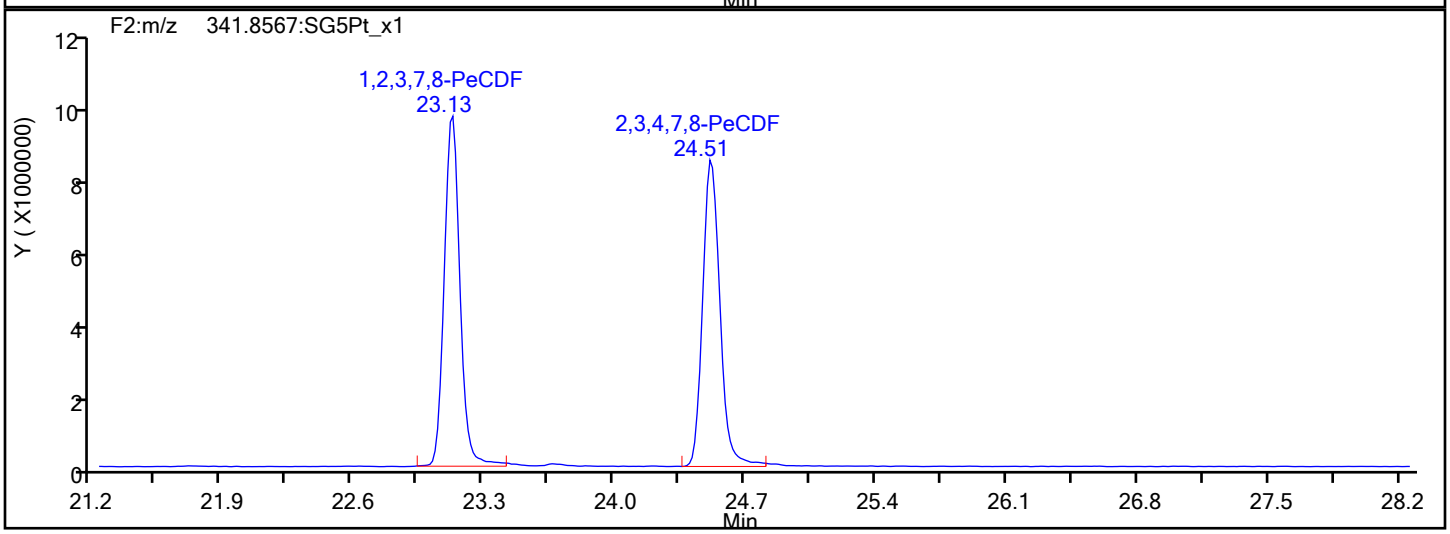

PeCDF Interference Mass

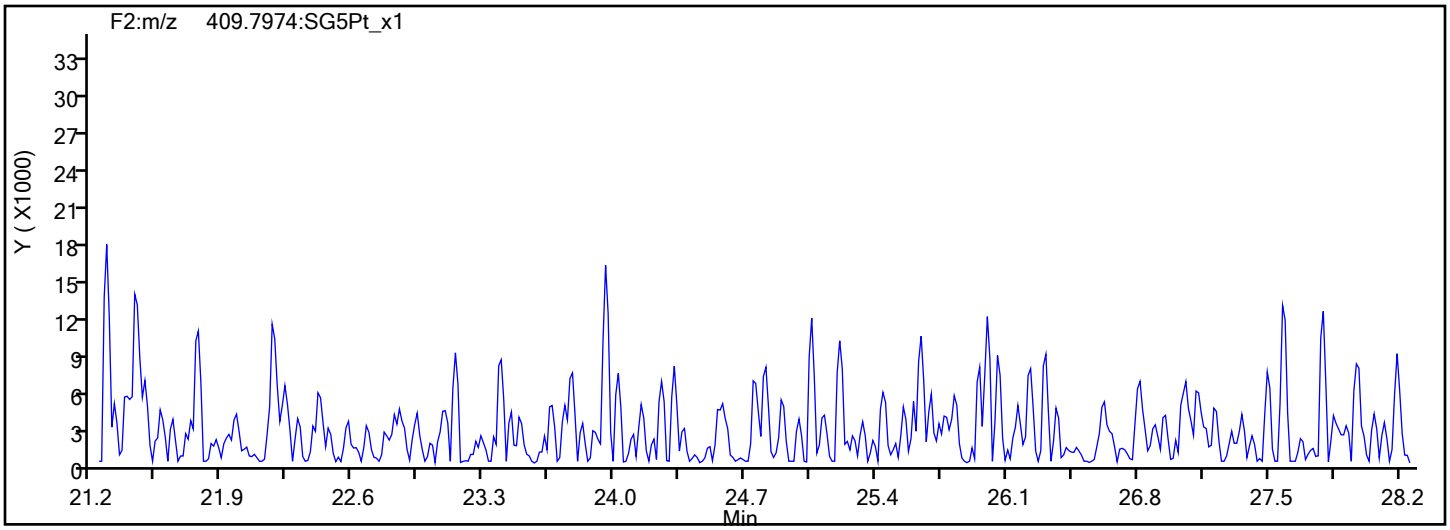

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Eurofins TestAmerica, Sacramento

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PeCDD

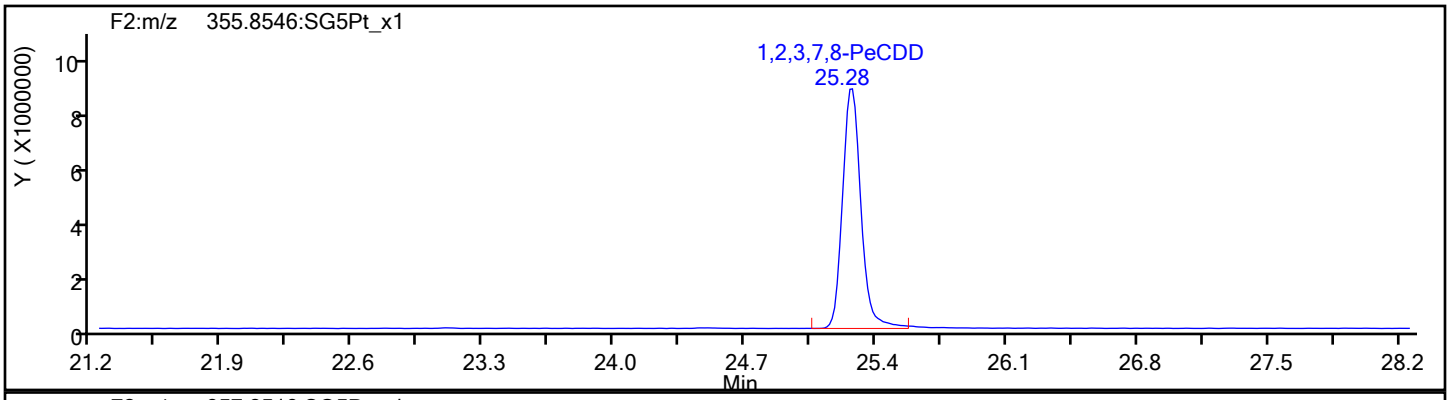

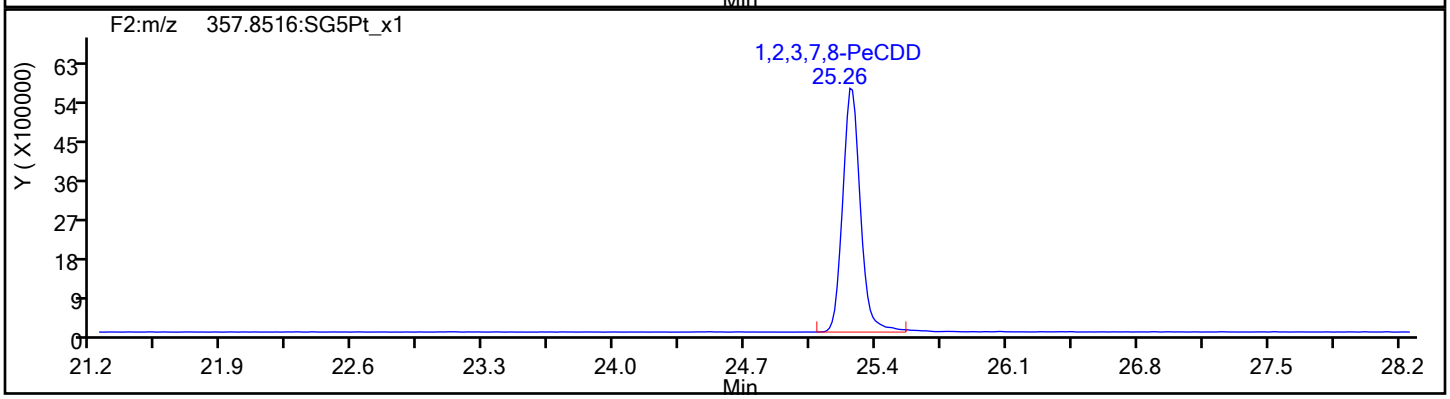

PeCDD Standards

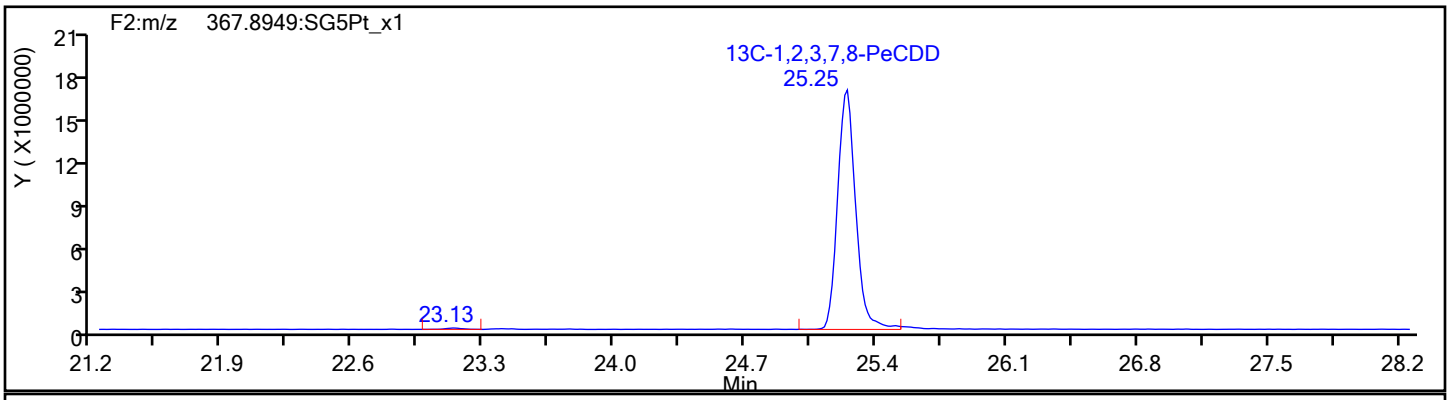

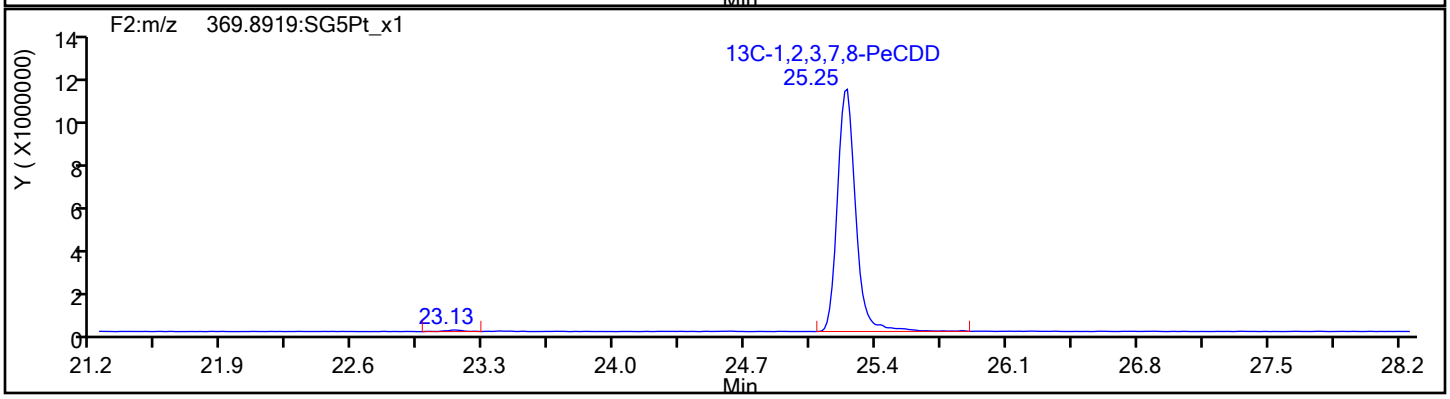

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Eurofins TestAmerica, Sacramento

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HxCDF

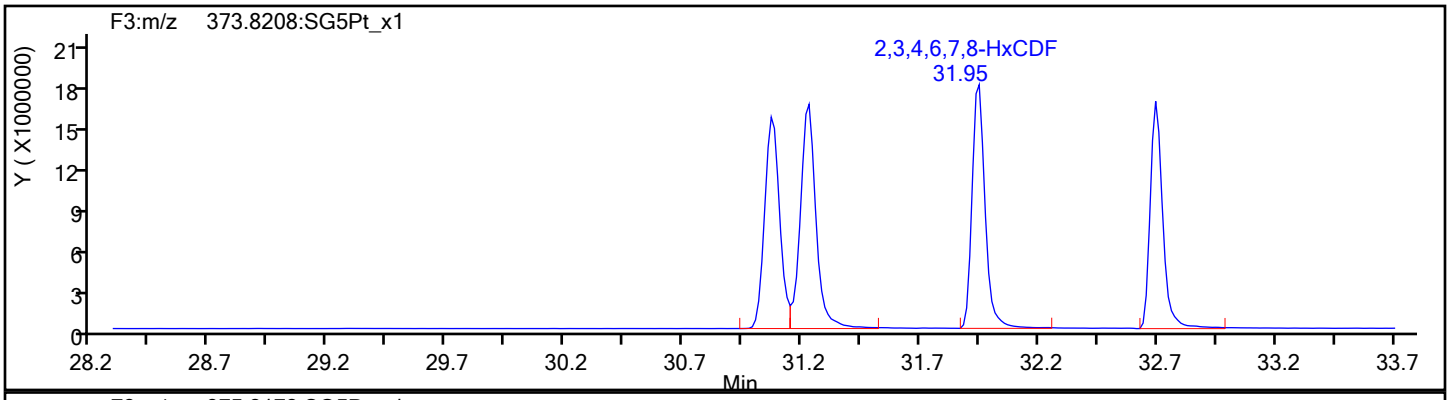

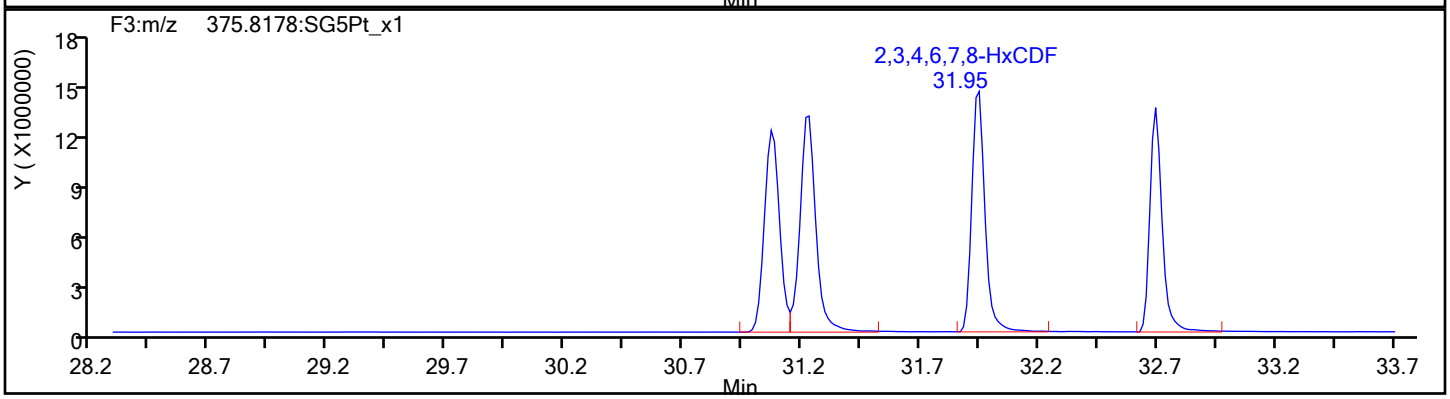

HxCDF Standards

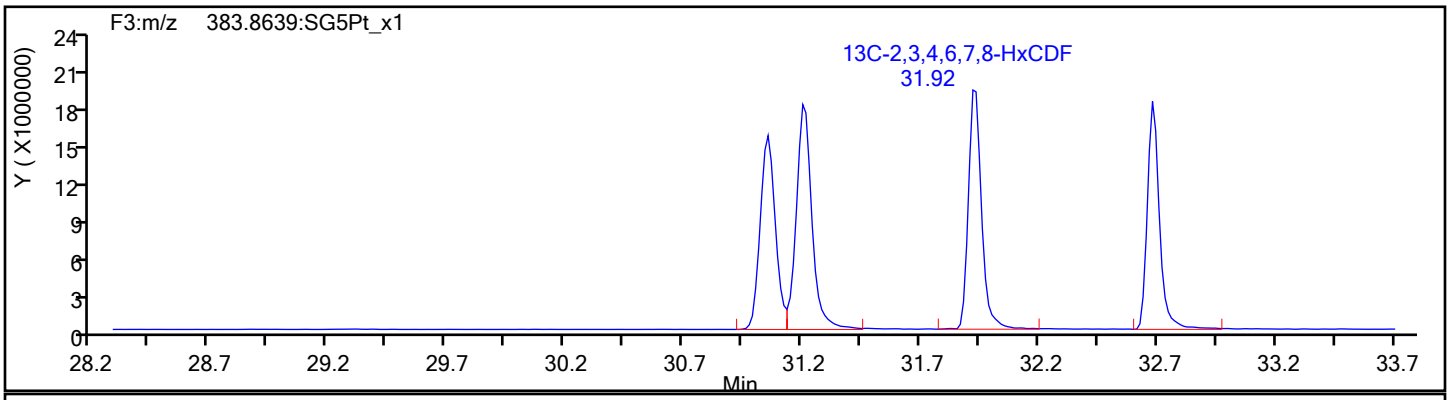

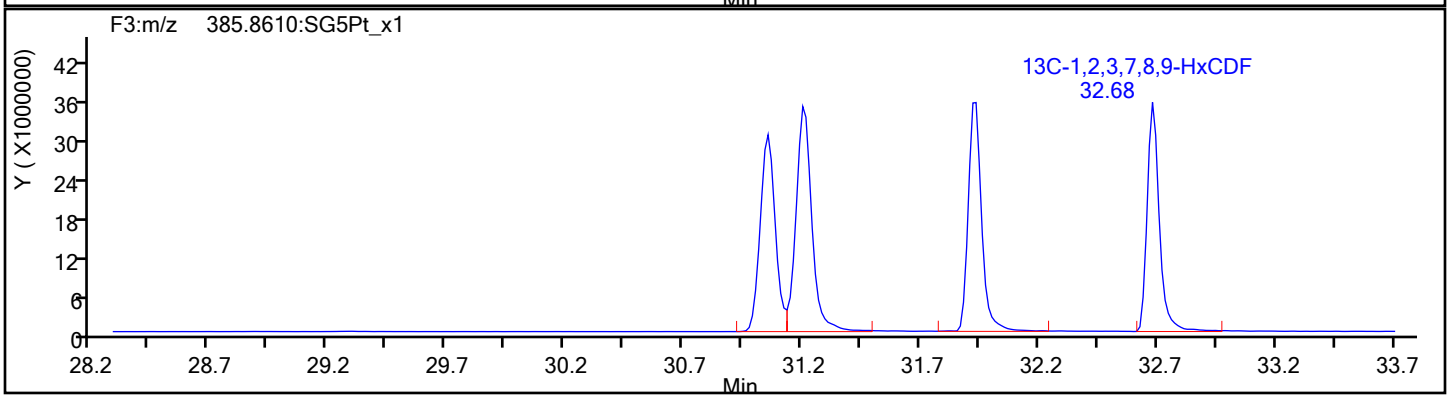

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Eurofins TestAmerica, Sacramento

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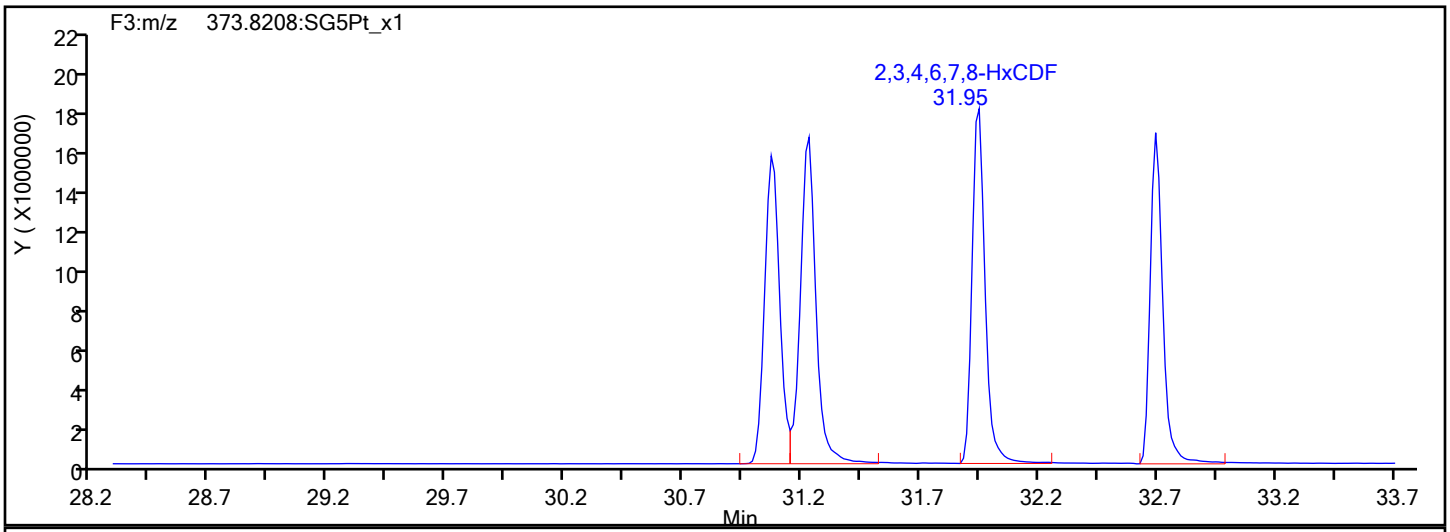

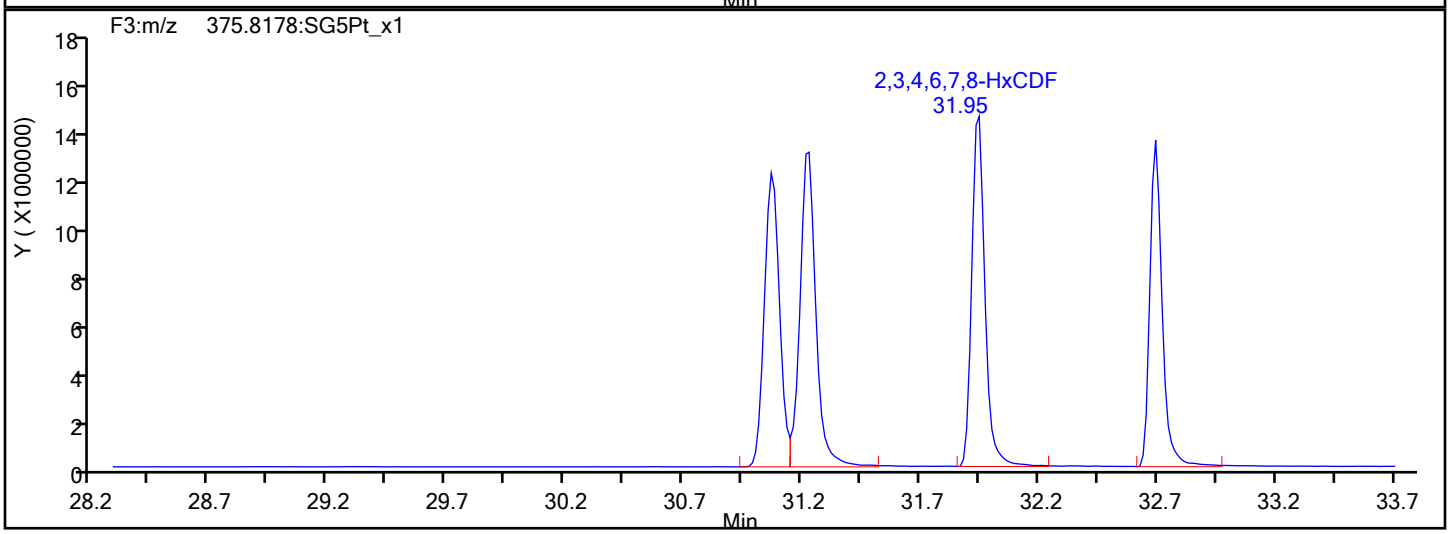

HxCDF Interference Mass

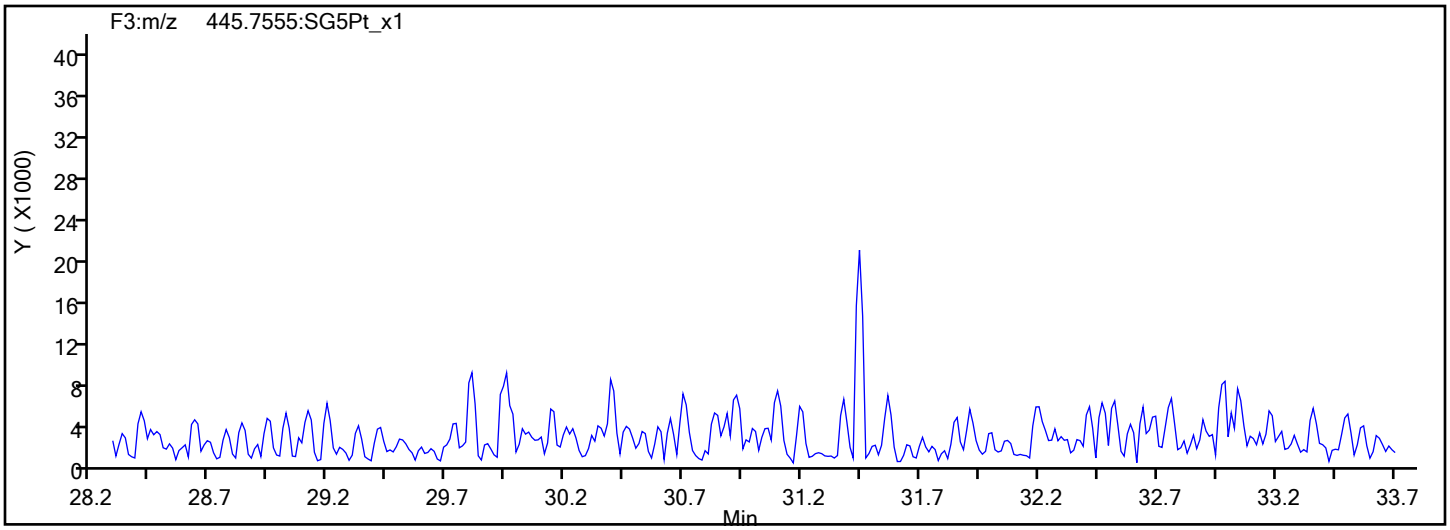

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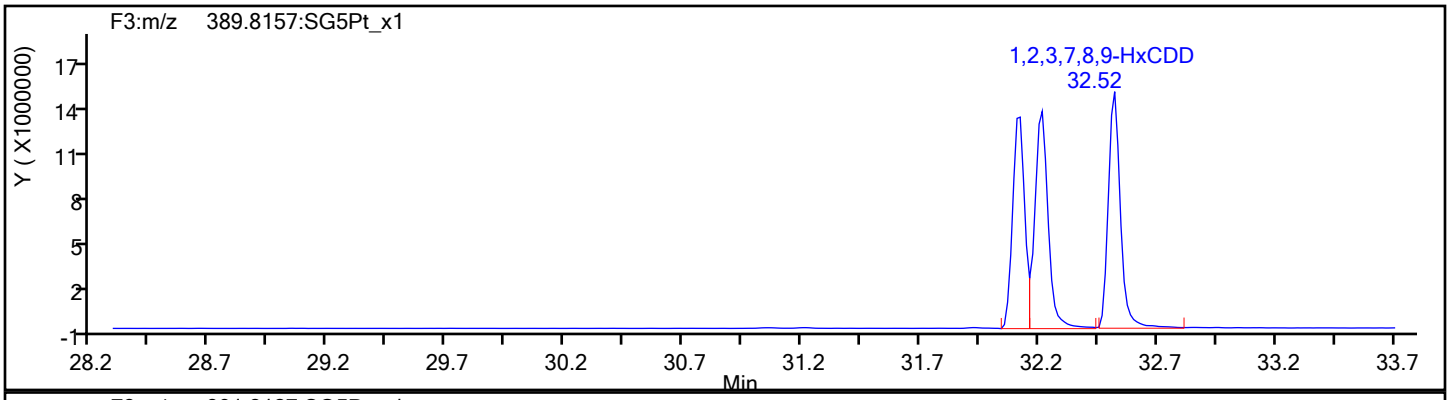

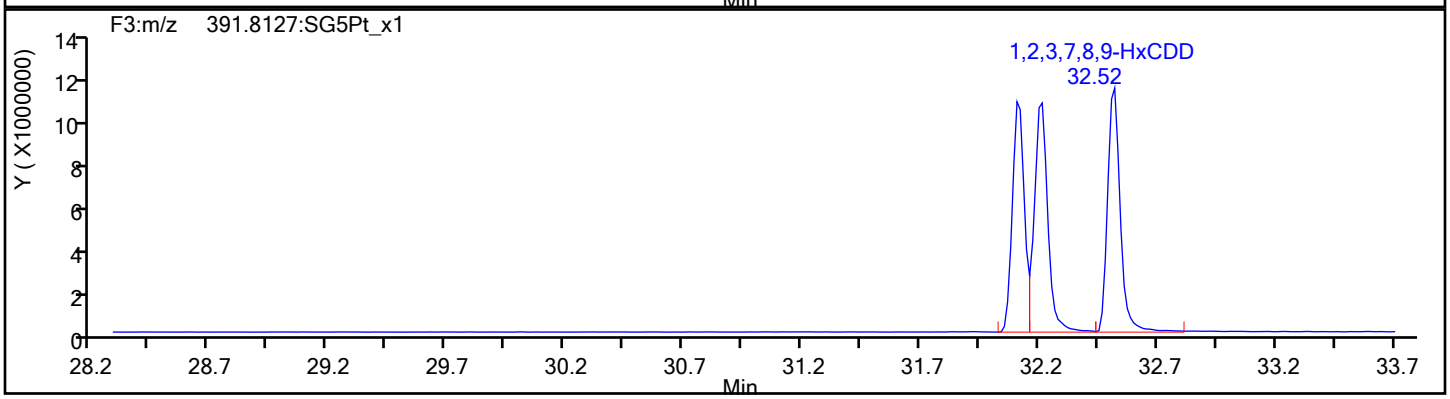

HxCDD Standards

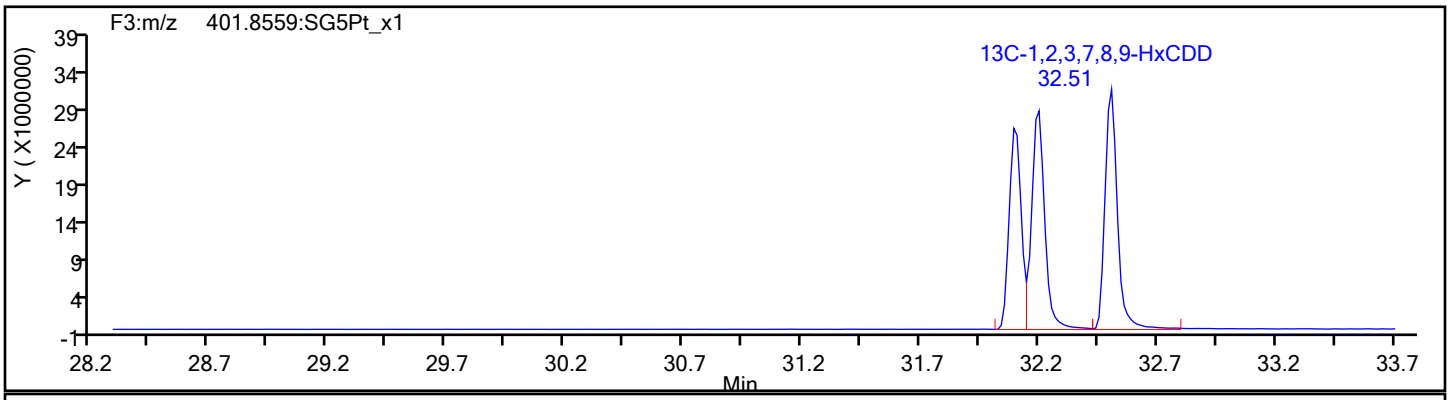

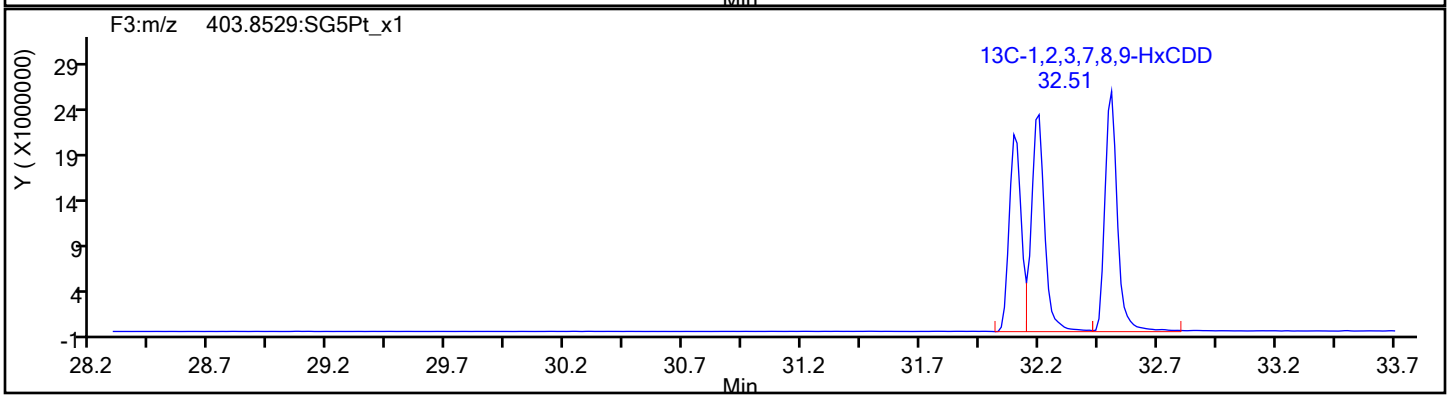

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Eurofins TestAmerica, Sacramento

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HpCDF

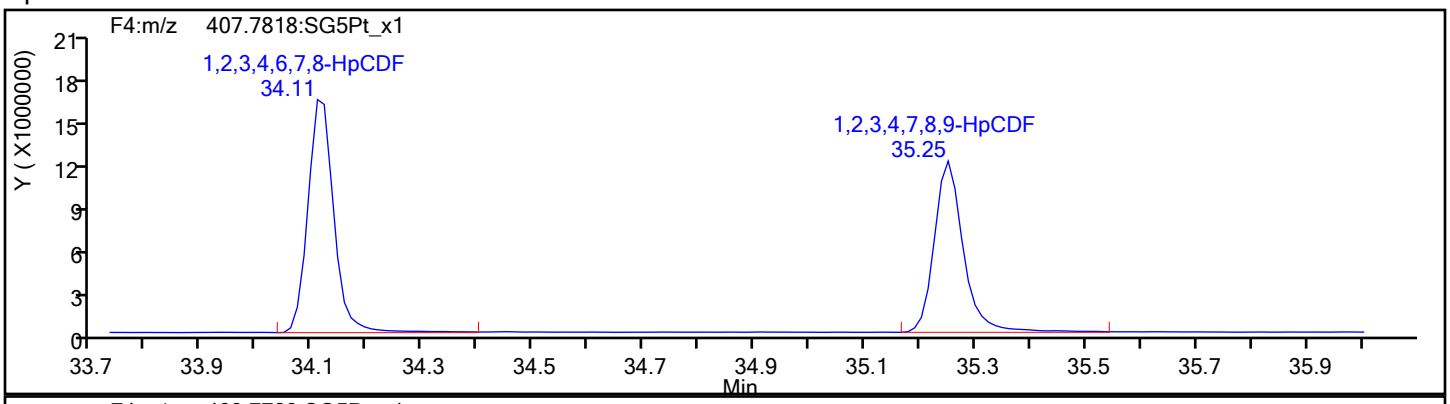

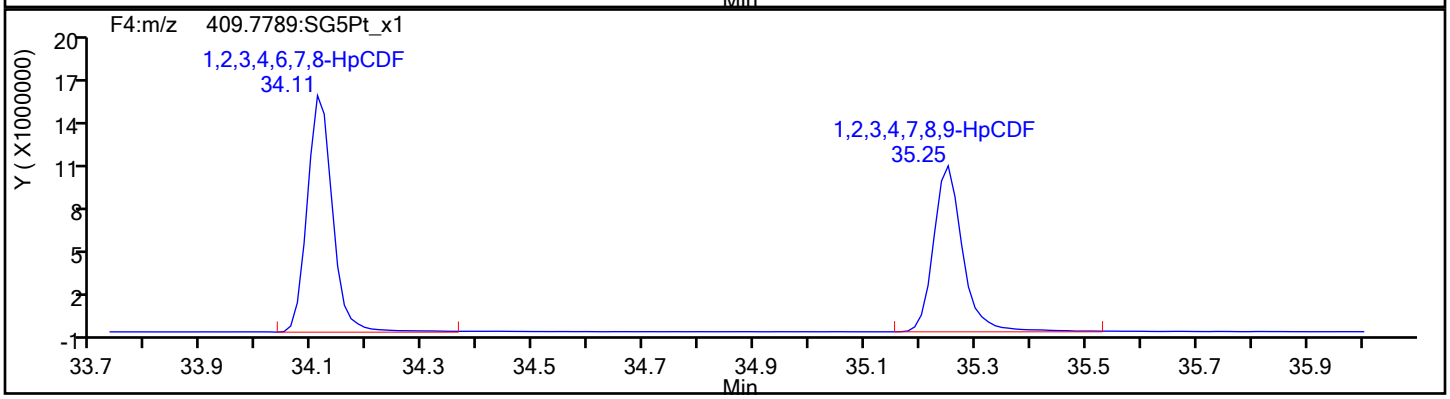

HpCDF Standards

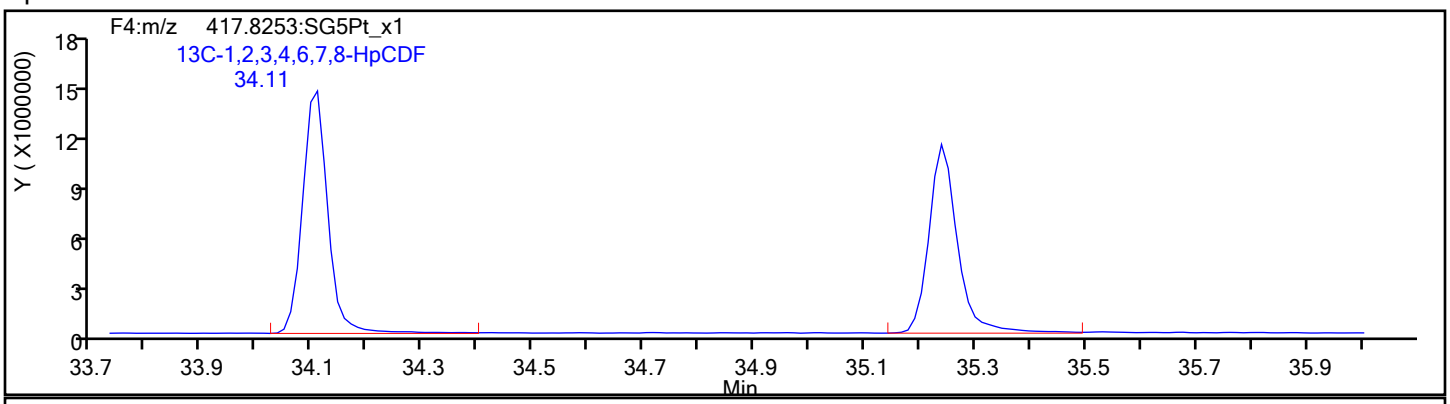

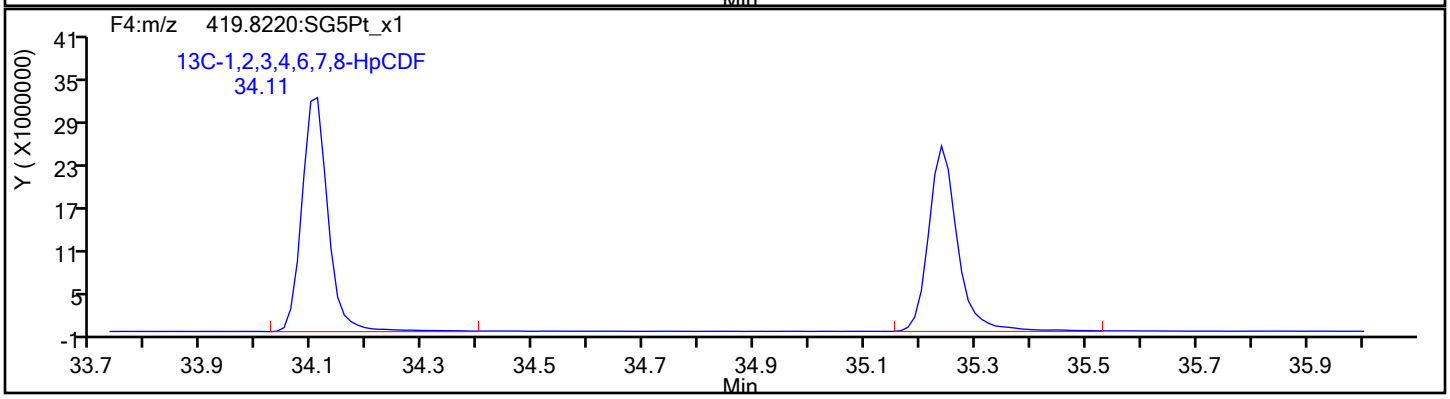

Report Date: 22-May-2019 11:44:39 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_5.d		
Injection Date:	21-May-2019 15:06:18	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L4		
Worklist#:	296020	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

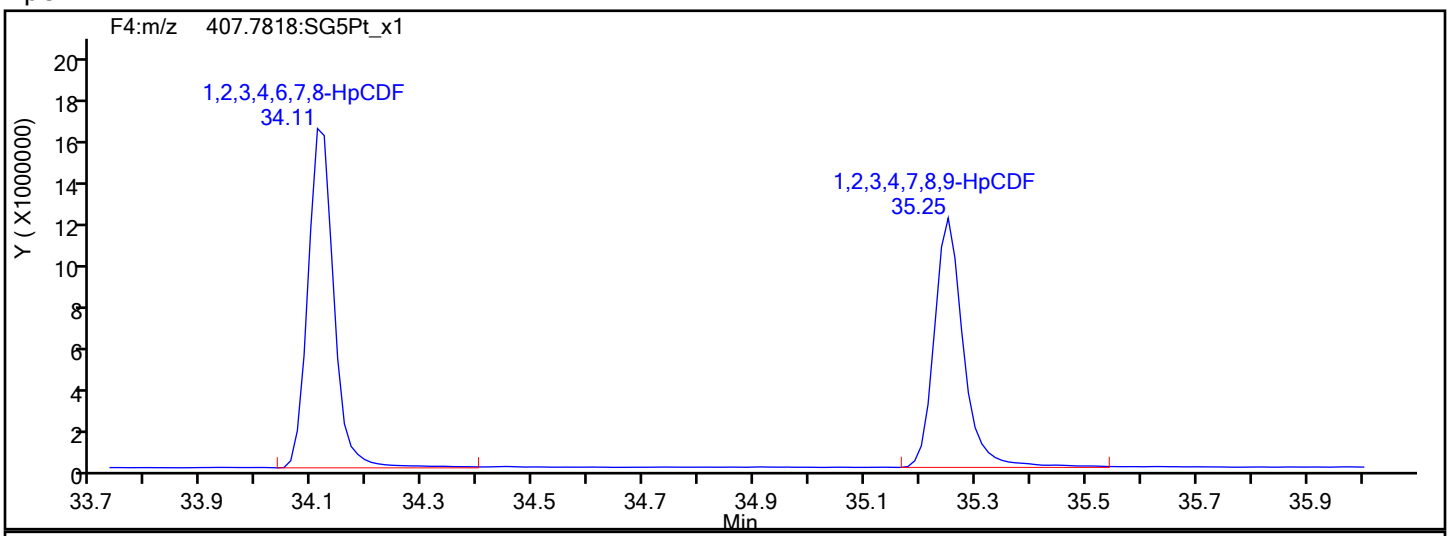

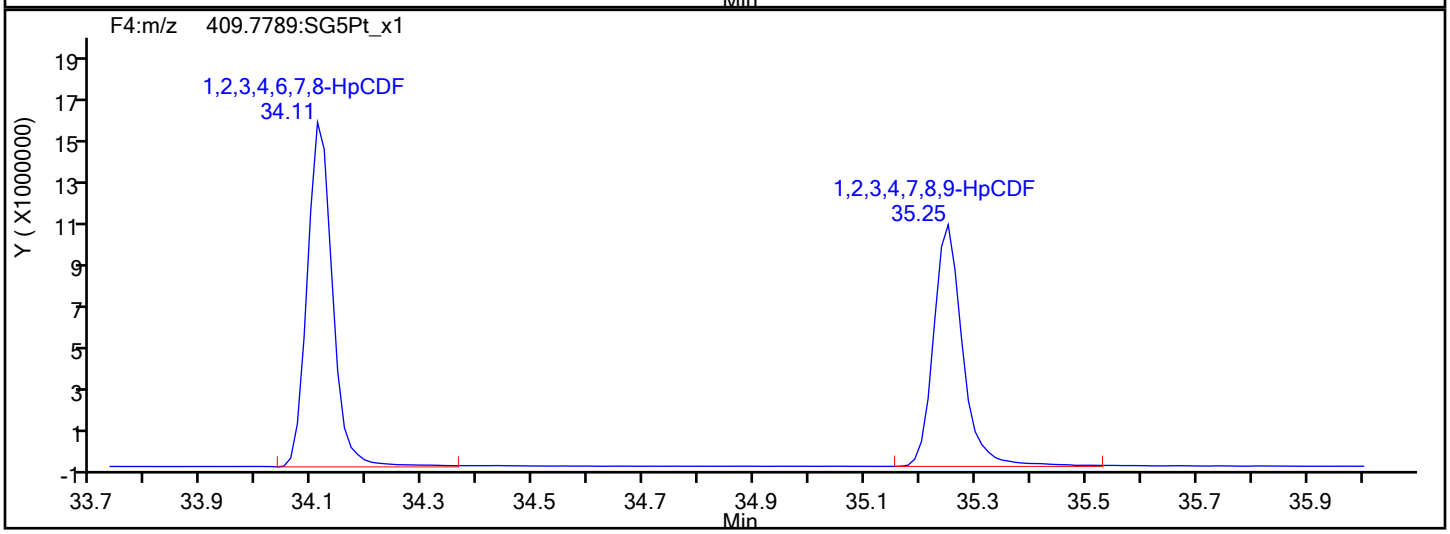

HpCDF Interference Mass

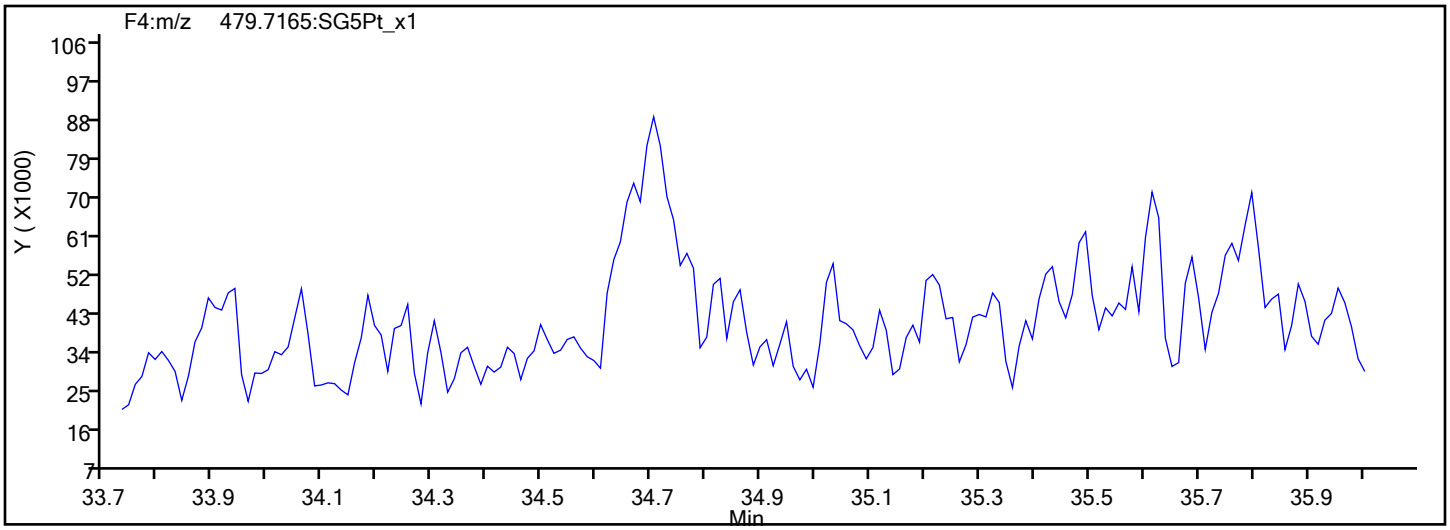

Report Date: 22-May-2019 11:44:39 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_5.d		
Injection Date:	21-May-2019 15:06:18	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L4		
Worklist#:	296020	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

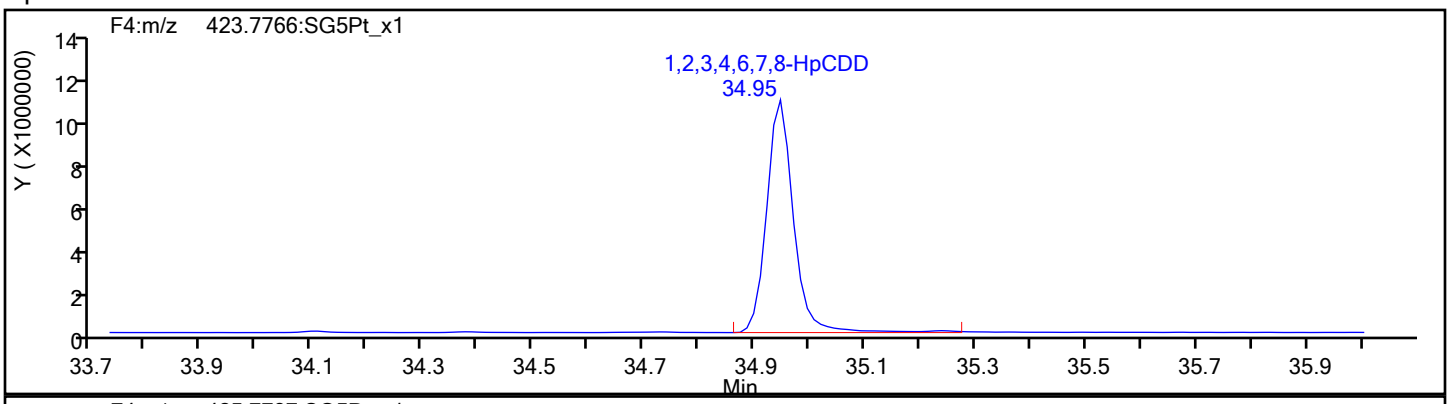

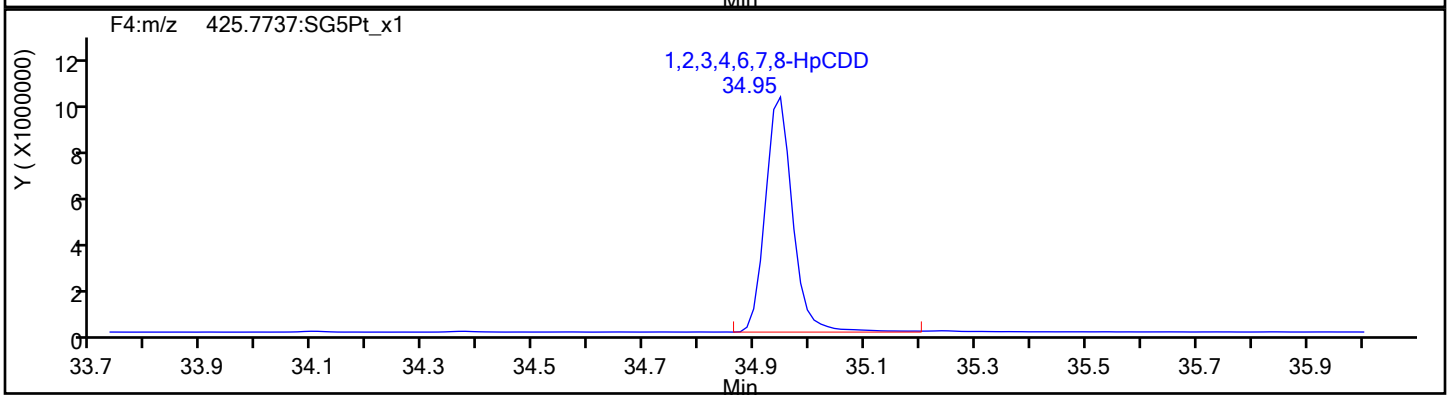

HpCDD Standards

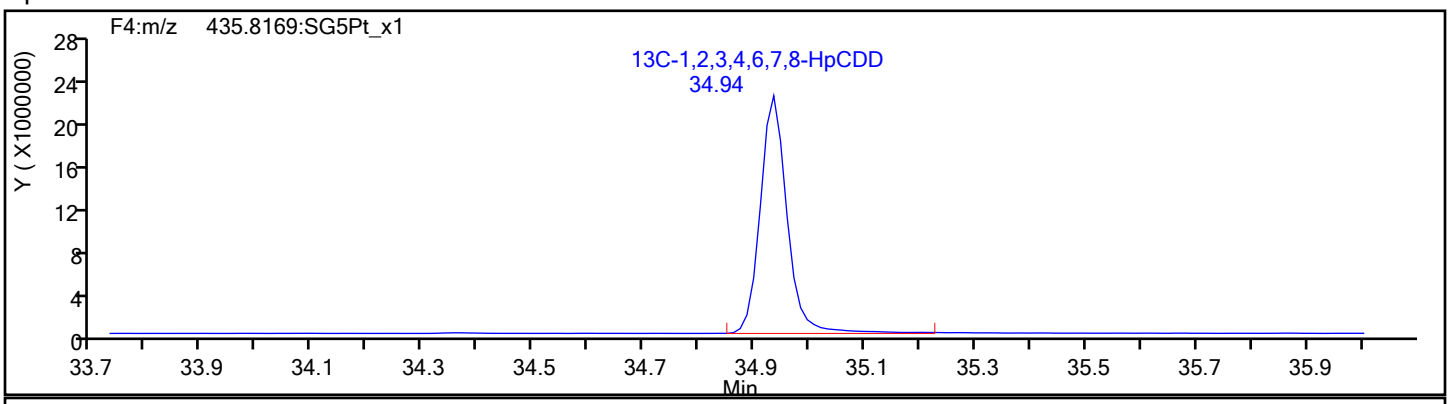

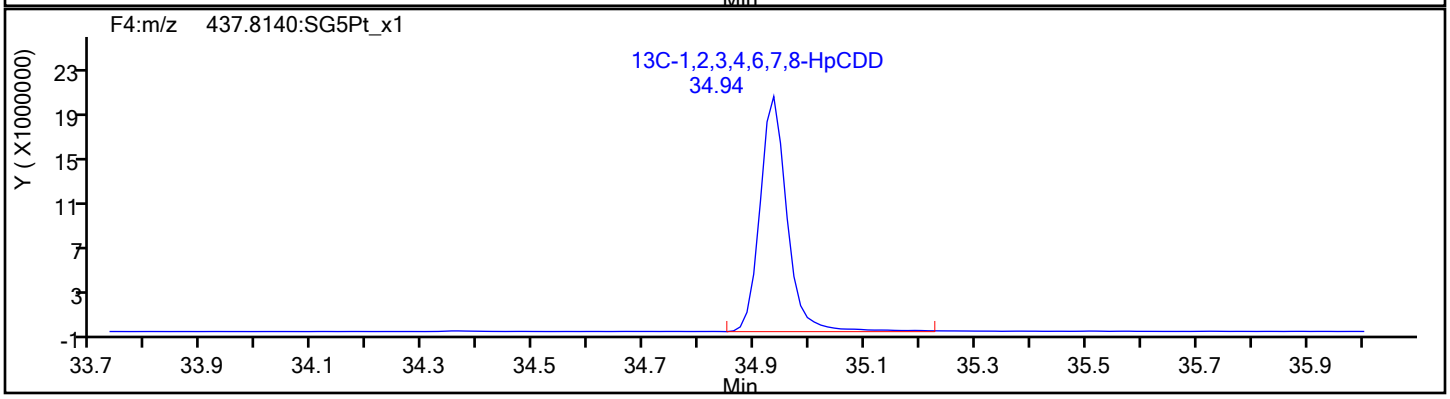

Report Date: 22-May-2019 11:44:39 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_5.d		
Injection Date:	21-May-2019 15:06:18	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L4		
Worklist#:	296020	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

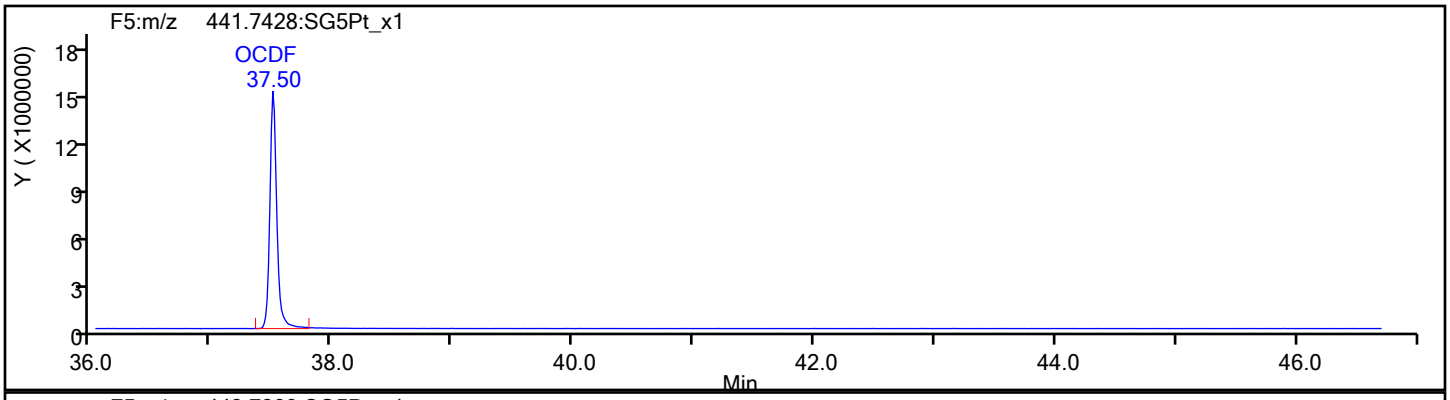

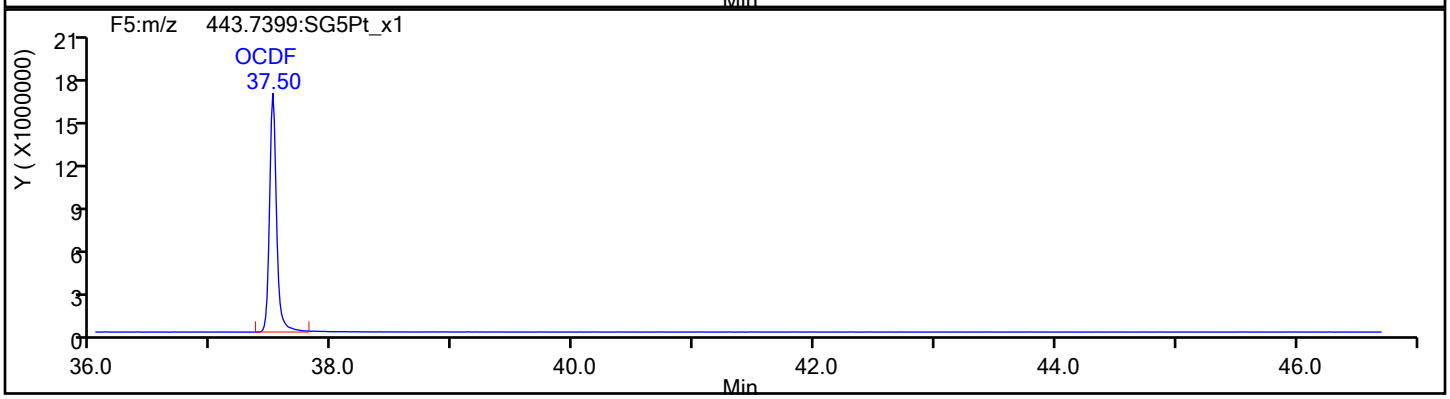

OCDF Standards

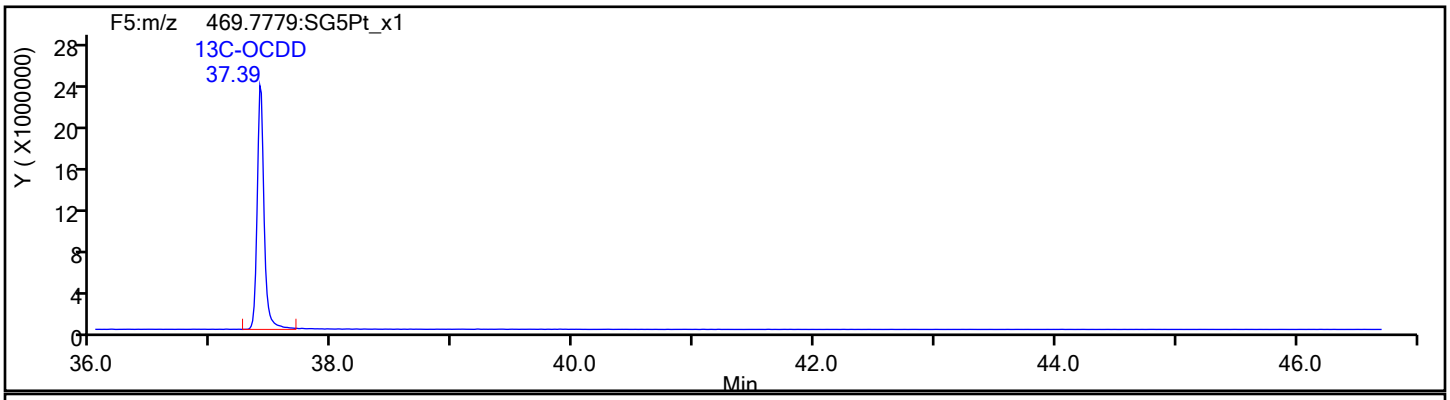

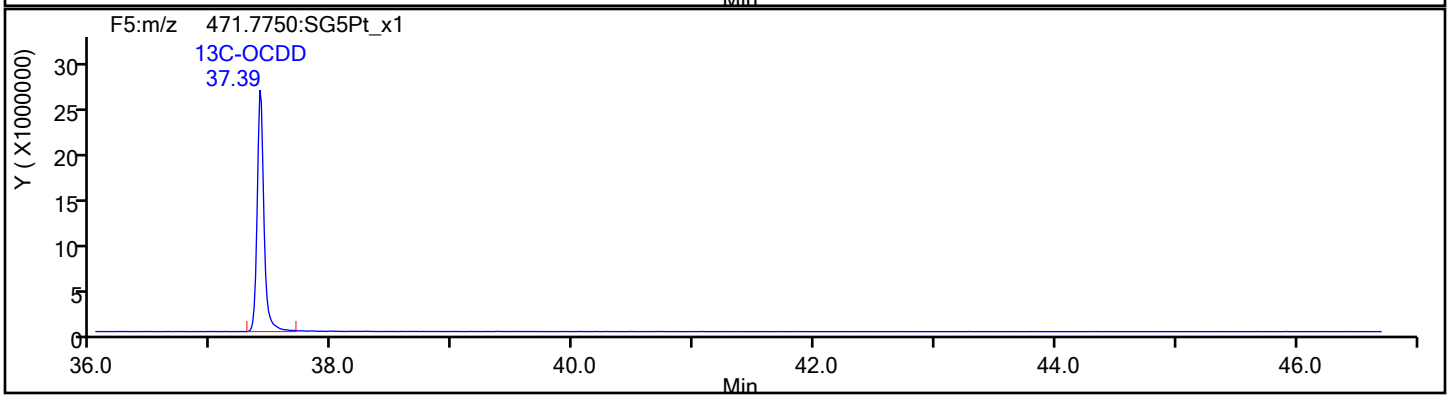

Report Date: 22-May-2019 11:44:39 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_5.d		
Injection Date:	21-May-2019 15:06:18	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L4		
Worklist#:	296020	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

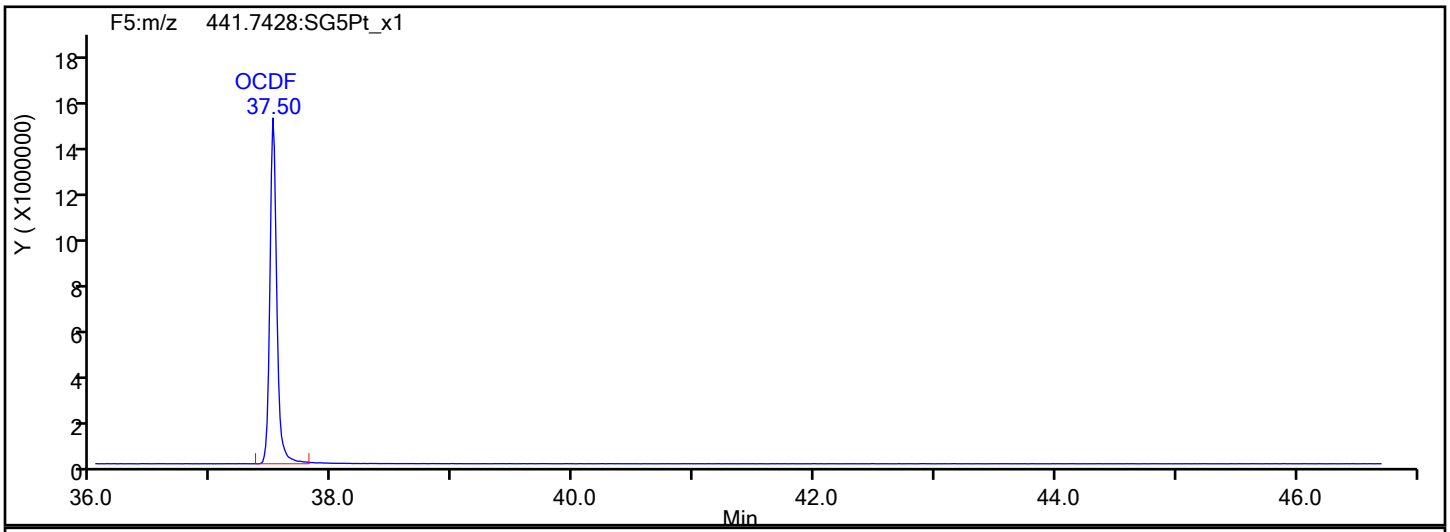

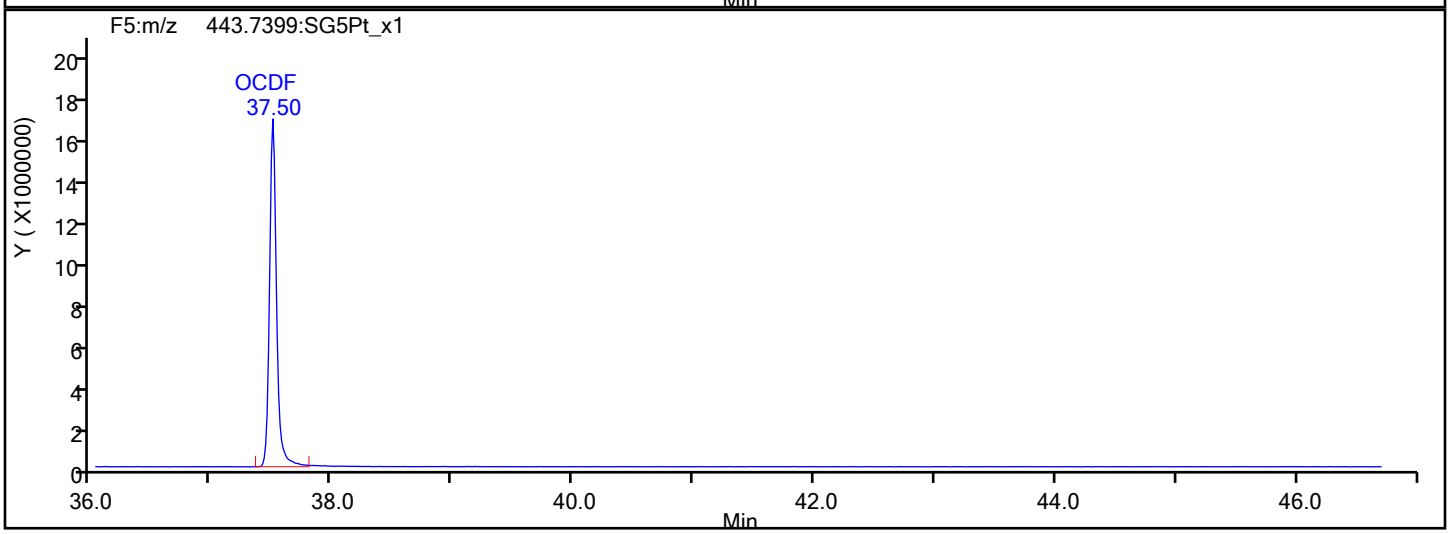

OCDF Interference Mass

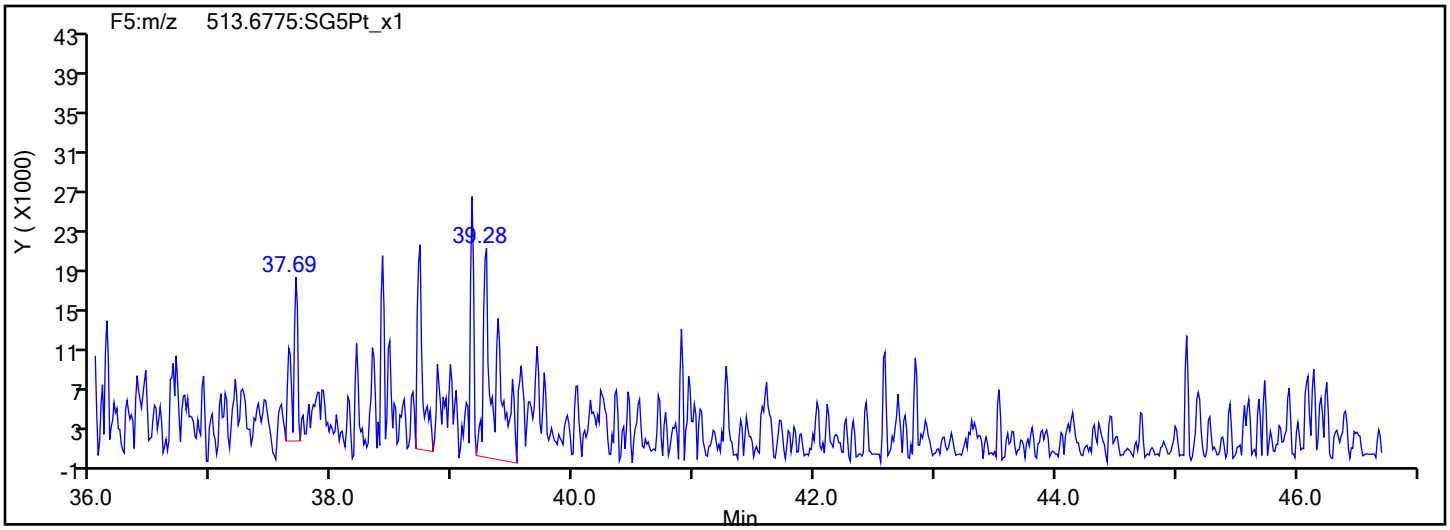

Report Date: 22-May-2019 11:44:39 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_5.d		
Injection Date:	21-May-2019 15:06:18	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L4		
Worklist#:	296020	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

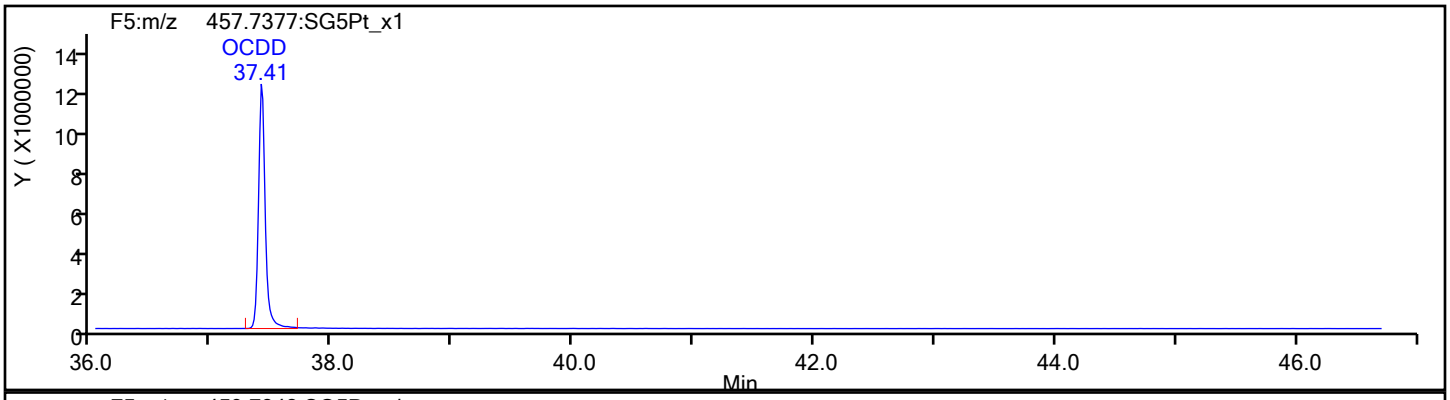

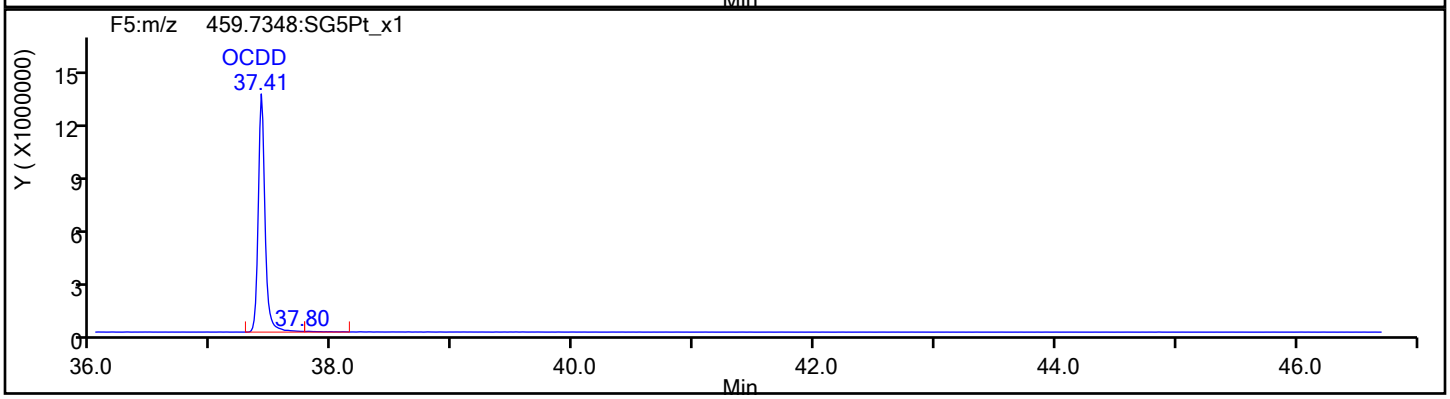

OCDD Standards

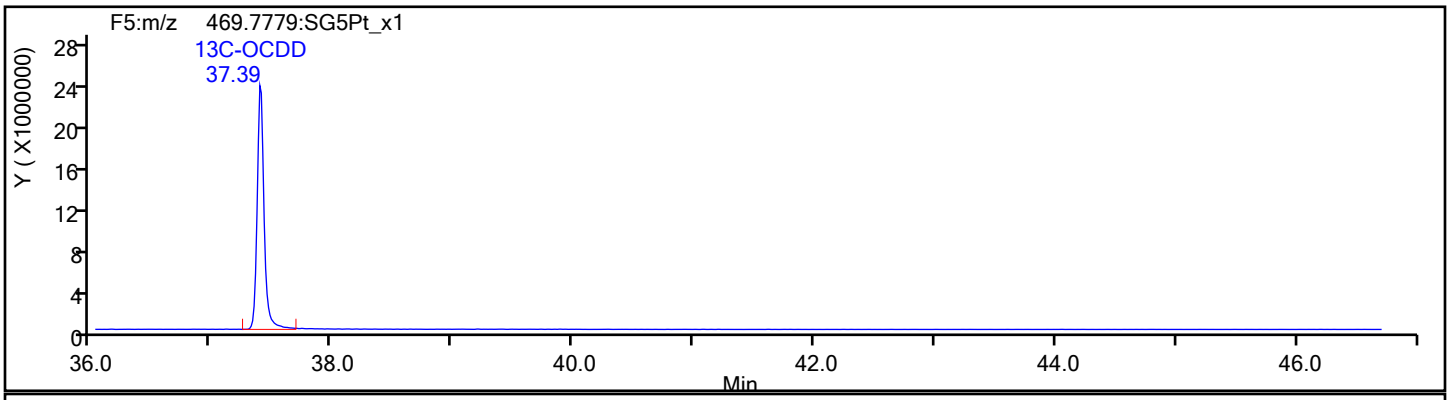

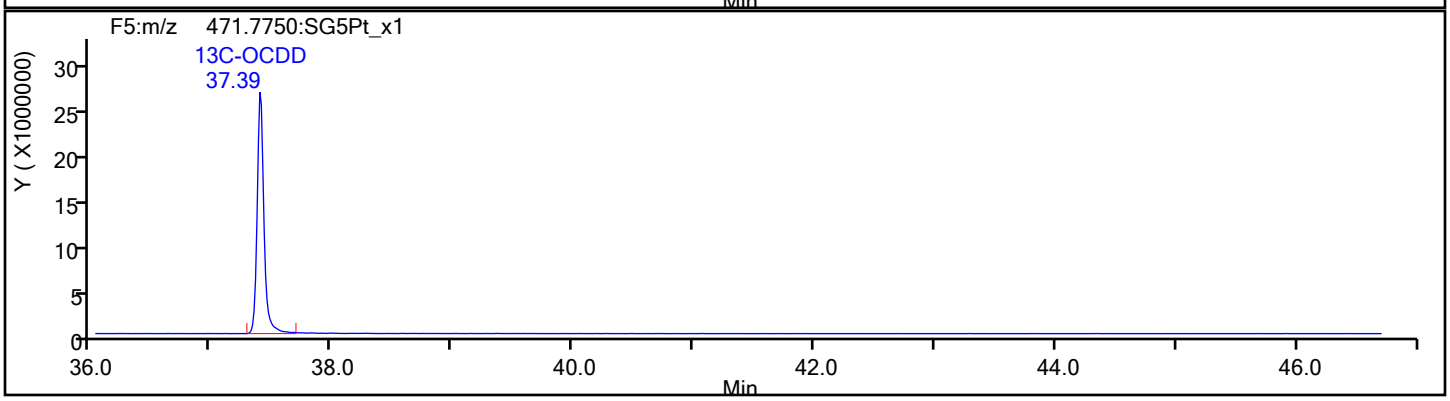

Report Date: 22-May-2019 11:44:39 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_5.d		
Injection Date:	21-May-2019 15:06:18	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L4		
Worklist#:	296020	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

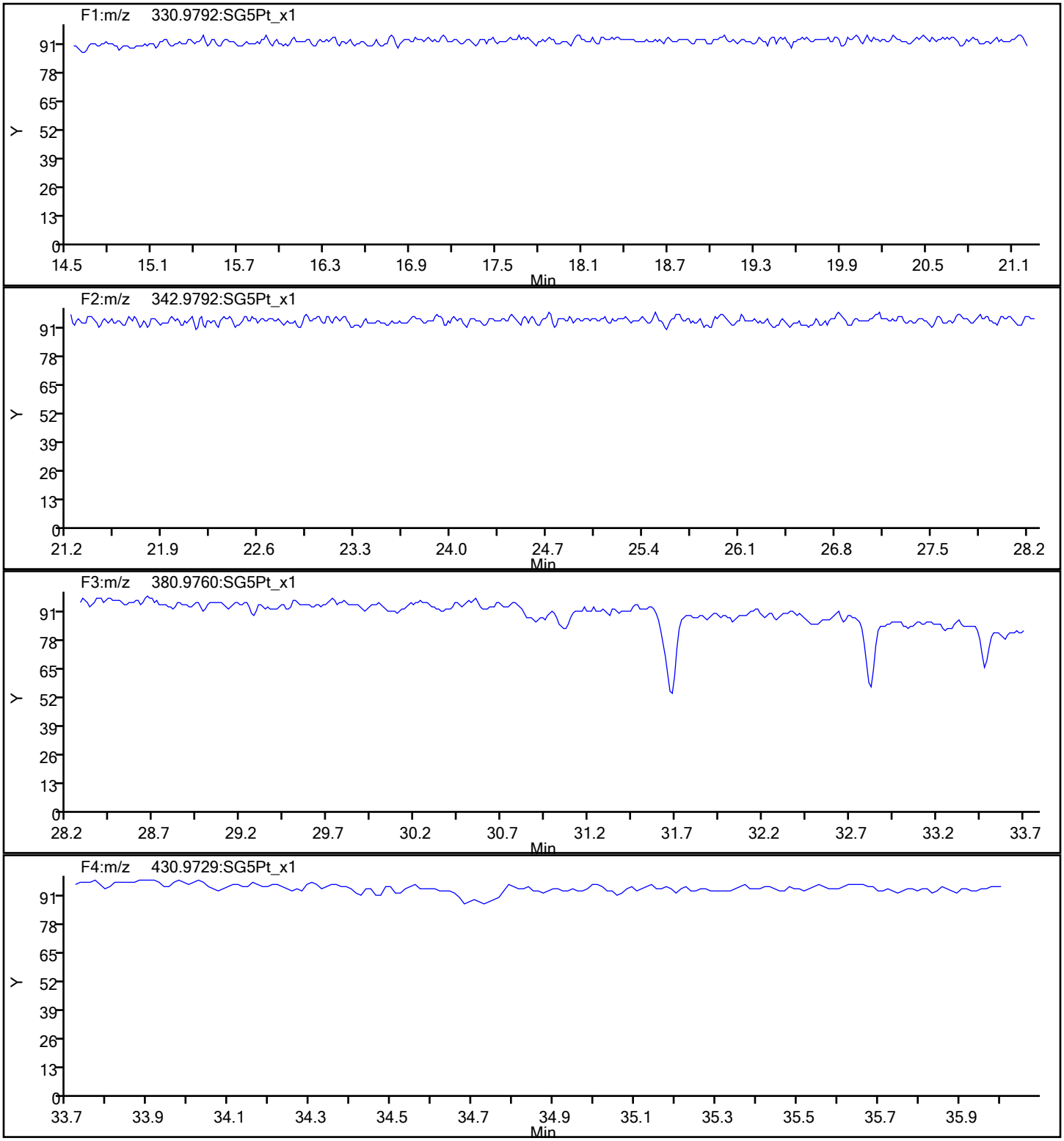

Report Date: 22-May-2019 11:44:39 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_5.d		
Injection Date:	21-May-2019 15:06:18	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L4		
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Column Type:	DB-5	Column Dia:	0.32 mm

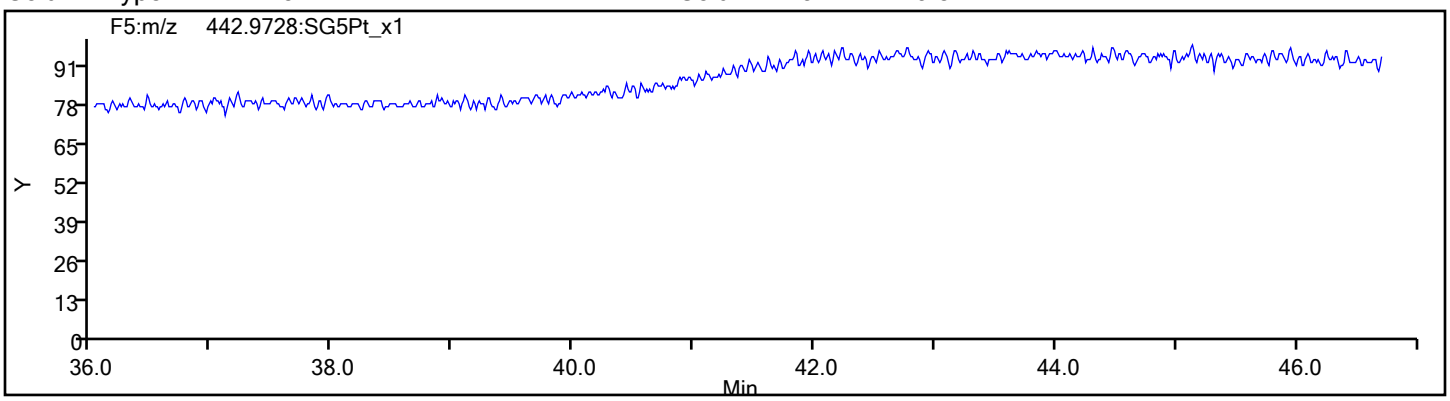

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_6.d
Lims ID: IC 5
Client ID: L5
Sample Type: IC Calib Level: 5
Inject. Date: 21-May-2019 15:53:46 ALS Bottle#: 7 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 052119C CS-5 HRDXNL5_00025
Misc. Info.: 21MY193D5
Operator ID: AJS Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 22-May-2019 11:44:47 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: shardaa Date: 21-May-2019 17:12:49

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.429	329575237	0.81	3.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.900	468743621	0.79	1.3908	102.3	102.3	0.2177	0.2177	102	
2,3,7,8-TCDF	17.915	180787829	0.77	0.9710	39.7	39.7	0.0693	0.0693	99.30	
S Total TCDF					39.7	39.7	0.0693	0.0693		
D 13C-2,3,7,8-TCDD	18.626	326174325	0.83	0.9819	100.8	100.8	0.1817	0.1817	101	
2,3,7,8-TCDD	18.641	137985150	0.80	1.0447	40.5	40.5	0.0713	0.0713	101	
$ 37Cl4-2,3,7,8-TCDD	18.641	165050919		1.2205	41.0	41.0	0.0469	0.0469	103	
S Total TCDD					40.5	40.5	0.0713	0.0713		
D 13C-1,2,3,7,8-PeCDF	23.094	393996346	1.58	1.1585	103.2	103.2	0.2508	0.2508	103	
1,2,3,7,8-PeCDF	23.121	748579428	1.58	0.9633	197.2	197.2	0.5739	0.5739	98.61	
D 13C-2,3,4,7,8-PeCDF	24.484	387486784	1.58	1.1532	102.0	102.0	0.2520	0.2520	102	
2,3,4,7,8-PeCDF	24.512	734611177	1.60	0.9495	199.7	199.7	0.6503	0.6503	99.83	
S Total PeCDF					396.9	396.9	0.6121	0.6121		
D 13C-1,2,3,7,8-PeCDD	25.234	252511444	1.57	0.7431	103.1	103.1	0.1168	0.1168	103	
1,2,3,7,8-PeCDD	25.262	528599914	1.58	1.0635	196.8	196.8	0.1724	0.1724	98.42	
S Total PeCDD					196.8	196.8	0.1724	0.1724		
D 13C-1,2,3,4,7,8-HxCDF	31.045	280079795	0.51	0.9837	104.5	104.5	0.3071	0.3071	105	
1,2,3,4,7,8-HxCDF	31.058	655348032	1.23	1.2173	192.2	192.2	0.6169	0.6169	96.10	
D 13C-1,2,3,6,7,8-HxCDF	31.191	322882273	0.52	1.1554	102.6	102.6	0.2615	0.2615	103	
1,2,3,6,7,8-HxCDF	31.218	703421366	1.24	1.1311	192.6	192.6	0.5675	0.5675	96.30	
D 13C-2,3,4,6,7,8-HxCDF	31.923	293235329	0.52	1.0361	103.9	103.9	0.2916	0.2916	104	
2,3,4,6,7,8-HxCDF	31.937	665213059	1.22	1.1710	193.7	193.7	0.5211	0.5211	96.86	
D 13C-1,2,3,7,8,9-HxCDF	32.669	249896301	0.54	0.9034	101.5	101.5	0.3344	0.3344	102	
1,2,3,7,8,9-HxCDF	32.682	577594332	1.23	1.1787	196.1	196.1	0.5630	0.5630	98.05	
S Total HxCDF					774.6	774.6	0.5671	0.5671		
* 13C-1,2,3,7,8,9-HxCDD	32.496	272441551	1.28	2.6E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	32.083	233591591	1.29	0.8287	103.5	103.5	0.2506	0.2506	103	
1,2,3,4,7,8-HxCDD	32.097	467745053	1.25	1.0267	195.0	195.0	0.2914	0.2914	97.52	
D 13C-1,2,3,6,7,8-HxCDD	32.190	265112485	1.26	0.9495	102.5	102.5	0.2187	0.2187	102	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	32.203	506126926	1.27	0.9771	195.4	195.4	0.2892	0.2892	97.69	
1,2,3,7,8,9-HxCDD	32.509	510175959	1.27	1.0616	192.7	192.7	0.2738	0.2738	96.37	
S Total HxCDD					583.2	583.2	0.2848	0.2848		
D 13C-1,2,3,4,6,7,8-HpCDF	34.084	204661502	0.45	0.7285	103.1	103.1	0.5681	0.5681	103	
1,2,3,4,6,7,8-HpCDF	34.097	567482020	1.04	1.4373	192.9	192.9	0.8432	0.8432	96.46	
D 13C-1,2,3,4,7,8,9-HpCDF	35.227	180782541	0.46	0.6556	101.2	101.2	0.6313	0.6313	101	
1,2,3,4,7,8,9-HpCDF	35.239	466922689	1.06	1.3091	197.3	197.3	1.186	1.186	98.65	
S Total HpCDF					390.2	390.2	1.015	1.015		
D 13C-1,2,3,4,6,7,8-HpCDD	34.923	195316121	1.07	0.6978	102.7	102.7	0.2686	0.2686	103	
1,2,3,4,6,7,8-HpCDD	34.935	387463236	1.07	1.0102	196.4	196.4	0.4740	0.4740	98.19	
S Total HpCDD					196.4	196.4	0.4740	0.4740		
D 13C-OCDD	37.383	266344587	0.92	0.4780	204.5	204.5	0.1681	0.1681	102	
OCDF	37.491	714185718	0.92	1.3501	397.2	397.2	0.1625	0.1625	99.30	
OCDD	37.395	553694600	0.90	1.0627	391.2	391.2	0.1597	0.1597	97.81	

Reagents:

HRDXNL5_00025 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_6.d
Lims ID: IC 5
Client ID: L5
Sample Type: IC Calib Level: 5
Inject. Date: 21-May-2019 15:53:46 ALS Bottle#: 7 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 052119C CS-5 HRDXNL5_00025
Misc. Info.: 21MY193D5
Operator ID: AJS Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 22-May-2019 11:44:47 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: shardaa Date: 21-May-2019 17:12:49

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.429	18.432	0		147237259	35106255	36112	90280	972		
333.9339	18.429	18.432	0		182337978	43674697	20122	50305	2170	0.81(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.900	17.900	0	0.971	206397164	47847477	55611	139027	860		
317.9389	17.885	17.900	-1	0.970	262346457	60979356	39809	99522	1532	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.915	17.915	0	1.001	78695731	18297986	13410	33525	1365		
305.8987	17.915	17.915	0	1.001	102092098	23491319	15886	39715	1479	0.77(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	18.626	18.629	0	1.011	148156216	33874967	36112	90280	938		
333.9339	18.626	18.629	0	1.011	178018109	40307174	20122	50305	2003	0.83(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.641	18.650	-1	1.001	61269577	14125983	13568	33920	1041		
321.8936	18.641	18.650	-1	1.001	76715573	17579248	8547	21367	2057	0.80(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.641	18.650	-1	1.011	165050919	38184784	18027	45067	2118		
13C-1,2,3,7,8-PeCDF											
351.9000	23.094	23.102	0	1.253	241093376	41737517	54419	136047	767		
353.8970	23.094	23.102	0	1.253	152902970	26622498	37145	92862	717	1.58(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	23.121	23.123	0	1.001	458905466	77887388	92025	230062	846		
341.8567	23.121	23.123	0	1.001	289673962	49048747	59149	147872	829	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	24.484	24.487	0	1.329	237587200	37540432	54419	136047	690		
353.8970	24.484	24.487	0	1.329	149899584	23663156	37145	92862	637	1.58(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	24.512	24.512	0	1.001	452519272	71231609	92025	230062	774		
341.8567	24.498	24.512	-1	1.001	282091905	44013649	59149	147872	744	1.60(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	25.234	25.237	0	1.369	154250667	23613494	15354	38385	1538		
369.8919	25.234	25.237	0	1.369	98260777	14715745	11994	29985	1227	1.57(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	25.262	25.264	0	1.001	324095649	49999851	18567	46417	2693		
357.8516	25.262	25.264	0	1.001	204504265	31468478	9542	23855	3298	1.58(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	31.045	31.050	0	0.955	94606507	20720928	31296	78240	662		
385.8610	31.045	31.050	0	0.955	185473288	40925430	58570	146425	699	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	31.058	31.069	-1	1.000	362096061	81014081	102168	255420	793		
375.8178	31.058	31.069	-1	1.000	293251971	65840097	83021	207552	793	1.23(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	31.191	31.202	-1	0.960	110163154	24590117	31296	78240	786		
385.8610	31.191	31.202	-1	0.960	212719119	47530005	58570	146425	812	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	31.218	31.223	0	1.001	389119145	85955119	102168	255420	841		
375.8178	31.204	31.223	-1	1.000	314302221	68333803	83021	207552	823	1.24(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.923	31.923	0	0.982	99864351	25972461	31296	78240	830		
385.8610	31.910	31.923	-1	0.982	193370978	49893522	58570	146425	852	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.937	31.942	0	1.000	365853935	95743389	102168	255420	937		
375.8178	31.937	31.942	0	1.000	299359124	77803619	83021	207552	937	1.22(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.669	32.674	0	1.005	87842859	24692934	31296	78240	789		
385.8610	32.669	32.674	0	1.005	162053442	45074663	58570	146425	770	0.54(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.682	32.690	0	1.000	318655522	90198782	102168	255420	883		
375.8178	32.682	32.690	0	1.000	258938810	72087978	83021	207552	868	1.23(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.496	32.499	0		153030063	41693135	31978	79945	1304		
403.8529	32.496	32.499	0		119411488	32663682	29789	74472	1097	1.28(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	32.083	32.094	-1	0.987	131384987	37149381	31978	79945	1162		
403.8529	32.083	32.094	-1	0.987	102206604	29343785	29789	74472	985	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	32.097	32.110	-1	1.000	259598074	74171702	43989	109972	1686		
391.8127	32.097	32.110	-1	1.000	208146979	58936352	35593	88982	1656	1.25(1.05-1.43)	

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Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_6.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.190	32.192	0	0.991	147873455	39025263	31978	79945	1220		
403.8529	32.190	32.192	0	0.991	117239030	31393947	29789	74472	1054	1.26(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	32.203	32.208	0	1.000	282703046	74384618	43989	109972	1691		
391.8127	32.203	32.208	0	1.000	223423880	59122445	35593	88982	1661	1.27(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.509	32.515	0	1.013	285407608	77943746	43989	109972	1772		
391.8127	32.509	32.515	0	1.013	224768351	60469405	35593	88982	1699	1.27(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	34.084	34.097	-1	1.049	63696984	20433560	50234	125585	407		
419.8220	34.084	34.097	-1	1.049	140964518	45130574	72869	182172	619	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.097	34.104	0	1.000	289555184	92903843	162083	405207	573		
409.7789	34.097	34.104	0	1.000	277926836	89595967	155767	389417	575	1.04(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	35.227	35.232	0	1.084	56734287	16296132	50234	125585	324		
419.8220	35.227	35.232	0	1.084	124048254	34880856	72869	182172	479	0.46(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.239	35.244	0	1.000	239928170	68579324	162083	405207	423		
409.7789	35.239	35.244	0	1.000	226994519	63510796	155767	389417	408	1.06(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.923	34.928	0	1.075	100927153	30173181	30146	75365	1001		
437.8140	34.923	34.928	0	1.075	94388968	27895545	25597	63992	1090	1.07(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.935	34.940	0	1.000	199931934	58852810	57720	144300	1020		
425.7737	34.923	34.940	-1	1.000	187531302	55140180	53490	133725	1031	1.07(0.88-1.20)	
13C-OCDD											
469.7779	37.383	37.392	-1	1.150	127348867	32927210	13240	33100	2487		
471.7750	37.383	37.392	-1	1.150	138995720	35916601	10652	26630	3372	0.92(0.76-1.02)	
OCDF											
441.7428	37.491	37.500	-1	1.003	342535975	90904716	13298	33245	6836		
443.7399	37.491	37.500	-1	1.003	371649743	96795887	16910	42275	5724	0.92(0.76-1.02)	
OCDD											
457.7377	37.395	37.402	0	1.000	261595073	68219223	11749	29372	5806		
459.7348	37.395	37.402	0	1.000	292099527	76647700	11611	29027	6601	0.90(0.76-1.02)	

Reagents:

HRDXNL5_00025 Amount Added: 1.00 Units: mL

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
Worklist#:	296020	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

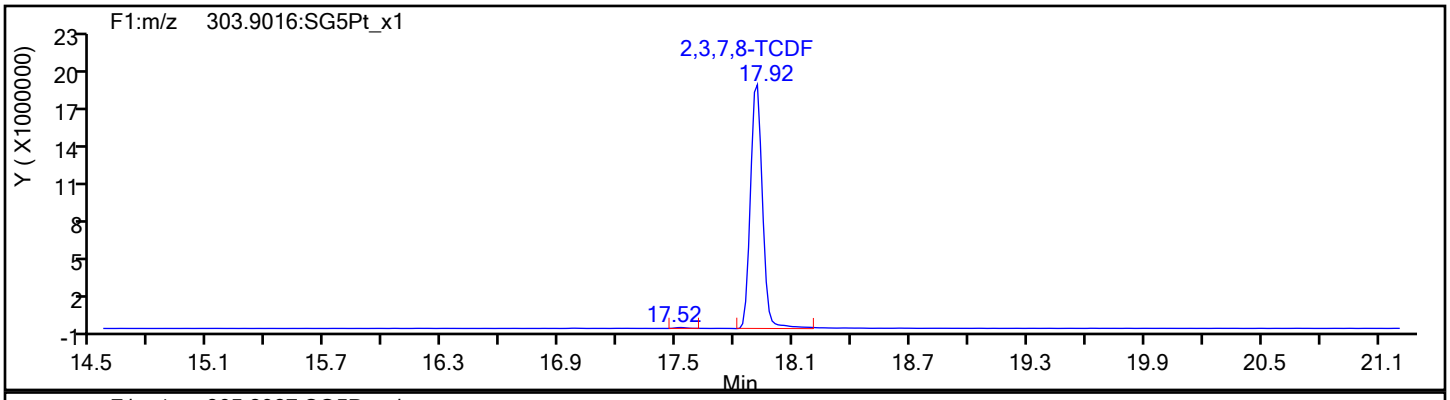

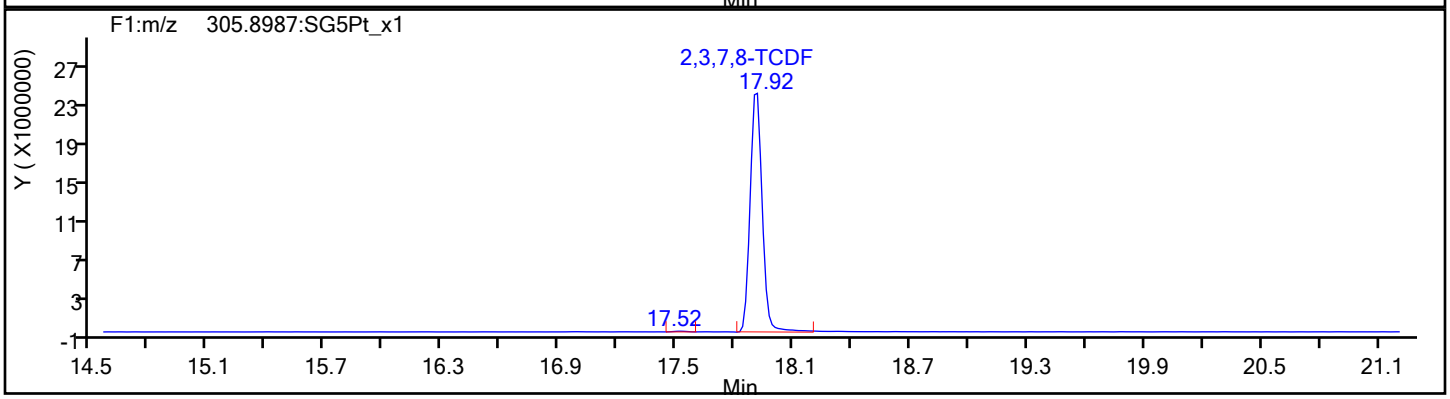

TCDF Standards

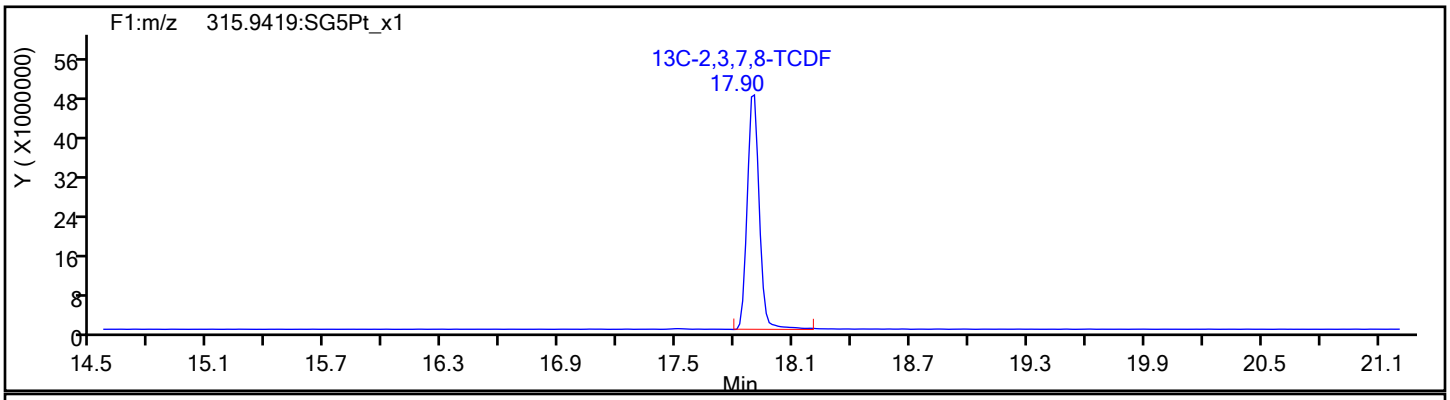

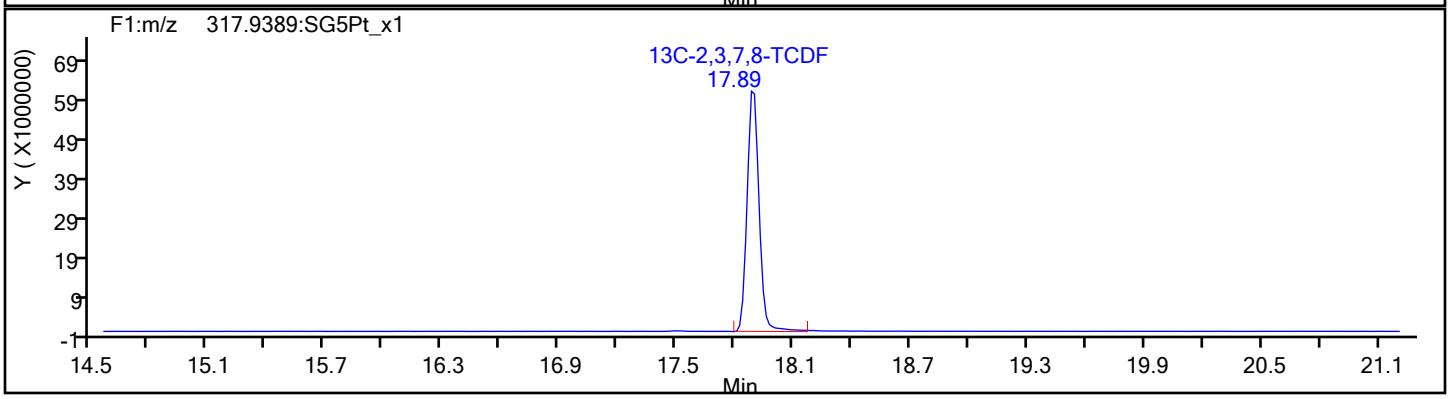

Report Date: 22-May-2019 11:44:50 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_6.d		
Injection Date:	21-May-2019 15:53:46	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
Worklist#:	296020	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

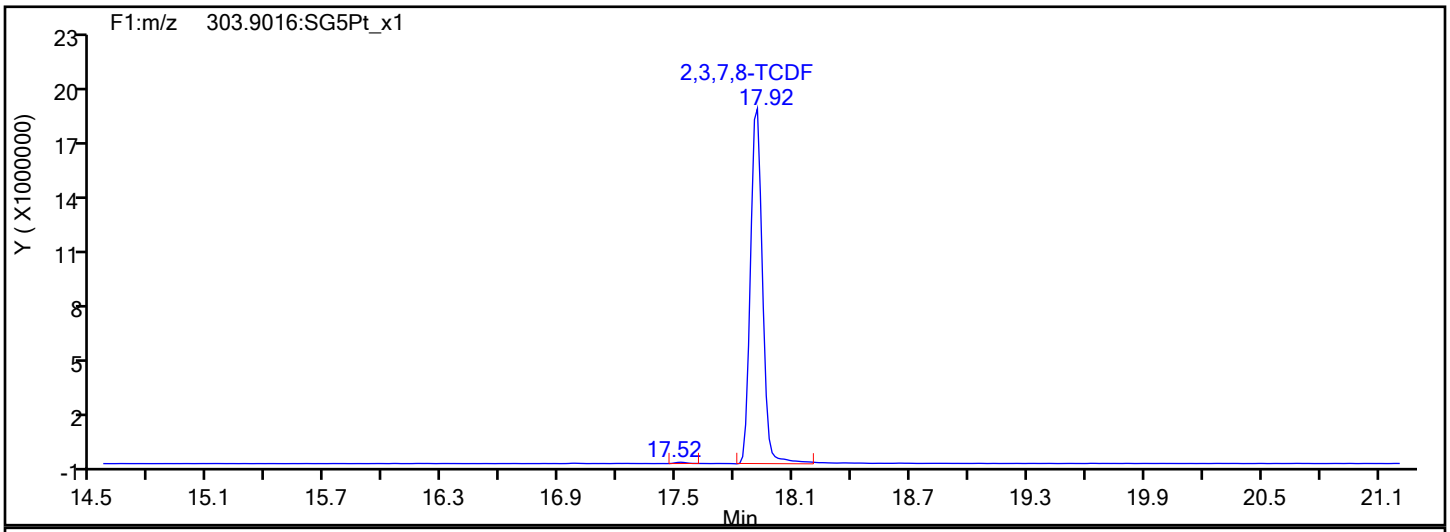

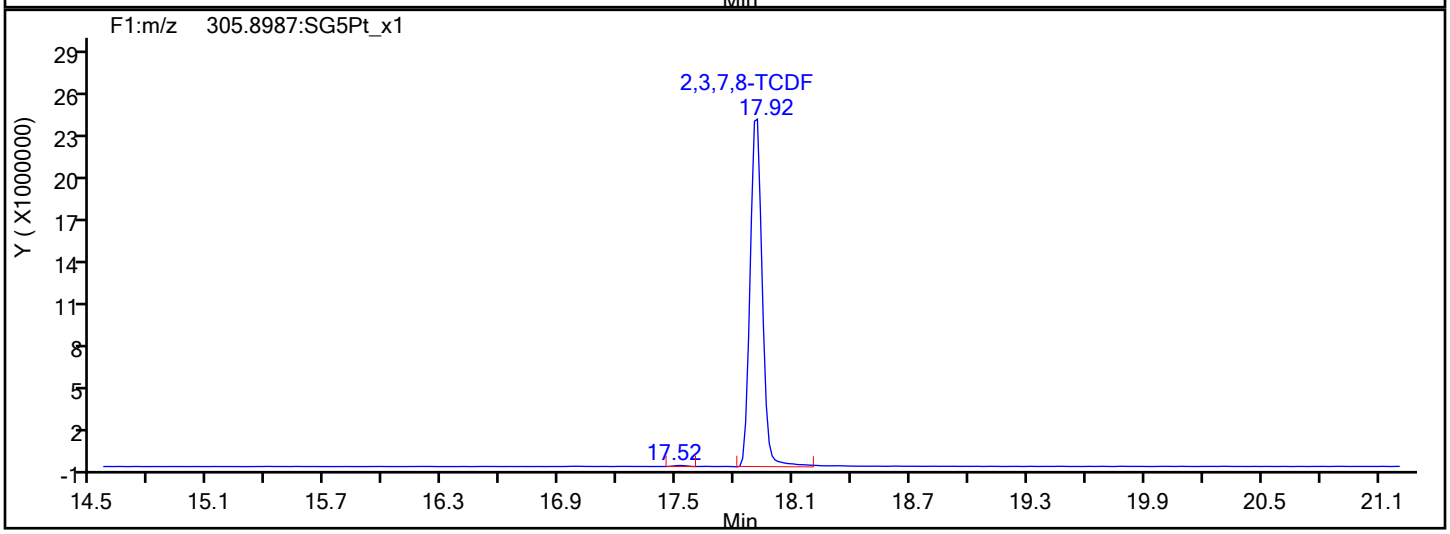

TCDF Interference Mass

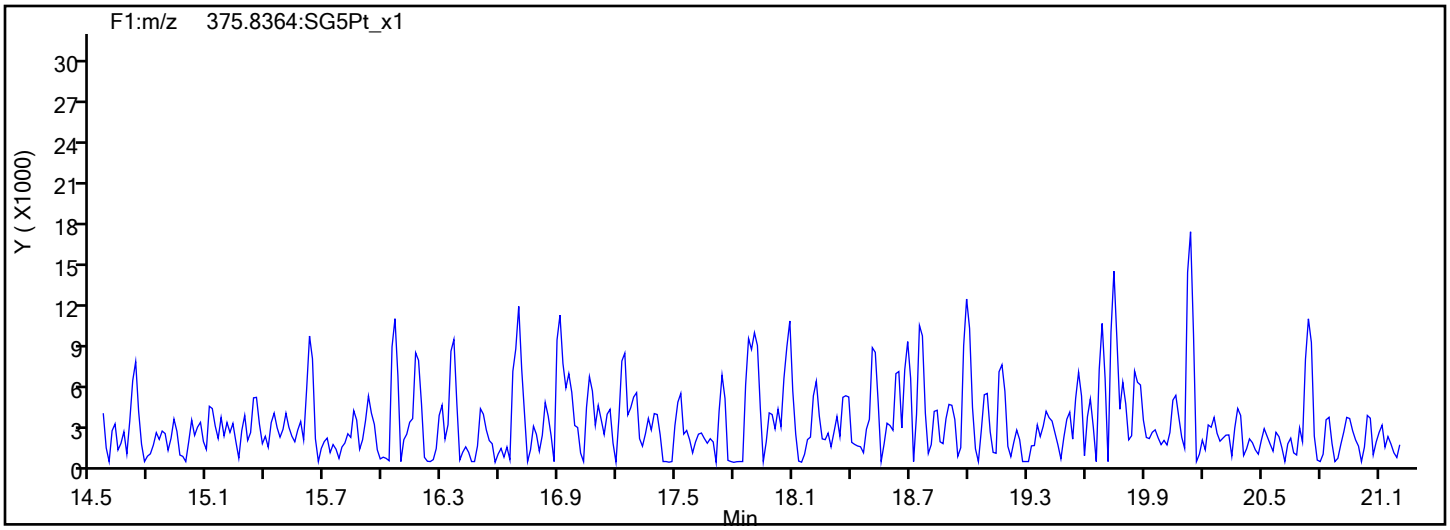

Report Date: 22-May-2019 11:44:50 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
Worklist#:	296020	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

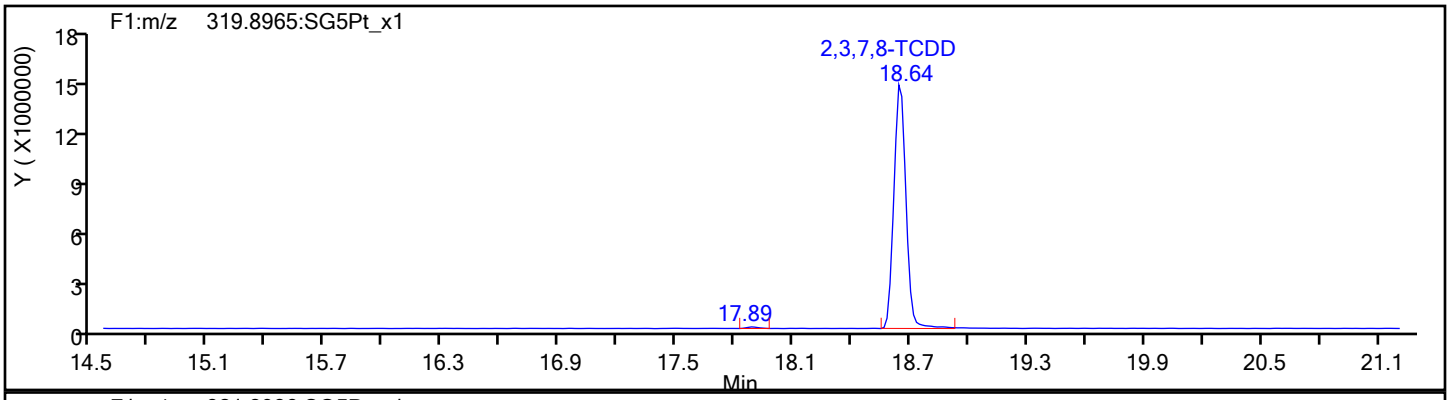

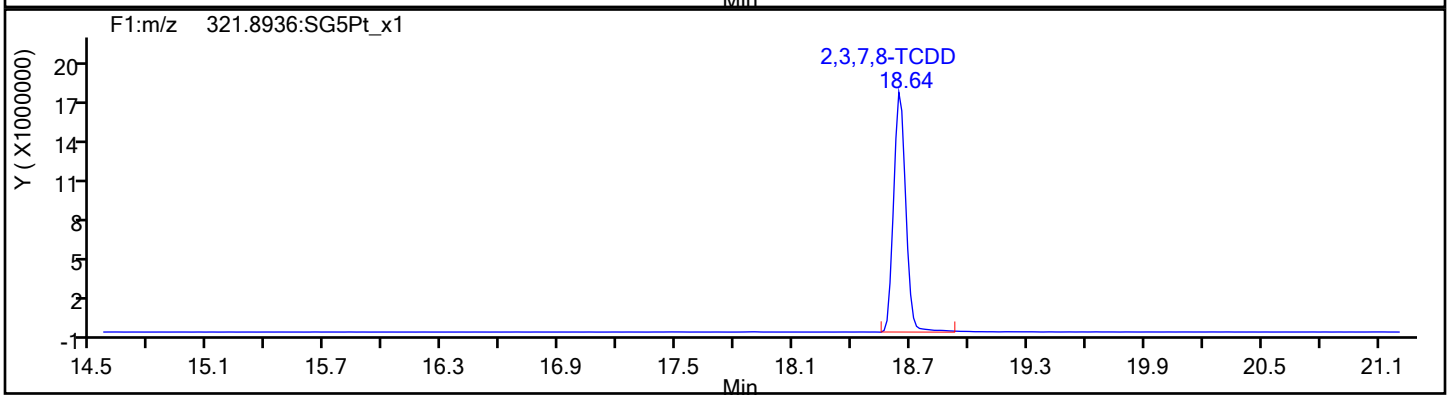

TCDD Standards

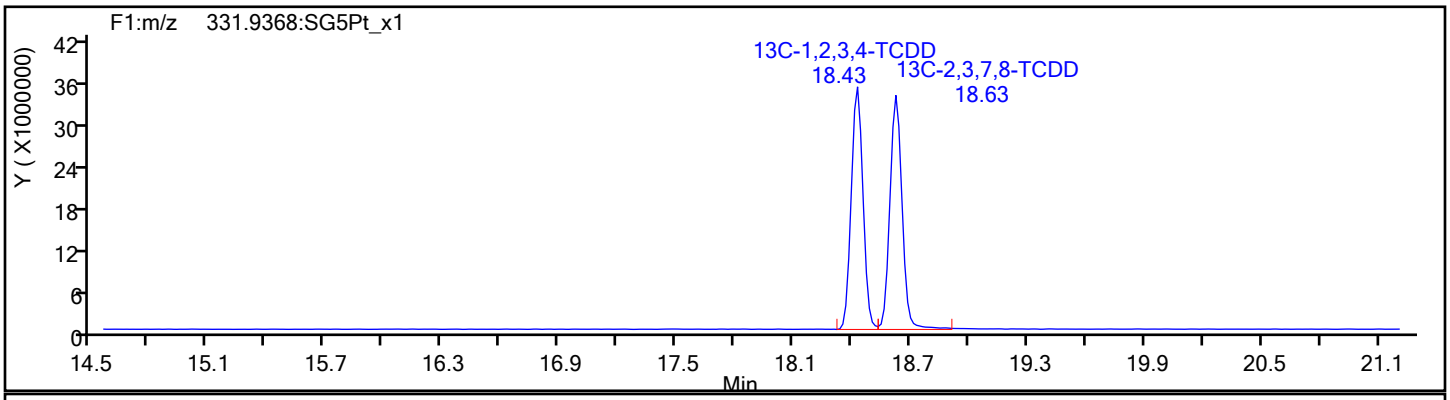

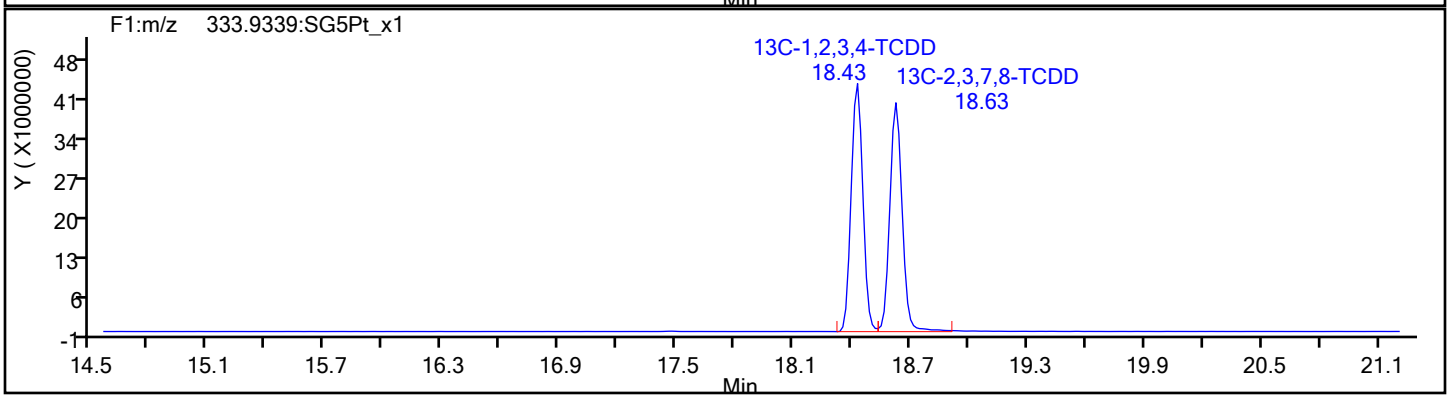

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
Worklist#:	296020	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

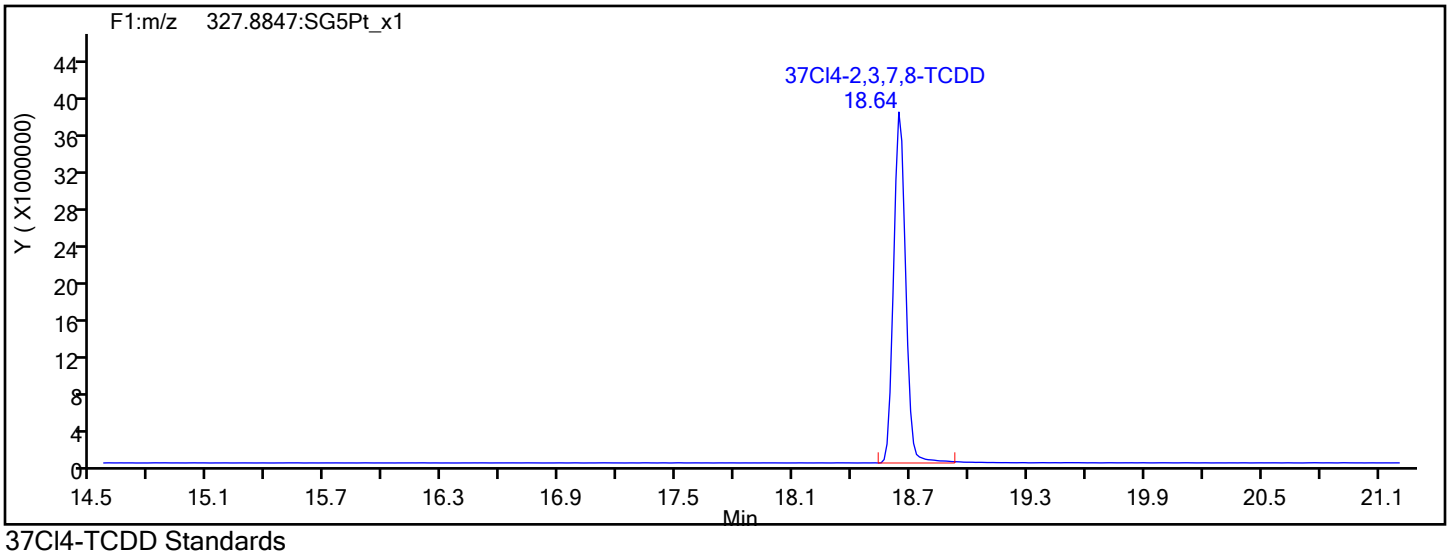

37Cl4-TCDD Standards

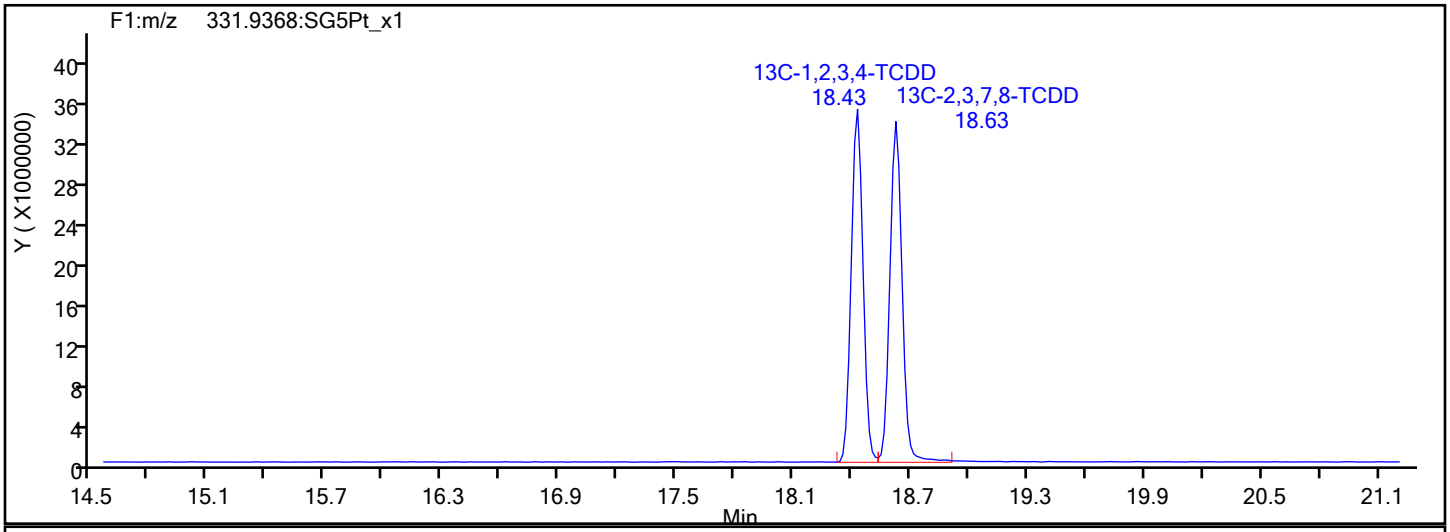

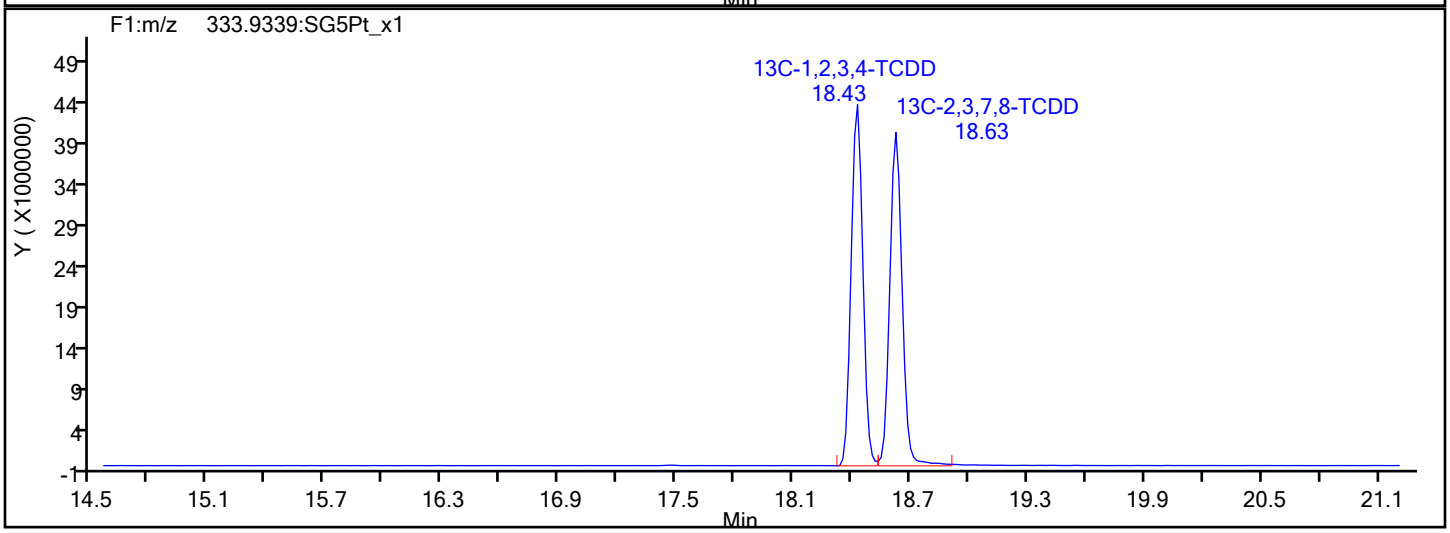

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
Worklist#:	296020	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

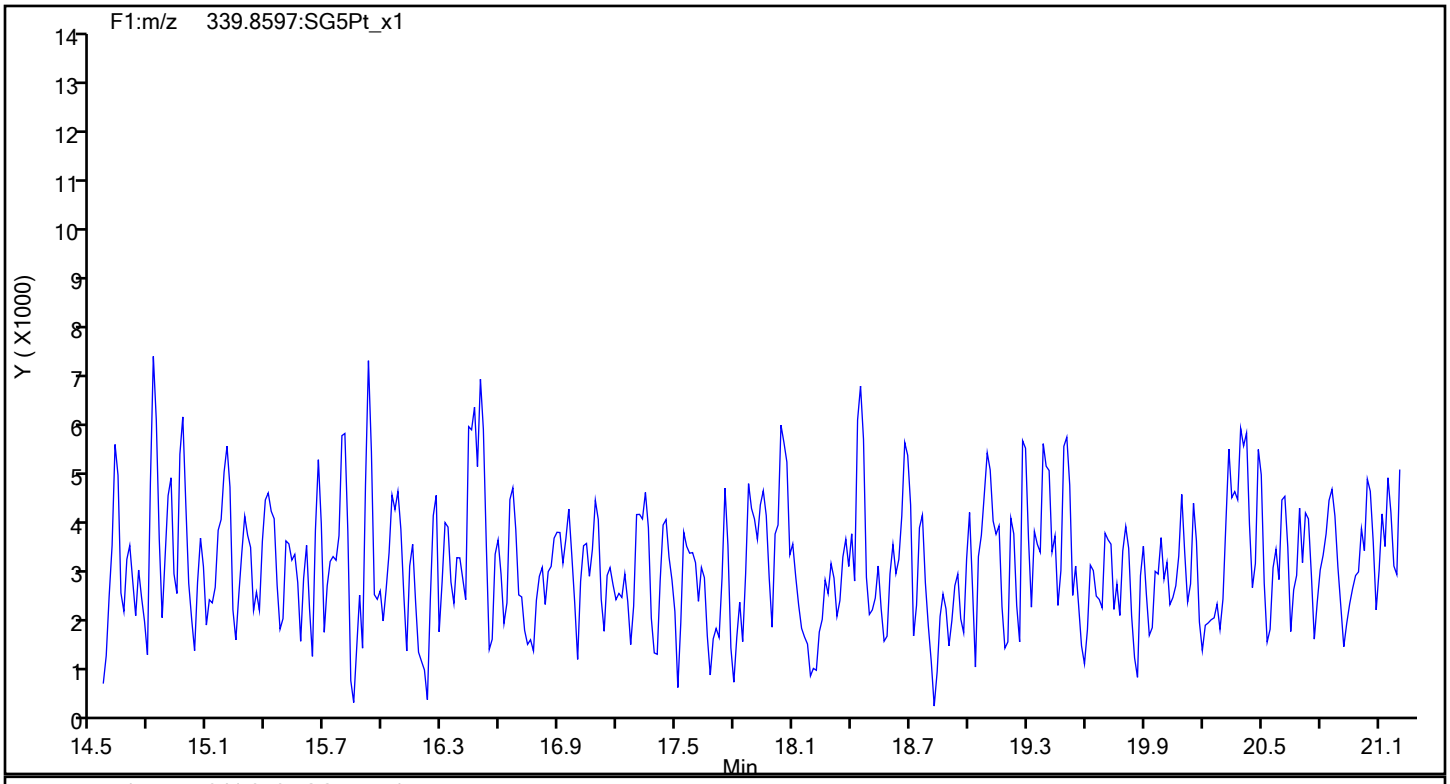

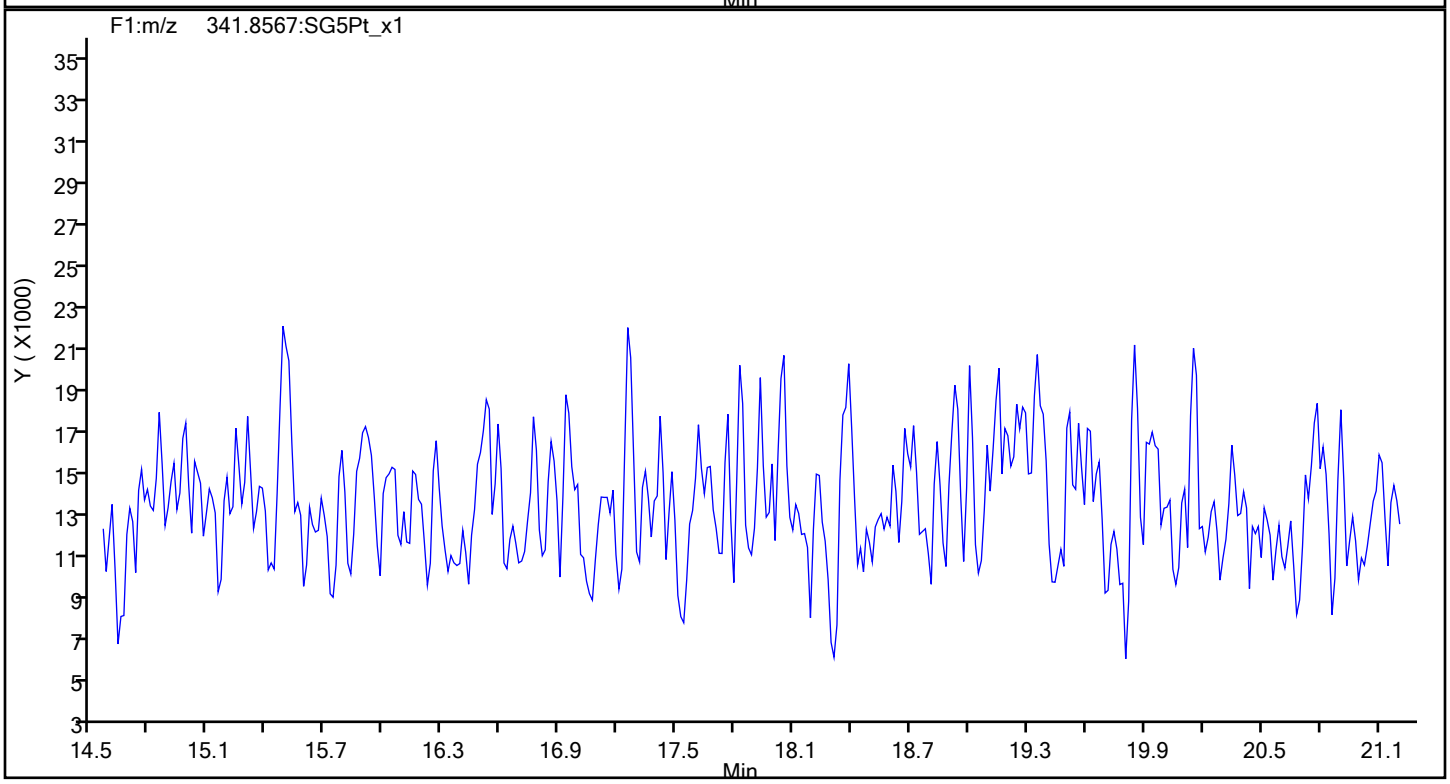

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Eurofins TestAmerica, Sacramento

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Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
Worklist#:	296020	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

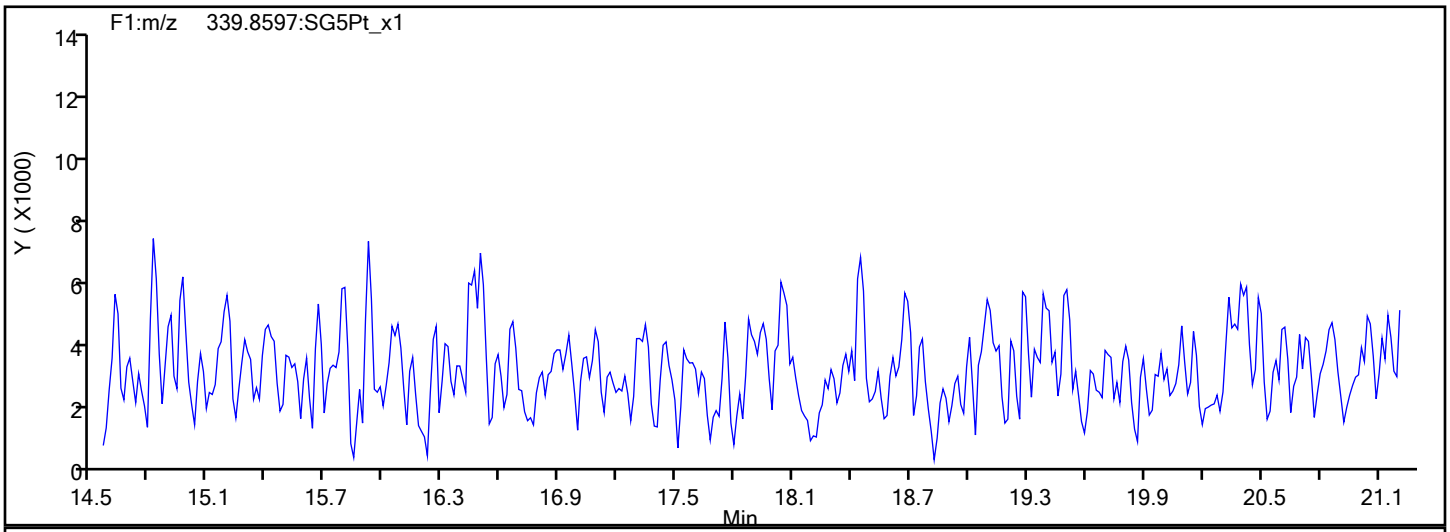

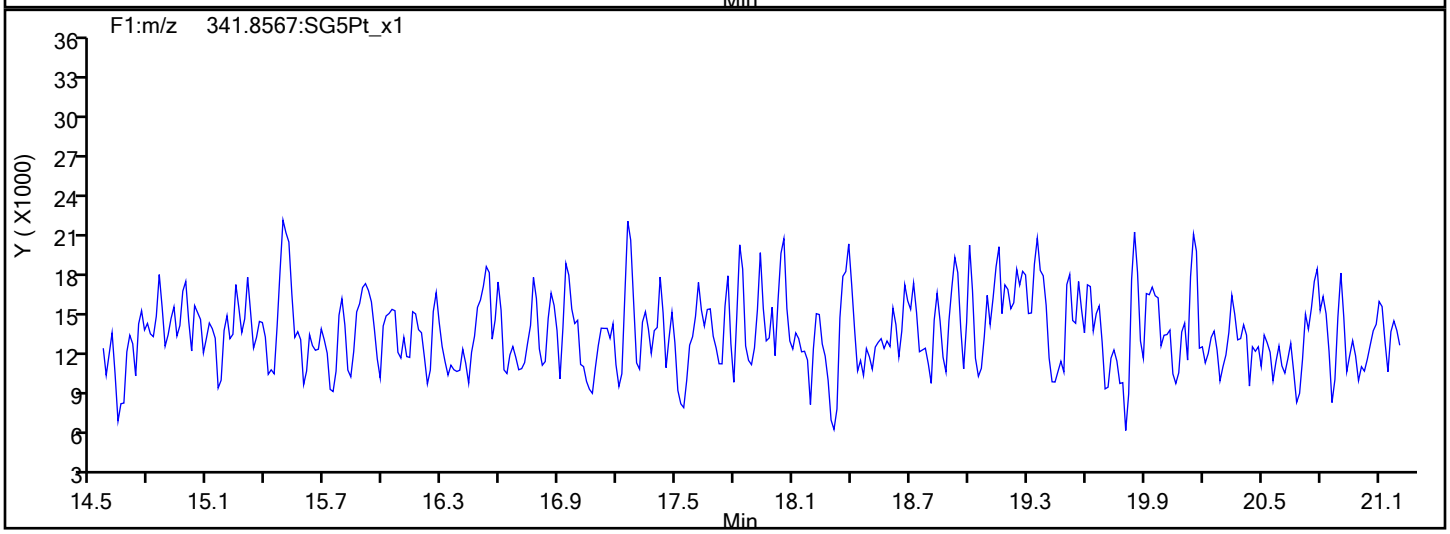

F1 PeCDFs Interference Mass

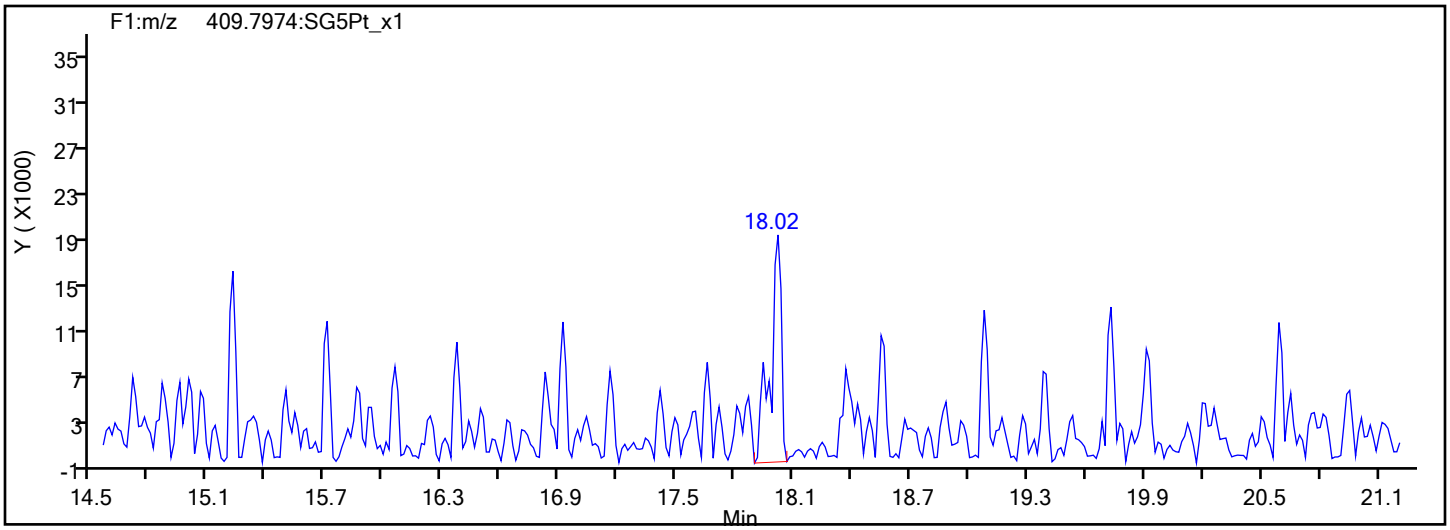

Report Date: 22-May-2019 11:44:50 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_6.d		
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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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PeCDF

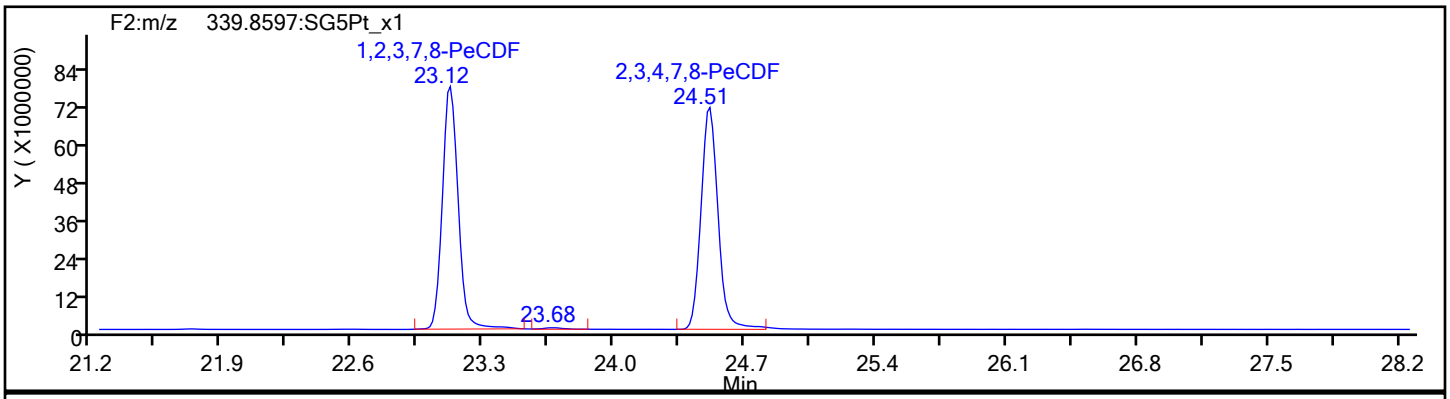

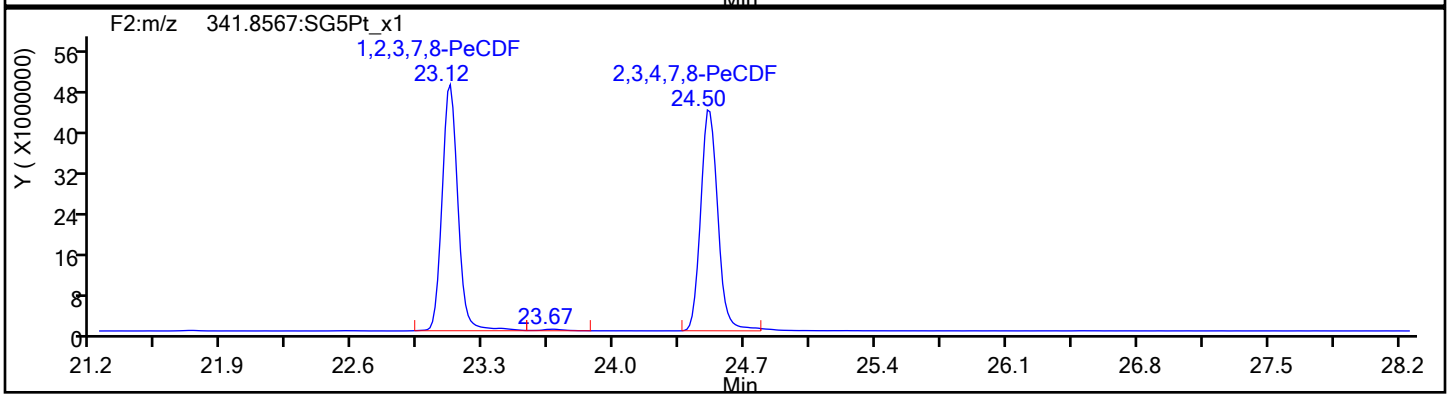

PeCDF Standards

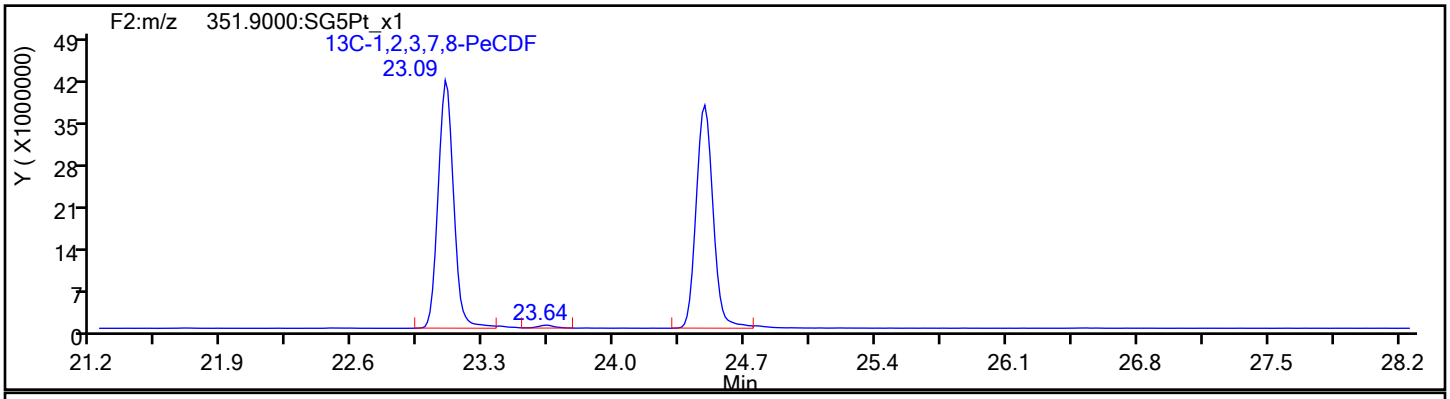

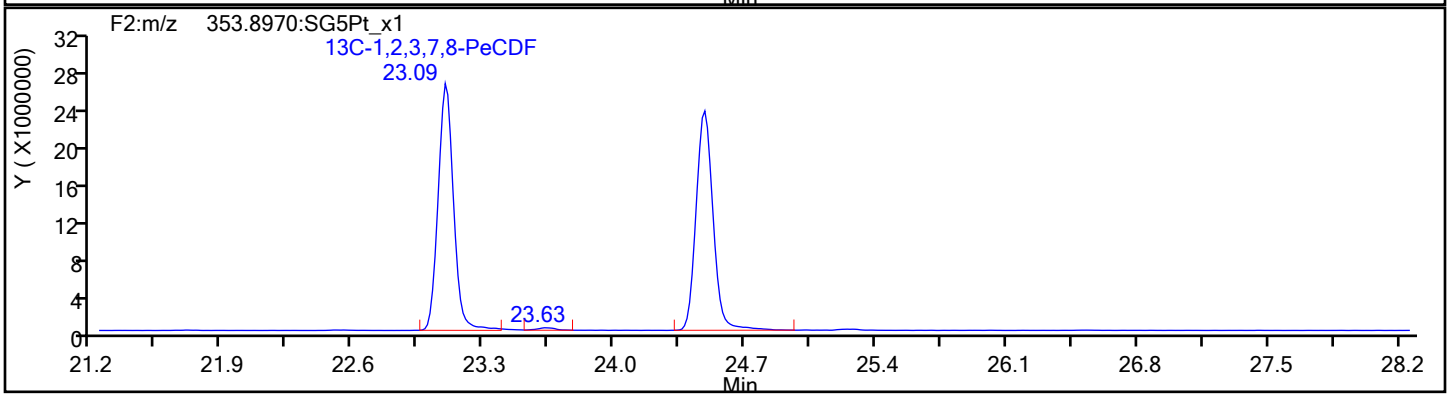

Report Date: 22-May-2019 11:44:50 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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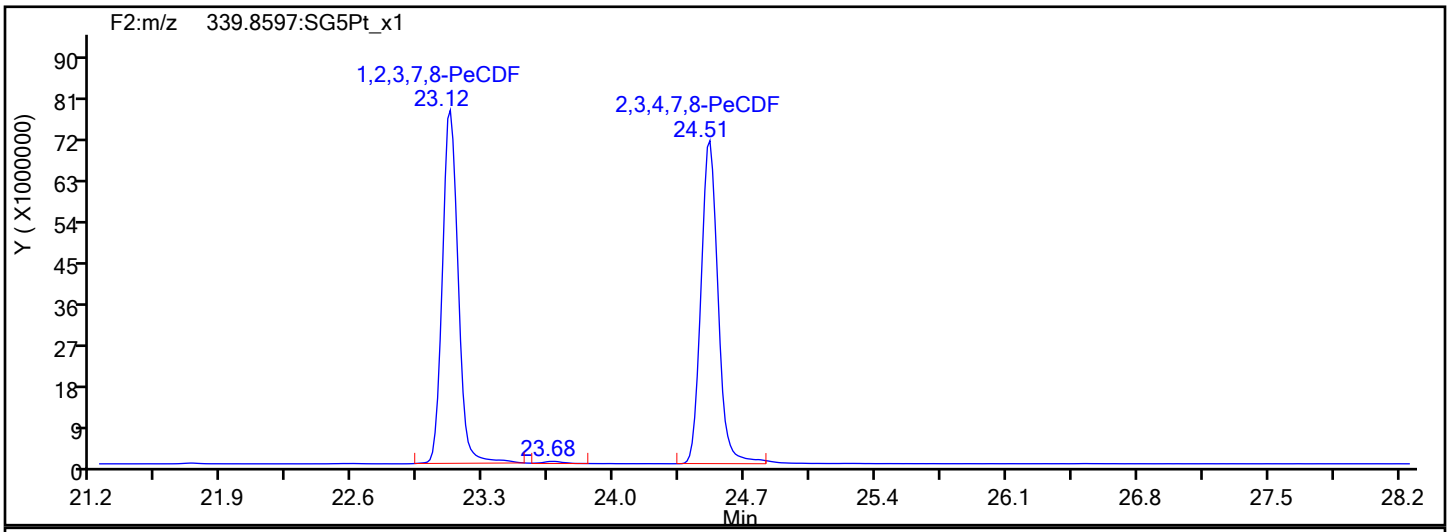

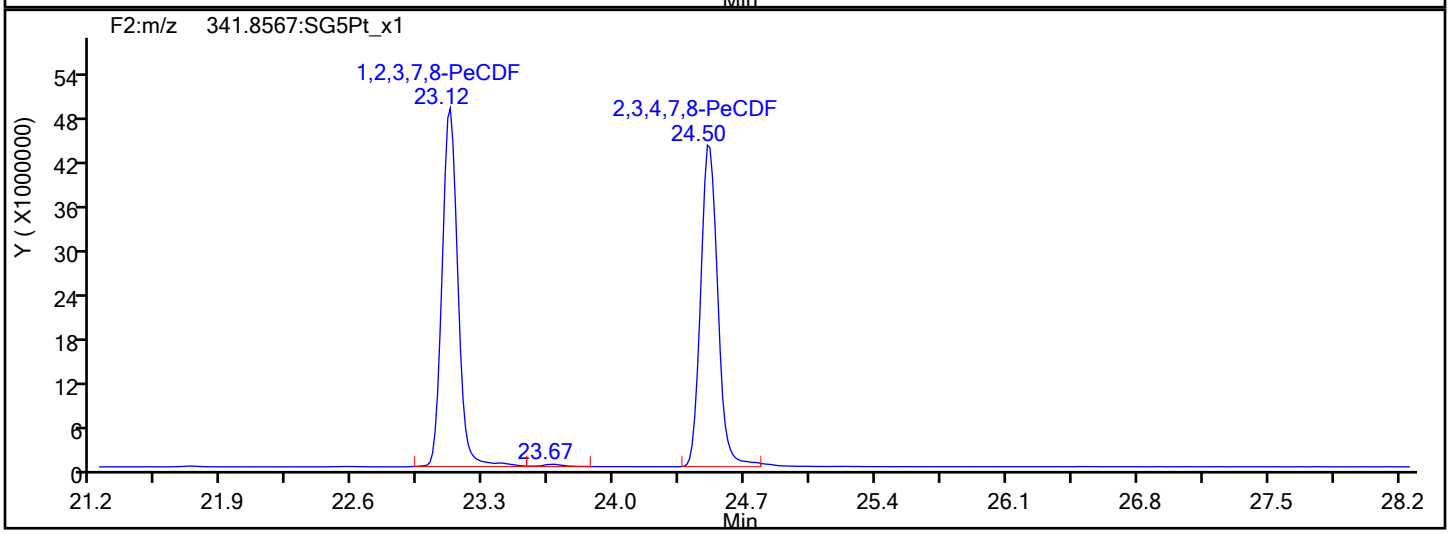

PeCDF Interference Mass

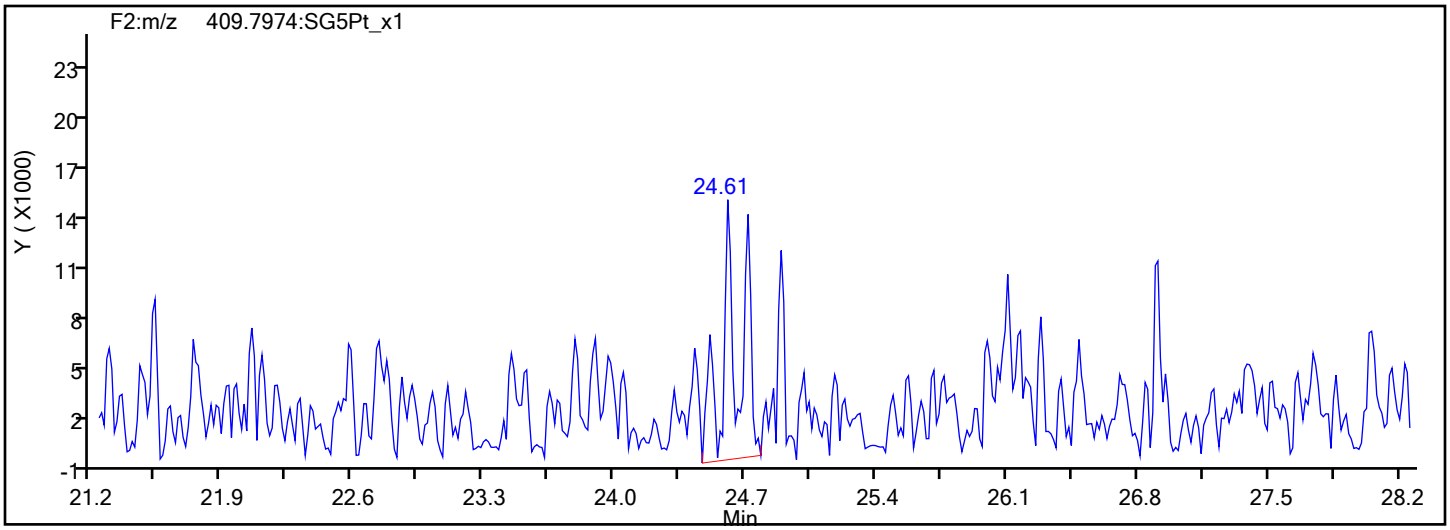

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Eurofins TestAmerica, Sacramento

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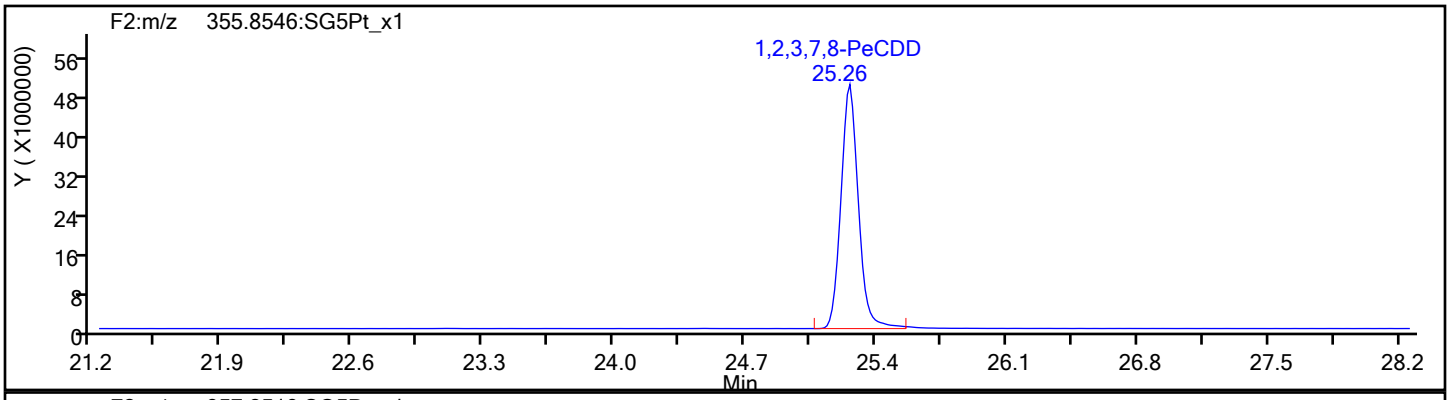

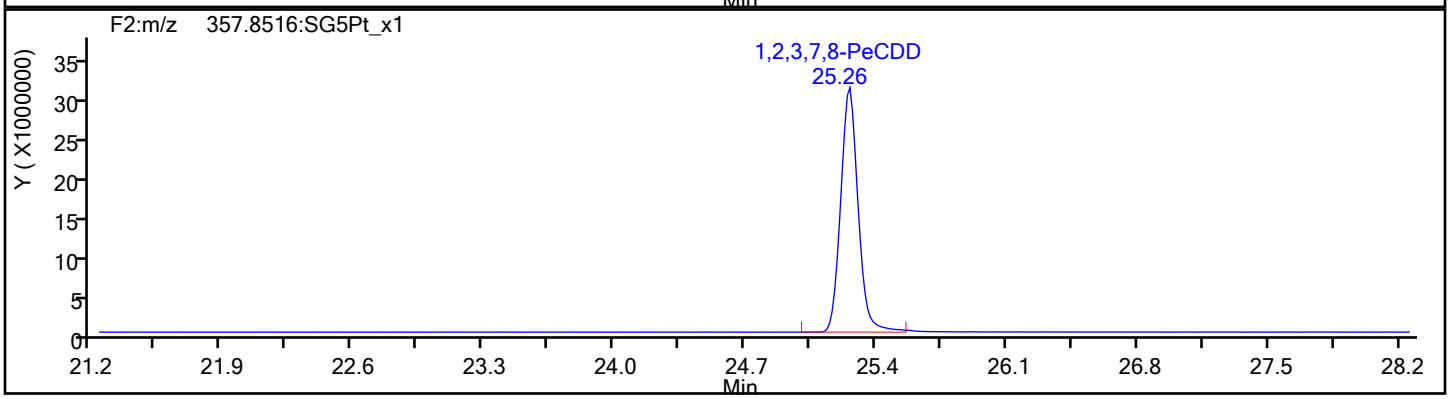

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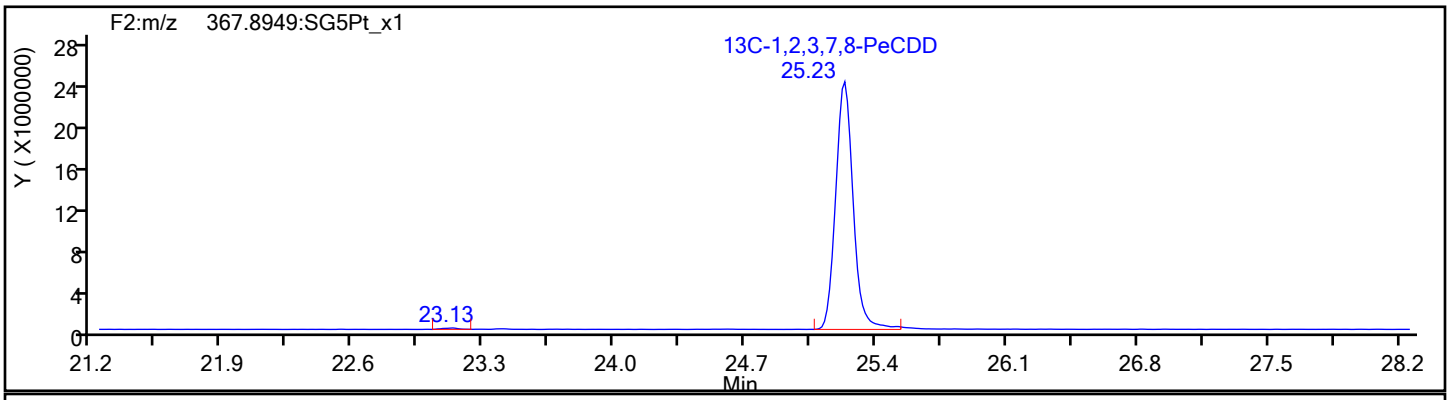

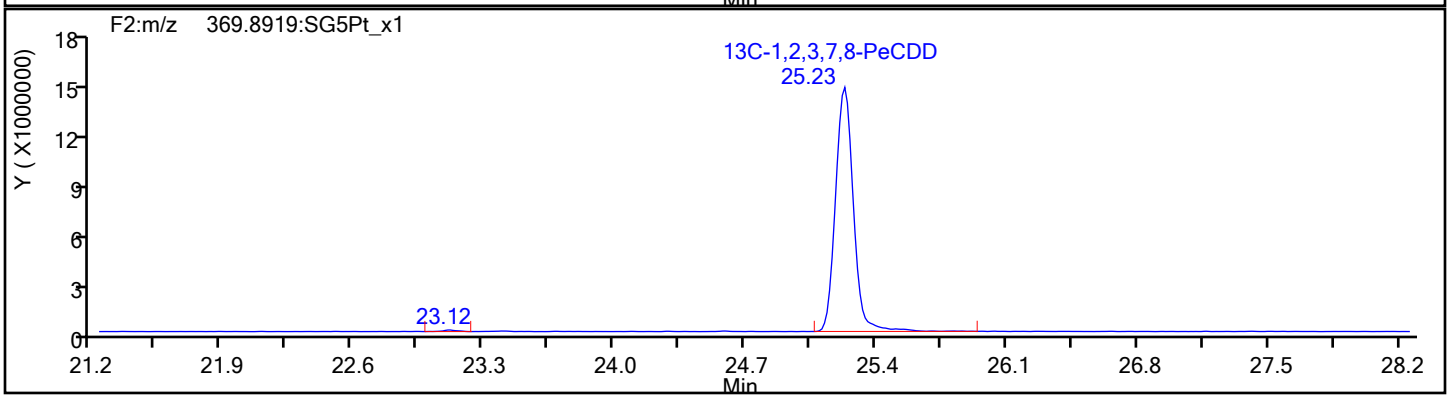

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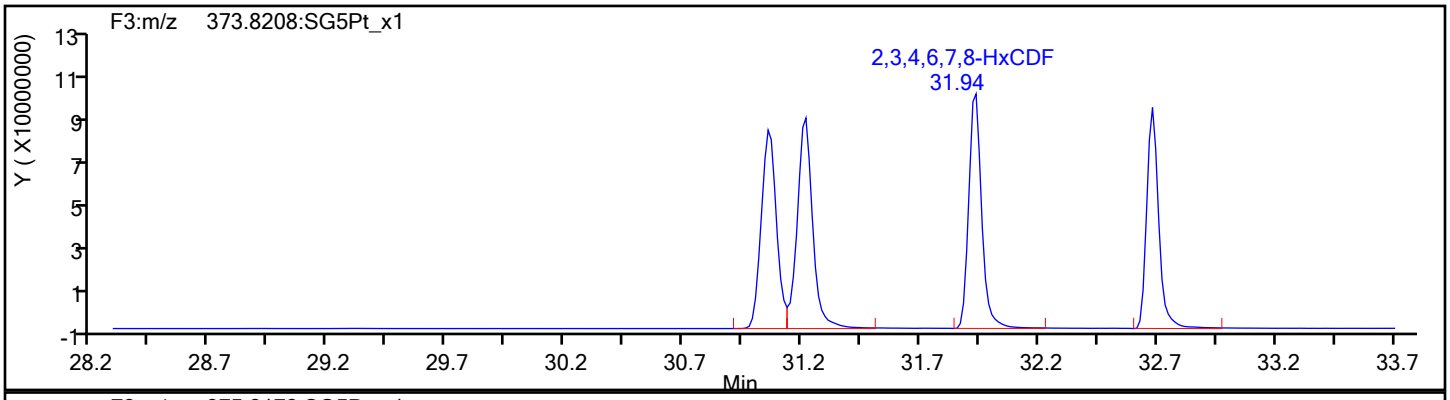

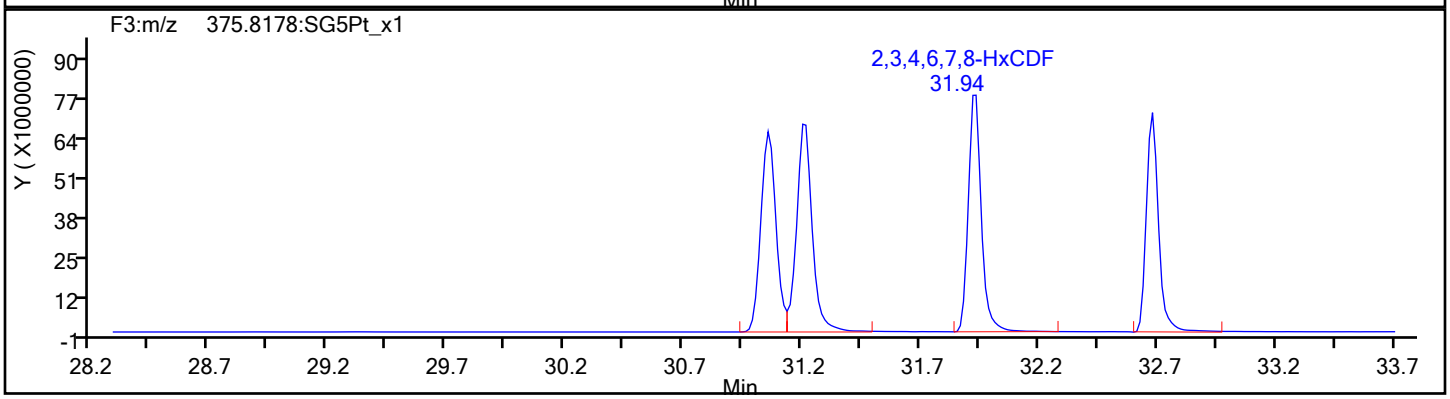

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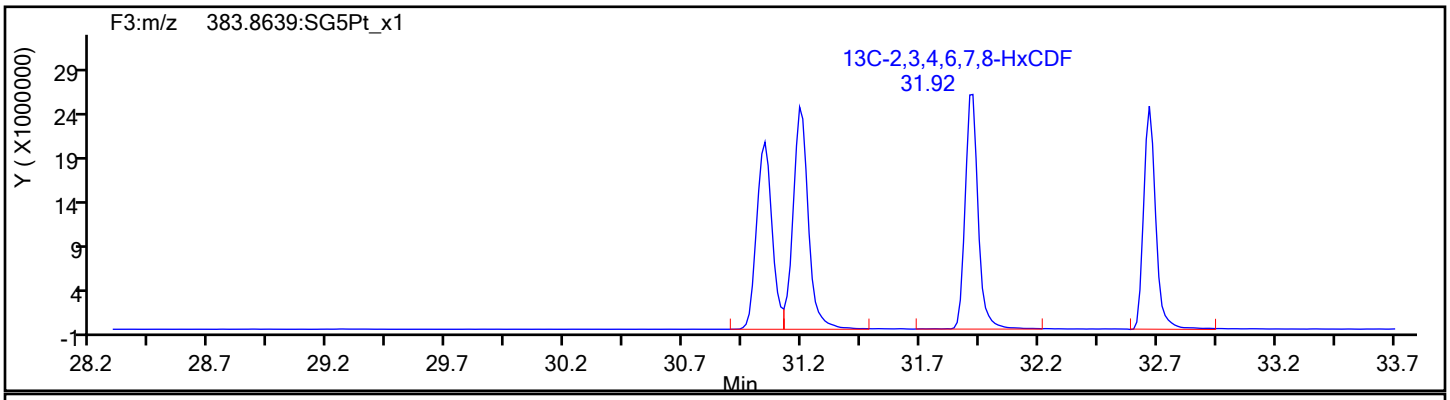

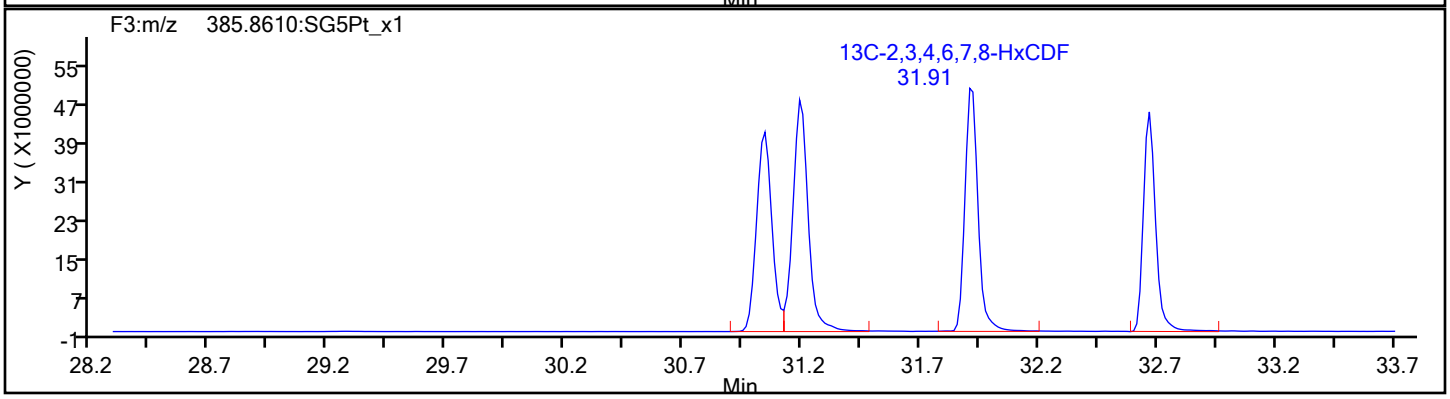

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Eurofins TestAmerica, Sacramento

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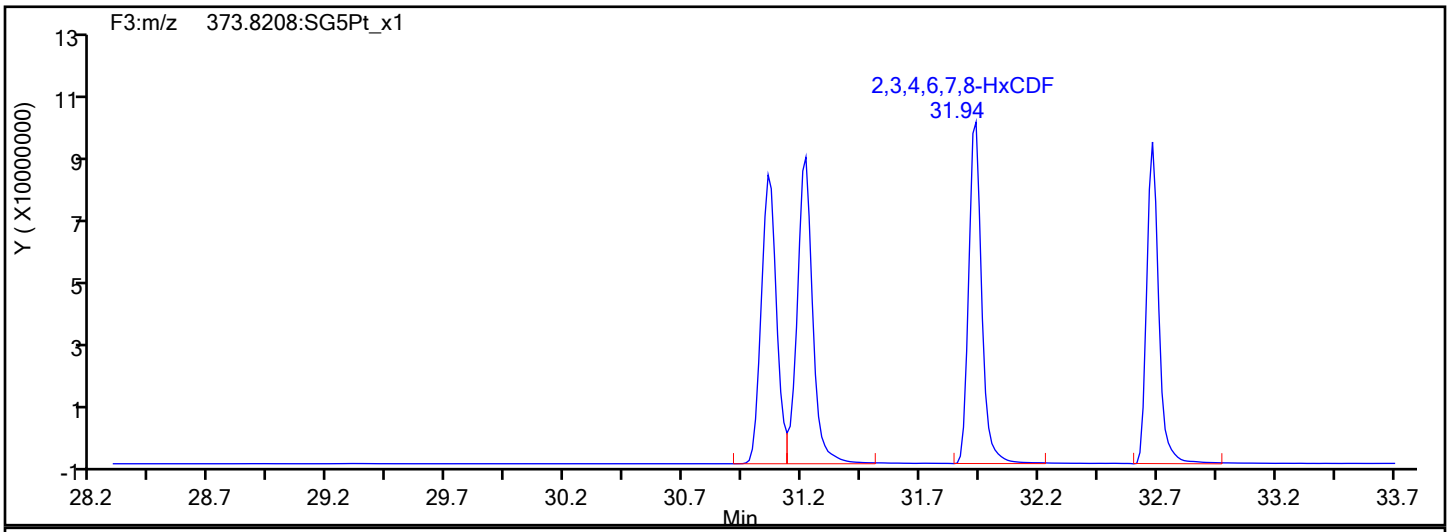

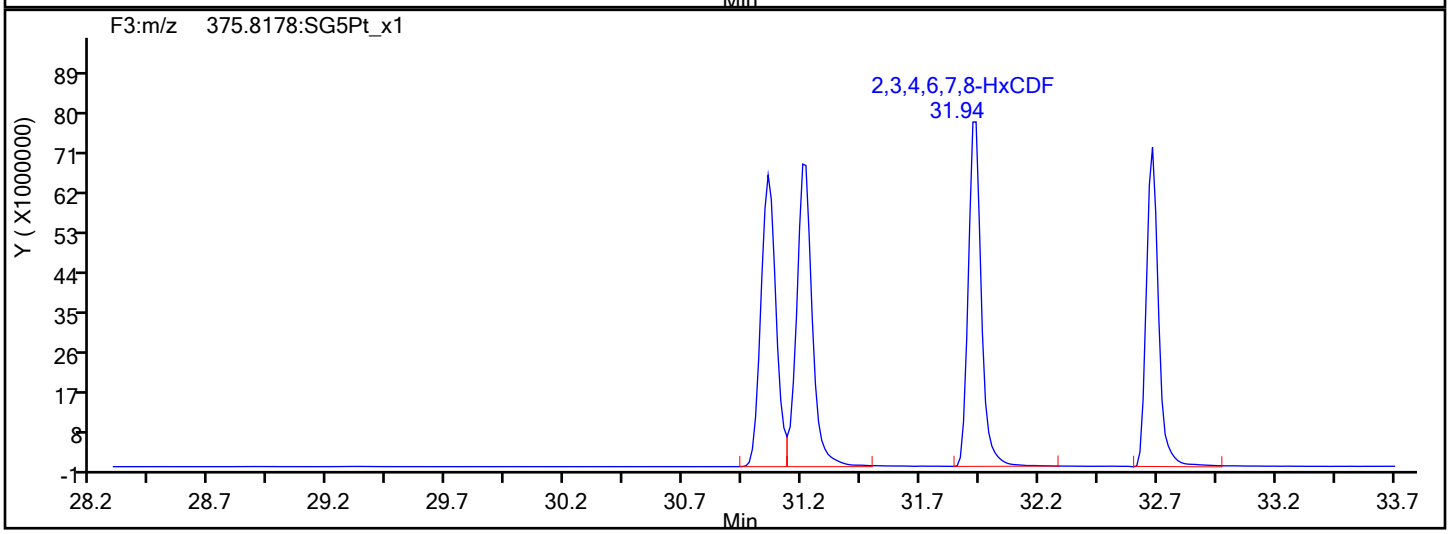

HxCDF Interference Mass

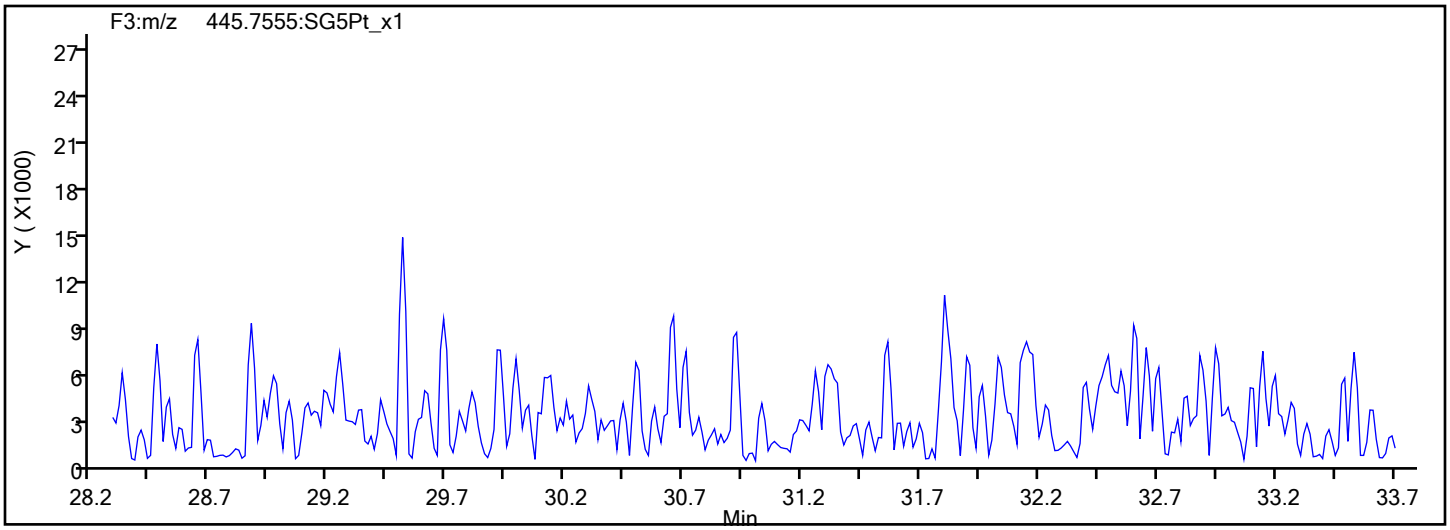

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Eurofins TestAmerica, Sacramento

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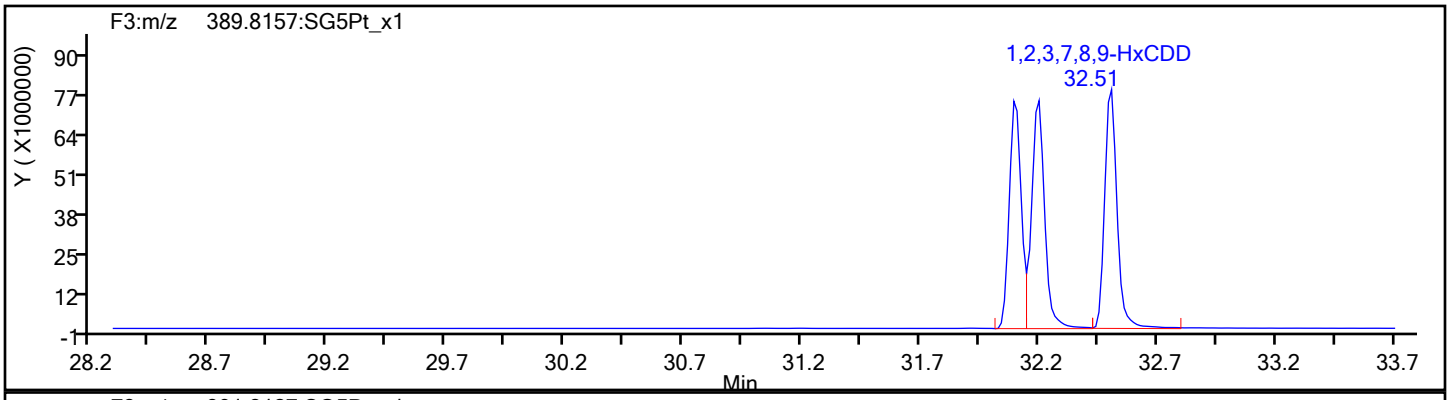

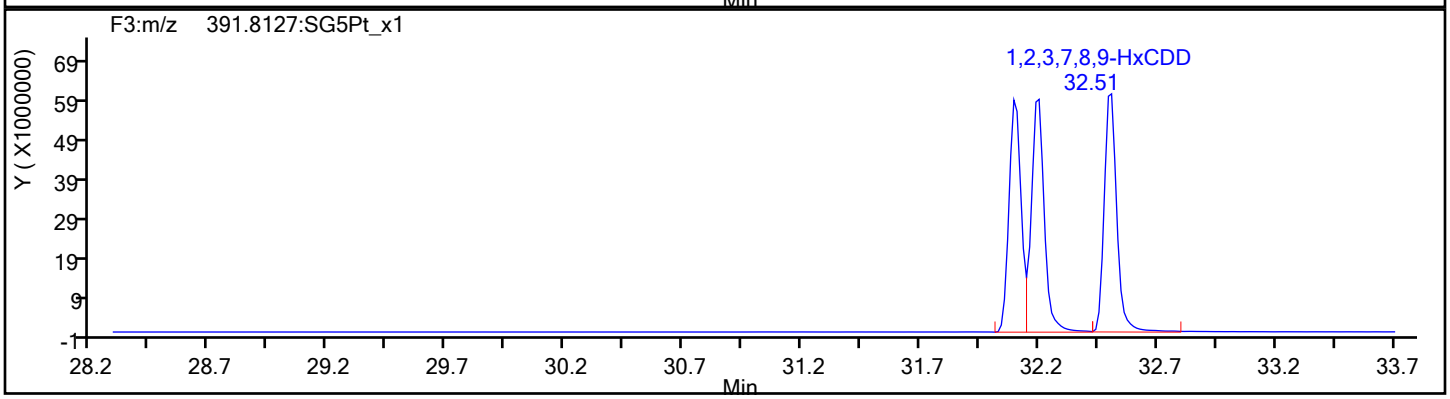

HxCDD Standards

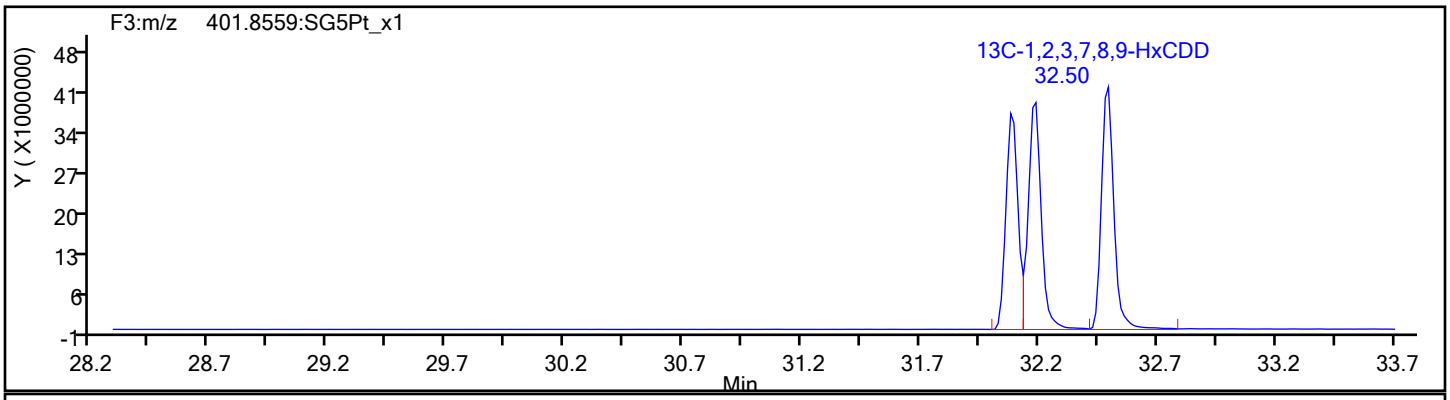

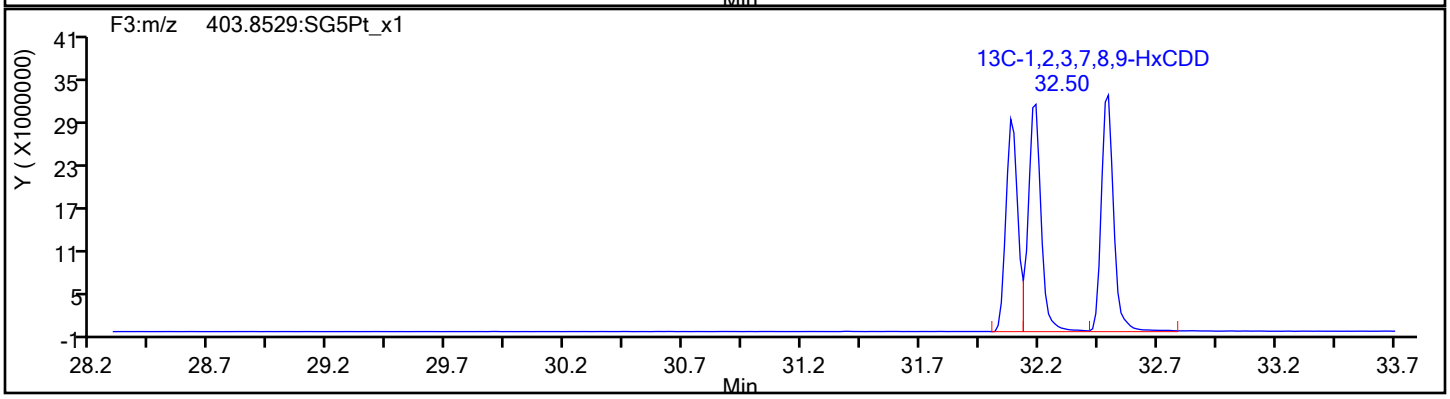

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Eurofins TestAmerica, Sacramento

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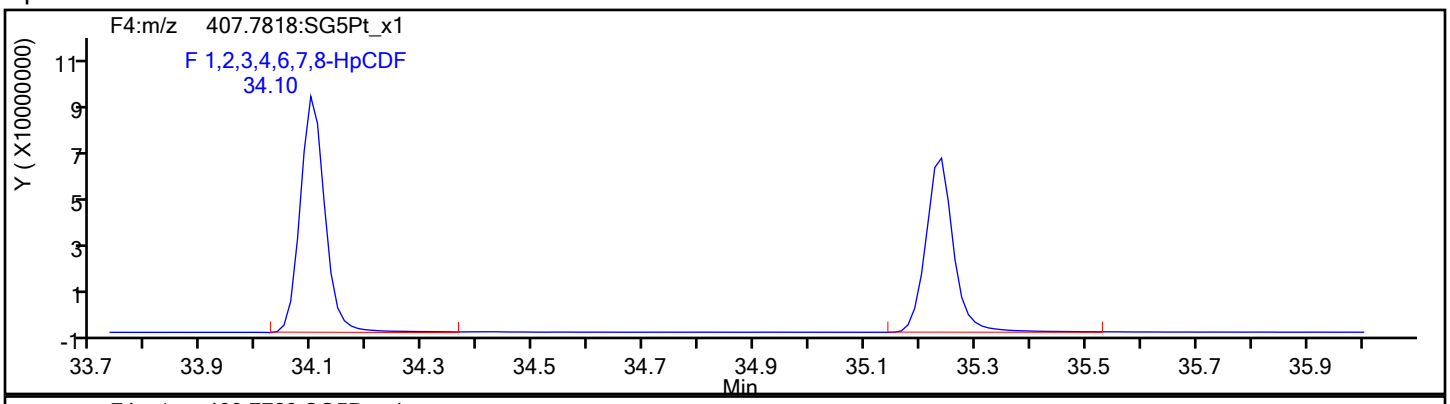

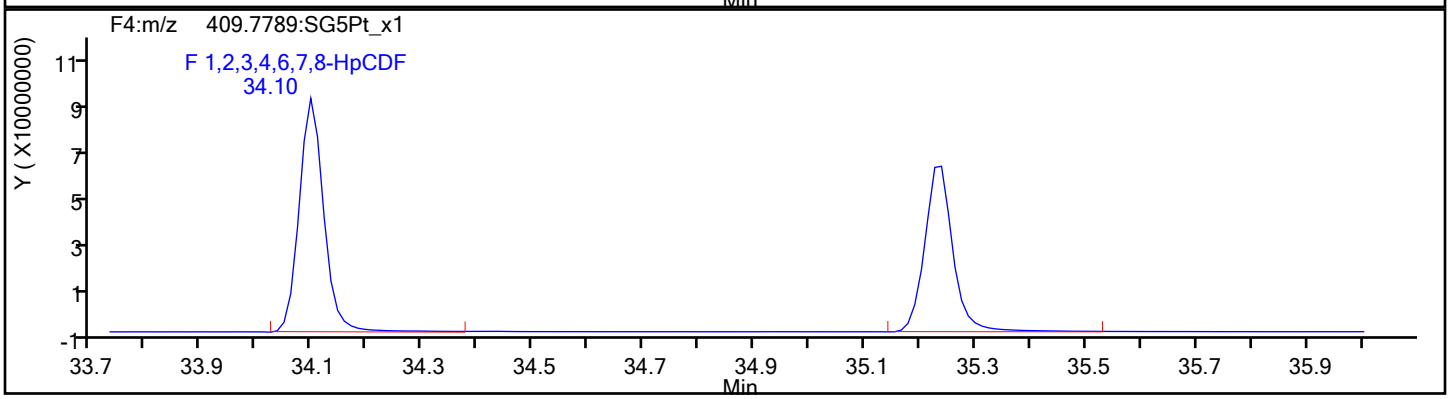

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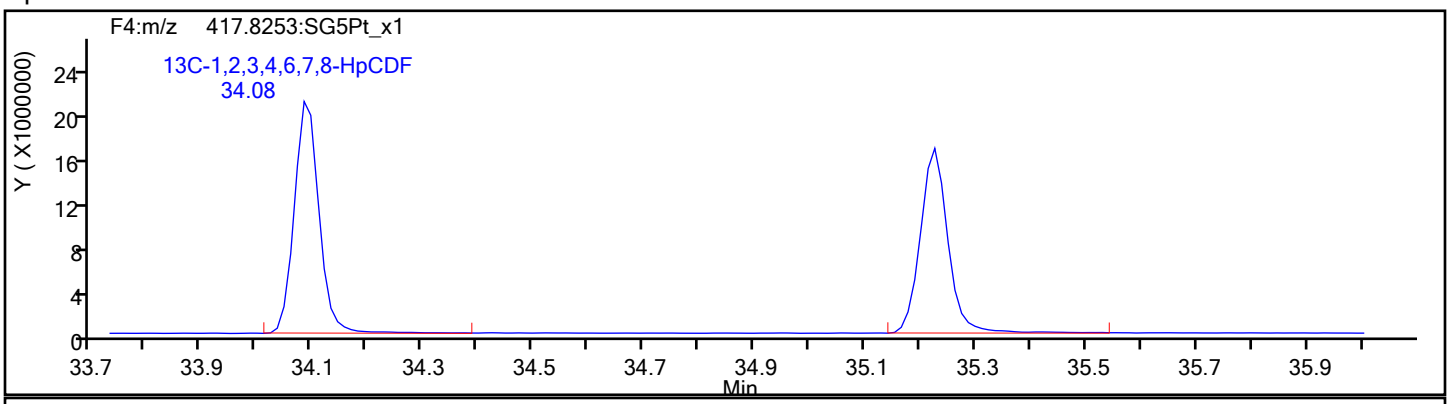

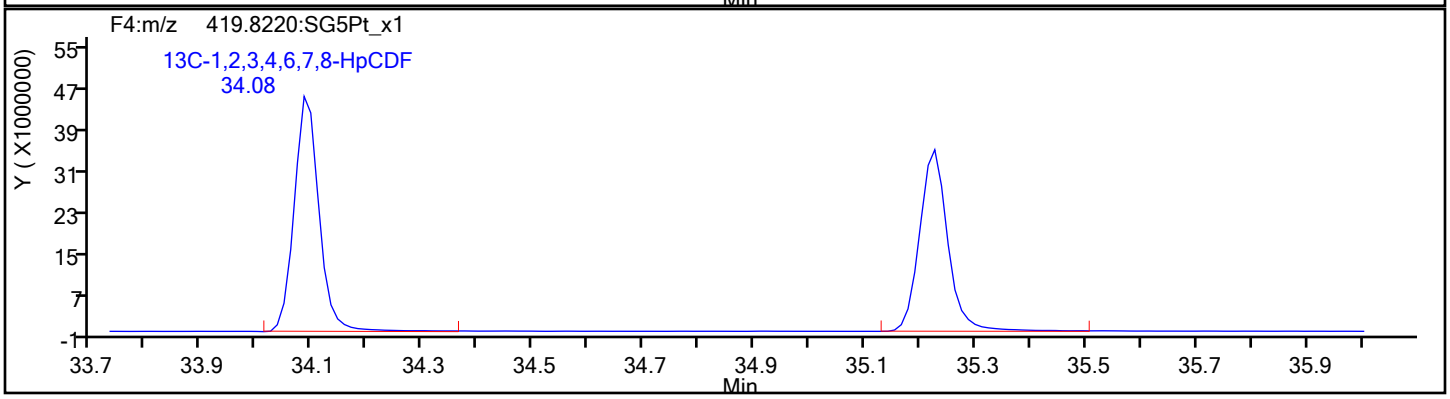

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Eurofins TestAmerica, Sacramento

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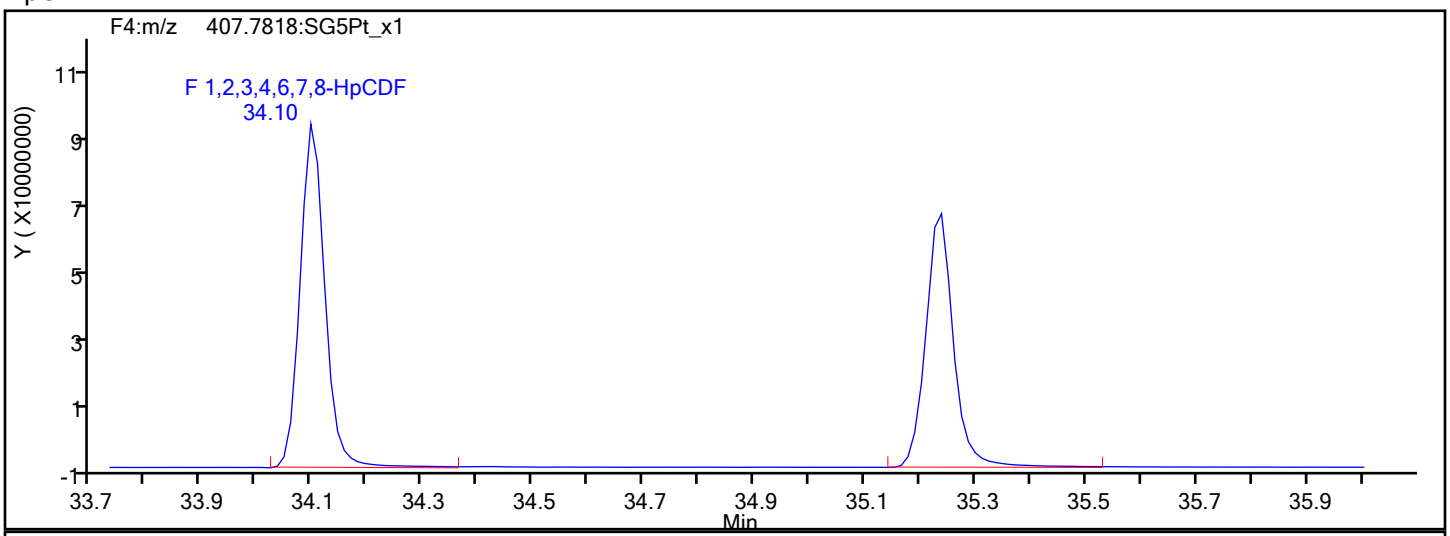

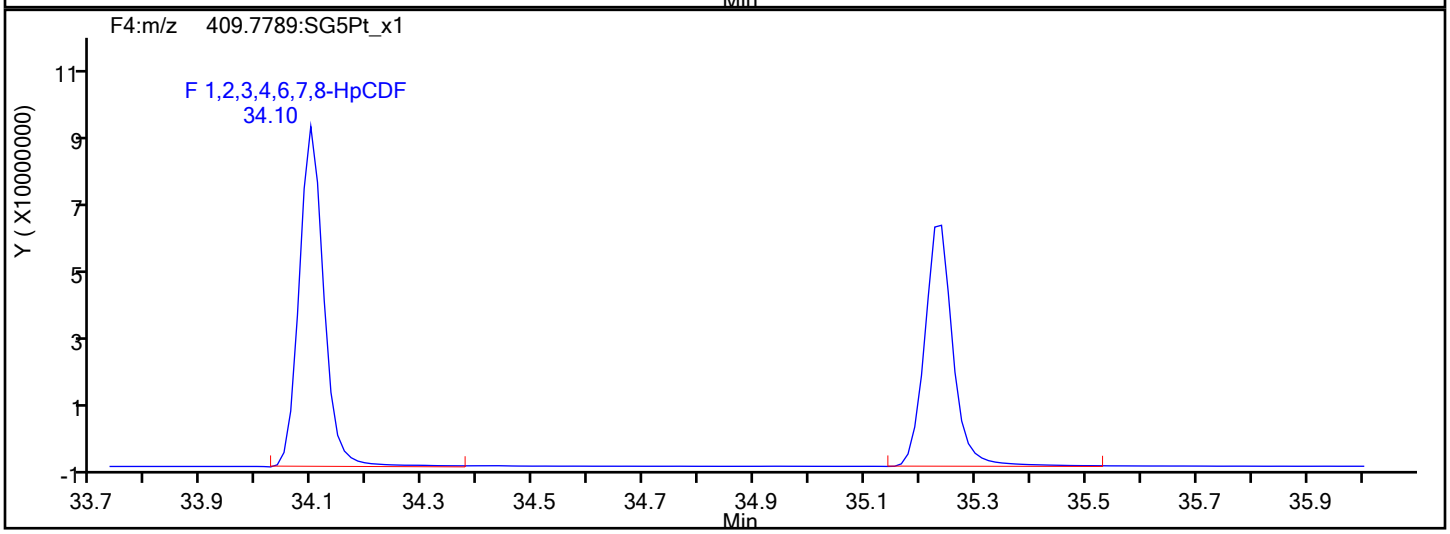

HpCDF Interference Mass

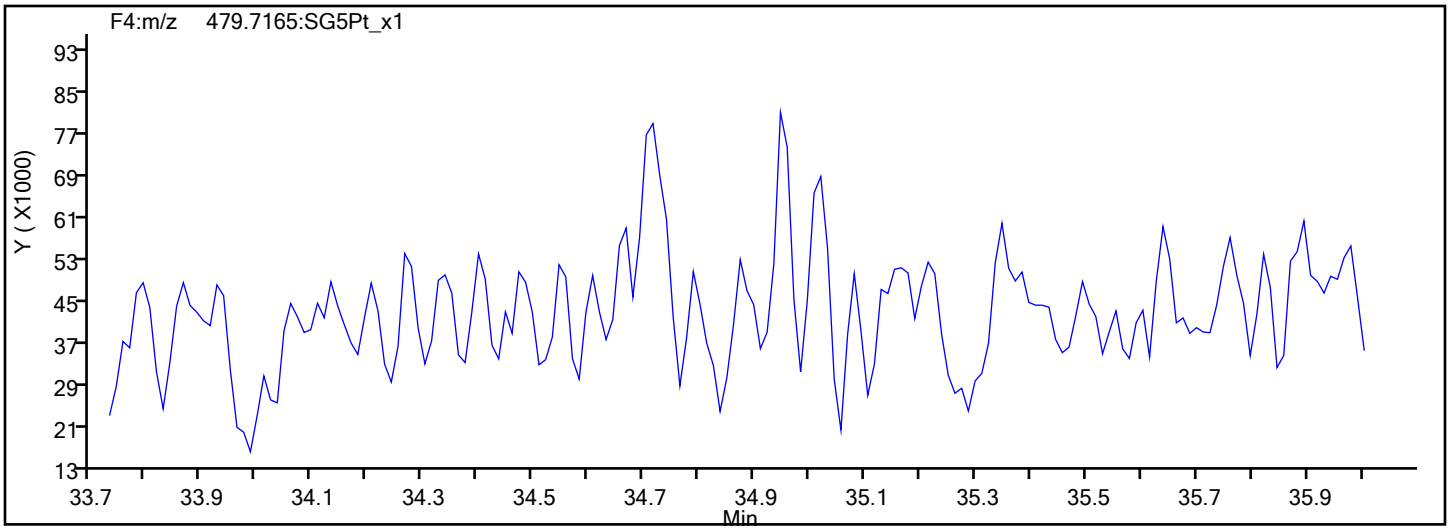

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Eurofins TestAmerica, Sacramento

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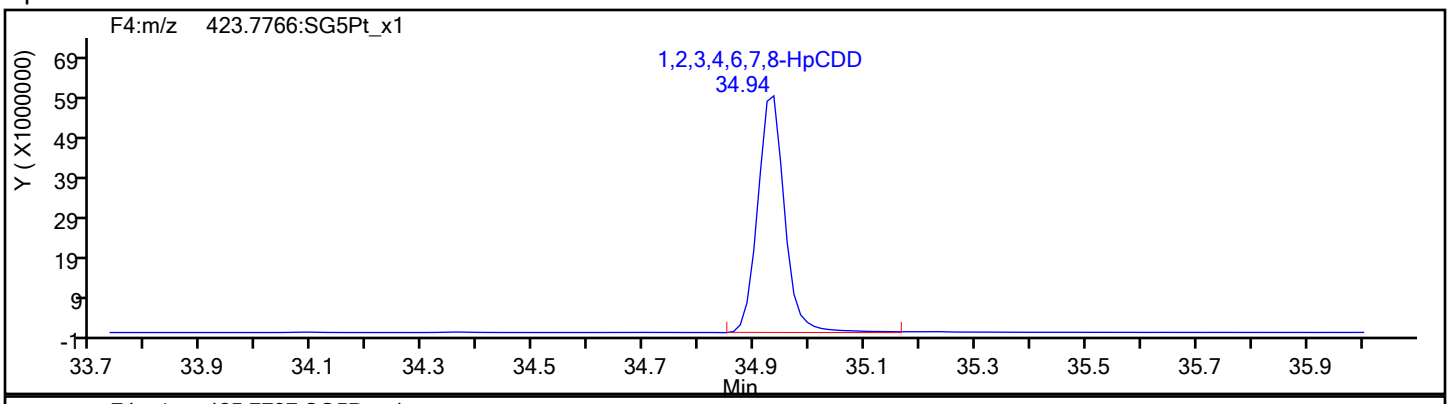

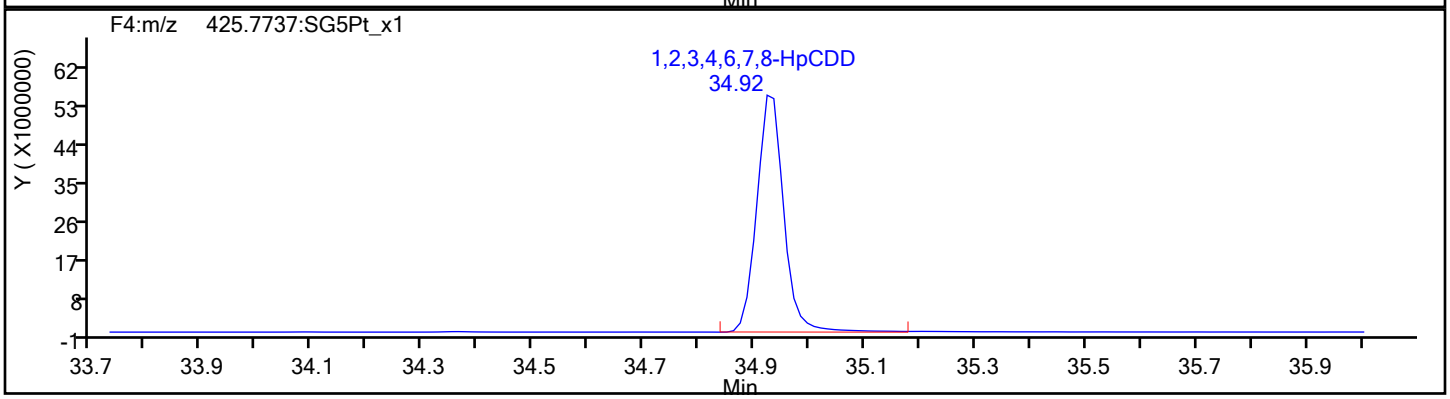

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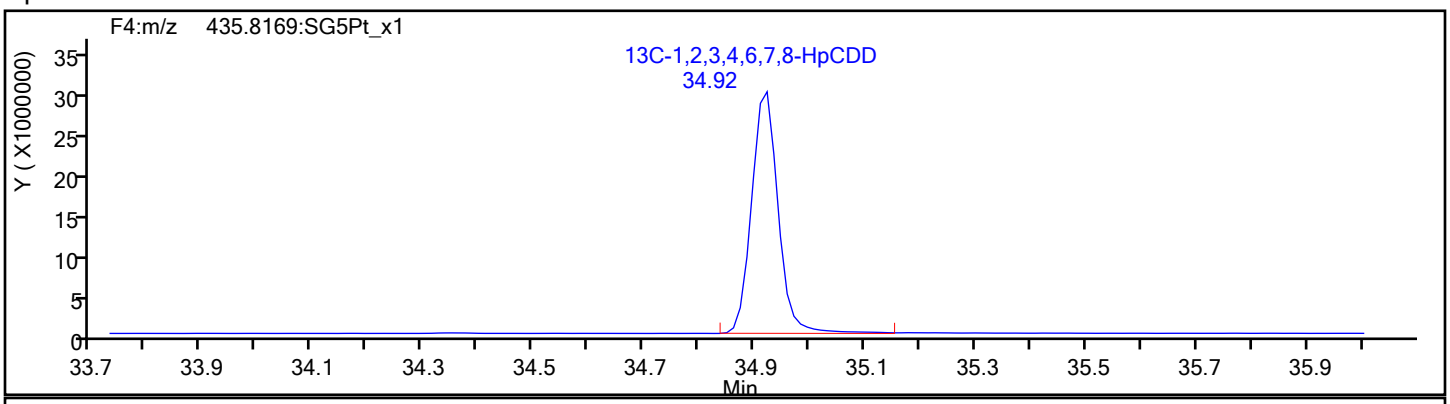

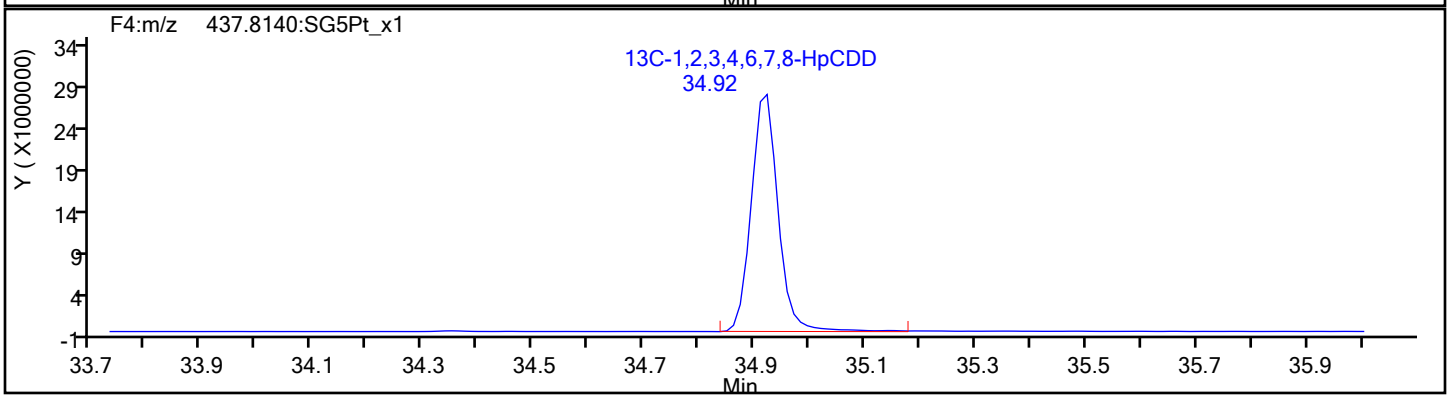

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Eurofins TestAmerica, Sacramento

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OCDF

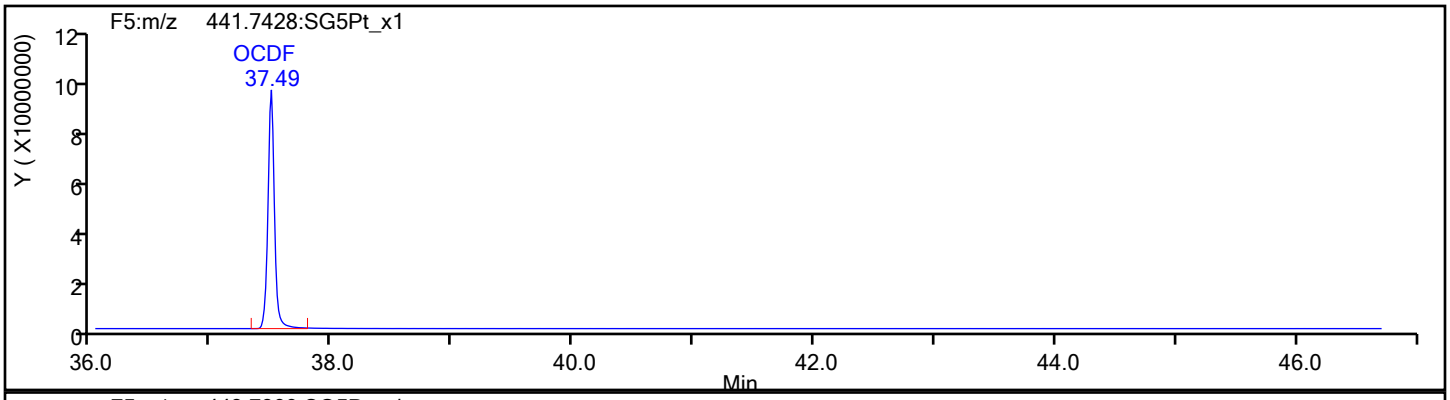

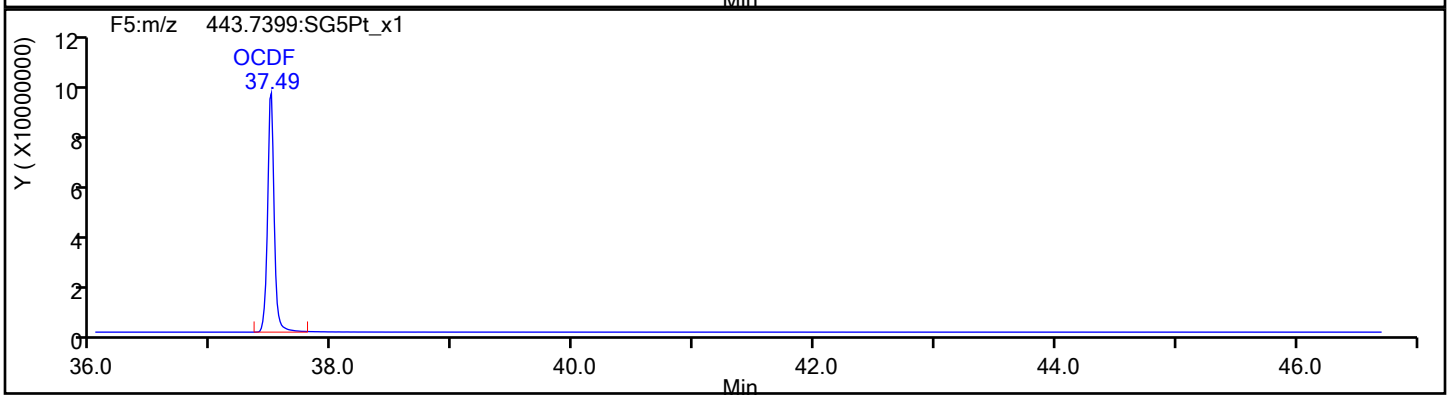

OCDF Standards

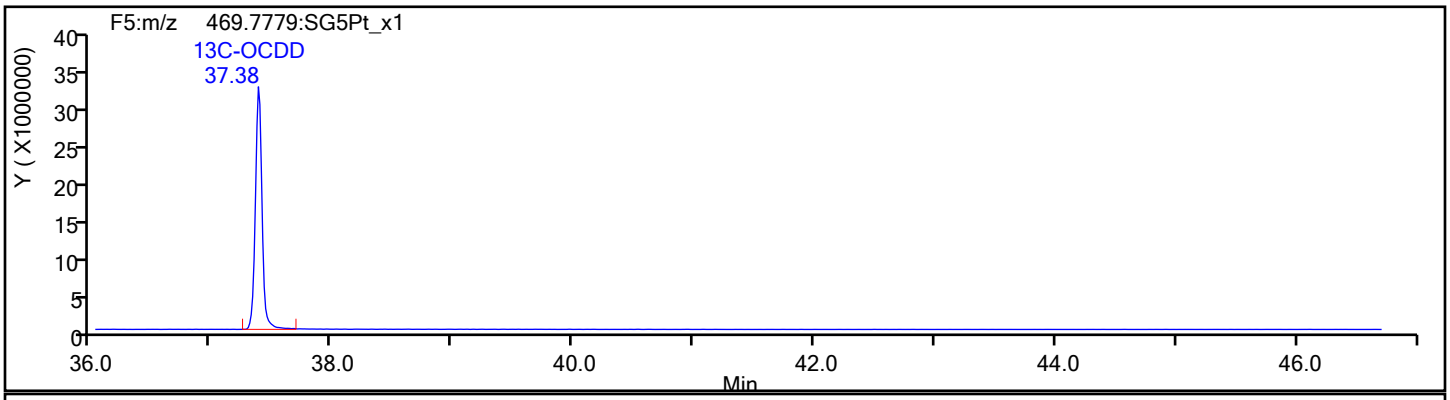

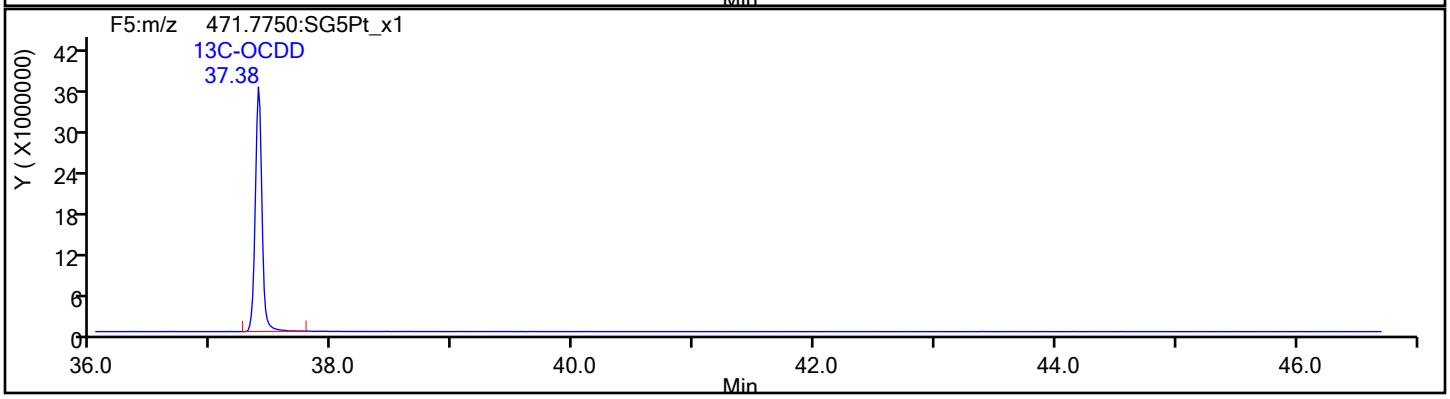

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Eurofins TestAmerica, Sacramento

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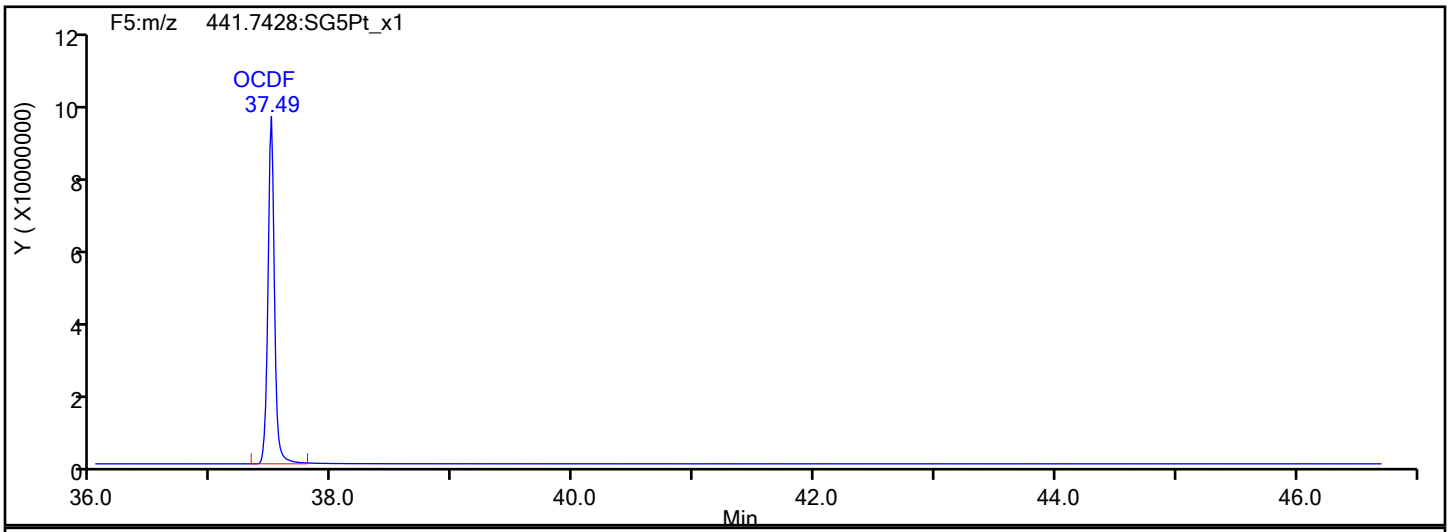

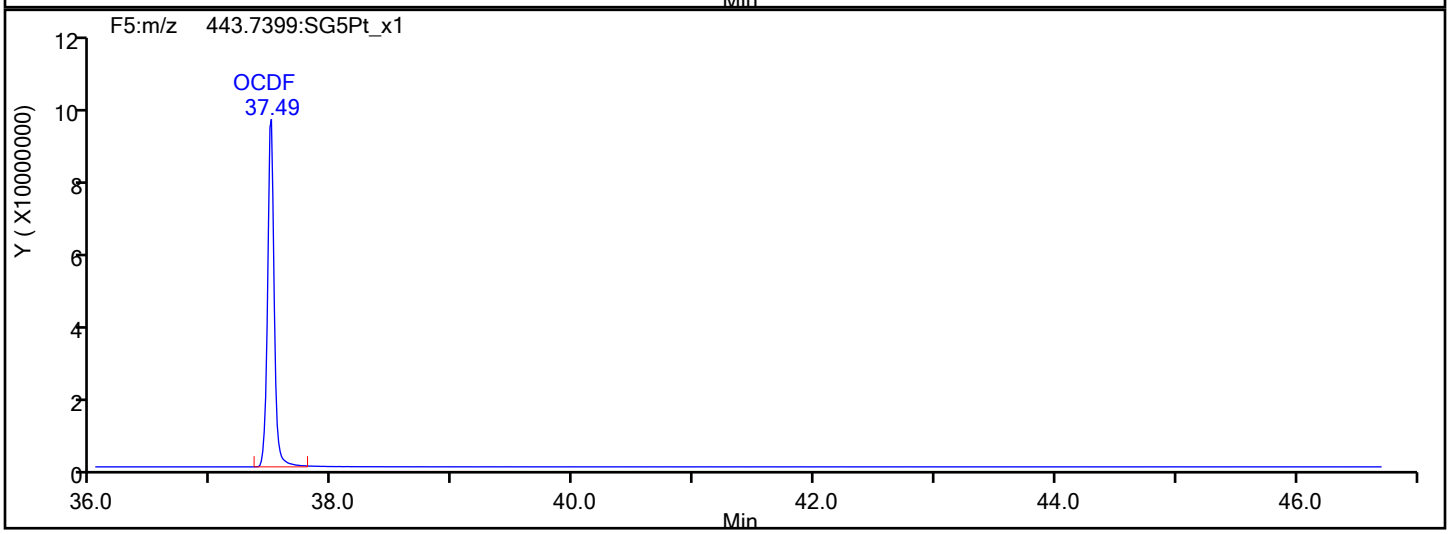

OCDF Interference Mass

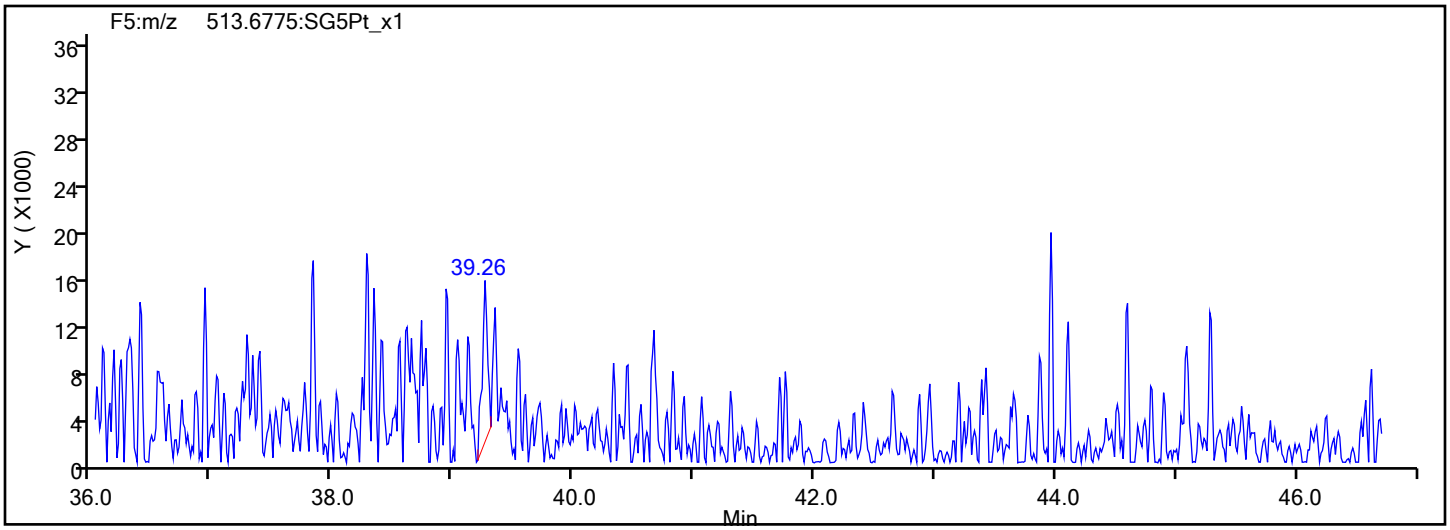

Report Date: 22-May-2019 11:44:50 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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OCDD

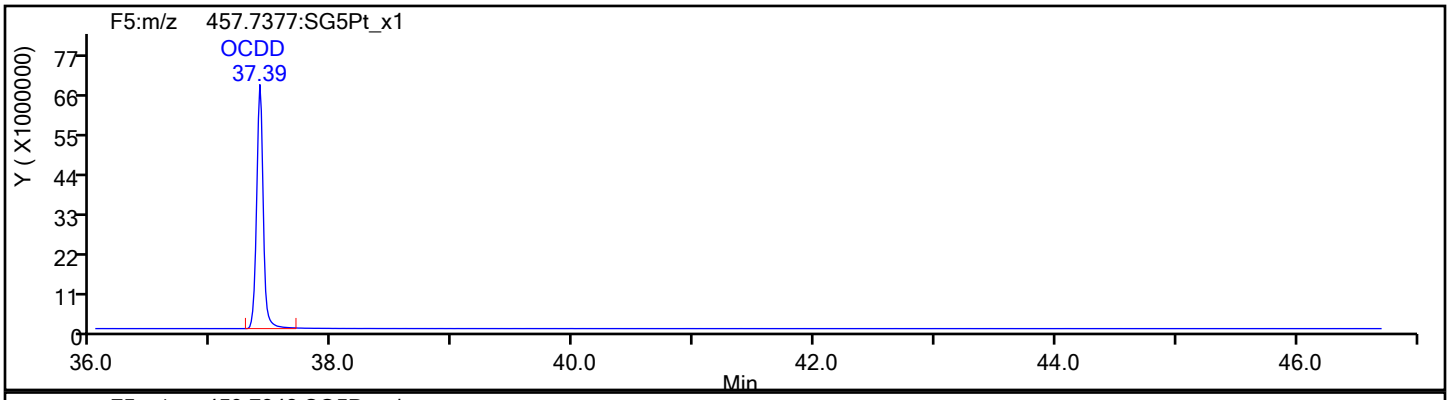

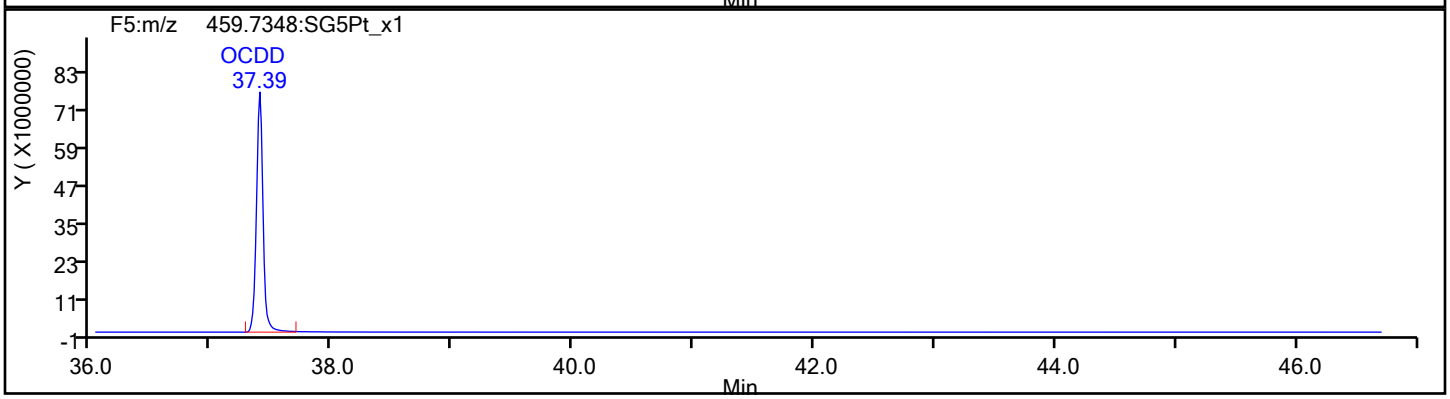

OCDD Standards

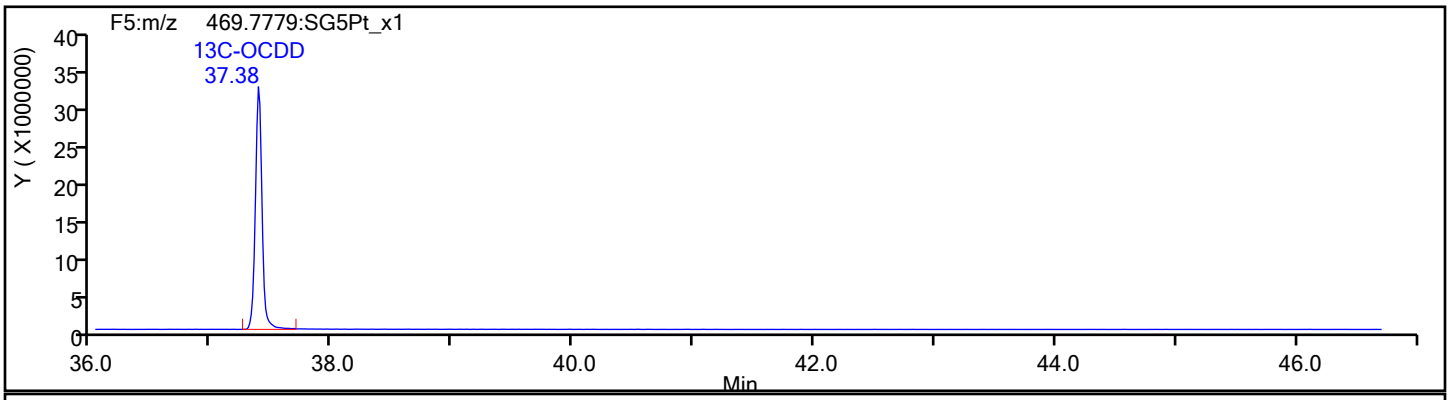

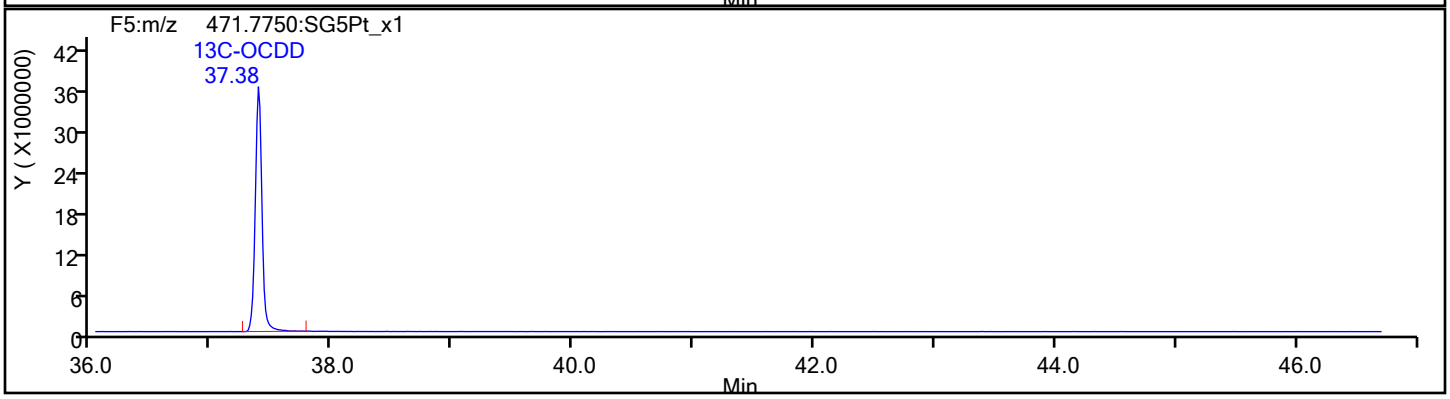

Report Date: 22-May-2019 11:44:50 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_6.d		
Injection Date:	21-May-2019 15:53:46	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
Worklist#:	296020	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

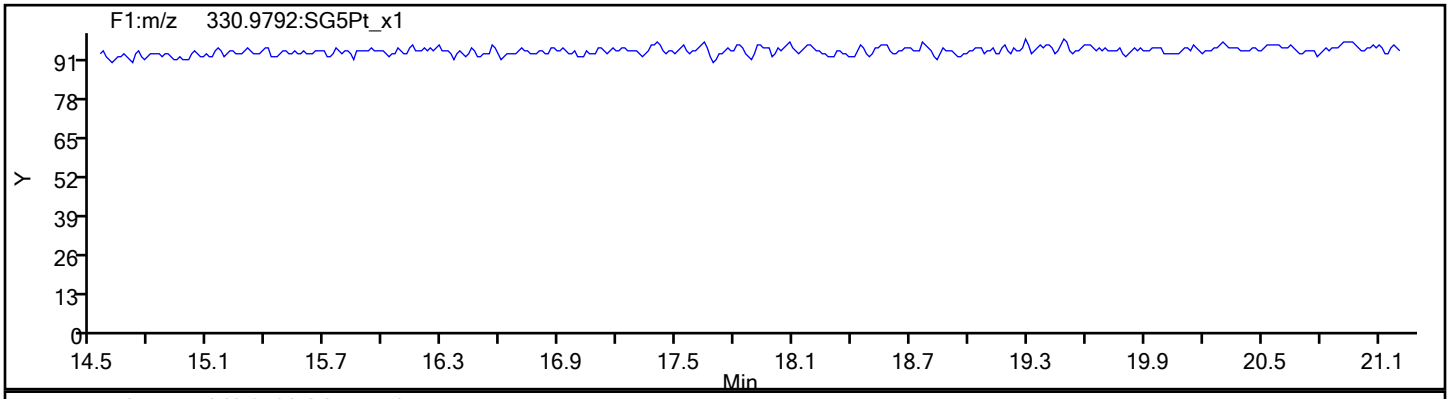

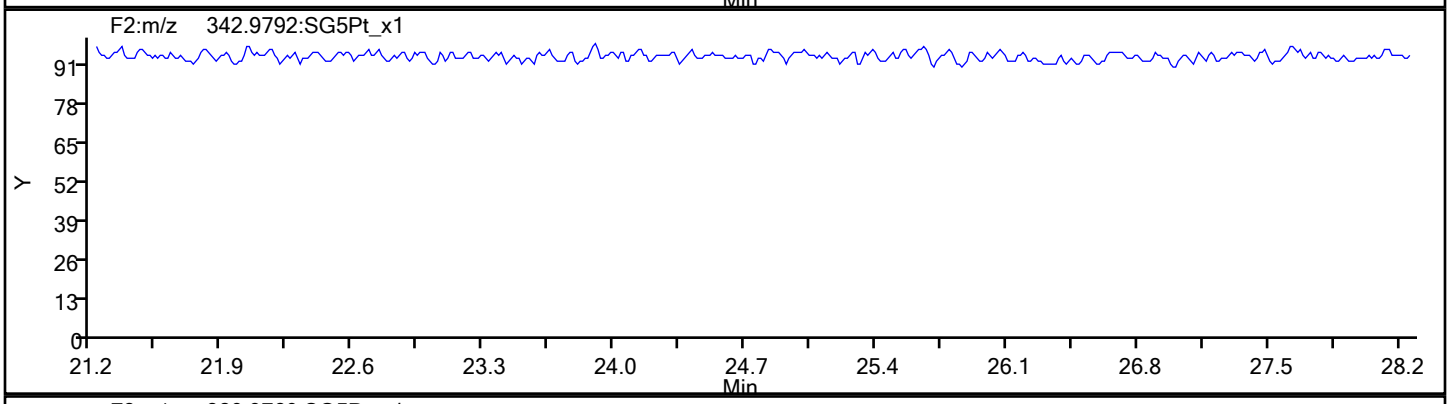

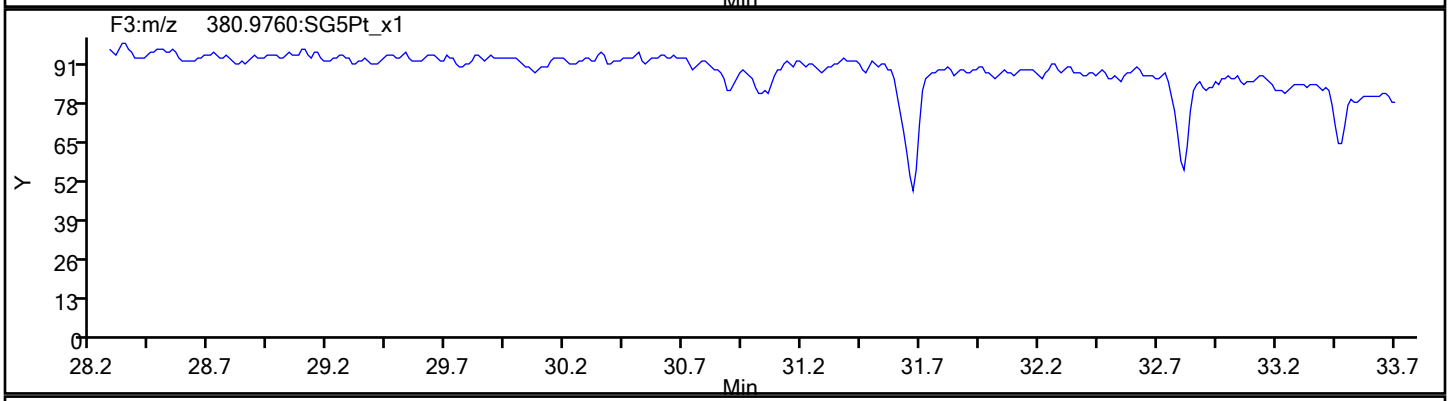

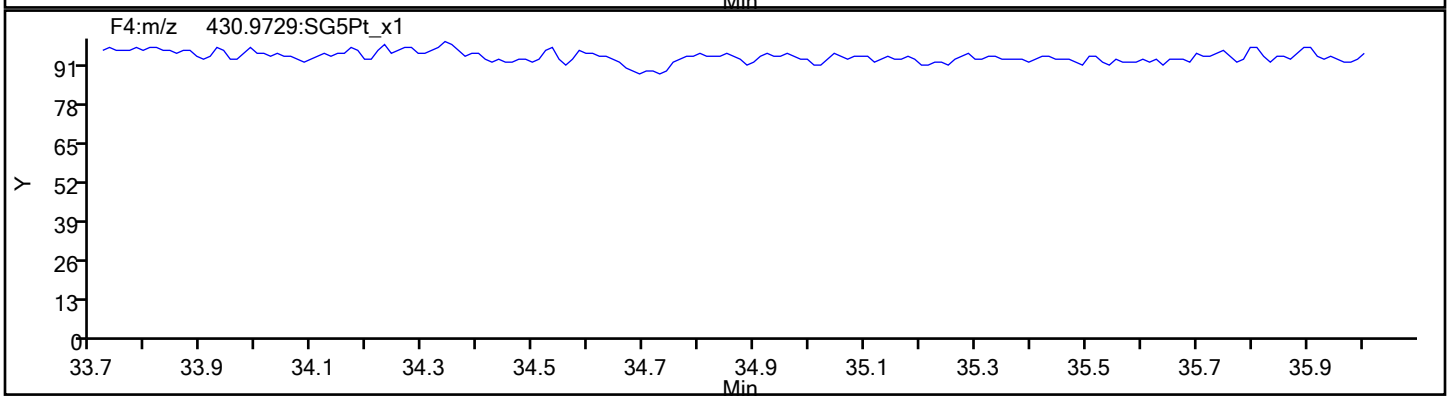

Report Date: 22-May-2019 11:44:51 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_6.d		
Injection Date:	21-May-2019 15:53:46	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
Worklist#:	296020	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

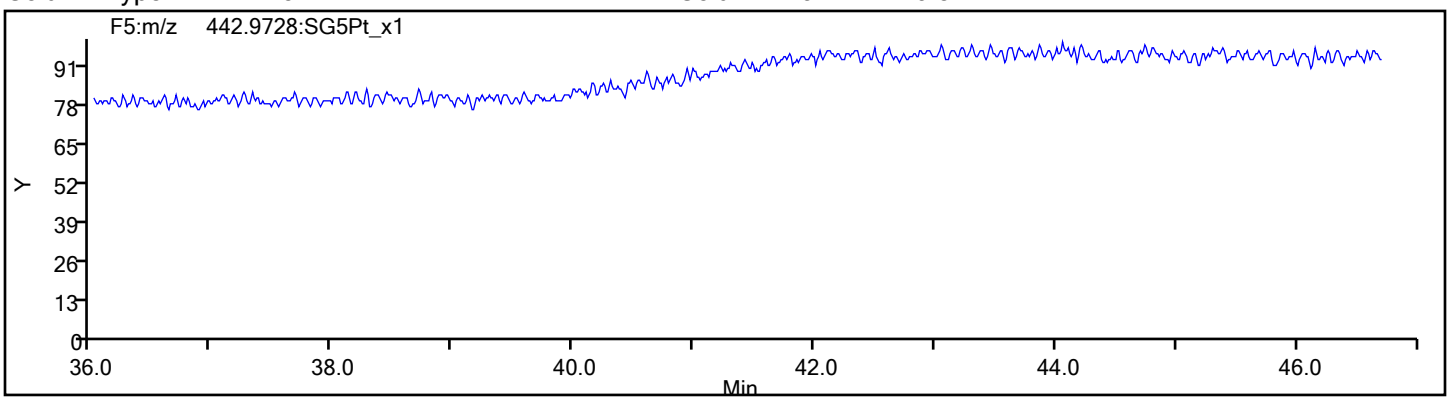

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d
Lims ID: IC 6
Client ID: L6
Sample Type: IC Calib Level: 6
Inject. Date: 21-May-2019 16:41:15 ALS Bottle#: 8 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 052119D CS-6 HRDXNL6_00021
Misc. Info.: 21MY193D5
Operator ID: AJS Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 22-May-2019 11:44:59 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: shardaa Date: 21-May-2019 17:54:45

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.429	289876700	0.83	3.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.900	414364714	0.78	1.3908	102.8	102.8	0.2046	0.2046	103	
2,3,7,8-TCDF	17.915	840711981	0.79	0.9710	208.9	208.9	0.4510	0.4510	104	
S Total TCDF					208.9	208.9	0.4510	0.4510		
D 13C-2,3,7,8-TCDD	18.626	298123322	0.78	0.9819	104.7	104.7	0.2000	0.2000	105	
2,3,7,8-TCDD	18.656	661466014	0.79	1.0447	212.4	212.4	0.1572	0.1572	106	
$ 37Cl4-2,3,7,8-TCDD	18.656	772302983		1.2205	218.3	218.3	0.2208	0.2208	109	
S Total TCDD					212.4	212.4	0.1572	0.1572		
D 13C-1,2,3,7,8-PeCDF	23.107	355379894	1.59	1.1585	105.8	105.8	0.2366	0.2366	106	
1,2,3,7,8-PeCDF	23.121	3546729328	1.60	0.9633	1036.0	1036.0	2.631	2.631	104	
D 13C-2,3,4,7,8-PeCDF	24.484	347746656	1.61	1.1532	104.0	104.0	0.2376	0.2376	104	
2,3,4,7,8-PeCDF	24.512	3502921768	1.55	0.9495	1060.9	1060.9	2.959	2.959	106	
S Total PeCDF					2096.9	2096.9	2.795	2.795		
D 13C-1,2,3,7,8-PeCDD	25.234	226685680	1.66	0.7431	105.2	105.2	0.1298	0.1298	105	
1,2,3,7,8-PeCDD	25.262	2476692315	1.59	1.0635	1027.4	1027.4	0.8398	0.8398	103	
S Total PeCDD					1027.4	1027.4	0.8398	0.8398		
D 13C-1,2,3,4,7,8-HxCDF	31.045	238951430	0.53	0.9837	102.0	102.0	0.2853	0.2853	102	
1,2,3,4,7,8-HxCDF	31.071	3039345430	1.24	1.2173	1044.9	1044.9	3.232	3.232	104	
D 13C-1,2,3,6,7,8-HxCDF	31.204	283858684	0.52	1.1554	103.1	103.1	0.2429	0.2429	103	
1,2,3,6,7,8-HxCDF	31.218	3245921873	1.21	1.1311	1010.9	1010.9	2.803	2.803	101	
D 13C-2,3,4,6,7,8-HxCDF	31.923	254680303	0.53	1.0361	103.2	103.2	0.2709	0.2709	103	
2,3,4,6,7,8-HxCDF	31.937	3018880889	1.23	1.1710	1012.3	1012.3	2.506	2.506	101	
D 13C-1,2,3,7,8,9-HxCDF	32.669	225835692	0.55	0.9034	104.9	104.9	0.3107	0.3107	105	
1,2,3,7,8,9-HxCDF	32.682	2727034804	1.24	1.1787	1024.5	1024.5	2.611	2.611	102	
S Total HxCDF					4092.5	4092.5	2.788	2.788		
* 13C-1,2,3,7,8,9-HxCDD	32.496	238212216	1.28	2.6E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	32.097	199999683	1.27	0.8287	101.3	101.3	0.2340	0.2340	101	
1,2,3,4,7,8-HxCDD	32.110	2077802739	1.26	1.0267	1011.9	1011.9	2.057	2.057	101	
D 13C-1,2,3,6,7,8-HxCDD	32.190	229281992	1.26	0.9495	101.4	101.4	0.2043	0.2043	101	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	32.203	2312494869	1.24	0.9771	1032.2	1032.2	2.022	2.022	103	
1,2,3,7,8,9-HxCDD	32.509	2335014918	1.24	1.0616	1024.8	1024.8	1.923	1.923	102	
S Total HxCDD					3068.9	3068.9	2.001	2.001		
D 13C-1,2,3,4,6,7,8-HpCDF	34.097	180241372	0.46	0.7285	103.9	103.9	0.4477	0.4477	104	
1,2,3,4,6,7,8-HpCDF	34.109	2587172494	1.04	1.4373	998.7	998.7	3.269	3.269	99.87	
D 13C-1,2,3,4,7,8,9-HpCDF	35.227	165887161	0.45	0.6556	106.2	106.2	0.4974	0.4974	106	
1,2,3,4,7,8,9-HpCDF	35.239	2204844968	1.05	1.3091	1015.3	1015.3	4.124	4.124	102	
S Total HpCDF					2014.0	2014.0	3.697	3.697		
D 13C-1,2,3,4,6,7,8-HpCDD	34.923	171947941	1.07	0.6978	103.4	103.4	0.2157	0.2157	103	
1,2,3,4,6,7,8-HpCDD	34.935	1789936585	1.04	1.0102	1030.5	1030.5	1.734	1.734	103	
S Total HpCDD					1030.5	1030.5	1.734	1.734		
D 13C-OCDD	37.395	243044959	0.91	0.4780	213.5	213.5	0.1639	0.1639	107	
OCDF	37.502	3388401360	0.91	1.3501	2065.2	2065.2	0.4794	0.4794	103	
OCDD	37.407	2620168751	0.89	1.0627	2028.9	2028.9	0.5672	0.5672	101	

Reagents:

HRDXNL6_00021 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d
Lims ID: IC 6
Client ID: L6
Sample Type: IC Calib Level: 6
Inject. Date: 21-May-2019 16:41:15 ALS Bottle#: 8 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 052119D CS-6 HRDXNL6_00021
Misc. Info.: 21MY193D5
Operator ID: AJS Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 22-May-2019 11:44:59 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: shardaa Date: 21-May-2019 17:54:45

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.429	18.432	0		131563609	31579111	34011	85027	928		
333.9339	18.429	18.432	0		158313091	37430788	20202	50505	1853	0.83(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.900	17.900	0	0.971	181891401	43793642	36351	90877	1205		
317.9389	17.900	17.900	0	0.971	232473313	56364854	42186	105465	1336	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.915	17.915	0	1.001	370763883	89656102	74261	185652	1207		
305.8987	17.915	17.915	0	1.001	469948098	113262600	101211	253027	1119	0.79(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	18.626	18.629	0	1.011	131030054	29903162	34011	85027	879		
333.9339	18.626	18.629	0	1.011	167093268	38088529	20202	50505	1885	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.656	18.650	0	1.002	291178685	67239425	22081	55202	3045		
321.8936	18.656	18.650	0	1.002	370287329	84352753	22571	56427	3737	0.79(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.656	18.650	0	1.012	772302983	174422300	74383	185957	2345		
13C-1,2,3,7,8-PeCDF											
351.9000	23.107	23.102	0	1.254	218001065	37846952	38119	95297	993		
353.8970	23.107	23.102	0	1.254	137378829	23831506	37526	93815	635	1.59(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	23.121	23.123	0	1.001	2183114289	367903864	379003	947507	971		
341.8567	23.121	23.123	0	1.001	1363615039	233569565	246291	615727	948	1.60(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	24.484	24.487	0	1.329	214523978	34074347	38119	95297	894		
353.8970	24.484	24.487	0	1.329	133222678	21565231	37526	93815	575	1.61(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	24.512	24.512	0	1.001	2127419999	337557691	379003	947507	891		
341.8567	24.512	24.512	0	1.001	1375501769	218222701	246291	615727	886	1.55(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	25.234	25.237	0	1.369	141318226	22134384	14815	37037	1494		
369.8919	25.234	25.237	0	1.369	85367454	13145782	11819	29547	1112	1.66(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	25.262	25.264	0	1.001	1519454794	234124110	78604	196510	2979		
357.8516	25.262	25.264	0	1.001	957237521	147129456	47428	118570	3102	1.59(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	31.045	31.050	0	0.955	82395400	18178175	28845	72112	630		
385.8610	31.045	31.050	0	0.955	156556030	33429575	48028	120070	696	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	31.071	31.069	0	1.001	1685005571	368633622	414324	1035810	890		
375.8178	31.071	31.069	0	1.001	1354339859	298512800	397761	994402	750	1.24(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	31.204	31.202	0	0.960	97515170	21905263	28845	72112	759		
385.8610	31.204	31.202	0	0.960	186343514	42119581	48028	120070	877	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	31.218	31.223	0	1.000	1779036684	405582478	414324	1035810	979		
375.8178	31.218	31.223	0	1.000	1466885189	333032019	397761	994402	837	1.21(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.923	31.923	0	0.982	88059632	24218845	28845	72112	840		
385.8610	31.923	31.923	0	0.982	166620671	44953907	48028	120070	936	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.937	31.942	0	1.000	1666569595	457556585	414324	1035810	1104		
375.8178	31.937	31.942	0	1.000	1352311294	370516103	397761	994402	932	1.23(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.669	32.674	0	1.005	79692907	23337429	28845	72112	809		
385.8610	32.669	32.674	0	1.005	146142785	42622394	48028	120070	887	0.55(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.682	32.690	0	1.000	1509028191	439143899	414324	1035810	1060		
375.8178	32.682	32.690	0	1.000	1218006613	356683002	397761	994402	897	1.24(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.496	32.499	0		133867063	38186265	27075	67687	1410		
403.8529	32.496	32.499	0		104345153	30282023	26040	65100	1163	1.28(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	32.097	32.094	0	0.988	111906748	33111191	27075	67687	1223		
403.8529	32.097	32.094	0	0.988	88092935	25908205	26040	65100	995	1.27(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	32.110	32.110	0	1.000	1158993649	350495418	276229	690572	1269		
391.8127	32.110	32.110	0	1.000	918809090	271841918	222274	555685	1223	1.26(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.190	32.192	0	0.991	127743398	35155569	27075	67687	1298		
403.8529	32.190	32.192	0	0.991	101538594	27924062	26040	65100	1072	1.26(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	32.203	32.208	0	1.000	1279892914	345743959	276229	690572	1252		
391.8127	32.203	32.208	0	1.000	1032601955	282397830	222274	555685	1270	1.24(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.509	32.515	0	1.013	1290863461	378133246	276229	690572	1369		
391.8127	32.509	32.515	0	1.013	1044151457	305743514	222274	555685	1376	1.24(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	34.097	34.097	0	1.049	57063987	18440729	40221	100552	458		
419.8220	34.097	34.097	0	1.049	123177385	39917592	49095	122737	813	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.109	34.104	0	1.000	1316710218	419013336	562025	1405062	746		
409.7789	34.097	34.104	0	1.000	1270462276	397353071	534823	1337057	743	1.04(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	35.227	35.232	0	1.084	51156957	15770167	40221	100552	392		
419.8220	35.227	35.232	0	1.084	114730204	35016246	49095	122737	713	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.239	35.244	0	1.000	1127796114	343366945	562025	1405062	611		
409.7789	35.239	35.244	0	1.000	1077048854	327235133	534823	1337057	612	1.05(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.923	34.928	0	1.075	88989645	28666860	20973	52432	1367		
437.8140	34.923	34.928	0	1.075	82958296	26754622	20254	50635	1321	1.07(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.935	34.940	0	1.000	911717168	292124425	202155	505387	1445		
425.7737	34.935	34.940	0	1.000	878219417	280761001	186203	465507	1508	1.04(0.88-1.20)	
13C-OCDD											
469.7779	37.395	37.392	0	1.151	116103517	32090990	12539	31347	2559		
471.7750	37.395	37.392	0	1.151	126941442	34910750	8913	22282	3917	0.91(0.76-1.02)	
OCDF											
441.7428	37.502	37.500	0	1.003	1612771727	435751853	41084	102710	10606		
443.7399	37.491	37.500	-1	1.003	1775629633	485850088	45659	114147	10641	0.91(0.76-1.02)	
OCDD											
457.7377	37.407	37.402	0	1.000	1230725466	338966907	33869	84672	10008		
459.7348	37.407	37.402	0	1.000	1389443285	375496464	46902	117255	8006	0.89(0.76-1.02)	

Reagents:

HRDXNL6_00021 Amount Added: 1.00 Units: mL

Report Date: 22-May-2019 11:45:03 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d		
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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L6		
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

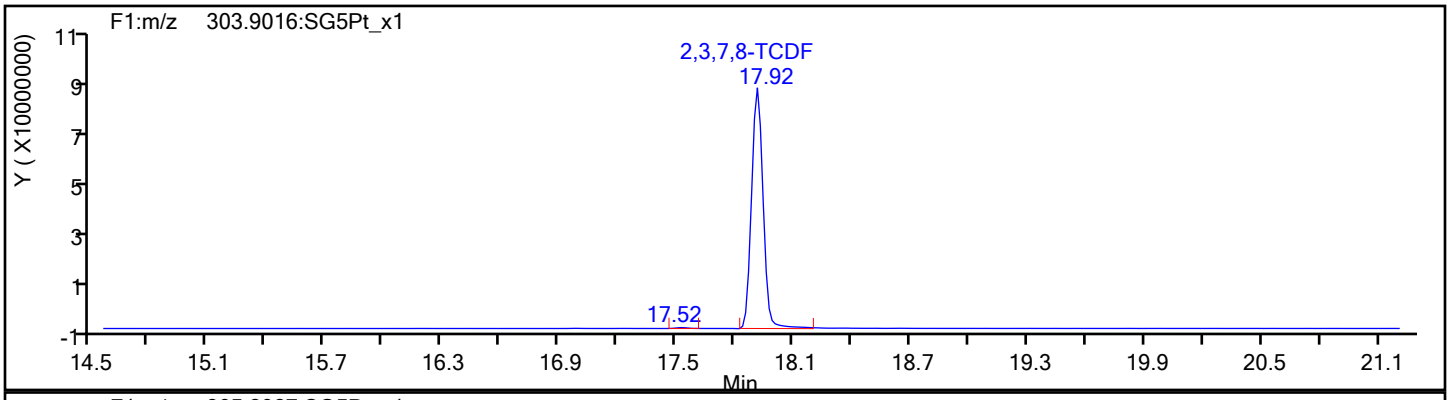

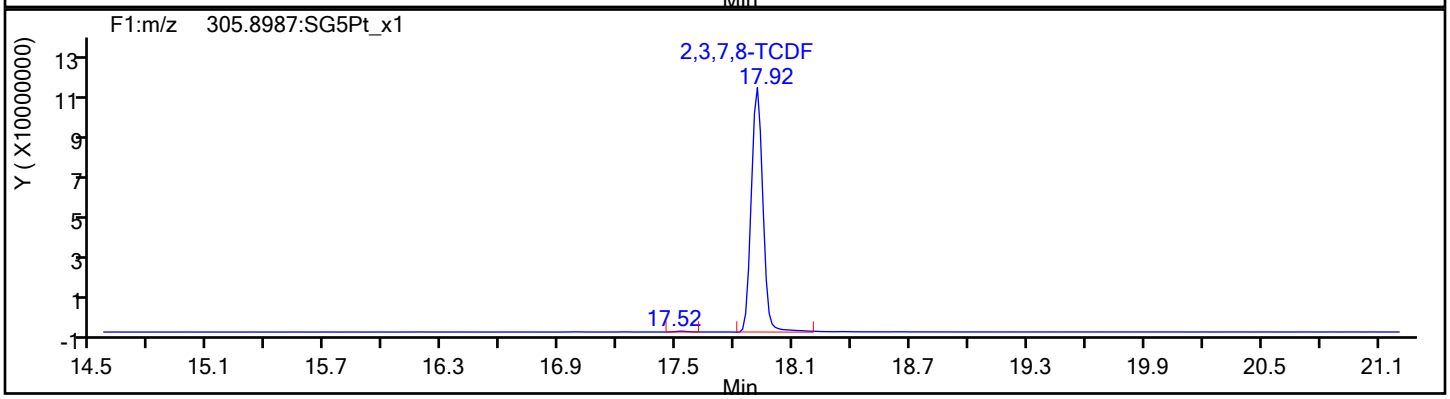

TCDF Standards

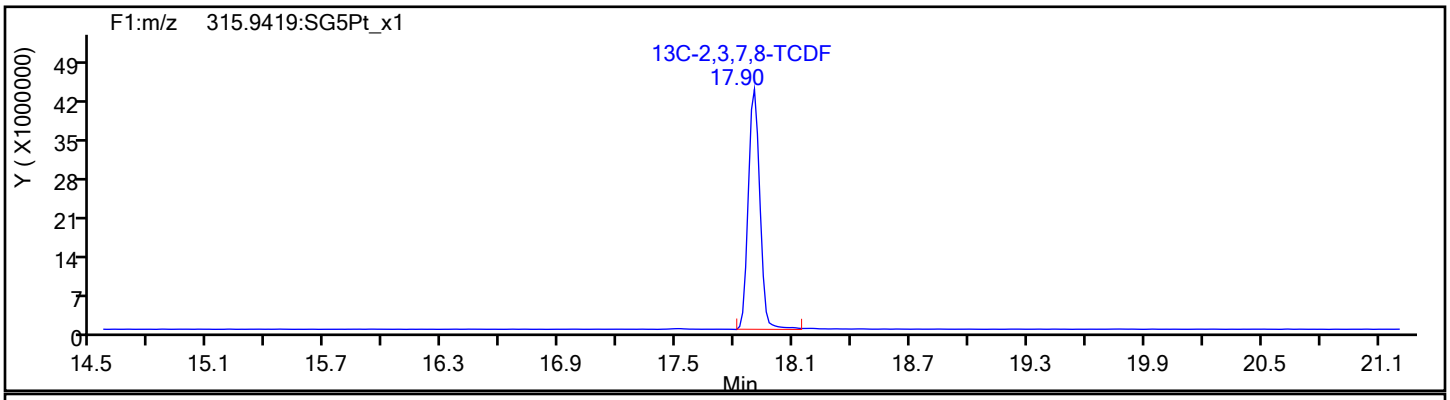

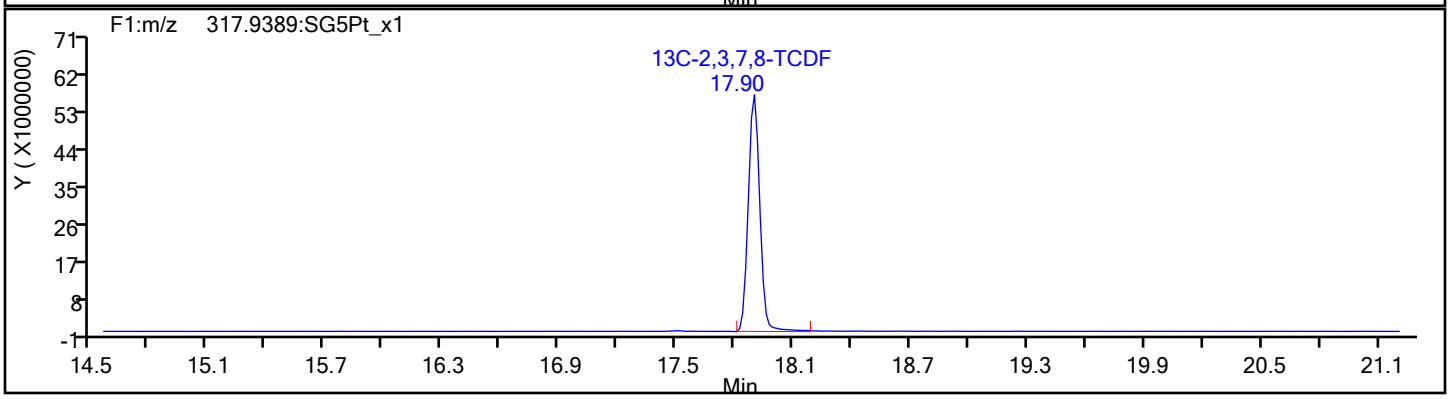

Report Date: 22-May-2019 11:45:03 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

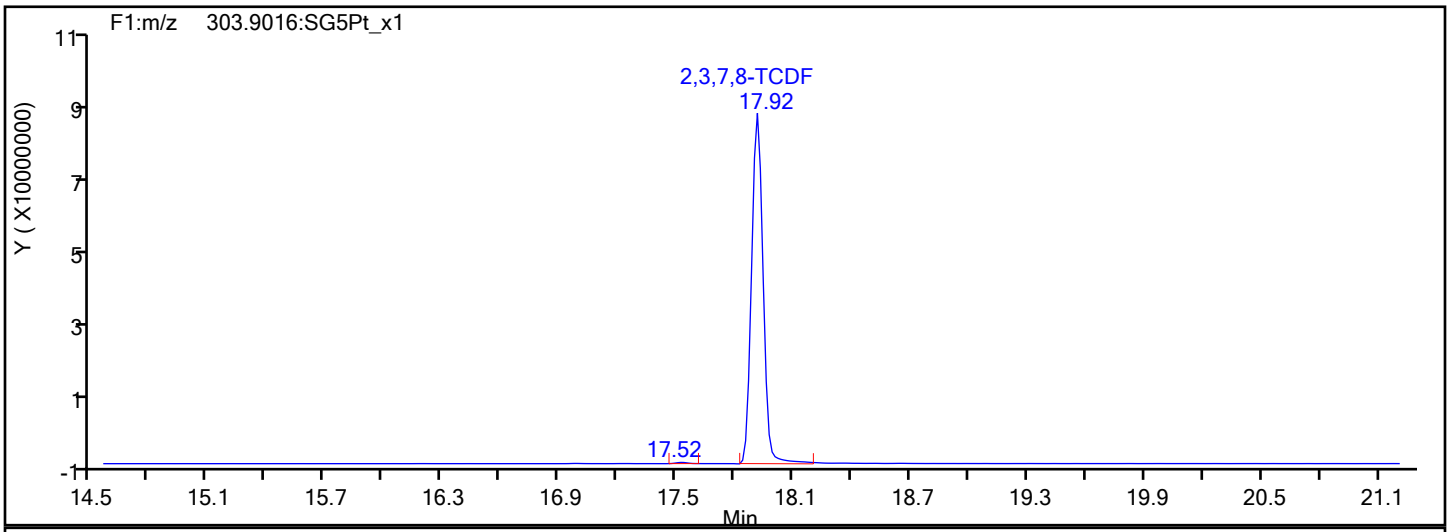

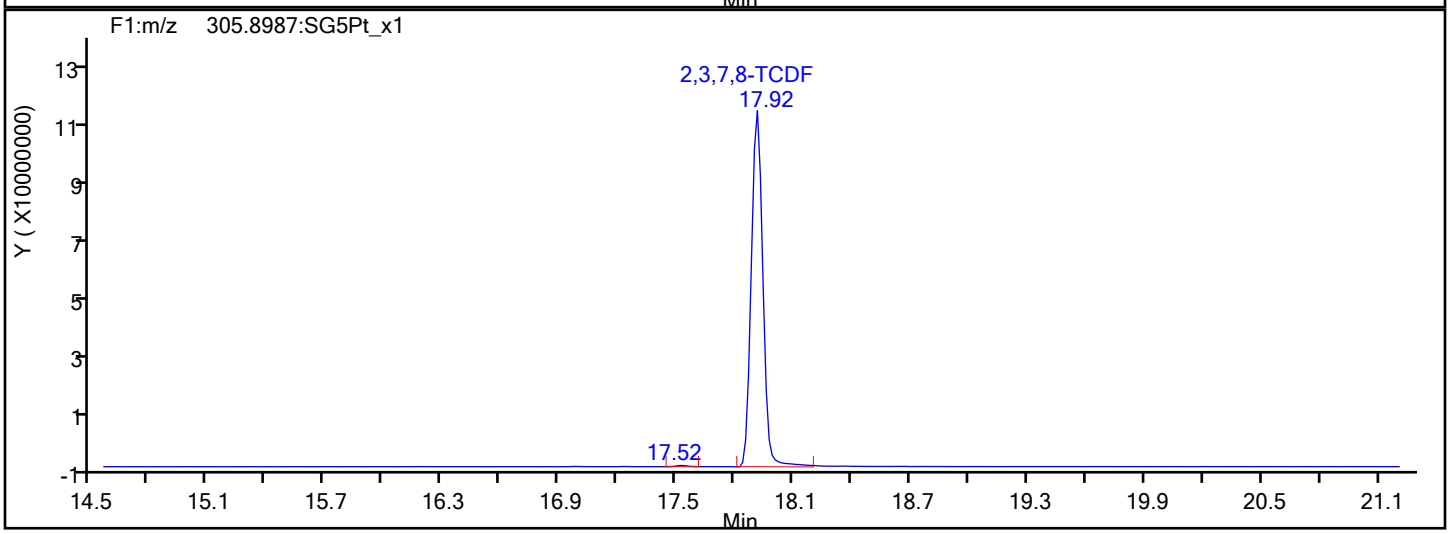

TCDF Interference Mass

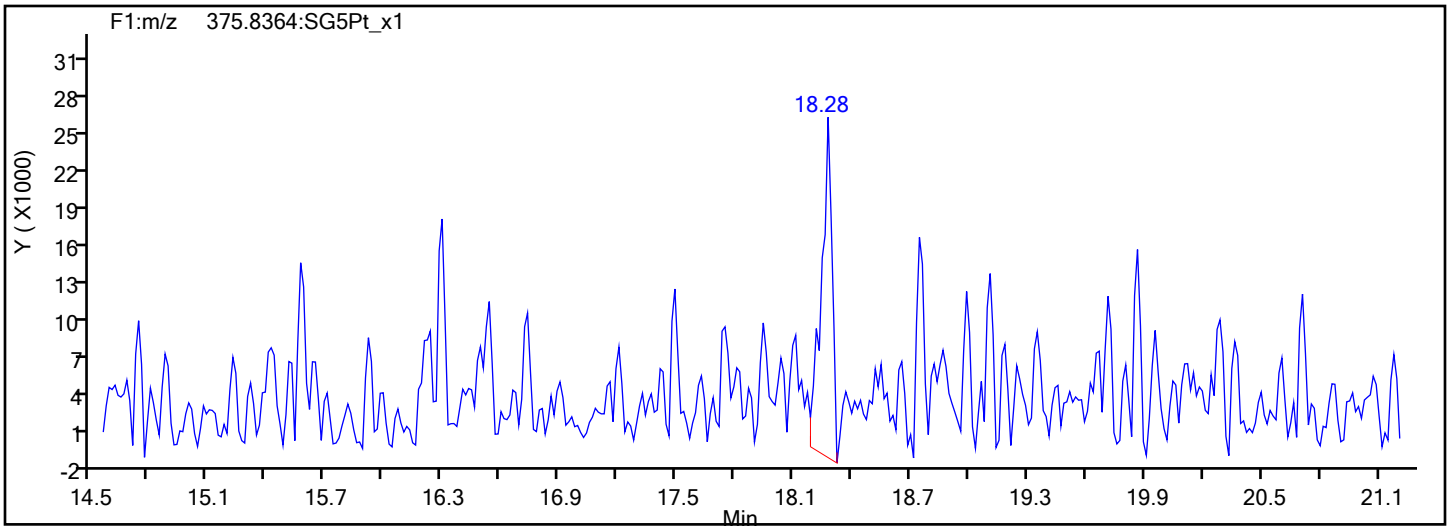

Report Date: 22-May-2019 11:45:03 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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TCDD

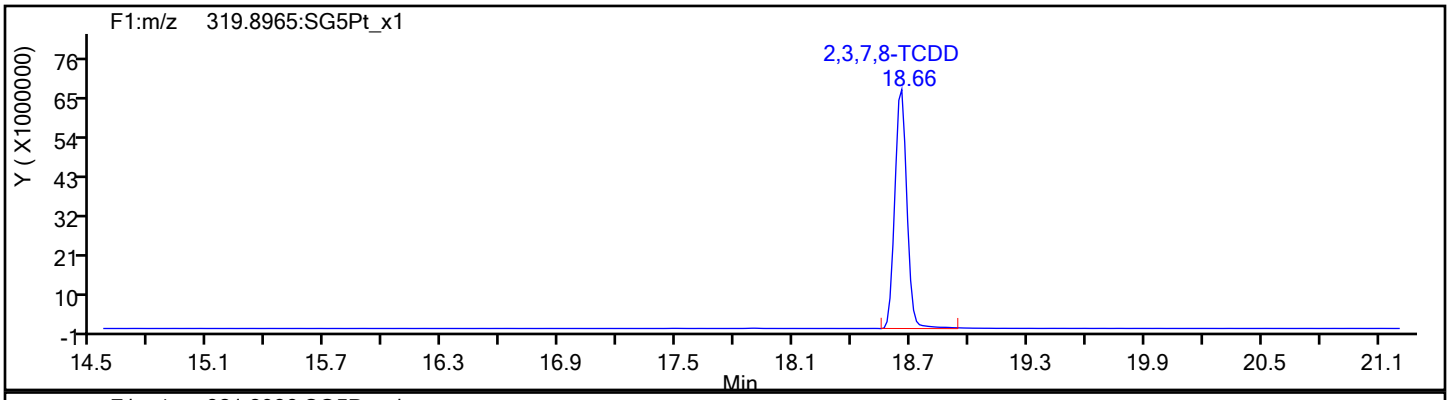

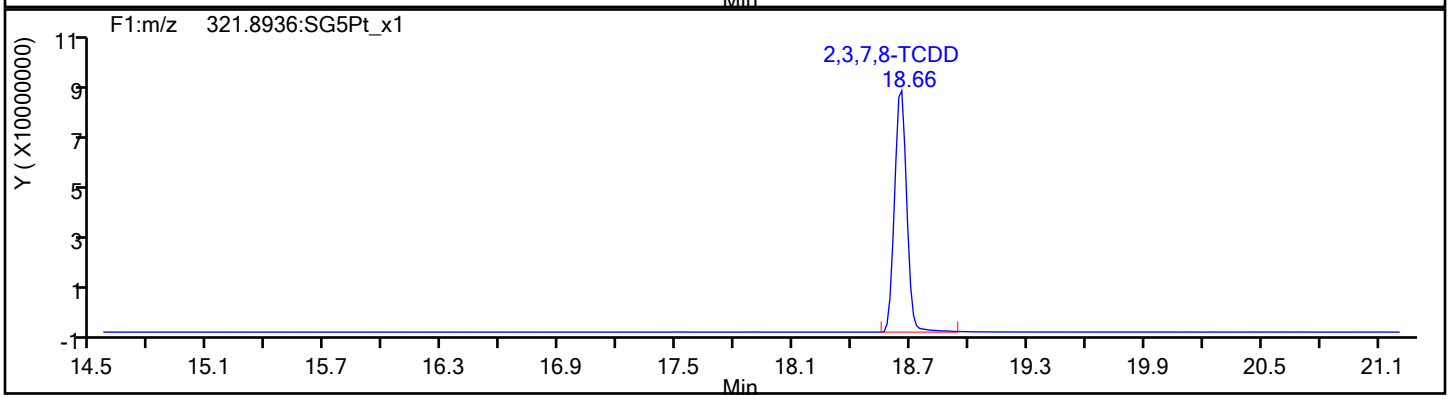

TCDD Standards

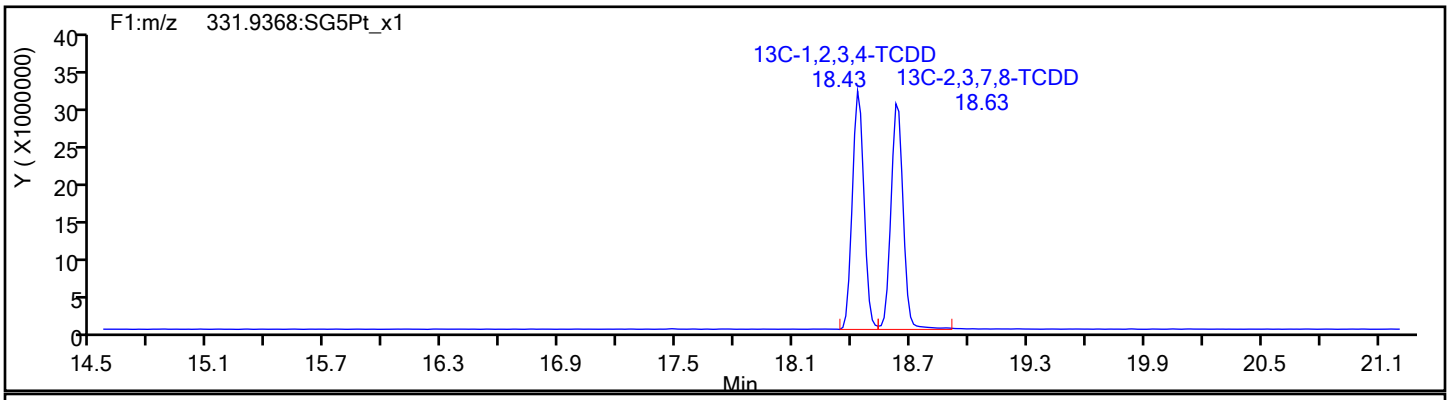

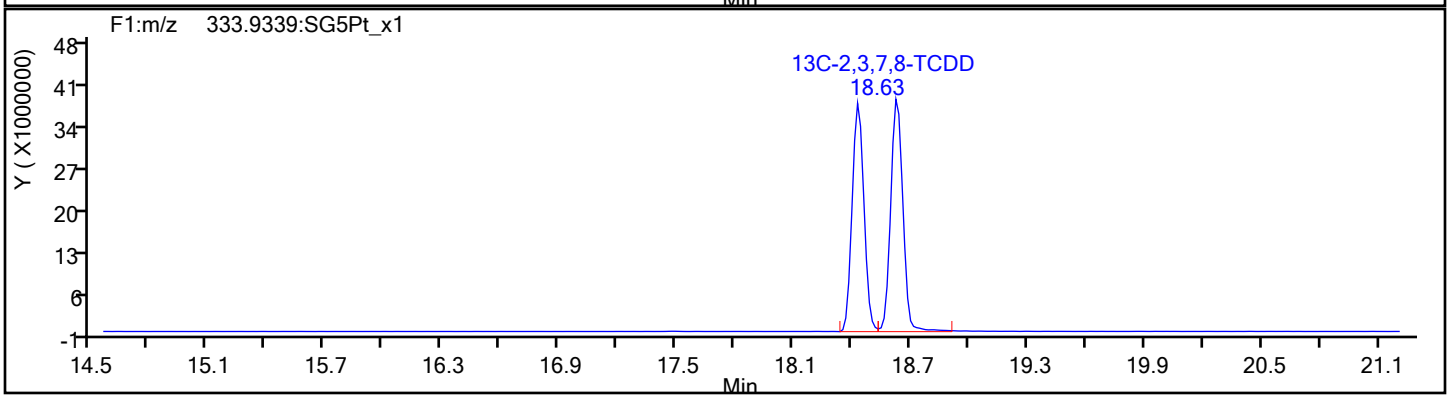

Report Date: 22-May-2019 11:45:03 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

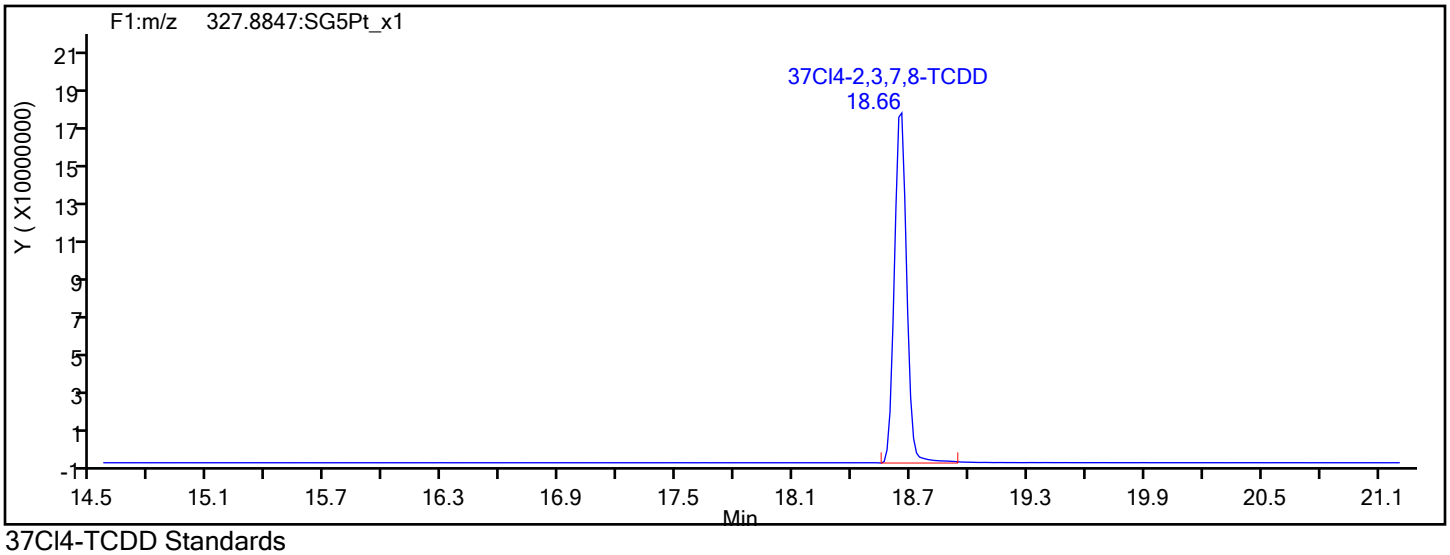

37Cl4-TCDD Standards

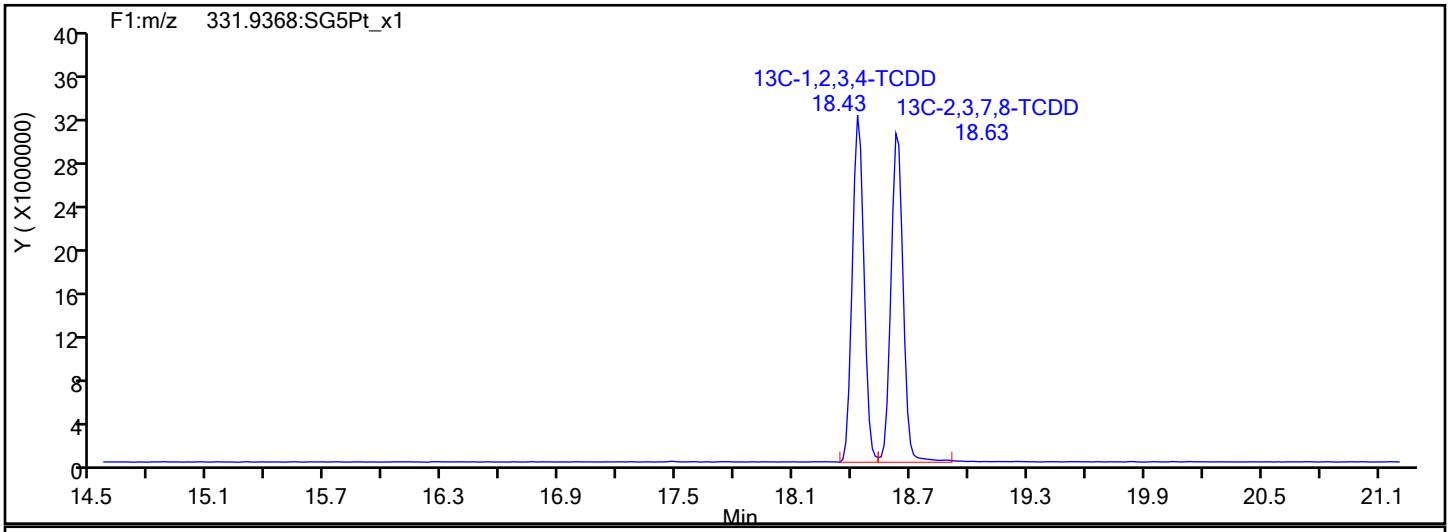

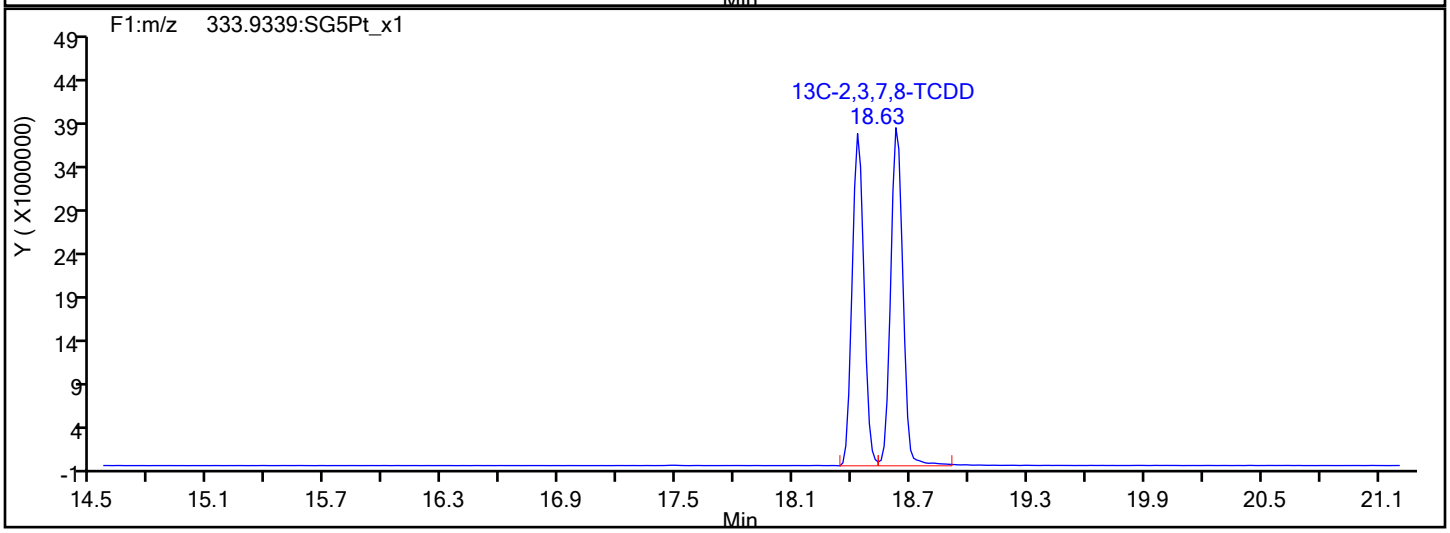

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

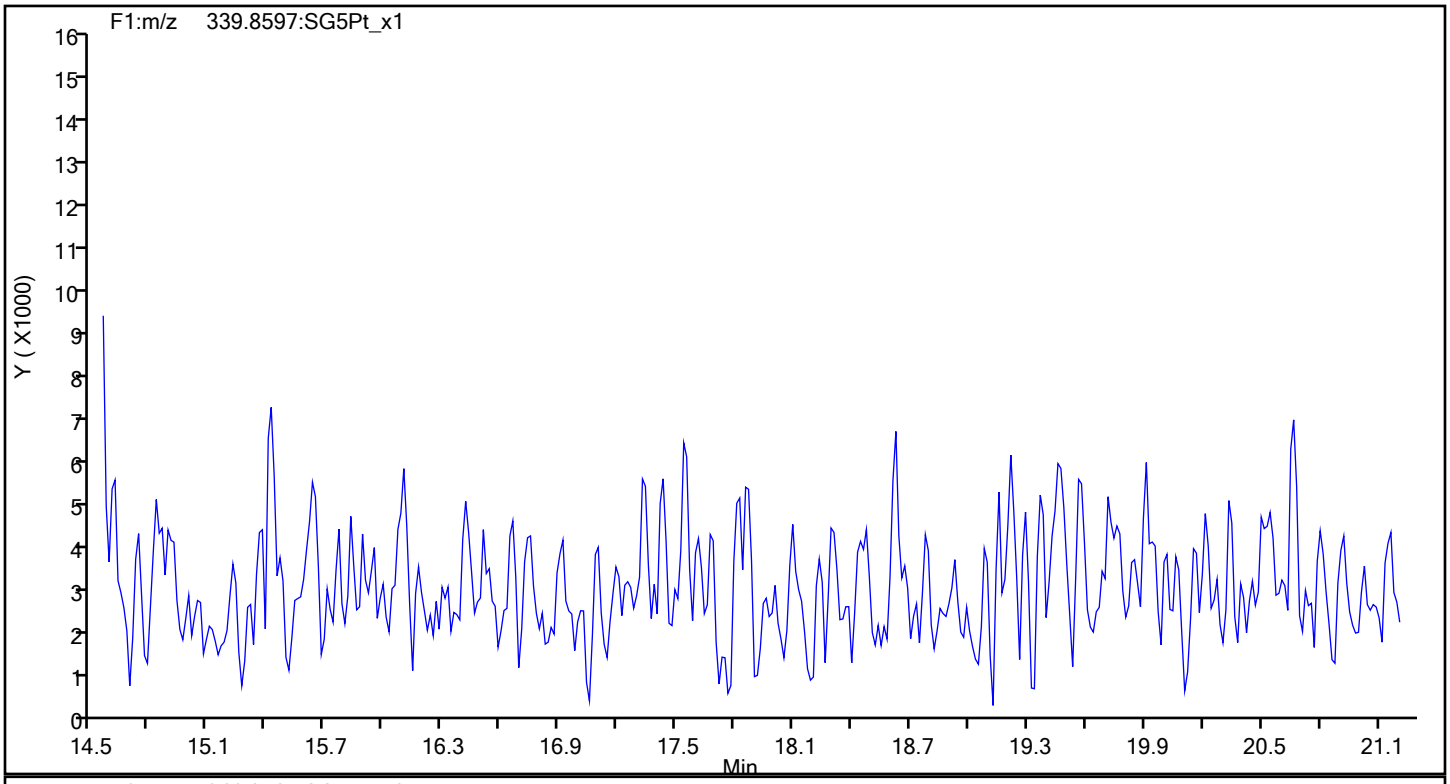

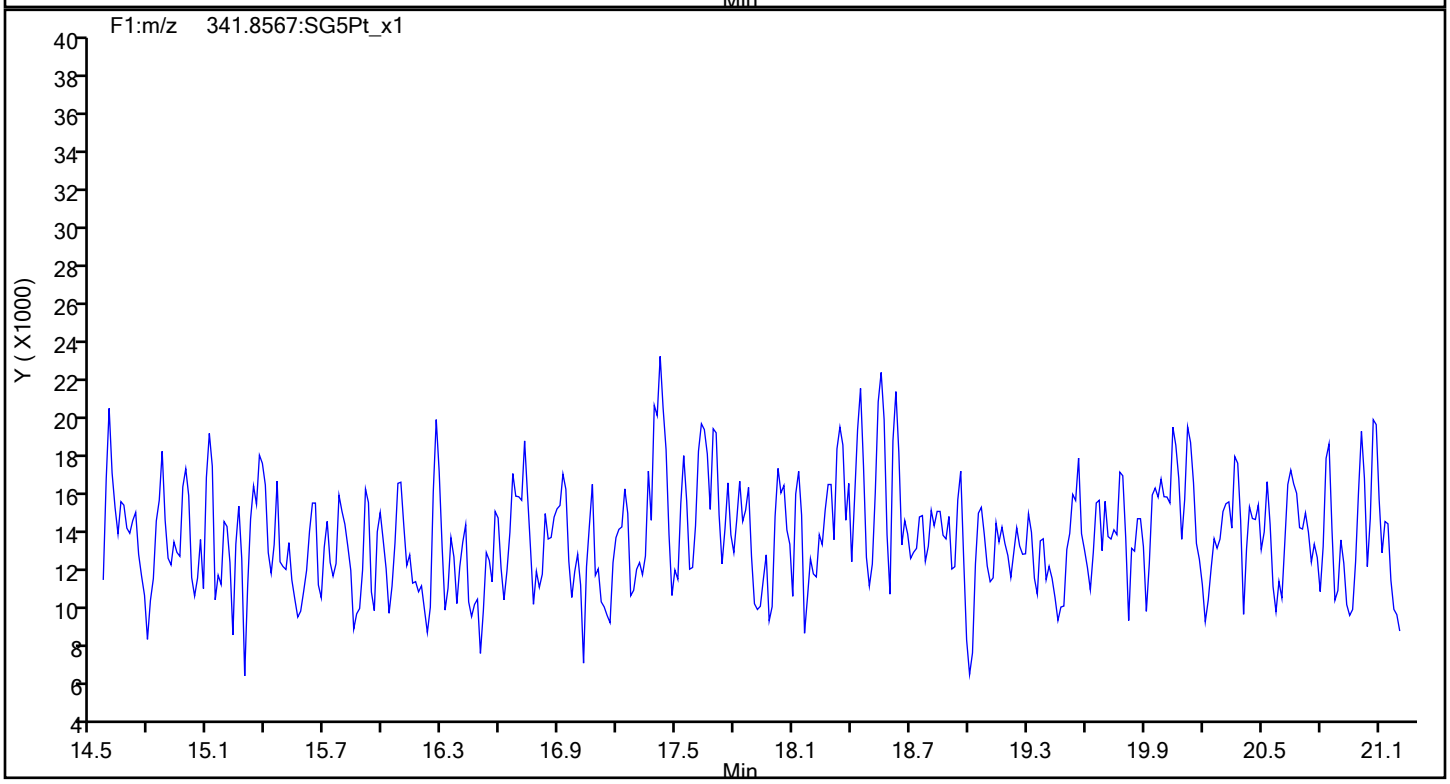

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

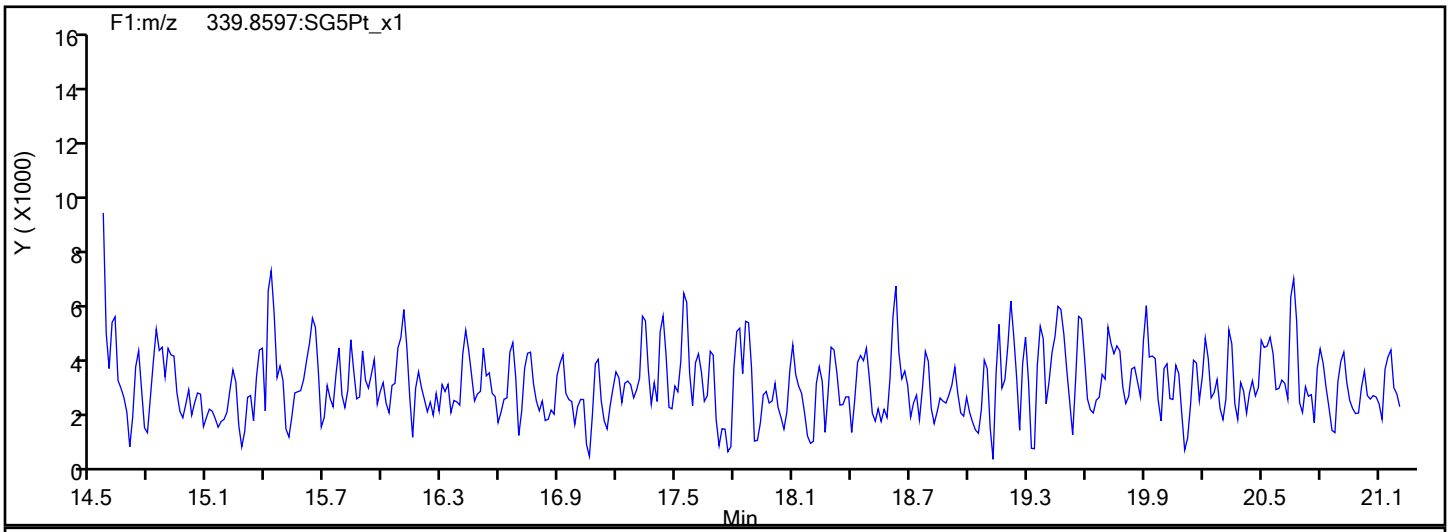

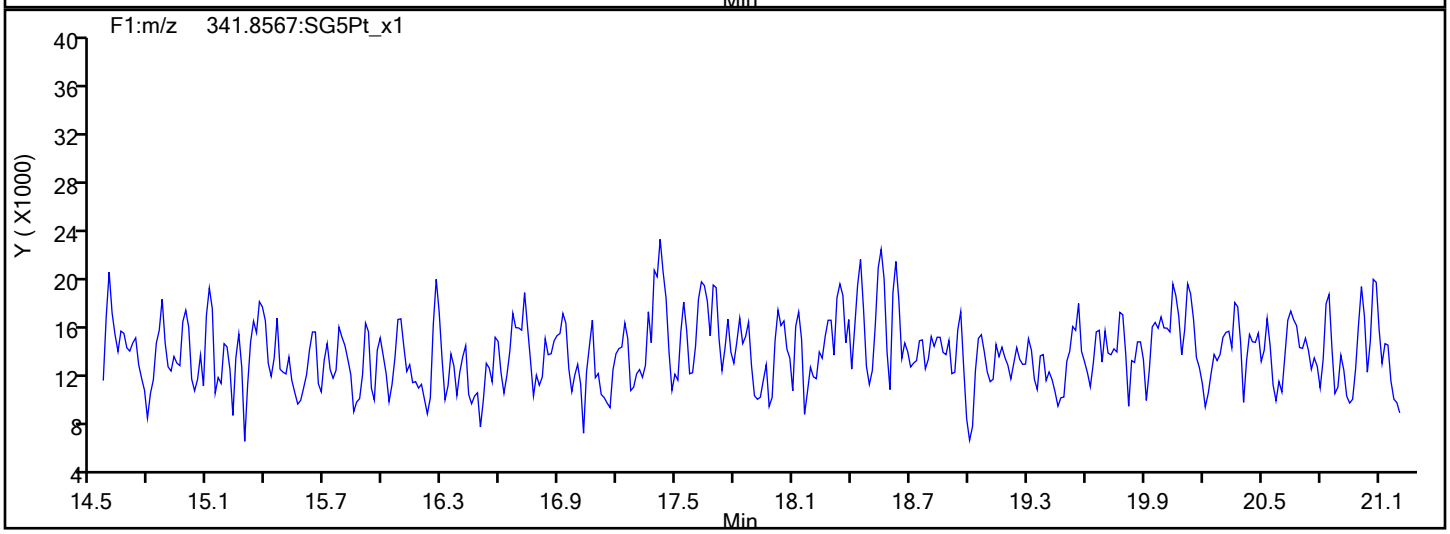

F1 PeCDFs Interference Mass

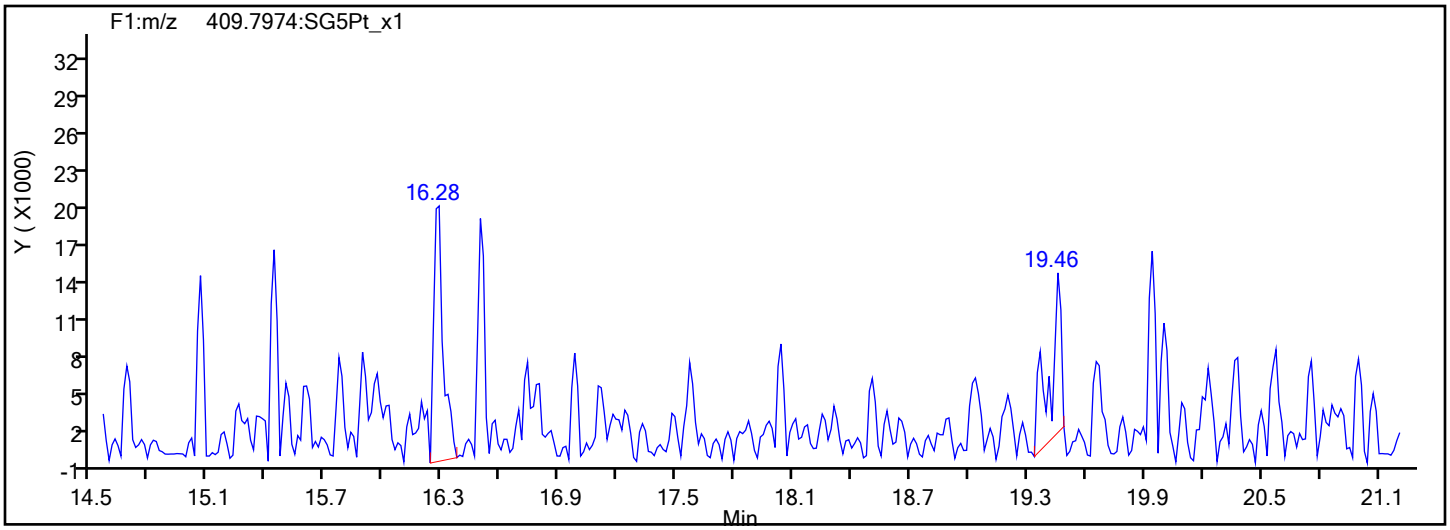

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Eurofins TestAmerica, Sacramento

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PeCDF

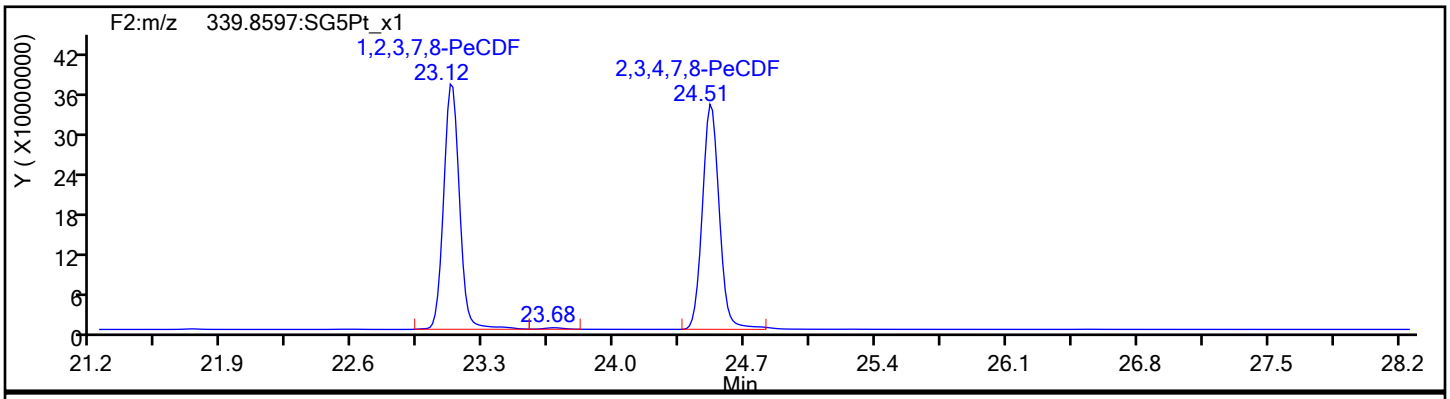

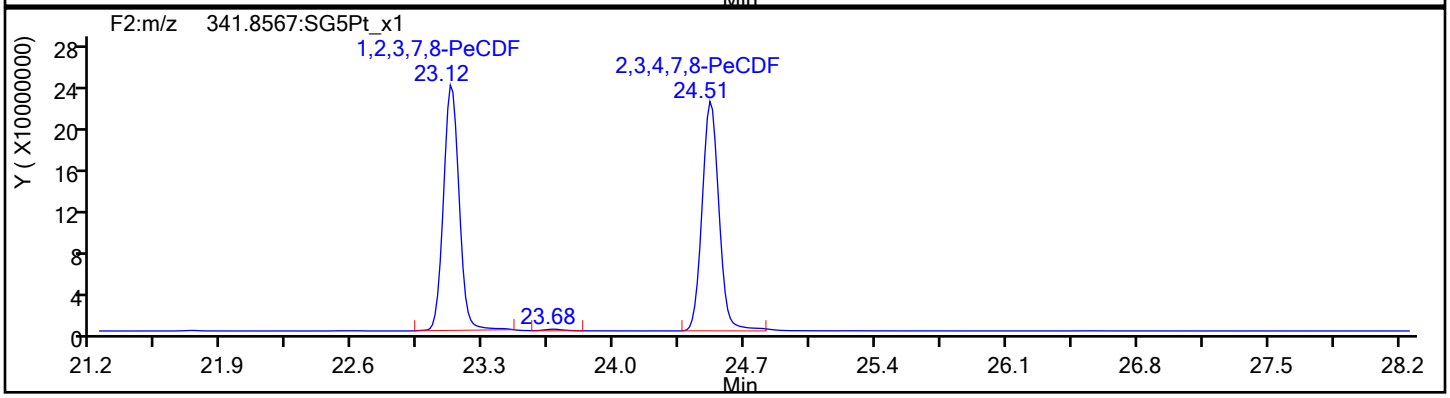

PeCDF Standards

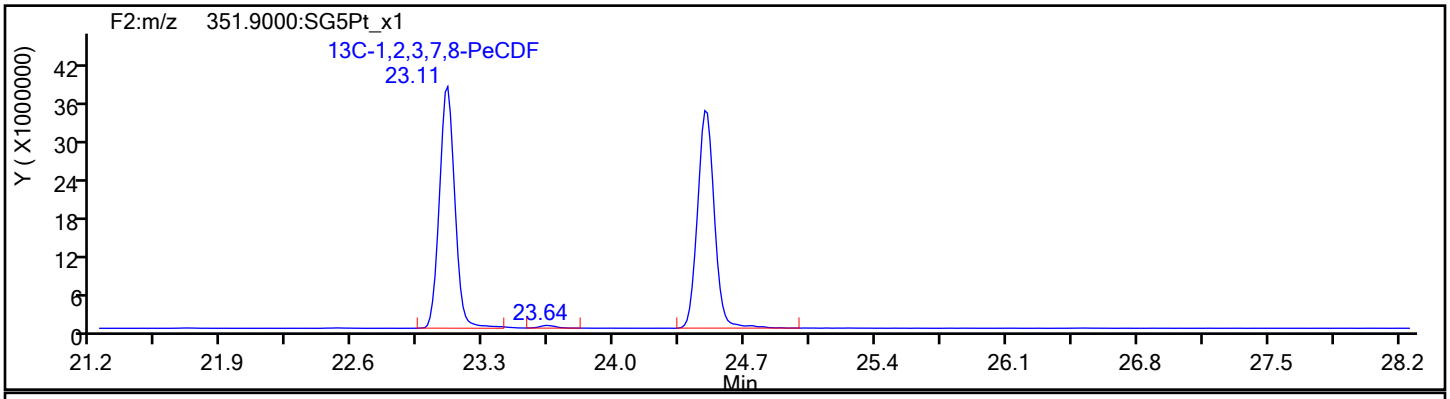

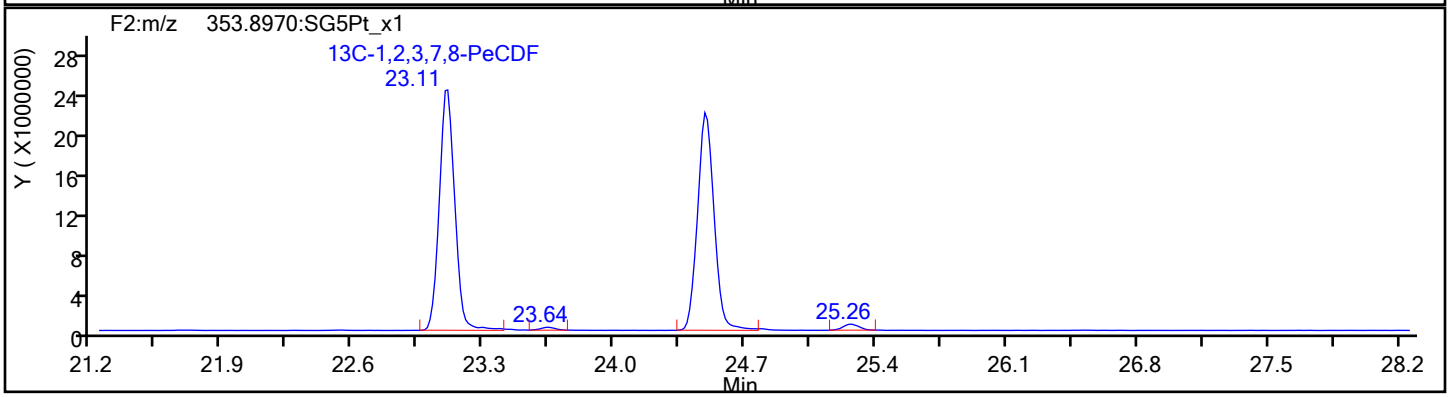

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Eurofins TestAmerica, Sacramento

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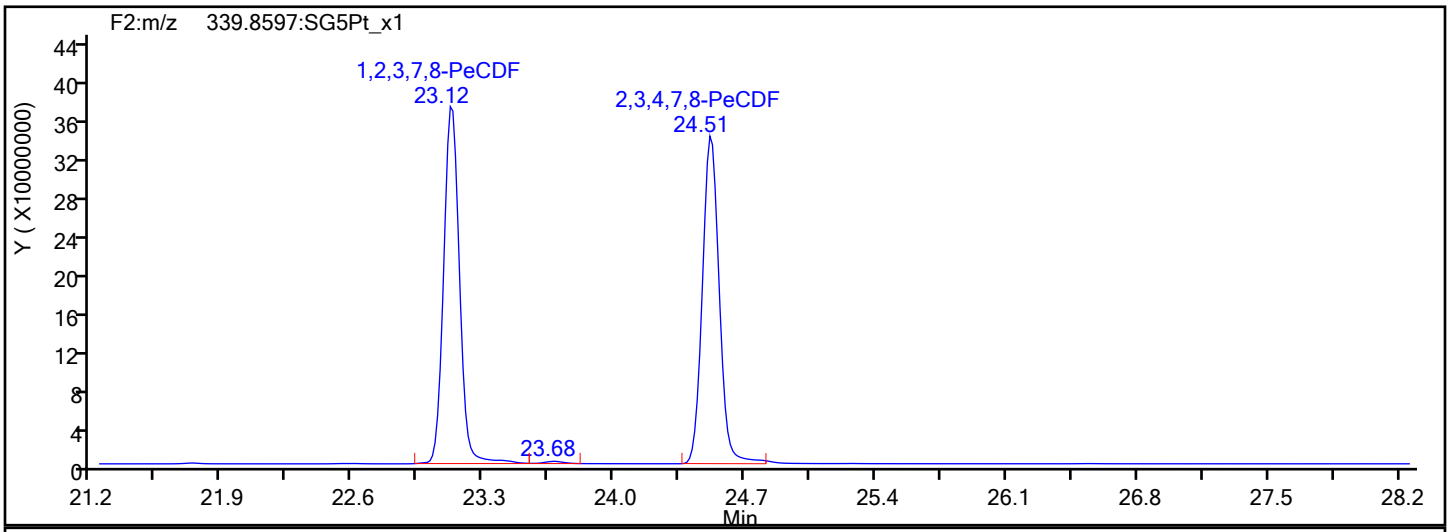

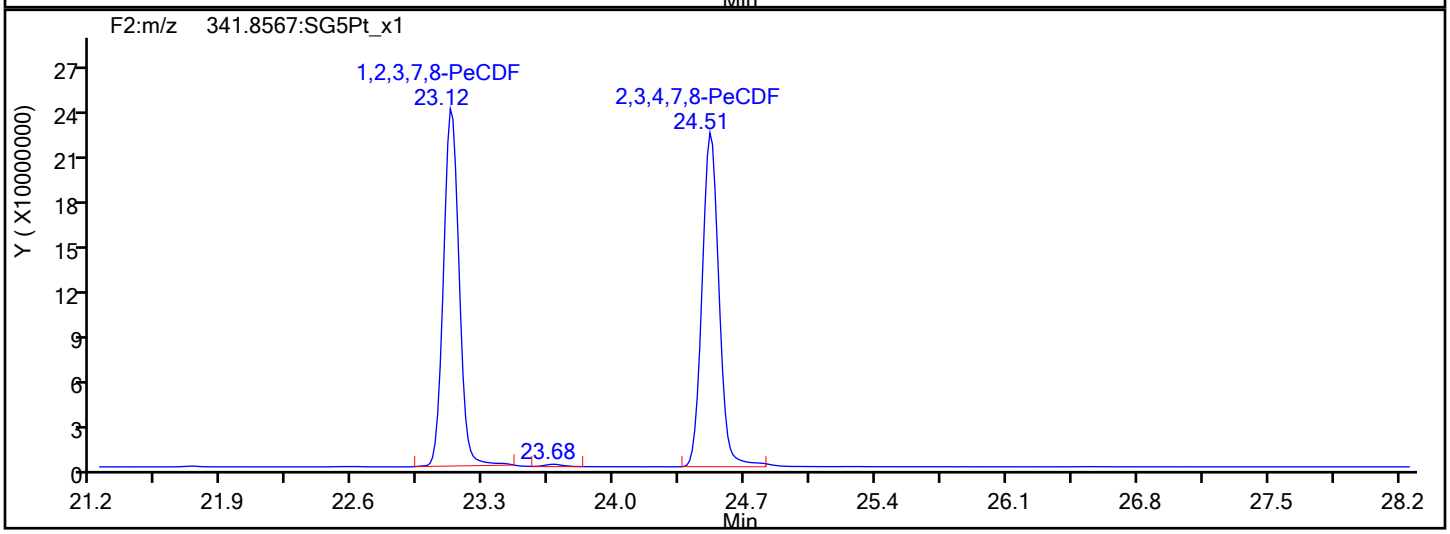

PeCDF Interference Mass

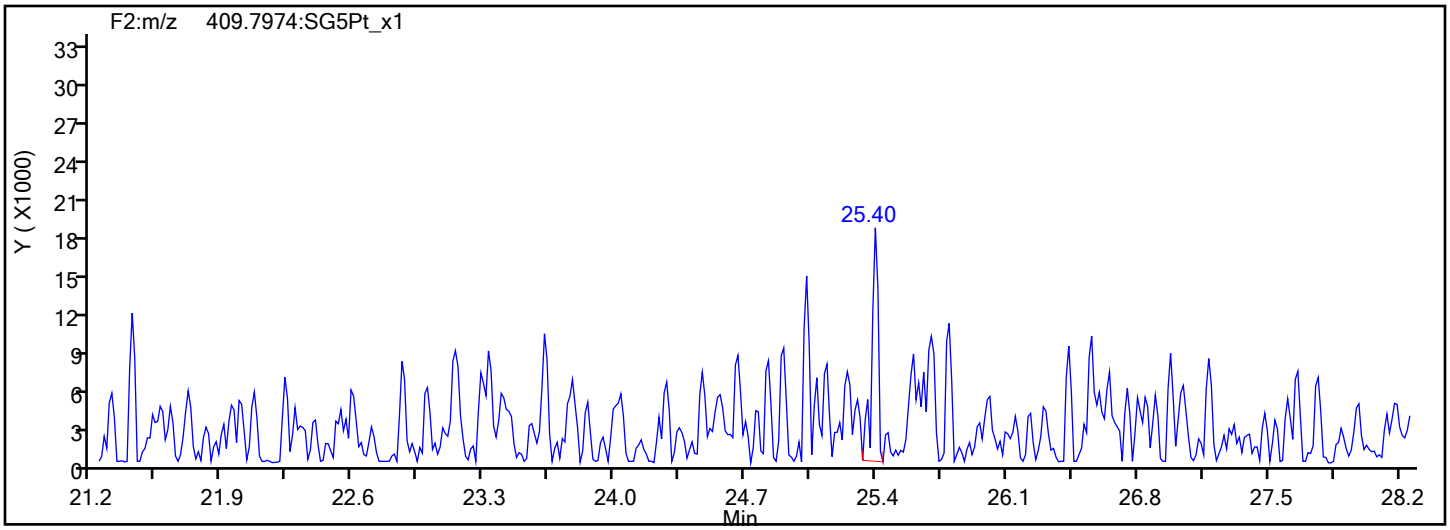

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Eurofins TestAmerica, Sacramento

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PeCDD

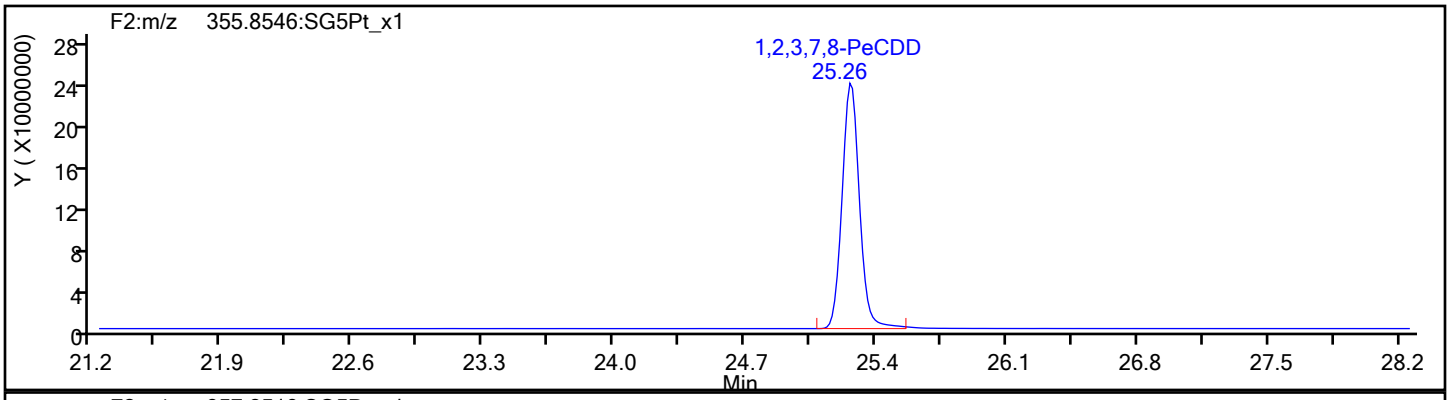

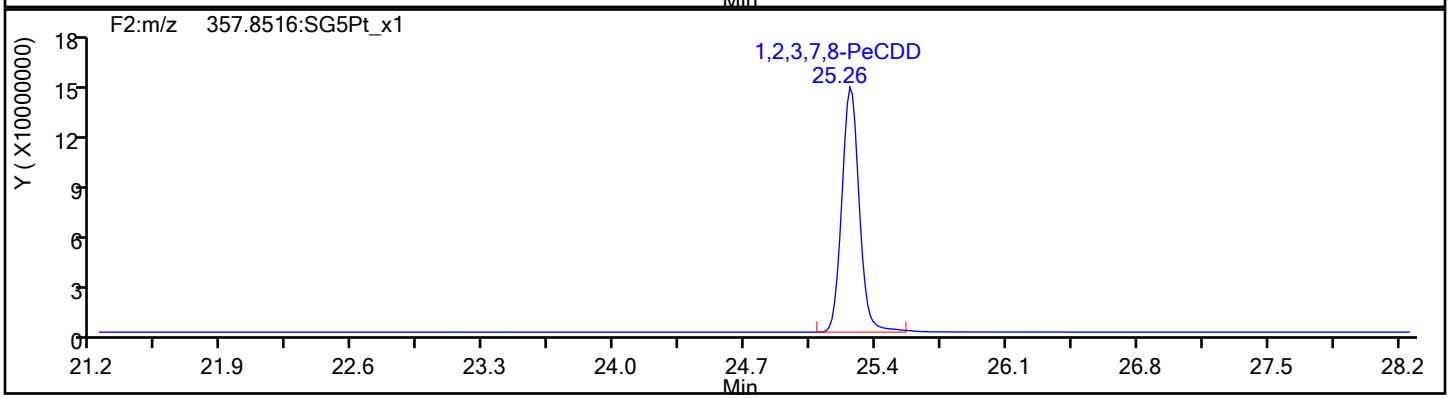

PeCDD Standards

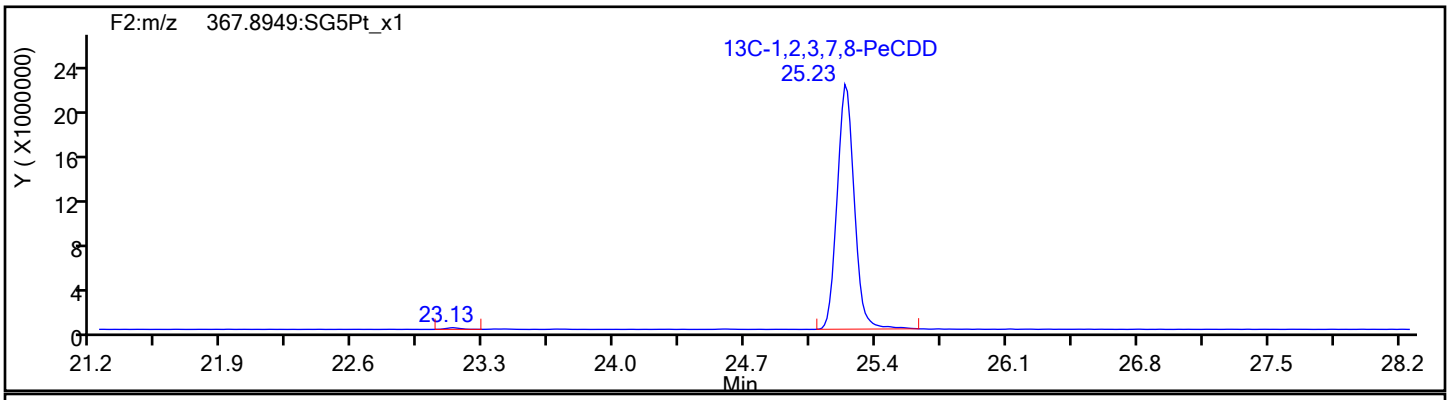

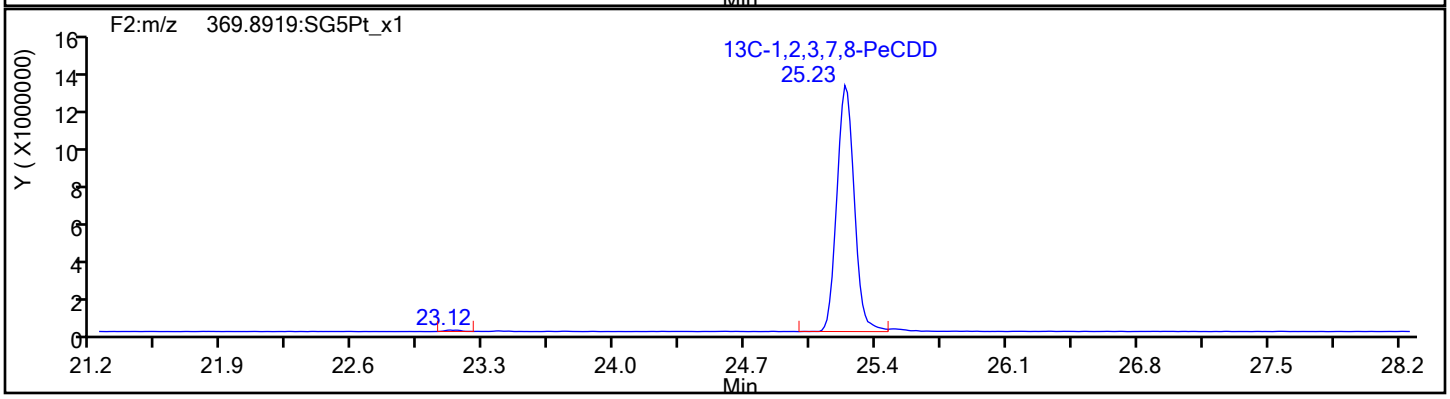

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Eurofins TestAmerica, Sacramento

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HxCDF

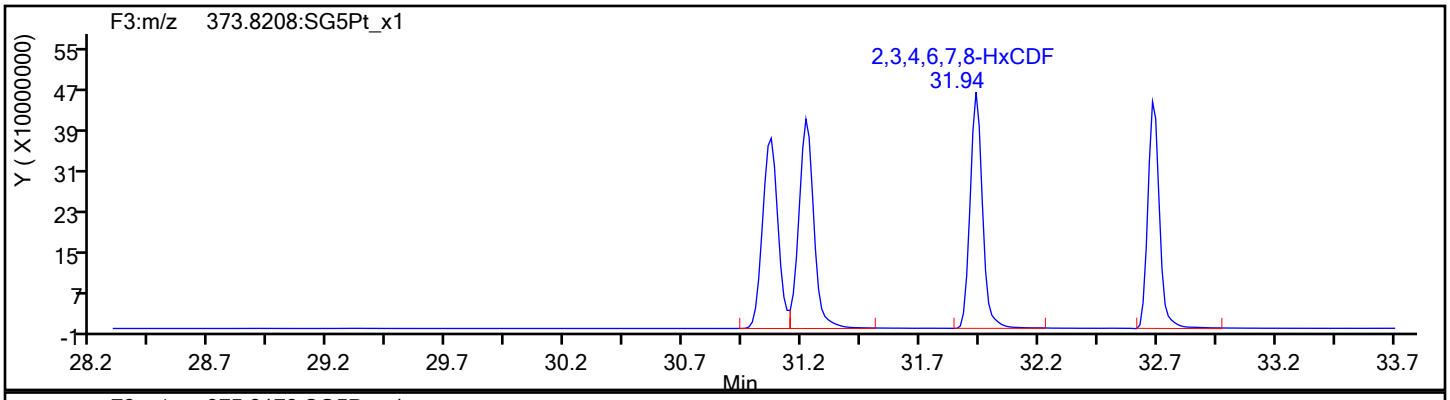

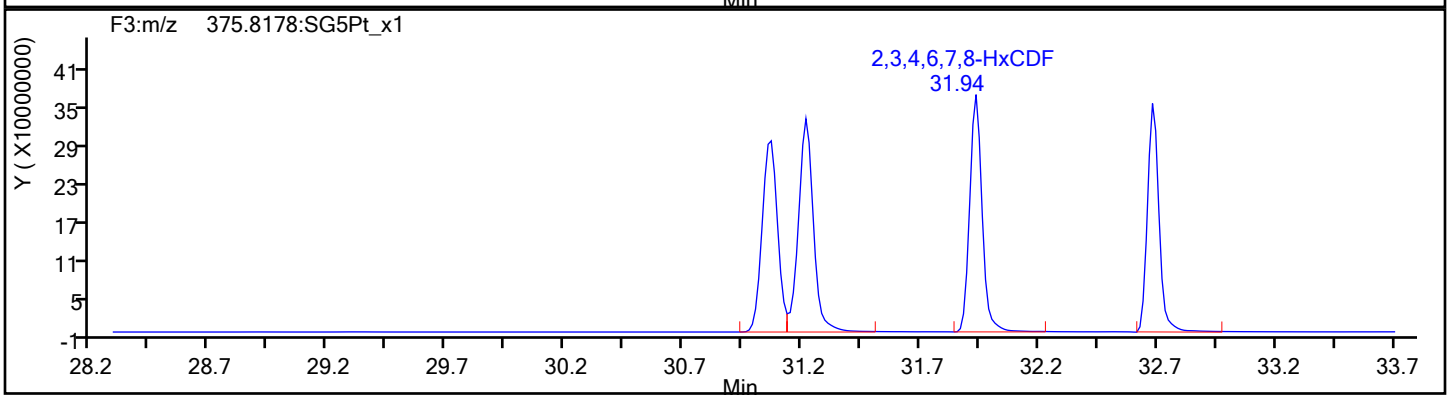

HxCDF Standards

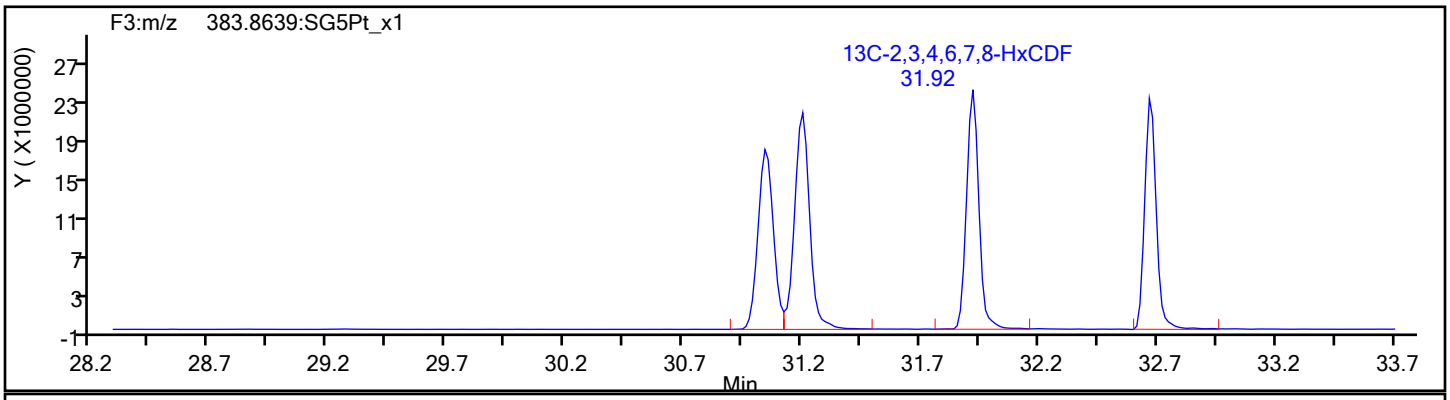

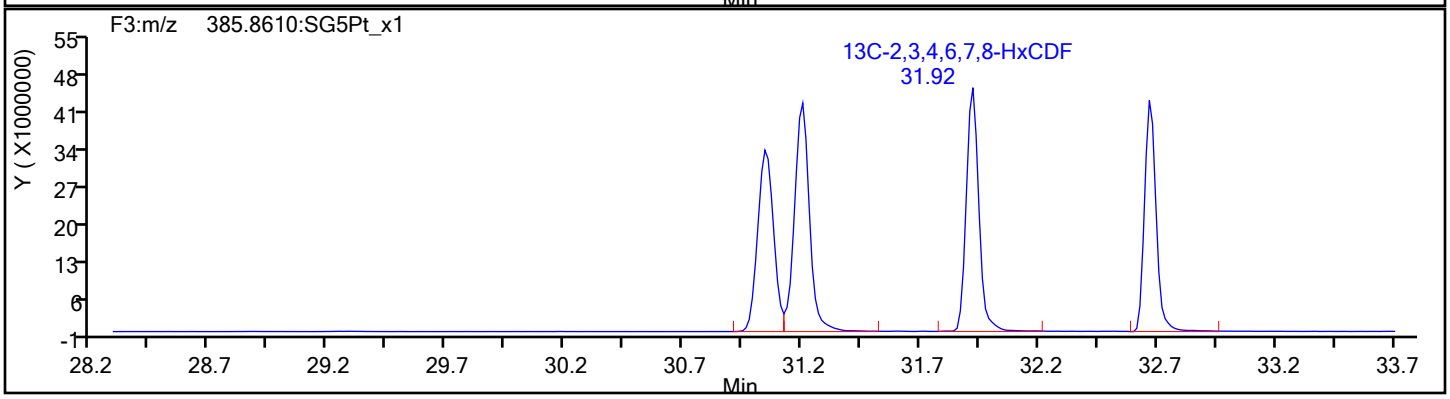

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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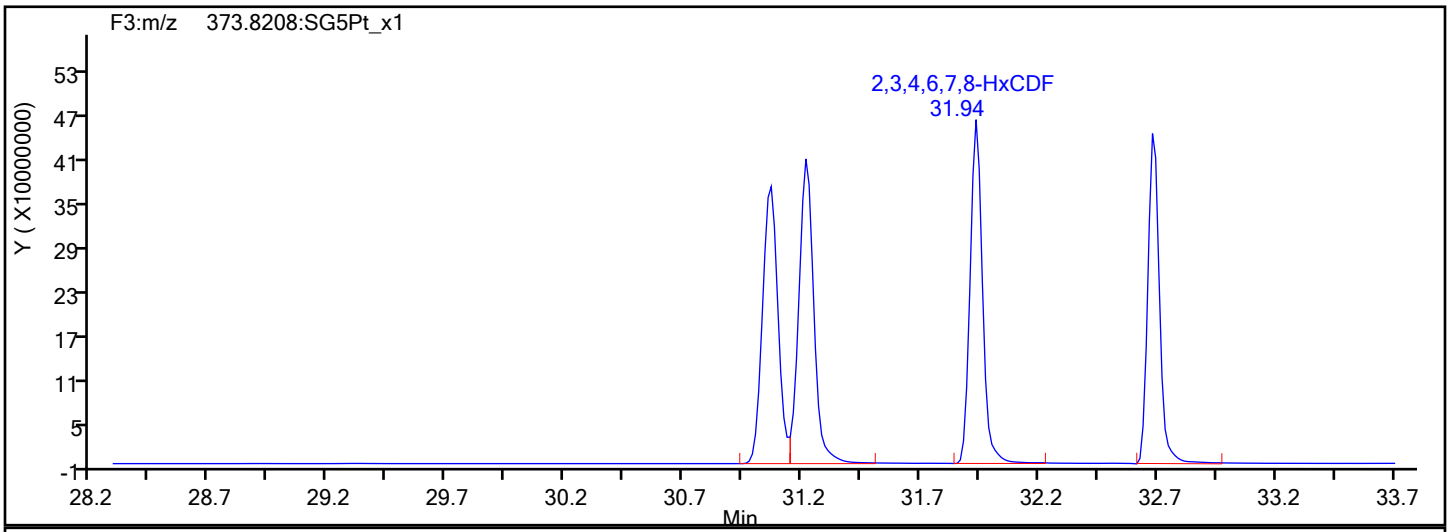

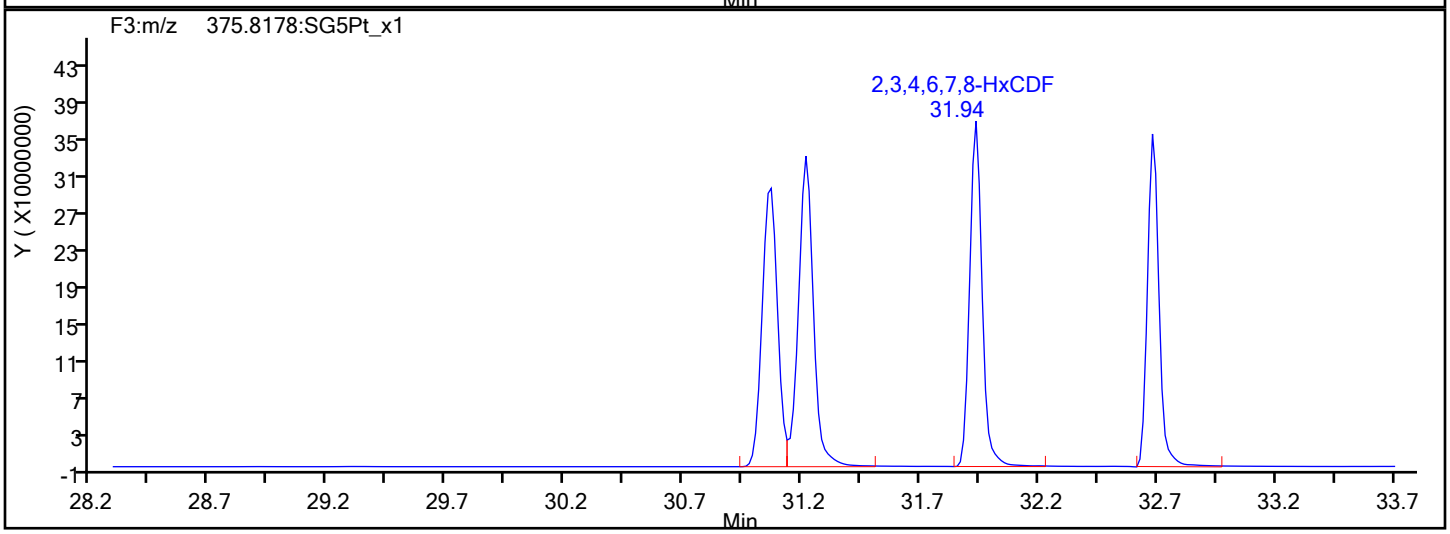

HxCDF Interference Mass

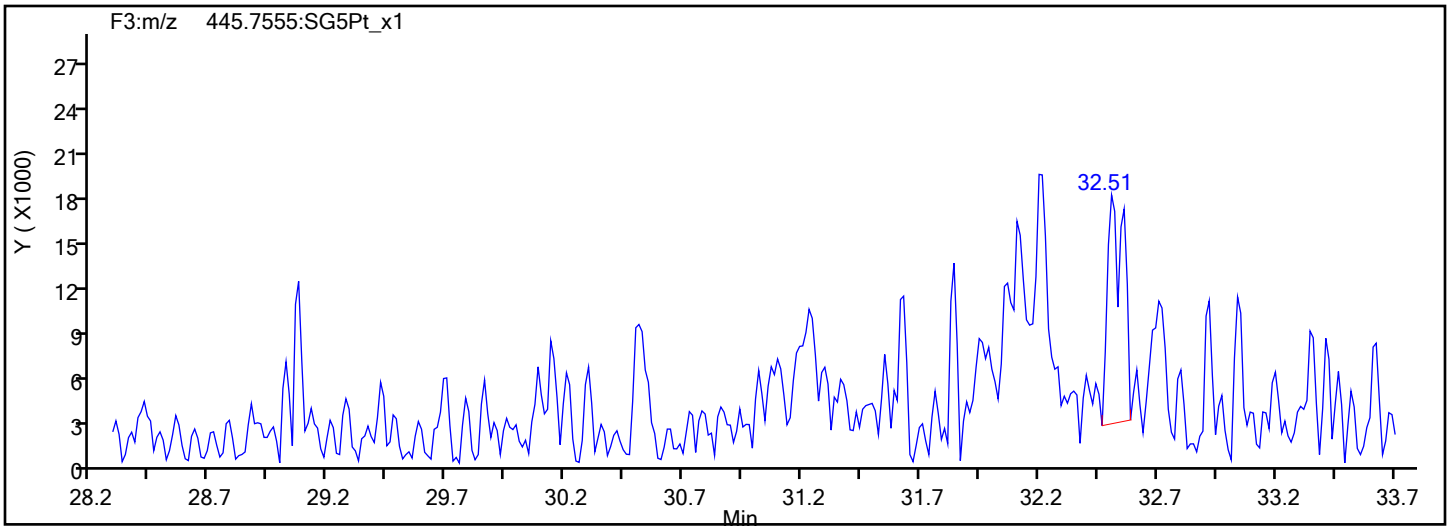

Report Date: 22-May-2019 11:45:03 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d		
Injection Date:	21-May-2019 16:41:15	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L6		
Worklist#:	296020	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDD

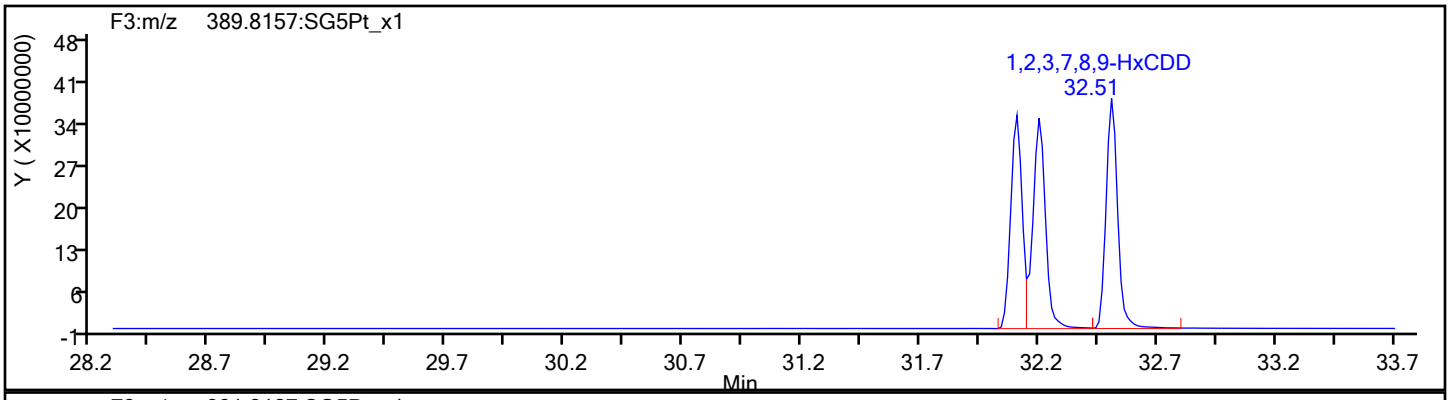

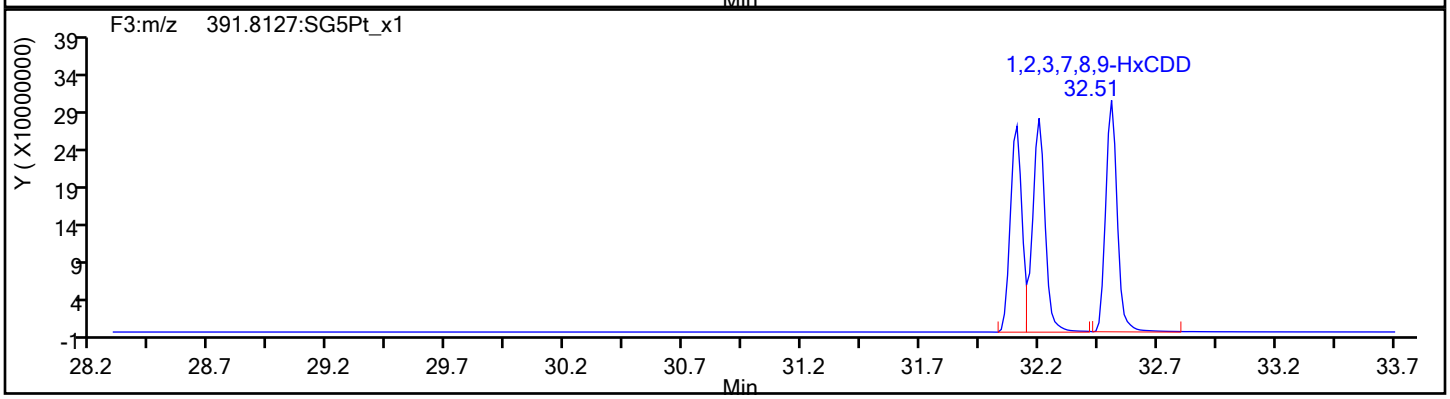

HxCDD Standards

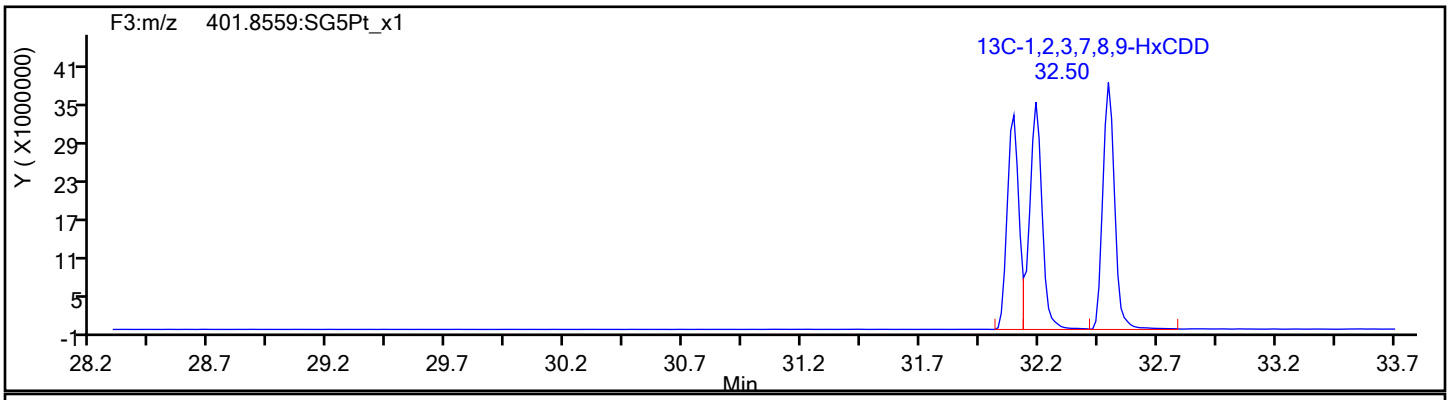

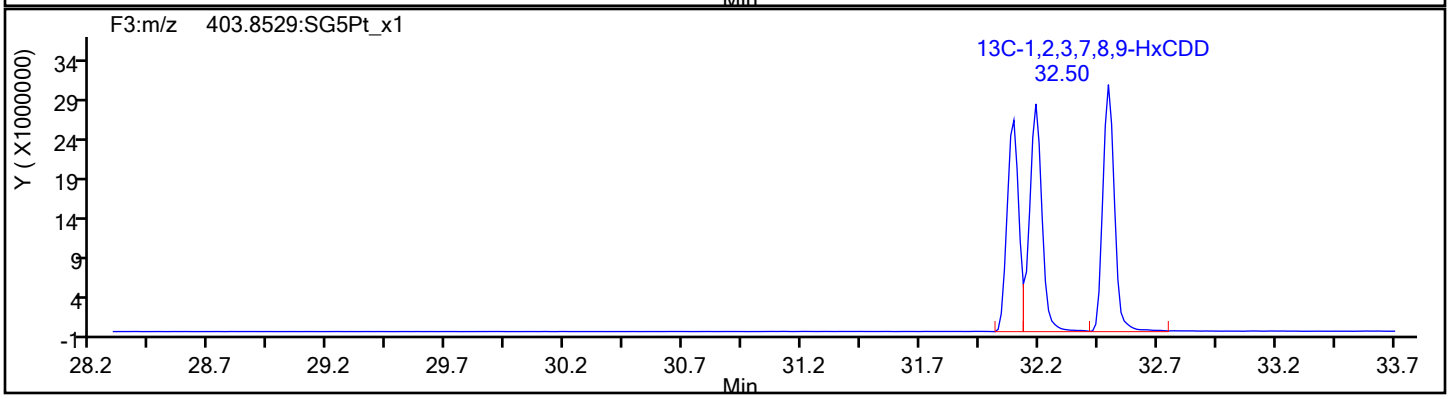

Report Date: 22-May-2019 11:45:03 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d		
Injection Date:	21-May-2019 16:41:15	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L6		
Worklist#:	296020	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

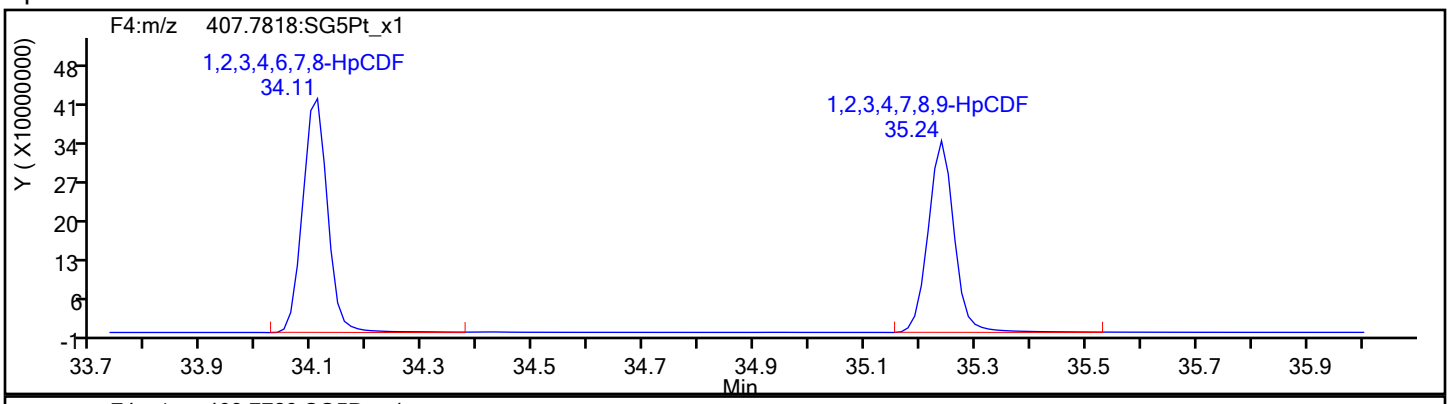

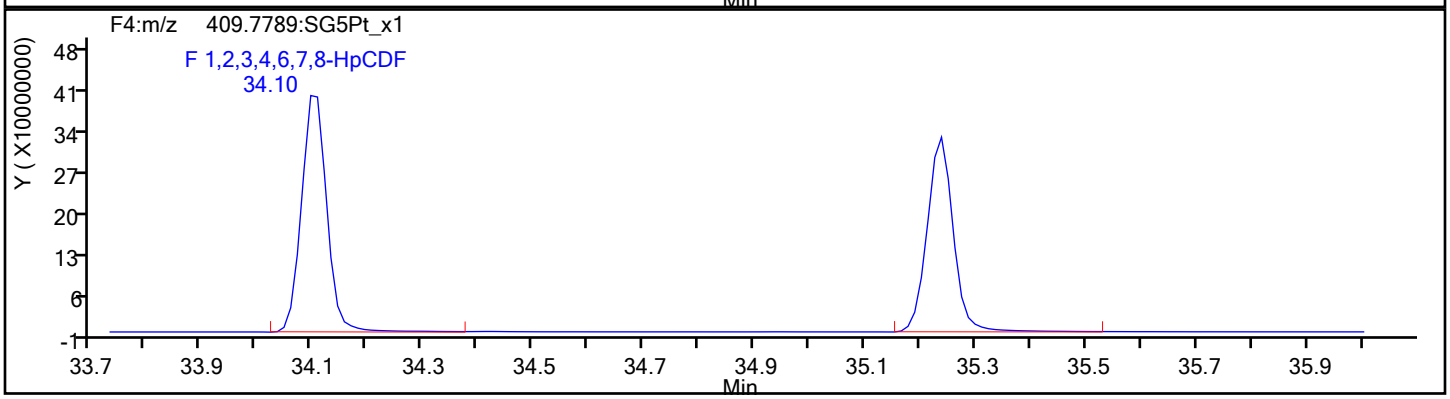

HpCDF Standards

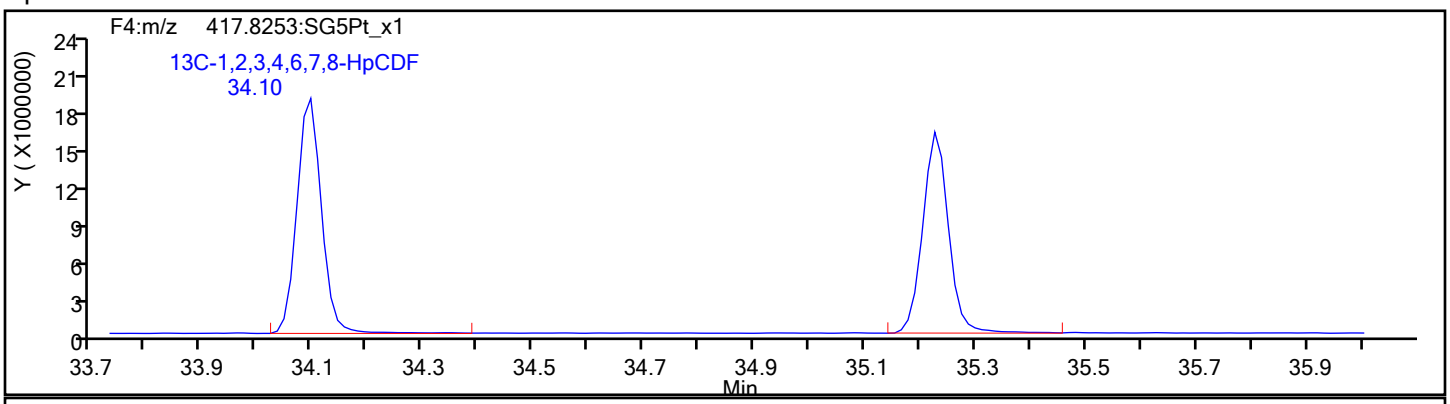

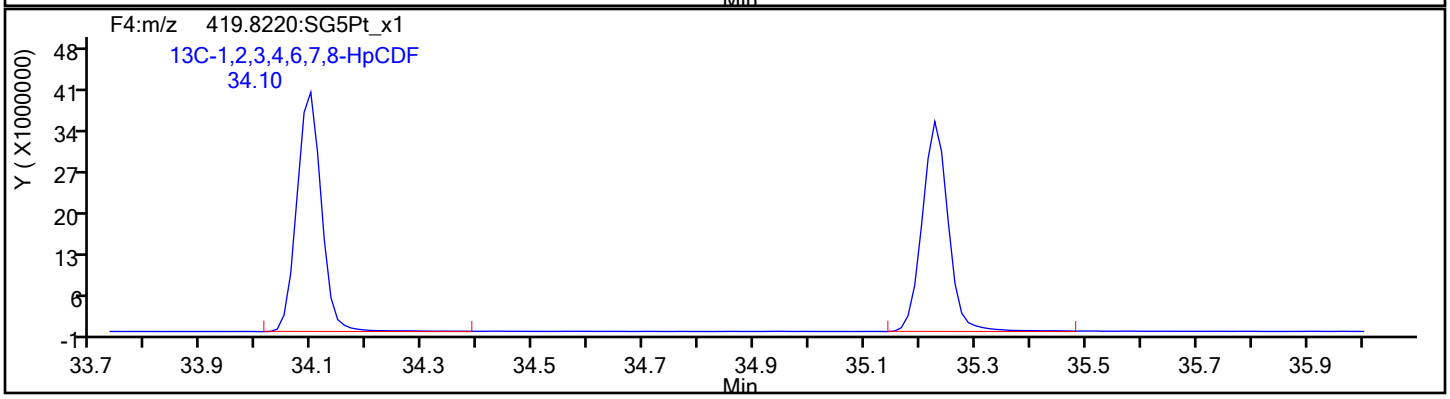

Report Date: 22-May-2019 11:45:03 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d		
Injection Date:	21-May-2019 16:41:15	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L6		
Worklist#:	296020	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

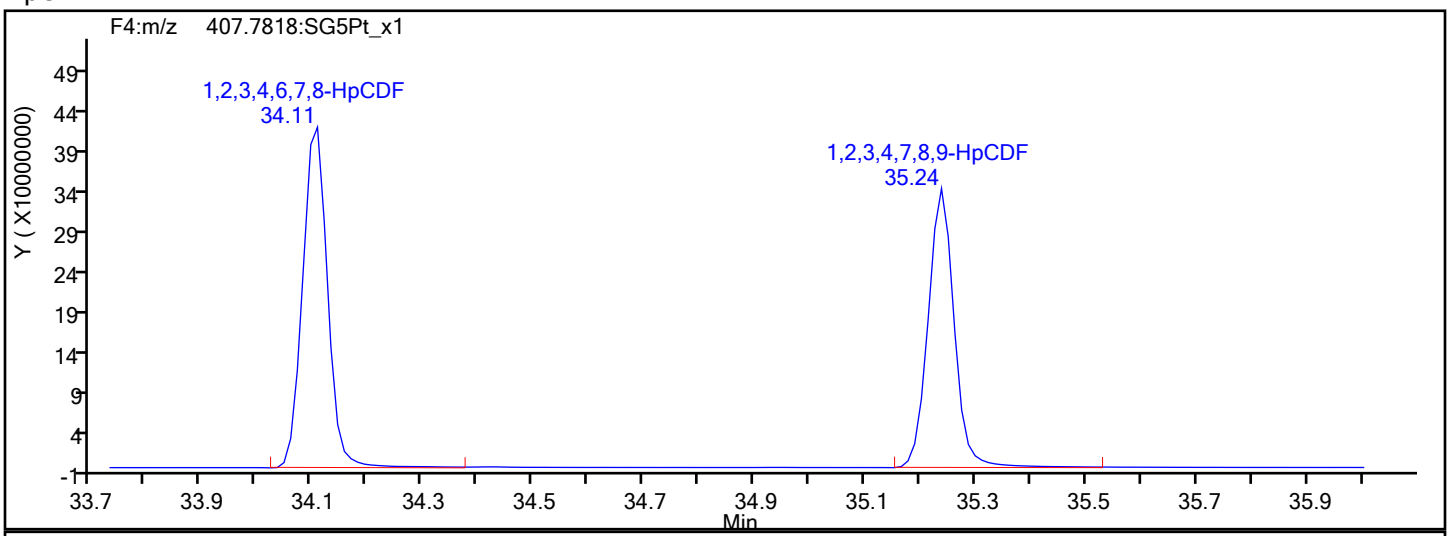

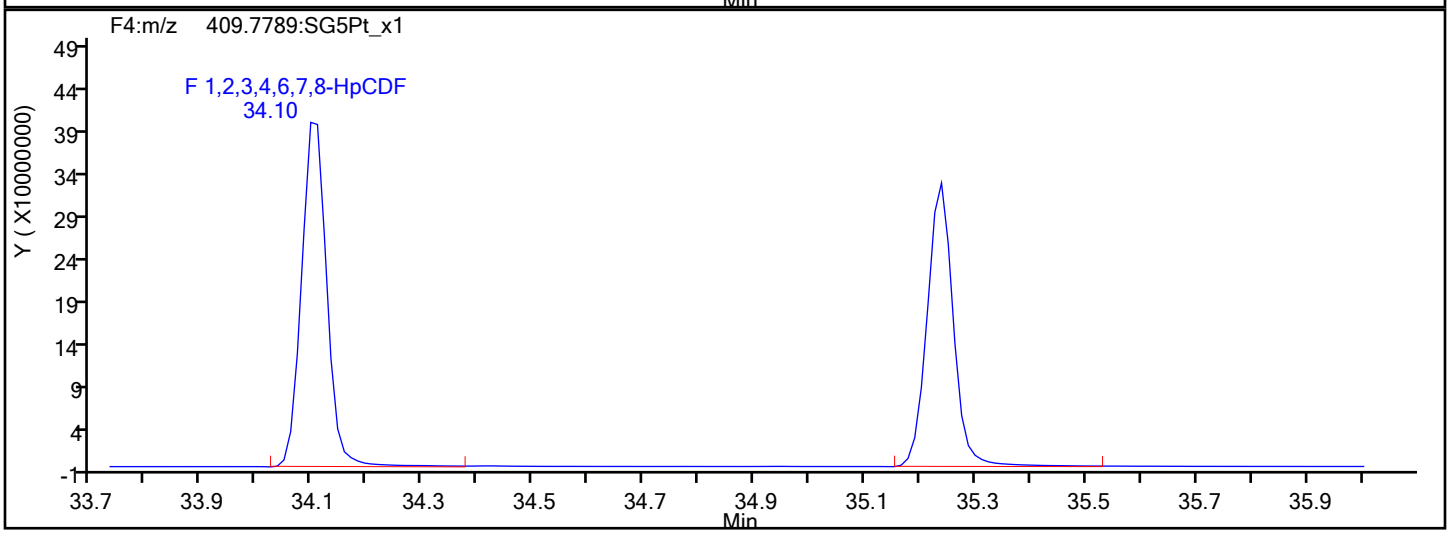

HpCDF Interference Mass

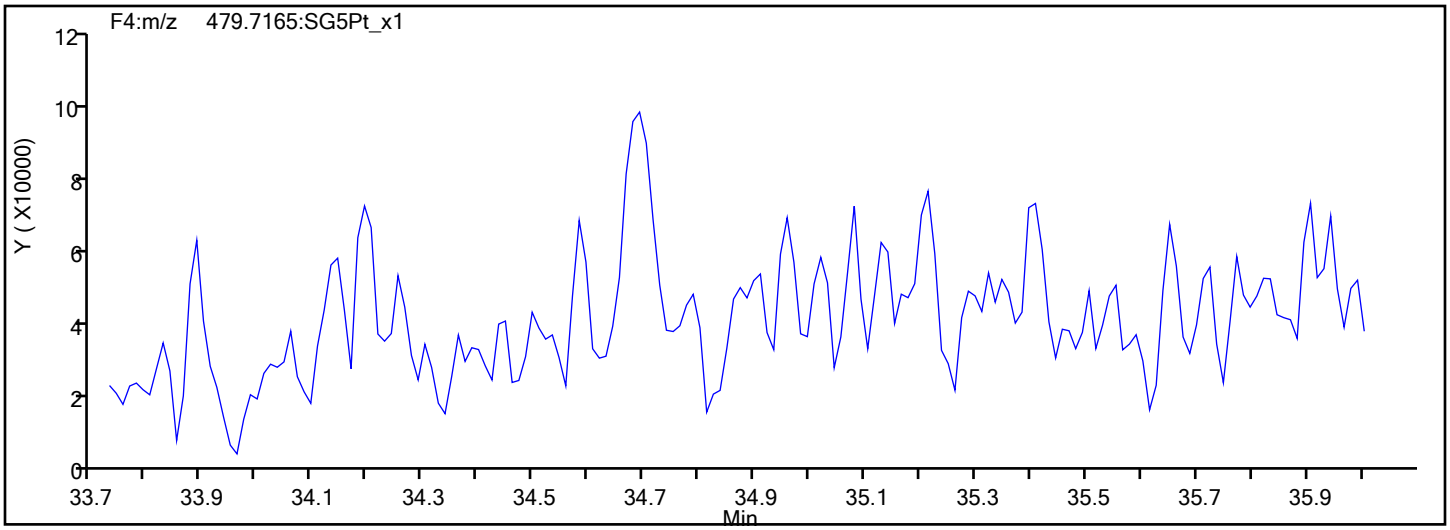

Report Date: 22-May-2019 11:45:03 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d		
Injection Date:	21-May-2019 16:41:15	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L6		
Worklist#:	296020	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

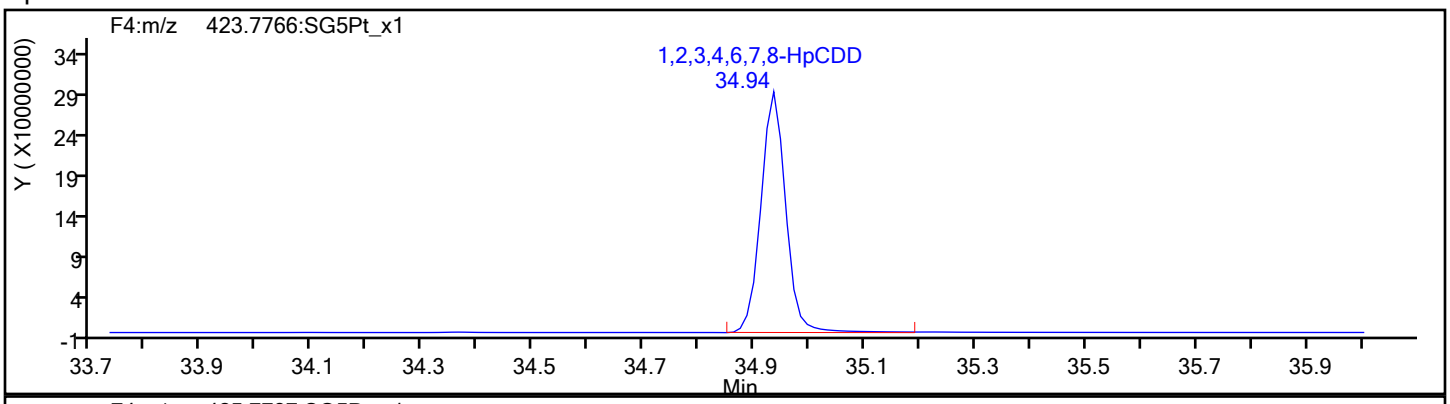

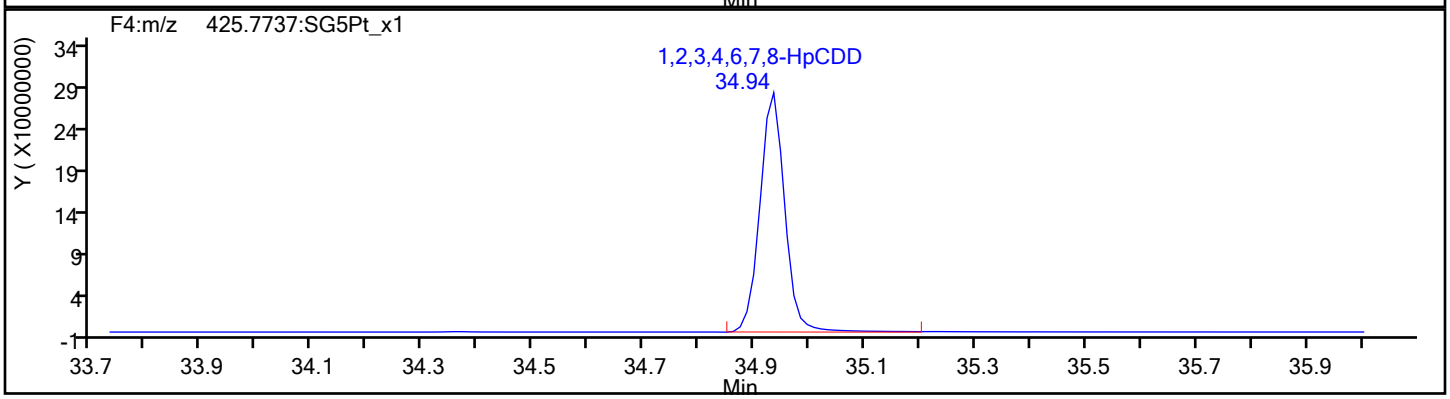

HpCDD Standards

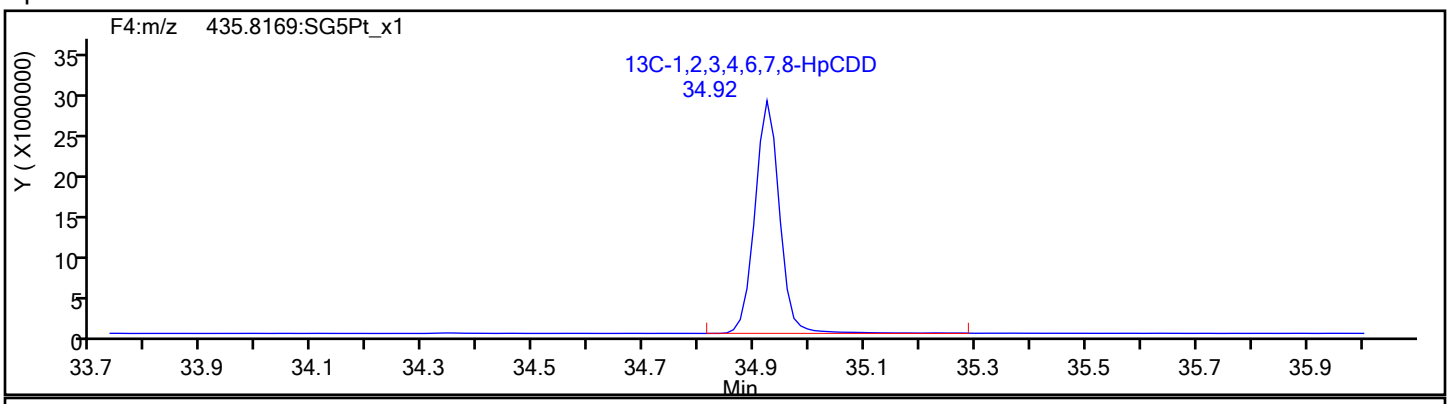

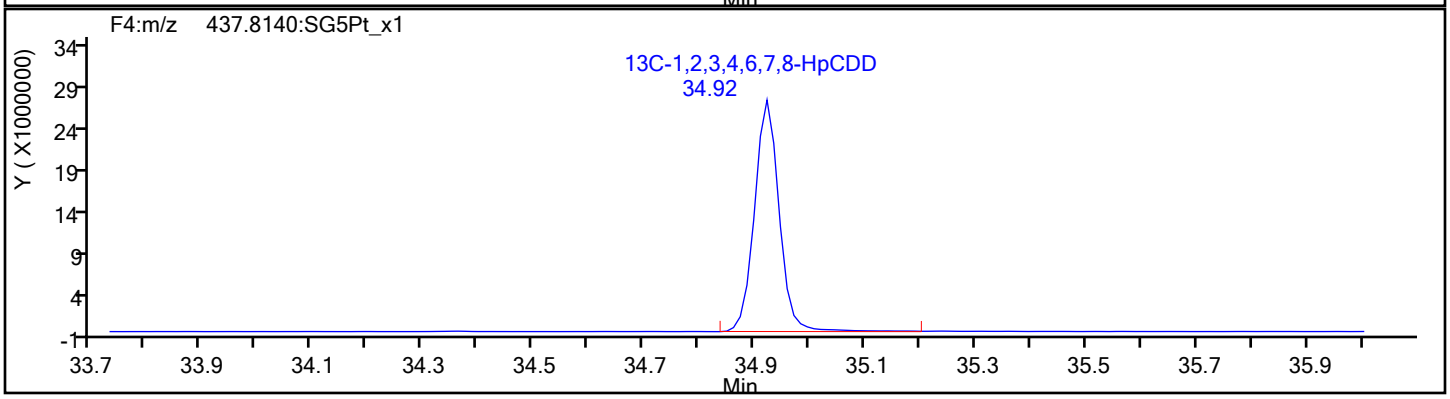

Report Date: 22-May-2019 11:45:03 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d		
Injection Date:	21-May-2019 16:41:15	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L6		
Worklist#:	296020	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

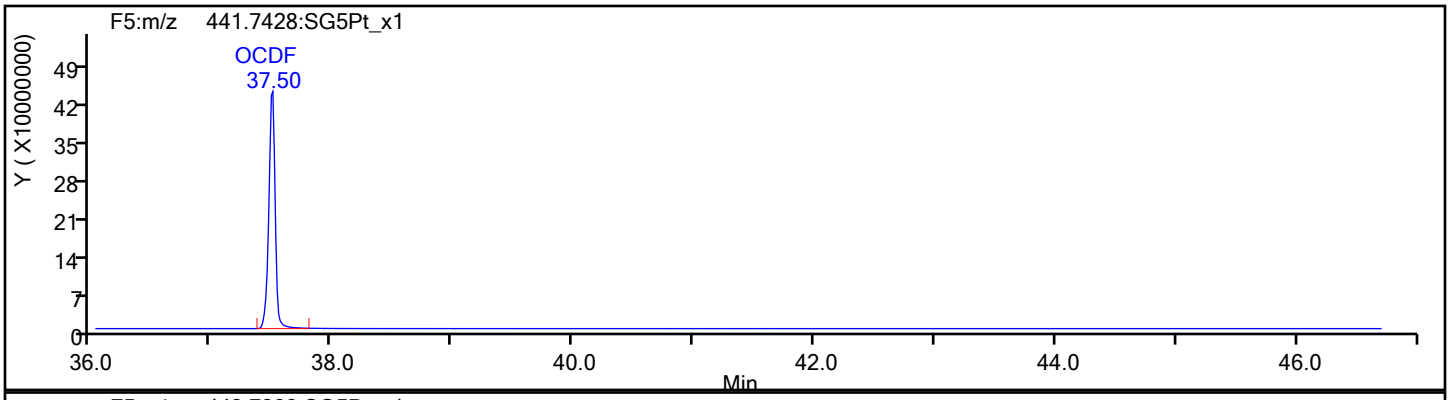

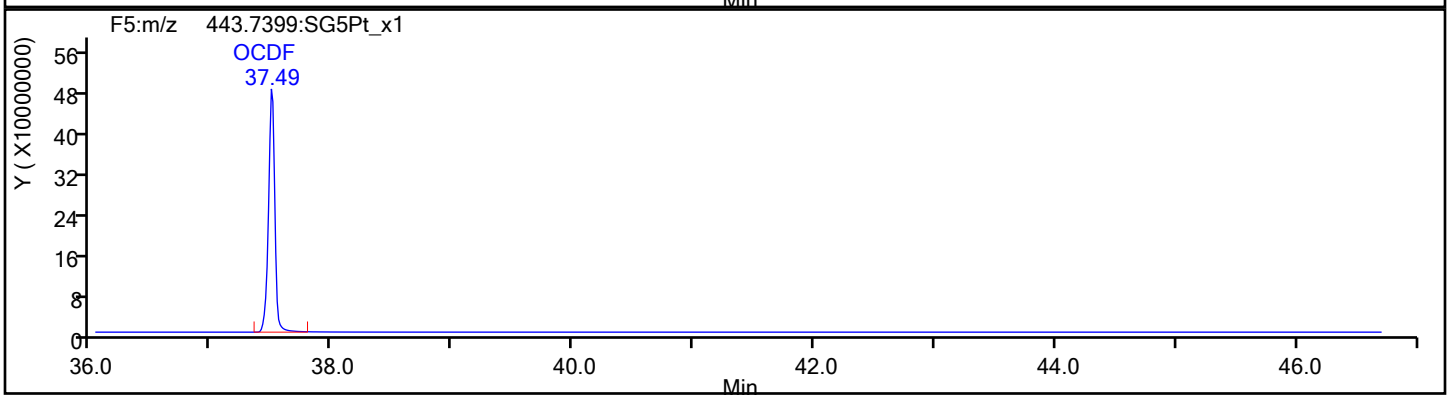

OCDF Standards

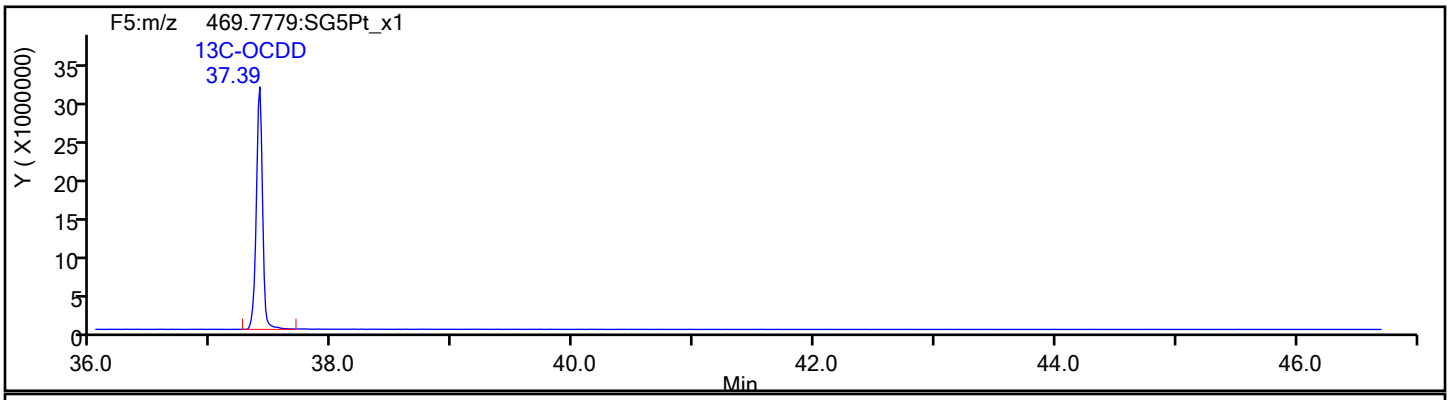

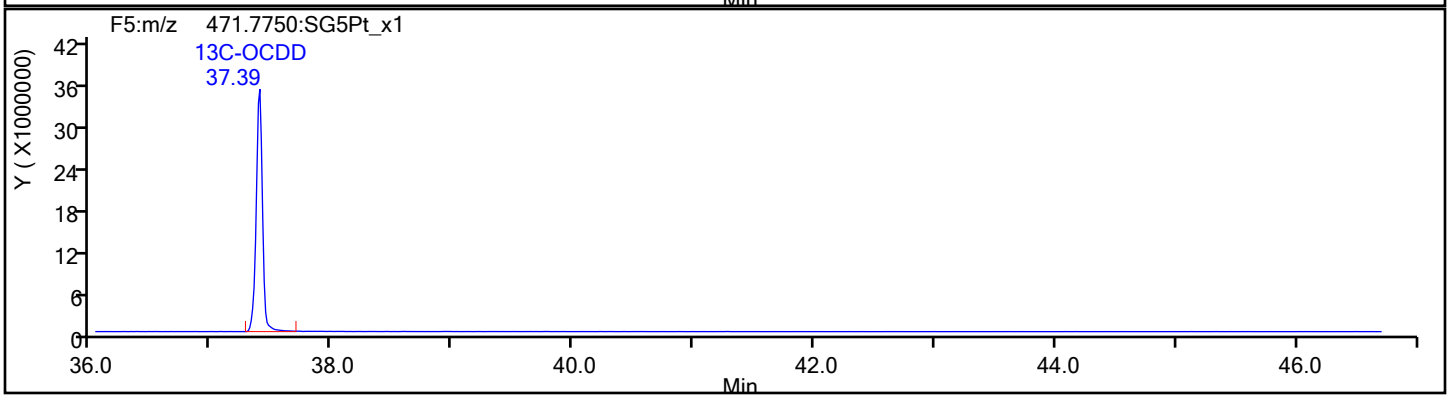

Report Date: 22-May-2019 11:45:03 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d		
Injection Date:	21-May-2019 16:41:15	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L6		
Worklist#:	296020	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

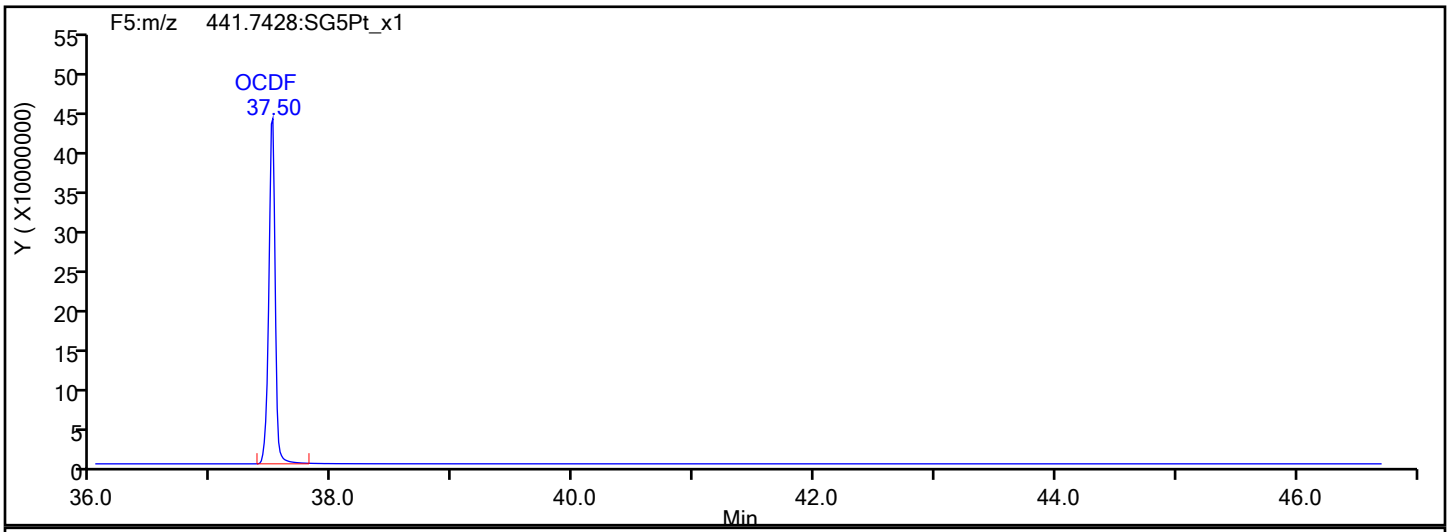

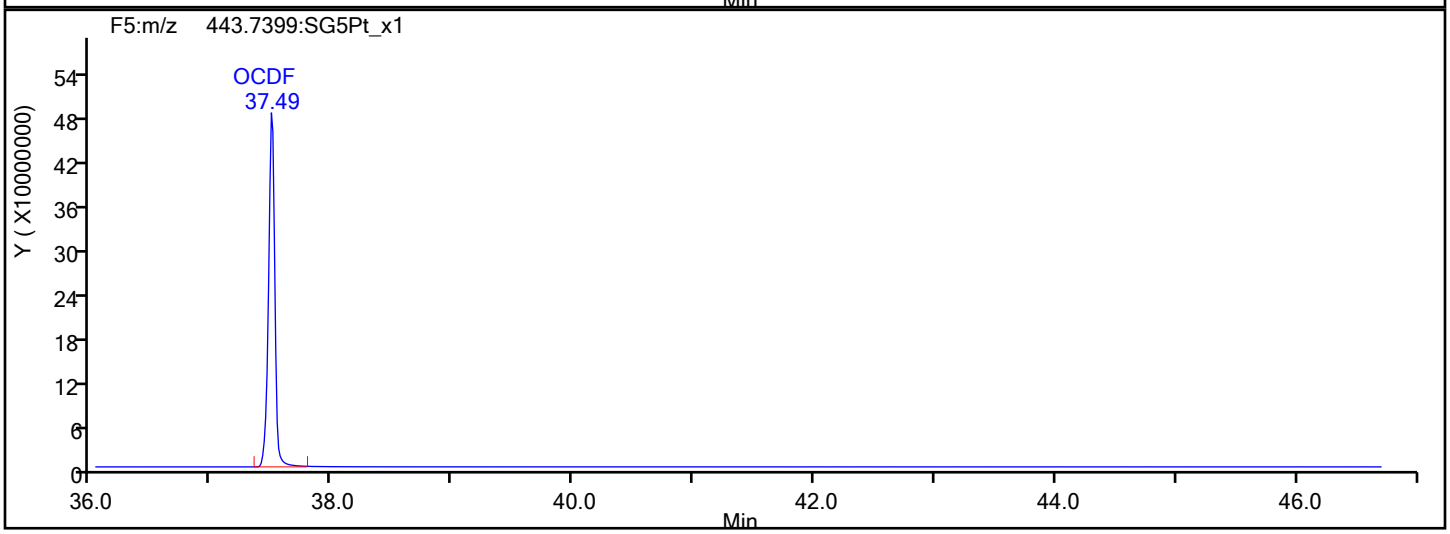

OCDF Interference Mass

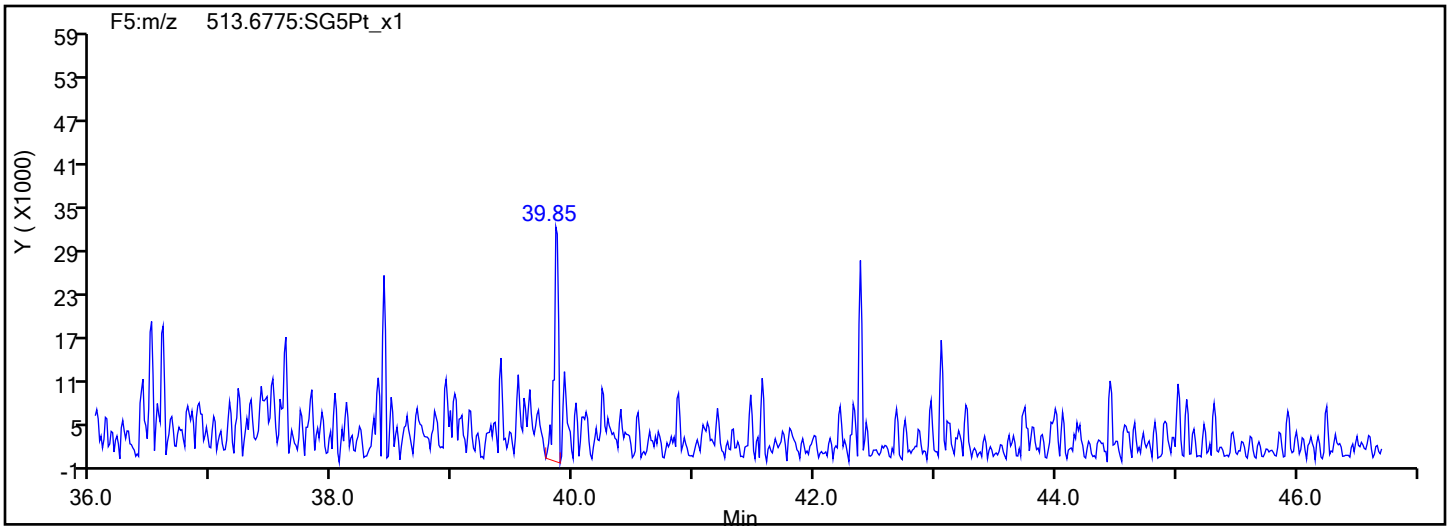

Report Date: 22-May-2019 11:45:03 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d		
Injection Date:	21-May-2019 16:41:15	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L6		
Worklist#:	296020	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

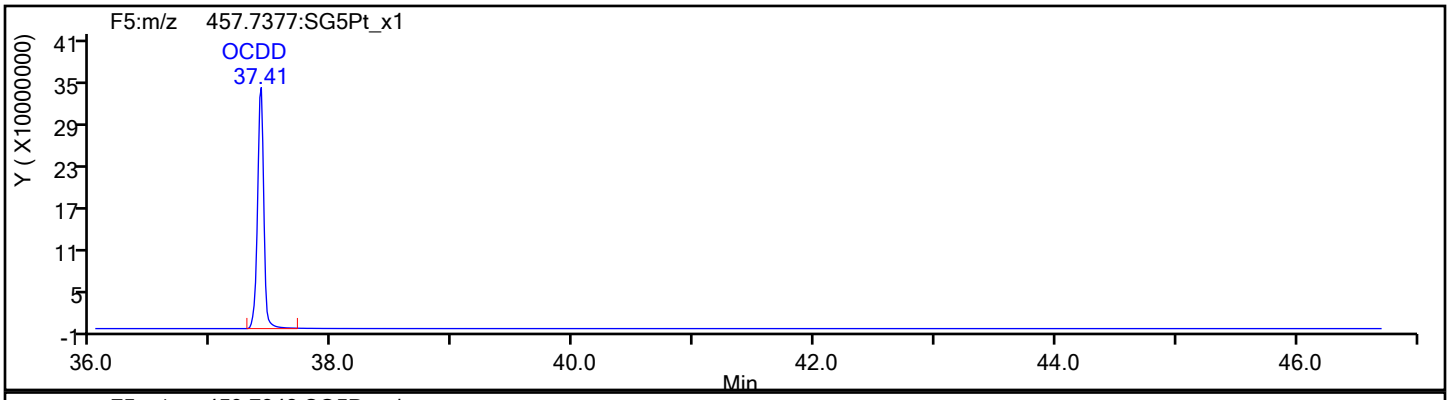

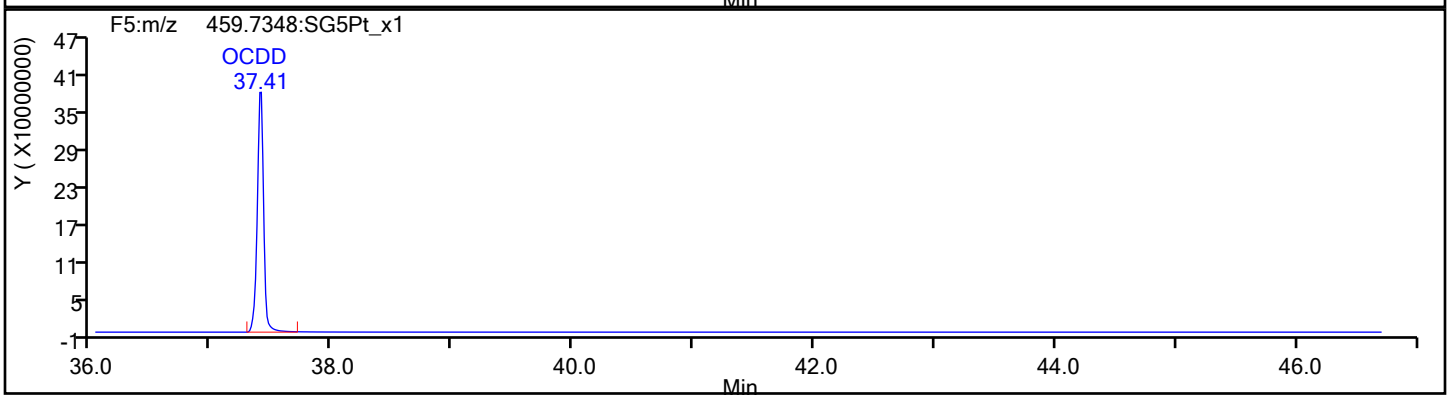

OCDD Standards

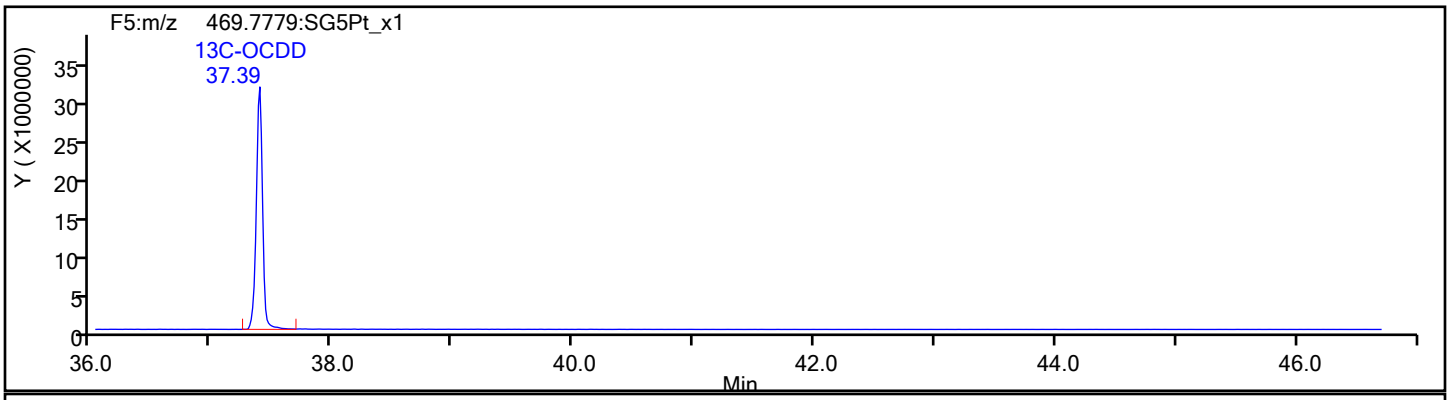

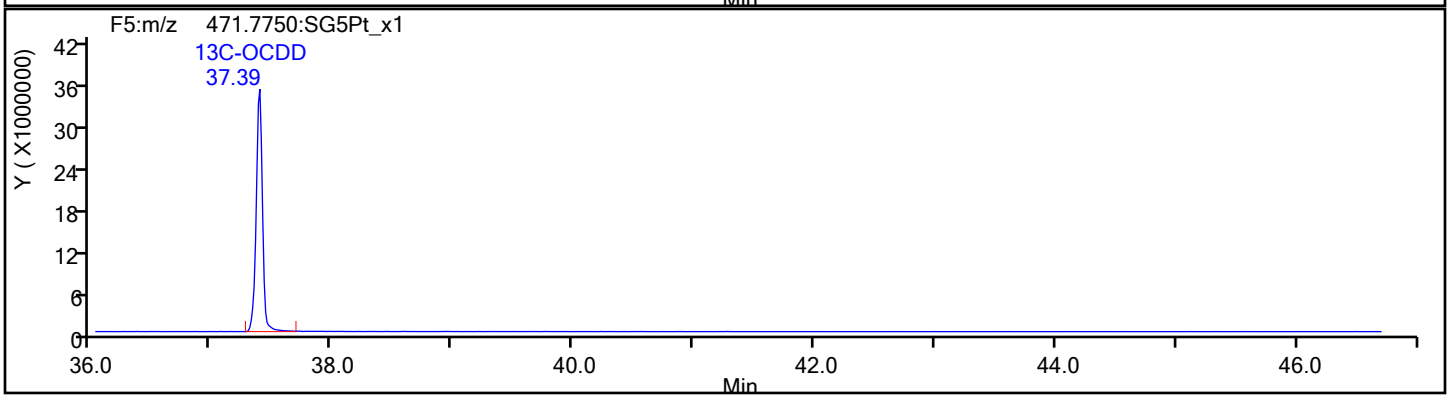

Report Date: 22-May-2019 11:45:03 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d		
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Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L6		
Worklist#:	296020	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

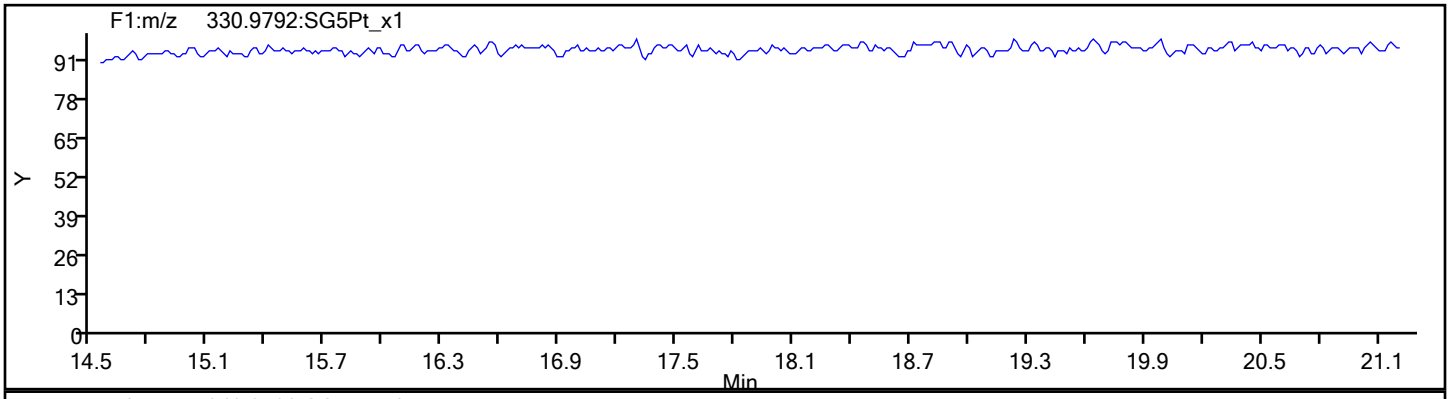

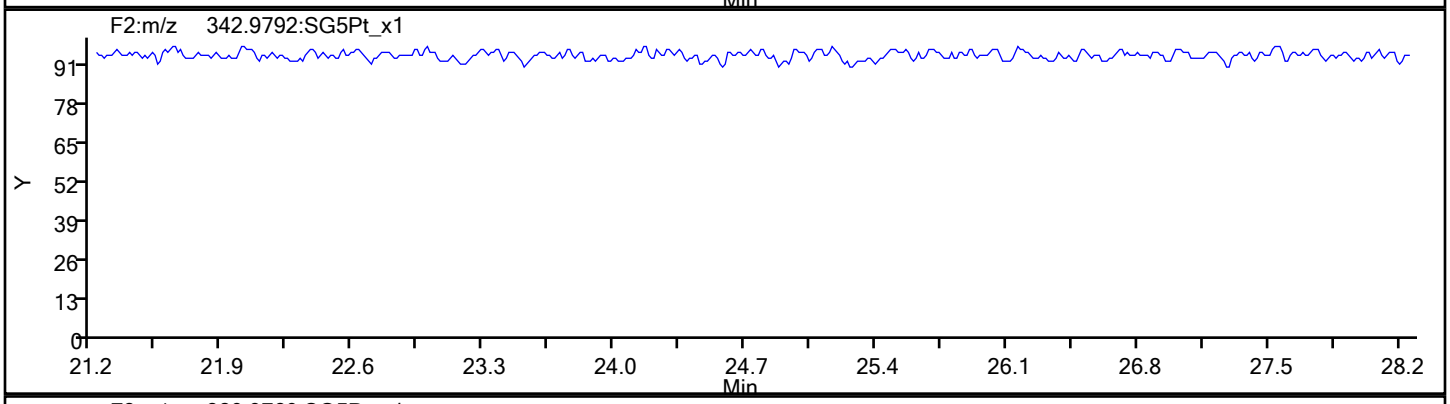

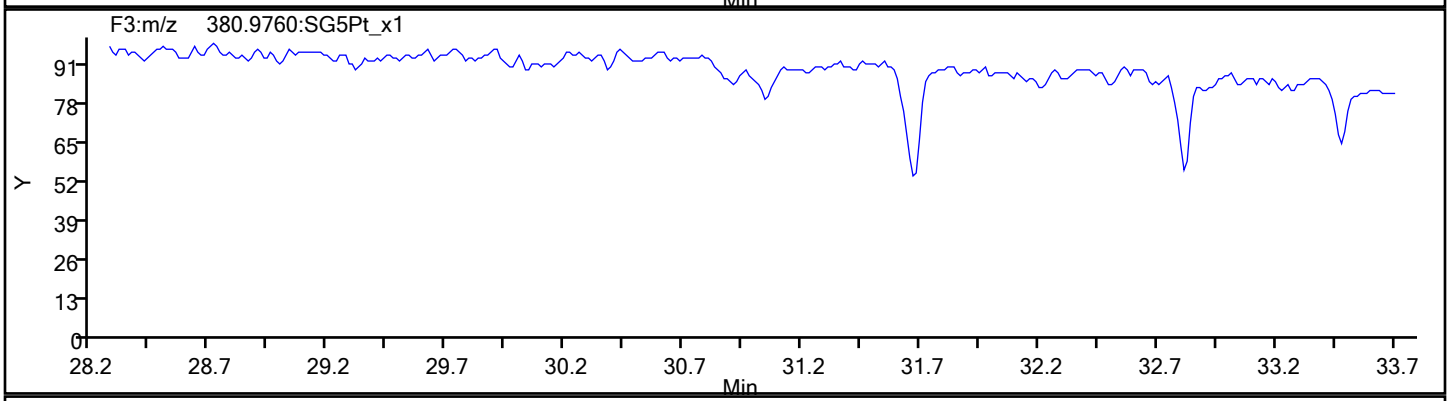

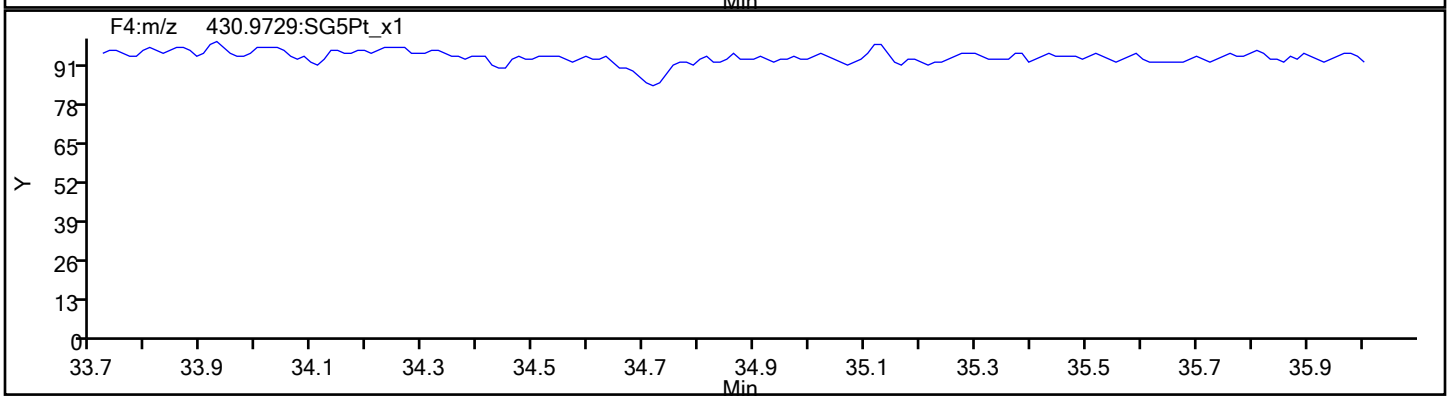

Report Date: 22-May-2019 11:45:03 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d		
Injection Date:	21-May-2019 16:41:15	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L6		
Worklist#:	296020	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

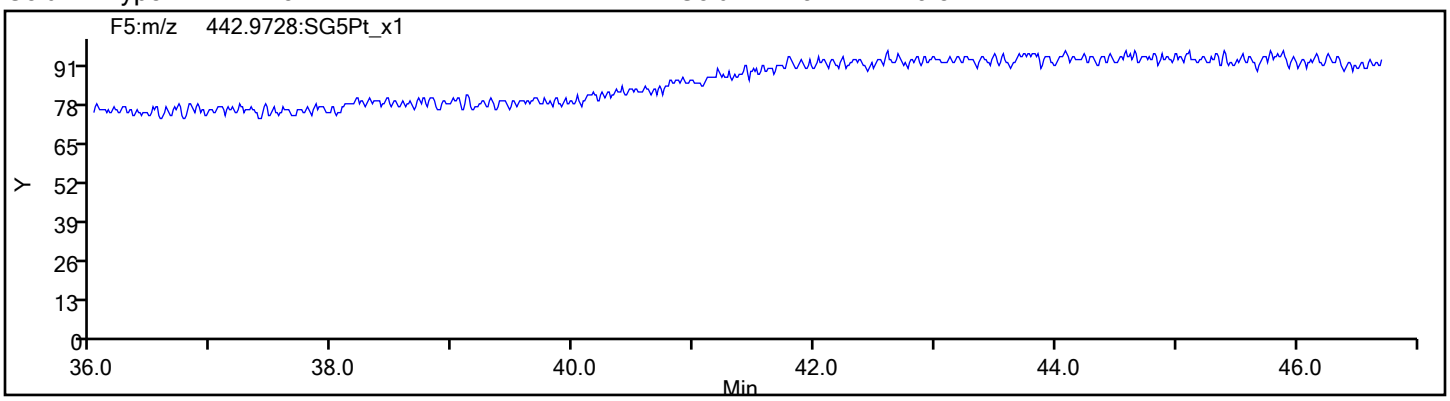

FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Lab Sample ID (1): WDM 320-296020/1 Instrument ID (1): 3D5

GC Column (1): DB-5 ID: 0.32(mm) Date Analyzed (1): 05/21/2019 11:56

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDD	18.64	16

Resolution Report

Eurofins TestAmerica, Sacramento

Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_1.d
Injection Date: 21-May-2019 11:56:21 Instrument ID: 3D5
Lims ID: WDM
Client ID:
Operator ID: AJS ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Column:
Method: Dioxin_3D5 Limit Group: HR - 1613B - ICAL

2,3,7,8-TCDD

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 2235020
H (Peak Height) = 13619735

%R = 16 <= 25
Passed

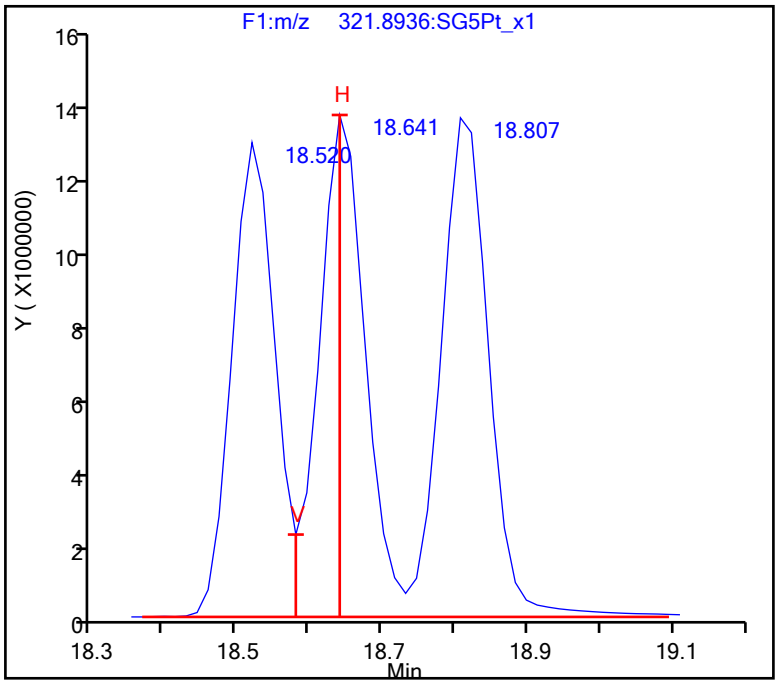

FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Lab Sample ID (1): WDM 320-338227/36 Instrument ID (1): 3D5

GC Column (1): DB-5 ID: 0.32(mm) Date Analyzed (1): 11/13/2019 08:26

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDD	17.63	25

Resolution Report

Eurofins TestAmerica, Sacramento

Data File: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_36.d
Injection Date: 13-Nov-2019 08:26:22 Instrument ID: 3D5
Lims ID: WDM
Client ID:
Operator ID: ALM, AJS ALS Bottle#: 1 Worklist Smp#: 36
Injection Vol: 2.0 ul Column: DB-5 (0.32 mm)
Method: Dioxin_3D5 Limit Group: HR - 1613B - ICAL

2,3,7,8-TCDD

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 2420797
H (Peak Height) = 9734111

%R = 25 <= 25
Passed

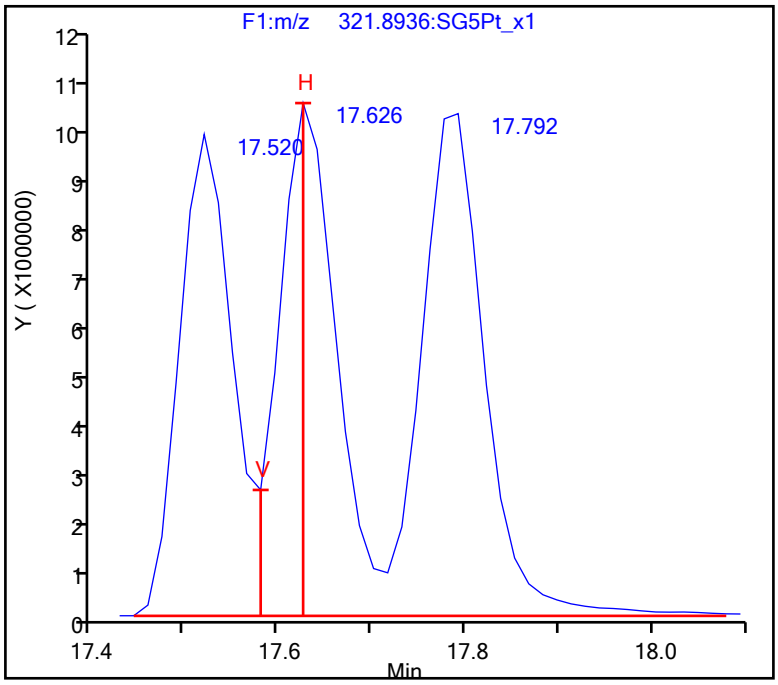

FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Lab Sample ID: ICV 320-296020/9 Calibration Date: 05/21/2019 18:16

Instrument ID: 3D5 Calib Start Date: 05/21/2019 13:31

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 05/21/2019 16:41

Lab File ID: 21MY193D5_9.d Conc. Units: pg/uL

EPA Sample No.: ICV

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
2,3,7,8-TCDF	AveID	0.9710	1.042		42.9	40.0	107	70-130
2,3,7,8-TCDD	AveID	1.045	1.193		45.7	40.0	114	70-130
1,2,3,7,8-PeCDF	AveID	0.9633	1.015		211	200	105	70-130
2,3,4,7,8-PeCDF	AveID	0.9495	1.100		232	200	116	70-130
1,2,3,7,8-PeCDD	AveID	1.063	1.079		203	200	101	70-130
1,2,3,4,7,8-HxCDF	AveID	1.217	1.277		210	200	105	70-130
1,2,3,6,7,8-HxCDF	AveID	1.131	1.224		216	200	108	70-130
2,3,4,6,7,8-HxCDF	AveID	1.171	1.282		219	200	109	70-130
1,2,3,4,7,8-HxCDD	AveID	1.027	1.071		209	200	104	70-130
1,2,3,6,7,8-HxCDD	AveID	0.9771	1.086		222	200	111	70-130
1,2,3,7,8,9-HxCDD	AveID	1.062	1.143		215	200	108	70-130
1,2,3,7,8,9-HxCDF	AveID	1.179	1.227		208	200	104	70-130
1,2,3,4,6,7,8-HpCDF	AveID	1.437	1.557		217	200	108	70-130
1,2,3,4,6,7,8-HpCDD	AveID	1.010	1.083		214	200	107	70-130
1,2,3,4,7,8,9-HpCDF	AveID	1.309	1.331		203	200	102	70-130
OCDD	AveID	1.063	1.158		436	400	109	70-130
OCDF	AveID	1.350	1.475		437	400	109	70-130
13C-2,3,7,8-TCDF	Ave	1.391	1.390		100	100	100	71-140
13C-2,3,7,8-TCDD	Ave	0.9819	0.9657		98.4	100	98	82-121
13C-1,2,3,7,8-PeCDF	Ave	1.158	1.139		98.3	100	98	76-130
13C-2,3,4,7,8-PeCDF	Ave	1.153	1.161		101	100	101	77-130
13C-1,2,3,7,8-PeCDD	Ave	0.7431	0.7258		97.7	100	98	62-160
13C-1,2,3,4,7,8-HxCDF	Ave	0.9837	1.011		103	100	103	76-131
13C-1,2,3,6,7,8-HxCDF	Ave	1.155	1.118		96.8	100	97	70-143
13C-2,3,4,6,7,8-HxCDF	Ave	1.036	1.016		98.1	100	98	73-137
13C-1,2,3,4,7,8-HxCDD	Ave	0.8287	0.8224		99.2	100	99	85-117
13C-1,2,3,6,7,8-HxCDD	Ave	0.9495	0.8971		94.5	100	94	85-118
13C-1,2,3,7,8,9-HxCDF	Ave	0.9034	0.9095		101	100	101	74-135
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.7285	0.6949		95.4	100	95	78-129
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.6978	0.6686		95.8	100	96	72-138
13C-1,2,3,4,7,8,9-HpCDF	Ave	0.6556	0.6593		101	100	101	77-129
13C-OCDD	Ave	0.4780	0.4512		189	200	94	48-208
37Cl4-2,3,7,8-TCDD	Ave	1.221	1.264		41.4	40.0	104	79-127

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_9.d
Lims ID: ICV
Client ID: ICV
Sample Type: ICV
Inject. Date: 21-May-2019 18:16:13 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ICV 052119 ICV HRDXNIC_00038
Misc. Info.: 21MY193D5
Operator ID: AJS Instrument ID: 3D5
Sublist:

Method: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 22-May-2019 11:37:01 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: shardaa Date: 21-May-2019 19:10:28

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.414	222346657	0.82	3.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.885	309115802	0.79	1.3908	100.0	100.0	0.2444	0.2444	99.96	
2,3,7,8-TCDF	17.900	128893357	0.78	0.9710	42.9	42.9	0.0930	0.0930	107	
A Non-2,3,7,8-sub-TCDF	17.590						0.0930	0.0930		n
S Total TCDF					42.9	42.9	0.0930	0.0930		
D 13C-2,3,7,8-TCDD	18.611	214726573	0.81	0.9819	98.4	98.4	0.2893	0.2893	98.36	
$ 37Cl4-2,3,7,8-TCDD	18.626	112432067		1.2205	41.4	41.4	0.0682	0.0682	104	
2,3,7,8-TCDD	18.641	102443831	0.82	1.0447	45.7	45.7	0.0806	0.0806	114	
A Non-2,3,7,8-sub-TCDD	18.066	1316919	0.77	1.0447	0.6610	0.5870	0.0806	0.5870		RQ
S Total TCDD					46.3	46.3	0.0806	0.0806		RQ
D 13C-1,2,3,7,8-PeCDF	23.094	253215229	1.59	1.1585	98.3	98.3	0.2491	0.2491	98.30	
1,2,3,7,8-PeCDF	23.121	514226216	1.58	0.9633	210.8	210.8	0.8921	0.8921	105	
D 13C-2,3,4,7,8-PeCDF	24.485	258131492	1.61	1.1532	100.7	100.7	0.2502	0.2502	101	
2,3,4,7,8-PeCDF	24.512	568080692	1.57	0.9495	231.8	231.8	0.9439	0.9439	116	
A F1 PeCDFs	20.637						0.0627	0.0627		
A Non-2,3,7,8-sub-PeCDF	23.899	11866221	1.56	0.9564	4.853	4.853	0.9174	4.853		
S Total PeCDF					447.4	447.4	0.9180	0.9180		
D 13C-1,2,3,7,8-PeCDD	25.235	161383501	1.64	0.7431	97.7	97.7	0.1753	0.1753	97.67	
1,2,3,7,8-PeCDD	25.262	348250092	1.60	1.0635	202.9	202.9	0.2446	0.2446	101	
A Non-2,3,7,8-sub-PeCDD	24.123						0.2446	0.2446		
S Total PeCDD					202.9	202.9	0.2446	0.2446		
D 13C-1,2,3,4,7,8-HxCDF	31.058	187845398	0.51	0.9837	102.8	102.8	0.3425	0.3425	103	
1,2,3,4,7,8-HxCDF	31.071	479692619	1.24	1.2173	209.8	209.8	0.8857	0.8857	105	
D 13C-1,2,3,6,7,8-HxCDF	31.205	207713319	0.51	1.1554	96.8	96.8	0.2916	0.2916	96.77	
1,2,3,6,7,8-HxCDF	31.231	508351905	1.25	1.1311	216.4	216.4	0.8359	0.8359	108	
D 13C-2,3,4,6,7,8-HxCDF	31.924	188804826	0.52	1.0361	98.1	98.1	0.3252	0.3252	98.09	
2,3,4,6,7,8-HxCDF	31.937	484083560	1.24	1.1710	219.0	219.0	0.7443	0.7443	109	
D 13C-1,2,3,7,8,9-HxCDF	32.682	168965577	0.51	0.9034	100.7	100.7	0.3729	0.3729	101	
1,2,3,7,8,9-HxCDF	32.696	414786546	1.24	1.1787	208.3	208.3	0.7662	0.7662	104	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
A Non-2,3,7,8-sub-HxCDF	30.845						0.8033	0.8033		
S Total HxCDF					853.4	853.4	0.8080	0.8080		
* 13C-1,2,3,7,8,9-HxCDD	32.509	185780773	1.26	2.6E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	32.097	152784448	1.28	0.8287	99.2	99.2	0.3524	0.3524	99.24	
1,2,3,4,7,8-HxCDD	32.110	327345678	1.20	1.0267	208.7	208.7	0.4918	0.4918	104	
D 13C-1,2,3,6,7,8-HxCDD	32.203	166664971	1.27	0.9495	94.5	94.5	0.3076	0.3076	94.49	
1,2,3,6,7,8-HxCDD	32.216	362035074	1.22	0.9771	222.3	222.3	0.5142	0.5142	111	
1,2,3,7,8,9-HxCDD	32.523	365083187	1.26	1.0616	215.3	215.3	0.4745	0.4745	108	
A Non-2,3,7,8-sub-HxCDD	31.471						0.4929	0.4929		
S Total HxCDD					646.3	646.3	0.4935	0.4935		
D 13C-1,2,3,4,6,7,8-HpCDF	34.097	129098673	0.45	0.7285	95.4	95.4	0.6850	0.6850	95.39	
1,2,3,4,6,7,8-HpCDF	34.109	401958783	1.03	1.4373	216.6	216.6	1.334	1.334	108	
D 13C-1,2,3,4,7,8,9-HpCDF	35.239	122483391	0.45	0.6556	100.6	100.6	0.7611	0.7611	101	
1,2,3,4,7,8,9-HpCDF	35.251	326170724	1.05	1.3091	203.4	203.4	1.687	1.687	102	
A Non-2,3,7,8-sub-HpCDF	34.686						1.495	1.495		
S Total HpCDF					420.0	420.0	1.511	1.511		
D 13C-1,2,3,4,6,7,8-HpCDD	34.935	124213475	1.06	0.6978	95.8	95.8	0.3457	0.3457	95.81	
1,2,3,4,6,7,8-HpCDD	34.947	269097158	1.06	1.0102	214.5	214.5	0.6764	0.6764	107	
A Non-2,3,7,8-sub-HpCDD	35.074						0.6764	0.6764		
S Total HpCDD					214.5	214.5	0.6764	0.6764		
D 13C-OCDD	37.395	167657373	0.90	0.4780	188.8	188.8	0.4438	0.4438	94.41	
OCDF	37.503	494569405	0.93	1.3501	437.0	437.0	0.7227	0.7227	109	
OCDD	37.407	388204926	0.90	1.0627	435.8	435.8	0.7118	0.7118	109	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNIC_00038 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_9.d
Lims ID: ICV
Client ID: ICV
Sample Type: ICV
Inject. Date: 21-May-2019 18:16:13 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ICV 052119 ICV HRDXNIC_00038
Misc. Info.: 21MY193D5
Operator ID: AJS Instrument ID: 3D5
Sublist:

Method: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 22-May-2019 11:37:01 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: shardaa Date: 21-May-2019 19:10:28

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.414	18.433	-1		99998875	24006114	42112	105280	570		
333.9339	18.414	18.433	-1		122347782	29280130	18429	46072	1589	0.82(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.885	17.900	-1	0.971	136547837	32061236	45371	113427	707		
317.9389	17.885	17.900	-1	0.971	172567965	40423072	27075	67687	1493	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.900	17.915	-1	1.001	56332836	13171635	10321	25802	1276		
305.8987	17.900	17.915	-1	1.001	72560521	16618859	15852	39630	1048	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.507	17.590	-5	0.979	320674	84096	10321	25802	8		
305.8987	17.492	17.590	-6	0.978	399478	91923	15852	39630	6	0.80(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	18.611	18.629	-1	1.011	96308196	21747418	42112	105280	516		
333.9339	18.611	18.629	-1	1.011	118418377	26520969	18429	46072	1439	0.81(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.626	18.649	-1	1.011	112432067	24741004	17755	44387	1393		
2,3,7,8-TCDD											
319.8965	18.641	18.650	-1	1.002	46102269	10150841	9601	24002	1057		
321.8936	18.626	18.650	-1	1.001	56341562	12460512	6647	16617	1875	0.82(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											RQ
319.8965	18.520	18.066	27	0.995	572897	183752	9601	24002	19		
321.8936	18.520	18.066	27	0.995	909934	230675	6647	16617	35	0.63(0.65-0.89)	
	Empc Correction				744022	238638	6647	16617	36		

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	23.094	23.100	0	1.254	155609942	26715954	39133	97832	683		
353.8970	23.094	23.100	0	1.254	97605287	16855503	22374	55935	753	1.59(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	23.121	23.124	0	1.001	314768565	52838286	88608	221520	596		
341.8567	23.121	23.124	0	1.001	199457651	33977833	61167	152917	555	1.58(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	24.485	24.488	0	1.330	159231466	25548972	39133	97832	653		
353.8970	24.485	24.488	0	1.330	98900026	16231081	22374	55935	725	1.61(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	24.512	24.512	0	1.001	346904091	53860636	88608	221520	608		
341.8567	24.512	24.512	0	1.001	221176601	33722372	61167	152917	551	1.57(1.32-1.78)	
A F1 PeCDFs											
339.8597	20.637						2292	5730			
341.8567	20.637						7947	19867			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.666	23.899	-14	1.025	7234407	1237610	88608	221520	14		
341.8567	23.666	23.899	-14	1.025	4631814	744077	61167	152917	12	1.56(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	25.235	25.238	0	1.370	100316941	15322953	16074	40185	953		
369.8919	25.235	25.238	0	1.370	61066560	9385882	11690	29225	803	1.64(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	25.262	25.265	0	1.001	214180722	31487894	17646	44115	1784		
357.8516	25.262	25.265	0	1.001	134069370	19967680	8060	20150	2477	1.60(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	24.123						17646	44115			
357.8516	24.123						8060	20150			
13C-1,2,3,4,7,8-HxCDF											
383.8639	31.058	31.051	0	0.955	63483256	13904438	27681	69202	502		
385.8610	31.058	31.051	0	0.955	124362142	27550372	43405	108512	635	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	31.071	31.068	0	1.000	265839934	61146447	92922	232305	658		
375.8178	31.071	31.068	0	1.000	213852685	49022738	85875	214687	571	1.24(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	31.205	31.201	0	0.960	70204373	15845366	27681	69202	572		
385.8610	31.205	31.201	0	0.960	137508946	31429354	43405	108512	724	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	31.231	31.224	0	1.001	282695535	62413716	92922	232305	672		
375.8178	31.218	31.224	0	1.000	225656370	49870592	85875	214687	581	1.25(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.924	31.923	0	0.982	64359571	17494429	27681	69202	632		
385.8610	31.924	31.923	0	0.982	124445255	33790751	43405	108512	778	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.937	31.943	0	1.000	268267778	71103914	92922	232305	765		
375.8178	31.937	31.943	0	1.000	215815782	58408869	85875	214687	680	1.24(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.682	32.676	0	1.005	56960730	16704760	27681	69202	603		
385.8610	32.682	32.676	0	1.005	112004847	32790517	43405	108512	755	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.696	32.692	0	1.000	229904633	66857411	92922	232305	720		
375.8178	32.696	32.692	0	1.000	184881913	53379015	85875	214687	622	1.24(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.845						92922	232305			
375.8178	30.845						85875	214687			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.509	32.499	1		103676605	29367879	36346	90865	808		
403.8529	32.509	32.499	1		82104168	23381618	25282	63205	925	1.26(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	32.097	32.093	0	0.987	85749915	25357903	36346	90865	698		
403.8529	32.097	32.093	0	0.987	67034533	20037909	25282	63205	793	1.28(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	32.110	32.110	0	1.000	178879576	51819990	62141	155352	834		
391.8127	32.110	32.110	0	1.000	148466102	43158761	29554	73885	1460	1.20(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.203	32.193	1	0.991	93123035	25349565	36346	90865	697		
403.8529	32.190	32.193	0	0.990	73541936	20279951	25282	63205	802	1.27(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	32.216	32.210	0	1.000	199272975	54639752	62141	155352	879		
391.8127	32.203	32.210	0	1.000	162762099	45332865	29554	73885	1534	1.22(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.523	32.516	0	1.013	203524572	58820587	62141	155352	947		
391.8127	32.509	32.516	0	1.013	161558615	45545616	29554	73885	1541	1.26(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	31.471						62141	155352			
391.8127	31.471						29554	73885			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	34.097	34.097	0	1.049	39991019	12974012	41081	102702	316		
419.8220	34.097	34.097	0	1.049	89107654	29352894	64212	160530	457	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.109	34.104	0	1.000	203632058	67875635	170553	426382	398		
409.7789	34.109	34.104	0	1.000	198326725	66253465	153965	384912	430	1.03(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	35.239	35.233	0	1.084	37725890	11239096	41081	102702	274		
419.8220	35.239	35.233	0	1.084	84757501	25487205	64212	160530	397	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.251	35.244	0	1.000	167391270	49015311	170553	426382	287		
409.7789	35.251	35.244	0	1.000	158779454	45891103	153965	384912	298	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.686						170553	426382			
409.7789	34.686						153965	384912			

Report Date: 22-May-2019 11:37:06 Chrom Revision: 2.3 12-May-2019 16:28:34
Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_9.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.935	34.929	0	1.075	63852098	20705089	20822	52055	994		
437.8140	34.935	34.929	0	1.075	60361377	19019422	30079	75197	632	1.06(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.947	34.940	0	1.000	138620368	43789914	60091	150227	729		
425.7737	34.935	34.940	0	1.000	130476790	40536425	48474	121185	836	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	35.074						60091	150227			
425.7737	35.074						48474	121185			
13C-OCDD											
469.7779	37.395	37.392	0	1.150	79464321	22162125	21911	54777	1011		
471.7750	37.395	37.392	0	1.150	88193052	24670891	22850	57125	1080	0.90(0.76-1.02)	
OCDF											
441.7428	37.503	37.500	0	1.003	237735495	66167098	43276	108190	1529		
443.7399	37.503	37.500	0	1.003	256833910	70315607	48116	120290	1461	0.93(0.76-1.02)	
OCDD											
457.7377	37.407	37.401	0	1.000	183627219	50335536	32571	81427	1545		
459.7348	37.407	37.401	0	1.000	204577707	57305248	38275	95687	1497	0.90(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNIC_00038 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_9.d
Lims ID: ICV
Client ID: ICV
Inject. Date: 21-May-2019 18:16:13 Dil. Factor: 1.0000
Sample Type: ICV, ICal Verification
Instrument ID: 3D5 Operator: AJS
Lims Batch ID: 296020 Lims Sample ID: 9
Sublist:

Non-2,3,7,8-sub-TCDD, RT: 18.066

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.045	D 13C-2,3,7,8-TCDD	100.000	214726573	48268387

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.045		100.000	214726573	48268387

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
18.520	572897	183752	909934	230675	0.6610	0.63	RQ
18.520	572897	183752	744022	238638	0.5870		Empc Correction
Signal Totals:							
	572897	183752	744022	238638			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1482831	414427				0.63	RQ
	1316919	422390					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.6610 = (1482831 * 100.000) / (214726573 * 1.045)
Empc Amount: 0.5870 = (1316919 * 100.000) / (214726573 * 1.045)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_9.d
Lims ID: ICV
Client ID: ICV
Inject. Date: 21-May-2019 18:16:13 Dil. Factor: 1.0000
Sample Type: ICV, ICal Verification
Instrument ID: 3D5 Operator: AJS
Lims Batch ID: 296020 Lims Sample ID: 9
Sublist:

Non-2,3,7,8-sub-PeCDF, RT: 23.899

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	0.963	D 13C-1,2,3,7,8-PeCDF	100.000	253215229	43571457
2,3,4,7,8-PeCDF	0.950	D 13C-2,3,4,7,8-PeCDF	100.000	258131492	41780053

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.956		100.000	255673360	42675755

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
23.666	7234407	1237610	4631814	744077	4.85	1.56	
Signal Totals:							
	7234407	1237610	4631814	744077			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	11866221	1981687				1.56	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 4.853 = (11866221 * 100.000) / (255673360 * 0.956)

Report Date: 22-May-2019 11:37:06 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_9.d		
Injection Date:	21-May-2019 18:16:13	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
Worklist#:	296020	Sample Line#:	9
Column Type:		Column Dia:	

TCDF

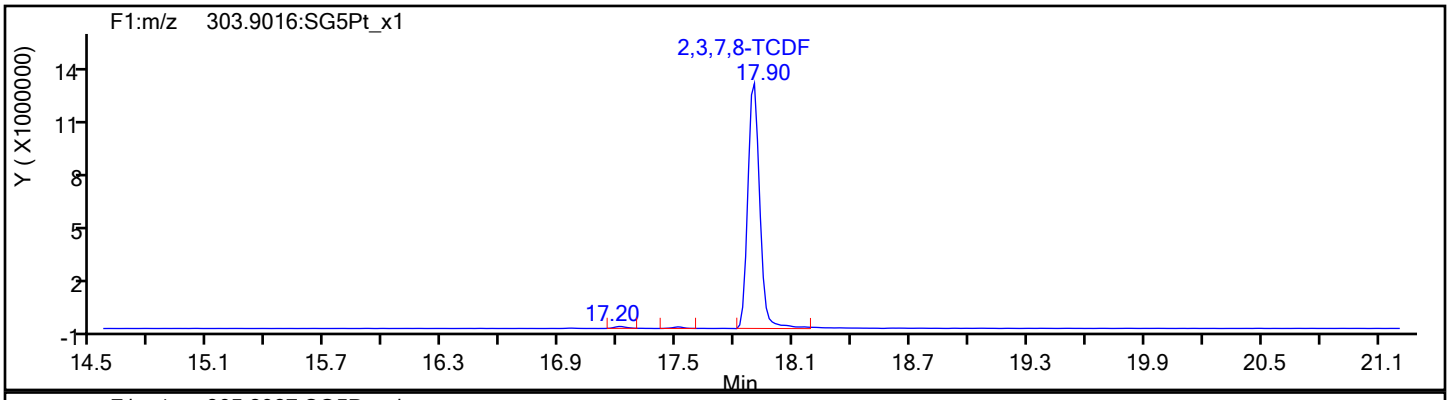

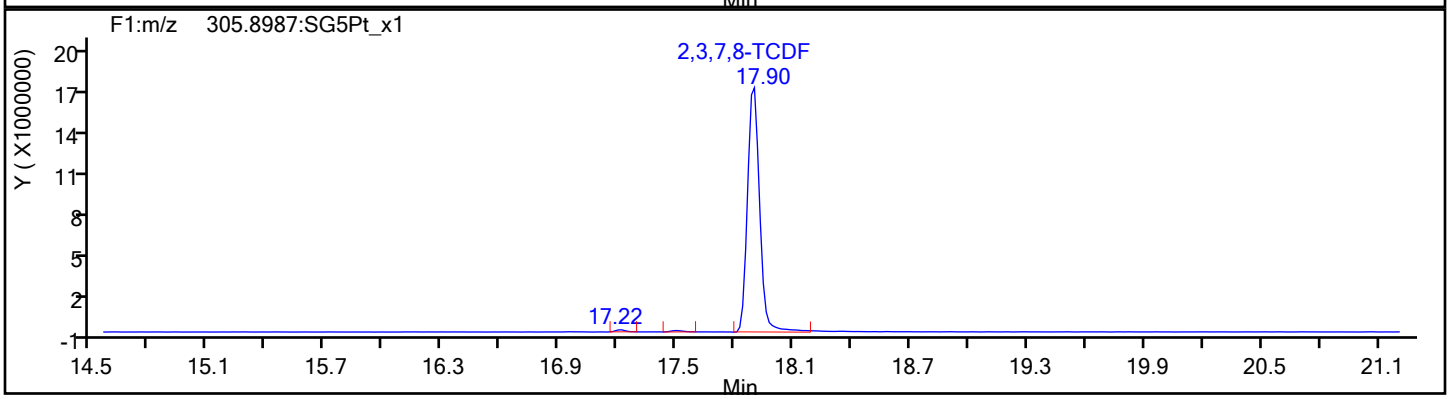

TCDF Standards

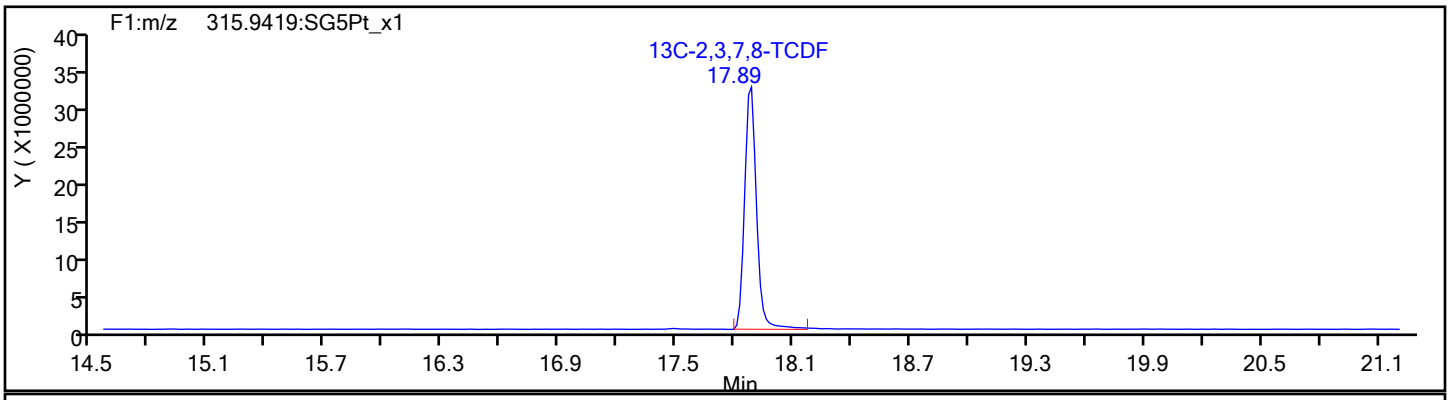

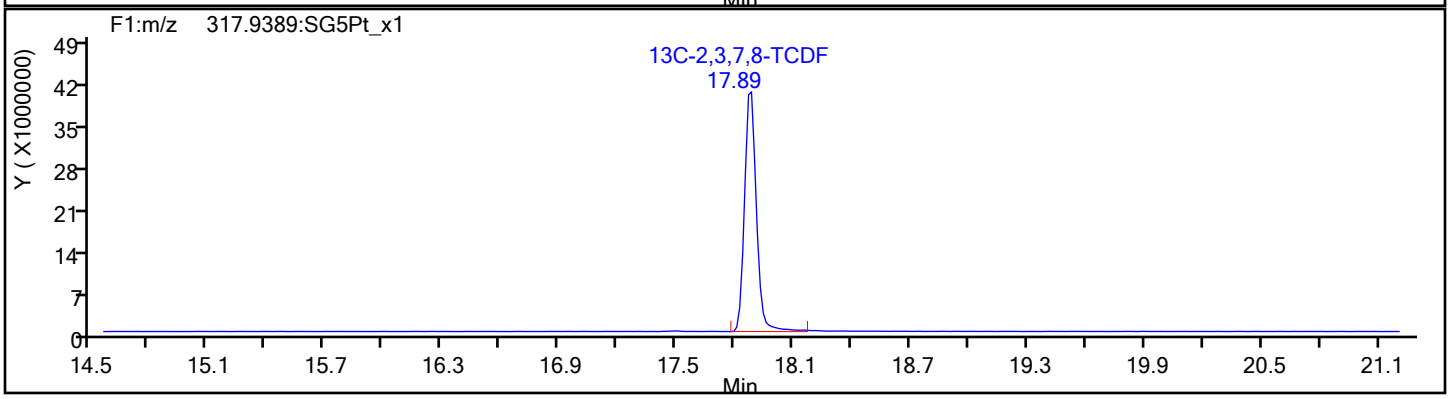

Report Date: 22-May-2019 11:37:06 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_9.d		
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Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
Worklist#:	296020	Sample Line#:	9
Column Type:		Column Dia:	

TCDF

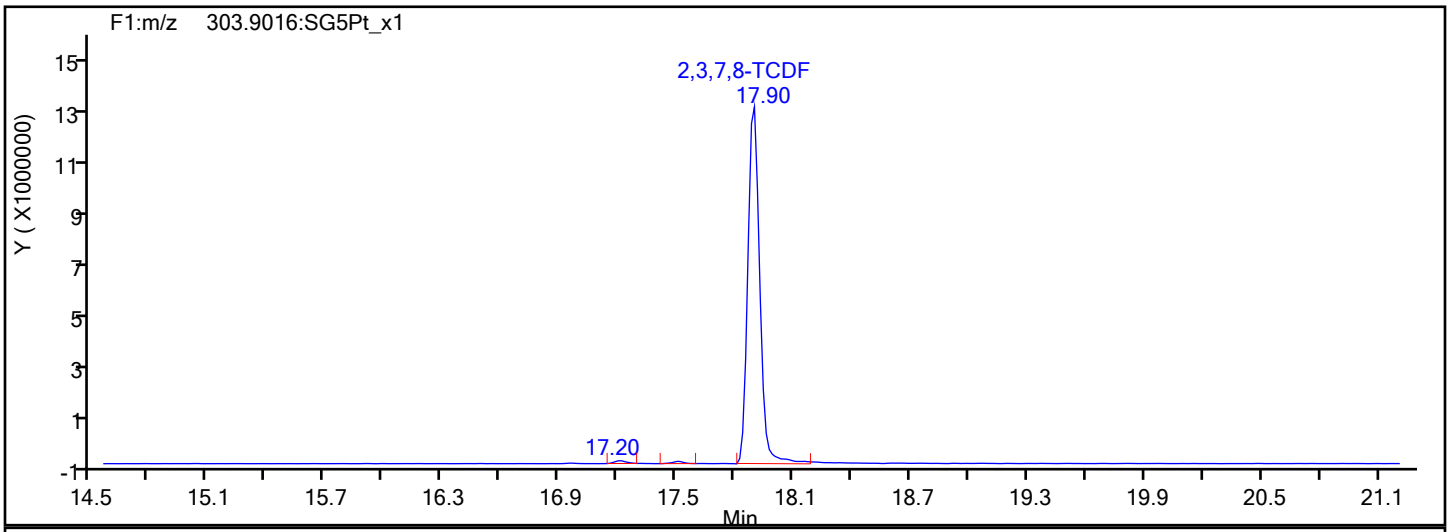

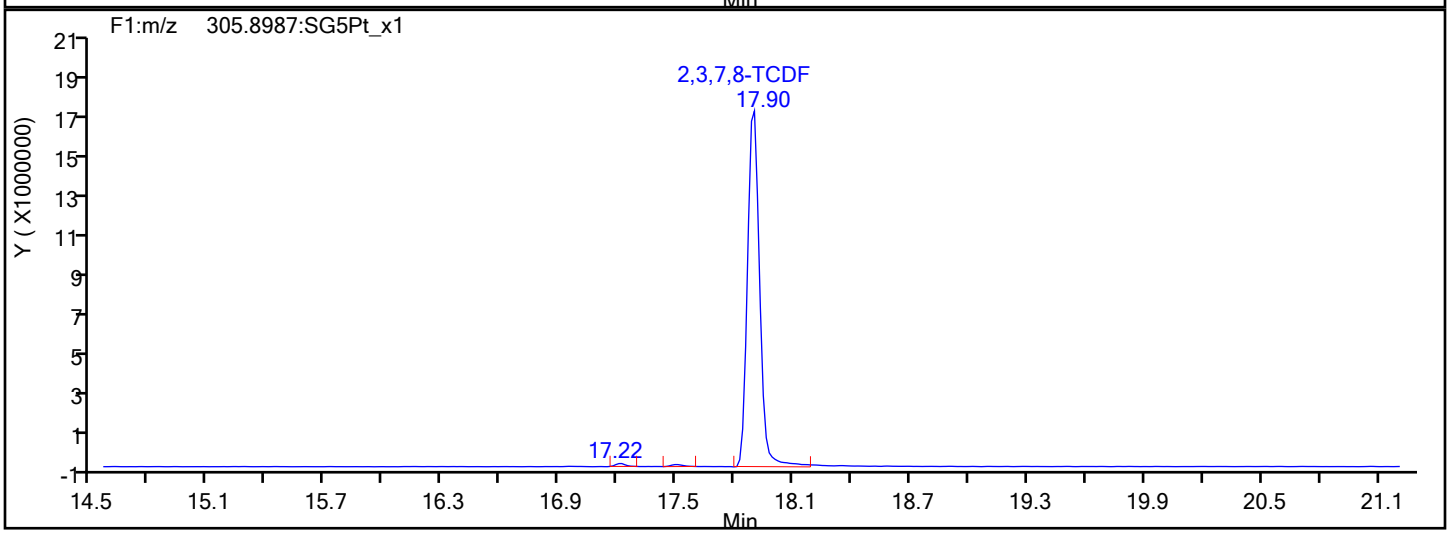

TCDF Interference Mass

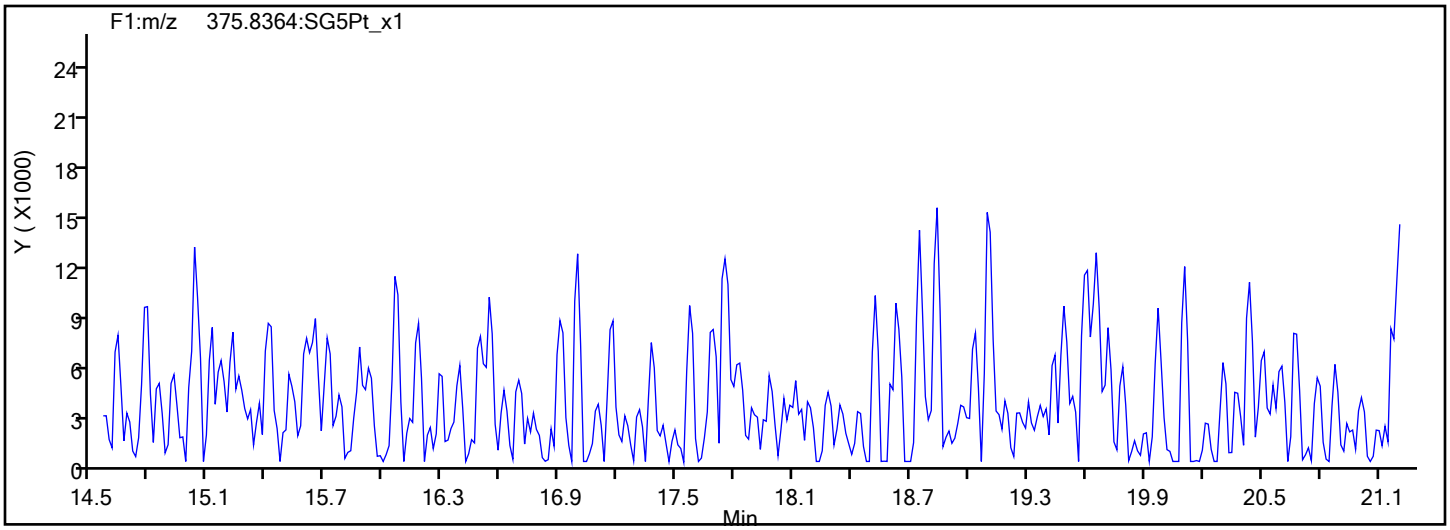

Report Date: 22-May-2019 11:37:06 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_9.d		
Injection Date:	21-May-2019 18:16:13	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
Worklist#:	296020	Sample Line#:	9
Column Type:		Column Dia:	

TCDD

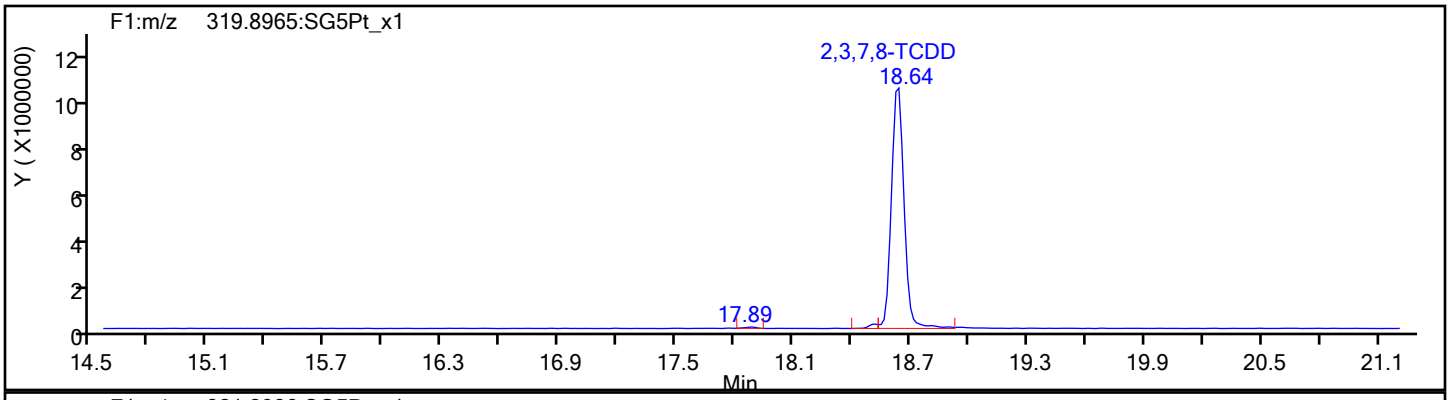

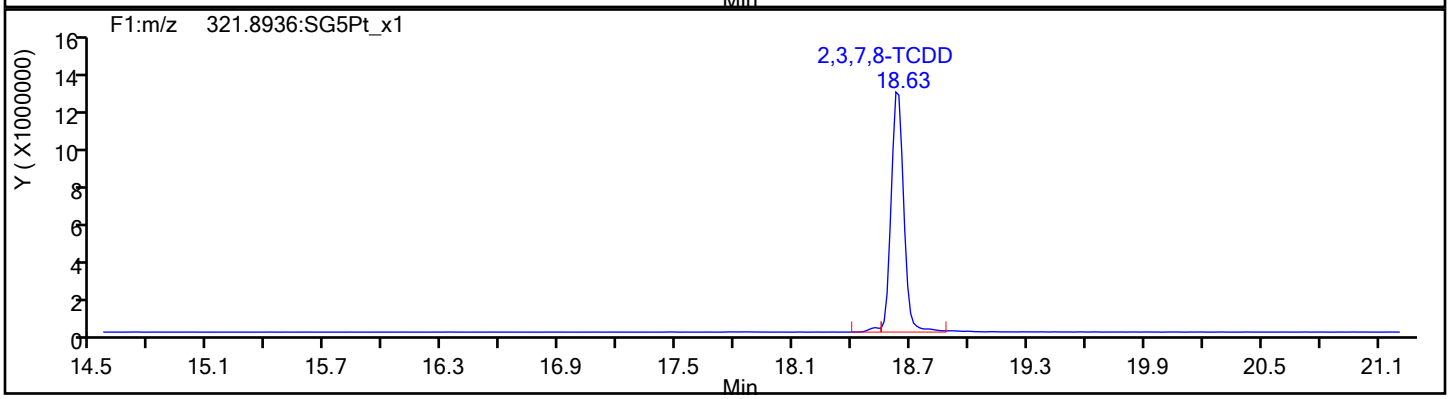

TCDD Standards

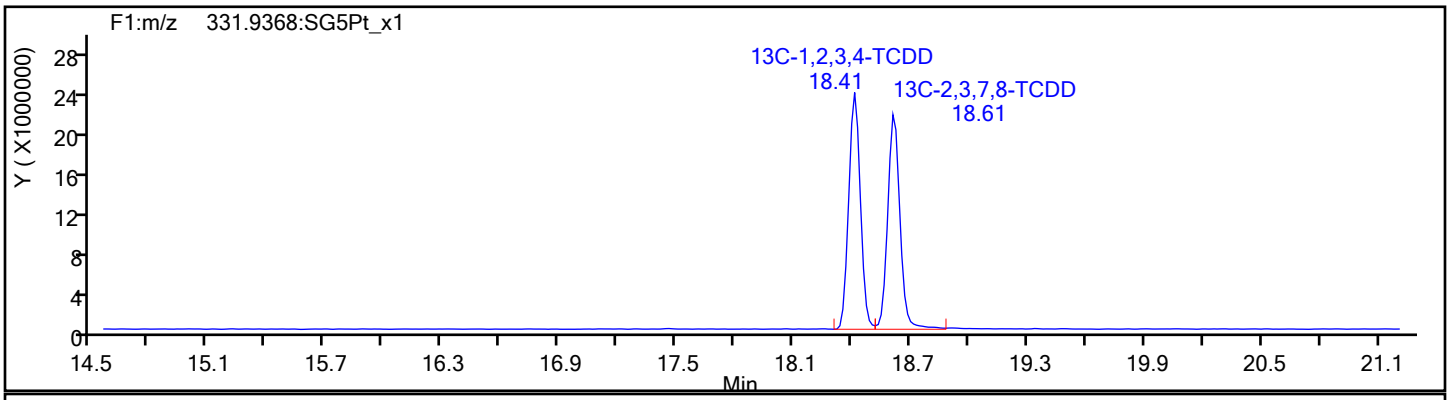

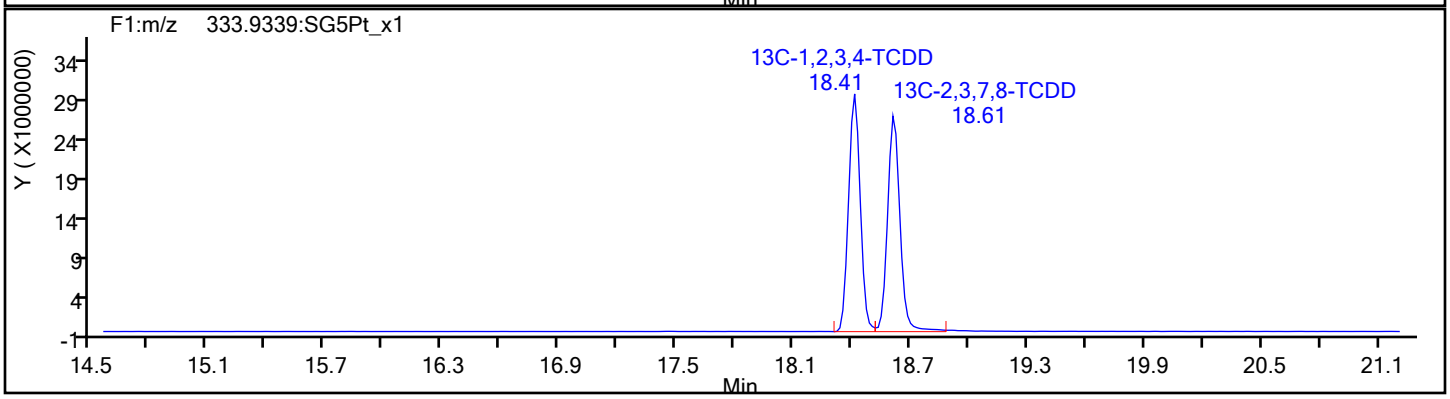

Report Date: 22-May-2019 11:37:06 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_9.d		
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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
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Column Type:		Column Dia:	

37Cl4-TCDD

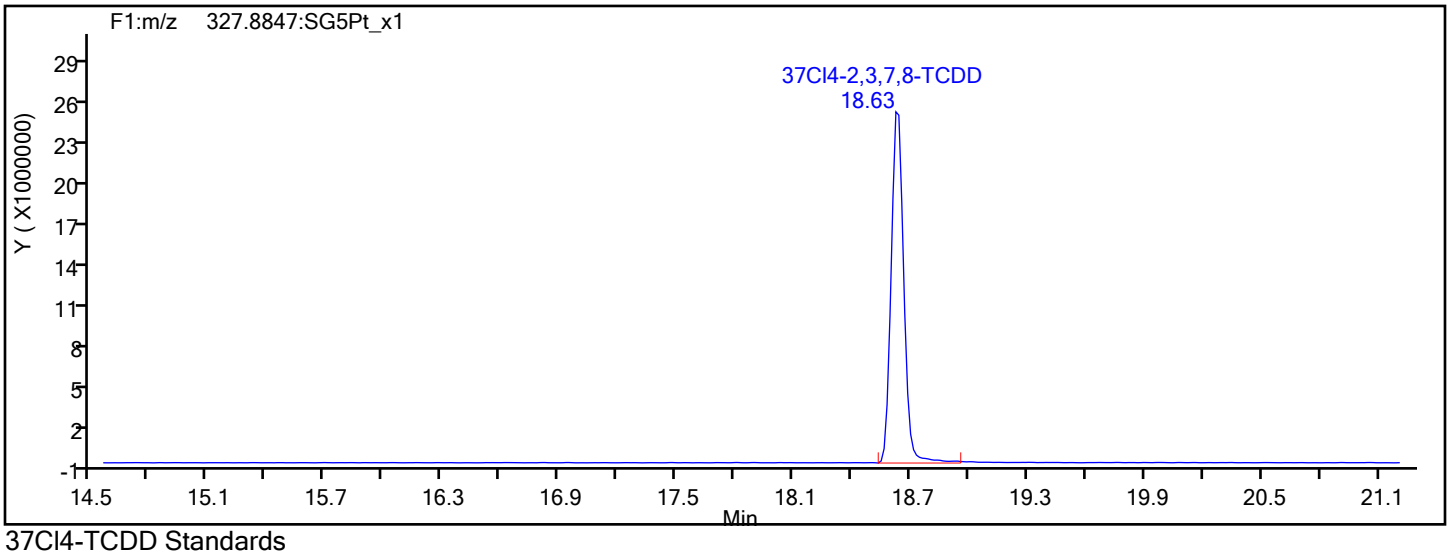

37Cl4-TCDD Standards

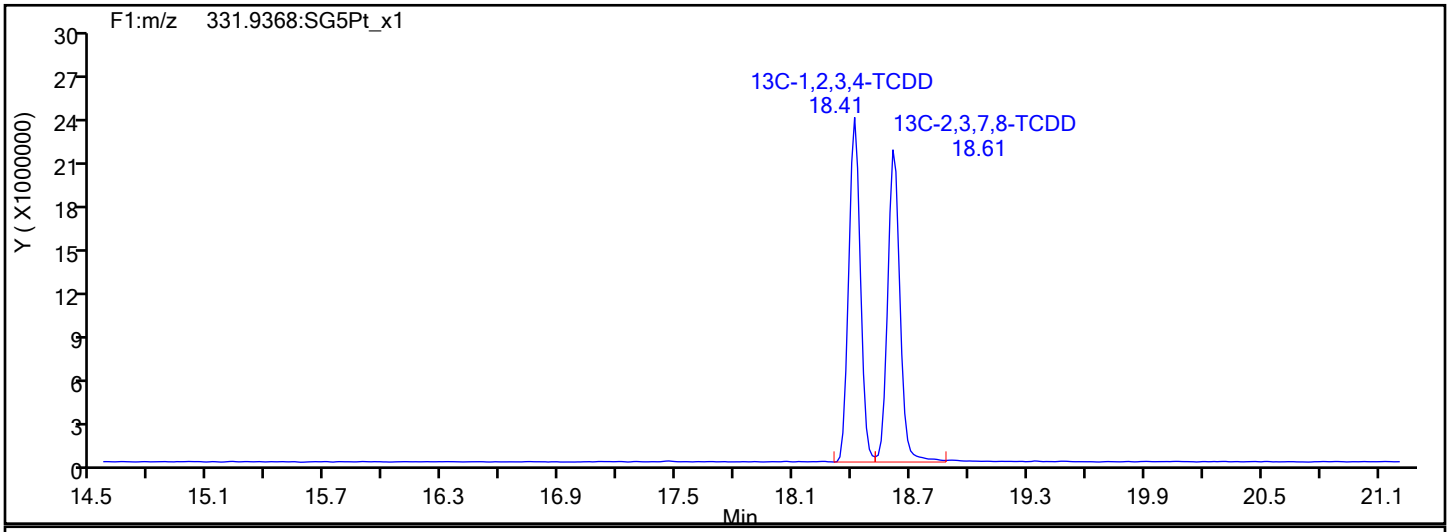

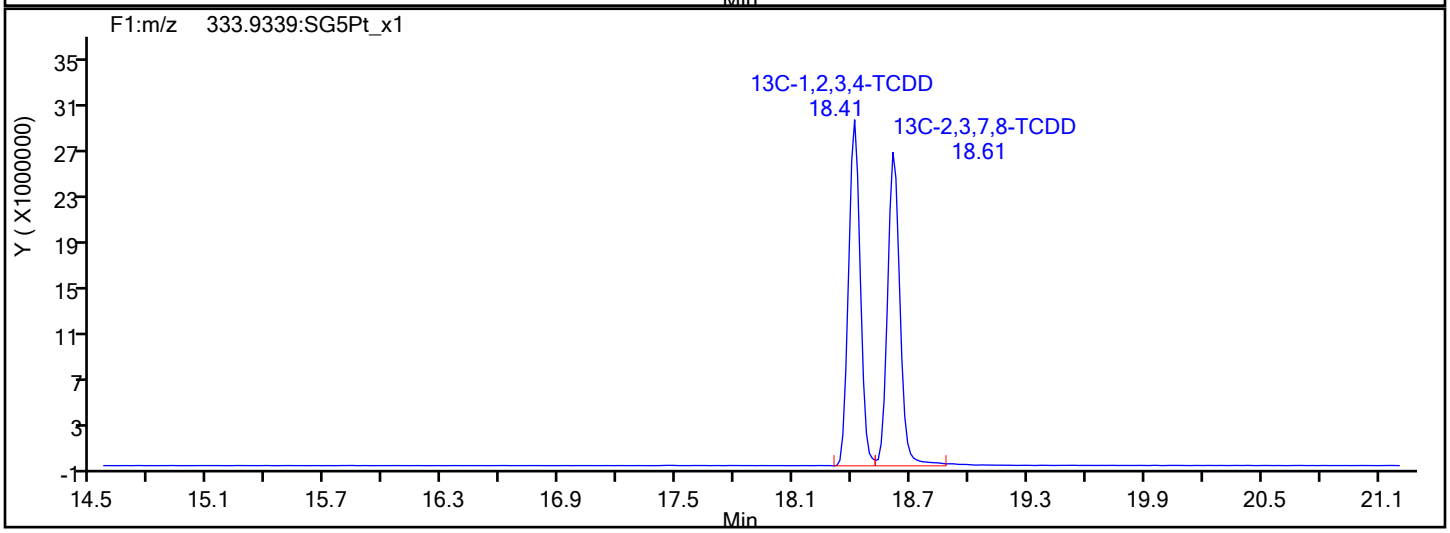

Report Date: 22-May-2019 11:37:06 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
Worklist#:	296020	Sample Line#:	9
Column Type:		Column Dia:	

F1 PeCDFs

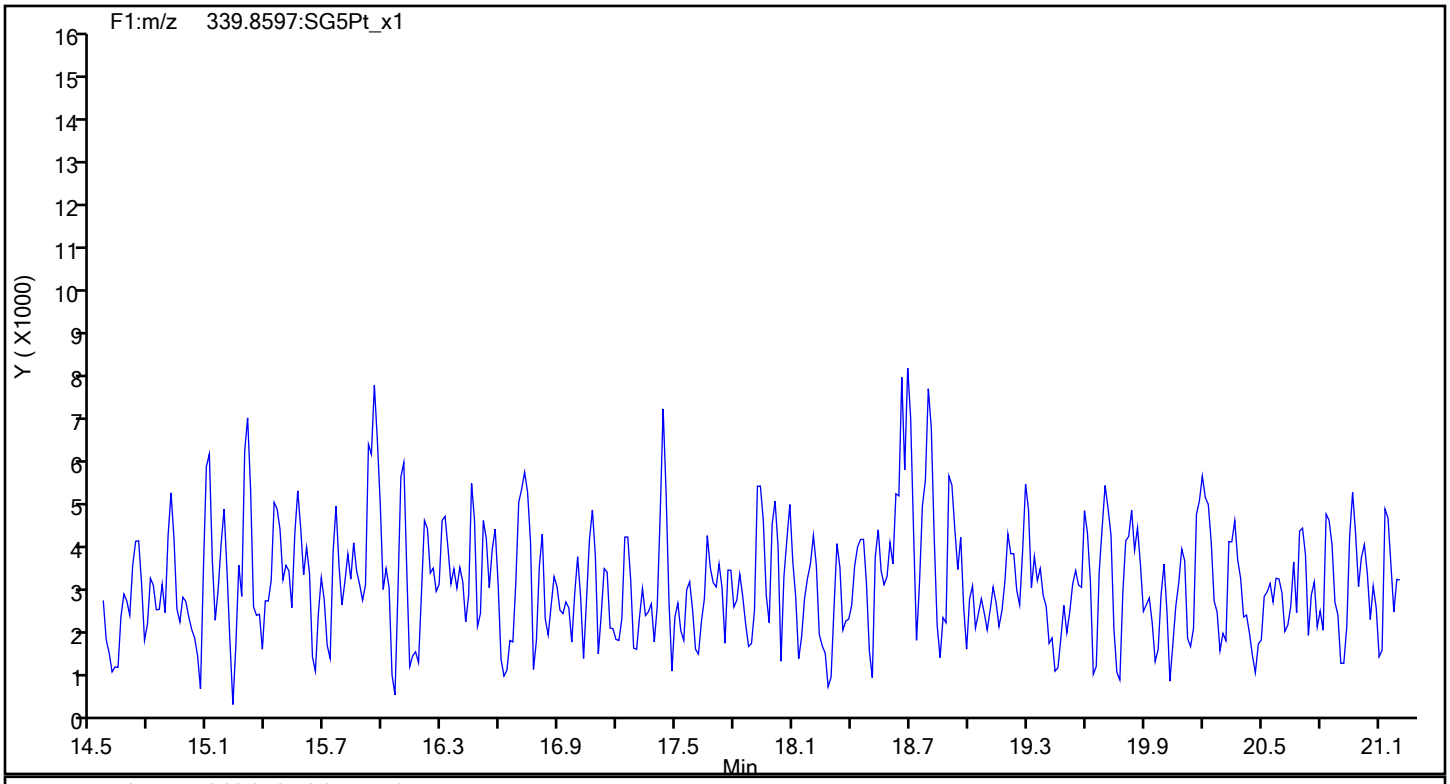

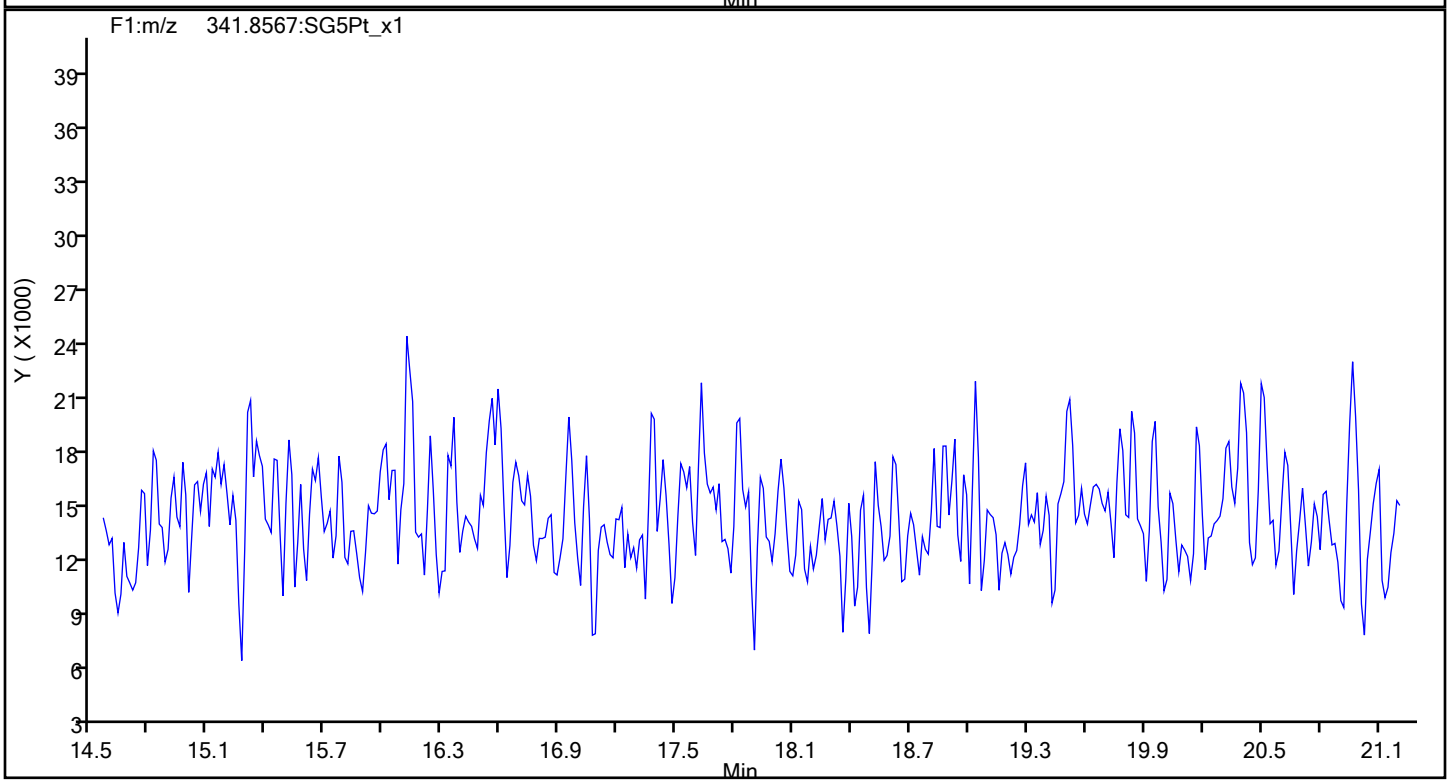

Report Date: 22-May-2019 11:37:06 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_9.d		
Injection Date:	21-May-2019 18:16:13	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
Worklist#:	296020	Sample Line#:	9
Column Type:		Column Dia:	

F1 PeCDFs

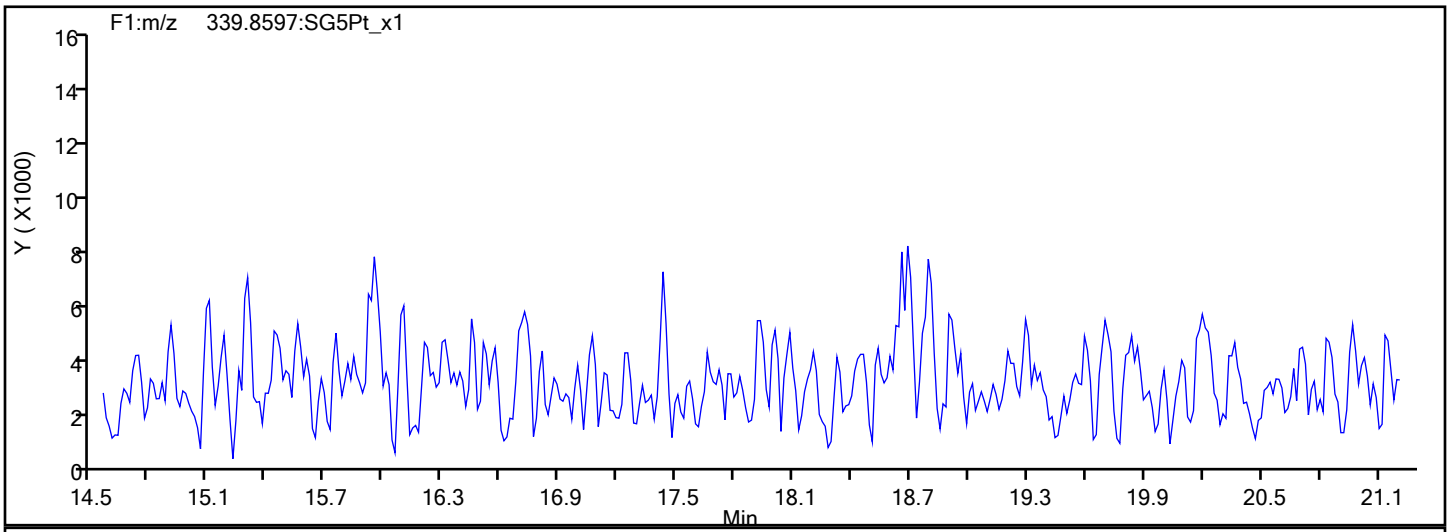

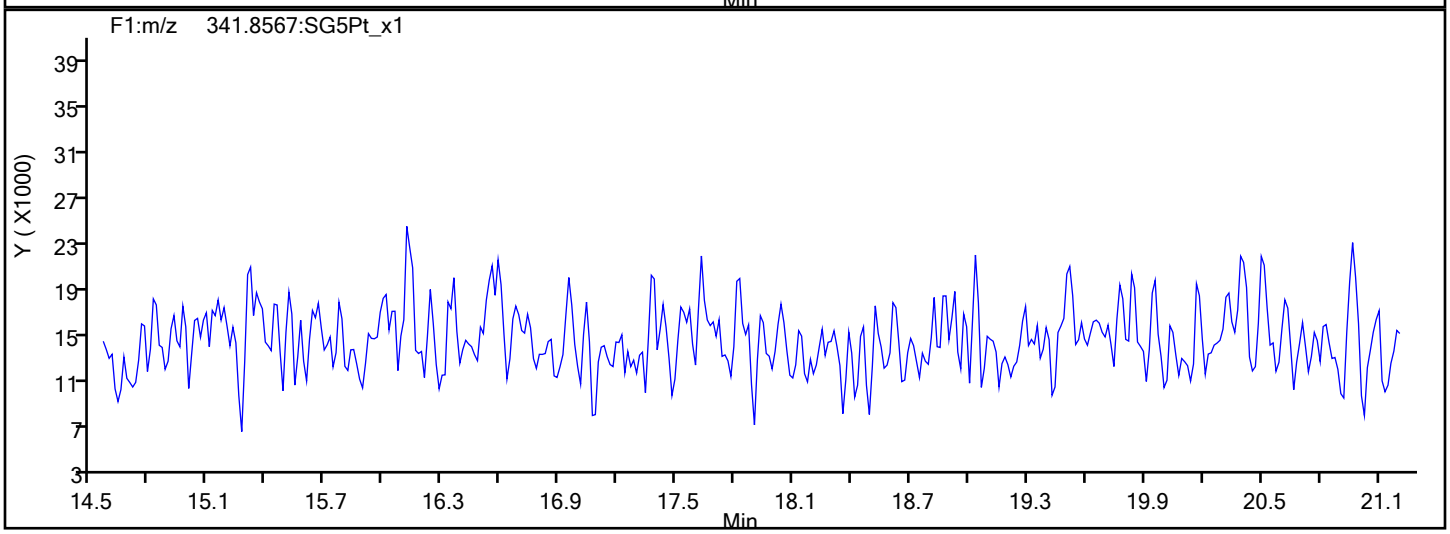

F1 PeCDFs Interference Mass

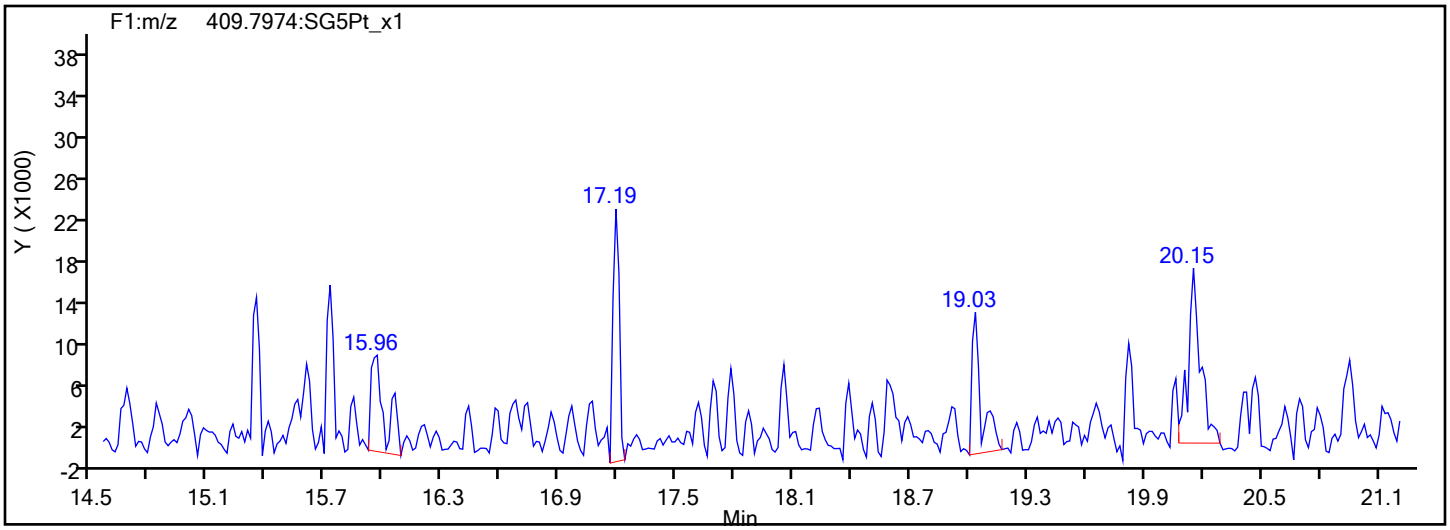

Report Date: 22-May-2019 11:37:07 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_9.d		
Injection Date:	21-May-2019 18:16:13	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
Worklist#:	296020	Sample Line#:	9
Column Type:		Column Dia:	

PeCDF

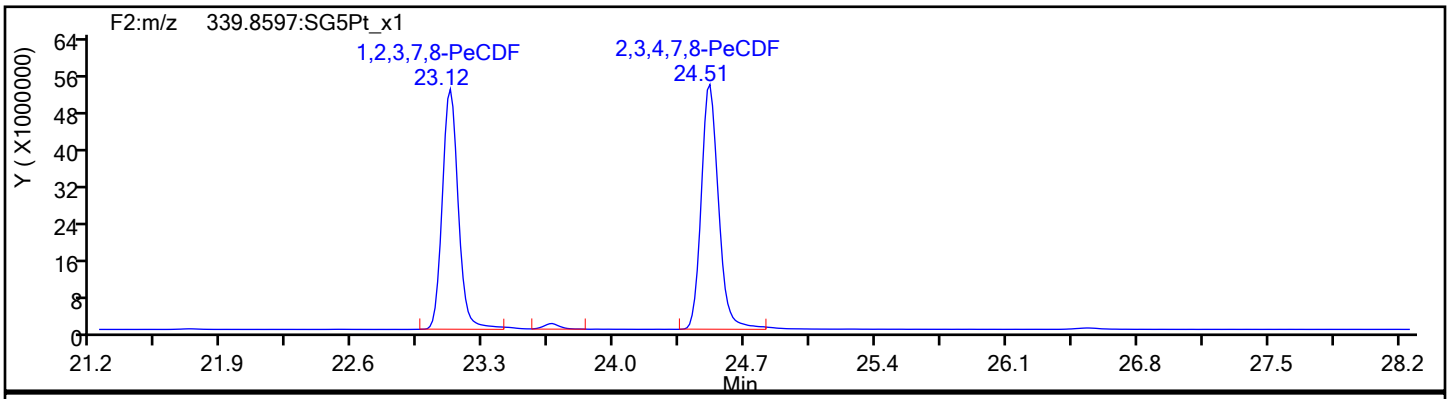

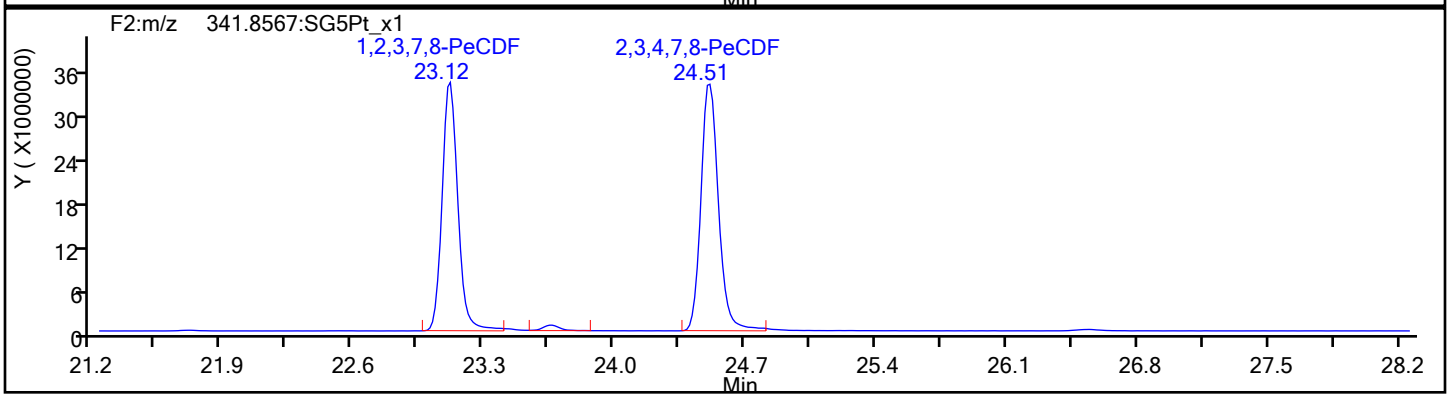

PeCDF Standards

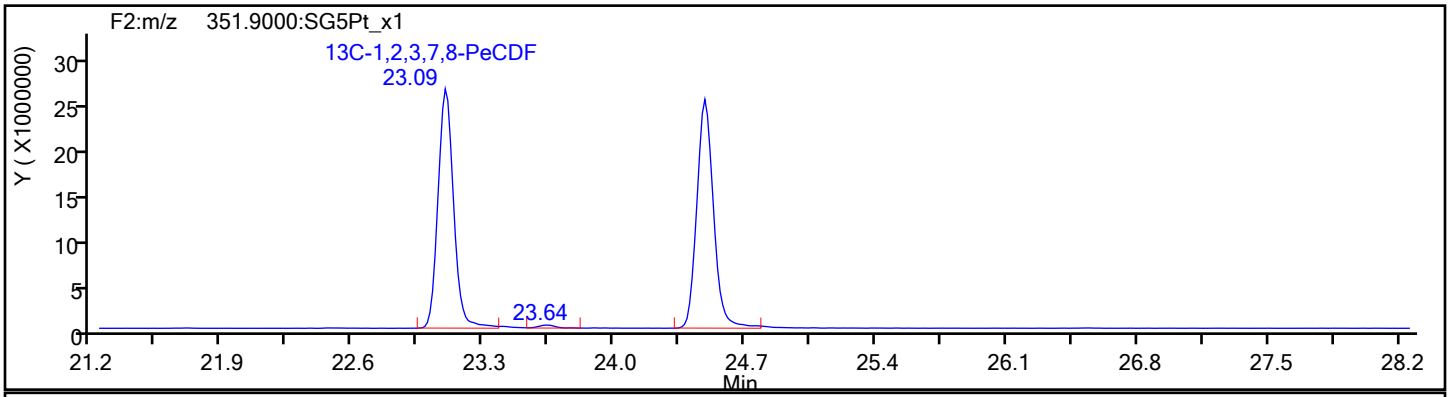

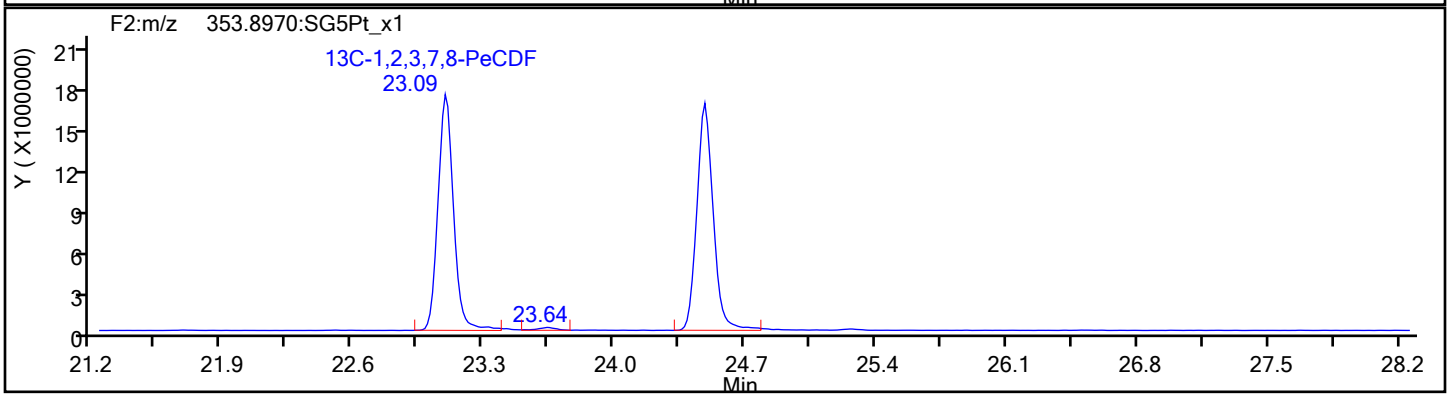

Report Date: 22-May-2019 11:37:07 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_9.d		
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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
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PeCDF

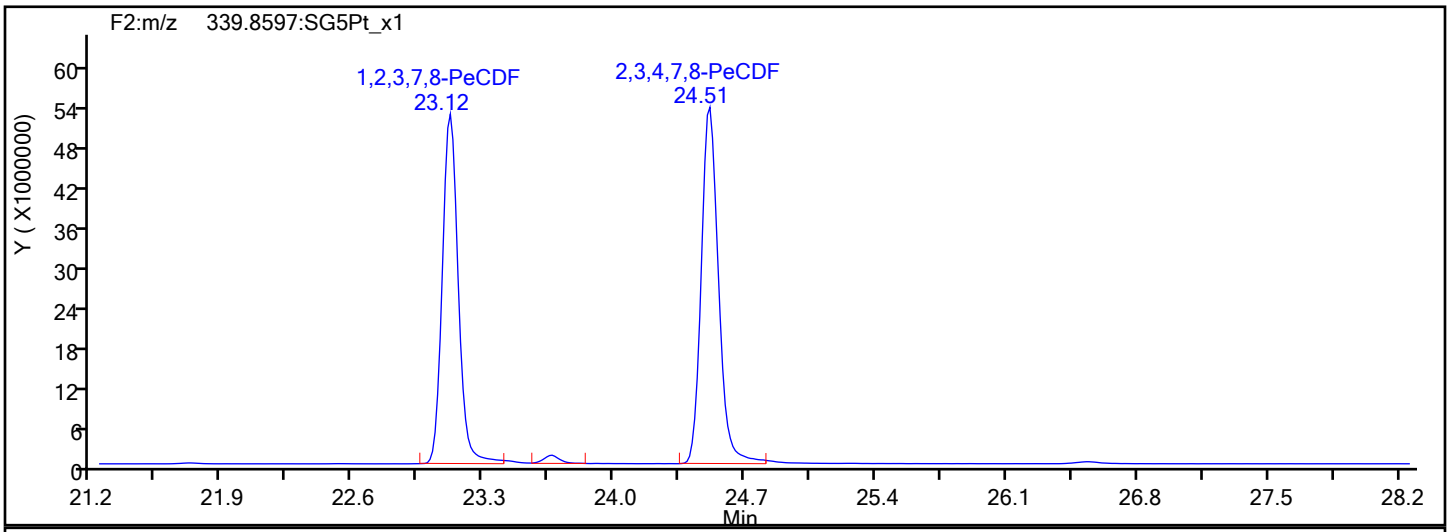

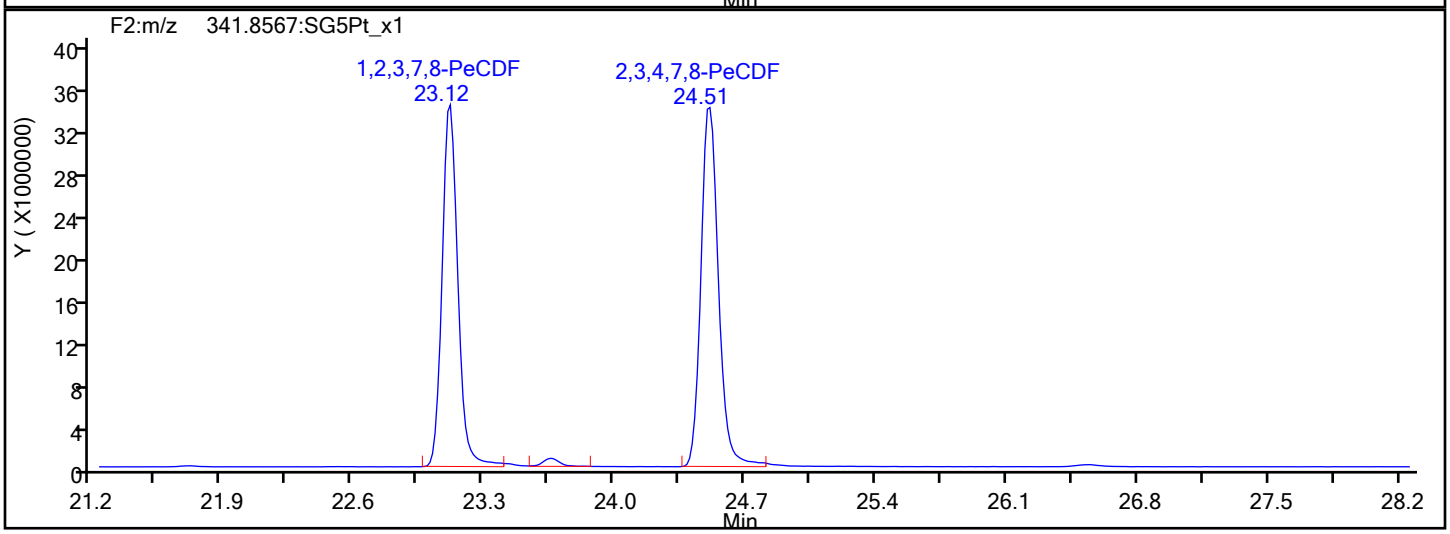

PeCDF Interference Mass

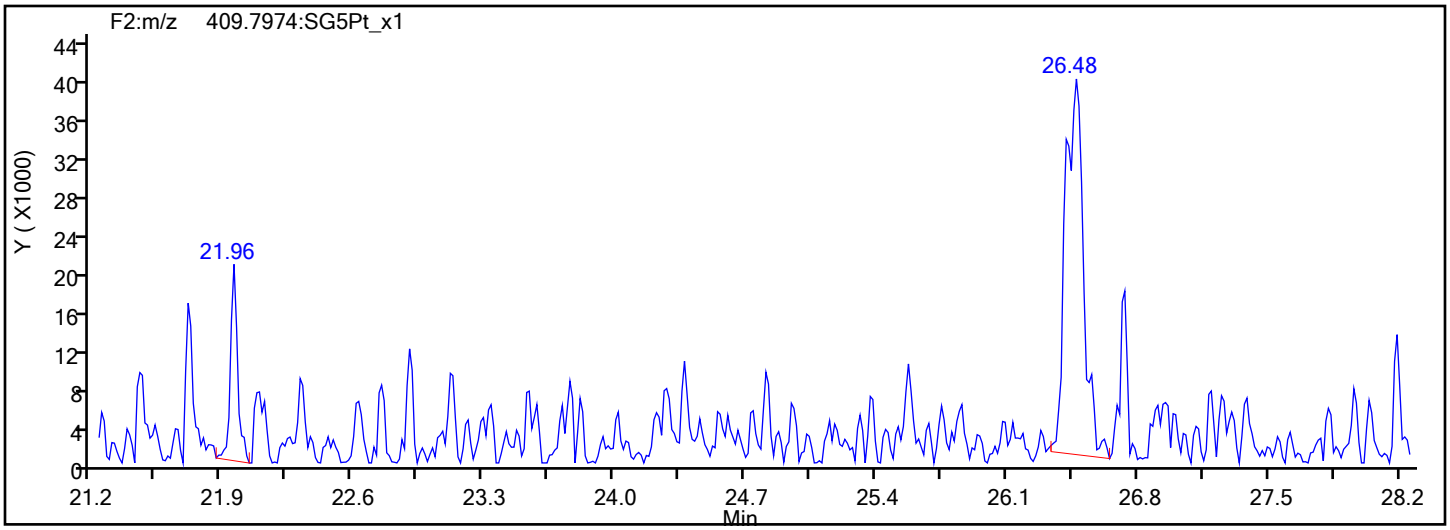

Report Date: 22-May-2019 11:37:07 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_9.d		
Injection Date:	21-May-2019 18:16:13	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
Worklist#:	296020	Sample Line#:	9
Column Type:		Column Dia:	

PeCDD

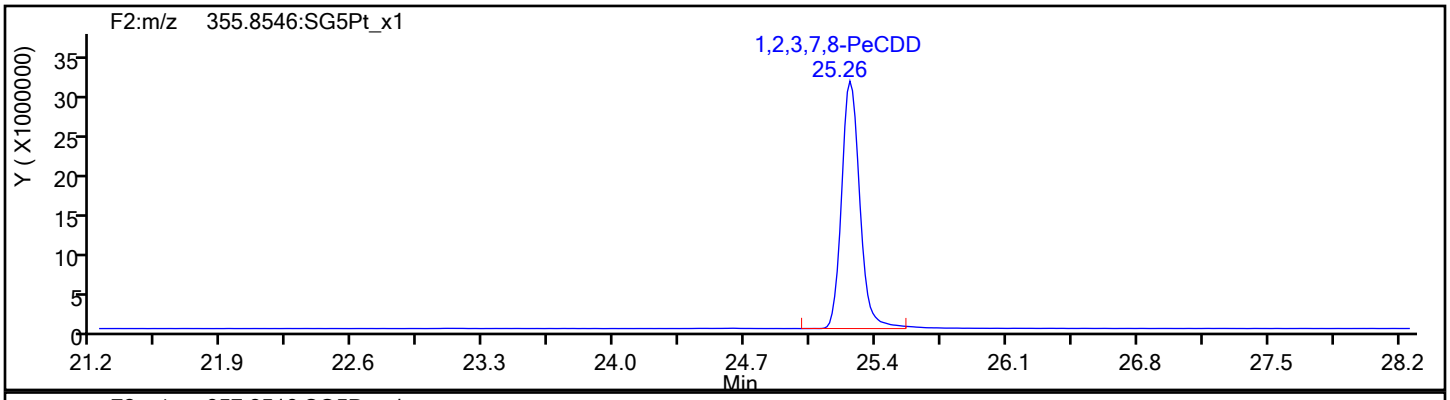

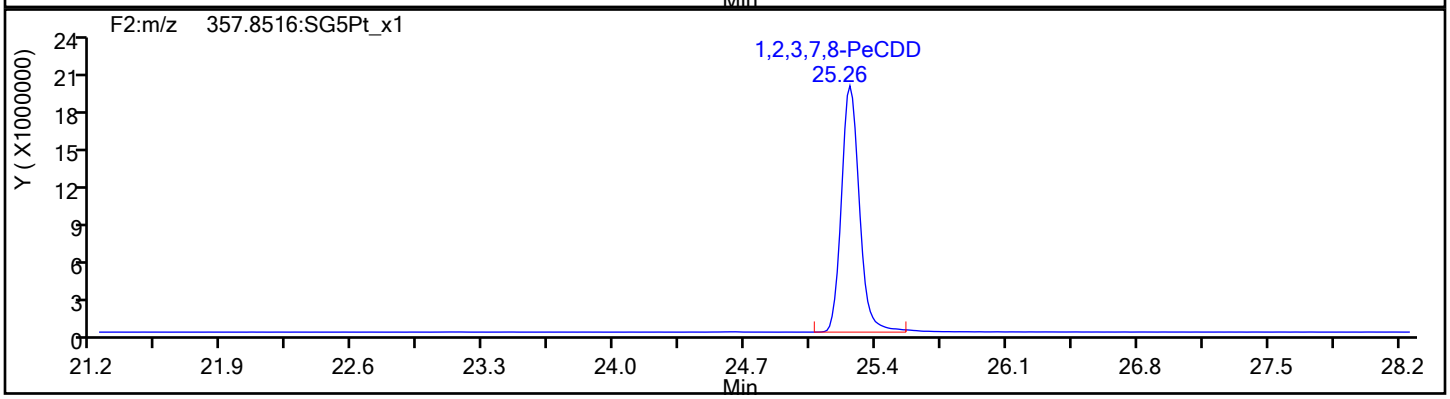

PeCDD Standards

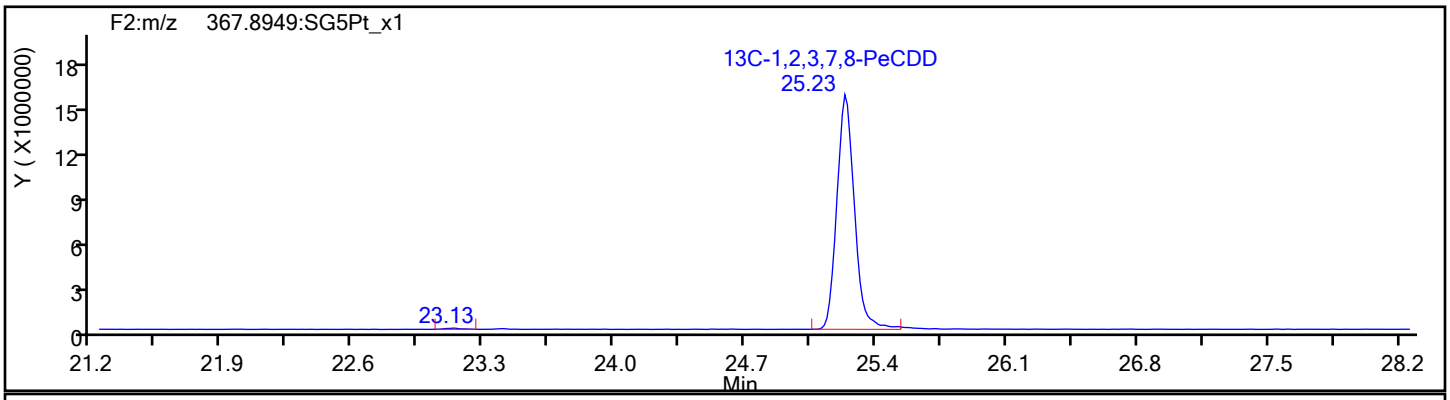

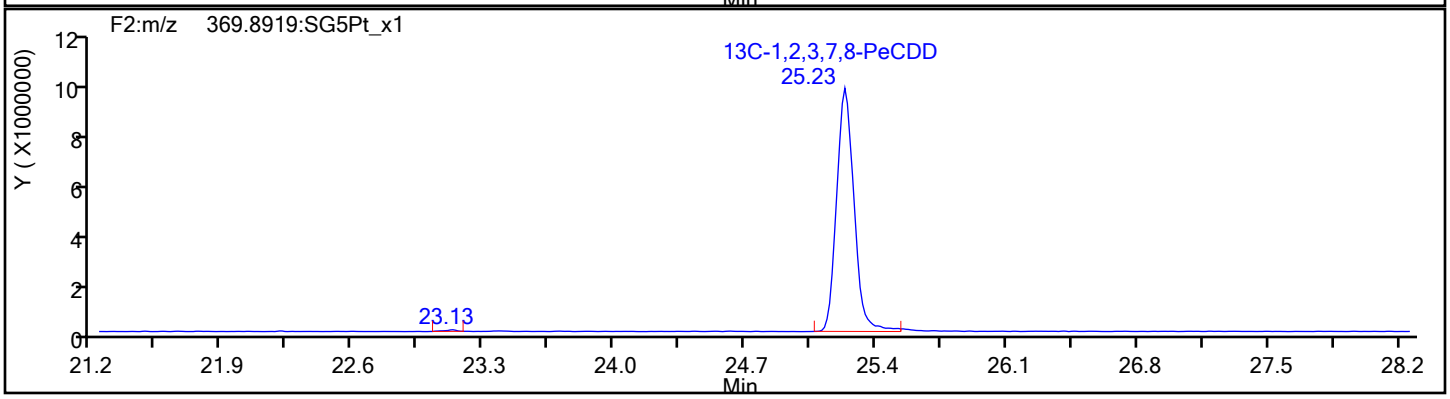

Report Date: 22-May-2019 11:37:07 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_9.d		
Injection Date:	21-May-2019 18:16:13	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
Worklist#:	296020	Sample Line#:	9
Column Type:		Column Dia:	

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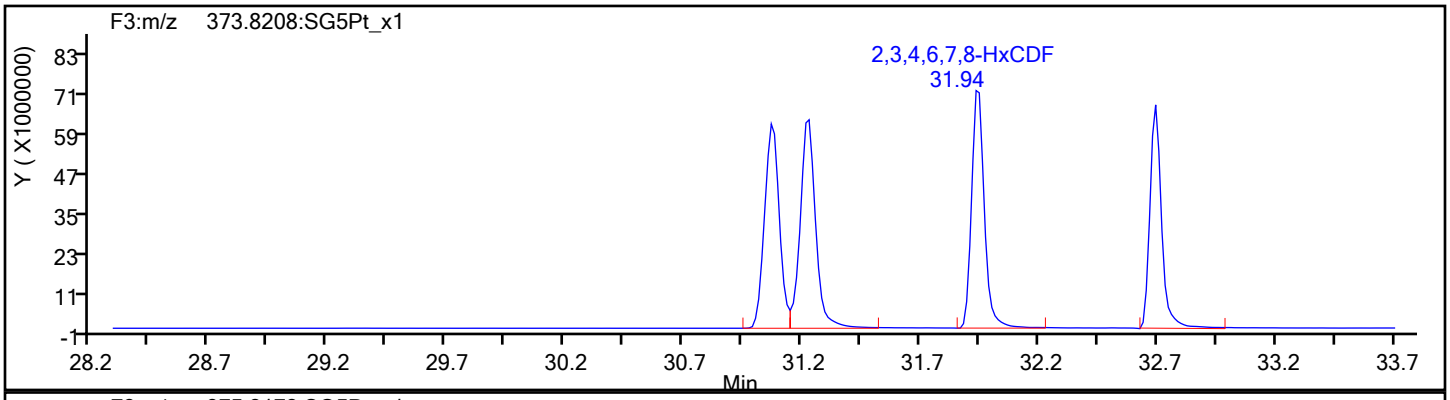

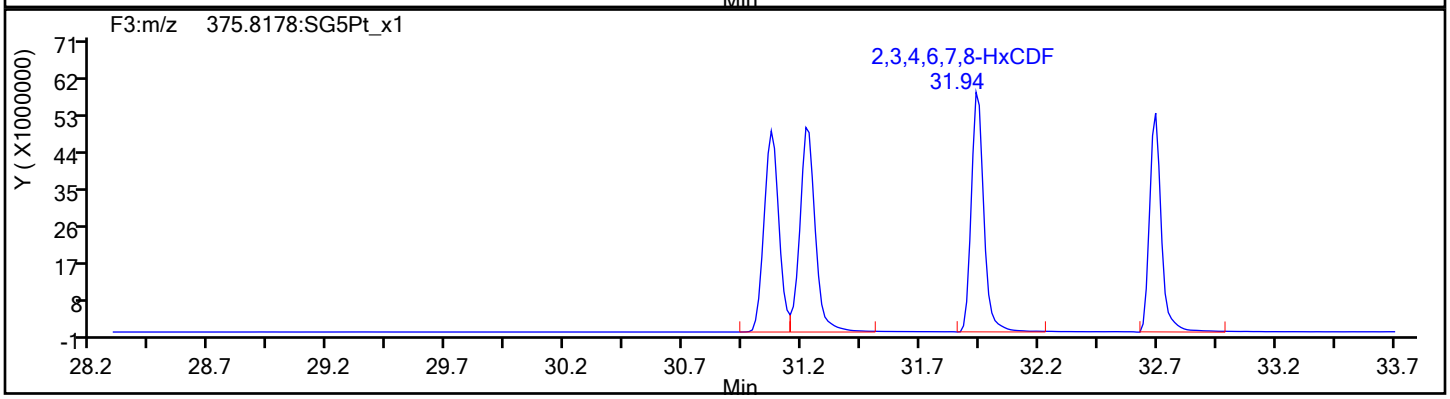

HxCDF Standards

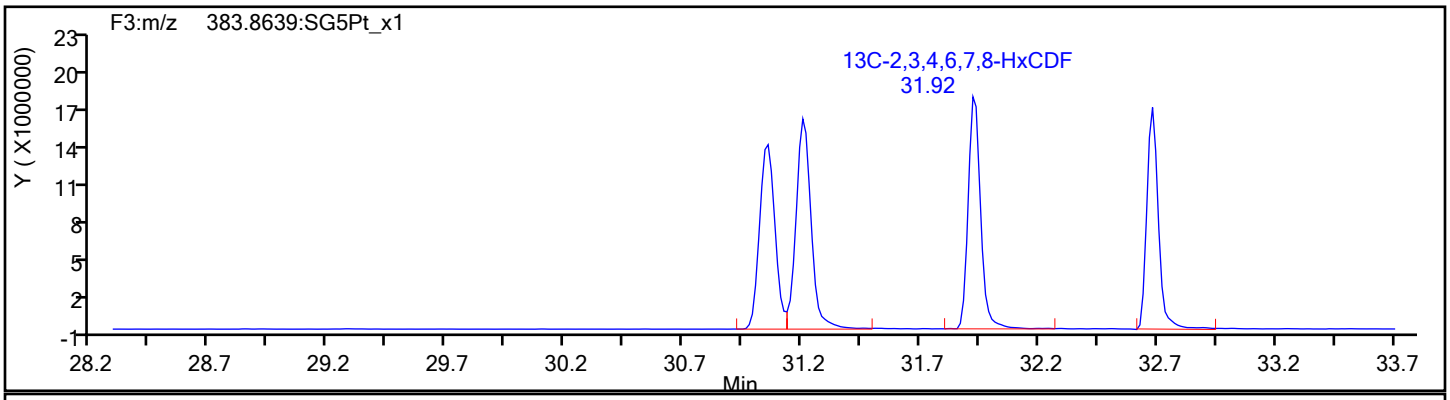

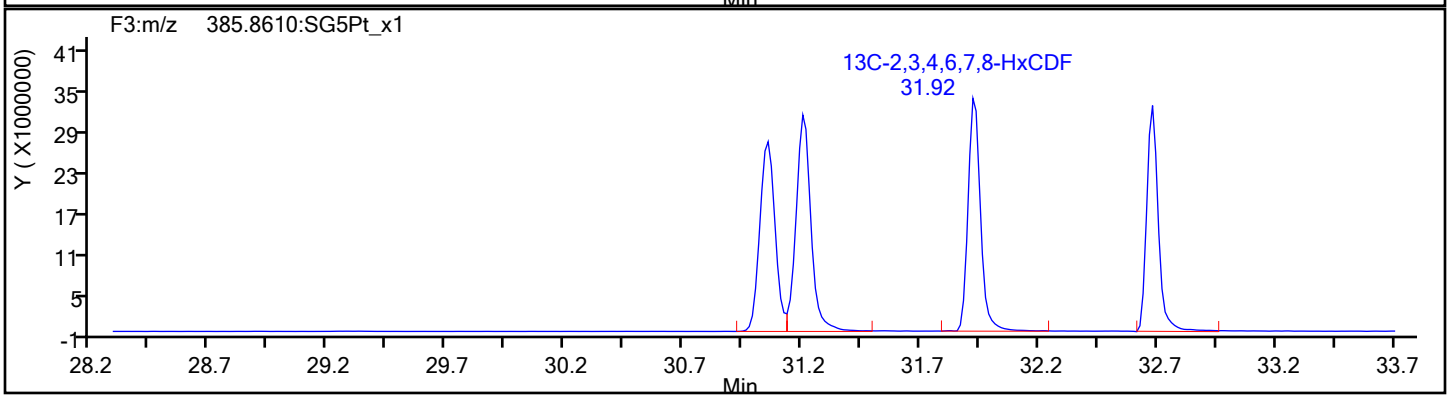

Report Date: 22-May-2019 11:37:07 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
Worklist#:	296020	Sample Line#:	9
Column Type:		Column Dia:	

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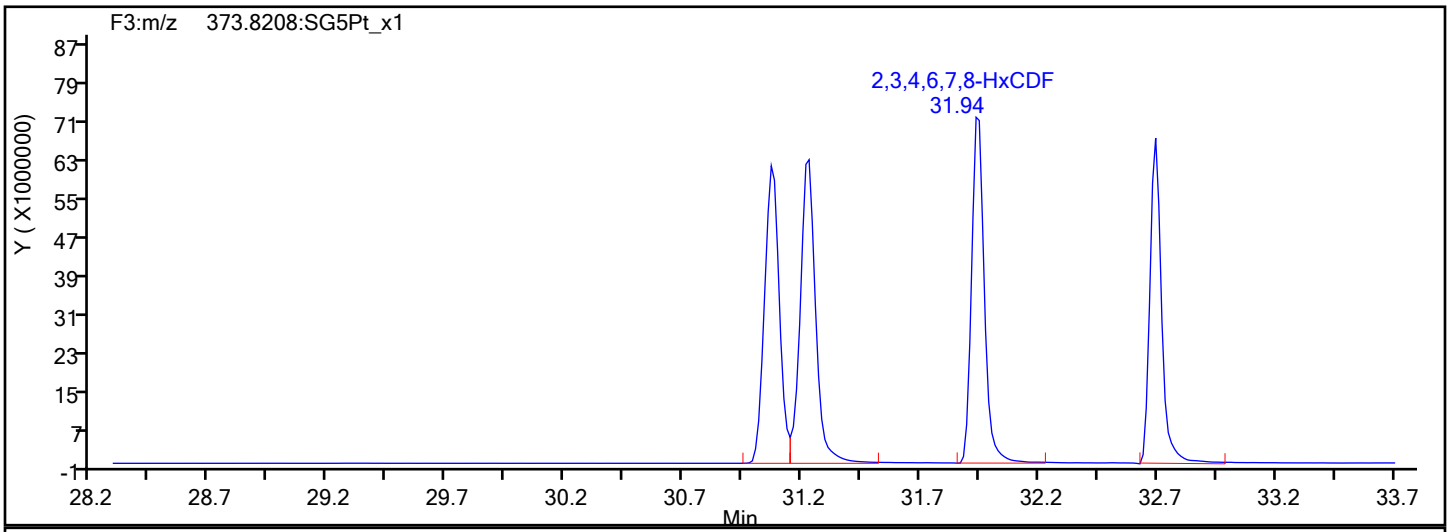

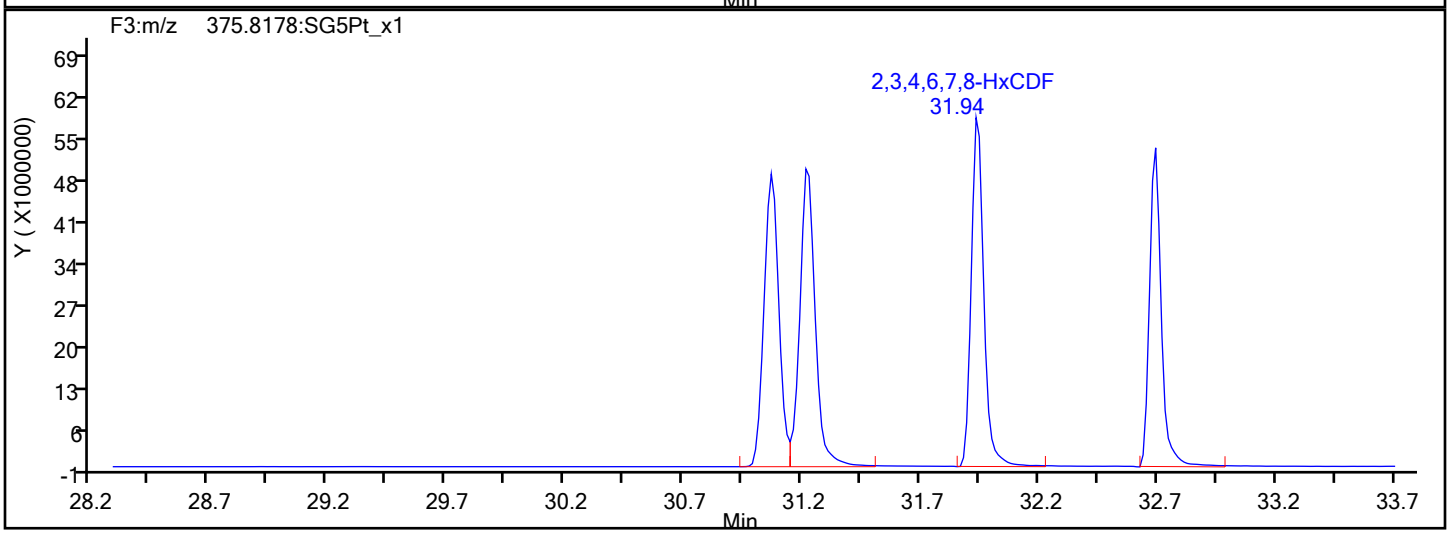

HxCDF Interference Mass

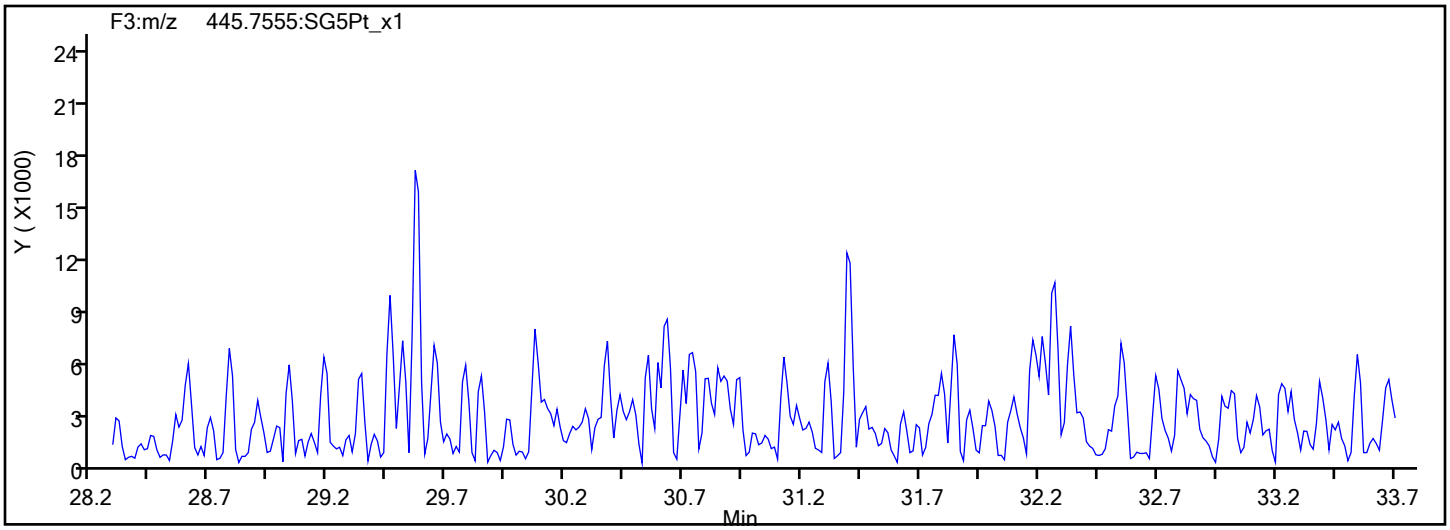

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Eurofins TestAmerica, Sacramento

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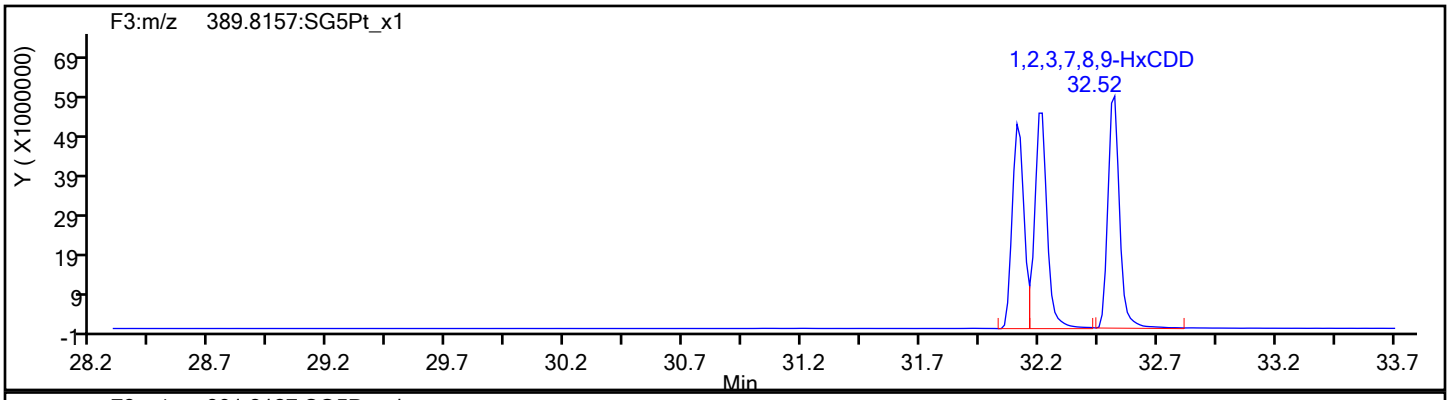

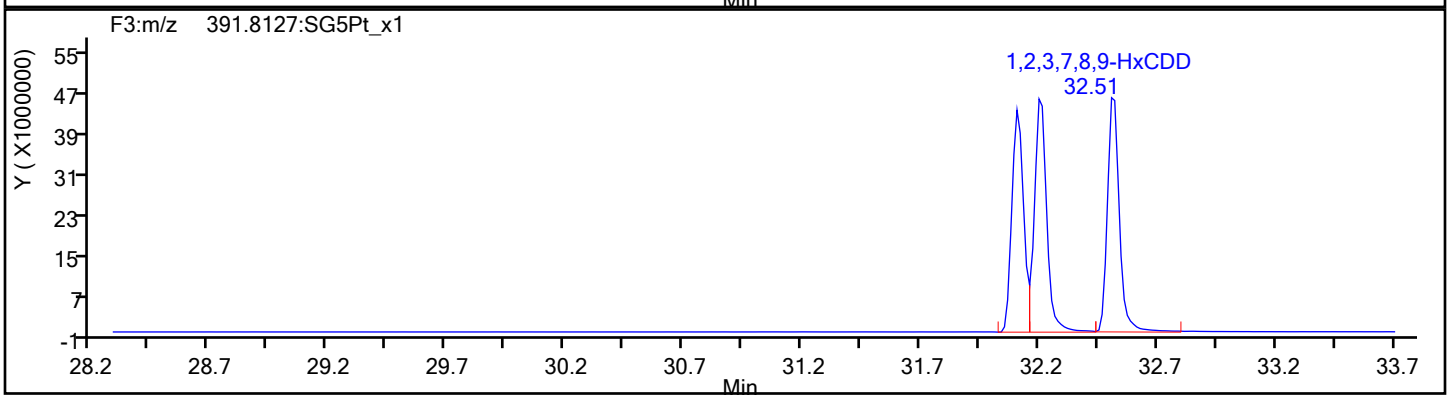

HxCDD Standards

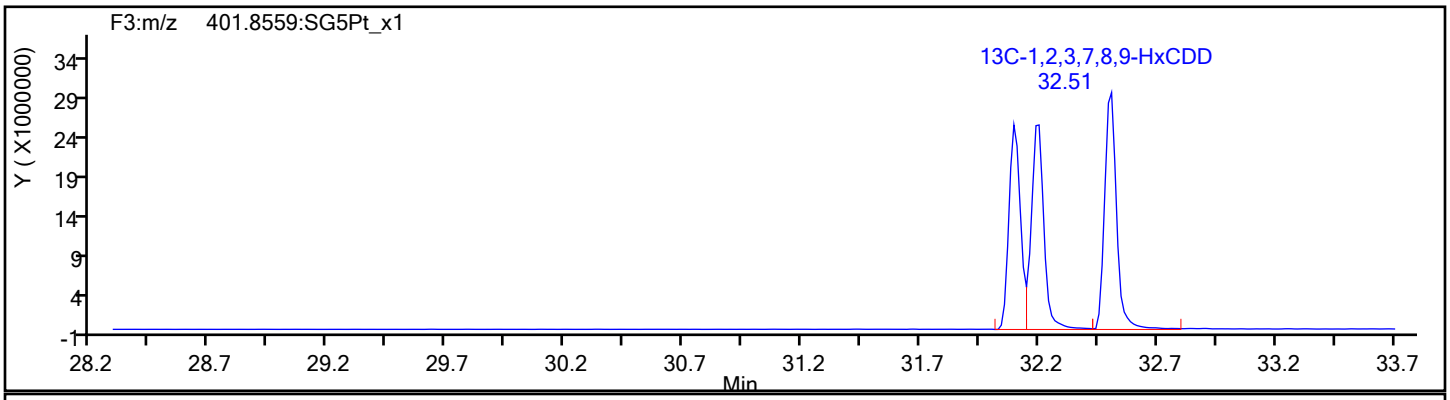

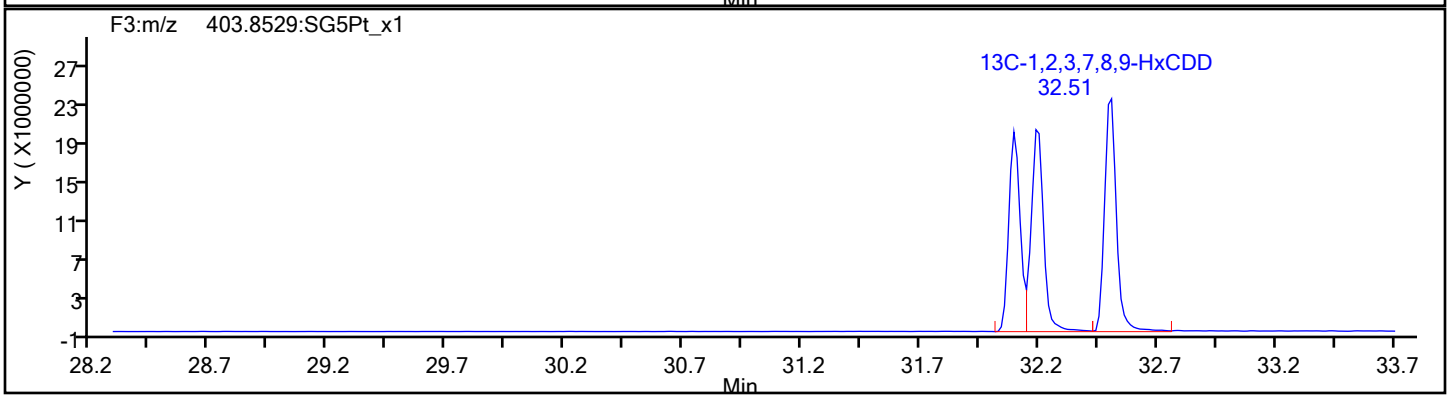

Report Date: 22-May-2019 11:37:07 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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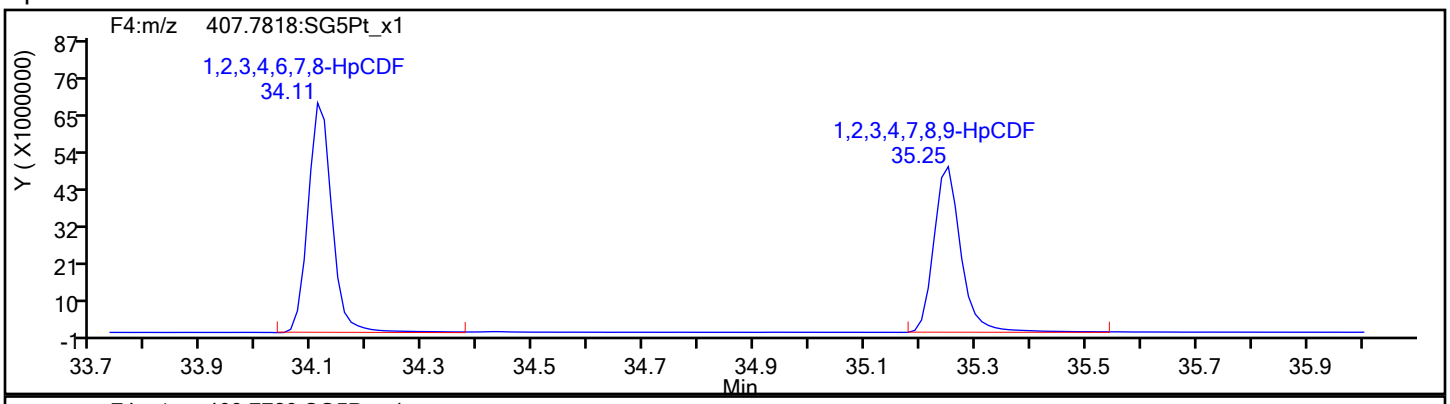

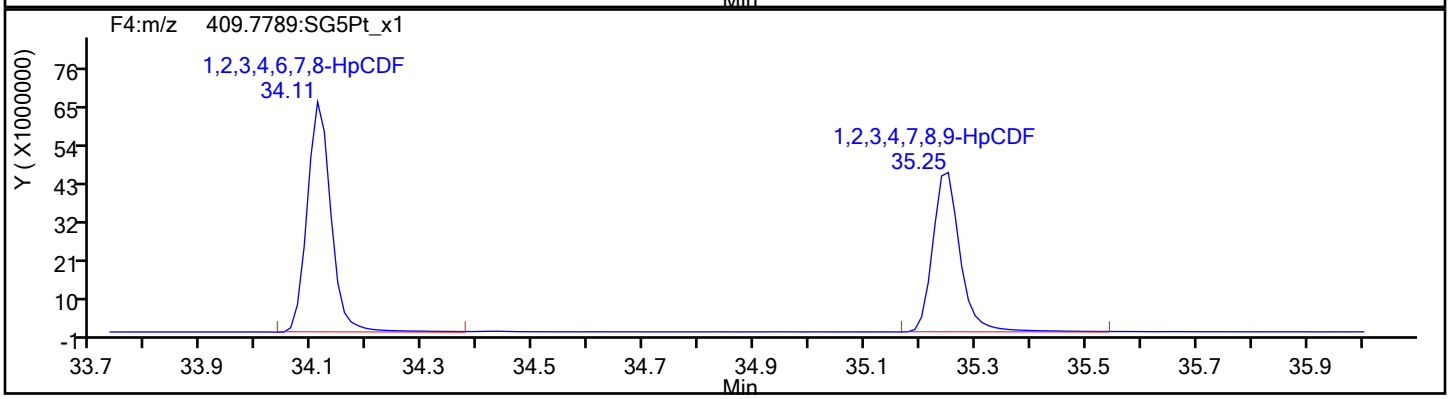

HpCDF Standards

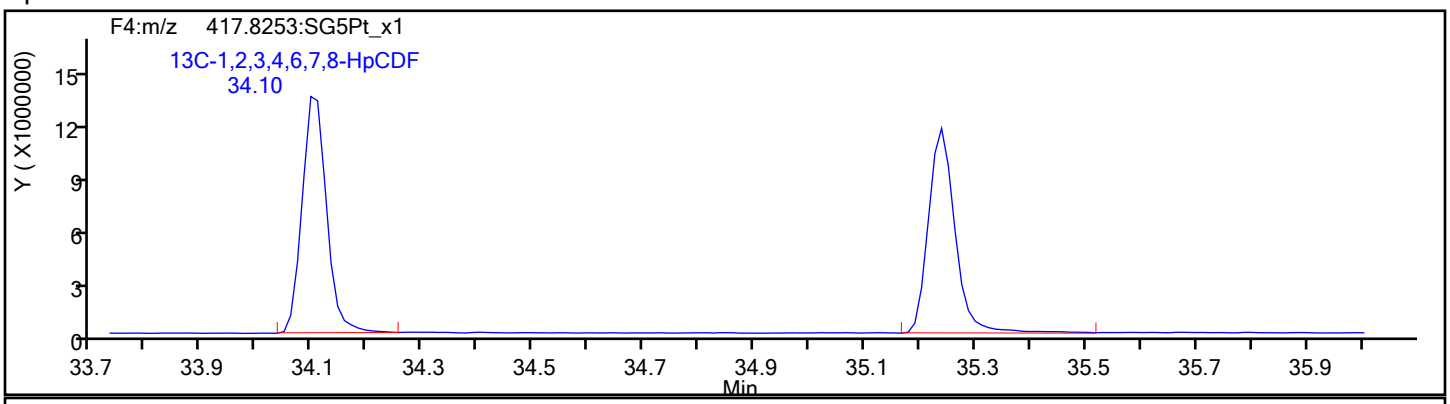

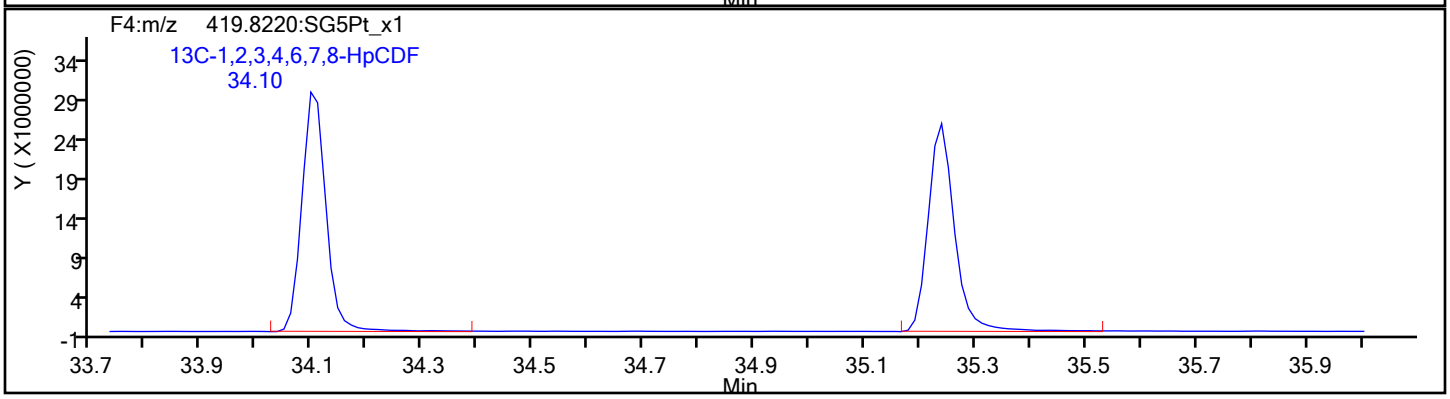

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Eurofins TestAmerica, Sacramento

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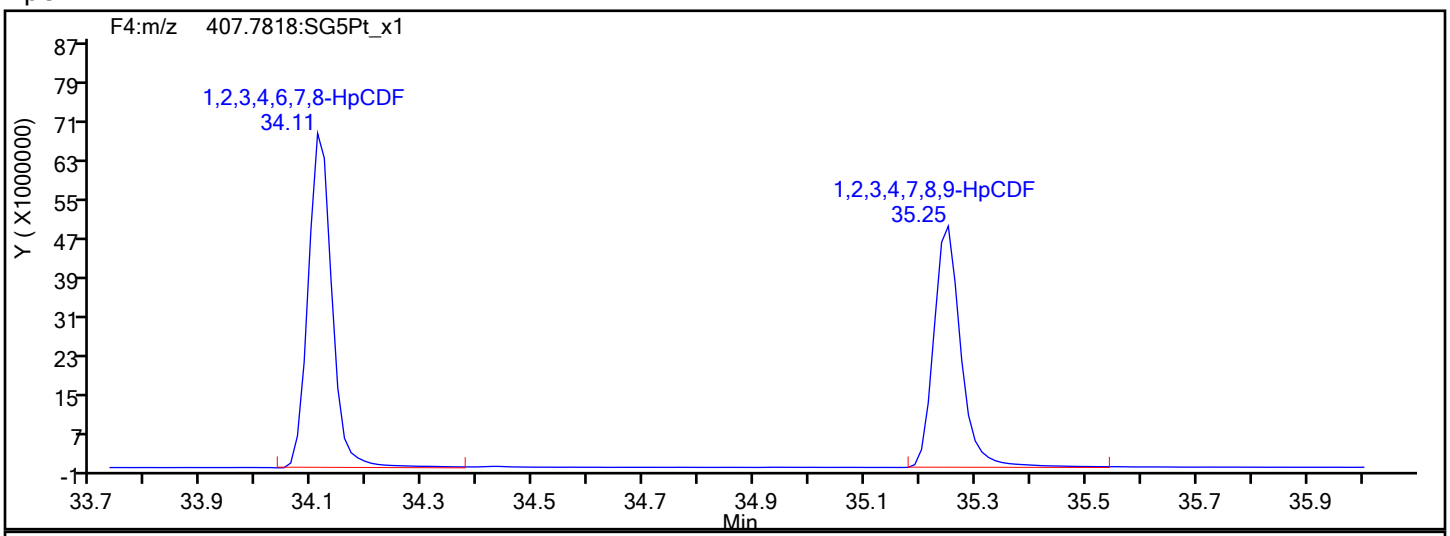

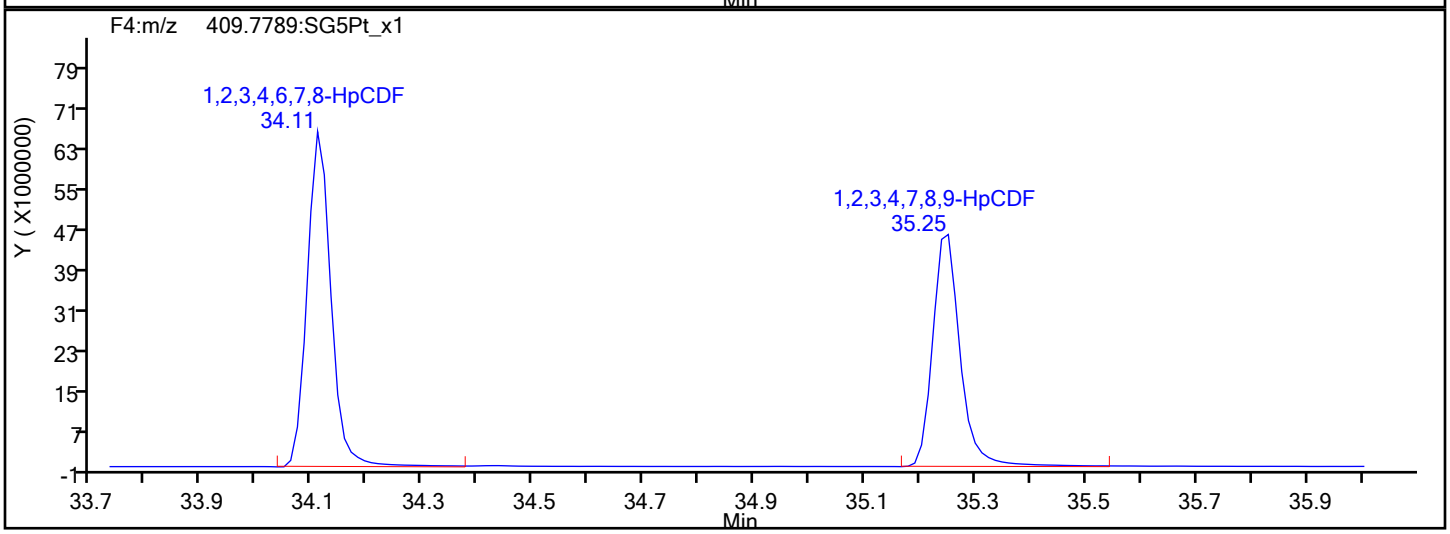

HpCDF Interference Mass

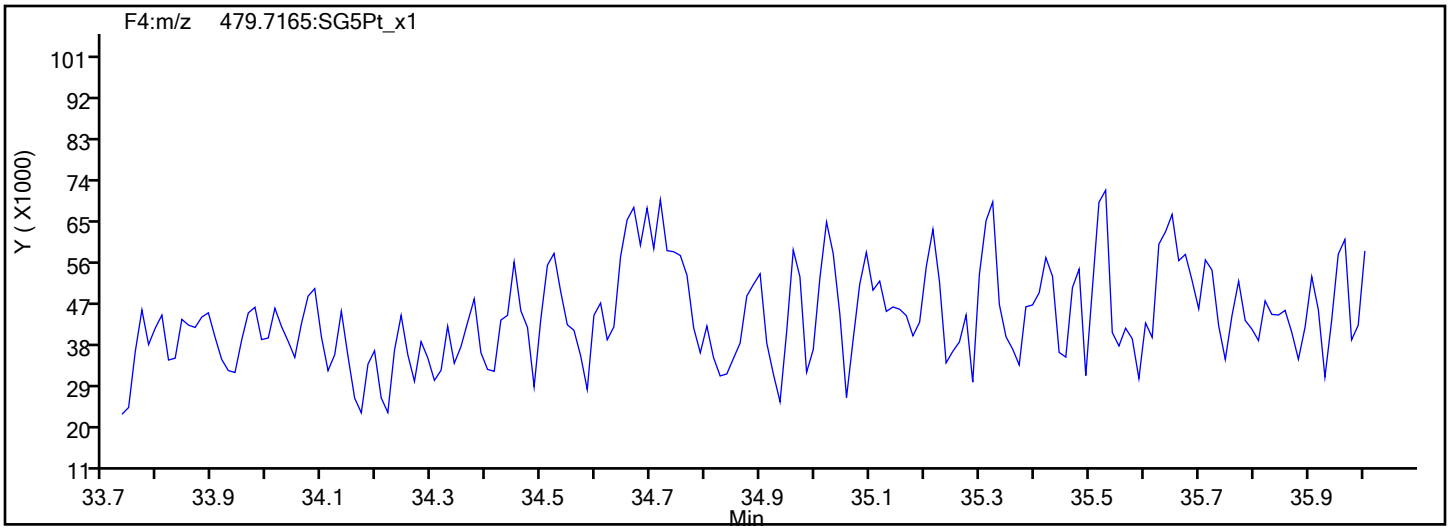

Report Date: 22-May-2019 11:37:07 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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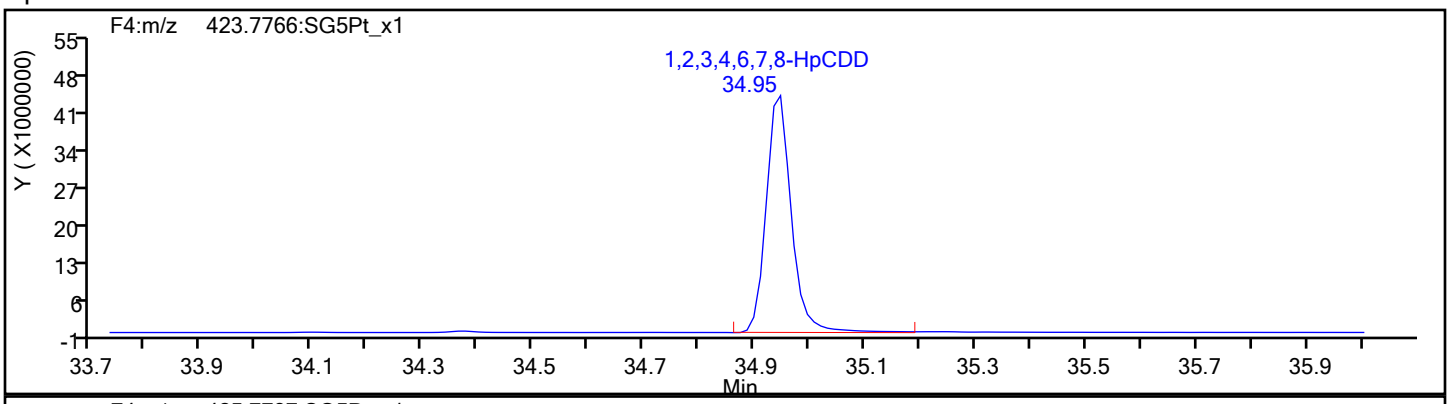

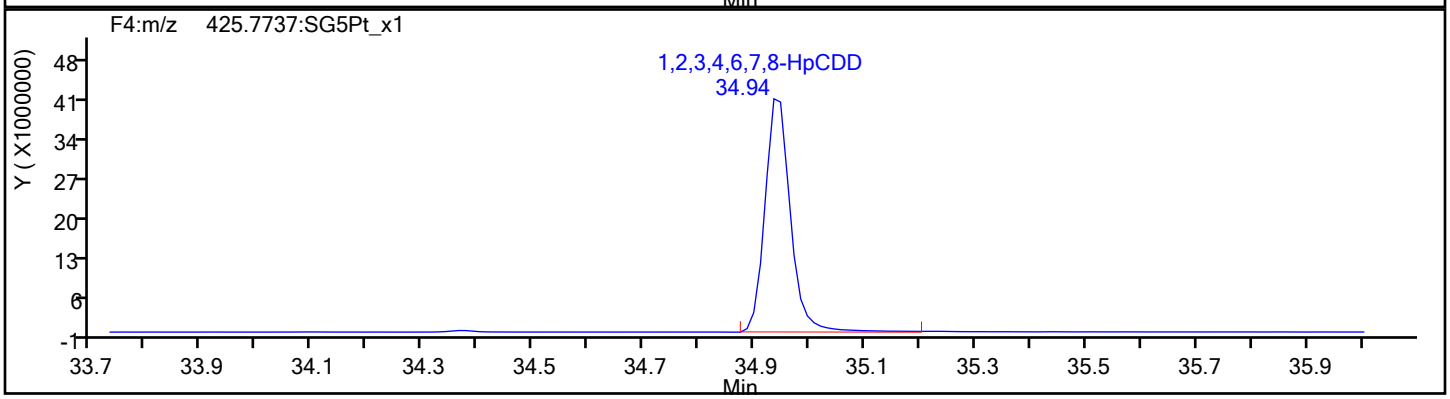

HpCDD Standards

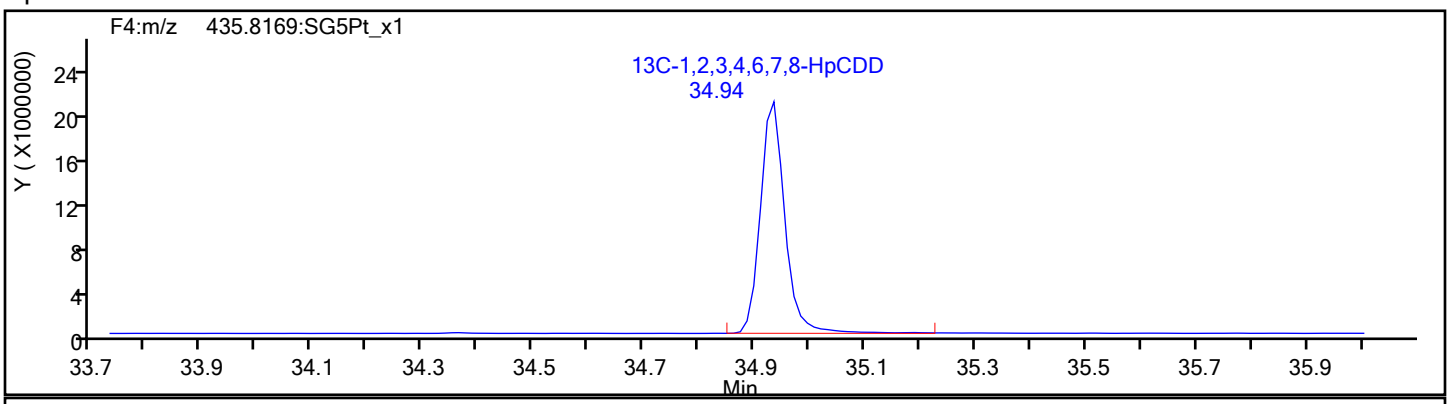

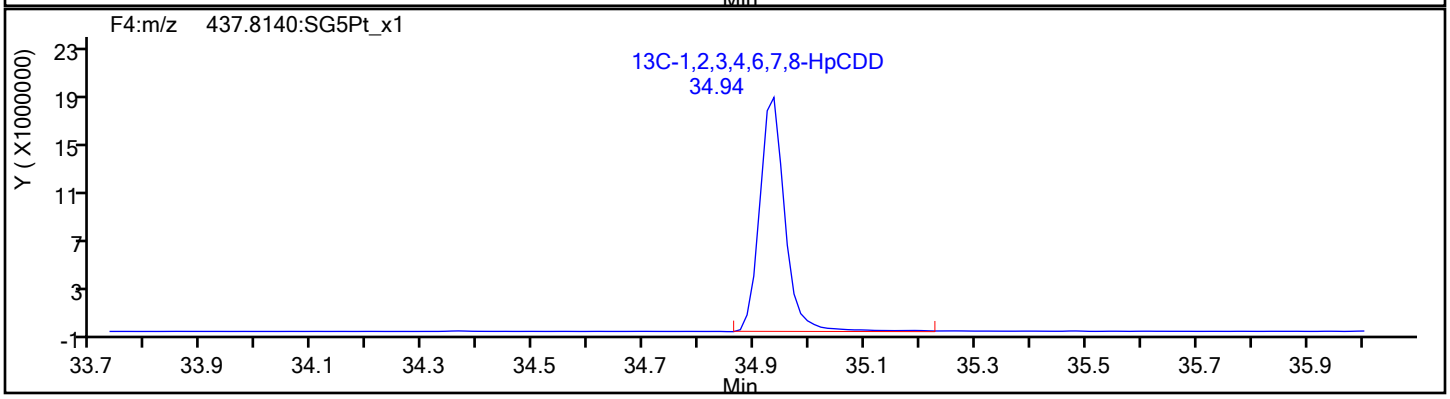

Report Date: 22-May-2019 11:37:07 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_9.d		
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Instrument ID:	3D5	Operator ID:	AJS
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Client ID:	ICV		
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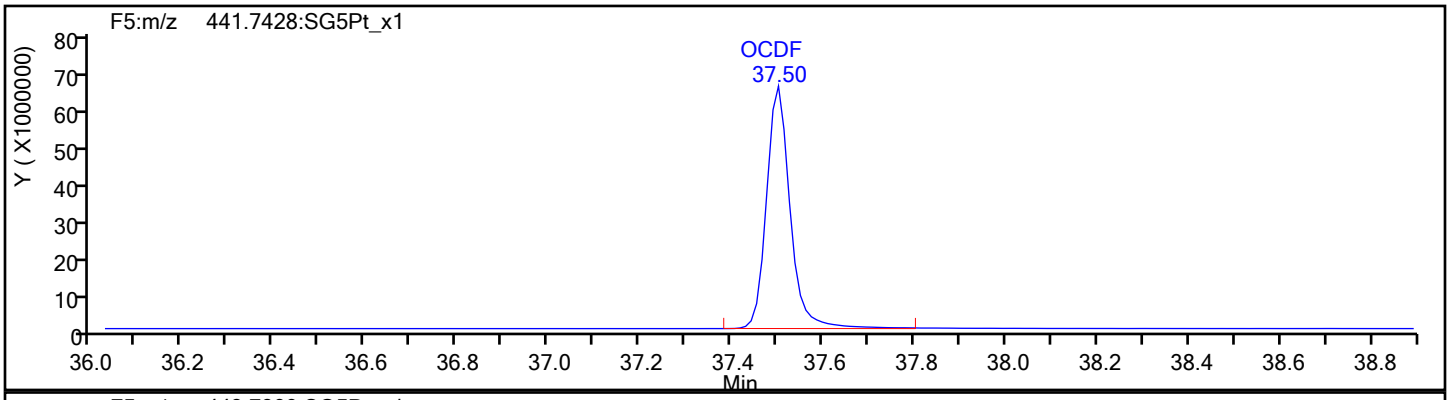

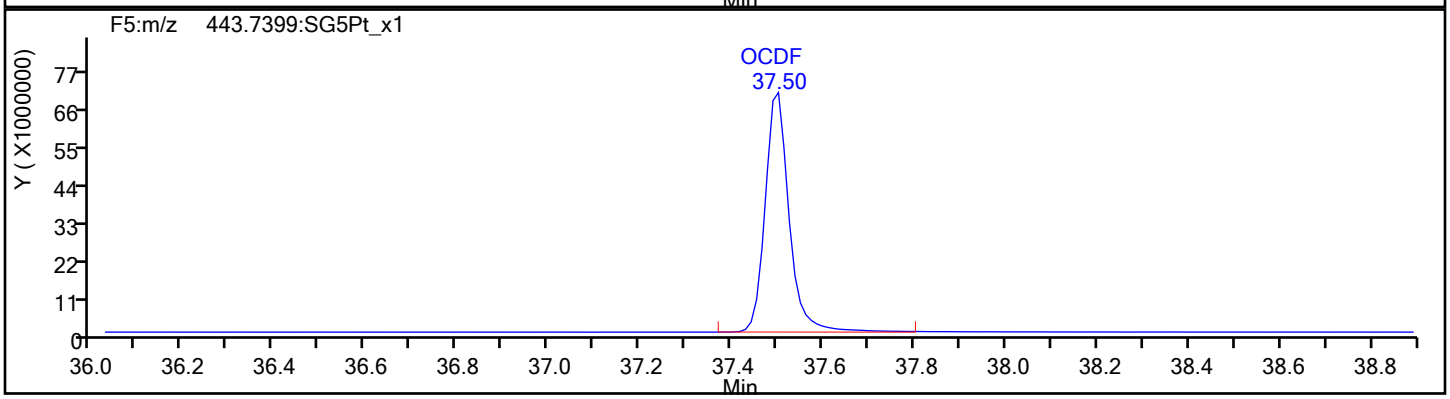

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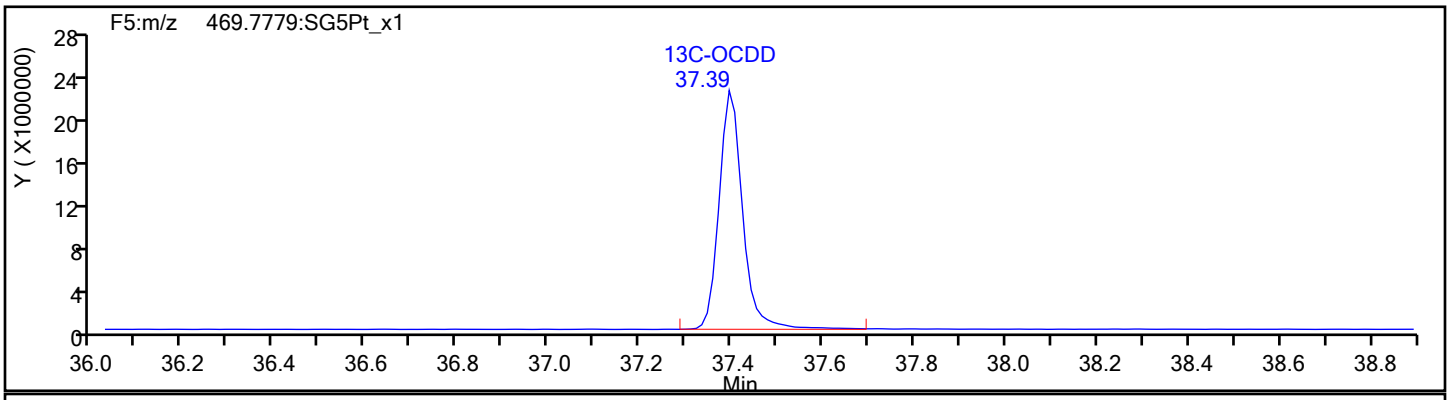

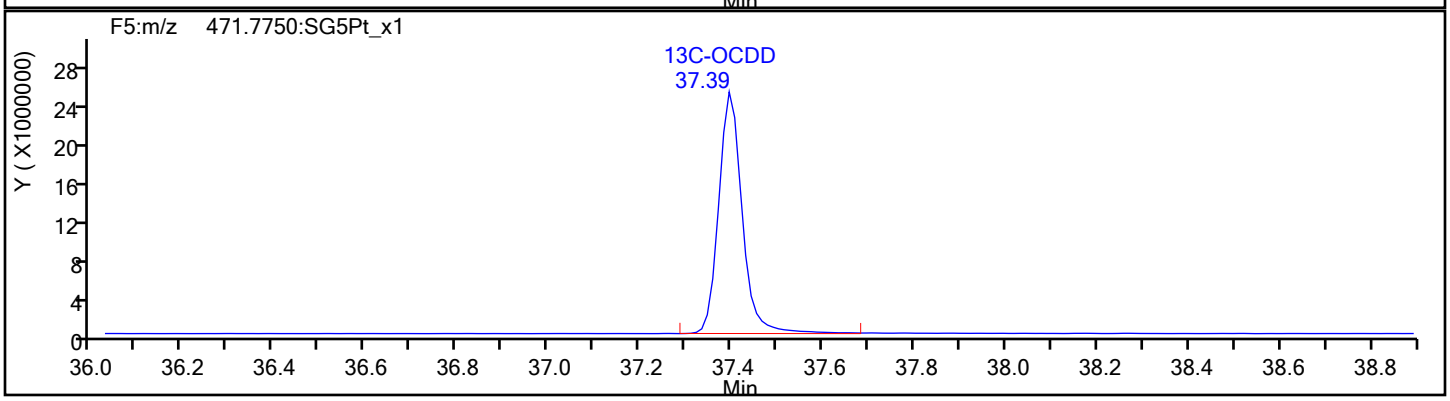

Report Date: 22-May-2019 11:37:07 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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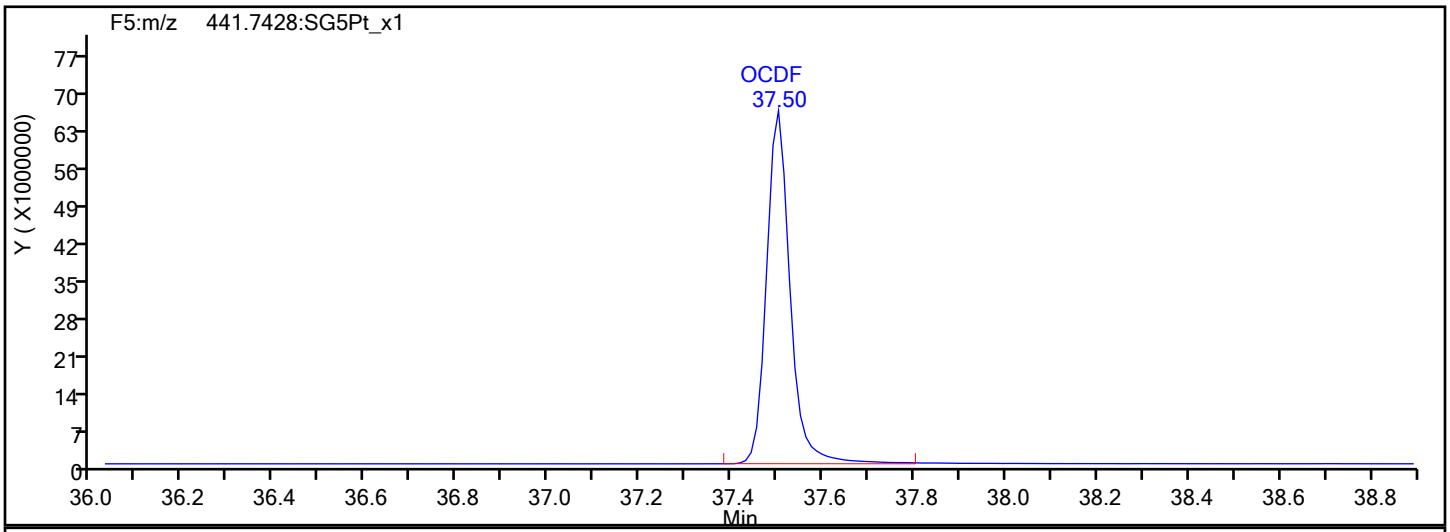

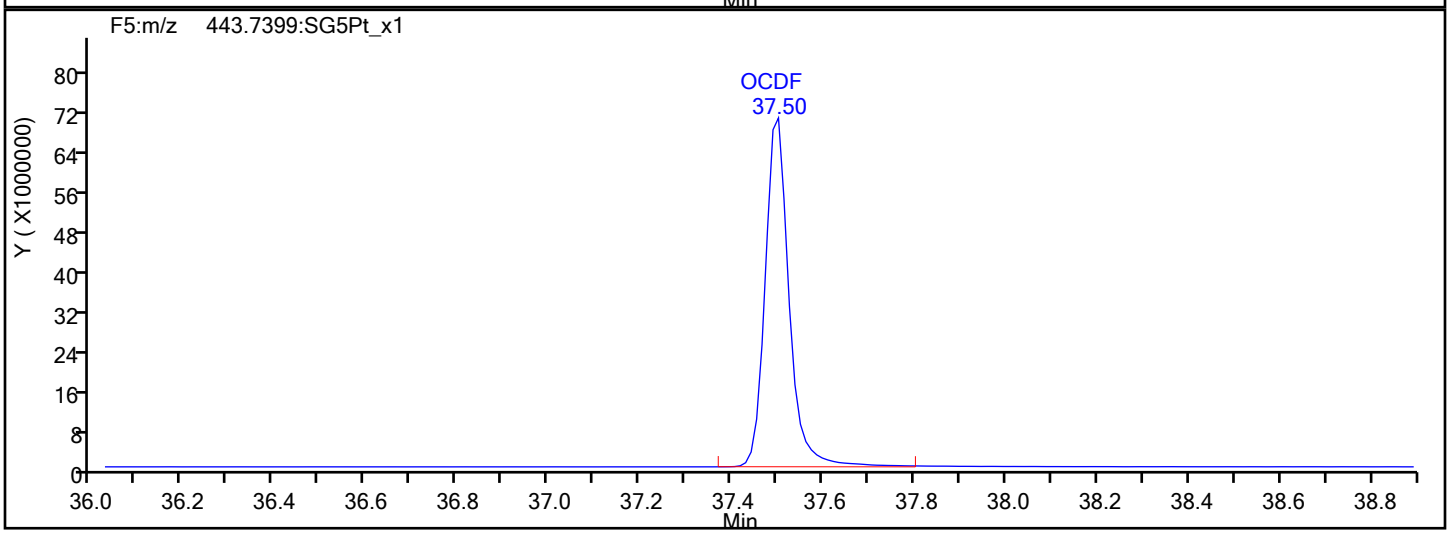

OCDF Interference Mass

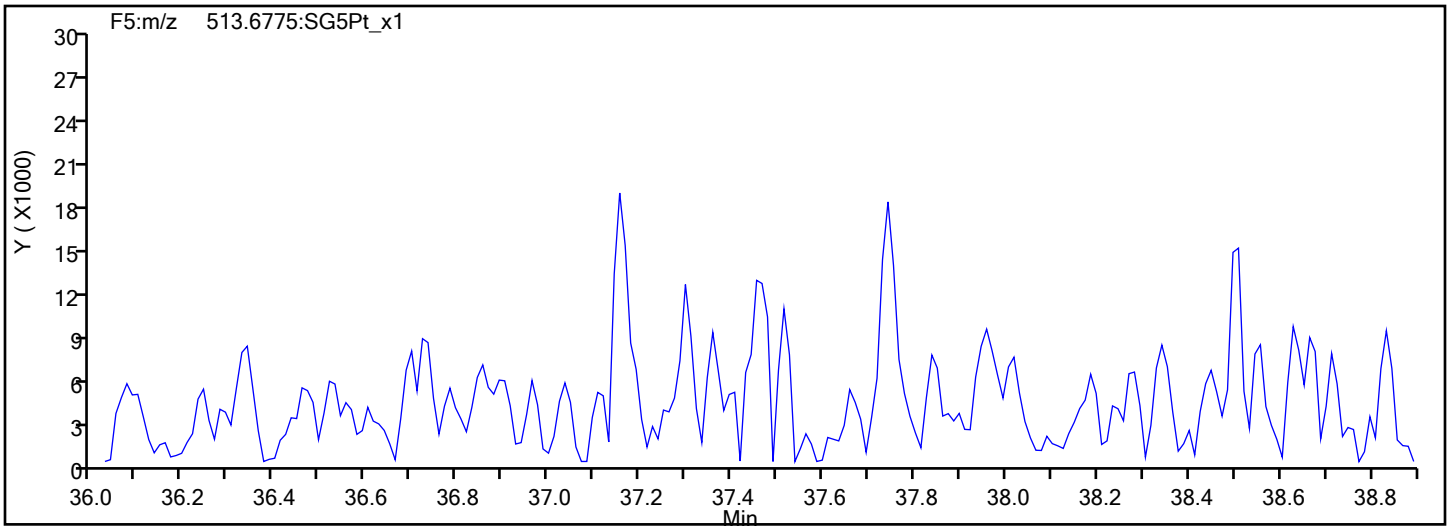

Report Date: 22-May-2019 11:37:07 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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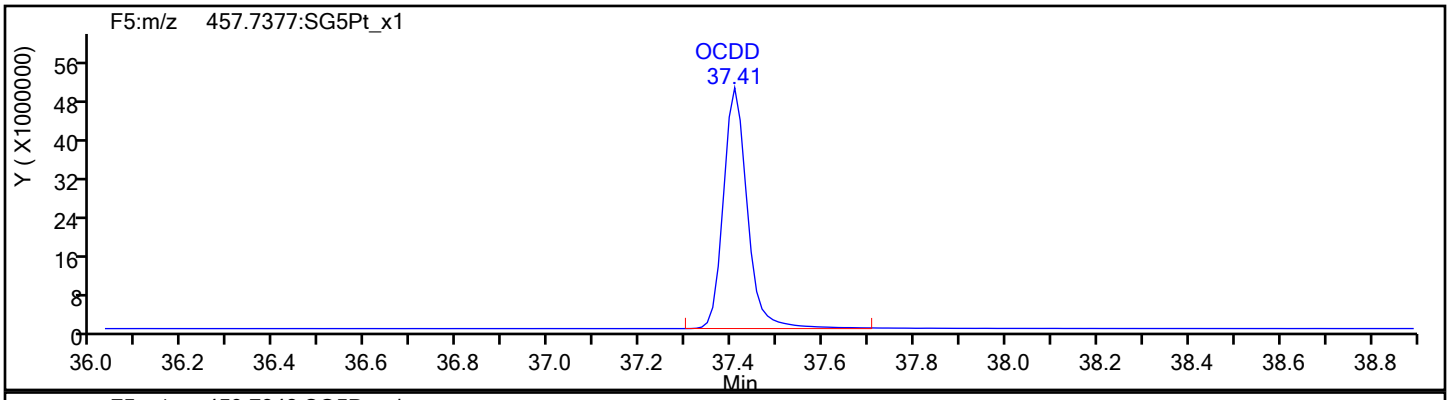

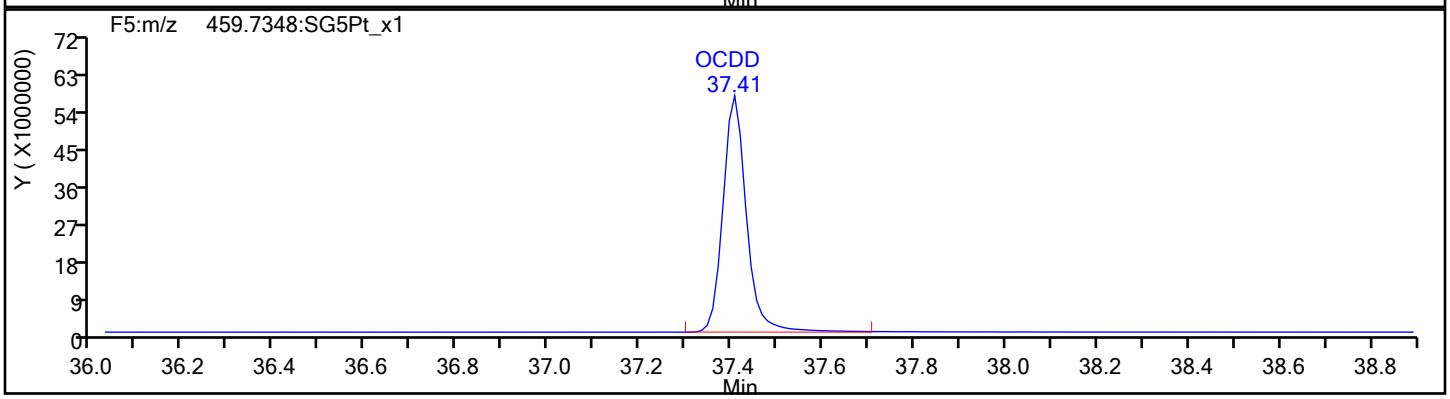

OCDD Standards

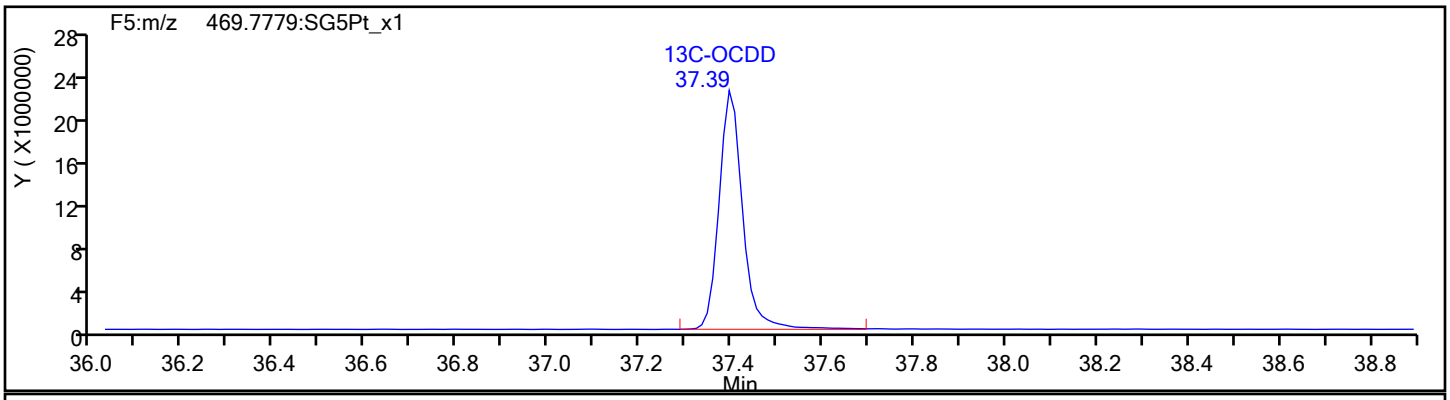

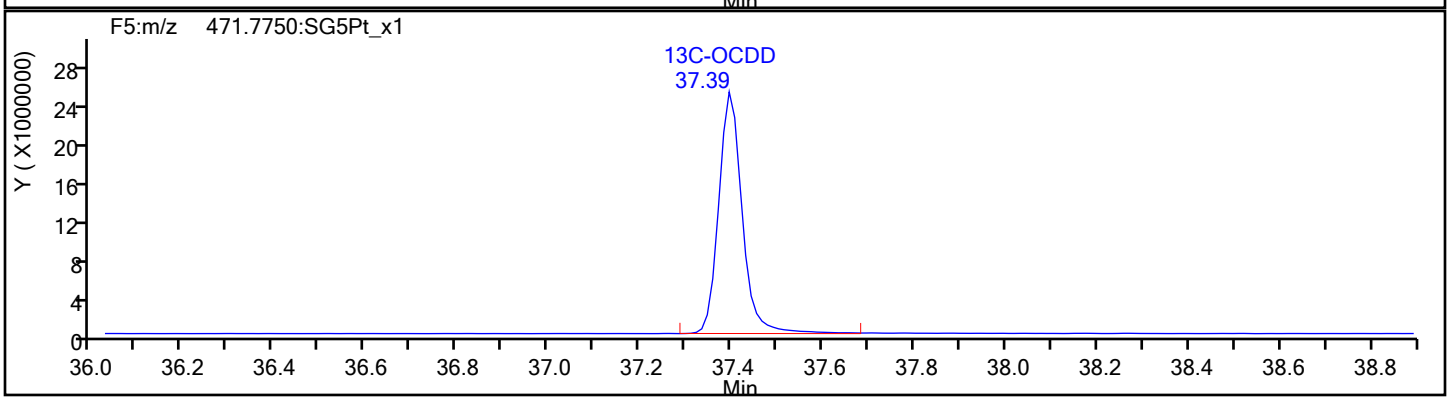

Report Date: 22-May-2019 11:37:07 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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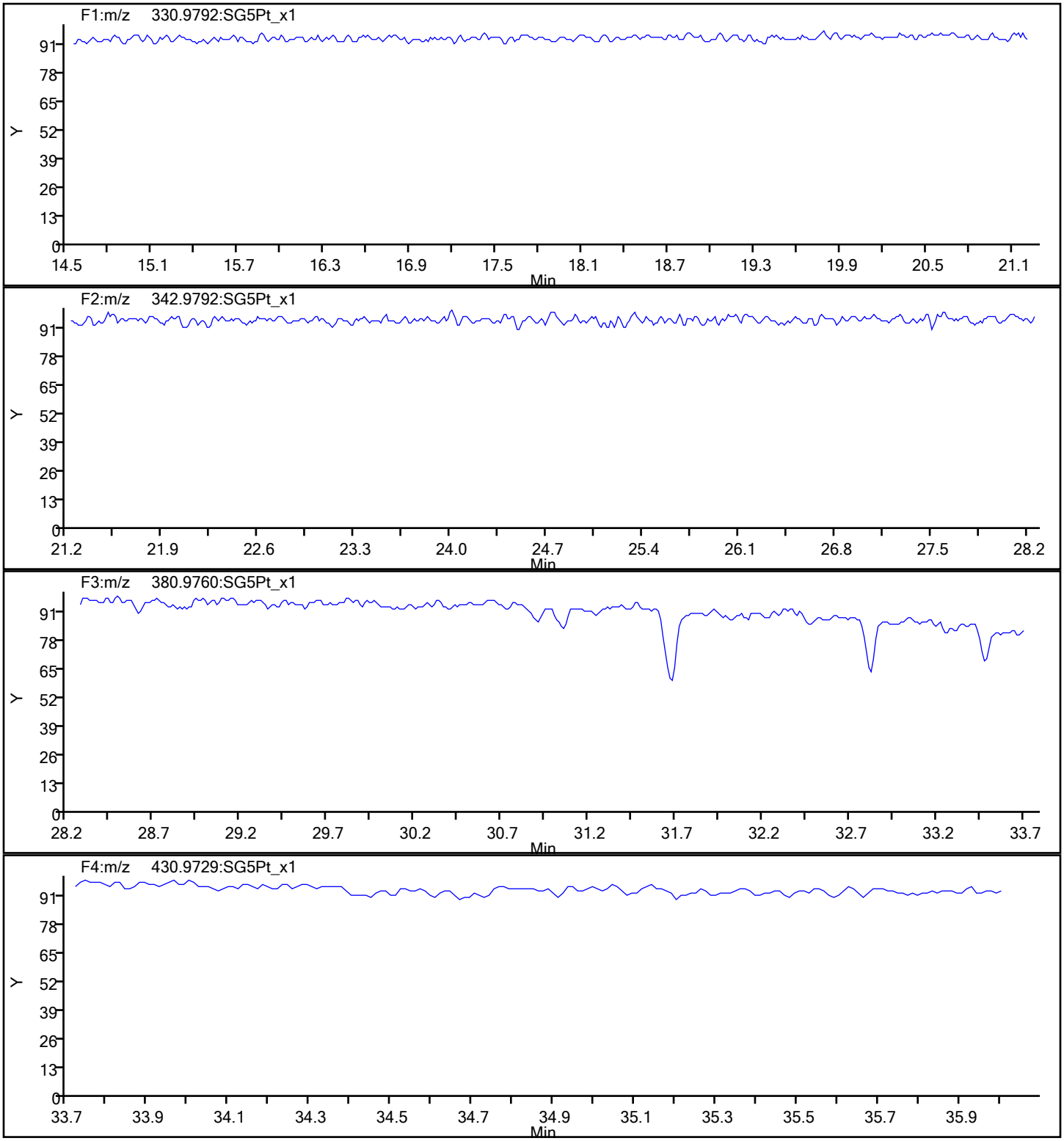

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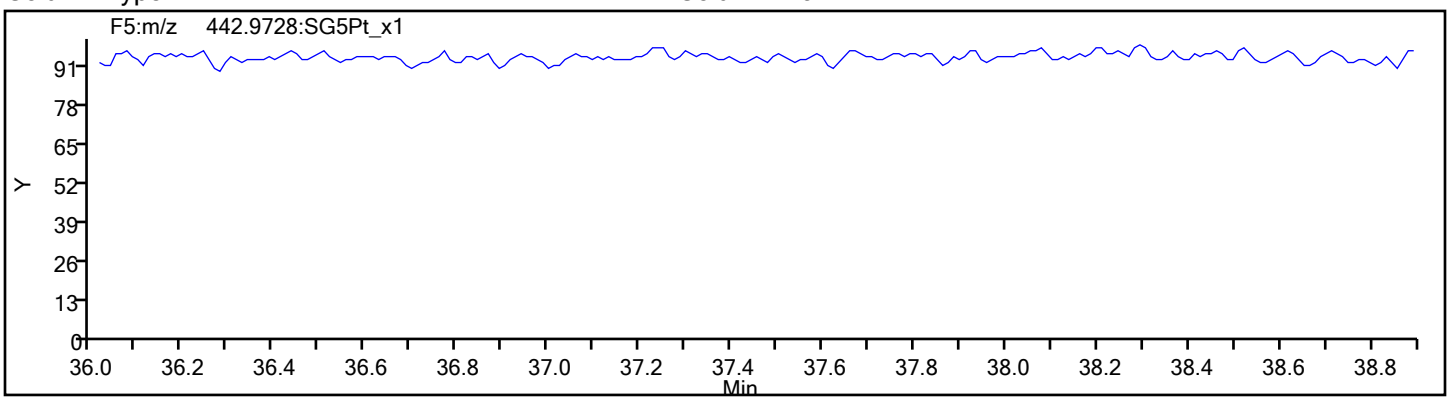

FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Lab Sample ID: CCV 320-338227/35 Calibration Date: 11/13/2019 07:28

Instrument ID: 3D5 Calib Start Date: 05/21/2019 13:31

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 05/21/2019 16:41

Lab File ID: 12NO193D5_35.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
2,3,7,8-TCDF	AveID	0.9710	0.9606		9.89	10.0	99	84-120
2,3,7,8-TCDD	AveID	1.045	1.024		9.80	10.0	98	78-129
1,2,3,7,8-PeCDF	AveID	0.9633	0.9714		50.4	50.0	101	82-120
2,3,4,7,8-PeCDF	AveID	0.9495	0.9869		52.0	50.0	104	82-122
1,2,3,7,8-PeCDD	AveID	1.063	1.054		49.6	50.0	99	78-130
1,2,3,4,7,8-HxCDF	AveID	1.217	1.155		47.5	50.0	95	90-112
1,2,3,6,7,8-HxCDF	AveID	1.131	1.126		49.8	50.0	100	88-114
2,3,4,6,7,8-HxCDF	AveID	1.171	1.161		49.6	50.0	99	88-114
1,2,3,4,7,8-HxCDD	AveID	1.027	1.011		49.2	50.0	98	78-128
1,2,3,6,7,8-HxCDD	AveID	0.9771	1.008		51.6	50.0	103	78-128
1,2,3,7,8,9-HxCDD	AveID	1.062	1.139		53.7	50.0	107	82-122
1,2,3,7,8,9-HxCDF	AveID	1.179	1.163		49.3	50.0	99	90-112
1,2,3,4,6,7,8-HpCDF	AveID	1.437	1.372		47.7	50.0	95	90-110
1,2,3,4,6,7,8-HpCDD	AveID	1.010	1.029		50.9	50.0	102	86-116
1,2,3,4,7,8,9-HpCDF	AveID	1.309	1.297		49.5	50.0	99	86-116
OCDD	AveID	1.063	1.049		98.7	100	99	79-126
OCDF	AveID	1.350	1.396		103	100	103	63-159
13C-2,3,7,8-TCDF	Ave	1.391	1.486		107	100	107	71-140
13C-2,3,7,8-TCDD	Ave	0.9819	1.004		102	100	102	82-121
13C-1,2,3,7,8-PeCDF	Ave	1.158	1.223		106	100	106	76-130
13C-2,3,4,7,8-PeCDF	Ave	1.153	1.145		99.3	100	99	77-130
13C-1,2,3,7,8-PeCDD	Ave	0.7431	0.7402		99.6	100	100	62-160
13C-1,2,3,4,7,8-HxCDF	Ave	0.9837	1.016		103	100	103	76-131
13C-1,2,3,6,7,8-HxCDF	Ave	1.155	1.102		95.3	100	95	70-143
13C-2,3,4,6,7,8-HxCDF	Ave	1.036	1.052		102	100	102	73-137
13C-1,2,3,4,7,8-HxCDD	Ave	0.8287	0.7705		93.0	100	93	85-117
13C-1,2,3,6,7,8-HxCDD	Ave	0.9495	0.8726		91.9	100	92	85-118
13C-1,2,3,7,8,9-HxCDF	Ave	0.9034	1.008		112	100	112	74-135
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.7285	0.7935		109	100	109	78-129
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.6978	0.6197		88.8	100	89	72-138
13C-1,2,3,4,7,8,9-HpCDF	Ave	0.6556	0.7397		113	100	113	77-129
13C-OCDD	Ave	0.4780	0.5076		212	200	106	48-208
37Cl4-2,3,7,8-TCDD	Ave	1.221	1.286		8.43	8.00	105	79-127

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #
1	12NO193D5_1	CS-4 HRDXNL4_00084	CCV 111219	Tray1:2	DXN	
2	12NO193D5_2	WDM HRDXNCP_00040	WDM 111219	Tray1:1	DXN	
3	12NO193D5_3	Solvent Blank C-14	SB 111219	Tray1:3	DXN	
4	12NO193D5_4	MB 320-334467/1-A	MB 320-334467/1-A	Tray1:10	8290(A)/Solid	D107
5	12NO193D5_5	LCS 320-334467/2-A	LCS 320-334467/2-A	Tray1:11	8290(A)/Solid	
6	12NO193D5_6	500-172222-G-4-A	500-172222-G-4-A	Tray1:12	8290(A)/Solid	
7	12NO193D5_7	500-172222-G-6-A	500-172222-G-6-A	Tray1:13	8290A/Solid	
8	12NO193D5_8	Solvent Blank C-14	SB 111219A	Tray1:3	DXN	
9	12NO193D5_9	CS-4 HRDXNL4_00084	CCV 111219A	Tray1:2	DXN	
10	12NO193D5_10	WDM HRDXNCP_00040	WDM 111219A	Tray1:1	DXN	
11	12NO193D5_11	Solvent Blank C-14	SB 111219B	Tray1:3	DXN	
12	12NO193D5_12	500-172222-G-8-A	500-172222-G-8-A	Tray1:14	8290A/Solid	D107
13	12NO193D5_13	500-172222-G-12-A	500-172222-G-12-A	Tray1:15	8290A/Solid	
14	12NO193D5_14	550-131975-S-15-A	550-131975-S-15-A	Tray1:16	8290/Solid	
15	12NO193D5_15	550-131975-S-15-B MS	550-131975-S-15-B MS	Tray1:17	8290/Solid	
16	12NO193D5_16	550-131975-S-15-C MSD	550-131975-S-15-C MSD	Tray1:18	8290/Solid	
17	12NO193D5_17	500-172222-G-14-A	500-172222-G-14-A	Tray1:19	8290A/Solid	---
18	12NO193D5_18	500-172222-G-16-A	500-172222-G-16-A	Tray1:20	8290A/Solid	
19	12NO193D5_19	500-172222-G-19-A	500-172222-G-19-A	Tray1:21	8290A/Solid	
20	12NO193D5_20	500-172222-G-21-A	500-172222-G-21-A	Tray1:22	8290A/Solid	
21	12NO193D5_21	Solvent Blank C-14	SB 111219C	Tray1:3	DXN	
22	12NO193D5_22	CS-4 HRDXNL4_00084	CCV 111219B	Tray1:2	DXN	
23	12NO193D5_23	WDM HRDXNCP_00040	WDM 111219B	Tray1:1	DXN	
24	12NO193D5_24	Solvent Blank C-14	SB 111219D	Tray1:3	DXN	
25	12NO193D5_25	LLCS 320-336136/4-A	LLCS 320-336136/4-A	Tray1:23	1613B_DW	D106
26	12NO193D5_26	500-172222-G-23-A	500-172222-G-23-A	Tray1:24	8290A/Solid	D107
27	12NO193D5_27	550-131975-K-6-A	550-131975-K-6-A	Tray1:25	8290/Solid	
28	12NO193D5_28	550-131975-G-7-A	550-131975-G-7-A	Tray1:26	8290/Solid	
29	12NO193D5_29	550-131975-K-10-A	550-131975-K-10-A	Tray1:27	8290/Solid	
30	12NO193D5_30	550-131975-G-11-A	550-131975-G-11-A	Tray1:28	8290/Solid	
31	12NO193D5_31	550-132155-K-1-A	550-132155-K-1-A	Tray1:29	8290/Solid	60
32	12NO193D5_32	550-132155-G-2-A	550-132155-G-2-A	Tray1:30	8290/Solid	
33	12NO193D5_33	550-132155-J-6-A	550-132155-J-6-A	Tray1:31	8290/Solid	
34	12NO193D5_34	Solvent Blank C-14	SB 111219E	Tray1:3	DXN	
35	12NO193D5_35	CS-4 HRDXNL4_00084	CCV 111219C	Tray1:2	DXN	
36	12NO193D5_36	WDM HRDXNCP_00040	WDM 111219C	Tray1:1	DXN	
37	12NO193D5_37	Solvent Blank C-14	SB 111219F	Tray1:3	DXN	
38	12NO193D5_38	MB 320-337526/1-A	MB 320-337526/1-A	Tray1:32	1613B/Water	D108
39	12NO193D5_39	LCS 320-337526/2-A	LCS 320-337526/2-A	Tray1:33	1613B/Water	
40	12NO193D5_40	LCSD 320-337526/3-A	LCSD 320-337526/3-A	Tray1:34	1613B/Water	
41	12NO193D5_41	320-56102-A-1-A	320-56102-A-1-A	Tray1:35	1613B/Water	
42	12NO193D5_42	320-56102-A-2-A	320-56102-A-2-A	Tray1:36	1613B/Water	
43	12NO193D5_43	320-56102-A-9-A	320-56102-A-9-A	Tray1:37	1613B/Water	
44	12NO193D5_44	320-56102-A-10-A	320-56102-A-10-A	Tray1:38	1613B/Water	
45	12NO193D5_45	320-56102-A-11-A	320-56102-A-11-A	Tray1:39	1613B/Water	
46	12NO193D5_46	Solvent Blank C-14	SB 111219G	Tray1:3	DXN	
47	12NO193D5_47	CS-4 HRDXNL4_00084	CCV 111219D	Tray1:2	DXN	
48	12NO193D5_48	WDM HRDXNCP_00040	WDM 111219D	Tray1:1	DXN	
49	12NO193D5_49	Solvent Blank C-14	SB 111219H	Tray1:3	DXN	
50	12NO193D5_50	MB 320-334641/1-A	MB 320-334641/1-A	Tray1:40	8290/Solid	60
51	12NO193D5_51	LCS 320-334641/2-A	LCS 320-334641/2-A	Tray1:41	8290/Solid	
52	12NO193D5_52	550-132155-G-7-A	550-132155-G-7-A	Tray1:42	8290/Solid	
53	12NO193D5_53	550-132155-N-12-A	550-132155-N-12-A	Tray1:43	8290/Solid	
54	12NO193D5_54	550-132155-J-13-A	550-132155-J-13-A	Tray1:44	8290/Solid	
55	12NO193D5_55	550-132155-L-18-A	550-132155-L-18-A	Tray1:45	8290/Solid	
56	12NO193D5_56	550-132055-N-2-A	550-132055-N-2-A	Tray1:46	8290/Solid	
57	12NO193D5_57	550-132055-N-2-B MS	550-132055-N-2-B MS	Tray1:47	8290/Solid	
58	12NO193D5_58	550-132055-N-2-C MSD	550-132055-N-2-C MSD	Tray1:48	8290/Solid	

inst. stopped by operator
AJS
11-13-19

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #
59	12NO193D5_59	Solvent Blank C-14	SB 111219I	Tray1:3	DXN	
60	12NO193D5_60	CS-4 HRDXNL4_00084	CCV 111219E	Tray1:2	DXN	
61	12NO193D5_61	WDM HRDXNCP_00040	WDM 111219E	Tray1:1	DXN	
62	12NO193D5_62	Solvent Blank C-14	SB 111219J	Tray1:3	DXN	

Log file checked
AJS
11-13-19

Printed: Wednesday, November 13, 2019 07:28:38 Pacific Standard Time

M 292.9824 R 13935

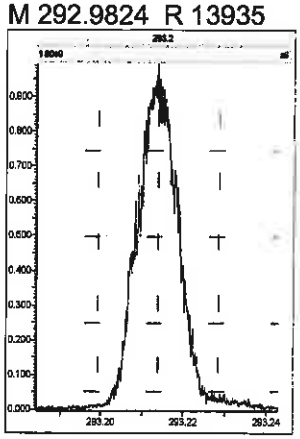

M 304.9824 R 14051

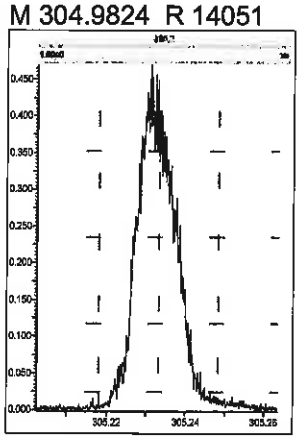

M 318.9792 R 13661

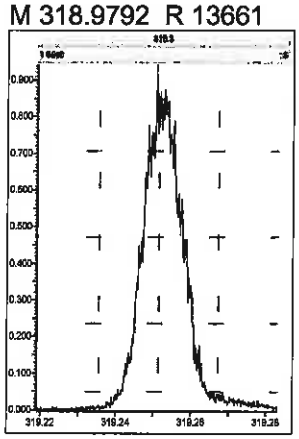

M 330.9792 R 13158

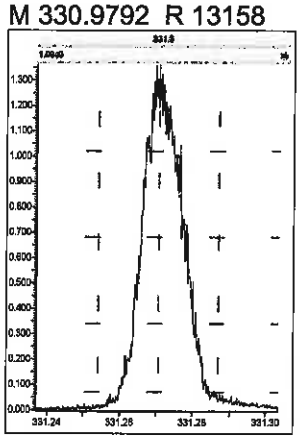

M 342.9792 R 14045

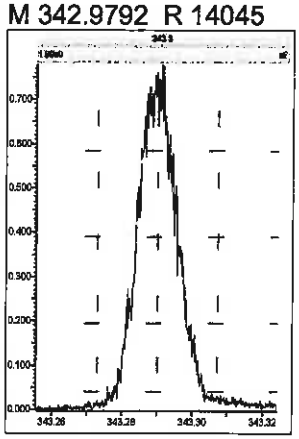

M 354.9792 R 14131

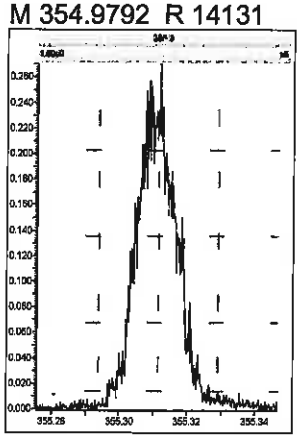

M 366.9792 R 14450

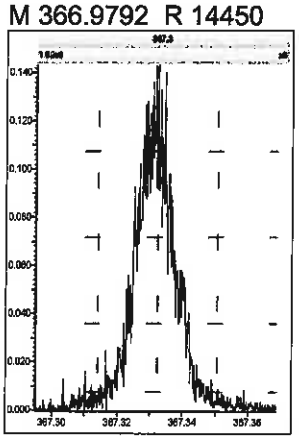

M 380.9760 R 12667

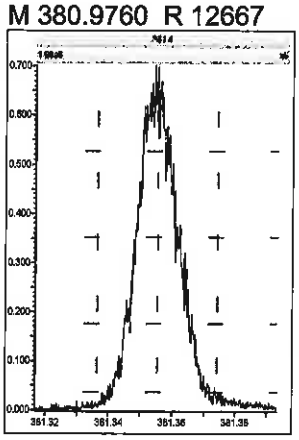

M 392.9760 R 13225

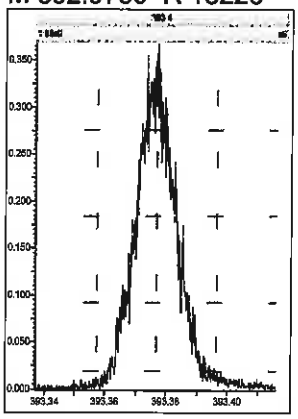

M 404.9760 R 13851

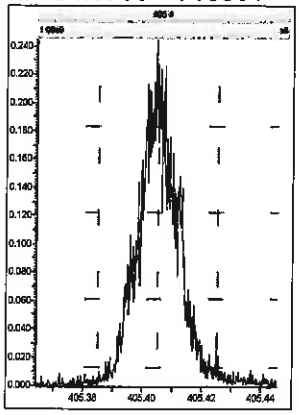

M 416.9760 R 15930

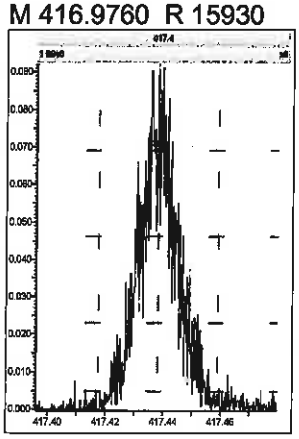

M 318.9792 R 13774

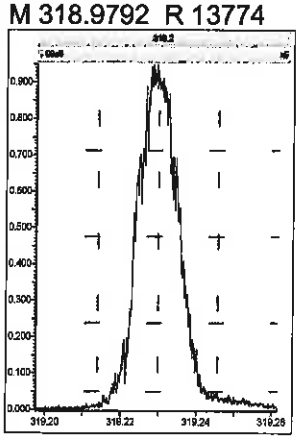

M 330.9792 R 13700

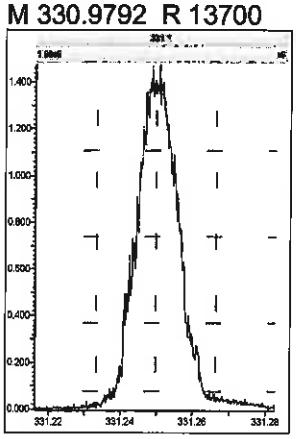

M 342.9792 R 13552

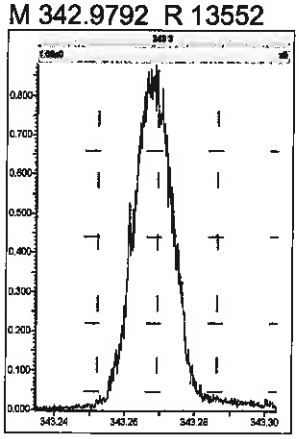

M 354.9792 R 14755

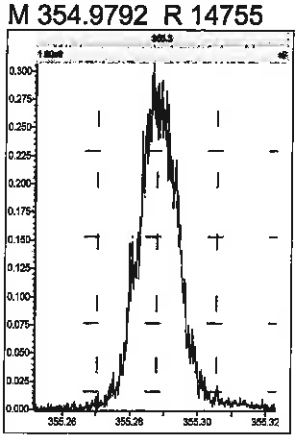

M 366.9792 R 14048

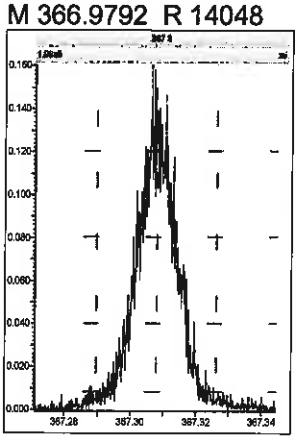

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M 380.9760 R 13233

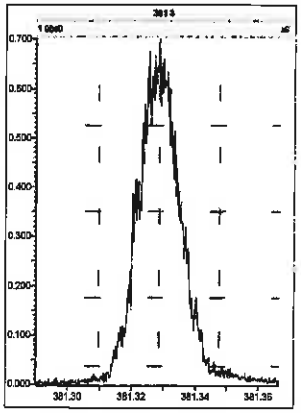

M 392.9760 R 12795

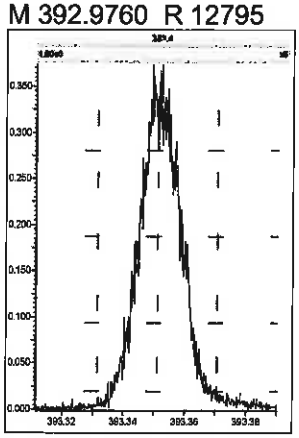

M 404.9760 R 13532

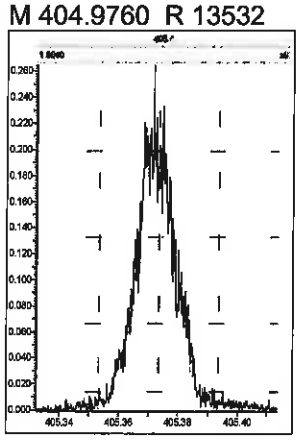

M 416.9760 R 15708

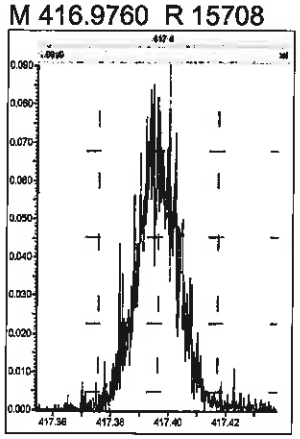

M 366.9792 R 14183

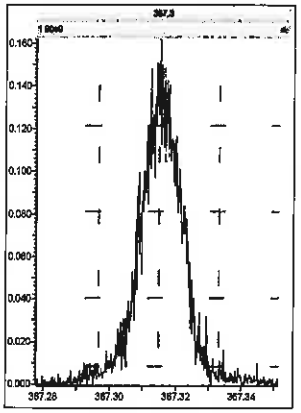

M 380.9760 R 13088

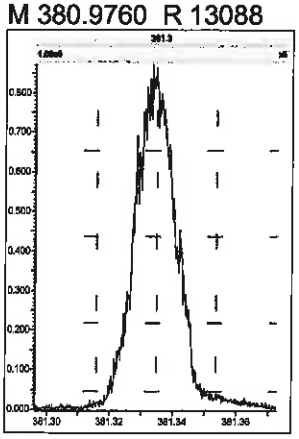

M 392.9760 R 13479

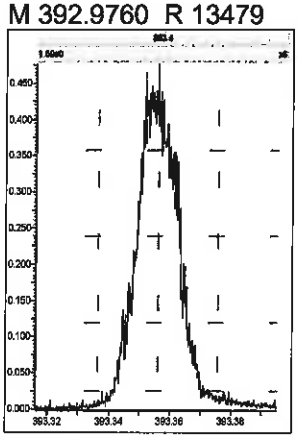

M 404.9760 R 12722

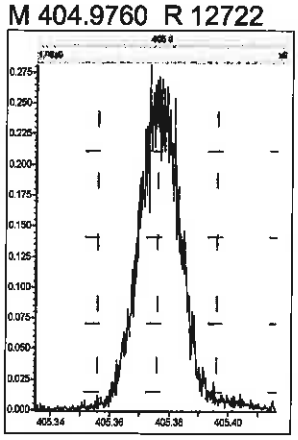

M 416.9760 R 14287

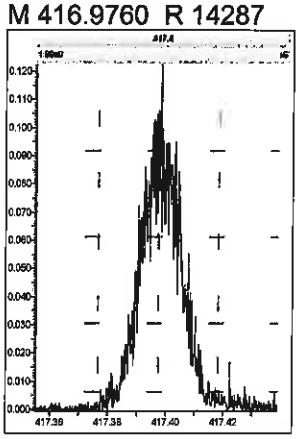

M 430.9728 R 12452

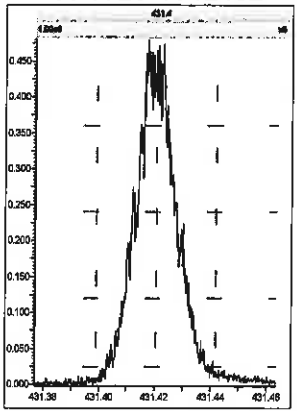

M 442.9728 R 13088

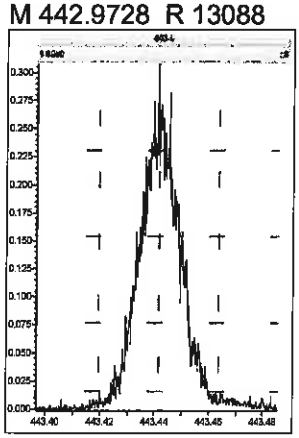

M 454.9728 R 12667

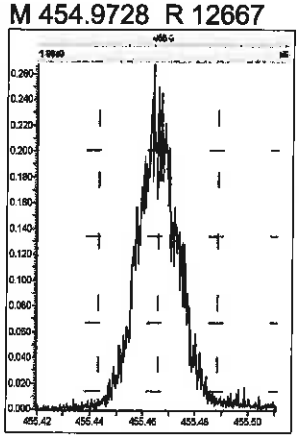

M 380.9760 R 12855

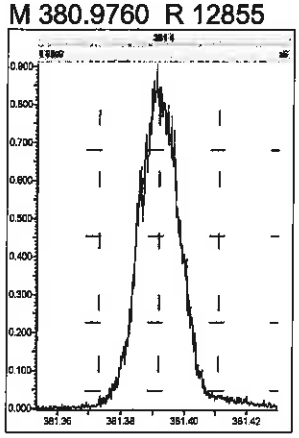

M 392.9760 R 13090

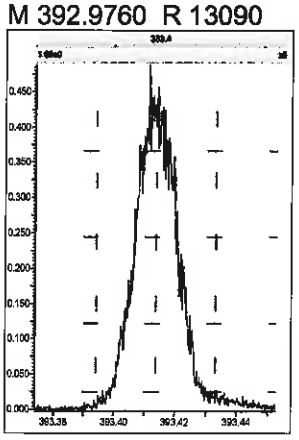

M 404.9760 R 13262

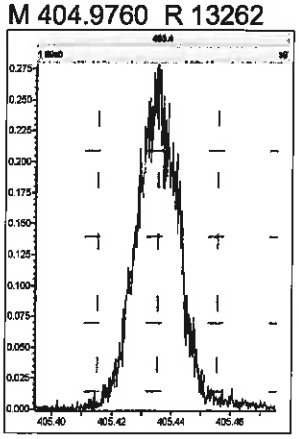

M 416.9760 R 13832

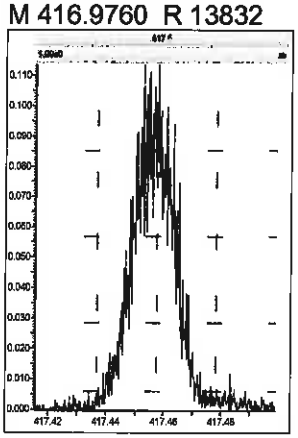

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M 430.9728 R 12695

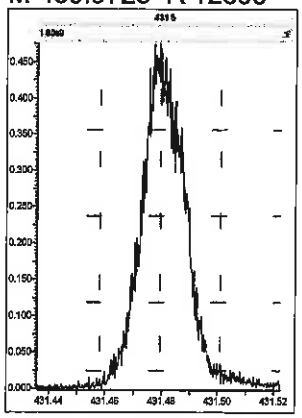

M 442.9728 R 13021

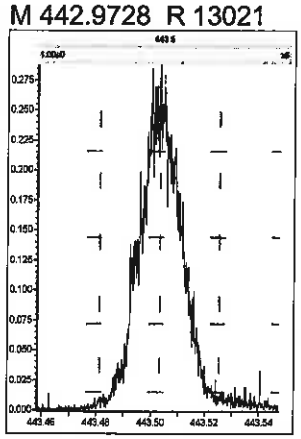

M 454.9728 R 12987

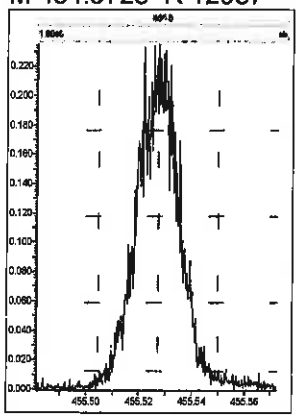

M 466.9728 R 13061

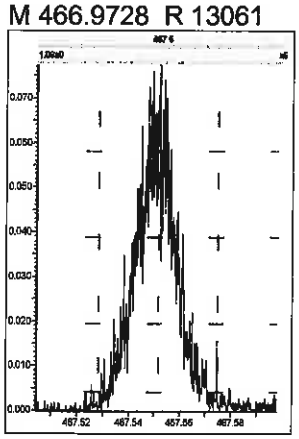

M 480.9696 R 11966

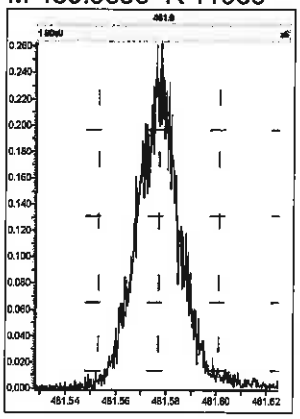

M 380.9760 R 12801

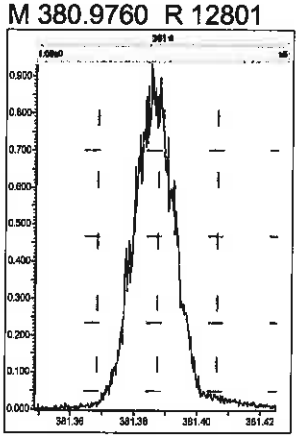

M 392.9760 R 12406

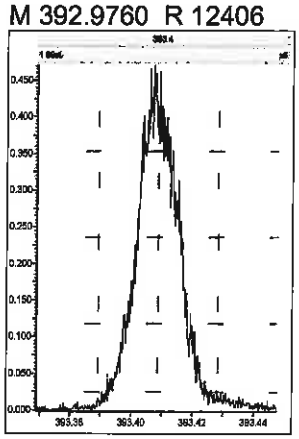

M 404.9760 R 12347

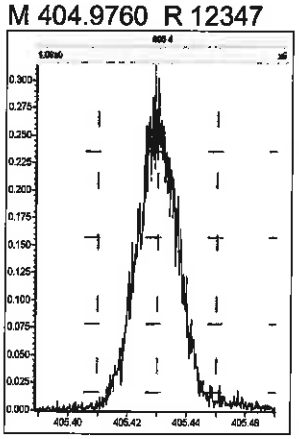

M 416.9760 R 13715

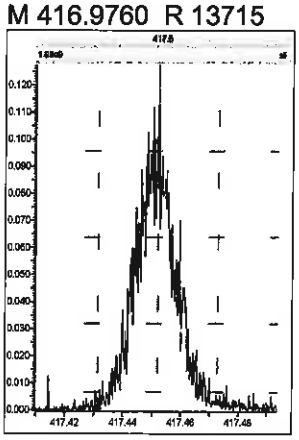

M 430.9728 R 12407

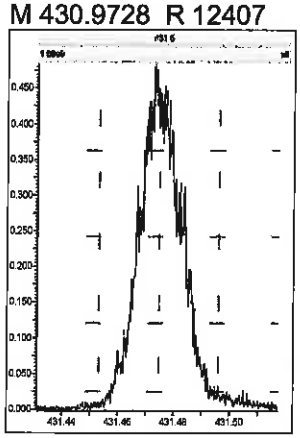

M 442.9728 R 12627

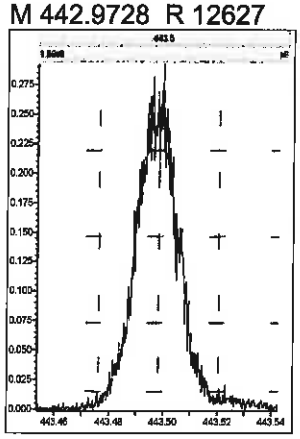

M 454.9728 R 13481

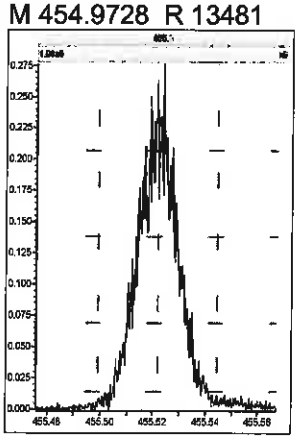

M 466.9728 R 14447

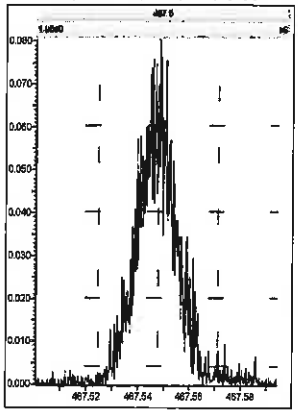

M 480.9696 R 13055

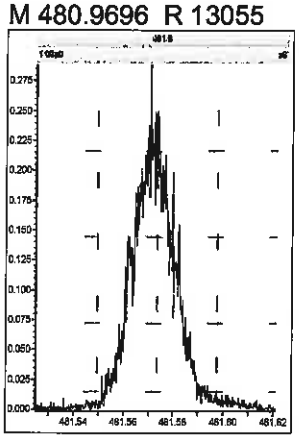

M 492.9696 R 13088

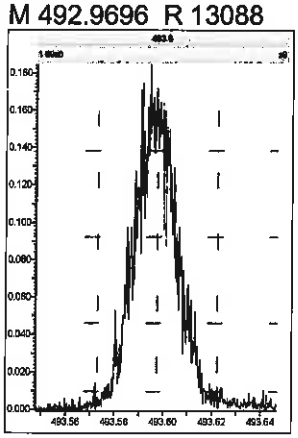

M 504.9696 R 13635

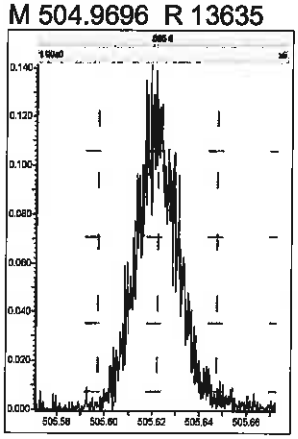

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M 516.9697 R 15063

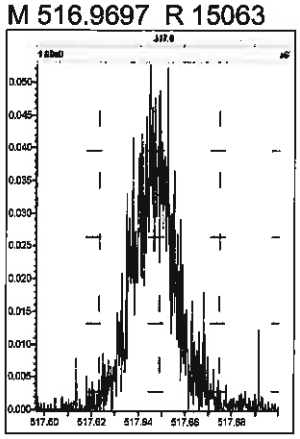

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M 292.9824 R 14409

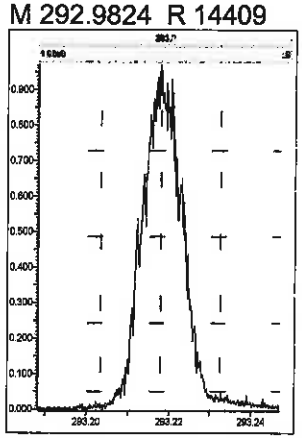

M 304.9824 R 14340

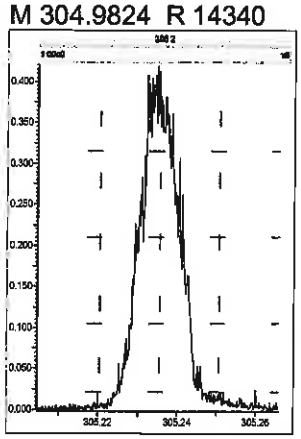

M 318.9792 R 14089

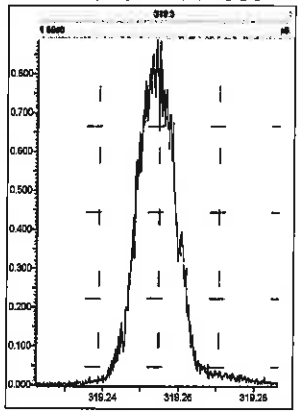

M 330.9792 R 13662

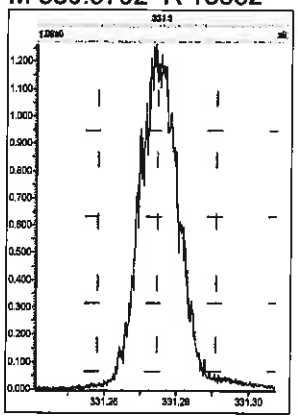

M 342.9792 R 13851

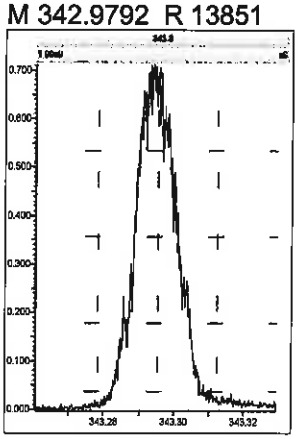

M 354.9792 R 13778

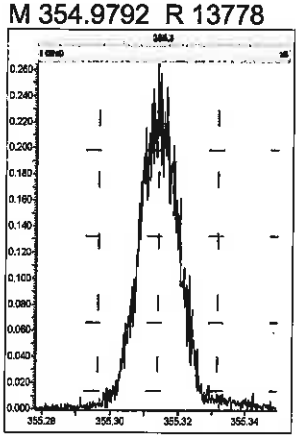

M 366.9792 R 14569

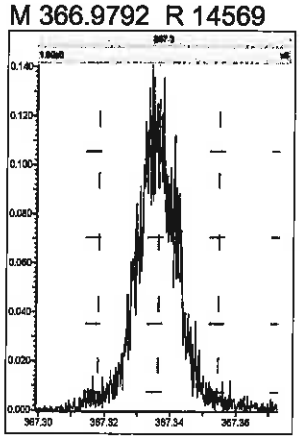

M 380.9760 R 12857

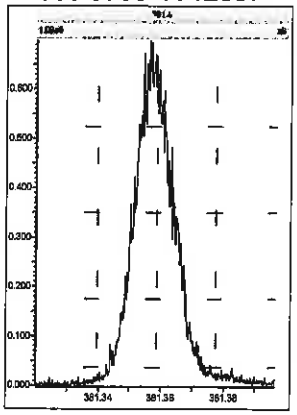

M 392.9760 R 13021

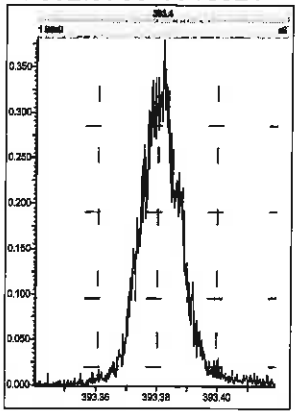

M 404.9760 R 13488

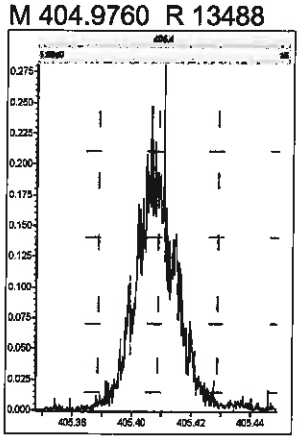

M 416.9760 R 13515

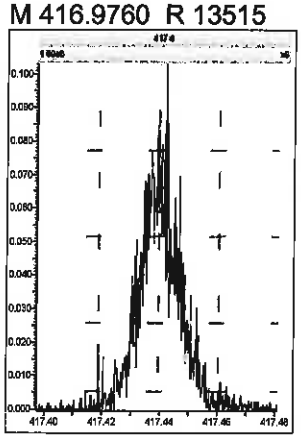

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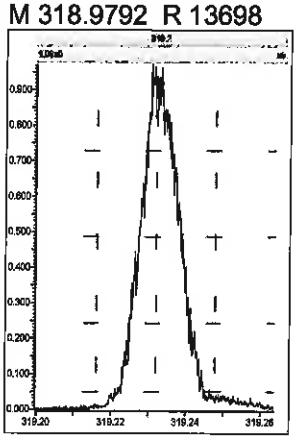

M 330.9792 R 13664

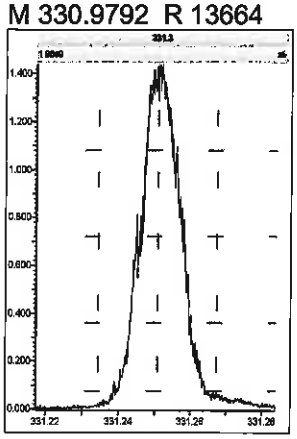

M 342.9792 R 13273

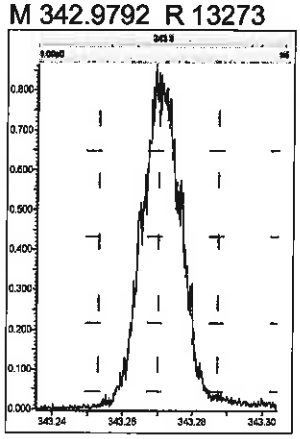

M 354.9792 R 13838

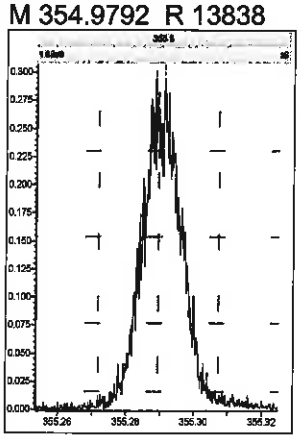

M 366.9792 R 13392

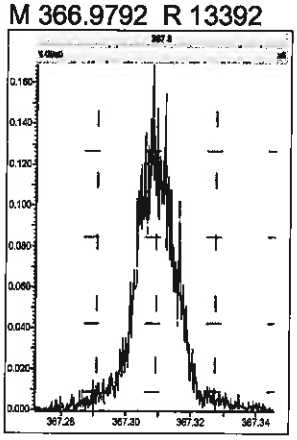

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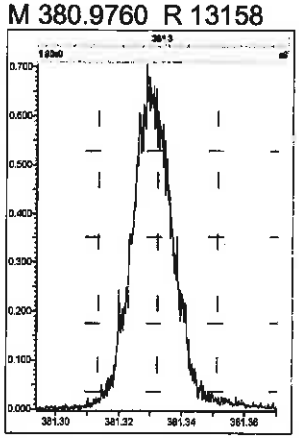

M 392.9760 R 12690

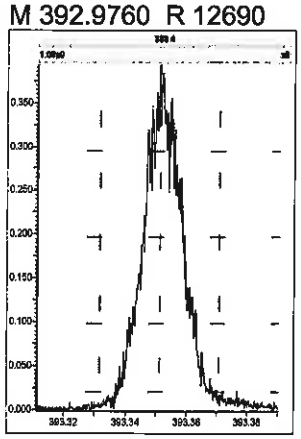

M 404.9760 R 13899

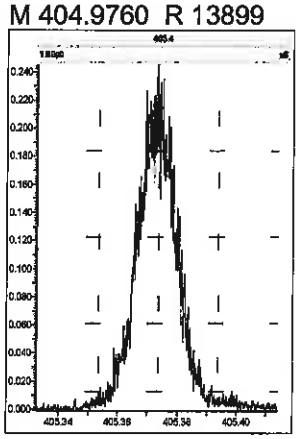

M 416.9760 R 14818

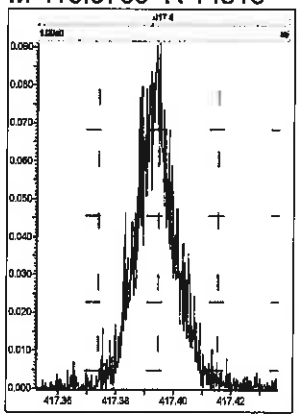

M 366.9792 R 14709

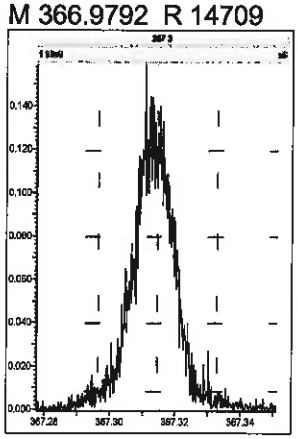

M 380.9760 R 13333

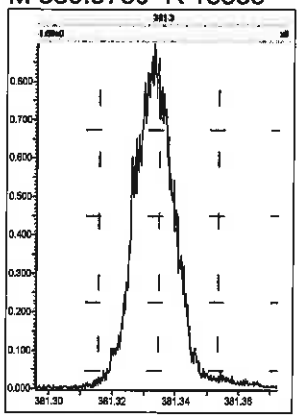

M 392.9760 R 13266

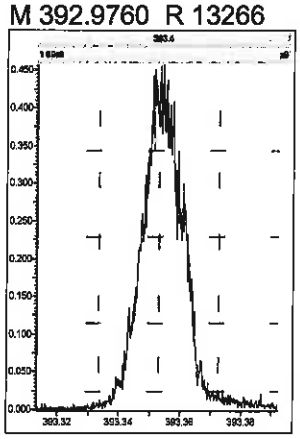

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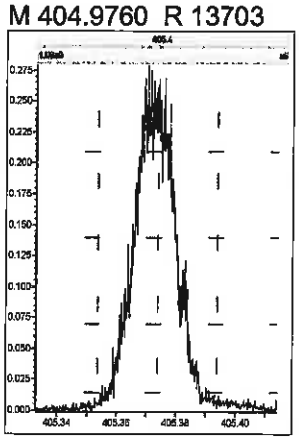

M 416.9760 R 14127

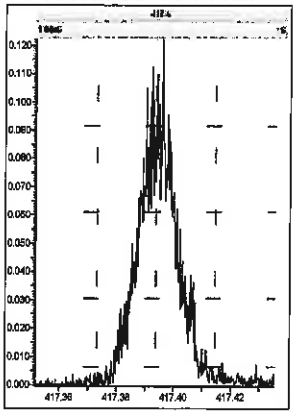

M 430.9728 R 12563

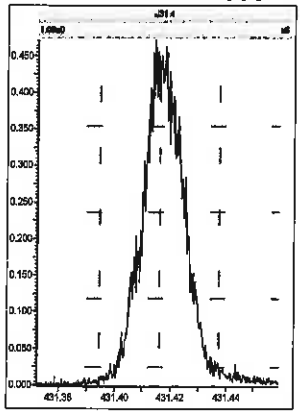

M 442.9728 R 12953

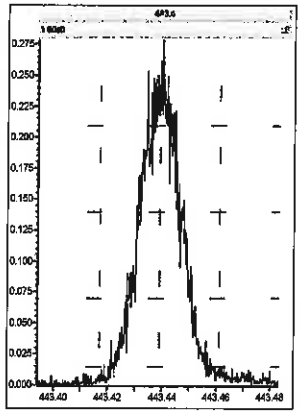

M 454.9728 R 12681

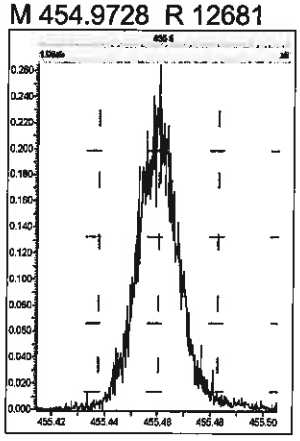

M 380.9760 R 12660

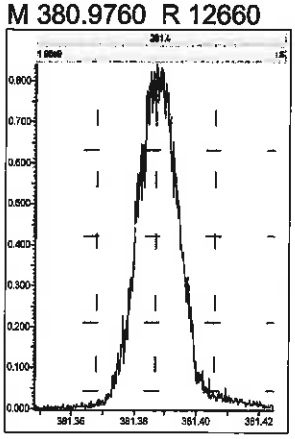

M 392.9760 R 12887

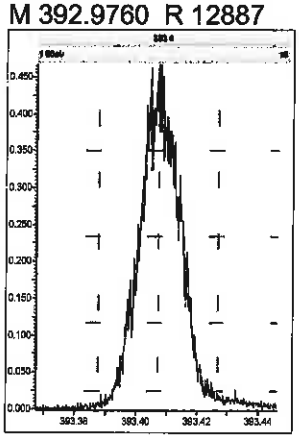

M 404.9760 R 12698

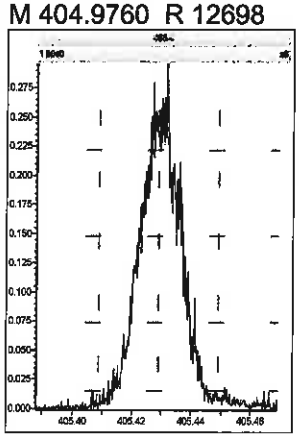

M 416.9760 R 13815

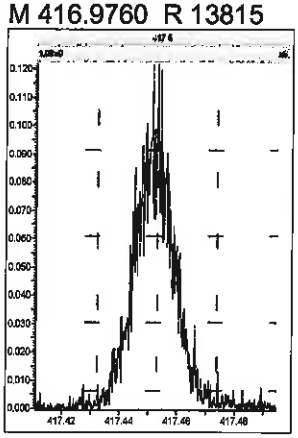

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M 430.9728 R 12626

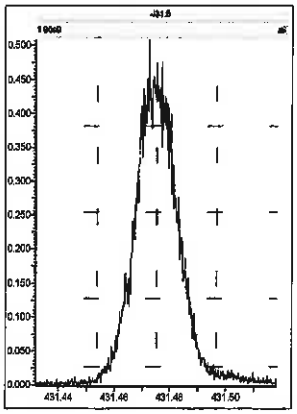

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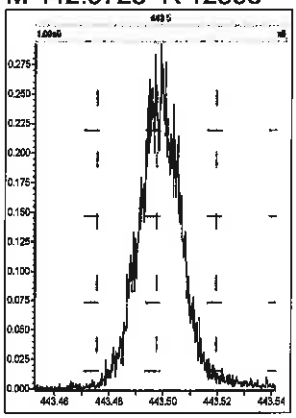

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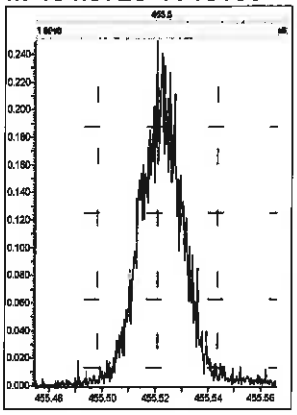

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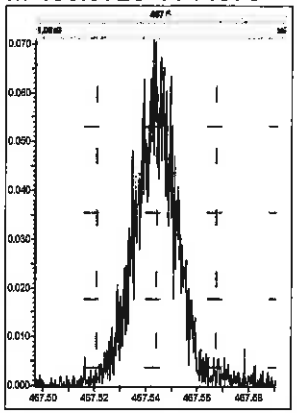

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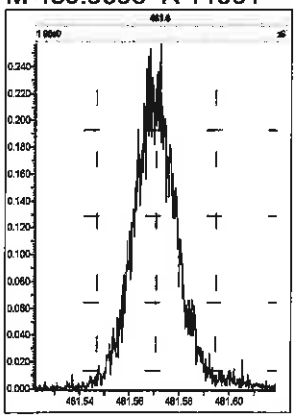

M 380.9760 R 12889

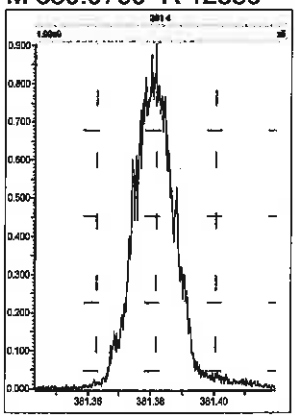

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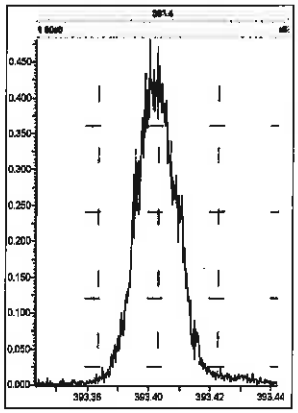

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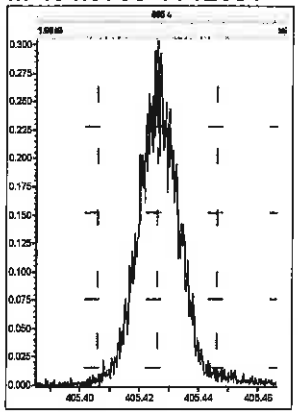

M 416.9760 R 14008

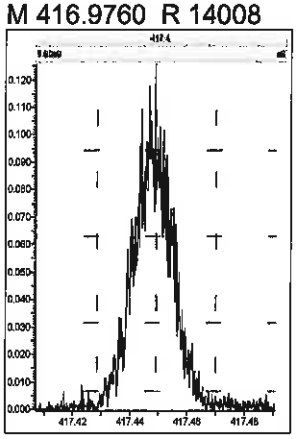

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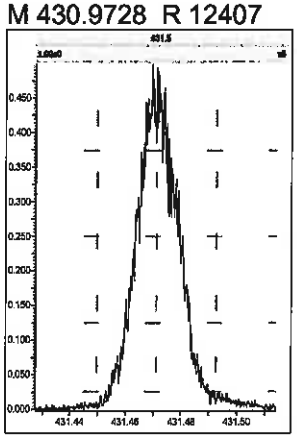

M 442.9728 R 12801

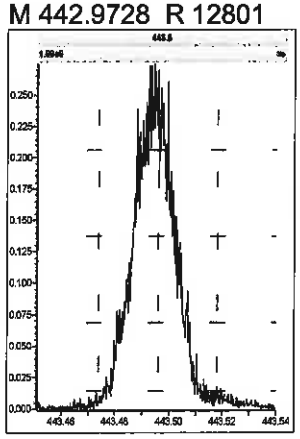

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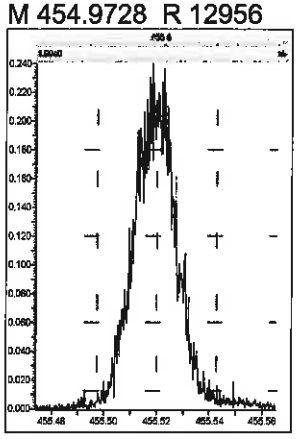

M 466.9728 R 14288

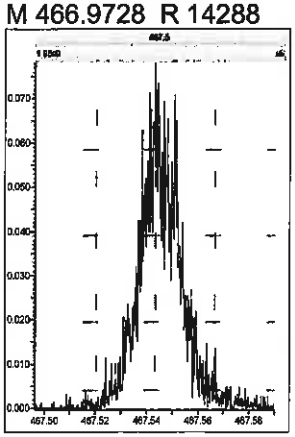

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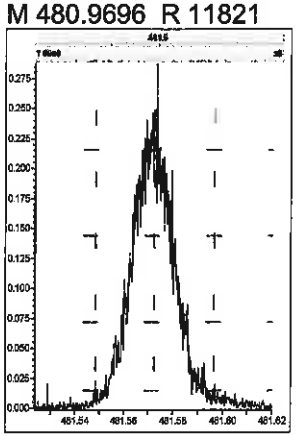

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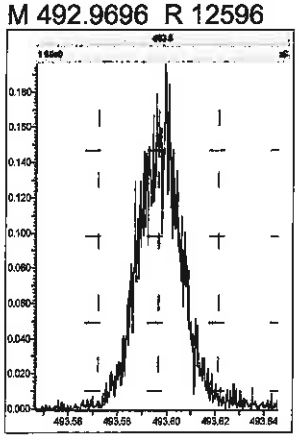

M 504.9696 R 12859

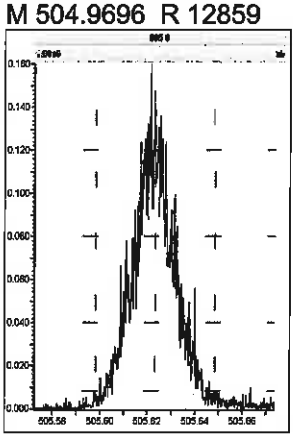

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M 516.9697 R 14825

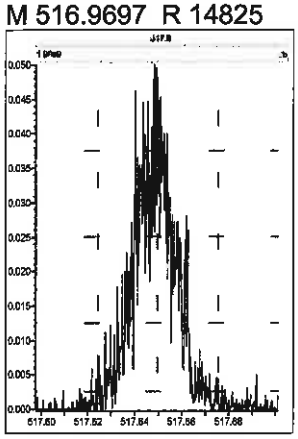

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M 292.9824 R 14166

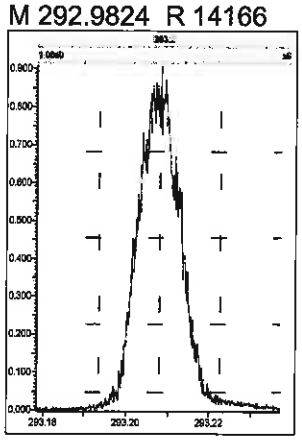

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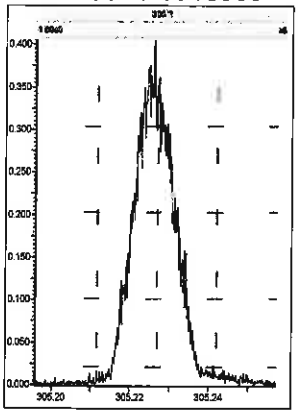

M 318.9792 R 13899

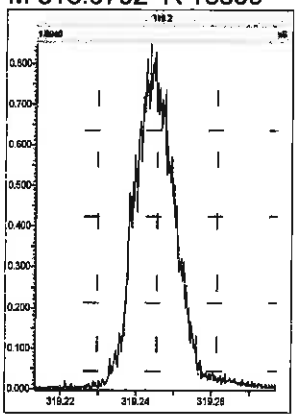

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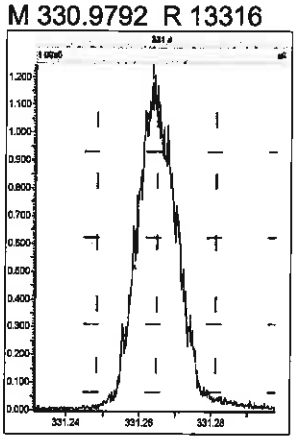

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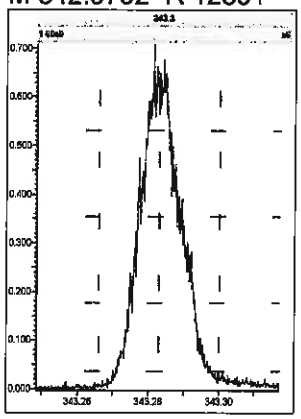

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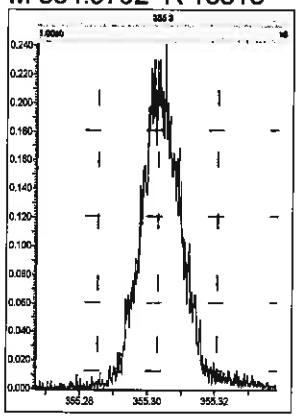

M 366.9792 R 14048

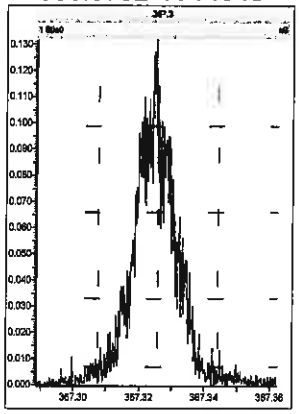

M 380.9760 R 12438

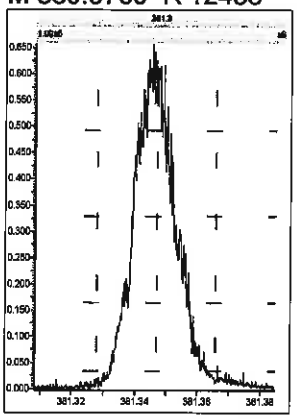

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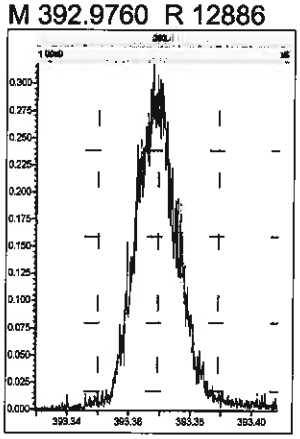

M 404.9760 R 13157

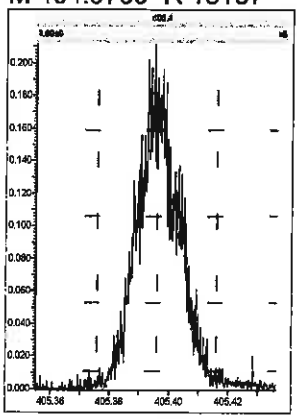

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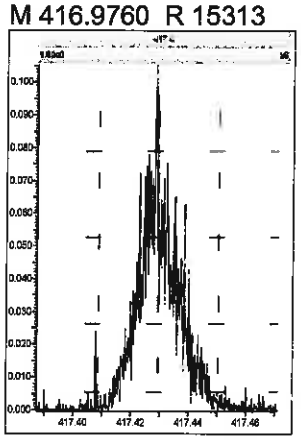

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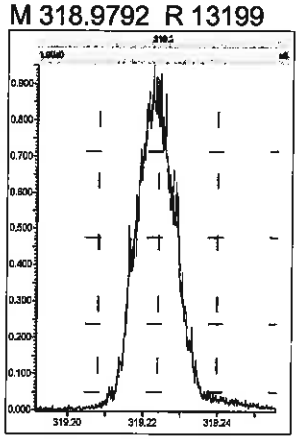

M 330.9792 R 13815

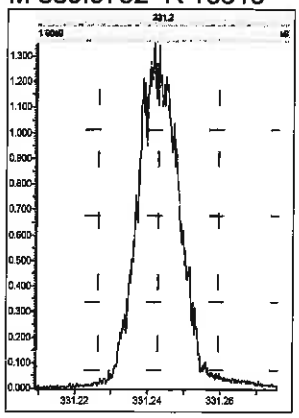

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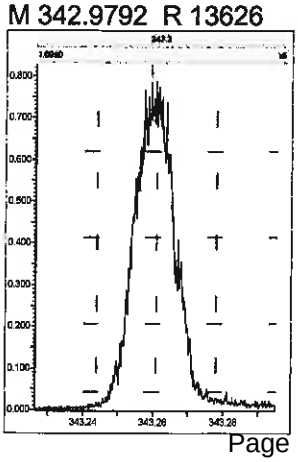

M 354.9792 R 14048

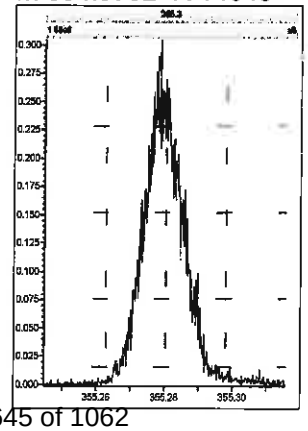

M 366.9792 R 13561

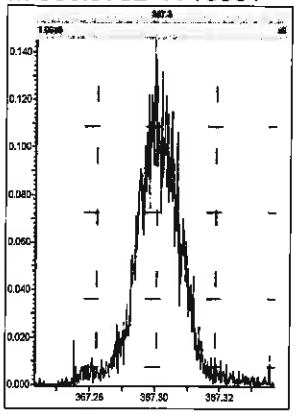

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M 380.9760 R 12345

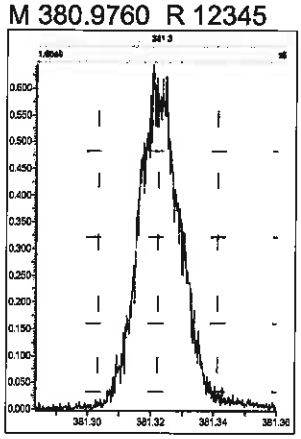

M 392.9760 R 12887

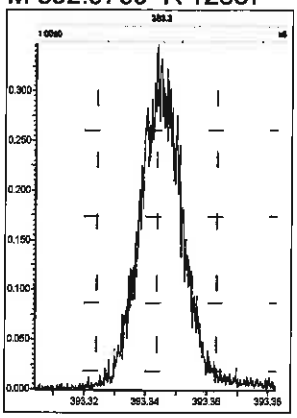

M 404.9760 R 12793

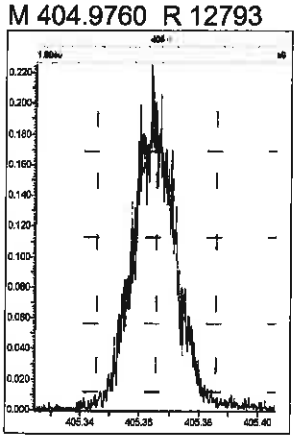

M 416.9760 R 14584

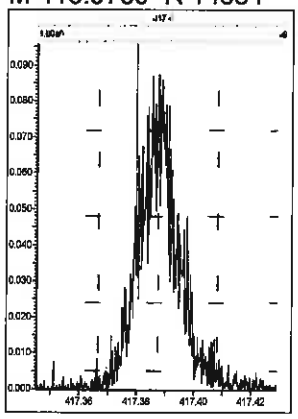

M 366.9792 R 13516

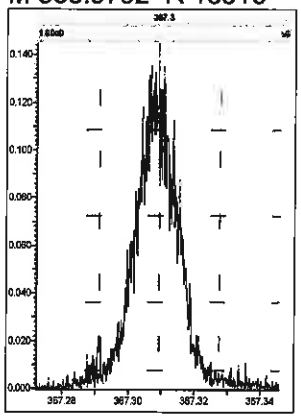

M 380.9760 R 12919

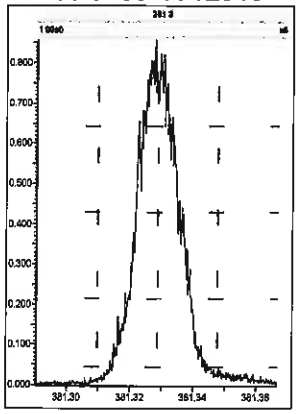

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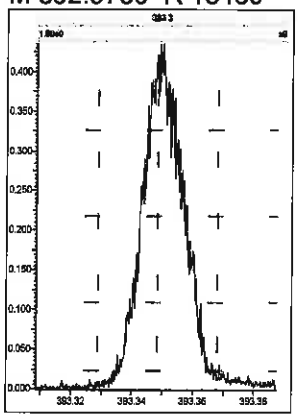

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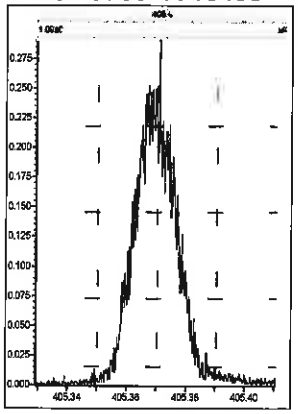

M 416.9760 R 13928

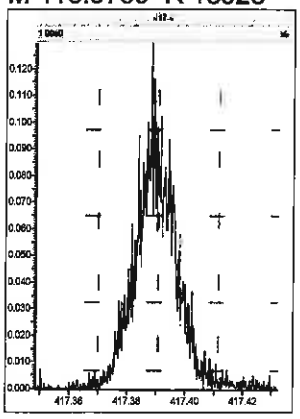

M 430.9728 R 12438

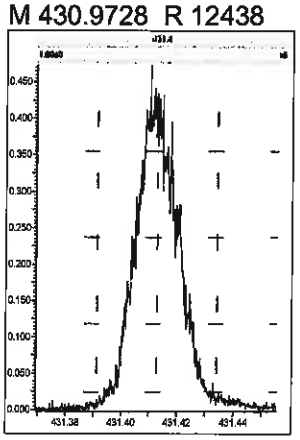

M 442.9728 R 12671

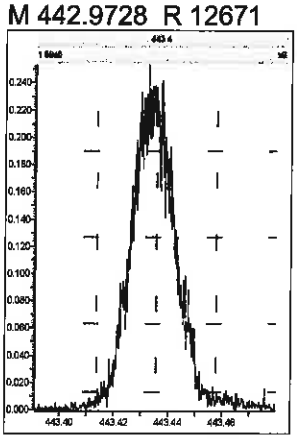

M 454.9728 R 12499

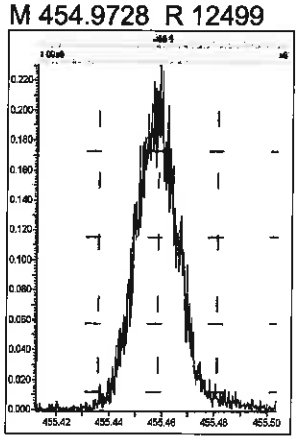

M 380.9760 R 12821

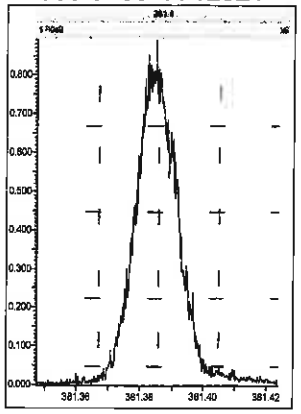

M 392.9760 R 12661

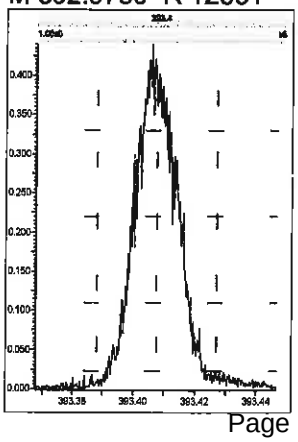

M 404.9760 R 13227

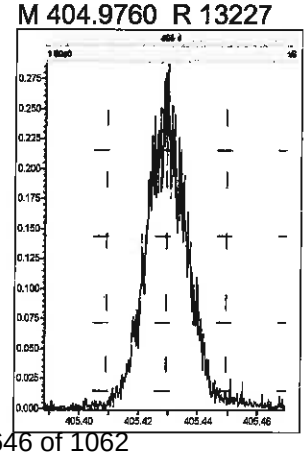

M 416.9760 R 14296

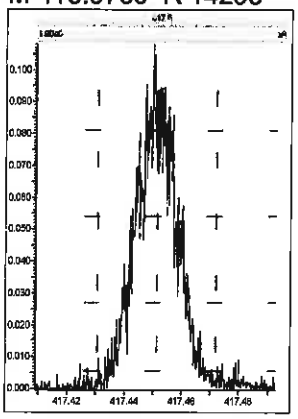

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M 430.9728 R 12255

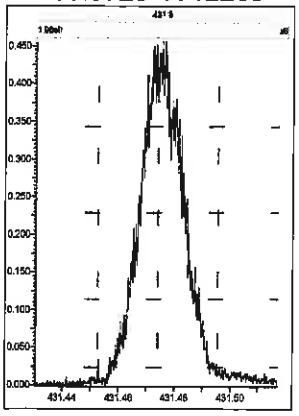

M 442.9728 R 12728

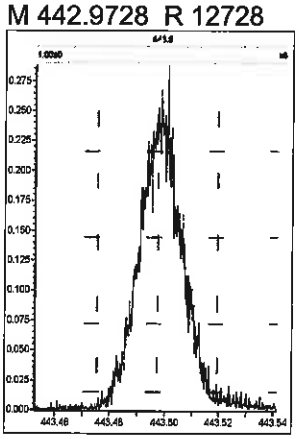

M 454.9728 R 12230

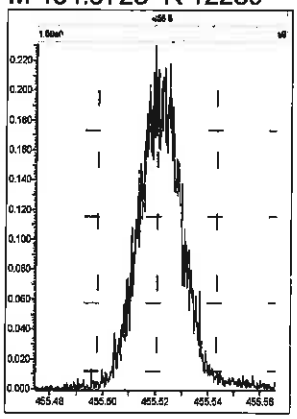

M 466.9728 R 14538

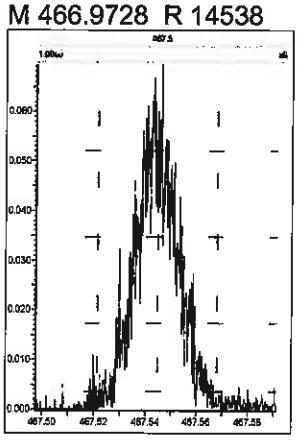

M 480.9696 R 12269

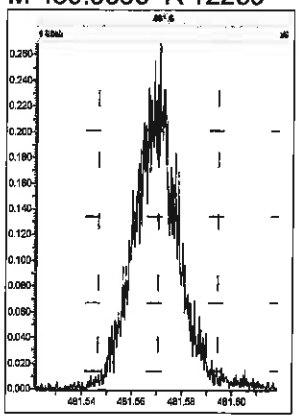

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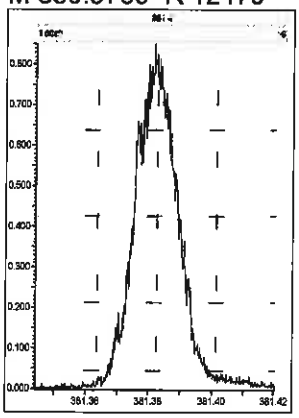

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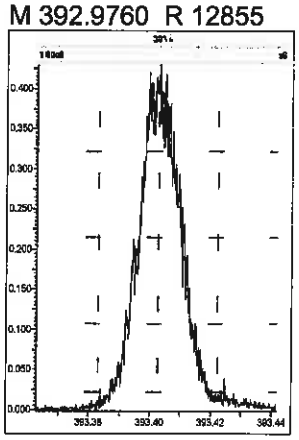

M 404.9760 R 13538

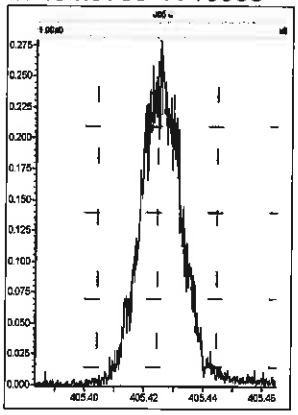

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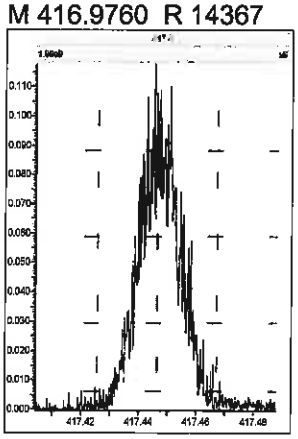

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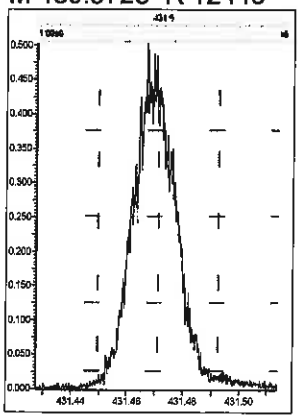

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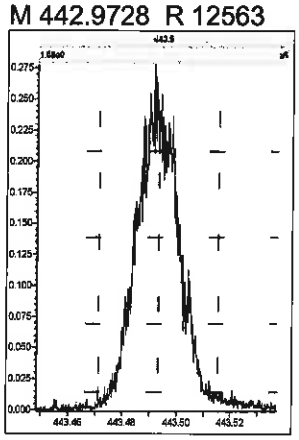

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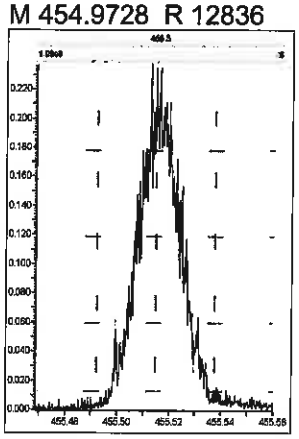

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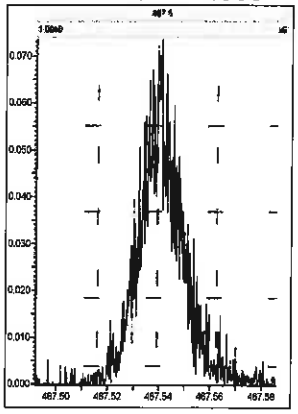

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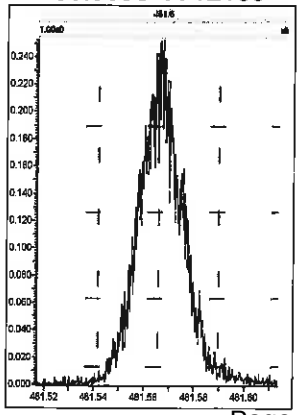

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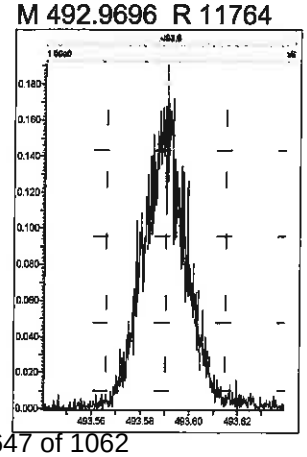

M 504.9696 R 12687

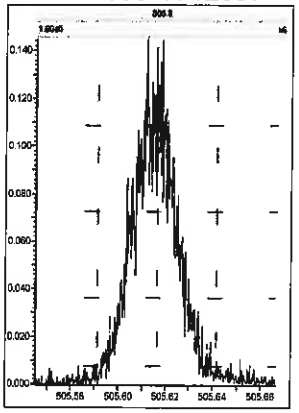

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M 516.9697 R 15263

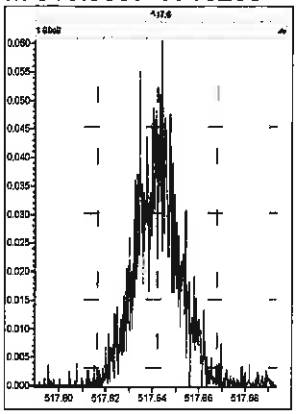

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M 292.9824 R 13587

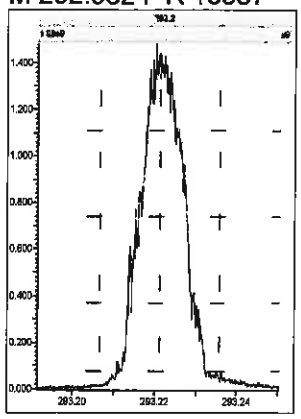

M 304.9824 R 13736

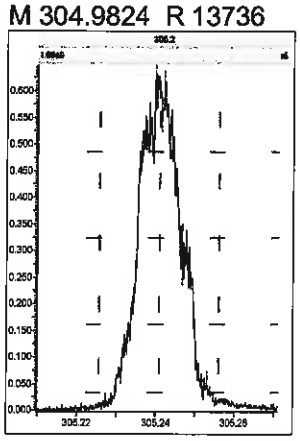

M 318.9792 R 12922

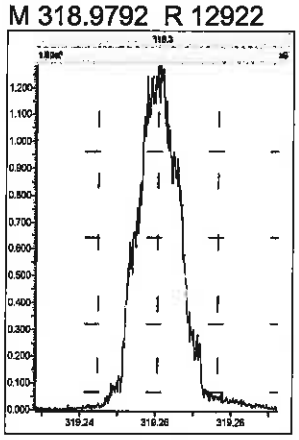

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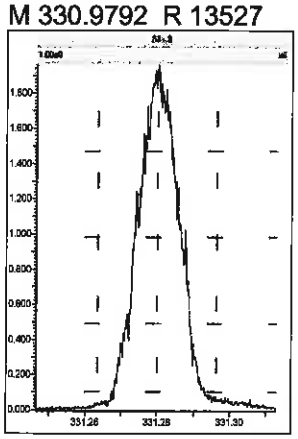

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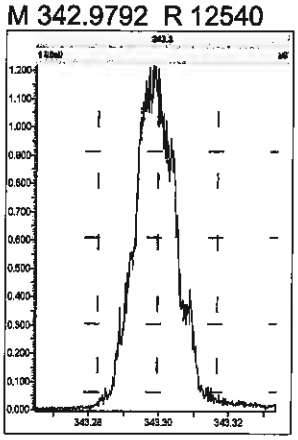

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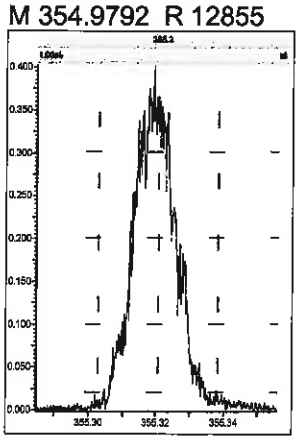

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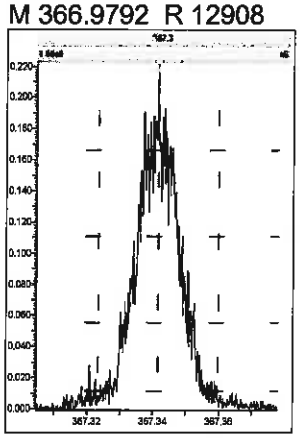

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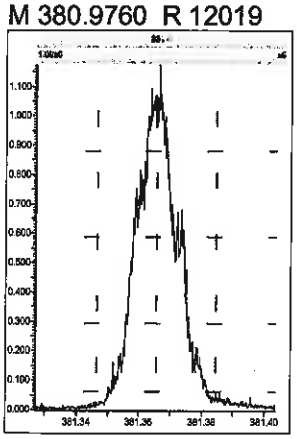

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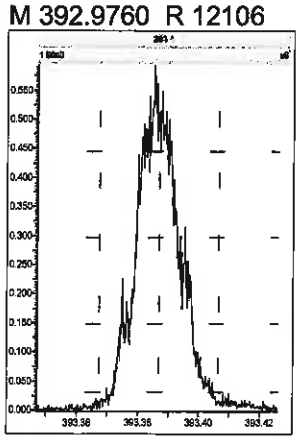

M 404.9760 R 12107

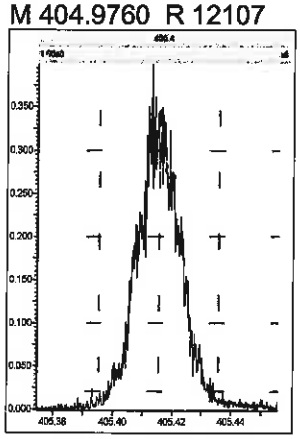

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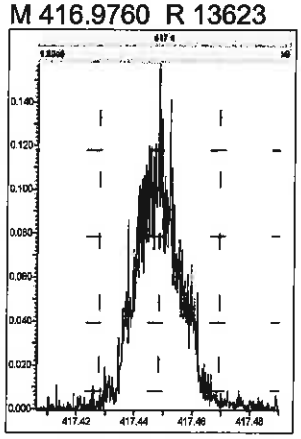

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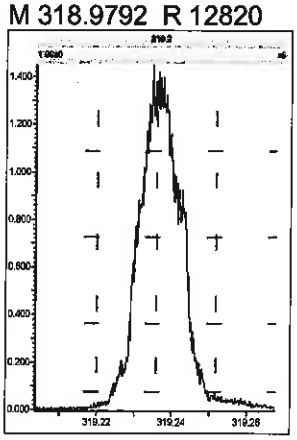

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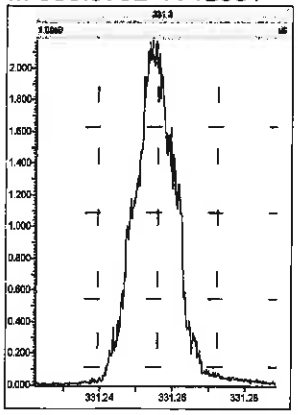

M 342.9792 R 12438

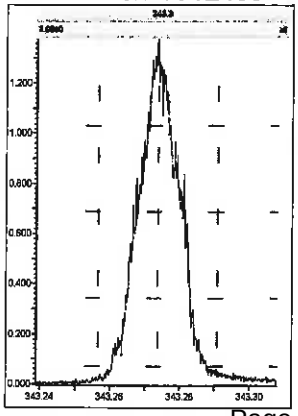

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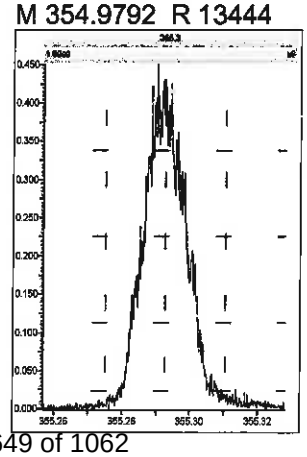

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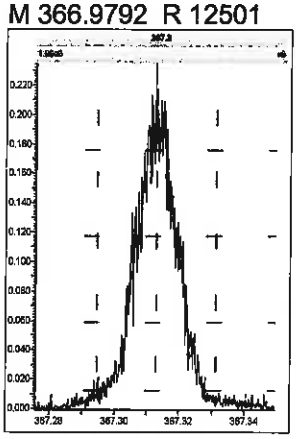

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M 380.9760 R 12209

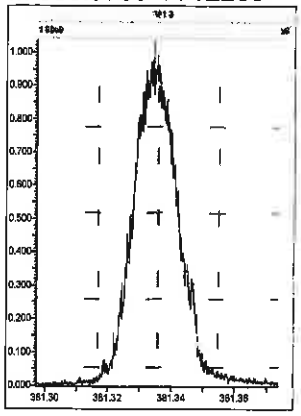

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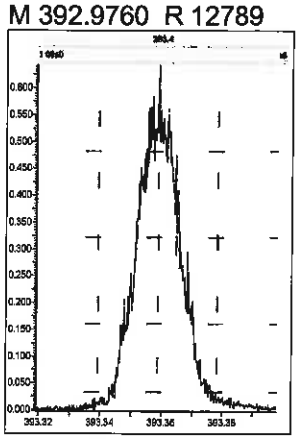

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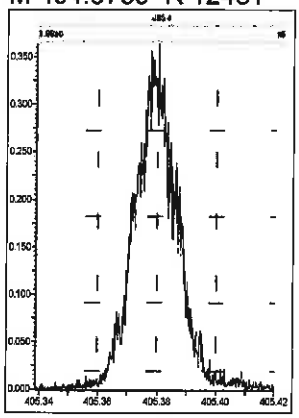

M 416.9760 R 13412

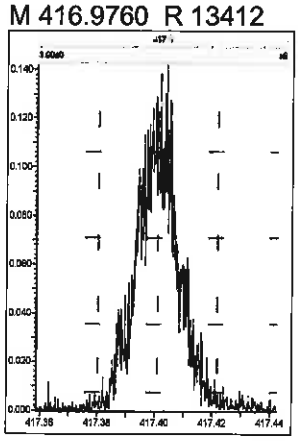

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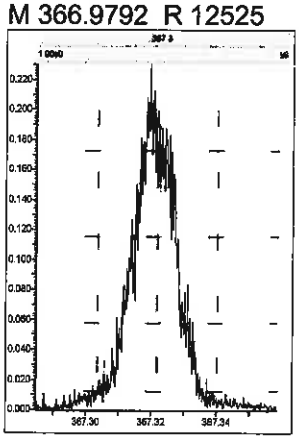

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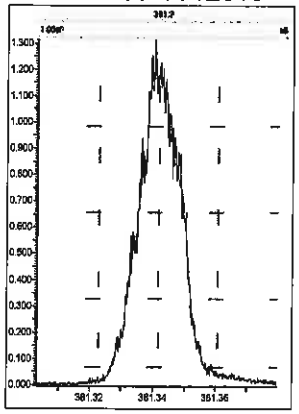

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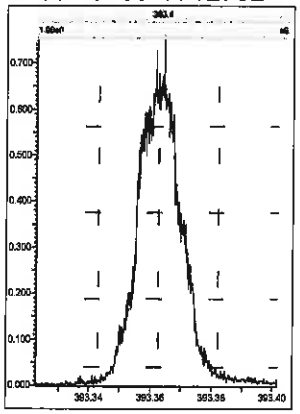

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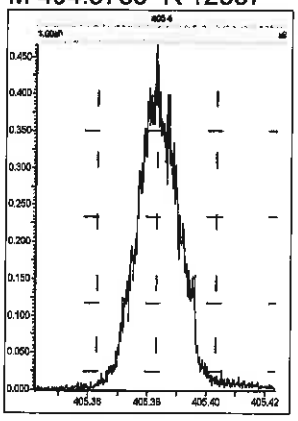

M 416.9760 R 14102

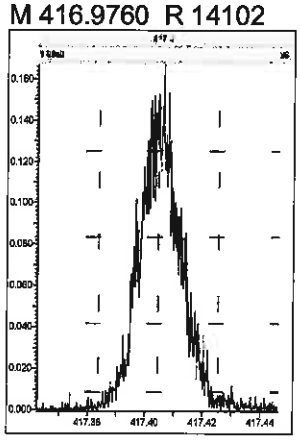

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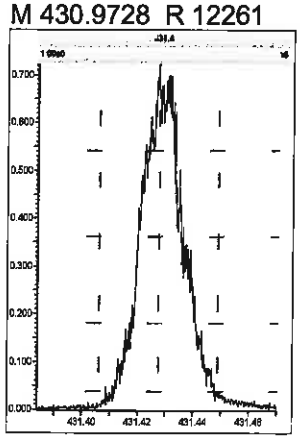

M 442.9728 R 12531

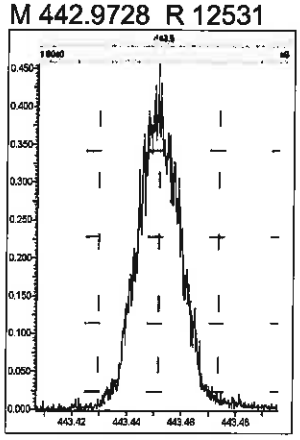

M 454.9728 R 12612

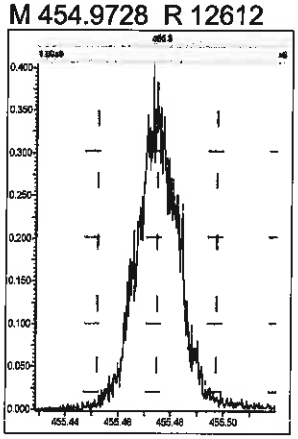

M 380.9760 R 12890

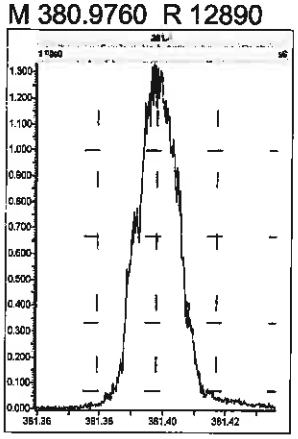

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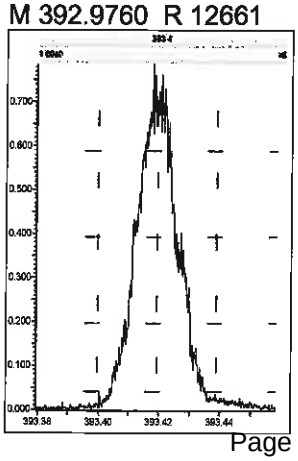

M 404.9760 R 12705

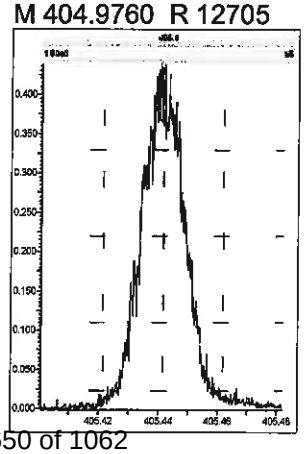

M 416.9760 R 12965

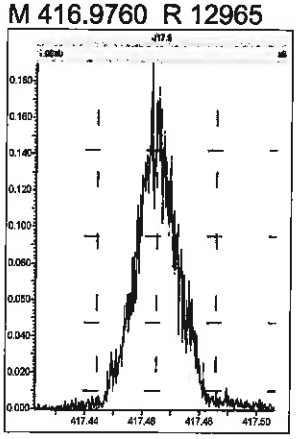

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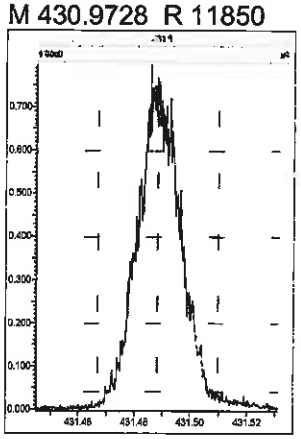

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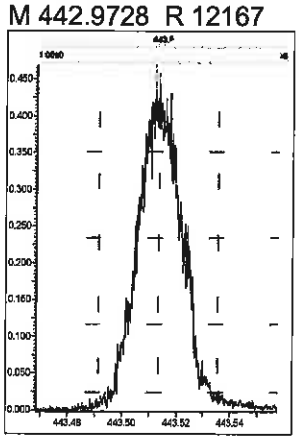

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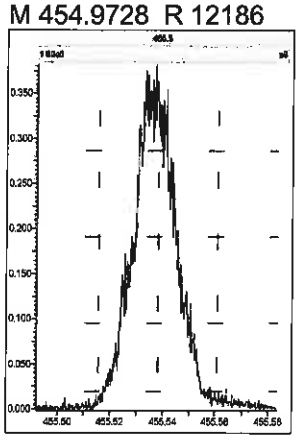

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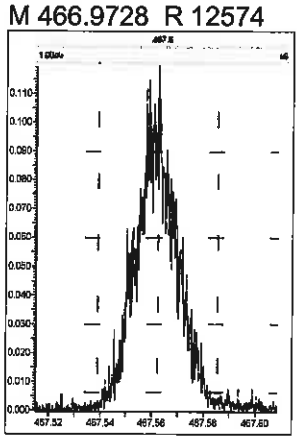

M 480.9696 R 11688

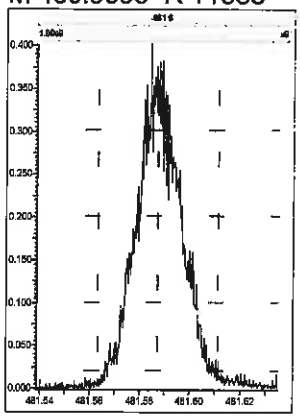

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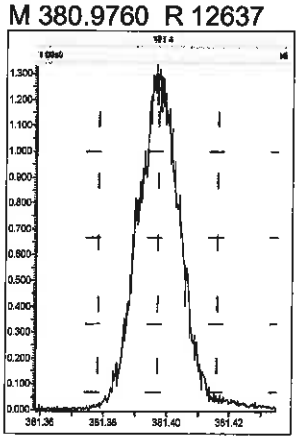

M 392.9760 R 12406

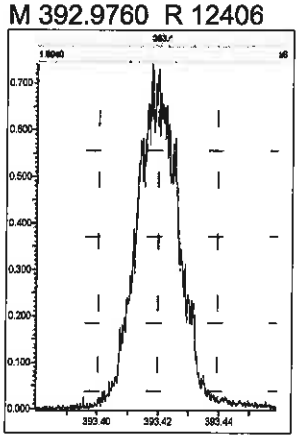

M 404.9760 R 12970

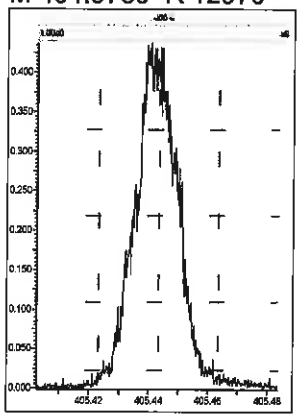

M 416.9760 R 13578

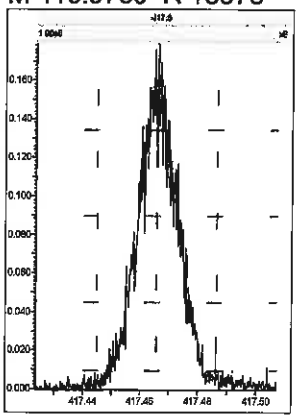

M 430.9728 R 12107

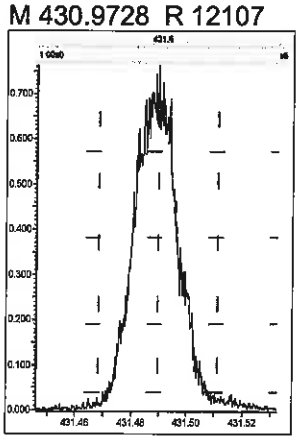

M 442.9728 R 12325

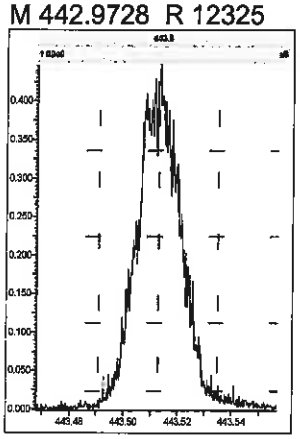

M 454.9728 R 12410

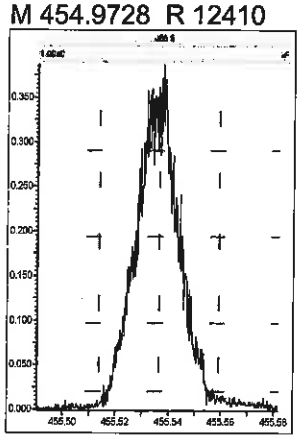

M 466.9728 R 13227

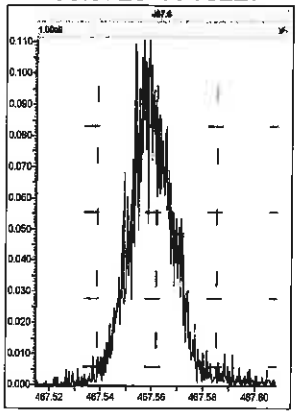

M 480.9696 R 11878

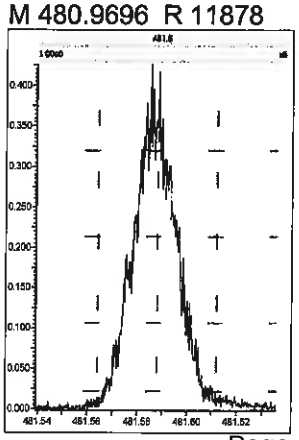

M 492.9696 R 12570

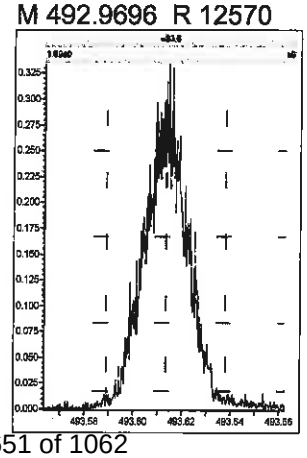

M 504.9696 R 11963

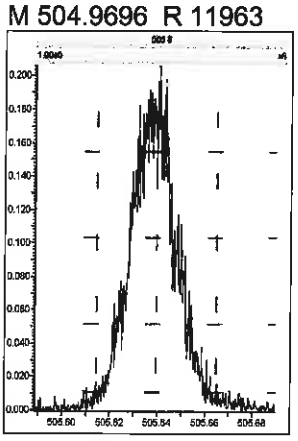

Printed: Wednesday, November 13, 2019 16:42:52 Pacific Standard Time

M 516.9697 R 13163

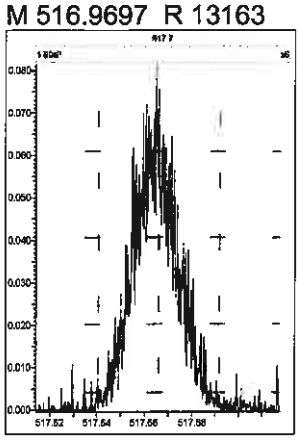

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_35.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 13-Nov-2019 07:28:41 ALS Bottle#: 2 Worklist Smp#: 35
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 111219C CS-4 HRDXNL4_00084
Misc. Info.: 12NO193D5
Operator ID: ALM, AJS Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Nov-2019 07:08:10 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: krenns Date: 14-Nov-2019 07:08:10

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.414	161482488	0.82	3.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.930	239983646	0.76	1.3908	106.9	106.9	0.5729	0.5729	107	
2,3,7,8-TCDF	16.945	23052422	0.75	0.9710	9.892	9.892	0.0487	0.0487	98.92	
A Non-2,3,7,8-sub-TCDF	16.651						0.0487	0.0487		
S Total TCDF					9.892	9.892	0.0487	0.0487		
D 13C-2,3,7,8-TCDD	17.611	162187595	0.80	0.9819	102.3	102.3	0.2891	0.2891	102	
2,3,7,8-TCDD	17.626	16607435	0.77	1.0447	9.801	9.801	0.0564	0.0564	98.01	
$ 37Cl4-2,3,7,8-TCDD	17.626	16615844		1.2205	8.430	8.430	0.0457	0.0457	105	
A Non-2,3,7,8-sub-TCDD	17.097						0.0564	0.0564		
S Total TCDD					9.801	9.801	0.0564	0.0564		
D 13C-1,2,3,7,8-PeCDF	21.743	197462535	1.59	1.1585	105.6	105.6	0.3726	0.3726	106	
1,2,3,7,8-PeCDF	21.771	95908560	1.59	0.9633	50.4	50.4	0.2374	0.2374	101	
D 13C-2,3,4,7,8-PeCDF	23.039	184872667	1.65	1.1532	99.3	99.3	0.3743	0.3743	99.28	
2,3,4,7,8-PeCDF	23.066	91228835	1.52	0.9495	52.0	52.0	0.2832	0.2832	104	
A F1 PeCDFs	19.599						0.0329	0.0329		
A Non-2,3,7,8-sub-PeCDF	22.617						0.2585	0.2585		
S Total PeCDF					102.4	102.4	0.2603	0.2603		
D 13C-1,2,3,7,8-PeCDD	23.734	119531941	1.61	0.7431	99.6	99.6	0.2277	0.2277	99.61	
1,2,3,7,8-PeCDD	23.748	63003685	1.58	1.0635	49.6	49.6	0.2259	0.2259	99.13	
A Non-2,3,7,8-sub-PeCDD	22.698						0.2259	0.2259		
S Total PeCDD					49.6	49.6	0.2259	0.2259		
D 13C-1,2,3,4,7,8-HxCDF	29.845	156345273	0.53	0.9837	103.3	103.3	0.4473	0.4473	103	
1,2,3,4,7,8-HxCDF	29.871	90319698	1.26	1.2173	47.5	47.5	0.3387	0.3387	94.91	
D 13C-1,2,3,6,7,8-HxCDF	30.084	169472880	0.52	1.1554	95.3	95.3	0.3808	0.3808	95.35	
1,2,3,6,7,8-HxCDF	30.111	95421435	1.25	1.1311	49.8	49.8	0.3377	0.3377	99.55	
D 13C-2,3,4,6,7,8-HxCDF	31.083	161810286	0.53	1.0361	101.5	101.5	0.4247	0.4247	102	
2,3,4,6,7,8-HxCDF	31.110	93909848	1.24	1.1710	49.6	49.6	0.2242	0.2242	99.13	
D 13C-1,2,3,7,8,9-HxCDF	31.989	155075986	0.52	0.9034	111.6	111.6	0.4870	0.4870	112	
1,2,3,7,8,9-HxCDF	32.002	90195955	1.24	1.1787	49.3	49.3	0.2179	0.2179	98.69	
A Non-2,3,7,8-sub-HxCDF	29.618						0.2672	0.2672		

Report Date: 14-Nov-2019 07:08:16 Chrom Revision: 2.3 31-Oct-2019 20:21:30
Data File: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_35.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					196.1	196.1	0.2796	0.2796		
* 13C-1,2,3,7,8,9-HxCDD	31.789	153838491	1.30	2.6E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.309	118527288	1.29	0.8287	93.0	93.0	0.2814	0.2814	92.97	
1,2,3,4,7,8-HxCDD	31.323	59927569	1.24	1.0267	49.2	49.2	0.1686	0.1686	98.49	
D 13C-1,2,3,6,7,8-HxCDD	31.429	134246307	1.30	0.9495	91.9	91.9	0.2456	0.2456	91.91	
1,2,3,6,7,8-HxCDD	31.442	67655391	1.27	0.9771	51.6	51.6	0.1794	0.1794	103	
1,2,3,7,8,9-HxCDD	31.802	71988661	1.26	1.0616	53.7	53.7	0.1641	0.1641	107	
A Non-2,3,7,8-sub-HxCDD	30.264						0.1705	0.1705		
S Total HxCDD					154.5	154.5	0.1707	0.1707		
D 13C-1,2,3,4,6,7,8-HpCDF	33.508	122072655	0.42	0.7285	108.9	108.9	1.743	1.743	109	
1,2,3,4,6,7,8-HpCDF	33.520	83740726	1.03	1.4373	47.7	47.7	0.4824	0.4824	95.46	
D 13C-1,2,3,4,7,8,9-HpCDF	34.590	113793358	0.45	0.6556	112.8	112.8	1.936	1.936	113	
1,2,3,4,7,8,9-HpCDF	34.602	73806342	1.06	1.3091	49.5	49.5	0.6485	0.6485	99.09	
A Non-2,3,7,8-sub-HpCDF	34.073						0.5559	0.5559		
S Total HpCDF					97.3	97.3	0.5654	0.5654		
D 13C-1,2,3,4,6,7,8-HpCDD	34.298	95336907	1.07	0.6978	88.8	88.8	0.5957	0.5957	88.81	
1,2,3,4,6,7,8-HpCDD	34.310	49030977	1.06	1.0102	50.9	50.9	0.3939	0.3939	102	
A Non-2,3,7,8-sub-HpCDD	34.990						0.3939	0.3939		
S Total HpCDD					50.9	50.9	0.3939	0.3939		
D 13C-OCDD	36.641	156161731	0.91	0.4780	212.4	212.4	0.2211	0.2211	106	
OCDF	36.737	108974829	0.92	1.3501	103.4	103.4	0.0994	0.0994	103	
OCDD	36.653	81919014	0.92	1.0627	98.7	98.7	0.0870	0.0870	98.73	

Reagents:

HRDXNL4_00084 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_35.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 13-Nov-2019 07:28:41 ALS Bottle#: 2 Worklist Smp#: 35
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 111219C CS-4 HRDXNL4_00084
Misc. Info.: 12NO193D5
Operator ID: ALM, AJS Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Nov-2019 07:08:10 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: krenns Date: 14-Nov-2019 07:08:10

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.414	17.414	0		72834092	18180478	30553	76382	595		
333.9339	17.414	17.414	0		88648396	22296025	15403	38507	1448	0.82(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.930	16.930	0	0.972	103877154	24449763	65498	163745	373		
317.9389	16.930	16.930	0	0.972	136106492	31423886	63515	158787	495	0.76(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.945	16.945	0	1.001	9856478	2264200	3987	9967	568		
305.8987	16.945	16.945	0	1.001	13195944	3047875	6580	16450	463	0.75(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.651						3987	9967			
305.8987	16.651						6580	16450			
13C-2,3,7,8-TCDD											
331.9368	17.611	17.611	0	1.011	72228032	16646067	30553	76382	545		
333.9339	17.611	17.611	0	1.011	89959563	20264513	15403	38507	1316	0.80(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.626	17.626	0	1.001	7218726	1684130	5685	14212	296		
321.8936	17.626	17.626	0	1.001	9388709	2136305	3007	7517	710	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.626	17.626	0	1.012	16615844	3638778	9030	22575	403		
A Non-2,3,7,8-sub-TCDD											
319.8965	17.097						5685	14212			
321.8936	17.097						3007	7517			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	21.743	21.743	0	1.249	121339522	21909218	42384	105960	517		
353.8970	21.743	21.743	0	1.249	76123013	13782471	27508	68770	501	1.59(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.771	21.771	0	1.001	58846519	10347542	18797	46992	550		
341.8567	21.771	21.771	0	1.001	37062041	6511225	13859	34647	470	1.59(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	23.039	23.052	-1	1.323	115083148	18900423	42384	105960	446		
353.8970	23.039	23.052	-1	1.323	69789519	11457379	27508	68770	417	1.65(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.066	23.066	0	1.001	55064007	9023789	18797	46992	480		
341.8567	23.052	23.066	-1	1.001	36164828	6001990	13859	34647	433	1.52(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.599						1218	3045			
341.8567	19.599						2943	7357			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.617						18797	46992			
341.8567	22.617						13859	34647			
13C-1,2,3,7,8-PeCDD											
367.8949	23.734	23.734	0	1.363	73650001	11581363	15586	38965	743		
369.8919	23.734	23.734	0	1.363	45881940	7247076	11814	29535	613	1.61(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.748	23.748	0	1.001	38630521	5939893	13159	32897	451		
357.8516	23.748	23.748	0	1.001	24373164	3760245	4931	12327	763	1.58(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.698						13159	32897			
357.8516	22.698						4931	12327			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.845	29.845	0	0.939	54457100	8142299	23560	58900	346		
385.8610	29.845	29.845	0	0.939	101888173	15403794	44875	112187	343	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.871	29.871	0	1.001	50338802	7435264	21749	54372	342		
375.8178	29.871	29.871	0	1.001	39980896	5959531	17085	42712	349	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.084	30.084	0	0.946	58310010	8740270	23560	58900	371		
385.8610	30.084	30.084	0	0.946	111162870	16672914	44875	112187	372	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.111	30.111	0	1.001	53074125	7966677	21749	54372	366		
375.8178	30.111	30.111	0	1.001	42347310	6276849	17085	42712	367	1.25(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.083	31.096	-1	0.978	55747315	12783530	23560	58900	543		
385.8610	31.083	31.096	-1	0.978	106062971	24188941	44875	112187	539	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.110	31.110	0	1.001	52067399	11514643	21749	54372	529		
375.8178	31.096	31.110	-1	1.000	41842449	9370683	17085	42712	548	1.24(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.989	31.988	0	1.006	53139349	13191279	23560	58900	560		
385.8610	31.989	31.988	0	1.006	101936637	24609779	44875	112187	548	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.002	32.002	0	1.000	49969525	11797393	21749	54372	542		
375.8178	31.989	32.002	-1	1.000	40226430	9522036	17085	42712	557	1.24(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.618						21749	54372			
375.8178	29.618						17085	42712			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.789	31.789	0		86818453	22175709	18748	46870	1183		
403.8529	31.789	31.789	0		67020038	16707092	17523	43807	953	1.30(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.309	31.309	0	0.985	66772935	16903441	18748	46870	902		
403.8529	31.309	31.309	0	0.985	51754353	13117437	17523	43807	749	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.323	31.323	0	1.000	33139879	8612058	10831	27077	795		
391.8127	31.323	31.323	0	1.000	26787690	6898462	9960	24900	693	1.24(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.429	31.429	0	0.989	75961620	16880146	18748	46870	900		
403.8529	31.416	31.429	-1	0.988	58284687	12770644	17523	43807	729	1.30(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.442	31.442	0	1.000	37802555	8529673	10831	27077	788		
391.8127	31.442	31.442	0	1.000	29852836	6664692	9960	24900	669	1.27(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.802	31.802	0	1.016	40074655	10299518	10831	27077	951		
391.8127	31.802	31.802	0	1.016	31914006	8051222	9960	24900	808	1.26(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.264						10831	27077			
391.8127	30.264						9960	24900			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.508	33.520	-1	1.054	36181138	13159001	53440	133600	246		
419.8220	33.508	33.520	-1	1.054	85891517	30289092	144010	360025	210	0.42(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.520	33.520	0	1.000	42440759	14755618	80691	201727	183		
409.7789	33.520	33.520	0	1.000	41299967	14359835	39812	99530	361	1.03(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.590	34.590	0	1.088	35410969	11177501	53440	133600	209		
419.8220	34.590	34.590	0	1.088	78382389	24309740	144010	360025	169	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.602	34.602	0	1.000	37930026	11228007	80691	201727	139		
409.7789	34.590	34.602	-1	1.000	35876316	10866129	39812	99530	273	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.073						80691	201727			
409.7789	34.073						39812	99530			

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Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.298	34.310	-1	1.079	49200743	15030127	23655	59137	635		
437.8140	34.298	34.310	-1	1.079	46136164	14176611	41005	102512	346	1.07(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.310	34.310	0	1.000	25263965	7878708	21055	52637	374		
425.7737	34.310	34.310	0	1.000	23767012	7578493	25434	63585	298	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.990						21055	52637			
425.7737	34.990						25434	63585			
13C-OCDD											
469.7779	36.641	36.641	0	1.153	74552171	21281708	8553	21382	2488		
471.7750	36.641	36.641	0	1.153	81609560	23302546	7883	19707	2956	0.91(0.76-1.02)	
OCDF											
441.7428	36.737	36.737	0	1.003	52278215	14656268	4891	12227	2997		
443.7399	36.737	36.737	0	1.003	56696614	15567517	7071	17677	2202	0.92(0.76-1.02)	
OCDD											
457.7377	36.653	36.653	0	1.000	39155741	10916379	3915	9787	2788		
459.7348	36.641	36.653	-1	1.000	42763273	11671456	4327	10817	2697	0.92(0.76-1.02)	

Reagents:

HRDXNL4_00084 Amount Added: 1.00 Units: mL

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Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_35.d		
Injection Date:	13-Nov-2019 07:28:41	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338227	Sample Line#:	35
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

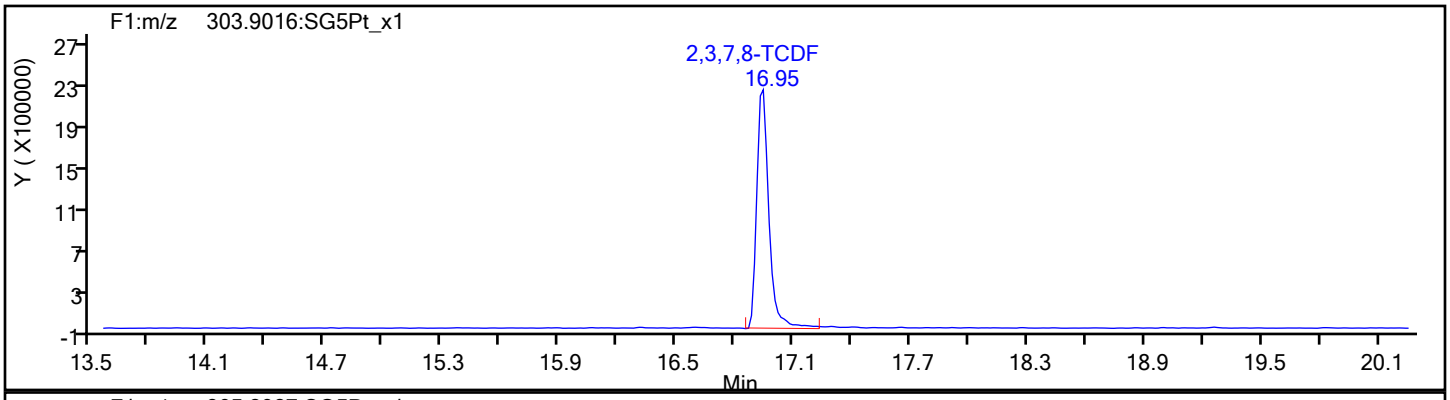

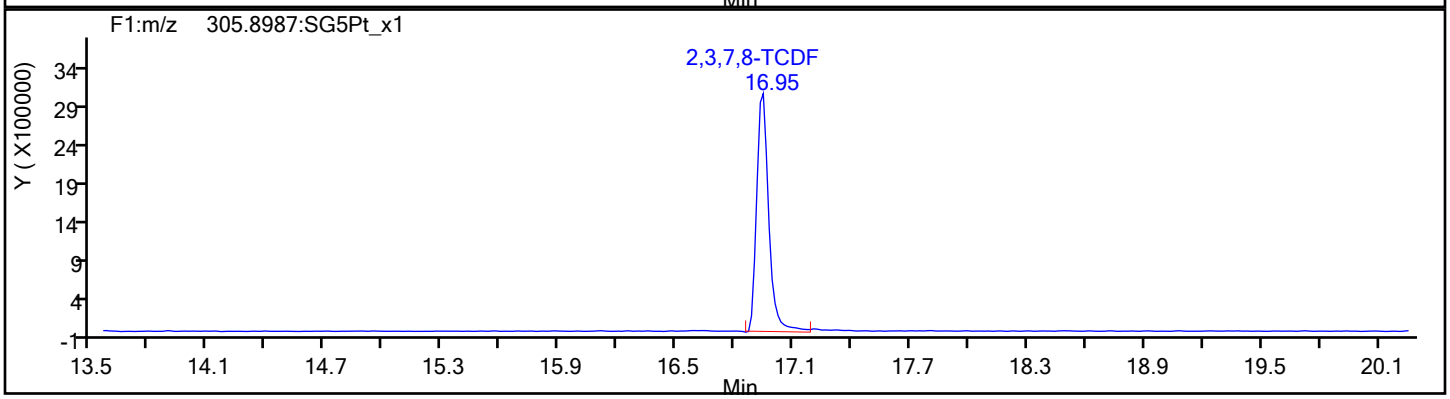

TCDF Standards

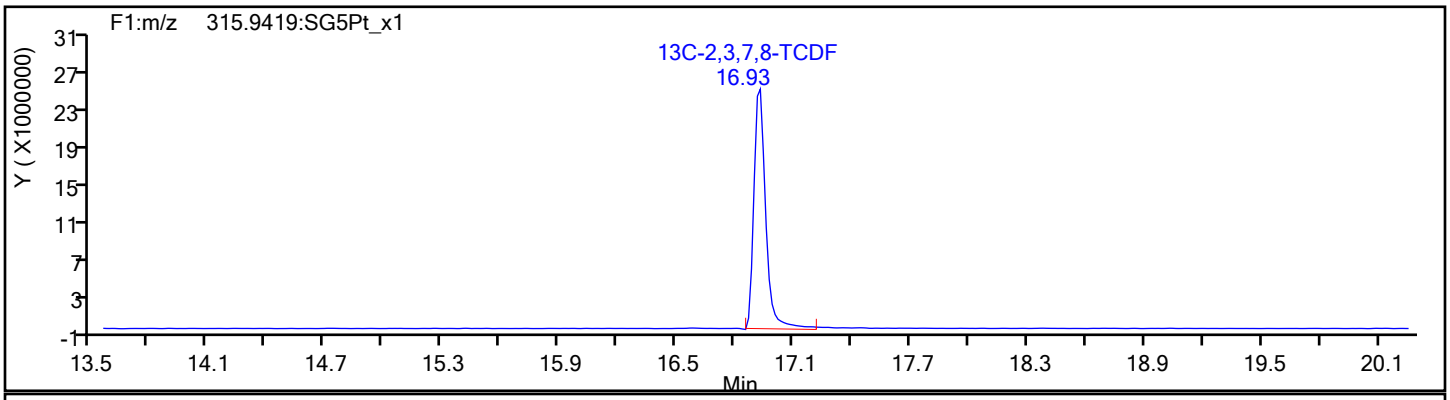

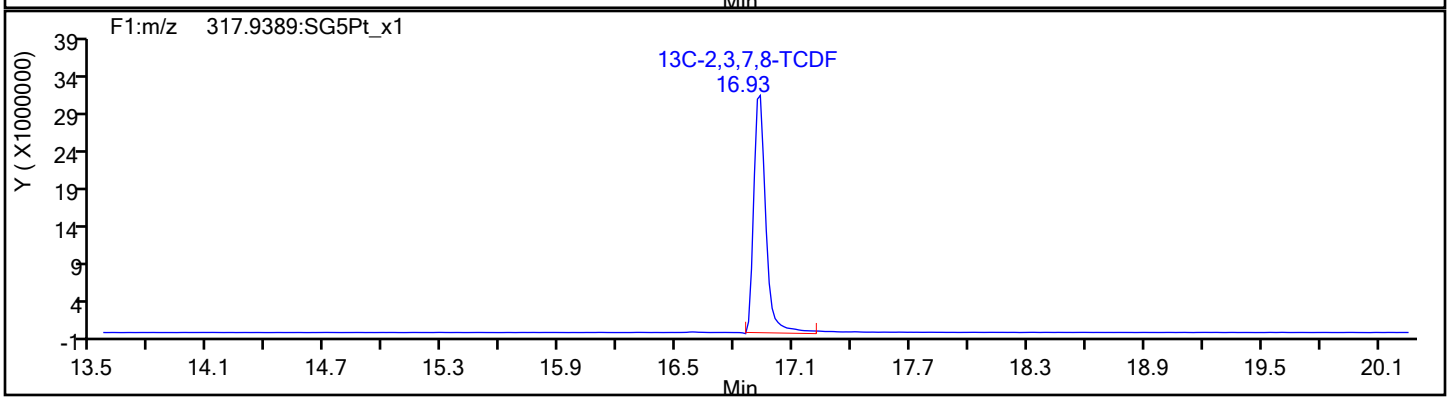

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Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

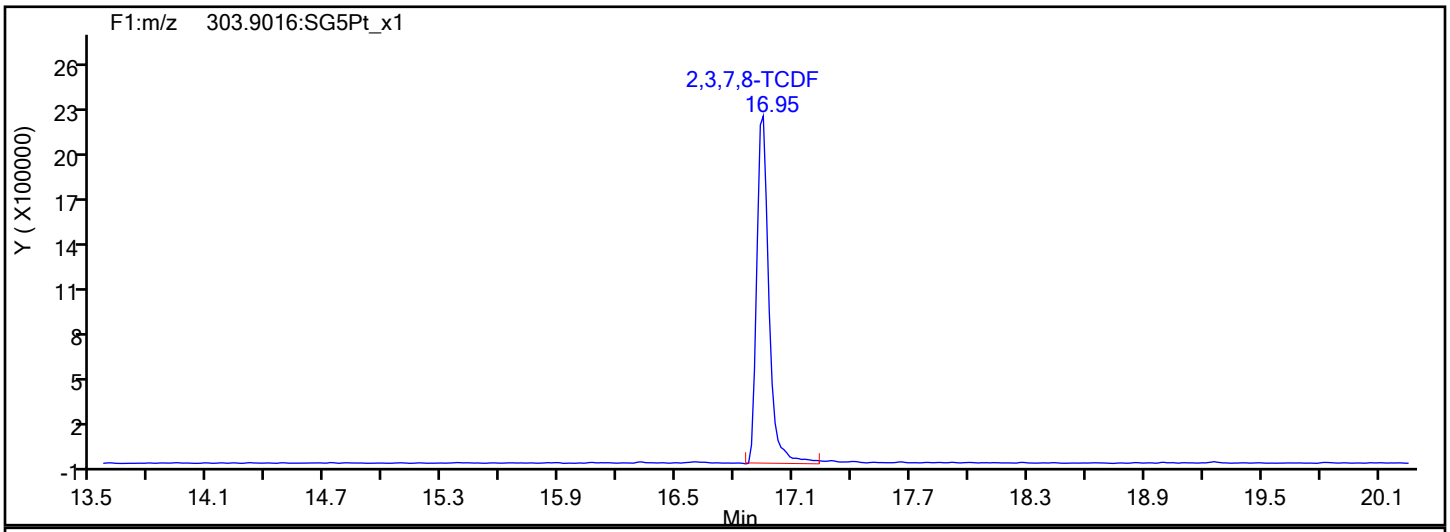

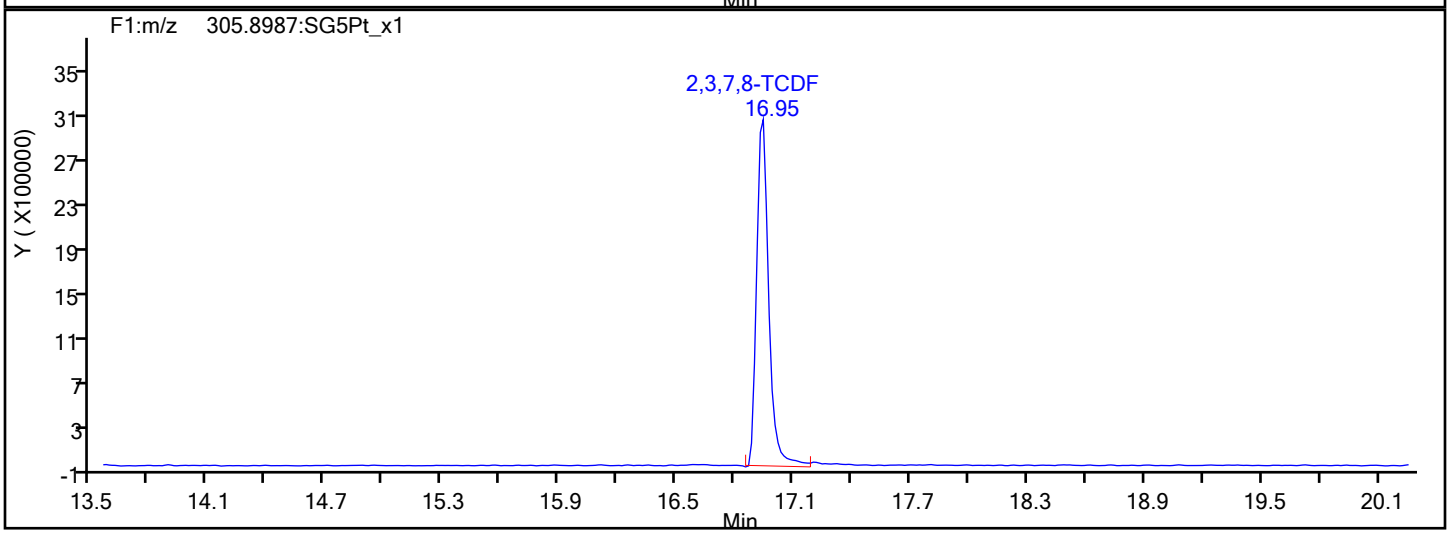

TCDF Interference Mass

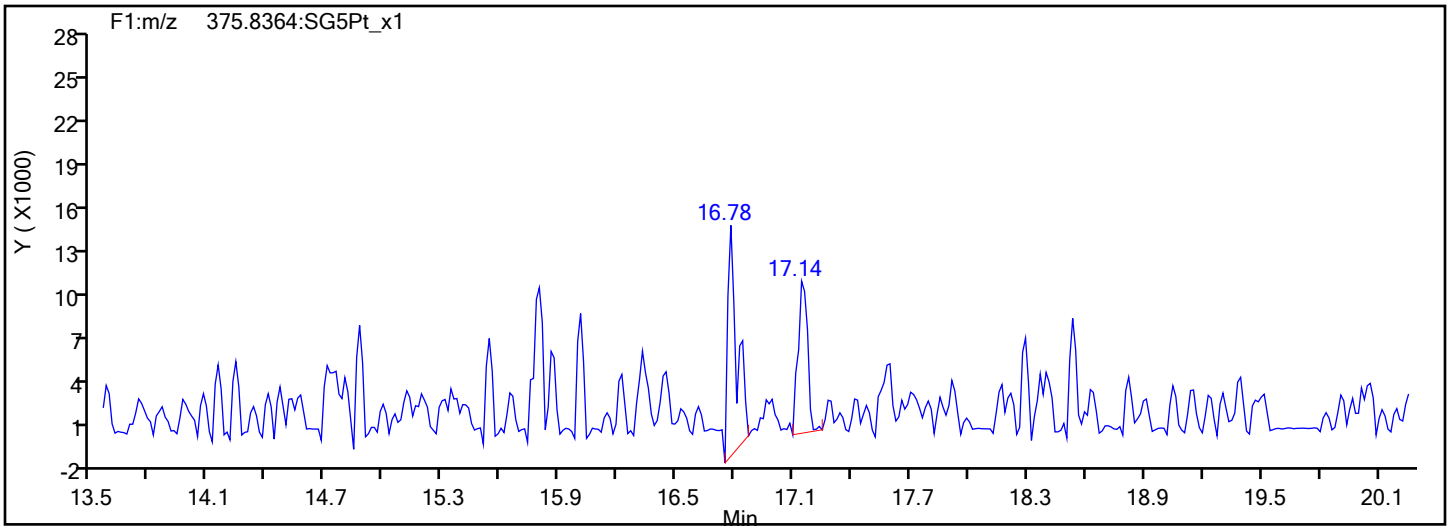

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

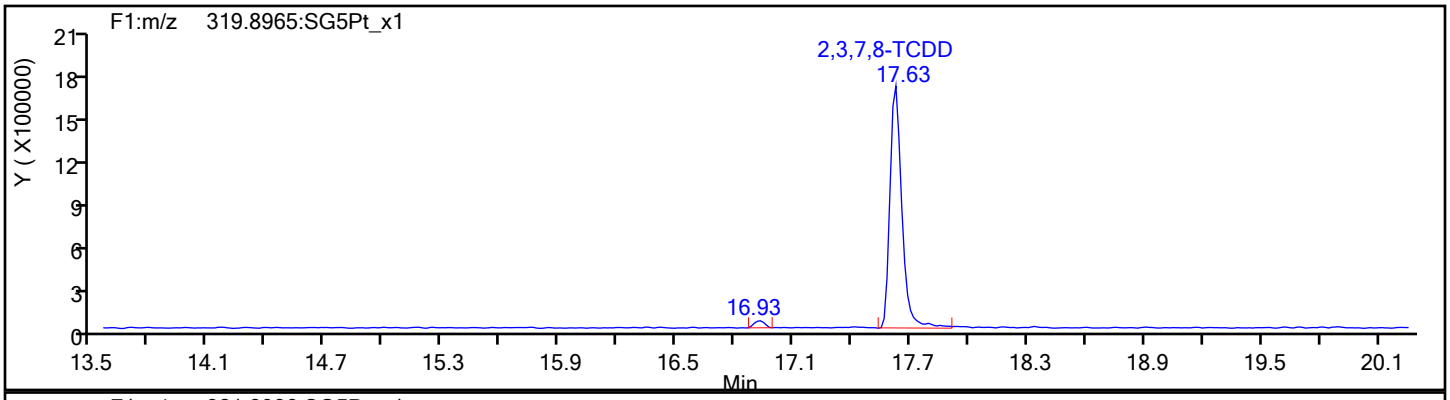

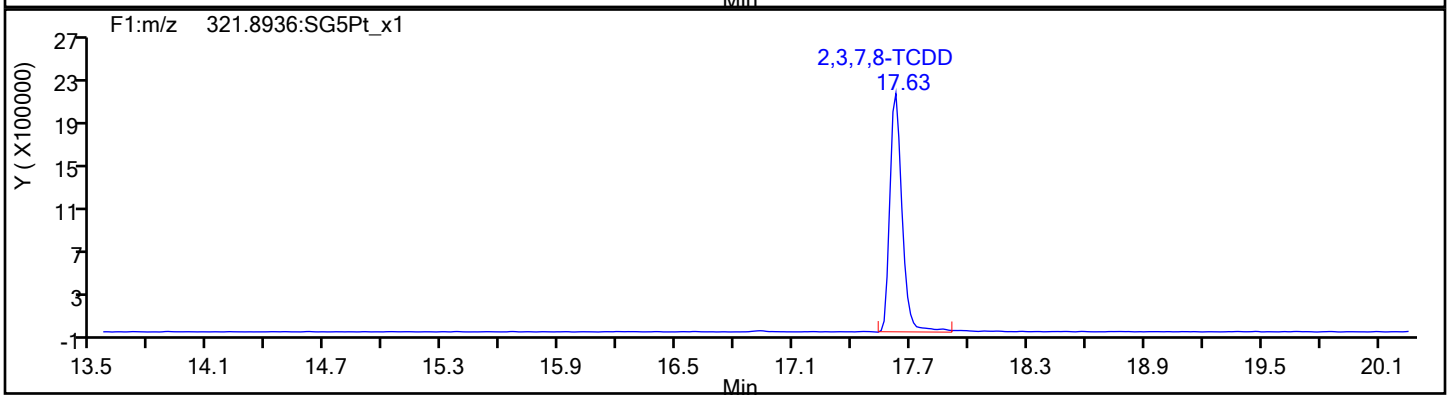

TCDD Standards

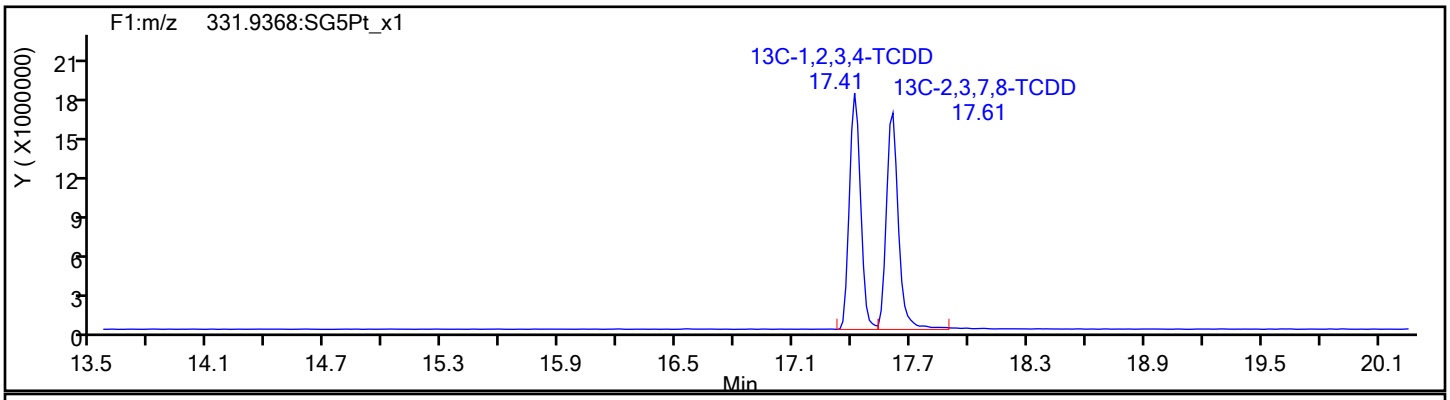

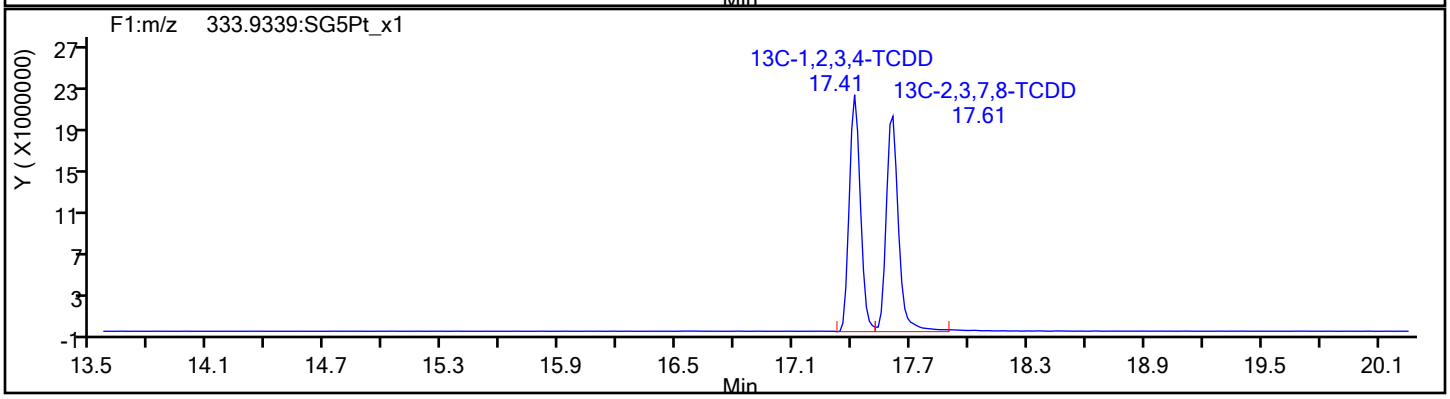

Report Date: 14-Nov-2019 07:08:16 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

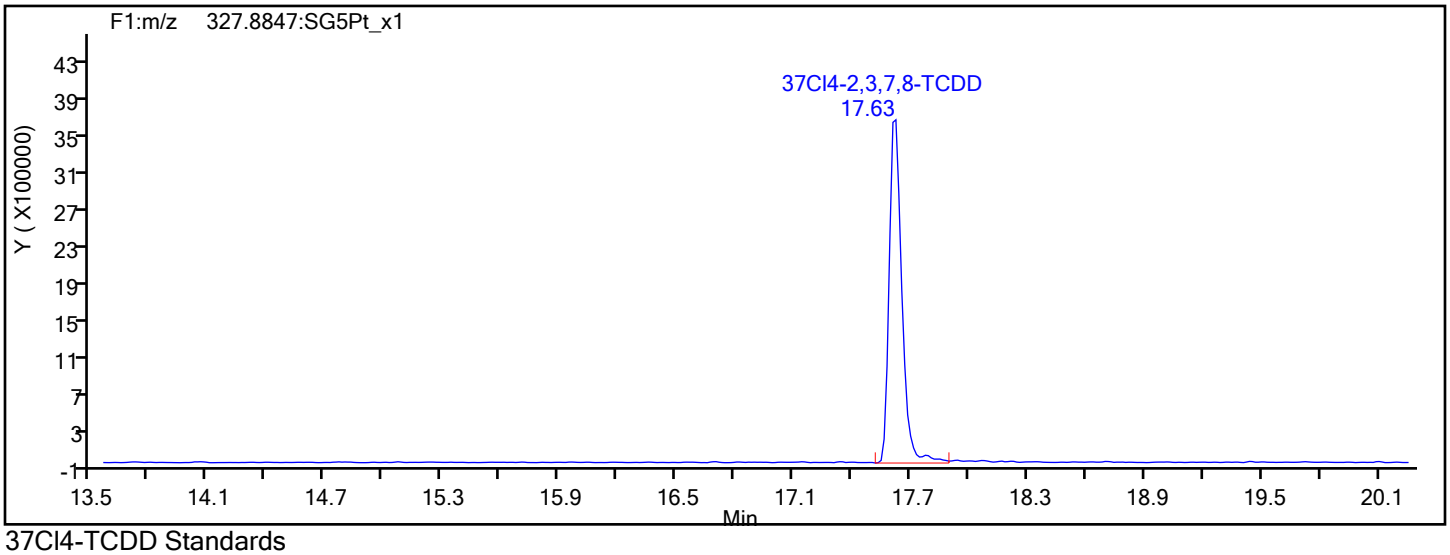

37Cl4-TCDD Standards

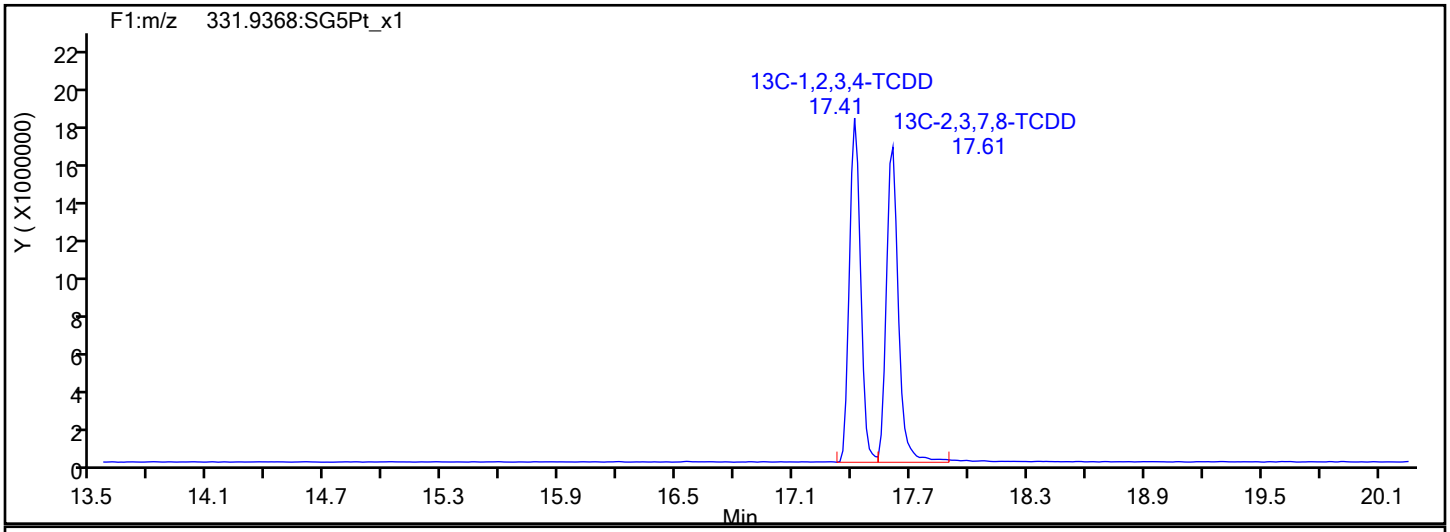

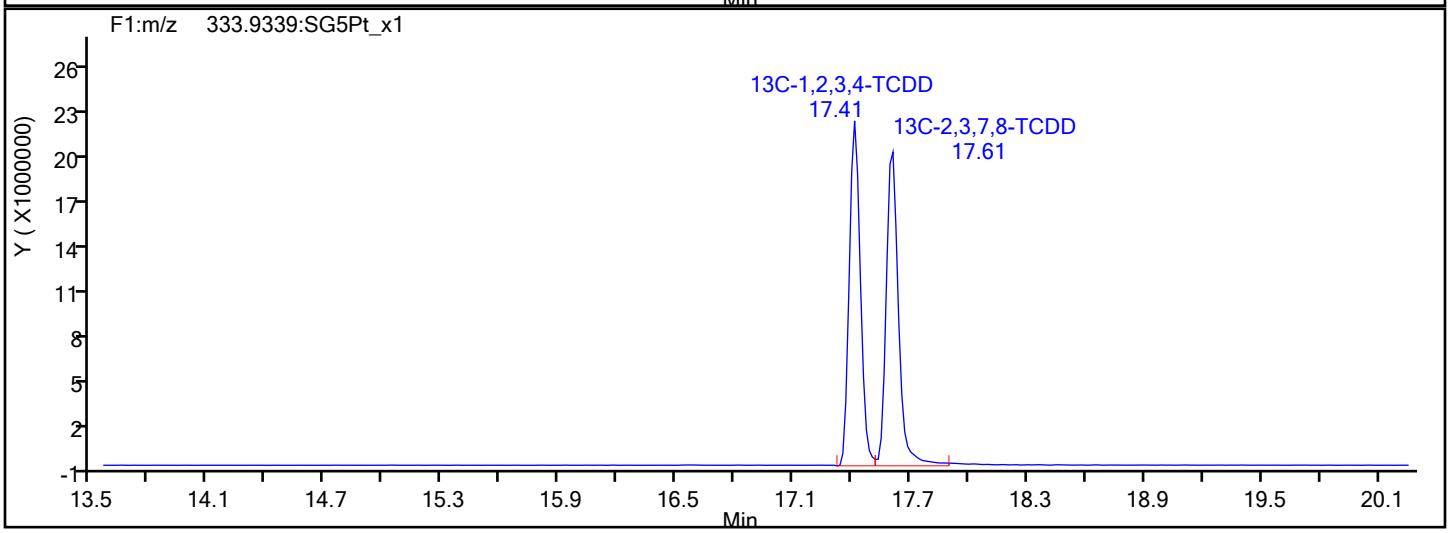

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

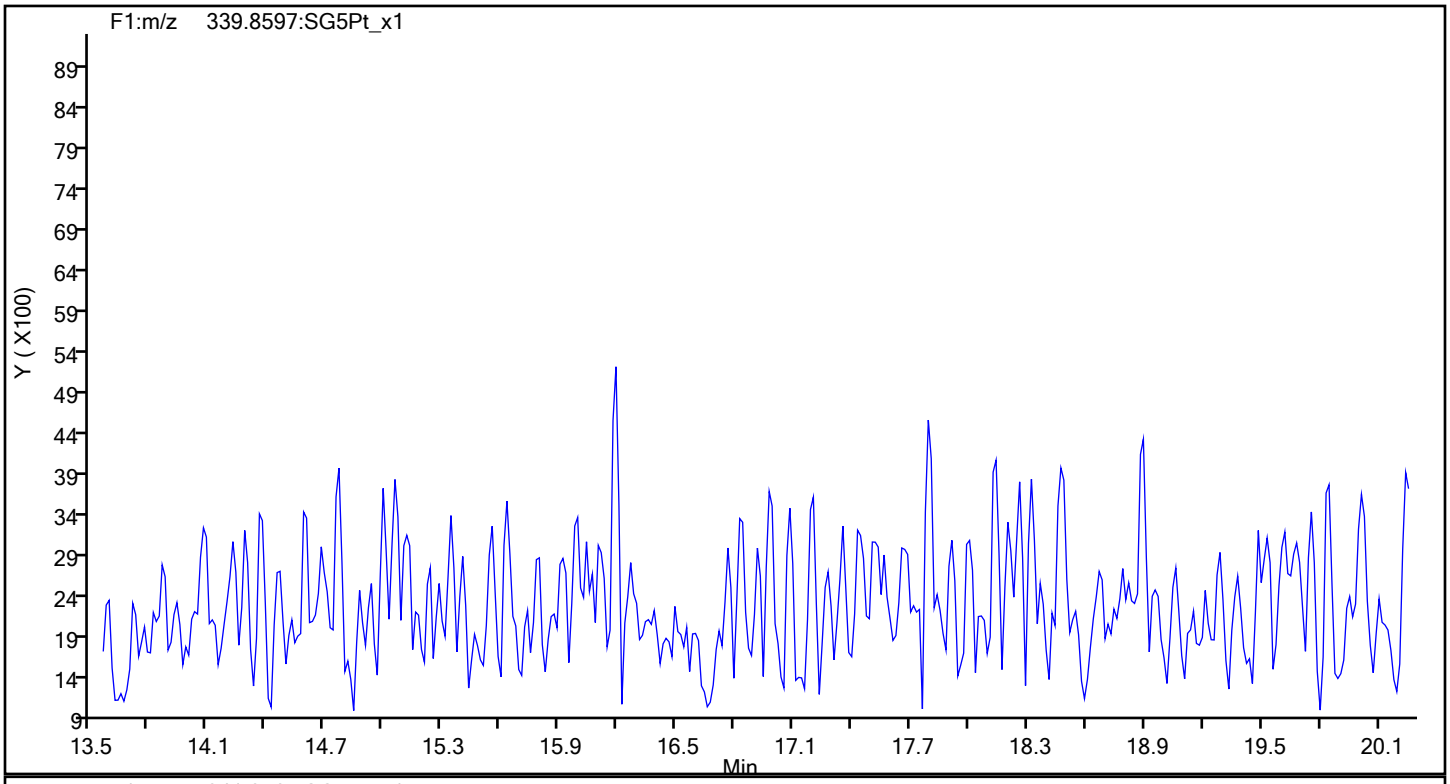

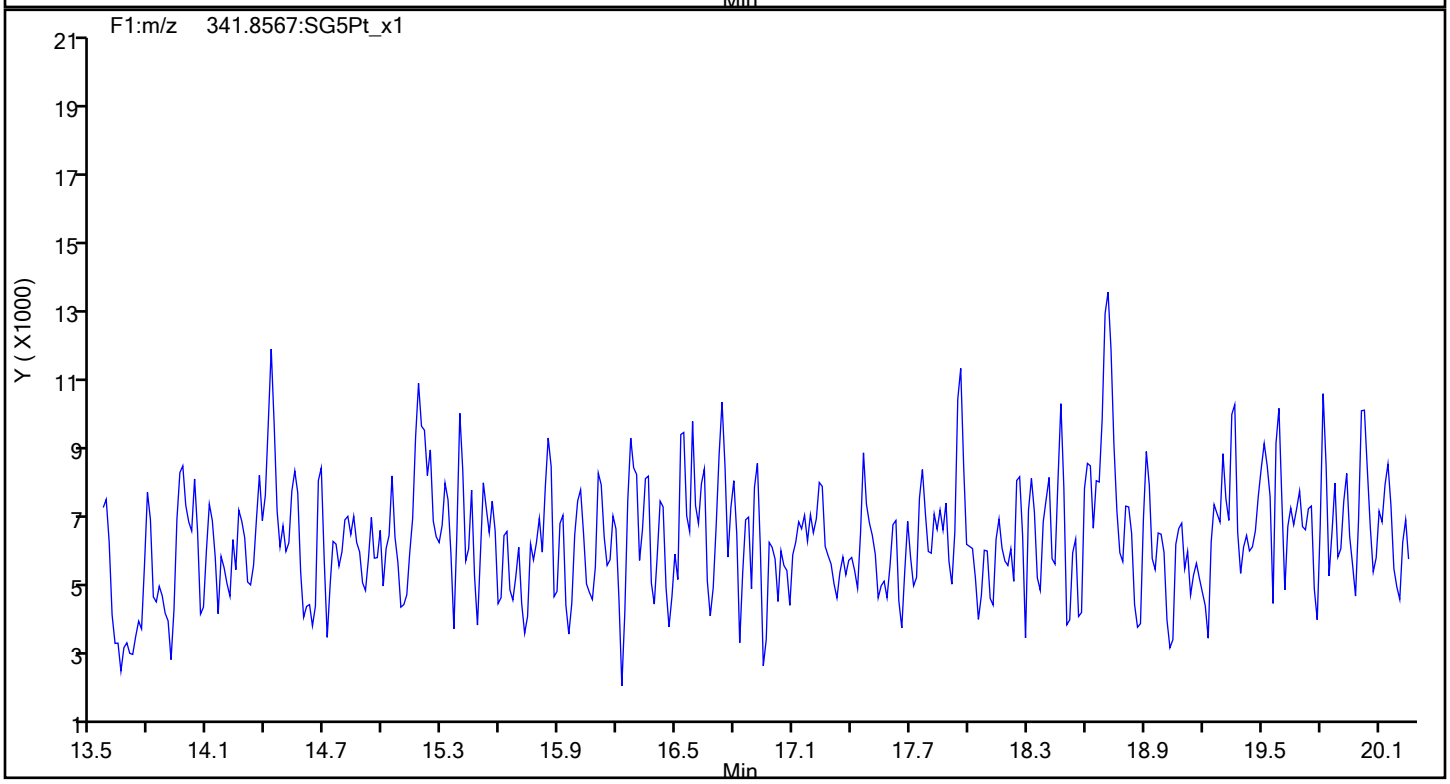

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

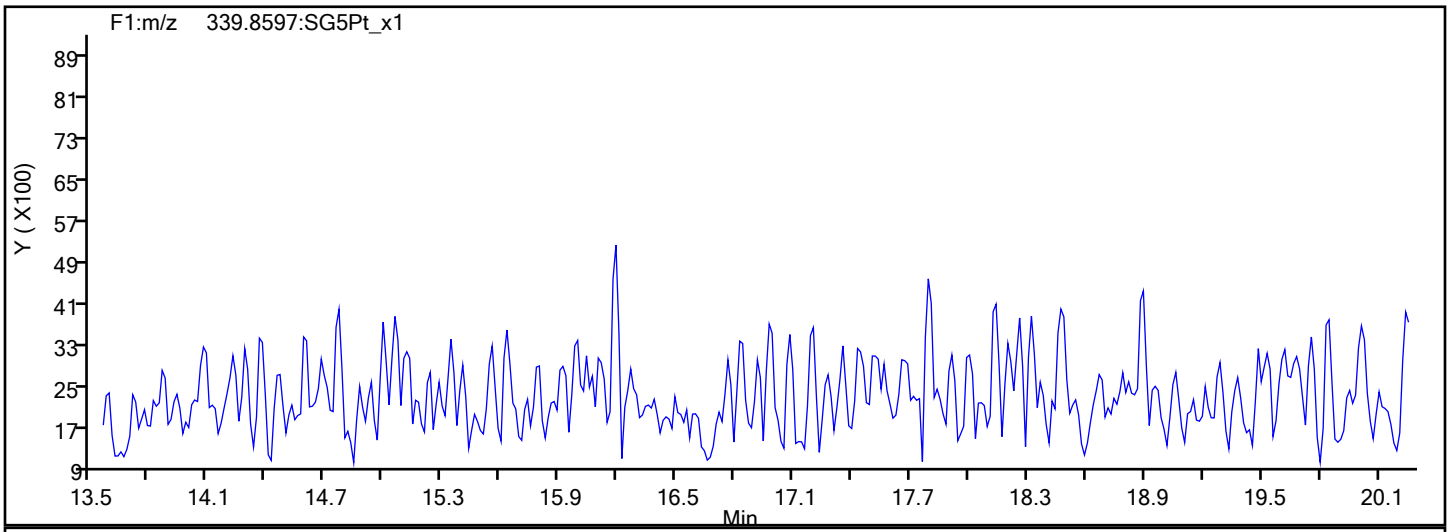

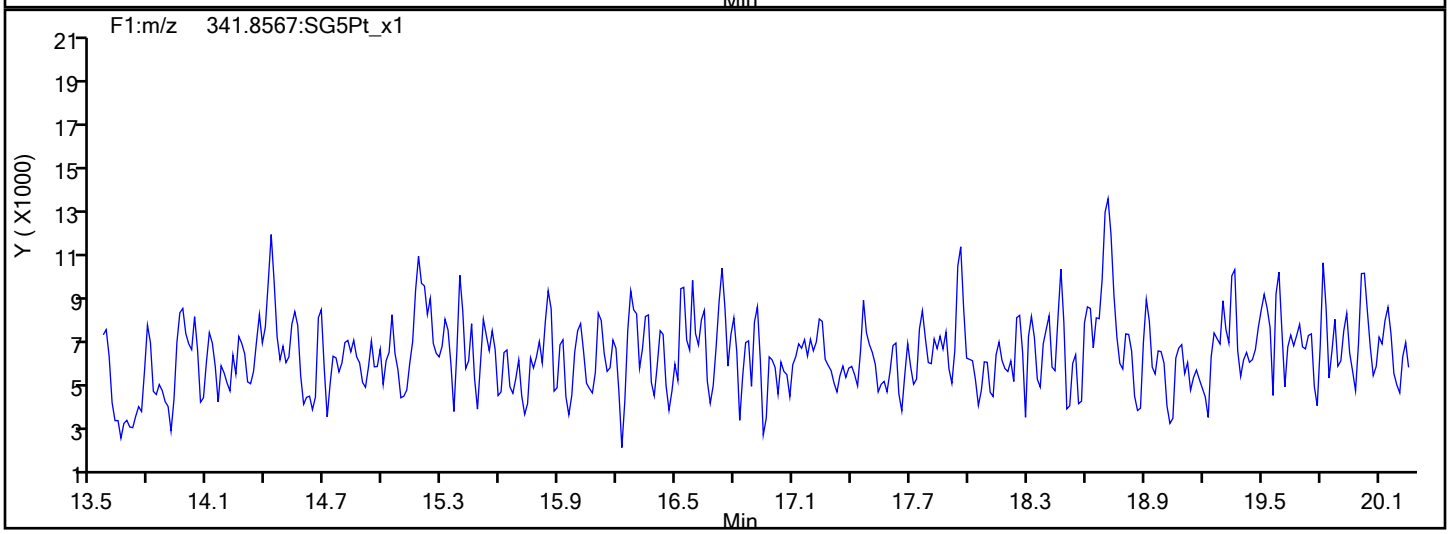

F1 PeCDFs Interference Mass

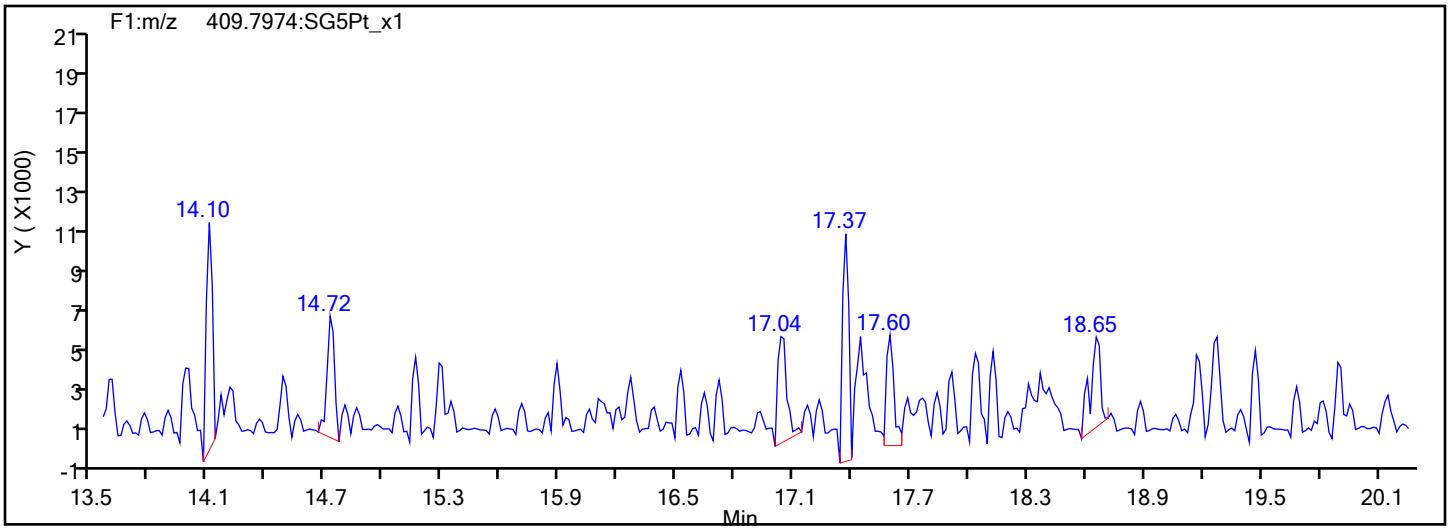

Report Date: 14-Nov-2019 07:08:16 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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PeCDF

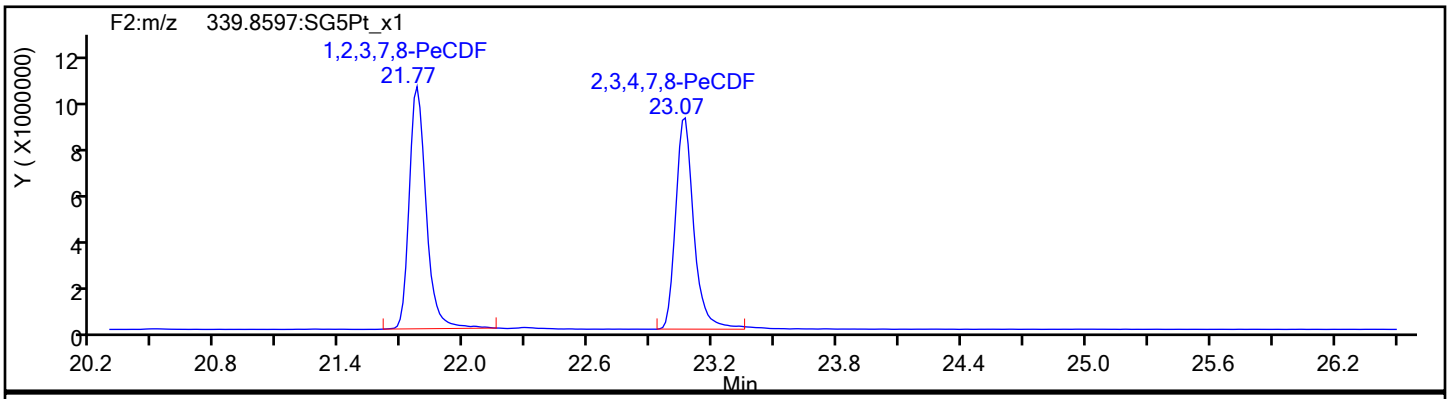

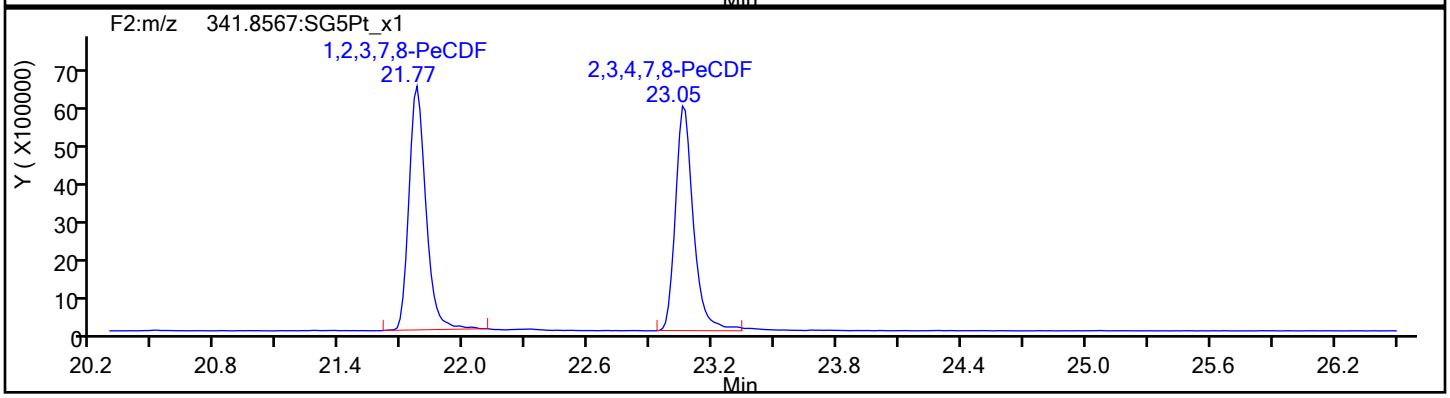

PeCDF Standards

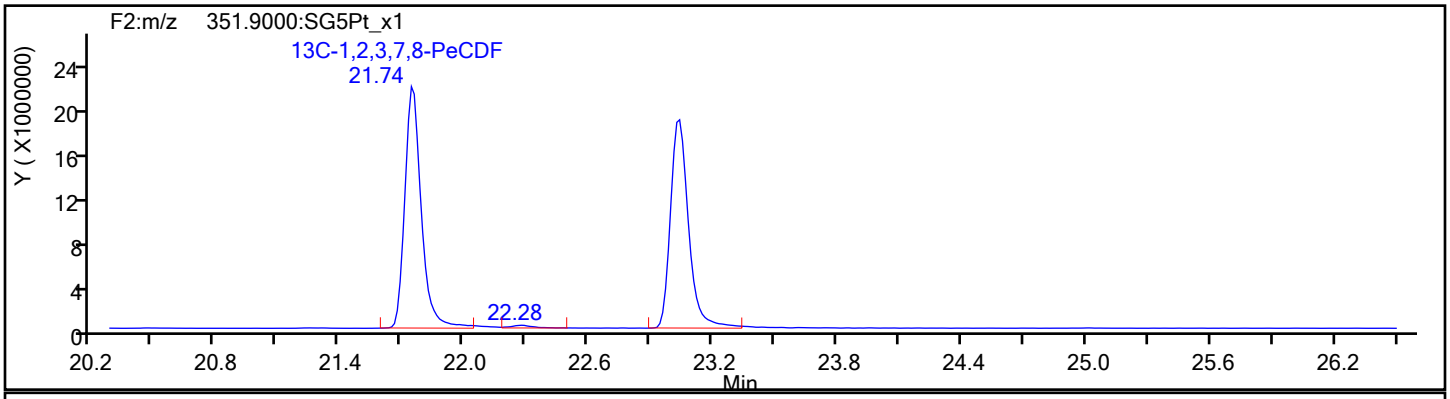

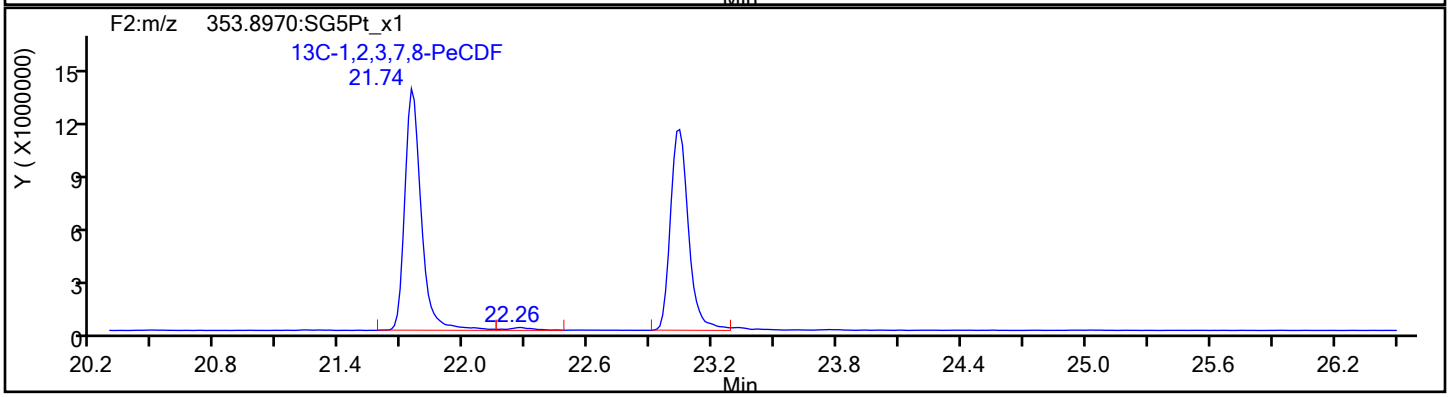

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Eurofins TestAmerica, Sacramento

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PeCDF

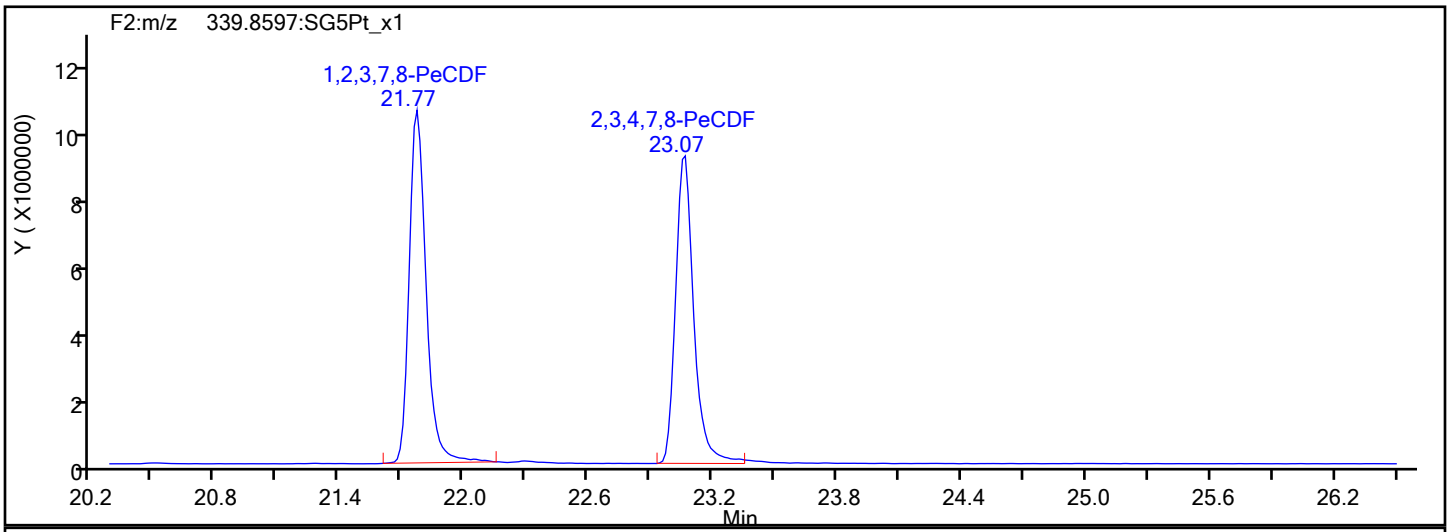

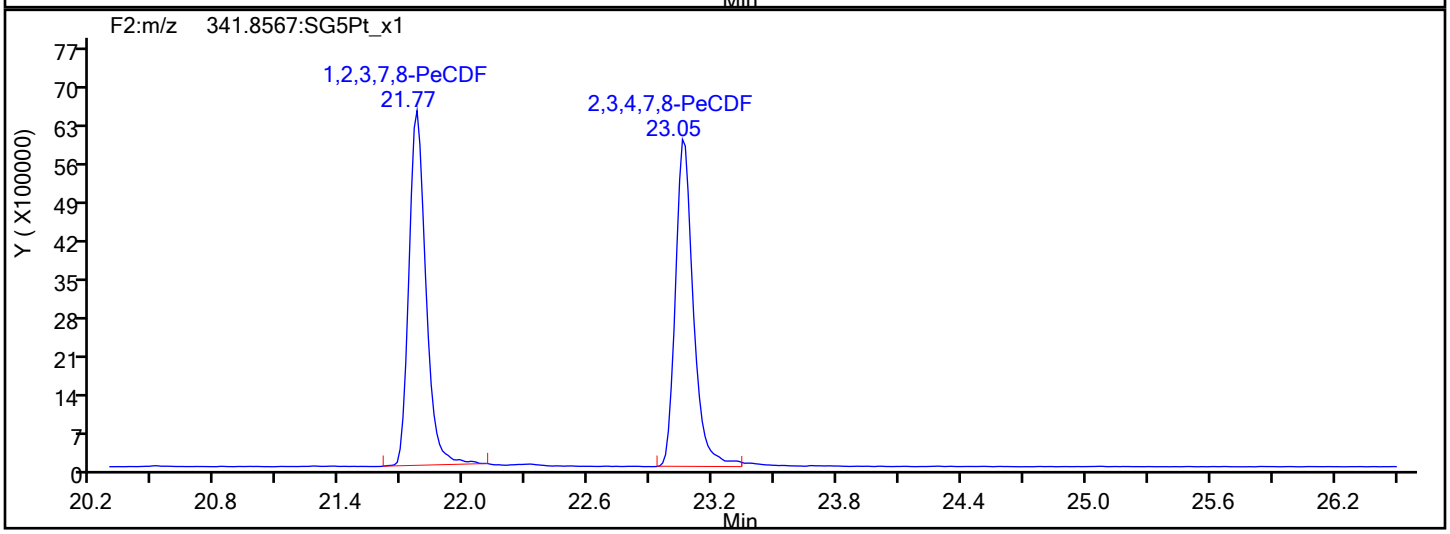

PeCDF Interference Mass

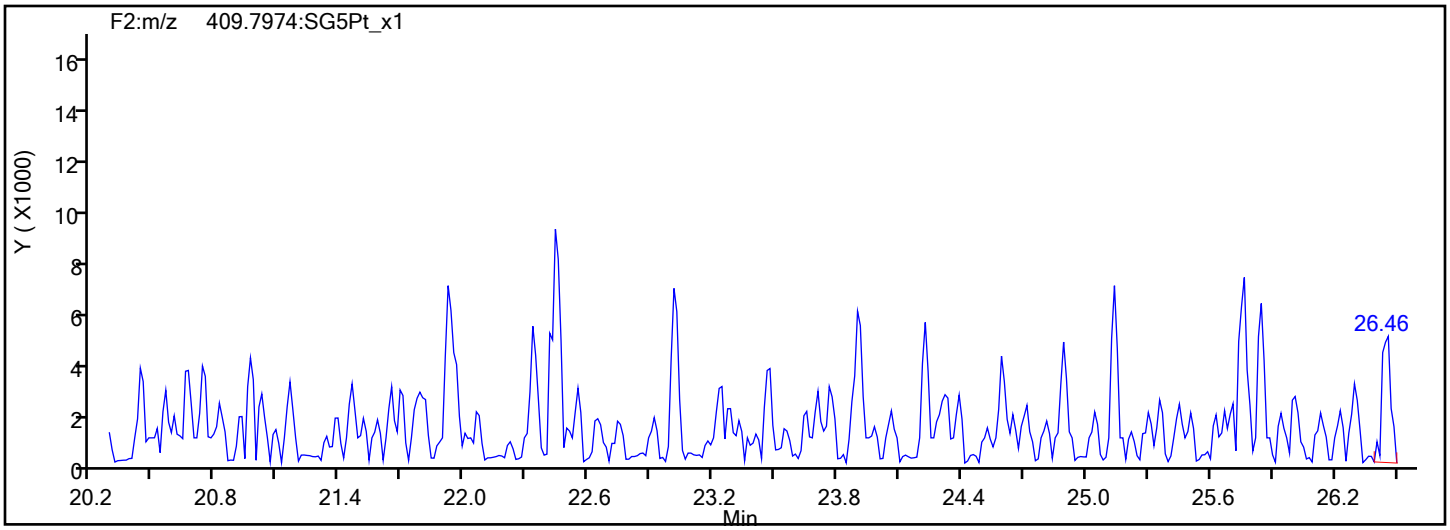

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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PeCDD

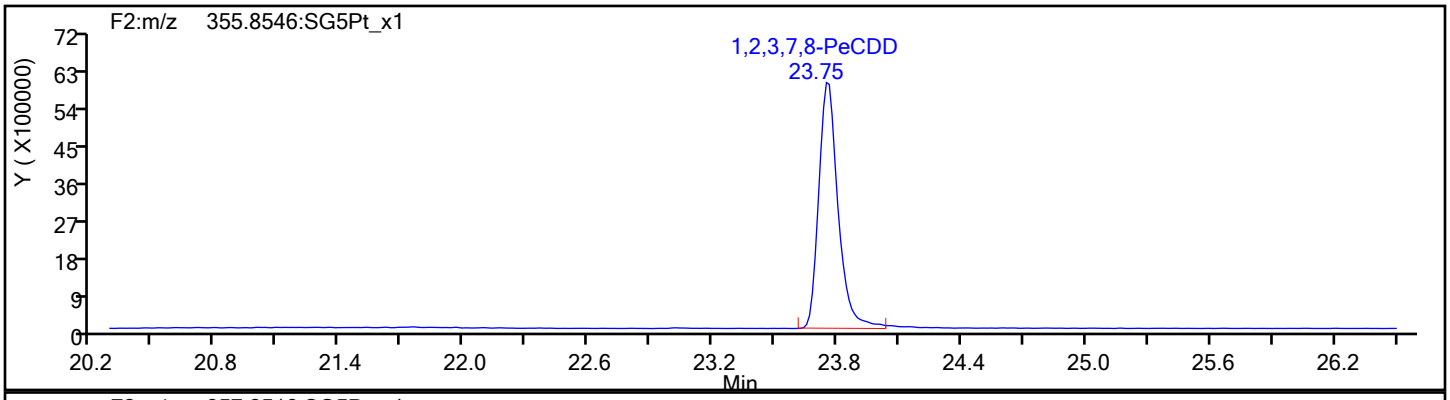

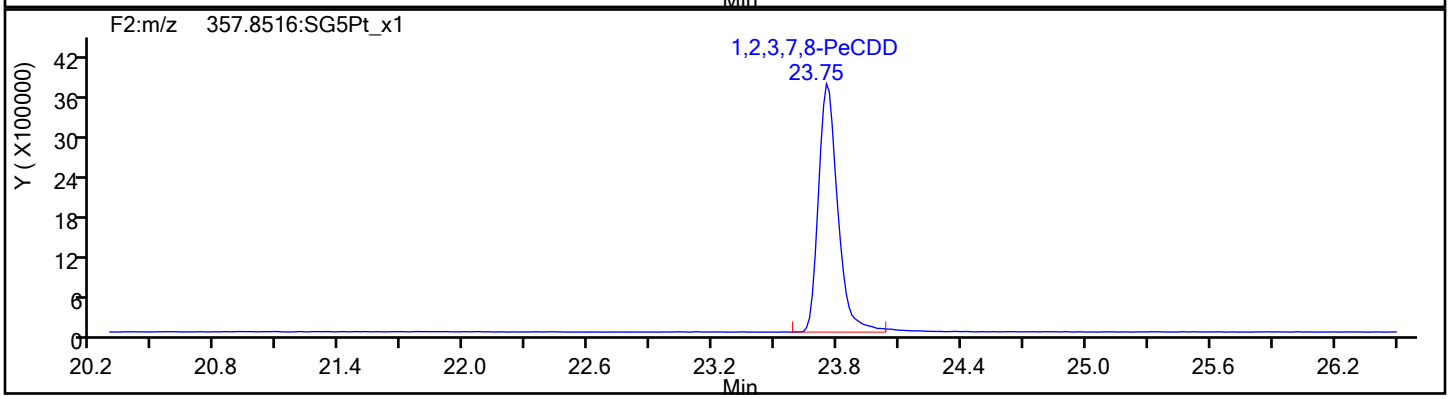

PeCDD Standards

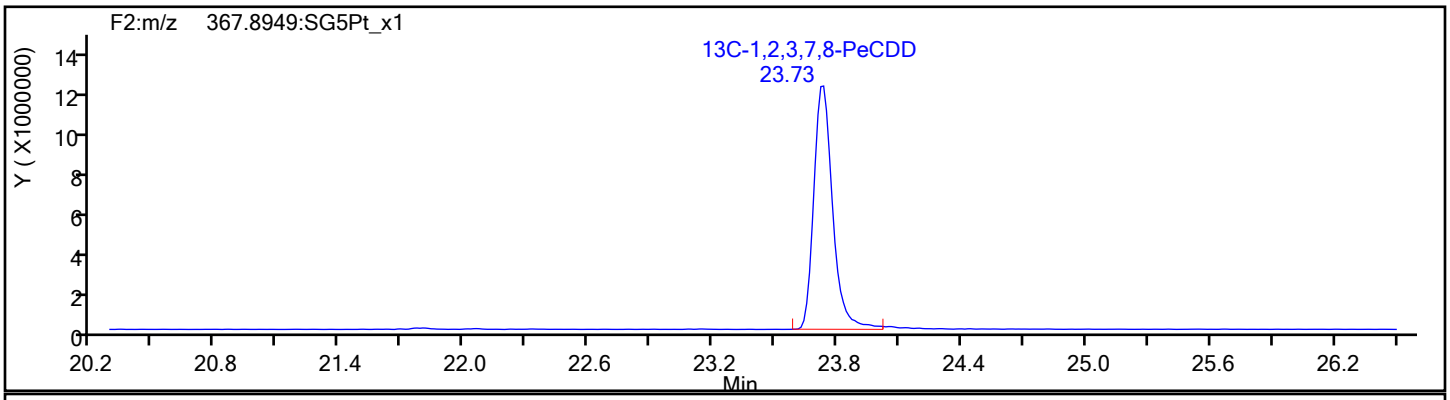

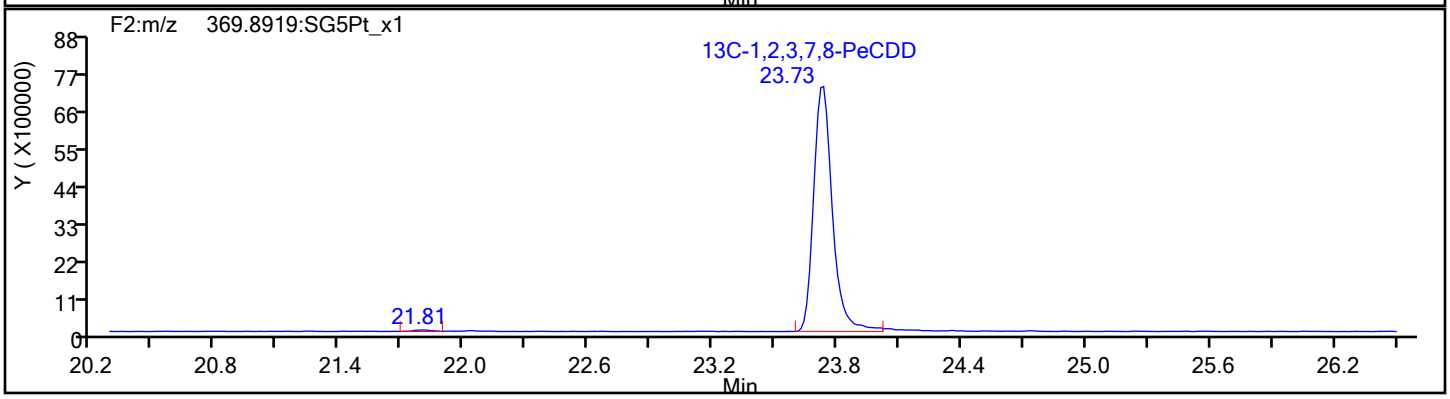

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

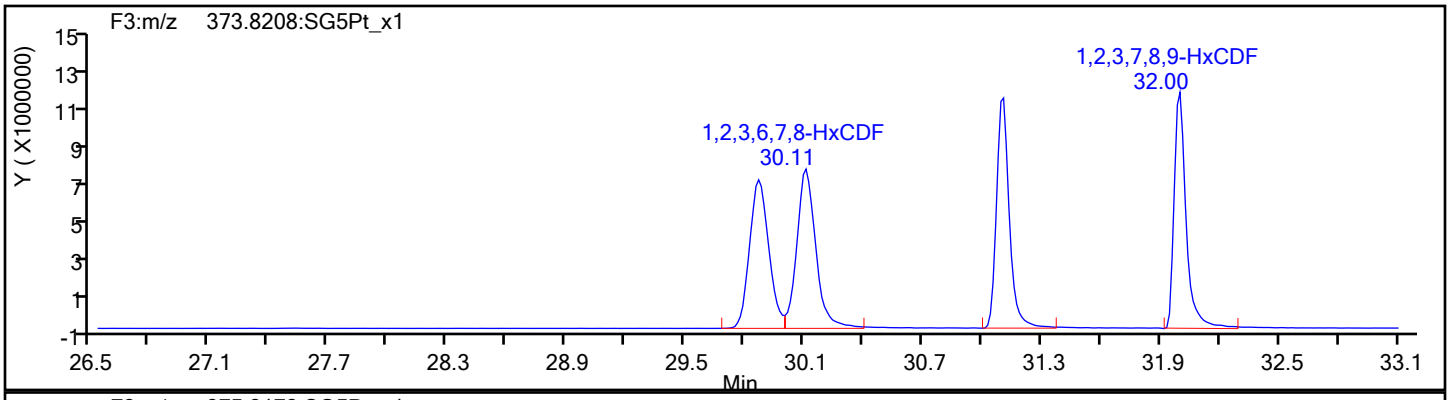

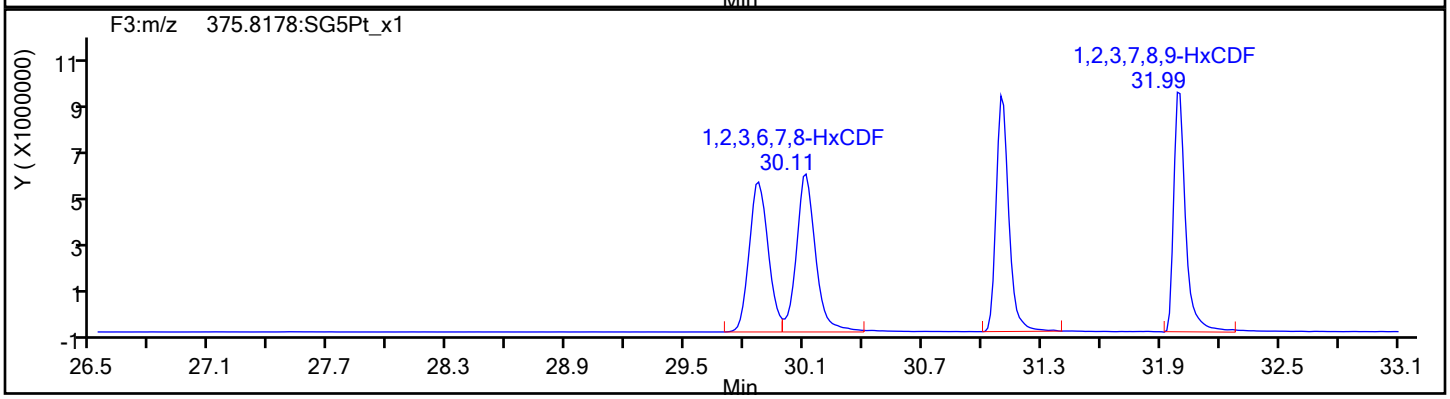

HxCDF Standards

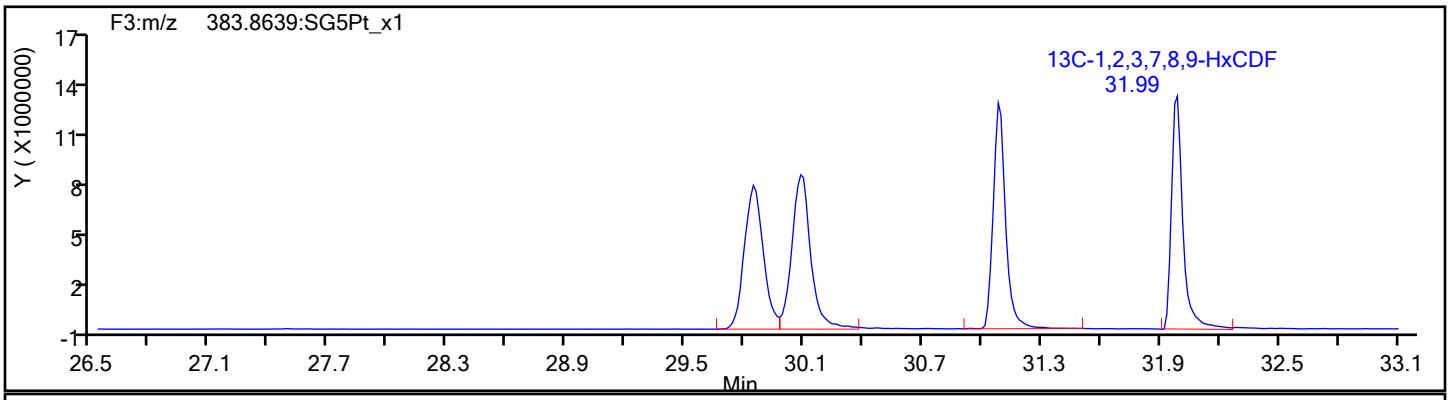

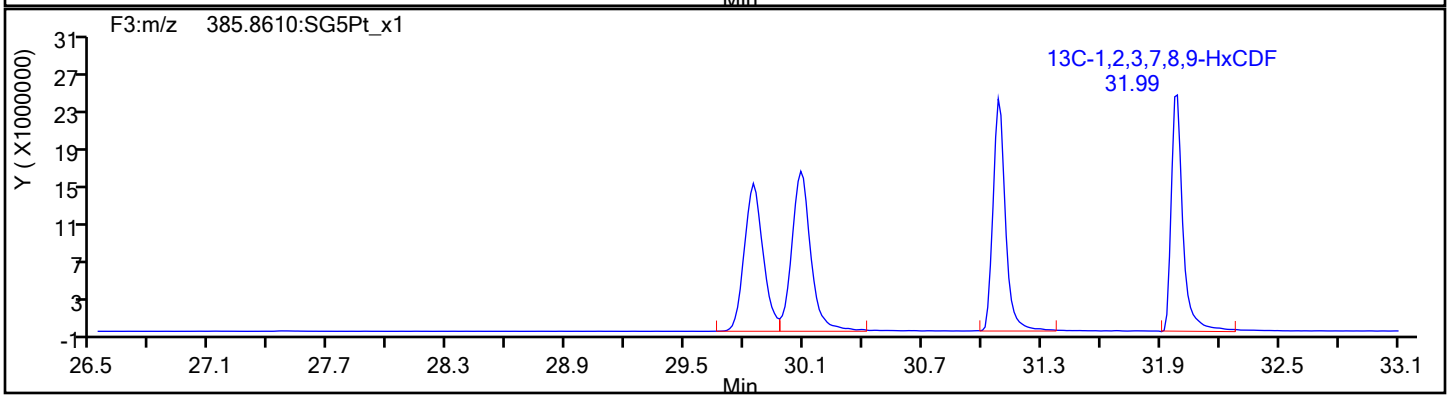

Report Date: 14-Nov-2019 07:08:16 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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HxCDF

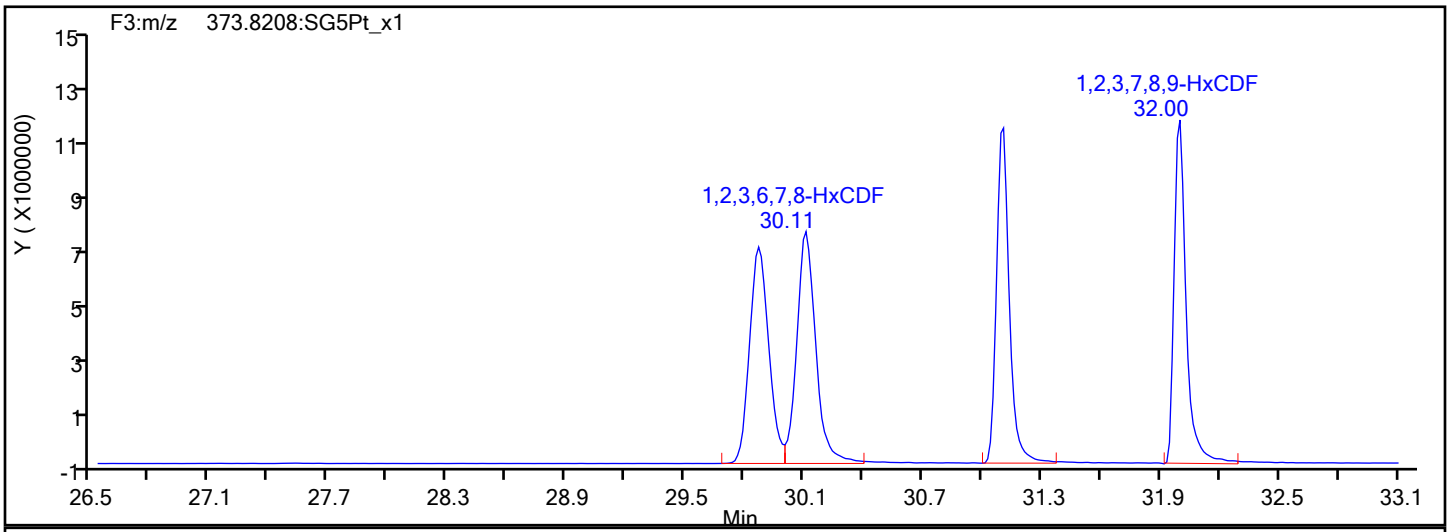

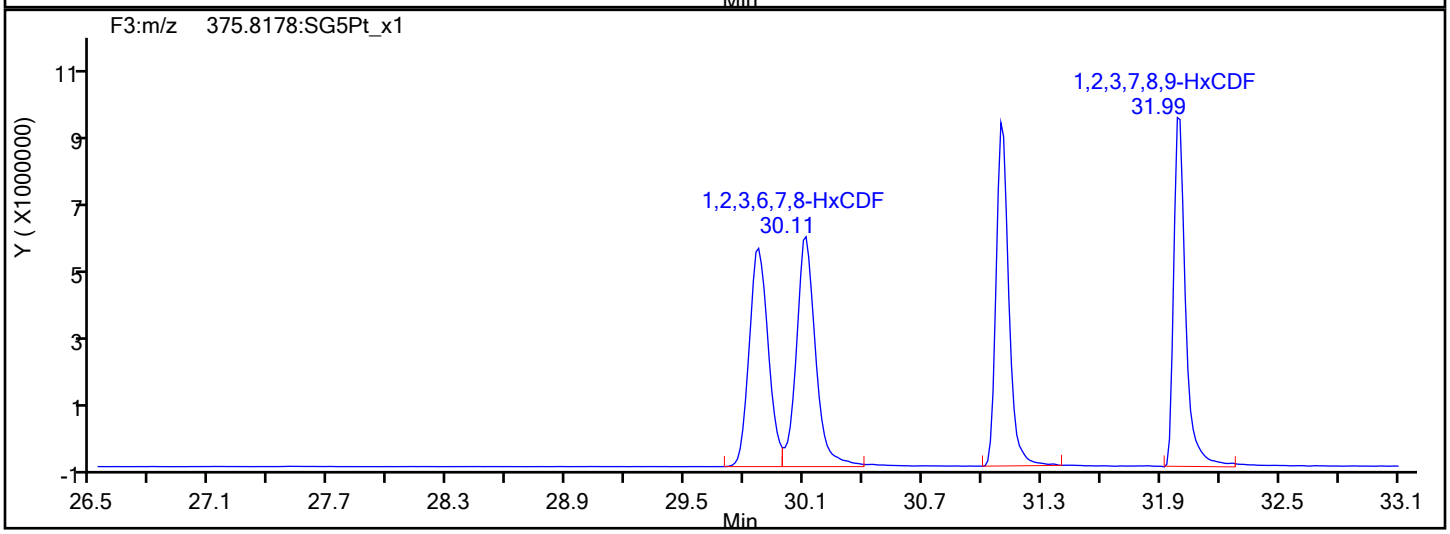

HxCDF Interference Mass

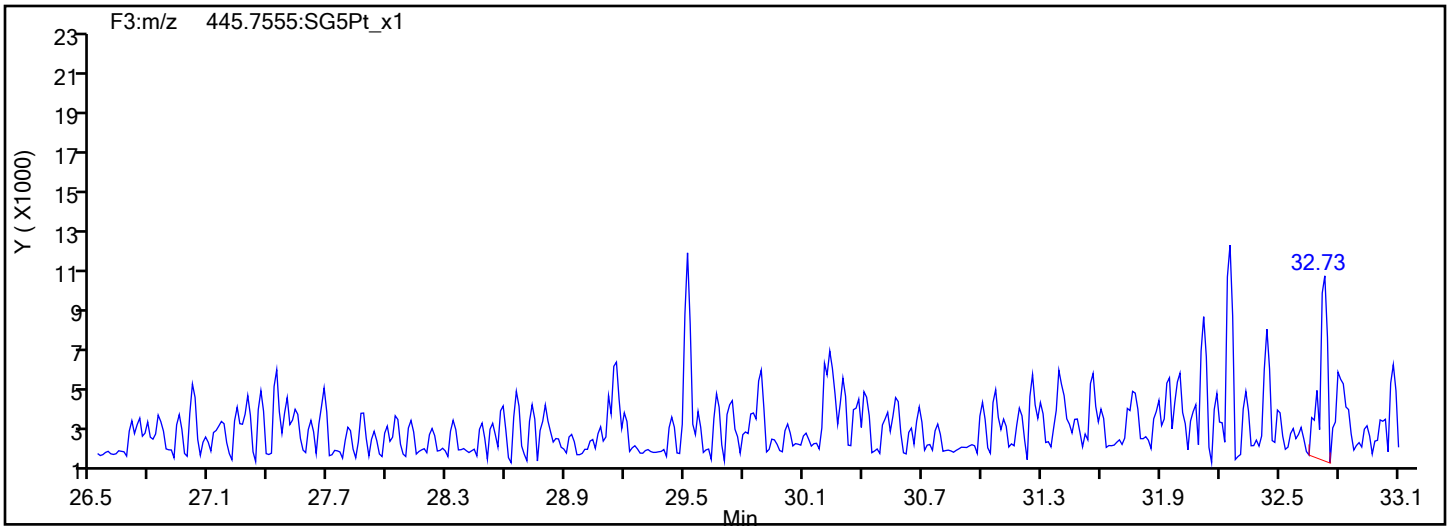

Report Date: 14-Nov-2019 07:08:16 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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HxCDD

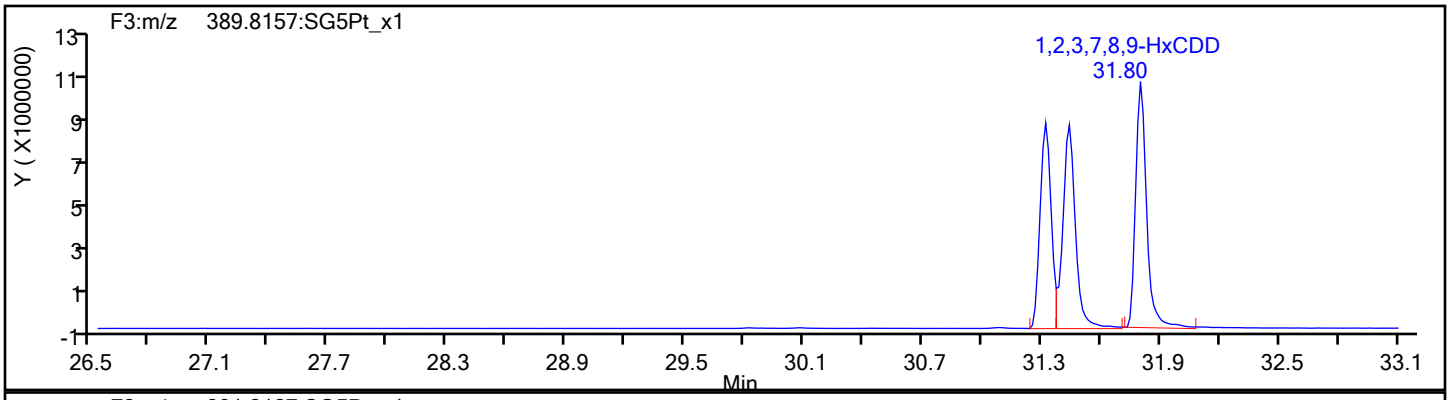

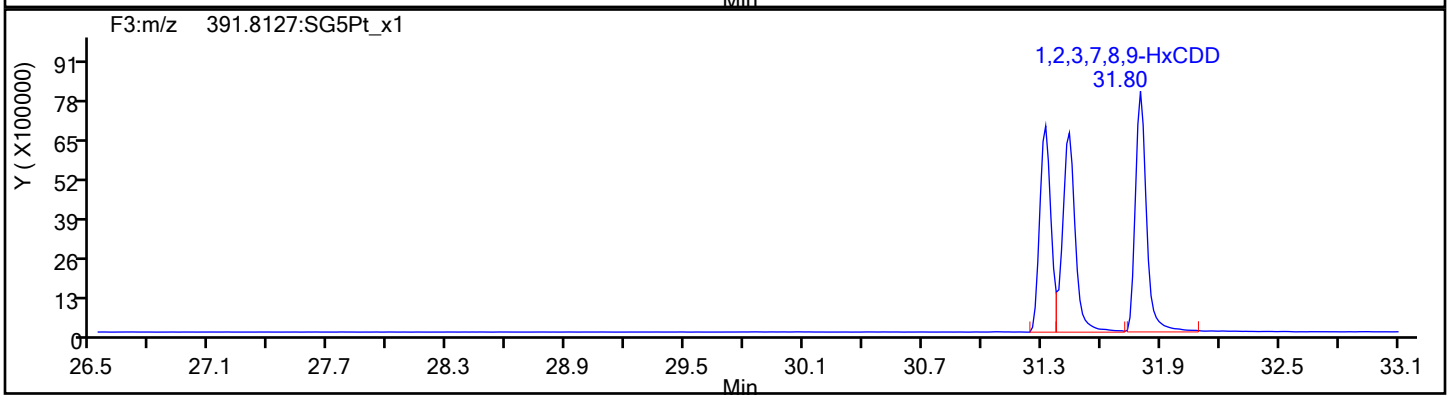

HxCDD Standards

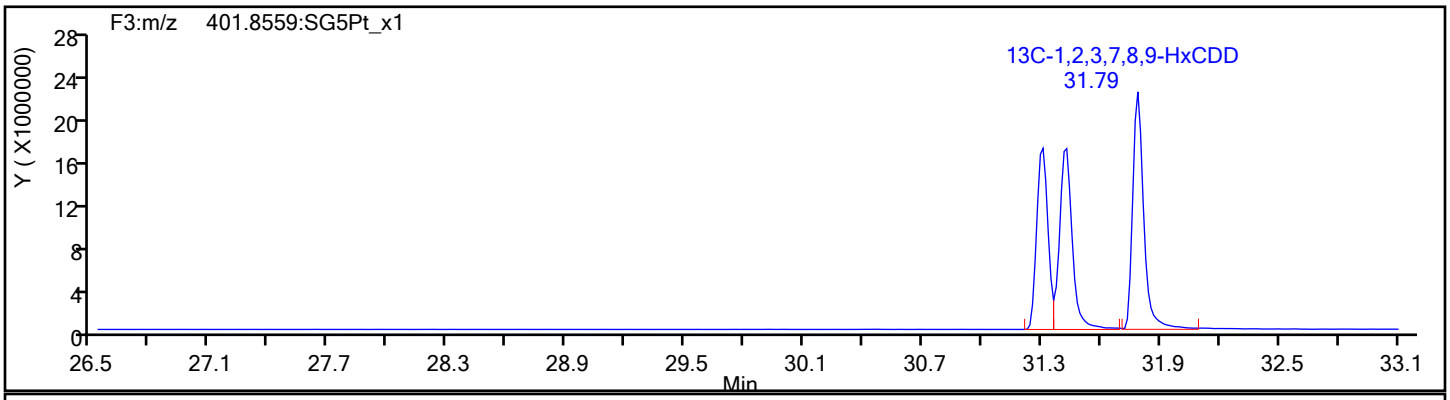

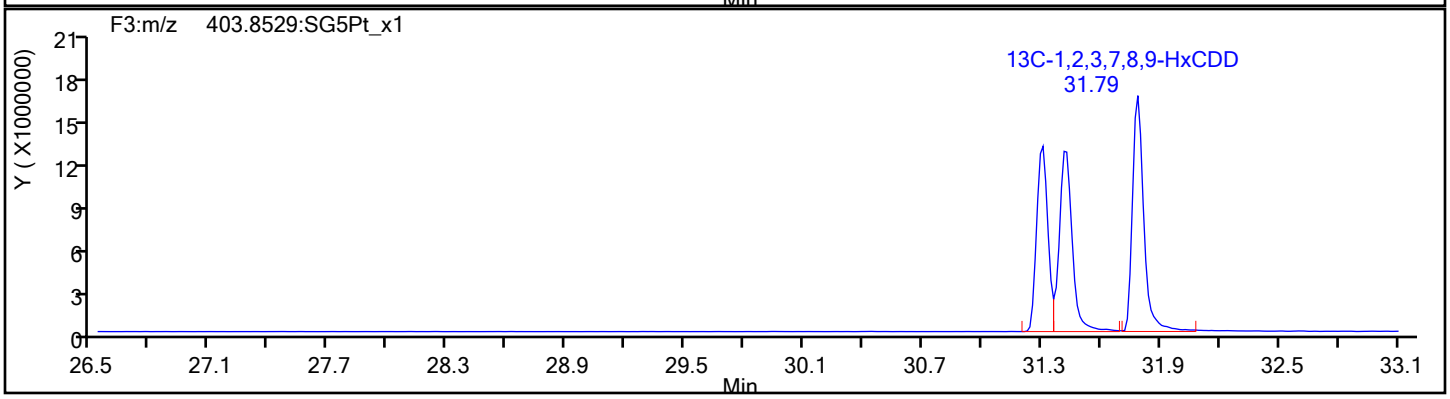

Report Date: 14-Nov-2019 07:08:16 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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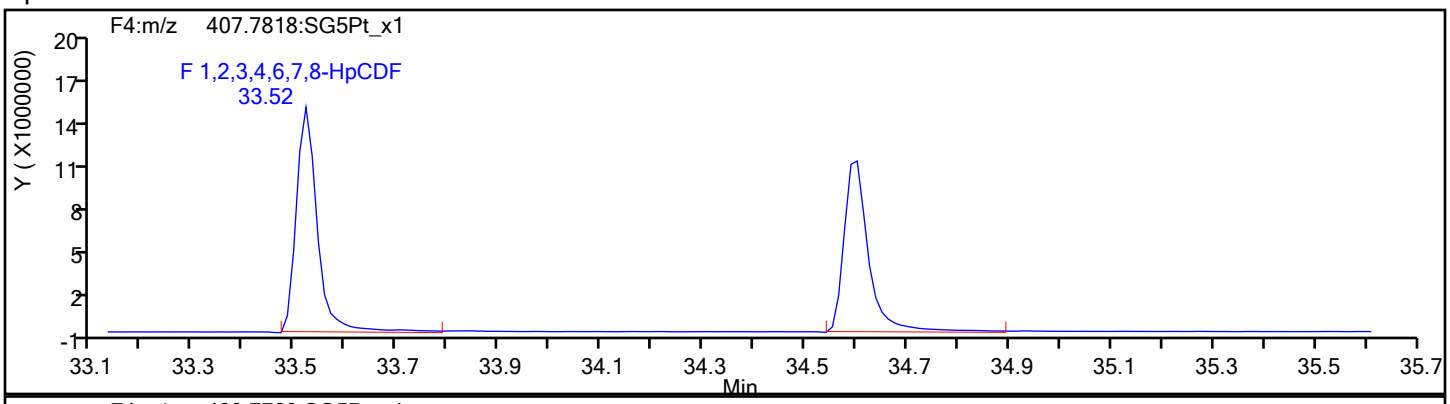

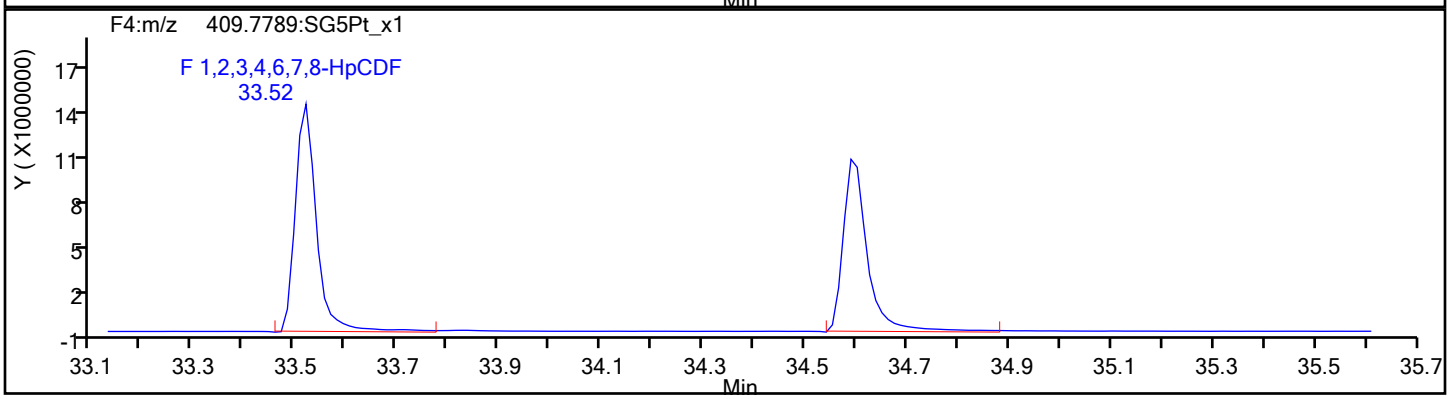

HpCDF Standards

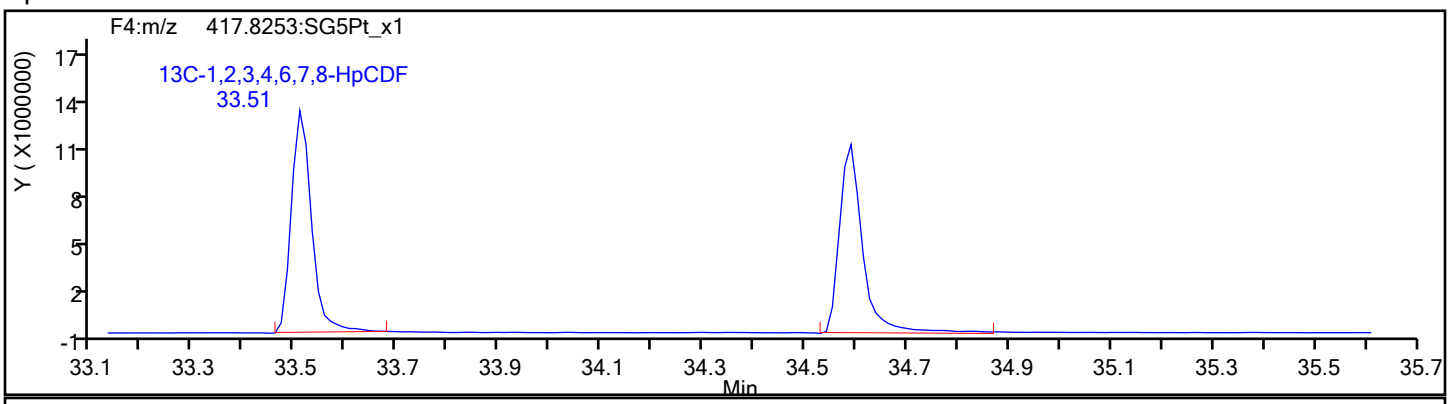

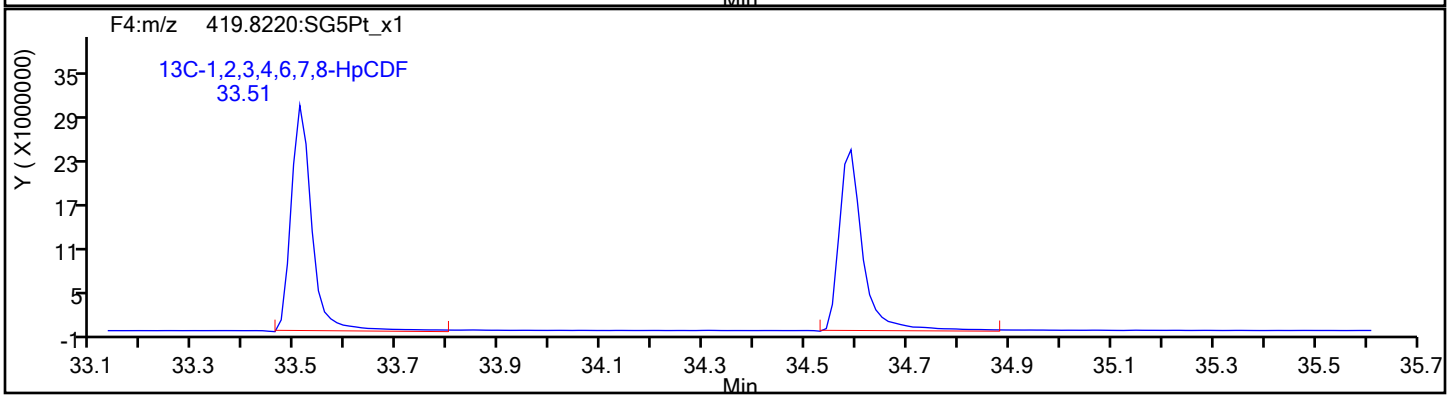

Report Date: 14-Nov-2019 07:08:16 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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HpCDF

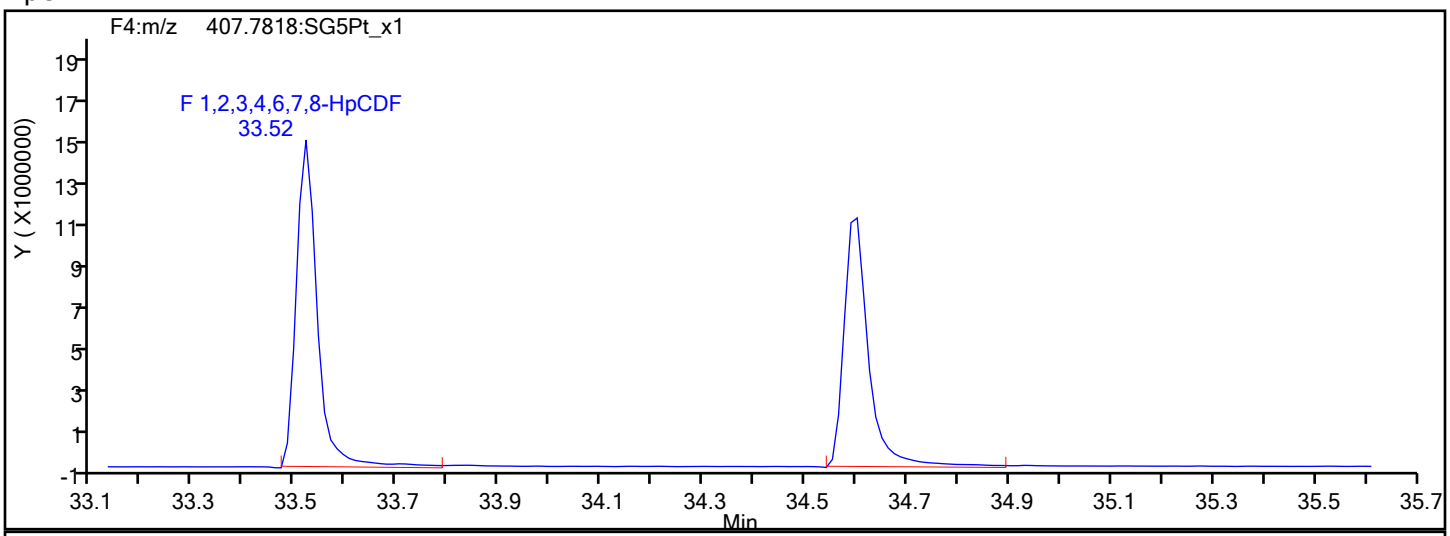

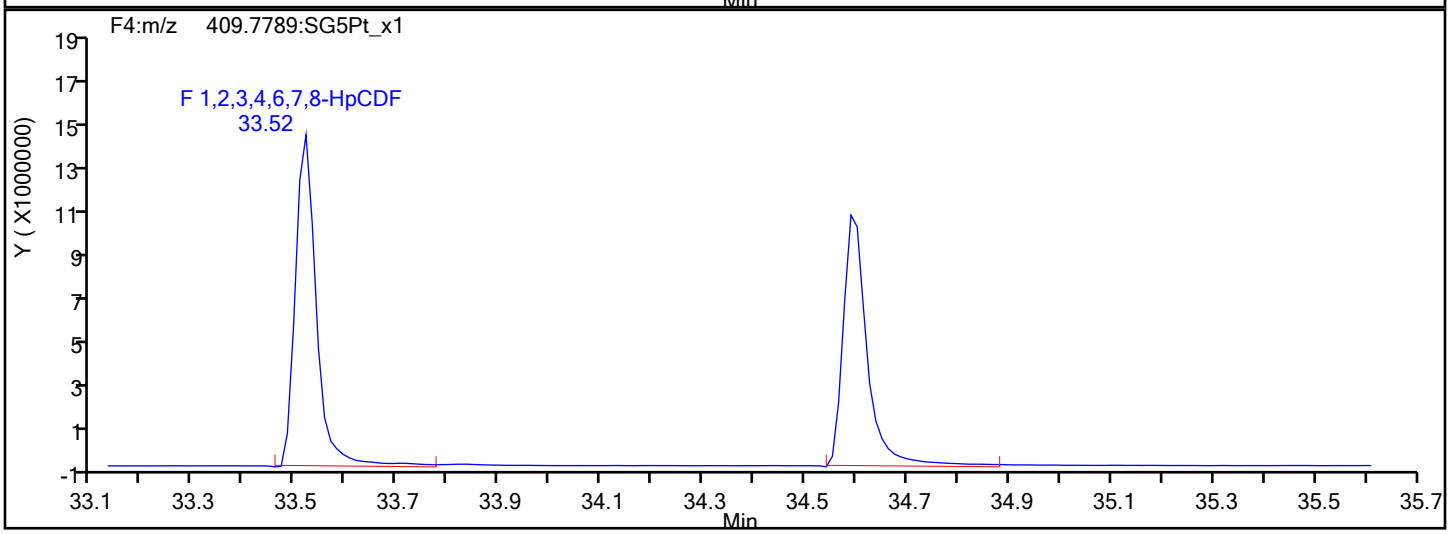

HpCDF Interference Mass

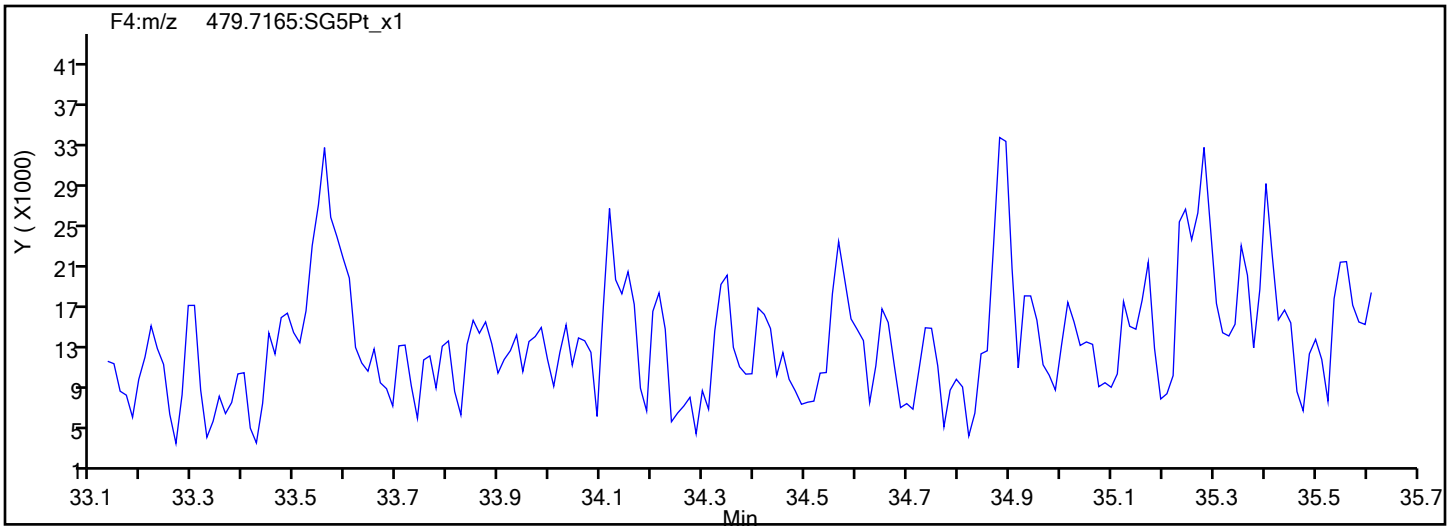

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Eurofins TestAmerica, Sacramento

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HpCDD

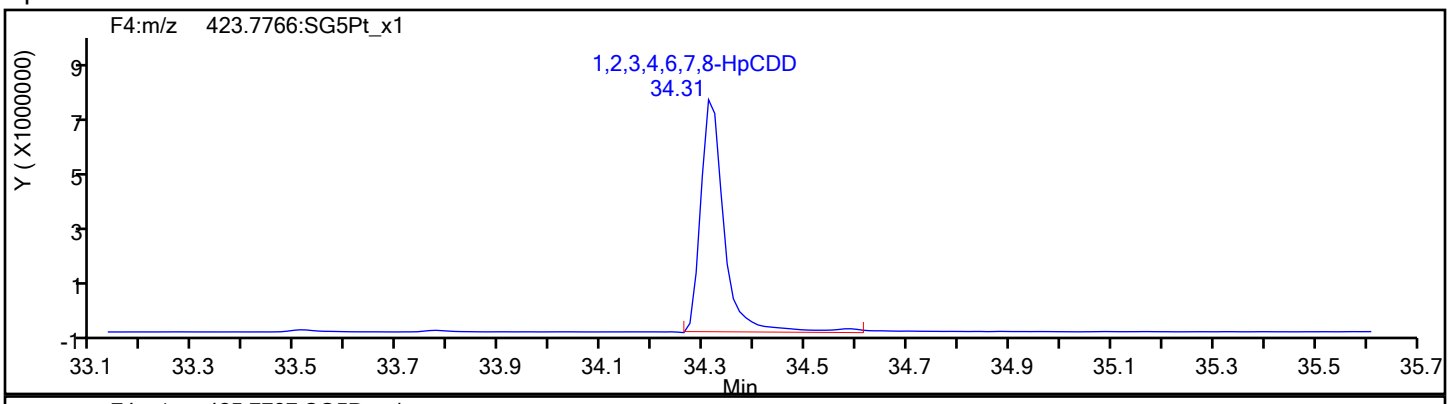

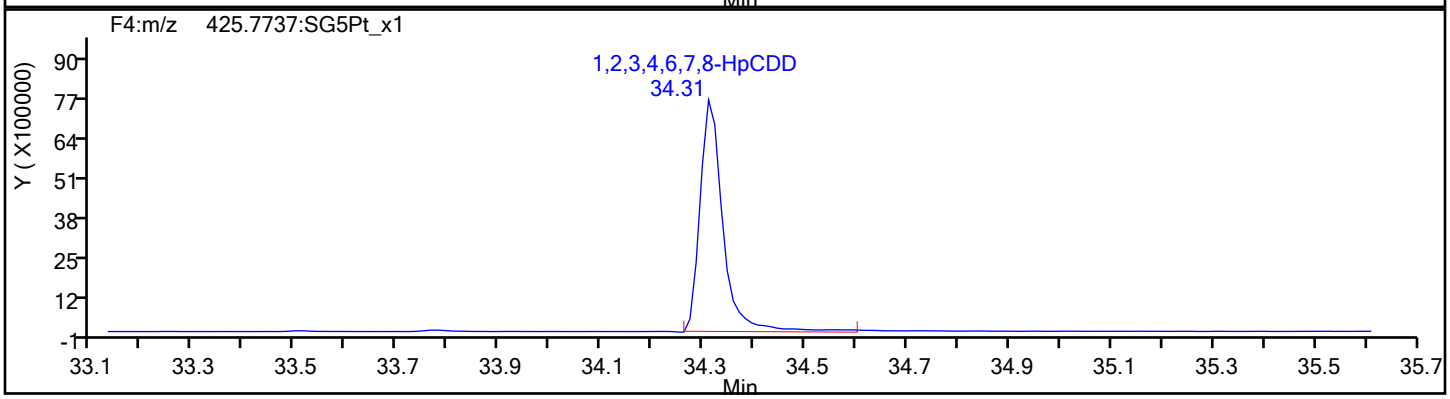

HpCDD Standards

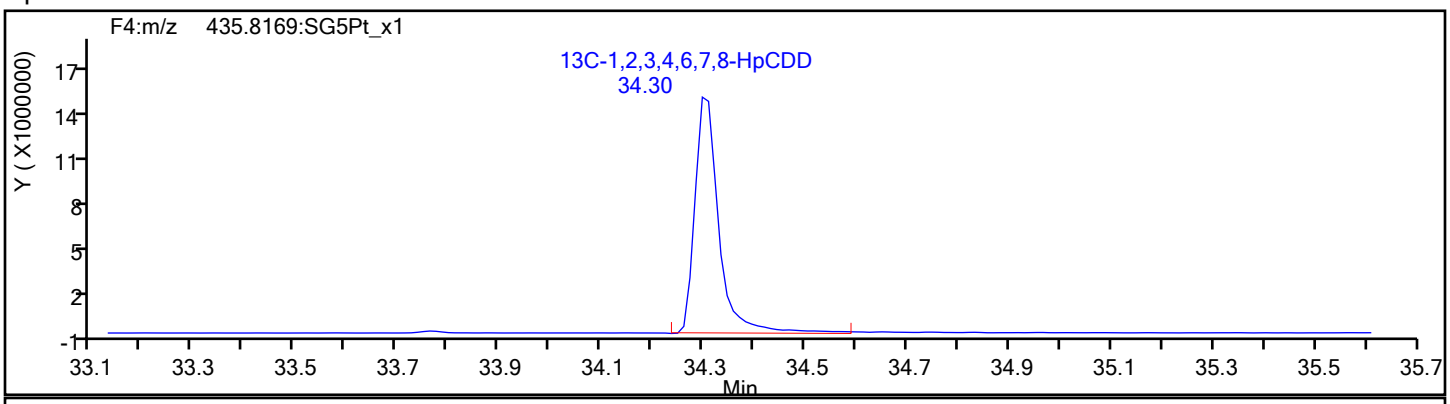

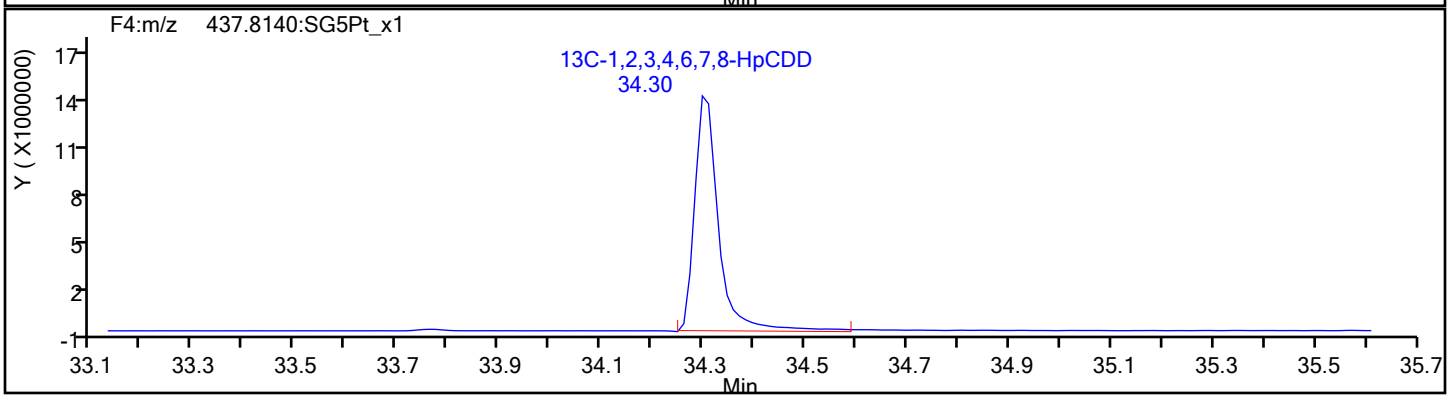

Report Date: 14-Nov-2019 07:08:16 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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OCDF

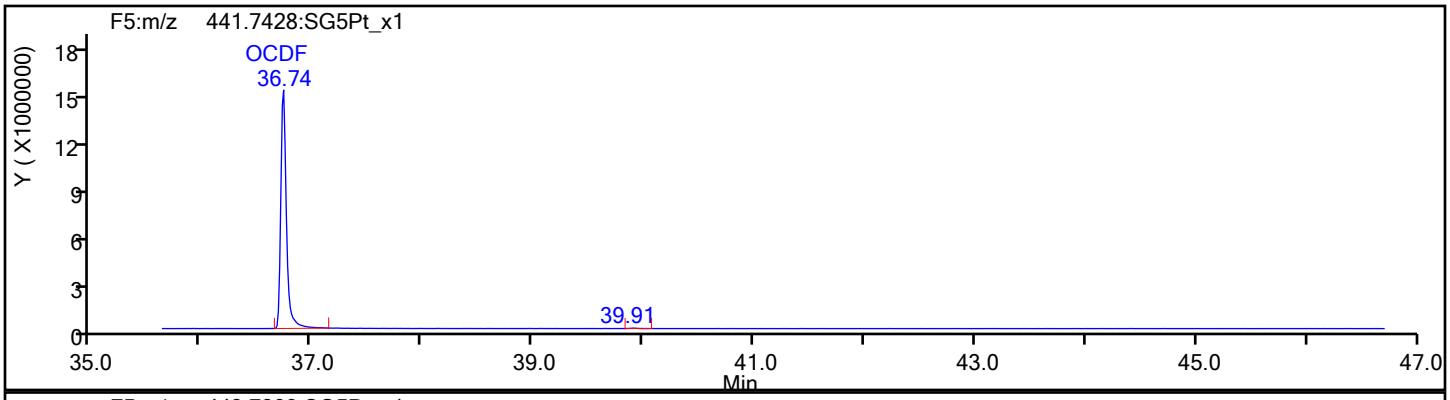

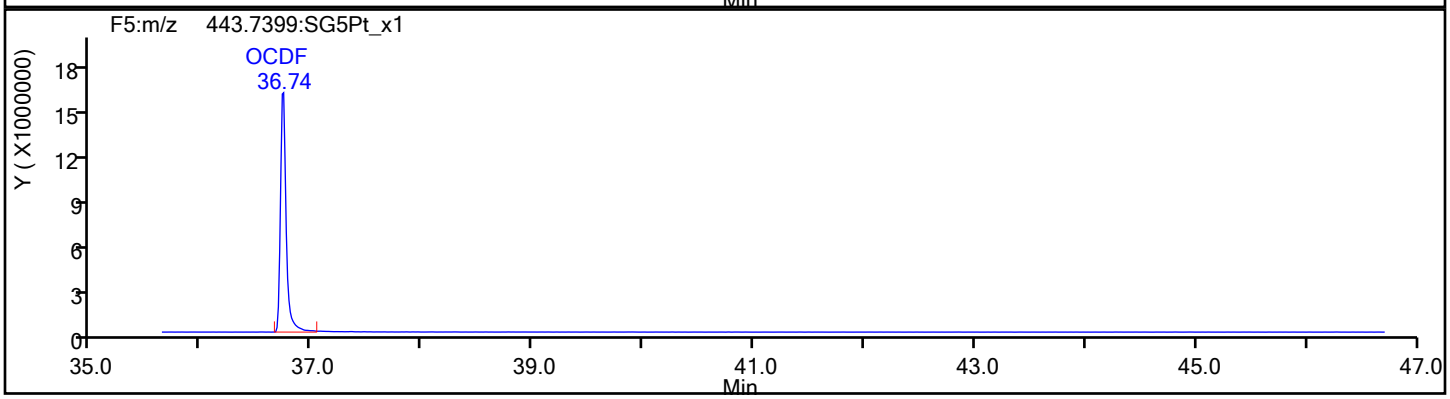

OCDF Standards

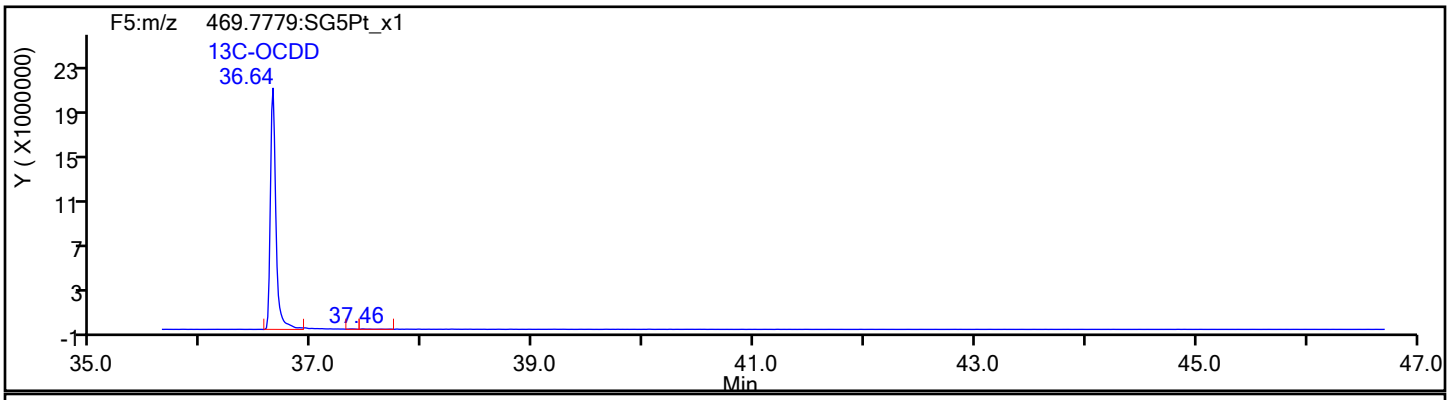

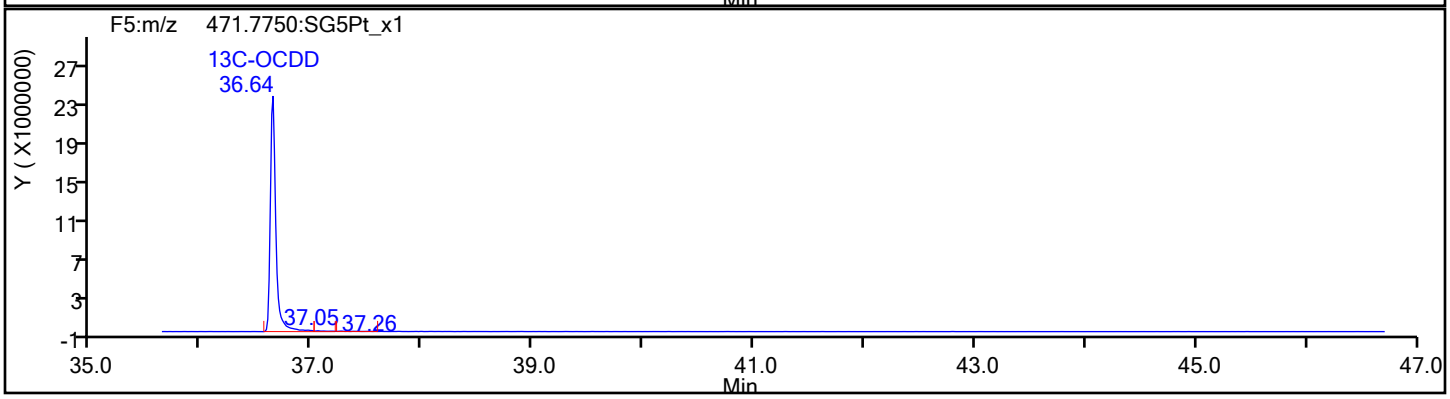

Report Date: 14-Nov-2019 07:08:16 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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OCDF

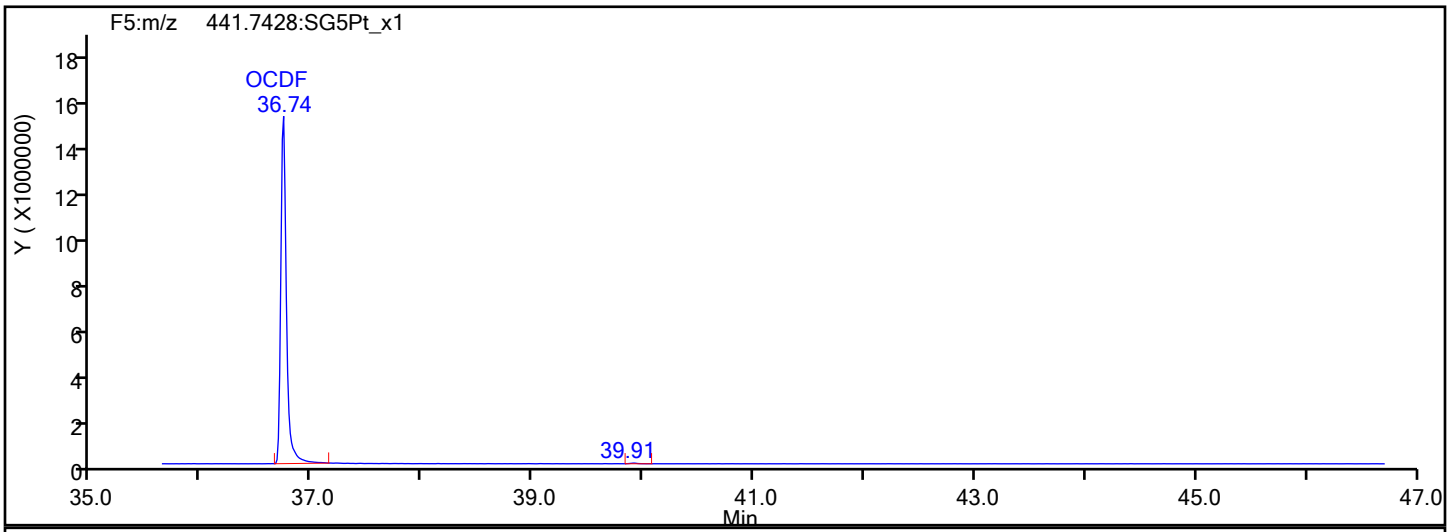

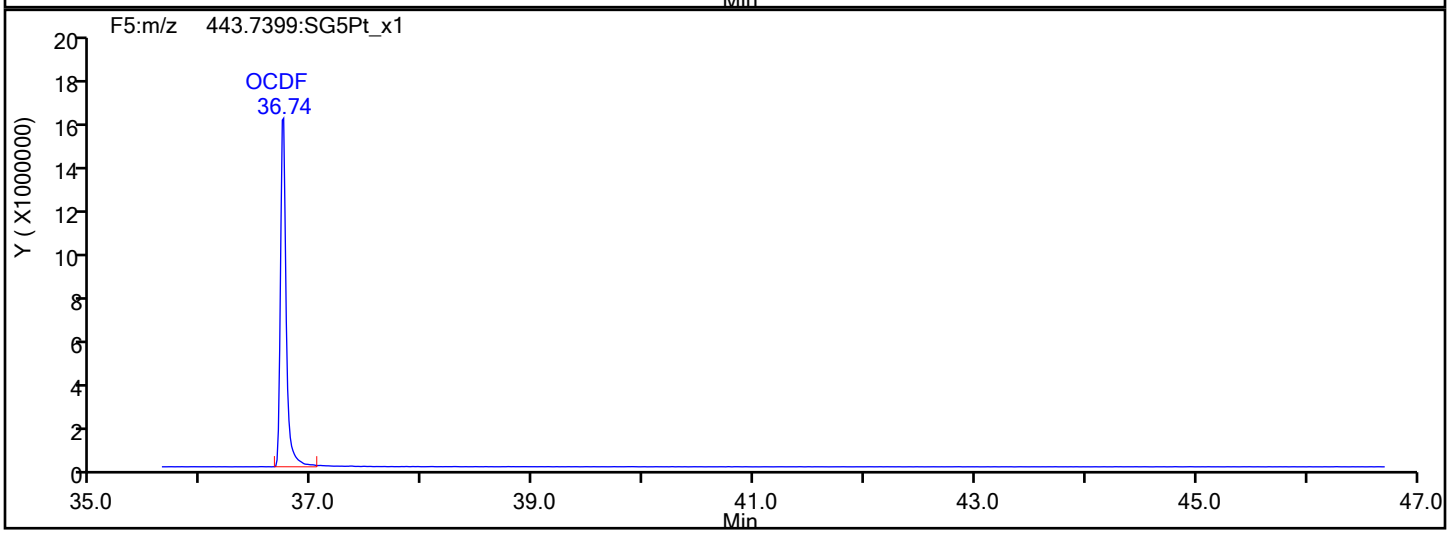

OCDF Interference Mass

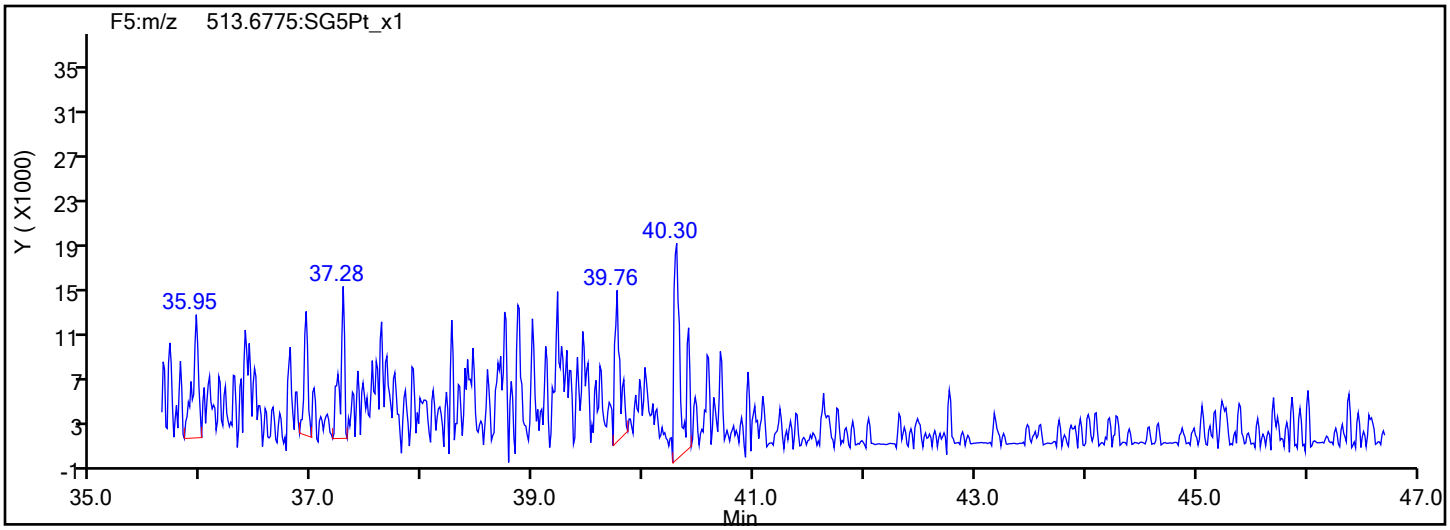

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Eurofins TestAmerica, Sacramento

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OCDD

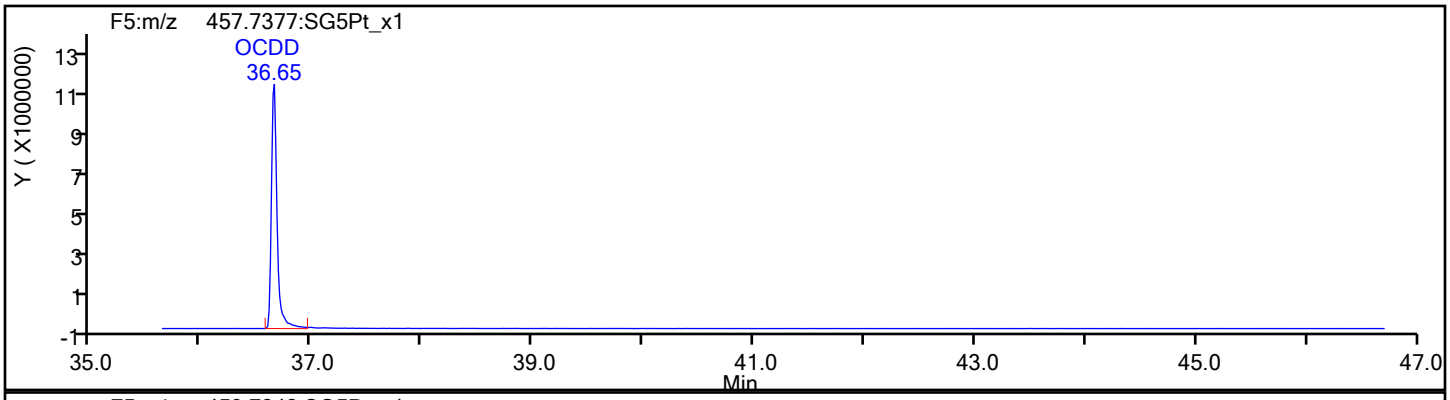

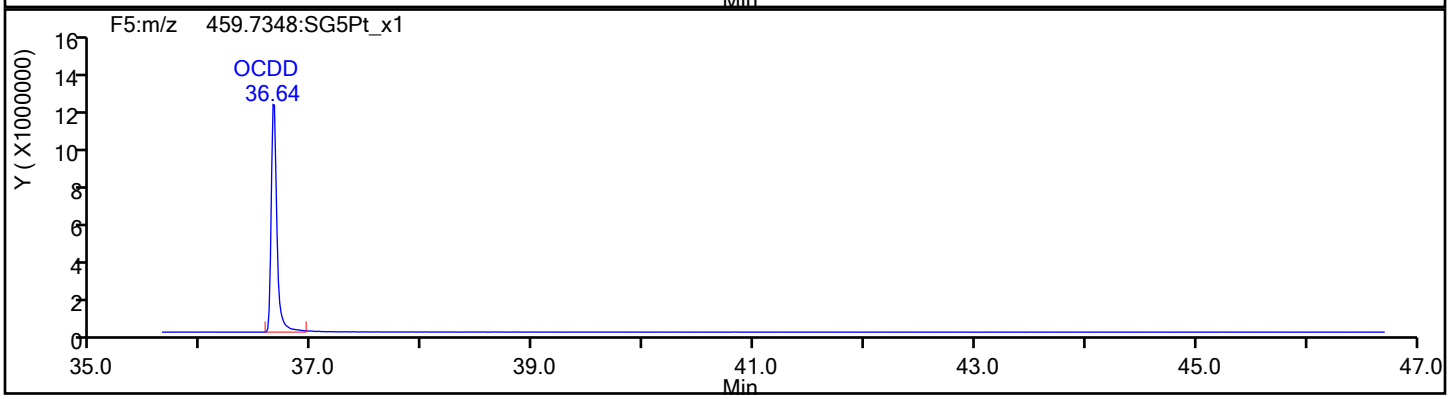

OCDD Standards

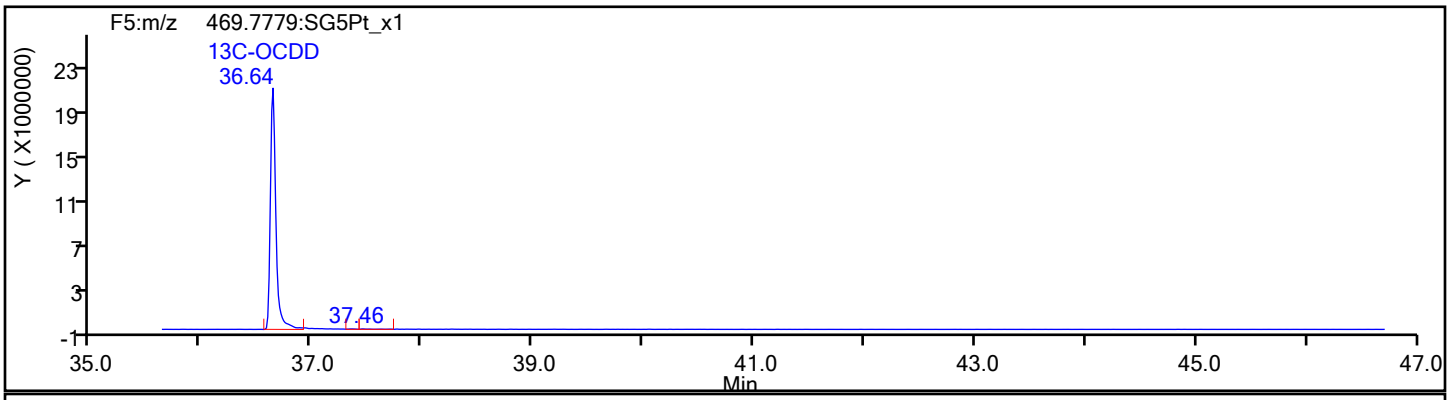

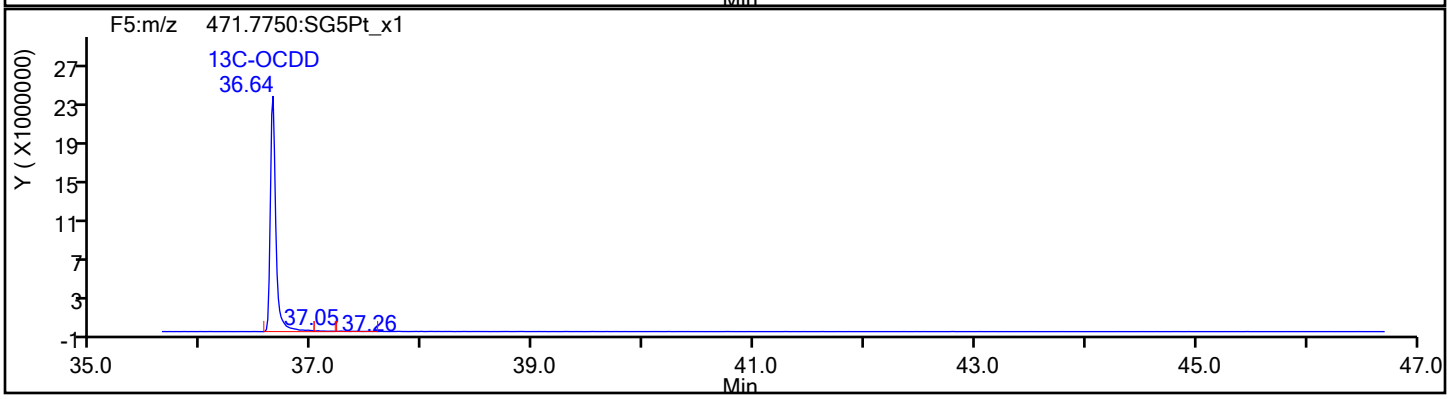

Report Date: 14-Nov-2019 07:08:17 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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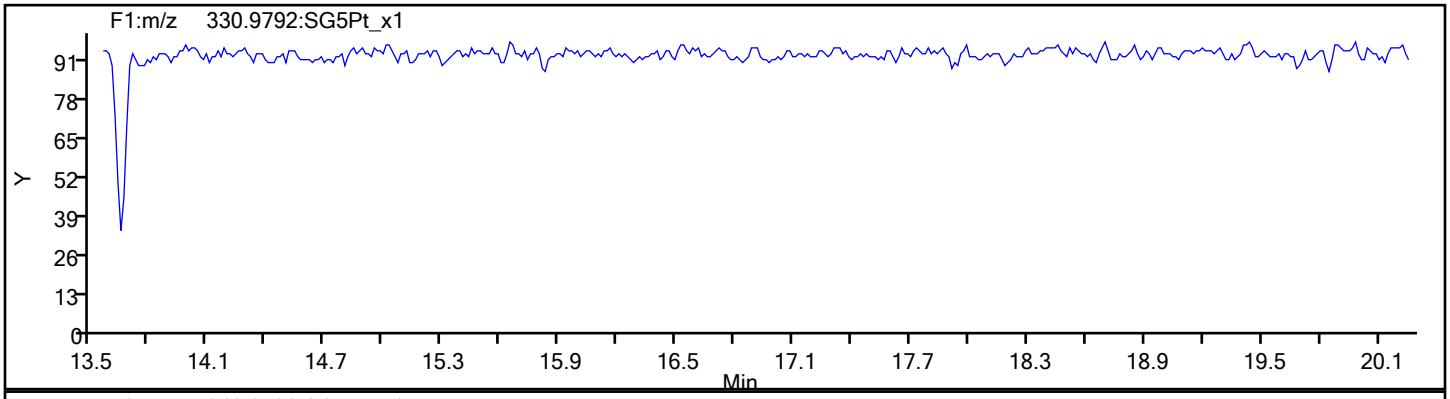

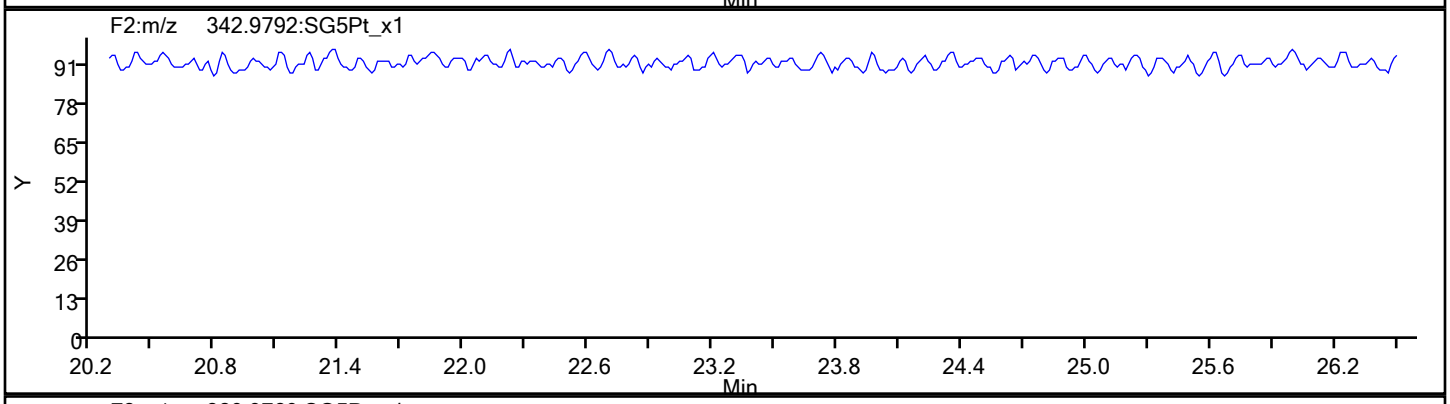

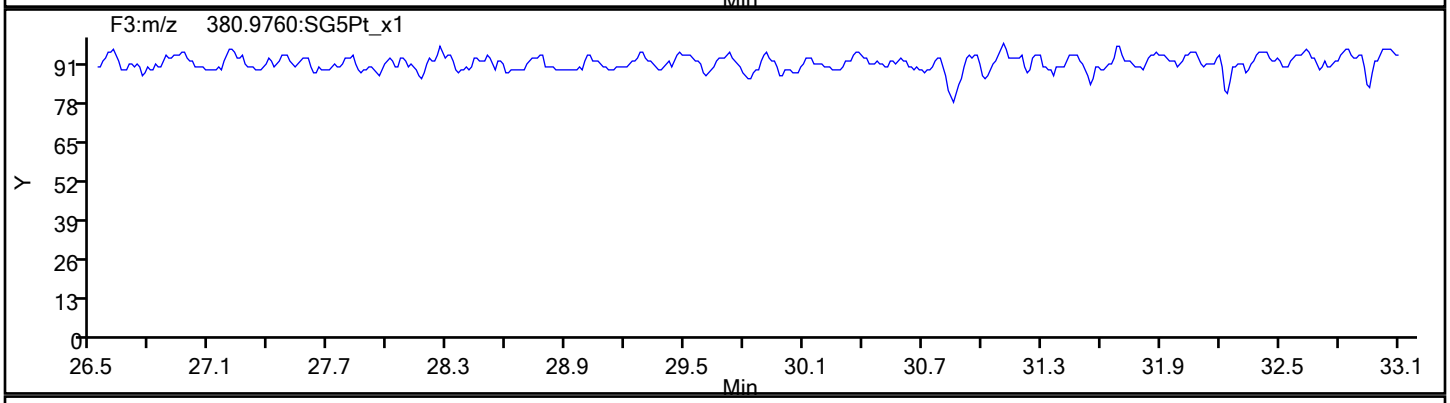

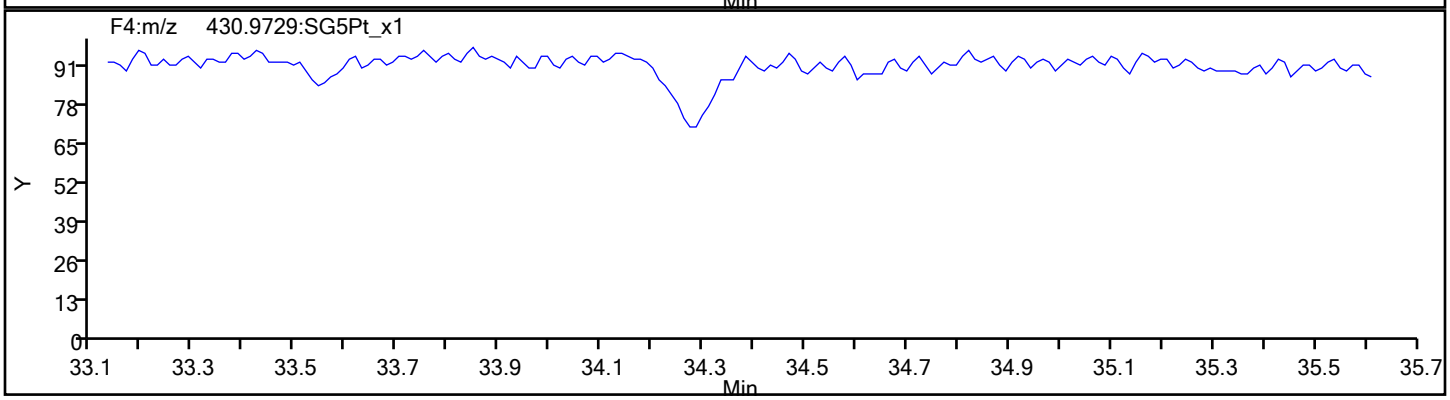

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Eurofins TestAmerica, Sacramento

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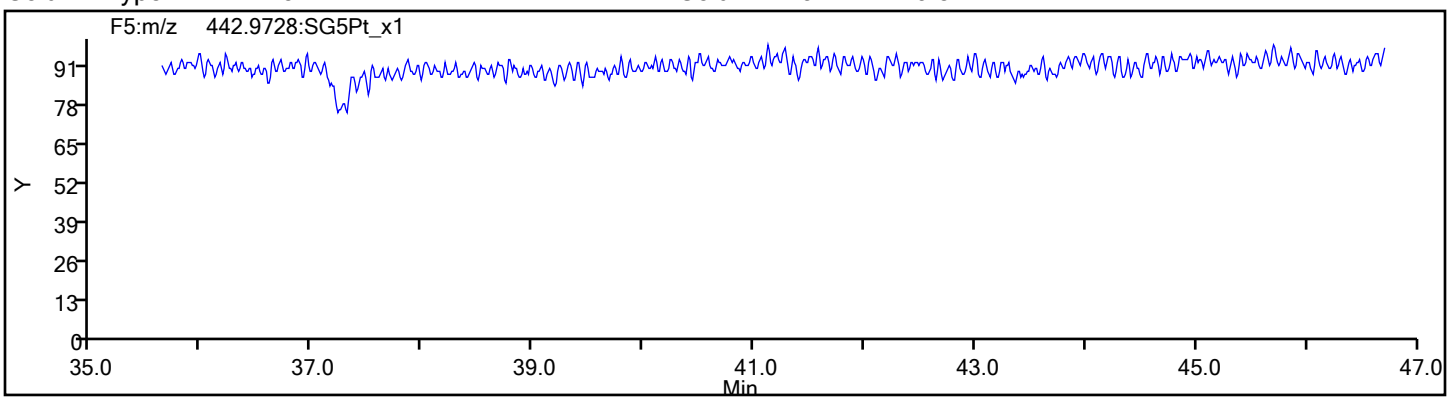

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_1.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 21-May-2019 11:56:21 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 052119 WDM HRDXNCP_00038
Misc. Info.: 21MY193D5
Operator ID: AJS Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 22-May-2019 11:06:38 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: shardaa Date: 21-May-2019 13:38:59

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	17.900	142329176	0.79	1.3908					0.00	
2,3,7,8-TCDF	17.915	292857383	0.78	0.9710	84.8	84.8	0.5134	0.5134		
A Non-2,3,7,8-sub-TCDF	17.590						0.5134	0.5134		
S Total TCDF					84.8	84.8	0.5134	0.5134		
D 13C-2,3,7,8-TCDD	18.626	95381709	0.80	0.9819					0.00	
2,3,7,8-TCDD	18.641	105767650	0.78	1.0447	42.5	42.5	0.1646	0.1646		
A Non-2,3,7,8-sub-TCDD	18.066						0.1646	0.1646		
S Total TCDD					42.5	42.5	0.1646	0.1646		
A F1 PeCDFs	20.637						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.899						0.0	0.0		
S Total PeCDF										
A Non-2,3,7,8-sub-PeCDD	24.123						0.0	0.0		
S Total PeCDD										
A Non-2,3,7,8-sub-HxCDF	30.845						0.0	0.0		
S Total HxCDF										
A Non-2,3,7,8-sub-HxCDD	31.471	657931	1.26	0.0000						
S Total HxCDD										
1,2,3,4,6,7,8-HpCDF	34.121	82632779	1.06	1.4373						
1,2,3,4,7,8,9-HpCDF	35.251	67013075	1.05	1.3091						
A Non-2,3,7,8-sub-HpCDF	34.686						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	34.947	57145761	1.06	1.0102						
A Non-2,3,7,8-sub-HpCDD	35.074						0.0	0.0		
S Total HpCDD										
1,3,6,8-TCDF	15.390	166246351	0.78							
1,3,6,8-TCDD	16.343	110635979	0.77							
2,3,4,7-TCDF	17.915	292857383	0.78							
1,2,3,7-TCDD	18.520	92728069	0.76							
1,2,3,9-TCDD	18.807	112930850	0.82							
1,2,3,9-TCDF	18.807	126390975	0.79							

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,8,9-TCDD	19.790	43123802								
1,2,8,9-TCDF	19.790	130326615	0.76							
1,3,4,6,8-PeCDF	20.093	129246738	1.59							
1,2,4,7,9-PeCDD	21.934	90103477	1.54							
1,2,3,8,9-PeCDD	26.312	84848214	1.58							
1,2,3,8,9-PeCDF	26.544	61703706								
1,2,3,4,6,8-HxCDF	28.914	104194761	1.22							
1,2,4,6,7,9-HxCDD	30.326	80751124	1.23							
1,2,3,4,6,7-HxCDD	32.483	77418581	1.27							
1,2,3,4,8,9-HxCDF	32.776	86047174	1.25							
1,2,3,4,6,7,9-HpCDD	34.364	65623565	1.05							

Reagents:

HRDXNCP_00038 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_1.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 21-May-2019 11:56:21 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 052119 WDM HRDXNCP_00038
Misc. Info.: 21MY193D5
Operator ID: AJS Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 22-May-2019 11:06:38 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: shardaa Date: 21-May-2019 13:38:59

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	17.900	17.885	1	1.000	62901174	14444500	23508	58770	614		
317.9389	17.885	17.885	0	1.000	79428002	18619090	21886	54715	851	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.915	17.915	0	1.001	128275333	28855811	65043	162607	444		
305.8987	17.915	17.915	0	1.001	164582050	36880030	99790	249475	370	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.590						65043	162607			
305.8987	17.590						99790	249475			
13C-2,3,7,8-TCDD											
331.9368	18.626	18.611	1	1.000	42404747	9743193	24478	61195	398		
333.9339	18.626	18.611	1	1.000	52976962	12326201	8555	21387	1441	0.80(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.641	18.650	-1	1.001	46459771	10318495	17244	43110	598		
321.8936	18.641	18.650	-1	1.001	59307879	13616617	20709	51772	658	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	18.066						17244	43110			
321.8936	18.066						20709	51772			
A F1 PeCDFs											
339.8597	20.637						5411	13527			
341.8567	20.637						8692	21730			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.899						9009	22522			
341.8567	23.899						11975	29937			
A Non-2,3,7,8-sub-PeCDD											
355.8546	24.123						15878	39695			
357.8516	24.123						8168	20420			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.845						20487	51217			
375.8178	30.845						16652	41630			
A Non-2,3,7,8-sub-HxCDD											
389.8157	31.444	31.471	-2	1.000	366420	78878	22316	55790	4		
391.8127	31.444	31.471	-2	1.000	291511	71428	17277	43192	4	1.26(1.05-1.43)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.121	34.104	1	1.000	42538474	13039421	48634	121585	268		
409.7789	34.109	34.104	0	1.000	40094305	12217379	38817	97042	315	1.06(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.251	35.244	0	1.000	34323675	8398192	48634	121585	173		
409.7789	35.251	35.244	0	1.000	32689400	8355587	38817	97042	215	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.686						48634	121585			
409.7789	34.686						38817	97042			
1,2,3,4,6,7,8-HpCDD											
423.7766	34.947	34.940	0	1.000	29401308	8154945	26390	65975	309		
425.7737	34.947	34.940	0	1.000	27744453	7733751	25075	62687	308	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	35.074						26390	65975			
425.7737	35.074						25075	62687			
1,3,6,8-TCDF											
303.9016	15.390	15.390	0		72864110	21132563	65043	162607	325		
305.8987	15.390	15.390	0		93382241	27360068	99790	249475	274	0.78(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	16.343	16.343	0		47983816	12916935	17244	43110	749		
321.8936	16.343	16.343	0		62652163	16568874	20709	51772	800	0.77(0.65-0.89)	
2,3,4,7-TCDF											
303.9016	17.915	17.915	0		128275333	28855811	65043	162607	444		
305.8987	17.915	17.915	0		164582050	36880030	99790	249475	370	0.78(0.65-0.89)	
1,2,3,7-TCDD											
319.8965	18.520	18.520	0		40014642	9867861	17244	43110	572		
321.8936	18.520	18.520	0		52713427	12869976	20709	51772	621	0.76(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	18.807	18.807	0		50741930	11082748	17244	43110	643		
321.8936	18.807	18.807	0		62188920	13543053	20709	51772	654	0.82(0.65-0.89)	
1,2,3,9-TCDF											
303.9016	18.807	18.807	0		55627509	12223042	65043	162607	188		
305.8987	18.807	18.807	0		70763466	15547883	99790	249475	156	0.79(0.65-0.89)	
1,2,8,9-TCDD											
319.8965	19.790	19.790	0		43123802	8997243	17244	43110	522		
1,2,8,9-TCDF											
303.9016	19.790	19.790	0		56256810	11654152	65043	162607	179		
305.8987	19.790	19.790	0		74069805	15142079	99790	249475	152	0.76(0.65-0.89)	
1,3,4,6,8-PeCDF											
339.8597	20.093	20.093	0		79326074	17172146	5411	13527	3174		
341.8567	20.093	20.093	0		49920664	10665984	8692	21730	1227	1.59(1.32-1.78)	

Report Date: 22-May-2019 11:06:43 Chrom Revision: 2.3 12-May-2019 16:28:34
Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_1.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,4,7,9-PeCDD											
355.8546	21.934	21.934	0		54564293	8817781	15878	39695	555		
357.8516	21.921	21.934	-1		35539184	5806410	8168	20420	711	1.54(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	26.312	26.312	0		52007882	7329706	15878	39695	462		
357.8516	26.312	26.312	0		32840332	4579894	8168	20420	561	1.58(1.32-1.78)	
1,2,3,8,9-PeCDF											
339.8597	26.544	26.544	0		61703706	7926505	9009	22522	880		
1,2,3,4,6,8-HxCDF											
373.8208	28.914	28.914	0		57338539	6952076	20487	51217	339		
375.8178	28.914	28.914	0		46856222	5585431	16652	41630	335	1.22(1.05-1.43)	
1,2,4,6,7,9-HxCDD											
389.8157	30.326	30.326	0		44606732	7700135	22316	55790	345		
391.8127	30.326	30.326	0		36144392	6277802	17277	43192	363	1.23(1.05-1.43)	
1,2,3,4,6,7-HxCDD											
389.8157	32.483	32.483	0		43337403	12176658	22316	55790	546		
391.8127	32.483	32.483	0		34081178	9548413	17277	43192	553	1.27(1.05-1.43)	
1,2,3,4,8,9-HxCDF											
373.8208	32.776	32.776	0		47814875	13450039	20487	51217	657		
375.8178	32.776	32.776	0		38232299	10593800	16652	41630	636	1.25(1.05-1.43)	
1,2,3,4,6,7,9-HpCDD											
423.7766	34.364	34.364	0		33609170	10006778	26390	65975	379		
425.7737	34.364	34.364	0		32014395	9655474	25075	62687	385	1.05(0.88-1.20)	

Reagents:

HRDXNCP_00038 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_1.d
Lims ID: WDM
Client ID:
Inject. Date: 21-May-2019 11:56:21 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 3D5 Operator: AJS
Lims Batch ID: 296020 Lims Sample ID: 1

Non-2,3,7,8-sub-HxCDD, RT: 31.471

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.027				
1,2,3,6,7,8-HxCDD	0.977				
1,2,3,7,8,9-HxCDD	1.062				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
31.444	366420	78878	291511	71428		1.26	
Signal Totals:							
	366420	78878	291511	71428			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	657931	150306				1.26	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (657931 * 0.0) / (0 * 0.000)

Report Date: 22-May-2019 11:06:43 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_1.d		
Injection Date:	21-May-2019 11:56:21	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	296020	Sample Line#:	1
Column Type:		Column Dia:	

TCDF

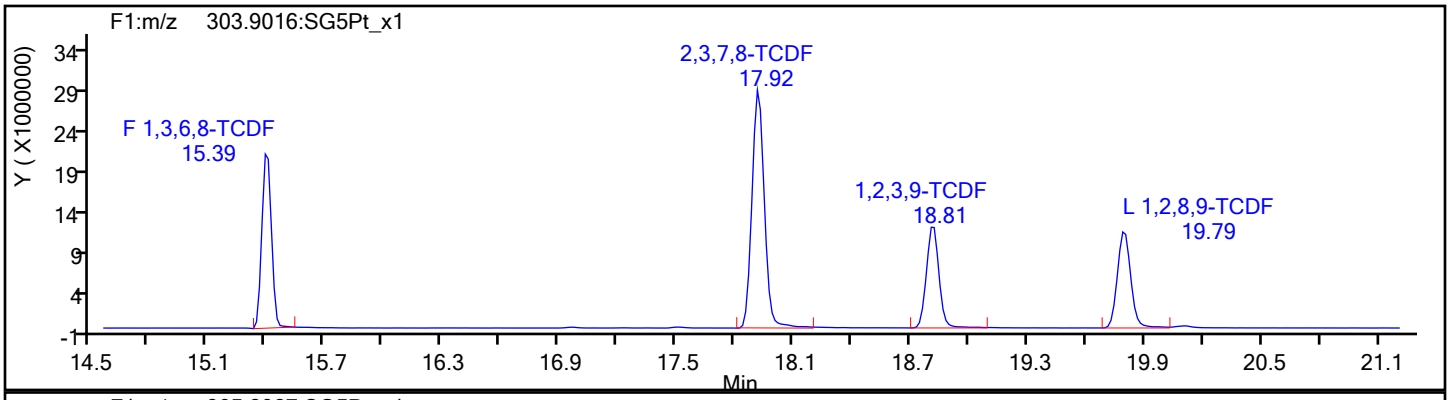

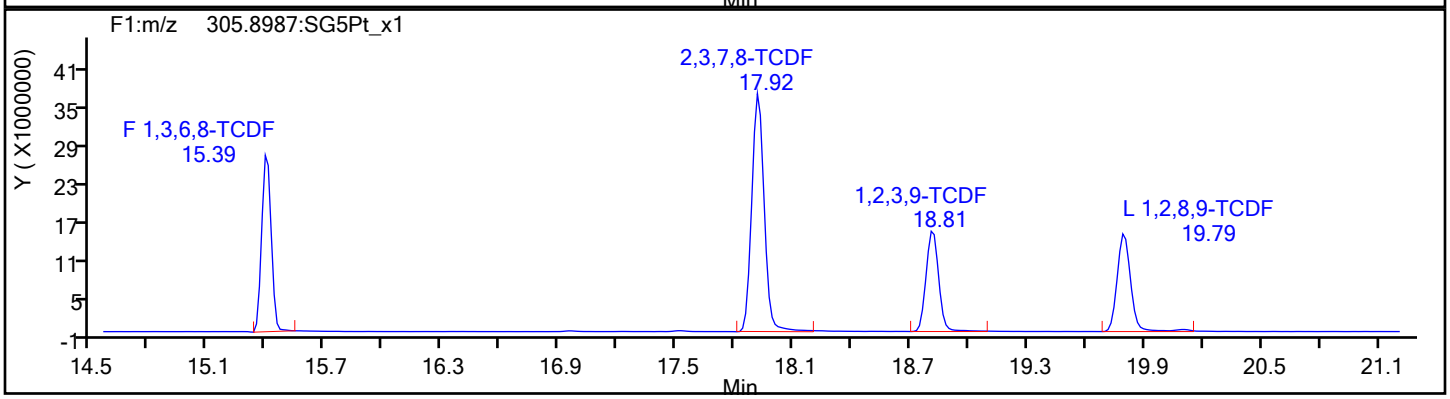

TCDF Standards

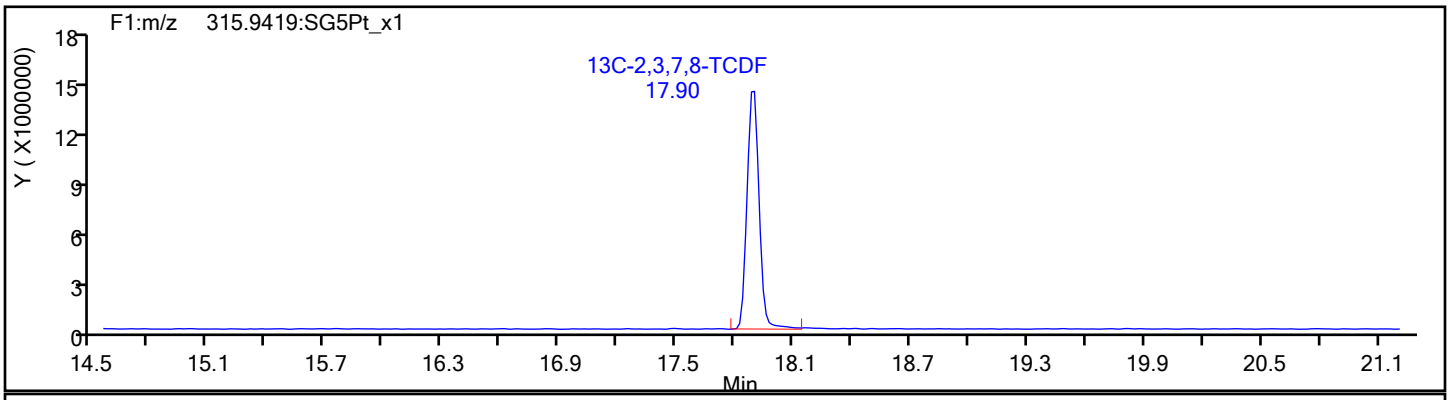

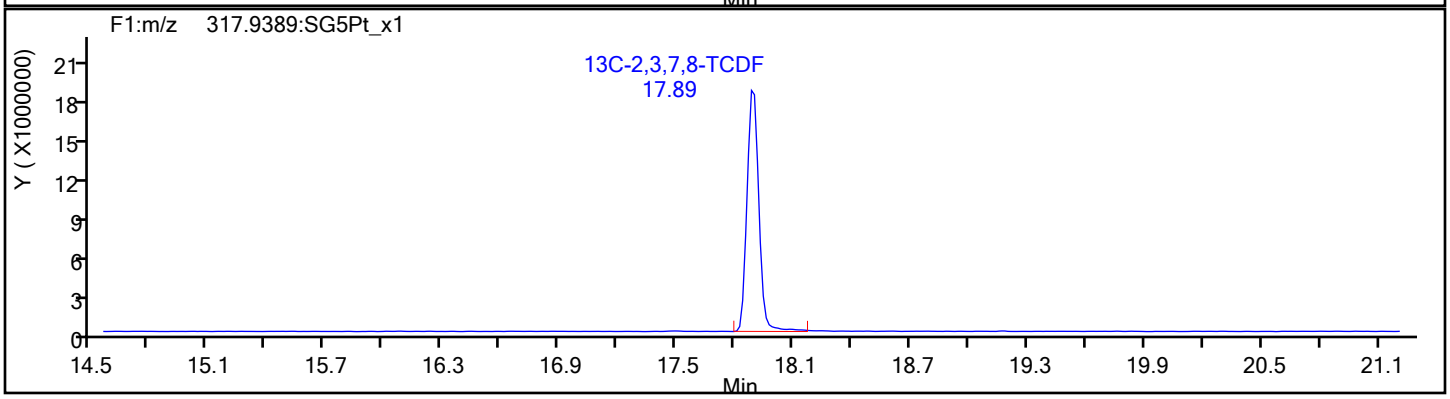

Report Date: 22-May-2019 11:06:43 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_1.d		
Injection Date:	21-May-2019 11:56:21	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	296020	Sample Line#:	1
Column Type:		Column Dia:	

TCDF

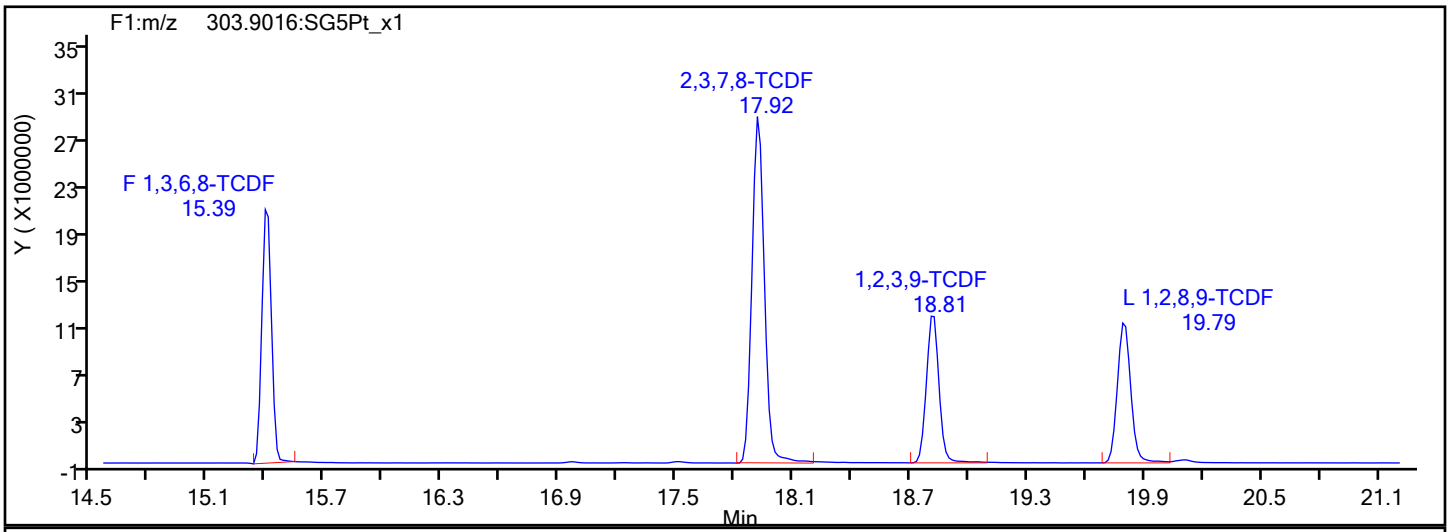

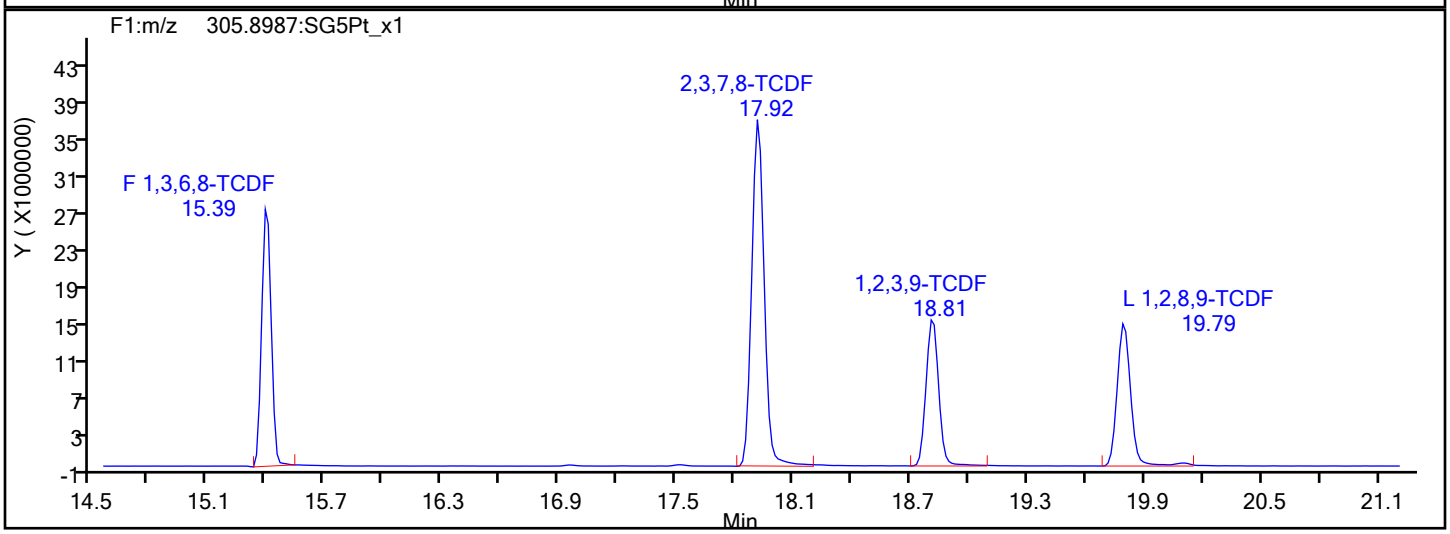

TCDF Interference Mass

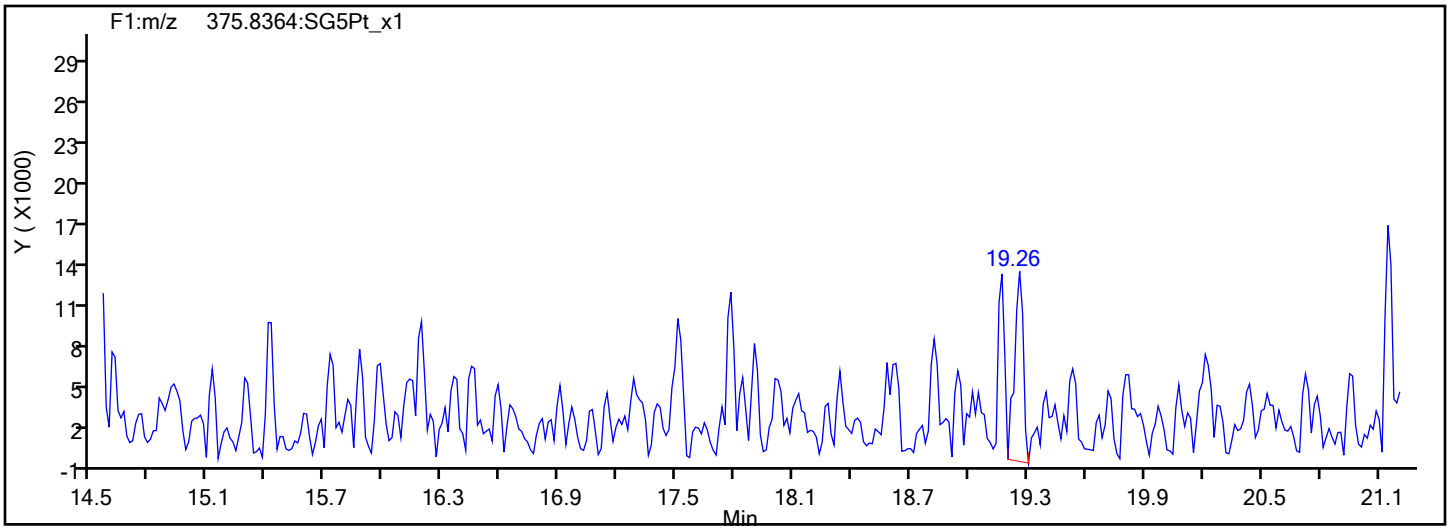

Report Date: 22-May-2019 11:06:43 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_1.d		
Injection Date:	21-May-2019 11:56:21	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	296020	Sample Line#:	1
Column Type:		Column Dia:	

TCDD

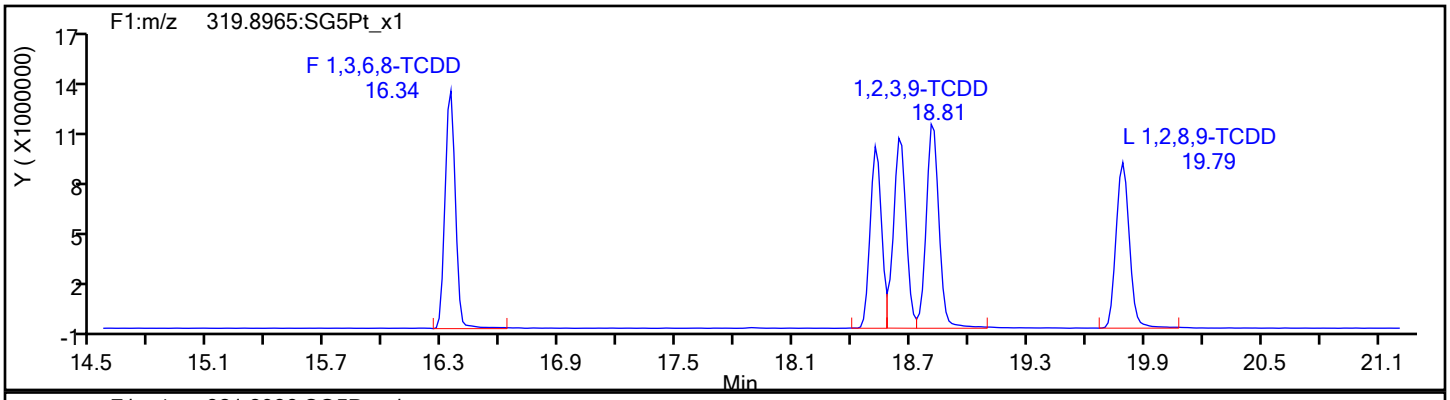

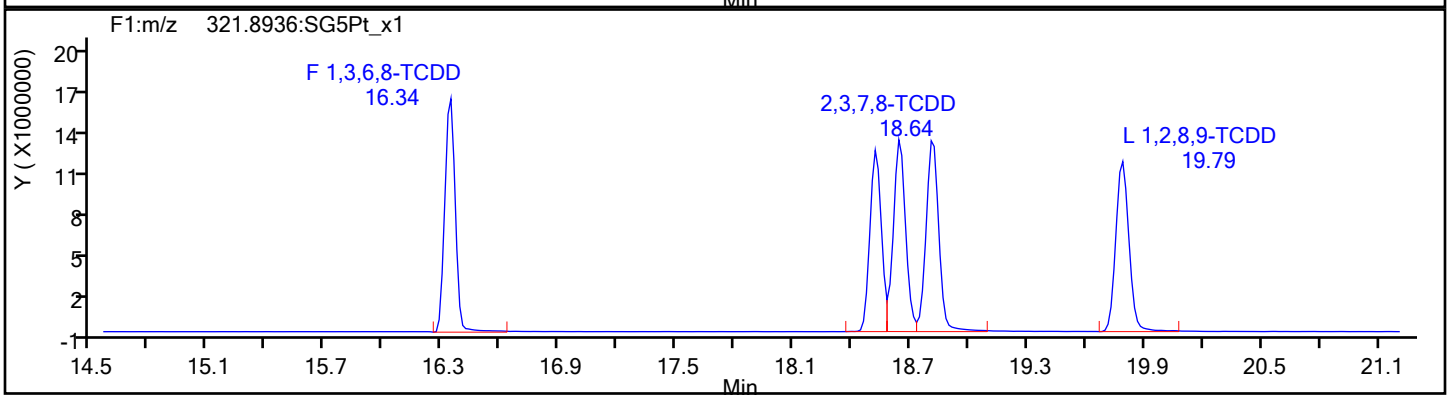

TCDD Standards

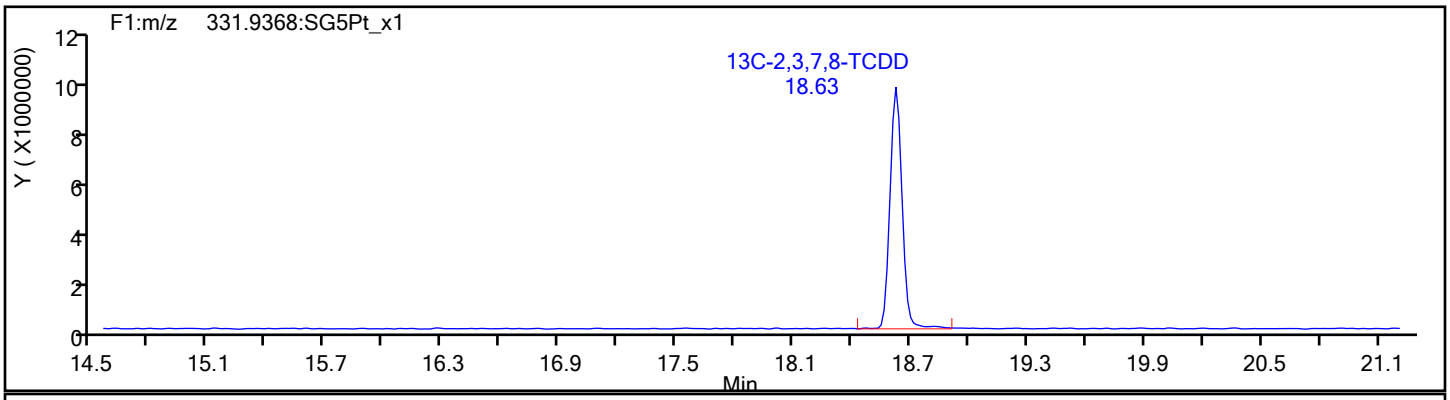

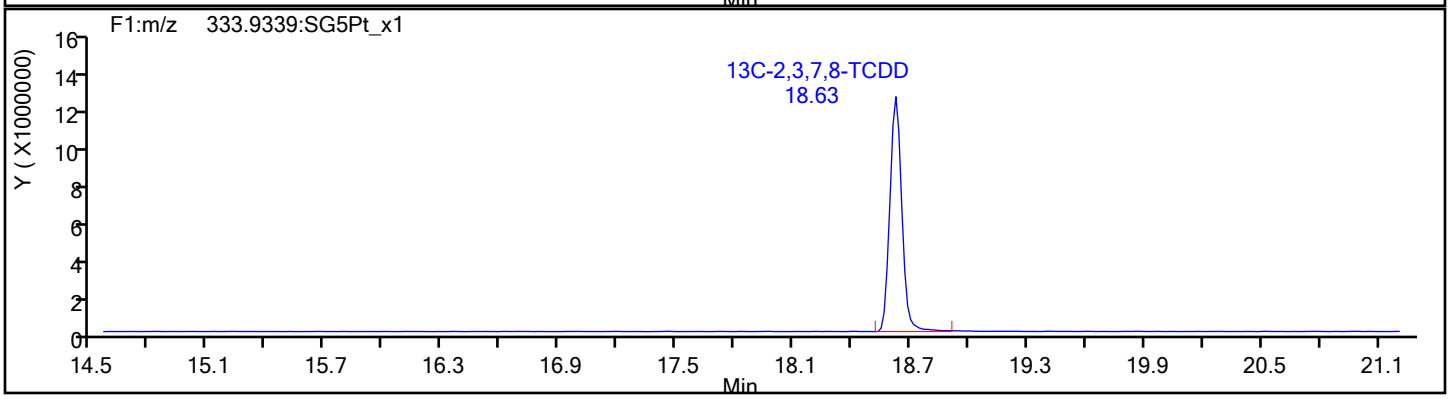

Report Date: 22-May-2019 11:06:43 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_1.d		
Injection Date:	21-May-2019 11:56:21	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	296020	Sample Line#:	1
Column Type:		Column Dia:	

37Cl4-TCDD

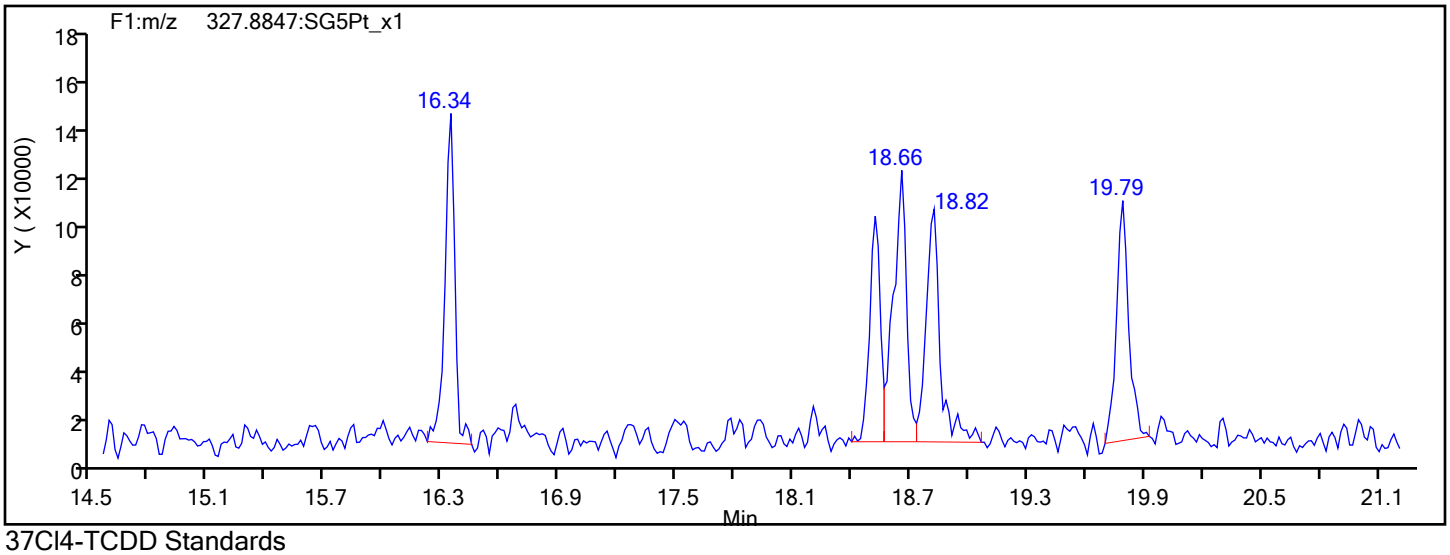

37Cl4-TCDD Standards

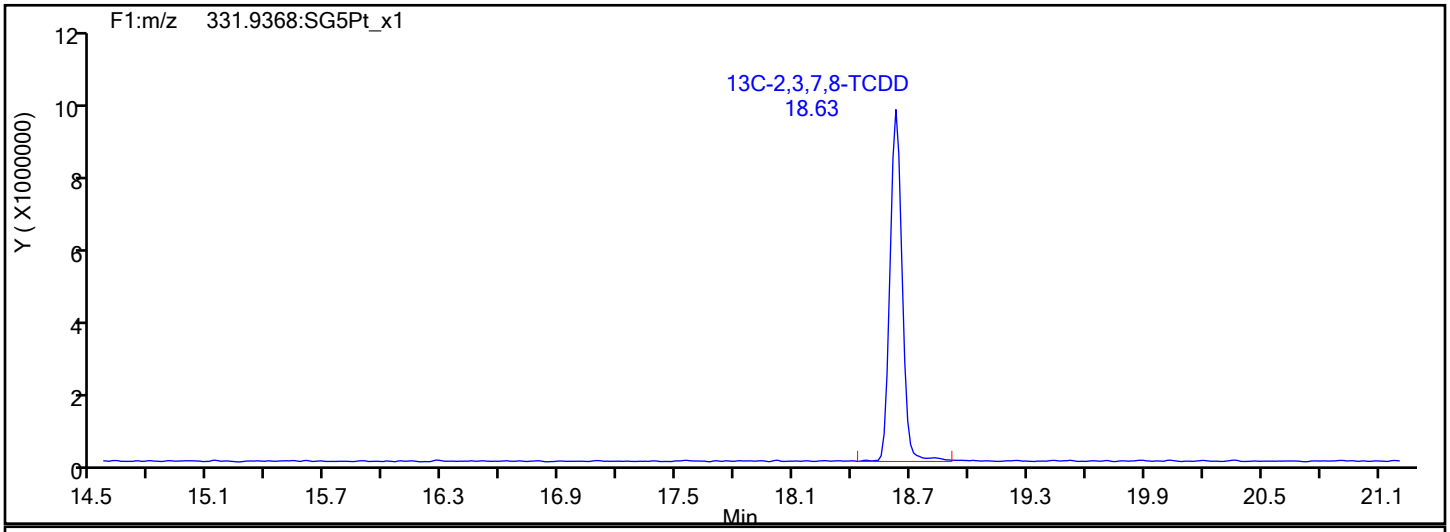

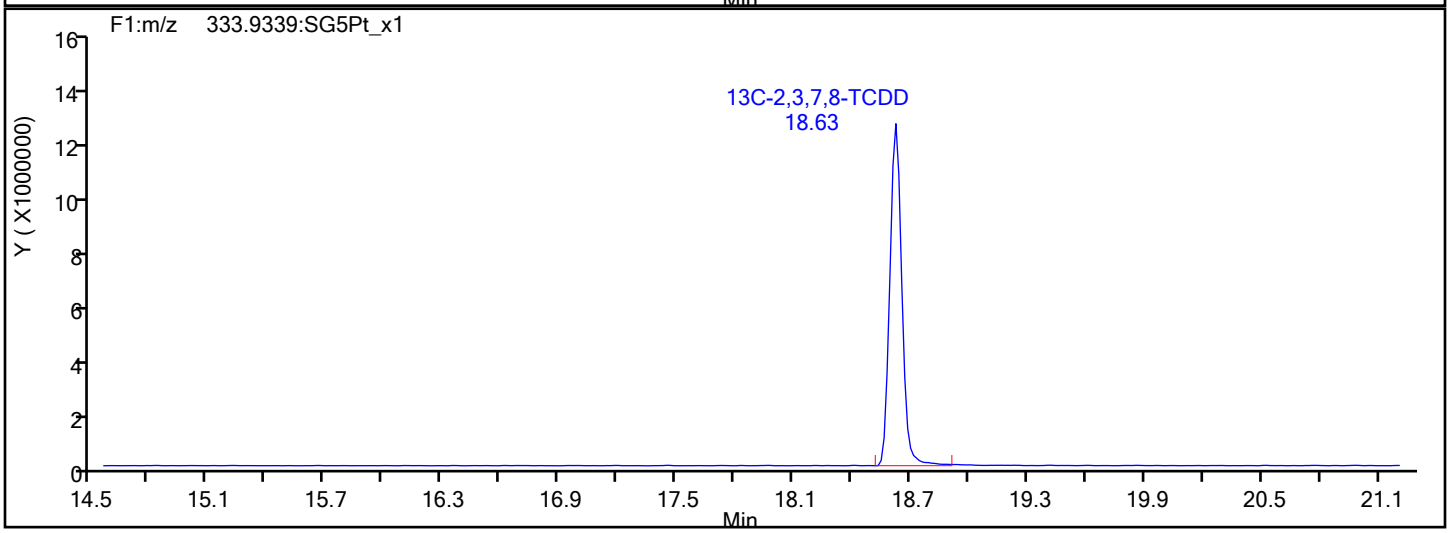

Report Date: 22-May-2019 11:06:43 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_1.d		
Injection Date:	21-May-2019 11:56:21	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	296020	Sample Line#:	1
Column Type:		Column Dia:	

F1 PeCDFs

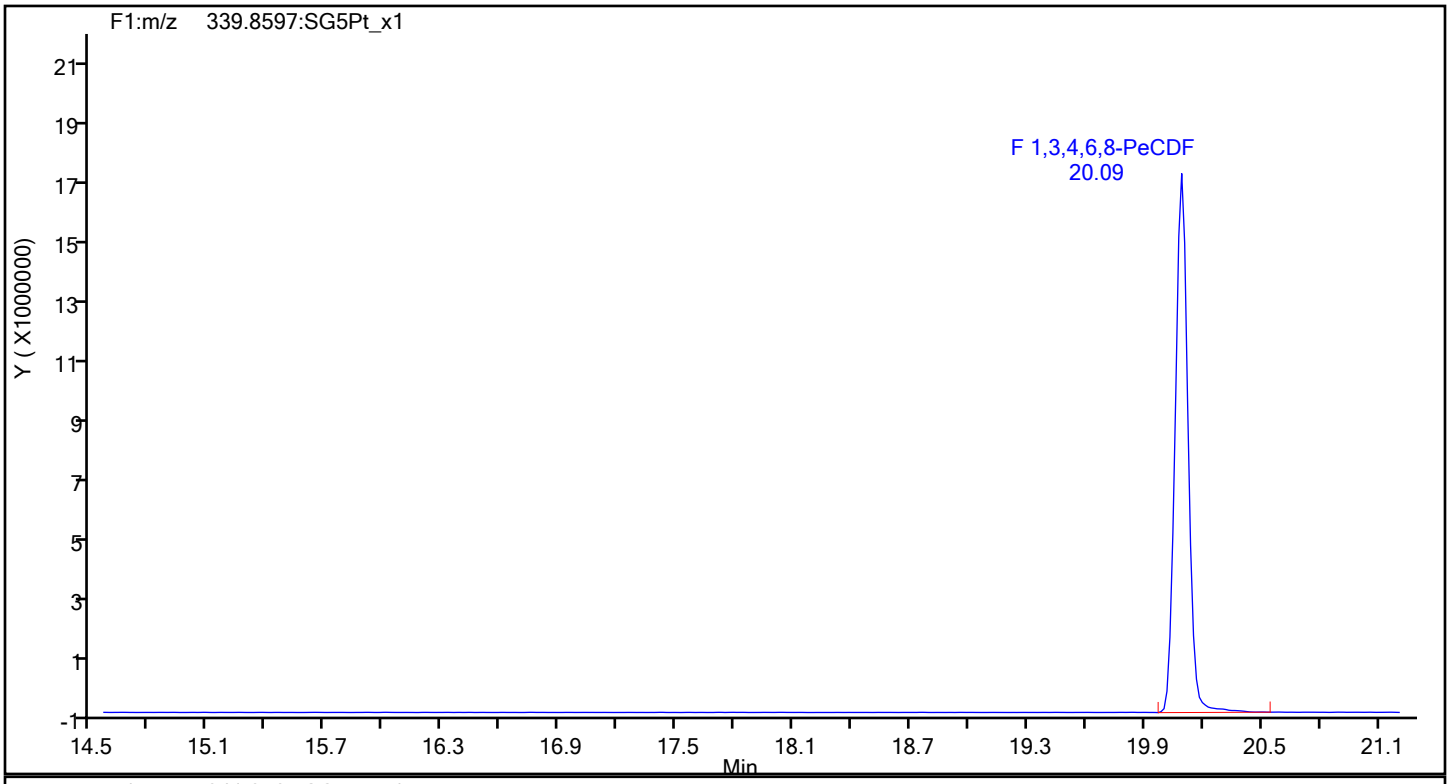

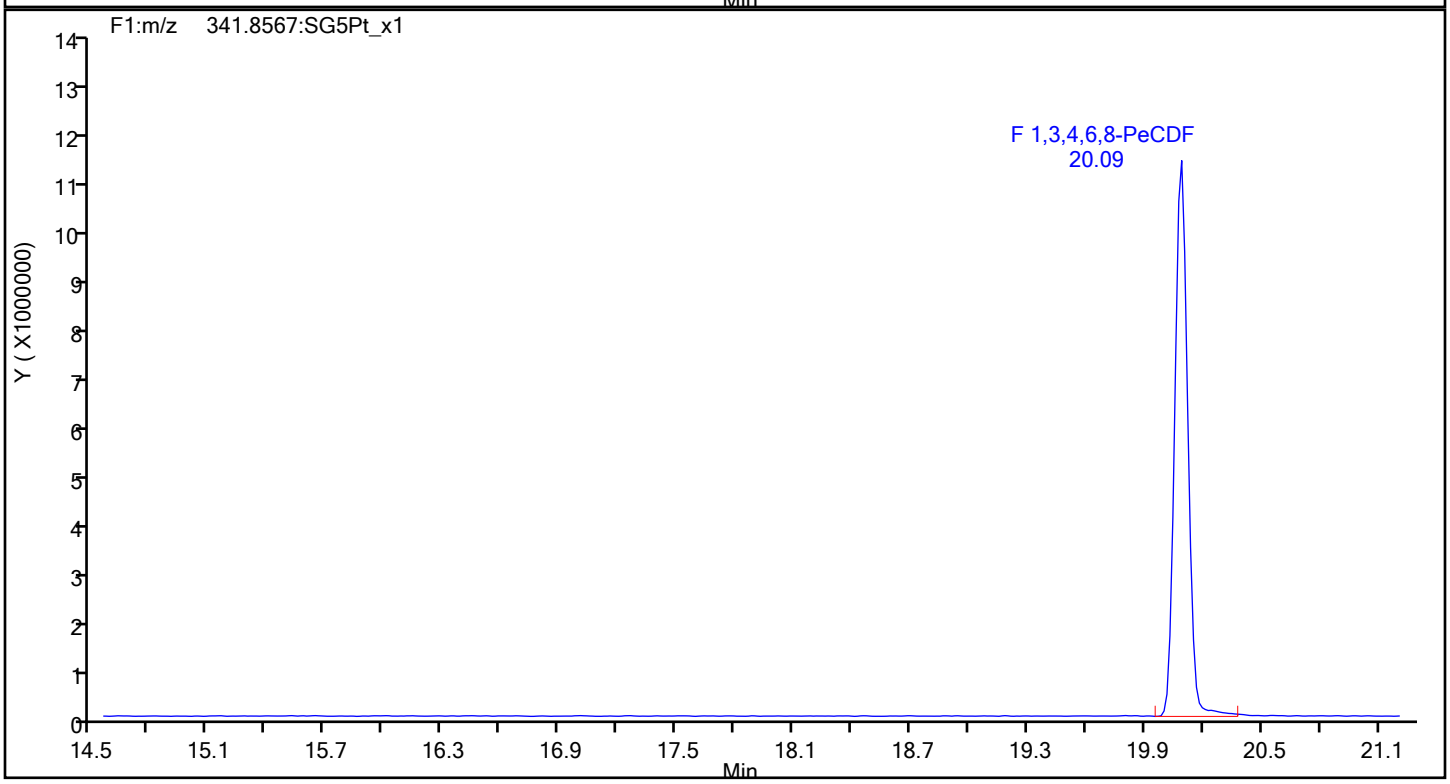

Report Date: 22-May-2019 11:06:43 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_1.d		
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Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	296020	Sample Line#:	1
Column Type:		Column Dia:	

F1 PeCDFs

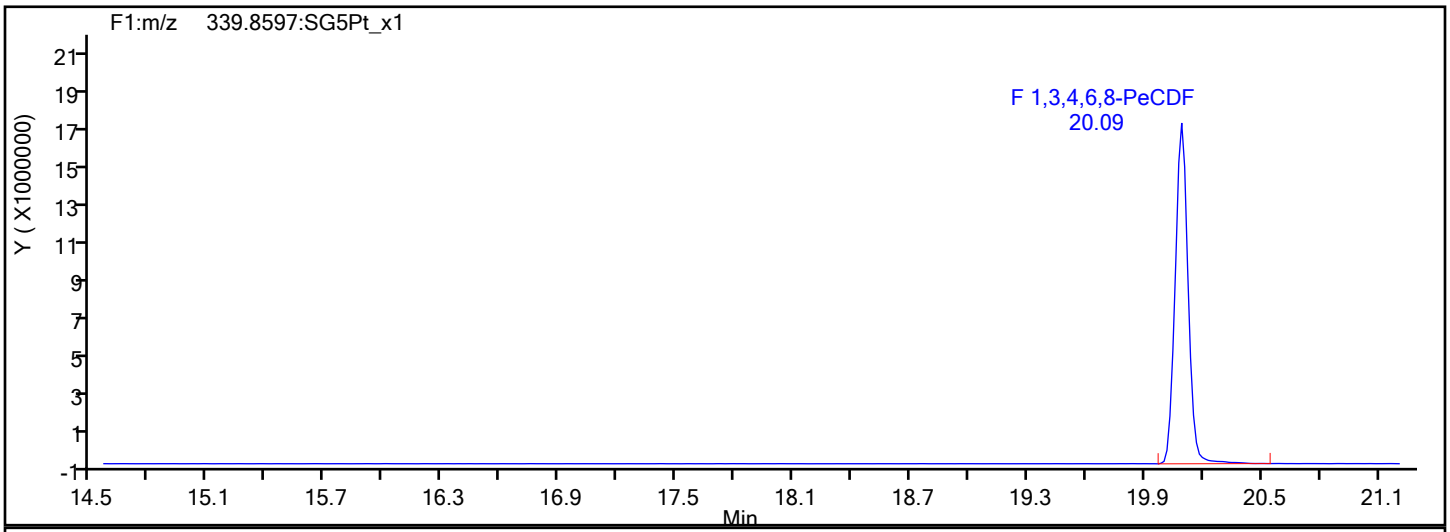

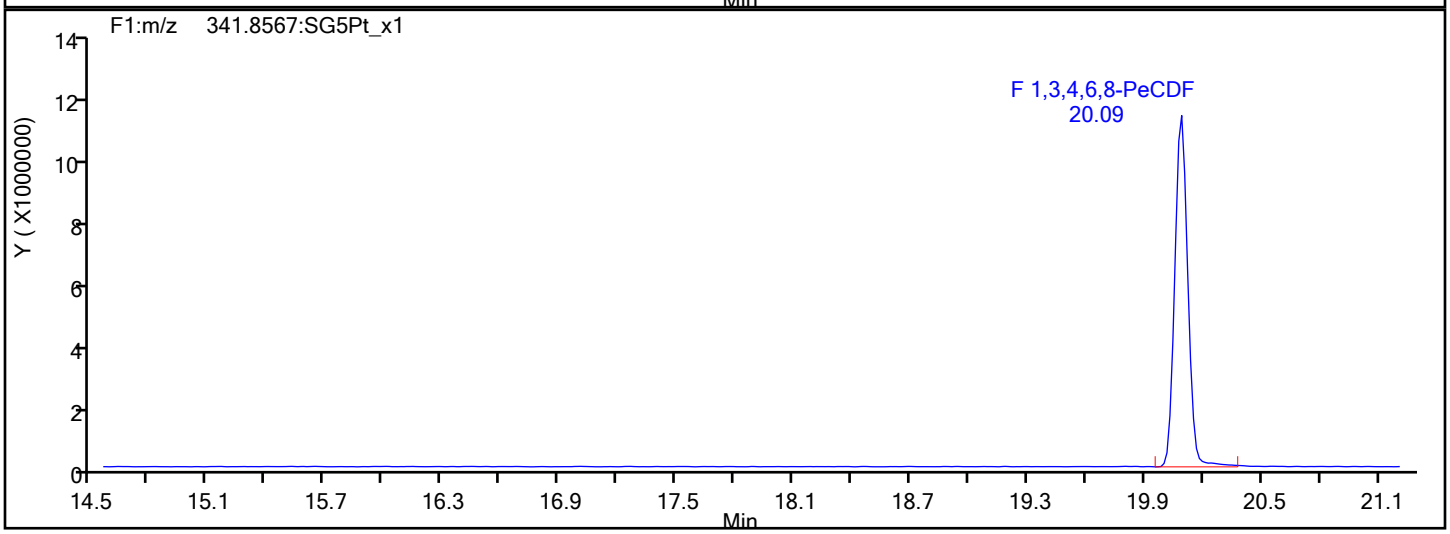

F1 PeCDFs Interference Mass

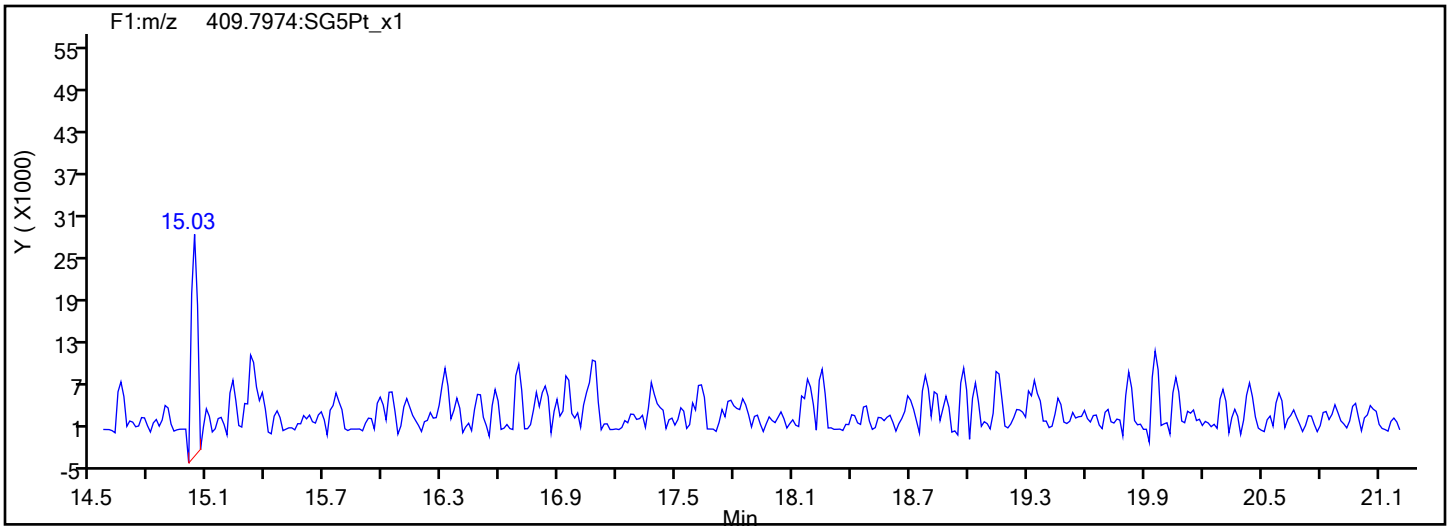

Report Date: 22-May-2019 11:06:43 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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PeCDF

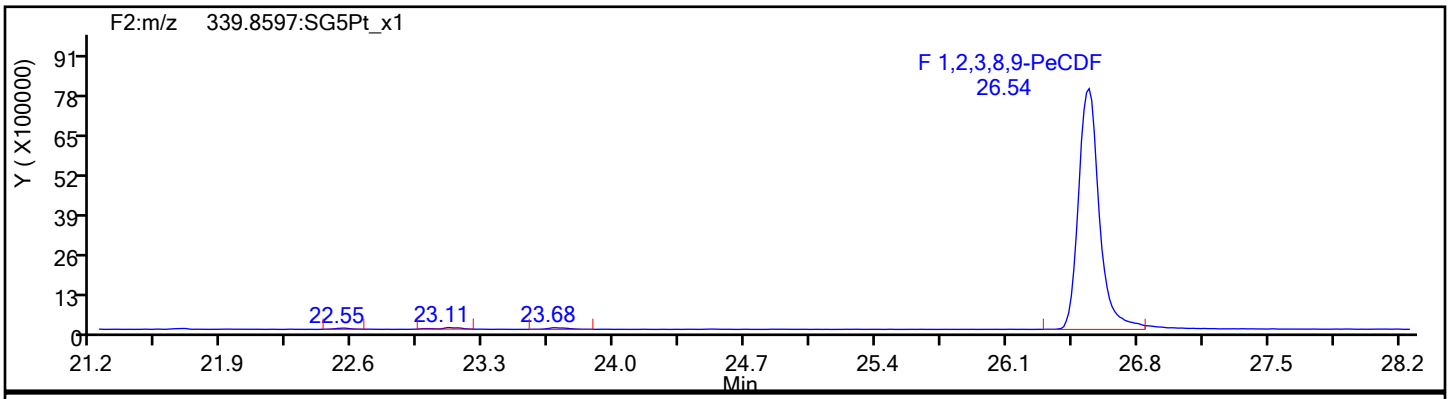

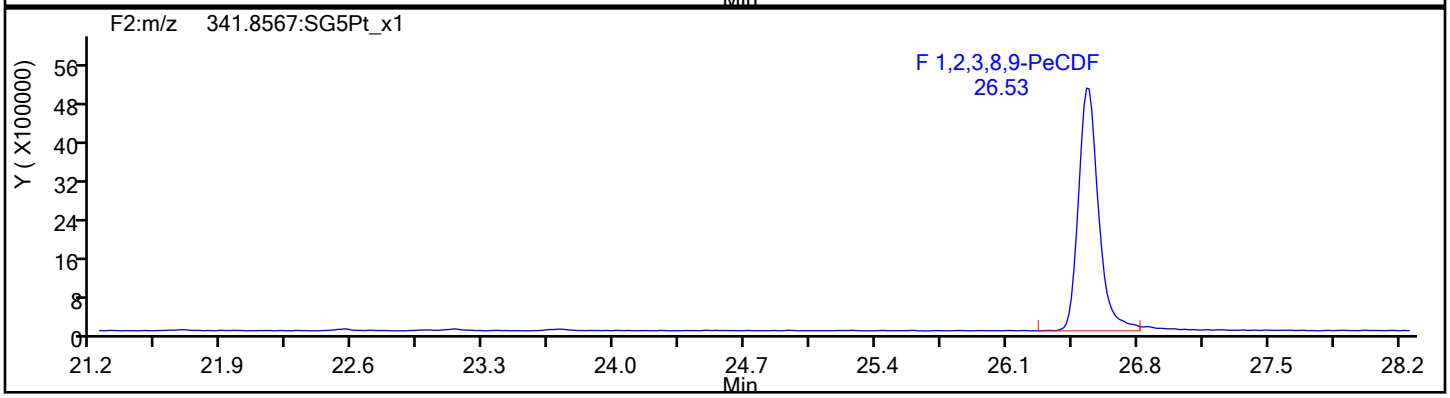

PeCDF Standards

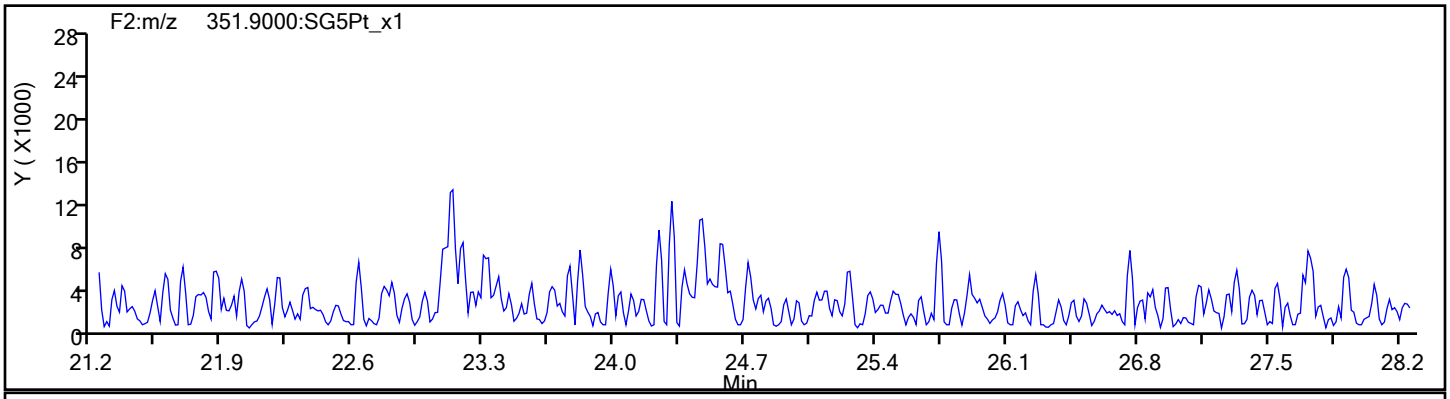

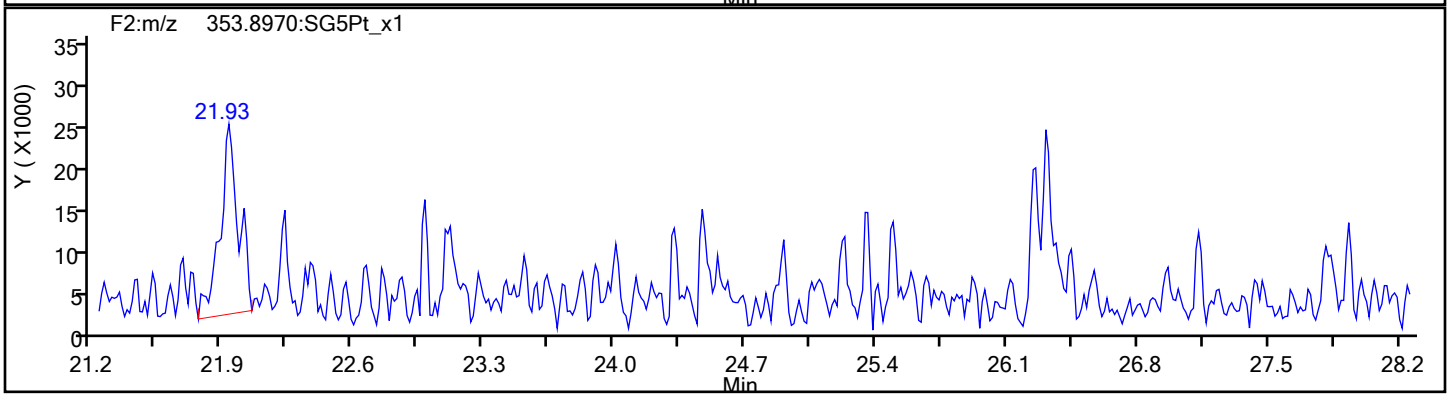

Report Date: 22-May-2019 11:06:43 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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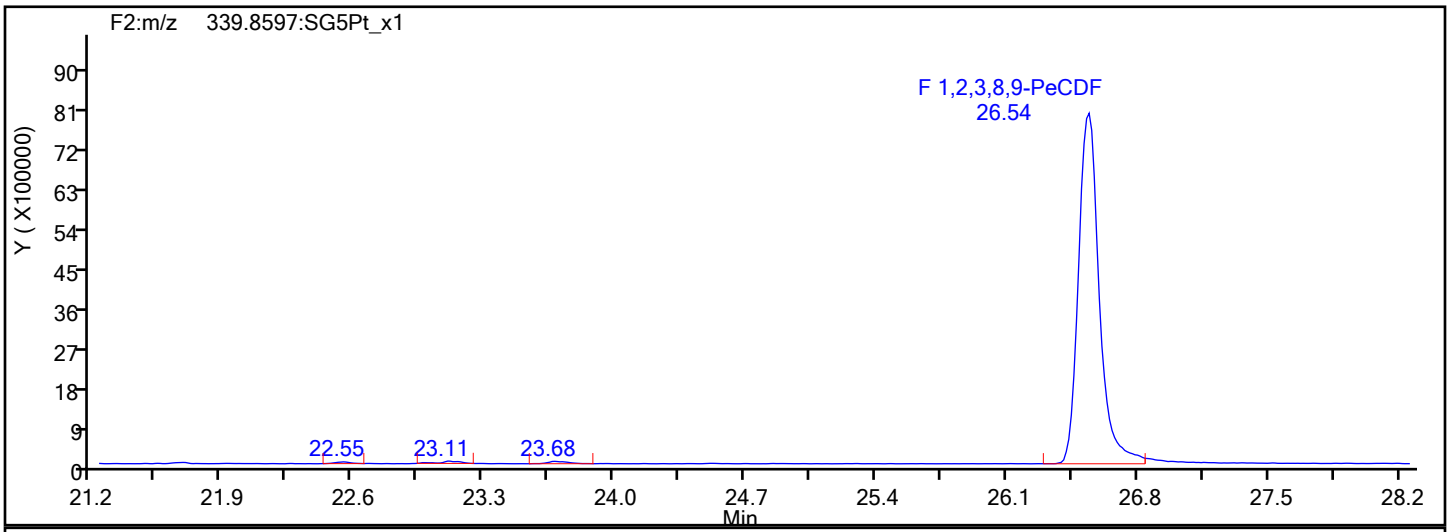

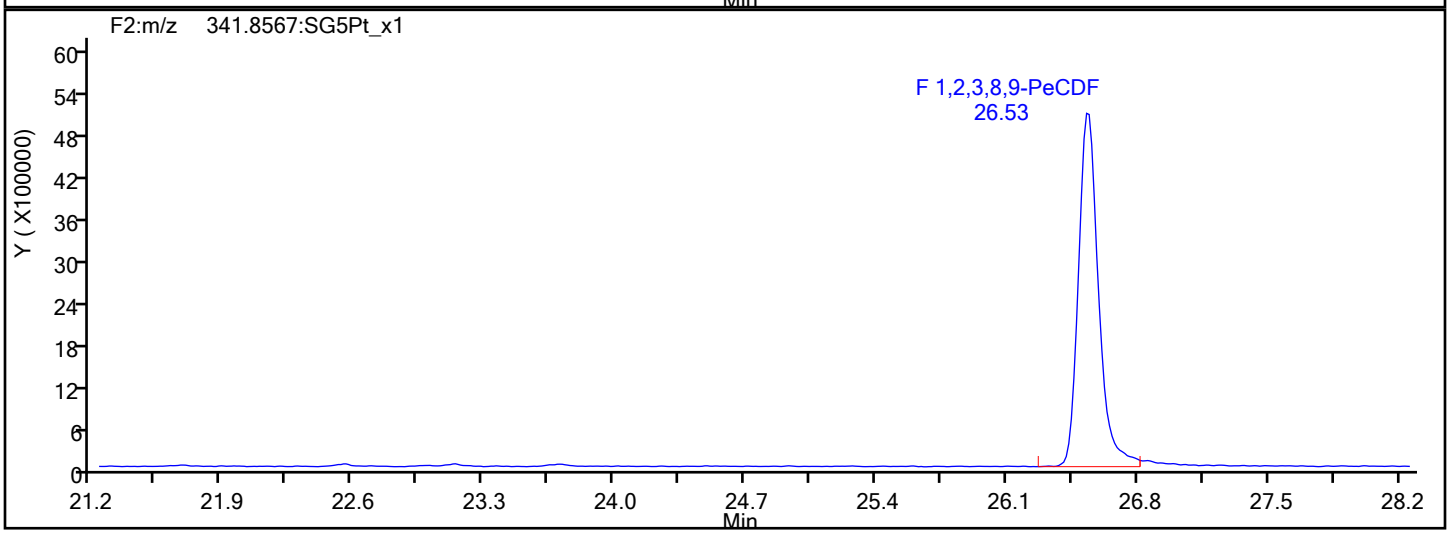

PeCDF Interference Mass

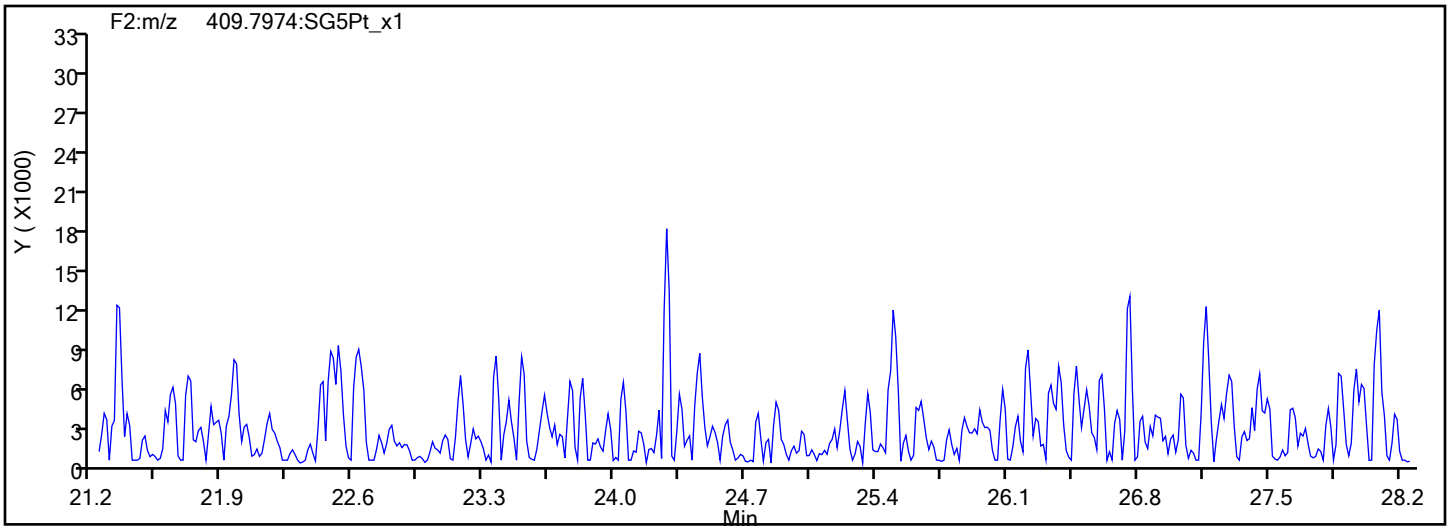

Report Date: 22-May-2019 11:06:43 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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Column Type:		Column Dia:	

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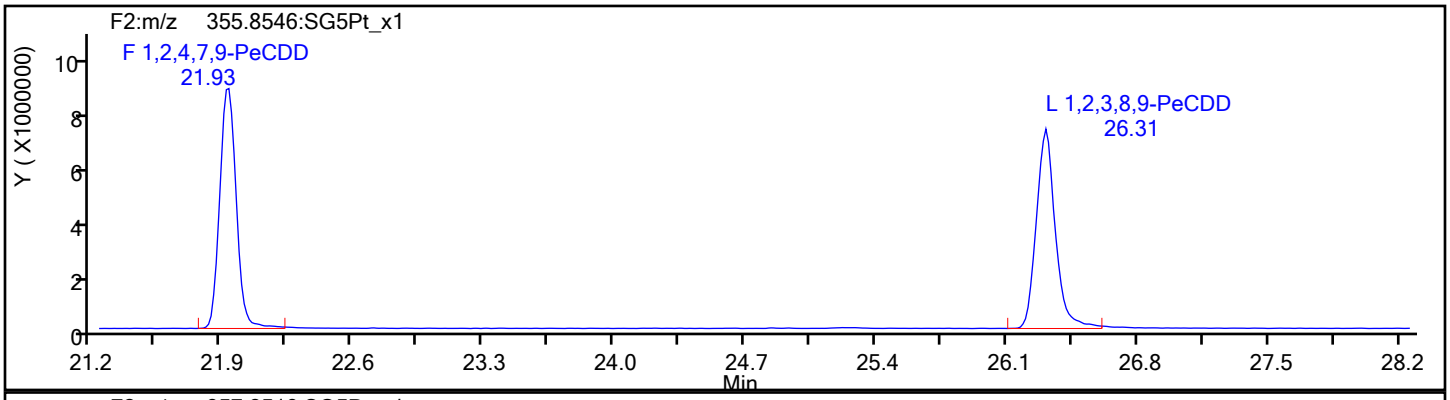

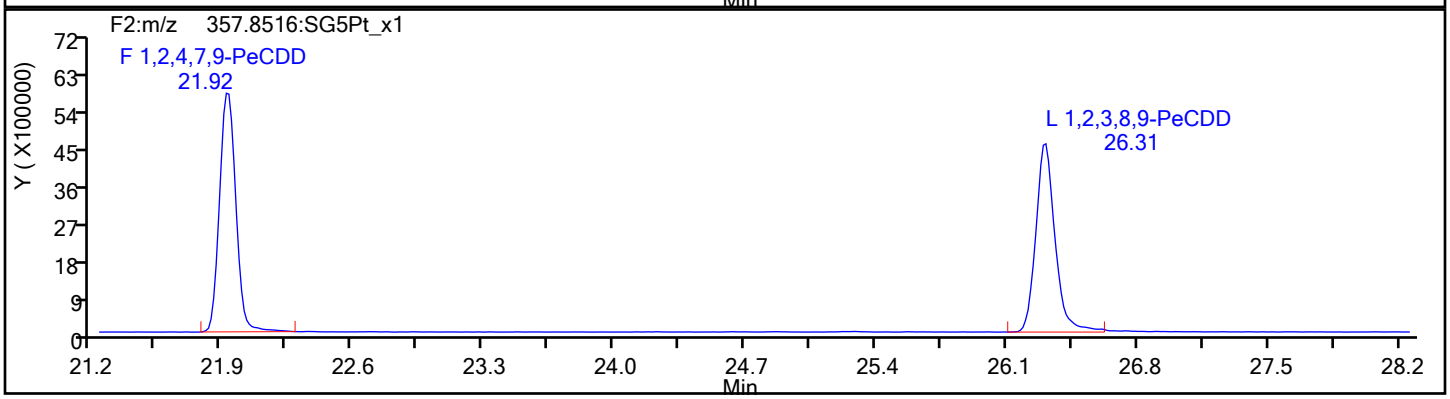

PeCDD Standards

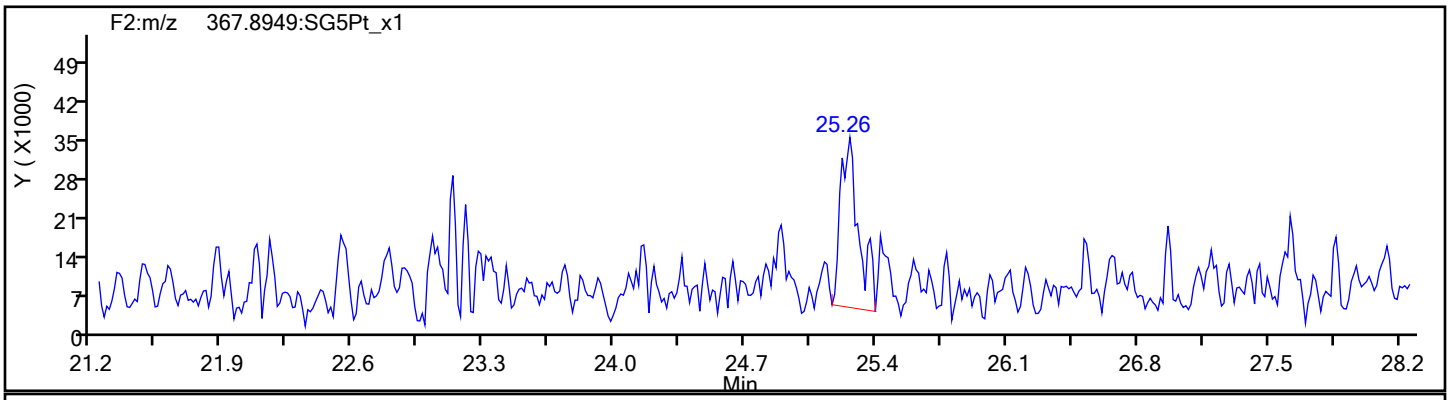

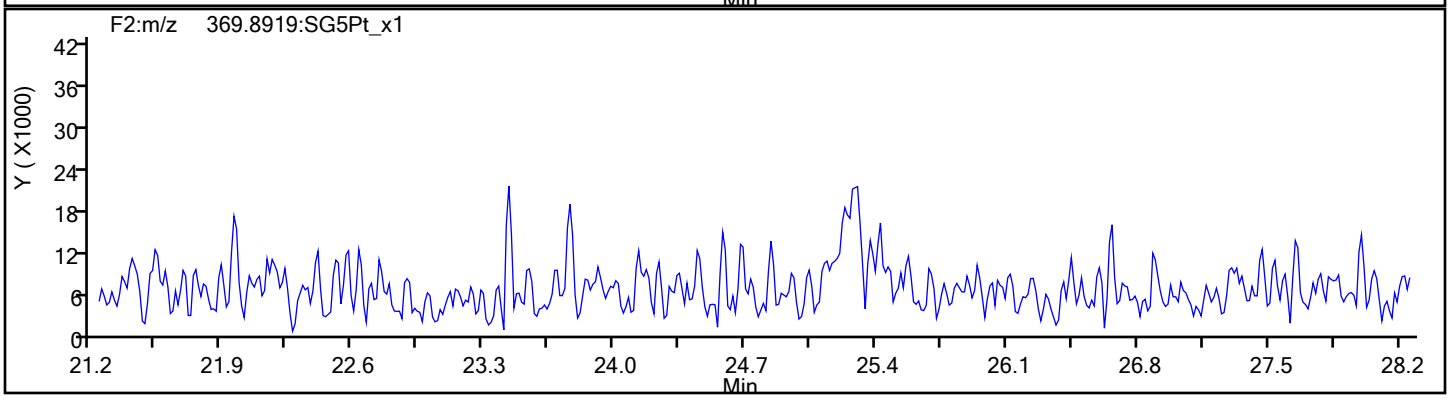

Report Date: 22-May-2019 11:06:43 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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HxCDF

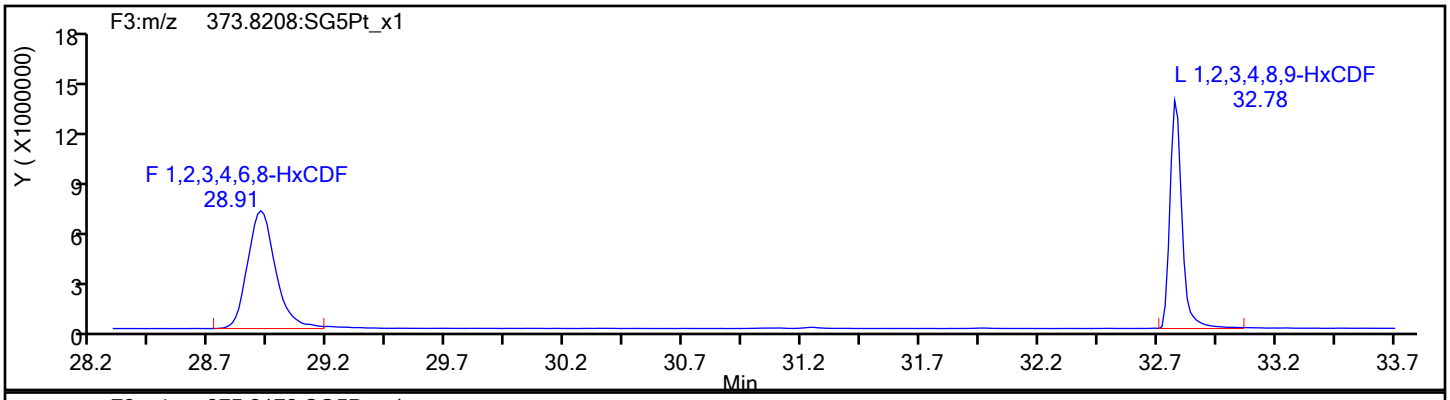

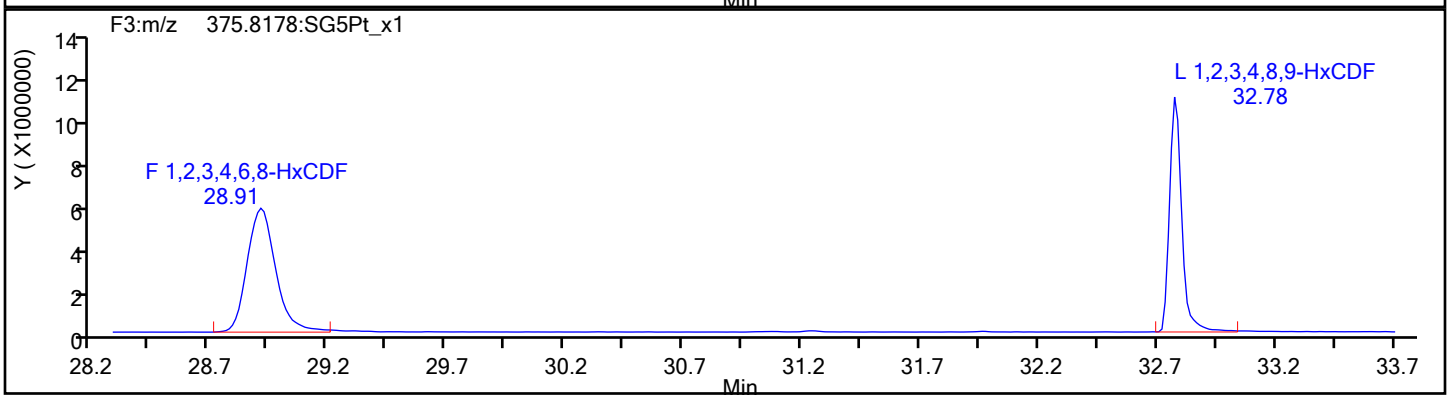

HxCDF Standards

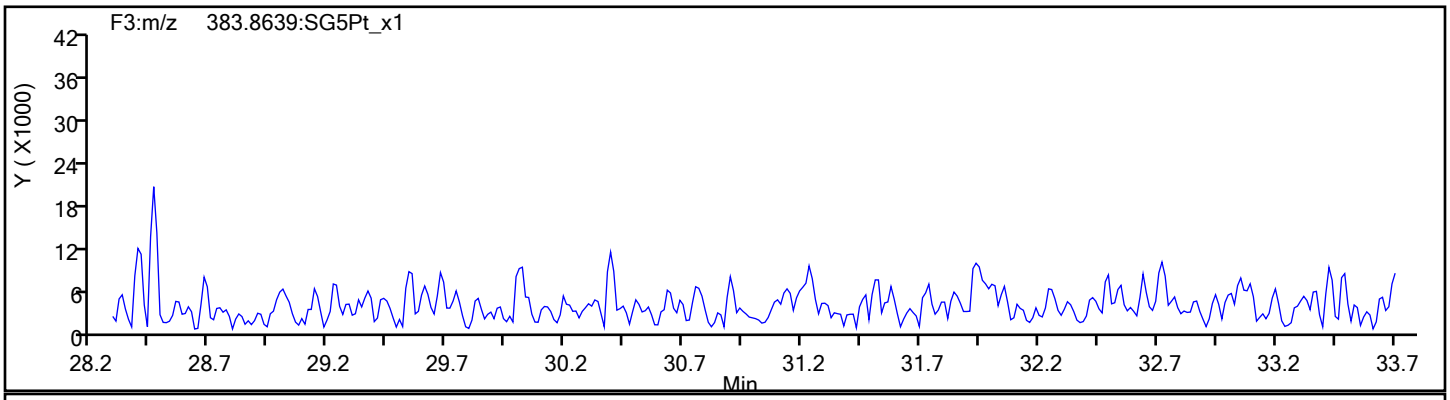

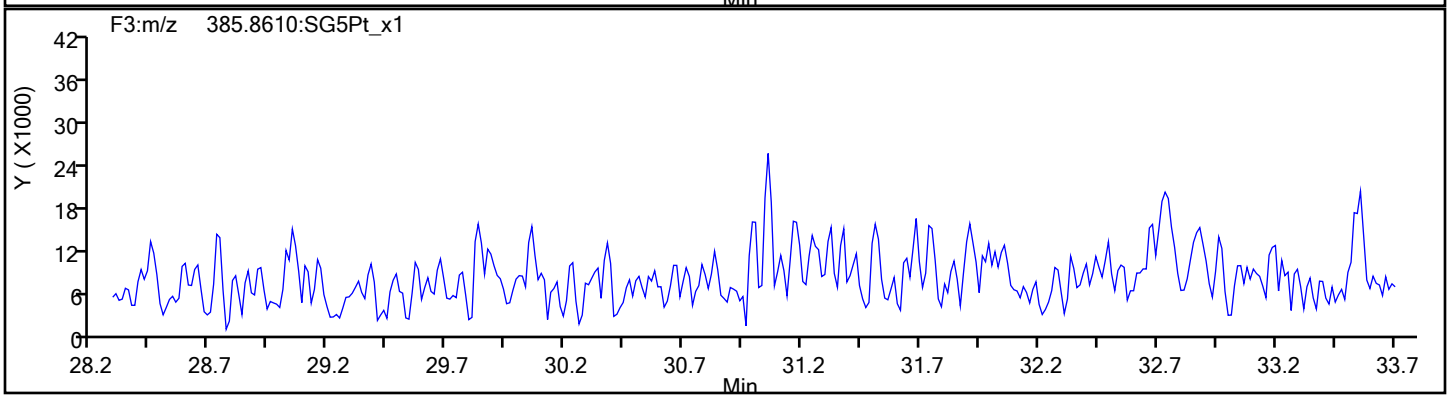

Report Date: 22-May-2019 11:06:43 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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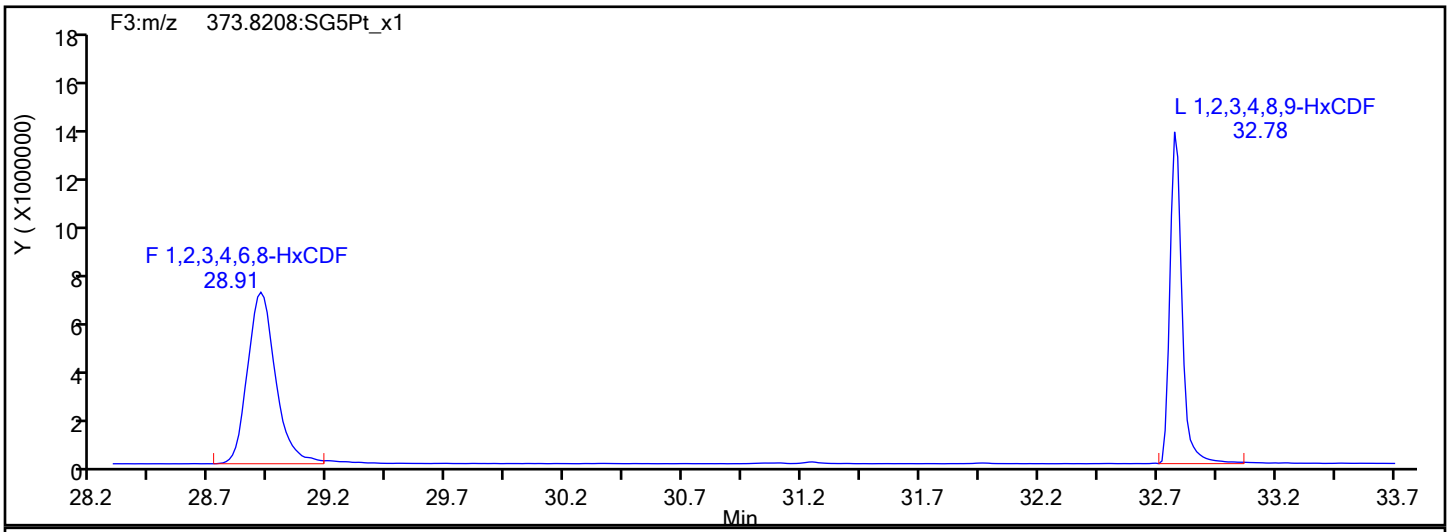

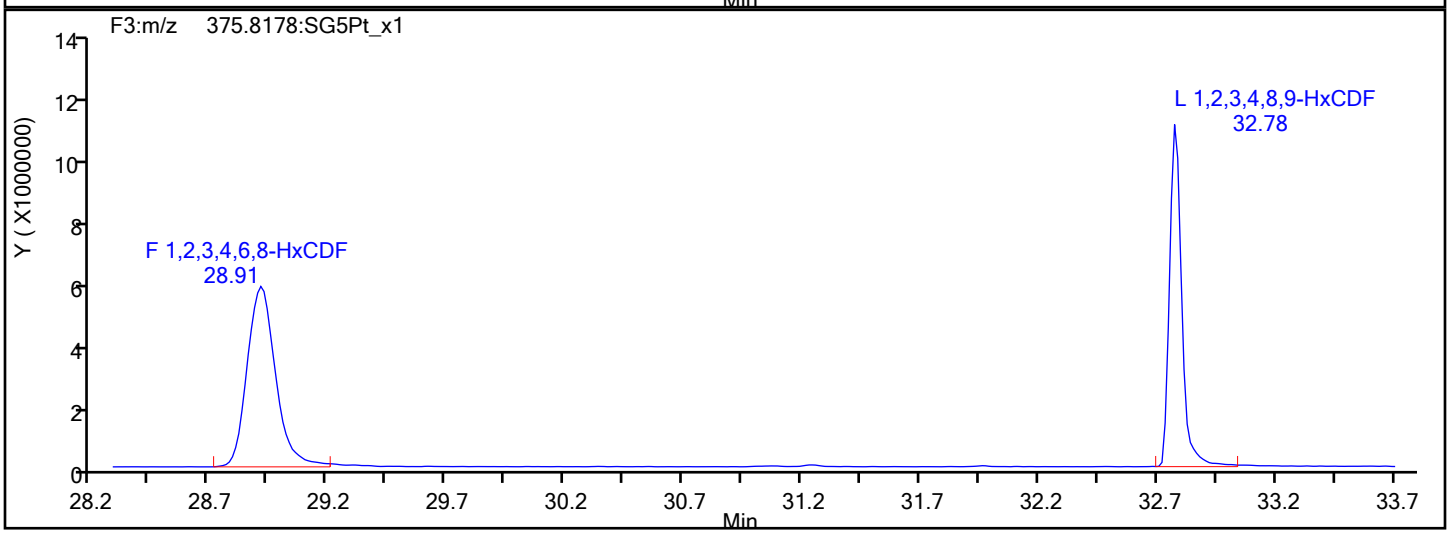

HxCDF Interference Mass

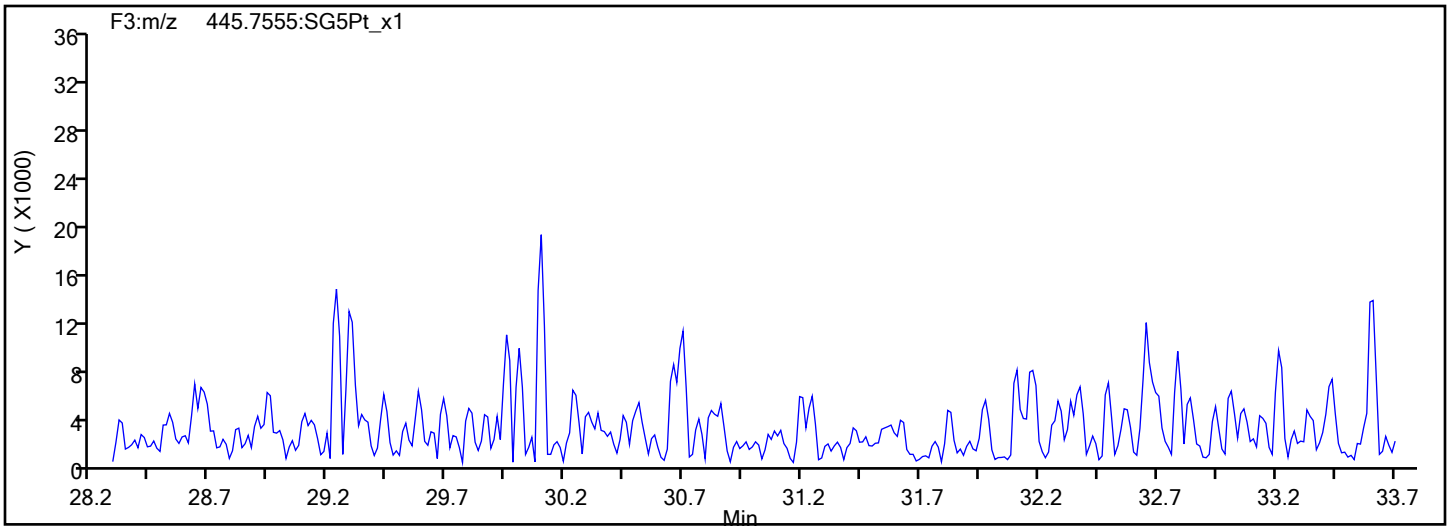

Report Date: 22-May-2019 11:06:44 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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Column Type:		Column Dia:	

HpCDF

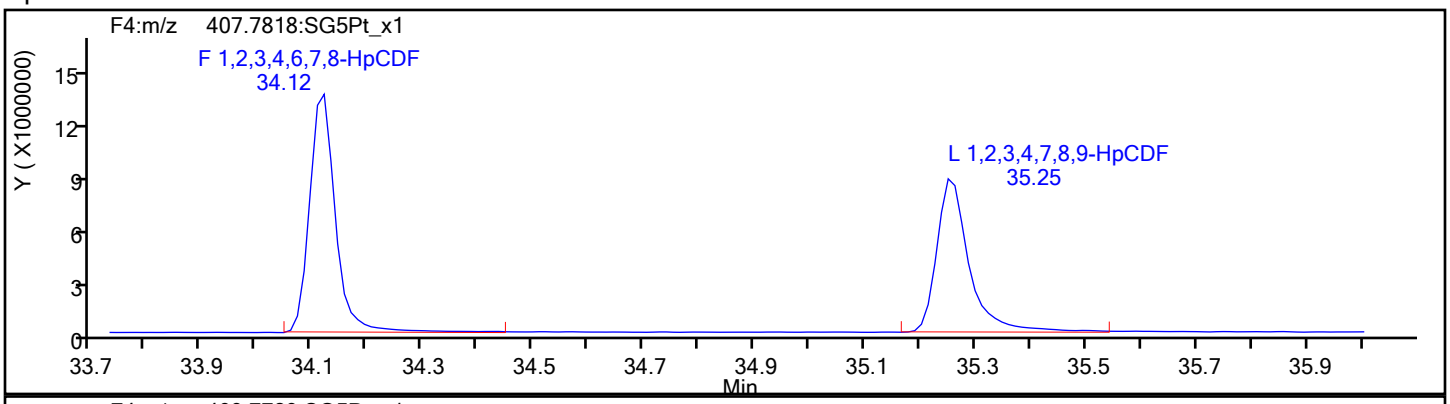

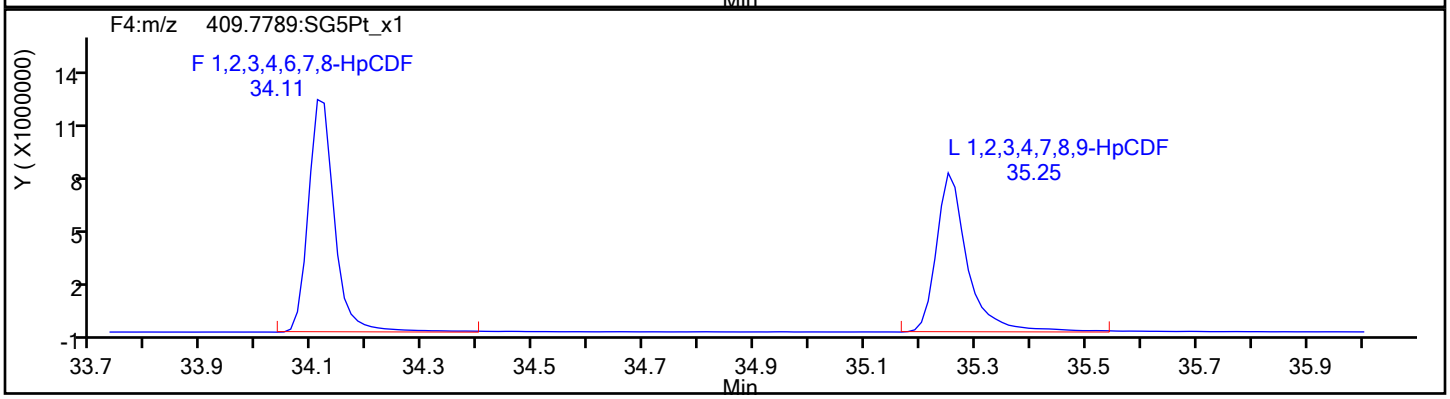

HpCDF Standards

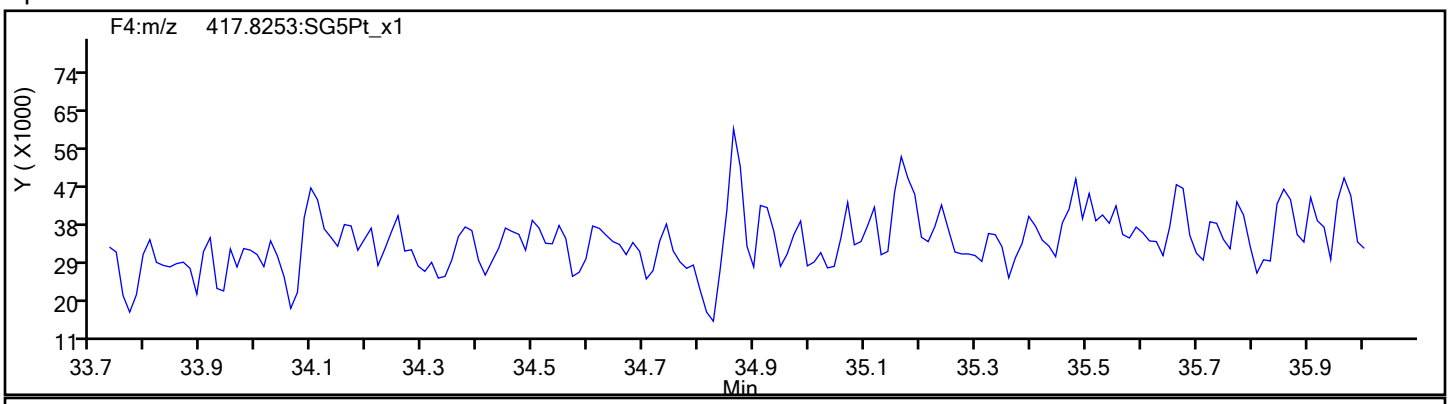

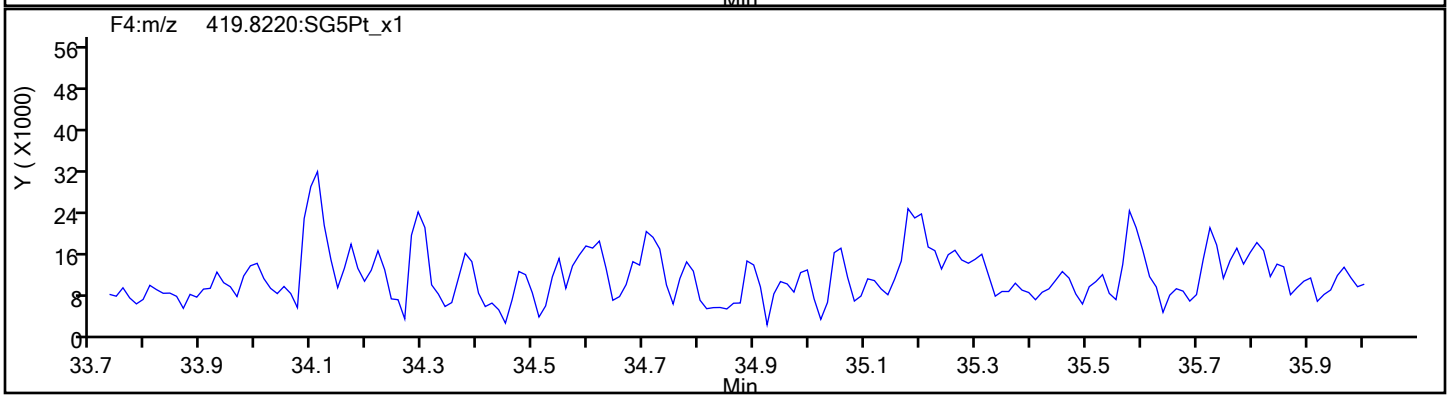

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Eurofins TestAmerica, Sacramento

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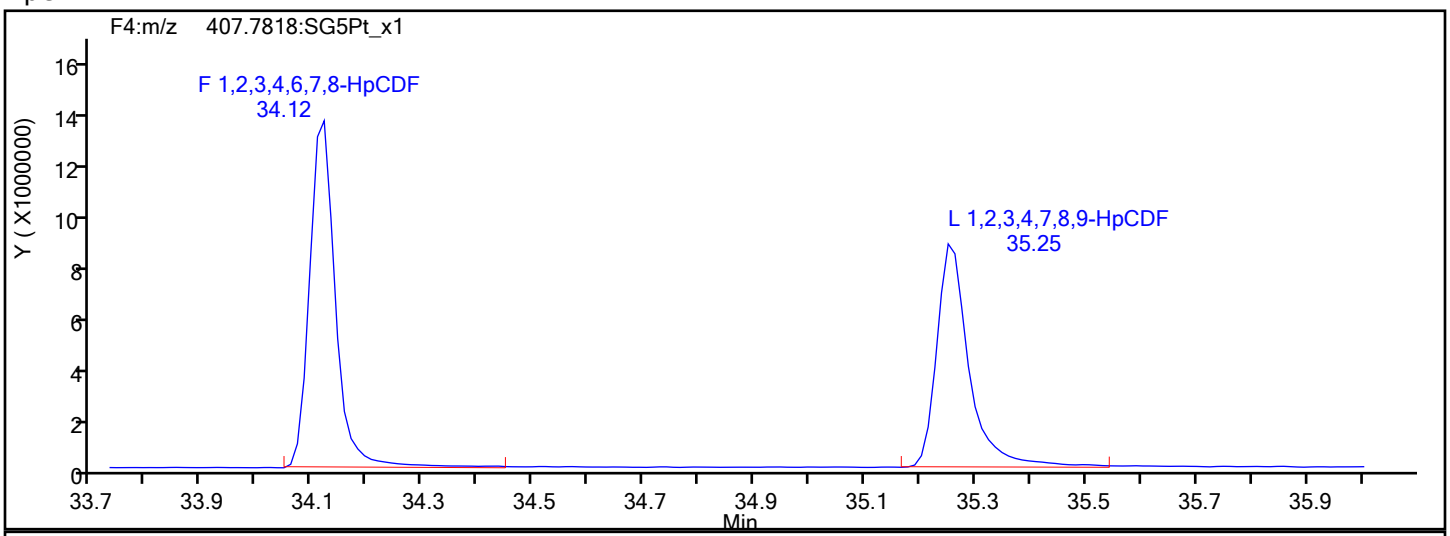

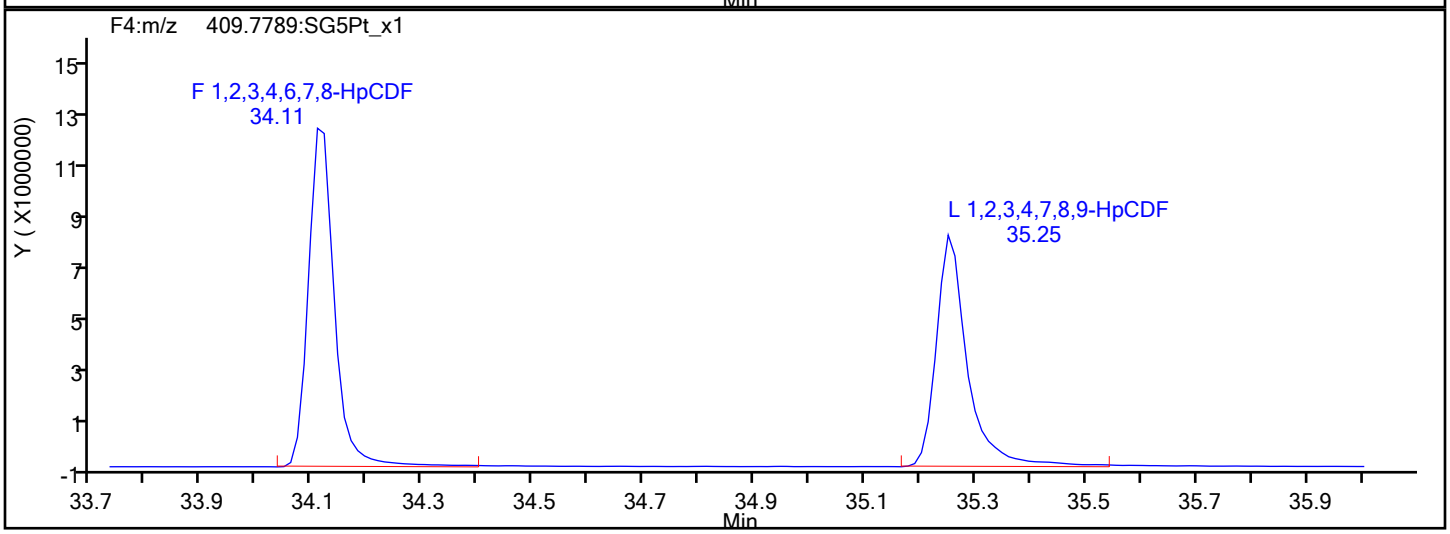

HpCDF Interference Mass

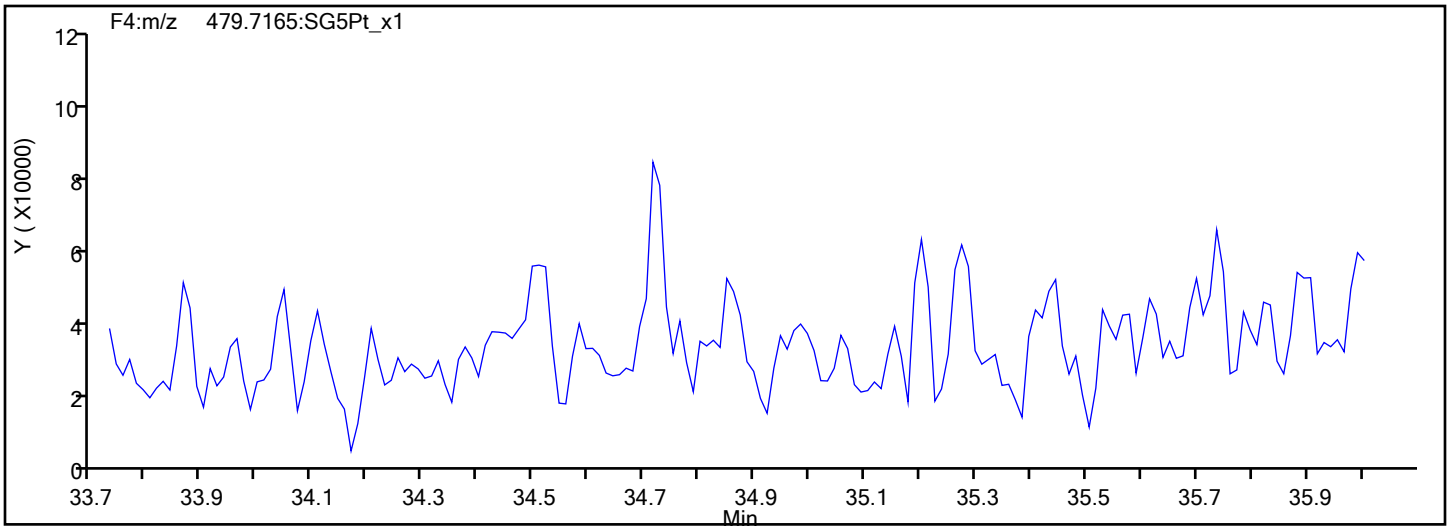

Report Date: 22-May-2019 11:06:44 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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HpCDD

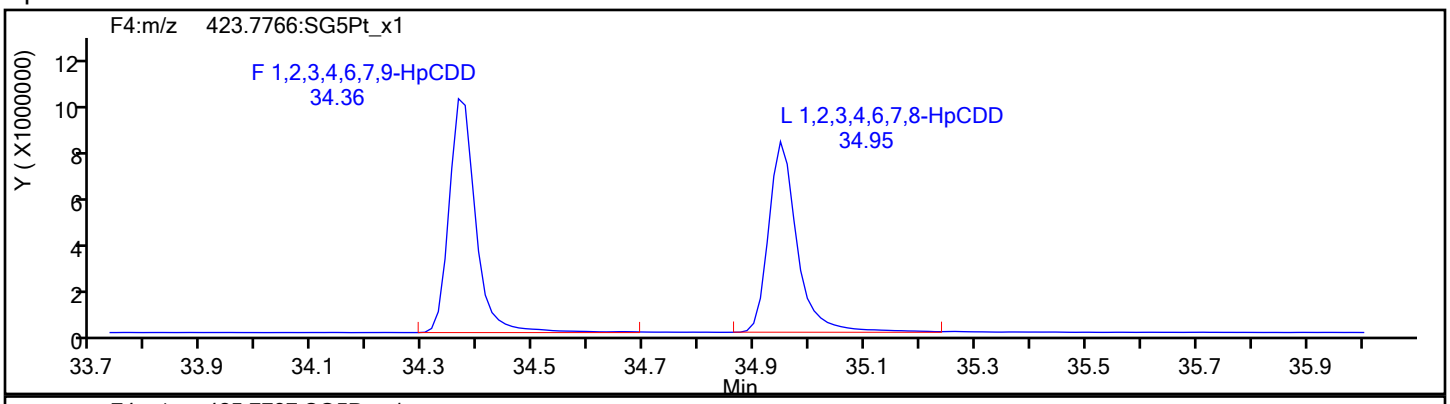

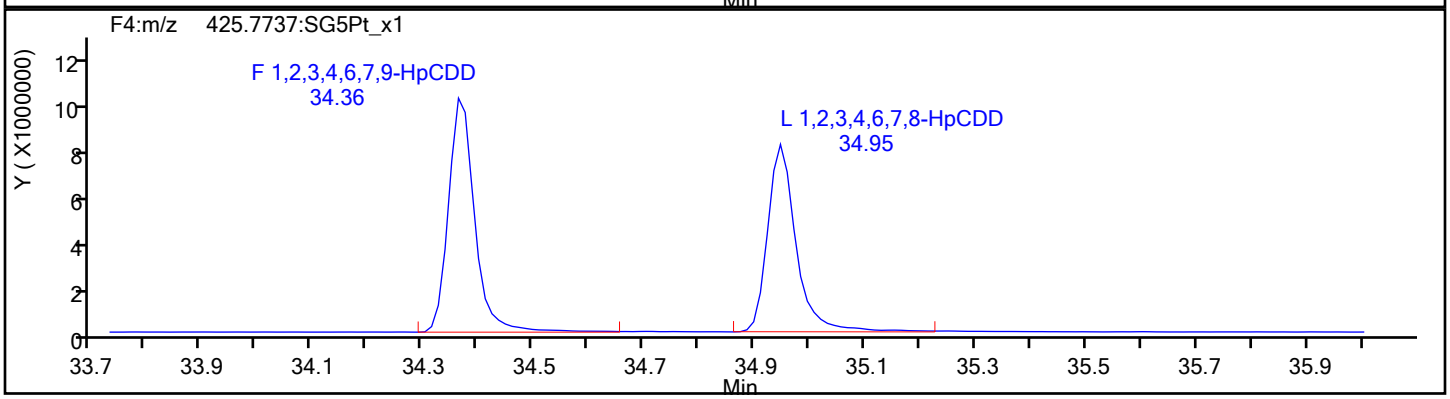

HpCDD Standards

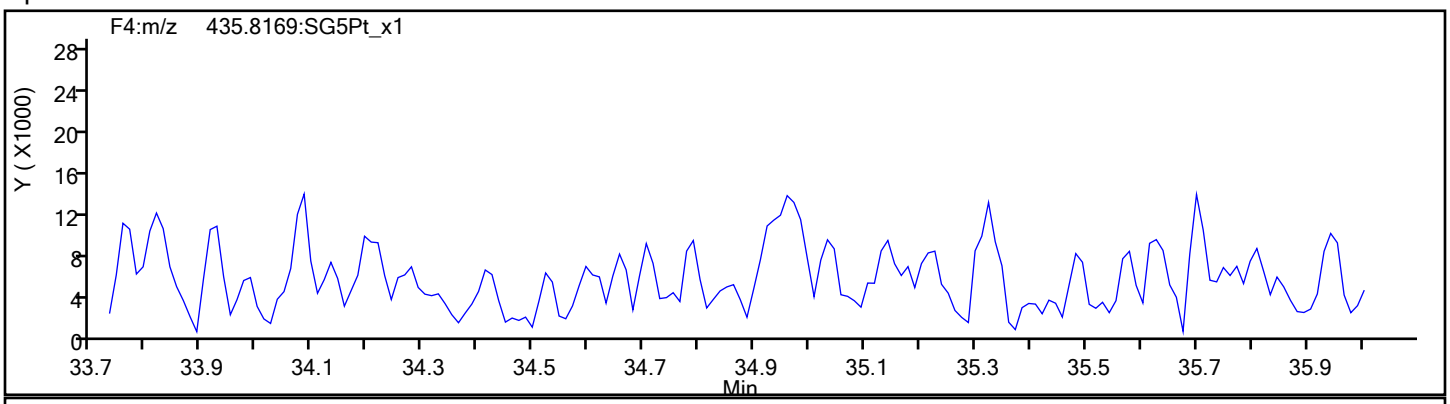

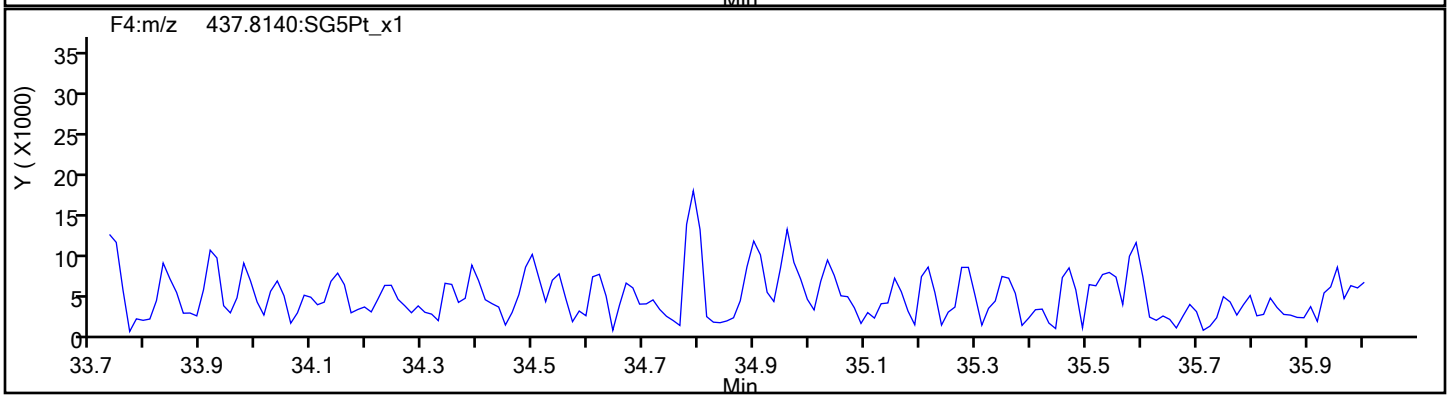

Report Date: 22-May-2019 11:06:44 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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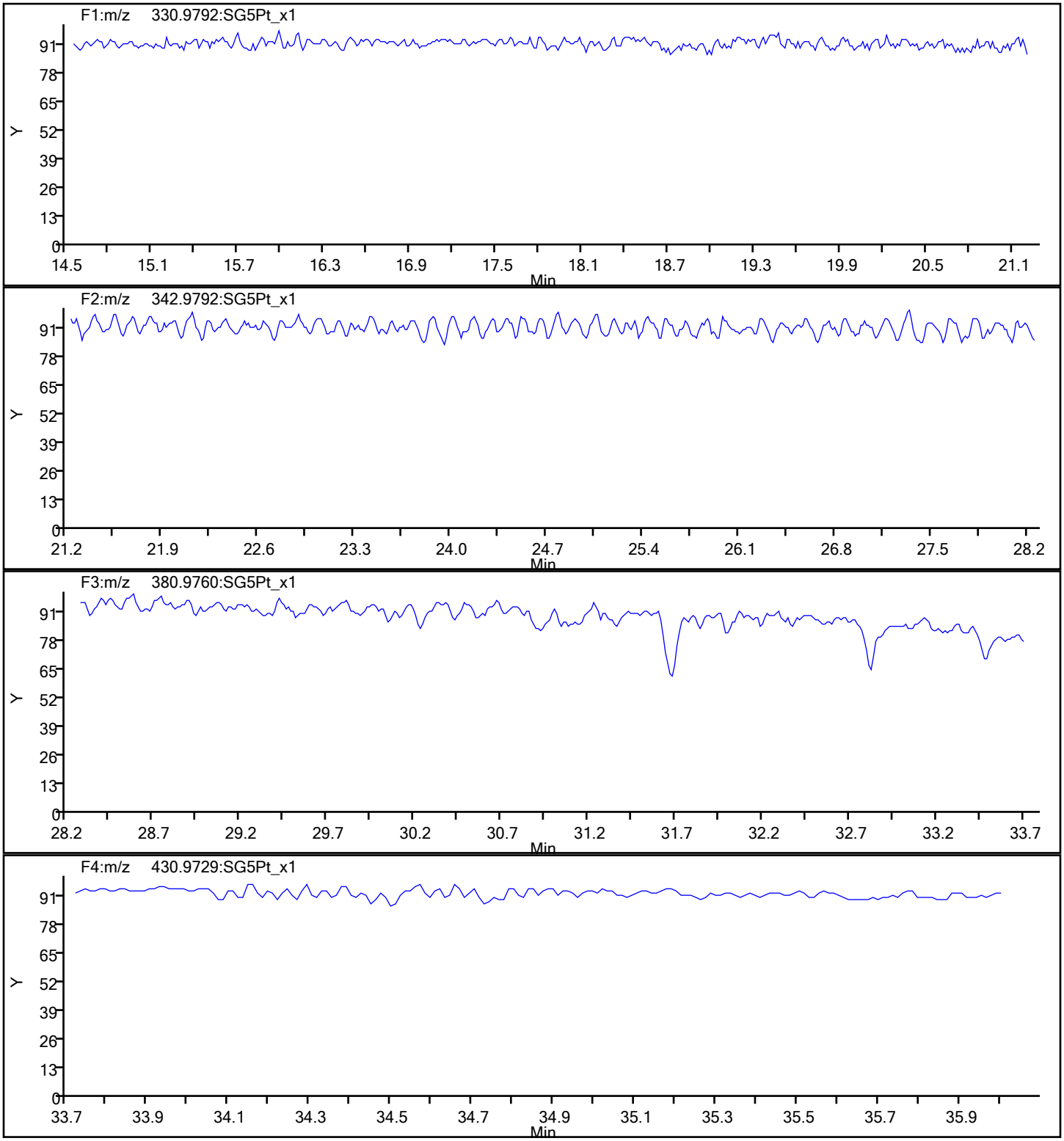

Report Date: 22-May-2019 11:06:44 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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Injection Date:	21-May-2019 11:56:21	Injection Vol:	2.0 ul
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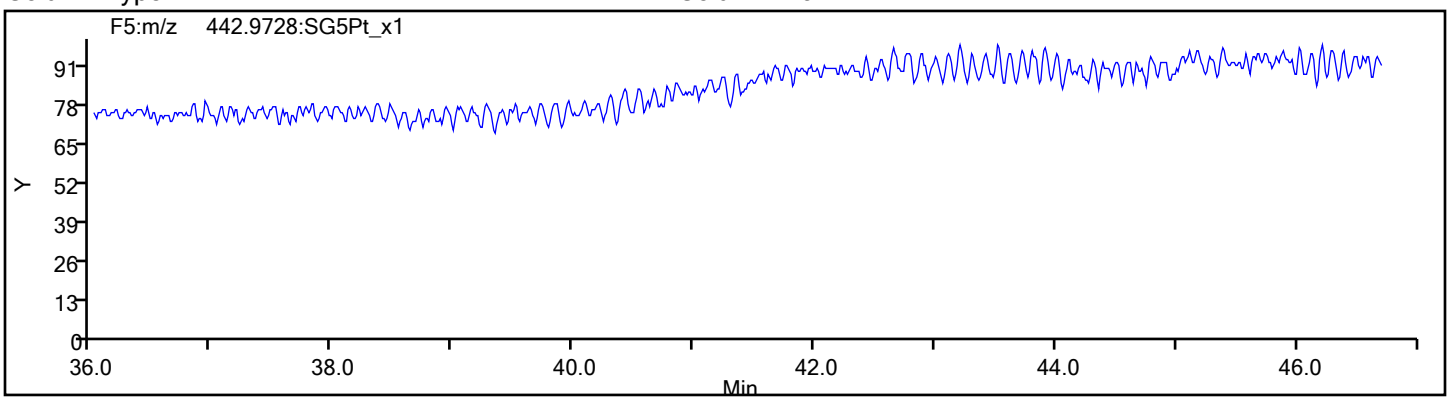

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_36.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 13-Nov-2019 08:26:22 ALS Bottle#: 1 Worklist Smp#: 36
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 111219C WDM HRDXNCP_00040
Misc. Info.: 12NO193D5
Operator ID: ALM, AJS Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 13-Nov-2019 16:19:27 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0334

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	16.930	104043889	0.81	1.3908					0.00	
2,3,7,8-TCDF	16.961	219466087	0.77	0.9710	86.9	86.9	0.4953	0.4953		
A Non-2,3,7,8-sub-TCDF	16.651						0.4953	0.4953		
S Total TCDF					86.9	86.9	0.4953	0.4953		
D 13C-2,3,7,8-TCDD	17.611	64780060	0.78	0.9819					0.00	
2,3,7,8-TCDD	17.626	73597427	0.80	1.0447	43.5	43.5	0.3274	0.3274		
A Non-2,3,7,8-sub-TCDD	17.097						0.3274	0.3274		
S Total TCDD					43.5	43.5	0.3274	0.3274		
A F1 PeCDFs	19.599						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	22.617						0.0	0.0		
S Total PeCDF										
A Non-2,3,7,8-sub-PeCDD	22.698						0.0	0.0		
S Total PeCDD										
A Non-2,3,7,8-sub-HxCDF	29.618						0.0	0.0		
S Total HxCDF										
A Non-2,3,7,8-sub-HxCDD	30.264						0.0	0.0		
S Total HxCDD										
1,2,3,4,6,7,8-HpCDF	33.532	75381303	1.07	1.4373						
1,2,3,4,7,8,9-HpCDF	34.614	66705827	1.04	1.3091						
A Non-2,3,7,8-sub-HpCDF	34.073						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	34.322	53091067	1.06	1.0102						
A Non-2,3,7,8-sub-HpCDD	34.990						0.0	0.0		
S Total HpCDD										
1,3,6,8-TCDF	14.602	122530902	0.79							
1,3,6,8-TCDD	15.494	77228027	0.78							
2,3,4,7-TCDF	16.961	219466087	0.77							
1,2,3,7-TCDD	17.520	65693907	0.82							
1,2,3,9-TCDF	17.792	98095711	0.79							
1,2,3,9-TCDD	17.792	82189590	0.80							
1,2,8,9-TCDD	18.699	32971421								
1,2,8,9-TCDF	18.699	101512678	0.79							

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,3,4,6,8-PeCDF	18.972	87355680	1.56							
1,2,4,7,9-PeCDD	20.680	61429508	1.57							
1,2,3,8,9-PeCDD	24.716	59290819	1.64							
1,2,3,8,9-PeCDF	24.934	46405790								
1,2,3,4,6,8-HxCDF	27.128	85084909	1.24							
1,2,4,6,7,9-HxCDD	28.646	60656346	1.27							
1,2,3,4,6,7-HxCDD	31.762	63859139	1.27							
1,2,3,4,8,9-HxCDF	32.108	82069358	1.20							
1,2,3,4,6,7,9-HpCDD	33.775	58910565	1.05							

Reagents:

HRDXNCP_00040 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_36.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 13-Nov-2019 08:26:22 ALS Bottle#: 1 Worklist Smp#: 36
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 111219C WDM HRDXNCP_00040
Misc. Info.: 12NO193D5
Operator ID: ALM, AJS Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 13-Nov-2019 16:19:27 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0334

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	16.930	16.930	0	1.000	46640875	11853581	27435	68587	432		
317.9389	16.930	16.930	0	1.000	57403014	14455214	17208	43020	840	0.81(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.961	16.961	0	1.002	95233990	21002101	54358	135895	386		
305.8987	16.961	16.961	0	1.002	124232097	26964767	72176	180440	374	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.651						54358	135895			
305.8987	16.651						72176	180440			
13C-2,3,7,8-TCDD											
331.9368	17.611	17.611	0	1.000	28316392	6766842	20464	51160	331		
333.9339	17.611	17.611	0	1.000	36463668	8688094	8026	20065	1082	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.626	17.626	0	1.001	32652759	7713515	21729	54322	355		
321.8936	17.626	17.626	0	1.001	40944668	9726517	31138	77845	312	0.80(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.097						21729	54322			
321.8936	17.097						31138	77845			
A F1 PeCDFs											
339.8597	19.599						4050	10125			
341.8567	19.599						5561	13902			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.617						9463	23657			
341.8567	22.617						7948	19870			
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.698						13234	33085			
357.8516	22.698						8062	20155			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.618						15733	39332			
375.8178	29.618						12515	31287			
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.264						14518	36295			
391.8127	30.264						16995	42487			
1,2,3,4,6,7,8-HpCDF											
407.7818	33.532	33.532	0	1.000	39001810	13225229	51139	127847	259		
409.7789	33.532	33.532	0	1.000	36379493	11952310	43435	108587	275	1.07(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.614	34.614	0	1.000	34004263	9613732	51139	127847	188		
409.7789	34.614	34.614	0	1.000	32701564	9136782	43435	108587	210	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.073						51139	127847			
409.7789	34.073						43435	108587			
1,2,3,4,6,7,8-HpCDD											
423.7766	34.322	34.322	0	1.000	27340573	8334646	30198	75495	276		
425.7737	34.322	34.322	0	1.000	25750494	7903125	30046	75115	263	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.990						30198	75495			
425.7737	34.990						30046	75115			
1,3,6,8-TCDF											
303.9016	14.602	14.602	0		54181379	16412346	54358	135895	302		
305.8987	14.602	14.602	0		68349523	20629561	72176	180440	286	0.79(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	15.494	15.494	0		33894501	9359700	21729	54322	431		
321.8936	15.494	15.494	0		43333526	11349247	31138	77845	364	0.78(0.65-0.89)	
2,3,4,7-TCDF											
303.9016	16.961	16.961	0		95233990	21002101	54358	135895	386		
305.8987	16.961	16.961	0		124232097	26964767	72176	180440	374	0.77(0.65-0.89)	
1,2,3,7-TCDD											
319.8965	17.520	17.520	0		29514819	7484908	21729	54322	344		
321.8936	17.520	17.520	0		36179088	9142451	31138	77845	294	0.82(0.65-0.89)	
1,2,3,9-TCDF											
303.9016	17.792	17.792	0		43361254	9990981	54358	135895	184		
305.8987	17.777	17.792	-1		54734457	12867204	72176	180440	178	0.79(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	17.792	17.792	0		36591812	7859926	21729	54322	362		
321.8936	17.792	17.792	0		45597778	9534932	31138	77845	306	0.80(0.65-0.89)	
1,2,8,9-TCDD											
319.8965	18.699	18.699	0		32971421	6959702	21729	54322	320		
1,2,8,9-TCDF											
303.9016	18.699	18.699	0		44952987	10110085	54358	135895	186		
305.8987	18.699	18.699	0		56559691	12070339	72176	180440	167	0.79(0.65-0.89)	
1,3,4,6,8-PeCDF											
339.8597	18.972	18.972	0		53220464	11490240	4050	10125	2837		
341.8567	18.972	18.972	0		34135216	7405734	5561	13902	1332	1.56(1.32-1.78)	

Report Date: 13-Nov-2019 16:19:27 Chrom Revision: 2.3 31-Oct-2019 20:21:30
Data File: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_36.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,4,7,9-PeCDD											
355.8546	20.680	20.680	0		37512404	6569524	13234	33085	496		
357.8516	20.680	20.680	0		23917104	4192954	8062	20155	520	1.57(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	24.716	24.716	0		36848577	5311339	13234	33085	401		
357.8516	24.730	24.716	1		22442242	3278825	8062	20155	407	1.64(1.32-1.78)	
1,2,3,8,9-PeCDF											
339.8597	24.934	24.934	0		46405790	6378114	9463	23657	674		
1,2,3,4,6,8-HxCDF											
373.8208	27.128	27.128	0		47132999	6458672	15733	39332	411		
375.8178	27.115	27.128	-1		37951910	5142251	12515	31287	411	1.24(1.05-1.43)	
1,2,4,6,7,9-HxCDD											
389.8157	28.646	28.646	0		33901927	4154458	14518	36295	286		
391.8127	28.633	28.646	-1		26754419	3301561	16995	42487	194	1.27(1.05-1.43)	
1,2,3,4,6,7-HxCDD											
389.8157	31.762	31.762	0		35747408	8842543	14518	36295	609		
391.8127	31.762	31.762	0		28111731	7027693	16995	42487	414	1.27(1.05-1.43)	
1,2,3,4,8,9-HxCDF											
373.8208	32.108	32.108	0		44844580	11257375	15733	39332	716		
375.8178	32.108	32.108	0		37224778	9502986	12515	31287	759	1.20(1.05-1.43)	
1,2,3,4,6,7,9-HpCDD											
423.7766	33.775	33.775	0		30230916	9978219	30198	75495	330		
425.7737	33.775	33.775	0		28679649	9240616	30046	75115	308	1.05(0.88-1.20)	

Reagents:

HRDXNCP_00040 Amount Added: 1.00 Units: mL

Report Date: 13-Nov-2019 16:19:27 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_36.d		
Injection Date:	13-Nov-2019 08:26:22	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338227	Sample Line#:	36
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

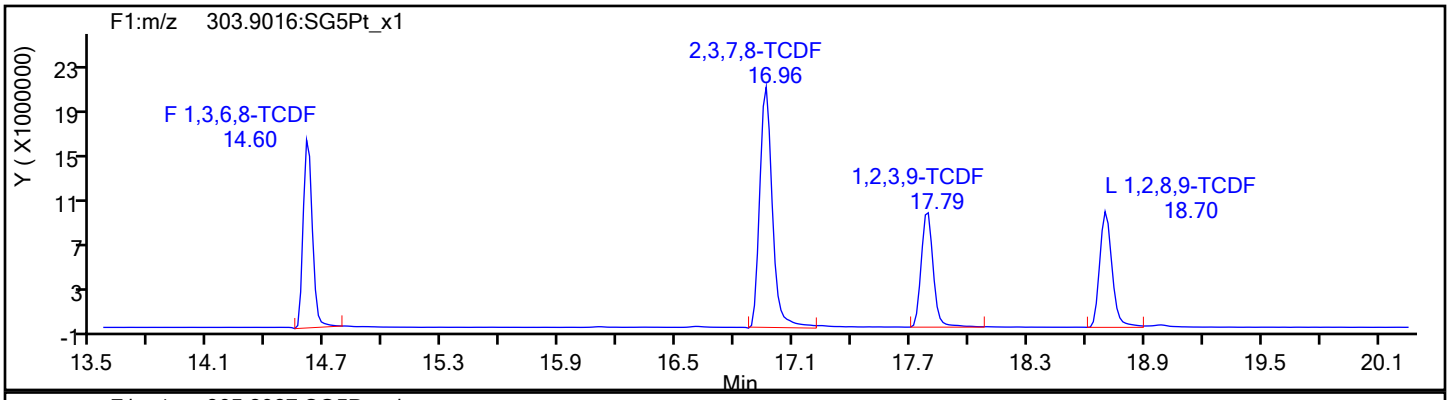

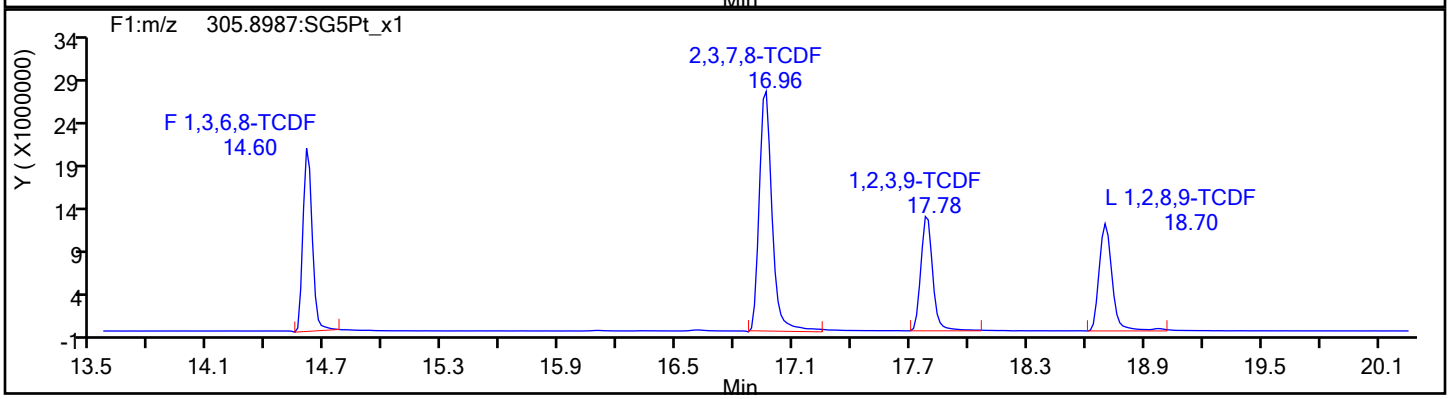

TCDF Standards

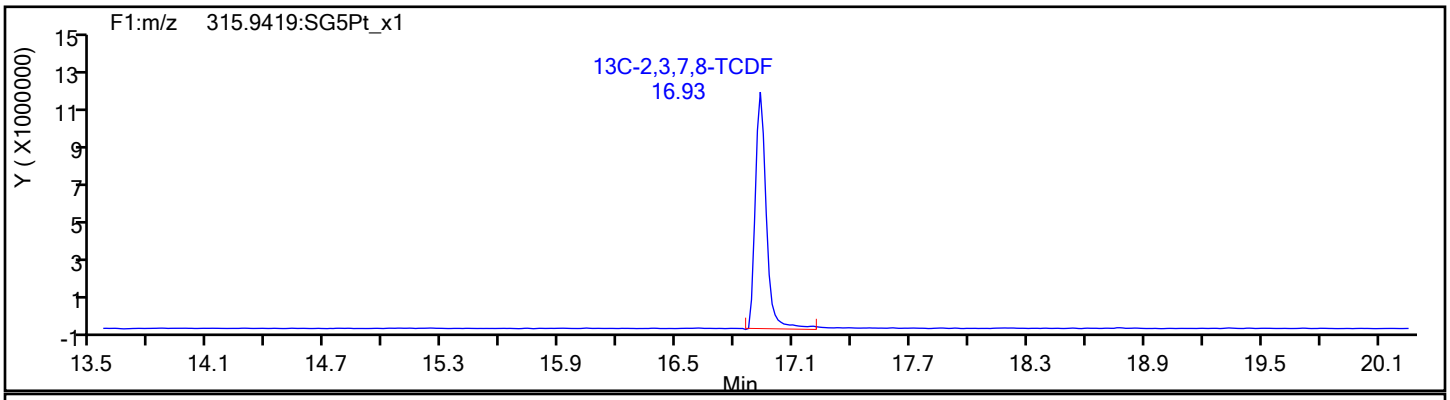

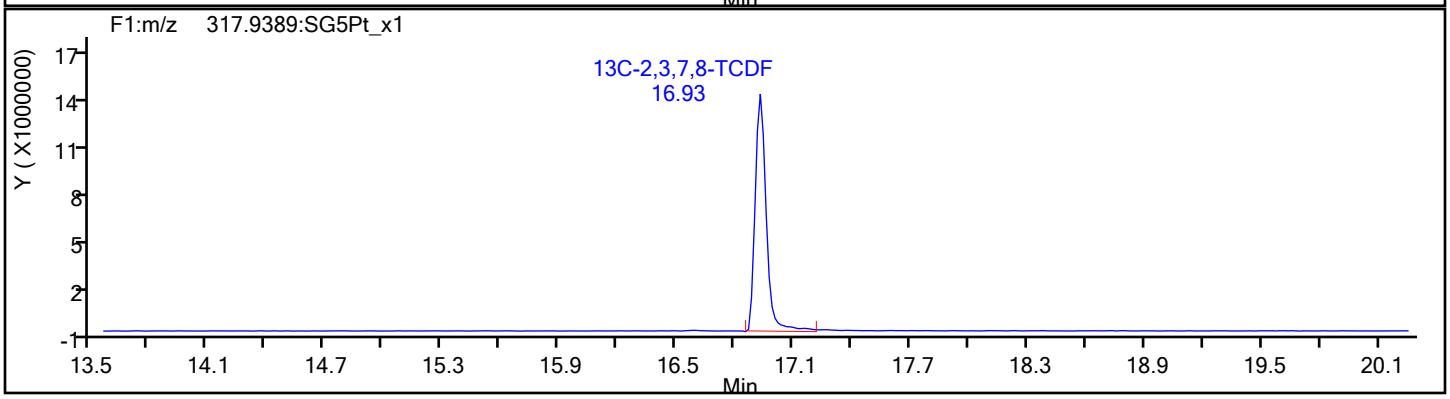

Report Date: 13-Nov-2019 16:19:27 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_36.d		
Injection Date:	13-Nov-2019 08:26:22	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338227	Sample Line#:	36
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

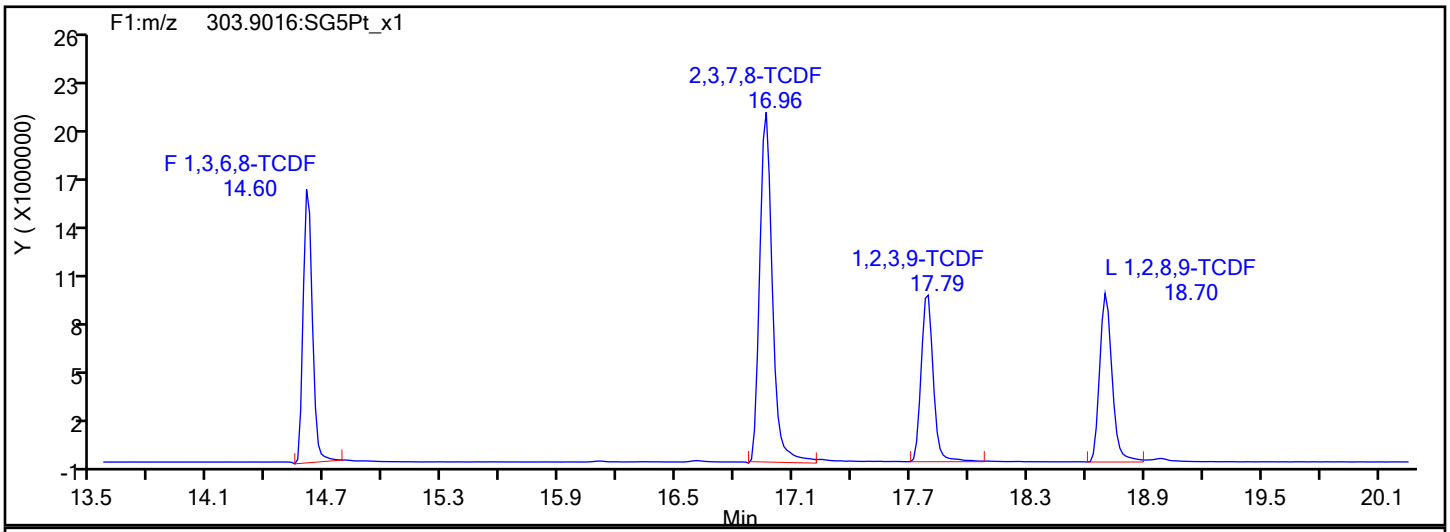

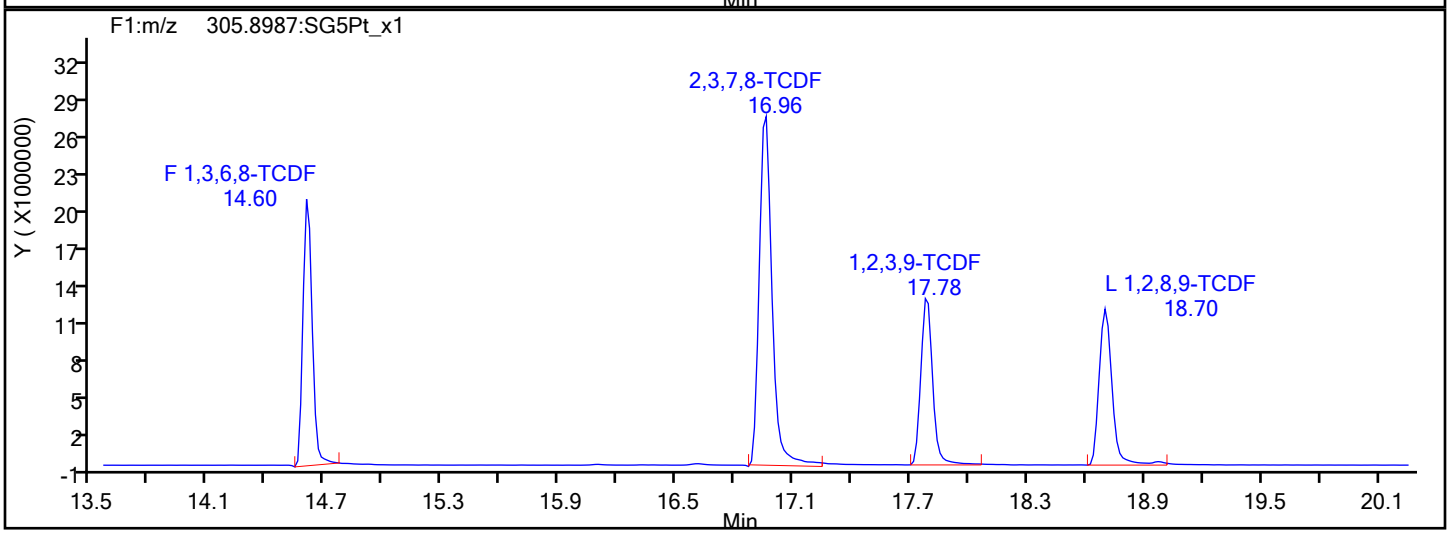

TCDF Interference Mass

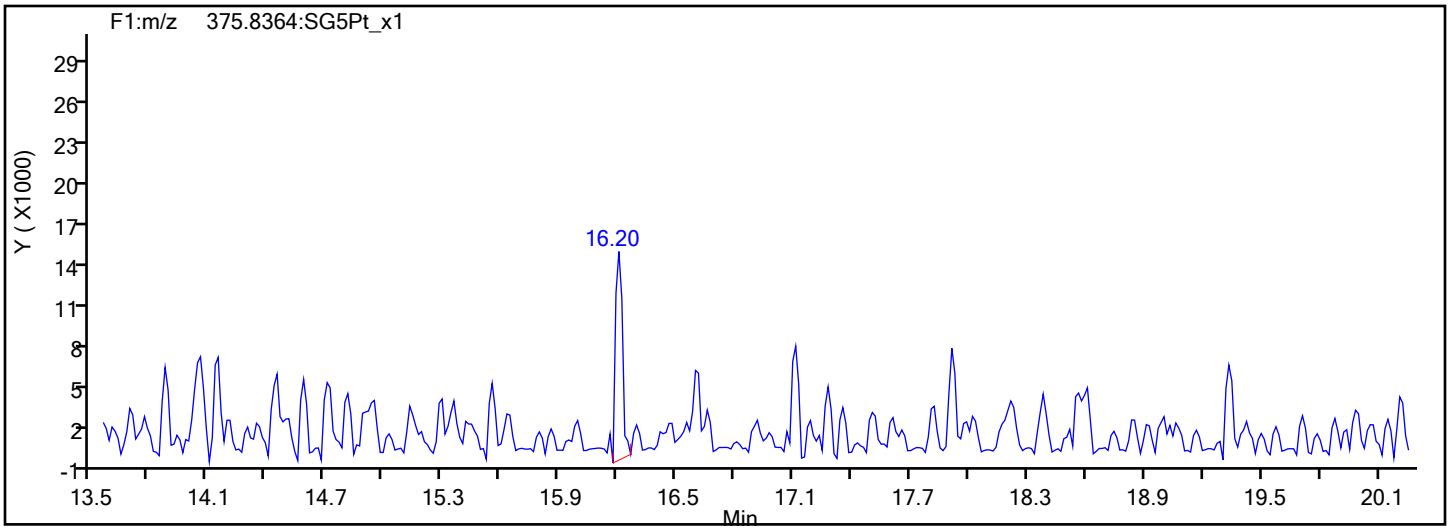

Report Date: 13-Nov-2019 16:19:27 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_36.d		
Injection Date:	13-Nov-2019 08:26:22	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338227	Sample Line#:	36
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

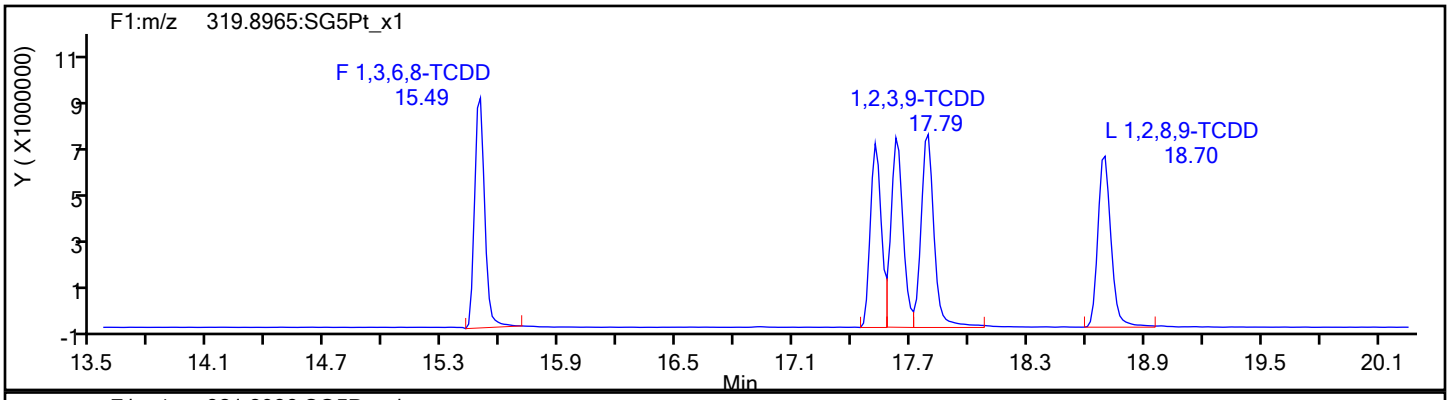

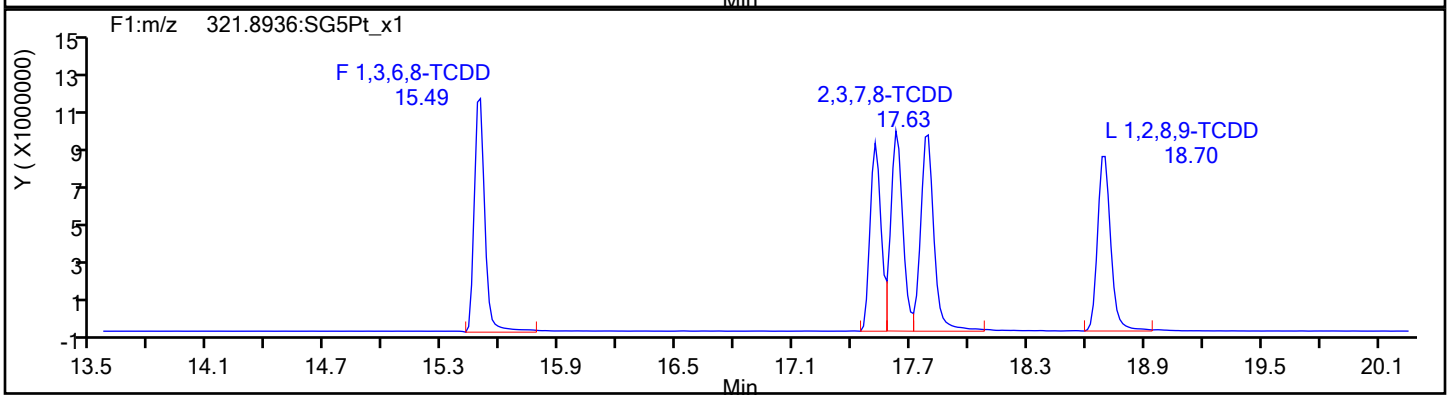

TCDD Standards

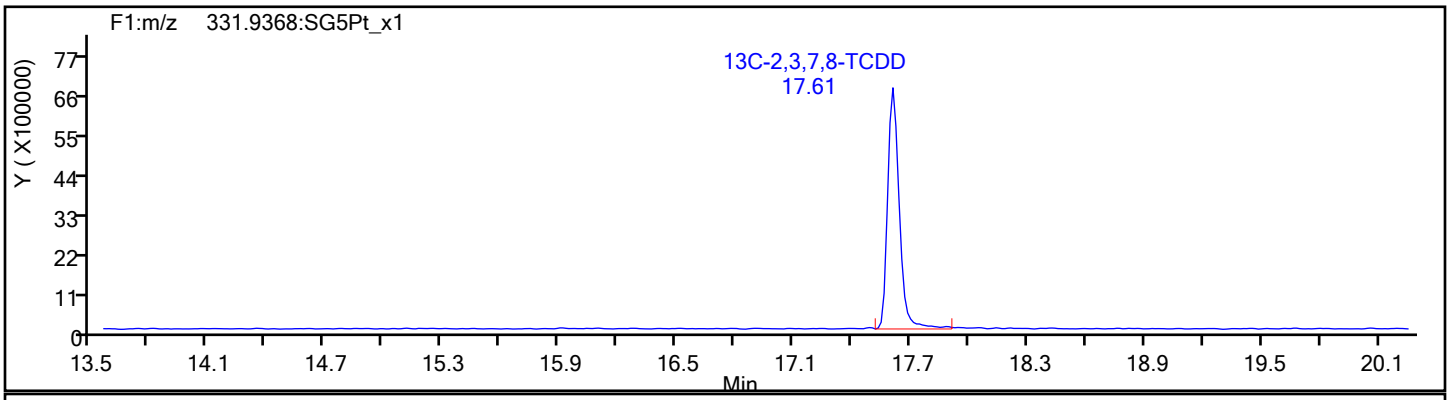

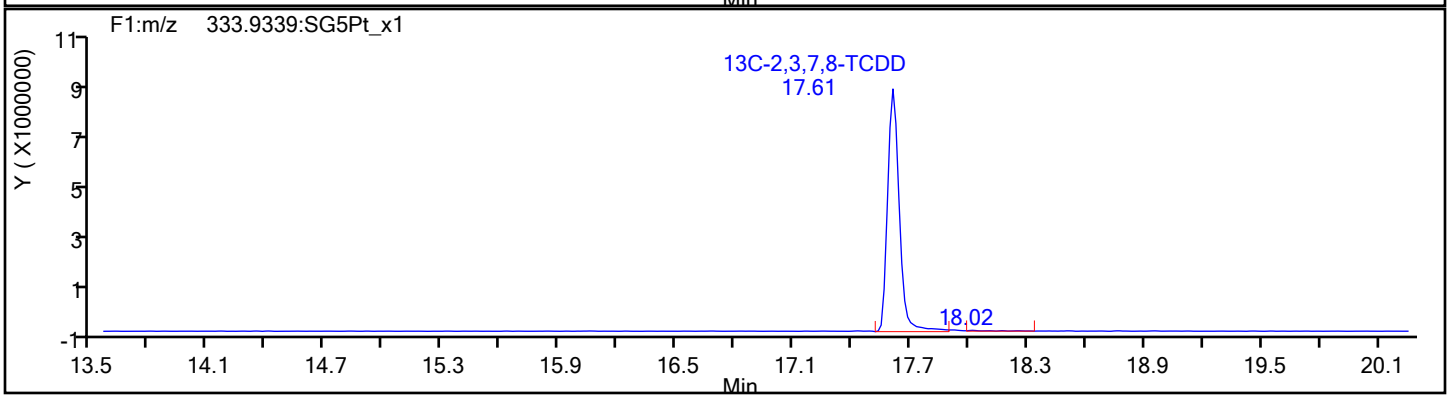

Report Date: 13-Nov-2019 16:19:27 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_36.d		
Injection Date:	13-Nov-2019 08:26:22	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338227	Sample Line#:	36
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

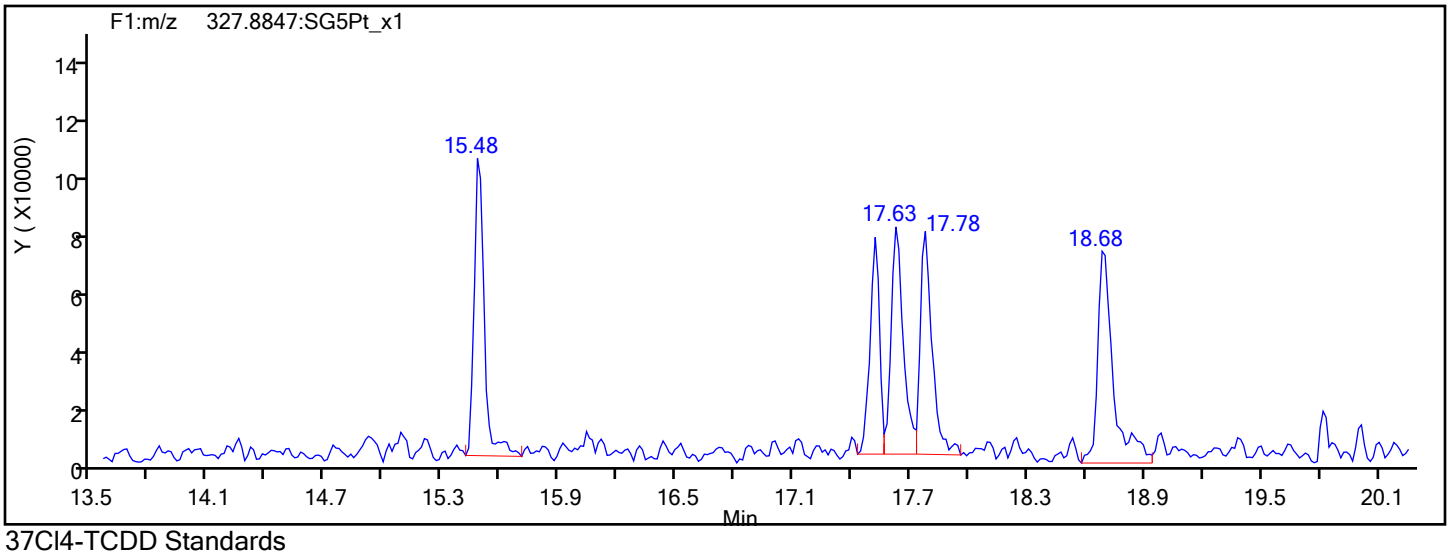

37Cl4-TCDD Standards

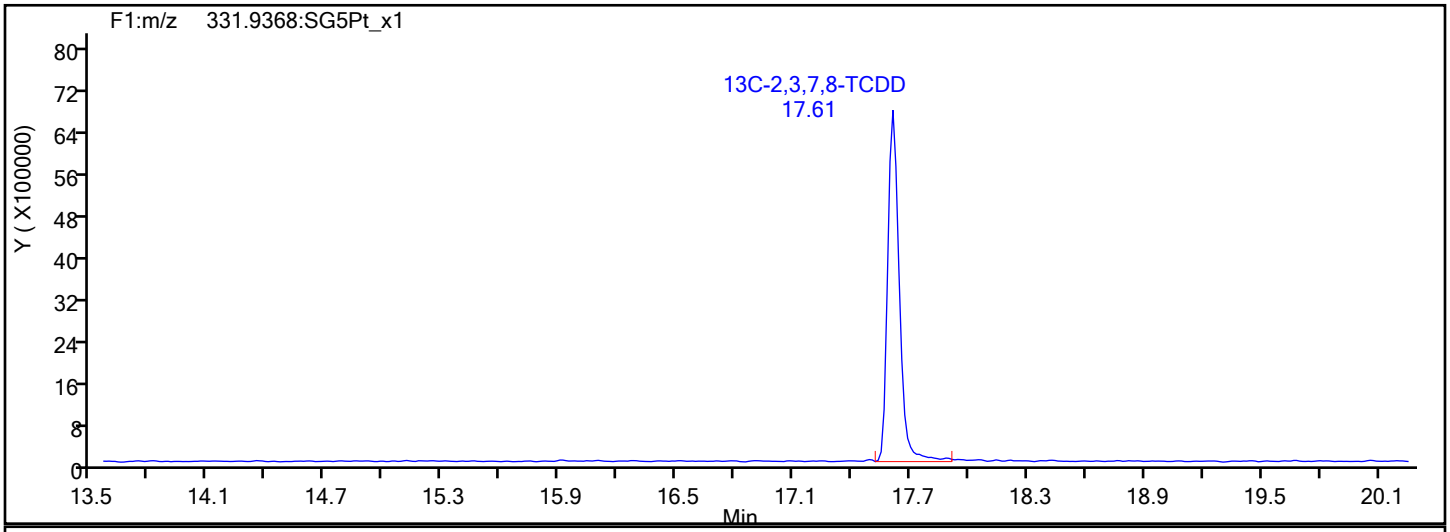

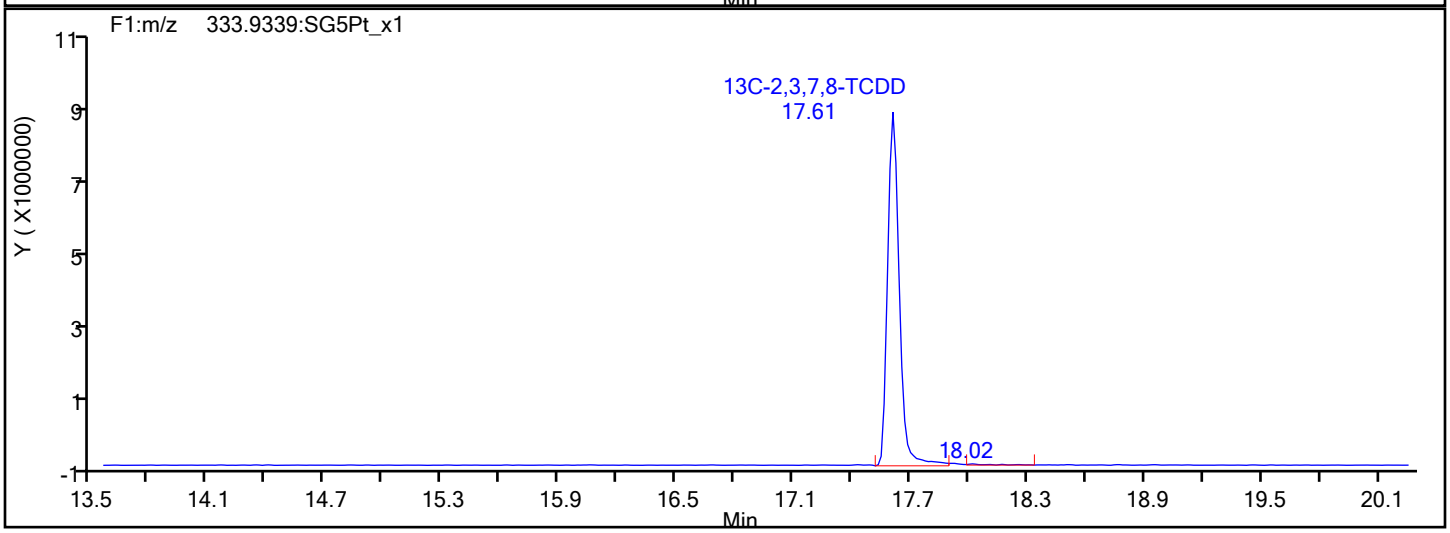

Report Date: 13-Nov-2019 16:19:27 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_36.d		
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Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338227	Sample Line#:	36
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

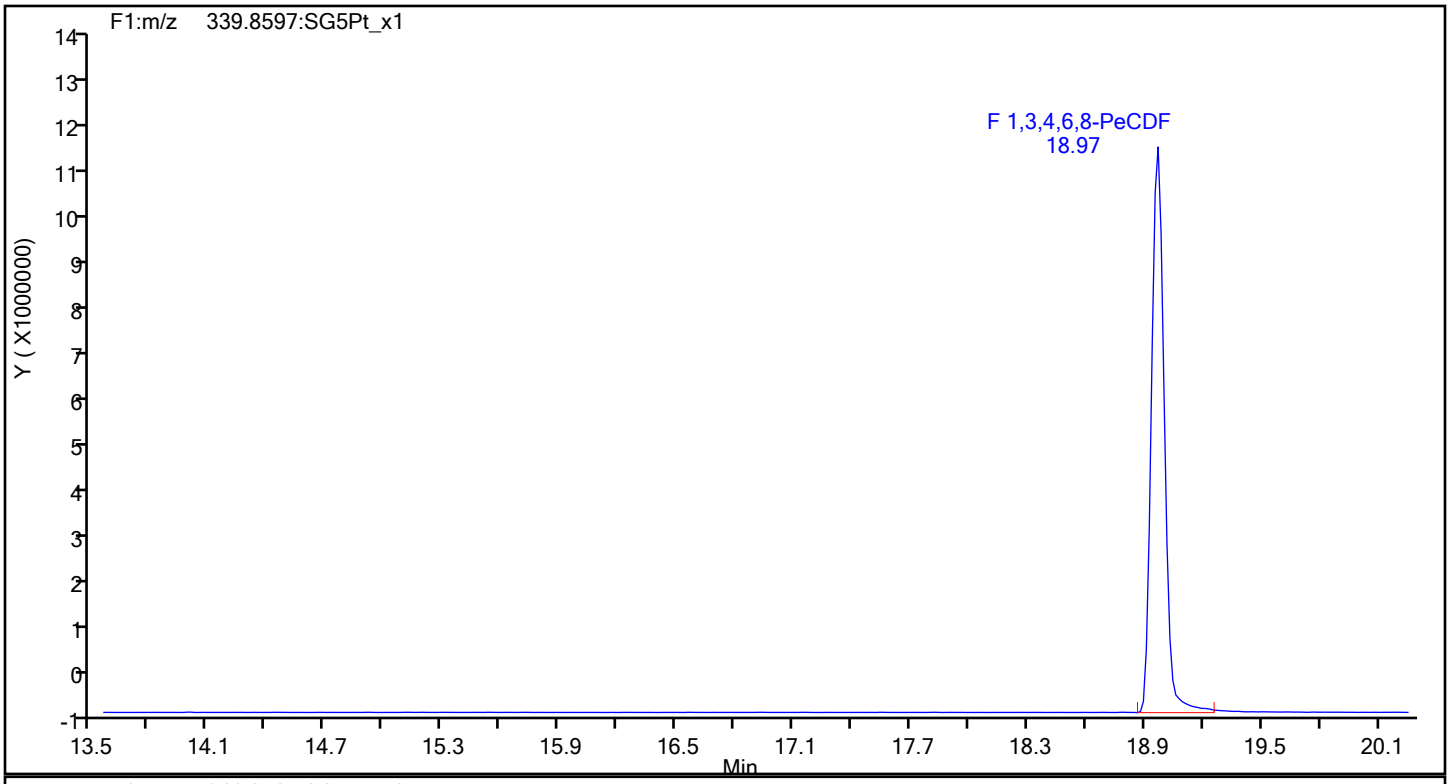

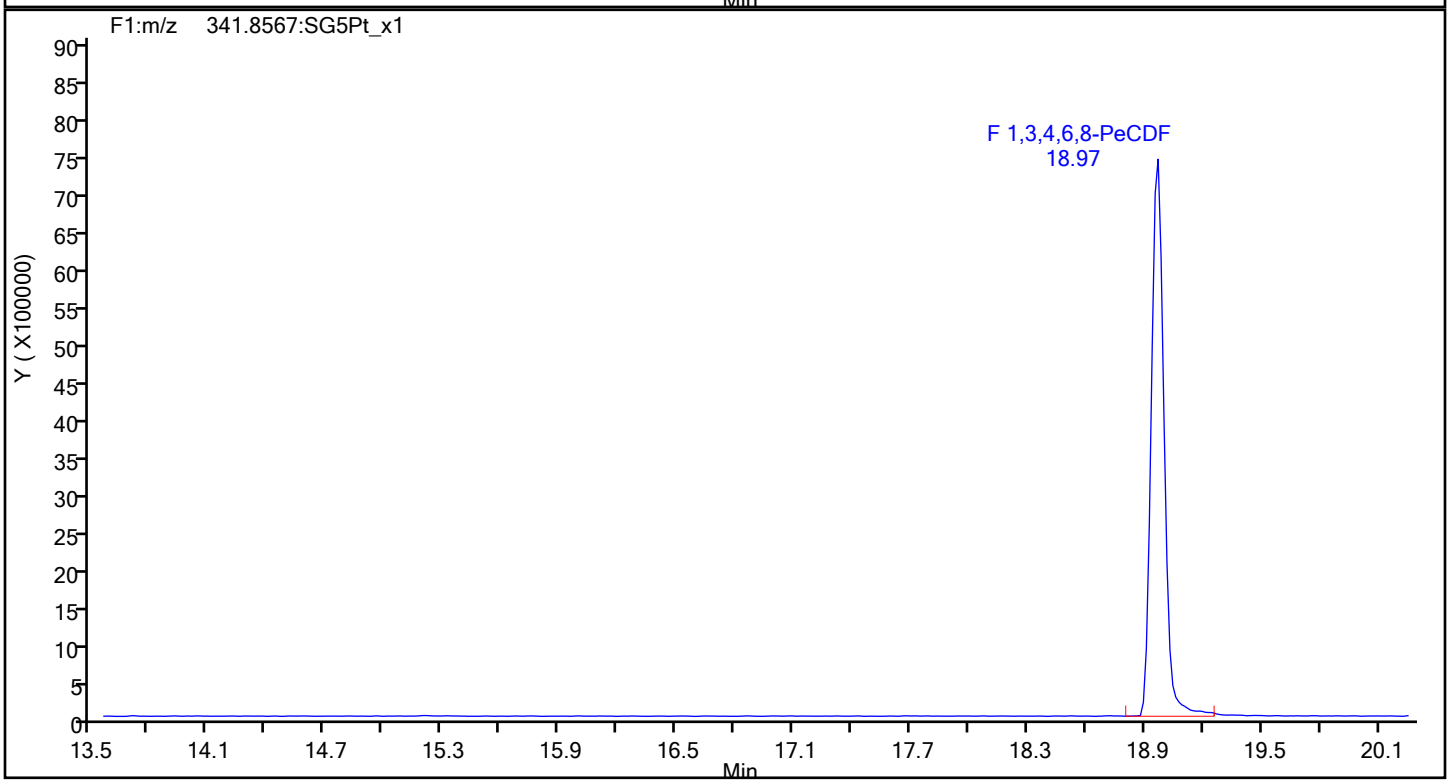

Report Date: 13-Nov-2019 16:19:28 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338227	Sample Line#:	36
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

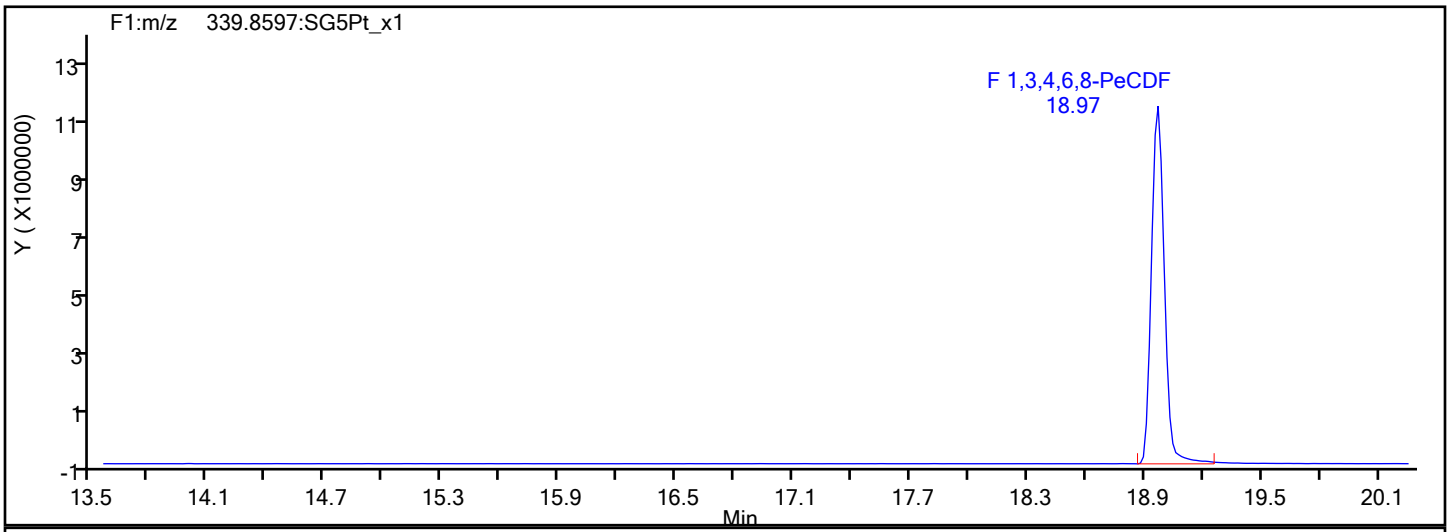

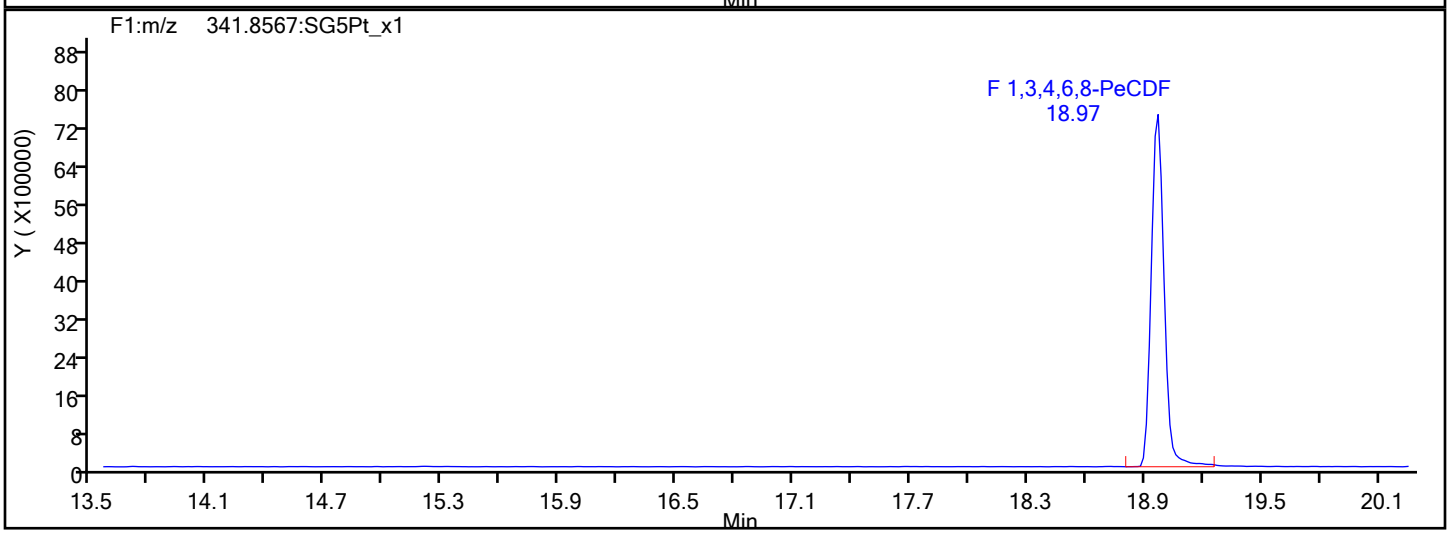

F1 PeCDFs Interference Mass

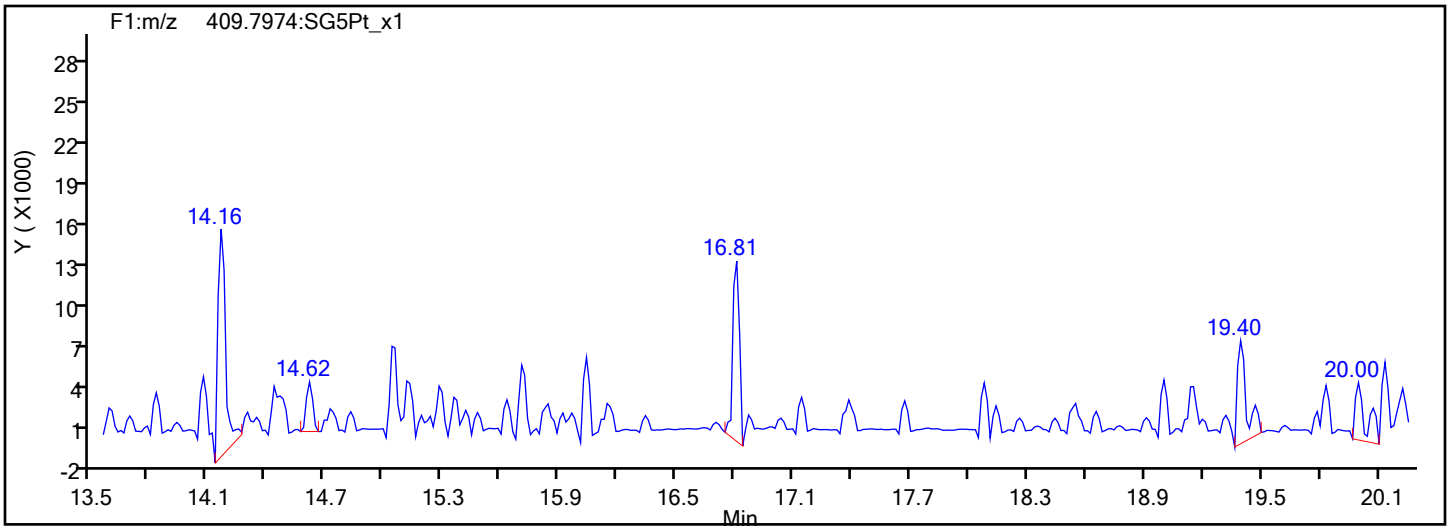

Report Date: 13-Nov-2019 16:19:28 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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PeCDF

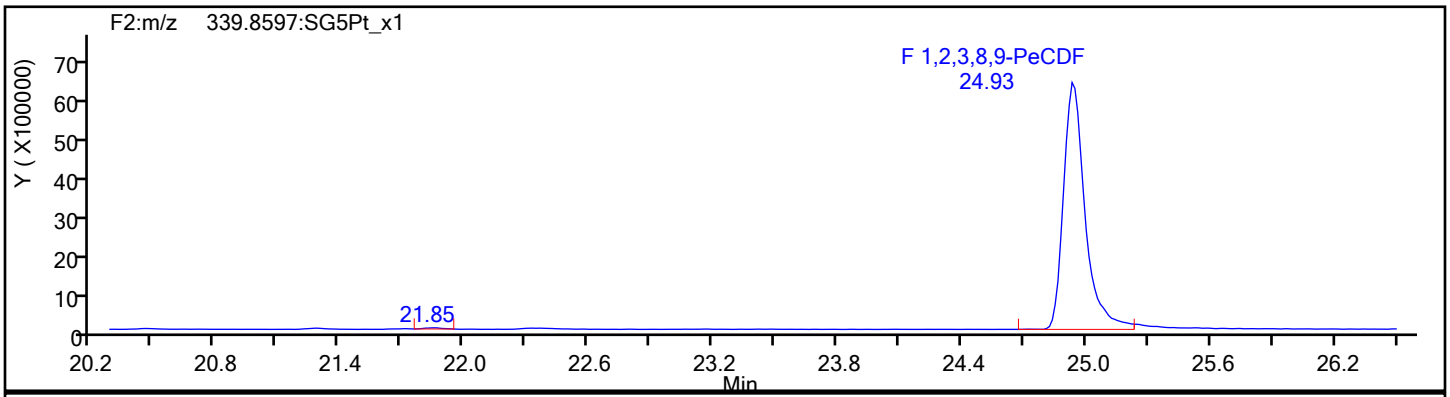

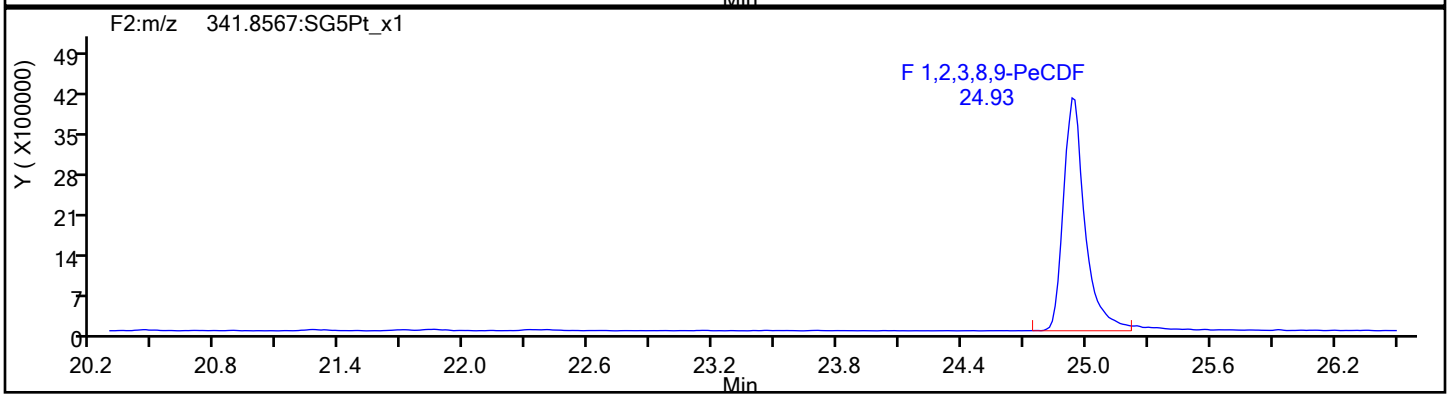

PeCDF Standards

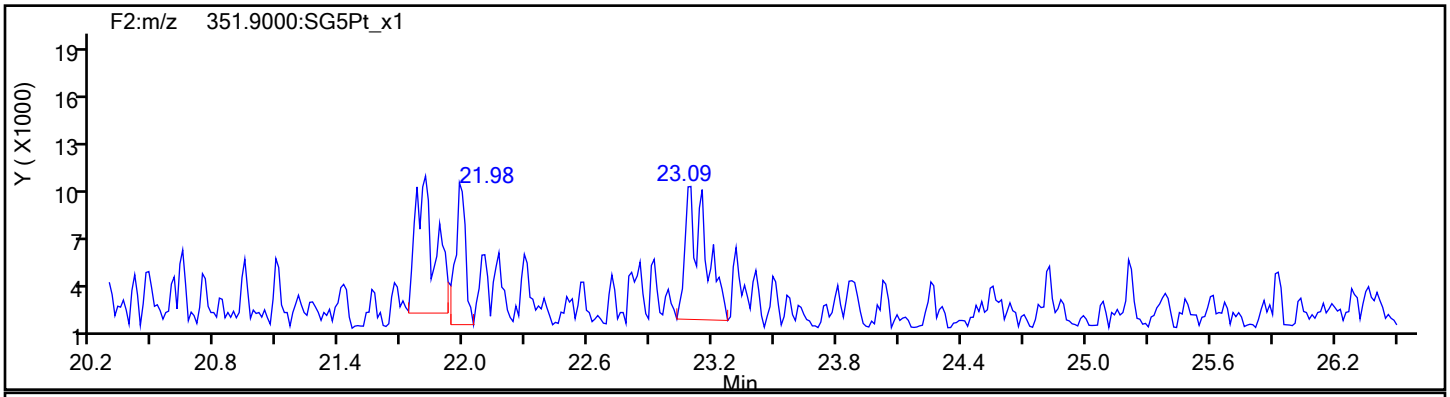

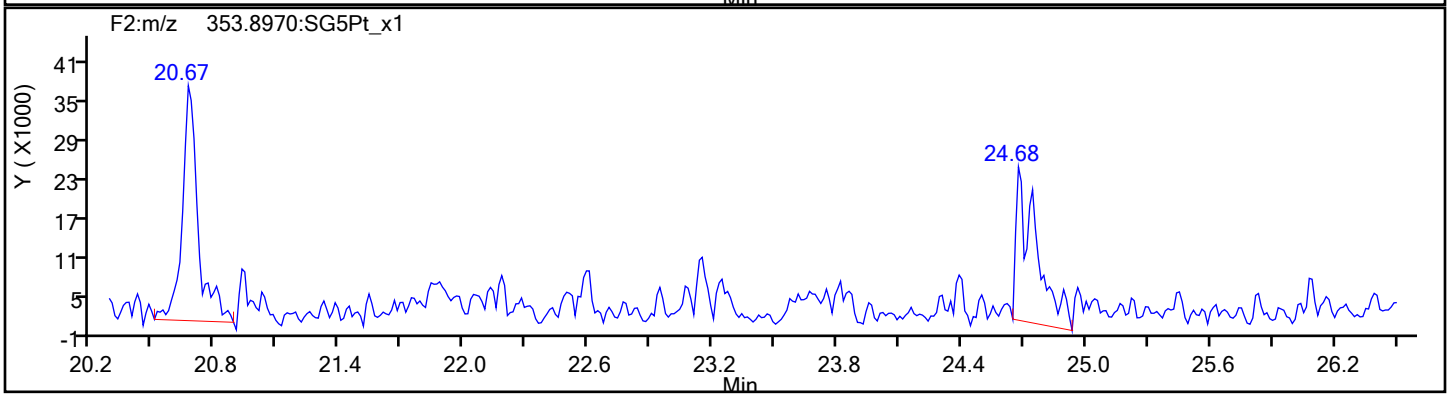

Report Date: 13-Nov-2019 16:19:28 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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PeCDF

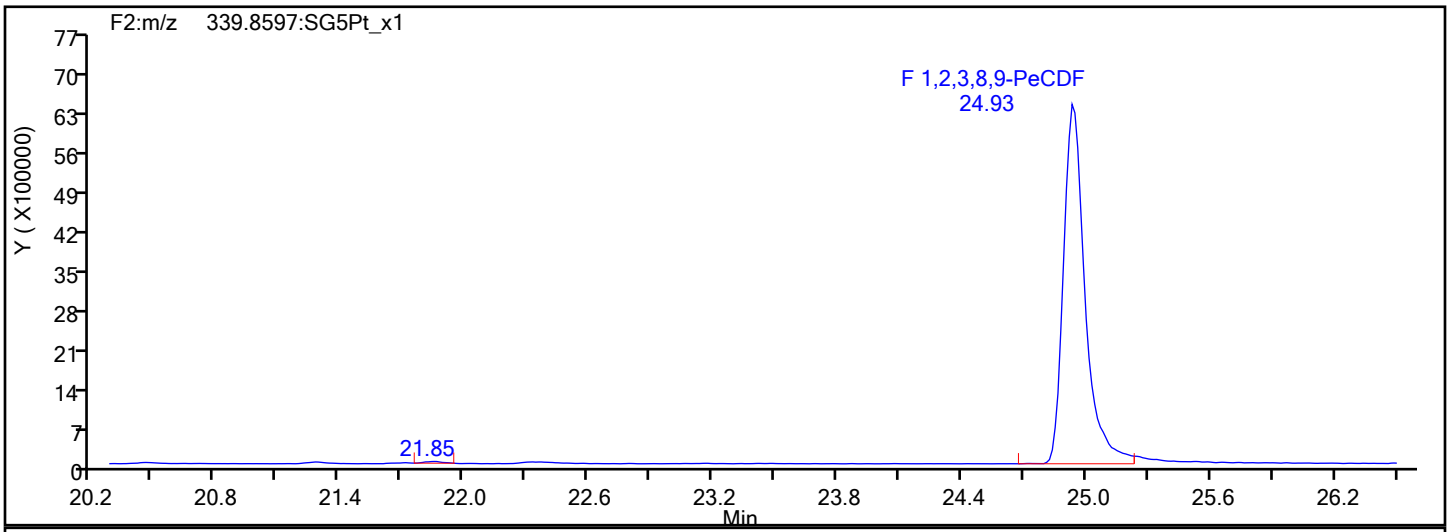

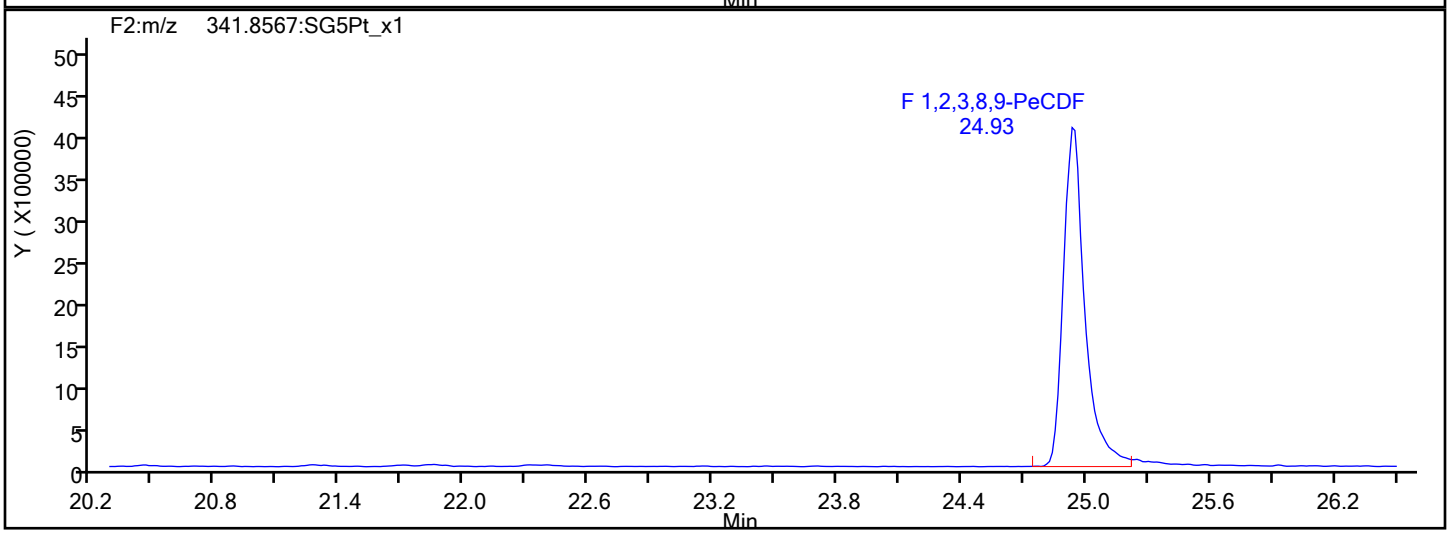

PeCDF Interference Mass

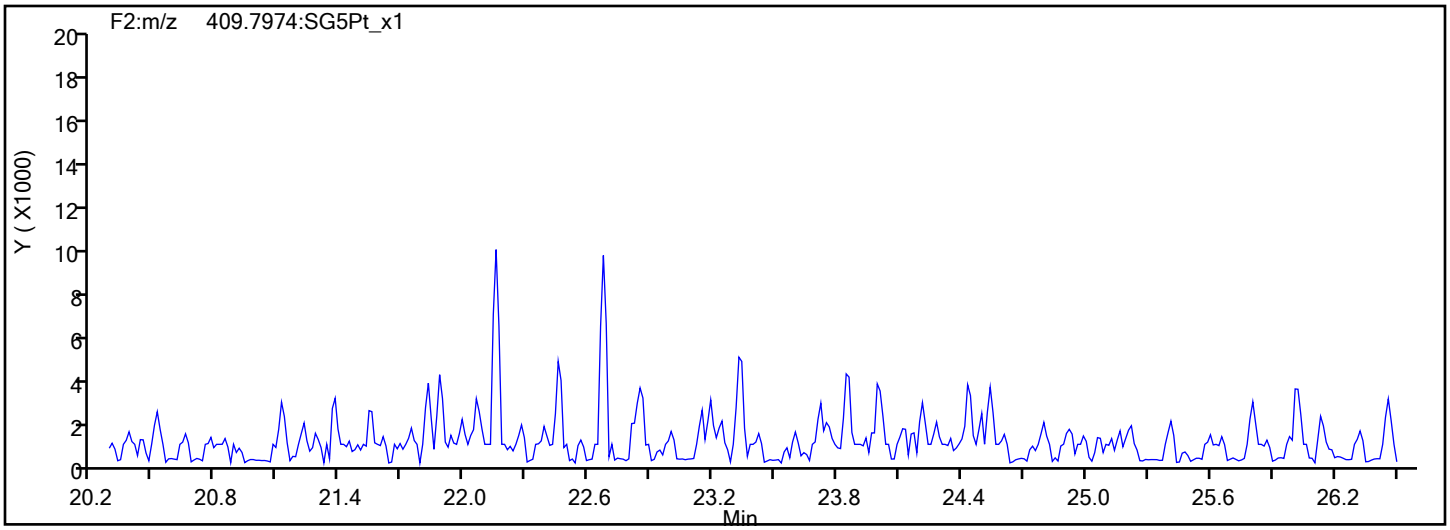

Report Date: 13-Nov-2019 16:19:28 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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PeCDD

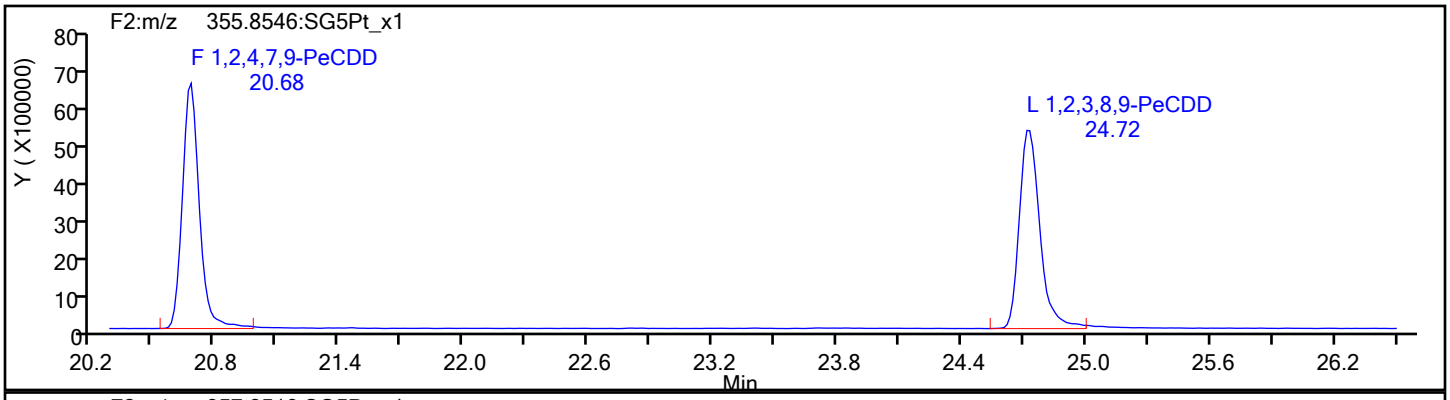

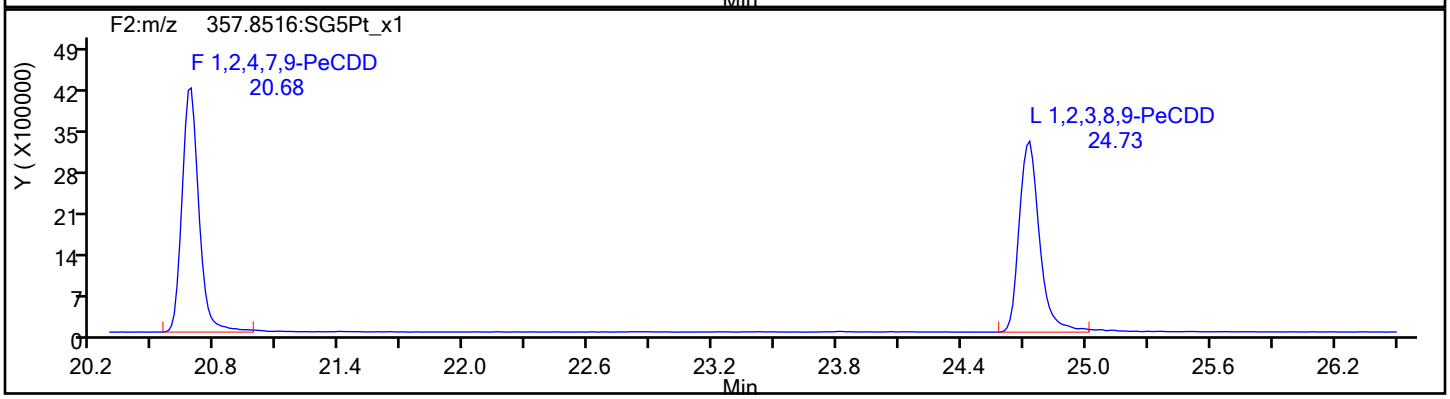

PeCDD Standards

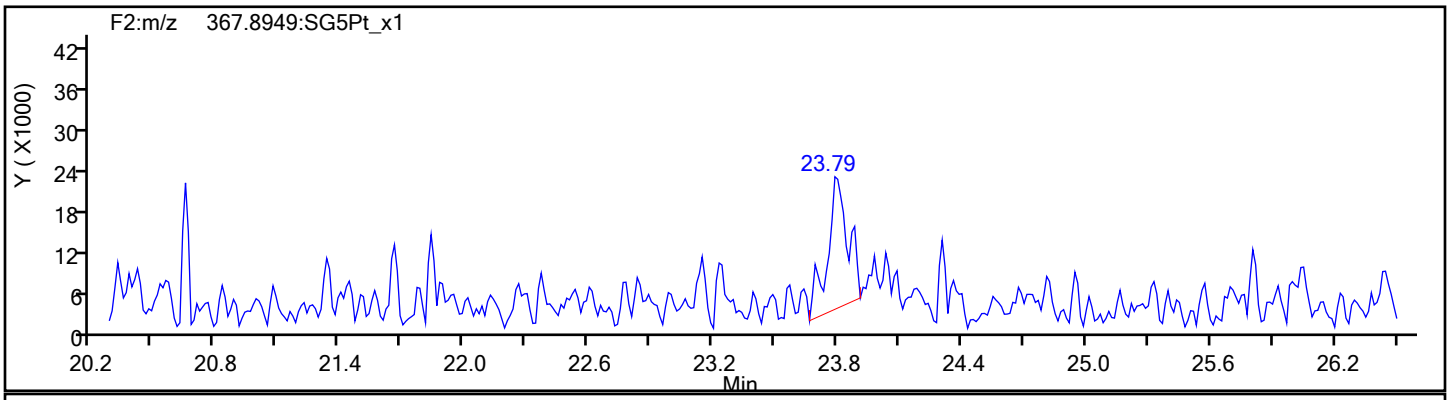

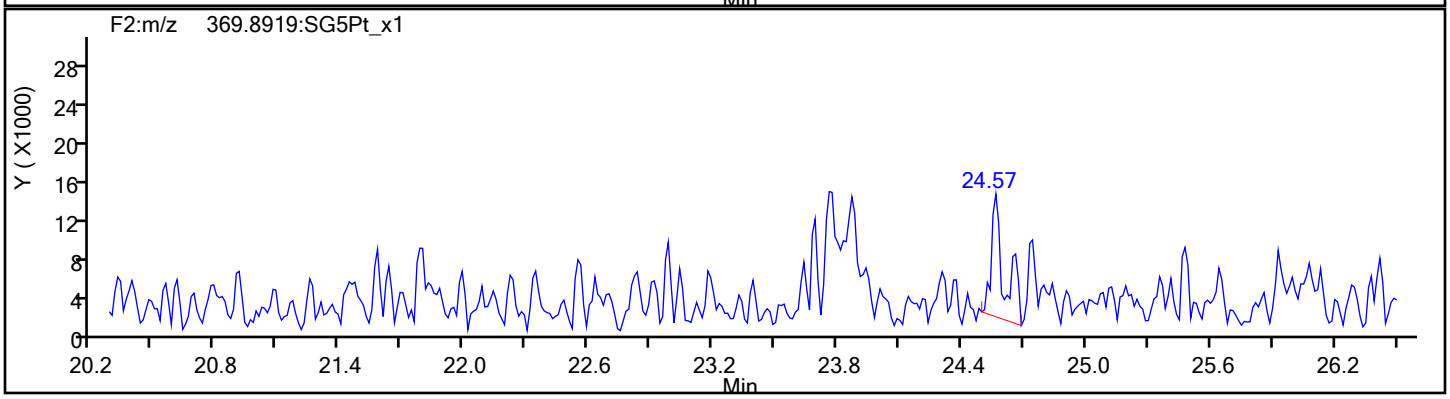

Report Date: 13-Nov-2019 16:19:28 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_36.d		
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HxCDF

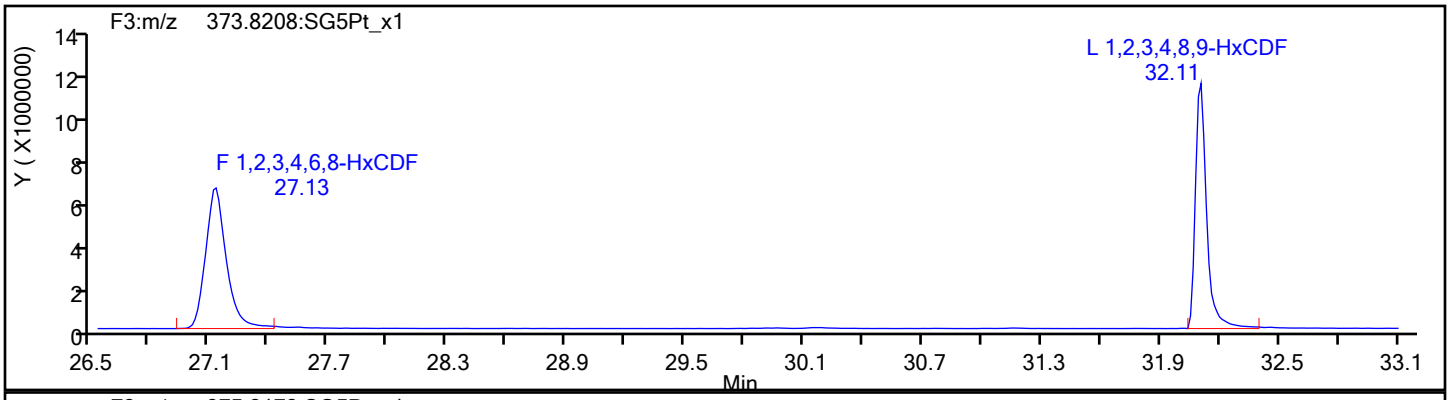

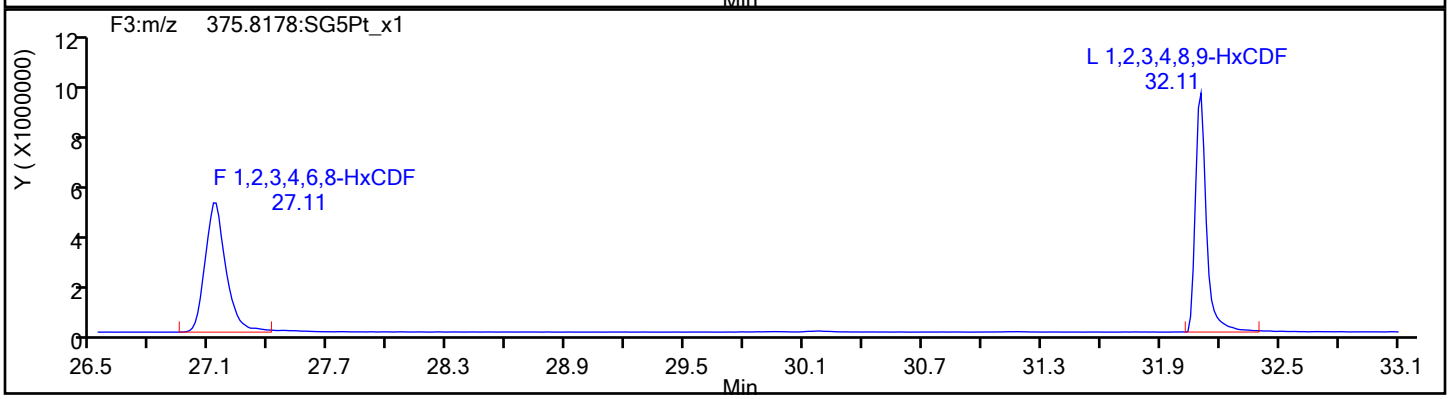

HxCDF Standards

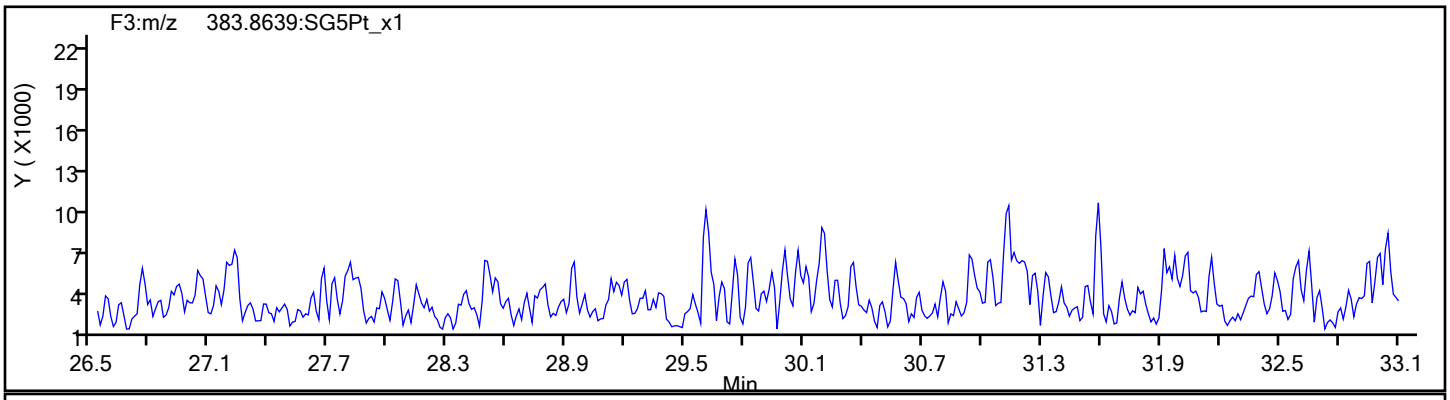

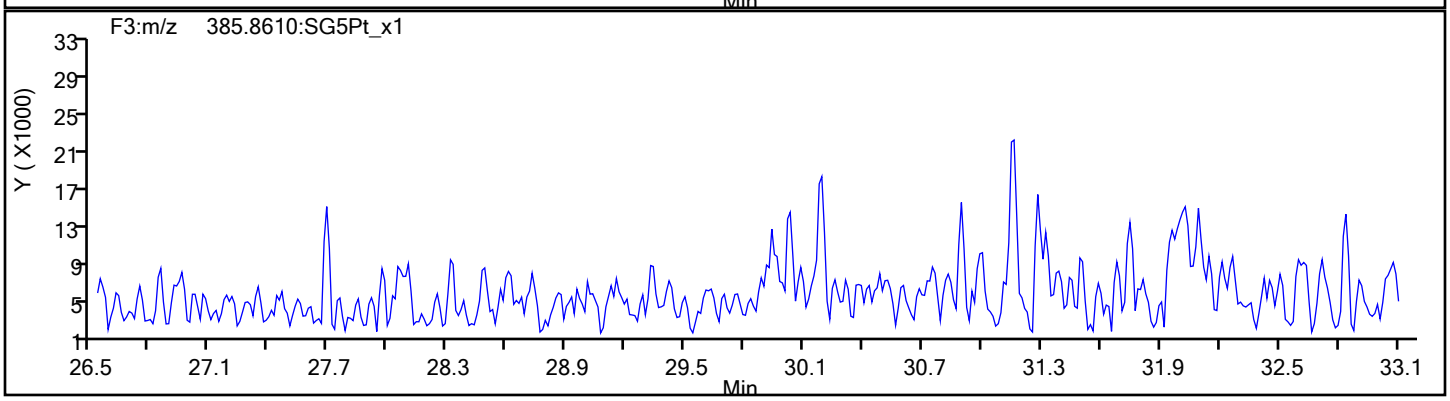

Report Date: 13-Nov-2019 16:19:28 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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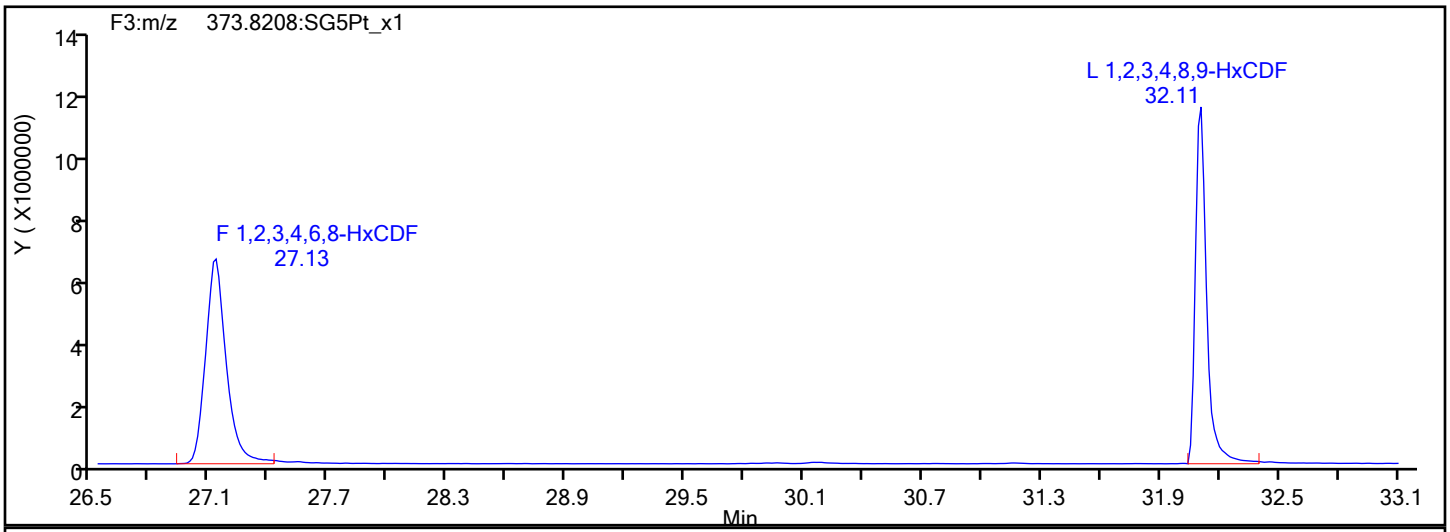

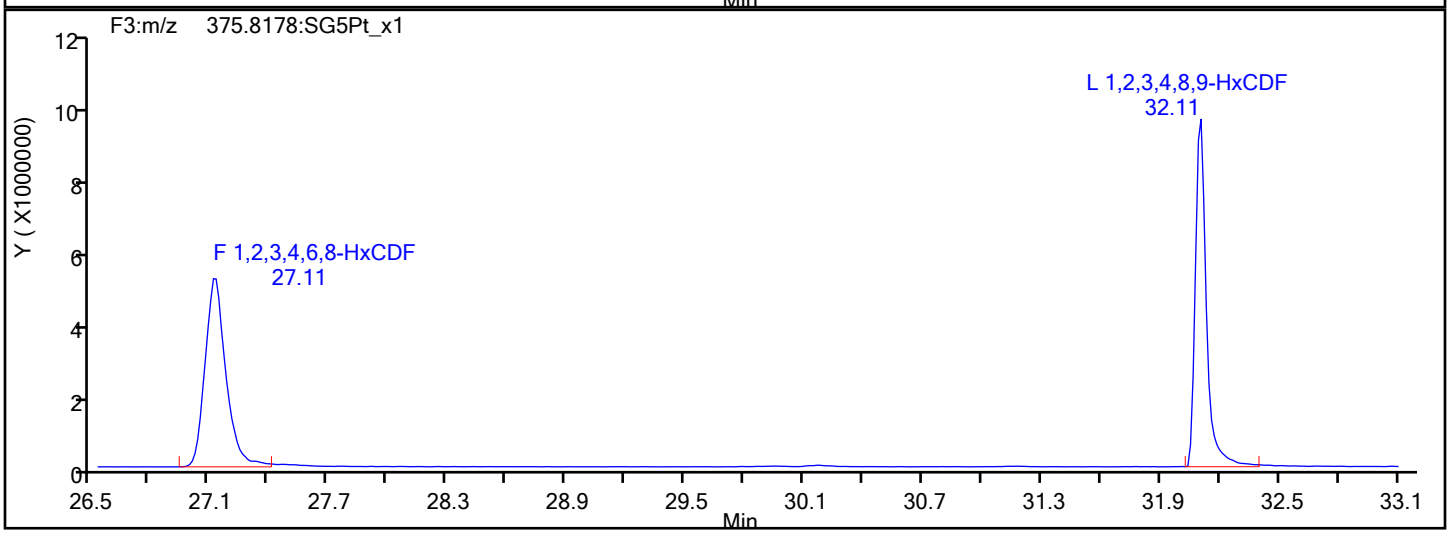

HxCDF Interference Mass

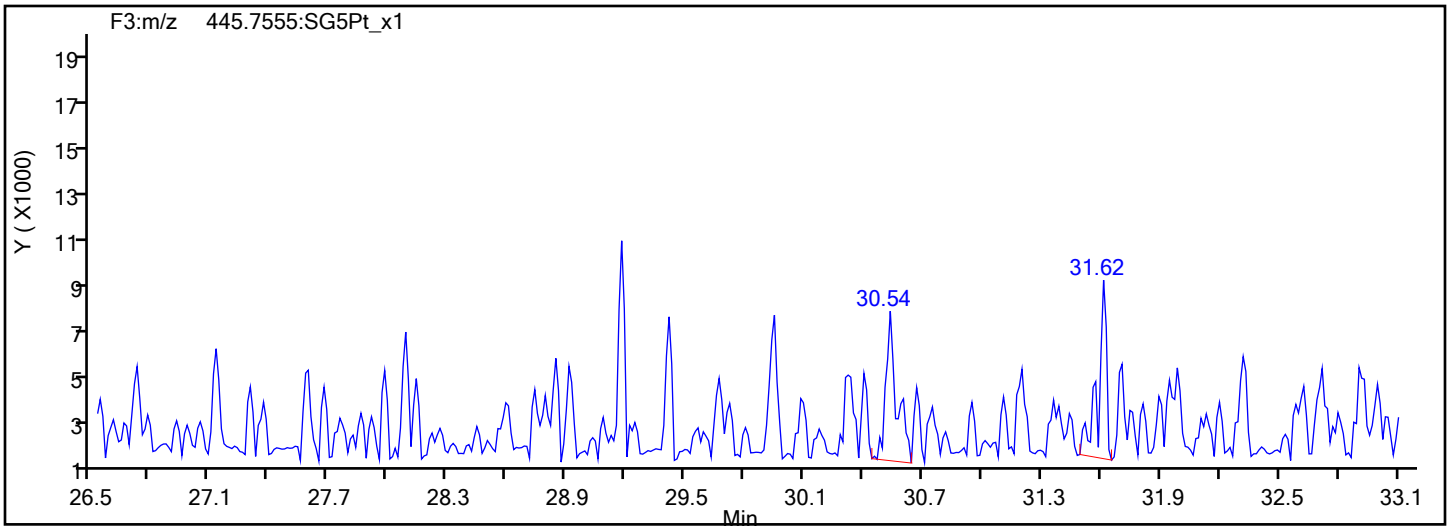

Report Date: 13-Nov-2019 16:19:28 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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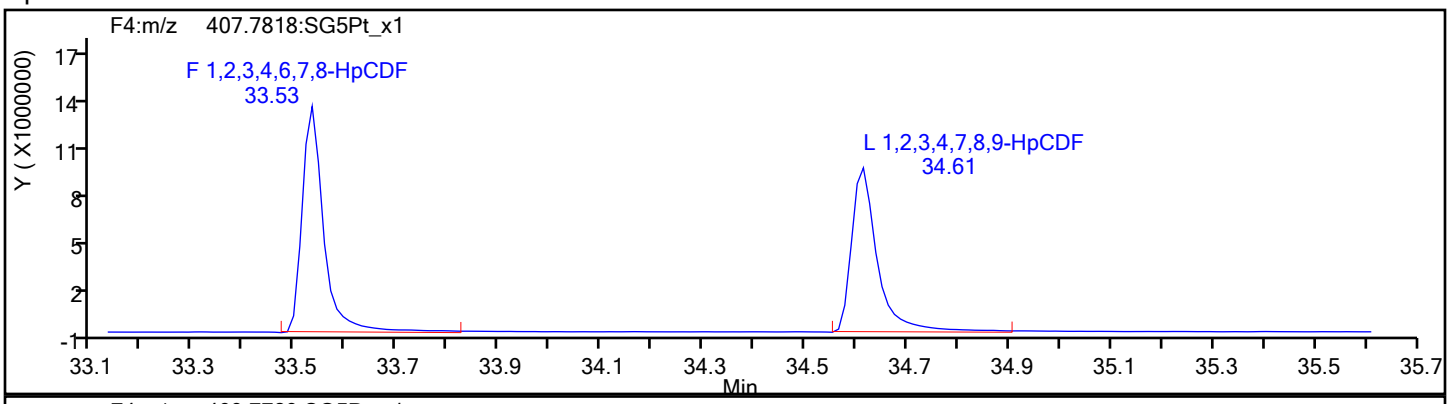

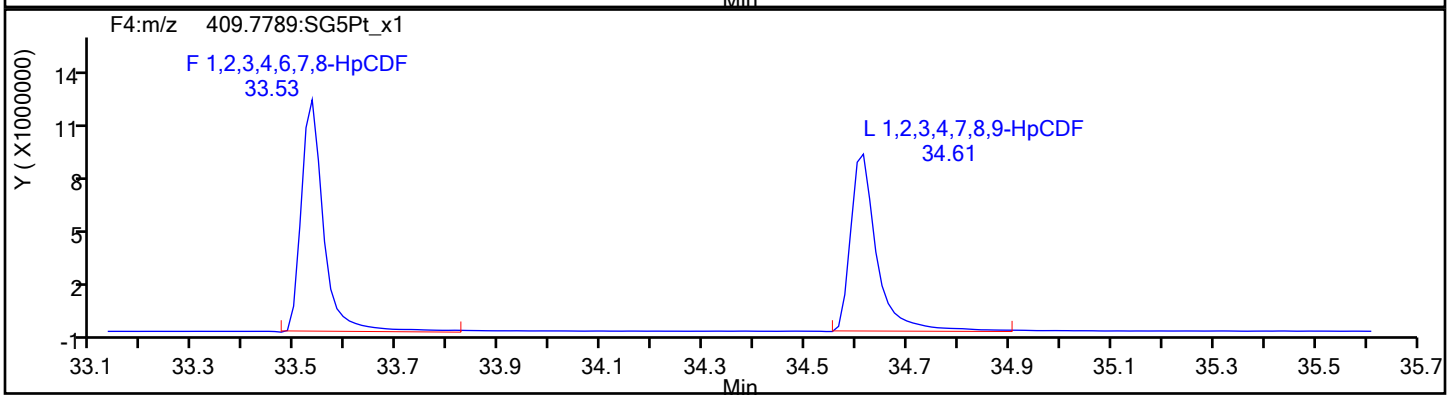

HpCDF Standards

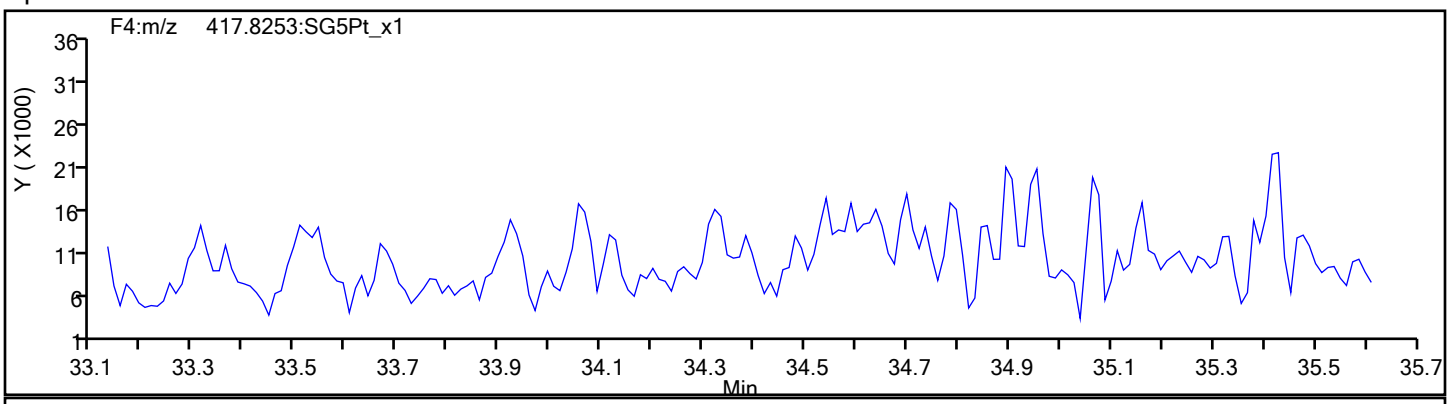

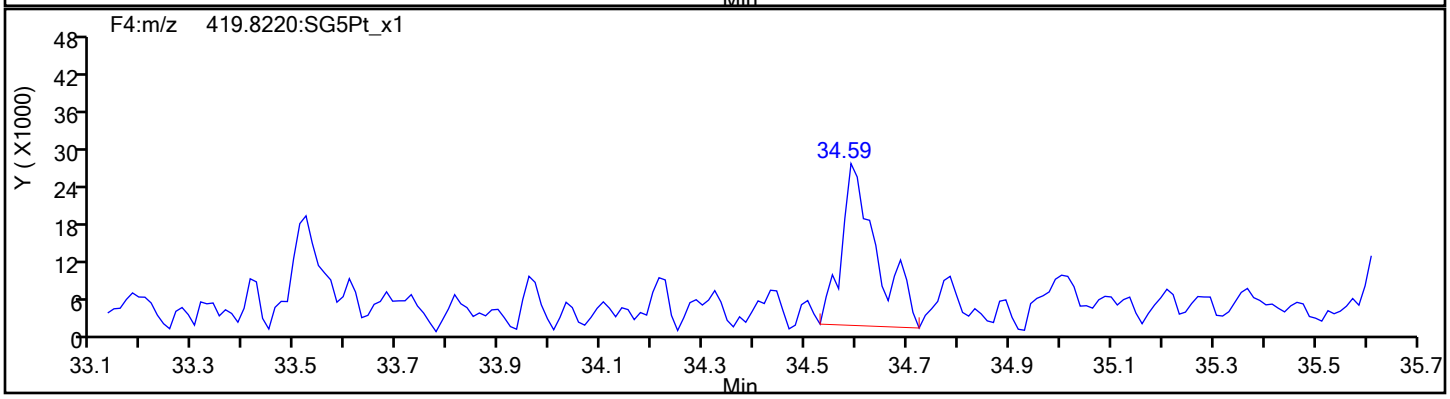

Report Date: 13-Nov-2019 16:19:28 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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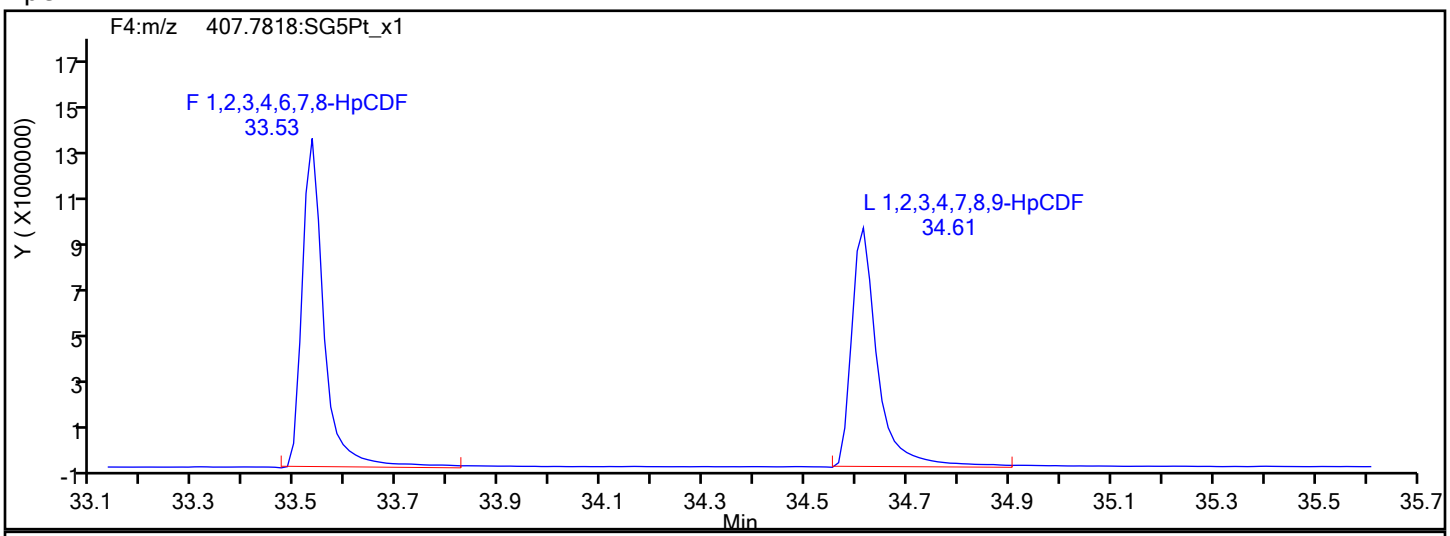

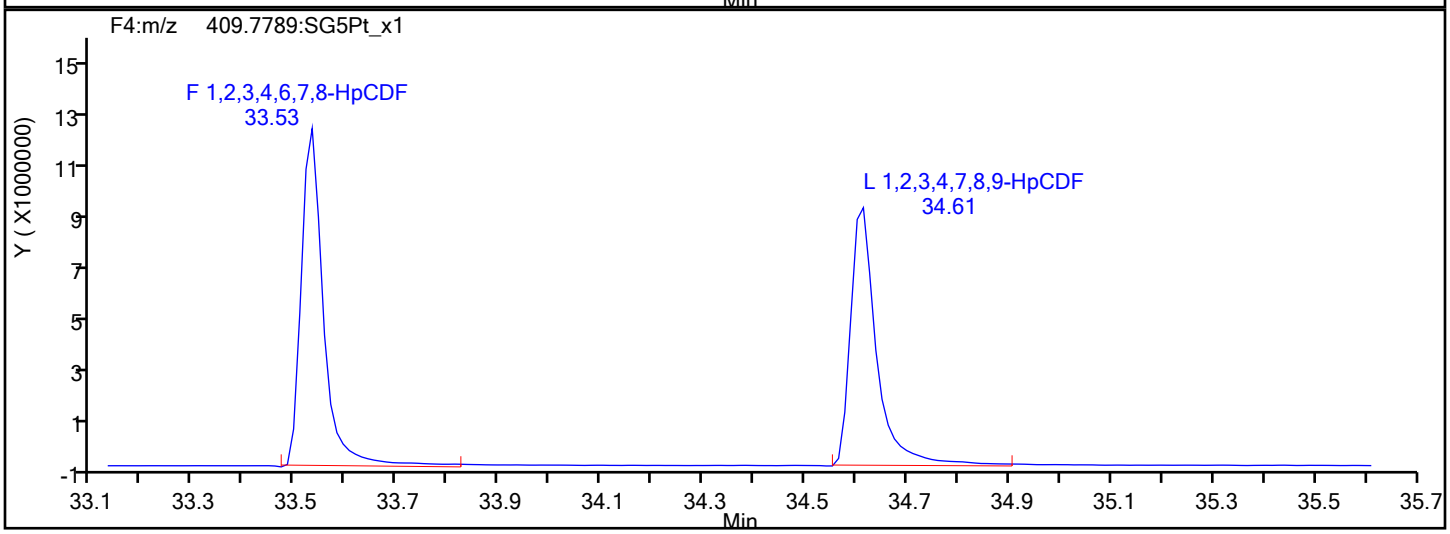

HpCDF Interference Mass

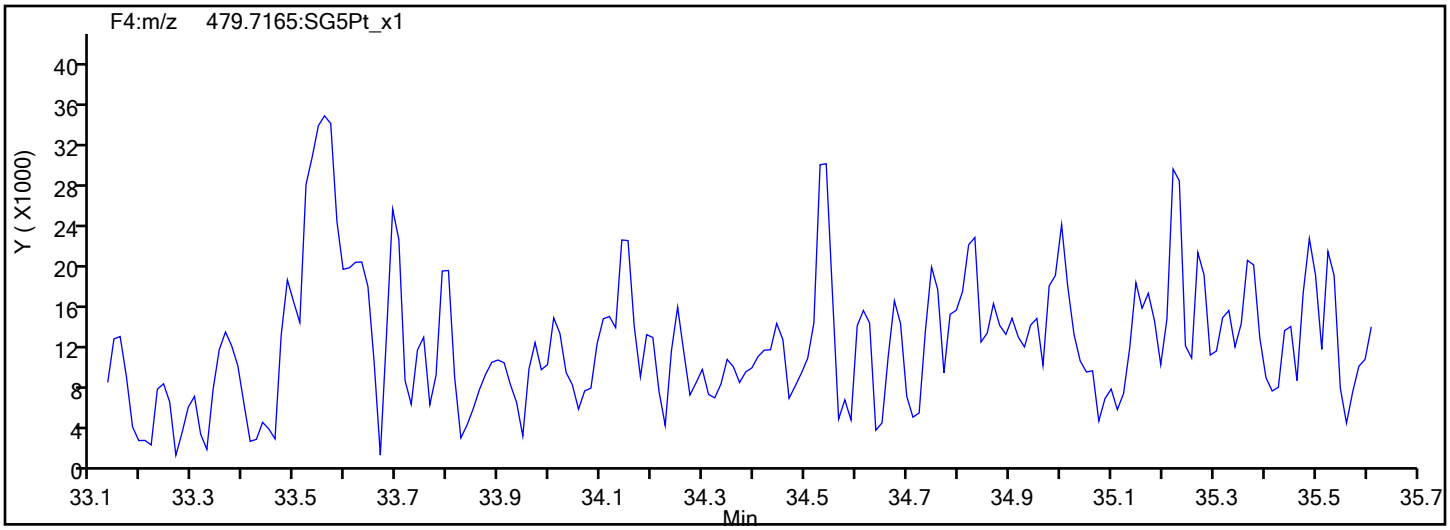

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Eurofins TestAmerica, Sacramento

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HpCDD

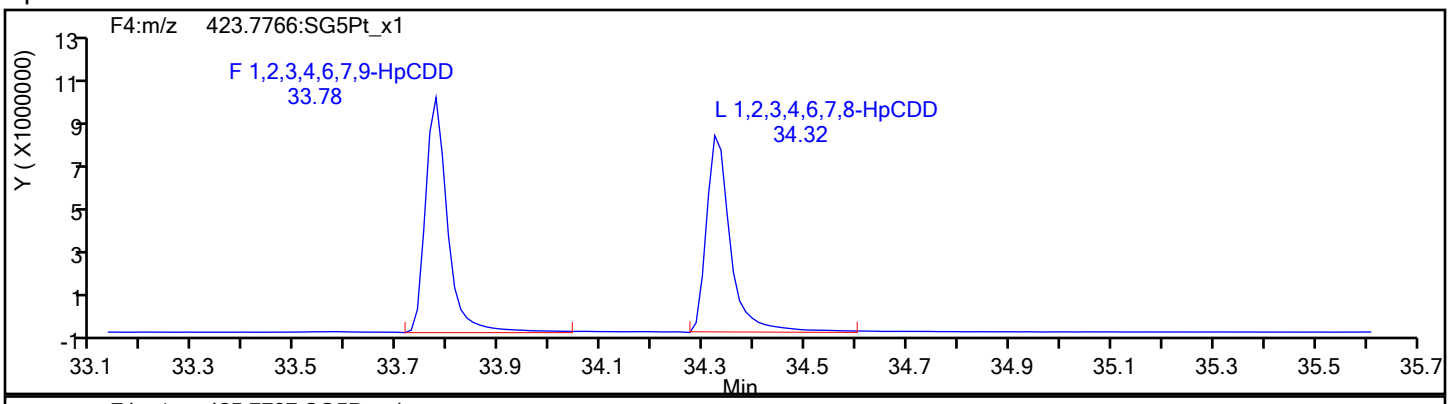

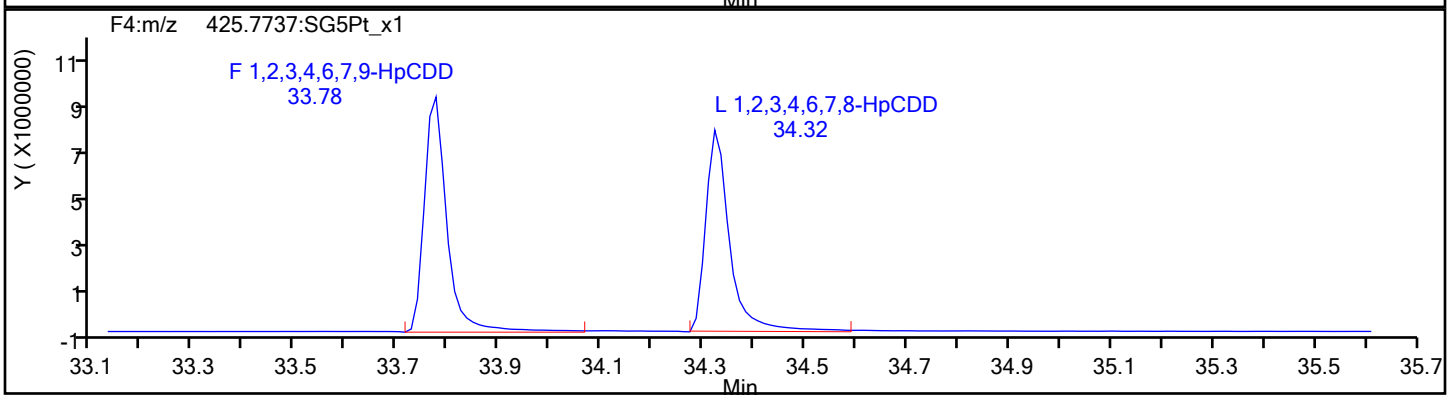

HpCDD Standards

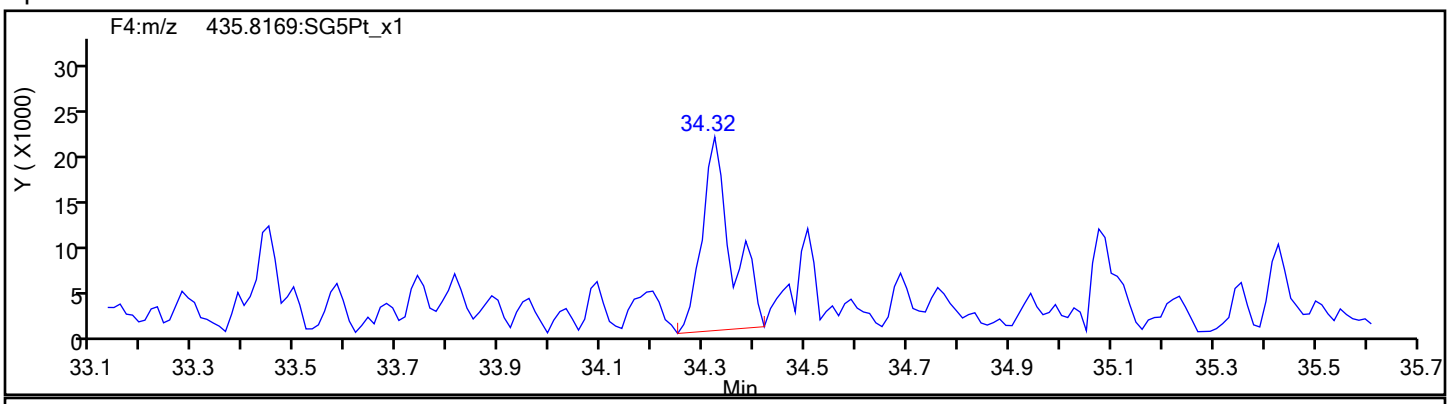

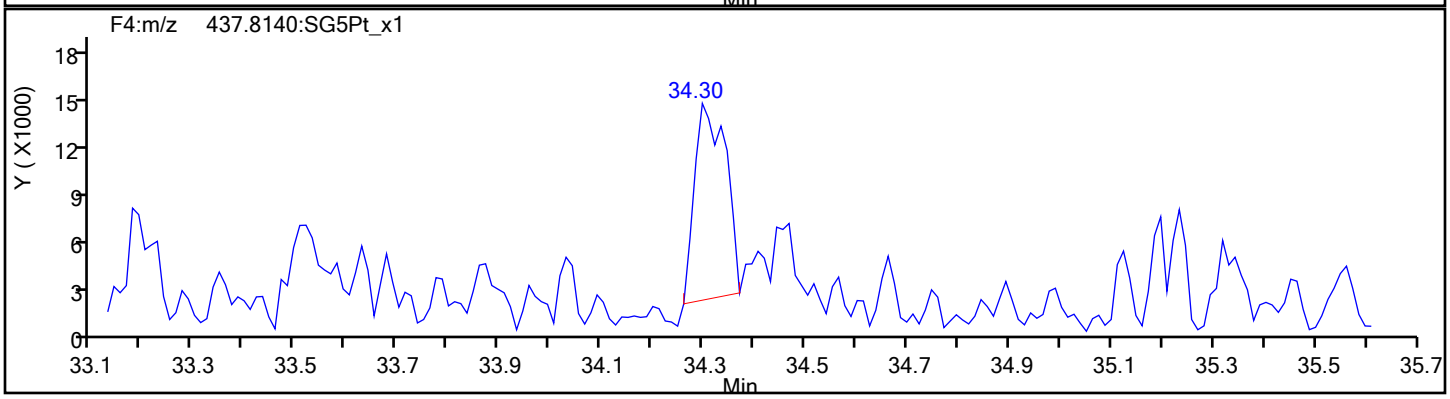

Report Date: 13-Nov-2019 16:19:28 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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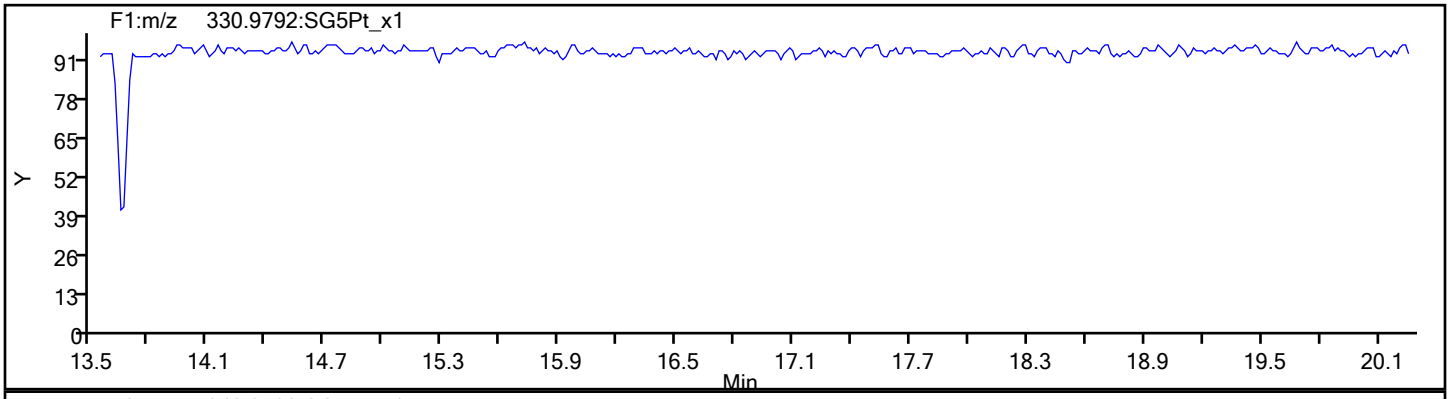

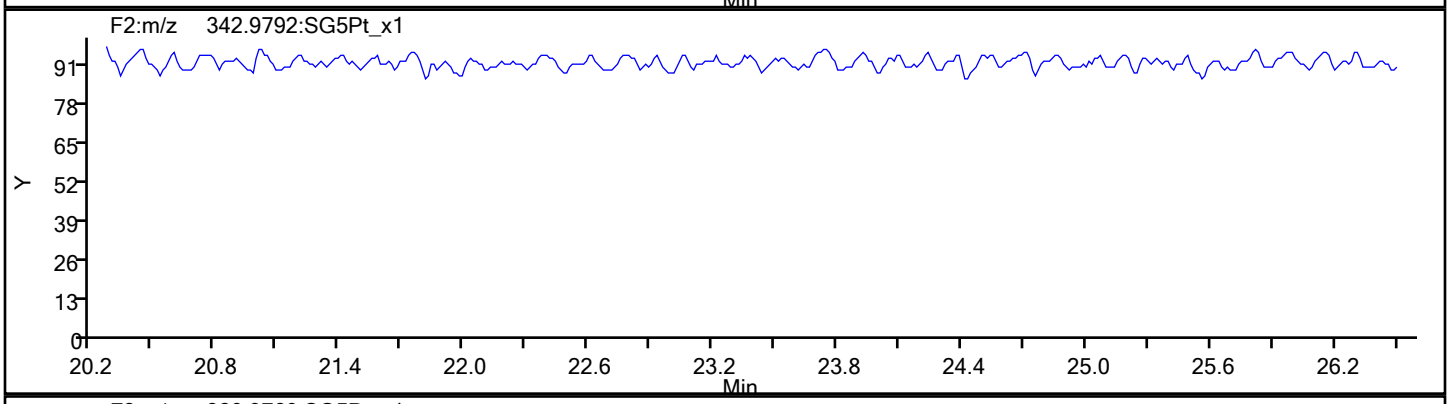

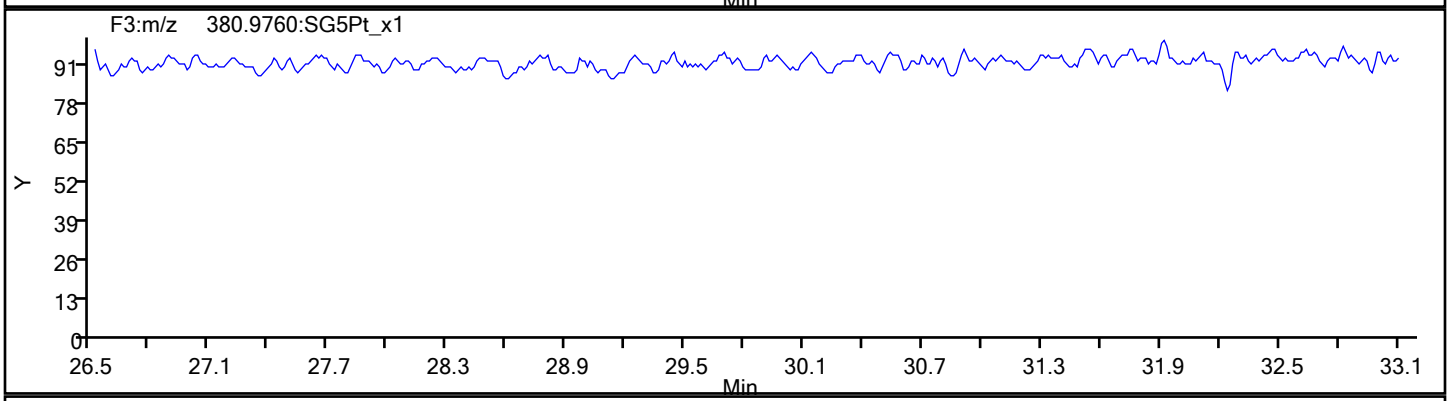

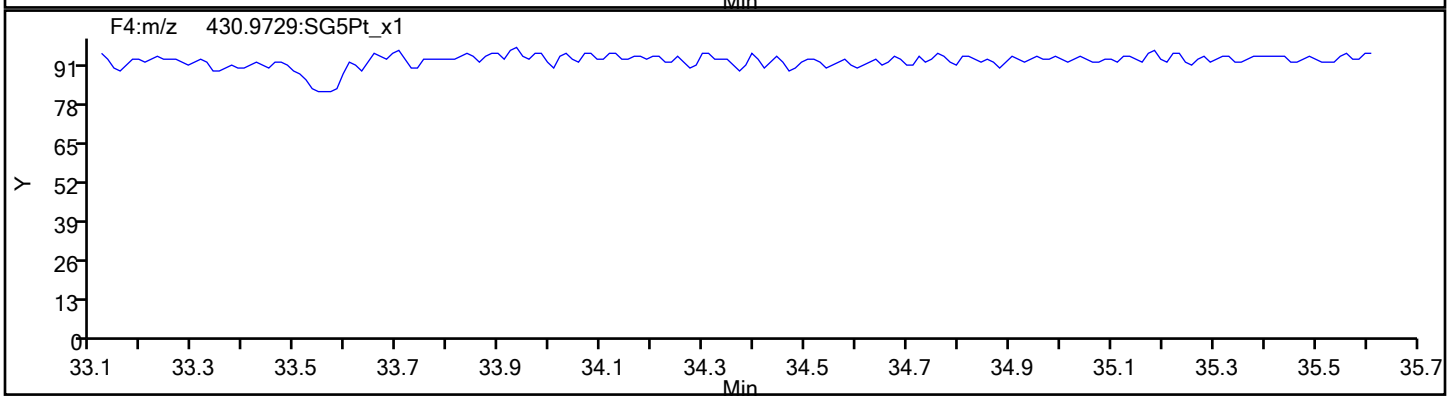

Report Date: 13-Nov-2019 16:19:28 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Injection Date:	13-Nov-2019 08:26:22	Injection Vol:	2.0 ul
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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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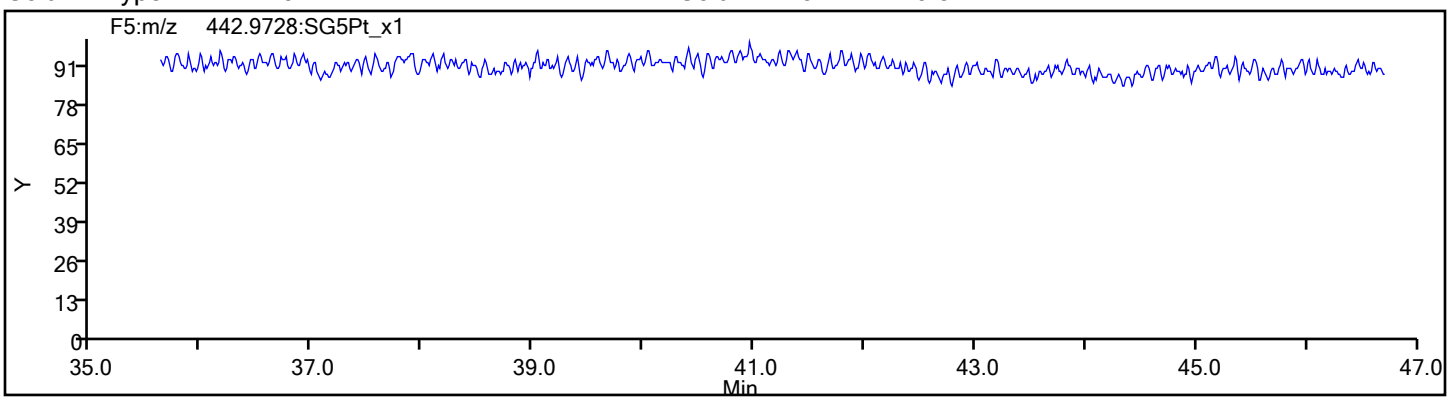

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 320-56102-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 320-337526/1-A
Matrix: Water
Lab File ID: 12NO193D5_38.d
Analysis Method: 1613B
Date Collected:
Extract. Method: 1613B
Date Extracted: 11/11/2019 08:47
Sample wt/vol: 1000(mL)
Date Analyzed: 11/13/2019 10:11
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 338227
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		10	1.5
51207-31-9	2,3,7,8-TCDF	ND		10	1.4
40321-76-4	1,2,3,7,8-PeCDD	ND		50	3.5
57117-41-6	1,2,3,7,8-PeCDF	ND		50	1.3
57117-31-4	2,3,4,7,8-PeCDF	ND		50	1.3
39227-28-6	1,2,3,4,7,8-HxCDD	ND		50	0.90
57653-85-7	1,2,3,6,7,8-HxCDD	ND		50	0.92
19408-74-3	1,2,3,7,8,9-HxCDD	ND		50	0.86
70648-26-9	1,2,3,4,7,8-HxCDF	ND		50	0.91
57117-44-9	1,2,3,6,7,8-HxCDF	ND		50	0.92
72918-21-9	1,2,3,7,8,9-HxCDF	ND		50	0.61
60851-34-5	2,3,4,6,7,8-HxCDF	ND		50	0.66
35822-46-9	1,2,3,4,6,7,8-HpCDD	ND		50	0.92
67562-39-4	1,2,3,4,6,7,8-HpCDF	ND		50	0.98
55673-89-7	1,2,3,4,7,8,9-HpCDF	ND		50	1.2
3268-87-9	OCDD	6.14	J	100	1.1
39001-02-0	OCDF	ND		100	1.6
41903-57-5	Total TCDD	ND		10	1.5
30402-14-3	Total TCDF	ND		10	1.4
36088-22-9	Total PeCDD	ND		50	3.5
30402-15-4	Total PeCDF	ND		50	1.3
34465-46-8	Total HxCDD	ND		50	0.92
55684-94-1	Total HxCDF	ND		50	0.92
37871-00-4	Total HpCDD	1.89	J	50	0.92
38998-75-3	Total HpCDF	ND		50	1.2

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 320-337526/1-A

Matrix: Water Lab File ID: 12NO193D5_38.d

Analysis Method: 1613B Date Collected:

Extract. Method: 1613B Date Extracted: 11/11/2019 08:47

Sample wt/vol: 1000(mL) Date Analyzed: 11/13/2019 10:11

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 338227 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	74		25-164
89059-46-1	13C-2,3,7,8-TCDF	75		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	74		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	75		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	79		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	75		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	71		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	83		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	74		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	82		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	75		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	61		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	76		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	84		26-138
114423-97-1	13C-OCDD	73		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	121		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_38.d
Lims ID: MB 320-337526/1-A
Client ID:
Sample Type: MB
Inject. Date: 13-Nov-2019 10:11:40 ALS Bottle#: 32 Worklist Smp#: 38
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: MB 320-337526/1-A MB 320-337526/1-A
Misc. Info.: 12NO193D5
Operator ID: ALM, AJS Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Nov-2019 09:47:37 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0312

First Level Reviewer: dadunj Date: 14-Nov-2019 09:47:37

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.414	168721045	0.80	3.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.930	176937487	0.77	1.3908	75.4	75.4	0.3429	0.3429	75.40	
2,3,7,8-TCDF	16.961						0.0684	0.0684		
A Non-2,3,7,8-sub-TCDF	16.651						0.0684	0.0684		
S Total TCDF							0.0684	0.0684		
D 13C-2,3,7,8-TCDD	17.611	122415144	0.82	0.9819	73.9	73.9	0.3116	0.3116	73.89	
2,3,7,8-TCDD	17.626						0.0737	0.0737		
$ 37Cl4-2,3,7,8-TCDD	17.626	100032450		1.2205	48.6	48.6	0.0902	0.0902	121	
A Non-2,3,7,8-sub-TCDD	17.097						0.0737	0.0737		
S Total TCDD							0.0737	0.0737		
D 13C-1,2,3,7,8-PeCDF	21.757	147556356	1.58	1.1585	75.5	75.5	0.2914	0.2914	75.49	
1,2,3,7,8-PeCDF	21.771						0.0626	0.0626		
D 13C-2,3,4,7,8-PeCDF	23.039	153324692	1.67	1.1532	78.8	78.8	0.2928	0.2928	78.80	
2,3,4,7,8-PeCDF	23.066						0.0667	0.0667		
A F1 PeCDFs	19.599						0.0589	0.0589		
A Non-2,3,7,8-sub-PeCDF	22.617						0.0646	0.0646		
S Total PeCDF							0.0667	0.0667		
D 13C-1,2,3,7,8-PeCDD	23.734	92639836	1.60	0.7431	73.9	73.9	0.1620	0.1620	73.89	
1,2,3,7,8-PeCDD	23.748						0.1743	0.1743		
A Non-2,3,7,8-sub-PeCDD	22.698						0.1743	0.1743		
S Total PeCDD							0.1743	0.1743		
D 13C-1,2,3,4,7,8-HxCDF	29.845	138171187	0.52	0.9837	82.9	82.9	0.3785	0.3785	82.95	
1,2,3,4,7,8-HxCDF	29.871						0.0454	0.0454		
D 13C-1,2,3,6,7,8-HxCDF	30.098	144428395	0.52	1.1554	73.8	73.8	0.3223	0.3223	73.82	
1,2,3,6,7,8-HxCDF	30.111						0.0460	0.0460		
D 13C-2,3,4,6,7,8-HxCDF	31.096	131661135	0.52	1.0361	75.0	75.0	0.3594	0.3594	75.04	
2,3,4,6,7,8-HxCDF	31.110						0.0329	0.0329		
D 13C-1,2,3,7,8,9-HxCDF	31.988	125401743	0.52	0.9034	82.0	82.0	0.4121	0.4121	81.97	
1,2,3,7,8,9-HxCDF	32.002						0.0303	0.0303		
A Non-2,3,7,8-sub-HxCDF	29.618						0.0373	0.0373		
S Total HxCDF							0.0460	0.0460		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.789	169331953	1.28	2.6E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.309	105350729	1.28	0.8287	75.1	75.1	0.3004	0.3004	75.08	
1,2,3,4,7,8-HxCDD	31.323						0.0449	0.0449		
D 13C-1,2,3,6,7,8-HxCDD	31.429	114850313	1.28	0.9495	71.4	71.4	0.2622	0.2622	71.44	
1,2,3,6,7,8-HxCDD	31.442						0.0458	0.0458		
1,2,3,7,8,9-HxCDD	31.802						0.0428	0.0428		
A Non-2,3,7,8-sub-HxCDD	30.264						0.0444	0.0444		
S Total HxCDD							0.0458	0.0458		
D 13C-1,2,3,4,6,7,8-HpCDF	33.520	94270094	0.45	0.7285	76.4	76.4	0.9041	0.9041	76.42	
1,2,3,4,6,7,8-HpCDF	33.532						0.0490	0.0490		
D 13C-1,2,3,4,7,8,9-HpCDF	34.590	93769833	0.44	0.6556	84.5	84.5	1.005	1.005	84.46	
1,2,3,4,7,8,9-HpCDF	34.614						0.0607	0.0607		
A Non-2,3,7,8-sub-HpCDF	34.073						0.0544	0.0544		
S Total HpCDF							0.0607	0.0607		
D 13C-1,2,3,4,6,7,8-HpCDD	34.310	72503931	1.06	0.6978	61.4	61.4	0.3531	0.3531	61.36	
1,2,3,4,6,7,8-HpCDD	34.322						0.0461	0.0461		
A Non-2,3,7,8-sub-HpCDD	34.990	69062	1.04	1.0102	0.1047	0.0943	0.0461	0.0943		RQMa
S Total HpCDD					0.1047	0.0943	0.0461	0.0461		RQ
D 13C-OCDD	36.641	117479416	0.90	0.4780	145.2	145.2	0.2207	0.2207	72.58	
OCDF	36.737						0.0779	0.0779		
OCDD	36.653	191659	0.85	1.0627	0.3070	0.3070	0.0539	0.0539		M

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_38.d
Lims ID: MB 320-337526/1-A
Client ID:
Sample Type: MB
Inject. Date: 13-Nov-2019 10:11:40 ALS Bottle#: 32 Worklist Smp#: 38
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: MB 320-337526/1-A MB 320-337526/1-A
Misc. Info.: 12NO193D5
Operator ID: ALM, AJS Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Nov-2019 09:47:37 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0312

First Level Reviewer: dadunj Date: 14-Nov-2019 09:47:37

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.414	17.414	0		75238564	19180955	40309	100772	476		
333.9339	17.414	17.414	0		93482481	23696554	12160	30400	1949	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.930	16.930	0	0.972	77165913	18729995	42354	105885	442		
317.9389	16.930	16.930	0	0.972	99771574	24952086	39438	98595	633	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.961						4058	10145			
305.8987	16.961						7555	18887			
A Non-2,3,7,8-sub-TCDF											
303.9016	16.651						4058	10145			
305.8987	16.651						7555	18887			
13C-2,3,7,8-TCDD											
331.9368	17.611	17.611	0	1.011	55051956	12811017	40309	100772	318		
333.9339	17.611	17.611	0	1.011	67363188	15856707	12160	30400	1304	0.82(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.626						6686	16715			
321.8936	17.626						2146	5365			
37Cl4-2,3,7,8-TCDD											
327.8847	17.626	17.626	0	1.012	100032450	23192205	18885	47212	1228		
A Non-2,3,7,8-sub-TCDD											
319.8965	17.097						6686	16715			
321.8936	17.097						2146	5365			
13C-1,2,3,7,8-PeCDF											
351.9000	21.757	21.743	1	1.249	90255462	16342852	33315	83287	491		
353.8970	21.757	21.743	1	1.249	57300894	10026931	24589	61472	408	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	21.771						1688	4220			
341.8567	21.771						4676	11690			
13C-2,3,4,7,8-PeCDF											
351.9000	23.039	23.052	-1	1.323	95898370	15804157	33315	83287	474		
353.8970	23.039	23.052	-1	1.323	57426322	9336033	24589	61472	380	1.67(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.066						1688	4220			
341.8567	23.066						4676	11690			
A F1 PeCDFs											
339.8597	19.599						1612	4030			
341.8567	19.599						4189	10472			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.617						1688	4220			
341.8567	22.617						4676	11690			
13C-1,2,3,7,8-PeCDD											
367.8949	23.734	23.734	0	1.363	57048728	8940900	11306	28265	791		
369.8919	23.734	23.734	0	1.363	35591108	5582629	9336	23340	598	1.60(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.748						8910	22275			
357.8516	23.748						1859	4647			
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.698						8910	22275			
357.8516	22.698						1859	4647			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.845	29.845	0	0.939	47258149	7010367	20812	52030	337		
385.8610	29.845	29.845	0	0.939	90913038	13044979	40273	100682	324	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.871						2300	5750			
375.8178	29.871						2132	5330			
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.098	30.084	1	0.947	49469175	7381555	20812	52030	355		
385.8610	30.098	30.084	1	0.947	94959220	13933610	40273	100682	346	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.111						2300	5750			
375.8178	30.111						2132	5330			
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.096	31.096	0	0.978	45237720	9989259	20812	52030	480		
385.8610	31.096	31.096	0	0.978	86423415	18766042	40273	100682	466	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.110						2300	5750			
375.8178	31.110						2132	5330			
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.988	31.988	0	1.006	42717868	10400342	20812	52030	500		
385.8610	31.988	31.988	0	1.006	82683875	20629075	40273	100682	512	0.52(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	32.002						2300	5750			
375.8178	32.002						2132	5330			
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.618						2300	5750			
375.8178	29.618						2132	5330			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.789	31.789	0		94993351	23102469	23424	58560	986		
403.8529	31.789	31.789	0		74338602	17910496	17415	43537	1028	1.28(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.309	31.309	0	0.985	59189025	14734663	23424	58560	629		
403.8529	31.309	31.309	0	0.985	46161704	11435260	17415	43537	657	1.28(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.323						1852	4630			
391.8127	31.323						2974	7435			
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.429	31.429	0	0.989	64569451	15108900	23424	58560	645		
403.8529	31.429	31.429	0	0.989	50280862	11875397	17415	43537	682	1.28(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.442						1852	4630			
391.8127	31.442						2974	7435			
1,2,3,7,8,9-HxCDD											
389.8157	31.802						1852	4630			
391.8127	31.802						2974	7435			
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.264						1852	4630			
391.8127	30.264						2974	7435			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.520	33.520	0	1.054	29241771	10126716	35455	88637	286		
419.8220	33.520	33.520	0	1.054	65028323	22630656	72593	181482	312	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.532						7218	18045			
409.7789	33.532						2018	5045			
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.590	34.590	0	1.088	28675573	8930602	35455	88637	252		
419.8220	34.590	34.590	0	1.088	65094260	20107773	72593	181482	277	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.614						7218	18045			
409.7789	34.614						2018	5045			
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.073						7218	18045			
409.7789	34.073						2018	5045			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.310	34.310	0	1.079	37233096	12004971	19637	49092	611		
437.8140	34.310	34.310	0	1.079	35270835	11233265	20790	51975	540	1.06(0.88-1.20)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.322						2636	6590			
425.7737	34.322						1694	4235			
A Non-2,3,7,8-sub-HpCDD											RQMa
423.7766	33.775	34.990	-73	0.984	42840	12760	2636	6590	5		M
	Empc Correction				35208	9296	2636	6590	4		
425.7737	33.787	34.990	-72	0.985	33854	8939	1694	4235	5	1.27(0.88-1.20)	
13C-OCDD											
469.7779	36.641	36.641	0	1.153	55530999	15972376	9614	24035	1661		
471.7750	36.641	36.641	0	1.153	61948417	17317075	7691	19227	2252	0.90(0.76-1.02)	
OCDF											
441.7428	36.737						3018	7545			
443.7399	36.737						3982	9955			
OCDD											M
457.7377	36.653	36.653	0	1.000	87973	19492	1921	4802	10		M
459.7348	36.653	36.653	0	1.000	103686	26840	1895	4737	14	0.85(0.76-1.02)	M

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_38.d
Lims ID: MB 320-337526/1-A
Client ID:
Inject. Date: 13-Nov-2019 10:11:40 Dil. Factor: 1.0000
Sample Type: MB, Method Blank
Instrument ID: 3D5 Operator: ALM, AJS
Lims Batch ID: 338227 Lims Sample ID: 38

Non-2,3,7,8-sub-HpCDD, RT: 34.990

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.010	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	72503931	23238236

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.010		100.000	72503931	23238236

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
33.775	42840	12760	33854	8939	0.1047	1.27	RQM
33.775	35208	9296	33854	8939	0.0943		Empc Correction
Signal Totals:							
	35208	9296	33854	8939			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	76694	21699				1.27	RQM
	69062	18235					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.1047 = (76694 * 100.000) / (72503931 * 1.010)
Empc Amount: 0.0943 = (69062 * 100.000) / (72503931 * 1.010)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_38.d				
Injection Date:	13-Nov-2019 10:11:40	Instrument ID:	3D5		
Lims ID:	MB 320-337526/1-A				
Client ID:					
Operator ID:	ALM, AJS	ALS Bottle#:	32	Worklist Smp#:	38
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

Non-2,3,7,8-sub-HpCDD, Signal: 1, m/z: 423.7766, RT: (34.37- 35.61)

Signal: 1

Processing Integration Results

RT = 33.775 Area = 47456

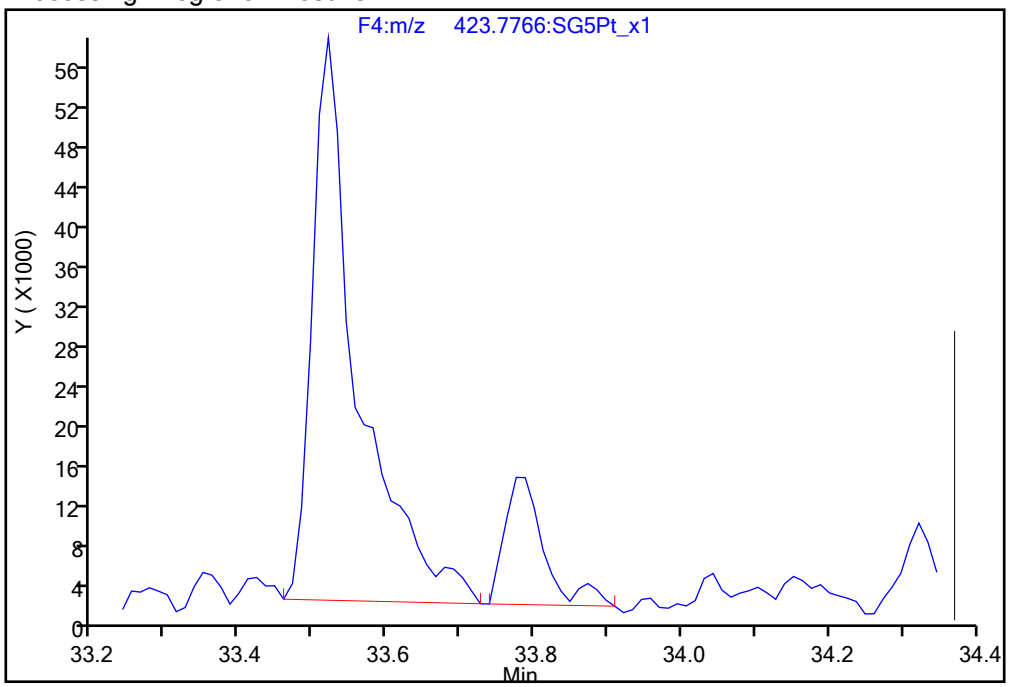

Manual Integration Results

RT = 33.775 Area = 42840 M

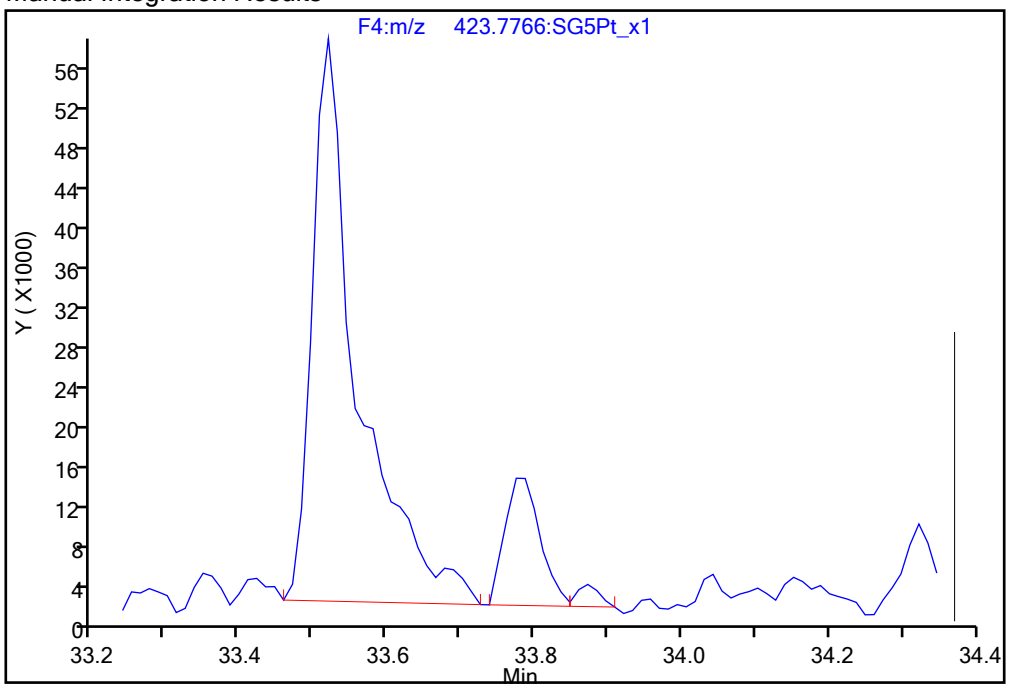

Reviewer: dadunj, 14-Nov-2019 09:46:55

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_38.d				
Injection Date:	13-Nov-2019 10:11:40	Instrument ID:	3D5		
Lims ID:	MB 320-337526/1-A				
Client ID:					
Operator ID:	ALM, AJS	ALS Bottle#:	32	Worklist Smp#:	38
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5:HRSIR		

OCDD, CAS: 3268-87-9

Signal: 1

Processing Integration Results

RT: 36.65
Area: 104818
Amount: 0.359315
Amount Units: pg/ul

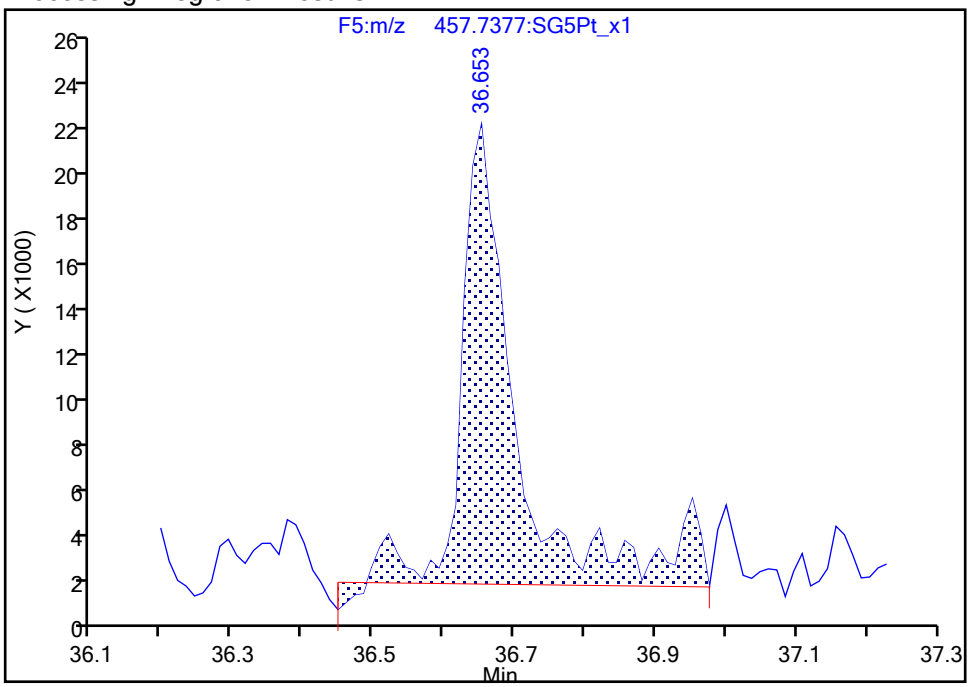

Manual Integration Results

RT: 36.65
Area: 87973
Amount: 0.307038
Amount Units: pg/ul

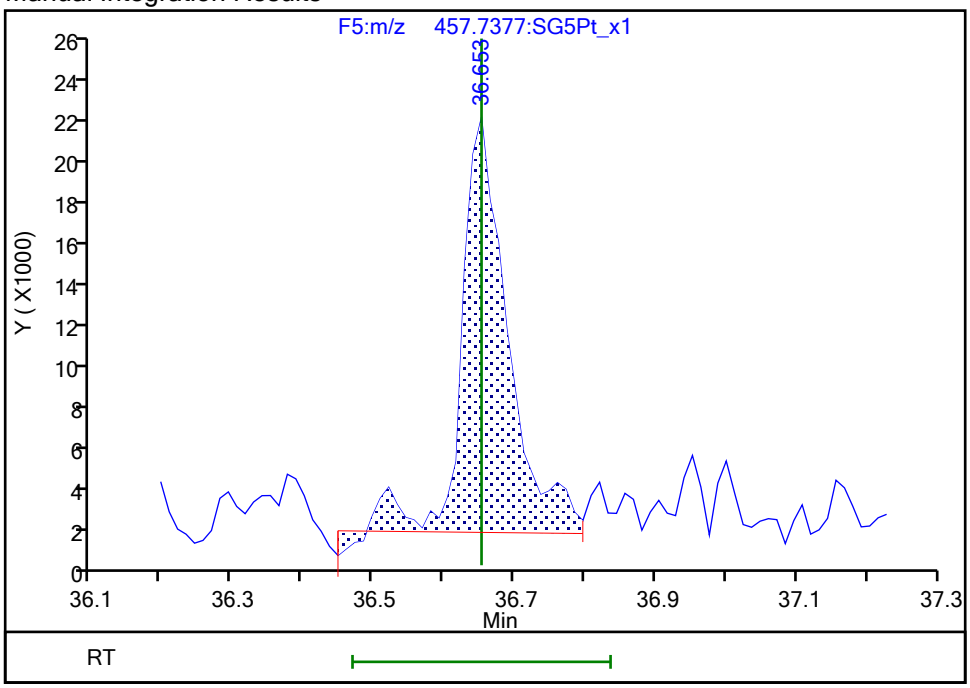

Reviewer: dadunj, 14-Nov-2019 09:47:02

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_38.d				
Injection Date:	13-Nov-2019 10:11:40	Instrument ID:	3D5		
Lims ID:	MB 320-337526/1-A				
Client ID:					
Operator ID:	ALM, AJS	ALS Bottle#:	32	Worklist Smp#:	38
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5:HRSIR		

OCDD, CAS: 3268-87-9

Signal: 2

Processing Integration Results

RT: 36.65
Area: 119473
Amount: 0.359315
Amount Units: pg/ul

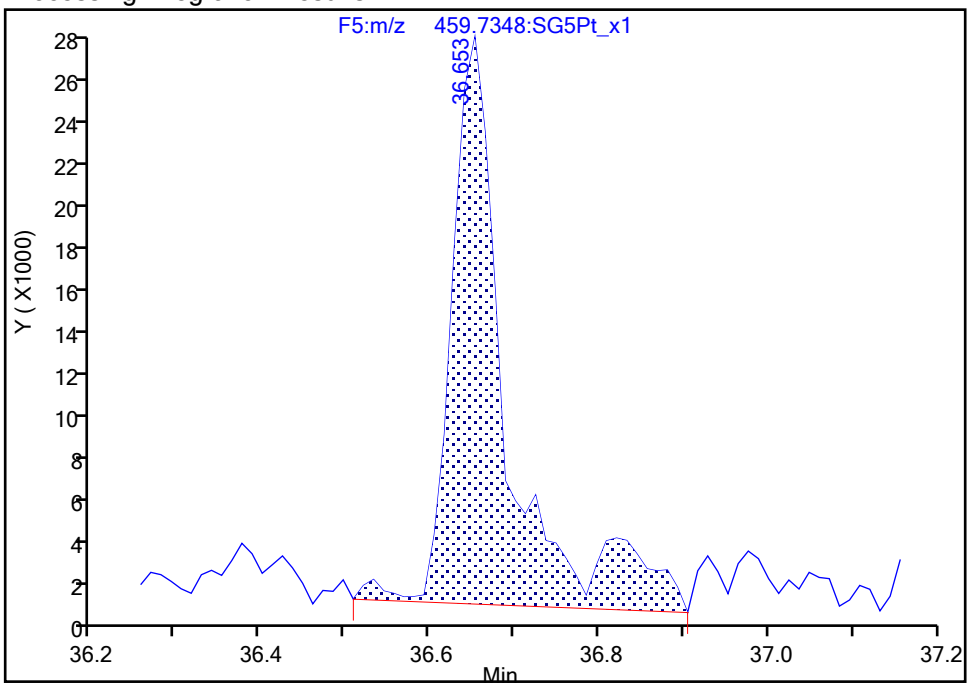

Manual Integration Results

RT: 36.65
Area: 103686
Amount: 0.307038
Amount Units: pg/ul

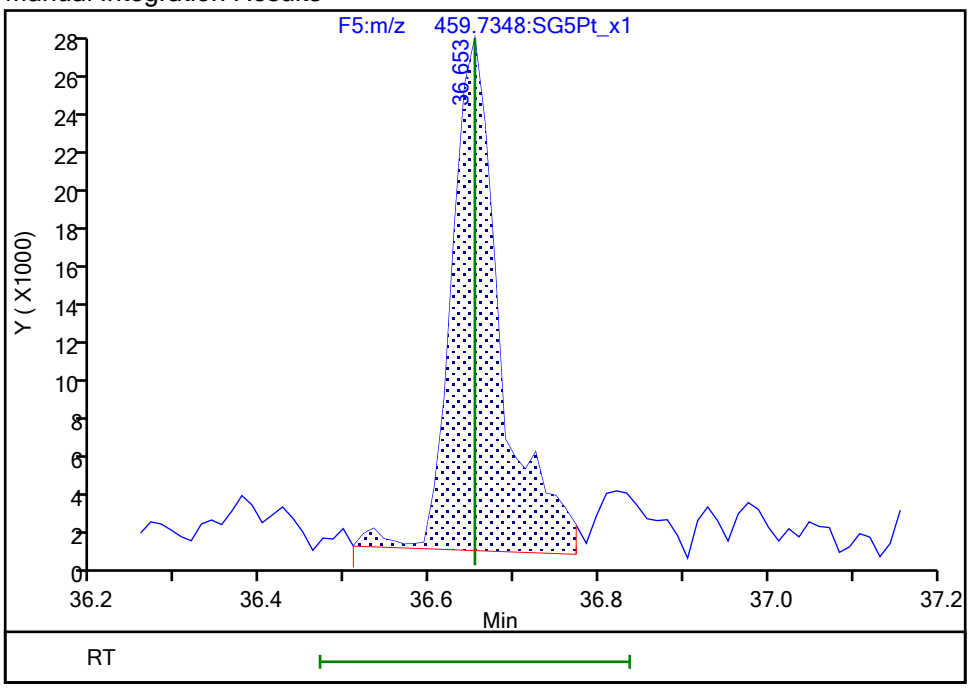

Reviewer: dadunj, 14-Nov-2019 09:47:04

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 14-Nov-2019 09:47:39 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_38.d		
Injection Date:	13-Nov-2019 10:11:40	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338227	Sample Line#:	38
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

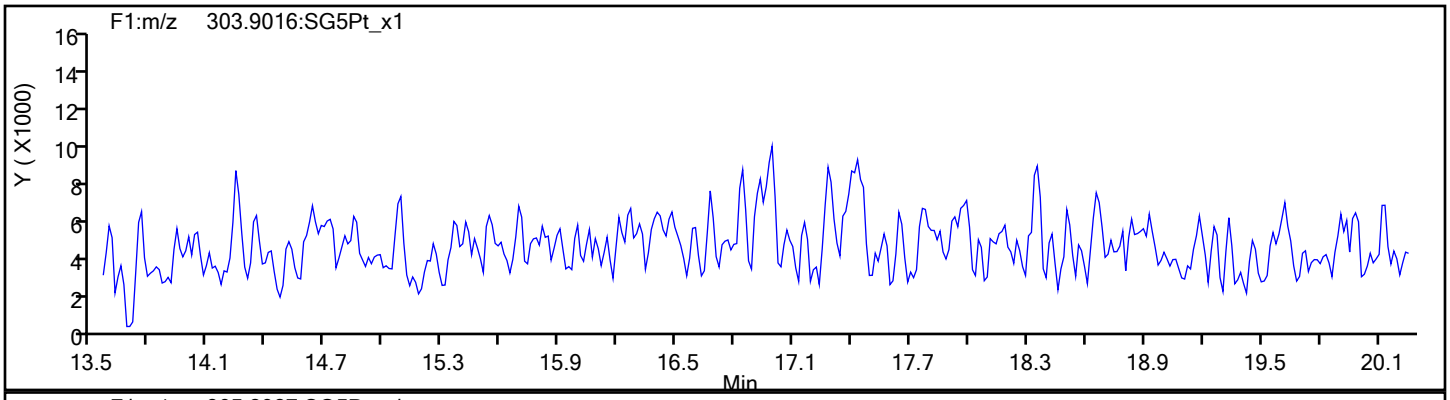

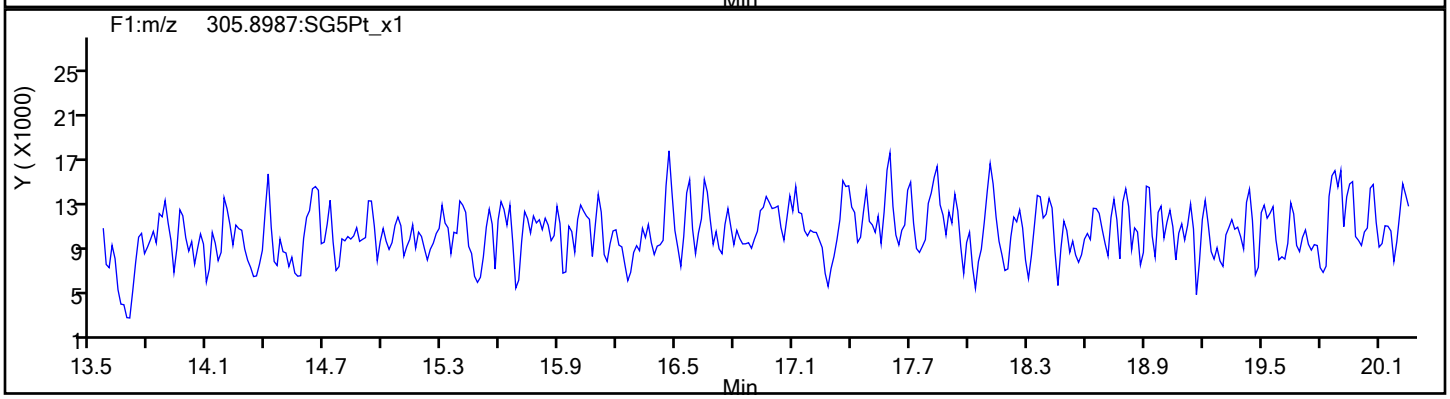

TCDF Standards

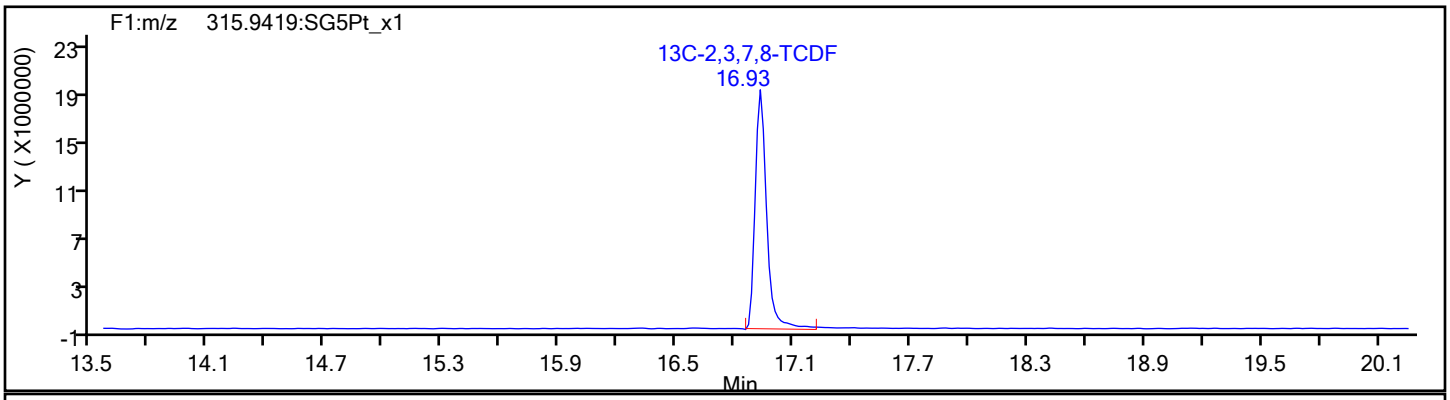

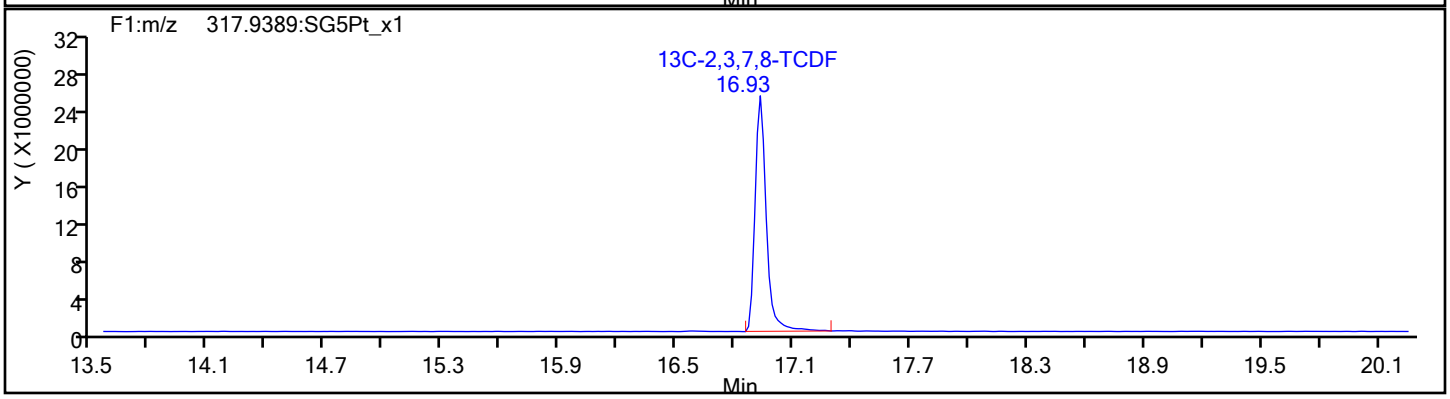

Report Date: 14-Nov-2019 09:47:39 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_38.d		
Injection Date:	13-Nov-2019 10:11:40	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338227	Sample Line#:	38
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

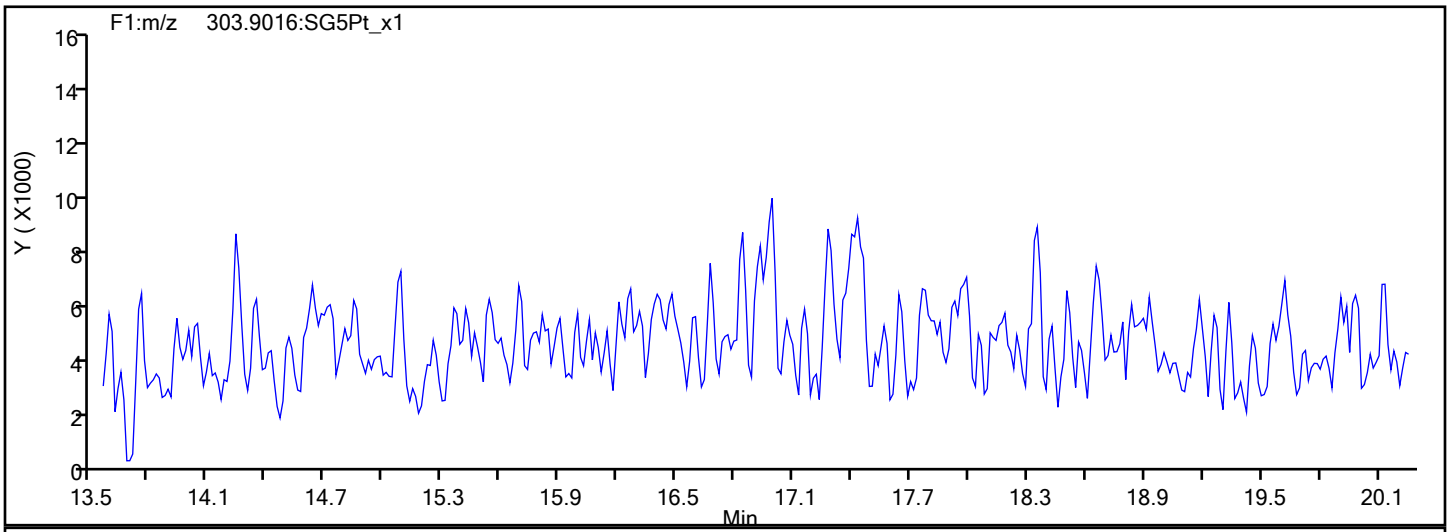

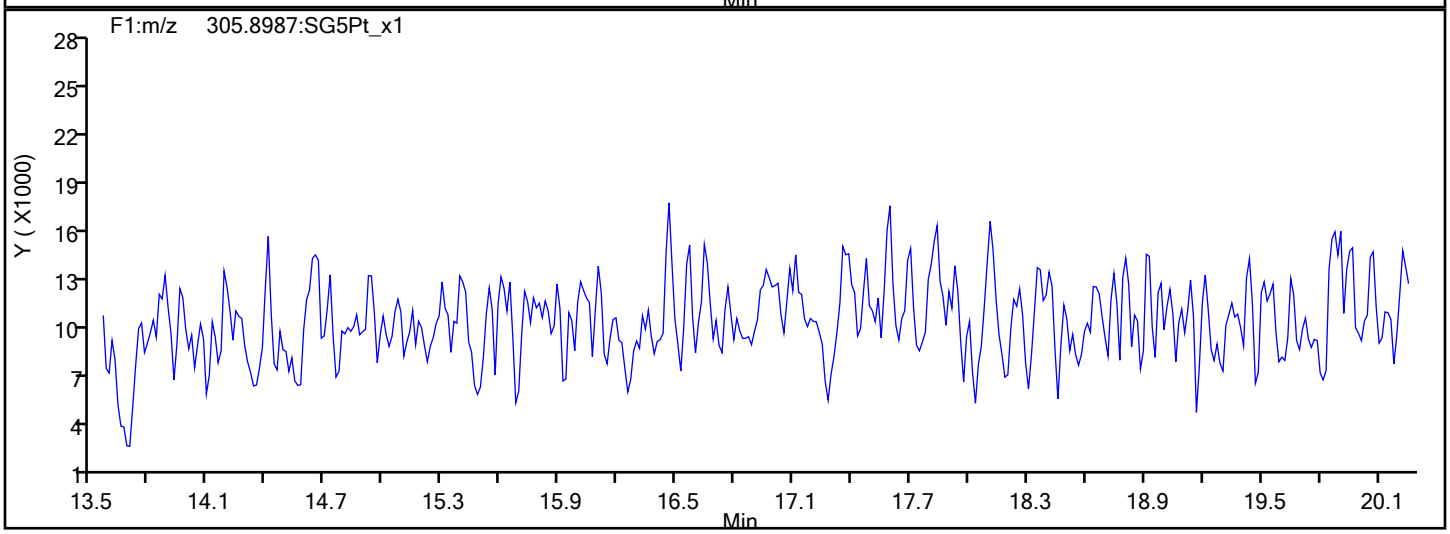

TCDF Interference Mass

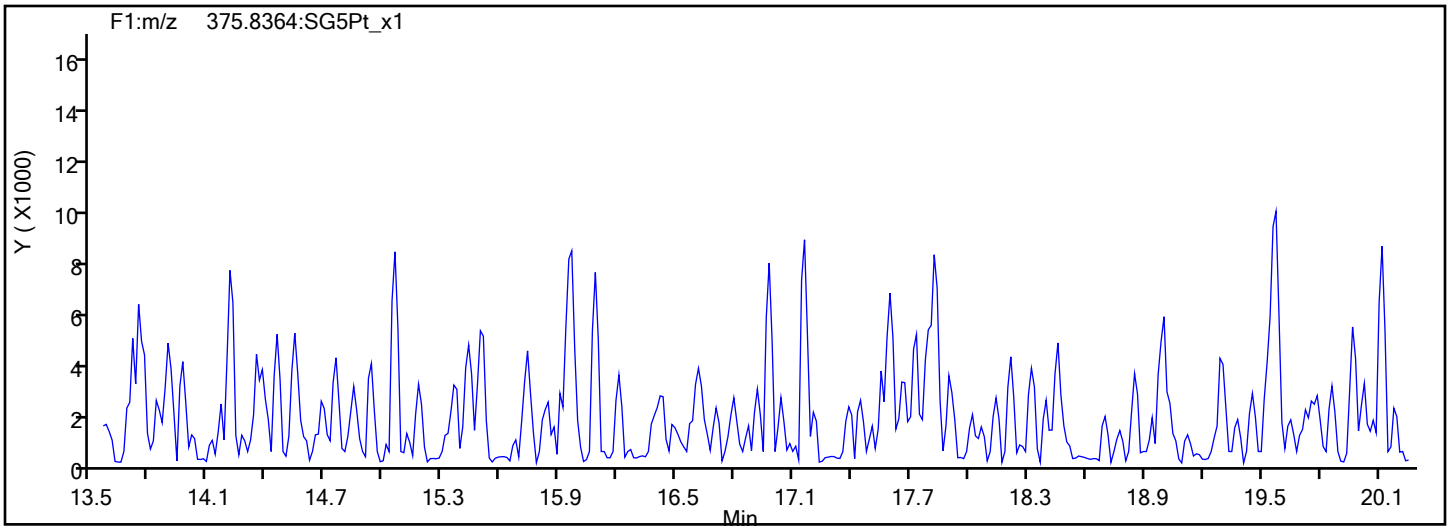

Report Date: 14-Nov-2019 09:47:39 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_38.d		
Injection Date:	13-Nov-2019 10:11:40	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338227	Sample Line#:	38
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

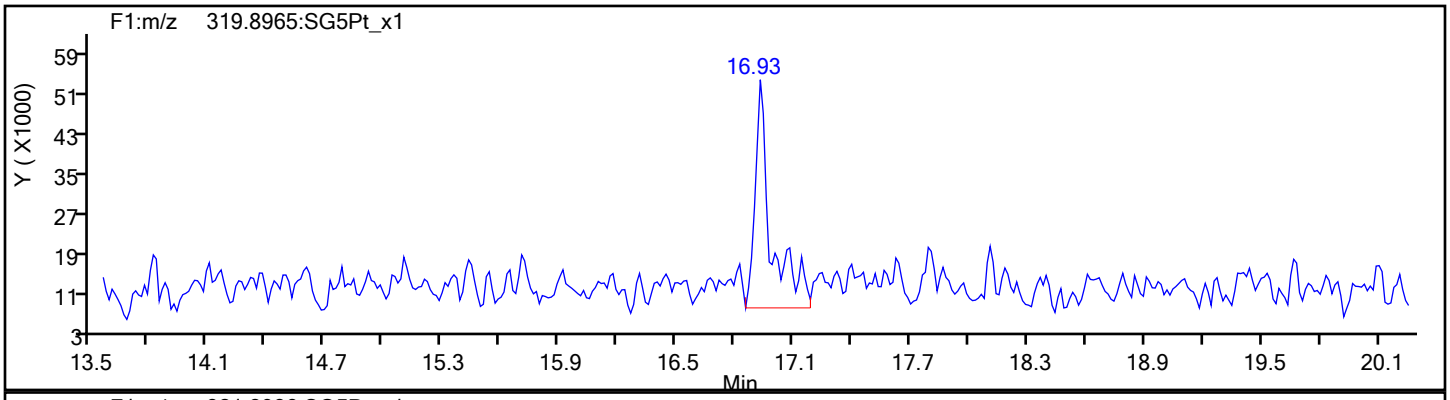

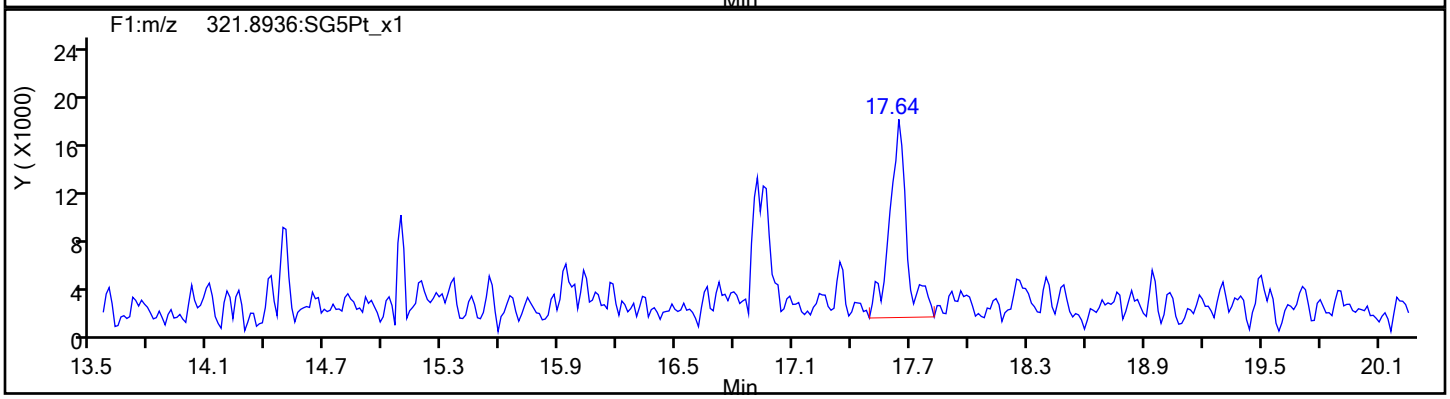

TCDD Standards

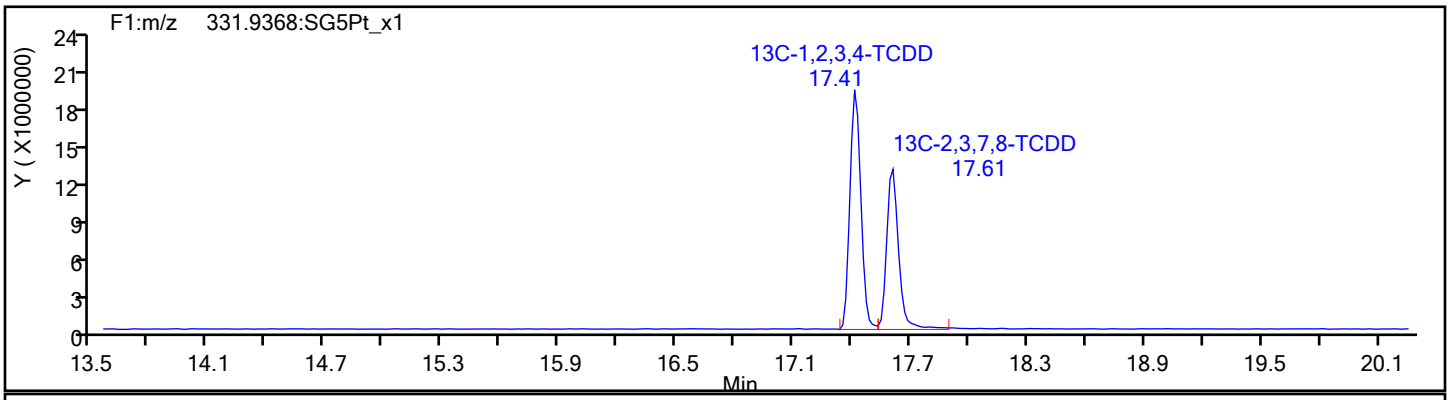

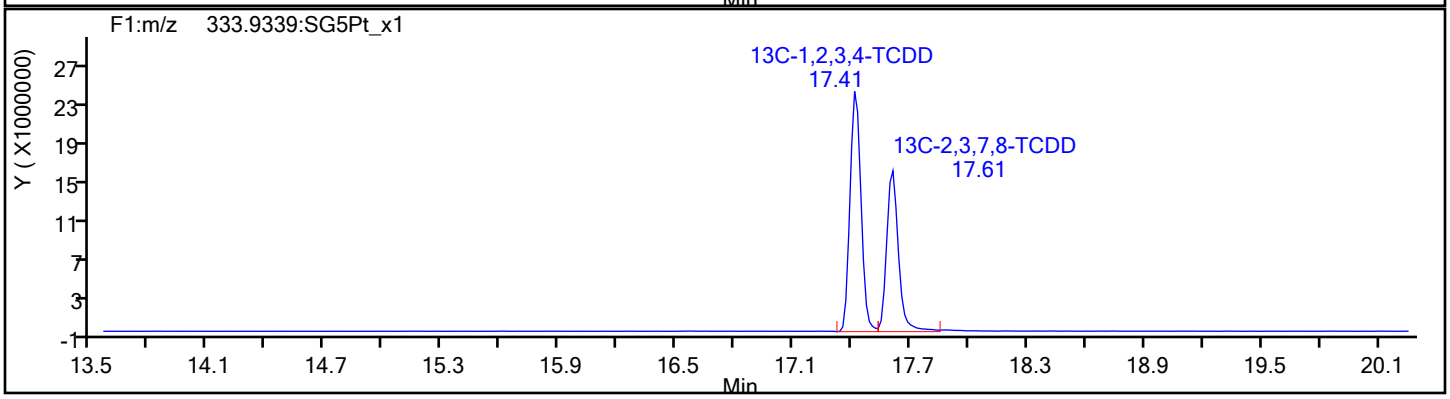

Report Date: 14-Nov-2019 09:47:39 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_38.d		
Injection Date:	13-Nov-2019 10:11:40	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338227	Sample Line#:	38
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

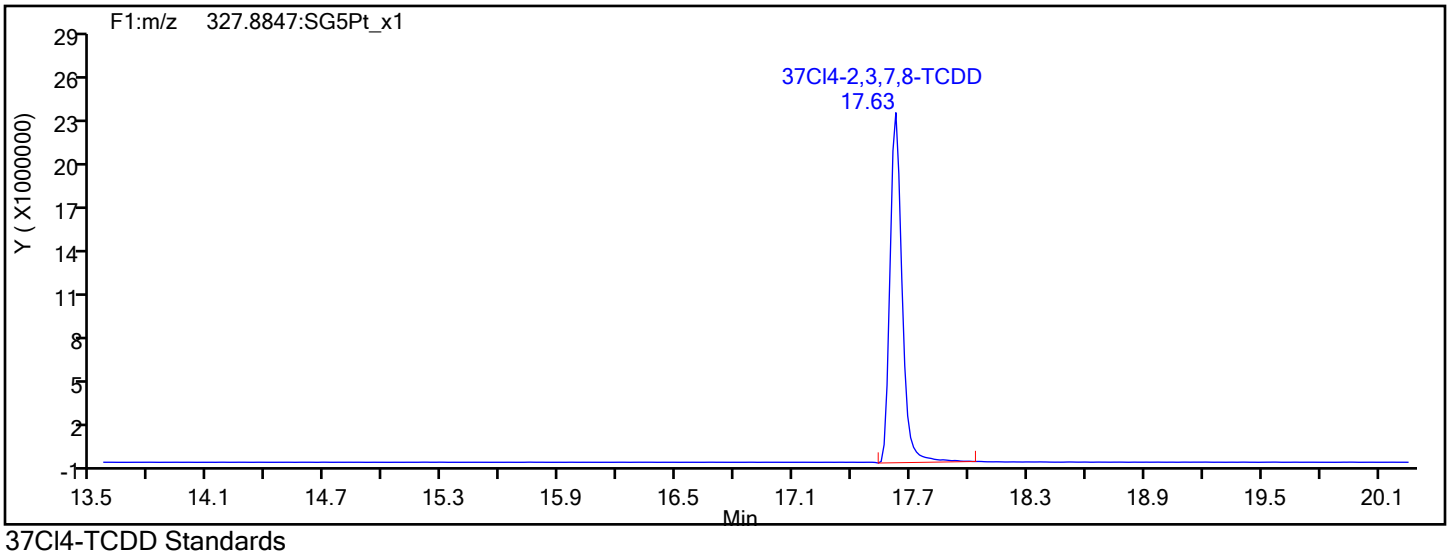

37Cl4-TCDD Standards

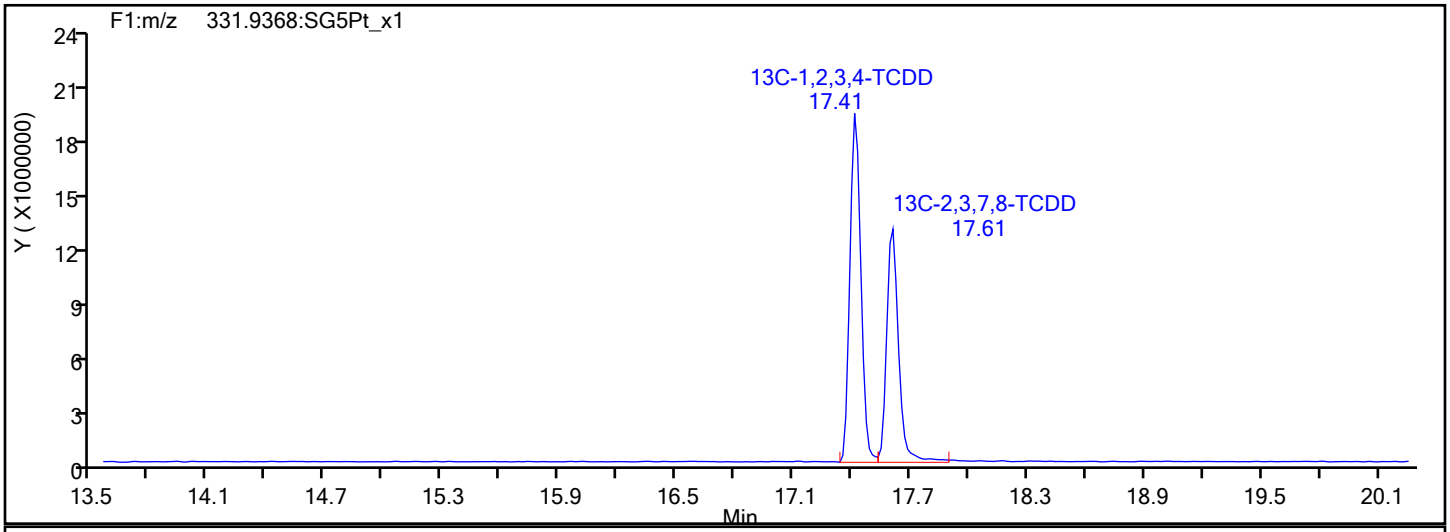

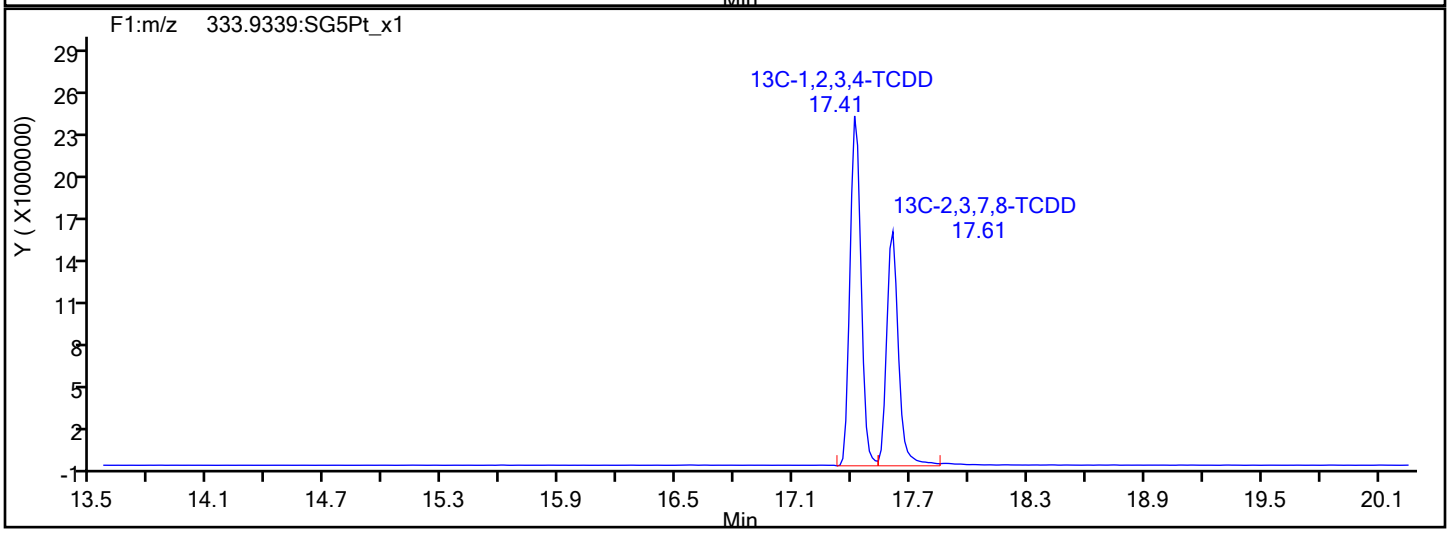

Report Date: 14-Nov-2019 09:47:39 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_38.d		
Injection Date:	13-Nov-2019 10:11:40	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338227	Sample Line#:	38
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

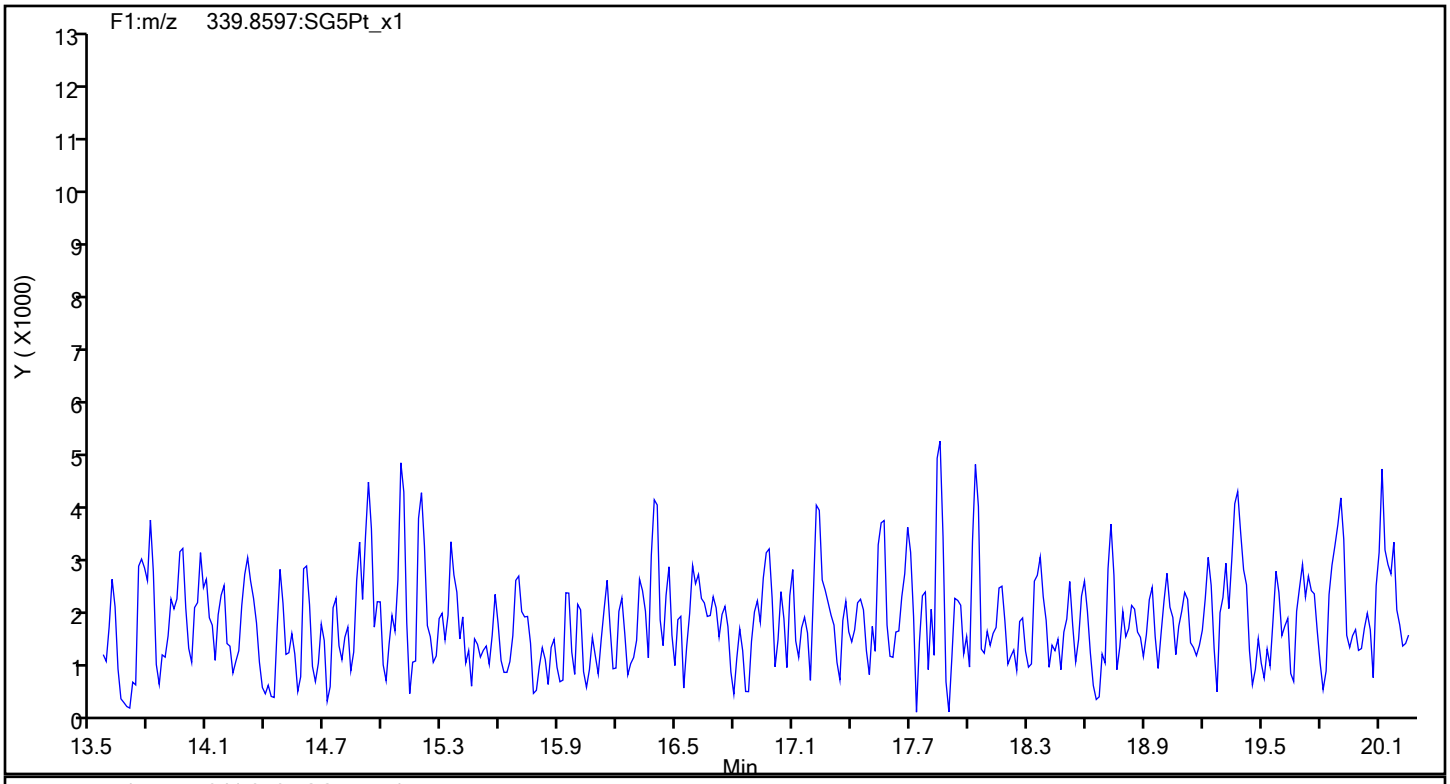

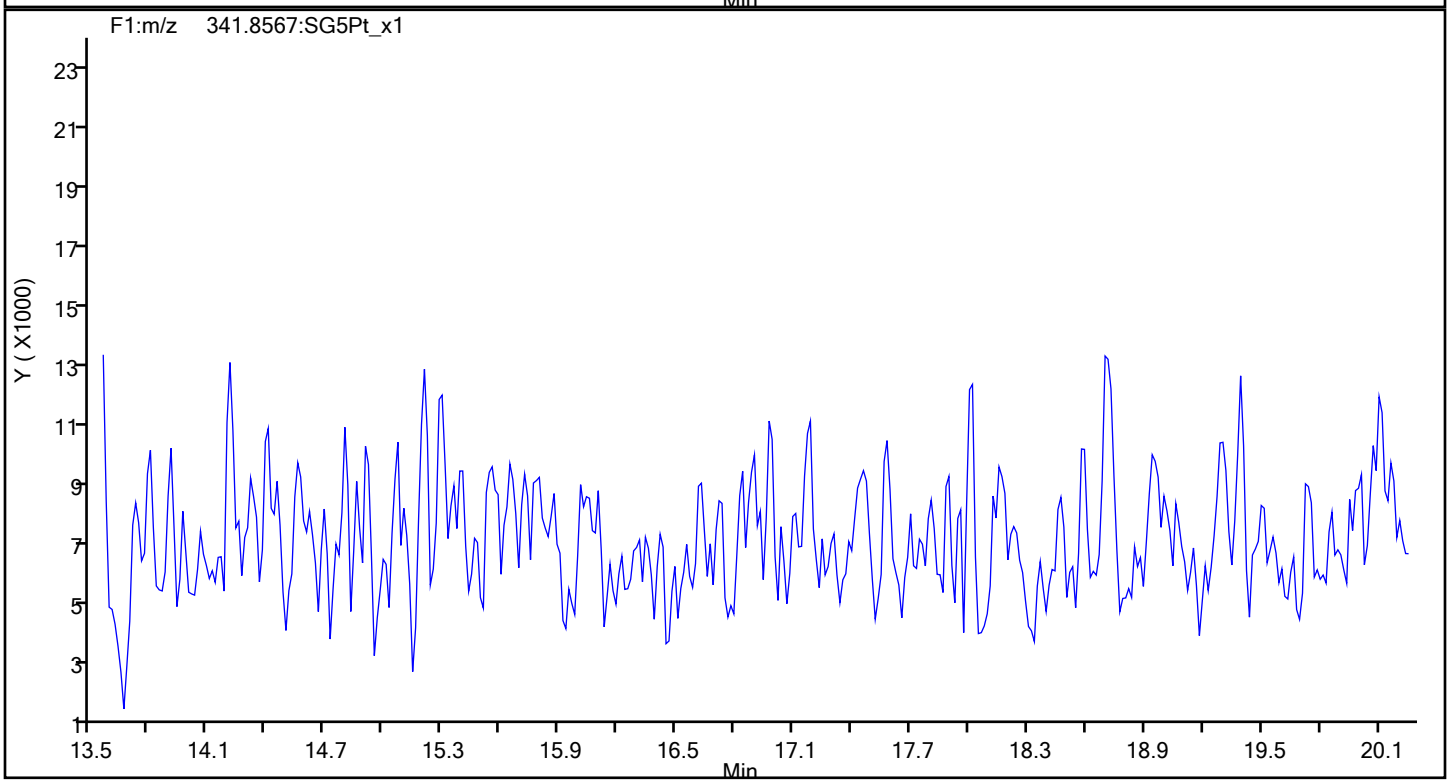

Report Date: 14-Nov-2019 09:47:39 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_38.d		
Injection Date:	13-Nov-2019 10:11:40	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338227	Sample Line#:	38
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

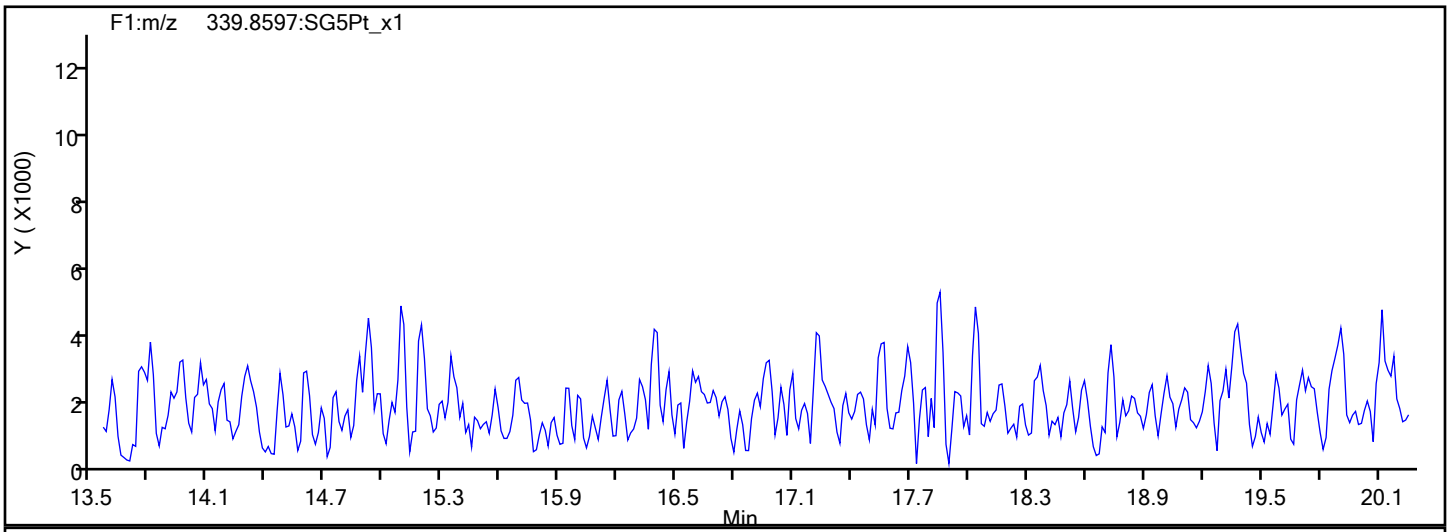

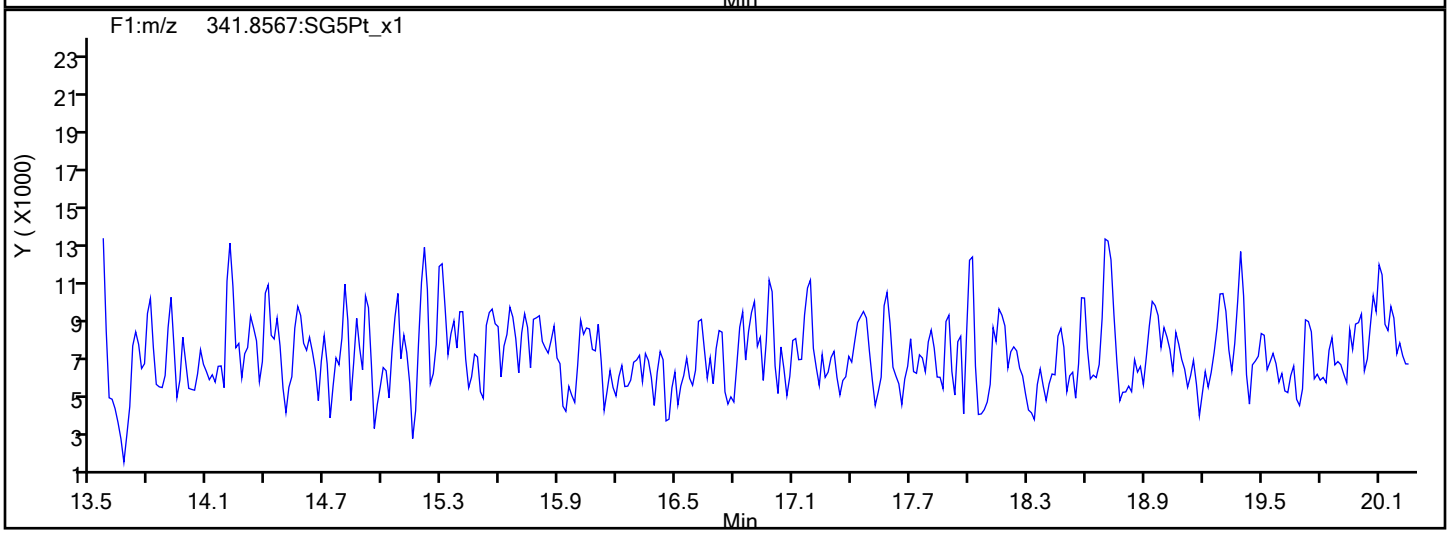

F1 PeCDFs Interference Mass

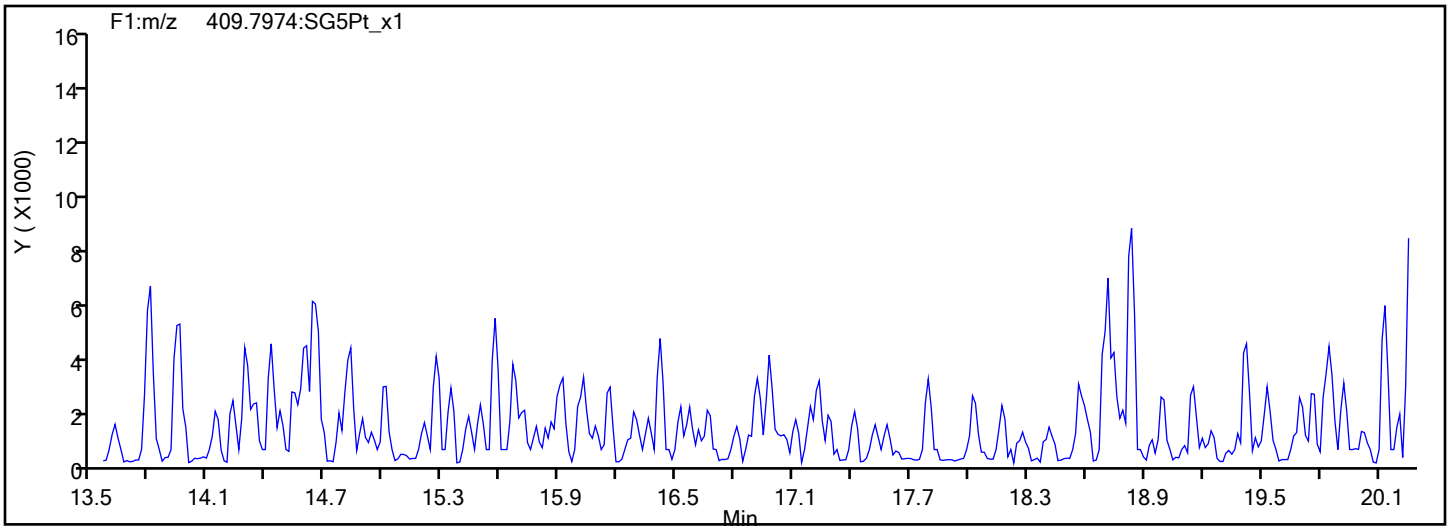

Report Date: 14-Nov-2019 09:47:39 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_38.d		
Injection Date:	13-Nov-2019 10:11:40	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338227	Sample Line#:	38
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

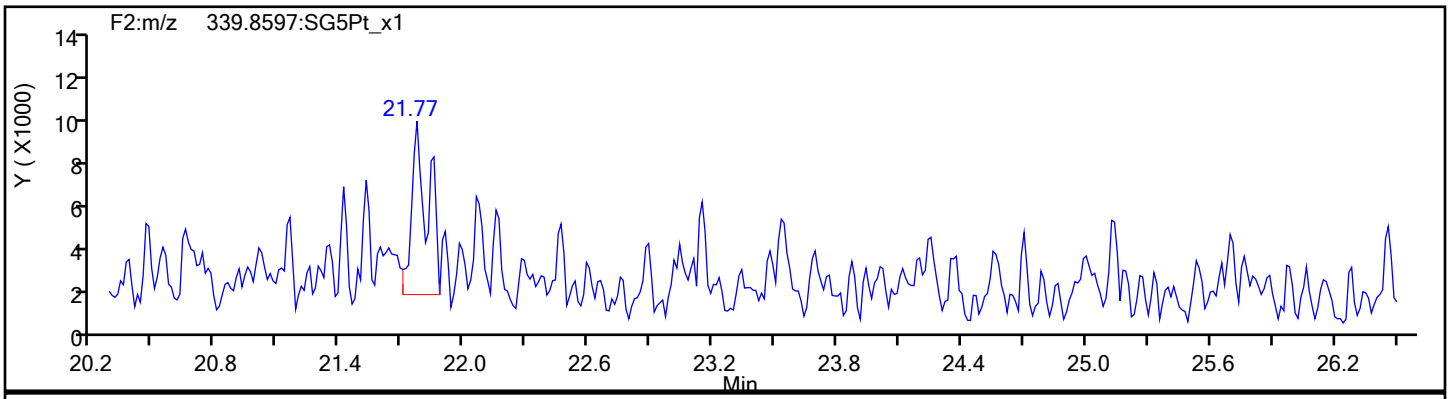

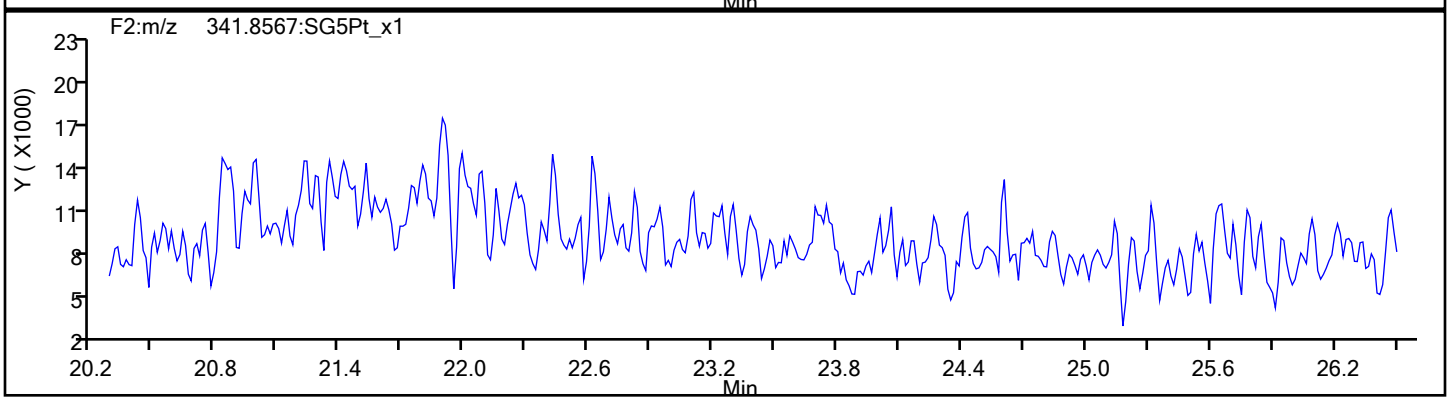

PeCDF Standards

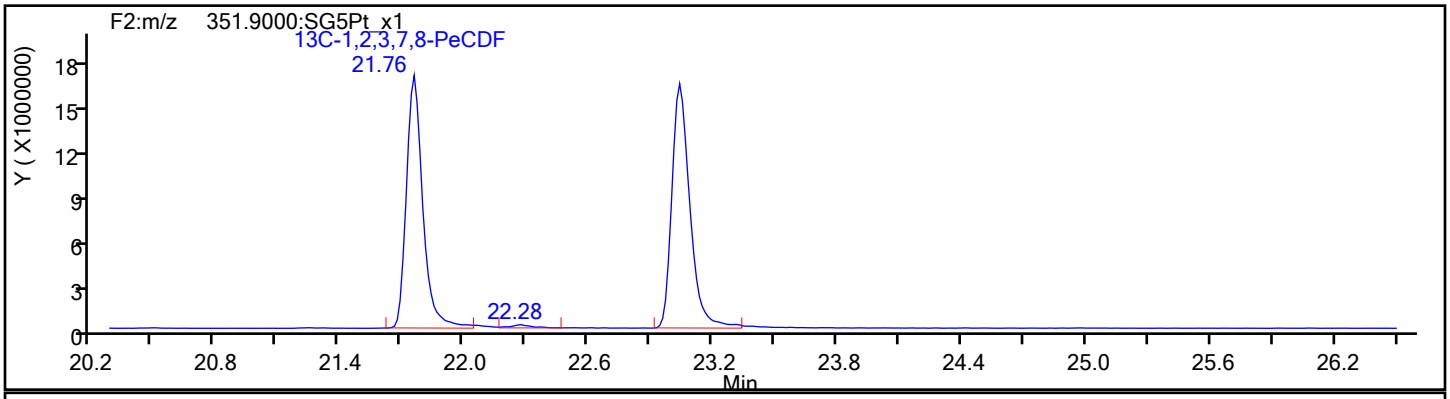

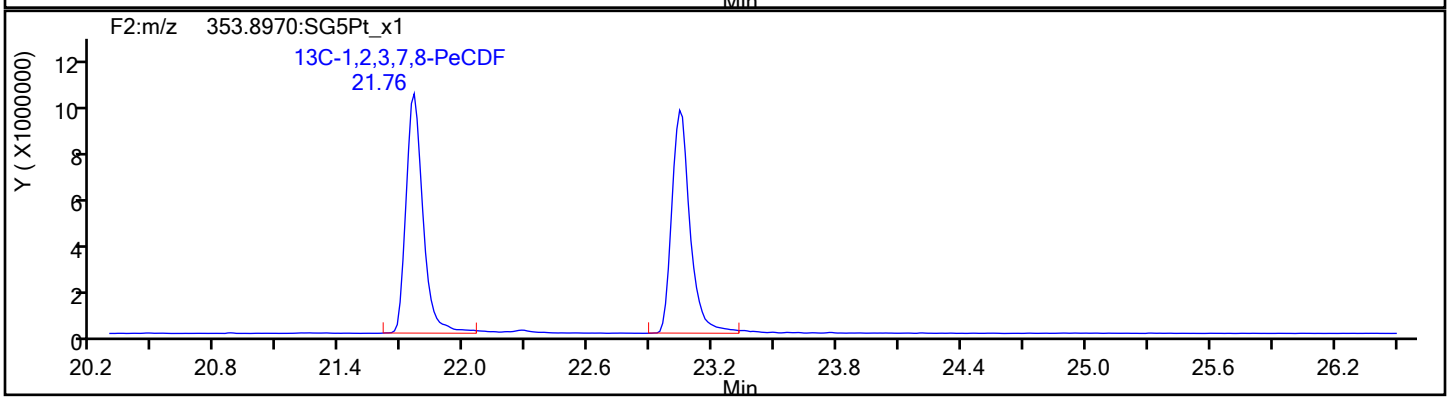

Report Date: 14-Nov-2019 09:47:39 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_38.d		
Injection Date:	13-Nov-2019 10:11:40	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

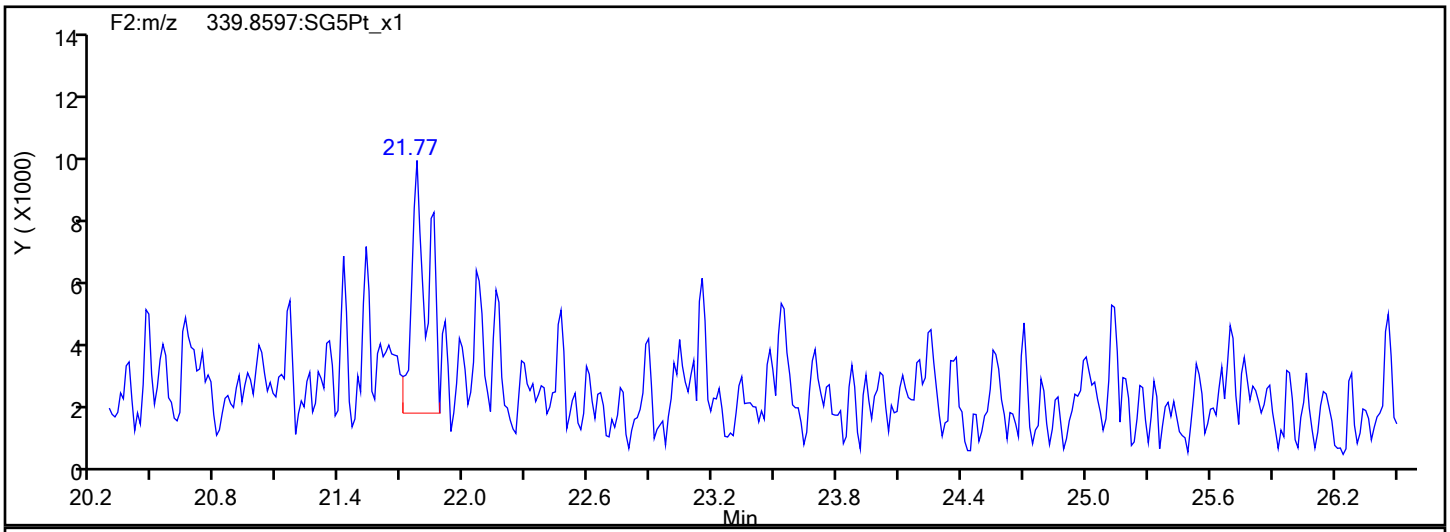

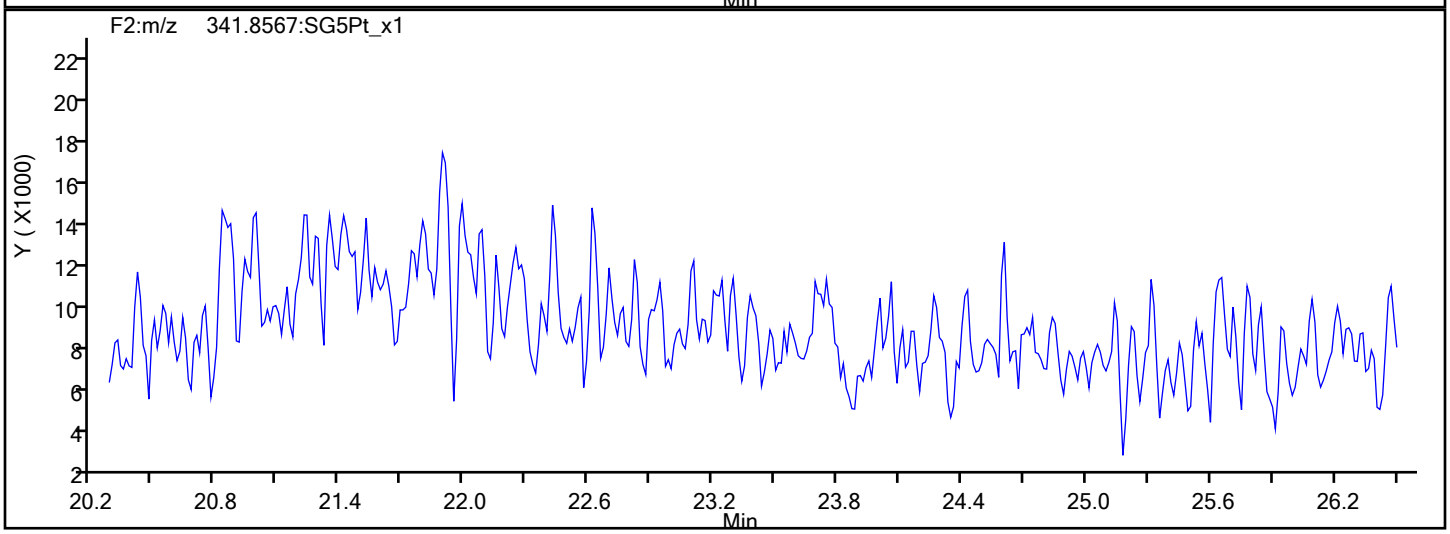

PeCDF Interference Mass

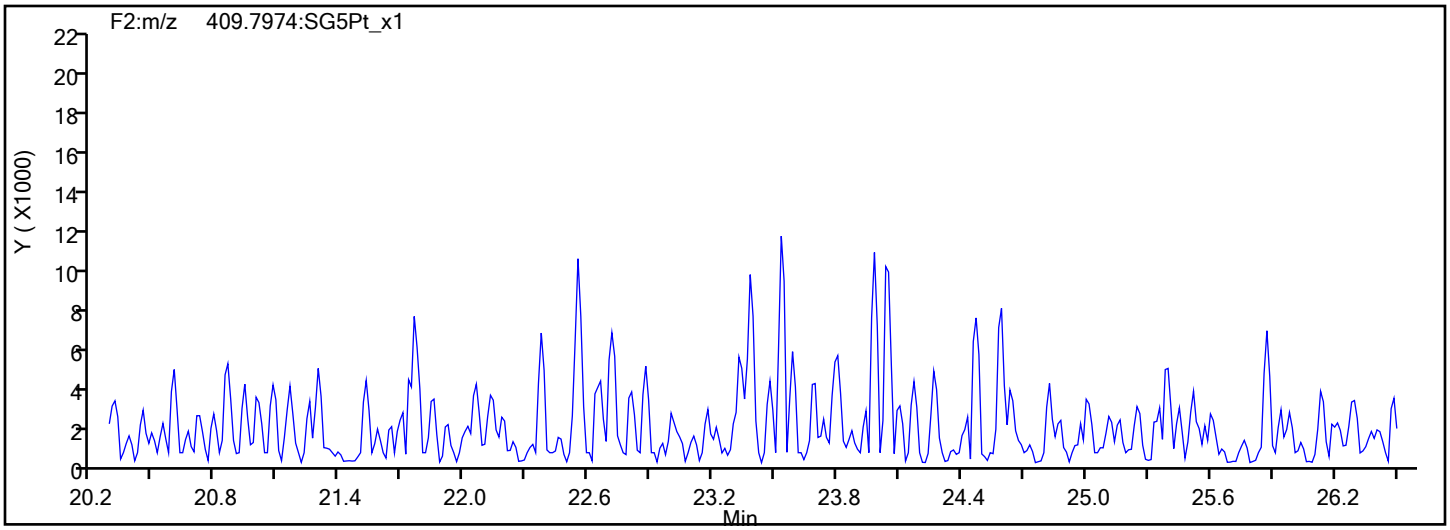

Report Date: 14-Nov-2019 09:47:39 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_38.d		
Injection Date:	13-Nov-2019 10:11:40	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338227	Sample Line#:	38
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

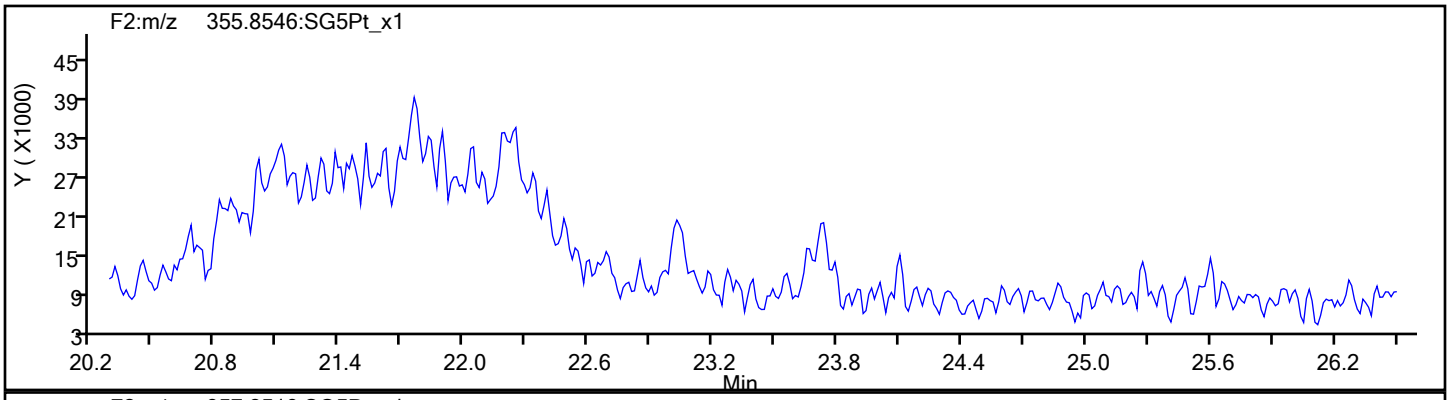

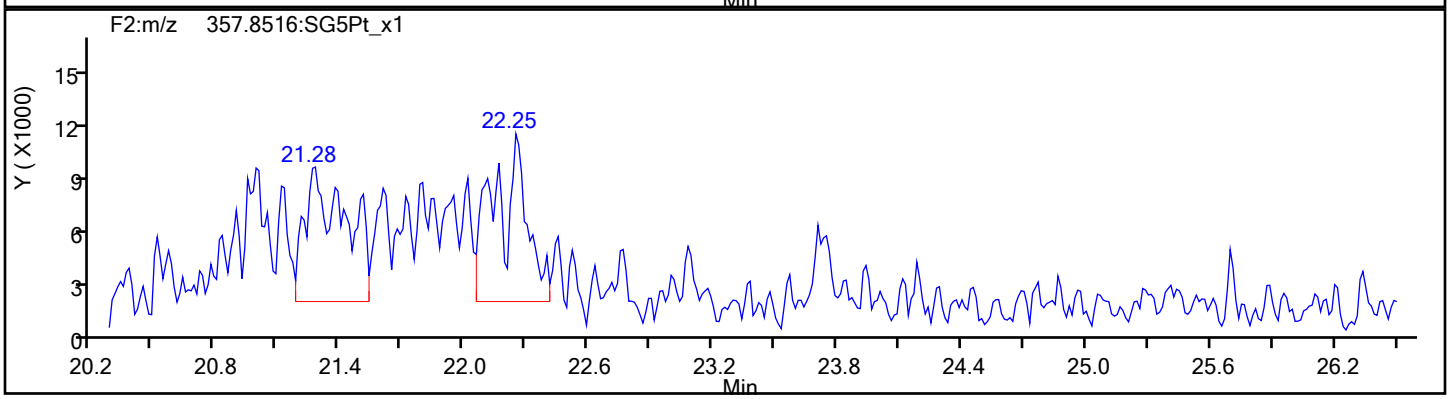

PeCDD Standards

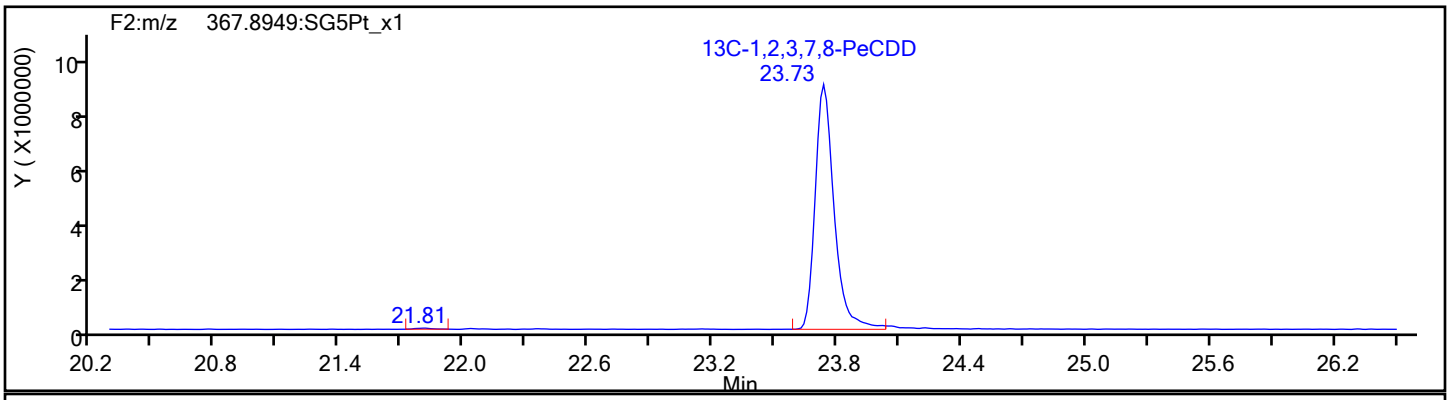

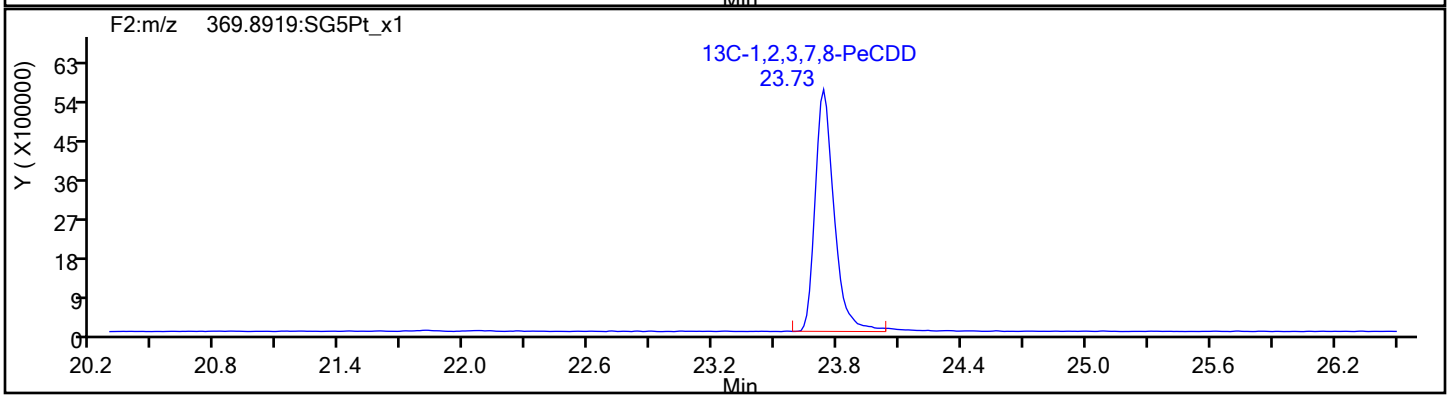

Report Date: 14-Nov-2019 09:47:39 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_38.d		
Injection Date:	13-Nov-2019 10:11:40	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338227	Sample Line#:	38
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

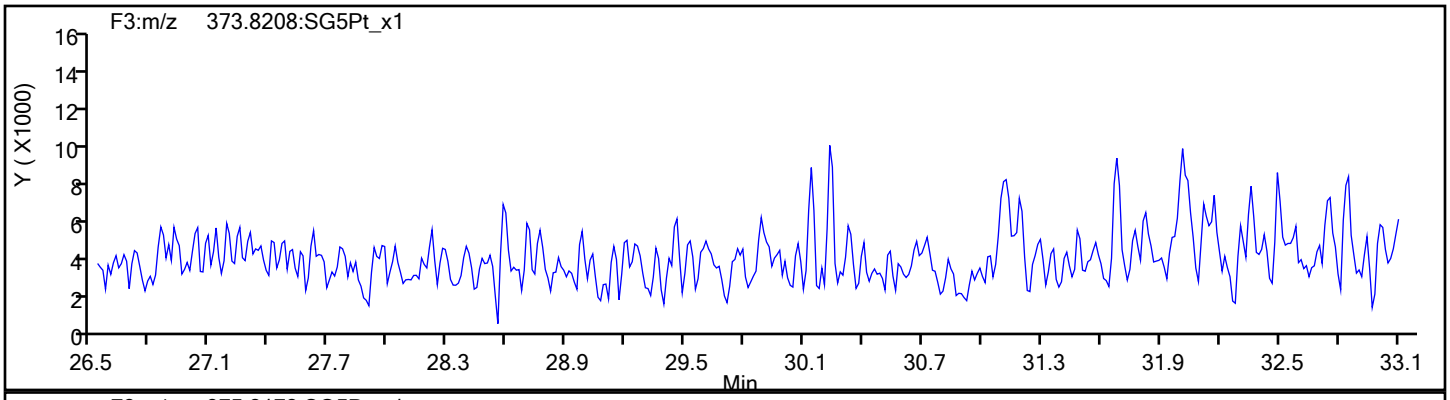

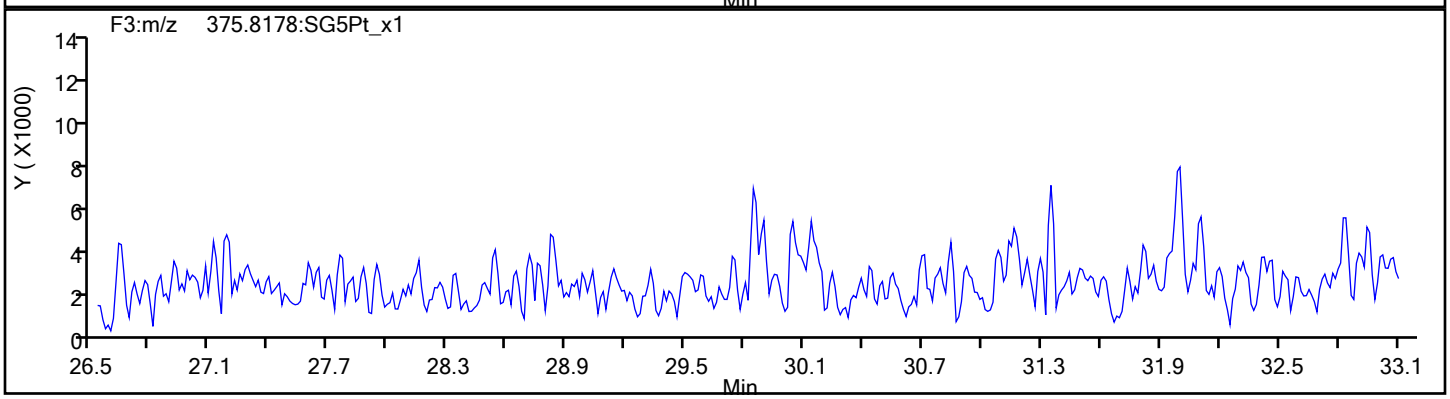

HxCDF Standards

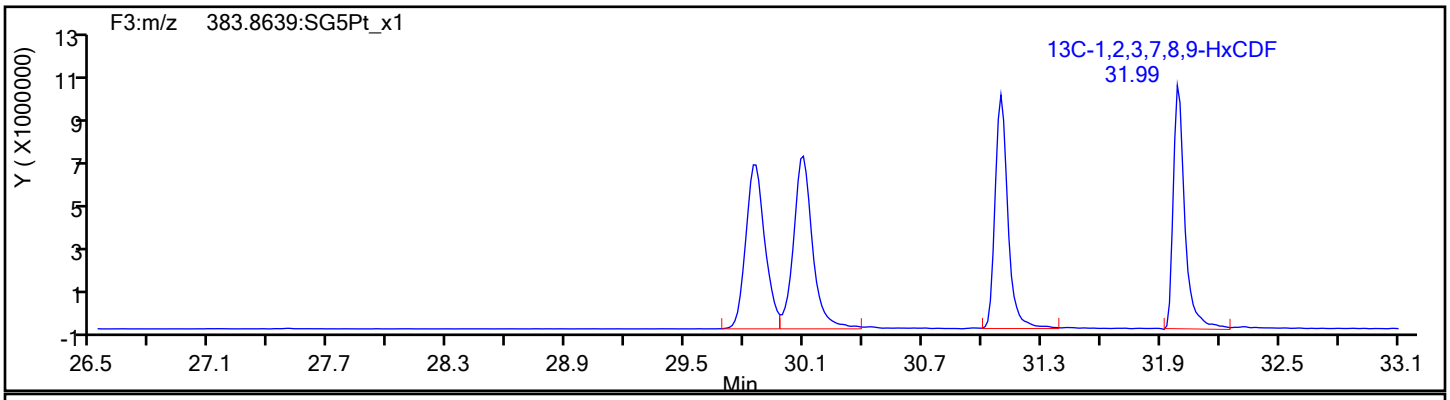

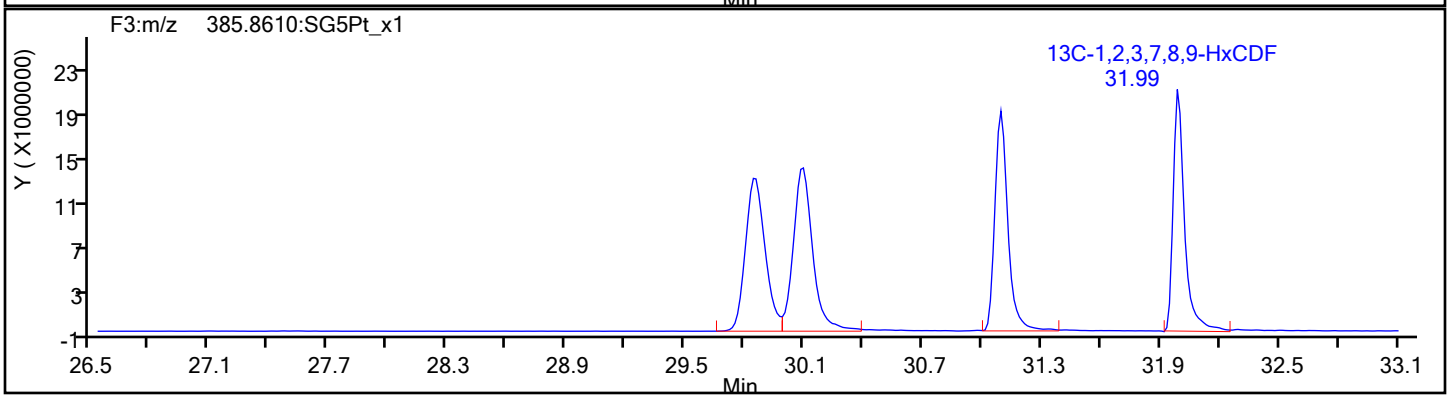

Report Date: 14-Nov-2019 09:47:39 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

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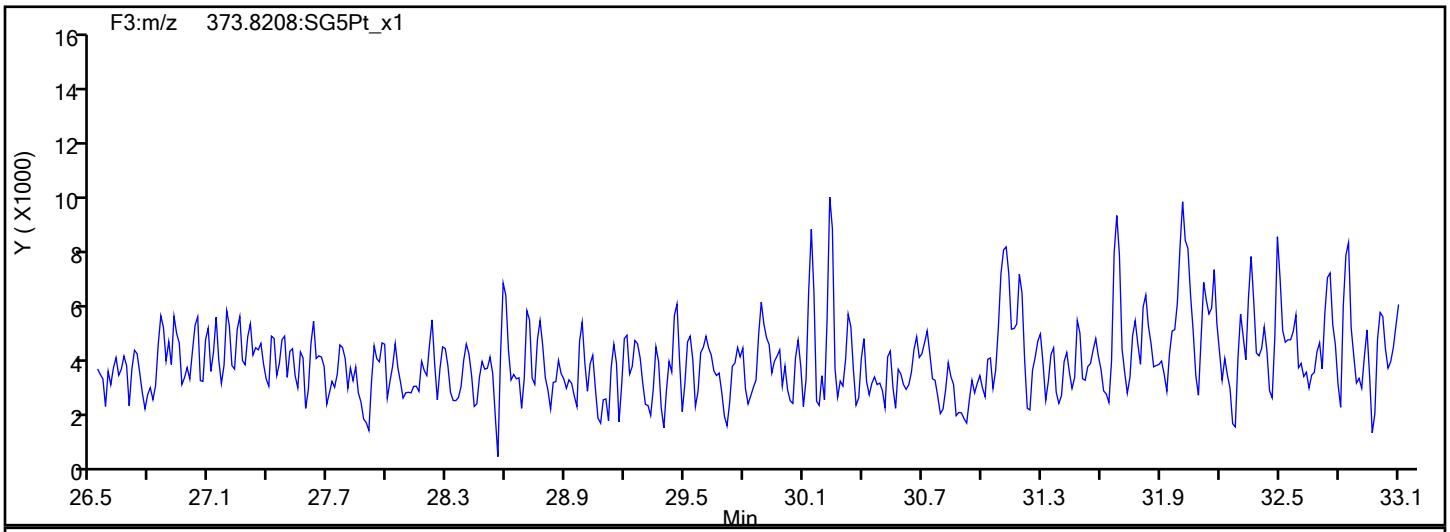

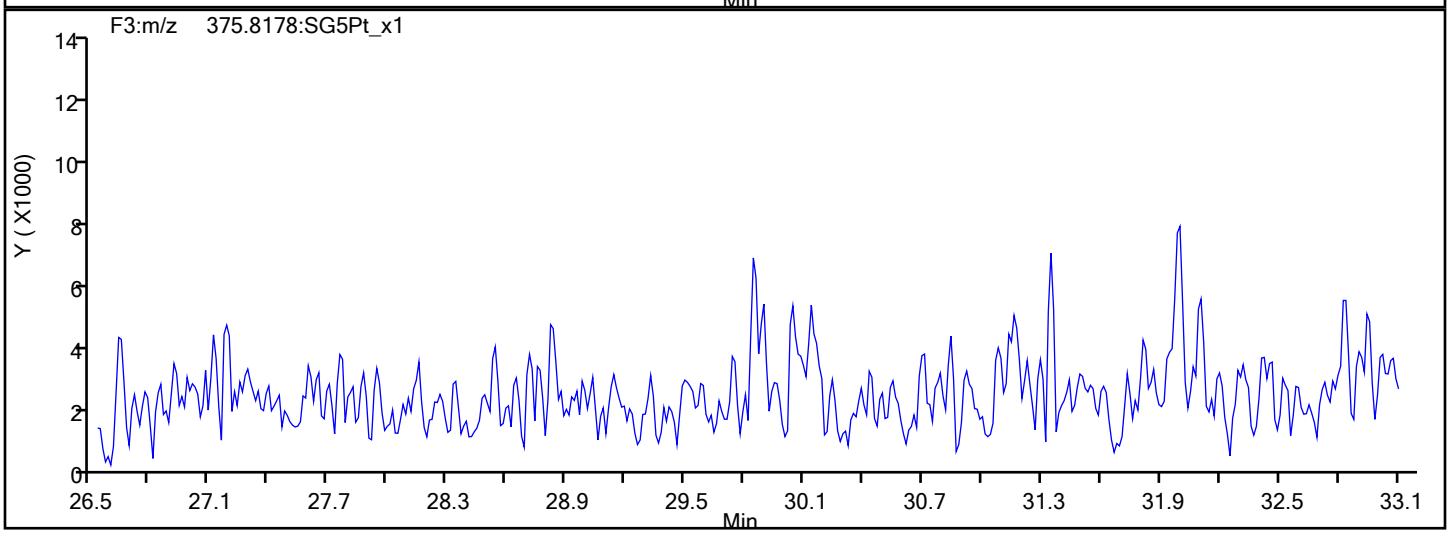

HxCDF Interference Mass

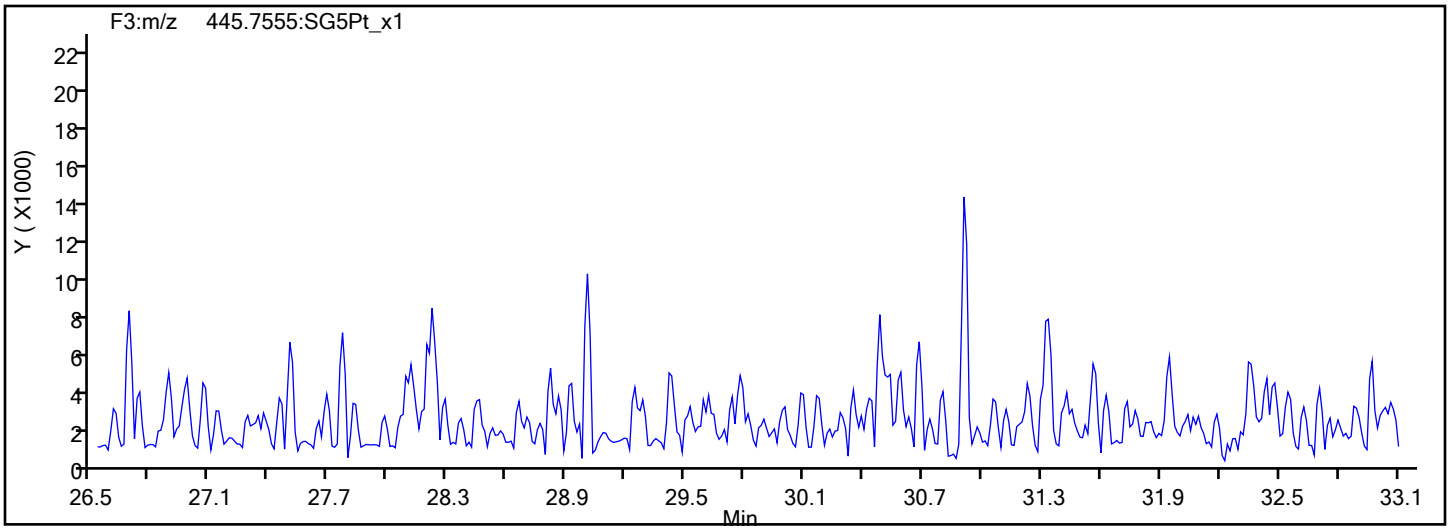

Report Date: 14-Nov-2019 09:47:39 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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HxCDD

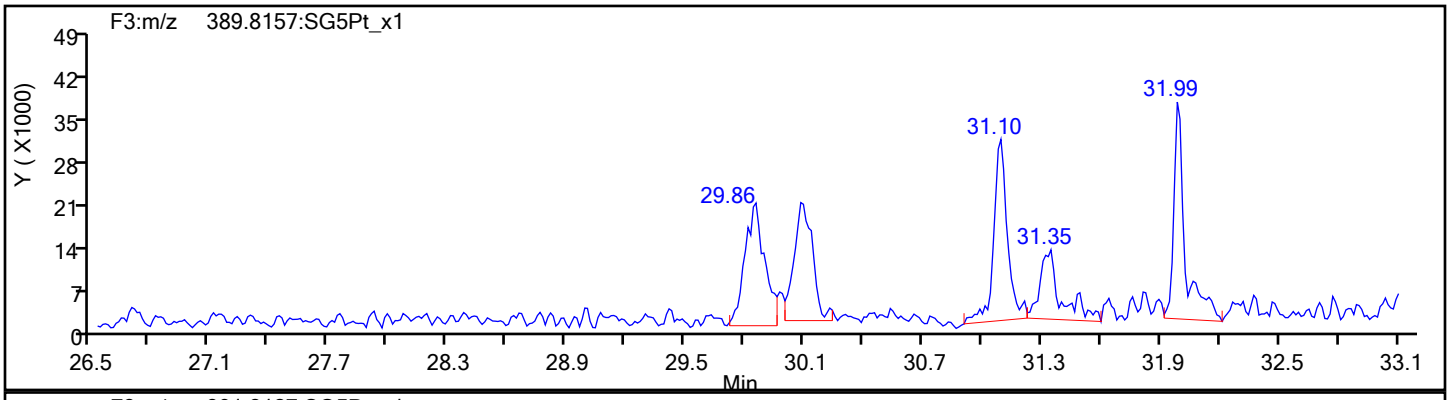

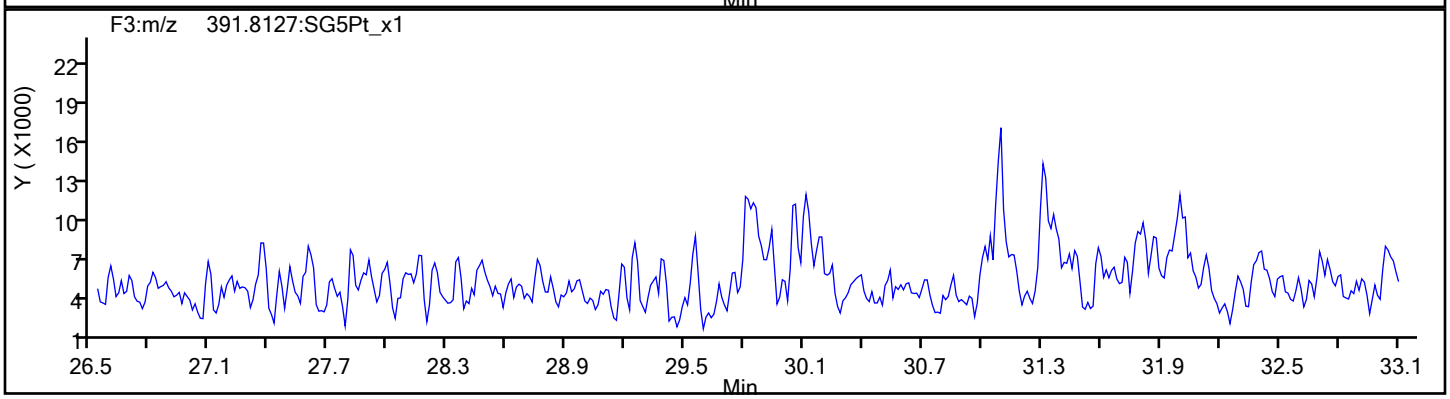

HxCDD Standards

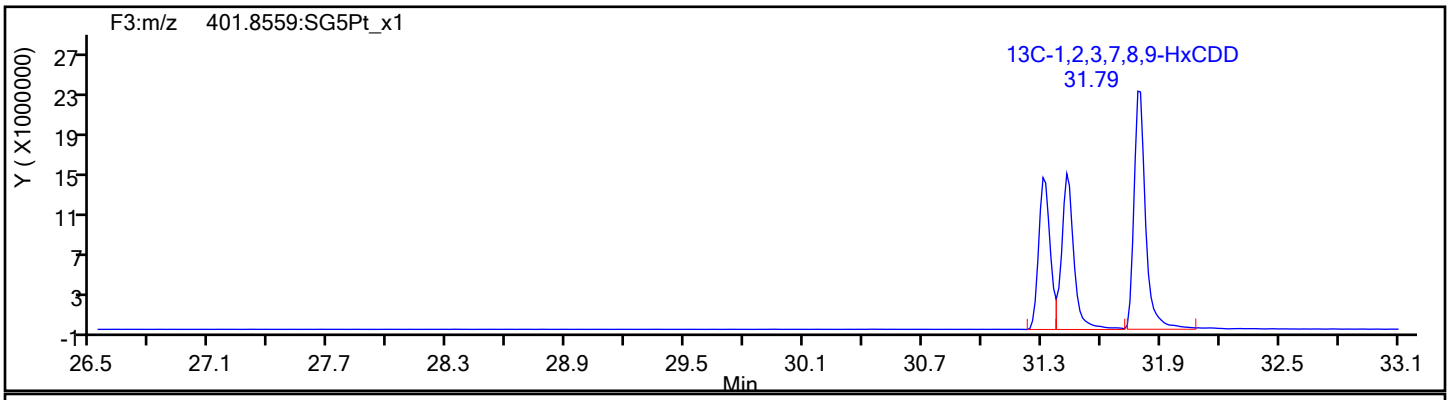

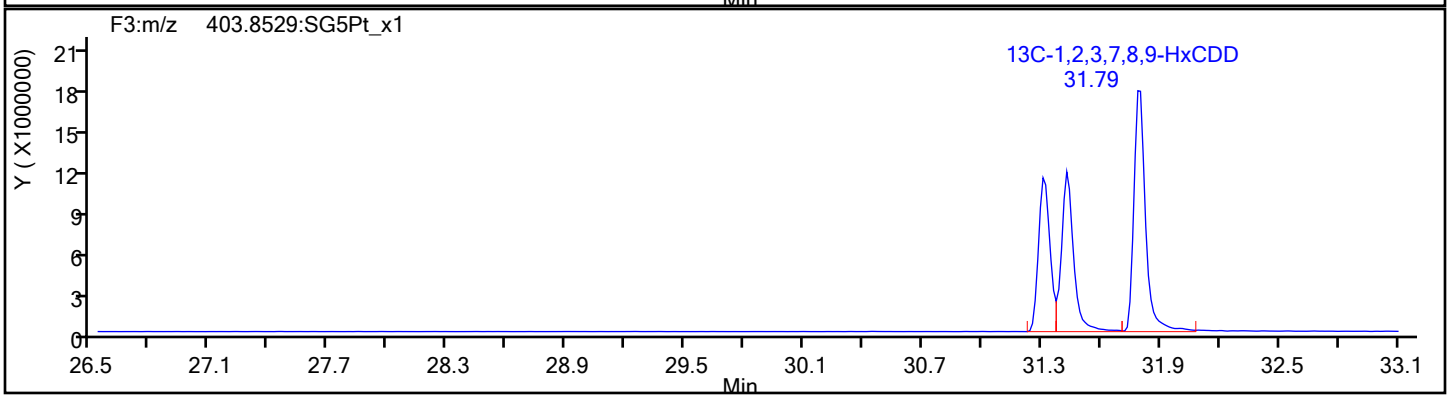

Report Date: 14-Nov-2019 09:47:40 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_38.d		
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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

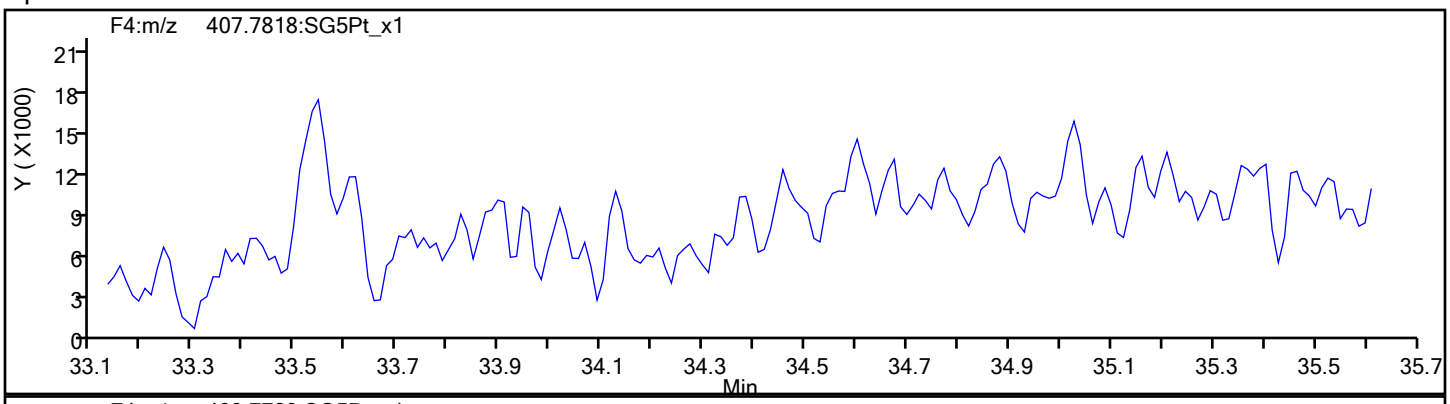

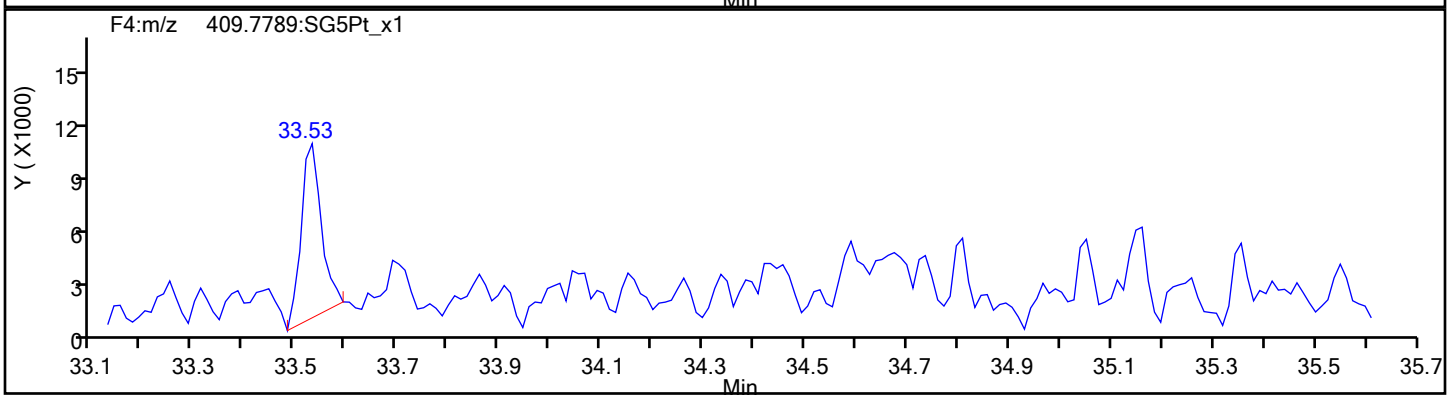

HpCDF Standards

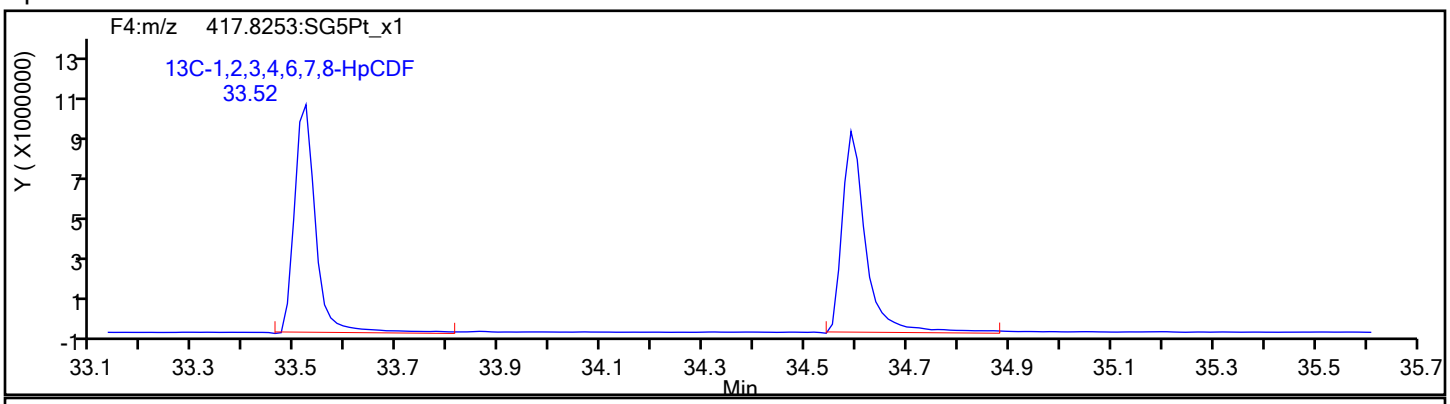

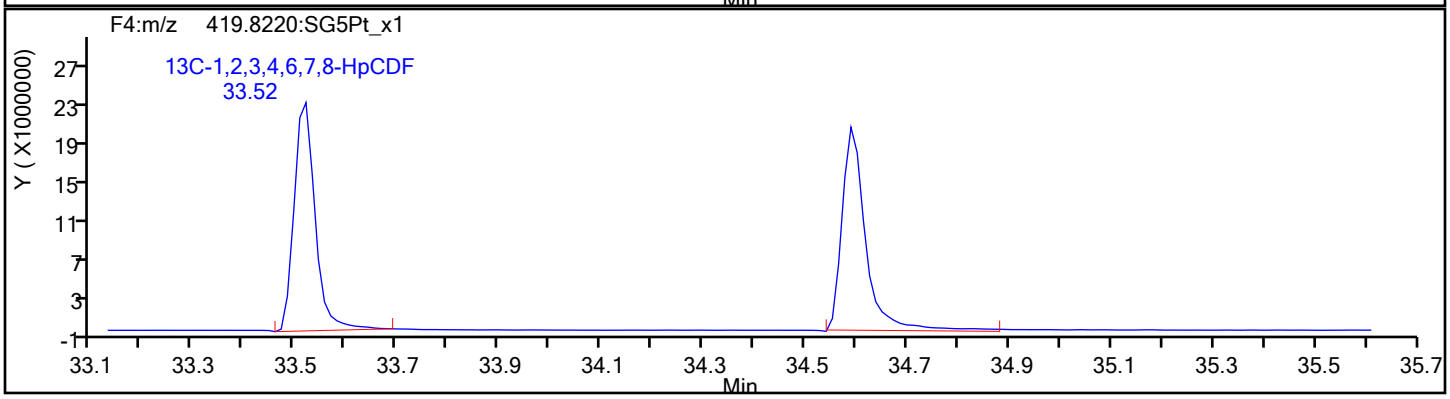

Report Date: 14-Nov-2019 09:47:40 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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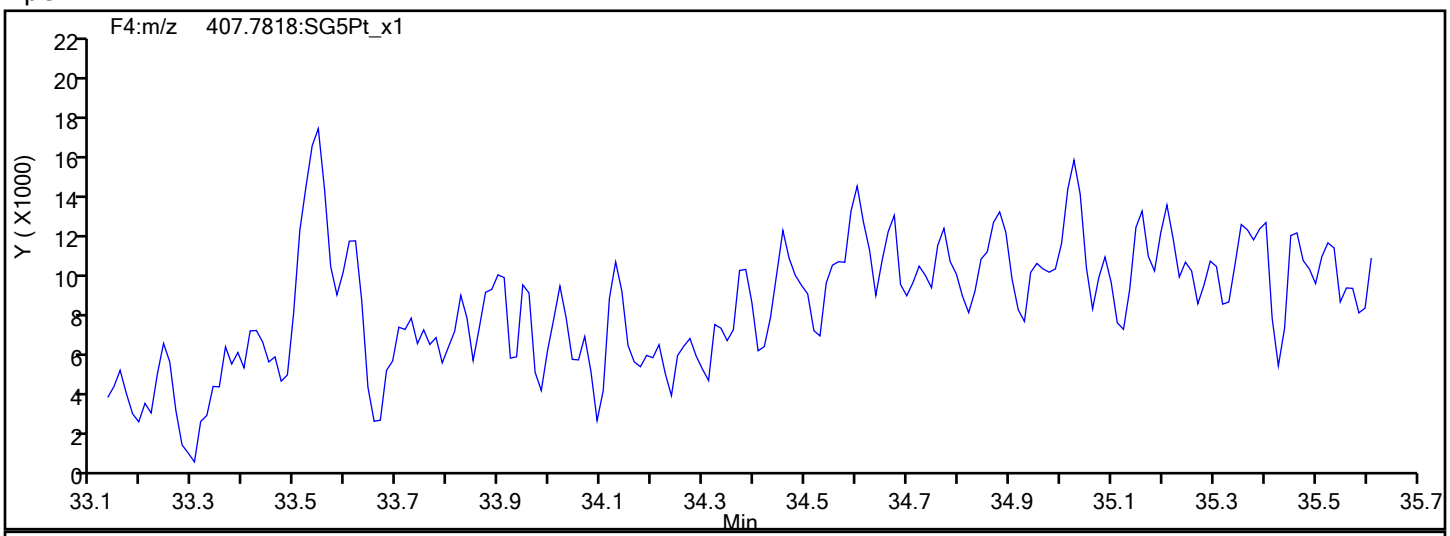

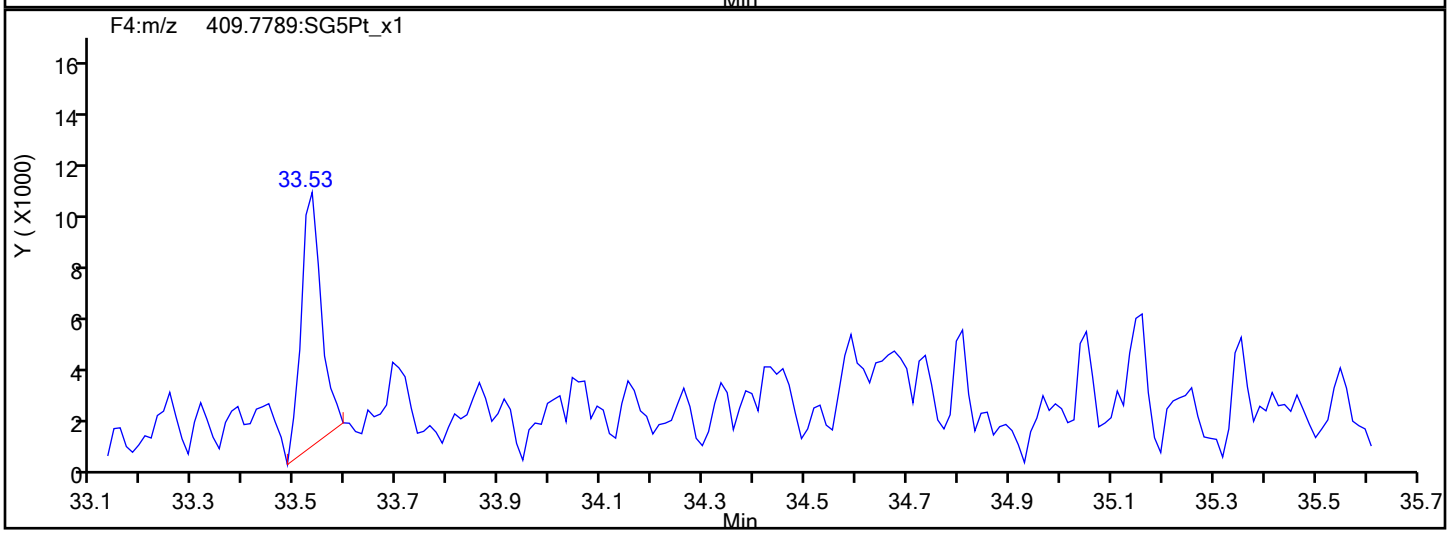

HpCDF Interference Mass

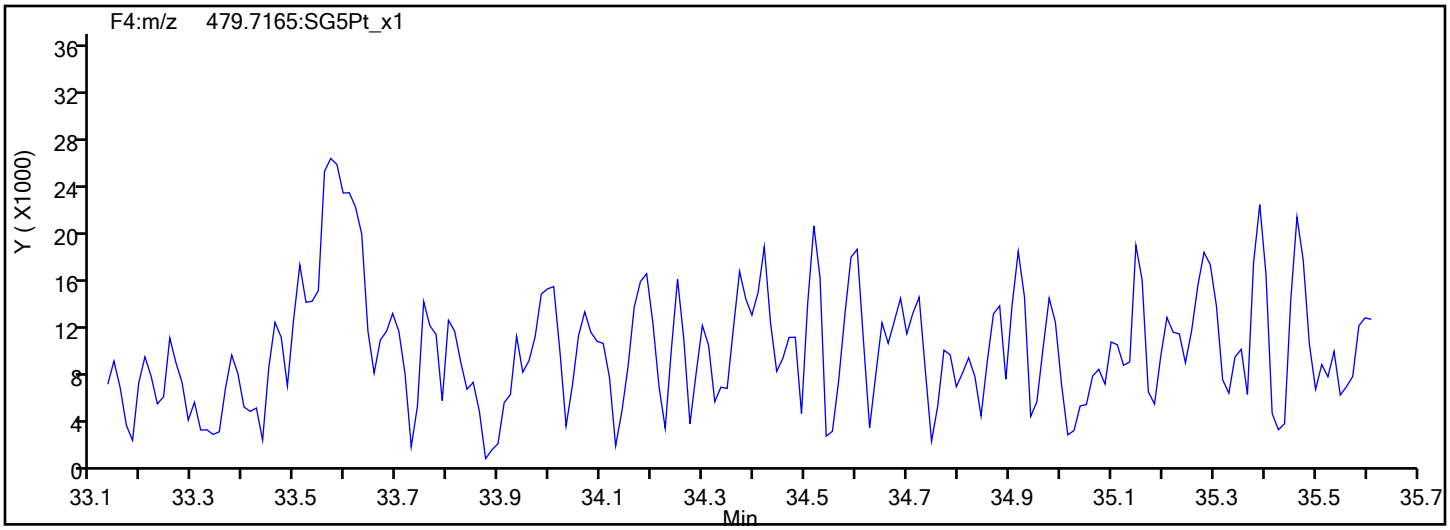

Report Date: 14-Nov-2019 09:47:40 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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HpCDD

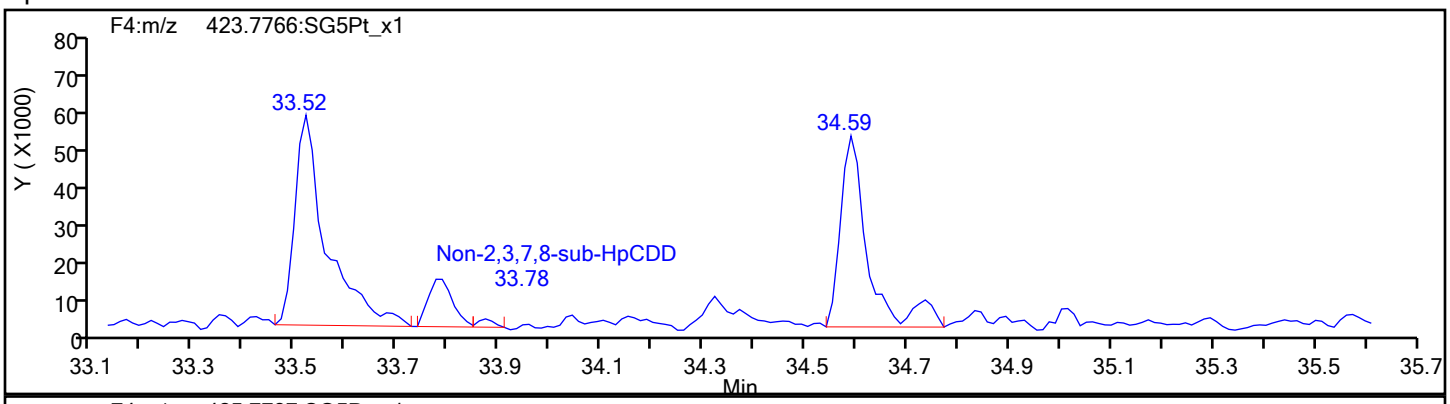

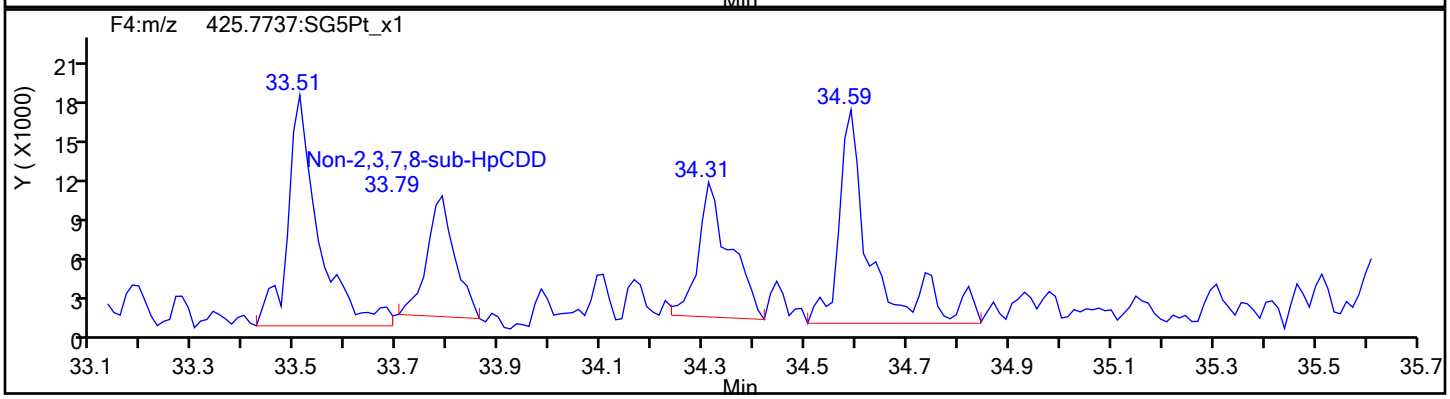

HpCDD Standards

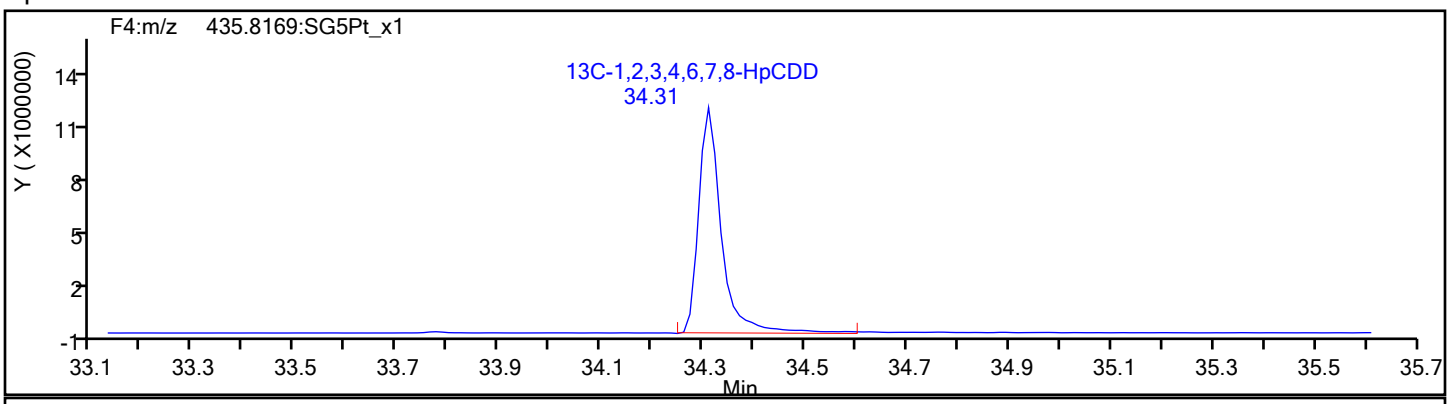

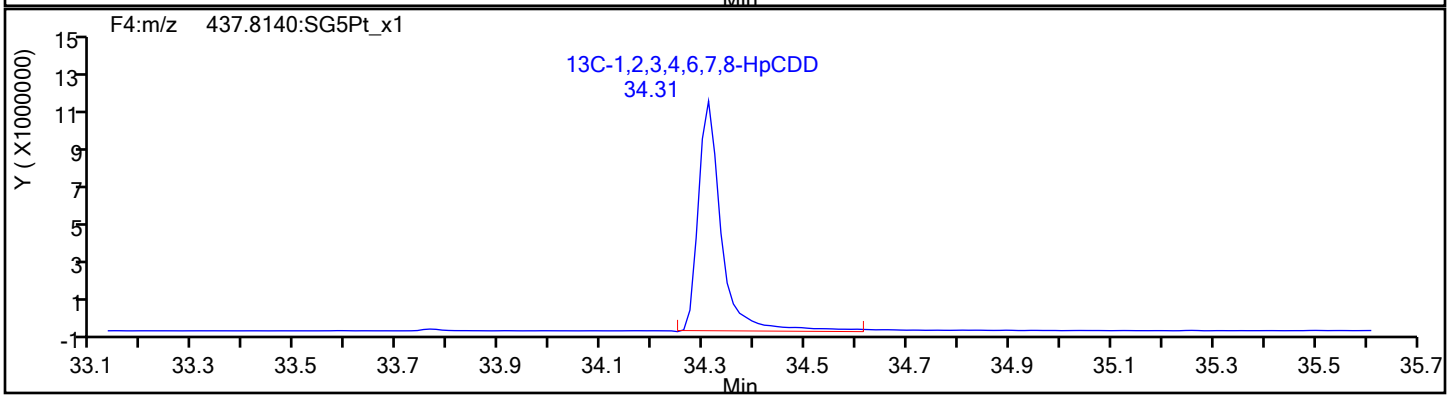

Report Date: 14-Nov-2019 09:47:40 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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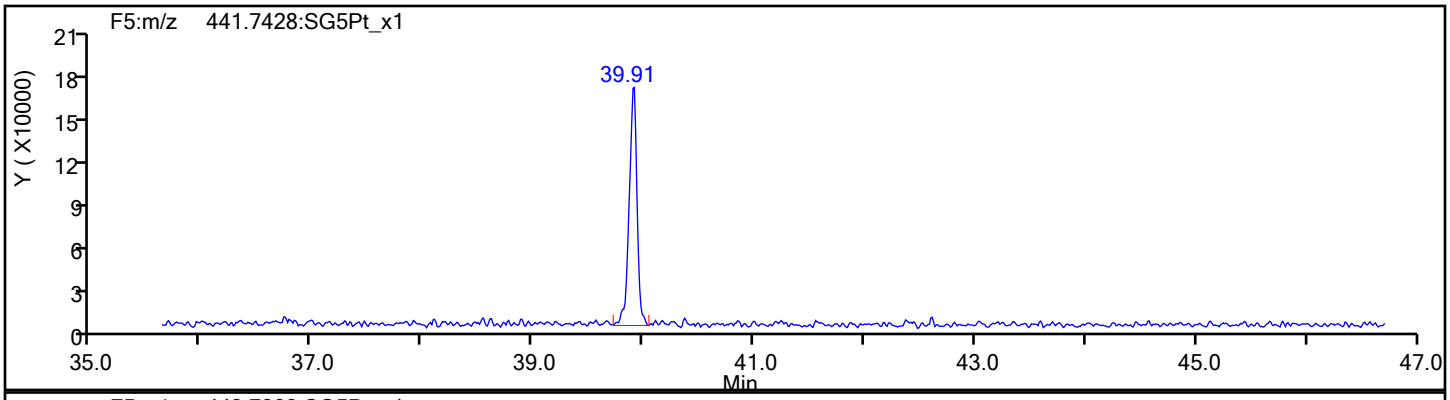

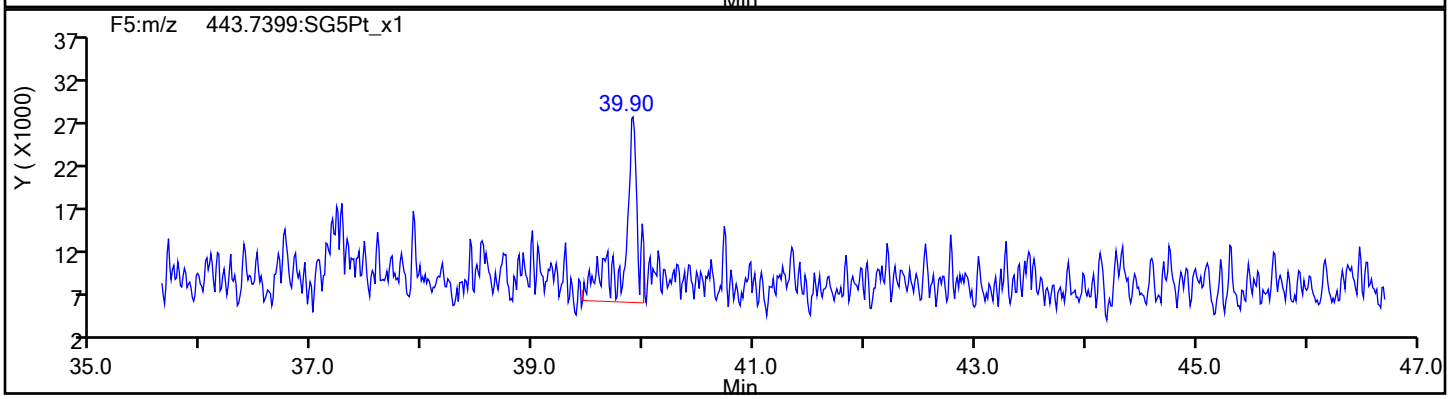

OCDF Standards

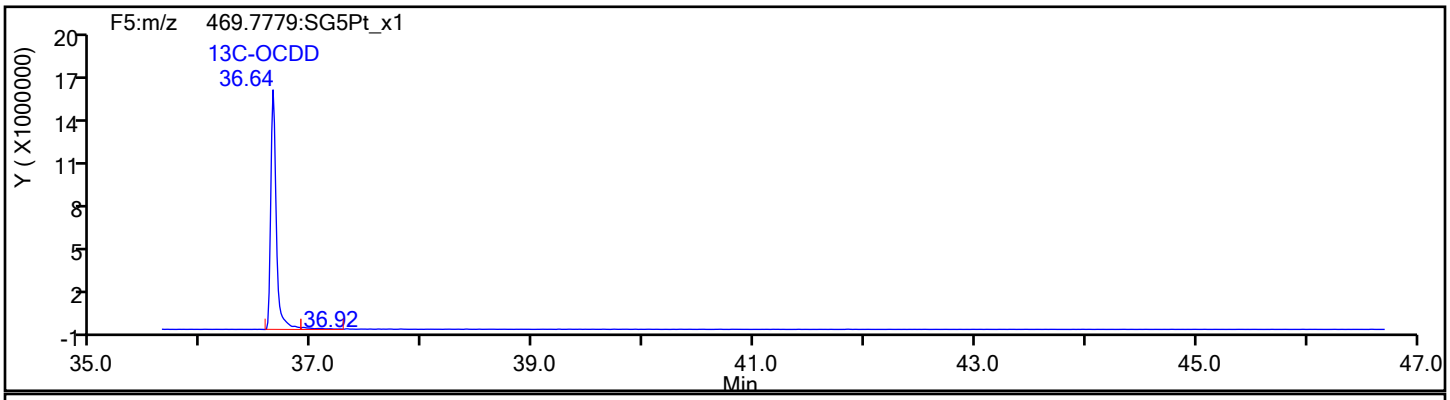

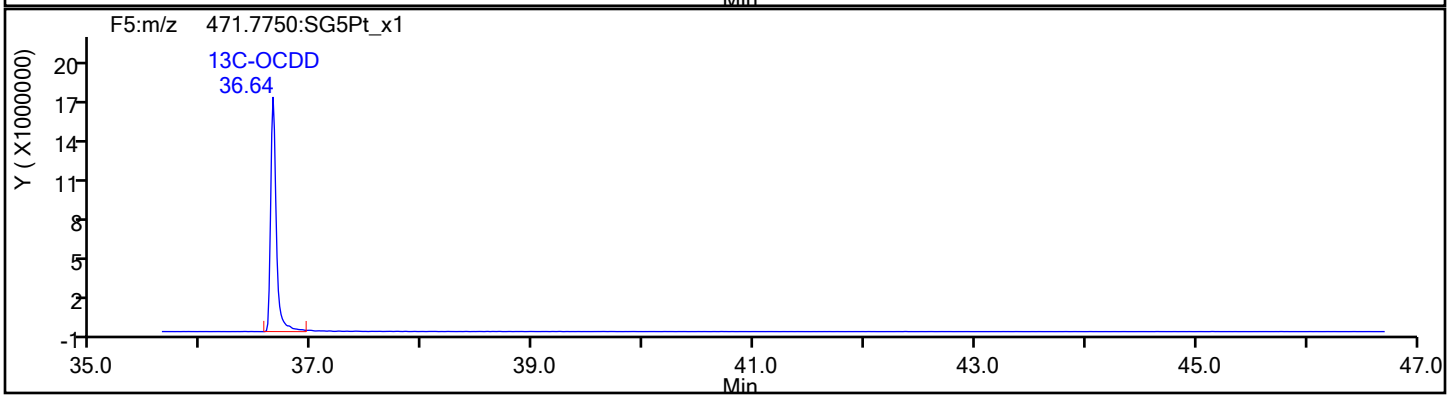

Report Date: 14-Nov-2019 09:47:40 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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OCDF

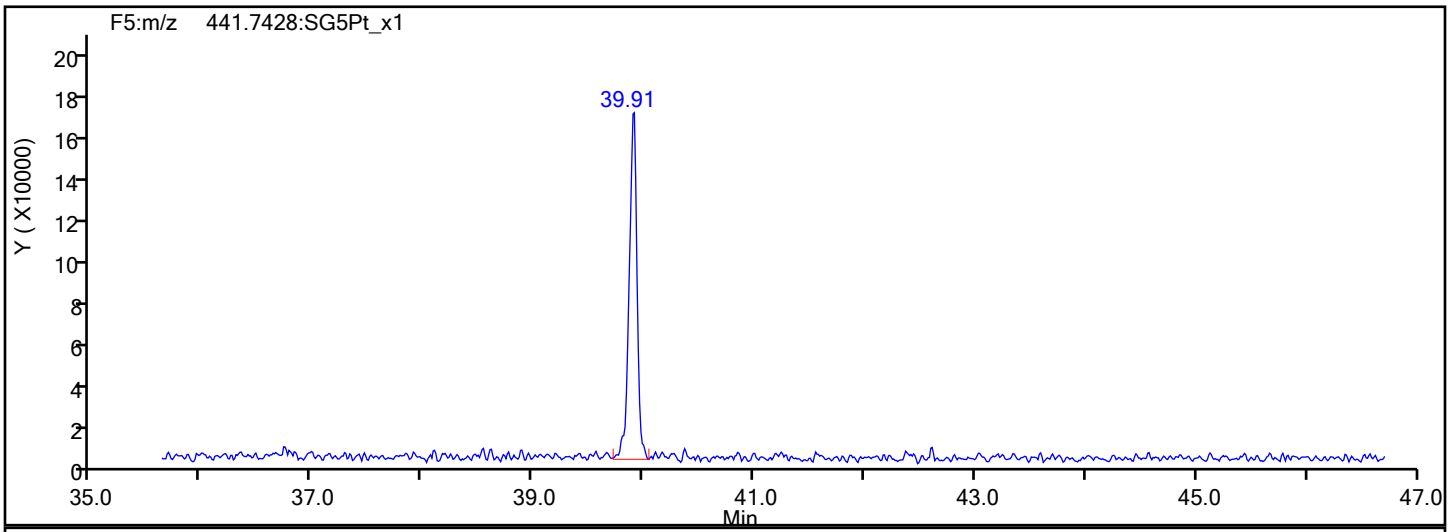

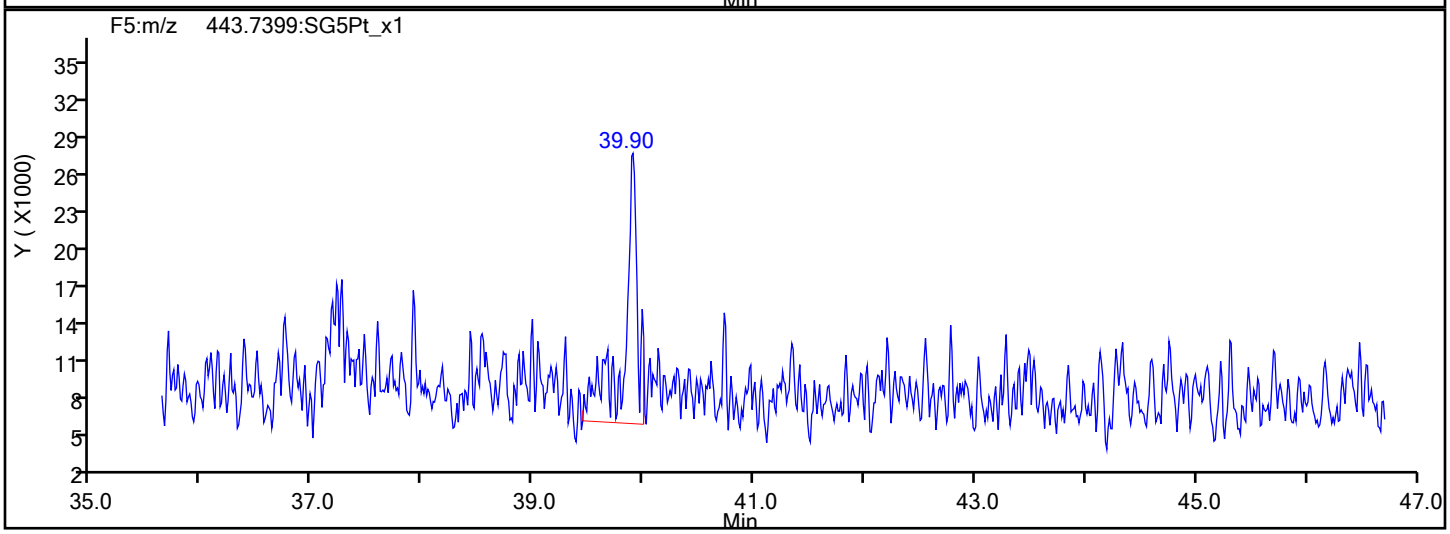

OCDF Interference Mass

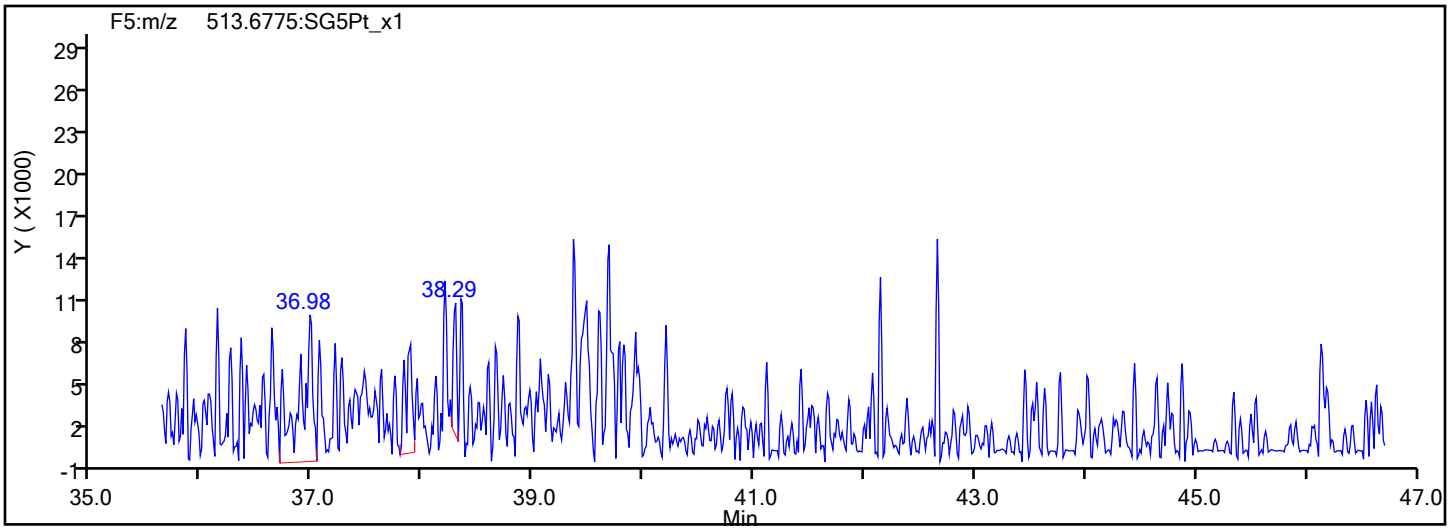

Report Date: 14-Nov-2019 09:47:40 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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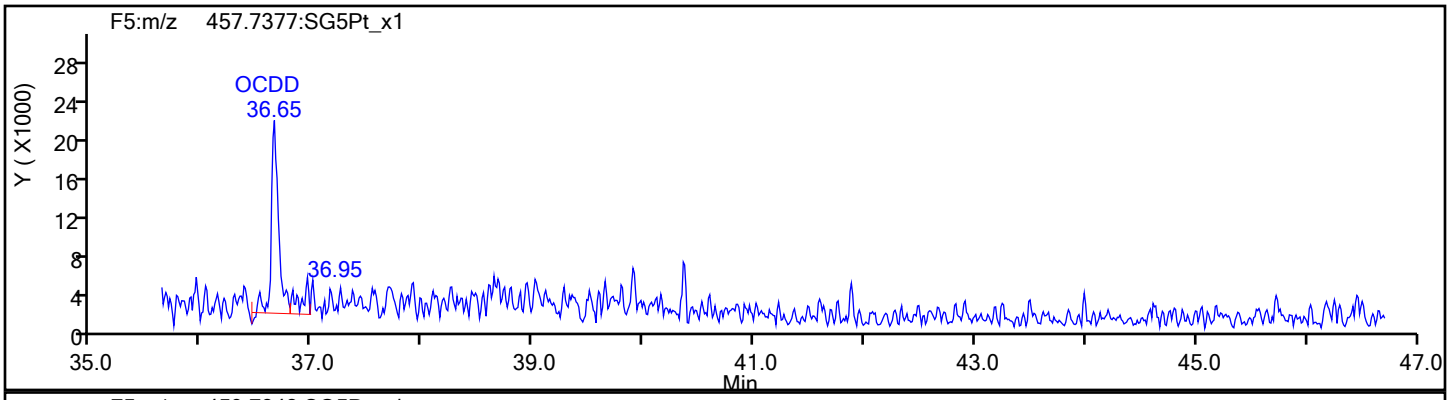

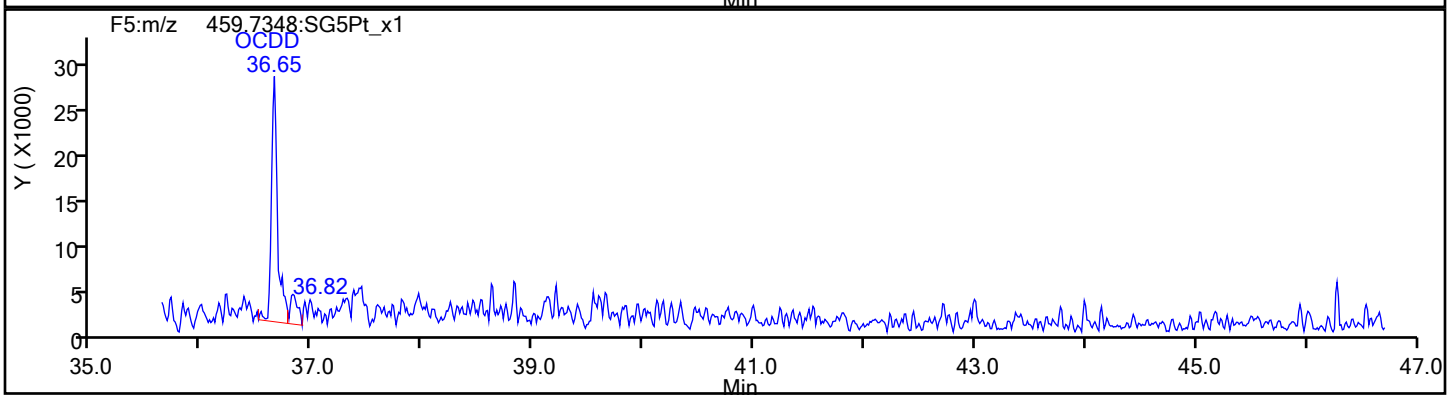

OCDD Standards

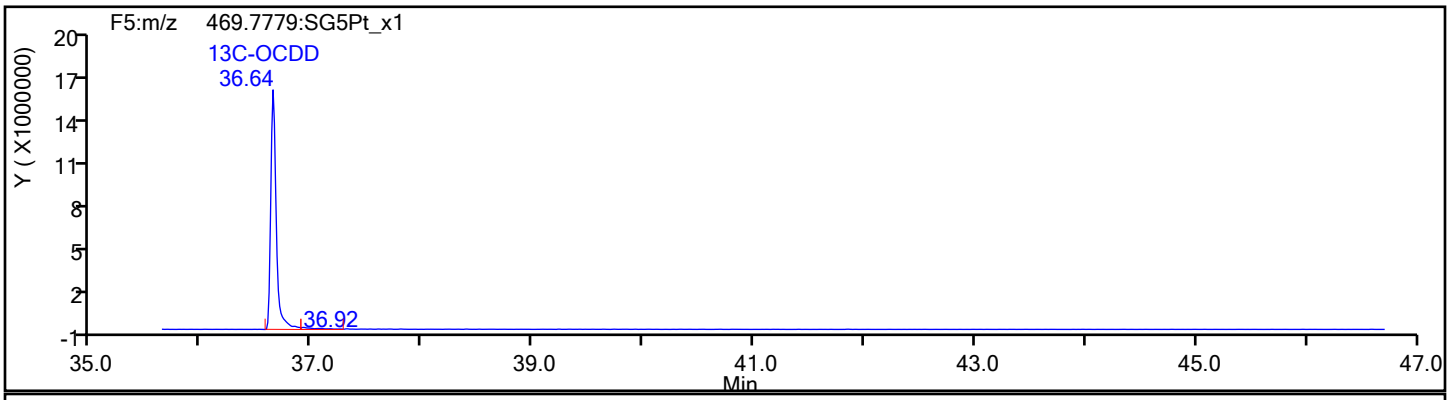

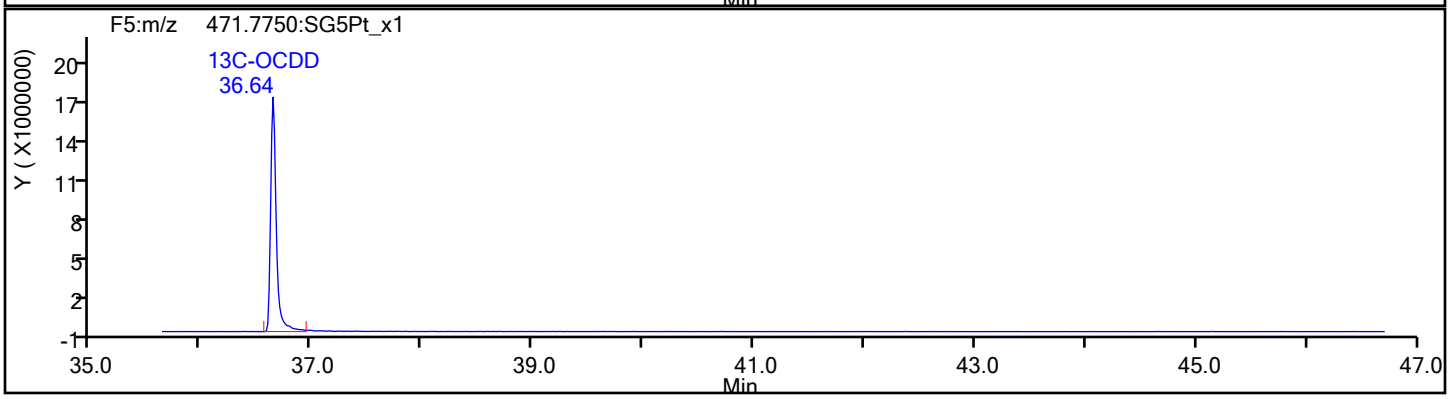

Report Date: 14-Nov-2019 09:47:40 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_38.d		
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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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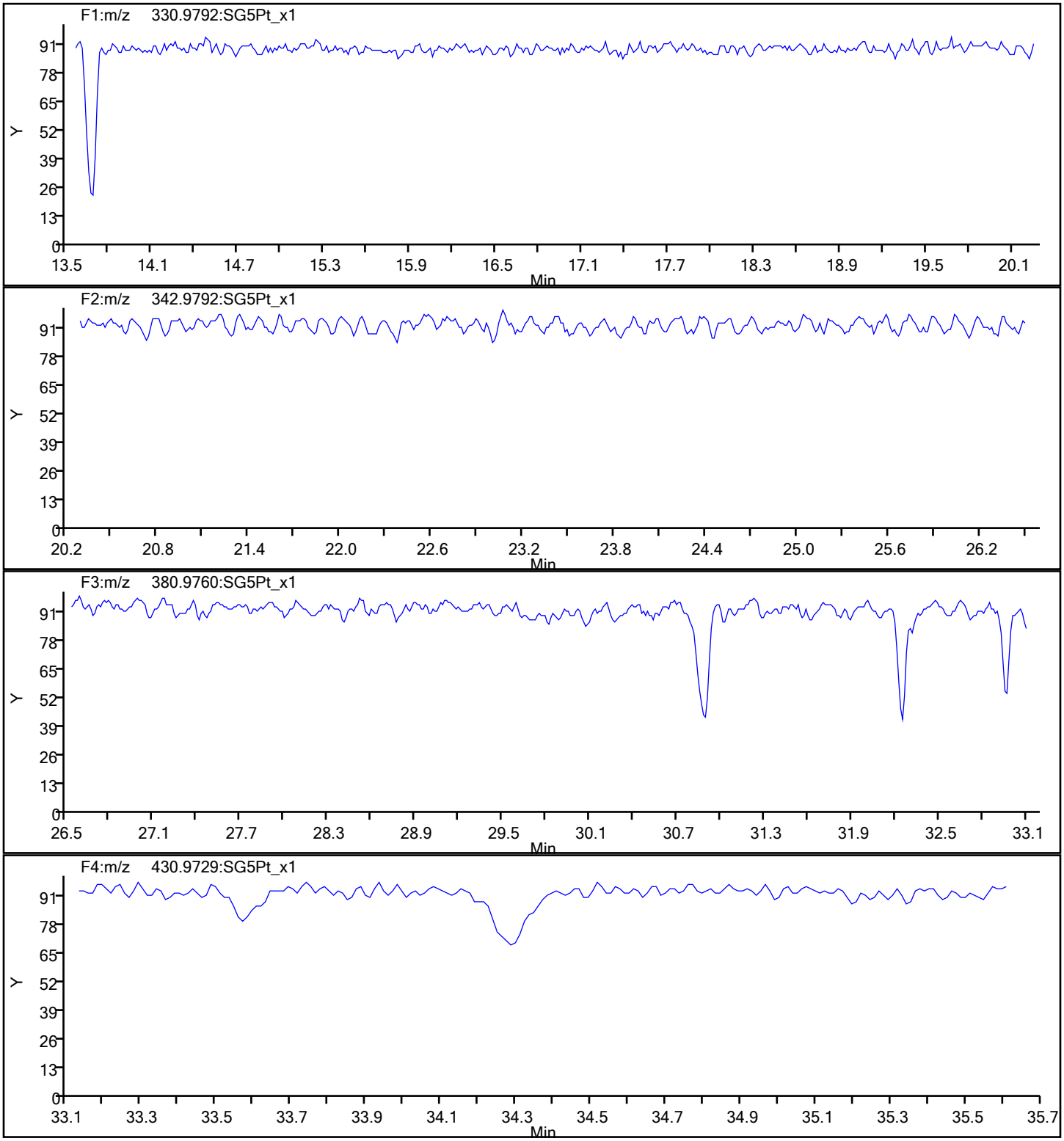

Report Date: 14-Nov-2019 09:47:40 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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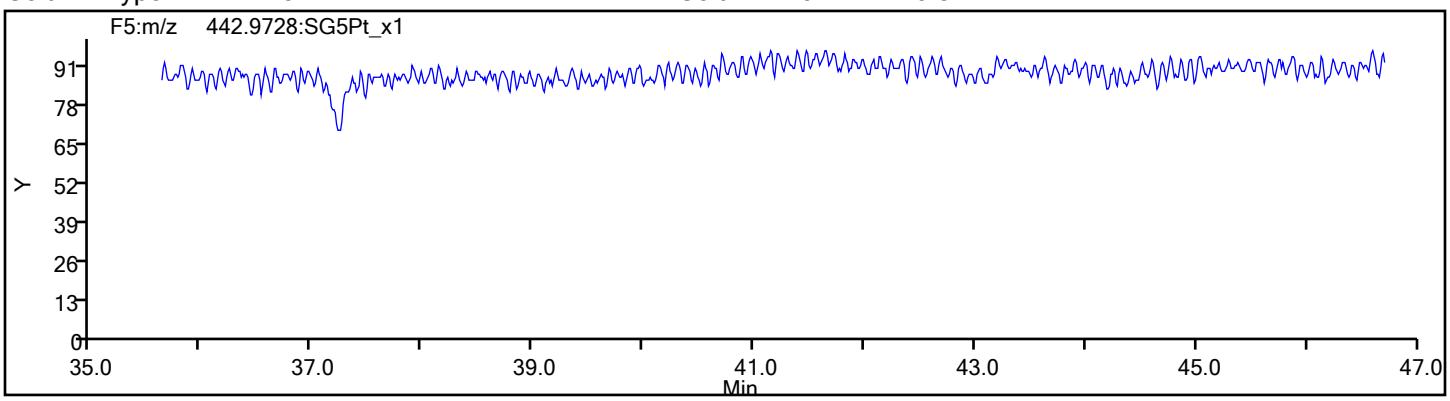

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 320-56102-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 320-337526/2-A
Matrix: Water
Lab File ID: 12NO193D5_39.d
Analysis Method: 1613B
Date Collected:
Extract. Method: 1613B
Date Extracted: 11/11/2019 08:47
Sample wt/vol: 1000(mL)
Date Analyzed: 11/13/2019 10:59
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 338227
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	204		10	2.4
51207-31-9	2,3,7,8-TCDF	206		10	1.7
40321-76-4	1,2,3,7,8-PeCDD	1010		50	3.7
57117-41-6	1,2,3,7,8-PeCDF	1040		50	5.7
57117-31-4	2,3,4,7,8-PeCDF	1030		50	5.9
39227-28-6	1,2,3,4,7,8-HxCDD	926		50	3.3
57653-85-7	1,2,3,6,7,8-HxCDD	1030		50	3.7
19408-74-3	1,2,3,7,8,9-HxCDD	1050		50	3.3
70648-26-9	1,2,3,4,7,8-HxCDF	898		50	6.6
57117-44-9	1,2,3,6,7,8-HxCDF	1000		50	6.6
72918-21-9	1,2,3,7,8,9-HxCDF	1020		50	4.6
60851-34-5	2,3,4,6,7,8-HxCDF	1030		50	4.7
35822-46-9	1,2,3,4,6,7,8-HpCDD	967		50	6.2
67562-39-4	1,2,3,4,6,7,8-HpCDF	973		50	11
55673-89-7	1,2,3,4,7,8,9-HpCDF	894		50	13
3268-87-9	OCDD	1980		100	2.4
39001-02-0	OCDF	1940		100	3.2
41903-57-5	Total TCDD	204		10	2.4
30402-14-3	Total TCDF	206		10	1.7
36088-22-9	Total PeCDD	1010		50	3.7
30402-15-4	Total PeCDF	2070		50	5.8
34465-46-8	Total HxCDD	3010		50	3.4
55684-94-1	Total HxCDF	3950		50	5.6
37871-00-4	Total HpCDD	967		50	6.2
38998-75-3	Total HpCDF	1870		50	12

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 320-337526/2-A

Matrix: Water Lab File ID: 12NO193D5_39.d

Analysis Method: 1613B Date Collected:

Extract. Method: 1613B Date Extracted: 11/11/2019 08:47

Sample wt/vol: 1000(mL) Date Analyzed: 11/13/2019 10:59

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 338227 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	68		20-175
89059-46-1	13C-2,3,7,8-TCDF	68		22-152
109719-79-1	13C-1,2,3,7,8-PeCDD	68		21-227
109719-77-9	13C-1,2,3,7,8-PeCDF	68		21-192
116843-02-8	13C-2,3,4,7,8-PeCDF	72		13-328
109719-80-4	13C-1,2,3,4,7,8-HxCDD	69		21-193
109719-81-5	13C-1,2,3,6,7,8-HxCDD	63		25-163
114423-98-2	13C-1,2,3,4,7,8-HxCDF	76		19-202
116843-03-9	13C-1,2,3,6,7,8-HxCDF	67		21-159
116843-04-0	13C-1,2,3,7,8,9-HxCDF	74		17-205
116843-05-1	13C-2,3,4,6,7,8-HxCDF	69		22-176
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	68		26-166
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	68		21-158
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	82		20-186
114423-97-1	13C-OCDD	67		13-199

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	121		31-191

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_39.d
Lims ID: LCS 320-337526/2-A
Client ID:
Sample Type: LCS
Inject. Date: 13-Nov-2019 10:59:20 ALS Bottle#: 33 Worklist Smp#: 39
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCS 320-337526/2-A LCS 320-337526/2-A
Misc. Info.: 12NO193D5
Operator ID: ALM, AJS Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Nov-2019 09:47:37 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0312

First Level Reviewer: dadunj Date: 14-Nov-2019 09:48:09

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.429	175511970	0.79	3.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.930	166531307	0.75	1.3908	68.2	68.2	0.3301	0.3301	68.22	
2,3,7,8-TCDF	16.945	16643357	0.74	0.9710	10.3	10.3	0.0851	0.0851	103	
A Non-2,3,7,8-sub-TCDF	16.651						0.0851	0.0851		
S Total TCDF					10.3	10.3	0.0851	0.0851		
D 13C-2,3,7,8-TCDD	17.611	117807779	0.82	0.9819	68.4	68.4	0.3241	0.3241	68.36	
2,3,7,8-TCDD	17.626	12526570	0.75	1.0447	10.2	10.2	0.1191	0.1191	102	
$ 37Cl4-2,3,7,8-TCDD	17.626	103476643		1.2205	48.3	48.3	0.1789	0.1789	121	
A Non-2,3,7,8-sub-TCDD	17.097						0.1191	0.1191		
S Total TCDD					10.2	10.2	0.1191	0.1191		
D 13C-1,2,3,7,8-PeCDF	21.757	139096681	1.61	1.1585	68.4	68.4	0.2548	0.2548	68.41	
1,2,3,7,8-PeCDF	21.784	69723273	1.54	0.9633	52.0	52.0	0.2872	0.2872	104	
D 13C-2,3,4,7,8-PeCDF	23.039	144895966	1.64	1.1532	71.6	71.6	0.2559	0.2559	71.59	
2,3,4,7,8-PeCDF	23.066	71020963	1.54	0.9495	51.6	51.6	0.2942	0.2942	103	
A F1 PeCDFs	19.599						0.0713	0.0713		
A Non-2,3,7,8-sub-PeCDF	22.617						0.2907	0.2907		
S Total PeCDF					103.7	103.7	0.2907	0.2907		
D 13C-1,2,3,7,8-PeCDD	23.734	89136110	1.63	0.7431	68.3	68.3	0.1777	0.1777	68.34	
1,2,3,7,8-PeCDD	23.761	47808062	1.58	1.0635	50.4	50.4	0.1833	0.1833	101	
A Non-2,3,7,8-sub-PeCDD	22.698						0.1833	0.1833		
S Total PeCDD					50.4	50.4	0.1833	0.1833		
D 13C-1,2,3,4,7,8-HxCDF	29.858	126744015	0.53	0.9837	76.5	76.5	0.3127	0.3127	76.47	
1,2,3,4,7,8-HxCDF	29.885	69302058	1.26	1.2173	44.9	44.9	0.3311	0.3311	89.83	
D 13C-1,2,3,6,7,8-HxCDF	30.097	129810078	0.52	1.1554	66.7	66.7	0.2662	0.2662	66.68	
1,2,3,6,7,8-HxCDF	30.124	73745889	1.24	1.1311	50.2	50.2	0.3302	0.3302	100	
D 13C-2,3,4,6,7,8-HxCDF	31.096	119938927	0.52	1.0361	68.7	68.7	0.2969	0.2969	68.70	
2,3,4,6,7,8-HxCDF	31.110	72249690	1.25	1.1710	51.4	51.4	0.2368	0.2368	103	
D 13C-1,2,3,7,8,9-HxCDF	32.002	112509126	0.52	0.9034	73.9	73.9	0.3405	0.3405	73.91	
1,2,3,7,8,9-HxCDF	32.015	67691107	1.24	1.1787	51.0	51.0	0.2278	0.2278	102	
A Non-2,3,7,8-sub-HxCDF	29.618						0.2727	0.2727		
S Total HxCDF					197.6	197.6	0.2815	0.2815		

Report Date: 14-Nov-2019 09:48:11 Chrom Revision: 2.3 31-Oct-2019 20:21:30
Data File: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_39.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.802	168492610	1.30	2.6E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.323	95728083	1.30	0.8287	68.6	68.6	0.2590	0.2590	68.56	
1,2,3,4,7,8-HxCDD	31.336	45527651	1.23	1.0267	46.3	46.3	0.1661	0.1661	92.65	
D 13C-1,2,3,6,7,8-HxCDD	31.442	101551238	1.29	0.9495	63.5	63.5	0.2261	0.2261	63.48	
1,2,3,6,7,8-HxCDD	31.456	51343848	1.28	0.9771	51.7	51.7	0.1846	0.1846	103	
1,2,3,7,8,9-HxCDD	31.815	55062793	1.25	1.0616	52.6	52.6	0.1651	0.1651	105	
A Non-2,3,7,8-sub-HxCDD	30.264						0.1715	0.1715		
S Total HxCDD					150.7	150.7	0.1719	0.1719		
D 13C-1,2,3,4,6,7,8-HpCDF	33.520	83415384	0.46	0.7285	68.0	68.0	1.199	1.199	67.96	
1,2,3,4,6,7,8-HpCDF	33.532	58334267	1.00	1.4373	48.7	48.7	0.5370	0.5370	97.31	
D 13C-1,2,3,4,7,8,9-HpCDF	34.602	90154248	0.44	0.6556	81.6	81.6	1.333	1.333	81.61	
1,2,3,4,7,8,9-HpCDF	34.602	52782827	1.12	1.3091	44.7	44.7	0.6367	0.6367	89.45	
A Non-2,3,7,8-sub-HpCDF	34.073						0.5836	0.5836		
S Total HpCDF					93.4	93.4	0.5868	0.5868		
D 13C-1,2,3,4,6,7,8-HpCDD	34.310	79924547	1.04	0.6978	68.0	68.0	0.6526	0.6526	67.97	
1,2,3,4,6,7,8-HpCDD	34.322	39054044	1.05	1.0102	48.4	48.4	0.3111	0.3111	96.74	
A Non-2,3,7,8-sub-HpCDD	34.990						0.3111	0.3111		
S Total HpCDD					48.4	48.4	0.3111	0.3111		
D 13C-OCDD	36.641	108006780	0.92	0.4780	134.1	134.1	0.1815	0.1815	67.06	
OCDF	36.737	70700999	0.92	1.3501	97.0	97.0	0.1616	0.1616	96.97	
OCDD	36.653	56788765	0.90	1.0627	99.0	99.0	0.1199	0.1199	98.95	

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_39.d
Lims ID: LCS 320-337526/2-A
Client ID:
Sample Type: LCS
Inject. Date: 13-Nov-2019 10:59:20 ALS Bottle#: 33 Worklist Smp#: 39
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCS 320-337526/2-A LCS 320-337526/2-A
Misc. Info.: 12NO193D5
Operator ID: ALM, AJS Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Nov-2019 09:47:37 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0312

First Level Reviewer: dadunj Date: 14-Nov-2019 09:48:09

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.429	17.414	1		77666483	19189414	40687	101717	472		
333.9339	17.414	17.414	0		97845487	24751797	15250	38125	1623	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.930	16.930	0	0.971	71547434	17503095	51606	129015	339		
317.9389	16.930	16.930	0	0.971	94983873	23788052	29087	72717	818	0.75(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.945	16.961	-1	1.001	7056522	1723062	5029	12572	343		
305.8987	16.945	16.961	-1	1.001	9586835	2238108	8626	21565	259	0.74(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.651						5029	12572			
305.8987	16.651						8626	21565			
13C-2,3,7,8-TCDD											
331.9368	17.611	17.611	0	1.010	53213777	12189442	40687	101717	300		
333.9339	17.611	17.611	0	1.010	64594002	15322196	15250	38125	1005	0.82(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.626	17.626	0	1.001	5387953	1267635	10618	26545	119		
321.8936	17.626	17.626	0	1.001	7138617	1732282	3076	7690	563	0.75(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.626	17.626	0	1.011	103476643	24280033	38378	95945	633		
A Non-2,3,7,8-sub-TCDD											
319.8965	17.097						10618	26545			
321.8936	17.097						3076	7690			
13C-1,2,3,7,8-PeCDF											
351.9000	21.757	21.743	1	1.248	85728999	14691872	30410	76025	483		
353.8970	21.757	21.743	1	1.248	53367682	9574082	21463	53657	446	1.61(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	21.784	21.771	1	1.001	42291394	7018778	14385	35962	488		
341.8567	21.784	21.771	1	1.001	27431879	4819596	12473	31182	386	1.54(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	23.039	23.052	-1	1.322	89960393	14940260	30410	76025	491		
353.8970	23.039	23.052	-1	1.322	54935573	9092401	21463	53657	424	1.64(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.066	23.066	0	1.001	43026131	6837638	14385	35962	475		
341.8567	23.066	23.066	0	1.001	27994832	4419730	12473	31182	354	1.54(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.599						1771	4427			
341.8567	19.599						4818	12045			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.617						14385	35962			
341.8567	22.617						12473	31182			
13C-1,2,3,7,8-PeCDD											
367.8949	23.734	23.734	0	1.362	55224067	8741730	13539	33847	646		
369.8919	23.734	23.734	0	1.362	33912043	5542642	9667	24167	573	1.63(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.761	23.748	1	1.001	29250237	4609585	7194	17985	641		
357.8516	23.761	23.748	1	1.001	18557825	2908221	3943	9857	738	1.58(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.698						7194	17985			
357.8516	22.698						3943	9857			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.858	29.845	1	0.939	43735889	6427405	18246	45615	352		
385.8610	29.858	29.845	1	0.939	83008126	11916183	34054	85135	350	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.885	29.871	1	1.001	38695989	5713398	15665	39162	365		
375.8178	29.885	29.871	1	1.001	30606069	4490611	13909	34772	323	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.097	30.084	1	0.946	44617564	6842112	18246	45615	375		
385.8610	30.097	30.084	1	0.946	85192514	12952815	34054	85135	380	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.124	30.111	1	1.001	40843740	6274958	15665	39162	401		
375.8178	30.124	30.111	1	1.001	32902149	4940207	13909	34772	355	1.24(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.096	31.096	0	0.978	40939939	8978537	18246	45615	492		
385.8610	31.096	31.096	0	0.978	78998988	17682909	34054	85135	519	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.110	31.110	0	1.000	40098393	8611475	15665	39162	550		
375.8178	31.110	31.110	0	1.000	32151297	7012966	13909	34772	504	1.25(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.002	31.988	1	1.006	38709569	9437861	18246	45615	517		
385.8610	32.002	31.988	1	1.006	73799557	18102928	34054	85135	532	0.52(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	32.015	32.002	1	1.000	37509416	9147680	15665	39162	584		
375.8178	32.015	32.002	1	1.000	30181691	7427825	13909	34772	534	1.24(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.618						15665	39162			
375.8178	29.618						13909	34772			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.802	31.789	1		95311246	24192356	19633	49082	1232		
403.8529	31.802	31.789	1		73181364	18314571	16860	42150	1086	1.30(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.323	31.309	1	0.985	54161311	13868525	19633	49082	706		
403.8529	31.323	31.309	1	0.985	41566772	10566341	16860	42150	627	1.30(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.336	31.323	1	1.000	25106208	6589717	8625	21562	764		
391.8127	31.336	31.323	1	1.000	20421443	5146407	8038	20095	640	1.23(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.442	31.429	1	0.989	57224977	12991660	19633	49082	662		
403.8529	31.429	31.429	0	0.988	44326261	10107083	16860	42150	599	1.29(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.456	31.442	1	1.000	28782860	6526357	8625	21562	757		
391.8127	31.456	31.442	1	1.000	22560988	4946175	8038	20095	615	1.28(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.815	31.802	1	1.016	30548181	7717466	8625	21562	895		
391.8127	31.815	31.802	1	1.016	24514612	6211959	8038	20095	773	1.25(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.264						8625	21562			
391.8127	30.264						8038	20095			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.520	33.520	0	1.054	26248796	9461590	43832	109580	216		
419.8220	33.520	33.520	0	1.054	57166588	20115533	104722	261805	192	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.532	33.532	0	1.000	29237077	10322422	56250	140625	184		
409.7789	33.532	33.532	0	1.000	29097190	10123395	35060	87650	289	1.00(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.602	34.590	1	1.088	27717765	8422067	43832	109580	192		
419.8220	34.602	34.590	1	1.088	62436483	18966019	104722	261805	181	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.602	34.614	-1	1.000	27830527	8237163	56250	140625	146		
409.7789	34.602	34.614	-1	1.000	24952300	7704000	35060	87650	220	1.12(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.073						56250	140625			
409.7789	34.073						35060	87650			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.310	34.310	0	1.079	40841431	13377322	38633	96582	346		
437.8140	34.310	34.310	0	1.079	39083116	12938199	38799	96997	333	1.04(0.88-1.20)	

Report Date: 14-Nov-2019 09:48:11 Chrom Revision: 2.3 31-Oct-2019 20:21:30
Data File: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_39.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.322	34.322	0	1.000	20028174	6708759	23112	57780	290		
425.7737	34.322	34.322	0	1.000	19025870	6451627	9972	24930	647	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.990						23112	57780			
425.7737	34.990						9972	24930			
13C-OCDD											
469.7779	36.641	36.641	0	1.152	51818205	14363308	6733	16832	2133		
471.7750	36.641	36.641	0	1.152	56188575	15851657	8018	20045	1977	0.92(0.76-1.02)	
OCDF											
441.7428	36.737	36.737	0	1.003	33839816	9414021	6087	15217	1547		
443.7399	36.737	36.737	0	1.003	36861183	10506167	7100	17750	1480	0.92(0.76-1.02)	
OCDD											
457.7377	36.653	36.653	0	1.000	26873792	7694317	3887	9717	1980		
459.7348	36.653	36.653	0	1.000	29914973	8674123	3814	9535	2274	0.90(0.76-1.02)	

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Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_39.d		
Injection Date:	13-Nov-2019 10:59:20	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338227	Sample Line#:	39
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

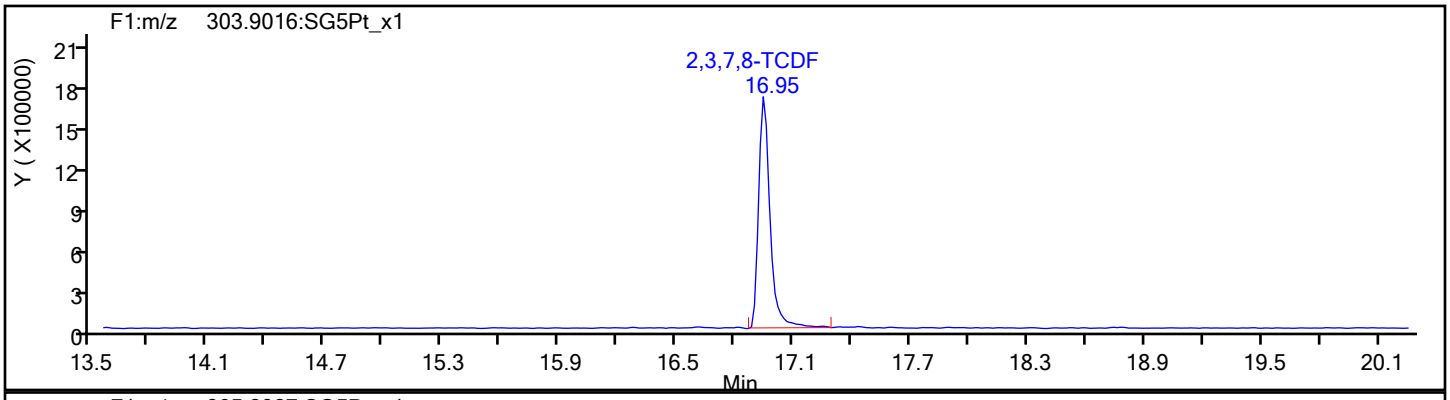

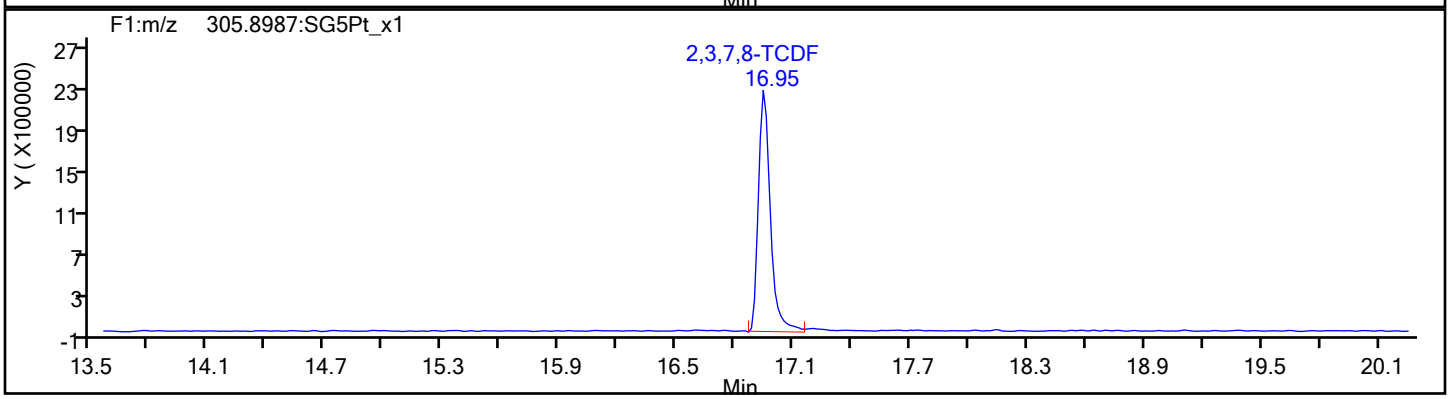

TCDF Standards

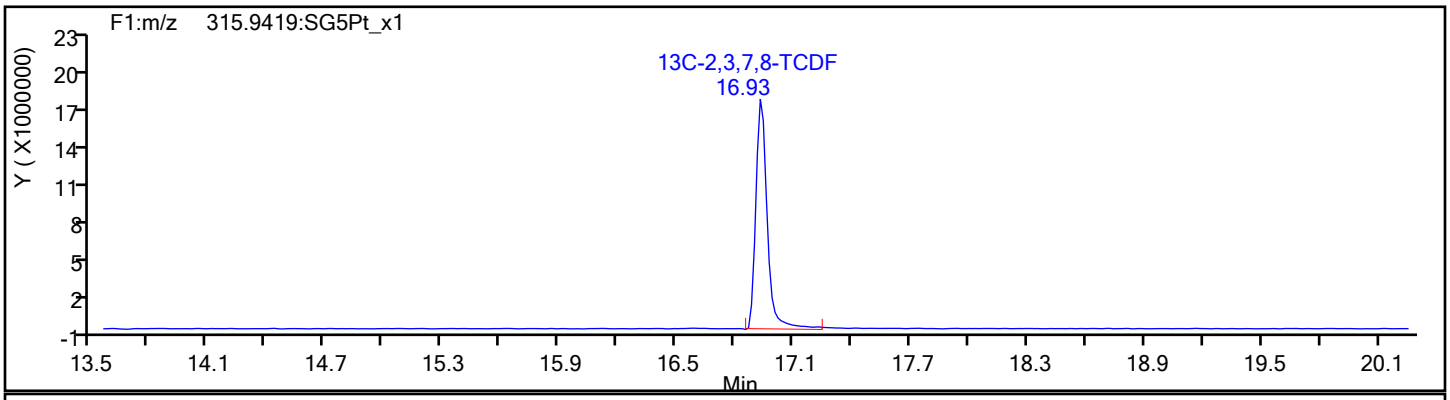

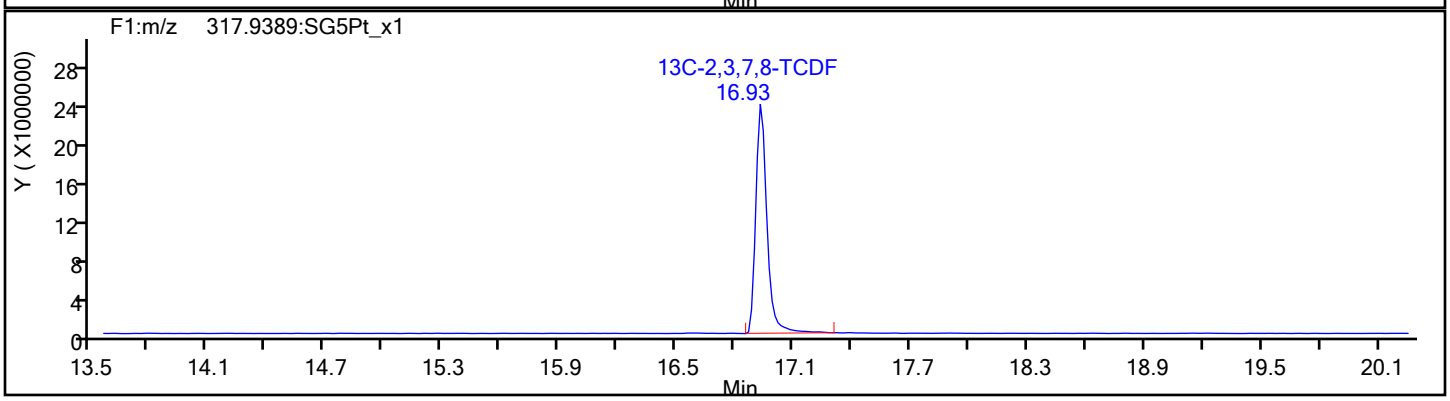

Report Date: 14-Nov-2019 09:48:11 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Injection Date:	13-Nov-2019 10:59:20	Injection Vol:	2.0 ul
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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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Worklist#:	338227	Sample Line#:	39
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

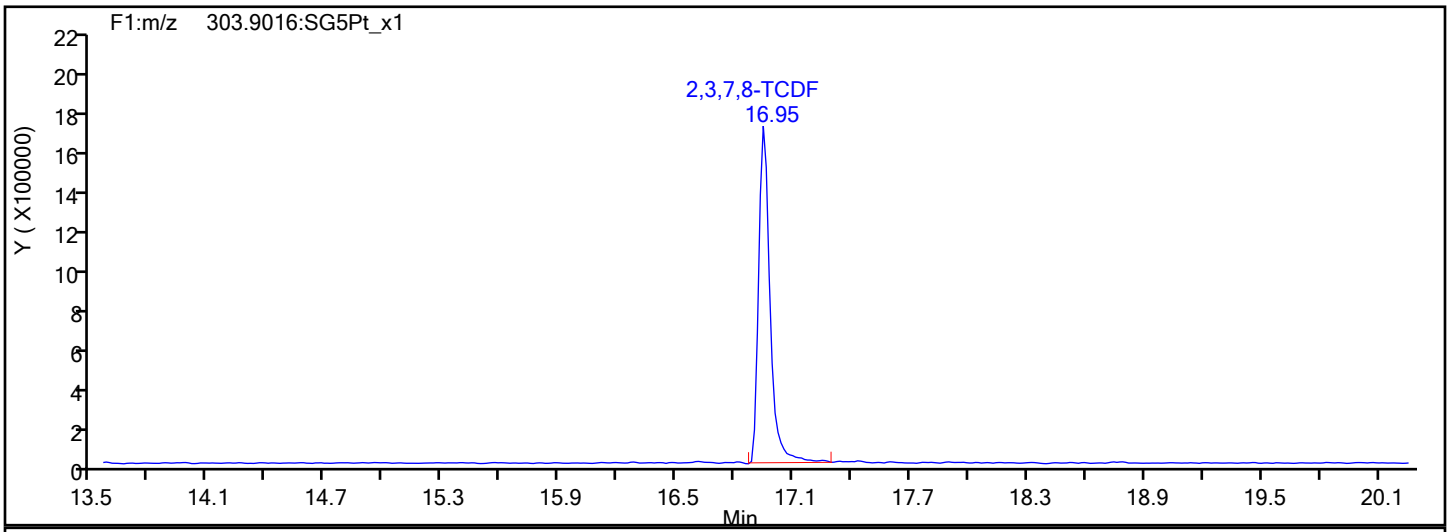

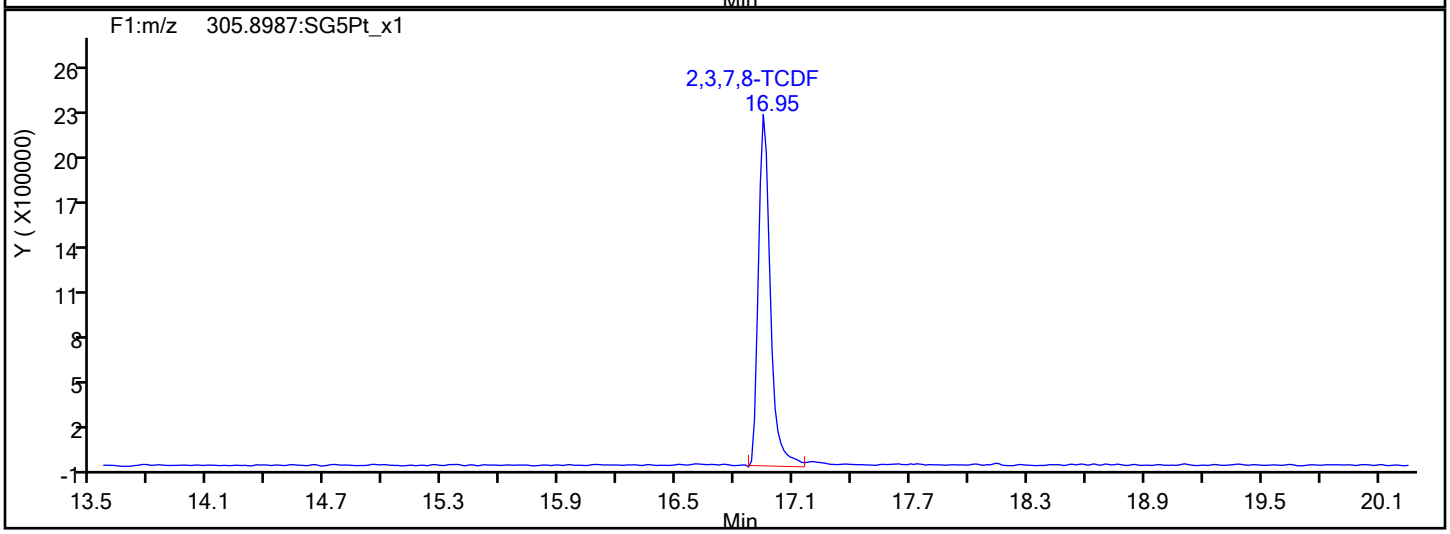

TCDF Interference Mass

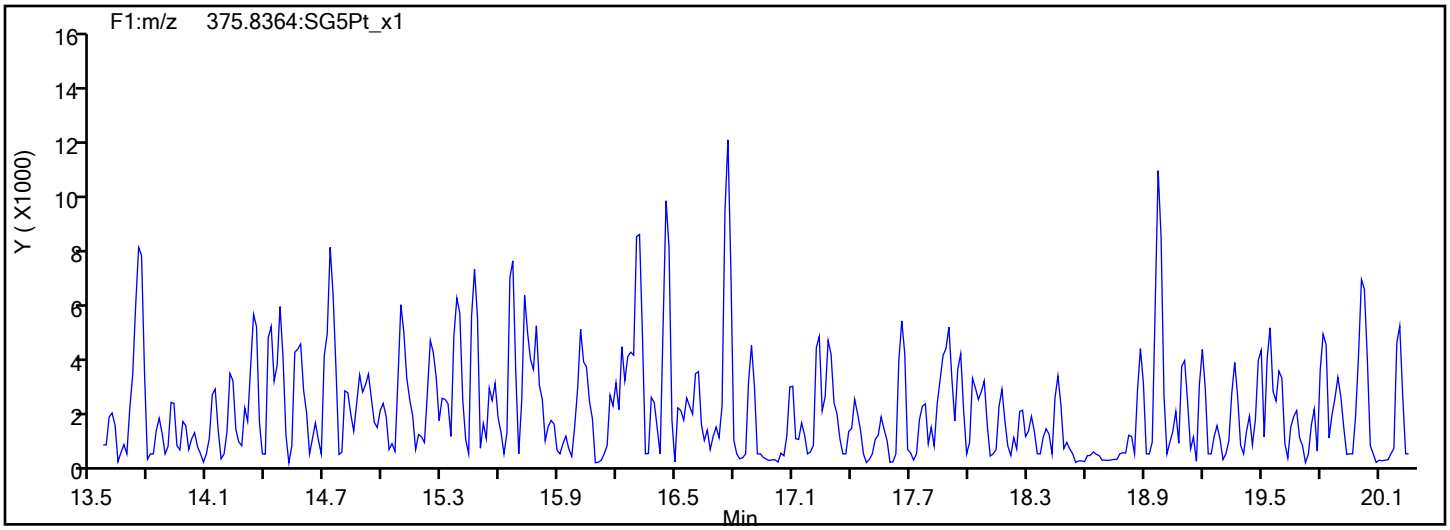

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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TCDD

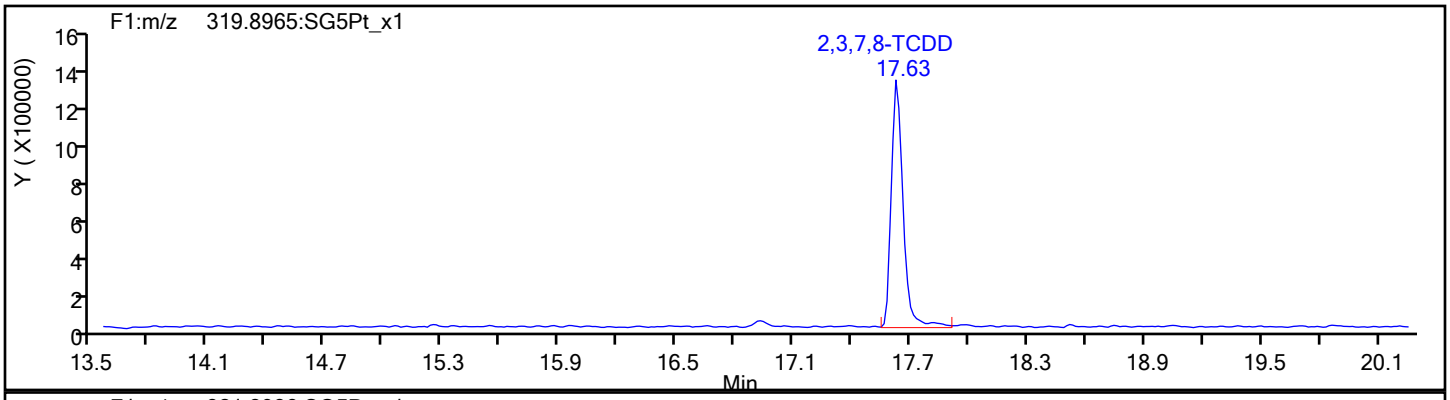

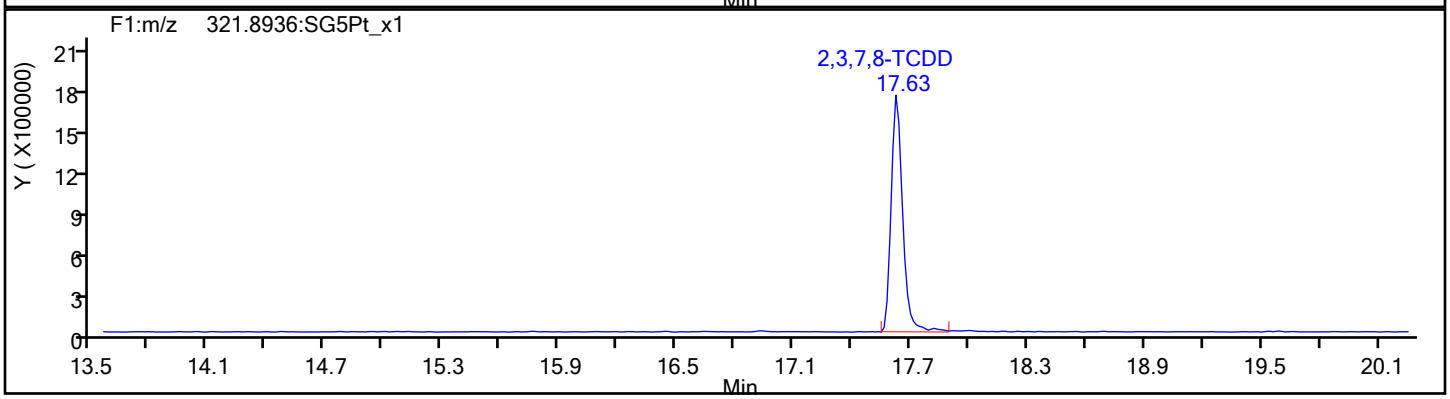

TCDD Standards

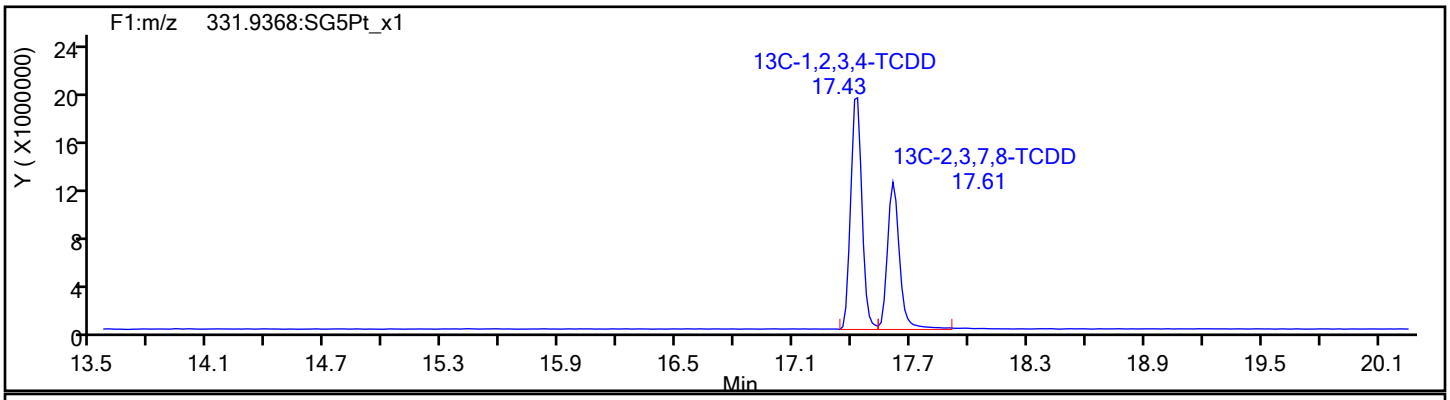

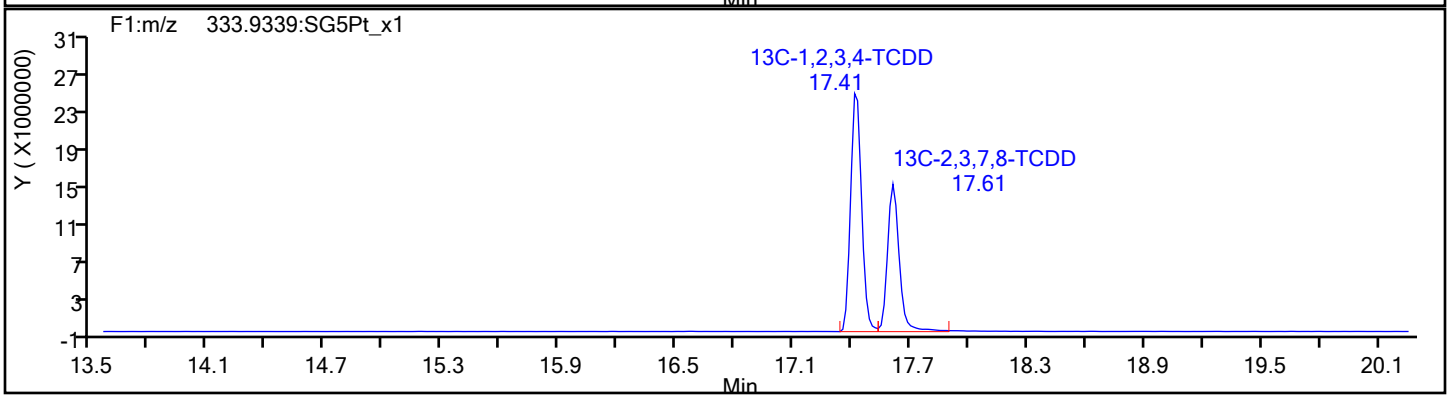

Report Date: 14-Nov-2019 09:48:11 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_39.d		
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37Cl4-TCDD

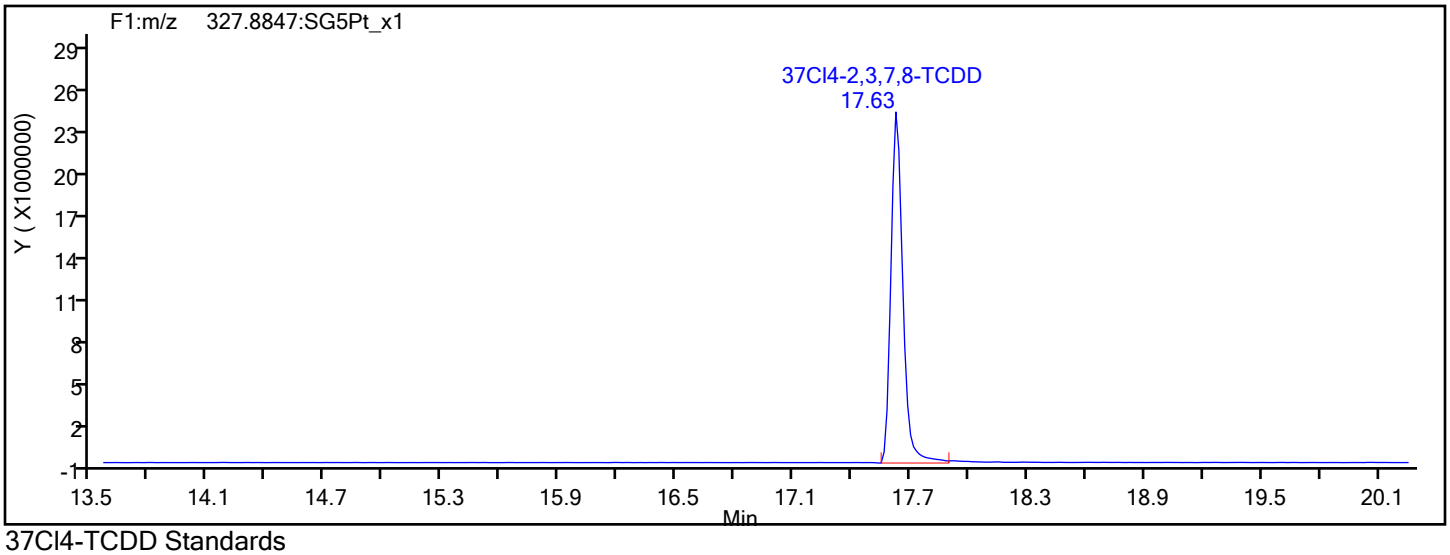

37Cl4-TCDD Standards

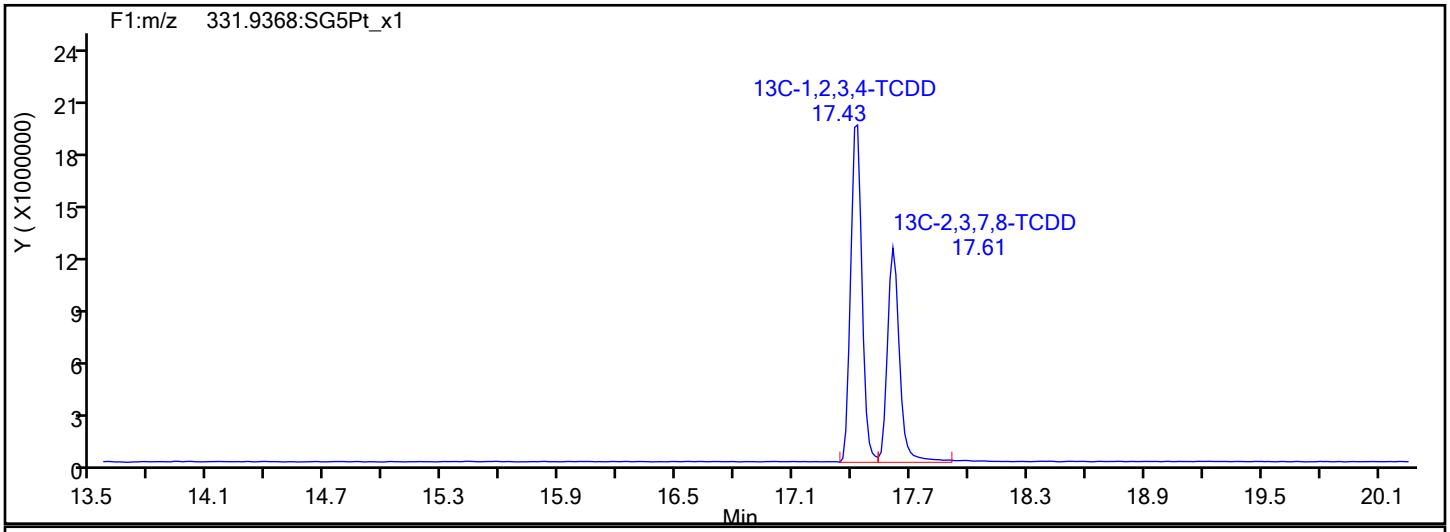

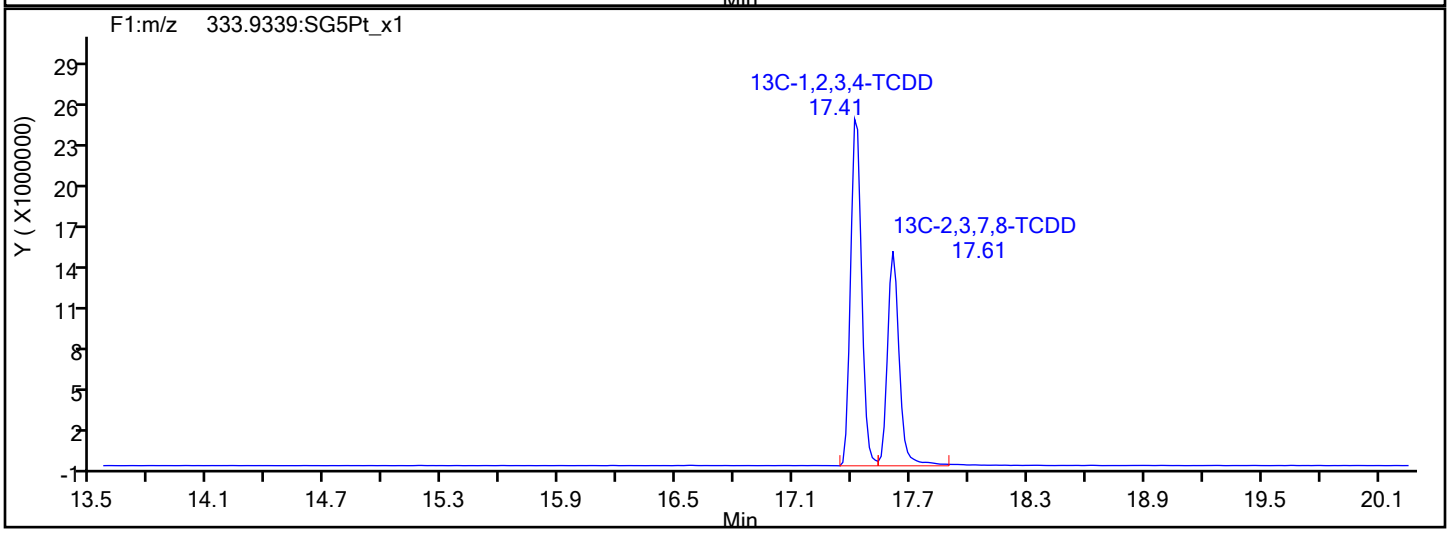

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F1 PeCDFs

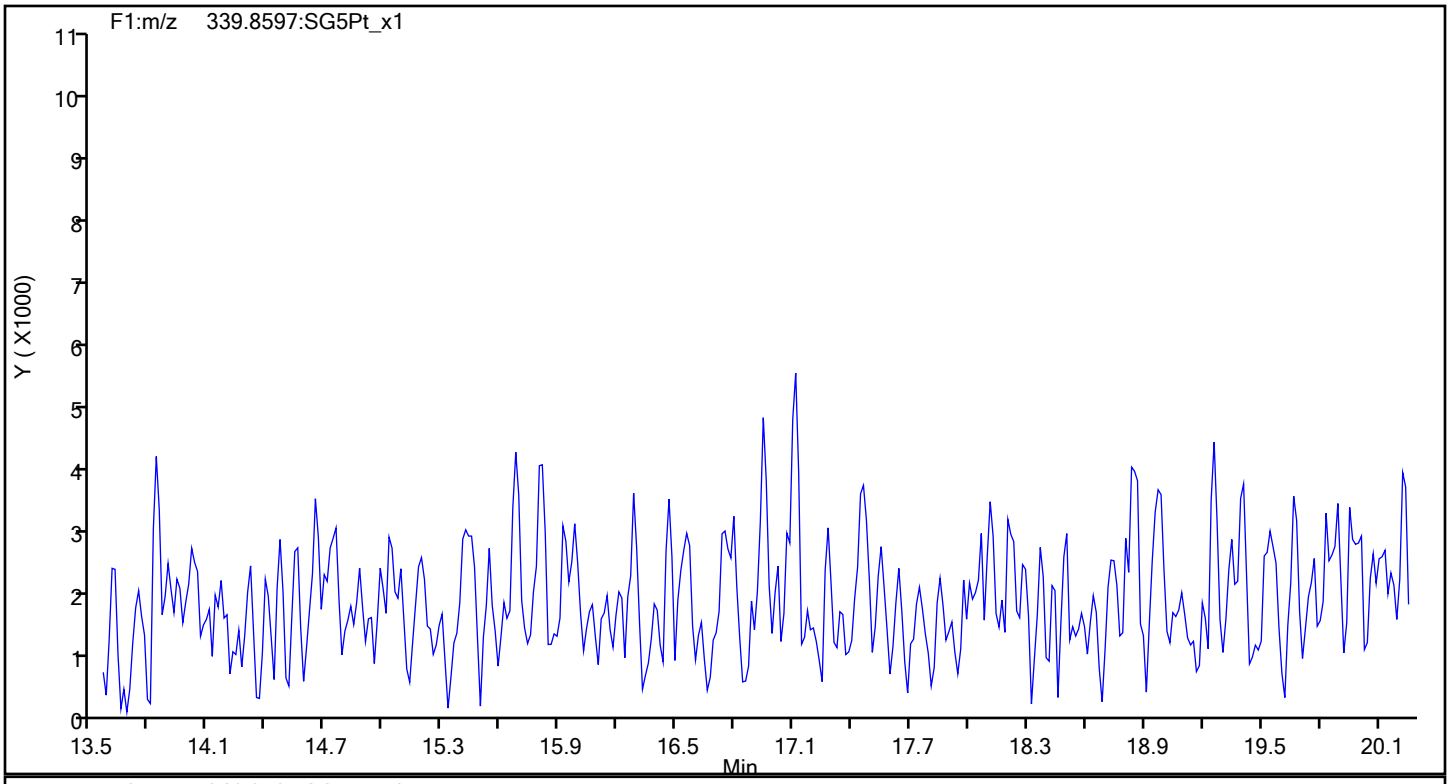

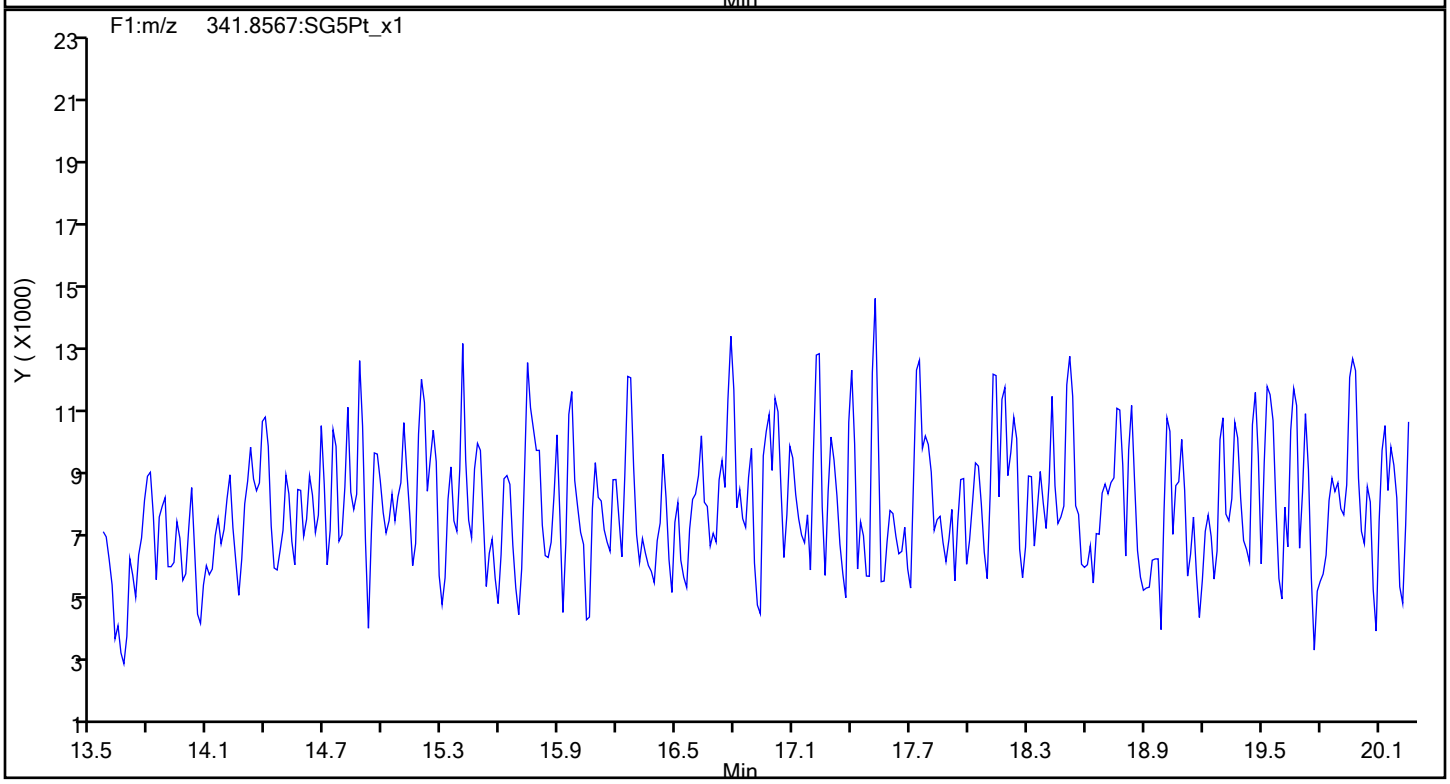

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

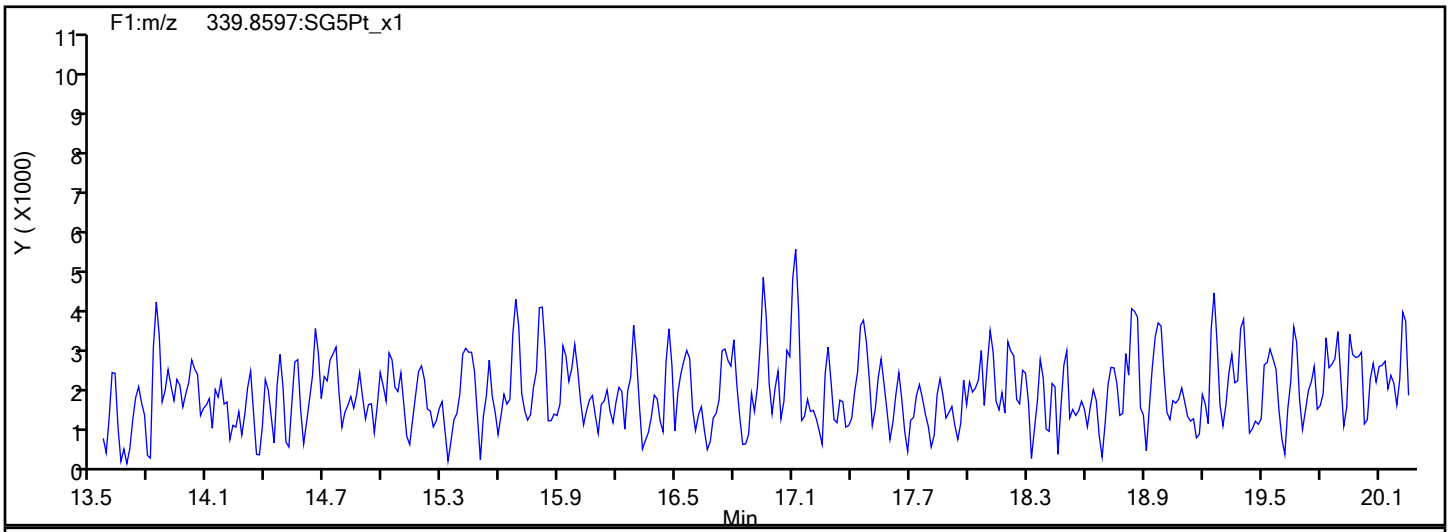

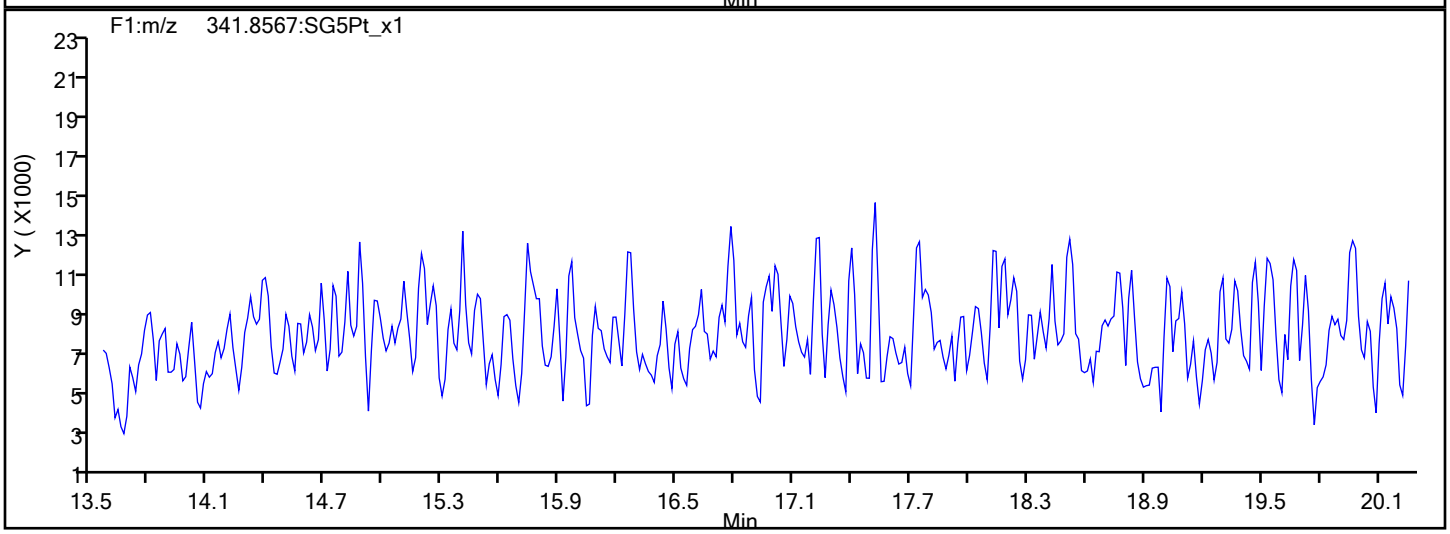

F1 PeCDFs Interference Mass

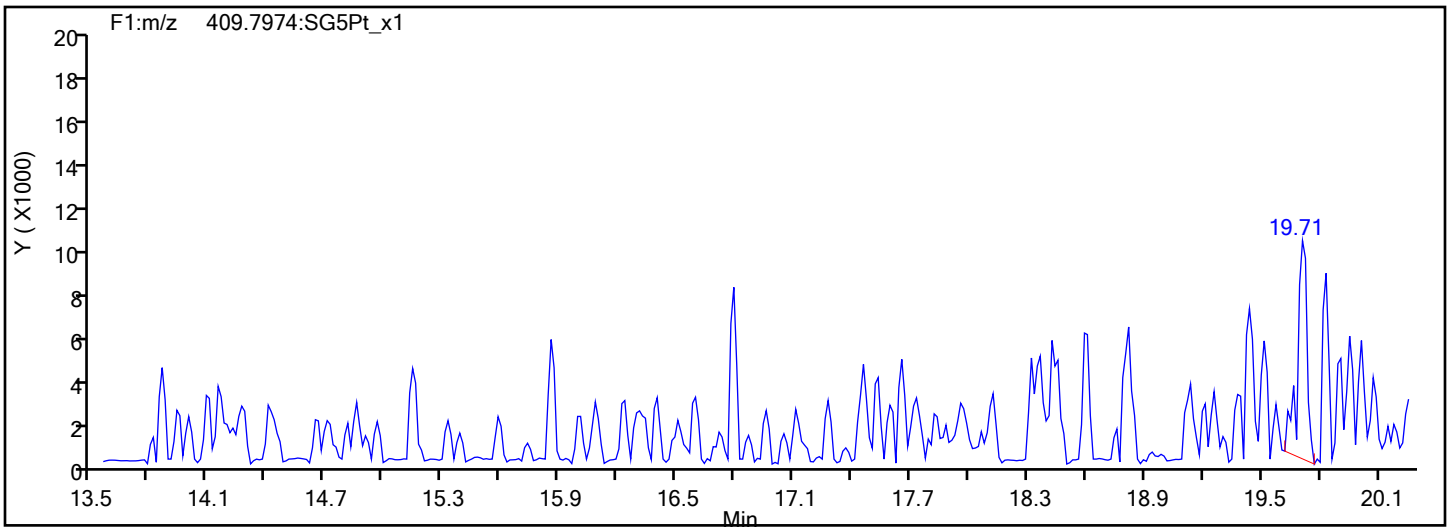

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Eurofins TestAmerica, Sacramento

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PeCDF

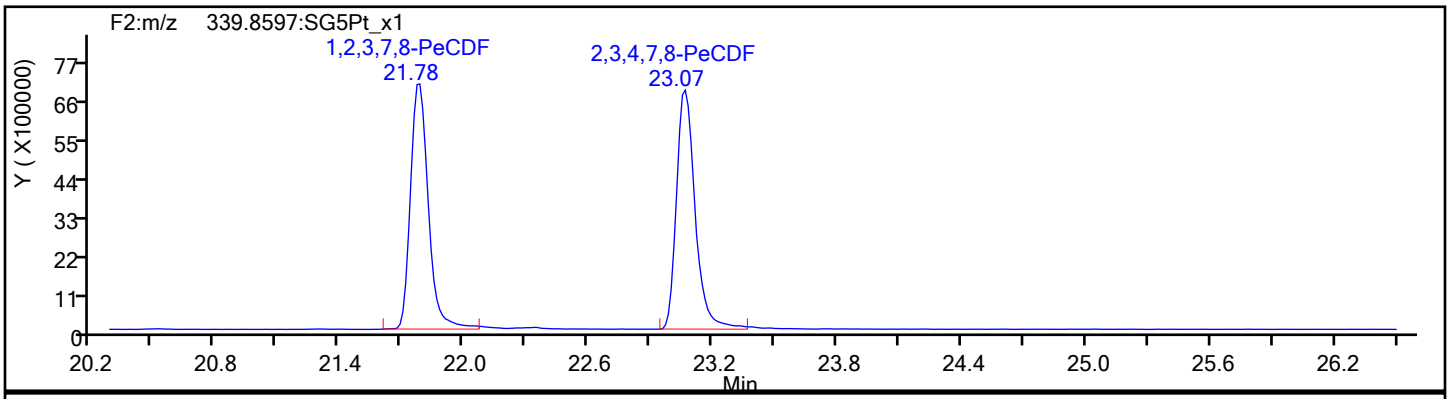

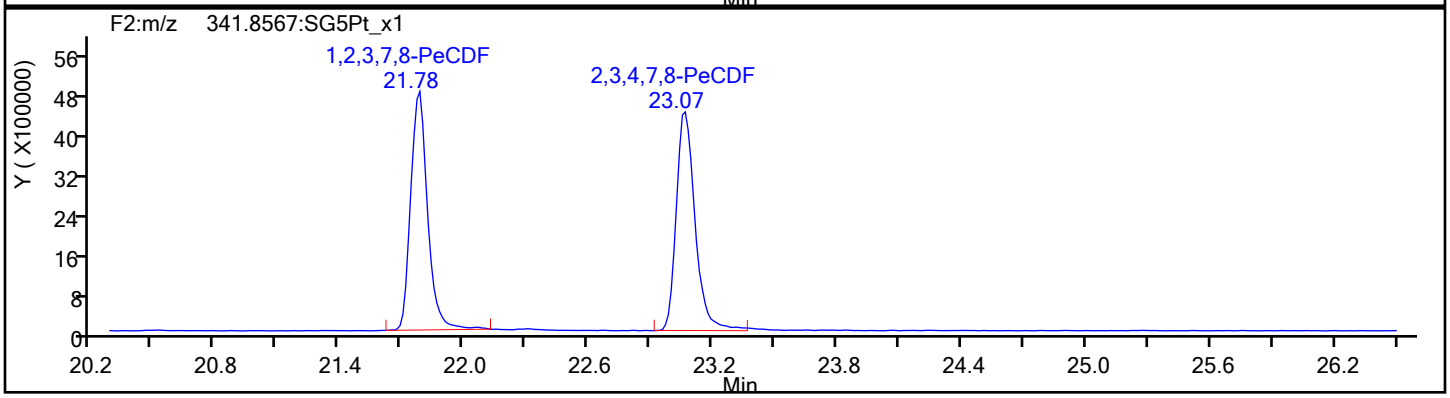

PeCDF Standards

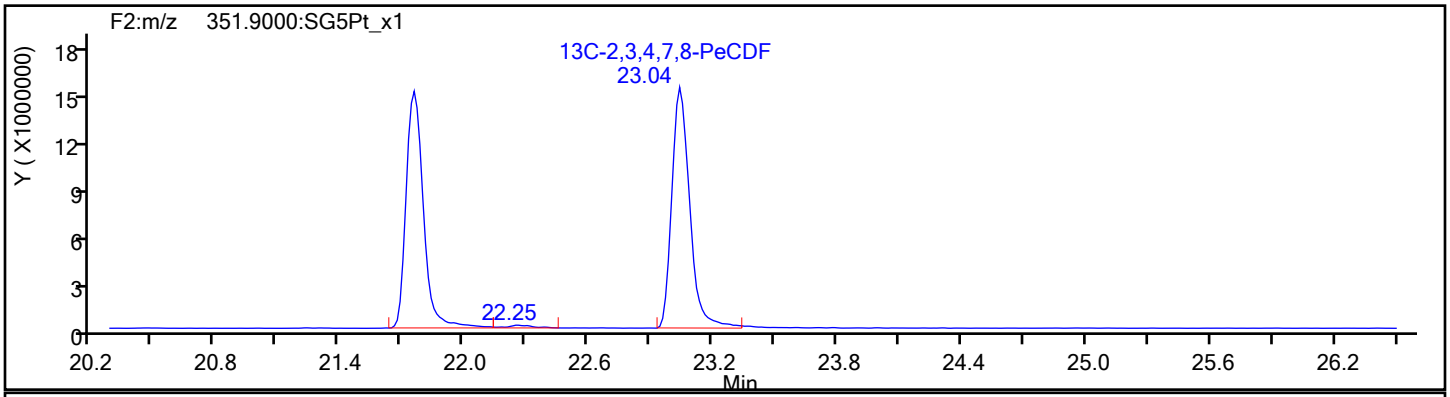

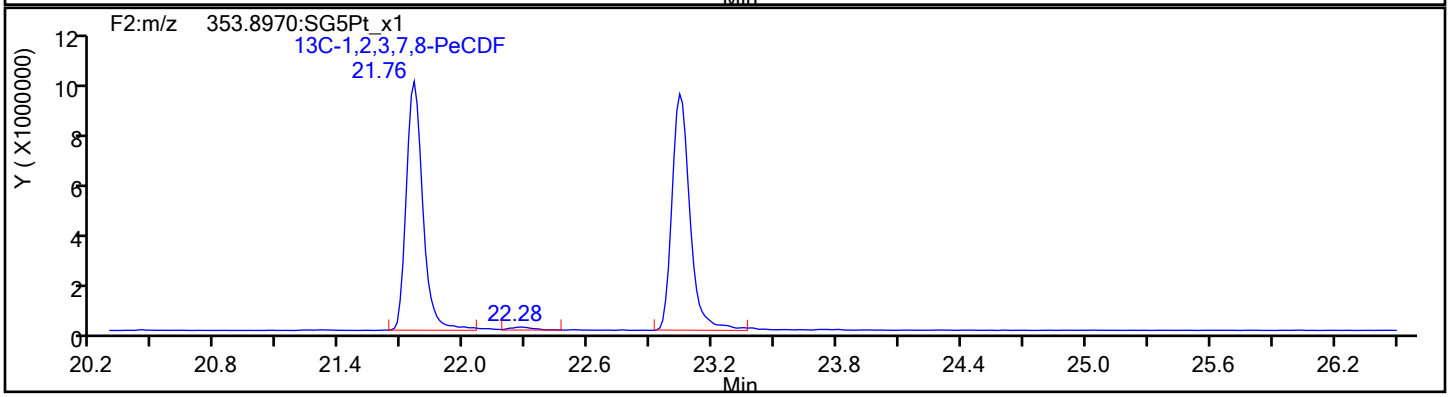

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Eurofins TestAmerica, Sacramento

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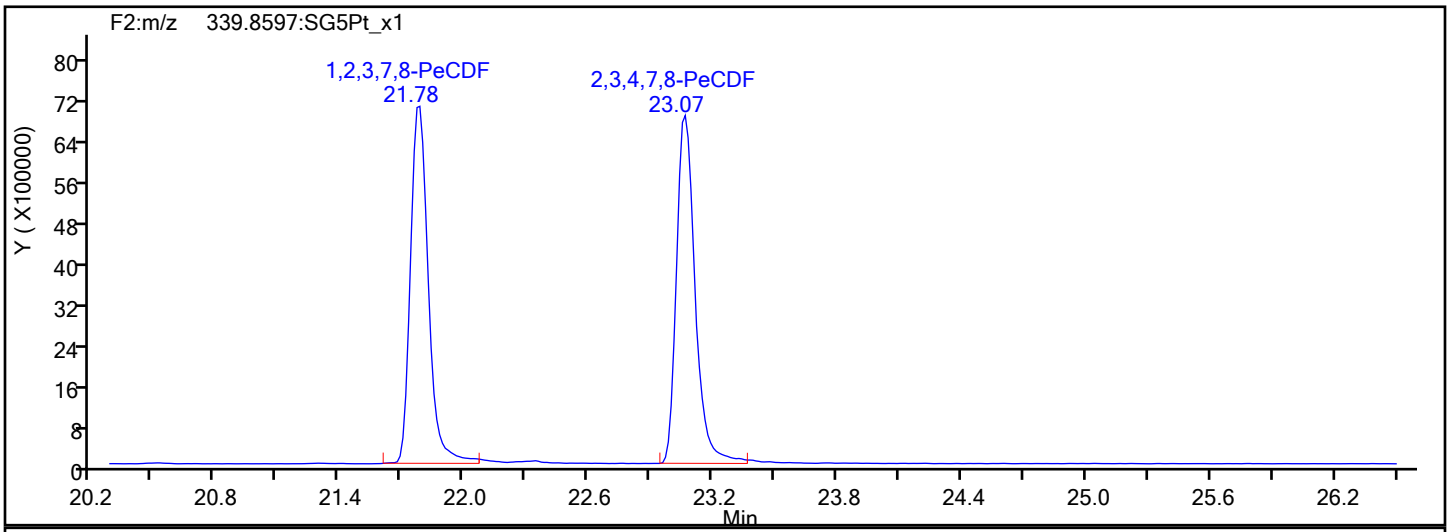

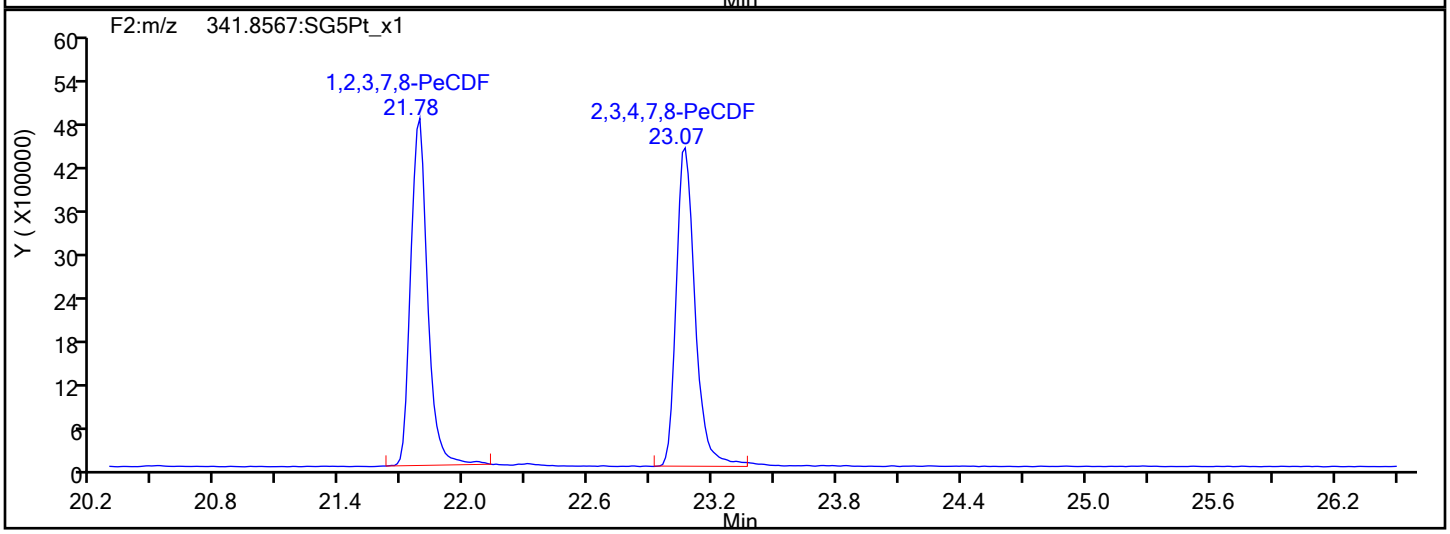

PeCDF Interference Mass

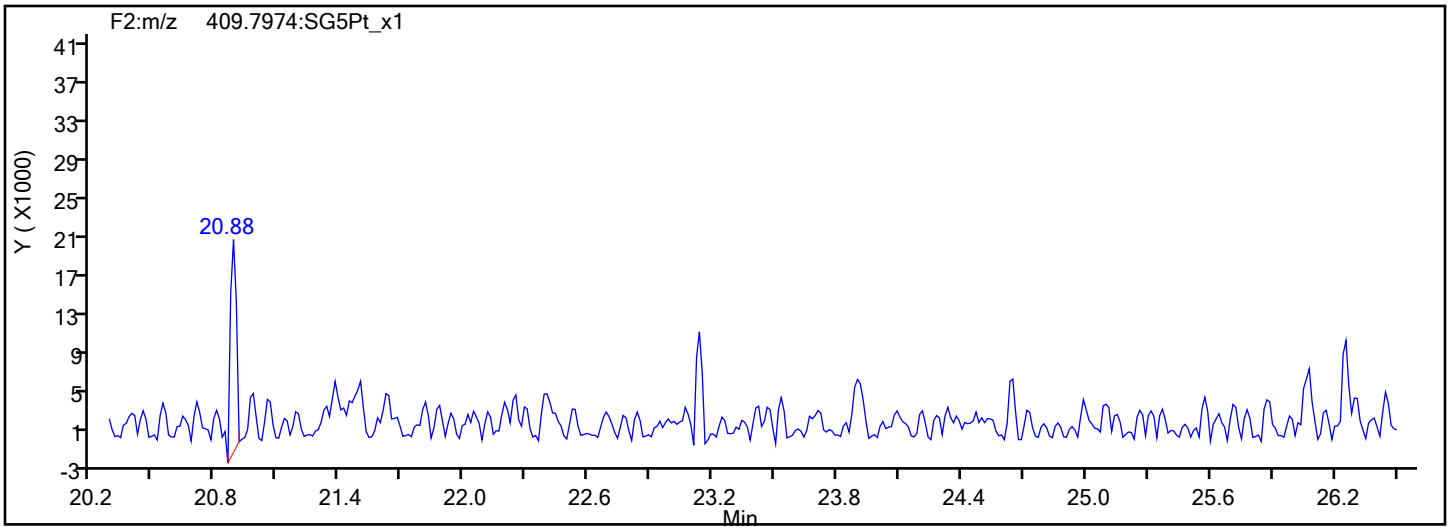

Report Date: 14-Nov-2019 09:48:11 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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PeCDD

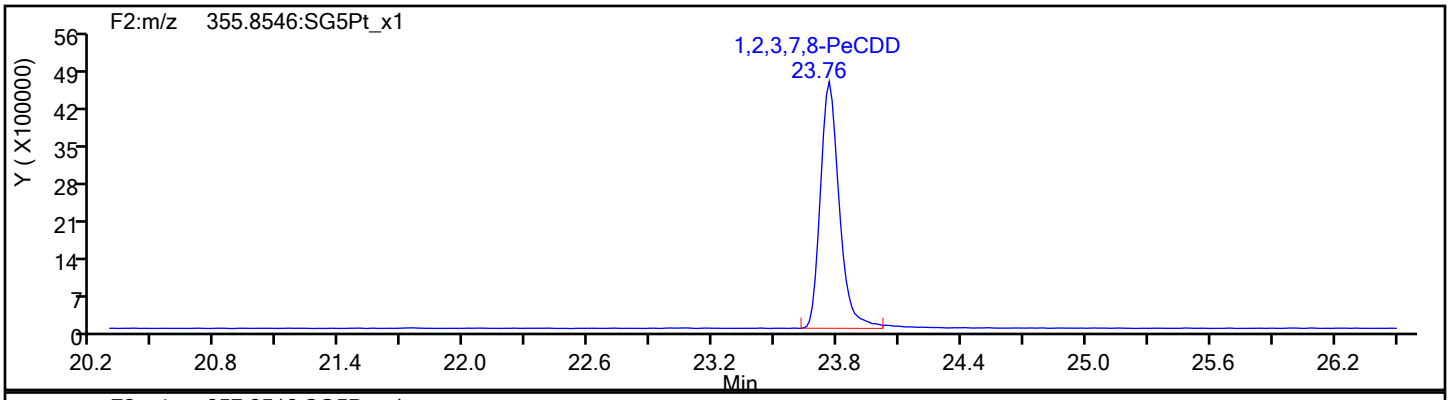

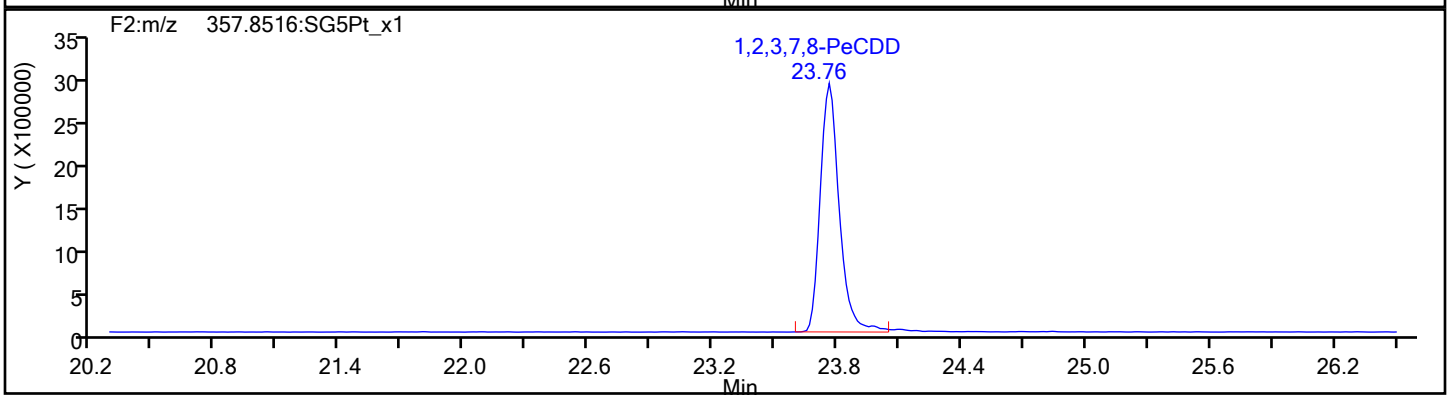

PeCDD Standards

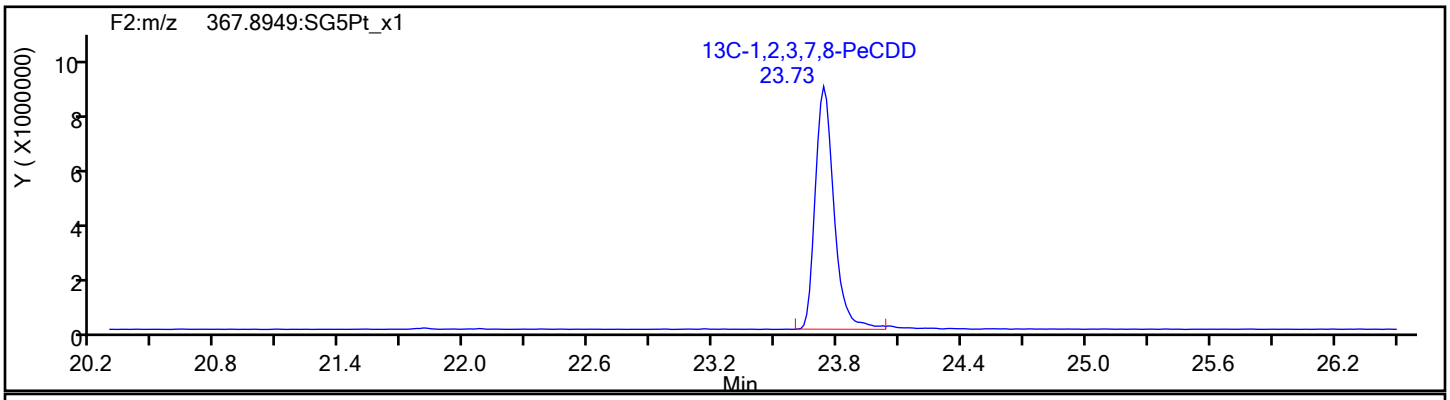

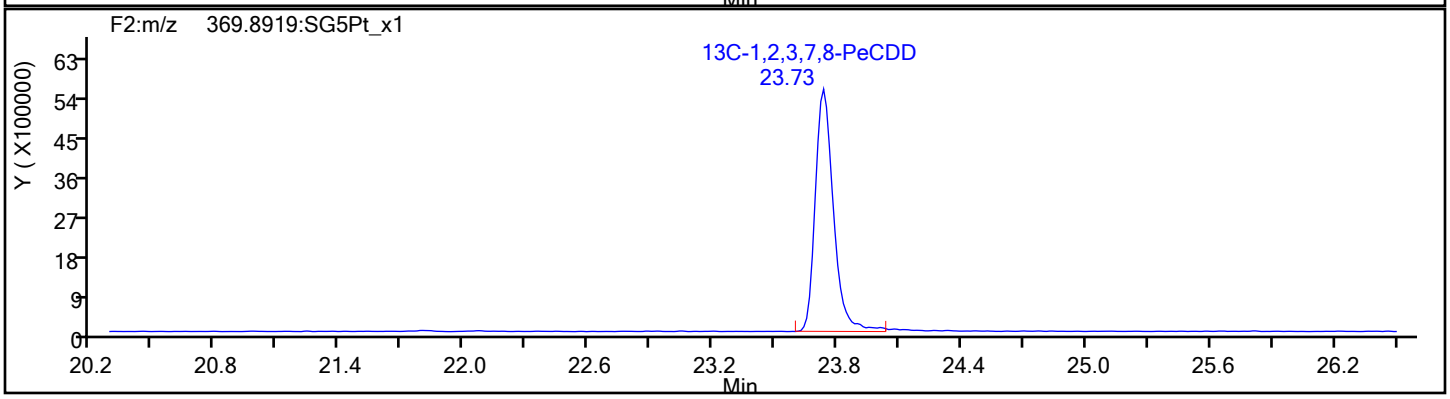

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HxCDF

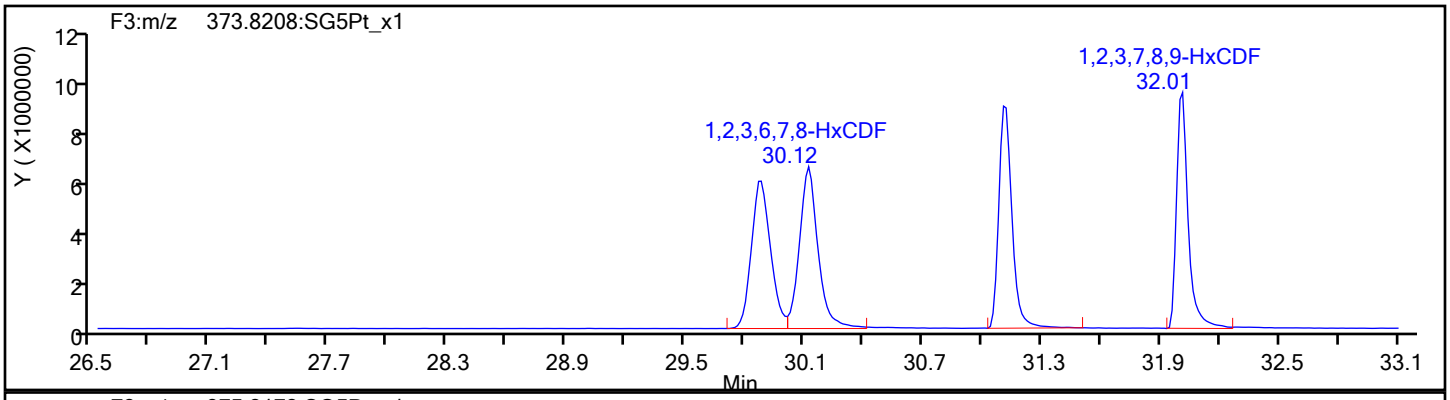

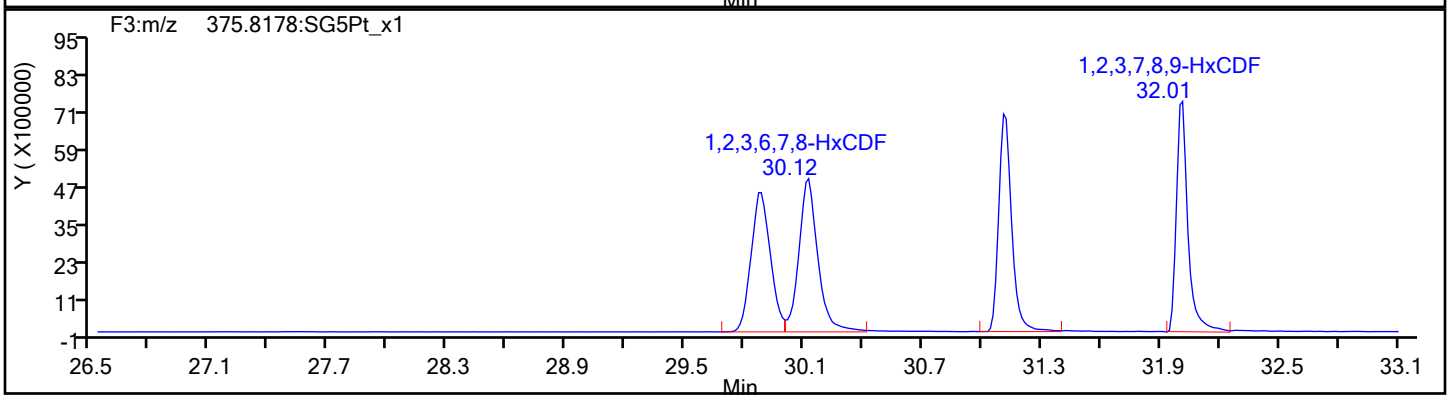

HxCDF Standards

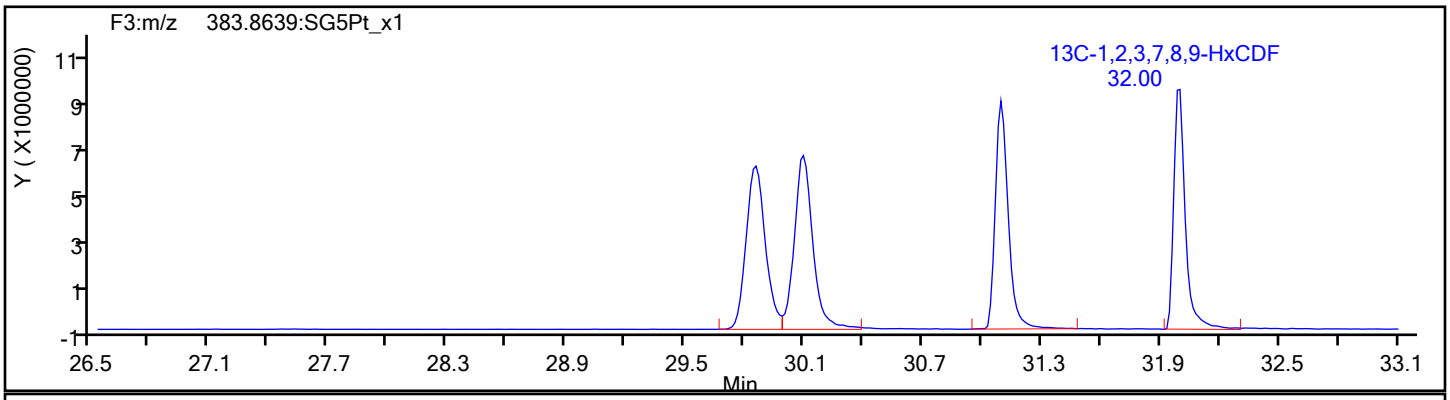

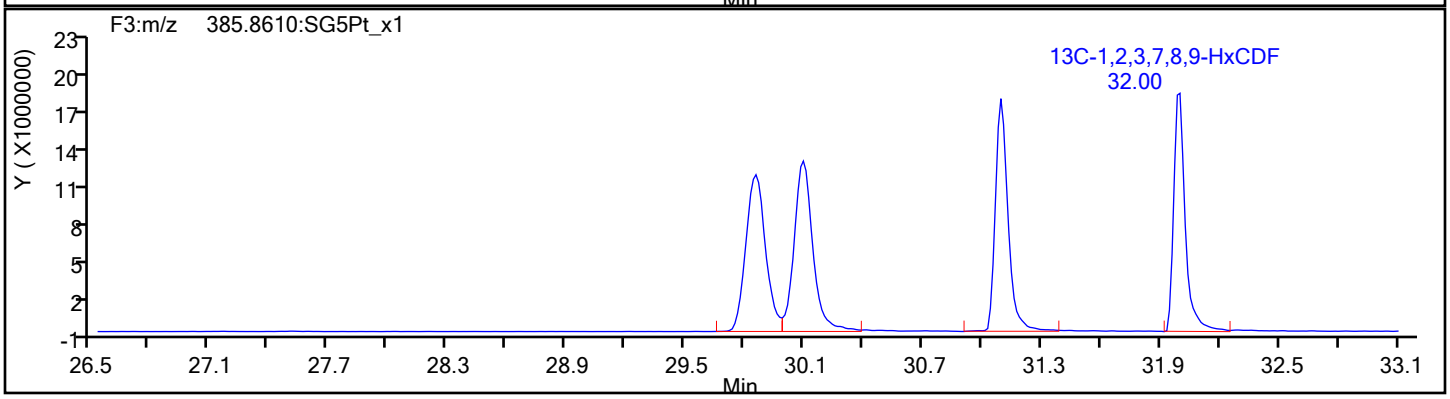

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Eurofins TestAmerica, Sacramento

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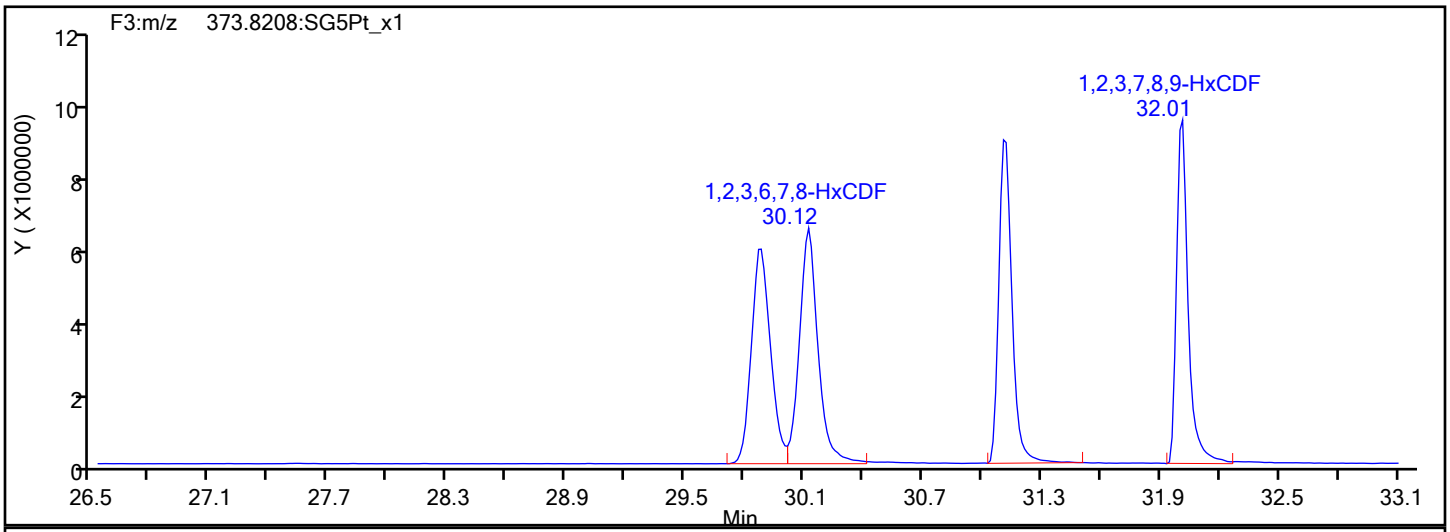

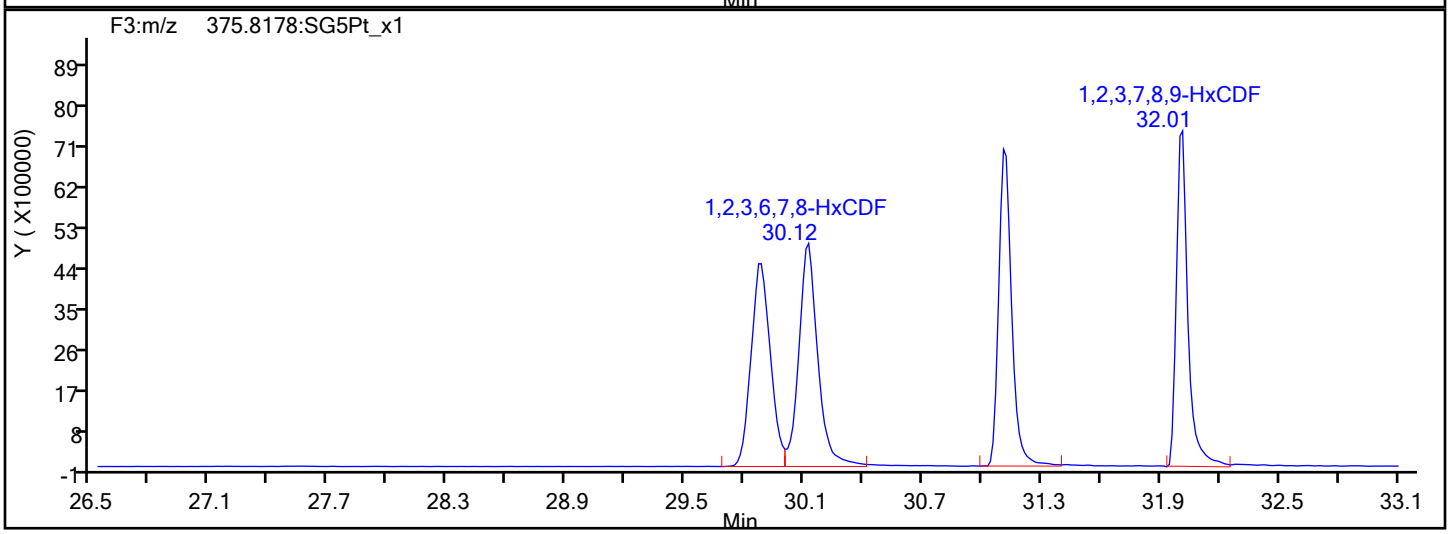

HxCDF Interference Mass

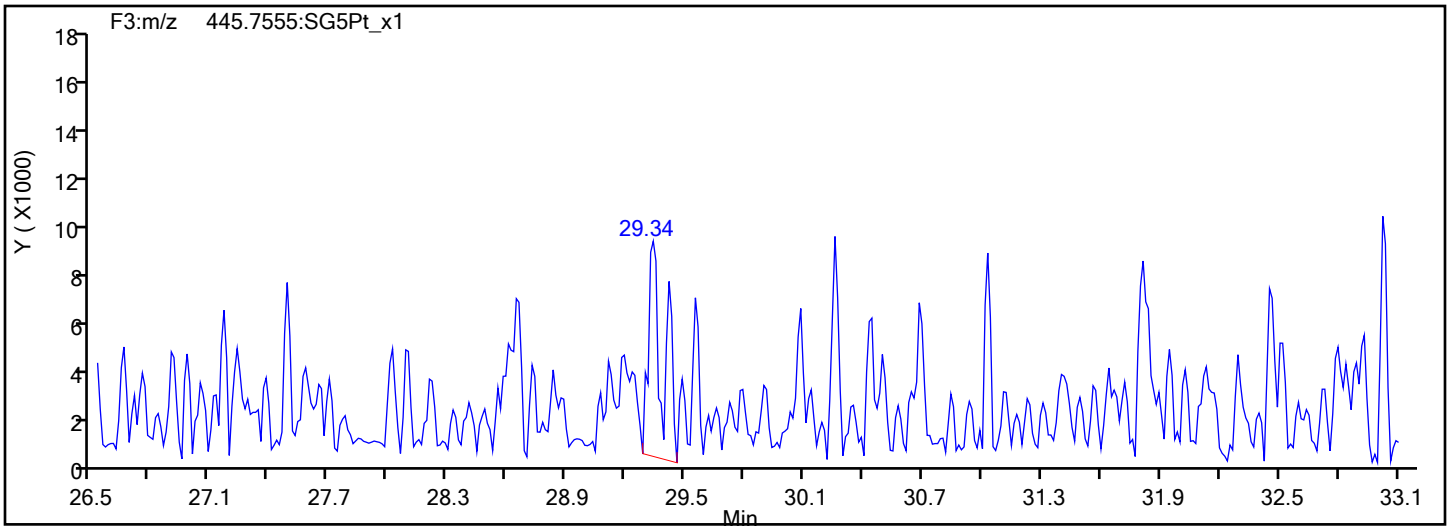

Report Date: 14-Nov-2019 09:48:11 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_39.d		
Injection Date:	13-Nov-2019 10:59:20	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338227	Sample Line#:	39
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDD

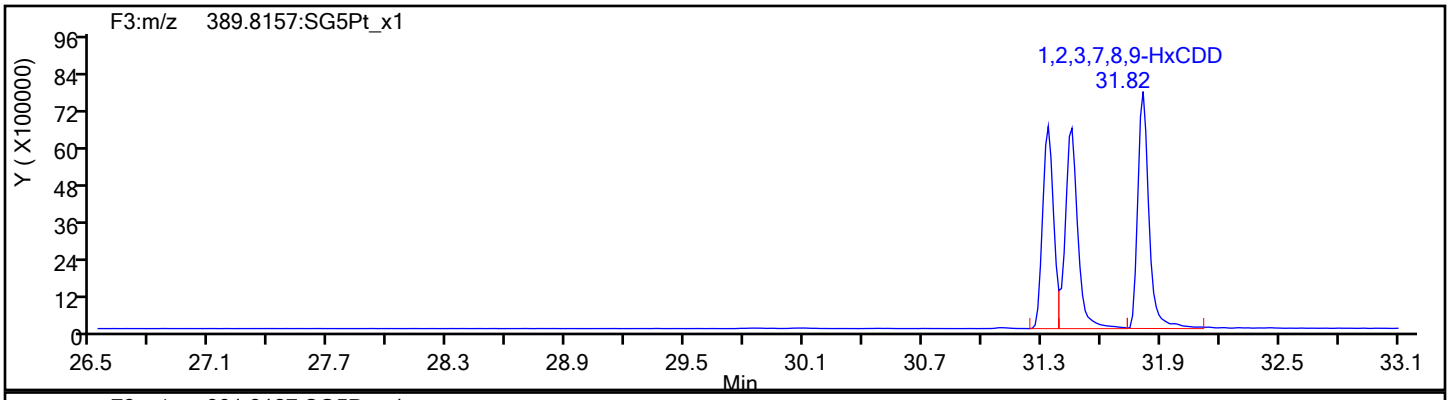

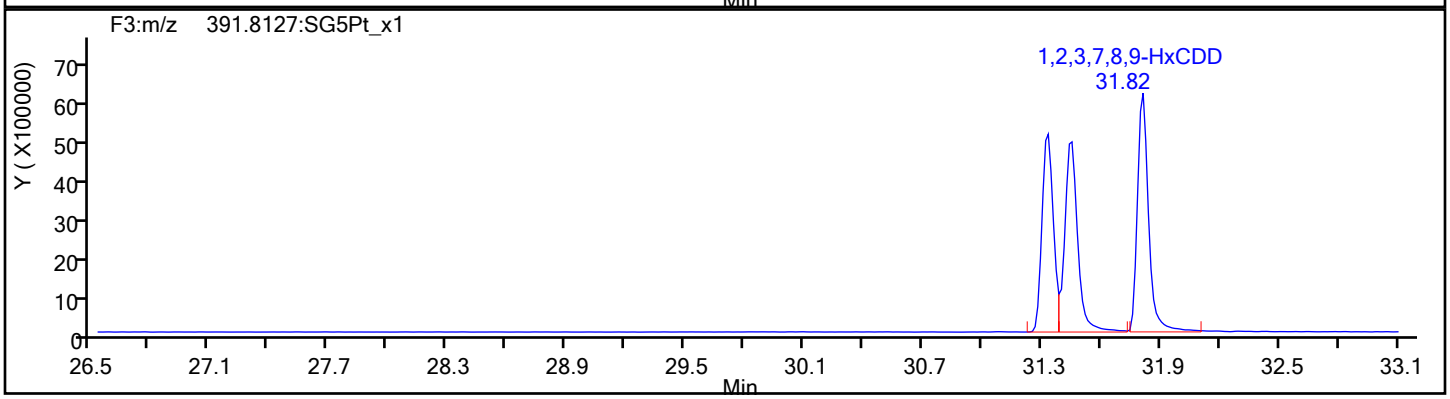

HxCDD Standards

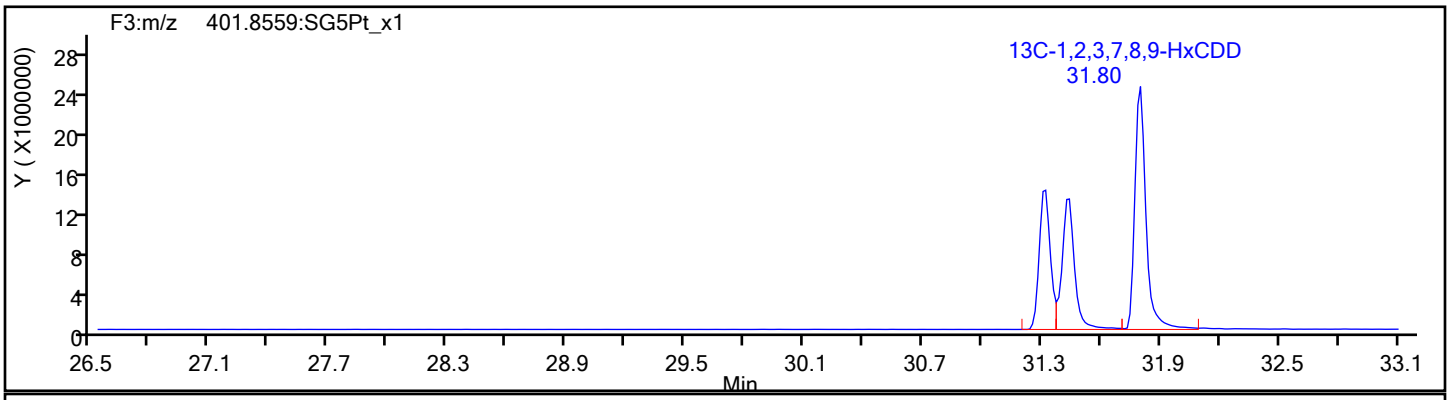

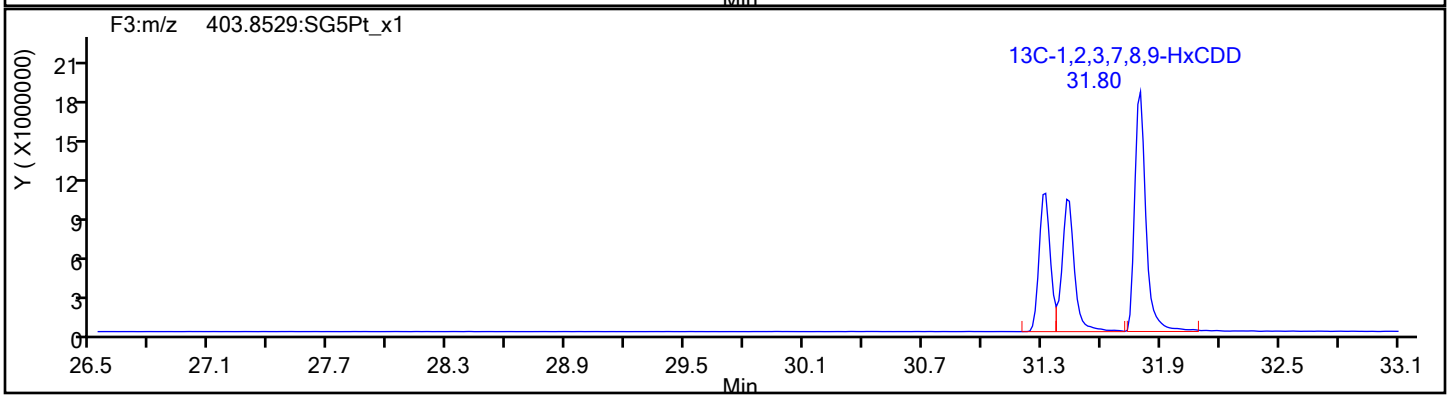

Report Date: 14-Nov-2019 09:48:11 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_39.d		
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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

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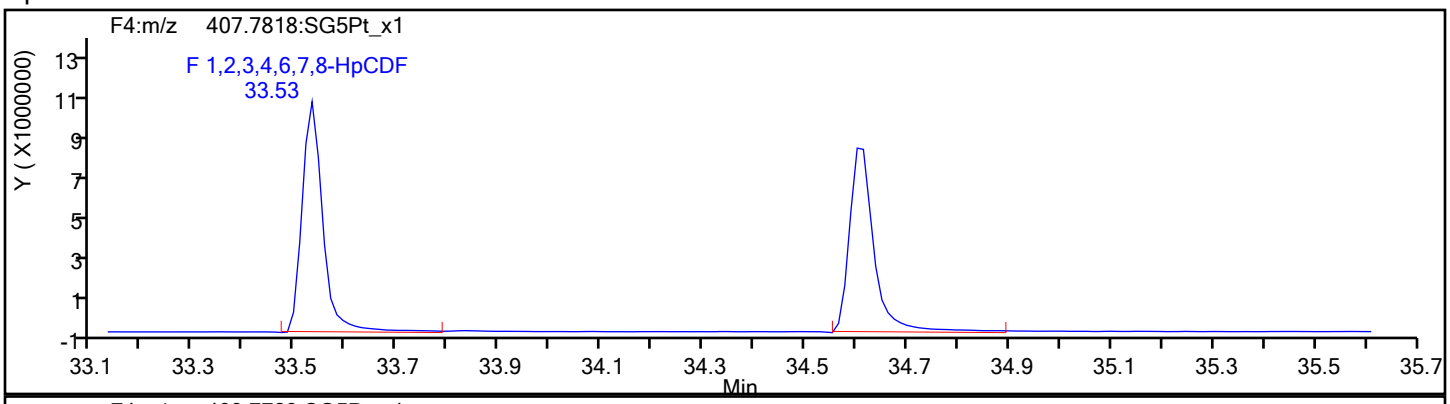

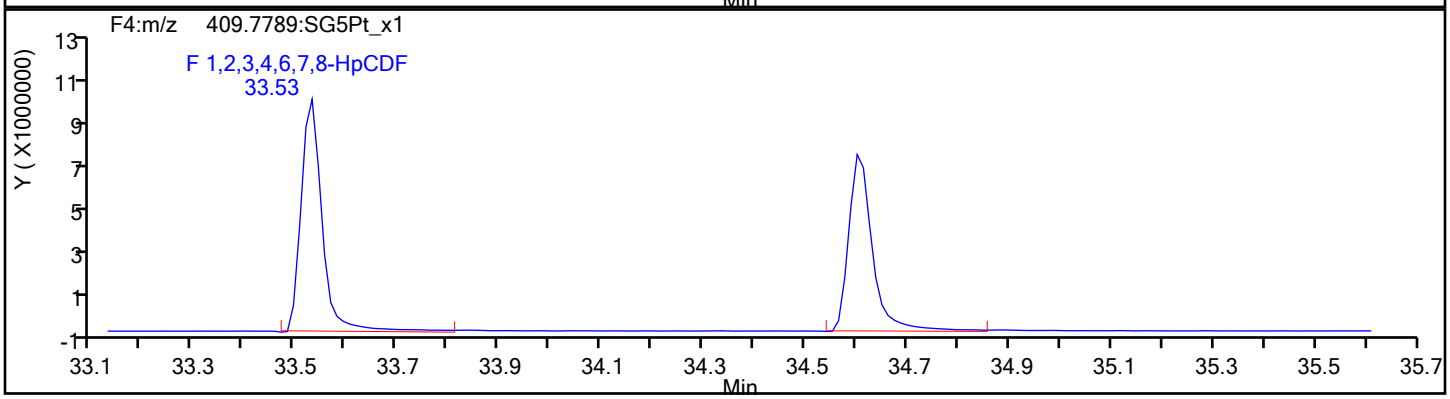

HpCDF Standards

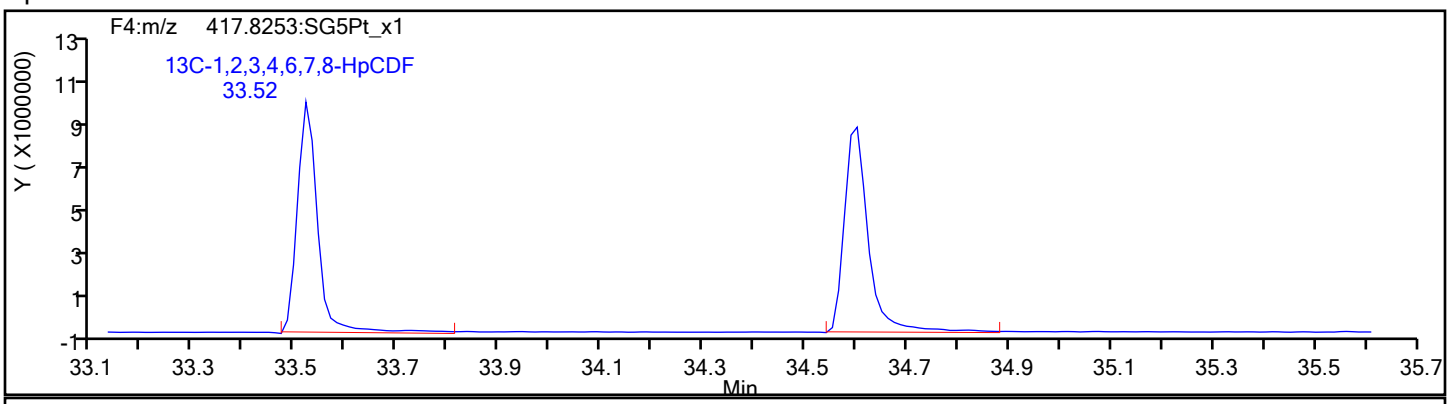

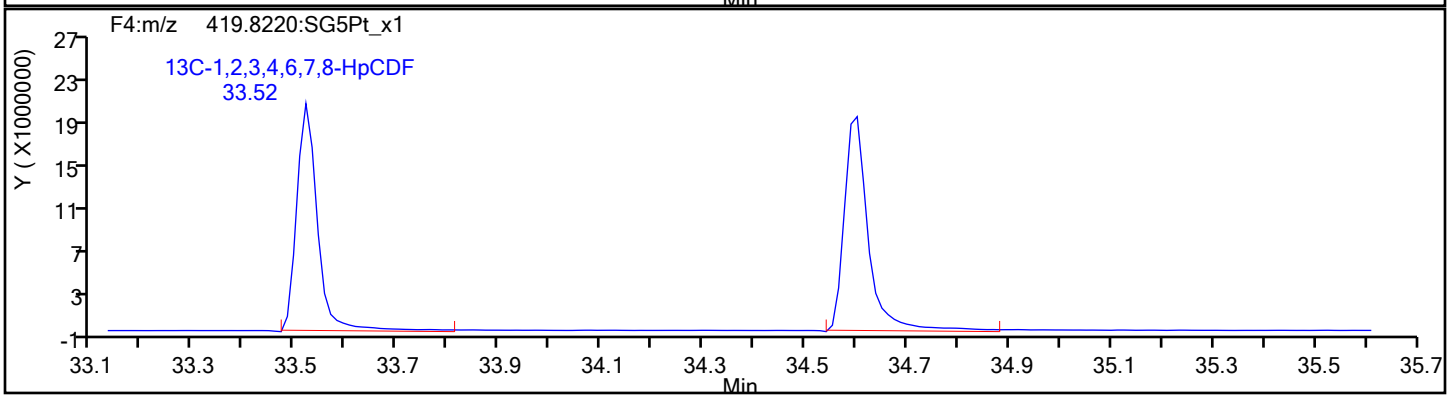

Report Date: 14-Nov-2019 09:48:11 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_39.d		
Injection Date:	13-Nov-2019 10:59:20	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338227	Sample Line#:	39
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

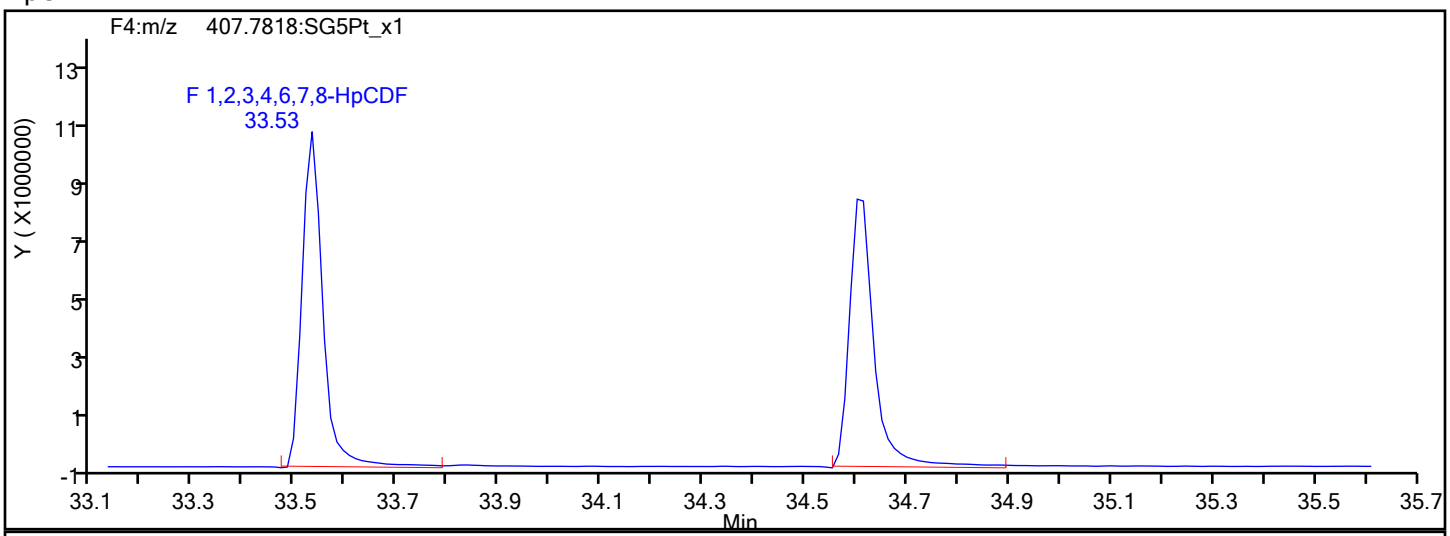

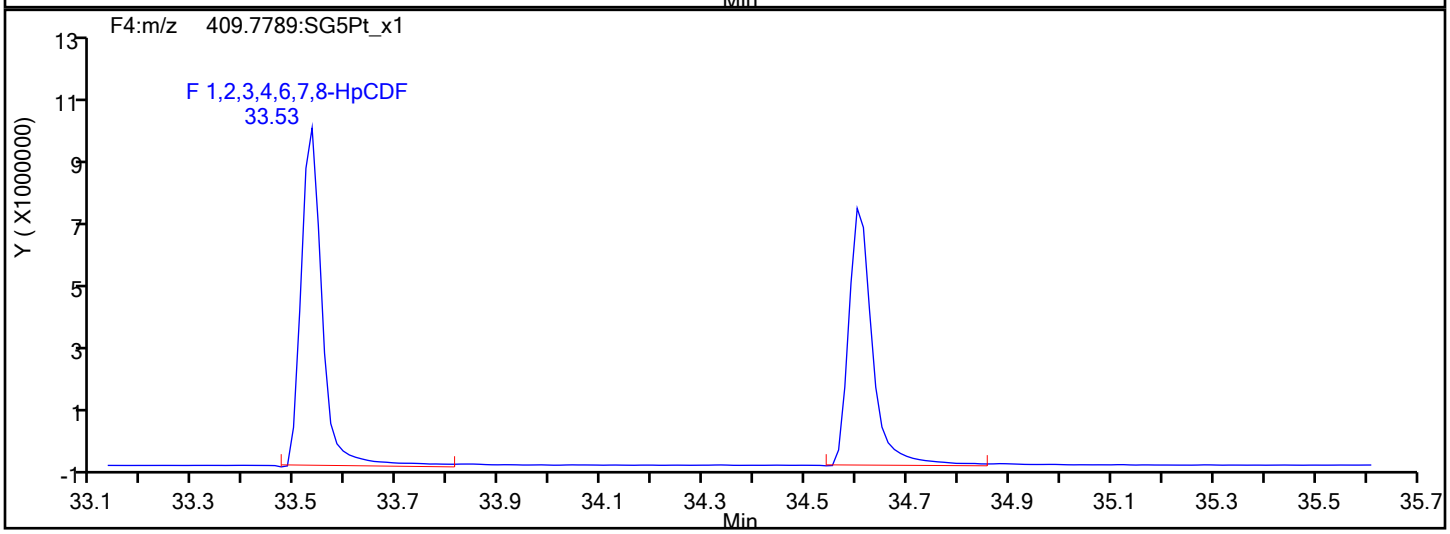

HpCDF Interference Mass

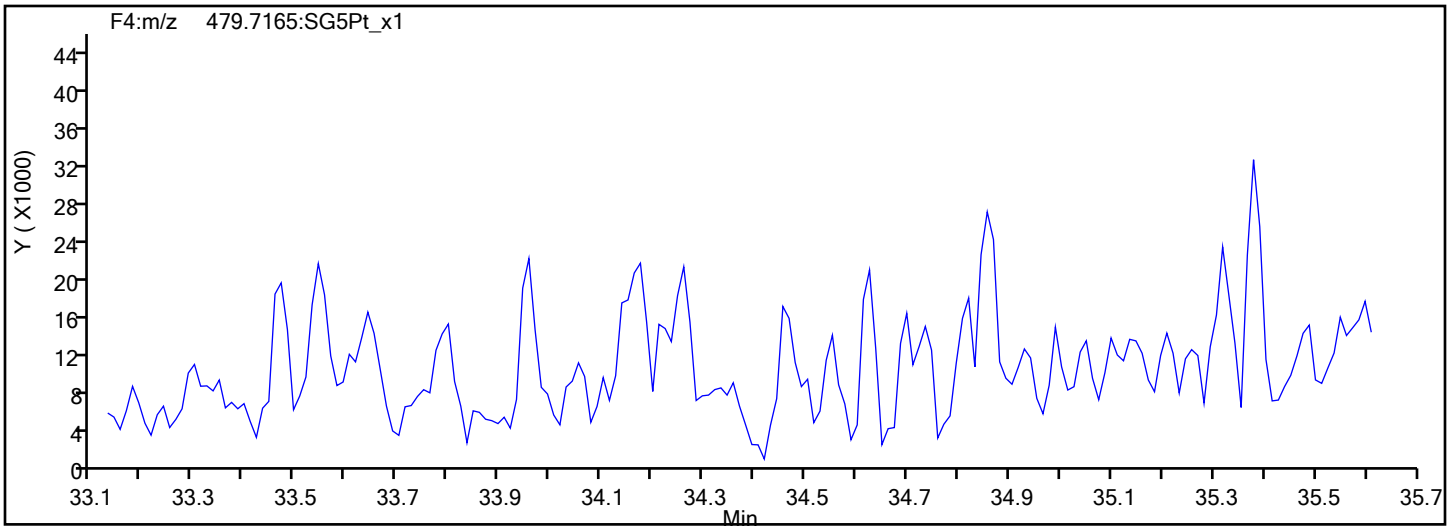

Report Date: 14-Nov-2019 09:48:11 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_39.d		
Injection Date:	13-Nov-2019 10:59:20	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

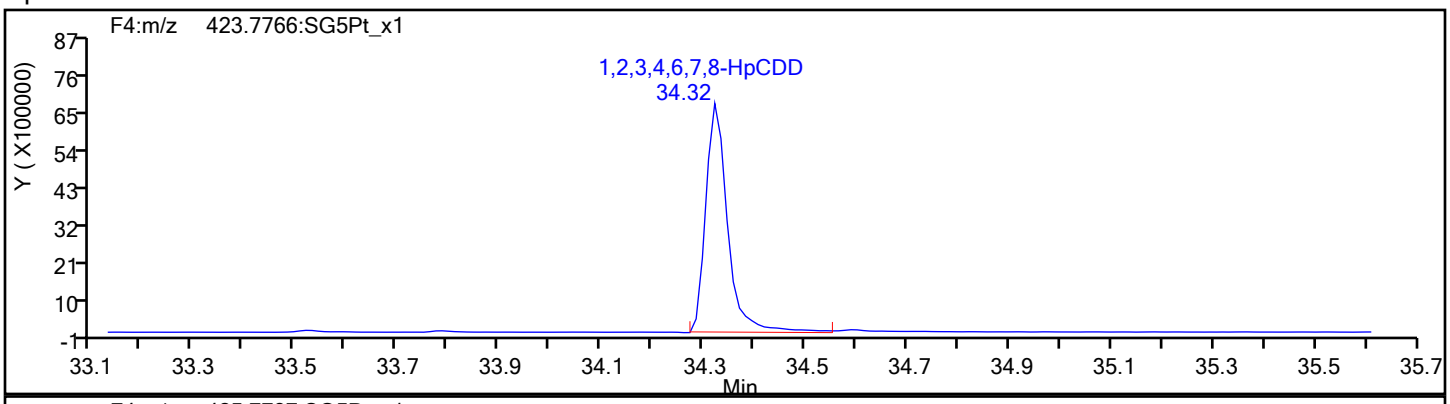

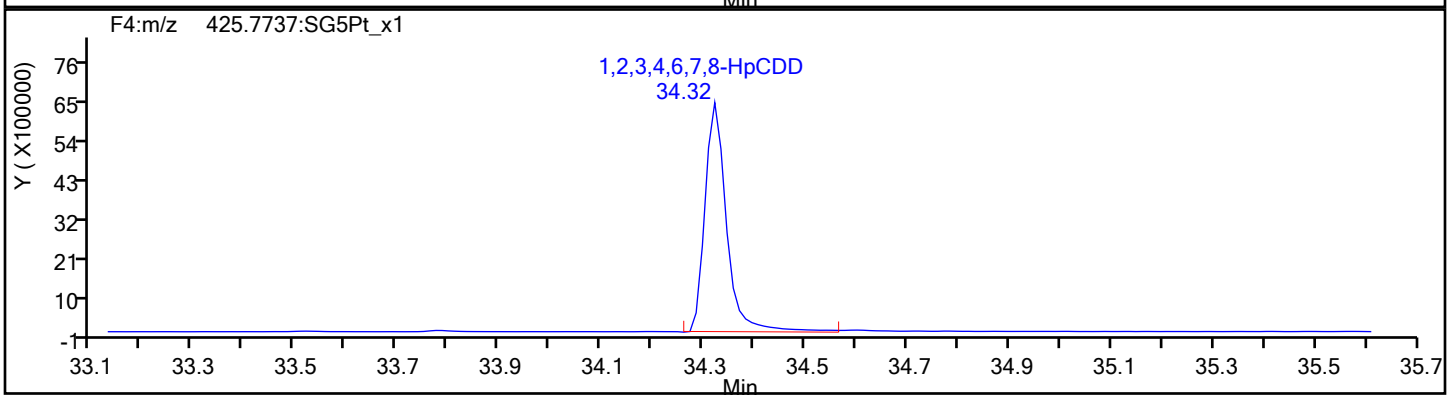

HpCDD Standards

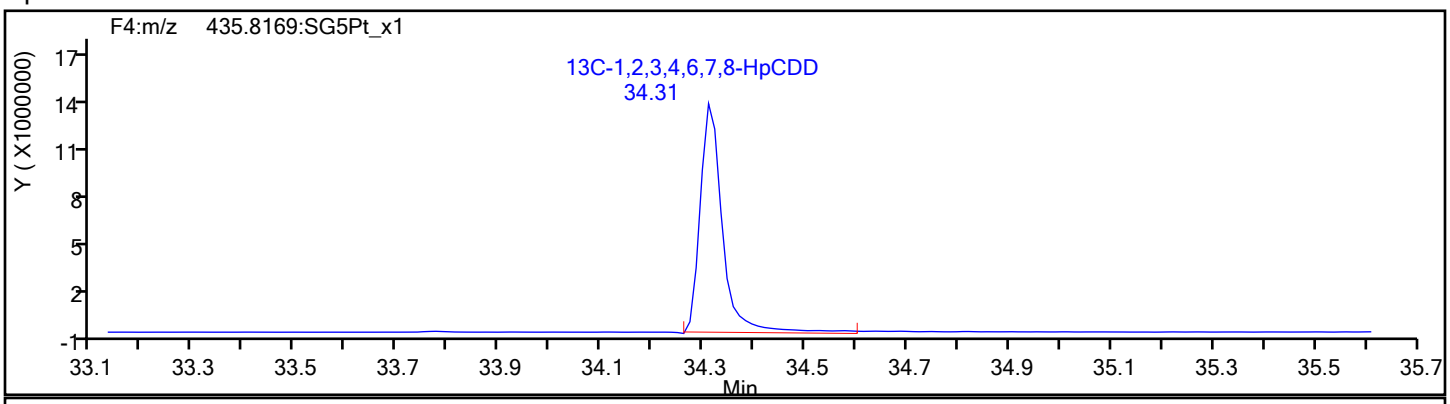

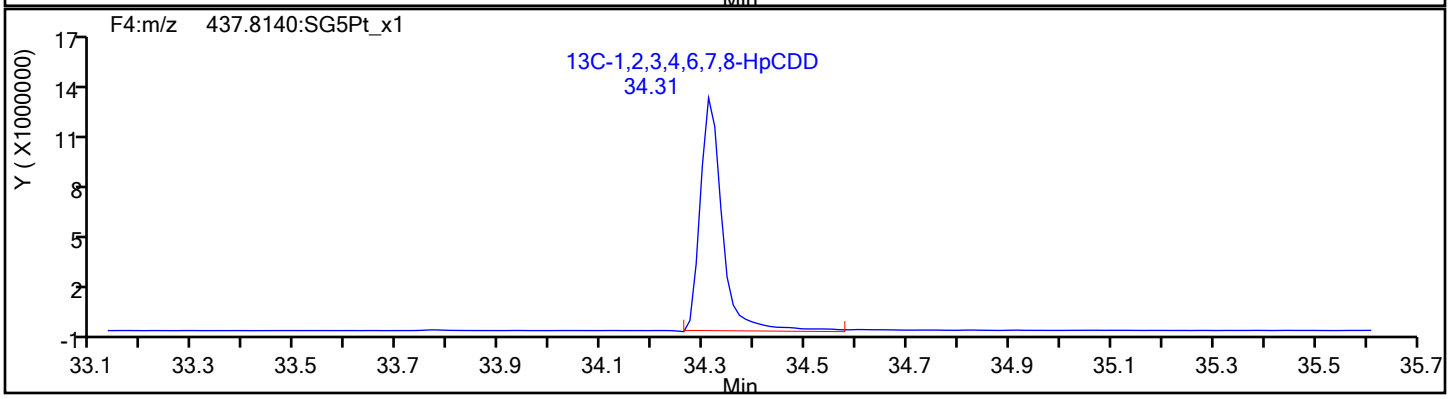

Report Date: 14-Nov-2019 09:48:11 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_39.d		
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Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338227	Sample Line#:	39
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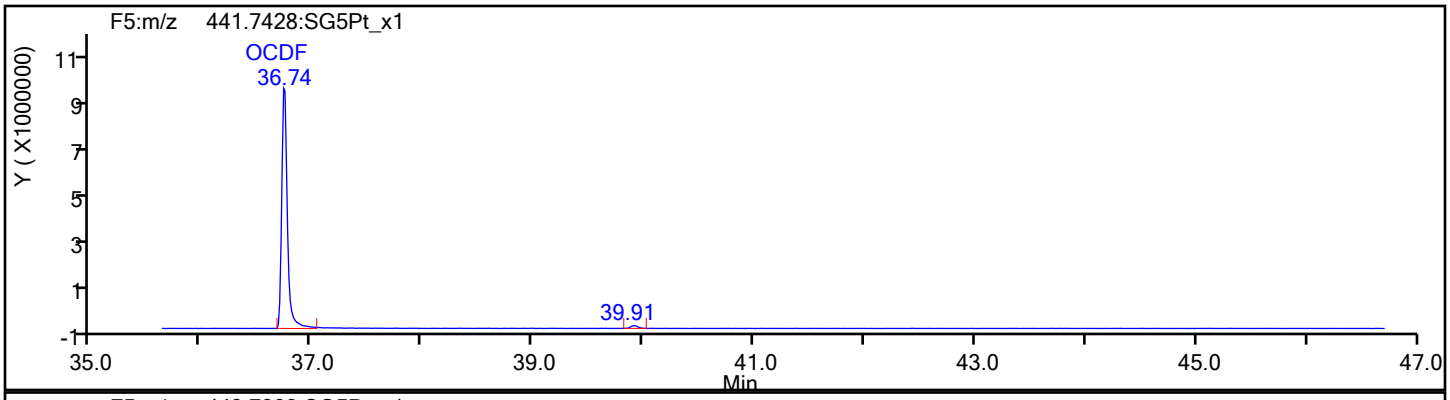

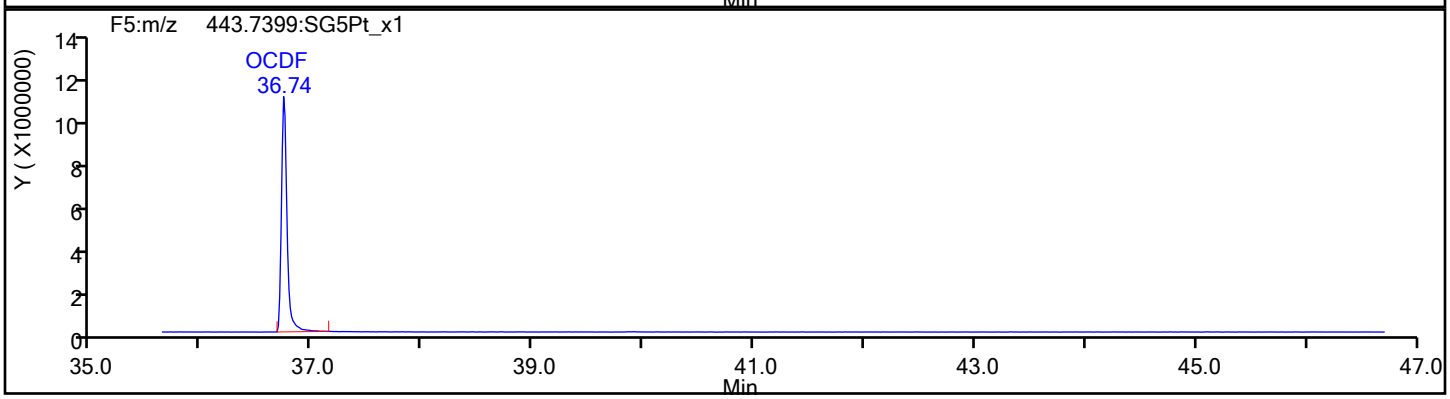

OCDF Standards

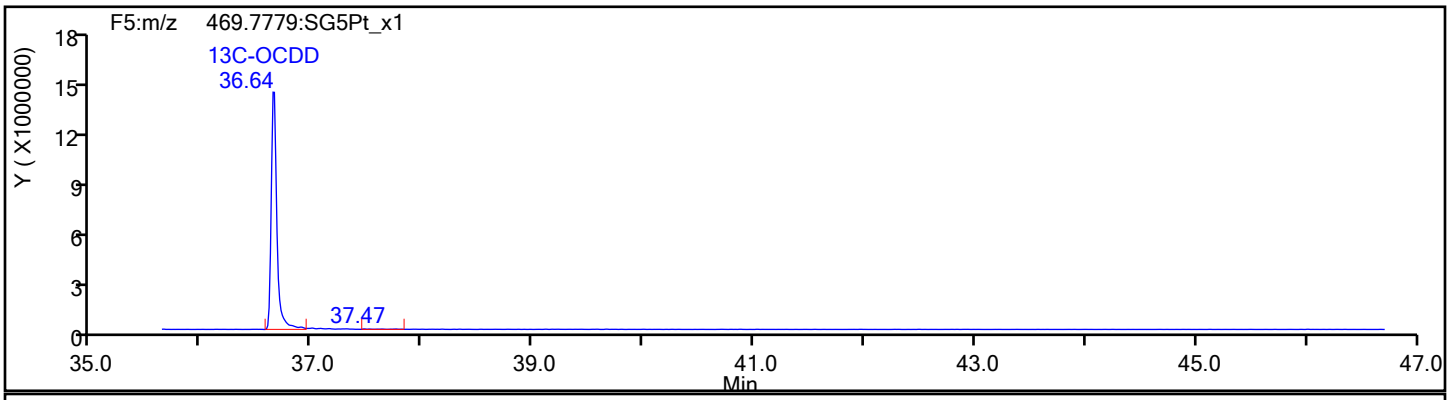

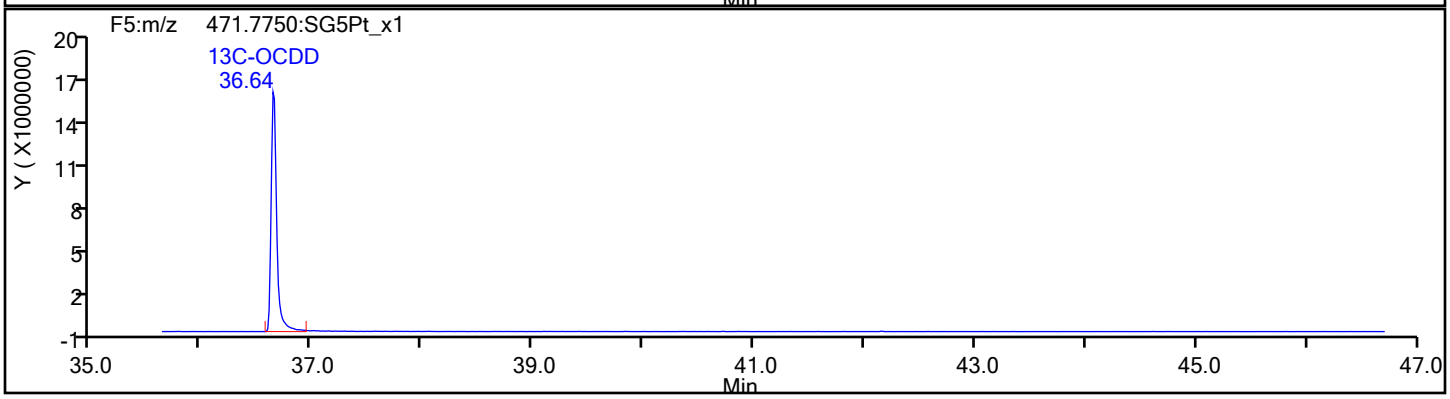

Report Date: 14-Nov-2019 09:48:11 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_39.d		
Injection Date:	13-Nov-2019 10:59:20	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

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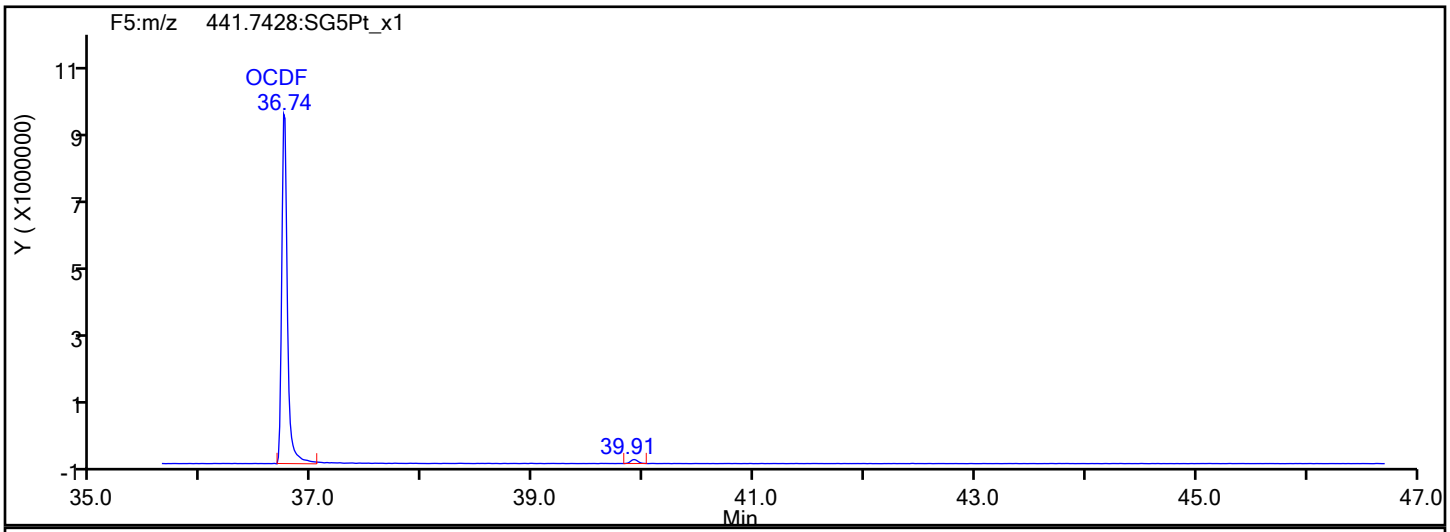

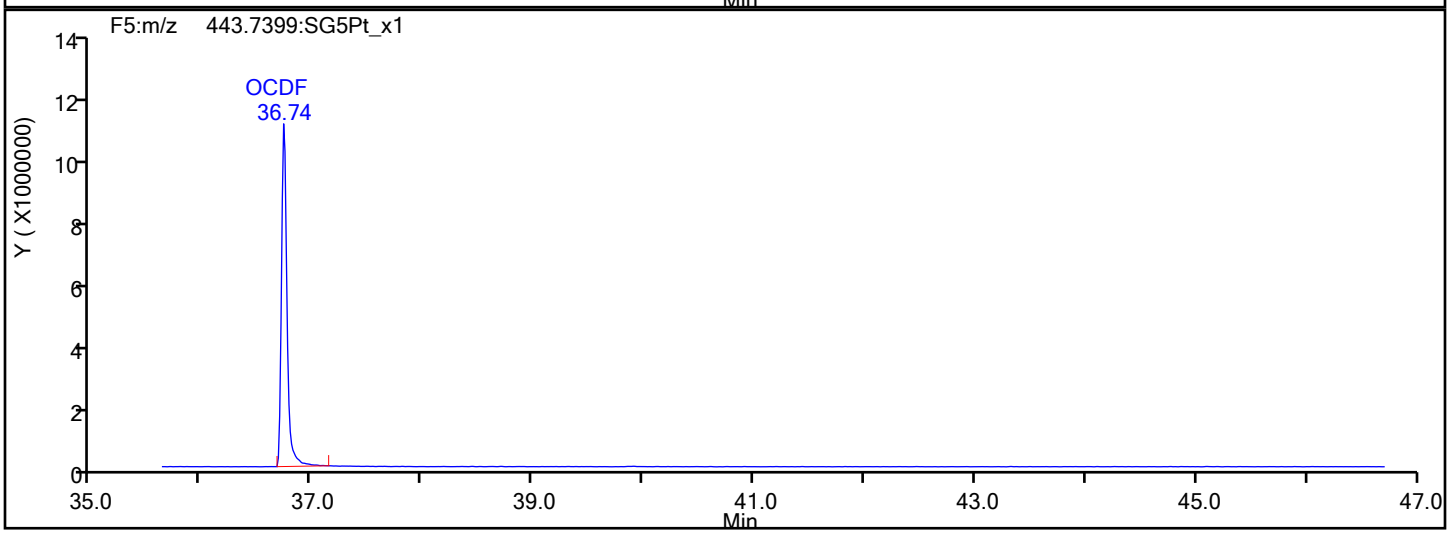

OCDF Interference Mass

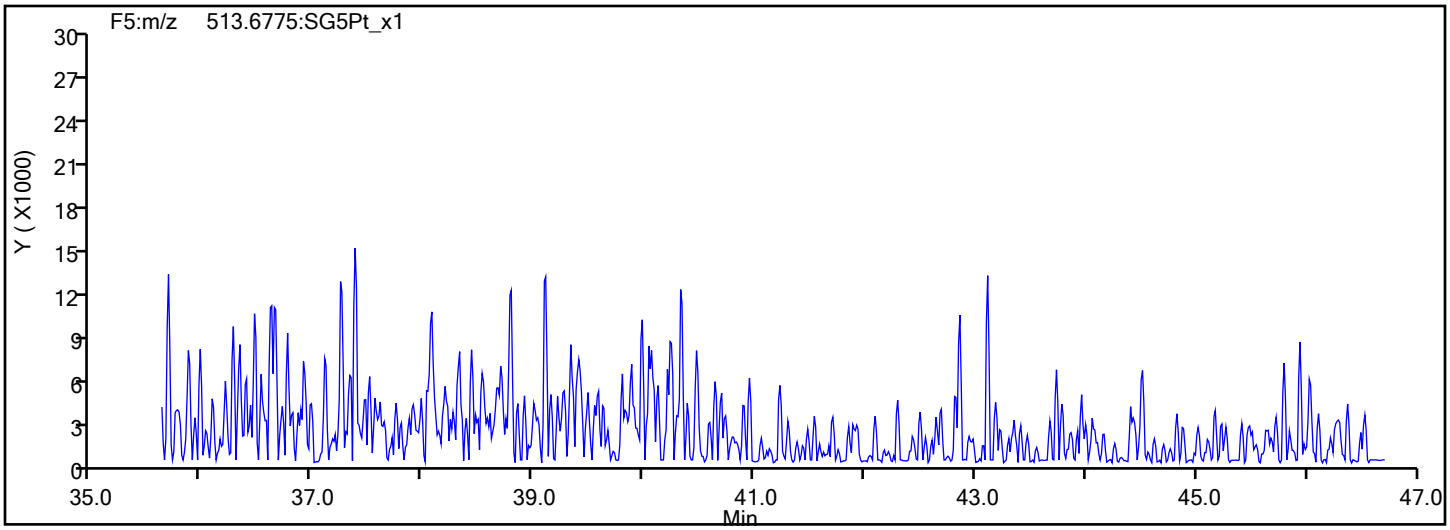

Report Date: 14-Nov-2019 09:48:11 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_39.d		
Injection Date:	13-Nov-2019 10:59:20	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338227	Sample Line#:	39
Column Type:	DB-5	Column Dia:	0.32 mm

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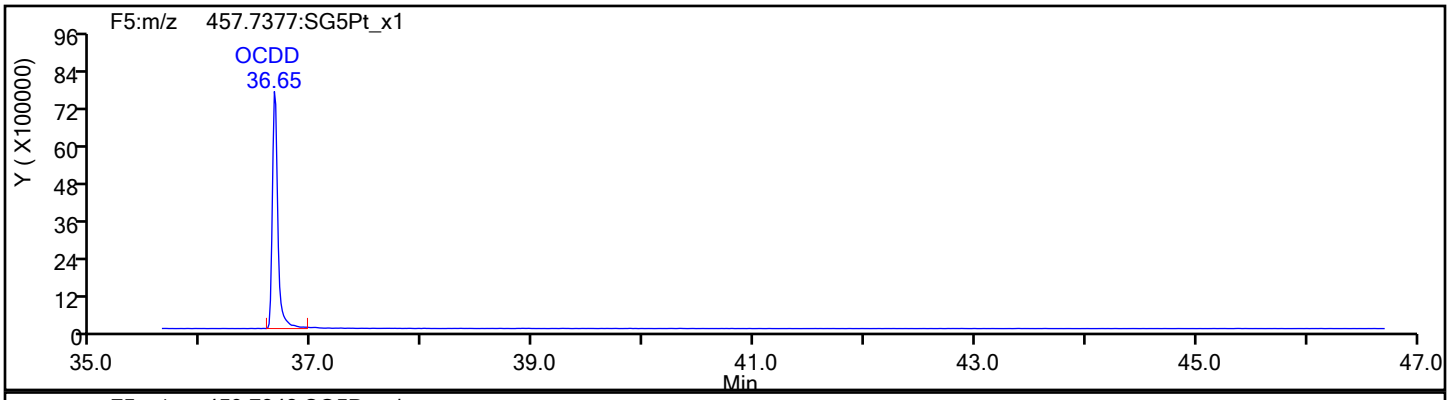

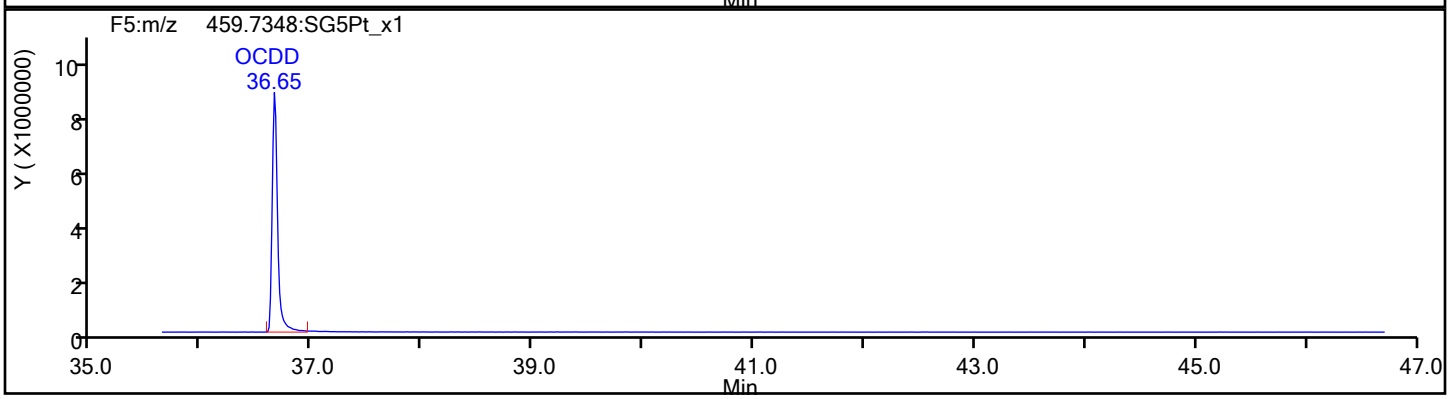

OCDD Standards

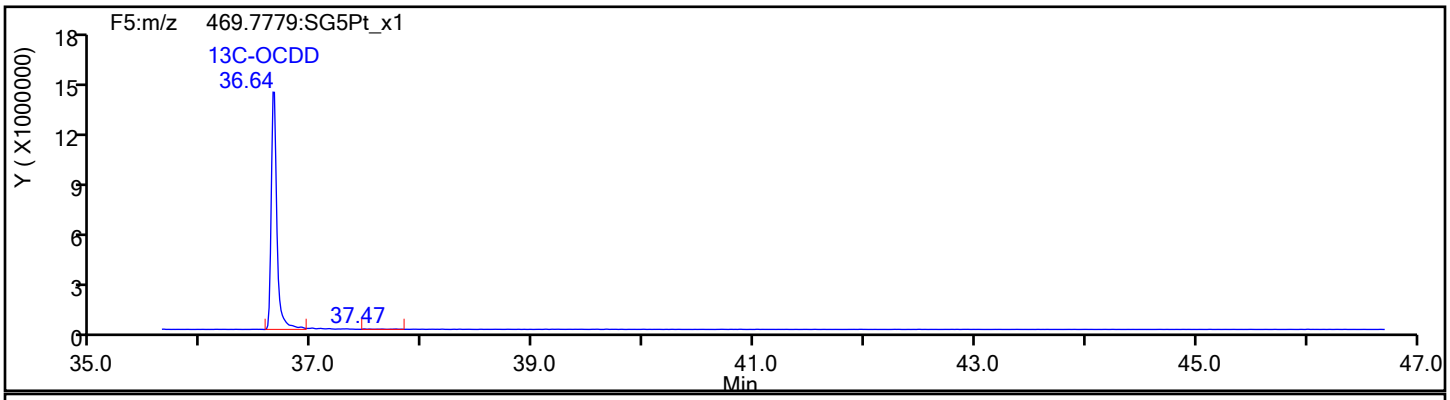

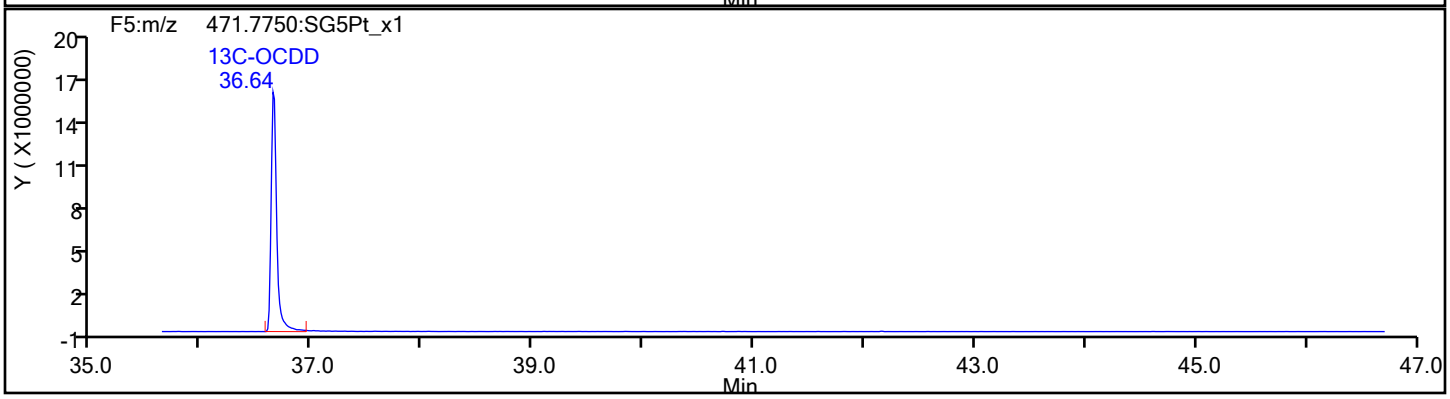

Report Date: 14-Nov-2019 09:48:12 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338227	Sample Line#:	39
Column Type:	DB-5	Column Dia:	0.32 mm

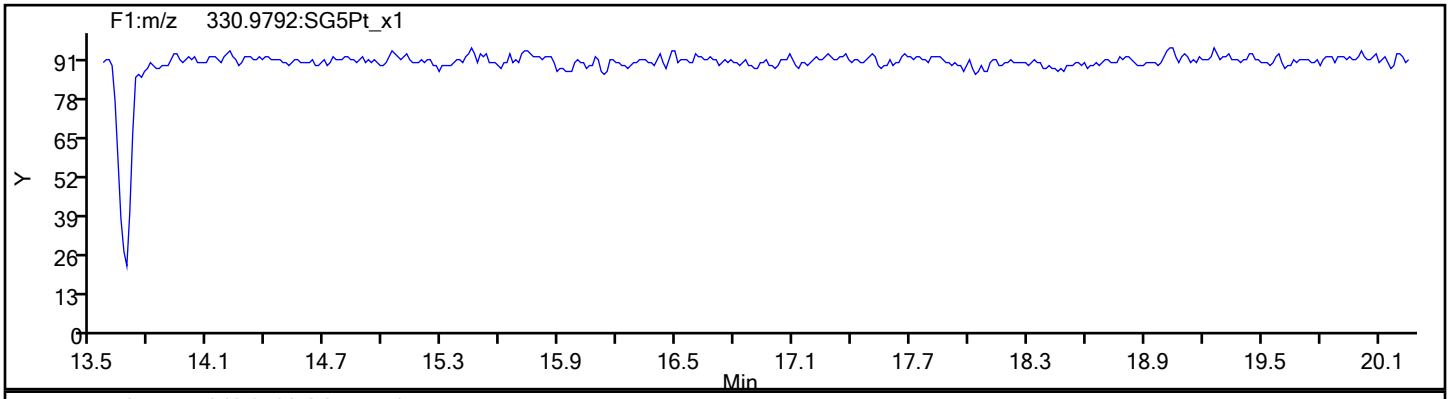

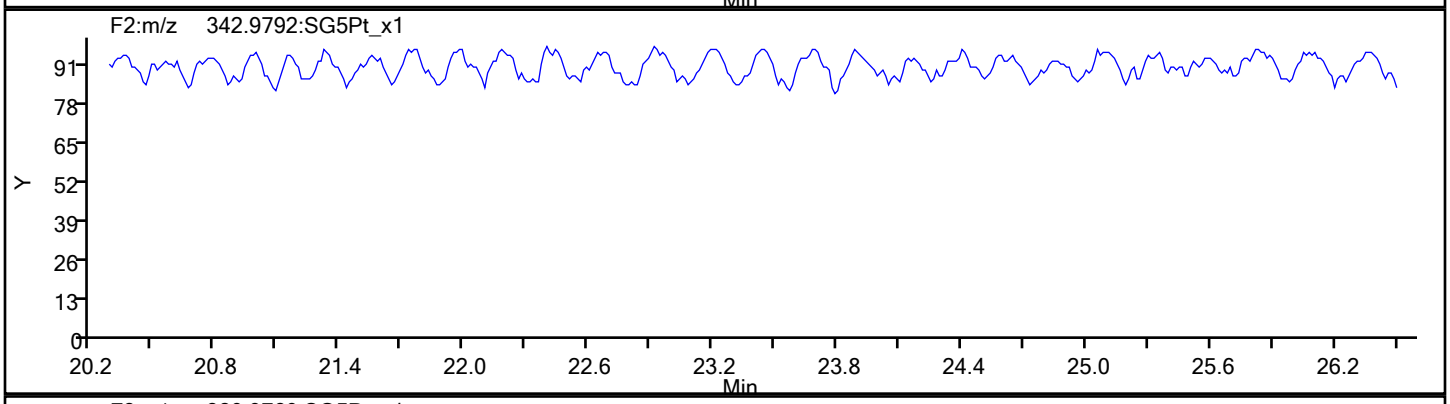

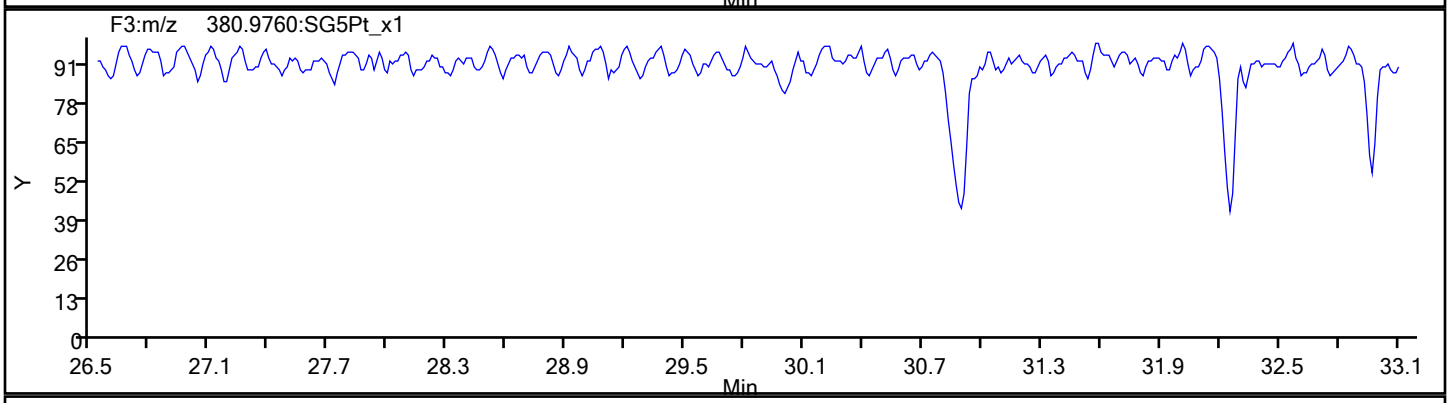

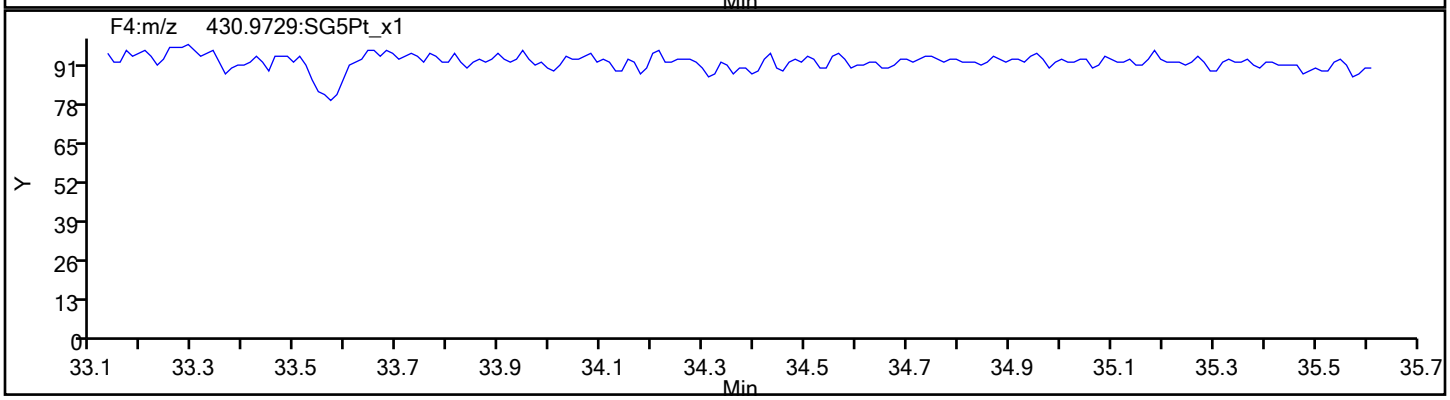

Report Date: 14-Nov-2019 09:48:12 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Injection Date:	13-Nov-2019 10:59:20	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338227	Sample Line#:	39
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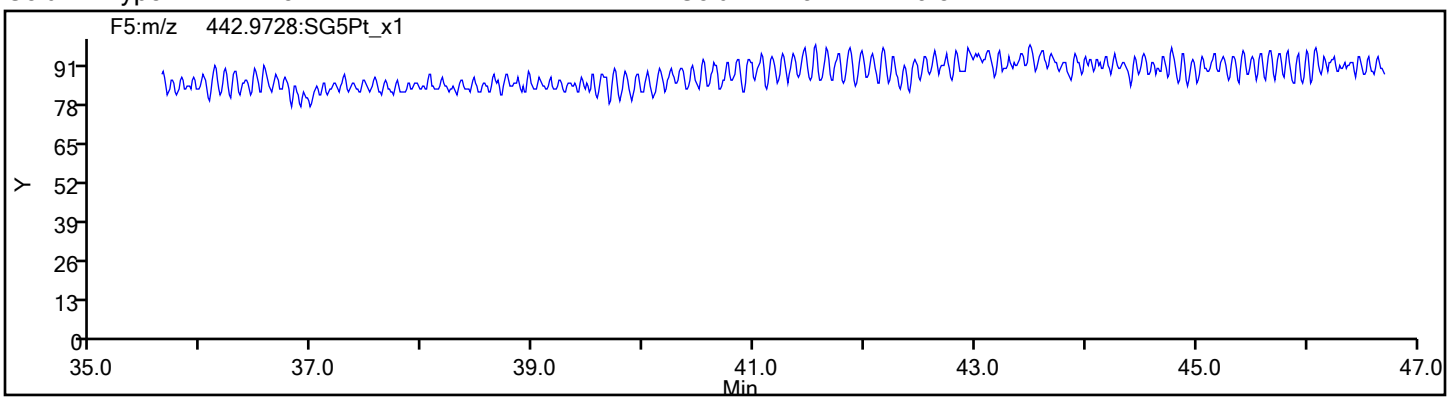

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 320-56102-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCSD 320-337526/3-A
Matrix: Water
Lab File ID: 12NO193D5_40.d
Analysis Method: 1613B
Date Collected:
Extract. Method: 1613B
Date Extracted: 11/11/2019 08:47
Sample wt/vol: 1000(mL)
Date Analyzed: 11/13/2019 11:46
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 338227
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	208		10	2.0
51207-31-9	2,3,7,8-TCDF	200		10	1.4
40321-76-4	1,2,3,7,8-PeCDD	1040		50	2.7
57117-41-6	1,2,3,7,8-PeCDF	1070		50	4.8
57117-31-4	2,3,4,7,8-PeCDF	1020		50	5.0
39227-28-6	1,2,3,4,7,8-HxCDD	978		50	3.1
57653-85-7	1,2,3,6,7,8-HxCDD	1050		50	3.5
19408-74-3	1,2,3,7,8,9-HxCDD	1070		50	3.1
70648-26-9	1,2,3,4,7,8-HxCDF	906		50	6.2
57117-44-9	1,2,3,6,7,8-HxCDF	1020		50	6.5
72918-21-9	1,2,3,7,8,9-HxCDF	1010		50	4.0
60851-34-5	2,3,4,6,7,8-HxCDF	1010		50	4.3
35822-46-9	1,2,3,4,6,7,8-HpCDD	1000		50	5.7
67562-39-4	1,2,3,4,6,7,8-HpCDF	1010		50	9.3
55673-89-7	1,2,3,4,7,8,9-HpCDF	961		50	11
3268-87-9	OCDD	2000		100	1.9
39001-02-0	OCDF	2060		100	2.6
41903-57-5	Total TCDD	208		10	2.0
30402-14-3	Total TCDF	200		10	1.4
36088-22-9	Total PeCDD	1040		50	2.7
30402-15-4	Total PeCDF	2090		50	4.9
34465-46-8	Total HxCDD	3100		50	3.3
55684-94-1	Total HxCDF	3950		50	5.3
37871-00-4	Total HpCDD	1000		50	5.7
38998-75-3	Total HpCDF	1980		50	10

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 320-337526/3-A

Matrix: Water Lab File ID: 12NO193D5_40.d

Analysis Method: 1613B Date Collected:

Extract. Method: 1613B Date Extracted: 11/11/2019 08:47

Sample wt/vol: 1000(mL) Date Analyzed: 11/13/2019 11:46

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 338227 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	75		20-175
89059-46-1	13C-2,3,7,8-TCDF	78		22-152
109719-79-1	13C-1,2,3,7,8-PeCDD	78		21-227
109719-77-9	13C-1,2,3,7,8-PeCDF	77		21-192
116843-02-8	13C-2,3,4,7,8-PeCDF	80		13-328
109719-80-4	13C-1,2,3,4,7,8-HxCDD	76		21-193
109719-81-5	13C-1,2,3,6,7,8-HxCDD	70		25-163
114423-98-2	13C-1,2,3,4,7,8-HxCDF	85		19-202
116843-03-9	13C-1,2,3,6,7,8-HxCDF	73		21-159
116843-04-0	13C-1,2,3,7,8,9-HxCDF	83		17-205
116843-05-1	13C-2,3,4,6,7,8-HxCDF	76		22-176
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	76		26-166
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	77		21-158
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	85		20-186
114423-97-1	13C-OCDD	75		13-199

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	124		31-191

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_40.d
Lims ID: LCSD 320-337526/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 13-Nov-2019 11:46:59 ALS Bottle#: 34 Worklist Smp#: 40
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 320-337526/3-A LCSD 320-337526/3-A
Misc. Info.: 12NO193D5
Operator ID: ALM, AJS Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Nov-2019 09:47:37 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0312

First Level Reviewer: dadunj Date: 14-Nov-2019 09:48:40

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.414	208814419	0.81	3.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.930	225293258	0.76	1.3908	77.6	77.6	0.3850	0.3850	77.58	
2,3,7,8-TCDF	16.945	21896414	0.79	0.9710	10.0	10.0	0.0710	0.0710	100	
A Non-2,3,7,8-sub-TCDF	16.651						0.0710	0.0710		
S Total TCDF					10.0	10.0	0.0710	0.0710		
D 13C-2,3,7,8-TCDD	17.611	154251312	0.79	0.9819	75.2	75.2	0.3825	0.3825	75.23	
2,3,7,8-TCDD	17.626	16727483	0.75	1.0447	10.4	10.4	0.1025	0.1025	104	
$ 37Cl4-2,3,7,8-TCDD	17.626	125945277		1.2205	49.4	49.4	0.0762	0.0762	124	
A Non-2,3,7,8-sub-TCDD	17.097						0.1025	0.1025		
S Total TCDD					10.4	10.4	0.1025	0.1025		
D 13C-1,2,3,7,8-PeCDF	21.757	185813425	1.57	1.1585	76.8	76.8	0.2694	0.2694	76.81	
1,2,3,7,8-PeCDF	21.771	95604406	1.58	0.9633	53.4	53.4	0.2407	0.2407	107	
D 13C-2,3,4,7,8-PeCDF	23.039	193329957	1.60	1.1532	80.3	80.3	0.2706	0.2706	80.29	
2,3,4,7,8-PeCDF	23.066	93799838	1.57	0.9495	51.1	51.1	0.2493	0.2493	102	
A F1 PeCDFs	19.599						0.0610	0.0610		
A Non-2,3,7,8-sub-PeCDF	22.617						0.2450	0.2450		
S Total PeCDF					104.5	104.5	0.2450	0.2450		
D 13C-1,2,3,7,8-PeCDD	23.734	120776662	1.59	0.7431	77.8	77.8	0.1299	0.1299	77.83	
1,2,3,7,8-PeCDD	23.762	66661522	1.64	1.0635	51.9	51.9	0.1348	0.1348	104	
A Non-2,3,7,8-sub-PeCDD	22.698						0.1348	0.1348		
S Total PeCDD					51.9	51.9	0.1348	0.1348		
D 13C-1,2,3,4,7,8-HxCDF	29.845	175401674	0.52	0.9837	85.3	85.3	0.3215	0.3215	85.28	
1,2,3,4,7,8-HxCDF	29.871	96693685	1.25	1.2173	45.3	45.3	0.3081	0.3081	90.57	
D 13C-1,2,3,6,7,8-HxCDF	30.098	176593537	0.52	1.1554	73.1	73.1	0.2738	0.2738	73.10	
1,2,3,6,7,8-HxCDF	30.124	101488404	1.20	1.1311	50.8	50.8	0.3236	0.3236	102	
D 13C-2,3,4,6,7,8-HxCDF	31.096	164397199	0.53	1.0361	75.9	75.9	0.3053	0.3053	75.89	
2,3,4,6,7,8-HxCDF	31.110	97621065	1.26	1.1710	50.7	50.7	0.2174	0.2174	101	
D 13C-1,2,3,7,8,9-HxCDF	31.989	156007304	0.52	0.9034	82.6	82.6	0.3501	0.3501	82.59	
1,2,3,7,8,9-HxCDF	32.002	93316665	1.25	1.1787	50.7	50.7	0.2016	0.2016	101	
A Non-2,3,7,8-sub-HxCDF	29.618						0.2516	0.2516		
S Total HxCDF					197.6	197.6	0.2627	0.2627		

Report Date: 14-Nov-2019 09:48:43 Chrom Revision: 2.3 31-Oct-2019 20:21:30
Data File: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_40.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.789	209083158	1.28	2.6E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.309	131810353	1.28	0.8287	76.1	76.1	0.2423	0.2423	76.07	
1,2,3,4,7,8-HxCDD	31.323	66176909	1.26	1.0267	48.9	48.9	0.1570	0.1570	97.80	
D 13C-1,2,3,6,7,8-HxCDD	31.429	139464013	1.27	0.9495	70.3	70.3	0.2115	0.2115	70.25	
1,2,3,6,7,8-HxCDD	31.442	71643174	1.25	0.9771	52.6	52.6	0.1746	0.1746	105	
1,2,3,7,8,9-HxCDD	31.802	77367411	1.25	1.0616	53.7	53.7	0.1562	0.1562	107	
A Non-2,3,7,8-sub-HxCDD	30.264						0.1622	0.1622		
S Total HxCDD					155.2	155.2	0.1626	0.1626		
D 13C-1,2,3,4,6,7,8-HpCDF	33.520	117091991	0.46	0.7285	76.9	76.9	0.9717	0.9717	76.87	
1,2,3,4,6,7,8-HpCDF	33.520	85366513	1.03	1.4373	50.7	50.7	0.4651	0.4651	101	
D 13C-1,2,3,4,7,8,9-HpCDF	34.590	115919210	0.45	0.6556	84.6	84.6	1.080	1.080	84.56	
1,2,3,4,7,8,9-HpCDF	34.602	72892333	1.03	1.3091	48.0	48.0	0.5564	0.5564	96.07	
A Non-2,3,7,8-sub-HpCDF	34.073						0.5077	0.5077		
S Total HpCDF					98.8	98.8	0.5108	0.5108		
D 13C-1,2,3,4,6,7,8-HpCDD	34.310	111012811	1.04	0.6978	76.1	76.1	0.4491	0.4491	76.08	
1,2,3,4,6,7,8-HpCDD	34.322	56268742	1.07	1.0102	50.2	50.2	0.2873	0.2873	100	
A Non-2,3,7,8-sub-HpCDD	34.990						0.2873	0.2873		
S Total HpCDD					50.2	50.2	0.2873	0.2873		
D 13C-OCDD	36.641	150502348	0.91	0.4780	150.6	150.6	0.1713	0.1713	75.30	
OCDF	36.737	104877395	0.92	1.3501	103.2	103.2	0.1324	0.1324	103	
OCDD	36.653	80032781	0.89	1.0627	100.1	100.1	0.0962	0.0962	100	

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_40.d
Lims ID: LCSD 320-337526/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 13-Nov-2019 11:46:59 ALS Bottle#: 34 Worklist Smp#: 40
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 320-337526/3-A LCSD 320-337526/3-A
Misc. Info.: 12NO193D5
Operator ID: ALM, AJS Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Nov-2019 09:47:37 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0312

First Level Reviewer: dadunj Date: 14-Nov-2019 09:48:40

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.414	17.414	0		93210256	23475198	34700	86750	677		
333.9339	17.414	17.414	0		115604163	29498864	44884	112210	657	0.81(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.930	16.930	0	0.972	97627833	24202090	53140	132850	455		
317.9389	16.930	16.930	0	0.972	127665425	31001516	60315	150787	514	0.76(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.945	16.961	-1	1.001	9692104	2332169	5442	13605	429		
305.8987	16.945	16.961	-1	1.001	12204310	2962935	9780	24450	303	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.651						5442	13605			
305.8987	16.651						9780	24450			
13C-2,3,7,8-TCDD											
331.9368	17.611	17.611	0	1.011	68069545	15786817	34700	86750	455		
333.9339	17.611	17.611	0	1.011	86181767	19990950	44884	112210	445	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.626	17.626	0	1.001	7183087	1695599	11988	29970	141		
321.8936	17.626	17.626	0	1.001	9544396	2248572	3332	8330	675	0.75(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.626	17.626	0	1.012	125945277	29562428	19704	49260	1500		
A Non-2,3,7,8-sub-TCDD											
319.8965	17.097						11988	29970			
321.8936	17.097						3332	8330			
13C-1,2,3,7,8-PeCDF											
351.9000	21.757	21.743	1	1.249	113481428	20347265	39360	98400	517		
353.8970	21.757	21.743	1	1.249	72331997	12959092	26769	66922	484	1.57(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	21.771	21.771	0	1.001	58598712	10383388	16920	42300	614		
341.8567	21.771	21.771	0	1.001	37005694	6724853	13977	34942	481	1.58(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	23.039	23.052	-1	1.323	119070894	20147088	39360	98400	512		
353.8970	23.039	23.052	-1	1.323	74259063	12483236	26769	66922	466	1.60(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.066	23.066	0	1.001	57353948	9180139	16920	42300	543		
341.8567	23.052	23.066	-1	1.001	36445890	5845169	13977	34942	418	1.57(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.599						1506	3765			
341.8567	19.599						6185	15462			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.617						16920	42300			
341.8567	22.617						13977	34942			
13C-1,2,3,7,8-PeCDD											
367.8949	23.734	23.734	0	1.363	74073851	12096712	11221	28052	1078		
369.8919	23.734	23.734	0	1.363	46702811	7408104	9233	23082	802	1.59(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.762	23.748	1	1.001	41440559	6433553	7073	17682	910		
357.8516	23.748	23.748	0	1.001	25220963	3886384	4114	10285	945	1.64(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.698						7073	17682			
357.8516	22.698						4114	10285			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.845	29.845	0	0.939	60255620	8683589	22156	55390	392		
385.8610	29.845	29.845	0	0.939	115146054	17036877	44491	111227	383	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.871	29.871	0	1.001	53646375	7486860	21335	53337	351		
375.8178	29.871	29.871	0	1.001	43047310	6163389	17247	43117	357	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.098	30.084	1	0.947	60134658	9117716	22156	55390	412		
385.8610	30.098	30.084	1	0.947	116458879	17232808	44491	111227	387	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.124	30.111	1	1.001	55385514	8307743	21335	53337	389		
375.8178	30.111	30.111	0	1.000	46102890	7077721	17247	43117	410	1.20(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.096	31.096	0	0.978	56729590	13227385	22156	55390	597		
385.8610	31.096	31.096	0	0.978	107667609	24664370	44491	111227	554	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.110	31.110	0	1.000	54437244	11995613	21335	53337	562		
375.8178	31.110	31.110	0	1.000	43183821	9541880	17247	43117	553	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.989	31.988	0	1.006	53410646	13961499	22156	55390	630		
385.8610	31.989	31.988	0	1.006	102596658	26624819	44491	111227	598	0.52(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	32.002	32.002	0	1.000	51792415	12999125	21335	53337	609		
375.8178	32.002	32.002	0	1.000	41524250	10306047	17247	43117	598	1.25(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.618						21335	53337			
375.8178	29.618						17247	43117			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.789	31.789	0		117256670	29442225	22461	56152	1311		
403.8529	31.789	31.789	0		91826488	23234414	19844	49610	1171	1.28(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.309	31.309	0	0.985	74080605	19015734	22461	56152	847		
403.8529	31.309	31.309	0	0.985	57729748	14946329	19844	49610	753	1.28(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.323	31.323	0	1.000	36860127	9327417	11035	27587	845		
391.8127	31.323	31.323	0	1.000	29316782	7517564	10861	27152	692	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.429	31.429	0	0.989	78067470	17961192	22461	56152	800		
403.8529	31.429	31.429	0	0.989	61396543	14119228	19844	49610	712	1.27(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.442	31.442	0	1.000	39754152	9044074	11035	27587	820		
391.8127	31.442	31.442	0	1.000	31889022	7268258	10861	27152	669	1.25(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.802	31.802	0	1.016	43025765	10646110	11035	27587	965		
391.8127	31.802	31.802	0	1.016	34341646	8708599	10861	27152	802	1.25(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.264						11035	27587			
391.8127	30.264						10861	27152			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.520	33.520	0	1.054	36841316	12894928	51951	129877	248		
419.8220	33.520	33.520	0	1.054	80250675	27132324	97205	243012	279	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.520	33.532	-1	1.000	43373255	14715354	51281	128202	287		
409.7789	33.520	33.532	-1	1.000	41993258	14613407	55742	139355	262	1.03(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.590	34.590	0	1.088	35994831	11478258	51951	129877	221		
419.8220	34.590	34.590	0	1.088	79924379	25251844	97205	243012	260	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.602	34.614	-1	1.000	37002131	11757450	51281	128202	229		
409.7789	34.602	34.614	-1	1.000	35890202	11354839	55742	139355	204	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.073						51281	128202			
409.7789	34.073						55742	139355			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.310	34.310	0	1.079	56634118	18907942	33234	83085	569		
437.8140	34.310	34.310	0	1.079	54378693	17656737	32809	82022	538	1.04(0.88-1.20)	

Report Date: 14-Nov-2019 09:48:43 Chrom Revision: 2.3 31-Oct-2019 20:21:30
Data File: \\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_40.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.322	34.322	0	1.000	29044302	9508568	22848	57120	416		
425.7737	34.322	34.322	0	1.000	27224440	8864807	19597	48992	452	1.07(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.990						22848	57120			
425.7737	34.990						19597	48992			
13C-OCDD											
469.7779	36.641	36.641	0	1.153	71862750	20645644	9012	22530	2291		
471.7750	36.641	36.641	0	1.153	78639598	22818972	8241	20602	2769	0.91(0.76-1.02)	
OCDF											
441.7428	36.737	36.737	0	1.003	50144257	14005063	7854	19635	1783		
443.7399	36.737	36.737	0	1.003	54733138	15451659	7691	19227	2009	0.92(0.76-1.02)	
OCDD											
457.7377	36.653	36.653	0	1.000	37759959	10881315	4516	11290	2410		
459.7348	36.653	36.653	0	1.000	42272822	12092719	4375	10937	2764	0.89(0.76-1.02)	

Report Date: 14-Nov-2019 09:48:43 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_40.d		
Injection Date:	13-Nov-2019 11:46:59	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338227	Sample Line#:	40
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

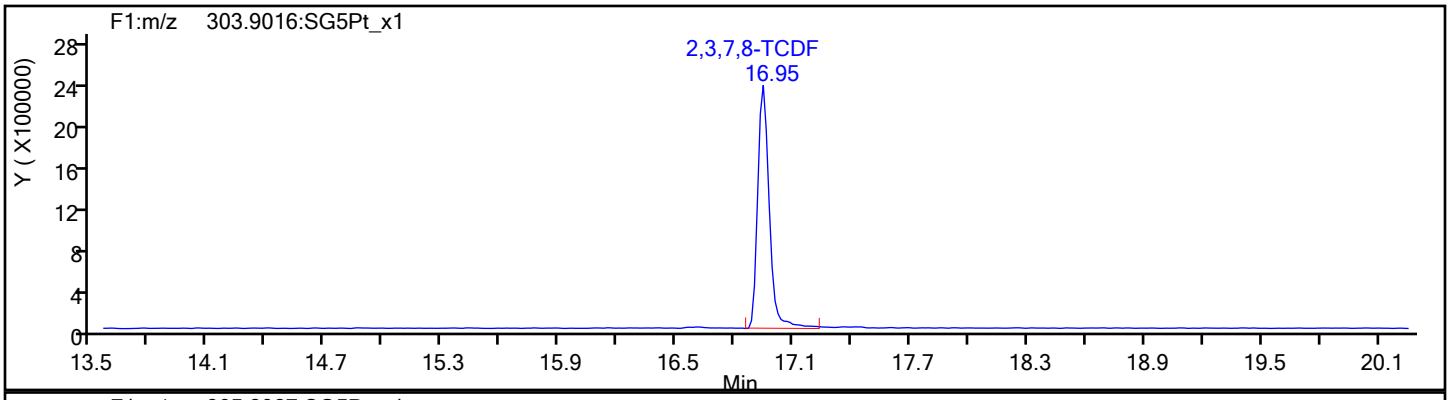

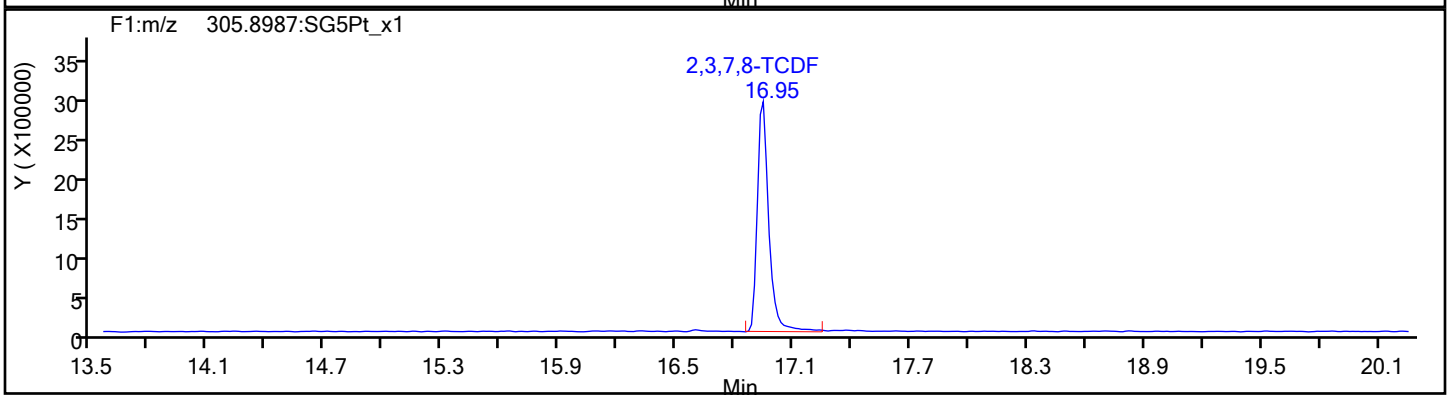

TCDF Standards

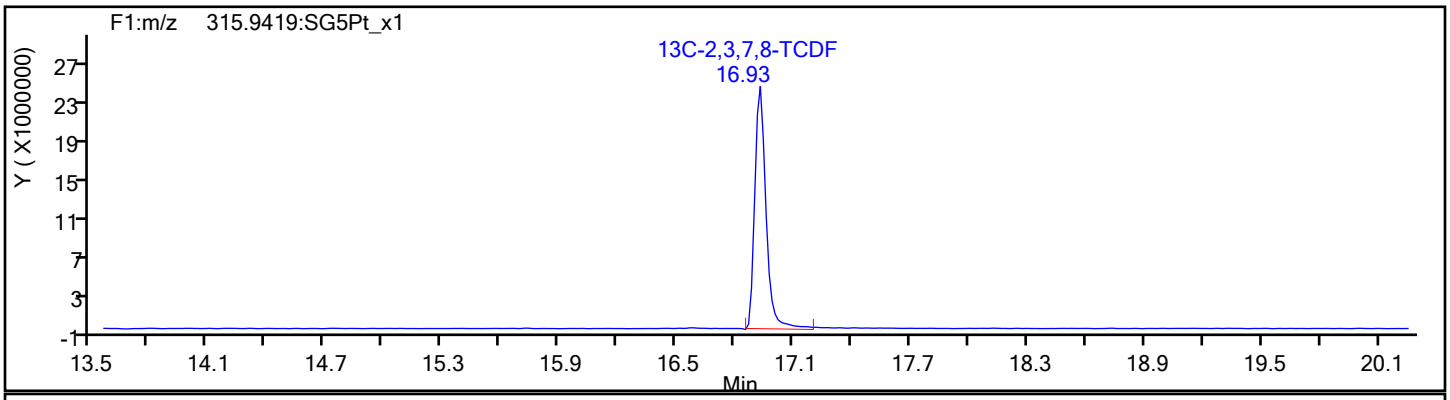

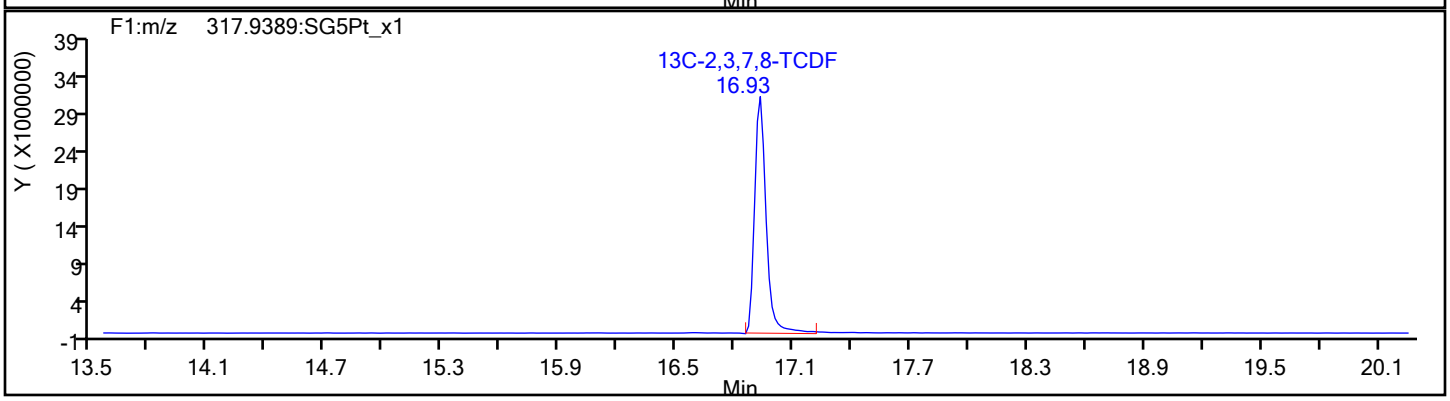

Report Date: 14-Nov-2019 09:48:43 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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TCDF

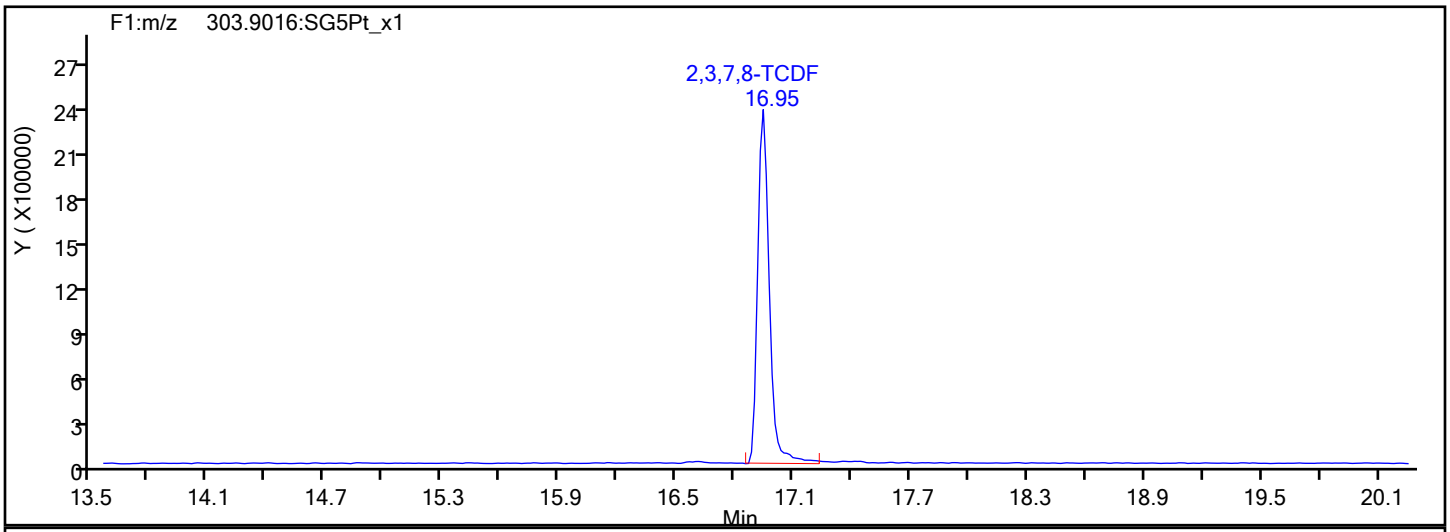

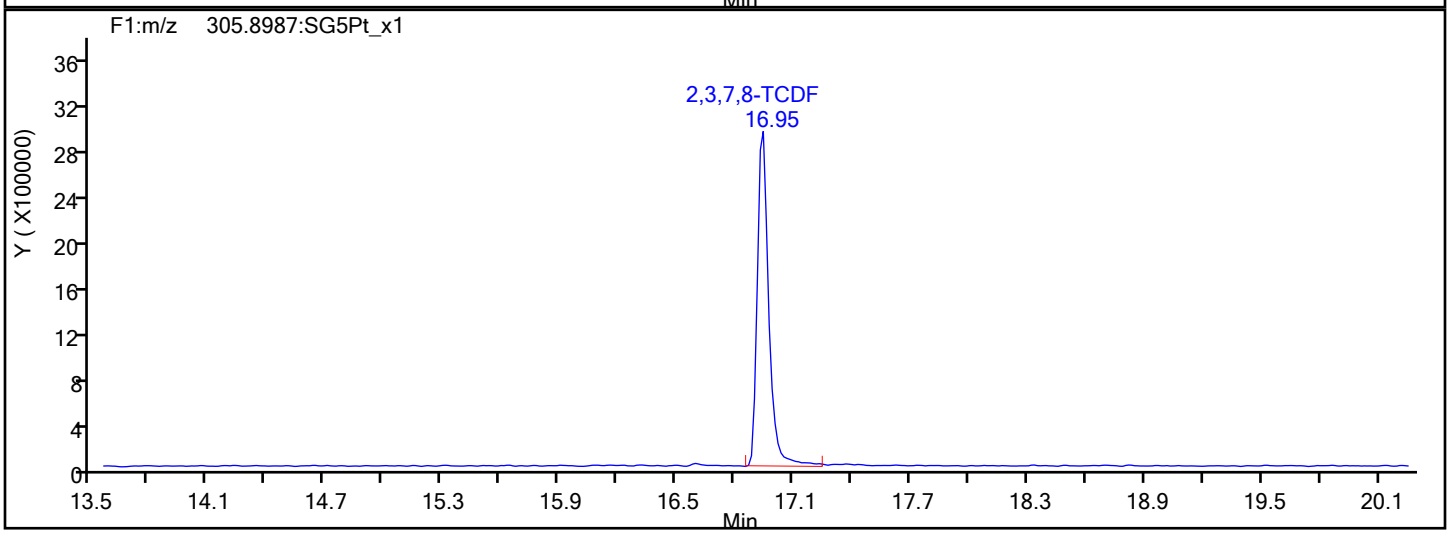

TCDF Interference Mass

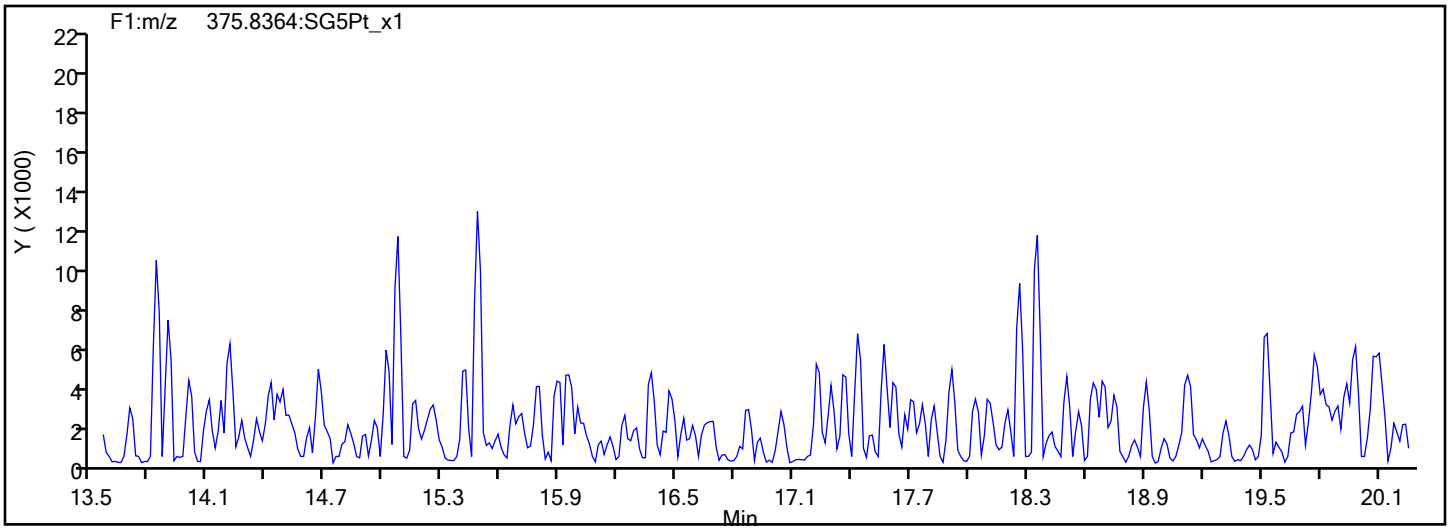

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Eurofins TestAmerica, Sacramento

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TCDD

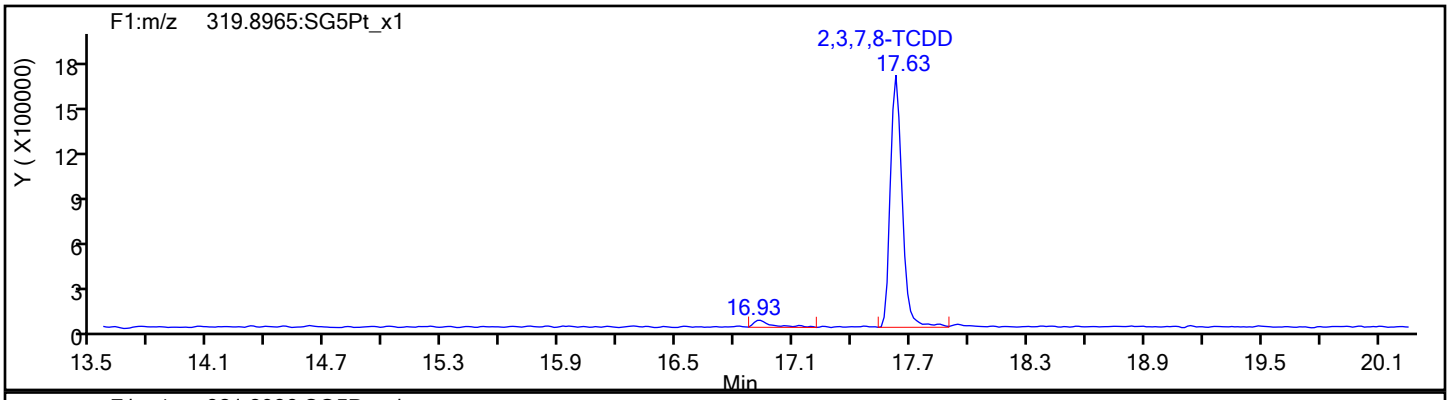

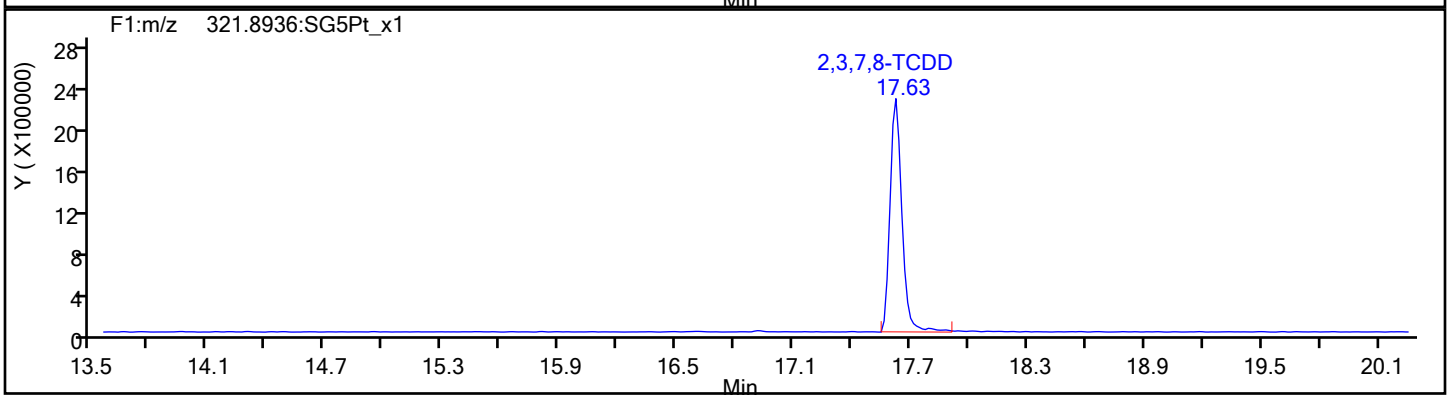

TCDD Standards

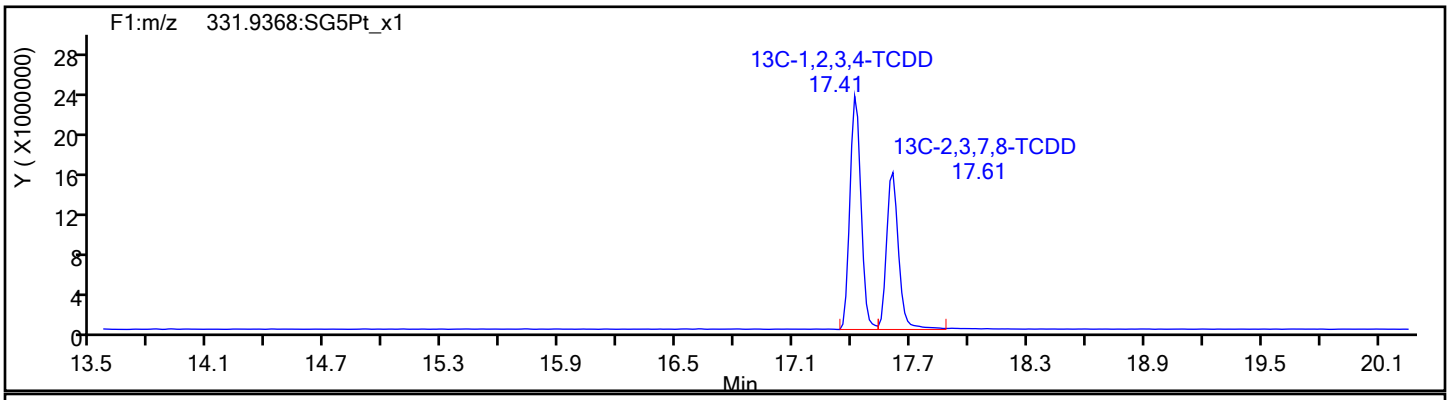

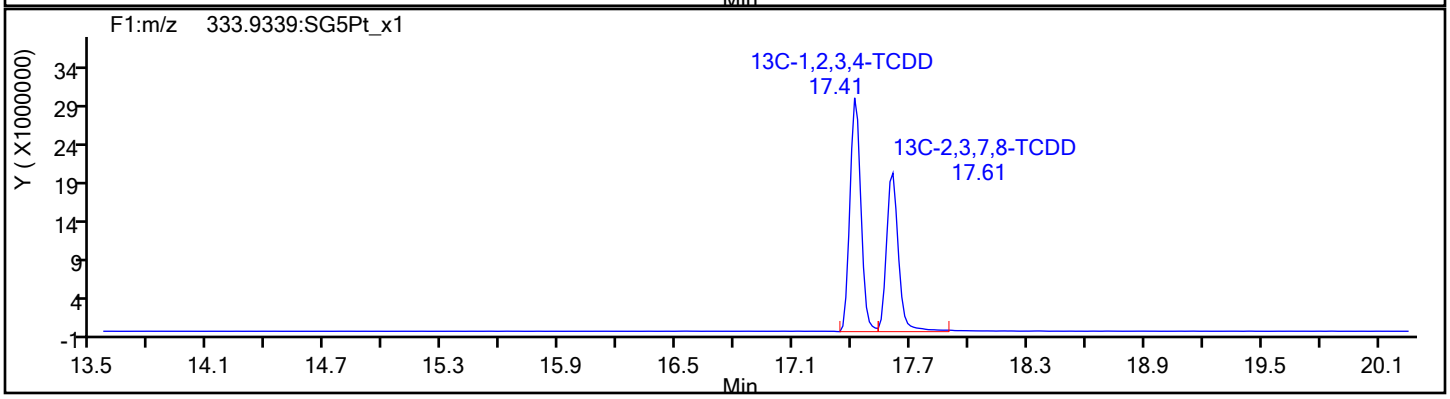

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37Cl4-TCDD

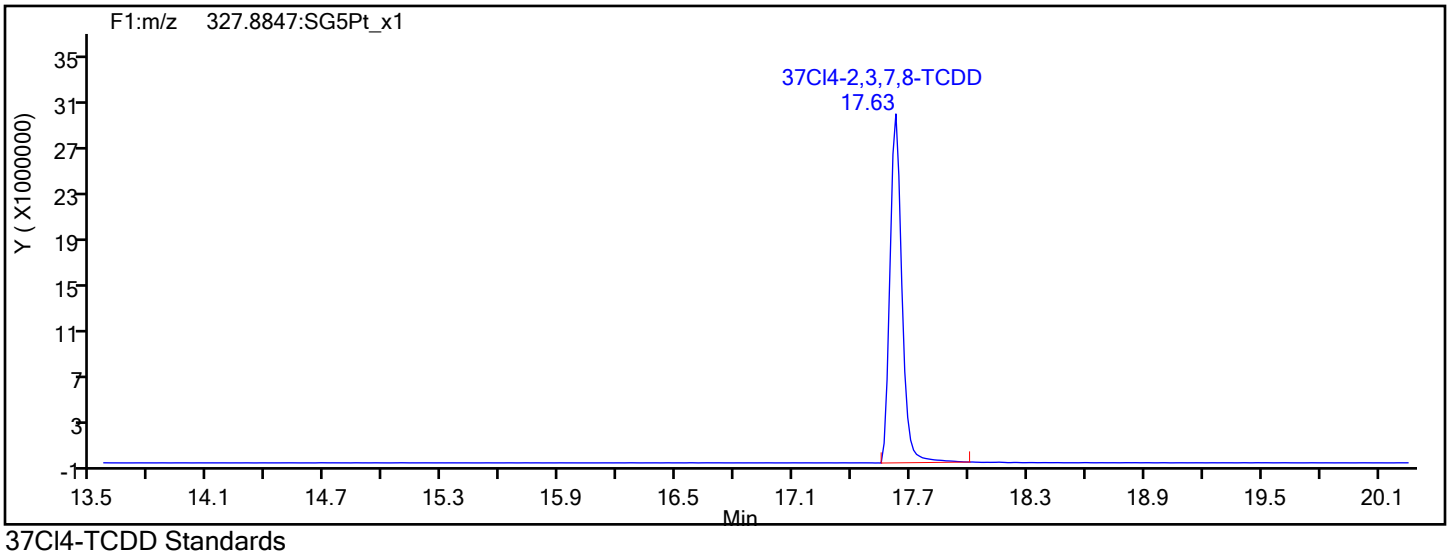

37Cl4-TCDD Standards

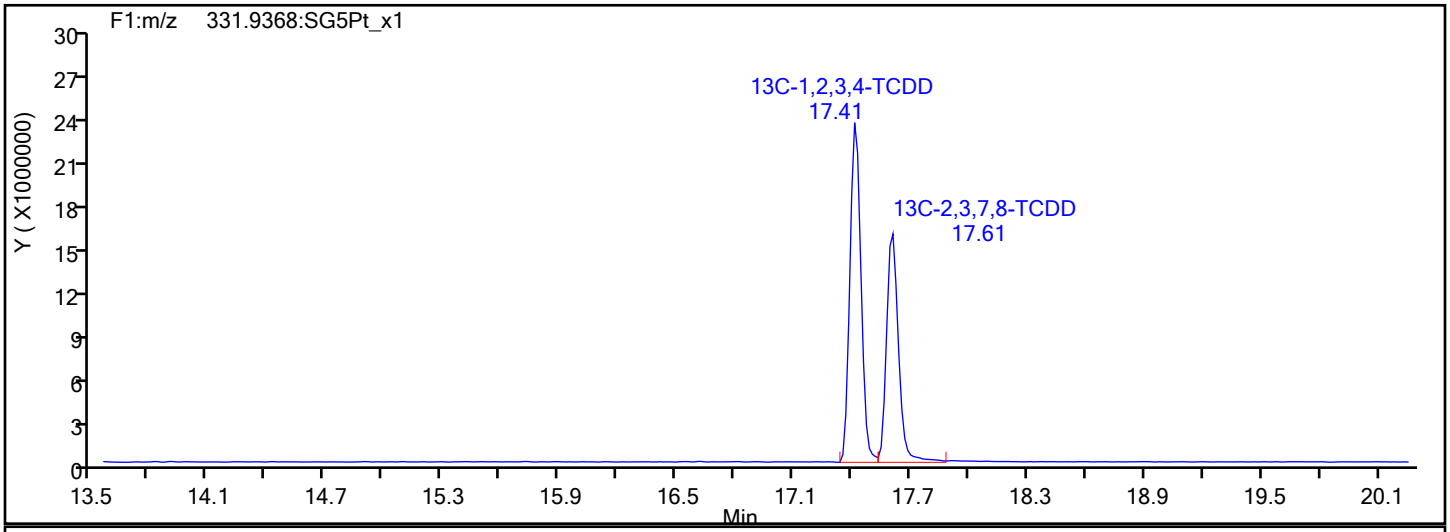

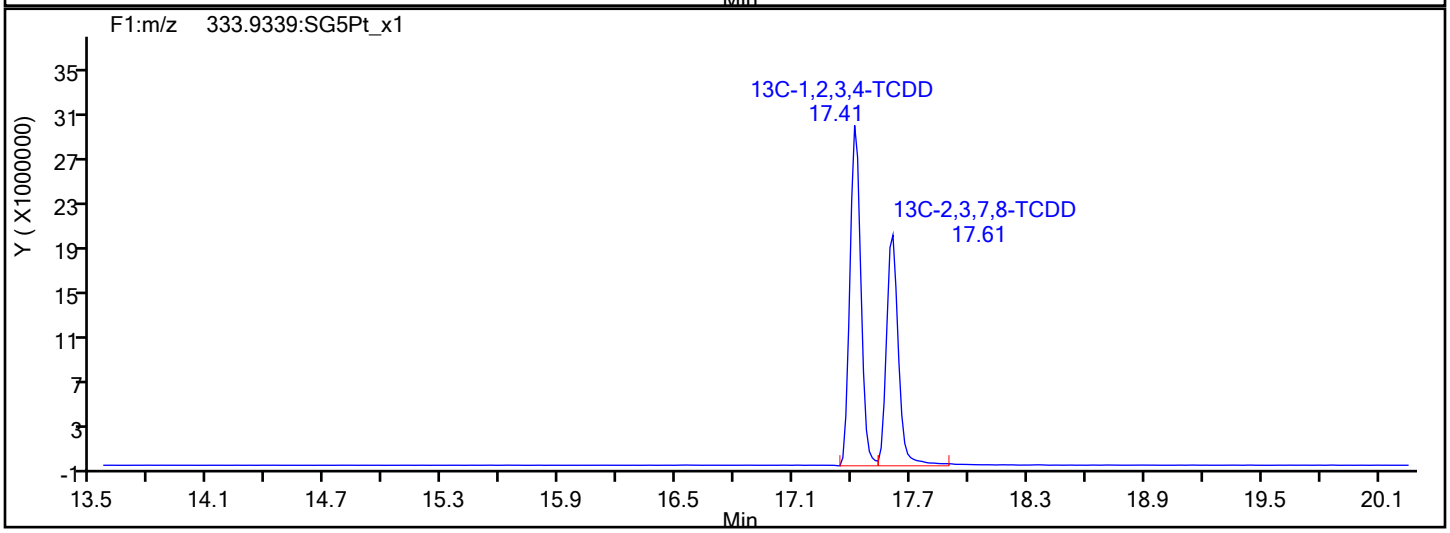

Report Date: 14-Nov-2019 09:48:43 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

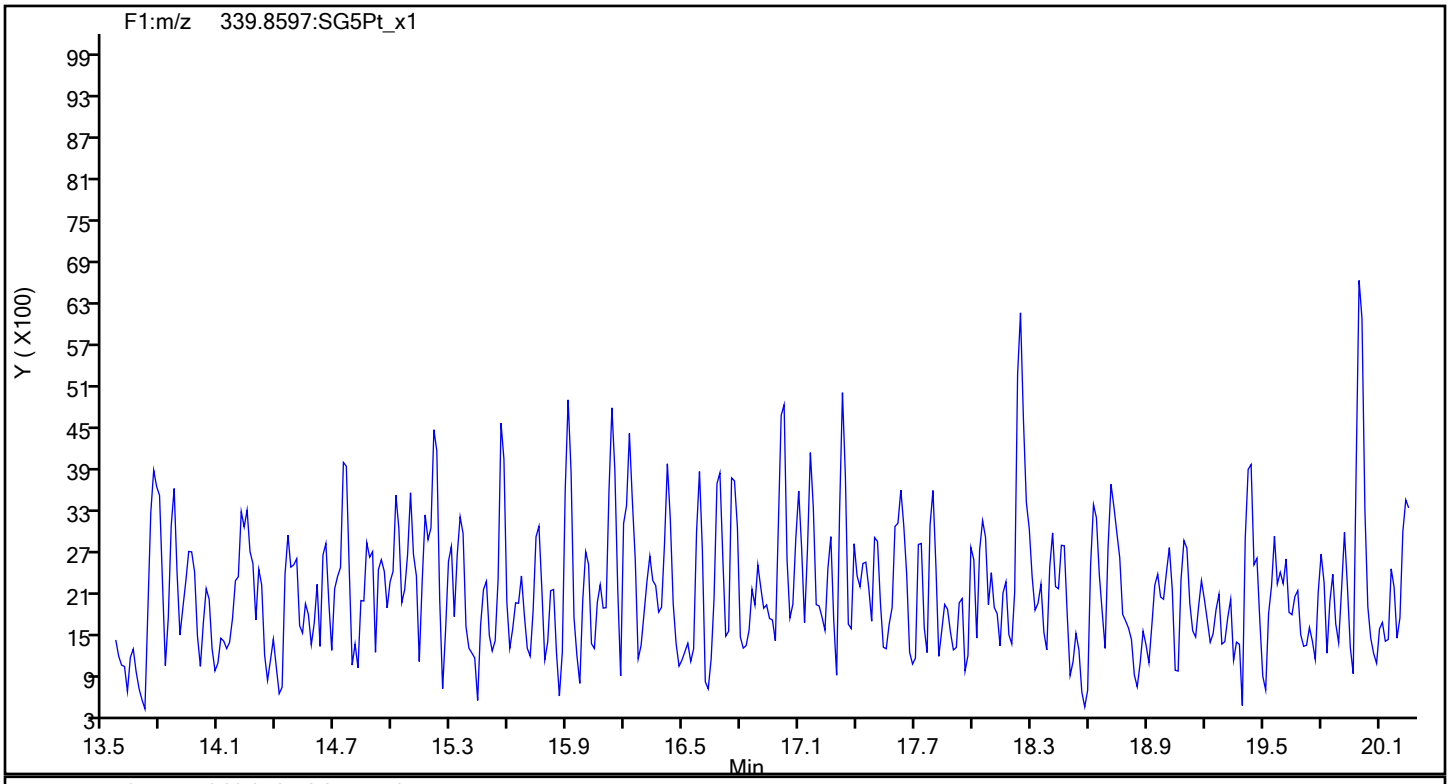

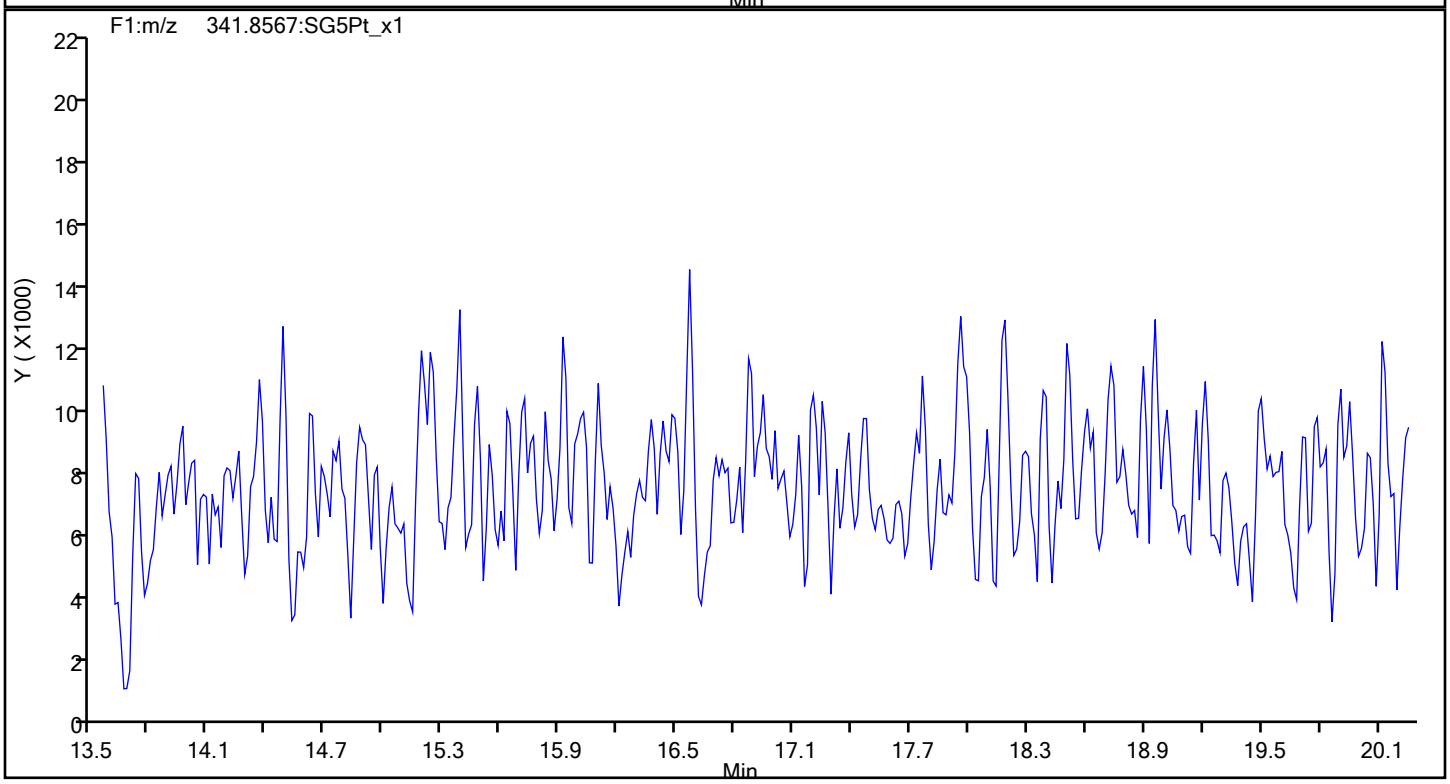

Report Date: 14-Nov-2019 09:48:43 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

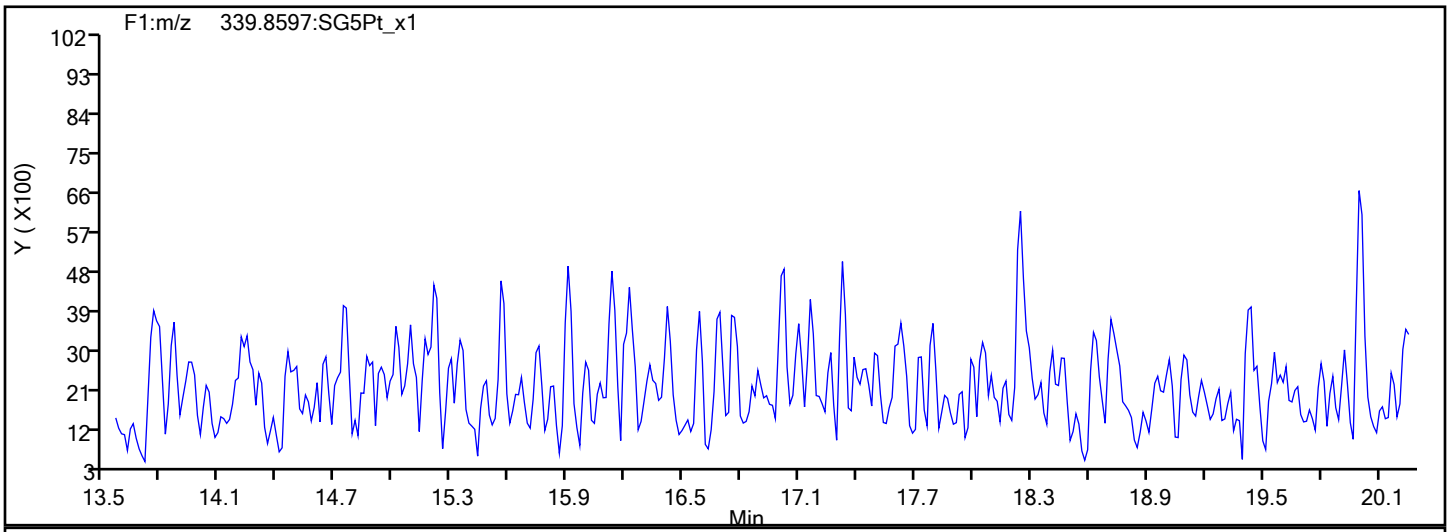

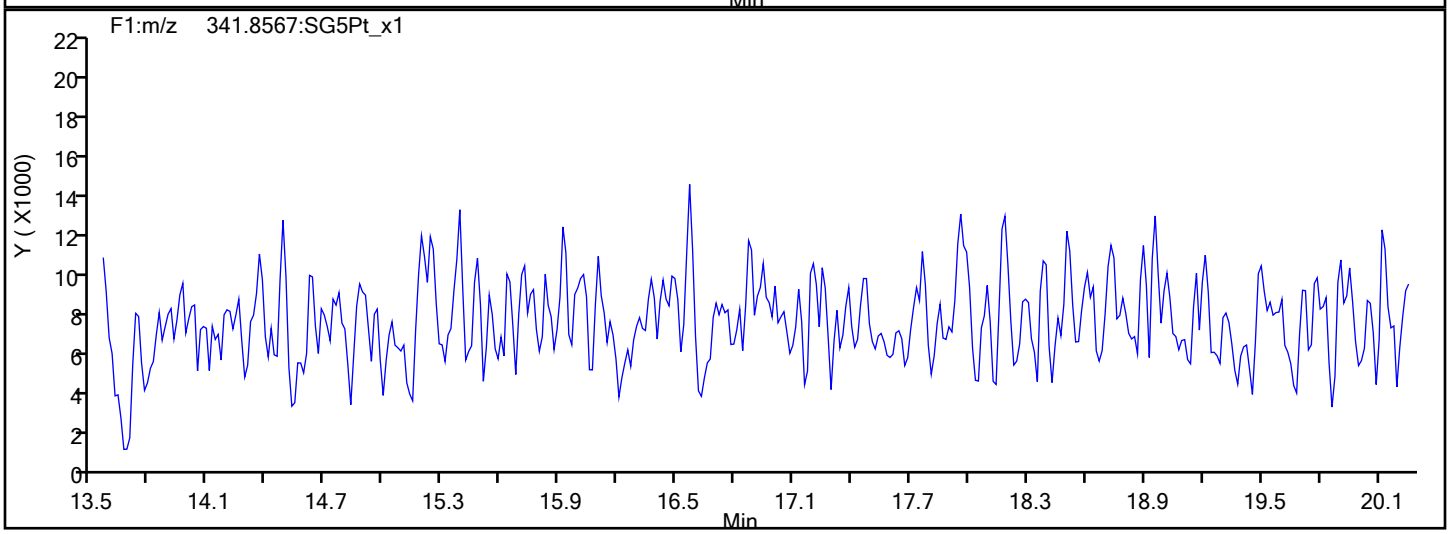

F1 PeCDFs Interference Mass

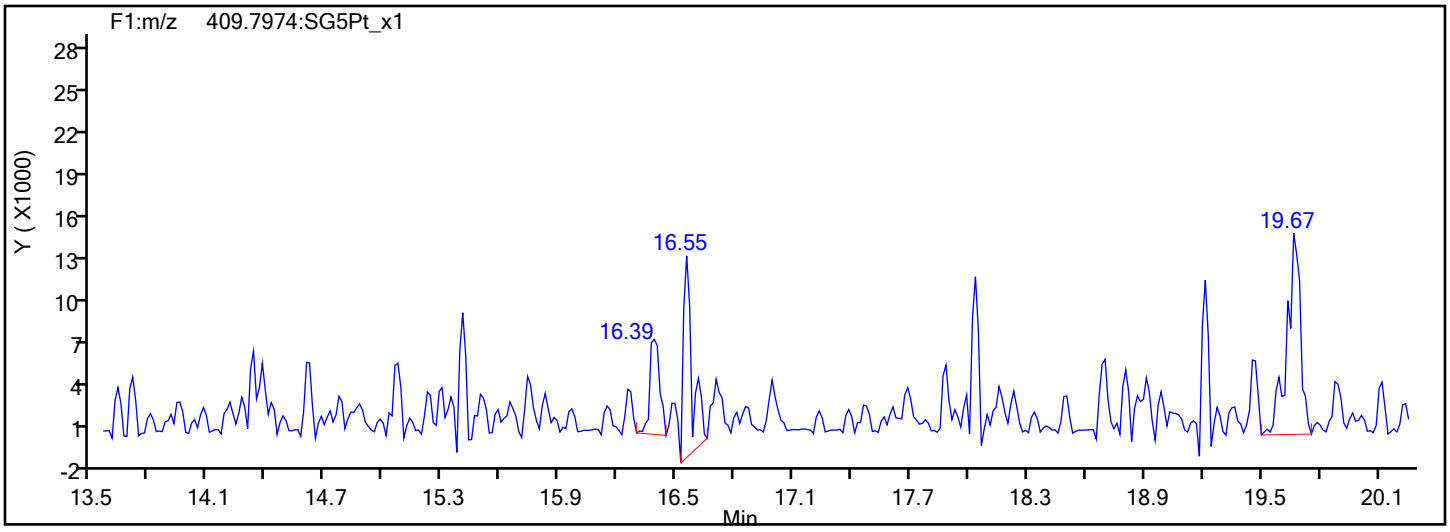

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Eurofins TestAmerica, Sacramento

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PeCDF

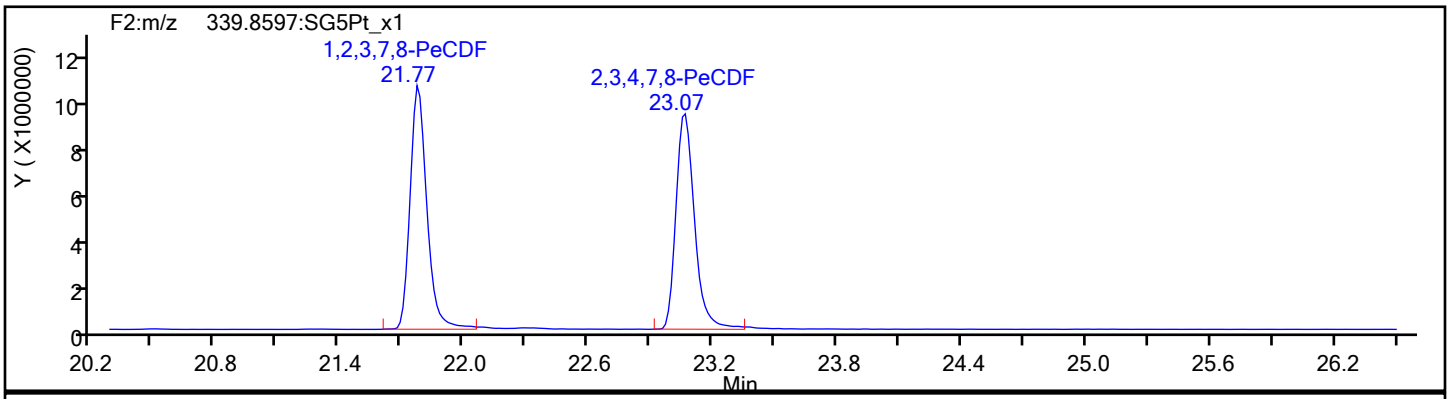

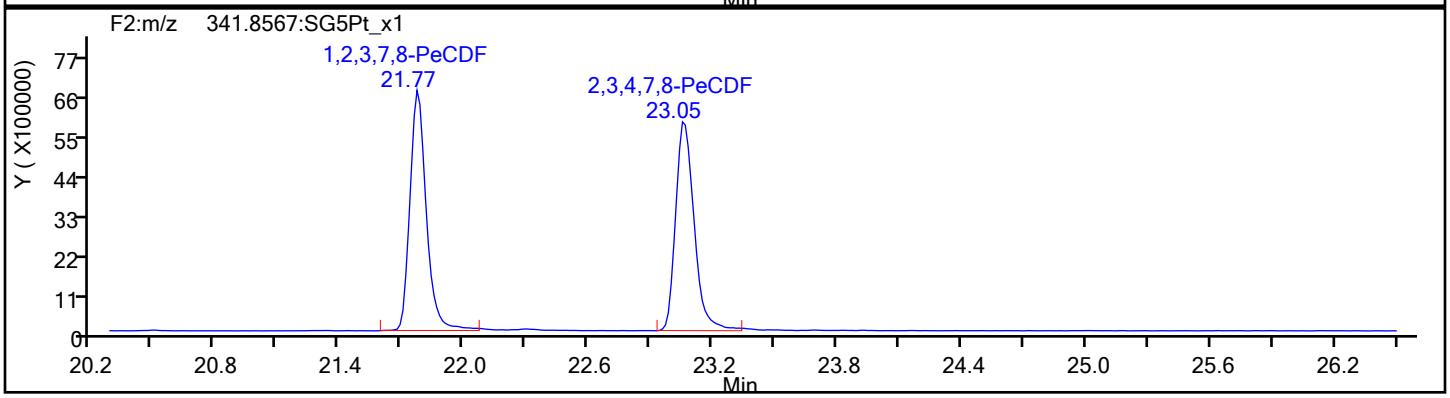

PeCDF Standards

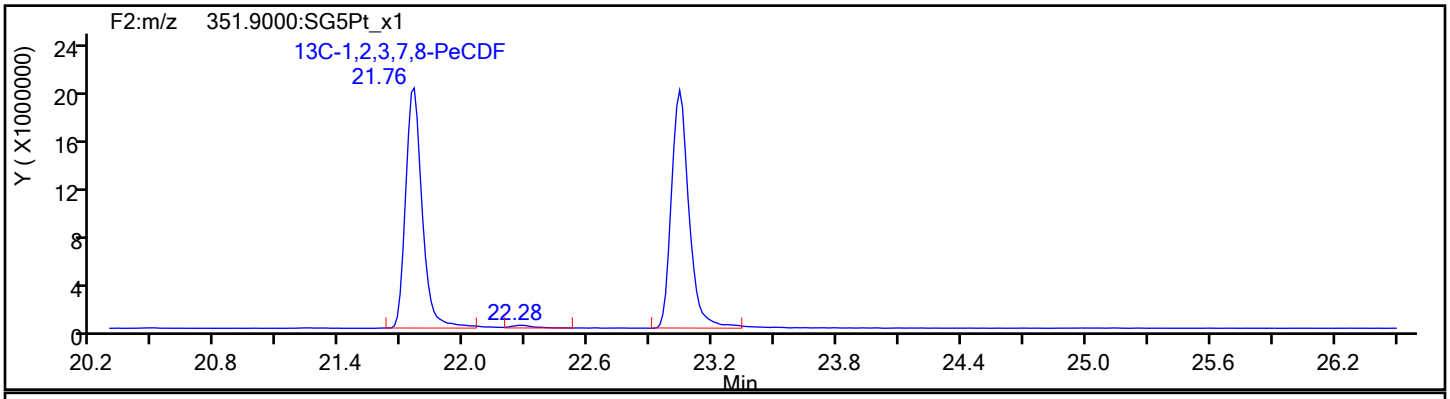

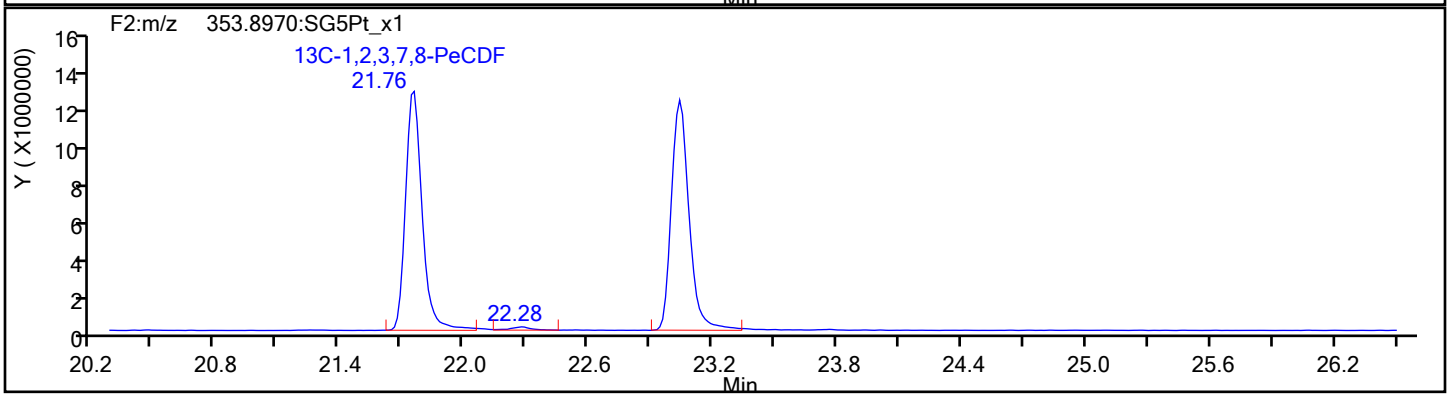

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Eurofins TestAmerica, Sacramento

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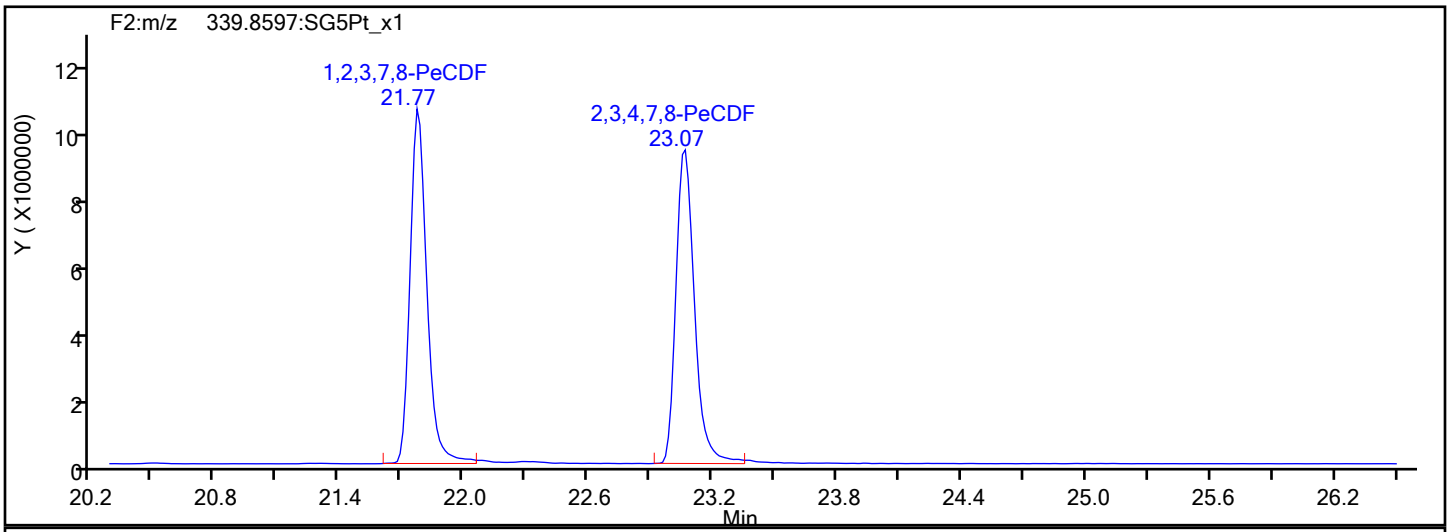

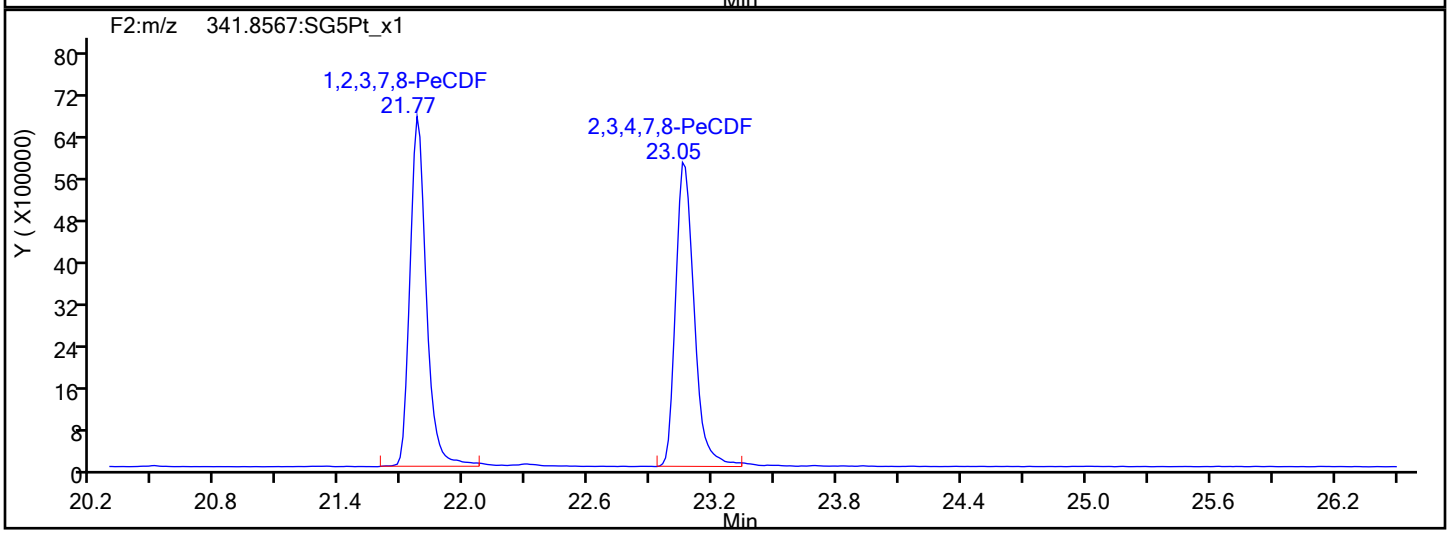

PeCDF Interference Mass

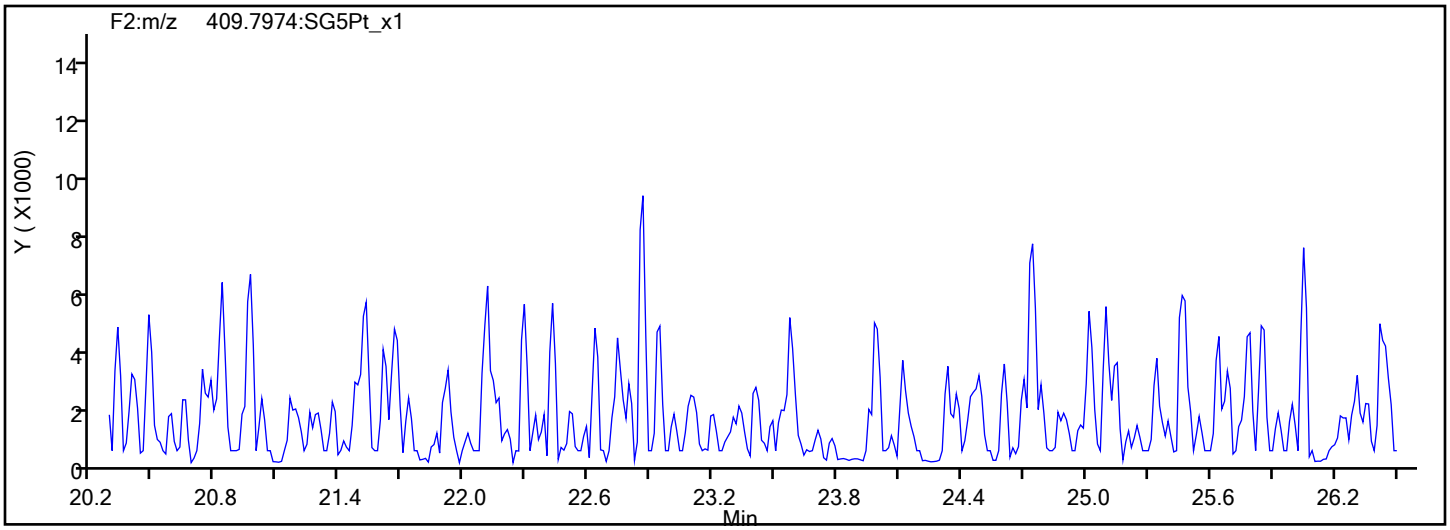

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Eurofins TestAmerica, Sacramento

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PeCDD

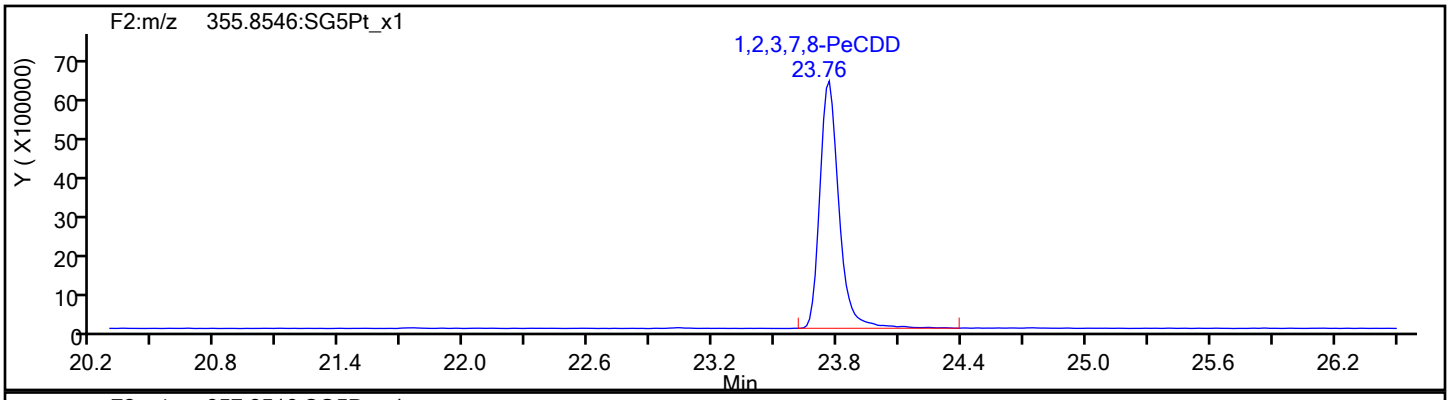

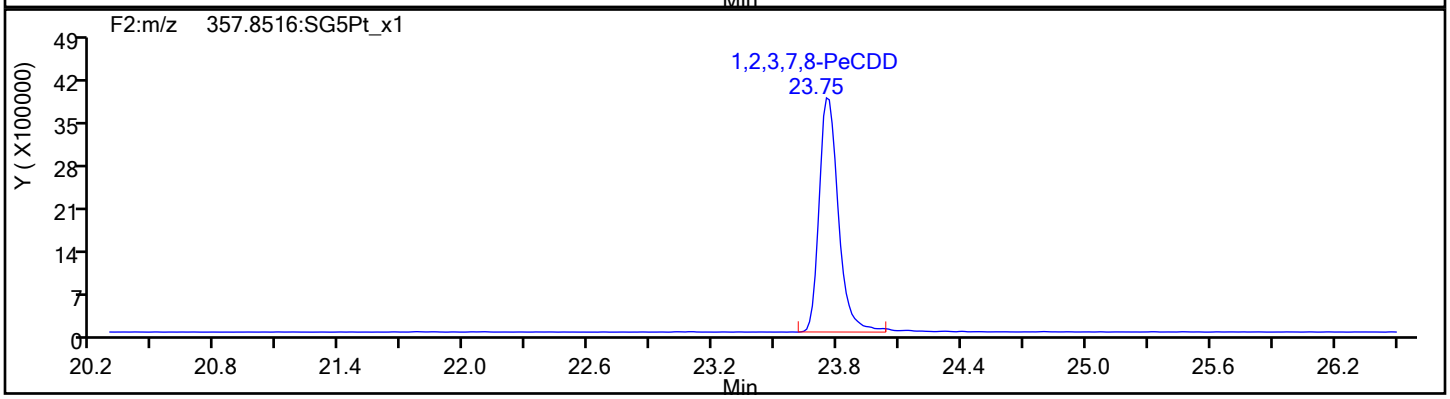

PeCDD Standards

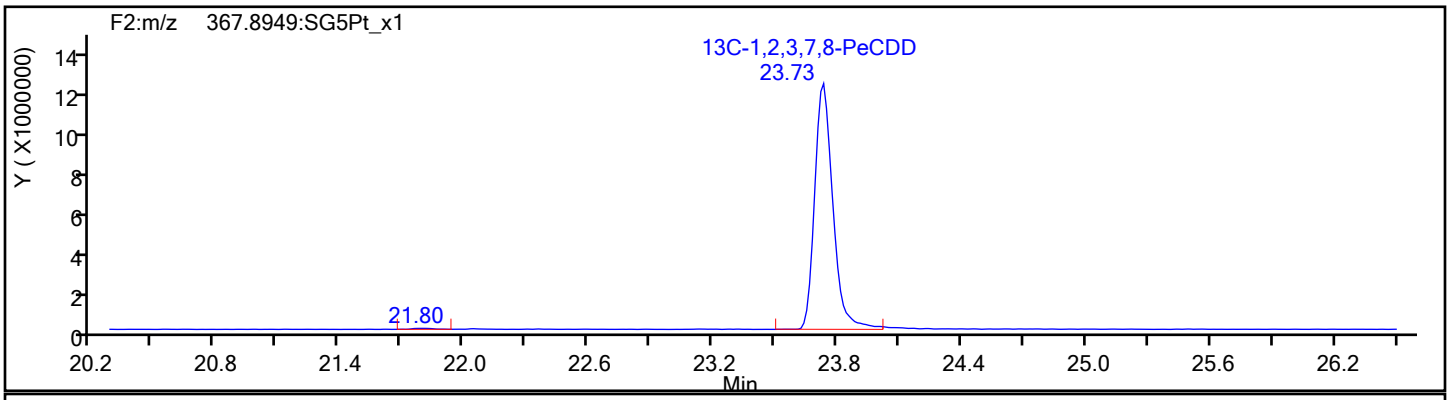

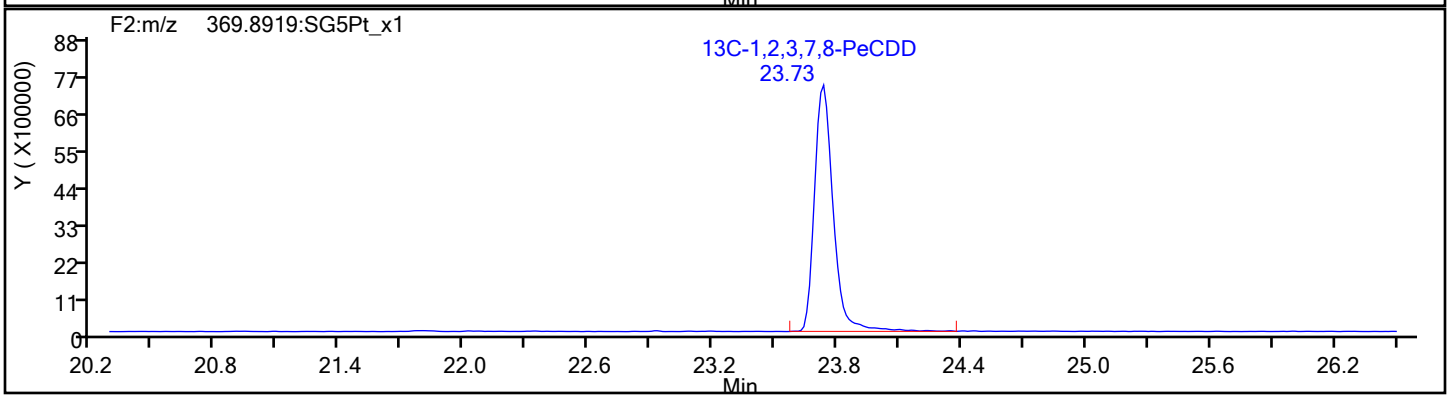

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Eurofins TestAmerica, Sacramento

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HxCDF

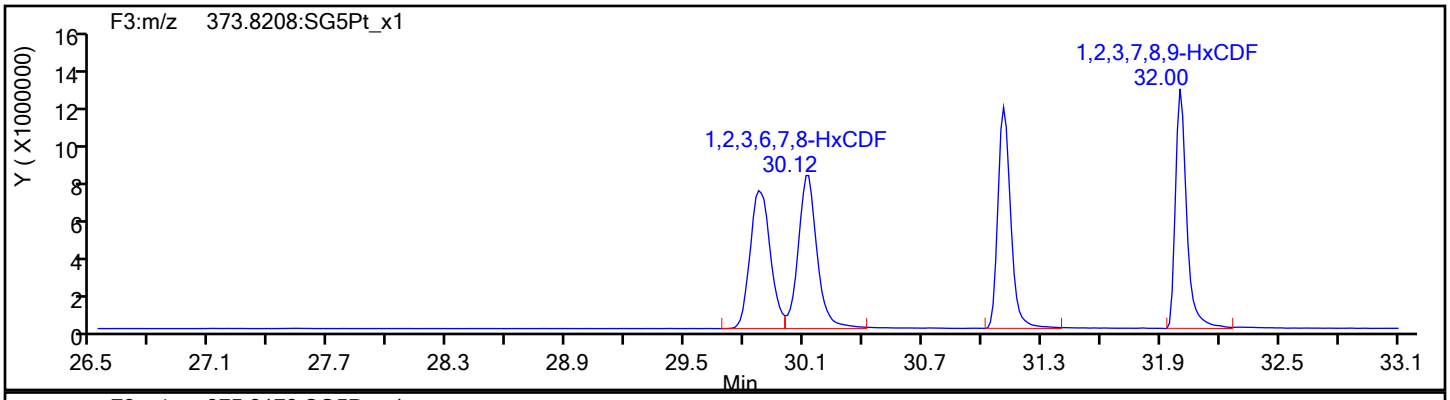

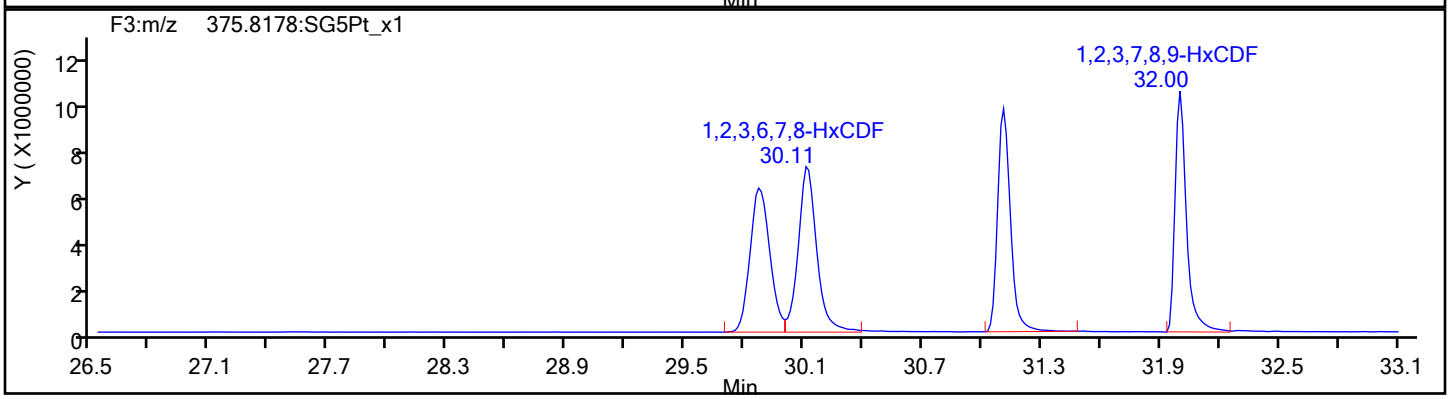

HxCDF Standards

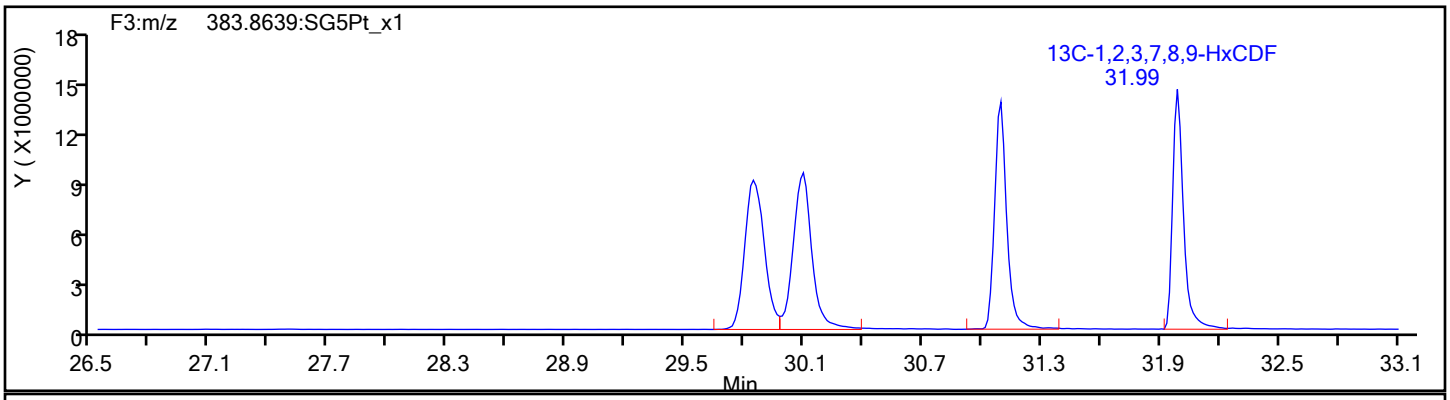

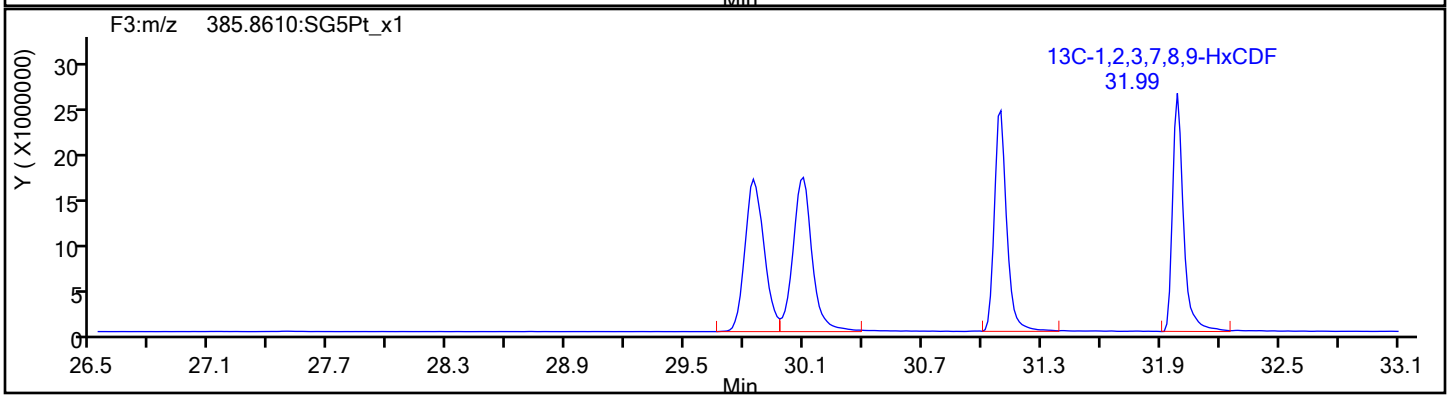

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Eurofins TestAmerica, Sacramento

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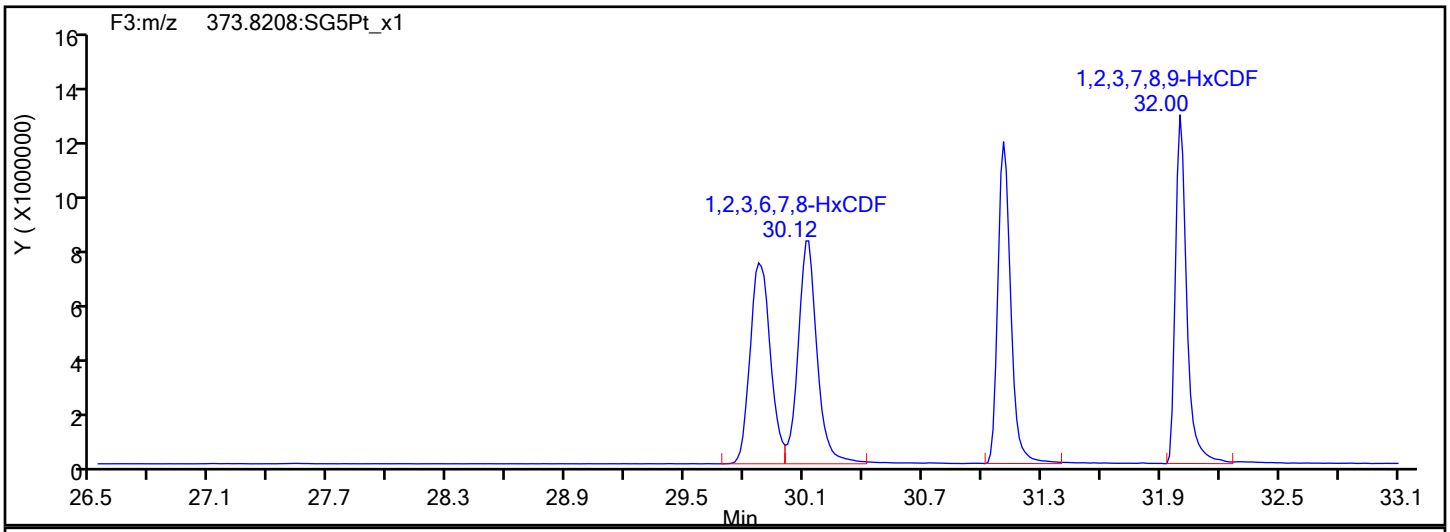

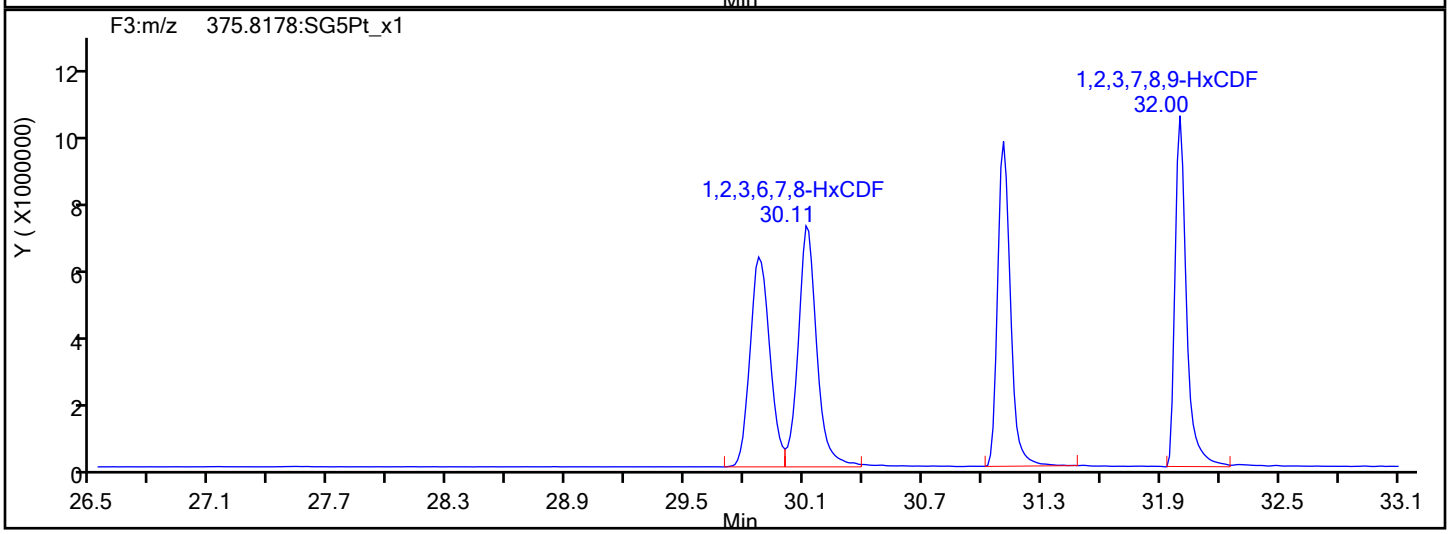

HxCDF Interference Mass

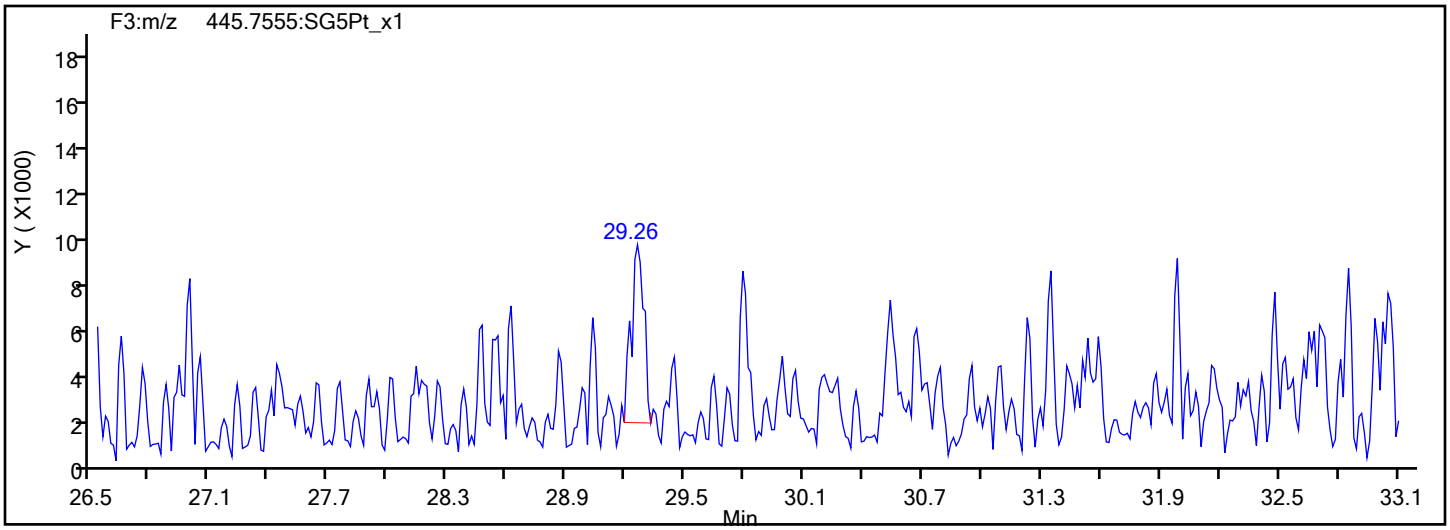

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Eurofins TestAmerica, Sacramento

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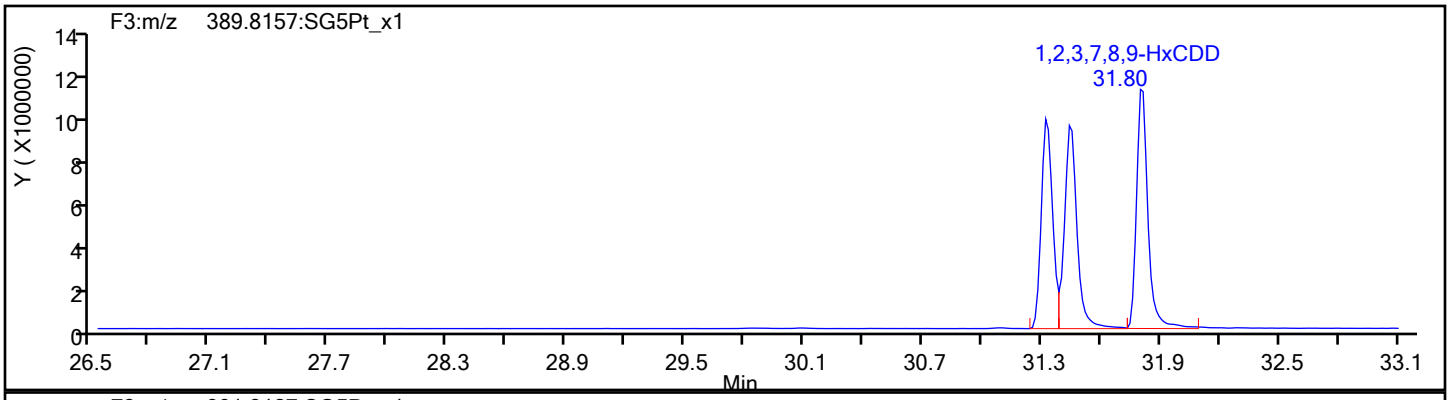

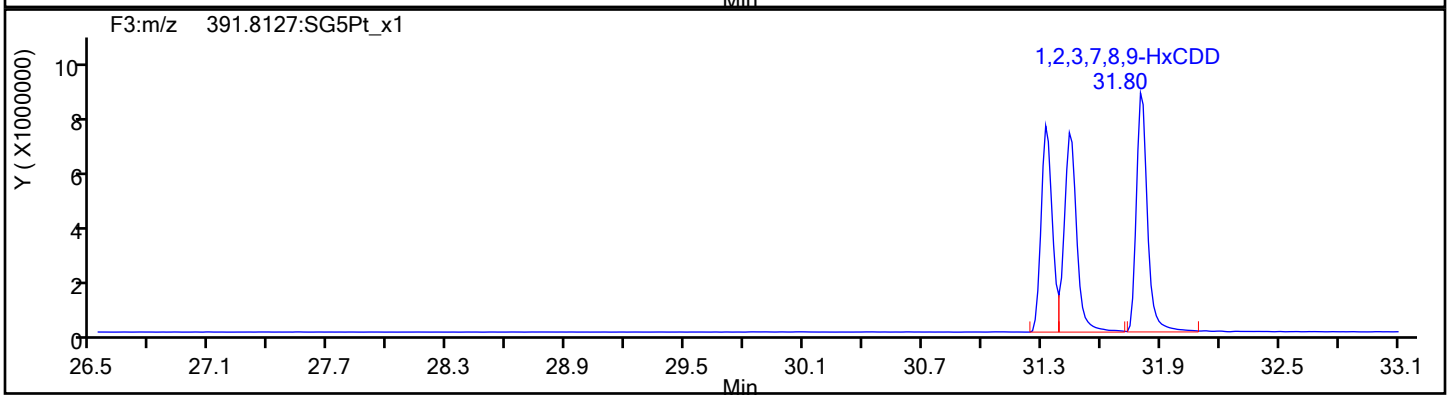

HxCDD Standards

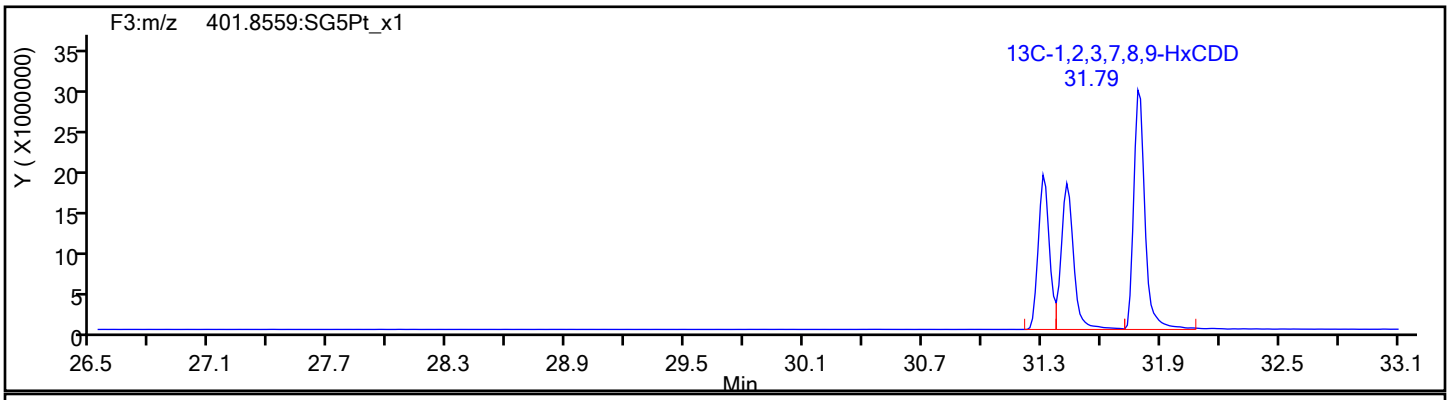

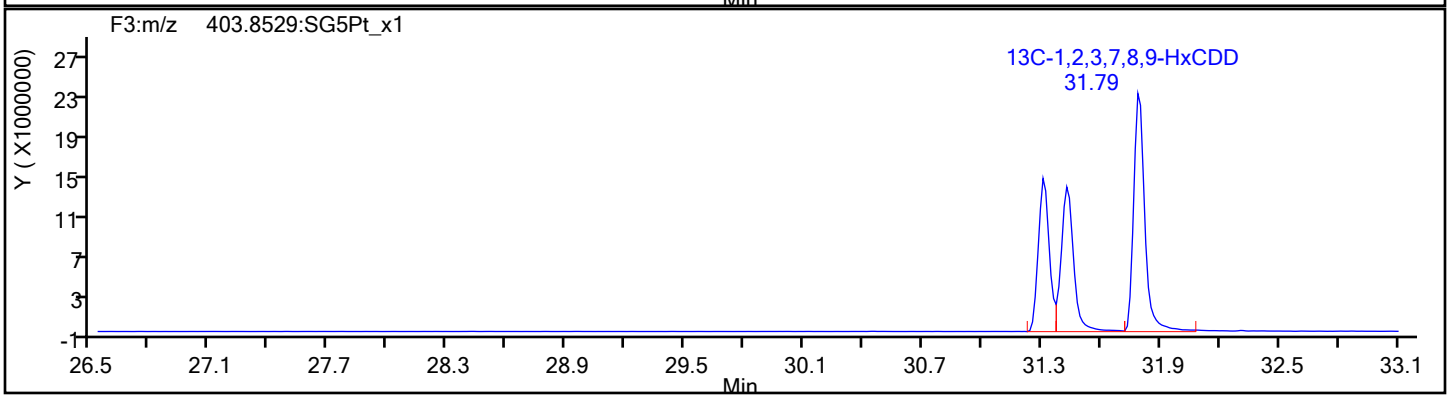

Report Date: 14-Nov-2019 09:48:44 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_40.d		
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Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

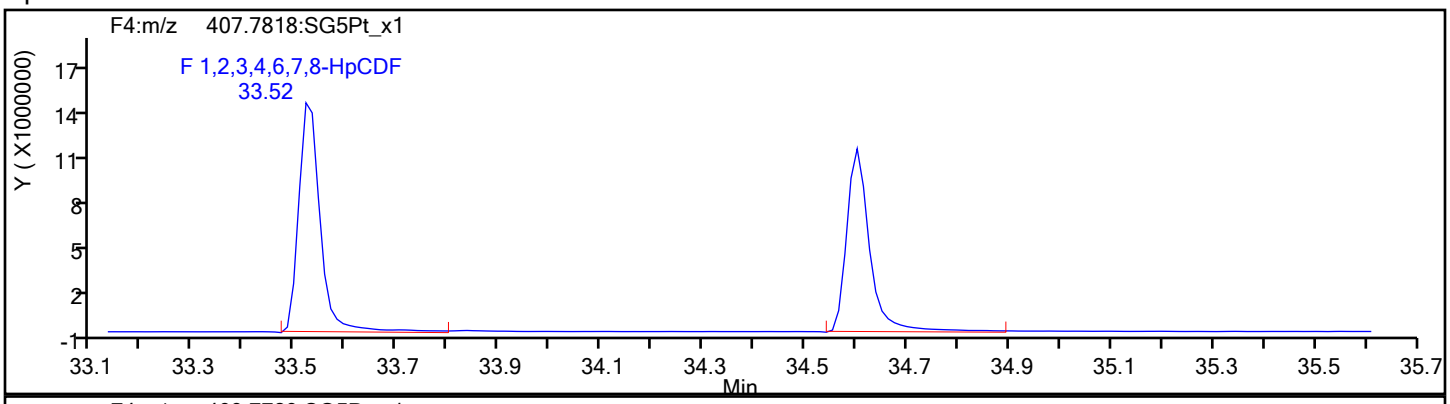

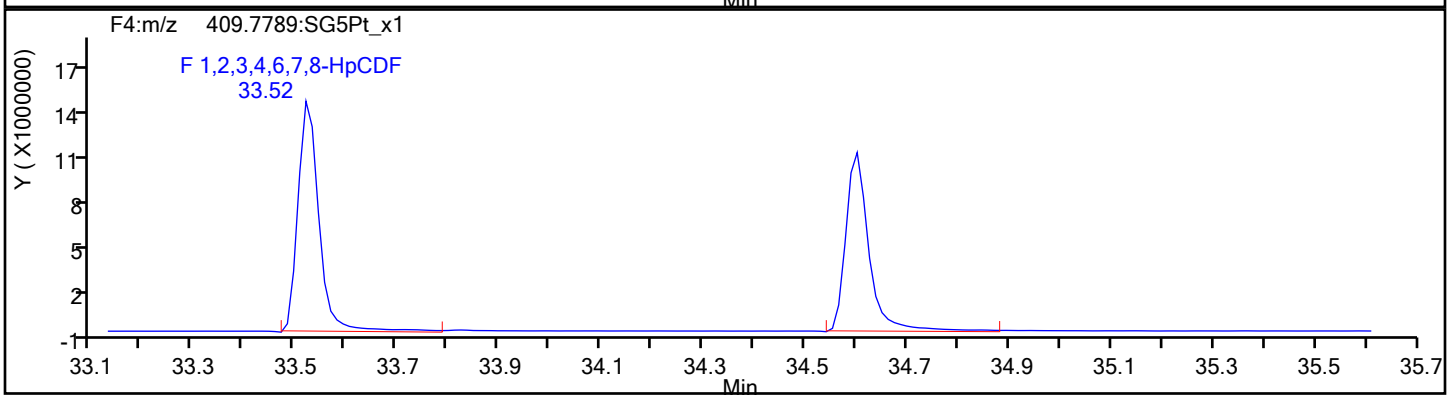

HpCDF Standards

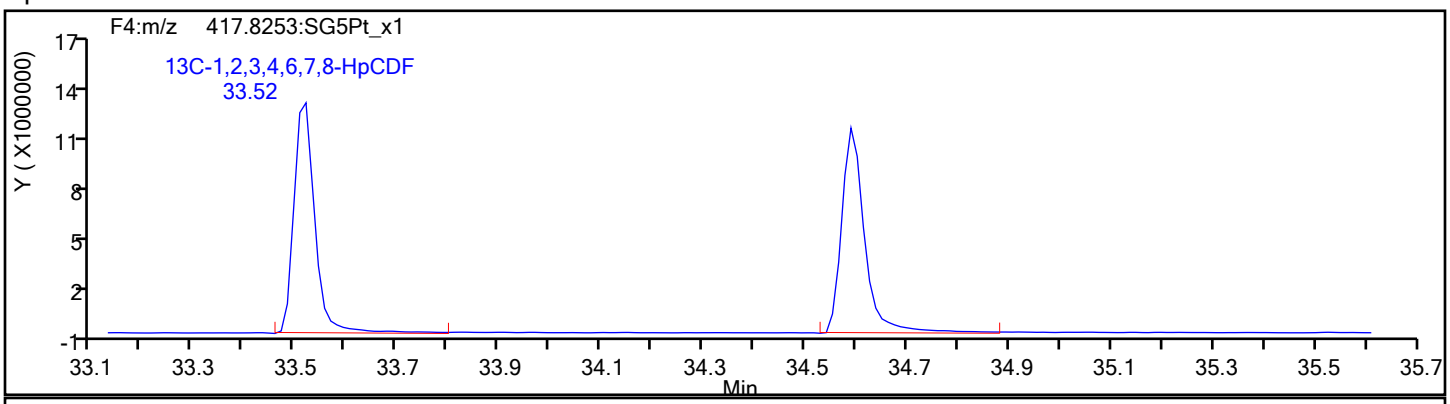

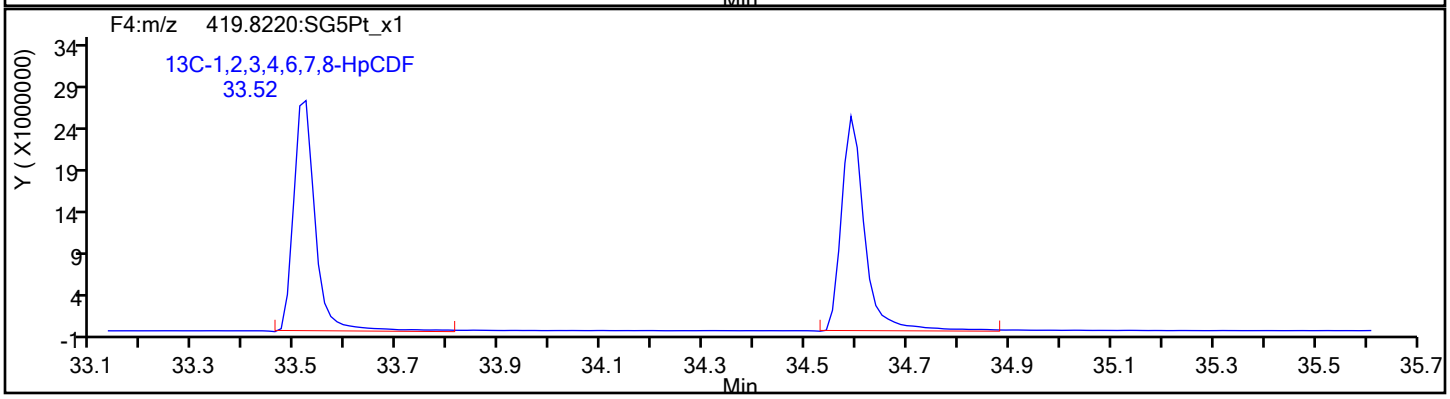

Report Date: 14-Nov-2019 09:48:44 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_40.d		
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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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HpCDF

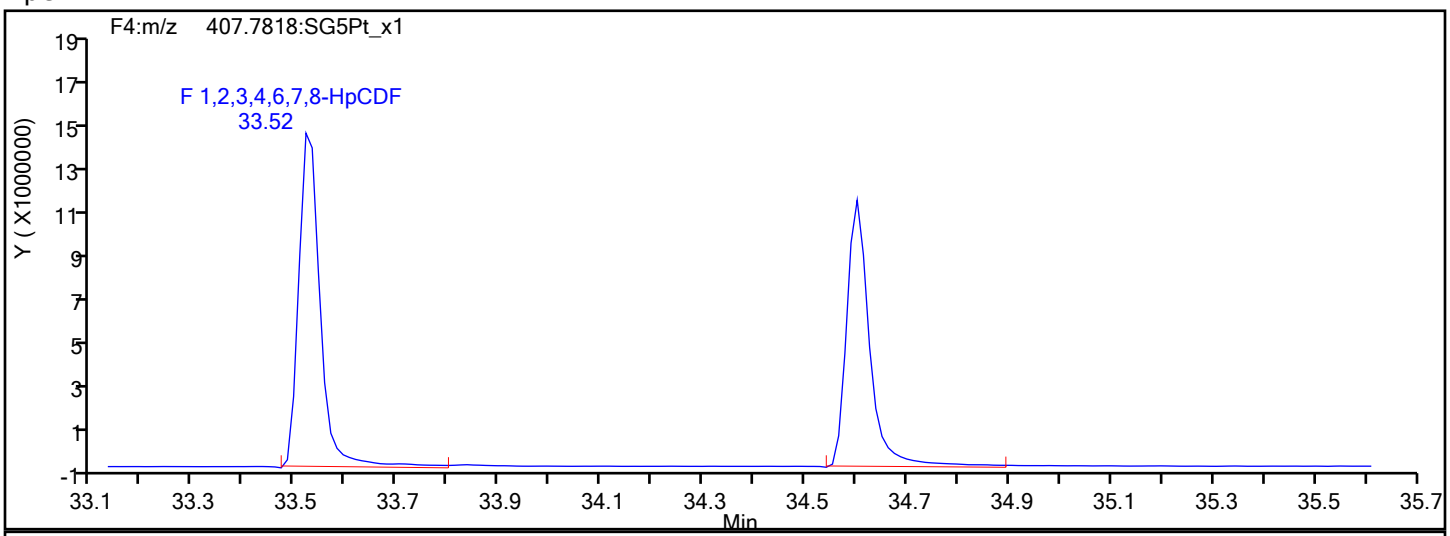

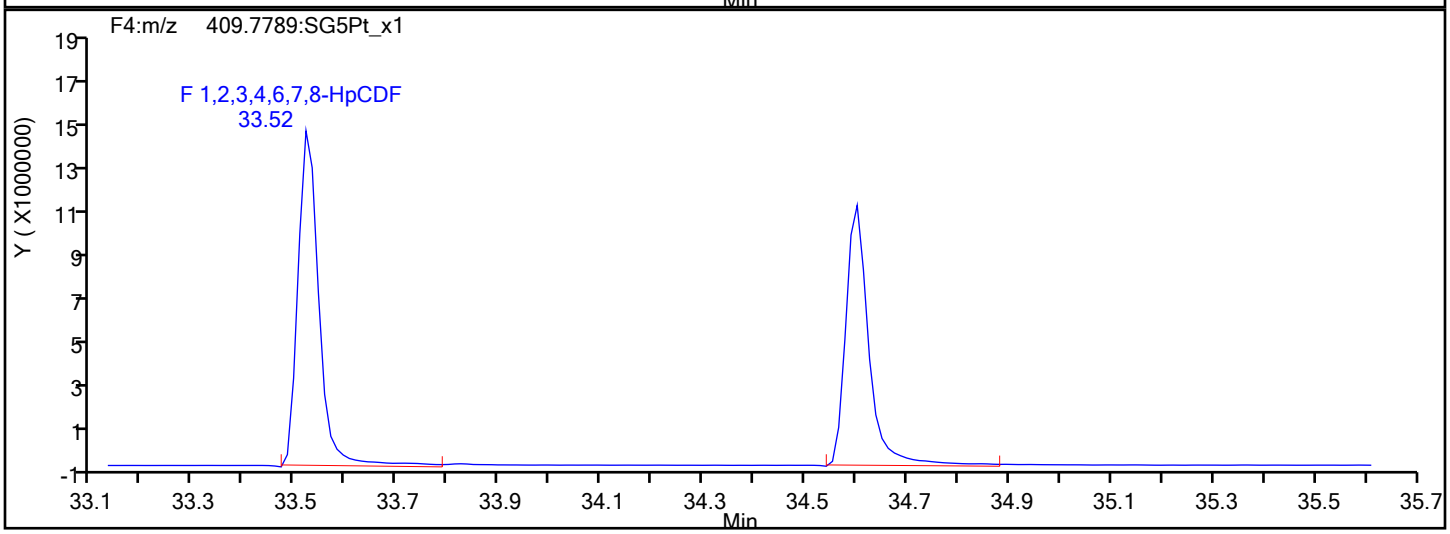

HpCDF Interference Mass

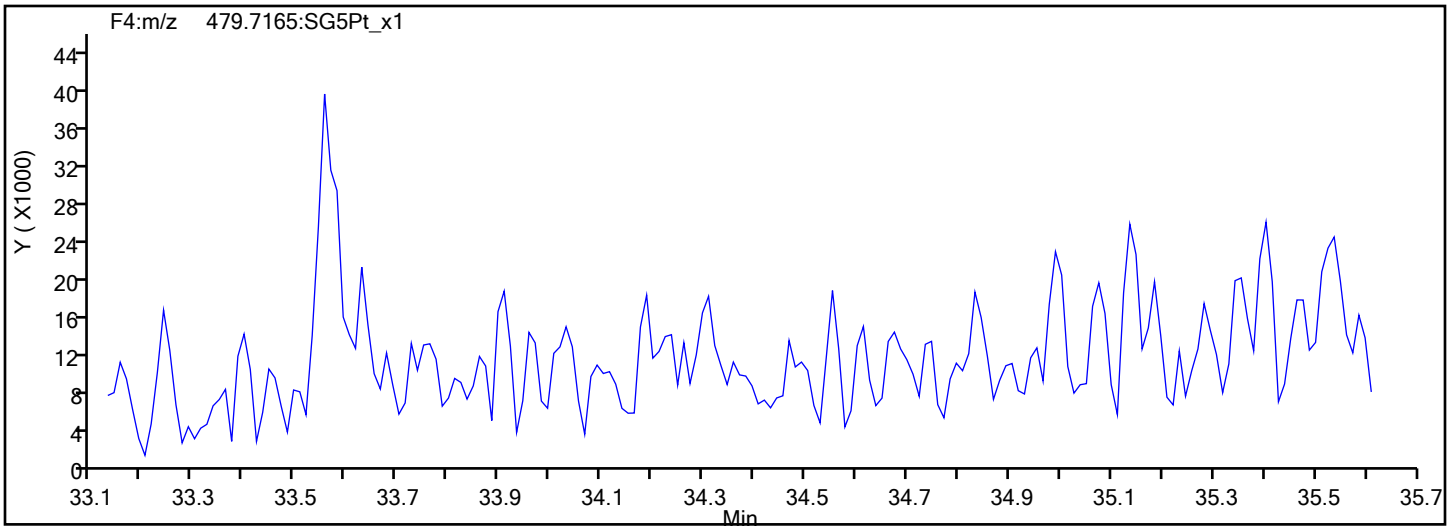

Report Date: 14-Nov-2019 09:48:44 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_40.d		
Injection Date:	13-Nov-2019 11:46:59	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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HpCDD

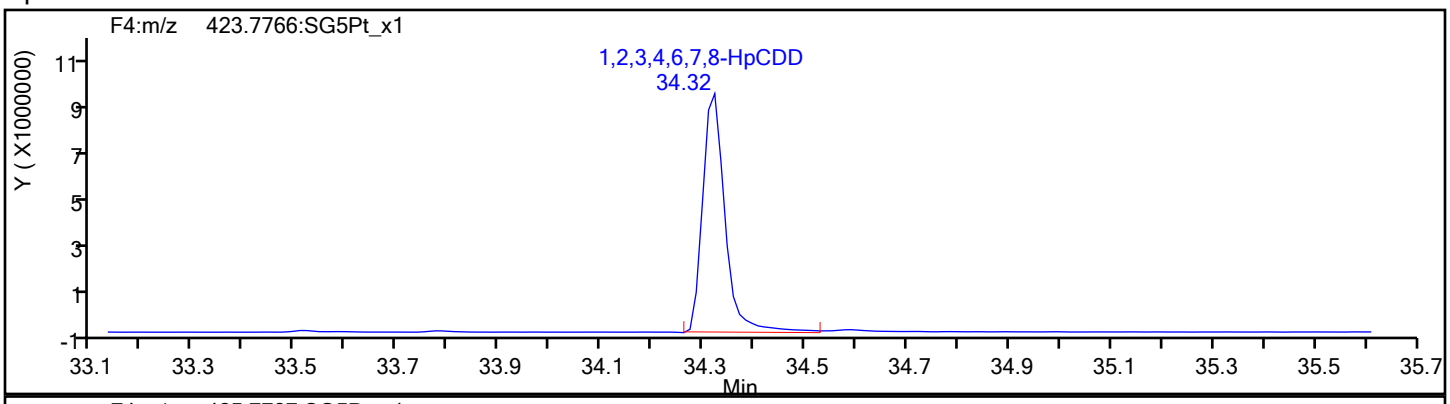

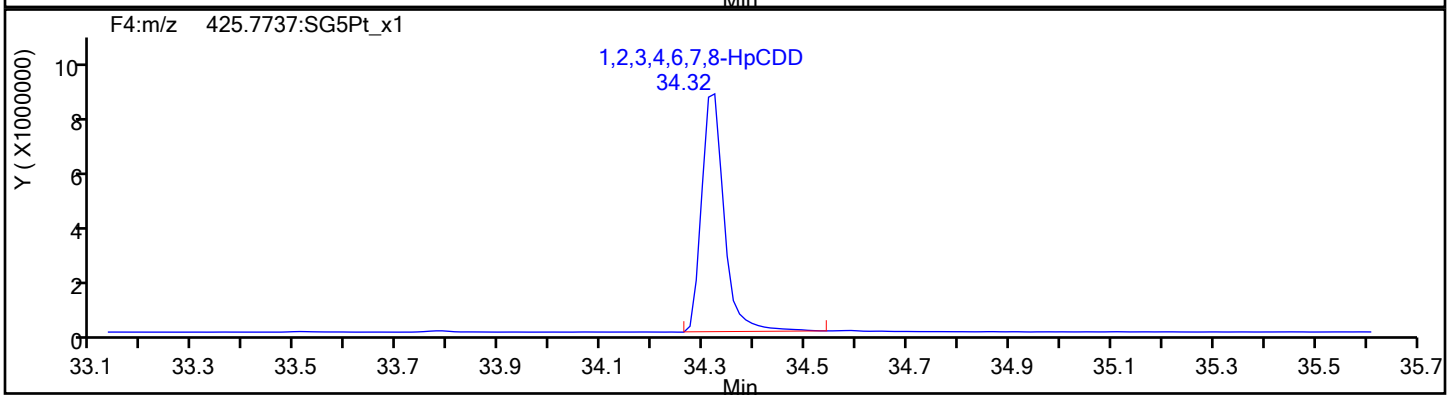

HpCDD Standards

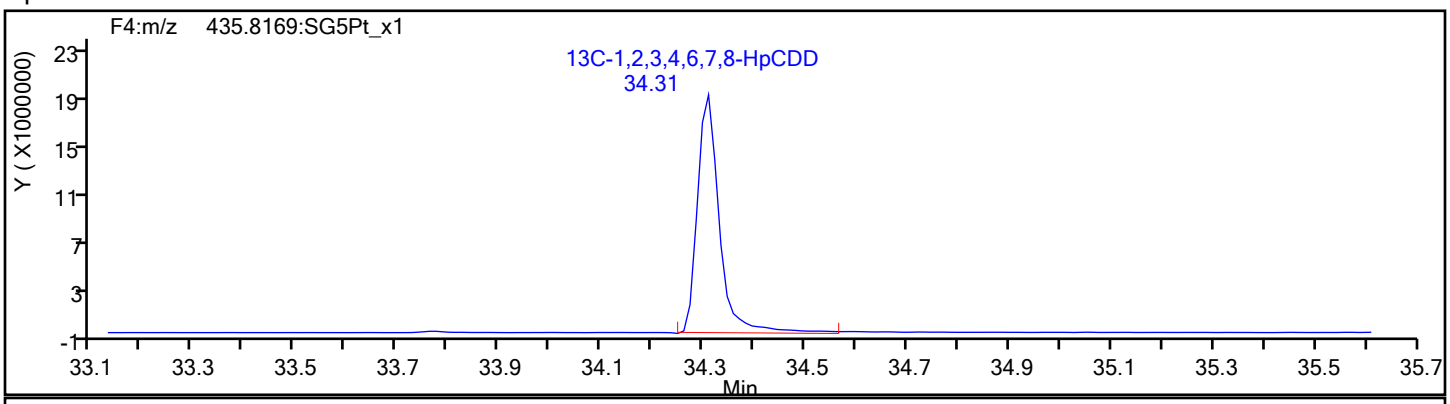

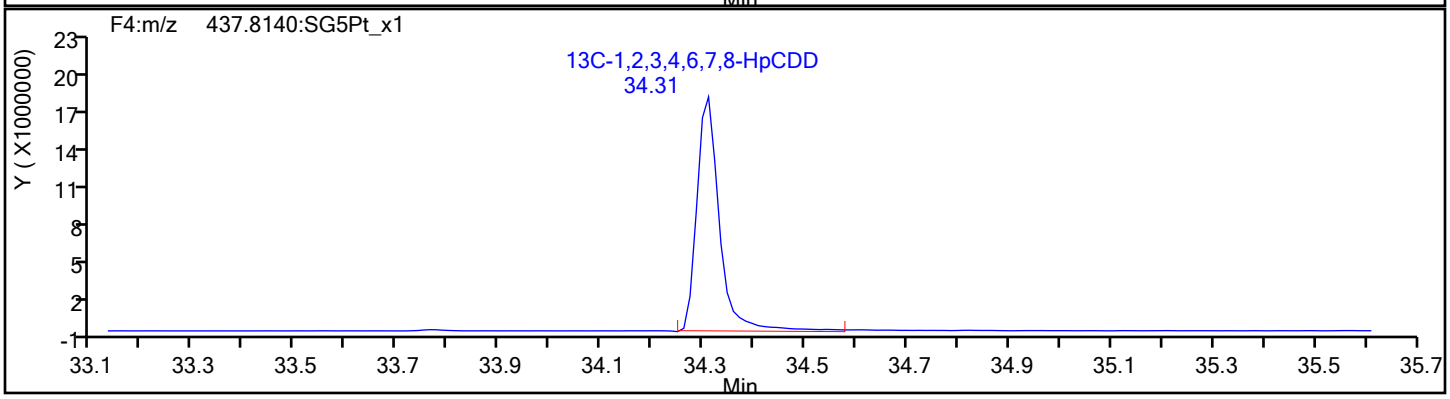

Report Date: 14-Nov-2019 09:48:44 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_40.d		
Injection Date:	13-Nov-2019 11:46:59	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338227	Sample Line#:	40
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OCDF

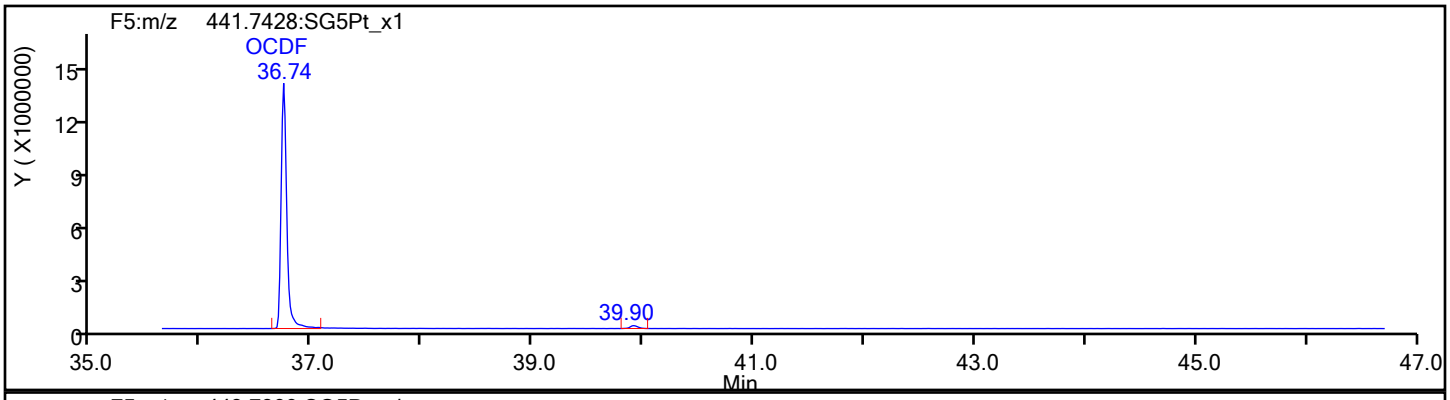

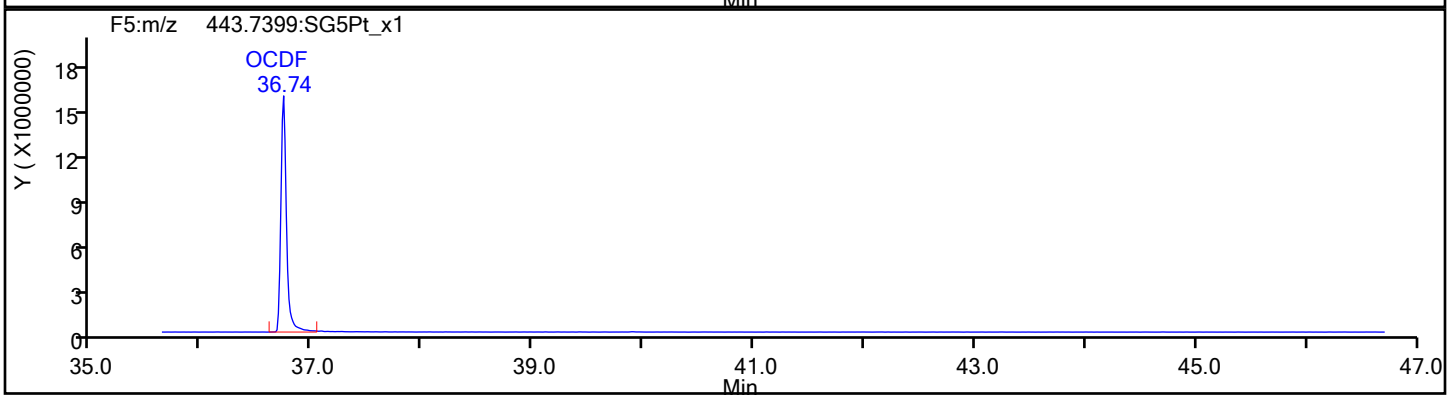

OCDF Standards

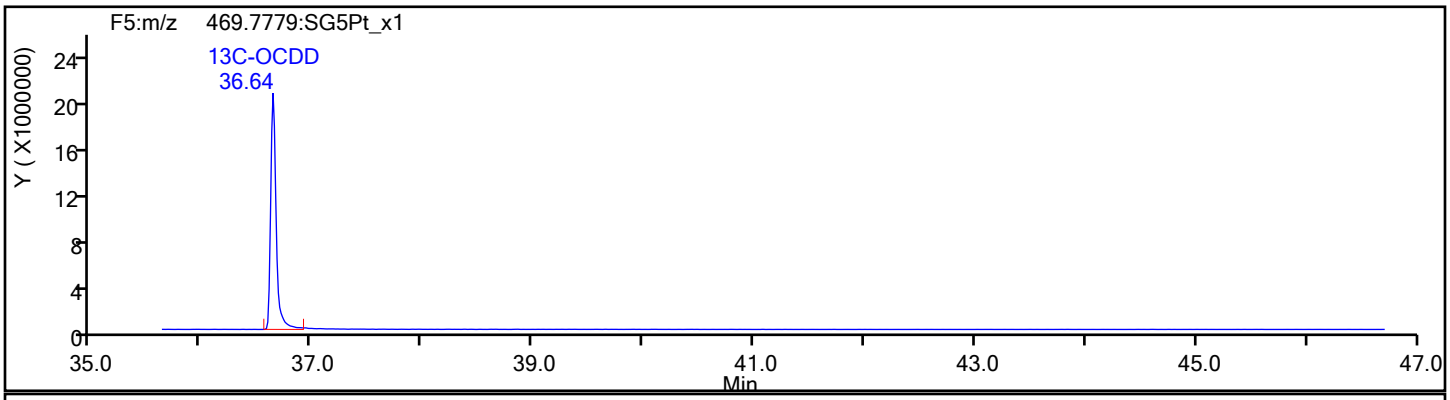

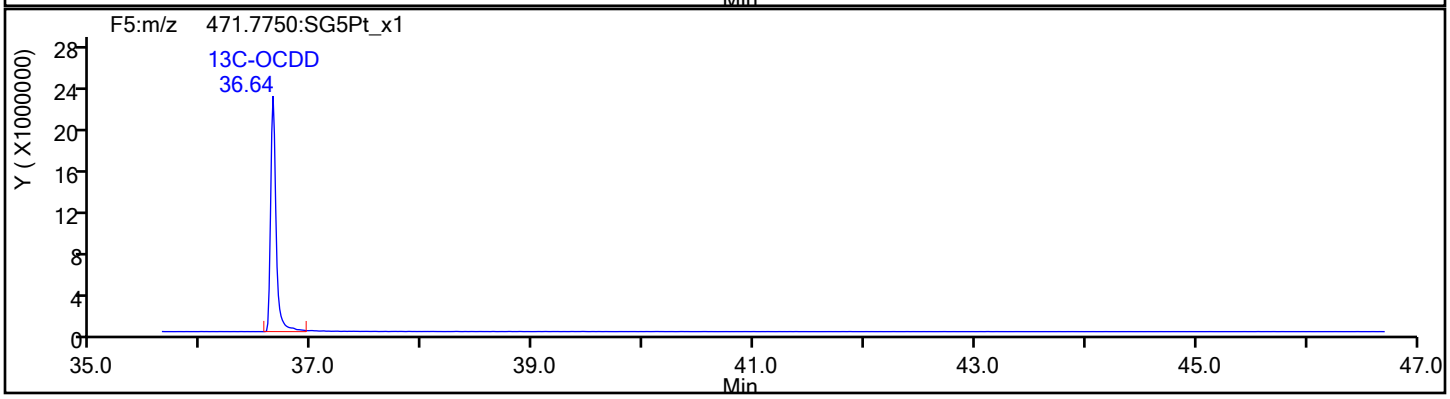

Report Date: 14-Nov-2019 09:48:44 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_40.d		
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Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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OCDF

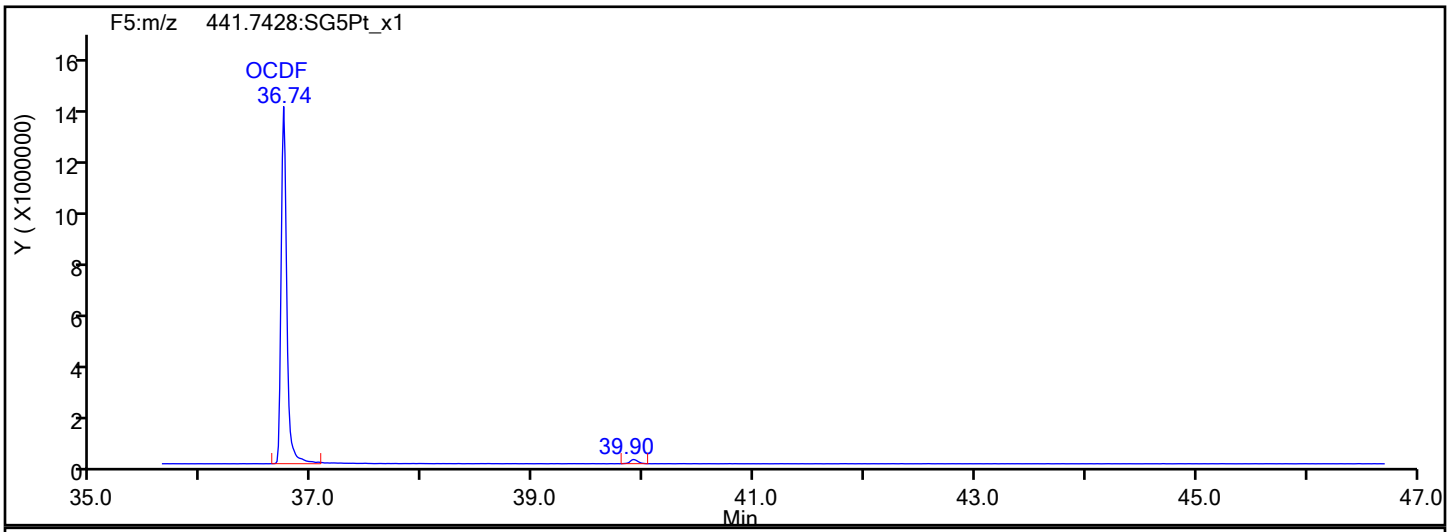

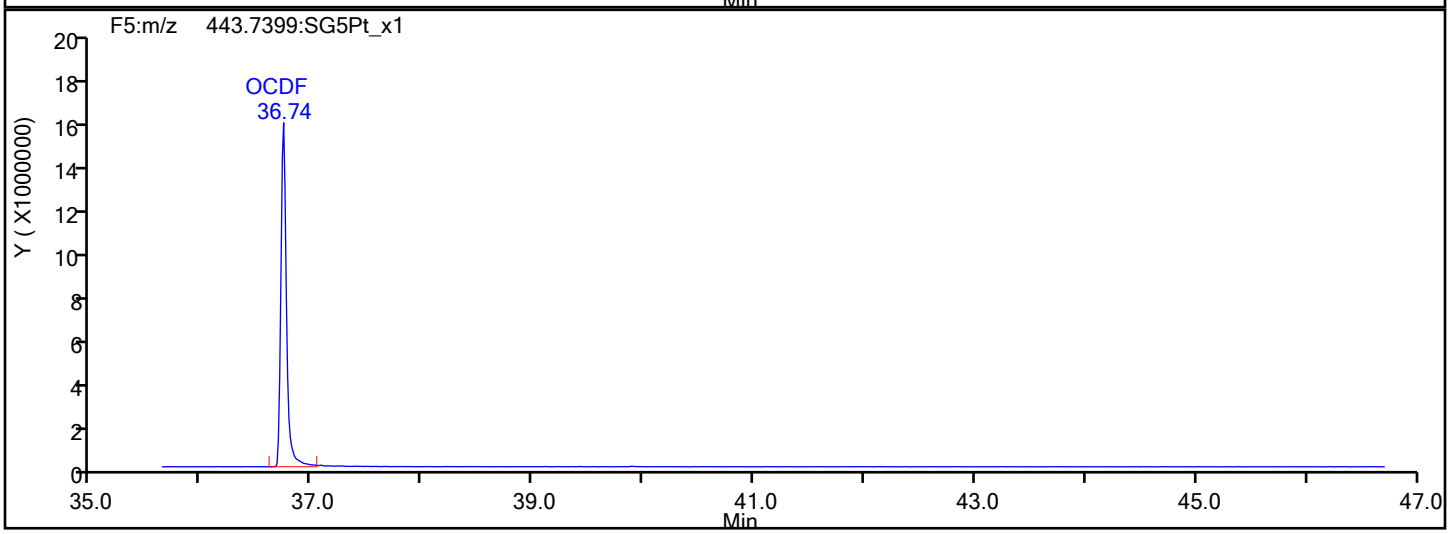

OCDF Interference Mass

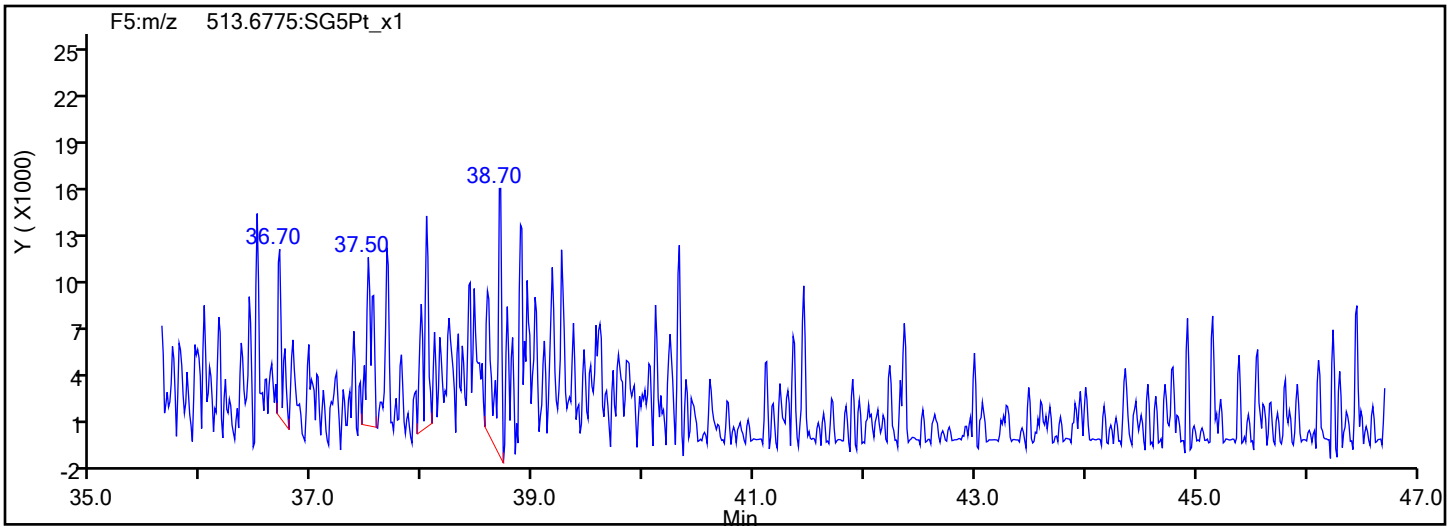

Report Date: 14-Nov-2019 09:48:44 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_40.d		
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Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338227	Sample Line#:	40
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OCDD

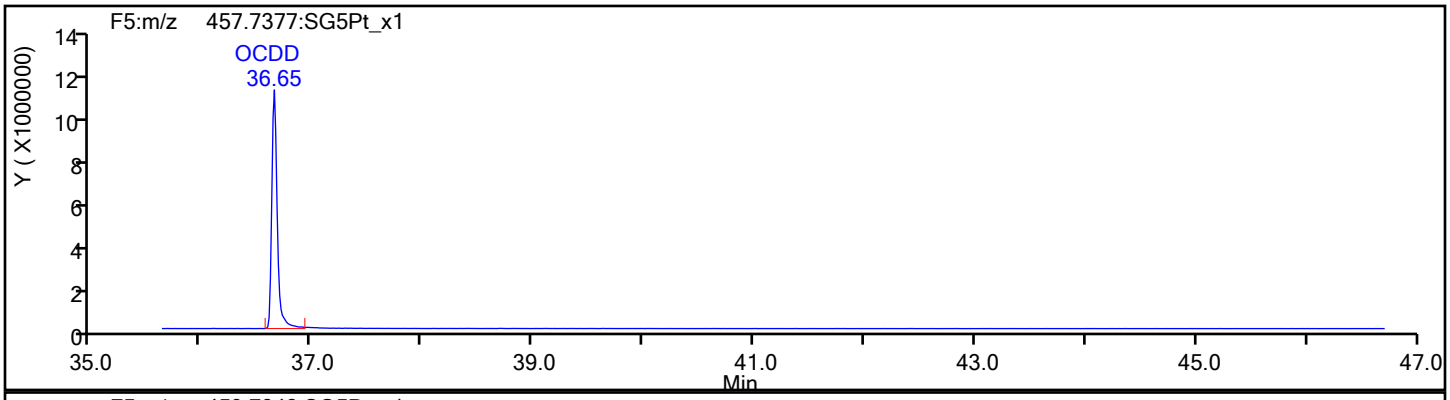

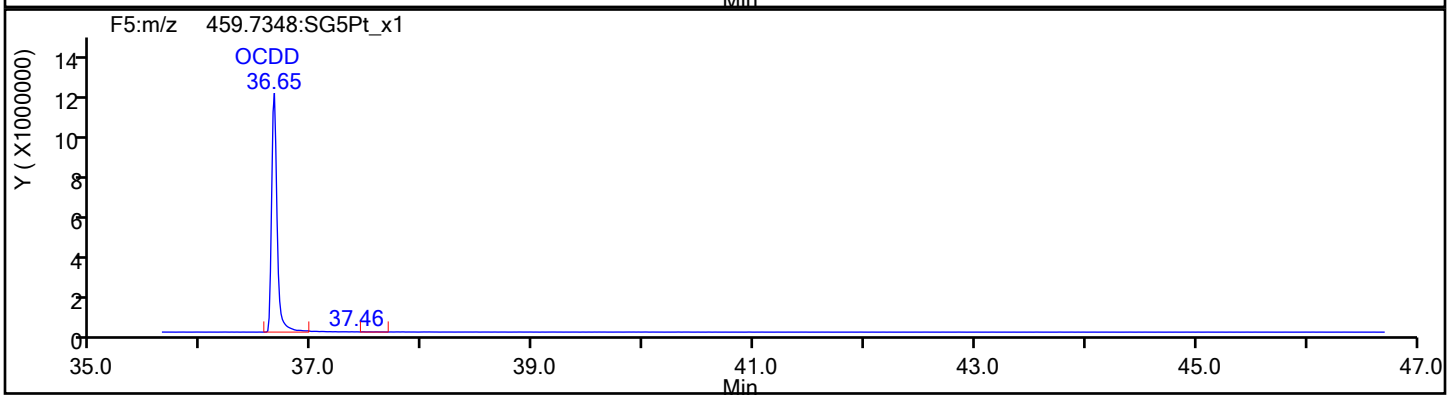

OCDD Standards

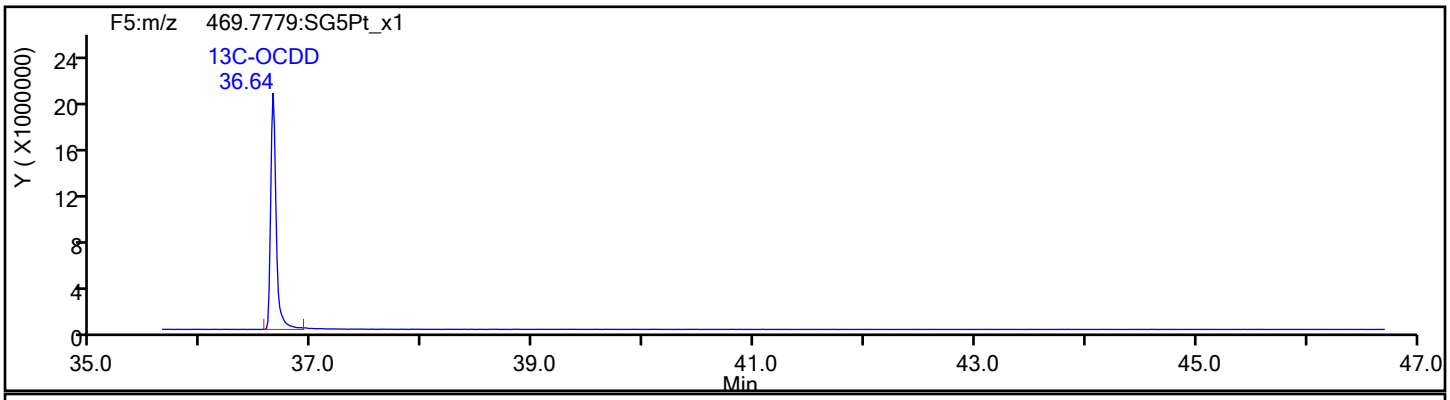

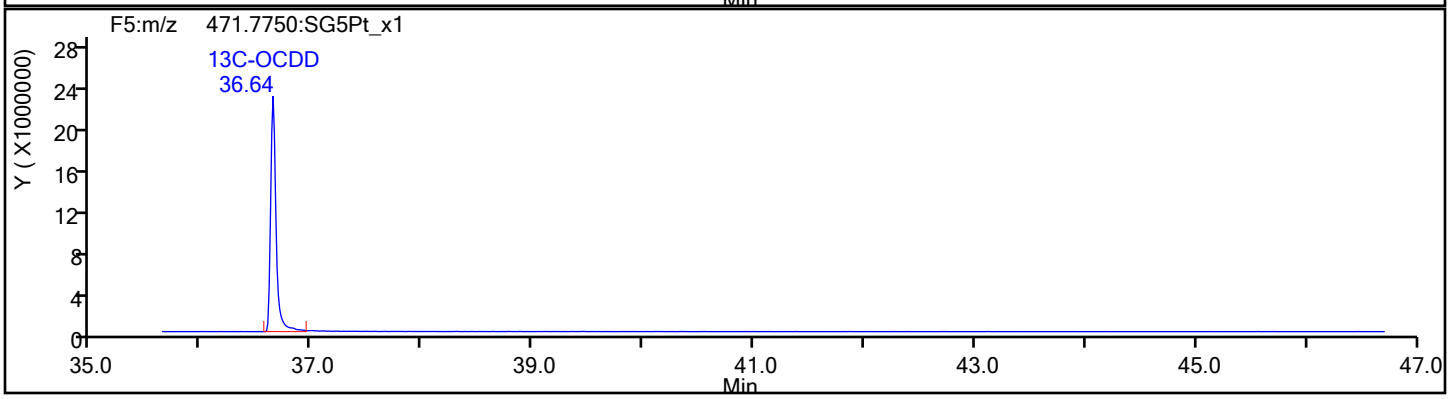

Report Date: 14-Nov-2019 09:48:44 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_40.d		
Injection Date:	13-Nov-2019 11:46:59	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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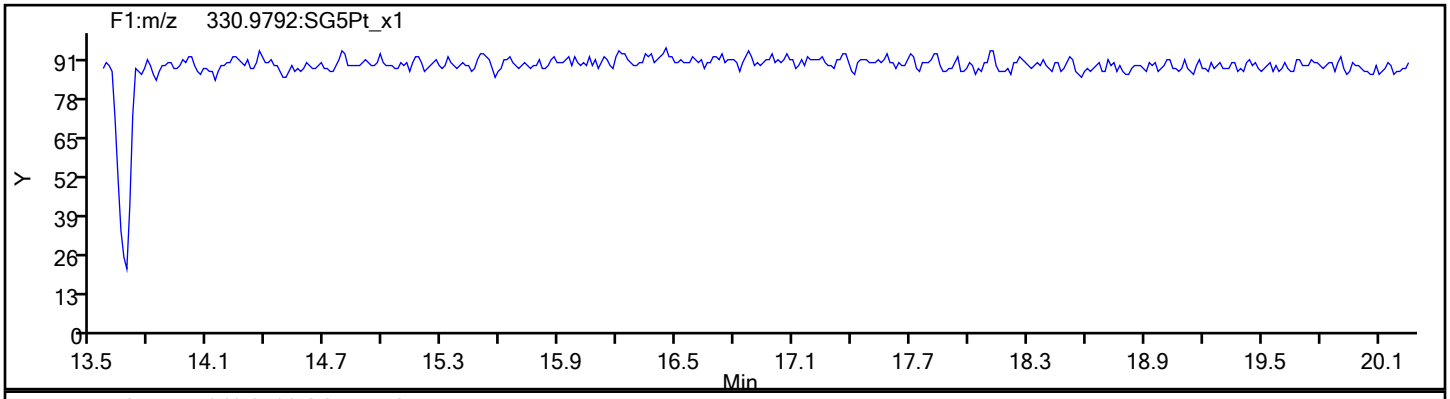

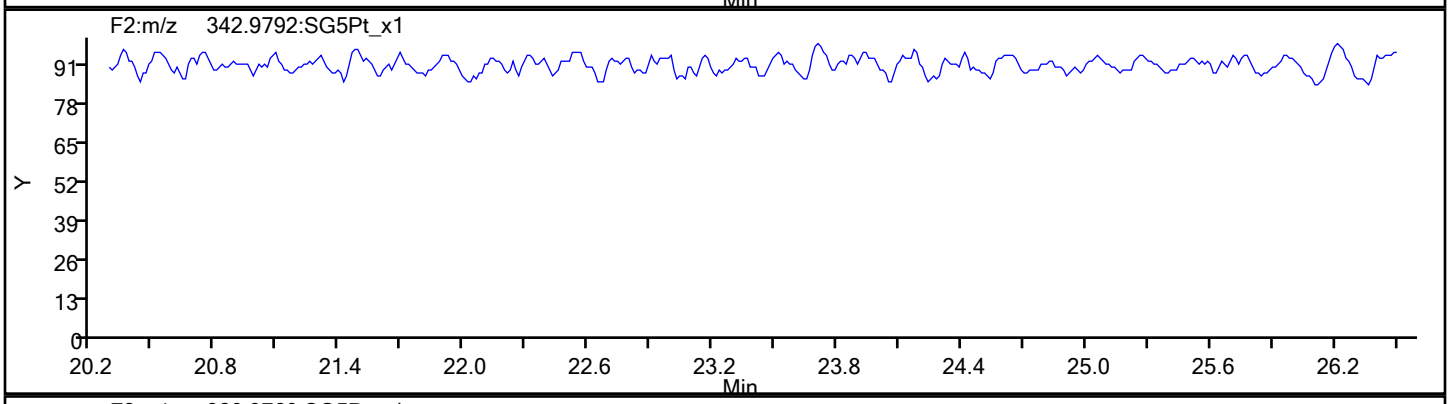

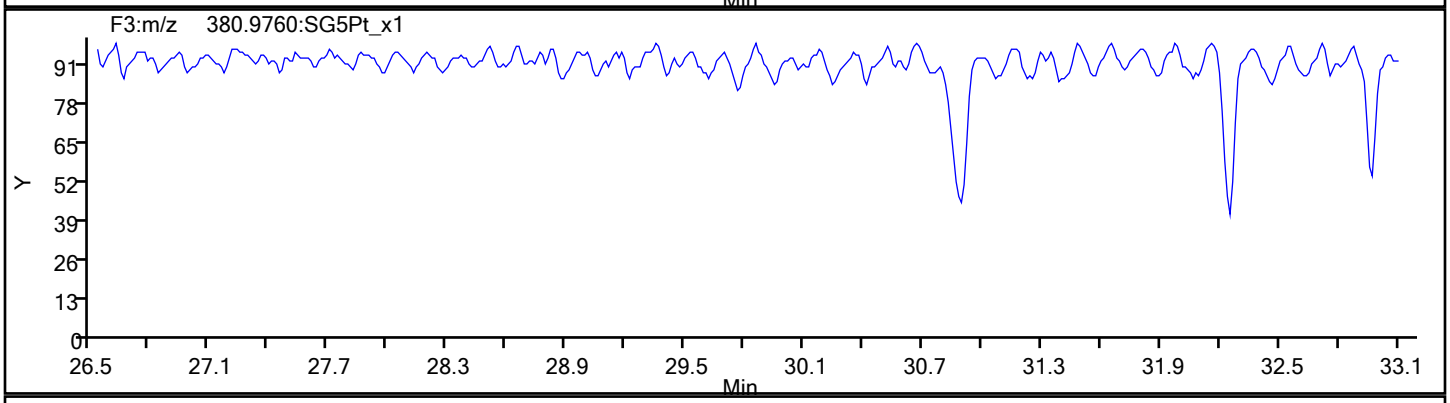

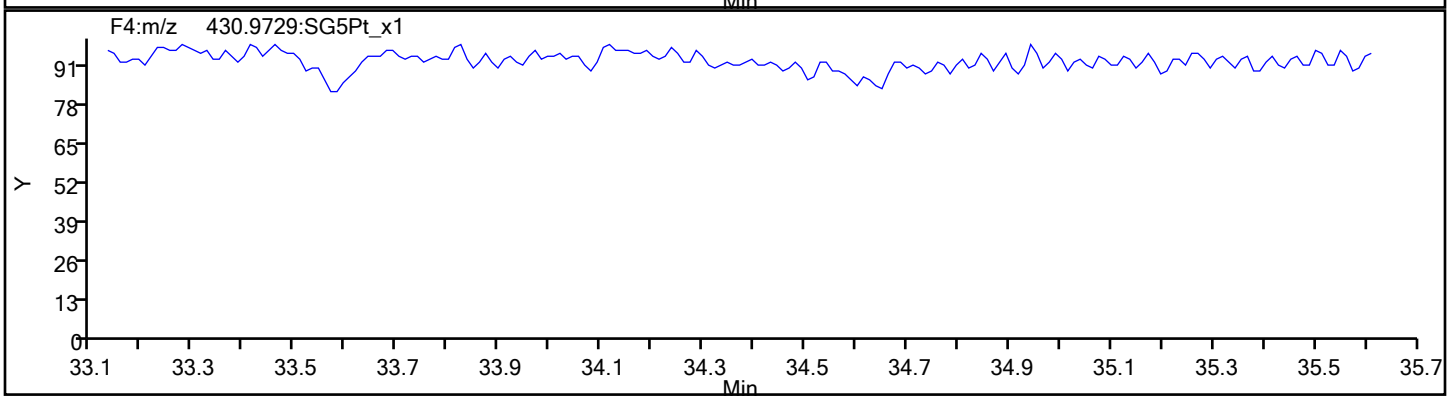

Report Date: 14-Nov-2019 09:48:44 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191112-86566.b\12NO193D5_40.d		
Injection Date:	13-Nov-2019 11:46:59	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM, AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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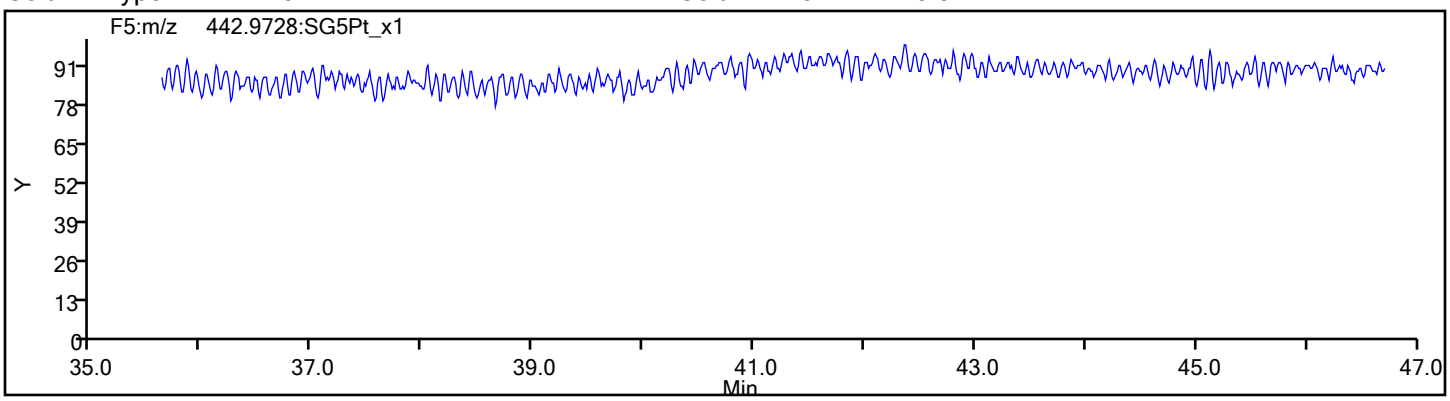

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Instrument ID: 3D5 Start Date: 05/21/2019 11:56

Analysis Batch Number: 296020 End Date: 05/21/2019 18:16

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
WDM 320-296020/1		05/21/2019 11:56	1	21MY193D5_1.d	DB-5 0.32(mm)
IC 320-296020/3		05/21/2019 13:31	1	21MY193D5_3.d	DB-5 0.32(mm)
IC 320-296020/4		05/21/2019 14:18	1	21MY193D5_4.d	DB-5 0.32(mm)
IC 320-296020/5		05/21/2019 15:06	1	21MY193D5_5.d	DB-5 0.32(mm)
IC 320-296020/6		05/21/2019 15:53	1	21MY193D5_6.d	DB-5 0.32(mm)
IC 320-296020/7		05/21/2019 16:41	1	21MY193D5_7.d	DB-5 0.32(mm)
ICV 320-296020/9		05/21/2019 18:16	1	21MY193D5_9.d	DB-5 0.32(mm)

1613B

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Instrument ID: 3D5 Start Date: 11/13/2019 07:28

Analysis Batch Number: 338227 End Date: 11/13/2019 15:45

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 320-338227/35		11/13/2019 07:28	1	12NO193D5_35.d	DB-5 0.32(mm)
WDM 320-338227/36		11/13/2019 08:26	1	12NO193D5_36.d	DB-5 0.32(mm)
MB 320-337526/1-A		11/13/2019 10:11	1	12NO193D5_38.d	DB-5 0.32(mm)
LCS 320-337526/2-A		11/13/2019 10:59	1	12NO193D5_39.d	DB-5 0.32(mm)
LCSD 320-337526/3-A		11/13/2019 11:46	1	12NO193D5_40.d	DB-5 0.32(mm)
320-56102-1		11/13/2019 12:34	1	12NO193D5_41.d	DB-5 0.32(mm)
320-56102-2		11/13/2019 13:22	1	12NO193D5_42.d	DB-5 0.32(mm)
ZZZZZ		11/13/2019 14:09	1		DB-5 0.32(mm)
ZZZZZ		11/13/2019 14:57	1		DB-5 0.32(mm)
ZZZZZ		11/13/2019 15:45	1		DB-5 0.32(mm)

1613B

DIOXIN BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Sacramen Job No.: 320-56102-1

SDG No.:

Batch Number: 337526 Batch Start Date: 11/11/19 08:47 Batch Analyst: Royce, Robert D

Batch Method: 1613B Batch End Date: 11/12/19 13:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	ExtractionID	RotoVapID
MB 320-337526/1		1613B, 1613B				1000 mL	20 uL	I1	8
LCS 320-337526/2		1613B, 1613B				1000 mL	20 uL	I2	6
LCSD 320-337526/3		1613B, 1613B				1000 mL	20 uL	I3	8
320-56102-A-1	FEFF-Filtered	1613B, 1613B	T	1483.1 g	505.49 g	977.6 mL	20 uL	I4	6
320-56102-A-2	CEFF-Filtered	1613B, 1613B	T	1509.6 g	507.01 g	1002.6 mL	20 uL	I5	8

Lab Sample ID	Client Sample ID	Method Chain	Basis	HRDXNIDA 00392	HRDXNIS 00121	HRDXNSU 00222	HRDXNTA 00117		
MB 320-337526/1		1613B, 1613B		1 mL	20 uL	1 mL			
LCS 320-337526/2		1613B, 1613B		1 mL	20 uL	1 mL	50 uL		
LCSD 320-337526/3		1613B, 1613B		1 mL	20 uL	1 mL	50 uL		
320-56102-A-1	FEFF-Filtered	1613B, 1613B	T	1 mL	20 uL	1 mL			
320-56102-A-2	CEFF-Filtered	1613B, 1613B	T	1 mL	20 uL	1 mL			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

DIOXIN BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Sacramen Job No.: 320-56102-1

SDG No.:

Batch Number: 337526 Batch Start Date: 11/11/19 08:47 Batch Analyst: Royce, Robert D

Batch Method: 1613B Batch End Date: 11/12/19 13:30

Batch Notes	
20% DCM:Hexane ID	1748766 mL
65% DCM:Hexane ID	1783336 mL
Acid Silica Gel ID	1804386
Acid Alumina ID	18X
Balance ID	QA-073
C14 ID	STBJ0716
Hexane ID	0000234722 mL
IFB Clean Up	TGL 11/12/19
MeCL2 ID	0000239257 mL
Na2SO4 ID	0000228308
Analyst ID - IDA Reagent Drop	GLB 11/11/19 HRDXNIDA_00392 B4/4 HD05018
Analyst ID - IDA Reagent Drop Witness	RDR 11/11/19
Analyst ID - IS Reagent Drop	TGL 11/12/19 HRDXNIS_00121 B 1/4 DB15270
Analyst ID - IS Reagent Drop Witness	FC 11/12/19
Analyst ID - SU Reagent Drop	TGL 11/12/19 HRDXNSU_00222 B 1/4 HD05018
Analyst ID - SU Reagent Drop Witness	GLB 11/12/19
Analyst ID - TA Reagent Drop	GLB 11/11/19 HRDXNTA_00117 B2/10 DB15270
Analyst ID - TA Reagent Drop Witness	RDR 11/11/19
Silica Gel ID	1792419
Soxhlet/Soxtherm End	RDR/NR 11/11/19 14:50
Soxhlet/Soxtherm Start	RDR/NR 11/11/19 11:50
Storage Box ID	DXN-108
Toluene ID	0000219926 mL

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS

COVER PAGE
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job Number: 320-56102-1

SDG No.:

Project: San Jacinto River Waste Pits Superfund

Client Sample ID	Lab Sample ID
FEFF-Filtered	320-56102-1
CEFF-Filtered	320-56102-2

Comments:

COVER PAGE
METALS

Lab Name: Eurofins TestAmerica, Canton Job Number: 320-56102-1

SDG No.:

Project: San Jacinto River Waste Pits Superfund

Client Sample ID	Lab Sample ID
FEFF-Filtered	320-56102-1
CEFF-Filtered	320-56102-2

Comments:

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: FEFF-Filtered
Lab Sample ID: 320-56102-1
Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 320-56102-1
SDG ID.:
Matrix: Water
Date Sampled: 11/05/2019 14:00
Reporting Basis: WET
Date Received: 11/08/2019 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	ND	0.20	0.048	mg/L			1	6010C
7440-36-0	Antimony	ND	0.020	0.0098	mg/L			1	6010C
7440-38-2	Arsenic	ND	0.020	0.012	mg/L			1	6010C
7440-39-3	Barium	0.32	0.0050	0.0025	mg/L			1	6010C
7440-41-7	Beryllium	ND	0.0020	0.00030	mg/L			1	6010C
7440-43-9	Cadmium	ND	0.0020	0.00050	mg/L			1	6010C
7440-70-2	Calcium	57	0.50	0.050	mg/L			1	6010C
7440-47-3	Chromium	ND	0.0080	0.0012	mg/L			1	6010C
7440-48-4	Cobalt	ND	0.0050	0.0030	mg/L			1	6010C
7440-50-8	Copper	0.0053	0.010	0.0021	mg/L	J		1	6010C
7439-89-6	Iron	ND	0.10	0.020	mg/L			1	6010C
7439-92-1	Lead	ND	0.0050	0.0025	mg/L			1	6010C
7439-95-4	Magnesium	31	0.50	0.040	mg/L			1	6010C
7439-96-5	Manganese	0.028	0.0050	0.0025	mg/L			1	6010C
7439-98-7	Molybdenum	0.0096	0.020	0.0027	mg/L	J		1	6010C
7440-02-0	Nickel	ND	0.0050	0.0024	mg/L			1	6010C
7723-14-0	Phosphorus	ND	0.50	0.050	mg/L			1	6010C
7440-09-7	Potassium	13	1.0	0.093	mg/L			1	6010C
7782-49-2	Selenium	ND	0.020	0.013	mg/L			1	6010C
7440-22-4	Silver	ND	0.0050	0.00084	mg/L			1	6010C
7440-23-5	Sodium	330	2.0	0.50	mg/L			2	6010C
7440-24-6	Strontium	0.49	0.050	0.0050	mg/L			1	6010C
7440-28-0	Thallium	ND	0.020	0.0090	mg/L			1	6010C
7440-62-2	Vanadium	0.0035	0.0050	0.0019	mg/L	J		1	6010C
7440-66-6	Zinc	0.014	0.010	0.0030	mg/L			1	6010C

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: CEFF-Filtered
Lab Sample ID: 320-56102-2
Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 320-56102-1
SDG ID.:
Matrix: Water
Date Sampled: 11/05/2019 14:00
Reporting Basis: WET
Date Received: 11/08/2019 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	ND	0.20	0.048	mg/L			1	6010C
7440-36-0	Antimony	ND	0.020	0.0098	mg/L			1	6010C
7440-38-2	Arsenic	ND	0.020	0.012	mg/L			1	6010C
7440-39-3	Barium	0.30	0.0050	0.0025	mg/L			1	6010C
7440-41-7	Beryllium	ND	0.0020	0.00030	mg/L			1	6010C
7440-43-9	Cadmium	ND	0.0020	0.00050	mg/L			1	6010C
7440-70-2	Calcium	59	0.50	0.050	mg/L			1	6010C
7440-47-3	Chromium	ND	0.0080	0.0012	mg/L			1	6010C
7440-48-4	Cobalt	ND	0.0050	0.0030	mg/L			1	6010C
7440-50-8	Copper	0.0072	0.010	0.0021	mg/L	J		1	6010C
7439-89-6	Iron	0.056	0.10	0.020	mg/L	J		1	6010C
7439-92-1	Lead	ND	0.0050	0.0025	mg/L			1	6010C
7439-95-4	Magnesium	32	0.50	0.040	mg/L			1	6010C
7439-96-5	Manganese	0.064	0.0050	0.0025	mg/L			1	6010C
7439-98-7	Molybdenum	0.010	0.020	0.0027	mg/L	J		1	6010C
7440-02-0	Nickel	ND	0.0050	0.0024	mg/L			1	6010C
7723-14-0	Phosphorus	ND	0.50	0.050	mg/L			1	6010C
7440-09-7	Potassium	14	1.0	0.093	mg/L			1	6010C
7782-49-2	Selenium	ND	0.020	0.013	mg/L			1	6010C
7440-22-4	Silver	ND	0.0050	0.00084	mg/L			1	6010C
7440-23-5	Sodium	330	2.0	0.50	mg/L			2	6010C
7440-24-6	Strontium	0.51	0.050	0.0050	mg/L			1	6010C
7440-28-0	Thallium	ND	0.020	0.0090	mg/L			1	6010C
7440-62-2	Vanadium	0.0038	0.0050	0.0019	mg/L	J		1	6010C
7440-66-6	Zinc	0.012	0.010	0.0030	mg/L			1	6010C

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: FEFF-Filtered
Lab Sample ID: 320-56102-1
Lab Name: Eurofins TestAmerica, Canton
Job No.: 320-56102-1
SDG ID.:
Matrix: Water
Date Sampled: 11/05/2019 14:00
Reporting Basis: WET
Date Received: 11/08/2019 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7439-97-6	Mercury	1.7	0.50	0.14	ng/L			1	1631E

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: CEFF-Filtered
Lab Sample ID: 320-56102-2
Lab Name: Eurofins TestAmerica, Canton
Job No.: 320-56102-1
SDG ID.:
Matrix: Water
Date Sampled: 11/05/2019 14:00
Reporting Basis: WET
Date Received: 11/08/2019 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7439-97-6	Mercury	1.7	0.50	0.14	ng/L			1	1631E

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

ICV Source: MT6010ICV_00039 Concentration Units: mg/L

CCV Source: MT6010CCV_00084

Analyte	ICV 320-338646/9 11/14/2019 11:12				CCV 320-338646/21 11/14/2019 12:00				CCV 320-338646/33 11/14/2019 12:47			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Sodium	9.75		10.0	97	23.4		25.0	94	23.4		25.0	94
Aluminum	9.65		10.0	97	23.5		25.0	94	23.4		25.0	94
Antimony	0.909		1.00	91	0.487		0.500	97	0.487		0.500	97
Arsenic	0.954		1.00	95	0.483		0.500	97	0.482		0.500	96
Barium	0.997		1.00	100	2.43		2.50	97	2.43		2.50	97
Beryllium	1.02		1.00	102	0.490		0.500	98	0.488		0.500	98
Cadmium	1.02		1.00	102	0.484		0.500	97	0.484		0.500	97
Calcium	9.99		10.0	100	24.2		25.0	97	24.2		25.0	97
Chromium	1.01		1.00	101	2.43		2.50	97	2.42		2.50	97
Cobalt	1.01		1.00	101	2.43		2.50	97	2.43		2.50	97
Copper	1.03		1.00	103	2.42		2.50	97	2.41		2.50	97
Iron	10.2		10.0	102	24.5		25.0	98	24.3		25.0	97
Lead	1.02		1.00	102	0.483		0.500	97	0.489		0.500	98
Magnesium	9.98		10.0	100	23.9		25.0	96	23.8		25.0	95
Manganese	1.02		1.00	102	2.44		2.50	98	2.44		2.50	98
Molybdenum	0.990		1.00	99	0.962		1.00	96	0.960		1.00	96
Nickel	1.03		1.00	103	2.44		2.50	98	2.44		2.50	98
Phosphorus	1.88		2.00	94	2.28		2.50	91	2.28		2.50	91
Potassium	9.80		10.0	98	23.5		25.0	94	23.6		25.0	94
Selenium	1.01		1.00	101	0.488		0.500	98	0.490		0.500	98
Silver	0.254		0.249	102	0.484		0.500	97	0.483		0.500	97
Strontium	0.993		1.00	99	2.43		2.50	97	2.42		2.50	97
Thallium	1.03		1.00	103	0.495		0.500	99	0.495		0.500	99
Vanadium	0.991		1.00	99	2.42		2.50	97	2.41		2.50	97
Zinc	1.05		0.997	105	2.44		2.50	98	2.43		2.50	97

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

ICV Source: MT6010ICV_00039 Concentration Units: mg/L

CCV Source: MT6010CRI_QSM_00044

Analyte	ICV 320-338646/9 11/14/2019 11:12				CCVL 320-338646/57 11/14/2019 14:21							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Sodium	9.75		10.0	97	0.481	J	0.504	95				
Aluminum	9.65		10.0	97	0.167	J	0.201	83				
Antimony	0.909		1.00	91	0.0286		0.0300	95				
Arsenic	0.954		1.00	95	0.0390		0.0400	98				
Barium	0.997		1.00	100	0.0197		0.0200	99				
Beryllium	1.02		1.00	102	0.00311		0.00299	104				
Cadmium	1.02		1.00	102	0.00294		0.00300	98				
Calcium	9.99		10.0	100	0.498	J	0.500	100				
Chromium	1.01		1.00	101	0.0102		0.0100	101				
Cobalt	1.01		1.00	101	0.00973		0.0100	97				
Copper	1.03		1.00	103	0.0149		0.0149	100				
Iron	10.2		10.0	102	0.0741	J	0.100	74				
Lead	1.02		1.00	102	0.0124		0.0101	123				
Magnesium	9.98		10.0	100	0.493	J	0.501	99				
Manganese	1.02		1.00	102	0.00975		0.0100	97				
Molybdenum	0.990		1.00	99	0.0184	J	0.0200	92				
Nickel	1.03		1.00	103	0.0105		0.00995	105				
Phosphorus	1.88		2.00	94	0.468	J	0.500	94				
Potassium	9.80		10.0	98	0.931	J	0.997	93				
Selenium	1.01		1.00	101	0.0388		0.0402	96				
Silver	0.254		0.249	102	0.00355	J	0.00500	71				
Strontium	0.993		1.00	99	0.0508		0.0500	102				
Thallium	1.03		1.00	103	0.0315		0.0301	105				
Vanadium	0.991		1.00	99	0.0193		0.0200	97				
Zinc	1.05		0.997	105	0.0209		0.0199	105				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Canton Job No.: 320-56102-1

SDG No.:

ICV Source: LLHg-1631-ICV_00052 Concentration Units: ng/L

CCV Source: LLHg-CCV_00221

Analyte	ICV 240-405319/9-A 09/27/2019 11:43				CCV 240-410613/13 11/12/2019 09:24				CCV 240-410613/22 11/12/2019 10:07			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	5.21		5.00	104	4.56		5.00	91	4.50		5.00	90

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Canton Job No.: 320-56102-1

SDG No.:

ICV Source: LLHg-1631-ICV_00052 Concentration Units: ng/L

CCV Source: LLHg-CCV_00221

Analyte	CCV 240-410613/29 11/12/2019 11:51				CCV 240-410613/47 11/12/2019 13:18							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	4.49		5.00	90	4.08		5.00	82				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Method: 6010C Instrument ID: T01

Lab Sample ID: CRI 320-338646/12 Concentration Units: mg/L

CRQL Check Standard Source: MT6010CRI_STD_00028

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Aluminum	0.201	0.180	J	90	70-130
Antimony	0.0200	0.0178	J	89	70-130
Arsenic	0.0200	0.0199	J	100	70-130
Barium	0.00500	0.00427	J	85	70-130
Beryllium	0.00199	0.00199	J	100	70-130
Cadmium	0.00200	0.00205		103	70-130
Calcium	0.500	0.483	J	97	70-130
Chromium	0.00502	0.00406	J	81	70-130
Cobalt	0.00501	0.00519		104	70-130
Copper	0.00991	0.0102		103	70-130
Iron	0.100	0.0804	J	80	70-130
Lead	0.00505	0.00489	J	97	70-130
Magnesium	0.501	0.475	J	95	70-130
Manganese	0.00501	0.00482	J	96	70-130
Molybdenum	0.0200	0.0184	J	92	70-130
Nickel	0.00498	0.00566		114	70-130
Phosphorus	0.501	0.461	J	92	70-130
Potassium	0.997	0.959	J	96	70-130
Selenium	0.0201	0.0179	J	89	70-130
Silver	0.00500	0.00469	J	94	70-130
Sodium	0.504	0.458	J	91	70-130
Strontium	0.0500	0.0484	J	97	70-130
Thallium	0.0200	0.0179	J	89	70-130
Vanadium	0.00499	0.00497	J	100	70-130
Zinc	0.00997	0.0104		104	70-130

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Concentration Units: mg/L

Analyte	RL	ICBIS 320-338646/10 11/14/2019 11:16		CCB 320-338646/22 11/14/2019 12:04		CCB 320-338646/34 11/14/2019 12:50			
		Found	C	Found	C	Found	C	Found	C
Sodium	1.0	ND		ND		ND			
Aluminum	0.20	ND		ND		ND			
Antimony	0.020	ND		ND		ND			
Arsenic	0.020	ND		ND		ND			
Barium	0.0050	ND		ND		ND			
Beryllium	0.0020	ND		ND		ND			
Cadmium	0.0020	ND		ND		ND			
Calcium	0.50	ND		ND		ND			
Chromium	0.0080	ND		ND		ND			
Cobalt	0.0050	ND		ND		ND			
Copper	0.010	0.00290	J	ND		ND			
Iron	0.10	ND		ND		ND			
Lead	0.0050	ND		ND		ND			
Magnesium	0.50	ND		ND		ND			
Manganese	0.0050	ND		ND		ND			
Molybdenum	0.020	ND		ND		ND			
Nickel	0.0050	ND		ND		ND			
Phosphorus	0.50	ND		ND		ND			
Potassium	1.0	ND		ND		ND			
Selenium	0.020	ND		ND		ND			
Silver	0.0050	ND		ND		ND			
Strontium	0.050	ND		ND		ND			
Thallium	0.020	ND		ND		ND			
Vanadium	0.0050	ND		ND		ND			
Zinc	0.010	ND		ND		ND			

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins TestAmerica, Canton Job No.: 320-56102-1

SDG No.:

Concentration Units: ng/L

Analyte	RL	ICB 240-405319/10-A 09/27/2019 11:48		CCB 240-410613/14 11/12/2019 09:29		CCB 240-410613/23 11/12/2019 10:12		CCB 240-410613/30 11/12/2019 11:56	
		Found	C	Found	C	Found	C	Found	C
Mercury	0.50	ND		ND		0.146	J	ND	

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins TestAmerica, Canton Job No.: 320-56102-1

SDG No.:

Concentration Units: ng/L

Analyte	RL	CCB 240-410613/48 11/12/2019 13:22							
		Found	C	Found	C	Found	C	Found	C
Mercury	0.50	0.181	J						

Italicized analytes were not requested for this sequence.

3-IN
METHOD BLANK
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Concentration Units: mg/L Lab Sample ID: MB 320-337500/1-A

Instrument Code: T01 Batch No.: 338157

CAS No.	Analyte	Concentration	C	Q	Method
7429-90-5	Aluminum	ND			6010C
7440-36-0	Antimony	ND			6010C
7440-38-2	Arsenic	ND			6010C
7440-39-3	Barium	ND			6010C
7440-41-7	Beryllium	ND			6010C
7440-43-9	Cadmium	ND			6010C
7440-70-2	Calcium	ND			6010C
7440-47-3	Chromium	ND			6010C
7440-48-4	Cobalt	ND			6010C
7440-50-8	Copper	ND			6010C
7439-89-6	Iron	ND			6010C
7439-92-1	Lead	ND			6010C
7439-95-4	Magnesium	ND			6010C
7439-96-5	Manganese	ND			6010C
7439-98-7	Molybdenum	ND			6010C
7440-02-0	Nickel	ND			6010C
7723-14-0	Phosphorus	ND			6010C
7440-09-7	Potassium	ND			6010C
7782-49-2	Selenium	ND			6010C
7440-22-4	Silver	ND			6010C
7440-24-6	Strontium	ND			6010C
7440-28-0	Thallium	ND			6010C
7440-62-2	Vanadium	ND			6010C
7440-66-6	Zinc	ND			6010C

3-IN
METHOD BLANK
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Concentration Units: mg/L Lab Sample ID: MB 320-337500/1-A

Instrument Code: T01 Batch No.: 338646

CAS No.	Analyte	Concentration	C	Q	Method
7440-23-5	Sodium	ND			6010C

FORM III-IN

3-IN
METHOD BLANK
METALS

Lab Name: Eurofins TestAmerica, Canton Job No.: 320-56102-1

SDG No.:

Concentration Units: ng/L Lab Sample ID: MB 240-410290/1-A

Instrument Code: H8 Batch No.: 410613

CAS No.	Analyte	Concentration	C	Q	Method
7439-97-6	Mercury	ND			1631E

FORM III-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Sacrament Job No.: 320-56102-1

SDG No.:

Lab Sample ID: ICSA 320-338646/13 Instrument ID: T01

Lab File ID: 111419.asc ICS Source: MT6010ICSA_00044

Concentration Units: mg/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Sodium		**0.190**	
Aluminum	*500*	*483*	*97*
Antimony		*-0.0008*	
Arsenic		*-0.0068*	
Barium		*0.0011*	
Beryllium		*0.0010*	
Boron		*0.0063*	
Cadmium		*-0.0005*	
Calcium	*500*	*471*	*94*
Chromium		*-0.0008*	
Cobalt		*-0.0012*	
Copper		*-0.0019*	
Iron	*200*	*185*	*92*
Lead		*0.0023*	
Magnesium	*500*	*476*	*95*
Manganese		*-0.0018*	
Molybdenum		*0.0018*	
Nickel		*-0.0008*	
Phosphorus		*0.0159*	
Potassium		*-0.0712*	
Selenium		*0.0088*	
Silicon		*-0.0637*	
Silver		*-0.0018*	
Strontium		*-0.0011*	
Sulfur		*-0.438*	
Thallium		*-0.0037*	
Tin		*-0.0041*	
Titanium		*0.0005*	
Vanadium		*0.0005*	
Zinc		*-0.0033*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Sacrament Job No.: 320-56102-1

SDG No.:

Lab Sample ID: ICSAB 320-338646/14 Instrument ID: T01

Lab File ID: 111419.asc ICS Source: MT6010ICSAB_00031

Concentration Units: mg/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Sodium	**10.0**	**10.2**	**102**
Aluminum	*500*	*490*	*98*
Antimony		*-0.0089*	
Arsenic	*1.00*	*0.968*	*97*
Barium	*1.00*	*0.997*	*100*
Beryllium	*0.500*	*0.493*	*99*
Boron	*10.0*	*9.46*	*95*
Cadmium	*1.00*	*0.937*	*94*
Calcium	*500*	*479*	*96*
Chromium	*1.00*	*0.997*	*100*
Cobalt	*1.00*	*0.902*	*90*
Copper	*1.00*	*0.998*	*100*
Iron	*200*	*188*	*94*
Lead	*1.00*	*0.927*	*93*
Magnesium	*500*	*486*	*97*
Manganese	*1.00*	*0.999*	*100*
Molybdenum		*0.0017*	
Nickel	*1.00*	*0.890*	*89*
Phosphorus	*10.0*	*9.41*	*94*
Potassium	*10.0*	*9.91*	*99*
Selenium	*1.00*	*0.978*	*98*
Silicon		*-0.0382*	
Silver	*1.00*	*1.09*	*109*
Strontium	*1.00*	*0.988*	*99*
Sulfur		*-0.454*	
Thallium	*1.00*	*0.888*	*89*
Tin		*-0.0047*	
Titanium		*-0.0014*	
Vanadium	*1.00*	*1.03*	*103*
Zinc	*1.00*	*0.950*	*95*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: FEFF-Filtered MS
Lab ID: 320-56102-1 MS
Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 320-56102-1
SDG No.:
Matrix: Water
Concentration Units: mg/L
% Solids:

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Aluminum	4.89		ND		5.00	98	75-125		6010C
Antimony	0.435		ND		0.500	87	75-125		6010C
Arsenic	0.497		ND		0.500	99	75-125		6010C
Barium	0.787		0.32		0.500	94	75-125		6010C
Beryllium	0.250		ND		0.250	100	75-125		6010C
Cadmium	0.236		ND		0.250	95	75-125		6010C
Calcium	80.8		57		25.0	96	75-125		6010C
Chromium	0.245		ND		0.250	98	75-125		6010C
Cobalt	0.234		ND		0.250	94	75-125		6010C
Copper	0.240		0.0053	J	0.250	94	75-125		6010C
Iron	5.02		ND		5.00	100	75-125		6010C
Lead	0.237		ND		0.250	95	75-125		6010C
Magnesium	54.2		31		25.0	94	75-125		6010C
Manganese	0.269		0.028		0.250	96	75-125		6010C
Molybdenum	0.252		0.0096	J	0.250	97	75-125		6010C
Nickel	0.234		ND		0.250	94	75-125		6010C
Phosphorus	5.31		ND		5.00	106	75-125		6010C
Potassium	38.1		13		25.0	100	75-125		6010C
Selenium	0.495		ND		0.500	99	75-125		6010C
Silver	0.0473		ND		0.0500	95	75-125		6010C
Sodium	355		330		25.0	91	75-125	4	6010C
Strontium	0.732		0.49		0.250	98	75-125		6010C
Thallium	0.449		ND		0.500	90	75-125		6010C
Vanadium	0.255		0.0035	J	0.250	101	75-125		6010C
Zinc	0.508		0.014		0.499	99	75-125		6010C

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VA - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: FEFF-Filtered MSD
Lab ID: 320-56102-1 MSD
Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 320-56102-1
SDG No.:
Matrix: Water
Concentration Units: mg/L
% Solids:

Analyte	(SDR)	C	Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Aluminum	4.96		5.00	99	75-125	1	20		6010C
Antimony	0.443		0.500	89	75-125	2	20		6010C
Arsenic	0.502		0.500	100	75-125	1	20		6010C
Barium	0.804		0.500	97	75-125	2	20		6010C
Beryllium	0.252		0.250	101	75-125	1	20		6010C
Cadmium	0.238		0.250	95	75-125	1	20		6010C
Calcium	82.4		25.0	103	75-125	2	20		6010C
Chromium	0.249		0.250	99	75-125	1	20		6010C
Cobalt	0.235		0.250	94	75-125	1	20		6010C
Copper	0.243		0.250	95	75-125	1	20		6010C
Iron	5.05		5.00	101	75-125	1	20		6010C
Lead	0.237		0.250	95	75-125	0	20		6010C
Magnesium	55.4		25.0	99	75-125	2	20		6010C
Manganese	0.272		0.250	98	75-125	1	20		6010C
Molybdenum	0.254		0.250	98	75-125	1	20		6010C
Nickel	0.235		0.250	94	75-125	1	20		6010C
Phosphorus	5.36		5.00	107	75-125	1	20		6010C
Potassium	38.6		25.0	103	75-125	2	20		6010C
Selenium	0.497		0.500	99	75-125	0	20		6010C
Silver	0.0487		0.0500	97	75-125	3	20		6010C
Sodium	360		25.0	112	75-125	1	20	4	6010C
Strontium	0.746		0.250	103	75-125	2	20		6010C
Thallium	0.455		0.500	91	75-125	1	20		6010C
Vanadium	0.259		0.250	102	75-125	1	20		6010C
Zinc	0.515		0.499	100	75-125	2	20		6010C

SDR = Sample Duplicate Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VD - IN

5B-IN
POST DIGESTION SPIKE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: FEFF-Filtered PDS Lab ID: 320-56102-1 PDS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Matrix: Water Concentration Units: mg/L

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Aluminum	10.3		ND		10.0	103	75-125		6010C
Antimony	0.0920		ND		0.100	92	75-125		6010C
Arsenic	0.105		ND		0.100	105	75-125		6010C
Barium	0.418		0.32		0.100	100	75-125		6010C
Beryllium	0.0527		ND		0.0500	105	75-125		6010C
Cadmium	0.101		ND		0.100	101	75-125		6010C
Calcium	65.8		57		10.0	91	75-125		6010C
Chromium	0.105		ND		0.100	105	75-125		6010C
Cobalt	0.102		ND		0.100	102	75-125		6010C
Copper	0.106		0.0053	J	0.100	101	75-125		6010C
Iron	4.22		ND		4.00	105	75-125		6010C
Lead	0.100		ND		0.100	100	75-125		6010C
Magnesium	40.3		31		10.0	96	75-125		6010C
Manganese	0.132		0.028		0.100	104	75-125		6010C
Molybdenum	0.112		0.0096	J	0.100	102	75-125		6010C
Nickel	0.102		ND		0.100	102	75-125		6010C
Phosphorus	1.12		ND		1.00	112	75-125		6010C
Potassium	23.2		13		9.97	102	75-125		6010C
Selenium	0.109		ND		0.100	109	75-125		6010C
Silver	0.102		ND		0.100	102	75-125		6010C
Sodium	351		330		20.1	NC	75-125		6010C
Strontium	0.584		0.49		0.100	96	75-125		6010C
Thallium	0.0940		ND		0.100	94	75-125		6010C
Vanadium	0.111		0.0035	J	0.100	108	75-125		6010C
Zinc	0.121		0.014		0.100	107	75-125		6010C

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VB - IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 320-337500/2-A

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

Sample Matrix: Water LCS Source: MT6010LCS2_00013

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Aluminum	5.00	5.18		104	80	120		6010C
Antimony	0.500	0.464		93	80	120		6010C
Arsenic	0.500	0.513		103	80	120		6010C
Barium	0.500	0.535		107	80	120		6010C
Beryllium	0.250	0.267		107	80	120		6010C
Cadmium	0.250	0.251		100	80	120		6010C
Calcium	25.0	26.8		107	80	120		6010C
Chromium	0.250	0.258		103	80	120		6010C
Cobalt	0.250	0.250		100	80	120		6010C
Copper	0.250	0.247		99	80	120		6010C
Iron	5.00	5.39		108	80	120		6010C
Lead	0.250	0.255		102	80	120		6010C
Magnesium	25.0	25.7		103	80	120		6010C
Manganese	0.250	0.257		103	80	120		6010C
Molybdenum	0.250	0.253		101	80	120		6010C
Nickel	0.250	0.250		100	80	120		6010C
Phosphorus	5.00	5.41		108	80	120		6010C
Potassium	25.0	26.1		104	80	120		6010C
Selenium	0.500	0.519		104	80	120		6010C
Silver	0.0500	0.0495		99	80	120		6010C
Strontium	0.250	0.266		106	80	120		6010C
Thallium	0.500	0.506		101	80	120		6010C
Vanadium	0.250	0.262		105	80	120		6010C
Zinc	0.499	0.524		105	80	120		6010C

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 320-337500/2-A

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

Sample Matrix: Water LCS Source: MT6010LCS2_00013

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Sodium	25.0	23.6		94	80	120		6010C

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 240-410290/2-A

Lab Name: Eurofins TestAmerica, Canton Job No.: 320-56102-1

Sample Matrix: Water LCS Source: LLHg-1631-ICV_00054

Analyte	Water(ng/L)							
	True	Found	C	%R	Limits		Q	Method
Mercury	5.00	4.38		88	77	123		1631E

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

8-IN
ICP-AES AND ICP-MS SERIAL DILUTIONS
METALS - DISSOLVED

Lab ID: 320-56102-1

SDG No:

Lab Name: Eurofins TestAmerica, Sacramento Job No: 320-56102-1

Matrix: Water Concentration Units: mg/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	Method
Aluminum	ND		ND		NC		6010C
Antimony	ND		ND		NC		6010C
Arsenic	ND		ND		NC		6010C
Barium	0.32		0.316		0.52		6010C
Beryllium	ND		ND		NC		6010C
Cadmium	ND		ND		NC		6010C
Calcium	57		57.5		1.3		6010C
Chromium	ND		ND		NC		6010C
Cobalt	ND		ND		NC		6010C
Copper	0.0053	J	0.0143	J	NC		6010C
Iron	ND		ND		NC		6010C
Lead	ND		ND		NC		6010C
Magnesium	31		31.2		1.8		6010C
Manganese	0.028		0.0269		NC		6010C
Molybdenum	0.0096	J	ND		NC		6010C
Nickel	ND		ND		NC		6010C
Phosphorus	ND		ND		NC		6010C
Potassium	13		13.0		0.14		6010C
Selenium	ND		ND		NC		6010C
Silver	ND		ND		NC		6010C
Sodium	330		334		0.56		6010C
Strontium	0.49		0.491		0.78		6010C
Thallium	ND		ND		NC		6010C
Vanadium	0.0035	J	ND		NC		6010C
Zinc	0.014		ND		NC		6010C

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIII-IN

9-IN
DETECTION LIMITS
METALS - DISSOLVED

Lab Name: Eurofins TestAmerica, Sacrament Job Number: 320-56102-1

SDG Number:

Matrix: Water Instrument ID: T01

Method: 6010C MDL Date: 01/01/2013 18:18

Prep Method: 3010A

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Aluminum	2961	0.2	0.048
Antimony	2068	0.02	0.0098
Arsenic	1890	0.02	0.012
Barium	4554	0.005	0.0025
Beryllium	3130	0.002	0.0003
Cadmium	2144	0.002	0.0005
Calcium	3179	0.5	0.05
Chromium	2677	0.008	0.0012
Cobalt	2286	0.005	0.003
Copper	3247	0.01	0.0021
Iron	2599	0.1	0.02
Lead	2203	0.005	0.0025
Magnesium	2790	0.5	0.04
Manganese	2576	0.005	0.0025
Molybdenum	2020	0.02	0.0027
Nickel	2316	0.005	0.0024
Phosphorus	1782	0.5	0.05
Potassium	7664	1	0.093
Selenium	1960	0.02	0.013
Silver	3280	0.005	0.00084
Sodium	5895	1	0.25
Strontium	4077	0.05	0.005
Thallium	1908	0.02	0.009
Vanadium	2924	0.005	0.0019
Zinc	2062	0.01	0.003

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - DISSOLVED

Lab Name: Eurofins TestAmerica, Sacrament Job Number: 320-56102-1

SDG Number:

Matrix: Water Instrument ID: T01

Method: 6010C XMDL Date: 01/01/2013 18:04

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Aluminum	3961	0.2	0.048
Antimony	2068	0.02	0.0098
Arsenic	1890	0.02	0.012
Barium	4554	0.005	0.0025
Beryllium	3130	0.002	0.0003
Cadmium	2144	0.002	0.0005
Calcium	3179	0.5	0.05
Chromium	2677	0.008	0.0012
Cobalt	2286	0.005	0.003
Copper	3247	0.01	0.0021
Iron	2599	0.1	0.02
Lead	2203	0.005	0.0025
Magnesium	2790	0.5	0.04
Manganese	2576	0.005	0.0025
Molybdenum	2020	0.02	0.0027
Nickel	2316	0.005	0.0024
Phosphorus	1782	0.5	0.05
Potassium	7664	1	0.093
Selenium	1960	0.02	0.013
Silver	3280	0.005	0.00084
Sodium	5895	1	0.25
Strontium	4077	0.05	0.005
Thallium	1908	0.02	0.009
Vanadium	2924	0.005	0.0019
Zinc	2062	0.01	0.003

FORM IX - IN

9-IN
DETECTION LIMITS
METALS - DISSOLVED

Lab Name: Eurofins TestAmerica, Canton Job Number: 320-56102-1

SDG Number:

Matrix: Water Instrument ID: H8

Method: 1631E MDL Date: 02/22/2017 15:46

Prep Method: 1631E

Analyte	Wavelength/ Mass	RL (ng/L)	MDL (ng/L)
Mercury	253.7	0.5	0.14

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - DISSOLVED

Lab Name: Eurofins TestAmerica, Canton Job Number: 320-56102-1

SDG Number:

Matrix: Water Instrument ID: H8

Method: 1631E XMDL Date: 02/22/2017 15:47

Analyte	Wavelength/ Mass	XRL (ng/L)	XMDL (ng/L)
Mercury	253.7	0.5	0.14

FORM IX - IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins TestAmerica, Sacrament Job Number: 320-56102-1

SDG No.:

ICP-AES Instrument ID: T01 Date: 09/17/2019

Analyte	Wave Length	Al	Ba	Ca	Co	Cr	Cu	Fe	Mg	Mn	Mo	Na	Ni	P	Sb
Aluminum	309.271										0.030000				
Antimony	206.833	-0.000009		0.000005		0.017200		0.000061	-0.000000		-0.000000		-0.000460		
Arsenic	189.042	0.000005				-0.006600		-0.000043			0.000800				
Barium	455.403														
Beryllium	313.042			-0.000000											
Boron	208.959							-0.000059			0.019500				
Cadmium	214.438	-0.000000	0.000001	-0.000006				0.000028	0.000002						
Calcium	317.938														
Chromium	267.716	0.000008		-0.000000				0.000005	0.000001					0.000021	
Cobalt	228.616		0.000020					0.000024			-0.000484		0.000090		
Copper	324.754	0.000004						-0.000171			0.000680				
Iron	259.940														
Lead	220.353	-0.000108		-0.000002	-0.000200		0.000280	0.000031	0.000002		-0.002300		0.000180		
Magnesium	279.079							0.000010			-0.012500				
Manganese	257.610			0.000001				-0.000008	0.000003						
Molybdenum	202.030							-0.000006							
Nickel	231.601	-0.000003			0.000200			0.000023			-0.000150				-0.000100
Phosphorus	178.284														
Potassium	766.496	0.000118		-0.000007				-0.000092	0.000093						
Selenium	196.090	0.000006		0.000005				-0.000155	0.000004	0.000468	0.000140				
Silicon	288.158	0.000013				-0.003000					-0.001890				
Silver	328.068	-0.000001		-0.000000				-0.000060	-0.000002		-0.000008				
Sodium	589.592														
Strontium	407.771			0.000020											
Sulfur	182.034	-0.000100		-0.00100				0.002061	0.000100	0.005840	-0.003350				
Thallium	190.856	0.000000		0.000005	0.002300	0.000241		-0.000014	-0.000003	0.000500	-0.000136				
Tin	189.989	0.000014													
Titanium	334.904					0.000169			-0.000003		0.000449				
Vanadium	292.402					-0.005500		-0.000037		-0.000570	-0.000200				
Zinc	206.200	0.000002		0.000001		0.000420		-0.0000043	-0.000002		-0.000200				

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins TestAmerica, Sacrament Job Number: 320-56102-1

SDG No.:

ICP-AES Instrument ID: T01 Date: 09/17/2019

Analyte	Wave Length	Se	Si	Sn	Ti	Tl	V								
Aluminum	309.271														
Antimony	206.833			-0.017336	0.000270		-0.002224								
Arsenic	189.042		-0.000036				0.000000								
Barium	455.403														
Beryllium	313.042				-0.000073		0.000830								
Boron	208.959		0.000016												
Cadmium	214.438														
Calcium	317.938														
Chromium	267.716														
Cobalt	228.616		-0.000012		0.002050										
Copper	324.754				-0.000250		-0.000270								
Iron	259.940														
Lead	220.353	0.000013	0.000087		-0.000825		-0.000100								
Magnesium	279.079														
Manganese	257.610														
Molybdenum	202.030														
Nickel	231.601					0.000270									
Phosphorus	178.284														
Potassium	766.496														
Selenium	196.090		0.000020												
Silicon	288.158			0.002050	0.010000		0.003750								
Silver	328.068						0.000067								
Sodium	589.592														
Strontium	407.771														
Sulfur	182.034														
Thallium	190.856				-0.000408		0.000701								
Tin	189.989				-0.003450										
Titanium	334.904		0.000007												
Vanadium	292.402				0.000650										
Zinc	206.200														

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins TestAmerica, Sacrament Job Number: 320-56102-1

SDG No.:

ICP-AES Instrument ID: T01 Date: 09/19/2019

Analyte	Wave Length	Al	Ba	Ca	Co	Cr	Cu	Fe	Mg	Mn	Mo	Na	Ni	P	Sb
Aluminum	309.271										0.030000				
Antimony	206.833	-0.000009		0.000005		0.017200		0.000061	-0.000000		-0.000000		-0.000460		
Arsenic	189.042	0.000005				-0.006600		-0.000043			0.000800				
Barium	455.403														
Beryllium	313.042			-0.000000											
Boron	208.959							-0.000059			0.019500				
Cadmium	214.438	-0.000000	0.000001	-0.000006				0.000028	0.000002						
Calcium	317.938														
Chromium	267.716	0.000008		-0.000000				0.000005	0.000001					0.000021	
Cobalt	228.616		0.000020					0.000024			-0.000484		0.000090		
Copper	324.754	0.000004						-0.000089			0.000680				
Iron	259.940														
Lead	220.353	-0.000108		-0.000002	-0.000200		0.000280	0.000031	0.000002		-0.002300		0.000180		
Magnesium	279.079							0.000010			-0.012500				
Manganese	257.610			0.000001				-0.000008	0.000003						
Molybdenum	202.030							-0.000006							
Nickel	231.601	-0.000003			0.000200			0.000023			-0.000150				-0.000100
Phosphorus	178.284														
Potassium	766.496	0.000118		-0.000007				-0.000092	0.000093						
Selenium	196.090	0.000006		0.000005				-0.000155	0.000004	0.000468	0.000140				
Silicon	288.158	0.000013				-0.003000					-0.001890				
Silver	328.068	-0.000001		-0.000000				-0.000060	-0.000002		-0.000008				
Sodium	589.592														
Strontium	407.771			0.000020											
Sulfur	182.034	-0.000100		-0.00100				0.002061	0.000100	0.005840	-0.003350				
Thallium	190.856	0.000000		0.000005	0.002300	0.000241		-0.000014	-0.000003	0.000500	-0.000136				
Tin	189.989	0.000014													
Titanium	334.904					0.000169			-0.000003		0.000449				
Vanadium	292.402					-0.005500		-0.000037		-0.000570	-0.000200				
Zinc	206.200	0.000002		0.000001		0.000420		-0.0000043	-0.000002		-0.000200				

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins TestAmerica, Sacrament Job Number: 320-56102-1

SDG No.:

ICP-AES Instrument ID: T01 Date: 09/19/2019

Analyte	Wave Length	Se	Si	Sn	Ti	Tl	V								
Aluminum	309.271														
Antimony	206.833			-0.017336	0.000270		-0.002224								
Arsenic	189.042		-0.000036				0.000000								
Barium	455.403														
Beryllium	313.042				-0.000073		0.000830								
Boron	208.959		0.000016												
Cadmium	214.438														
Calcium	317.938														
Chromium	267.716														
Cobalt	228.616		-0.000012		0.002050										
Copper	324.754				-0.000250		-0.000270								
Iron	259.940														
Lead	220.353	0.000013	0.000087		-0.000825		-0.000100								
Magnesium	279.079														
Manganese	257.610														
Molybdenum	202.030														
Nickel	231.601					0.000270									
Phosphorus	178.284														
Potassium	766.496														
Selenium	196.090		0.000020												
Silicon	288.158			0.002050	0.010000		0.003750								
Silver	328.068						0.000067								
Sodium	589.592														
Strontium	407.771														
Sulfur	182.034														
Thallium	190.856				-0.000408		0.000701								
Tin	189.989				-0.003450										
Titanium	334.904		0.000007												
Vanadium	292.402				0.000650										
Zinc	206.200														

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins TestAmerica, Sacrament Job Number: 320-56102-1

SDG No.:

ICP-AES Instrument ID: T01 Date: 10/25/2019

Analyte	Wave Length	Al	Ba	Ca	Co	Cr	Cu	Fe	Mg	Mn	Mo	Na	Ni	P	Sb
Aluminum	309.271										0.030000				
Antimony	206.833	-0.000009		0.000005		0.017200		0.000040	-0.000000		-0.000000		-0.000460		
Arsenic	189.042	0.000005				-0.006600		-0.000107			0.000800				
Barium	455.403														
Beryllium	313.042			-0.000000											
Boron	208.959							-0.000059			0.019500				
Cadmium	214.438	-0.000000	0.000001	-0.000006				0.000030	0.000000						
Calcium	317.938														
Chromium	267.716	0.000008		-0.000000				0.000004	0.000001					0.000021	
Cobalt	228.616		0.000020					0.000024			-0.000484		0.000090		
Copper	324.754	0.000004						-0.000157			0.000680				
Iron	259.940														
Lead	220.353	-0.000091		-0.000001	-0.000200		0.000280	0.000027	-0.000002		-0.002300		0.000180		
Magnesium	279.079							0.000010			-0.012500				
Manganese	257.610			0.000001				-0.000008	0.000003						
Molybdenum	202.030							-0.000006							
Nickel	231.601	-0.000003			0.000200			0.000009			-0.000150				-0.000100
Phosphorus	178.284														
Potassium	766.496	0.000118		-0.000007				-0.000092	0.000093						
Selenium	196.090	0.000018		0.000005				-0.000342	0.000004	0.000468	0.000140				
Silicon	288.158	0.000004		0.000004		-0.003000		0.000010			-0.001890				
Silver	328.068	-0.000001		-0.000000				0.000002	0.000001		-0.000008				
Sodium	589.592														
Strontium	407.771			0.000020											
Sulfur	182.034	-0.000100		-0.00100				0.001844	0.000100	0.005840	-0.003350				
Thallium	190.856	0.000000		0.000005	0.002300	0.000241		-0.000025	-0.000003	0.000500	-0.000136				
Tin	189.989	0.000014													
Titanium	334.904					0.000169			-0.000003		0.000449				
Vanadium	292.402					-0.005500		-0.000052		-0.000570	-0.000200				
Zinc	206.200	0.000005		0.000001		0.000420		0.0000100	0.000001		-0.000200				

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins TestAmerica, Sacrament Job Number: 320-56102-1

SDG No.:

ICP-AES Instrument ID: T01 Date: 10/25/2019

Analyte	Wave Length	Se	Si	Sn	Ti	Tl	V								
Aluminum	309.271														
Antimony	206.833			-0.017336	0.000270		-0.002224								
Arsenic	189.042		-0.000036				0.000000								
Barium	455.403														
Beryllium	313.042				-0.000073		0.000830								
Boron	208.959		0.000016												
Cadmium	214.438														
Calcium	317.938														
Chromium	267.716														
Cobalt	228.616		-0.000012		0.002050										
Copper	324.754				-0.000250		-0.000270								
Iron	259.940														
Lead	220.353	0.000013	0.000087		-0.000825		-0.000100								
Magnesium	279.079														
Manganese	257.610														
Molybdenum	202.030														
Nickel	231.601					0.000270									
Phosphorus	178.284														
Potassium	766.496														
Selenium	196.090		0.000020												
Silicon	288.158			0.002050	0.010000		0.003750								
Silver	328.068						0.000067								
Sodium	589.592														
Strontium	407.771														
Sulfur	182.034														
Thallium	190.856				-0.000408		0.000701								
Tin	189.989				-0.003450										
Titanium	334.904		0.000007												
Vanadium	292.402				0.000650										
Zinc	206.200														

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins TestAmerica, Sacrament Job Number: 320-56102-1

SDG No.:

ICP-AES Instrument ID: T01 Date: 11/12/2019

Analyte	Wave Length	Al	Ba	Ca	Co	Cr	Cu	Fe	Mg	Mn	Mo	Na	Ni	P	Sb
Aluminum	309.271										0.030000				
Antimony	206.833	-0.000009		0.000005		0.017200		0.000029	-0.000000		-0.000000		-0.000460		
Arsenic	189.042	0.000005				-0.006600		-0.000116			0.000800				
Barium	455.403														
Beryllium	313.042			-0.000002											
Boron	208.959							-0.000059			0.019500				
Cadmium	214.438	-0.000000	0.000001	-0.000006				0.000021	0.000000						
Calcium	317.938														
Chromium	267.716	0.000008		-0.000000				0.000004	0.000001					0.000021	
Cobalt	228.616		0.000020					0.000024			-0.000484		0.000090		
Copper	324.754	0.000004						-0.000132			0.000680				
Iron	259.940														
Lead	220.353	-0.000070		-0.000001	-0.000200		0.000280	0.000026	0.00000		-0.002300		0.000180		
Magnesium	279.079							0.000010			-0.012500				
Manganese	257.610			0.000001				-0.000065	0.000003						
Molybdenum	202.030							-0.000006							
Nickel	231.601	-0.000003			0.000200			-0.000005			-0.000150				-0.000100
Phosphorus	178.284														
Potassium	766.496	0.000118		-0.000007				-0.000092	0.000093						
Selenium	196.090	-0.000009		0.000005				-0.000202	0.000004	0.000468	0.000140				
Silicon	288.158	0.000004		0.000004		-0.003000		0.000010			-0.001890				
Silver	328.068	-0.000002		-0.000028				-0.000063	-0.000029		-0.000008				
Sodium	589.592														
Strontium	407.771			0.000020											
Sulfur	182.034	-0.000100		0.00016				0.001965	0.000100	0.005840	-0.003350				
Thallium	190.856	0.000000		0.000005	0.002300	0.000241		-0.000007	-0.000003	0.000500	-0.000136				
Tin	189.989	0.000014													
Titanium	334.904					0.000169			-0.000003		0.000449				
Vanadium	292.402					-0.005500		-0.000058		-0.000570	-0.000200				
Zinc	206.200	-0.000001		0.000001		0.000420		0.0000016	0.000001		-0.000200				

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins TestAmerica, Sacrament Job Number: 320-56102-1

SDG No.:

ICP-AES Instrument ID: T01 Date: 11/12/2019

Analyte	Wave Length	Se	Si	Sn	Ti	Tl	V								
Aluminum	309.271														
Antimony	206.833			-0.017336	0.000270		-0.002224								
Arsenic	189.042		-0.000036				0.000000								
Barium	455.403														
Beryllium	313.042				-0.000073		0.000830								
Boron	208.959		0.000016												
Cadmium	214.438														
Calcium	317.938														
Chromium	267.716														
Cobalt	228.616		-0.000012		0.002050										
Copper	324.754				-0.000250		-0.000270								
Iron	259.940														
Lead	220.353	0.000013	0.000087		-0.000825		-0.000100								
Magnesium	279.079														
Manganese	257.610														
Molybdenum	202.030														
Nickel	231.601					0.000270									
Phosphorus	178.284														
Potassium	766.496														
Selenium	196.090		0.000020												
Silicon	288.158			0.002050	0.010000		0.003750								
Silver	328.068						0.000067								
Sodium	589.592														
Strontium	407.771														
Sulfur	182.034														
Thallium	190.856				-0.000408		0.000701								
Tin	189.989				-0.003450										
Titanium	334.904		0.000007												
Vanadium	292.402				0.000650										
Zinc	206.200														

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins TestAmerica, Sacrament Job Number: 320-56102-1

SDG No.:

ICP-AES Instrument ID: T01 Date: 11/14/2019

Analyte	Wave Length	Al	Ba	Ca	Co	Cr	Cu	Fe	Mg	Mn	Mo	Na	Ni	P	Sb
Aluminum	309.271										0.030000				
Antimony	206.833	-0.000009		0.000005		0.017200		0.000053	-0.000000		-0.000000		-0.000460		
Arsenic	189.042	0.000005				-0.006600		-0.000116			0.000800				
Barium	455.403														
Beryllium	313.042			-0.000023											
Boron	208.959							-0.000059			0.019500				
Cadmium	214.438	-0.000000	0.000001	-0.000006				0.000023	0.000000						
Calcium	317.938														
Chromium	267.716	0.000008		-0.000000				0.000004	0.000001					0.000021	
Cobalt	228.616		0.000020					0.000024			-0.000484		0.000090		
Copper	324.754	0.000004						-0.000159			0.000680				
Iron	259.940														
Lead	220.353	-0.000070		-0.000001	-0.000200		0.000280	0.000026	0.00000		-0.002300		0.000180		
Magnesium	279.079							0.000010			-0.012500				
Manganese	257.610			0.000001				-0.000065	0.000003						
Molybdenum	202.030							-0.000006							
Nickel	231.601	-0.000003			0.000200			-0.000005			-0.000150				-0.000100
Phosphorus	178.284														
Potassium	766.496	0.000118		-0.000007				-0.000092	0.000093						
Selenium	196.090	-0.000009		0.000005				-0.000340	0.000004	0.000468	0.000140				
Silicon	288.158	0.000010		0.000004		-0.003000		0.000010			-0.001890				
Silver	328.068	-0.000002		-0.000002				-0.000256	-0.000003		-0.000008				
Sodium	589.592														
Strontium	407.771			0.000020											
Sulfur	182.034	-0.000100		0.00016				0.001965	0.000100	0.005840	-0.003350				
Thallium	190.856	0.000000		0.000005	0.002300	0.000241		-0.000007	-0.000003	0.000500	-0.000136				
Tin	189.989	0.000014													
Titanium	334.904					0.000169			-0.000003		0.000449				
Vanadium	292.402					-0.005500		-0.000063		-0.000570	-0.000200				
Zinc	206.200	-0.000001		0.000001		0.000420		0.0000016	0.000001		-0.000200				

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins TestAmerica, Sacrament Job Number: 320-56102-1

SDG No.:

ICP-AES Instrument ID: T01 Date: 11/14/2019

Analyte	Wave Length	Se	Si	Sn	Ti	Tl	V								
Aluminum	309.271														
Antimony	206.833			-0.017336	0.000270		-0.002224								
Arsenic	189.042		-0.000036				0.000000								
Barium	455.403														
Beryllium	313.042				-0.000073		0.000830								
Boron	208.959		0.000016												
Cadmium	214.438														
Calcium	317.938														
Chromium	267.716														
Cobalt	228.616		-0.000012		0.002050										
Copper	324.754				-0.000250		-0.000270								
Iron	259.940														
Lead	220.353	0.000013	0.000087		-0.000825		-0.000100								
Magnesium	279.079														
Manganese	257.610														
Molybdenum	202.030														
Nickel	231.601					0.000270									
Phosphorus	178.284														
Potassium	766.496														
Selenium	196.090		0.000020												
Silicon	288.158			0.002050	0.010000		0.003750								
Silver	328.068						0.000067								
Sodium	589.592														
Strontium	407.771														
Sulfur	182.034														
Thallium	190.856				-0.000408		0.000701								
Tin	189.989				-0.003450										
Titanium	334.904		0.000007												
Vanadium	292.402				0.000650										
Zinc	206.200														

X-IN

11-IN
LINEAR RANGES
METALS

Lab Name: Eurofins TestAmerica, Sacramen Job No: 320-56102-1

SDG No.:

Instrument ID: T01 Date: 09/06/2018 17:40

Analyte	Integ. Time (Sec.)	Concentration (ug/mL)	Method
Aluminum		2500	6010C
Antimony		100	6010C
Arsenic		75	6010C
Barium		100	6010C
Beryllium		25	6010C
Cadmium		40	6010C
Calcium		2500	6010C
Chromium		100	6010C
Cobalt		100	6010C
Copper		75	6010C
Iron		1000	6010C
Lead		50	6010C
Magnesium		2500	6010C
Manganese		30	6010C
Molybdenum		40	6010C
Nickel		100	6010C
Phosphorus		100	6010C
Potassium		1000	6010C
Selenium		100	6010C
Silver		2.0	6010C
Sodium		500	6010C
Strontium		25	6010C
Thallium		5.0	6010C
Vanadium		100	6010C
Zinc		60	6010C

12-IN
PREPARATION LOG
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Prep Method: 3010A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 320-337500/1-A	11/11/2019 07:00	337500		50	50
LCS 320-337500/2-A	11/11/2019 07:00	337500		50	50
320-56102-1	11/11/2019 07:00	337500		50	50
320-56102-1 MS	11/11/2019 07:00	337500		50	50
320-56102-1 MSD	11/11/2019 07:00	337500		50	50
320-56102-2	11/11/2019 07:00	337500		50	50

FORM XII-IN

12-IN
PREPARATION LOG
METALS

Lab Name: Eurofins TestAmerica, Canton Job No.: 320-56102-1

SDG No.:

Prep Method: 1631E

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 240-410290/1-A	11/11/2019 15:30	410290		40	40
LCS 240-410290/2-A	11/11/2019 15:30	410290		40	40
320-56102-1	11/11/2019 15:30	410290		40	40
320-56102-2	11/11/2019 15:30	410290		40	40

FORM XII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Instrument ID: T01 Analysis Method: 6010C

Start Date: 11/12/2019 08:37 End Date: 11/12/2019 19:21

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Ni	P	Pb	Sb	Se	Sr	Tl	V	Zn		
RINSE 320-338157/1			08:37																										
RINSE 320-338157/2			08:41																										
RINSE 320-338157/3			08:45																										
CALSTD0 320-338157/4 IC			08:49	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
CALSTD1 320-338157/5 IC			08:53	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
CALSTD2 320-338157/6 IC			08:57	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
LRA 320-338157/7			09:01																										
RINSE 320-338157/8			09:05																										
ICV 320-338157/9			09:09																										
ICBIS 320-338157/10			09:12																										
CRI 320-338157/11			09:16																										
CRI 320-338157/12			09:20																										
ICSA 320-338157/13			09:24																										
ICSAB 320-338157/14			09:28																										
ZZZZZZ			09:32																										
ZZZZZZ			09:36																										
ZZZZZZ			09:40																										
ZZZZZZ			09:44																										
ZZZZZZ			09:48																										
ZZZZZZ			09:52																										
CCV 320-338157/21			09:56																										
CCB 320-338157/22			10:00																										
ZZZZZZ			10:04																										
ZZZZZZ			10:07																										
ZZZZZZ			10:11																										
ZZZZZZ			10:15																										
ZZZZZZ			10:19																										
ZZZZZZ			10:23																										
ZZZZZZ			10:27																										
ZZZZZZ			10:31																										
ZZZZZZ			10:35																										
ZZZZZZ			10:38																										
CCV 320-338157/33			10:42																										
CCB 320-338157/34			10:46																										
ZZZZZZ			10:50																										
ZZZZZZ			10:54																										
ZZZZZZ			10:58																										
ZZZZZZ			11:02																										
ZZZZZZ			11:06																										
ZZZZZZ			11:10																										
ZZZZZZ			11:13																										
ZZZZZZ			11:17																										

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Instrument ID: T01 Analysis Method: 6010C

Start Date: 11/12/2019 08:37 End Date: 11/12/2019 19:21

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Ni	P	Pb	Sb	Se	Sr	Tl	V	Zn		
ZZZZZZ			11:21																										
ZZZZZZ			11:25																										
CCV 320-338157/45			11:29																										
CCB 320-338157/46			11:32																										
ZZZZZZ			11:36																										
ZZZZZZ			11:40																										
ZZZZZZ			11:44																										
ZZZZZZ			11:48																										
ZZZZZZ			11:52																										
ZZZZZZ			11:56																										
ZZZZZZ			12:00																										
ZZZZZZ			12:03																										
ZZZZZZ			12:07																										
ZZZZZZ			12:11																										
CCV 320-338157/57			12:15																										
CCB 320-338157/58			12:19																										
ZZZZZZ			12:23																										
ZZZZZZ			12:27																										
ZZZZZZ			12:31																										
ZZZZZZ			12:34																										
ZZZZZZ			12:38																										
ZZZZZZ			12:42																										
ZZZZZZ			12:46																										
ZZZZZZ			12:50																										
ZZZZZZ			12:54																										
ZZZZZZ			12:58																										
CCV 320-338157/69			13:02																										
CCB 320-338157/70			13:05																										
ZZZZZZ			13:09																										
ZZZZZZ			13:13																										
ZZZZZZ			13:17																										
ZZZZZZ			13:21																										
ZZZZZZ			13:24																										
ZZZZZZ			13:28																										
ZZZZZZ			13:32																										
ZZZZZZ			13:36																										
ZZZZZZ			13:40																										
ZZZZZZ			13:43																										
CCV 320-338157/81			13:47																										
CCB 320-338157/82			13:51																										
ZZZZZZ			13:55																										
ZZZZZZ			13:59																										

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Instrument ID: T01 Analysis Method: 6010C

Start Date: 11/12/2019 08:37 End Date: 11/12/2019 19:21

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Ni	P	Pb	Sb	Se	Sr	Tl	V	Zn		
ZZZZZZ			14:02																										
ZZZZZZ			14:06																										
ZZZZZZ			14:10																										
ZZZZZZ			14:14																										
ZZZZZZ			14:18																										
ZZZZZZ			14:21																										
ZZZZZZ			14:25																										
ZZZZZZ			14:29																										
CCV 320-338157/93			14:33																										
CCB 320-338157/94			14:37																										
ZZZZZZ			14:41																										
ZZZZZZ			14:44																										
ZZZZZZ			14:48																										
ZZZZZZ			14:52																										
ZZZZZZ			14:56																										
ZZZZZZ			15:00																										
ZZZZZZ			15:03																										
ZZZZZZ			15:07																										
ZZZZZZ			15:11																										
ZZZZZZ			15:15																										
CCV 320-338157/105			15:19																										
CCB 320-338157/106			15:23																										
ZZZZZZ			15:27																										
ZZZZZZ			15:30																										
ZZZZZZ			15:34																										
ZZZZZZ			15:38																										
ZZZZZZ			15:42																										
ZZZZZZ			15:46																										
ZZZZZZ			15:50																										
ZZZZZZ			15:54																										
ZZZZZZ			15:57																										
ZZZZZZ			16:01																										
CCV 320-338157/117			16:05																										
CCB 320-338157/118			16:09																										
ZZZZZZ			16:13																										
ZZZZZZ			16:17																										
ZZZZZZ			16:21																										
ZZZZZZ			16:24																										
ZZZZZZ			16:28																										
ZZZZZZ			16:32																										
ZZZZZZ			16:36																										
ZZZZZZ			16:40																										

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Instrument ID: T01 Analysis Method: 6010C

Start Date: 11/12/2019 08:37 End Date: 11/12/2019 19:21

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Ni	P	Pb	Sb	Se	Sr	Tl	V	Zn		
ZZZZZZ			16:44																										
ZZZZZZ			16:48																										
CCV 320-338157/129			16:52																										
CCB 320-338157/130			16:56																										
ZZZZZZ			17:00																										
ZZZZZZ			17:04																										
MB 320-337500/1-A	1	T	17:07	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
LCS 320-337500/2-A	1	T	17:11	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
ZZZZZZ			17:15																										
ZZZZZZ			17:19																										
ZZZZZZ			17:23																										
ZZZZZZ			17:27																										
ZZZZZZ			17:31																										
ZZZZZZ			17:35																										
CCV 320-338157/141			17:39																										
CCB 320-338157/142			17:42																										
ZZZZZZ			17:46																										
320-56102-1	1	D	17:50	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
320-56102-1 SD	5	D	17:54	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
320-56102-1 PDS	1	D	17:58	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
320-56102-1 MS	1	D	18:02	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
320-56102-1 MSD	1	D	18:06	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
320-56102-2	1	D	18:10	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
ZZZZZZ			18:14																										
ZZZZZZ			18:18																										
ZZZZZZ			18:22																										
CCV 320-338157/153			18:26																										
CCB 320-338157/154			18:30																										
ZZZZZZ			18:34																										
ZZZZZZ			18:38																										
ZZZZZZ			18:42																										
ZZZZZZ			18:46																										
ZZZZZZ			18:50																										
ZZZZZZ			18:54																										
CCV 320-338157/161			18:58																										
CCB 320-338157/162			19:01																										
CCVL 320-338157/163			19:05																										
RINSE 320-338157/164			19:09																										
RINSE 320-338157/165			19:13																										
RINSE 320-338157/166			19:17																										
RINSE 320-338157/167			19:21																										

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Instrument ID: T01 Analysis Method: 6010C

Start Date: 11/12/2019 08:37 End Date: 11/12/2019 19:21

Lab Sample Id	D/F	Type	Time	Analytes																										
				Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Ni	P	Pb	Sb	Se	Sr	Tl	V	Zn		

Prep Types:
D = Dissolved
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Instrument ID: T01 Analysis Method: 6010C

Start Date: 11/14/2019 10:41 End Date: 11/14/2019 14:25

Lab Sample Id	D/F	Type	Time	Analytes																							
				Na																							
RINSE 320-338646/1			10:41																								
RINSE 320-338646/2			10:45																								
RINSE 320-338646/3			10:49																								
CALSTD0 320-338646/4 IC			10:53	X																							
CALSTD1 320-338646/5 IC			10:57	X																							
CALSTD2 320-338646/6 IC			11:01	X																							
LRA 320-338646/7			11:04																								
RINSE 320-338646/8			11:08																								
ICV 320-338646/9	1		11:12	X																							
ICBIS 320-338646/10	1		11:16	X																							
CRI 320-338646/11			11:20																								
CRI 320-338646/12	1		11:24	X																							
ICSA 320-338646/13	1		11:28	X																							
ICSAB 320-338646/14	1		11:32	X																							
ZZZZZZ			11:36																								
ZZZZZZ			11:40																								
ZZZZZZ			11:44																								
ZZZZZZ			11:48																								
ZZZZZZ			11:52																								
ZZZZZZ			11:56																								
CCV 320-338646/21	1		12:00	X																							
CCB 320-338646/22	1		12:04	X																							
MB 320-337500/1-A	1	T	12:08	X																							
LCS 320-337500/2-A	1	T	12:12	X																							
ZZZZZZ			12:15																								
ZZZZZZ			12:19																								
320-56102-1	2	D	12:23	X																							
320-56102-1 SD	10	D	12:27	X																							
320-56102-1 PDS	2	D	12:31	X																							
320-56102-1 MS	2	D	12:35	X																							
320-56102-1 MSD	2	D	12:39	X																							
320-56102-2	2	D	12:43	X																							
CCV 320-338646/33	1		12:47	X																							
CCB 320-338646/34	1		12:50	X																							
ZZZZZZ			12:54																								
ZZZZZZ			12:58																								
ZZZZZZ			13:02																								
ZZZZZZ			13:06																								
ZZZZZZ			13:10																								
ZZZZZZ			13:14																								
ZZZZZZ			13:18																								
ZZZZZZ			13:22																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

Instrument ID: T01 Analysis Method: 6010C

Start Date: 11/14/2019 10:41 End Date: 11/14/2019 14:25

Lab Sample Id	D/F	Type	Time	Analytes																							
				Na																							
ZZZZZZ			13:26																								
ZZZZZZ			13:30																								
CCV 320-338646/45			13:34																								
CCB 320-338646/46			13:38																								
ZZZZZZ			13:42																								
ZZZZZZ			13:46																								
ZZZZZZ			13:50																								
ZZZZZZ			13:53																								
ZZZZZZ			13:57																								
ZZZZZZ			14:01																								
ZZZZZZ			14:05																								
ZZZZZZ			14:09																								
CCV 320-338646/55			14:13																								
CCB 320-338646/56			14:17																								
CCVL 320-338646/57	1		14:21	X																							
RINSE 320-338646/58			14:25																								

Prep Types:
D = Dissolved
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Canton Job No.: 320-56102-1

SDG No.:

Instrument ID: H8 Analysis Method: 1631E

Start Date: 09/27/2019 10:52 End Date: 11/12/2019 16:48

Lab Sample Id	D/F	Type	Time	Analytes																							
				Hg																							
IC 240-405319/1-A			10:52	X																							
IC 240-405319/1-A			10:56	X																							
IC 240-405319/1-A			11:01	X																							
IC 240-405319/2-A			11:06	X																							
IC 240-405319/3-A			11:11	X																							
IC 240-405319/4-A			11:16	X																							
IC 240-405319/5-A			11:21	X																							
IC 240-405319/6-A			11:25	X																							
IC 240-405319/7-A			11:30	X																							
IC 240-405319/8-A			11:35	X																							
ICV 240-405319/9-A	1		11:43	X																							
ICB 240-405319/10-A	1		11:48	X																							
CCV 240-410613/13	1		09:24	X																							
CCB 240-410613/14	1		09:29	X																							
ZZZZZZ			09:33																								
ZZZZZZ			09:38																								
MB 240-410290/1-A	1	T	09:43	X																							
LCS 240-410290/2-A	1	T	09:48	X																							
ZZZZZZ			09:53																								
ZZZZZZ			09:58																								
ZZZZZZ			10:02																								
CCV 240-410613/22	1		10:07	X																							
CCB 240-410613/23	1		10:12	X																							
ZZZZZZ			11:27																								
ZZZZZZ			11:32																								
ZZZZZZ			11:37																								
ZZZZZZ			11:41																								
ZZZZZZ			11:46																								
CCV 240-410613/29	1		11:51	X																							
CCB 240-410613/30	1		11:56	X																							
320-56102-1	1	D	12:01	X																							
320-56102-2	1	D	12:05	X																							
ZZZZZZ			12:10																								
ZZZZZZ			12:15																								
ZZZZZZ			12:20																								
ZZZZZZ			12:25																								
ZZZZZZ			12:30																								
ZZZZZZ			12:34																								
ZZZZZZ			12:39																								
ZZZZZZ			12:44																								
ZZZZZZ			12:49																								
ZZZZZZ			12:54																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Canton Job No.: 320-56102-1

SDG No.:

Instrument ID: H8 Analysis Method: 1631E

Start Date: 09/27/2019 10:52 End Date: 11/12/2019 16:48

Lab Sample Id	D/F	Type	Time	Analytes																							
				Hg																							
ZZZZZZ			12:58																								
ZZZZZZ			13:03																								
ZZZZZZ			13:08																								
ZZZZZZ			13:13																								
CCV 240-410613/47	1		13:18	X																							
CCB 240-410613/48	1		13:22	X																							
ZZZZZZ			13:27																								
ZZZZZZ			13:32																								
ZZZZZZ			13:37																								
ZZZZZZ			13:42																								
ZZZZZZ			13:47																								
ZZZZZZ			13:51																								
ZZZZZZ			13:56																								
ZZZZZZ			14:01																								
ZZZZZZ			14:06																								
ZZZZZZ			14:11																								
CCV 240-410613/59			14:15																								
CCB 240-410613/60			14:20																								
ZZZZZZ			14:52																								
ZZZZZZ			14:57																								
ZZZZZZ			15:01																								
ZZZZZZ			15:06																								
ZZZZZZ			15:11																								
ZZZZZZ			15:16																								
ZZZZZZ			15:21																								
ZZZZZZ			15:26																								
ZZZZZZ			15:30																								
ZZZZZZ			15:35																								
ZZZZZZ			15:40																								
ZZZZZZ			15:45																								
ZZZZZZ			15:50																								
ZZZZZZ			15:55																								
ZZZZZZ			15:59																								
ZZZZZZ			16:04																								
ZZZZZZ			16:09																								
ZZZZZZ			16:14																								
ZZZZZZ			16:19																								
ZZZZZZ			16:23																								
ZZZZZZ			16:28																								
ZZZZZZ			16:33																								
ZZZZZZ			16:38																								
CCV 240-410613/84			16:43																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Canton Job No.: 320-56102-1

SDG No.:

Instrument ID: H8 Analysis Method: 1631E

Start Date: 09/27/2019 10:52 End Date: 11/12/2019 16:48

Lab Sample Id	D/F	Type	Time	Analytes																							
				Hg																							
CCB 240-410613/85			16:48																								

Prep Types:
D = Dissolved
T = Total/NA

FORM XIII-IN

15-IN
ICP INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

ICP Instrument ID: T01 Start Date: 11/12/2019 End Date: 11/12/2019

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Y 224.306	Q	Element Y 360.073	Q	Element Y 377.433	Q	Element	Q	Element	Q
MB 320-337500/1-A	17:07	97		96		94					
LCS 320-337500/2-A	17:11	97		95		98					
320-56102-1	17:50	93		89		95					
320-56102-1 SD	17:54	95		92		94					
320-56102-1 PDS	17:58	93		89		95					
320-56102-1 MS	18:02	92		89		95					
320-56102-1 MSD	18:06	92		89		96					
320-56102-2	18:10	92		88		94					

FORM XV - IN

15-IN
ICP INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-56102-1

SDG No.:

ICP Instrument ID: T01 Start Date: 11/14/2019 End Date: 11/14/2019

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Y 224.306	Q	Element Y 360.073	Q	Element Y 377.433	Q	Element	Q	Element	Q
ICV 320-338646/9	11:12										
ICBIS 320-338646/10	11:16										
CRI 320-338646/12	11:24	100		100		101					
ICSA 320-338646/13	11:28	88		85		97					
ICSAB 320-338646/14	11:32	88		84		96					
CCV 320-338646/21	12:00	96		96		99					
CCB 320-338646/22	12:04	100		100		100					
MB 320-337500/1-A	12:08	102		102		102					
LCS 320-337500/2-A	12:12	99		97		101					
320-56102-1	12:23	94		92		97					
320-56102-1 SD	12:27	100		100		103					
320-56102-1 PDS	12:31	95		93		98					
320-56102-1 MS	12:35	96		92		97					
320-56102-1 MSD	12:39	97		95		100					
320-56102-2	12:43	98		96		101					
CCV 320-338646/33	12:47	99		98		101					
CCB 320-338646/34	12:50	100		100		101					
CCVL 320-338646/57	14:21	102		102		103					

FORM XV - IN

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Sacramen Job No.: 320-56102-1

SDG No.:

Batch Number: 337500 Batch Start Date: 11/11/19 07:00 Batch Analyst: Merritt, Nataliya

Batch Method: 3010A Batch End Date: 11/11/19 12:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	MT6010LCS1 00014	MT6010LCS2 00013	MT6010LCS3 00014
MB 320-337500/1		3010A, 6010C		<2 SU	50 mL	50 mL			
LCS 320-337500/2		3010A, 6010C		<2 SU	50 mL	50 mL	0.5 mL	0.5 mL	0.5 mL
320-56102-B-1	FEFF-Filtered	3010A, 6010C	D	<2 SU	50 mL	50 mL			
320-56102-B-1 MS	FEFF-Filtered	3010A, 6010C	D	<2 SU	50 mL	50 mL	0.5 mL	0.5 mL	0.5 mL
320-56102-B-1 MSD	FEFF-Filtered	3010A, 6010C	D	<2 SU	50 mL	50 mL	0.5 mL	0.5 mL	0.5 mL
320-56102-B-2	CEFF-Filtered	3010A, 6010C	D	<2 SU	50 mL	50 mL			

Batch Notes	
Batch Comment	HB cell 6 F
Temperature - Corrected - End	95 Degrees C
Temperature - Corrected - Start	95 Degrees C
Digestion End Time	11/11/2019 12:00
Digestion Start Time	11/11/2019 07:00
Digestion Unit ID	4
Hydrochloric Acid ID	1810738
Nitric Acid ID	1810737
pH Indicator ID	1119
Pipette/Syringe/Dispenser ID	M39511G
Analyst ID - Spike Analyst	NIM
Analyst ID - Spike Witness Analyst	GH
Thermometer ID	BT-12
Digestion Tube/Cup ID	1902243-6E9236AF

Basis	Basis Description
D	Dissolved

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Canton Job No.: 320-56102-1

SDG No.:

Batch Number: 405319 Batch Start Date: 09/27/19 08:00 Batch Analyst: Colosi, Alexander J

Batch Method: 1631E Batch End Date: 09/27/19 08:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	1N BrCl 00041	LLHg-1631-ICV 00052		
ICV 240-405319/9		1631E, 1631E		40 mL	40 mL	0.2 mL	0.2 mL		
ICB 240-405319/10		1631E, 1631E		40 mL	40 mL	0.2 mL			

Batch Notes	
Pipette ID	LL2, LL3, A7, LL5
VOA Vial ID	BB901901VB

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Canton Job No.: 320-56102-1

SDG No.:

Batch Number: 410290 Batch Start Date: 11/11/19 15:30 Batch Analyst: Colosi, Alexander J

Batch Method: 1631E Batch End Date: 11/12/19 03:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	1N BrCl 00042	LLHg-1631-ICV 00054		
MB 240-410290/1		1631E, 1631E		40 mL	40 mL	0.2 mL			
LCS 240-410290/2		1631E, 1631E		40 mL	40 mL	0.2 mL	0.2 mL		
320-56102-C-1	FEFF-Filtered	1631E, 1631E	D	40 mL	40 mL	0.2 mL			
320-56102-C-2	CEFF-Filtered	1631E, 1631E	D	40 mL	40 mL	0.2 mL			

Batch Notes	
Pipette ID	LL1, LL2, LL4
VOA Vial ID	B916801VB

Basis	Basis Description
D	Dissolved

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Test America-West Sacramento methods 6010b and 200.7

Author: GH

Published: 11/13/2019 7:54:07AM

Notes:

RINSE BLANK

Acquire Date: 11/12/2019 8:37:54AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.0012110	ppm	0.000041000	3.3698	.00000	Abs	Pass	
Al3961	**F**	**0.13017**	**ppm**	**0.063905**	**49.094**	**.00000**	**Abs**	**Fail High**	**.10000**
As1890		-0.00021600	ppm	0.0010400	482.29	.00000	Abs	Pass	
B_2089		0.019318	ppm	0.0016980	8.7912	.00000	Abs	Pass	
Ba4554	**F**	**0.014140**	**ppm**	**0.0047290**	**33.447**	**.00000**	**Abs**	**Fail High**	**.01000**
Be3130	**F**	**0.0033710**	**ppm**	**0.00075100**	**22.288**	**.00000**	**Abs**	**Fail High**	**.00300**
Ca3179		0.11534	ppm	0.052105	45.176	.00000	Abs	Pass	
Cd2144		0.00034600	ppm	0.000087000	24.981	.00000	Abs	Pass	
Co2286		0.0015210	ppm	0.0010830	71.188	.00000	Abs	Pass	
Cr2677	**W**	**0.0072890**	**ppm**	**0.0022670**	**31.102**	**.00000**	**Abs**	**Warn High**	**0.00500**
Cu3247		0.0079160	ppm	0.0026610	33.616	.00000	Abs	Pass	
Fe2599	**F**	**0.20454**	**ppm**	**0.051106**	**24.986**	**.00000**	**Abs**	**Fail High**	**.10000**
K_7664		0.21569	ppm	0.081545	37.806	.00000	Abs	Pass	
Mg2790		0.066375	ppm	0.014975	22.561	.00000	Abs	Pass	
Mn2576	**W**	**0.0067840**	**ppm**	**0.0015600**	**23.002**	**.00000**	**Abs**	**Warn High**	**0.00500**
Mo2020		0.0019770	ppm	0.00076300	38.614	.00000	Abs	Pass	
Na5895		0.16573	ppm	0.062171	37.514	.00000	Abs	Pass	
Ni2316		0.0012970	ppm	0.0016490	127.16	.00000	Abs	Pass	
P_1782		0.0032030	ppm	0.000085000	2.6429	.00000	Abs	Pass	
Pb2203		-0.00061100	ppm	0.0029840	488.54	.00000	Abs	Pass	
S_1820		-0.0033990	ppm	0.00024100	7.1035	.00000	Abs	Pass	
Sb2068		-0.0016720	ppm	0.0026730	159.91	.00000	Abs	Pass	
Se1960		0.0021910	ppm	0.0027240	124.32	.00000	Abs	Pass	
Si2881		0.054578	ppm	0.00048700	0.89249	.00000	Abs	Pass	
Sn1899		0.0038630	ppm	0.0020070	51.943	.00000	Abs	Pass	
Sr4077		0.013108	ppm	0.0054930	41.905	.00000	Abs	Pass	
Ti3349		0.0023200	ppm	0.00044100	19.009	.00000	Abs	Pass	
Tl1908		0.0090770	ppm	0.0039400	43.407	.00000	Abs	Pass	
V_2924	**W**	**0.0056650**	**ppm**	**0.0017470**	**30.840**	**.00000**	**Abs**	**Warn High**	**0.00500**
Zn2062	**F**	**0.022878**	**ppm**	**0.0017260**	**7.5449**	**.00000**	**Abs**	**Fail High**	**.02000**
Y_2243		7,901.0	Cts/S	21.662	0.27416				
Y_3600		60,290	Cts/S	767.20	1.2725				
Y_3774		7,167.5	Cts/S	12.005	0.16749				

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Acquire Date: 11/12/2019 8:41:52AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00099600	ppm	0.00017000	17.034	.00000	Abs	Pass	
Al3961		-0.018770	ppm	0.016388	87.308	.00000	Abs	Pass	
As1890		-0.00020900	ppm	0.0016050	767.69	.00000	Abs	Pass	
B_2089		0.0095660	ppm	0.00036400	3.8101	.00000	Abs	Pass	
Ba4554		0.0011130	ppm	0.00038800	34.911	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

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Acquire Date: 11/12/2019 8:41:52AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Be3130		0.00077100	ppm	0.00025800	33.472	.00000	Abs	Pass	
Ca3179		-0.013323	ppm	0.0029730	22.318	.00000	Abs	Pass	
Cd2144		0.00013900	ppm	0.000046000	33.367	.00000	Abs	Pass	
Co2286		0.00018100	ppm	0.000056000	31.001	.00000	Abs	Pass	
Cr2677		0.00066500	ppm	0.00082900	124.67	.00000	Abs	Pass	
Cu3247		-0.00068300	ppm	0.00049800	72.859	.00000	Abs	Pass	
Fe2599		0.048318	ppm	0.0023530	4.8700	.00000	Abs	Pass	
K_7664		0.016061	ppm	0.053889	335.53	.00000	Abs	Pass	
Mg2790		-0.0010610	ppm	0.0056340	530.76	.00000	Abs	Pass	
Mn2576		0.00089000	ppm	0.00011600	13.065	.00000	Abs	Pass	
Mo2020		0.00018000	ppm	0.00028400	158.02	.00000	Abs	Pass	
Na5895		0.043562	ppm	0.010453	23.997	.00000	Abs	Pass	
Ni2316		0.00011800	ppm	0.00039900	338.23	.00000	Abs	Pass	
P_1782		0.0014350	ppm	0.0012920	90.033	.00000	Abs	Pass	
Pb2203		0.0011310	ppm	0.000013000	1.1299	.00000	Abs	Pass	
S_1820		-0.0035240	ppm	0.00083300	23.645	.00000	Abs	Pass	
Sb2068		-0.0022200	ppm	0.00033400	15.040	.00000	Abs	Pass	
Se1960		-0.0013940	ppm	0.00053400	38.274	.00000	Abs	Pass	
Si2881		0.049607	ppm	0.0093970	18.942	.00000	Abs	Pass	
Sn1899		0.00088900	ppm	0.00024200	27.238	.00000	Abs	Pass	
Sr4077		0.00029300	ppm	0.0000070000	2.5566	.00000	Abs	Pass	
Ti3349		-0.00014900	ppm	0.00032300	216.53	.00000	Abs	Pass	
Tl1908		0.00071700	ppm	0.00070500	98.331	.00000	Abs	Pass	
V_2924		0.00020300	ppm	0.00016500	81.154	.00000	Abs	Pass	
Zn2062	**W**	**0.0072260**	**ppm**	**0.00014700**	**2.0340**	**.00000**	**Abs**	**Warn High**	**0.00500**
Y_2243		8,124.8	Cts/S	21.809	0.26843				
Y_3600		61,780	Cts/S	289.40	0.46844				
Y_3774		7,200.7	Cts/S	105.32	1.4626				

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Acquire Date: 11/12/2019 8:45:52AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00050000	ppm	0.000044000	8.9053	.00000	Abs	Pass	
Al3961		0.00081100	ppm	0.0083310	1,026.9	.00000	Abs	Pass	
As1890		0.000074000	ppm	0.0011640	1,577.6	.00000	Abs	Pass	
B_2089		0.0068820	ppm	0.00041000	5.9630	.00000	Abs	Pass	
Ba4554		0.0017970	ppm	0.00044800	24.956	.00000	Abs	Pass	
Be3130		0.00067900	ppm	0.00035400	52.125	.00000	Abs	Pass	
Ca3179		-0.011708	ppm	0.0043230	36.921	.00000	Abs	Pass	
Cd2144		0.00012600	ppm	0.000045000	35.900	.00000	Abs	Pass	
Co2286		0.00012900	ppm	0.000079000	61.192	.00000	Abs	Pass	
Cr2677		0.00023800	ppm	0.00014900	62.598	.00000	Abs	Pass	
Cu3247		-0.0017930	ppm	0.00062300	34.722	.00000	Abs	Pass	
Fe2599		0.025812	ppm	0.0051440	19.927	.00000	Abs	Pass	
K_7664		0.054670	ppm	0.0071870	13.147	.00000	Abs	Pass	
Mg2790		-0.0066670	ppm	0.0072550	108.82	.00000	Abs	Pass	
Mn2576		0.00070100	ppm	0.000061000	8.7094	.00000	Abs	Pass	

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Acquire Date: 11/12/2019 8:45:52AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Mo2020		-0.00033100	ppm	0.0000090000	2.7426	.00000	Abs	Pass	
Na5895		0.012315	ppm	0.017737	144.02	.00000	Abs	Pass	
Ni2316		-0.00055900	ppm	0.00027000	48.190	.00000	Abs	Pass	
P_1782		0.0018810	ppm	0.0017060	90.687	.00000	Abs	Pass	
Pb2203		-0.0035320	ppm	0.0020800	58.895	.00000	Abs	Pass	
S_1820		-0.0053200	ppm	0.0040660	76.419	.00000	Abs	Pass	
Sb2068		-0.0021290	ppm	0.000022000	1.0342	.00000	Abs	Pass	
Se1960		-0.0031910	ppm	0.00054500	17.066	.00000	Abs	Pass	
Si2881		0.014953	ppm	0.021418	143.24	.00000	Abs	Pass	
Sn1899		0.00026700	ppm	0.0010520	393.68	.00000	Abs	Pass	
Sr4077		0.00018200	ppm	0.000010000	5.5036	.00000	Abs	Pass	
Ti3349		0.00073700	ppm	0.00041400	56.097	.00000	Abs	Pass	
Tl1908		0.00082300	ppm	0.0028240	343.26	.00000	Abs	Pass	
V_2924		0.00038500	ppm	0.00083700	217.51	.00000	Abs	Pass	
Zn2062		0.0046250	ppm	0.00044300	9.5825	.00000	Abs	Pass	
Y_2243		7,904.9	Cts/S	17.028	0.21541				
Y_3600		59,966	Cts/S	376.45	0.62777				
Y_3774		6,902.1	Cts/S	155.39	2.2513				

CALSTD0 1788080

Acquire Date: 11/12/2019 8:49:51AM Sample Type: Standard

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00041500	Cts/S	0.000021000	5.1102
Al3961		-0.0010430	Cts/S	0.00047300	45.305
As1890		-0.00021300	Cts/S	0.0000040000	1.9159
B_2089		0.0016890	Cts/S	0.0000080000	0.49424
Ba4554		0.014408	Cts/S	0.0015060	10.454
Be3130		0.00082600	Cts/S	0.00013100	15.812
Ca3179		0.0016010	Cts/S	0.00045600	28.481
Cd2144		0.00039000	Cts/S	0.00016500	42.216
Co2286		-0.00016400	Cts/S	0.000042000	25.708
Cr2677		0.00010900	Cts/S	0.000048000	43.700
Cu3247		0.0019360	Cts/S	0.000032000	1.6748
Fe2599		0.00072800	Cts/S	0.000085000	11.639
K_7664		0.00018600	Cts/S	0.0016270	873.26
Mg2790		0.000015000	Cts/S	0.0000040000	28.125
Mn2576		0.00034200	Cts/S	0.000029000	8.5677
Mo2020		0.00028400	Cts/S	0.000048000	16.960
Na5895		-0.0075770	Cts/S	0.0011340	14.972
Ni2316		0.00033700	Cts/S	0.000028000	8.3028
P_1782		0.000071000	Cts/S	0.000092000	130.57
Pb2203		0.000037000	Cts/S	0.00015500	413.66
S_1820		0.00033400	Cts/S	0.000053000	15.817
Sb2068		0.000043000	Cts/S	0.00016300	384.42
Se1960		0.00018600	Cts/S	0.000056000	29.871
Si2881		0.00023200	Cts/S	0.000055000	23.532
Sn1899		0.00010900	Cts/S	0.0000060000	5.8215

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CALSTD0 1788080

Acquire Date: 11/12/2019 8:49:51AM Sample Type: Standard

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Sr4077		-0.0048170	Cts/S	0.0016210	33.654
Ti3349		0.000029000	Cts/S	0.000080000	275.02
Tl1908		.0000050000	Cts/S	0.000016000	329.59
V_2924		0.000053000	Cts/S	0.000020000	37.457
Zn2062		0.00018300	Cts/S	0.0000090000	5.0479
Y_2243		7,976.3	Cts/S	3.3116	0.041518
Y_3600		61,076	Cts/S	129.59	0.21218
Y_3774		7,065.0	Cts/S	148.23	2.0981

CALSTD1 1766655

Acquire Date: 11/12/2019 8:53:50AM Sample Type: Standard

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.10751	Cts/S	0.00070700	0.65798
Al3961		1.8152	Cts/S	0.00088200	0.048584
As1890		0.052757	Cts/S	0.00017200	0.32572
B_2089		0.36960	Cts/S	0.00051600	0.13973
Ba4554		14.801	Cts/S	0.015117	0.10214
Be3130		1.1114	Cts/S	0.0012460	0.11216
Ca3179		2.5547	Cts/S	0.0047800	0.18708
Cd2144		2.1050	Cts/S	0.0020950	0.099545
Co2286		2.2783	Cts/S	0.0021070	0.092471
Cr2677		0.59134	Cts/S	0.0016670	0.28197
Cu3247		0.41242	Cts/S	0.0020240	0.49081
Fe2599		1.3981	Cts/S	0.0011340	0.081141
K_7664		2.0364	Cts/S	0.00018000	0.0088450
Mg2790		0.41234	Cts/S	0.0016680	0.40440
Mn2576		2.4945	Cts/S	0.0084720	0.33965
Mo2020		0.65099	Cts/S	0.00088700	0.13629
Na5895		7.1068	Cts/S	0.0056600	0.079647
Ni2316		0.97525	Cts/S	0.0013710	0.14058
P_1782		0.12985	Cts/S	0.00043900	0.33797
Pb2203		0.11168	Cts/S	0.00067500	0.60426
S_1820		0.12874	Cts/S	0.00019100	0.14803
Sb2068		0.054458	Cts/S	0.000012000	0.021553
Se1960		0.036118	Cts/S	0.000083000	0.22914
Si2881		0.042985	Cts/S	0.00032600	0.75746
Sn1899		0.86499	Cts/S	0.00054300	0.062773
Sr4077		18.563	Cts/S	0.019908	0.10725
Ti3349		0.24869	Cts/S	0.00020200	0.081309
Tl1908		0.042804	Cts/S	0.000050000	0.11753
V_2924		0.76747	Cts/S	0.0017290	0.22526
Zn2062		0.27934	Cts/S	0.00064300	0.23005
Y_2243		7,650.5	Cts/S	6.4368	0.084136
Y_3600		57,829	Cts/S	4.3097	0.0074530
Y_3774		7,173.6	Cts/S	123.58	1.7227

CALSTD2 1732511

Acquire Date: 11/12/2019 8:57:32AM Sample Type: Standard

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Al3961		9.1904	Cts/S	0.0051960	0.056536
Ca3179		12.717	Cts/S	0.036401	0.28624
Fe2599		6.7640	Cts/S	0.0095380	0.14101
K_7664		10.349	Cts/S	0.012190	0.11779
Mg2790		2.0537	Cts/S	0.0043470	0.21165
Na5895		35.943	Cts/S	0.0047520	0.013221
P_1782		1.3432	Cts/S	0.0054640	0.40677
S_1820		6.4212	Cts/S	0.026641	0.41489
Y_2243		7,327.6	Cts/S	6.9327	0.094612
Y_3600		54,017	Cts/S	174.02	0.32216
Y_3774		7,148.8	Cts/S	41.514	0.58072

LRA 1794539

Acquire Date: 11/12/2019 9:01:27AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		1.9910	ppm	0.0025680	0.12899	2.0000	Rel(%)	Pass	
Al3961		99.655	ppm	0.16799	0.16857	100.00	Rel(%)	Pass	
As1890		2.0280	ppm	0.0020930	0.10319	2.0000	Rel(%)	Pass	
B_2089		3.9791	ppm	0.0042410	0.10659	4.0000	Rel(%)	Pass	
Ba4554		10.107	ppm	0.013466	0.13323	10.000	Rel(%)	Pass	
Be3130		2.0079	ppm	0.0057400	0.28590	2.0000	Rel(%)	Pass	
Ca3179		101.32	ppm	0.21541	0.21261	100.00	Rel(%)	Pass	
Cd2144		1.9698	ppm	0.0011520	0.058462	2.0000	Rel(%)	Pass	
Co2286		9.8955	ppm	0.0038680	0.039093	10.000	Rel(%)	Pass	
Cr2677		9.9460	ppm	0.0087140	0.087609	10.000	Rel(%)	Pass	
Cu3247		9.8859	ppm	0.023564	0.23836	10.000	Rel(%)	Pass	
Fe2599		101.99	ppm	0.11964	0.11731	100.00	Rel(%)	Pass	
K_7664		100.08	ppm	0.31707	0.31680	100.00	Rel(%)	Pass	
Mg2790		100.31	ppm	0.14378	0.14334	100.00	Rel(%)	Pass	
Mn2576		9.6134	ppm	0.10982	1.1424	10.000	Rel(%)	Pass	
Mo2020		3.9992	ppm	0.0024000	0.060003	4.0000	Rel(%)	Pass	
Na5895		99.601	ppm	0.14606	0.14665	100.00	Rel(%)	Pass	
Ni2316		9.8296	ppm	0.0034640	0.035242	10.000	Rel(%)	Pass	
P_1782		9.8147	ppm	0.010804	0.11008	10.000	Rel(%)	Pass	
Pb2203		1.9752	ppm	0.00068800	0.034856	2.0000	Rel(%)	Pass	
S_1820		9.9610	ppm	0.0059730	0.059962	10.000	Rel(%)	Pass	
Sb2068		1.9875	ppm	0.0011520	0.057964	2.0000	Rel(%)	Pass	
Se1960		1.9812	ppm	0.0031270	0.15782	2.0000	Rel(%)	Pass	
Si2881		10.044	ppm	0.077215	0.76879	10.000	Rel(%)	Pass	
Sn1899		9.8526	ppm	0.0024950	0.025320	10.000	Rel(%)	Pass	
Sr4077		10.073	ppm	0.017477	0.17351	10.000	Rel(%)	Pass	
Ti3349		3.9995	ppm	0.0016650	0.041641	4.0000	Rel(%)	Pass	
Tl1908		1.9159	ppm	0.0026140	0.13641	2.0000	Rel(%)	Pass	
V_2924		10.121	ppm	0.016589	0.16391	10.000	Rel(%)	Pass	
Zn2062		9.8213	ppm	0.018683	0.19023	10.000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

LRA 1794539

Acquire Date: 11/12/2019 9:01:27AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Y_2243		7,497.6	Cts/S	13.430	0.17913				
Y_3600		55,754	Cts/S	226.73	0.40667				
Y_3774		7,049.0	Cts/S	19.919	0.28258				

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Acquire Date: 11/12/2019 9:05:14AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.00048000	ppm	0.00042400	88.253	.00000	Abs	Pass	
Al3961		0.042886	ppm	0.0036250	8.4531	.00000	Abs	Pass	
As1890		-0.00019100	ppm	0.00042800	224.45	.00000	Abs	Pass	
B_2089		0.010811	ppm	0.00027100	2.5062	.00000	Abs	Pass	
Ba4554		0.0015280	ppm	0.00049600	32.460	.00000	Abs	Pass	
Be3130		0.00035500	ppm	0.0000040000	1.2420	.00000	Abs	Pass	
Ca3179		0.016966	ppm	0.0089090	52.513	.00000	Abs	Pass	
Cd2144		0.000074000	ppm	0.000031000	42.456	.00000	Abs	Pass	
Co2286		0.0014680	ppm	0.00011700	7.9641	.00000	Abs	Pass	
Cr2677		0.0014040	ppm	0.000097000	6.8768	.00000	Abs	Pass	
Cu3247	**W**	**0.012528**	**ppm**	**0.00088400**	**7.0572**	**.00000**	**Abs**	**Warn High**	**0.01000**
Fe2599		0.026763	ppm	0.0063790	23.833	.00000	Abs	Pass	
K_7664		0.24114	ppm	0.12464	51.690	.00000	Abs	Pass	
Mg2790		0.0065230	ppm	0.0043480	66.651	.00000	Abs	Pass	
Mn2576		0.0014840	ppm	0.00012000	8.0784	.00000	Abs	Pass	
Mo2020		0.0014540	ppm	0.00062000	42.619	.00000	Abs	Pass	
Na5895		0.13925	ppm	0.011621	8.3455	.00000	Abs	Pass	
Ni2316		0.0020060	ppm	0.000023000	1.1464	.00000	Abs	Pass	
P_1782		0.00072500	ppm	0.000064000	8.8371	.00000	Abs	Pass	
Pb2203		0.00076600	ppm	0.00035500	46.388	.00000	Abs	Pass	
S_1820		0.0054140	ppm	0.0024890	45.966	.00000	Abs	Pass	
Sb2068		0.00074000	ppm	0.0020190	272.87	.00000	Abs	Pass	
Se1960		-0.0023930	ppm	0.0047440	198.22	.00000	Abs	Pass	
Si2881		0.027797	ppm	0.0067520	24.292	.00000	Abs	Pass	
Sn1899		0.0028410	ppm	0.00027700	9.7461	.00000	Abs	Pass	
Sr4077		0.0016490	ppm	0.00032700	19.809	.00000	Abs	Pass	
Ti3349		0.00075800	ppm	0.00040700	53.700	.00000	Abs	Pass	
Tl1908		0.0026860	ppm	0.0021100	78.549	.00000	Abs	Pass	
V_2924		0.0015660	ppm	0.00042600	27.186	.00000	Abs	Pass	
Zn2062	**W**	**0.0054860**	**ppm**	**0.00060400**	**11.018**	**.00000**	**Abs**	**Warn High**	**0.00500**
Y_2243		7,867.6	Cts/S	35.191	0.44729				
Y_3600		60,209	Cts/S	4.7724	0.0079260				
Y_3774		7,159.3	Cts/S	83.111	1.1609				

ICV 1788014

Acquire Date: 11/12/2019 9:09:13AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.25749	ppm	0.0000030000	0.0012520	.25000	Rel(%)	Pass	
Al3961		10.109	ppm	0.017101	0.16917	10.000	Rel(%)	Pass	
As1890		0.96606	ppm	0.0015840	0.16401	1.0000	Rel(%)	Pass	
B_2089		0.51947	ppm	0.0013370	0.25738	.50000	Rel(%)	Pass	
Ba4554		1.0171	ppm	0.00093300	0.091684	1.0000	Rel(%)	Pass	
Be3130		1.0316	ppm	0.0000060000	0.00055500	1.0000	Rel(%)	Pass	
Ca3179		10.340	ppm	0.017241	0.16674	10.000	Rel(%)	Pass	
Cd2144		1.0240	ppm	0.00081300	0.079379	1.0000	Rel(%)	Pass	
Co2286		1.0218	ppm	0.0015210	0.14887	1.0000	Rel(%)	Pass	
Cr2677		1.0213	ppm	0.0010510	0.10288	1.0000	Rel(%)	Pass	
Cu3247		1.0320	ppm	0.00021800	0.021169	1.0000	Rel(%)	Pass	
Fe2599	**W**	**10.610**	**ppm**	**0.033875**	**0.31928**	**10.000**	**Rel(%)**	**Warn High**	**5.0000**
K_7664		10.094	ppm	0.073353	0.72669	10.000	Rel(%)	Pass	
Mg2790		10.259	ppm	0.018010	0.17556	10.000	Rel(%)	Pass	
Mn2576		1.0349	ppm	0.0020360	0.19676	1.0000	Rel(%)	Pass	
Mo2020		0.99960	ppm	0.0010690	0.10693	1.0000	Rel(%)	Pass	
Na5895		10.053	ppm	0.0047010	0.046767	10.000	Rel(%)	Pass	
Ni2316		1.0362	ppm	0.00096700	0.093356	1.0000	Rel(%)	Pass	
P_1782		1.9587	ppm	0.00072500	0.036994	2.0000	Rel(%)	Pass	
Pb2203		1.0307	ppm	0.000095000	0.0092010	1.0000	Rel(%)	Pass	
S_1820		2.0369	ppm	0.0025270	0.12408	2.0000	Rel(%)	Pass	
Sb2068	**W**	**0.90414**	**ppm**	**0.0015970**	**0.17658**	**1.0000**	**Rel(%)**	**Warn Low**	**-5.0000**
Se1960		1.0347	ppm	0.0073570	0.71105	1.0000	Rel(%)	Pass	
Si2881		9.9809	ppm	0.056842	0.56950	10.000	Rel(%)	Pass	
Sn1899		1.0069	ppm	0.0025780	0.25608	1.0000	Rel(%)	Pass	
Sr4077		1.0135	ppm	0.00082400	0.081316	1.0000	Rel(%)	Pass	
Ti3349		0.99938	ppm	0.00020900	0.020934	1.0000	Rel(%)	Pass	
Tl1908	**W**	**1.0634**	**ppm**	**0.0042070**	**0.39560**	**1.0000**	**Rel(%)**	**Warn High**	**5.0000**
V_2924		1.0138	ppm	0.00026200	0.025878	1.0000	Rel(%)	Pass	
Zn2062	**W**	**1.0658**	**ppm**	**0.0015220**	**0.14277**	**1.0000**	**Rel(%)**	**Warn High**	**5.0000**
Y_2243		7,899.6	Cts/S	47.744	0.60439				
Y_3600		58,375	Cts/S	193.35	0.33122				
Y_3774		6,935.1	Cts/S	81.731	1.1785				

ICBIS 1745955

Acquire Date: 11/12/2019 9:12:56AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00071300	ppm	0.00034800	48.837	.00000	Abs	Pass	
Al3961		0.013787	ppm	0.012843	93.151	.00000	Abs	Pass	
As1890		-0.0013430	ppm	0.0017220	128.20	.00000	Abs	Pass	
B_2089		0.0026490	ppm	0.000064000	2.4200	.00000	Abs	Pass	
Ba4554		0.000051000	ppm	0.00022600	447.46	.00000	Abs	Pass	
Be3130		0.00031700	ppm	0.00057400	181.02	.00000	Abs	Pass	
Ca3179		-0.00024800	ppm	0.00051900	209.50	.00000	Abs	Pass	
Cd2144		0.000046000	ppm	0.000028000	60.654	.00000	Abs	Pass	
Co2286		0.00022000	ppm	0.00021100	95.855	.00000	Abs	Pass	
Cr2677		0.00022700	ppm	0.00036400	160.32	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

ICBIS 1745955

Acquire Date: 11/12/2019 9:12:56AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Cu3247		0.0030220	ppm	0.00059500	19.692	.00000	Abs	Pass	
Fe2599		-0.0072040	ppm	0.0098590	136.84	.00000	Abs	Pass	
K_7664		0.071321	ppm	0.012657	17.746	.00000	Abs	Pass	
Mg2790		-0.00057200	ppm	0.0055620	972.55	.00000	Abs	Pass	
Mn2576		0.00012900	ppm	0.000019000	14.867	.00000	Abs	Pass	
Mo2020		0.00048800	ppm	0.00024800	50.694	.00000	Abs	Pass	
Na5895		0.036045	ppm	0.015114	41.933	.00000	Abs	Pass	
Ni2316		0.00010700	ppm	0.00028200	262.81	.00000	Abs	Pass	
P_1782		0.0020040	ppm	0.0021550	107.55	.00000	Abs	Pass	
Pb2203		-0.0014790	ppm	0.00041700	28.210	.00000	Abs	Pass	
S_1820		0.0018660	ppm	0.0029420	157.65	.00000	Abs	Pass	
Sb2068		0.0021130	ppm	0.0034270	162.19	.00000	Abs	Pass	
Se1960		-0.00070300	ppm	0.0043860	623.97	.00000	Abs	Pass	
Si2881		0.096363	ppm	0.014837	15.397	.00000	Abs	Pass	
Sn1899		0.00066800	ppm	0.00053600	80.235	.00000	Abs	Pass	
Sr4077		0.00046200	ppm	0.000036000	7.7854	.00000	Abs	Pass	
Ti3349		0.000075000	ppm	0.00028100	372.37	.00000	Abs	Pass	
Tl1908		0.00023100	ppm	0.00096900	420.32	.00000	Abs	Pass	
V_2924		0.00029100	ppm	0.00044100	151.47	.00000	Abs	Pass	
Zn2062		-0.00019300	ppm	0.000057000	29.650	.00000	Abs	Pass	
Y_2243		7,999.1	Cts/S	37.461	0.46831				
Y_3600		61,159	Cts/S	292.64	0.47849				
Y_3774		7,181.2	Cts/S	30.276	0.42160				

CRI 1733852

Acquire Date: 11/12/2019 9:16:55AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.0048530	ppm	0.00094100	19.378	.00500	Rel(%)	Pass	
Al3961		0.18680	ppm	0.013894	7.4379	.20000	Rel(%)	Pass	
As1890		0.036781	ppm	0.0013990	3.8040	.04000	Rel(%)	Pass	
B_2089		0.20340	ppm	0.00024400	0.11986	.20000	Rel(%)	Pass	
Ba4554		0.020364	ppm	0.00026700	1.3106	.02000	Rel(%)	Pass	
Be3130		0.0030080	ppm	0.00013800	4.5831	.00300	Rel(%)	Pass	
Ca3179		0.51828	ppm	0.0092010	1.7753	.50000	Rel(%)	Pass	
Cd2144		0.0030770	ppm	0.000022000	0.71889	.00300	Rel(%)	Pass	
Co2286		0.010071	ppm	0.00058500	5.8052	.01000	Rel(%)	Pass	
Cr2677		0.010688	ppm	0.00072700	6.8012	.01000	Rel(%)	Pass	
Cu3247		0.017095	ppm	0.0019040	11.137	.01500	Rel(%)	Pass	
Fe2599		0.11103	ppm	0.0052610	4.7383	.10000	Rel(%)	Pass	
K_7664		1.0355	ppm	0.0064020	0.61828	1.0000	Rel(%)	Pass	
Mg2790		0.51033	ppm	0.0031850	0.62408	.50000	Rel(%)	Pass	
Mn2576		0.010492	ppm	0.000076000	0.72879	.01000	Rel(%)	Pass	
Mo2020		0.019028	ppm	0.00043100	2.2676	.02000	Rel(%)	Pass	
Na5895		0.52301	ppm	0.0083690	1.6001	.50000	Rel(%)	Pass	
Ni2316		0.010011	ppm	0.00014100	1.4115	.01000	Rel(%)	Pass	
P_1782		0.49396	ppm	0.0029190	0.59084	.50000	Rel(%)	Pass	
Pb2203		0.010202	ppm	0.00099200	9.7229	.01000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CRI 1733852

Acquire Date: 11/12/2019 9:16:55AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
S_1820		0.48538	ppm	0.0040750	0.83956	.50000	Rel(%)	Pass	
Sb2068		0.028719	ppm	0.000088000	0.30547	.03000	Rel(%)	Pass	
Se1960		0.039795	ppm	0.00061100	1.5350	.04000	Rel(%)	Pass	
Si2881		0.53540	ppm	0.011035	2.0611	.50000	Rel(%)	Pass	
Sn1899		0.021046	ppm	0.000058000	0.27343	.02000	Rel(%)	Pass	
Sr4077		0.051574	ppm	0.00010600	0.20637	.05000	Rel(%)	Pass	
Ti3349		0.0092920	ppm	0.00037000	3.9779	.01000	Rel(%)	Pass	
Tl1908		0.031204	ppm	0.0014220	4.5578	.03000	Rel(%)	Pass	
V_2924		0.020369	ppm	0.00043900	2.1568	.02000	Rel(%)	Pass	
Zn2062		0.019074	ppm	0.000045000	0.23682	.02000	Rel(%)	Pass	
Y_2243		7,873.8	Cts/S	13.314	0.16909				
Y_3600		59,973	Cts/S	128.74	0.21466				
Y_3774		6,970.4	Cts/S	100.37	1.4399				

CRI 1733886

Acquire Date: 11/12/2019 9:20:52AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.0048770	ppm	0.00092800	19.024	.00500	Rel(%)	Pass	
Al3961		0.18362	ppm	0.028486	15.514	.20000	Rel(%)	Pass	
As1890		0.017824	ppm	0.0010970	6.1520	.02000	Rel(%)	Pass	
B_2089		0.10480	ppm	0.00074500	0.71098	.10000	Rel(%)	Pass	
Ba4554		0.0050220	ppm	0.000081000	1.6218	.00500	Rel(%)	Pass	
Be3130		0.0021870	ppm	0.00010300	4.7283	.00200	Rel(%)	Pass	
Ca3179		0.51549	ppm	0.0044420	0.86174	.50000	Rel(%)	Pass	
Cd2144		0.0020800	ppm	0.000021000	1.0277	.00200	Rel(%)	Pass	
Co2286		0.0050770	ppm	0.000076000	1.4935	.00500	Rel(%)	Pass	
Cr2677		0.0058980	ppm	0.00011900	2.0172	.00500	Rel(%)	Pass	
Cu3247		0.011760	ppm	0.00099700	8.4789	.01000	Rel(%)	Pass	
Fe2599		0.094739	ppm	0.00019000	0.20010	.10000	Rel(%)	Pass	
K_7664		0.98191	ppm	0.010481	1.0675	1.0000	Rel(%)	Pass	
Mg2790		0.50753	ppm	0.0061150	1.2049	.50000	Rel(%)	Pass	
Mn2576		0.0051220	ppm	0.00013000	2.5392	.00500	Rel(%)	Pass	
Mo2020		0.019660	ppm	0.000026000	0.13260	.02000	Rel(%)	Pass	
Na5895		0.51624	ppm	0.0066580	1.2897	.50000	Rel(%)	Pass	
Ni2316		0.0048730	ppm	0.0011400	23.401	.00500	Rel(%)	Pass	
P_1782		0.49532	ppm	0.00046800	0.094454	.50000	Rel(%)	Pass	
Pb2203		0.0041930	ppm	0.00033700	8.0449	.00500	Rel(%)	Pass	
S_1820		0.48362	ppm	0.0045720	0.94541	.50000	Rel(%)	Pass	
Sb2068		0.019644	ppm	0.00030600	1.5554	.02000	Rel(%)	Pass	
Se1960		0.018587	ppm	0.0024610	13.241	.02000	Rel(%)	Pass	
Si2881		0.52464	ppm	0.0038860	0.74078	.50000	Rel(%)	Pass	
Sn1899		0.020628	ppm	0.0011390	5.5198	.02000	Rel(%)	Pass	
Sr4077		0.051196	ppm	0.00023400	0.45790	.05000	Rel(%)	Pass	
Ti3349		0.0091520	ppm	0.00065000	7.1018	.01000	Rel(%)	Pass	
Tl1908		0.021251	ppm	0.0024810	11.676	.02000	Rel(%)	Pass	
V_2924		0.0048830	ppm	0.00036900	7.5608	.00500	Rel(%)	Pass	
Zn2062		0.0081850	ppm	0.000084000	1.0237	.01000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CRI 1733886

Acquire Date: 11/12/2019 9:20:52AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Y_2243		7,836.7	Cts/S	12.958	0.16535				
Y_3600		58,803	Cts/S	295.47	0.50247				
Y_3774		6,834.0	Cts/S	109.33	1.5998				

ICSA 1796620

Acquire Date: 11/12/2019 9:24:49AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.0013940	ppm	0.0011070	79.453	.00000	Abs	Pass	
Al3961		505.14	ppm	0.56693	0.11223	500.00	Abs	Pass	
As1890		-0.010384	ppm	0.0010090	9.7150	.00000	Abs	Pass	
B_2089		0.0019530	ppm	0.0011980	61.359	.00000	Abs	Pass	
Ba4554		0.0011380	ppm	0.00027100	23.817	.00000	Abs	Pass	
Be3130		0.00066900	ppm	0.000043000	6.4803	.00000	Abs	Pass	
Ca3179		495.29	ppm	0.23305	0.047053	500.00	Abs	Pass	
Cd2144		-0.00019700	ppm	0.000074000	37.354	.00000	Abs	Pass	
Co2286		-0.00092100	ppm	0.00024100	26.142	.00000	Abs	Pass	
Cr2677		0.00064100	ppm	0.000050000	7.7727	.00000	Abs	Pass	
Cu3247		-0.0026740	ppm	0.00021300	7.9783	.00000	Abs	Pass	
Fe2599		194.36	ppm	0.28842	0.14840	200.00	Abs	Pass	
K_7664		-0.065569	ppm	0.0033960	5.1789	.00000	Abs	Pass	
Mg2790		491.98	ppm	0.35613	0.072387	500.00	Abs	Pass	
Mn2576		-0.0023640	ppm	0.00015200	6.4404	.00000	Abs	Pass	
Mo2020		0.0014690	ppm	0.00020700	14.059	.00000	Abs	Pass	
Na5895		0.20702	ppm	0.00010400	0.050049	.00000	Abs	Pass	
Ni2316		-0.0019080	ppm	0.00022200	11.625	.00000	Abs	Pass	
P_1782		0.018977	ppm	0.00065400	3.4455	.00000	Abs	Pass	
Pb2203		0.0015700	ppm	0.0030630	195.13	.00000	Abs	Pass	
S_1820		-0.45169	ppm	0.0052770	1.1682	.00000	Abs	Pass	
Sb2068		0.0076780	ppm	0.0040760	53.082	.00000	Abs	Pass	
Se1960		0.011717	ppm	0.0015520	13.247	.00000	Abs	Pass	
Si2881		-0.038810	ppm	0.011489	29.604	.00000	Abs	Pass	
Sn1899		-0.0045010	ppm	0.00050000	11.109	.00000	Abs	Pass	
Sr4077		-0.0015360	ppm	0.00016400	10.684	.00000	Abs	Pass	
Ti3349		-0.00077100	ppm	0.000078000	10.085	.00000	Abs	Pass	
Tl1908		-0.0027260	ppm	0.0022830	83.758	.00000	Abs	Pass	
V_2924		0.0011520	ppm	0.00019300	16.741	.00000	Abs	Pass	
Zn2062		-0.0051780	ppm	0.000078000	1.5043	.00000	Abs	Pass	
Y_2243		7,098.6	Cts/S	38.210	0.53828				
Y_3600		51,601	Cts/S	52.435	0.10162				
Y_3774		6,861.1	Cts/S	92.217	1.3440				

ICSAB 1796622

Acquire Date: 11/12/2019 9:28:49AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		1.0856	ppm	0.0019800	0.18239	1.0000	Rel(%)	Pass	
Al3961		510.22	ppm	1.3228	0.25925	500.00	Rel(%)	Pass	
As1890		0.98354	ppm	0.0056910	0.57861				
B_2089		9.5195	ppm	0.022195	0.23315				
Ba4554		1.0292	ppm	0.0020720	0.20136	1.0000	Rel(%)	Pass	
Be3130		0.50223	ppm	0.0020000	0.39829	.50000	Rel(%)	Pass	
Ca3179		500.10	ppm	1.6916	0.33825	500.00	Rel(%)	Pass	
Cd2144		0.94344	ppm	0.0016950	0.17964	1.0000	Rel(%)	Pass	
Co2286		0.91213	ppm	0.0021260	0.23310	1.0000	Rel(%)	Pass	
Cr2677		1.0116	ppm	0.00095600	0.094521	1.0000	Rel(%)	Pass	
Cu3247		0.99073	ppm	0.00075700	0.076393	1.0000	Rel(%)	Pass	
Fe2599		197.06	ppm	0.41904	0.21265	200.00	Rel(%)	Pass	
K_7664		10.291	ppm	0.0019310	0.018762				
Mg2790		499.51	ppm	4.5885	0.91860	500.00	Rel(%)	Pass	
Mn2576		1.0110	ppm	0.00025600	0.025310	1.0000	Rel(%)	Pass	
Mo2020		0.0019470	ppm	0.00033900	17.432				
Na5895		10.604	ppm	0.034407	0.32449				
Ni2316		0.90070	ppm	0.00078600	0.087255	1.0000	Rel(%)	Pass	
P_1782		9.7324	ppm	0.018220	0.18721				
Pb2203		0.94291	ppm	0.0064180	0.68068	1.0000	Rel(%)	Pass	
S_1820		-0.46826	ppm	0.0019400	0.41422				
Sb2068		0.0018090	ppm	0.0027600	152.56				
Se1960		0.98445	ppm	0.00091900	0.093321				
Si2881		-0.043500	ppm	0.00025200	0.57997				
Sn1899		-0.0052170	ppm	0.00073500	14.082				
Sr4077		1.0203	ppm	0.0027210	0.26670				
Ti3349		-0.00094700	ppm	0.00087400	92.255				
Tl1908		0.89756	ppm	0.0030330	0.33788				
V_2924		1.0513	ppm	0.00058000	0.055172	1.0000	Rel(%)	Pass	
Zn2062		0.95887	ppm	0.00081800	0.085271	1.0000	Rel(%)	Pass	
Y_2243		7,039.9	Cts/S	11.239	0.15965				
Y_3600		51,572	Cts/S	3.7608	0.0072920				
Y_3774		6,924.8	Cts/S	8.8057	0.12716				

AI 1800508

Acquire Date: 11/12/2019 9:32:38AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.0012270	ppm	0.00051500	41.985	.00000	Abs	Pass	
Al3961		1,007.4	ppm	16.244	1.6124				
As1890		-0.010111	ppm	0.0034510	34.127	.00000	Abs	Pass	
B_2089		0.029098	ppm	0.0035430	12.176	.00000	Abs	Pass	
Ba4554		0.00049900	ppm	0.00084300	169.04	.00000	Abs	Pass	
Be3130		0.00016400	ppm	0.000069000	41.912	.00000	Abs	Pass	
Ca3179		0.18846	ppm	0.11301	59.964				
Cd2144		0.0011630	ppm	0.000079000	6.8030	.00000	Abs	Pass	
Co2286		-0.00068600	ppm	0.00015200	22.156	.00000	Abs	Pass	
Cr2677		0.0010580	ppm	0.00027900	26.354	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

Al 1800508

Acquire Date: 11/12/2019 9:32:38AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Cu3247		0.0025720	ppm	0.00053400	20.771	.00000	Abs	Pass	
Fe2599		0.17377	ppm	0.044312	25.501				
K_7664		-0.056299	ppm	0.035023	62.209	.00000	Abs	Pass	
Mg2790		0.063272	ppm	0.0044110	6.9720				
Mn2576		-0.0015000	ppm	0.000067000	4.4526	.00000	Abs	Pass	
Mo2020		0.0019230	ppm	0.00053200	27.637	.00000	Abs	Pass	
Na5895		0.40054	ppm	0.020526	5.1245	.00000	Abs	Pass	
Ni2316		0.0032670	ppm	0.00035300	10.811	.00000	Abs	Pass	
P_1782		0.0082430	ppm	0.00031100	3.7755	.00000	Abs	Pass	
Pb2203		-0.00068400	ppm	0.0030360	443.59	.00000	Abs	Pass	
S_1820		-0.0012160	ppm	0.000052000	4.2366	.00000	Abs	Pass	
Sb2068		0.0068490	ppm	0.0058500	85.413	.00000	Abs	Pass	
Se1960		0.0082900	ppm	0.0028660	34.575	.00000	Abs	Pass	
Si2881		-0.021436	ppm	0.017869	83.356	.00000	Abs	Pass	
Sn1899		-0.013146	ppm	0.00092400	7.0316	.00000	Abs	Pass	
Sr4077		0.00034700	ppm	0.00059900	172.61	.00000	Abs	Pass	
Ti3349		0.0023810	ppm	0.00081000	34.015	.00000	Abs	Pass	
Tl1908		0.0010550	ppm	0.00076000	72.051	.00000	Abs	Pass	
V_2924		0.00079600	ppm	0.00044300	55.651	.00000	Abs	Pass	
Zn2062		-0.0042830	ppm	0.00075500	17.633	.00000	Abs	Pass	
Y_2243		7,624.5	Cts/S	29.144	0.38224				
Y_3600		53,313	Cts/S	92.232	0.17300				
Y_3774		7,180.7	Cts/S	74.762	1.0412				

Ca 1800509

Acquire Date: 11/12/2019 9:36:36AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.000079000	ppm	0.00045900	581.90	.00000	Abs	Pass	
Al3961		0.34499	ppm	0.0068210	1.9772				
As1890		-0.00064300	ppm	0.0011650	181.10	.00000	Abs	Pass	
B_2089		0.0094660	ppm	0.00022700	2.3964	.00000	Abs	Pass	
Ba4554		0.00016600	ppm	0.00025300	152.26	.00000	Abs	Pass	
Be3130		0.00099800	ppm	0.00016400	16.395	.00000	Abs	Pass	
Ca3179		1,028.1	ppm	20.567	2.0004				
Cd2144		0.0014230	ppm	0.000045000	3.1452	.00000	Abs	Pass	
Co2286		0.00025500	ppm	0.000057000	22.210	.00000	Abs	Pass	
Cr2677		0.00051100	ppm	0.00018500	36.260	.00000	Abs	Pass	
Cu3247		0.0028180	ppm	0.000082000	2.9181	.00000	Abs	Pass	
Fe2599		-0.0019100	ppm	0.0034180	178.92				
K_7664		0.039394	ppm	0.030911	78.466	.00000	Abs	Pass	
Mg2790		0.013137	ppm	0.00071400	5.4353				
Mn2576		-0.0017420	ppm	0.000058000	3.3350	.00000	Abs	Pass	
Mo2020		.0000020000	ppm	0.000082000	3,691.7	.00000	Abs	Pass	
Na5895		0.033152	ppm	0.014259	43.012	.00000	Abs	Pass	
Ni2316		-0.00029500	ppm	0.0010750	363.79	.00000	Abs	Pass	
P_1782		0.014515	ppm	0.0047560	32.767	.00000	Abs	Pass	
Pb2203		0.00047800	ppm	0.00095000	198.96	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

Ca 1800509

Acquire Date: 11/12/2019 9:36:36AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
S_1820		-0.083819	ppm	0.0055700	6.6448	.00000	Abs	Pass	
Sb2068		-0.0056790	ppm	0.0024430	43.011	.00000	Abs	Pass	
Se1960		0.00022800	ppm	0.0027650	1,212.4	.00000	Abs	Pass	
Si2881		-0.042168	ppm	0.011420	27.083	.00000	Abs	Pass	
Sn1899		0.000079000	ppm	0.00015600	196.62	.00000	Abs	Pass	
Sr4077		-0.0033570	ppm	0.000075000	2.2319	.00000	Abs	Pass	
Ti3349		-0.0031220	ppm	0.00021400	6.8547	.00000	Abs	Pass	
Tl1908		-0.0059460	ppm	0.0020350	34.232	.00000	Abs	Pass	
V_2924		0.000044000	ppm	0.00028600	644.81	.00000	Abs	Pass	
Zn2062		-0.0024470	ppm	0.00065400	26.713	.00000	Abs	Pass	
Y_2243		7,318.9	Cts/S	47.321	0.64656				
Y_3600		54,336	Cts/S	49.710	0.091486				
Y_3774		7,013.1	Cts/S	19.270	0.27477				

Fe 1800510

Acquire Date: 11/12/2019 9:40:39AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.0022120	ppm	0.00072300	32.695	.00000	Abs	Pass	
Al3961		0.014351	ppm	0.014250	99.297				
As1890		-0.00024800	ppm	0.0013330	537.57	.00000	Abs	Pass	
B_2089		0.0089620	ppm	0.000032000	0.35231	.00000	Abs	Pass	
Ba4554		0.000029000	ppm	0.00017900	612.70	.00000	Abs	Pass	
Be3130		-0.00012400	ppm	0.000027000	21.802	.00000	Abs	Pass	
Ca3179		0.24566	ppm	0.041279	16.803				
Cd2144		0.00020700	ppm	0.000091000	43.829	.00000	Abs	Pass	
Co2286		-0.0040940	ppm	0.00046400	11.344	.00000	Abs	Pass	
Cr2677		0.0021280	ppm	0.00021100	9.9130	.00000	Abs	Pass	
Cu3247		-0.0085700	ppm	0.00056200	6.5525	.00000	Abs	Pass	
Fe2599		989.71	ppm	2.6739	0.27017				
K_7664		-0.12849	ppm	0.014763	11.489	.00000	Abs	Pass	
Mg2790		0.055935	ppm	0.0020600	3.6835				
Mn2576		-0.0032400	ppm	0.00011600	3.5658	.00000	Abs	Pass	
Mo2020		0.0012700	ppm	0.000094000	7.3785	.00000	Abs	Pass	
Na5895		0.13093	ppm	0.016138	12.326	.00000	Abs	Pass	
Ni2316		0.0020260	ppm	0.00062700	30.938	.00000	Abs	Pass	
P_1782		0.016869	ppm	0.0030770	18.239	.00000	Abs	Pass	
Pb2203		0.00063800	ppm	0.0017150	268.86	.00000	Abs	Pass	
S_1820		0.059670	ppm	0.013151	22.039	.00000	Abs	Pass	
Sb2068		0.017946	ppm	0.0015730	8.7639	.00000	Abs	Pass	
Se1960		0.0093980	ppm	0.0031310	33.315	.00000	Abs	Pass	
Si2881		-0.0019260	ppm	0.011913	618.52	.00000	Abs	Pass	
Sn1899		0.0051630	ppm	0.000028000	0.54249	.00000	Abs	Pass	
Sr4077		0.00027800	ppm	0.0000030000	0.96383	.00000	Abs	Pass	
Ti3349		-0.00051600	ppm	0.00032000	61.908	.00000	Abs	Pass	
Tl1908		-0.012769	ppm	0.0035060	27.455	.00000	Abs	Pass	
V_2924		0.0045030	ppm	0.00034300	7.6126	.00000	Abs	Pass	
Zn2062		-0.0030400	ppm	0.00025800	8.4822	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

Fe 1800510

Acquire Date: 11/12/2019 9:40:39AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Y_2243		7,707.1	Cts/S	34.108	0.44255				
Y_3600		57,819	Cts/S	111.56	0.19295				
Y_3774		7,102.5	Cts/S	120.08	1.6906				

Mg 1800511

Acquire Date: 11/12/2019 9:44:31AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.0019660	ppm	0.00070600	35.894	.00000	Abs	Pass	
Al3961		0.013345	ppm	0.012866	96.407				
As1890		-0.0018330	ppm	0.00088900	48.503	.00000	Abs	Pass	
B_2089		0.0032820	ppm	0.0012380	37.710	.00000	Abs	Pass	
Ba4554		0.00050900	ppm	0.00013100	25.703	.00000	Abs	Pass	
Be3130		0.000039000	ppm	0.000064000	164.81	.00000	Abs	Pass	
Ca3179		0.076785	ppm	0.0054720	7.1269				
Cd2144		-0.0013140	ppm	0.00010200	7.7524	.00000	Abs	Pass	
Co2286		-0.00051600	ppm	0.000037000	7.1379	.00000	Abs	Pass	
Cr2677		-0.00071700	ppm	0.00033300	46.469	.00000	Abs	Pass	
Cu3247		0.0036540	ppm	0.00084100	23.016	.00000	Abs	Pass	
Fe2599		0.26983	ppm	0.10579	39.205				
K_7664		-0.027172	ppm	0.017906	65.897	.00000	Abs	Pass	
Mg2790		1,027.8	ppm	1.7021	0.16560				
Mn2576		0.0010760	ppm	0.000036000	3.3688	.00000	Abs	Pass	
Mo2020		0.00055500	ppm	0.00062300	112.35	.00000	Abs	Pass	
Na5895		0.045618	ppm	0.0047230	10.353	.00000	Abs	Pass	
Ni2316		-0.00017400	ppm	0.00027000	155.61	.00000	Abs	Pass	
P_1782		0.0024550	ppm	0.0019370	78.926	.00000	Abs	Pass	
Pb2203		-0.0014010	ppm	0.0013220	94.376	.00000	Abs	Pass	
S_1820		-0.068129	ppm	0.0022360	3.2813	.00000	Abs	Pass	
Sb2068		0.0068630	ppm	0.0021920	31.937	.00000	Abs	Pass	
Se1960		-0.0043270	ppm	0.00094000	21.735	.00000	Abs	Pass	
Si2881		0.052171	ppm	0.054078	103.66	.00000	Abs	Pass	
Sn1899		0.00013100	ppm	0.00067600	514.39	.00000	Abs	Pass	
Sr4077		.0000030000	ppm	0.00012500	4,405.0	.00000	Abs	Pass	
Ti3349		0.0025520	ppm	0.0010790	42.286	.00000	Abs	Pass	
Tl1908		0.0034210	ppm	0.0017790	52.015	.00000	Abs	Pass	
V_2924		-0.00077200	ppm	0.00025000	32.430	.00000	Abs	Pass	
Zn2062		-0.00026700	ppm	0.00014400	54.091	.00000	Abs	Pass	
Y_2243		7,286.0	Cts/S	4.4656	0.061290				
Y_3600		53,811	Cts/S	93.299	0.17338				
Y_3774		6,862.2	Cts/S	88.196	1.2852				

RINSE1

Acquire Date: 11/12/2019 9:48:33AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00035100	ppm	0.00044100	125.56
Al3961		0.0062140	ppm	0.011413	183.66
As1890		0.00013800	ppm	0.0013150	951.41
B_2089		0.00036200	ppm	0.00083300	230.26
Ba4554		-0.00026000	ppm	0.00012300	47.228
Be3130		0.000099000	ppm	0.000088000	88.645
Ca3179		0.018928	ppm	0.0037980	20.066
Cd2144		0.000026000	ppm	0.00011000	418.51
Co2286		.0000050000	ppm	0.00022200	4,392.8
Cr2677		0.000078000	ppm	0.00023400	299.29
Cu3247		0.0017000	ppm	0.00043900	25.826
Fe2599		0.032457	ppm	0.0022780	7.0196
K_7664		0.026108	ppm	0.018241	69.866
Mg2790		0.10496	ppm	0.010405	9.9136
Mn2576		-0.00037600	ppm	0.00012700	33.634
Mo2020		-0.00021400	ppm	0.000041000	19.019
Na5895		0.064172	ppm	0.0046780	7.2899
Ni2316		-0.00042900	ppm	0.0010050	234.16
P_1782		-0.00085700	ppm	0.0041880	488.52
Pb2203		-0.0012550	ppm	0.0020010	159.50
S_1820		0.0018860	ppm	0.0039380	208.77
Sb2068		0.00028100	ppm	0.0028530	1,015.4
Se1960		-0.00084800	ppm	0.0035370	416.90
Si2881		0.019805	ppm	0.022585	114.04
Sn1899		0.00013900	ppm	0.00053800	386.61
Sr4077		-0.00017900	ppm	0.000020000	11.118
Ti3349		-0.00023200	ppm	0.00015300	65.929
Tl1908		-0.0013410	ppm	0.000010000	0.75972
V_2924		-0.00013900	ppm	0.0000080000	5.9825
Zn2062		-0.0025410	ppm	0.00015400	6.0574
Y_2243		7,920.5	Cts/S	36.654	0.46278
Y_3600		60,762	Cts/S	32.817	0.054008
Y_3774		6,939.7	Cts/S	144.57	2.0832

RINSE2

Acquire Date: 11/12/2019 9:52:28AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.000048000	ppm	0.00088400	1,851.6
Al3961		-0.0079250	ppm	0.0077940	98.348
As1890		-0.0022180	ppm	0.0022580	101.81
B_2089		.0000080000	ppm	0.00039500	4,885.4
Ba4554		0.000072000	ppm	0.00096600	1,348.9
Be3130		0.000060000	ppm	0.000074000	123.39
Ca3179		0.0082720	ppm	0.0011470	13.868
Cd2144		0.000025000	ppm	0.000083000	336.86
Co2286		-0.00043900	ppm	0.00012900	29.470

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

RINSE2

Acquire Date: 11/12/2019 9:52:28AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.00036200	ppm	0.00051700	142.77
Cu3247		0.00037600	ppm	0.00084300	224.24
Fe2599		0.029989	ppm	0.00050400	1.6804
K_7664		-0.019546	ppm	0.0087570	44.804
Mg2790		0.018416	ppm	0.00039500	2.1453
Mn2576		-0.00032000	ppm	0.00015000	46.668
Mo2020		-0.00054700	ppm	0.00023100	42.242
Na5895		0.029650	ppm	0.0030280	10.213
Ni2316		0.000065000	ppm	0.00017200	262.23
P_1782		-0.00053000	ppm	0.0016770	316.19
Pb2203		-0.0014380	ppm	0.00034200	23.812
S_1820		-0.0023530	ppm	0.00062100	26.387
Sb2068		0.0010330	ppm	0.00013900	13.451
Se1960		-0.0021770	ppm	0.0011110	51.002
Si2881		0.043476	ppm	0.016900	38.872
Sn1899		0.00067800	ppm	0.00075900	111.98
Sr4077		-0.00011100	ppm	0.00011600	104.73
Ti3349		0.000082000	ppm	0.00077000	940.93
Tl1908		-0.0012470	ppm	0.00050700	40.679
V_2924		0.000032000	ppm	0.00017800	564.14
Zn2062		-0.0027600	ppm	0.00023000	8.3440
Y_2243		7,878.9	Cts/S	57.452	0.72918
Y_3600		59,155	Cts/S	97.770	0.16528
Y_3774		6,753.8	Cts/S	179.04	2.6509

CCV 1796754

Acquire Date: 11/12/2019 9:56:26AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.50016	ppm	0.0010340	0.20672	.50000	Rel(%)	Pass	
Al3961		25.090	ppm	0.047854	0.19073	25.000	Rel(%)	Pass	
As1890		0.50888	ppm	0.00025100	0.049309	.50000	Rel(%)	Pass	
B_2089		1.0161	ppm	0.00077200	0.075964	1.0000	Rel(%)	Pass	
Ba4554		2.5829	ppm	0.0033730	0.13058	2.5000	Rel(%)	Pass	
Be3130		0.52172	ppm	0.0013120	0.25139	.50000	Rel(%)	Pass	
Ca3179		26.065	ppm	0.039621	0.15201	25.000	Rel(%)	Pass	
Cd2144		0.50009	ppm	0.00024100	0.048145	.50000	Rel(%)	Pass	
Co2286		2.5346	ppm	0.0011450	0.045174	2.5000	Rel(%)	Pass	
Cr2677		2.5420	ppm	0.0053910	0.21207	2.5000	Rel(%)	Pass	
Cu3247		2.4771	ppm	0.0041440	0.16728	2.5000	Rel(%)	Pass	
Fe2599		26.366	ppm	0.025172	0.095472	25.000	Rel(%)	Pass	
K_7664		25.131	ppm	0.066596	0.26499	25.000	Rel(%)	Pass	
Mg2790		25.344	ppm	0.024328	0.095991	25.000	Rel(%)	Pass	
Mn2576		2.5588	ppm	0.0012170	0.047551	2.5000	Rel(%)	Pass	
Mo2020		0.99853	ppm	0.0018490	0.18518	1.0000	Rel(%)	Pass	
Na5895		24.952	ppm	0.018716	0.075009	25.000	Rel(%)	Pass	
Ni2316		2.5388	ppm	0.0037380	0.14722	2.5000	Rel(%)	Pass	
P_1782		2.4422	ppm	0.0023820	0.097551	2.5000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCV 1796754

Acquire Date: 11/12/2019 9:56:26AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Pb2203		0.51173	ppm	0.0040810	0.79754	.50000	Rel(%)	Pass	
S_1820		2.4633	ppm	0.0034560	0.14029	2.5000	Rel(%)	Pass	
Sb2068		0.51050	ppm	0.0011770	0.23054	.50000	Rel(%)	Pass	
Se1960		0.51778	ppm	0.0028960	0.55928	.50000	Rel(%)	Pass	
Si2881		2.5186	ppm	0.00033700	0.013387	2.5000	Rel(%)	Pass	
Sn1899		2.5035	ppm	0.0026050	0.10404	2.5000	Rel(%)	Pass	
Sr4077		2.5770	ppm	0.0016040	0.062257	2.5000	Rel(%)	Pass	
Ti3349		0.99517	ppm	0.00060300	0.060582	1.0000	Rel(%)	Pass	
Tl1908		0.49957	ppm	0.0023670	0.47388	.50000	Rel(%)	Pass	
V_2924		2.5612	ppm	0.0041720	0.16291	2.5000	Rel(%)	Pass	
Zn2062		2.5465	ppm	0.0053570	0.21038	2.5000	Rel(%)	Pass	
Y_2243		7,918.0	Cts/S	1.5409	0.019461				
Y_3600		58,814	Cts/S	85.803	0.14589				
Y_3774		7,087.1	Cts/S	171.89	2.4254				

CCB 1745955

Acquire Date: 11/12/2019 10:00:10AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.000042000	ppm	0.00026800	635.79	.00000	Abs	Pass	
Al3961		0.012780	ppm	0.013156	102.94	.00000	Abs	Pass	
As1890		-0.0015730	ppm	0.00095200	60.487	.00000	Abs	Pass	
B_2089		0.0023740	ppm	0.00013200	5.5551	.00000	Abs	Pass	
Ba4554		0.00049800	ppm	0.00031200	62.626	.00000	Abs	Pass	
Be3130		0.000033000	ppm	0.000064000	196.23	.00000	Abs	Pass	
Ca3179		0.0021860	ppm	0.0055750	255.08	.00000	Abs	Pass	
Cd2144		0.00042000	ppm	0.00064800	154.33	.00000	Abs	Pass	
Co2286		0.0024070	ppm	0.0023690	98.401	.00000	Abs	Pass	
Cr2677		0.00078900	ppm	0.00067800	85.971	.00000	Abs	Pass	
Cu3247		0.0027990	ppm	0.0012730	45.462	.00000	Abs	Pass	
Fe2599		0.00063000	ppm	0.0051210	812.68	.00000	Abs	Pass	
K_7664		-0.039621	ppm	0.035539	89.698	.00000	Abs	Pass	
Mg2790		0.016287	ppm	0.0024830	15.244	.00000	Abs	Pass	
Mn2576		0.00025600	ppm	0.00062700	244.52	.00000	Abs	Pass	
Mo2020		0.00089000	ppm	0.00069000	77.516	.00000	Abs	Pass	
Na5895		0.035748	ppm	0.0071330	19.954	.00000	Abs	Pass	
Ni2316		0.0024130	ppm	0.0032120	133.09	.00000	Abs	Pass	
P_1782		-0.00077900	ppm	0.0021460	275.68	.00000	Abs	Pass	
Pb2203		-0.00044700	ppm	0.0011110	248.31	.00000	Abs	Pass	
S_1820		0.0037210	ppm	0.0027850	74.837	.00000	Abs	Pass	
Sb2068		0.00014300	ppm	0.0015890	1,111.1	.00000	Abs	Pass	
Se1960		-0.0021710	ppm	0.0021640	99.677	.00000	Abs	Pass	
Si2881		0.049246	ppm	0.017264	35.058	.00000	Abs	Pass	
Sn1899		0.0022940	ppm	0.0020820	90.789	.00000	Abs	Pass	
Sr4077		0.00023800	ppm	0.000098000	41.334	.00000	Abs	Pass	
Ti3349		0.00026400	ppm	0.00014800	56.151	.00000	Abs	Pass	
Tl1908		0.0024840	ppm	0.00060900	24.499	.00000	Abs	Pass	
V_2924		0.00058900	ppm	0.00032900	55.954	.00000	Abs	Pass	

CCB 1745955

Acquire Date: 11/12/2019 10:00:10AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Zn2062		-0.00036700	ppm	0.00047700	130.10	.00000	Abs	Pass	
Y_2243		7,833.7	Cts/S	49.928	0.63735				
Y_3600		59,506	Cts/S	287.89	0.48379				
Y_3774		6,927.0	Cts/S	46.884	0.67683				

LCS 320-336878/2-A

Acquire Date: 11/12/2019 10:04:09AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.051300	ppm	0.00015800	0.30801
Al3961		5.2468	ppm	0.020896	0.39827
As1890	**W**	**0.50488**	**ppm**	**0.00024100**	**0.047643**
B_2089		4.9655	ppm	0.0041880	0.084351
Ba4554	**W**	**0.52547**	**ppm**	**0.00063900**	**0.12159**
Be3130		0.26568	ppm	0.00029400	0.11052
Ca3179		26.871	ppm	0.023942	0.089101
Cd2144	**W**	**0.25489**	**ppm**	**0.00014900**	**0.058452**
Co2286		0.25295	ppm	0.00041900	0.16554
Cr2677	**W**	**0.26093**	**ppm**	**0.000065000**	**0.025031**
Cu3247		0.24960	ppm	0.000041000	0.016291
Fe2599		5.4843	ppm	0.026632	0.48560
K_7664		26.080	ppm	0.10350	0.39687
Mg2790		26.157	ppm	0.030823	0.11784
Mn2576		0.26067	ppm	0.00010700	0.040995
Mo2020		0.25432	ppm	0.000051000	0.020046
Na5895		26.120	ppm	0.032217	0.12334
Ni2316		0.25217	ppm	0.00040300	0.15996
P_1782		5.2221	ppm	0.0057310	0.10974
Pb2203	**W**	**0.25909**	**ppm**	**0.0027280**	**1.0530**
S_1820	**F**	**5.1339**	**ppm**	**0.0091060**	**0.17736**
Sb2068		0.45950	ppm	0.00010500	0.022851
Se1960	**W**	**0.51904**	**ppm**	**0.00023600**	**0.045548**
Si2881	**W**	**5.1560**	**ppm**	**0.037483**	**0.72699**
Sn1899		0.52676	ppm	0.00072800	0.13819
Sr4077		0.26212	ppm	0.00018400	0.070232
Ti3349	**W**	**0.25578**	**ppm**	**0.00055500**	**0.21715**
Tl1908		0.50834	ppm	0.0013690	0.26927
V_2924		0.26168	ppm	0.00049100	0.18754
Zn2062		0.51640	ppm	0.00020100	0.038849
Y_2243		7,835.7	Cts/S	52.483	0.66979
Y_3600		58,577	Cts/S	112.47	0.19201
Y_3774		6,951.9	Cts/S	197.92	2.8470

MB 320-336868/1-A

Acquire Date: 11/12/2019 10:07:55AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00041000	ppm	0.00034200	83.316
Al3961		-0.0038630	ppm	0.011970	309.86
As1890		0.000014000	ppm	0.00085300	5,920.6
B_2089		0.014885	ppm	0.00085700	5.7587
Ba4554		-0.00016500	ppm	0.000075000	45.555
Be3130		0.000027000	ppm	0.000090000	328.75
Ca3179		0.010154	ppm	0.0015360	15.127
Cd2144		0.000032000	ppm	0.000066000	206.12
Co2286		-0.00031500	ppm	0.000076000	24.266
Cr2677		0.00045900	ppm	0.000042000	9.1706
Cu3247		0.0020670	ppm	0.00030200	14.589
Fe2599		-0.00057700	ppm	0.0069250	1,199.7
K_7664		-0.038710	ppm	0.015412	39.813
Mg2790		0.0073010	ppm	0.0019490	26.697
Mn2576		-0.00062300	ppm	0.000040000	6.4631
Mo2020		0.000042000	ppm	0.00021300	505.47
Na5895		0.016046	ppm	0.0044820	27.932
Ni2316		-0.00058600	ppm	0.00022000	37.613
P_1782		-0.0021480	ppm	0.0019400	90.315
Pb2203		-0.0015930	ppm	0.00032100	20.128
S_1820		-0.0038180	ppm	0.0013450	35.226
Sb2068		-0.00039200	ppm	0.0045830	1,169.7
Se1960		0.00037600	ppm	0.00052300	139.01
Si2881		0.052066	ppm	0.0018540	3.5616
Sn1899		0.000053000	ppm	0.00034400	645.72
Sr4077		0.000064000	ppm	0.000096000	150.06
Ti3349		0.00025500	ppm	0.00019100	74.868
Tl1908		0.0011550	ppm	0.00052100	45.107
V_2924		-0.00042700	ppm	0.00076100	178.25
Zn2062		-0.0023380	ppm	0.00022900	9.7919
Y_2243		8,007.0	Cts/S	42.399	0.52952
Y_3600		60,744	Cts/S	110.99	0.18272
Y_3774		7,083.6	Cts/S	88.659	1.2516

LCS 320-336868/2-A

Acquire Date: 11/12/2019 10:11:54AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.048340	ppm	0.0014140	2.9249
Al3961		5.0040	ppm	0.043041	0.86013
As1890	**W**	**0.48701**	**ppm**	**0.00026400**	**0.054120**
B_2089		4.8348	ppm	0.0012600	0.026057
Ba4554	**W**	**0.50825**	**ppm**	**0.00079000**	**0.15541**
Be3130		0.25594	ppm	0.00067200	0.26275
Ca3179		25.803	ppm	0.040329	0.15630
Cd2144	**W**	**0.24420**	**ppm**	**0.00010200**	**0.041961**
Co2286		0.24141	ppm	0.000026000	0.010946

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

LCS 320-336868/2-A

Acquire Date: 11/12/2019 10:11:54AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677	**W**	**0.24991**	**ppm**	**0.0010510**	**0.42074**
Cu3247		0.23936	ppm	0.00041200	0.17198
Fe2599		5.2443	ppm	0.012164	0.23194
K_7664		24.892	ppm	0.039867	0.16016
Mg2790		24.878	ppm	0.025790	0.10367
Mn2576		0.25061	ppm	0.00025600	0.10227
Mo2020		0.24429	ppm	0.00083900	0.34339
Na5895		24.886	ppm	0.010622	0.042685
Ni2316		0.24208	ppm	0.00046300	0.19108
P_1782		5.0465	ppm	0.0025540	0.050600
Pb2203	**W**	**0.24642**	**ppm**	**0.00096100**	**0.38990**
S_1820	**F**	**4.9572**	**ppm**	**0.021447**	**0.43265**
Sb2068		0.44794	ppm	0.00062600	0.13969
Se1960	**W**	**0.50557**	**ppm**	**0.0041490**	**0.82060**
Si2881	**W**	**4.9944**	**ppm**	**0.010579**	**0.21182**
Sn1899		0.49825	ppm	0.0024180	0.48535
Sr4077		0.25380	ppm	0.00077900	0.30681
Ti3349	**W**	**0.24564**	**ppm**	**0.00025800**	**0.10520**
Tl1908		0.48880	ppm	0.00014600	0.029767
V_2924		0.25246	ppm	0.00060000	0.23777
Zn2062		0.49825	ppm	0.000095000	0.019123
Y_2243		7,927.8	Cts/S	49.075	0.61902
Y_3600		59,261	Cts/S	261.71	0.44161
Y_3774		6,957.1	Cts/S	231.02	3.3207

MB 320-336869/1-A

Acquire Date: 11/12/2019 10:15:40AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00020400	ppm	0.00017400	85.420
Al3961		-0.037552	ppm	0.0053950	14.367
As1890		-0.00052100	ppm	0.0012430	238.71
B_2089		0.019527	ppm	0.0013980	7.1572
Ba4554		0.000013000	ppm	0.00022000	1,663.2
Be3130		.0000030000	ppm	0.00013000	4,348.1
Ca3179		0.0093920	ppm	0.00050500	5.3765
Cd2144		0.000069000	ppm	0.000058000	84.225
Co2286		-0.00032100	ppm	0.000046000	14.455
Cr2677		0.0012460	ppm	0.00099100	79.535
Cu3247		0.0015050	ppm	0.00067500	44.827
Fe2599		-0.011363	ppm	0.0012560	11.057
K_7664		-0.046008	ppm	0.037824	82.212
Mg2790		0.0032370	ppm	0.0033320	102.96
Mn2576		-0.00051300	ppm	0.00012900	25.046
Mo2020		0.00018600	ppm	0.00036400	196.19
Na5895		0.0043040	ppm	0.0020470	47.575
Ni2316		-0.00044500	ppm	0.00042500	95.482

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

MB 320-336869/1-A

Acquire Date: 11/12/2019 10:15:40AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		0.00068900	ppm	0.0022280	323.36
Pb2203		0.000051000	ppm	0.00074400	1,456.1
S_1820		0.00046400	ppm	0.0026250	565.16
Sb2068		-0.0023580	ppm	0.0027150	115.17
Se1960		0.00023200	ppm	0.0048020	2,067.3
Si2881		0.023341	ppm	0.058357	250.02
Sn1899		0.000053000	ppm	0.00010300	195.80
Sr4077		0.000039000	ppm	0.000021000	53.943
Ti3349		-0.00021900	ppm	0.00022500	102.66
Tl1908		0.0032220	ppm	0.0024150	74.951
V_2924		0.000099000	ppm	0.00063500	640.43
Zn2062		-0.0020020	ppm	0.000023000	1.1562
Y_2243		7,788.9	Cts/S	1.8656	0.023952
Y_3600		59,162	Cts/S	252.18	0.42625
Y_3774		6,839.1	Cts/S	124.86	1.8256

LCS 320-336869/2-A

Acquire Date: 11/12/2019 10:19:39AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.048661	ppm	0.00064900	1.3339
Al3961		4.9544	ppm	0.0069200	0.13966
As1890	**W**	**0.48181**	**ppm**	**0.0014660**	**0.30435**
B_2089		4.7797	ppm	0.0077860	0.16289
Ba4554	**W**	**0.50563**	**ppm**	**0.000025000**	**0.0048700**
Be3130		0.25474	ppm	0.00095300	0.37402
Ca3179		25.704	ppm	0.083236	0.32383
Cd2144	**W**	**0.24214**	**ppm**	**0.00040000**	**0.16501**
Co2286		0.23946	ppm	0.00026500	0.11073
Cr2677	**W**	**0.24928**	**ppm**	**0.00086100**	**0.34543**
Cu3247		0.23730	ppm	0.00054300	0.22904
Fe2599		5.2224	ppm	0.0079030	0.15133
K_7664		24.820	ppm	0.072355	0.29152
Mg2790		24.855	ppm	0.030341	0.12207
Mn2576		0.24919	ppm	0.00044300	0.17762
Mo2020		0.24202	ppm	0.00049400	0.20416
Na5895		24.786	ppm	0.025072	0.10116
Ni2316		0.23934	ppm	0.0000030000	0.0013780
P_1782		4.9793	ppm	0.015031	0.30188
Pb2203	**W**	**0.24755**	**ppm**	**0.0017960**	**0.72545**
S_1820	**F**	**4.8976**	**ppm**	**0.011423**	**0.23323**
Sb2068		0.44054	ppm	0.0012210	0.27719
Se1960	**W**	**0.50013**	**ppm**	**0.00073100**	**0.14613**
Si2881	**W**	**4.9178**	**ppm**	**0.00078200**	**0.015906**
Sn1899		0.49339	ppm	0.00090700	0.18375
Sr4077		0.25175	ppm	0.000091000	0.036089
Ti3349	**W**	**0.24413**	**ppm**	**0.00026100**	**0.10702**

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

LCS 320-336869/2-A

Acquire Date: 11/12/2019 10:19:39AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		0.48423	ppm	0.0015910	0.32859
V_2924		0.25090	ppm	0.0018200	0.72544
Zn2062		0.49568	ppm	0.00052900	0.10680
Y_2243		7,772.0	Cts/S	0.52770	0.0067900
Y_3600		57,897	Cts/S	83.211	0.14372
Y_3774		6,943.3	Cts/S	51.630	0.74360

MB 320-336870/1-A

Acquire Date: 11/12/2019 10:23:24AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00071000	ppm	0.00039700	55.831
Al3961		0.00094700	ppm	0.012923	1,365.1
As1890		-0.00066800	ppm	0.00052300	78.305
B_2089		0.020647	ppm	0.0010560	5.1157
Ba4554		-0.00023100	ppm	0.00020800	90.111
Be3130		0.000062000	ppm	0.000017000	27.246
Ca3179		0.0023870	ppm	0.00011900	4.9885
Cd2144		0.000043000	ppm	0.000050000	114.27
Co2286		-0.00053900	ppm	0.00022300	41.427
Cr2677		-0.00050300	ppm	0.000082000	16.227
Cu3247		0.0020320	ppm	0.0000060000	0.31799
Fe2599		-0.023325	ppm	0.011032	47.299
K_7664		-0.0032110	ppm	0.017795	554.13
Mg2790		0.0072400	ppm	0.0068460	94.553
Mn2576		-0.00067300	ppm	0.000061000	9.0870
Mo2020		-0.00018400	ppm	0.00017500	95.541
Na5895		0.070333	ppm	0.0016900	2.4033
Ni2316		-0.00058300	ppm	0.00042900	73.633
P_1782		0.0013830	ppm	0.00071000	51.373
Pb2203		-0.00094800	ppm	0.000039000	4.1229
S_1820		-0.0031920	ppm	0.00027800	8.7175
Sb2068		0.00098800	ppm	0.0013490	136.53
Se1960		0.0018620	ppm	0.00097400	52.297
Si2881		0.0099500	ppm	0.0074190	74.561
Sn1899		0.00021500	ppm	0.00029100	135.37
Sr4077		0.000094000	ppm	0.000082000	87.446
Ti3349		0.000047000	ppm	0.000075000	158.05
Tl1908		0.00087000	ppm	0.00072500	83.381
V_2924		0.00042900	ppm	0.000037000	8.6517
Zn2062		-0.0023370	ppm	0.000093000	3.9825
Y_2243		7,832.2	Cts/S	8.2241	0.10500
Y_3600		58,765	Cts/S	360.47	0.61342
Y_3774		6,857.9	Cts/S	45.160	0.65851

LCS 320-336870/2-A

Acquire Date: 11/12/2019 10:27:22AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.048228	ppm	0.000055000	0.11405
Al3961		4.9420	ppm	0.0080080	0.16204
As1890	**W**	**0.48418**	**ppm**	**0.0018330**	**0.37849**
B_2089		4.7522	ppm	0.0067950	0.14298
Ba4554	**W**	**0.50765**	**ppm**	**0.00086100**	**0.16964**
Be3130		0.25540	ppm	0.00016400	0.064074
Ca3179		25.797	ppm	0.047561	0.18437
Cd2144	**W**	**0.24161**	**ppm**	**0.00015600**	**0.064609**
Co2286		0.23891	ppm	0.00036700	0.15355
Cr2677	**W**	**0.24868**	**ppm**	**0.00090300**	**0.36295**
Cu3247		0.23618	ppm	0.00080600	0.34106
Fe2599		5.1924	ppm	0.014375	0.27685
K_7664		24.732	ppm	0.11893	0.48087
Mg2790		24.789	ppm	0.014735	0.059442
Mn2576		0.25033	ppm	0.00035600	0.14203
Mo2020		0.24088	ppm	0.00064000	0.26568
Na5895		24.727	ppm	0.080085	0.32388
Ni2316		0.23868	ppm	0.00071900	0.30122
P_1782		4.9440	ppm	0.0013600	0.027498
Pb2203	**W**	**0.24610**	**ppm**	**0.00052400**	**0.21307**
S_1820	**F**	**4.8822**	**ppm**	**0.0010400**	**0.021306**
Sb2068		0.44080	ppm	0.00066100	0.14992
Se1960	**W**	**0.49638**	**ppm**	**0.00080300**	**0.16178**
Si2881	**W**	**4.8882**	**ppm**	**0.039521**	**0.80850**
Sn1899		0.48936	ppm	0.00014600	0.029781
Sr4077		0.25309	ppm	0.00059300	0.23444
Ti3349	**W**	**0.24340**	**ppm**	**0.000052000**	**0.021245**
Tl1908		0.48144	ppm	0.0011430	0.23751
V_2924		0.25157	ppm	0.00038300	0.15207
Zn2062		0.49371	ppm	0.0013650	0.27653
Y_2243		7,804.8	Cts/S	0.51554	0.0066050
Y_3600		58,036	Cts/S	364.13	0.62742
Y_3774		7,043.9	Cts/S	33.331	0.47319

320-55853-G-1-B@10

Acquire Date: 11/12/2019 10:31:08AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.000044000	ppm	0.0011420	2,567.8
Al3961		-0.012653	ppm	0.0096980	76.640
As1890		-0.00053000	ppm	0.0010130	191.12
B_2089		0.57453	ppm	0.00015100	0.026319
Ba4554		0.0016480	ppm	0.00036400	22.063
Be3130		0.000020000	ppm	0.00018200	926.45
Ca3179		11.814	ppm	0.023253	0.19684
Cd2144		0.000098000	ppm	0.000021000	21.714
Co2286		-0.00028500	ppm	0.00014700	51.422

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-55853-G-1-B@10

Acquire Date: 11/12/2019 10:31:08AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.000052000	ppm	0.0015320	2,965.3
Cu3247		0.0026940	ppm	0.00056900	21.142
Fe2599		0.035123	ppm	0.0081590	23.229
K_7664		1.7027	ppm	0.012292	0.72190
Mg2790		5.3647	ppm	0.0070310	0.13106
Mn2576		0.0045370	ppm	0.000060000	1.3270
Mo2020		0.020301	ppm	0.00053100	2.6163
Na5895		124.96	ppm	0.12315	0.098548
Ni2316		0.00012600	ppm	0.000076000	60.074
P_1782		0.039743	ppm	0.0037950	9.5487
Pb2203		-0.0021700	ppm	0.0015230	70.177
S_1820		31.753	ppm	0.17966	0.56579
Sb2068		-0.00052100	ppm	0.0023850	457.82
Se1960		-0.0016100	ppm	0.00030100	18.723
Si2881		1.8186	ppm	0.0089350	0.49133
Sn1899		0.00023900	ppm	0.00023200	96.941
Sr4077		0.36805	ppm	0.00083200	0.22607
Ti3349		0.00012100	ppm	0.00018800	155.10
Tl1908		0.0019240	ppm	0.00093300	48.511
V_2924		0.0031960	ppm	0.00055800	17.465
Zn2062		0.0011610	ppm	0.000078000	6.6842
Y_2243		7,592.8	Cts/S	219.98	2.8972
Y_3600		55,210	Cts/S	233.78	0.42344
Y_3774		6,999.2	Cts/S	20.651	0.29505

SD 320-55853-G-1B@50

Acquire Date: 11/12/2019 10:35:04AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00087600	ppm	0.00012700	14.455
Al3961		0.0095950	ppm	0.012240	127.57
As1890		-0.0014760	ppm	0.00027800	18.819
B_2089		0.12083	ppm	0.00072900	0.60294
Ba4554		-0.00020000	ppm	0.00046900	234.66
Be3130		-0.00027400	ppm	0.000043000	15.836
Ca3179		2.3753	ppm	0.0013910	0.058574
Cd2144		0.000023000	ppm	0.000038000	167.47
Co2286		-0.00031700	ppm	0.000070000	22.054
Cr2677		0.000036000	ppm	0.00037200	1,040.9
Cu3247		0.0026340	ppm	0.0011940	45.339
Fe2599		0.019796	ppm	0.011291	57.036
K_7664		0.34768	ppm	0.020033	5.7619
Mg2790		1.0840	ppm	0.0015150	0.13974
Mn2576		0.00047400	ppm	0.000047000	9.9830
Mo2020		0.0038470	ppm	0.00052300	13.592
Na5895		24.960	ppm	0.0092740	0.037155
Ni2316		-0.00062500	ppm	0.0011460	183.40

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

SD 320-55853-G-1B@50

Acquire Date: 11/12/2019 10:35:04AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		0.0073680	ppm	0.00055400	7.5150
Pb2203		0.00048600	ppm	0.0011740	241.40
S_1820		6.2672	ppm	0.026578	0.42408
Sb2068		0.000085000	ppm	0.0024830	2,925.0
Se1960		-0.0023130	ppm	0.0046890	202.72
Si2881		0.38565	ppm	0.027127	7.0342
Sn1899		0.000045000	ppm	0.00027300	612.53
Sr4077		0.074290	ppm	0.00040400	0.54447
Ti3349		0.00067600	ppm	0.00092000	136.06
Tl1908		-0.00021700	ppm	0.000083000	38.498
V_2924		0.00087700	ppm	0.00017300	19.678
Zn2062		-0.0020630	ppm	0.00054800	26.568
Y_2243		7,806.4	Cts/S	31.803	0.40740
Y_3600		59,089	Cts/S	54.521	0.092269
Y_3774		7,018.7	Cts/S	62.703	0.89337

PDS 320-55853-G1B@10

Acquire Date: 11/12/2019 10:38:59AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.10293	ppm	0.00099300	0.96483
Al3961		10.324	ppm	0.013082	0.12671
As1890		0.10322	ppm	0.0027990	2.7113
B_2089		1.5417	ppm	0.0033910	0.21998
Ba4554		0.10923	ppm	0.00094600	0.86634
Be3130		0.053454	ppm	0.00010900	0.20373
Ca3179		22.588	ppm	0.021909	0.096996
Cd2144		0.10215	ppm	0.000065000	0.063984
Co2286		0.10287	ppm	0.00042800	0.41597
Cr2677		0.10419	ppm	0.00073000	0.70070
Cu3247		0.10486	ppm	0.00020900	0.19926
Fe2599		4.3312	ppm	0.019308	0.44580
K_7664		12.285	ppm	0.053064	0.43195
Mg2790		15.579	ppm	0.0073200	0.046990
Mn2576		0.11054	ppm	0.00016900	0.15274
Mo2020		0.11972	ppm	0.00014200	0.11825
Na5895		136.16	ppm	0.20221	0.14851
Ni2316		0.10271	ppm	0.00065900	0.64119
P_1782		1.0625	ppm	0.00095000	0.089429
Pb2203		0.10255	ppm	0.0029510	2.8776
S_1820		33.949	ppm	0.12804	0.37716
Sb2068		0.091315	ppm	0.00022800	0.25002
Se1960		0.10786	ppm	0.0050470	4.6796
Si2881		3.0317	ppm	0.0052630	0.17361
Sn1899		0.10237	ppm	0.00043000	0.42028
Sr4077		0.47942	ppm	0.00036200	0.075532
Ti3349		0.10148	ppm	0.00066800	0.65864

PDS 320-55853-G1B@10

Acquire Date: 11/12/2019 10:38:59AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		0.093996	ppm	0.00049700	0.52841
V_2924		0.11073	ppm	0.00011200	0.10127
Zn2062		0.10530	ppm	0.00056500	0.53700
Y_2243		7,649.7	Cts/S	107.83	1.4096
Y_3600		56,962	Cts/S	141.96	0.24922
Y_3774		6,869.0	Cts/S	167.60	2.4399

CCV 1796754

Acquire Date: 11/12/2019 10:42:48AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.50087	ppm	0.00049000	0.097903	.50000	Rel(%)	Pass	
Al3961		25.593	ppm	0.074293	0.29029	25.000	Rel(%)	Pass	
As1890		0.52077	ppm	0.0027760	0.53309	.50000	Rel(%)	Pass	
B_2089		1.0345	ppm	0.0011980	0.11580	1.0000	Rel(%)	Pass	
Ba4554		2.6621	ppm	0.0089990	0.33804	2.5000	Rel(%)	Pass	
Be3130		0.53667	ppm	0.0018290	0.34074	.50000	Rel(%)	Pass	
Ca3179		26.781	ppm	0.055975	0.20901	25.000	Rel(%)	Pass	
Cd2144		0.50095	ppm	0.00033300	0.066379	.50000	Rel(%)	Pass	
Co2286		2.5535	ppm	0.00026200	0.010257	2.5000	Rel(%)	Pass	
Cr2677		2.5770	ppm	0.0042520	0.16500	2.5000	Rel(%)	Pass	
Cu3247		2.4556	ppm	0.0023980	0.097668	2.5000	Rel(%)	Pass	
Fe2599		26.984	ppm	0.023071	0.085497	25.000	Rel(%)	Pass	
K_7664		25.764	ppm	0.061071	0.23704	25.000	Rel(%)	Pass	
Mg2790		25.668	ppm	0.067020	0.26110	25.000	Rel(%)	Pass	
Mn2576		2.5826	ppm	0.0018120	0.070171	2.5000	Rel(%)	Pass	
Mo2020		1.0018	ppm	0.00077300	0.077111	1.0000	Rel(%)	Pass	
Na5895		25.421	ppm	0.048219	0.18968	25.000	Rel(%)	Pass	
Ni2316		2.5567	ppm	0.0023480	0.091853	2.5000	Rel(%)	Pass	
P_1782		2.4849	ppm	0.0040060	0.16123	2.5000	Rel(%)	Pass	
Pb2203		0.51654	ppm	0.0026540	0.51379	.50000	Rel(%)	Pass	
S_1820		2.5150	ppm	0.011454	0.45541	2.5000	Rel(%)	Pass	
Sb2068		0.51647	ppm	0.00011100	0.021533	.50000	Rel(%)	Pass	
Se1960		0.52261	ppm	0.0016050	0.30717	.50000	Rel(%)	Pass	
Si2881		2.5729	ppm	0.045277	1.7598	2.5000	Rel(%)	Pass	
Sn1899		2.5029	ppm	0.0039730	0.15874	2.5000	Rel(%)	Pass	
Sr4077		2.6554	ppm	0.0089870	0.33843	2.5000	Rel(%)	Pass	
Ti3349		1.0025	ppm	0.0026850	0.26781	1.0000	Rel(%)	Pass	
Tl1908		0.49129	ppm	0.0013420	0.27317	.50000	Rel(%)	Pass	
V_2924		2.6114	ppm	0.0035960	0.13771	2.5000	Rel(%)	Pass	
Zn2062		2.5836	ppm	0.0054380	0.21047	2.5000	Rel(%)	Pass	
Y_2243		7,772.0	Cts/S	14.125	0.18175				
Y_3600		58,222	Cts/S	30.764	0.052839				
Y_3774		7,042.6	Cts/S	25.653	0.36426				

CCB 1745955

Acquire Date: 11/12/2019 10:46:33AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00061500	ppm	0.00031200	50.709	.00000	Abs	Pass	
Al3961		0.0040160	ppm	0.026477	659.32	.00000	Abs	Pass	
As1890		-0.00024600	ppm	0.0018380	745.83	.00000	Abs	Pass	
B_2089		0.0096730	ppm	0.00087900	9.0884	.00000	Abs	Pass	
Ba4554		0.00083800	ppm	0.00052600	62.691	.00000	Abs	Pass	
Be3130		0.00036700	ppm	0.00020200	55.008	.00000	Abs	Pass	
Ca3179		0.0069770	ppm	0.00047600	6.8287	.00000	Abs	Pass	
Cd2144		-0.00011000	ppm	0.000041000	37.222	.00000	Abs	Pass	
Co2286		0.00030600	ppm	0.00019700	64.411	.00000	Abs	Pass	
Cr2677		0.00021000	ppm	0.00037900	180.49	.00000	Abs	Pass	
Cu3247		0.0026700	ppm	0.00090700	33.979	.00000	Abs	Pass	
Fe2599		-0.00094800	ppm	0.00086600	91.310	.00000	Abs	Pass	
K_7664		0.10195	ppm	0.018760	18.402	.00000	Abs	Pass	
Mg2790		0.0050540	ppm	0.0050670	100.26	.00000	Abs	Pass	
Mn2576		0.000013000	ppm	0.00018000	1,422.3	.00000	Abs	Pass	
Mo2020		0.000010000	ppm	0.000038000	390.82	.00000	Abs	Pass	
Na5895		0.038633	ppm	0.0099560	25.771	.00000	Abs	Pass	
Ni2316		0.00046100	ppm	0.00039100	84.897	.00000	Abs	Pass	
P_1782		-0.0015130	ppm	0.000020000	1.3247	.00000	Abs	Pass	
Pb2203		0.00040800	ppm	0.0010860	266.09	.00000	Abs	Pass	
S_1820		-0.0025090	ppm	0.0015890	63.320	.00000	Abs	Pass	
Sb2068		0.0028590	ppm	0.00089200	31.198	.00000	Abs	Pass	
Se1960		-0.0023520	ppm	0.0033850	143.92	.00000	Abs	Pass	
Si2881		0.042821	ppm	0.026010	60.741	.00000	Abs	Pass	
Sn1899		0.00035400	ppm	0.00075500	212.92	.00000	Abs	Pass	
Sr4077		0.00076600	ppm	0.000032000	4.1950	.00000	Abs	Pass	
Ti3349		0.00027800	ppm	0.0010540	379.87	.00000	Abs	Pass	
Tl1908		0.0017220	ppm	0.0028100	163.14	.00000	Abs	Pass	
V_2924		0.000017000	ppm	0.00041200	2,435.7	.00000	Abs	Pass	
Zn2062		-0.00037600	ppm	0.000086000	22.745	.00000	Abs	Pass	
Y_2243		7,848.3	Cts/S	33.353	0.42497				
Y_3600		59,988	Cts/S	180.56	0.30099				
Y_3774		6,945.4	Cts/S	19.356	0.27869				

320-55853-G-1C MS@10

Acquire Date: 11/12/2019 10:50:31AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0056470	ppm	0.00039400	6.9853
Al3961		0.51819	ppm	0.0030590	0.59039
As1890		0.050067	ppm	0.00068300	1.3646
B_2089		1.0478	ppm	0.0024200	0.23100
Ba4554		0.055702	ppm	0.00045500	0.81750
Be3130		0.027401	ppm	0.00022800	0.83112
Ca3179		14.710	ppm	0.027131	0.18444
Cd2144		0.025701	ppm	0.000049000	0.19025
Co2286		0.026256	ppm	0.00037200	1.4181
Cr2677		0.029615	ppm	0.0028480	9.6154

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-55853-G-1C MS@10

Acquire Date: 11/12/2019 10:50:31AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Cu3247		0.030608	ppm	0.0024620	8.0434
Fe2599		0.54128	ppm	0.0088320	1.6317
K_7664		4.4055	ppm	0.055680	1.2639
Mg2790		7.9781	ppm	0.016652	0.20873
Mn2576		0.031756	ppm	0.0019040	5.9971
Mo2020		0.045532	ppm	0.00013000	0.28491
Na5895		129.04	ppm	0.16137	0.12506
Ni2316		0.026307	ppm	0.00010100	0.38510
P_1782		0.56068	ppm	0.00023600	0.042049
Pb2203		0.025352	ppm	0.00065300	2.5774
S_1820		32.466	ppm	0.049978	0.15394
Sb2068		0.045108	ppm	0.00067200	1.4900
Se1960		0.053065	ppm	0.0012920	2.4342
Si2881		2.4841	ppm	0.022967	0.92458
Sn1899		0.053574	ppm	0.00053400	0.99646
Sr4077		0.40111	ppm	0.000058000	0.014454
Ti3349		0.026317	ppm	0.00082700	3.1443
Tl1908		0.049821	ppm	0.00078800	1.5820
V_2924		0.031127	ppm	0.0024460	7.8572
Zn2062		0.054572	ppm	0.0023530	4.3113
Y_2243		7,564.7	Cts/S	15.513	0.20507
Y_3600		55,926	Cts/S	90.518	0.16186
Y_3774		6,734.7	Cts/S	118.99	1.7668

320-55853-G1D MSD@10

Acquire Date: 11/12/2019 10:54:23AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0039030	ppm	0.00059600	15.270
Al3961		0.54020	ppm	0.028871	5.3446
As1890		0.052543	ppm	0.0022490	4.2811
B_2089		1.0423	ppm	0.00013900	0.013341
Ba4554		0.055582	ppm	0.00011700	0.21002
Be3130		0.027355	ppm	0.00044000	1.6079
Ca3179		14.584	ppm	0.024463	0.16774
Cd2144		0.025766	ppm	0.000012000	0.044912
Co2286		0.025920	ppm	0.00018300	0.70690
Cr2677		0.026488	ppm	0.00021800	0.82218
Cu3247		0.028230	ppm	0.00091900	3.2556
Fe2599		0.55029	ppm	0.0064230	1.1671
K_7664		4.3660	ppm	0.0037380	0.085607
Mg2790		7.9173	ppm	0.0033350	0.042120
Mn2576		0.030579	ppm	0.000055000	0.17997
Mo2020		0.045066	ppm	0.00026800	0.59370
Na5895		127.49	ppm	0.069042	0.054157
Ni2316		0.026464	ppm	0.00030100	1.1385
P_1782		0.56257	ppm	0.00018300	0.032520

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-55853-G1D MSD@10

Acquire Date: 11/12/2019 10:54:23AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Pb2203		0.025284	ppm	0.0029380	11.621
S_1820		32.134	ppm	0.031430	0.097808
Sb2068		0.045321	ppm	0.0024760	5.4627
Se1960		0.056419	ppm	0.0030380	5.3847
Si2881		2.4187	ppm	0.018224	0.75347
Sn1899		0.052459	ppm	0.00015100	0.28811
Sr4077		0.39696	ppm	0.00057900	0.14585
Ti3349		0.024627	ppm	0.0000020000	0.0082590
Tl1908		0.048047	ppm	0.0012970	2.6990
V_2924		0.029330	ppm	0.00053000	1.8074
Zn2062		0.053346	ppm	0.00013800	0.25943
Y_2243		7,597.2	Cts/S	0.25962	0.0034170
Y_3600		56,501	Cts/S	151.71	0.26851
Y_3774		6,825.4	Cts/S	22.528	0.33006

320-55853-G-2-B@10

Acquire Date: 11/12/2019 10:58:16AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00030200	ppm	0.00014500	48.152
Al3961		-0.0065190	ppm	0.025986	398.64
As1890		-0.00086000	ppm	0.00022700	26.387
B_2089		0.36724	ppm	0.00056900	0.15497
Ba4554		0.0014950	ppm	0.00031400	20.971
Be3130		-0.00019900	ppm	0.00016900	84.778
Ca3179		14.982	ppm	0.069615	0.46465
Cd2144		0.000095000	ppm	0.000018000	19.003
Co2286		-0.00026800	ppm	0.00033800	126.32
Cr2677		0.00052600	ppm	0.00019000	36.076
Cu3247		0.0033830	ppm	0.00030900	9.1318
Fe2599		-0.020692	ppm	0.00039300	1.9005
K_7664		1.8416	ppm	0.022163	1.2035
Mg2790		6.2289	ppm	0.0034550	0.055465
Mn2576		-0.00013800	ppm	0.000079000	57.329
Mo2020		0.019797	ppm	0.00015200	0.76896
Na5895		118.84	ppm	0.017054	0.014351
Ni2316		0.000061000	ppm	0.00014100	231.42
P_1782		0.014816	ppm	0.0027380	18.482
Pb2203		0.0010970	ppm	0.00018600	16.940
S_1820		26.751	ppm	0.034582	0.12928
Sb2068		-0.0011740	ppm	0.0029880	254.51
Se1960		0.0010730	ppm	0.0022720	211.67
Si2881		1.1757	ppm	0.021082	1.7931
Sn1899		0.00015500	ppm	0.000082000	52.787
Sr4077		0.43784	ppm	0.00046500	0.10620
Ti3349		-0.00083200	ppm	0.000096000	11.486
Tl1908		0.00043600	ppm	0.00054800	125.82

320-55853-G-2-B@10

Acquire Date: 11/12/2019 10:58:16AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
V_2924		0.0014030	ppm	0.00044900	31.999
Zn2062		-0.0011620	ppm	0.000071000	6.0975
Y_2243		7,702.2	Cts/S	38.809	0.50387
Y_3600		57,029	Cts/S	8.8644	0.015544
Y_3774		6,833.2	Cts/S	45.695	0.66872

320-55853-G-3-B@10

Acquire Date: 11/12/2019 11:02:11AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00057600	ppm	0.00073700	127.97
Al3961		0.0068320	ppm	0.017374	254.30
As1890		-0.00065200	ppm	0.0015800	242.33
B_2089		0.76617	ppm	0.00052800	0.068891
Ba4554		0.0019780	ppm	0.000077000	3.8734
Be3130		-0.00023700	ppm	0.00054500	230.18
Ca3179		96.894	ppm	0.18485	0.19077
Cd2144		0.000045000	ppm	0.000043000	95.405
Co2286		-0.00056100	ppm	0.00010100	18.072
Cr2677		0.00064700	ppm	0.00014400	22.233
Cu3247		0.0031610	ppm	0.00067600	21.372
Fe2599		-0.019531	ppm	0.0031850	16.307
K_7664		4.1942	ppm	0.015550	0.37075
Mg2790		39.782	ppm	0.034183	0.085925
Mn2576		-0.00050200	ppm	0.00014300	28.491
Mo2020		0.0039780	ppm	0.00037400	9.4101
Na5895	**W**	**292.46**	**ppm**	**28.740**	**9.8269**
Ni2316		0.00044200	ppm	0.00021400	48.399
P_1782		0.026786	ppm	0.00028300	1.0558
Pb2203		-0.00082300	ppm	0.00080600	97.919
S_1820		104.66	ppm	0.033701	0.032201
Sb2068		0.00020300	ppm	0.00081500	401.31
Se1960		0.00023200	ppm	0.000043000	18.507
Si2881		1.4507	ppm	0.019104	1.3168
Sn1899		-0.00037900	ppm	0.000040000	10.414
Sr4077		3.1955	ppm	0.0025960	0.081225
Ti3349		-0.0017890	ppm	0.00095000	53.093
Tl1908		-0.00019300	ppm	0.0016510	853.92
V_2924		0.0016420	ppm	0.00021800	13.302
Zn2062		-0.0020280	ppm	0.00072700	35.825
Y_2243		7,402.1	Cts/S	65.698	0.88757
Y_3600		53,841	Cts/S	16.418	0.030493
Y_3774		6,665.4	Cts/S	0.11089	0.0016640

440-253750-A-151-A

Acquire Date: 11/12/2019 11:06:12AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00051300	ppm	0.00014700	28.610
Al3961		184.97	ppm	0.12845	0.069443
As1890		0.033896	ppm	0.0027440	8.0952
B_2089		0.040446	ppm	0.0011570	2.8613
Ba4554		1.4810	ppm	0.0021600	0.14583
Be3130		0.0083380	ppm	0.000053000	0.63369
Ca3179		28.203	ppm	0.026261	0.093114
Cd2144		0.0021330	ppm	0.000010000	0.45728
Co2286		0.11217	ppm	0.00055900	0.49798
Cr2677		0.25005	ppm	0.0013680	0.54706
Cu3247		0.19709	ppm	0.00047300	0.24015
Fe2599		267.96	ppm	0.14924	0.055695
K_7664		32.264	ppm	0.079396	0.24608
Mg2790		47.495	ppm	0.090343	0.19022
Mn2576		8.0809	ppm	0.012098	0.14971
Mo2020		0.0084770	ppm	0.00026800	3.1625
Na5895		4.3638	ppm	0.038077	0.87255
Ni2316		0.15606	ppm	0.00037100	0.23805
P_1782		3.4899	ppm	0.0024560	0.070368
Pb2203		0.13014	ppm	0.0015990	1.2288
S_1820		0.32338	ppm	0.0030890	0.95509
Sb2068		0.0069630	ppm	0.00095500	13.722
Se1960		0.011091	ppm	0.0031870	28.737
Si2881		0.80057	ppm	0.052370	6.5416
Sn1899		0.025510	ppm	0.00013300	0.52059
Sr4077		0.37274	ppm	0.000079000	0.021076
Ti3349	**W**	**11.701**	**ppm**	**0.028177**	**0.24081**
Tl1908		-0.0070500	ppm	0.0021220	30.099
V_2924		0.54038	ppm	0.000068000	0.012618
Zn2062		0.60728	ppm	0.0028020	0.46136
Y_2243		7,972.3	Cts/S	82.156	1.0305
Y_3600		57,944	Cts/S	80.735	0.13933
Y_3774		7,090.0	Cts/S	148.32	2.0919

440-253750-A-152-A

Acquire Date: 11/12/2019 11:10:07AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00067500	ppm	0.0010930	161.80
Al3961		132.49	ppm	0.051747	0.039058
As1890		0.061606	ppm	0.00028700	0.46631
B_2089		0.044434	ppm	0.0010080	2.2678
Ba4554		2.4017	ppm	0.00044600	0.018575
Be3130		0.0057520	ppm	0.000013000	0.22943
Ca3179		39.997	ppm	0.017379	0.043451
Cd2144		0.0097700	ppm	0.000077000	0.78739
Co2286		0.086657	ppm	0.00014600	0.16853

440-253750-A-152-A

Acquire Date: 11/12/2019 11:10:07AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.22074	ppm	0.00032800	0.14874
Cu3247		0.39371	ppm	0.0013280	0.33732
Fe2599		201.19	ppm	0.19788	0.098355
K_7664		29.499	ppm	0.030493	0.10337
Mg2790		37.594	ppm	0.086251	0.22943
Mn2576		6.2347	ppm	0.010118	0.16229
Mo2020		0.0094130	ppm	0.00018600	1.9784
Na5895		1.6277	ppm	0.00034600	0.021235
Ni2316		0.15054	ppm	0.00064700	0.43011
P_1782		8.9106	ppm	0.017993	0.20193
Pb2203		2.1439	ppm	0.0013600	0.063446
S_1820		2.7490	ppm	0.0099400	0.36159
Sb2068		0.010065	ppm	0.00065600	6.5161
Se1960		0.0097420	ppm	0.00074800	7.6765
Si2881		1.3343	ppm	0.011320	0.84837
Sn1899		0.14257	ppm	0.00016000	0.11230
Sr4077		0.51939	ppm	0.00052900	0.10183
Ti3349	**W**	**8.5480**	**ppm**	**0.014383**	**0.16826**
Tl1908		-0.0050140	ppm	0.00099100	19.772
V_2924		0.40345	ppm	0.00094800	0.23502
Zn2062		2.8139	ppm	0.0076190	0.27077
Y_2243		7,966.8	Cts/S	39.156	0.49149
Y_3600		58,554	Cts/S	163.14	0.27862
Y_3774		7,232.4	Cts/S	7.3762	0.10199

SD440-253750-A152A@5

Acquire Date: 11/12/2019 11:13:56AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00059300	ppm	0.00031400	52.981
Al3961		27.317	ppm	0.066419	0.24314
As1890		0.010383	ppm	0.0016550	15.936
B_2089		0.0095160	ppm	0.00037600	3.9503
Ba4554		0.49035	ppm	0.0020130	0.41059
Be3130		0.0010620	ppm	0.00014700	13.840
Ca3179		8.2476	ppm	0.052084	0.63151
Cd2144		0.0018430	ppm	0.0000020000	0.092273
Co2286		0.018540	ppm	0.00032300	1.7445
Cr2677		0.045543	ppm	0.00042000	0.92122
Cu3247		0.083891	ppm	0.00039900	0.47569
Fe2599		42.075	ppm	0.061644	0.14651
K_7664		5.9953	ppm	0.055165	0.92015
Mg2790		7.8327	ppm	0.0040230	0.051363
Mn2576		1.2968	ppm	0.0015920	0.12280
Mo2020		0.0018610	ppm	0.0000070000	0.38213
Na5895		0.35797	ppm	0.0030730	0.85836
Ni2316		0.031742	ppm	0.00011800	0.37062

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

SD440-253750-A152A@5

Acquire Date: 11/12/2019 11:13:56AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		1.8553	ppm	0.0019080	0.10282
Pb2203		0.45313	ppm	0.00030300	0.066879
S_1820		0.57139	ppm	0.0029020	0.50798
Sb2068		0.0028510	ppm	0.00078000	27.370
Se1960		-0.0016050	ppm	0.00058000	36.170
Si2881		0.31531	ppm	0.015114	4.7933
Sn1899		0.029370	ppm	0.00060600	2.0624
Sr4077		0.10655	ppm	0.00058500	0.54946
Ti3349		1.7315	ppm	0.00021800	0.012610
Tl1908		-0.0014940	ppm	0.0027620	184.86
V_2924		0.082651	ppm	0.00018100	0.21916
Zn2062		0.59829	ppm	0.0011610	0.19402
Y_2243		7,697.4	Cts/S	18.148	0.23577
Y_3600		57,635	Cts/S	217.13	0.37674
Y_3774		6,847.5	Cts/S	11.782	0.17206

PDS440-253750-A-152A

Acquire Date: 11/12/2019 11:17:48AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.10370	ppm	0.00068900	0.66441
Al3961		136.42	ppm	0.32407	0.23755
As1890		0.15679	ppm	0.0044220	2.8206
B_2089		0.97170	ppm	0.0011180	0.11505
Ba4554		2.3846	ppm	0.0057990	0.24318
Be3130		0.057643	ppm	0.000026000	0.044800
Ca3179		48.153	ppm	0.038534	0.080024
Cd2144		0.10654	ppm	0.000041000	0.038479
Co2286		0.18289	ppm	0.000060000	0.032698
Cr2677		0.31384	ppm	0.00029000	0.092323
Cu3247		0.47797	ppm	0.00018800	0.039338
Fe2599		195.68	ppm	0.23734	0.12129
K_7664		38.384	ppm	0.14752	0.38434
Mg2790		45.850	ppm	0.0042930	0.0093630
Mn2576		6.0289	ppm	0.0050420	0.083624
Mo2020		0.10492	ppm	0.00035700	0.34027
Na5895		11.802	ppm	0.0063010	0.053390
Ni2316		0.24267	ppm	0.00017400	0.071809
P_1782		9.5193	ppm	0.0069380	0.072885
Pb2203		2.1381	ppm	0.0016820	0.078654
S_1820		4.5503	ppm	0.014285	0.31394
Sb2068		0.097855	ppm	0.0013150	1.3438
Se1960		0.10293	ppm	0.00012200	0.11868
Si2881		2.2215	ppm	0.025779	1.1604
Sn1899		0.23604	ppm	0.0011800	0.49999
Sr4077		0.59826	ppm	0.00048400	0.080889
Ti3349	**W**	**8.3012**	**ppm**	**0.0052870**	**0.063687**

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

PDS440-253750-A-152A

Acquire Date: 11/12/2019 11:17:48AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		0.091257	ppm	0.0011890	1.3033
V_2924		0.48874	ppm	0.00021900	0.044755
Zn2062		2.7769	ppm	0.0026120	0.094074
Y_2243		7,863.2	Cts/S	28.624	0.36403
Y_3600		57,915	Cts/S	404.60	0.69861
Y_3774		7,192.7	Cts/S	15.344	0.21333

440-253750-A-152-B M

Acquire Date: 11/12/2019 11:21:33AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.046046	ppm	0.00083900	1.8212
Al3961		196.45	ppm	2.7013	1.3751
As1890		0.49905	ppm	0.00053300	0.10677
B_2089		3.9179	ppm	0.0056410	0.14399
Ba4554		3.0609	ppm	0.042373	1.3843
Be3130		0.24649	ppm	0.0036650	1.4867
Ca3179		68.518	ppm	0.98203	1.4332
Cd2144		0.22771	ppm	0.00012400	0.054660
Co2286		0.31390	ppm	0.00059100	0.18818
Cr2677		0.48186	ppm	0.00040000	0.082952
Cu3247		0.63755	ppm	0.0014150	0.22200
Fe2599		228.88	ppm	2.8638	1.2512
K_7664		56.559	ppm	0.69950	1.2368
Mg2790		64.570	ppm	0.042379	0.065633
Mn2576		6.8355	ppm	0.00047000	0.0068710
Mo2020		0.21979	ppm	0.00073500	0.33430
Na5895		25.335	ppm	0.30822	1.2166
Ni2316		0.39583	ppm	0.00077800	0.19668
P_1782		13.969	ppm	0.034225	0.24500
Pb2203		2.4429	ppm	0.0021750	0.089039
S_1820		7.1264	ppm	0.0073950	0.10378
Sb2068		0.13928	ppm	0.0010580	0.75941
Se1960		0.43585	ppm	0.0040790	0.93575
Si2881		3.7019	ppm	0.053604	1.4480
Sn1899		0.55690	ppm	0.00026400	0.047431
Sr4077		0.80740	ppm	0.010912	1.3515
Ti3349	**W**	**10.974**	**ppm**	**0.011237**	**0.10240**
Tl1908		0.41718	ppm	0.0023490	0.56307
V_2924		0.68886	ppm	0.0012130	0.17614
Zn2062		3.4173	ppm	0.0021320	0.062400
Y_2243		7,741.1	Cts/S	11.200	0.14469
Y_3600		56,596	Cts/S	257.91	0.45570
Y_3774		7,079.7	Cts/S	44.092	0.62279

440-253750-A-152-C M

Acquire Date: 11/12/2019 11:25:17AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.046226	ppm	0.0011410	2.4683
Al3961		191.90	ppm	1.0469	0.54555
As1890		0.49673	ppm	0.0010360	0.20850
B_2089		3.9251	ppm	0.0019810	0.050460
Ba4554		3.0412	ppm	0.013079	0.43005
Be3130		0.24208	ppm	0.00051500	0.21283
Ca3179		73.420	ppm	0.37988	0.51741
Cd2144		0.22952	ppm	0.00029700	0.12956
Co2286		0.31658	ppm	0.00027100	0.085476
Cr2677		0.47682	ppm	0.0022200	0.46562
Cu3247		0.63270	ppm	0.00069600	0.10994
Fe2599		220.81	ppm	1.2654	0.57306
K_7664		55.105	ppm	0.069861	0.12678
Mg2790		65.426	ppm	0.15325	0.23423
Mn2576		6.8914	ppm	0.018717	0.27160
Mo2020		0.22012	ppm	0.00052800	0.23999
Na5895		24.941	ppm	0.049958	0.20030
Ni2316		0.39790	ppm	0.00069700	0.17517
P_1782		14.848	ppm	0.017705	0.11924
Pb2203		2.4635	ppm	0.00093300	0.037869
S_1820		7.3824	ppm	0.0050260	0.068075
Sb2068		0.13849	ppm	0.0021930	1.5833
Se1960		0.43485	ppm	0.0051040	1.1738
Si2881		3.2150	ppm	0.071358	2.2195
Sn1899		0.56034	ppm	0.0013620	0.24301
Sr4077		0.83440	ppm	0.0026400	0.31638
Ti3349	**W**	**10.902**	**ppm**	**0.016790**	**0.15401**
Tl1908		0.41966	ppm	0.00043800	0.10439
V_2924		0.68659	ppm	0.0029420	0.42847
Zn2062		3.5892	ppm	0.010002	0.27867
Y_2243		7,586.0	Cts/S	38.963	0.51362
Y_3600		55,655	Cts/S	26.209	0.047091
Y_3774		7,072.6	Cts/S	99.159	1.4020

CCV 1796754

Acquire Date: 11/12/2019 11:29:01AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.49582	ppm	0.0013050	0.26328	.50000	Rel(%)	Pass	
Al3961		25.893	ppm	0.44650	1.7244	25.000	Rel(%)	Pass	
As1890		0.51696	ppm	0.0033380	0.64568	.50000	Rel(%)	Pass	
B_2089		1.0358	ppm	0.0021830	0.21079	1.0000	Rel(%)	Pass	
Ba4554		2.6831	ppm	0.048640	1.8128	2.5000	Rel(%)	Pass	
Be3130		0.53919	ppm	0.0095060	1.7630	.50000	Rel(%)	Pass	
Ca3179		26.912	ppm	0.45012	1.6725	25.000	Rel(%)	Pass	
Cd2144		0.49994	ppm	0.00027300	0.054651	.50000	Rel(%)	Pass	
Co2286		2.5477	ppm	0.00064800	0.025416	2.5000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCV 1796754

Acquire Date: 11/12/2019 11:29:01AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Cr2677		2.5765	ppm	0.0032490	0.12611	2.5000	Rel(%)	Pass	
Cu3247		2.4345	ppm	0.0038740	0.15913	2.5000	Rel(%)	Pass	
Fe2599		27.250	ppm	0.50351	1.8477	25.000	Rel(%)	Pass	
K_7664		25.956	ppm	0.41310	1.5915	25.000	Rel(%)	Pass	
Mg2790		25.555	ppm	0.032117	0.12568	25.000	Rel(%)	Pass	
Mn2576		2.5730	ppm	0.0072690	0.28251	2.5000	Rel(%)	Pass	
Mo2020		1.0022	ppm	0.0018440	0.18404	1.0000	Rel(%)	Pass	
Na5895		25.638	ppm	0.46077	1.7972	25.000	Rel(%)	Pass	
Ni2316		2.5551	ppm	0.0021380	0.083677	2.5000	Rel(%)	Pass	
P_1782		2.4863	ppm	0.0064530	0.25955	2.5000	Rel(%)	Pass	
Pb2203		0.51620	ppm	0.0029990	0.58089	.50000	Rel(%)	Pass	
S_1820		2.4843	ppm	0.0016780	0.067539	2.5000	Rel(%)	Pass	
Sb2068		0.51353	ppm	0.0037420	0.72872	.50000	Rel(%)	Pass	
Se1960		0.52209	ppm	0.0026550	0.50862	.50000	Rel(%)	Pass	
Si2881		2.5500	ppm	0.086088	3.3760	2.5000	Rel(%)	Pass	
Sn1899		2.4984	ppm	0.00011600	0.0046550	2.5000	Rel(%)	Pass	
Sr4077		2.6765	ppm	0.049837	1.8621	2.5000	Rel(%)	Pass	
Ti3349		1.0017	ppm	0.0026740	0.26700	1.0000	Rel(%)	Pass	
Tl1908		0.49503	ppm	0.0034820	0.70345	.50000	Rel(%)	Pass	
V_2924		2.6075	ppm	0.0059090	0.22664	2.5000	Rel(%)	Pass	
Zn2062		2.5968	ppm	0.0048110	0.18525	2.5000	Rel(%)	Pass	
Y_2243		7,713.9	Cts/S	4.5608	0.059124				
Y_3600		57,666	Cts/S	326.81	0.56673				
Y_3774		6,974.5	Cts/S	139.46	1.9995				

CCB 1745955

Acquire Date: 11/12/2019 11:32:46AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.00097900	ppm	0.00044700	45.621	.00000	Abs	Pass	
Al3961		0.026822	ppm	0.0059120	22.043	.00000	Abs	Pass	
As1890		-0.0018990	ppm	0.0010500	55.298	.00000	Abs	Pass	
B_2089		0.010666	ppm	0.0010550	9.8923	.00000	Abs	Pass	
Ba4554		0.00066900	ppm	0.00048700	72.836	.00000	Abs	Pass	
Be3130		-0.00029300	ppm	0.00038500	131.58	.00000	Abs	Pass	
Ca3179		0.0062200	ppm	0.010817	173.93	.00000	Abs	Pass	
Cd2144		0.000043000	ppm	0.00012200	283.73	.00000	Abs	Pass	
Co2286		-0.00030600	ppm	0.00019400	63.392	.00000	Abs	Pass	
Cr2677		0.0010220	ppm	0.00092200	90.298	.00000	Abs	Pass	
Cu3247		0.0042780	ppm	0.00036100	8.4484	.00000	Abs	Pass	
Fe2599		0.013469	ppm	0.010473	77.755	.00000	Abs	Pass	
K_7664		0.057706	ppm	0.022483	38.961	.00000	Abs	Pass	
Mg2790		0.0020410	ppm	0.0024180	118.48	.00000	Abs	Pass	
Mn2576		0.00038700	ppm	0.000024000	6.2547	.00000	Abs	Pass	
Mo2020		-0.00023100	ppm	0.00010500	45.599	.00000	Abs	Pass	
Na5895		0.047458	ppm	0.0042380	8.9302	.00000	Abs	Pass	
Ni2316		0.000079000	ppm	0.000015000	18.710	.00000	Abs	Pass	
P_1782		0.0011700	ppm	0.00052800	45.111	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCB 1745955

Acquire Date: 11/12/2019 11:32:46AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Pb2203		0.0012320	ppm	0.00051600	41.837	.00000	Abs	Pass	
S_1820		0.0024580	ppm	0.0058890	239.61	.00000	Abs	Pass	
Sb2068		0.00019100	ppm	0.0038700	2,023.2	.00000	Abs	Pass	
Se1960		-0.0021180	ppm	0.00075600	35.683	.00000	Abs	Pass	
Si2881		0.065665	ppm	0.056281	85.709	.00000	Abs	Pass	
Sn1899		0.00044200	ppm	0.00059000	133.37	.00000	Abs	Pass	
Sr4077		0.00019800	ppm	0.000043000	21.734	.00000	Abs	Pass	
Ti3349		0.0011760	ppm	0.00060500	51.459	.00000	Abs	Pass	
Tl1908		0.0017170	ppm	0.0024030	139.95	.00000	Abs	Pass	
V_2924		0.00059100	ppm	0.000072000	12.138	.00000	Abs	Pass	
Zn2062	**W**	**0.0076370**	**ppm**	**0.00014300**	**1.8674**	**.00000**	**Abs**	**Warn High**	**0.00500**
Y_2243		7,860.0	Cts/S	23.709	0.30164				
Y_3600		59,572	Cts/S	168.45	0.28277				
Y_3774		6,958.5	Cts/S	27.581	0.39636				

440-253750-A-153-A

Acquire Date: 11/12/2019 11:36:45AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0010150	ppm	0.00033400	32.945
Al3961		146.94	ppm	0.24919	0.16959
As1890		0.061332	ppm	0.00084200	1.3734
B_2089		0.048025	ppm	0.00085400	1.7773
Ba4554		1.7011	ppm	0.0026710	0.15702
Be3130		0.0067180	ppm	0.000063000	0.93208
Ca3179		27.710	ppm	0.11804	0.42598
Cd2144		0.0044610	ppm	0.000056000	1.2509
Co2286		0.096334	ppm	0.00060400	0.62672
Cr2677		0.21064	ppm	0.00065100	0.30900
Cu3247		0.28164	ppm	0.00026200	0.093030
Fe2599		218.70	ppm	0.36333	0.16613
K_7664		32.804	ppm	0.058658	0.17881
Mg2790		40.313	ppm	0.030756	0.076294
Mn2576		6.9356	ppm	0.060921	0.87838
Mo2020		0.0097010	ppm	0.00048900	5.0365
Na5895		1.7364	ppm	0.0011930	0.068711
Ni2316		0.14724	ppm	0.00030300	0.20595
P_1782		4.7348	ppm	0.0013930	0.029411
Pb2203		0.48473	ppm	0.00020700	0.042696
S_1820		0.82196	ppm	0.0022480	0.27351
Sb2068		0.010433	ppm	0.00059000	5.6525
Se1960		0.010244	ppm	0.00017100	1.6731
Si2881		1.0119	ppm	0.059051	5.8355
Sn1899		0.054416	ppm	0.000071000	0.12961
Sr4077		0.42204	ppm	0.00066500	0.15746
Ti3349	**W**	**9.9902**	**ppm**	**0.0059380**	**0.059440**
Tl1908		-0.0052030	ppm	0.00052600	10.110

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-253750-A-153-A

Acquire Date: 11/12/2019 11:36:45AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
V_2924		0.43997	ppm	0.00047100	0.10709
Zn2062		1.2052	ppm	0.0016290	0.13520
Y_2243		7,983.6	Cts/S	0.15963	0.0019990
Y_3600		59,143	Cts/S	41.436	0.070060
Y_3774		7,239.6	Cts/S	10.421	0.14395

440-253750-A-154-A

Acquire Date: 11/12/2019 11:40:40AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00044700	ppm	0.000042000	9.4983
Al3961		166.95	ppm	1.0023	0.60032
As1890		0.037532	ppm	0.0016480	4.3920
B_2089		0.043716	ppm	0.00033700	0.77013
Ba4554		1.4878	ppm	0.0063120	0.42427
Be3130		0.0073100	ppm	0.00023700	3.2381
Ca3179		23.480	ppm	0.049753	0.21190
Cd2144		0.0022580	ppm	0.0000040000	0.19168
Co2286		0.10003	ppm	0.00026200	0.26192
Cr2677		0.21416	ppm	0.00065700	0.30675
Cu3247		0.20155	ppm	0.000040000	0.019858
Fe2599		232.67	ppm	1.4481	0.62241
K_7664		35.118	ppm	0.070480	0.20069
Mg2790		42.303	ppm	0.016233	0.038372
Mn2576		7.3478	ppm	0.029651	0.40354
Mo2020		0.011343	ppm	0.00053800	4.7465
Na5895		2.0773	ppm	0.019544	0.94084
Ni2316		0.14637	ppm	0.00097900	0.66911
P_1782		3.9012	ppm	0.0058520	0.15002
Pb2203		0.15892	ppm	0.0042180	2.6545
S_1820		0.33142	ppm	0.0088440	2.6685
Sb2068		0.0058240	ppm	0.00054700	9.3856
Se1960		0.0069830	ppm	0.0021090	30.207
Si2881		1.2881	ppm	0.0048250	0.37462
Sn1899		0.037140	ppm	0.00013600	0.36541
Sr4077		0.37623	ppm	0.0017550	0.46642
Ti3349	**W**	**10.991**	**ppm**	**0.014202**	**0.12921**
Tl1908		-0.0072890	ppm	0.0023530	32.275
V_2924		0.46973	ppm	0.00050300	0.10704
Zn2062		0.64070	ppm	0.00090000	0.14050
Y_2243		7,992.8	Cts/S	2.8831	0.036072
Y_3600		58,920	Cts/S	273.01	0.46335
Y_3774		7,297.6	Cts/S	12.603	0.17270

440-253750-A-155-A

Acquire Date: 11/12/2019 11:44:35AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0064020	ppm	0.00079400	12.402
Al3961		168.45	ppm	0.34088	0.20236
As1890		0.14152	ppm	0.0013320	0.94129
B_2089		0.048468	ppm	0.00030700	0.63368
Ba4554		1.6993	ppm	0.0030560	0.17986
Be3130		0.0073500	ppm	0.00015200	2.0695
Ca3179		43.739	ppm	0.10930	0.24990
Cd2144		0.0069930	ppm	0.000039000	0.56369
Co2286		0.098250	ppm	0.000072000	0.073123
Cr2677		0.25772	ppm	0.0060690	2.3549
Cu3247		0.36988	ppm	0.0063940	1.7287
Fe2599		238.52	ppm	0.54147	0.22701
K_7664		34.681	ppm	0.025950	0.074824
Mg2790		44.551	ppm	0.85232	1.9131
Mn2576		6.6736	ppm	0.17021	2.5505
Mo2020		0.010960	ppm	0.000094000	0.85603
Na5895		1.7060	ppm	0.0018010	0.10555
Ni2316		0.16974	ppm	0.0014070	0.82871
P_1782		10.611	ppm	0.040426	0.38099
Pb2203		1.1180	ppm	0.0025710	0.22997
S_1820		3.0311	ppm	0.0091070	0.30044
Sb2068		0.0083790	ppm	0.0027040	32.266
Se1960		0.012514	ppm	0.00040400	3.2305
Si2881		1.3881	ppm	0.017339	1.2491
Sn1899		0.077085	ppm	0.00090200	1.1695
Sr4077		0.56956	ppm	0.000077000	0.013503
Ti3349	**W**	**9.8818**	**ppm**	**0.18039**	**1.8255**
Tl1908		-0.0074850	ppm	0.00013300	1.7723
V_2924		0.48258	ppm	0.0086700	1.7965
Zn2062		1.6677	ppm	0.030401	1.8229
Y_2243		7,960.5	Cts/S	67.381	0.84644
Y_3600		58,690	Cts/S	879.39	1.4984
Y_3774		7,395.3	Cts/S	28.846	0.39006

440-253750-A-156-A

Acquire Date: 11/12/2019 11:48:25AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0012170	ppm	0.00042200	34.706
Al3961		191.04	ppm	1.3397	0.70128
As1890		0.067364	ppm	0.00030900	0.45862
B_2089		0.038341	ppm	0.00022900	0.59603
Ba4554		1.6314	ppm	0.011076	0.67898
Be3130		0.0083260	ppm	0.000054000	0.65359
Ca3179		25.143	ppm	0.16897	0.67202
Cd2144		0.0029260	ppm	0.000060000	2.0610
Co2286		0.10365	ppm	0.00033700	0.32465

440-253750-A-156-A

Acquire Date: 11/12/2019 11:48:25AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.24013	ppm	0.00016500	0.068909
Cu3247		0.21087	ppm	0.00021000	0.099481
Fe2599		252.37	ppm	1.9947	0.79041
K_7664		32.582	ppm	0.15728	0.48273
Mg2790		44.229	ppm	0.088839	0.20086
Mn2576		7.2545	ppm	0.056615	0.78041
Mo2020		0.0079210	ppm	0.00043500	5.4908
Na5895		2.1617	ppm	0.0018340	0.084856
Ni2316		0.15503	ppm	0.00060000	0.38681
P_1782		4.8268	ppm	0.0014110	0.029240
Pb2203		0.25645	ppm	0.0025640	0.99993
S_1820		0.79115	ppm	0.0085410	1.0796
Sb2068		0.0052700	ppm	0.0024100	45.722
Se1960		0.0080030	ppm	0.0028740	35.912
Si2881		0.96631	ppm	0.011980	1.2397
Sn1899		0.031488	ppm	0.00010700	0.33924
Sr4077		0.38756	ppm	0.0026820	0.69211
Ti3349	**W**	**10.280**	**ppm**	**0.012960**	**0.12607**
Tl1908		-0.0079470	ppm	0.00091500	11.510
V_2924		0.51439	ppm	0.0017210	0.33461
Zn2062		0.76067	ppm	0.0013700	0.18011
Y_2243		7,871.6	Cts/S	8.6200	0.10951
Y_3600		57,769	Cts/S	193.87	0.33559
Y_3774		7,163.2	Cts/S	81.565	1.1387

440-253750-A-157-A

Acquire Date: 11/12/2019 11:52:20AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00072700	ppm	0.00047300	65.045
Al3961		275.52	ppm	0.73947	0.26840
As1890		0.047794	ppm	0.00025500	0.53402
B_2089		0.045893	ppm	0.0000070000	0.014677
Ba4554		1.7002	ppm	0.0017170	0.10098
Be3130		0.011325	ppm	0.000067000	0.59455
Ca3179		25.424	ppm	0.041285	0.16239
Cd2144		0.00091900	ppm	0.0000090000	0.97252
Co2286		0.12782	ppm	0.00027000	0.21127
Cr2677		0.29214	ppm	0.0013930	0.47669
Cu3247		0.20692	ppm	0.0015920	0.76931
Fe2599		313.24	ppm	1.0813	0.34518
K_7664		32.939	ppm	0.053303	0.16182
Mg2790		53.226	ppm	0.065683	0.12341
Mn2576		8.7870	ppm	0.060369	0.68703
Mo2020		0.0057790	ppm	0.000031000	0.52924
Na5895		4.3967	ppm	0.013766	0.31310
Ni2316		0.18619	ppm	0.00060200	0.32313

440-253750-A-157-A

Acquire Date: 11/12/2019 11:52:20AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		5.1087	ppm	0.026720	0.52303
Pb2203		0.13600	ppm	0.00091400	0.67239
S_1820		0.53313	ppm	0.00060200	0.11286
Sb2068		0.0079980	ppm	0.0040920	51.164
Se1960		0.012017	ppm	0.0019900	16.563
Si2881		0.99491	ppm	0.019638	1.9739
Sn1899		0.026551	ppm	0.00083500	3.1459
Sr4077		0.42442	ppm	0.00085200	0.20082
Ti3349	**W**	**12.045**	**ppm**	**0.019194**	**0.15935**
Tl1908		-0.0095920	ppm	0.0039190	40.859
V_2924		0.64767	ppm	0.00055900	0.086286
Zn2062		0.69080	ppm	0.00056400	0.081604
Y_2243		8,031.4	Cts/S	7.4785	0.093115
Y_3600		59,399	Cts/S	203.60	0.34276
Y_3774		7,505.6	Cts/S	138.46	1.8448

440-253750-A-158-A

Acquire Date: 11/12/2019 11:56:13AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0013960	ppm	0.00031800	22.818
Al3961		153.58	ppm	0.36305	0.23638
As1890		0.056603	ppm	0.0010660	1.8832
B_2089		0.047569	ppm	0.00044100	0.92700
Ba4554		1.4708	ppm	0.0033630	0.22866
Be3130		0.0065900	ppm	0.000018000	0.27774
Ca3179		40.247	ppm	0.10037	0.24938
Cd2144		0.0057630	ppm	0.000030000	0.52045
Co2286		0.084805	ppm	0.00024500	0.28939
Cr2677		0.24301	ppm	0.00028200	0.11591
Cu3247		0.30786	ppm	0.0013920	0.45214
Fe2599		210.86	ppm	0.32379	0.15356
K_7664		31.025	ppm	0.0053400	0.017211
Mg2790		37.674	ppm	0.0064930	0.017235
Mn2576		5.5673	ppm	0.0018970	0.034067
Mo2020		0.0066490	ppm	0.00039800	5.9855
Na5895		1.8386	ppm	0.011545	0.62792
Ni2316		0.14407	ppm	0.00018700	0.12990
P_1782		6.9013	ppm	0.0036750	0.053249
Pb2203		0.89507	ppm	0.00023200	0.025895
S_1820		2.0313	ppm	0.0027670	0.13621
Sb2068		0.0095530	ppm	0.0010400	10.887
Se1960		0.0077420	ppm	0.0018090	23.368
Si2881		1.0303	ppm	0.025841	2.5081
Sn1899		0.067505	ppm	0.000063000	0.093616
Sr4077		0.39817	ppm	0.0012840	0.32255
Ti3349	**W**	**8.8789**	**ppm**	**0.0021570**	**0.024292**

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-253750-A-158-A

Acquire Date: 11/12/2019 11:56:13AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		-0.0036820	ppm	0.0042300	114.91
V_2924		0.44117	ppm	0.0014780	0.33512
Zn2062		1.2846	ppm	0.0014080	0.10964
Y_2243		7,891.5	Cts/S	10.911	0.13827
Y_3600		58,206	Cts/S	80.160	0.13772
Y_3774		7,200.2	Cts/S	40.569	0.56345

440-253750-A-159-A

Acquire Date: 11/12/2019 12:00:00PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00033600	ppm	0.0011350	337.74
Al3961		229.69	ppm	0.91712	0.39929
As1890		0.040883	ppm	0.0030310	7.4147
B_2089		0.056285	ppm	0.000081000	0.14424
Ba4554		1.5603	ppm	0.0057210	0.36666
Be3130		0.0094310	ppm	0.00050700	5.3717
Ca3179		33.862	ppm	0.093858	0.27718
Cd2144		0.0016150	ppm	0.00011700	7.2573
Co2286		0.11106	ppm	0.00018100	0.16292
Cr2677		0.26880	ppm	0.00053100	0.19744
Cu3247		0.20812	ppm	0.00029800	0.14305
Fe2599		272.21	ppm	1.4100	0.51798
K_7664		36.081	ppm	0.040491	0.11222
Mg2790		47.420	ppm	0.066572	0.14039
Mn2576		7.4125	ppm	0.11720	1.5811
Mo2020		0.010462	ppm	0.000064000	0.60952
Na5895		2.7614	ppm	0.0052440	0.18990
Ni2316		0.16786	ppm	0.00083900	0.50011
P_1782		5.0839	ppm	0.0047340	0.093121
Pb2203		0.22979	ppm	0.0025860	1.1255
S_1820		0.76509	ppm	0.0029260	0.38239
Sb2068		0.0052550	ppm	0.00061900	11.781
Se1960		0.011950	ppm	0.0028090	23.507
Si2881		0.92545	ppm	0.041346	4.4677
Sn1899		0.032701	ppm	0.00085800	2.6240
Sr4077		0.39768	ppm	0.00084400	0.21227
Ti3349	**W**	**10.934**	**ppm**	**0.010383**	**0.094961**
Tl1908		-0.0072230	ppm	0.00096700	13.390
V_2924		0.56367	ppm	0.00081700	0.14499
Zn2062		0.71311	ppm	0.0019020	0.26671
Y_2243		7,797.8	Cts/S	12.425	0.15934
Y_3600		57,294	Cts/S	187.83	0.32784
Y_3774		7,227.6	Cts/S	8.1175	0.11231

440-253750-A-160-A

Acquire Date: 11/12/2019 12:03:53PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00036000	ppm	0.00036200	100.64
Al3961		242.28	ppm	4.8031	1.9824
As1890		0.041031	ppm	0.0017480	4.2604
B_2089		0.063390	ppm	0.00014200	0.22379
Ba4554		1.4209	ppm	0.028000	1.9707
Be3130		0.0096960	ppm	0.000078000	0.80403
Ca3179		29.789	ppm	0.55505	1.8633
Cd2144		0.0012630	ppm	0.0000030000	0.20492
Co2286		0.11590	ppm	0.000050000	0.042744
Cr2677		0.25674	ppm	0.00019400	0.075408
Cu3247		0.19510	ppm	0.00039400	0.20198
Fe2599		273.34	ppm	5.2662	1.9266
K_7664		35.036	ppm	0.74195	2.1177
Mg2790		48.335	ppm	0.030212	0.062506
Mn2576		8.5153	ppm	0.091452	1.0740
Mo2020		0.0065470	ppm	0.00022700	3.4701
Na5895		3.7042	ppm	0.062154	1.6780
Ni2316		0.16553	ppm	0.000011000	0.0066700
P_1782		4.1801	ppm	0.0084370	0.20183
Pb2203		0.19968	ppm	0.0037340	1.8701
S_1820		1.0076	ppm	0.0040940	0.40633
Sb2068		0.0048300	ppm	0.0028900	59.849
Se1960		0.0065330	ppm	0.00079100	12.105
Si2881		0.89826	ppm	0.0020000	0.22262
Sn1899		0.029714	ppm	0.00073100	2.4601
Sr4077		0.37105	ppm	0.0068290	1.8406
Ti3349	**W**	**10.858**	**ppm**	**0.0020590**	**0.018968**
Tl1908		-0.0084540	ppm	0.00015000	1.7781
V_2924		0.58505	ppm	0.00051600	0.088146
Zn2062		0.67060	ppm	0.00089400	0.13335
Y_2243		7,830.4	Cts/S	24.937	0.31846
Y_3600		56,993	Cts/S	497.71	0.87328
Y_3774		7,158.4	Cts/S	98.772	1.3798

440-253750-A-161-A

Acquire Date: 11/12/2019 12:07:47PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00054800	ppm	0.0011930	217.83
Al3961		240.47	ppm	0.60481	0.25151
As1890		0.042248	ppm	0.00039300	0.92943
B_2089		0.062363	ppm	0.00017700	0.28374
Ba4554		1.4586	ppm	0.0023720	0.16264
Be3130		0.010033	ppm	0.000092000	0.91723
Ca3179		29.163	ppm	0.10415	0.35714
Cd2144		0.00088300	ppm	0.000030000	3.4125
Co2286		0.11518	ppm	0.00063400	0.55033

440-253750-A-161-A

Acquire Date: 11/12/2019 12:07:47PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.24737	ppm	0.0022360	0.90384
Cu3247		0.19495	ppm	0.0013820	0.70884
Fe2599		267.10	ppm	0.69422	0.25991
K_7664		34.675	ppm	0.077845	0.22450
Mg2790		47.432	ppm	0.0012520	0.0026390
Mn2576		8.5602	ppm	0.0063620	0.074322
Mo2020		0.0059110	ppm	0.00016100	2.7230
Na5895		3.7610	ppm	0.0076690	0.20390
Ni2316		0.16198	ppm	0.0014550	0.89845
P_1782		3.9515	ppm	0.0025540	0.064626
Pb2203		0.20439	ppm	0.0030920	1.5129
S_1820		1.0012	ppm	0.0034890	0.34850
Sb2068		0.0043050	ppm	0.00045100	10.485
Se1960		0.010065	ppm	0.0019700	19.567
Si2881		0.88276	ppm	0.030971	3.5084
Sn1899		0.027617	ppm	0.00018000	0.65150
Sr4077		0.36875	ppm	0.0010520	0.28527
Ti3349	**W**	**10.770**	**ppm**	**0.0019710**	**0.018303**
Tl1908		-0.0065700	ppm	0.0026000	39.580
V_2924		0.56353	ppm	0.0011190	0.19863
Zn2062		0.64831	ppm	0.0013680	0.21102
Y_2243		7,895.4	Cts/S	16.010	0.20278
Y_3600		57,902	Cts/S	94.146	0.16260
Y_3774		7,197.9	Cts/S	2.9566	0.041075

440-253750-A-162-A

Acquire Date: 11/12/2019 12:11:40PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00050500	ppm	0.00032000	63.306
Al3961		198.54	ppm	0.059243	0.029839
As1890		0.036900	ppm	0.00063300	1.7149
B_2089		0.044378	ppm	0.00070000	1.5765
Ba4554		1.3272	ppm	0.00076600	0.057693
Be3130		0.0082730	ppm	0.00024900	3.0145
Ca3179		23.682	ppm	0.050629	0.21379
Cd2144		0.0021280	ppm	0.000050000	2.3443
Co2286		0.10356	ppm	0.00010300	0.099828
Cr2677		0.23199	ppm	0.00051700	0.22290
Cu3247		0.19701	ppm	0.000038000	0.019193
Fe2599		249.86	ppm	0.010534	0.0042160
K_7664		31.291	ppm	0.097346	0.31110
Mg2790		42.337	ppm	0.018307	0.043241
Mn2576		7.0973	ppm	0.0046390	0.065367
Mo2020		0.0070320	ppm	0.000016000	0.22223
Na5895		3.7619	ppm	0.015157	0.40292
Ni2316		0.15231	ppm	0.000088000	0.058101

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-253750-A-162-A

Acquire Date: 11/12/2019 12:11:40PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		4.9928	ppm	0.00081200	0.016271
Pb2203		0.22531	ppm	0.0013760	0.61061
S_1820		0.35155	ppm	0.0019040	0.54167
Sb2068		0.0074070	ppm	0.0016650	22.485
Se1960		0.0088540	ppm	0.0031450	35.524
Si2881		0.97246	ppm	0.0019190	0.19732
Sn1899		0.033680	ppm	0.0023600	7.0078
Sr4077		0.34624	ppm	0.00018200	0.052644
Ti3349	**W**	**10.414**	**ppm**	**0.0068670**	**0.065942**
Tl1908		-0.0071100	ppm	0.0018280	25.717
V_2924		0.51793	ppm	0.00094900	0.18326
Zn2062		0.64910	ppm	0.0012980	0.19994
Y_2243		8,112.6	Cts/S	5.2896	0.065202
Y_3600		60,153	Cts/S	111.93	0.18607
Y_3774		7,579.3	Cts/S	51.154	0.67492

CCV 1796754

Acquire Date: 11/12/2019 12:15:35PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.50074	ppm	0.0011700	0.23373	.50000	Rel(%)	Pass	
Al3961		25.712	ppm	0.29761	1.1575	25.000	Rel(%)	Pass	
As1890		0.51998	ppm	0.0031710	0.60981	.50000	Rel(%)	Pass	
B_2089		1.0204	ppm	0.0010760	0.10550	1.0000	Rel(%)	Pass	
Ba4554		2.6507	ppm	0.022722	0.85720	2.5000	Rel(%)	Pass	
Be3130		0.53116	ppm	0.0059320	1.1168	.50000	Rel(%)	Pass	
Ca3179		26.504	ppm	0.19795	0.74687	25.000	Rel(%)	Pass	
Cd2144		0.50276	ppm	0.00019700	0.039197	.50000	Rel(%)	Pass	
Co2286		2.5519	ppm	0.0018830	0.073773	2.5000	Rel(%)	Pass	
Cr2677		2.5658	ppm	0.00073400	0.028591	2.5000	Rel(%)	Pass	
Cu3247		2.4641	ppm	0.0022960	0.093159	2.5000	Rel(%)	Pass	
Fe2599		27.046	ppm	0.26249	0.97054	25.000	Rel(%)	Pass	
K_7664		25.630	ppm	0.17619	0.68742	25.000	Rel(%)	Pass	
Mg2790		25.520	ppm	0.013252	0.051930	25.000	Rel(%)	Pass	
Mn2576		2.5622	ppm	0.0036360	0.14189	2.5000	Rel(%)	Pass	
Mo2020		1.0073	ppm	0.00026000	0.025813	1.0000	Rel(%)	Pass	
Na5895		25.483	ppm	0.17621	0.69148	25.000	Rel(%)	Pass	
Ni2316		2.5618	ppm	0.00039700	0.015489	2.5000	Rel(%)	Pass	
P_1782		2.4981	ppm	0.0081780	0.32738	2.5000	Rel(%)	Pass	
Pb2203		0.51914	ppm	0.0019510	0.37584	.50000	Rel(%)	Pass	
S_1820		2.5006	ppm	0.0026360	0.10541	2.5000	Rel(%)	Pass	
Sb2068		0.51590	ppm	0.00085200	0.16522	.50000	Rel(%)	Pass	
Se1960		0.52840	ppm	0.0053650	1.0153	.50000	Rel(%)	Pass	
Si2881		2.5478	ppm	0.019824	0.77811	2.5000	Rel(%)	Pass	
Sn1899		2.5234	ppm	0.0012950	0.051311	2.5000	Rel(%)	Pass	
Sr4077		2.6446	ppm	0.022247	0.84122	2.5000	Rel(%)	Pass	
Ti3349		1.0069	ppm	0.0026570	0.26392	1.0000	Rel(%)	Pass	
Tl1908		0.50219	ppm	0.0016110	0.32075	.50000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCV 1796754

Acquire Date: 11/12/2019 12:15:35PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
V_2924		2.5866	ppm	0.0024470	0.094598	2.5000	Rel(%)	Pass	
Zn2062		2.5749	ppm	0.000023000	0.00088800	2.5000	Rel(%)	Pass	
Y_2243		7,633.4	Cts/S	25.407	0.33284				
Y_3600		57,312	Cts/S	428.71	0.74803				
Y_3774		6,907.1	Cts/S	27.467	0.39766				

CCB 1745955

Acquire Date: 11/12/2019 12:19:21PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.000058000	ppm	0.00096000	1,650.2	.00000	Abs	Pass	
Al3961	**F**	**0.77935**	**ppm**	**0.071452**	**9.1681**	**.00000**	**Abs**	**Fail High**	**.10000**
As1890		0.00084200	ppm	0.00025400	30.226	.00000	Abs	Pass	
B_2089		0.00096700	ppm	0.00060900	62.938	.00000	Abs	Pass	
Ba4554	**W**	**0.0084810**	**ppm**	**0.0011710**	**13.808**	**.00000**	**Abs**	**Warn High**	**0.00500**
Be3130		0.00095700	ppm	0.00033900	35.406	.00000	Abs	Pass	
Ca3179		0.12961	ppm	0.010007	7.7204	.00000	Abs	Pass	
Cd2144		0.000021000	ppm	0.0000020000	8.5776	.00000	Abs	Pass	
Co2286		0.00022500	ppm	0.00019300	85.775	.00000	Abs	Pass	
Cr2677		0.00057900	ppm	0.00079500	137.24	.00000	Abs	Pass	
Cu3247		0.0044030	ppm	0.0013270	30.145	.00000	Abs	Pass	
Fe2599	**F**	**0.94012**	**ppm**	**0.11108**	**11.816**	**.00000**	**Abs**	**Fail High**	**.10000**
K_7664		0.14859	ppm	0.029369	19.765	.00000	Abs	Pass	
Mg2790		0.034223	ppm	0.043323	126.59	.00000	Abs	Pass	
Mn2576	**W**	**0.0060040**	**ppm**	**0.0069960**	**116.52**	**.00000**	**Abs**	**Warn High**	**0.00500**
Mo2020		0.00039900	ppm	0.00024000	60.294	.00000	Abs	Pass	
Na5895		0.069132	ppm	0.0034230	4.9510	.00000	Abs	Pass	
Ni2316		0.00021000	ppm	0.00021600	102.76	.00000	Abs	Pass	
P_1782		0.0055220	ppm	0.00022300	4.0443	.00000	Abs	Pass	
Pb2203		-0.00012800	ppm	0.0016150	1,258.6	.00000	Abs	Pass	
S_1820		-0.0024750	ppm	0.00074900	30.279	.00000	Abs	Pass	
Sb2068		.0000040000	ppm	0.00013200	3,459.9	.00000	Abs	Pass	
Se1960		0.0010350	ppm	0.0011130	107.58	.00000	Abs	Pass	
Si2881		0.038302	ppm	0.032258	84.221	.00000	Abs	Pass	
Sn1899		0.00081300	ppm	0.00090200	110.88	.00000	Abs	Pass	
Sr4077		0.0047500	ppm	0.00053500	11.271	.00000	Abs	Pass	
Ti3349		0.0055100	ppm	0.0082530	149.78	.00000	Abs	Pass	
Tl1908		0.0011170	ppm	0.00052800	47.277	.00000	Abs	Pass	
V_2924		0.0017070	ppm	0.0012640	74.052	.00000	Abs	Pass	
Zn2062		0.0041740	ppm	0.0018680	44.752	.00000	Abs	Pass	
Y_2243		7,725.6	Cts/S	21.486	0.27812				
Y_3600		58,177	Cts/S	79.614	0.13685				
Y_3774		6,888.7	Cts/S	21.133	0.30678				

440-253750-A-163-A

Acquire Date: 11/12/2019 12:23:19PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00093300	ppm	0.00046300	49.630
Al3961		133.64	ppm	0.19856	0.14858
As1890		0.034514	ppm	0.0011320	3.2798
B_2089		0.037924	ppm	0.00048700	1.2834
Ba4554		1.5545	ppm	0.0040490	0.26044
Be3130		0.0058820	ppm	0.00033400	5.6833
Ca3179		31.983	ppm	0.019686	0.061552
Cd2144		0.0056210	ppm	0.000048000	0.84788
Co2286		0.081656	ppm	0.00014400	0.17655
Cr2677		0.20031	ppm	0.00093600	0.46744
Cu3247		0.27107	ppm	0.0010040	0.37053
Fe2599		211.65	ppm	0.22156	0.10468
K_7664		28.001	ppm	0.096166	0.34344
Mg2790		36.990	ppm	0.098589	0.26653
Mn2576		5.5312	ppm	0.0049740	0.089934
Mo2020		0.0084720	ppm	0.00013200	1.5579
Na5895		2.1992	ppm	0.0072850	0.33125
Ni2316		0.14115	ppm	0.00011100	0.078797
P_1782		6.0972	ppm	0.0096150	0.15769
Pb2203		1.0603	ppm	0.00014200	0.013390
S_1820		2.1280	ppm	0.0021530	0.10118
Sb2068		0.011516	ppm	0.0036060	31.312
Se1960		0.0087430	ppm	0.0016620	19.015
Si2881		1.1623	ppm	0.058035	4.9930
Sn1899		0.083358	ppm	0.00035600	0.42740
Sr4077		0.44175	ppm	0.0014290	0.32341
Ti3349	**W**	**8.4569**	**ppm**	**0.0051230**	**0.060573**
Tl1908		-0.0060650	ppm	0.00054100	8.9198
V_2924		0.40472	ppm	0.00060900	0.15039
Zn2062		1.3677	ppm	0.00031200	0.022816
Y_2243		7,724.7	Cts/S	23.321	0.30190
Y_3600		56,782	Cts/S	321.04	0.56539
Y_3774		7,014.9	Cts/S	3.3764	0.048132

440-253750-A-164-A

Acquire Date: 11/12/2019 12:27:07PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00040700	ppm	0.0011630	285.51
Al3961		243.84	ppm	1.6928	0.69423
As1890		0.034988	ppm	0.0053160	15.195
B_2089		0.052254	ppm	0.0012980	2.4833
Ba4554		1.3215	ppm	0.0072460	0.54828
Be3130		0.010128	ppm	0.00010300	1.0126
Ca3179		23.953	ppm	0.17039	0.71136
Cd2144		0.00059000	ppm	0.000019000	3.2559
Co2286		0.12752	ppm	0.000088000	0.068620

440-253750-A-164-A

Acquire Date: 11/12/2019 12:27:07PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.24083	ppm	0.0012850	0.53373
Cu3247		0.16775	ppm	0.00026800	0.15959
Fe2599		269.43	ppm	1.9058	0.70737
K_7664		30.497	ppm	0.10647	0.34911
Mg2790		43.757	ppm	0.032917	0.075228
Mn2576		8.1808	ppm	0.083812	1.0245
Mo2020		0.0084320	ppm	0.00032000	3.7991
Na5895		5.6299	ppm	0.017381	0.30873
Ni2316		0.16137	ppm	0.00040800	0.25271
P_1782		4.8544	ppm	0.0047340	0.097530
Pb2203		0.11553	ppm	0.0031550	2.7310
S_1820		0.32474	ppm	0.0077090	2.3738
Sb2068		0.0082740	ppm	0.0039300	47.493
Se1960		0.010647	ppm	0.0064460	60.542
Si2881		1.0906	ppm	0.0031990	0.29335
Sn1899		0.028579	ppm	0.00047600	1.6644
Sr4077		0.32963	ppm	0.0024320	0.73773
Ti3349	**W**	**10.283**	**ppm**	**0.013322**	**0.12955**
Tl1908		-0.0087960	ppm	0.0020280	23.061
V_2924		0.58261	ppm	0.00092200	0.15828
Zn2062		0.55565	ppm	0.00076500	0.13767
Y_2243		7,836.2	Cts/S	14.210	0.18134
Y_3600		56,794	Cts/S	615.59	1.0839
Y_3774		7,089.7	Cts/S	78.352	1.1052

440-253750-A-165-A

Acquire Date: 11/12/2019 12:31:02PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00027800	ppm	0.000068000	24.536
Al3961		256.89	ppm	0.88177	0.34325
As1890		0.038597	ppm	0.00068300	1.7683
B_2089		0.054941	ppm	0.00074600	1.3572
Ba4554		1.3565	ppm	0.0054170	0.39933
Be3130		0.010272	ppm	0.000084000	0.81643
Ca3179		23.154	ppm	0.095276	0.41149
Cd2144		0.00061100	ppm	0.00011700	19.140
Co2286		0.11507	ppm	0.00051600	0.44818
Cr2677		0.25666	ppm	0.00076500	0.29813
Cu3247		0.17816	ppm	0.00030100	0.16875
Fe2599		280.01	ppm	0.76036	0.27154
K_7664		31.931	ppm	0.093756	0.29363
Mg2790		45.392	ppm	0.097706	0.21525
Mn2576		7.8425	ppm	0.0055270	0.070475
Mo2020		0.0084910	ppm	0.00026800	3.1528
Na5895		5.8900	ppm	0.021939	0.37248
Ni2316		0.16737	ppm	0.0011150	0.66601

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-253750-A-165-A

Acquire Date: 11/12/2019 12:31:02PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		5.1771	ppm	0.000079000	0.0015350
Pb2203		0.14151	ppm	0.0023230	1.6419
S_1820		0.30941	ppm	0.0050880	1.6443
Sb2068		0.0065420	ppm	0.00038500	5.8818
Se1960		0.0098530	ppm	0.0039790	40.378
Si2881		1.1567	ppm	0.0081470	0.70429
Sn1899		0.026839	ppm	0.00023800	0.88682
Sr4077		0.33502	ppm	0.0011900	0.35532
Ti3349	**W**	**10.841**	**ppm**	**0.0046640**	**0.043024**
Tl1908		-0.0085890	ppm	0.0031210	36.340
V_2924		0.60729	ppm	0.0014450	0.23790
Zn2062		0.60048	ppm	0.0018830	0.31357
Y_2243		7,667.4	Cts/S	6.1601	0.080341
Y_3600		55,920	Cts/S	18.939	0.033867
Y_3774		7,059.1	Cts/S	21.125	0.29926

440-253750-A-166-A

Acquire Date: 11/12/2019 12:34:56PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0010620	ppm	0.000091000	8.5274
Al3961		181.24	ppm	0.46332	0.25564
As1890		0.044057	ppm	0.00013200	0.29883
B_2089		0.041823	ppm	0.0013810	3.3020
Ba4554		1.6512	ppm	0.0033520	0.20299
Be3130		0.0078250	ppm	0.00051000	6.5139
Ca3179		34.898	ppm	0.10366	0.29704
Cd2144		0.0055450	ppm	0.000014000	0.24589
Co2286		0.099095	ppm	0.00036000	0.36375
Cr2677		0.23711	ppm	0.0010840	0.45716
Cu3247		0.37396	ppm	0.00060300	0.16119
Fe2599		244.40	ppm	0.37186	0.15215
K_7664		33.617	ppm	0.14895	0.44309
Mg2790		41.037	ppm	0.0068490	0.016689
Mn2576		6.9026	ppm	0.0056530	0.081902
Mo2020		0.0088720	ppm	0.000057000	0.64226
Na5895		2.1738	ppm	0.018973	0.87279
Ni2316		0.16621	ppm	0.00049400	0.29706
P_1782		5.9443	ppm	0.0056060	0.094307
Pb2203		0.72223	ppm	0.0022940	0.31758
S_1820		1.5365	ppm	0.0071900	0.46793
Sb2068		0.010174	ppm	0.00017200	1.6862
Se1960		0.0081930	ppm	0.0029830	36.403
Si2881		1.0625	ppm	0.039111	3.6810
Sn1899		0.068535	ppm	0.00046900	0.68399
Sr4077		0.33991	ppm	0.00027500	0.080887
Ti3349	**W**	**9.4391**	**ppm**	**0.0019870**	**0.021052**

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-253750-A-166-A

Acquire Date: 11/12/2019 12:34:56PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		-0.0041840	ppm	0.0025310	60.495
V_2924		0.50024	ppm	0.0010320	0.20625
Zn2062		1.7673	ppm	0.0029480	0.16680
Y_2243		7,802.3	Cts/S	6.0794	0.077918
Y_3600		57,012	Cts/S	24.536	0.043036
Y_3774		7,052.7	Cts/S	8.1158	0.11507

440-253750-A-167-A

Acquire Date: 11/12/2019 12:38:52PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00095100	ppm	0.00077300	81.320
Al3961		155.02	ppm	0.48099	0.31026
As1890		0.042257	ppm	0.0014650	3.4671
B_2089		0.035817	ppm	0.00012700	0.35348
Ba4554		1.5427	ppm	0.0041070	0.26619
Be3130		0.0068800	ppm	0.000032000	0.46246
Ca3179		29.441	ppm	0.092272	0.31342
Cd2144		0.0050290	ppm	0.000061000	1.2151
Co2286		0.087266	ppm	0.00028200	0.32294
Cr2677		0.20988	ppm	0.0000040000	0.0019210
Cu3247		0.31651	ppm	0.0014810	0.46776
Fe2599		215.90	ppm	0.86217	0.39934
K_7664		29.423	ppm	0.071679	0.24362
Mg2790		35.884	ppm	0.082406	0.22965
Mn2576		6.1740	ppm	0.013488	0.21847
Mo2020		0.0082990	ppm	0.000012000	0.15038
Na5895		1.9867	ppm	0.0097950	0.49303
Ni2316		0.14608	ppm	0.00063100	0.43210
P_1782		5.5045	ppm	0.0045830	0.083262
Pb2203		0.64581	ppm	0.0011170	0.17296
S_1820		1.4146	ppm	0.0035640	0.25196
Sb2068		0.0092200	ppm	0.0021530	23.346
Se1960		0.0052710	ppm	0.0032170	61.034
Si2881		1.0512	ppm	0.0023720	0.22563
Sn1899		0.063721	ppm	0.00045400	0.71205
Sr4077		0.29323	ppm	0.0012270	0.41847
Ti3349	**W**	**8.2265**	**ppm**	**0.0010750**	**0.013063**
Tl1908		-0.0069550	ppm	0.0010920	15.696
V_2924		0.44588	ppm	0.00019000	0.042515
Zn2062		1.5039	ppm	0.0026710	0.17764
Y_2243		7,721.9	Cts/S	13.512	0.17498
Y_3600		56,434	Cts/S	181.42	0.32148
Y_3774		6,971.6	Cts/S	66.815	0.95839

440-253750-A-168-A

Acquire Date: 11/12/2019 12:42:40PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00098500	ppm	0.00051200	51.982
Al3961		235.77	ppm	0.71254	0.30222
As1890		0.038785	ppm	0.0028510	7.3497
B_2089		0.038522	ppm	0.000040000	0.10485
Ba4554		1.5824	ppm	0.0028670	0.18120
Be3130		0.0098860	ppm	0.00012200	1.2351
Ca3179		21.521	ppm	0.086311	0.40106
Cd2144		0.00091400	ppm	0.00011700	12.815
Co2286		0.10705	ppm	0.00059400	0.55455
Cr2677		0.25779	ppm	0.00039900	0.15461
Cu3247		0.18451	ppm	0.0013660	0.74052
Fe2599		272.93	ppm	0.74907	0.27445
K_7664		26.991	ppm	0.081352	0.30141
Mg2790		45.161	ppm	0.0040940	0.0090640
Mn2576		7.5447	ppm	0.047663	0.63175
Mo2020		0.0052160	ppm	0.00017200	3.2974
Na5895		4.1691	ppm	0.0024740	0.059342
Ni2316		0.16481	ppm	0.00072000	0.43670
P_1782		4.3536	ppm	0.0018120	0.041611
Pb2203		0.14727	ppm	0.00033900	0.23004
S_1820		0.54923	ppm	0.0054470	0.99179
Sb2068		0.0094420	ppm	0.0011970	12.677
Se1960		0.0091440	ppm	0.0012600	13.780
Si2881		1.0701	ppm	0.0037510	0.35052
Sn1899		0.029464	ppm	0.00029000	0.98489
Sr4077		0.28152	ppm	0.0010360	0.36810
Ti3349	**W**	**10.090**	**ppm**	**0.0071650**	**0.071009**
Tl1908		-0.0078550	ppm	0.00089500	11.391
V_2924		0.57324	ppm	0.00038700	0.067586
Zn2062		0.63900	ppm	0.00028300	0.044299
Y_2243		7,914.8	Cts/S	35.560	0.44929
Y_3600		57,877	Cts/S	17.126	0.029590
Y_3774		7,217.6	Cts/S	14.883	0.20620

440-253750-A-169-A

Acquire Date: 11/12/2019 12:46:34PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00046400	ppm	0.00082500	177.70
Al3961		284.27	ppm	0.48833	0.17178
As1890		0.044182	ppm	0.00074400	1.6841
B_2089		0.032251	ppm	0.00032800	1.0178
Ba4554		1.6834	ppm	0.0036000	0.21387
Be3130		0.011783	ppm	0.00030300	2.5736
Ca3179		20.551	ppm	0.032492	0.15810
Cd2144		0.00033800	ppm	0.00013600	40.308
Co2286		0.12904	ppm	0.00060100	0.46573

440-253750-A-169-A

Acquire Date: 11/12/2019 12:46:34PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.29130	ppm	0.0016620	0.57071
Cu3247		0.18802	ppm	0.00086000	0.45761
Fe2599		313.60	ppm	0.81011	0.25833
K_7664		30.919	ppm	0.14889	0.48153
Mg2790		52.392	ppm	0.15202	0.29017
Mn2576		9.3635	ppm	0.12206	1.3036
Mo2020		0.0044070	ppm	0.00041900	9.5053
Na5895		6.3119	ppm	0.025120	0.39798
Ni2316		0.18895	ppm	0.00015900	0.084085
P_1782		4.6011	ppm	0.0018760	0.040771
Pb2203		0.098517	ppm	0.0023990	2.4349
S_1820		0.61867	ppm	0.0048670	0.78667
Sb2068		0.010133	ppm	0.0028530	28.153
Se1960		0.014718	ppm	0.00072000	4.8942
Si2881		0.96091	ppm	0.0077080	0.80212
Sn1899		0.024396	ppm	0.00010900	0.44591
Sr4077		0.32050	ppm	0.00057200	0.17847
Ti3349	**W**	**11.434**	**ppm**	**0.0073350**	**0.064154**
Tl1908		-0.0090600	ppm	0.0018640	20.574
V_2924		0.66902	ppm	0.0020320	0.30366
Zn2062		0.62068	ppm	0.0039990	0.64434
Y_2243		7,775.8	Cts/S	11.904	0.15309
Y_3600		56,298	Cts/S	225.42	0.40041
Y_3774		7,102.0	Cts/S	14.218	0.20019

440-253750-A-170-A

Acquire Date: 11/12/2019 12:50:28PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0024770	ppm	0.00071800	28.973
Al3961		133.00	ppm	2.0106	1.5118
As1890		0.039646	ppm	0.0028110	7.0897
B_2089		0.031902	ppm	0.00016800	0.52623
Ba4554		1.6404	ppm	0.023427	1.4281
Be3130		0.0056830	ppm	0.000032000	0.55839
Ca3179		32.121	ppm	0.35719	1.1120
Cd2144		0.0078080	ppm	0.000039000	0.49315
Co2286		0.089003	ppm	0.00012200	0.13737
Cr2677		0.20502	ppm	0.000041000	0.020239
Cu3247		0.34796	ppm	0.0013390	0.38472
Fe2599		202.35	ppm	2.6563	1.3127
K_7664		28.790	ppm	0.45172	1.5690
Mg2790		36.668	ppm	0.0053340	0.014548
Mn2576		5.9692	ppm	0.000071000	0.0011830
Mo2020		0.010481	ppm	0.00025400	2.4251
Na5895		6.9953	ppm	0.11256	1.6091
Ni2316		0.14644	ppm	0.0014600	0.99727

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-253750-A-170-A

Acquire Date: 11/12/2019 12:50:28PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		5.1369	ppm	0.013565	0.26406
Pb2203		1.2474	ppm	0.0040880	0.32769
S_1820		3.8594	ppm	0.016190	0.41948
Sb2068		0.011673	ppm	0.0028730	24.615
Se1960		0.0070140	ppm	0.00024300	3.4668
Si2881		1.0124	ppm	0.012557	1.2403
Sn1899		0.13150	ppm	0.00079900	0.60780
Sr4077		0.39786	ppm	0.0057700	1.4502
Ti3349	**W**	**8.3171**	**ppm**	**0.013450**	**0.16171**
Tl1908		-0.0018950	ppm	0.00016100	8.4790
V_2924		0.41700	ppm	0.00031800	0.076186
Zn2062		2.0326	ppm	0.00010500	0.0051550
Y_2243		7,878.4	Cts/S	23.550	0.29891
Y_3600		57,817	Cts/S	121.63	0.21038
Y_3774		7,014.1	Cts/S	138.24	1.9710

440-253750-A-171-A

Acquire Date: 11/12/2019 12:54:15PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00055800	ppm	0.00042100	75.442
Al3961		214.62	ppm	1.5139	0.70539
As1890		0.036559	ppm	0.0022310	6.1026
B_2089		0.041434	ppm	0.00089100	2.1506
Ba4554		1.5649	ppm	0.010395	0.66426
Be3130		0.0088330	ppm	0.00040300	4.5587
Ca3179		24.278	ppm	0.15364	0.63286
Cd2144		0.0021170	ppm	0.000089000	4.2120
Co2286		0.10489	ppm	0.00050600	0.48204
Cr2677		0.23957	ppm	0.0016270	0.67919
Cu3247		0.22871	ppm	0.00032100	0.14023
Fe2599		255.84	ppm	1.8568	0.72576
K_7664		32.726	ppm	0.22167	0.67735
Mg2790		43.983	ppm	0.082894	0.18847
Mn2576		6.9541	ppm	0.046848	0.67368
Mo2020		0.010791	ppm	0.0000090000	0.084169
Na5895		6.8785	ppm	0.043552	0.63316
Ni2316		0.16029	ppm	0.00033800	0.21106
P_1782		4.0472	ppm	0.022811	0.56362
Pb2203		0.34277	ppm	0.0013830	0.40334
S_1820		1.8410	ppm	0.0058680	0.31874
Sb2068		0.0085340	ppm	0.00028600	3.3518
Se1960		0.013826	ppm	0.0023000	16.634
Si2881		0.74135	ppm	0.0041870	0.56482
Sn1899		0.056448	ppm	0.00068400	1.2125
Sr4077		0.37751	ppm	0.0025840	0.68448
Ti3349	**W**	**10.069**	**ppm**	**0.0041610**	**0.041328**

440-253750-A-171-A

Acquire Date: 11/12/2019 12:54:15PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		-0.0092400	ppm	0.0035170	38.061
V_2924		0.53195	ppm	0.0012220	0.22964
Zn2062		0.93519	ppm	0.0015020	0.16063
Y_2243		7,911.3	Cts/S	21.540	0.27227
Y_3600		58,122	Cts/S	7.3657	0.012673
Y_3774		7,185.9	Cts/S	103.51	1.4404

440-253750-A-172-A

Acquire Date: 11/12/2019 12:58:08PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00041000	ppm	0.0011710	285.37
Al3961		247.73	ppm	0.0066560	0.0026870
As1890		0.037461	ppm	0.0019510	5.2083
B_2089		0.049702	ppm	0.0011140	2.2404
Ba4554		1.4706	ppm	0.00090500	0.061568
Be3130		0.0098660	ppm	0.00000	0.0000080000
Ca3179		19.364	ppm	0.048084	0.24831
Cd2144		0.00077700	ppm	0.000049000	6.2492
Co2286		0.10841	ppm	0.00026900	0.24847
Cr2677		0.22951	ppm	0.0016570	0.72211
Cu3247		0.17961	ppm	0.00071600	0.39838
Fe2599		259.95	ppm	0.24007	0.092354
K_7664		33.100	ppm	0.0062420	0.018860
Mg2790		46.129	ppm	0.14811	0.32109
Mn2576		7.6695	ppm	0.043625	0.56882
Mo2020		0.0051740	ppm	0.00036900	7.1419
Na5895		7.4597	ppm	0.0030740	0.041214
Ni2316		0.16338	ppm	0.00085900	0.52589
P_1782		3.3779	ppm	0.0034160	0.10113
Pb2203		0.14281	ppm	0.00032000	0.22373
S_1820		1.6506	ppm	0.0082920	0.50235
Sb2068		0.0042810	ppm	0.0021990	51.364
Se1960		0.0035520	ppm	0.0018140	51.085
Si2881		0.71654	ppm	0.019868	2.7728
Sn1899		0.027531	ppm	0.0010830	3.9347
Sr4077		0.33556	ppm	0.00027300	0.081366
Ti3349	**W**	**10.245**	**ppm**	**0.018097**	**0.17664**
Tl1908		-0.0076710	ppm	0.0034380	44.822
V_2924		0.55802	ppm	0.0021330	0.38215
Zn2062		0.60445	ppm	0.0025040	0.41431
Y_2243		7,782.1	Cts/S	33.404	0.42924
Y_3600		56,337	Cts/S	165.08	0.29303
Y_3774		7,077.4	Cts/S	29.875	0.42212

CCV 1796754

Acquire Date: 11/12/2019 1:02:02PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.49862	ppm	0.00015300	0.030777	.50000	Rel(%)	Pass	
Al3961		25.863	ppm	0.13366	0.51681	25.000	Rel(%)	Pass	
As1890		0.52302	ppm	0.0017670	0.33784	.50000	Rel(%)	Pass	
B_2089		1.0176	ppm	0.0011010	0.10818	1.0000	Rel(%)	Pass	
Ba4554		2.6845	ppm	0.0071680	0.26703	2.5000	Rel(%)	Pass	
Be3130		0.53720	ppm	0.0014100	0.26250	.50000	Rel(%)	Pass	
Ca3179		26.887	ppm	0.073825	0.27457	25.000	Rel(%)	Pass	
Cd2144		0.50291	ppm	0.00020000	0.039770	.50000	Rel(%)	Pass	
Co2286		2.5610	ppm	0.0016160	0.063082	2.5000	Rel(%)	Pass	
Cr2677		2.5843	ppm	0.0011570	0.044755	2.5000	Rel(%)	Pass	
Cu3247		2.4433	ppm	0.0026130	0.10693	2.5000	Rel(%)	Pass	
Fe2599		27.175	ppm	0.13325	0.49033	25.000	Rel(%)	Pass	
K_7664		25.958	ppm	0.042245	0.16274	25.000	Rel(%)	Pass	
Mg2790		25.752	ppm	0.019567	0.075981	25.000	Rel(%)	Pass	
Mn2576		2.5858	ppm	0.0056520	0.21856	2.5000	Rel(%)	Pass	
Mo2020		1.0064	ppm	0.0013100	0.13014	1.0000	Rel(%)	Pass	
Na5895		25.580	ppm	0.059235	0.23157	25.000	Rel(%)	Pass	
Ni2316		2.5655	ppm	0.00076100	0.029653	2.5000	Rel(%)	Pass	
P_1782		2.5063	ppm	0.0019820	0.079083	2.5000	Rel(%)	Pass	
Pb2203		0.51950	ppm	0.00047700	0.091827	.50000	Rel(%)	Pass	
S_1820		2.5216	ppm	0.011706	0.46422	2.5000	Rel(%)	Pass	
Sb2068		0.51892	ppm	0.0015680	0.30220	.50000	Rel(%)	Pass	
Se1960		0.52988	ppm	0.0010000	0.18864	.50000	Rel(%)	Pass	
Si2881		2.5465	ppm	0.011777	0.46248	2.5000	Rel(%)	Pass	
Sn1899		2.5153	ppm	0.000089000	0.0035390	2.5000	Rel(%)	Pass	
Sr4077		2.6744	ppm	0.0064590	0.24151	2.5000	Rel(%)	Pass	
Ti3349		1.0035	ppm	0.0028960	0.28860	1.0000	Rel(%)	Pass	
Tl1908		0.49793	ppm	0.0019120	0.38391	.50000	Rel(%)	Pass	
V_2924		2.6207	ppm	0.0036810	0.14046	2.5000	Rel(%)	Pass	
Zn2062		2.6058	ppm	0.0016290	0.062523	2.5000	Rel(%)	Pass	
Y_2243		7,590.5	Cts/S	26.437	0.34829				
Y_3600		56,816	Cts/S	105.68	0.18601				
Y_3774		6,843.4	Cts/S	54.030	0.78952				

CCB 1745955

Acquire Date: 11/12/2019 1:05:46PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.00030100	ppm	0.00027100	89.906	.00000	Abs	Pass	
Al3961		-0.029972	ppm	0.0076220	25.432	.00000	Abs	Pass	
As1890		-0.0017770	ppm	0.0023910	134.58	.00000	Abs	Pass	
B_2089		-0.00047000	ppm	0.000091000	19.388	.00000	Abs	Pass	
Ba4554		0.00062500	ppm	0.000054000	8.5811	.00000	Abs	Pass	
Be3130		0.000036000	ppm	0.00035400	982.78	.00000	Abs	Pass	
Ca3179		0.0020600	ppm	0.00091600	44.479	.00000	Abs	Pass	
Cd2144		0.00011700	ppm	0.00010200	86.880	.00000	Abs	Pass	
Co2286		0.00035600	ppm	0.00012800	35.905	.00000	Abs	Pass	
Cr2677		0.0010400	ppm	0.00053300	51.262	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCB 1745955

Acquire Date: 11/12/2019 1:05:46PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Cu3247		0.0038320	ppm	0.00044700	11.656	.00000	Abs	Pass	
Fe2599		0.032333	ppm	0.0046830	14.483	.00000	Abs	Pass	
K_7664		0.038698	ppm	0.070780	182.91	.00000	Abs	Pass	
Mg2790		0.017784	ppm	0.0035690	20.070	.00000	Abs	Pass	
Mn2576		0.0028710	ppm	0.000028000	0.98899	.00000	Abs	Pass	
Mo2020		0.00024600	ppm	0.00011100	45.163	.00000	Abs	Pass	
Na5895		0.027194	ppm	0.0050560	18.592	.00000	Abs	Pass	
Ni2316		0.00056600	ppm	0.000081000	14.378	.00000	Abs	Pass	
P_1782		0.0052990	ppm	0.0012420	23.437	.00000	Abs	Pass	
Pb2203		-0.00025300	ppm	0.0021920	867.39	.00000	Abs	Pass	
S_1820		0.00043000	ppm	0.0026090	607.35	.00000	Abs	Pass	
Sb2068		0.0019810	ppm	0.0022440	113.28	.00000	Abs	Pass	
Se1960		0.0015520	ppm	0.00031600	20.367	.00000	Abs	Pass	
Si2881		0.042908	ppm	0.012148	28.311	.00000	Abs	Pass	
Sn1899		0.00095700	ppm	0.00050800	53.044	.00000	Abs	Pass	
Sr4077		0.000097000	ppm	0.0000040000	3.7503	.00000	Abs	Pass	
Ti3349		0.0024610	ppm	0.000025000	1.0026	.00000	Abs	Pass	
Tl1908		-0.00094700	ppm	0.0021170	223.60	.00000	Abs	Pass	
V_2924		0.00085000	ppm	0.00099700	117.28	.00000	Abs	Pass	
Zn2062	**W**	**0.0060690**	**ppm**	**0.00031100**	**5.1291**	**.00000**	**Abs**	**Warn High**	**0.00500**
Y_2243		7,474.7	Cts/S	26.666	0.35675				
Y_3600		56,440	Cts/S	95.510	0.16923				
Y_3774		6,442.2	Cts/S	36.517	0.56685				

440-253750-A-173-A

Acquire Date: 11/12/2019 1:09:44PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0033290	ppm	0.0013090	39.309
Al3961		131.10	ppm	0.28269	0.21562
As1890		0.047889	ppm	0.00038100	0.79540
B_2089		0.042160	ppm	0.0010630	2.5214
Ba4554		1.5402	ppm	0.0037700	0.24475
Be3130		0.0055930	ppm	0.00029100	5.2086
Ca3179		42.406	ppm	0.092579	0.21832
Cd2144		0.011852	ppm	0.000034000	0.29059
Co2286		0.081135	ppm	0.00051200	0.63047
Cr2677		0.24492	ppm	0.0022790	0.93070
Cu3247		0.43353	ppm	0.00056100	0.12931
Fe2599		198.79	ppm	0.41224	0.20737
K_7664		32.327	ppm	0.054269	0.16788
Mg2790		40.786	ppm	0.052230	0.12806
Mn2576		4.5092	ppm	0.0015840	0.035119
Mo2020		0.0099430	ppm	0.00025200	2.5311
Na5895		3.7084	ppm	0.012705	0.34261
Ni2316		0.17108	ppm	0.00012800	0.074781
P_1782		8.5635	ppm	0.0077820	0.090868
Pb2203		2.0048	ppm	0.0046230	0.23059

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-253750-A-173-A

Acquire Date: 11/12/2019 1:09:44PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
S_1820		4.2580	ppm	0.0076260	0.17910
Sb2068		0.011555	ppm	0.00068200	5.9015
Se1960		0.0053110	ppm	0.0018120	34.109
Si2881		0.89340	ppm	0.039558	4.4278
Sn1899		0.14973	ppm	0.00045600	0.30458
Sr4077		0.45326	ppm	0.0013280	0.29297
Ti3349	**W**	**7.8824**	**ppm**	**0.00079400**	**0.010073**
Tl1908		-0.0036730	ppm	0.0021850	59.497
V_2924		0.41349	ppm	0.0012280	0.29705
Zn2062		2.1979	ppm	0.00010100	0.0045800
Y_2243		7,781.1	Cts/S	1.0069	0.012940
Y_3600		57,055	Cts/S	314.10	0.55053
Y_3774		6,966.2	Cts/S	1.9947	0.028635

SD440-253750-A173A@5

Acquire Date: 11/12/2019 1:13:30PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00035400	ppm	0.00020800	58.839
Al3961		26.792	ppm	0.019791	0.073868
As1890		0.0084110	ppm	0.0010790	12.824
B_2089		0.0057450	ppm	0.000043000	0.74143
Ba4554		0.31785	ppm	0.00052100	0.16380
Be3130		0.0010370	ppm	0.000046000	4.4063
Ca3179		8.8015	ppm	0.00075100	0.0085370
Cd2144		0.0022380	ppm	0.000011000	0.50067
Co2286		0.017546	ppm	0.000079000	0.44998
Cr2677		0.050542	ppm	0.00069700	1.3799
Cu3247		0.092813	ppm	0.00042600	0.45873
Fe2599		41.377	ppm	0.030575	0.073893
K_7664		6.5678	ppm	0.0081210	0.12365
Mg2790		8.3820	ppm	0.0082510	0.098438
Mn2576		0.92760	ppm	0.00013500	0.014589
Mo2020		0.0021770	ppm	0.00039800	18.266
Na5895		0.78652	ppm	0.010751	1.3669
Ni2316		0.035349	ppm	0.000072000	0.20230
P_1782		1.7737	ppm	0.0048420	0.27300
Pb2203		0.42273	ppm	0.0011800	0.27909
S_1820		0.88723	ppm	0.0021010	0.23686
Sb2068		0.0047720	ppm	0.00031500	6.6099
Se1960		0.0015510	ppm	0.0025780	166.19
Si2881		0.23955	ppm	0.030988	12.936
Sn1899		0.030791	ppm	0.00019800	0.64186
Sr4077		0.093646	ppm	0.00030100	0.32100
Ti3349		1.5903	ppm	0.00011800	0.0074360
Tl1908		-0.0023010	ppm	0.0017500	76.056
V_2924		0.083733	ppm	0.000081000	0.097199

SD440-253750-A173A@5

Acquire Date: 11/12/2019 1:13:30PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Zn2062		0.46500	ppm	0.00010600	0.022780
Y_2243		7,827.3	Cts/S	207.43	2.6501
Y_3600		60,429	Cts/S	146.08	0.24174
Y_3774		7,208.8	Cts/S	0.091618	0.0012710

PDS440-253750-A-173A

Acquire Date: 11/12/2019 1:17:22PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.10645	ppm	0.00052200	0.49025
Al3961		135.48	ppm	0.086984	0.064206
As1890		0.14328	ppm	0.000087000	0.060435
B_2089		0.97390	ppm	0.0018210	0.18696
Ba4554		1.5815	ppm	0.0019980	0.12633
Be3130		0.057146	ppm	0.00024800	0.43389
Ca3179		50.903	ppm	0.059272	0.11644
Cd2144		0.10872	ppm	0.00013500	0.12396
Co2286		0.17678	ppm	0.00070800	0.40031
Cr2677		0.33764	ppm	0.000083000	0.024706
Cu3247		0.51299	ppm	0.00030400	0.059349
Fe2599		194.05	ppm	0.055865	0.028789
K_7664		41.174	ppm	0.019039	0.046241
Mg2790		49.021	ppm	0.0037670	0.0076840
Mn2576		4.4126	ppm	0.00078300	0.017735
Mo2020		0.10619	ppm	0.000034000	0.031881
Na5895		13.832	ppm	0.021417	0.15484
Ni2316		0.26232	ppm	0.0014640	0.55804
P_1782		9.1722	ppm	0.0025100	0.027363
Pb2203		2.0028	ppm	0.0036960	0.18457
S_1820		6.0498	ppm	0.016187	0.26757
Sb2068		0.098838	ppm	0.0017900	1.8110
Se1960		0.10385	ppm	0.0050650	4.8772
Si2881		1.8089	ppm	0.021814	1.2059
Sn1899		0.24238	ppm	0.00039900	0.16480
Sr4077		0.53882	ppm	0.00024100	0.044716
Ti3349	**W**	**7.6367**	**ppm**	**0.0034710**	**0.045449**
Tl1908		0.093203	ppm	0.0019390	2.0806
V_2924		0.50091	ppm	0.000061000	0.012117
Zn2062		2.1992	ppm	0.00093600	0.042563
Y_2243		7,846.4	Cts/S	7.2490	0.092386
Y_3600		57,569	Cts/S	347.88	0.60429
Y_3774		7,077.6	Cts/S	77.813	1.0994

440-253750-A-173-B M

Acquire Date: 11/12/2019 1:21:06PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.049013	ppm	0.00080400	1.6409
Al3961		197.93	ppm	0.32735	0.16539
As1890		0.49093	ppm	0.0043890	0.89406
B_2089		3.9667	ppm	0.0057250	0.14434
Ba4554		2.3315	ppm	0.0027190	0.11663
Be3130		0.24609	ppm	0.000079000	0.032112
Ca3179		73.056	ppm	0.011121	0.015222
Cd2144		0.23468	ppm	0.000082000	0.034752
Co2286		0.31724	ppm	0.00024300	0.076741
Cr2677		0.53135	ppm	0.0017480	0.32901
Cu3247		0.70443	ppm	0.0026990	0.38316
Fe2599		236.31	ppm	0.10285	0.043523
K_7664		61.415	ppm	0.11905	0.19384
Mg2790		70.831	ppm	0.059675	0.084249
Mn2576		5.3930	ppm	0.010716	0.19870
Mo2020		0.22605	ppm	0.00015800	0.069769
Na5895		28.055	ppm	0.015675	0.055872
Ni2316		0.43305	ppm	0.00027100	0.062494
P_1782		13.895	ppm	0.013998	0.10074
Pb2203		2.5234	ppm	0.0044670	0.17703
S_1820		9.1652	ppm	0.024340	0.26557
Sb2068		0.13298	ppm	0.00053400	0.40180
Se1960		0.44155	ppm	0.0032460	0.73507
Si2881		4.2264	ppm	0.042307	1.0010
Sn1899		0.58809	ppm	0.0011240	0.19104
Sr4077		0.76746	ppm	0.00090600	0.11811
Ti3349	**W**	**10.523**	**ppm**	**0.014590**	**0.13865**
Tl1908		0.42376	ppm	0.0026260	0.61974
V_2924		0.73666	ppm	0.0028270	0.38376
Zn2062		2.9539	ppm	0.0013300	0.045011
Y_2243		7,738.9	Cts/S	11.403	0.14735
Y_3600		56,711	Cts/S	164.16	0.28946
Y_3774		7,195.0	Cts/S	60.914	0.84661

440-253750-A-173-C M

Acquire Date: 11/12/2019 1:24:48PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.049806	ppm	0.0016300	3.2733
Al3961		195.38	ppm	0.65131	0.33336
As1890		0.49622	ppm	0.0028920	0.58285
B_2089		4.0245	ppm	0.0012140	0.030163
Ba4554		2.2434	ppm	0.0048830	0.21767
Be3130		0.24664	ppm	0.00052100	0.21138
Ca3179		73.205	ppm	0.090502	0.12363
Cd2144		0.23703	ppm	0.00012200	0.051432
Co2286		0.31841	ppm	0.00064600	0.20289

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-253750-A-173-C M

Acquire Date: 11/12/2019 1:24:48PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.53025	ppm	0.0013160	0.24827
Cu3247		0.71403	ppm	0.0028490	0.39894
Fe2599		233.33	ppm	0.69499	0.29785
K_7664		60.909	ppm	0.049478	0.081233
Mg2790		70.971	ppm	0.19315	0.27215
Mn2576		5.4640	ppm	0.011981	0.21928
Mo2020		0.22723	ppm	0.00065700	0.28922
Na5895		28.111	ppm	0.11205	0.39859
Ni2316		0.43009	ppm	0.0010960	0.25482
P_1782		14.175	ppm	0.020939	0.14772
Pb2203		2.4551	ppm	0.0062330	0.25388
S_1820		9.1793	ppm	0.035683	0.38874
Sb2068		0.13982	ppm	0.00015200	0.10881
Se1960		0.44792	ppm	0.0041260	0.92117
Si2881		4.3211	ppm	0.010542	0.24398
Sn1899		0.59456	ppm	0.0016780	0.28226
Sr4077		0.77116	ppm	0.0017000	0.22046
Ti3349	**W**	**10.492**	**ppm**	**0.024888**	**0.23722**
Tl1908		0.43259	ppm	0.0012890	0.29798
V_2924		0.73465	ppm	0.0021090	0.28704
Zn2062		2.9627	ppm	0.0084980	0.28683
Y_2243		7,697.5	Cts/S	3.6523	0.047447
Y_3600		57,077	Cts/S	114.34	0.20032
Y_3774		7,194.6	Cts/S	20.617	0.28656

440-253750-A-174-A

Acquire Date: 11/12/2019 1:28:32PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0027600	ppm	0.000055000	1.9897
Al3961		130.69	ppm	0.41119	0.31463
As1890		0.045959	ppm	0.0033240	7.2319
B_2089		0.061293	ppm	0.0015930	2.5988
Ba4554		1.5579	ppm	0.0021680	0.13917
Be3130		0.0055220	ppm	0.000050000	0.91027
Ca3179		41.268	ppm	0.058291	0.14125
Cd2144		0.011052	ppm	0.000076000	0.68513
Co2286		0.083273	ppm	0.00021900	0.26303
Cr2677		0.25152	ppm	0.0000070000	0.0027290
Cu3247		0.41203	ppm	0.0032400	0.78640
Fe2599		202.42	ppm	0.40000	0.19760
K_7664		32.702	ppm	0.031394	0.096002
Mg2790		41.620	ppm	0.012220	0.029361
Mn2576		4.7082	ppm	0.0041390	0.087905
Mo2020		0.0096650	ppm	0.00039500	4.0863
Na5895		3.8522	ppm	0.0065270	0.16944
Ni2316		0.16843	ppm	0.00016800	0.099549

440-253750-A-174-A

Acquire Date: 11/12/2019 1:28:32PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		8.1216	ppm	0.0019540	0.024060
Pb2203		2.0159	ppm	0.0065640	0.32564
S_1820		3.8831	ppm	0.012169	0.31337
Sb2068		0.010269	ppm	0.0042530	41.417
Se1960		0.011654	ppm	0.00046500	3.9936
Si2881		1.1834	ppm	0.020047	1.6941
Sn1899		0.14082	ppm	0.00023200	0.16454
Sr4077		0.44440	ppm	0.00069400	0.15608
Ti3349	**W**	**7.9587**	**ppm**	**0.0012210**	**0.015346**
Tl1908		-0.0047670	ppm	0.0023070	48.401
V_2924		0.42505	ppm	0.00033900	0.079707
Zn2062		2.0917	ppm	0.0064440	0.30807
Y_2243		7,919.2	Cts/S	19.342	0.24425
Y_3600		57,836	Cts/S	56.301	0.097345
Y_3774		7,107.3	Cts/S	37.542	0.52822

440-253750-A-175-A

Acquire Date: 11/12/2019 1:32:18PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00028900	ppm	0.00029500	101.98
Al3961		157.07	ppm	0.57199	0.36417
As1890		0.038230	ppm	0.0018130	4.7427
B_2089		0.044580	ppm	0.00093400	2.0957
Ba4554		1.2796	ppm	0.0055210	0.43149
Be3130		0.0068400	ppm	0.00011200	1.6382
Ca3179		26.778	ppm	0.18092	0.67563
Cd2144		0.0029090	ppm	0.00013100	4.5014
Co2286		0.091650	ppm	0.00028200	0.30759
Cr2677		0.22432	ppm	0.0032010	1.4270
Cu3247		0.22262	ppm	0.0012160	0.54625
Fe2599		217.52	ppm	0.82210	0.37795
K_7664		28.798	ppm	0.14791	0.51361
Mg2790		42.210	ppm	0.52179	1.2362
Mn2576		5.7245	ppm	0.068149	1.1905
Mo2020		0.0082250	ppm	0.00031400	3.8159
Na5895		4.9770	ppm	0.013121	0.26362
Ni2316		0.14529	ppm	0.0011600	0.79807
P_1782		4.5902	ppm	0.0082250	0.17918
Pb2203		0.43341	ppm	0.0057460	1.3257
S_1820		2.0836	ppm	0.0048300	0.23180
Sb2068		0.0065570	ppm	0.00028000	4.2746
Se1960		0.0086790	ppm	0.000095000	1.0950
Si2881		0.77252	ppm	0.030042	3.8888
Sn1899		0.059052	ppm	0.00031200	0.52919
Sr4077		0.34166	ppm	0.0013390	0.39186
Ti3349	**W**	**9.2375**	**ppm**	**0.11393**	**1.2333**

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-253750-A-175-A

Acquire Date: 11/12/2019 1:32:18PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		-0.0064660	ppm	0.00069400	10.740
V_2924		0.46735	ppm	0.0046820	1.0017
Zn2062		0.78074	ppm	0.0075270	0.96415
Y_2243		7,747.1	Cts/S	22.275	0.28753
Y_3600		56,591	Cts/S	328.92	0.58123
Y_3774		7,274.4	Cts/S	14.591	0.20058

440-253750-A-176-A

Acquire Date: 11/12/2019 1:36:07PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00036900	ppm	0.00028500	77.161
Al3961		203.13	ppm	0.74160	0.36509
As1890		0.036641	ppm	0.0013360	3.6448
B_2089		0.048589	ppm	0.00058600	1.2066
Ba4554		1.5336	ppm	0.0029990	0.19554
Be3130		0.0088390	ppm	0.00023000	2.6029
Ca3179		25.851	ppm	0.064179	0.24826
Cd2144		0.0023920	ppm	0.000049000	2.0625
Co2286		0.10784	ppm	0.000075000	0.069104
Cr2677		0.24922	ppm	0.00027700	0.11111
Cu3247		0.19851	ppm	0.00081600	0.41123
Fe2599		264.34	ppm	0.87403	0.33065
K_7664		31.260	ppm	0.093548	0.29926
Mg2790		47.165	ppm	0.053806	0.11408
Mn2576		6.8297	ppm	0.0084310	0.12345
Mo2020		0.0059920	ppm	0.00025100	4.1869
Na5895		8.2301	ppm	0.026769	0.32526
Ni2316		0.15833	ppm	0.00044100	0.27827
P_1782		3.8950	ppm	0.0010240	0.026287
Pb2203		0.22363	ppm	0.00035900	0.16048
S_1820		2.4345	ppm	0.0092390	0.37952
Sb2068		0.0062360	ppm	0.0024950	40.003
Se1960		0.012110	ppm	0.0013510	11.155
Si2881		0.73051	ppm	0.042624	5.8348
Sn1899		0.034627	ppm	0.0015000	4.3310
Sr4077		0.37914	ppm	0.0011730	0.30926
Ti3349	**W**	**10.638**	**ppm**	**0.0011950**	**0.011232**
Tl1908		-0.0095310	ppm	0.00027200	2.8581
V_2924		0.54518	ppm	0.00057200	0.10492
Zn2062		0.65477	ppm	0.00042500	0.064963
Y_2243		7,645.6	Cts/S	7.5965	0.099358
Y_3600		56,093	Cts/S	318.22	0.56730
Y_3774		6,871.0	Cts/S	54.607	0.79474

440-253750-A-177-A

Acquire Date: 11/12/2019 1:40:00PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.000018000	ppm	0.000035000	191.89
Al3961		137.04	ppm	0.19490	0.14222
As1890		0.035248	ppm	0.00052900	1.5022
B_2089		0.044693	ppm	0.00038200	0.85401
Ba4554		1.2589	ppm	0.00093800	0.074522
Be3130		0.0057850	ppm	0.00017800	3.0698
Ca3179		29.073	ppm	0.028705	0.098734
Cd2144		0.0051710	ppm	0.000014000	0.27894
Co2286		0.078926	ppm	0.00031900	0.40394
Cr2677		0.19066	ppm	0.000037000	0.019592
Cu3247		0.24939	ppm	0.00022200	0.088996
Fe2599		191.16	ppm	0.16109	0.084270
K_7664		28.013	ppm	0.0073950	0.026397
Mg2790		36.405	ppm	0.094752	0.26027
Mn2576		4.9239	ppm	0.013957	0.28345
Mo2020		0.0098140	ppm	0.00010400	1.0587
Na5895		2.2230	ppm	0.018714	0.84183
Ni2316		0.12941	ppm	0.00072000	0.55675
P_1782		5.9433	ppm	0.0077740	0.13081
Pb2203		0.74352	ppm	0.0019740	0.26544
S_1820		2.0314	ppm	0.0050800	0.25009
Sb2068		0.0091900	ppm	0.0027770	30.214
Se1960		0.0080160	ppm	0.0017110	21.349
Si2881		0.87333	ppm	0.021937	2.5119
Sn1899		0.060281	ppm	0.00017100	0.28316
Sr4077		0.45749	ppm	0.000074000	0.016158
Ti3349	**W**	**7.4637**	**ppm**	**0.014257**	**0.19103**
Tl1908		-0.0048840	ppm	0.0013640	27.933
V_2924		0.38129	ppm	0.00074000	0.19395
Zn2062		1.3219	ppm	0.0012670	0.095815
Y_2243		7,833.1	Cts/S	12.902	0.16472
Y_3600		57,982	Cts/S	566.00	0.97616
Y_3774		7,174.2	Cts/S	71.711	0.99957

440-253750-A-178-A

Acquire Date: 11/12/2019 1:43:50PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00039000	ppm	0.00018500	47.333
Al3961		152.10	ppm	1.0296	0.67693
As1890		0.035682	ppm	0.0029550	8.2805
B_2089		0.034275	ppm	0.00052200	1.5224
Ba4554		1.2952	ppm	0.0071040	0.54849
Be3130		0.0064040	ppm	0.0000010000	0.0095770
Ca3179		21.293	ppm	0.12371	0.58098
Cd2144		0.0025450	ppm	0.00020000	7.8711
Co2286		0.095697	ppm	0.00029500	0.30847

440-253750-A-178-A

Acquire Date: 11/12/2019 1:43:50PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.20888	ppm	0.00066500	0.31826
Cu3247		0.22530	ppm	0.00081400	0.36129
Fe2599		216.82	ppm	1.2747	0.58791
K_7664		29.271	ppm	0.053393	0.18241
Mg2790		38.207	ppm	0.00079800	0.0020900
Mn2576		6.3250	ppm	0.00060000	0.0094870
Mo2020		0.0083310	ppm	0.000055000	0.65944
Na5895		3.0015	ppm	0.012784	0.42591
Ni2316		0.13160	ppm	0.00026200	0.19895
P_1782		4.0699	ppm	0.0031480	0.077349
Pb2203		0.39029	ppm	0.0032640	0.83636
S_1820		1.0450	ppm	0.0099200	0.94923
Sb2068		0.0072390	ppm	0.0022720	31.378
Se1960		0.0071440	ppm	0.0037950	53.131
Si2881		0.77685	ppm	0.014983	1.9288
Sn1899		0.047175	ppm	0.00043000	0.91207
Sr4077		0.35390	ppm	0.0018230	0.51525
Ti3349	**W**	**8.9960**	**ppm**	**0.0085670**	**0.095236**
Tl1908		-0.0052310	ppm	0.00027100	5.1844
V_2924		0.46426	ppm	0.00032200	0.069462
Zn2062		0.84080	ppm	0.0017310	0.20588
Y_2243		7,836.8	Cts/S	59.675	0.76147
Y_3600		59,945	Cts/S	560.51	0.93505
Y_3774		7,406.8	Cts/S	61.628	0.83204

CCV 1796754

Acquire Date: 11/12/2019 1:47:40PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.50112	ppm	0.00060300	0.12026	.50000	Rel(%)	Pass	
Al3961		25.692	ppm	0.058474	0.22760	25.000	Rel(%)	Pass	
As1890		0.51967	ppm	0.00026500	0.050909	.50000	Rel(%)	Pass	
B_2089		1.0158	ppm	0.0018480	0.18196	1.0000	Rel(%)	Pass	
Ba4554		2.6638	ppm	0.010218	0.38360	2.5000	Rel(%)	Pass	
Be3130		0.53209	ppm	0.0022500	0.42293	.50000	Rel(%)	Pass	
Ca3179		26.585	ppm	0.10131	0.38109	25.000	Rel(%)	Pass	
Cd2144		0.50372	ppm	0.00045600	0.090528	.50000	Rel(%)	Pass	
Co2286		2.5583	ppm	0.0027490	0.10745	2.5000	Rel(%)	Pass	
Cr2677		2.5931	ppm	0.0020100	0.077518	2.5000	Rel(%)	Pass	
Cu3247		2.4524	ppm	0.0059910	0.24429	2.5000	Rel(%)	Pass	
Fe2599		26.846	ppm	0.13914	0.51829	25.000	Rel(%)	Pass	
K_7664		25.856	ppm	0.21658	0.83764	25.000	Rel(%)	Pass	
Mg2790		25.878	ppm	0.031239	0.12072	25.000	Rel(%)	Pass	
Mn2576		2.5904	ppm	0.0029590	0.11422	2.5000	Rel(%)	Pass	
Mo2020		1.0085	ppm	0.00095600	0.094768	1.0000	Rel(%)	Pass	
Na5895		25.507	ppm	0.14833	0.58153	25.000	Rel(%)	Pass	
Ni2316		2.5639	ppm	0.0057770	0.22532	2.5000	Rel(%)	Pass	
P_1782		2.5185	ppm	0.00044600	0.017693	2.5000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCV 1796754

Acquire Date: 11/12/2019 1:47:40PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Pb2203		0.51565	ppm	0.0017740	0.34399	.50000	Rel(%)	Pass	
S_1820		2.5079	ppm	0.0058990	0.23523	2.5000	Rel(%)	Pass	
Sb2068		0.51800	ppm	0.0016860	0.32545	.50000	Rel(%)	Pass	
Se1960		0.52924	ppm	0.0024960	0.47159	.50000	Rel(%)	Pass	
Si2881		2.5412	ppm	0.056780	2.2344	2.5000	Rel(%)	Pass	
Sn1899		2.5220	ppm	0.0013240	0.052505	2.5000	Rel(%)	Pass	
Sr4077		2.6558	ppm	0.010785	0.40611	2.5000	Rel(%)	Pass	
Ti3349		1.0077	ppm	0.0012660	0.12566	1.0000	Rel(%)	Pass	
Tl1908		0.50113	ppm	0.0025220	0.50325	.50000	Rel(%)	Pass	
V_2924		2.6208	ppm	0.0017520	0.066860	2.5000	Rel(%)	Pass	
Zn2062		2.6255	ppm	0.0016390	0.062409	2.5000	Rel(%)	Pass	
Y_2243		7,432.0	Cts/S	33.675	0.45312				
Y_3600		55,340	Cts/S	114.87	0.20758				
Y_3774		6,639.0	Cts/S	27.080	0.40789				

CCB 1745955

Acquire Date: 11/12/2019 1:51:25PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00041500	ppm	0.00044500	107.21	.00000	Abs	Pass	
Al3961		0.010748	ppm	0.00017900	1.6669	.00000	Abs	Pass	
As1890		-0.0010630	ppm	0.00043800	41.197	.00000	Abs	Pass	
B_2089		0.0017230	ppm	0.00091500	53.126	.00000	Abs	Pass	
Ba4554		0.000058000	ppm	0.00051000	884.53	.00000	Abs	Pass	
Be3130		0.000077000	ppm	0.000081000	104.87	.00000	Abs	Pass	
Ca3179		0.0082190	ppm	0.010683	129.98	.00000	Abs	Pass	
Cd2144		.0000080000	ppm	0.0000010000	14.149	.00000	Abs	Pass	
Co2286		0.000038000	ppm	0.00033800	890.37	.00000	Abs	Pass	
Cr2677		0.00061800	ppm	0.00029200	47.282	.00000	Abs	Pass	
Cu3247		0.0040040	ppm	0.0013660	34.129	.00000	Abs	Pass	
Fe2599		0.025016	ppm	0.0023510	9.4000	.00000	Abs	Pass	
K_7664		0.032785	ppm	0.018702	57.045	.00000	Abs	Pass	
Mg2790		0.0015600	ppm	0.0034870	223.47	.00000	Abs	Pass	
Mn2576		0.00084300	ppm	0.00029700	35.211	.00000	Abs	Pass	
Mo2020		0.00014200	ppm	0.000052000	36.347	.00000	Abs	Pass	
Na5895		0.020153	ppm	0.025674	127.40	.00000	Abs	Pass	
Ni2316		0.00041100	ppm	0.000063000	15.335	.00000	Abs	Pass	
P_1782		0.0036600	ppm	0.0011090	30.296	.00000	Abs	Pass	
Pb2203		0.00014300	ppm	0.00096700	677.35	.00000	Abs	Pass	
S_1820		0.0036160	ppm	0.00032200	8.8913	.00000	Abs	Pass	
Sb2068		0.0017480	ppm	0.00047700	27.263	.00000	Abs	Pass	
Se1960		-0.0024530	ppm	0.0012970	52.861	.00000	Abs	Pass	
Si2881		0.048196	ppm	0.0019660	4.0801	.00000	Abs	Pass	
Sn1899		0.00049700	ppm	0.00022000	44.216	.00000	Abs	Pass	
Sr4077		0.00025400	ppm	0.0000010000	0.44015	.00000	Abs	Pass	
Ti3349		-0.00025500	ppm	0.000065000	25.704	.00000	Abs	Pass	
Tl1908		0.000071000	ppm	0.0030410	4,311.3	.00000	Abs	Pass	
V_2924		0.00063500	ppm	0.00010700	16.848	.00000	Abs	Pass	

CCB 1745955

Acquire Date: 11/12/2019 1:51:25PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Zn2062	**W**	**0.0065490**	**ppm**	**0.00098200**	**14.990**	**.00000**	**Abs**	**Warn High**	**0.00500**
Y_2243		7,641.1	Cts/S	14.888	0.19484				
Y_3600		58,230	Cts/S	239.35	0.41105				
Y_3774		6,746.3	Cts/S	30.953	0.45882				

440-253750-A-180-A

Acquire Date: 11/12/2019 1:55:23PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00023300	ppm	0.00081400	349.21
Al3961		184.38	ppm	0.044345	0.024051
As1890		0.033425	ppm	0.0043090	12.892
B_2089		0.033565	ppm	0.00097000	2.8898
Ba4554		1.2401	ppm	0.0012110	0.097674
Be3130		0.0081820	ppm	0.00037300	4.5550
Ca3179		21.191	ppm	0.0056110	0.026479
Cd2144		0.0017580	ppm	0.00011400	6.5023
Co2286		0.10191	ppm	0.0000080000	0.0082130
Cr2677		0.22786	ppm	0.00086800	0.38092
Cu3247		0.18443	ppm	0.00055200	0.29935
Fe2599		245.11	ppm	0.059586	0.024309
K_7664		29.727	ppm	0.074910	0.25199
Mg2790		42.584	ppm	0.051723	0.12146
Mn2576		6.2179	ppm	0.0049000	0.078800
Mo2020		0.010003	ppm	0.00024100	2.4092
Na5895		3.6132	ppm	0.0050000	0.13839
Ni2316		0.13494	ppm	0.0011910	0.88226
P_1782		3.3621	ppm	0.012745	0.37908
Pb2203		0.12112	ppm	0.00048300	0.39864
S_1820		0.75615	ppm	0.0041390	0.54739
Sb2068		0.0051990	ppm	0.00034500	6.6336
Se1960		0.0074820	ppm	0.00063500	8.4857
Si2881		0.75433	ppm	0.035733	4.7371
Sn1899		0.027096	ppm	0.0011480	4.2360
Sr4077		0.34066	ppm	0.00038400	0.11274
Ti3349	**W**	**9.9525**	**ppm**	**0.0041510**	**0.041704**
Tl1908		-0.0068970	ppm	0.00015300	2.2172
V_2924		0.51841	ppm	0.00069400	0.13395
Zn2062		0.54334	ppm	0.0015420	0.28378
Y_2243		7,618.5	Cts/S	20.117	0.26405
Y_3600		55,797	Cts/S	107.93	0.19344
Y_3774		6,908.9	Cts/S	14.382	0.20816

440-253750-A-179-A

Acquire Date: 11/12/2019 1:59:10PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0022280	ppm	0.00033200	14.897
Al3961		122.10	ppm	1.3211	1.0820
As1890		0.038612	ppm	0.00090900	2.3546
B_2089		0.040414	ppm	0.0010630	2.6292
Ba4554		1.4547	ppm	0.013713	0.94269
Be3130		0.0054450	ppm	0.00020600	3.7903
Ca3179		36.616	ppm	0.42401	1.1580
Cd2144		0.0083890	ppm	0.00014700	1.7567
Co2286		0.079555	ppm	0.00073800	0.92711
Cr2677		0.19678	ppm	0.00077400	0.39350
Cu3247		0.36677	ppm	0.00034200	0.093162
Fe2599		190.04	ppm	1.8923	0.99577
K_7664		25.459	ppm	0.25857	1.0157
Mg2790		33.740	ppm	0.052152	0.15457
Mn2576		5.0222	ppm	0.010025	0.19962
Mo2020		0.010748	ppm	0.00050700	4.7194
Na5895		1.9072	ppm	0.011712	0.61408
Ni2316		0.14744	ppm	0.00080100	0.54337
P_1782		7.1627	ppm	0.0070500	0.098423
Pb2203		1.4107	ppm	0.0013020	0.092280
S_1820		2.8125	ppm	0.0071030	0.25255
Sb2068		0.0085570	ppm	0.00033200	3.8816
Se1960		0.0074830	ppm	0.00071400	9.5437
Si2881		0.88863	ppm	0.034479	3.8800
Sn1899		0.10362	ppm	0.00026600	0.25693
Sr4077		0.46548	ppm	0.0050800	1.0914
Ti3349	**W**	**7.3200**	**ppm**	**0.0019050**	**0.026018**
Tl1908		-0.0074570	ppm	0.0019100	25.608
V_2924		0.37977	ppm	0.0010300	0.27109
Zn2062		1.7016	ppm	0.0011570	0.067989
Y_2243		7,810.9	Cts/S	14.000	0.17924
Y_3600		57,643	Cts/S	269.52	0.46757
Y_3774		7,077.3	Cts/S	56.985	0.80518

440-253750-A-181-A

Acquire Date: 11/12/2019 2:02:58PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00054100	ppm	0.000032000	5.8838
Al3961		134.30	ppm	0.44392	0.33055
As1890		0.026323	ppm	0.00028400	1.0782
B_2089		0.030604	ppm	0.00024000	0.78437
Ba4554		1.2225	ppm	0.0020830	0.17036
Be3130		0.0060810	ppm	0.00011200	1.8491
Ca3179		22.648	ppm	0.065634	0.28981
Cd2144		0.0022610	ppm	0.0000040000	0.18337
Co2286		0.091993	ppm	0.00021800	0.23691

440-253750-A-181-A

Acquire Date: 11/12/2019 2:02:58PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.18551	ppm	0.00081300	0.43800
Cu3247		0.19081	ppm	0.00067200	0.35195
Fe2599		203.74	ppm	0.34252	0.16812
K_7664		27.016	ppm	0.20427	0.75613
Mg2790		36.463	ppm	0.022524	0.061773
Mn2576		5.8518	ppm	0.011202	0.19142
Mo2020		0.0096650	ppm	0.00010100	1.0425
Na5895		2.3144	ppm	0.0077460	0.33470
Ni2316		0.11828	ppm	0.00083100	0.70275
P_1782		2.8781	ppm	0.0011340	0.039398
Pb2203		0.20663	ppm	0.00067000	0.32412
S_1820		0.66122	ppm	0.0028540	0.43160
Sb2068		0.0033830	ppm	0.0012620	37.302
Se1960		0.0025050	ppm	0.0011330	45.225
Si2881		0.74535	ppm	0.011366	1.5249
Sn1899		0.028569	ppm	0.00012600	0.44099
Sr4077		0.36423	ppm	0.0015190	0.41704
Ti3349	**W**	**8.5968**	**ppm**	**0.0065010**	**0.075616**
Tl1908		-0.0062970	ppm	0.00085900	13.635
V_2924		0.41382	ppm	0.0019860	0.47998
Zn2062		0.55346	ppm	0.0026170	0.47285
Y_2243		7,795.7	Cts/S	30.463	0.39077
Y_3600		57,684	Cts/S	6.4927	0.011256
Y_3774		7,068.2	Cts/S	29.054	0.41106

440-253750-A-182-A

Acquire Date: 11/12/2019 2:06:48PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00019800	ppm	0.00036700	185.98
Al3961		164.58	ppm	0.18427	0.11196
As1890		0.030776	ppm	0.00044600	1.4506
B_2089		0.039837	ppm	0.0012100	3.0368
Ba4554		1.1941	ppm	0.0019500	0.16333
Be3130		0.0071630	ppm	0.000042000	0.58199
Ca3179		20.225	ppm	0.0075690	0.037422
Cd2144		0.0012650	ppm	0.00012000	9.4831
Co2286		0.096088	ppm	0.00071400	0.74257
Cr2677		0.20605	ppm	0.00059400	0.28831
Cu3247		0.15296	ppm	0.00018100	0.11838
Fe2599		224.89	ppm	0.038028	0.016910
K_7664		27.879	ppm	0.076962	0.27605
Mg2790		39.443	ppm	0.093037	0.23588
Mn2576		5.7917	ppm	0.011475	0.19813
Mo2020		0.0064720	ppm	0.0000020000	0.029126
Na5895		5.0344	ppm	0.0014190	0.028192
Ni2316		0.12262	ppm	0.00096000	0.78314

440-253750-A-182-A

Acquire Date: 11/12/2019 2:06:48PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		2.8244	ppm	0.0066970	0.23711
Pb2203		0.093185	ppm	0.0028570	3.0654
S_1820		1.6218	ppm	0.0083280	0.51351
Sb2068		0.0052990	ppm	0.0031850	60.110
Se1960		0.0085060	ppm	0.0056610	66.554
Si2881		0.70538	ppm	0.036528	5.1785
Sn1899		0.025295	ppm	0.00060700	2.4001
Sr4077		0.34572	ppm	0.00032800	0.094863
Ti3349	**W**	**9.4018**	**ppm**	**0.012645**	**0.13450**
Tl1908		-0.0033010	ppm	0.00057600	17.437
V_2924		0.47385	ppm	0.00050500	0.10656
Zn2062		0.45226	ppm	0.00033500	0.074067
Y_2243		7,808.6	Cts/S	16.324	0.20905
Y_3600		57,541	Cts/S	94.850	0.16484
Y_3774		7,147.3	Cts/S	95.806	1.3404

440-253750-A-183-A

Acquire Date: 11/12/2019 2:10:35PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00069400	ppm	0.00094000	135.55
Al3961		173.20	ppm	0.49824	0.28767
As1890		0.032253	ppm	0.000077000	0.23785
B_2089		0.040964	ppm	0.00040900	0.99903
Ba4554		1.2034	ppm	0.0019060	0.15838
Be3130		0.0077550	ppm	0.00031900	4.1088
Ca3179		22.991	ppm	0.086211	0.37499
Cd2144		0.0014240	ppm	0.000028000	1.9889
Co2286		0.10334	ppm	0.00021600	0.20873
Cr2677		0.21453	ppm	0.00036300	0.16898
Cu3247		0.15850	ppm	0.0016210	1.0230
Fe2599		235.70	ppm	0.64500	0.27366
K_7664		29.483	ppm	0.074344	0.25216
Mg2790		41.114	ppm	0.097971	0.23829
Mn2576		6.2371	ppm	0.0082870	0.13287
Mo2020		0.0060720	ppm	0.000053000	0.86802
Na5895		5.5531	ppm	0.0078180	0.14079
Ni2316		0.12739	ppm	0.00086300	0.67782
P_1782		3.1020	ppm	0.00054600	0.017601
Pb2203		0.085189	ppm	0.0021000	2.4648
S_1820		1.5151	ppm	0.0017730	0.11699
Sb2068		0.0038750	ppm	0.0031320	80.829
Se1960		0.011589	ppm	0.0014640	12.629
Si2881		0.80237	ppm	0.0074880	0.93318
Sn1899		0.023136	ppm	0.00017000	0.73482
Sr4077		0.36172	ppm	0.00035800	0.098857
Ti3349	**W**	**9.4811**	**ppm**	**0.017600**	**0.18563**

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-253750-A-183-A

Acquire Date: 11/12/2019 2:10:35PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		-0.0052850	ppm	0.0027100	51.284
V_2924		0.49203	ppm	0.0010290	0.20908
Zn2062		0.47311	ppm	0.0020320	0.42943
Y_2243		7,743.6	Cts/S	0.10638	0.0013740
Y_3600		56,852	Cts/S	148.66	0.26148
Y_3774		6,987.9	Cts/S	22.781	0.32600

440-253750-A-184-A

Acquire Date: 11/12/2019 2:14:23PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00053900	ppm	0.0012400	229.82
Al3961		135.67	ppm	0.21836	0.16094
As1890		0.039728	ppm	0.00087400	2.1992
B_2089		0.059012	ppm	0.00051500	0.87270
Ba4554		1.6098	ppm	0.0020760	0.12894
Be3130		0.0057220	ppm	0.000070000	1.2272
Ca3179		76.562	ppm	0.18679	0.24397
Cd2144		0.0063040	ppm	0.00022500	3.5694
Co2286		0.086613	ppm	0.00030700	0.35452
Cr2677		0.21083	ppm	0.00078100	0.37026
Cu3247		0.37237	ppm	0.00034200	0.091924
Fe2599		201.10	ppm	0.73383	0.36490
K_7664		33.291	ppm	0.019064	0.057264
Mg2790		38.803	ppm	0.10366	0.26715
Mn2576		5.5005	ppm	0.0066740	0.12134
Mo2020		0.0083730	ppm	0.00027400	3.2699
Na5895		2.2920	ppm	0.0012530	0.054669
Ni2316		0.14577	ppm	0.00047800	0.32793
P_1782		8.1261	ppm	0.0041100	0.050579
Pb2203		1.3268	ppm	0.0024560	0.18512
S_1820		3.1384	ppm	0.0091850	0.29267
Sb2068		0.0094820	ppm	0.0040230	42.431
Se1960		0.0067440	ppm	0.0014040	20.812
Si2881		0.99322	ppm	0.026818	2.7001
Sn1899		0.10577	ppm	0.000026000	0.024325
Sr4077		0.59185	ppm	0.0019120	0.32303
Ti3349	**W**	**8.0619**	**ppm**	**0.0033090**	**0.041050**
Tl1908		-0.0065360	ppm	0.0031180	47.699
V_2924		0.41700	ppm	0.0011400	0.27333
Zn2062		1.5489	ppm	0.0012190	0.078726
Y_2243		7,751.6	Cts/S	30.663	0.39557
Y_3600		56,974	Cts/S	87.438	0.15347
Y_3774		6,995.9	Cts/S	15.145	0.21649

440-253750-A-185-A

Acquire Date: 11/12/2019 2:18:10PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0011210	ppm	0.00048800	43.573
Al3961		129.89	ppm	2.9543	2.2744
As1890		0.030023	ppm	0.0020770	6.9194
B_2089		0.044503	ppm	0.000015000	0.032719
Ba4554		1.2634	ppm	0.029616	2.3441
Be3130		0.0059440	ppm	0.000065000	1.0921
Ca3179		22.500	ppm	0.48062	2.1361
Cd2144		0.0022870	ppm	0.000067000	2.9423
Co2286		0.087193	ppm	0.00033000	0.37831
Cr2677		0.18343	ppm	0.00033100	0.18062
Cu3247		0.22293	ppm	0.00024300	0.10914
Fe2599		193.05	ppm	4.3385	2.2474
K_7664		30.561	ppm	0.75058	2.4560
Mg2790		35.789	ppm	0.10317	0.28826
Mn2576		5.5914	ppm	0.015968	0.28558
Mo2020		0.0099490	ppm	0.00024000	2.4109
Na5895		2.4762	ppm	0.043287	1.7482
Ni2316		0.12051	ppm	0.00019400	0.16090
P_1782		3.7123	ppm	0.012176	0.32800
Pb2203		0.36910	ppm	0.0042960	1.1640
S_1820		1.0524	ppm	0.0097790	0.92924
Sb2068		0.0042820	ppm	0.0018580	43.392
Se1960		0.0059450	ppm	0.0059890	100.75
Si2881		0.72849	ppm	0.044662	6.1307
Sn1899		0.048945	ppm	0.0014900	3.0443
Sr4077		0.34982	ppm	0.0079630	2.2764
Ti3349	**W**	**8.2425**	**ppm**	**0.017502**	**0.21234**
Tl1908		-0.0053860	ppm	0.0013600	25.246
V_2924		0.40271	ppm	0.0019410	0.48196
Zn2062		0.70714	ppm	0.0021780	0.30795
Y_2243		7,701.9	Cts/S	4.3758	0.056815
Y_3600		56,586	Cts/S	67.671	0.11959
Y_3774		6,913.8	Cts/S	54.189	0.78378

440-253750-A-186-A

Acquire Date: 11/12/2019 2:21:59PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00028000	ppm	0.00029500	105.22
Al3961		150.71	ppm	0.54915	0.36437
As1890		0.029299	ppm	0.0012260	4.1841
B_2089		0.047099	ppm	0.00074100	1.5741
Ba4554		1.2457	ppm	0.0041300	0.33154
Be3130		0.0068350	ppm	0.00043100	6.3085
Ca3179		22.208	ppm	0.080097	0.36067
Cd2144		0.00077000	ppm	0.000080000	10.367
Co2286		0.096566	ppm	0.00052400	0.54293

440-253750-A-186-A

Acquire Date: 11/12/2019 2:21:59PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.20245	ppm	0.00088400	0.43668
Cu3247		0.17062	ppm	0.00025800	0.15131
Fe2599		221.57	ppm	0.65240	0.29445
K_7664		30.109	ppm	0.13122	0.43583
Mg2790		39.454	ppm	0.061950	0.15702
Mn2576		6.0064	ppm	0.0034580	0.057576
Mo2020		0.0080500	ppm	0.00042000	5.2189
Na5895		5.3390	ppm	0.035814	0.67080
Ni2316		0.12174	ppm	0.000016000	0.013151
P_1782		3.0118	ppm	0.013311	0.44195
Pb2203		0.093002	ppm	0.0025240	2.7141
S_1820		1.5178	ppm	0.0048930	0.32235
Sb2068		0.0058230	ppm	0.0015660	26.892
Se1960		0.0081890	ppm	0.0012810	15.645
Si2881		0.74702	ppm	0.022071	2.9545
Sn1899		0.024786	ppm	0.00033900	1.3689
Sr4077		0.37070	ppm	0.0017710	0.47779
Ti3349	**W**	**9.3185**	**ppm**	**0.011557**	**0.12402**
Tl1908		-0.0049690	ppm	0.0013040	26.240
V_2924		0.45255	ppm	0.00014800	0.032647
Zn2062		0.46545	ppm	0.0012910	0.27736
Y_2243		7,797.1	Cts/S	1.6458	0.021108
Y_3600		57,105	Cts/S	33.703	0.059020
Y_3774		6,977.6	Cts/S	60.985	0.87401

440-253750-A-187-A

Acquire Date: 11/12/2019 2:25:47PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0010370	ppm	0.0013320	128.49
Al3961		130.77	ppm	0.72520	0.55455
As1890		0.034410	ppm	0.0015100	4.3889
B_2089		0.034014	ppm	0.00055400	1.6291
Ba4554		1.8791	ppm	0.010821	0.57584
Be3130		0.0054640	ppm	0.00035500	6.5003
Ca3179		28.024	ppm	0.14159	0.50526
Cd2144		0.0052180	ppm	0.000033000	0.63152
Co2286		0.081735	ppm	0.000020000	0.024146
Cr2677		0.22024	ppm	0.0010820	0.49115
Cu3247		0.35322	ppm	0.00068700	0.19459
Fe2599		195.01	ppm	1.2044	0.61763
K_7664		29.599	ppm	0.17349	0.58613
Mg2790		33.711	ppm	0.10591	0.31418
Mn2576		5.1634	ppm	0.0026870	0.052041
Mo2020		0.0077810	ppm	0.00058400	7.5064
Na5895		1.6930	ppm	0.011679	0.68984
Ni2316		0.13304	ppm	0.000021000	0.015839

440-253750-A-187-A

Acquire Date: 11/12/2019 2:25:47PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		5.0430	ppm	0.0013780	0.027331
Pb2203		1.2523	ppm	0.0059120	0.47212
S_1820		1.9476	ppm	0.0080380	0.41271
Sb2068		0.012384	ppm	0.0026430	21.344
Se1960		0.0076130	ppm	0.00095700	12.577
Si2881		0.83086	ppm	0.0048300	0.58136
Sn1899		0.090547	ppm	0.0013450	1.4853
Sr4077		0.36067	ppm	0.0023860	0.66166
Ti3349	**W**	**7.8698**	**ppm**	**0.00023700**	**0.0030100**
Tl1908		-0.0062860	ppm	0.0020900	33.255
V_2924		0.39932	ppm	0.00049300	0.12352
Zn2062		1.7580	ppm	0.0012460	0.070865
Y_2243		7,583.3	Cts/S	4.5637	0.060181
Y_3600		55,799	Cts/S	80.027	0.14342
Y_3774		6,778.1	Cts/S	52.154	0.76945

440-253750-A-188-A

Acquire Date: 11/12/2019 2:29:34PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00095800	ppm	0.00032600	34.081
Al3961		131.54	ppm	0.32650	0.24822
As1890		0.027656	ppm	0.000048000	0.17287
B_2089		0.027585	ppm	0.000018000	0.065470
Ba4554		1.2781	ppm	0.0027500	0.21514
Be3130		0.0058670	ppm	0.000082000	1.3937
Ca3179		26.775	ppm	0.032053	0.11971
Cd2144		0.0019810	ppm	0.00012700	6.4002
Co2286		0.088479	ppm	0.000090000	0.10204
Cr2677		0.18658	ppm	0.00054100	0.28970
Cu3247		0.17698	ppm	0.00034200	0.19317
Fe2599		200.59	ppm	0.57563	0.28696
K_7664		30.020	ppm	0.0062910	0.020956
Mg2790		35.545	ppm	0.0038960	0.010962
Mn2576		6.0151	ppm	0.0073460	0.12213
Mo2020		0.0062200	ppm	0.00025200	4.0519
Na5895		1.4221	ppm	0.033066	2.3251
Ni2316		0.11705	ppm	0.00049900	0.42610
P_1782		2.9510	ppm	0.0019960	0.067650
Pb2203		0.18985	ppm	0.0036790	1.9379
S_1820		0.31355	ppm	0.0023200	0.73981
Sb2068		0.0053950	ppm	0.000053000	0.97325
Se1960		0.0065760	ppm	0.0031980	48.636
Si2881		0.80337	ppm	0.038160	4.7499
Sn1899		0.027254	ppm	0.00048900	1.7938
Sr4077		0.34776	ppm	0.0010200	0.29333
Ti3349	**W**	**9.0278**	**ppm**	**0.00083200**	**0.0092150**

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-253750-A-188-A

Acquire Date: 11/12/2019 2:29:34PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		-0.0029620	ppm	0.0011980	40.433
V_2924		0.40524	ppm	0.00097700	0.24121
Zn2062		0.56790	ppm	0.000033000	0.0057380
Y_2243		7,890.4	Cts/S	29.165	0.36962
Y_3600		58,497	Cts/S	173.44	0.29650
Y_3774		7,108.4	Cts/S	59.028	0.83039

CCV 1796754

Acquire Date: 11/12/2019 2:33:24PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.50215	ppm	0.00010400	0.020643	.50000	Rel(%)	Pass	
Al3961		25.458	ppm	0.26887	1.0561	25.000	Rel(%)	Pass	
As1890		0.52824	ppm	0.0014380	0.27217	.50000	Rel(%)	Pass	
B_2089		1.0231	ppm	0.00036200	0.035427	1.0000	Rel(%)	Pass	
Ba4554		2.6542	ppm	0.026740	1.0075	2.5000	Rel(%)	Pass	
Be3130		0.52880	ppm	0.0062660	1.1850	.50000	Rel(%)	Pass	
Ca3179		26.378	ppm	0.21033	0.79738	25.000	Rel(%)	Pass	
Cd2144		0.50514	ppm	0.00013700	0.027038	.50000	Rel(%)	Pass	
Co2286		2.5718	ppm	0.0027970	0.10875	2.5000	Rel(%)	Pass	
Cr2677		2.6053	ppm	0.0056760	0.21788	2.5000	Rel(%)	Pass	
Cu3247		2.4563	ppm	0.0034150	0.13904	2.5000	Rel(%)	Pass	
Fe2599		26.718	ppm	0.31677	1.1856	25.000	Rel(%)	Pass	
K_7664		25.725	ppm	0.31039	1.2065	25.000	Rel(%)	Pass	
Mg2790		26.019	ppm	0.038512	0.14802	25.000	Rel(%)	Pass	
Mn2576		2.5944	ppm	0.0013130	0.050621	2.5000	Rel(%)	Pass	
Mo2020		1.0159	ppm	0.0020830	0.20505	1.0000	Rel(%)	Pass	
Na5895		25.408	ppm	0.29172	1.1481	25.000	Rel(%)	Pass	
Ni2316		2.5797	ppm	0.0044150	0.17113	2.5000	Rel(%)	Pass	
P_1782		2.5541	ppm	0.0010230	0.040054	2.5000	Rel(%)	Pass	
Pb2203		0.51979	ppm	0.0033790	0.65000	.50000	Rel(%)	Pass	
S_1820		2.5409	ppm	0.0015100	0.059409	2.5000	Rel(%)	Pass	
Sb2068		0.52199	ppm	0.0013430	0.25737	.50000	Rel(%)	Pass	
Se1960		0.53427	ppm	0.0022170	0.41501	.50000	Rel(%)	Pass	
Si2881		2.5086	ppm	0.037249	1.4849	2.5000	Rel(%)	Pass	
Sn1899		2.5343	ppm	0.0037870	0.14943	2.5000	Rel(%)	Pass	
Sr4077		2.6451	ppm	0.027809	1.0514	2.5000	Rel(%)	Pass	
Ti3349		1.0126	ppm	0.0013510	0.13339	1.0000	Rel(%)	Pass	
Tl1908		0.50196	ppm	0.00072000	0.14336	.50000	Rel(%)	Pass	
V_2924		2.6319	ppm	0.00027000	0.010249	2.5000	Rel(%)	Pass	
Zn2062		2.6286	ppm	0.0029120	0.11078	2.5000	Rel(%)	Pass	
Y_2243		7,496.0	Cts/S	17.311	0.23094				
Y_3600		55,323	Cts/S	423.06	0.76472				
Y_3774		6,719.8	Cts/S	76.717	1.1417				

CCB 1745955

Acquire Date: 11/12/2019 2:37:09PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00057900	ppm	0.00063100	108.85	.00000	Abs	Pass	
Al3961	**W**	**0.050995**	**ppm**	**0.013691**	**26.848**	**.00000**	**Abs**	**Warn High**	**0.05000**
As1890		-0.0029750	ppm	0.00053300	17.920	.00000	Abs	Pass	
B_2089		-0.00015400	ppm	0.0011360	739.02	.00000	Abs	Pass	
Ba4554		0.0013390	ppm	0.00055600	41.561	.00000	Abs	Pass	
Be3130		0.000093000	ppm	0.0000010000	1.2812	.00000	Abs	Pass	
Ca3179		0.020157	ppm	0.0093550	46.413	.00000	Abs	Pass	
Cd2144		.0000070000	ppm	0.000048000	705.27	.00000	Abs	Pass	
Co2286		0.00013900	ppm	0.000068000	48.646	.00000	Abs	Pass	
Cr2677		0.00015200	ppm	0.000062000	40.982	.00000	Abs	Pass	
Cu3247		0.0039780	ppm	0.00076400	19.200	.00000	Abs	Pass	
Fe2599	**W**	**0.070538**	**ppm**	**0.017525**	**24.845**	**.00000**	**Abs**	**Warn High**	**0.05000**
K_7664		0.072817	ppm	0.040131	55.112	.00000	Abs	Pass	
Mg2790		0.0044090	ppm	0.0027280	61.867	.00000	Abs	Pass	
Mn2576		0.0010090	ppm	0.00025100	24.843	.00000	Abs	Pass	
Mo2020		0.000068000	ppm	0.00023400	345.77	.00000	Abs	Pass	
Na5895		0.013541	ppm	0.016653	122.98	.00000	Abs	Pass	
Ni2316		-0.00030000	ppm	0.0012910	430.16	.00000	Abs	Pass	
P_1782		0.00098800	ppm	0.00097000	98.118	.00000	Abs	Pass	
Pb2203		-0.00013500	ppm	0.0012100	896.70	.00000	Abs	Pass	
S_1820		0.00074400	ppm	0.00095400	128.27	.00000	Abs	Pass	
Sb2068		-0.00056500	ppm	0.000094000	16.625	.00000	Abs	Pass	
Se1960		0.0029040	ppm	0.0024320	83.740	.00000	Abs	Pass	
Si2881		0.063759	ppm	0.00051800	0.81245	.00000	Abs	Pass	
Sn1899		0.00094400	ppm	0.00045200	47.868	.00000	Abs	Pass	
Sr4077		0.00084000	ppm	0.00054200	64.562	.00000	Abs	Pass	
Ti3349		0.00049700	ppm	0.00047600	95.838	.00000	Abs	Pass	
Tl1908		0.00070100	ppm	0.0010020	142.90	.00000	Abs	Pass	
V_2924		0.00052600	ppm	0.00016000	30.438	.00000	Abs	Pass	
Zn2062	**W**	**0.0053450**	**ppm**	**0.00064300**	**12.021**	**.00000**	**Abs**	**Warn High**	**0.00500**
Y_2243		7,655.9	Cts/S	198.12	2.5878				
Y_3600		59,172	Cts/S	146.88	0.24822				
Y_3774		6,938.0	Cts/S	14.950	0.21548				

440-253750-A-189-A

Acquire Date: 11/12/2019 2:41:08PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00083700	ppm	0.00094500	112.88
Al3961		129.41	ppm	0.024779	0.019148
As1890		0.029361	ppm	0.0025820	8.7924
B_2089		0.027649	ppm	0.0013280	4.8043
Ba4554		1.2752	ppm	0.0019380	0.15194
Be3130		0.0057300	ppm	0.00011700	2.0450
Ca3179		29.639	ppm	0.087075	0.29379
Cd2144		0.0020890	ppm	0.00014100	6.7635
Co2286		0.086776	ppm	0.000052000	0.060165
Cr2677		0.18499	ppm	0.00085200	0.46041

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-253750-A-189-A

Acquire Date: 11/12/2019 2:41:08PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Cu3247		0.17969	ppm	0.00034500	0.19213
Fe2599		198.95	ppm	0.19755	0.099295
K_7664		29.559	ppm	0.014869	0.050302
Mg2790		35.122	ppm	0.032525	0.092608
Mn2576		5.8853	ppm	0.0048930	0.083146
Mo2020		0.0064960	ppm	0.000020000	0.30089
Na5895		1.4496	ppm	0.0035710	0.24635
Ni2316		0.11542	ppm	0.00086000	0.74518
P_1782		2.9617	ppm	0.0022930	0.077421
Pb2203		0.20543	ppm	0.0011710	0.56996
S_1820		0.39839	ppm	0.0051970	1.3045
Sb2068		0.0078690	ppm	0.000025000	0.31938
Se1960		0.0045220	ppm	0.0013620	30.127
Si2881		0.82230	ppm	0.025703	3.1258
Sn1899		0.030952	ppm	0.0012480	4.0330
Sr4077		0.35063	ppm	0.00063000	0.17955
Ti3349	**W**	**8.9932**	**ppm**	**0.0083490**	**0.092833**
Tl1908		-0.0055020	ppm	0.00017500	3.1857
V_2924		0.40282	ppm	0.00026900	0.066809
Zn2062		0.57879	ppm	0.0010360	0.17907
Y_2243		7,625.1	Cts/S	6.1252	0.080329
Y_3600		56,350	Cts/S	143.16	0.25406
Y_3774		6,845.7	Cts/S	34.019	0.49694

440-253750-A-190-A

Acquire Date: 11/12/2019 2:44:58PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00083200	ppm	0.00076200	91.542
Al3961		140.34	ppm	0.13140	0.093628
As1890		0.028242	ppm	0.00074200	2.6286
B_2089		0.029654	ppm	0.00020400	0.68784
Ba4554		1.2158	ppm	0.00025100	0.020675
Be3130		0.0063250	ppm	0.00016100	2.5491
Ca3179		27.385	ppm	0.039838	0.14547
Cd2144		0.0016900	ppm	0.00010400	6.1433
Co2286		0.087872	ppm	0.000056000	0.063253
Cr2677		0.19289	ppm	0.00021600	0.11196
Cu3247		0.16213	ppm	0.0022140	1.3655
Fe2599		208.93	ppm	0.12245	0.058606
K_7664		28.978	ppm	0.027399	0.094551
Mg2790		37.412	ppm	0.0066400	0.017748
Mn2576		5.8748	ppm	0.00050400	0.0085840
Mo2020		0.0062430	ppm	0.00066900	10.713
Na5895		1.6145	ppm	0.010597	0.65640
Ni2316		0.12024	ppm	0.000078000	0.064569
P_1782		3.2043	ppm	0.0052010	0.16231

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-253750-A-190-A

Acquire Date: 11/12/2019 2:44:58PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Pb2203		0.086098	ppm	0.0048100	5.5868
S_1820		0.25033	ppm	0.00061100	0.24395
Sb2068		0.0050650	ppm	0.0010950	21.612
Se1960		0.0067130	ppm	0.00040900	6.0990
Si2881		0.79519	ppm	0.0087610	1.1017
Sn1899		0.022156	ppm	0.000086000	0.38677
Sr4077		0.37736	ppm	0.00035600	0.094328
Ti3349	**W**	**9.3917**	**ppm**	**0.011729**	**0.12488**
Tl1908		-0.0053240	ppm	0.0015770	29.624
V_2924		0.42043	ppm	0.00035400	0.084111
Zn2062		0.46528	ppm	0.00057600	0.12373
Y_2243		7,829.7	Cts/S	9.9790	0.12745
Y_3600		57,941	Cts/S	95.660	0.16510
Y_3774		7,012.9	Cts/S	0.093743	0.0013370

440-253750-A-191-A

Acquire Date: 11/12/2019 2:48:47PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0025700	ppm	0.00045800	17.834
Al3961		143.38	ppm	1.3514	0.94258
As1890		0.038776	ppm	0.00035600	0.91729
B_2089		0.032063	ppm	0.0000080000	0.024941
Ba4554		1.6290	ppm	0.013088	0.80347
Be3130		0.0060550	ppm	0.00012800	2.1159
Ca3179		28.465	ppm	0.19755	0.69400
Cd2144		0.0074850	ppm	0.000033000	0.44545
Co2286		0.086260	ppm	0.00051400	0.59530
Cr2677		0.30021	ppm	0.00098600	0.32856
Cu3247		0.35115	ppm	0.00053800	0.15322
Fe2599		203.57	ppm	1.5787	0.77548
K_7664		28.544	ppm	0.31250	1.0948
Mg2790		36.043	ppm	0.0053480	0.014838
Mn2576		5.7819	ppm	0.00028700	0.0049600
Mo2020		0.010582	ppm	0.000068000	0.63820
Na5895		1.9123	ppm	0.023725	1.2407
Ni2316		0.14230	ppm	0.00064800	0.45563
P_1782		4.7738	ppm	0.0029180	0.061133
Pb2203		1.5171	ppm	0.0048150	0.31739
S_1820		2.2176	ppm	0.0072370	0.32636
Sb2068		0.011332	ppm	0.0021200	18.709
Se1960		0.0071100	ppm	0.00035800	5.0290
Si2881		1.0236	ppm	0.033263	3.2495
Sn1899		0.11143	ppm	0.00017300	0.15525
Sr4077		0.42990	ppm	0.0032690	0.76042
Ti3349	**W**	**8.5946**	**ppm**	**0.012846**	**0.14946**
Tl1908		-0.0057510	ppm	0.0019930	34.656

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-253750-A-191-A

Acquire Date: 11/12/2019 2:48:47PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
V_2924		0.42920	ppm	0.00030400	0.070882
Zn2062		2.0142	ppm	0.0048790	0.24222
Y_2243		7,713.4	Cts/S	23.212	0.30093
Y_3600		56,345	Cts/S	156.04	0.27694
Y_3774		6,899.4	Cts/S	33.248	0.48190

SD440-253750-A191A@5

Acquire Date: 11/12/2019 2:52:36PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0011040	ppm	0.00018900	17.135
Al3961		30.172	ppm	0.53731	1.7808
As1890		0.0068720	ppm	0.0011440	16.651
B_2089		0.0031170	ppm	0.00010800	3.4676
Ba4554		0.34268	ppm	0.0067390	1.9665
Be3130		0.0011990	ppm	0.000095000	7.8862
Ca3179		6.0661	ppm	0.11191	1.8448
Cd2144		0.0014840	ppm	0.000055000	3.7079
Co2286		0.018089	ppm	0.00030200	1.6685
Cr2677		0.061352	ppm	0.0011420	1.8611
Cu3247		0.075733	ppm	0.00019800	0.26200
Fe2599		43.615	ppm	0.82177	1.8841
K_7664		5.9183	ppm	0.060137	1.0161
Mg2790		7.5877	ppm	0.060589	0.79851
Mn2576		1.2093	ppm	0.010485	0.86706
Mo2020		0.0021030	ppm	0.000070000	3.3288
Na5895		0.46061	ppm	0.0039610	0.86001
Ni2316		0.030327	ppm	0.00045500	1.4986
P_1782		0.99263	ppm	0.0021610	0.21767
Pb2203		0.32049	ppm	0.0012010	0.37479
S_1820		0.46675	ppm	0.0046600	0.99835
Sb2068		0.0019320	ppm	0.0010790	55.871
Se1960		0.0040730	ppm	0.0010310	25.323
Si2881		0.26361	ppm	0.00072600	0.27541
Sn1899		0.022652	ppm	0.00021500	0.94702
Sr4077		0.091074	ppm	0.0014350	1.5758
Ti3349		1.7523	ppm	0.013611	0.77679
Tl1908		0.00011700	ppm	0.00074100	631.07
V_2924		0.088704	ppm	0.00067300	0.75896
Zn2062		0.43512	ppm	0.0045680	1.0498
Y_2243		7,603.3	Cts/S	2.4515	0.032243
Y_3600		56,262	Cts/S	591.36	1.0511
Y_3774		6,595.6	Cts/S	82.172	1.2459

PDS440-253750-A-191A

Acquire Date: 11/12/2019 2:56:28PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.10561	ppm	0.0019910	1.8857
Al3961		149.43	ppm	1.2859	0.86049
As1890		0.13617	ppm	0.0012720	0.93407
B_2089		0.96519	ppm	0.0027130	0.28111
Ba4554		1.6895	ppm	0.013448	0.79597
Be3130		0.057895	ppm	0.00071100	1.2280
Ca3179		38.056	ppm	0.27919	0.73364
Cd2144		0.10581	ppm	0.00024200	0.22873
Co2286		0.18313	ppm	0.00028500	0.15562
Cr2677		0.39208	ppm	0.00042100	0.10739
Cu3247		0.43527	ppm	0.00048000	0.11036
Fe2599		201.17	ppm	1.6309	0.81073
K_7664		38.182	ppm	0.20232	0.52989
Mg2790		44.735	ppm	0.028972	0.064765
Mn2576		5.6533	ppm	0.0076140	0.13469
Mo2020		0.10735	ppm	0.00030600	0.28537
Na5895		12.194	ppm	0.041864	0.34331
Ni2316		0.23621	ppm	0.00083700	0.35435
P_1782		5.5703	ppm	0.0037470	0.067272
Pb2203		1.5487	ppm	0.00076300	0.049237
S_1820		4.0868	ppm	0.0017310	0.042361
Sb2068		0.096879	ppm	0.00074900	0.77334
Se1960		0.11052	ppm	0.00032400	0.29334
Si2881		1.9536	ppm	0.012174	0.62314
Sn1899		0.20570	ppm	0.00018600	0.090406
Sr4077		0.52474	ppm	0.0034870	0.66455
Ti3349	**W**	**8.3663**	**ppm**	**0.014671**	**0.17536**
Tl1908		0.092686	ppm	0.0024580	2.6518
V_2924		0.51870	ppm	0.00070900	0.13675
Zn2062		2.0283	ppm	0.0020450	0.10080
Y_2243		7,745.0	Cts/S	50.458	0.65149
Y_3600		56,828	Cts/S	173.79	0.30582
Y_3774		7,026.2	Cts/S	26.267	0.37385

440-253750-A-191-B M

Acquire Date: 11/12/2019 3:00:12PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.047503	ppm	0.00069000	1.4530
Al3961		194.95	ppm	0.45319	0.23247
As1890		0.45717	ppm	0.0022070	0.48272
B_2089		3.7670	ppm	0.00017200	0.0045590
Ba4554		2.1717	ppm	0.0056950	0.26222
Be3130		0.23411	ppm	0.0013820	0.59022
Ca3179		53.008	ppm	0.095179	0.17956
Cd2144		0.22090	ppm	0.000095000	0.042857
Co2286		0.30066	ppm	0.00070000	0.23298

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-253750-A-191-B M

Acquire Date: 11/12/2019 3:00:12PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.48545	ppm	0.0013530	0.27873
Cu3247		0.56777	ppm	0.0032940	0.58019
Fe2599		211.92	ppm	0.54469	0.25702
K_7664		51.928	ppm	0.19437	0.37431
Mg2790		58.661	ppm	0.011756	0.020041
Mn2576		5.8775	ppm	0.0045330	0.077125
Mo2020		0.21438	ppm	0.00060900	0.28428
Na5895		24.579	ppm	0.082065	0.33388
Ni2316		0.37293	ppm	0.000090000	0.024209
P_1782		9.1837	ppm	0.010477	0.11408
Pb2203		1.6508	ppm	0.0023210	0.14059
S_1820		6.5739	ppm	0.0031510	0.047927
Sb2068		0.12417	ppm	0.0022540	1.8154
Se1960		0.42352	ppm	0.000092000	0.021815
Si2881		2.7356	ppm	0.023630	0.86378
Sn1899		0.50689	ppm	0.000070000	0.013878
Sr4077		0.67771	ppm	0.00074900	0.11046
Ti3349	**W**	**9.9205**	**ppm**	**0.0067430**	**0.067969**
Tl1908		0.40655	ppm	0.00028000	0.068759
V_2924		0.66803	ppm	0.0013160	0.19694
Zn2062		2.4182	ppm	0.0018250	0.075465
Y_2243		7,712.8	Cts/S	15.898	0.20612
Y_3600		56,272	Cts/S	86.292	0.15335
Y_3774		6,995.8	Cts/S	16.448	0.23511

440-253750-A-191-C M

Acquire Date: 11/12/2019 3:03:55PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.048233	ppm	0.000073000	0.15225
Al3961		202.42	ppm	0.89108	0.44021
As1890		0.46733	ppm	0.0063310	1.3547
B_2089		3.8757	ppm	0.0016260	0.041944
Ba4554		2.1704	ppm	0.0082060	0.37810
Be3130		0.23683	ppm	0.0011430	0.48261
Ca3179		53.678	ppm	0.21378	0.39827
Cd2144		0.22672	ppm	0.000036000	0.015744
Co2286		0.31330	ppm	0.00015900	0.050750
Cr2677		0.52926	ppm	0.00037900	0.071522
Cu3247		0.60341	ppm	0.0024040	0.39838
Fe2599		232.12	ppm	1.0675	0.45991
K_7664		53.353	ppm	0.24966	0.46793
Mg2790		61.318	ppm	0.097736	0.15939
Mn2576		6.2988	ppm	0.010398	0.16508
Mo2020		0.21990	ppm	0.00018100	0.082175
Na5895		24.944	ppm	0.10878	0.43610
Ni2316		0.38584	ppm	0.0010940	0.28354

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-253750-A-191-C M

Acquire Date: 11/12/2019 3:03:55PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		9.3063	ppm	0.0054850	0.058937
Pb2203		1.7432	ppm	0.0042770	0.24534
S_1820		6.6872	ppm	0.00062500	0.0093520
Sb2068		0.12998	ppm	0.0044190	3.4000
Se1960		0.43156	ppm	0.0010400	0.24109
Si2881		2.8675	ppm	0.063803	2.2250
Sn1899		0.55282	ppm	0.00057700	0.10445
Sr4077		0.68456	ppm	0.0027750	0.40537
Ti3349	**W**	**10.526**	**ppm**	**0.014246**	**0.13534**
Tl1908		0.42054	ppm	0.0022940	0.54540
V_2924		0.69730	ppm	0.00028000	0.040156
Zn2062		2.5480	ppm	0.00099600	0.039074
Y_2243		7,694.1	Cts/S	84.013	1.0919
Y_3600		55,837	Cts/S	121.30	0.21725
Y_3774		7,061.7	Cts/S	38.716	0.54826

440-253750-A-192-A

Acquire Date: 11/12/2019 3:07:39PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00082800	ppm	0.0010220	123.33
Al3961		148.10	ppm	0.40339	0.27238
As1890		0.033224	ppm	0.0011550	3.4769
B_2089		0.044419	ppm	0.0026970	6.0706
Ba4554		1.4123	ppm	0.0026850	0.19015
Be3130		0.0069720	ppm	0.000080000	1.1414
Ca3179		22.333	ppm	0.077275	0.34601
Cd2144		0.0027130	ppm	0.000060000	2.2183
Co2286		0.095001	ppm	0.00015600	0.16440
Cr2677		0.21182	ppm	0.000094000	0.044222
Cu3247		0.23462	ppm	0.00055100	0.23495
Fe2599		217.90	ppm	0.32529	0.14928
K_7664		30.670	ppm	0.17096	0.55742
Mg2790		38.715	ppm	0.16392	0.42341
Mn2576		6.6502	ppm	0.048969	0.73636
Mo2020		0.010181	ppm	0.000012000	0.11544
Na5895		2.0800	ppm	0.0040470	0.19454
Ni2316		0.13573	ppm	0.00083400	0.61459
P_1782		3.4452	ppm	0.0084510	0.24529
Pb2203		0.36367	ppm	0.000062000	0.017101
S_1820		0.63520	ppm	0.0050650	0.79734
Sb2068		0.0088050	ppm	0.0051160	58.103
Se1960		0.0071450	ppm	0.0032810	45.918
Si2881		0.98114	ppm	0.019877	2.0259
Sn1899		0.050047	ppm	0.00053400	1.0660
Sr4077		0.34630	ppm	0.0010920	0.31524
Ti3349	**W**	**9.5337**	**ppm**	**0.032605**	**0.34200**

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-253750-A-192-A

Acquire Date: 11/12/2019 3:07:39PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		-0.0055450	ppm	0.00027600	4.9819
V_2924		0.44599	ppm	0.00067200	0.15076
Zn2062		0.88650	ppm	0.0030590	0.34501
Y_2243		7,937.9	Cts/S	51.522	0.64907
Y_3600		58,245	Cts/S	193.39	0.33203
Y_3774		7,128.7	Cts/S	4.2485	0.059598

440-253750-A-193-A

Acquire Date: 11/12/2019 3:11:33PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00021600	ppm	0.00085500	395.23
Al3961		184.14	ppm	0.55378	0.30075
As1890		0.034247	ppm	0.0011680	3.4113
B_2089		0.036749	ppm	0.00041700	1.1337
Ba4554		1.4475	ppm	0.0052210	0.36067
Be3130		0.0079580	ppm	0.000090000	1.1371
Ca3179		21.686	ppm	0.068189	0.31444
Cd2144		0.0021100	ppm	0.000017000	0.79273
Co2286		0.10049	ppm	0.000033000	0.032956
Cr2677		0.22894	ppm	0.000033000	0.014369
Cu3247		0.18551	ppm	0.0017700	0.95403
Fe2599		241.83	ppm	0.78502	0.32462
K_7664		30.808	ppm	0.12973	0.42110
Mg2790		42.195	ppm	0.14165	0.33570
Mn2576		7.0555	ppm	0.039177	0.55527
Mo2020		0.0080340	ppm	0.00026900	3.3448
Na5895		2.7958	ppm	0.016421	0.58733
Ni2316		0.14488	ppm	0.00014700	0.10131
P_1782		3.8378	ppm	0.0060440	0.15750
Pb2203		0.14830	ppm	0.00044100	0.29706
S_1820		0.31275	ppm	0.0035180	1.1250
Sb2068		0.0073660	ppm	0.0014490	19.676
Se1960		0.0062080	ppm	0.0043180	69.548
Si2881		0.85915	ppm	0.053897	6.2733
Sn1899		0.027836	ppm	0.00092800	3.3337
Sr4077		0.34212	ppm	0.0013630	0.39852
Ti3349	**W**	**10.361**	**ppm**	**0.0012180**	**0.011753**
Tl1908		-0.0056410	ppm	0.00050800	9.0066
V_2924		0.50009	ppm	0.00074100	0.14817
Zn2062		0.59695	ppm	0.0038490	0.64470
Y_2243		7,815.2	Cts/S	2.6413	0.033796
Y_3600		56,960	Cts/S	168.71	0.29618
Y_3774		7,011.2	Cts/S	29.851	0.42577

440-253750-A-194-A

Acquire Date: 11/12/2019 3:15:34PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00087500	ppm	0.0012230	139.79
Al3961		148.15	ppm	0.95407	0.64401
As1890		0.037460	ppm	0.0031850	8.5018
B_2089		0.035630	ppm	0.00037400	1.0490
Ba4554		1.4452	ppm	0.0078450	0.54282
Be3130		0.0063740	ppm	0.000088000	1.3838
Ca3179		28.053	ppm	0.17897	0.63798
Cd2144		0.0047040	ppm	0.00012000	2.5411
Co2286		0.092973	ppm	0.00012600	0.13591
Cr2677		0.21240	ppm	0.00049500	0.23289
Cu3247		0.27507	ppm	0.00046500	0.16923
Fe2599		216.14	ppm	1.3563	0.62750
K_7664		28.862	ppm	0.17847	0.61834
Mg2790		37.959	ppm	0.0086750	0.022854
Mn2576		6.1428	ppm	0.0046650	0.075944
Mo2020		0.0093830	ppm	0.00026000	2.7687
Na5895		1.4723	ppm	0.020181	1.3707
Ni2316		0.14297	ppm	0.00034200	0.23887
P_1782		4.9676	ppm	0.031757	0.63927
Pb2203		0.85968	ppm	0.000063000	0.0073040
S_1820		1.7673	ppm	0.0071380	0.40388
Sb2068		0.0059570	ppm	0.0020760	34.857
Se1960		0.011727	ppm	0.00081700	6.9665
Si2881		1.0227	ppm	0.013055	1.2766
Sn1899		0.066163	ppm	0.00013000	0.19678
Sr4077		0.39827	ppm	0.0023940	0.60113
Ti3349	**W**	**9.0800**	**ppm**	**0.0054080**	**0.059555**
Tl1908		-0.0050290	ppm	0.0023050	45.847
V_2924		0.45252	ppm	0.00032600	0.072045
Zn2062		1.2376	ppm	0.0018640	0.15065
Y_2243		7,881.3	Cts/S	4.8484	0.061517
Y_3600		57,831	Cts/S	80.949	0.13998
Y_3774		7,163.6	Cts/S	54.646	0.76282

CCV 1796754

Acquire Date: 11/12/2019 3:19:22PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.50198	ppm	0.0000070000	0.0014170	.50000	Rel(%)	Pass	
Al3961		25.758	ppm	0.094279	0.36602	25.000	Rel(%)	Pass	
As1890		0.52591	ppm	0.00027400	0.052011	.50000	Rel(%)	Pass	
B_2089		1.0262	ppm	0.0032000	0.31183	1.0000	Rel(%)	Pass	
Ba4554		2.6779	ppm	0.012748	0.47606	2.5000	Rel(%)	Pass	
Be3130		0.53244	ppm	0.0035170	0.66062	.50000	Rel(%)	Pass	
Ca3179		26.642	ppm	0.17285	0.64877	25.000	Rel(%)	Pass	
Cd2144		0.50641	ppm	0.0010020	0.19796	.50000	Rel(%)	Pass	
Co2286		2.5719	ppm	0.00027600	0.010743	2.5000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCV 1796754

Acquire Date: 11/12/2019 3:19:22PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Cr2677		2.5969	ppm	0.00038800	0.014956	2.5000	Rel(%)	Pass	
Cu3247		2.4436	ppm	0.0032870	0.13453	2.5000	Rel(%)	Pass	
Fe2599		26.907	ppm	0.099789	0.37087	25.000	Rel(%)	Pass	
K_7664		25.978	ppm	0.11104	0.42743	25.000	Rel(%)	Pass	
Mg2790		25.945	ppm	0.0012510	0.0048220	25.000	Rel(%)	Pass	
Mn2576		2.5894	ppm	0.0024070	0.092967	2.5000	Rel(%)	Pass	
Mo2020		1.0184	ppm	0.00025600	0.025097	1.0000	Rel(%)	Pass	
Na5895		25.658	ppm	0.15026	0.58561	25.000	Rel(%)	Pass	
Ni2316		2.5823	ppm	0.0054530	0.21118	2.5000	Rel(%)	Pass	
P_1782		2.5641	ppm	0.0075610	0.29489	2.5000	Rel(%)	Pass	
Pb2203		0.51991	ppm	0.00045900	0.088340	.50000	Rel(%)	Pass	
S_1820		2.5386	ppm	0.000078000	0.0030610	2.5000	Rel(%)	Pass	
Sb2068		0.52038	ppm	0.0016910	0.32505	.50000	Rel(%)	Pass	
Se1960		0.53064	ppm	0.0029200	0.55020	.50000	Rel(%)	Pass	
Si2881		2.5359	ppm	0.029224	1.1524	2.5000	Rel(%)	Pass	
Sn1899		2.5416	ppm	0.0017410	0.068493	2.5000	Rel(%)	Pass	
Sr4077		2.6678	ppm	0.015531	0.58216	2.5000	Rel(%)	Pass	
Ti3349		1.0107	ppm	0.00043700	0.043280	1.0000	Rel(%)	Pass	
Tl1908		0.50240	ppm	0.0019760	0.39322	.50000	Rel(%)	Pass	
V_2924		2.6220	ppm	0.0014450	0.055129	2.5000	Rel(%)	Pass	
Zn2062		2.6363	ppm	0.0021800	0.082705	2.5000	Rel(%)	Pass	
Y_2243		7,403.1	Cts/S	4.6415	0.062697				
Y_3600		54,973	Cts/S	65.950	0.11997				
Y_3774		6,585.8	Cts/S	13.040	0.19800				

CCB 1745955

Acquire Date: 11/12/2019 3:23:07PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.00025500	ppm	0.0019090	748.82	.00000	Abs	Pass	
Al3961		0.0047960	ppm	0.0042170	87.933	.00000	Abs	Pass	
As1890		-0.00044000	ppm	0.0012500	284.02	.00000	Abs	Pass	
B_2089		0.0020390	ppm	0.00097800	47.940	.00000	Abs	Pass	
Ba4554		0.00058800	ppm	0.00040100	68.195	.00000	Abs	Pass	
Be3130		0.00015300	ppm	0.00039400	257.79	.00000	Abs	Pass	
Ca3179		0.0072970	ppm	0.0013430	18.401	.00000	Abs	Pass	
Cd2144		.0000030000	ppm	0.000090000	3,202.8	.00000	Abs	Pass	
Co2286		-0.00015500	ppm	0.00031200	200.84	.00000	Abs	Pass	
Cr2677		-0.00021100	ppm	0.00024300	114.83	.00000	Abs	Pass	
Cu3247		0.0032650	ppm	0.00037200	11.394	.00000	Abs	Pass	
Fe2599		0.031718	ppm	0.0056410	17.785	.00000	Abs	Pass	
K_7664		-0.039022	ppm	0.029272	75.015	.00000	Abs	Pass	
Mg2790		0.0069220	ppm	0.0060560	87.491	.00000	Abs	Pass	
Mn2576		0.00074800	ppm	0.000010000	1.3450	.00000	Abs	Pass	
Mo2020		0.00025300	ppm	0.000044000	17.246	.00000	Abs	Pass	
Na5895		0.036094	ppm	0.00032800	0.90836	.00000	Abs	Pass	
Ni2316		0.00042500	ppm	0.00036200	85.037	.00000	Abs	Pass	
P_1782		0.0060750	ppm	0.0018290	30.108	.00000	Abs	Pass	

CCB 1745955

Acquire Date: 11/12/2019 3:23:07PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Pb2203		0.000062000	ppm	0.00030700	494.64	.00000	Abs	Pass	
S_1820		0.0025630	ppm	0.0032950	128.55	.00000	Abs	Pass	
Sb2068		0.0026540	ppm	0.00085200	32.102	.00000	Abs	Pass	
Se1960		-0.00010000	ppm	0.0019510	1,941.2	.00000	Abs	Pass	
Si2881		0.031503	ppm	0.051238	162.64	.00000	Abs	Pass	
Sn1899		0.00092700	ppm	0.000096000	10.396	.00000	Abs	Pass	
Sr4077		0.00054000	ppm	0.000060000	11.174	.00000	Abs	Pass	
Ti3349		0.00019300	ppm	0.000012000	6.3289	.00000	Abs	Pass	
Tl1908		0.0011620	ppm	0.000068000	5.8664	.00000	Abs	Pass	
V_2924		0.00041500	ppm	0.00091000	219.52	.00000	Abs	Pass	
Zn2062	**W**	**0.0061020**	**ppm**	**0.00033400**	**5.4734**	**.00000**	**Abs**	**Warn High**	**0.00500**
Y_2243		7,611.1	Cts/S	10.171	0.13363				
Y_3600		57,689	Cts/S	327.79	0.56820				
Y_3774		6,655.6	Cts/S	43.256	0.64992				

440-253750-A-195-A

Acquire Date: 11/12/2019 3:27:06PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00018300	ppm	0.00069100	377.84
Al3961		131.69	ppm	0.57432	0.43613
As1890		0.028071	ppm	0.0012930	4.6073
B_2089		0.028105	ppm	0.00068900	2.4498
Ba4554		1.3167	ppm	0.0029480	0.22386
Be3130		0.0058650	ppm	0.00029600	5.0451
Ca3179		20.784	ppm	0.029951	0.14411
Cd2144		0.0015240	ppm	0.00012900	8.4744
Co2286		0.082199	ppm	0.00017400	0.21135
Cr2677		0.17762	ppm	0.00029600	0.16677
Cu3247		0.16804	ppm	0.0011840	0.70457
Fe2599		190.62	ppm	0.86617	0.45439
K_7664		24.150	ppm	0.080720	0.33425
Mg2790		33.205	ppm	0.13894	0.41843
Mn2576		5.0629	ppm	0.020043	0.39588
Mo2020		0.0075800	ppm	0.00012700	1.6817
Na5895		1.3302	ppm	0.0092120	0.69253
Ni2316		0.11300	ppm	0.00069300	0.61359
P_1782		2.5056	ppm	0.0058910	0.23510
Pb2203		0.21263	ppm	0.0049760	2.3404
S_1820		0.46631	ppm	0.0011370	0.24387
Sb2068		0.0057640	ppm	0.0057410	99.596
Se1960		0.0030100	ppm	0.0029610	98.344
Si2881		0.81249	ppm	0.013853	1.7050
Sn1899		0.031569	ppm	0.00022500	0.71274
Sr4077		0.32145	ppm	0.0011970	0.37228
Ti3349	**W**	**8.6254**	**ppm**	**0.019897**	**0.23068**
Tl1908		-0.0085100	ppm	0.0018260	21.453

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-253750-A-195-A

Acquire Date: 11/12/2019 3:27:06PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
V_2924		0.39434	ppm	0.00048500	0.12295
Zn2062		0.64263	ppm	0.0013490	0.20986
Y_2243		7,709.8	Cts/S	17.302	0.22442
Y_3600		57,020	Cts/S	217.50	0.38144
Y_3774		6,906.2	Cts/S	0.54290	0.0078610

440-253750-A-196-A

Acquire Date: 11/12/2019 3:30:55PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00079600	ppm	0.0012060	151.53
Al3961		163.40	ppm	0.070704	0.043270
As1890		0.030665	ppm	0.00010600	0.34681
B_2089		0.030358	ppm	0.00054600	1.7998
Ba4554		1.6107	ppm	0.000041000	0.0025380
Be3130		0.0071450	ppm	0.00030200	4.2251
Ca3179		25.178	ppm	0.059936	0.23805
Cd2144		0.0013260	ppm	0.000058000	4.3442
Co2286		0.098232	ppm	0.00020600	0.20975
Cr2677		0.20452	ppm	0.00046900	0.22916
Cu3247		0.17326	ppm	0.00050500	0.29119
Fe2599		218.70	ppm	0.13210	0.060403
K_7664		25.242	ppm	0.026574	0.10528
Mg2790		38.500	ppm	0.17152	0.44552
Mn2576		6.9480	ppm	0.039945	0.57492
Mo2020		0.010196	ppm	0.000029000	0.28659
Na5895		1.8418	ppm	0.0043060	0.23381
Ni2316		0.13137	ppm	0.00051200	0.38965
P_1782		2.7416	ppm	0.0050230	0.18322
Pb2203		0.17774	ppm	0.0035910	2.0203
S_1820		0.40121	ppm	0.0032060	0.79905
Sb2068		0.0075970	ppm	0.0011770	15.489
Se1960		0.0063340	ppm	0.0033930	53.573
Si2881		0.71984	ppm	0.024986	3.4711
Sn1899		0.027747	ppm	0.00045600	1.6417
Sr4077		0.34553	ppm	0.00053300	0.15427
Ti3349	**W**	**9.2936**	**ppm**	**0.025235**	**0.27153**
Tl1908		-0.0068580	ppm	0.00021700	3.1627
V_2924		0.45821	ppm	0.0010850	0.23689
Zn2062		0.63324	ppm	0.0026430	0.41741
Y_2243		7,614.9	Cts/S	4.2271	0.055510
Y_3600		56,032	Cts/S	377.72	0.67412
Y_3774		6,975.5	Cts/S	59.518	0.85324

440-253750-A-197-A

Acquire Date: 11/12/2019 3:34:49PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0046790	ppm	0.0013090	27.983
Al3961		125.17	ppm	0.39984	0.31945
As1890		0.038351	ppm	0.00028000	0.73012
B_2089		0.036940	ppm	0.00056100	1.5195
Ba4554		1.8036	ppm	0.0043410	0.24069
Be3130		0.0055810	ppm	0.000097000	1.7358
Ca3179		35.343	ppm	0.14369	0.40655
Cd2144		0.012187	ppm	0.000087000	0.71669
Co2286		0.089462	ppm	0.00051200	0.57212
Cr2677		0.20411	ppm	0.0016250	0.79633
Cu3247		0.53676	ppm	0.0011530	0.21481
Fe2599		198.73	ppm	0.65477	0.32947
K_7664		31.570	ppm	0.064833	0.20536
Mg2790		34.693	ppm	0.057618	0.16608
Mn2576		5.8007	ppm	0.0067280	0.11598
Mo2020		0.0090060	ppm	0.00068100	7.5568
Na5895		1.5483	ppm	0.0057970	0.37440
Ni2316		0.15305	ppm	0.00049100	0.32077
P_1782		6.3493	ppm	0.0038290	0.060303
Pb2203		1.7149	ppm	0.0069790	0.40695
S_1820		2.2080	ppm	0.0024950	0.11299
Sb2068		0.012985	ppm	0.0020980	16.159
Se1960		0.0099030	ppm	0.0036760	37.117
Si2881		0.90101	ppm	0.024621	2.7327
Sn1899		0.11458	ppm	0.00025000	0.21795
Sr4077		0.40973	ppm	0.0014550	0.35520
Ti3349	**W**	**8.2775**	**ppm**	**0.013009**	**0.15717**
Tl1908		-0.0055800	ppm	0.0030240	54.187
V_2924		0.39446	ppm	0.00069700	0.17676
Zn2062		2.6138	ppm	0.0035980	0.13765
Y_2243		7,711.6	Cts/S	26.474	0.34330
Y_3600		56,782	Cts/S	87.357	0.15385
Y_3774		6,920.6	Cts/S	6.4428	0.093095

440-253750-A-198-A

Acquire Date: 11/12/2019 3:38:35PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0013370	ppm	0.00016400	12.275
Al3961		128.91	ppm	0.042167	0.032711
As1890		0.027310	ppm	0.00086000	3.1506
B_2089		0.026747	ppm	0.00017000	0.63673
Ba4554		1.5408	ppm	0.00021000	0.013655
Be3130		0.0059280	ppm	0.00020900	3.5289
Ca3179		25.192	ppm	0.0094660	0.037576
Cd2144		0.0027670	ppm	0.000041000	1.4935
Co2286		0.092432	ppm	0.00011000	0.11914

440-253750-A-198-A

Acquire Date: 11/12/2019 3:38:35PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.18426	ppm	0.00018900	0.10261
Cu3247		0.22280	ppm	0.0013910	0.62444
Fe2599		198.28	ppm	0.034839	0.017571
K_7664		31.404	ppm	0.013823	0.044017
Mg2790		35.682	ppm	0.16525	0.46312
Mn2576		6.6743	ppm	0.014601	0.21877
Mo2020		0.0074710	ppm	0.000057000	0.76930
Na5895		1.4355	ppm	0.015757	1.0976
Ni2316		0.12758	ppm	0.00044700	0.35027
P_1782		3.8270	ppm	0.0078660	0.20555
Pb2203		0.34180	ppm	0.0033250	0.97294
S_1820		0.48699	ppm	0.0019100	0.39214
Sb2068		0.0069460	ppm	0.00047600	6.8592
Se1960		0.011369	ppm	0.00061300	5.3923
Si2881		0.76747	ppm	0.016716	2.1781
Sn1899		0.036455	ppm	0.00034100	0.93627
Sr4077		0.31644	ppm	0.00039800	0.12563
Ti3349	**W**	**9.0136**	**ppm**	**0.029125**	**0.32313**
Tl1908		-0.0080630	ppm	0.0024560	30.456
V_2924		0.40794	ppm	0.0016600	0.40687
Zn2062		0.76981	ppm	0.0025030	0.32520
Y_2243		7,748.0	Cts/S	53.461	0.69000
Y_3600		57,646	Cts/S	242.82	0.42124
Y_3774		7,031.7	Cts/S	12.162	0.17296

440-253750-A-199-A

Acquire Date: 11/12/2019 3:42:27PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		.0000060000	ppm	0.00025800	4,342.7
Al3961		153.18	ppm	0.88647	0.57870
As1890		0.030090	ppm	0.000090000	0.29906
B_2089		0.027561	ppm	0.000062000	0.22459
Ba4554		1.5190	ppm	0.0084100	0.55364
Be3130		0.0069350	ppm	0.000014000	0.19855
Ca3179		24.316	ppm	0.10892	0.44794
Cd2144		0.0020990	ppm	0.000023000	1.0970
Co2286		0.096539	ppm	0.00034900	0.36174
Cr2677		0.20615	ppm	0.00046100	0.22352
Cu3247		0.18497	ppm	0.00014000	0.075546
Fe2599		222.23	ppm	1.2890	0.58002
K_7664		32.787	ppm	0.11547	0.35219
Mg2790		39.944	ppm	0.048769	0.12209
Mn2576		7.0208	ppm	0.18094	2.5772
Mo2020		0.0069000	ppm	0.00017200	2.4951
Na5895		1.7479	ppm	0.013285	0.76009
Ni2316		0.13591	ppm	0.00019000	0.13946

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-253750-A-199-A

Acquire Date: 11/12/2019 3:42:27PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		3.6086	ppm	0.011430	0.31676
Pb2203		0.13076	ppm	0.0017210	1.3164
S_1820		0.21886	ppm	0.0051120	2.3357
Sb2068		0.0048580	ppm	0.00095100	19.580
Se1960		0.0070090	ppm	0.00087300	12.458
Si2881		0.84093	ppm	0.012711	1.5115
Sn1899		0.025025	ppm	0.00085400	3.4126
Sr4077		0.30675	ppm	0.0018520	0.60361
Ti3349	**W**	**10.084**	**ppm**	**0.0068620**	**0.068047**
Tl1908		-0.0089220	ppm	0.0017050	19.109
V_2924		0.45628	ppm	0.0011400	0.24993
Zn2062		0.56435	ppm	0.00085300	0.15120
Y_2243		7,701.5	Cts/S	0.50208	0.0065190
Y_3600		56,685	Cts/S	226.47	0.39953
Y_3774		6,869.1	Cts/S	37.191	0.54142

440-253750-A-200-A

Acquire Date: 11/12/2019 3:46:22PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0079220	ppm	0.00084700	10.698
Al3961		114.38	ppm	0.62773	0.54880
As1890		0.040855	ppm	0.0020440	5.0023
B_2089		0.035152	ppm	0.00020900	0.59372
Ba4554		1.5304	ppm	0.0079260	0.51794
Be3130		0.0048530	ppm	0.000048000	0.98929
Ca3179		44.242	ppm	0.24186	0.54668
Cd2144		0.0072140	ppm	0.000060000	0.82830
Co2286		0.072999	ppm	0.00068900	0.94360
Cr2677		0.21867	ppm	0.00027400	0.12551
Cu3247		0.47009	ppm	0.0013040	0.27748
Fe2599		176.16	ppm	1.0833	0.61494
K_7664		27.873	ppm	0.12514	0.44897
Mg2790		34.866	ppm	0.028772	0.082522
Mn2576		5.1498	ppm	0.0033070	0.064216
Mo2020		0.0081400	ppm	0.000034000	0.42273
Na5895		1.3252	ppm	0.0068120	0.51404
Ni2316		0.14549	ppm	0.00013100	0.089740
P_1782		11.480	ppm	0.052207	0.45476
Pb2203		0.78740	ppm	0.0056420	0.71658
S_1820		3.7583	ppm	0.0032500	0.086485
Sb2068		0.0068410	ppm	0.0042500	62.132
Se1960		0.0095640	ppm	0.0012110	12.660
Si2881		0.85284	ppm	0.0039680	0.46525
Sn1899		0.060851	ppm	0.00070900	1.1644
Sr4077		0.57451	ppm	0.0030860	0.53709
Ti3349	**W**	**6.9760**	**ppm**	**0.0049400**	**0.070821**

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-253750-A-200-A

Acquire Date: 11/12/2019 3:46:22PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		-0.0058350	ppm	0.0037750	64.686
V_2924		0.33025	ppm	0.0011950	0.36177
Zn2062		1.8847	ppm	0.0051510	0.27330
Y_2243		7,374.2	Cts/S	10.887	0.14763
Y_3600		54,102	Cts/S	49.772	0.091997
Y_3774		6,671.7	Cts/S	102.16	1.5312

440-253750-A-201-A

Acquire Date: 11/12/2019 3:50:10PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0017730	ppm	0.00022600	12.775
Al3961		143.20	ppm	0.47841	0.33407
As1890		0.034987	ppm	0.0018980	5.4241
B_2089		0.024327	ppm	0.00018300	0.75043
Ba4554		1.4681	ppm	0.0054540	0.37149
Be3130		0.0063750	ppm	0.00015300	2.3966
Ca3179		26.451	ppm	0.14860	0.56178
Cd2144		0.0039200	ppm	0.0000040000	0.094510
Co2286		0.094436	ppm	0.000065000	0.069118
Cr2677		0.21880	ppm	0.00058400	0.26670
Cu3247		0.28805	ppm	0.00010900	0.037758
Fe2599		213.78	ppm	0.62528	0.29249
K_7664		37.202	ppm	0.12692	0.34117
Mg2790		40.291	ppm	0.075366	0.18706
Mn2576		6.9343	ppm	0.051195	0.73829
Mo2020		0.0095330	ppm	0.000060000	0.63041
Na5895		1.5112	ppm	0.010437	0.69061
Ni2316		0.14602	ppm	0.00031700	0.21686
P_1782		6.1099	ppm	0.015443	0.25275
Pb2203		0.34909	ppm	0.0026740	0.76590
S_1820		0.85757	ppm	0.0026450	0.30841
Sb2068		0.0046880	ppm	0.000089000	1.9033
Se1960		0.0058650	ppm	0.0019460	33.183
Si2881		0.88869	ppm	0.035535	3.9986
Sn1899		0.035687	ppm	0.00088200	2.4721
Sr4077		0.38145	ppm	0.00074500	0.19522
Ti3349	**W**	**9.6251**	**ppm**	**0.019917**	**0.20693**
Tl1908		-0.0064720	ppm	0.00026400	4.0770
V_2924		0.42384	ppm	0.00085400	0.20157
Zn2062		0.92939	ppm	0.0026450	0.28457
Y_2243		7,613.4	Cts/S	0.68837	0.0090420
Y_3600		55,632	Cts/S	246.75	0.44354
Y_3774		6,713.8	Cts/S	18.868	0.28104

440-253750-A-202-A

Acquire Date: 11/12/2019 3:54:02PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00062800	ppm	0.00087400	139.19
Al3961		145.62	ppm	1.2289	0.84389
As1890		0.029929	ppm	0.0013170	4.3992
B_2089		0.020395	ppm	0.00072600	3.5596
Ba4554		1.3164	ppm	0.010036	0.76234
Be3130		0.0063030	ppm	0.00028300	4.4911
Ca3179		20.338	ppm	0.12799	0.62933
Cd2144		0.0022270	ppm	0.000042000	1.8724
Co2286		0.094209	ppm	0.000086000	0.090967
Cr2677		0.19954	ppm	0.00069700	0.34937
Cu3247		0.19026	ppm	0.00089900	0.47253
Fe2599		211.84	ppm	1.7311	0.81716
K_7664		36.864	ppm	0.26221	0.71129
Mg2790		38.979	ppm	0.011422	0.029303
Mn2576		7.0607	ppm	0.074766	1.0589
Mo2020		0.0078390	ppm	0.00024900	3.1803
Na5895		1.6625	ppm	0.011537	0.69397
Ni2316		0.13311	ppm	0.00082600	0.62045
P_1782		4.6379	ppm	0.0049540	0.10682
Pb2203		0.10794	ppm	0.00078500	0.72757
S_1820		0.26745	ppm	0.0026940	1.0074
Sb2068		0.0037420	ppm	0.0023490	62.791
Se1960		0.011527	ppm	0.0052080	45.179
Si2881		0.68997	ppm	0.062311	9.0310
Sn1899		0.022750	ppm	0.00039200	1.7236
Sr4077		0.31245	ppm	0.0024840	0.79503
Ti3349	**W**	**9.7337**	**ppm**	**0.011936**	**0.12263**
Tl1908		-0.0056300	ppm	0.0012360	21.962
V_2924		0.42204	ppm	0.00018800	0.044661
Zn2062		0.57780	ppm	0.0039980	0.69198
Y_2243		7,781.7	Cts/S	9.3376	0.11999
Y_3600		57,649	Cts/S	92.891	0.16113
Y_3774		6,945.3	Cts/S	37.249	0.53632

440-253750-A-203-A

Acquire Date: 11/12/2019 3:57:57PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0020110	ppm	0.0012780	63.542
Al3961		146.49	ppm	0.40321	0.27525
As1890		0.048547	ppm	0.00092000	1.8946
B_2089		0.032422	ppm	0.00056700	1.7492
Ba4554		2.2633	ppm	0.0065010	0.28725
Be3130		0.0063940	ppm	0.00031200	4.8760
Ca3179		32.724	ppm	0.037829	0.11560
Cd2144		0.013107	ppm	0.000058000	0.44571
Co2286		0.095188	ppm	0.00013100	0.13807

440-253750-A-203-A

Acquire Date: 11/12/2019 3:57:57PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.39956	ppm	0.00067400	0.16881
Cu3247		0.68994	ppm	0.00026900	0.038977
Fe2599		224.84	ppm	0.30696	0.13652
K_7664		37.501	ppm	0.0071120	0.018964
Mg2790		38.760	ppm	0.022741	0.058672
Mn2576		6.5730	ppm	0.0013270	0.020184
Mo2020		0.013819	ppm	0.00043800	3.1666
Na5895		1.5655	ppm	0.0029680	0.18956
Ni2316		0.24080	ppm	0.00051900	0.21551
P_1782		7.4657	ppm	0.019387	0.25969
Pb2203		7.6322	ppm	0.020865	0.27339
S_1820		2.4219	ppm	0.018275	0.75455
Sb2068		0.010428	ppm	0.00083800	8.0343
Se1960		0.010528	ppm	0.0040250	38.228
Si2881		0.93338	ppm	0.0079040	0.84687
Sn1899		0.10700	ppm	0.00016000	0.14918
Sr4077		0.36794	ppm	0.00083500	0.22683
Ti3349	**W**	**9.2757**	**ppm**	**0.00096000**	**0.010345**
Tl1908		-0.0084910	ppm	0.00023800	2.8029
V_2924		0.43957	ppm	0.0013030	0.29649
Zn2062		3.2240	ppm	0.0016640	0.051611
Y_2243		7,788.6	Cts/S	12.494	0.16041
Y_3600		56,750	Cts/S	17.572	0.030963
Y_3774		6,922.0	Cts/S	10.859	0.15688

440-253750-A-204-A

Acquire Date: 11/12/2019 4:01:45PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00027100	ppm	0.00028000	103.36
Al3961		143.36	ppm	0.11181	0.077992
As1890		0.032727	ppm	0.0010660	3.2574
B_2089		0.020892	ppm	0.00022800	1.0900
Ba4554		1.6471	ppm	0.0043490	0.26406
Be3130		0.0064380	ppm	0.00019200	2.9889
Ca3179		23.177	ppm	0.060755	0.26214
Cd2144		0.0041110	ppm	0.000046000	1.1086
Co2286		0.097071	ppm	0.000032000	0.032913
Cr2677		0.21220	ppm	0.00054500	0.25667
Cu3247		0.31152	ppm	0.00039900	0.12794
Fe2599		218.71	ppm	0.23271	0.10640
K_7664		35.020	ppm	0.029356	0.083827
Mg2790		38.236	ppm	0.049719	0.13003
Mn2576		7.0490	ppm	0.0070980	0.10069
Mo2020		0.0071310	ppm	0.00039700	5.5691
Na5895		1.3667	ppm	0.027215	1.9913
Ni2316		0.15141	ppm	0.00022900	0.15107

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-253750-A-204-A

Acquire Date: 11/12/2019 4:01:45PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		4.1843	ppm	0.0011990	0.028663
Pb2203		3.0815	ppm	0.0059130	0.19188
S_1820		0.63472	ppm	0.0044790	0.70567
Sb2068		0.0080850	ppm	0.0032050	39.639
Se1960		0.0071230	ppm	0.00097800	13.728
Si2881		0.76783	ppm	0.0056200	0.73198
Sn1899		0.044093	ppm	0.00088400	2.0046
Sr4077		0.28133	ppm	0.00030100	0.10709
Ti3349	**W**	**9.5087**	**ppm**	**0.010601**	**0.11149**
Tl1908		-0.0083740	ppm	0.0010450	12.476
V_2924		0.43489	ppm	0.00084400	0.19415
Zn2062		1.3501	ppm	0.0013880	0.10282
Y_2243		7,826.0	Cts/S	8.8033	0.11249
Y_3600		57,658	Cts/S	243.32	0.42200
Y_3774		6,959.5	Cts/S	38.455	0.55256

CCV 1796754

Acquire Date: 11/12/2019 4:05:40PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.50433	ppm	0.0026930	0.53403	.50000	Rel(%)	Pass	
Al3961		25.904	ppm	0.063720	0.24599	25.000	Rel(%)	Pass	
As1890		0.52588	ppm	0.0019570	0.37209	.50000	Rel(%)	Pass	
B_2089		1.0266	ppm	0.00057600	0.056111	1.0000	Rel(%)	Pass	
Ba4554		2.7030	ppm	0.0082970	0.30696	2.5000	Rel(%)	Pass	
Be3130		0.53540	ppm	0.00058500	0.10918	.50000	Rel(%)	Pass	
Ca3179		26.853	ppm	0.024370	0.090756	25.000	Rel(%)	Pass	
Cd2144		0.50968	ppm	0.000023000	0.0045900	.50000	Rel(%)	Pass	
Co2286		2.5881	ppm	0.00018400	0.0071230	2.5000	Rel(%)	Pass	
Cr2677		2.6144	ppm	0.0030490	0.11664	2.5000	Rel(%)	Pass	
Cu3247		2.4616	ppm	0.0010230	0.041542	2.5000	Rel(%)	Pass	
Fe2599		27.066	ppm	0.044891	0.16586	25.000	Rel(%)	Pass	
K_7664		26.153	ppm	0.20041	0.76628	25.000	Rel(%)	Pass	
Mg2790		26.153	ppm	0.0016150	0.0061750	25.000	Rel(%)	Pass	
Mn2576		2.6146	ppm	0.00052900	0.020242	2.5000	Rel(%)	Pass	
Mo2020		1.0226	ppm	0.0011260	0.11014	1.0000	Rel(%)	Pass	
Na5895		25.821	ppm	0.12562	0.48651	25.000	Rel(%)	Pass	
Ni2316		2.5903	ppm	0.0017180	0.066327	2.5000	Rel(%)	Pass	
P_1782		2.5673	ppm	0.011617	0.45251	2.5000	Rel(%)	Pass	
Pb2203		0.52745	ppm	0.0012110	0.22960	.50000	Rel(%)	Pass	
S_1820		2.5490	ppm	0.0061020	0.23938	2.5000	Rel(%)	Pass	
Sb2068		0.52552	ppm	0.00021300	0.040617	.50000	Rel(%)	Pass	
Se1960		0.53541	ppm	0.0028460	0.53149	.50000	Rel(%)	Pass	
Si2881		2.5097	ppm	0.020825	0.82977	2.5000	Rel(%)	Pass	
Sn1899		2.5560	ppm	0.0023810	0.093163	2.5000	Rel(%)	Pass	
Sr4077		2.6910	ppm	0.0089470	0.33249	2.5000	Rel(%)	Pass	
Ti3349		1.0184	ppm	0.0034110	0.33494	1.0000	Rel(%)	Pass	
Tl1908		0.50506	ppm	0.0013540	0.26803	.50000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCV 1796754

Acquire Date: 11/12/2019 4:05:40PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
V_2924		2.6441	ppm	0.00097400	0.036836	2.5000	Rel(%)	Pass	
Zn2062		2.6591	ppm	0.0025260	0.094997	2.5000	Rel(%)	Pass	
Y_2243		7,370.9	Cts/S	3.9535	0.053637				
Y_3600		55,038	Cts/S	39.091	0.071026				
Y_3774		6,565.1	Cts/S	63.406	0.96581				

CCB 1745955

Acquire Date: 11/12/2019 4:09:25PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.00098300	ppm	0.00018400	18.749	.00000	Abs	Pass	
Al3961		0.023501	ppm	0.046583	198.22	.00000	Abs	Pass	
As1890		-0.0014460	ppm	0.00016200	11.172	.00000	Abs	Pass	
B_2089		-0.00056000	ppm	0.00065600	117.12	.00000	Abs	Pass	
Ba4554		0.0014950	ppm	0.00041600	27.806	.00000	Abs	Pass	
Be3130		0.000075000	ppm	0.000052000	69.467	.00000	Abs	Pass	
Ca3179		0.0087990	ppm	0.0025630	29.133	.00000	Abs	Pass	
Cd2144		0.000084000	ppm	0.0000080000	9.9969	.00000	Abs	Pass	
Co2286		0.000059000	ppm	0.00032200	546.50	.00000	Abs	Pass	
Cr2677		0.00022400	ppm	0.00017800	79.252	.00000	Abs	Pass	
Cu3247		0.0051330	ppm	0.000022000	0.42569	.00000	Abs	Pass	
Fe2599		0.028375	ppm	0.0048100	16.951	.00000	Abs	Pass	
K_7664		0.025714	ppm	0.0068840	26.772	.00000	Abs	Pass	
Mg2790		0.0011270	ppm	0.0040750	361.71	.00000	Abs	Pass	
Mn2576		0.0012210	ppm	0.00000	0.019936	.00000	Abs	Pass	
Mo2020		0.00015100	ppm	0.00049900	331.22	.00000	Abs	Pass	
Na5895		0.0034980	ppm	0.014032	401.12	.00000	Abs	Pass	
Ni2316		0.00025400	ppm	0.00082900	326.22	.00000	Abs	Pass	
P_1782		0.0035350	ppm	0.00027200	7.6828	.00000	Abs	Pass	
Pb2203		0.000076000	ppm	0.0010090	1,329.6	.00000	Abs	Pass	
S_1820		0.0024600	ppm	0.00078200	31.784	.00000	Abs	Pass	
Sb2068		0.00049500	ppm	0.00093800	189.44	.00000	Abs	Pass	
Se1960		-0.0010670	ppm	0.00052900	49.543	.00000	Abs	Pass	
Si2881		0.056968	ppm	0.046057	80.848	.00000	Abs	Pass	
Sn1899		0.0010590	ppm	0.00040300	38.069	.00000	Abs	Pass	
Sr4077		0.00074300	ppm	0.00046200	62.161	.00000	Abs	Pass	
Ti3349		0.00082200	ppm	0.00051800	62.971	.00000	Abs	Pass	
Tl1908		0.00039900	ppm	0.00094800	237.73	.00000	Abs	Pass	
V_2924		-0.00014300	ppm	0.00087000	609.65	.00000	Abs	Pass	
Zn2062	**W**	**0.0086670**	**ppm**	**0.00096900**	**11.176**	**.00000**	**Abs**	**Warn High**	**0.00500**
Y_2243		7,327.6	Cts/S	1.3853	0.018906				
Y_3600		55,334	Cts/S	173.00	0.31265				
Y_3774		6,346.6	Cts/S	0.19772	0.0031150				

440-253750-A-205-A

Acquire Date: 11/12/2019 4:13:23PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0010170	ppm	0.00036400	35.774
Al3961		151.83	ppm	4.0725	2.6823
As1890		0.031159	ppm	0.0010640	3.4144
B_2089		0.021326	ppm	0.00099300	4.6557
Ba4554		1.4201	ppm	0.037578	2.6461
Be3130		0.0068550	ppm	0.00033700	4.9194
Ca3179		21.776	ppm	0.55748	2.5601
Cd2144		0.0025020	ppm	0.00016800	6.6954
Co2286		0.097463	ppm	0.00087900	0.90147
Cr2677		0.21342	ppm	0.0019400	0.90884
Cu3247		0.20878	ppm	0.0010100	0.48367
Fe2599		220.04	ppm	5.8200	2.6450
K_7664		32.415	ppm	0.76235	2.3518
Mg2790		39.636	ppm	0.10334	0.26071
Mn2576		7.2292	ppm	0.068033	0.94108
Mo2020		0.0052440	ppm	0.00036600	6.9835
Na5895		1.3801	ppm	0.042146	3.0538
Ni2316		0.14000	ppm	0.000084000	0.060239
P_1782		3.6475	ppm	0.0045620	0.12508
Pb2203		0.28058	ppm	0.0027400	0.97671
S_1820		0.25669	ppm	0.0096110	3.7443
Sb2068		0.0068290	ppm	0.00070600	10.336
Se1960		0.0074750	ppm	0.0063940	85.538
Si2881		0.67411	ppm	0.042923	6.3674
Sn1899		0.025388	ppm	0.00058400	2.2993
Sr4077		0.26469	ppm	0.0071040	2.6838
Ti3349	**W**	**10.071**	**ppm**	**0.036998**	**0.36737**
Tl1908		-0.0054790	ppm	0.00046900	8.5539
V_2924		0.45147	ppm	0.000046000	0.010250
Zn2062		0.70141	ppm	0.0019300	0.27517
Y_2243		7,531.4	Cts/S	36.444	0.48389
Y_3600		55,059	Cts/S	354.18	0.64328
Y_3774		6,714.8	Cts/S	131.04	1.9515

440-253750-A-206-A

Acquire Date: 11/12/2019 4:17:18PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0044160	ppm	0.00012300	2.7802
Al3961		137.28	ppm	0.42256	0.30780
As1890		0.061251	ppm	0.00090000	1.4687
B_2089		0.043113	ppm	0.00036900	0.85699
Ba4554		2.8015	ppm	0.0053030	0.18928
Be3130		0.0058800	ppm	0.000092000	1.5651
Ca3179		45.838	ppm	0.093138	0.20319
Cd2144		0.019152	ppm	0.0000090000	0.047020
Co2286		0.094755	ppm	0.00028100	0.29683

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-253750-A-206-A

Acquire Date: 11/12/2019 4:17:18PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.28357	ppm	0.00087700	0.30931
Cu3247		0.64006	ppm	0.00011900	0.018590
Fe2599		207.83	ppm	0.56160	0.27022
K_7664		25.759	ppm	0.048925	0.18993
Mg2790		40.271	ppm	0.039818	0.098874
Mn2576		6.3415	ppm	0.012674	0.19986
Mo2020		0.012695	ppm	0.00030300	2.3864
Na5895		1.6092	ppm	0.0040450	0.25138
Ni2316		0.21000	ppm	0.00075000	0.35736
P_1782		7.6602	ppm	0.0094050	0.12278
Pb2203		4.6636	ppm	0.0089240	0.19135
S_1820		3.8193	ppm	0.0015850	0.041499
Sb2068		0.018639	ppm	0.0019120	10.258
Se1960		0.0051530	ppm	0.0012160	23.602
Si2881		0.95055	ppm	0.0000090000	0.00099400
Sn1899		0.17089	ppm	0.000098000	0.057444
Sr4077		0.56883	ppm	0.0014590	0.25645
Ti3349	**W**	**8.3687**	**ppm**	**0.016378**	**0.19571**
Tl1908		-0.0093990	ppm	0.0027400	29.155
V_2924		0.43484	ppm	0.00065300	0.15013
Zn2062		5.1775	ppm	0.017747	0.34277
Y_2243		7,593.5	Cts/S	16.071	0.21164
Y_3600		55,751	Cts/S	140.40	0.25184
Y_3774		6,847.9	Cts/S	7.9399	0.11595

440-253750-A-207-A

Acquire Date: 11/12/2019 4:21:04PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0011110	ppm	0.00029500	26.543
Al3961		180.07	ppm	1.0354	0.57500
As1890		0.044255	ppm	0.0019400	4.3845
B_2089		0.030295	ppm	0.00010200	0.33752
Ba4554		1.8561	ppm	0.011593	0.62460
Be3130		0.0082810	ppm	0.0000050000	0.057449
Ca3179		31.166	ppm	0.21236	0.68139
Cd2144		0.0044190	ppm	0.000091000	2.0703
Co2286		0.12110	ppm	0.00057400	0.47401
Cr2677		0.27325	ppm	0.00064500	0.23592
Cu3247		0.30969	ppm	0.00074000	0.23886
Fe2599		258.93	ppm	1.4907	0.57571
K_7664		29.675	ppm	0.0019660	0.0066260
Mg2790		45.775	ppm	0.025918	0.056621
Mn2576		8.6518	ppm	0.0072160	0.083404
Mo2020		0.017180	ppm	0.00013300	0.77535
Na5895		1.5904	ppm	0.0083790	0.52686
Ni2316		0.18172	ppm	0.00055500	0.30558

440-253750-A-207-A

Acquire Date: 11/12/2019 4:21:04PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		3.7861	ppm	0.0051600	0.13630
Pb2203		0.85335	ppm	0.0010440	0.12233
S_1820		0.84823	ppm	0.011206	1.3211
Sb2068		0.0079580	ppm	0.00050100	6.2895
Se1960		0.011338	ppm	0.0023140	20.405
Si2881		0.98851	ppm	0.029074	2.9412
Sn1899		0.053470	ppm	0.00044500	0.83293
Sr4077		0.43554	ppm	0.0018180	0.41753
Ti3349	**W**	**10.730**	**ppm**	**0.0043630**	**0.040657**
Tl1908		-0.0070910	ppm	0.00086000	12.132
V_2924		0.55367	ppm	0.0030610	0.55291
Zn2062		1.3973	ppm	0.0044430	0.31799
Y_2243		7,721.1	Cts/S	27.717	0.35898
Y_3600		57,159	Cts/S	21.302	0.037269
Y_3774		6,985.2	Cts/S	31.297	0.44804

440-253750-A-208-A

Acquire Date: 11/12/2019 4:24:59PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00071800	ppm	0.000060000	8.3716
Al3961		201.07	ppm	0.39853	0.19820
As1890		0.042096	ppm	0.0010400	2.4711
B_2089		0.031282	ppm	0.00096800	3.0956
Ba4554		1.7559	ppm	0.0042810	0.24379
Be3130		0.0092430	ppm	0.000054000	0.57990
Ca3179		29.282	ppm	0.068074	0.23248
Cd2144		0.0037470	ppm	0.000010000	0.27762
Co2286		0.11731	ppm	0.000080000	0.068570
Cr2677		0.27172	ppm	0.00048200	0.17731
Cu3247		0.23839	ppm	0.00099600	0.41788
Fe2599		272.89	ppm	0.72410	0.26535
K_7664		28.141	ppm	0.19138	0.68006
Mg2790		46.330	ppm	0.13096	0.28267
Mn2576		8.1494	ppm	0.069441	0.85210
Mo2020		0.0096080	ppm	0.00057500	5.9895
Na5895		1.9398	ppm	0.0041540	0.21417
Ni2316		0.16885	ppm	0.00058800	0.34797
P_1782		3.5110	ppm	0.011918	0.33944
Pb2203		0.69264	ppm	0.0025860	0.37332
S_1820		0.62370	ppm	0.0084050	1.3477
Sb2068		0.010626	ppm	0.0010360	9.7532
Se1960		0.010421	ppm	0.00056500	5.4244
Si2881		0.90759	ppm	0.047589	5.2434
Sn1899		0.036466	ppm	0.00080800	2.2169
Sr4077		0.42748	ppm	0.0011090	0.25948
Ti3349	**W**	**10.709**	**ppm**	**0.028461**	**0.26578**

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-253750-A-208-A

Acquire Date: 11/12/2019 4:24:59PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		-0.0085480	ppm	0.00066100	7.7375
V_2924		0.57464	ppm	0.00079800	0.13889
Zn2062		1.1007	ppm	0.0017230	0.15649
Y_2243		7,578.2	Cts/S	14.557	0.19210
Y_3600		55,466	Cts/S	564.52	1.0178
Y_3774		6,855.7	Cts/S	25.399	0.37048

440-253750-A-210-A

Acquire Date: 11/12/2019 4:28:52PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0012040	ppm	0.0010050	83.463
Al3961		129.24	ppm	0.38205	0.29561
As1890		0.034804	ppm	0.0023810	6.8407
B_2089		0.033378	ppm	0.00045000	1.3497
Ba4554		1.5459	ppm	0.0053920	0.34880
Be3130		0.0057090	ppm	0.000093000	1.6291
Ca3179		32.232	ppm	0.090065	0.27943
Cd2144		0.0048030	ppm	0.000039000	0.80635
Co2286		0.091038	ppm	0.00087900	0.96515
Cr2677		0.22810	ppm	0.00052700	0.23124
Cu3247		0.28139	ppm	0.00069900	0.24845
Fe2599		195.20	ppm	0.74515	0.38174
K_7664		28.705	ppm	0.043267	0.15073
Mg2790		37.235	ppm	0.044189	0.11868
Mn2576		6.5186	ppm	0.099905	1.5326
Mo2020		0.010082	ppm	0.00016700	1.6606
Na5895		1.6805	ppm	0.0047180	0.28074
Ni2316		0.14158	ppm	0.00037800	0.26697
P_1782		4.9131	ppm	0.0045170	0.091934
Pb2203		0.91428	ppm	0.00095600	0.10456
S_1820		1.3579	ppm	0.0049220	0.36244
Sb2068		0.0063930	ppm	0.0023320	36.479
Se1960		0.0042560	ppm	0.0027000	63.446
Si2881		1.0206	ppm	0.049383	4.8389
Sn1899		0.055483	ppm	0.000034000	0.060855
Sr4077		0.42803	ppm	0.0015690	0.36647
Ti3349	**W**	**8.6723**	**ppm**	**0.023631**	**0.27249**
Tl1908		-0.0067440	ppm	0.00087500	12.972
V_2924		0.40500	ppm	0.00092900	0.22945
Zn2062		1.4344	ppm	0.0033340	0.23246
Y_2243		7,645.5	Cts/S	5.5087	0.072052
Y_3600		56,533	Cts/S	86.073	0.15225
Y_3774		6,869.8	Cts/S	10.864	0.15814

440-253750-A-211-A

Acquire Date: 11/12/2019 4:32:43PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00070400	ppm	0.0021950	311.63
Al3961		156.40	ppm	0.68552	0.43831
As1890		0.035355	ppm	0.0036420	10.302
B_2089		0.031027	ppm	0.0012640	4.0724
Ba4554		1.4692	ppm	0.0086460	0.58846
Be3130		0.0072400	ppm	0.0000070000	0.090504
Ca3179		25.601	ppm	0.13332	0.52077
Cd2144		0.0022150	ppm	0.00013100	5.8982
Co2286		0.10574	ppm	0.00051300	0.48492
Cr2677		0.22793	ppm	0.0014800	0.64932
Cu3247		0.21190	ppm	0.00022600	0.10644
Fe2599		224.83	ppm	1.1759	0.52302
K_7664		28.092	ppm	0.10924	0.38885
Mg2790		39.951	ppm	0.057708	0.14445
Mn2576		7.7231	ppm	0.085048	1.1012
Mo2020		0.010255	ppm	0.00013000	1.2721
Na5895		2.7324	ppm	0.023052	0.84367
Ni2316		0.14578	ppm	0.00010400	0.071296
P_1782		3.3111	ppm	0.0041270	0.12463
Pb2203		0.32190	ppm	0.00076200	0.23669
S_1820		0.57017	ppm	0.0021320	0.37386
Sb2068		0.0032100	ppm	0.0024210	75.410
Se1960		0.0074630	ppm	0.0022520	30.175
Si2881		0.92065	ppm	0.026610	2.8904
Sn1899		0.031051	ppm	0.00023800	0.76630
Sr4077		0.37784	ppm	0.0022890	0.60574
Ti3349	**W**	**9.8251**	**ppm**	**0.020689**	**0.21057**
Tl1908		-0.0080960	ppm	0.0014580	18.006
V_2924		0.47538	ppm	0.0024230	0.50969
Zn2062		0.77123	ppm	0.0014880	0.19292
Y_2243		7,684.2	Cts/S	59.545	0.77491
Y_3600		55,853	Cts/S	177.17	0.31720
Y_3774		6,747.7	Cts/S	15.348	0.22746

blank1

Acquire Date: 11/12/2019 4:36:37PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.000022000	ppm	0.00039000	1,748.0
Al3961		0.039606	ppm	0.039713	100.27
As1890		-0.0031400	ppm	0.0014010	44.612
B_2089		-0.0051970	ppm	0.00045900	8.8382
Ba4554		0.00078000	ppm	0.00017400	22.374
Be3130		-0.00035200	ppm	0.000022000	6.1453
Ca3179		0.019279	ppm	0.0024090	12.498
Cd2144		0.000099000	ppm	0.0000030000	3.2299
Co2286		0.00013400	ppm	0.00028200	211.40

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

blank1

Acquire Date: 11/12/2019 4:36:37PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.00013600	ppm	0.000058000	42.941
Cu3247		0.0029200	ppm	0.00014700	5.0415
Fe2599		0.12014	ppm	0.052178	43.431
K_7664		0.018144	ppm	0.0064740	35.680
Mg2790		0.025697	ppm	0.0049570	19.290
Mn2576		0.0063920	ppm	0.00046300	7.2421
Mo2020		-0.00047900	ppm	0.00018400	38.361
Na5895		0.016943	ppm	0.012334	72.798
Ni2316		-0.00063300	ppm	0.00024500	38.699
P_1782		0.0063960	ppm	0.00034800	5.4455
Pb2203		-0.00030500	ppm	0.0039430	1,291.7
S_1820		-0.00062800	ppm	0.0044830	714.32
Sb2068		0.0014690	ppm	0.00012800	8.7425
Se1960		-0.0022590	ppm	0.00037300	16.496
Si2881		0.0010630	ppm	0.000016000	1.5311
Sn1899		0.00048900	ppm	0.00034000	69.471
Sr4077		0.000024000	ppm	0.000013000	54.230
Ti3349		0.0072830	ppm	0.00093600	12.853
Tl1908		0.00090100	ppm	0.00064400	71.446
V_2924		0.00035500	ppm	0.000024000	6.8963
Zn2062		0.014415	ppm	0.00072400	5.0207
Y_2243		7,740.0	Cts/S	83.322	1.0765
Y_3600		57,303	Cts/S	39.052	0.068149
Y_3774		6,624.9	Cts/S	74.674	1.1272

blank2

Acquire Date: 11/12/2019 4:40:35PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00050900	ppm	0.000030000	5.8677
Al3961		0.016073	ppm	0.014784	91.980
As1890		-0.0014040	ppm	0.0012120	86.351
B_2089		-0.0051110	ppm	0.00058800	11.495
Ba4554		-0.00093800	ppm	0.00057100	60.919
Be3130		-0.00010100	ppm	0.00032800	323.84
Ca3179		-0.0036740	ppm	0.0039180	106.65
Cd2144		0.000068000	ppm	0.000093000	137.18
Co2286		-0.00035200	ppm	0.00026700	75.773
Cr2677		0.00060800	ppm	0.00063800	105.03
Cu3247		0.0030560	ppm	0.00031000	10.154
Fe2599		0.011057	ppm	0.0023070	20.870
K_7664		-0.012250	ppm	0.022723	185.49
Mg2790		-0.0030250	ppm	0.0026920	88.997
Mn2576		0.00043600	ppm	0.000082000	18.713
Mo2020		-0.00030400	ppm	0.000031000	10.090
Na5895		0.014117	ppm	0.00073500	5.2048
Ni2316		-0.00011300	ppm	0.00034100	301.14

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

blank2

Acquire Date: 11/12/2019 4:40:35PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		0.0018110	ppm	0.00027300	15.054
Pb2203		0.0010560	ppm	0.0027230	257.79
S_1820		0.000014000	ppm	0.0030110	21,713
Sb2068		0.000061000	ppm	0.0013640	2,242.3
Se1960		0.00034800	ppm	0.00049900	143.17
Si2881		0.065861	ppm	0.011281	17.128
Sn1899		0.00034700	ppm	0.000041000	11.879
Sr4077		-0.00022900	ppm	0.000081000	35.207
Ti3349		-0.00019200	ppm	0.000016000	8.3947
Tl1908		-0.00074200	ppm	0.00091000	122.59
V_2924		0.00058400	ppm	0.00022700	38.918
Zn2062		0.0035790	ppm	0.00031500	8.8088
Y_2243		7,833.9	Cts/S	31.697	0.40461
Y_3600		59,097	Cts/S	510.69	0.86416
Y_3774		6,779.7	Cts/S	73.107	1.0783

blank3

Acquire Date: 11/12/2019 4:44:32PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00012500	ppm	0.00086600	691.05
Al3961		0.14630	ppm	0.10101	69.044
As1890		-0.0018330	ppm	0.00021300	11.623
B_2089		-0.0048530	ppm	0.00010300	2.1131
Ba4554		0.00072000	ppm	0.0012640	175.57
Be3130		-0.00023500	ppm	0.00013500	57.248
Ca3179		0.024204	ppm	0.021214	87.647
Cd2144		0.000096000	ppm	0.000024000	24.851
Co2286		-0.00010100	ppm	0.000048000	47.391
Cr2677		.0000020000	ppm	0.00037500	17,706
Cu3247		0.0021100	ppm	0.00072000	34.148
Fe2599		0.20952	ppm	0.13234	63.166
K_7664		-0.025438	ppm	0.041207	161.99
Mg2790		-0.0011600	ppm	0.0053450	460.91
Mn2576		0.00037900	ppm	0.000010000	2.6531
Mo2020		-0.00018700	ppm	0.000098000	52.604
Na5895		0.018139	ppm	0.016505	90.993
Ni2316		-0.00063400	ppm	0.000024000	3.8352
P_1782		0.0012290	ppm	0.0026240	213.58
Pb2203		-0.0010110	ppm	0.00070400	69.597
S_1820		-0.00060400	ppm	0.00054200	89.710
Sb2068		0.0019110	ppm	0.0011630	60.882
Se1960		-0.00041200	ppm	0.00050200	121.89
Si2881		0.017798	ppm	0.0085130	47.829
Sn1899		-0.00046100	ppm	0.00065200	141.54
Sr4077		0.00011900	ppm	0.00032300	271.24
Ti3349		0.00031100	ppm	0.0013430	431.13

blank3

Acquire Date: 11/12/2019 4:44:32PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		-0.0012660	ppm	0.0015730	124.26
V_2924		0.000063000	ppm	0.0013460	2,140.7
Zn2062		0.00021100	ppm	0.0000020000	1.1113
Y_2243		7,682.2	Cts/S	30.052	0.39119
Y_3600		59,090	Cts/S	1,672.1	2.8297
Y_3774		6,727.4	Cts/S	17.192	0.25556

blank4

Acquire Date: 11/12/2019 4:48:29PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.000018000	ppm	0.0010700	6,101.9
Al3961		-0.019478	ppm	0.0099140	50.899
As1890		-0.0016300	ppm	0.00048400	29.688
B_2089		-0.0057860	ppm	0.00044900	7.7528
Ba4554		-0.00048600	ppm	0.000046000	9.5502
Be3130		-0.00039500	ppm	0.000056000	14.196
Ca3179		-0.0010070	ppm	0.010188	1,011.7
Cd2144		0.000068000	ppm	0.000047000	68.760
Co2286		-0.00029500	ppm	0.00018400	62.249
Cr2677		-0.00032800	ppm	0.0010390	316.37
Cu3247		0.0028550	ppm	0.0014520	50.842
Fe2599		0.0015760	ppm	0.0043260	274.55
K_7664		-0.037240	ppm	0.021779	58.483
Mg2790		-0.0021900	ppm	0.0011200	51.132
Mn2576		0.00030900	ppm	0.000024000	7.6398
Mo2020		-0.00019400	ppm	0.00010800	55.811
Na5895		0.012128	ppm	0.011940	98.449
Ni2316		-0.00036700	ppm	0.000020000	5.5810
P_1782		0.0036700	ppm	0.0014760	40.226
Pb2203		0.0012860	ppm	0.00080100	62.258
S_1820		-0.0034440	ppm	0.0022050	64.016
Sb2068		-0.00053900	ppm	0.00083300	154.60
Se1960		0.0021390	ppm	0.00015000	7.0133
Si2881		0.079358	ppm	0.015016	18.922
Sn1899		0.000042000	ppm	0.000067000	161.25
Sr4077		-0.00015200	ppm	0.000074000	48.410
Ti3349		-0.00024400	ppm	0.0012070	495.10
Tl1908		-0.00012300	ppm	0.00094400	767.09
V_2924		0.00017500	ppm	0.00051300	293.64
Zn2062		-0.00091000	ppm	0.00051800	56.857
Y_2243		7,728.1	Cts/S	26.072	0.33737
Y_3600		58,426	Cts/S	175.37	0.30016
Y_3774		6,845.6	Cts/S	36.556	0.53401

CCV 1796754

Acquire Date: 11/12/2019 4:52:28PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.50343	ppm	0.0010270	0.20405	.50000	Rel(%)	Pass	
Al3961		25.989	ppm	0.049402	0.19009	25.000	Rel(%)	Pass	
As1890		0.53163	ppm	0.0015340	0.28851	.50000	Rel(%)	Pass	
B_2089		1.0282	ppm	0.0013460	0.13094	1.0000	Rel(%)	Pass	
Ba4554		2.7119	ppm	0.0010350	0.038167	2.5000	Rel(%)	Pass	
Be3130		0.53808	ppm	0.00014300	0.026517	.50000	Rel(%)	Pass	
Ca3179		26.847	ppm	0.029264	0.10901	25.000	Rel(%)	Pass	
Cd2144		0.50995	ppm	0.00077100	0.15128	.50000	Rel(%)	Pass	
Co2286		2.5850	ppm	0.0022940	0.088731	2.5000	Rel(%)	Pass	
Cr2677		2.6112	ppm	0.0055860	0.21391	2.5000	Rel(%)	Pass	
Cu3247		2.4717	ppm	0.0012120	0.049049	2.5000	Rel(%)	Pass	
Fe2599		27.030	ppm	0.029676	0.10979	25.000	Rel(%)	Pass	
K_7664		26.167	ppm	0.047335	0.18090	25.000	Rel(%)	Pass	
Mg2790		26.021	ppm	0.0059750	0.022963	25.000	Rel(%)	Pass	
Mn2576		2.6021	ppm	0.0044990	0.17290	2.5000	Rel(%)	Pass	
Mo2020		1.0246	ppm	0.00054500	0.053145	1.0000	Rel(%)	Pass	
Na5895		25.922	ppm	0.032225	0.12432	25.000	Rel(%)	Pass	
Ni2316		2.5933	ppm	0.0019150	0.073830	2.5000	Rel(%)	Pass	
P_1782		2.5734	ppm	0.0015060	0.058506	2.5000	Rel(%)	Pass	
Pb2203		0.52158	ppm	0.00019500	0.037367	.50000	Rel(%)	Pass	
S_1820		2.5567	ppm	0.0088870	0.34761	2.5000	Rel(%)	Pass	
Sb2068		0.52525	ppm	0.0033010	0.62854	.50000	Rel(%)	Pass	
Se1960		0.53525	ppm	0.00058400	0.10915	.50000	Rel(%)	Pass	
Si2881		2.5036	ppm	0.054894	2.1926	2.5000	Rel(%)	Pass	
Sn1899		2.5527	ppm	0.0018820	0.073733	2.5000	Rel(%)	Pass	
Sr4077		2.7012	ppm	0.0018000	0.066649	2.5000	Rel(%)	Pass	
Ti3349		1.0163	ppm	0.0031980	0.31462	1.0000	Rel(%)	Pass	
Tl1908		0.50610	ppm	0.0019060	0.37653	.50000	Rel(%)	Pass	
V_2924		2.6424	ppm	0.0019380	0.073351	2.5000	Rel(%)	Pass	
Zn2062		2.6409	ppm	0.0039140	0.14820	2.5000	Rel(%)	Pass	
Y_2243		7,427.0	Cts/S	21.135	0.28456				
Y_3600		55,951	Cts/S	139.84	0.24994				
Y_3774		6,706.1	Cts/S	1.0076	0.015025				

CCB 1745955

Acquire Date: 11/12/2019 4:56:13PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00022100	ppm	0.00017600	79.863	.00000	Abs	Pass	
Al3961		-0.010565	ppm	0.017615	166.73	.00000	Abs	Pass	
As1890		-0.00078100	ppm	0.00022300	28.612	.00000	Abs	Pass	
B_2089		-0.0022160	ppm	0.00080700	36.420	.00000	Abs	Pass	
Ba4554		0.00053900	ppm	0.00024700	45.767	.00000	Abs	Pass	
Be3130		.0000030000	ppm	0.00045200	15,723	.00000	Abs	Pass	
Ca3179		0.013068	ppm	0.0080040	61.247	.00000	Abs	Pass	
Cd2144		.0000040000	ppm	0.000041000	1,102.0	.00000	Abs	Pass	
Co2286		-0.00010600	ppm	0.00065700	617.46	.00000	Abs	Pass	
Cr2677		0.00041500	ppm	0.0000080000	2.0451	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCB 1745955

Acquire Date: 11/12/2019 4:56:13PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Cu3247		0.0040470	ppm	0.00021300	5.2749	.00000	Abs	Pass	
Fe2599		0.0088490	ppm	0.0045280	51.165	.00000	Abs	Pass	
K_7664		-0.030958	ppm	0.055041	177.79	.00000	Abs	Pass	
Mg2790		0.0040730	ppm	0.0019430	47.712	.00000	Abs	Pass	
Mn2576		0.00072300	ppm	0.00022800	31.543	.00000	Abs	Pass	
Mo2020		0.00029000	ppm	0.000089000	30.481	.00000	Abs	Pass	
Na5895		0.024494	ppm	0.0036660	14.965	.00000	Abs	Pass	
Ni2316		0.00087600	ppm	0.00031600	36.131	.00000	Abs	Pass	
P_1782		0.0013700	ppm	0.0013740	100.27	.00000	Abs	Pass	
Pb2203		-0.00012500	ppm	0.00067400	539.79	.00000	Abs	Pass	
S_1820		-0.00066600	ppm	0.0020470	307.34	.00000	Abs	Pass	
Sb2068		-0.00037900	ppm	0.00089500	236.03	.00000	Abs	Pass	
Se1960		-0.0020560	ppm	0.0019300	93.847	.00000	Abs	Pass	
Si2881		0.032060	ppm	0.017955	56.003	.00000	Abs	Pass	
Sn1899		0.0010700	ppm	0.000032000	2.9684	.00000	Abs	Pass	
Sr4077		0.00046900	ppm	0.000031000	6.6933	.00000	Abs	Pass	
Ti3349		-0.00018600	ppm	0.00060500	325.49	.00000	Abs	Pass	
Tl1908		0.00058200	ppm	0.0025570	439.49	.00000	Abs	Pass	
V_2924		-0.00018500	ppm	0.00072100	389.29	.00000	Abs	Pass	
Zn2062		0.0012450	ppm	0.00026500	21.283	.00000	Abs	Pass	
Y_2243		7,953.5	Cts/S	15.800	0.19865				
Y_3600		60,478	Cts/S	298.12	0.49294				
Y_3774		6,921.7	Cts/S	82.967	1.1987				

MB 320-337495/1-A

Acquire Date: 11/12/2019 5:00:12PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00011800	ppm	0.00025600	217.28
Al3961		-0.015681	ppm	0.032427	206.79
As1890		0.00039200	ppm	0.0014160	361.23
B_2089		-0.0042950	ppm	0.00048600	11.306
Ba4554		-0.00027400	ppm	0.00013700	49.921
Be3130		0.000093000	ppm	0.000045000	48.459
Ca3179		0.011987	ppm	0.0030510	25.448
Cd2144		0.000076000	ppm	0.000028000	37.595
Co2286		-0.00039800	ppm	0.00055500	139.54
Cr2677		0.00057500	ppm	0.00028600	49.752
Cu3247		0.00084300	ppm	0.00072600	86.042
Fe2599		-0.010293	ppm	0.0024390	23.699
K_7664		-0.066324	ppm	0.014115	21.282
Mg2790		-0.00061800	ppm	0.0030780	498.26
Mn2576		0.000087000	ppm	0.000075000	85.546
Mo2020		-0.00015200	ppm	0.000047000	30.841
Na5895		0.00041200	ppm	0.023188	5,631.0
Ni2316		-0.00035100	ppm	0.00017500	49.857
P_1782		0.0022970	ppm	0.00094200	40.986
Pb2203		0.00035100	ppm	0.0016900	481.83

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

MB 320-337495/1-A

Acquire Date: 11/12/2019 5:00:12PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
S_1820		-0.0046680	ppm	0.0014330	30.687
Sb2068		-0.00022300	ppm	0.000068000	30.575
Se1960		-0.0022050	ppm	0.0023240	105.38
Si2881		0.038752	ppm	0.011908	30.727
Sn1899		-0.00018100	ppm	0.00044700	246.39
Sr4077		0.000097000	ppm	0.00013800	142.09
Ti3349		0.000048000	ppm	0.00018900	393.27
Tl1908		0.00032200	ppm	0.00077000	239.51
V_2924		-0.00030400	ppm	0.00018600	61.418
Zn2062		-0.0029840	ppm	0.00037700	12.624
Y_2243		7,739.1	Cts/S	3.8554	0.049817
Y_3600		58,723	Cts/S	425.58	0.72472
Y_3774		6,769.6	Cts/S	4.6677	0.068952

LCS 320-337495/2-A

Acquire Date: 11/12/2019 5:04:10PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.050630	ppm	0.00037600	0.74206
Al3961		5.1063	ppm	0.038845	0.76073
As1890	**W**	**0.50925**	**ppm**	**0.0014880**	**0.29213**
B_2089		5.0038	ppm	0.010548	0.21080
Ba4554	**W**	**0.52561**	**ppm**	**0.0020080**	**0.38195**
Be3130		0.26317	ppm	0.0019670	0.74742
Ca3179		26.446	ppm	0.14416	0.54513
Cd2144	**W**	**0.24995**	**ppm**	**0.00017600**	**0.070580**
Co2286		0.24899	ppm	0.00059900	0.24055
Cr2677	**W**	**0.25816**	**ppm**	**0.00062700**	**0.24272**
Cu3247		0.24865	ppm	0.00028100	0.11292
Fe2599		5.3143	ppm	0.026218	0.49334
K_7664		25.911	ppm	0.12093	0.46671
Mg2790		25.832	ppm	0.015288	0.059183
Mn2576		0.25778	ppm	0.000093000	0.035959
Mo2020		0.25239	ppm	0.000019000	0.0074360
Na5895		25.779	ppm	0.093672	0.36337
Ni2316		0.24924	ppm	0.0015500	0.62178
P_1782		5.3718	ppm	0.0012890	0.023987
Pb2203	**W**	**0.25656**	**ppm**	**0.00087600**	**0.34149**
S_1820	**F**	**5.2543**	**ppm**	**0.0097840**	**0.18622**
Sb2068		0.46138	ppm	0.0022590	0.48967
Se1960	**W**	**0.51948**	**ppm**	**0.000083000**	**0.015914**
Si2881	**W**	**4.9827**	**ppm**	**0.016521**	**0.33156**
Sn1899		0.50840	ppm	0.00092500	0.18188
Sr4077		0.26179	ppm	0.0013240	0.50568
Ti3349	**W**	**0.25247**	**ppm**	**0.00042100**	**0.16688**
Tl1908		0.50146	ppm	0.0026610	0.53064
V_2924		0.26233	ppm	0.00062300	0.23738

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

LCS 320-337495/2-A

Acquire Date: 11/12/2019 5:04:10PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Zn2062		0.52755	ppm	0.0021220	0.40227
Y_2243		7,610.4	Cts/S	35.400	0.46516
Y_3600		56,313	Cts/S	383.95	0.68182
Y_3774		6,714.8	Cts/S	6.3646	0.094784

MB 320-337500/1-A

Acquire Date: 11/12/2019 5:07:54PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.000025000	ppm	0.00046000	1,815.1
Al3961		-0.017438	ppm	0.0083910	48.121
As1890		-0.0013440	ppm	0.0022520	167.50
B_2089		0.013134	ppm	0.0039320	29.940
Ba4554		-0.00079300	ppm	0.00075200	94.852
Be3130		.0000050000	ppm	0.000090000	1,983.3
Ca3179		0.0042170	ppm	0.016716	396.40
Cd2144		0.000054000	ppm	0.000040000	75.533
Co2286		-0.00022600	ppm	0.000018000	7.7689
Cr2677		0.00018700	ppm	0.00014900	80.039
Cu3247		0.0020600	ppm	0.00090000	43.685
Fe2599		-0.017379	ppm	0.0054200	31.188
K_7664		-0.039581	ppm	0.044614	112.72
Mg2790		0.0061870	ppm	0.0010710	17.307
Mn2576		-0.00011800	ppm	0.000015000	12.814
Mo2020		0.000095000	ppm	0.000097000	102.05
Na5895		0.010732	ppm	0.0063930	59.571
Ni2316		-0.00041200	ppm	0.00018000	43.651
P_1782		0.0030800	ppm	0.00078800	25.592
Pb2203		-0.0020050	ppm	0.0036940	184.28
S_1820		-0.0013330	ppm	0.0023670	177.61
Sb2068		0.0022220	ppm	0.00070200	31.605
Se1960		0.0013940	ppm	0.0000050000	0.35047
Si2881		0.031711	ppm	0.0095860	30.229
Sn1899		0.000013000	ppm	0.00023000	1,780.5
Sr4077		0.000023000	ppm	0.000064000	282.86
Ti3349		-0.00016000	ppm	0.00023900	149.23
Tl1908		-0.0022520	ppm	0.00077300	34.308
V_2924		0.000023000	ppm	0.000024000	101.76
Zn2062		-0.0026930	ppm	0.00049700	18.465
Y_2243		7,743.1	Cts/S	19.832	0.25612
Y_3600		58,627	Cts/S	120.60	0.20570
Y_3774		6,749.1	Cts/S	35.481	0.52571

LCS 320-337500/2-A

Acquire Date: 11/12/2019 5:11:52PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.049461	ppm	0.00025600	0.51835
Al3961		5.1830	ppm	0.019110	0.36870
As1890	**W**	**0.51343**	**ppm**	**0.0030800**	**0.59994**
B_2089		5.0360	ppm	0.00074800	0.014843
Ba4554	**W**	**0.53518**	**ppm**	**0.00068100**	**0.12716**
Be3130		0.26665	ppm	0.00099100	0.37147
Ca3179		26.815	ppm	0.050208	0.18724
Cd2144	**W**	**0.25057**	**ppm**	**0.00011800**	**0.046937**
Co2286		0.25003	ppm	0.000061000	0.024451
Cr2677	**W**	**0.25769**	**ppm**	**0.000099000**	**0.038502**
Cu3247		0.24734	ppm	0.0024020	0.97093
Fe2599		5.3886	ppm	0.021014	0.38996
K_7664		26.123	ppm	0.018434	0.070565
Mg2790		25.683	ppm	0.020776	0.080894
Mn2576		0.25716	ppm	0.00011400	0.044233
Mo2020		0.25280	ppm	0.0000070000	0.0027290
Na5895		26.028	ppm	0.0014310	0.0054980
Ni2316		0.25017	ppm	0.0014580	0.58281
P_1782		5.4068	ppm	0.017547	0.32453
Pb2203	**W**	**0.25505**	**ppm**	**0.0010260**	**0.40210**
S_1820	**F**	**5.2849**	**ppm**	**0.017002**	**0.32170**
Sb2068		0.46418	ppm	0.0019580	0.42186
Se1960	**W**	**0.51906**	**ppm**	**0.0046800**	**0.90162**
Si2881	**W**	**5.0163**	**ppm**	**0.030746**	**0.61293**
Sn1899		0.51136	ppm	0.00025100	0.049140
Sr4077		0.26579	ppm	0.00056900	0.21404
Ti3349	**W**	**0.25200**	**ppm**	**0.00095500**	**0.37895**
Tl1908		0.50618	ppm	0.0010930	0.21585
V_2924		0.26200	ppm	0.00036600	0.13973
Zn2062		0.52401	ppm	0.00037300	0.071200
Y_2243		7,757.1	Cts/S	7.3180	0.094340
Y_3600		58,211	Cts/S	53.153	0.091310
Y_3774		7,056.7	Cts/S	10.443	0.14799

320-56102-C-9-A

Acquire Date: 11/12/2019 5:15:36PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.000070000	ppm	0.000015000	20.944
Al3961		0.15945	ppm	0.0084550	5.3024
As1890		0.0068100	ppm	0.0029840	43.813
B_2089		0.055993	ppm	0.0033800	6.0363
Ba4554		0.25853	ppm	0.0010620	0.41073
Be3130		0.00019100	ppm	0.00032800	172.05
Ca3179		47.370	ppm	0.0026570	0.0056090
Cd2144		0.000021000	ppm	0.000064000	296.53
Co2286		0.000027000	ppm	0.00017400	656.97

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-56102-C-9-A

Acquire Date: 11/12/2019 5:15:36PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.00054400	ppm	0.00038400	70.589
Cu3247		0.0062180	ppm	0.0016430	26.425
Fe2599		0.17930	ppm	0.0014850	0.82837
K_7664		13.924	ppm	0.090699	0.65137
Mg2790		33.106	ppm	0.16924	0.51119
Mn2576		0.017616	ppm	0.000058000	0.33024
Mo2020		0.015534	ppm	0.000092000	0.59069
Na5895	**W**	**351.31**	**ppm**	**4.9881**	**1.4198**
Ni2316		0.0025620	ppm	0.00045600	17.788
P_1782		0.025831	ppm	0.00038800	1.5027
Pb2203		-0.0011920	ppm	0.0011330	95.124
S_1820		18.900	ppm	0.0027680	0.014648
Sb2068		0.0014160	ppm	0.00089000	62.827
Se1960		0.0017190	ppm	0.0011280	65.633
Si2881		3.4608	ppm	0.021883	0.63231
Sn1899		0.00034100	ppm	0.00024100	70.741
Sr4077		0.53684	ppm	0.00049800	0.092809
Ti3349		-0.00022300	ppm	0.00075300	337.28
Tl1908		0.00035400	ppm	0.0042650	1,204.8
V_2924		0.010895	ppm	0.00036300	3.3283
Zn2062		0.0066850	ppm	0.00012200	1.8177
Y_2243		7,429.7	Cts/S	6.3538	0.085519
Y_3600		54,580	Cts/S	97.080	0.17787
Y_3774		6,899.3	Cts/S	117.55	1.7038

SD 320-56102-C-9-A@5

Acquire Date: 11/12/2019 5:19:36PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00038500	ppm	0.00080200	208.16
Al3961		0.0012140	ppm	0.014640	1,205.7
As1890		0.000092000	ppm	0.0015330	1,668.6
B_2089		0.014006	ppm	0.00037400	2.6690
Ba4554		0.052238	ppm	0.00058400	1.1172
Be3130		-0.00025900	ppm	0.000067000	25.794
Ca3179		9.7105	ppm	0.00025700	0.0026420
Cd2144		0.000068000	ppm	0.000075000	109.99
Co2286		.0000050000	ppm	0.00023200	4,960.7
Cr2677		0.00011200	ppm	0.00086100	770.34
Cu3247		0.0030410	ppm	0.00022400	7.3612
Fe2599		0.025270	ppm	0.0067270	26.620
K_7664		2.8698	ppm	0.018336	0.63893
Mg2790		6.8162	ppm	0.0078850	0.11569
Mn2576		0.0032860	ppm	0.000097000	2.9385
Mo2020		0.0032590	ppm	0.00020000	6.1359
Na5895		74.109	ppm	0.088035	0.11879
Ni2316		0.00027300	ppm	0.00057400	210.04

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

SD 320-56102-C-9-A@5

Acquire Date: 11/12/2019 5:19:36PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		0.0059950	ppm	0.00082600	13.779
Pb2203		-0.00066100	ppm	0.0013110	198.41
S_1820		3.7081	ppm	0.00012600	0.0033980
Sb2068		-0.00011900	ppm	0.000070000	58.457
Se1960		-0.0011150	ppm	0.0019600	175.70
Si2881		0.76867	ppm	0.0084090	1.0940
Sn1899		0.00034100	ppm	0.00078800	231.21
Sr4077		0.10969	ppm	0.000018000	0.016440
Ti3349		0.000036000	ppm	0.00020000	551.93
Tl1908		0.00051700	ppm	0.00023100	44.651
V_2924		0.0022490	ppm	0.00027800	12.376
Zn2062		-0.00071600	ppm	0.00070600	98.618
Y_2243		7,546.8	Cts/S	32.135	0.42581
Y_3600		56,091	Cts/S	81.899	0.14601
Y_3774		6,669.1	Cts/S	6.9522	0.10425

PDS 320-56102-C-9-A

Acquire Date: 11/12/2019 5:23:32PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.10342	ppm	0.00082700	0.80016
Al3961		10.495	ppm	0.054832	0.52249
As1890		0.11654	ppm	0.0011580	0.99404
B_2089		1.0109	ppm	0.00060100	0.059502
Ba4554		0.35663	ppm	0.00091000	0.25504
Be3130		0.052658	ppm	0.00024900	0.47239
Ca3179		55.910	ppm	0.064481	0.11533
Cd2144		0.10118	ppm	0.000063000	0.062362
Co2286		0.10128	ppm	0.00020800	0.20550
Cr2677		0.10602	ppm	0.000088000	0.083148
Cu3247		0.10855	ppm	0.00027400	0.25273
Fe2599		4.4213	ppm	0.023554	0.53274
K_7664		24.004	ppm	0.12670	0.52782
Mg2790		42.031	ppm	0.050889	0.12107
Mn2576		0.12095	ppm	0.00022200	0.18370
Mo2020		0.11648	ppm	0.000026000	0.022119
Na5895	**W**	**351.44**	**ppm**	**0.65310**	**0.18584**
Ni2316		0.10413	ppm	0.0010850	1.0423
P_1782		1.1098	ppm	0.0041680	0.37555
Pb2203		0.10042	ppm	0.00045700	0.45467
S_1820		20.164	ppm	0.043823	0.21734
Sb2068		0.092942	ppm	0.0022350	2.4042
Se1960		0.10673	ppm	0.0014110	1.3223
Si2881		4.3779	ppm	0.021409	0.48901
Sn1899		0.10207	ppm	0.00086000	0.84300
Sr4077		0.62300	ppm	0.0016190	0.25992
Ti3349		0.10326	ppm	0.00021400	0.20700

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

PDS 320-56102-C-9-A

Acquire Date: 11/12/2019 5:23:32PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		0.095059	ppm	0.00012200	0.12877
V_2924		0.11878	ppm	0.00026500	0.22352
Zn2062		0.11257	ppm	0.00055600	0.49369
Y_2243		7,335.6	Cts/S	1.6699	0.022765
Y_3600		53,955	Cts/S	193.83	0.35925
Y_3774		6,747.4	Cts/S	15.893	0.23555

320-56102-C-9-B MS

Acquire Date: 11/12/2019 5:27:26PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.045347	ppm	0.00014900	0.32884
Al3961		4.6904	ppm	0.037726	0.80431
As1890		0.47374	ppm	0.0038460	0.81178
B_2089		4.3402	ppm	0.0094610	0.21799
Ba4554		0.69657	ppm	0.0031310	0.44947
Be3130		0.23350	ppm	0.0010980	0.47022
Ca3179		65.177	ppm	0.37835	0.58049
Cd2144		0.22287	ppm	0.00022200	0.099777
Co2286		0.21885	ppm	0.00020500	0.093573
Cr2677		0.23057	ppm	0.00086400	0.37469
Cu3247		0.22555	ppm	0.00077200	0.34212
Fe2599		4.8494	ppm	0.039790	0.82052
K_7664		36.273	ppm	0.082981	0.22877
Mg2790		52.018	ppm	0.044584	0.085710
Mn2576		0.24201	ppm	0.00052900	0.21865
Mo2020		0.24055	ppm	0.00024100	0.10039
Na5895	**W**	**339.37**	**ppm**	**4.3895**	**1.2934**
Ni2316		0.21853	ppm	0.00080600	0.36897
P_1782		4.9506	ppm	0.0061920	0.12508
Pb2203		0.22014	ppm	0.0038530	1.7501
S_1820		22.021	ppm	0.039333	0.17861
Sb2068		0.40870	ppm	0.0017940	0.43886
Se1960		0.46938	ppm	0.000095000	0.020217
Si2881		7.6301	ppm	0.047423	0.62152
Sn1899		0.45680	ppm	0.000039000	0.0086410
Sr4077		0.70673	ppm	0.0026990	0.38183
Ti3349		0.22672	ppm	0.0019780	0.87245
Tl1908		0.42598	ppm	0.0031110	0.73028
V_2924		0.24548	ppm	0.00030500	0.12413
Zn2062		0.47494	ppm	0.000013000	0.0027860
Y_2243		7,221.7	Cts/S	7.1340	0.098786
Y_3600		52,922	Cts/S	1.8034	0.0034080
Y_3774		6,623.8	Cts/S	5.1571	0.077857

320-56102-C-9-C MSD

Acquire Date: 11/12/2019 5:31:15PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.048148	ppm	0.00053300	1.1080
Al3961		5.2866	ppm	0.017491	0.33085
As1890		0.52628	ppm	0.0012140	0.23067
B_2089		4.7727	ppm	0.0040670	0.085216
Ba4554		0.77777	ppm	0.00047500	0.061068
Be3130		0.25997	ppm	0.00024000	0.092325
Ca3179		72.617	ppm	0.050400	0.069406
Cd2144		0.24525	ppm	0.00044700	0.18213
Co2286		0.24364	ppm	0.000093000	0.038229
Cr2677		0.25471	ppm	0.0012770	0.50123
Cu3247		0.24749	ppm	0.00034700	0.14008
Fe2599		5.4135	ppm	0.0095650	0.17669
K_7664		40.148	ppm	0.080996	0.20174
Mg2790		57.647	ppm	0.021488	0.037276
Mn2576		0.26837	ppm	0.00075600	0.28174
Mo2020		0.26737	ppm	0.000010000	0.0036080
Na5895	**W**	**371.84**	**ppm**	**0.69781**	**0.18766**
Ni2316		0.24418	ppm	0.00078300	0.32069
P_1782		5.4645	ppm	0.0099430	0.18196
Pb2203		0.24315	ppm	0.0032700	1.3448
S_1820		24.145	ppm	0.028555	0.11827
Sb2068		0.44894	ppm	0.00012300	0.027459
Se1960		0.51319	ppm	0.0021370	0.41641
Si2881		8.3269	ppm	0.0097800	0.11745
Sn1899		0.50584	ppm	0.00029400	0.058157
Sr4077		0.79055	ppm	0.0014490	0.18327
Ti3349		0.25175	ppm	0.00055400	0.22020
Tl1908		0.46452	ppm	0.0019910	0.42858
V_2924		0.27326	ppm	0.00026800	0.098033
Zn2062		0.52007	ppm	0.0018670	0.35901
Y_2243		7,503.7	Cts/S	14.147	0.18853
Y_3600		55,188	Cts/S	188.93	0.34234
Y_3774		6,983.7	Cts/S	93.443	1.3380

320-56102-B-10-A

Acquire Date: 11/12/2019 5:35:04PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00023800	ppm	0.0010660	447.67
Al3961		0.16081	ppm	0.011190	6.9588
As1890		0.0064940	ppm	0.0012570	19.363
B_2089		0.071527	ppm	0.0021830	3.0521
Ba4554		0.25569	ppm	0.00036900	0.14450
Be3130		0.000048000	ppm	0.00033800	706.23
Ca3179		47.664	ppm	0.0037820	0.0079340
Cd2144		0.000087000	ppm	0.000012000	14.201
Co2286		0.000058000	ppm	0.00039200	671.84

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-56102-B-10-A

Acquire Date: 11/12/2019 5:35:04PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.00059900	ppm	0.00082000	136.78
Cu3247		0.0044380	ppm	0.00082200	18.512
Fe2599		0.17590	ppm	0.0010330	0.58755
K_7664		14.100	ppm	0.10561	0.74899
Mg2790		33.357	ppm	0.088169	0.26432
Mn2576		0.028197	ppm	0.000094000	0.33210
Mo2020		0.016026	ppm	0.00014100	0.87884
Na5895	**W**	**357.71**	**ppm**	**3.6061**	**1.0081**
Ni2316		0.0015980	ppm	0.0011340	70.948
P_1782		0.030506	ppm	0.0034410	11.281
Pb2203		0.0025580	ppm	0.0016000	62.547
S_1820		19.114	ppm	0.0048830	0.025546
Sb2068		0.0042030	ppm	0.0031460	74.845
Se1960		0.0016020	ppm	0.0013660	85.260
Si2881		3.4934	ppm	0.012970	0.37128
Sn1899		0.000020000	ppm	0.000065000	317.41
Sr4077		0.53740	ppm	0.00032200	0.059849
Ti3349		-0.0012500	ppm	0.00043700	34.965
Tl1908		0.00059800	ppm	0.0013900	232.48
V_2924		0.010240	ppm	0.00023700	2.3142
Zn2062		0.0063080	ppm	0.00035000	5.5528
Y_2243		7,444.3	Cts/S	61.552	0.82684
Y_3600		54,310	Cts/S	218.10	0.40159
Y_3774		6,812.4	Cts/S	39.966	0.58666

CCV 1796754

Acquire Date: 11/12/2019 5:39:05PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.50800	ppm	0.0015280	0.30081	.50000	Rel(%)	Pass	
Al3961		25.856	ppm	0.096378	0.37275	25.000	Rel(%)	Pass	
As1890		0.53494	ppm	0.0021560	0.40297	.50000	Rel(%)	Pass	
B_2089		1.0545	ppm	0.0014250	0.13511	1.0000	Rel(%)	Pass	
Ba4554		2.7083	ppm	0.010023	0.37010	2.5000	Rel(%)	Pass	
Be3130		0.53683	ppm	0.0020090	0.37432	.50000	Rel(%)	Pass	
Ca3179		26.817	ppm	0.028962	0.10800	25.000	Rel(%)	Pass	
Cd2144		0.51388	ppm	0.000027000	0.0052650	.50000	Rel(%)	Pass	
Co2286		2.6105	ppm	0.0032240	0.12351	2.5000	Rel(%)	Pass	
Cr2677		2.6224	ppm	0.0036880	0.14063	2.5000	Rel(%)	Pass	
Cu3247		2.4970	ppm	0.0030820	0.12345	2.5000	Rel(%)	Pass	
Fe2599		26.794	ppm	0.090893	0.33923	25.000	Rel(%)	Pass	
K_7664		26.320	ppm	0.010406	0.039534	25.000	Rel(%)	Pass	
Mg2790		26.125	ppm	0.015808	0.060508	25.000	Rel(%)	Pass	
Mn2576		2.6189	ppm	0.00041400	0.015803	2.5000	Rel(%)	Pass	
Mo2020		1.0323	ppm	0.0016520	0.16008	1.0000	Rel(%)	Pass	
Na5895		26.109	ppm	0.045522	0.17435	25.000	Rel(%)	Pass	
Ni2316		2.6159	ppm	0.0023110	0.088343	2.5000	Rel(%)	Pass	
P_1782		2.6082	ppm	0.0067520	0.25886	2.5000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCV 1796754

Acquire Date: 11/12/2019 5:39:05PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Pb2203		0.52922	ppm	0.0037890	0.71601	.50000	Rel(%)	Pass	
S_1820		2.6078	ppm	0.00031100	0.011927	2.5000	Rel(%)	Pass	
Sb2068		0.52888	ppm	0.0010980	0.20768	.50000	Rel(%)	Pass	
Se1960		0.54085	ppm	0.0015410	0.28498	.50000	Rel(%)	Pass	
Si2881		2.5634	ppm	0.013428	0.52384	2.5000	Rel(%)	Pass	
Sn1899		2.5843	ppm	0.0026840	0.10386	2.5000	Rel(%)	Pass	
Sr4077		2.6938	ppm	0.011117	0.41271	2.5000	Rel(%)	Pass	
Ti3349		1.0208	ppm	0.00071500	0.070074	1.0000	Rel(%)	Pass	
Tl1908		0.51330	ppm	0.00076100	0.14819	.50000	Rel(%)	Pass	
V_2924		2.6562	ppm	0.0019170	0.072153	2.5000	Rel(%)	Pass	
Zn2062		2.6552	ppm	0.0020250	0.076272	2.5000	Rel(%)	Pass	
Y_2243		7,586.0	Cts/S	15.253	0.20107				
Y_3600		56,652	Cts/S	238.82	0.42156				
Y_3774		6,877.7	Cts/S	15.047	0.21878				

CCB 1745955

Acquire Date: 11/12/2019 5:42:49PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00095500	ppm	0.00034000	35.552	.00000	Abs	Pass	
Al3961		0.012608	ppm	0.029229	231.84	.00000	Abs	Pass	
As1890		-0.0016910	ppm	0.0021690	128.23	.00000	Abs	Pass	
B_2089		0.0092620	ppm	0.00018500	1.9969	.00000	Abs	Pass	
Ba4554		0.0017580	ppm	0.0028320	161.06	.00000	Abs	Pass	
Be3130		0.00028500	ppm	0.00061400	215.30	.00000	Abs	Pass	
Ca3179		0.078622	ppm	0.10217	129.96	.00000	Abs	Pass	
Cd2144		0.000011000	ppm	0.000042000	381.94	.00000	Abs	Pass	
Co2286		0.000044000	ppm	0.00014400	325.94	.00000	Abs	Pass	
Cr2677		-0.00020700	ppm	0.000082000	39.659	.00000	Abs	Pass	
Cu3247		0.0027110	ppm	0.00018300	6.7352	.00000	Abs	Pass	
Fe2599		0.010858	ppm	0.020459	188.43	.00000	Abs	Pass	
K_7664		0.13052	ppm	0.11334	86.840	.00000	Abs	Pass	
Mg2790		0.0033750	ppm	0.0028370	84.072	.00000	Abs	Pass	
Mn2576		0.00028000	ppm	0.000021000	7.6436	.00000	Abs	Pass	
Mo2020		0.00042400	ppm	0.00034600	81.671	.00000	Abs	Pass	
Na5895		0.45216	ppm	0.46840	103.59	.00000	Abs	Pass	
Ni2316		-0.00030300	ppm	0.00018700	61.693	.00000	Abs	Pass	
P_1782		0.00025600	ppm	0.0028490	1,112.5	.00000	Abs	Pass	
Pb2203		0.00011900	ppm	0.0033260	2,789.6	.00000	Abs	Pass	
S_1820		0.0018600	ppm	0.0012950	69.628	.00000	Abs	Pass	
Sb2068		0.00046800	ppm	0.0023090	493.69	.00000	Abs	Pass	
Se1960		-0.00075200	ppm	0.0014710	195.65	.00000	Abs	Pass	
Si2881		0.032239	ppm	0.029254	90.742	.00000	Abs	Pass	
Sn1899		0.0013510	ppm	0.00090800	67.174	.00000	Abs	Pass	
Sr4077		0.0024770	ppm	0.0026410	106.62	.00000	Abs	Pass	
Ti3349		0.00048100	ppm	0.00058700	121.95	.00000	Abs	Pass	
Tl1908		-0.0027770	ppm	0.00012500	4.4891	.00000	Abs	Pass	
V_2924		0.00042000	ppm	0.00010200	24.311	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCB 1745955

Acquire Date: 11/12/2019 5:42:49PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Zn2062		-0.00023000	ppm	0.00079100	343.03	.00000	Abs	Pass	
Y_2243		7,630.6	Cts/S	127.30	1.6683				
Y_3600		58,484	Cts/S	467.75	0.79978				
Y_3774		6,915.5	Cts/S	74.980	1.0842				

320-56102-B-11-A

Acquire Date: 11/12/2019 5:46:47PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00047600	ppm	0.000061000	12.855
Al3961		0.16885	ppm	0.011625	6.8847
As1890		0.0095730	ppm	0.00066100	6.9065
B_2089		0.071723	ppm	0.00056000	0.78129
Ba4554		0.25547	ppm	0.00080700	0.31603
Be3130		-0.00025500	ppm	0.00015600	61.119
Ca3179		46.352	ppm	0.20128	0.43424
Cd2144		0.000046000	ppm	0.000085000	185.61
Co2286		-0.00023400	ppm	0.00039800	170.01
Cr2677		-0.00014800	ppm	0.0010410	702.65
Cu3247		0.0047450	ppm	0.0011100	23.399
Fe2599		0.18573	ppm	0.011233	6.0478
K_7664		14.484	ppm	0.10392	0.71749
Mg2790		34.506	ppm	0.026027	0.075428
Mn2576		0.010516	ppm	0.000014000	0.13471
Mo2020		0.016073	ppm	0.00012700	0.78826
Na5895	**W**	**370.23**	**ppm**	**0.19936**	**0.053848**
Ni2316		0.00095300	ppm	0.0012500	131.23
P_1782		0.025948	ppm	0.0011040	4.2555
Pb2203		-0.0024460	ppm	0.00090500	36.986
S_1820		19.903	ppm	0.042673	0.21441
Sb2068		0.0018160	ppm	0.0013210	72.774
Se1960		0.0043920	ppm	0.00075500	17.195
Si2881		3.6624	ppm	0.012373	0.33785
Sn1899		-0.00012400	ppm	0.000083000	66.724
Sr4077		0.54771	ppm	0.0022800	0.41626
Ti3349		-0.00030900	ppm	0.00013700	44.540
Tl1908		0.0022570	ppm	0.0025610	113.48
V_2924		0.013041	ppm	0.00032600	2.4987
Zn2062		0.0047430	ppm	0.00045200	9.5377
Y_2243		7,408.4	Cts/S	3.2181	0.043439
Y_3600		54,355	Cts/S	136.13	0.25045
Y_3774		6,794.2	Cts/S	2.6497	0.039000

320-56102-B-1-A

Acquire Date: 11/12/2019 5:50:47PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00050100	ppm	0.00086800	173.12
Al3961		0.0069700	ppm	0.012801	183.66
As1890		-0.00050600	ppm	0.0017000	335.73
B_2089		0.18224	ppm	0.00099300	0.54468
Ba4554		0.31799	ppm	0.0014470	0.45498
Be3130		0.00010600	ppm	0.00019900	187.77
Ca3179		56.742	ppm	0.099504	0.17536
Cd2144		0.000019000	ppm	0.000021000	111.06
Co2286		0.00034700	ppm	0.00011800	34.082
Cr2677		-0.00010800	ppm	0.00019100	177.96
Cu3247		0.0052970	ppm	0.00059400	11.207
Fe2599		0.0016250	ppm	0.0034270	210.86
K_7664		12.985	ppm	0.0016280	0.012537
Mg2790		30.672	ppm	0.017403	0.056739
Mn2576		0.027656	ppm	0.000040000	0.14428
Mo2020		0.0096220	ppm	0.00020700	2.1488
Na5895	**W**	**332.43**	**ppm**	**5.5423**	**1.6672**
Ni2316		0.0010170	ppm	0.000038000	3.7692
P_1782		0.037081	ppm	0.0012760	3.4408
Pb2203		-0.0020200	ppm	0.0046160	228.53
S_1820		17.905	ppm	0.0049960	0.027902
Sb2068		0.00098400	ppm	0.000041000	4.2110
Se1960		-0.00071900	ppm	0.00073800	102.61
Si2881		2.2214	ppm	0.0021670	0.097559
Sn1899		0.00029400	ppm	0.00034000	115.53
Sr4077		0.48730	ppm	0.0010740	0.22042
Ti3349		-0.0013720	ppm	0.000039000	2.8458
Tl1908		-0.00039200	ppm	0.0018940	483.19
V_2924		0.0035350	ppm	0.000066000	1.8680
Zn2062		0.014456	ppm	0.00024400	1.6858
Y_2243		7,450.1	Cts/S	38.045	0.51066
Y_3600		54,524	Cts/S	92.370	0.16941
Y_3774		6,798.3	Cts/S	23.988	0.35286

SD 320-56102-B-1-A@5

Acquire Date: 11/12/2019 5:54:46PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00058700	ppm	0.00018800	31.957
Al3961		-0.0075230	ppm	0.016791	223.21
As1890		-0.0016130	ppm	0.00028300	17.567
B_2089		0.037154	ppm	0.000040000	0.10824
Ba4554		0.063272	ppm	0.000054000	0.085924
Be3130		-0.00026800	ppm	0.00024100	89.935
Ca3179		11.495	ppm	0.049165	0.42770
Cd2144		0.000031000	ppm	0.000053000	174.22
Co2286		-0.00024900	ppm	0.00059400	238.40

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

SD 320-56102-B-1-A@5

Acquire Date: 11/12/2019 5:54:46PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.00055600	ppm	0.0010310	185.34
Cu3247		0.0028590	ppm	0.00054500	19.053
Fe2599		-0.0091170	ppm	0.0046740	51.272
K_7664		2.6007	ppm	0.071608	2.7534
Mg2790		6.2425	ppm	0.010302	0.16503
Mn2576		0.0053850	ppm	0.00018300	3.3949
Mo2020		0.0015750	ppm	0.00010700	6.7860
Na5895		68.809	ppm	0.34245	0.49769
Ni2316		-0.00024400	ppm	0.00013600	55.720
P_1782		0.0076450	ppm	0.00091100	11.918
Pb2203		0.00050700	ppm	0.0030970	610.73
S_1820		3.4859	ppm	0.0083920	0.24074
Sb2068		-0.0015450	ppm	0.00013800	8.9272
Se1960		0.0036320	ppm	0.00066000	18.175
Si2881		0.46390	ppm	0.037876	8.1648
Sn1899		-0.00054300	ppm	0.00062800	115.67
Sr4077		0.098217	ppm	0.00052000	0.52922
Ti3349		0.000050000	ppm	0.000039000	78.453
Tl1908		0.00055200	ppm	0.00044600	80.816
V_2924		0.00024100	ppm	0.000052000	21.443
Zn2062		0.00038700	ppm	0.000074000	19.152
Y_2243		7,576.3	Cts/S	6.8117	0.089908
Y_3600		56,494	Cts/S	74.979	0.13272
Y_3774		6,745.6	Cts/S	63.071	0.93500

PDS 320-56102-B-1-A

Acquire Date: 11/12/2019 5:58:40PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.10224	ppm	0.0011610	1.1351
Al3961		10.303	ppm	0.12196	1.1837
As1890		0.10533	ppm	0.0015080	1.4319
B_2089		1.1537	ppm	0.0014920	0.12935
Ba4554		0.41778	ppm	0.0051980	1.2441
Be3130		0.052740	ppm	0.00090800	1.7217
Ca3179		65.794	ppm	0.95089	1.4452
Cd2144		0.10113	ppm	0.000083000	0.081994
Co2286		0.10150	ppm	0.00073100	0.71978
Cr2677		0.10456	ppm	0.00041500	0.39665
Cu3247		0.10645	ppm	0.00029300	0.27492
Fe2599		4.2182	ppm	0.073269	1.7370
K_7664		23.157	ppm	0.36476	1.5752
Mg2790		40.308	ppm	0.082209	0.20395
Mn2576		0.13193	ppm	0.00028000	0.21252
Mo2020		0.11173	ppm	0.00055400	0.49568
Na5895	**W**	**336.43**	**ppm**	**4.9891**	**1.4829**
Ni2316		0.10249	ppm	0.00012600	0.12283

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

PDS 320-56102-B-1-A

Acquire Date: 11/12/2019 5:58:40PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		1.1210	ppm	0.00042100	0.037574
Pb2203		0.10034	ppm	0.00050800	0.50656
S_1820		19.699	ppm	0.033537	0.17024
Sb2068		0.092015	ppm	0.0031040	3.3732
Se1960		0.10904	ppm	0.0024210	2.2207
Si2881		3.2332	ppm	0.038197	1.1814
Sn1899		0.10165	ppm	0.00097100	0.95541
Sr4077		0.58372	ppm	0.0092340	1.5819
Ti3349		0.10259	ppm	0.00028700	0.27953
Tl1908		0.094009	ppm	0.00016700	0.17752
V_2924		0.11141	ppm	0.000079000	0.071339
Zn2062		0.12112	ppm	0.00014700	0.12123
Y_2243		7,417.2	Cts/S	4.8436	0.065302
Y_3600		54,546	Cts/S	67.202	0.12320
Y_3774		6,817.1	Cts/S	41.407	0.60739

320-56102-B-1-B MS

Acquire Date: 11/12/2019 6:02:32PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.047311	ppm	0.00042600	0.90079
Al3961		4.8941	ppm	0.024049	0.49140
As1890		0.49702	ppm	0.0027250	0.54834
B_2089		4.7593	ppm	0.0030830	0.064771
Ba4554		0.78716	ppm	0.000066000	0.0083710
Be3130		0.25004	ppm	0.000038000	0.015098
Ca3179		80.790	ppm	0.017464	0.021617
Cd2144		0.23628	ppm	0.000060000	0.025548
Co2286		0.23391	ppm	0.00091900	0.39283
Cr2677		0.24529	ppm	0.00026000	0.10605
Cu3247		0.23980	ppm	0.00059900	0.24991
Fe2599		5.0235	ppm	0.00055700	0.011086
K_7664		38.050	ppm	0.028470	0.074822
Mg2790		54.239	ppm	0.11395	0.21010
Mn2576		0.26866	ppm	0.000026000	0.0096770
Mo2020		0.25164	ppm	0.00011600	0.046182
Na5895	**W**	**353.71**	**ppm**	**0.047160**	**0.013333**
Ni2316		0.23389	ppm	0.00028900	0.12349
P_1782		5.3122	ppm	0.0023880	0.044946
Pb2203		0.23700	ppm	0.0080230	3.3851
S_1820		22.920	ppm	0.040310	0.17587
Sb2068		0.43495	ppm	0.0012170	0.27991
Se1960		0.49536	ppm	0.00027300	0.055060
Si2881		6.9812	ppm	0.0025330	0.036283
Sn1899		0.48646	ppm	0.000047000	0.0096790
Sr4077		0.73171	ppm	0.00080200	0.10964
Ti3349		0.24039	ppm	0.0014570	0.60611

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-56102-B-1-B MS

Acquire Date: 11/12/2019 6:02:32PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		0.44917	ppm	0.0019270	0.42905
V_2924		0.25523	ppm	0.00041600	0.16293
Zn2062		0.50754	ppm	0.0013910	0.27412
Y_2243		7,322.2	Cts/S	13.219	0.18054
Y_3600		54,130	Cts/S	135.14	0.24966
Y_3774		6,822.1	Cts/S	8.8653	0.12995

320-56102-B-1-C MSD

Acquire Date: 11/12/2019 6:06:22PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.048687	ppm	0.0013860	2.8466
Al3961		4.9606	ppm	0.011970	0.24130
As1890		0.50192	ppm	0.0014190	0.28279
B_2089		4.8215	ppm	0.0031210	0.064739
Ba4554		0.80419	ppm	0.0062850	0.78159
Be3130		0.25193	ppm	0.0018920	0.75088
Ca3179		82.411	ppm	0.57826	0.70167
Cd2144		0.23811	ppm	0.00025800	0.10843
Co2286		0.23546	ppm	0.00037100	0.15747
Cr2677		0.24858	ppm	0.00038000	0.15281
Cu3247		0.24278	ppm	0.0012310	0.50693
Fe2599		5.0524	ppm	0.037784	0.74784
K_7664		38.640	ppm	0.28092	0.72702
Mg2790		55.366	ppm	0.093979	0.16974
Mn2576		0.27248	ppm	0.00028900	0.10589
Mo2020		0.25373	ppm	0.00035200	0.13871
Na5895	**W**	**362.83**	**ppm**	**4.2494**	**1.1712**
Ni2316		0.23535	ppm	0.00042300	0.17981
P_1782		5.3644	ppm	0.011246	0.20963
Pb2203		0.23669	ppm	0.0021500	0.90831
S_1820		23.454	ppm	0.0072910	0.031085
Sb2068		0.44294	ppm	0.00077700	0.17532
Se1960		0.49700	ppm	0.0040740	0.81976
Si2881		7.1261	ppm	0.047951	0.67289
Sn1899		0.48863	ppm	0.0022600	0.46258
Sr4077		0.74577	ppm	0.0063470	0.85108
Ti3349		0.24404	ppm	0.00020800	0.085360
Tl1908		0.45497	ppm	0.0030950	0.68033
V_2924		0.25871	ppm	0.0011140	0.43046
Zn2062		0.51524	ppm	0.0019250	0.37368
Y_2243		7,374.8	Cts/S	9.3272	0.12648
Y_3600		54,171	Cts/S	40.892	0.075487
Y_3774		6,918.6	Cts/S	27.428	0.39644

320-56102-B-2-A

Acquire Date: 11/12/2019 6:10:13PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00070500	ppm	0.00016900	23.995
Al3961		0.028731	ppm	0.033480	116.53
As1890		-0.0012290	ppm	0.0010580	86.090
B_2089		0.21122	ppm	0.0020300	0.96131
Ba4554		0.30437	ppm	0.00085700	0.28148
Be3130		0.00014400	ppm	0.00018600	128.66
Ca3179		58.942	ppm	0.25708	0.43615
Cd2144		0.00013400	ppm	0.000031000	22.970
Co2286		0.00028000	ppm	0.000025000	8.7990
Cr2677		0.00083900	ppm	0.00045600	54.310
Cu3247		0.0072040	ppm	0.00057100	7.9314
Fe2599		0.056168	ppm	0.0052580	9.3605
K_7664		13.731	ppm	0.057370	0.41781
Mg2790		32.407	ppm	0.0057890	0.017863
Mn2576		0.064126	ppm	0.00010400	0.16266
Mo2020		0.010458	ppm	0.00026000	2.4852
Na5895	**W**	**347.11**	**ppm**	**0.97795**	**0.28174**
Ni2316		0.0010860	ppm	0.00021000	19.330
P_1782		0.033551	ppm	0.0019880	5.9261
Pb2203		0.00023500	ppm	0.00092100	391.36
S_1820		21.427	ppm	0.052343	0.24429
Sb2068		0.000087000	ppm	0.00053500	615.82
Se1960		0.0031090	ppm	0.0046860	150.74
Si2881		3.3101	ppm	0.059673	1.8028
Sn1899		0.000029000	ppm	0.000061000	208.89
Sr4077		0.51106	ppm	0.0022440	0.43902
Ti3349		-0.00098100	ppm	0.00034100	34.780
Tl1908		0.0023710	ppm	0.0016590	69.993
V_2924		0.0037680	ppm	0.00076200	20.214
Zn2062		0.012071	ppm	0.000075000	0.61976
Y_2243		7,384.8	Cts/S	14.330	0.19404
Y_3600		54,018	Cts/S	13.700	0.025361
Y_3774		6,756.1	Cts/S	10.934	0.16184

320-56102-A-3-A

Acquire Date: 11/12/2019 6:14:14PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00027000	ppm	0.0014180	525.99
Al3961		0.038742	ppm	0.0066470	17.156
As1890		-0.0018370	ppm	0.0013130	71.501
B_2089		0.19158	ppm	0.0011610	0.60621
Ba4554		0.22194	ppm	0.00096100	0.43290
Be3130		-0.00020100	ppm	0.00014700	72.864
Ca3179		42.762	ppm	0.10839	0.25347
Cd2144		0.000049000	ppm	0.0000060000	12.488
Co2286		-0.00026400	ppm	0.000027000	10.197

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-56102-A-3-A

Acquire Date: 11/12/2019 6:14:14PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		-0.00039200	ppm	0.000011000	2.8784
Cu3247		0.0050140	ppm	0.00018700	3.7384
Fe2599		0.052712	ppm	0.0017950	3.4045
K_7664		13.189	ppm	0.081809	0.62029
Mg2790		31.305	ppm	0.064326	0.20548
Mn2576		0.026453	ppm	0.00014900	0.56337
Mo2020		0.0095470	ppm	0.00015700	1.6480
Na5895	**W**	**372.35**	**ppm**	**1.2080**	**0.32442**
Ni2316		0.00081400	ppm	0.00028600	35.160
P_1782		0.033088	ppm	0.0013210	3.9912
Pb2203		-0.0022540	ppm	0.0020630	91.511
S_1820		18.151	ppm	0.0015110	0.0083240
Sb2068		0.000082000	ppm	0.00077600	948.95
Se1960		0.00059400	ppm	0.0012520	210.93
Si2881		3.1506	ppm	0.032881	1.0437
Sn1899		-0.00024300	ppm	0.00011900	49.122
Sr4077		0.42921	ppm	0.00043300	0.10082
Ti3349		-0.0011480	ppm	0.00036300	31.627
Tl1908		0.00012000	ppm	0.0026580	2,219.7
V_2924		0.0035040	ppm	0.00030600	8.7239
Zn2062		0.0034450	ppm	0.00016200	4.7081
Y_2243		7,474.4	Cts/S	12.959	0.17338
Y_3600		54,341	Cts/S	21.721	0.039972
Y_3774		6,806.6	Cts/S	36.457	0.53560

320-56102-A-4-A

Acquire Date: 11/12/2019 6:18:14PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00053100	ppm	0.00033900	63.862
Al3961		0.036595	ppm	0.0051580	14.094
As1890		-0.0014420	ppm	0.0025240	175.05
B_2089		0.19141	ppm	0.000019000	0.0098410
Ba4554		0.22017	ppm	0.0016100	0.73118
Be3130		-0.00012000	ppm	0.00025500	212.10
Ca3179		43.574	ppm	0.28879	0.66275
Cd2144		0.000081000	ppm	0.000071000	87.894
Co2286		-0.00022400	ppm	0.000025000	10.994
Cr2677		0.00041500	ppm	0.00078400	188.93
Cu3247		0.0069370	ppm	0.00090700	13.080
Fe2599		0.054673	ppm	0.0049920	9.1310
K_7664		13.504	ppm	0.047116	0.34891
Mg2790		32.115	ppm	0.070793	0.22044
Mn2576		0.028561	ppm	0.000065000	0.22790
Mo2020		0.010200	ppm	0.000028000	0.27051
Na5895	**W**	**373.92**	**ppm**	**7.8455**	**2.0981**
Ni2316		0.0028840	ppm	0.0013720	47.572

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-56102-A-4-A

Acquire Date: 11/12/2019 6:18:14PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		0.041020	ppm	0.0015920	3.8808
Pb2203		0.000058000	ppm	0.0047830	8,198.1
S_1820		18.865	ppm	0.10651	0.56461
Sb2068		0.00014700	ppm	0.00096400	656.94
Se1960		-0.00061100	ppm	0.00068700	112.39
Si2881		3.2476	ppm	0.095113	2.9287
Sn1899		0.000016000	ppm	0.00058000	3,632.2
Sr4077		0.44031	ppm	0.0016690	0.37898
Ti3349		-0.0010360	ppm	0.0010850	104.70
Tl1908		-0.0014090	ppm	0.0028640	203.30
V_2924		0.0033860	ppm	0.00031300	9.2428
Zn2062		0.0037610	ppm	0.00014900	3.9664
Y_2243		7,409.7	Cts/S	113.07	1.5260
Y_3600		54,398	Cts/S	87.000	0.15993
Y_3774		6,865.7	Cts/S	27.516	0.40078

320-56102-A-5-A

Acquire Date: 11/12/2019 6:22:15PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.000087000	ppm	0.00039800	456.19
Al3961		0.050297	ppm	0.0060010	11.931
As1890		-0.0019130	ppm	0.0027170	142.01
B_2089		0.19054	ppm	0.00056600	0.29727
Ba4554		0.14257	ppm	0.00011400	0.080159
Be3130		-0.00025900	ppm	0.000048000	18.627
Ca3179		28.949	ppm	0.12266	0.42370
Cd2144		0.000079000	ppm	0.000023000	29.176
Co2286		0.000088000	ppm	0.00027400	312.46
Cr2677		-0.00040500	ppm	0.00083900	207.06
Cu3247		0.0081800	ppm	0.0012950	15.828
Fe2599		0.050153	ppm	0.0043930	8.7602
K_7664		13.933	ppm	0.057290	0.41120
Mg2790		31.674	ppm	0.064578	0.20389
Mn2576		0.010503	ppm	0.000089000	0.84568
Mo2020		0.0098840	ppm	0.000061000	0.61997
Na5895	**W**	**389.08**	**ppm**	**0.53585**	**0.13772**
Ni2316		0.0015970	ppm	0.00069500	43.517
P_1782		0.039610	ppm	0.00035300	0.89147
Pb2203		-0.00048500	ppm	0.00053300	109.88
S_1820		19.161	ppm	0.013321	0.069523
Sb2068		0.0023150	ppm	0.0014390	62.155
Se1960		0.0036760	ppm	0.0010360	28.180
Si2881		3.2192	ppm	0.024931	0.77443
Sn1899		0.000028000	ppm	0.000045000	159.46
Sr4077		0.35593	ppm	0.0015280	0.42929
Ti3349		-0.00043300	ppm	0.000010000	2.2356

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-56102-A-5-A

Acquire Date: 11/12/2019 6:22:15PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		-0.00034900	ppm	0.00079800	228.45
V_2924		0.0035260	ppm	0.00014500	4.0991
Zn2062		0.019092	ppm	0.00026400	1.3811
Y_2243		7,550.2	Cts/S	2.8941	0.038331
Y_3600		54,990	Cts/S	68.166	0.12396
Y_3774		6,912.2	Cts/S	17.418	0.25199

CCV 1796754

Acquire Date: 11/12/2019 6:26:16PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.50468	ppm	0.0010610	0.21015	.50000	Rel(%)	Pass	
Al3961		25.815	ppm	0.024067	0.093231	25.000	Rel(%)	Pass	
As1890		0.53366	ppm	0.0032510	0.60922	.50000	Rel(%)	Pass	
B_2089		1.0438	ppm	0.000022000	0.0021110	1.0000	Rel(%)	Pass	
Ba4554		2.7050	ppm	0.010584	0.39129	2.5000	Rel(%)	Pass	
Be3130		0.53516	ppm	0.0019450	0.36349	.50000	Rel(%)	Pass	
Ca3179		26.741	ppm	0.074365	0.27810	25.000	Rel(%)	Pass	
Cd2144		0.51143	ppm	0.00032300	0.063063	.50000	Rel(%)	Pass	
Co2286		2.5981	ppm	0.0025920	0.099779	2.5000	Rel(%)	Pass	
Cr2677		2.6129	ppm	0.0013590	0.052006	2.5000	Rel(%)	Pass	
Cu3247		2.4895	ppm	0.0029200	0.11731	2.5000	Rel(%)	Pass	
Fe2599		26.865	ppm	0.15240	0.56727	25.000	Rel(%)	Pass	
K_7664		26.237	ppm	0.051547	0.19647	25.000	Rel(%)	Pass	
Mg2790		26.037	ppm	0.014044	0.053937	25.000	Rel(%)	Pass	
Mn2576		2.6025	ppm	0.0019450	0.074720	2.5000	Rel(%)	Pass	
Mo2020		1.0303	ppm	0.00092500	0.089766	1.0000	Rel(%)	Pass	
Na5895		26.162	ppm	0.016138	0.061686	25.000	Rel(%)	Pass	
Ni2316		2.6087	ppm	0.0011040	0.042329	2.5000	Rel(%)	Pass	
P_1782		2.5967	ppm	0.0060220	0.23190	2.5000	Rel(%)	Pass	
Pb2203		0.52676	ppm	0.0018160	0.34483	.50000	Rel(%)	Pass	
S_1820		2.5868	ppm	0.0065980	0.25505	2.5000	Rel(%)	Pass	
Sb2068		0.52696	ppm	0.0024270	0.46057	.50000	Rel(%)	Pass	
Se1960		0.54047	ppm	0.0039240	0.72602	.50000	Rel(%)	Pass	
Si2881		2.5592	ppm	0.031430	1.2281	2.5000	Rel(%)	Pass	
Sn1899		2.5724	ppm	0.0036440	0.14165	2.5000	Rel(%)	Pass	
Sr4077		2.6913	ppm	0.010321	0.38350	2.5000	Rel(%)	Pass	
Ti3349		1.0176	ppm	0.00059300	0.058256	1.0000	Rel(%)	Pass	
Tl1908		0.50691	ppm	0.0023660	0.46669	.50000	Rel(%)	Pass	
V_2924		2.6437	ppm	0.0026250	0.099296	2.5000	Rel(%)	Pass	
Zn2062		2.6414	ppm	0.0028760	0.10886	2.5000	Rel(%)	Pass	
Y_2243		7,519.7	Cts/S	21.171	0.28154				
Y_3600		56,191	Cts/S	96.254	0.17130				
Y_3774		6,752.0	Cts/S	46.543	0.68932				

CCB 1745955

Acquire Date: 11/12/2019 6:30:02PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00058500	ppm	0.00038800	66.306	.00000	Abs	Pass	
Al3961		-0.00075200	ppm	0.0013550	180.29	.00000	Abs	Pass	
As1890		-0.0020710	ppm	0.00078600	37.940	.00000	Abs	Pass	
B_2089		0.0042100	ppm	0.00099400	23.602	.00000	Abs	Pass	
Ba4554		-0.00036500	ppm	0.00059000	161.46	.00000	Abs	Pass	
Be3130		-0.00027600	ppm	0.00012800	46.437	.00000	Abs	Pass	
Ca3179		0.0062680	ppm	0.0072400	115.50	.00000	Abs	Pass	
Cd2144		0.000062000	ppm	0.000046000	75.035	.00000	Abs	Pass	
Co2286		-0.00012100	ppm	0.00028900	238.94	.00000	Abs	Pass	
Cr2677		0.00041000	ppm	0.00043400	105.89	.00000	Abs	Pass	
Cu3247		0.0050200	ppm	0.00029300	5.8400	.00000	Abs	Pass	
Fe2599		-0.012246	ppm	0.010938	89.315	.00000	Abs	Pass	
K_7664		0.027462	ppm	0.0070930	25.827	.00000	Abs	Pass	
Mg2790		0.0040920	ppm	0.00035200	8.6021	.00000	Abs	Pass	
Mn2576		0.000036000	ppm	0.000066000	181.91	.00000	Abs	Pass	
Mo2020		0.00010800	ppm	0.000047000	43.366	.00000	Abs	Pass	
Na5895		0.16439	ppm	0.011702	7.1183	.00000	Abs	Pass	
Ni2316		0.000071000	ppm	0.00076100	1,066.3	.00000	Abs	Pass	
P_1782		0.0015080	ppm	0.00068900	45.714	.00000	Abs	Pass	
Pb2203		-0.0015130	ppm	0.00097500	64.426	.00000	Abs	Pass	
S_1820		0.0015700	ppm	0.0015570	99.210	.00000	Abs	Pass	
Sb2068		0.0016900	ppm	0.0014290	84.579	.00000	Abs	Pass	
Se1960		0.0021580	ppm	0.0020710	95.950	.00000	Abs	Pass	
Si2881		0.019997	ppm	0.020335	101.69	.00000	Abs	Pass	
Sn1899		0.00077000	ppm	0.00014800	19.255	.00000	Abs	Pass	
Sr4077		0.00043700	ppm	0.00016300	37.227	.00000	Abs	Pass	
Ti3349		.0000090000	ppm	0.00019700	2,235.5	.00000	Abs	Pass	
Tl1908		-0.0033480	ppm	0.0013740	41.042	.00000	Abs	Pass	
V_2924		0.00038100	ppm	0.00037700	98.942	.00000	Abs	Pass	
Zn2062		-0.00081500	ppm	0.00040000	49.062	.00000	Abs	Pass	
Y_2243		7,757.1	Cts/S	47.075	0.60687				
Y_3600		58,602	Cts/S	98.446	0.16799				
Y_3774		6,866.1	Cts/S	1.8928	0.027568				

320-56102-A-6-A

Acquire Date: 11/12/2019 6:34:01PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00024900	ppm	0.0010080	405.60
Al3961		0.047261	ppm	0.0084710	17.923
As1890		-0.00076200	ppm	0.0020350	267.05
B_2089		0.18550	ppm	0.00099200	0.53504
Ba4554		0.30009	ppm	0.0013360	0.44505
Be3130		0.00018600	ppm	0.00019000	102.45
Ca3179		57.813	ppm	0.30285	0.52385
Cd2144		0.00010400	ppm	0.000062000	59.605
Co2286		0.00015900	ppm	0.000024000	15.114
Cr2677		0.0011630	ppm	0.000078000	6.6800

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-56102-A-6-A

Acquire Date: 11/12/2019 6:34:01PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Cu3247		0.0083450	ppm	0.000034000	0.41100
Fe2599		0.057163	ppm	0.0038950	6.8139
K_7664		13.250	ppm	0.049149	0.37095
Mg2790		31.888	ppm	0.036350	0.11399
Mn2576		0.063644	ppm	0.00011700	0.18403
Mo2020		0.010257	ppm	0.0000080000	0.080263
Na5895	**W**	**337.55**	**ppm**	**3.6282**	**1.0749**
Ni2316		0.0011250	ppm	0.00010200	9.0236
P_1782		0.032265	ppm	0.0017750	5.5006
Pb2203		-0.0037430	ppm	0.0018110	48.379
S_1820		18.283	ppm	0.057183	0.31278
Sb2068		0.00027700	ppm	0.0015920	573.95
Se1960		-0.0040030	ppm	0.0015080	37.669
Si2881		3.1859	ppm	0.020391	0.64004
Sn1899		0.00022900	ppm	0.00036200	158.54
Sr4077		0.50025	ppm	0.0018580	0.37145
Ti3349		-0.00076100	ppm	0.000057000	7.4797
Tl1908		0.0011680	ppm	0.0022310	191.02
V_2924		0.0040330	ppm	0.00087200	21.627
Zn2062		0.0091640	ppm	0.00053500	5.8362
Y_2243		7,281.3	Cts/S	9.6720	0.13283
Y_3600		53,235	Cts/S	26.342	0.049483
Y_3774		6,647.5	Cts/S	20.612	0.31008

320-56102-A-7-A

Acquire Date: 11/12/2019 6:38:02PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0011510	ppm	0.00085500	74.282
Al3961		0.037624	ppm	0.0056390	14.988
As1890		0.0023500	ppm	0.0022260	94.708
B_2089		0.18582	ppm	0.00054400	0.29286
Ba4554		0.30288	ppm	0.00041000	0.13545
Be3130		0.000099000	ppm	0.00014600	147.01
Ca3179		57.983	ppm	0.11688	0.20157
Cd2144		0.000031000	ppm	0.000043000	136.49
Co2286		-0.00012200	ppm	0.000055000	45.358
Cr2677		0.00056100	ppm	0.00015500	27.686
Cu3247		0.0065790	ppm	0.00015200	2.3084
Fe2599		0.045076	ppm	0.00023900	0.53112
K_7664		13.401	ppm	0.061487	0.45881
Mg2790		32.097	ppm	0.085179	0.26538
Mn2576		0.071152	ppm	0.00015500	0.21826
Mo2020		0.0099980	ppm	0.00065300	6.5352
Na5895	**W**	**337.12**	**ppm**	**3.7375**	**1.1086**
Ni2316		0.0012880	ppm	0.000012000	0.94152
P_1782		0.037743	ppm	0.0015680	4.1534

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-56102-A-7-A

Acquire Date: 11/12/2019 6:38:02PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Pb2203		-0.0012130	ppm	0.0023980	197.73
S_1820		18.674	ppm	0.0049170	0.026330
Sb2068		-0.0020890	ppm	0.0017220	82.420
Se1960		0.0020270	ppm	0.0012230	60.321
Si2881		3.2075	ppm	0.0026140	0.081486
Sn1899		-0.00056100	ppm	0.00019800	35.209
Sr4077		0.50395	ppm	0.00054200	0.10755
Ti3349		-0.0016630	ppm	0.00028400	17.075
Tl1908		-0.00032000	ppm	0.0012340	385.68
V_2924		0.0035410	ppm	0.00062300	17.579
Zn2062		0.010603	ppm	0.00010400	0.97904
Y_2243		7,378.2	Cts/S	12.670	0.17172
Y_3600		54,007	Cts/S	73.564	0.13621
Y_3774		6,671.6	Cts/S	73.848	1.1069

320-56102-A-8-A

Acquire Date: 11/12/2019 6:42:02PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00044700	ppm	0.00023200	51.855
Al3961		0.037402	ppm	0.017788	47.558
As1890		0.00013600	ppm	0.00039100	288.43
B_2089		0.18717	ppm	0.000056000	0.030172
Ba4554		0.32241	ppm	0.0013100	0.40641
Be3130		-0.00024100	ppm	0.00028000	116.05
Ca3179		58.601	ppm	0.28599	0.48803
Cd2144		.0000010000	ppm	0.00010500	8,890.5
Co2286		-0.00028000	ppm	0.000026000	9.2340
Cr2677		0.000018000	ppm	0.00018000	1,028.1
Cu3247		0.0071350	ppm	0.00093100	13.048
Fe2599		0.23638	ppm	0.0066600	2.8174
K_7664		13.511	ppm	0.039648	0.29345
Mg2790		32.238	ppm	0.060205	0.18675
Mn2576		0.067369	ppm	0.00012200	0.18060
Mo2020		0.010210	ppm	0.00027600	2.7042
Na5895	**W**	**342.46**	**ppm**	**6.8608**	**2.0034**
Ni2316		0.0019260	ppm	0.0013950	72.444
P_1782		0.049940	ppm	0.0017530	3.5095
Pb2203		0.00012400	ppm	0.0021320	1,726.3
S_1820		19.075	ppm	0.032874	0.17234
Sb2068		-0.0021760	ppm	0.0050420	231.77
Se1960		-0.00079800	ppm	0.00090100	112.85
Si2881		3.2557	ppm	0.049268	1.5133
Sn1899		-0.00010900	ppm	0.00053400	487.41
Sr4077		0.50890	ppm	0.0020780	0.40836
Ti3349		-0.0018570	ppm	0.00081100	43.679
Tl1908		-0.00070500	ppm	0.0015520	220.17

320-56102-A-8-A

Acquire Date: 11/12/2019 6:42:02PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
V_2924		0.0031360	ppm	0.00024900	7.9396
Zn2062		0.0072980	ppm	0.00014500	1.9870
Y_2243		7,404.1	Cts/S	2.8271	0.038183
Y_3600		54,628	Cts/S	209.26	0.38306
Y_3774		6,825.3	Cts/S	50.513	0.74009

320-56102-B-9-A

Acquire Date: 11/12/2019 6:46:02PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00057600	ppm	0.00018600	32.312
Al3961		0.15629	ppm	0.024213	15.492
As1890		0.0092800	ppm	0.00079500	8.5632
B_2089		0.038668	ppm	0.0010440	2.7005
Ba4554		0.25367	ppm	0.0016700	0.65825
Be3130		.0000090000	ppm	0.00018800	2,118.0
Ca3179		45.546	ppm	0.17233	0.37837
Cd2144		0.000052000	ppm	0.000066000	127.97
Co2286		0.00043900	ppm	0.00020100	45.822
Cr2677		0.00059300	ppm	0.00039400	66.417
Cu3247		0.0058710	ppm	0.0014440	24.599
Fe2599		0.049615	ppm	0.0046210	9.3138
K_7664		13.445	ppm	0.019375	0.14410
Mg2790		31.989	ppm	0.079923	0.24985
Mn2576		0.015795	ppm	0.00027100	1.7151
Mo2020		0.014495	ppm	0.00040300	2.7813
Na5895	**W**	**340.42**	**ppm**	**1.3041**	**0.38308**
Ni2316		0.0029190	ppm	0.00079800	27.325
P_1782		0.019802	ppm	0.0012170	6.1475
Pb2203		0.0023870	ppm	0.00093800	39.301
S_1820		18.411	ppm	0.0044400	0.024114
Sb2068		0.00086100	ppm	0.00036100	41.964
Se1960		0.00092100	ppm	0.0029310	318.03
Si2881		3.2921	ppm	0.012906	0.39203
Sn1899		0.00027200	ppm	0.00022600	83.239
Sr4077		0.51773	ppm	0.0017140	0.33112
Ti3349		-0.0011740	ppm	0.00026600	22.680
Tl1908		-0.00026700	ppm	0.0040330	1,512.6
V_2924		0.0088790	ppm	0.00037000	4.1706
Zn2062		0.0041130	ppm	0.00071600	17.414
Y_2243		7,293.1	Cts/S	2.5199	0.034552
Y_3600		54,028	Cts/S	282.00	0.52196
Y_3774		6,772.2	Cts/S	38.239	0.56464

320-56102-C-10-A

Acquire Date: 11/12/2019 6:50:03PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00057100	ppm	0.00020800	36.519
Al3961		0.13067	ppm	0.000056000	0.042766
As1890		0.0060600	ppm	0.00042600	7.0226
B_2089		0.049368	ppm	0.00030700	0.62101
Ba4554		0.26032	ppm	0.00052000	0.19969
Be3130		-0.00040000	ppm	0.00023100	57.767
Ca3179		45.673	ppm	0.28726	0.62893
Cd2144		0.000033000	ppm	0.000013000	38.253
Co2286		0.00019200	ppm	0.000059000	30.770
Cr2677		-0.00012000	ppm	0.000023000	19.000
Cu3247		0.0050210	ppm	0.0017180	34.203
Fe2599		0.049811	ppm	0.00071900	1.4427
K_7664		13.395	ppm	0.071974	0.53733
Mg2790		31.658	ppm	0.021984	0.069443
Mn2576		0.026348	ppm	0.0000020000	0.0066710
Mo2020		0.014675	ppm	0.00038900	2.6516
Na5895	**W**	**336.72**	**ppm**	**6.3212**	**1.8773**
Ni2316		0.0011700	ppm	0.00051700	44.184
P_1782		0.022137	ppm	0.0016000	7.2268
Pb2203		0.000089000	ppm	0.0053420	5,979.7
S_1820		18.479	ppm	0.019482	0.10542
Sb2068		0.00013000	ppm	0.00019700	151.77
Se1960		0.0024520	ppm	0.0021250	86.683
Si2881		3.3470	ppm	0.0045060	0.13463
Sn1899		0.00029600	ppm	0.00039700	134.08
Sr4077		0.51629	ppm	0.0029290	0.56733
Ti3349		-0.0013410	ppm	0.00075500	56.279
Tl1908		-0.00073900	ppm	0.0012930	174.93
V_2924		0.0088420	ppm	0.00047700	5.3950
Zn2062		0.0090480	ppm	0.00017300	1.9099
Y_2243		7,485.2	Cts/S	14.089	0.18822
Y_3600		54,957	Cts/S	203.58	0.37043
Y_3774		6,807.1	Cts/S	111.74	1.6415

320-56102-C-11-A

Acquire Date: 11/12/2019 6:54:03PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00086700	ppm	0.00048300	55.713
Al3961		0.11475	ppm	0.024804	21.615
As1890		0.0069230	ppm	0.00062200	8.9916
B_2089		0.069707	ppm	0.00071100	1.0202
Ba4554		0.23733	ppm	0.00019400	0.081603
Be3130		0.000025000	ppm	0.000071000	283.11
Ca3179		41.824	ppm	0.15025	0.35925
Cd2144		-0.00011100	ppm	0.000068000	61.683
Co2286		0.00063000	ppm	0.00037800	60.019

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-56102-C-11-A

Acquire Date: 11/12/2019 6:54:03PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		-0.00045600	ppm	0.00031600	69.352
Cu3247		0.0038120	ppm	0.000026000	0.69314
Fe2599		0.060294	ppm	0.0024460	4.0563
K_7664		13.103	ppm	0.0050370	0.038443
Mg2790		31.375	ppm	0.028860	0.091982
Mn2576		0.010520	ppm	0.000072000	0.67996
Mo2020		0.014398	ppm	0.00034400	2.3889
Na5895	**W**	**336.81**	**ppm**	**0.054412**	**0.016155**
Ni2316		0.00091000	ppm	0.00012100	13.251
P_1782		0.021033	ppm	0.0025720	12.226
Pb2203		0.0052030	ppm	0.00078100	15.002
S_1820		18.206	ppm	0.030861	0.16951
Sb2068		0.0010800	ppm	0.0024640	228.07
Se1960		0.00067800	ppm	0.0026700	393.69
Si2881		3.3097	ppm	0.089453	2.7027
Sn1899		-0.00026200	ppm	0.00062500	238.46
Sr4077		0.49295	ppm	0.0014890	0.30206
Ti3349		-0.00067100	ppm	0.00025500	38.006
Tl1908		0.0029930	ppm	0.0019090	63.804
V_2924		0.010893	ppm	0.00039800	3.6492
Zn2062		0.0064530	ppm	0.00045300	7.0201
Y_2243		7,334.9	Cts/S	42.349	0.57737
Y_3600		53,510	Cts/S	88.101	0.16464
Y_3774		6,590.1	Cts/S	60.643	0.92022

CCV 1796754

Acquire Date: 11/12/2019 6:58:06PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.50882	ppm	0.00077000	0.15128	.50000	Rel(%)	Pass	
Al3961		25.784	ppm	0.35172	1.3641	25.000	Rel(%)	Pass	
As1890		0.53684	ppm	0.00099200	0.18476	.50000	Rel(%)	Pass	
B_2089		1.0433	ppm	0.0047300	0.45338	1.0000	Rel(%)	Pass	
Ba4554		2.7039	ppm	0.033609	1.2430	2.5000	Rel(%)	Pass	
Be3130		0.53246	ppm	0.0068640	1.2892	.50000	Rel(%)	Pass	
Ca3179		26.654	ppm	0.31930	1.1980	25.000	Rel(%)	Pass	
Cd2144		0.51539	ppm	0.00082000	0.15903	.50000	Rel(%)	Pass	
Co2286		2.6173	ppm	0.0032440	0.12395	2.5000	Rel(%)	Pass	
Cr2677		2.6224	ppm	0.000028000	0.0010810	2.5000	Rel(%)	Pass	
Cu3247		2.5027	ppm	0.0020250	0.080907	2.5000	Rel(%)	Pass	
Fe2599		26.757	ppm	0.30600	1.1436	25.000	Rel(%)	Pass	
K_7664		26.224	ppm	0.37359	1.4246	25.000	Rel(%)	Pass	
Mg2790		26.138	ppm	0.014299	0.054705	25.000	Rel(%)	Pass	
Mn2576		2.6170	ppm	0.0050700	0.19372	2.5000	Rel(%)	Pass	
Mo2020		1.0365	ppm	0.00084700	0.081683	1.0000	Rel(%)	Pass	
Na5895		26.046	ppm	0.30642	1.1765	25.000	Rel(%)	Pass	
Ni2316		2.6197	ppm	0.0029930	0.11424	2.5000	Rel(%)	Pass	
P_1782		2.6064	ppm	0.0015940	0.061171	2.5000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCV 1796754

Acquire Date: 11/12/2019 6:58:06PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Pb2203		0.52571	ppm	0.000070000	0.013353	.50000	Rel(%)	Pass	
S_1820		2.6044	ppm	0.0071710	0.27536	2.5000	Rel(%)	Pass	
Sb2068		0.53128	ppm	0.0025200	0.47430	.50000	Rel(%)	Pass	
Se1960		0.53998	ppm	0.0022860	0.42341	.50000	Rel(%)	Pass	
Si2881		2.5277	ppm	0.032576	1.2887	2.5000	Rel(%)	Pass	
Sn1899		2.5961	ppm	0.0030690	0.11823	2.5000	Rel(%)	Pass	
Sr4077		2.6871	ppm	0.034975	1.3016	2.5000	Rel(%)	Pass	
Ti3349		1.0225	ppm	0.00010900	0.010675	1.0000	Rel(%)	Pass	
Tl1908		0.51197	ppm	0.0014780	0.28869	.50000	Rel(%)	Pass	
V_2924		2.6578	ppm	0.0023710	0.089226	2.5000	Rel(%)	Pass	
Zn2062		2.6557	ppm	0.0037160	0.13991	2.5000	Rel(%)	Pass	
Y_2243		7,541.7	Cts/S	8.8264	0.11704				
Y_3600		56,777	Cts/S	35.226	0.062044				
Y_3774		6,916.0	Cts/S	27.928	0.40381				

CCB 1745955

Acquire Date: 11/12/2019 7:01:52PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.0011500	ppm	0.000082000	7.1071	.00000	Abs	Pass	
Al3961		-0.0072740	ppm	0.0077310	106.29	.00000	Abs	Pass	
As1890		-0.0023280	ppm	0.0021880	93.995	.00000	Abs	Pass	
B_2089		0.000079000	ppm	0.00059100	751.01	.00000	Abs	Pass	
Ba4554		.0000040000	ppm	0.00084200	22,647	.00000	Abs	Pass	
Be3130		0.000096000	ppm	0.00032900	343.56	.00000	Abs	Pass	
Ca3179		0.0093900	ppm	0.0052000	55.372	.00000	Abs	Pass	
Cd2144		0.000032000	ppm	0.000027000	84.636	.00000	Abs	Pass	
Co2286		-0.00014300	ppm	0.00024900	173.91	.00000	Abs	Pass	
Cr2677		0.000046000	ppm	0.000025000	53.181	.00000	Abs	Pass	
Cu3247		0.0028300	ppm	0.00082000	28.990	.00000	Abs	Pass	
Fe2599		-0.012195	ppm	0.0027520	22.564	.00000	Abs	Pass	
K_7664		-0.033516	ppm	0.068992	205.84	.00000	Abs	Pass	
Mg2790		0.0030660	ppm	0.0024410	79.611	.00000	Abs	Pass	
Mn2576		0.000075000	ppm	0.000081000	107.06	.00000	Abs	Pass	
Mo2020		0.00077600	ppm	0.00035700	46.012	.00000	Abs	Pass	
Na5895		0.17244	ppm	0.0064660	3.7497	.00000	Abs	Pass	
Ni2316		0.00011100	ppm	0.0010450	943.21	.00000	Abs	Pass	
P_1782		-0.0020730	ppm	0.0021830	105.35	.00000	Abs	Pass	
Pb2203		0.000048000	ppm	0.0027990	5,795.4	.00000	Abs	Pass	
S_1820		-0.00076700	ppm	0.0017980	234.25	.00000	Abs	Pass	
Sb2068		0.0010300	ppm	0.00048700	47.338	.00000	Abs	Pass	
Se1960		-0.00079700	ppm	0.00071800	90.117	.00000	Abs	Pass	
Si2881		0.029787	ppm	0.028218	94.733	.00000	Abs	Pass	
Sn1899		0.0011500	ppm	0.00018100	15.728	.00000	Abs	Pass	
Sr4077		0.00063700	ppm	0.00055500	87.133	.00000	Abs	Pass	
Ti3349		0.00052800	ppm	0.00095300	180.32	.00000	Abs	Pass	
Tl1908		-0.00038800	ppm	0.00080300	207.08	.00000	Abs	Pass	
V_2924		0.00039500	ppm	0.00076500	193.53	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCB 1745955

Acquire Date: 11/12/2019 7:01:52PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Zn2062		-0.00046800	ppm	0.00032200	68.842	.00000	Abs	Pass	
Y_2243		7,873.5	Cts/S	28.401	0.36072				
Y_3600		59,799	Cts/S	342.39	0.57256				
Y_3774		7,007.3	Cts/S	11.458	0.16351				

CCVL 1733852

Acquire Date: 11/12/2019 7:05:52PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.0053560	ppm	0.00025400	4.7385	.00500	Rel(%)	Pass	
Al3961		0.22471	ppm	0.0010400	0.46271	.20000	Rel(%)	Pass	
As1890		0.043317	ppm	0.0011560	2.6678	.04000	Rel(%)	Pass	
B_2089		0.23060	ppm	0.00023400	0.10130	.20000	Rel(%)	Pass	
Ba4554		0.024141	ppm	0.00012600	0.52075	.02000	Rel(%)	Pass	
Be3130		0.0037080	ppm	0.00023400	6.3176	.00300	Rel(%)	Pass	
Ca3179		0.60424	ppm	0.0042100	0.69680	.50000	Rel(%)	Pass	
Cd2144		0.0034780	ppm	0.00012900	3.7107	.00300	Rel(%)	Pass	
Co2286		0.011267	ppm	0.00030400	2.6943	.01000	Rel(%)	Pass	
Cr2677		0.012508	ppm	0.00046600	3.7220	.01000	Rel(%)	Pass	
Cu3247		0.019184	ppm	0.00058000	3.0225	.01500	Rel(%)	Pass	
Fe2599		0.11148	ppm	0.010754	9.6462	.10000	Rel(%)	Pass	
K_7664		1.1163	ppm	0.017401	1.5588	1.0000	Rel(%)	Pass	
Mg2790		0.59697	ppm	0.0079970	1.3397	.50000	Rel(%)	Pass	
Mn2576		0.011875	ppm	0.00015600	1.3129	.01000	Rel(%)	Pass	
Mo2020		0.022419	ppm	0.00046000	2.0501	.02000	Rel(%)	Pass	
Na5895	**F**	**0.69067**	**ppm**	**0.020751**	**3.0045**	**.50000**	**Rel(%)**	**Fail High**	**30.000**
Ni2316		0.011687	ppm	0.00027700	2.3670	.01000	Rel(%)	Pass	
P_1782		0.58960	ppm	0.0023190	0.39333	.50000	Rel(%)	Pass	
Pb2203		0.012166	ppm	0.0029410	24.172	.01000	Rel(%)	Pass	
S_1820		0.57013	ppm	0.0064230	1.1265	.50000	Rel(%)	Pass	
Sb2068		0.031195	ppm	0.0019670	6.3060	.03000	Rel(%)	Pass	
Se1960		0.049053	ppm	0.00042500	0.86577	.04000	Rel(%)	Pass	
Si2881		0.61248	ppm	0.051781	8.4544	.50000	Rel(%)	Pass	
Sn1899		0.024187	ppm	0.00076500	3.1631	.02000	Rel(%)	Pass	
Sr4077		0.061473	ppm	0.000084000	0.13657	.05000	Rel(%)	Pass	
Ti3349		0.011101	ppm	0.000059000	0.53194	.01000	Rel(%)	Pass	
Tl1908		0.035941	ppm	0.0015470	4.3051	.03000	Rel(%)	Pass	
V_2924		0.022974	ppm	0.00015200	0.66269	.02000	Rel(%)	Pass	
Zn2062		0.021905	ppm	0.000033000	0.15281	.02000	Rel(%)	Pass	
Y_2243		7,584.9	Cts/S	1.5813	0.020848				
Y_3600		56,706	Cts/S	247.70	0.43681				
Y_3774		6,679.6	Cts/S	134.23	2.0095				

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Acquire Date: 11/12/2019 7:09:52PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00035900	ppm	0.00010300	28.560	.00000	Abs	Pass	
Al3961		0.010081	ppm	0.0095580	94.811	.00000	Abs	Pass	
As1890		-0.0015280	ppm	0.00069800	45.692	.00000	Abs	Pass	
B_2089		-0.0018030	ppm	0.00014300	7.9418	.00000	Abs	Pass	
Ba4554		-0.00054200	ppm	0.00042300	78.024	.00000	Abs	Pass	
Be3130		-0.00011300	ppm	0.00029700	262.99	.00000	Abs	Pass	
Ca3179		0.0039280	ppm	0.0087720	223.30	.00000	Abs	Pass	
Cd2144		.0000030000	ppm	0.000099000	3,456.2	.00000	Abs	Pass	
Co2286		-0.00021200	ppm	0.00018200	86.008	.00000	Abs	Pass	
Cr2677		0.00039800	ppm	0.00030400	76.270	.00000	Abs	Pass	
Cu3247		0.0019680	ppm	0.00080000	40.674	.00000	Abs	Pass	
Fe2599		-0.013338	ppm	0.0077830	58.350	.00000	Abs	Pass	
K_7664		-0.0051450	ppm	0.014488	281.60	.00000	Abs	Pass	
Mg2790		-0.0065130	ppm	0.0052890	81.217	.00000	Abs	Pass	
Mn2576		-0.00016600	ppm	0.000013000	7.5402	.00000	Abs	Pass	
Mo2020		0.00024900	ppm	0.00038200	153.50	.00000	Abs	Pass	
Na5895		0.072382	ppm	0.011339	15.665	.00000	Abs	Pass	
Ni2316		-0.00025700	ppm	0.00082200	319.31	.00000	Abs	Pass	
P_1782		0.00050200	ppm	0.0028100	559.98	.00000	Abs	Pass	
Pb2203		-0.0026960	ppm	0.0010610	39.344	.00000	Abs	Pass	
S_1820		0.0020040	ppm	0.0024680	123.19	.00000	Abs	Pass	
Sb2068		-0.0015310	ppm	0.00083600	54.607	.00000	Abs	Pass	
Se1960		0.000085000	ppm	0.0042290	4,975.2	.00000	Abs	Pass	
Si2881		0.027420	ppm	0.050766	185.14	.00000	Abs	Pass	
Sn1899		-0.00050800	ppm	0.000075000	14.680	.00000	Abs	Pass	
Sr4077		0.000040000	ppm	0.00011800	291.75	.00000	Abs	Pass	
Ti3349		0.000066000	ppm	0.0014120	2,126.1	.00000	Abs	Pass	
Tl1908		0.00018300	ppm	0.00044500	243.58	.00000	Abs	Pass	
V_2924		0.000031000	ppm	0.00065200	2,094.4	.00000	Abs	Pass	
Zn2062		-0.0031230	ppm	0.00011900	3.8152	.00000	Abs	Pass	
Y_2243		7,759.4	Cts/S	15.735	0.20279				
Y_3600		58,360	Cts/S	82.197	0.14084				
Y_3774		6,825.7	Cts/S	15.607	0.22865				

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Acquire Date: 11/12/2019 7:13:53PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00062900	ppm	0.00015700	24.955	.00000	Abs	Pass	
Al3961		-0.0044170	ppm	0.0050130	113.50	.00000	Abs	Pass	
As1890		0.00020900	ppm	0.0017330	830.41	.00000	Abs	Pass	
B_2089		-0.0026860	ppm	0.00089000	33.125	.00000	Abs	Pass	
Ba4554		-0.00063900	ppm	0.00079100	123.78	.00000	Abs	Pass	
Be3130		0.000049000	ppm	0.000063000	128.47	.00000	Abs	Pass	
Ca3179		0.0020700	ppm	0.0057630	278.34	.00000	Abs	Pass	
Cd2144		0.000025000	ppm	0.00010900	440.06	.00000	Abs	Pass	
Co2286		-0.00032100	ppm	0.00030700	95.766	.00000	Abs	Pass	
Cr2677		-0.00036500	ppm	0.00024100	65.953	.00000	Abs	Pass	

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Acquire Date: 11/12/2019 7:13:53PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Cu3247		0.0025280	ppm	0.0010060	39.811	.00000	Abs	Pass	
Fe2599		-0.014964	ppm	0.0087040	58.163	.00000	Abs	Pass	
K_7664		-0.024318	ppm	0.067209	276.38	.00000	Abs	Pass	
Mg2790		-0.0035130	ppm	0.0018390	52.342	.00000	Abs	Pass	
Mn2576		-0.00031200	ppm	0.000010000	3.1741	.00000	Abs	Pass	
Mo2020		-0.00019400	ppm	0.00046900	241.73	.00000	Abs	Pass	
Na5895		0.047069	ppm	0.0032420	6.8877	.00000	Abs	Pass	
Ni2316		-0.00010500	ppm	0.00036400	346.33	.00000	Abs	Pass	
P_1782		-0.00021900	ppm	0.00085000	388.80	.00000	Abs	Pass	
Pb2203		0.00021700	ppm	0.00038300	176.72	.00000	Abs	Pass	
S_1820		0.00019500	ppm	0.0036090	1,849.9	.00000	Abs	Pass	
Sb2068		0.0025510	ppm	0.0000030000	0.10133	.00000	Abs	Pass	
Se1960		-0.00073400	ppm	0.0011080	150.94	.00000	Abs	Pass	
Si2881		0.060680	ppm	0.0046320	7.6336	.00000	Abs	Pass	
Sn1899		0.00079600	ppm	0.00029000	36.400	.00000	Abs	Pass	
Sr4077		0.000035000	ppm	0.00014800	421.39	.00000	Abs	Pass	
Ti3349		-0.00027400	ppm	0.000076000	27.765	.00000	Abs	Pass	
Tl1908		0.0013530	ppm	0.00077000	56.903	.00000	Abs	Pass	
V_2924		-0.00035000	ppm	0.0000060000	1.5907	.00000	Abs	Pass	
Zn2062		-0.0030610	ppm	0.000084000	2.7440	.00000	Abs	Pass	
Y_2243		7,576.5	Cts/S	6.5492	0.086442				
Y_3600		57,581	Cts/S	336.68	0.58470				
Y_3774		6,630.0	Cts/S	52.815	0.79661				

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Acquire Date: 11/12/2019 7:17:54PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00046900	ppm	0.00044000	93.777	.00000	Abs	Pass	
Al3961		-0.012614	ppm	0.023807	188.73	.00000	Abs	Pass	
As1890		-0.00092900	ppm	0.0015840	170.48	.00000	Abs	Pass	
B_2089		-0.0033340	ppm	0.00018500	5.5395	.00000	Abs	Pass	
Ba4554		-0.00087000	ppm	0.00026100	30.025	.00000	Abs	Pass	
Be3130		0.00018200	ppm	0.00043600	239.90	.00000	Abs	Pass	
Ca3179		-0.0071840	ppm	0.0087850	122.28	.00000	Abs	Pass	
Cd2144		0.000029000	ppm	0.000025000	84.653	.00000	Abs	Pass	
Co2286		0.000068000	ppm	0.00036300	536.41	.00000	Abs	Pass	
Cr2677		0.00042900	ppm	0.00018100	42.076	.00000	Abs	Pass	
Cu3247		0.0021070	ppm	0.0012720	60.364	.00000	Abs	Pass	
Fe2599		-0.015557	ppm	0.0012060	7.7512	.00000	Abs	Pass	
K_7664		-0.035019	ppm	0.034509	98.545	.00000	Abs	Pass	
Mg2790		-0.00042400	ppm	0.0013180	310.98	.00000	Abs	Pass	
Mn2576		-0.00038400	ppm	0.000032000	8.2701	.00000	Abs	Pass	
Mo2020		0.000085000	ppm	0.00019700	231.51	.00000	Abs	Pass	
Na5895		0.053495	ppm	0.0034090	6.3734	.00000	Abs	Pass	
Ni2316		-0.00014300	ppm	0.00044600	312.33	.00000	Abs	Pass	
P_1782		0.0015550	ppm	0.000099000	6.3956	.00000	Abs	Pass	
Pb2203		0.00013900	ppm	0.0017530	1,260.1	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

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Acquire Date: 11/12/2019 7:17:54PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
S_1820		0.00081800	ppm	0.00088300	108.01	.00000	Abs	Pass	
Sb2068		0.00010900	ppm	0.0035450	3,252.4	.00000	Abs	Pass	
Se1960		0.0017010	ppm	0.0011280	66.325	.00000	Abs	Pass	
Si2881		0.040281	ppm	0.016396	40.703	.00000	Abs	Pass	
Sn1899		0.00029900	ppm	0.00045000	150.64	.00000	Abs	Pass	
Sr4077		0.000066000	ppm	0.000099000	150.48	.00000	Abs	Pass	
Ti3349		-0.00029100	ppm	0.00068600	235.65	.00000	Abs	Pass	
Tl1908		-0.0015040	ppm	0.0019200	127.68	.00000	Abs	Pass	
V_2924		-0.00041900	ppm	0.00034400	82.207	.00000	Abs	Pass	
Zn2062		-0.0027080	ppm	0.00015700	5.7874	.00000	Abs	Pass	
Y_2243		7,829.8	Cts/S	6.4393	0.082241				
Y_3600		58,770	Cts/S	18.993	0.032318				
Y_3774		6,869.0	Cts/S	0.16292	0.0023720				

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Acquire Date: 11/12/2019 7:21:55PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00014800	ppm	0.00022000	148.95	.00000	Abs	Pass	
Al3961		-0.015622	ppm	0.029784	190.65	.00000	Abs	Pass	
As1890		-0.0018070	ppm	0.00018100	10.035	.00000	Abs	Pass	
B_2089		-0.0039960	ppm	0.00076900	19.241	.00000	Abs	Pass	
Ba4554		-0.00057100	ppm	0.00025000	43.771	.00000	Abs	Pass	
Be3130		-0.00026900	ppm	0.0000090000	3.4416	.00000	Abs	Pass	
Ca3179		-0.0092250	ppm	0.0040290	43.675	.00000	Abs	Pass	
Cd2144		0.000072000	ppm	0.000031000	43.205	.00000	Abs	Pass	
Co2286		0.000019000	ppm	0.00041400	2,220.9	.00000	Abs	Pass	
Cr2677		-0.00018200	ppm	0.00018000	99.095	.00000	Abs	Pass	
Cu3247		0.0020570	ppm	0.00051300	24.941	.00000	Abs	Pass	
Fe2599		-0.017091	ppm	0.00090800	5.3155	.00000	Abs	Pass	
K_7664		-0.058107	ppm	0.029182	50.221	.00000	Abs	Pass	
Mg2790		0.00043300	ppm	0.0017660	407.68	.00000	Abs	Pass	
Mn2576		-0.00028900	ppm	0.000041000	14.137	.00000	Abs	Pass	
Mo2020		-0.00045900	ppm	0.00014100	30.707	.00000	Abs	Pass	
Na5895		0.051519	ppm	0.0077350	15.014	.00000	Abs	Pass	
Ni2316		-0.00059200	ppm	0.00037300	63.038	.00000	Abs	Pass	
P_1782		0.0011340	ppm	0.0016910	149.19	.00000	Abs	Pass	
Pb2203		-0.0014890	ppm	0.0020540	137.89	.00000	Abs	Pass	
S_1820		-0.0020190	ppm	0.0042030	208.16	.00000	Abs	Pass	
Sb2068		0.00042500	ppm	0.0025280	595.05	.00000	Abs	Pass	
Se1960		-0.0015010	ppm	0.00028500	18.982	.00000	Abs	Pass	
Si2881		0.041872	ppm	0.048863	116.70	.00000	Abs	Pass	
Sn1899		0.00054700	ppm	0.00017700	32.390	.00000	Abs	Pass	
Sr4077		-0.00015800	ppm	0.00021800	137.61	.00000	Abs	Pass	
Ti3349		-0.00014200	ppm	0.00011800	83.115	.00000	Abs	Pass	
Tl1908		0.00050600	ppm	0.0017680	349.14	.00000	Abs	Pass	
V_2924		0.000087000	ppm	0.00033300	384.38	.00000	Abs	Pass	
Zn2062		-0.0035420	ppm	0.00010500	2.9547	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

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Acquire Date: 11/12/2019 7:21:55PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 535

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Y_2243		7,806.1	Cts/S	4.8102	0.061621				
Y_3600		59,094	Cts/S	187.71	0.31766				
Y_3774		6,787.0	Cts/S	25.733	0.37916				

Test America-West Sacramento methods 6010b and 200.7

Author: GH

Published: 11/14/2019 2:44:37PM

Notes:

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Acquire Date: 11/14/2019 10:41:16AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.000019000	ppm	0.00034200	1,817.6	.00000	Abs	Pass	
Al3961		-0.0070570	ppm	0.0063880	90.518	.00000	Abs	Pass	
As1890		-0.00027200	ppm	0.00033000	121.13	.00000	Abs	Pass	
B_2089		0.0023050	ppm	0.00041600	18.031	.00000	Abs	Pass	
Ba4554		-0.00067800	ppm	0.00032600	48.083	.00000	Abs	Pass	
Be3130		0.000030000	ppm	0.00041600	1,407.6	.00000	Abs	Pass	
Ca3179		0.0073170	ppm	0.00010100	1.3745	.00000	Abs	Pass	
Cd2144		0.000027000	ppm	0.000027000	97.992	.00000	Abs	Pass	
Co2286		0.00015000	ppm	0.000089000	59.310	.00000	Abs	Pass	
Cr2677		-0.00018000	ppm	0.00034500	192.00	.00000	Abs	Pass	
Cu3247		0.0012420	ppm	0.0016790	135.18	.00000	Abs	Pass	
Fe2599		0.030062	ppm	0.0040980	13.633	.00000	Abs	Pass	
K_7664		-0.023077	ppm	0.010617	46.005	.00000	Abs	Pass	
Mg2790		0.0044070	ppm	0.00090500	20.525	.00000	Abs	Pass	
Mn2576		0.00023800	ppm	0.000051000	21.370	.00000	Abs	Pass	
Mo2020		0.000084000	ppm	0.000025000	29.454	.00000	Abs	Pass	
Na5895		0.056608	ppm	0.0099130	17.512	.00000	Abs	Pass	
Ni2316		0.00032000	ppm	0.000084000	26.293	.00000	Abs	Pass	
P_1782		0.00016500	ppm	0.0013770	832.27	.00000	Abs	Pass	
Pb2203		-0.00030600	ppm	0.0020510	671.30	.00000	Abs	Pass	
S_1820		-0.0056860	ppm	0.0038500	67.712	.00000	Abs	Pass	
Sb2068		0.0011230	ppm	0.00027900	24.850	.00000	Abs	Pass	
Se1960		0.00085000	ppm	0.00043900	51.622	.00000	Abs	Pass	
Si2881		-0.012736	ppm	0.061567	483.42	.00000	Abs	Pass	
Sn1899		-0.00033800	ppm	0.00017000	50.104	.00000	Abs	Pass	
Sr4077		0.000082000	ppm	0.000059000	71.426	.00000	Abs	Pass	
Ti3349		0.00010700	ppm	0.00048200	449.46	.00000	Abs	Pass	
Tl1908		-0.00014700	ppm	0.00013400	91.258	.00000	Abs	Pass	
V_2924		-0.00022100	ppm	0.000069000	31.180	.00000	Abs	Pass	
Zn2062		0.0024600	ppm	0.00029500	11.992	.00000	Abs	Pass	
Y_2243		7,216.6	Cts/S	0.96964	0.013436				
Y_3600		54,453	Cts/S	121.95	0.22396				
Y_3774		6,250.6	Cts/S	27.561	0.44093				

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Acquire Date: 11/14/2019 10:45:16AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00030900	ppm	0.00055300	179.03	.00000	Abs	Pass	
Al3961		-0.039613	ppm	0.013508	34.100	.00000	Abs	Pass	
As1890		0.00048000	ppm	0.0010500	218.66	.00000	Abs	Pass	
B_2089		0.0016420	ppm	0.00069200	42.182	.00000	Abs	Pass	
Ba4554		-0.00073500	ppm	0.00019000	25.895	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

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Acquire Date: 11/14/2019 10:45:16AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Be3130		0.000022000	ppm	0.00027800	1,244.3	.00000	Abs	Pass	
Ca3179		0.0018620	ppm	0.011093	595.91	.00000	Abs	Pass	
Cd2144		0.000023000	ppm	0.000031000	139.07	.00000	Abs	Pass	
Co2286		0.000022000	ppm	0.000029000	135.28	.00000	Abs	Pass	
Cr2677		-0.00012800	ppm	0.00017600	137.33	.00000	Abs	Pass	
Cu3247		0.00015400	ppm	0.000071000	46.245	.00000	Abs	Pass	
Fe2599		0.014047	ppm	0.00035900	2.5566	.00000	Abs	Pass	
K_7664		0.038331	ppm	0.028250	73.701	.00000	Abs	Pass	
Mg2790		0.0033740	ppm	0.0062750	185.98	.00000	Abs	Pass	
Mn2576		0.00011600	ppm	0.000027000	23.488	.00000	Abs	Pass	
Mo2020		0.000042000	ppm	0.00019200	460.25	.00000	Abs	Pass	
Na5895		0.053423	ppm	0.028281	52.937	.00000	Abs	Pass	
Ni2316		-0.00043200	ppm	0.00035500	82.087	.00000	Abs	Pass	
P_1782		0.0014680	ppm	0.00038600	26.276	.00000	Abs	Pass	
Pb2203		-0.0014930	ppm	0.00026800	17.976	.00000	Abs	Pass	
S_1820		-0.00085100	ppm	0.0010590	124.37	.00000	Abs	Pass	
Sb2068		-0.00059000	ppm	0.0014330	242.83	.00000	Abs	Pass	
Se1960		-0.0010570	ppm	0.00011200	10.549	.00000	Abs	Pass	
Si2881		0.030074	ppm	0.027865	92.656	.00000	Abs	Pass	
Sn1899		0.000094000	ppm	0.000053000	56.624	.00000	Abs	Pass	
Sr4077		0.000042000	ppm	0.000089000	211.61	.00000	Abs	Pass	
Ti3349		-0.00011600	ppm	0.000064000	55.570	.00000	Abs	Pass	
Tl1908		-0.00049400	ppm	0.0025280	511.74	.00000	Abs	Pass	
V_2924		-0.00062200	ppm	0.000033000	5.3836	.00000	Abs	Pass	
Zn2062		0.00035000	ppm	0.00012600	36.093	.00000	Abs	Pass	
Y_2243		7,400.3	Cts/S	47.268	0.63873				
Y_3600		56,629	Cts/S	84.858	0.14985				
Y_3774		6,665.7	Cts/S	17.178	0.25770				

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Acquire Date: 11/14/2019 10:49:16AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.00046400	ppm	0.000055000	11.893	.00000	Abs	Pass	
Al3961		-0.010509	ppm	0.012596	119.85	.00000	Abs	Pass	
As1890		0.000021000	ppm	0.00026500	1,233.5	.00000	Abs	Pass	
B_2089		0.0014090	ppm	0.00032000	22.690	.00000	Abs	Pass	
Ba4554		-0.00036600	ppm	0.000036000	9.7120	.00000	Abs	Pass	
Be3130		0.000032000	ppm	0.000094000	291.61	.00000	Abs	Pass	
Ca3179		0.0051860	ppm	0.0020080	38.721	.00000	Abs	Pass	
Cd2144		0.000050000	ppm	0.000057000	112.55	.00000	Abs	Pass	
Co2286		0.000062000	ppm	0.000050000	80.332	.00000	Abs	Pass	
Cr2677		0.00012600	ppm	0.00090500	716.51	.00000	Abs	Pass	
Cu3247		0.00056600	ppm	0.00075800	133.98	.00000	Abs	Pass	
Fe2599		0.0069250	ppm	0.0072220	104.29	.00000	Abs	Pass	
K_7664		0.058785	ppm	0.020714	35.236	.00000	Abs	Pass	
Mg2790		0.0026800	ppm	0.0026980	100.66	.00000	Abs	Pass	
Mn2576		0.000025000	ppm	0.000099000	391.09	.00000	Abs	Pass	

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Acquire Date: 11/14/2019 10:49:16AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Mo2020		0.000027000	ppm	0.000066000	246.55	.00000	Abs	Pass	
Na5895		0.049006	ppm	0.015541	31.712	.00000	Abs	Pass	
Ni2316		0.000077000	ppm	0.00038400	500.03	.00000	Abs	Pass	
P_1782		0.0025700	ppm	0.0022130	86.116	.00000	Abs	Pass	
Pb2203		0.0038970	ppm	0.0015970	40.985	.00000	Abs	Pass	
S_1820		-0.0037160	ppm	0.0034340	92.427	.00000	Abs	Pass	
Sb2068		0.00070900	ppm	0.0010900	153.76	.00000	Abs	Pass	
Se1960		-0.00063200	ppm	0.00032600	51.588	.00000	Abs	Pass	
Si2881		-0.010787	ppm	0.028344	262.77	.00000	Abs	Pass	
Sn1899		0.000073000	ppm	0.00027500	375.68	.00000	Abs	Pass	
Sr4077		.0000040000	ppm	0.00029800	6,935.6	.00000	Abs	Pass	
Ti3349		0.000057000	ppm	0.00034400	605.75	.00000	Abs	Pass	
Tl1908		0.000016000	ppm	0.00045500	2,915.5	.00000	Abs	Pass	
V_2924		-0.00019400	ppm	0.00023000	118.59	.00000	Abs	Pass	
Zn2062		0.00021600	ppm	0.00048800	225.88	.00000	Abs	Pass	
Y_2243		7,320.7	Cts/S	16.850	0.23018				
Y_3600		55,826	Cts/S	276.95	0.49608				
Y_3774		6,567.3	Cts/S	39.273	0.59802				

CALSTD0 1788080

Acquire Date: 11/14/2019 10:53:18AM Sample Type: Standard

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00041000	Cts/S	0.000024000	5.9653
Al3961		0.0035140	Cts/S	0.00053100	15.120
As1890		-0.00035800	Cts/S	0.000061000	17.078
B_2089		0.00073000	Cts/S	0.000039000	5.3204
Ba4554		0.012654	Cts/S	0.0011830	9.3525
Be3130		-0.00081100	Cts/S	0.00040400	49.854
Ca3179		0.0015680	Cts/S	0.00012000	7.6710
Cd2144		0.00037900	Cts/S	0.000092000	24.271
Co2286		-0.00033900	Cts/S	0.00014400	42.505
Cr2677		0.00019200	Cts/S	0.000016000	8.2778
Cu3247		0.0013740	Cts/S	0.00014000	10.181
Fe2599		0.0010040	Cts/S	0.00022800	22.703
K_7664		-0.00050800	Cts/S	0.0018900	371.65
Mg2790		.0000090000	Cts/S	0.000040000	446.39
Mn2576		0.00026800	Cts/S	0.0000040000	1.3334
Mo2020		0.00031800	Cts/S	0.000026000	8.2551
Na5895		-0.0058180	Cts/S	0.0027300	46.920
Ni2316		0.00015600	Cts/S	0.000021000	13.357
P_1782		0.00011100	Cts/S	0.0000050000	4.8415
Pb2203		-0.00011000	Cts/S	0.00018300	166.38
S_1820		0.00043900	Cts/S	0.000010000	2.3308
Sb2068		0.000051000	Cts/S	0.000017000	33.918
Se1960		0.00024000	Cts/S	0.0000040000	1.7243
Si2881		0.00060100	Cts/S	0.00023200	38.610
Sn1899		0.00011000	Cts/S	0.000063000	57.051

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CALSTD0 1788080

Acquire Date: 11/14/2019 10:53:18AM Sample Type: Standard

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Sr4077		-0.0056270	Cts/S	0.00057100	10.138
Ti3349		0.000075000	Cts/S	0.000024000	31.566
Tl1908		0.000014000	Cts/S	0.0000090000	60.651
V_2924		0.000023000	Cts/S	0.000026000	114.07
Zn2062		0.000029000	Cts/S	0.000020000	71.356
Y_2243		7,469.8	Cts/S	2.2136	0.029634
Y_3600		55,407	Cts/S	1,554.4	2.8054
Y_3774		6,368.4	Cts/S	17.858	0.28041

CALSTD1 1766655

Acquire Date: 11/14/2019 10:57:19AM Sample Type: Standard

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.11565	Cts/S	0.00036700	0.31720
Al3961		2.3673	Cts/S	0.0031800	0.13433
As1890		0.059982	Cts/S	0.00021400	0.35692
B_2089		0.40846	Cts/S	0.0010930	0.26771
Ba4554		17.283	Cts/S	0.039217	0.22691
Be3130		1.7316	Cts/S	0.0070430	0.40676
Ca3179		2.8922	Cts/S	0.0057830	0.19994
Cd2144		2.3029	Cts/S	0.0030860	0.13399
Co2286		2.5207	Cts/S	0.0021110	0.083755
Cr2677		0.66047	Cts/S	0.00048900	0.073972
Cu3247		0.55655	Cts/S	0.00025000	0.044889
Fe2599		1.5397	Cts/S	0.0028760	0.18681
K_7664		2.3011	Cts/S	0.0077310	0.33598
Mg2790		0.46026	Cts/S	0.00035500	0.077137
Mn2576		2.7830	Cts/S	0.0022240	0.079898
Mo2020		0.71824	Cts/S	0.00037400	0.052052
Na5895		8.0328	Cts/S	0.022633	0.28176
Ni2316		1.0753	Cts/S	0.00082500	0.076733
P_1782		0.14814	Cts/S	0.000034000	0.022745
Pb2203		0.12385	Cts/S	0.00063000	0.50890
S_1820		0.14620	Cts/S	0.00010600	0.072194
Sb2068		0.044316	Cts/S	0.00018300	0.41191
Se1960		0.040751	Cts/S	0.00024800	0.60811
Si2881		0.046911	Cts/S	0.00022700	0.48379
Sn1899		0.95095	Cts/S	0.00021400	0.022519
Sr4077		21.284	Cts/S	0.044564	0.20938
Ti3349		0.27408	Cts/S	0.00013700	0.049880
Tl1908		0.049110	Cts/S	0.00016000	0.32587
V_2924		0.87091	Cts/S	0.00020300	0.023335
Zn2062		0.31274	Cts/S	0.00019100	0.061224
Y_2243		7,090.9	Cts/S	7.5965	0.10713
Y_3600		52,913	Cts/S	135.01	0.25516
Y_3774		6,596.4	Cts/S	36.637	0.55541

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CALSTD2 1732511

Acquire Date: 11/14/2019 11:01:02AM Sample Type: Standard

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Al3961		12.272	Cts/S	0.059050	0.48116
Ca3179		14.639	Cts/S	0.066720	0.45578
Fe2599		7.6155	Cts/S	0.038012	0.49914
K_7664		11.931	Cts/S	0.052534	0.44033
Mg2790		2.3334	Cts/S	0.0054150	0.23209
Na5895		41.505	Cts/S	0.23175	0.55836
P_1782		1.5621	Cts/S	0.0029820	0.19087
S_1820		7.4484	Cts/S	0.020139	0.27038
Y_2243		6,698.4	Cts/S	1.3502	0.020157
Y_3600		47,741	Cts/S	47.855	0.10024
Y_3774		6,315.5	Cts/S	8.5686	0.13568

LRA 1794539

Acquire Date: 11/14/2019 11:04:58AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		1.9880	ppm	0.0057430	0.28888	2.0000	Rel(%)	Pass	
Al3961		97.295	ppm	0.048486	0.049834	100.00	Rel(%)	Pass	
As1890		2.0160	ppm	0.0050860	0.25228	2.0000	Rel(%)	Pass	
B_2089		3.9961	ppm	0.0045880	0.11481	4.0000	Rel(%)	Pass	
Ba4554		10.041	ppm	0.00065000	0.0064710	10.000	Rel(%)	Pass	
Be3130		1.9874	ppm	0.00066800	0.033609	2.0000	Rel(%)	Pass	
Ca3179		99.190	ppm	0.011512	0.011606	100.00	Rel(%)	Pass	
Cd2144		1.9816	ppm	0.00067200	0.033910	2.0000	Rel(%)	Pass	
Co2286		9.9214	ppm	0.0049600	0.049998	10.000	Rel(%)	Pass	
Cr2677		9.9213	ppm	0.0031390	0.031641	10.000	Rel(%)	Pass	
Cu3247		9.9323	ppm	0.016670	0.16784	10.000	Rel(%)	Pass	
Fe2599		99.432	ppm	0.081997	0.082466	100.00	Rel(%)	Pass	
K_7664		98.022	ppm	0.086698	0.088447	100.00	Rel(%)	Pass	
Mg2790		98.555	ppm	0.013206	0.013400	100.00	Rel(%)	Pass	
Mn2576		9.7382	ppm	0.11307	1.1611	10.000	Rel(%)	Pass	
Mo2020		4.0136	ppm	0.0024750	0.061658	4.0000	Rel(%)	Pass	
Na5895		97.428	ppm	0.023093	0.023703	100.00	Rel(%)	Pass	
Ni2316		9.8587	ppm	0.0048290	0.048984	10.000	Rel(%)	Pass	
P_1782		9.6141	ppm	0.019535	0.20319	10.000	Rel(%)	Pass	
Pb2203		1.9752	ppm	0.0047530	0.24063	2.0000	Rel(%)	Pass	
S_1820		9.7346	ppm	0.019485	0.20016	10.000	Rel(%)	Pass	
Sb2068		2.0024	ppm	0.0038130	0.19044	2.0000	Rel(%)	Pass	
Se1960		1.9749	ppm	0.0079940	0.40476	2.0000	Rel(%)	Pass	
Si2881		10.079	ppm	0.020260	0.20103	10.000	Rel(%)	Pass	
Sn1899		9.9141	ppm	0.0074790	0.075439	10.000	Rel(%)	Pass	
Sr4077		10.001	ppm	0.0023000	0.022999	10.000	Rel(%)	Pass	
Ti3349		3.9992	ppm	0.000031000	0.00076700	4.0000	Rel(%)	Pass	
Tl1908		1.9415	ppm	0.0072860	0.37526	2.0000	Rel(%)	Pass	
V_2924		10.037	ppm	0.0026290	0.026190	10.000	Rel(%)	Pass	
Zn2062		9.7958	ppm	0.0043730	0.044640	10.000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

LRA 1794539

Acquire Date: 11/14/2019 11:04:58AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Y_2243		6,848.4	Cts/S	9.6235	0.14052				
Y_3600		51,423	Cts/S	204.44	0.39756				
Y_3774		6,605.2	Cts/S	38.579	0.58407				

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Acquire Date: 11/14/2019 11:08:47AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.00017400	ppm	0.00056300	323.26	.00000	Abs	Pass	
Al3961		0.018023	ppm	0.053772	298.35	.00000	Abs	Pass	
As1890		0.00068600	ppm	0.0000020000	0.30831	.00000	Abs	Pass	
B_2089		0.012779	ppm	0.0014640	11.458	.00000	Abs	Pass	
Ba4554		0.0011860	ppm	0.0021290	179.45	.00000	Abs	Pass	
Be3130		0.00028200	ppm	0.00024400	86.778	.00000	Abs	Pass	
Ca3179		0.035976	ppm	0.050136	139.36	.00000	Abs	Pass	
Cd2144		0.000079000	ppm	0.000013000	16.820	.00000	Abs	Pass	
Co2286		0.0012350	ppm	0.000099000	8.0301	.00000	Abs	Pass	
Cr2677		0.00062300	ppm	0.00065400	104.94	.00000	Abs	Pass	
Cu3247		0.0093900	ppm	0.00077400	8.2393	.00000	Abs	Pass	
Fe2599		0.033599	ppm	0.046794	139.27	.00000	Abs	Pass	
K_7664		0.11378	ppm	0.059188	52.023	.00000	Abs	Pass	
Mg2790		0.00060800	ppm	0.0040660	668.50	.00000	Abs	Pass	
Mn2576		0.00073100	ppm	0.00019500	26.656	.00000	Abs	Pass	
Mo2020		0.00098900	ppm	0.00015300	15.456	.00000	Abs	Pass	
Na5895		0.12080	ppm	0.053941	44.652	.00000	Abs	Pass	
Ni2316		0.0024950	ppm	0.00022200	8.8910	.00000	Abs	Pass	
P_1782		0.0013590	ppm	0.00010300	7.6028	.00000	Abs	Pass	
Pb2203		0.0012970	ppm	0.0015190	117.14	.00000	Abs	Pass	
S_1820		-0.0020990	ppm	0.00071600	34.123	.00000	Abs	Pass	
Sb2068		-0.0021880	ppm	0.0035890	164.04	.00000	Abs	Pass	
Se1960		-0.0026990	ppm	0.0011410	42.274	.00000	Abs	Pass	
Si2881		0.013708	ppm	0.0027440	20.015	.00000	Abs	Pass	
Sn1899		0.0035350	ppm	0.00069500	19.664	.00000	Abs	Pass	
Sr4077		0.0018270	ppm	0.0016040	87.797	.00000	Abs	Pass	
Ti3349		0.00018500	ppm	0.00019100	103.10	.00000	Abs	Pass	
Tl1908		0.0024080	ppm	0.00073300	30.455	.00000	Abs	Pass	
V_2924		0.0011550	ppm	0.00010100	8.7277	.00000	Abs	Pass	
Zn2062	**W**	**0.0069670**	**ppm**	**0.00026900**	**3.8600**	**.00000**	**Abs**	**Warn High**	**0.00500**
Y_2243		7,284.1	Cts/S	22.425	0.30787				
Y_3600		54,960	Cts/S	158.21	0.28787				
Y_3774		6,545.4	Cts/S	39.888	0.60940				

ICV 1788014

Acquire Date: 11/14/2019 11:12:48AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.25358	ppm	0.0011910	0.46948	.25000	Rel(%)	Pass	
Al3961		9.6520	ppm	0.018827	0.19506	10.000	Rel(%)	Pass	
As1890		0.95416	ppm	0.00047300	0.049602	1.0000	Rel(%)	Pass	
B_2089		0.51442	ppm	0.0012450	0.24205	.50000	Rel(%)	Pass	
Ba4554		0.99738	ppm	0.0038730	0.38832	1.0000	Rel(%)	Pass	
Be3130		1.0227	ppm	0.0028820	0.28184	1.0000	Rel(%)	Pass	
Ca3179		9.9913	ppm	0.057516	0.57567	10.000	Rel(%)	Pass	
Cd2144		1.0174	ppm	0.00019500	0.019215	1.0000	Rel(%)	Pass	
Co2286		1.0122	ppm	0.0019490	0.19258	1.0000	Rel(%)	Pass	
Cr2677		1.0077	ppm	0.0010230	0.10150	1.0000	Rel(%)	Pass	
Cu3247		1.0284	ppm	0.0028080	0.27308	1.0000	Rel(%)	Pass	
Fe2599		10.182	ppm	0.011019	0.10822	10.000	Rel(%)	Pass	
K_7664		9.8038	ppm	0.018310	0.18676	10.000	Rel(%)	Pass	
Mg2790		9.9754	ppm	0.012792	0.12824	10.000	Rel(%)	Pass	
Mn2576		1.0201	ppm	0.00035000	0.034343	1.0000	Rel(%)	Pass	
Mo2020		0.98999	ppm	0.0013550	0.13687	1.0000	Rel(%)	Pass	
Na5895		9.7546	ppm	0.033484	0.34326	10.000	Rel(%)	Pass	
Ni2316		1.0252	ppm	0.0021750	0.21219	1.0000	Rel(%)	Pass	
P_1782	**W**	**1.8843**	**ppm**	**0.0054760**	**0.29060**	**2.0000**	**Rel(%)**	**Warn Low**	**-5.0000**
Pb2203		1.0176	ppm	0.0014980	0.14720	1.0000	Rel(%)	Pass	
S_1820		1.9476	ppm	0.0078380	0.40242	2.0000	Rel(%)	Pass	
Sb2068	**W**	**0.90929**	**ppm**	**0.0026710**	**0.29378**	**1.0000**	**Rel(%)**	**Warn Low**	**-5.0000**
Se1960		1.0066	ppm	0.0031860	0.31648	1.0000	Rel(%)	Pass	
Si2881		9.8508	ppm	0.090707	0.92080	10.000	Rel(%)	Pass	
Sn1899		0.99913	ppm	0.00074800	0.074863	1.0000	Rel(%)	Pass	
Sr4077		0.99267	ppm	0.0038890	0.39174	1.0000	Rel(%)	Pass	
Ti3349		0.99033	ppm	0.00066900	0.067527	1.0000	Rel(%)	Pass	
Tl1908		1.0250	ppm	0.0017230	0.16813	1.0000	Rel(%)	Pass	
V_2924		0.99135	ppm	0.00018300	0.018459	1.0000	Rel(%)	Pass	
Zn2062		1.0492	ppm	0.0013320	0.12696	1.0000	Rel(%)	Pass	
Y_2243		7,158.5	Cts/S	2.1929	0.030633				
Y_3600		54,515	Cts/S	38.565	0.070743				
Y_3774		6,594.4	Cts/S	37.692	0.57157				

ICBIS 1745955

Acquire Date: 11/14/2019 11:16:32AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00020300	ppm	0.0012050	593.29	.00000	Abs	Pass	
Al3961		-0.0012030	ppm	0.030602	2,544.2	.00000	Abs	Pass	
As1890		0.0013130	ppm	0.000027000	2.0178	.00000	Abs	Pass	
B_2089		0.0062730	ppm	0.00044600	7.1066	.00000	Abs	Pass	
Ba4554		-0.00034300	ppm	0.00024900	72.743	.00000	Abs	Pass	
Be3130		0.00018800	ppm	0.000050000	26.284	.00000	Abs	Pass	
Ca3179		0.00056900	ppm	0.0070540	1,239.1	.00000	Abs	Pass	
Cd2144		0.000093000	ppm	0.00015500	166.02	.00000	Abs	Pass	
Co2286		0.00056500	ppm	0.00048600	86.049	.00000	Abs	Pass	
Cr2677		-0.00074300	ppm	0.00030400	40.944	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

ICBIS 1745955

Acquire Date: 11/14/2019 11:16:32AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Cu3247		0.0029000	ppm	0.00034100	11.765	.00000	Abs	Pass	
Fe2599		-0.019957	ppm	0.0021490	10.769	.00000	Abs	Pass	
K_7664		0.019297	ppm	0.00054400	2.8184	.00000	Abs	Pass	
Mg2790		-0.0015100	ppm	0.00046100	30.552	.00000	Abs	Pass	
Mn2576		0.00031500	ppm	0.000094000	30.023	.00000	Abs	Pass	
Mo2020		0.000020000	ppm	0.00020500	1,011.4	.00000	Abs	Pass	
Na5895		0.011280	ppm	0.00044700	3.9635	.00000	Abs	Pass	
Ni2316		0.00083100	ppm	0.00043100	51.834	.00000	Abs	Pass	
P_1782		-0.0014290	ppm	0.0010100	70.666	.00000	Abs	Pass	
Pb2203		0.00084200	ppm	0.00053600	63.656	.00000	Abs	Pass	
S_1820		-0.0037210	ppm	0.0016660	44.780	.00000	Abs	Pass	
Sb2068		-0.00010400	ppm	0.0028530	2,751.5	.00000	Abs	Pass	
Se1960		-0.0011070	ppm	0.0017130	154.76	.00000	Abs	Pass	
Si2881		0.0024810	ppm	0.031996	1,289.7	.00000	Abs	Pass	
Sn1899		0.0012280	ppm	0.00028300	23.018	.00000	Abs	Pass	
Sr4077		0.00029600	ppm	0.00014400	48.642	.00000	Abs	Pass	
Ti3349		0.00023000	ppm	0.00075600	328.16	.00000	Abs	Pass	
Tl1908		0.00078700	ppm	0.0016800	213.35	.00000	Abs	Pass	
V_2924		0.0010660	ppm	0.00039600	37.138	.00000	Abs	Pass	
Zn2062		0.0021260	ppm	0.00024200	11.386	.00000	Abs	Pass	
Y_2243		7,383.1	Cts/S	27.967	0.37880				
Y_3600		55,785	Cts/S	56.973	0.10213				
Y_3774		6,562.5	Cts/S	21.445	0.32679				

CRI 1733852

Acquire Date: 11/14/2019 11:20:32AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.0043070	ppm	0.00018400	4.2734	.00500	Rel(%)	Pass	
Al3961		0.17807	ppm	0.013925	7.8203	.20000	Rel(%)	Pass	
As1890		0.036991	ppm	0.0016400	4.4332	.04000	Rel(%)	Pass	
B_2089		0.19664	ppm	0.00066000	0.33551	.20000	Rel(%)	Pass	
Ba4554		0.018596	ppm	0.00050700	2.7289	.02000	Rel(%)	Pass	
Be3130		0.0028770	ppm	0.000046000	1.5886	.00300	Rel(%)	Pass	
Ca3179		0.48871	ppm	0.0030630	0.62684	.50000	Rel(%)	Pass	
Cd2144		0.0031320	ppm	0.000012000	0.38787	.00300	Rel(%)	Pass	
Co2286		0.0097680	ppm	0.00042500	4.3462	.01000	Rel(%)	Pass	
Cr2677		0.0093390	ppm	0.00065200	6.9796	.01000	Rel(%)	Pass	
Cu3247		0.015540	ppm	0.000046000	0.29583	.01500	Rel(%)	Pass	
Fe2599		0.083203	ppm	0.0074620	8.9683	.10000	Rel(%)	Pass	
K_7664		0.95979	ppm	0.046720	4.8678	1.0000	Rel(%)	Pass	
Mg2790		0.48263	ppm	0.0014480	0.29994	.50000	Rel(%)	Pass	
Mn2576		0.010036	ppm	0.000066000	0.65868	.01000	Rel(%)	Pass	
Mo2020		0.018352	ppm	0.00011400	0.62216	.02000	Rel(%)	Pass	
Na5895		0.46980	ppm	0.018401	3.9168	.50000	Rel(%)	Pass	
Ni2316		0.010483	ppm	0.00010300	0.98452	.01000	Rel(%)	Pass	
P_1782		0.45941	ppm	0.00011000	0.024034	.50000	Rel(%)	Pass	
Pb2203		0.0086210	ppm	0.00039800	4.6117	.01000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CRI 1733852

Acquire Date: 11/14/2019 11:20:32AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
S_1820		0.44792	ppm	0.0026380	0.58904	.50000	Rel(%)	Pass	
Sb2068		0.028297	ppm	0.0033490	11.834	.03000	Rel(%)	Pass	
Se1960		0.040016	ppm	0.0023520	5.8768	.04000	Rel(%)	Pass	
Si2881		0.47934	ppm	0.000074000	0.015478	.50000	Rel(%)	Pass	
Sn1899		0.020482	ppm	0.00035500	1.7320	.02000	Rel(%)	Pass	
Sr4077		0.048752	ppm	0.000047000	0.096696	.05000	Rel(%)	Pass	
Ti3349		0.0091100	ppm	0.00032200	3.5310	.01000	Rel(%)	Pass	
Tl1908		0.030074	ppm	0.0018100	6.0182	.03000	Rel(%)	Pass	
V_2924		0.018890	ppm	0.00016500	0.87291	.02000	Rel(%)	Pass	
Zn2062		0.020775	ppm	0.00056400	2.7150	.02000	Rel(%)	Pass	
Y_2243		7,352.5	Cts/S	2.8160	0.038300				
Y_3600		55,464	Cts/S	53.970	0.097306				
Y_3774		6,552.0	Cts/S	28.814	0.43977				

CRI 1733886

Acquire Date: 11/14/2019 11:24:31AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.0046880	ppm	0.00018000	3.8312	.00500	Rel(%)	Pass	
Al3961		0.17955	ppm	0.025774	14.355	.20000	Rel(%)	Pass	
As1890		0.019898	ppm	0.00085900	4.3172	.02000	Rel(%)	Pass	
B_2089		0.10237	ppm	0.00052000	0.50764	.10000	Rel(%)	Pass	
Ba4554		0.0042740	ppm	0.0000010000	0.015293	.00500	Rel(%)	Pass	
Be3130		0.0019860	ppm	0.00019000	9.5858	.00200	Rel(%)	Pass	
Ca3179		0.48275	ppm	0.0019460	0.40315	.50000	Rel(%)	Pass	
Cd2144		0.0020480	ppm	0.000050000	2.4458	.00200	Rel(%)	Pass	
Co2286		0.0051900	ppm	0.00013400	2.5885	.00500	Rel(%)	Pass	
Cr2677		0.0040560	ppm	0.00069700	17.182	.00500	Rel(%)	Pass	
Cu3247		0.010217	ppm	0.00014000	1.3668	.01000	Rel(%)	Pass	
Fe2599		0.080445	ppm	0.00050000	0.62207	.10000	Rel(%)	Pass	
K_7664		0.95883	ppm	0.023187	2.4182	1.0000	Rel(%)	Pass	
Mg2790		0.47540	ppm	0.0036870	0.77561	.50000	Rel(%)	Pass	
Mn2576		0.0048210	ppm	0.000024000	0.50154	.00500	Rel(%)	Pass	
Mo2020		0.018357	ppm	0.00017400	0.94886	.02000	Rel(%)	Pass	
Na5895		0.45839	ppm	0.0034180	0.74566	.50000	Rel(%)	Pass	
Ni2316		0.0056590	ppm	0.00018600	3.2948	.00500	Rel(%)	Pass	
P_1782		0.46128	ppm	0.0014690	0.31854	.50000	Rel(%)	Pass	
Pb2203		0.0048890	ppm	0.0023200	47.447	.00500	Rel(%)	Pass	
S_1820		0.44431	ppm	0.00055100	0.12410	.50000	Rel(%)	Pass	
Sb2068		0.017829	ppm	0.0017670	9.9098	.02000	Rel(%)	Pass	
Se1960		0.017877	ppm	0.0051650	28.893	.02000	Rel(%)	Pass	
Si2881		0.47134	ppm	0.0045630	0.96811	.50000	Rel(%)	Pass	
Sn1899		0.020071	ppm	0.0010210	5.0885	.02000	Rel(%)	Pass	
Sr4077		0.048414	ppm	0.000092000	0.18991	.05000	Rel(%)	Pass	
Ti3349		0.0093670	ppm	0.00045700	4.8736	.01000	Rel(%)	Pass	
Tl1908		0.017924	ppm	0.0027080	15.109	.02000	Rel(%)	Pass	
V_2924		0.0049680	ppm	0.00049200	9.9066	.00500	Rel(%)	Pass	
Zn2062		0.010392	ppm	0.00011300	1.0920	.01000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CRI 1733886

Acquire Date: 11/14/2019 11:24:31AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Y_2243		7,361.6	Cts/S	17.277	0.23469				
Y_3600		55,708	Cts/S	63.164	0.11339				
Y_3774		6,621.0	Cts/S	2.5858	0.039054				

ICSA 1796620

Acquire Date: 11/14/2019 11:28:31AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.0017730	ppm	0.00064400	36.332	.00000	Abs	Pass	
Al3961		482.86	ppm	1.1500	0.23817	500.00	Abs	Pass	
As1890		-0.0067600	ppm	0.00037300	5.5217	.00000	Abs	Pass	
B_2089		0.0063220	ppm	0.000065000	1.0351	.00000	Abs	Pass	
Ba4554		0.0011380	ppm	0.00049700	43.704	.00000	Abs	Pass	
Be3130		0.00099700	ppm	0.00014500	14.501	.00000	Abs	Pass	
Ca3179		470.84	ppm	0.50147	0.10651	500.00	Abs	Pass	
Cd2144		-0.00045600	ppm	0.000070000	15.248	.00000	Abs	Pass	
Co2286		-0.0011690	ppm	0.000017000	1.4716	.00000	Abs	Pass	
Cr2677		-0.00076100	ppm	0.00037600	49.422	.00000	Abs	Pass	
Cu3247		-0.0018630	ppm	0.00056600	30.401	.00000	Abs	Pass	
Fe2599		184.84	ppm	0.096800	0.052369	200.00	Abs	Pass	
K_7664		-0.071153	ppm	0.016600	23.330	.00000	Abs	Pass	
Mg2790		475.54	ppm	1.8638	0.39193	500.00	Abs	Pass	
Mn2576		-0.0017610	ppm	0.000055000	3.1024	.00000	Abs	Pass	
Mo2020		0.0017980	ppm	0.00015300	8.5311	.00000	Abs	Pass	
Na5895		0.19018	ppm	0.0064380	3.3850	.00000	Abs	Pass	
Ni2316		-0.00078500	ppm	0.00042400	54.087	.00000	Abs	Pass	
P_1782		0.015861	ppm	0.00047800	3.0115	.00000	Abs	Pass	
Pb2203		0.0023040	ppm	0.00061900	26.880	.00000	Abs	Pass	
S_1820		-0.43838	ppm	0.00017200	0.039216	.00000	Abs	Pass	
Sb2068		-0.00074600	ppm	0.0045050	604.22	.00000	Abs	Pass	
Se1960		0.0087610	ppm	0.0031550	36.011	.00000	Abs	Pass	
Si2881		-0.063653	ppm	0.0012100	1.9014	.00000	Abs	Pass	
Sn1899		-0.0040850	ppm	0.00064500	15.795	.00000	Abs	Pass	
Sr4077		-0.0011210	ppm	0.00016400	14.617	.00000	Abs	Pass	
Ti3349		0.00053100	ppm	0.0016920	318.49	.00000	Abs	Pass	
Tl1908		-0.0037280	ppm	0.0011250	30.164	.00000	Abs	Pass	
V_2924		0.00044800	ppm	0.00016900	37.659	.00000	Abs	Pass	
Zn2062		-0.0032650	ppm	0.00037400	11.450	.00000	Abs	Pass	
Y_2243		6,476.7	Cts/S	16.701	0.25786				
Y_3600		47,338	Cts/S	82.795	0.17490				
Y_3774		6,364.1	Cts/S	10.423	0.16377				

ICSAB 1796622

Acquire Date: 11/14/2019 11:32:31AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		1.0867	ppm	0.0026150	0.24068	1.0000	Rel(%)	Pass	
Al3961		489.63	ppm	1.4092	0.28782	500.00	Rel(%)	Pass	
As1890		0.96848	ppm	0.0013790	0.14241				
B_2089		9.4605	ppm	0.010352	0.10942				
Ba4554		0.99733	ppm	0.0018120	0.18168	1.0000	Rel(%)	Pass	
Be3130		0.49301	ppm	0.00076100	0.15428	.50000	Rel(%)	Pass	
Ca3179		479.16	ppm	0.80469	0.16794	500.00	Rel(%)	Pass	
Cd2144		0.93682	ppm	0.0019890	0.21229	1.0000	Rel(%)	Pass	
Co2286		0.90240	ppm	0.0016860	0.18682	1.0000	Rel(%)	Pass	
Cr2677		0.99660	ppm	0.0017770	0.17826	1.0000	Rel(%)	Pass	
Cu3247		0.99753	ppm	0.00053100	0.053209	1.0000	Rel(%)	Pass	
Fe2599		188.09	ppm	0.36046	0.19164	200.00	Rel(%)	Pass	
K_7664		9.9111	ppm	0.0072090	0.072741				
Mg2790		485.86	ppm	0.72376	0.14896	500.00	Rel(%)	Pass	
Mn2576		0.99876	ppm	0.00016600	0.016642	1.0000	Rel(%)	Pass	
Mo2020		0.0017040	ppm	0.00047500	27.882				
Na5895		10.193	ppm	0.0069530	0.068211				
Ni2316		0.89006	ppm	0.0028750	0.32301	1.0000	Rel(%)	Pass	
P_1782		9.4127	ppm	0.010621	0.11284				
Pb2203		0.92663	ppm	0.00048800	0.052667	1.0000	Rel(%)	Pass	
S_1820		-0.45377	ppm	0.0012550	0.27660				
Sb2068		-0.0088860	ppm	0.00017200	1.9339				
Se1960		0.97764	ppm	0.00020800	0.021319				
Si2881		-0.038228	ppm	0.0026760	7.0004				
Sn1899		-0.0046530	ppm	0.00072600	15.609				
Sr4077		0.98802	ppm	0.0030500	0.30865				
Ti3349		-0.0014400	ppm	0.0016160	112.26				
Tl1908		0.88770	ppm	0.0023250	0.26191				
V_2924		1.0256	ppm	0.0010300	0.10046	1.0000	Rel(%)	Pass	
Zn2062		0.95031	ppm	0.00083400	0.087748	1.0000	Rel(%)	Pass	
Y_2243		6,479.1	Cts/S	14.941	0.23061				
Y_3600		46,949	Cts/S	34.743	0.074001				
Y_3774		6,330.3	Cts/S	2.2832	0.036068				

AI 1800508

Acquire Date: 11/14/2019 11:36:21AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.0024410	ppm	0.00012800	5.2539	.00000	Abs	Pass	
Al3961		954.48	ppm	11.953	1.2523				
As1890		-0.0082170	ppm	0.0012790	15.567	.00000	Abs	Pass	
B_2089		0.031864	ppm	0.0011390	3.5747	.00000	Abs	Pass	
Ba4554		.0000070000	ppm	0.00015300	2,076.4	.00000	Abs	Pass	
Be3130		0.000053000	ppm	0.000020000	37.453	.00000	Abs	Pass	
Ca3179		0.079728	ppm	0.026507	33.247				
Cd2144		0.0011680	ppm	0.000066000	5.6793	.00000	Abs	Pass	
Co2286		-0.00035900	ppm	0.000021000	5.8030	.00000	Abs	Pass	
Cr2677		0.0014680	ppm	0.00037800	25.760	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

Al 1800508

Acquire Date: 11/14/2019 11:36:21AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Cu3247		0.00050500	ppm	0.00047800	94.634	.00000	Abs	Pass	
Fe2599		0.11030	ppm	0.012308	11.159				
K_7664		-0.086137	ppm	0.027559	31.995	.00000	Abs	Pass	
Mg2790		0.027501	ppm	0.0056350	20.491				
Mn2576		-0.0013530	ppm	0.000069000	5.1091	.00000	Abs	Pass	
Mo2020		0.0021680	ppm	0.00057600	26.565	.00000	Abs	Pass	
Na5895		0.35726	ppm	0.0057440	1.6079	.00000	Abs	Pass	
Ni2316		0.0032930	ppm	0.00015100	4.5968	.00000	Abs	Pass	
P_1782		0.0032040	ppm	0.0037020	115.56	.00000	Abs	Pass	
Pb2203		-0.0042200	ppm	0.0050220	119.01	.00000	Abs	Pass	
S_1820		-0.0014050	ppm	0.0027110	192.91	.00000	Abs	Pass	
Sb2068		0.0055130	ppm	0.0084230	152.78	.00000	Abs	Pass	
Se1960		0.013359	ppm	0.0013350	9.9961	.00000	Abs	Pass	
Si2881		-0.0029090	ppm	0.037477	1,288.4	.00000	Abs	Pass	
Sn1899		-0.012717	ppm	0.00034700	2.7315	.00000	Abs	Pass	
Sr4077		0.00028700	ppm	0.00020400	71.028	.00000	Abs	Pass	
Ti3349		0.0028990	ppm	0.00026200	9.0242	.00000	Abs	Pass	
Tl1908		0.0036540	ppm	0.0036380	99.552	.00000	Abs	Pass	
V_2924		0.0014710	ppm	0.00045100	30.640	.00000	Abs	Pass	
Zn2062		-0.0021040	ppm	0.000044000	2.0820	.00000	Abs	Pass	
Y_2243		6,971.5	Cts/S	45.906	0.65847				
Y_3600		49,882	Cts/S	12.603	0.025266				
Y_3774		6,824.2	Cts/S	20.084	0.29431				

Ca 1800509

Acquire Date: 11/14/2019 11:40:22AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.00086300	ppm	0.00087600	101.47	.00000	Abs	Pass	
Al3961		0.49511	ppm	0.43201	87.254				
As1890		-0.00048800	ppm	0.00018000	36.941	.00000	Abs	Pass	
B_2089		0.014043	ppm	0.00040700	2.8956	.00000	Abs	Pass	
Ba4554		0.00032100	ppm	0.00044400	138.26	.00000	Abs	Pass	
Be3130		0.0017020	ppm	0.0000010000	0.056865	.00000	Abs	Pass	
Ca3179		963.10	ppm	11.843	1.2297				
Cd2144		0.0012840	ppm	0.000051000	4.0011	.00000	Abs	Pass	
Co2286		0.000096000	ppm	0.00044600	464.61	.00000	Abs	Pass	
Cr2677		0.00052400	ppm	0.00012800	24.443	.00000	Abs	Pass	
Cu3247		0.0010050	ppm	0.00064300	64.030	.00000	Abs	Pass	
Fe2599		0.018798	ppm	0.062537	332.67				
K_7664		0.060299	ppm	0.035514	58.897	.00000	Abs	Pass	
Mg2790		0.023888	ppm	0.013810	57.813				
Mn2576		-0.0014470	ppm	0.000031000	2.1620	.00000	Abs	Pass	
Mo2020		-0.00011900	ppm	0.00030200	253.48	.00000	Abs	Pass	
Na5895		0.011748	ppm	0.0011190	9.5284	.00000	Abs	Pass	
Ni2316		-0.00012700	ppm	0.00025400	198.99	.00000	Abs	Pass	
P_1782		0.012746	ppm	0.00055300	4.3390	.00000	Abs	Pass	
Pb2203		-0.0015460	ppm	0.0019200	124.24	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

Ca 1800509

Acquire Date: 11/14/2019 11:40:22AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
S_1820		-0.084878	ppm	0.00085400	1.0063	.00000	Abs	Pass	
Sb2068		-0.0067510	ppm	0.0012370	18.324	.00000	Abs	Pass	
Se1960		0.0033830	ppm	0.0022460	66.384	.00000	Abs	Pass	
Si2881		-0.053130	ppm	0.0083330	15.684	.00000	Abs	Pass	
Sn1899		.0000060000	ppm	0.00036300	5,601.0	.00000	Abs	Pass	
Sr4077		-0.0024790	ppm	0.00049100	19.808	.00000	Abs	Pass	
Ti3349		-0.0032960	ppm	0.00034400	10.426	.00000	Abs	Pass	
Tl1908		-0.0038390	ppm	0.00081400	21.202	.00000	Abs	Pass	
V_2924		0.00033700	ppm	0.00026300	78.188	.00000	Abs	Pass	
Zn2062		0.00036800	ppm	0.00017500	47.707	.00000	Abs	Pass	
Y_2243		6,600.2	Cts/S	24.375	0.36930				
Y_3600		48,763	Cts/S	9.2292	0.018926				
Y_3774		6,313.2	Cts/S	4.2739	0.067698				

Fe 1800510

Acquire Date: 11/14/2019 11:44:26AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.0012300	ppm	0.0019020	154.68	.00000	Abs	Pass	
Al3961		0.032121	ppm	0.014630	45.546				
As1890		0.0020840	ppm	0.0030520	146.46	.00000	Abs	Pass	
B_2089		0.013781	ppm	0.00081600	5.9222	.00000	Abs	Pass	
Ba4554		-0.00047800	ppm	0.00019400	40.637	.00000	Abs	Pass	
Be3130		0.00027400	ppm	0.00017800	64.966	.00000	Abs	Pass	
Ca3179		0.063438	ppm	0.027452	43.274				
Cd2144		0.00016400	ppm	0.00010900	66.536	.00000	Abs	Pass	
Co2286		-0.0036840	ppm	0.00020600	5.6042	.00000	Abs	Pass	
Cr2677		0.0011330	ppm	0.000040000	3.5665	.00000	Abs	Pass	
Cu3247		-0.00049800	ppm	0.00026300	52.783	.00000	Abs	Pass	
Fe2599		928.24	ppm	1.5124	0.16293				
K_7664		-0.090244	ppm	0.032492	36.005	.00000	Abs	Pass	
Mg2790		0.046465	ppm	0.00080900	1.7409				
Mn2576		-0.0016020	ppm	0.000081000	5.0296	.00000	Abs	Pass	
Mo2020		0.00072300	ppm	0.00058300	80.565	.00000	Abs	Pass	
Na5895		0.11461	ppm	0.00066900	0.58406	.00000	Abs	Pass	
Ni2316		0.0014050	ppm	0.0011700	83.239	.00000	Abs	Pass	
P_1782		0.014290	ppm	0.0019810	13.865	.00000	Abs	Pass	
Pb2203		-0.0010780	ppm	0.00059300	54.995	.00000	Abs	Pass	
S_1820		0.010176	ppm	0.011707	115.05	.00000	Abs	Pass	
Sb2068		0.00058100	ppm	0.00084400	145.27	.00000	Abs	Pass	
Se1960		0.016061	ppm	0.0041910	26.091	.00000	Abs	Pass	
Si2881		-0.018893	ppm	0.011506	60.901	.00000	Abs	Pass	
Sn1899		0.0050870	ppm	0.00059200	11.643	.00000	Abs	Pass	
Sr4077		0.00060600	ppm	0.000043000	7.0879	.00000	Abs	Pass	
Ti3349		-0.00022800	ppm	0.00025400	111.37	.00000	Abs	Pass	
Tl1908		-0.0071390	ppm	0.00013300	1.8574	.00000	Abs	Pass	
V_2924		0.0018310	ppm	0.00039700	21.697	.00000	Abs	Pass	
Zn2062		0.00014100	ppm	0.00039000	277.65	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

Fe 1800510

Acquire Date: 11/14/2019 11:44:26AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Y_2243		7,039.0	Cts/S	11.564	0.16429				
Y_3600		52,655	Cts/S	281.95	0.53546				
Y_3774		6,545.5	Cts/S	22.452	0.34301				

Mg 1800511

Acquire Date: 11/14/2019 11:48:20AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00011300	ppm	0.00052400	463.54	.00000	Abs	Pass	
Al3961		-0.0097480	ppm	0.020875	214.14				
As1890		-0.0013740	ppm	0.0019570	142.44	.00000	Abs	Pass	
B_2089		0.0092180	ppm	0.00039900	4.3295	.00000	Abs	Pass	
Ba4554		0.00024300	ppm	0.000082000	33.758	.00000	Abs	Pass	
Be3130		0.000011000	ppm	0.000019000	164.83	.00000	Abs	Pass	
Ca3179		0.064071	ppm	0.0030240	4.7194				
Cd2144		-0.0012070	ppm	0.0000060000	0.52400	.00000	Abs	Pass	
Co2286		0.000072000	ppm	0.00049800	687.96	.00000	Abs	Pass	
Cr2677		-0.0017520	ppm	0.00024600	14.034	.00000	Abs	Pass	
Cu3247		-0.0015720	ppm	0.00028700	18.249	.00000	Abs	Pass	
Fe2599		0.14557	ppm	0.072245	49.628				
K_7664		-0.067019	ppm	0.0033750	5.0359	.00000	Abs	Pass	
Mg2790		978.32	ppm	6.2053	0.63428				
Mn2576		0.0010320	ppm	0.000057000	5.5453	.00000	Abs	Pass	
Mo2020		0.00041700	ppm	0.000038000	9.0414	.00000	Abs	Pass	
Na5895		0.023217	ppm	0.0069760	30.045	.00000	Abs	Pass	
Ni2316		0.0010750	ppm	0.00052300	48.688	.00000	Abs	Pass	
P_1782		-0.00052500	ppm	0.00075000	142.73	.00000	Abs	Pass	
Pb2203		0.00035200	ppm	0.0044980	1,276.4	.00000	Abs	Pass	
S_1820		-0.070713	ppm	0.00034300	0.48462	.00000	Abs	Pass	
Sb2068		0.0050760	ppm	0.00088100	17.351	.00000	Abs	Pass	
Se1960		-0.0076980	ppm	0.0015840	20.576	.00000	Abs	Pass	
Si2881		0.0018970	ppm	0.00014600	7.7088	.00000	Abs	Pass	
Sn1899		-0.00049200	ppm	0.00073500	149.45	.00000	Abs	Pass	
Sr4077		0.00022200	ppm	0.000097000	43.699	.00000	Abs	Pass	
Ti3349		0.0029700	ppm	0.00061700	20.771	.00000	Abs	Pass	
Tl1908		0.0027720	ppm	0.00090200	32.554	.00000	Abs	Pass	
V_2924		0.00044000	ppm	0.00015200	34.632	.00000	Abs	Pass	
Zn2062		0.0025260	ppm	0.00018400	7.2912	.00000	Abs	Pass	
Y_2243		6,704.2	Cts/S	63.792	0.95152				
Y_3600		49,721	Cts/S	52.582	0.10575				
Y_3774		6,350.7	Cts/S	23.341	0.36754				

rinse1

Acquire Date: 11/14/2019 11:52:23AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00028200	ppm	0.00022900	81.311
Al3961		-0.024666	ppm	0.0045930	18.620
As1890		0.0017940	ppm	0.00017500	9.7409
B_2089		0.0055210	ppm	0.00039900	7.2333
Ba4554		-0.00074900	ppm	0.00014100	18.789
Be3130		0.000058000	ppm	0.000079000	137.38
Ca3179		-0.00026900	ppm	0.0021190	787.84
Cd2144		.0000010000	ppm	0.000042000	7,100.0
Co2286		0.00018300	ppm	0.00011900	65.103
Cr2677		-0.00039800	ppm	0.00033800	84.896
Cu3247		0.00055400	ppm	0.0011300	203.94
Fe2599		0.015471	ppm	0.0048420	31.298
K_7664		0.0079350	ppm	0.083268	1,049.3
Mg2790		0.10774	ppm	0.042576	39.518
Mn2576		-0.00037600	ppm	0.00012000	31.942
Mo2020		-0.00015800	ppm	0.00042500	269.39
Na5895		0.011693	ppm	0.00042400	3.6251
Ni2316		0.00095900	ppm	0.00024900	25.953
P_1782		-0.0014310	ppm	0.00036200	25.312
Pb2203		-0.0011580	ppm	0.00075300	64.986
S_1820		-0.0014320	ppm	0.0025440	177.68
Sb2068		0.0027370	ppm	0.0018930	69.173
Se1960		-0.0019130	ppm	0.0010790	56.396
Si2881		0.0025470	ppm	0.013381	525.33
Sn1899		-0.00032600	ppm	0.000060000	18.458
Sr4077		0.000068000	ppm	0.00021200	311.80
Ti3349		0.00053800	ppm	0.00035200	65.383
Tl1908		-0.00058800	ppm	0.0017280	294.01
V_2924		0.00086500	ppm	0.00076100	88.025
Zn2062		0.00055700	ppm	0.000060000	10.813
Y_2243		7,299.5	Cts/S	20.793	0.28486
Y_3600		55,532	Cts/S	33.353	0.060061
Y_3774		6,602.3	Cts/S	23.509	0.35607

rinse2

Acquire Date: 11/14/2019 11:56:21AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00060500	ppm	0.0000040000	0.67723
Al3961		-0.0032700	ppm	0.0051230	156.66
As1890		0.0010410	ppm	0.0014360	137.92
B_2089		0.0049510	ppm	0.00016900	3.4049
Ba4554		-0.00087500	ppm	0.00026400	30.201
Be3130		0.00010700	ppm	0.000098000	91.383
Ca3179		-0.0065780	ppm	0.0026940	40.950
Cd2144		.0000080000	ppm	0.000051000	675.57
Co2286		0.000011000	ppm	0.00018500	1,728.3

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

rinse2

Acquire Date: 11/14/2019 11:56:21AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		-0.00056400	ppm	0.00046400	82.276
Cu3247		0.00020200	ppm	0.000098000	48.392
Fe2599		0.0024540	ppm	0.0060860	247.96
K_7664		-0.025883	ppm	0.029779	115.05
Mg2790		0.0047480	ppm	0.0036520	76.919
Mn2576		-0.00027400	ppm	0.000018000	6.3811
Mo2020		-0.00011900	ppm	0.00022200	186.34
Na5895		0.0010620	ppm	0.0028600	269.37
Ni2316		0.00088300	ppm	0.00012500	14.120
P_1782		-0.0015300	ppm	0.0025430	166.15
Pb2203		0.00099100	ppm	0.00055700	56.218
S_1820		-0.0031170	ppm	0.00015800	5.0602
Sb2068		-0.0022390	ppm	0.0016010	71.491
Se1960		0.0015750	ppm	0.0019950	126.68
Si2881		0.020719	ppm	0.0073540	35.494
Sn1899		-0.00032300	ppm	0.00037200	114.98
Sr4077		0.00018900	ppm	0.000019000	10.193
Ti3349		.0000070000	ppm	0.00023000	3,084.2
Tl1908		0.00084900	ppm	0.00030900	36.471
V_2924		0.000099000	ppm	0.00069100	696.62
Zn2062		0.00052300	ppm	0.00080000	153.03
Y_2243		7,336.4	Cts/S	29.943	0.40815
Y_3600		55,337	Cts/S	287.25	0.51910
Y_3774		6,555.2	Cts/S	9.1421	0.13946

CCV 1796754

Acquire Date: 11/14/2019 12:00:21PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.48364	ppm	0.00015100	0.031205	.50000	Rel(%)	Pass	
Al3961		23.533	ppm	0.10752	0.45691	25.000	Rel(%)	Pass	
As1890		0.48325	ppm	0.0030100	0.62280	.50000	Rel(%)	Pass	
B_2089		0.97482	ppm	0.0028670	0.29408	1.0000	Rel(%)	Pass	
Ba4554		2.4308	ppm	0.012160	0.50024	2.5000	Rel(%)	Pass	
Be3130		0.48989	ppm	0.0025600	0.52255	.50000	Rel(%)	Pass	
Ca3179		24.179	ppm	0.12994	0.53740	25.000	Rel(%)	Pass	
Cd2144		0.48394	ppm	0.00030100	0.062170	.50000	Rel(%)	Pass	
Co2286		2.4291	ppm	0.00036900	0.015207	2.5000	Rel(%)	Pass	
Cr2677		2.4280	ppm	0.0024830	0.10226	2.5000	Rel(%)	Pass	
Cu3247		2.4213	ppm	0.0022990	0.094937	2.5000	Rel(%)	Pass	
Fe2599		24.512	ppm	0.13017	0.53103	25.000	Rel(%)	Pass	
K_7664		23.472	ppm	0.12236	0.52129	25.000	Rel(%)	Pass	
Mg2790		23.926	ppm	0.0071700	0.029967	25.000	Rel(%)	Pass	
Mn2576		2.4425	ppm	0.0054250	0.22209	2.5000	Rel(%)	Pass	
Mo2020		0.96184	ppm	0.0012900	0.13409	1.0000	Rel(%)	Pass	
Na5895		23.415	ppm	0.11576	0.49438	25.000	Rel(%)	Pass	
Ni2316		2.4400	ppm	0.0061580	0.25240	2.5000	Rel(%)	Pass	
P_1782		2.2831	ppm	0.013347	0.58463	2.5000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCV 1796754

Acquire Date: 11/14/2019 12:00:21PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Pb2203		0.48332	ppm	0.0037520	0.77622	.50000	Rel(%)	Pass	
S_1820		2.2747	ppm	0.0091850	0.40379	2.5000	Rel(%)	Pass	
Sb2068		0.48693	ppm	0.00026500	0.054509	.50000	Rel(%)	Pass	
Se1960		0.48790	ppm	0.0015620	0.32013	.50000	Rel(%)	Pass	
Si2881		2.3917	ppm	0.029667	1.2404	2.5000	Rel(%)	Pass	
Sn1899		2.4153	ppm	0.00058100	0.024061	2.5000	Rel(%)	Pass	
Sr4077		2.4261	ppm	0.013922	0.57384	2.5000	Rel(%)	Pass	
Ti3349		0.95521	ppm	0.0013730	0.14377	1.0000	Rel(%)	Pass	
Tl1908		0.49476	ppm	0.0016680	0.33708	.50000	Rel(%)	Pass	
V_2924		2.4172	ppm	0.0050040	0.20703	2.5000	Rel(%)	Pass	
Zn2062		2.4392	ppm	0.0043870	0.17985	2.5000	Rel(%)	Pass	
Y_2243		7,115.7	Cts/S	11.721	0.16472				
Y_3600		53,414	Cts/S	18.301	0.034262				
Y_3774		6,498.1	Cts/S	21.969	0.33808				

CCB 1745955

Acquire Date: 11/14/2019 12:04:08PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00095900	ppm	0.00063000	65.668	.00000	Abs	Pass	
Al3961		-0.0040510	ppm	0.0012430	30.680	.00000	Abs	Pass	
As1890		-0.00059300	ppm	0.0011290	190.39	.00000	Abs	Pass	
B_2089		0.0061570	ppm	0.0014420	23.418	.00000	Abs	Pass	
Ba4554		-0.00049900	ppm	0.000017000	3.4734	.00000	Abs	Pass	
Be3130		.0000030000	ppm	0.000071000	2,261.2	.00000	Abs	Pass	
Ca3179		0.0079450	ppm	0.0086290	108.60	.00000	Abs	Pass	
Cd2144		0.000039000	ppm	0.0000090000	23.349	.00000	Abs	Pass	
Co2286		0.00078200	ppm	0.00022900	29.254	.00000	Abs	Pass	
Cr2677		-0.00071900	ppm	0.00052900	73.572	.00000	Abs	Pass	
Cu3247		0.00045700	ppm	0.00026300	57.642	.00000	Abs	Pass	
Fe2599		-0.0072050	ppm	0.00069100	9.5855	.00000	Abs	Pass	
K_7664		-0.0064350	ppm	0.042391	658.73	.00000	Abs	Pass	
Mg2790		0.0044710	ppm	0.0078630	175.86	.00000	Abs	Pass	
Mn2576		-0.00019000	ppm	0.00016700	87.889	.00000	Abs	Pass	
Mo2020		0.000049000	ppm	0.000058000	117.49	.00000	Abs	Pass	
Na5895		-0.019784	ppm	0.0090590	45.790	.00000	Abs	Pass	
Ni2316		0.0010280	ppm	0.000022000	2.1814	.00000	Abs	Pass	
P_1782		0.00013800	ppm	0.0022030	1,592.2	.00000	Abs	Pass	
Pb2203		-0.0013880	ppm	0.0014340	103.36	.00000	Abs	Pass	
S_1820		-0.0039320	ppm	0.0017460	44.407	.00000	Abs	Pass	
Sb2068		-0.00041400	ppm	0.00045200	109.04	.00000	Abs	Pass	
Se1960		0.0024270	ppm	0.0031750	130.82	.00000	Abs	Pass	
Si2881		0.0072850	ppm	0.034603	474.99	.00000	Abs	Pass	
Sn1899		0.00079100	ppm	0.00036000	45.488	.00000	Abs	Pass	
Sr4077		0.00025100	ppm	0.00017400	69.495	.00000	Abs	Pass	
Ti3349		0.00090800	ppm	0.00026300	29.001	.00000	Abs	Pass	
Tl1908		0.0012150	ppm	0.00041300	34.041	.00000	Abs	Pass	
V_2924		0.000058000	ppm	0.000089000	153.04	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCB 1745955

Acquire Date: 11/14/2019 12:04:08PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Zn2062		0.0027220	ppm	0.00092000	33.806	.00000	Abs	Pass	
Y_2243		7,368.0	Cts/S	1.1596	0.015739				
Y_3600		55,821	Cts/S	31.495	0.056422				
Y_3774		6,569.8	Cts/S	9.3831	0.14282				

MB 320-337500/1-A

Acquire Date: 11/14/2019 12:08:09PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00044600	ppm	0.00070700	158.43
Al3961		-0.0042090	ppm	0.011292	268.29
As1890		0.0015760	ppm	0.00034800	22.089
B_2089		0.0040920	ppm	0.000070000	1.7022
Ba4554		-0.00078400	ppm	0.00044800	57.067
Be3130		0.00010900	ppm	0.000076000	69.968
Ca3179		-0.00035600	ppm	0.010993	3,083.5
Cd2144		0.000059000	ppm	0.0000060000	9.5859
Co2286		-0.00017400	ppm	0.00011800	67.976
Cr2677		-0.00079400	ppm	0.00061400	77.281
Cu3247		0.000060000	ppm	0.0011900	1,985.9
Fe2599		-0.027084	ppm	0.0018830	6.9523
K_7664		-0.0080740	ppm	0.0075790	93.861
Mg2790		0.0022970	ppm	0.0036230	157.76
Mn2576		-0.00036200	ppm	0.000037000	10.331
Mo2020		-0.00035900	ppm	0.00042000	117.01
Na5895		-0.028259	ppm	0.010811	38.258
Ni2316		0.00034400	ppm	0.00049300	143.53
P_1782		-0.0022460	ppm	0.0022420	99.832
Pb2203		0.0011440	ppm	0.00051400	44.938
S_1820		-0.0059770	ppm	0.0013750	22.997
Sb2068		0.0016450	ppm	0.00027900	16.954
Se1960		-0.0014500	ppm	0.0013060	90.014
Si2881		-0.0024000	ppm	0.055798	2,325.3
Sn1899		-0.00041000	ppm	0.000064000	15.626
Sr4077		0.000018000	ppm	0.000048000	264.46
Ti3349		0.00020100	ppm	0.00064500	320.79
Tl1908		0.0010940	ppm	0.00032600	29.822
V_2924		0.000073000	ppm	0.00014800	202.53
Zn2062		0.00067200	ppm	0.00019300	28.734
Y_2243		7,516.4	Cts/S	5.8947	0.078425
Y_3600		57,095	Cts/S	418.81	0.73352
Y_3774		6,709.6	Cts/S	63.798	0.95085

LCS 320-337500/2-A

Acquire Date: 11/14/2019 12:12:11PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.048206	ppm	0.00022900	0.47426
Al3961		4.6221	ppm	0.0091540	0.19805
As1890	**W**	**0.46809**	**ppm**	**0.0023910**	**0.51078**
B_2089		4.7316	ppm	0.0043380	0.091688
Ba4554	**W**	**0.47856**	**ppm**	**0.000076000**	**0.015913**
Be3130		0.24506	ppm	0.0010880	0.44381
Ca3179		24.097	ppm	0.0036350	0.015083
Cd2144	**W**	**0.23995**	**ppm**	**0.00014700**	**0.061371**
Co2286		0.23625	ppm	0.00011400	0.048201
Cr2677	**W**	**0.24171**	**ppm**	**0.0015060**	**0.62327**
Cu3247		0.24272	ppm	0.000070000	0.028946
Fe2599		4.8841	ppm	0.026263	0.53773
K_7664		23.456	ppm	0.043771	0.18661
Mg2790		23.940	ppm	0.0052310	0.021852
Mn2576		0.24375	ppm	0.00035200	0.14452
Mo2020		0.23845	ppm	0.00071800	0.30121
Na5895		23.564	ppm	0.055047	0.23361
Ni2316		0.23656	ppm	0.00014400	0.060942
P_1782		4.7759	ppm	0.0034260	0.071739
Pb2203	**W**	**0.24143**	**ppm**	**0.0012520**	**0.51844**
S_1820	**F**	**4.6851**	**ppm**	**0.0062320**	**0.13302**
Sb2068		0.43504	ppm	0.00033000	0.075771
Se1960	**W**	**0.47607**	**ppm**	**0.0021070**	**0.44267**
Si2881	**W**	**4.8280**	**ppm**	**0.013315**	**0.27579**
Sn1899		0.48667	ppm	0.00020200	0.041526
Sr4077		0.23850	ppm	0.000047000	0.019809
Ti3349	**W**	**0.23926**	**ppm**	**0.00039900**	**0.16692**
Tl1908		0.47431	ppm	0.00034000	0.071714
V_2924		0.24172	ppm	0.00046500	0.19246
Zn2062		0.49008	ppm	0.00052000	0.10606
Y_2243		7,279.6	Cts/S	24.077	0.33075
Y_3600		54,218	Cts/S	135.61	0.25012
Y_3774		6,631.6	Cts/S	44.458	0.67041

MB 320-337495/1-A

Acquire Date: 11/14/2019 12:15:58PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00022300	ppm	0.00031400	141.11
Al3961		0.0032290	ppm	0.0039810	123.32
As1890		0.0010750	ppm	0.00034600	32.218
B_2089		0.015632	ppm	0.0011680	7.4720
Ba4554		-0.00070700	ppm	0.00024800	35.001
Be3130		0.00016300	ppm	0.00019700	121.05
Ca3179		0.0017450	ppm	0.0027020	154.87
Cd2144		0.000054000	ppm	0.000044000	81.644
Co2286		0.000055000	ppm	0.00018800	342.75

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

MB 320-337495/1-A

Acquire Date: 11/14/2019 12:15:58PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		-0.00080500	ppm	0.00018100	22.435
Cu3247		0.00000	ppm	0.000089000	18,529
Fe2599		-0.024177	ppm	0.0038340	15.857
K_7664		0.018199	ppm	0.089867	493.80
Mg2790		0.0085980	ppm	0.00082000	9.5348
Mn2576		-0.00035700	ppm	0.00012100	33.780
Mo2020		-0.00031800	ppm	0.00022100	69.630
Na5895		-0.027933	ppm	0.0072700	26.026
Ni2316		0.00030900	ppm	0.00011500	37.332
P_1782		0.00059100	ppm	0.00095600	161.72
Pb2203		-0.0014570	ppm	0.0026890	184.63
S_1820		-0.0087670	ppm	0.00043600	4.9755
Sb2068		-0.0014190	ppm	0.0015040	105.97
Se1960		-0.0025800	ppm	0.0010090	39.110
Si2881		-0.014705	ppm	0.016730	113.77
Sn1899		-0.00067400	ppm	0.000025000	3.6986
Sr4077		0.000045000	ppm	0.000011000	25.538
Ti3349		0.00031500	ppm	0.00067400	213.84
Tl1908		-0.00032900	ppm	0.00018300	55.705
V_2924		0.00014200	ppm	0.00086600	609.63
Zn2062		0.00039500	ppm	0.00015100	38.320
Y_2243		7,419.9	Cts/S	14.229	0.19177
Y_3600		56,422	Cts/S	266.13	0.47169
Y_3774		6,695.8	Cts/S	53.288	0.79585

LCS 320-337495/2-A

Acquire Date: 11/14/2019 12:19:59PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.049432	ppm	0.00023500	0.47544
Al3961		4.6115	ppm	0.0037520	0.081356
As1890	**W**	**0.46514**	**ppm**	**0.0015680**	**0.33707**
B_2089		4.7431	ppm	0.010506	0.22150
Ba4554	**W**	**0.47831**	**ppm**	**0.00012300**	**0.025785**
Be3130		0.24489	ppm	0.00013600	0.055657
Ca3179		24.101	ppm	0.0081720	0.033906
Cd2144	**W**	**0.24009**	**ppm**	**0.000089000**	**0.036865**
Co2286		0.23581	ppm	0.000094000	0.039812
Cr2677	**W**	**0.24022**	**ppm**	**0.00063700**	**0.26520**
Cu3247		0.24123	ppm	0.00099000	0.41060
Fe2599		4.8739	ppm	0.019225	0.39445
K_7664		23.417	ppm	0.078638	0.33581
Mg2790		23.908	ppm	0.049443	0.20680
Mn2576		0.24366	ppm	0.000061000	0.024904
Mo2020		0.23910	ppm	0.00017400	0.072952
Na5895		23.546	ppm	0.00031900	0.0013540
Ni2316		0.23719	ppm	0.00036200	0.15281

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

LCS 320-337495/2-A

Acquire Date: 11/14/2019 12:19:59PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		4.7942	ppm	0.0028500	0.059456
Pb2203	**W**	**0.24258**	**ppm**	**0.0013930**	**0.57405**
S_1820	**F**	**4.6787**	**ppm**	**0.0014900**	**0.031854**
Sb2068		0.43748	ppm	0.0015710	0.35906
Se1960	**W**	**0.47998**	**ppm**	**0.0024420**	**0.50879**
Si2881	**W**	**4.7976**	**ppm**	**0.00042500**	**0.0088560**
Sn1899		0.48668	ppm	0.00067700	0.13919
Sr4077		0.23810	ppm	0.00058300	0.24506
Ti3349	**W**	**0.23942**	**ppm**	**0.0012460**	**0.52051**
Tl1908		0.47805	ppm	0.0010910	0.22823
V_2924		0.24087	ppm	0.00089200	0.37041
Zn2062		0.48903	ppm	0.0012510	0.25589
Y_2243		7,098.0	Cts/S	10.943	0.15417
Y_3600		54,174	Cts/S	438.14	0.80877
Y_3774		6,597.0	Cts/S	29.634	0.44920

320-56102-B-1-A@2

Acquire Date: 11/14/2019 12:23:46PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00072200	ppm	0.0000080000	1.1045
Al3961		0.025147	ppm	0.012779	50.817
As1890		0.00086100	ppm	0.0014140	164.23
B_2089		0.11139	ppm	0.0031510	2.8284
Ba4554		0.15437	ppm	0.00059400	0.38508
Be3130		0.00015600	ppm	0.00012400	79.184
Ca3179		27.638	ppm	0.014498	0.052457
Cd2144		0.000036000	ppm	0.000014000	38.137
Co2286		0.000089000	ppm	0.00024200	270.35
Cr2677		-0.00016300	ppm	0.00065700	402.51
Cu3247		0.0015090	ppm	0.00049200	32.618
Fe2599		-0.017267	ppm	0.00024000	1.3925
K_7664		6.1002	ppm	0.049449	0.81060
Mg2790		15.338	ppm	0.0077620	0.050610
Mn2576		0.013785	ppm	0.000084000	0.60716
Mo2020		0.0048170	ppm	0.00026200	5.4493
Na5895		165.99	ppm	0.044645	0.026896
Ni2316		0.00091100	ppm	0.000088000	9.6408
P_1782		0.021155	ppm	0.0031740	15.003
Pb2203		0.000024000	ppm	0.000084000	346.31
S_1820		8.3144	ppm	0.0085530	0.10287
Sb2068		-0.00096000	ppm	0.0014720	153.30
Se1960		-0.0020210	ppm	0.0022870	113.16
Si2881		1.1127	ppm	0.031563	2.8367
Sn1899		0.000060000	ppm	0.00046900	780.73
Sr4077		0.23640	ppm	0.00041700	0.17645
Ti3349		-0.0011180	ppm	0.00060600	54.158

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-56102-B-1-A@2

Acquire Date: 11/14/2019 12:23:46PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		0.00057100	ppm	0.00025900	45.336
V_2924		0.0020170	ppm	0.00061400	30.423
Zn2062		0.0097570	ppm	0.00026400	2.7103
Y_2243		6,976.4	Cts/S	7.0539	0.10111
Y_3600		51,223	Cts/S	176.64	0.34485
Y_3774		6,341.0	Cts/S	43.044	0.67883

SD320-56102-B-1-A@10

Acquire Date: 11/14/2019 12:27:44PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00090000	ppm	0.00021300	23.718
Al3961		-0.015504	ppm	0.017382	112.11
As1890		0.0015030	ppm	0.0026110	173.72
B_2089		0.029763	ppm	0.00042200	1.4178
Ba4554		0.030889	ppm	0.00025500	0.82513
Be3130		.0000040000	ppm	0.000048000	1,366.7
Ca3179		5.6092	ppm	0.0081050	0.14449
Cd2144		-0.00013000	ppm	0.00011100	84.903
Co2286		-0.00019900	ppm	0.00019800	99.446
Cr2677		-0.00071500	ppm	0.00040800	56.991
Cu3247		0.00093100	ppm	0.000042000	4.5570
Fe2599		-0.022365	ppm	0.0060050	26.851
K_7664		1.1995	ppm	0.018931	1.5782
Mg2790		3.1029	ppm	0.0037480	0.12077
Mn2576		0.0025340	ppm	0.000033000	1.2845
Mo2020		0.00090300	ppm	0.00071700	79.441
Na5895		33.384	ppm	0.089665	0.26859
Ni2316		0.00036800	ppm	0.00041900	113.79
P_1782		0.0024880	ppm	0.00025500	10.248
Pb2203		-0.0026380	ppm	0.0035380	134.11
S_1820		1.6213	ppm	0.0077710	0.47931
Sb2068		-0.0021170	ppm	0.0015800	74.631
Se1960		-0.0015530	ppm	0.0012120	78.026
Si2881		0.20800	ppm	0.029943	14.396
Sn1899		-0.00029400	ppm	0.00021200	72.163
Sr4077		0.047843	ppm	0.00019000	0.39739
Ti3349		0.00020200	ppm	0.00064800	321.38
Tl1908		-0.00044200	ppm	0.00061000	138.07
V_2924		0.00029700	ppm	0.000084000	28.416
Zn2062		0.0024540	ppm	0.000069000	2.8284
Y_2243		7,377.5	Cts/S	10.728	0.14542
Y_3600		55,760	Cts/S	253.29	0.45425
Y_3774		6,762.0	Cts/S	7.4893	0.11076

PDS320-56102-B-1-A@2

Acquire Date: 11/14/2019 12:31:43PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.10105	ppm	0.0014860	1.4708
Al3961		9.4146	ppm	0.018688	0.19850
As1890		0.097921	ppm	0.00037700	0.38515
B_2089		1.0326	ppm	0.00024800	0.024042
Ba4554		0.25385	ppm	0.00018200	0.071834
Be3130		0.049512	ppm	0.00016700	0.33675
Ca3179		37.570	ppm	0.045055	0.11992
Cd2144		0.097860	ppm	0.000085000	0.086780
Co2286		0.097478	ppm	0.0000020000	0.0022720
Cr2677		0.098172	ppm	0.0016620	1.6927
Cu3247		0.10209	ppm	0.000023000	0.022304
Fe2599		3.8771	ppm	0.020111	0.51871
K_7664		15.824	ppm	0.022370	0.14137
Mg2790		24.926	ppm	0.017524	0.070306
Mn2576		0.11341	ppm	0.000068000	0.059704
Mo2020		0.10137	ppm	0.00015700	0.15488
Na5895		175.25	ppm	0.12104	0.069063
Ni2316		0.097682	ppm	0.00021200	0.21693
P_1782		0.98216	ppm	0.0072970	0.74292
Pb2203		0.095128	ppm	0.0000080000	0.0087680
S_1820		10.313	ppm	0.0064930	0.062959
Sb2068		0.086734	ppm	0.0031700	3.6553
Se1960		0.10041	ppm	0.0036350	3.6203
Si2881		2.1613	ppm	0.042509	1.9669
Sn1899		0.097340	ppm	0.000039000	0.040079
Sr4077		0.33583	ppm	0.00020900	0.062286
Ti3349		0.096428	ppm	0.00066600	0.69018
Tl1908		0.096293	ppm	0.000077000	0.079463
V_2924		0.10139	ppm	0.00041800	0.41223
Zn2062		0.11024	ppm	0.00021700	0.19714
Y_2243		7,022.8	Cts/S	26.219	0.37335
Y_3600		51,633	Cts/S	54.523	0.10560
Y_3774		6,404.7	Cts/S	5.3805	0.084008

320-56102-B-1-B MS@2

Acquire Date: 11/14/2019 12:35:35PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.025472	ppm	0.00074800	2.9374
Al3961		2.3242	ppm	0.011476	0.49377
As1890		0.24430	ppm	0.00037800	0.15454
B_2089		2.4274	ppm	0.0099690	0.41069
Ba4554		0.38594	ppm	0.00036900	0.095569
Be3130		0.12600	ppm	0.00010900	0.086608
Ca3179		40.085	ppm	0.090502	0.22578
Cd2144		0.12299	ppm	0.00024000	0.19551
Co2286		0.12078	ppm	0.00020900	0.17298

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-56102-B-1-B MS@2

Acquire Date: 11/14/2019 12:35:35PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.12394	ppm	0.00087400	0.70549
Cu3247		0.12752	ppm	0.0013160	1.0318
Fe2599		2.4822	ppm	0.0036930	0.14878
K_7664		18.405	ppm	0.079726	0.43317
Mg2790		27.604	ppm	0.077632	0.28124
Mn2576		0.13929	ppm	0.00021800	0.15685
Mo2020		0.12741	ppm	0.0011750	0.92208
Na5895		177.37	ppm	0.38165	0.21517
Ni2316		0.12157	ppm	0.000032000	0.026280
P_1782		2.5206	ppm	0.0014300	0.056744
Pb2203		0.11945	ppm	0.00062600	0.52405
S_1820		10.833	ppm	0.036997	0.34151
Sb2068		0.22097	ppm	0.0015340	0.69418
Se1960		0.24104	ppm	0.0025930	1.0759
Si2881		3.6166	ppm	0.020882	0.57740
Sn1899		0.25001	ppm	0.00053000	0.21217
Sr4077		0.35972	ppm	0.0016520	0.45917
Ti3349		0.12366	ppm	0.00050600	0.40921
Tl1908		0.23760	ppm	0.0012810	0.53913
V_2924		0.12735	ppm	0.00059800	0.46998
Zn2062		0.26108	ppm	0.00054200	0.20778
Y_2243		7,056.0	Cts/S	152.78	2.1652
Y_3600		51,202	Cts/S	292.79	0.57183
Y_3774		6,362.5	Cts/S	3.9262	0.061708

320-56102-B-1C MSD@2

Acquire Date: 11/14/2019 12:39:24PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.024233	ppm	0.00068900	2.8416
Al3961		2.3321	ppm	0.013848	0.59380
As1890		0.24628	ppm	0.0015820	0.64244
B_2089		2.4450	ppm	0.0028250	0.11556
Ba4554		0.39242	ppm	0.00041500	0.10582
Be3130		0.12642	ppm	0.00018700	0.14762
Ca3179		40.799	ppm	0.081927	0.20081
Cd2144		0.12323	ppm	0.00022400	0.18173
Co2286		0.12167	ppm	0.000067000	0.054971
Cr2677		0.12368	ppm	0.00034000	0.27502
Cu3247		0.12795	ppm	0.000043000	0.033483
Fe2599		2.4885	ppm	0.0083950	0.33733
K_7664		18.566	ppm	0.024798	0.13357
Mg2790		27.749	ppm	0.019762	0.071218
Mn2576		0.13967	ppm	0.00043000	0.30801
Mo2020		0.12868	ppm	0.00066000	0.51260
Na5895		179.93	ppm	0.20678	0.11492
Ni2316		0.12207	ppm	0.00063100	0.51714

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-56102-B-1C MSD@2

Acquire Date: 11/14/2019 12:39:24PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		2.5391	ppm	0.0068620	0.27024
Pb2203		0.12000	ppm	0.0011150	0.92932
S_1820		11.057	ppm	0.0036170	0.032708
Sb2068		0.22252	ppm	0.0019700	0.88526
Se1960		0.24827	ppm	0.00031500	0.12669
Si2881		3.6579	ppm	0.022777	0.62267
Sn1899		0.25106	ppm	0.00030800	0.12254
Sr4077		0.36498	ppm	0.00052900	0.14502
Ti3349		0.12369	ppm	0.0010480	0.84710
Tl1908		0.23867	ppm	0.00032600	0.13667
V_2924		0.12736	ppm	0.00038100	0.29895
Zn2062		0.26293	ppm	0.00045400	0.17255
Y_2243		7,161.7	Cts/S	0.91314	0.012750
Y_3600		52,883	Cts/S	74.072	0.14007
Y_3774		6,576.2	Cts/S	7.0518	0.10723

320-56102-B-2-A@2

Acquire Date: 11/14/2019 12:43:13PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0014440	ppm	0.00053300	36.892
Al3961		0.0080570	ppm	0.023021	285.72
As1890		0.0012110	ppm	0.00079500	65.685
B_2089		0.10629	ppm	0.000069000	0.064646
Ba4554		0.14130	ppm	0.00049100	0.34733
Be3130		0.000094000	ppm	0.000029000	31.166
Ca3179		27.683	ppm	0.086285	0.31169
Cd2144		0.000076000	ppm	0.0000090000	11.305
Co2286		0.00020300	ppm	0.00023100	114.03
Cr2677		-0.00089000	ppm	0.000020000	2.2889
Cu3247		0.0026440	ppm	0.00050300	19.044
Fe2599		0.031549	ppm	0.0043310	13.726
K_7664		6.2464	ppm	0.057803	0.92538
Mg2790		15.539	ppm	0.0073430	0.047252
Mn2576		0.031213	ppm	0.000076000	0.24274
Mo2020		0.0046200	ppm	0.00018500	3.9982
Na5895		163.88	ppm	0.031889	0.019459
Ni2316		0.0012690	ppm	0.00013400	10.556
P_1782		0.018314	ppm	0.0019760	10.790
Pb2203		0.0018760	ppm	0.00098300	52.399
S_1820		9.7242	ppm	0.011026	0.11338
Sb2068		-0.00098900	ppm	0.00041500	41.956
Se1960		-0.00071100	ppm	0.0022980	323.29
Si2881		1.6016	ppm	0.0034870	0.21773
Sn1899		-0.00012000	ppm	0.00057100	476.31
Sr4077		0.23810	ppm	0.000015000	0.0064530
Ti3349		-0.00016200	ppm	0.00011800	72.909

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-56102-B-2-A@2

Acquire Date: 11/14/2019 12:43:13PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		0.00066100	ppm	0.00029400	44.533
V_2924		0.0016880	ppm	0.000050000	2.9627
Zn2062		0.0072950	ppm	0.00016100	2.2004
Y_2243		7,232.6	Cts/S	17.242	0.23840
Y_3600		53,498	Cts/S	116.75	0.21823
Y_3774		6,655.0	Cts/S	19.037	0.28606

CCV 1796754

Acquire Date: 11/14/2019 12:47:10PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.48342	ppm	0.00041000	0.084770	.50000	Rel(%)	Pass	
Al3961		23.418	ppm	0.032139	0.13724	25.000	Rel(%)	Pass	
As1890		0.48151	ppm	0.00025800	0.053642	.50000	Rel(%)	Pass	
B_2089		0.98023	ppm	0.00099900	0.10188	1.0000	Rel(%)	Pass	
Ba4554		2.4310	ppm	0.0036250	0.14913	2.5000	Rel(%)	Pass	
Be3130		0.48814	ppm	0.0020710	0.42417	.50000	Rel(%)	Pass	
Ca3179		24.219	ppm	0.094929	0.39197	25.000	Rel(%)	Pass	
Cd2144		0.48361	ppm	0.00014400	0.029853	.50000	Rel(%)	Pass	
Co2286		2.4323	ppm	0.0035960	0.14786	2.5000	Rel(%)	Pass	
Cr2677		2.4192	ppm	0.0035030	0.14480	2.5000	Rel(%)	Pass	
Cu3247		2.4134	ppm	0.00069500	0.028804	2.5000	Rel(%)	Pass	
Fe2599		24.342	ppm	0.012663	0.052023	25.000	Rel(%)	Pass	
K_7664		23.559	ppm	0.035756	0.15177	25.000	Rel(%)	Pass	
Mg2790		23.833	ppm	0.021052	0.088329	25.000	Rel(%)	Pass	
Mn2576		2.4386	ppm	0.0036470	0.14957	2.5000	Rel(%)	Pass	
Mo2020		0.96017	ppm	0.00026700	0.027793	1.0000	Rel(%)	Pass	
Na5895		23.414	ppm	0.014808	0.063243	25.000	Rel(%)	Pass	
Ni2316		2.4384	ppm	0.0012420	0.050945	2.5000	Rel(%)	Pass	
P_1782		2.2795	ppm	0.00050200	0.022037	2.5000	Rel(%)	Pass	
Pb2203		0.48853	ppm	0.00067300	0.13767	.50000	Rel(%)	Pass	
S_1820		2.2810	ppm	0.011273	0.49423	2.5000	Rel(%)	Pass	
Sb2068		0.48660	ppm	0.0017300	0.35548	.50000	Rel(%)	Pass	
Se1960		0.48977	ppm	0.00046700	0.095284	.50000	Rel(%)	Pass	
Si2881		2.3706	ppm	0.023576	0.99454	2.5000	Rel(%)	Pass	
Sn1899		2.4206	ppm	0.0021240	0.087755	2.5000	Rel(%)	Pass	
Sr4077		2.4232	ppm	0.0036240	0.14956	2.5000	Rel(%)	Pass	
Ti3349		0.95167	ppm	0.00082200	0.086392	1.0000	Rel(%)	Pass	
Tl1908		0.49517	ppm	0.0020590	0.41575	.50000	Rel(%)	Pass	
V_2924		2.4131	ppm	0.00066900	0.027711	2.5000	Rel(%)	Pass	
Zn2062		2.4336	ppm	0.0030110	0.12374	2.5000	Rel(%)	Pass	
Y_2243		7,315.7	Cts/S	21.290	0.29103				
Y_3600		54,731	Cts/S	286.00	0.52255				
Y_3774		6,629.8	Cts/S	57.540	0.86790				

CCB 1745955

Acquire Date: 11/14/2019 12:50:57PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00056900	ppm	0.00013000	22.792	.00000	Abs	Pass	
Al3961		-0.0021680	ppm	0.021025	970.02	.00000	Abs	Pass	
As1890		0.00028000	ppm	0.00064000	228.65	.00000	Abs	Pass	
B_2089		0.010578	ppm	0.0012890	12.186	.00000	Abs	Pass	
Ba4554		-0.00026900	ppm	0.00035100	130.37	.00000	Abs	Pass	
Be3130		0.000019000	ppm	0.000041000	213.79	.00000	Abs	Pass	
Ca3179		0.0044340	ppm	0.0050970	114.94	.00000	Abs	Pass	
Cd2144		0.00010500	ppm	0.0000060000	5.5049	.00000	Abs	Pass	
Co2286		0.00076400	ppm	0.0000050000	0.69113	.00000	Abs	Pass	
Cr2677		-0.00018800	ppm	0.00011200	59.630	.00000	Abs	Pass	
Cu3247		0.00096400	ppm	0.0010090	104.64	.00000	Abs	Pass	
Fe2599		-0.024017	ppm	0.00066000	2.7494	.00000	Abs	Pass	
K_7664		0.026065	ppm	0.025490	97.794	.00000	Abs	Pass	
Mg2790		0.0028090	ppm	0.0033360	118.77	.00000	Abs	Pass	
Mn2576		-0.00026700	ppm	0.000063000	23.692	.00000	Abs	Pass	
Mo2020		0.00057300	ppm	0.00028500	49.746	.00000	Abs	Pass	
Na5895		0.029771	ppm	0.019477	65.421	.00000	Abs	Pass	
Ni2316		0.0020550	ppm	0.00069300	33.723	.00000	Abs	Pass	
P_1782		-0.00011900	ppm	0.0010840	913.68	.00000	Abs	Pass	
Pb2203		0.000086000	ppm	0.0033440	3,886.4	.00000	Abs	Pass	
S_1820		-0.0042920	ppm	0.0017570	40.933	.00000	Abs	Pass	
Sb2068		-0.00025100	ppm	0.00028600	114.13	.00000	Abs	Pass	
Se1960		-0.0020720	ppm	0.00011400	5.5263	.00000	Abs	Pass	
Si2881		-0.018788	ppm	0.018606	99.030	.00000	Abs	Pass	
Sn1899		0.00097300	ppm	0.00047000	48.338	.00000	Abs	Pass	
Sr4077		0.00013900	ppm	0.000033000	23.836	.00000	Abs	Pass	
Ti3349		0.00042800	ppm	0.00011400	26.551	.00000	Abs	Pass	
Tl1908		0.00063000	ppm	0.0011260	178.90	.00000	Abs	Pass	
V_2924		0.00071800	ppm	0.00073500	102.32	.00000	Abs	Pass	
Zn2062		0.0021320	ppm	0.00014800	6.9426	.00000	Abs	Pass	
Y_2243		7,393.3	Cts/S	29.763	0.40256				
Y_3600		56,031	Cts/S	111.30	0.19865				
Y_3774		6,607.9	Cts/S	16.179	0.24485				

320-56102-A-3-A@2

Acquire Date: 11/14/2019 12:54:57PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00021800	ppm	0.00076400	350.05
Al3961		0.017510	ppm	0.0031030	17.724
As1890		0.0010980	ppm	0.0013410	122.13
B_2089		0.094543	ppm	0.00011800	0.12466
Ba4554		0.10169	ppm	0.00073400	0.72133
Be3130		0.00011300	ppm	0.000093000	82.420
Ca3179		19.901	ppm	0.0050460	0.025356
Cd2144		0.000010000	ppm	0.000087000	908.82
Co2286		0.000061000	ppm	0.00052800	873.40
Cr2677		0.00083100	ppm	0.0021830	262.61

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-56102-A-3-A@2

Acquire Date: 11/14/2019 12:54:57PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Cu3247		0.0034340	ppm	0.0020570	59.913
Fe2599		0.0054460	ppm	0.0039150	71.896
K_7664		5.9209	ppm	0.020579	0.34756
Mg2790		14.743	ppm	0.0015970	0.010832
Mn2576		0.013846	ppm	0.0020100	14.515
Mo2020		0.0044700	ppm	0.00037900	8.4868
Na5895		173.85	ppm	0.50620	0.29118
Ni2316		0.0012410	ppm	0.00010000	8.0197
P_1782		0.020209	ppm	0.0014320	7.0877
Pb2203		0.00019300	ppm	0.00012800	66.412
S_1820		8.1398	ppm	0.019714	0.24219
Sb2068		0.0010950	ppm	0.000050000	4.5501
Se1960		-0.0016190	ppm	0.00089500	55.267
Si2881		1.5268	ppm	0.022019	1.4422
Sn1899		-0.00079900	ppm	0.00014900	18.617
Sr4077		0.19768	ppm	0.00023500	0.11876
Ti3349		0.00052900	ppm	0.00098500	186.23
Tl1908		0.000011000	ppm	0.0020440	18,385
V_2924		0.0033560	ppm	0.0024180	72.045
Zn2062		0.0060330	ppm	0.0019820	32.855
Y_2243		7,230.9	Cts/S	23.528	0.32539
Y_3600		53,493	Cts/S	111.53	0.20850
Y_3774		6,613.6	Cts/S	3.6346	0.054957

320-56102-A-4-A@2

Acquire Date: 11/14/2019 12:58:55PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00083200	ppm	0.0010150	121.96
Al3961		0.0048600	ppm	0.021447	441.32
As1890		0.0013330	ppm	0.0011460	85.963
B_2089		0.095203	ppm	0.000083000	0.087078
Ba4554		0.10069	ppm	0.00073000	0.72497
Be3130		0.000064000	ppm	0.00021700	340.22
Ca3179		20.098	ppm	0.014154	0.070426
Cd2144		0.000022000	ppm	0.000072000	325.55
Co2286		0.00045200	ppm	0.0000060000	1.3800
Cr2677		-0.00017400	ppm	0.00034600	199.04
Cu3247		0.0013270	ppm	0.00012100	9.1016
Fe2599		0.0025210	ppm	0.00060200	23.872
K_7664		6.0062	ppm	0.010535	0.17541
Mg2790		14.978	ppm	0.028399	0.18961
Mn2576		0.013341	ppm	0.000070000	0.52207
Mo2020		0.0043360	ppm	0.00026800	6.1809
Na5895		177.05	ppm	0.46550	0.26292
Ni2316		0.0019180	ppm	0.000065000	3.4055
P_1782		0.024690	ppm	0.00018500	0.74981

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-56102-A-4-A@2

Acquire Date: 11/14/2019 12:58:55PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Pb2203		-0.0020640	ppm	0.0019470	94.324
S_1820		8.4300	ppm	0.0039400	0.046736
Sb2068		-0.0017700	ppm	0.00039900	22.521
Se1960		-0.0024630	ppm	0.0010440	42.379
Si2881		1.5439	ppm	0.022966	1.4876
Sn1899		-0.00035600	ppm	0.00024800	69.748
Sr4077		0.20131	ppm	0.00042100	0.20910
Ti3349		.0000060000	ppm	0.00057800	9,525.1
Tl1908		0.00010100	ppm	0.00019100	189.41
V_2924		0.0020340	ppm	0.00010500	5.1839
Zn2062		0.0034800	ppm	0.00010000	2.8781
Y_2243		7,408.4	Cts/S	60.229	0.81299
Y_3600		54,104	Cts/S	68.249	0.12614
Y_3774		6,819.3	Cts/S	14.801	0.21705

320-56102-A-5-A@2

Acquire Date: 11/14/2019 1:02:54PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00032000	ppm	0.0010030	313.26
Al3961		0.014664	ppm	0.0071970	49.083
As1890		0.0020400	ppm	0.0010850	53.218
B_2089		0.096692	ppm	0.0021580	2.2315
Ba4554		0.066357	ppm	0.000048000	0.073062
Be3130		0.000094000	ppm	0.000071000	75.180
Ca3179		13.718	ppm	0.075274	0.54873
Cd2144		0.000087000	ppm	0.000026000	29.862
Co2286		0.00022900	ppm	0.00029600	129.61
Cr2677		-0.00047100	ppm	0.00069400	147.40
Cu3247		0.0020860	ppm	0.00072500	34.760
Fe2599		0.0095290	ppm	0.00049600	5.2036
K_7664		6.3556	ppm	0.032421	0.51012
Mg2790		15.243	ppm	0.020645	0.13544
Mn2576		0.0048600	ppm	0.000053000	1.0871
Mo2020		0.0047550	ppm	0.00027300	5.7324
Na5895		188.19	ppm	0.57030	0.30304
Ni2316		0.00056600	ppm	0.00043900	77.582
P_1782		0.023596	ppm	0.0010590	4.4896
Pb2203		0.0030710	ppm	0.0017020	55.422
S_1820		8.6993	ppm	0.0082000	0.094264
Sb2068		-0.0013710	ppm	0.00069500	50.662
Se1960		-0.00086200	ppm	0.0022140	256.77
Si2881		1.5822	ppm	0.020647	1.3049
Sn1899		-0.00070400	ppm	0.000046000	6.5126
Sr4077		0.16761	ppm	0.00048400	0.28880
Ti3349		-0.00045000	ppm	0.00057900	128.75
Tl1908		-0.0013690	ppm	0.000062000	4.5481

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-56102-A-5-A@2

Acquire Date: 11/14/2019 1:02:54PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
V_2924		0.0022600	ppm	0.00014700	6.5174
Zn2062		0.0094700	ppm	0.000026000	0.26980
Y_2243		7,290.7	Cts/S	15.607	0.21407
Y_3600		53,790	Cts/S	183.50	0.34114
Y_3774		6,754.5	Cts/S	2.9878	0.044234

320-56102-A-6-A@2

Acquire Date: 11/14/2019 1:06:52PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00073400	ppm	0.00036000	49.055
Al3961		0.0048580	ppm	0.015255	313.98
As1890		0.0031200	ppm	0.00057500	18.422
B_2089		0.093951	ppm	0.00033600	0.35741
Ba4554		0.13811	ppm	0.00029800	0.21591
Be3130		0.00017300	ppm	0.00010500	60.454
Ca3179		26.969	ppm	0.094960	0.35210
Cd2144		0.000061000	ppm	0.000022000	36.016
Co2286		0.00010400	ppm	0.00020400	195.99
Cr2677		0.000081000	ppm	0.00061400	759.31
Cu3247		0.0021210	ppm	0.00030700	14.485
Fe2599		0.012038	ppm	0.012666	105.22
K_7664		6.0435	ppm	0.039339	0.65093
Mg2790		15.187	ppm	0.050565	0.33295
Mn2576		0.030547	ppm	0.00020900	0.68259
Mo2020		0.0045470	ppm	0.000038000	0.84008
Na5895		160.04	ppm	0.59644	0.37269
Ni2316		0.0016540	ppm	0.00012900	7.7965
P_1782		0.021682	ppm	0.00070400	3.2493
Pb2203		0.00044700	ppm	0.0023150	517.65
S_1820		8.2939	ppm	0.019567	0.23592
Sb2068		-0.0020530	ppm	0.00067900	33.080
Se1960		-0.00019200	ppm	0.0019630	1,024.3
Si2881		1.5469	ppm	0.0013420	0.086741
Sn1899		0.000033000	ppm	0.00017000	513.29
Sr4077		0.23256	ppm	0.00081500	0.35030
Ti3349		-0.00065800	ppm	0.00050300	76.501
Tl1908		0.000058000	ppm	0.0016550	2,850.4
V_2924		0.0023390	ppm	0.00051600	22.064
Zn2062		0.0045360	ppm	0.00022000	4.8517
Y_2243		7,231.9	Cts/S	6.3417	0.087691
Y_3600		53,305	Cts/S	136.46	0.25600
Y_3774		6,723.4	Cts/S	73.746	1.0969

320-56102-A-7-A@2

Acquire Date: 11/14/2019 1:10:49PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00065800	ppm	0.00058300	88.611
Al3961		0.0026480	ppm	0.0083700	316.03
As1890		0.0016710	ppm	0.00054700	32.746
B_2089		0.092832	ppm	0.00010300	0.11149
Ba4554		0.13876	ppm	0.00066300	0.47814
Be3130		-0.00010700	ppm	0.000099000	92.154
Ca3179		26.966	ppm	0.011407	0.042302
Cd2144		0.000045000	ppm	0.0000060000	12.577
Co2286		0.000014000	ppm	0.00024000	1,728.6
Cr2677		-0.0012530	ppm	0.00019400	15.478
Cu3247		0.0023920	ppm	0.00020000	8.3439
Fe2599		0.0058520	ppm	0.0040500	69.201
K_7664		6.0546	ppm	0.055780	0.92128
Mg2790		15.072	ppm	0.0085560	0.056765
Mn2576		0.033742	ppm	0.000055000	0.16439
Mo2020		0.0043460	ppm	0.00020200	4.6563
Na5895		159.87	ppm	0.099805	0.062431
Ni2316		0.0015710	ppm	0.00019700	12.550
P_1782		0.023179	ppm	0.00015000	0.64581
Pb2203		-0.0010990	ppm	0.0011770	107.14
S_1820		8.4373	ppm	0.031652	0.37515
Sb2068		-0.0021130	ppm	0.0011570	54.761
Se1960		-0.0015950	ppm	0.0014620	91.665
Si2881		1.5140	ppm	0.0075290	0.49730
Sn1899		-0.00044400	ppm	0.000059000	13.362
Sr4077		0.23314	ppm	0.0010910	0.46797
Ti3349		-0.00028700	ppm	0.00055000	191.16
Tl1908		-0.00067600	ppm	0.0012280	181.72
V_2924		0.0020060	ppm	0.000059000	2.9319
Zn2062		0.0069270	ppm	0.00031600	4.5582
Y_2243		7,419.4	Cts/S	101.77	1.3716
Y_3600		55,275	Cts/S	161.38	0.29196
Y_3774		6,998.8	Cts/S	23.152	0.33080

320-56102-A-8-A@2

Acquire Date: 11/14/2019 1:14:46PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0011650	ppm	0.00091700	78.685
Al3961		0.020456	ppm	0.0011560	5.6514
As1890		0.00050200	ppm	0.0014710	293.17
B_2089		0.094982	ppm	0.00026100	0.27522
Ba4554		0.15067	ppm	0.000026000	0.017197
Be3130		0.000011000	ppm	0.00017500	1,629.6
Ca3179		27.668	ppm	0.048640	0.17580
Cd2144		0.000034000	ppm	0.000053000	153.94
Co2286		0.00026500	ppm	0.000053000	19.862

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-56102-A-8-A@2

Acquire Date: 11/14/2019 1:14:46PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		-0.00091400	ppm	0.00014600	15.963
Cu3247		0.0031690	ppm	0.00073800	23.297
Fe2599		0.0035210	ppm	0.0029920	84.969
K_7664		6.2159	ppm	0.042164	0.67832
Mg2790		15.491	ppm	0.069362	0.44776
Mn2576		0.031972	ppm	0.000052000	0.16143
Mo2020		0.0046900	ppm	0.00011200	2.3859
Na5895		164.61	ppm	0.33023	0.20061
Ni2316		0.0015370	ppm	0.00062900	40.887
P_1782		0.028097	ppm	0.00067800	2.4138
Pb2203		0.00094000	ppm	0.00067800	72.102
S_1820		8.6894	ppm	0.016128	0.18560
Sb2068		0.0044740	ppm	0.0033690	75.303
Se1960		-0.0040350	ppm	0.0022260	55.178
Si2881		1.5784	ppm	0.015486	0.98108
Sn1899		0.00011300	ppm	0.000024000	21.205
Sr4077		0.23921	ppm	0.00013200	0.055373
Ti3349		-0.00022800	ppm	0.00064700	283.51
Tl1908		0.0024070	ppm	0.0013030	54.152
V_2924		0.0016530	ppm	0.00026200	15.853
Zn2062		0.0053240	ppm	0.000092000	1.7258
Y_2243		7,224.4	Cts/S	18.626	0.25782
Y_3600		53,867	Cts/S	675.60	1.2542
Y_3774		6,754.1	Cts/S	14.652	0.21693

320-56102-B-9-A@2

Acquire Date: 11/14/2019 1:18:44PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00024500	ppm	0.000042000	17.093
Al3961		0.053677	ppm	0.0025730	4.7939
As1890		0.0041350	ppm	0.00056300	13.611
B_2089		0.022713	ppm	0.00055800	2.4556
Ba4554		0.12021	ppm	0.00028300	0.23579
Be3130		0.000098000	ppm	0.000020000	20.521
Ca3179		21.820	ppm	0.071651	0.32837
Cd2144		0.000010000	ppm	0.000024000	228.62
Co2286		0.000065000	ppm	0.00023500	360.70
Cr2677		0.000049000	ppm	0.00045200	928.76
Cu3247		0.0018390	ppm	0.00043200	23.460
Fe2599		0.0063530	ppm	0.0089190	140.40
K_7664		6.2084	ppm	0.022113	0.35618
Mg2790		15.478	ppm	0.047258	0.30533
Mn2576		0.0075470	ppm	0.000022000	0.28590
Mo2020		0.0069660	ppm	0.000054000	0.77995
Na5895		166.23	ppm	0.80066	0.48165
Ni2316		0.0014390	ppm	0.0000070000	0.45712

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-56102-B-9-A@2

Acquire Date: 11/14/2019 1:18:44PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		0.0085160	ppm	0.0028320	33.251
Pb2203		0.0018530	ppm	0.0015240	82.241
S_1820		8.4858	ppm	0.015564	0.18341
Sb2068		0.000096000	ppm	0.0019540	2,045.2
Se1960		0.00036900	ppm	0.00066500	180.49
Si2881		1.6378	ppm	0.019124	1.1677
Sn1899		0.000062000	ppm	0.000098000	156.96
Sr4077		0.24665	ppm	0.0014850	0.60193
Ti3349		-0.00077700	ppm	0.0011820	152.13
Tl1908		0.0017680	ppm	0.00079800	45.148
V_2924		0.0045970	ppm	0.00022100	4.8049
Zn2062		0.0036670	ppm	0.000090000	2.4491
Y_2243		7,371.1	Cts/S	6.5566	0.088950
Y_3600		54,764	Cts/S	153.55	0.28039
Y_3774		6,809.6	Cts/S	69.562	1.0215

320-56102-C-10-A@2

Acquire Date: 11/14/2019 1:22:43PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00073000	ppm	0.0016530	226.36
Al3961		0.046838	ppm	0.0054200	11.572
As1890		0.0048980	ppm	0.00039600	8.0914
B_2089		0.028879	ppm	0.00034100	1.1820
Ba4554		0.12765	ppm	0.00040400	0.31679
Be3130		0.000038000	ppm	0.00012100	321.45
Ca3179		22.731	ppm	0.070154	0.30862
Cd2144		0.000076000	ppm	0.000018000	24.218
Co2286		0.00021400	ppm	0.00025500	118.98
Cr2677		-0.00099000	ppm	0.00037700	38.070
Cu3247		0.0023140	ppm	0.00026100	11.259
Fe2599		0.0035780	ppm	0.0015820	44.226
K_7664		6.4438	ppm	0.052574	0.81588
Mg2790		16.104	ppm	0.046525	0.28890
Mn2576		0.013469	ppm	0.000091000	0.67358
Mo2020		0.0074720	ppm	0.00014200	1.8942
Na5895		172.40	ppm	0.27289	0.15829
Ni2316		0.0010200	ppm	0.00040700	39.912
P_1782		0.011265	ppm	0.00051500	4.5741
Pb2203		0.0018720	ppm	0.0012810	68.446
S_1820		8.8228	ppm	0.010708	0.12136
Sb2068		0.00015900	ppm	0.0026610	1,672.2
Se1960		-0.0015560	ppm	0.00054000	34.697
Si2881		1.7128	ppm	0.0065320	0.38134
Sn1899		0.000013000	ppm	0.00016200	1,287.1
Sr4077		0.25514	ppm	0.00025100	0.098279
Ti3349		-0.00061400	ppm	0.00011400	18.612

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-56102-C-10-A@2

Acquire Date: 11/14/2019 1:22:43PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		0.0017680	ppm	0.0019160	108.38
V_2924		0.0041290	ppm	0.00077100	18.681
Zn2062		0.0070430	ppm	0.00031000	4.4035
Y_2243		7,232.2	Cts/S	9.4118	0.13014
Y_3600		53,620	Cts/S	98.987	0.18461
Y_3774		6,663.2	Cts/S	0.087166	0.0013080

320-56102-C-11-A@2

Acquire Date: 11/14/2019 1:26:41PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00062900	ppm	0.00075200	119.64
Al3961		0.034832	ppm	0.024513	70.374
As1890		0.0028890	ppm	0.0017420	60.303
B_2089		0.040252	ppm	0.0011200	2.7828
Ba4554		0.11801	ppm	0.00048100	0.40762
Be3130		-0.00020900	ppm	0.0000050000	2.4645
Ca3179		21.082	ppm	0.070588	0.33483
Cd2144		0.000011000	ppm	0.000016000	145.63
Co2286		0.00032900	ppm	0.00042900	130.46
Cr2677		-0.00074900	ppm	0.000072000	9.5881
Cu3247		0.0016670	ppm	0.00020000	12.018
Fe2599		0.014009	ppm	0.00070200	5.0137
K_7664		6.4600	ppm	0.056117	0.86867
Mg2790		15.937	ppm	0.023627	0.14825
Mn2576		0.0053550	ppm	0.0000080000	0.15454
Mo2020		0.0073660	ppm	0.00024100	3.2766
Na5895		170.72	ppm	0.29815	0.17464
Ni2316		0.0012410	ppm	0.00034100	27.506
P_1782		0.0092970	ppm	0.0019010	20.449
Pb2203		0.0016390	ppm	0.0023890	145.74
S_1820		8.8699	ppm	0.011562	0.13035
Sb2068		-0.0016710	ppm	0.00017300	10.368
Se1960		-0.0033620	ppm	0.00092900	27.618
Si2881		1.7249	ppm	0.029276	1.6973
Sn1899		0.00028500	ppm	0.00014000	48.913
Sr4077		0.24770	ppm	0.00071700	0.28942
Ti3349		-0.00025700	ppm	0.00032800	127.74
Tl1908		0.0013040	ppm	0.00070100	53.758
V_2924		0.0055180	ppm	0.000016000	0.29549
Zn2062		0.0052190	ppm	0.000071000	1.3608
Y_2243		7,429.4	Cts/S	9.6542	0.12995
Y_3600		55,188	Cts/S	267.42	0.48456
Y_3774		6,878.9	Cts/S	74.675	1.0856

320-56102-C-9-A@2

Acquire Date: 11/14/2019 1:30:40PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00066500	ppm	0.00090000	135.46
Al3961		0.077567	ppm	0.017146	22.104
As1890		0.0045800	ppm	0.0010970	23.955
B_2089		0.020279	ppm	0.00052000	2.5652
Ba4554		0.11844	ppm	0.00011900	0.10064
Be3130		0.00016300	ppm	0.00021000	129.11
Ca3179		21.860	ppm	0.010589	0.048442
Cd2144		0.000070000	ppm	0.000030000	43.486
Co2286		0.00033900	ppm	0.000076000	22.432
Cr2677		-0.00070200	ppm	0.00062100	88.454
Cu3247		0.00099700	ppm	0.00083600	83.840
Fe2599		0.061003	ppm	0.0084490	13.851
K_7664		6.2527	ppm	0.011773	0.18829
Mg2790		15.498	ppm	0.036055	0.23264
Mn2576		0.0077420	ppm	0.0000020000	0.029154
Mo2020		0.0071230	ppm	0.00037400	5.2506
Na5895		165.74	ppm	0.013217	0.0079750
Ni2316		0.0018270	ppm	0.00046300	25.323
P_1782		0.011520	ppm	0.00088700	7.6954
Pb2203		-0.0016060	ppm	0.0014650	91.214
S_1820		8.4459	ppm	0.0019920	0.023581
Sb2068		0.0018710	ppm	0.0038290	204.64
Se1960		-0.0029380	ppm	0.0024080	81.974
Si2881		1.6583	ppm	0.023650	1.4261
Sn1899		-0.00059900	ppm	0.00024200	40.432
Sr4077		0.24690	ppm	0.00058800	0.23821
Ti3349		-0.00061900	ppm	0.00035500	57.322
Tl1908		0.00019600	ppm	0.00041600	212.32
V_2924		0.0048130	ppm	0.00048200	10.019
Zn2062		0.0043520	ppm	0.00070900	16.286
Y_2243		7,292.3	Cts/S	1.3571	0.018611
Y_3600		54,605	Cts/S	298.69	0.54700
Y_3774		6,844.8	Cts/S	41.899	0.61213

CCV 1796754

Acquire Date: 11/14/2019 1:34:38PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.48040	ppm	0.000042000	0.0086480	.50000	Rel(%)	Pass	
Al3961		23.628	ppm	0.11313	0.47881	25.000	Rel(%)	Pass	
As1890		0.48598	ppm	0.0043450	0.89415	.50000	Rel(%)	Pass	
B_2089		0.96845	ppm	0.0019290	0.19915	1.0000	Rel(%)	Pass	
Ba4554		2.4486	ppm	0.0095810	0.39130	2.5000	Rel(%)	Pass	
Be3130		0.49151	ppm	0.0026110	0.53124	.50000	Rel(%)	Pass	
Ca3179		24.427	ppm	0.13409	0.54895	25.000	Rel(%)	Pass	
Cd2144		0.48336	ppm	0.00070300	0.14553	.50000	Rel(%)	Pass	
Co2286		2.4340	ppm	0.0012930	0.053143	2.5000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCV 1796754

Acquire Date: 11/14/2019 1:34:38PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Cr2677		2.4322	ppm	0.0056240	0.23125	2.5000	Rel(%)	Pass	
Cu3247		2.4232	ppm	0.0017370	0.071667	2.5000	Rel(%)	Pass	
Fe2599		24.473	ppm	0.040258	0.16450	25.000	Rel(%)	Pass	
K_7664		23.697	ppm	0.074766	0.31551	25.000	Rel(%)	Pass	
Mg2790		23.971	ppm	0.059391	0.24777	25.000	Rel(%)	Pass	
Mn2576		2.4540	ppm	0.0042770	0.17428	2.5000	Rel(%)	Pass	
Mo2020		0.95823	ppm	0.00022900	0.023895	1.0000	Rel(%)	Pass	
Na5895		23.442	ppm	0.10277	0.43840	25.000	Rel(%)	Pass	
Ni2316		2.4383	ppm	0.0016430	0.067372	2.5000	Rel(%)	Pass	
P_1782		2.2968	ppm	0.0032320	0.14072	2.5000	Rel(%)	Pass	
Pb2203		0.48749	ppm	0.0026630	0.54621	.50000	Rel(%)	Pass	
S_1820		2.3027	ppm	0.012575	0.54609	2.5000	Rel(%)	Pass	
Sb2068		0.48654	ppm	0.0013100	0.26931	.50000	Rel(%)	Pass	
Se1960		0.48582	ppm	0.00092300	0.19007	.50000	Rel(%)	Pass	
Si2881		2.4132	ppm	0.012286	0.50913	2.5000	Rel(%)	Pass	
Sn1899		2.4151	ppm	0.000093000	0.0038630	2.5000	Rel(%)	Pass	
Sr4077		2.4387	ppm	0.0082760	0.33934	2.5000	Rel(%)	Pass	
Ti3349		0.95087	ppm	0.0026560	0.27931	1.0000	Rel(%)	Pass	
Tl1908		0.49762	ppm	0.0016410	0.32973	.50000	Rel(%)	Pass	
V_2924		2.4363	ppm	0.0069910	0.28695	2.5000	Rel(%)	Pass	
Zn2062		2.4533	ppm	0.0016660	0.067903	2.5000	Rel(%)	Pass	
Y_2243		7,245.5	Cts/S	69.078	0.95339				
Y_3600		54,358	Cts/S	22.759	0.041869				
Y_3774		6,676.5	Cts/S	11.395	0.17067				

CCB 1745955

Acquire Date: 11/14/2019 1:38:24PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00010600	ppm	0.000088000	83.406	.00000	Abs	Pass	
Al3961		-0.0049450	ppm	0.016514	333.98	.00000	Abs	Pass	
As1890		0.0018180	ppm	0.00033300	18.301	.00000	Abs	Pass	
B_2089		0.0043230	ppm	0.00054100	12.514	.00000	Abs	Pass	
Ba4554		-0.00018400	ppm	0.00032600	177.17	.00000	Abs	Pass	
Be3130		0.00015100	ppm	0.00018800	124.63	.00000	Abs	Pass	
Ca3179		0.0059060	ppm	0.00087100	14.748	.00000	Abs	Pass	
Cd2144		0.000054000	ppm	0.000056000	102.55	.00000	Abs	Pass	
Co2286		0.00013600	ppm	0.000042000	30.830	.00000	Abs	Pass	
Cr2677		-0.00075700	ppm	0.00018100	23.878	.00000	Abs	Pass	
Cu3247		0.0017860	ppm	0.000039000	2.1842	.00000	Abs	Pass	
Fe2599		-0.020415	ppm	0.0066600	32.622	.00000	Abs	Pass	
K_7664		0.034507	ppm	0.022815	66.118	.00000	Abs	Pass	
Mg2790		0.0050550	ppm	0.00032000	6.3234	.00000	Abs	Pass	
Mn2576		-0.00020000	ppm	0.000013000	6.3944	.00000	Abs	Pass	
Mo2020		0.000041000	ppm	0.00017400	427.72	.00000	Abs	Pass	
Na5895		0.046799	ppm	0.0036150	7.7248	.00000	Abs	Pass	
Ni2316		0.00045200	ppm	0.00073100	161.91	.00000	Abs	Pass	
P_1782		-0.0022910	ppm	0.00079700	34.778	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCB 1745955

Acquire Date: 11/14/2019 1:38:24PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Pb2203		0.0022330	ppm	0.000037000	1.6436	.00000	Abs	Pass	
S_1820		-0.0045070	ppm	0.00030500	6.7656	.00000	Abs	Pass	
Sb2068		0.0018210	ppm	0.0020890	114.75	.00000	Abs	Pass	
Se1960		-0.0037570	ppm	0.0022160	58.974	.00000	Abs	Pass	
Si2881		-0.0058420	ppm	0.016681	285.55	.00000	Abs	Pass	
Sn1899		0.000036000	ppm	0.00031000	861.80	.00000	Abs	Pass	
Sr4077		0.00032700	ppm	0.00012100	37.078	.00000	Abs	Pass	
Ti3349		0.00034900	ppm	0.00024200	69.435	.00000	Abs	Pass	
Tl1908		0.0014970	ppm	0.0026240	175.21	.00000	Abs	Pass	
V_2924		0.00031000	ppm	0.00059100	190.50	.00000	Abs	Pass	
Zn2062		0.0023140	ppm	0.00019600	8.4854	.00000	Abs	Pass	
Y_2243		7,318.1	Cts/S	10.945	0.14956				
Y_3600		55,267	Cts/S	66.778	0.12083				
Y_3774		6,534.1	Cts/S	48.610	0.74394				

SD320-56102-C-9-A@10

Acquire Date: 11/14/2019 1:42:25PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00016900	ppm	0.00026800	158.29
Al3961		-0.0062970	ppm	0.0043720	69.439
As1890		0.0030580	ppm	0.00017200	5.6335
B_2089		0.0056450	ppm	0.00079400	14.073
Ba4554		0.023489	ppm	0.000057000	0.24101
Be3130		0.000023000	ppm	0.000060000	261.88
Ca3179		4.4803	ppm	0.013075	0.29185
Cd2144		0.000040000	ppm	0.0000010000	2.6933
Co2286		0.000022000	ppm	0.00024500	1,140.5
Cr2677		-0.00034200	ppm	0.00024200	70.938
Cu3247		0.0054010	ppm	0.00054800	10.148
Fe2599		-0.010189	ppm	0.0026110	25.629
K_7664		1.2313	ppm	0.011066	0.89872
Mg2790		3.1751	ppm	0.0076370	0.24054
Mn2576		0.0012350	ppm	0.000012000	0.99080
Mo2020		0.0010000	ppm	0.00010600	10.597
Na5895		33.737	ppm	0.0038880	0.011524
Ni2316		0.00049200	ppm	0.000022000	4.5111
P_1782		-0.00069700	ppm	0.00013400	19.157
Pb2203		0.000027000	ppm	0.0014920	5,472.6
S_1820		1.6529	ppm	0.0064860	0.39239
Sb2068		-0.00019600	ppm	0.00087100	445.62
Se1960		-0.00079300	ppm	0.0031950	403.08
Si2881		0.29454	ppm	0.026365	8.9513
Sn1899		-0.00036000	ppm	0.00010400	28.737
Sr4077		0.050358	ppm	0.000076000	0.15059
Ti3349		-0.00010300	ppm	0.00083900	817.50
Tl1908		0.0018970	ppm	0.0017070	89.962

SD320-56102-C-9-A@10

Acquire Date: 11/14/2019 1:42:25PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
V_2924		0.0012280	ppm	0.00050000	40.737
Zn2062		0.0025210	ppm	0.000011000	0.42617
Y_2243		7,393.5	Cts/S	11.698	0.15822
Y_3600		55,129	Cts/S	260.26	0.47210
Y_3774		6,620.7	Cts/S	12.554	0.18961

PDS320-56102-C-9-A@2

Acquire Date: 11/14/2019 1:46:23PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.099615	ppm	0.00016500	0.16605
Al3961		9.6475	ppm	0.036099	0.37418
As1890		0.10477	ppm	0.00020900	0.19970
B_2089		0.96223	ppm	0.0034200	0.35540
Ba4554		0.21958	ppm	0.00036400	0.16584
Be3130		0.050057	ppm	0.00019700	0.39364
Ca3179		31.963	ppm	0.026338	0.082401
Cd2144		0.097656	ppm	0.00012700	0.12991
Co2286		0.097809	ppm	0.00039800	0.40677
Cr2677		0.097755	ppm	0.0000010000	0.00084300
Cu3247		0.10296	ppm	0.00070200	0.68218
Fe2599		4.0110	ppm	0.024073	0.60019
K_7664		15.969	ppm	0.017834	0.11168
Mg2790		25.059	ppm	0.046316	0.18482
Mn2576		0.10790	ppm	0.00013500	0.12519
Mo2020		0.10387	ppm	0.00025600	0.24664
Na5895		175.34	ppm	0.097132	0.055398
Ni2316		0.098344	ppm	0.00062400	0.63482
P_1782		0.98231	ppm	0.0068140	0.69369
Pb2203		0.098159	ppm	0.0014680	1.4956
S_1820		10.485	ppm	0.046077	0.43948
Sb2068		0.089858	ppm	0.00070000	0.77914
Se1960		0.10058	ppm	0.00051400	0.51146
Si2881		2.6409	ppm	0.0011370	0.043043
Sn1899		0.097840	ppm	0.00075700	0.77422
Sr4077		0.34922	ppm	0.00052900	0.15143
Ti3349		0.097399	ppm	0.00026900	0.27591
Tl1908		0.096598	ppm	0.00084600	0.87544
V_2924		0.10632	ppm	0.0011710	1.1012
Zn2062		0.10522	ppm	0.00034200	0.32465
Y_2243		7,364.4	Cts/S	27.546	0.37404
Y_3600		54,304	Cts/S	332.66	0.61259
Y_3774		6,778.7	Cts/S	28.636	0.42245

320-56102-C-9-B MS@2

Acquire Date: 11/14/2019 1:50:12PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.023226	ppm	0.00027300	1.1738
Al3961		2.5083	ppm	0.019985	0.79675
As1890		0.25353	ppm	0.00047800	0.18836
B_2089		2.3617	ppm	0.0048310	0.20457
Ba4554		0.37340	ppm	0.00022100	0.059091
Be3130		0.12874	ppm	0.00025700	0.19987
Ca3179		35.305	ppm	0.11970	0.33903
Cd2144		0.12311	ppm	0.00020300	0.16507
Co2286		0.12186	ppm	0.00038000	0.31195
Cr2677		0.12451	ppm	0.0011210	0.90013
Cu3247		0.12804	ppm	0.00037200	0.29060
Fe2599		2.5948	ppm	0.0086320	0.33267
K_7664		18.877	ppm	0.13179	0.69816
Mg2790		28.203	ppm	0.11359	0.40277
Mn2576		0.13430	ppm	0.000058000	0.043290
Mo2020		0.13054	ppm	0.00083900	0.64310
Na5895		182.02	ppm	0.35920	0.19734
Ni2316		0.12330	ppm	0.00067400	0.54683
P_1782		2.5446	ppm	0.0036110	0.14192
Pb2203		0.12023	ppm	0.00026400	0.21959
S_1820		11.238	ppm	0.0063100	0.056149
Sb2068		0.22824	ppm	0.0027130	1.1887
Se1960		0.24792	ppm	0.0040530	1.6348
Si2881		4.1494	ppm	0.013468	0.32459
Sn1899		0.24967	ppm	0.00019700	0.078746
Sr4077		0.38068	ppm	0.00035800	0.093956
Ti3349		0.12183	ppm	0.0013400	1.0999
Tl1908		0.24089	ppm	0.0017810	0.73928
V_2924		0.13289	ppm	0.0018240	1.3723
Zn2062		0.25960	ppm	0.00021300	0.081942
Y_2243		7,169.1	Cts/S	25.624	0.35742
Y_3600		52,642	Cts/S	18.376	0.034907
Y_3774		6,595.2	Cts/S	23.297	0.35324

320-56102-C-9C MSD@2

Acquire Date: 11/14/2019 1:53:59PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.023566	ppm	0.00071300	3.0247
Al3961		2.4559	ppm	0.032022	1.3039
As1890		0.24995	ppm	0.0011770	0.47096
B_2089		2.3236	ppm	0.00075200	0.032382
Ba4554		0.37104	ppm	0.00081600	0.21991
Be3130		0.12767	ppm	0.00012700	0.099498
Ca3179		35.019	ppm	0.010403	0.029706
Cd2144		0.12143	ppm	0.00010500	0.086074
Co2286		0.12086	ppm	0.00022800	0.18884

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-56102-C-9C MSD@2

Acquire Date: 11/14/2019 1:53:59PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.12489	ppm	0.00034900	0.27962
Cu3247		0.12683	ppm	0.00058800	0.46356
Fe2599		2.5938	ppm	0.0020070	0.077366
K_7664		18.659	ppm	0.051232	0.27457
Mg2790		27.958	ppm	0.016701	0.059737
Mn2576		0.13301	ppm	0.00041000	0.30799
Mo2020		0.12863	ppm	0.00022000	0.17130
Na5895		180.30	ppm	0.22815	0.12654
Ni2316		0.12175	ppm	0.00076000	0.62411
P_1782		2.5016	ppm	0.0027890	0.11148
Pb2203		0.11978	ppm	0.0019160	1.5996
S_1820		11.064	ppm	0.00041200	0.0037270
Sb2068		0.22277	ppm	0.0011580	0.51967
Se1960		0.24443	ppm	0.0040800	1.6693
Si2881		4.1175	ppm	0.018318	0.44488
Sn1899		0.24779	ppm	0.00028300	0.11431
Sr4077		0.37859	ppm	0.00020100	0.053139
Ti3349		0.12205	ppm	0.00045200	0.37063
Tl1908		0.23753	ppm	0.0013390	0.56362
V_2924		0.13126	ppm	0.00057800	0.44065
Zn2062		0.25574	ppm	0.00018200	0.071156
Y_2243		7,237.1	Cts/S	21.304	0.29437
Y_3600		53,358	Cts/S	1.0342	0.0019380
Y_3774		6,703.5	Cts/S	20.228	0.30176

320-56102-B-10-A@2

Acquire Date: 11/14/2019 1:57:46PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00080900	ppm	0.000011000	1.4030
Al3961		0.063691	ppm	0.011785	18.504
As1890		0.0045010	ppm	0.00026700	5.9291
B_2089		0.035552	ppm	0.0010280	2.8920
Ba4554		0.11900	ppm	0.000036000	0.030645
Be3130		0.00017700	ppm	0.0000070000	3.9108
Ca3179		22.375	ppm	0.030884	0.13803
Cd2144		0.000034000	ppm	0.00014700	434.61
Co2286		0.000086000	ppm	0.00033200	386.57
Cr2677		0.000012000	ppm	0.00059200	4,933.0
Cu3247		0.0017780	ppm	0.0011090	62.354
Fe2599		0.057619	ppm	0.0049640	8.6158
K_7664		6.2939	ppm	0.11739	1.8652
Mg2790		15.571	ppm	0.053038	0.34062
Mn2576		0.013130	ppm	0.000010000	0.079047
Mo2020		0.0072800	ppm	0.00025400	3.4954
Na5895		166.77	ppm	0.31770	0.19050
Ni2316		0.0012780	ppm	0.00059100	46.216

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-56102-B-10-A@2

Acquire Date: 11/14/2019 1:57:46PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		0.0093700	ppm	0.0010410	11.115
Pb2203		0.0010900	ppm	0.0013930	127.77
S_1820		8.5869	ppm	0.0015450	0.017993
Sb2068		-0.00090800	ppm	0.0014460	159.34
Se1960		-0.0017800	ppm	0.0022010	123.64
Si2881		1.6766	ppm	0.061848	3.6889
Sn1899		-0.00030000	ppm	0.00091800	305.53
Sr4077		0.25094	ppm	0.00012700	0.050546
Ti3349		-0.00021800	ppm	0.00058500	268.66
Tl1908		0.0023390	ppm	0.0018370	78.511
V_2924		0.0046600	ppm	0.0010190	21.878
Zn2062		0.0048430	ppm	0.00036300	7.5006
Y_2243		7,269.2	Cts/S	103.22	1.4200
Y_3600		55,277	Cts/S	156.41	0.28296
Y_3774		6,799.6	Cts/S	10.649	0.15662

320-56102-B-11-A@2

Acquire Date: 11/14/2019 2:01:41PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00084400	ppm	0.000023000	2.7743
Al3961		0.073923	ppm	0.014438	19.531
As1890		0.0068770	ppm	0.00079900	11.616
B_2089		0.039326	ppm	0.00042200	1.0719
Ba4554		0.11859	ppm	0.000046000	0.038501
Be3130		0.00014300	ppm	0.000061000	42.940
Ca3179		21.897	ppm	0.059820	0.27318
Cd2144		-0.00010300	ppm	0.000042000	40.868
Co2286		0.00048200	ppm	0.000090000	18.578
Cr2677		-0.0011990	ppm	0.000040000	3.3414
Cu3247		0.0017130	ppm	0.00089500	52.242
Fe2599		0.057479	ppm	0.0040510	7.0476
K_7664		6.6351	ppm	0.040202	0.60591
Mg2790		16.326	ppm	0.037181	0.22774
Mn2576		0.0047880	ppm	0.0000040000	0.074568
Mo2020		0.0078730	ppm	0.00051900	6.5899
Na5895		173.63	ppm	0.24077	0.13867
Ni2316		0.00070800	ppm	0.000060000	8.4393
P_1782		0.0088820	ppm	0.0016290	18.336
Pb2203		-0.0027090	ppm	0.00021000	7.7485
S_1820		8.9720	ppm	0.046563	0.51898
Sb2068		-0.0017330	ppm	0.00050000	28.826
Se1960		0.0021320	ppm	0.00097100	45.555
Si2881		1.7492	ppm	0.028043	1.6032
Sn1899		-0.00042800	ppm	0.00040800	95.269
Sr4077		0.25525	ppm	0.00078100	0.30588
Ti3349		-0.0010500	ppm	0.00051600	49.157

320-56102-B-11-A@2

Acquire Date: 11/14/2019 2:01:41PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		0.0019560	ppm	0.00090700	46.397
V_2924		0.0063380	ppm	0.00021300	3.3652
Zn2062		0.0033540	ppm	0.00037000	11.041
Y_2243		7,282.1	Cts/S	41.682	0.57239
Y_3600		53,088	Cts/S	149.51	0.28164
Y_3774		6,603.8	Cts/S	4.0523	0.061363

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Acquire Date: 11/14/2019 2:05:37PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0010740	ppm	0.00079700	74.167
Al3961		0.0075470	ppm	0.0021640	28.672
As1890		-0.00063400	ppm	0.0016580	261.66
B_2089		0.0055550	ppm	0.00066100	11.893
Ba4554		-0.00092600	ppm	0.000053000	5.7018
Be3130		0.00019600	ppm	0.00017300	88.238
Ca3179		0.0049650	ppm	0.012334	248.39
Cd2144		0.000066000	ppm	0.000061000	92.565
Co2286		0.00033500	ppm	0.00020600	61.531
Cr2677		-0.00094000	ppm	0.00014400	15.275
Cu3247		0.00047000	ppm	0.00043000	91.434
Fe2599		-0.037555	ppm	0.0018980	5.0551
K_7664		0.017646	ppm	0.014749	83.584
Mg2790		0.0087990	ppm	0.0010570	12.009
Mn2576		-0.00040700	ppm	0.000033000	8.0357
Mo2020		-0.00015800	ppm	0.00020500	129.46
Na5895		0.11456	ppm	0.014487	12.646
Ni2316		0.00060300	ppm	0.00025100	41.514
P_1782		-0.00056300	ppm	0.00063600	112.98
Pb2203		0.0015950	ppm	0.0013060	81.882
S_1820		-0.0025690	ppm	0.0038140	148.45
Sb2068		0.0011370	ppm	0.0019440	171.07
Se1960		-0.0015970	ppm	0.0020020	125.38
Si2881		-0.010902	ppm	0.034540	316.82
Sn1899		0.00025500	ppm	0.00016500	64.821
Sr4077		0.00022400	ppm	0.00019100	85.245
Ti3349		0.00042000	ppm	0.000068000	16.158
Tl1908		0.0015870	ppm	0.0019560	123.28
V_2924		0.00021600	ppm	0.000041000	18.888
Zn2062		0.00045300	ppm	0.000091000	19.991
Y_2243		7,475.4	Cts/S	8.3326	0.11147
Y_3600		56,521	Cts/S	80.531	0.14248
Y_3774		6,660.7	Cts/S	5.4875	0.082387

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Acquire Date: 11/14/2019 2:09:35PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00065300	ppm	0.00035500	54.271
Al3961		0.015055	ppm	0.0033890	22.510
As1890		0.00046600	ppm	0.0029260	627.28
B_2089		0.0040880	ppm	0.00028600	6.9905
Ba4554		-0.00061100	ppm	0.00041000	67.032
Be3130		0.000035000	ppm	0.000060000	169.58
Ca3179		0.0088390	ppm	0.0019270	21.805
Cd2144		0.000041000	ppm	0.000071000	175.35
Co2286		0.000063000	ppm	0.0000050000	7.3291
Cr2677		-0.00041100	ppm	0.00013600	33.184
Cu3247		0.000085000	ppm	0.00019700	232.28
Fe2599		-0.027610	ppm	0.00021700	0.78706
K_7664		-0.019843	ppm	0.025307	127.54
Mg2790		-0.00017900	ppm	0.0025690	1,438.3
Mn2576		-0.00030800	ppm	0.000014000	4.6118
Mo2020		-0.00060300	ppm	0.00020100	33.387
Na5895		0.045783	ppm	0.010206	22.292
Ni2316		0.0011700	ppm	0.00029400	25.111
P_1782		0.0013120	ppm	0.0013300	101.41
Pb2203		-0.00075900	ppm	0.0019800	260.83
S_1820		-0.0041140	ppm	0.00037200	9.0317
Sb2068		0.0014700	ppm	0.0038380	261.11
Se1960		-0.00072500	ppm	0.00077700	107.08
Si2881		0.031154	ppm	0.031485	101.06
Sn1899		0.00031600	ppm	0.00023200	73.401
Sr4077		0.00012800	ppm	0.00011400	89.696
Ti3349		0.00013700	ppm	0.00034900	254.91
Tl1908		0.00030300	ppm	0.0010360	342.47
V_2924		0.00036700	ppm	0.00016100	43.980
Zn2062		0.0010300	ppm	0.00024300	23.551
Y_2243		7,381.8	Cts/S	38.637	0.52342
Y_3600		55,269	Cts/S	126.19	0.22833
Y_3774		6,477.0	Cts/S	33.095	0.51096

CCV 1796754

Acquire Date: 11/14/2019 2:13:34PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.47913	ppm	0.0017910	0.37385	.50000	Rel(%)	Pass	
Al3961		24.314	ppm	0.043189	0.17763	25.000	Rel(%)	Pass	
As1890		0.49456	ppm	0.0020530	0.41510	.50000	Rel(%)	Pass	
B_2089		0.97610	ppm	0.0017550	0.17979	1.0000	Rel(%)	Pass	
Ba4554		2.5062	ppm	0.0054850	0.21886	2.5000	Rel(%)	Pass	
Be3130		0.50195	ppm	0.00039200	0.078112	.50000	Rel(%)	Pass	
Ca3179		25.011	ppm	0.049017	0.19598	25.000	Rel(%)	Pass	
Cd2144		0.48222	ppm	0.00038900	0.080713	.50000	Rel(%)	Pass	
Co2286		2.4423	ppm	0.0022620	0.092636	2.5000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCV 1796754

Acquire Date: 11/14/2019 2:13:34PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Cr2677		2.4518	ppm	0.0040160	0.16380	2.5000	Rel(%)	Pass	
Cu3247		2.4410	ppm	0.00010100	0.0041500	2.5000	Rel(%)	Pass	
Fe2599		24.907	ppm	0.0019110	0.0076730	25.000	Rel(%)	Pass	
K_7664		24.036	ppm	0.033242	0.13830	25.000	Rel(%)	Pass	
Mg2790		24.246	ppm	0.045175	0.18632	25.000	Rel(%)	Pass	
Mn2576		2.4770	ppm	0.0037930	0.15312	2.5000	Rel(%)	Pass	
Mo2020		0.96048	ppm	0.0010830	0.11279	1.0000	Rel(%)	Pass	
Na5895		23.679	ppm	0.017557	0.074144	25.000	Rel(%)	Pass	
Ni2316		2.4408	ppm	0.0022560	0.092428	2.5000	Rel(%)	Pass	
P_1782		2.3196	ppm	0.0030860	0.13304	2.5000	Rel(%)	Pass	
Pb2203		0.49183	ppm	0.0031350	0.63737	.50000	Rel(%)	Pass	
S_1820		2.3144	ppm	0.0044420	0.19191	2.5000	Rel(%)	Pass	
Sb2068		0.49308	ppm	0.0035170	0.71334	.50000	Rel(%)	Pass	
Se1960		0.49503	ppm	0.00016900	0.034069	.50000	Rel(%)	Pass	
Si2881		2.3790	ppm	0.048605	2.0431	2.5000	Rel(%)	Pass	
Sn1899		2.4040	ppm	0.0035890	0.14930	2.5000	Rel(%)	Pass	
Sr4077		2.4975	ppm	0.0028870	0.11558	2.5000	Rel(%)	Pass	
Ti3349		0.95176	ppm	0.00085100	0.089367	1.0000	Rel(%)	Pass	
Tl1908		0.50304	ppm	0.0013620	0.27082	.50000	Rel(%)	Pass	
V_2924		2.4744	ppm	0.0041650	0.16832	2.5000	Rel(%)	Pass	
Zn2062		2.4781	ppm	0.0016640	0.067159	2.5000	Rel(%)	Pass	
Y_2243		7,209.8	Cts/S	6.4934	0.090063				
Y_3600		53,642	Cts/S	278.67	0.51951				
Y_3774		6,549.3	Cts/S	3.9124	0.059737				

CCB 1745955

Acquire Date: 11/14/2019 2:17:19PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00082500	ppm	0.0013040	157.95	.00000	Abs	Pass	
Al3961		0.0097200	ppm	0.0072720	74.821	.00000	Abs	Pass	
As1890		0.0025540	ppm	0.0014410	56.426	.00000	Abs	Pass	
B_2089		0.0060440	ppm	0.0011100	18.372	.00000	Abs	Pass	
Ba4554		-0.00068100	ppm	0.000025000	3.6247	.00000	Abs	Pass	
Be3130		0.000088000	ppm	0.00019900	226.26	.00000	Abs	Pass	
Ca3179		0.0055240	ppm	0.0020180	36.531	.00000	Abs	Pass	
Cd2144		0.00020100	ppm	0.00029100	144.77	.00000	Abs	Pass	
Co2286		0.0014950	ppm	0.0018020	120.53	.00000	Abs	Pass	
Cr2677		-0.00035600	ppm	0.00024100	67.743	.00000	Abs	Pass	
Cu3247		0.0024800	ppm	0.00046400	18.692	.00000	Abs	Pass	
Fe2599		-0.025327	ppm	0.0061080	24.117	.00000	Abs	Pass	
K_7664		-0.045591	ppm	0.026056	57.150	.00000	Abs	Pass	
Mg2790		0.00022600	ppm	0.0067770	3,002.5	.00000	Abs	Pass	
Mn2576		-0.00034700	ppm	0.000092000	26.559	.00000	Abs	Pass	
Mo2020		0.00042600	ppm	0.00038200	89.597	.00000	Abs	Pass	
Na5895		0.018521	ppm	0.0060620	32.730	.00000	Abs	Pass	
Ni2316		0.00090700	ppm	0.0024100	265.68	.00000	Abs	Pass	
P_1782		-0.00084300	ppm	0.00044500	52.758	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCB 1745955

Acquire Date: 11/14/2019 2:17:19PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Pb2203		0.000027000	ppm	0.00015700	583.48	.00000	Abs	Pass	
S_1820		-0.0039150	ppm	0.00080900	20.674	.00000	Abs	Pass	
Sb2068		0.00074800	ppm	0.0011400	152.46	.00000	Abs	Pass	
Se1960		-0.00038300	ppm	0.00035100	91.611	.00000	Abs	Pass	
Si2881		-0.014405	ppm	0.0096210	66.790	.00000	Abs	Pass	
Sn1899		0.0010720	ppm	0.0020970	195.63	.00000	Abs	Pass	
Sr4077		0.00044500	ppm	0.00020000	44.847	.00000	Abs	Pass	
Ti3349		0.000028000	ppm	0.00031600	1,146.9	.00000	Abs	Pass	
Tl1908		0.0012330	ppm	0.0028970	234.98	.00000	Abs	Pass	
V_2924		0.00075900	ppm	0.00039100	51.546	.00000	Abs	Pass	
Zn2062		0.0025800	ppm	0.000099000	3.8529	.00000	Abs	Pass	
Y_2243		7,474.7	Cts/S	87.029	1.1643				
Y_3600		56,628	Cts/S	105.47	0.18625				
Y_3774		6,689.9	Cts/S	59.497	0.88937				

CCVL 1733852

Acquire Date: 11/14/2019 2:21:18PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.0035490	ppm	0.000084000	2.3605	.00500	Rel(%)	Pass	
Al3961		0.16738	ppm	0.016378	9.7846	.20000	Rel(%)	Pass	
As1890		0.039016	ppm	0.00075100	1.9242	.04000	Rel(%)	Pass	
B_2089		0.19679	ppm	0.00016600	0.084254	.20000	Rel(%)	Pass	
Ba4554		0.019729	ppm	0.00016700	0.84572	.02000	Rel(%)	Pass	
Be3130		0.0031080	ppm	0.00024000	7.7107	.00300	Rel(%)	Pass	
Ca3179		0.49846	ppm	0.0014010	0.28114	.50000	Rel(%)	Pass	
Cd2144		0.0029380	ppm	0.000027000	0.91511	.00300	Rel(%)	Pass	
Co2286		0.0097290	ppm	0.0000070000	0.075044	.01000	Rel(%)	Pass	
Cr2677		0.010175	ppm	0.00040900	4.0157	.01000	Rel(%)	Pass	
Cu3247		0.014913	ppm	0.000029000	0.19579	.01500	Rel(%)	Pass	
Fe2599		0.074069	ppm	0.00078900	1.0653	.10000	Rel(%)	Pass	
K_7664		0.93122	ppm	0.027943	3.0007	1.0000	Rel(%)	Pass	
Mg2790		0.49312	ppm	0.0037080	0.75201	.50000	Rel(%)	Pass	
Mn2576		0.0097510	ppm	0.00017400	1.7820	.01000	Rel(%)	Pass	
Mo2020		0.018391	ppm	0.00041800	2.2750	.02000	Rel(%)	Pass	
Na5895		0.48066	ppm	0.017973	3.7391	.50000	Rel(%)	Pass	
Ni2316		0.010452	ppm	0.00011500	1.1042	.01000	Rel(%)	Pass	
P_1782		0.46812	ppm	0.0017500	0.37380	.50000	Rel(%)	Pass	
Pb2203		0.012371	ppm	0.00062900	5.0833	.01000	Rel(%)	Pass	
S_1820		0.46013	ppm	0.0051680	1.1231	.50000	Rel(%)	Pass	
Sb2068		0.028550	ppm	0.00019600	0.68752	.03000	Rel(%)	Pass	
Se1960		0.038754	ppm	0.0030140	7.7773	.04000	Rel(%)	Pass	
Si2881		0.47577	ppm	0.0061510	1.2929	.50000	Rel(%)	Pass	
Sn1899		0.019721	ppm	0.000092000	0.46454	.02000	Rel(%)	Pass	
Sr4077		0.050825	ppm	0.000024000	0.047175	.05000	Rel(%)	Pass	
Ti3349		0.0091050	ppm	0.000038000	0.41580	.01000	Rel(%)	Pass	
Tl1908		0.031458	ppm	0.00054700	1.7382	.03000	Rel(%)	Pass	
V_2924		0.019294	ppm	0.0010670	5.5285	.02000	Rel(%)	Pass	

CCVL 1733852

Acquire Date: 11/14/2019 2:21:18PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Zn2062		0.020940	ppm	0.00015000	0.71776	.02000	Rel(%)	Pass	
Y_2243		7,549.6	Cts/S	16.606	0.21996				
Y_3600		56,682	Cts/S	371.25	0.65497				
Y_3774		6,767.5	Cts/S	4.1204	0.060885				

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Acquire Date: 11/14/2019 2:25:16PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 538

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00069000	ppm	0.00070700	102.53	.00000	Abs	Pass	
Al3961		-0.016818	ppm	0.027655	164.43	.00000	Abs	Pass	
As1890		-0.00016400	ppm	0.0022170	1,350.1	.00000	Abs	Pass	
B_2089		0.0035990	ppm	0.0010630	29.530	.00000	Abs	Pass	
Ba4554		-0.00086900	ppm	0.00035200	40.544	.00000	Abs	Pass	
Be3130		0.000068000	ppm	0.00015500	226.35	.00000	Abs	Pass	
Ca3179		0.0024240	ppm	0.0045400	187.27	.00000	Abs	Pass	
Cd2144		0.000059000	ppm	0.000066000	110.33	.00000	Abs	Pass	
Co2286		0.00011800	ppm	0.00039300	333.74	.00000	Abs	Pass	
Cr2677		0.000075000	ppm	0.00017100	228.42	.00000	Abs	Pass	
Cu3247		0.00070300	ppm	0.000057000	8.1070	.00000	Abs	Pass	
Fe2599		-0.032578	ppm	0.0027010	8.2912	.00000	Abs	Pass	
K_7664		-0.018163	ppm	0.076186	419.45	.00000	Abs	Pass	
Mg2790		0.00089500	ppm	0.00055700	62.160	.00000	Abs	Pass	
Mn2576		-0.00043500	ppm	0.00010100	23.221	.00000	Abs	Pass	
Mo2020		-0.00024900	ppm	0.00014900	59.638	.00000	Abs	Pass	
Na5895		-0.0015310	ppm	0.0099060	647.02	.00000	Abs	Pass	
Ni2316		0.00078300	ppm	0.000090000	11.474	.00000	Abs	Pass	
P_1782		-0.0025790	ppm	0.00087600	33.980	.00000	Abs	Pass	
Pb2203		0.0010720	ppm	0.0026720	249.19	.00000	Abs	Pass	
S_1820		-0.0073250	ppm	0.0012090	16.499	.00000	Abs	Pass	
Sb2068		-0.0012540	ppm	0.00087600	69.887	.00000	Abs	Pass	
Se1960		0.00085700	ppm	0.00016800	19.656	.00000	Abs	Pass	
Si2881		0.0090180	ppm	0.0082100	91.041	.00000	Abs	Pass	
Sn1899		0.00038700	ppm	0.00036500	94.442	.00000	Abs	Pass	
Sr4077		0.00019700	ppm	0.00014600	73.885	.00000	Abs	Pass	
Ti3349		-0.00035500	ppm	0.0000090000	2.4236	.00000	Abs	Pass	
Tl1908		0.00073400	ppm	0.0023480	319.76	.00000	Abs	Pass	
V_2924		0.00039100	ppm	0.00018200	46.411	.00000	Abs	Pass	
Zn2062		0.00056900	ppm	0.0000040000	0.74052	.00000	Abs	Pass	
Y_2243		7,449.5	Cts/S	40.777	0.54739				
Y_3600		56,397	Cts/S	150.33	0.26656				
Y_3774		6,612.5	Cts/S	15.186	0.22966				

Report Generated By Teledyne Leeman QuickTrace

Analyst: M8000

Worksheet file: C:\Users\Public\Documents\Teledyne CETAC\QuickTrace\1119\1112A19H8.wszf

Creation Date: 9/27/2019 9:17:54 AM

Comment:

Results

Sample Name	Type	Date/Time	Conc (ng/L)	hF U	Residual	% Recovery
Calibration Blank 1	STD	09/27/19 10:52:09 am	0.0000	633	0.00	N/A
Calibration Blank	STD	09/27/19 10:56:57 am	0.0000	520	-0.02	N/A
Calibration Blank	STD	09/27/19 11:01:46 am	0.0000	644	0.01	N/A
0.5 PPT	STD	09/27/19 11:06:35 am	0.5000	2363	0.00	N/A
1.0 PPT	STD	09/27/19 11:11:24 am	1.0000	4336	0.04	N/A
2.0 PPT	STD	09/27/19 11:16:14 am	2.0000	7827	0.00	N/A
5.0 PPT	STD	09/27/19 11:21:03 am	5.0000	18225	-0.10	N/A
10.0 PPT	STD	09/27/19 11:25:53 am	10.0000	36414	-0.05	N/A
25.0 PPT	STD	09/27/19 11:30:44 am	25.0000	90209	-0.10	N/A
100.0 PPT	STD	09/27/19 11:35:34 am	100.0000	362547	0.58	N/A

Calibration

Calibration Factor: 3598.636 CF %RSD: 1.987

R2: 0.99995

SEE: 964.9504

Flags:

Blank Avg: 0.166

Blank StdDev: 0.019

Low Std Recovery 98.055

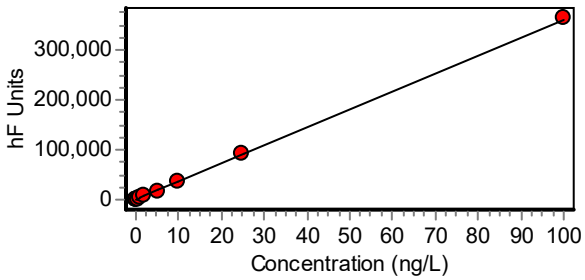

ICV	ICV	09/27/19 11:43:49 am	5.2071	19337		104.14
ICB	ICB	09/27/19 11:48:37 am	0.0518	785		N/A
CCV	CCV	11/12/19 09:24:22 am	4.5640	17023		91.28
CCB	CCB	11/12/19 09:29:11 am	0.0771	876		N/A
240-121890-a-3-a	UNK	11/12/19 09:33:59 am	0.7424	3271		N/A
240-121846-a-2-a	UNK	11/12/19 09:38:47 am	0.4083	2068		N/A
mb 240-410290/1-a	UNK	11/12/19 09:43:35 am	0.0905	925		N/A
lcs 240-410290/2-a	UNK	11/12/19 09:48:24 am	4.3811	16365		N/A
240-121929-a-1-a	UNK	11/12/19 09:53:12 am	18.7670	68136		N/A
240-121929-a-2-a	UNK	11/12/19 09:58:01 am	18.3460	66620		N/A
240-121929-a-3-a	UNK	11/12/19 10:02:50 am	0.2260	1412		N/A
CCV	CCV	11/12/19 10:07:38 am	4.4960	16779		89.92
CCB	CCB	11/12/19 10:12:27 am	0.1456	1123		N/A
280-130592-a-1-a	UNK	11/12/19 11:27:23 am	2.1323	8272		N/A
280-130592-a-2-a	UNK	11/12/19 11:32:13 am	1.0729	4460		N/A
280-130592-a-2-b ms	UNK	11/12/19 11:37:03 am	5.2811	19604		N/A
280-130592-a-2-c msd	UNK	11/12/19 11:41:53 am	5.3873	19986		N/A
180-98225-n-3-a	UNK	11/12/19 11:46:41 am	0.5040	2413		N/A

Sample Name	Type	Date/Time	Conc (ng/L)	hF U Residual	% Recovery
CCV	CCV	11/12/19 11:51:29 am	4.4903	16758	89.81
CCB	CCB	11/12/19 11:56:18 am	0.1257	1052	N/A
320-56102-c-1-a	UNK	11/12/19 12:01:06 pm	1.7424	6869	N/A
320-56102-c-2-a	UNK	11/12/19 12:05:54 pm	1.6742	6624	N/A
320-56102-b-3-a	UNK	11/12/19 12:10:45 pm	2.2143	8567	N/A
320-56102-c-3-a ms	UNK	11/12/19 12:15:35 pm	5.9931	22166	N/A
320-56102-c-3-b msd	UNK	11/12/19 12:20:25 pm	6.3574	23477	N/A
320-56102-b-4-a	UNK	11/12/19 12:25:13 pm	1.8817	7370	N/A
320-56102-b-5-a	UNK	11/12/19 12:30:02 pm	2.6127	10001	N/A
320-56102-b-6-a	UNK	11/12/19 12:34:51 pm	1.8255	7168	N/A
320-56102-b-7-a	UNK	11/12/19 12:39:39 pm	1.6786	6640	N/A
320-56102-b-8-a	UNK	11/12/19 12:44:28 pm	1.7124	6761	N/A
320-56102-d-9-a	UNK	11/12/19 12:49:16 pm	0.7424	3271	N/A
320-56102-f-9-a	UNK	11/12/19 12:54:04 pm	0.3461	1845	N/A
320-56102-d-10-a	UNK	11/12/19 12:58:53 pm	0.6917	3088	N/A
320-56102-f-10-a	UNK	11/12/19 01:03:42 pm	0.4676	2282	N/A
320-56102-f-11-a	UNK	11/12/19 01:08:31 pm	0.7440	3277	N/A
320-56102-d-11-a	UNK	11/12/19 01:13:19 pm	0.2540	1513	N/A
CCV	CCV	11/12/19 01:18:07 pm	4.0827	15291	81.65
CCB	CCB	11/12/19 01:22:57 pm	0.1812	1251	N/A
180-98225-n-3-a	UNK	11/12/19 01:27:45 pm	0.4717	2296	N/A
240-121884-a-9-a@4	UNK	11/12/19 01:32:34 pm	3.2844	12418	N/A
240-121884-a-10-a	UNK	11/12/19 01:37:22 pm	0.4463	2205	N/A
240-121862-a-1-a	UNK	11/12/19 01:42:13 pm	0.8825	3775	N/A
240-121862-a-1-b ms	UNK	11/12/19 01:47:02 pm	5.1484	19126	N/A
240-121862-a-1-c msd	UNK	11/12/19 01:51:52 pm	5.5080	20420	N/A
240-121862-a-2-a	UNK	11/12/19 01:56:41 pm	0.3159	1736	N/A
240-121862-a-3-a	UNK	11/12/19 02:01:30 pm	0.2164	1378	N/A
~~240-121862-a-3-a@10~~ 240-121875-A-1-A@10 AJC 11/13/19	UNK	11/12/19 02:06:19 pm	5.3880	19989	N/A
~~240-121875-a-1-a~~ 240-121875-A-2-A AJC 11/13/19	UNK	11/12/19 02:11:08 pm	0.3886	1997	N/A
CCV	CCV	11/12/19 02:15:56 pm	4.4066	16457	88.13
CCB	CCB	11/12/19 02:20:45 pm	0.1593	1172	N/A
mb 240-410001/1-a	UNK	11/12/19 02:52:19 pm	0.0927	933	N/A
lcs 240-410001/2-a	UNK	11/12/19 02:57:08 pm	4.4261	16527	N/A
190-21490-a-1-a	UNK	11/12/19 03:01:58 pm	0.5643	2630	N/A
190-21490-a-1-b ms	UNK	11/12/19 03:06:48 pm	4.7234	17597	N/A
190-21490-a-1-c msd	UNK	11/12/19 03:11:38 pm	4.8449	18034	N/A
190-21490-a-2-a	UNK	11/12/19 03:16:27 pm	2.2793	8801	N/A
190-21490-a-3-a	UNK	11/12/19 03:21:16 pm	2.5425	9749	N/A
190-21484-f-2-a	UNK	11/12/19 03:26:05 pm	0.2663	1557	N/A
190-21484-a-3-a	UNK	11/12/19 03:30:54 pm	0.1741	1225	N/A
440-253754-d-1-a	UNK	11/12/19 03:35:44 pm	1.1151	4612	N/A
440-253754-d-1-b ms	UNK	11/12/19 03:40:34 pm	5.1334	19072	N/A

Sample Name	Type	Date/Time	Conc (ng/L)	hF U	Residual	% Recovery
440-253754-d-1-c msd	UNK	11/12/19 03:45:24 pm	5.2655	19548		N/A
440-253854-h-1-a	UNK	11/12/19 03:50:13 pm	3.4297	12941		N/A
600-195291-a-1-a@10	UNK	11/12/19 03:55:02 pm	6.0130	22238		N/A
600-195291-a-2-a	UNK	11/12/19 03:59:51 pm	0.2974	1669		N/A
600-195292-a-1-a	UNK	11/12/19 04:04:40 pm	0.7950	3460		N/A
600-195292-a-2-a	UNK	11/12/19 04:09:29 pm	0.2334	1439		N/A
280-130502-b-2-a	UNK	11/12/19 04:14:18 pm	1.4030	5648		N/A
720-95936-h-1-a	UNK	11/12/19 04:19:07 pm	0.1788	1243		N/A
720-95936-g-4-a	UNK	11/12/19 04:23:56 pm	0.5131	2445		N/A
180-98297-m-1-a@40	UNK	11/12/19 04:28:46 pm	6.7505	24891		N/A
180-98297-j-2-a	UNK	11/12/19 04:33:35 pm	0.2365	1450		N/A
1.0 mL RSDB	UNK	11/12/19 04:38:24 pm	0.6919	3089		N/A
CCV	CCV	11/12/19 04:43:12 pm	4.3852	16380		87.70
CCB	CCB	11/12/19 04:48:01 pm	0.1639	1189		N/A

Eurofins TestAmerica Canton Low Level Mercury Method 1631E Data Review Checklist

CCB Reagent ID: 60014

Analysis Date: 11/12/19 Analyst: AJC Instrument: H8

ICAL Analysis Date: 9/27/19 ICAL Prep Batch: 405319 Analytical Batch: 410613

Review Items

A. Calibration/Instrument Run QC
1. Instrument calibrated per manufacturer's instructions and at SOP specified levels (including 3 initial calibration blanks).
2. ICV/CCV analyzed ≤ 12 hours and within acceptance criteria.
3. ICB/CCB analyzed ≤ 12 hours and within acceptance criteria.
B. Sample Results
1. Samples with concentrations > high calibration standard diluted and reanalyzed.
2. Sample analyses done within holding time.
C. Preparation/Matrix QC
1. Samples preserved within holding time.
2. LCS performed per prep batch and within acceptance criteria.
3. Method blank performed per prep batch and within acceptance criteria.
4. MS performed at required frequency and evaluated.
5. MSD or DU run at required frequency and evaluated.
D. Other
1. All nonconformances documented appropriately in the LIMS.
2. All client/ project specific requirements met.
3. Date of analysis verified as correct.
4. Calculations checked for error.
E. Re-analysis indicators (If the following are not true, reanalysis is performed)
1. Laboratory duplicates demonstrate agreement and/or confirmed.
2. Field duplicates demonstrate agreement and/or confirmed (when identifiable).
3. Field-generated blanks confirmed if > RL.
4. Dilutions demonstrate agreement with the initial analysis.

Level I Reviewer: Alex Lebar Date: 11/13/19 Time: 9:24-16:48

Level I Reviewer: _____ Date: _____ Time: _____

Level II Reviewer: [signature] Date: 11-13-19 Time: 9:24 - 16:48

Level II Reviewer: _____ Date: _____ Time: _____

Comments: _____

WI-NC-086

Subcontract Data

Shipping and Receiving Documents

• 2 of 2 ID on container FEFF1 - Filtered so 11/8/19
* 2 of 2 ID on container CEFF - Filtered so 11/8/19
* out of temp so 11/8/19
** ID missing on ~~some containers~~ CoC so 11/8/19

CHAIN OF CUSTODY RECORD

COC NO.: 59371

Address: 2055 Niagara Falls Blvd PAGE ___ OF ___
Phone: 716-297-6150 Fax:

Project No/ Phase/Task Code: 11187072	Laboratory Name: Eurofins / Test America	Lab Location: Sacramento	SSOW ID:
Project Name: San Jacinto	Lab Contact: Carrie Gamber / Beth Hitt		Cooler No:
Project Location: Texas			Carrier:
GHD Chemistry Contact: Debbie Brennan			Airbill No:
Sampler(s): Don Pape			Total # of Containers: 19

Item	Sample Identification (Containers for each sample may be combined on one line)	Date (mm/dd/yy)	Time (hh:mm)	Matrix Code (see back of COC)	Grab (G) or Comp (C)	Filtered (Y/N)	Dissolved Metals	Total Metals	Total Containers/sample	MS/MSD Request	Comments/ Special Instructions:
	PRESERVATION - (SEE BACK OF COC FOR ABBREVIATIONS)										
* 1	FEFF-Filtered	11/5/19	14:00	WG			X	X			*Attn to Carrie Gamber
* 2	CEFF-Filtered	⊥	⊥				X	X			412-963-2428
3	11187072-CEFF-pH10-CON	11/5/19	15:00					X			
4	-5MG	⊥	⊥					X			*Dissolved Samples Have
5	-10MG	⊥	⊥					X			Been Filtered.
6	11187072-CEFF-CON	11/6/19	9:00					X			
7	-5MG	⊥	⊥					X			
8	-10MG	⊥	⊥					X			
9	11187072-CEFF-CON-POST	11/7/19	14:00				X	X	X		
10	-5MG-POST	⊥	⊥				X	X	X		
11	-10MG POST	⊥	⊥				X	X	X		
12											

320-56102 Chain of Custody

TAT Required in business days (use separate COCs for different TATs):
☐ 1 Day ☐ 2 Days ☐ 3 Days ☑ 1 Week ☐ 2 Week ☐ Other:

Notes/ Special Requirements:

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1. Don Pape	GHD	11/7/19	15:30	1. [signature]	eta sac	11/08/19	900
2.				2.			
3.				3.			

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT – ALL FIELDS MUST BE COMPLETED ACCURATELY

7.6°C

Distribution: WHITE – Fully Executed Copy (CRA) YELLOW – Receiving Laboratory Copy PINK – Shipper GOLDENROD – Sampling Crew

GHD Form: COC-10B (20110804)

eurofins | Environment Testing TestAmerica

Sacramento
Sample Receiving Notes

320-56102 Field Sheet

Job:

Tracking # : 4576 5884 2835

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSO / OnTrac / Goldstreak / USPS / Other

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.
File in the job folder with the COC.

Notes: * NO TEMP BLANK PROVIDED. USED MULTIPLE SAMPLES TO MAKE TEMP. COOLER RECEIVED WITH THICK BUBBLE WRAP IN BETWEEN SAMPLES AND TWO BAGS OF ICE. BUBBLE WRAP WAS ALONG THE WALLS OF THE COOLER.
MAN 11/08/19

Therm. ID: IR STEM Corr. Factor: (+ / -) 0 °C

Ice ✓ Wet ____ Gel ____ Other ____

Cooler Custody Seal: –

Cooler ID: –

Temp Observed: * 7.6 °C Corrected: 7.6 °C
From: Temp Blank ☐ Sample ☑

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☐	☑	☐
CoC is complete w/o discrepancies? SO 11/8/19	☑	☑	☐
Samples received within holding time?	☑	☐	☐

Initials: MAN Date: 11/08/19

Unpacking/Labeling The Samples	Yes	No	NA
Samples compromised/tampered with?	☐	☑	☐
Sample containers have legible labels?	☑	☐	☐
Sample custody seal?	☐	☐	☑
Containers are not broken or leaking?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Samples w/o discrepancies?	☐	☑	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

Non-conformance	Yes	No	NA
NCM Filed?	☑	☐	☐

Initials: SO Date: 11/8/19

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

\\TACORP\CORP\QA\QA_FACILITIES\SACRAMENTO QA\DOCUMENT...

ORIGIN ID:DKKA (716) 297-2160
BRITT GEBHARDT
GHD
2055 NIAGARA FALLS BLVD

NIAGARA FALLS, NY 14304
UNITED STATES US

SHIP DATE: 07NOV19
ACTWGT: 40.00 LB MAN
CAD: 68417/CAFE3211

BILL SENDER

TO

TEST AMERICA/EUROFINS
880 RIVERSIDE PARKWAY

W. SACRAMENTO CA 95605
(916) 373-5600
REF: 11187072 - NI0402 GEB (POPE)

FedEx Express

FRI - 08 NOV 10:30A
PRIORITY OVERNIGHT

TRK# 0201 **4576 5884 2835**

XH BLUA

95605
CA-US **SMF**

551C1/F330/104C

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 320-56102-1

Login Number: 56102
List Number: 1
Creator: Oropeza, Salvador

List Source: Eurofins TestAmerica, Sacramento

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	False	Cooler temperature outside required temperature criteria.
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

Job Number: 320-57624-1

Job Description: San Jacinto River Waste Pits Superfund

For:
GHD Services Inc.
5551 Corporate Boulevard
Suite 200
Baton Rouge, LA 70808

Attention: Janie Smith

Approved for release.
Carrie L Gamber
Senior Project Manager
5/19/2020 12:58 PM

Carrie L Gamber, Senior Project Manager
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2428
carrie.gamber@testamericainc.com
05/19/2020
Revision: 1

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Eurofins TestAmerica, Sacramento
880 Riverside Parkway, West Sacramento, CA 95605
Tel (916) 373-5600 Fax (916) 372-1059 www.testamericainc.com

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Qualifiers

Dioxin

Qualifier	Qualifier Description
*	Isotope Dilution analyte is outside acceptance limits.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE

Client: GHD Services Inc.

Project: San Jacinto River Waste Pits Superfund

Report Number: 320-57624-1 REVISED

NOTE: Per the client's request, the TEQ summaries have been removed from this report.

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 01/10/2020; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 7.5 C.

Upon receipt of the cooler, there was no taped binding the cooler shut. The samples do not look like they were touched or tampered with: 11187072-FEFF-0.1um (320-57624-1), 11187072-FEFF-0.45um (320-57624-2) and 11187072-FEFF-1um (320-57624-3)

The following samples were received at the laboratory outside the required temperature criteria 7.7C/7.5C 11187072-FEFF-0.1um (320-57624-1), 11187072-FEFF-0.45um (320-57624-2) and 11187072-FEFF-1um (320-57624-3).

NOTE: Results for non-detect PCDD/PCDF analytes are reported using the Estimated Detection Limit (EDL) convention, which provides the lowest possible detection limits for each analyte in each sample based on the magnitude of chromatographic and detector ‘noise’ at the expected retention time of each analyte. EDL values are typically well below 1 pg/g, and the TEQ-weighted sum of EDL values is below the targeted action limit of 30 pg/g in each reported sample.

DIOXINS

The following water samples were filtered by the client prior to shipping samples to Eurofins TestAmerica. Thus, Method 1613's requirements for filtration and extraction of the particulate material was not applicable to these samples: 11187072-FEFF-0.1um (320-57624-1), 11187072-FEFF-0.45um (320-57624-2) and 11187072-FEFF-1um (320-57624-3).

Several analytes were detected in method blank MB 320-350417/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

Detection Summary

Client: GHD Services Inc.
Job ID: 320-57624-1
Project/Site: San Jacinto River Waste Pits Superfund

Client Sample ID: 11187072-FEFF-0.1um — Lab Sample ID: 320-57624-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	1.8	J B	49	0.31	pg/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.50	J q	49	0.32	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	1.7	J B	49	0.20	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.95	J q B	49	0.24	pg/L	1		1613B	Total/NA
OCDD	14	J B	97	0.34	pg/L	1		1613B	Total/NA
OCDF	2.1	J	97	0.41	pg/L	1		1613B	Total/NA
Total HxCDD	1.8	J B	49	0.31	pg/L	1		1613B	Total/NA
Total HxCDF	0.50	J q	49	0.41	pg/L	1		1613B	Total/NA
Total HpCDD	3.2	J q B	49	0.20	pg/L	1		1613B	Total/NA
Total HpCDF	0.95	J q B	49	0.25	pg/L	1		1613B	Total/NA

Client Sample ID: 11187072-FEFF-0.45um — Lab Sample ID: 320-57624-2

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	1.6	J B	47	0.27	pg/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.50	J	47	0.26	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.72	J B	47	0.21	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.52	J q B	47	0.16	pg/L	1		1613B	Total/NA
OCDD	3.6	J B	95	0.39	pg/L	1		1613B	Total/NA
OCDF	1.0	J q	95	0.44	pg/L	1		1613B	Total/NA
Total HxCDD	2.1	J B	47	0.28	pg/L	1		1613B	Total/NA
Total HpCDD	0.72	J B	47	0.21	pg/L	1		1613B	Total/NA
Total HpCDF	0.52	J q B	47	0.18	pg/L	1		1613B	Total/NA

Client Sample ID: 11187072-FEFF-1um — Lab Sample ID: 320-57624-3

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	1.8	J B	47	0.28	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	1.1	J B	47	0.22	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.51	J q B	47	0.24	pg/L	1		1613B	Total/NA
OCDD	9.3	J B	95	0.37	pg/L	1		1613B	Total/NA
OCDF	1.5	J	95	0.36	pg/L	1		1613B	Total/NA
Total HxCDD	1.8	J B	47	0.28	pg/L	1		1613B	Total/NA
Total HpCDD	2.5	J B	47	0.22	pg/L	1		1613B	Total/NA
Total HpCDF	0.51	J q B	47	0.27	pg/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 320-57624-1

Client Sample ID: 11187072-FEFF-0.1um

Date Collected: 01/09/20 12:00
Date Received: 01/10/20 09:15

Lab Sample ID: 320-57624-1

Matrix: Water

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		9.7	0.48	pg/L		01/13/20 11:12	01/14/20 04:26	1
2,3,7,8-TCDF	ND		9.7	0.24	pg/L		01/13/20 11:12	01/14/20 04:26	1
1,2,3,7,8-PeCDD	ND		49	0.35	pg/L		01/13/20 11:12	01/14/20 04:26	1
1,2,3,7,8-PeCDF	ND		49	0.32	pg/L		01/13/20 11:12	01/14/20 04:26	1
2,3,4,7,8-PeCDF	ND		49	0.35	pg/L		01/13/20 11:12	01/14/20 04:26	1
1,2,3,4,7,8-HxCDD	**1.8**	**J B**	49	0.31	pg/L		01/13/20 11:12	01/14/20 04:26	1
1,2,3,6,7,8-HxCDD	ND		49	0.33	pg/L		01/13/20 11:12	01/14/20 04:26	1
1,2,3,7,8,9-HxCDD	ND		49	0.29	pg/L		01/13/20 11:12	01/14/20 04:26	1
1,2,3,4,7,8-HxCDF	ND		49	0.50	pg/L		01/13/20 11:12	01/14/20 04:26	1
1,2,3,6,7,8-HxCDF	ND		49	0.50	pg/L		01/13/20 11:12	01/14/20 04:26	1
1,2,3,7,8,9-HxCDF	**0.50**	**J q**	49	0.32	pg/L		01/13/20 11:12	01/14/20 04:26	1
2,3,4,6,7,8-HxCDF	ND		49	0.34	pg/L		01/13/20 11:12	01/14/20 04:26	1
1,2,3,4,6,7,8-HpCDD	**1.7**	**J B**	49	0.20	pg/L		01/13/20 11:12	01/14/20 04:26	1
1,2,3,4,6,7,8-HpCDF	**0.95**	**J q B**	49	0.24	pg/L		01/13/20 11:12	01/14/20 04:26	1
1,2,3,4,7,8,9-HpCDF	ND		49	0.27	pg/L		01/13/20 11:12	01/14/20 04:26	1
OCDD	**14**	**J B**	97	0.34	pg/L		01/13/20 11:12	01/14/20 04:26	1
OCDF	**2.1**	**J**	97	0.41	pg/L		01/13/20 11:12	01/14/20 04:26	1
Total TCDD	ND		9.7	0.48	pg/L		01/13/20 11:12	01/14/20 04:26	1
Total TCDF	ND		9.7	0.24	pg/L		01/13/20 11:12	01/14/20 04:26	1
Total PeCDD	ND		49	0.35	pg/L		01/13/20 11:12	01/14/20 04:26	1
Total PeCDF	ND		49	0.43	pg/L		01/13/20 11:12	01/14/20 04:26	1
Total HxCDD	**1.8**	**J B**	49	0.31	pg/L		01/13/20 11:12	01/14/20 04:26	1
Total HxCDF	**0.50**	**J q**	49	0.41	pg/L		01/13/20 11:12	01/14/20 04:26	1
Total HpCDD	**3.2**	**J q B**	49	0.20	pg/L		01/13/20 11:12	01/14/20 04:26	1
Total HpCDF	**0.95**	**J q B**	49	0.25	pg/L		01/13/20 11:12	01/14/20 04:26	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*89*		*25 - 164*	*01/13/20 11:12*	*01/14/20 04:26*	*1*
13C-2,3,7,8-TCDF	*90*		*24 - 169*	*01/13/20 11:12*	*01/14/20 04:26*	*1*
13C-1,2,3,7,8-PeCDD	*93*		*25 - 181*	*01/13/20 11:12*	*01/14/20 04:26*	*1*
13C-1,2,3,7,8-PeCDF	*93*		*24 - 185*	*01/13/20 11:12*	*01/14/20 04:26*	*1*
13C-2,3,4,7,8-PeCDF	*93*		*21 - 178*	*01/13/20 11:12*	*01/14/20 04:26*	*1*
13C-1,2,3,4,7,8-HxCDD	*93*		*32 - 141*	*01/13/20 11:12*	*01/14/20 04:26*	*1*
13C-1,2,3,6,7,8-HxCDD	*78*		*28 - 130*	*01/13/20 11:12*	*01/14/20 04:26*	*1*
13C-1,2,3,4,7,8-HxCDF	*85*		*26 - 152*	*01/13/20 11:12*	*01/14/20 04:26*	*1*
13C-1,2,3,6,7,8-HxCDF	*75*		*26 - 123*	*01/13/20 11:12*	*01/14/20 04:26*	*1*
13C-1,2,3,7,8,9-HxCDF	*89*		*29 - 147*	*01/13/20 11:12*	*01/14/20 04:26*	*1*
13C-2,3,4,6,7,8-HxCDF	*85*		*28 - 136*	*01/13/20 11:12*	*01/14/20 04:26*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*85*		*23 - 140*	*01/13/20 11:12*	*01/14/20 04:26*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*79*		*28 - 143*	*01/13/20 11:12*	*01/14/20 04:26*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*91*		*26 - 138*	*01/13/20 11:12*	*01/14/20 04:26*	*1*
13C-OCDD	*82*		*17 - 157*	*01/13/20 11:12*	*01/14/20 04:26*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*103*		*35 - 197*	*01/13/20 11:12*	*01/14/20 04:26*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 320-57624-1

Client Sample ID: 11187072-FEFF-0.45um

Date Collected: 01/09/20 12:00
Date Received: 01/10/20 09:15

Lab Sample ID: 320-57624-2

Matrix: Water

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		9.5	0.41	pg/L		01/13/20 11:12	01/14/20 05:12	1
2,3,7,8-TCDF	ND		9.5	0.21	pg/L		01/13/20 11:12	01/14/20 05:12	1
1,2,3,7,8-PeCDD	ND		47	0.40	pg/L		01/13/20 11:12	01/14/20 05:12	1
1,2,3,7,8-PeCDF	ND		47	0.33	pg/L		01/13/20 11:12	01/14/20 05:12	1
2,3,4,7,8-PeCDF	ND		47	0.33	pg/L		01/13/20 11:12	01/14/20 05:12	1
1,2,3,4,7,8-HxCDD	**1.6**	**J B**	47	0.27	pg/L		01/13/20 11:12	01/14/20 05:12	1
1,2,3,6,7,8-HxCDD	ND		47	0.30	pg/L		01/13/20 11:12	01/14/20 05:12	1
1,2,3,7,8,9-HxCDD	**0.50**	**J**	47	0.26	pg/L		01/13/20 11:12	01/14/20 05:12	1
1,2,3,4,7,8-HxCDF	ND		47	0.41	pg/L		01/13/20 11:12	01/14/20 05:12	1
1,2,3,6,7,8-HxCDF	ND		47	0.42	pg/L		01/13/20 11:12	01/14/20 05:12	1
1,2,3,7,8,9-HxCDF	ND		47	0.30	pg/L		01/13/20 11:12	01/14/20 05:12	1
2,3,4,6,7,8-HxCDF	ND		47	0.31	pg/L		01/13/20 11:12	01/14/20 05:12	1
1,2,3,4,6,7,8-HpCDD	**0.72**	**J B**	47	0.21	pg/L		01/13/20 11:12	01/14/20 05:12	1
1,2,3,4,6,7,8-HpCDF	**0.52**	**J q B**	47	0.16	pg/L		01/13/20 11:12	01/14/20 05:12	1
1,2,3,4,7,8,9-HpCDF	ND		47	0.20	pg/L		01/13/20 11:12	01/14/20 05:12	1
OCDD	**3.6**	**J B**	95	0.39	pg/L		01/13/20 11:12	01/14/20 05:12	1
OCDF	**1.0**	**J q**	95	0.44	pg/L		01/13/20 11:12	01/14/20 05:12	1
Total TCDD	ND		9.5	0.41	pg/L		01/13/20 11:12	01/14/20 05:12	1
Total TCDF	ND		9.5	0.21	pg/L		01/13/20 11:12	01/14/20 05:12	1
Total PeCDD	ND		47	0.40	pg/L		01/13/20 11:12	01/14/20 05:12	1
Total PeCDF	ND		47	0.33	pg/L		01/13/20 11:12	01/14/20 05:12	1
Total HxCDD	**2.1**	**J B**	47	0.28	pg/L		01/13/20 11:12	01/14/20 05:12	1
Total HxCDF	ND		47	0.42	pg/L		01/13/20 11:12	01/14/20 05:12	1
Total HpCDD	**0.72**	**J B**	47	0.21	pg/L		01/13/20 11:12	01/14/20 05:12	1
Total HpCDF	**0.52**	**J q B**	47	0.18	pg/L		01/13/20 11:12	01/14/20 05:12	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*82*		*25 - 164*	*01/13/20 11:12*	*01/14/20 05:12*	*1*
13C-2,3,7,8-TCDF	*82*		*24 - 169*	*01/13/20 11:12*	*01/14/20 05:12*	*1*
13C-1,2,3,7,8-PeCDD	*87*		*25 - 181*	*01/13/20 11:12*	*01/14/20 05:12*	*1*
13C-1,2,3,7,8-PeCDF	*86*		*24 - 185*	*01/13/20 11:12*	*01/14/20 05:12*	*1*
13C-2,3,4,7,8-PeCDF	*94*		*21 - 178*	*01/13/20 11:12*	*01/14/20 05:12*	*1*
13C-1,2,3,4,7,8-HxCDD	*92*		*32 - 141*	*01/13/20 11:12*	*01/14/20 05:12*	*1*
13C-1,2,3,6,7,8-HxCDD	*78*		*28 - 130*	*01/13/20 11:12*	*01/14/20 05:12*	*1*
13C-1,2,3,4,7,8-HxCDF	*86*		*26 - 152*	*01/13/20 11:12*	*01/14/20 05:12*	*1*
13C-1,2,3,6,7,8-HxCDF	*75*		*26 - 123*	*01/13/20 11:12*	*01/14/20 05:12*	*1*
13C-1,2,3,7,8,9-HxCDF	*81*		*29 - 147*	*01/13/20 11:12*	*01/14/20 05:12*	*1*
13C-2,3,4,6,7,8-HxCDF	*78*		*28 - 136*	*01/13/20 11:12*	*01/14/20 05:12*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*82*		*23 - 140*	*01/13/20 11:12*	*01/14/20 05:12*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*79*		*28 - 143*	*01/13/20 11:12*	*01/14/20 05:12*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*86*		*26 - 138*	*01/13/20 11:12*	*01/14/20 05:12*	*1*
13C-OCDD	*80*		*17 - 157*	*01/13/20 11:12*	*01/14/20 05:12*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*98*		*35 - 197*	*01/13/20 11:12*	*01/14/20 05:12*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 320-57624-1

Client Sample ID: 11187072-FEFF-1um

Date Collected: 01/09/20 12:00
Date Received: 01/10/20 09:15

Lab Sample ID: 320-57624-3

Matrix: Water

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		9.5	0.40	pg/L		01/13/20 11:12	01/14/20 05:58	1
2,3,7,8-TCDF	ND		9.5	0.22	pg/L		01/13/20 11:12	01/14/20 05:58	1
1,2,3,7,8-PeCDD	ND		47	0.40	pg/L		01/13/20 11:12	01/14/20 05:58	1
1,2,3,7,8-PeCDF	ND		47	0.25	pg/L		01/13/20 11:12	01/14/20 05:58	1
2,3,4,7,8-PeCDF	ND		47	0.26	pg/L		01/13/20 11:12	01/14/20 05:58	1
1,2,3,4,7,8-HxCDD	**1.8**	**J B**	47	0.28	pg/L		01/13/20 11:12	01/14/20 05:58	1
1,2,3,6,7,8-HxCDD	ND		47	0.30	pg/L		01/13/20 11:12	01/14/20 05:58	1
1,2,3,7,8,9-HxCDD	ND		47	0.26	pg/L		01/13/20 11:12	01/14/20 05:58	1
1,2,3,4,7,8-HxCDF	ND		47	0.40	pg/L		01/13/20 11:12	01/14/20 05:58	1
1,2,3,6,7,8-HxCDF	ND		47	0.41	pg/L		01/13/20 11:12	01/14/20 05:58	1
1,2,3,7,8,9-HxCDF	ND		47	0.29	pg/L		01/13/20 11:12	01/14/20 05:58	1
2,3,4,6,7,8-HxCDF	ND		47	0.30	pg/L		01/13/20 11:12	01/14/20 05:58	1
1,2,3,4,6,7,8-HpCDD	**1.1**	**J B**	47	0.22	pg/L		01/13/20 11:12	01/14/20 05:58	1
1,2,3,4,6,7,8-HpCDF	**0.51**	**J q B**	47	0.24	pg/L		01/13/20 11:12	01/14/20 05:58	1
1,2,3,4,7,8,9-HpCDF	ND		47	0.29	pg/L		01/13/20 11:12	01/14/20 05:58	1
OCDD	**9.3**	**J B**	95	0.37	pg/L		01/13/20 11:12	01/14/20 05:58	1
OCDF	**1.5**	**J**	95	0.36	pg/L		01/13/20 11:12	01/14/20 05:58	1
Total TCDD	ND		9.5	0.40	pg/L		01/13/20 11:12	01/14/20 05:58	1
Total TCDF	ND		9.5	0.22	pg/L		01/13/20 11:12	01/14/20 05:58	1
Total PeCDD	ND		47	0.40	pg/L		01/13/20 11:12	01/14/20 05:58	1
Total PeCDF	ND		47	0.30	pg/L		01/13/20 11:12	01/14/20 05:58	1
Total HxCDD	**1.8**	**J B**	47	0.28	pg/L		01/13/20 11:12	01/14/20 05:58	1
Total HxCDF	ND		47	0.41	pg/L		01/13/20 11:12	01/14/20 05:58	1
Total HpCDD	**2.5**	**J B**	47	0.22	pg/L		01/13/20 11:12	01/14/20 05:58	1
Total HpCDF	**0.51**	**J q B**	47	0.27	pg/L		01/13/20 11:12	01/14/20 05:58	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*80*		*25 - 164*	*01/13/20 11:12*	*01/14/20 05:58*	*1*
13C-2,3,7,8-TCDF	*81*		*24 - 169*	*01/13/20 11:12*	*01/14/20 05:58*	*1*
13C-1,2,3,7,8-PeCDD	*85*		*25 - 181*	*01/13/20 11:12*	*01/14/20 05:58*	*1*
13C-1,2,3,7,8-PeCDF	*85*		*24 - 185*	*01/13/20 11:12*	*01/14/20 05:58*	*1*
13C-2,3,4,7,8-PeCDF	*92*		*21 - 178*	*01/13/20 11:12*	*01/14/20 05:58*	*1*
13C-1,2,3,4,7,8-HxCDD	*91*		*32 - 141*	*01/13/20 11:12*	*01/14/20 05:58*	*1*
13C-1,2,3,6,7,8-HxCDD	*77*		*28 - 130*	*01/13/20 11:12*	*01/14/20 05:58*	*1*
13C-1,2,3,4,7,8-HxCDF	*84*		*26 - 152*	*01/13/20 11:12*	*01/14/20 05:58*	*1*
13C-1,2,3,6,7,8-HxCDF	*74*		*26 - 123*	*01/13/20 11:12*	*01/14/20 05:58*	*1*
13C-1,2,3,7,8,9-HxCDF	*79*		*29 - 147*	*01/13/20 11:12*	*01/14/20 05:58*	*1*
13C-2,3,4,6,7,8-HxCDF	*78*		*28 - 136*	*01/13/20 11:12*	*01/14/20 05:58*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*79*		*23 - 140*	*01/13/20 11:12*	*01/14/20 05:58*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*77*		*28 - 143*	*01/13/20 11:12*	*01/14/20 05:58*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*87*		*26 - 138*	*01/13/20 11:12*	*01/14/20 05:58*	*1*
13C-OCDD	*76*		*17 - 157*	*01/13/20 11:12*	*01/14/20 05:58*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*97*		*35 - 197*	*01/13/20 11:12*	*01/14/20 05:58*	*1*

Default Detection Limits

Client: GHD Services Inc.
Job ID: 320-57624-1
Project/Site: San Jacinto River Waste Pits Superfund

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Prep: 1613B

Analyte	RL		Units
1,2,3,4,6,7,8-HpCDD	50		pg/L
1,2,3,4,6,7,8-HpCDF	50		pg/L
1,2,3,4,7,8,9-HpCDF	50		pg/L
1,2,3,4,7,8-HxCDD	50		pg/L
1,2,3,4,7,8-HxCDF	50		pg/L
1,2,3,6,7,8-HxCDD	50		pg/L
1,2,3,6,7,8-HxCDF	50		pg/L
1,2,3,7,8,9-HxCDD	50		pg/L
1,2,3,7,8,9-HxCDF	50		pg/L
1,2,3,7,8-PeCDD	50		pg/L
1,2,3,7,8-PeCDF	50		pg/L
2,3,4,6,7,8-HxCDF	50		pg/L
2,3,4,7,8-PeCDF	50		pg/L
2,3,7,8-TCDD	10		pg/L
2,3,7,8-TCDF	10		pg/L
OCDD	100		pg/L
OCDF	100		pg/L
Total HpCDD	50		pg/L
Total HpCDF	50		pg/L
Total HxCDD	50		pg/L
Total HxCDF	50		pg/L
Total PeCDD	50		pg/L
Total PeCDF	50		pg/L
Total TCDD	10		pg/L
Total TCDF	10		pg/L

Surrogate Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 320-57624-1

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	**Client Sample ID**	**37TCDD (35-197)**							
320-57624-1	11187072-FEFF-0.1um	103							
320-57624-2	11187072-FEFF-0.45um	98							
320-57624-3	11187072-FEFF-1um	97							
MB 320-350417/1-A	Method Blank	102							

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	**Client Sample ID**	**37TCDD (31-191)**							
LCS 320-350417/2-A	Lab Control Sample	101							
LCSD 320-350417/3-A	Lab Control Sample Dup	103							

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 320-57624-1

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
320-57624-1	11187072-FEFF-0.1um	89	90	93	93	93	93	78	85
320-57624-2	11187072-FEFF-0.45um	82	82	87	86	94	92	78	86
320-57624-3	11187072-FEFF-1um	80	81	85	85	92	91	77	84
MB 320-350417/1-A	Method Blank	89	91	95	95	104	101	84	94

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)
320-57624-1	11187072-FEFF-0.1um	75	89	85	85	79	91	82
320-57624-2	11187072-FEFF-0.45um	75	81	78	82	79	86	80
320-57624-3	11187072-FEFF-1um	74	79	78	79	77	87	76
MB 320-350417/1-A	Method Blank	83	88	89	82	84	87	76

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-350417/2-A	Lab Control Sample	82	85	89	89	92	84	74	77
LCSD 320-350417/3-A	Lab Control Sample Dup	89	91	95	94	103	102	81	90

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)
LCS 320-350417/2-A	Lab Control Sample	71	81	80	74	72	81	71
LCSD 320-350417/3-A	Lab Control Sample Dup	80	88	86	85	82	90	79

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD

Isotope Dilution Summary

Client: GHD Services Inc.

Job ID: 320-57624-1

Project/Site: San Jacinto River Waste Pits Superfund

HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-350417/1-A
Matrix: Water
Analysis Batch: 350523

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 350417

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		10	0.64	pg/L		01/13/20 11:12	01/14/20 02:08	1
2,3,7,8-TCDF	ND		10	0.39	pg/L		01/13/20 11:12	01/14/20 02:08	1
1,2,3,7,8-PeCDD	ND		50	0.49	pg/L		01/13/20 11:12	01/14/20 02:08	1
1,2,3,7,8-PeCDF	ND		50	0.33	pg/L		01/13/20 11:12	01/14/20 02:08	1
2,3,4,7,8-PeCDF	ND		50	0.33	pg/L		01/13/20 11:12	01/14/20 02:08	1
1,2,3,4,7,8-HxCDD	1.64	J	50	0.37	pg/L		01/13/20 11:12	01/14/20 02:08	1
1,2,3,6,7,8-HxCDD	ND		50	0.40	pg/L		01/13/20 11:12	01/14/20 02:08	1
1,2,3,7,8,9-HxCDD	ND		50	0.35	pg/L		01/13/20 11:12	01/14/20 02:08	1
1,2,3,4,7,8-HxCDF	ND		50	0.50	pg/L		01/13/20 11:12	01/14/20 02:08	1
1,2,3,6,7,8-HxCDF	ND		50	0.51	pg/L		01/13/20 11:12	01/14/20 02:08	1
1,2,3,7,8,9-HxCDF	ND		50	0.36	pg/L		01/13/20 11:12	01/14/20 02:08	1
2,3,4,6,7,8-HxCDF	ND		50	0.36	pg/L		01/13/20 11:12	01/14/20 02:08	1
1,2,3,4,6,7,8-HpCDD	0.722	J q	50	0.32	pg/L		01/13/20 11:12	01/14/20 02:08	1
1,2,3,4,6,7,8-HpCDF	0.595	J	50	0.27	pg/L		01/13/20 11:12	01/14/20 02:08	1
1,2,3,4,7,8,9-HpCDF	ND		50	0.32	pg/L		01/13/20 11:12	01/14/20 02:08	1
OCDD	4.78	J	100	0.42	pg/L		01/13/20 11:12	01/14/20 02:08	1
OCDF	ND		100	0.63	pg/L		01/13/20 11:12	01/14/20 02:08	1
Total TCDD	ND		10	0.64	pg/L		01/13/20 11:12	01/14/20 02:08	1
Total TCDF	ND		10	0.39	pg/L		01/13/20 11:12	01/14/20 02:08	1
Total PeCDD	ND		50	0.49	pg/L		01/13/20 11:12	01/14/20 02:08	1
Total PeCDF	ND		50	0.45	pg/L		01/13/20 11:12	01/14/20 02:08	1
Total HxCDD	1.64	J	50	0.37	pg/L		01/13/20 11:12	01/14/20 02:08	1
Total HxCDF	ND		50	0.51	pg/L		01/13/20 11:12	01/14/20 02:08	1
Total HpCDD	1.69	J q	50	0.32	pg/L		01/13/20 11:12	01/14/20 02:08	1
Total HpCDF	0.595	J	50	0.29	pg/L		01/13/20 11:12	01/14/20 02:08	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*89*		*25 - 164*	*01/13/20 11:12*	*01/14/20 02:08*	*1*
13C-2,3,7,8-TCDF	*91*		*24 - 169*	*01/13/20 11:12*	*01/14/20 02:08*	*1*
13C-1,2,3,7,8-PeCDD	*95*		*25 - 181*	*01/13/20 11:12*	*01/14/20 02:08*	*1*
13C-1,2,3,7,8-PeCDF	*95*		*24 - 185*	*01/13/20 11:12*	*01/14/20 02:08*	*1*
13C-2,3,4,7,8-PeCDF	*104*		*21 - 178*	*01/13/20 11:12*	*01/14/20 02:08*	*1*
13C-1,2,3,4,7,8-HxCDD	*101*		*32 - 141*	*01/13/20 11:12*	*01/14/20 02:08*	*1*
13C-1,2,3,6,7,8-HxCDD	*84*		*28 - 130*	*01/13/20 11:12*	*01/14/20 02:08*	*1*
13C-1,2,3,4,7,8-HxCDF	*94*		*26 - 152*	*01/13/20 11:12*	*01/14/20 02:08*	*1*
13C-1,2,3,6,7,8-HxCDF	*83*		*26 - 123*	*01/13/20 11:12*	*01/14/20 02:08*	*1*
13C-1,2,3,7,8,9-HxCDF	*88*		*29 - 147*	*01/13/20 11:12*	*01/14/20 02:08*	*1*
13C-2,3,4,6,7,8-HxCDF	*89*		*28 - 136*	*01/13/20 11:12*	*01/14/20 02:08*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*82*		*23 - 140*	*01/13/20 11:12*	*01/14/20 02:08*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*84*		*28 - 143*	*01/13/20 11:12*	*01/14/20 02:08*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*87*		*26 - 138*	*01/13/20 11:12*	*01/14/20 02:08*	*1*
13C-OCDD	*76*		*17 - 157*	*01/13/20 11:12*	*01/14/20 02:08*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*102*		*35 - 197*	*01/13/20 11:12*	*01/14/20 02:08*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-350417/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 350523 **Prep Batch: 350417**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	200	198		pg/L		99	67 - 158
2,3,7,8-TCDF	200	188		pg/L		94	75 - 158
1,2,3,7,8-PeCDD	1000	1020		pg/L		102	70 - 142
1,2,3,7,8-PeCDF	1000	986		pg/L		99	80 - 134
2,3,4,7,8-PeCDF	1000	906		pg/L		91	68 - 160
1,2,3,4,7,8-HxCDD	1000	910		pg/L		91	70 - 164
1,2,3,6,7,8-HxCDD	1000	981		pg/L		98	76 - 134
1,2,3,7,8,9-HxCDD	1000	1020		pg/L		102	64 - 162
1,2,3,4,7,8-HxCDF	1000	868		pg/L		87	72 - 134
1,2,3,6,7,8-HxCDF	1000	927		pg/L		93	84 - 130
1,2,3,7,8,9-HxCDF	1000	942		pg/L		94	78 - 130
2,3,4,6,7,8-HxCDF	1000	917		pg/L		92	70 - 156
1,2,3,4,6,7,8-HpCDD	1000	1010		pg/L		101	70 - 140
1,2,3,4,6,7,8-HpCDF	1000	993		pg/L		99	82 - 122
1,2,3,4,7,8,9-HpCDF	1000	921		pg/L		92	78 - 138
OCDD	2000	1990		pg/L		100	78 - 144
OCDF	2000	1940		pg/L		97	63 - 170

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*82*		*20 - 175*
13C-2,3,7,8-TCDF	*85*		*22 - 152*
13C-1,2,3,7,8-PeCDD	*89*		*21 - 227*
13C-1,2,3,7,8-PeCDF	*89*		*21 - 192*
13C-2,3,4,7,8-PeCDF	*92*		*13 - 328*
13C-1,2,3,4,7,8-HxCDD	*84*		*21 - 193*
13C-1,2,3,6,7,8-HxCDD	*74*		*25 - 163*
13C-1,2,3,4,7,8-HxCDF	*77*		*19 - 202*
13C-1,2,3,6,7,8-HxCDF	*71*		*21 - 159*
13C-1,2,3,7,8,9-HxCDF	*81*		*17 - 205*
13C-2,3,4,6,7,8-HxCDF	*80*		*22 - 176*
13C-1,2,3,4,6,7,8-HpCDD	*74*		*26 - 166*
13C-1,2,3,4,6,7,8-HpCDF	*72*		*21 - 158*
13C-1,2,3,4,7,8,9-HpCDF	*81*		*20 - 186*
13C-OCDD	*71*		*13 - 199*

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
37Cl4-2,3,7,8-TCDD	*101*		*31 - 191*

Lab Sample ID: LCSD 320-350417/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 350523 **Prep Batch: 350417**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD	200	211		pg/L		106	67 - 158	7	50
2,3,7,8-TCDF	200	200		pg/L		100	75 - 158	6	50
1,2,3,7,8-PeCDD	1000	1100		pg/L		110	70 - 142	7	50
1,2,3,7,8-PeCDF	1000	1060		pg/L		106	80 - 134	7	50
2,3,4,7,8-PeCDF	1000	969		pg/L		97	68 - 160	7	50

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-350417/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 350523 **Prep Batch: 350417**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3,4,7,8-HxCDD			1000	973		pg/L		97	70 - 164	7	50
1,2,3,6,7,8-HxCDD			1000	1050		pg/L		105	76 - 134	7	50
1,2,3,7,8,9-HxCDD			1000	1040		pg/L		104	64 - 162	2	50
1,2,3,4,7,8-HxCDF			1000	937		pg/L		94	72 - 134	8	50
1,2,3,6,7,8-HxCDF			1000	995		pg/L		100	84 - 130	7	50
1,2,3,7,8,9-HxCDF			1000	1000		pg/L		100	78 - 130	6	50
2,3,4,6,7,8-HxCDF			1000	1010		pg/L		101	70 - 156	9	50
1,2,3,4,6,7,8-HpCDD			1000	1070		pg/L		107	70 - 140	6	50
1,2,3,4,6,7,8-HpCDF			1000	1060		pg/L		106	82 - 122	6	50
1,2,3,4,7,8,9-HpCDF			1000	984		pg/L		98	78 - 138	7	50
OCDD			2000	2100		pg/L		105	78 - 144	5	50
OCDF			2000	2070		pg/L		104	63 - 170	7	50

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*89*		*20 - 175*
13C-2,3,7,8-TCDF	*91*		*22 - 152*
13C-1,2,3,7,8-PeCDD	*95*		*21 - 227*
13C-1,2,3,7,8-PeCDF	*94*		*21 - 192*
13C-2,3,4,7,8-PeCDF	*103*		*13 - 328*
13C-1,2,3,4,7,8-HxCDD	*102*		*21 - 193*
13C-1,2,3,6,7,8-HxCDD	*81*		*25 - 163*
13C-1,2,3,4,7,8-HxCDF	*90*		*19 - 202*
13C-1,2,3,6,7,8-HxCDF	*80*		*21 - 159*
13C-1,2,3,7,8,9-HxCDF	*88*		*17 - 205*
13C-2,3,4,6,7,8-HxCDF	*86*		*22 - 176*
13C-1,2,3,4,6,7,8-HpCDD	*85*		*26 - 166*
13C-1,2,3,4,6,7,8-HpCDF	*82*		*21 - 158*
13C-1,2,3,4,7,8,9-HpCDF	*90*		*20 - 186*
13C-OCDD	*79*		*13 - 199*

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
37Cl4-2,3,7,8-TCDD	*103*		*31 - 191*

QC Association Summary

Client: GHD Services Inc.
Job ID: 320-57624-1
Project/Site: San Jacinto River Waste Pits Superfund

Specialty Organics

Prep Batch: 350417

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-57624-1	11187072-FEFF-0.1um	Total/NA	Water	1613B	
320-57624-2	11187072-FEFF-0.45um	Total/NA	Water	1613B	
320-57624-3	11187072-FEFF-1um	Total/NA	Water	1613B	
MB 320-350417/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-350417/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-350417/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 350523

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-57624-1	11187072-FEFF-0.1um	Total/NA	Water	1613B	350417
320-57624-2	11187072-FEFF-0.45um	Total/NA	Water	1613B	350417
320-57624-3	11187072-FEFF-1um	Total/NA	Water	1613B	350417
MB 320-350417/1-A	Method Blank	Total/NA	Water	1613B	350417
LCS 320-350417/2-A	Lab Control Sample	Total/NA	Water	1613B	350417
LCSD 320-350417/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	350417

Lab Chronicle

Client: GHD Services Inc.
Job ID: 320-57624-1
Project/Site: San Jacinto River Waste Pits Superfund

Client Sample ID: 11187072-FEFF-0.1um
Lab Sample ID: 320-57624-1

Date Collected: 01/09/20 12:00
Matrix: Water
Date Received: 01/10/20 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			350417	01/13/20 11:12	NIR	TAL SAC
Total/NA	Analysis	1613B		1	350523	01/14/20 04:26	SMA	TAL SAC

Client Sample ID: 11187072-FEFF-0.45um
Lab Sample ID: 320-57624-2

Date Collected: 01/09/20 12:00
Matrix: Water
Date Received: 01/10/20 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			350417	01/13/20 11:12	NIR	TAL SAC
Total/NA	Analysis	1613B		1	350523	01/14/20 05:12	SMA	TAL SAC

Client Sample ID: 11187072-FEFF-1um
Lab Sample ID: 320-57624-3

Date Collected: 01/09/20 12:00
Matrix: Water
Date Received: 01/10/20 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			350417	01/13/20 11:12	NIR	TAL SAC
Total/NA	Analysis	1613B		1	350523	01/14/20 05:58	SMA	TAL SAC

Laboratory References:

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GHD Services Inc.
Job ID: 320-57624-1
Project/Site: San Jacinto River Waste Pits Superfund

Laboratory: Eurofins TestAmerica, Sacramento

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704399	05-31-20

Laboratory: Eurofins TestAmerica, Pittsburgh

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704528-15-2	03-31-20

Method Summary

Client: GHD Services Inc.
Job ID: 320-57624-1
Project/Site: San Jacinto River Waste Pits Superfund

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	40CFR136A	TAL SAC
TEQ	Total TEQ Calculation	TAL SOP	TAL SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	40CFR136A	TAL SAC

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GHD Services Inc.
Job ID: 320-57624-1
Project/Site: San Jacinto River Waste Pits Superfund

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
320-57624-1	11187072-FEFF-0.1um	Water	01/09/20 12:00	01/10/20 09:15	
320-57624-2	11187072-FEFF-0.45um	Water	01/09/20 12:00	01/10/20 09:15	
320-57624-3	11187072-FEFF-1um	Water	01/09/20 12:00	01/10/20 09:15	

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Sacram Job No.: 320-57624-1

SDG No.:

Instrument ID: 10D5 Analysis Batch Number: 350523

Lab Sample ID: MB 320-350417/1-A Client Sample ID:

Date Analyzed: 01/14/20 02:08 Lab File ID: 13JA2010D5_18.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,6,7,8-HxCDD		Invalid Compound ID	dadunj	01/15/20 12:53
1,2,3,4,7,8-HxCDD	31.54	Split Peak	dadunj	01/15/20 12:53
1,2,3,4,6,7,8-HpCDF	33.63	Split Peak	dadunj	01/15/20 12:53
OCDD	36.71	Split Peak	dadunj	01/15/20 12:53

Lab Sample ID: 320-57624-1 Client Sample ID: 11187072-FEFF-0.1um

Date Analyzed: 01/14/20 04:26 Lab File ID: 13JA2010D5_21.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,6,7,8-HxCDD		Invalid Compound ID	dadunj	01/15/20 12:39
1,2,3,4,7,8-HxCDD	31.55	Split Peak	dadunj	01/15/20 12:39
1,2,3,4,6,7,8-HpCDF	33.63	Split Peak	dadunj	01/15/20 12:40
1,2,3,4,6,7,8-HpCDD	34.40	Split Peak	dadunj	01/15/20 12:40
OCDF	36.79	Split Peak	dadunj	01/15/20 12:40

Lab Sample ID: 320-57624-2 Client Sample ID: 11187072-FEFF-0.45um

Date Analyzed: 01/14/20 05:12 Lab File ID: 13JA2010D5_22.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,6,7,8-HxCDD		Invalid Compound ID	dadunj	01/15/20 12:42
1,2,3,4,7,8-HxCDD	31.55	Split Peak	dadunj	01/15/20 12:42
1,2,3,4,6,7,8-HpCDF	33.64	Split Peak	dadunj	01/15/20 12:42
1,2,3,4,6,7,8-HpCDD	34.42	Split Peak	dadunj	01/15/20 12:43
OCDD	36.71	Split Peak	dadunj	01/15/20 12:48
OCDF	36.81	Invalid Compound ID	dadunj	01/15/20 12:48

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Sacram Job No.: 320-57624-1

SDG No.:

Instrument ID: 10D5 Analysis Batch Number: 350523

Lab Sample ID: 320-57624-3 Client Sample ID: 11187072-FEFF-1um

Date Analyzed: 01/14/20 05:58 Lab File ID: 13JA2010D5_23.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,6,7,8-HxCDD		Invalid Compound ID	dadunj	01/15/20 12:50
1,2,3,4,7,8-HxCDD	31.54	Split Peak	dadunj	01/15/20 12:49
1,2,3,4,6,7,8-HpCDD	34.41	Baseline	dadunj	01/15/20 12:50
OCDF	36.79	Baseline	dadunj	01/15/20 12:50

1613B

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57624-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
HRDXNCP_00040	08/30/20	08/30/19	C14, Lot STBH7678	6 mL	HRDXNCP_00039	1.2 mL	1,2,3,4,6,7,9-HpCDD	40 pg/uL
							1,2,3,4,6,7-HxCDD	40 pg/uL
							1,2,3,4,6,8-HxCDF	40 pg/uL
							1,2,3,4,8,9-HxCDF	40 pg/uL
							1,2,3,7-TCDD	40 pg/uL
							1,2,3,8,9-PeCDD	40 pg/uL
							1,2,3,8,9-PeCDF	40 pg/uL
							1,2,3,9-TCDD	40 pg/uL
							1,2,3,9-TCDF	40 pg/uL
							1,2,4,6,7,9-HxCDD	40 pg/uL
							1,2,4,7,9-PeCDD	40 pg/uL
							1,2,8,9-TCDD	40 pg/uL
							1,2,8,9-TCDF	40 pg/uL
							1,3,4,6,8-PeCDF	40 pg/uL
							1,3,6,8-TCDD	40 pg/uL
							1,3,6,8-TCDF	40 pg/uL
							13C-2,3,7,8-TCDD	40 pg/uL
							13C-2,3,7,8-TCDF	40 pg/uL
							2,3,4,7-TCDF	40 pg/uL
							2,3,7,8-TCDD	40 pg/uL
							2,3,7,8-TCDF	40 pg/uL
.HRDXNCP_00039	03/31/25		CIL, Lot ER03111502		(Purchased Reagent)		1,2,3,4,6,7,9-HpCDD	200 ng/mL
							1,2,3,4,6,7-HxCDD	200 ng/mL
							1,2,3,4,6,8-HxCDF	200 ng/mL
							1,2,3,4,8,9-HxCDF	200 ng/mL
							1,2,3,7-TCDD	200 ng/mL
							1,2,3,8,9-PeCDD	200 ng/mL
							1,2,3,8,9-PeCDF	200 ng/mL
							1,2,3,9-TCDD	200 ng/mL
							1,2,3,9-TCDF	200 ng/mL
							1,2,4,6,7,9-HxCDD	200 ng/mL
							1,2,4,7,9-PeCDD	200 ng/mL
							1,2,8,9-TCDD	200 ng/mL
							1,2,8,9-TCDF	200 ng/mL
							1,3,4,6,8-PeCDF	200 ng/mL
							1,3,6,8-TCDD	200 ng/mL
							1,3,6,8-TCDF	200 ng/mL
							13C-2,3,7,8-TCDD	200 ng/mL
							13C-2,3,7,8-TCDF	200 ng/mL
							2,3,4,7-TCDF	200 ng/mL
							2,3,7,8-TCDD	200 ng/mL
							2,3,7,8-TCDF	200 ng/mL
HRDXNIC_00042	04/29/20	07/02/19	C14, Lot STBH7678	0.5 mL	HRDXNIDA_00303	0.125 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.25 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57624-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNSU_00196	0.05 mL	37Cl4-2,3,7,8-TCDD	40 ng/mL
					HRDXNTA_00102	0.5 mL	1,2,3,4,6,7,8-HpCDD	200 ng/mL
							1,2,3,4,6,7,8-HpCDF	200 ng/mL
							1,2,3,4,7,8,9-HpCDF	200 ng/mL
							1,2,3,4,7,8-HxCDD	200 ng/mL
							1,2,3,4,7,8-HxCDF	200 ng/mL
							1,2,3,6,7,8-HxCDD	200 ng/mL
							1,2,3,6,7,8-HxCDF	200 ng/mL
							1,2,3,7,8,9-HxCDD	200 ng/mL
							1,2,3,7,8,9-HxCDF	200 ng/mL
							1,2,3,7,8-PeCDD	200 ng/mL
							1,2,3,7,8-PeCDF	200 ng/mL
							2,3,4,6,7,8-HxCDF	200 ng/mL
							2,3,4,7,8-PeCDF	200 ng/mL
							2,3,7,8-TCDD	40 ng/mL
							2,3,7,8-TCDF	40 ng/mL
							OCDD	400 ng/mL
							OCDF	400 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57624-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00102	03/01/25	Wellington Labs, Lot 13PAR0418			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	200 ng/mL
							1,2,3,4,6,7,8-HpCDF	200 ng/mL
							1,2,3,4,7,8,9-HpCDF	200 ng/mL
							1,2,3,4,7,8-HxCDD	200 ng/mL
							1,2,3,4,7,8-HxCDF	200 ng/mL
							1,2,3,6,7,8-HxCDD	200 ng/mL
							1,2,3,6,7,8-HxCDF	200 ng/mL
							1,2,3,7,8,9-HxCDD	200 ng/mL
							1,2,3,7,8,9-HxCDF	200 ng/mL
							1,2,3,7,8-PeCDD	200 ng/mL
							1,2,3,7,8-PeCDF	200 ng/mL
							2,3,4,6,7,8-HxCDF	200 ng/mL
							2,3,4,7,8-PeCDF	200 ng/mL
							2,3,7,8-TCDD	40 ng/mL
							2,3,7,8-TCDF	40 ng/mL
							OCDD	400 ng/mL
							OCDF	400 ng/mL
HRDXNIDA_00411	11/30/20	12/27/19	Acetone, Lot 0000236139	500 mL	HRDXNIDA_00364	5 mL	13C-1,2,3,4,6,7,8-HpCDD	2 pg/uL
							13C-1,2,3,4,6,7,8-HpCDF	2 pg/uL
							13C-2,3,7,8-TCDF	2 pg/uL
							13C-2,3,7,8-TCDD	2 pg/uL
							13C-1,2,3,6,7,8-HxCDF	2 pg/uL
							13C-1,2,3,7,8,9-HxCDF	2 pg/uL
							13C-2,3,4,6,7,8-HxCDF	2 pg/uL
							13C-1,2,3,7,8-PeCDD	2 pg/uL
							13C-1,2,3,7,8-PeCDF	2 pg/uL
							13C-1,2,3,6,7,8-HxCDD	2 pg/uL
							13C-OCDD	4 pg/uL
					HRDXNIDA_00379	2.5 mL	13C-1,2,3,4,7,8,9-HpCDF	2 pg/uL
							13C-2,3,4,7,8-PeCDF	2 pg/uL
							13C-1,2,3,4,7,8-HxCDD	2 pg/uL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57624-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-1,2,3,4,7,8-HxCDF	2 pg/uL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIDA_00379	04/11/26	04/11/19	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00375	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00376	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00377	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00378	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00375	05/31/26	CIL, Lot ER04251601			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00376	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00377	06/30/26	CIL, Lot ER04211601			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00378	07/31/27	CIL, Lot ER04211701			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
HRDXNIS_00121	10/09/20	10/09/19	C14, Lot STBJ0716	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
.HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
..HRDXNIS_00110	09/30/26	CIL, Lot ER08221601			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
..HRDXNIS_00111	01/31/27	CIL, Lot ER11081602			(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
HRDXNL2_00027	04/29/20	07/02/19	C14, Lot STBH7678	1 mL	HRDXNIDA_00303	0.25 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.5 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57624-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIS_00117	1 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00217	0.625 mL	37Cl4-2,3,7,8-TCDD	0.5 ng/mL
					HRDXNTA_00113	0.125 mL	1,2,3,4,6,7,8-HpCDD	2.5 ng/mL
							1,2,3,4,6,7,8-HpCDF	2.5 ng/mL
							1,2,3,4,7,8,9-HpCDF	2.5 ng/mL
							1,2,3,4,7,8-HxCDD	2.5 ng/mL
							1,2,3,4,7,8-HxCDF	2.5 ng/mL
							1,2,3,6,7,8-HxCDD	2.5 ng/mL
							1,2,3,6,7,8-HxCDF	2.5 ng/mL
							1,2,3,7,8,9-HxCDD	2.5 ng/mL
							1,2,3,7,8,9-HxCDF	2.5 ng/mL
							1,2,3,7,8-PeCDD	2.5 ng/mL
							1,2,3,7,8-PeCDF	2.5 ng/mL
							2,3,4,6,7,8-HxCDF	2.5 ng/mL
							2,3,4,7,8-PeCDF	2.5 ng/mL
							2,3,7,8-TCDD	0.5 ng/mL
							2,3,7,8-TCDF	0.5 ng/mL
							OCDD	5 ng/mL
							OCDF	5 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57624-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20		CIL, Lot ER111010-01		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24		CIL, Lot ER08101404		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26		CIL, Lot ER09131601		(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26		CIL, Lot ER03031601		(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26		CIL, Lot ER02241603		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20		CIL, Lot ER100610-01		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20		CIL, Lot ER100610-02		(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21		CIL, Lot ER012111-01		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28		CIL, Lot ER03151801		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27		CIL, Lot ER04051701		(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26		CIL, Lot ER08221601		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27		CIL, Lot ER11081602		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00217	07/01/20	07/01/19	Isooctane, Lot 0000201867	500 mL	HRDXNSU_00196	1000 uL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
..HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
...HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
....HRDXNSU_00187	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00113	05/29/20	05/29/19	Acetone, Lot 00000197752	25 mL	HRDXNTA_00092	0.25 mL	1,2,3,4,6,7,8-HpCDD	20 ng/mL
							1,2,3,4,6,7,8-HpCDF	20 ng/mL
							1,2,3,4,7,8,9-HpCDF	20 ng/mL
							1,2,3,4,7,8-HxCDD	20 ng/mL
							1,2,3,4,7,8-HxCDF	20 ng/mL
							1,2,3,6,7,8-HxCDD	20 ng/mL
							1,2,3,6,7,8-HxCDF	20 ng/mL
							1,2,3,7,8,9-HxCDD	20 ng/mL
							1,2,3,7,8,9-HxCDF	20 ng/mL
							1,2,3,7,8-PeCDD	20 ng/mL
							1,2,3,7,8-PeCDF	20 ng/mL
							2,3,4,6,7,8-HxCDF	20 ng/mL
							2,3,4,7,8-PeCDF	20 ng/mL
							2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL
							OCDD	40 ng/mL
							OCDF	40 ng/mL
..HRDXNTA_00092	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57624-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL3_00025	04/29/20	07/02/19	C14, Lot STBH7678	0.5 mL	HRDXNIDA_00303	0.125 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.25 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIS_00117	0.5 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00217	1.25 mL	37Cl4-2,3,7,8-TCDD	2 ng/mL
					HRDXNTA_00113	0.25 mL	1,2,3,4,6,7,8-HpCDD	10 ng/mL
							1,2,3,4,6,7,8-HpCDF	10 ng/mL
							1,2,3,4,7,8,9-HpCDF	10 ng/mL
							1,2,3,4,7,8-HxCDD	10 ng/mL
							1,2,3,4,7,8-HxCDF	10 ng/mL
							1,2,3,6,7,8-HxCDD	10 ng/mL
							1,2,3,6,7,8-HxCDF	10 ng/mL
							1,2,3,7,8,9-HxCDD	10 ng/mL
							1,2,3,7,8,9-HxCDF	10 ng/mL
							1,2,3,7,8-PeCDD	10 ng/mL
							1,2,3,7,8-PeCDF	10 ng/mL
							2,3,4,6,7,8-HxCDF	10 ng/mL
							2,3,4,7,8-PeCDF	10 ng/mL
							2,3,7,8-TCDD	2 ng/mL
							2,3,7,8-TCDF	2 ng/mL
							OCDD	20 ng/mL

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57624-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							OCDF	20 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26	CIL, Lot ER08221601			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27	CIL, Lot ER11081602			(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00217	07/01/20	07/01/19	Isooctane, Lot 0000201867	500 mL	HRDXNSU_00196	1000 uL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
..HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
...HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
....HRDXNSU_00187	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00113	05/29/20	05/29/19	Acetone, Lot 00000197752	25 mL	HRDXNTA_00092	0.25 mL	1,2,3,4,6,7,8-HpCDD	20 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57624-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,4,6,7,8-HpCDF	20 ng/mL
							1,2,3,4,7,8,9-HpCDF	20 ng/mL
							1,2,3,4,7,8-HxCDD	20 ng/mL
							1,2,3,4,7,8-HxCDF	20 ng/mL
							1,2,3,6,7,8-HxCDD	20 ng/mL
							1,2,3,6,7,8-HxCDF	20 ng/mL
							1,2,3,7,8,9-HxCDD	20 ng/mL
							1,2,3,7,8,9-HxCDF	20 ng/mL
							1,2,3,7,8-PeCDD	20 ng/mL
							1,2,3,7,8-PeCDF	20 ng/mL
							2,3,4,6,7,8-HxCDF	20 ng/mL
							2,3,4,7,8-PeCDF	20 ng/mL
							2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL
							OCDD	40 ng/mL
							OCDF	40 ng/mL
..HRDXNTA_00092	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL4_00085	04/29/20	10/03/19	C14, Lot STBH7678	1 mL	HRDXNIDA_00364	0.5 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIDA_00379	0.25 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57624-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIS_00117	1 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00196	0.025 mL	37Cl4-2,3,7,8-TCDD	10 ng/mL
					HRDXNTA_00093	0.025 mL	1,2,3,4,6,7,8-HpCDD	50 ng/mL
							1,2,3,4,6,7,8-HpCDF	50 ng/mL
							1,2,3,4,7,8,9-HpCDF	50 ng/mL
							1,2,3,4,7,8-HxCDD	50 ng/mL
							1,2,3,4,7,8-HxCDF	50 ng/mL
							1,2,3,6,7,8-HxCDD	50 ng/mL
							1,2,3,6,7,8-HxCDF	50 ng/mL
							1,2,3,7,8,9-HxCDD	50 ng/mL
							1,2,3,7,8,9-HxCDF	50 ng/mL
							1,2,3,7,8-PeCDD	50 ng/mL
							1,2,3,7,8-PeCDF	50 ng/mL
							2,3,4,6,7,8-HxCDF	50 ng/mL
							2,3,4,7,8-PeCDF	50 ng/mL
							2,3,7,8-TCDD	10 ng/mL
							2,3,7,8-TCDF	10 ng/mL
							OCDD	100 ng/mL
							OCDF	100 ng/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIDA_00379	04/11/26	04/11/19	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00375	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00376	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00377	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57624-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					HRDXNIDA_00378	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00375	05/31/26		CIL, Lot ER04251601		(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00376	01/31/27		CIL, Lot ER01061701		(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00377	06/30/26		CIL, Lot ER04211601		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00378	07/31/27		CIL, Lot ER04211701		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26		CIL, Lot ER08221601		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27		CIL, Lot ER11081602		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00093	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL5_00028	04/29/20	07/02/19	C14, Lot STBH7678	0.2 mL	HRDXNIDA_00303	0.05 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.1 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL

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Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-OCDD	200 ng/mL
					HRDXNIS_00117	0.2 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00196	0.02 mL	37Cl4-2,3,7,8-TCDD	40 ng/mL
					HRDXNTA_00093	0.02 mL	1,2,3,4,6,7,8-HpCDD	200 ng/mL
							1,2,3,4,6,7,8-HpCDF	200 ng/mL
							1,2,3,4,7,8,9-HpCDF	200 ng/mL
							1,2,3,4,7,8-HxCDD	200 ng/mL
							1,2,3,4,7,8-HxCDF	200 ng/mL
							1,2,3,6,7,8-HxCDD	200 ng/mL
							1,2,3,6,7,8-HxCDF	200 ng/mL
							1,2,3,7,8,9-HxCDD	200 ng/mL
							1,2,3,7,8,9-HxCDF	200 ng/mL
							1,2,3,7,8-PeCDD	200 ng/mL
							1,2,3,7,8-PeCDF	200 ng/mL
							2,3,4,6,7,8-HxCDF	200 ng/mL
							2,3,4,7,8-PeCDF	200 ng/mL
							2,3,7,8-TCDD	40 ng/mL
							2,3,7,8-TCDF	40 ng/mL
							OCDD	400 ng/mL
							OCDF	400 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57624-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNIDA_00359	12/31/20		CIL, Lot ER100610-02		(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21		CIL, Lot ER012111-01		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28		CIL, Lot ER03151801		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27		CIL, Lot ER04051701		(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26		CIL, Lot ER08221601		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27		CIL, Lot ER11081602		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00093	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL6_00024	04/29/20	07/02/19	C14, Lot STBH7678	0.2 mL	HRDXNIDA_00303	0.05 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.1 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57624-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-OCDD	200 ng/mL
					HRDXNIS_00117	0.2 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00196	0.1 mL	37Cl4-2,3,7,8-TCDD	200 ng/mL
					HRDXNTA_00093	0.1 mL	1,2,3,4,6,7,8-HpCDD	1000 ng/mL
							1,2,3,4,6,7,8-HpCDF	1000 ng/mL
							1,2,3,4,7,8,9-HpCDF	1000 ng/mL
							1,2,3,4,7,8-HxCDD	1000 ng/mL
							1,2,3,4,7,8-HxCDF	1000 ng/mL
							1,2,3,6,7,8-HxCDD	1000 ng/mL
							1,2,3,6,7,8-HxCDF	1000 ng/mL
							1,2,3,7,8,9-HxCDD	1000 ng/mL
							1,2,3,7,8,9-HxCDF	1000 ng/mL
							1,2,3,7,8-PeCDD	1000 ng/mL
							1,2,3,7,8-PeCDF	1000 ng/mL
							2,3,4,6,7,8-HxCDF	1000 ng/mL
							2,3,4,7,8-PeCDF	1000 ng/mL
							2,3,7,8-TCDD	200 ng/mL
							2,3,7,8-TCDF	200 ng/mL
							OCDD	2000 ng/mL
							OCDF	2000 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57624-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26	CIL, Lot ER08221601			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27	CIL, Lot ER11081602			(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00093	04/30/26	CIL, Lot ER02241602			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNSU_00230	01/08/21	01/08/20	Isooctane, Lot 0000221197	250 mL	HRDXNSU_00229	500 uL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
.HRDXNSU_00229	07/31/25	01/08/20	Isooctane, Lot 0000221197	25 mL	HRDXNSU_00228	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00228	07/31/25	01/08/20	Isooctane, Lot 0000221197	10 mL	HRDXNSU_00211	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00211	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
HRDXNTA_00117	10/18/20	10/18/19	Acetone, Lot 00000236139	25 mL	HRDXNTA_00093	0.25 mL	1,2,3,4,6,7,8-HpCDD	20 ng/mL
							1,2,3,4,6,7,8-HpCDF	20 ng/mL
							1,2,3,4,7,8,9-HpCDF	20 ng/mL
							1,2,3,4,7,8-HxCDD	20 ng/mL
							1,2,3,4,7,8-HxCDF	20 ng/mL
							1,2,3,6,7,8-HxCDD	20 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57624-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,6,7,8-HxCDF	20 ng/mL
							1,2,3,7,8,9-HxCDD	20 ng/mL
							1,2,3,7,8,9-HxCDF	20 ng/mL
							1,2,3,7,8-PeCDD	20 ng/mL
							1,2,3,7,8-PeCDF	20 ng/mL
							2,3,4,6,7,8-HxCDF	20 ng/mL
							2,3,4,7,8-PeCDF	20 ng/mL
							2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL
							OCDD	40 ng/mL
							OCDF	40 ng/mL
.HRDXNTA_00093	04/30/26	CIL, Lot ER02241602			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL

Reagent

HRDXNCP_00039

received 8/30/19 KSS

(pg 1/6)

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

PCDD/PCDF Window Defining and Isomer Specificity Mix (DB-5)

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number:	EDF-4147
Solution Lot:	ER03111502
Expiration Date:	March 2025
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/ analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies.
- Ampules are overfilled to ensure a minimum 1 2 mL volume We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

March 24, 2015
Date

Component	Chromatographic Purity	Concentration
1,3,6,8-Tetrachlorodibenzo-p-dioxin	99.9%	200.3 ± 2.0 ng/mL
1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin	99.8%	200.6 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzo-p-dioxin	99.2%	200.3 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	98.9%	200.1 ± 2.0 ng/mL
1,2,3,9-Tetrachlorodibenzo-p-dioxin	99.6%	199.9 ± 2.0 ng/mL
1,2,8,9-Tetrachlorodibenzo-p-dioxin	99.2%	200.2 ± 2.0 ng/mL
1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin	98.9%	200.6 ± 2.0 ng/mL
1,2,3,8,9-Pentachlorodibenzo-p-dioxin	99.0%	200.1 ± 2.0 ng/mL
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin	98.7%	200.2 ± 2.0 ng/mL
1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin	99.0%	200.5 ± 2.0 ng/mL
1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin	98.9%	200.1 ± 2.0 ng/mL
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	99.8%	200.3 ± 2.0 ng/mL
1,3,6,8-Tetrachlorodibenzofuran	98.5%	200.1 ± 2.0 ng/mL
1,2,3,9-Tetrachlorodibenzofuran	98.2%	200.4 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzofuran	99.4%	200.0 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	99.2%	200.5 ± 2.0 ng/mL
2,3,4,7-Tetrachlorodibenzofuran	98.7%	200.2 ± 2.0 ng/mL
1,2,8,9-Tetrachlorodibenzofuran	99.3%	199.9 ± 2.0 ng/mL
1,3,4,6,8-Pentachlorodibenzofuran	99.5%	200.6 ± 2.0 ng/mL
1,2,3,8,9-Pentachlorodibenzofuran	99.0%	200.5 ± 2.0 ng/mL
1,2,3,4,6,8-Hexachlorodibenzofuran	98.6%	200.5 ± 2.0 ng/mL
1,2,3,4,8,9-Hexachlorodibenzofuran	99.7%	200.5 ± 2.0 ng/mL
1,2,3,4,6,7,8-Heptachlorodibenzofuran	98.9%	200.6 ± 2.0 ng/mL
1,2,3,4,7,8,9-Heptachlorodibenzofuran	99.1%	200.1 ± 2.0 ng/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Stock solution concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.

Standard Solution Assay Parameters

Analysis Method:	GC/MS
Column:	DB-5ms 30 m x 0.25 mm ID, 0.25 µm film thickness
Temp Program:	140°C to 200°C at 40°C/min 200°C to 300°C at 4°C/min
Injector Temp:	Cool-on-Column
Detector Temp:	280°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	1

Solution Standard Verification and Homogeneity

Compound	Verified Concentration ng/mL	Acceptance Criteria	%RSD - Homogeneity %	Acceptance Criteria
1,3,6,8-Tetrachlorodibenzo-p-dioxin	200.4	± 10%	1.6	≤ 5%
1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin/ 2,3,7,8-Tetrachlorodibenzo-p-dioxin/ 1,2,3,9-Tetrachlorodibenzo-p-dioxin [1]	591.2	± 10%	1.6	≤ 5%
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	196.8	± 10%	2.7	≤ 5%
1,2,8,9-Tetrachlorodibenzo-p-dioxin	197.2	± 10%	2.8	≤ 5%
1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin	194.6	± 10%	2.8	≤ 5%
1,2,3,8,9-Pentachlorodibenzo-p-dioxin	194.7	± 10%	2.3	≤ 5%
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin	195.3	± 10%	1.7	≤ 5%
1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin	192.6	± 10%	2.3	≤ 5%
1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin	191.2	± 10%	2.5	≤ 5%
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	196.7	± 10%	2.1	≤ 5%
1,3,6,8-Tetrachlorodibenzofuran	202.3	± 10%	2.1	≤ 5%
1,2,3,9-Tetrachlorodibenzofuran	194.4	± 10%	2.4	≤ 5%
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	198.0	± 10%	3.3	≤ 5%
2,3,4,7-Tetrachlorodibenzofuran/ 2,3,7,8-Tetrachlorodibenzofuran [1]	399.3	± 10%	2.4	≤ 5%
1,2,8,9-Tetrachlorodibenzofuran	198.9	± 10%	2.9	≤ 5%
1,3,4,6,8-Pentachlorodibenzofuran	195.0	± 10%	2.1	≤ 5%
1,2,3,8,9-Pentachlorodibenzofuran	199.6	± 10%	2.1	≤ 5%
1,2,3,4,6,8-Hexachlorodibenzofuran	195.5	± 10%	2.4	≤ 5%
1,2,3,4,8,9-Hexachlorodibenzofuran	196.4	± 10%	1.8	≤ 5%
1,2,3,4,6,7,8-Heptachlorodibenzofuran	197.4	± 10%	2.9	≤ 5%
1,2,3,4,7,8,9-Heptachlorodibenzofuran	195.3	± 10%	2.1	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The %RSD of samples pulled from across the lot demonstrate homogeneity.
- Product is compared to prior lot and meets acceptance criteria of ± 10%.

[1] Compounds co-elute. Concentration is the sum of both or all analytes.

Neat Material Data

Compound	Lot Number	CAS Number	Chemical Formula	Molecular Weight	Chromatographic Purity
1,3,6,8-Tetrachlorodibenzo-p-dioxin	ER040811-02	33423-92-6	$C_{12}H_4Cl_4O_2$	321.97	99.9%
1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin	ER021510-01	NA	$C_{12}H_4Cl_4O_2$	321.97	99.8%
2,3,7,8-Tetrachlorodibenzo-p-dioxin	ER061009-02	1746-01-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	ER01031401	76523-40-5	$^{13}C_{12}H_4Cl_4O_2$	333.84	98.9%
1,2,3,9-Tetrachlorodibenzo-p-dioxin	ER0529401	71669-26-6	$C_{12}H_4Cl_4O_2$	321.97	99.6%
1,2,8,9-Tetrachlorodibenzo-p-dioxin	ER11201301	62470-54-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%
1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin	ER11051302	NA	$C_{12}H_3Cl_5O_2$	356.42	98.9%
1,2,3,8,9-Pentachlorodibenzo-p-dioxin	ER05161401	NA	$C_{12}H_3Cl_5O_2$	356.42	99.0%
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin	ER08101402	NA	$C_{12}H_2Cl_6O_2$	390.86	98.7%
1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin	ER030107-01	NA	$C_{12}H_2Cl_6O_2$	390.86	99.0%
1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin	ER01201502	58200-70-7	$C_{12}HCl_7O_2$	425.31	98.9%
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	ER100207-02	35822-46-9	$C_{12}HCl_7O_2$	425.31	99.8%
1,3,6,8-Tetrachlorodibenzofuran	ER021808-01	71998-72-6	$C_{12}H_4Cl_4O$	305.98	98.5%
1,2,3,9-Tetrachlorodibenzofuran	ER071107-01	NA	$C_{12}H_4Cl_4O$	305.98	98.2%
2,3,7,8-Tetrachlorodibenzofuran	ER101211-02	51207-31-9	$C_{12}H_4Cl_4O$	305.98	99.4%
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	ER12101304	89059-46-1	$^{13}C_{12}H_4Cl_4O$	317.88	99.2%
2,3,4,7-Tetrachlorodibenzofuran	ER052307-01	NA	$C_{12}H_4Cl_4O$	305.98	98.7%
1,2,8,9-Tetrachlorodibenzofuran	ER041508-03	NA	$C_{12}H_4Cl_4O$	305.98	99.3%
1,3,4,6,8-Pentachlorodibenzofuran	ER04231401	NA	$C_{12}H_3Cl_5O$	340.42	99.5%
1,2,3,8,9-Pentachlorodibenzofuran	ER12101303	NA	$C_{12}H_3Cl_5O$	340.42	99.0%
1,2,3,4,6,8-Hexachlorodibenzofuran	ER04231402	NA	$C_{12}H_2Cl_6O$	374.86	98.6%
1,2,3,4,8,9-Hexachlorodibenzofuran	ER12091401	92341-07-6	$C_{12}H_2Cl_6O$	374.86	99.7%
1,2,3,4,6,7,8-Heptachlorodibenzofuran	ER02281403	67562-39-4	$C_{12}HCl_7O$	409.31	98.9%
1,2,3,4,7,8,9-Heptachlorodibenzofuran	ER01121503	55673-89-7	$C_{12}HCl_7O$	409.31	99.1%

Product Analysis

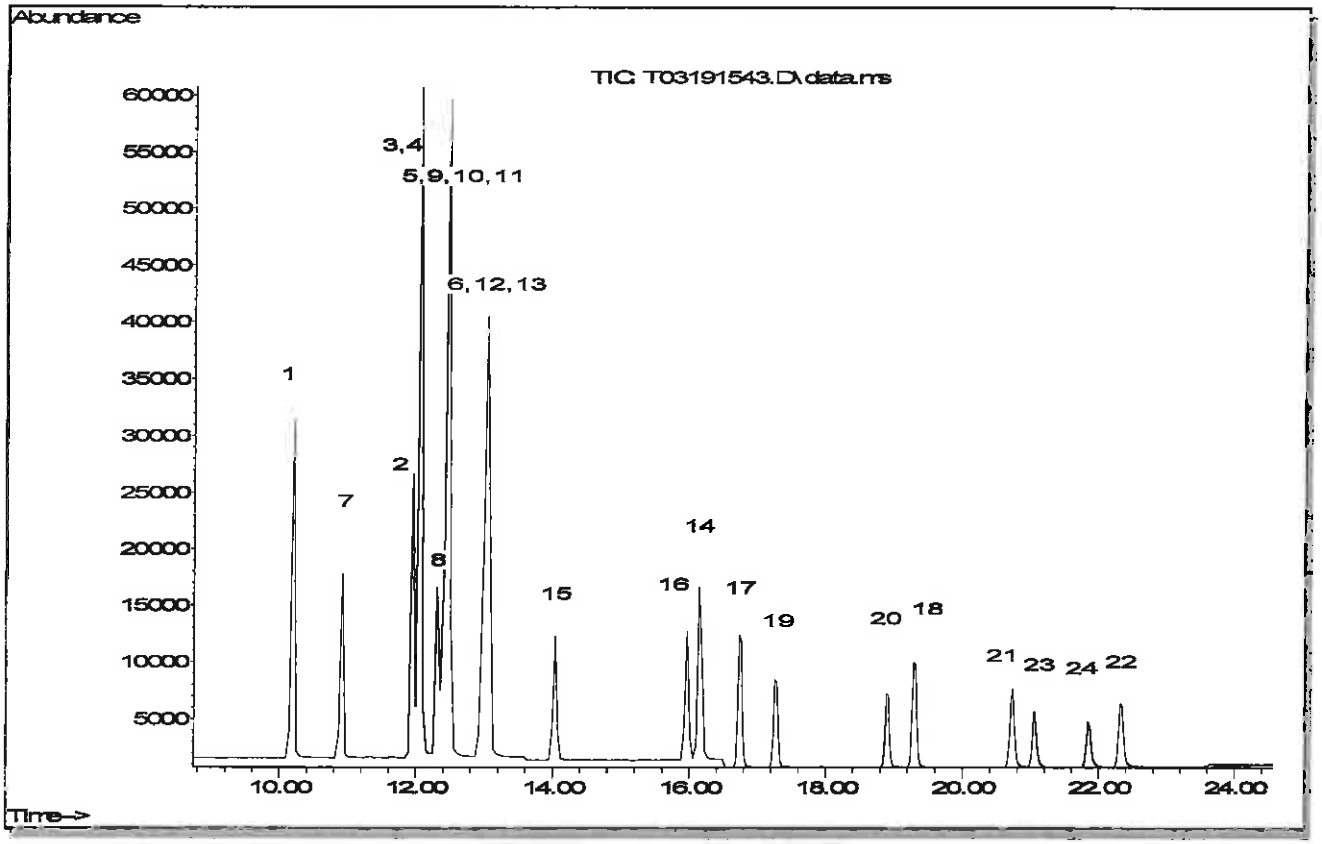

1 1,3,6,8-Tetrachlorodibenzofuran
2 2,3,4,7-Tetrachlorodibenzofuran
3 2,3,7,8-Tetrachlorodibenzofuran
4 2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$
5 1,2,3,9-Tetrachlorodibenzofuran
6 1,2,8,9-Tetrachlorodibenzofuran
7 1,3,6,8-Tetrachlorodibenzo-p-dioxin
8 1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin
9 1,2,3,9-Tetrachlorodibenzo-p-dioxin
10 2,3,7,8-Tetrachlorodibenzo-p-dioxin
11 2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$
12 1,2,8,9-Tetrachlorodibenzo-p-dioxin
13 1,3,4,6,8-Pentachlorodibenzofuran
14 1,2,3,8,9-Pentachlorodibenzofuran
15 1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin
16 1,2,3,8,9-Pentachlorodibenzo-p-dioxin
17 1,2,3,4,6,8-Hexachlorodibenzofuran
18 1,2,3,4,8,9-Hexachlorodibenzofuran
19 1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin
20 1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin
21 1,2,3,4,6,7,8-Heptachlorodibenzofuran
22 1,2,3,4,7,8,9-Heptachlorodibenzofuran
23 1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin
24 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin

COA Revision History

Revision No.	Date	Reason for Revision
00	March 24, 2015	Initial version

Reagent

HRDXNIDA_00075

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-$^{13}C_{12}$

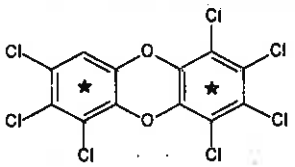

Catalog Number: ED-972
Solution Lot: ER111010-01
Expiration Date: November 2020
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For laboratory use only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-$^{13}C_{12}$	98.9%	50.03 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER111010-01	50.5	± 5%	0.5	≤ 3%
Previous Lot	ER011807-01	47.4	± 5%	1.8	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

January 15, 2016
Date

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}HO_2Cl_7$
Compound Lot:	ER100110-01	**CAS Number:**	NA
		Molecular Weight:	437.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.9%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.10% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		98.91%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

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Spectral and Physical Data

GC/FID

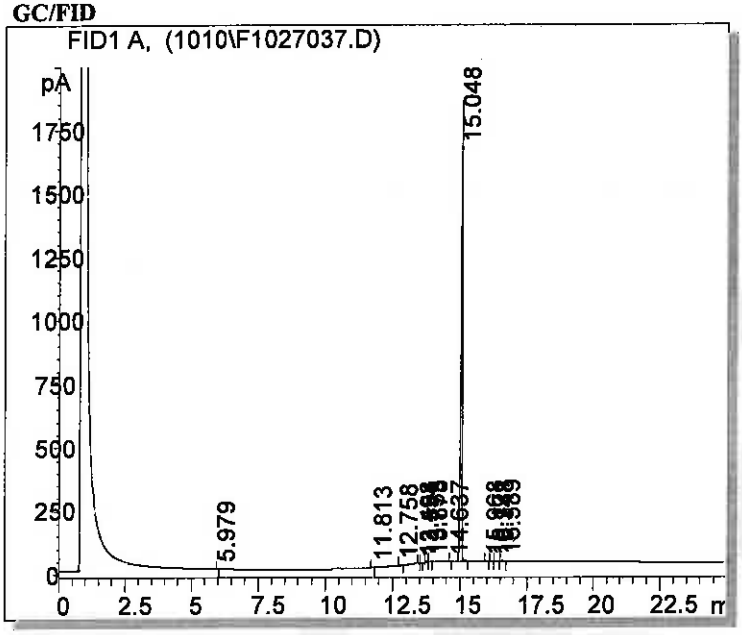

Column:	DB-5ms, 30m x 0.53mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-column
Detector Temp:	325°C
Data File Name:	S:\GC\GC6\2010\1010\F1027037.D
Instrument:	GC#6
Sample Name:	ER100110-01
Acquired:	October 28, 2010

Peak #	Ret Time	Area	Height	Area %
1	5.98	0.34	0.18	0.00
2	11.81	1.00	0.08	0.01
3	12.76	10.96	2.89	0.16
4	13.50	1.19	0.32	0.02
5	13.55	2.63	0.80	0.04
6	13.75	13.39	3.28	0.19
7	13.88	7.04	1.81	0.10
8	14.64	0.86	0.28	0.01
9	15.05	6900.70	1812.09	98.81
10	15.97	3.15	0.73	0.05
11	16.17	2.25	0.55	0.03
12	16.35	5.12	1.10	0.07
13	16.59	18.93	4.26	0.27
14	26.99	15.17	0.35	0.22
15	35.58	0.06	0.21	0.00
16	41.80	0.77	0.13	0.01

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Spectral and Physical Data (cont.)

GC/MS

Compound Name : 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-13C
Lab Number : [illegible]
Instrument : Agilent 5973N MSD/5890N GC
Operator-Inst ID : [illegible] - 010106
Date Reported : Wed Oct 27 [illegible] 2010
Column Type : [illegible], 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 300°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 290°C

Scan Range : 50-550

Total Ion Chromatogram

Mass Spectrum

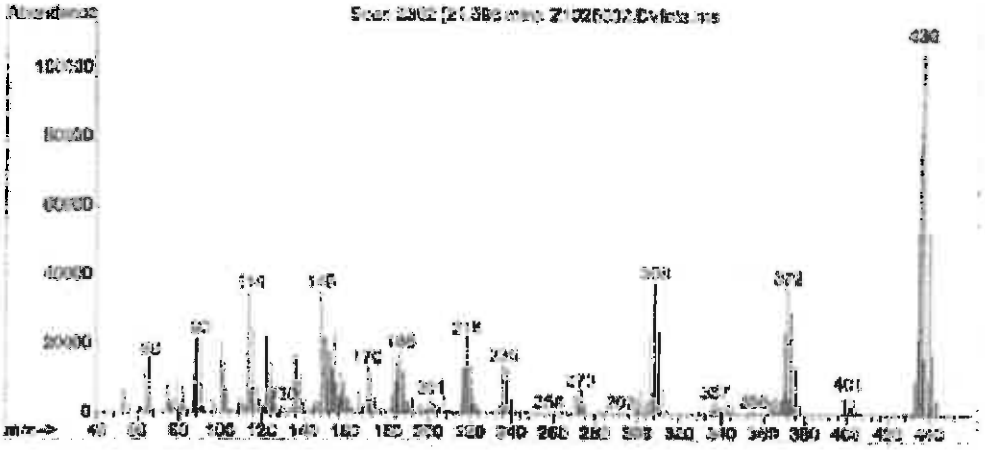

COA Revision History

Revision No.	Date	Reason for Revision
00	November 24, 2010	Initial version
01	January 15, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

Reagent

HRDXNIDA_00247

Recd 8-17-16

Cerilliant® Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$

HpCDF

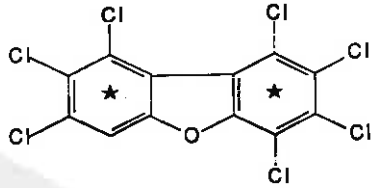

Catalog Number:	EF-988
Solution Lot:	ER04251601
Expiration Date:	March 2026
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	99.1%	49.99 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04251601	49.11	± 5%	0.2	≤ 3%
Previous Lot	ER053107-02	50.58	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

June 21, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}HCl_7O$
Compound Lot:	ER04041602	**CAS Number:**	109719-94-0
		Molecular Weight:	421.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.1%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS SIM	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.16% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.10%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data (cont.)

GC/FID

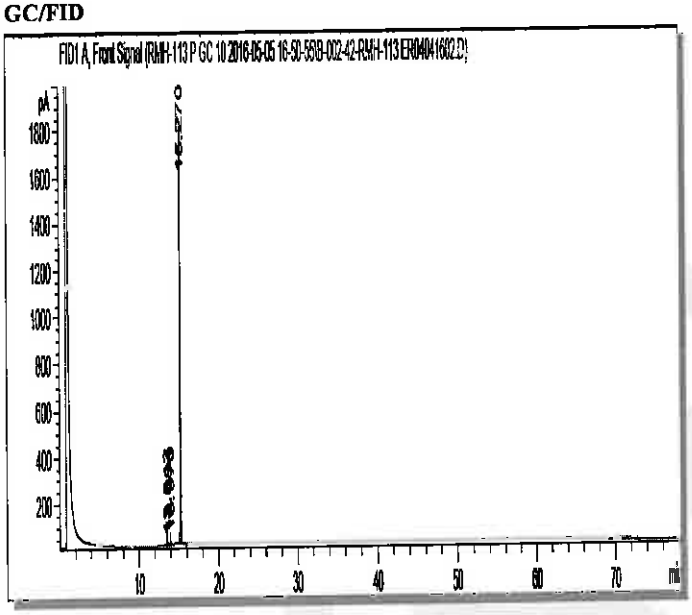

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Data File Name:	RMH-113 P GC 10 2016-05-05 16-50-55\B-002-42.D
Instrument:	GC#10
Sample Name:	ER04041602
Acquired:	May 05, 2016

Peak #	Ret Time	Area	Height	Area %
1	13.51	8.76	2.52	0.12
2	13.68	17.42	7.45	0.24
3	13.97	39.65	15.48	0.54
4	15.27	7226.95	1798.33	99.10

Spectral and Physical Data (cont.)

GC/MS

```
Compound Name          : 1,2,3,4,7,8,9-Heptachlorodibenzofuran-13C12
Lot Number             : EM04041602
Instrument             : Agilent GCMS
Operator               : ECM(SGIUFFRE)
Date Reported          : Wed May 04 15:34:28 2016
Column Type            : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program          : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.         : Cool on-column
Carrier Gas            : Helium
Flow Rate (mL\min)     : 0.80 mL/min
Transfer Line Temp.    : 280°C
Scan Range             : 50-550
```

Total Ion Chromatogram

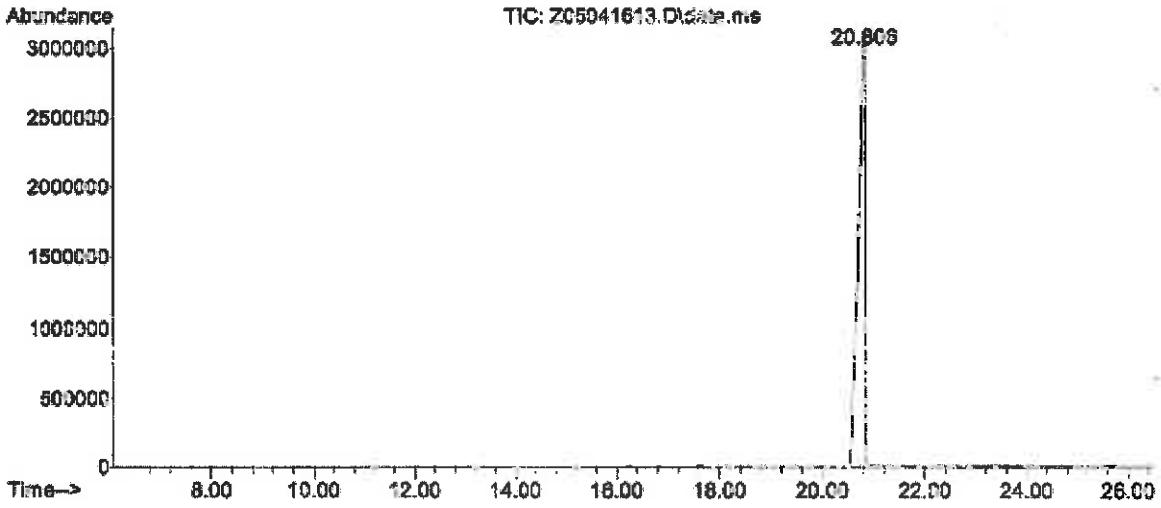

Mass Spectrum

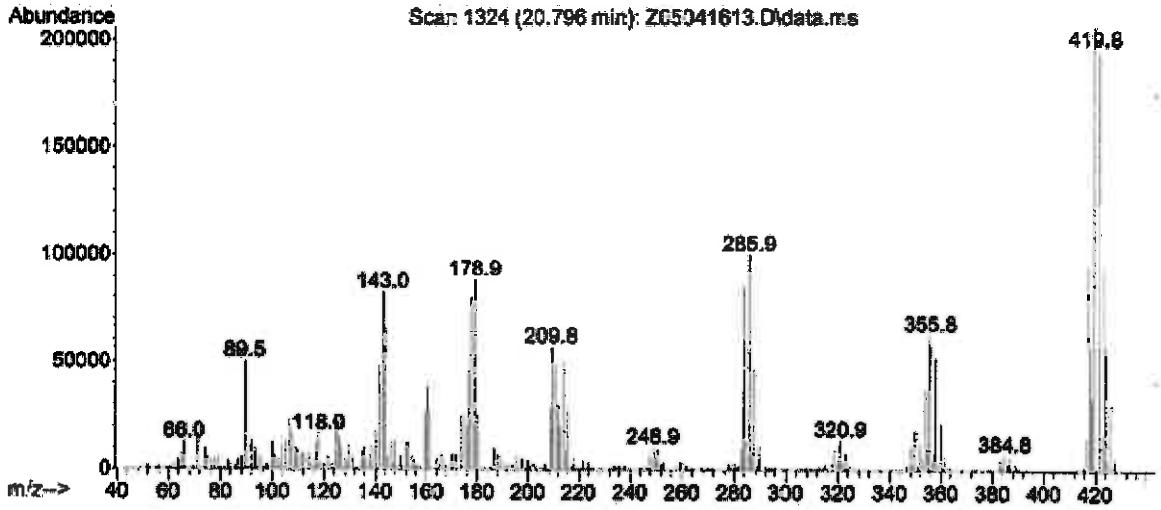

COA Revision History

Revision No.	Date	Reason for Revision
00	June 21, 2016	Initial version

Reagent

HRDXNIDA_00297

r: 9/28/17 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

1042065
ID: HRDXNIDA_00297
Exp: 01/31/27 Prpd: SKV
13C-2,3,4,7,8-PeCDF [50ug

CIL

Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$

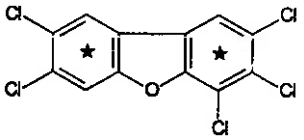

Catalog Number: EF-958
Solution Lot: ER01061701
Expiration Date: January 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	97.9%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s); measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER01061701	50.51	± 5%	0.1	≤ 3%
Previous Lot	ER11041601	49.56	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

January 27, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3Cl_5O$
Compound Lot:	ER11101601	**CAS Number:**	116843-02-8
		Molecular Weight:	352.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0102	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.02% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 0.5%
Mass Balance Purity Factor		98.33%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

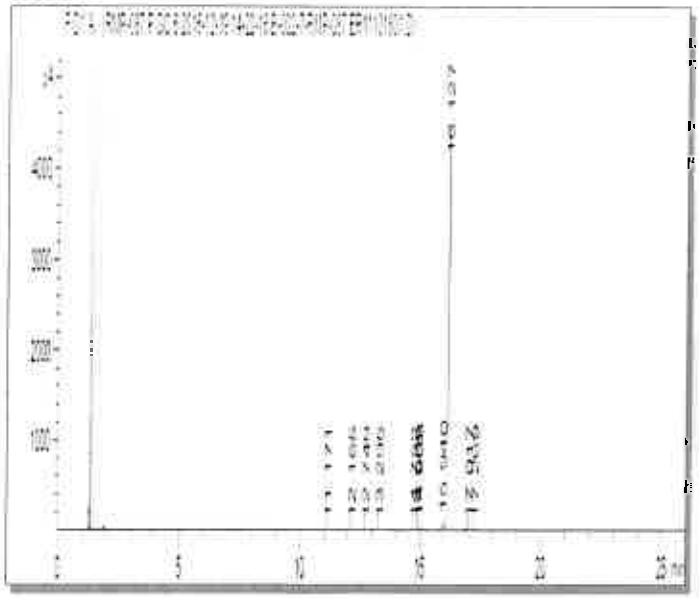

Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 100°C to 300°C at 15°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: RMP-087 P GC 6 2016-12-19 14-22-16\B-002-7.D
Instrument: GC#6
Sample Name: ER11101601
Acquired: December 19, 2016

Peak #	Ret Time	Area	Height	Area %
1	11.17	0.94	0.40	0.01
2	12.17	1.30	0.39	0.01
3	12.75	0.47	0.20	0.00
4	13.30	0.90	0.35	0.01
5	14.75	1.70	0.87	0.02
6	14.91	1.09	0.56	0.01
7	14.97	32.24	17.54	0.29
8	15.94	124.38	64.36	1.13
9	16.13	10866.60	4688.80	98.41
10	17.02	6.31	2.46	0.06
11	17.27	6.76	2.34	0.06

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 2,3,4,7,8-Pentachlorodibenzofuran-13C12
Lot Number	: ER11101601
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRS)
Date Reported	: Tue Dec 20 12:19:55 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.50 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

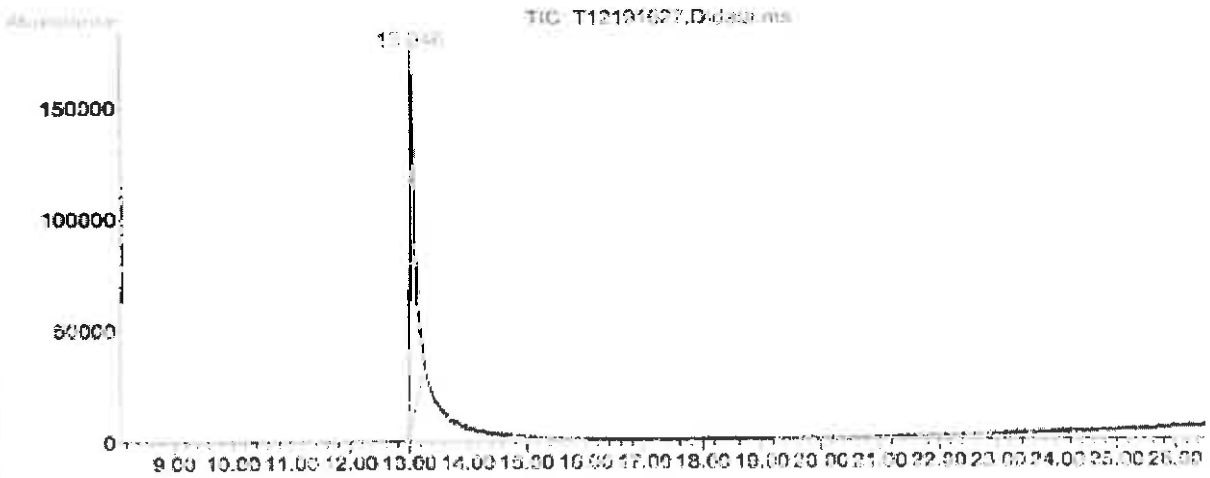

Mass Spectrum

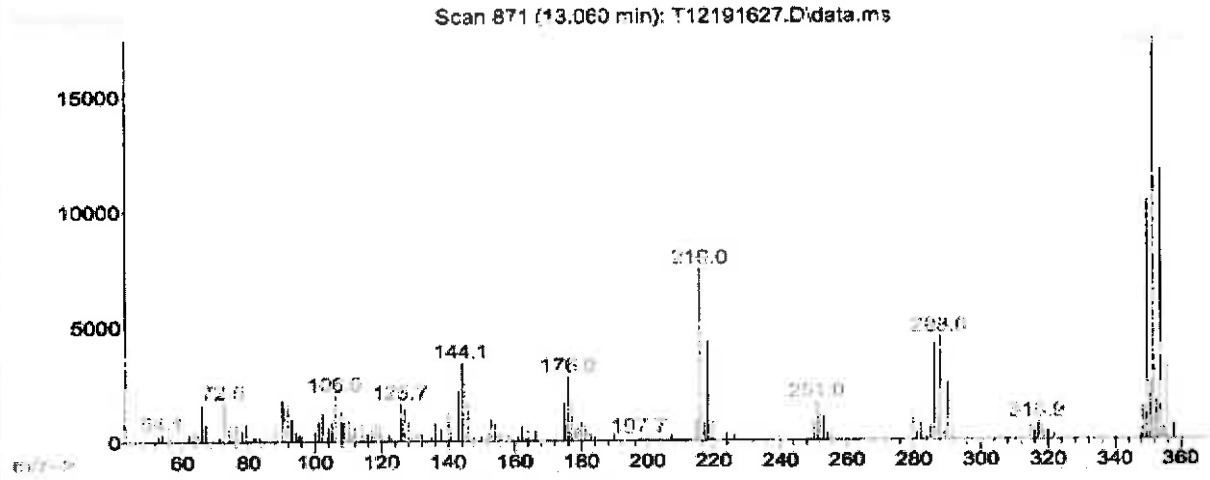

Reagent

HRDXNIDA_00301

n: 9/20/17 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

1042073
ID: HRDXNIDA_00301
Exp: 10/31/21 Prpd: SKV
13C-1,2,3,4,7,8-HxCDD [50

CIL

Certificate of Analysis

Certificate Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 9001
GMP/GLP

1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

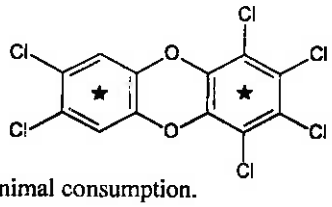

Catalog Number: ED-946
Solution Lot: ER102711-01
Expiration Date: October 2021
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.0%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER102711-01	48.2	± 5%	0.2	≤ 3%
Previous Lot	ER012208-01	49.6	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS ACCREDITED
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

September 17, 2015
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O_2$
Compound Lot:	ER011008-01	**CAS Number:**	109719-80-4
		Molecular Weight:	402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.2%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.08% $^{13}C_0$ vs $^{13}C_{12}$
		0.19% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.19%

- Chromatographic purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

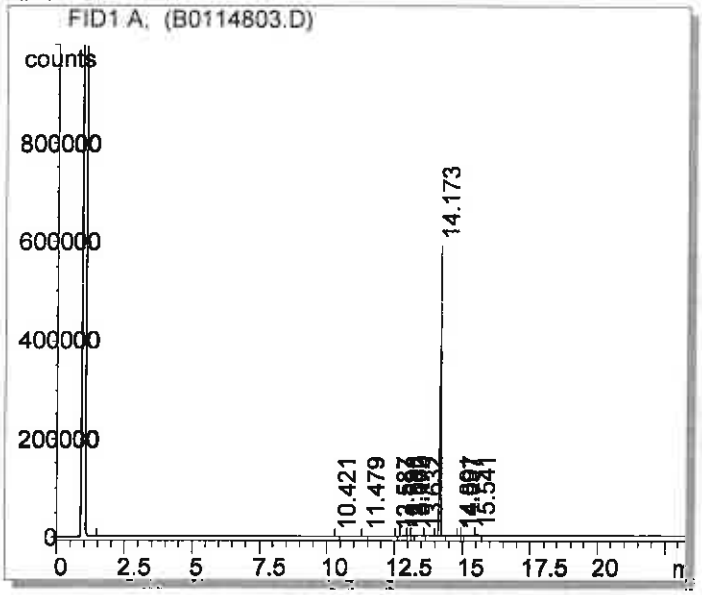

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0114803.D
Instrument:	GC#2
Sample Name:	ER011008-01
Acquired:	January 14, 2008

Peak #	Ret Time	Area	Height	Area %
1	10.42	287.44	132.33	0.02
2	11.48	242.24	92.03	0.01
3	12.59	389.12	196.33	0.02
4	12.90	3015.36	1199.07	0.17
5	13.06	2243.36	788.13	0.13
6	13.17	2243.90	754.45	0.13
7	13.63	2349.03	134.07	0.02
8	14.17	427.02	588610.00	99.20
9	14.89	1731980.00	110.79	0.03
10	15.00	512.26	86.41	0.02
11	15.54	4077.63	1008.44	0.23

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

Compound Name : 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-13C12
Lot Number : [illegible]-01
Instrument : Agilent 5973N MSD/6890N GC
Operator-Inst ID : REC - C1010E
Date Reported : Wed Jan 16 11:15:58 2008
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 300°C@6°C/min (5 min)
Injection Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 280°C

Scan Range : 50-550

Total Ion Chromatogram

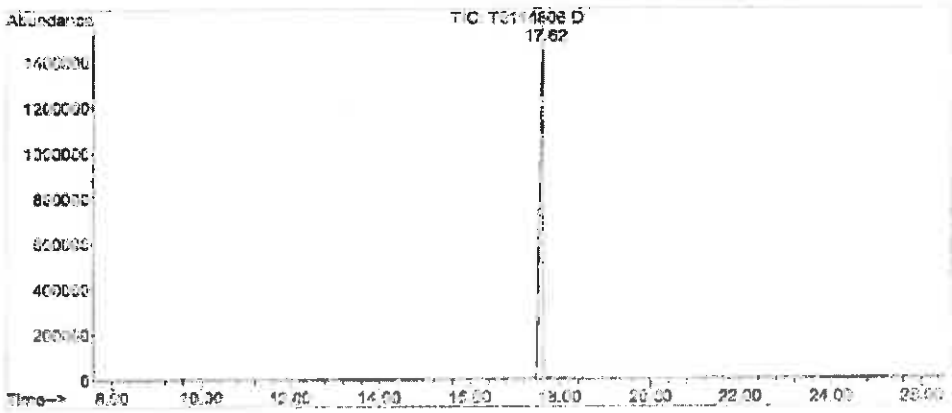

Mass Spectrum

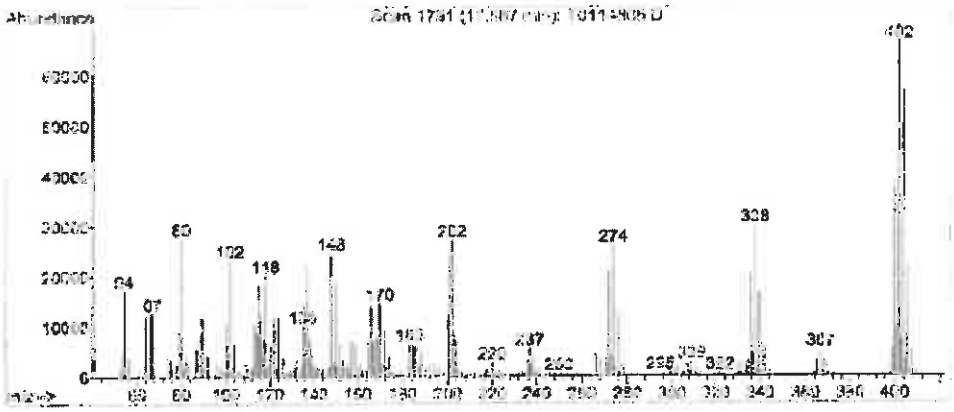

COA Revision History

Revision No.	Date	Reason for Revision
00	November 12, 2011	Initial version
01	September 17, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet"

Reagent

HRDXNIDA_00302

r: 9/20/17 SKV

1042074
ID: HRDXNIDA_00302
Exp: 07/31/20 Prpd: SKV
13C-1,2,3,4,7,8-HxCDF [50

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CIL

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

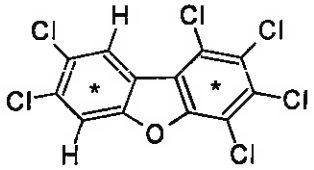

Catalog Number:	EF-963
Solution Lot:	ER072810-02
Expiration Date:	July 2020
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Protect from air and light, store at room temperature. Do not store cold.
Intended Use:	For laboratory use only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration.

Component	Chromatographic Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.6%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Acceptance Criteria	%RSD - Homogeneity Actual Results	Acceptance Criteria
New Lot	ER072810-02	47.4	± 5%	0.3	≤ 3%
Previous Lot	LR011907-01	46.6	—	1.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

November 15, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$
Compound Lot:	35135-45

Chemical Formula:	$^{13}C_{12}H_2OCl_6$
CAS Number:	114423-98-2
Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.6%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% C_0 vs C_{12}
		0.13% C_6 vs C_{12}
Purity Factor		99.57%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

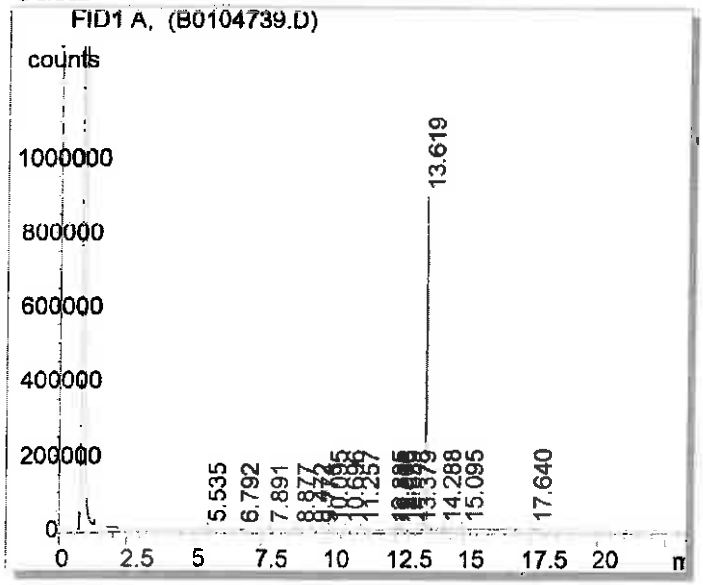

Column:	DB-5ms, 30m x 0.53mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0104739.D
Instrument:	GC#2
Sample Name:	35135-45
Acquired:	January 05, 2007

Peak #	Ret Time	Area	Height	Area %
1	4.21	615.24	161.26	0.02
2	5.21	1024.94	292.85	0.04
3	6.09	326.05	83.67	0.01
4	7.10	301.83	31.69	0.01
5	7.75	169.71	40.31	0.01
6	8.38	136.91	47.17	0.01
7	8.97	123.76	38.29	0.00
8	12.30	2684.80	1153.73	0.10
9	12.48	1162.83	467.42	0.04
10	12.56	1893.94	719.41	0.07
11	12.68	466.69	180.24	0.02
12	12.86	690.32	301.63	0.03
13	13.62	2651450.00	979725.00	99.58
14	14.34	274.11	82.01	0.01
15	15.17	1208.09	320.67	0.05
16	19.00	166.44	32.66	0.01

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

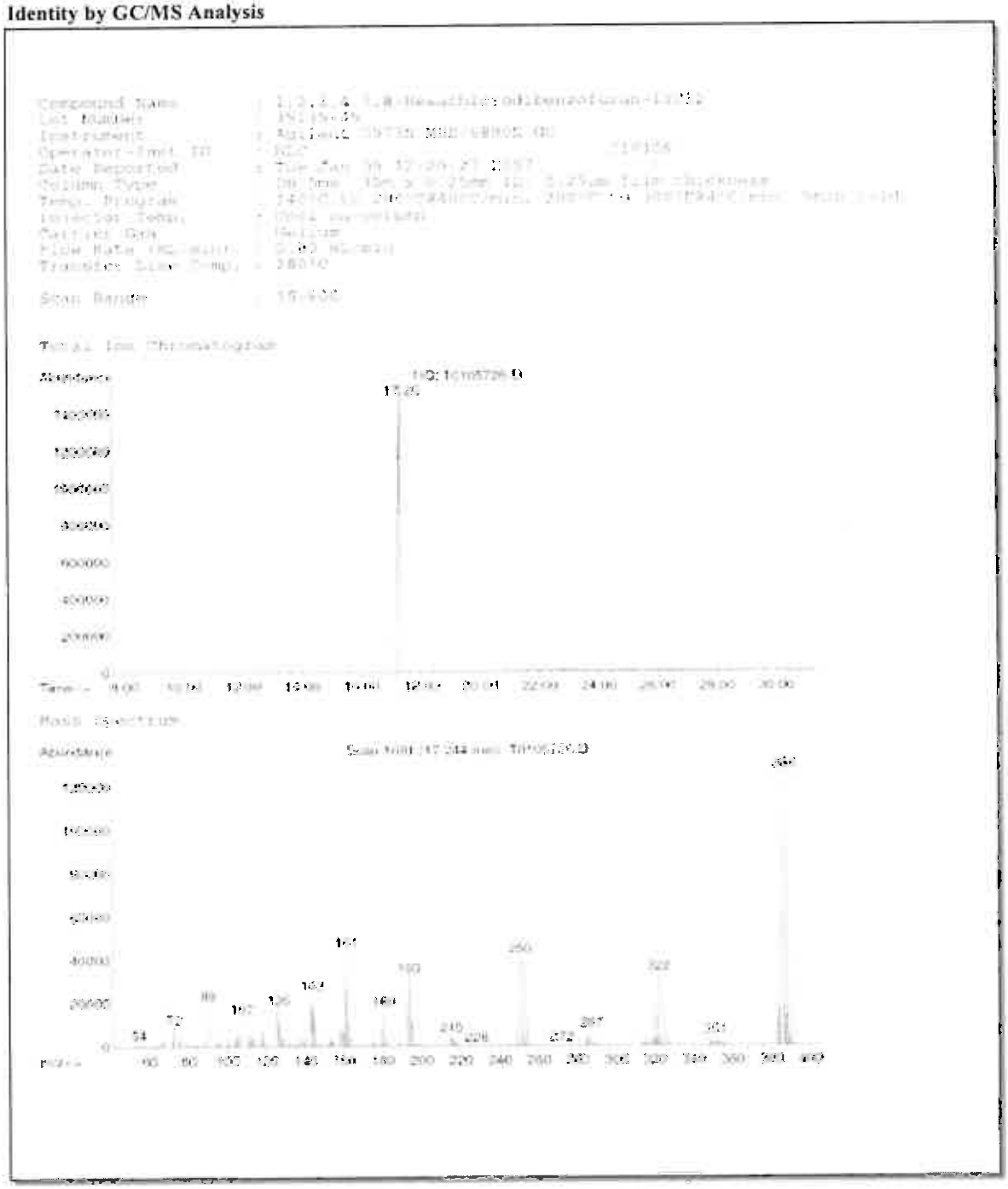

COA Revision History

Revision No.	Date	Reason for Revision
00	September 22, 2010	Initial version
01	September 22, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet"
02	November 15, 2016	Corrected Molecular Weight from 368.77 to 386.77

Reagent

HRDXNIDA_00353

r: 11/28/18 SKV

Cerilliant Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Certificate of Analysis

1,2,3,4,6,7,8-Heptachlorodibenzofuran-$^{13}C_{12}$

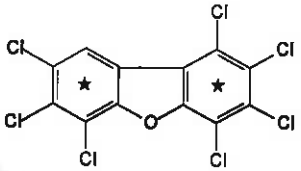

Catalog Number: EF-974
Solution Lot: ER08101404
Expiration Date: November 2024
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,6,7,8-Heptachlorodibenzofuran-$^{13}C_{12}$	98.3%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER08101404	48.75	± 5%	0.3	≤ 3%
Previous Lot	ER102711-02	51.49	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

December 03, 2015
Date

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 60°C to 300°C at 40°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 4
Linearity (r): 1.000

Neat Material Data

Compound Name: 1,2,3,4,6,7,8-Heptachlorodibenzofuran-$^{13}C_{12}$
Compound Lot: ER020507-02

Chemical Formula: $^{13}C_{12}HCl_7O$
CAS Number: 109719-84-8
Molecular Weight: 421.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	98.7%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.16% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS	SP10-0105	Pass
		no single DD/DF impurity ≥1.0%
Purity Factor		98.69%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

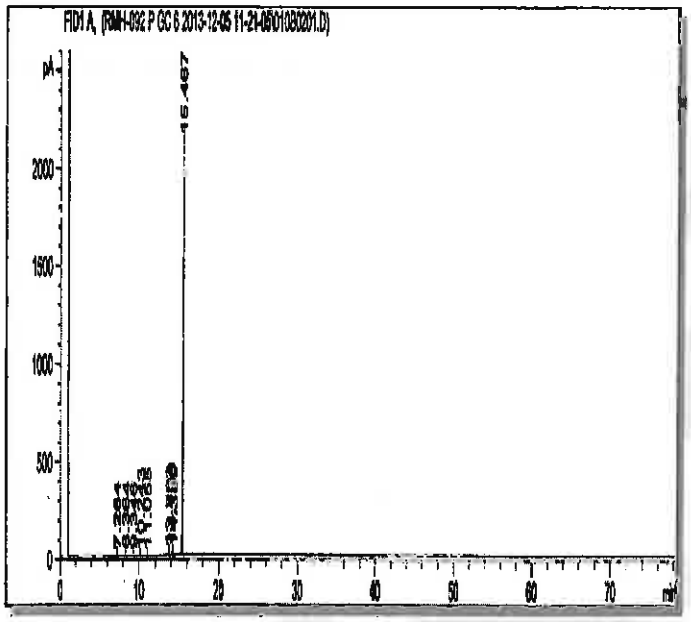

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-092 P GC 6 2013-12-05 11-21-05\010B0201.D
Instrument:	GC#6
Sample Name:	ER020507-02
Acquired:	December 05, 2013

Peak #	Ret Time	Area	Height	Area %
1	7.26	4.41	2.08	0.05
2	8.36	11.76	5.45	0.12
3	9.35	5.20	2.32	0.05
4	10.24	1.47	0.62	0.02
5	11.06	0.34	0.17	0.00
6	13.75	8.81	4.38	0.09
7	13.80	23.67	9.98	0.25
8	14.13	43.07	16.42	0.45
9	14.20	21.73	8.77	0.23
10	14.39	4.79	1.81	0.05
11	15.47	9349.36	2200.33	98.68

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 1,2,3,4,6,7,8-Heptachlorodibenzofuran-13C12
Lot Number : ER020507-02
Instrument : Agilent GCMS
Operator : ECM(BRYAN_DOCKERY)
Date Reported : Tue Dec 17 09:08:58 2013
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL\min) : 0.80 mL/min
Transfer Line Temp. : 280°C
Scan Range : 50-550

Total Ion Chromatogram

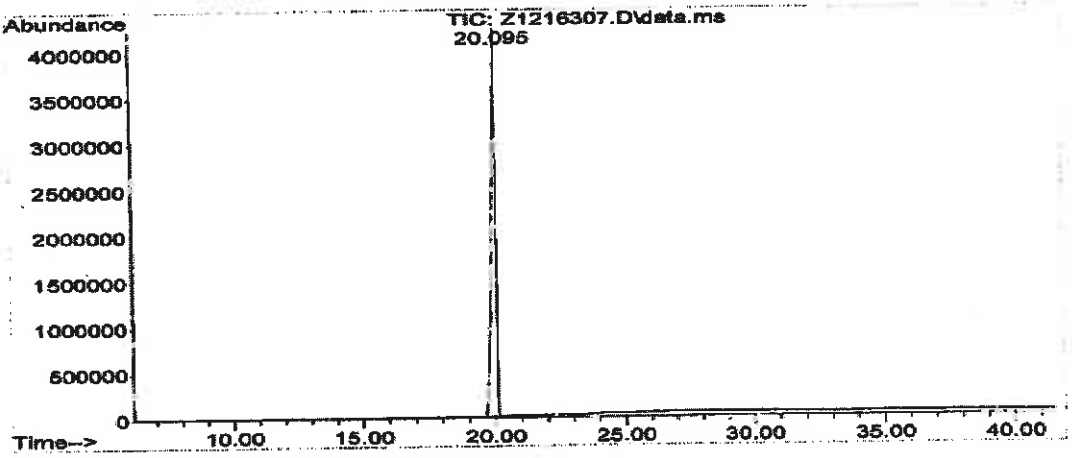

Mass Spectrum

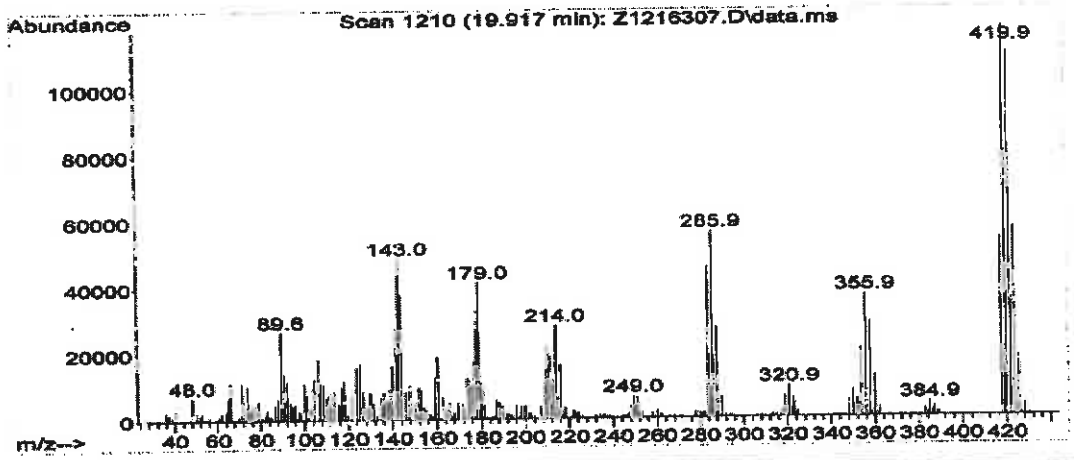

COA Revision History

Revision No.	Date	Reason for Revision
00	January 19, 2015	Initial version
01	December 04, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet"

Reagent

HRDXNIDA_00354

Rec: 11/28/18 SKV

Cerilliant Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$

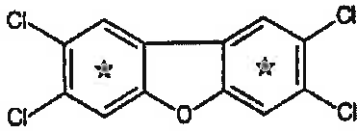

Catalog Number: EF-904
Solution Lot: ER09131601
Expiration Date: September 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	99.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER09131601	49.91	± 5%	0.2	≤ 3%
Previous Lot	ER12101304	51.13	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

November 02, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_4Cl_4O$
Compound Lot:	ER01161401	**CAS Number:**	89059-46-1
		Molecular Weight:	317.88

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.2%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS SIM	SP10-0105	No single DD/DF ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.00% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.24%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

GC/FID

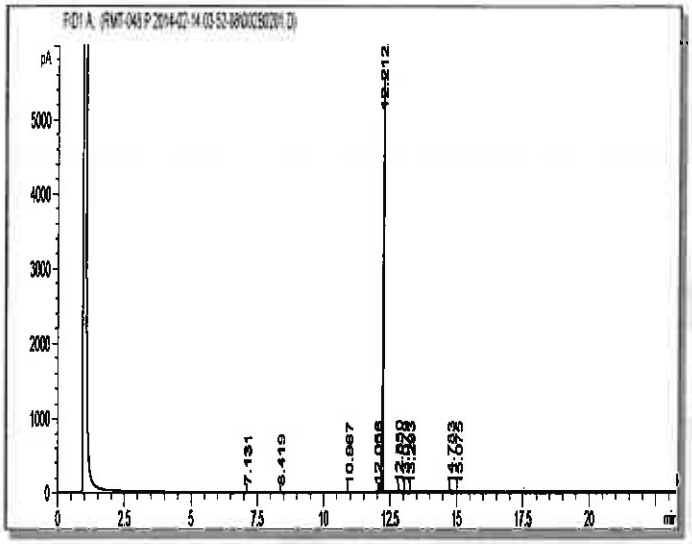

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMT-048 P 2014-02-14 03-52-08\002B0201.D
Instrument:	GC#10
Sample Name:	ER01161401
Acquired:	February 14, 2014

Peak #	Ret Time	Area	Height	Area %
1	7.13	1.19	0.61	0.01
2	8.42	3.23	1.42	0.03
3	10.97	3.57	1.04	0.03
4	12.06	20.86	12.47	0.18
5	12.21	11764.70	5466.96	99.29
6	12.85	30.72	15.48	0.26
7	13.08	7.62	4.03	0.06
8	13.29	5.47	2.91	0.05
9	14.78	7.62	2.76	0.06
10	15.08	3.87	1.33	0.03

GC/MS

Compound Name	: 2,3,7,8-Tetrachlorodibenzofuran-13C12
Lot Number	: ER01161401
Instrument	: Agilent GCMS
Operator	: ECM(SAMUEL_GIUFFRE)
Date Reported	: Thu Feb 13 11:57:07 2014
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

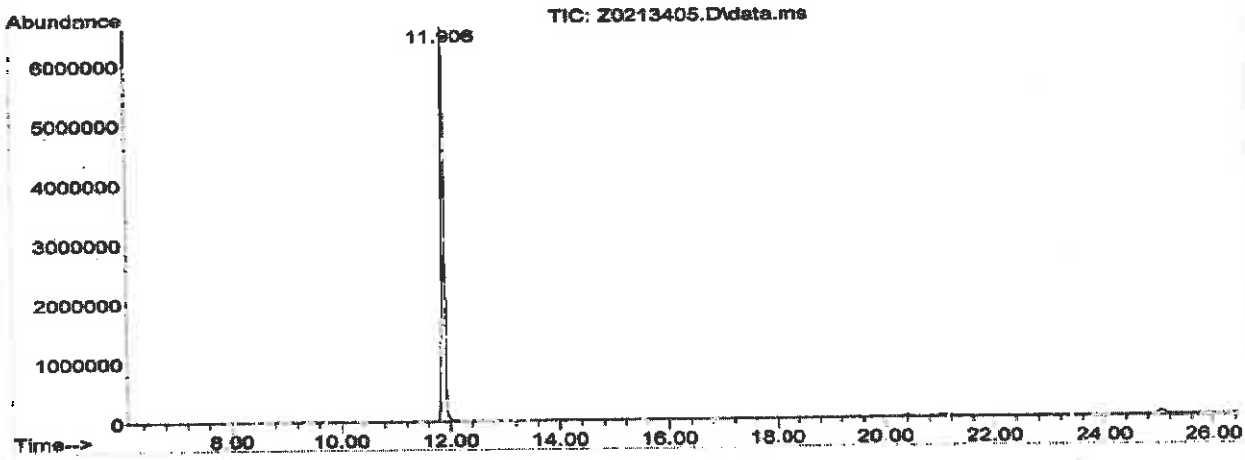

Mass Spectrum

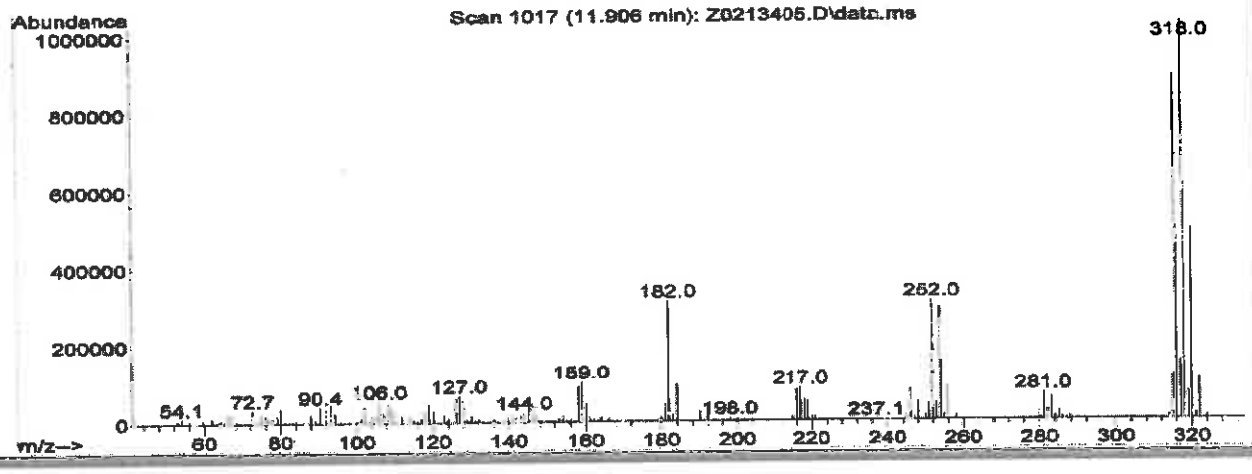

COA Revision History

Revision No.	Date	Reason for Revision
00	November 02, 2016	Initial version

Reagent

HRDXNIDA_00355

Rec: 11/28/18 SJV

Cerilliant Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$

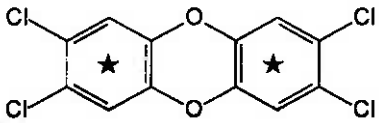

Catalog Number: ED-900
Solution Lot: ER03031601
Expiration Date: March 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.4%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution, and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER03031601	52.66	± 5%	0.3	≤ 3%
Previous Lot	ER01031401	49.83	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

March 24, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-35ms 30 m x 0.53 mm ID, 1.0 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_4Cl_4O_2$
Compound Lot:	ER01201405	**CAS Number:**	76523-40-5
		Molecular Weight:	333.88

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity and Distribution by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.05% $^{13}C_6$ vs $^{13}C_{12}$
Impurities by GC/MS SIM Analysis	SP10-0105	no single DD/DF impurity $\geq$0.5%
Mass Balance Purity Factor		99.34%

- The primary chromatographic purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Mass Balance Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

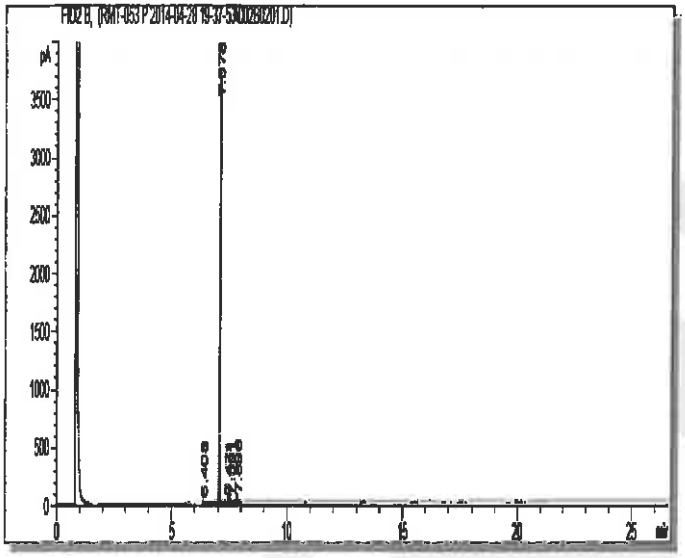

Column:	DB-35ms, 30 m x 0.53 mm ID, 1.0 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMT-053 P 2014-04-28 19-37-53\002B0201.D
Instrument:	GC#6
Sample Name:	ER01201405
Acquired:	April 28, 2014

Peak #	Ret Time	Area	Height	Area %
1	6.41	4 36	2.80	0.08
2	7 08	5225 21	3678.99	99.32
3	7 47	5 29	3.00	0.10
4	7 59	9 11	4.81	0.17
5	7.90	17 05	9.22	0.32

GC/MS

```
Compound Name          : 2,3,7,8-Tetrachlorodibenzo-p-dioxin-13C12
Lot Number             : ERD1201405
Instrument             : Agilent GCMS
Operator               : ECM(SAMUEL_GIUITRE)
Date Reported          : Tue May 06 09:30:26 2014
Column Type            : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program          : 140°C to 200°C@40°C/min,200°C to 220°C@4°C/min
Injector Temp.         : Cool on-column
Carrier Gas            : Helium
Flow Rate (mL\min)     : 0.80 mL/min
Transfer Line Temp.    : 280°C
Scan Range             : 50-550
```

Total Ion Chromatogram

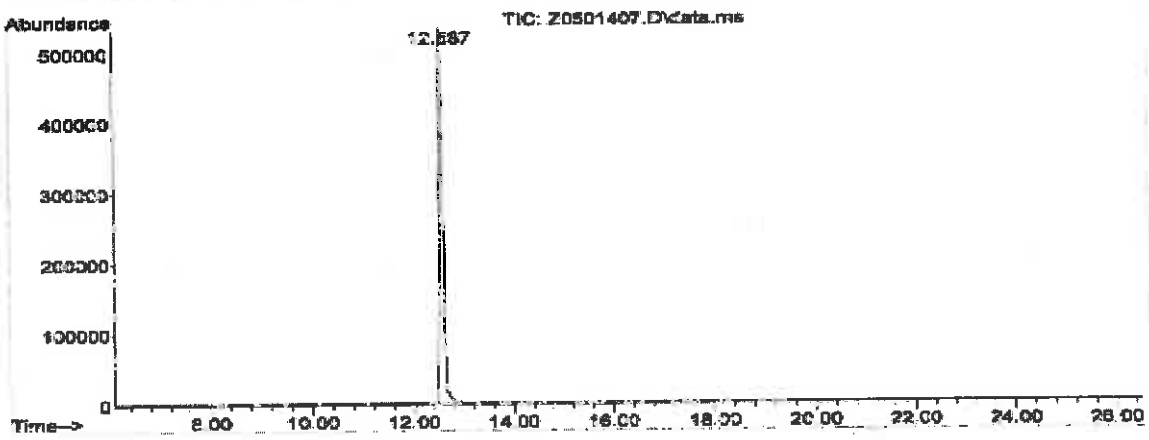

Mass Spectrum

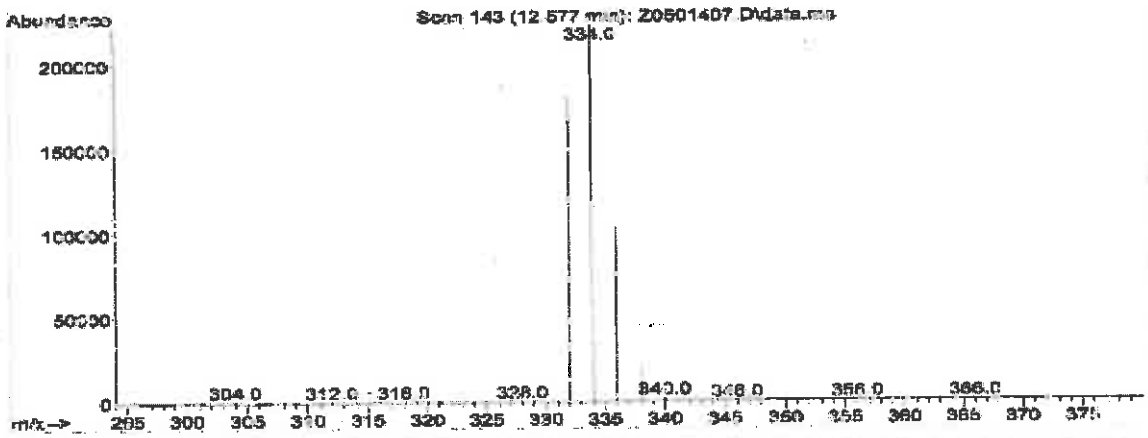

Reagent

HRDXNIDA_00357

r: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Certificate of Analysis

1,2,3,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

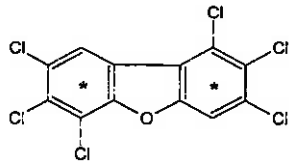

Catalog Number: EF-985
Solution Lot: ER02241603
Expiration Date: April 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.6%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER02241603	50.09	± 5%	0.4	≤ 3%
Previous Lot	ER053107-03	50.81	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

May 04, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O$
Compound Lot:	ER051607-01	**CAS Number:**	116843-03-9
		Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.06% $^{13}C_6$ vs $^{13}C_{12}$
Impurities by GC/MS SIM Analysis	SP10-0105	no single DD/DF impurity ≥ 0.5%
Mass Balance Purity Factor		99.01%

- The chromatographic purity is calculated as the average of two independently performed analyses utilizing two different methods Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Mass Balance Purity Factor
- Mass Balance Purity Factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

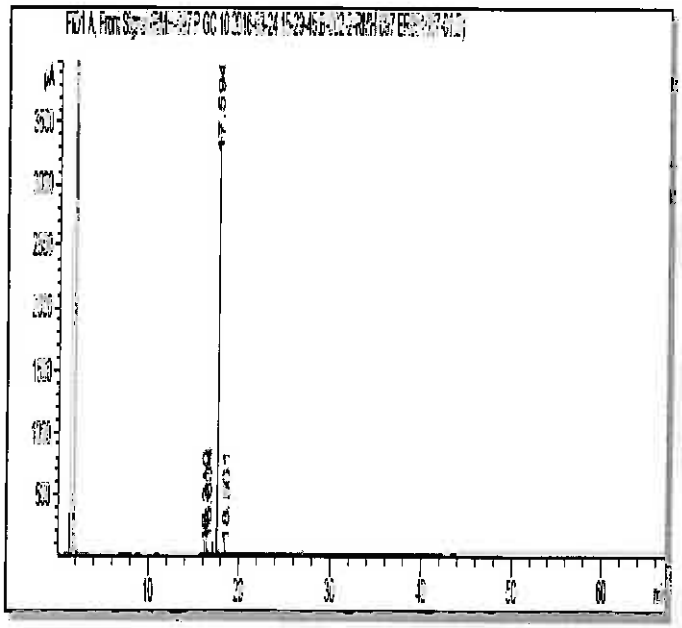

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	40°C to 300°C at 15°C/min hold 50 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-097 P GC 10 2016-03-24 15-29-45\B-002-2.D
Instrument:	GC#10
Sample Name:	ER051607-01
Acquired:	March 24, 2016

Peak #	Ret Time	Area	Height	Area %
1	16.31	6.97	3.21	0.08
2	16.60	77.08	33.51	0.83
3	17.59	9156.82	3458.38	99.00
4	18.56	8.48	2.69	0.09

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 1,2,3,6,7,8-Hexachlorodibenzofuran-13C12
Lot Number	: ER051607-01
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Fri Mar 18 07:08:54 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

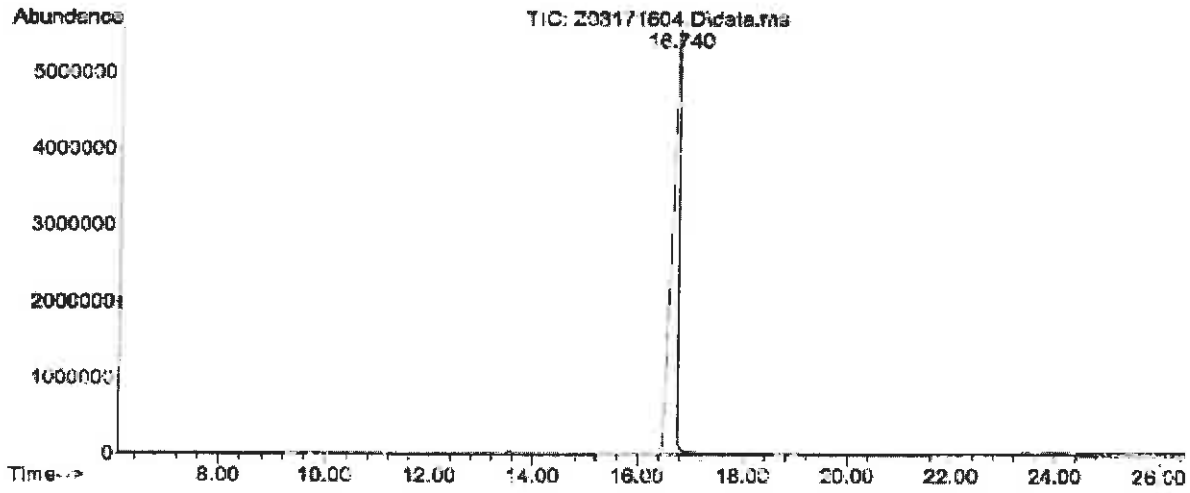

Mass Spectrum

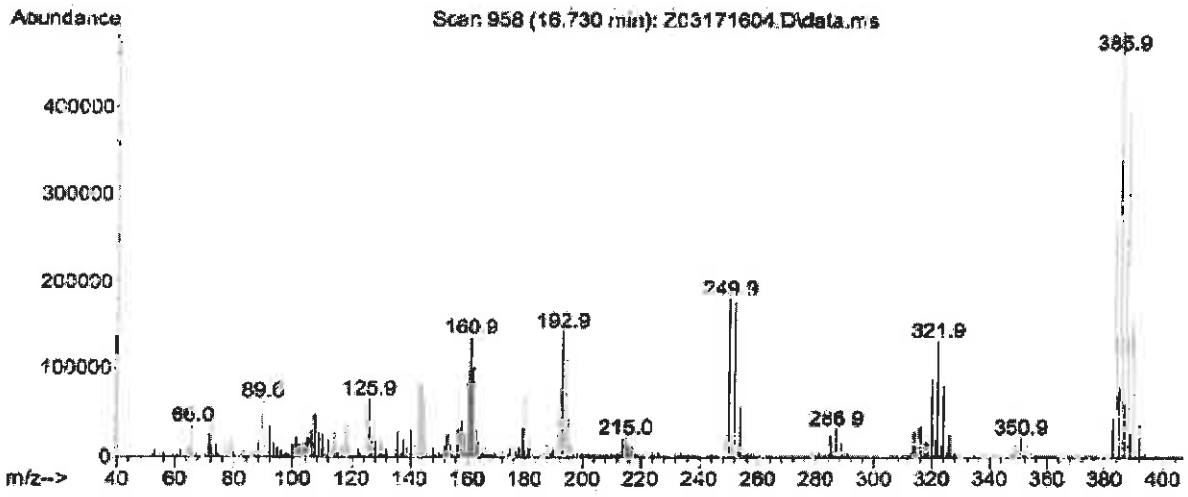

COA Revision History

Revision No.	Date	Reason for Revision
00	May 04, 2016	Initial version

Reagent

HRDXNIDA_00358

r: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
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CIL

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,7,8,9-Hexachlorodibenzofuran-$^{13}C_{12}$

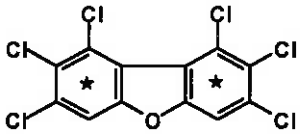

Catalog Number: EF-986
Solution Lot: ER100610-01
Expiration Date: December 2020
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For laboratory use only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
1,2,3,7,8,9-Hexachlorodibenzofuran-$^{13}C_{12}$	99.5%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER100610-01	51.2	± 5%	0.4	≤ 3%
Previous Lot	ER100107-01	49.9	± 5%	1.4	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

February 14, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2OCl_6$
Compound Lot:	ER080108-03	**CAS Number:**	116843-04-0
		Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.5%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.03% $^{13}C_0$ vs $^{13}C_{12}$
		0.09% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.49%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

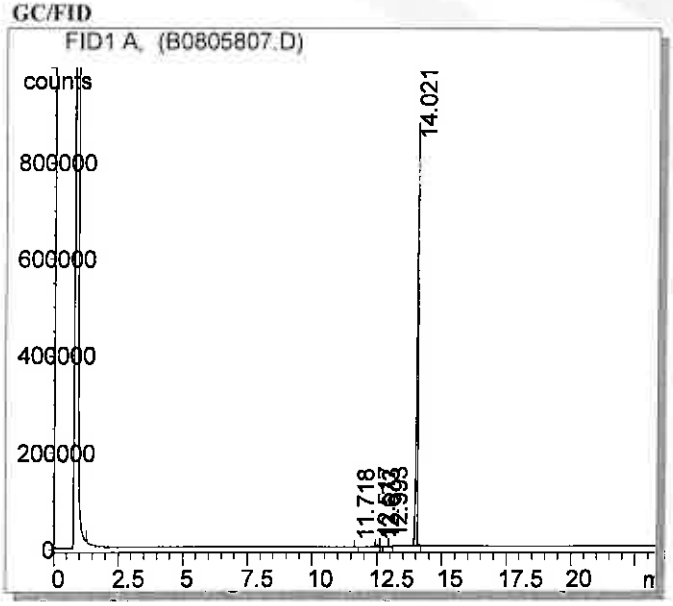

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0805807.D
Instrument:	GC#2
Sample Name:	ER080108-03
Acquired:	August 05, 2008

Peak #	Ret Time	Area	Height	Area %
1	11.72	318.47	152.10	0.01
2	12.52	8294.54	2994.64	0.30
3	12.67	155.17	67.29	0.01
4	12.99	4248.66	1646.53	0.16
5	14.02	2708910.00	880320.00	99.52

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

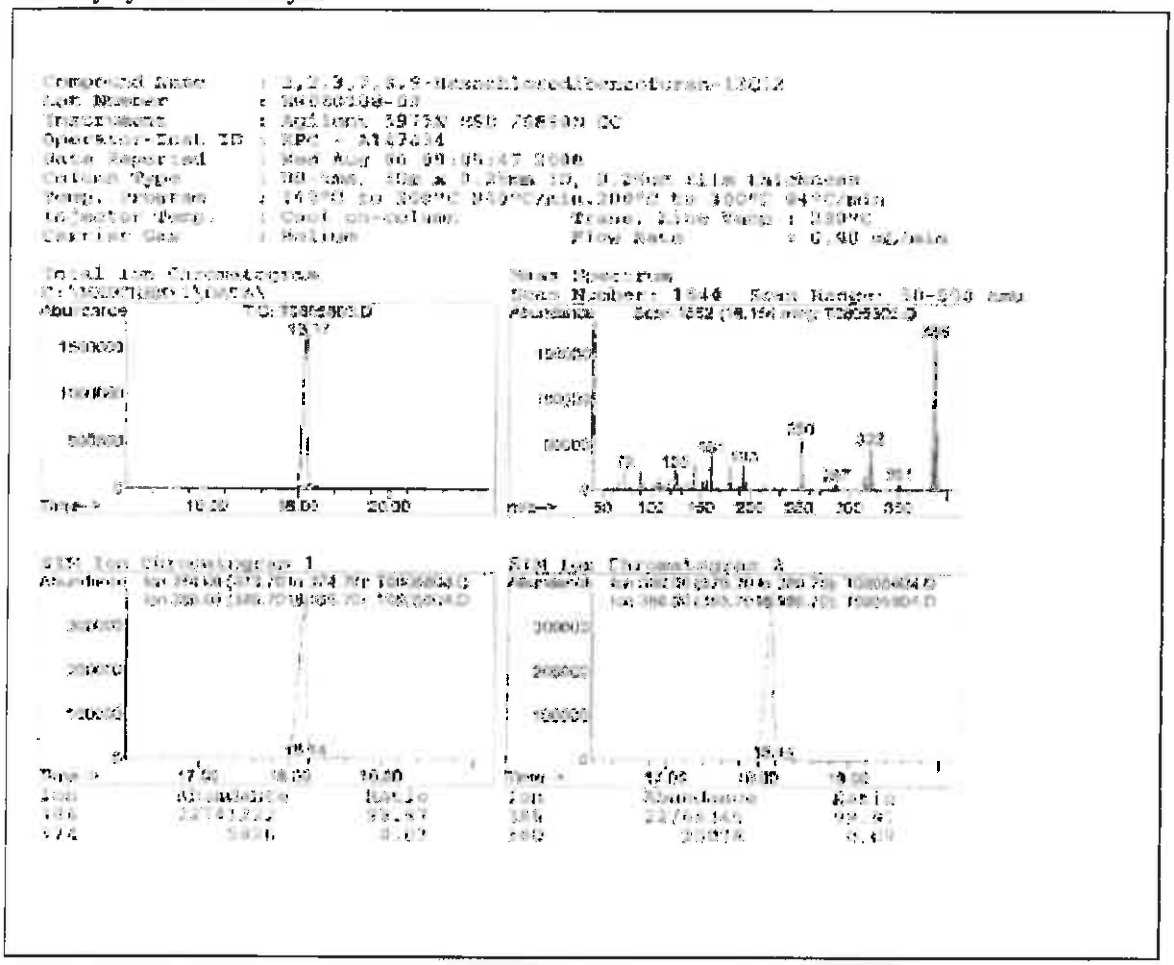

COA Revision History

Revision No.	Date	Reason for Revision
00	January 12, 2011	Initial version
01	November 05, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".
02	February 14, 2017	Corrected Isotopic Purity by GC/MS SIM from C to ^{13}C.

Reagent

HRDXNIDA_00359

r: 1/15/19 SKV

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Analytical Reference Standards
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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

2,3,4,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

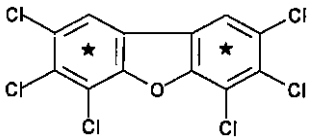

Catalog Number: EF-987
Solution Lot: ER100610-02
Expiration Date: December 2020
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For laboratory use only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
2,3,4,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.4%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER100610-02	50.9	± 5%	0.6	≤ 3%
Previous Lot	ER031507-03	50.3	± 5%	1.8	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

January 15, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,4,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O$
Compound Lot:	ER061906-02	**CAS Number:**	116843-05-1
		Molecular Weight:	386.73

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.4%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.04% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.40%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

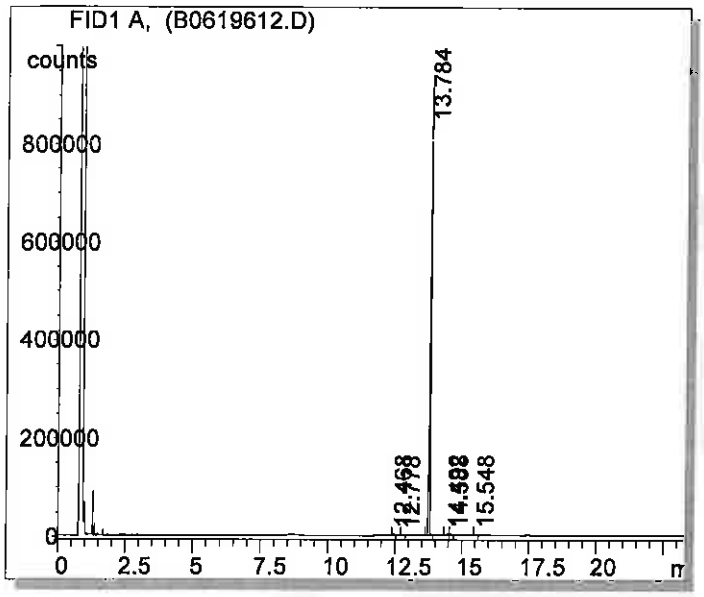

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0619612.D
Instrument:	GC#2
Sample Name:	ER061906-02
Acquired:	June 19, 2006

Peak #	Ret Time	Area	Height	Area %
1	12.47	4458	1822	0.18
2	12.78	3496	1304	0.14
3	13.78	2443150	925399	99.39
4	14.49	1528	387	0.06
5	14.59	4236	1332	0.17
6	15.55	1361	348	0.06

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 2,3,4,6,7,8-Hexachlorodibenzofuran-13C12
Lab Number : ZR061906-02
Instrument : Agilent 5975N MSD /6890N GC
Operator Inst ID : RPC - A147434
Date Reported : Tue Jun 20 08:44:12 2006
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C 8.0°C/min,200°C to 320°C @4°C/min
Injector Temp. : Cool on-column Trans. Line Temp : 280°C
Carrier Gas : Helium Flow Rate : 0.80 mL/min

Total Ion Chromatogram
C:\MSDCHEM\1\DATA\
Abundance TIC T061906 11.D

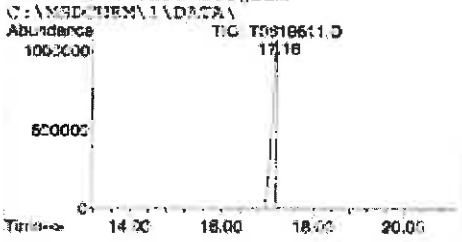

Mass Spectrum
Scan Number: 1614 Scan Range: 50-550 amu
Abundance Scan 1600 (17.157 min): T061906 11.D

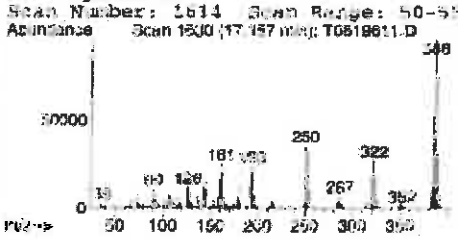

SIM Ion Chromatogram 1
Abundance Ion 374.00 (373.70 to 374.70): T061906 12.D

Ion	Abundance	Ratio
386	32369658	99.39
374	1998	0.01

SIM Ion Chromatogram 2
Abundance Ion 380.00 (379.70 to 380.70): T061906 12.D

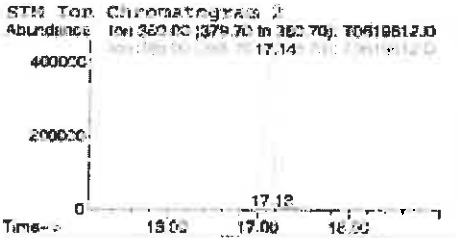

Ion	Abundance	Ratio
386	32389446	99.96
380	12974	0.04

COA Revision History

Revision No.	Date	Reason for Revision
00	January 04, 2011	Initial version
01	January 15, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Reagent

HRDXNIDA_00360

r: 1/15/19 SKV

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Analytical Reference Standards
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Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,7,8-Pentachlorodibenzo-p-dioxin-$^{13}C_{12}$

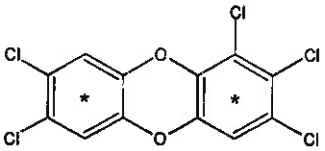

Catalog Number: ED-955
Solution Lot: ER08041401
Expiration Date: August 2024
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,7,8-Pentachlorodibenzo-p-dioxin-$^{13}C_{12}$	98.2%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER08041401	48.80	± 5%	0.3	≤ 3%
Previous Lot	ER030907-02	49.84	± 5%	0.4	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

February 10, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,7,8-Pentachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3Cl_5O_2$
Compound Lot:	ER06241403	**CAS Number:**	109719-79-1
		Molecular Weight:	368.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.9%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS-SIM Analysis	SP10-0105	0.07% $^{13}C_0$ vs $^{13}C_{12}$
		0.14% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS	SP10-0105	No single DD/DF $\geq$ 0.5%
Mass Balance Purity Factor		98.90%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

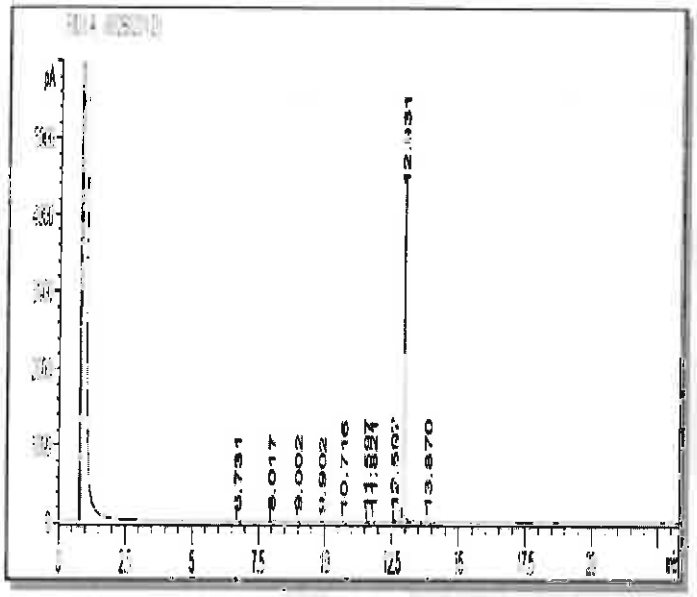

Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 100°C to 300°C at 15°C/min, hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: RMP-085 P GC 6 2014-07-30 18-11-11\002B0201.D
Instrument: GC#6
Sample Name: ER06241403
Acquired: July 30, 2014

Peak #	Ret Time	Area	Height	Area %
1	6.73	7.32	3.42	0.07
2	8.02	3.79	1.60	0.04
3	9.00	8.74	3.64	0.08
4	9.90	3.38	1.35	0.03
5	10.72	1.31	0.45	0.01
6	11.60	14.46	6.69	0.14
7	11.82	2.21	1.11	0.02
8	12.60	68.05	28.10	0.64
9	12.93	10594.10	4235.85	98.91
10	13.87	7.09	2.57	0.07

Spectral and Physical Data (cont.)

GC/MS

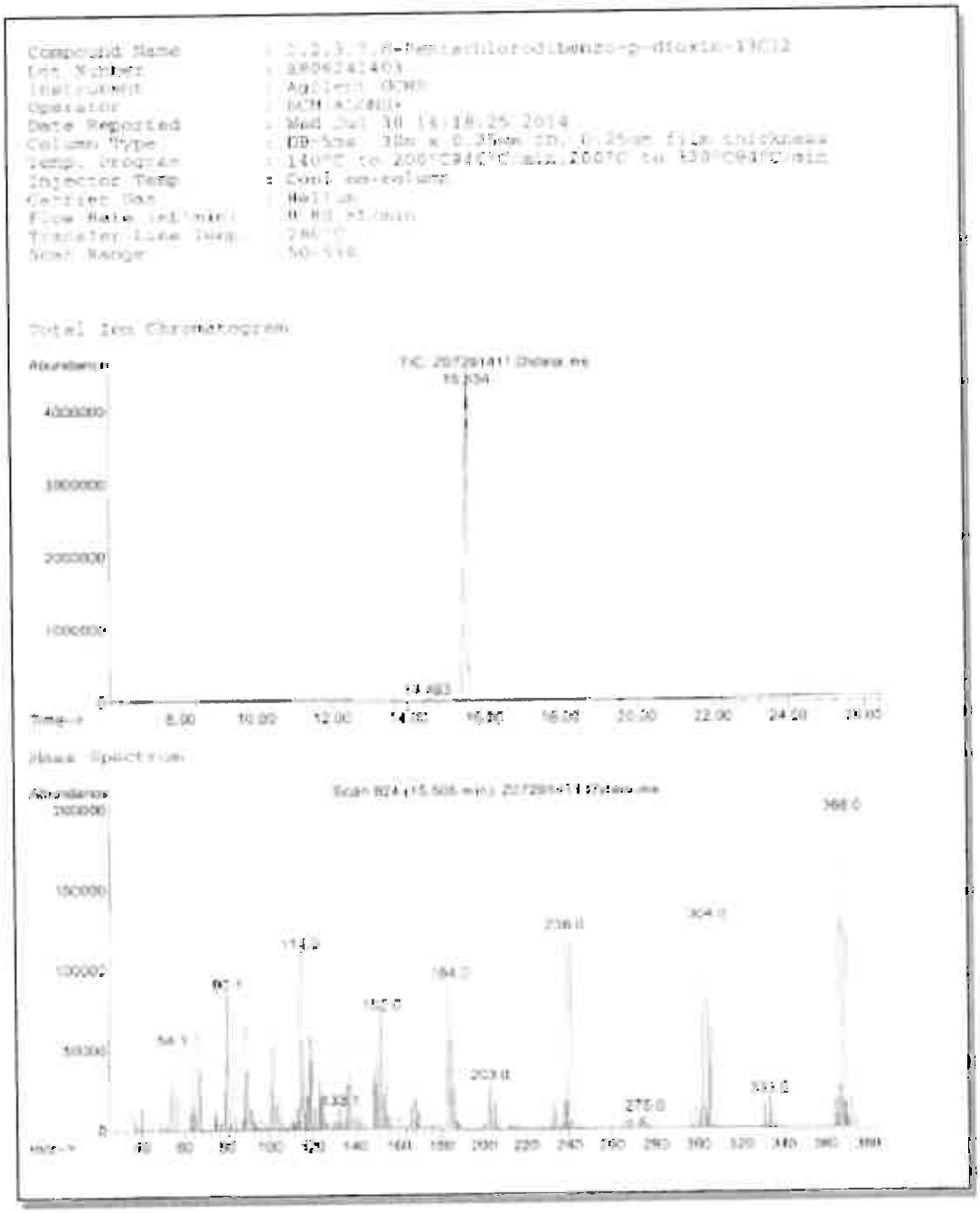

COA Revision History

Revision No.	Date	Reason for Revision
00	September 24, 2014	Initial version
01	February 10, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Reagent

HRDXNIDA_00361

r: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
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ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

Certificate of Analysis

1,2,3,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$

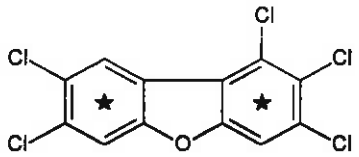

Catalog Number: EF-952
Solution Lot: ER012111-01
Expiration Date: January 2021
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For laboratory use only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
1,2,3,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	99.2%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER012111-01	50.7	± 5%	0.4	≤ 3%
Previous Lot	ER0100407-02	51.0	± 5%	0.5	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

February 15, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3OCl_5$
Compound Lot:	ER090110-01	**CAS Number:**	109719-77-9
		Molecular Weight:	352.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.2%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.03% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.17%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

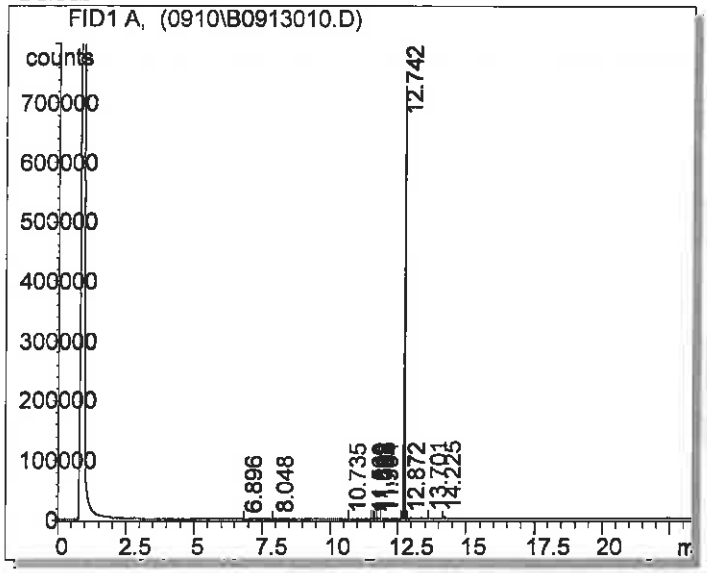

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	S:\GC\GC2\2010\0910\B0913010.D
Instrument:	GC#2
Sample Name:	ER090110-01
Acquired:	September 13, 2010

Peak #	Ret Time	Area	Height	Area %
1	6.90	618.64	296.84	0.04
2	8.05	254 50	102.70	0.01
3	10.74	162 25	70.86	0.01
4	11 57	145 03	82.11	0.01
5	11 62	468 46	216.27	0.03
6	11 69	1863 76	870.51	0.11
7	11.79	1631 76	576.35	0.10
8	11.90	421 31	184.81	0.02
9	12.74	1702290 00	729831.00	99.20
10	12.87	308 15	147.54	0.02
11	13.70	3743 55	1299.40	0.22
12	14.23	4032 24	1491.01	0.23

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

Compound Name : 1,2,3,7,8-Pentachlorodibenzofuran-13C12
Lot Number : EX090110-01
Instrument : Agilent 5973N MSD/6890N GC
Operator-Inst ID : RPC - C10106
Date Imported : Tue Sep 14 11:05:33 2010
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 280°C

Scan Range : 50-550

Total Ion Chromatogram

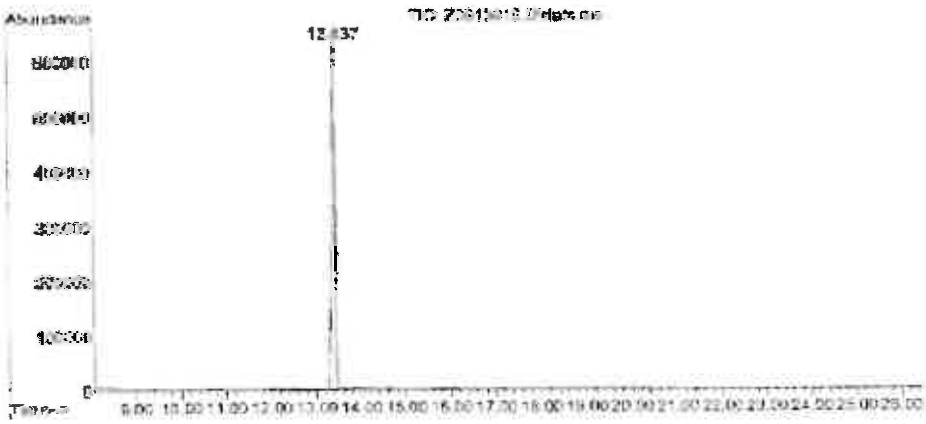

Mass Spectrum

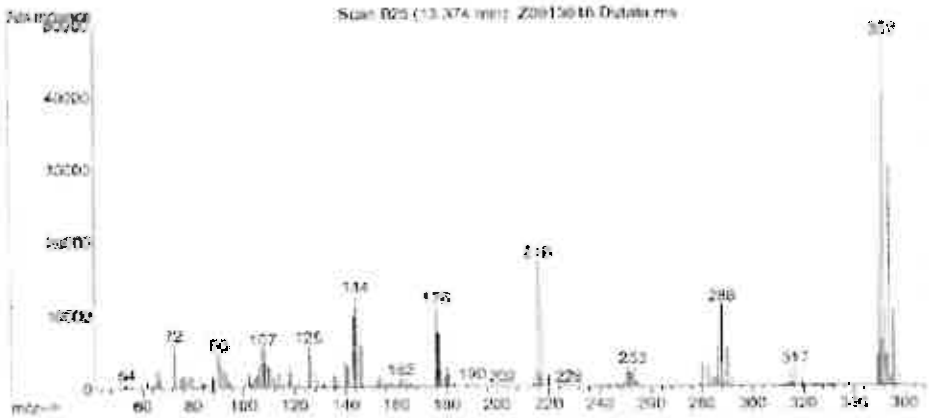

COA Revision History

Revision No.	Date	Reason for Revision
00	February 11, 2011	Initial version
01	March 01, 2011	Corrected typographical error: Chemical Structure
02	February 15, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Reagent

HRDXNIDA_00362

P: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

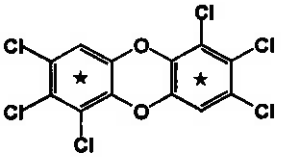

Catalog Number: ED-966
Solution Lot: ER03151801
Expiration Date: March 2028
Solvent: n-Nonane:Toluene (80:20) (v/v)
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	> 99.9%	50.03 ± 0.28 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER03151801	52.29	± 5%	0.2	≤ 3%
Previous Lot	ER010209-01	48.05	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using balances that have been qualified and calibrated to ISO 17025 requirements. All calibrations utilize NIST traceable weights which are calibrated externally by a qualified ISO 17025 accredited calibration laboratory to NIST standards. Qualification of each balance includes the assignment of a minimum weighing by a qualified and ISO 17025 accredited calibration vendor taking into consideration the balance and installed environmental conditions to ensure compliance with USP tolerances of NMT 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

April 19, 2018
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O_2$
Compound Lot:	FN01151802	**CAS Number:**	109719-81-5
		Molecular Weight:	402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.04% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 1.0%
Mass Balance Purity Factor		98.96%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

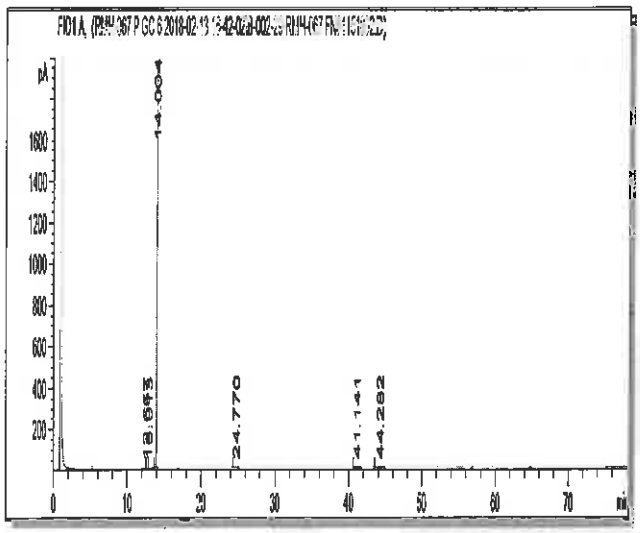

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-067 P GC 6 2018-02-13 16-42-02\B-002-29.D
Instrument:	GC#6
Sample Name:	FN01151802
Acquired:	February 13, 2018

Peak #	Ret Time	Area	Height	Area %
1	12.66	1 69	0.62	0.03
2	13.01	1 96	0.53	0.03
3	14 00	5617 62	1952.76	98.87
4	24 77	5.26	0.34	0.09
5	41 14	10.58	0.38	0.19
6	44 28	44.69	1.49	0.79

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-13C12
Lot Number	: FN01151802
Instrument	: Agilent GCMS
Operator	: FCM(SGIUFTRE)
Date Reported	: Mon Mar 05 10:17:32 2018
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

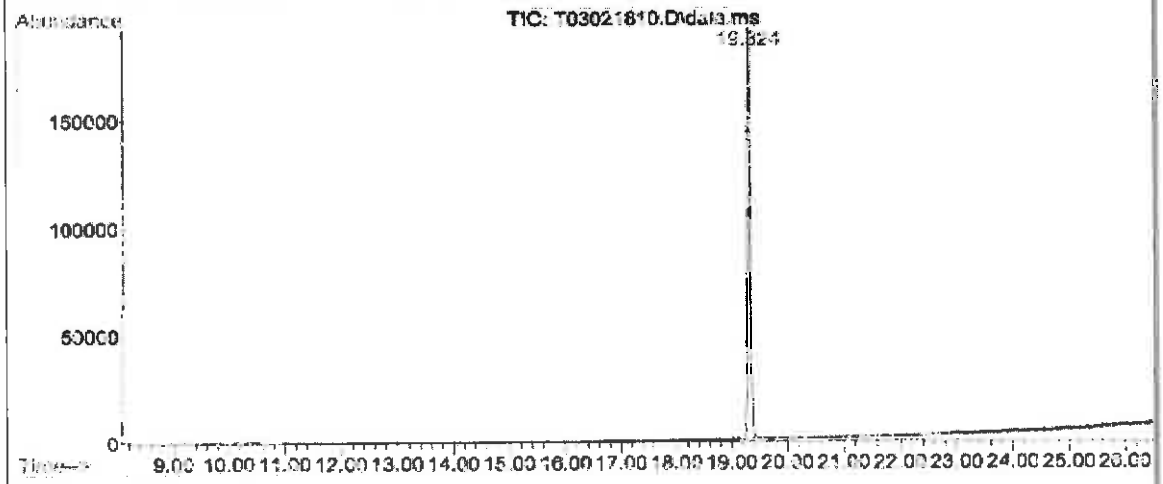

Mass Spectrum

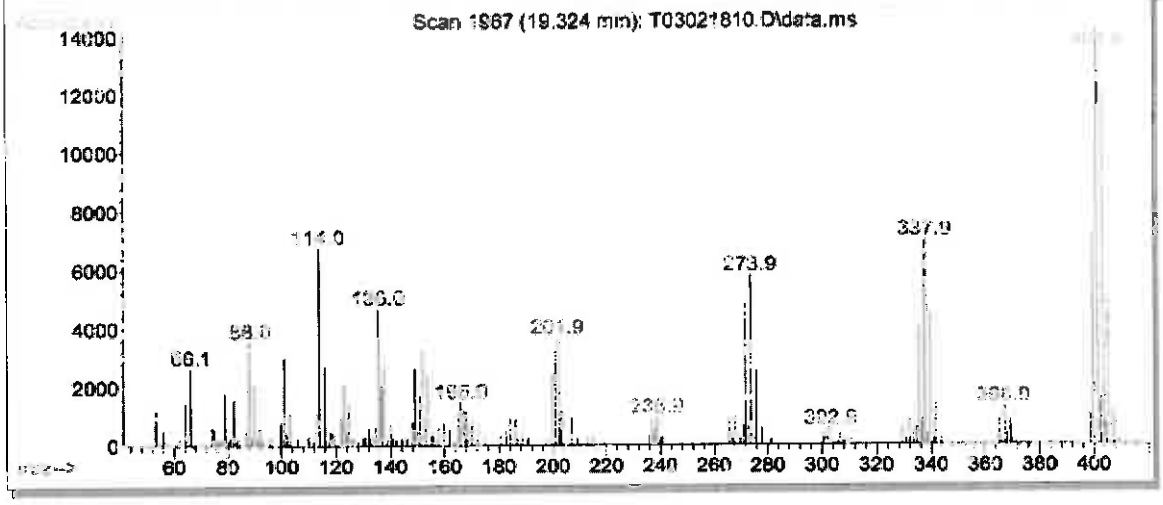

Reagent

HRDXNIDA_00365

Rec 11/28/18 SKV

1450145
ID: HRDXNIDA_00347
Exp: 04/30/27 Prpd: SKV
13C-OCDD [10 ug/mL]

Cerilliant
Analytical Reference Standards
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CIL

Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Octachlorodibenzo-p-dioxin-$^{13}C_{12}$

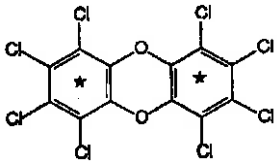

Catalog Number: ED-981-1.2
Solution Lot: ER04051701
Expiration Date: April 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
Octachlorodibenzo-p-dioxin-$^{13}C_{12}$	> 99.9%	10.00 ± 0.05 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04057101	10.22	± 5%	1.1	≤ 5%
Previous Lot	ER06061601	10.17	± 5%	0 8	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB Accredited
Reference Material Producer

Darron Ellsworth, Quality Assurance Manager

May 19, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.25 mm ID, 0.25 µm film thickness
Temp Program:	70°C to 200°C at 40°C/min 200°C to 280°C at 10°C/min hold 15 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	3
Linearity (r):	0.997

Neat Material Data

Compound Name:	Octachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}Cl_8O_2$
Compound Lot:	ER04041601	**CAS Number:**	114423-97-1
		Molecular Weight:	471.66

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.1%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.07% $^{13}C_0$ vs $^{13}C_{12}$
		0.96% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.15%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

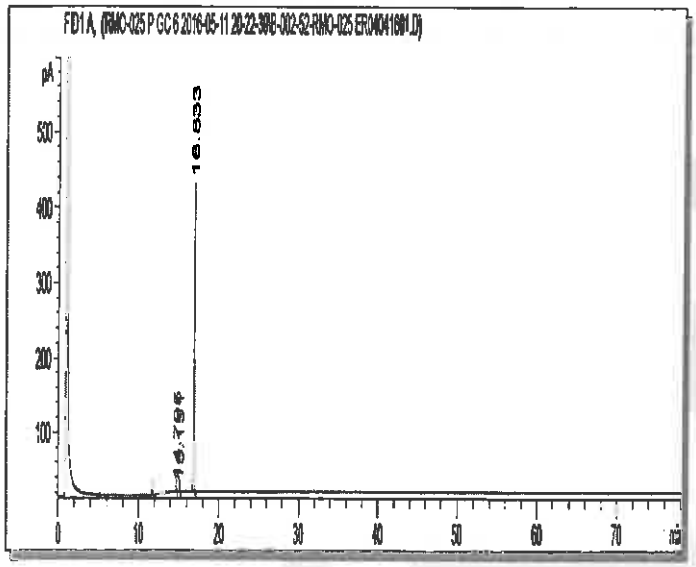

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMO-025 P GC 6 2016-05-11 20-22-39\B-002-52.D
Instrument:	GC#6
Sample Name:	ER04041601
Acquired:	May 11, 2016

Peak #	Ret Time	Area	Height	Area %
1	14.80	12.12	3.62	0.61
2	15.15	4.72	1.32	0.24
3	16.83	1980.56	409.54	99.16

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: Octachlorodibenzo-p-dioxin-13C12
Lot Number	: ERC4041601
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Wed May 04 13:45:40 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

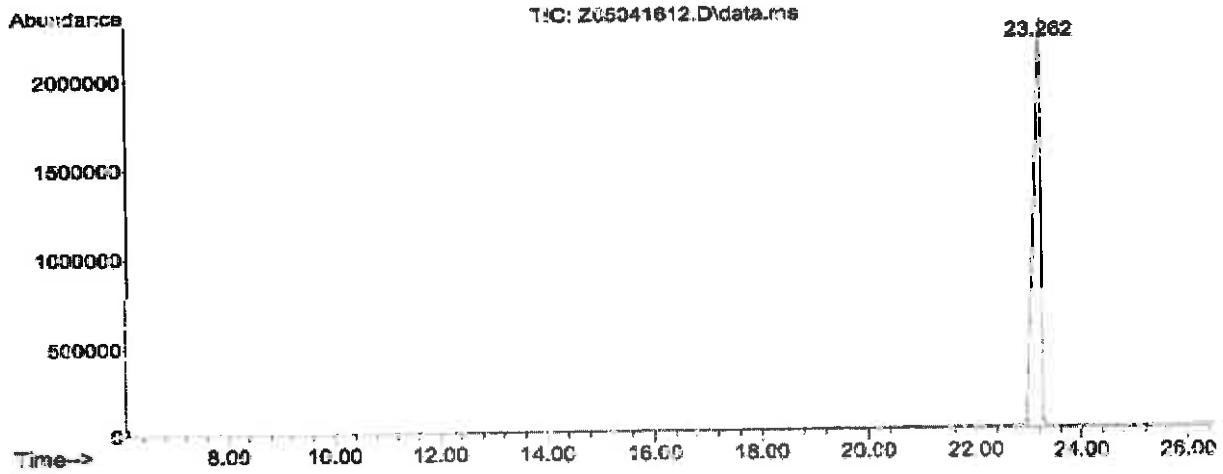

Mass Spectrum

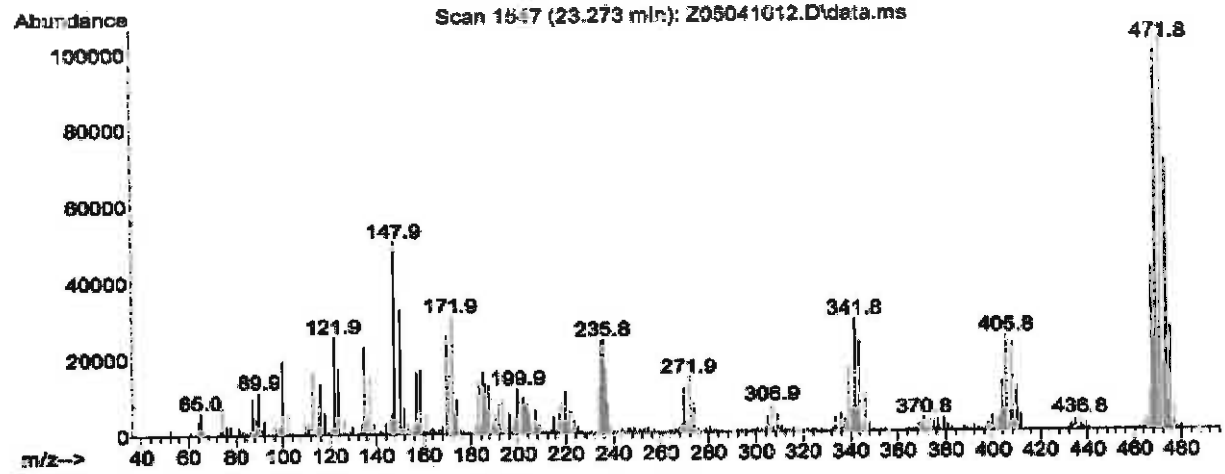

Reagent

HRDXNIDA_00375

nc 4/8/16 BWJ

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$

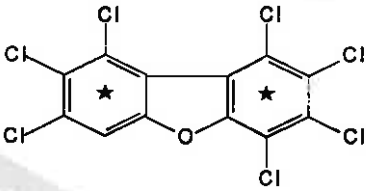

Catalog Number: EF-988
Solution Lot: ER04251601
Expiration Date: May 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	99.1%	49.99 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass, Purity Factor of the analyte(s), measured mass of the solution, and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04251601	49.11	± 5%	0.2	≤ 3%
Previous Lot	ER053107-02	50.58	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

November 09, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}HCl_7O$
Compound Lot:	ER04041602	**CAS Number:**	109719-94-0
		Molecular Weight:	421.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.1%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS SIM	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.16% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.10%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data (cont.)

GC/FID

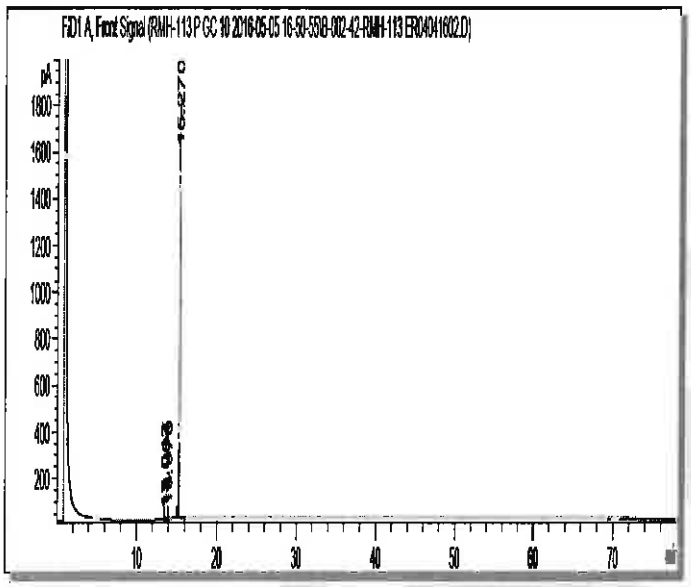

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-113 P GC 10 2016-05-05 16-50-55\B-002-42.D
Instrument:	GC#10
Sample Name:	ER04041602
Acquired:	May 05, 2016

Peak #	Ret Time	Area	Height	Area %
1	13.51	8.76	2.52	0.12
2	13.68	17.42	7.45	0.24
3	13.97	39.65	15.48	0.54
4	15.27	7226.95	1798.33	99.10

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 1,2,3,4,7,8,9-Heptachlorodibenzofuran-13C12
Lot Number	: ER04041602
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Wed May 04 15:34:28 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

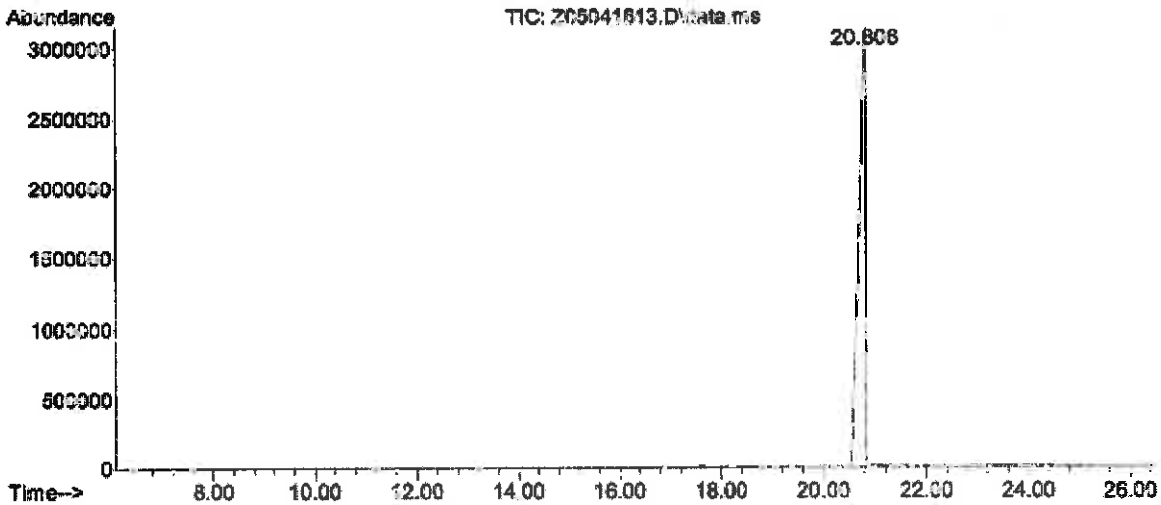

Mass Spectrum

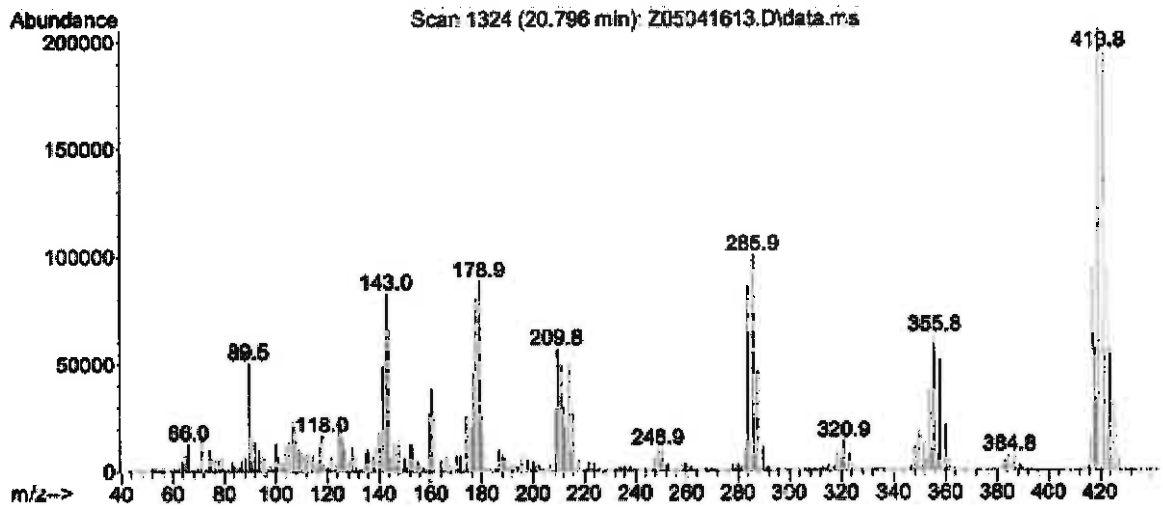

COA Revision History

Revision No.	Date	Reason for Revision
00	June 21, 2016	Initial version
01	November 09, 2016	Corrected Expiration Date from March 2026 to May 2026.

Reagent

HRDXNIDA_00376

N: 4/8/19 SW

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Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$

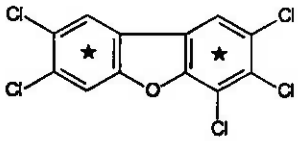

Catalog Number:	EF-958
Solution Lot:	ER01061701
Expiration Date:	January 2027
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	97.9%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass, Purity Factor of the analyte(s), measured mass of the solution, and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Acceptance Criteria	%RSD - Homogeneity Actual Results	Acceptance Criteria
New Lot	ER01061701	50.51	± 5%	0.1	≤ 3%
Previous Lot	ER11041601	49.56	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

January 27, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3Cl_5O$
Compound Lot:	ER11101601	**CAS Number:**	116843-02-8
		Molecular Weight:	352.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0102	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.02% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 0.5%
Mass Balance Purity Factor		**98.33%**

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

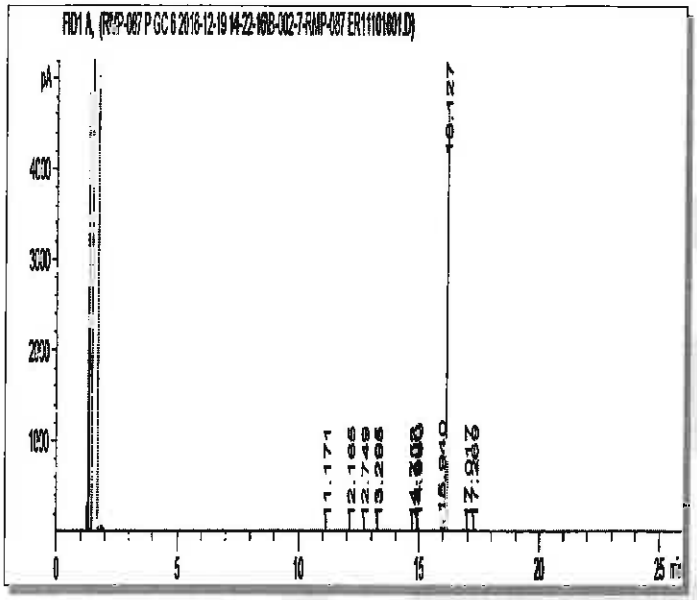

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMP-087 P GC 6 2016-12-19 14-22-16\B-002-7.D
Instrument:	GC#6
Sample Name:	ER11101601
Acquired:	December 19, 2016

Peak #	Ret Time	Area	Height	Area %
1	11.17	0.94	0.40	0.01
2	12.17	1.30	0.39	0.01
3	12.75	0.47	0.20	0.00
4	13.30	0.90	0.35	0.01
5	14.75	1.70	0.87	0.02
6	14.91	1.09	0.56	0.01
7	14.97	32.24	17.54	0.29
8	15.94	124.38	64.36	1.13
9	16.13	10866.60	4688.80	98.41
10	17.02	6.31	2.46	0.06
11	17.27	6.76	2.34	0.06

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 2,3,4,7,8-Pentachlorodibenzofuran-13C12
Lot Number	: ER11101601
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Tue Dec 20 12:19:55 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

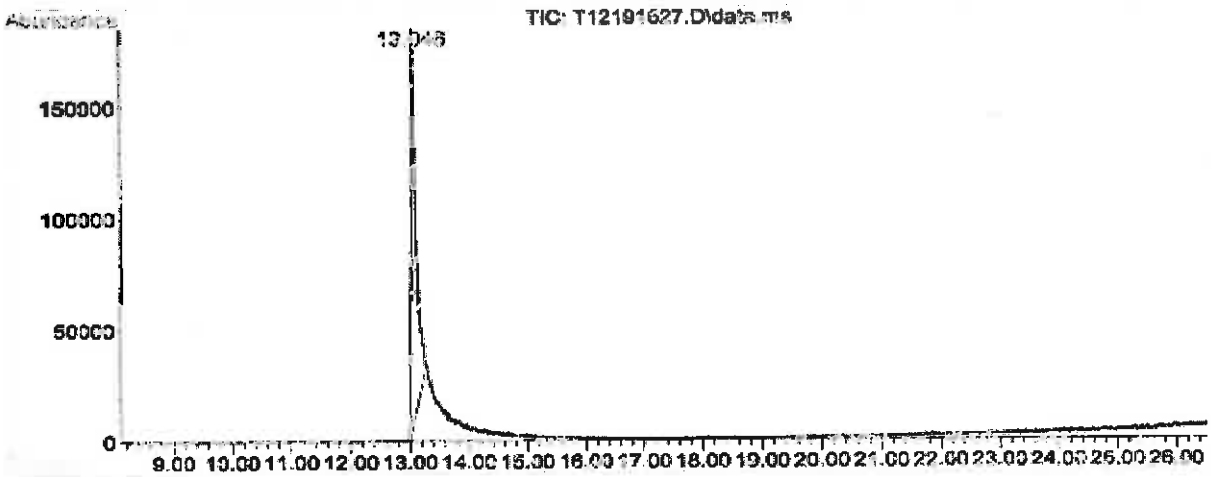

Mass Spectrum

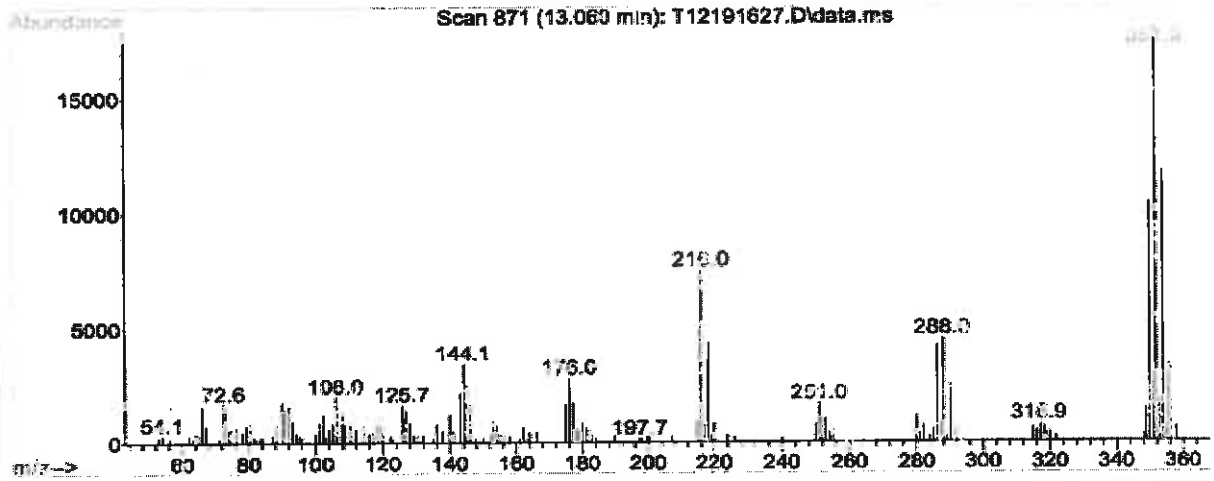

Reagent

HRDXNIDA_00377

r: 4/8/16 SKJ

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Analytical Reference Standards
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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

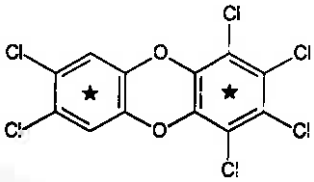

Catalog Number:	ED-946
Solution Lot:	ER04211601
Expiration Date:	June 2026
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.3%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04211601	49.24	± 5%	0.4	≤ 3%
Previous Lot	ER102711-01	49.69	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

August 11, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$
Compound Lot:	ER011008-01

Chemical Formula:	$^{13}C_{12}H_2Cl_6O_2$
CAS Number:	109719-80-4
Molecular Weight:	402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.08% $^{13}C_0$ vs $^{13}C_{12}$
		0.21% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.26%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

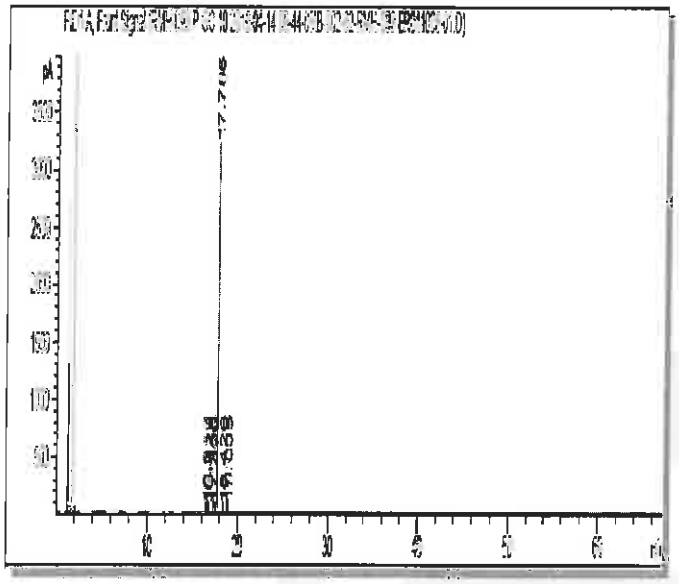

Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 40°C to 300°C at 15°C/min hold 50 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: RMH-098 P GC 10 2016-04-14 08-44-08\B-002-62.D
Instrument: GC#10
Sample Name: ER011008-01
Acquired: April 14, 2016

Peak #	Ret Time	Area	Height	Area %
1	16.56	16.58	7.74	0.19
2	16.72	11.25	5.08	0.13
3	16.83	8.45	4.05	0.10
4	17.30	1.81	0.71	0.02
5	17.48	1.07	0.50	0.01
6	17.79	8682.22	3203.58	99.29
7	18.43	1.99	0.68	0.02
8	19.01	20.62	6.08	0.24

Spectral and Physical Data (cont.)

GC/MS

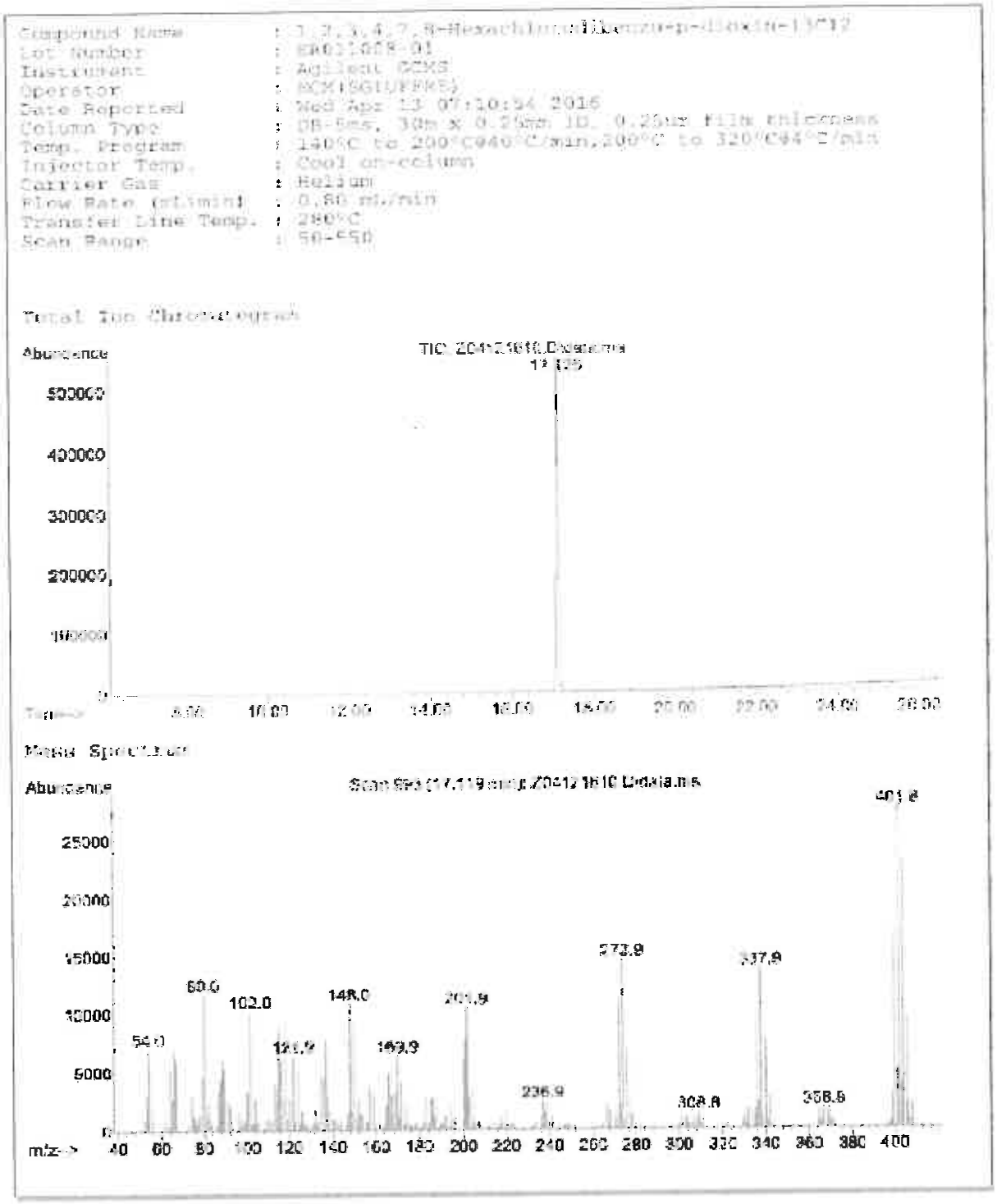

Reagent

HRDXNIDA_00378

r: 4/8/19 SKJ

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Analytical Reference Standards
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Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

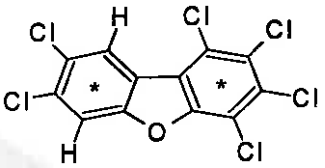

Catalog Number:	EF-963
Solution Lot:	ER04211701
Expiration Date:	July 2027
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.4%	50.00 ± 0.28 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04211701	49.47	± 5%	0.2	≤ 3%
Previous Lot	ER072810-02	45.87	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release

Traceability

- Gravemetrically prepared using balances that have been qualified and calibrated to ISO 17025 requirements. All calibrations utilize NIST traceable weights which are calibrated externally by a qualified ISO 17025 accredited calibration laboratory to NIST standards. Qualification of each balance includes the assignment of a minimum weighing by a qualified and ISO 17025 accredited calibration vendor taking into consideration the balance and installed environmental conditions to ensure compliance with USP tolerances of NMT 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

September 11, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}Cl_6H_2O$
Compound Lot:	ER11281601	**CAS Number:**	114423-98-2
		Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0102	99.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.06% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 0.5%
Mass Balance Purity Factor		99.31%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

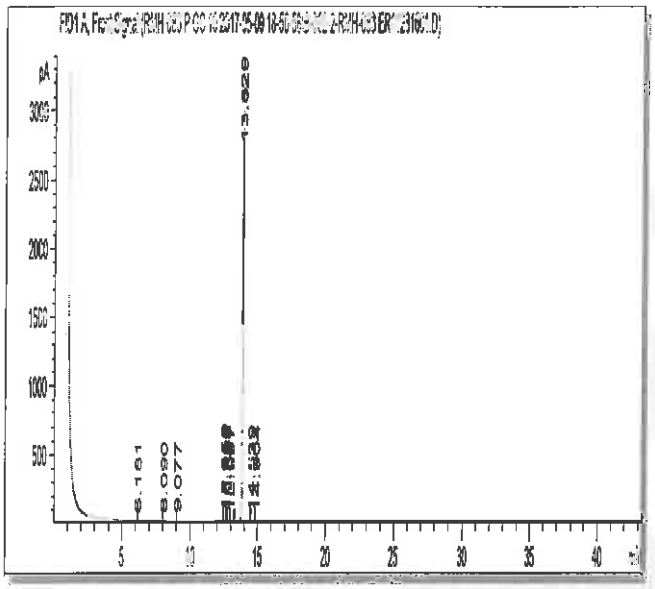

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 30 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-083 P GC 10 2017-05-09 18-50-58\B-002-2.D
Instrument:	GC#10
Sample Name:	ER11281601
Acquired:	May 09, 2017

Peak #	Ret Time	Area	Height	Area %
1	6.18	1.10	0.64	0.01
2	8.09	2.00	0.70	0.02
3	9.08	1.17	0.48	0.01
4	12.55	14.76	7.25	0.16
5	12.73	32.67	11.32	0.36
6	12.84	5.45	2.50	0.06
7	13.00	2.51	1.30	0.03
8	13.83	8993.56	3122.16	99.30
9	14.54	1.11	0.20	0.01
10	14.90	2.71	0.86	0.03

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 1,2,3,4,7,8-hexachlorodibenzofuran-13C12
Lot Number : SRI128160[illegible]
Instrument : Agilent GCMS
Operator : ECM(SGIDEFKE)
Date Reported : Mon May 08 09:30:09 2017
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@60°C/min,200°C to 320°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL\min) : 0.80 mL/min
Transfer Line Temp. : 280°C
Scan Range : 50-550

Total Ion Chromatogram

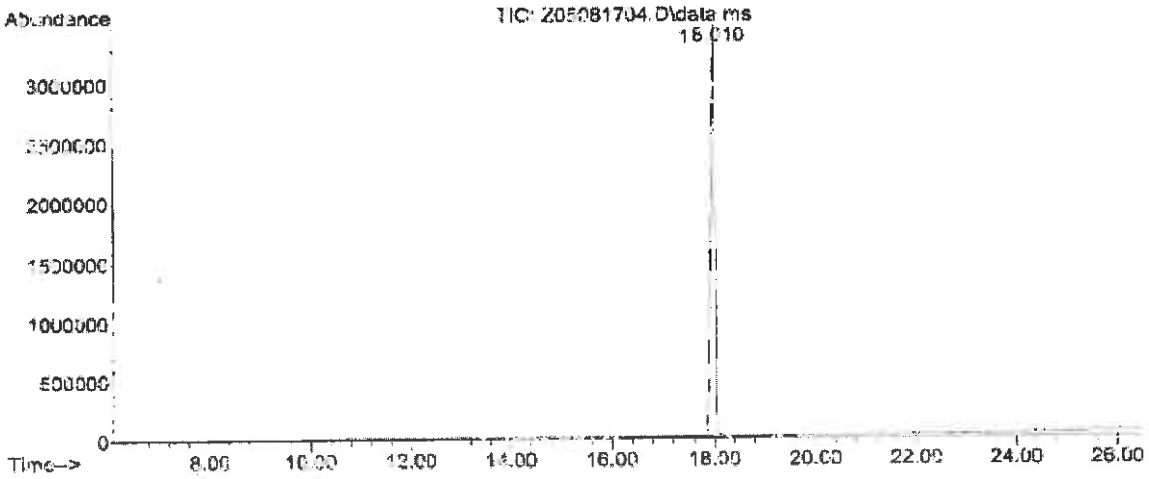

Mass Spectrum

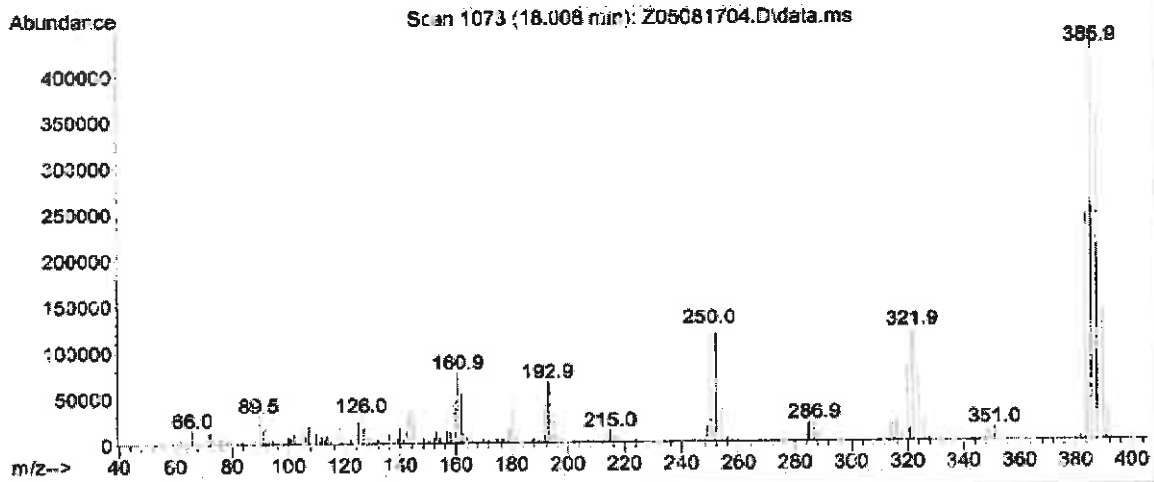

Reagent

HRDXNIS_00110

r: 9/4/18 SKV

Cerilliant
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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

Catalog Number: ED-996
Solution Lot: ER08221601
Expiration Date: September 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER08221601	49.20	± 5%	0.3	≤ 3%
Previous Lot	ER021313-01	49.56	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

September 28, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O_2$
Compound Lot:	ER110510-01	**CAS Number:**	109719-82-6
		Molecular Weight:	402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.04% $^{13}C_0$ vs $^{13}C_{12}$
		0.27% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.02%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

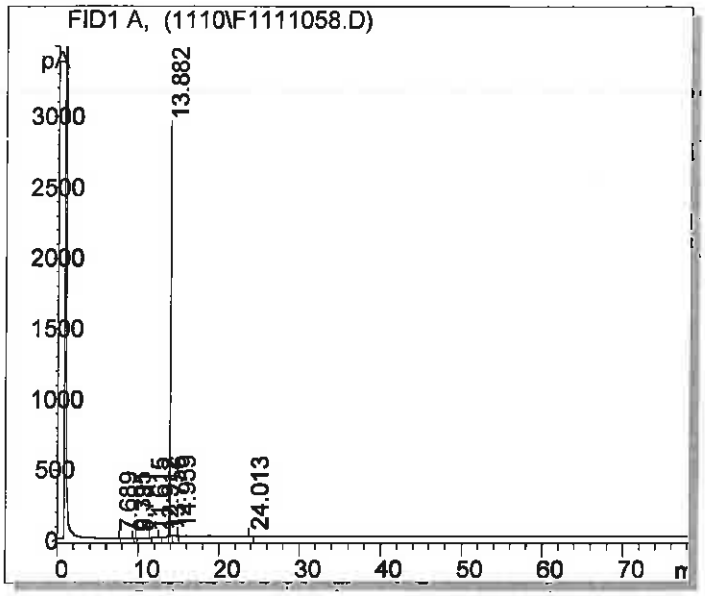

Column:	DB-5ms 30m x 0.53mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-column
Detector Temp:	325°C
Data File Name:	S:\GC\GC6\2010\1110\F1111058.D
Instrument:	GC#6
Sample Name:	ER110510-01
Acquired:	November 12, 2010

Peak #	Ret Time	Area	Height	Area %
1	4 69	0.45	0.10	0.01
2	9.40	0 72	0.14	0.01
3	9.78	0 80	0.13	0.01
4	11 62	7.34	2.54	0.09
5	12 91	2.59	0.23	0.03
6	13 76	1.91	1.00	0.02
7	13 88	8026.07	2938.74	99.11
8	14.96	36.82	11.38	0.45
9	24.01	21.08	1.62	0.26

Spectral and Physical Data (cont.)

GC/MS

```
Compound Name      : 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-13C12
Lot Number         : ER110510-01
Instrument         : Agilent 5973N MSD /6890N GC
Operator-Inst ID   : RPC - A147434
Date Reported      : Fri Nov 12 16:41:14 2010
Column Type        : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program      : 140°C to 200°C @40°C/min,200°C to 320°C @4°C/min
Injector Temp.     : Cool on-column          Trans. Line Temp : 280°C
Carrier Gas        : Helium                  Flow Rate        : 0.80 mL/min
```

Total Ion Chromatogram
S:\GCMS\GCMS2\2010\1110\

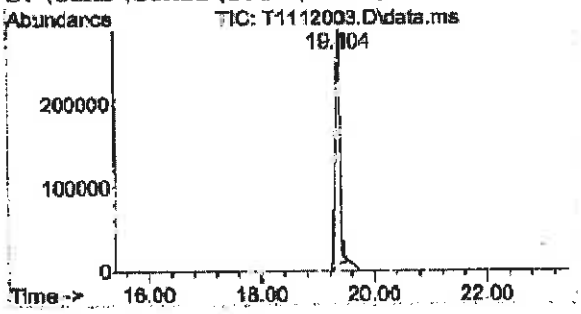

Mass Spectrum
Scan Number: 1976 Scan Range: 50-550 amu

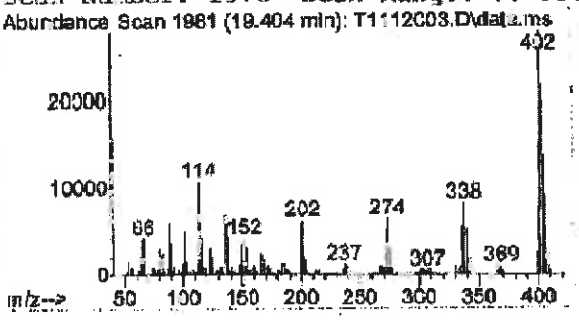

SIM Ion Chromatogram 1

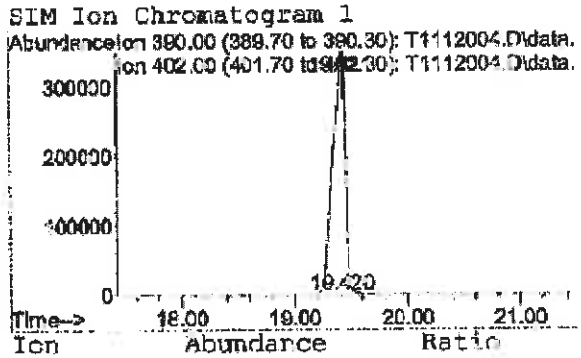

Ion	Abundance	Ratio
402	26368380	99.96
390	9776	0.04

SIM Ion Chromatogram 2

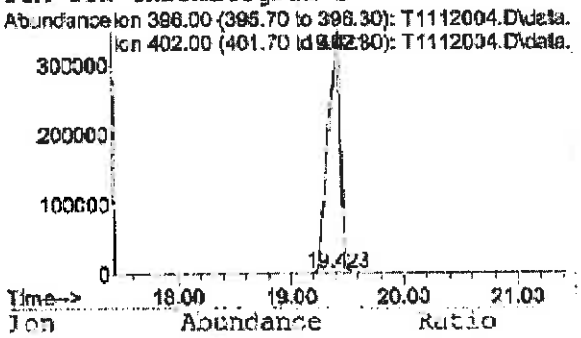

Ion	Abundance	Ratio
402	26368380	99.73
396	71626	0.27

Reagent

HRDXNIS_00111

Rec: 9/4/18 SKV

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Certificate of Analysis

1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$

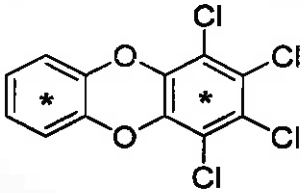

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number: ED-911
Solution Lot: ER11081602
Expiration Date: January 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.7%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER11081602	51.01	± 10%	0.1	≤ 3%
Previous Lot	ER060710-01	50.59	± 10%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

January 23, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_4Cl_4O_2$
Compound Lot:	ER02021602	**CAS Number:**	114423-99-3
		Molecular Weight:	333.88

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS	SP10-0105	no single DD/DF impurity ≥ 1.0%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.03% $^{13}C_0$ vs $^{13}C_{12}$
		0.01% $^{13}C_6$ vs $^{13}C_{12}$
Identity by ^{1}H-NMR Analysis	USP <761>, SP10-0116	Consistent with Structure
Residual Solvent by ^{1}H-NMR Analysis	USP <761>, SP10-0116	0.31% Dichloromethane
Mass Balance Purity Factor		98.71%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

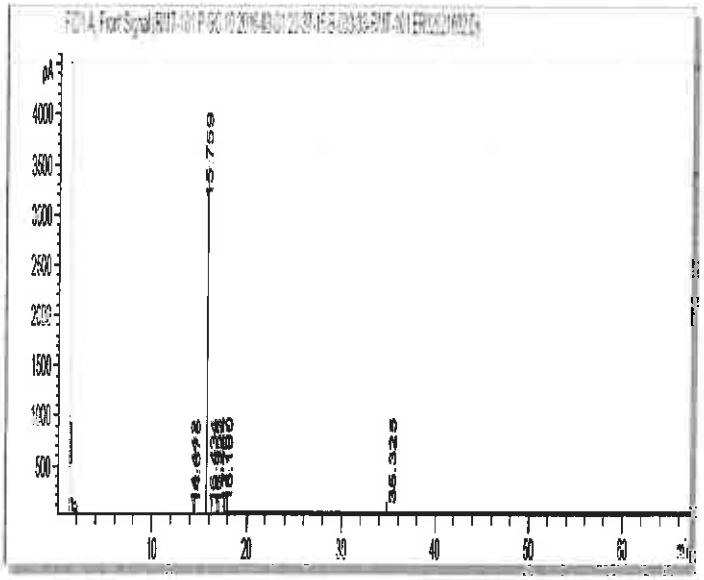

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	40°C to 300°C at 15°C/min hold 50 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMT-101 P GC 10 2016-03-01 20-37-15\B-003-33.D
Instrument:	GC#10
Sample Name:	ER02021602
Acquired:	March 01, 2016

Peak #	Ret Time	Area	Height	Area %
1	14.44	1.34	0.53	0.02
2	14.68	3.60	0.58	0.05
3	15.76	7522.29	3054.11	99.22
4	16.43	3.51	0.80	0.05
5	16.96	2.38	1.09	0.03
6	17.13	4.79	2.26	0.06
7	17.77	8.72	3.38	0.11
8	18.10	1.68	0.54	0.02
9	35.33	32.94	1.28	0.43

^{1}H NMR

Instrument:	JEOL ECS 400
Solvent:	Chloroform-D

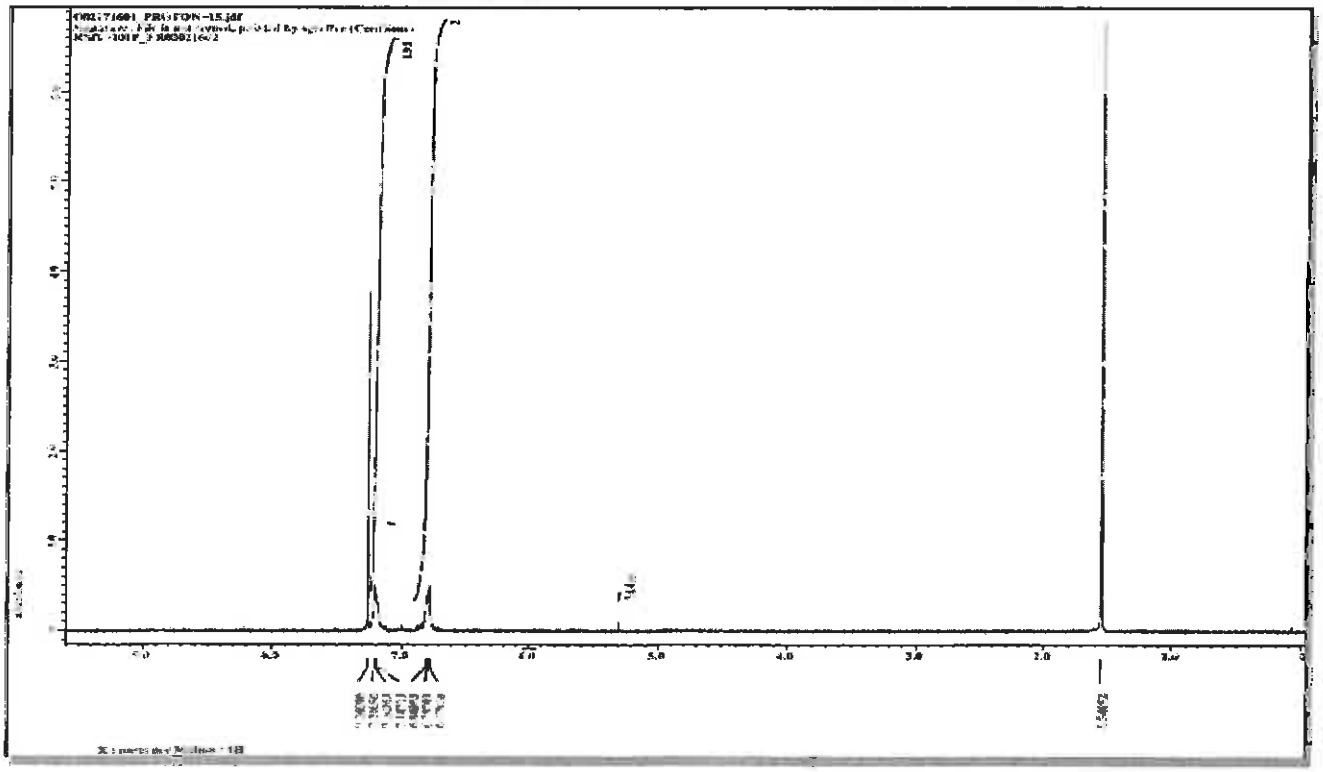

Spectral and Physical Data (cont.)

GC/MS

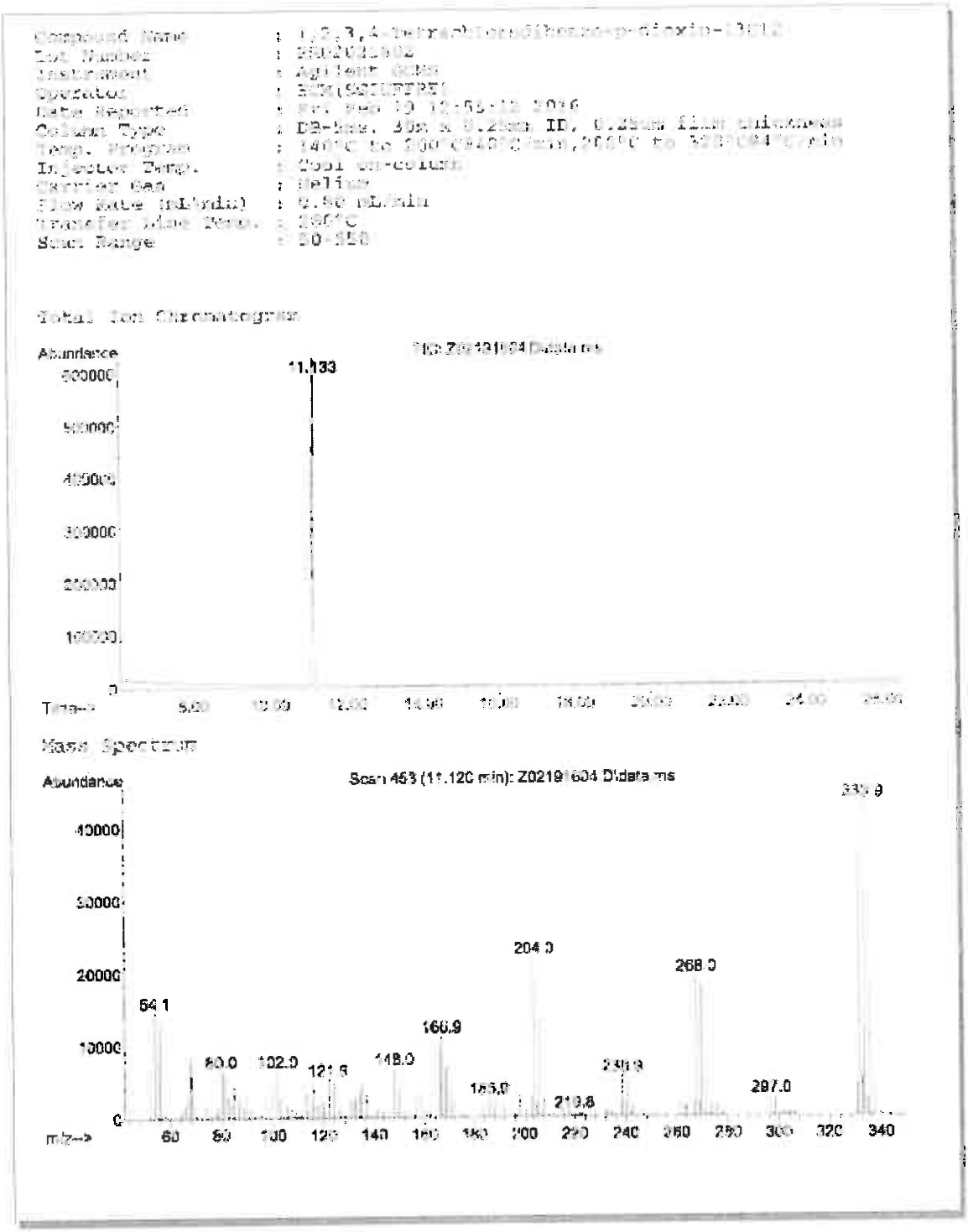

Reagent

HRDXNSU_00187

r: 7/30/18 SKN

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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$

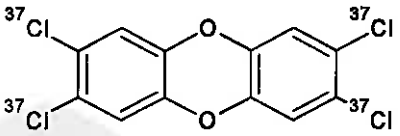

Catalog Number: ED-907
Solution Lot: ER05211501
Expiration Date: July 2025
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold
Shipping: Ambient.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Instructions for Use: Sonicate before use.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration
- For MS Applications, we advise laboratories not to mix lots during a single sequence.

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$	98.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Acceptance Criteria	%RSD - Homogeneity Actual Results	Acceptance Criteria
New Lot	ER05211501	50.60	± 10%	0.2	≤ 5%
Previous Lot	ER052010-02	49.73	± 10%	0.5	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after

ACLASS ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

August 03, 2015
Date

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 60°C to 300°C at 40°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 4
Linearity (r): 1.000

Neat Material Data

Compound Name: 2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$
Compound Lot: ER040510-01

Chemical Formula: $C_{12}H_4O_2{}^{37}Cl_4$
CAS Number 85508-50-5
Molecular Weight 328.02

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{37}Cl_0$ vs $^{37}Cl_4$
Identity by ^{1}H-NMR Analysis	USP <761>, SP10-0116	Consistent with Structure
Residual Solvent Analysis by ^{1}H-NMR	USP <761>, SP10-0116	1.2% Chloroform
Purity Factor		97.14%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

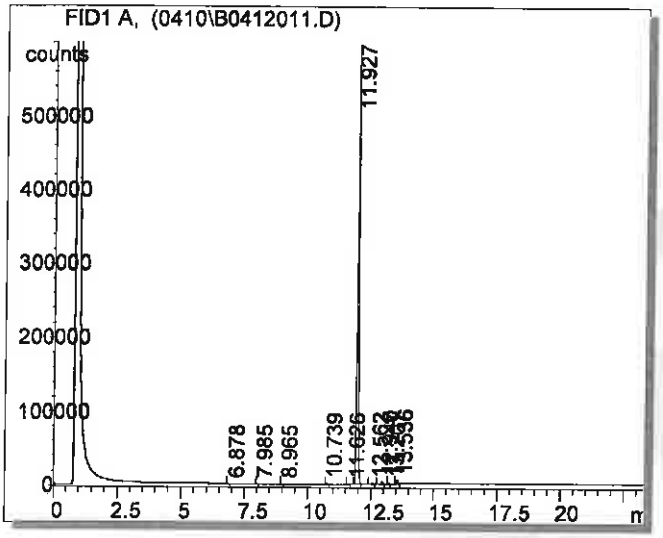

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	S:\GC\GC2\2010\0410\B0412011.D
Instrument:	GC#2
Sample Name:	ER040510-01
Acquired:	April 13, 2010

Peak #	Ret Time	Area	Height	Area %
1	6.88	245.58	89.37	0.01
2	7.99	304.03	131.27	0.01
3	8.97	233.91	72.32	0.01
4	10.74	931.14	265.29	0.04
5	11.63	127.86	46.74	0.01
6	11.93	2261830.00	580792.00	98.34
7	12.56	6435.54	1838.17	0.28
8	12.94	13336.80	4373.86	0.58
9	13.20	2178.30	729.98	0.09
10	13.54	14483.80	5038.43	0.63

^{1}H NMR

Instrument:	JEOL ECS 400
Solvent:	Toluene-D_8

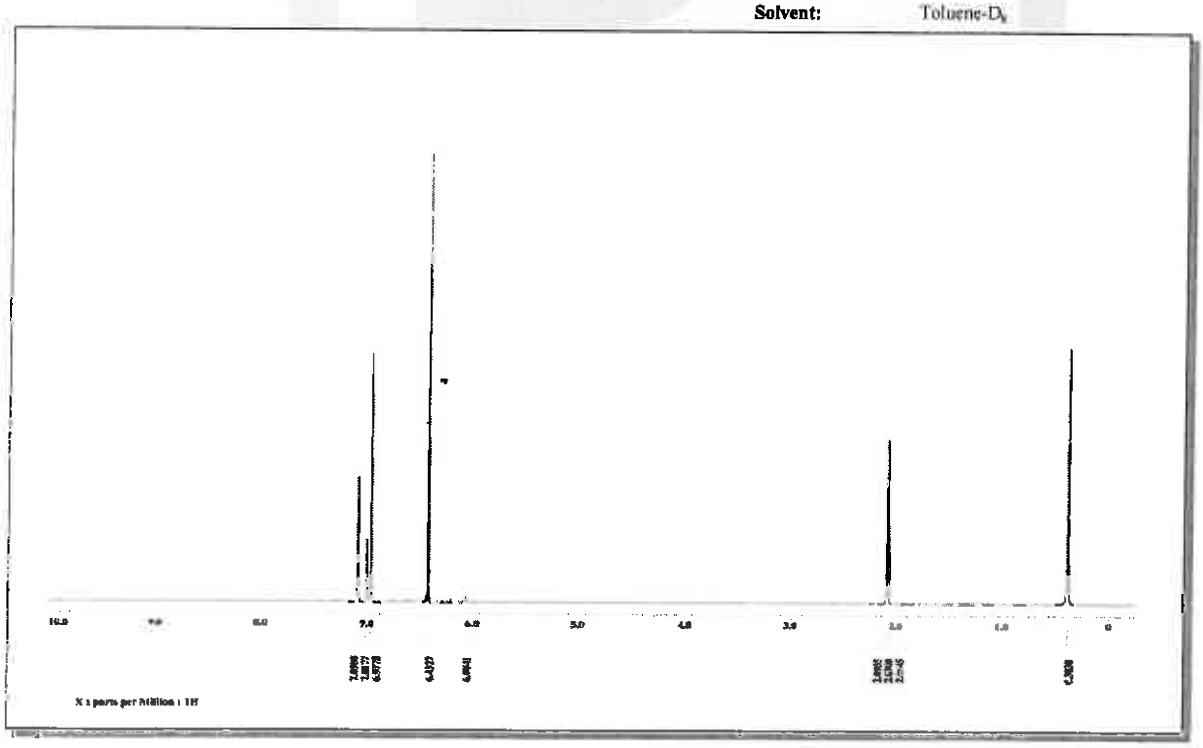

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

Compound Name : 2,3,7,8-Tetrachlorodibenzo-p-dioxin-37C14
Lot Number : [illegible]0510-02
Instrument : Agilent 5973N MSD/6890N GC
Operator-Inst ID : RPC - C10106
Date Acquired : Mon Apr 19 [illegible]:[illegible]:00 2010
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to [illegible]°C/min, 200°C to 320°C[illegible]°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 280°C

Scan Range : 50-550

Total Ion Chromatogram

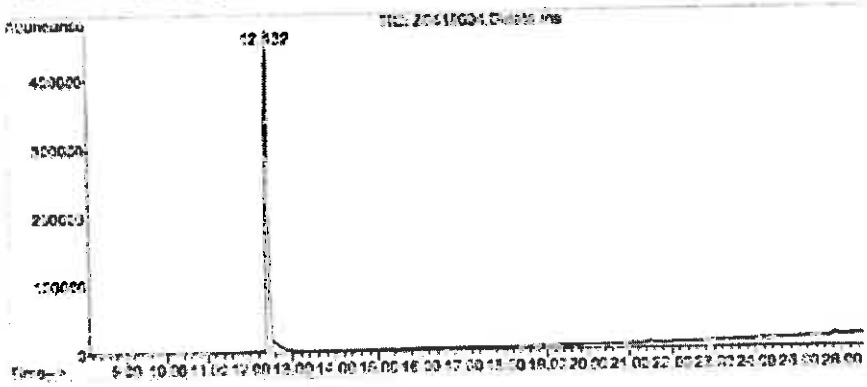

Mass Spectrum

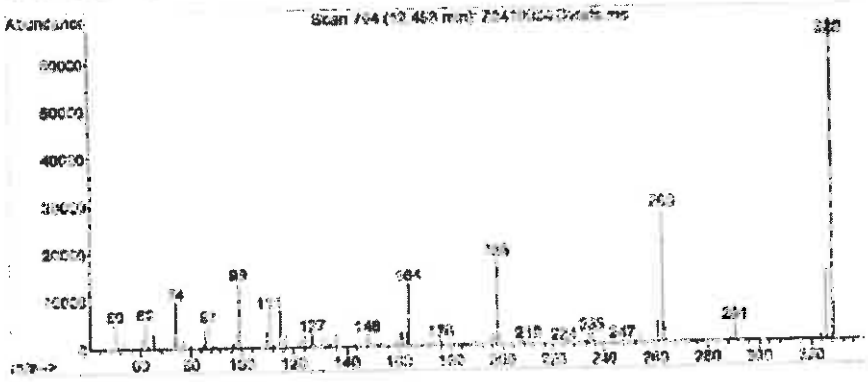

Reagent

HRDXNSU_00211

Rec 4/30/19 SW

(8)

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ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$

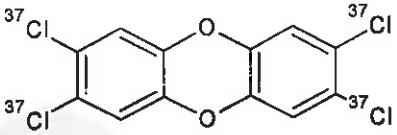

Catalog Number: ED-907
Solution Lot: ER05211501
Expiration Date: July 2025
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold
Shipping: Ambient.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Instructions for Use: Sonicate before use.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration
- For MS Applications, we advise laboratories not to mix lots during a single sequence.

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$	98.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER05211501	50.60	± 10%	0.2	≤ 5%
Previous Lot	ER052010-02	49.73	± 10%	0.5	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after

ACLASS

Darron Ellsworth, Quality Assurance Manager

August 03, 2015
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$
Compound Lot:	ER040510-01

Chemical Formula:	$C_{12}H_4O_2{}^{37}Cl_4$
CAS Number:	85508-50-5
Molecular Weight:	328.02

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{37}Cl_0$ vs $^{37}Cl_4$
Identity by ^{1}H-NMR Analysis	USP <761>, SP10-0116	Consistent with Structure
Residual Solvent Analysis by ^{1}H-NMR	USP <761>, SP10-0116	1.2% Chloroform
Purity Factor		97.14%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

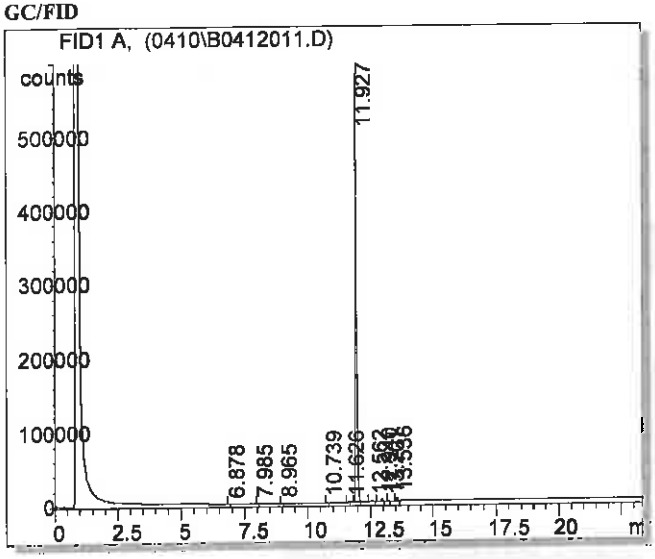

Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 100°C to 300°C at 15°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: S:\GC\GC2\2010\0410\B0412011.D
Instrument: GC#2
Sample Name: ER040510-01
Acquired: April 13, 2010

Peak #	Ret Time	Area	Height	Area %
1	6.88	245.58	89.37	0.01
2	7.99	304.03	131.27	0.01
3	8.97	233.91	72.32	0.01
4	10.74	931.14	265.29	0.04
5	11.63	127.86	46.74	0.01
6	11.93	2261830.00	580792.00	98.34
7	12.56	6435.54	1838.17	0.28
8	12.94	13336.80	4373.86	0.58
9	13.20	2178.30	729.98	0.09
10	13.54	14483.80	5038.43	0.63

^{1}H NMR

Instrument: JEOL ECS 400
Solvent: Toluene-D_8

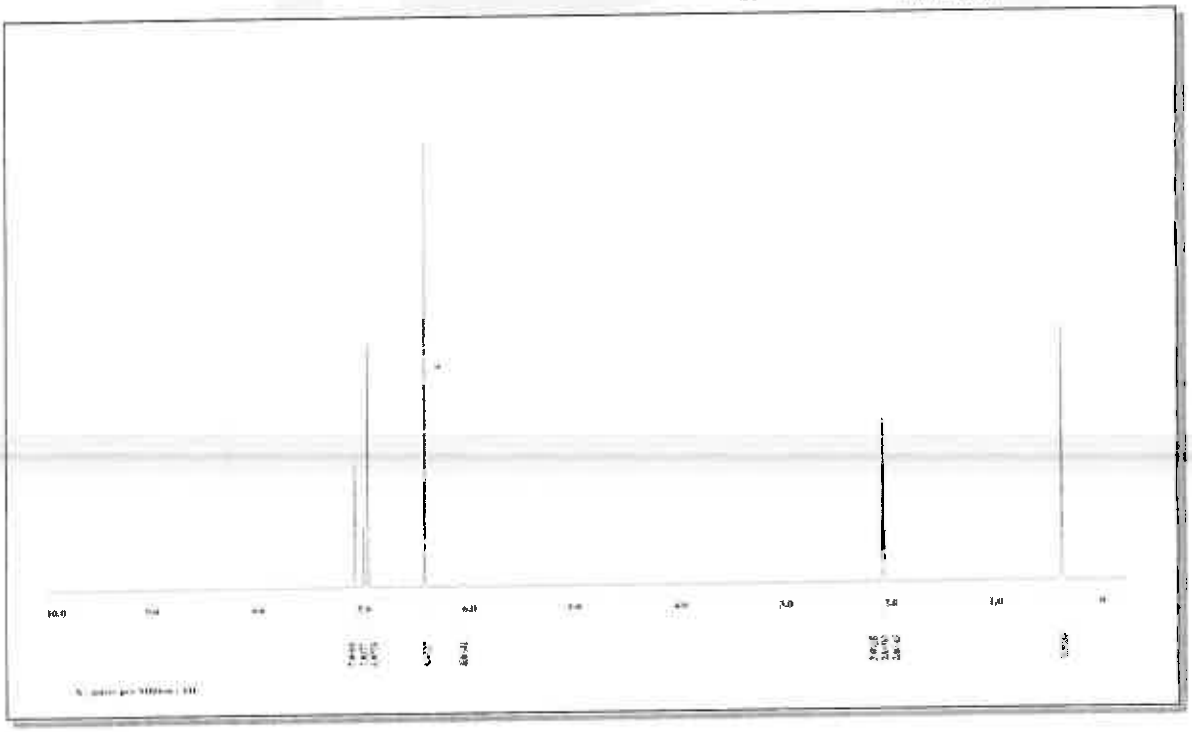

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

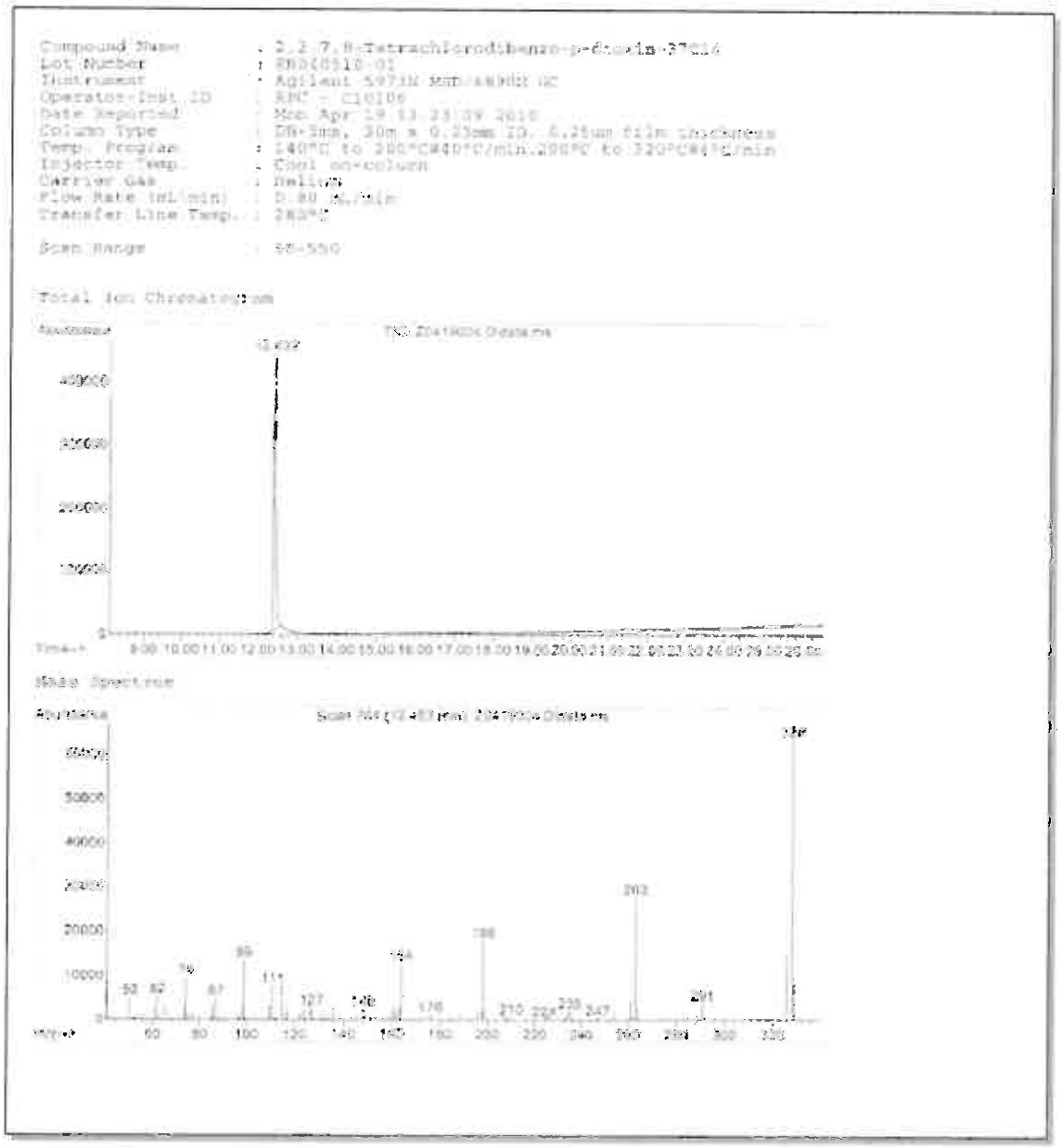

Reagent

HRDXNTA_00092

R: 7/6/18 SKJ

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Certificate of Analysis

Method 1613 PAR Stock Solution

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number: EDF-7999-10X
Solution Lot: ER02241602
Expiration Date: April 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/ analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 volume. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Lot Number	CAS Number	Chemical Formula	Molecular Weight	Chromatographic Purity	Concentration
2,3,7,8-TeCDD	ER04271502	1746-01-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%	399.9 ± 4.0 ng/mL
2,3,7,8-TeCDF	ER101211-02	51207-31-9	$C_{12}H_4Cl_4O$	305.97	99.4%	399.9 ± 4.0 ng/mL
1,2,3,7,8-PeCDD	ER110909-02	40321-76-4	$C_{12}H_3Cl_5O_2$	356.42	99.2%	2000 ± 20 ng/mL
1,2,3,7,8-PeCDF	ER03121401	57117-41-6	$C_{12}H_3Cl_5O$	340.42	99.5%	1999 ± 20 ng/mL
2,3,4,7,8-PeCDF	ER070710-01	57117-31-4	$C_{12}H_3Cl_5O$	340.42	99.4%	1999 ± 20 ng/mL
1,2,3,4,7,8-HxCDD	ER080108-02	39227-28-6	$C_{12}H_2Cl_6O_2$	390.86	98.6%	2000 ± 20 ng/mL
1,2,3,6,7,8-HxCDD	ER03231501	57653-85-7	$C_{12}H_2Cl_6O_2$	390.86	99.6%	2000 ± 20 ng/mL
1,2,3,7,8,9-HxCDD	ER02041601	19408-74-3	$C_{12}H_2Cl_6O_2$	390.86	99.2%	2000 ± 20 ng/mL
1,2,3,4,7,8-HxCDF	ER021110-01	70648-26-9	$C_{12}H_2Cl_6O$	374.86	99.0%	2000 ± 20 ng/mL
1,2,3,6,7,8-HxCDF	ER04161501	57117-44-9	$C_{12}H_2Cl_6O$	374.86	99.8%	2000 ± 20 ng/mL
1,2,3,7,8,9-HxCDF	ER060107-01	72918-21-9	$C_{12}H_2Cl_6O$	374.86	97.5%	1999 ± 20 ng/mL
2,3,4,6,7,8-HxCDF	ER02041602	60851-34-5	$C_{12}H_2Cl_6O$	374.86	99.1%	2001 ± 20 ng/mL
1,2,3,4,6,7,8-HpCDD	ER01201504	35822-46-9	$C_{12}HCl_7O_2$	425.31	98.5%	1999 ± 20 ng/mL
1,2,3,4,6,7,8-HpCDF	ER02281403	67562-39-4	$C_{12}HCl_7O$	409.31	98.9%	1999 ± 20 ng/mL
1,2,3,4,7,8,9-HpCDF	ER01121503	55673-89-7	$C_{12}HCl_7O$	409.31	99.1%	1999 ± 20 ng/mL
OCDD	ER05221301	3268-87-9	$C_{12}Cl_8O_2$	459.75	99.9%	3999 ± 40 ng/mL
OCDF	ER040811-01	39001-02-0	$C_{12}Cl_8O$	443.75	98.9%	4000 ± 40 ng/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Stock solution concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

April 28, 2016
Date

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.

Standard Solution Assay Parameters

Analysis Method: GC/ECD
Column: DB-5ms, 30 m x 0.25 mm ID, 0 25 µm film thickness
Temp Program: 140°C to 200°C at 40°C/min, 200°C to 300°C at 4°C/min hold 3 min
Injector Temp: Cool on-column
Detector Temp: 280°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 1

Solution Standard Verification and Homogeneity

Compound	Verified Concentration ng/mL	Acceptance Criteria	%RSD - Homogeneity %	Acceptance Criteria
2,3,7,8-TeCDD	397 1	± 10%	0.7	≤ 5%
2,3,7,8-TeCDF	386 6	± 10%	0.7	≤ 5%
1,2,3,7,8-PeCDD	1937	± 10%	0 8	≤ 5%
1,2,3,7,8-PeCDF	1919	± 10%	0.8	≤ 5%
2,3,4,7,8-PeCDF	1941	± 10%	0.8	≤ 5%
1,2,3,4,7,8-HxCDD	1932	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDD	1987	± 10%	0 8	≤ 5%
1,2,3,7,8,9-HxCDD	1943	± 10%	0 7	≤ 5%
1,2,3,4,7,8-HxCDF	1933	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDF	1909	± 10%	0.9	≤ 5%
1,2,3,7,8,9-HxCDF	1942	± 10%	0.7	≤ 5%
2,3,4,6,7,8-HxCDF	1950	± 10%	0.8	≤ 5%
1.2.3.4.6.7.8-HpCDD	1930	± 10%	0.9	≤ 5%
1,2,3,4,6,7,8-HpCDF	1919	± 10%	0.9	≤ 5%
1,2,3,4,7,8,9-HpCDF	1943	± 10%	1.0	≤ 5%
OCDD	3844	± 10%	1.0	≤ 5%
OCDF	3906	± 10%	0.9	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The %RSD of samples pulled from across the lot demonstrate homogeneity.
- Product is compared to prior lot and meets acceptance criteria of ± 10%.

Product Analysis

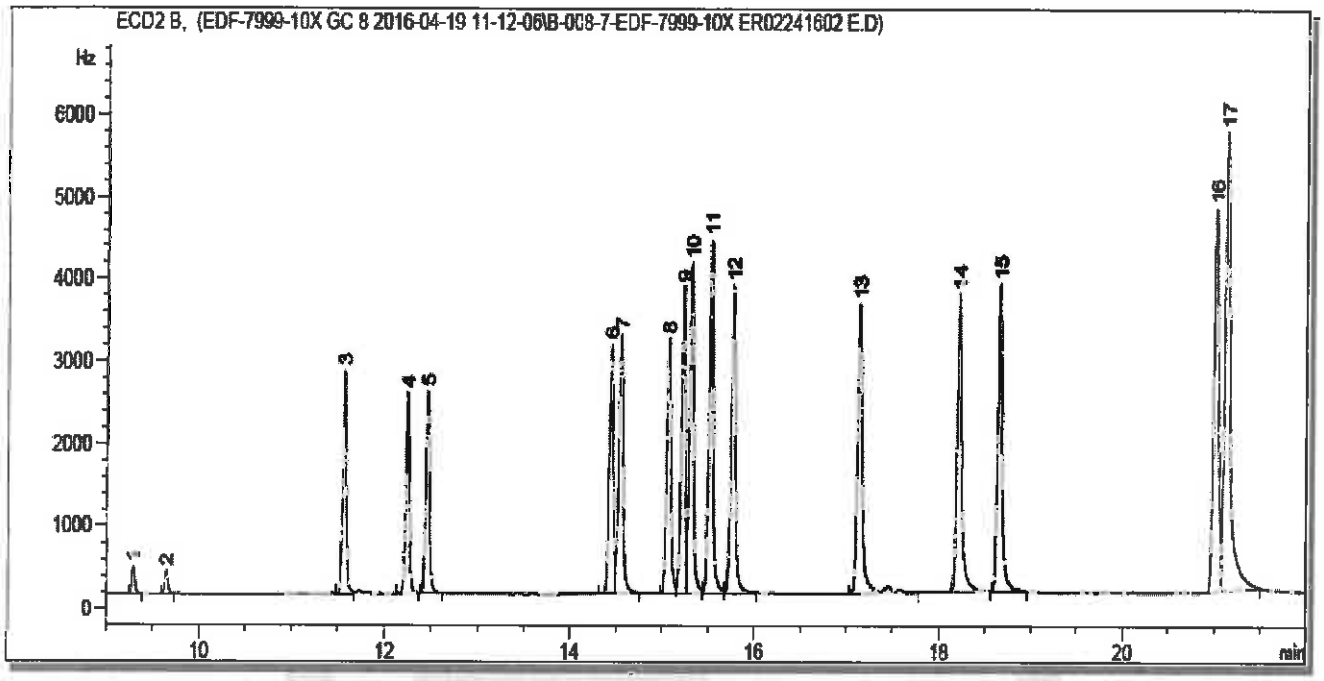

Peak:	Analyte:
1	2,3,7,8-Tetrachlorodibenzofuran
2	2,3,7,8-Tetrachloro-p-dioxin
3	1,2,3,7,8-Pentachlorodibenzofuran
4	2,3,4,7,8-Pentachlorodibenzofuran
5	1,2,3,7,8-Pentachlorodibenzo-p-dioxin
6	1,2,3,4,7,8-Hexachlorodibenzofuran
7	1,2,3,6,7,8-Hexachlorodibenzofuran
8	2,3,4,6,7,8-Hexachlorodibenzofuran
9	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin
10	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin
11	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin
12	1,2,3,7,8,9-Hexachlorodibenzofuran
13	1,2,3,4,6,7,8-Heptachlorodibenzofuran
14	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin
15	1,2,3,4,7,8,9-Heptachlorodibenzofuran
16	Octachlorodibenzo-p-dioxin
17	Octachlorodibenzofuran

COA Revision History

Revision No.	Date	Reason for Revision
00	April 28, 2016	Initial version

Reagent

HRDXNTA_00093

R: 7/6/18 SKJ

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Analytical Reference Standards
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Certificate of Analysis

Method 1613 PAR Stock Solution

Certificate Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number: EDF-7999-10X
Solution Lot: ER02241602
Expiration Date: April 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/ analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 volume. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Lot Number	CAS Number	Chemical Formula	Molecular Weight	Chromatographic Purity	Concentration
2,3,7,8-TeCDD	ER04271502	1746-01-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%	399.9 ± 4.0 ng/mL
2,3,7,8-TeCDF	ER101211-02	51207-31-9	$C_{12}H_4Cl_4O$	305.97	99.4%	399.9 ± 4.0 ng/mL
1,2,3,7,8-PeCDD	ER110909-02	40321-76-4	$C_{12}H_3Cl_5O_2$	356.42	99.2%	2000 ± 20 ng/mL
1,2,3,7,8-PeCDF	ER03121401	57117-41-6	$C_{12}H_3Cl_5O$	340.42	99.5%	1999 ± 20 ng/mL
2,3,4,7,8-PeCDF	ER070710-01	57117-31-4	$C_{12}H_3Cl_5O$	340.42	99.4%	1999 ± 20 ng/mL
1,2,3,4,7,8-HxCDD	ER080108-02	39227-28-6	$C_{12}H_2Cl_6O_2$	390.86	98.6%	2000 ± 20 ng/mL
1,2,3,6,7,8-HxCDD	ER03231501	57653-85-7	$C_{12}H_2Cl_6O_2$	390.86	99.6%	2000 ± 20 ng/mL
1,2,3,7,8,9-HxCDD	ER02041601	19408-74-3	$C_{12}H_2Cl_6O_2$	390.86	99.2%	2000 ± 20 ng/mL
1,2,3,4,7,8-HxCDF	ER021110-01	70648-26-9	$C_{12}H_2Cl_6O$	374.86	99.0%	2000 ± 20 ng/mL
1,2,3,6,7,8-HxCDF	ER04161501	57117-44-9	$C_{12}H_2Cl_6O$	374.86	99.8%	2000 ± 20 ng/mL
1,2,3,7,8,9-HxCDF	ER060107-01	72918-21-9	$C_{12}H_2Cl_6O$	374.86	97.5%	1999 ± 20 ng/mL
2,3,4,6,7,8-HxCDF	ER02041602	60851-34-5	$C_{12}H_2Cl_6O$	374.86	99.1%	2001 ± 20 ng/mL
1,2,3,4,6,7,8-HpCDD	ER01201504	35822-46-9	$C_{12}HCl_7O_2$	425.31	98.5%	1999 ± 20 ng/mL
1,2,3,4,6,7,8-HpCDF	ER02281403	67562-39-4	$C_{12}HCl_7O$	409.31	98.9%	1999 ± 20 ng/mL
1,2,3,4,7,8,9-HpCDF	ER01121503	55673-89-7	$C_{12}HCl_7O$	409.31	99.1%	1999 ± 20 ng/mL
OCDD	ER05221301	3268-87-9	$C_{12}Cl_8O_2$	459.75	99.9%	3999 ± 40 ng/mL
OCDF	ER040811-01	39001-02-0	$C_{12}Cl_8O$	443.75	98.9%	4000 ± 40 ng/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Stock solution concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

April 28, 2016
Date

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.

Standard Solution Assay Parameters

Analysis Method: GC/ECD
Column: DB-5ms, 30 m x 0.25 mm ID, 0 25 µm film thickness
Temp Program: 140°C to 200°C at 40°C/min, 200°C to 300°C at 4°C/min hold 3 min
Injector Temp: Cool on-column
Detector Temp: 280°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 1

Solution Standard Verification and Homogeneity

Compound	Verified Concentration ng/mL	Acceptance Criteria	%RSD - Homogeneity %	Acceptance Criteria
2,3,7,8-TeCDD	397 1	± 10%	0.7	≤ 5%
2,3,7,8-TeCDF	386 6	± 10%	0.7	≤ 5%
1,2,3,7,8-PeCDD	1937	± 10%	0 8	≤ 5%
1,2,3,7,8-PeCDF	1919	± 10%	0.8	≤ 5%
2,3,4,7,8-PeCDF	1941	± 10%	0.8	≤ 5%
1,2,3,4,7,8-HxCDD	1932	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDD	1987	± 10%	0 8	≤ 5%
1,2,3,7,8,9-HxCDD	1943	± 10%	0 7	≤ 5%
1,2,3,4,7,8-HxCDF	1933	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDF	1909	± 10%	0.9	≤ 5%
1,2,3,7,8,9-HxCDF	1942	± 10%	0.7	≤ 5%
2,3,4,6,7,8-HxCDF	1950	± 10%	0.8	≤ 5%
1.2.3.4.6.7.8-HpCDD	1930	± 10%	0.9	≤ 5%
1,2,3,4,6,7,8-HpCDF	1919	± 10%	0.9	≤ 5%
1,2,3,4,7,8,9-HpCDF	1943	± 10%	1.0	≤ 5%
OCDD	3844	± 10%	1.0	≤ 5%
OCDF	3906	± 10%	0.9	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The %RSD of samples pulled from across the lot demonstrate homogeneity.
- Product is compared to prior lot and meets acceptance criteria of ± 10%.

Product Analysis

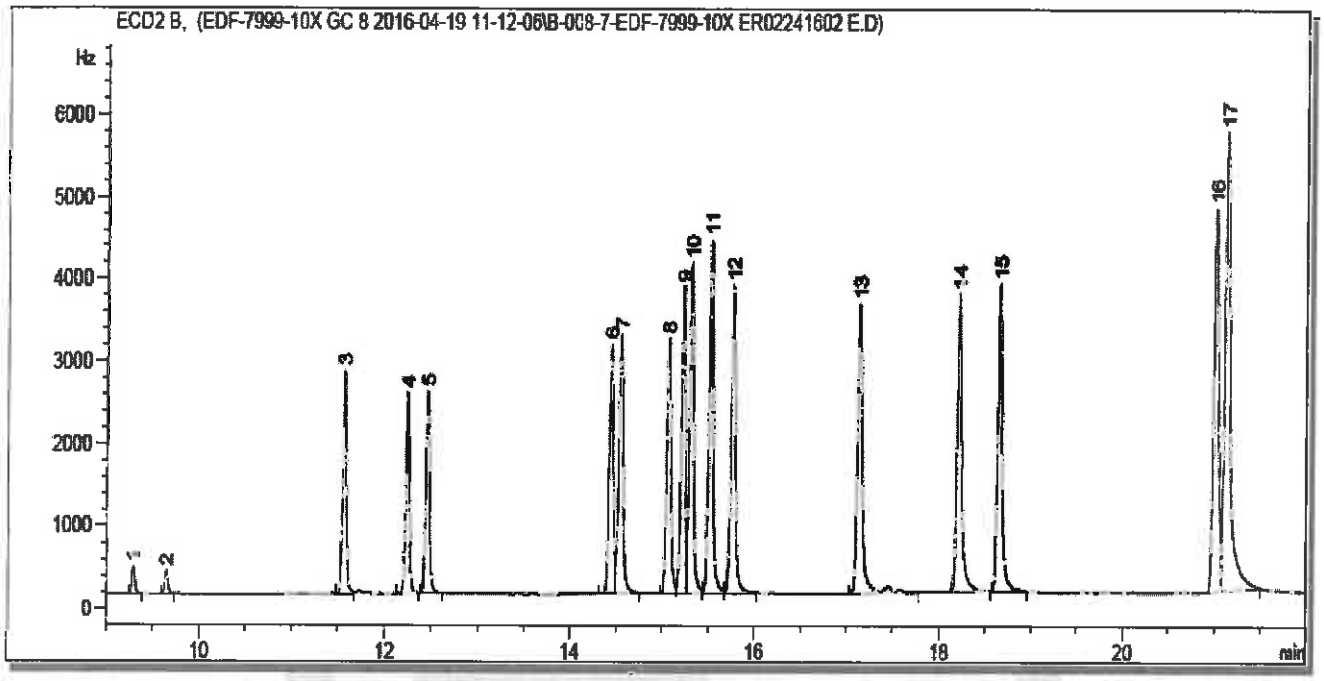

Peak:	Analyte:
1	2,3,7,8-Tetrachlorodibenzofuran
2	2,3,7,8-Tetrachloro-p-dioxin
3	1,2,3,7,8-Pentachlorodibenzofuran
4	2,3,4,7,8-Pentachlorodibenzofuran
5	1,2,3,7,8-Pentachlorodibenzo-p-dioxin
6	1,2,3,4,7,8-Hexachlorodibenzofuran
7	1,2,3,6,7,8-Hexachlorodibenzofuran
8	2,3,4,6,7,8-Hexachlorodibenzofuran
9	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin
10	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin
11	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin
12	1,2,3,7,8,9-Hexachlorodibenzofuran
13	1,2,3,4,6,7,8-Heptachlorodibenzofuran
14	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin
15	1,2,3,4,7,8,9-Heptachlorodibenzofuran
16	Octachlorodibenzo-p-dioxin
17	Octachlorodibenzofuran

COA Revision History

Revision No.	Date	Reason for Revision
00	April 28, 2016	Initial version

Reagent

HRDXNTA_00102

Rec: 1/31/19 SKV

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

EPA-1613PAR

U.S. EPA Method 1613 Native PCDD/PCDF
Precision and Recovery Stock Solution

PRODUCT CODE:	EPA-1613PAR
LOT NUMBER:	13PAR0418
SOLVENT(S):	Nonane/Toluene
DATE PREPARED: (mm/dd/yyyy)	04/11/2018
LAST TESTED: (mm/dd/yyyy)	04/12/2018
EXPIRY DATE: (mm/dd/yyyy)	03/01/2025
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION:

EPA-1613PAR is a solution/mixture of all the 2,3,7,8-substituted chlorinated dibenzo-p-dioxins (PCDDs) and 2,3,7,8-substituted dibenzofurans (PCDFs). The components and their concentrations are given in Table A.

EPA-1613PAR was designed for, and prepared to be used according to, U.S. EPA Method 1613 (Revision B).

The individual PCDDs and PCDFs all have chemical purities of >98%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: HRGC/HRMS Data (SIR; 10,000 mass resolving power)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Table A: **EPA-1613PAR; Components and Concentrations (ng/ml, ± 5% in nonane/ 2.4% toluene)**

	Concentration (ng/ml)
PCDDs:	
2,3,7,8-Tetrachlorodibenzo-p-dioxin	40
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	200
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	200
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	200
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	200
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	200
Octachlorodibenzo-p-dioxin	400
PCDFs:	
2,3,7,8-Tetrachlorodibenzofuran	40
1,2,3,7,8-Pentachlorodibenzofuran	200
2,3,4,7,8-Pentachlorodibenzofuran	200
1,2,3,4,7,8-Hexachlorodibenzofuran	200
1,2,3,6,7,8-Hexachlorodibenzofuran	200
1,2,3,7,8,9-Hexachlorodibenzofuran	200
2,3,4,6,7,8-Hexachlorodibenzofuran	200
1,2,3,4,6,7,8-Heptachlorodibenzofuran	200
1,2,3,4,7,8,9-Heptachlorodibenzofuran	200
Octachlorodibenzofuran	400

Certified By: _____ **Date:** 04/16/2018 (mm/dd/yyyy)

B.G. Chittim, General Manager

Figure 1: **EPA-1613PAR; HRGC/HRMS Data (60 m DB-5 Column)**

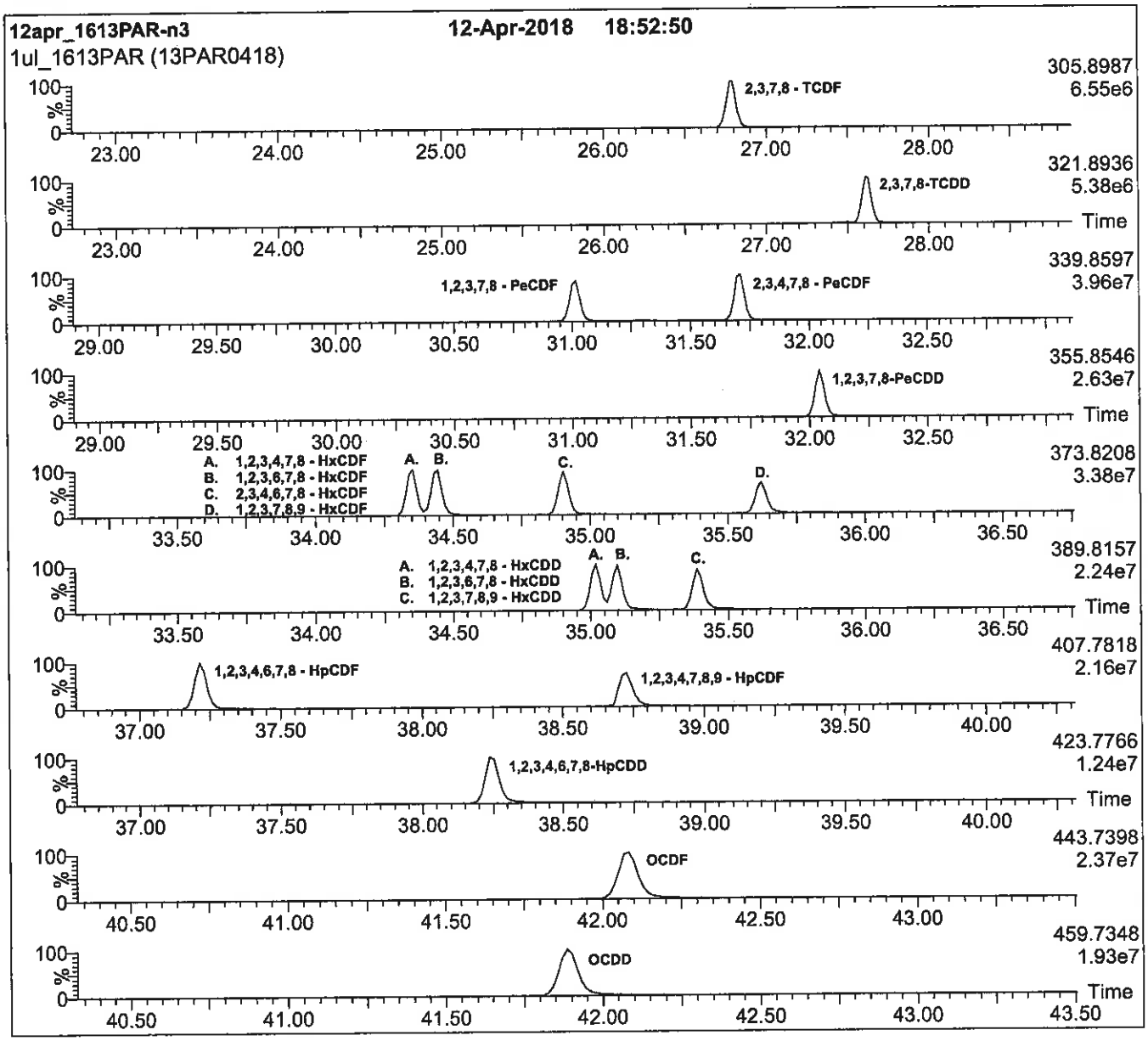

HRGC/HRMS:

Agilent 6890N (HRGC)
Autospec Ultima (HRMS)

Chromatographic Conditions:

Column: 60 m DB-5 (0.25 mm id, 0.25 µm film thickness) Agilent J&W

Flow:	Constant at 1 ml/min	Oven:	150 °C (1 min)
Injector:	280 °C (Splitless Injection)		12 °C/min to 200 °C
Ionization:	EI+		3 °C/min to 235 °C
Detector:	280 °C		235 °C (8 min)
	SIR at 10,000 mass resolving power		8 °C/min to 310 °C
			310 °C (8 min)

Method 1613B

Dioxins and Furans (HRGC/HRMS) by Method 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57624-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCDF #	TCDD #	37TCDD #	PeCDF #	PeCF #	PeCDD #	HxCDF #	HxDF #
	LCS 320-350417/2-A	85	82	101	89	92	89	77	71
	LCSD 320-350417/3-A	91	89	103	94	103	95	90	80

	QC LIMITS
TCDF = 13C-2,3,7,8-TCDF	22-152
TCDD = 13C-2,3,7,8-TCDD	20-175
37TCDD = 37Cl4-2,3,7,8-TCDD	31-191
PeCDF = 13C-1,2,3,7,8-PeCDF	21-192
PeCF = 13C-2,3,4,7,8-PeCDF	13-328
PeCDD = 13C-1,2,3,7,8-PeCDD	21-227
HxCDF = 13C-1,2,3,4,7,8-HxCDF	19-202
HxDF = 13C-1,2,3,6,7,8-HxCDF	21-159

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57624-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	13CHxCF #	HxCDD #	HxDD #	HxCF #	HpCDF #	HpCDD #	HpCDF2 #	OCDD #
	LCS 320-350417/2-A	80	84	74	81	72	74	81	71
	LCSD 320-350417/3-A	86	102	81	88	82	85	90	79

	QC LIMITS
13CHxCF = 13C-2,3,4,6,7,8-HxCDF	22-176
HxCDD = 13C-1,2,3,4,7,8-HxCDD	21-193
HxDD = 13C-1,2,3,6,7,8-HxCDD	25-163
HxCF = 13C-1,2,3,7,8,9-HxCDF	17-205
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF	21-158
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD	26-166
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF	20-186
OCDD = 13C-OCDD	13-199

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57624-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCDF #	TCDD #	37TCDD #	PeCDF #	PeCF #	PeCDD #	HxCDF #	HxDF #
11187072-FEFF-0.1um	320-57624-1	90	89	103	93	93	93	85	75
11187072-FEFF-0.45um	320-57624-2	82	82	98	86	94	87	86	75
11187072-FEFF-1um	320-57624-3	81	80	97	85	92	85	84	74
	MB 320-350417/1-A	91	89	102	95	104	95	94	83

	QC LIMITS
TCDF = 13C-2,3,7,8-TCDF	24-169
TCDD = 13C-2,3,7,8-TCDD	25-164
37TCDD = 37Cl4-2,3,7,8-TCDD	35-197
PeCDF = 13C-1,2,3,7,8-PeCDF	24-185
PeCF = 13C-2,3,4,7,8-PeCDF	21-178
PeCDD = 13C-1,2,3,7,8-PeCDD	25-181
HxCDF = 13C-1,2,3,4,7,8-HxCDF	26-152
HxDF = 13C-1,2,3,6,7,8-HxCDF	26-123

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57624-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	13CHxCF #	HxCDD #	HxDD #	HxCF #	HpCDF #	HpCDD #	HpCDF2 #	OCDD #
11187072-FEFF-0.1um	320-57624-1	85	93	78	89	79	85	91	82
11187072-FEFF-0.45um	320-57624-2	78	92	78	81	79	82	86	80
11187072-FEFF-1um	320-57624-3	78	91	77	79	77	79	87	76
	MB 320-350417/1-A	89	101	84	88	84	82	87	76

	QC LIMITS
13CHxCF = 13C-2,3,4,6,7,8-HxCDF	28-136
HxCDD = 13C-1,2,3,4,7,8-HxCDD	32-141
HxDD = 13C-1,2,3,6,7,8-HxCDD	28-130
HxCF = 13C-1,2,3,7,8,9-HxCDF	29-147
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF	28-143
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD	23-140
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF	26-138
OCDD = 13C-OCDD	17-157

Column to be used to flag recovery values

FORM II 1613B

FORM III
DIOXIN LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57624-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 13JA2010D5_19.d

Lab ID: LCS 320-350417/2-A Client ID:

COMPOUND	SPIKE ADDED (pg/L)	LCS CONCENTRATION (pg/L)	LCS % REC	QC LIMITS REC	#
2,3,7,8-TCDD	200	198	99	67-158	
2,3,7,8-TCDF	200	188	94	75-158	
1,2,3,7,8-PeCDD	1000	1020	102	70-142	
1,2,3,7,8-PeCDF	1000	986	99	80-134	
2,3,4,7,8-PeCDF	1000	906	91	68-160	
1,2,3,4,7,8-HxCDD	1000	910	91	70-164	
1,2,3,6,7,8-HxCDD	1000	981	98	76-134	
1,2,3,7,8,9-HxCDD	1000	1020	102	64-162	
1,2,3,4,7,8-HxCDF	1000	868	87	72-134	
1,2,3,6,7,8-HxCDF	1000	927	93	84-130	
1,2,3,7,8,9-HxCDF	1000	942	94	78-130	
2,3,4,6,7,8-HxCDF	1000	917	92	70-156	
1,2,3,4,6,7,8-HpCDD	1000	1010	101	70-140	
1,2,3,4,6,7,8-HpCDF	1000	993	99	82-122	
1,2,3,4,7,8,9-HpCDF	1000	921	92	78-138	
OCDD	2000	1990	100	78-144	
OCDF	2000	1940	97	63-170	
13C-2,3,7,8-TCDD	2000	1630	82	20-175	
13C-2,3,7,8-TCDF	2000	1700	85	22-152	
13C-1,2,3,7,8-PeCDD	2000	1780	89	21-227	
13C-1,2,3,7,8-PeCDF	2000	1780	89	21-192	
13C-2,3,4,7,8-PeCDF	2000	1830	92	13-328	
13C-1,2,3,4,7,8-HxCDD	2000	1680	84	21-193	
13C-1,2,3,6,7,8-HxCDD	2000	1480	74	25-163	
13C-1,2,3,4,7,8-HxCDF	2000	1540	77	19-202	
13C-1,2,3,6,7,8-HxCDF	2000	1410	71	21-159	
13C-1,2,3,7,8,9-HxCDF	2000	1610	81	17-205	
13C-2,3,4,6,7,8-HxCDF	2000	1610	80	22-176	
13C-1,2,3,4,6,7,8-HpCDD	2000	1490	74	26-166	
13C-1,2,3,4,6,7,8-HpCDF	2000	1440	72	21-158	
13C-1,2,3,4,7,8,9-HpCDF	2000	1620	81	20-186	
13C-OCDD	4000	2820	71	13-199	

Column to be used to flag recovery and RPD values

FORM III 1613B

FORM III
DIOXIN LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57624-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 13JA2010D5_20.d

Lab ID: LCSD 320-350417/3-A Client ID:

COMPOUND	SPIKE ADDED (pg/L)	LCSD CONCENTRATION (pg/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
2,3,7,8-TCDD	200	211	106	7	50	67-158	
2,3,7,8-TCDF	200	200	100	6	50	75-158	
1,2,3,7,8-PeCDD	1000	1100	110	7	50	70-142	
1,2,3,7,8-PeCDF	1000	1060	106	7	50	80-134	
2,3,4,7,8-PeCDF	1000	969	97	7	50	68-160	
1,2,3,4,7,8-HxCDD	1000	973	97	7	50	70-164	
1,2,3,6,7,8-HxCDD	1000	1050	105	7	50	76-134	
1,2,3,7,8,9-HxCDD	1000	1040	104	2	50	64-162	
1,2,3,4,7,8-HxCDF	1000	937	94	8	50	72-134	
1,2,3,6,7,8-HxCDF	1000	995	100	7	50	84-130	
1,2,3,7,8,9-HxCDF	1000	1000	100	6	50	78-130	
2,3,4,6,7,8-HxCDF	1000	1010	101	9	50	70-156	
1,2,3,4,6,7,8-HpCDD	1000	1070	107	6	50	70-140	
1,2,3,4,6,7,8-HpCDF	1000	1060	106	6	50	82-122	
1,2,3,4,7,8,9-HpCDF	1000	984	98	7	50	78-138	
OCDD	2000	2100	105	5	50	78-144	
OCDF	2000	2070	104	7	50	63-170	
13C-2,3,7,8-TCDD	2000	1780	89			20-175	
13C-2,3,7,8-TCDF	2000	1830	91			22-152	
13C-1,2,3,7,8-PeCDD	2000	1910	95			21-227	
13C-1,2,3,7,8-PeCDF	2000	1890	94			21-192	
13C-2,3,4,7,8-PeCDF	2000	2060	103			13-328	
13C-1,2,3,4,7,8-HxCDD	2000	2040	102			21-193	
13C-1,2,3,6,7,8-HxCDD	2000	1630	81			25-163	
13C-1,2,3,4,7,8-HxCDF	2000	1800	90			19-202	
13C-1,2,3,6,7,8-HxCDF	2000	1610	80			21-159	
13C-1,2,3,7,8,9-HxCDF	2000	1760	88			17-205	
13C-2,3,4,6,7,8-HxCDF	2000	1730	86			22-176	
13C-1,2,3,4,6,7,8-HpCDD	2000	1700	85			26-166	
13C-1,2,3,4,6,7,8-HpCDF	2000	1630	82			21-158	
13C-1,2,3,4,7,8,9-HpCDF	2000	1810	90			20-186	
13C-OCDD	4000	3170	79			13-199	

Column to be used to flag recovery and RPD values

FORM III 1613B

FORM IV
DIOXIN METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57624-1

SDG No.:

Lab File ID: 13JA2010D5_18.d Lab Sample ID: MB 320-350417/1-A

Matrix: Water Date Extracted: 01/13/2020 11:12

Instrument ID: 10D5 Date Analyzed: 01/14/2020 02:08

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 320-350417/2-A	13JA2010D5_19.d	01/14/2020 02:54
	LCSD 320-350417/3-A	13JA2010D5_20.d	01/14/2020 03:40
11187072-FEFF-0.1um	320-57624-1	13JA2010D5_21.d	01/14/2020 04:26
11187072-FEFF-0.45um	320-57624-2	13JA2010D5_22.d	01/14/2020 05:12
11187072-FEFF-1um	320-57624-3	13JA2010D5_23.d	01/14/2020 05:58

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57624-1

SDG No.:

Client Sample ID: 11187072-FEFF-0.1um Lab Sample ID: 320-57624-1

Matrix: Water Lab File ID: 13JA2010D5_21.d

Analysis Method: 1613B Date Collected: 01/09/2020 12:00

Extract. Method: 1613B Date Extracted: 01/13/2020 11:12

Sample wt/vol: 1030.3(mL) Date Analyzed: 01/14/2020 04:26

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 350523 Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		9.7	0.48
51207-31-9	2,3,7,8-TCDF	ND		9.7	0.24
40321-76-4	1,2,3,7,8-PeCDD	ND		49	0.35
57117-41-6	1,2,3,7,8-PeCDF	ND		49	0.32
57117-31-4	2,3,4,7,8-PeCDF	ND		49	0.35
39227-28-6	1,2,3,4,7,8-HxCDD	1.8	J B	49	0.31
57653-85-7	1,2,3,6,7,8-HxCDD	ND		49	0.33
19408-74-3	1,2,3,7,8,9-HxCDD	ND		49	0.29
70648-26-9	1,2,3,4,7,8-HxCDF	ND		49	0.50
57117-44-9	1,2,3,6,7,8-HxCDF	ND		49	0.50
72918-21-9	1,2,3,7,8,9-HxCDF	0.50	J q	49	0.32
60851-34-5	2,3,4,6,7,8-HxCDF	ND		49	0.34
35822-46-9	1,2,3,4,6,7,8-HpCDD	1.7	J B	49	0.20
67562-39-4	1,2,3,4,6,7,8-HpCDF	0.95	J q B	49	0.24
55673-89-7	1,2,3,4,7,8,9-HpCDF	ND		49	0.27
3268-87-9	OCDD	14	J B	97	0.34
39001-02-0	OCDF	2.1	J	97	0.41
41903-57-5	Total TCDD	ND		9.7	0.48
30402-14-3	Total TCDF	ND		9.7	0.24
36088-22-9	Total PeCDD	ND		49	0.35
30402-15-4	Total PeCDF	ND		49	0.43
34465-46-8	Total HxCDD	1.8	J B	49	0.31
55684-94-1	Total HxCDF	0.50	J q	49	0.41
37871-00-4	Total HpCDD	3.2	J q B	49	0.20
38998-75-3	Total HpCDF	0.95	J q B	49	0.25

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57624-1

SDG No.:

Client Sample ID: 11187072-FEFF-0.1um Lab Sample ID: 320-57624-1

Matrix: Water Lab File ID: 13JA2010D5_21.d

Analysis Method: 1613B Date Collected: 01/09/2020 12:00

Extract. Method: 1613B Date Extracted: 01/13/2020 11:12

Sample wt/vol: 1030.3(mL) Date Analyzed: 01/14/2020 04:26

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 350523 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	89		25-164
89059-46-1	13C-2,3,7,8-TCDF	90		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	93		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	93		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	93		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	93		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	78		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	85		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	75		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	89		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	85		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	85		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	79		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	91		26-138
114423-97-1	13C-OCDD	82		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	103		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_21.d
Lims ID: 320-57624-A-1-A
Client ID: 11187072-FEFF-0.1um
Sample Type: Client
Inject. Date: 14-Jan-2020 04:26:15 ALS Bottle#: 46 Worklist Smp#: 21
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-57624-A-1-A 320-57624-A-1-A
Misc. Info.: 13JA2010D5
Operator ID: SMA/ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 15-Jan-2020 12:40:58 Calib Date: 14-Nov-2019 12:50:49
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0339

First Level Reviewer: arghestanis Date: 14-Jan-2020 13:30:36

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.635	74412054	0.79	1.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.121	89133755	0.77	1.3318	89.9	89.9	0.2246	0.2246	89.94	
2,3,7,8-TCDF	17.151						0.0124	0.0124		
A Non-2,3,7,8-sub-TCDF	16.826						0.0124	0.0124		
S Total TCDF							0.0124	0.0124		
D 13C-2,3,7,8-TCDD	17.816	63752358	0.80	0.9647	88.8	88.8	0.1917	0.1917	88.81	
2,3,7,8-TCDD	17.816						0.0246	0.0246		
$ 37Cl4-2,3,7,8-TCDD	17.831	40064074		1.3082	41.2	41.2	0.0847	0.0847	103	
A Non-2,3,7,8-sub-TCDD	17.272						0.0246	0.0246		
S Total TCDD							0.0246	0.0246		
D 13C-1,2,3,7,8-PeCDF	22.060	73060306	1.58	1.0537	93.2	93.2	0.1647	0.1647	93.18	
1,2,3,7,8-PeCDF	22.073						0.0165	0.0165		
D 13C-2,3,4,7,8-PeCDF	23.369	70482783	1.60	1.0173	93.1	93.1	0.1706	0.1706	93.11	
2,3,4,7,8-PeCDF	23.396						0.0180	0.0180		
A F1 PeCDFs	19.676						0.0223	0.0223		
A Non-2,3,7,8-sub-PeCDF	22.763						0.0172	0.0172		
S Total PeCDF							0.0223	0.0223		
D 13C-1,2,3,7,8-PeCDD	24.078	50605395	1.55	0.7281	93.4	93.4	0.0946	0.0946	93.40	
1,2,3,7,8-PeCDD	24.064						0.0182	0.0182		
A Non-2,3,7,8-sub-PeCDD	22.980						0.0182	0.0182		
S Total PeCDD							0.0182	0.0182		
D 13C-1,2,3,4,7,8-HxCDF	30.219	52473946	0.51	0.9632	84.7	84.7	0.2332	0.2332	84.69	
1,2,3,4,7,8-HxCDF	30.192						0.0258	0.0258		
D 13C-1,2,3,6,7,8-HxCDF	30.419	51323619	0.51	1.0646	74.9	74.9	0.2109	0.2109	74.95	
1,2,3,6,7,8-HxCDF	30.405						0.0256	0.0256		
D 13C-2,3,4,6,7,8-HxCDF	31.324	53208157	0.49	0.9696	85.3	85.3	0.2316	0.2316	85.31	
2,3,4,6,7,8-HxCDF	31.310						0.0175	0.0175		
D 13C-1,2,3,7,8,9-HxCDF	32.162	51100018	0.50	0.8955	88.7	88.7	0.2508	0.2508	88.71	
1,2,3,7,8,9-HxCDF	32.162	14082	1.24	1.0664	0.0305	0.0258	0.0166	0.0166		RQ
A Non-2,3,7,8-sub-HxCDF	29.873						0.0206	0.0206		
S Total HxCDF					0.0305	0.0258	0.0214	0.0214		RQ

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.976	64327165	1.26	8.8E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.524	45468819	1.28	0.7590	93.1	93.1	0.1953	0.1953	93.13	
1,2,3,4,7,8-HxCDD	31.550	41395	1.18	1.0054	0.0906	0.0906	0.0161	0.0161		M
D 13C-1,2,3,6,7,8-HxCDD	31.630	46471396	1.27	0.9247	78.1	78.1	0.1603	0.1603	78.12	
1,2,3,6,7,8-HxCDD	31.550						0.0169	0.0169		QMU
1,2,3,7,8,9-HxCDD	31.976						0.0148	0.0148		
A Non-2,3,7,8-sub-HxCDD	30.485						0.0159	0.0159		U
S Total HxCDD					0.0906	0.0906	0.0159	0.0159		
D 13C-1,2,3,4,6,7,8-HpCDF	33.618	40507765	0.45	0.7930	79.4	79.4	0.7336	0.7336	79.41	
1,2,3,4,6,7,8-HpCDF	33.630	28255	1.04	1.4240	0.0538	0.0490	0.0123	0.0123		RQM
D 13C-1,2,3,4,7,8,9-HpCDF	34.675	42615846	0.44	0.7296	90.8	90.8	0.7974	0.7974	90.81	
1,2,3,4,7,8,9-HpCDF	34.675						0.0139	0.0139		
A Non-2,3,7,8-sub-HpCDF	34.140						0.0131	0.0131		
S Total HpCDF					0.0538	0.0490	0.0131	0.0131		RQ
D 13C-1,2,3,4,6,7,8-HpCDD	34.396	41099665	1.06	0.7532	84.8	84.8	0.2926	0.2926	84.83	
1,2,3,4,6,7,8-HpCDD	34.396	37453	1.02	1.0174	0.0896	0.0896	0.0104	0.0104		M
A Non-2,3,7,8-sub-HpCDD	34.122	30497	1.04	1.0174	0.0846	0.0729	0.0104	0.0729		RQM
S Total HpCDD					0.1741	0.1625	0.0104	0.0104		RQ
D 13C-OCDD	36.698	59041943	0.92	0.5621	163.3	163.3	0.1375	0.1375	81.65	
OCDF	36.794	40854	0.87	1.3047	0.1061	0.1061	0.0210	0.0210		M
OCDD	36.710	236525	0.90	1.0997	0.7286	0.7286	0.0175	0.0175		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_21.d
Lims ID: 320-57624-A-1-A
Client ID: 11187072-FEFF-0.1um
Sample Type: Client
Inject. Date: 14-Jan-2020 04:26:15 ALS Bottle#: 46 Worklist Smp#: 21
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-57624-A-1-A 320-57624-A-1-A
Misc. Info.: 13JA2010D5
Operator ID: SMA/ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 15-Jan-2020 12:40:58 Calib Date: 14-Nov-2019 12:50:49
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0339

First Level Reviewer: arghestanis Date: 14-Jan-2020 13:30:36

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.635	17.605	2		32922106	8426216	5976	14940	1410		
333.9339	17.635	17.605	2		41489948	10552216	8060	20150	1309	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.121	17.106	1	0.971	38832092	9843010	14024	35060	702		
317.9389	17.121	17.106	1	0.971	50301663	12692740	8689	21722	1461	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.121						412	1030			
305.8987	17.121						598	1495			
A Non-2,3,7,8-sub-TCDF											
303.9016	16.826						412	1030			
305.8987	16.826						598	1495			
13C-2,3,7,8-TCDD											
331.9368	17.816	17.786	2	1.010	28240475	7001049	5976	14940	1172		
333.9339	17.816	17.786	2	1.010	35511883	8846633	8060	20150	1098	0.80(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.816						1187	2967			
321.8936	17.816						483	1207			
37Cl4-2,3,7,8-TCDD											
327.8847	17.831	17.816	1	1.011	40064074	9792382	8408	21020	1165		
A Non-2,3,7,8-sub-TCDD											
319.8965	17.272						1187	2967			
321.8936	17.272						483	1207			
13C-1,2,3,7,8-PeCDF											
351.9000	22.060	22.019	2	1.251	44765936	8276659	8008	20020	1034		
353.8970	22.060	22.019	2	1.251	28294370	5218918	5170	12925	1009	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	22.032						235	587			
341.8567	22.032						631	1577			
13C-2,3,4,7,8-PeCDF											
351.9000	23.369	23.328	2	1.325	43384537	7356036	8008	20020	919		
353.8970	23.369	23.328	2	1.325	27098246	4678496	5170	12925	905	1.60(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.355						235	587			
341.8567	23.355						631	1577			
A F1 PeCDFs											
339.8597	19.676						347	867			
341.8567	19.676						772	1930			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.763						235	587			
341.8567	22.763						631	1577			
13C-1,2,3,7,8-PeCDD											
367.8949	24.078	24.037	2	1.365	30768785	5035345	3049	7622	1651		
369.8919	24.078	24.037	2	1.365	19836610	3267515	2180	5450	1499	1.55(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.064						418	1045			
357.8516	24.064						189	472			
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.980						418	1045			
357.8516	22.980						189	472			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.219	30.166	3	0.945	17718312	2977926	4794	11985	621		
385.8610	30.219	30.166	3	0.945	34755634	5805764	9792	24480	593	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.192						576	1440			
375.8178	30.192						359	897			
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.419	30.379	2	0.951	17281097	2997347	4794	11985	625		
385.8610	30.419	30.379	2	0.951	34042522	5909475	9792	24480	604	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.405						576	1440			
375.8178	30.405						359	897			
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.324	31.284	2	0.980	17604517	4167445	4794	11985	869		
385.8610	31.324	31.284	2	0.980	35603640	8363911	9792	24480	854	0.49(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.310						576	1440			
375.8178	31.310						359	897			
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.162	32.136	2	1.006	17143847	4465342	4794	11985	931		
385.8610	32.162	32.136	2	1.006	33956171	8765576	9792	24480	895	0.50(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											RQ
373.8208	32.162	32.149	1	1.000	10344	2724	576	1440	5		
	Empc Correction				7795	1688	576	1440	3		
375.8178	32.189	32.149	2	1.001	6287	1362	359	897	4	1.65(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.873						576	1440			
375.8178	29.873						359	897			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.976	31.949	2		35801311	9036228	5258	13145	1719		
403.8529	31.976	31.949	2		28525854	7201897	4372	10930	1647	1.26(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.524	31.497	2	0.986	25549707	6568021	5258	13145	1249		
403.8529	31.524	31.497	2	0.986	19919112	5065656	4372	10930	1159	1.28(1.05-1.43)	
1,2,3,4,7,8-HxCDD											M
389.8157	31.550	31.510	2	1.001	22405	5068	376	940	13		M
391.8127	31.537	31.510	2	1.000	18990	5371	376	940	14	1.18(1.05-1.43)	M
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.630	31.603	2	0.989	25962143	6327749	5258	13145	1203		
403.8529	31.630	31.603	2	0.989	20509253	4994264	4372	10930	1142	1.27(1.05-1.43)	
1,2,3,6,7,8-HxCDD											QMU
389.8157	31.617						376	940			
391.8127	31.617						376	940			
1,2,3,7,8,9-HxCDD											
389.8157	31.963						376	940			
391.8127	31.963						376	940			
A Non-2,3,7,8-sub-HxCDD											U
389.8157	30.485						376	940			
391.8127	30.485						376	940			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.618	33.593	1	1.051	12557023	4032728	12567	31417	321		
419.8220	33.618	33.593	1	1.051	27950742	8757981	25218	63045	347	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											RQM
407.7818	33.630	33.605	1	1.000	14405	3885	608	1520	6		M
409.7789	33.618	33.605	1	1.000	16621	4831	291	727	17	0.87(0.88-1.20)	M
	Empc Correction				13850	3735	291	727	13		
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.675	34.663	1	1.084	13035858	3841486	12567	31417	306		
419.8220	34.675	34.663	1	1.084	29579988	8729698	25218	63045	346	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.675						608	1520			
409.7789	34.675						291	727			
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.140						608	1520			
409.7789	34.140						291	727			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.396	34.371	1	1.076	21112336	6326622	7695	19237	822		
437.8140	34.396	34.371	1	1.076	19987329	5927200	6618	16545	896	1.06(0.88-1.20)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											M
423.7766	34.396	34.383	1	1.000	18888	5438	321	802	17		M
425.7737	34.408	34.383	1	1.000	18565	5903	199	497	30	1.02(0.88-1.20)	M
A Non-2,3,7,8-sub-HpCDD											RQM
423.7766	33.861	34.122	-16	0.984	20411	6315	321	802	20		M
	Empc Correction				15547	4209	321	802	13		
425.7737	33.861	34.122	-16	0.984	14950	4048	199	497	20	1.37(0.88-1.20)	
13C-OCDD											
469.7779	36.698	36.674	1	1.148	28280945	7286412	2575	6437	2830		
471.7750	36.698	36.674	1	1.148	30760998	7894510	2443	6107	3231	0.92(0.76-1.02)	
OCDF											M
441.7428	36.794	36.782	1	1.003	18976	4478	297	742	15		
443.7399	36.794	36.782	1	1.003	21878	5317	534	1335	10	0.87(0.76-1.02)	M
OCDD											
457.7377	36.710	36.686	1	1.000	111711	27585	290	725	95		
459.7348	36.710	36.686	1	1.000	124814	29099	295	737	99	0.90(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

U - Marked Undetected

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_21.d		
Lims ID:	320-57624-A-1-A		
Client ID:	11187072-FEFF-0.1um		
Inject. Date:	14-Jan-2020 04:26:15	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	SMA/ALM
Lims Batch ID:	350523	Lims Sample ID:	21

Non-2,3,7,8-sub-HxCDD, RT: 30.485

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.005	D 13C-1,2,3,4,7,8-HxCDD	100.000	45468819	11633677
1,2,3,6,7,8-HxCDD	0.983	D 13C-1,2,3,6,7,8-HxCDD	100.000	46471396	11322013
1,2,3,7,8,9-HxCDD	1.104				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.031		100.000	45970107	11477845

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags

Compound is Marked ND

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_21.d
Lims ID: 320-57624-A-1-A
Client ID: 11187072-FEFF-0.1um
Inject. Date: 14-Jan-2020 04:26:15 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: SMA/ALM
Lims Batch ID: 350523 Lims Sample ID: 21

Non-2,3,7,8-sub-HpCDD, RT: 34.122

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.017	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	41099665	12253822

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.017		100.000	41099665	12253822

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
33.861	20411	6315	14950	4048	0.0846	1.37	RQM
33.861	15547	4209	14950	4048	0.0729		Empc Correction
Signal Totals:							
	15547	4209	14950	4048			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	35361	10363				1.37	RQM
	30497	8257					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0846 = (35361 * 100.000) / (41099665 * 1.017)
Empc Amount: 0.0729 = (30497 * 100.000) / (41099665 * 1.017)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_21.d				
Injection Date:	14-Jan-2020 04:26:15	Instrument ID:	10D5		
Lims ID:	320-57624-A-1-A	Lab Sample ID:	320-57624-1		
Client ID:	11187072-FEFF-0.1um				
Operator ID:	SMA/ALM	ALS Bottle#:	46	Worklist Smp#:	21
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 1

Processing Integration Results

RT: 31.55
Area: 31952
Amount: 0.122124
Amount Units: pg/ul

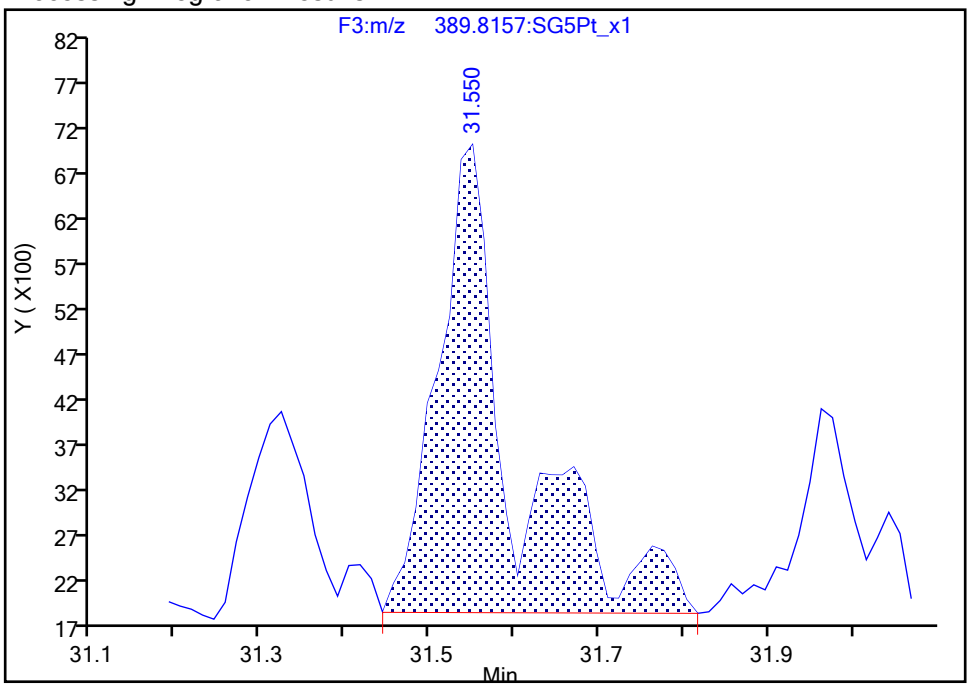

Manual Integration Results

RT: 31.55
Area: 22405
Amount: 0.090553
Amount Units: pg/ul

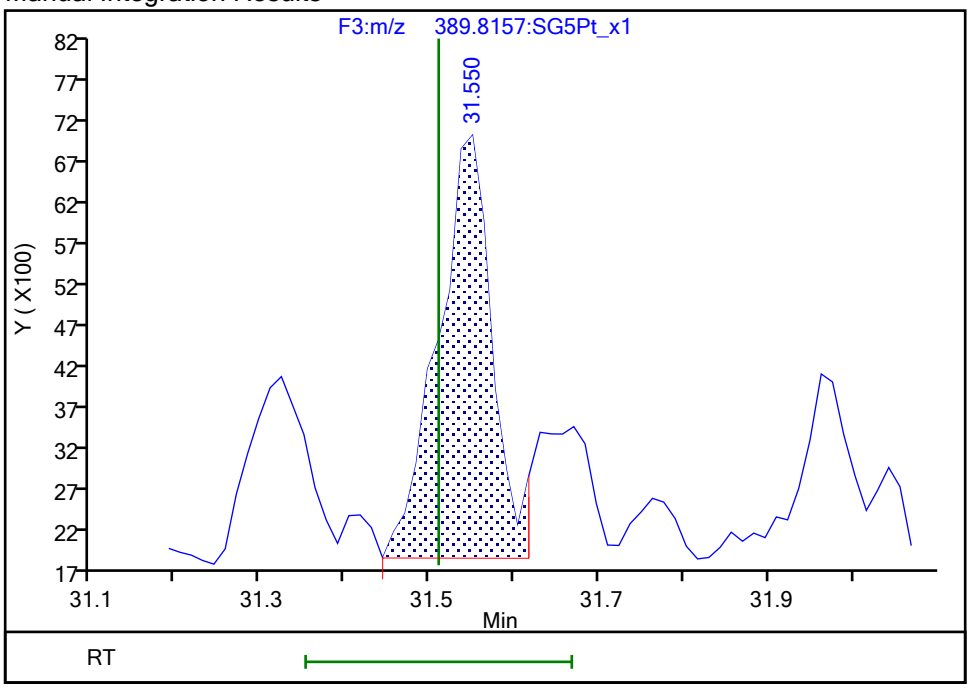

Reviewer: dadunj, 15-Jan-2020 12:39:46

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_21.d				
Injection Date:	14-Jan-2020 04:26:15	Instrument ID:	10D5		
Lims ID:	320-57624-A-1-A	Lab Sample ID:	320-57624-1		
Client ID:	11187072-FEFF-0.1um				
Operator ID:	SMA/ALM	ALS Bottle#:	46	Worklist Smp#:	21
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 2

Processing Integration Results

RT: 31.54
Area: 23875
Amount: 0.122124
Amount Units: pg/ul

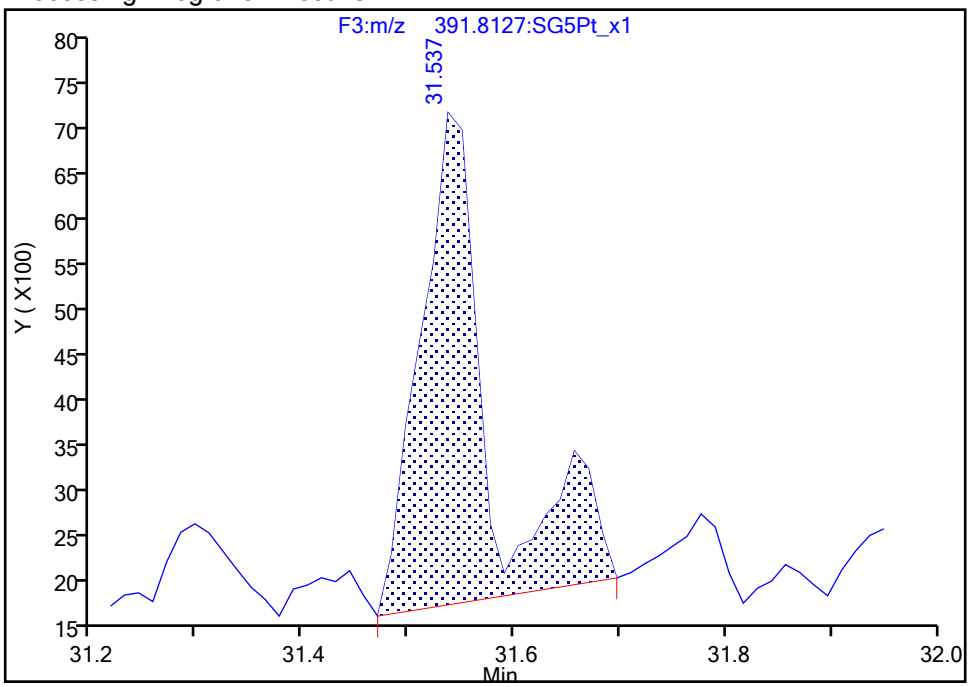

Manual Integration Results

RT: 31.54
Area: 18990
Amount: 0.090553
Amount Units: pg/ul

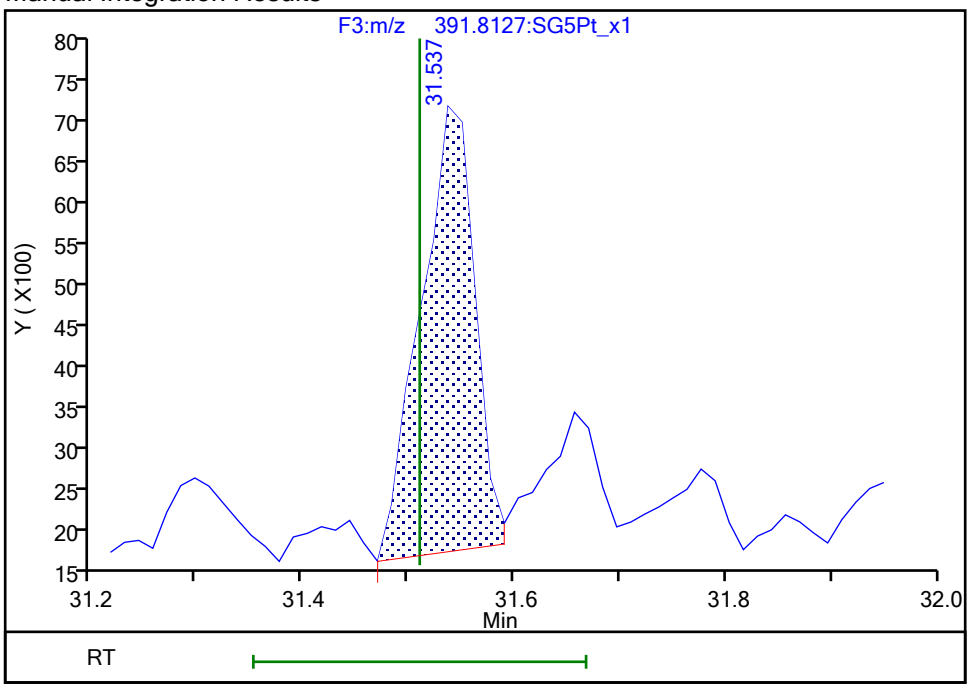

Reviewer: dadunj, 15-Jan-2020 12:39:48

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_21.d				
Injection Date:	14-Jan-2020 04:26:15	Instrument ID:	10D5		
Lims ID:	320-57624-A-1-A	Lab Sample ID:	320-57624-1		
Client ID:	11187072-FEFF-0.1um				
Operator ID:	SMA/ALM	ALS Bottle#:	46	Worklist Smp#:	21
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 2

Processing Integration Results

RT: 33.62
Area: 19378
Amount: 0.059740
Amount Units: pg/ul

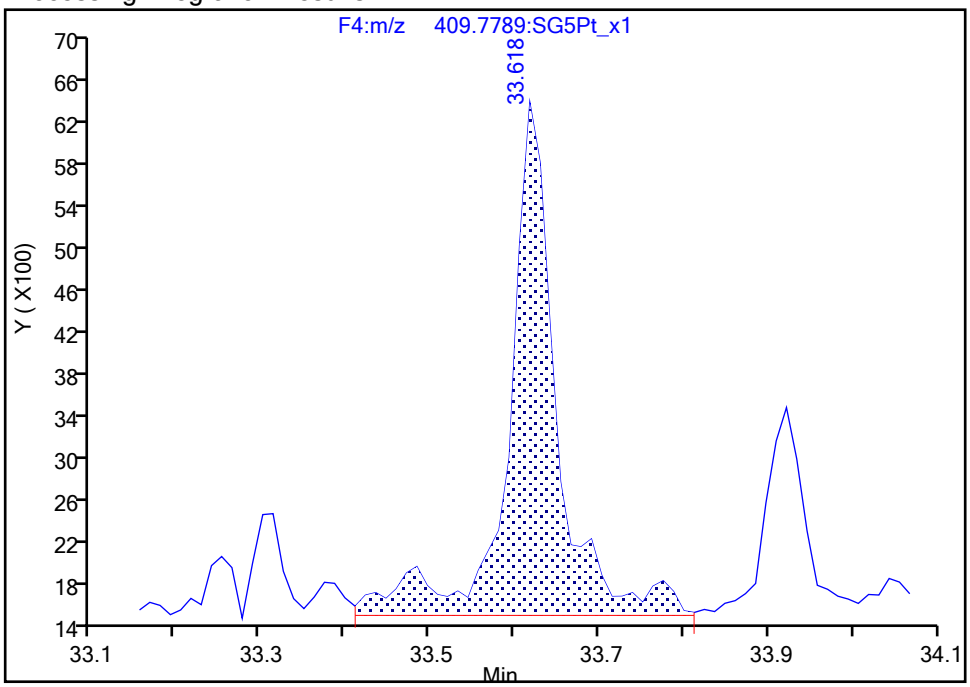

Manual Integration Results

RT: 33.62
Area: 16621
Amount: 0.053786
Amount Units: pg/ul

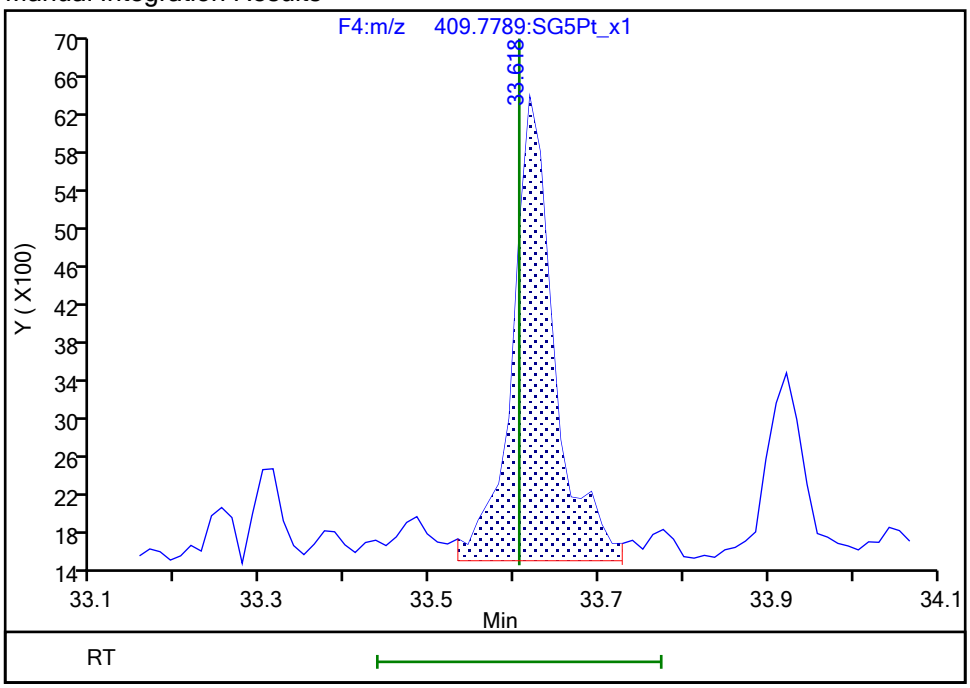

Reviewer: dadunj, 15-Jan-2020 12:40:00

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_21.d				
Injection Date:	14-Jan-2020 04:26:15	Instrument ID:	10D5		
Lims ID:	320-57624-A-1-A	Lab Sample ID:	320-57624-1		
Client ID:	11187072-FEFF-0.1um				
Operator ID:	SMA/ALM	ALS Bottle#:	46	Worklist Smp#:	21
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 1

Processing Integration Results

RT: 33.63
Area: 15083
Amount: 0.059740
Amount Units: pg/ul

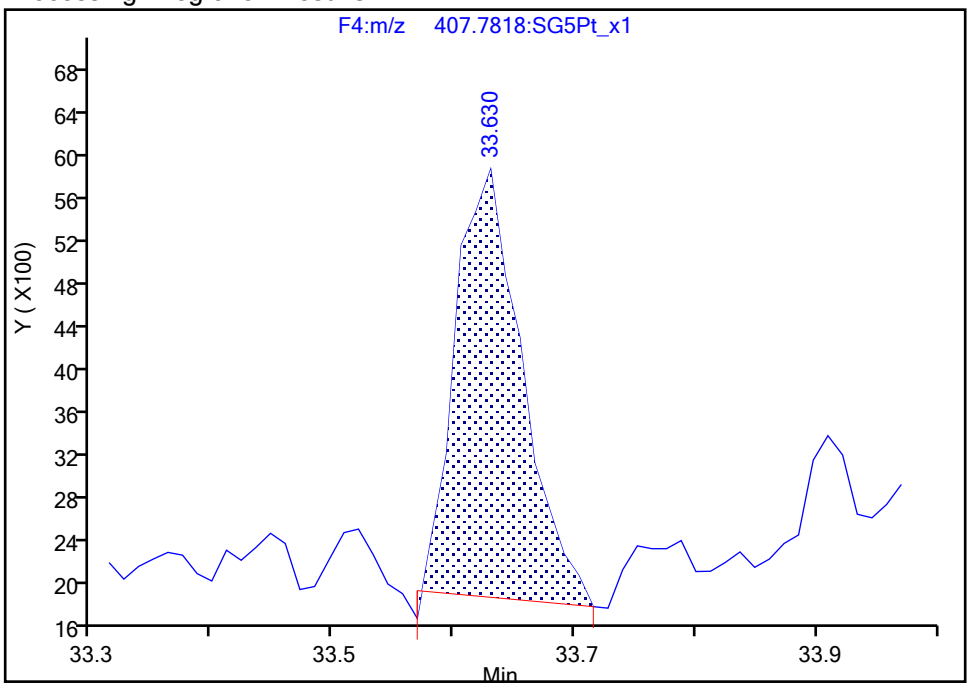

Manual Integration Results

RT: 33.63
Area: 14405
Amount: 0.053786
Amount Units: pg/ul

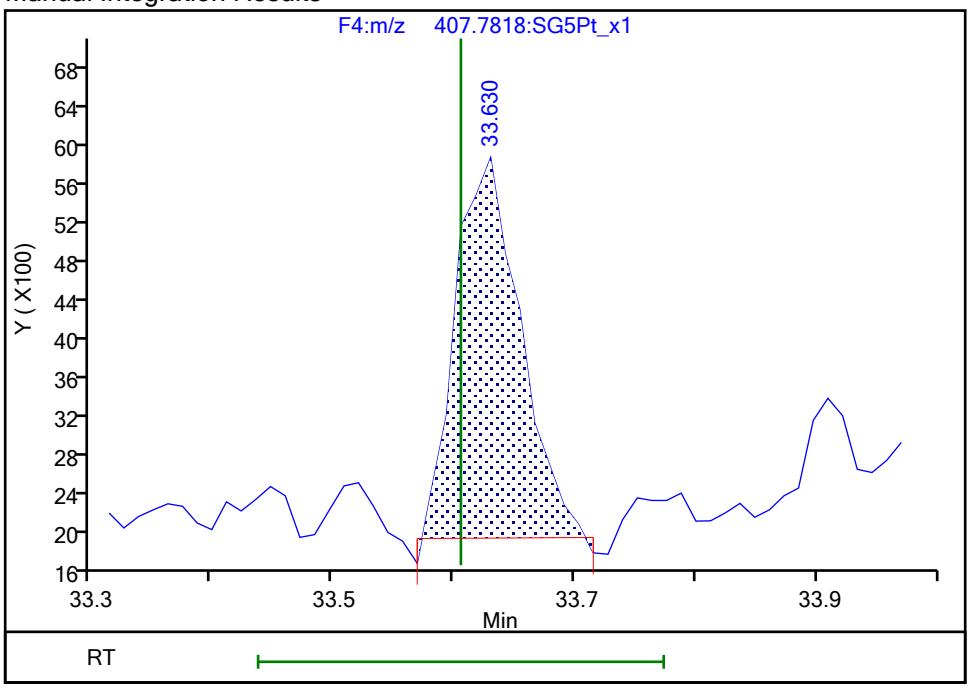

Reviewer: dadunj, 15-Jan-2020 12:40:07

Audit Action: Manually Integrated Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_21.d				
Injection Date:	14-Jan-2020 04:26:15	Instrument ID:	10D5		
Lims ID:	320-57624-A-1-A	Lab Sample ID:	320-57624-1		
Client ID:	11187072-FEFF-0.1um				
Operator ID:	SMA/ALM	ALS Bottle#:	46	Worklist Smp#:	21
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 1

Processing Integration Results

RT: 34.40
Area: 21492
Amount: 0.097884
Amount Units: pg/ul

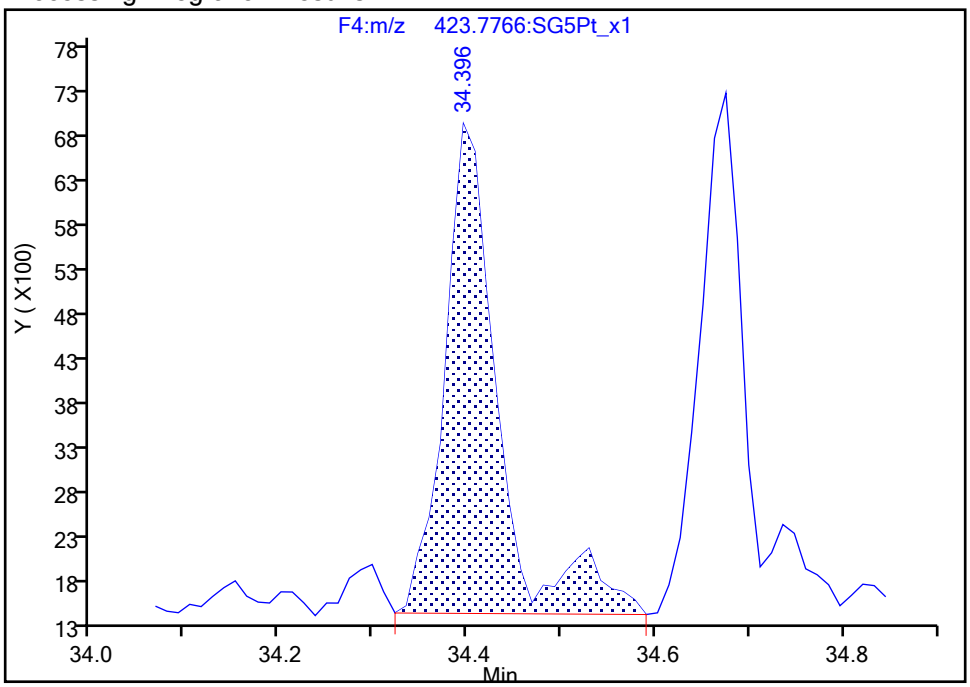

Manual Integration Results

RT: 34.40
Area: 18888
Amount: 0.089568
Amount Units: pg/ul

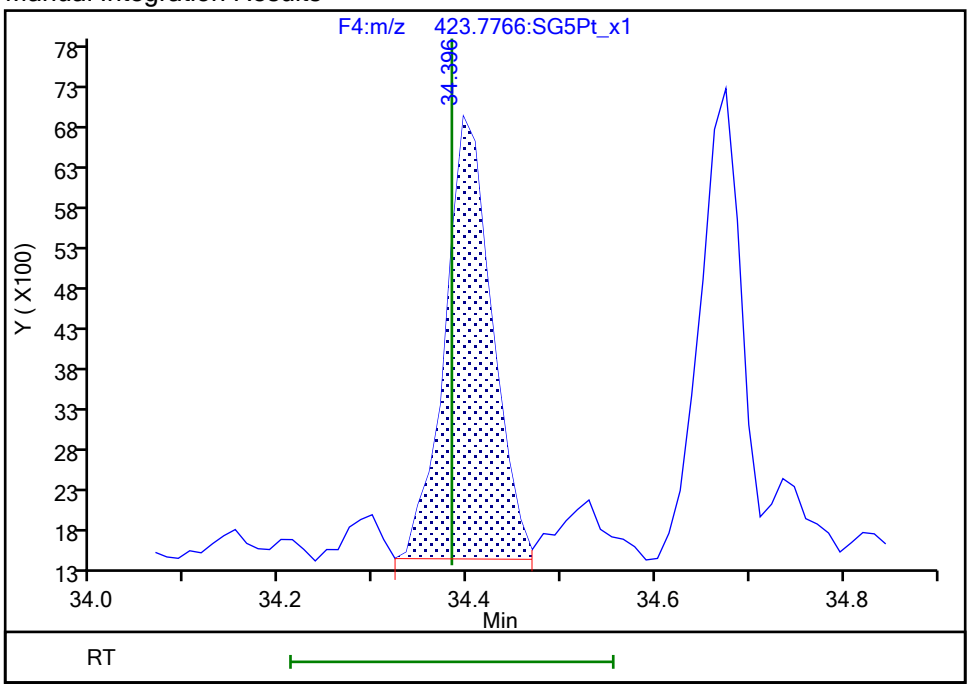

Reviewer: dadunj, 15-Jan-2020 12:40:15

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_21.d				
Injection Date:	14-Jan-2020 04:26:15	Instrument ID:	10D5		
Lims ID:	320-57624-A-1-A	Lab Sample ID:	320-57624-1		
Client ID:	11187072-FEFF-0.1um				
Operator ID:	SMA/ALM	ALS Bottle#:	46	Worklist Smp#:	21
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 2

Processing Integration Results

RT: 34.41
Area: 19438
Amount: 0.097884
Amount Units: pg/ul

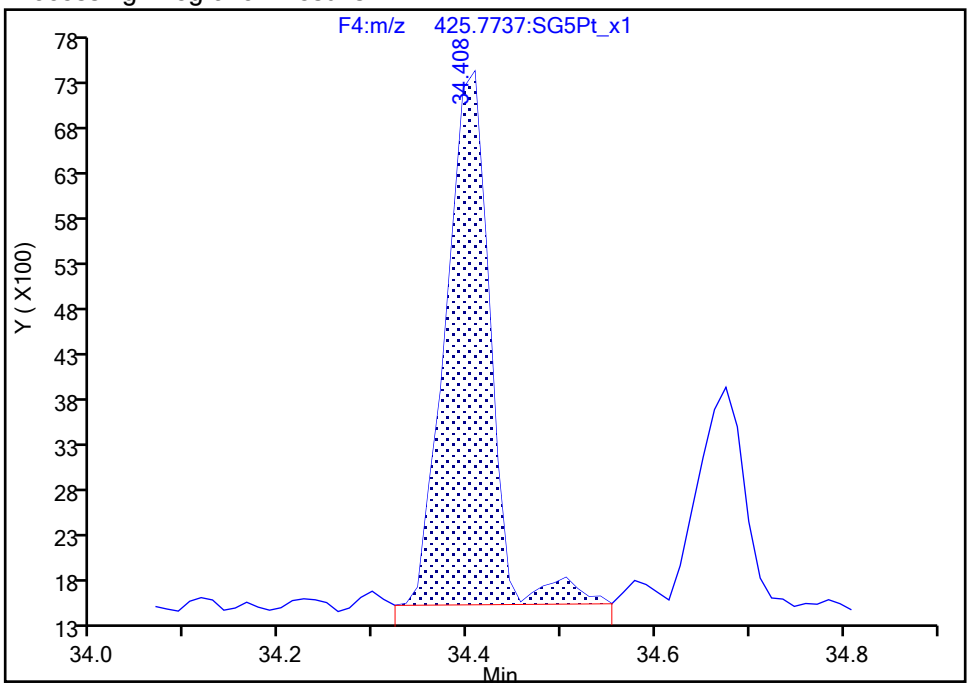

Manual Integration Results

RT: 34.41
Area: 18565
Amount: 0.089568
Amount Units: pg/ul

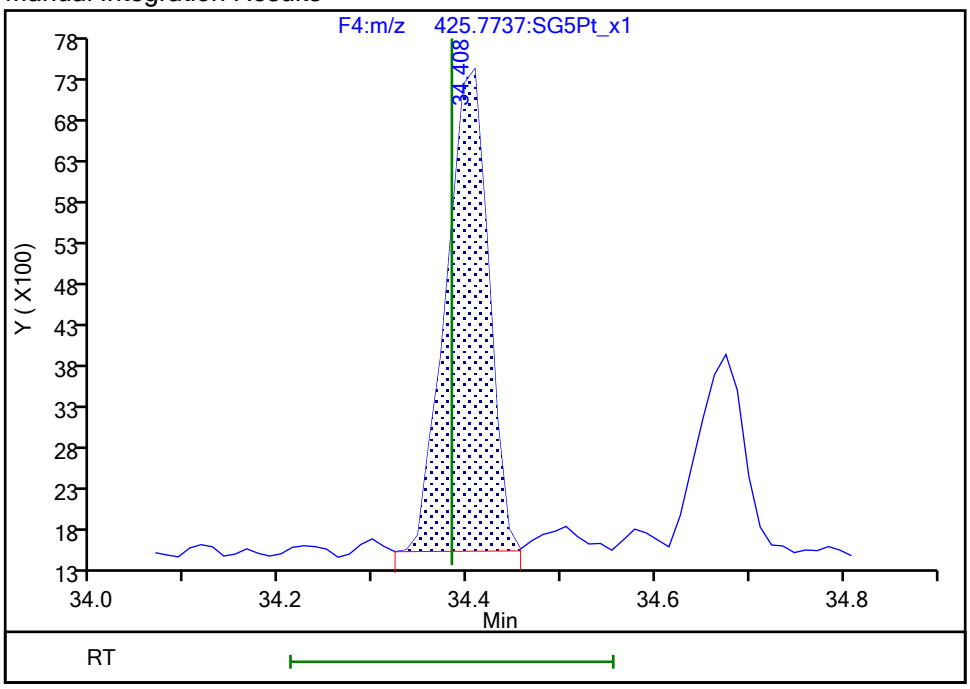

Reviewer: dadunj, 15-Jan-2020 12:40:17

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_21.d				
Injection Date:	14-Jan-2020 04:26:15	Instrument ID:	10D5		
Lims ID:	320-57624-A-1-A	Lab Sample ID:	320-57624-1		
Client ID:	11187072-FEFF-0.1um				
Operator ID:	SMA/ALM	ALS Bottle#:	46	Worklist Smp#:	21
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

Non-2,3,7,8-sub-HpCDD, Signal: 1, m/z: 423.7766, RT: (33.82- 34.43)

Signal: 1

Processing Integration Results

RT = 33.861 Area = 21408

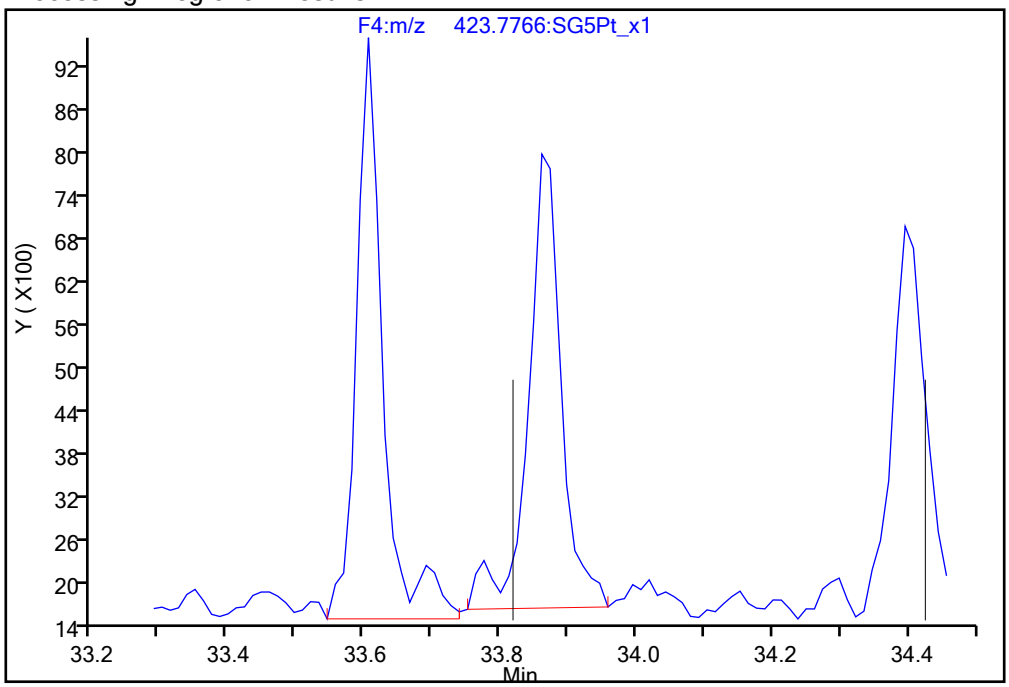

Manual Integration Results

RT = 33.861 Area = 20411 M

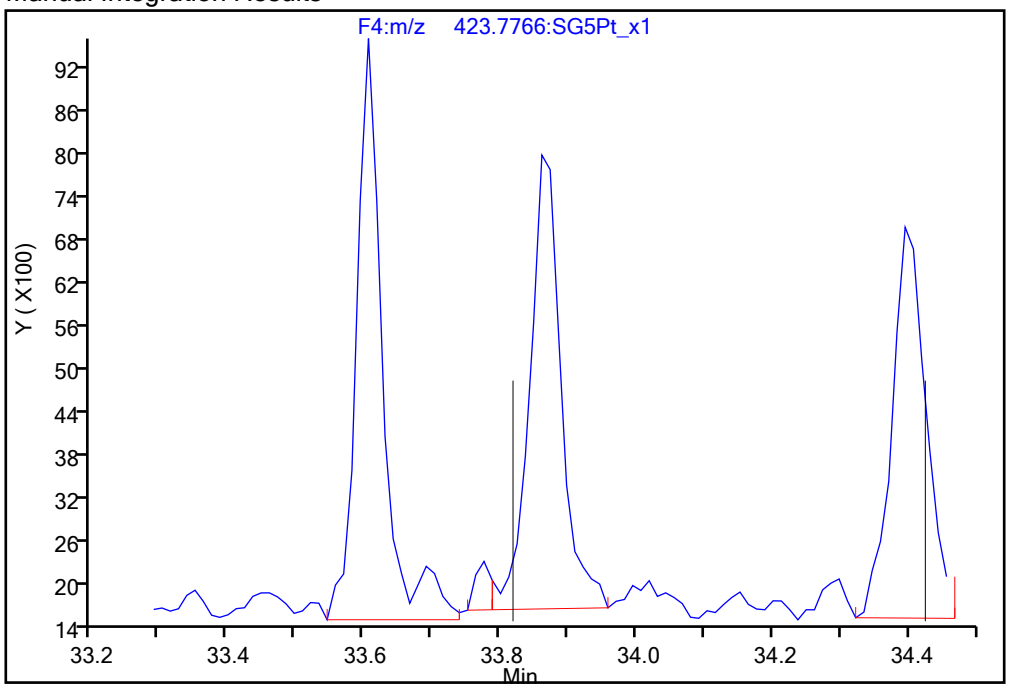

Reviewer: dadunj, 15-Jan-2020 12:40:22

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_21.d				
Injection Date:	14-Jan-2020 04:26:15	Instrument ID:	10D5		
Lims ID:	320-57624-A-1-A	Lab Sample ID:	320-57624-1		
Client ID:	11187072-FEFF-0.1um				
Operator ID:	SMA/ALM	ALS Bottle#:	46	Worklist Smp#:	21
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5:HRSIR		

OCDF, CAS: 39001-02-0

Signal: 2

Processing Integration Results

RT: 36.79
Area: 29863
Amount: 0.126802
Amount Units: pg/ul

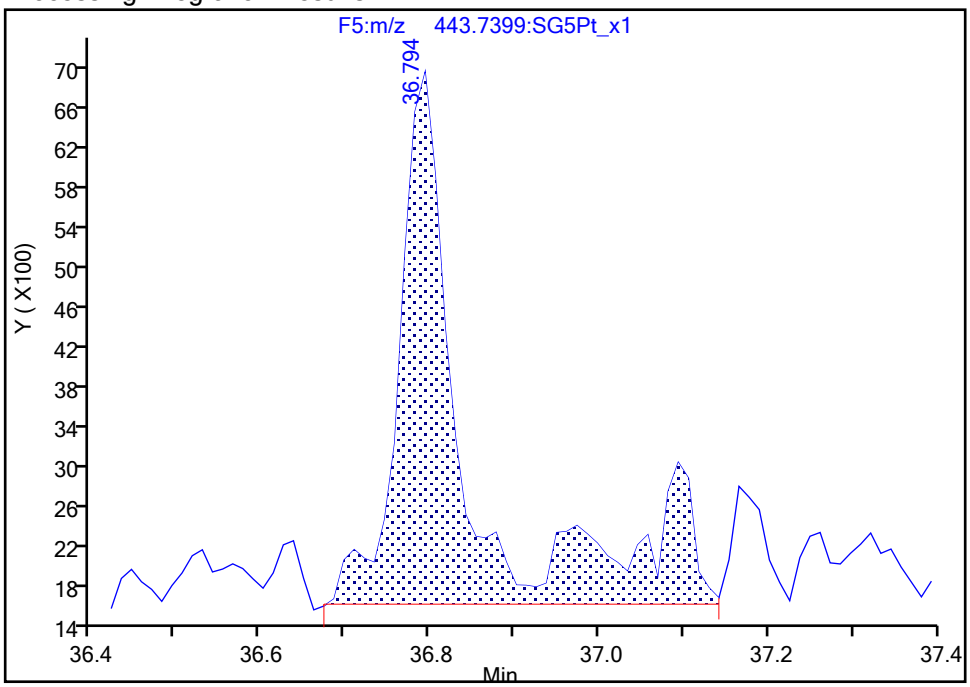

Manual Integration Results

RT: 36.79
Area: 21878
Amount: 0.106070
Amount Units: pg/ul

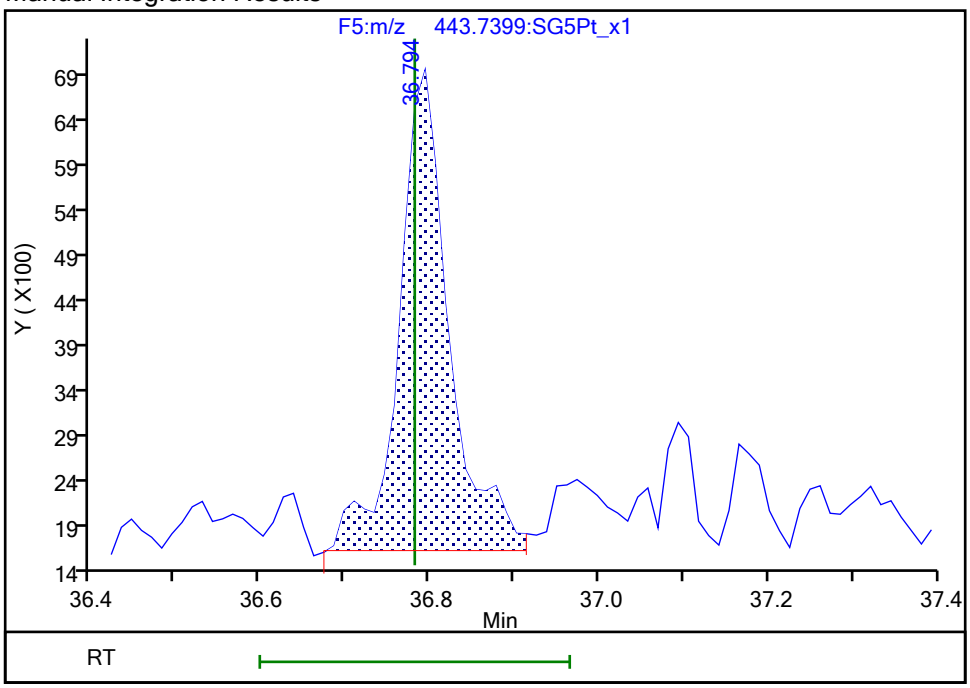

Reviewer: dadunj, 15-Jan-2020 12:40:27

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 15-Jan-2020 12:41:03 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_21.d		
Injection Date:	14-Jan-2020 04:26:15	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-0.1um		
Worklist#:	350523	Sample Line#:	21
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

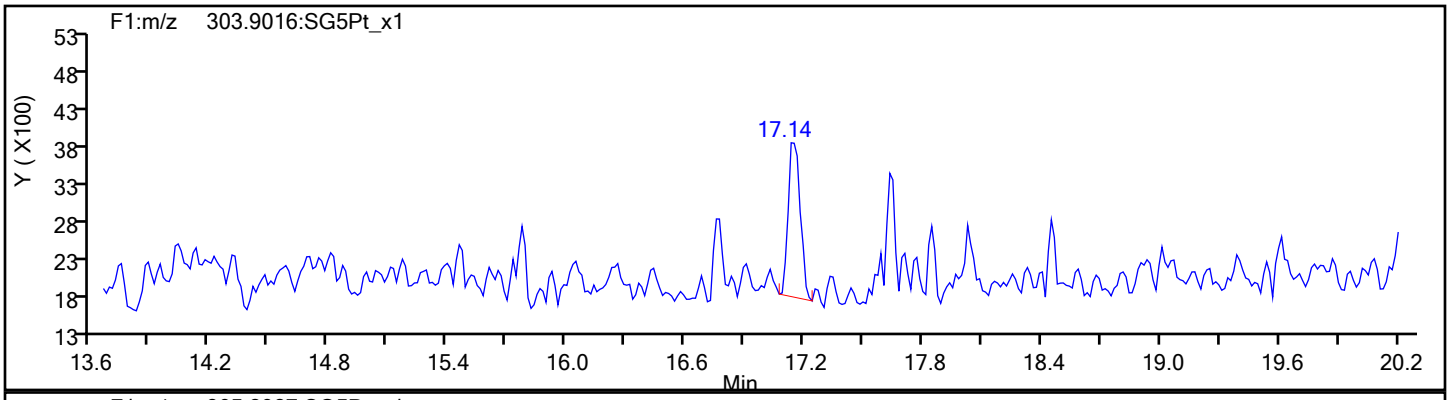

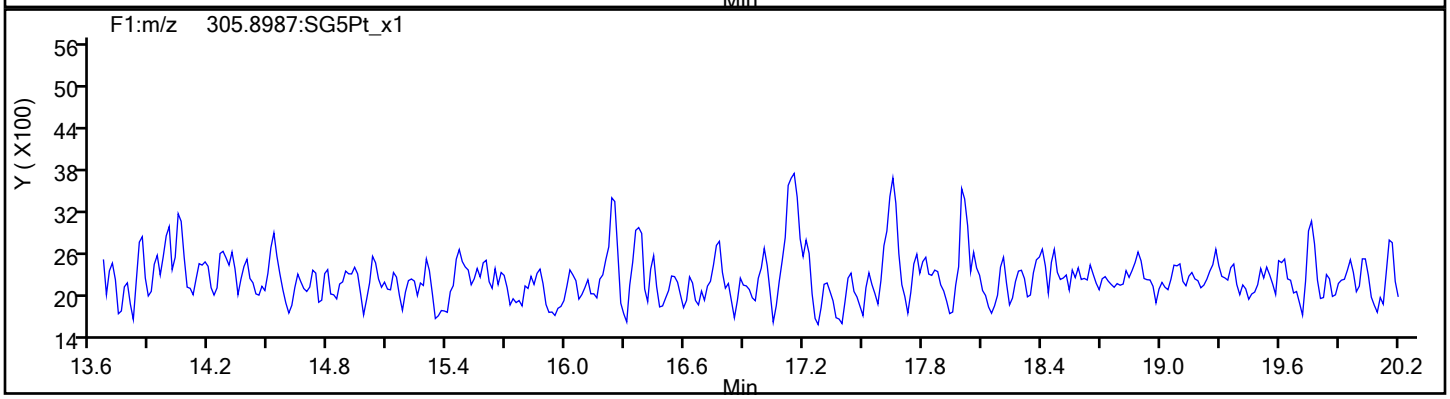

TCDF Standards

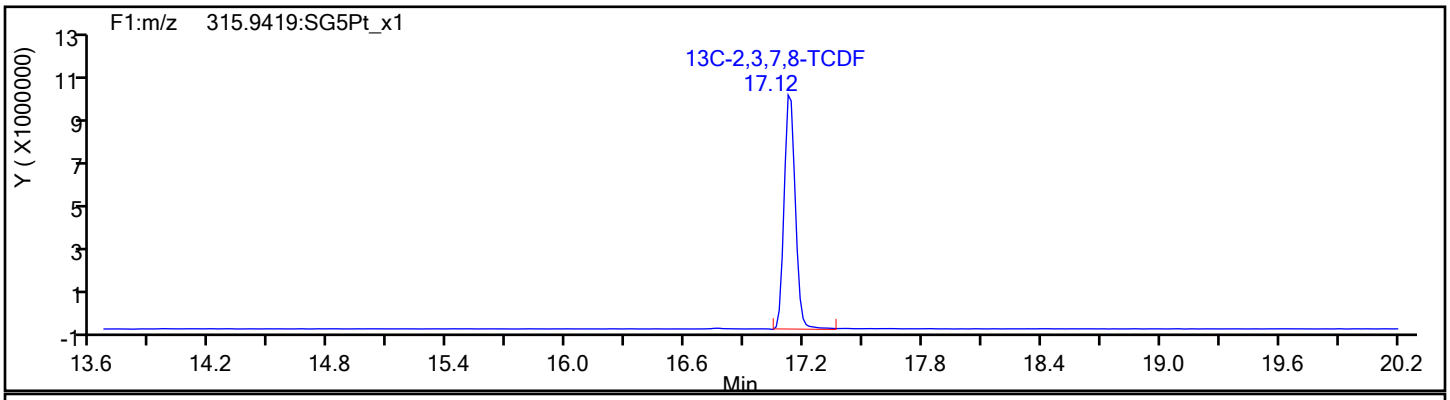

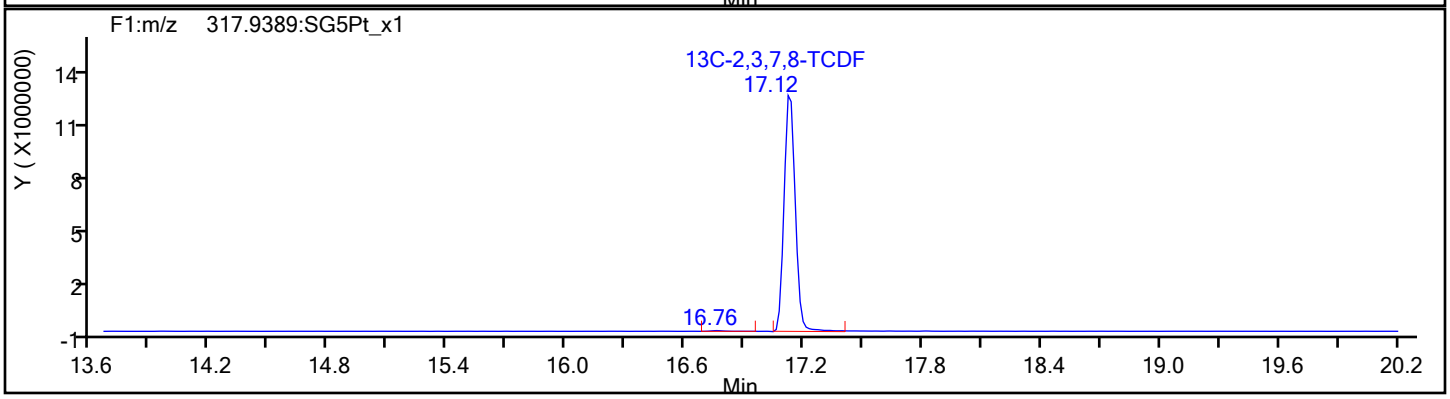

Report Date: 15-Jan-2020 12:41:03 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_21.d		
Injection Date:	14-Jan-2020 04:26:15	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-0.1um		
Worklist#:	350523	Sample Line#:	21
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

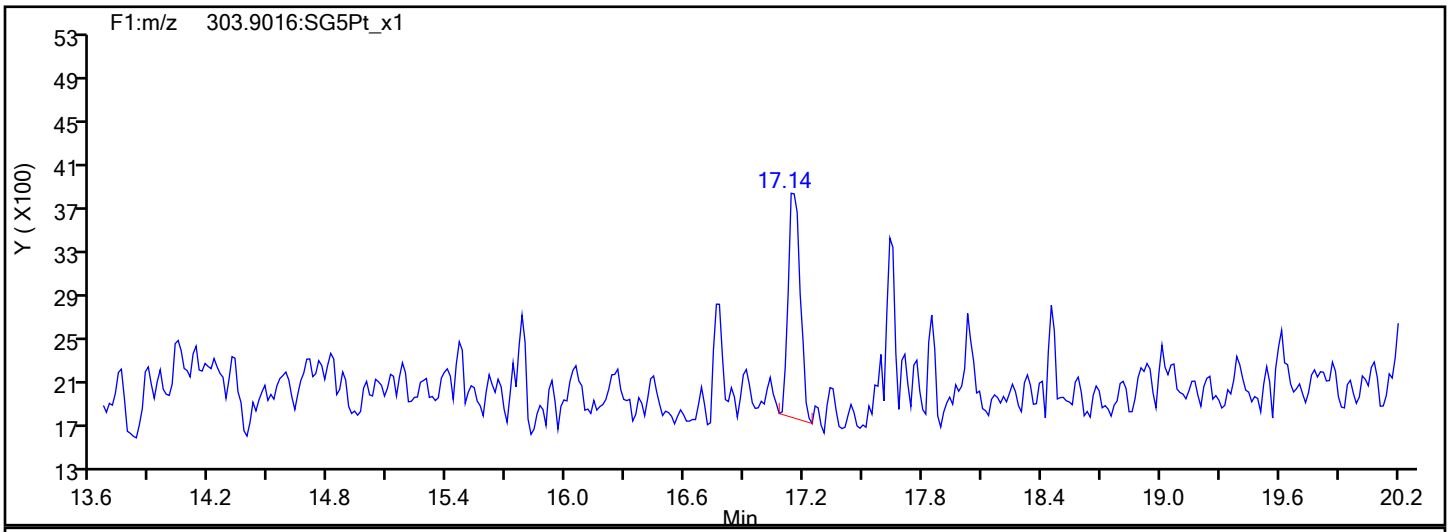

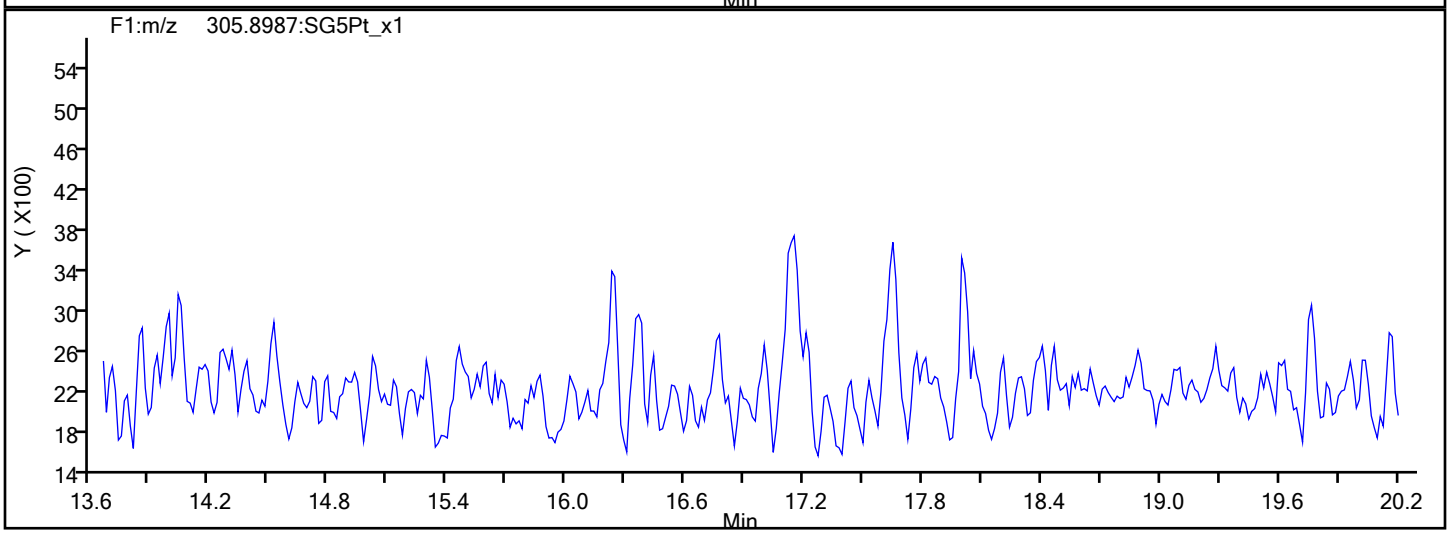

TCDF Interference Mass

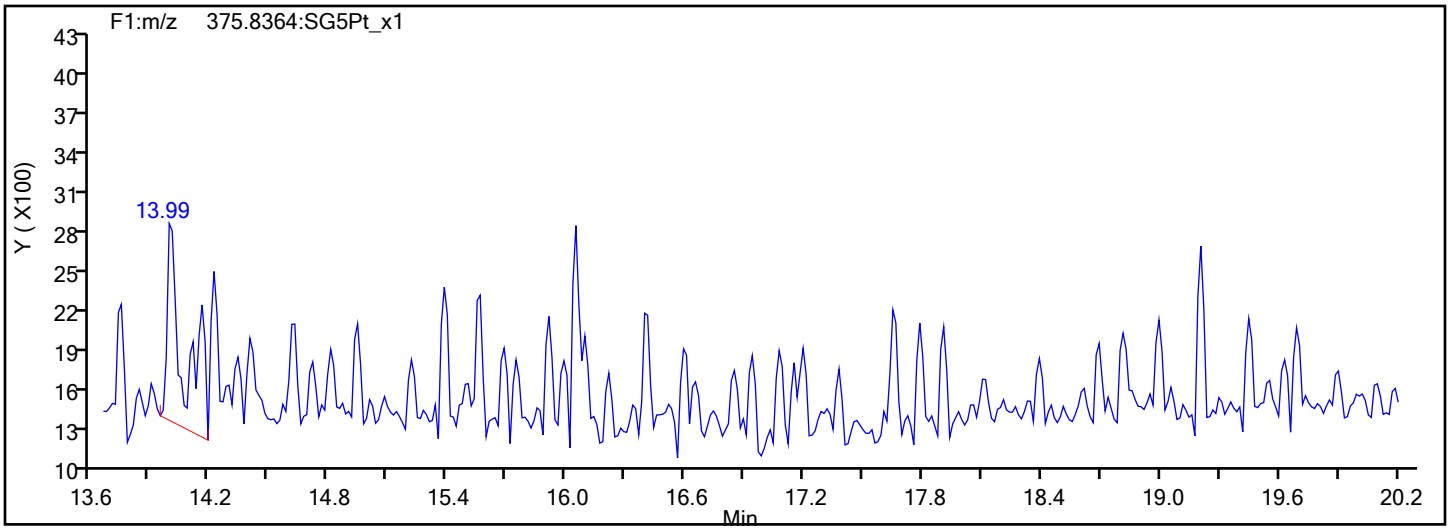

Report Date: 15-Jan-2020 12:41:03 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-0.1um		
Worklist#:	350523	Sample Line#:	21
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

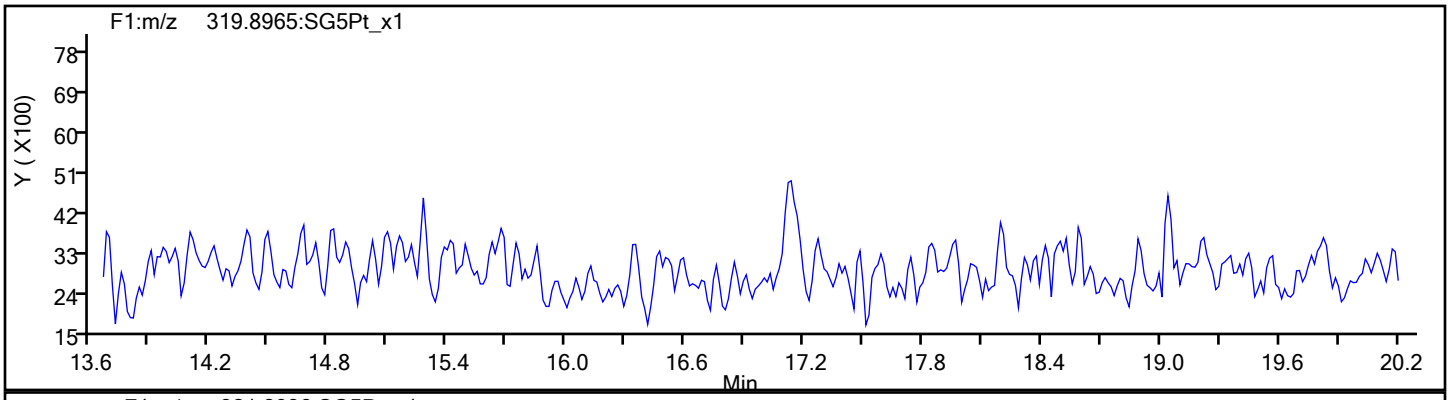

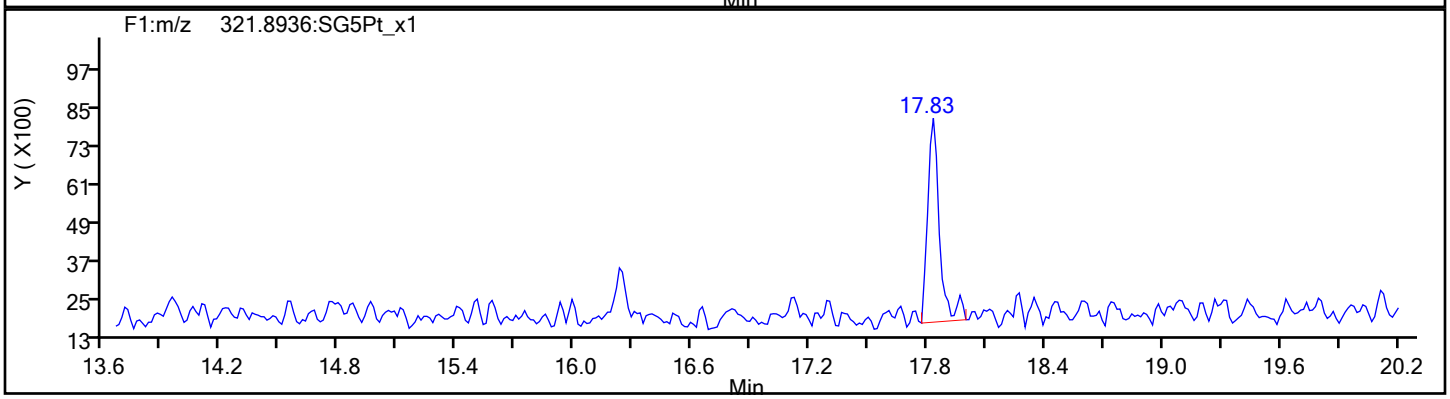

TCDD Standards

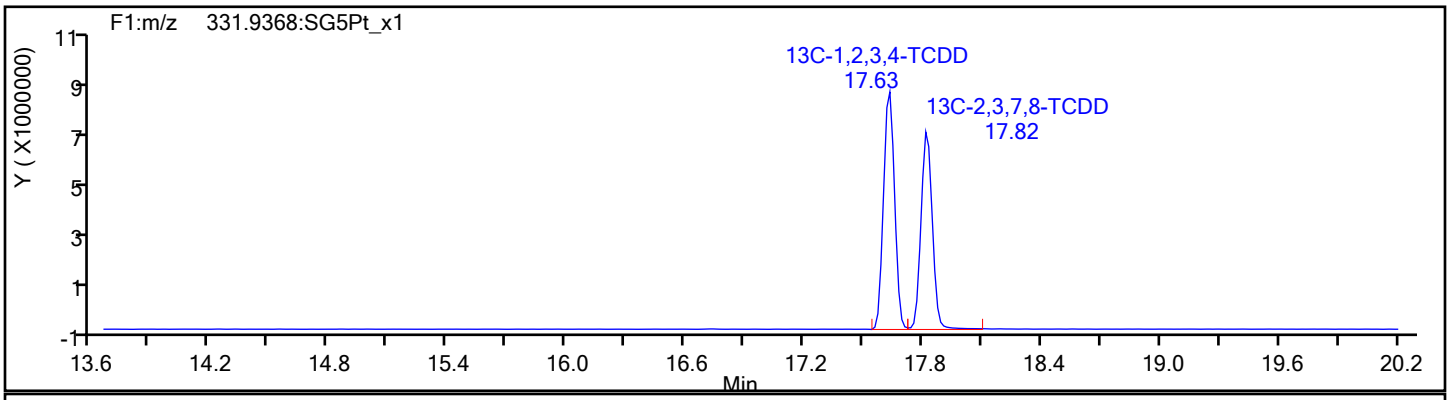

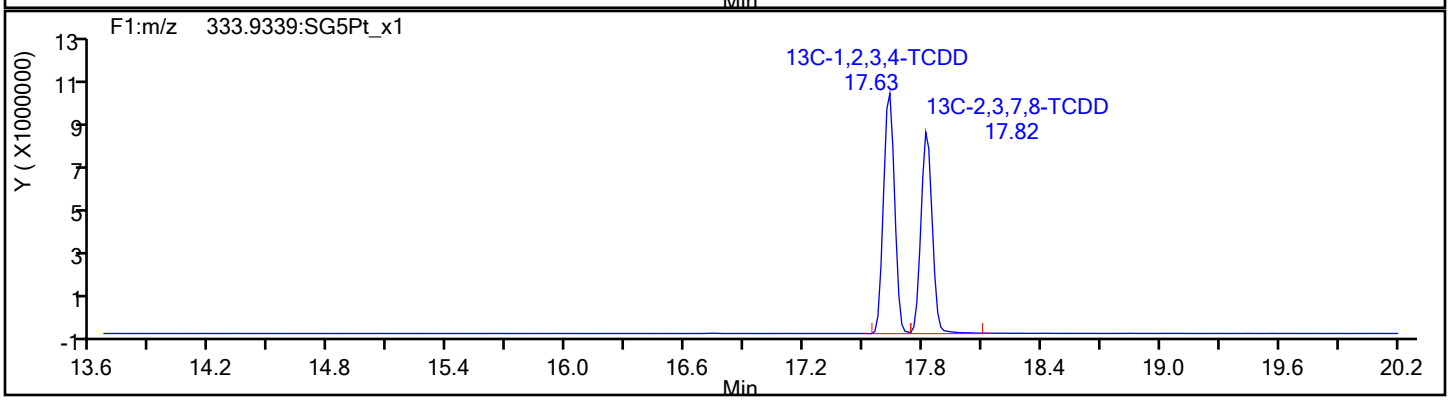

Report Date: 15-Jan-2020 12:41:03 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

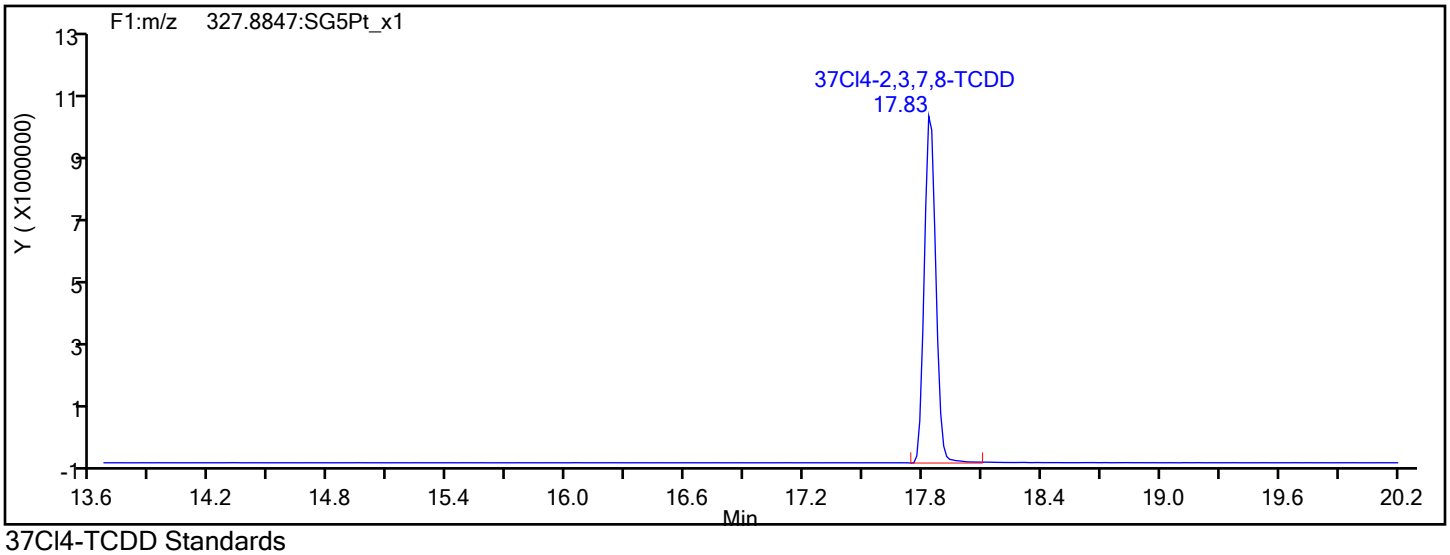

37Cl4-TCDD Standards

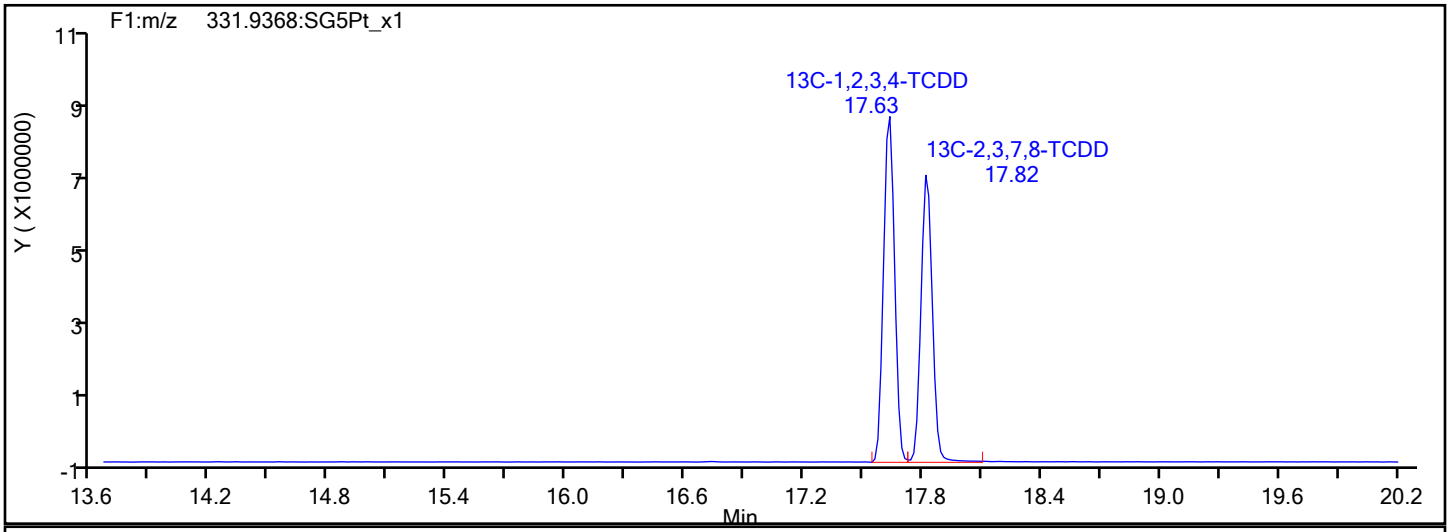

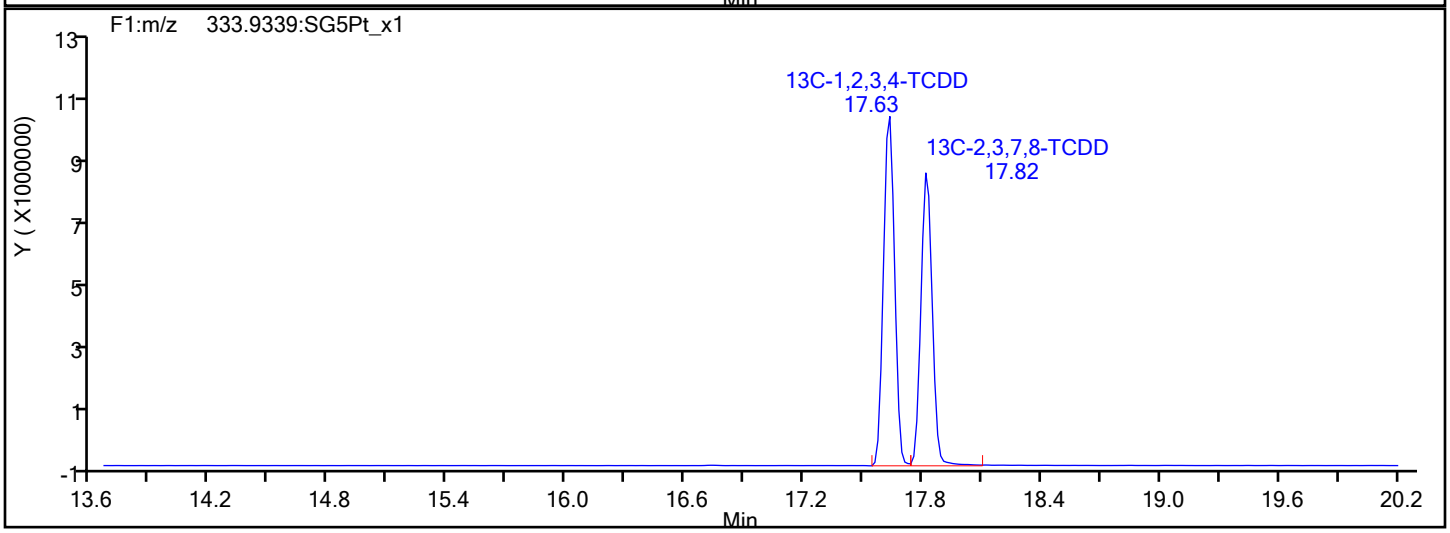

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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F1 PeCDFs

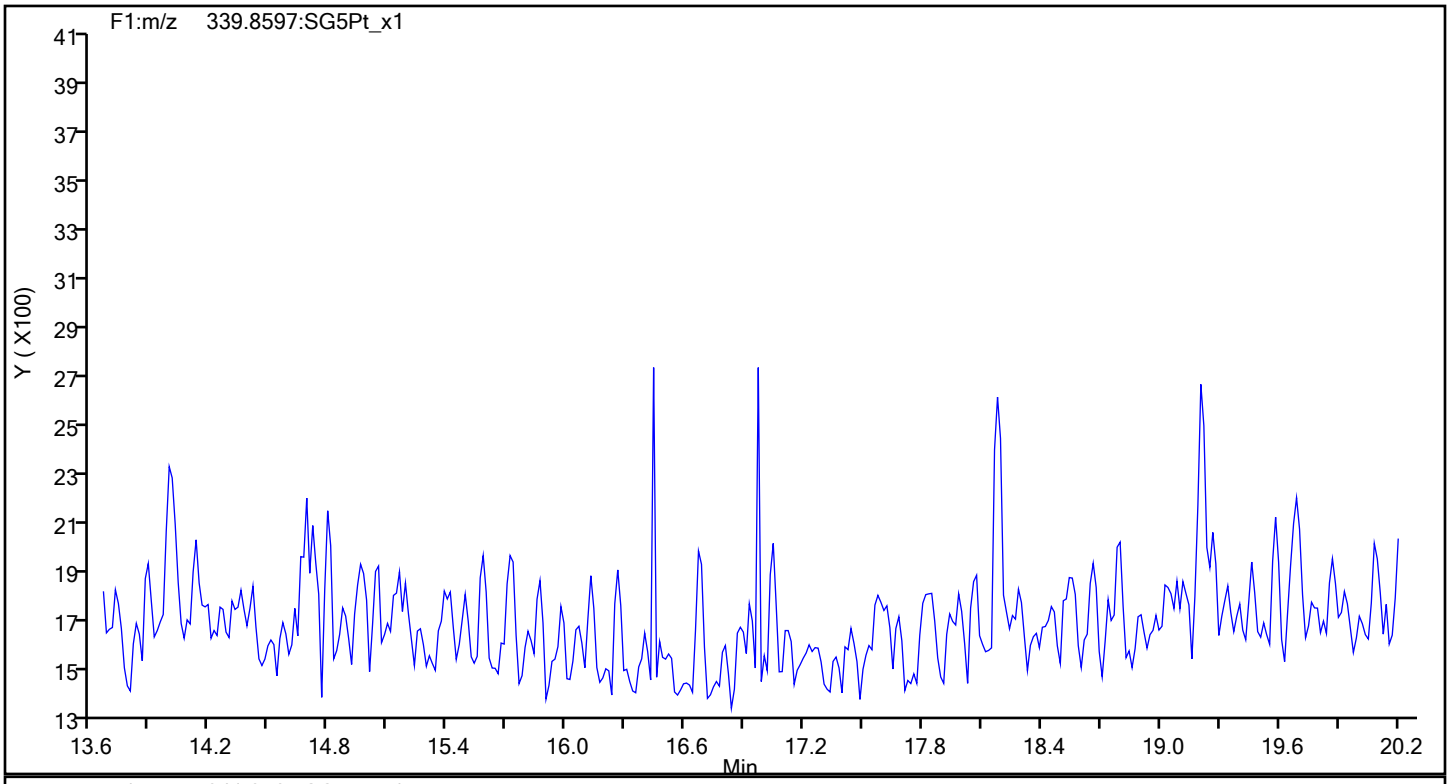

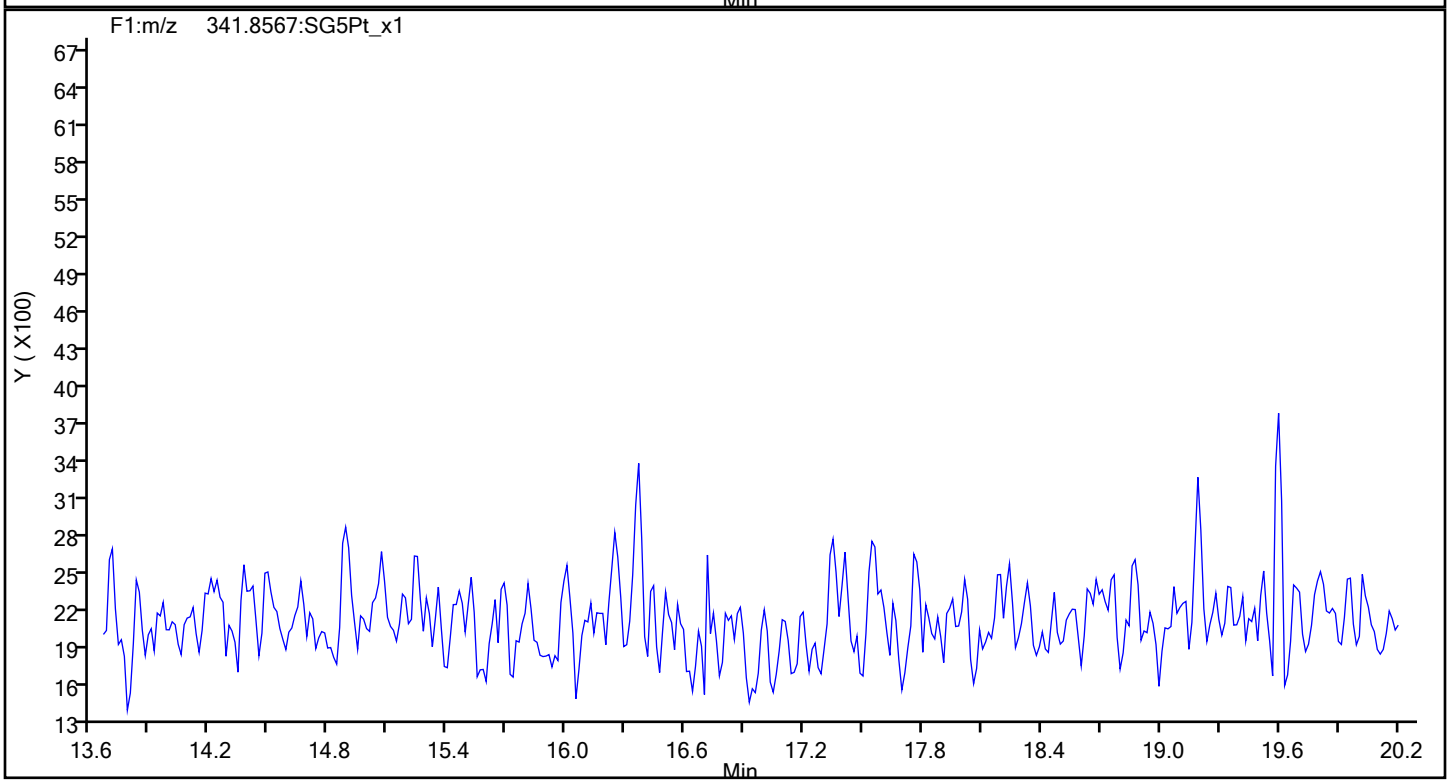

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Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

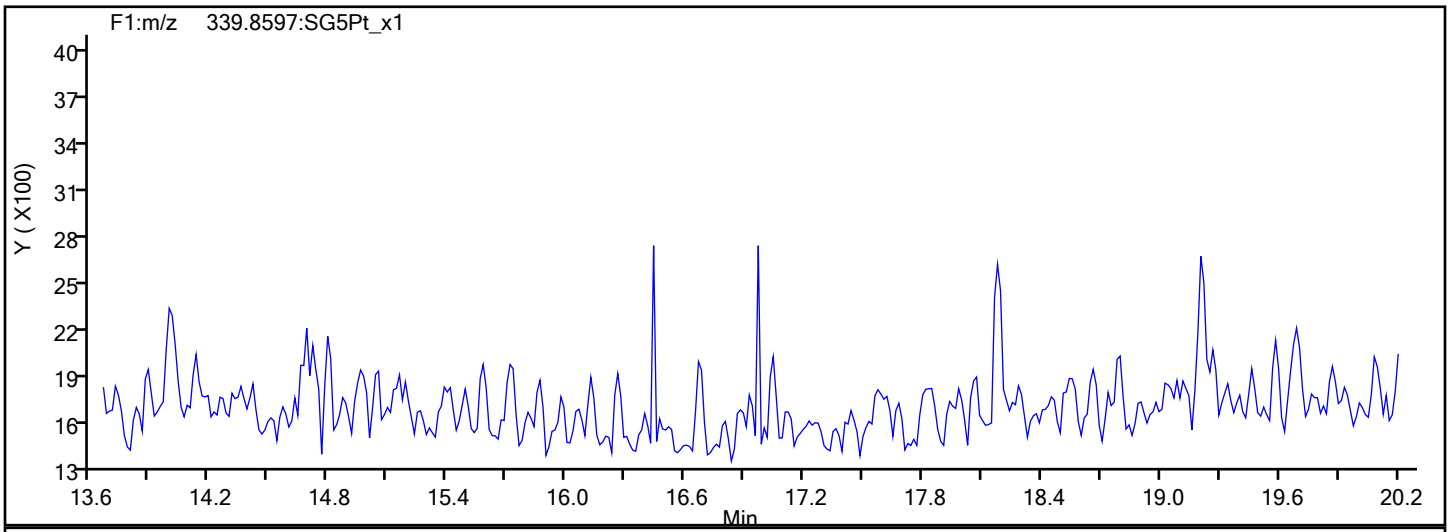

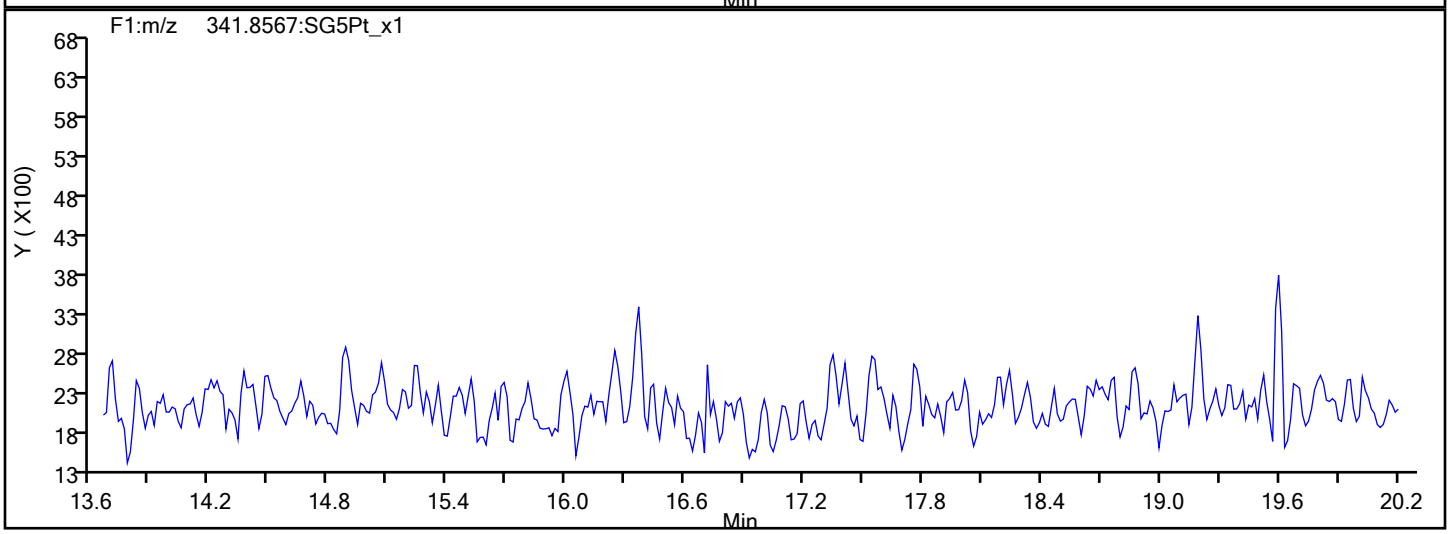

F1 PeCDFs Interference Mass

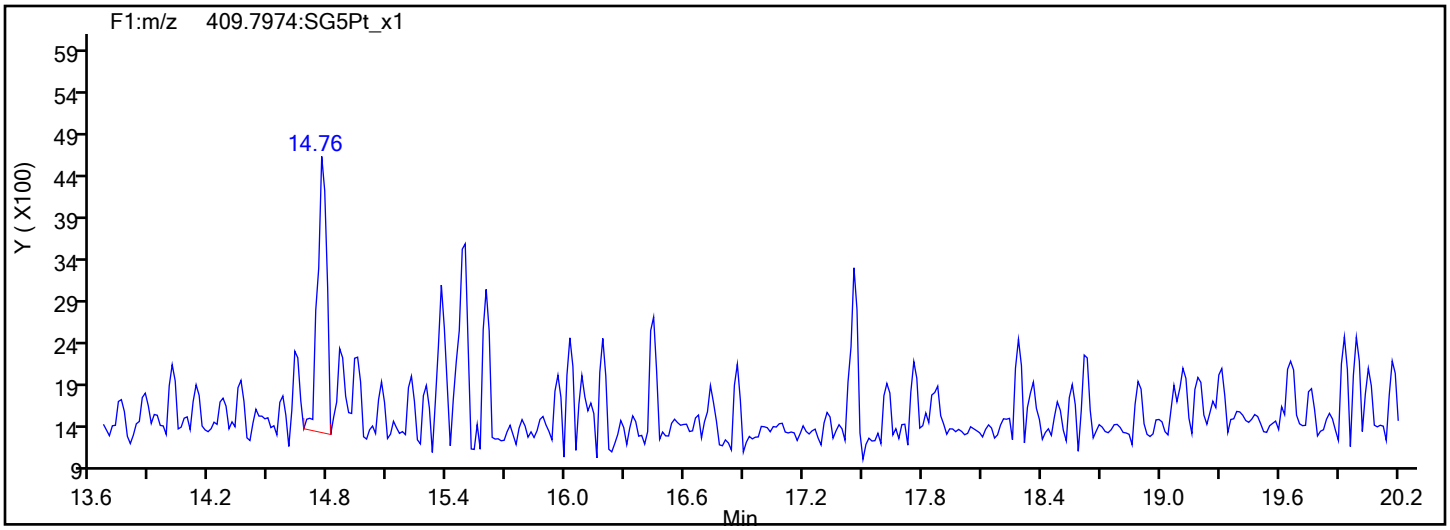

Report Date: 15-Jan-2020 12:41:03 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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PeCDF

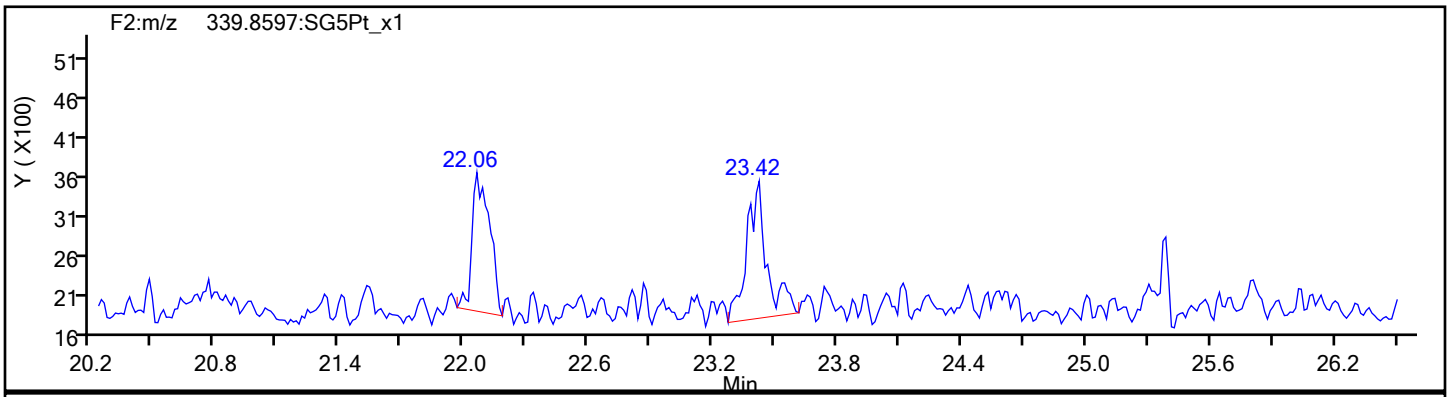

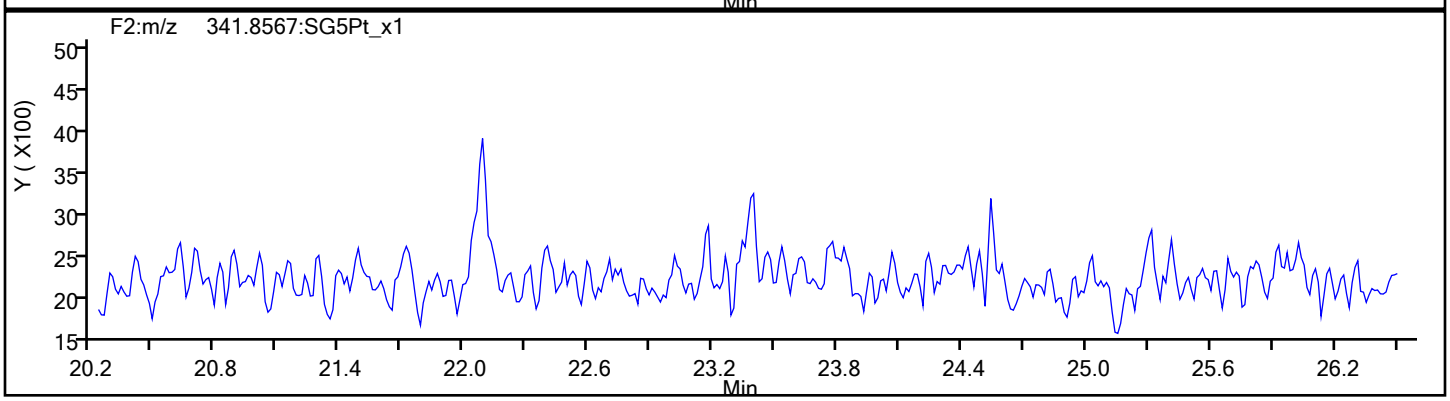

PeCDF Standards

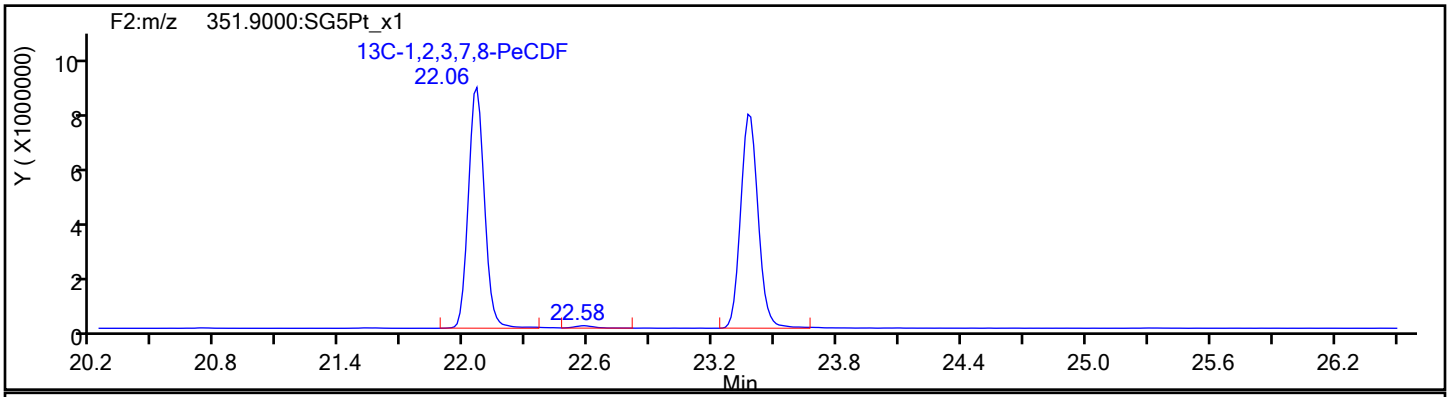

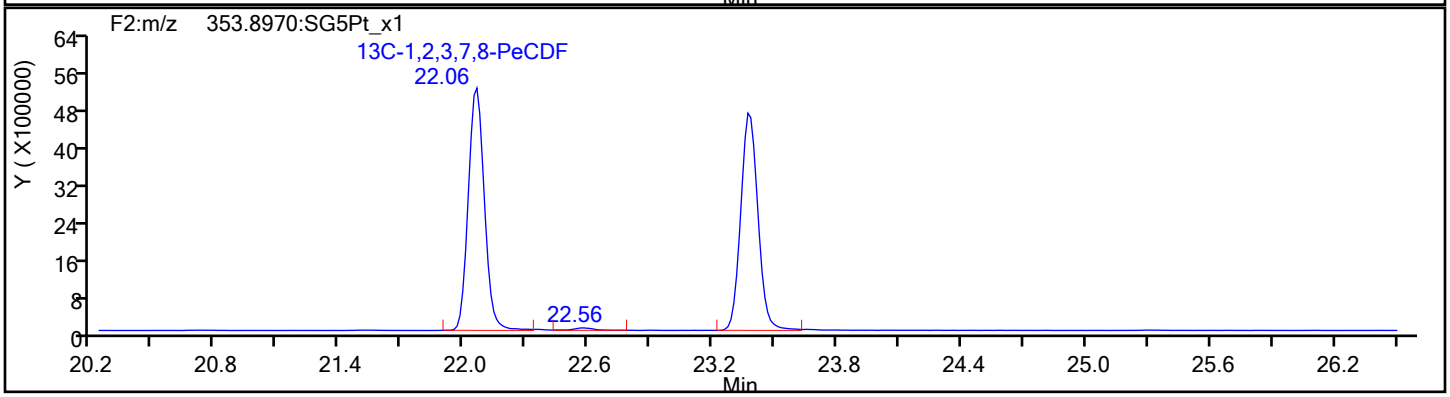

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Eurofins TestAmerica, Sacramento

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PeCDF

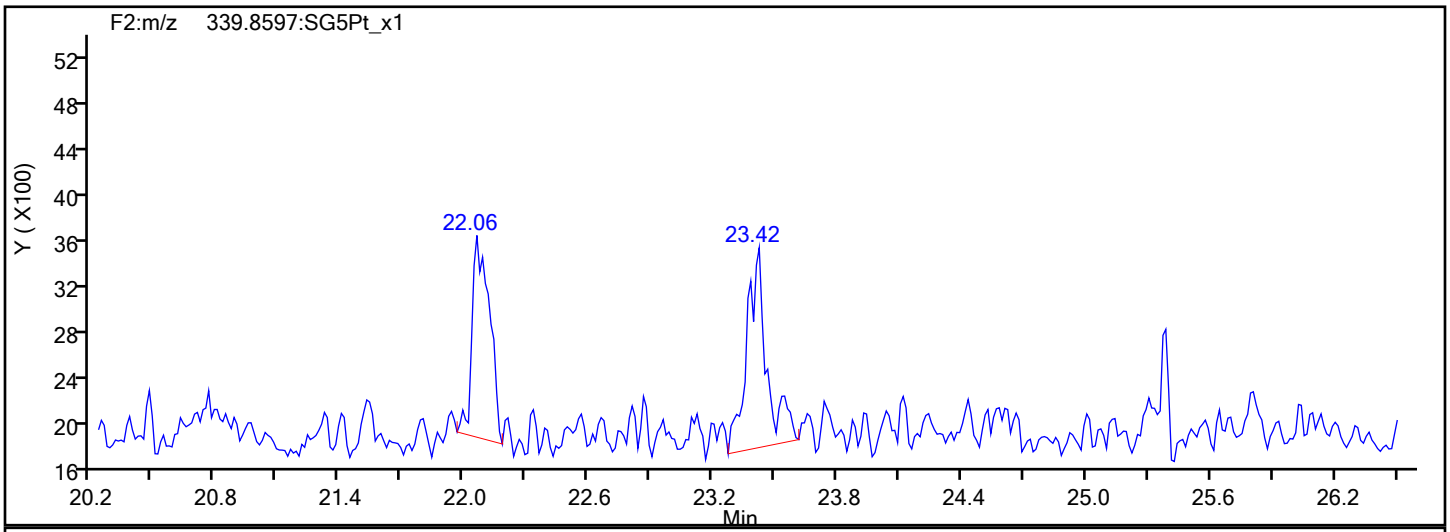

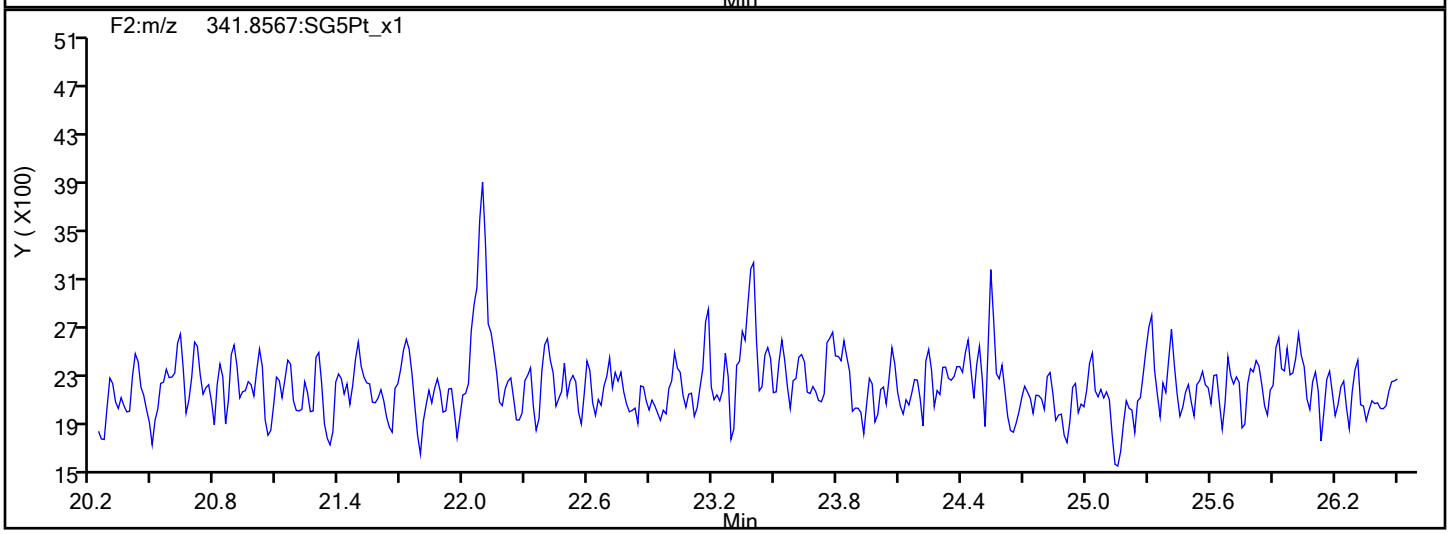

PeCDF Interference Mass

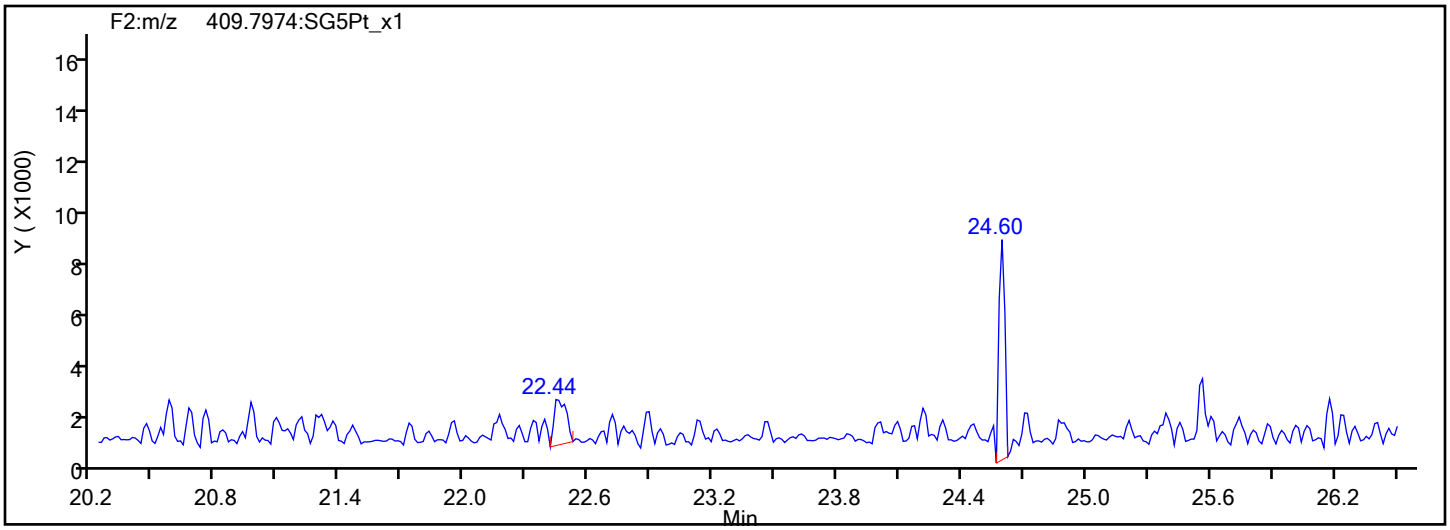

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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PeCDD

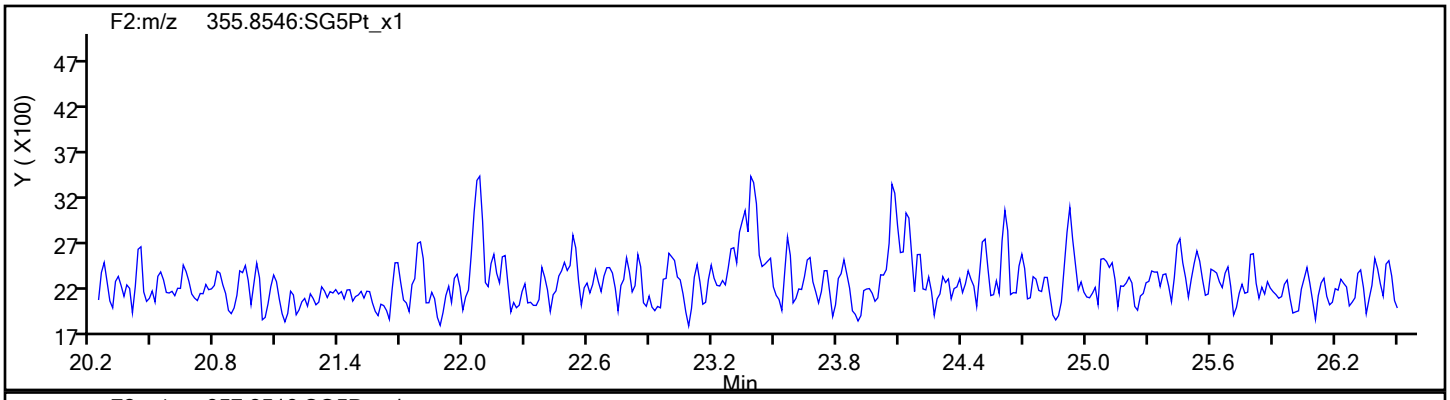

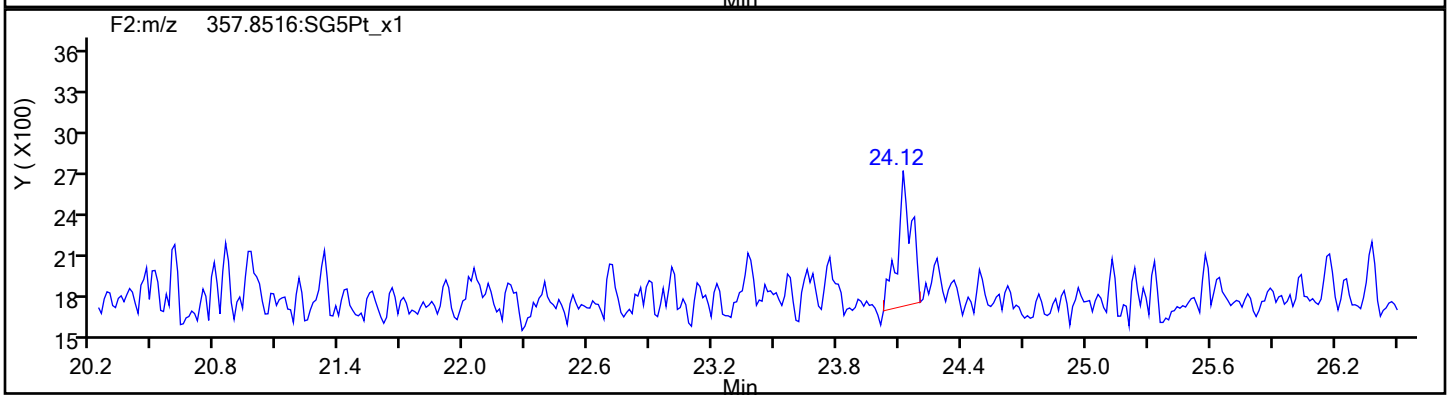

PeCDD Standards

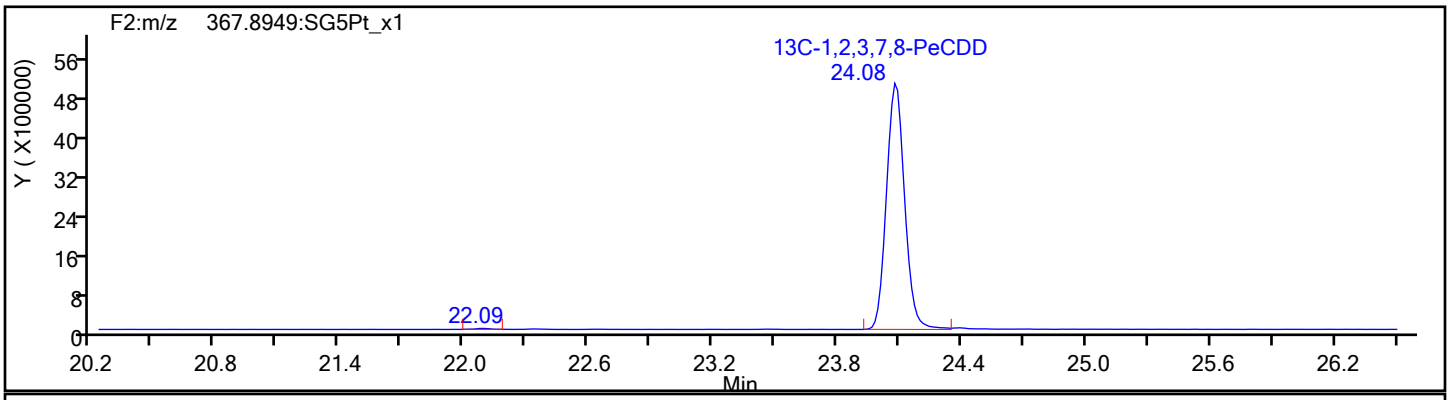

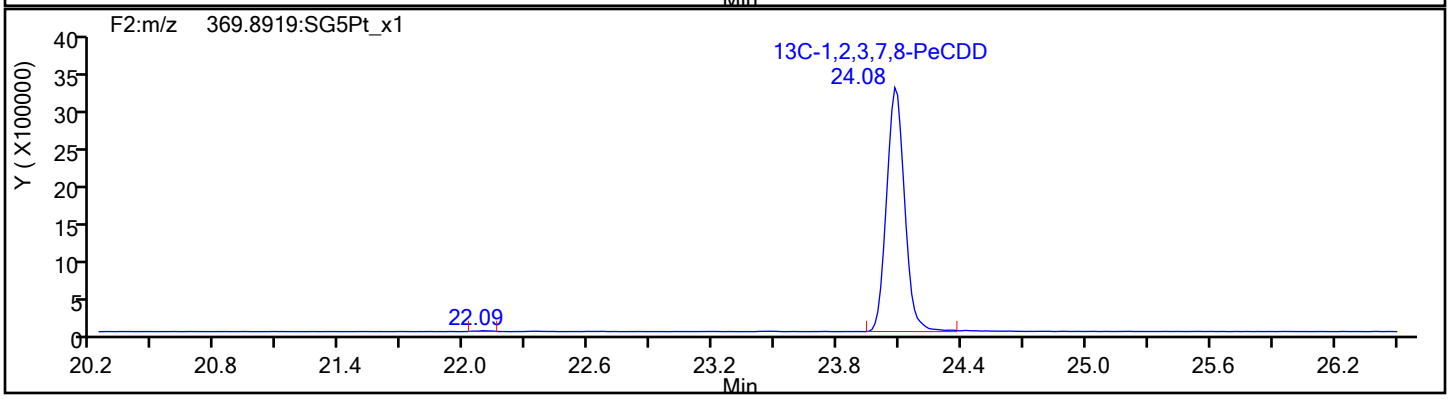

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Eurofins TestAmerica, Sacramento

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HxCDF

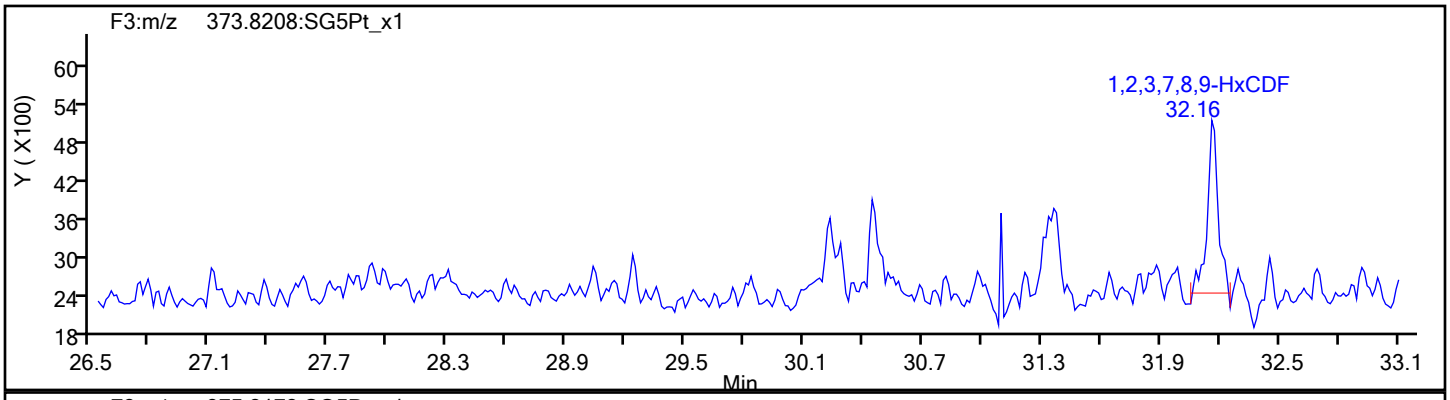

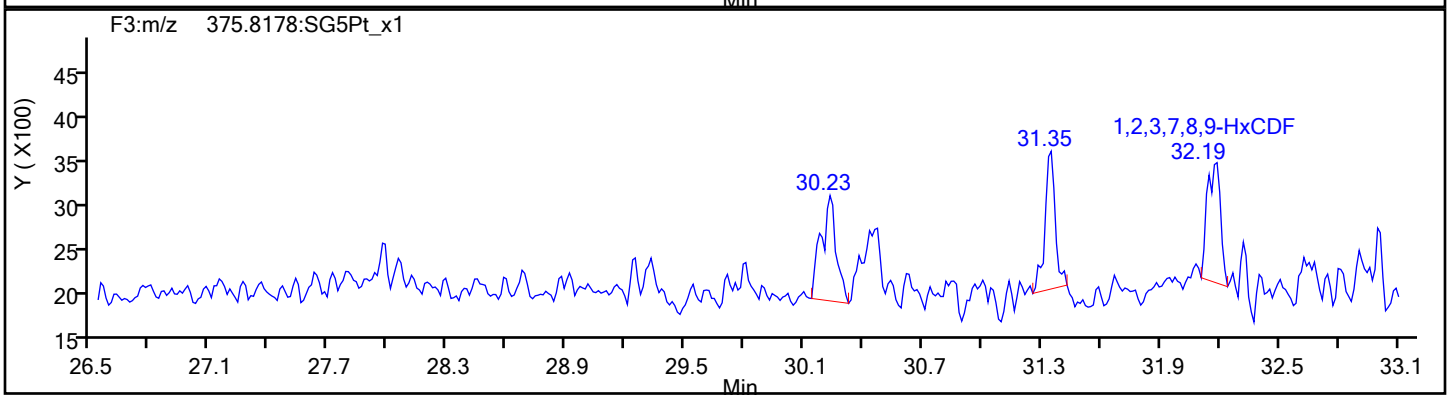

HxCDF Standards

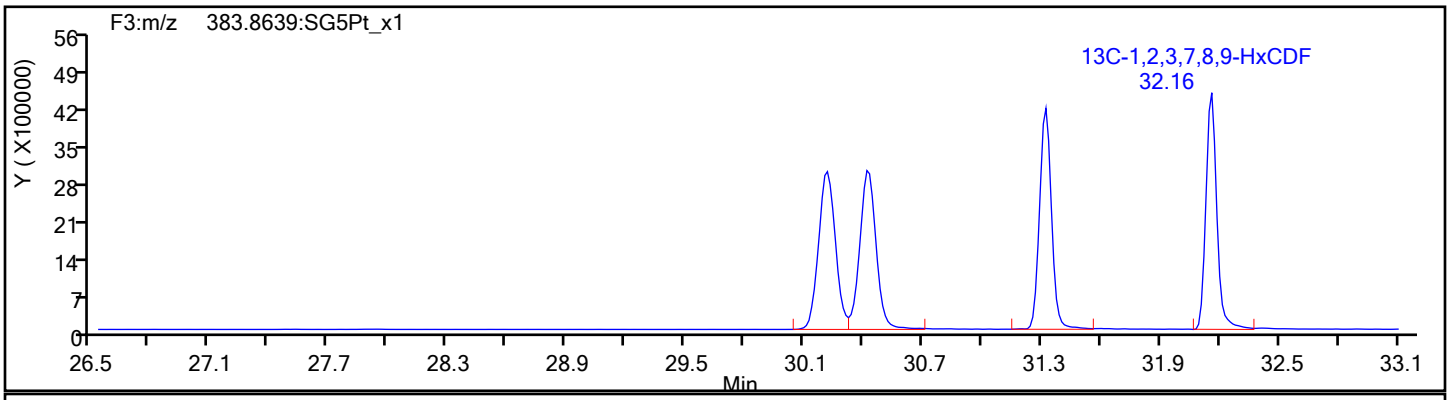

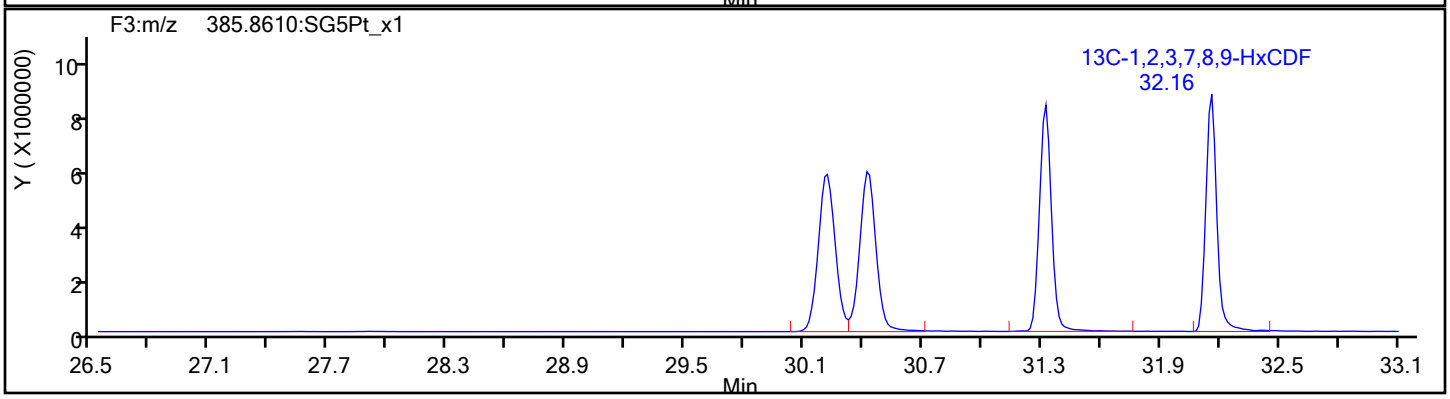

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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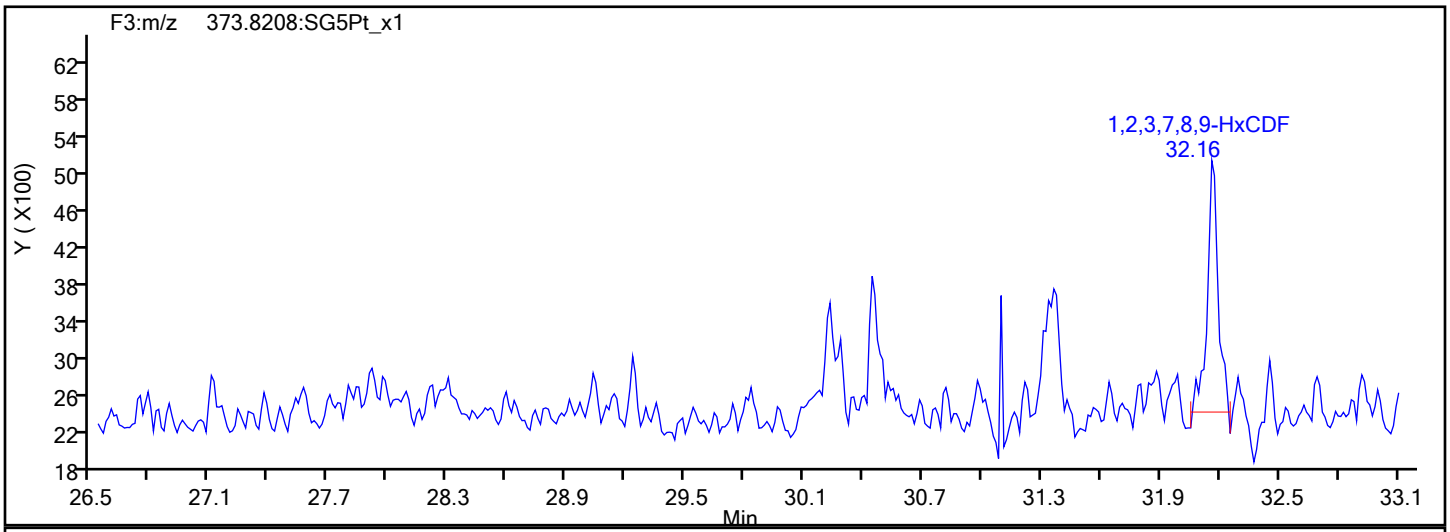

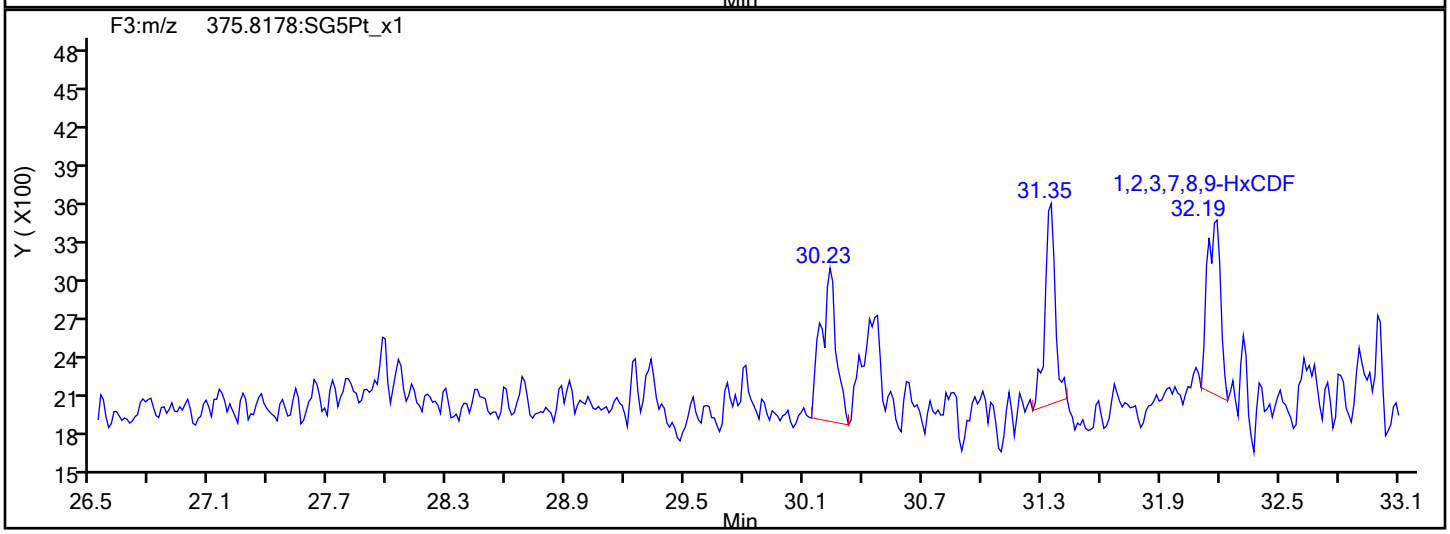

HxCDF Interference Mass

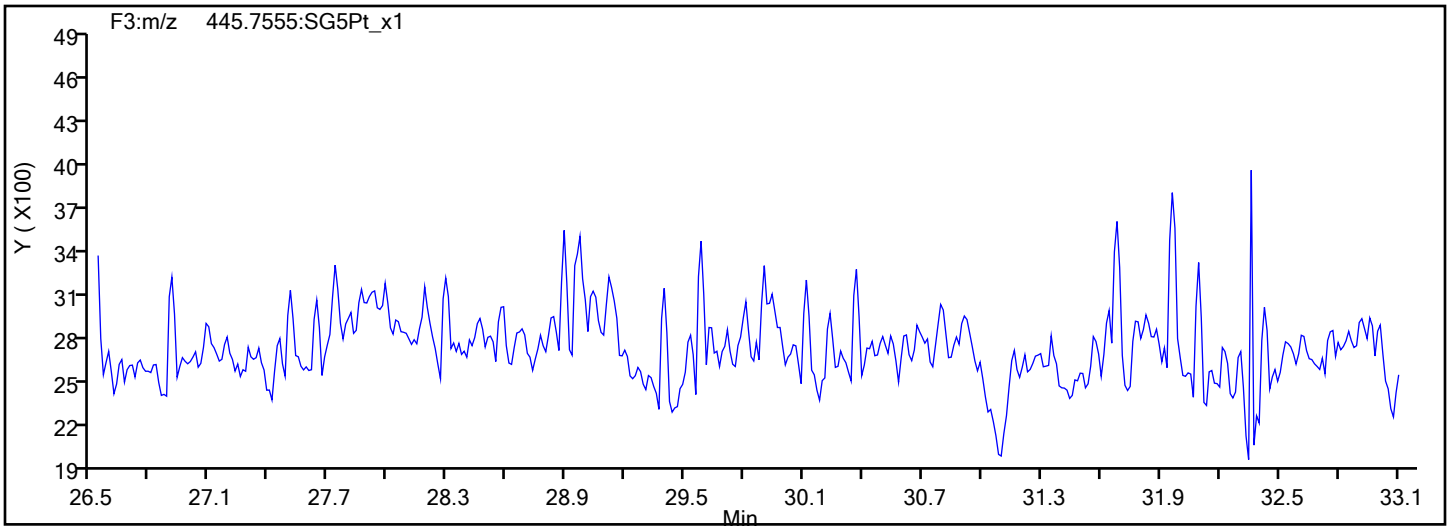

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Eurofins TestAmerica, Sacramento

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HxCDD

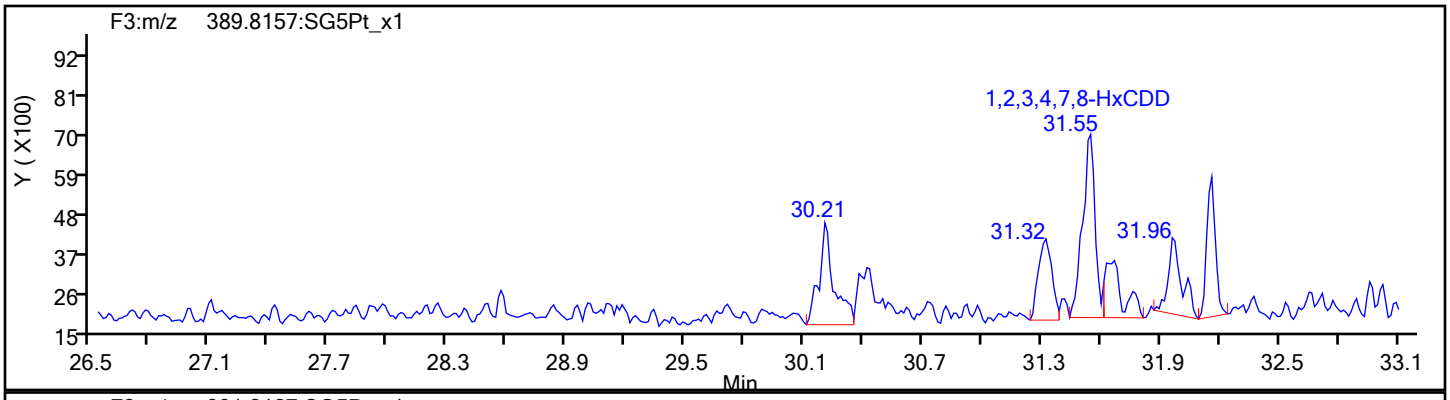

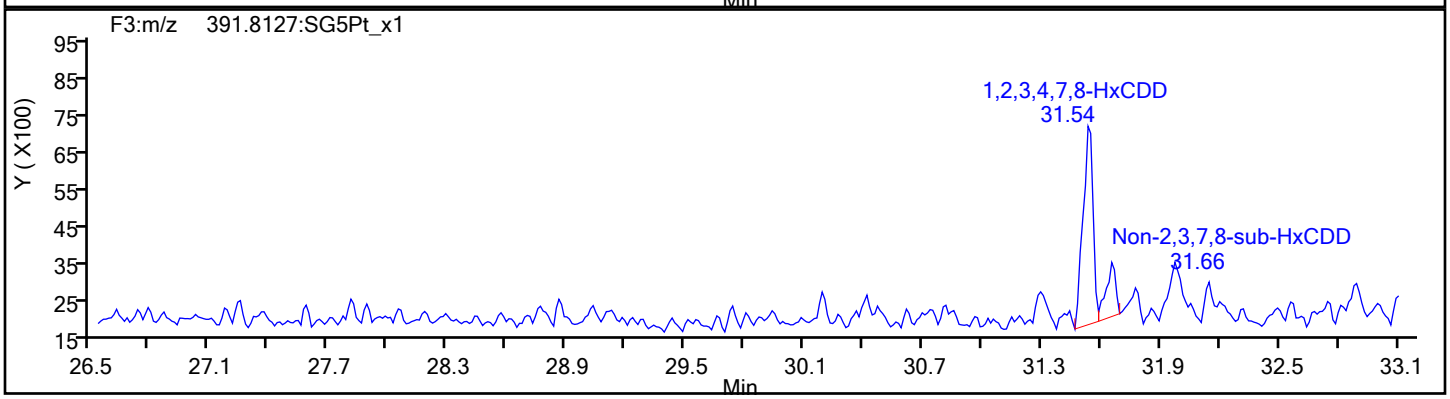

HxCDD Standards

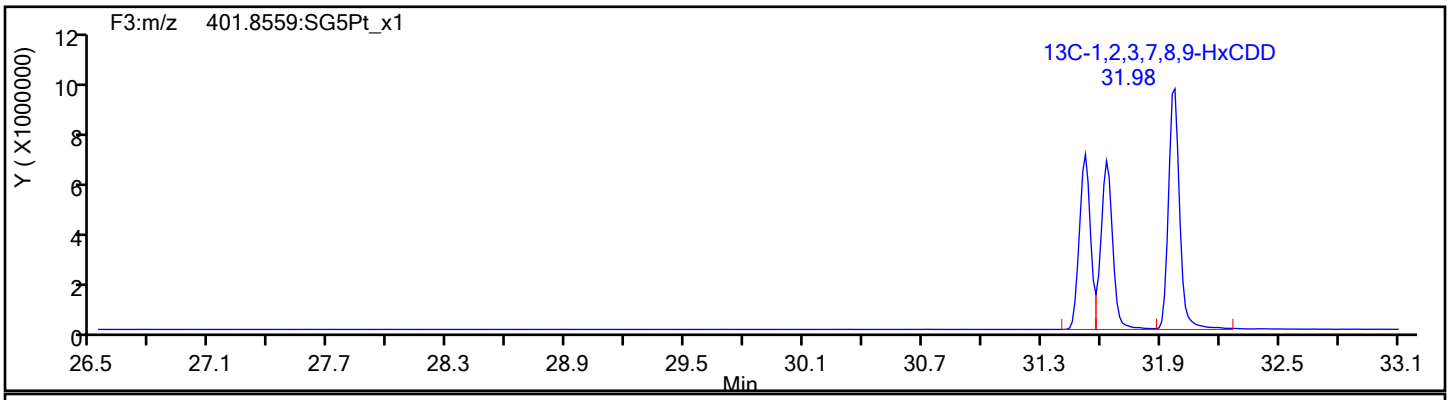

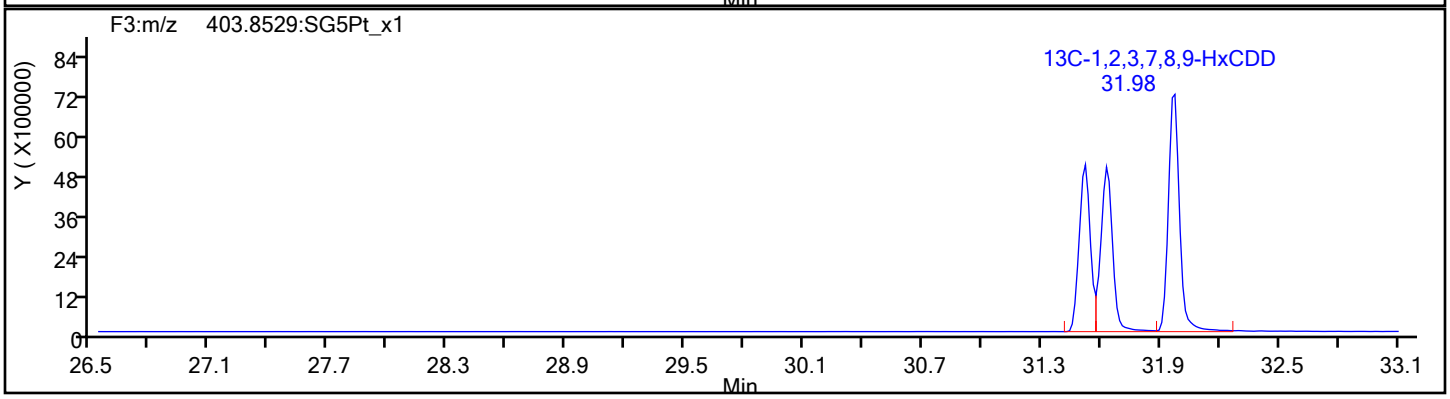

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Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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HpCDF

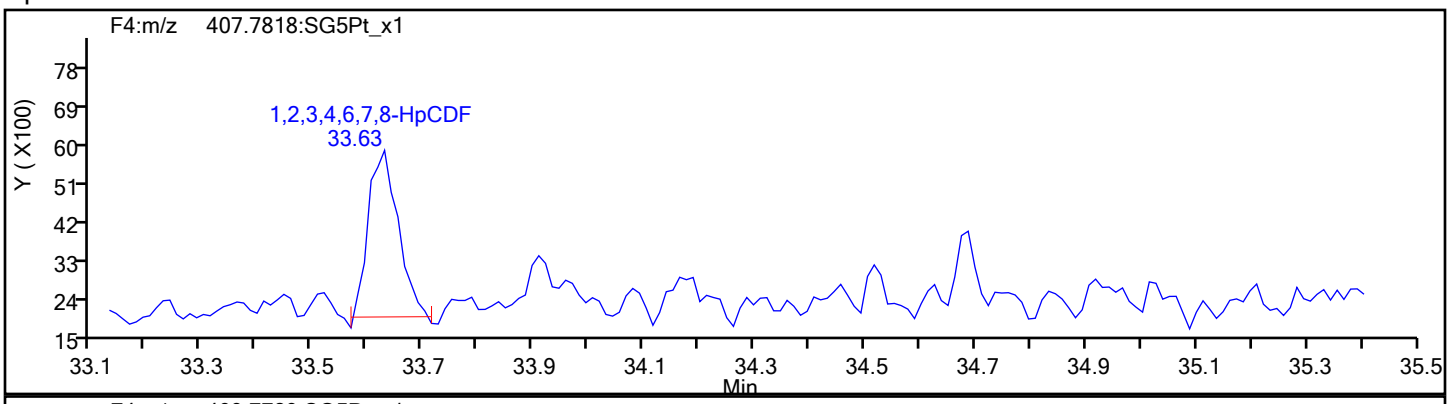

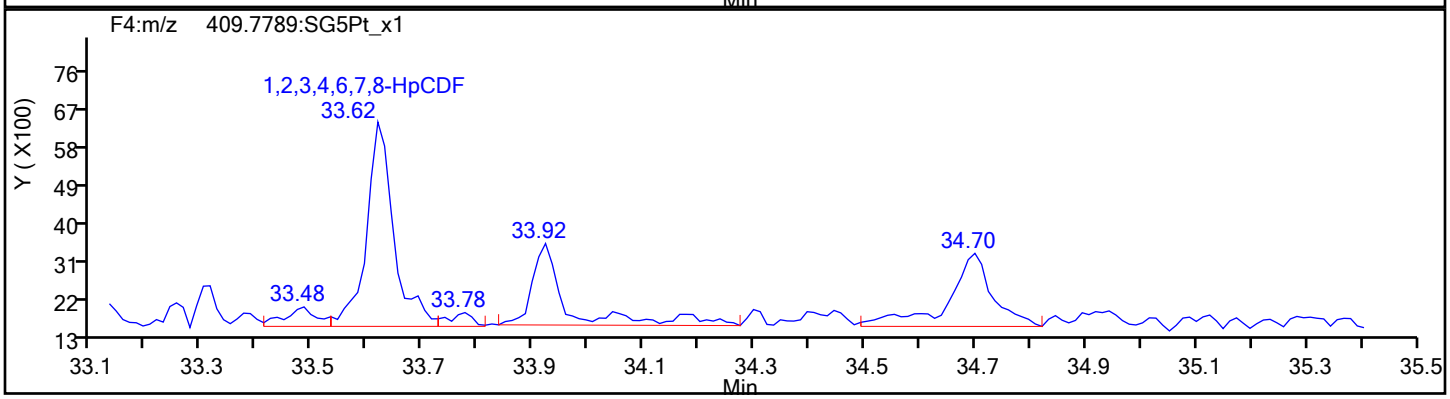

HpCDF Standards

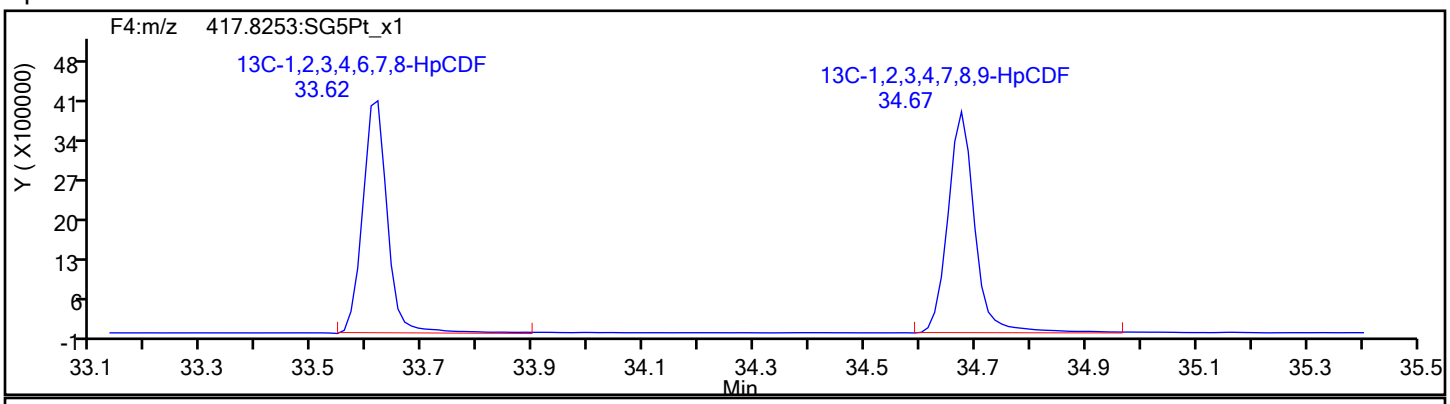

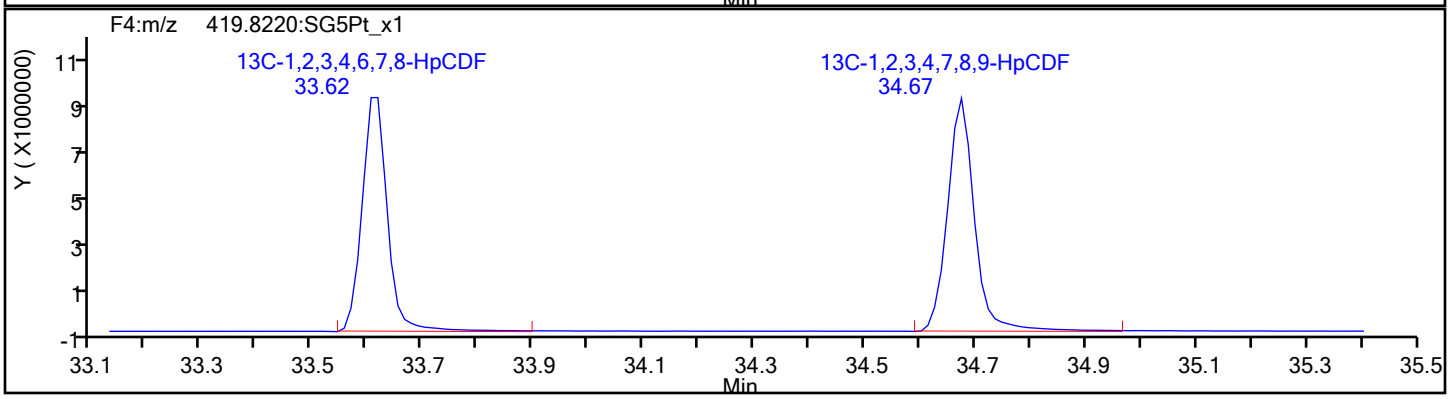

Report Date: 15-Jan-2020 12:41:04 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_21.d		
Injection Date:	14-Jan-2020 04:26:15	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-0.1um		
Worklist#:	350523	Sample Line#:	21
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

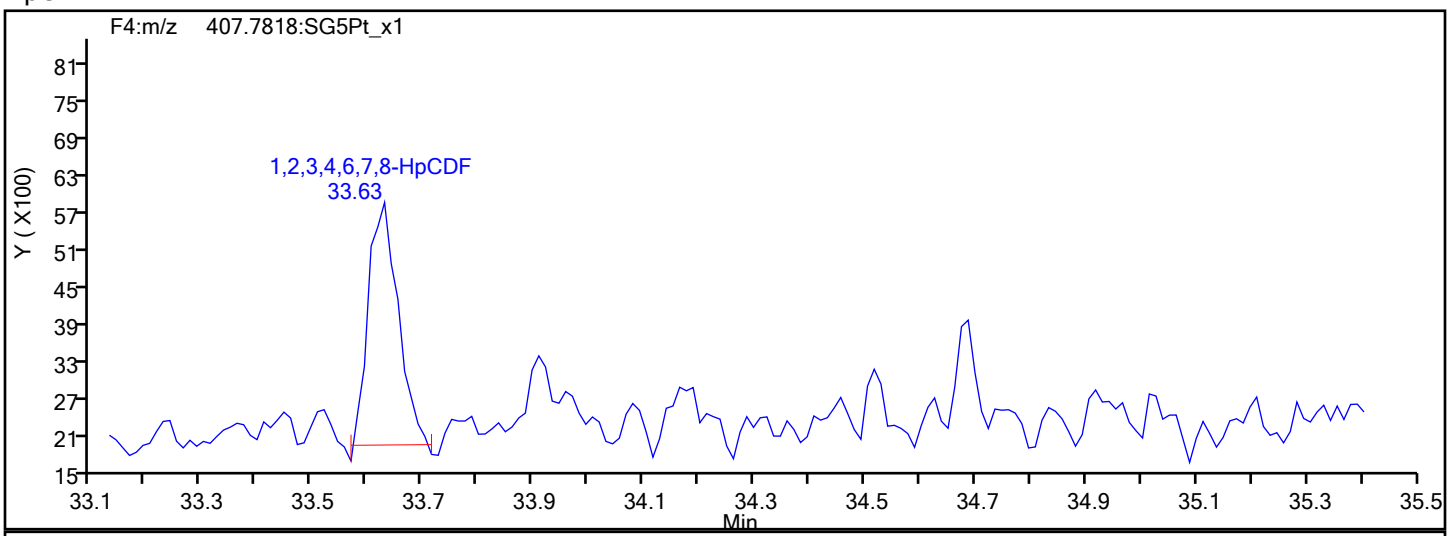

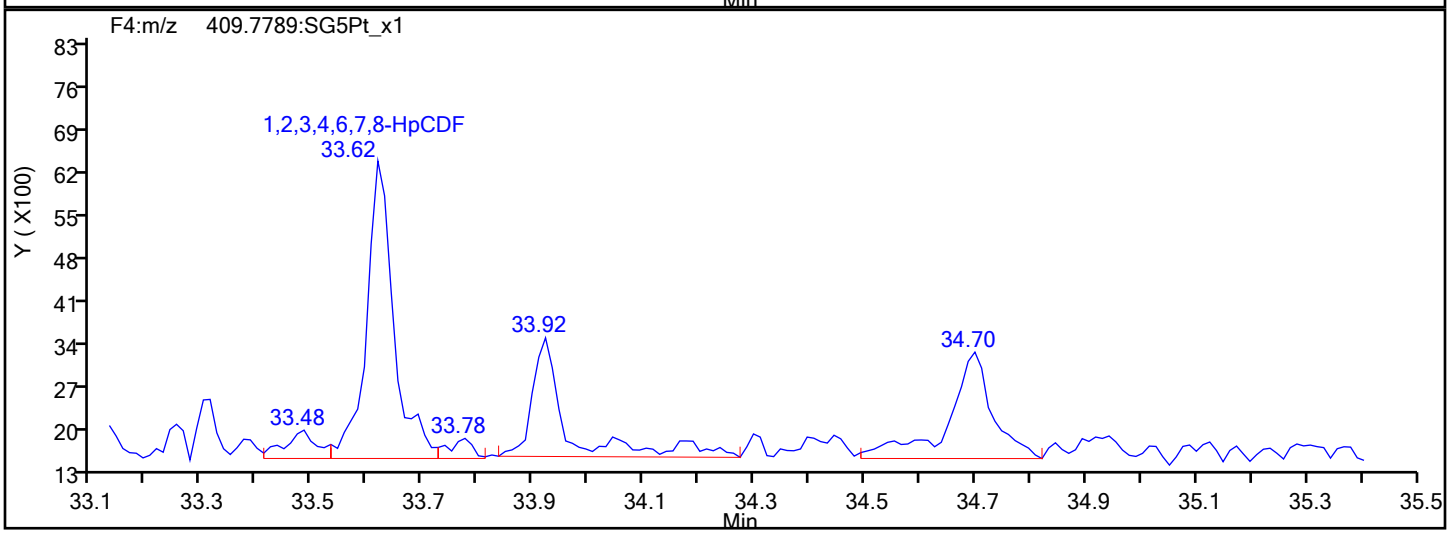

HpCDF Interference Mass

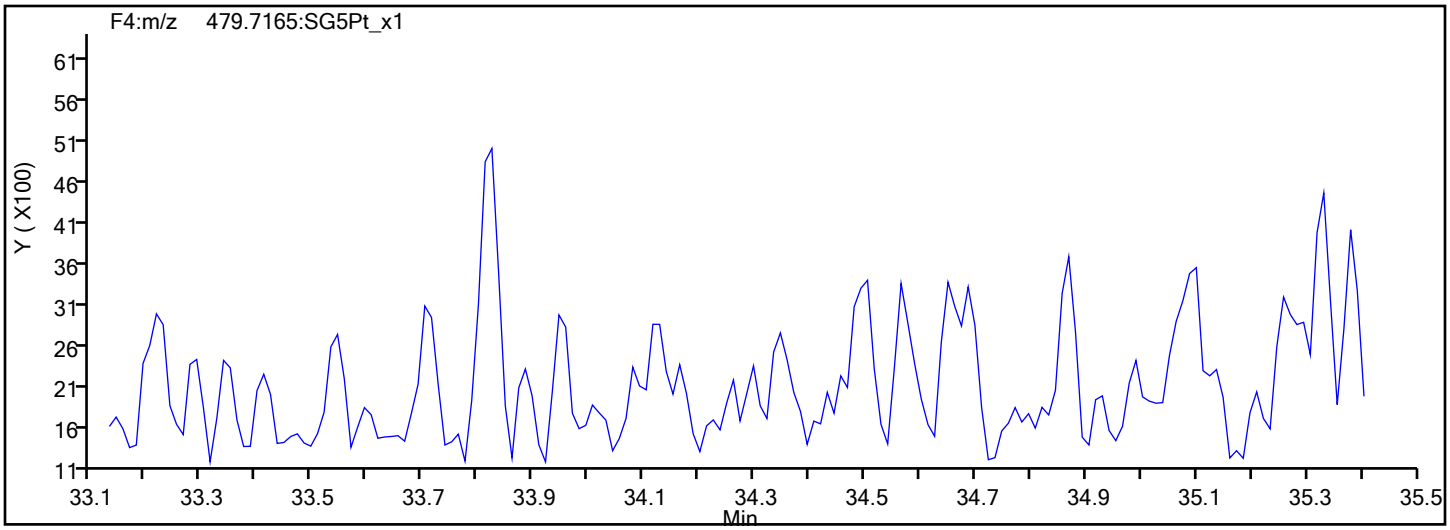

Report Date: 15-Jan-2020 12:41:04 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_21.d		
Injection Date:	14-Jan-2020 04:26:15	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-0.1um		
Worklist#:	350523	Sample Line#:	21
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

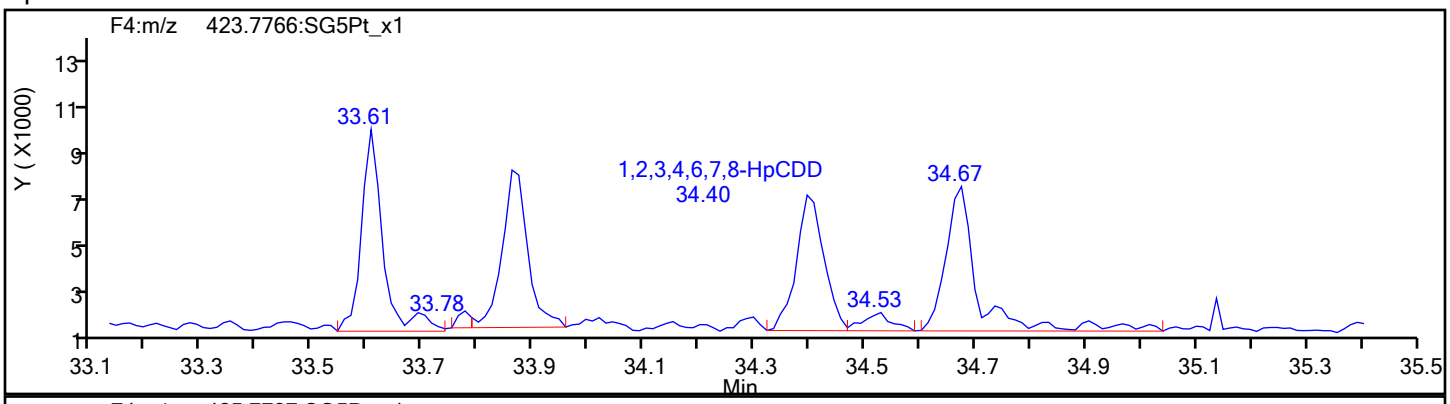

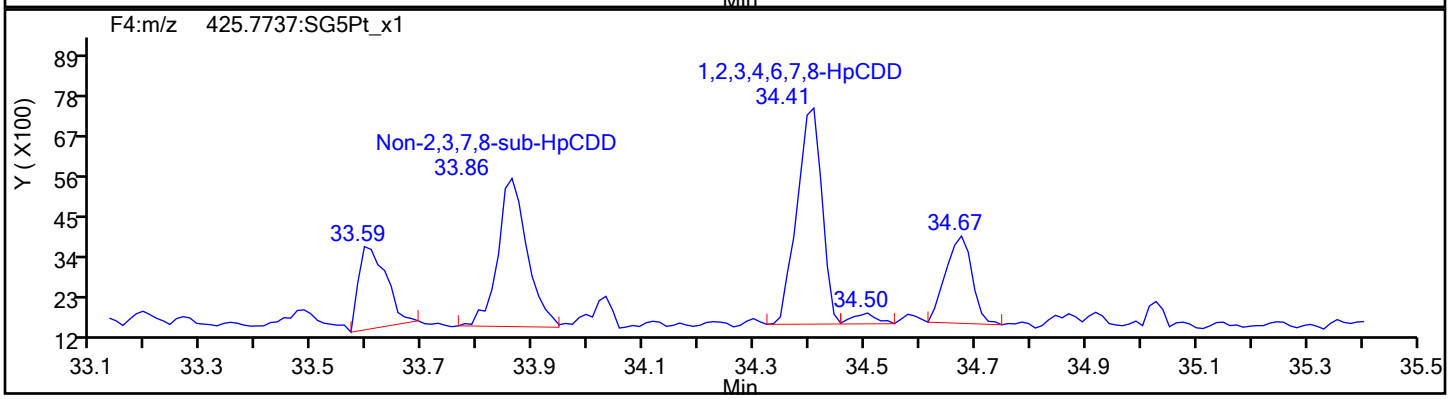

HpCDD Standards

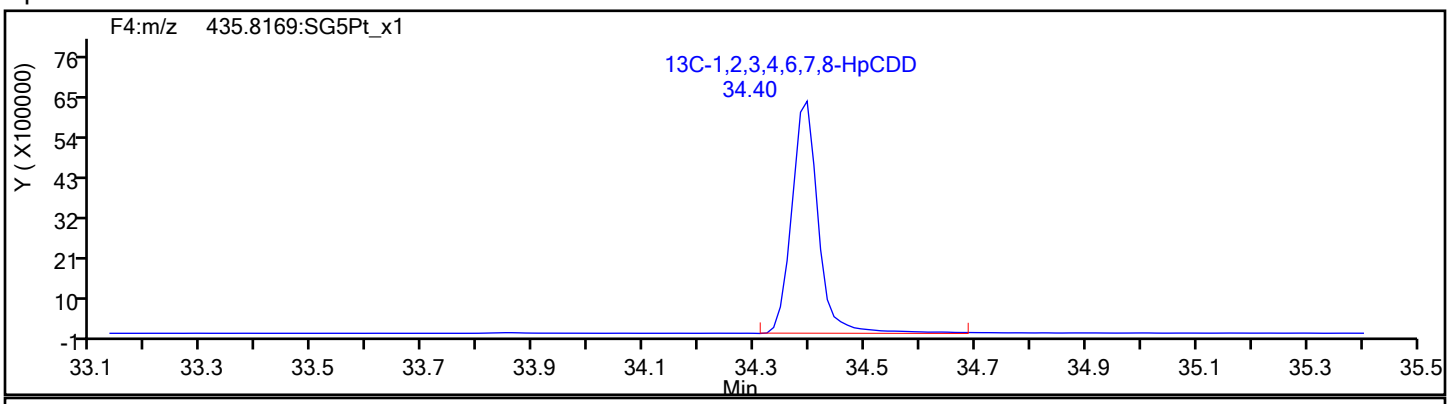

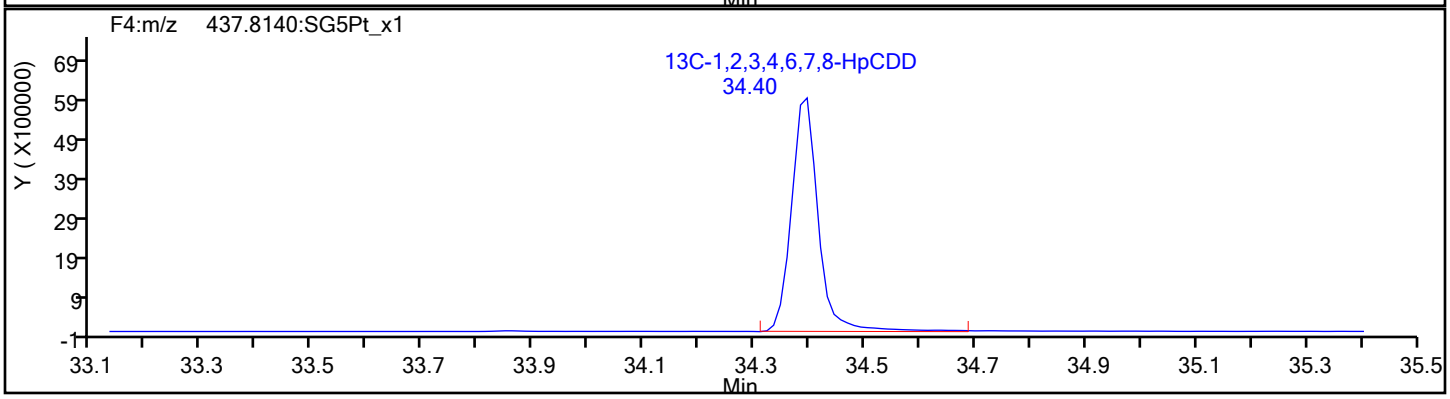

Report Date: 15-Jan-2020 12:41:04 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_21.d		
Injection Date:	14-Jan-2020 04:26:15	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-0.1um		
Worklist#:	350523	Sample Line#:	21
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

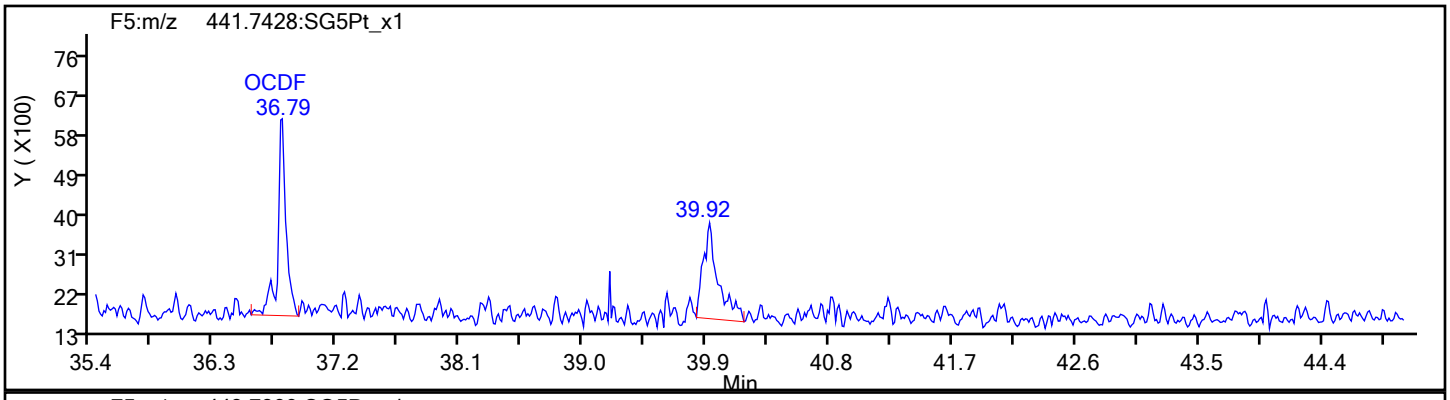

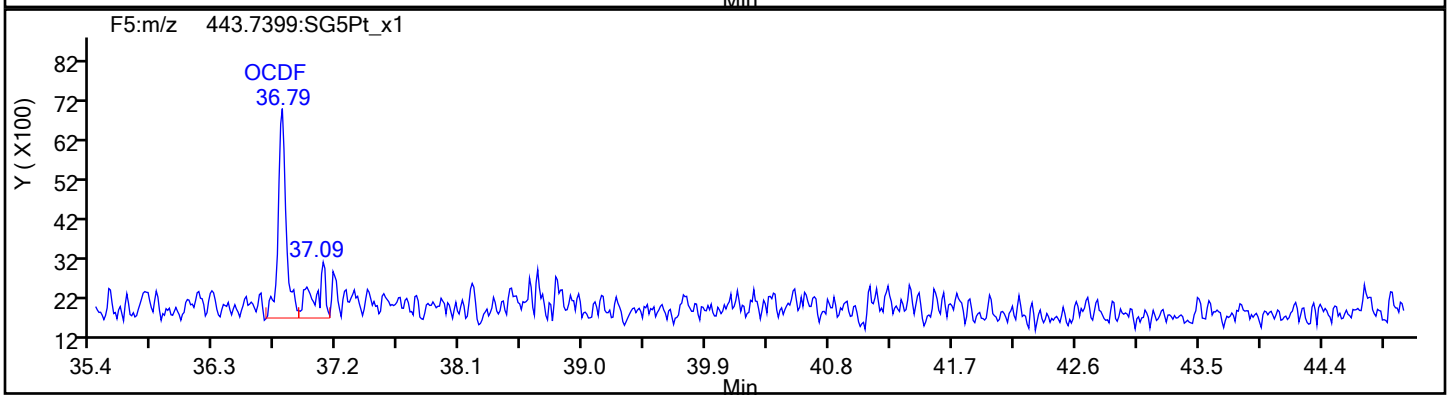

OCDF Standards

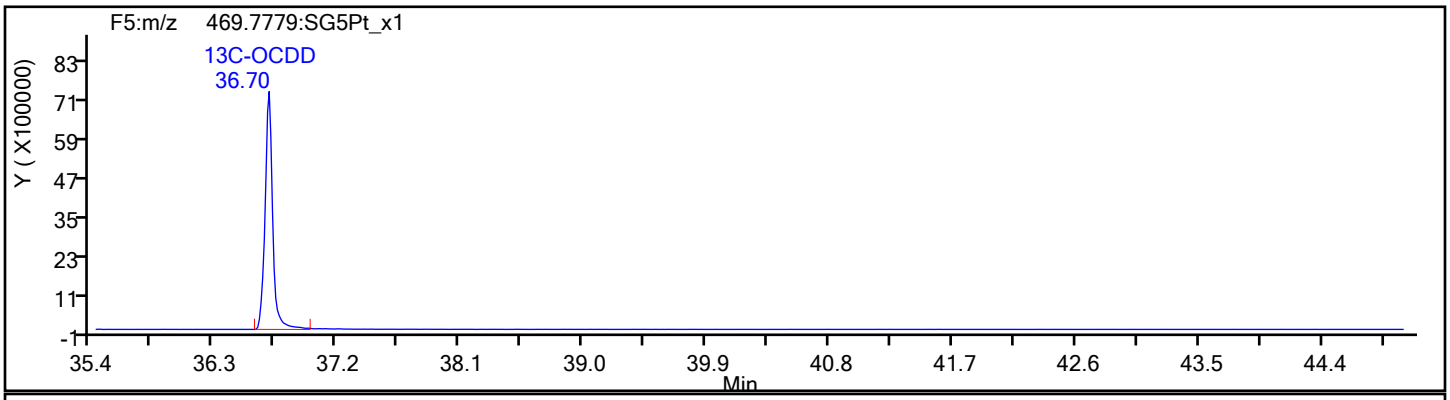

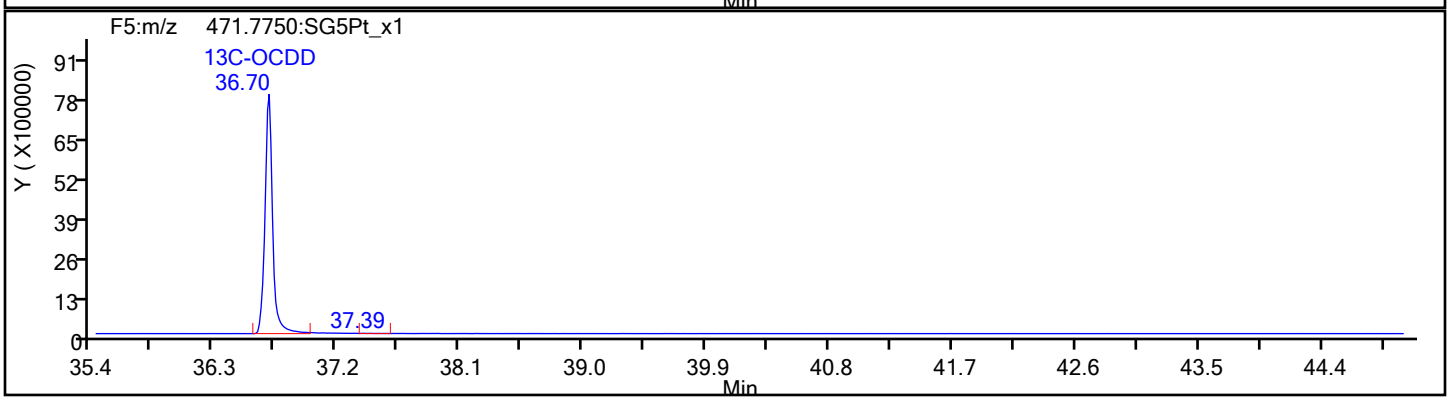

Report Date: 15-Jan-2020 12:41:04 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_21.d		
Injection Date:	14-Jan-2020 04:26:15	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-0.1um		
Worklist#:	350523	Sample Line#:	21
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

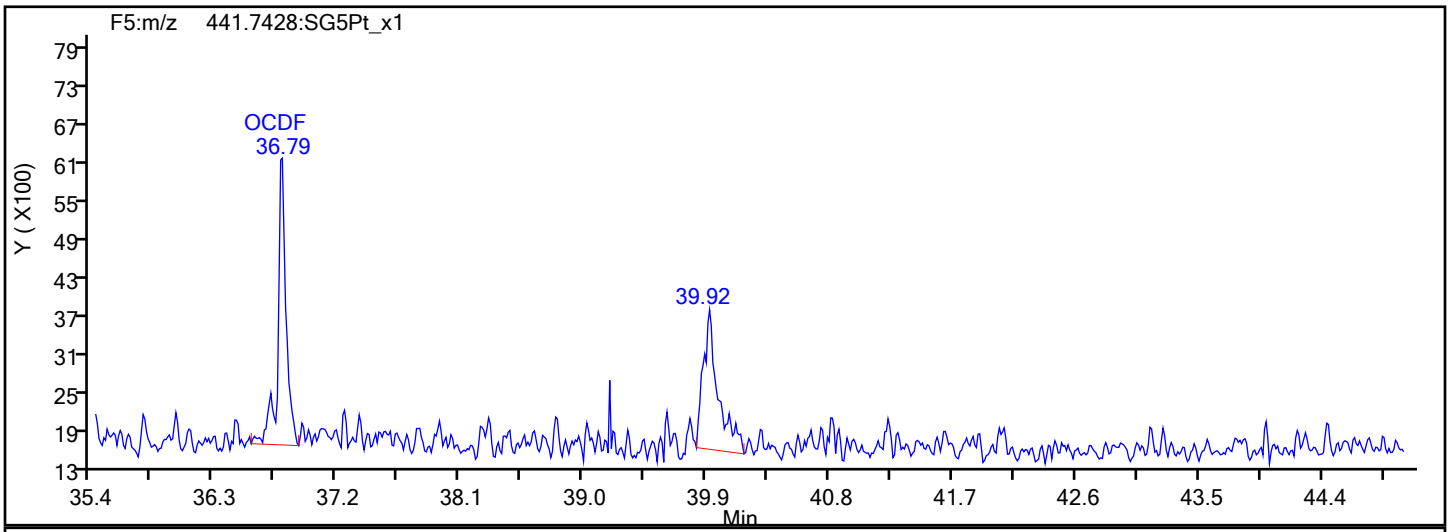

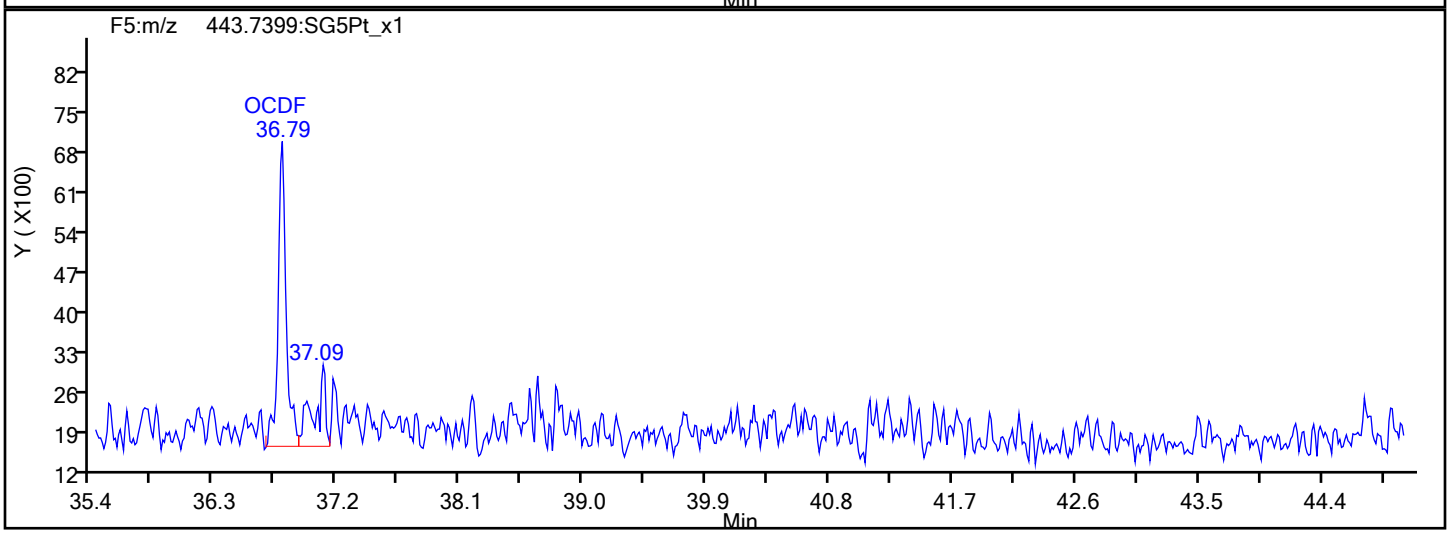

OCDF Interference Mass

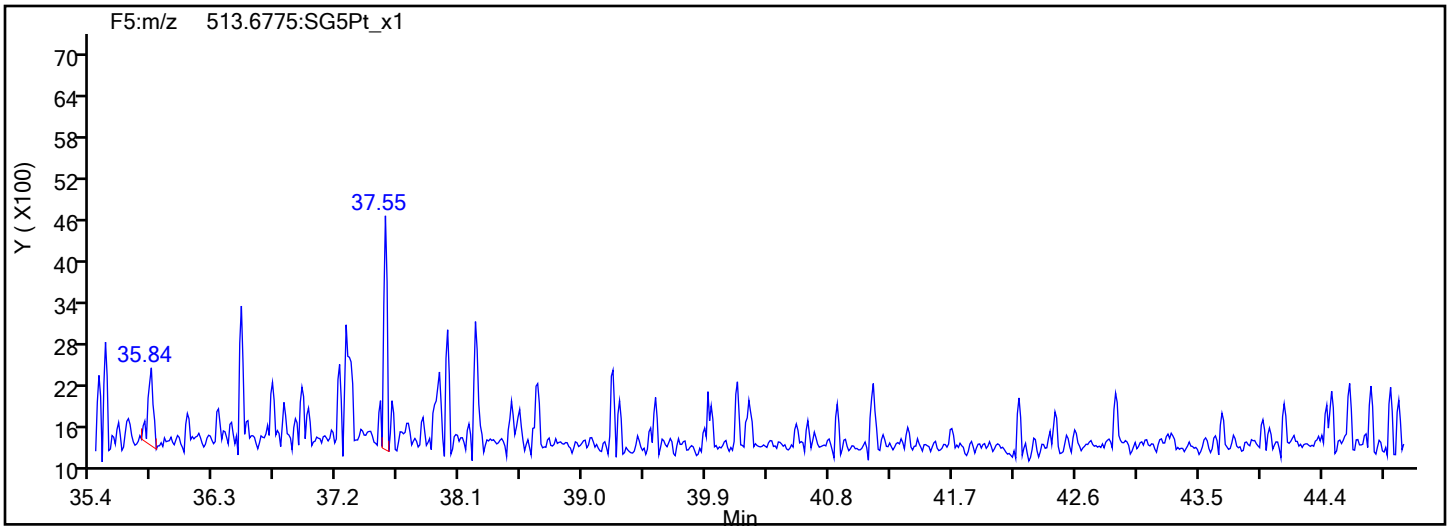

Report Date: 15-Jan-2020 12:41:04 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_21.d		
Injection Date:	14-Jan-2020 04:26:15	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-0.1um		
Worklist#:	350523	Sample Line#:	21
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

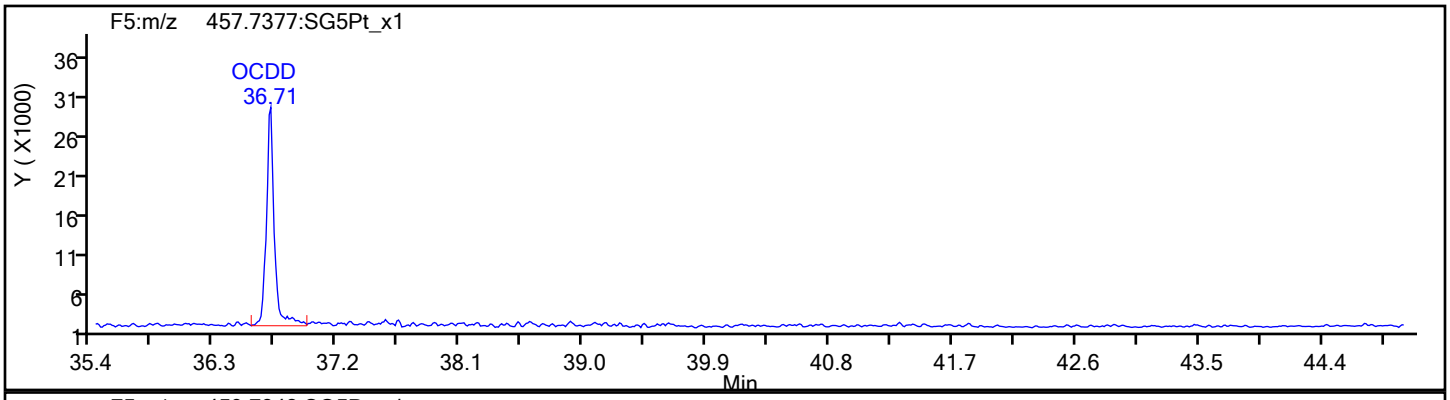

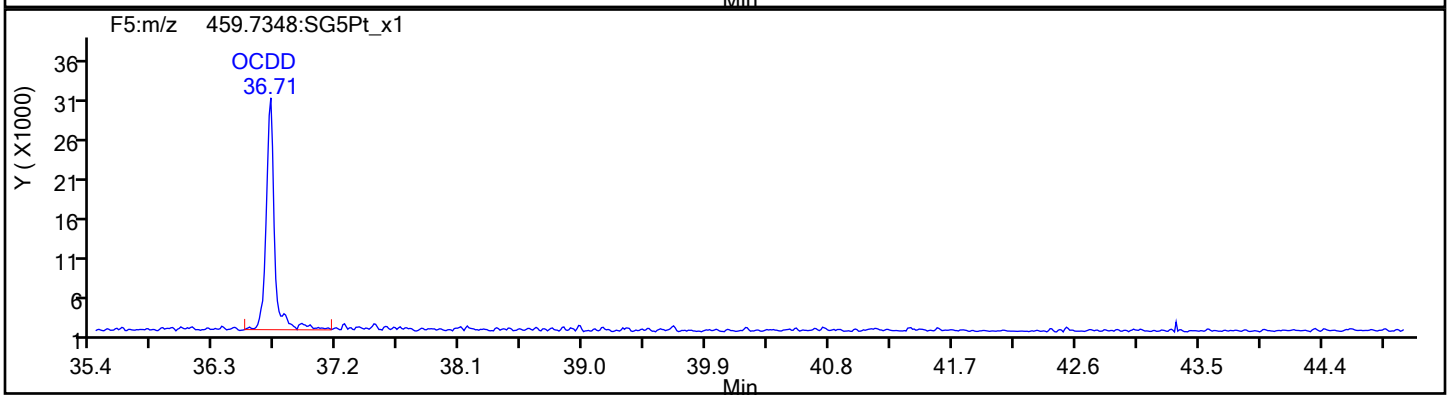

OCDD Standards

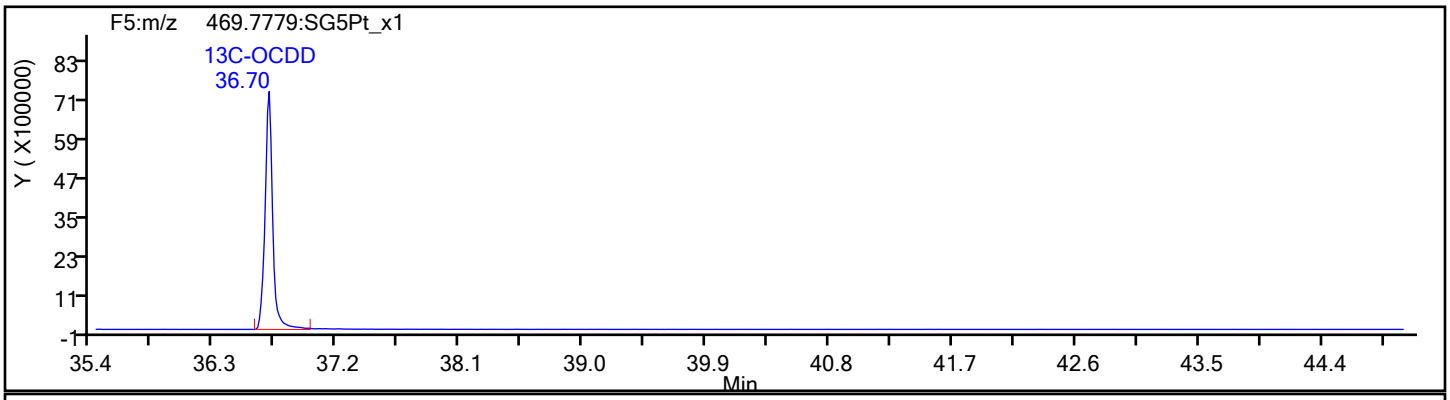

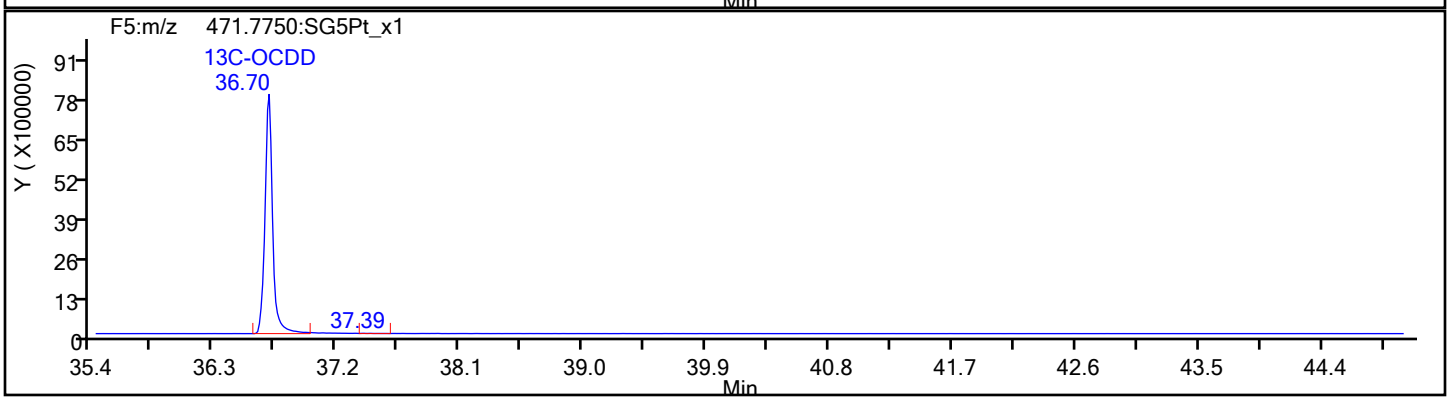

Report Date: 15-Jan-2020 12:41:05 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_21.d		
Injection Date:	14-Jan-2020 04:26:15	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-0.1um		
Worklist#:	350523	Sample Line#:	21
Column Type:	DB-5	Column Dia:	0.32 mm

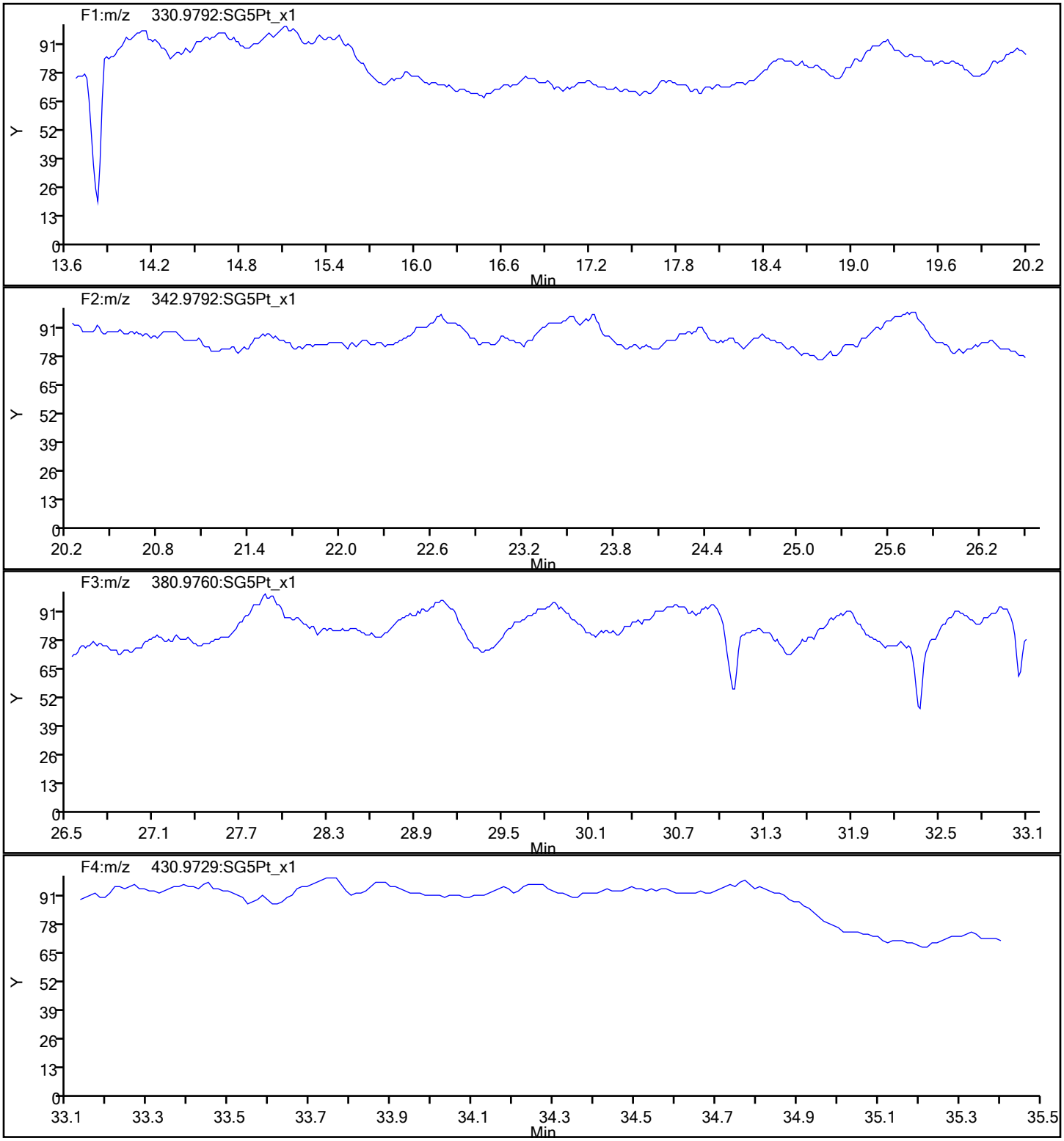

Report Date: 15-Jan-2020 12:41:05 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_21.d		
Injection Date:	14-Jan-2020 04:26:15	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-0.1um		
Worklist#:	350523	Sample Line#:	21
Column Type:	DB-5	Column Dia:	0.32 mm

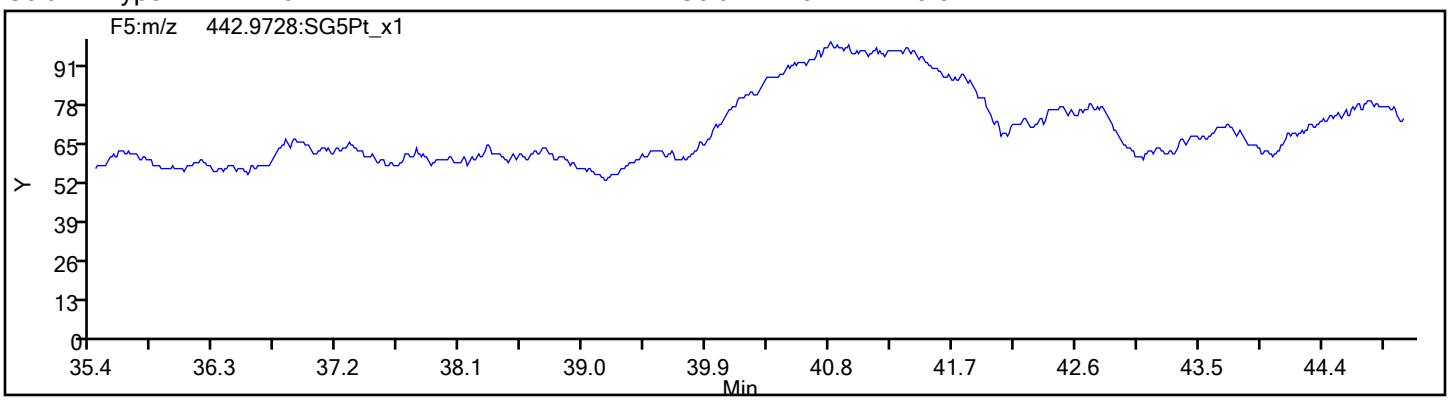

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57624-1

SDG No.:

Client Sample ID: 11187072-FEFF-0.45um Lab Sample ID: 320-57624-2

Matrix: Water Lab File ID: 13JA2010D5_22.d

Analysis Method: 1613B Date Collected: 01/09/2020 12:00

Extract. Method: 1613B Date Extracted: 01/13/2020 11:12

Sample wt/vol: 1058.2(mL) Date Analyzed: 01/14/2020 05:12

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 350523 Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		9.5	0.41
51207-31-9	2,3,7,8-TCDF	ND		9.5	0.21
40321-76-4	1,2,3,7,8-PeCDD	ND		47	0.40
57117-41-6	1,2,3,7,8-PeCDF	ND		47	0.33
57117-31-4	2,3,4,7,8-PeCDF	ND		47	0.33
39227-28-6	1,2,3,4,7,8-HxCDD	1.6	J B	47	0.27
57653-85-7	1,2,3,6,7,8-HxCDD	ND		47	0.30
19408-74-3	1,2,3,7,8,9-HxCDD	0.50	J	47	0.26
70648-26-9	1,2,3,4,7,8-HxCDF	ND		47	0.41
57117-44-9	1,2,3,6,7,8-HxCDF	ND		47	0.42
72918-21-9	1,2,3,7,8,9-HxCDF	ND		47	0.30
60851-34-5	2,3,4,6,7,8-HxCDF	ND		47	0.31
35822-46-9	1,2,3,4,6,7,8-HpCDD	0.72	J B	47	0.21
67562-39-4	1,2,3,4,6,7,8-HpCDF	0.52	J q B	47	0.16
55673-89-7	1,2,3,4,7,8,9-HpCDF	ND		47	0.20
3268-87-9	OCDD	3.6	J B	95	0.39
39001-02-0	OCDF	1.0	J q	95	0.44
41903-57-5	Total TCDD	ND		9.5	0.41
30402-14-3	Total TCDF	ND		9.5	0.21
36088-22-9	Total PeCDD	ND		47	0.40
30402-15-4	Total PeCDF	ND		47	0.33
34465-46-8	Total HxCDD	2.1	J B	47	0.28
55684-94-1	Total HxCDF	ND		47	0.42
37871-00-4	Total HpCDD	0.72	J B	47	0.21
38998-75-3	Total HpCDF	0.52	J q B	47	0.18

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57624-1

SDG No.:

Client Sample ID: 11187072-FEFF-0.45um Lab Sample ID: 320-57624-2

Matrix: Water Lab File ID: 13JA2010D5_22.d

Analysis Method: 1613B Date Collected: 01/09/2020 12:00

Extract. Method: 1613B Date Extracted: 01/13/2020 11:12

Sample wt/vol: 1058.2(mL) Date Analyzed: 01/14/2020 05:12

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 350523 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	82		25-164
89059-46-1	13C-2,3,7,8-TCDF	82		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	87		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	86		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	94		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	92		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	78		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	86		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	75		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	81		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	78		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	82		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	79		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	86		26-138
114423-97-1	13C-OCDD	80		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	98		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_22.d
Lims ID: 320-57624-A-2-A
Client ID: 11187072-FEFF-0.45um
Sample Type: Client
Inject. Date: 14-Jan-2020 05:12:12 ALS Bottle#: 47 Worklist Smp#: 22
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-57624-A-2-A 320-57624-A-2-A
Misc. Info.: 13JA2010D5
Operator ID: SMA/ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 15-Jan-2020 12:49:04 Calib Date: 14-Nov-2019 12:50:49
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0339

First Level Reviewer: arghestanis Date: 14-Jan-2020 13:31:32

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.635	70788885	0.80	1.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.136	77620384	0.77	1.3318	82.3	82.3	0.1920	0.1920	82.33	
2,3,7,8-TCDF	17.151						0.0110	0.0110		
A Non-2,3,7,8-sub-TCDF	16.826						0.0110	0.0110		
S Total TCDF							0.0110	0.0110		
D 13C-2,3,7,8-TCDD	17.831	56080463	0.78	0.9647	82.1	82.1	0.1597	0.1597	82.12	
2,3,7,8-TCDD	17.816						0.0218	0.0218		
$ 37Cl4-2,3,7,8-TCDD	17.847	36273022		1.3082	39.2	39.2	0.0694	0.0694	97.92	
A Non-2,3,7,8-sub-TCDD	17.272						0.0218	0.0218		
S Total TCDD							0.0218	0.0218		
D 13C-1,2,3,7,8-PeCDF	22.060	64225822	1.58	1.0537	86.1	86.1	0.1569	0.1569	86.10	
1,2,3,7,8-PeCDF	22.073						0.0173	0.0173		
D 13C-2,3,4,7,8-PeCDF	23.382	67555027	1.59	1.0173	93.8	93.8	0.1625	0.1625	93.81	
2,3,4,7,8-PeCDF	23.355						0.0175	0.0175		
A F1 PeCDFs	19.676						0.0165	0.0165		
A Non-2,3,7,8-sub-PeCDF	22.763						0.0174	0.0174		
S Total PeCDF							0.0175	0.0175		
D 13C-1,2,3,7,8-PeCDD	24.078	44977929	1.57	0.7281	87.3	87.3	0.0879	0.0879	87.26	
1,2,3,7,8-PeCDD	24.064						0.0211	0.0211		
A Non-2,3,7,8-sub-PeCDD	22.980						0.0211	0.0211		
S Total PeCDD							0.0211	0.0211		
D 13C-1,2,3,4,7,8-HxCDF	30.219	51400882	0.51	0.9632	86.5	86.5	0.2123	0.2123	86.49	
1,2,3,4,7,8-HxCDF	30.192						0.0218	0.0218		
D 13C-1,2,3,6,7,8-HxCDF	30.432	49001581	0.50	1.0646	74.6	74.6	0.1921	0.1921	74.60	
1,2,3,6,7,8-HxCDF	30.405						0.0223	0.0223		
D 13C-2,3,4,6,7,8-HxCDF	31.324	46888022	0.51	0.9696	78.4	78.4	0.2109	0.2109	78.37	
2,3,4,6,7,8-HxCDF	31.310						0.0166	0.0166		
D 13C-1,2,3,7,8,9-HxCDF	32.162	44647848	0.50	0.8955	80.8	80.8	0.2284	0.2284	80.81	
1,2,3,7,8,9-HxCDF	32.149						0.0158	0.0158		
A Non-2,3,7,8-sub-HxCDF	29.873						0.0187	0.0187		
S Total HxCDF							0.0223	0.0223		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.976	61700673	1.26	8.8E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.524	42866752	1.26	0.7590	91.5	91.5	0.1977	0.1977	91.54	
1,2,3,4,7,8-HxCDD	31.550	35726	1.21	1.0054	0.0829	0.0829	0.0145	0.0145		M
D 13C-1,2,3,6,7,8-HxCDD	31.643	44356460	1.26	0.9247	77.7	77.7	0.1623	0.1623	77.74	
1,2,3,6,7,8-HxCDD	31.550						0.0157	0.0157		QMU
1,2,3,7,8,9-HxCDD	31.989	12782	1.22	1.1036	0.0266	0.0266	0.0136	0.0136		
A Non-2,3,7,8-sub-HxCDD	30.485						0.0146	0.0146		U
S Total HxCDD					0.1095	0.1095	0.0146	0.0146		
D 13C-1,2,3,4,6,7,8-HpCDF	33.618	38500268	0.44	0.7930	78.7	78.7	0.8095	0.8095	78.69	
1,2,3,4,6,7,8-HpCDF	33.642	15136	1.04	1.4240	0.0321	0.0276	0.008717	0.008717		RQM
D 13C-1,2,3,4,7,8,9-HpCDF	34.687	38691335	0.45	0.7296	86.0	86.0	0.8799	0.8799	85.95	
1,2,3,4,7,8,9-HpCDF	34.675						0.0108	0.0108		
A Non-2,3,7,8-sub-HpCDF	34.140						0.009684	0.009684		
S Total HpCDF					0.0321	0.0276	0.009769	0.009769		RQ
D 13C-1,2,3,4,6,7,8-HpCDD	34.395	38214886	1.06	0.7532	82.2	82.2	0.2706	0.2706	82.23	
1,2,3,4,6,7,8-HpCDD	34.420	14747	1.18	1.0174	0.0379	0.0379	0.0110	0.0110		M
A Non-2,3,7,8-sub-HpCDD	34.122						0.0110	0.0110		
S Total HpCDD					0.0379	0.0379	0.0110	0.0110		
D 13C-OCDD	36.698	55623395	0.91	0.5621	160.4	160.4	0.1246	0.1246	80.20	
OCDF	36.806	19960	0.89	1.3047	0.0621	0.0550	0.0234	0.0234		RQMa
OCDD	36.710	57657	0.85	1.0997	0.1885	0.1885	0.0204	0.0204		M

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_22.d
Lims ID: 320-57624-A-2-A
Client ID: 11187072-FEFF-0.45um
Sample Type: Client
Inject. Date: 14-Jan-2020 05:12:12 ALS Bottle#: 47 Worklist Smp#: 22
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-57624-A-2-A 320-57624-A-2-A
Misc. Info.: 13JA2010D5
Operator ID: SMA/ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 15-Jan-2020 12:49:04 Calib Date: 14-Nov-2019 12:50:49
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0339

First Level Reviewer: arghestanis Date: 14-Jan-2020 13:31:32

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.635	17.605	2		31354185	8070805	5300	13250	1523		
333.9339	17.635	17.605	2		39434700	10187674	5950	14875	1712	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.136	17.106	2	0.972	33770566	8905696	11948	29870	745		
317.9389	17.136	17.106	2	0.972	43849818	11418436	6732	16830	1696	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.121						207	517			
305.8987	17.121						596	1490			
A Non-2,3,7,8-sub-TCDF											
303.9016	16.826						207	517			
305.8987	16.826						596	1490			
13C-2,3,7,8-TCDD											
331.9368	17.831	17.786	3	1.011	24653278	6135631	5300	13250	1158		
333.9339	17.831	17.786	3	1.011	31427185	7644986	5950	14875	1285	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.816						786	1965			
321.8936	17.816						499	1247			
37Cl4-2,3,7,8-TCDD											
327.8847	17.847	17.816	2	1.012	36273022	9016776	6629	16572	1360		
A Non-2,3,7,8-sub-TCDD											
319.8965	17.272						786	1965			
321.8936	17.272						499	1247			
13C-1,2,3,7,8-PeCDF											
351.9000	22.060	22.019	2	1.251	39378747	7336888	7494	18735	979		
353.8970	22.060	22.019	2	1.251	24847075	4665597	4578	11445	1019	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	22.032						255	637			
341.8567	22.032						553	1382			
13C-2,3,4,7,8-PeCDF											
351.9000	23.382	23.328	3	1.326	41503604	7070549	7494	18735	943		
353.8970	23.382	23.328	3	1.326	26051423	4499000	4578	11445	983	1.59(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.355						255	637			
341.8567	23.355						553	1382			
A F1 PeCDFs											
339.8597	19.676						274	685			
341.8567	19.676						491	1227			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.763						255	637			
341.8567	22.763						553	1382			
13C-1,2,3,7,8-PeCDD											
367.8949	24.078	24.037	2	1.365	27493837	4467131	2752	6880	1623		
369.8919	24.078	24.037	2	1.365	17484092	2876802	1924	4810	1495	1.57(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.064						444	1110			
357.8516	24.064						177	442			
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.980						444	1110			
357.8516	22.980						177	442			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.219	30.166	3	0.945	17289203	2938872	4590	11475	640		
385.8610	30.219	30.166	3	0.945	34111679	5674169	8350	20875	680	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.192						417	1042			
375.8178	30.192						359	897			
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.432	30.379	3	0.952	16385790	2838909	4590	11475	618		
385.8610	30.432	30.379	3	0.952	32615791	5646545	8350	20875	676	0.50(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.405						417	1042			
375.8178	30.405						359	897			
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.324	31.284	2	0.980	15915152	3736428	4590	11475	814		
385.8610	31.324	31.284	2	0.980	30972870	7249839	8350	20875	868	0.51(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.310						417	1042			
375.8178	31.310						359	897			
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.162	32.136	2	1.006	14838045	3868461	4590	11475	843		
385.8610	32.162	32.136	2	1.006	29809803	7676884	8350	20875	919	0.50(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	32.149						417	1042			
375.8178	32.149						359	897			
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.873						417	1042			
375.8178	29.873						359	897			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.976	31.949	2		34366296	8808195	5700	14250	1545		
403.8529	31.976	31.949	2		27334377	7010993	3796	9490	1847	1.26(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.524	31.497	2	0.986	23917720	6197461	5700	14250	1087		
403.8529	31.524	31.497	2	0.986	18949032	4914988	3796	9490	1295	1.26(1.05-1.43)	
1,2,3,4,7,8-HxCDD											M
389.8157	31.550	31.510	2	1.001	19572	4984	328	820	15		M
391.8127	31.524	31.510	1	1.000	16154	3123	319	797	10	1.21(1.05-1.43)	M
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.643	31.603	2	0.990	24761636	5837822	5700	14250	1024		
403.8529	31.643	31.603	2	0.990	19594824	4605695	3796	9490	1213	1.26(1.05-1.43)	
1,2,3,6,7,8-HxCDD											QMU
389.8157	31.617						328	820			
391.8127	31.617						319	797			
1,2,3,7,8,9-HxCDD											
389.8157	31.989	31.963	2	1.015	7034	1686	328	820	5		
391.8127	31.989	31.963	2	1.015	5748	1519	319	797	5	1.22(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											U
389.8157	30.485						328	820			
391.8127	30.485						319	797			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.618	33.593	1	1.051	11689730	3947262	11086	27715	356		
419.8220	33.618	33.593	1	1.051	26810538	8756614	29533	73832	297	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											RQM
407.7818	33.642	33.605	2	1.001	10200	3261	392	980	8		
	Empc Correction				7716	2424	392	980	6		
409.7789	33.630	33.605	1	1.000	7420	2331	239	597	10	1.37(0.88-1.20)	M
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.687	34.663	1	1.085	11918120	3509953	11086	27715	317		
419.8220	34.687	34.663	1	1.085	26773215	7845783	29533	73832	266	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.675						392	980			
409.7789	34.675						239	597			
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.140						392	980			
409.7789	34.140						239	597			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.395	34.371	1	1.076	19654456	5944553	6974	17435	852		
437.8140	34.395	34.371	1	1.076	18560430	5635724	5923	14807	951	1.06(0.88-1.20)	

Report Date: 15-Jan-2020 12:49:09 Chrom Revision: 2.3 23-Dec-2019 10:12:06
Data File: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_22.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											M
423.7766	34.420	34.383	2	1.001	7967	1945	275	687	7		
425.7737	34.408	34.383	1	1.000	6780	2392	245	612	10	1.18(0.88-1.20)	M
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.122						275	687			
425.7737	34.122						245	612			
13C-OCDD											
469.7779	36.698	36.674	1	1.148	26434859	6732932	1945	4862	3462		
471.7750	36.698	36.674	1	1.148	29188536	7498479	2485	6212	3017	0.91(0.76-1.02)	
OCDF											RQMa
441.7428	36.806	36.782	1	1.003	11981	2800	362	905	8		M
	Empc Correction				9399	2251	362	905	6		
443.7399	36.794	36.782	1	1.003	10561	2530	507	1267	5	1.13(0.76-1.02)	
OCDD											M
457.7377	36.710	36.686	1	1.000	26437	5568	285	712	20		M
459.7348	36.710	36.686	1	1.000	31220	7918	354	885	22	0.85(0.76-1.02)	M

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

U - Marked Undetected

a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_22.d		
Lims ID:	320-57624-A-2-A		
Client ID:	11187072-FEFF-0.45um		
Inject. Date:	14-Jan-2020 05:12:12	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	SMA/ALM
Lims Batch ID:	350523	Lims Sample ID:	22

Non-2,3,7,8-sub-HxCDD, RT: 30.485

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.005	D 13C-1,2,3,4,7,8-HxCDD	100.000	42866752	11112449
1,2,3,6,7,8-HxCDD	0.983	D 13C-1,2,3,6,7,8-HxCDD	100.000	44356460	10443517
1,2,3,7,8,9-HxCDD	1.104				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.031		100.000	43611606	10777983

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags

Compound is Marked ND

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_22.d				
Injection Date:	14-Jan-2020 05:12:12	Instrument ID:	10D5		
Lims ID:	320-57624-A-2-A	Lab Sample ID:	320-57624-2		
Client ID:	11187072-FEFF-0.45um				
Operator ID:	SMA/ALM	ALS Bottle#:	47	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 1

Processing Integration Results

RT: 31.55
Area: 30218
Amount: 0.122453
Amount Units: pg/ul

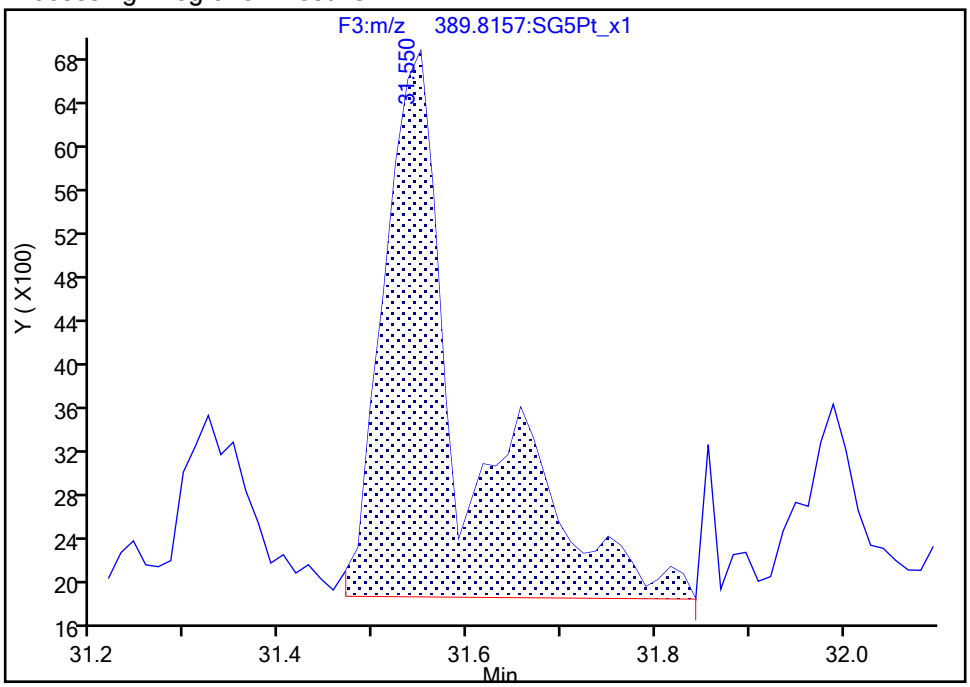

Manual Integration Results

RT: 31.55
Area: 19572
Amount: 0.082896
Amount Units: pg/ul

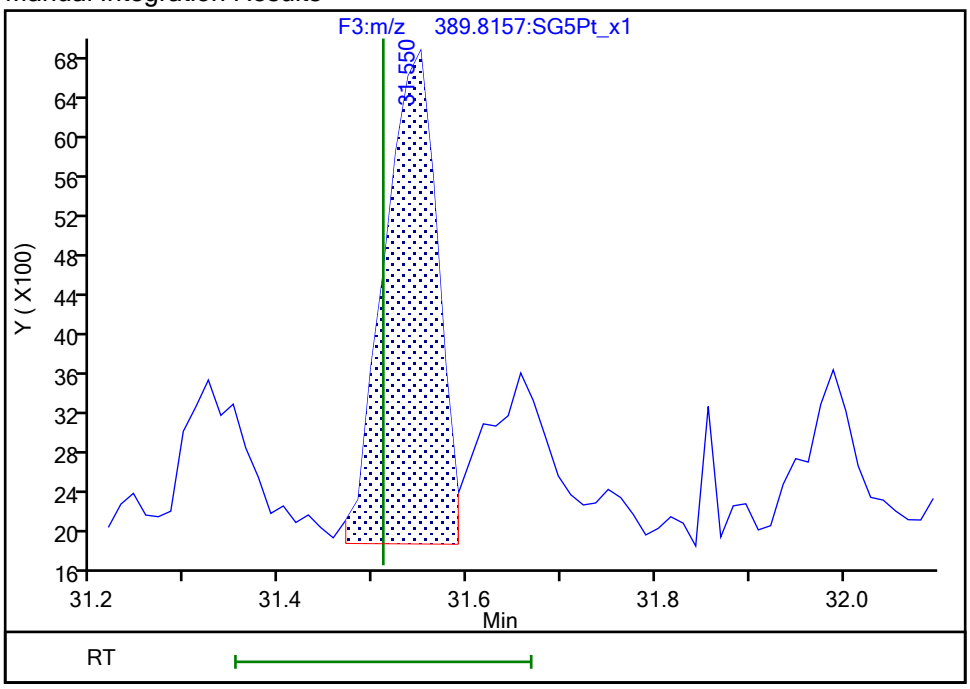

Reviewer: dadunj, 15-Jan-2020 12:42:44

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_22.d				
Injection Date:	14-Jan-2020 05:12:12	Instrument ID:	10D5		
Lims ID:	320-57624-A-2-A	Lab Sample ID:	320-57624-2		
Client ID:	11187072-FEFF-0.45um				
Operator ID:	SMA/ALM	ALS Bottle#:	47	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 2

Processing Integration Results

RT: 31.52
Area: 22556
Amount: 0.122453
Amount Units: pg/ul

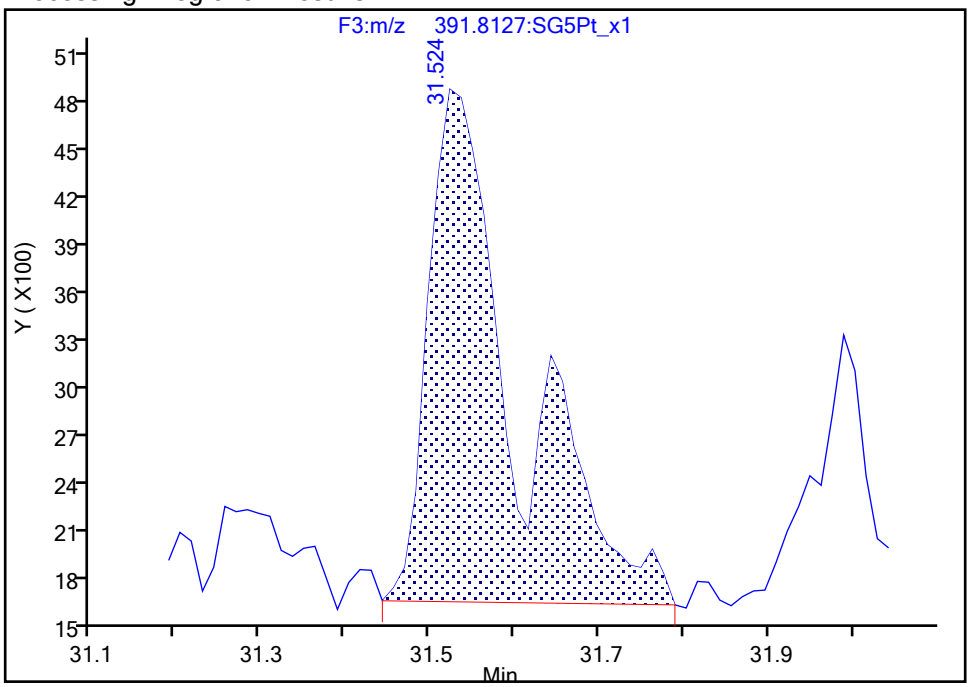

Manual Integration Results

RT: 31.52
Area: 16154
Amount: 0.082896
Amount Units: pg/ul

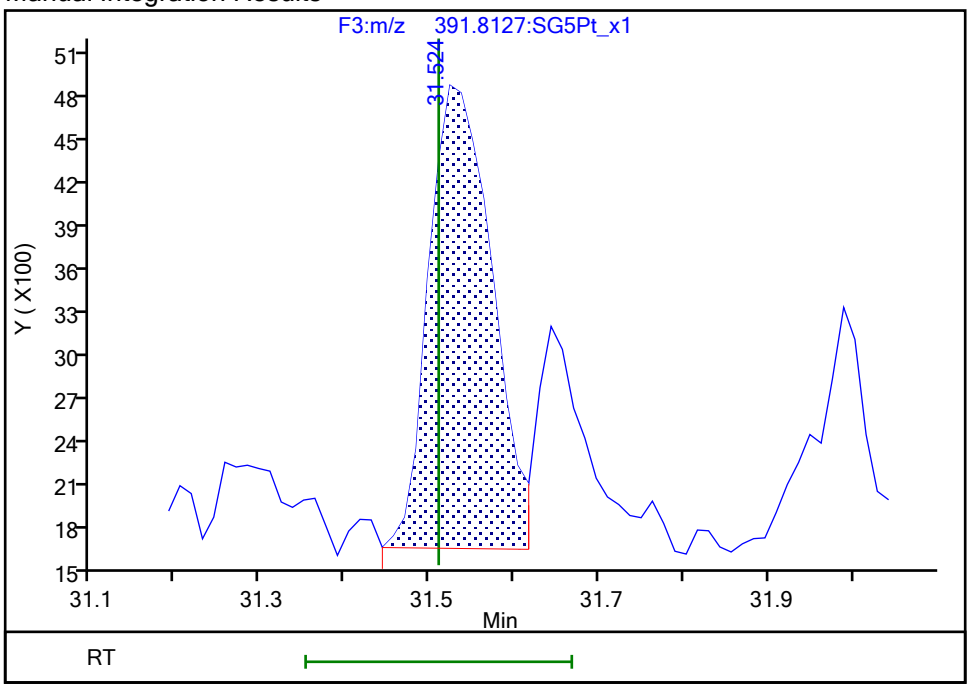

Reviewer: dadunj, 15-Jan-2020 12:42:46

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_22.d				
Injection Date:	14-Jan-2020 05:12:12	Instrument ID:	10D5		
Lims ID:	320-57624-A-2-A	Lab Sample ID:	320-57624-2		
Client ID:	11187072-FEFF-0.45um				
Operator ID:	SMA/ALM	ALS Bottle#:	47	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 2

Processing Integration Results

RT: 33.63
Area: 8893
Amount: 0.034825
Amount Units: pg/ul

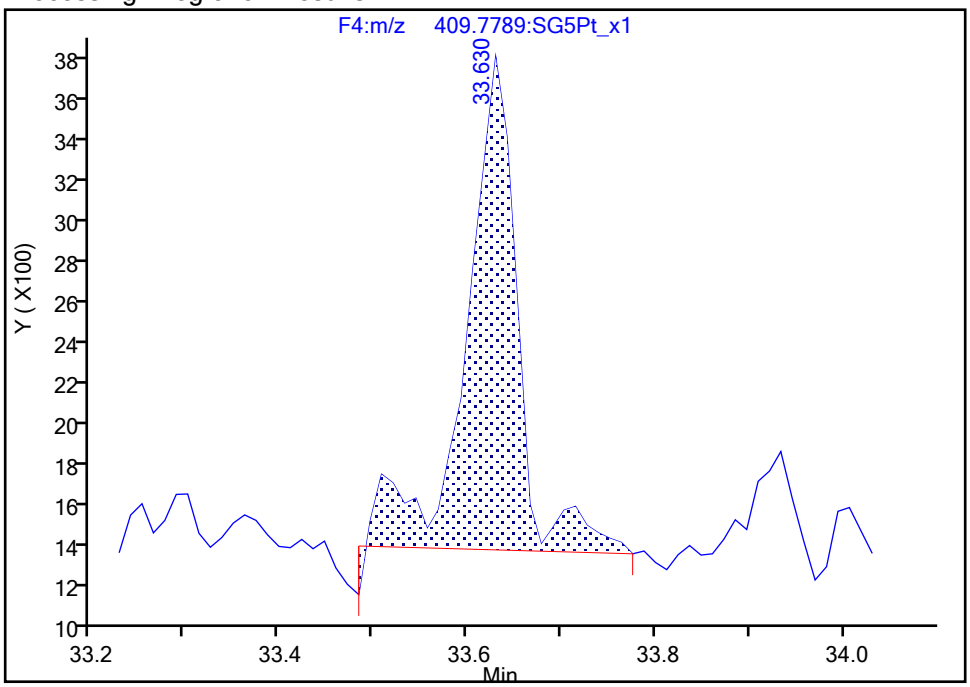

Manual Integration Results

RT: 33.63
Area: 7420
Amount: 0.032138
Amount Units: pg/ul

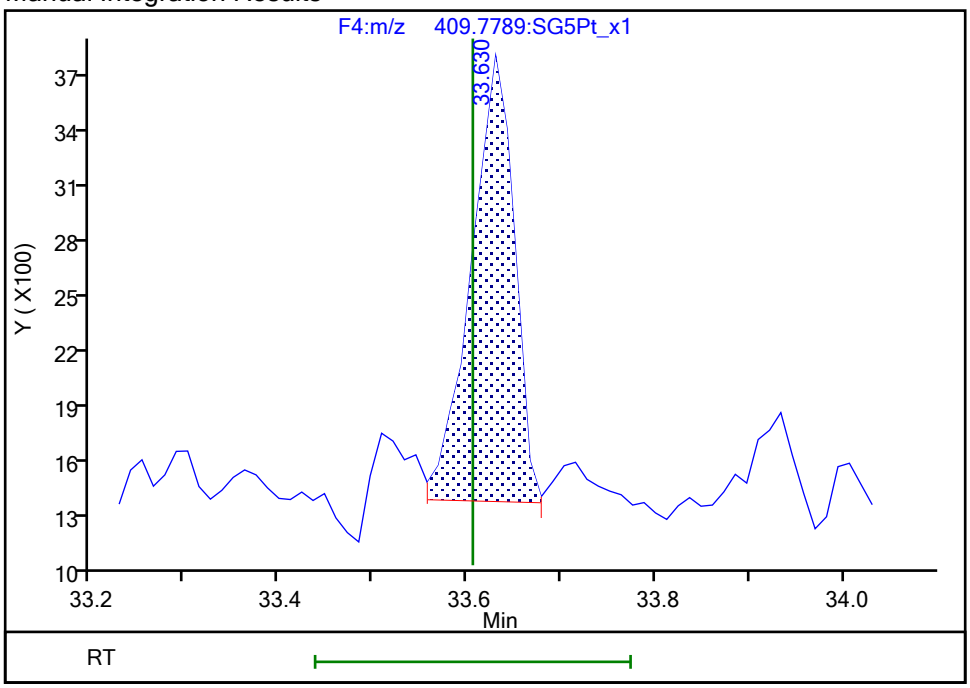

Reviewer: dadunj, 15-Jan-2020 12:42:58

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_22.d				
Injection Date:	14-Jan-2020 05:12:12	Instrument ID:	10D5		
Lims ID:	320-57624-A-2-A	Lab Sample ID:	320-57624-2		
Client ID:	11187072-FEFF-0.45um				
Operator ID:	SMA/ALM	ALS Bottle#:	47	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 2

Processing Integration Results

RT: 34.41
Area: 6291
Amount: 0.036672
Amount Units: pg/ul

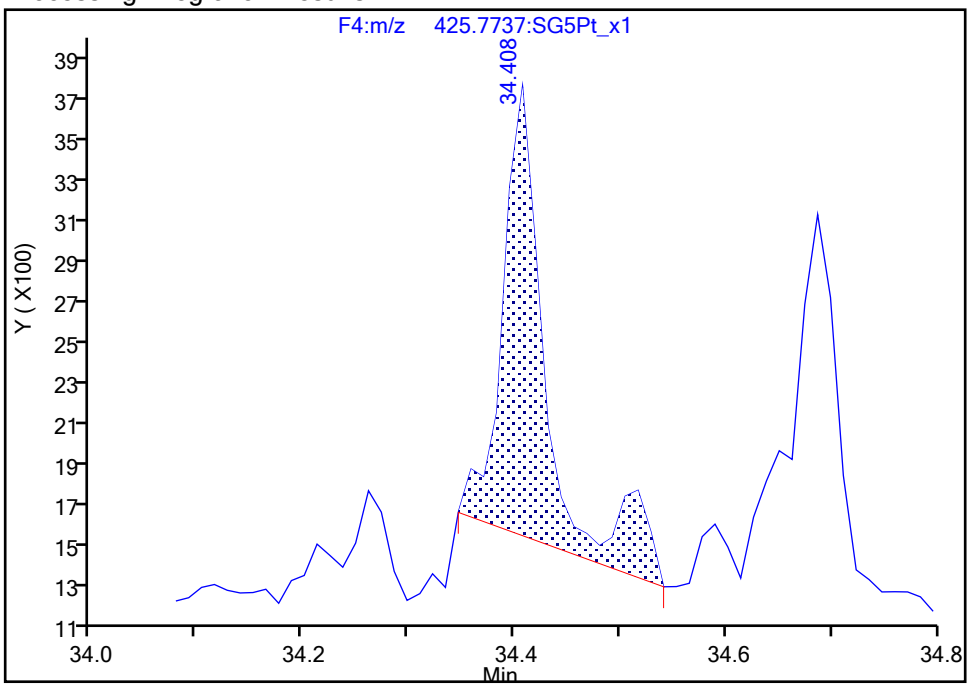

Manual Integration Results

RT: 34.41
Area: 6780
Amount: 0.037930
Amount Units: pg/ul

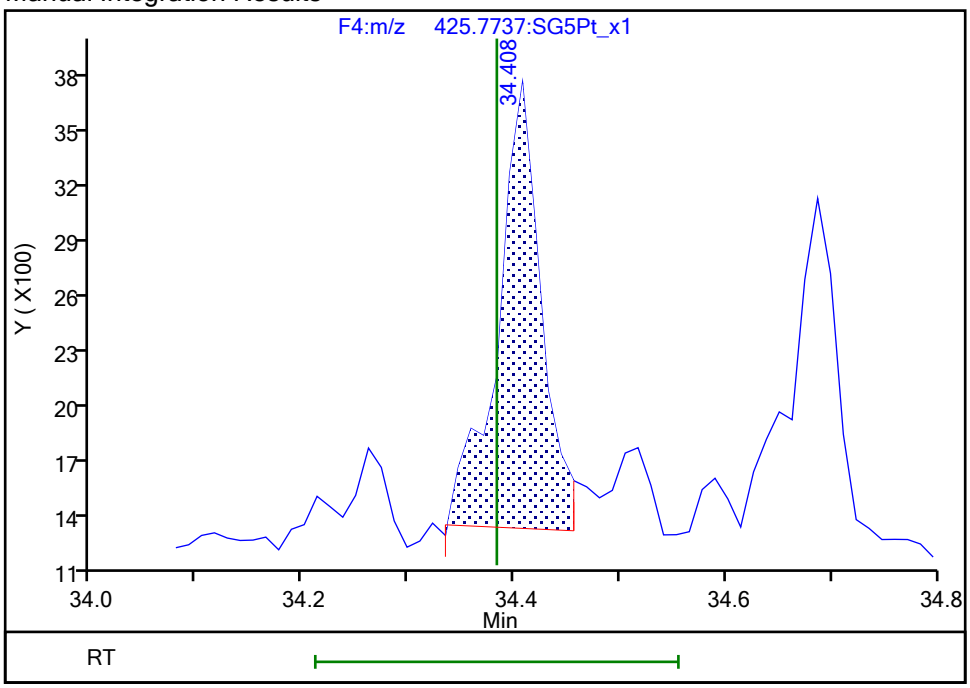

Reviewer: dadunj, 15-Jan-2020 12:43:19

Audit Action: Manually Integrated Audit Reason: Split Peak

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_22.d				
Injection Date:	14-Jan-2020 05:12:12	Instrument ID:	10D5		
Lims ID:	320-57624-A-2-A	Lab Sample ID:	320-57624-2		
Client ID:	11187072-FEFF-0.45um				
Operator ID:	SMA/ALM	ALS Bottle#:	47	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5:HRSIR		

OCDF, CAS: 39001-02-0

Signal: 2

Processing Integration Results

RT: 36.79
Area: 14584
Amount: 0.080580
Amount Units: pg/ul

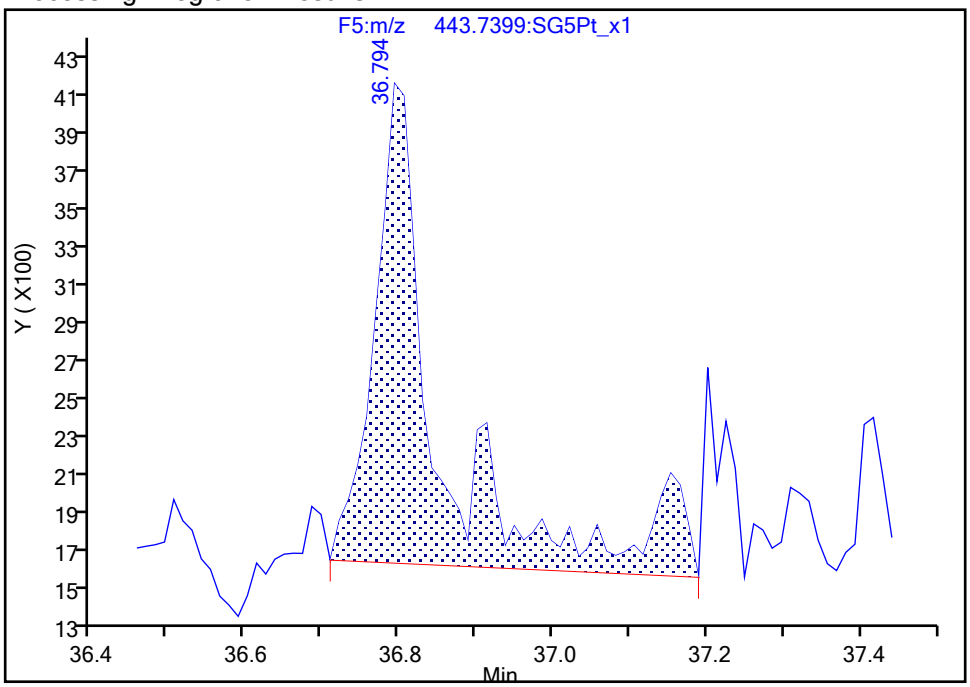

Manual Integration Results

RT: 36.79
Area: 10561
Amount: 0.062123
Amount Units: pg/ul

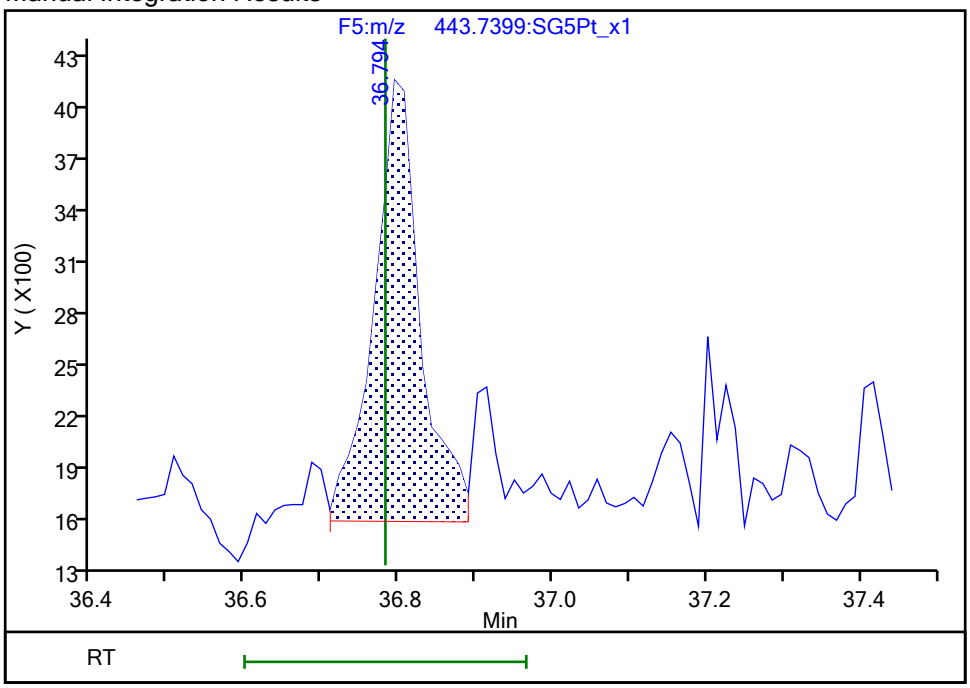

Reviewer: dadunj, 15-Jan-2020 12:48:00
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_22.d				
Injection Date:	14-Jan-2020 05:12:12	Instrument ID:	10D5		
Lims ID:	320-57624-A-2-A	Lab Sample ID:	320-57624-2		
Client ID:	11187072-FEFF-0.45um				
Operator ID:	SMA/ALM	ALS Bottle#:	47	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5:HRSIR		

OCDF, CAS: 39001-02-0

Signal: 3

Processing Integration Results

RT: 36.81
Area: 29239
Amount: 0.080580
Amount Units: pg/ul

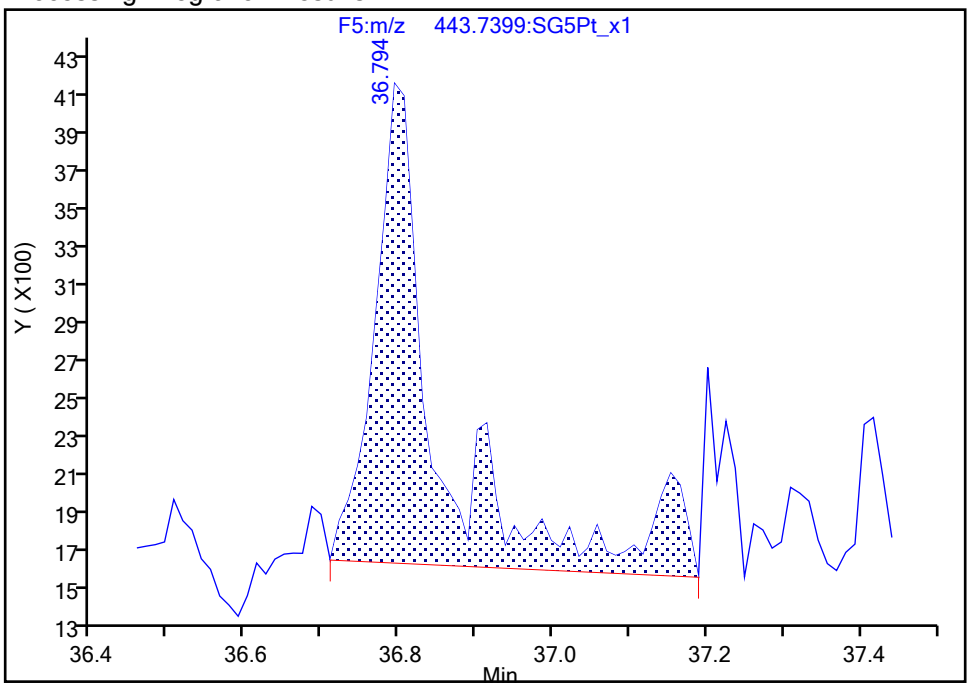

Manual Integration Results

RT: 36.81
Area: 22542
Amount: 0.062123
Amount Units: pg/ul
Reviewer: dadunj, 15-Jan-2020 12:48:00
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_22.d				
Injection Date:	14-Jan-2020 05:12:12	Instrument ID:	10D5		
Lims ID:	320-57624-A-2-A	Lab Sample ID:	320-57624-2		
Client ID:	11187072-FEFF-0.45um				
Operator ID:	SMA/ALM	ALS Bottle#:	47	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5:HRSIR		

OCDF, CAS: 39001-02-0

Signal: 1

Processing Integration Results

RT: 36.81
Area: 14655
Amount: 0.080580
Amount Units: pg/ul

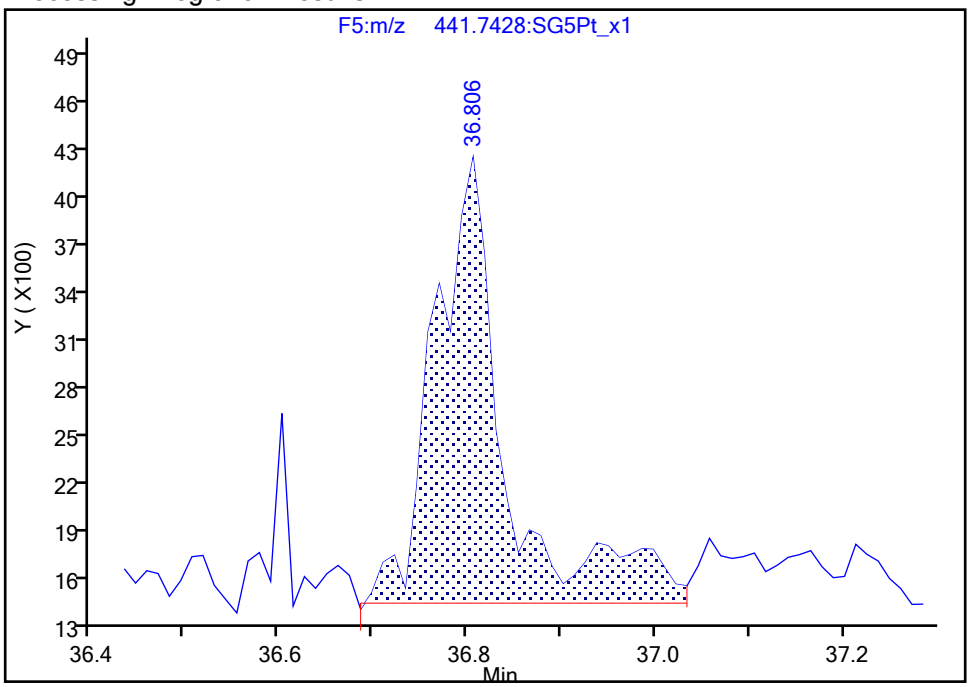

Manual Integration Results

RT: 36.81
Area: 11981
Amount: 0.062123
Amount Units: pg/ul

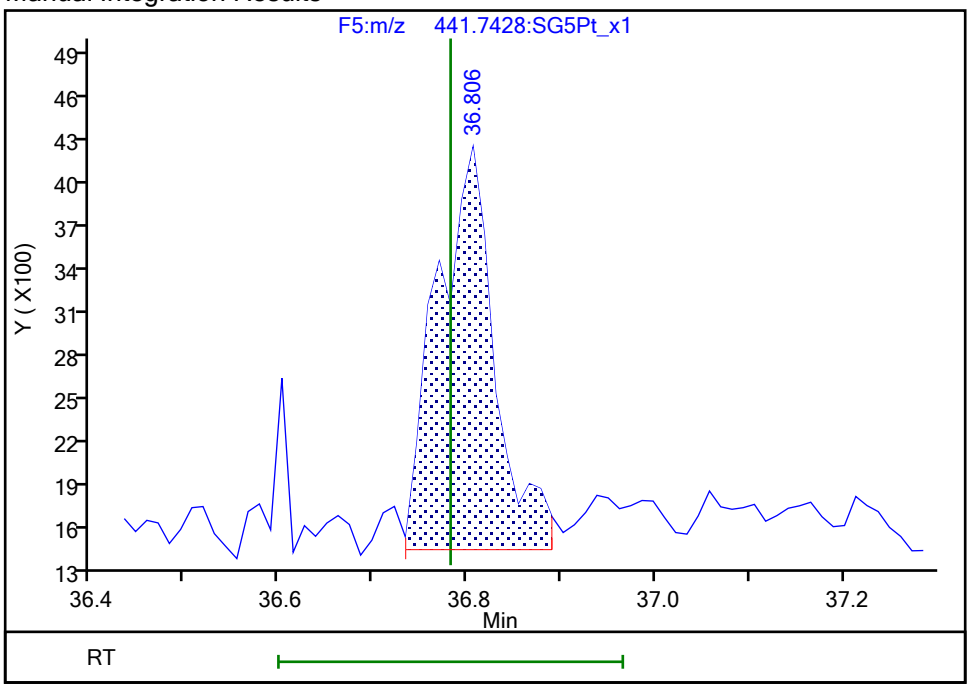

Reviewer: dadunj, 15-Jan-2020 12:48:03

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_22.d				
Injection Date:	14-Jan-2020 05:12:12	Instrument ID:	10D5		
Lims ID:	320-57624-A-2-A	Lab Sample ID:	320-57624-2		
Client ID:	11187072-FEFF-0.45um				
Operator ID:	SMA/ALM	ALS Bottle#:	47	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5:HRSIR		

OCDD, CAS: 3268-87-9

Signal: 2

Processing Integration Results

RT: 36.71
Area: 34142
Amount: 0.208711
Amount Units: pg/ul

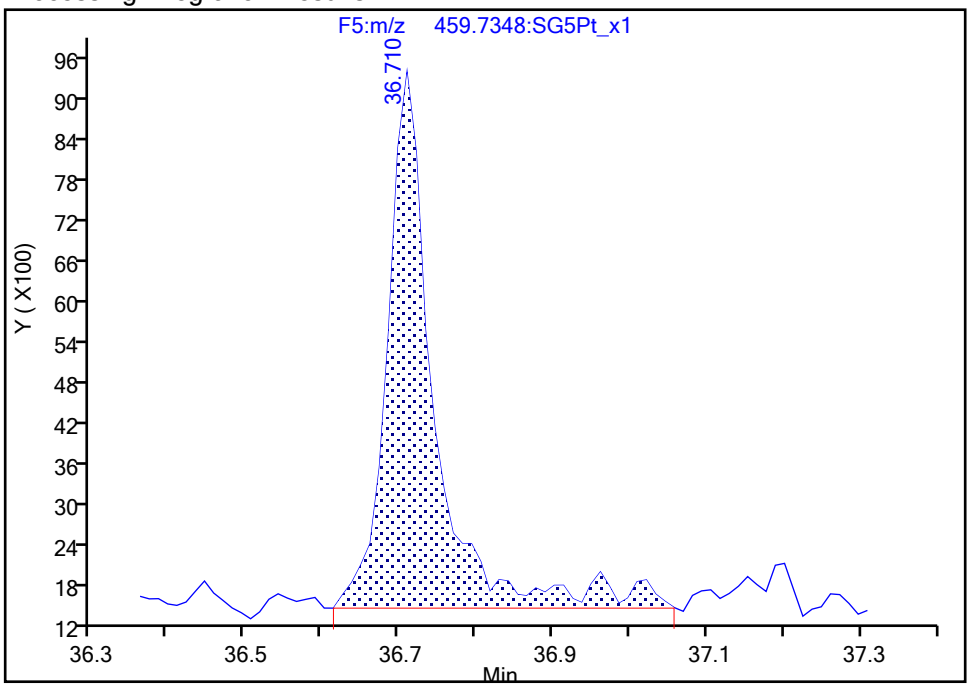

Manual Integration Results

RT: 36.71
Area: 31220
Amount: 0.188520
Amount Units: pg/ul

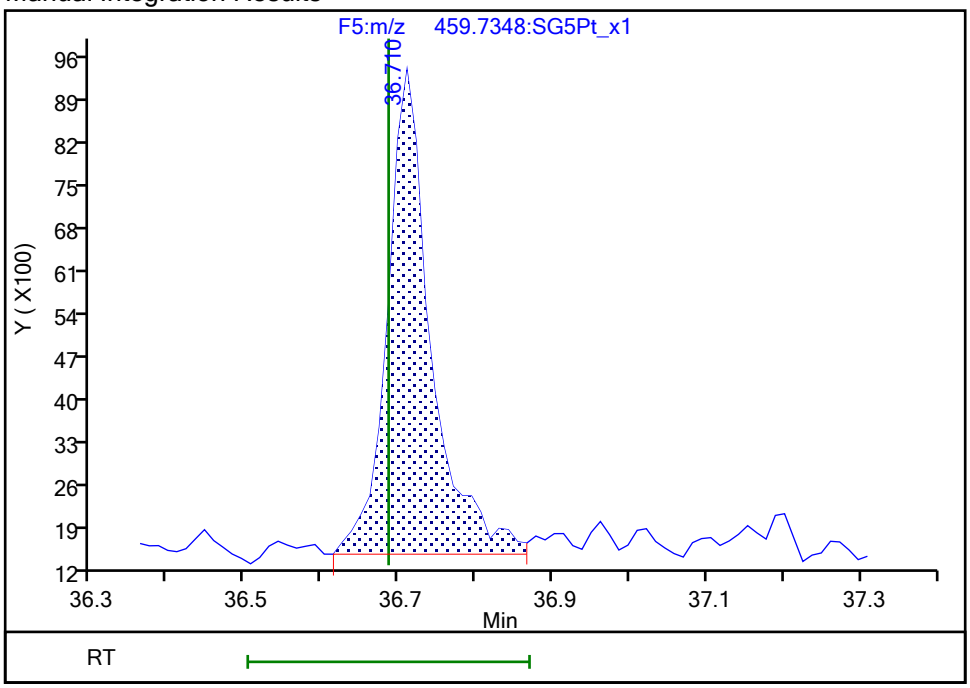

Reviewer: dadunj, 15-Jan-2020 12:48:14

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_22.d				
Injection Date:	14-Jan-2020 05:12:12	Instrument ID:	10D5		
Lims ID:	320-57624-A-2-A	Lab Sample ID:	320-57624-2		
Client ID:	11187072-FEFF-0.45um				
Operator ID:	SMA/ALM	ALS Bottle#:	47	Worklist Smp#:	22
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5:HRSIR		

OCDD, CAS: 3268-87-9

Signal: 1

Processing Integration Results

RT: 36.71
Area: 29690
Amount: 0.208711
Amount Units: pg/ul

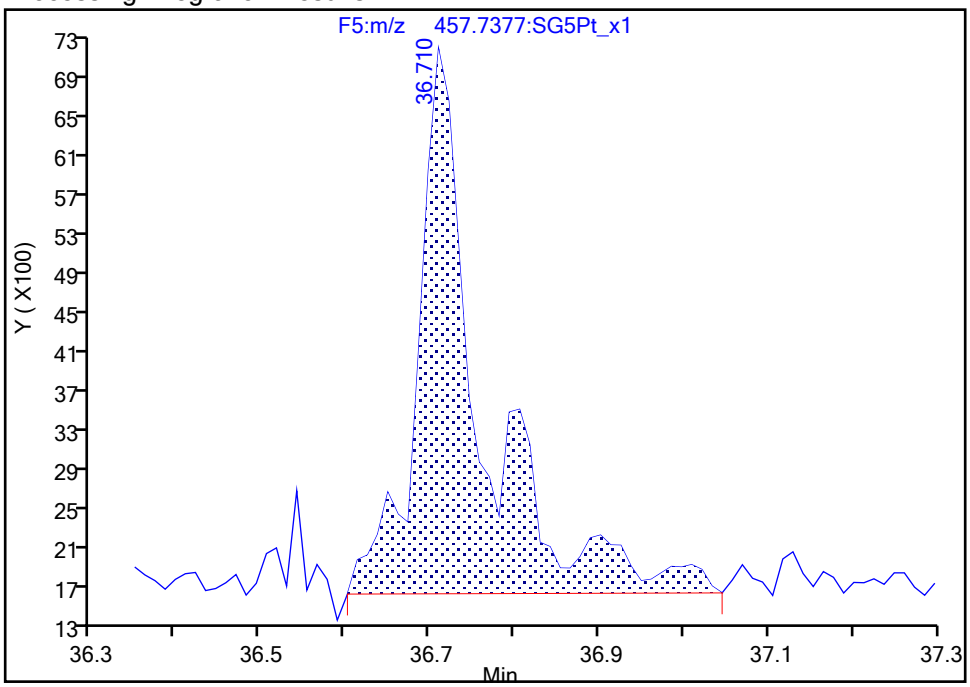

Manual Integration Results

RT: 36.71
Area: 26437
Amount: 0.188520
Amount Units: pg/ul

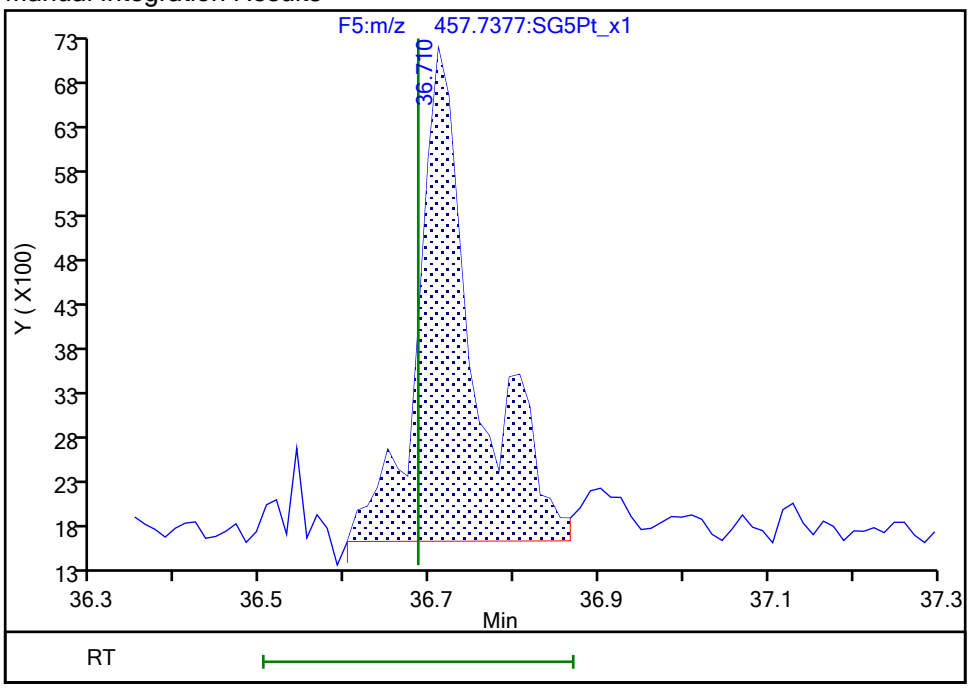

Reviewer: dadunj, 15-Jan-2020 12:48:16

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 15-Jan-2020 12:49:09 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_22.d		
Injection Date:	14-Jan-2020 05:12:12	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-0.45um		
Worklist#:	350523	Sample Line#:	22
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

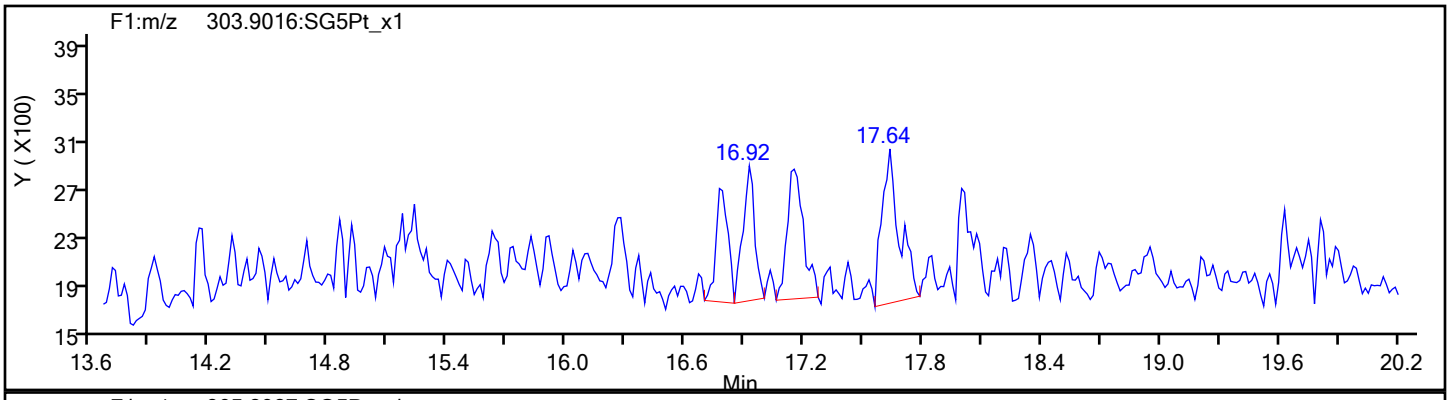

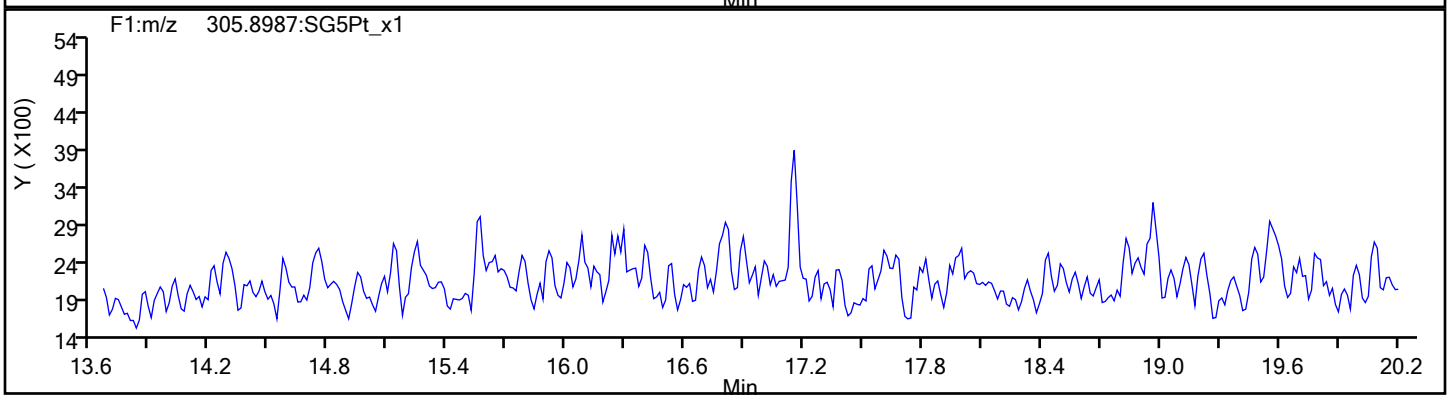

TCDF Standards

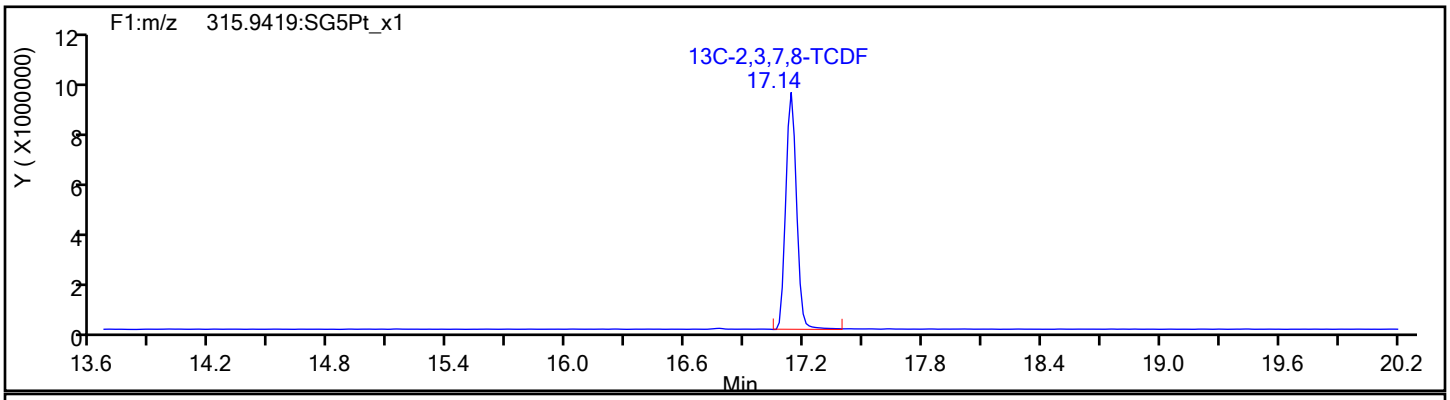

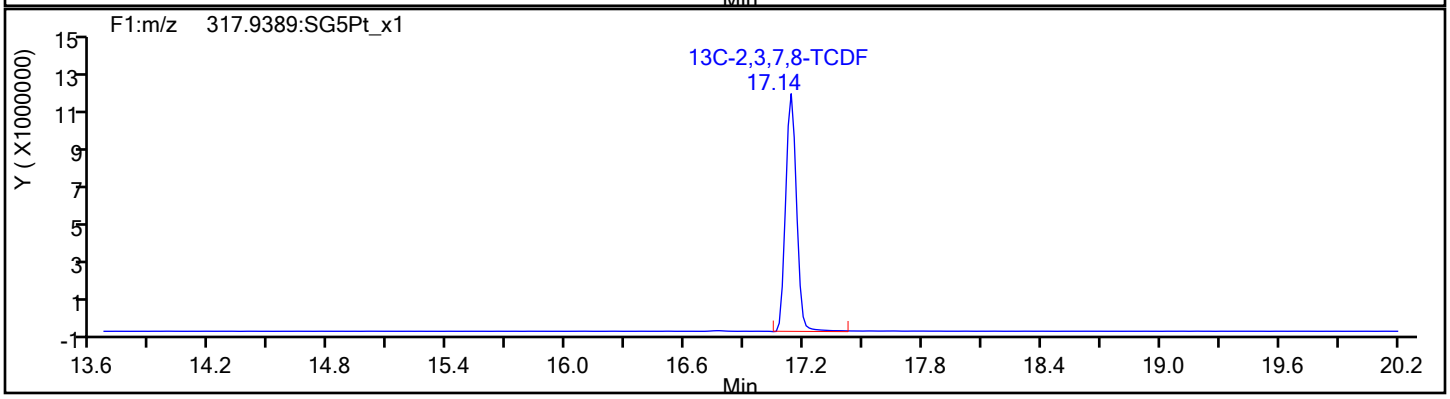

Report Date: 15-Jan-2020 12:49:09 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_22.d		
Injection Date:	14-Jan-2020 05:12:12	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-0.45um		
Worklist#:	350523	Sample Line#:	22
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

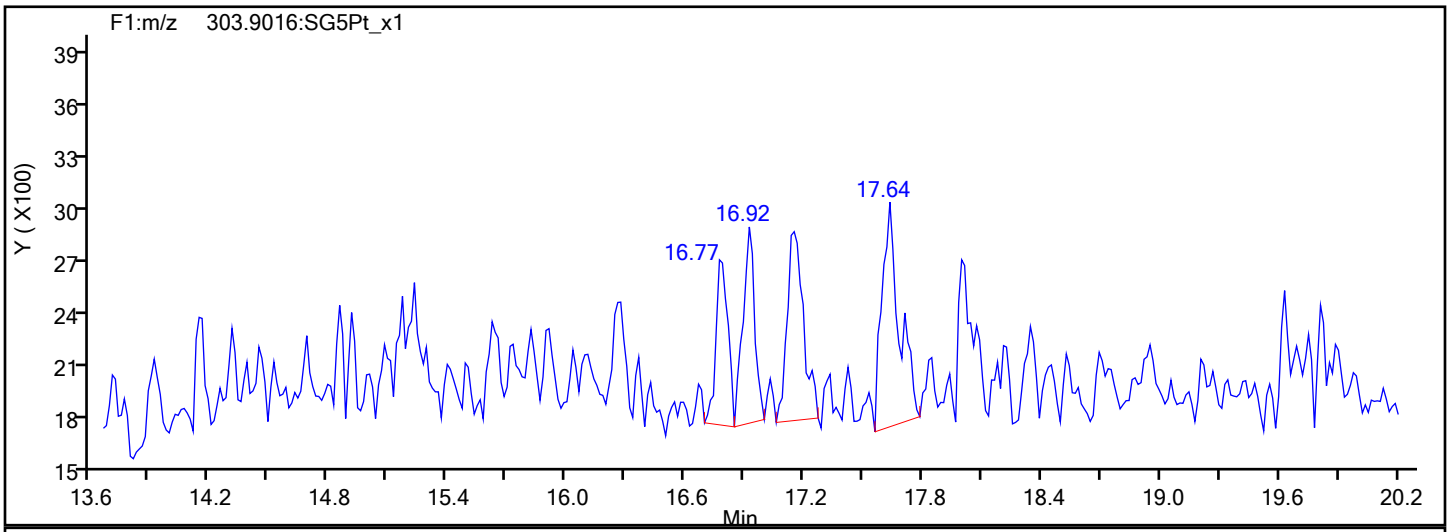

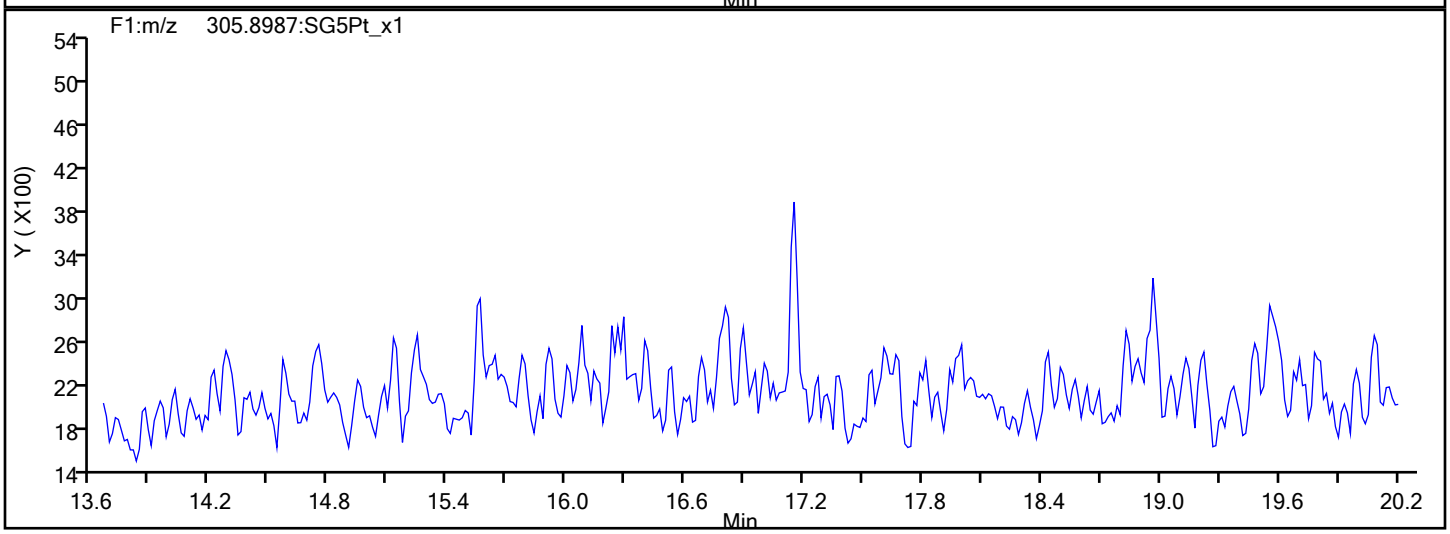

TCDF Interference Mass

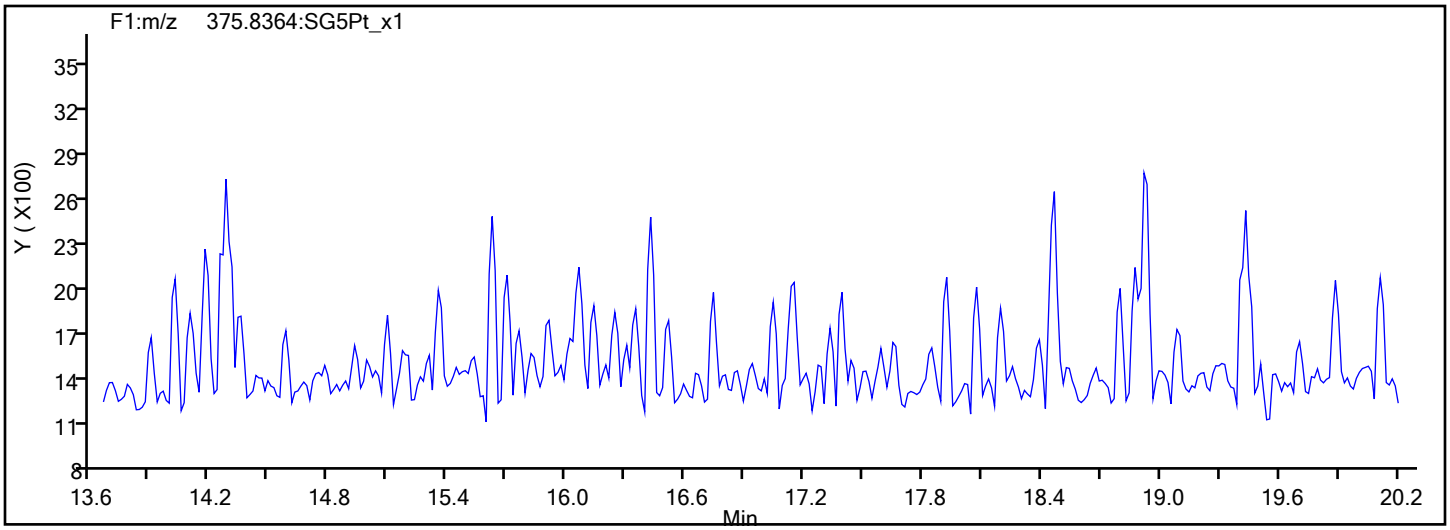

Report Date: 15-Jan-2020 12:49:09 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_22.d		
Injection Date:	14-Jan-2020 05:12:12	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-0.45um		
Worklist#:	350523	Sample Line#:	22
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

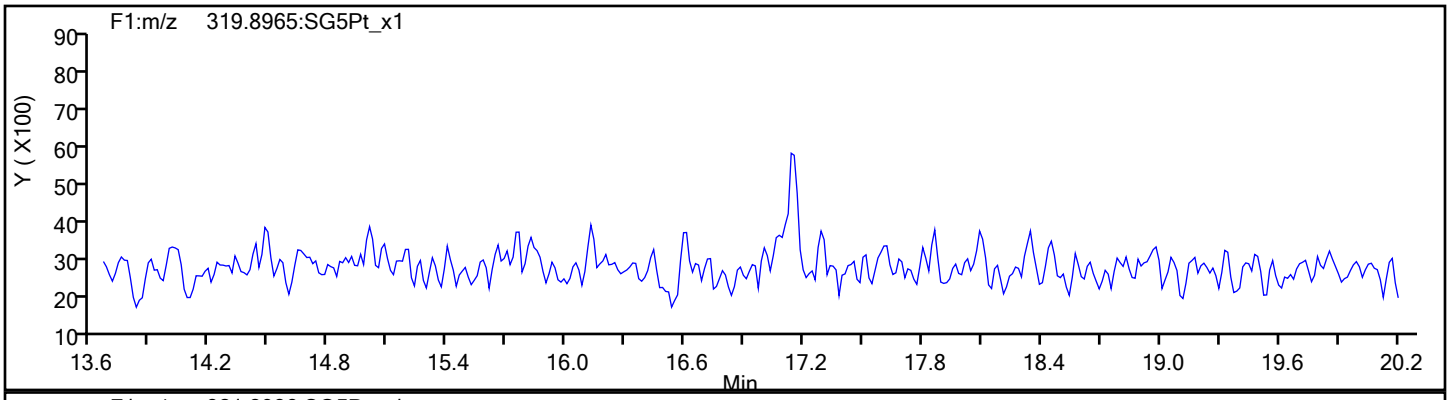

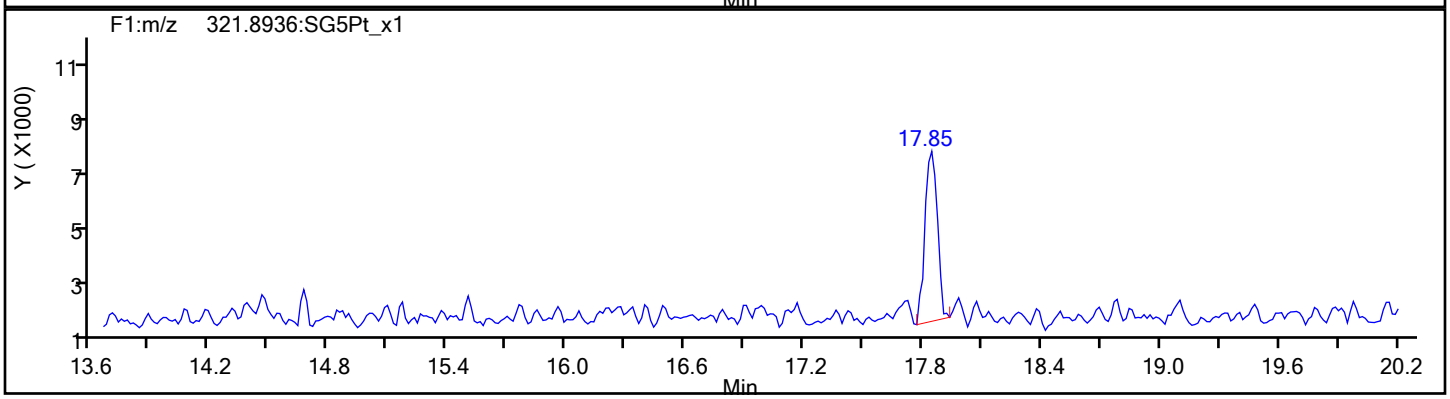

TCDD Standards

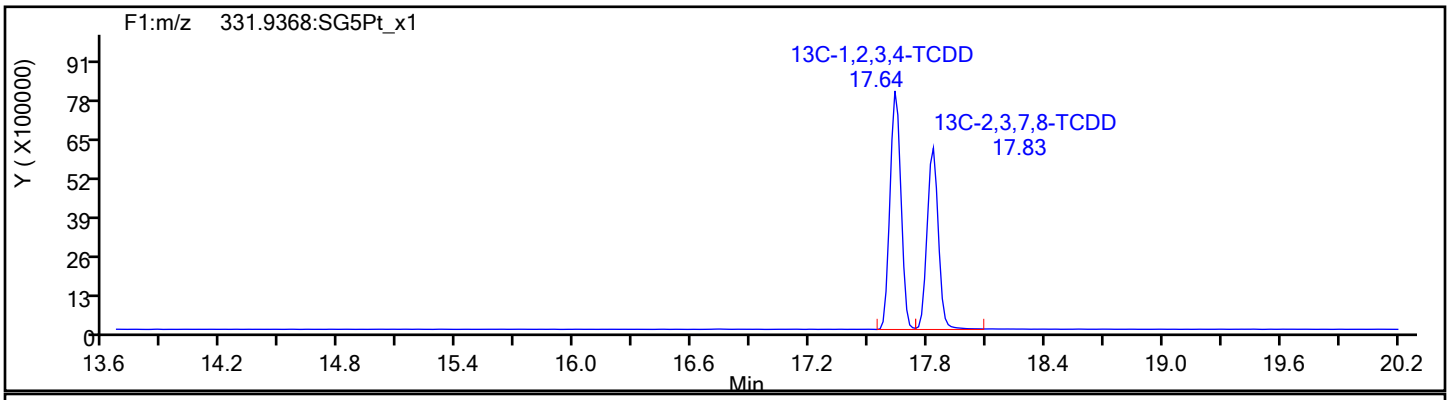

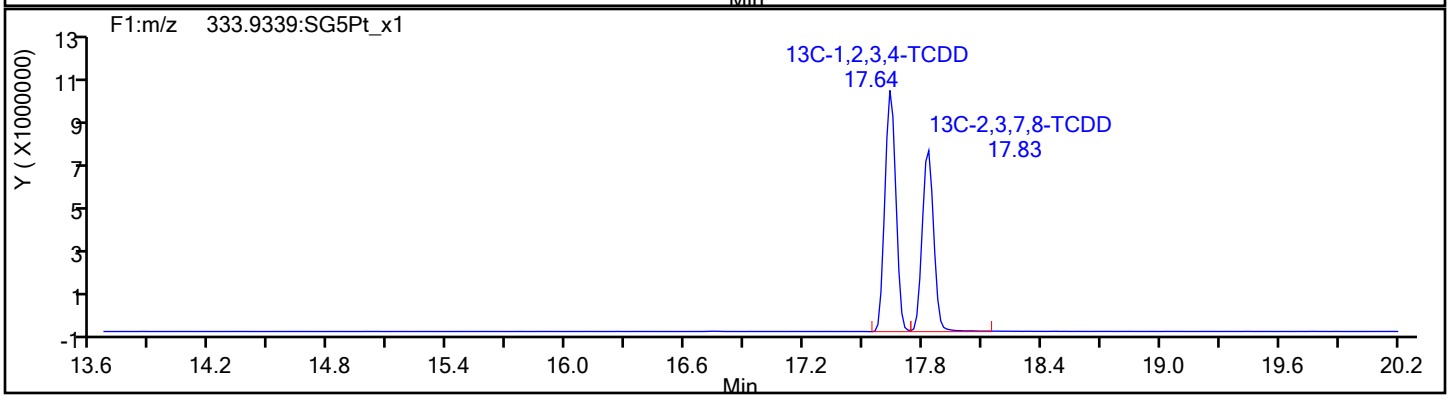

Report Date: 15-Jan-2020 12:49:10 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_22.d		
Injection Date:	14-Jan-2020 05:12:12	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-0.45um		
Worklist#:	350523	Sample Line#:	22
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

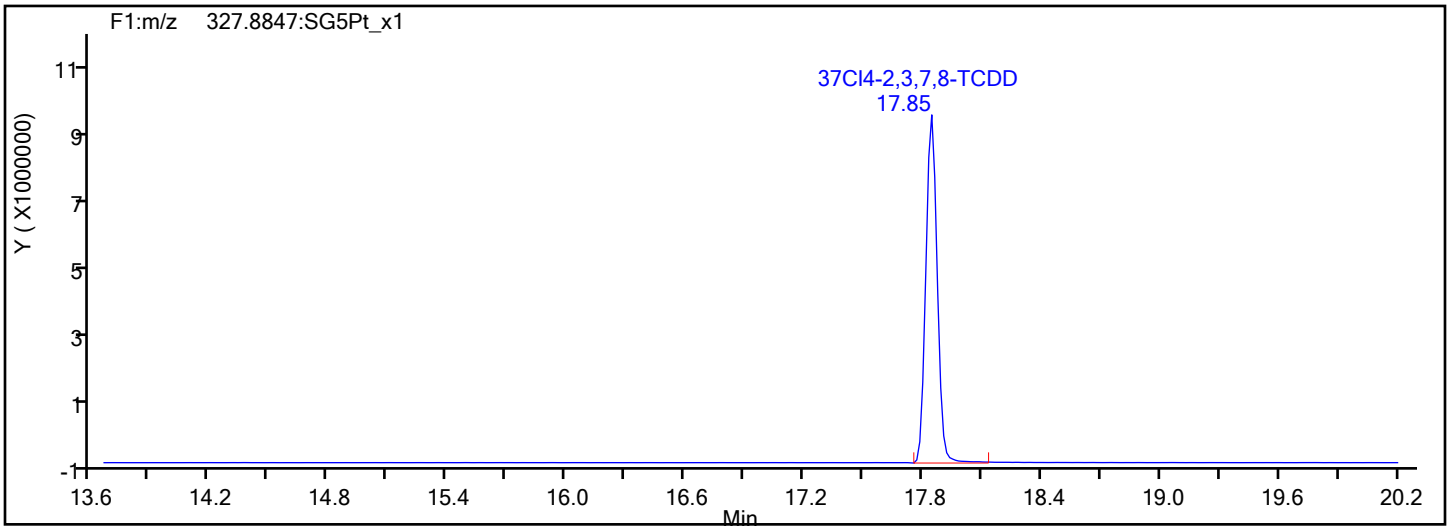

37Cl4-TCDD Standards

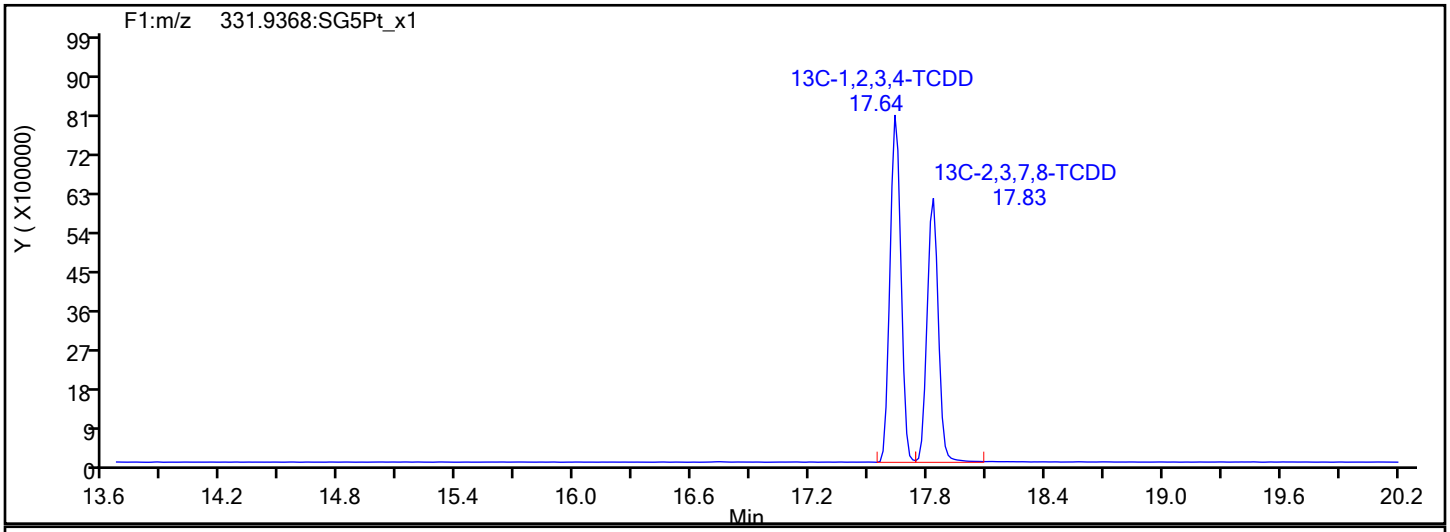

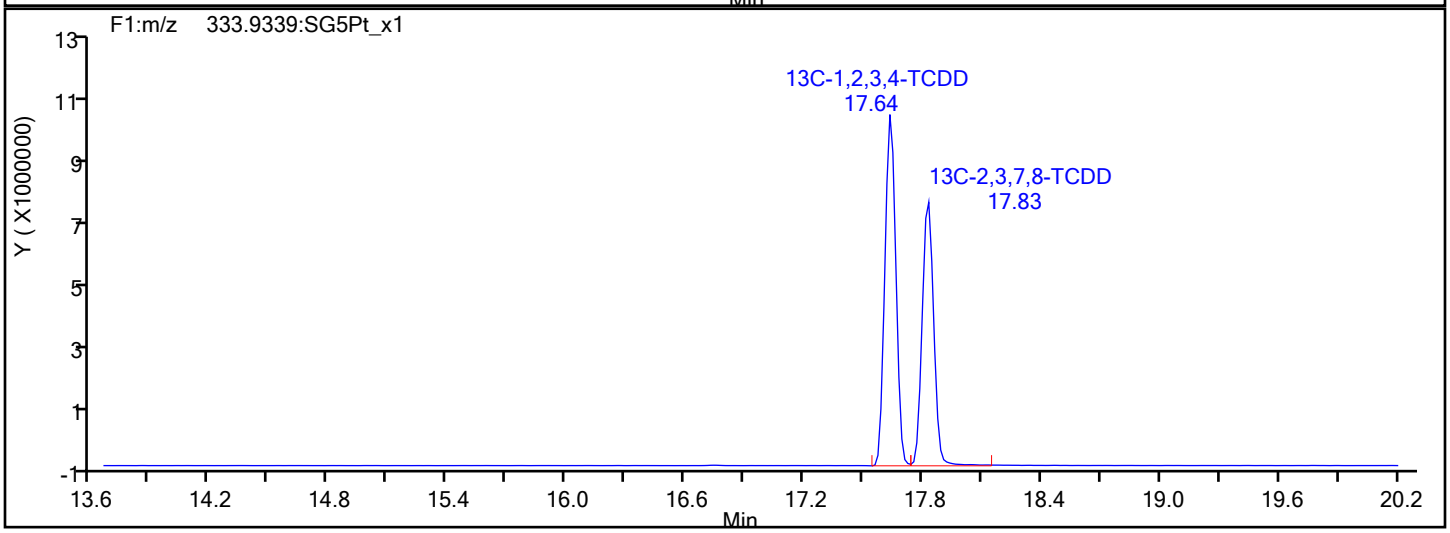

Report Date: 15-Jan-2020 12:49:10 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_22.d		
Injection Date:	14-Jan-2020 05:12:12	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-0.45um		
Worklist#:	350523	Sample Line#:	22
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

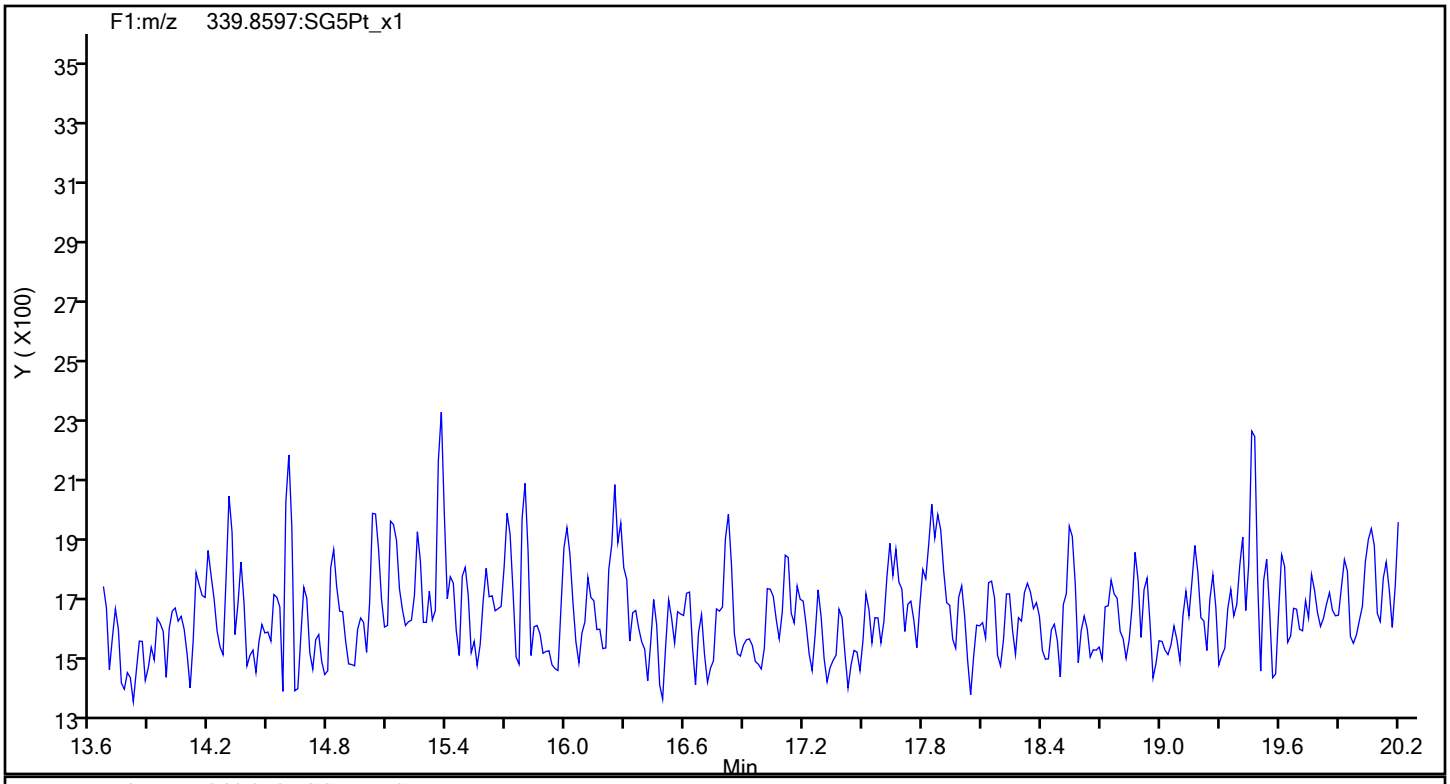

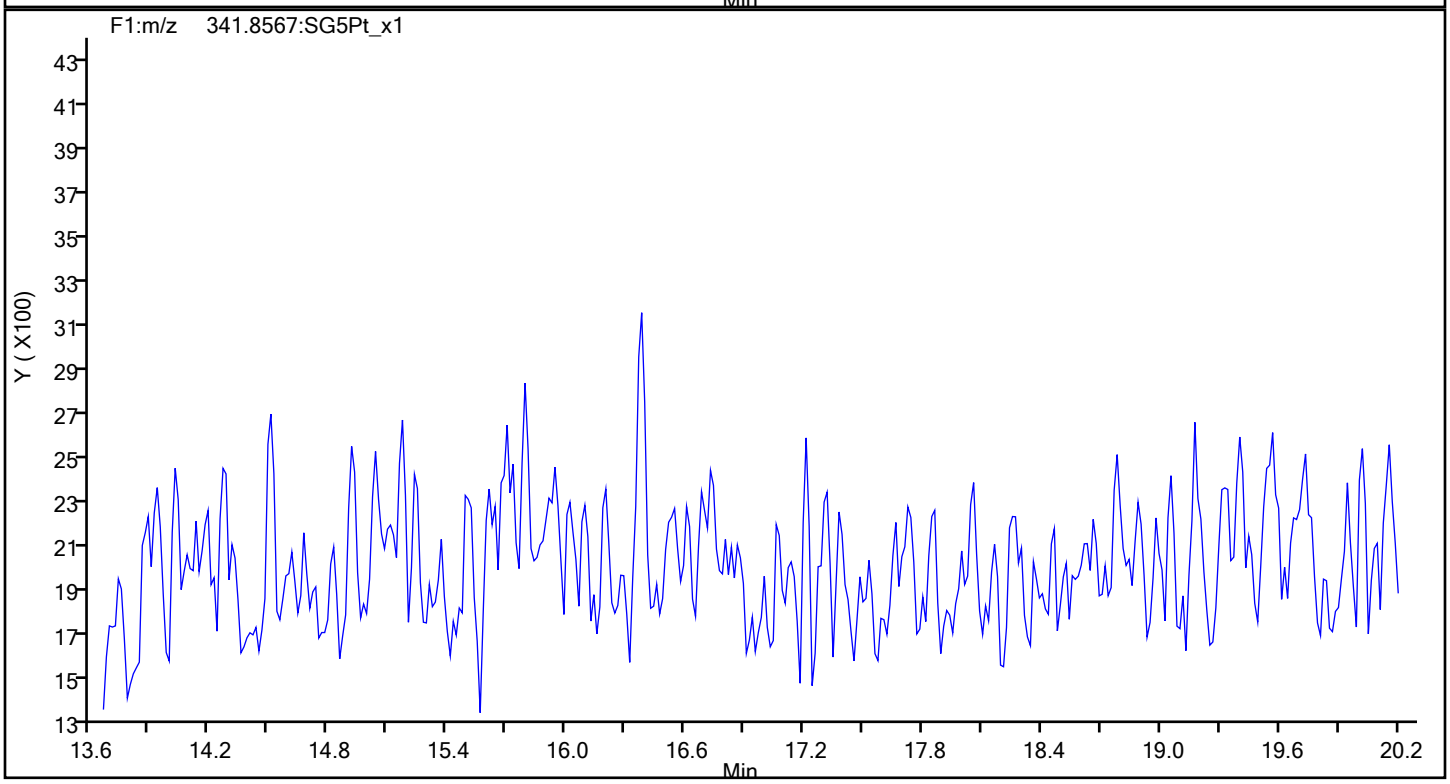

Report Date: 15-Jan-2020 12:49:10 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_22.d		
Injection Date:	14-Jan-2020 05:12:12	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-0.45um		
Worklist#:	350523	Sample Line#:	22
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

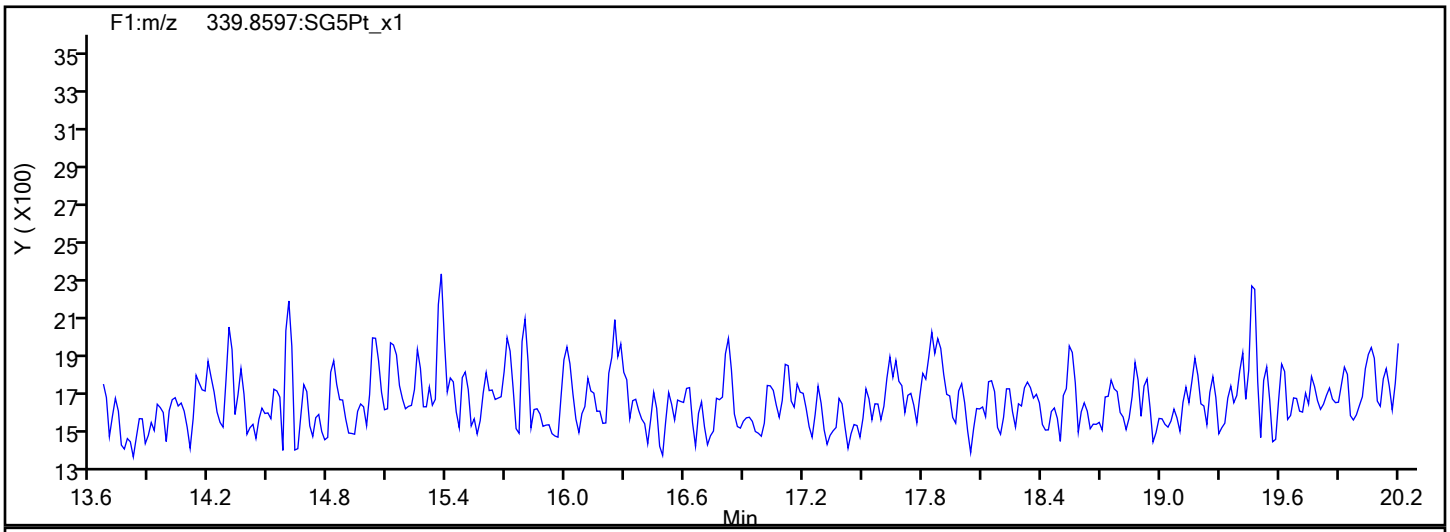

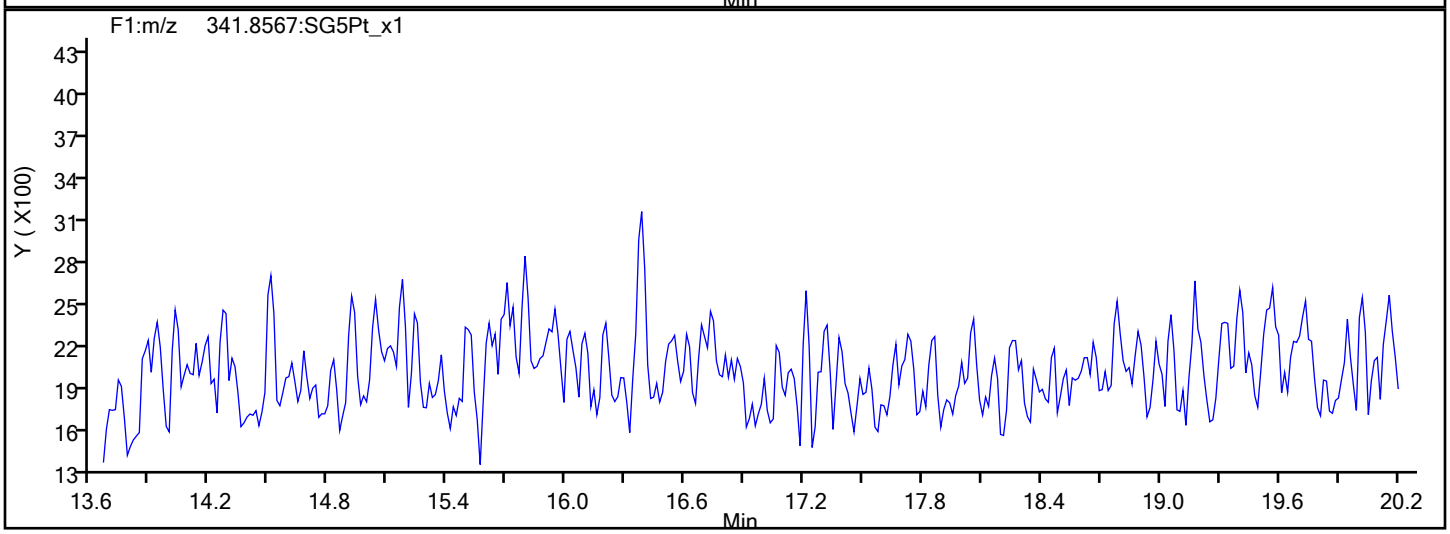

F1 PeCDFs Interference Mass

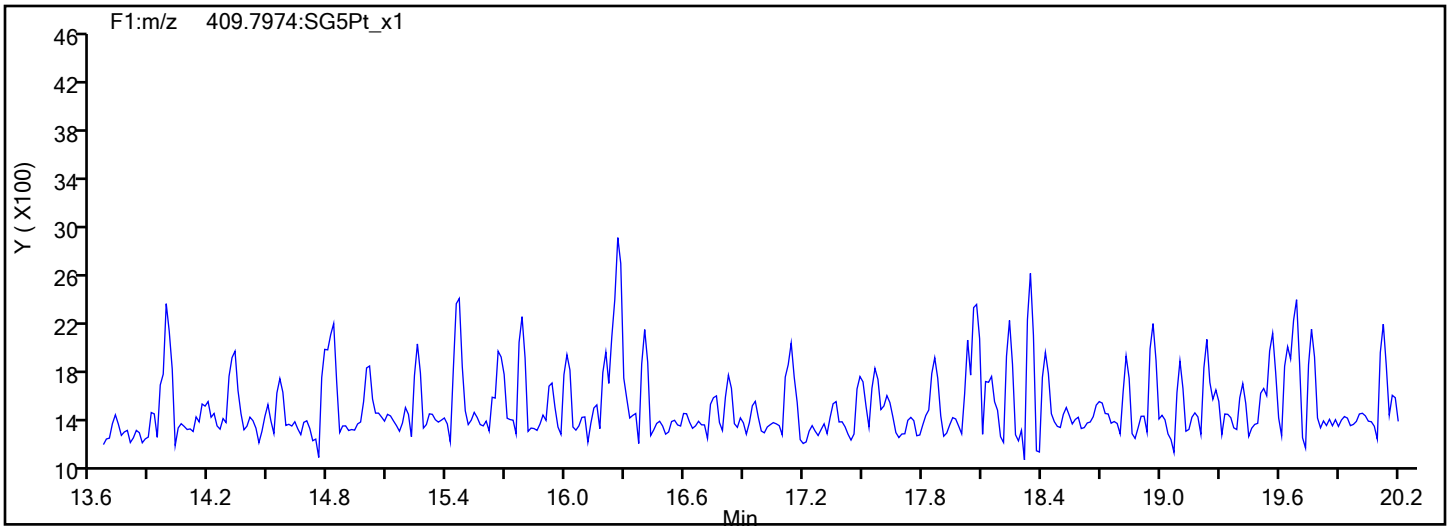

Report Date: 15-Jan-2020 12:49:10 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_22.d		
Injection Date:	14-Jan-2020 05:12:12	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-0.45um		
Worklist#:	350523	Sample Line#:	22
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

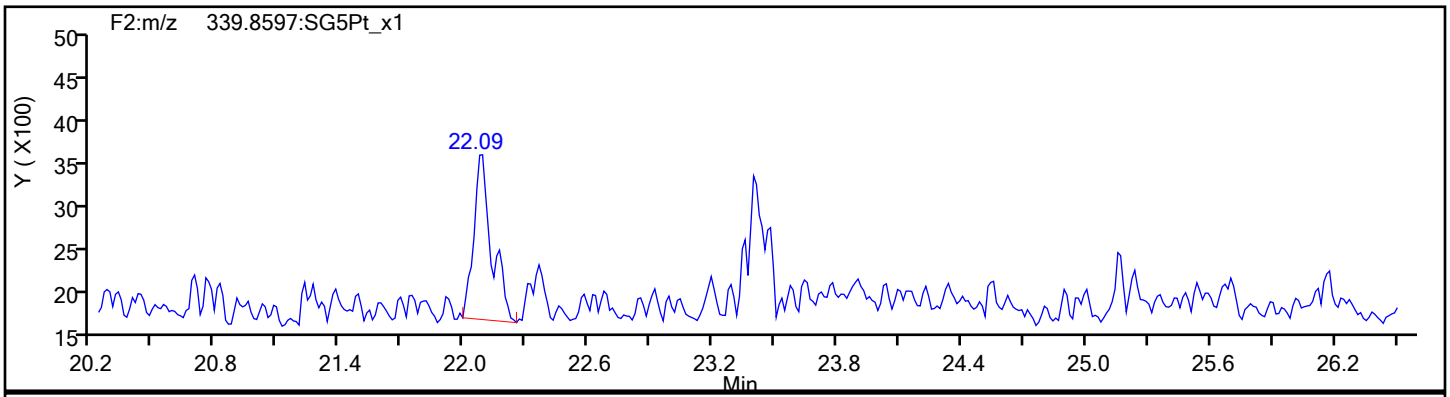

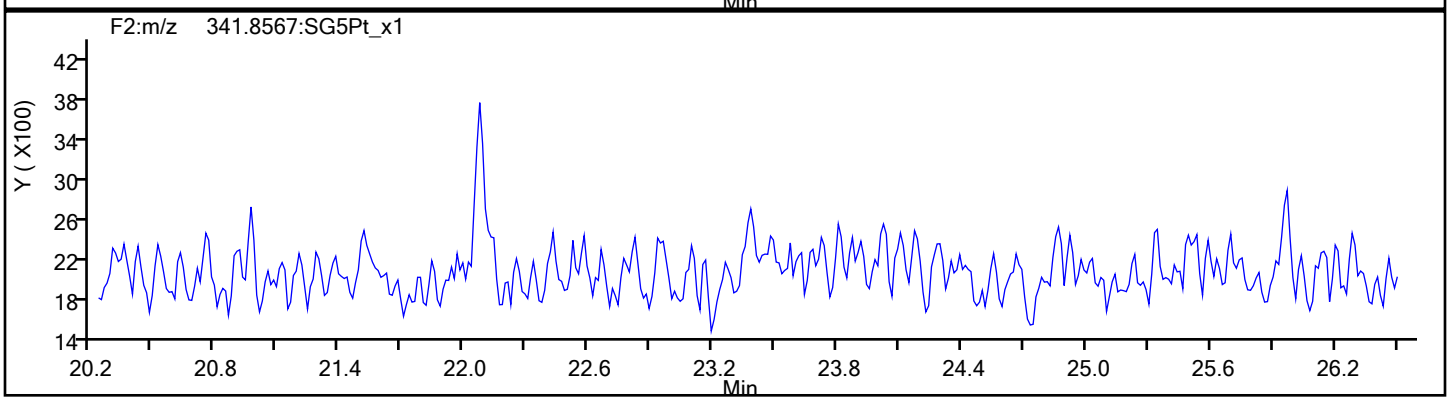

PeCDF Standards

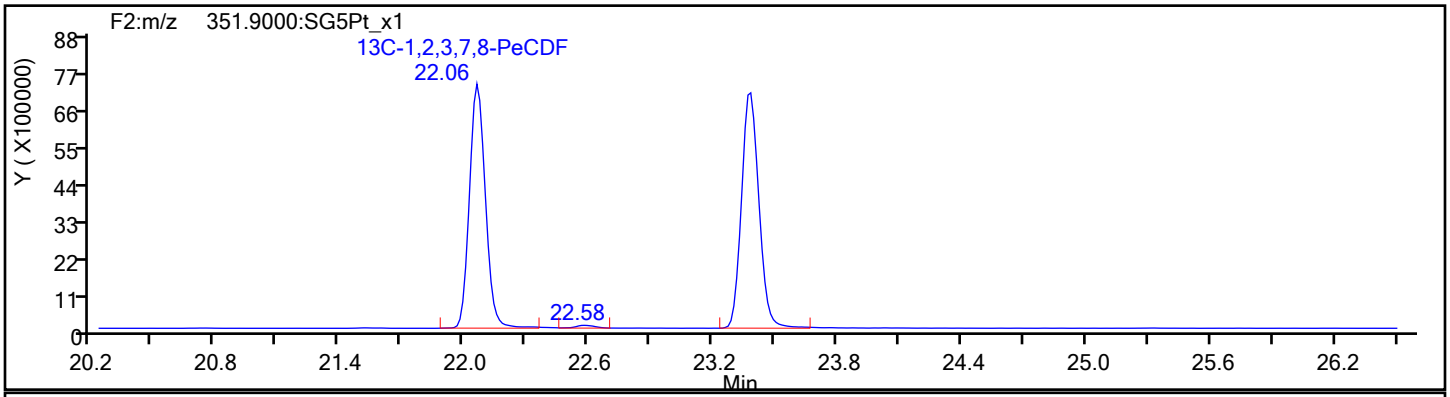

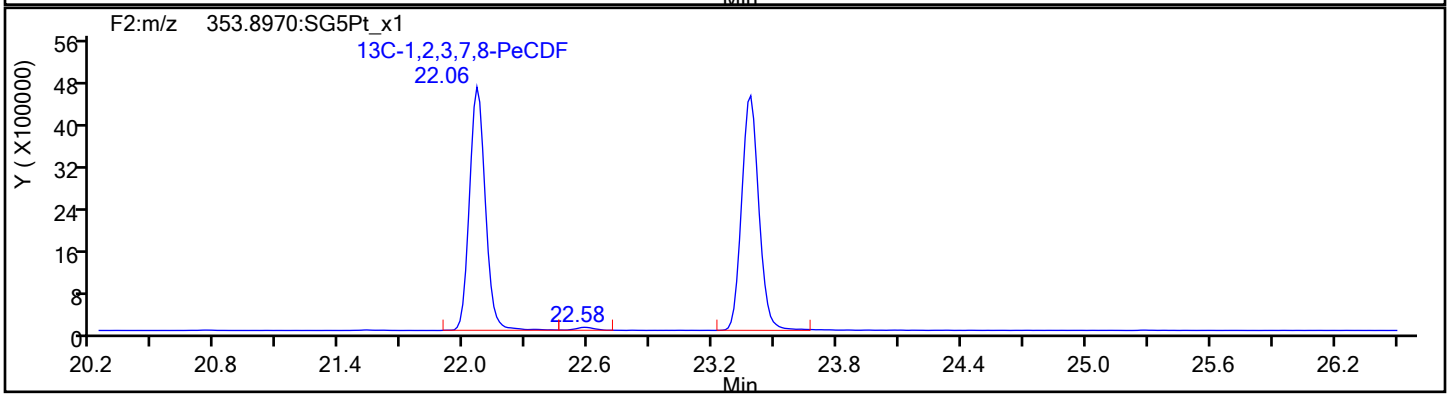

Report Date: 15-Jan-2020 12:49:10 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_22.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Worklist#:	350523	Sample Line#:	22
Column Type:	DB-5	Column Dia:	0.32 mm

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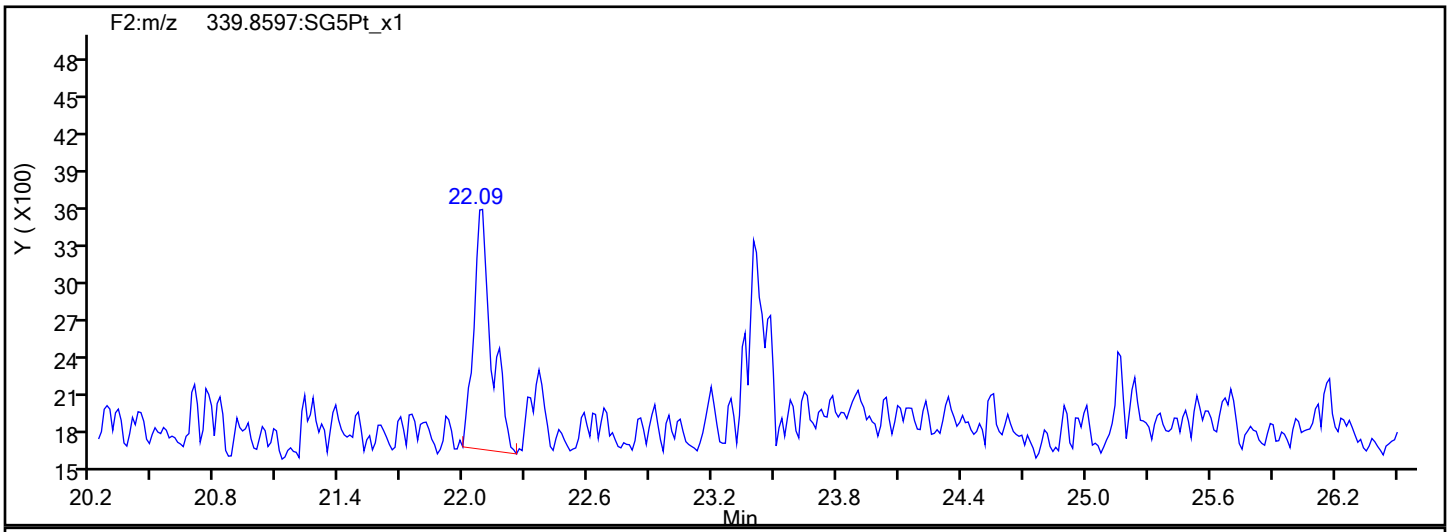

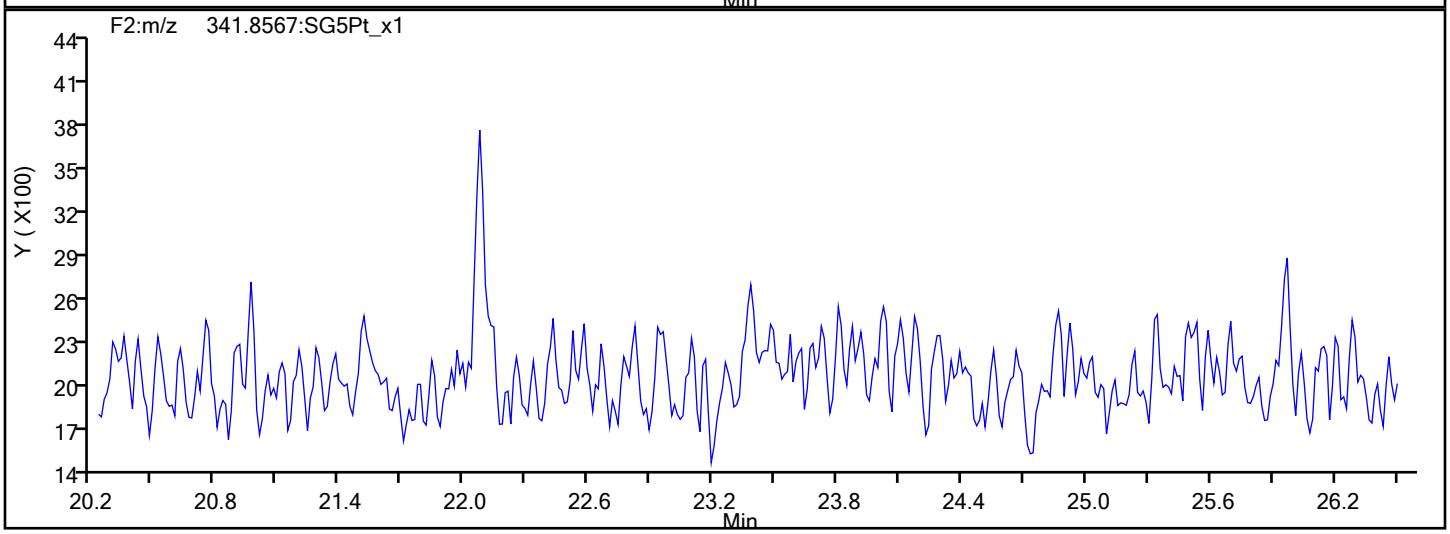

PeCDF Interference Mass

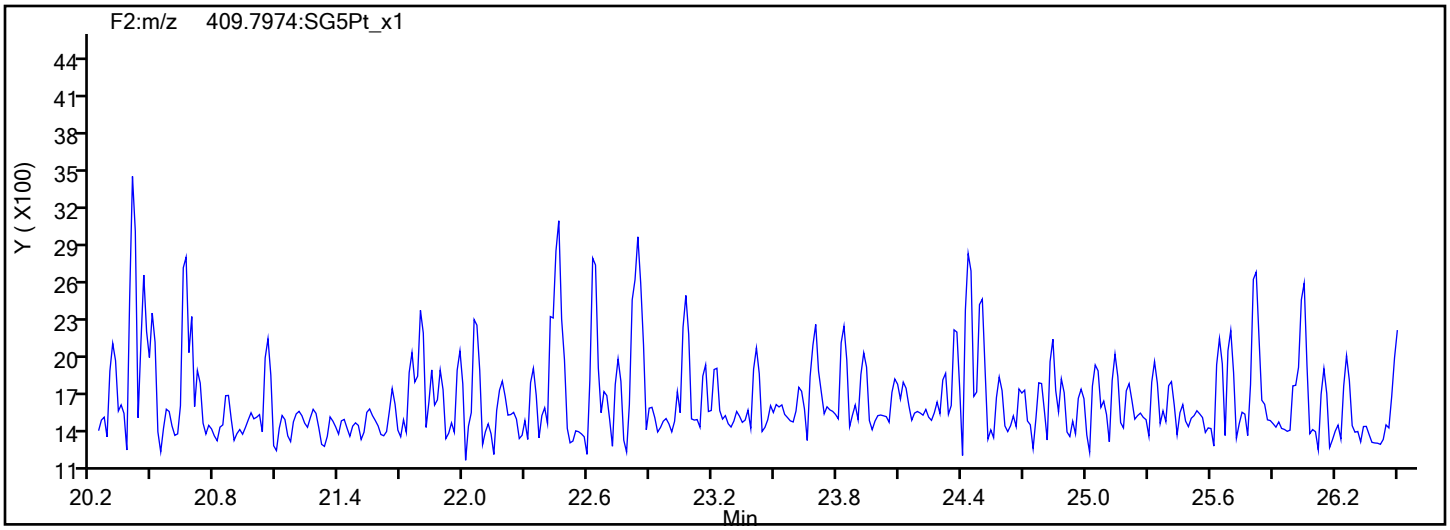

Report Date: 15-Jan-2020 12:49:10 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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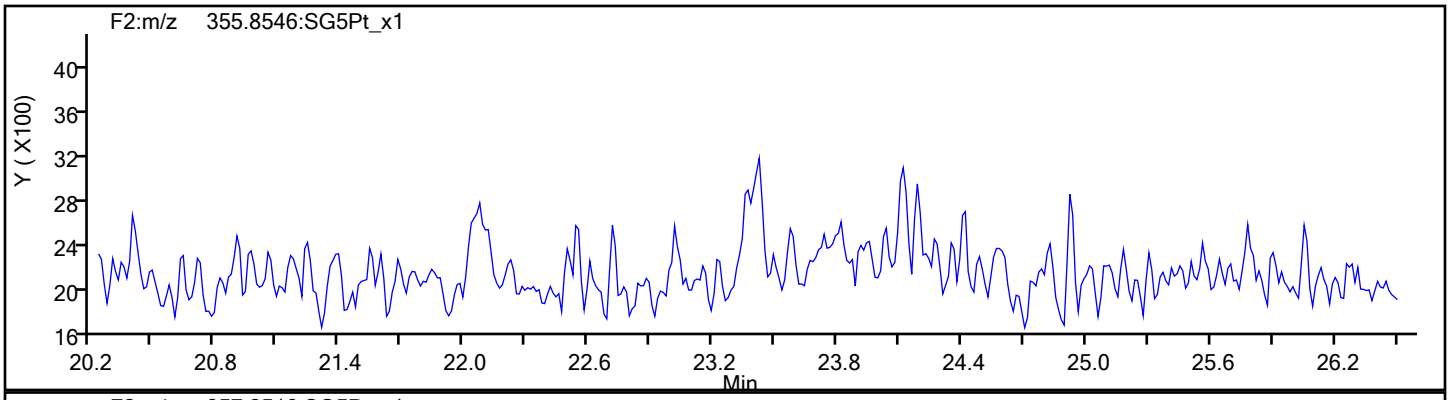

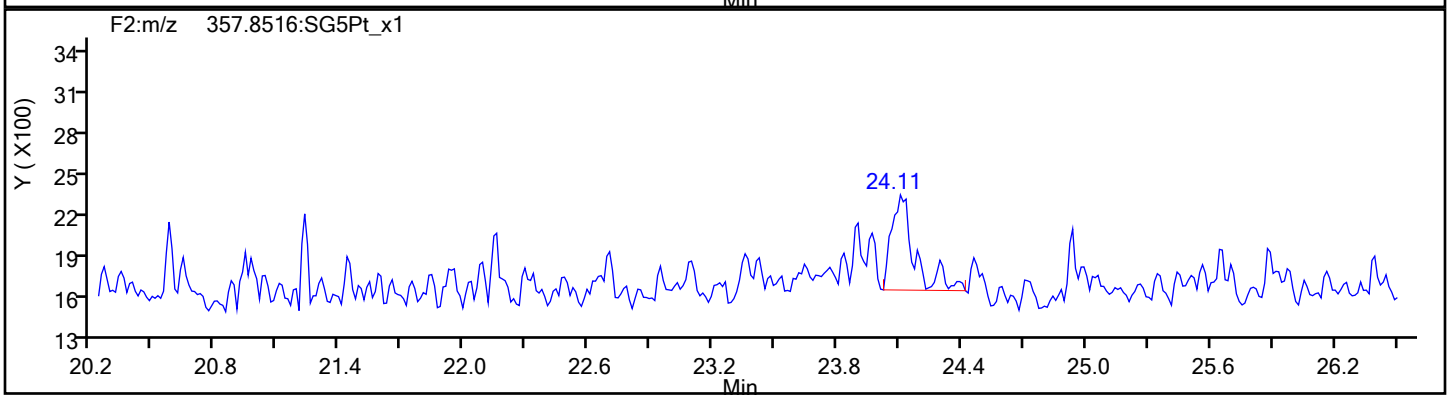

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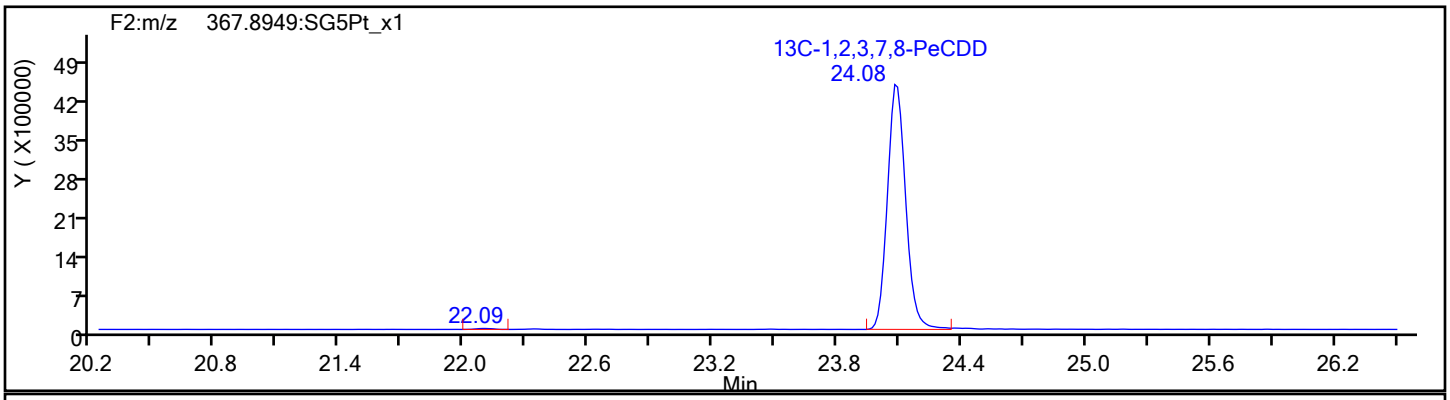

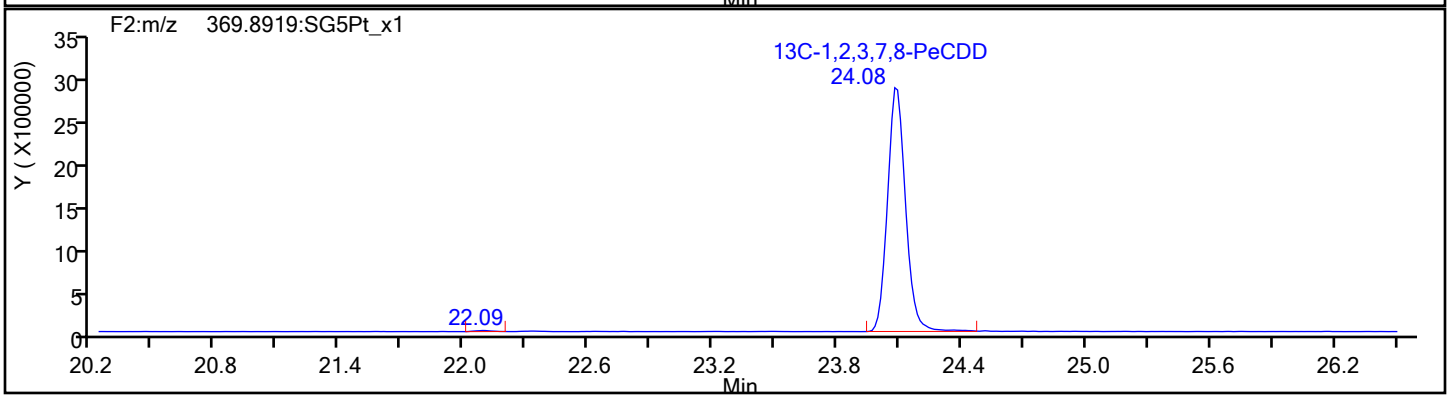

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Eurofins TestAmerica, Sacramento

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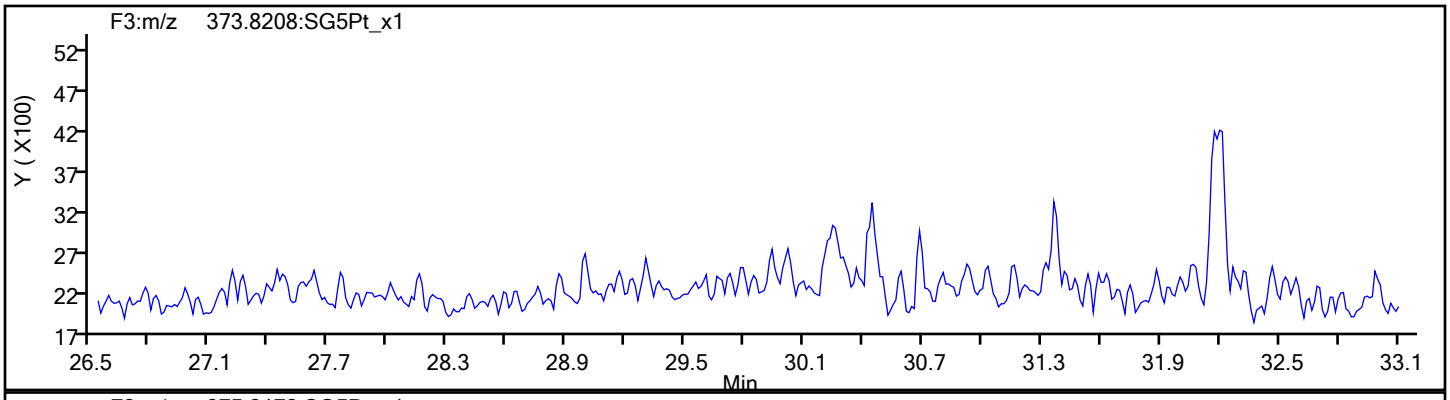

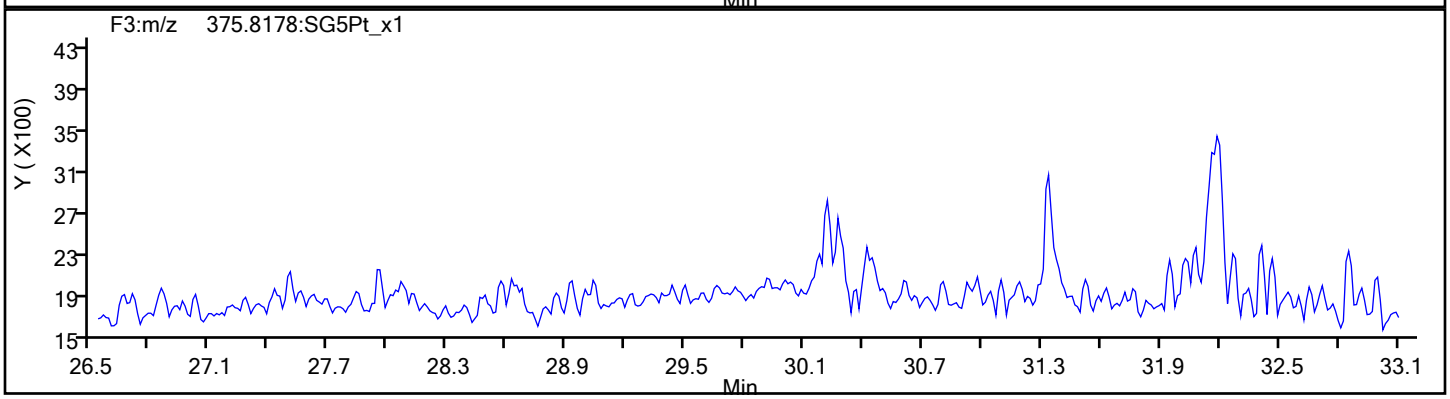

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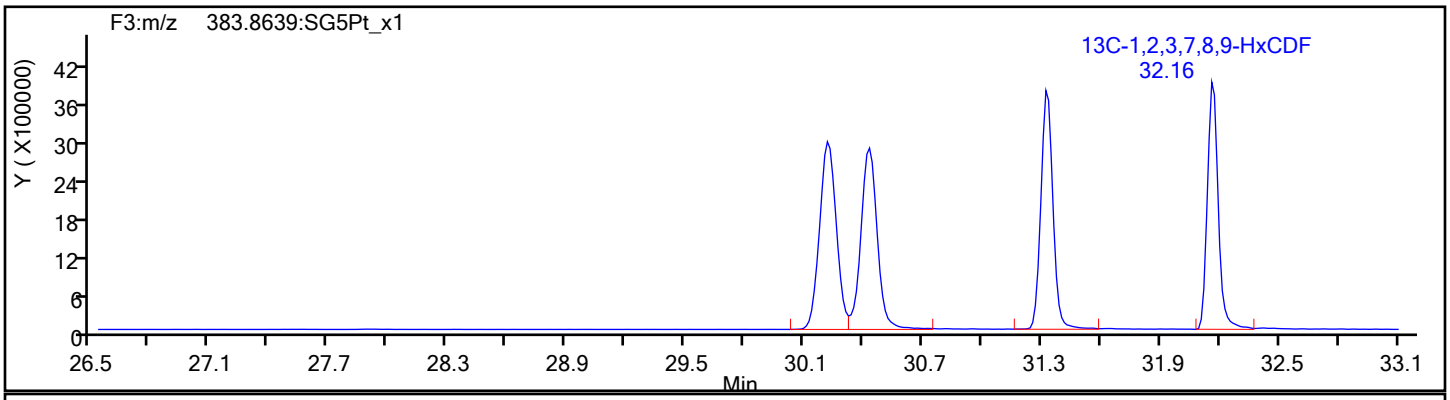

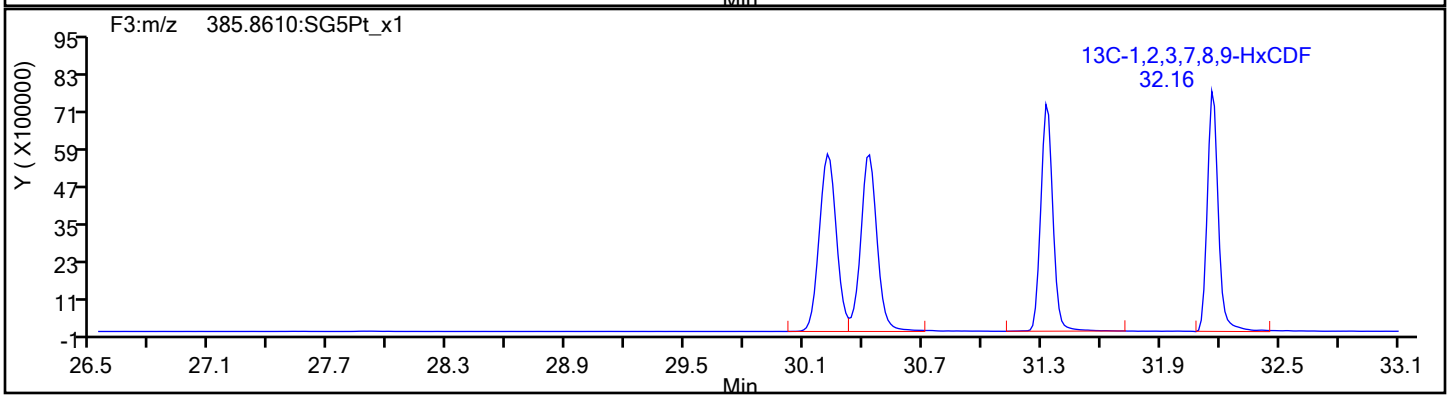

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Eurofins TestAmerica, Sacramento

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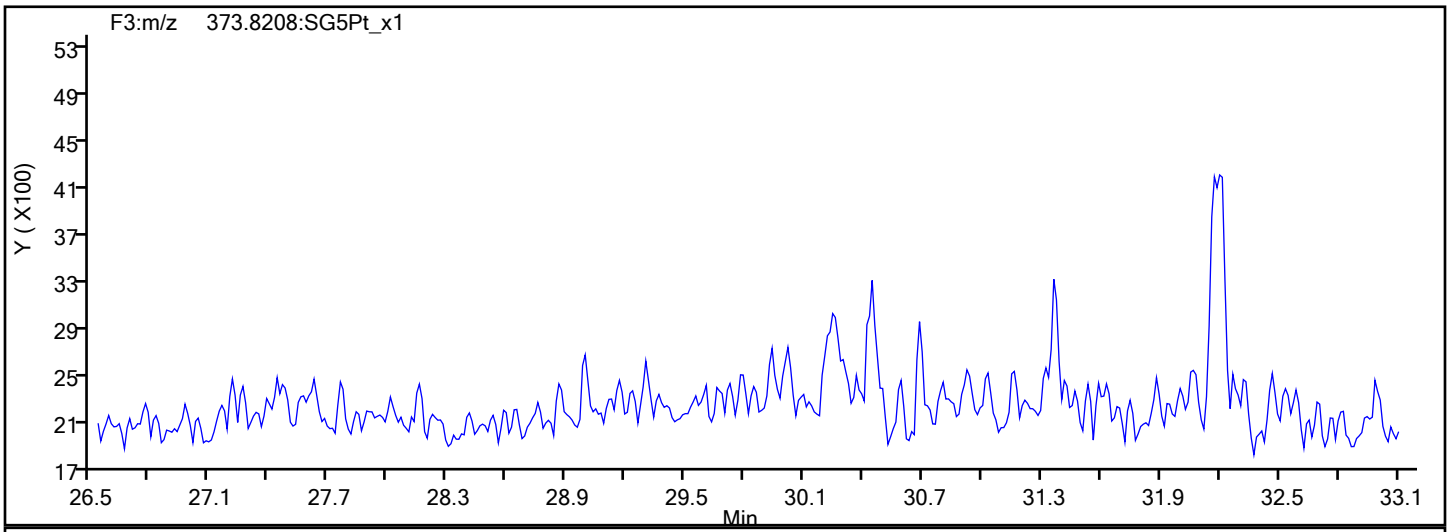

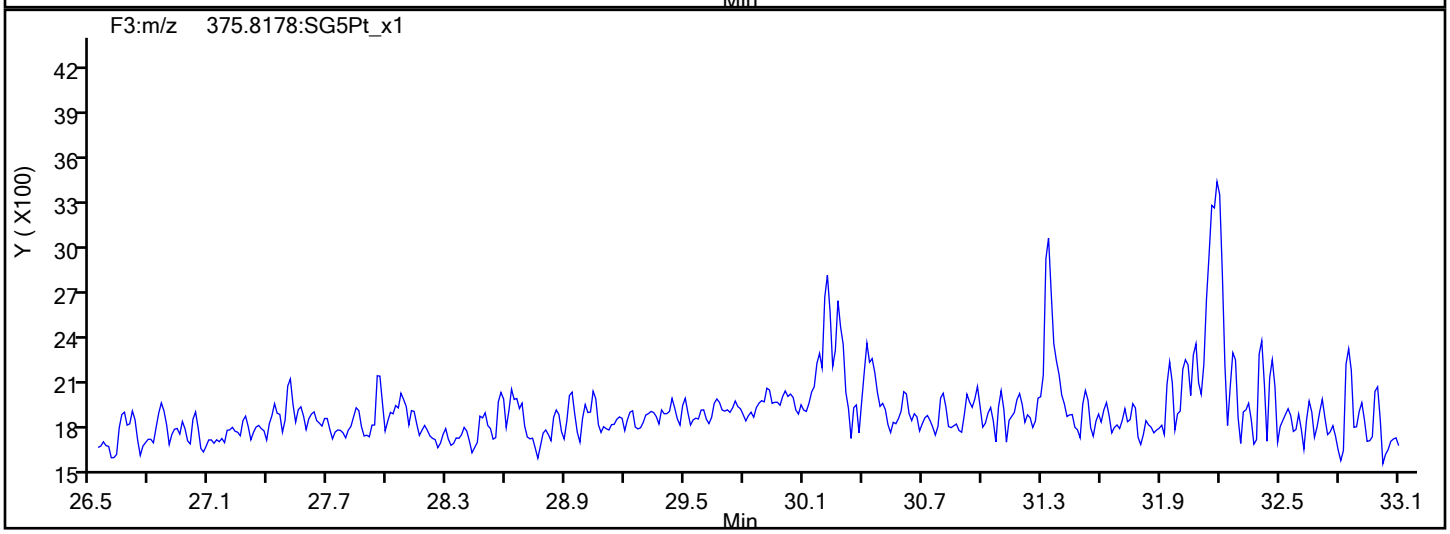

HxCDF Interference Mass

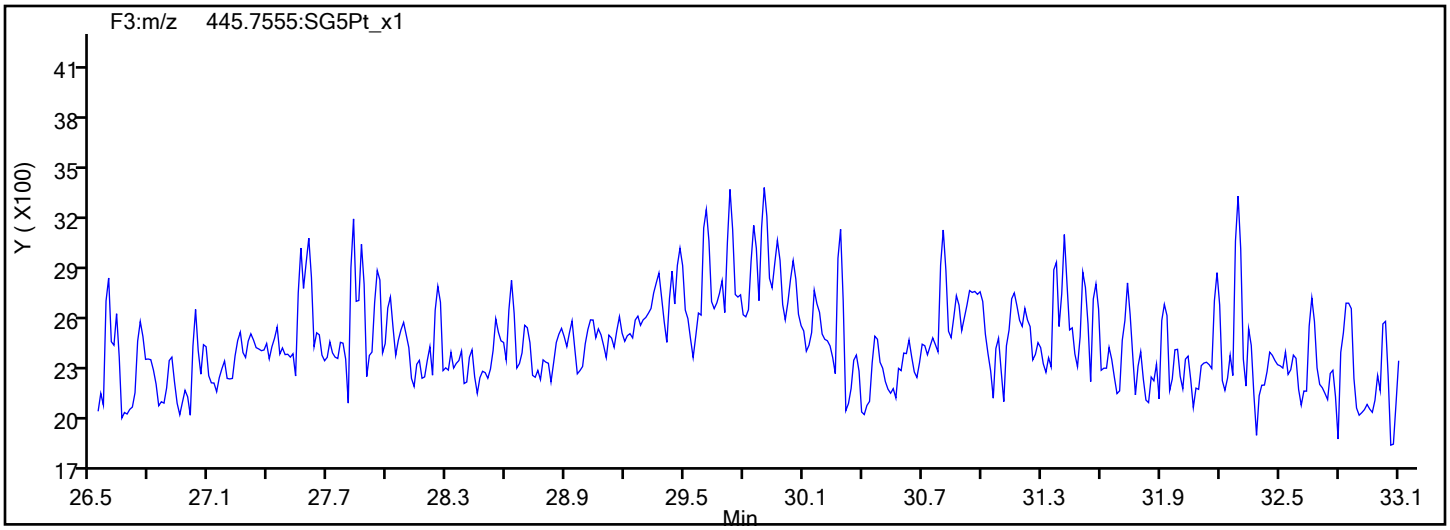

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Eurofins TestAmerica, Sacramento

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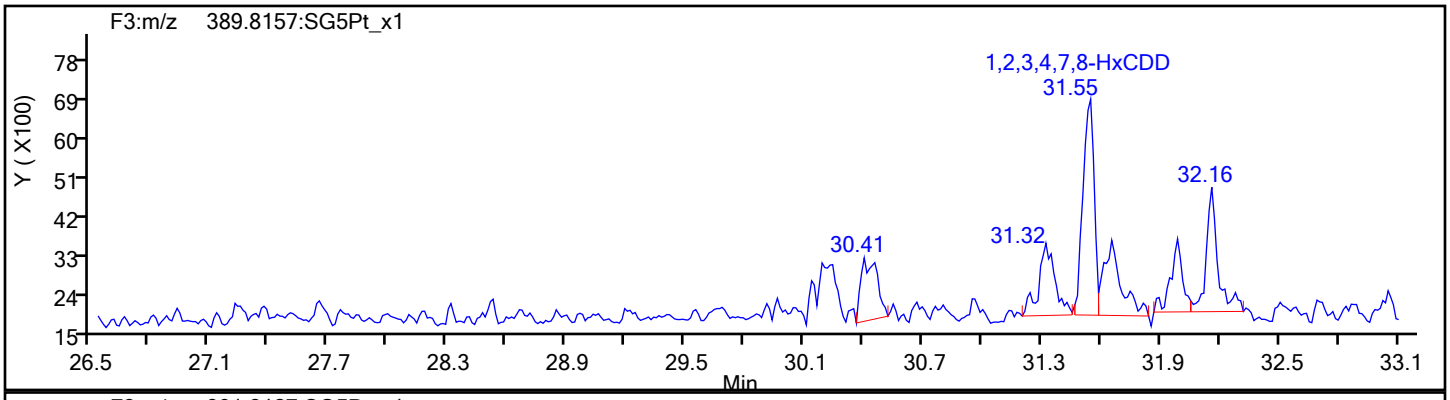

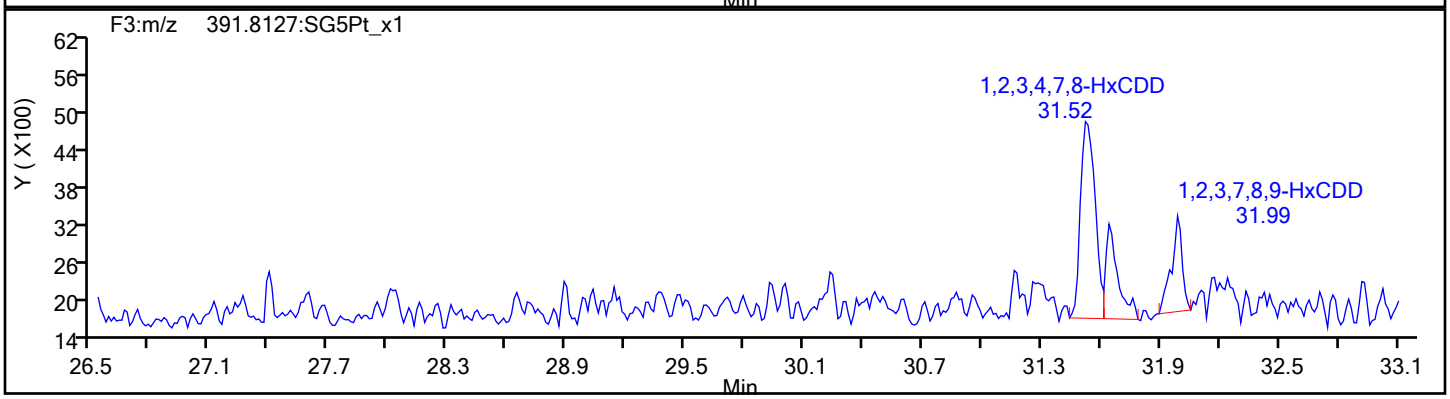

HxCDD Standards

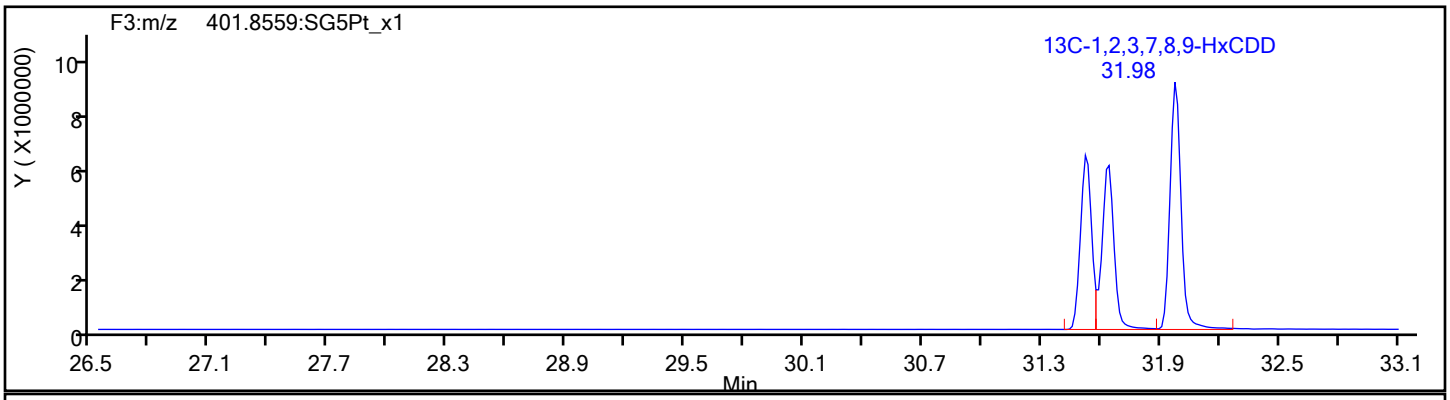

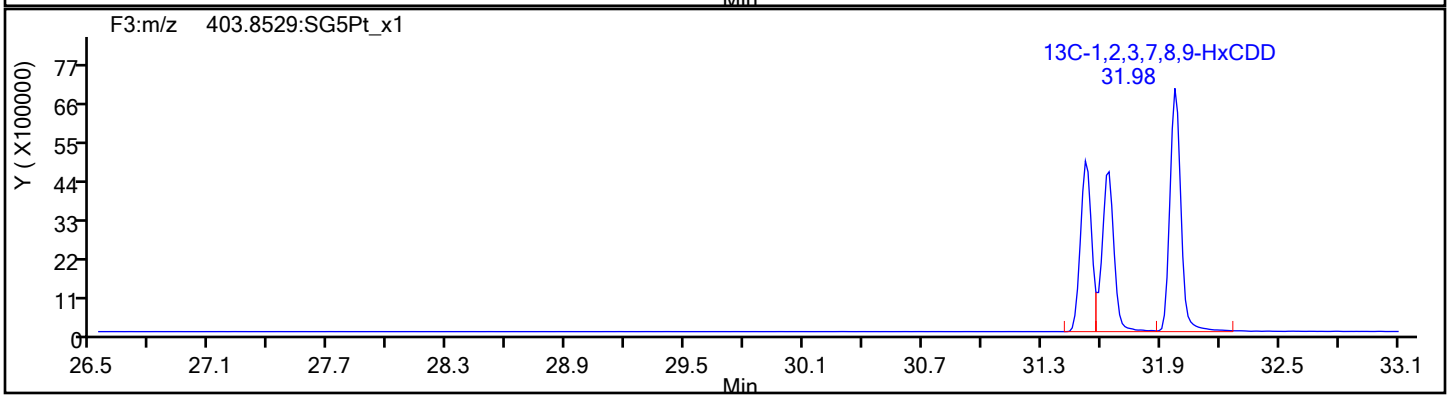

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Eurofins TestAmerica, Sacramento

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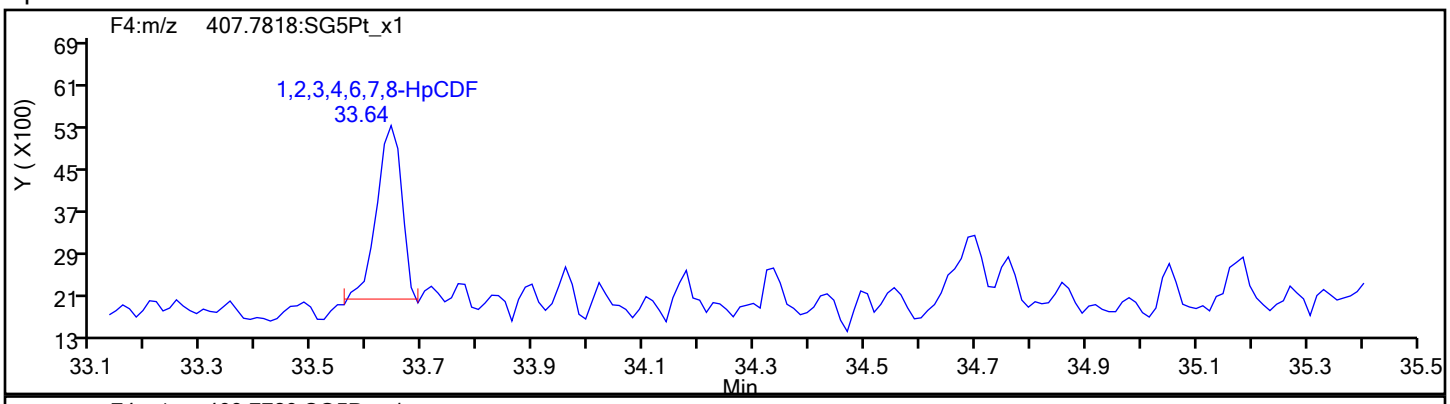

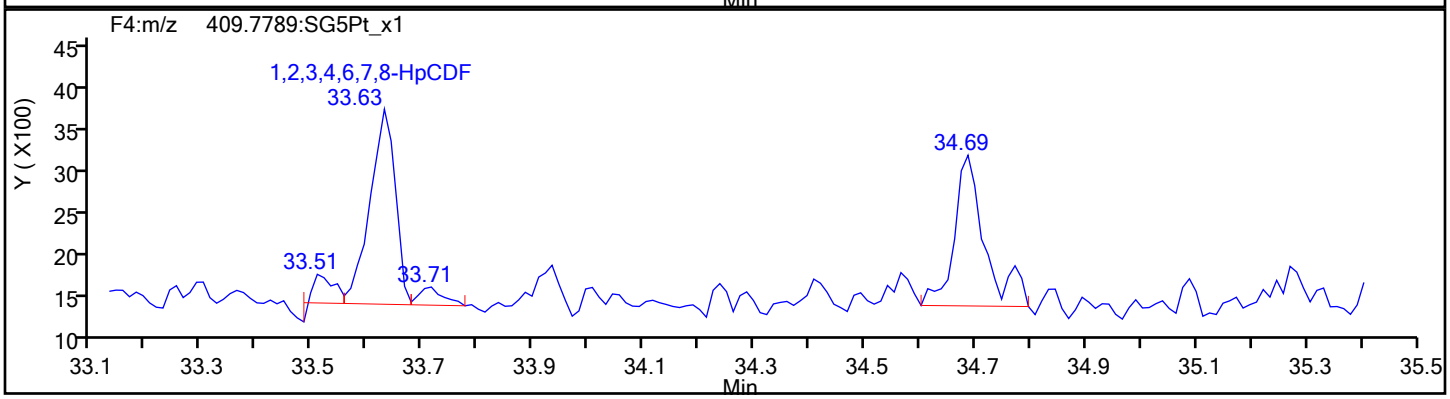

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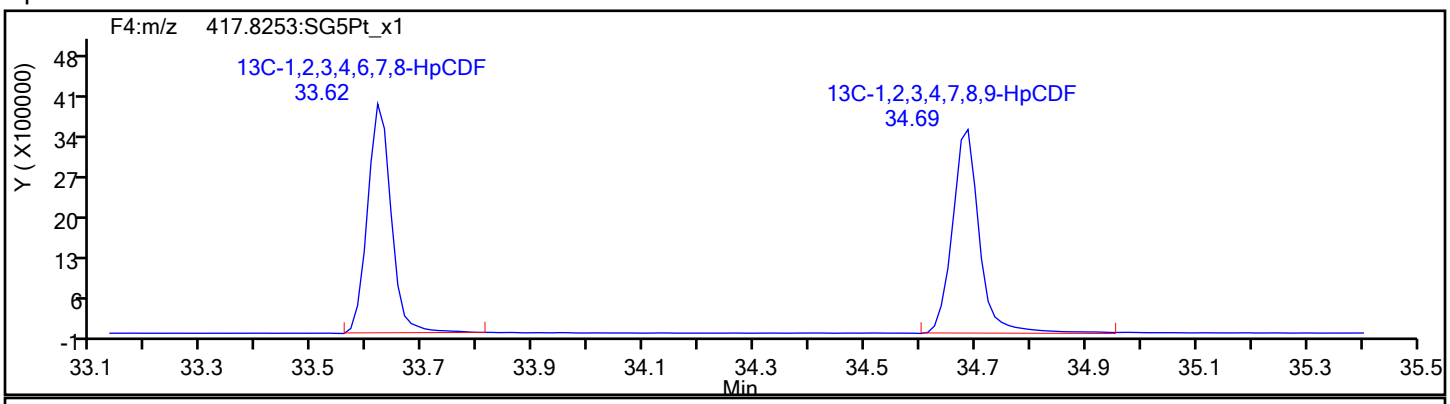

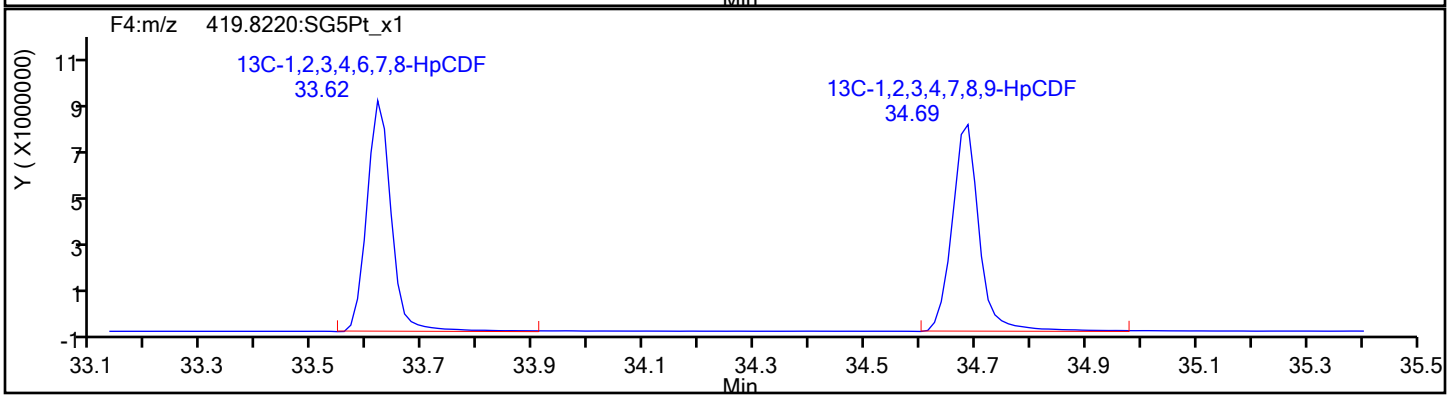

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Eurofins TestAmerica, Sacramento

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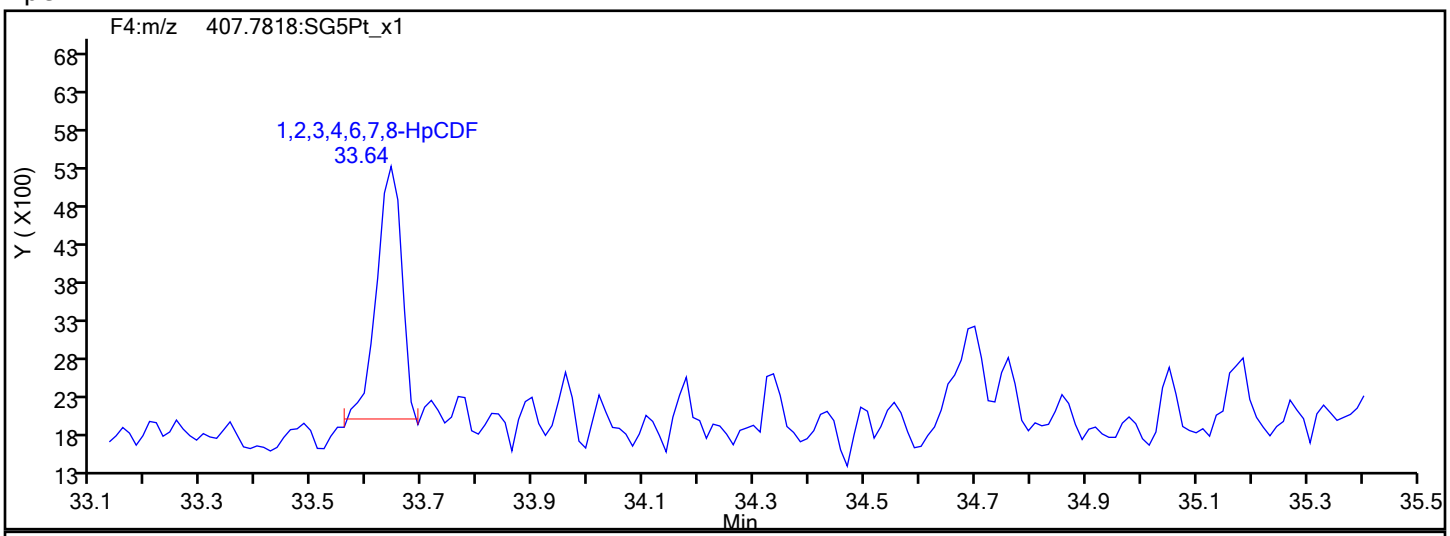

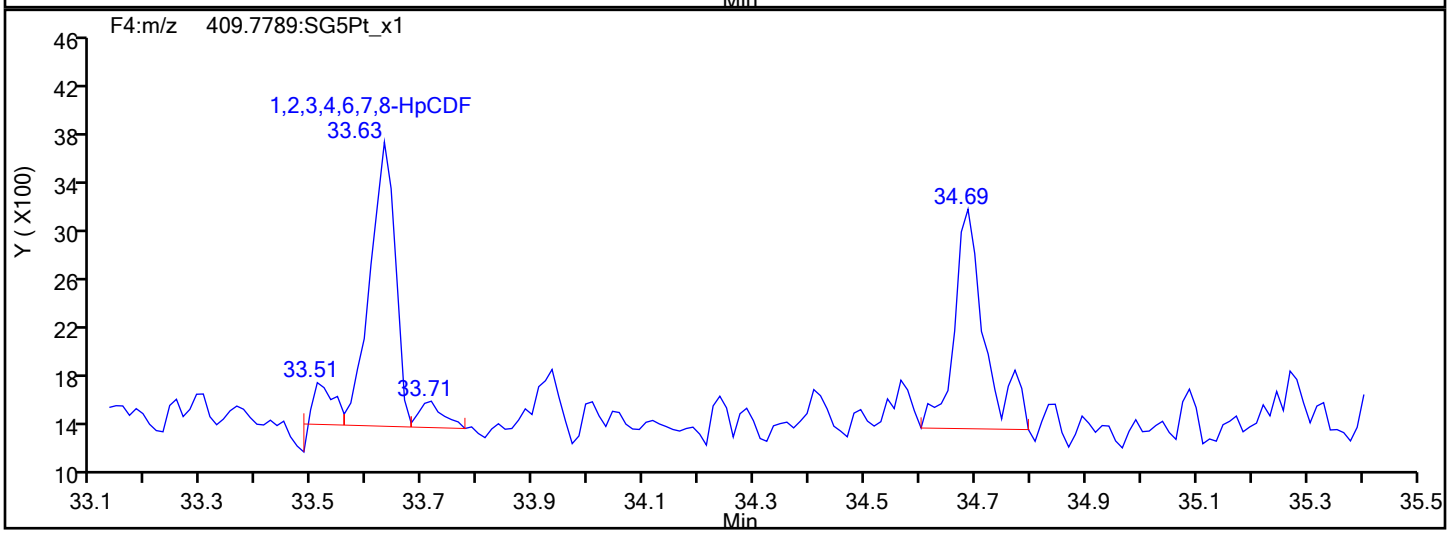

HpCDF Interference Mass

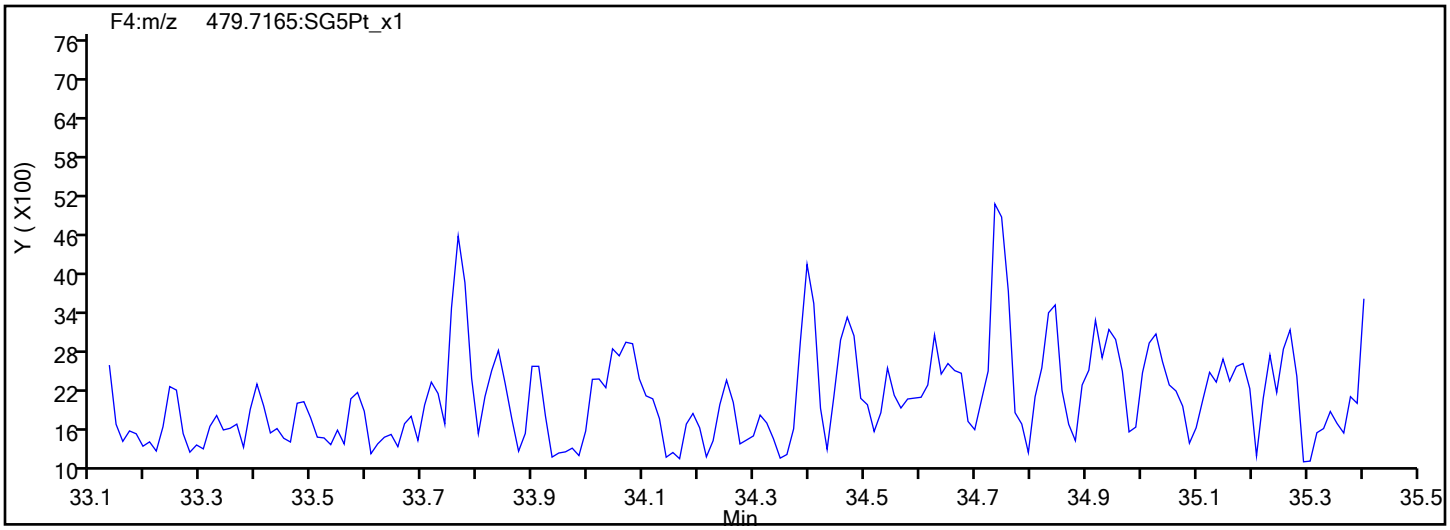

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Eurofins TestAmerica, Sacramento

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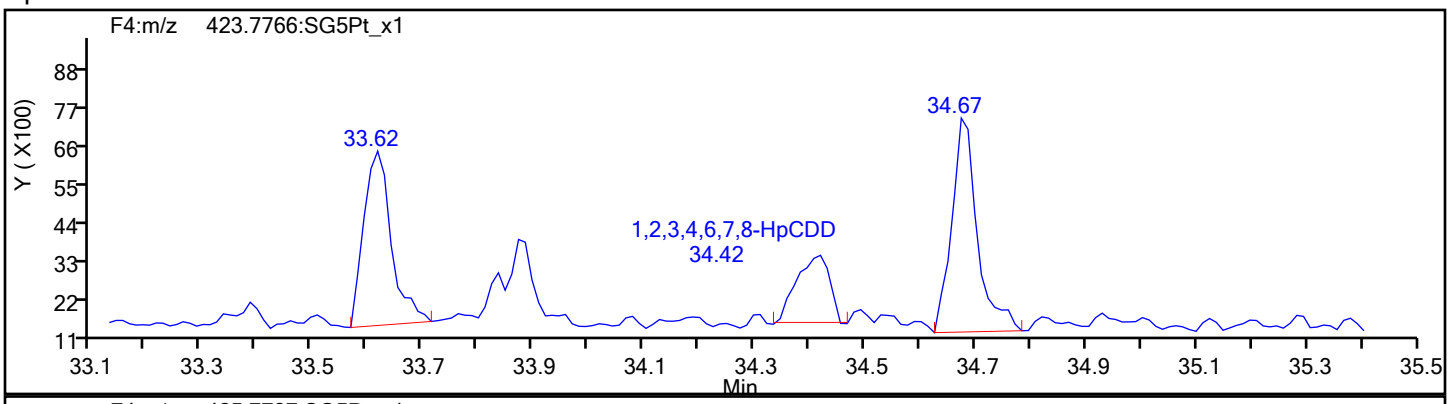

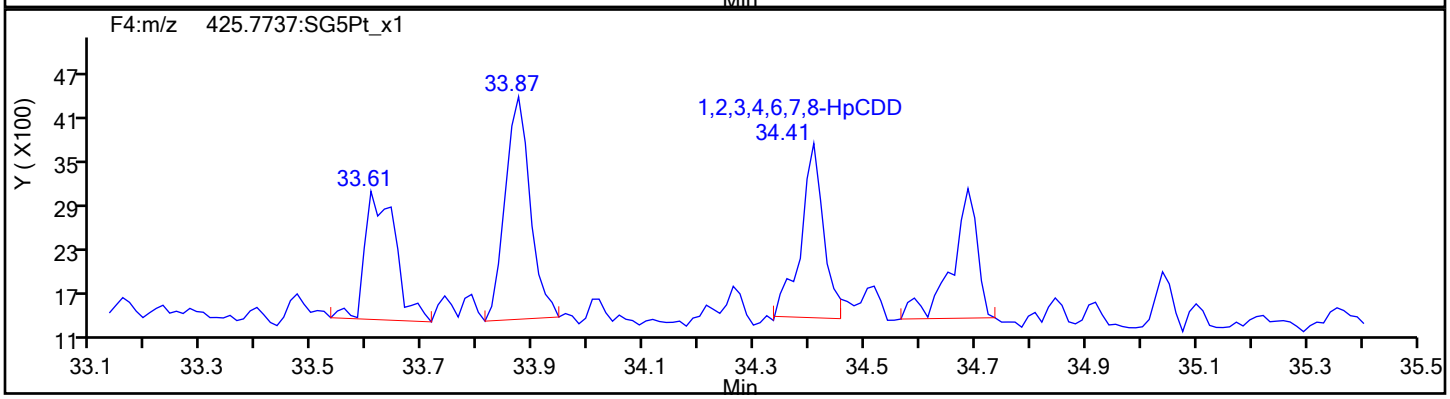

HpCDD Standards

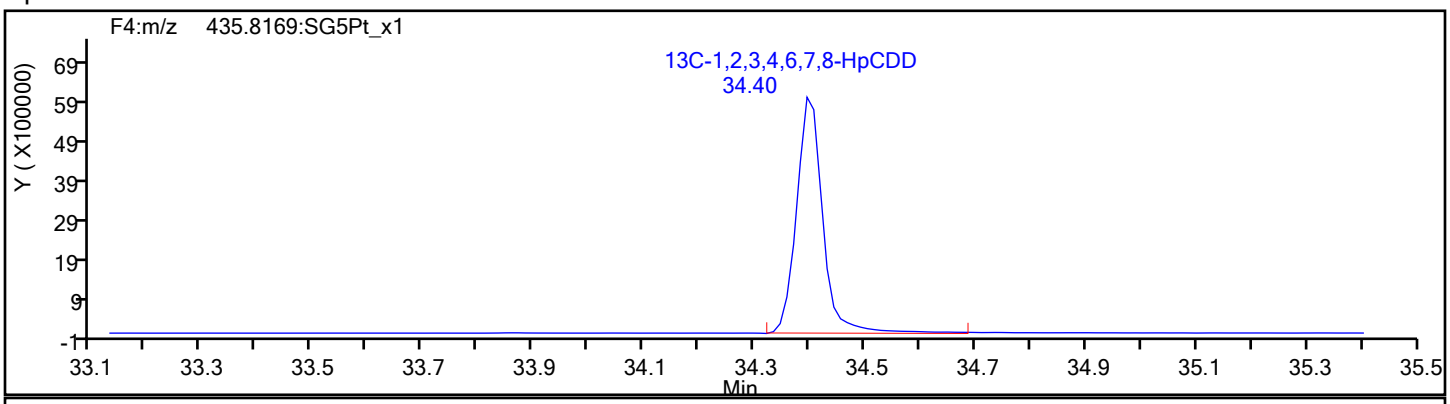

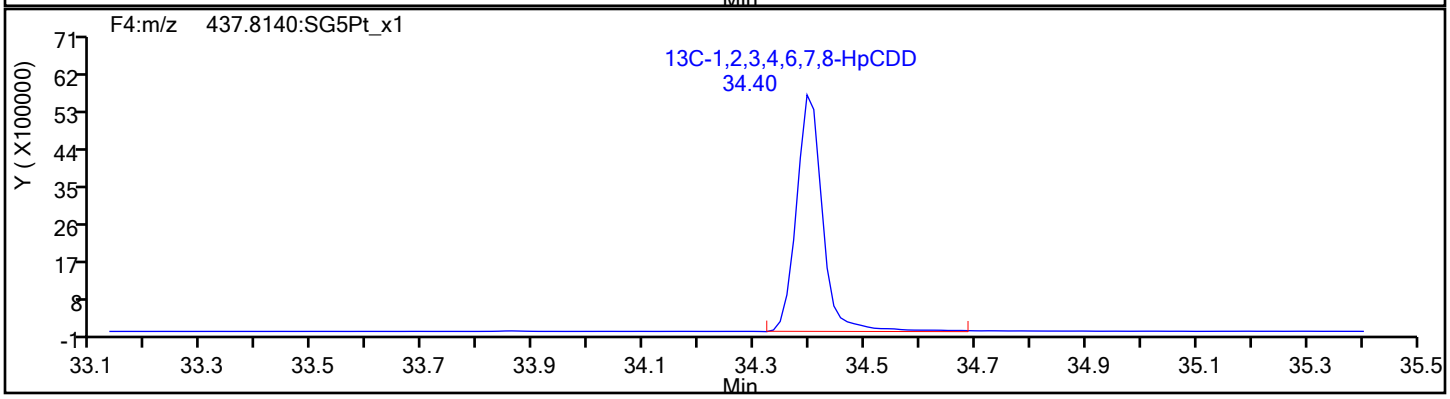

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Eurofins TestAmerica, Sacramento

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OCDF

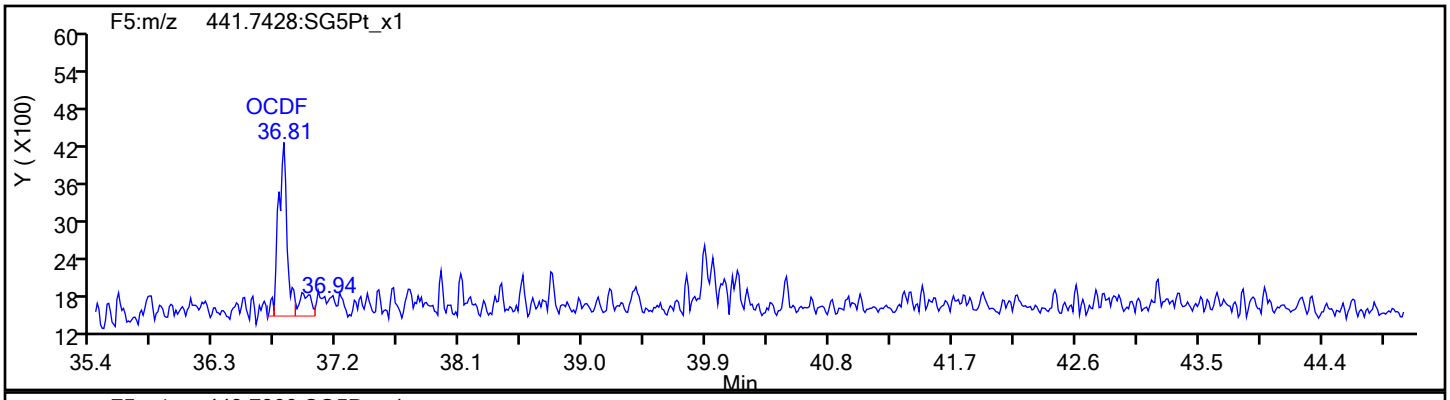

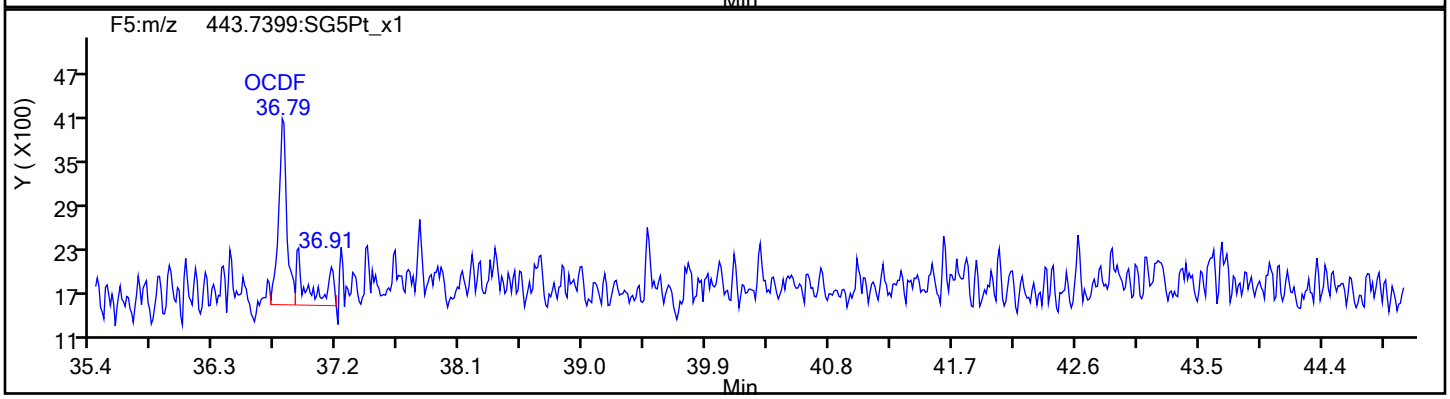

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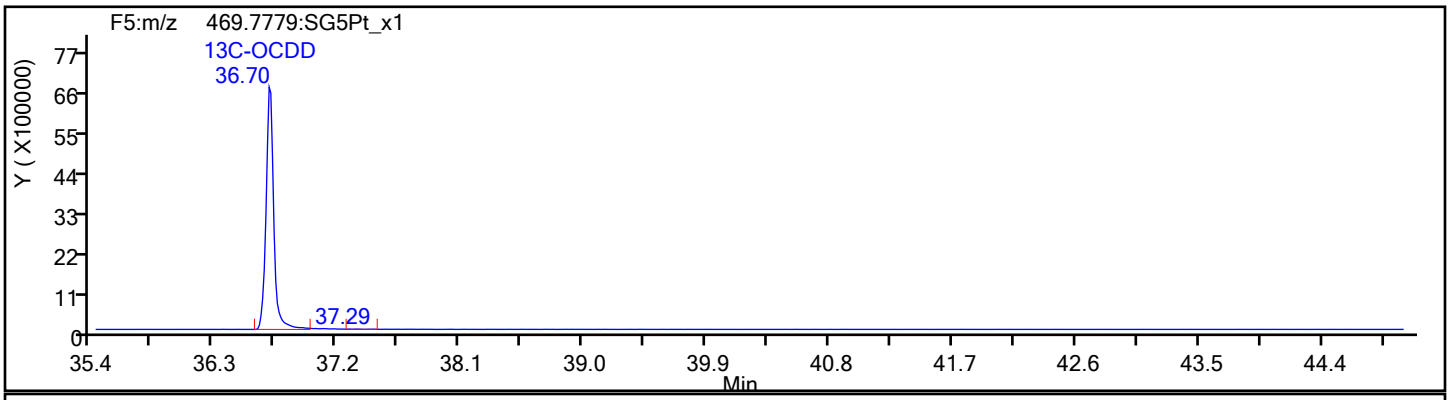

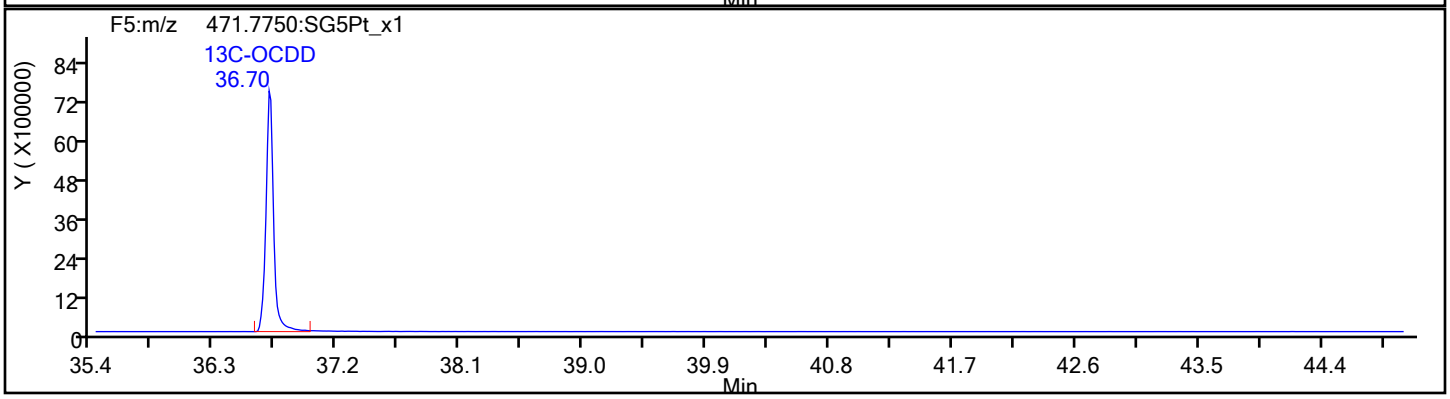

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Eurofins TestAmerica, Sacramento

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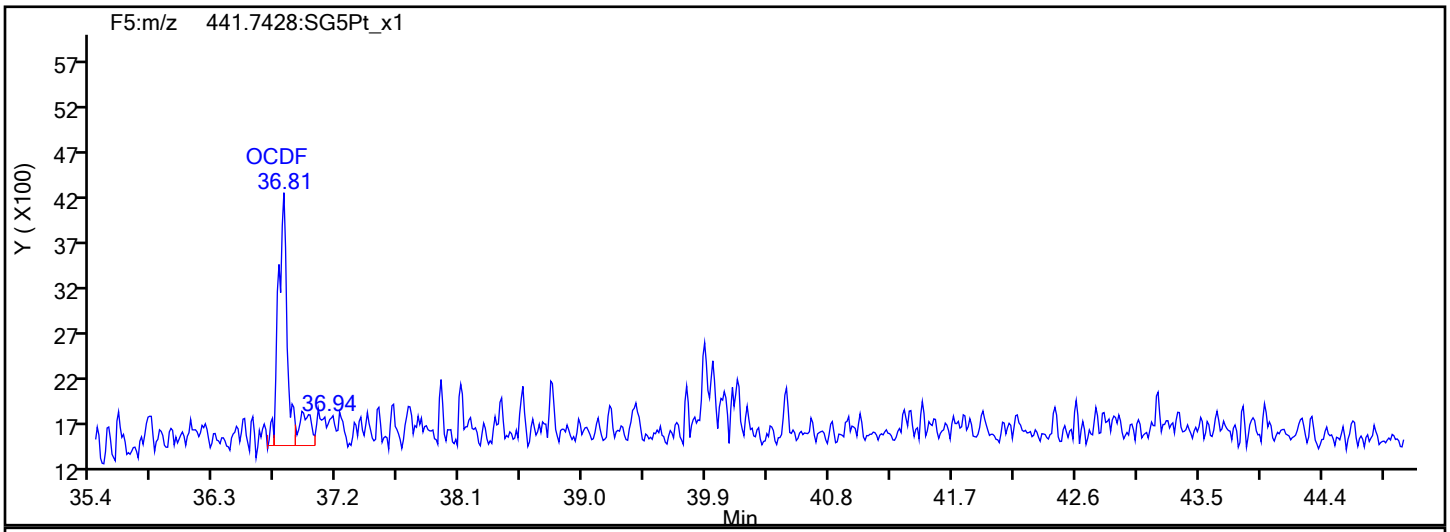

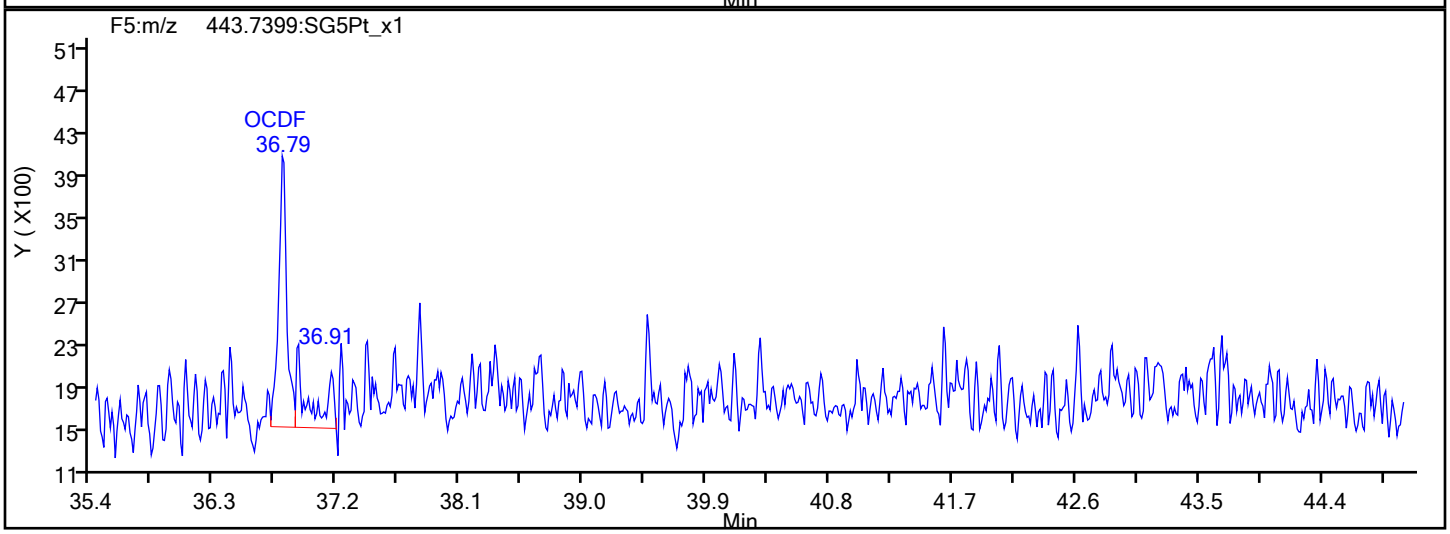

OCDF Interference Mass

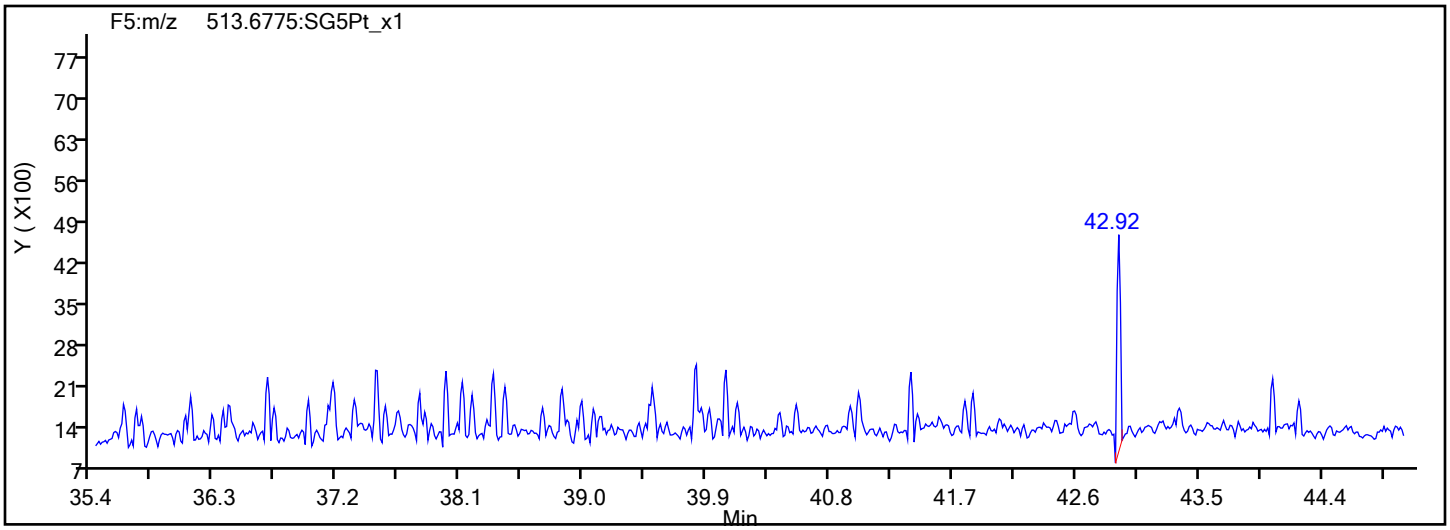

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Eurofins TestAmerica, Sacramento

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OCDD

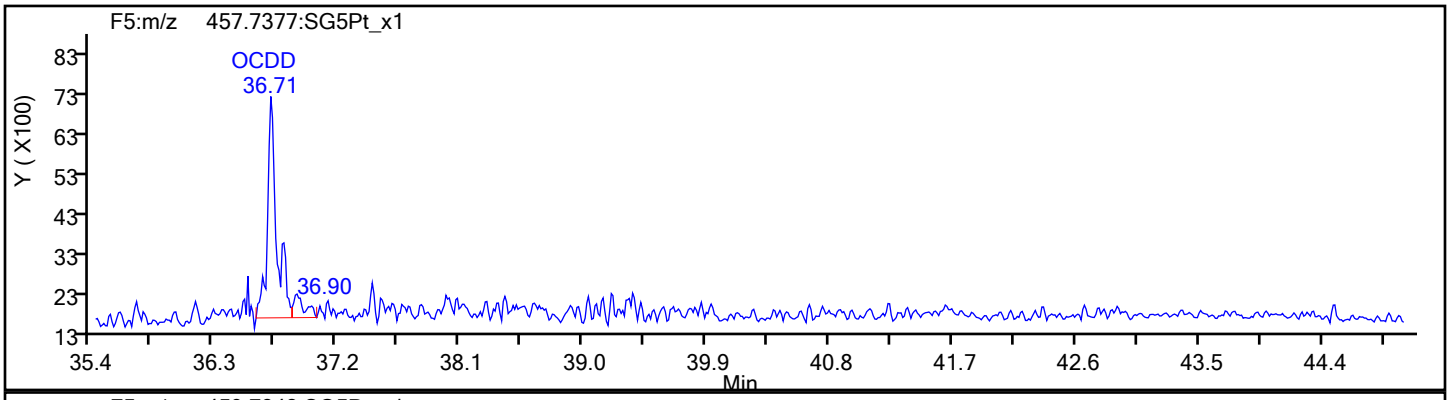

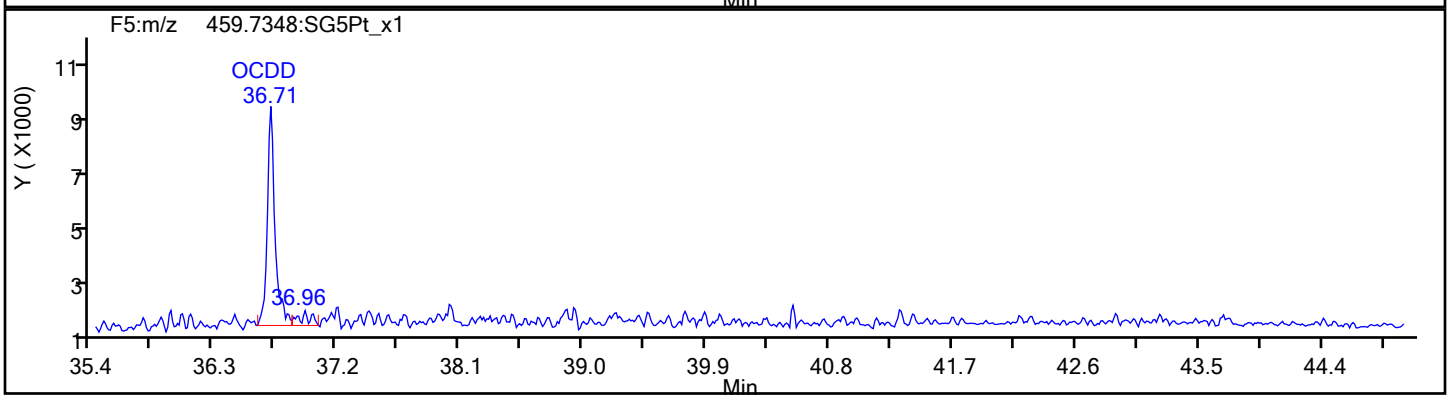

OCDD Standards

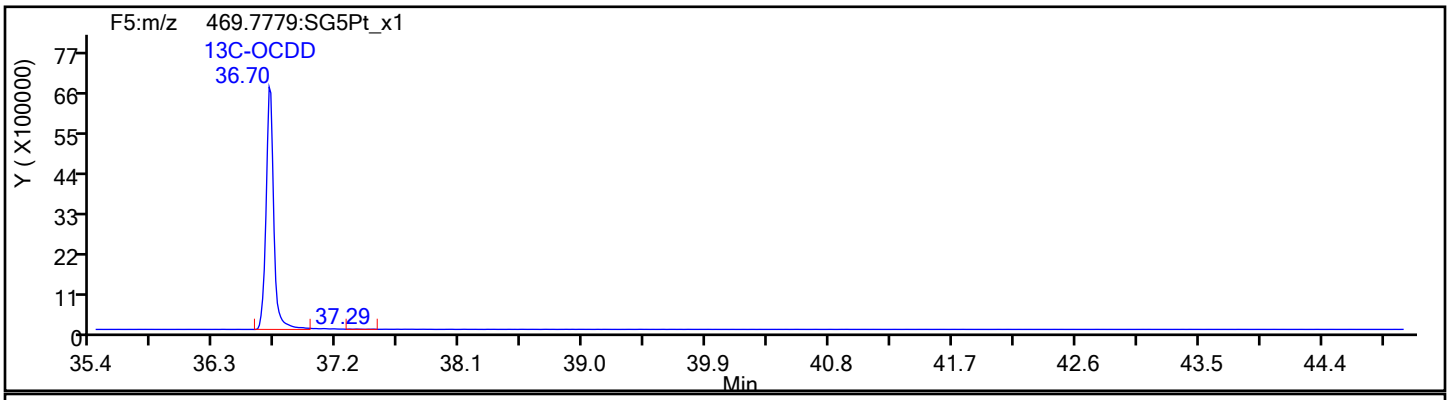

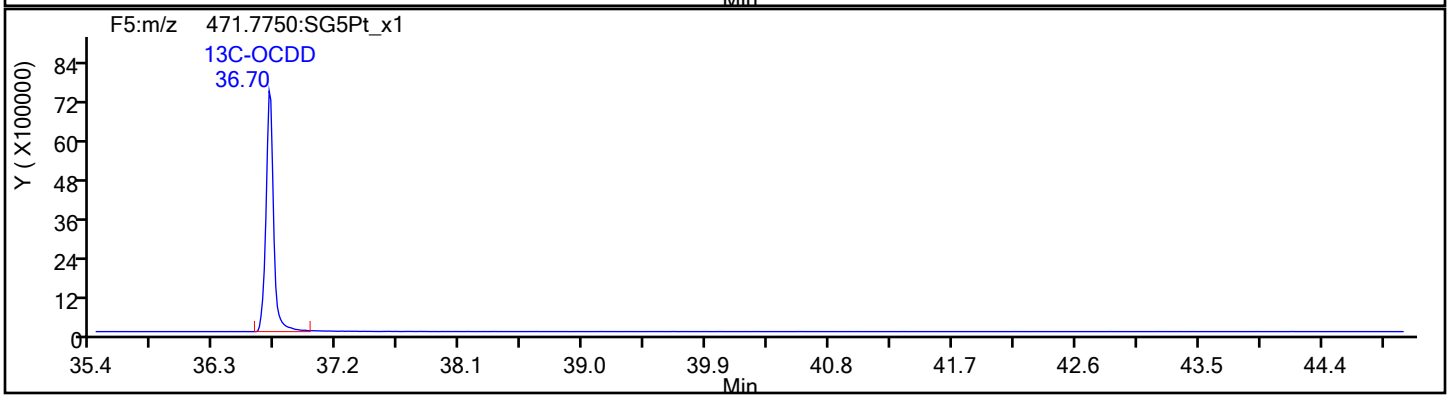

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Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_22.d		
Injection Date:	14-Jan-2020 05:12:12	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-0.45um		
Worklist#:	350523	Sample Line#:	22
Column Type:	DB-5	Column Dia:	0.32 mm

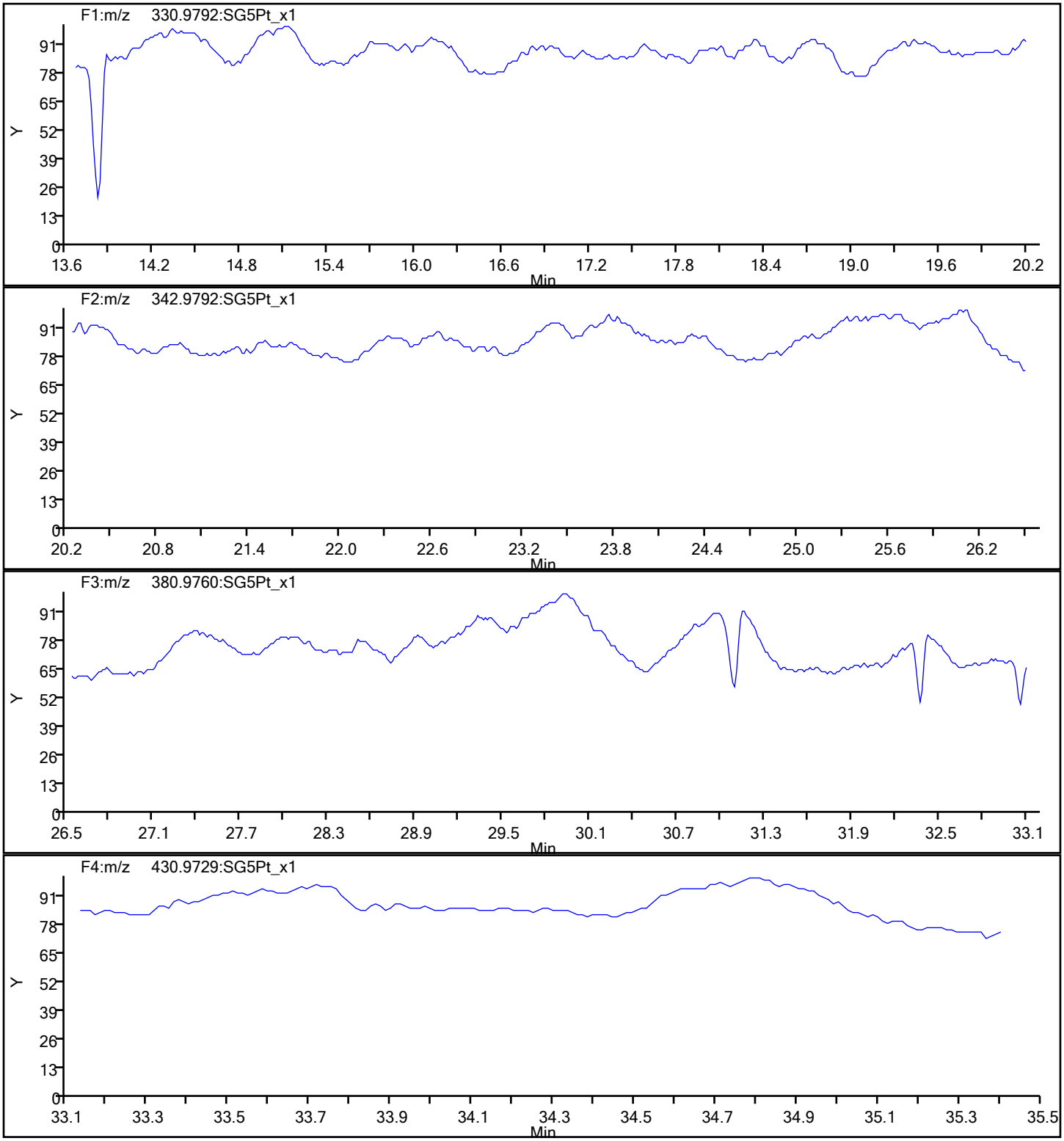

Report Date: 15-Jan-2020 12:49:19 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_22.d		
Injection Date:	14-Jan-2020 05:12:12	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-0.45um		
Worklist#:	350523	Sample Line#:	22
Column Type:	DB-5	Column Dia:	0.32 mm

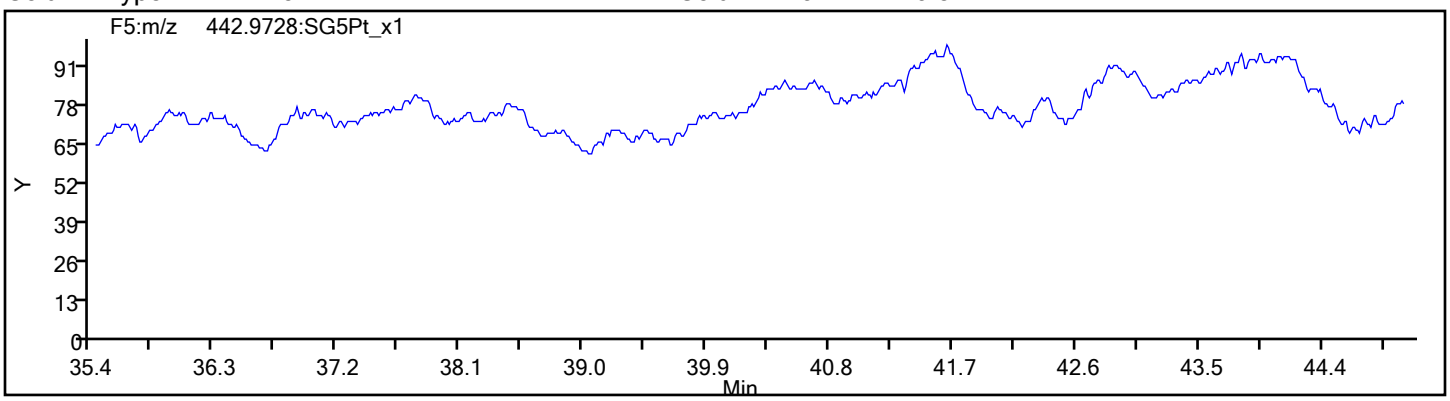

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57624-1

SDG No.:

Client Sample ID: 11187072-FEFF-1um Lab Sample ID: 320-57624-3

Matrix: Water Lab File ID: 13JA2010D5_23.d

Analysis Method: 1613B Date Collected: 01/09/2020 12:00

Extract. Method: 1613B Date Extracted: 01/13/2020 11:12

Sample wt/vol: 1056.7(mL) Date Analyzed: 01/14/2020 05:58

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 350523 Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		9.5	0.40
51207-31-9	2,3,7,8-TCDF	ND		9.5	0.22
40321-76-4	1,2,3,7,8-PeCDD	ND		47	0.40
57117-41-6	1,2,3,7,8-PeCDF	ND		47	0.25
57117-31-4	2,3,4,7,8-PeCDF	ND		47	0.26
39227-28-6	1,2,3,4,7,8-HxCDD	1.8	J B	47	0.28
57653-85-7	1,2,3,6,7,8-HxCDD	ND		47	0.30
19408-74-3	1,2,3,7,8,9-HxCDD	ND		47	0.26
70648-26-9	1,2,3,4,7,8-HxCDF	ND		47	0.40
57117-44-9	1,2,3,6,7,8-HxCDF	ND		47	0.41
72918-21-9	1,2,3,7,8,9-HxCDF	ND		47	0.29
60851-34-5	2,3,4,6,7,8-HxCDF	ND		47	0.30
35822-46-9	1,2,3,4,6,7,8-HpCDD	1.1	J B	47	0.22
67562-39-4	1,2,3,4,6,7,8-HpCDF	0.51	J q B	47	0.24
55673-89-7	1,2,3,4,7,8,9-HpCDF	ND		47	0.29
3268-87-9	OCDD	9.3	J B	95	0.37
39001-02-0	OCDF	1.5	J	95	0.36
41903-57-5	Total TCDD	ND		9.5	0.40
30402-14-3	Total TCDF	ND		9.5	0.22
36088-22-9	Total PeCDD	ND		47	0.40
30402-15-4	Total PeCDF	ND		47	0.30
34465-46-8	Total HxCDD	1.8	J B	47	0.28
55684-94-1	Total HxCDF	ND		47	0.41
37871-00-4	Total HpCDD	2.5	J B	47	0.22
38998-75-3	Total HpCDF	0.51	J q B	47	0.27

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57624-1

SDG No.:

Client Sample ID: 11187072-FEFF-1um Lab Sample ID: 320-57624-3

Matrix: Water Lab File ID: 13JA2010D5_23.d

Analysis Method: 1613B Date Collected: 01/09/2020 12:00

Extract. Method: 1613B Date Extracted: 01/13/2020 11:12

Sample wt/vol: 1056.7(mL) Date Analyzed: 01/14/2020 05:58

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 350523 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	80		25-164
89059-46-1	13C-2,3,7,8-TCDF	81		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	85		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	85		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	92		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	91		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	77		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	84		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	74		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	79		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	78		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	79		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	77		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	87		26-138
114423-97-1	13C-OCDD	76		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	97		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_23.d
Lims ID: 320-57624-A-3-A
Client ID: 11187072-FEFF-1um
Sample Type: Client
Inject. Date: 14-Jan-2020 05:58:10 ALS Bottle#: 48 Worklist Smp#: 23
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-57624-A-3-A 320-57624-A-3-A
Misc. Info.: 13JA2010D5
Operator ID: SMA/ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 15-Jan-2020 12:51:15 Calib Date: 14-Nov-2019 12:50:49
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0339

First Level Reviewer: arghestanis Date: 14-Jan-2020 13:32:33

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.635	75486067	0.79	1.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.136	81240582	0.77	1.3318	80.8	80.8	0.1485	0.1485	80.81	
2,3,7,8-TCDF	17.121						0.0119	0.0119		
A Non-2,3,7,8-sub-TCDF	16.826						0.0119	0.0119		
S Total TCDF							0.0119	0.0119		
D 13C-2,3,7,8-TCDD	17.831	58266433	0.79	0.9647	80.0	80.0	0.1533	0.1533	80.01	
2,3,7,8-TCDD	17.816						0.0210	0.0210		
$ 37Cl4-2,3,7,8-TCDD	17.847	38236934		1.3082	38.7	38.7	0.0488	0.0488	96.80	
A Non-2,3,7,8-sub-TCDD	17.272						0.0210	0.0210		
S Total TCDD							0.0210	0.0210		
D 13C-1,2,3,7,8-PeCDF	22.060	67527490	1.58	1.0537	84.9	84.9	0.1543	0.1543	84.90	
1,2,3,7,8-PeCDF	22.032						0.0134	0.0134		
D 13C-2,3,4,7,8-PeCDF	23.382	70831618	1.58	1.0173	92.2	92.2	0.1599	0.1599	92.24	
2,3,4,7,8-PeCDF	23.396						0.0138	0.0138		
A F1 PeCDFs	19.676						0.0159	0.0159		
A Non-2,3,7,8-sub-PeCDF	22.763						0.0136	0.0136		
S Total PeCDF							0.0159	0.0159		
D 13C-1,2,3,7,8-PeCDD	24.078	46912607	1.54	0.7281	85.4	85.4	0.0848	0.0848	85.35	
1,2,3,7,8-PeCDD	24.064						0.0213	0.0213		
A Non-2,3,7,8-sub-PeCDD	22.980						0.0213	0.0213		
S Total PeCDD							0.0213	0.0213		
D 13C-1,2,3,4,7,8-HxCDF	30.219	53045679	0.50	0.9632	84.4	84.4	0.2048	0.2048	84.42	
1,2,3,4,7,8-HxCDF	30.192						0.0211	0.0211		
D 13C-1,2,3,6,7,8-HxCDF	30.431	51114241	0.50	1.0646	73.6	73.6	0.1853	0.1853	73.60	
1,2,3,6,7,8-HxCDF	30.405						0.0218	0.0218		
D 13C-2,3,4,6,7,8-HxCDF	31.323	49294305	0.50	0.9696	77.9	77.9	0.2034	0.2034	77.93	
2,3,4,6,7,8-HxCDF	31.310						0.0158	0.0158		
D 13C-1,2,3,7,8,9-HxCDF	32.162	46089400	0.50	0.8955	78.9	78.9	0.2203	0.2203	78.90	
1,2,3,7,8,9-HxCDF	32.162						0.0154	0.0154		
A Non-2,3,7,8-sub-HxCDF	29.873						0.0181	0.0181		
S Total HxCDF							0.0218	0.0218		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.976	65236521	1.27	8.8E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.523	44855985	1.26	0.7590	90.6	90.6	0.1792	0.1792	90.59	
1,2,3,4,7,8-HxCDD	31.536	43877	1.25	1.0054	0.0973	0.0973	0.0146	0.0146		M
D 13C-1,2,3,6,7,8-HxCDD	31.643	46170503	1.25	0.9247	76.5	76.5	0.1471	0.1471	76.53	
1,2,3,6,7,8-HxCDD	31.536						0.0161	0.0161		QMU
1,2,3,7,8,9-HxCDD	31.963						0.0138	0.0138		
A Non-2,3,7,8-sub-HxCDD	30.485						0.0147	0.0147		
S Total HxCDD					0.0973	0.0973	0.0148	0.0148		
D 13C-1,2,3,4,6,7,8-HpCDF	33.617	40040521	0.45	0.7930	77.4	77.4	0.7554	0.7554	77.40	
1,2,3,4,6,7,8-HpCDF	33.629	15514	1.04	1.4240	0.0331	0.0272	0.0127	0.0127		RQ
D 13C-1,2,3,4,7,8,9-HpCDF	34.687	41435342	0.44	0.7296	87.1	87.1	0.8211	0.8211	87.06	
1,2,3,4,7,8,9-HpCDF	34.675						0.0155	0.0155		
A Non-2,3,7,8-sub-HpCDF	34.140						0.0140	0.0140		
S Total HpCDF					0.0331	0.0272	0.0141	0.0141		RQ
D 13C-1,2,3,4,6,7,8-HpCDD	34.395	38646502	1.05	0.7532	78.7	78.7	0.2800	0.2800	78.66	
1,2,3,4,6,7,8-HpCDD	34.407	23062	1.03	1.0174	0.0587	0.0587	0.0116	0.0116		M
A Non-2,3,7,8-sub-HpCDD	34.122	28729	1.05	1.0174	0.0731	0.0731	0.0116	0.0731		
S Total HpCDD					0.1317	0.1317	0.0116	0.0116		
D 13C-OCDD	36.697	55389906	0.91	0.5621	151.1	151.1	0.0993	0.0993	75.53	
OCDF	36.793	29181	0.94	1.3047	0.0808	0.0808	0.0190	0.0190		M
OCDD	36.709	149310	0.92	1.0997	0.4903	0.4903	0.0198	0.0198		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_23.d
Lims ID: 320-57624-A-3-A
Client ID: 11187072-FEFF-1um
Sample Type: Client
Inject. Date: 14-Jan-2020 05:58:10 ALS Bottle#: 48 Worklist Smp#: 23
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-57624-A-3-A 320-57624-A-3-A
Misc. Info.: 13JA2010D5
Operator ID: SMA/ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 15-Jan-2020 12:51:15 Calib Date: 14-Nov-2019 12:50:49
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0339

First Level Reviewer: arghestanis Date: 14-Jan-2020 13:32:33

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.635	17.605	2		33428356	8757034	5883	14707	1489		
333.9339	17.635	17.605	2		42057711	11013252	5809	14522	1896	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.136	17.106	2	0.972	35436489	9205085	10498	26245	877		
317.9389	17.136	17.106	2	0.972	45804093	11937664	5146	12865	2320	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.121						467	1167			
305.8987	17.121						436	1090			
A Non-2,3,7,8-sub-TCDF											
303.9016	16.826						467	1167			
305.8987	16.826						436	1090			
13C-2,3,7,8-TCDD											
331.9368	17.831	17.786	3	1.011	25751384	6232383	5883	14707	1059		
333.9339	17.831	17.786	3	1.011	32515049	7888218	5809	14522	1358	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.816						873	2182			
321.8936	17.816						395	987			
37Cl4-2,3,7,8-TCDD											
327.8847	17.847	17.816	2	1.012	38236934	9555921	5049	12622	1893		
A Non-2,3,7,8-sub-TCDD											
319.8965	17.272						873	2182			
321.8936	17.272						395	987			
13C-1,2,3,7,8-PeCDF											
351.9000	22.060	22.019	2	1.251	41345357	7848605	7668	19170	1024		
353.8970	22.060	22.019	2	1.251	26182133	4948011	5193	12982	953	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	22.032						243	607			
341.8567	22.032						425	1062			
13C-2,3,4,7,8-PeCDF											
351.9000	23.382	23.328	3	1.326	43379775	7435084	7668	19170	970		
353.8970	23.382	23.328	3	1.326	27451843	4694245	5193	12982	904	1.58(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.355						243	607			
341.8567	23.355						425	1062			
A F1 PeCDFs											
339.8597	19.676						212	530			
341.8567	19.676						568	1420			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.763						243	607			
341.8567	22.763						425	1062			
13C-1,2,3,7,8-PeCDD											
367.8949	24.078	24.037	2	1.365	28473386	4596018	2911	7277	1579		
369.8919	24.078	24.037	2	1.365	18439221	3052354	1969	4922	1550	1.54(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.064						456	1140			
357.8516	24.064						198	495			
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.980						456	1140			
357.8516	22.980						198	495			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.219	30.166	3	0.945	17705806	3055234	4693	11732	651		
385.8610	30.219	30.166	3	0.945	35339873	5981391	8828	22070	678	0.50(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.192						485	1212			
375.8178	30.192						302	755			
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.431	30.379	3	0.952	17041159	2926414	4693	11732	624		
385.8610	30.431	30.379	3	0.952	34073082	5893049	8828	22070	668	0.50(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.405						485	1212			
375.8178	30.405						302	755			
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.323	31.284	2	0.980	16496136	3972664	4693	11732	847		
385.8610	31.323	31.284	2	0.980	32798169	7689669	8828	22070	871	0.50(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.310						485	1212			
375.8178	31.310						302	755			
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.162	32.136	2	1.006	15317158	3982803	4693	11732	849		
385.8610	32.162	32.136	2	1.006	30772242	7978648	8828	22070	904	0.50(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	32.149						485	1212			
375.8178	32.149						302	755			
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.873						485	1212			
375.8178	29.873						302	755			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.976	31.949	2		36496408	9525660	5375	13437	1772		
403.8529	31.976	31.949	2		28740113	7610038	3947	9867	1928	1.27(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.523	31.497	2	0.986	24988170	6453038	5375	13437	1201		
403.8529	31.523	31.497	2	0.986	19867815	5161137	3947	9867	1308	1.26(1.05-1.43)	
1,2,3,4,7,8-HxCDD											M
389.8157	31.536	31.510	2	1.000	24343	5299	341	852	16		M
391.8127	31.536	31.510	2	1.000	19534	4594	339	847	14	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.643	31.603	2	0.990	25690898	6013243	5375	13437	1119		
403.8529	31.643	31.603	2	0.990	20479605	4744246	3947	9867	1202	1.25(1.05-1.43)	
1,2,3,6,7,8-HxCDD											QMU
389.8157	31.617						341	852			
391.8127	31.617						339	847			
1,2,3,7,8,9-HxCDD											
389.8157	31.963						341	852			
391.8127	31.963						339	847			
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.485						341	852			
391.8127	30.485						339	847			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.617	33.593	1	1.051	12333374	4127009	12313	30782	335		
419.8220	33.617	33.593	1	1.051	27707147	9210552	28746	71865	320	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											RQ
407.7818	33.629	33.605	1	1.000	11240	2865	706	1765	4		
	Empc Correction				7909	2539	706	1765	4		
409.7789	33.617	33.605	1	1.000	7605	2442	256	640	10	1.48(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.687	34.663	1	1.085	12640026	3703093	12313	30782	301		
419.8220	34.687	34.663	1	1.085	28795316	8371880	28746	71865	291	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.675						706	1765			
409.7789	34.675						256	640			
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.140						706	1765			
409.7789	34.140						256	640			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.395	34.371	1	1.076	19817727	6041738	7007	17517	862		
437.8140	34.395	34.371	1	1.076	18828775	5767445	7450	18625	774	1.05(0.88-1.20)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											M
423.7766	34.407	34.383	1	1.000	11718	3640	235	587	15		M
425.7737	34.407	34.383	1	1.000	11344	3676	323	807	11	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.873	34.122	-15	0.985	14686	3679	235	587	16		
425.7737	33.873	34.122	-15	0.985	14043	4553	323	807	14	1.05(0.88-1.20)	
13C-OCDD											
469.7779	36.697	36.674	1	1.148	26390741	6891015	1985	4962	3472		
471.7750	36.697	36.674	1	1.148	28999165	7529068	1842	4605	4087	0.91(0.76-1.02)	
OCDF											M
441.7428	36.793	36.782	1	1.003	14103	3722	300	750	12		M
443.7399	36.781	36.782	0	1.002	15078	3220	414	1035	8	0.94(0.76-1.02)	M
OCDD											
457.7377	36.709	36.686	1	1.000	71664	19373	362	905	54		
459.7348	36.709	36.686	1	1.000	77646	18550	266	665	70	0.92(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

U - Marked Undetected

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_23.d
Lims ID: 320-57624-A-3-A
Client ID: 11187072-FEFF-1um
Inject. Date: 14-Jan-2020 05:58:10 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: SMA/ALM
Lims Batch ID: 350523 Lims Sample ID: 23

Non-2,3,7,8-sub-HpCDD, RT: 34.122

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.017	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	38646502	11809183

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.017		100.000	38646502	11809183

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
33.873	14686	3679	14043	4553	0.0731	1.05	
Signal Totals:							
	14686	3679	14043	4553			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	28729	8232				1.05	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0731 = (28729 * 100.000) / (38646502 * 1.017)

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_23.d				
Injection Date:	14-Jan-2020 05:58:10	Instrument ID:	10D5		
Lims ID:	320-57624-A-3-A	Lab Sample ID:	320-57624-3		
Client ID:	11187072-FEFF-1um				
Operator ID:	SMA/ALM	ALS Bottle#:	48	Worklist Smp#:	23
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 1

Processing Integration Results

RT: 31.54
Area: 31050
Amount: 0.112166
Amount Units: pg/ul

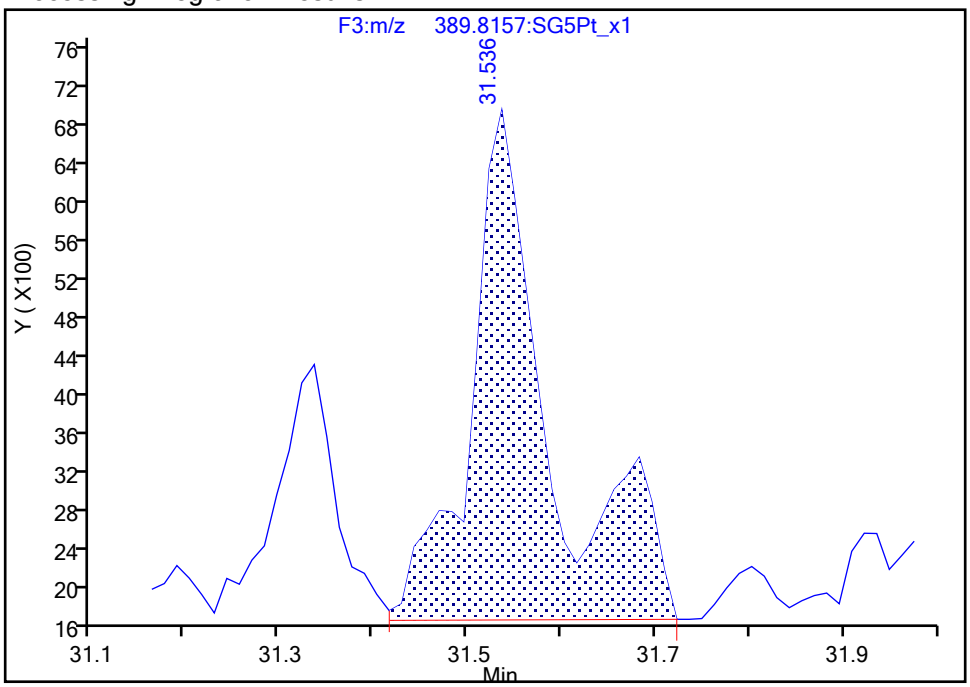

Manual Integration Results

RT: 31.54
Area: 24343
Amount: 0.097294
Amount Units: pg/ul

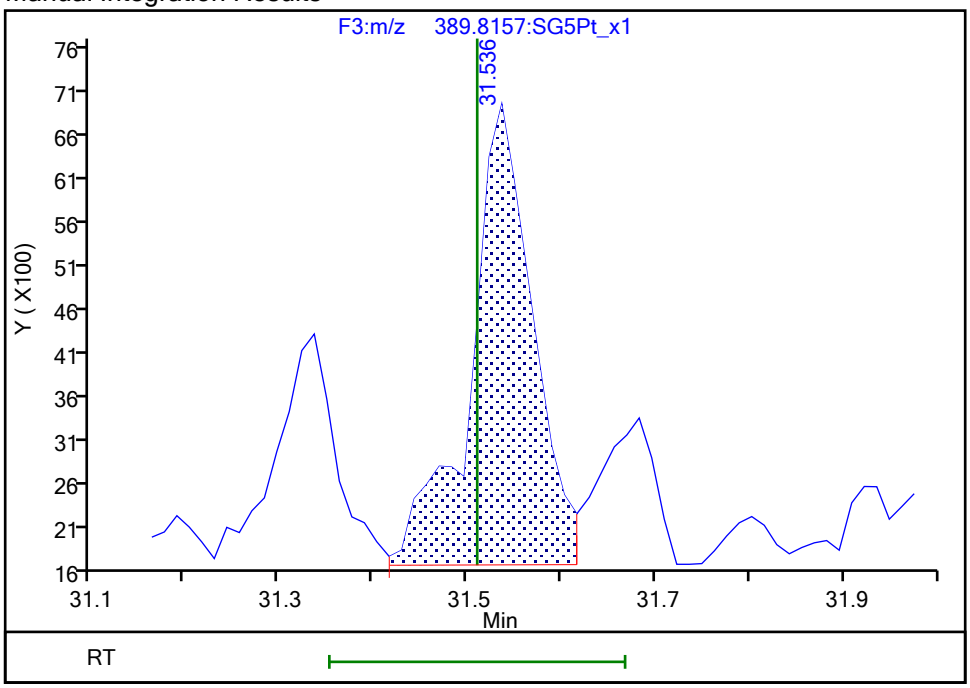

Reviewer: dadunj, 15-Jan-2020 12:49:57

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_23.d				
Injection Date:	14-Jan-2020 05:58:10	Instrument ID:	10D5		
Lims ID:	320-57624-A-3-A	Lab Sample ID:	320-57624-3		
Client ID:	11187072-FEFF-1um				
Operator ID:	SMA/ALM	ALS Bottle#:	48	Worklist Smp#:	23
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 1

Processing Integration Results

RT: 34.41
Area: 12653
Amount: 0.061031
Amount Units: pg/ul

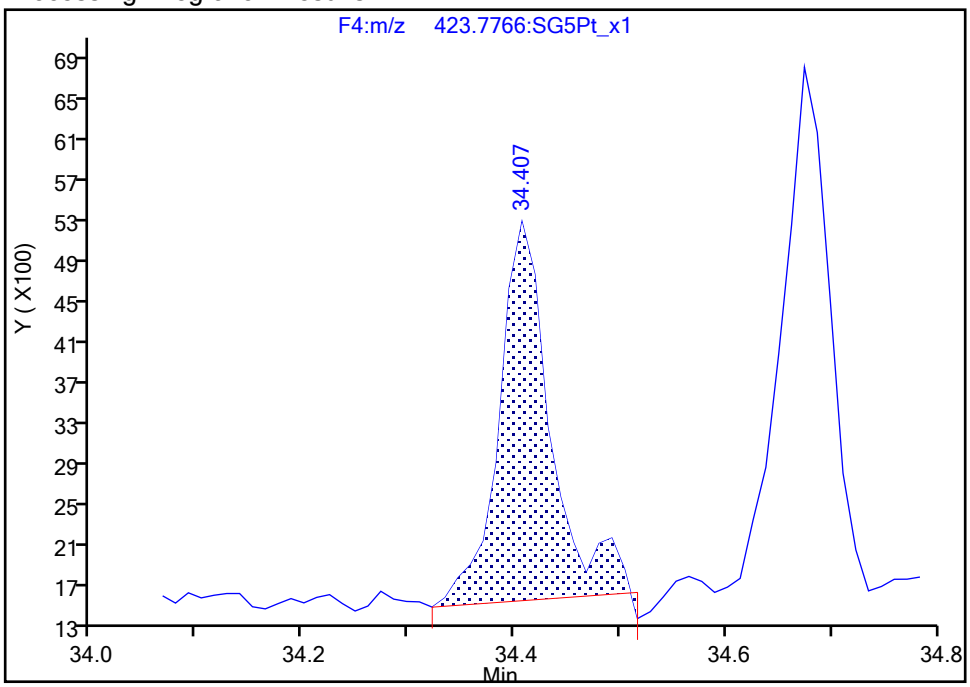

Manual Integration Results

RT: 34.41
Area: 11718
Amount: 0.058653
Amount Units: pg/ul

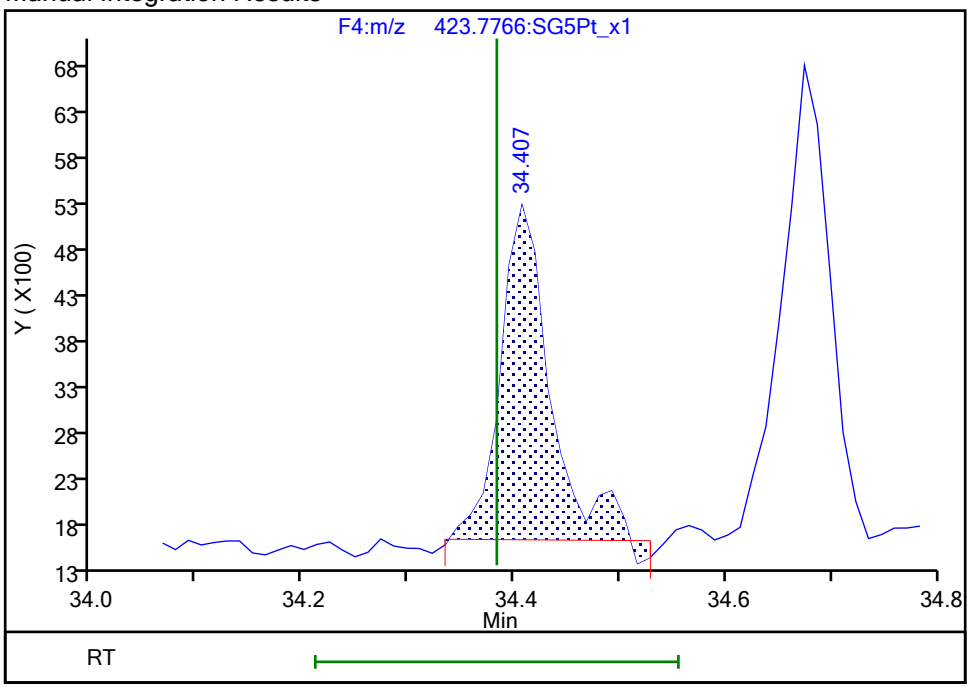

Reviewer: dadunj, 15-Jan-2020 12:50:18

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_23.d				
Injection Date:	14-Jan-2020 05:58:10	Instrument ID:	10D5		
Lims ID:	320-57624-A-3-A	Lab Sample ID:	320-57624-3		
Client ID:	11187072-FEFF-1um				
Operator ID:	SMA/ALM	ALS Bottle#:	48	Worklist Smp#:	23
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5:HRSIR		

OCDF, CAS: 39001-02-0

Signal: 1

Processing Integration Results

RT: 36.79
Area: 20219
Amount: 0.122618
Amount Units: pg/ul

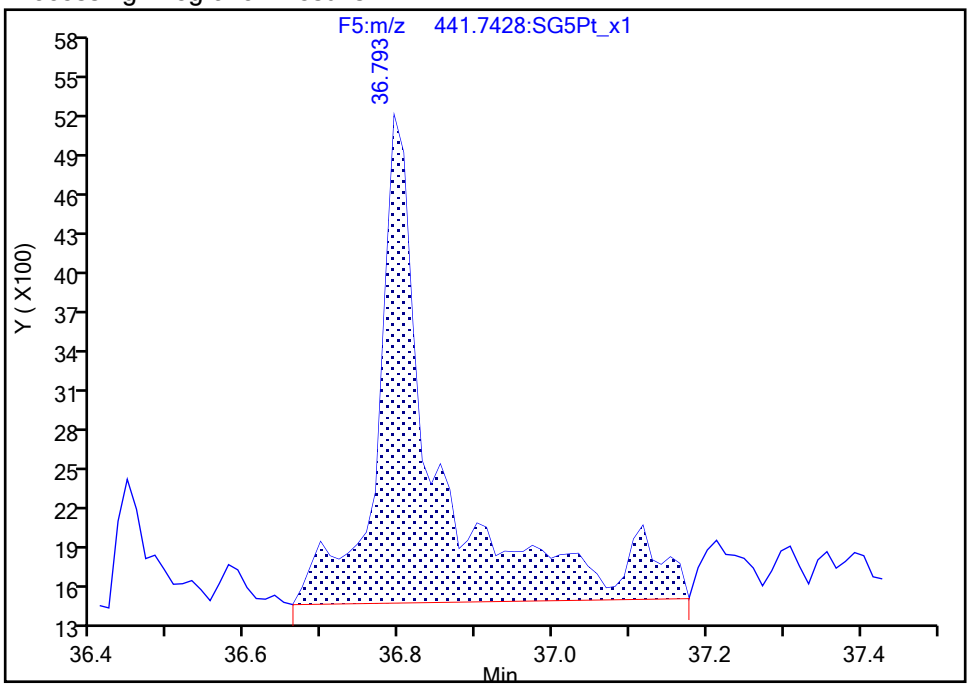

Manual Integration Results

RT: 36.79
Area: 14103
Amount: 0.080759
Amount Units: pg/ul

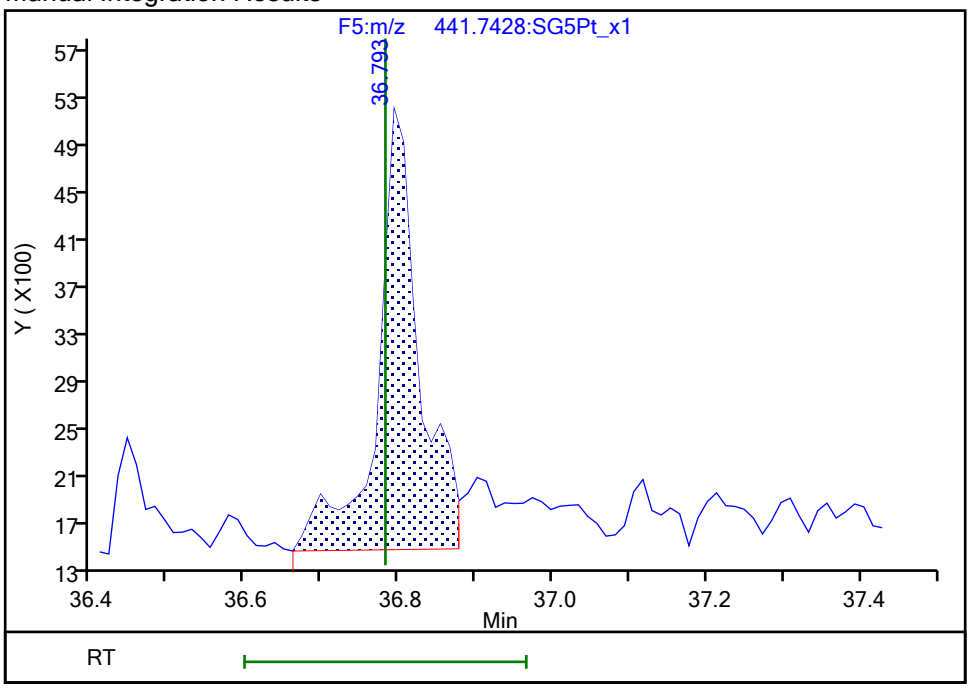

Reviewer: dadunj, 15-Jan-2020 12:50:35

Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_23.d				
Injection Date:	14-Jan-2020 05:58:10	Instrument ID:	10D5		
Lims ID:	320-57624-A-3-A	Lab Sample ID:	320-57624-3		
Client ID:	11187072-FEFF-1um				
Operator ID:	SMA/ALM	ALS Bottle#:	48	Worklist Smp#:	23
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5:HRSIR		

OCDF, CAS: 39001-02-0

Signal: 2

Processing Integration Results

RT: 36.78
Area: 24087
Amount: 0.122618
Amount Units: pg/ul

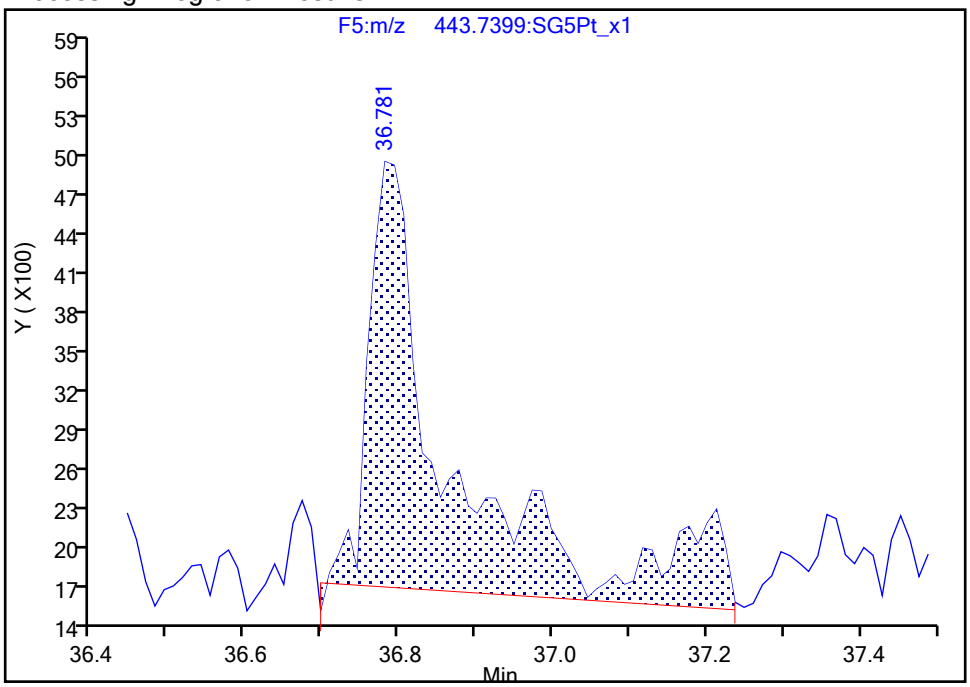

Manual Integration Results

RT: 36.78
Area: 15078
Amount: 0.080759
Amount Units: pg/ul

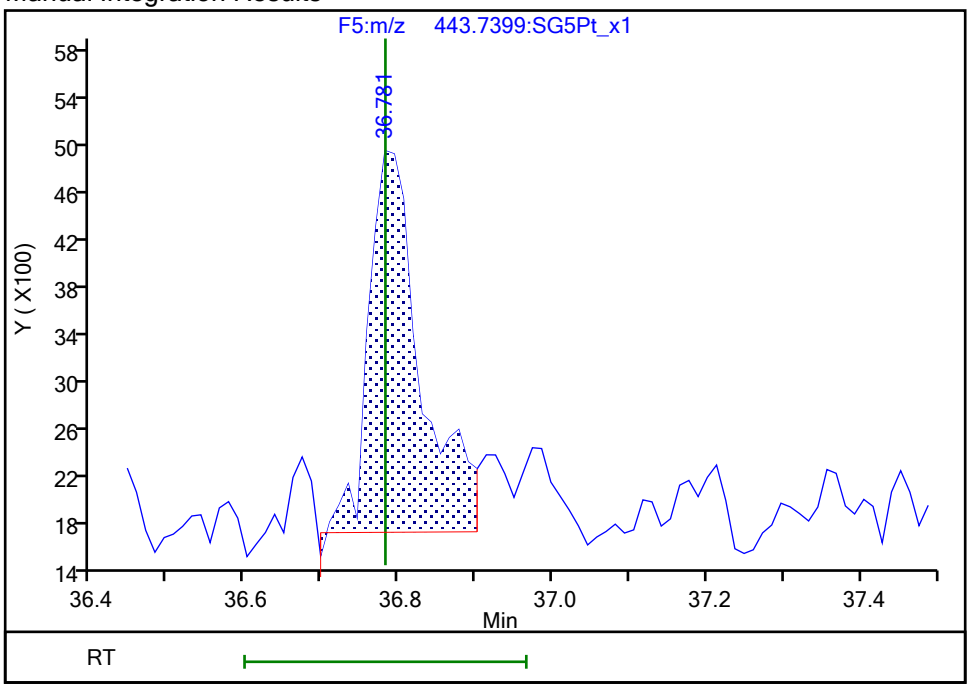

Reviewer: dadunj, 15-Jan-2020 12:50:36

Audit Action: Split an Integrated Peak Audit Reason: Baseline

Report Date: 15-Jan-2020 12:51:20 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_23.d		
Injection Date:	14-Jan-2020 05:58:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-1um		
Worklist#:	350523	Sample Line#:	23
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

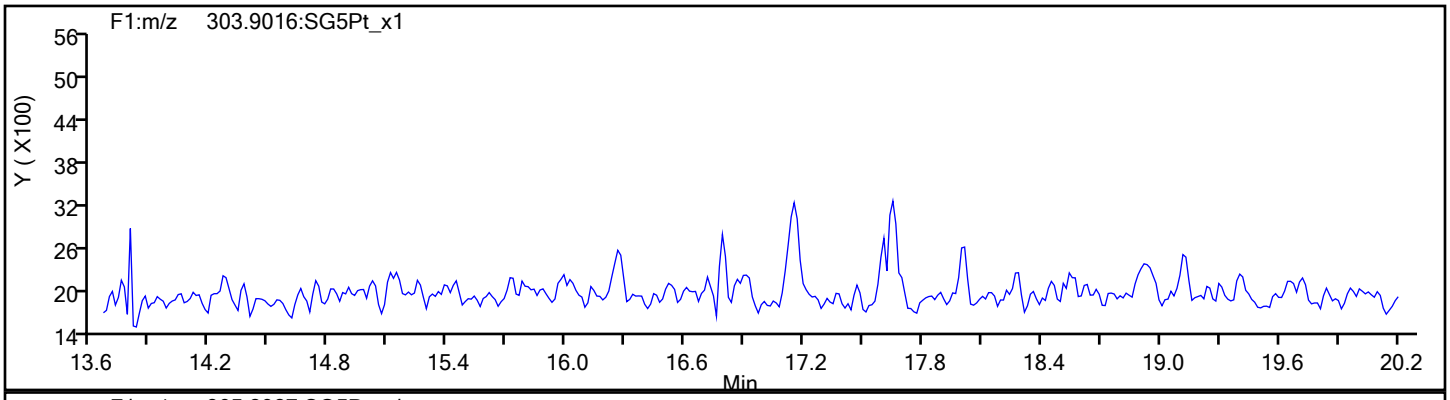

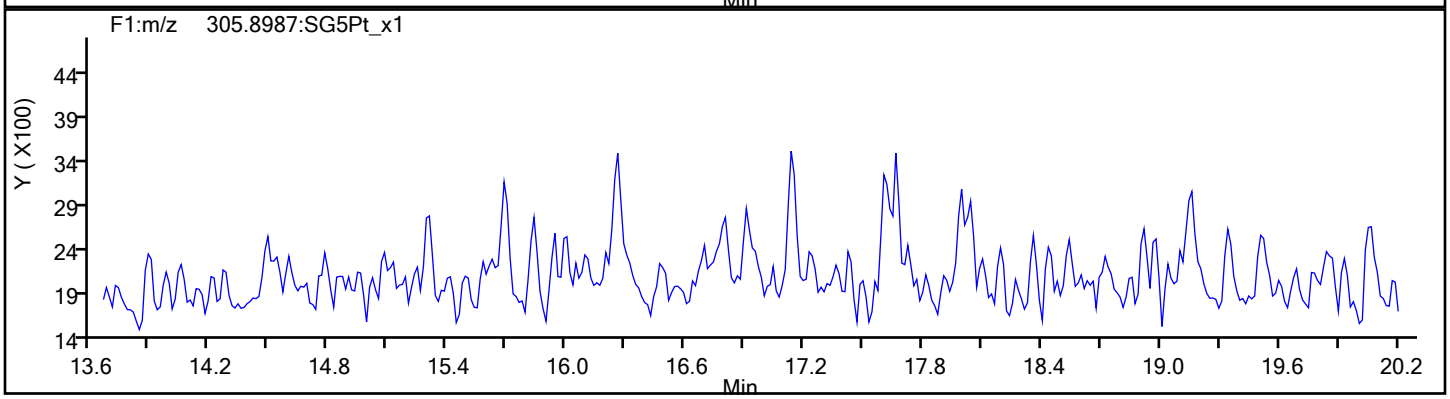

TCDF Standards

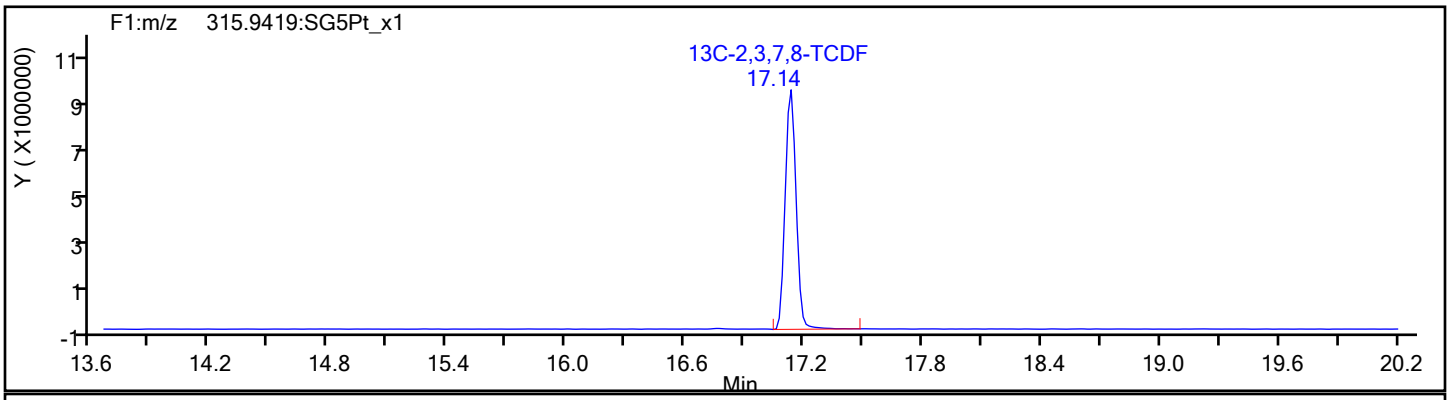

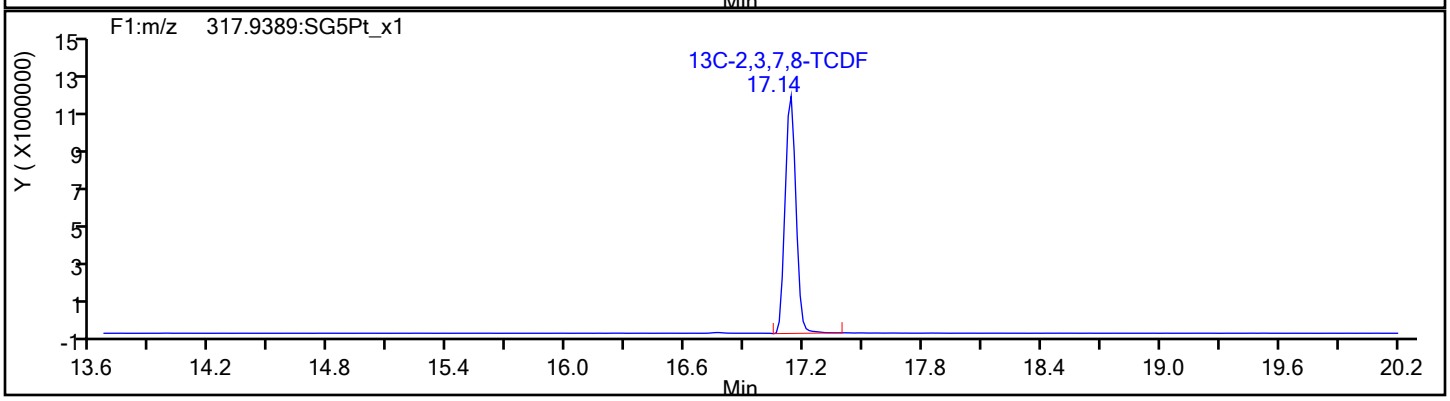

Report Date: 15-Jan-2020 12:51:20 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_23.d		
Injection Date:	14-Jan-2020 05:58:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-1um		
Worklist#:	350523	Sample Line#:	23
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

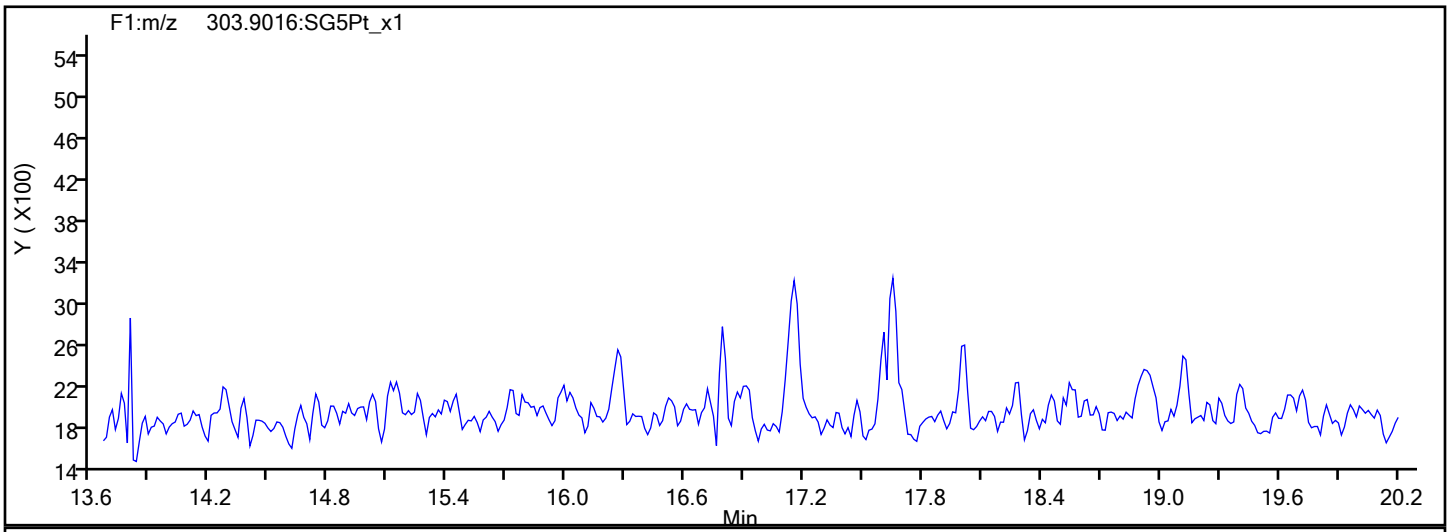

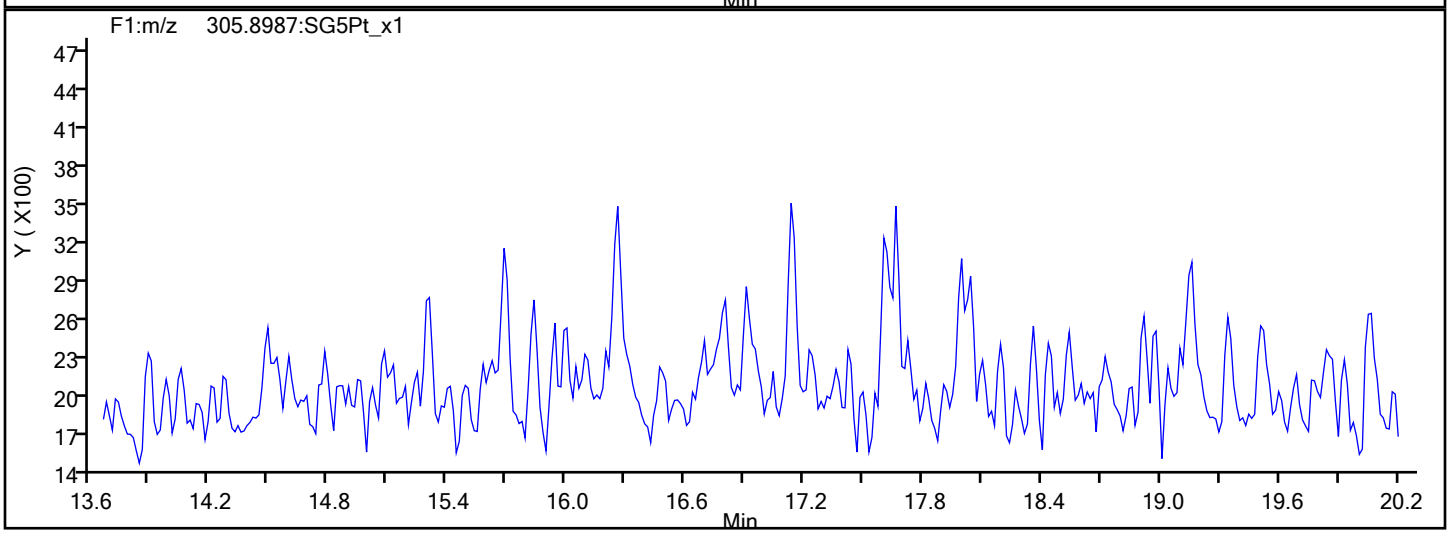

TCDF Interference Mass

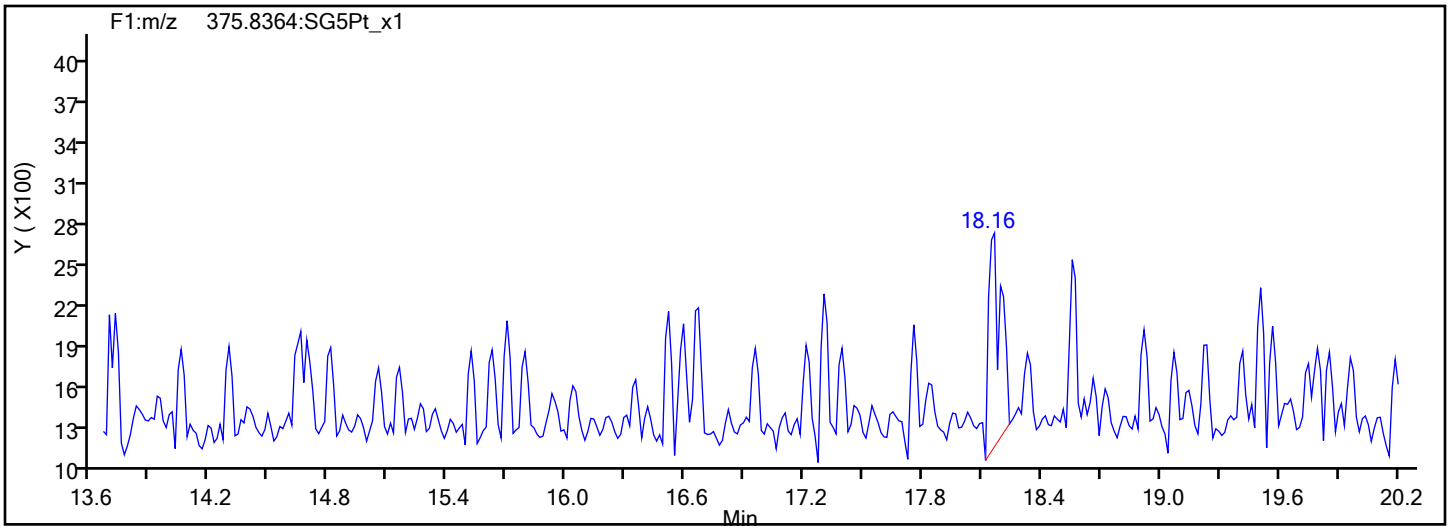

Report Date: 15-Jan-2020 12:51:20 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_23.d		
Injection Date:	14-Jan-2020 05:58:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-1um		
Worklist#:	350523	Sample Line#:	23
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

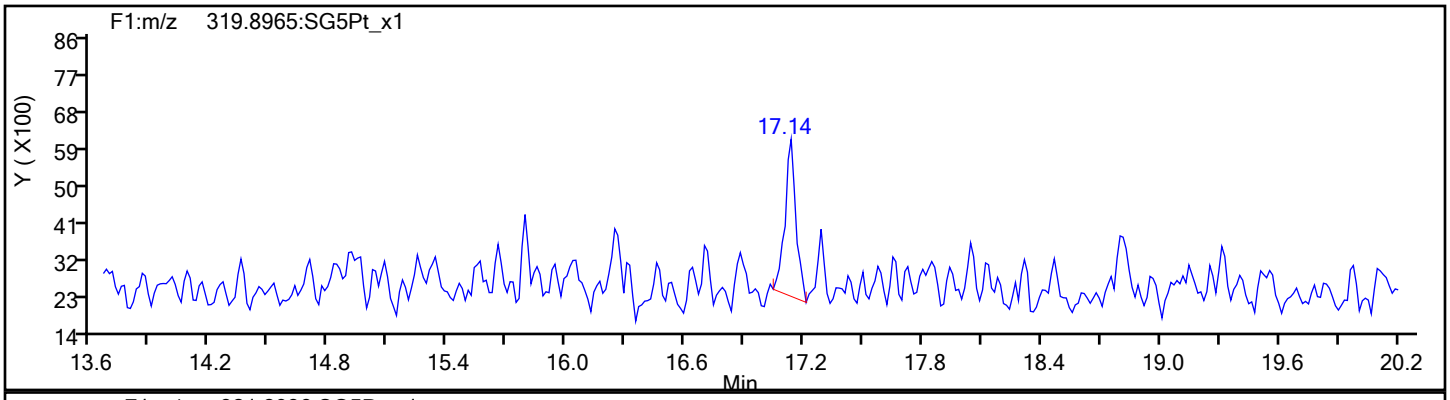

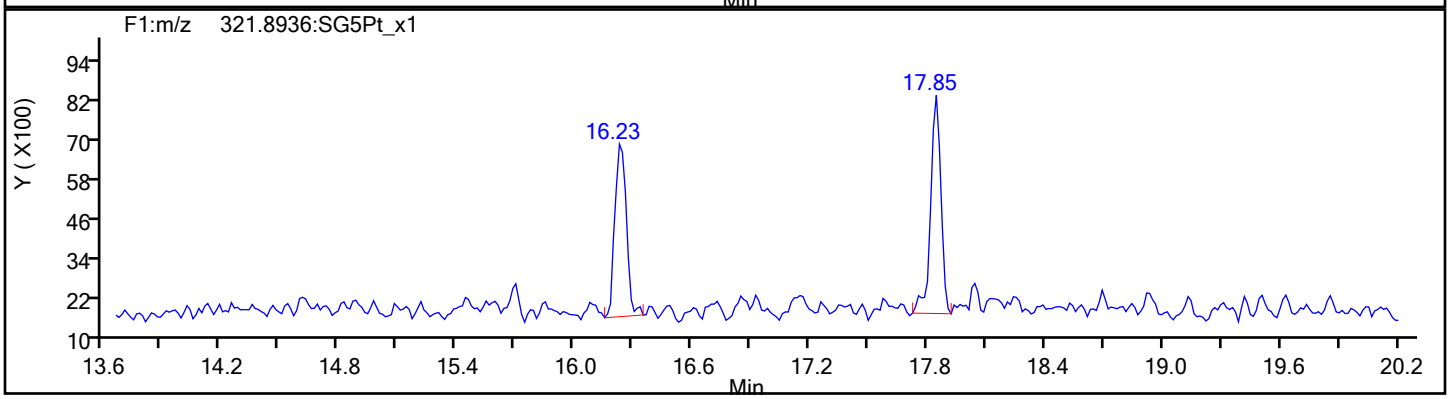

TCDD Standards

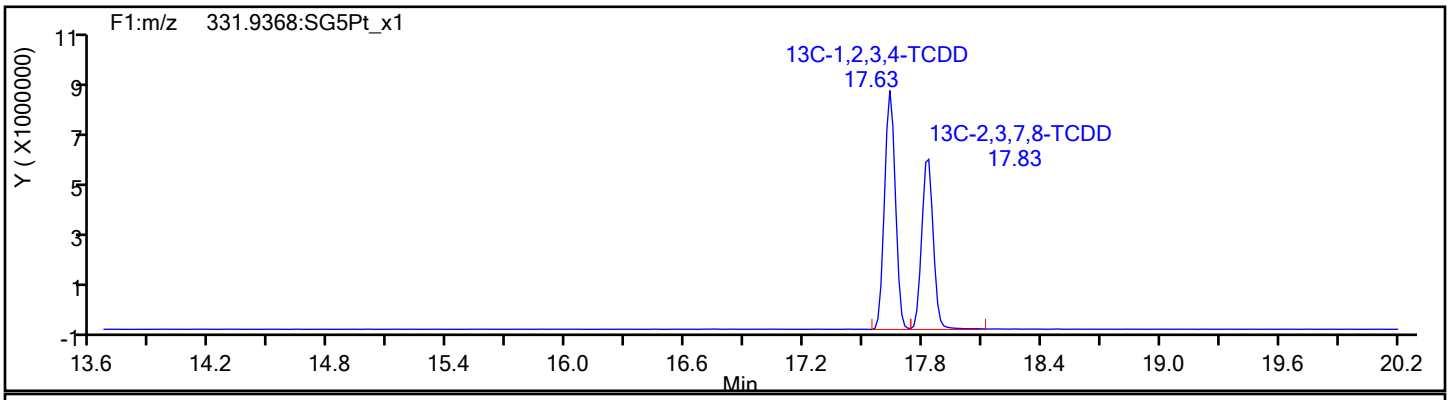

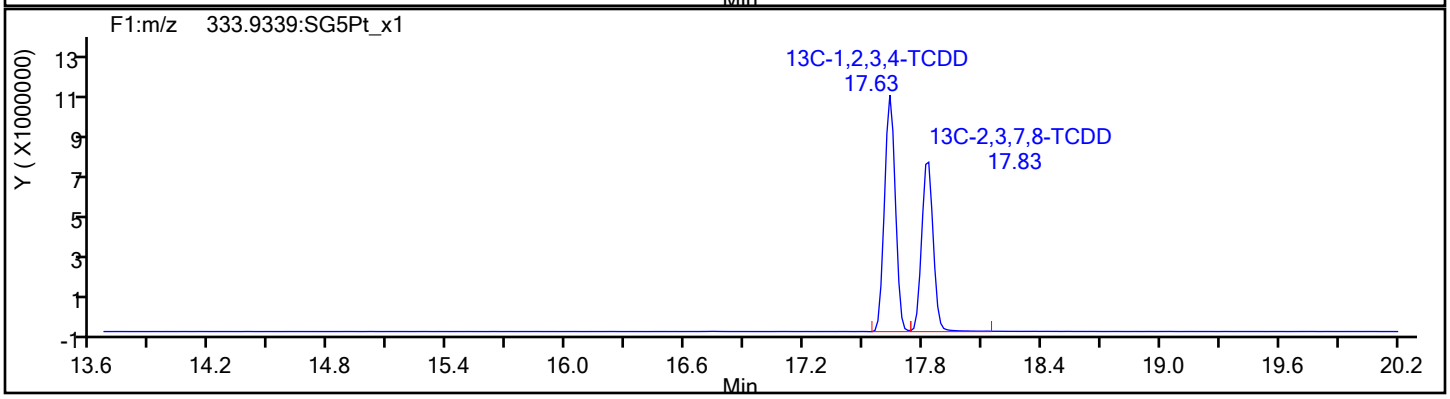

Report Date: 15-Jan-2020 12:51:21 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_23.d		
Injection Date:	14-Jan-2020 05:58:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-1um		
Worklist#:	350523	Sample Line#:	23
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

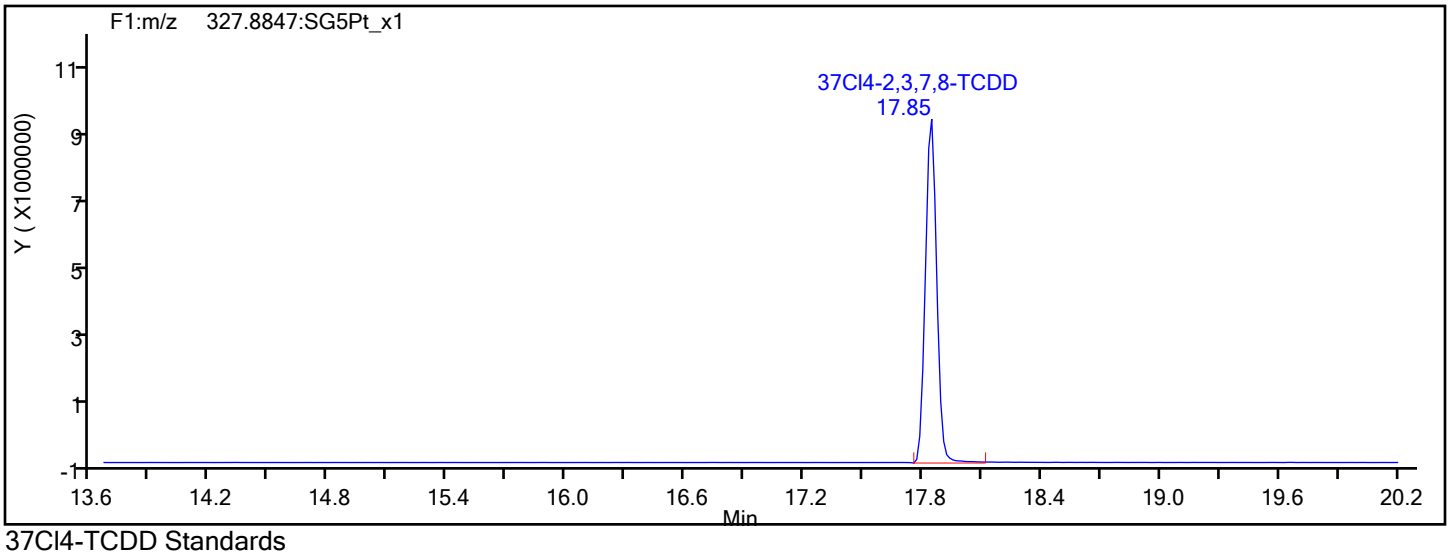

37Cl4-TCDD Standards

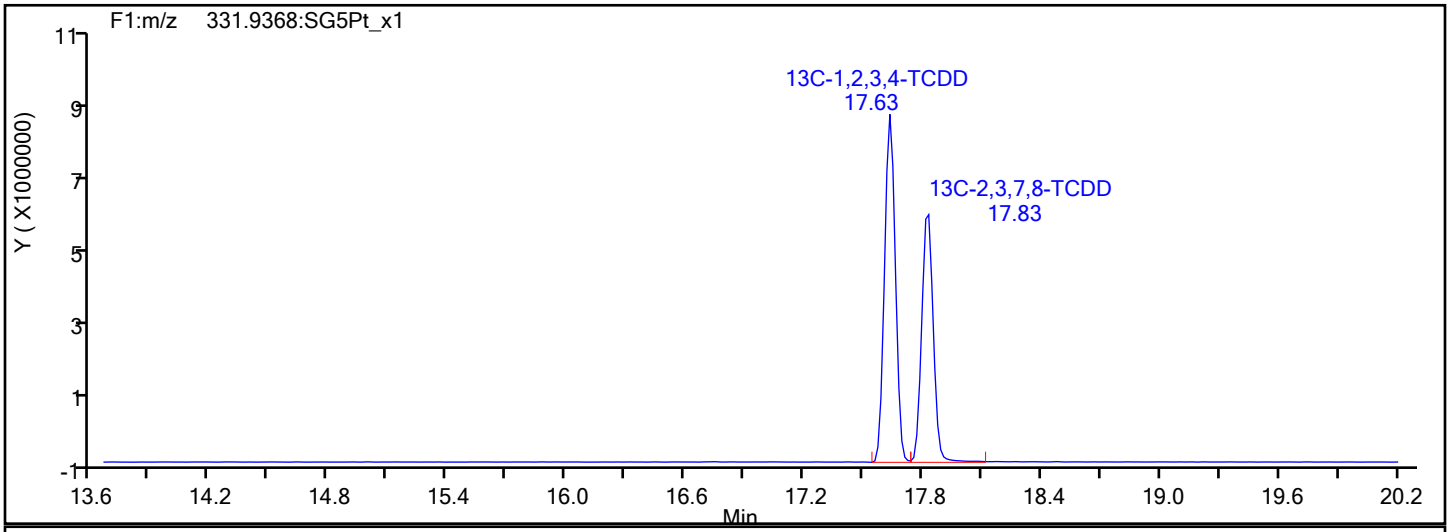

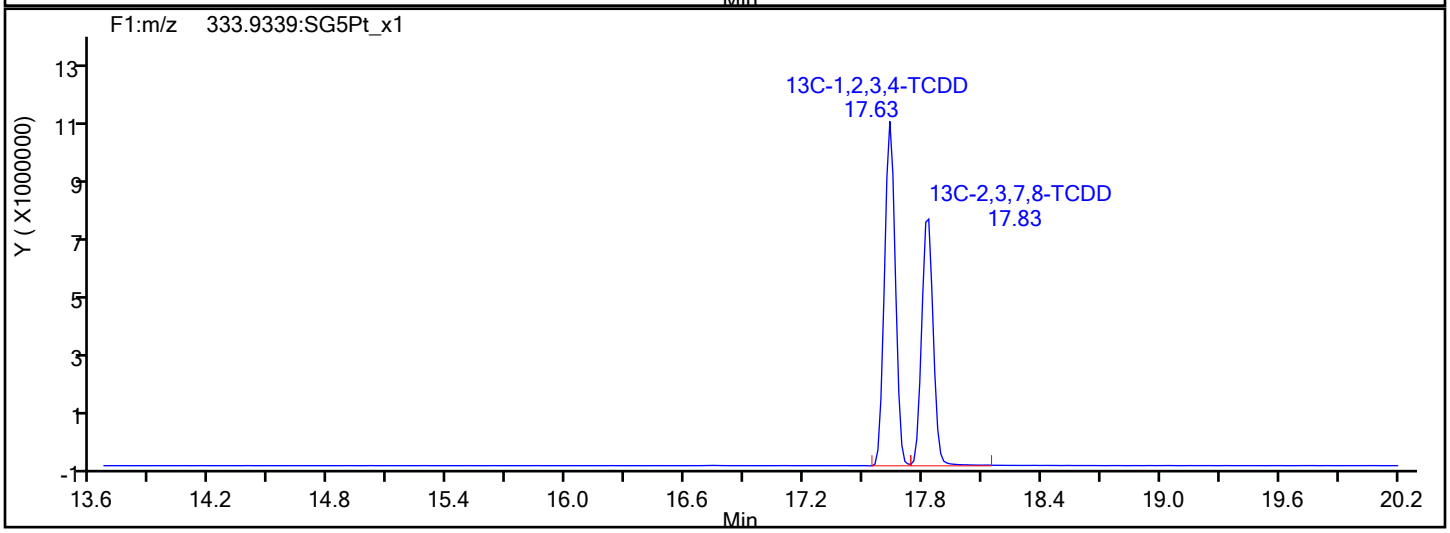

Report Date: 15-Jan-2020 12:51:21 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_23.d		
Injection Date:	14-Jan-2020 05:58:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-1um		
Worklist#:	350523	Sample Line#:	23
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

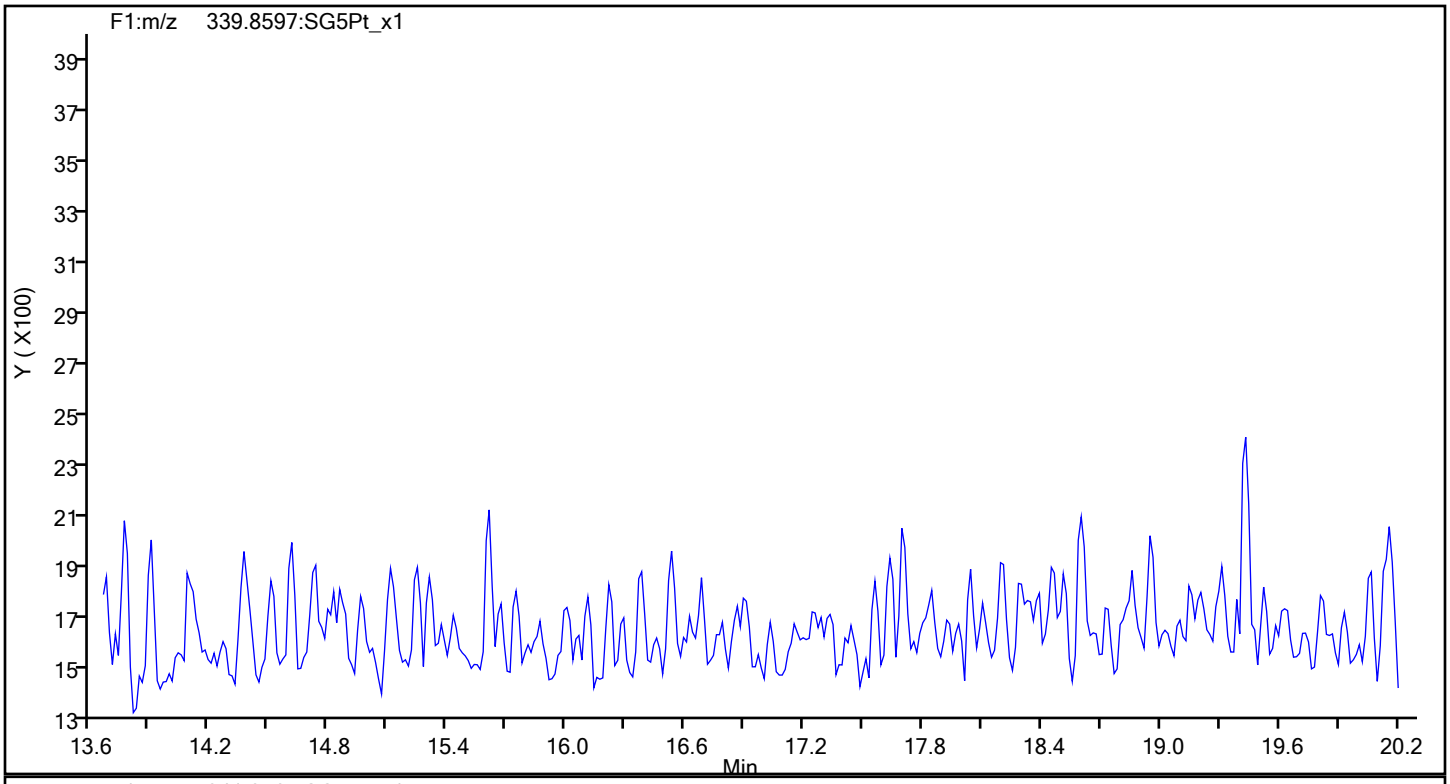

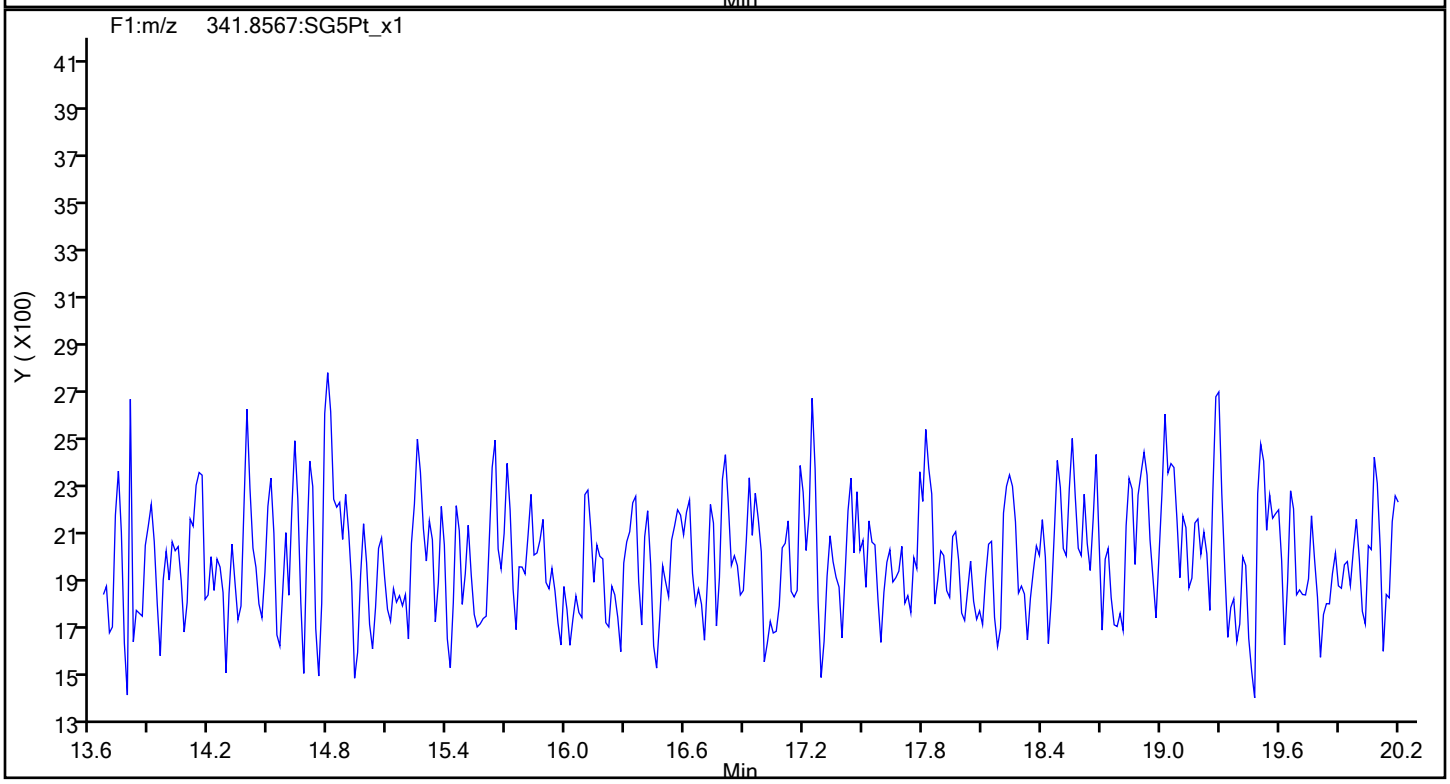

Report Date: 15-Jan-2020 12:51:21 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_23.d		
Injection Date:	14-Jan-2020 05:58:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-1um		
Worklist#:	350523	Sample Line#:	23
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

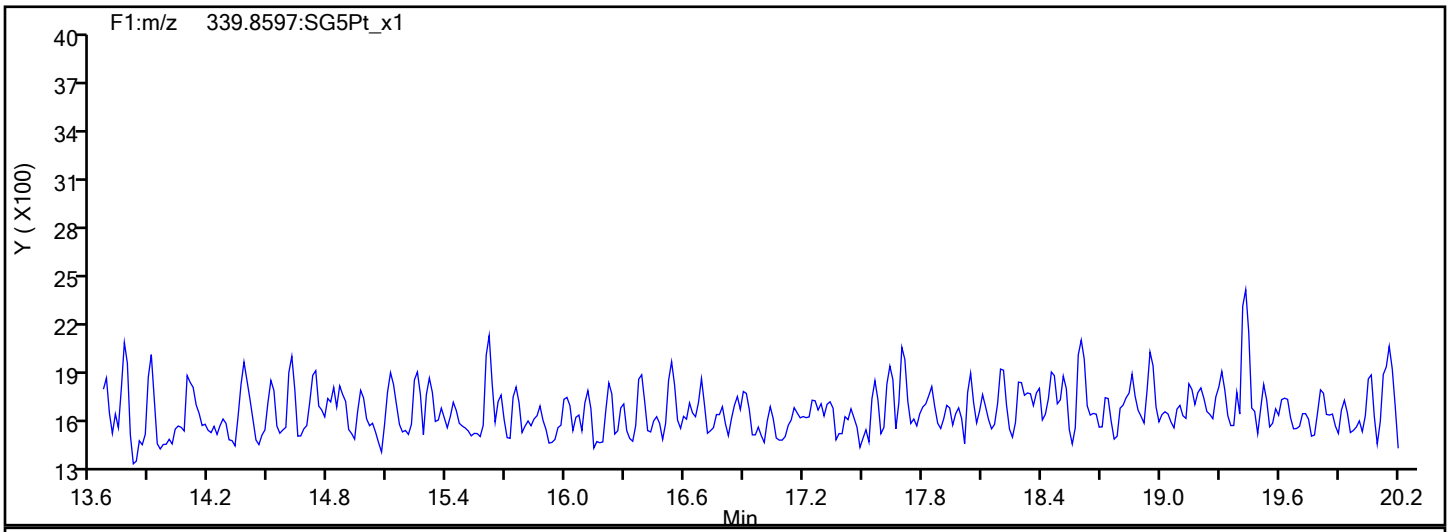

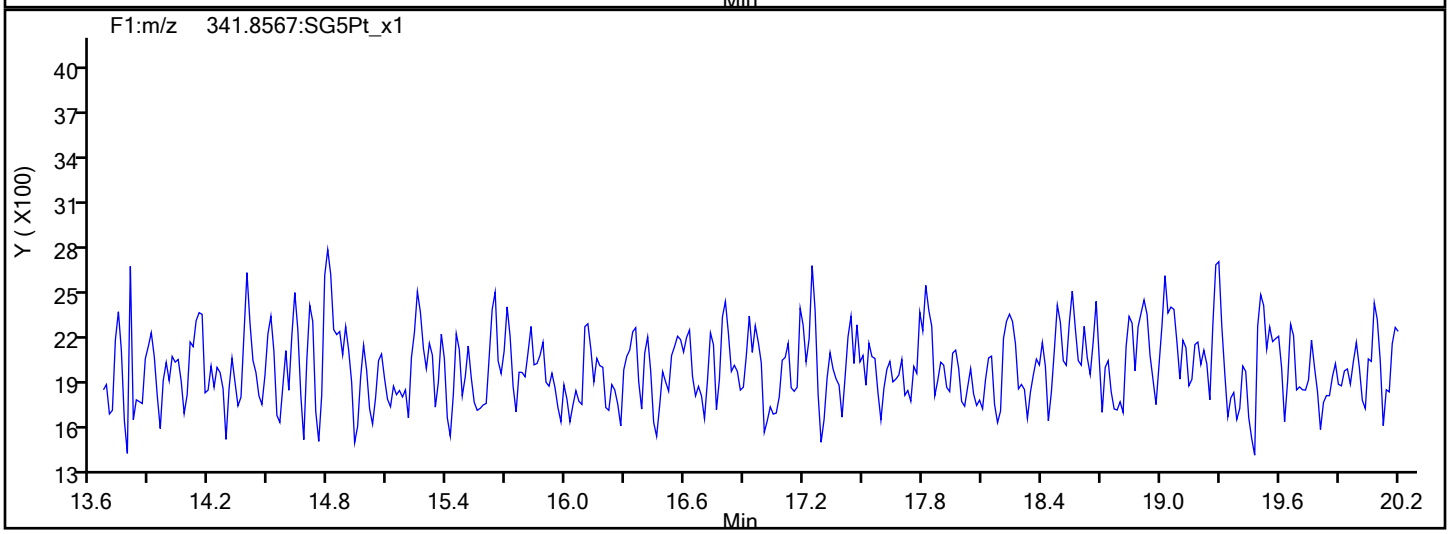

F1 PeCDFs Interference Mass

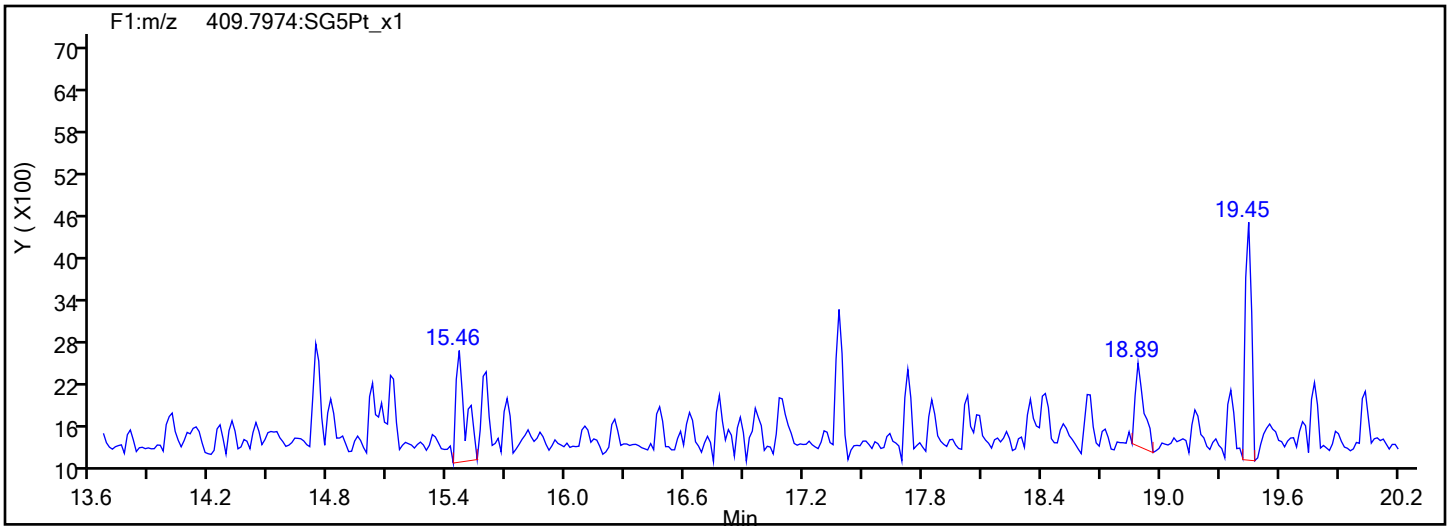

Report Date: 15-Jan-2020 12:51:21 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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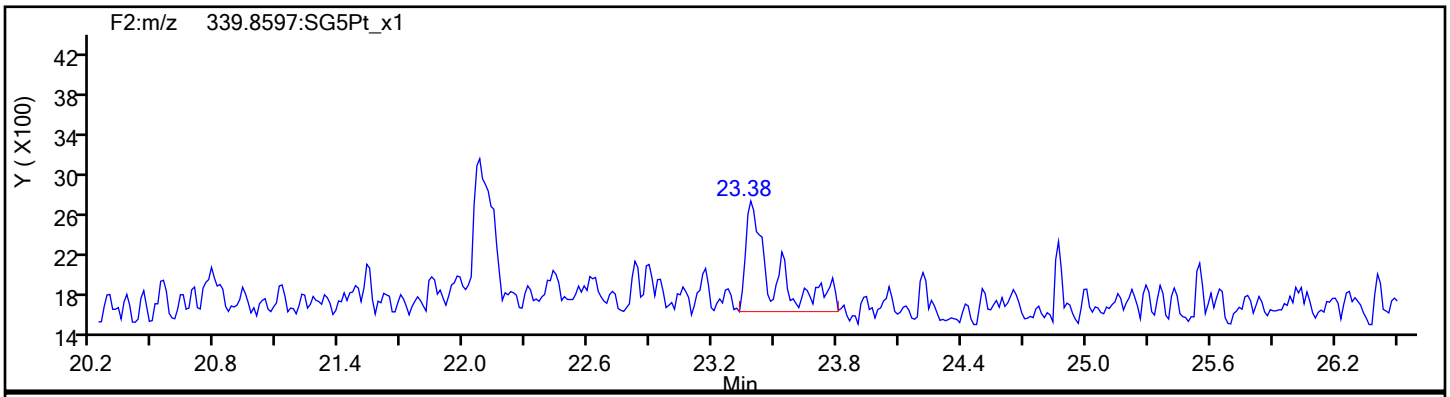

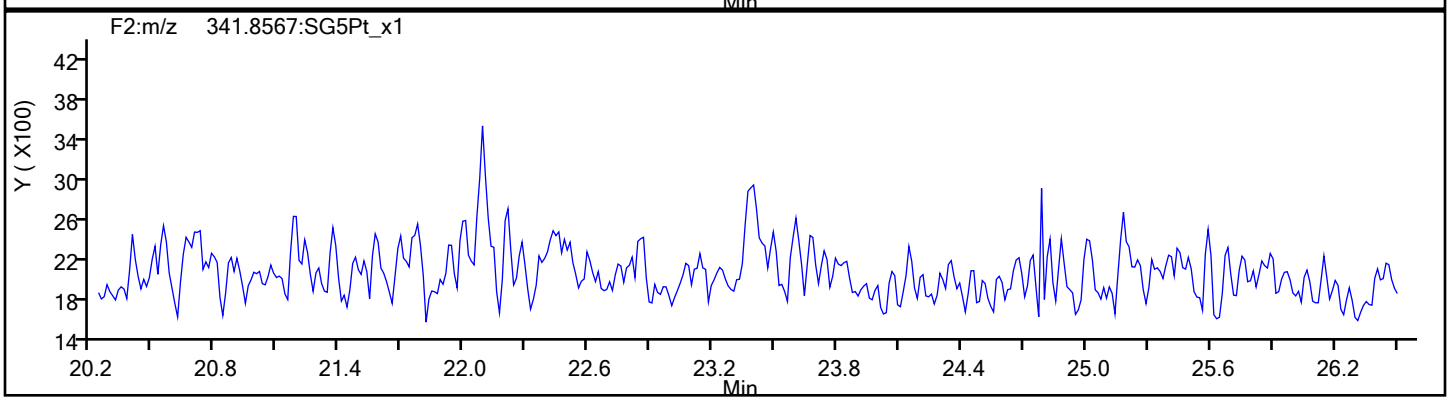

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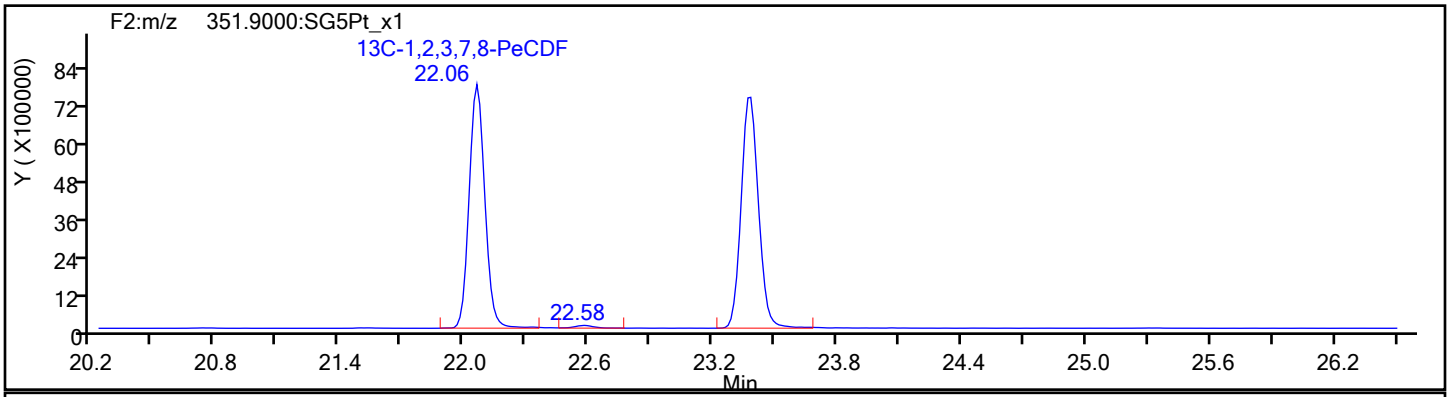

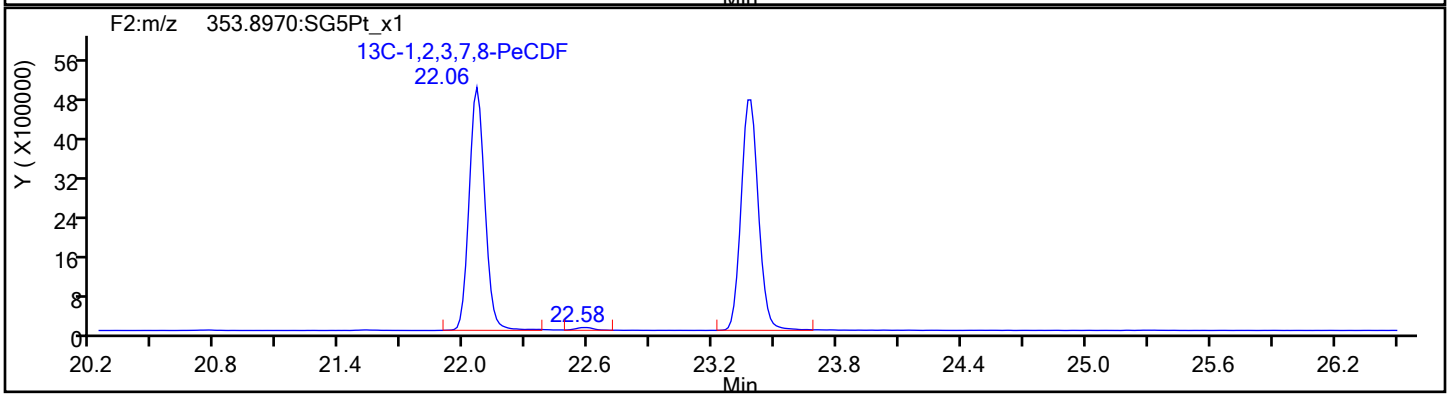

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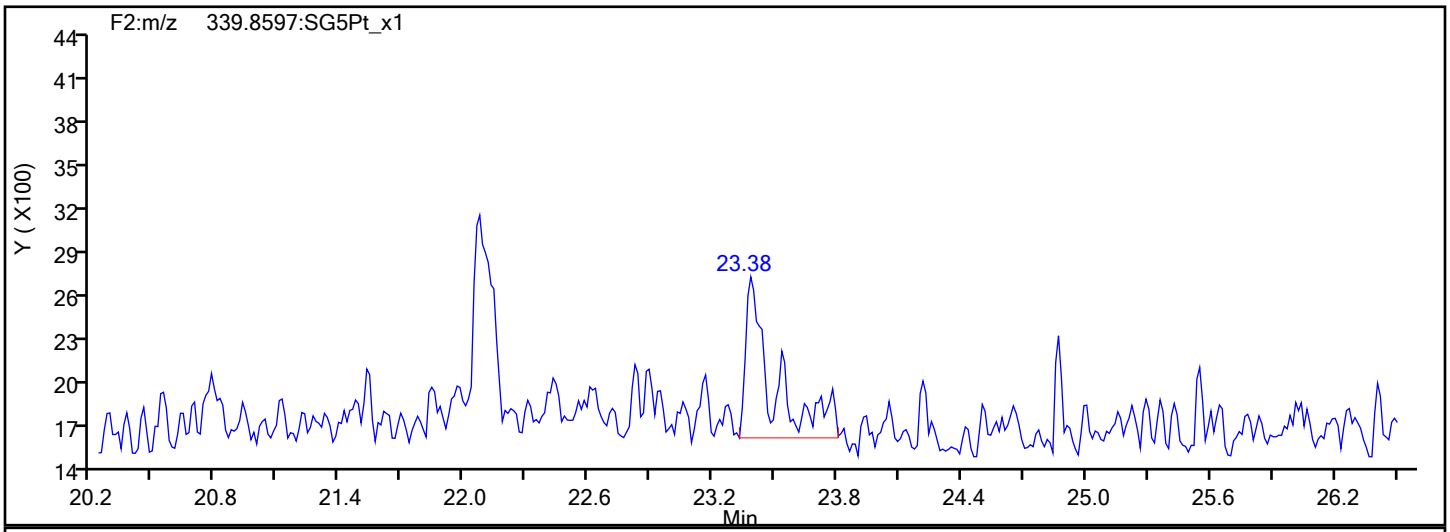

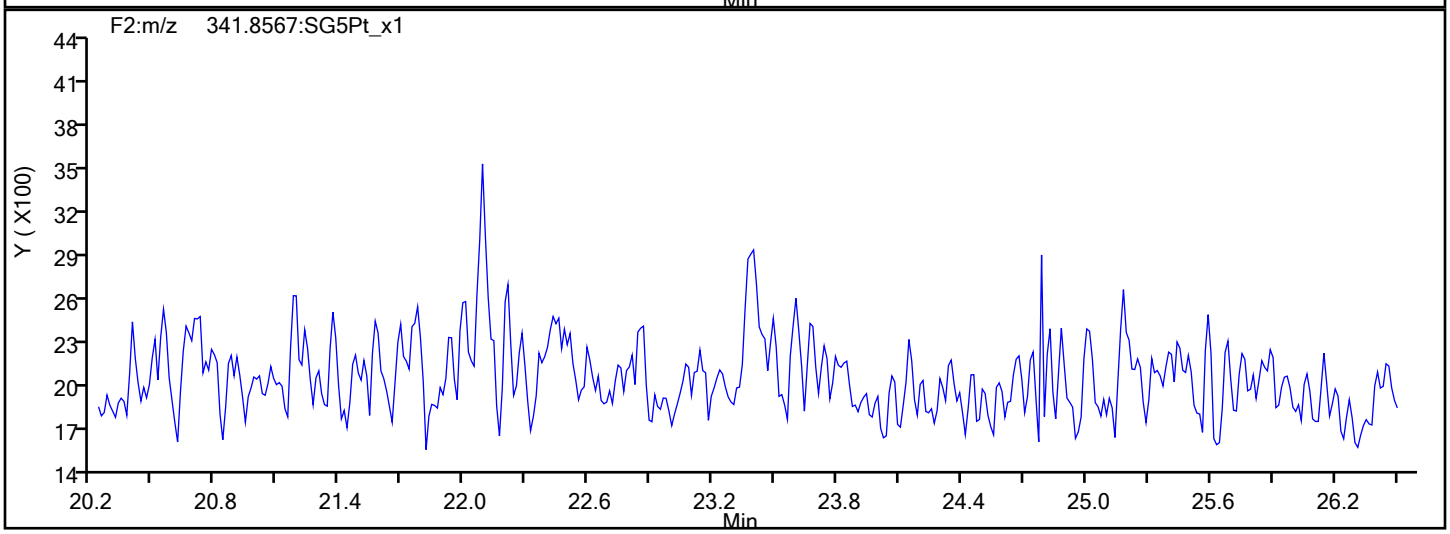

PeCDF Interference Mass

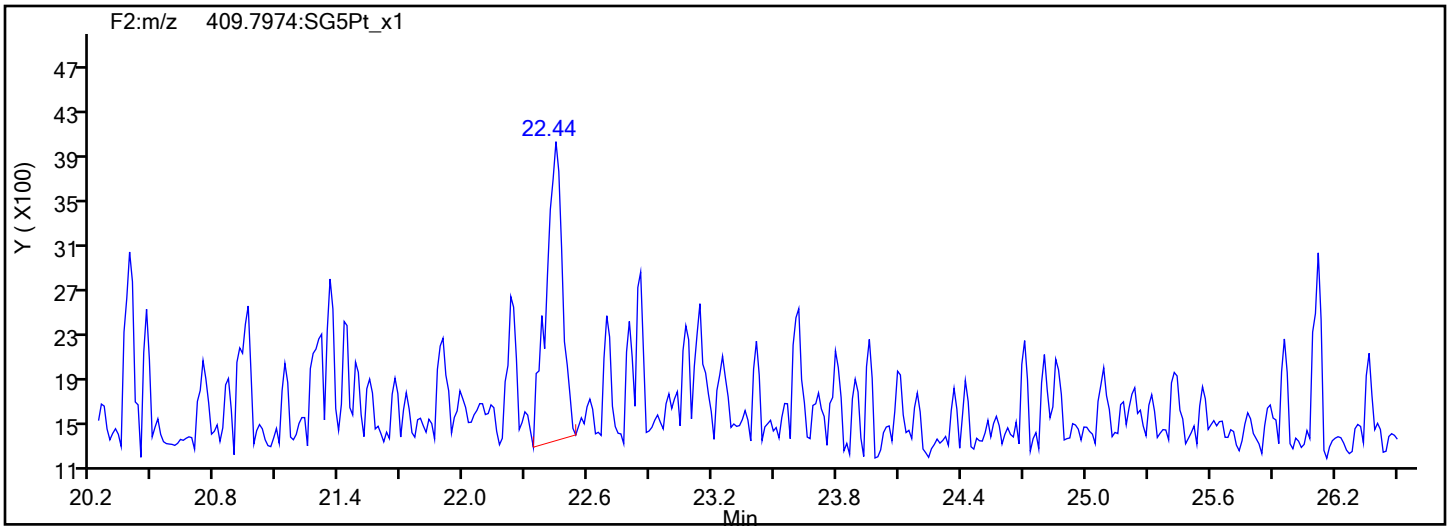

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Eurofins TestAmerica, Sacramento

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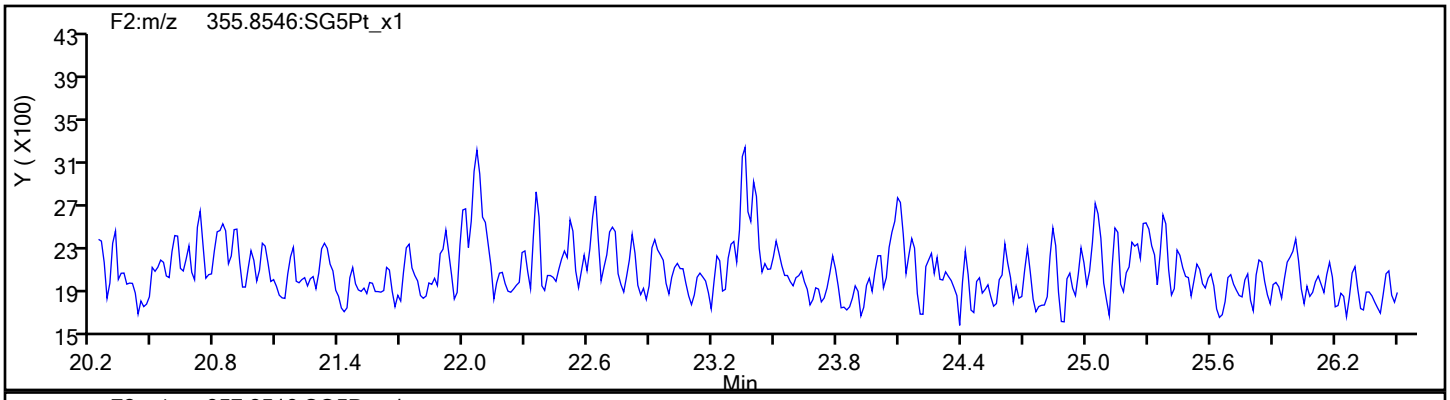

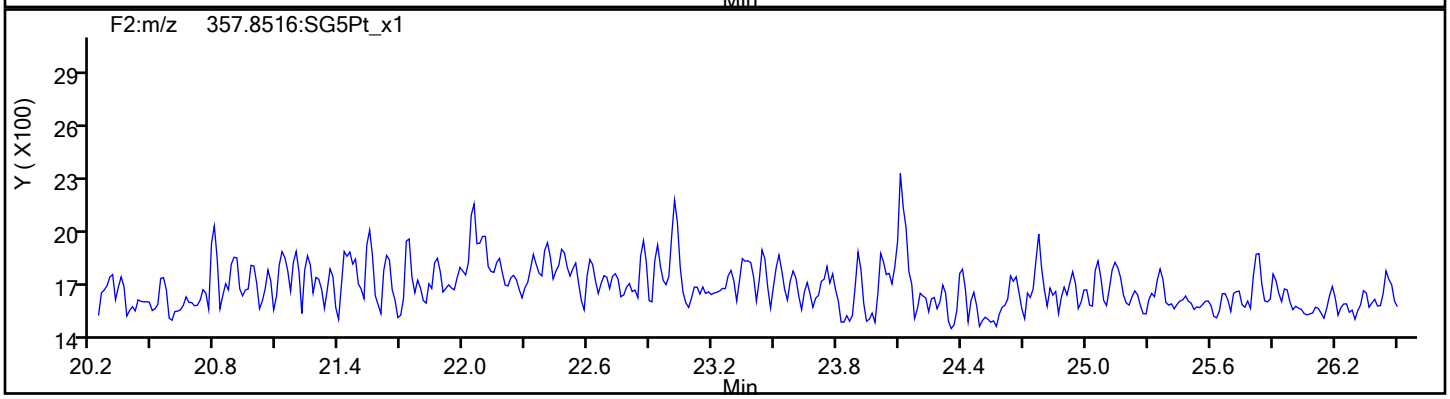

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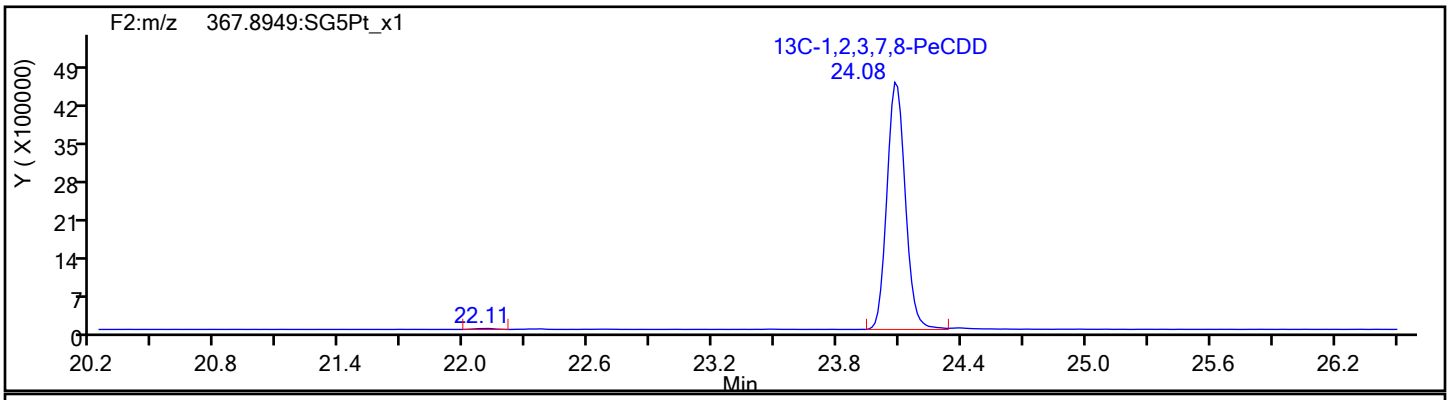

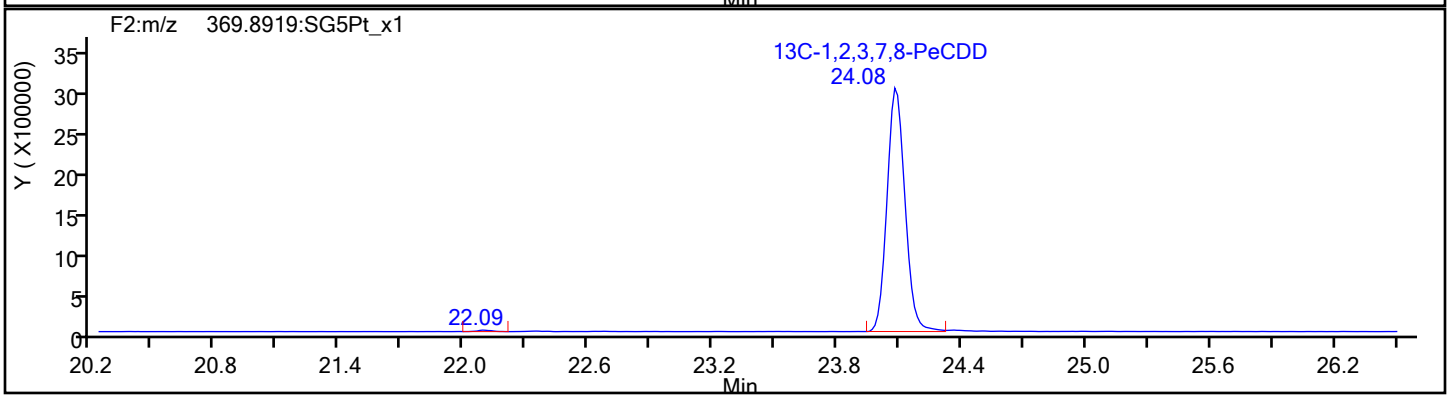

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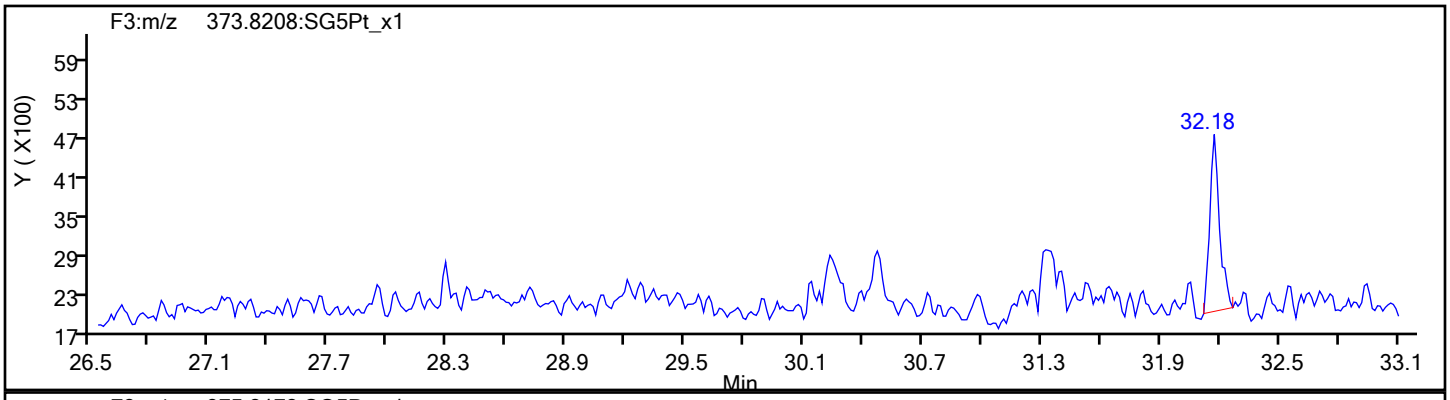

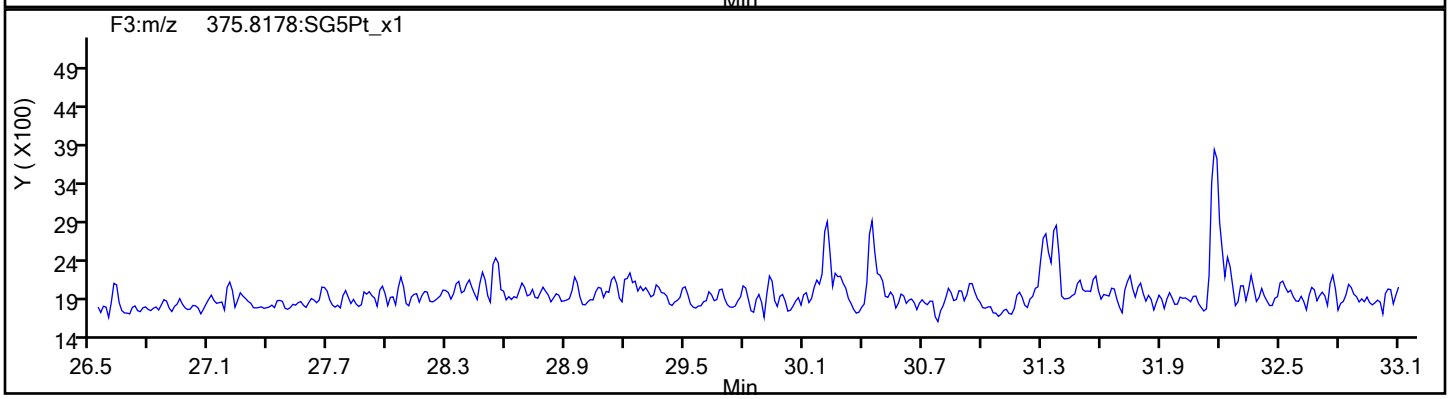

HxCDF Standards

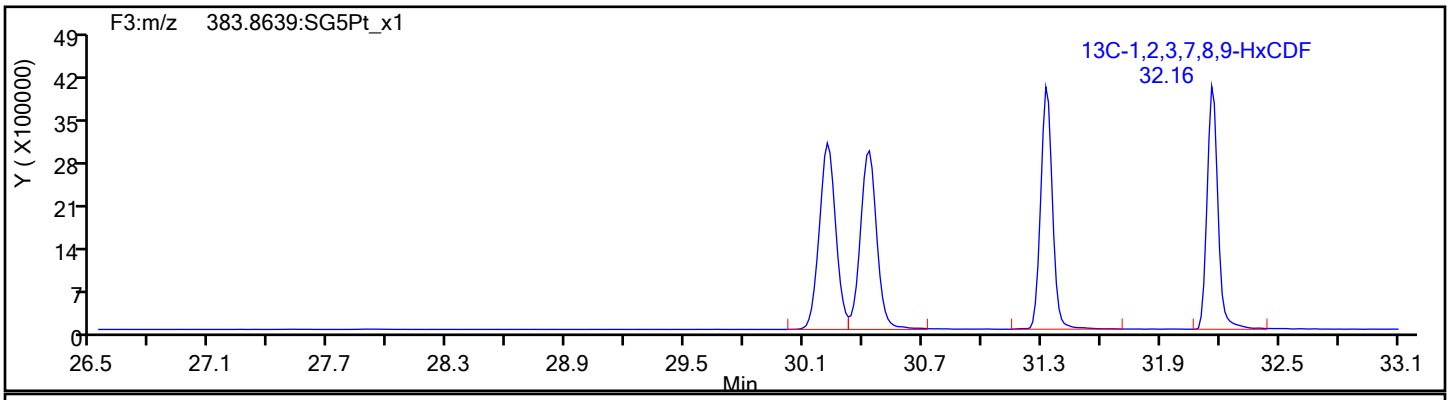

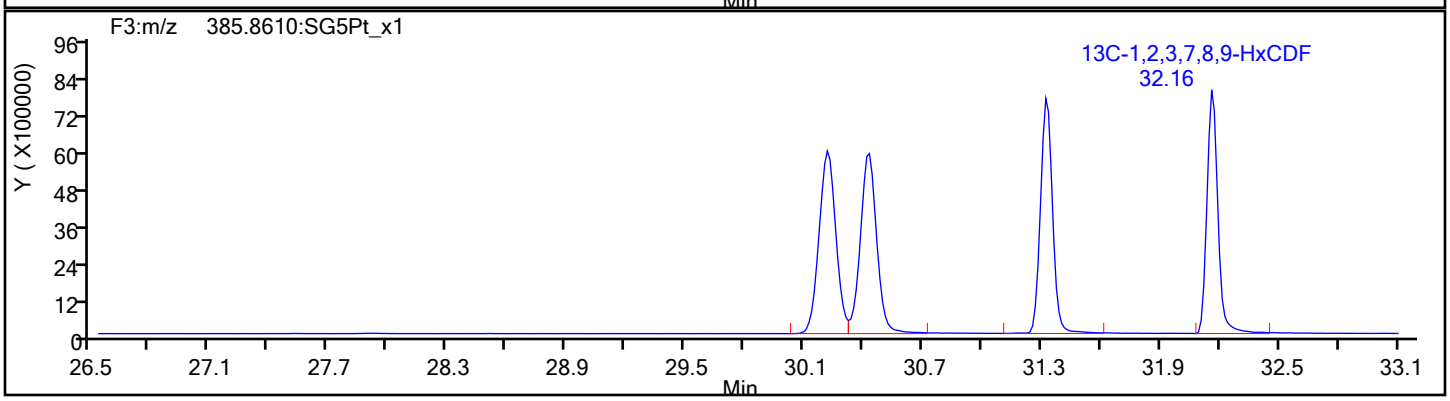

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Eurofins TestAmerica, Sacramento

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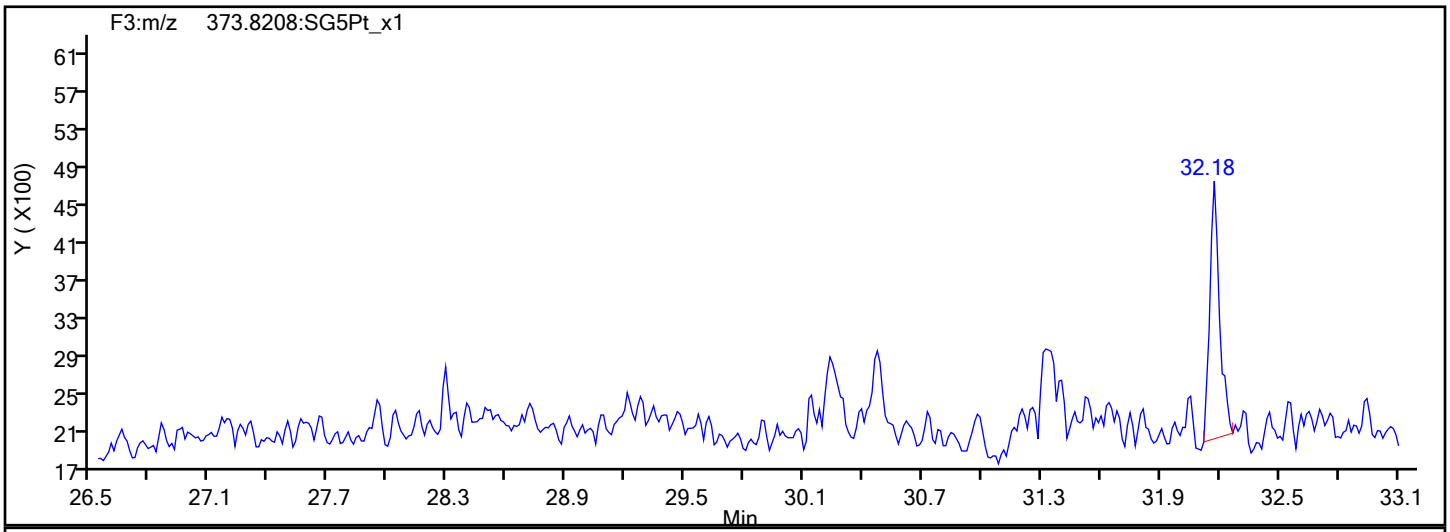

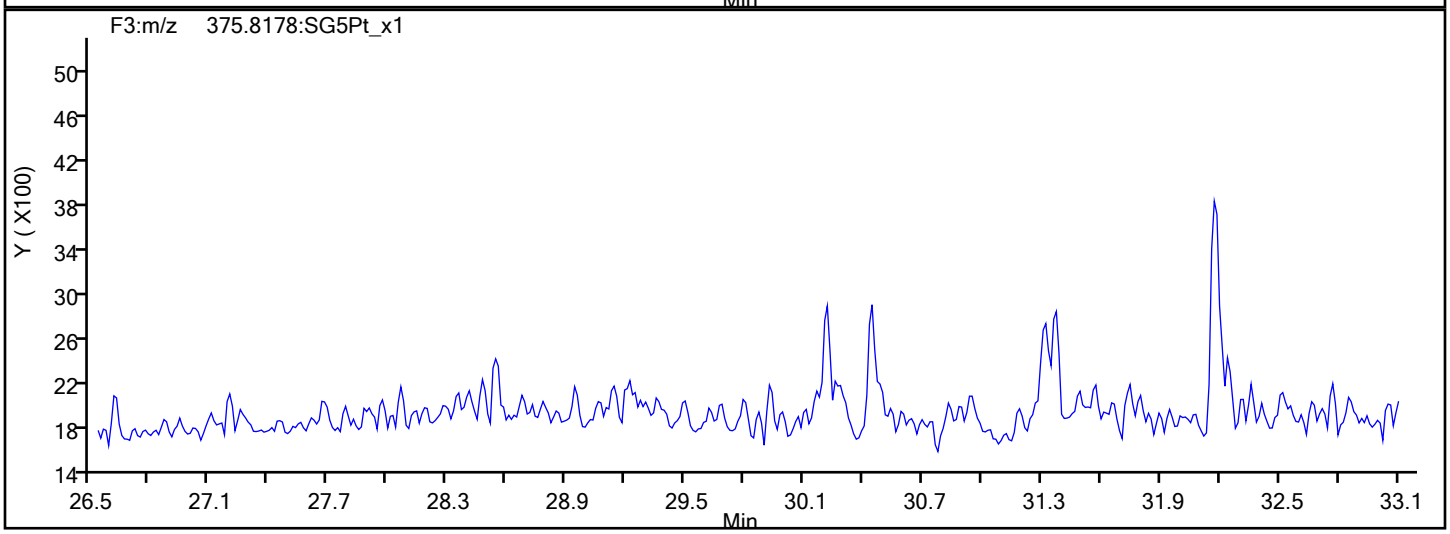

HxCDF Interference Mass

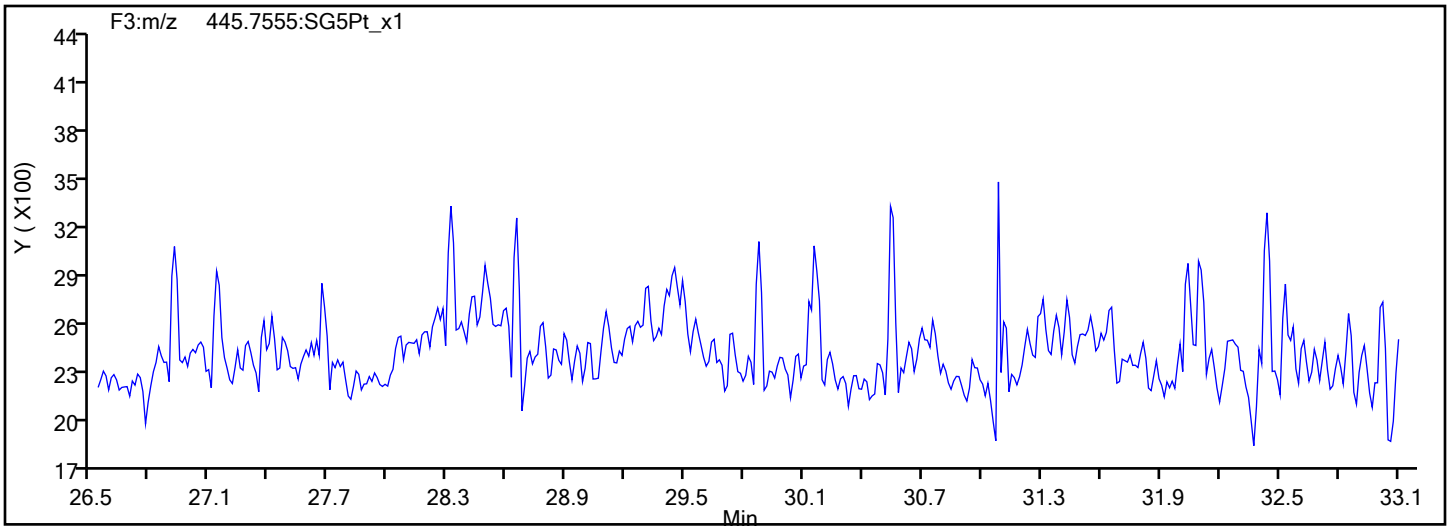

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Eurofins TestAmerica, Sacramento

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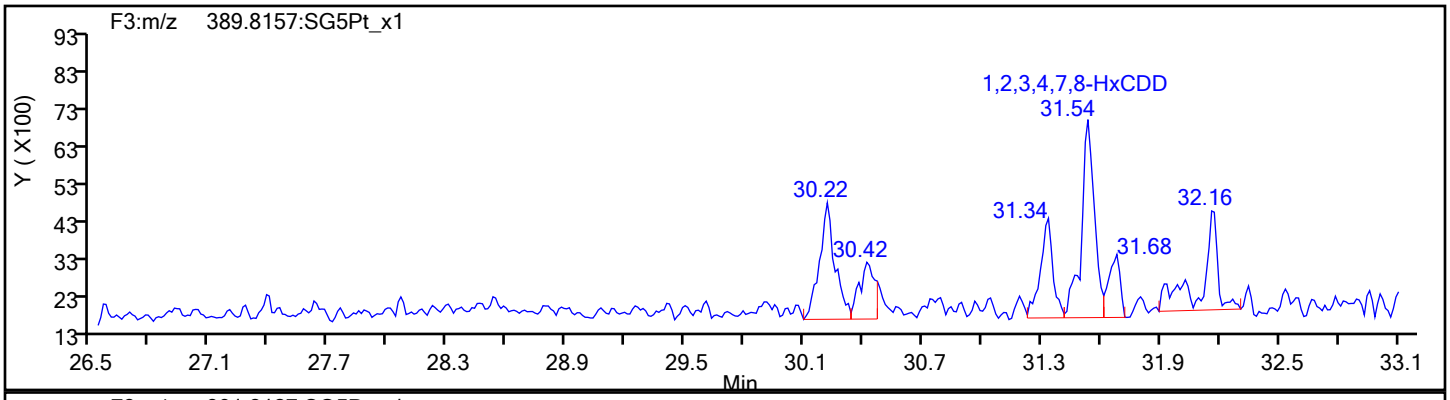

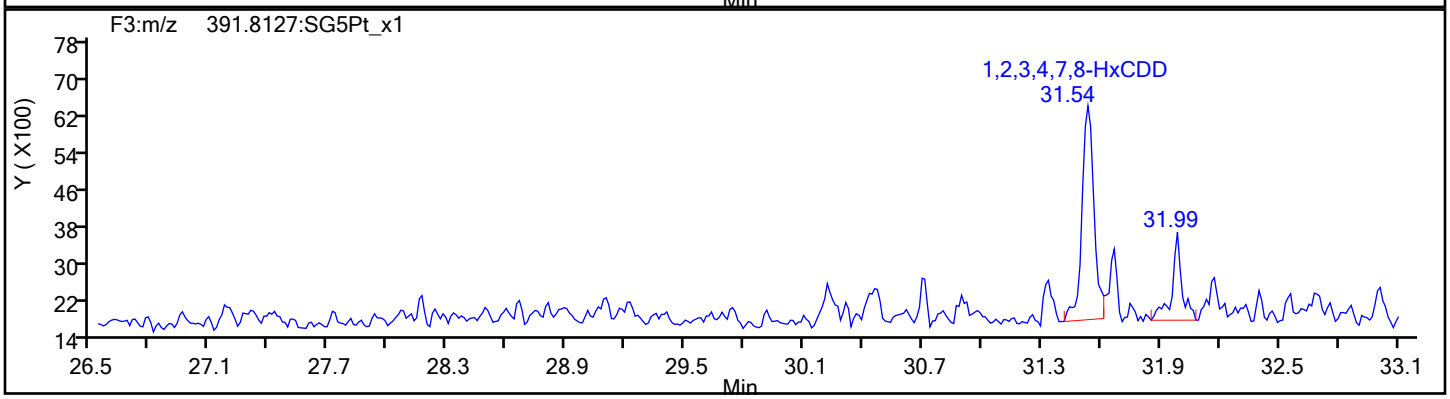

HxCDD Standards

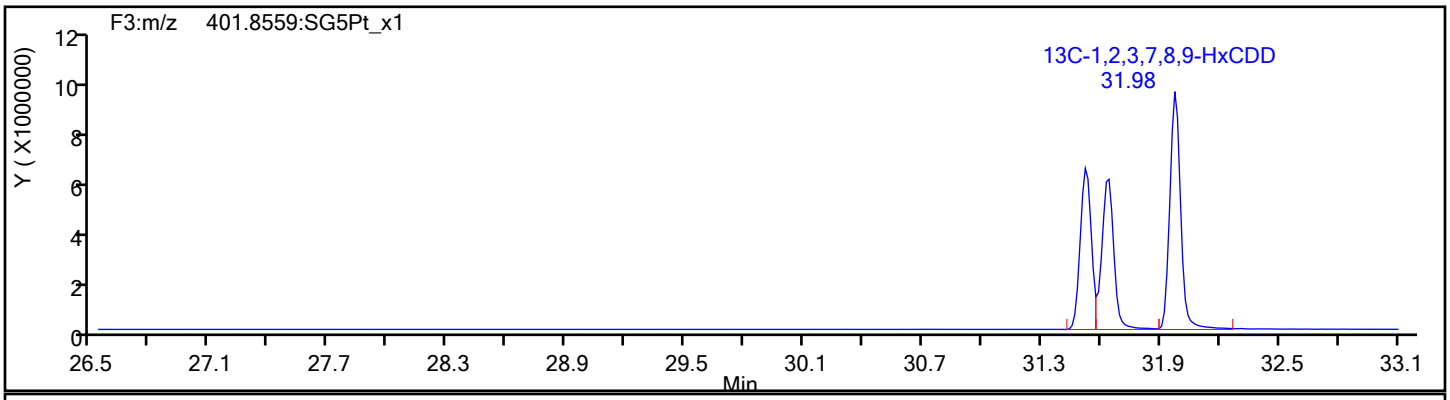

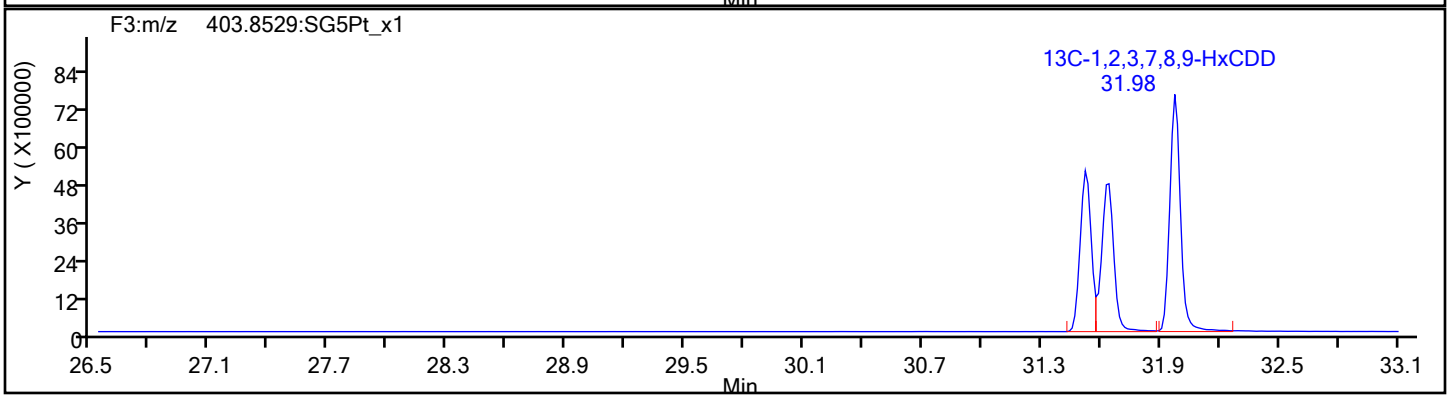

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Eurofins TestAmerica, Sacramento

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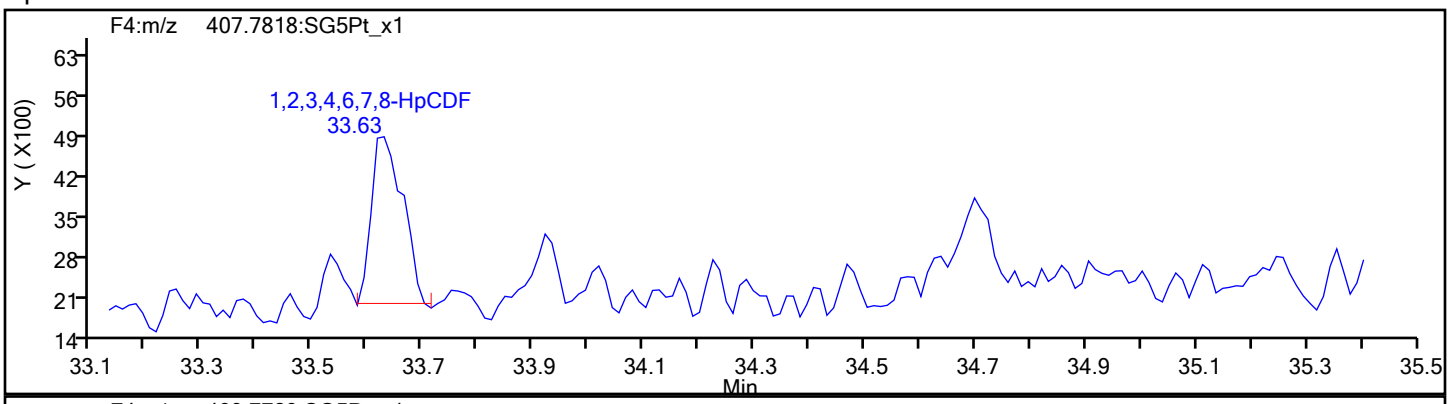

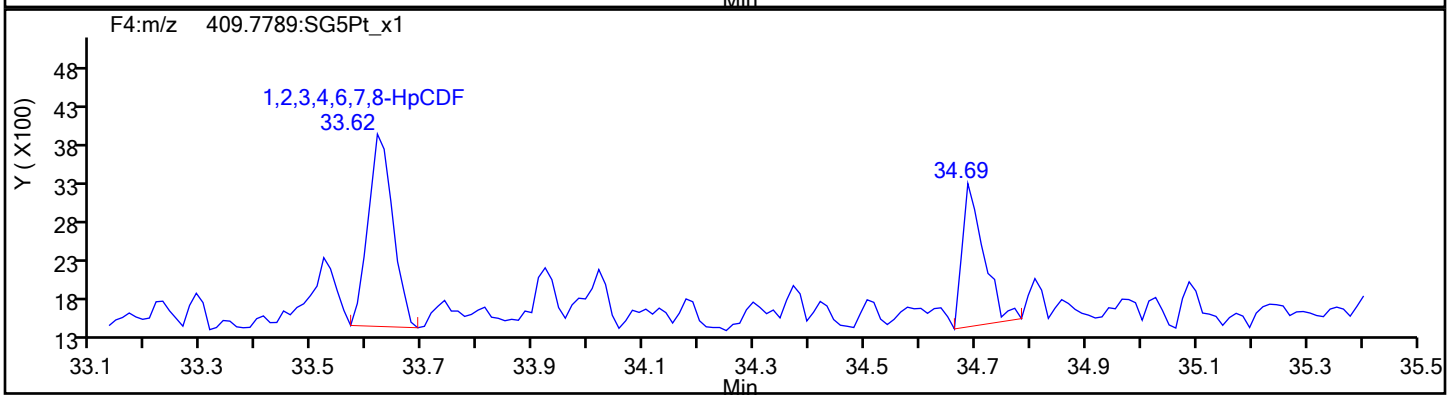

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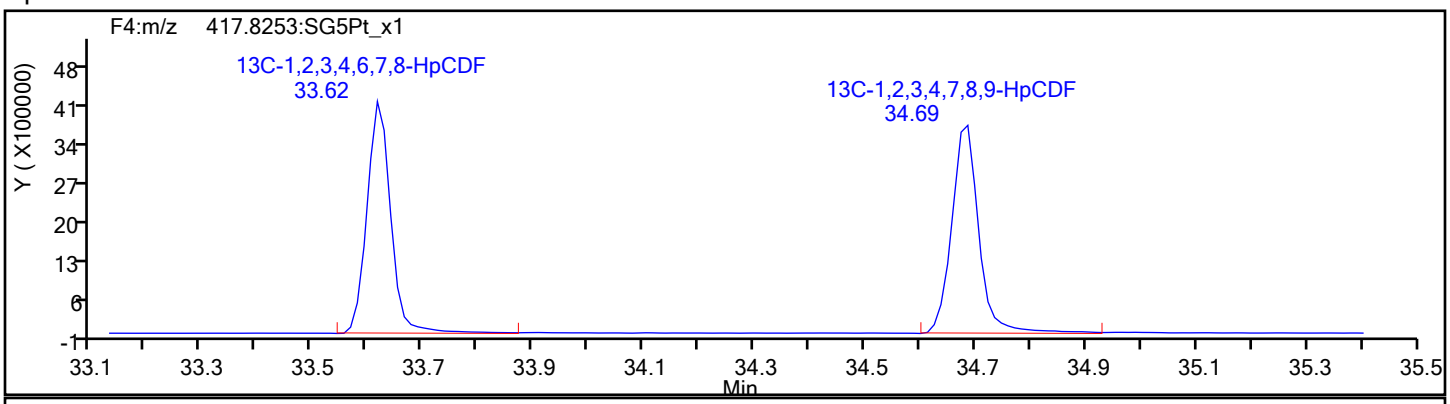

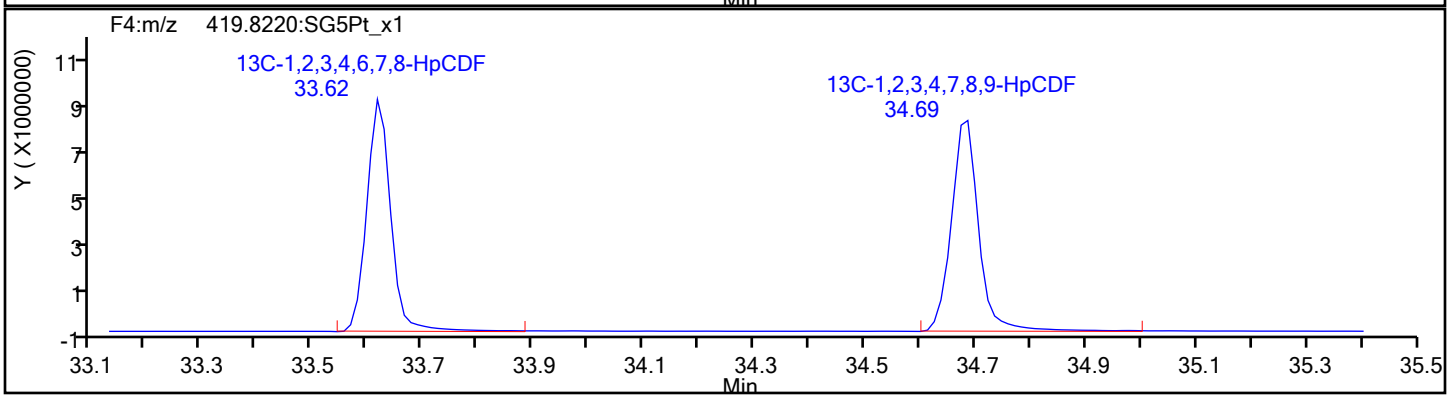

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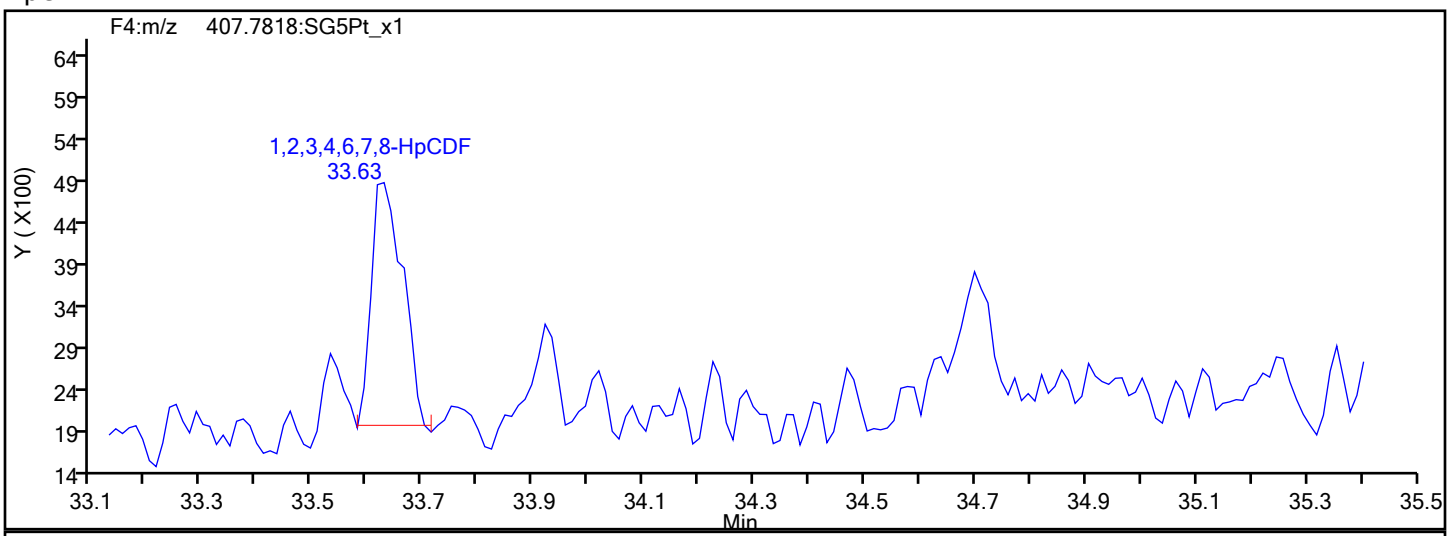

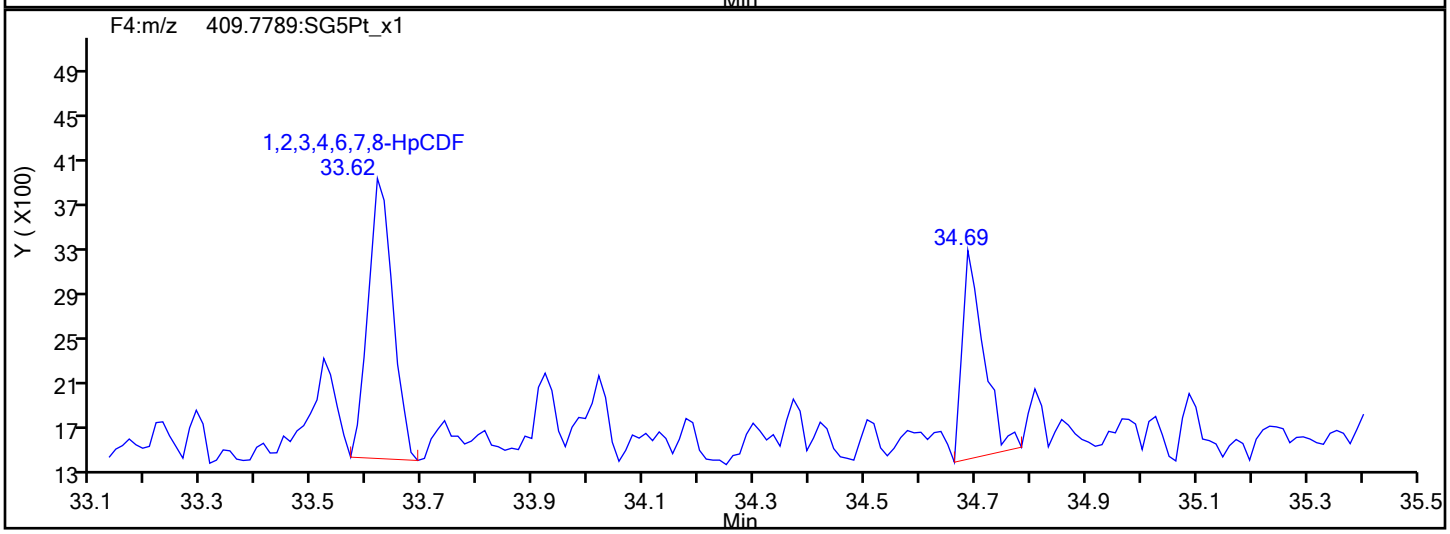

HpCDF Interference Mass

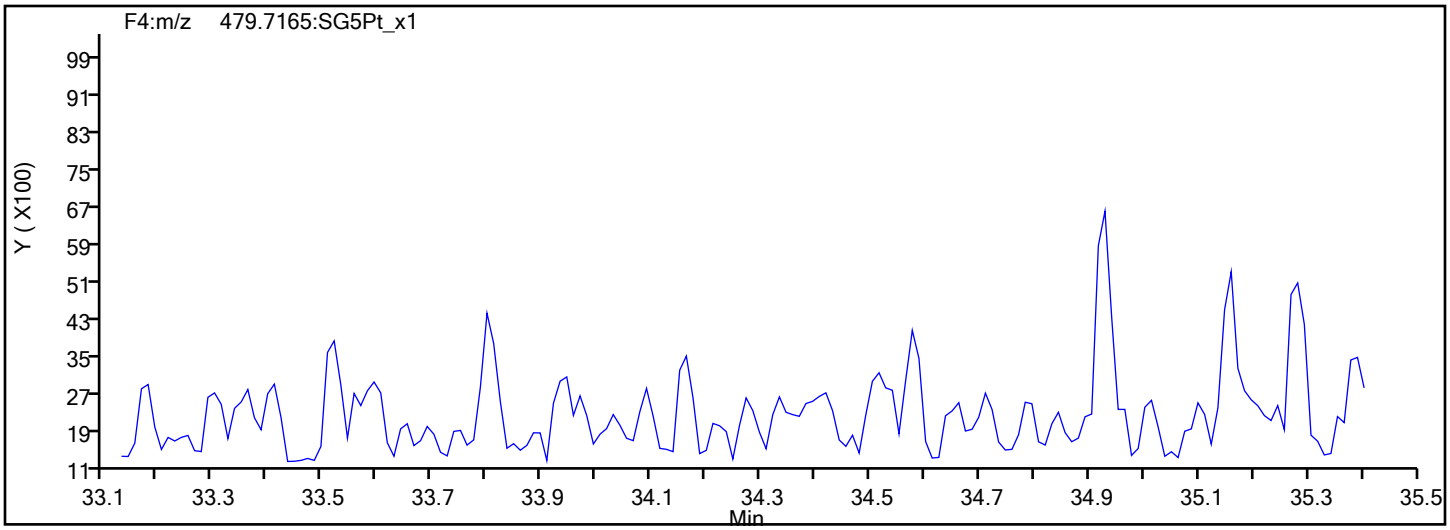

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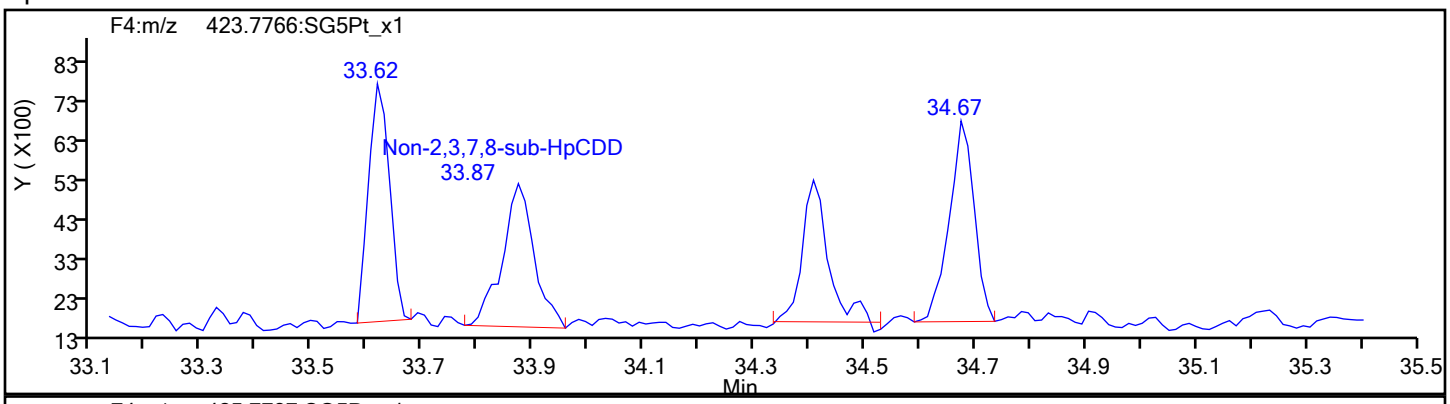

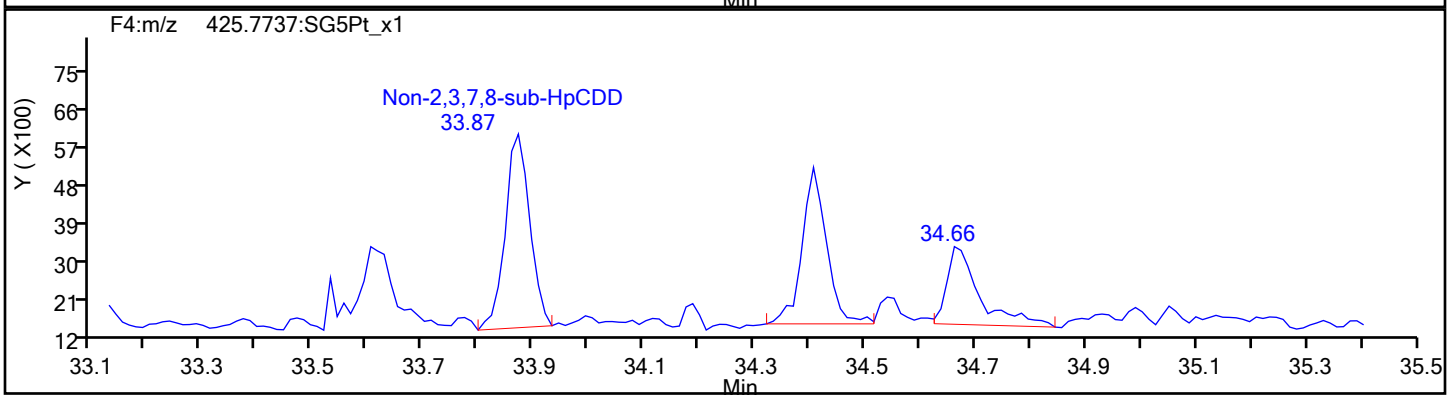

HpCDD Standards

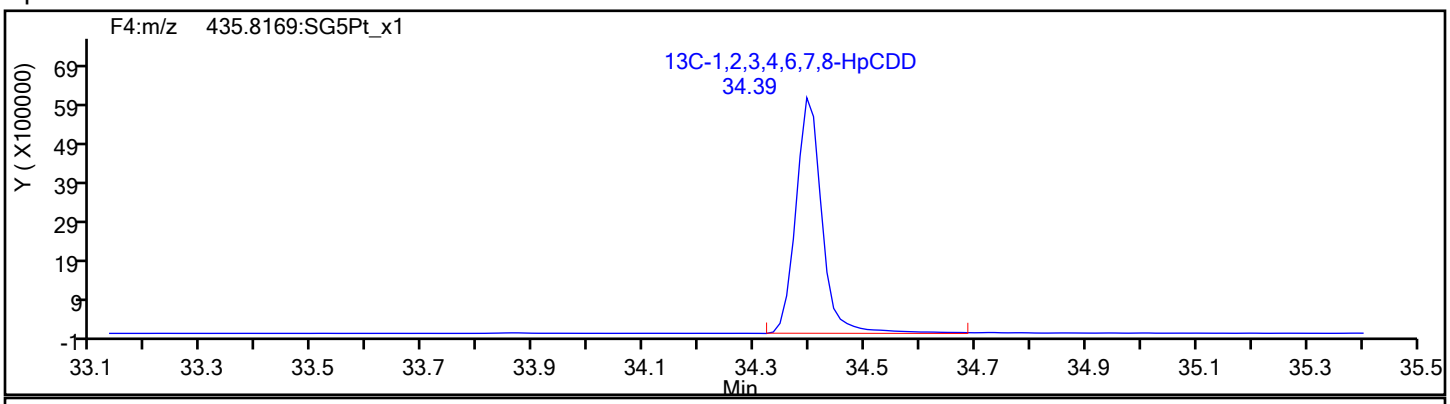

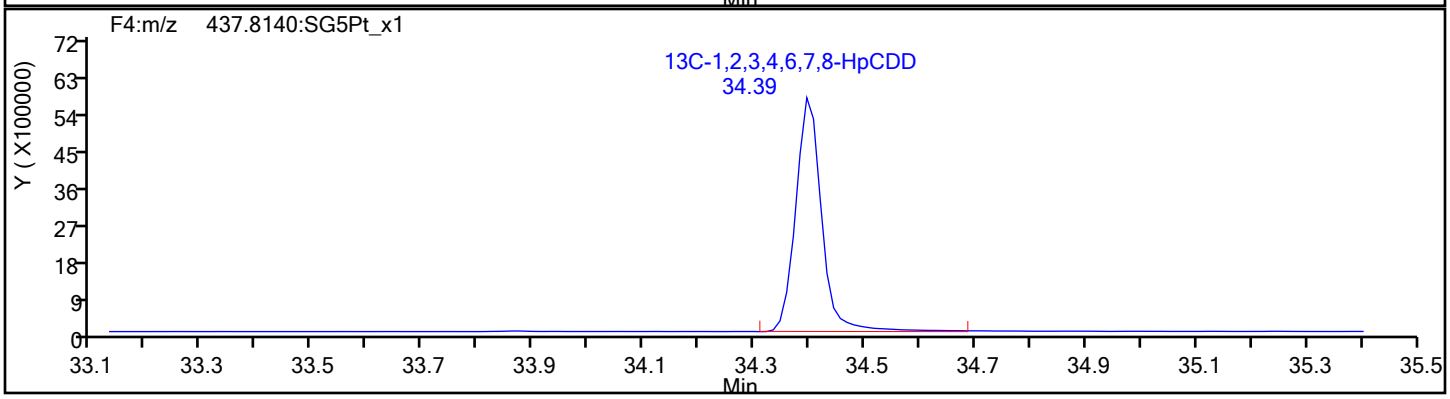

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OCDF

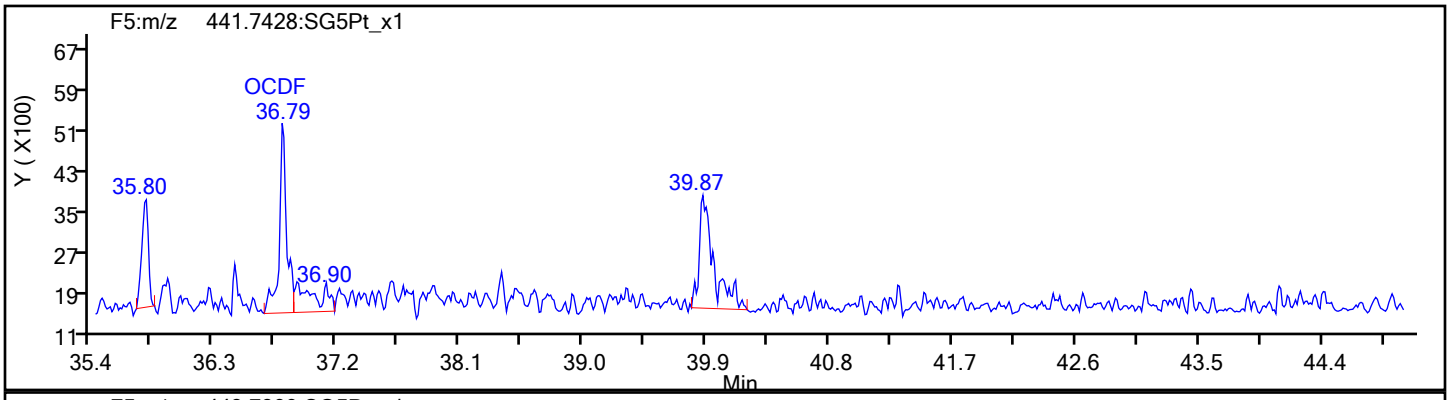

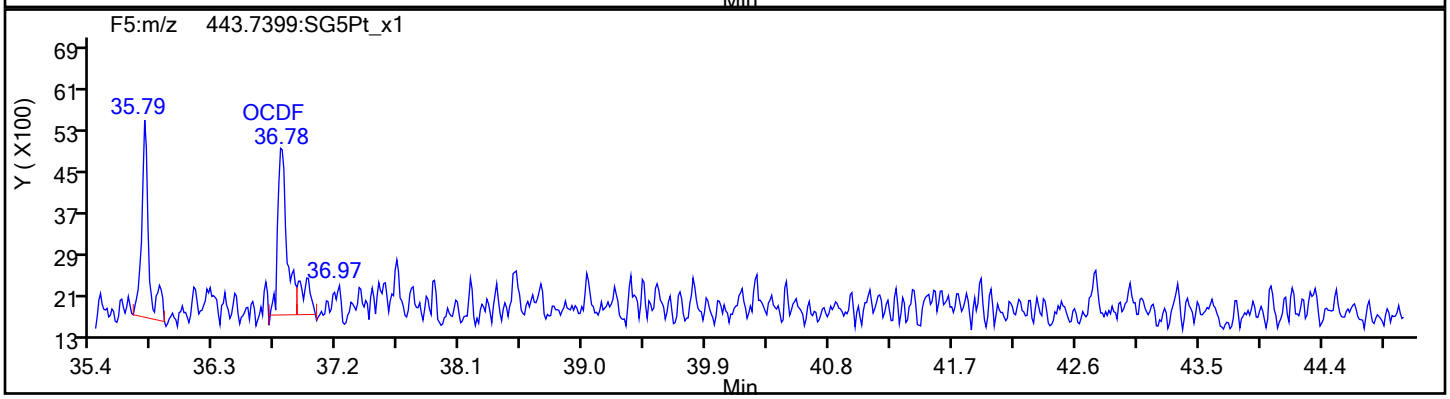

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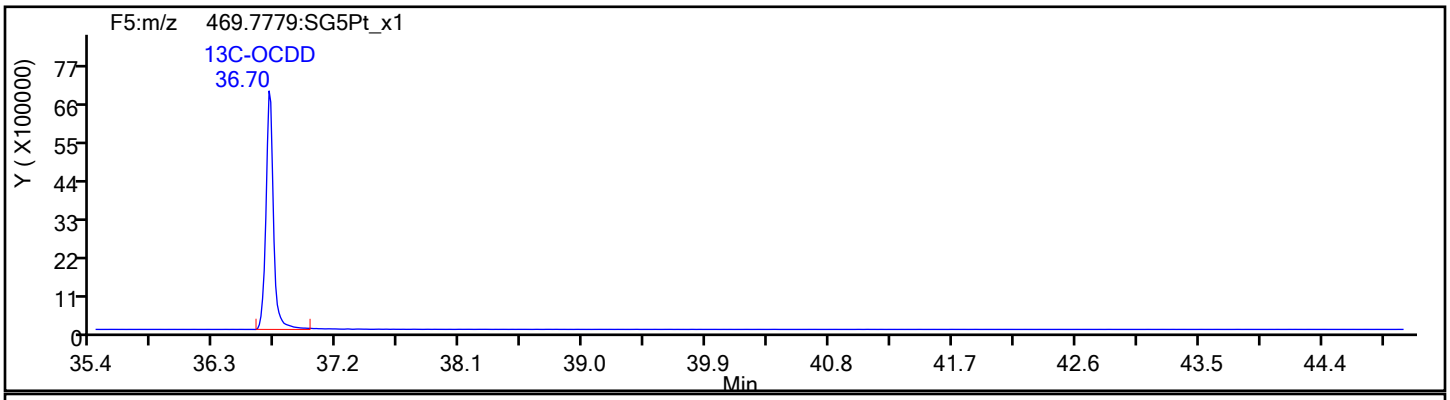

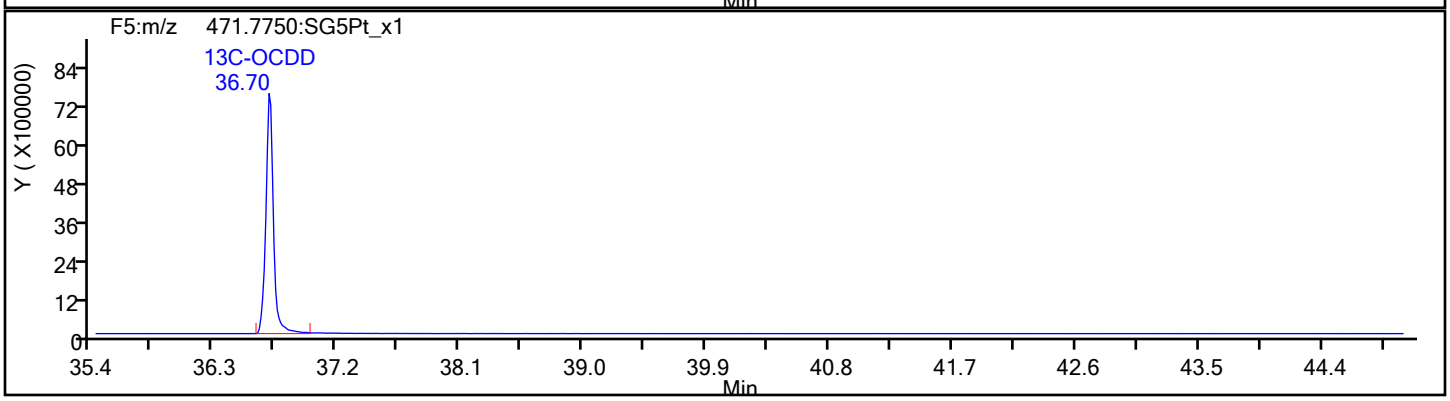

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Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

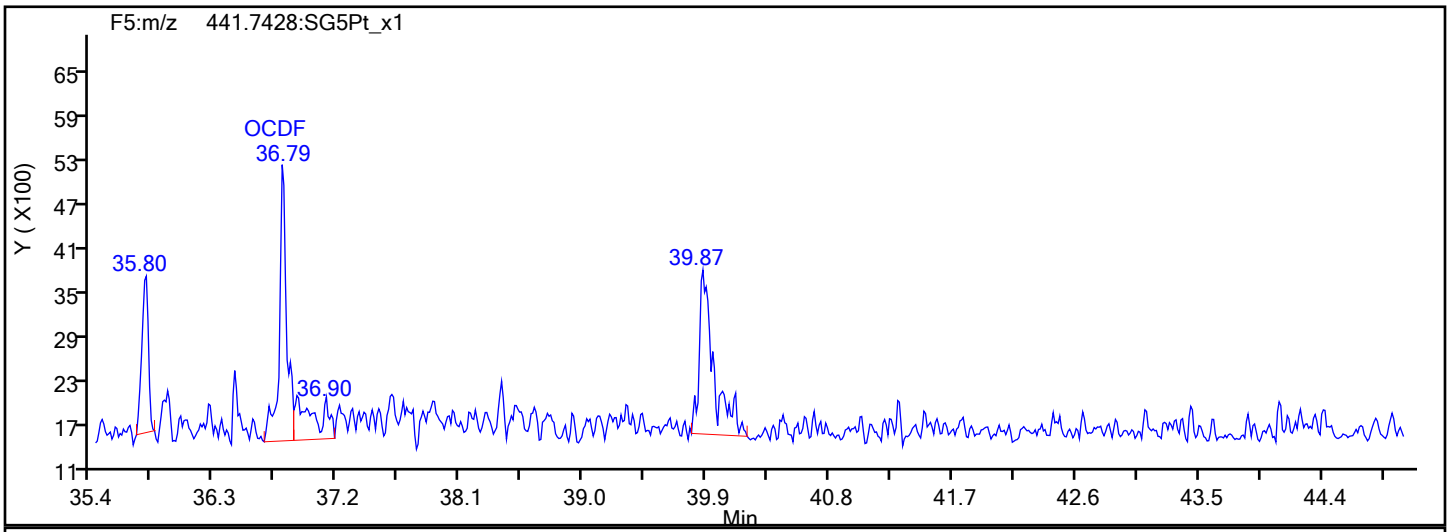

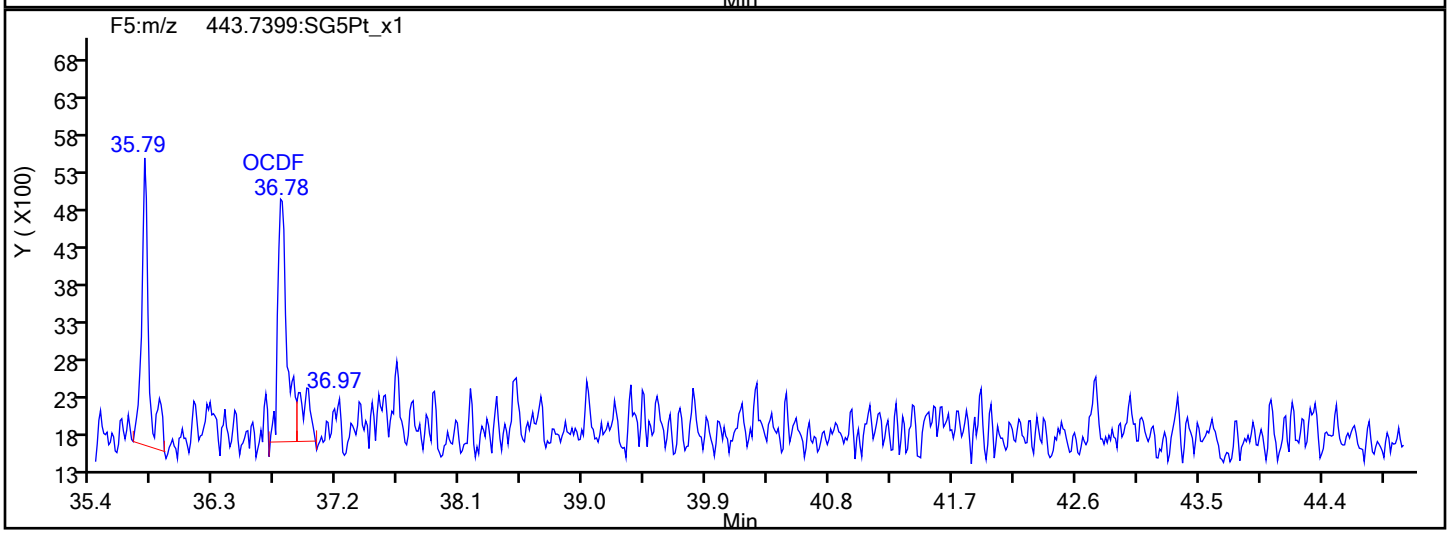

OCDF Interference Mass

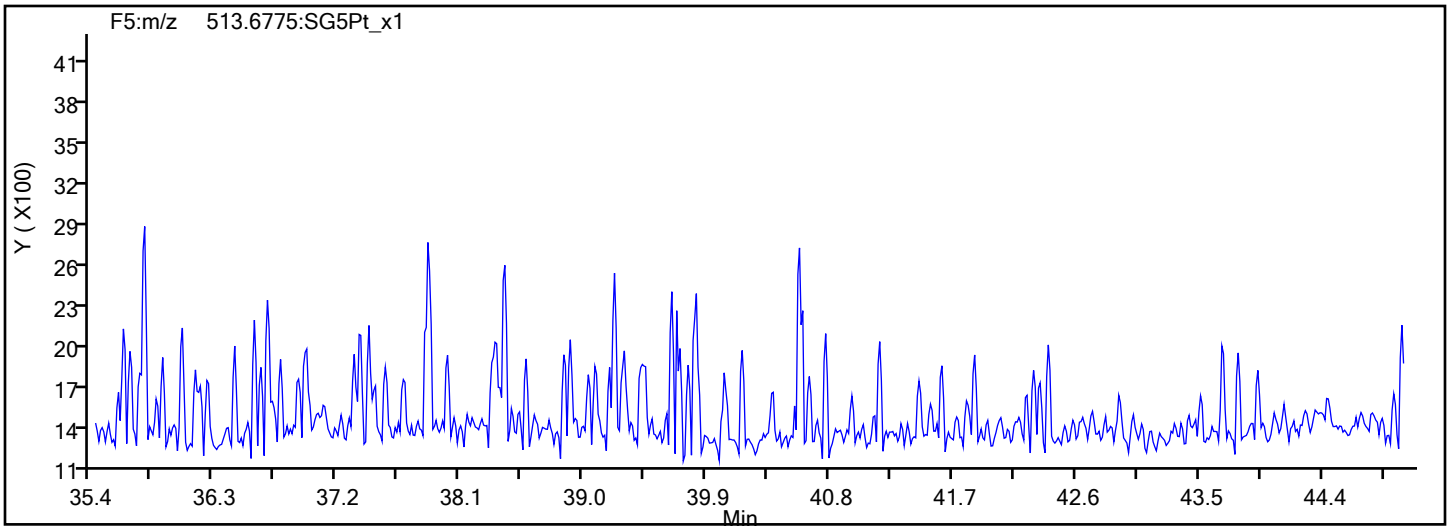

Report Date: 15-Jan-2020 12:51:23 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_23.d		
Injection Date:	14-Jan-2020 05:58:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-1um		
Worklist#:	350523	Sample Line#:	23
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

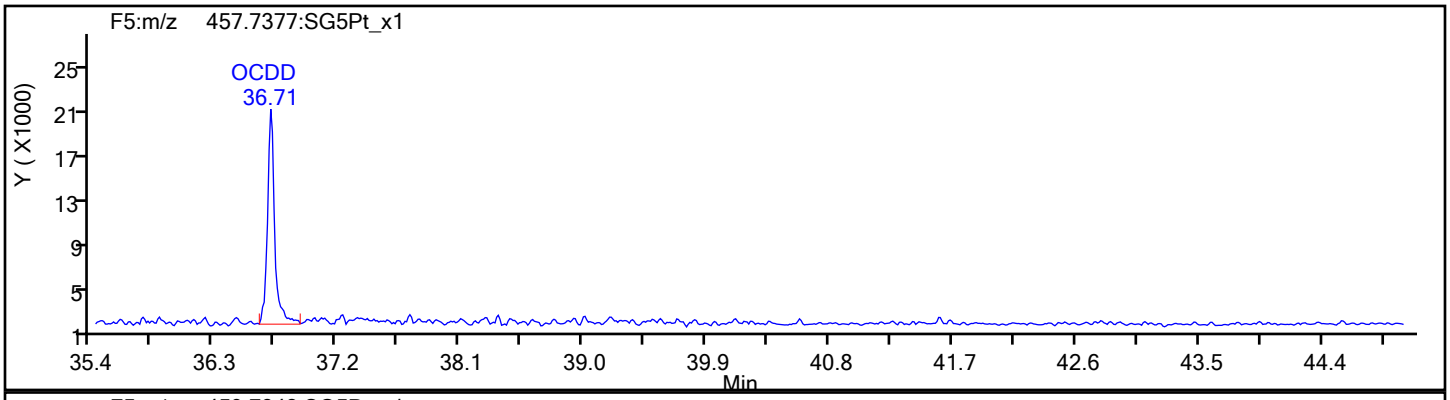

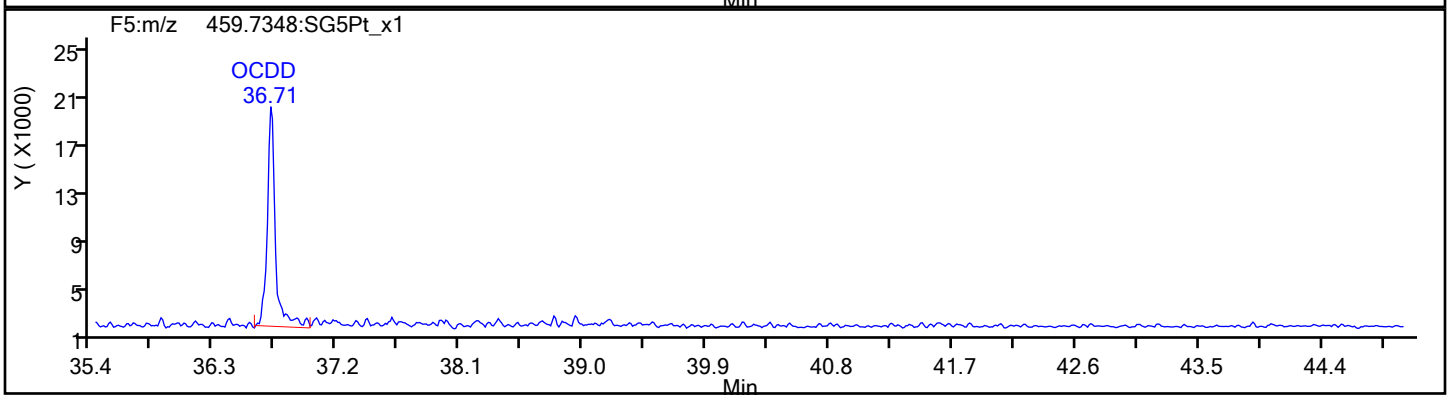

OCDD Standards

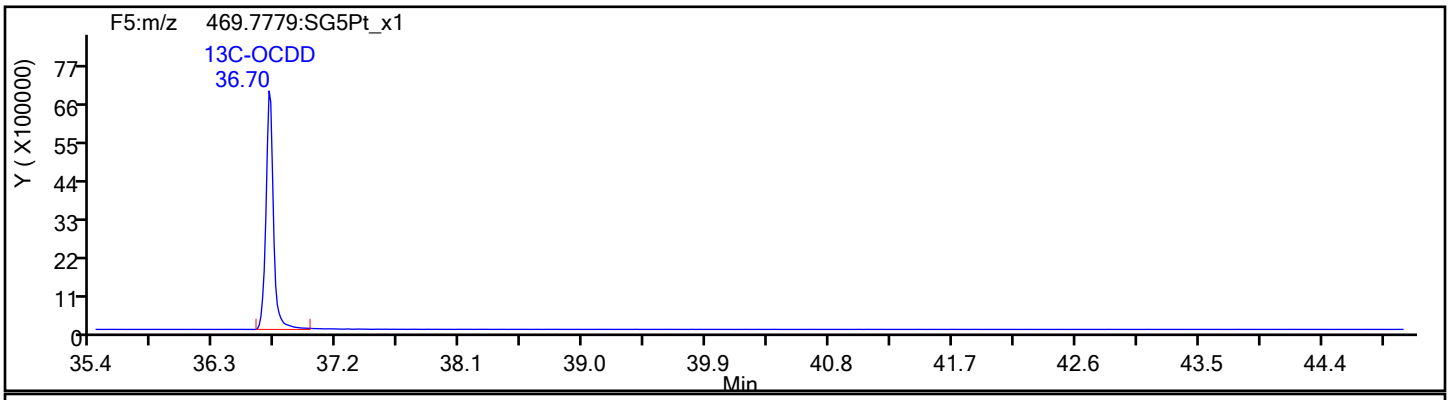

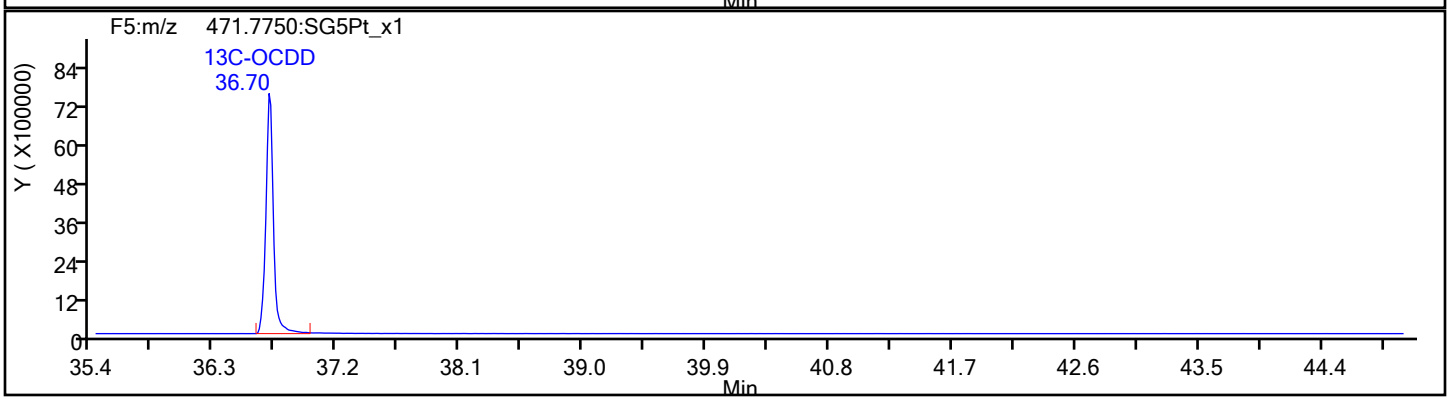

Report Date: 15-Jan-2020 12:51:23 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_23.d		
Injection Date:	14-Jan-2020 05:58:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-1um		
Worklist#:	350523	Sample Line#:	23
Column Type:	DB-5	Column Dia:	0.32 mm

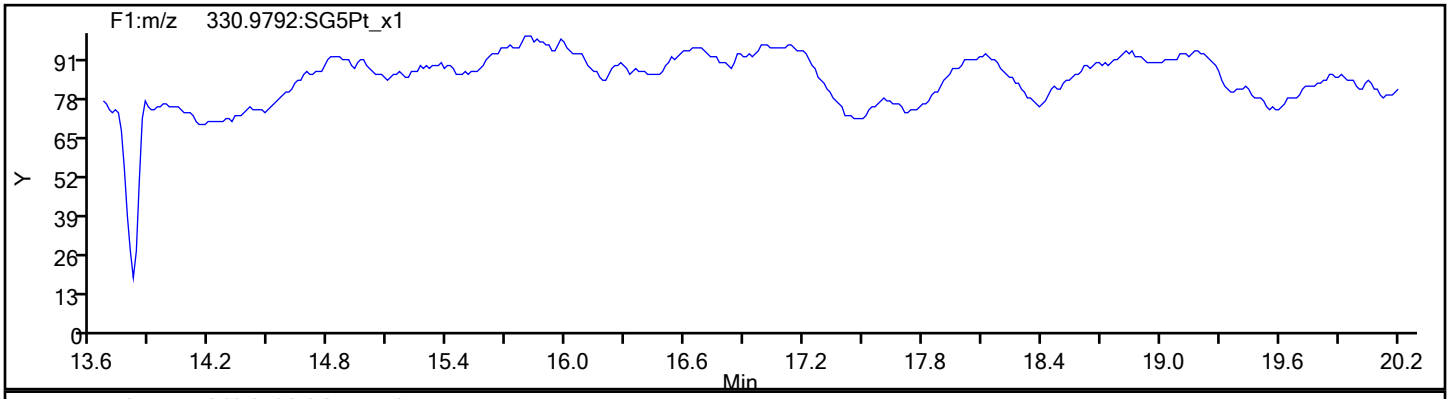

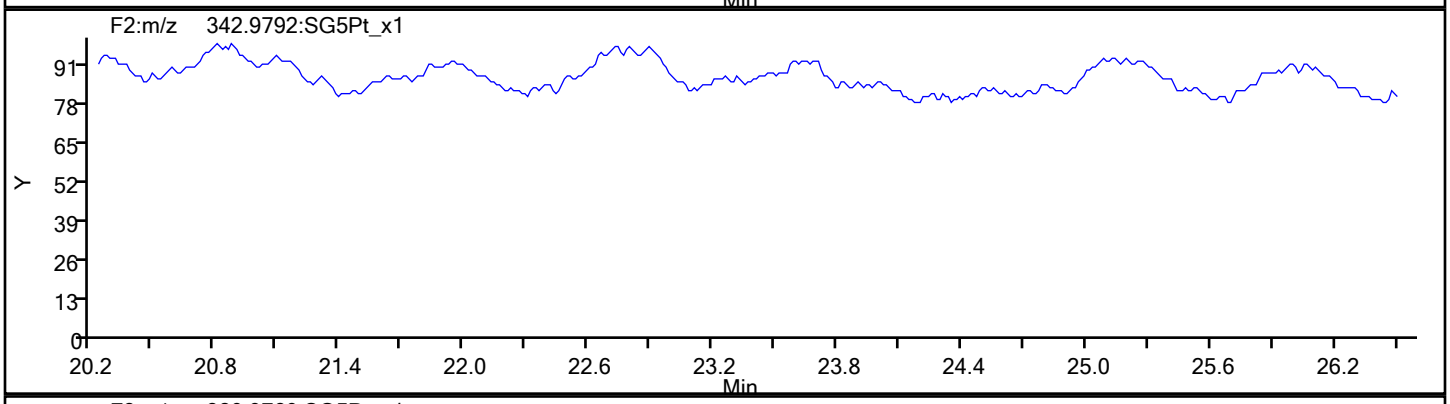

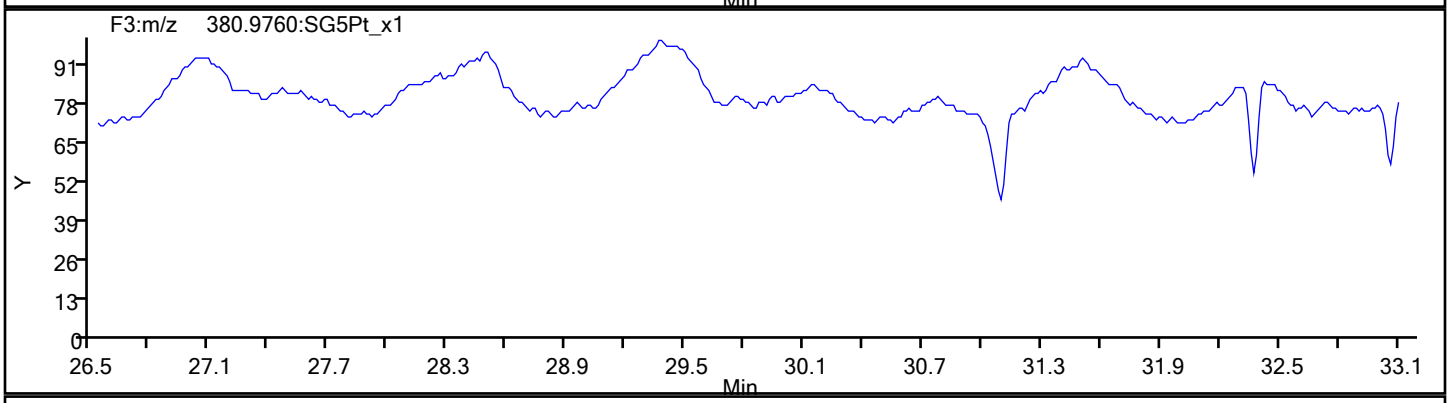

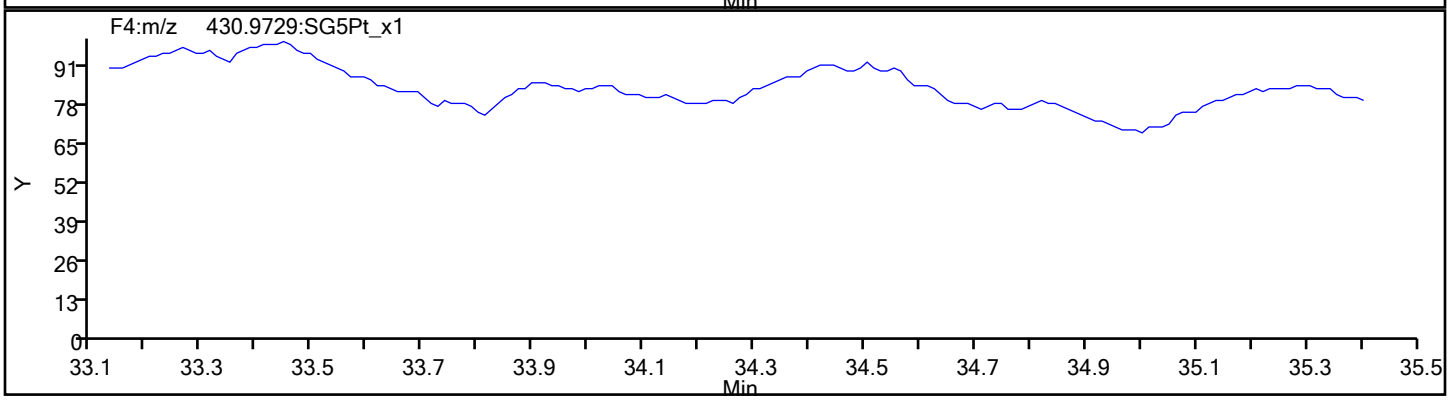

Report Date: 15-Jan-2020 12:51:23 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_23.d		
Injection Date:	14-Jan-2020 05:58:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-1um		
Worklist#:	350523	Sample Line#:	23
Column Type:	DB-5	Column Dia:	0.32 mm

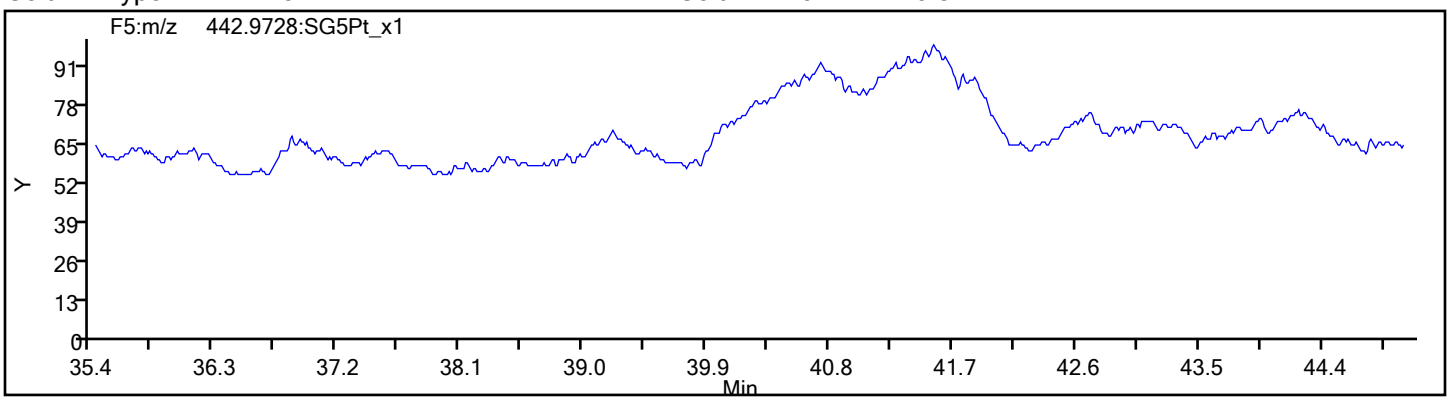

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57624-1 Analy Batch No.: 338471

SDG No.:

Instrument ID: 10D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/14/2019 09:46 Calibration End Date: 11/14/2019 12:50 Calibration ID: 48152

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-338471/3	14NO1910D5_3.d
Level 2	IC 320-338471/4	14NO1910D5_4.d
Level 3	IC 320-338471/5	14NO1910D5_5.d
Level 4	IC 320-338471/6	14NO1910D5_6.d
Level 5	IC 320-338471/7	14NO1910D5_7.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
2,3,7,8-TCDF	0.8239	0.9530	0.8917	0.9295	0.9044	AveID		0.9005				5.4		20.0			
2,3,7,8-TCDD	1.0054	1.1290	1.0297	1.1138	1.0711	AveID		1.0698				4.9		20.0			
1,2,3,7,8-PeCDF	0.8588	1.0403	0.9574	1.0182	0.9772	AveID		0.9704				7.3		20.0			
2,3,4,7,8-PeCDF	0.9016	1.0617	0.9721	1.0572	1.0001	AveID		0.9986				6.6		20.0			
1,2,3,7,8-PeCDD	0.9002	1.0593	0.9957	1.0472	1.0094	AveID		1.0023				6.3		20.0			
1,2,3,4,7,8-HxCDF	0.9021	1.0898	1.0116	1.1011	1.0528	AveID		1.0315				7.8		20.0			
1,2,3,6,7,8-HxCDF	0.8966	1.1172	1.0155	1.0677	1.0208	AveID		1.0235				8.0		20.0			
2,3,4,6,7,8-HxCDF	0.9718	1.1361	1.0543	1.1069	1.0534	AveID		1.0645				5.9		20.0			
1,2,3,4,7,8-HxCDD	0.9068	1.0458	0.9688	1.0590	1.0465	AveID		1.0054				6.5		20.0			
1,2,3,6,7,8-HxCDD	0.8876	1.0552	0.9761	1.0343	0.9632	AveID		0.9833				6.7		20.0			
1,2,3,7,8,9-HxCDD	0.9997	1.1768	1.1007	1.1567	1.0840	AveID		1.1036				6.3		20.0			
1,2,3,7,8,9-HxCDF	0.9489	1.1517	1.0496	1.1119	1.0698	AveID		1.0664				7.2		20.0			
1,2,3,4,6,7,8-HpCDF	1.2963	1.5367	1.4160	1.4714	1.3998	AveID		1.4240				6.3		20.0			
1,2,3,4,6,7,8-HpCDD	0.9169	1.0954	1.0055	1.0559	1.0133	AveID		1.0174				6.6		20.0			
1,2,3,4,7,8,9-HpCDF	1.1512	1.3772	1.2519	1.3530	1.2835	AveID		1.2834				7.0		20.0			
OCDD	1.0213	1.1865	1.0829	1.1290	1.0786	AveID		1.0997				5.6		20.0			
OCDF	1.1917	1.3740	1.3011	1.3578	1.2990	AveID		1.3047				5.5		20.0			
13C-2,3,7,8-TCDF	1.3425	1.2942	1.3293	1.3554	1.3378	Ave		1.3318				1.7		35.0			
13C-2,3,7,8-TCDD	0.9528	0.9458	0.9716	0.9692	0.9840	Ave		0.9647				1.6		35.0			
13C-1,2,3,7,8-PeCDF	1.0427	1.0020	1.0457	1.0739	1.1044	Ave		1.0537				3.6		35.0			
13C-2,3,4,7,8-PeCDF	1.0036	0.9789	1.0294	1.0169	1.0574	Ave		1.0173				2.9		35.0			
13C-1,2,3,7,8-PeCDD	0.7102	0.6969	0.7175	0.7522	0.7638	Ave		0.7281				3.9		35.0			
13C-1,2,3,4,7,8-HxCDF	0.9646	0.9287	0.9525	0.9844	0.9855	Ave		0.9632				2.5		35.0			
13C-1,2,3,6,7,8-HxCDF	1.0853	1.0325	1.0260	1.0876	1.0914	Ave		1.0646				3.0		35.0			
13C-2,3,4,6,7,8-HxCDF	0.9689	0.9578	0.9421	0.9892	0.9901	Ave		0.9696				2.1		35.0			
13C-1,2,3,4,7,8-HxCDD	0.7308	0.7633	0.7491	0.7751	0.7766	Ave		0.7590				2.5		35.0			
13C-1,2,3,6,7,8-HxCDD	0.9316	0.9051	0.8879	0.9305	0.9685	Ave		0.9247				3.3		35.0			
13C-1,2,3,7,8,9-HxCDF	0.8857	0.8690	0.8836	0.9211	0.9180	Ave		0.8955				2.6		35.0			
13C-1,2,3,4,6,7,8-HpCDF	0.7833	0.7817	0.7591	0.8224	0.8185	Ave		0.7930				3.4		35.0			
13C-1,2,3,4,6,7,8-HpCDD	0.7372	0.7358	0.7256	0.7776	0.7896	Ave		0.7532				3.8		35.0			
13C-1,2,3,4,7,8,9-HpCDF	0.7068	0.7100	0.7153	0.7429	0.7729	Ave		0.7296				3.9		35.0			
13C-OCDD	0.5284	0.5274	0.5411	0.5843	0.6291	Ave		0.5621				7.8		35.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57624-1 Analy Batch No.: 338471

SDG No.:

Instrument ID: 10D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/14/2019 09:46 Calibration End Date: 11/14/2019 12:50 Calibration ID: 48152

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
37Cl4-2,3,7,8-TCDD	1.1483	1.1874	1.5186	1.3435	1.3432	Ave		1.3082				11.3					

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57624-1 Analy Batch No.: 338471

SDG No.:

Instrument ID: 10D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/14/2019 09:46 Calibration End Date: 11/14/2019 12:50 Calibration ID: 48152

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-338471/3	14NO1910D5_3.d
Level 2	IC 320-338471/4	14NO1910D5_4.d
Level 3	IC 320-338471/5	14NO1910D5_5.d
Level 4	IC 320-338471/6	14NO1910D5_6.d
Level 5	IC 320-338471/7	14NO1910D5_7.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (PG/UL)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
2,3,7,8-TCDF		AveID	642077	2974733	14438463	59808417	252127694	0.500	2.00	10.0	40.0	200
2,3,7,8-TCDD		AveID	556018	2575271	12186908	51246180	219628955	0.500	2.00	10.0	40.0	200
1,2,3,7,8-PeCDF		AveID	2598728	12569686	60982032	259554068	1124414192	2.50	10.0	50.0	200	1000
2,3,4,7,8-PeCDF		AveID	2626241	12532612	60953518	255176989	1101823445	2.50	10.0	50.0	200	1000
1,2,3,7,8-PeCDD		AveID	1855324	8901872	43513844	186964565	803296921	2.50	10.0	50.0	200	1000
1,2,3,4,7,8-HxCDF		AveID	1849054	9042597	45826476	194792330	844095405	2.50	10.0	50.0	200	1000
1,2,3,6,7,8-HxCDF		AveID	2067919	10306095	49548801	208690260	906309496	2.50	10.0	50.0	200	1000
2,3,4,6,7,8-HxCDF		AveID	2000921	9723529	47237432	196787993	848438372	2.50	10.0	50.0	200	1000
1,2,3,4,7,8-HxCDD		AveID	1408236	7132423	34514378	147524233	661180887	2.50	10.0	50.0	200	1000
1,2,3,6,7,8-HxCDD		AveID	1757293	8533516	41219178	172956675	758968703	2.50	10.0	50.0	200	1000
1,2,3,7,8,9-HxCDD		AveID	1765822	8771399	42847509	177277735	769482602	2.50	10.0	50.0	200	1000
1,2,3,7,8,9-HxCDF		AveID	1786006	8942226	44109482	184050734	798982446	2.50	10.0	50.0	200	1000
1,2,3,4,6,7,8-HpCDF		AveID	2157779	10733813	51117337	217460089	932005937	2.50	10.0	50.0	200	1000
1,2,3,4,6,7,8-HpCDD		AveID	1436378	7201830	34696372	147557790	650929056	2.50	10.0	50.0	200	1000
1,2,3,4,7,8,9-HpCDF		AveID	1729011	8737178	42585703	180625829	807051823	2.50	10.0	50.0	200	1000
OCDD		AveID	2293549	11182534	55739047	237100919	1103964033	5.00	20.0	100	400	2000
OCDF		AveID	2676042	12949120	66966196	285155825	1329507408	5.00	20.0	100	400	2000
13C-2,3,7,8-TCDF	13CTC	Ave	155856912	156065046	161928326	160860723	139383549	100	100	100	100	100
13C-2,3,7,8-TCDD	13CTC	Ave	110606857	114053402	118357002	115029444	102520996	100	100	100	100	100
13C-1,2,3,7,8-PeCDF	13CTC	Ave	121045773	120823246	127384973	127455889	115062874	100	100	100	100	100
13C-2,3,4,7,8-PeCDF	13CTC	Ave	116513735	118044282	125399433	120686165	110168728	100	100	100	100	100
13C-1,2,3,7,8-PeCDD	13CTC	Ave	82444355	84035570	87404800	89271526	79581792	100	100	100	100	100
13C-1,2,3,4,7,8-HxCDF	13CHx	Ave	81993266	82977803	90601161	88457179	80175121	100	100	100	100	100
13C-1,2,3,6,7,8-HxCDF	13CHx	Ave	92255496	92252784	97586689	97731144	88786422	100	100	100	100	100
13C-2,3,4,6,7,8-HxCDF	13CHx	Ave	82356882	85583439	89609086	88889402	80545635	100	100	100	100	100
13C-1,2,3,4,7,8-HxCDD	13CHx	Ave	62120842	68199301	71254969	69650431	63178776	100	100	100	100	100
13C-1,2,3,6,7,8-HxCDD	13CHx	Ave	79191499	80868571	84454503	83609273	78792852	100	100	100	100	100
13C-1,2,3,7,8,9-HxCDF	13CHx	Ave	75284516	77641252	84048823	82765963	74684364	100	100	100	100	100
13C-1,2,3,4,6,7,8-HpCDF	13CHx	Ave	66584092	69849087	72198948	73893576	66583432	100	100	100	100	100
13C-1,2,3,4,6,7,8-HpCDD	13CHx	Ave	62661164	65748052	69012021	69874428	64235657	100	100	100	100	100
13C-1,2,3,4,7,8,9-HpCDF	13CHx	Ave	60078913	63441185	68033057	66749921	62876654	100	100	100	100	100
13C-OCDD	13CHx	Ave	89825341	94246168	102939677	105005841	102351522	200	200	200	200	200
37Cl4-2,3,7,8-TCDD	13CTC	Ave	666561	2863654	18499321	63777935	279889579	0.500	2.00	10.0	40.0	200

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57624-1 Analy Batch No.: 338471

SDG No.:

Instrument ID: 10D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/14/2019 09:46 Calibration End Date: 11/14/2019 12:50 Calibration ID: 48152

Curve Type Legend:

Ave = Average ISTD
AveID = Average isotope dilution

Sample List Report **MassLynx 4.1**

Sample List: C:\MassLynx\DATA 2019.PRO\SampleDB\14NO1910D5.SPL

Last Modified: Thursday, November 14, 2019 08:38:45 Pacific Standard Time

Printed: Thursday, November 14, 2019 08:39:13 Pacific Standard Time

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #	User	Sample Size
1	14NO1910D5_1	WDM HRDXNCP_00040	WDM 111419	Tray01:1	Dioxin		SMA	1.000000
2	14NO1910D5_2	Solvent Blank C-14	SB 111419	Tray01:3	---		SMA	1.000000
3	14NO1910D5_3	CS-2 HRDXNL2_00027	IC111419	Tray01:4	Dioxin		SMA	1.000000
4	14NO1910D5_4	CS-3 HRDXNL3_00025	IC111419A	Tray01:5	Dioxin		SMA	1.000000
5	14NO1910D5_5	CS-4 HRDXNL4_00085	IC111419B	Tray01:2	Dioxin		SMA	1.000000
6	14NO1910D5_6	CS-5 HRDXNL5_00028	IC111419C	Tray01:6	Dioxin	---	SMA	1.000000
7	14NO1910D5_7	CS-6 HRDXNL6_00024	IC111419D	Tray01:7	Dioxin		SMA	1.000000
8	14NO1910D5_8	Solvent Blank C-14	SB 111419A	Tray01:3	---		SMA	1.000000
9	14NO1910D5_9	ICV HRDXNIC_00042	ICV111419	Tray01:8	Dioxin		SMA	1.000000
10	14NO1910D5_10	Solvent Blank C-14	SB 111419B	Tray01:3	---		SMA	1.000000

Log file reviewed
AJS
11-14-19

Units	MS File	Inlet File	Inject Volume	Process
	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
---	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck

Process Options	Action On Error	s5
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
C:\Masslynx\Autospec\dioxinrescheck.dat	Ignore Error	---
C:\Masslynx\Autospec\dioxinrescheck.dat	Ignore Error	---

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed: Thursday, November 14, 2019 08:08:44 Pacific Standard Time

M 292.9824 R 13229

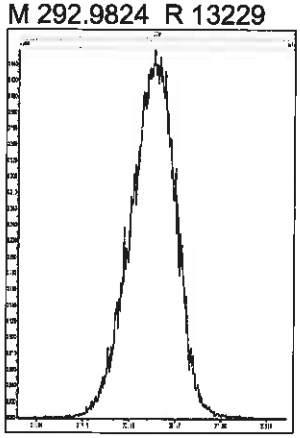

M 304.9824 R 13368

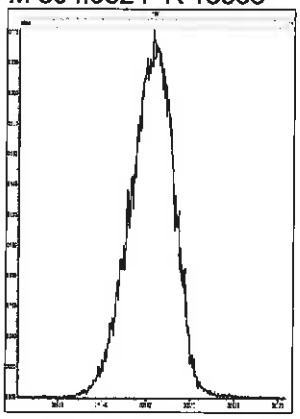

M 318.9792 R 13439

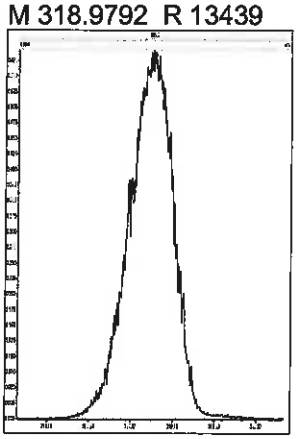

M 330.9792 R 13230

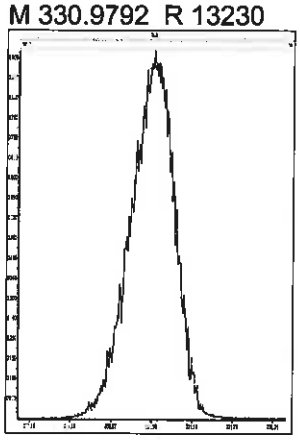

M 342.9792 R 13015

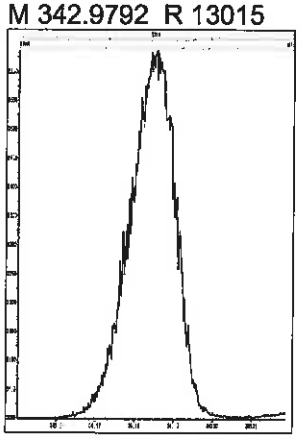

M 354.9792 R 13087

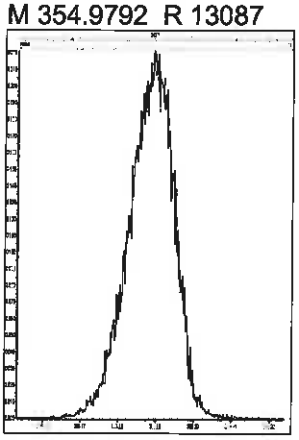

M 366.9792 R 12317

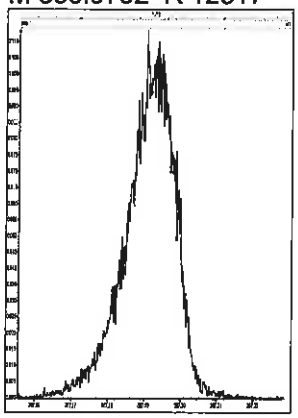

M 380.9760 R 12627

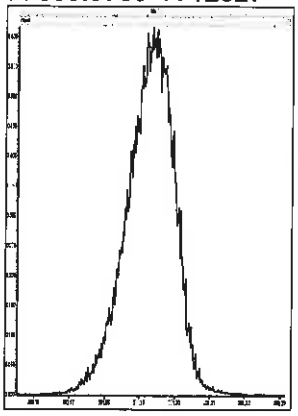

M 392.9760 R 12139

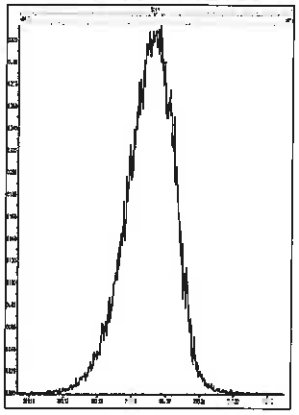

M 404.9760 R 11906

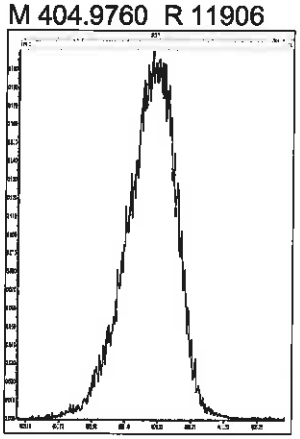

M 416.9760 R 12077

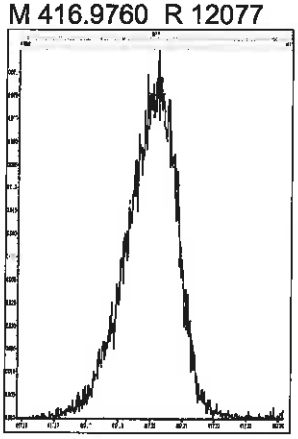

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 2 @ 200 (ppm)

Printed: Thursday, November 14, 2019 08:09:27 Pacific Standard Time

M 318.9792 R 13302

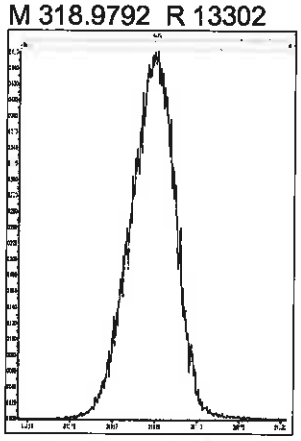

M 330.9792 R 13300

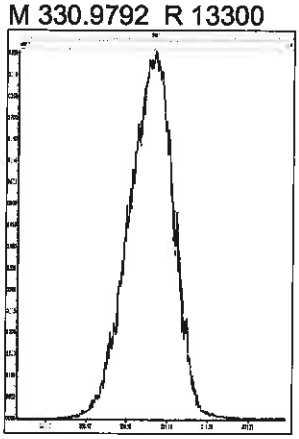

M 342.9792 R 13662

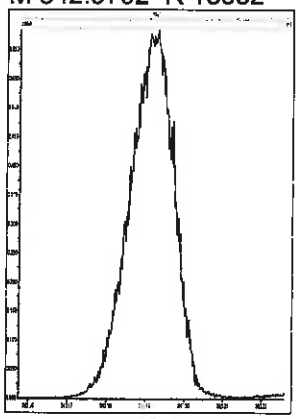

M 354.9792 R 13296

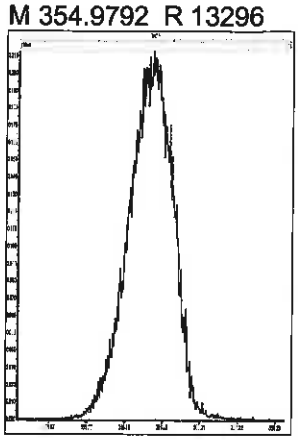

M 366.9792 R 12497

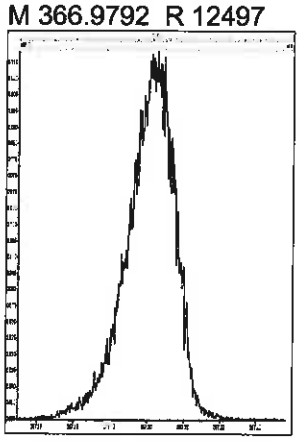

M 380.9760 R 13022

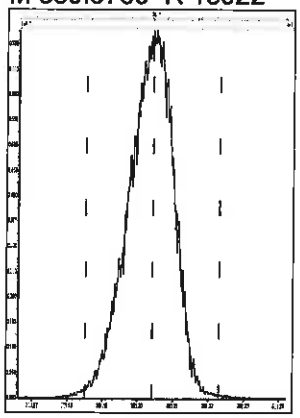

M 392.9760 R 12499

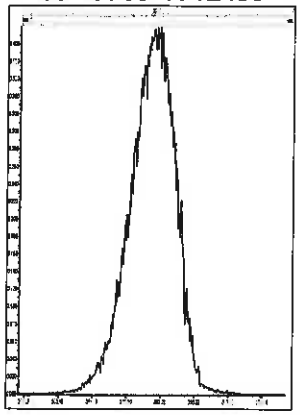

M 404.9760 R 12629

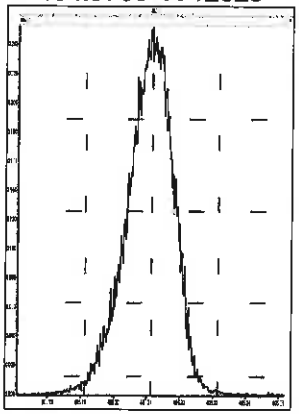

M 416.9760 R 12627

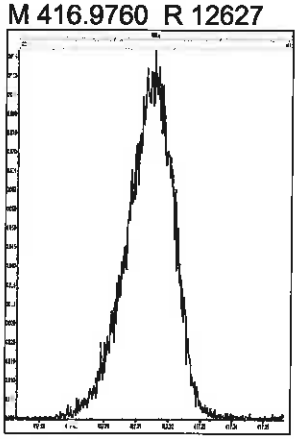

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

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M 366.9792 R 12194

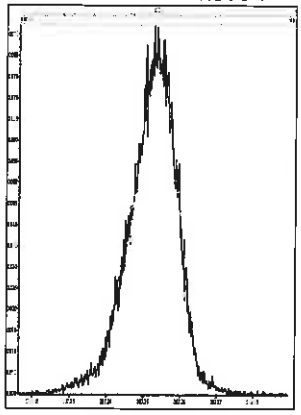

M 380.9760 R 13590

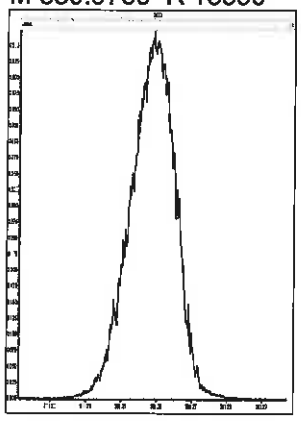

M 392.9760 R 13229

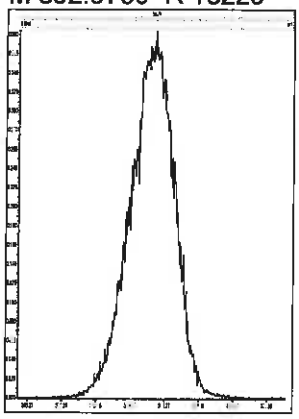

M 404.9760 R 12820

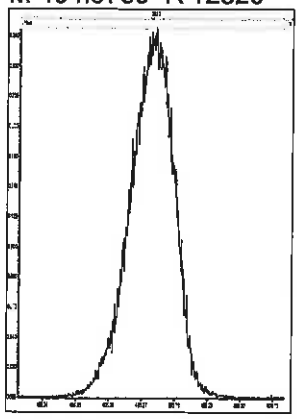

M 416.9760 R 13659

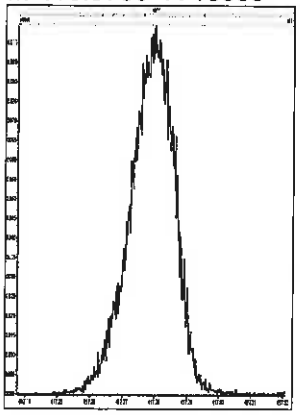

M 430.9728 R 12628

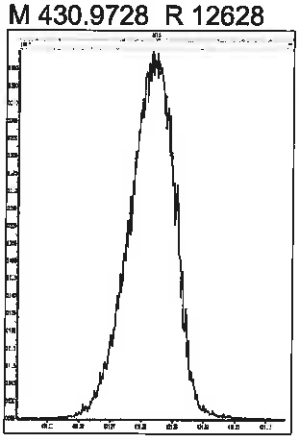

M 442.9728 R 13158

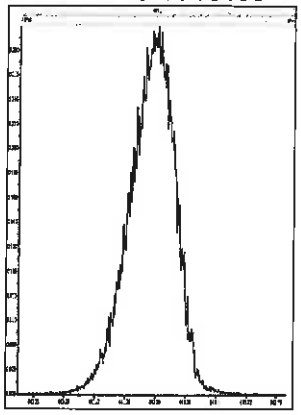

M 454.9728 R 12754

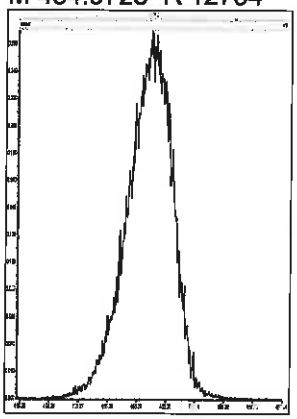

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 4 @ 200 (ppm)

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M 380.9760 R 13087

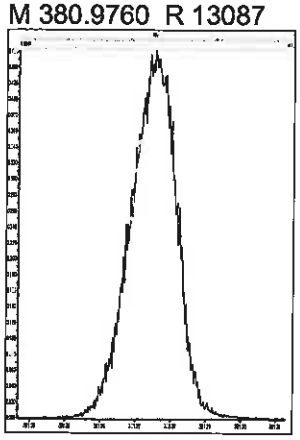

M 392.9760 R 13091

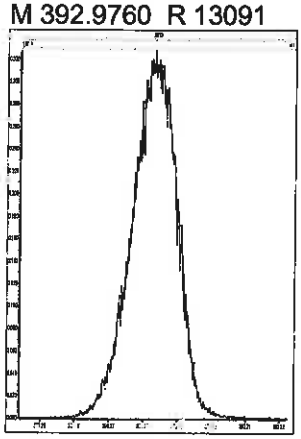

M 404.9760 R 13021

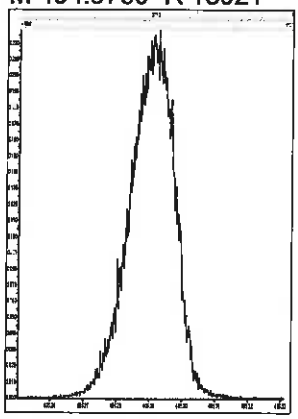

M 416.9760 R 13585

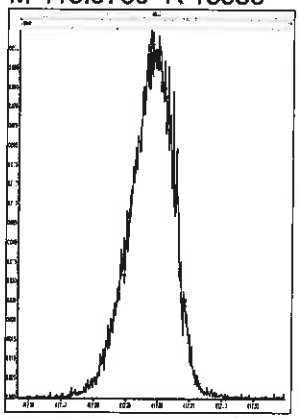

M 430.9728 R 12884

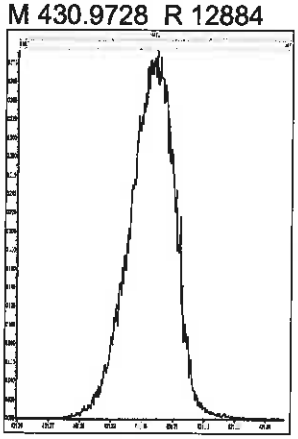

M 442.9728 R 13090

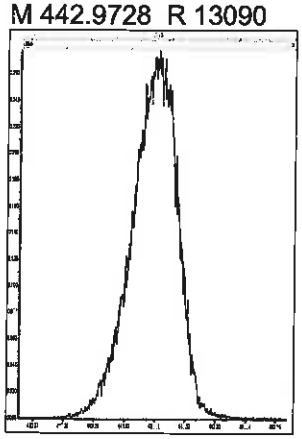

M 454.9728 R 12690

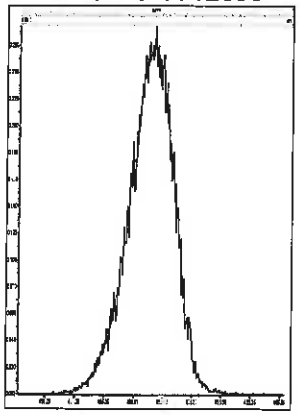

M 466.9728 R 12193

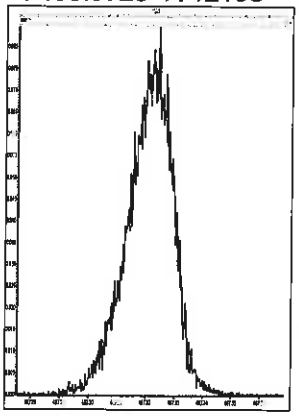

M 480.9696 R 12137

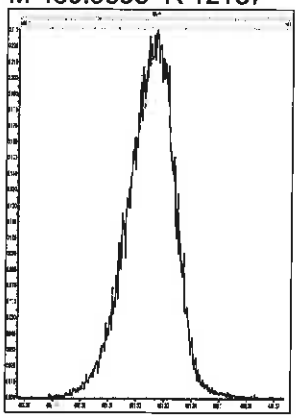

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 5 @ 200 (ppm)

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M 380.9760 R 13156

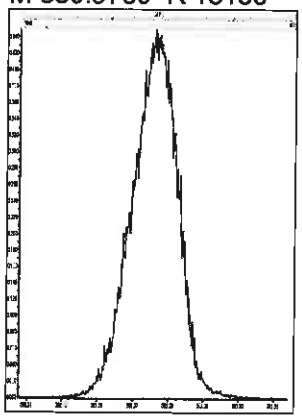

M 392.9760 R 13300

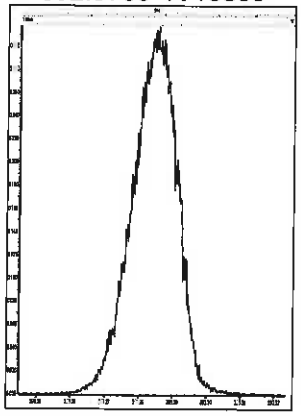

M 404.9760 R 13089

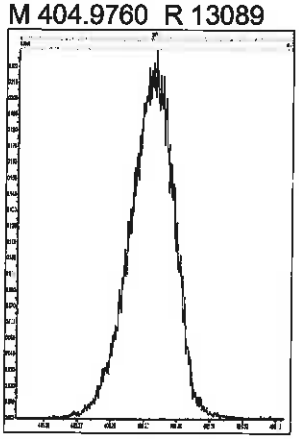

M 416.9760 R 13585

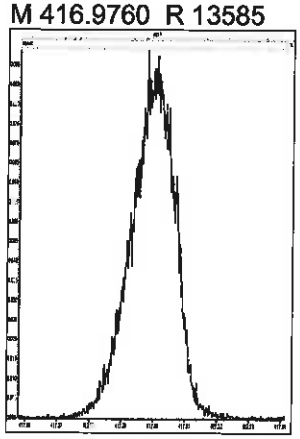

M 430.9728 R 13300

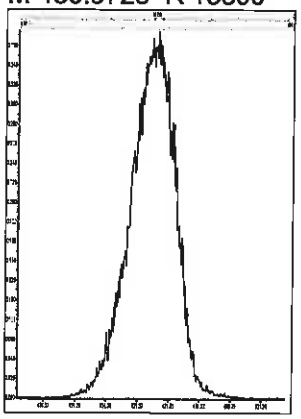

M 442.9728 R 13365

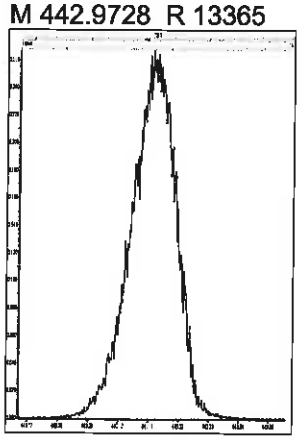

M 454.9728 R 12820

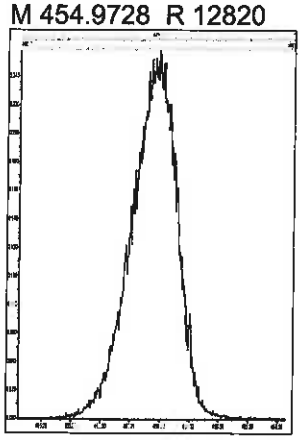

M 466.9728 R 13367

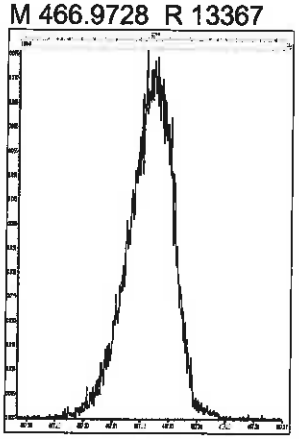

M 480.9696 R 12078

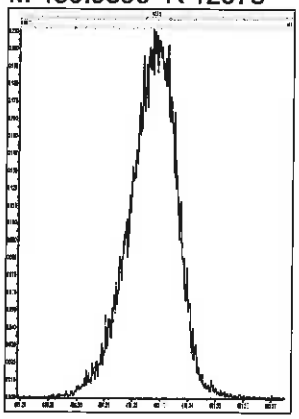

M 492.9696 R 11844

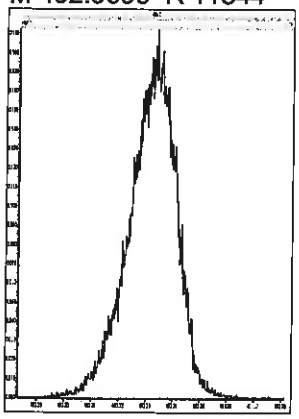

M 504.9696 R 11627

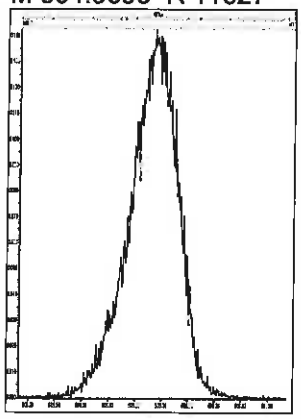

M 516.9697 R 12196

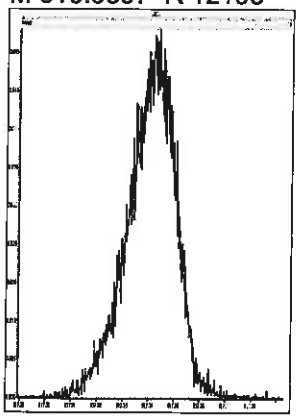

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M 292.9824 R 12531

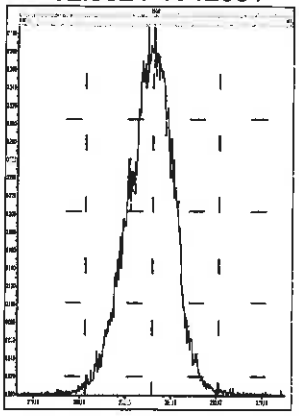

M 304.9824 R 12789

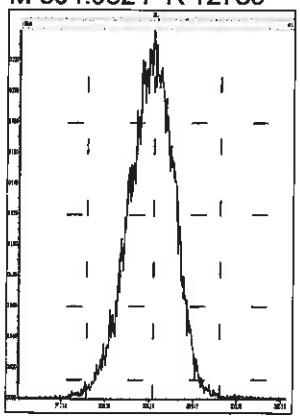

M 318.9792 R 12659

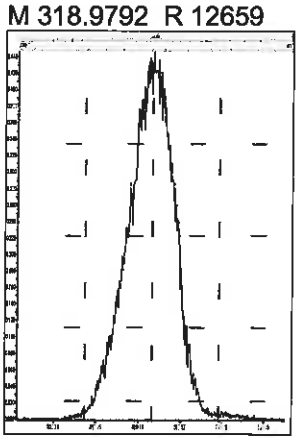

M 330.9792 R 12472

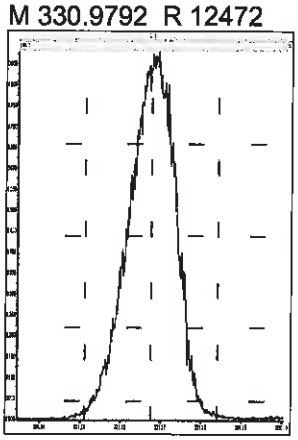

M 342.9792 R 12408

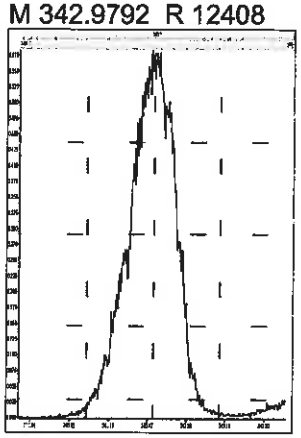

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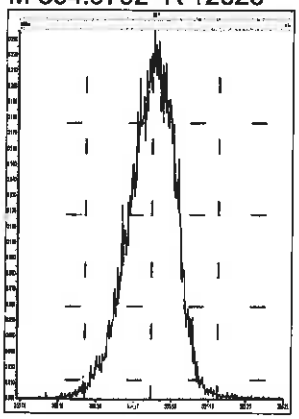

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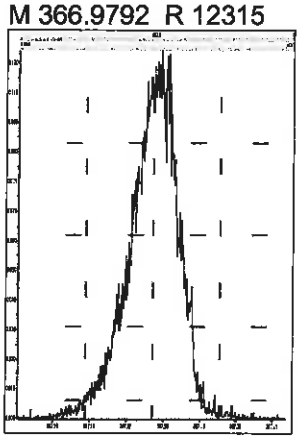

M 380.9760 R 11764

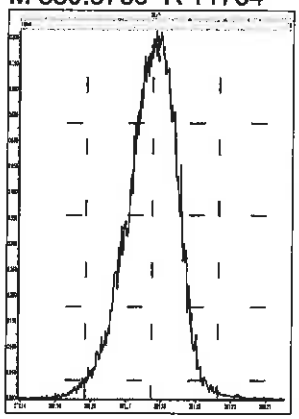

M 392.9760 R 11792

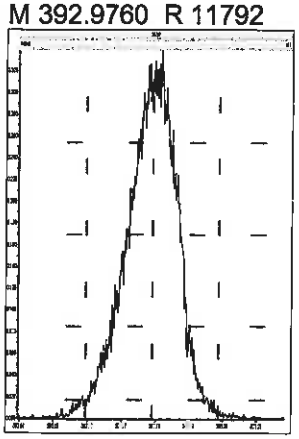

M 404.9760 R 11312

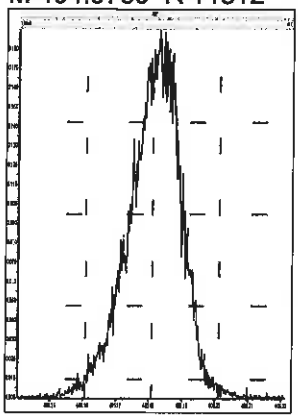

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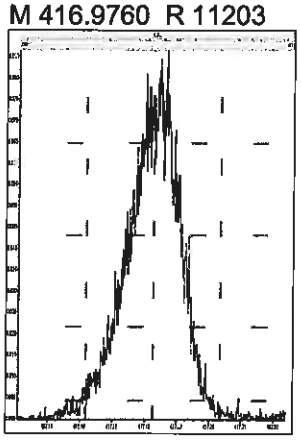

M 318.9792 R 12723

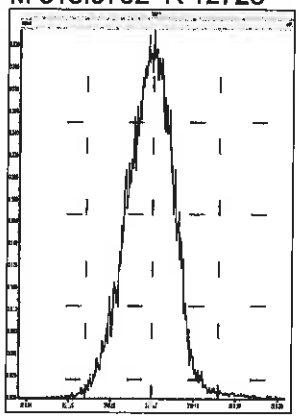

M 330.9792 R 12408

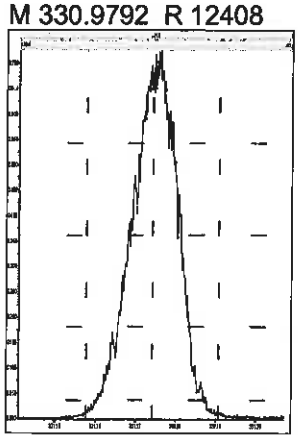

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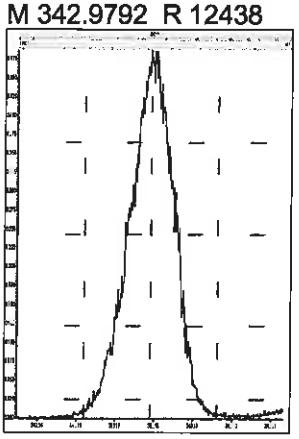

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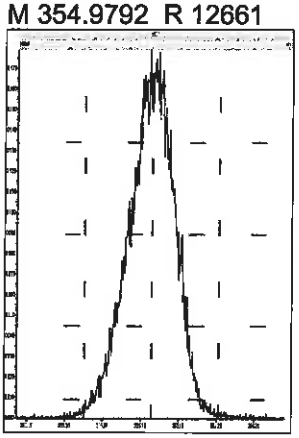

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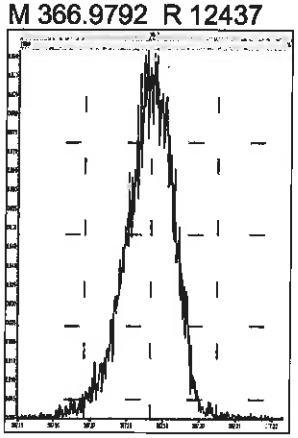

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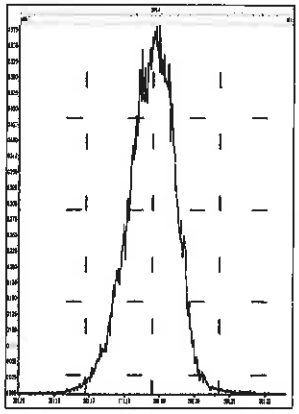

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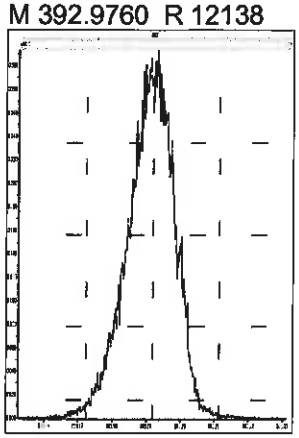

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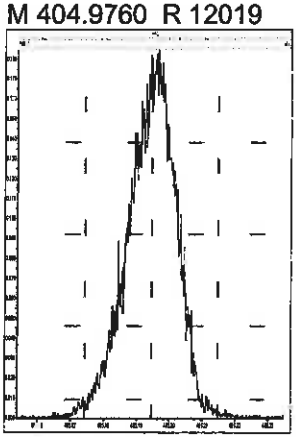

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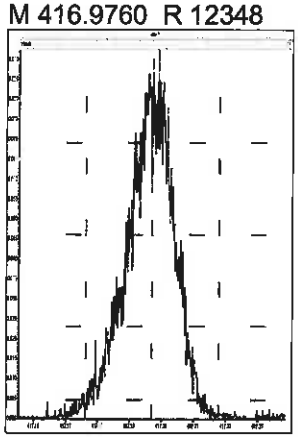

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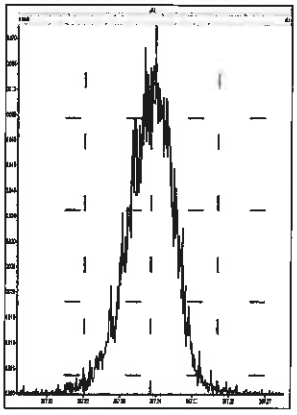

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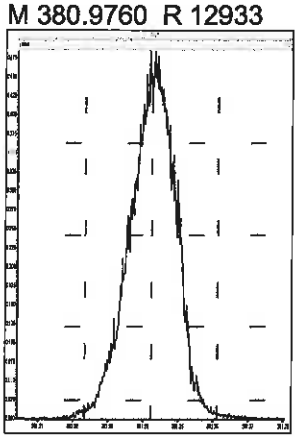

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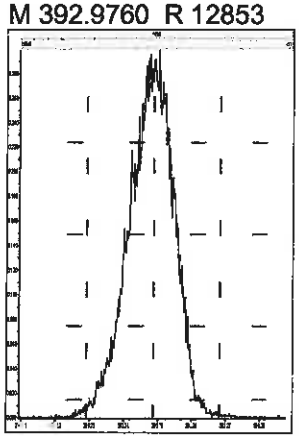

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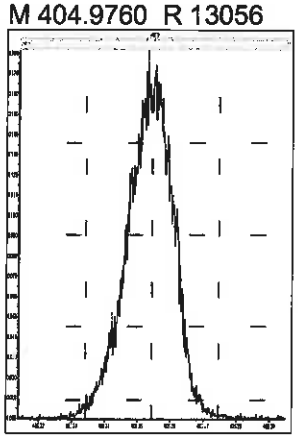

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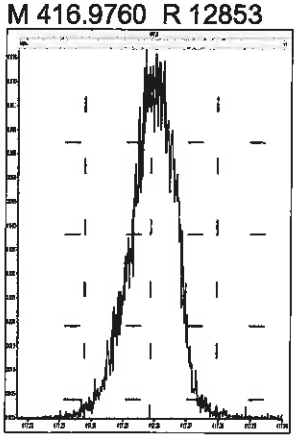

M 430.9728 R 12562

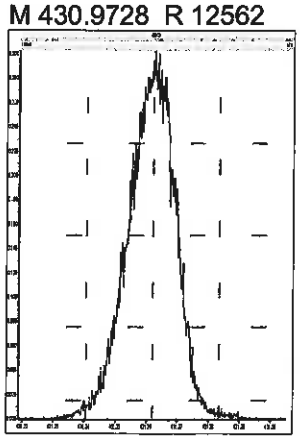

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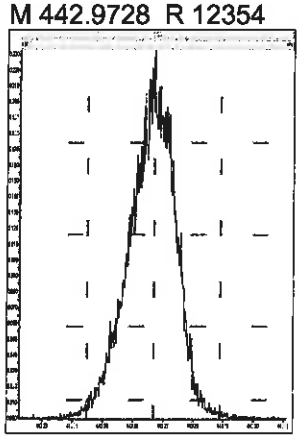

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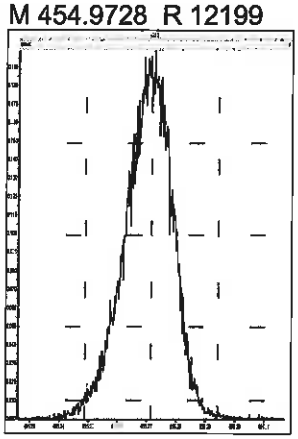

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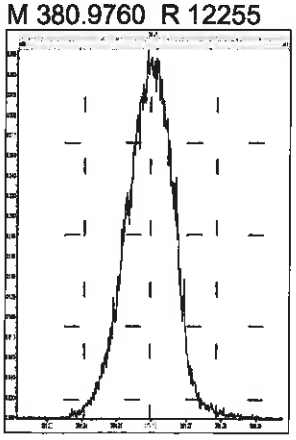

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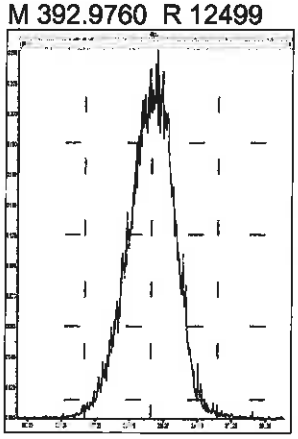

M 404.9760 R 12565

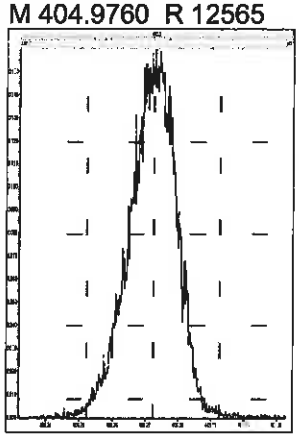

M 416.9760 R 13171

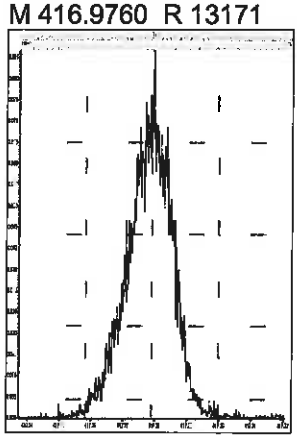

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M 430.9728 R 12627

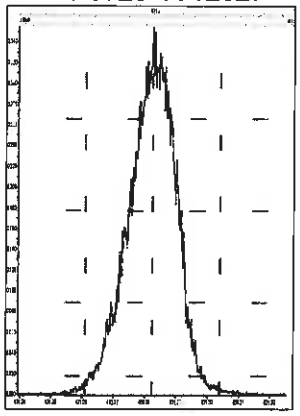

M 442.9728 R 12191

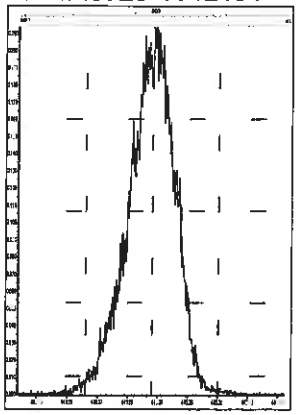

M 454.9728 R 11932

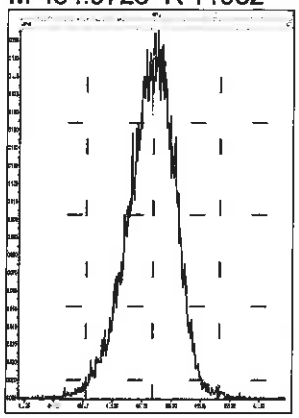

M 466.9728 R 12628

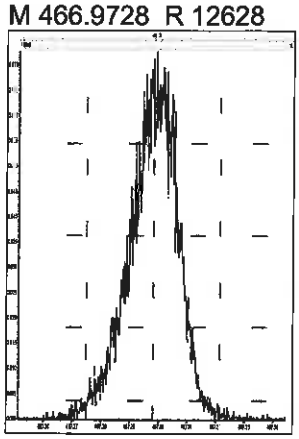

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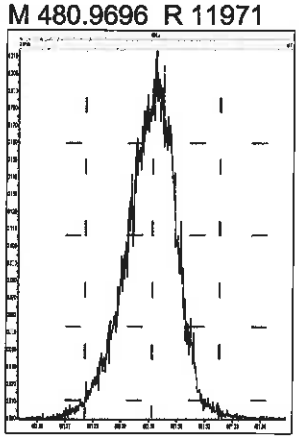

M 380.9760 R 12407

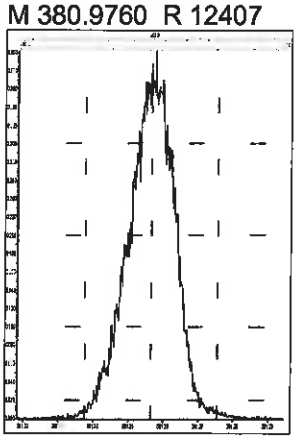

M 392.9760 R 12570

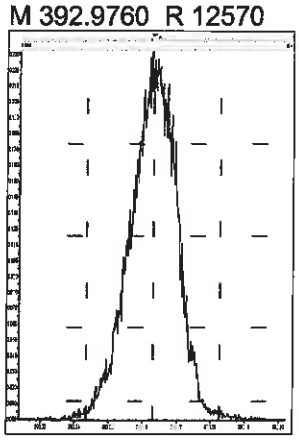

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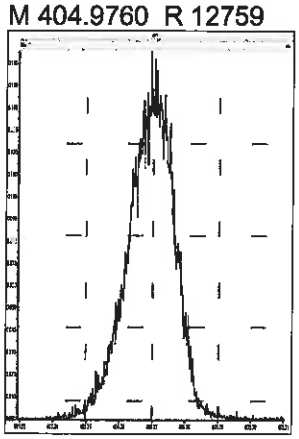

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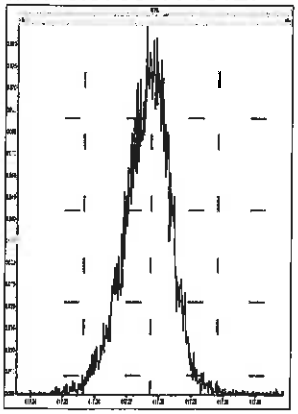

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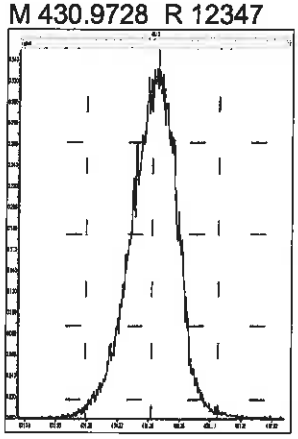

M 442.9728 R 12347

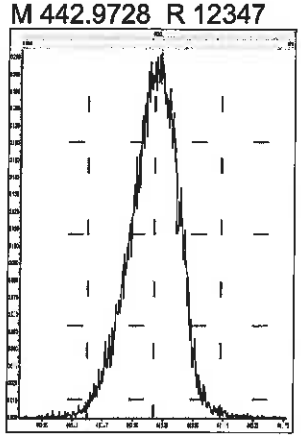

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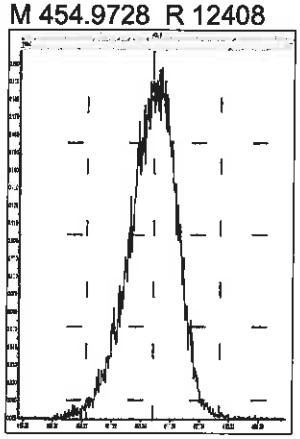

M 466.9728 R 12437

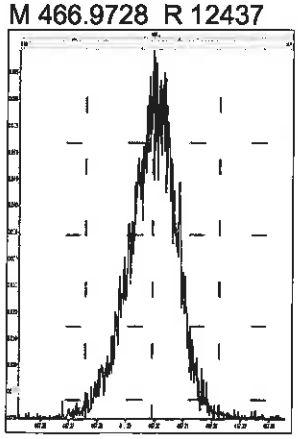

M 480.9696 R 11629

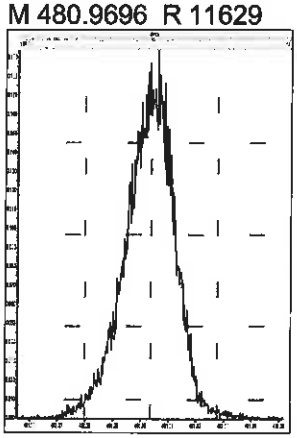

M 492.9696 R 11441

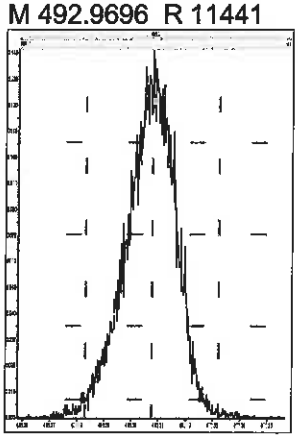

M 504.9696 R 11659

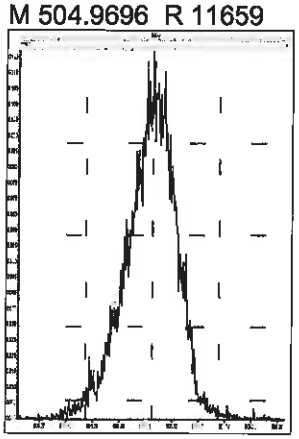

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M 516.9697 R 11821

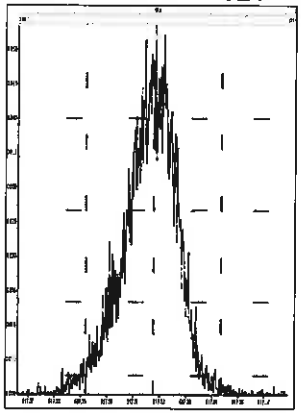

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

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Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 14-Nov-2019 09:46:53 ALS Bottle#: 4 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC111419 CS-2 HRDXNL2_00027
Misc. Info.: 14NO1910D5
Operator ID: SMA Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Nov-2019 16:54:14 Calib Date: 14-Nov-2019 12:50:49
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: arghestanis Date: 14-Nov-2019 13:40:00

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.548	116091898	0.79	1.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.034	155856912	0.77	1.3318	100.8	100.8	0.1903	0.1903	101	
2,3,7,8-TCDF	17.049	642077	0.77	0.9005	0.4575	0.4575	0.0105	0.0105	91.50	
S Total TCDF					0.4575	0.4575	0.0105	0.0105		
D 13C-2,3,7,8-TCDD	17.729	110606857	0.78	0.9647	98.8	98.8	0.2967	0.2967	98.76	
2,3,7,8-TCDD	17.744	556018	0.76	1.0698	0.4699	0.4699	0.0143	0.0143	93.98	
$ 37Cl4-2,3,7,8-TCDD	17.744	666561		1.3082	0.4389	0.4389	0.005415	0.005415	87.78	
S Total TCDD					0.4699	0.4699	0.0143	0.0143		
D 13C-1,2,3,7,8-PeCDF	21.949	121045773	1.55	1.0537	99.0	99.0	0.2880	0.2880	98.95	
1,2,3,7,8-PeCDF	21.977	2598728	1.59	0.9704	2.212	2.212	0.0204	0.0204	88.50	
D 13C-2,3,4,7,8-PeCDF	23.258	116513735	1.58	1.0173			0.4233	0.4233	99.68	
2,3,4,7,8-PeCDF	23.286	2626241	1.60	0.9986	2.257	2.257	0.0224	0.0224	90.29	
S Total PeCDF					4.470	4.470	0.0214	0.0214		
D 13C-1,2,3,7,8-PeCDD	23.968	82444355	1.59	0.7281	97.5	97.5	0.1502	0.1502	97.53	
1,2,3,7,8-PeCDD	23.995	1855324	1.52	1.0023	2.245	2.245	0.0188	0.0188	89.81	
S Total PeCDD					2.245	2.245	0.0188	0.0188		
D 13C-1,2,3,4,7,8-HxCDF	30.099	81993266	0.51	0.9632			0.8897	0.8897	98.21	
1,2,3,4,7,8-HxCDF	30.139	1849054	1.20	1.0315	2.186	2.186	0.0390	0.0390	87.45	
D 13C-1,2,3,6,7,8-HxCDF	30.326	92255496	0.50	1.0646	102.0	102.0	0.5989	0.5989	102	
1,2,3,6,7,8-HxCDF	30.352	2067919	1.27	1.0235	2.190	2.190	0.0344	0.0344	87.60	
D 13C-2,3,4,6,7,8-HxCDF	31.244	82356882	0.51	0.9696	99.9	99.9	0.6575	0.6575	99.92	
2,3,4,6,7,8-HxCDF	31.271	2000921	1.25	1.0645	2.282	2.282	0.0274	0.0274	91.29	
D 13C-1,2,3,7,8,9-HxCDF	32.096	75284516	0.50	0.8955	98.9	98.9	0.7120	0.7120	98.91	
1,2,3,7,8,9-HxCDF	32.122	1786006	1.22	1.0664	2.225	2.225	0.0281	0.0281	88.99	
S Total HxCDF					8.883	8.883	0.0322	0.0322		
* 13C-1,2,3,7,8,9-HxCDD	31.909	85001978	1.23	8.8E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.457	62120842	1.25	0.7590			0.4483	0.4483	95.51	
1,2,3,4,7,8-HxCDD	31.470	1408236	1.21	1.0054	2.255	2.255	0.0229	0.0229	90.19	
D 13C-1,2,3,6,7,8-HxCDD	31.563	79191499	1.25	0.9247	100.7	100.7	0.3646	0.3646	101	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.590	1757293	1.22	0.9833	2.257	2.257	0.0219	0.0219	90.27	
1,2,3,7,8,9-HxCDD	31.923	1765822	1.24	1.1036	2.021	2.021	0.0195	0.0195	80.82	
S Total HxCDD					6.532	6.532	0.0214	0.0214		
D 13C-1,2,3,4,6,7,8-HpCDF	33.567	66584092	0.44	0.7930	98.8	98.8	1.923	1.923	98.78	
1,2,3,4,6,7,8-HpCDF	33.579	2157779	1.07	1.4240	2.276	2.276	0.0391	0.0391	91.03	
D 13C-1,2,3,4,7,8,9-HpCDF	34.624	60078913	0.44	0.7296			1.568	1.568	98.07	
1,2,3,4,7,8,9-HpCDF	34.636	1729011	1.02	1.2834	2.242	2.242	0.0551	0.0551	89.70	
S Total HpCDF					4.518	4.518	0.0471	0.0471		
D 13C-1,2,3,4,6,7,8-HpCDD	34.344	62661164	1.05	0.7532	97.9	97.9	1.030	1.030	97.88	
1,2,3,4,6,7,8-HpCDD	34.356	1436378	0.98	1.0174	2.253	2.253	0.0341	0.0341	90.12	
S Total HpCDD					2.253	2.253	0.0341	0.0341		
D 13C-OCDD	36.621	89825341	0.89	0.5621	188.0	188.0	0.3233	0.3233	94.01	
OCDF	36.717	2676042	0.86	1.3047	4.567	4.567	0.0281	0.0281	91.34	
OCDD	36.633	2293549	0.87	1.0997	4.644	4.644	0.0249	0.0249	92.88	

Reagents:

HRDXNL2_00027 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_3.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 14-Nov-2019 09:46:53 ALS Bottle#: 4 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC111419 CS-2 HRDXNL2_00027
Misc. Info.: 14NO1910D5
Operator ID: SMA Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Nov-2019 16:54:14 Calib Date: 14-Nov-2019 12:50:49
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: arghestanis Date: 14-Nov-2019 13:40:00

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.548	17.539	1		51361597	13072151	15191	37977	861		
333.9339	17.548	17.539	1		64730301	16317580	18452	46130	884	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.034	17.034	0	0.971	68015551	17208347	18796	46990	916		
317.9389	17.034	17.034	0	0.971	87841361	22231811	10998	27495	2021	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.049	17.049	0	1.001	278676	69657	508	1270	137		
305.8987	17.049	17.049	0	1.001	363401	93599	984	2460	95	0.77(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.729	17.729	0	1.010	48474168	11660215	15191	37977	768		
333.9339	17.729	17.729	0	1.010	62132689	14941494	18452	46130	810	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.744	17.744	0	1.001	240017	57024	1061	2652	54		
321.8936	17.744	17.744	0	1.001	316001	76738	568	1420	135	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.744	17.744	0	1.011	666561	162685	833	2082	195		
13C-1,2,3,7,8-PeCDF											
351.9000	21.949	21.949	0	1.251	73621332	13136719	21632	54080	607		
353.8970	21.949	21.949	0	1.251	47424441	8679341	14041	35102	618	1.55(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.977	21.971	0	1.001	1594566	281046	721	1802	390		
341.8567	21.977	21.971	0	1.001	1004162	181344	1007	2517	180	1.59(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	23.258	23.258	0	1.325	71293013	11820915	21632	54080	546		
353.8970	23.258	23.258	0	1.325	45220722	7479139	14041	35102	533	1.58(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.286	23.286	0	1.001	1614713	263641	721	1802	366		
341.8567	23.286	23.286	0	1.001	1011528	170804	1007	2517	170	1.60(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.968	23.968	0	1.366	50588329	7999296	7849	19622	1019		
369.8919	23.968	23.968	0	1.366	31856026	5056401	5010	12525	1009	1.59(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.995	23.995	0	1.001	1118464	174785	660	1650	265		
357.8516	23.995	23.995	0	1.001	736860	108404	323	807	336	1.52(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.099	30.102	0	0.943	27577553	4438288	17083	42707	260		
385.8610	30.112	30.102	1	0.944	54415713	8621631	31019	77547	278	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.139	30.131	0	1.001	1010197	157126	1188	2970	132		
375.8178	30.126	30.131	0	1.001	838857	132669	915	2287	145	1.20(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.326	30.323	0	0.950	30939327	5047890	17083	42707	295		
385.8610	30.326	30.323	0	0.950	61316169	9888900	31019	77547	319	0.50(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.352	30.344	0	1.001	1157086	187441	1188	2970	158		
375.8178	30.339	30.344	0	1.000	910833	151716	915	2287	166	1.27(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.244	31.247	0	0.979	27899632	6120933	17083	42707	358		
385.8610	31.244	31.247	0	0.979	54457250	11882252	31019	77547	383	0.51(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.271	31.265	0	1.001	1112415	250623	1188	2970	211		
375.8178	31.271	31.265	0	1.001	888506	205954	915	2287	225	1.25(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.096	32.099	0	1.006	25145887	5915866	17083	42707	346		
385.8610	32.096	32.099	0	1.006	50138629	11652420	31019	77547	376	0.50(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.122	32.115	0	1.001	982842	231202	1188	2970	195		
375.8178	32.109	32.115	0	1.000	803164	192621	915	2287	211	1.22(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.909	31.912	0		46898932	10402676	14704	36760	707		
403.8529	31.909	31.912	0		38103046	8459550	10735	26837	788	1.23(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.457	31.452	0	0.986	34487478	8990967	14704	36760	611		
403.8529	31.457	31.452	0	0.986	27633364	7170693	10735	26837	668	1.25(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.470	31.470	0	1.000	771145	200063	786	1965	255		
391.8127	31.470	31.470	0	1.000	637091	167874	700	1750	240	1.21(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.563	31.566	0	0.989	44028149	9521617	14704	36760	648		
403.8529	31.563	31.566	0	0.989	35163350	7753574	10735	26837	722	1.25(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.590	31.582	0	1.001	965243	211787	786	1965	269		
391.8127	31.577	31.582	0	1.000	792050	167195	700	1750	239	1.22(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.923	31.926	0	1.015	976927	210377	786	1965	268		
391.8127	31.923	31.926	0	1.015	788895	174357	700	1750	249	1.24(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.567	33.567	0	1.052	20462368	6124305	34923	87307	175		
419.8220	33.567	33.567	0	1.052	46121724	13815143	80142	200355	172	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.579	33.579	0	1.000	1114557	333797	2256	5640	148		
409.7789	33.579	33.579	0	1.000	1043222	316844	2183	5457	145	1.07(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.624	34.619	0	1.085	18377583	4877242	34923	87307	140		
419.8220	34.624	34.619	0	1.085	41701330	10806318	80142	200355	135	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.636	34.629	0	1.000	872210	225760	2256	5640	100		
409.7789	34.624	34.629	0	1.000	856801	224595	2183	5457	103	1.02(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.344	34.340	0	1.076	32138288	8444972	29725	74312	284		
437.8140	34.344	34.340	0	1.076	30522876	7980759	28819	72047	277	1.05(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.356	34.349	0	1.000	709527	185411	1281	3202	145		
425.7737	34.344	34.349	0	1.000	726851	181597	997	2492	182	0.98(0.88-1.20)	
13C-OCDD											
469.7779	36.621	36.624	0	1.148	42251922	9128876	6365	15912	1434		
471.7750	36.621	36.624	0	1.148	47573419	10216254	7346	18365	1391	0.89(0.76-1.02)	
OCDF											
441.7428	36.717	36.720	0	1.003	1236581	274865	514	1285	535		
443.7399	36.717	36.720	0	1.003	1439461	325889	905	2262	360	0.86(0.76-1.02)	
OCDD											
457.7377	36.633	36.636	0	1.000	1070269	229444	462	1155	497		
459.7348	36.633	36.636	0	1.000	1223280	261284	599	1497	436	0.87(0.76-1.02)	

Reagents:

HRDXNL2_00027 Amount Added: 1.00 Units: mL

Report Date: 14-Nov-2019 16:54:20 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_3.d		
Injection Date:	14-Nov-2019 09:46:53	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

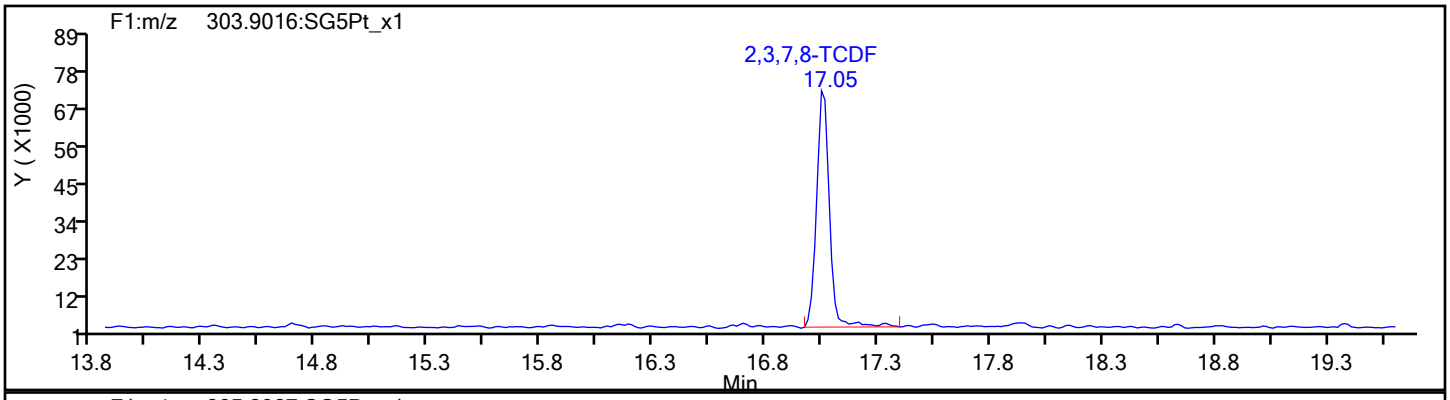

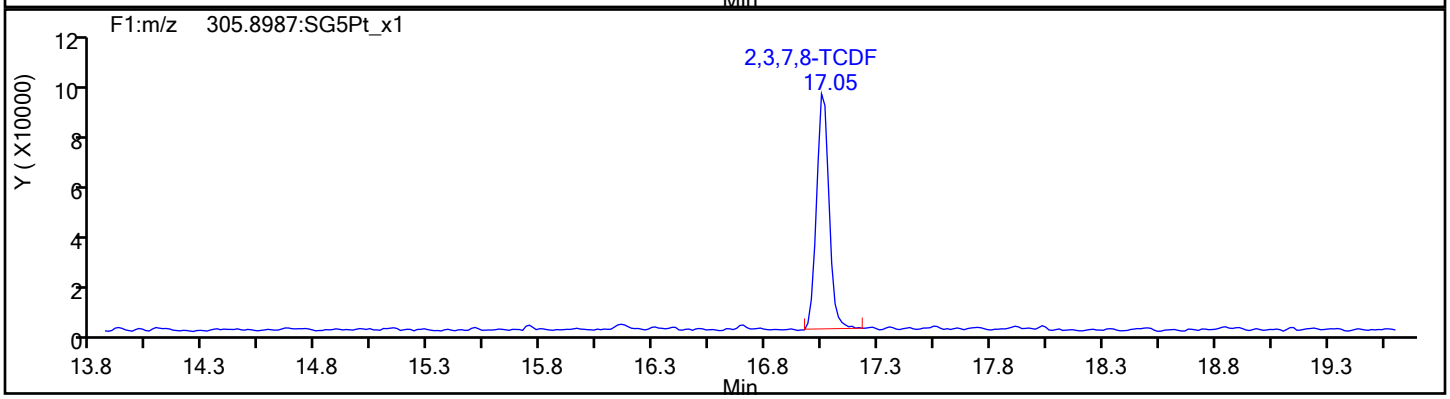

TCDF Standards

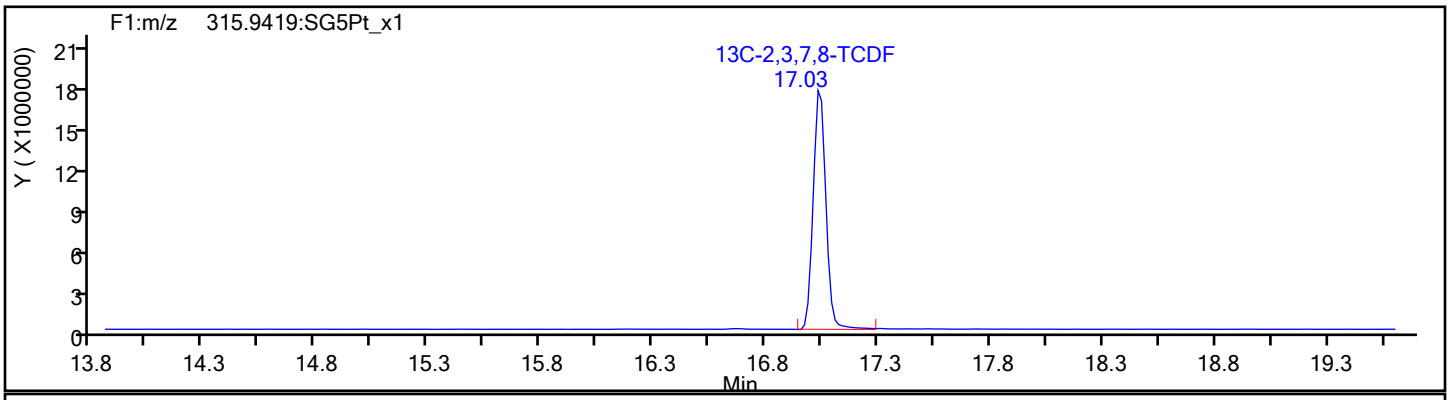

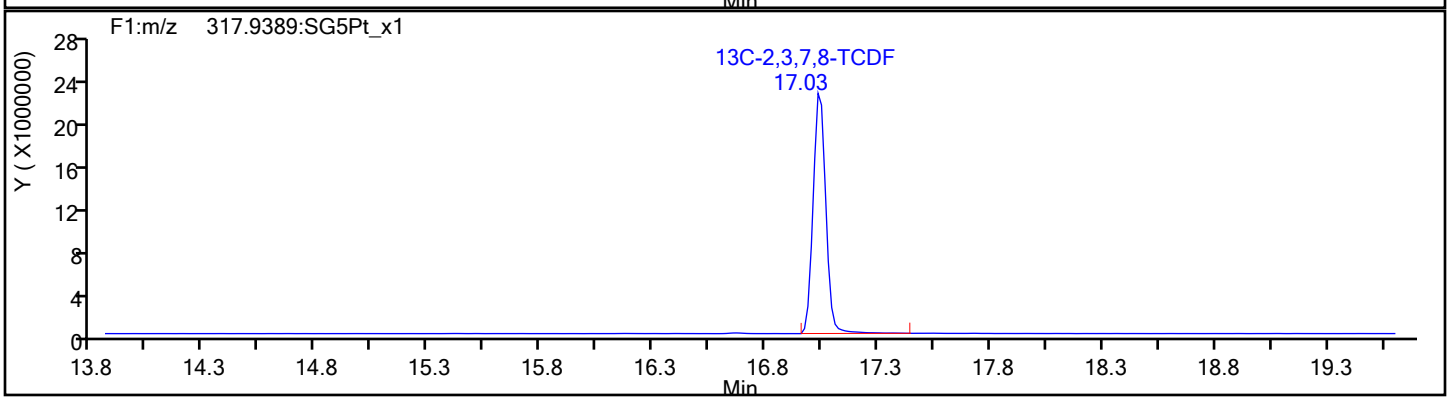

Report Date: 14-Nov-2019 16:54:20 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_3.d		
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Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

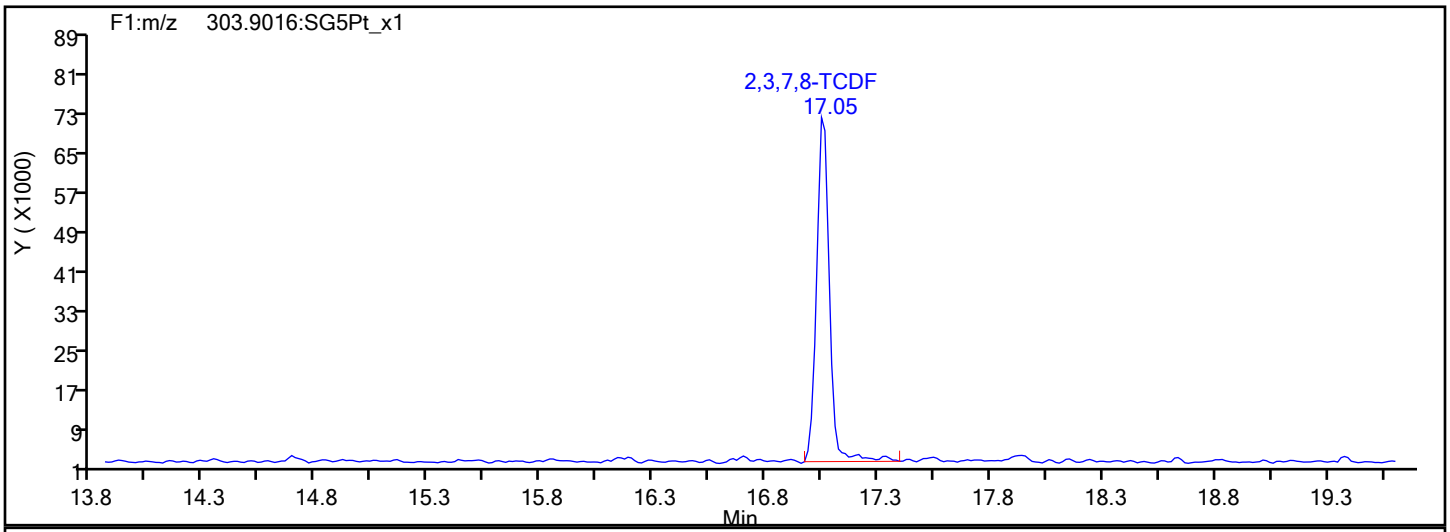

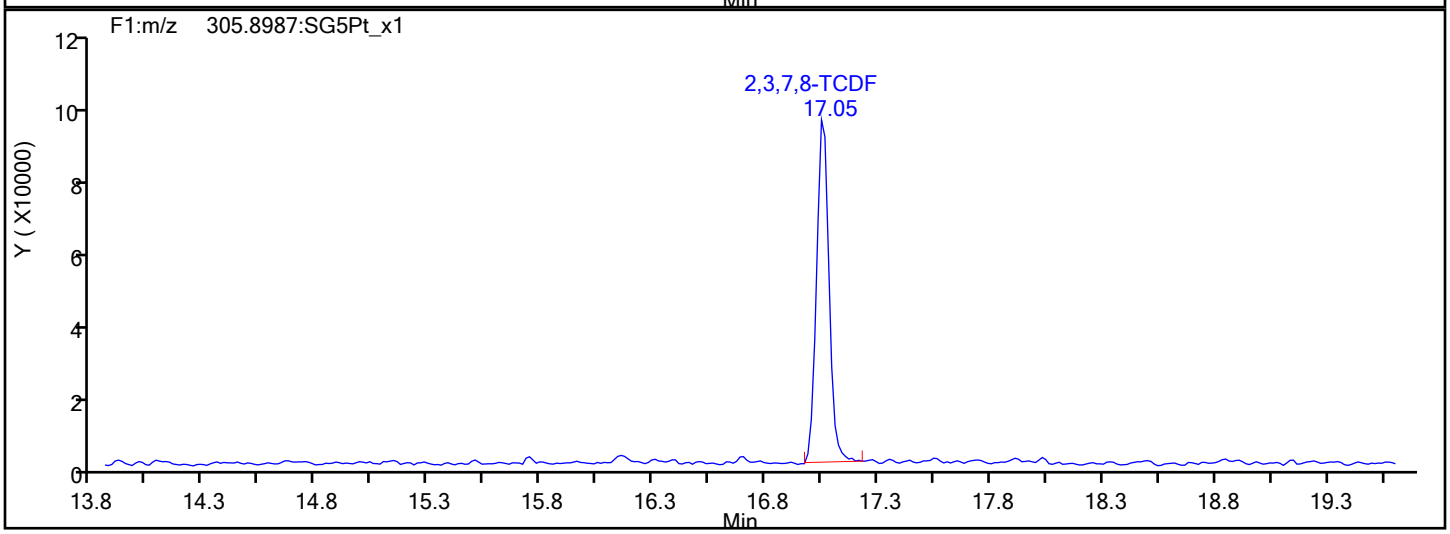

TCDF Interference Mass

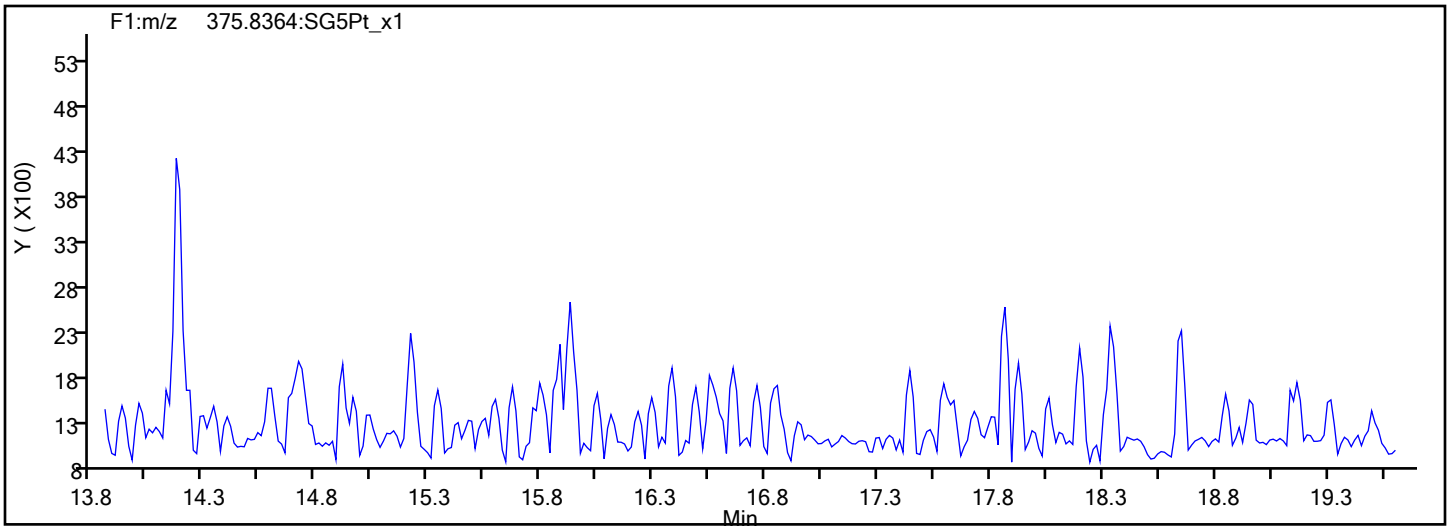

Report Date: 14-Nov-2019 16:54:20 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_3.d		
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Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

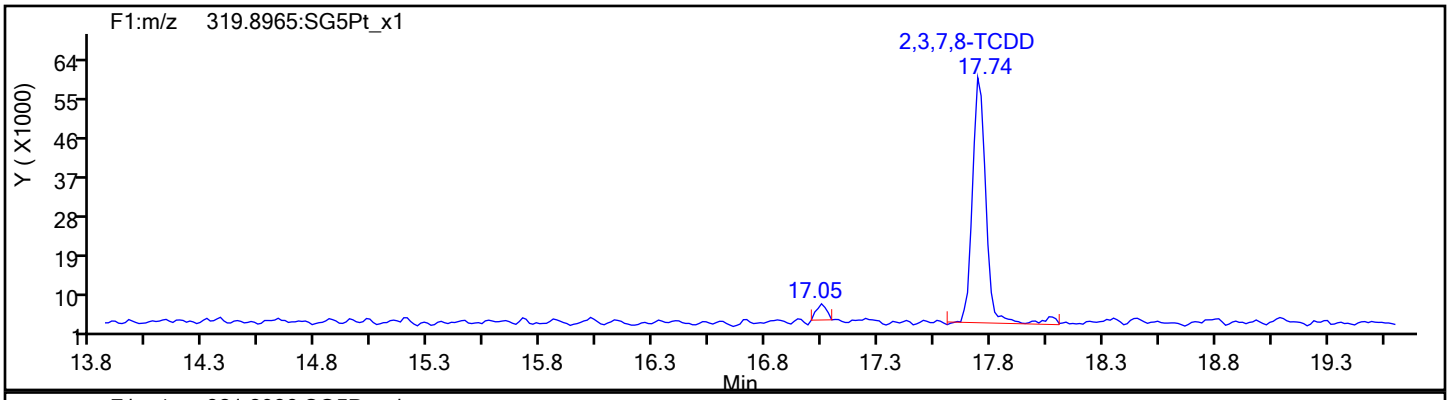

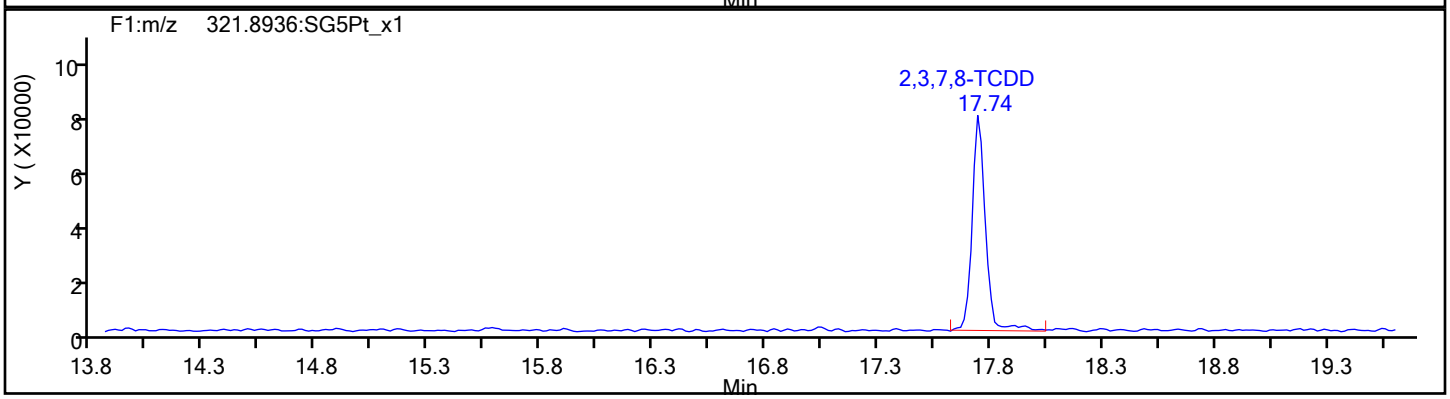

TCDD Standards

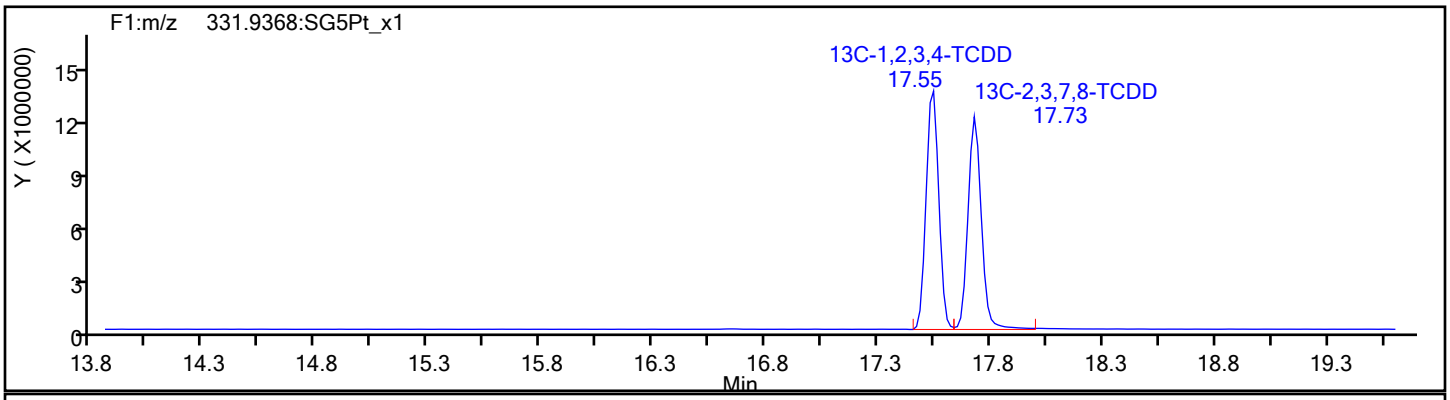

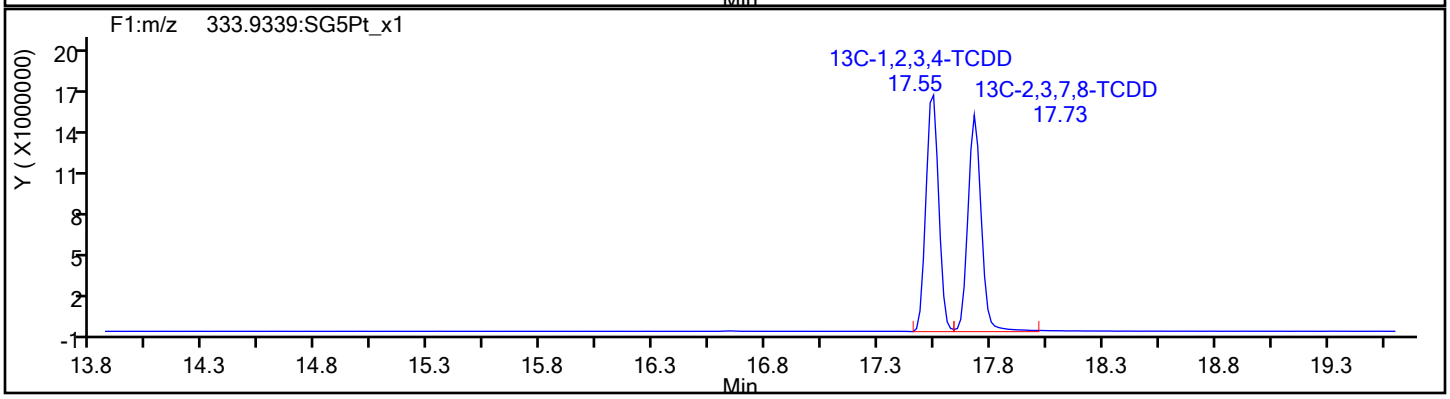

Report Date: 14-Nov-2019 16:54:20 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

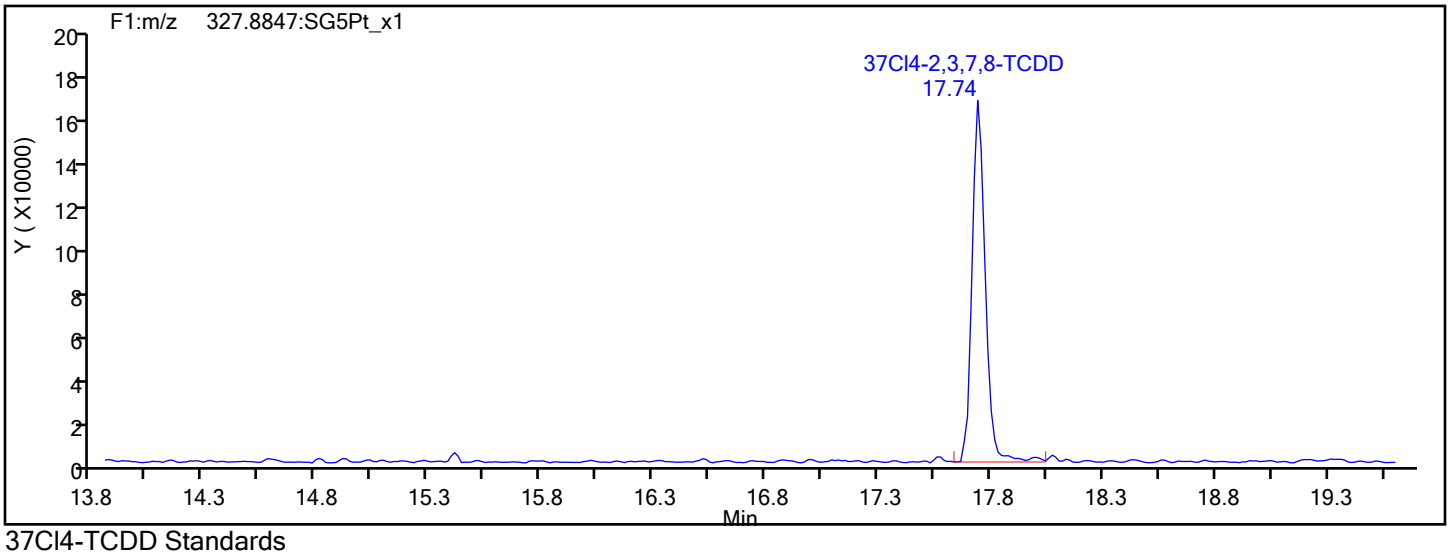

37Cl4-TCDD Standards

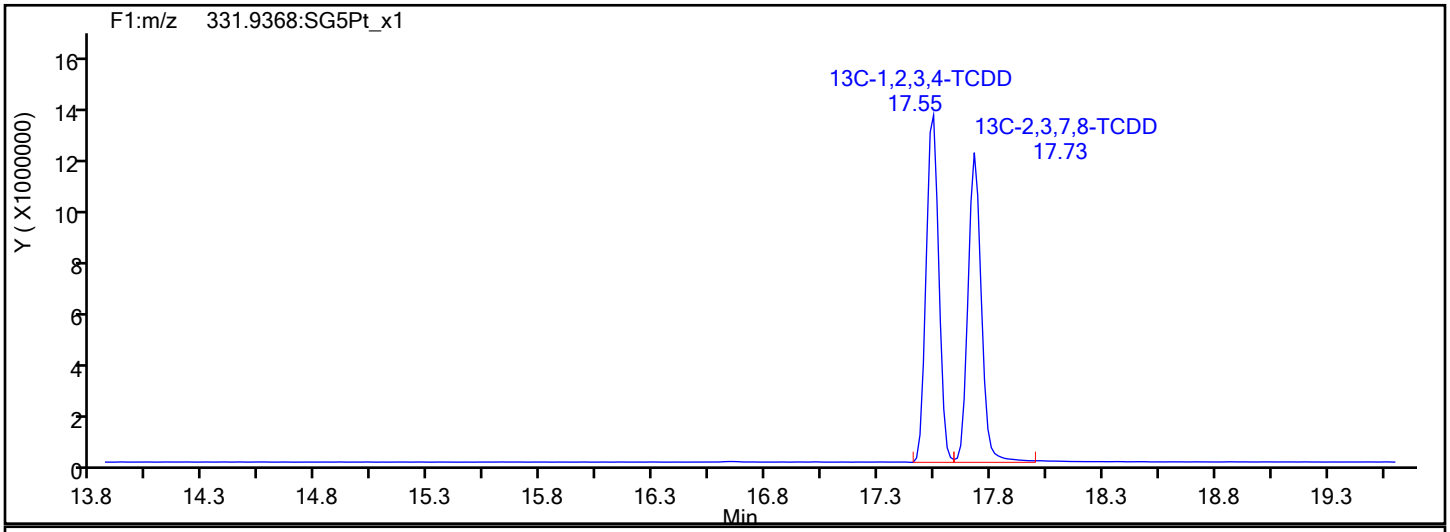

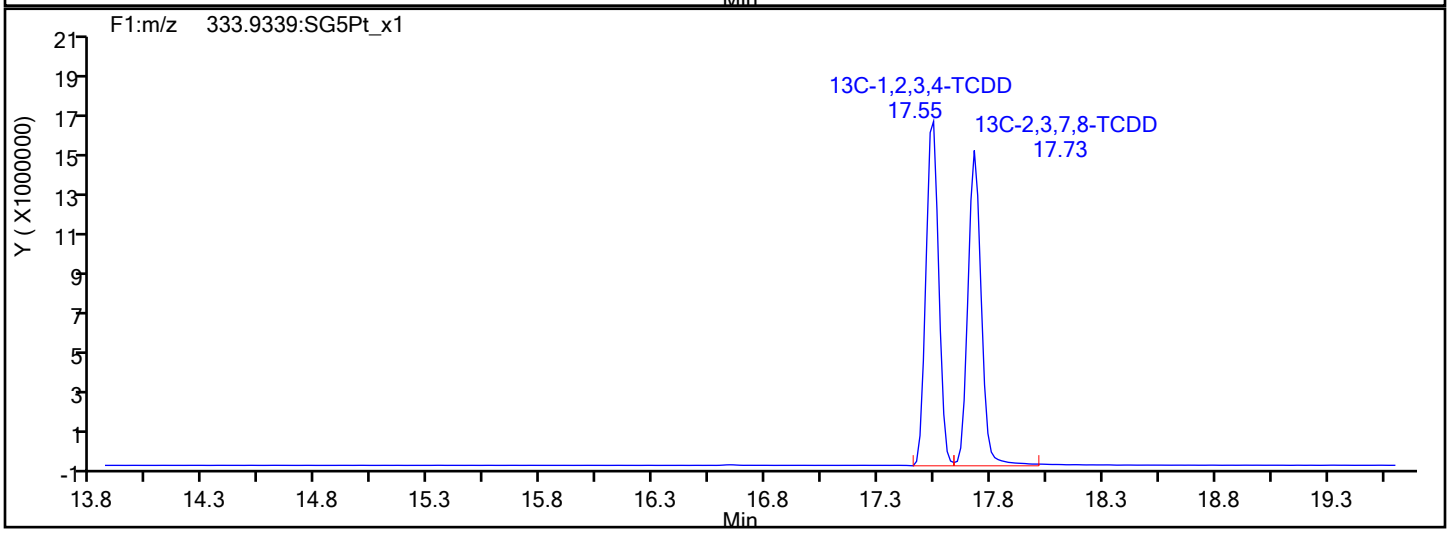

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

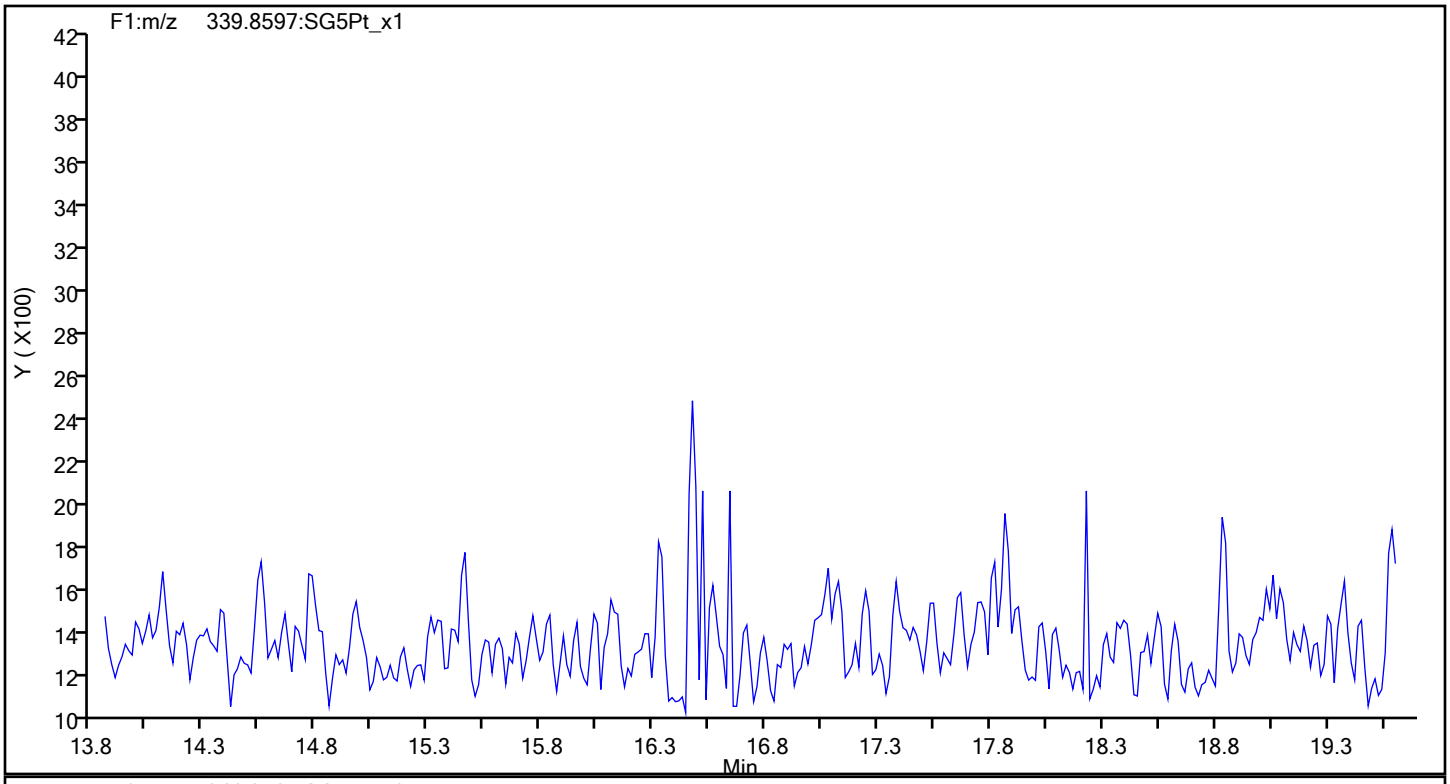

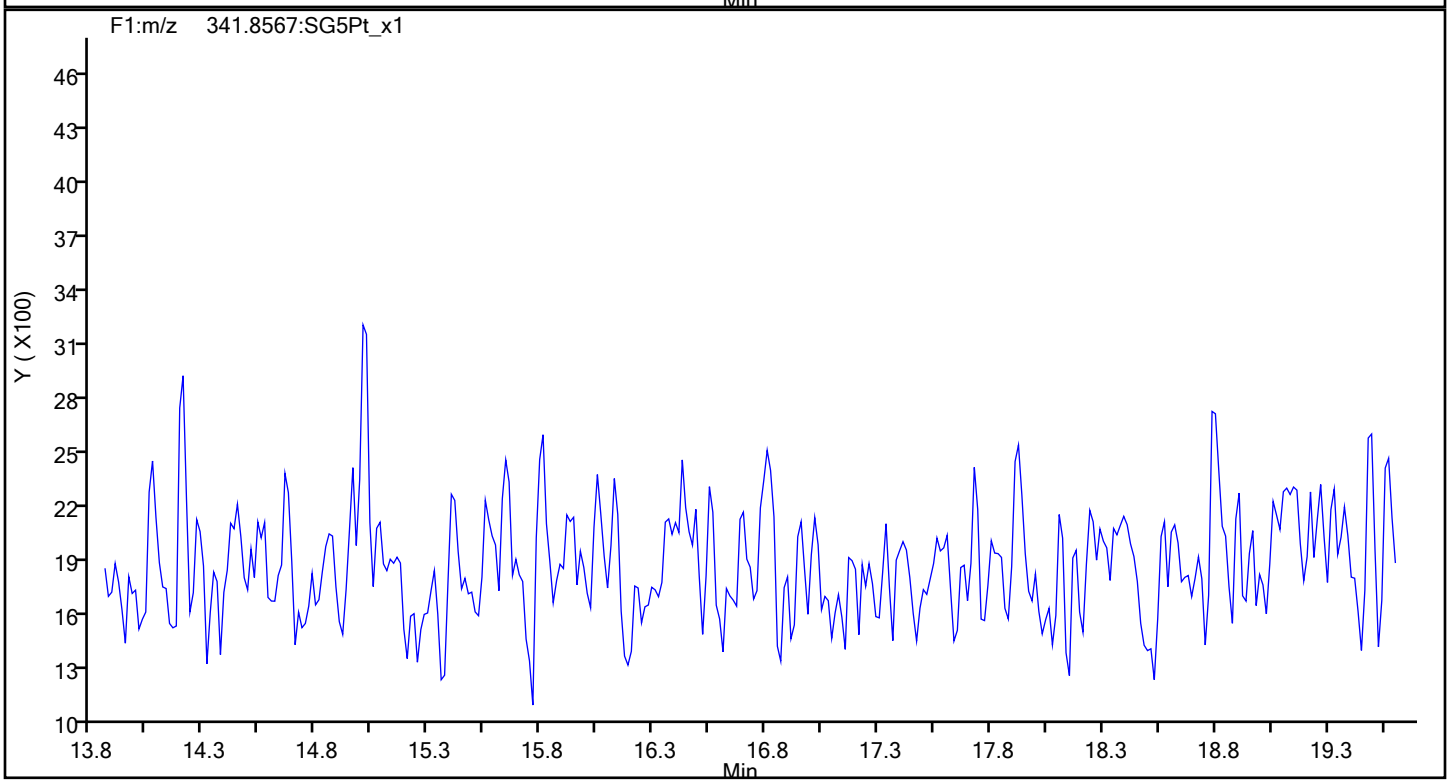

Report Date: 14-Nov-2019 16:54:20 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

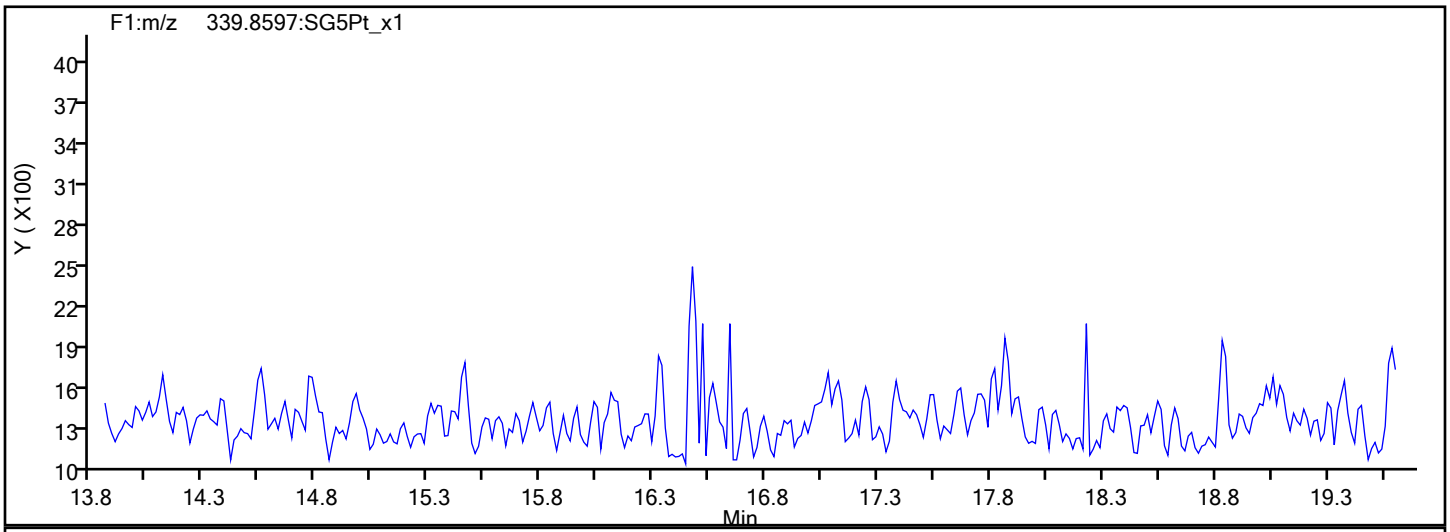

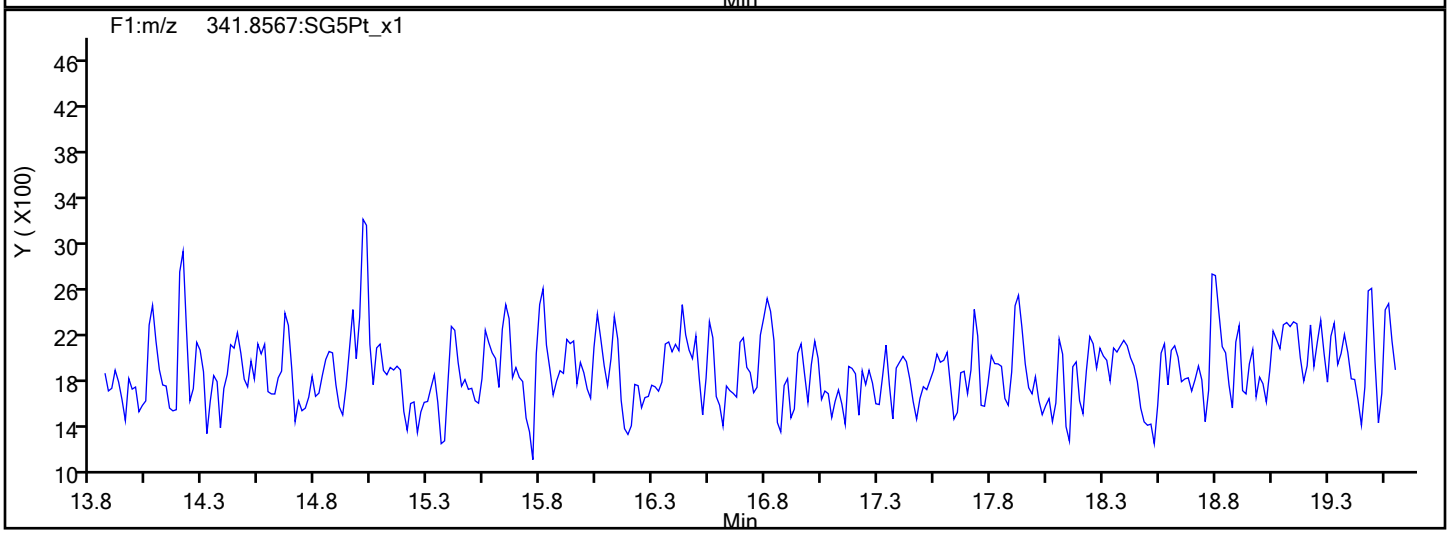

F1 PeCDFs Interference Mass

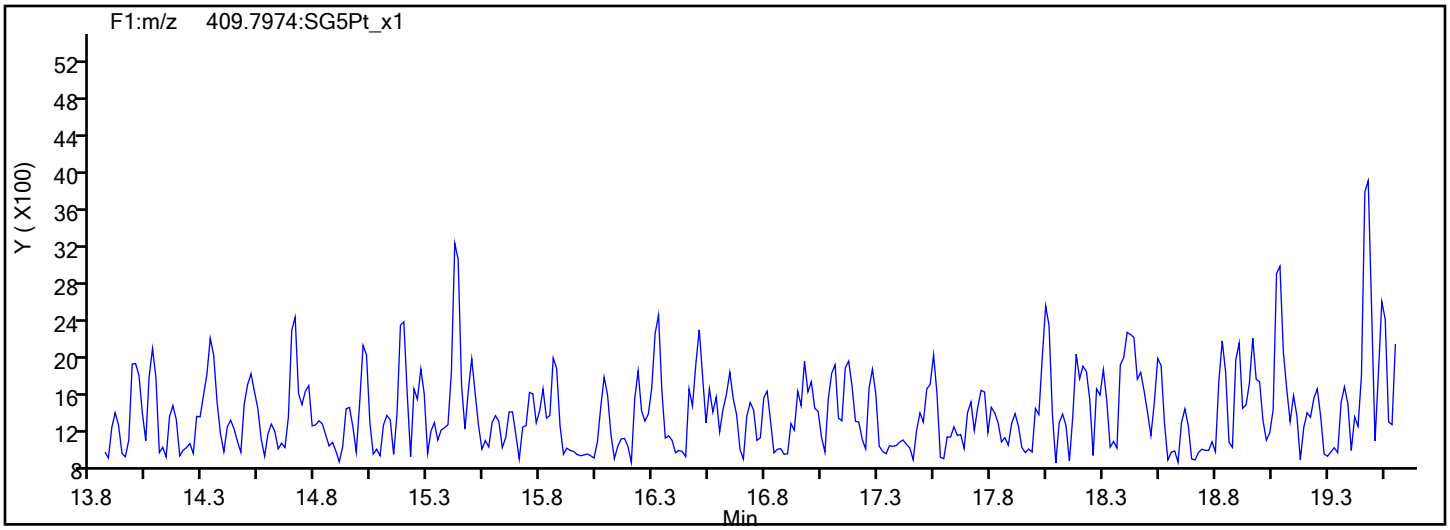

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Eurofins TestAmerica, Sacramento

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PeCDF

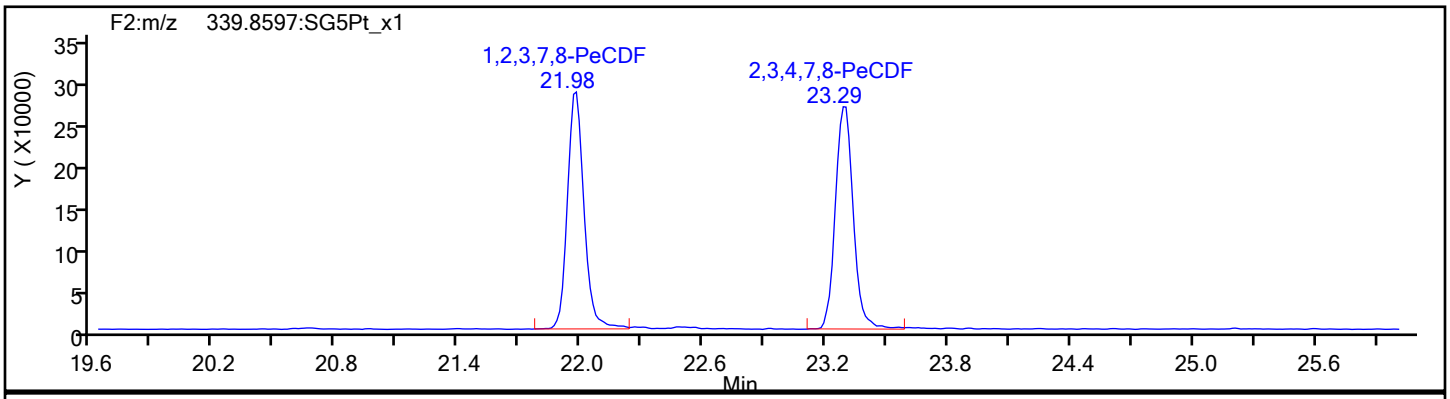

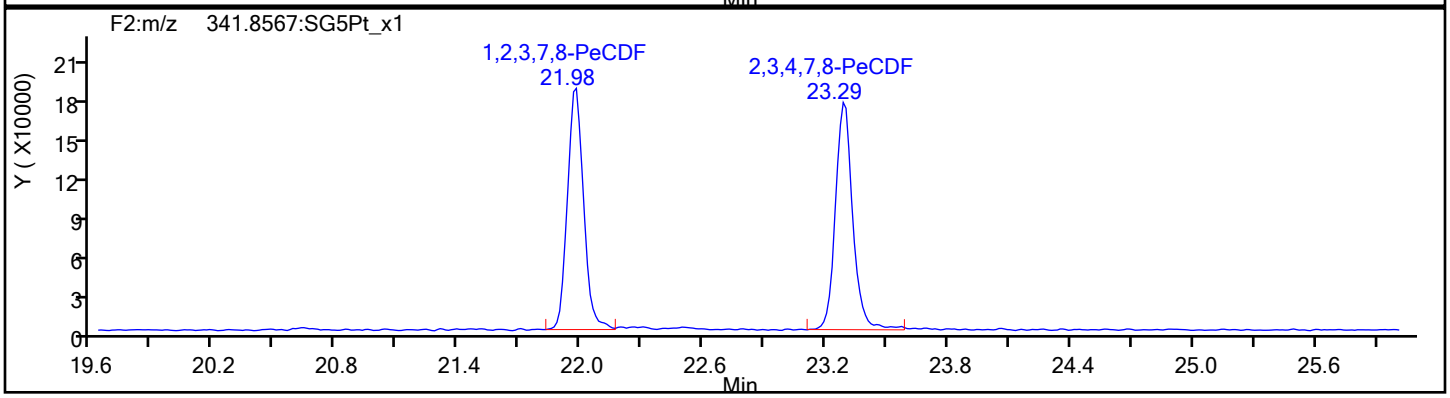

PeCDF Standards

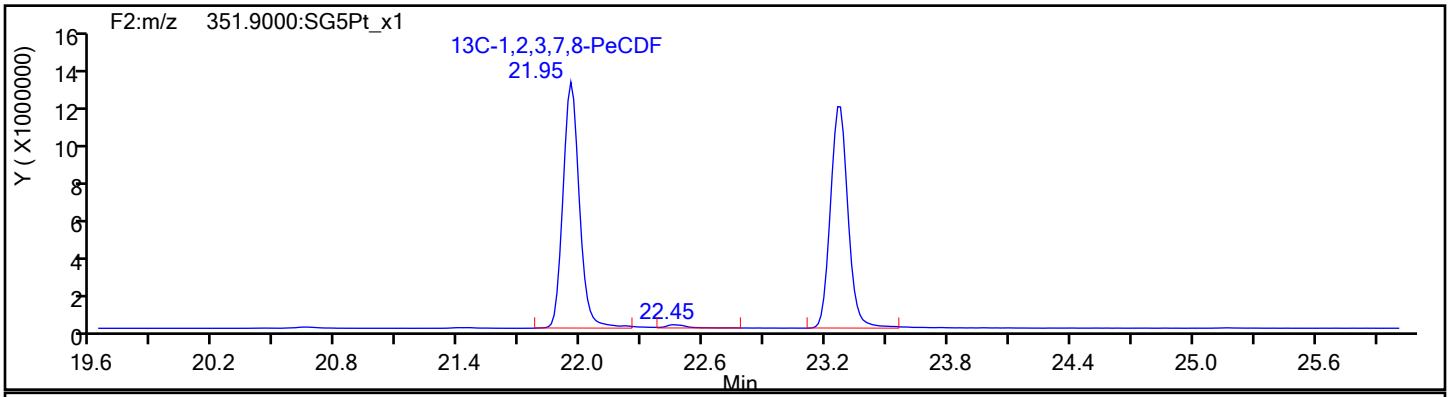

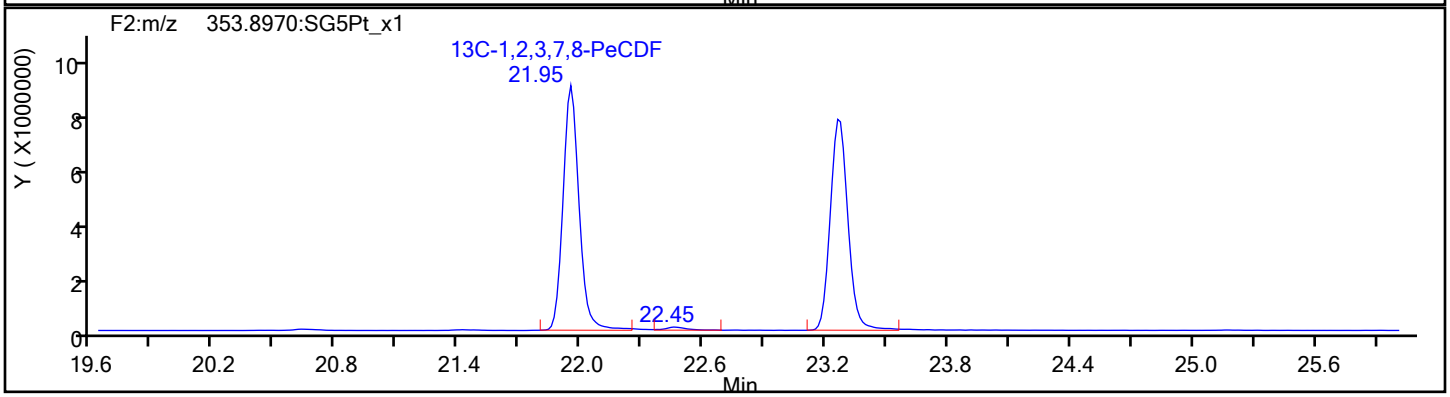

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Eurofins TestAmerica, Sacramento

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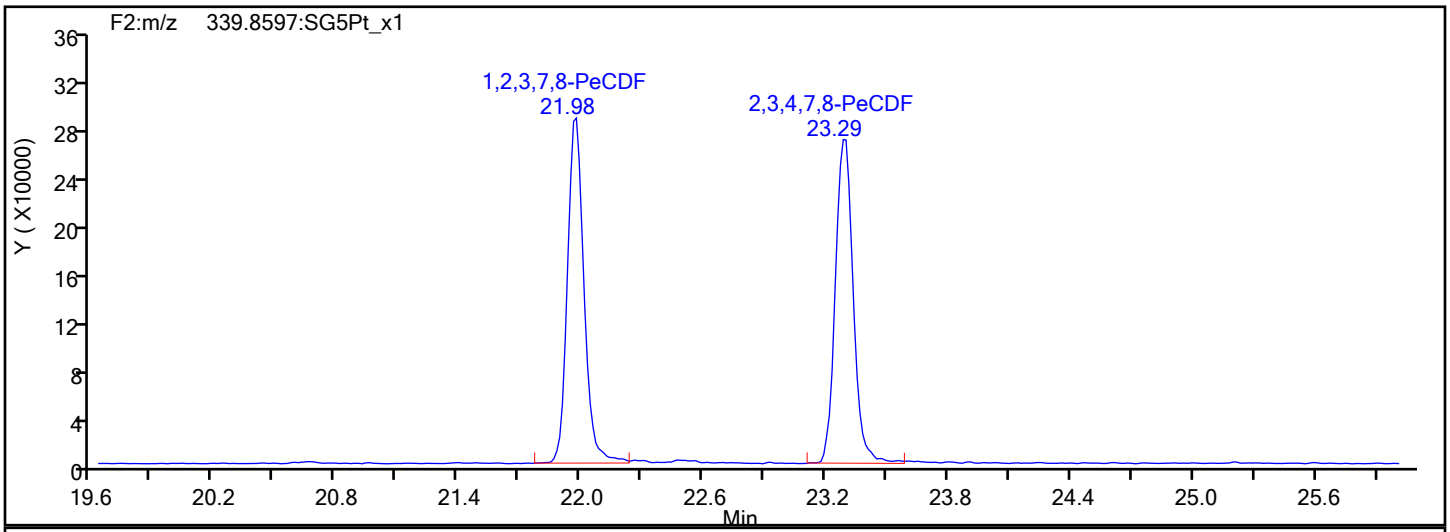

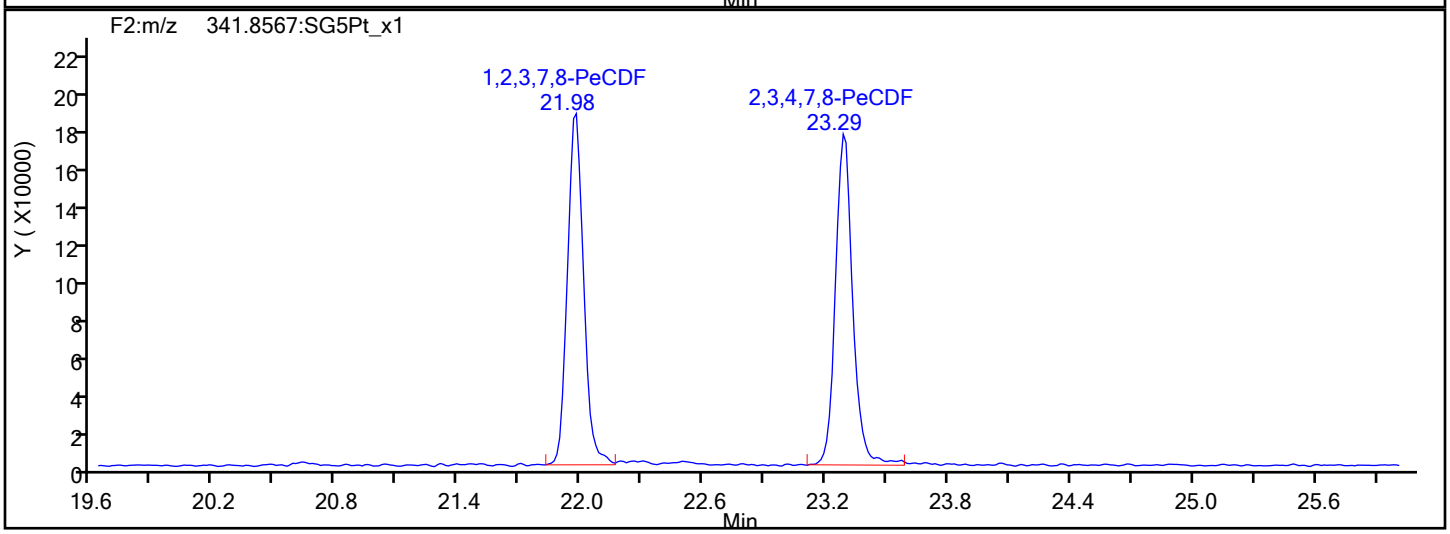

PeCDF Interference Mass

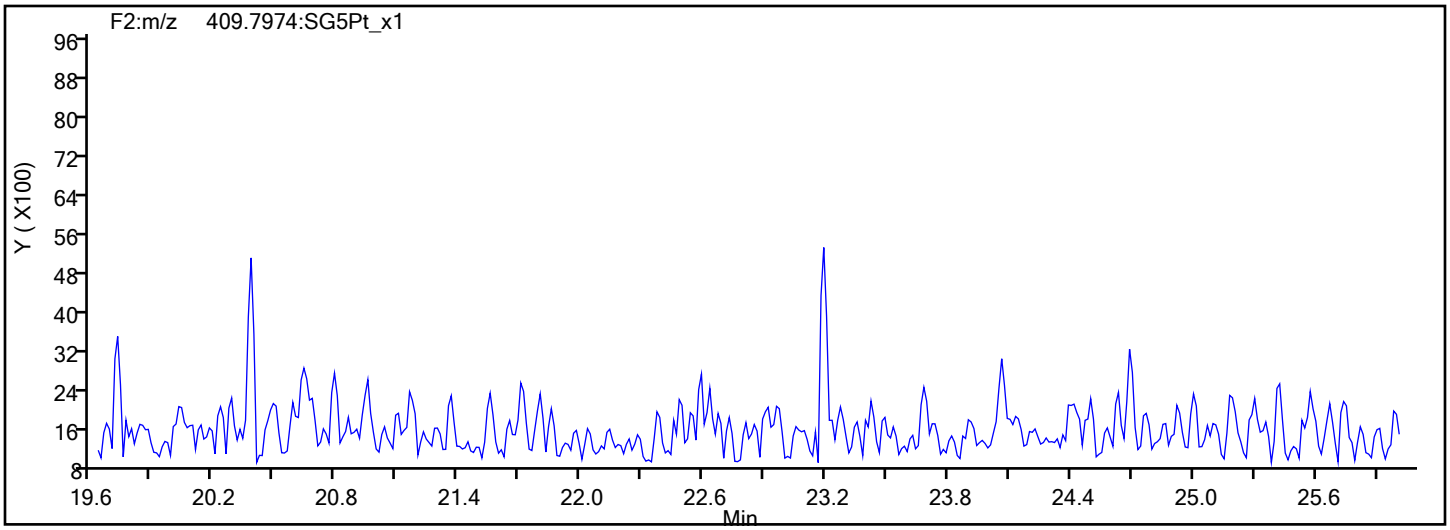

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Eurofins TestAmerica, Sacramento

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PeCDD

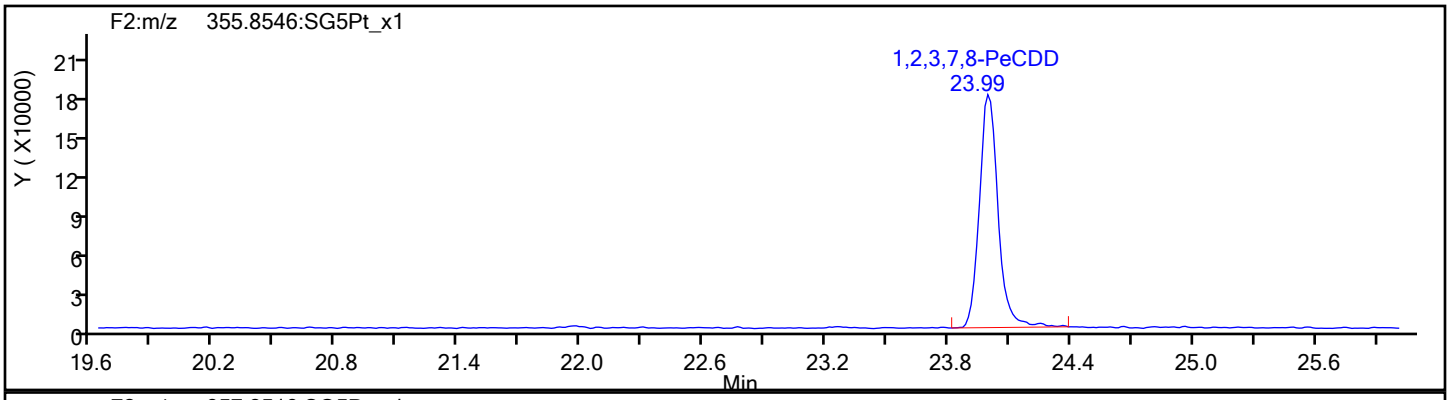

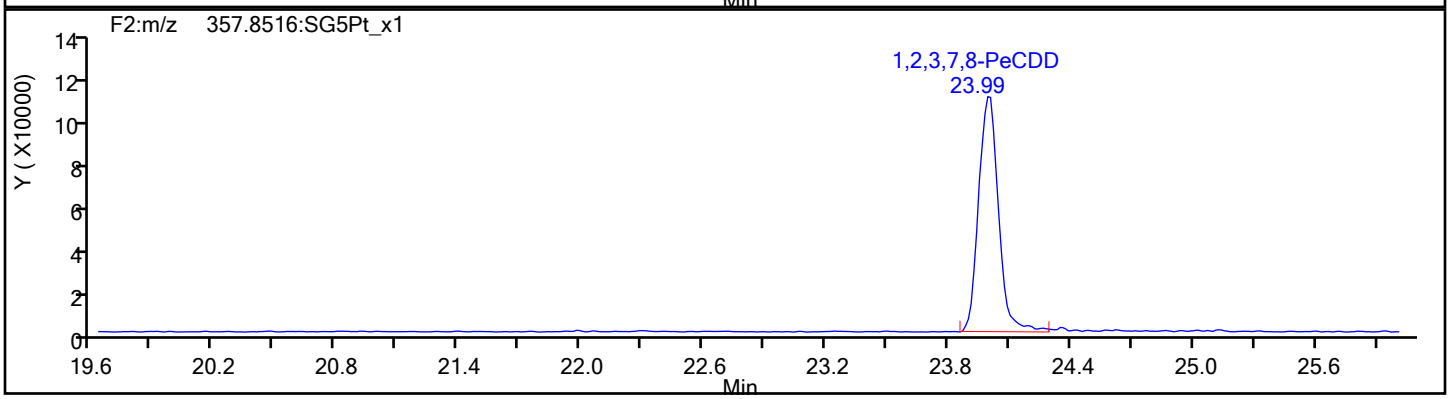

PeCDD Standards

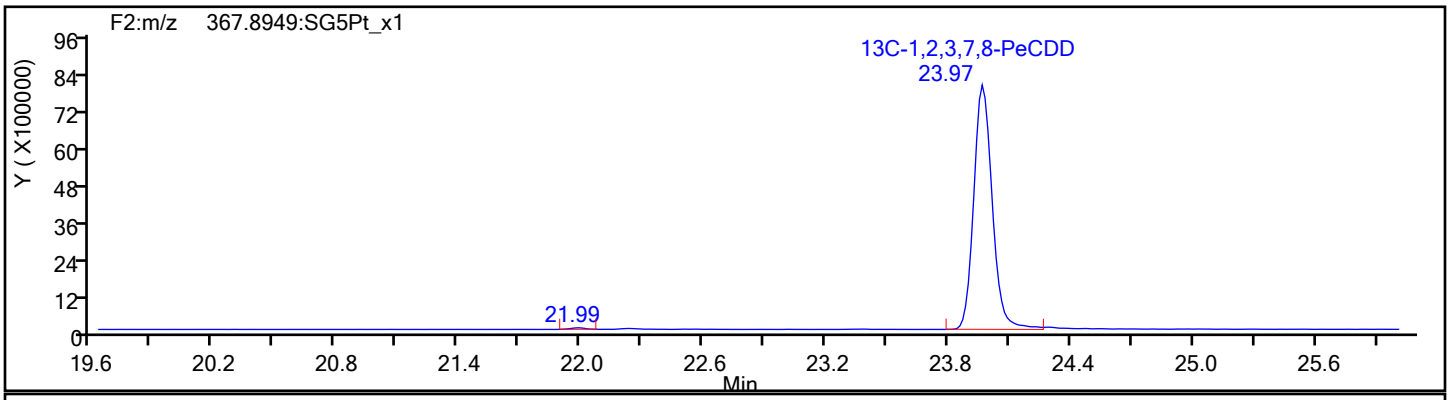

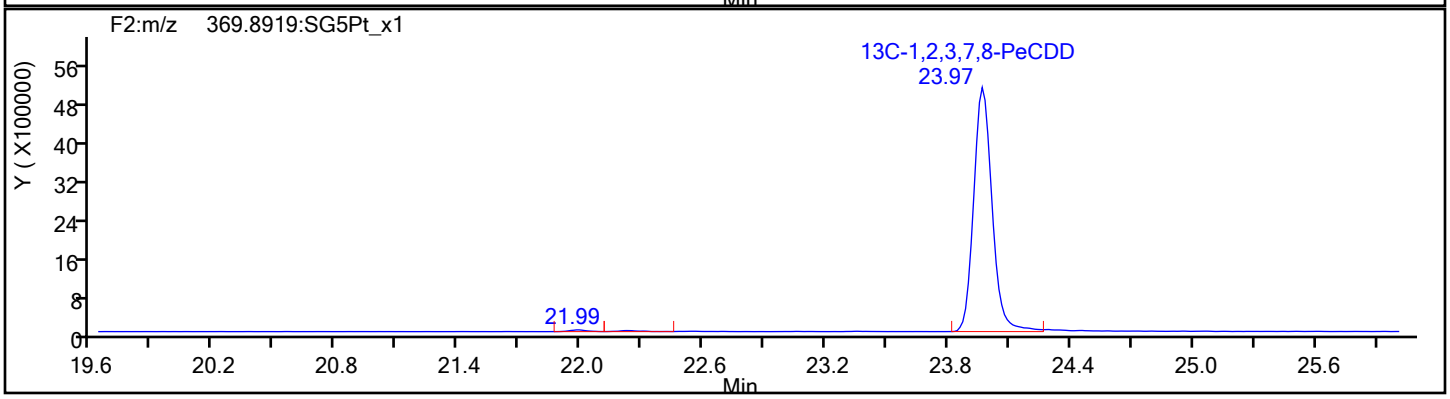

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Eurofins TestAmerica, Sacramento

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HxCDF

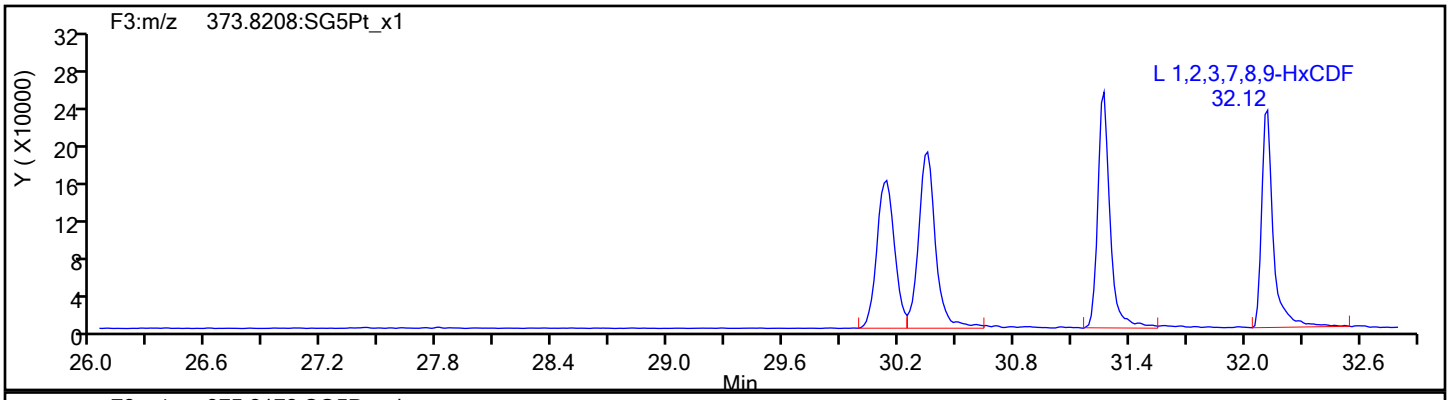

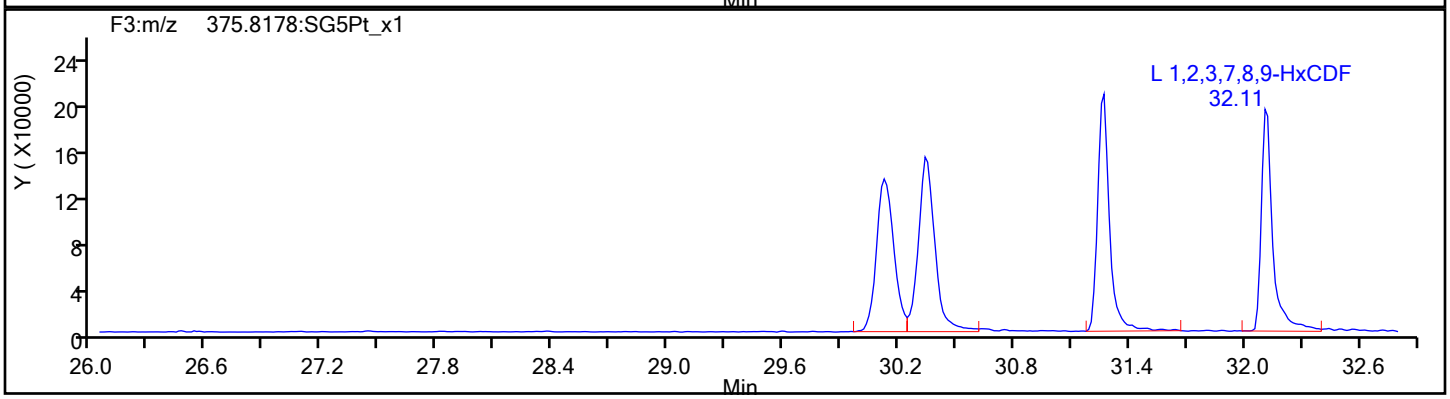

HxCDF Standards

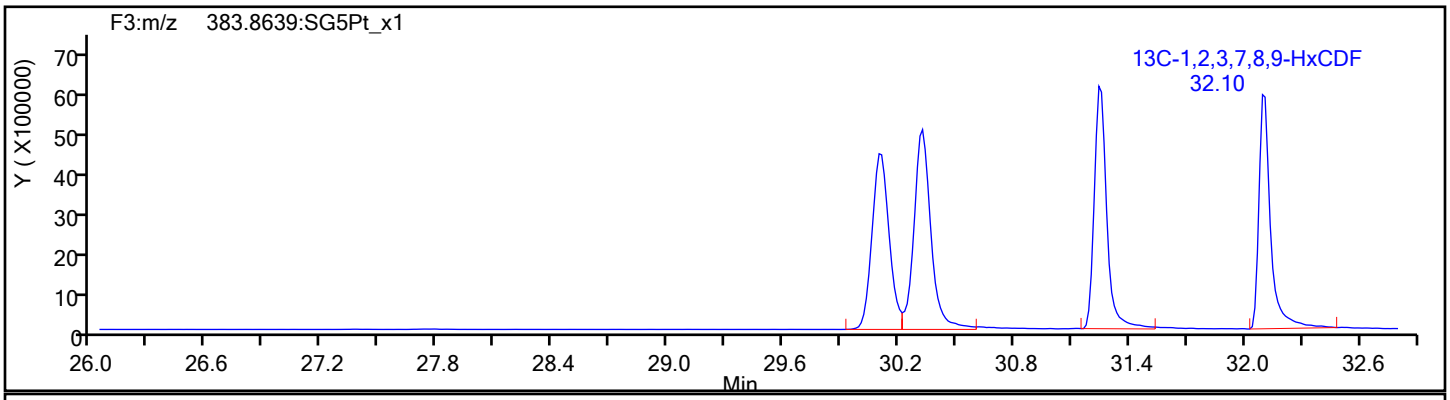

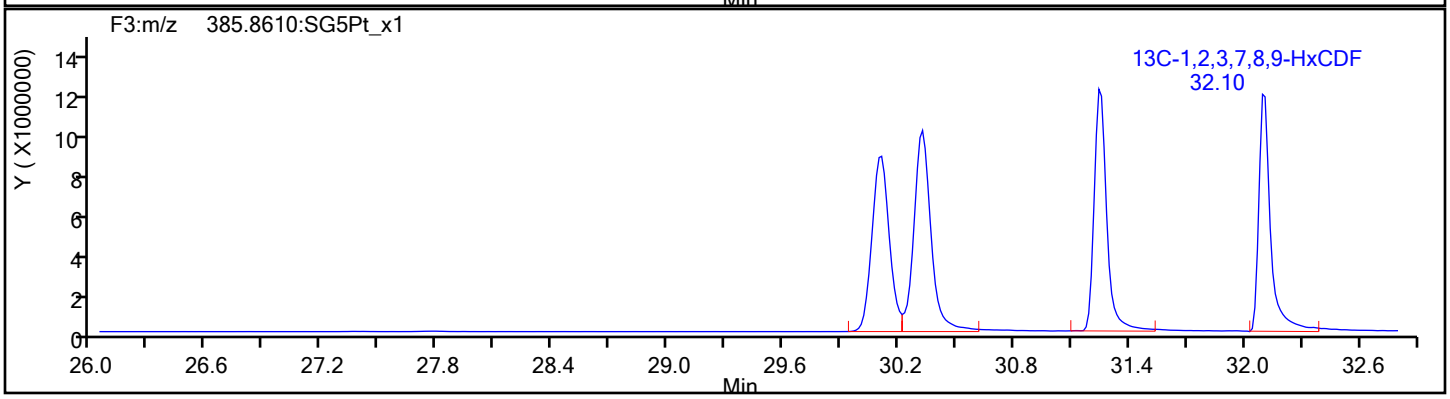

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Eurofins TestAmerica, Sacramento

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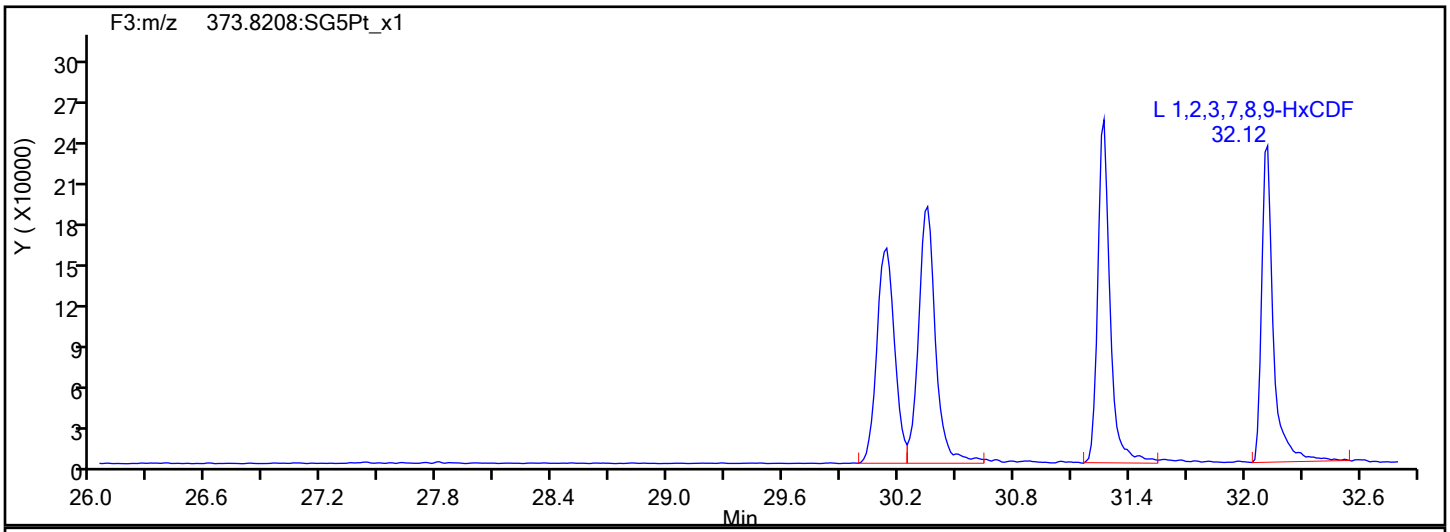

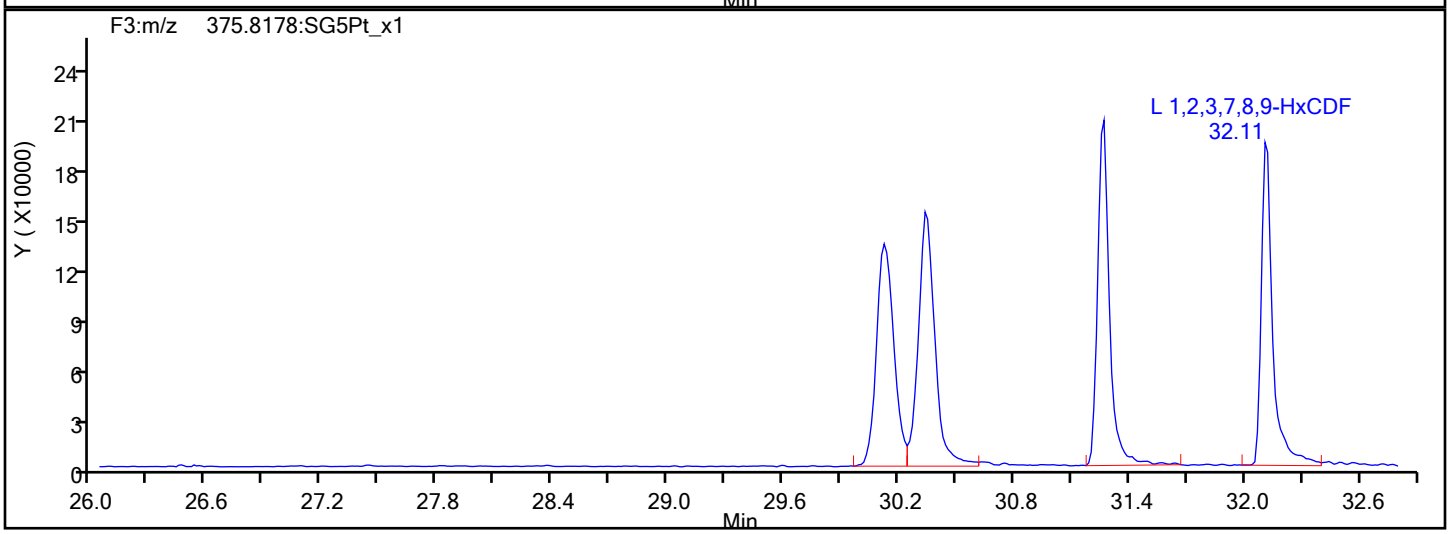

HxCDF Interference Mass

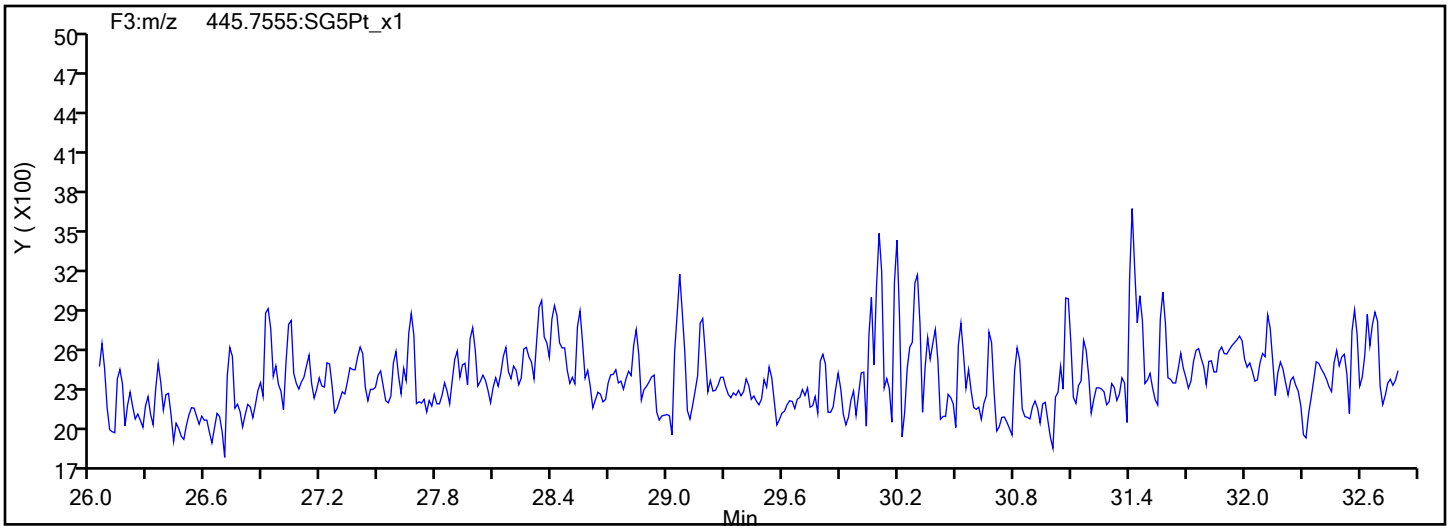

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Eurofins TestAmerica, Sacramento

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HxCDD

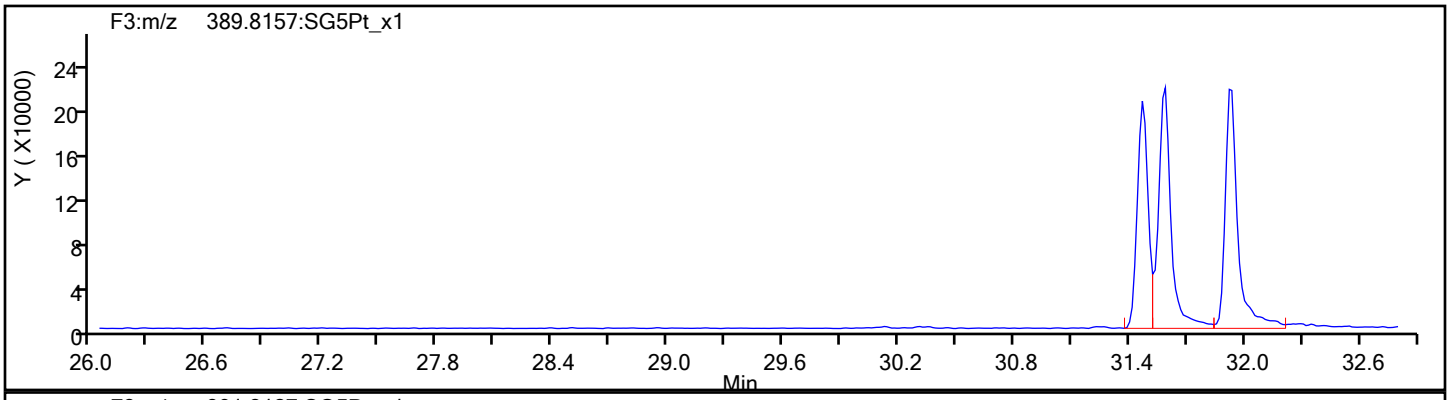

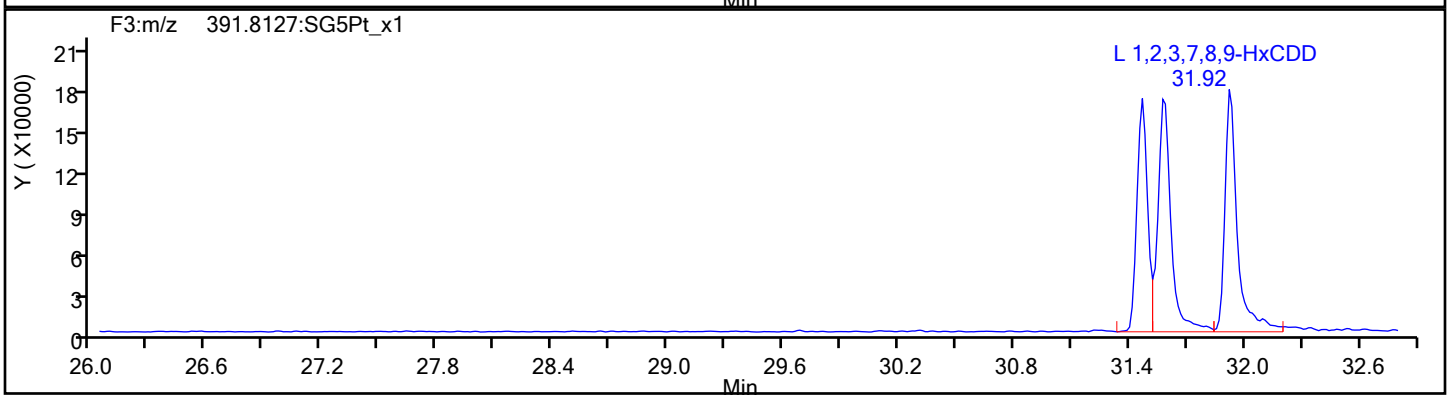

HxCDD Standards

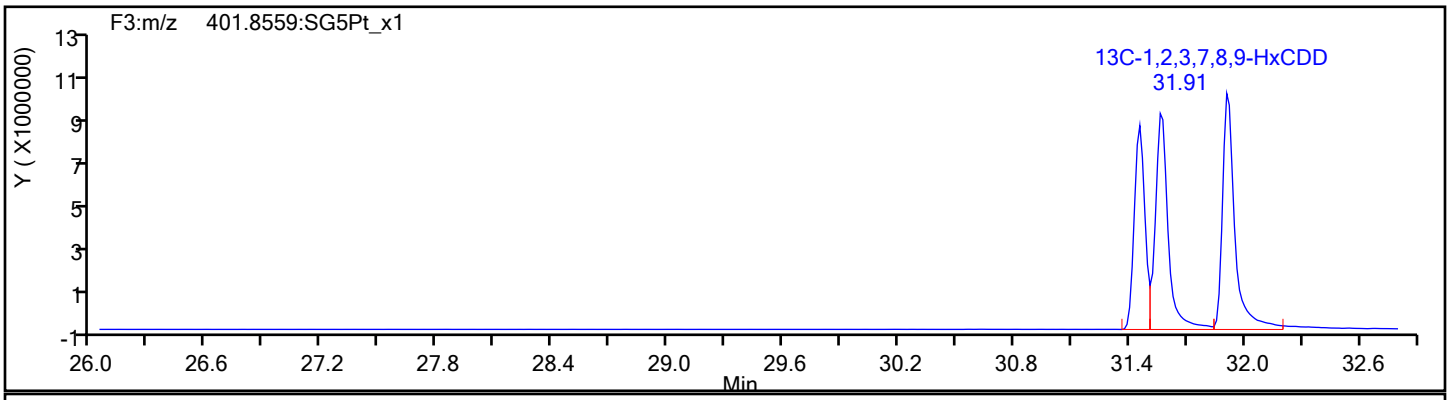

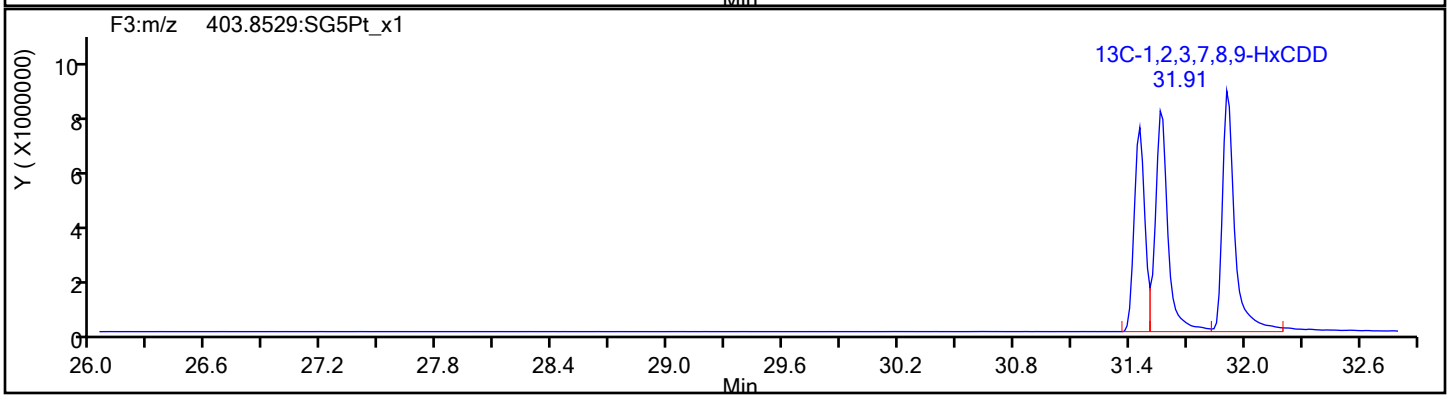

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Eurofins TestAmerica, Sacramento

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HpCDF

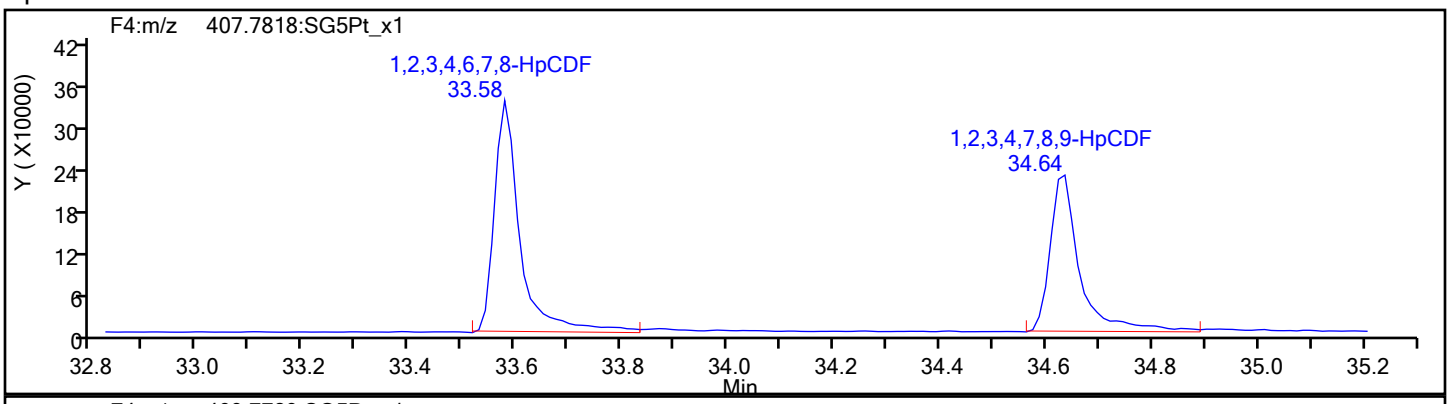

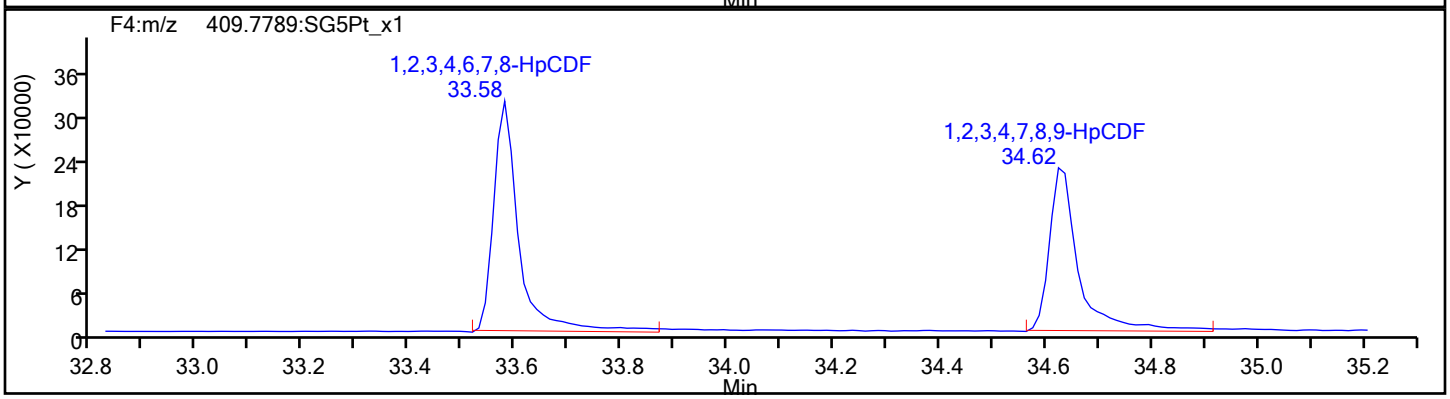

HpCDF Standards

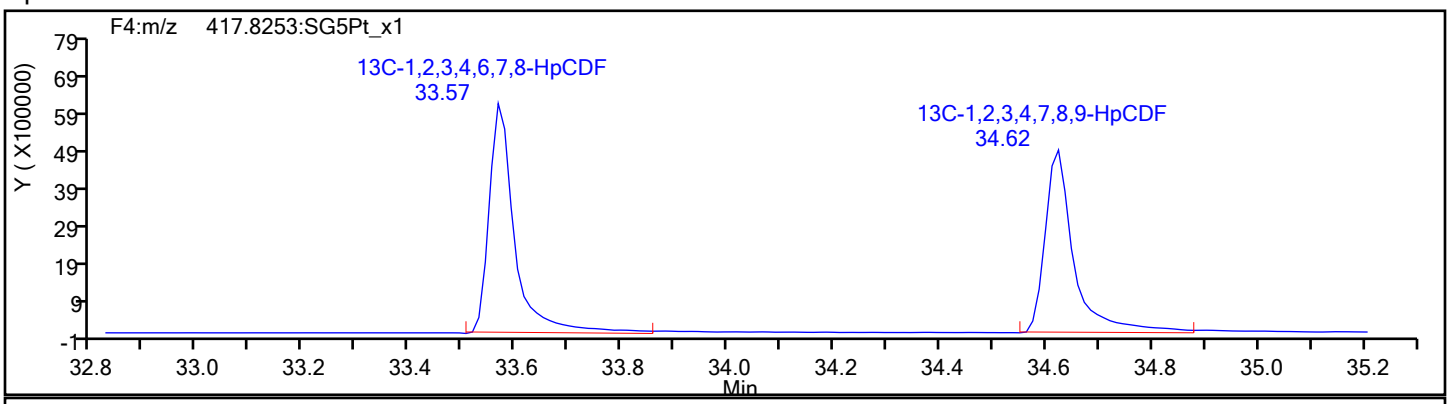

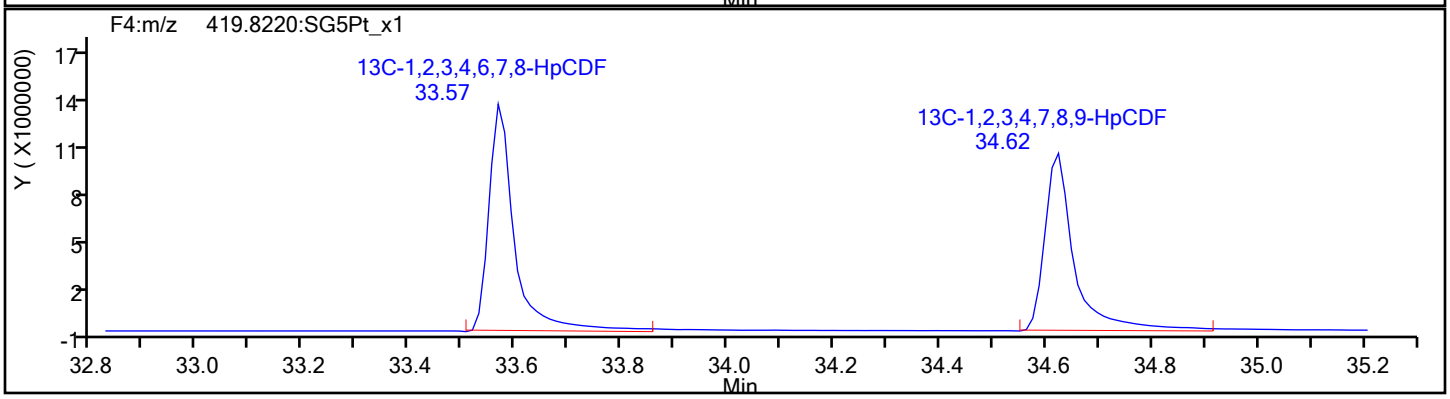

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Eurofins TestAmerica, Sacramento

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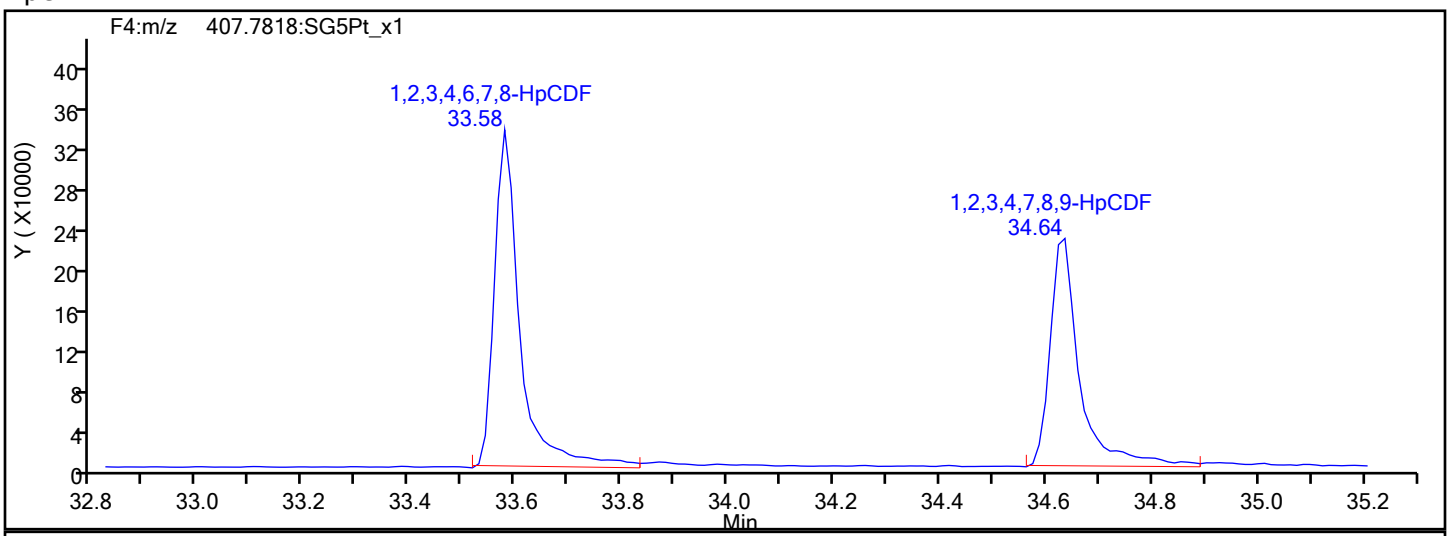

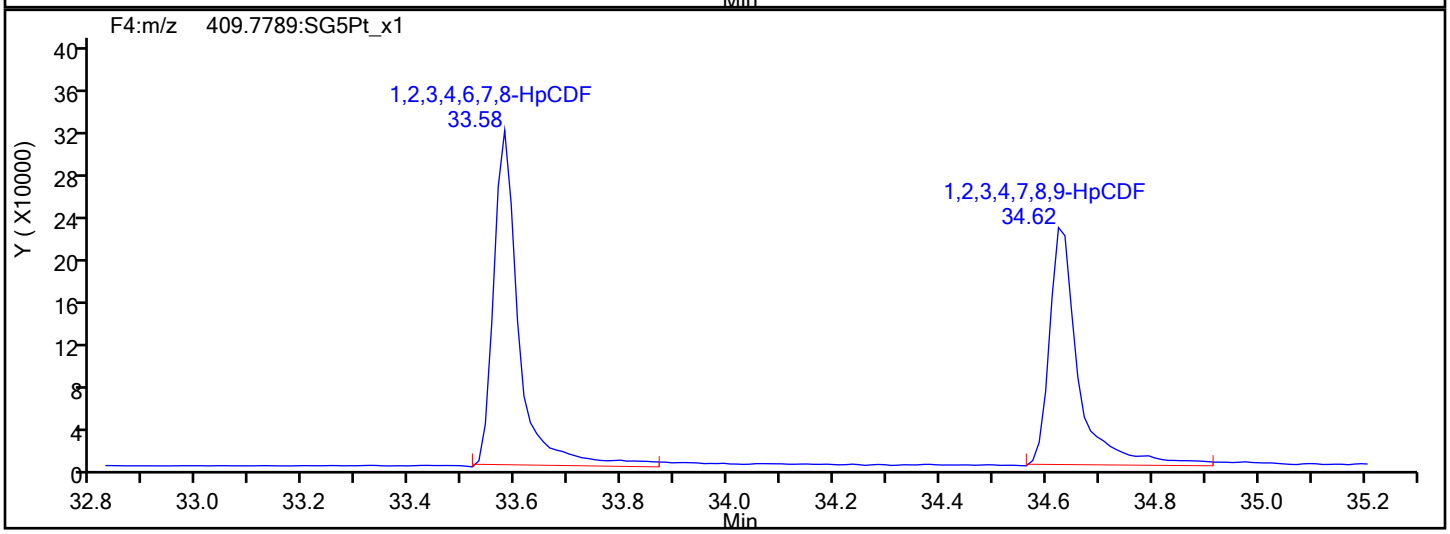

HpCDF Interference Mass

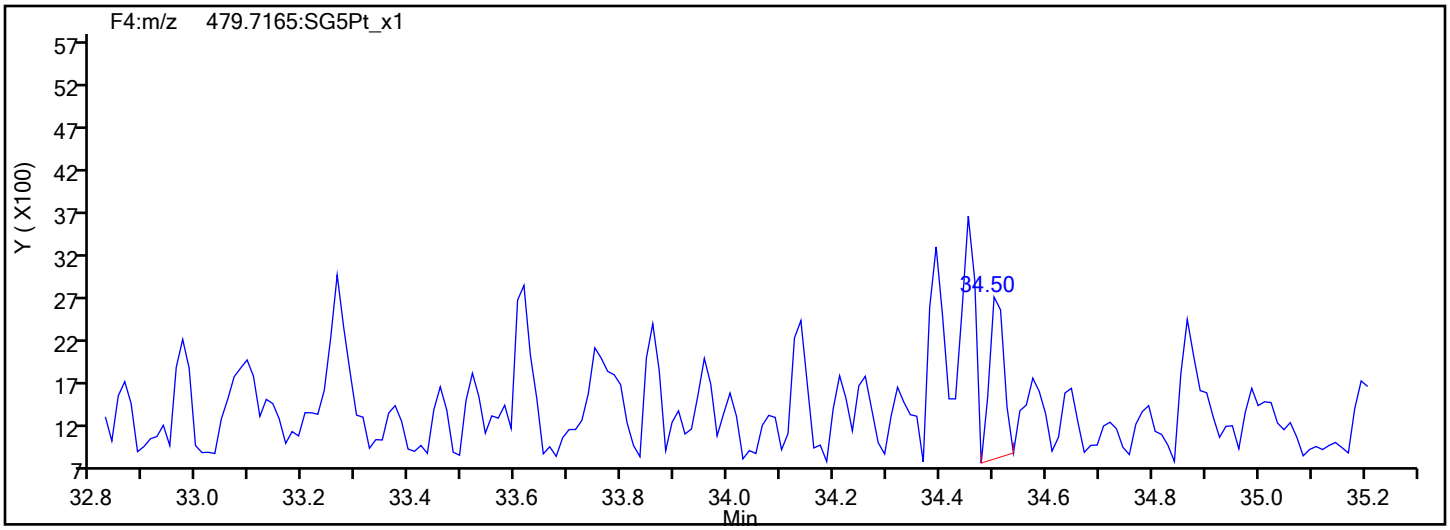

Report Date: 14-Nov-2019 16:54:20 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_3.d		
Injection Date:	14-Nov-2019 09:46:53	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

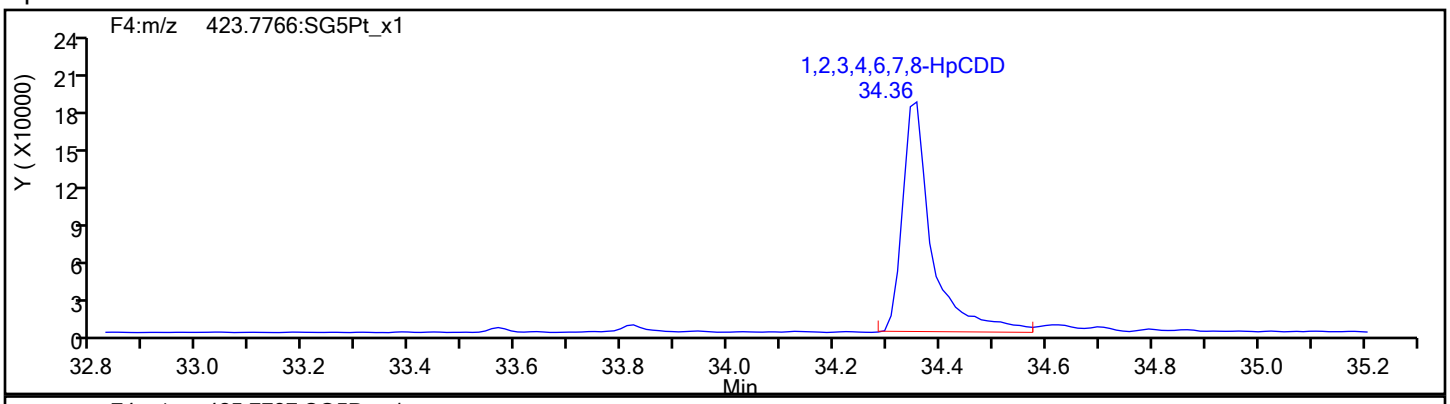

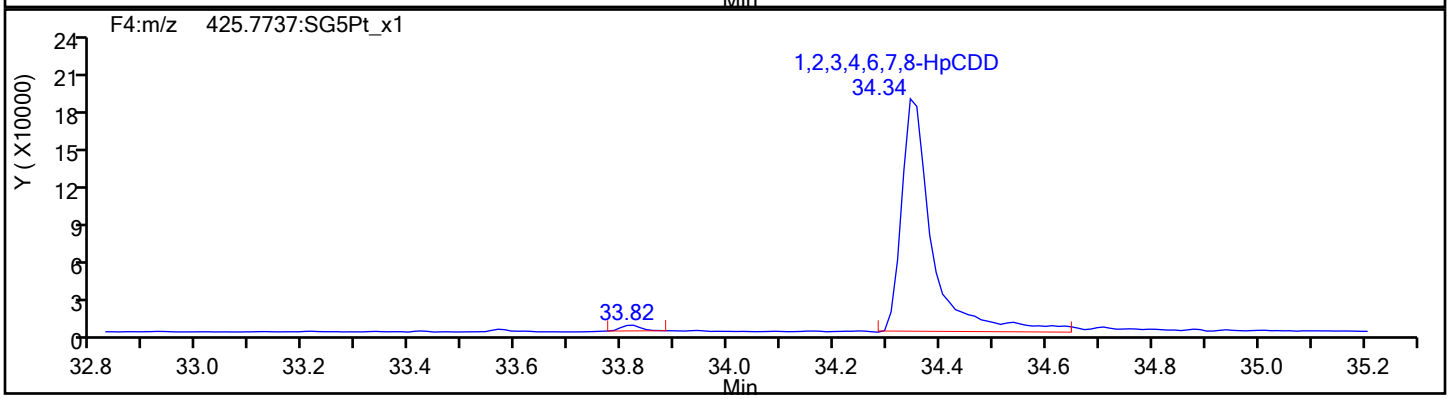

HpCDD Standards

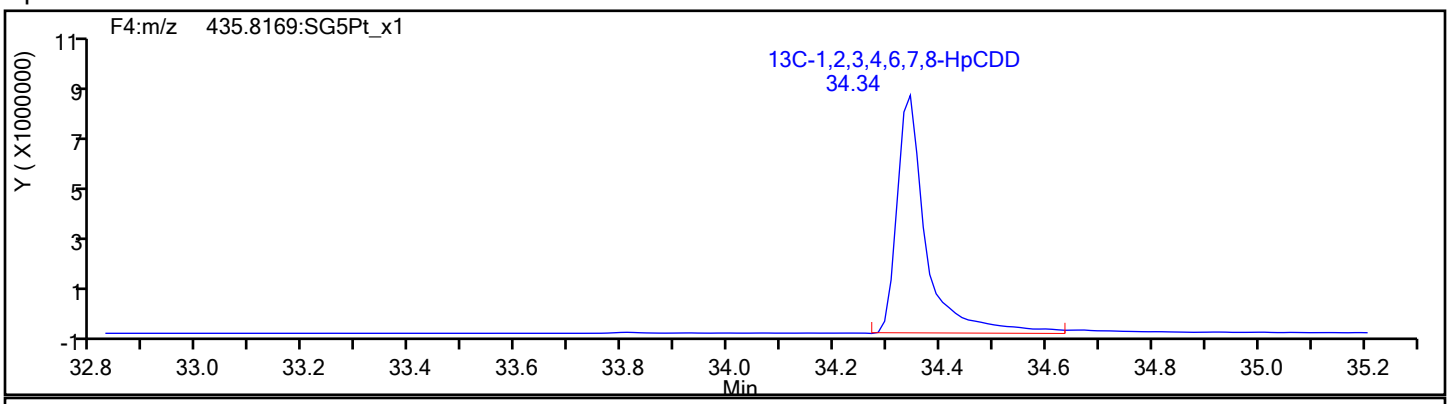

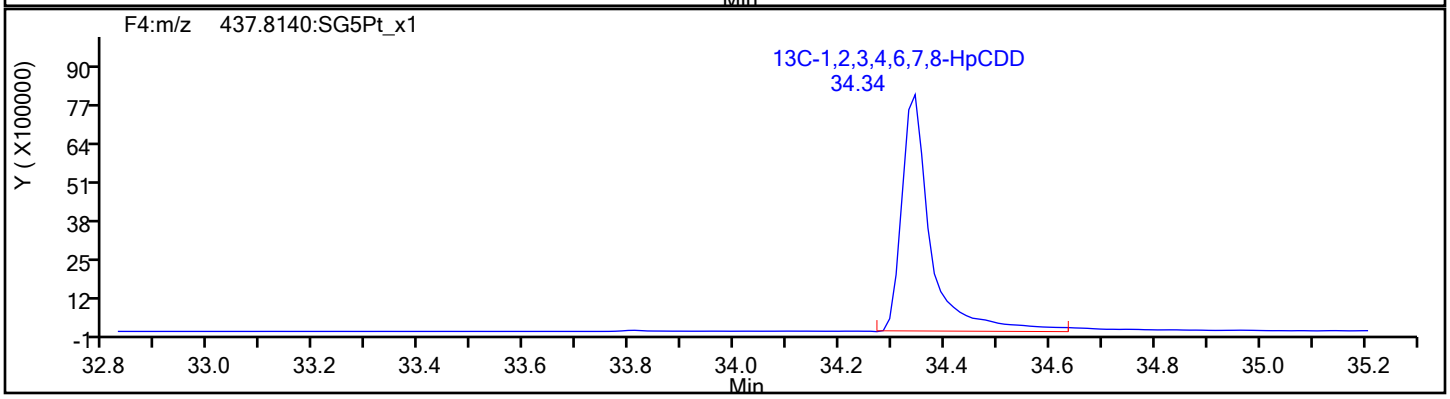

Report Date: 14-Nov-2019 16:54:20 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_3.d		
Injection Date:	14-Nov-2019 09:46:53	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

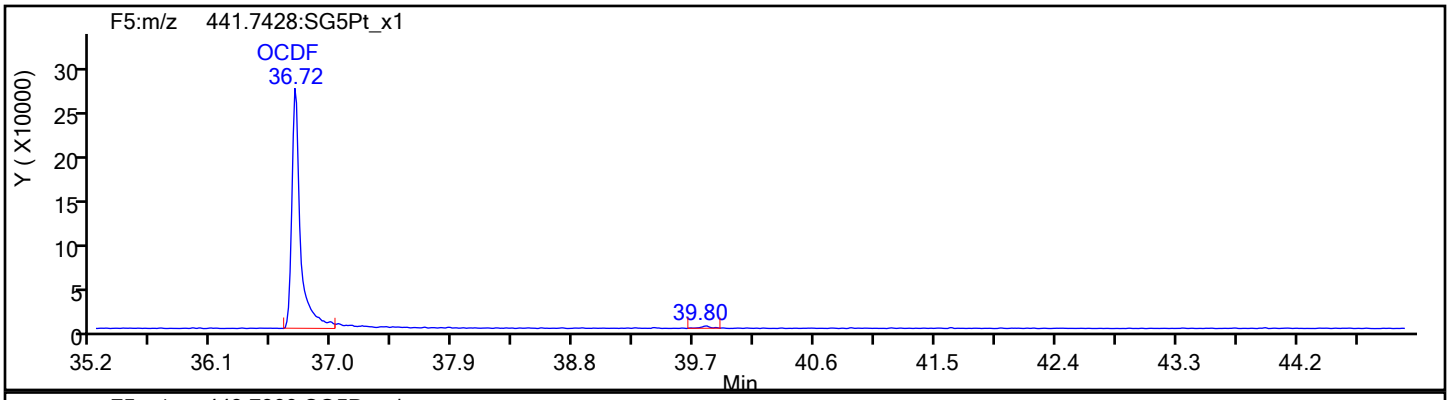

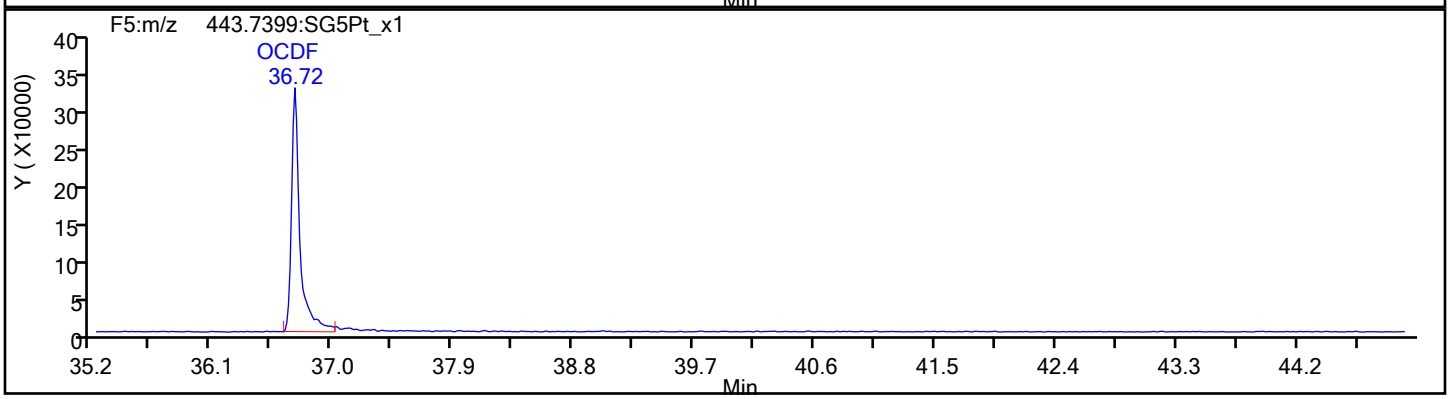

OCDF Standards

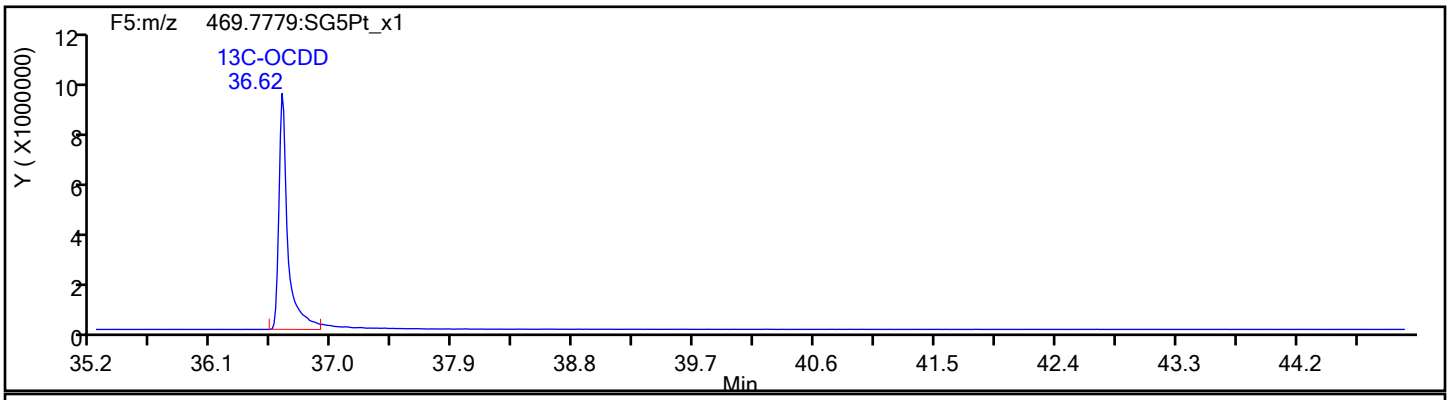

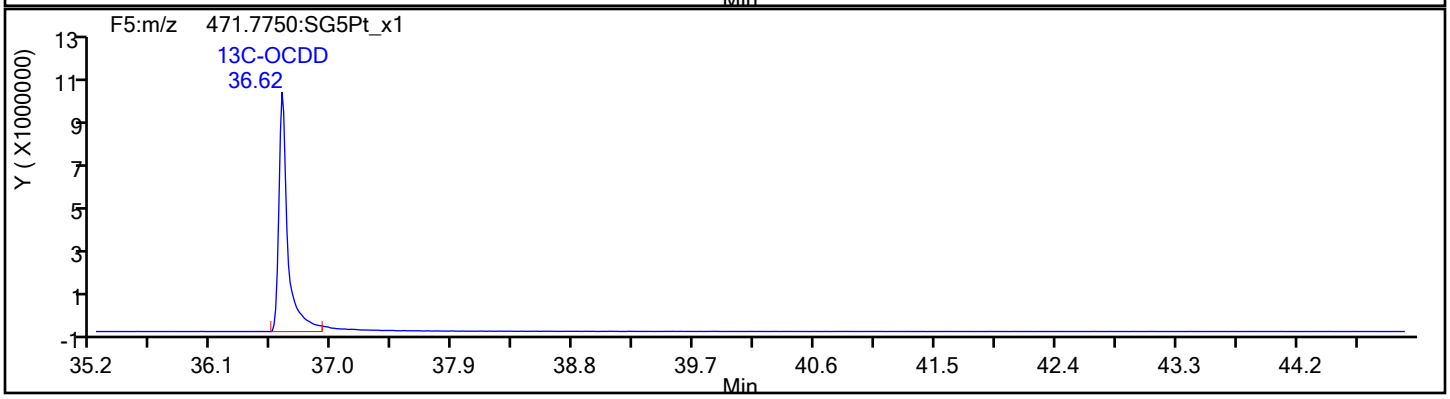

Report Date: 14-Nov-2019 16:54:20 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_3.d		
Injection Date:	14-Nov-2019 09:46:53	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

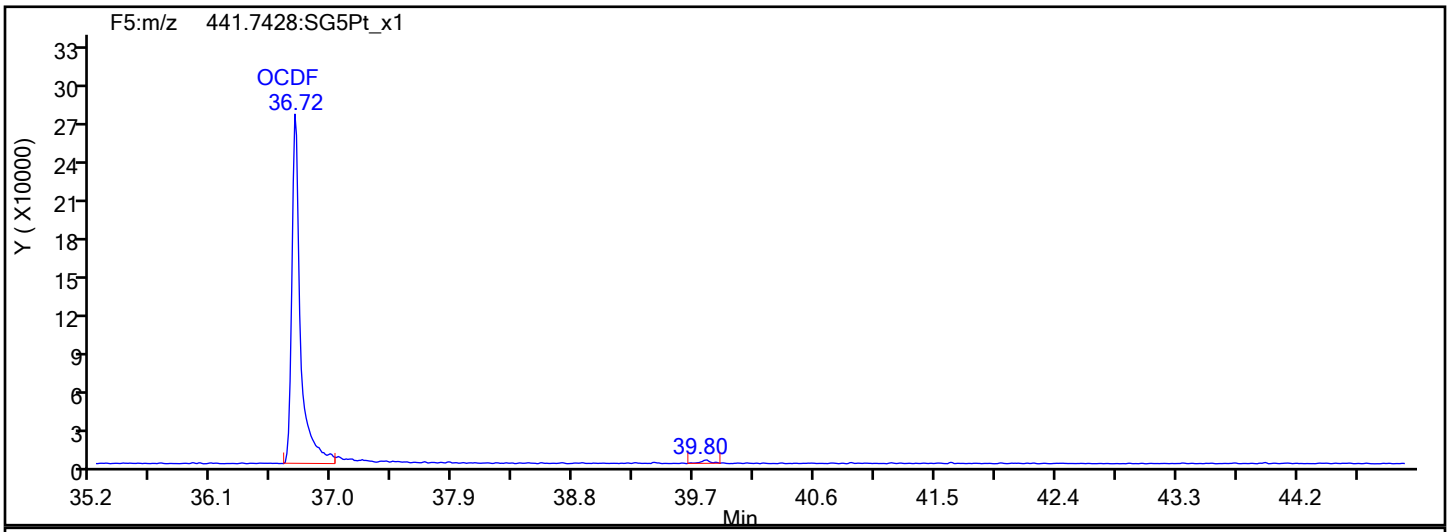

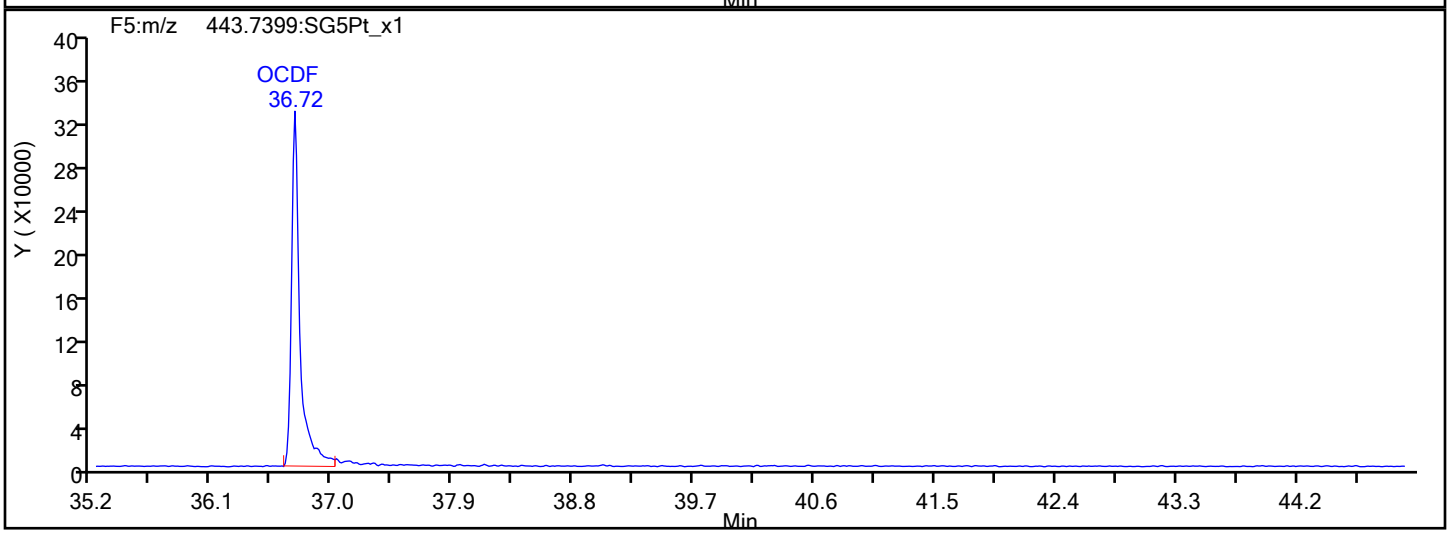

OCDF Interference Mass

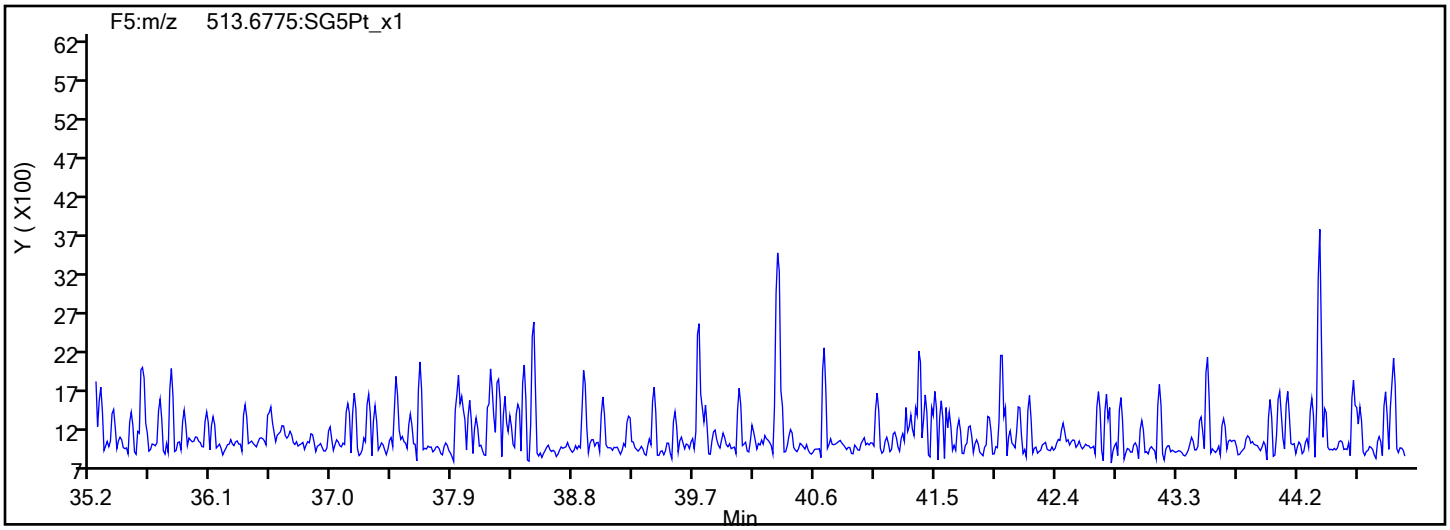

Report Date: 14-Nov-2019 16:54:20 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_3.d		
Injection Date:	14-Nov-2019 09:46:53	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

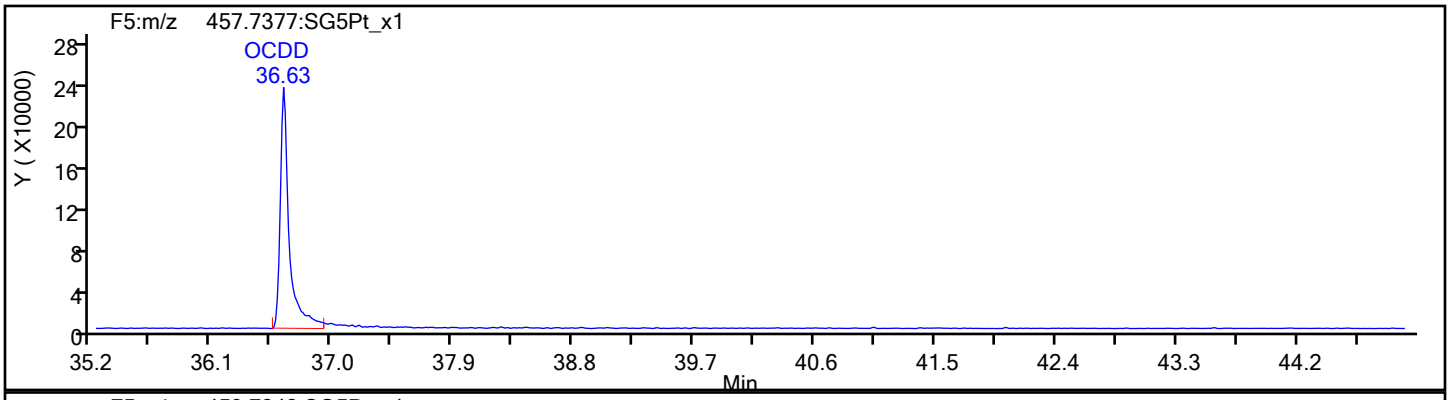

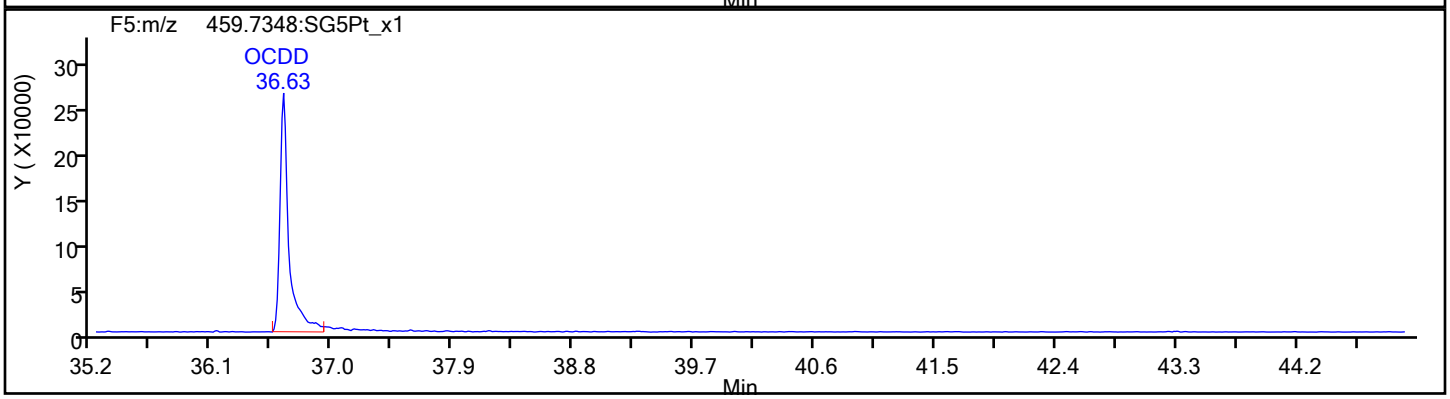

OCDD Standards

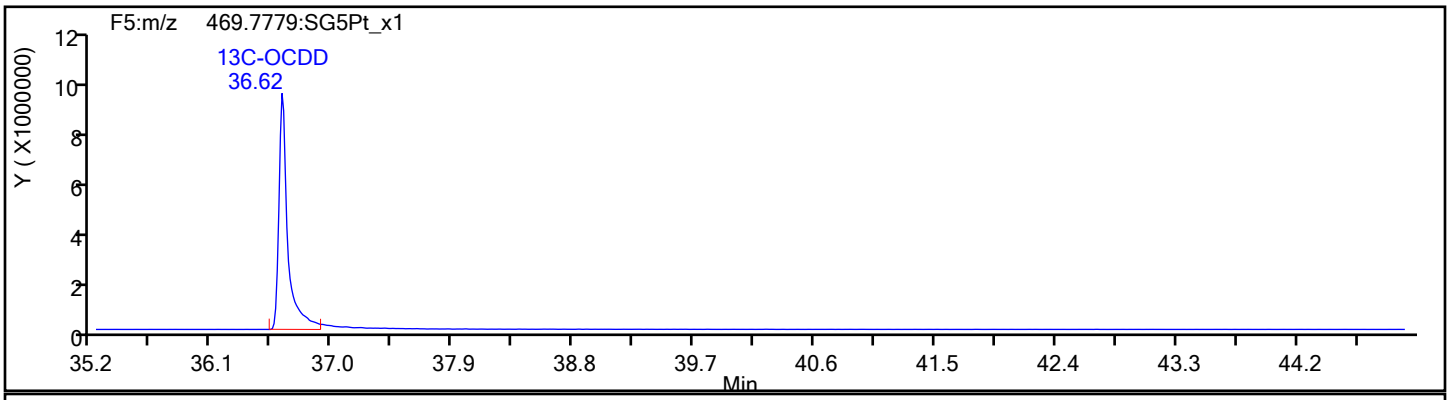

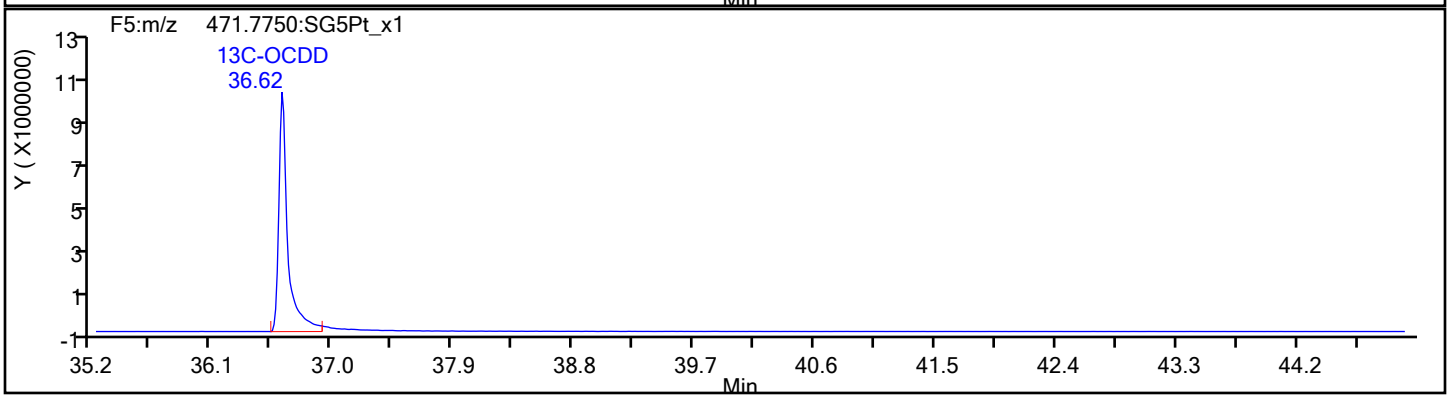

Report Date: 14-Nov-2019 16:54:20 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_3.d		
Injection Date:	14-Nov-2019 09:46:53	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

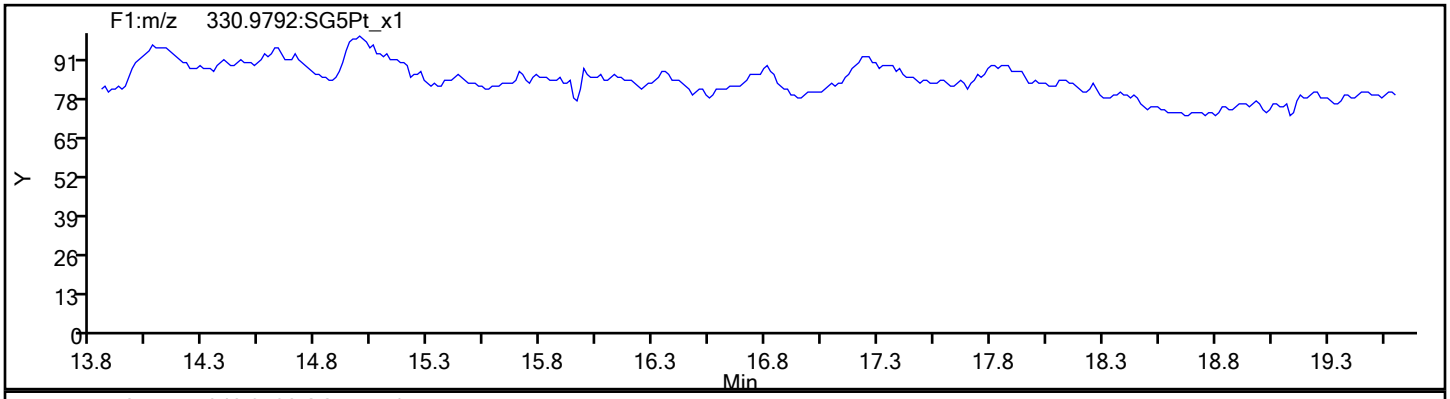

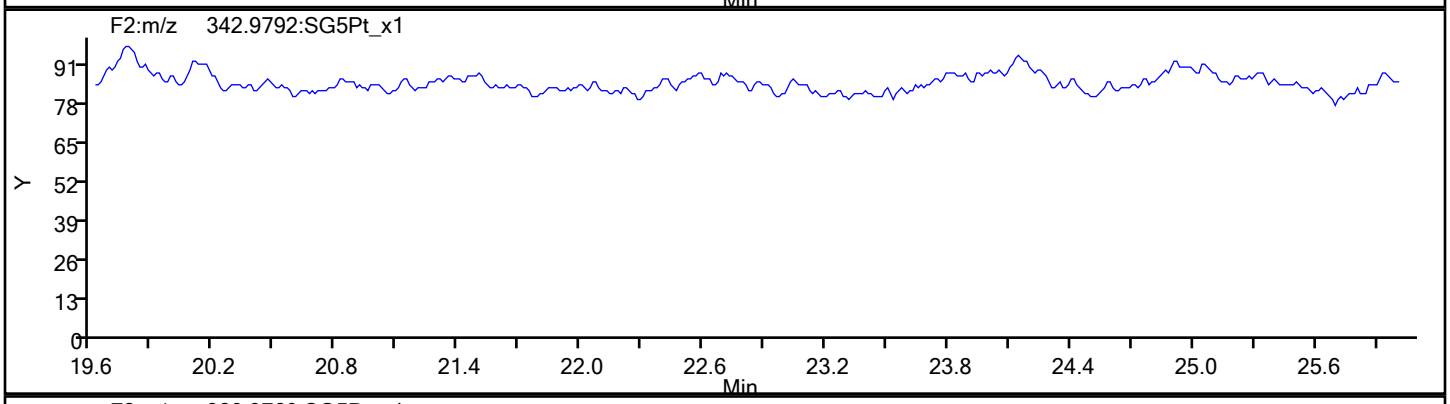

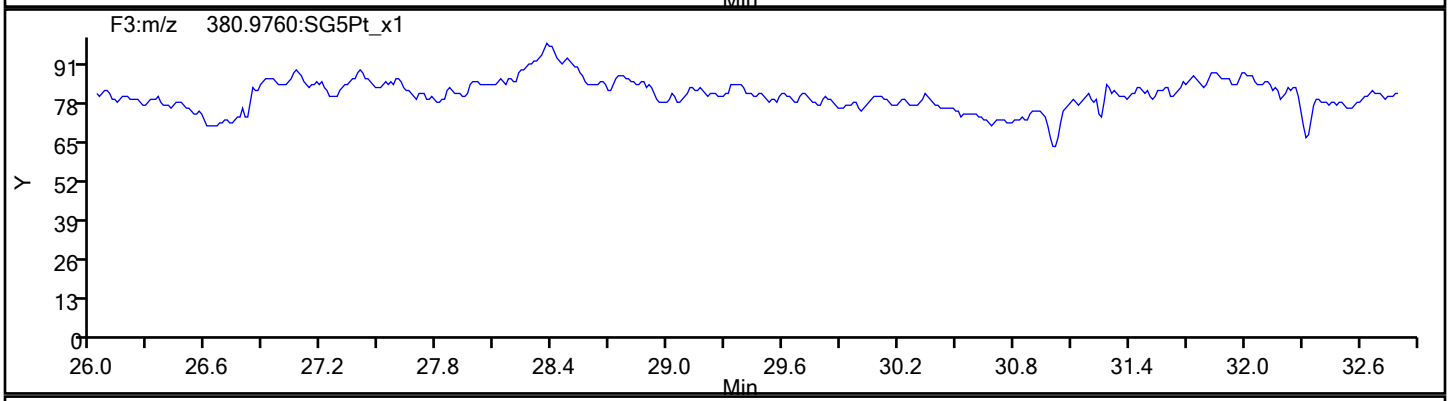

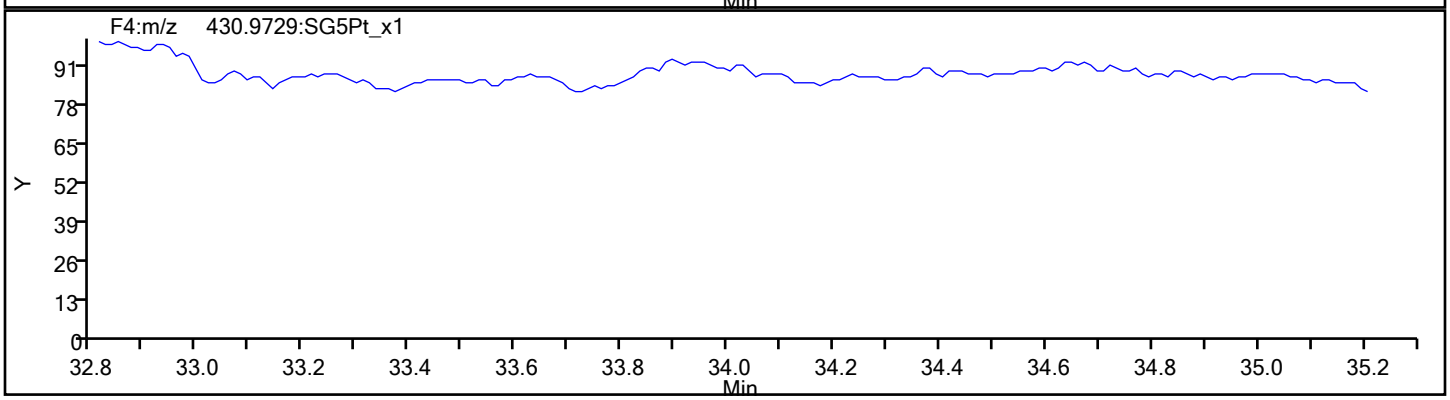

Report Date: 14-Nov-2019 16:54:20 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_3.d		
Injection Date:	14-Nov-2019 09:46:53	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

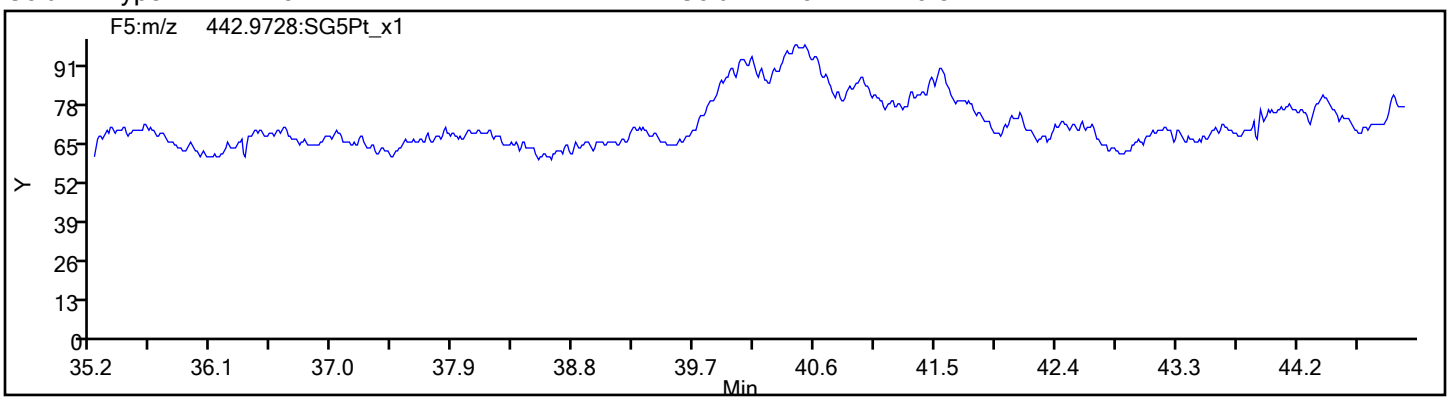

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_4.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 14-Nov-2019 10:32:55 ALS Bottle#: 5 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC111419A CS-3 HRDXNL3_00025
Misc. Info.: 14NO1910D5
Operator ID: SMA Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Nov-2019 16:54:02 Calib Date: 14-Nov-2019 12:50:49
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: arghestanis Date: 14-Nov-2019 13:47:34

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.532	120587468	0.79	1.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.034	156065046	0.78	1.3318	97.2	97.2	0.1526	0.1526	97.17	
2,3,7,8-TCDF	17.049	2974733	0.77	0.9005	2.117	2.117	0.0130	0.0130	106	
S Total TCDF					2.117	2.117	0.0130	0.0130		
D 13C-2,3,7,8-TCDD	17.729	114053402	0.79	0.9647	98.0	98.0	0.1739	0.1739	98.04	
2,3,7,8-TCDD	17.744	2575271	0.80	1.0698	2.111	2.111	0.0156	0.0156	106	
$ 37Cl4-2,3,7,8-TCDD	17.744	2863654		1.3082	1.815	1.815	0.006162	0.006162	90.76	
S Total TCDD					2.111	2.111	0.0156	0.0156		
D 13C-1,2,3,7,8-PeCDF	21.949	120823246	1.56	1.0537	95.1	95.1	0.2820	0.2820	95.09	
1,2,3,7,8-PeCDF	21.963	12569686	1.59	0.9704	10.7	10.7	0.0560	0.0560	107	
D 13C-2,3,4,7,8-PeCDF	23.258	118044282	1.57	1.0173	96.2	96.2	0.2921	0.2921	96.23	
2,3,4,7,8-PeCDF	23.286	12532612	1.56	0.9986	10.6	10.6	0.0582	0.0582	106	
S Total PeCDF					21.4	21.4	0.0571	0.0571		
D 13C-1,2,3,7,8-PeCDD	23.968	84035570	1.57	0.7281	95.7	95.7	0.1426	0.1426	95.71	
1,2,3,7,8-PeCDD	23.995	8901872	1.60	1.0023	10.6	10.6	0.0357	0.0357	106	
S Total PeCDD					10.6	10.6	0.0357	0.0357		
D 13C-1,2,3,4,7,8-HxCDF	30.100	82977803	0.51	0.9632	96.4	96.4	0.5982	0.5982	96.42	
1,2,3,4,7,8-HxCDF	30.126	9042597	1.23	1.0315	10.6	10.6	0.1196	0.1196	106	
D 13C-1,2,3,6,7,8-HxCDF	30.312	92252784	0.51	1.0646	97.0	97.0	0.5412	0.5412	96.99	
1,2,3,6,7,8-HxCDF	30.339	10306095	1.24	1.0235	10.9	10.9	0.1066	0.1066	109	
D 13C-2,3,4,6,7,8-HxCDF	31.244	85583439	0.52	0.9696	98.8	98.8	0.5942	0.5942	98.78	
2,3,4,6,7,8-HxCDF	31.258	9723529	1.23	1.0645	10.7	10.7	0.0813	0.0813	107	
D 13C-1,2,3,7,8,9-HxCDF	32.096	77641252	0.51	0.8955	97.0	97.0	0.6434	0.6434	97.04	
1,2,3,7,8,9-HxCDF	32.110	8942226	1.23	1.0664	10.8	10.8	0.0831	0.0831	108	
S Total HxCDF					43.0	43.0	0.0976	0.0976		
* 13C-1,2,3,7,8,9-HxCDD	31.910	89350313	1.24	8.8E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.444	68199301	1.27	0.7590	100.6	100.6	0.4483	0.4483	101	
1,2,3,4,7,8-HxCDD	31.471	7132423	1.24	1.0054	10.4	10.4	0.0549	0.0549	104	
D 13C-1,2,3,6,7,8-HxCDD	31.564	80868571	1.24	0.9247	97.9	97.9	0.3679	0.3679	97.87	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.577	8533516	1.25	0.9833	10.7	10.7	0.0511	0.0511	107	
1,2,3,7,8,9-HxCDD	31.923	8771399	1.22	1.1036	10.7	10.7	0.0477	0.0477	107	
S Total HxCDD					31.8	31.8	0.0512	0.0512		
D 13C-1,2,3,4,6,7,8-HpCDF	33.567	69849087	0.45	0.7930	98.6	98.6	2.060	2.060	98.58	
1,2,3,4,6,7,8-HpCDF	33.579	10733813	1.04	1.4240	10.8	10.8	0.1940	0.1940	108	
D 13C-1,2,3,4,7,8,9-HpCDF	34.612	63441185	0.44	0.7296	97.3	97.3	2.239	2.239	97.32	
1,2,3,4,7,8,9-HpCDF	34.624	8737178	1.04	1.2834	10.7	10.7	0.2605	0.2605	107	
S Total HpCDF					21.5	21.5	0.2273	0.2273		
D 13C-1,2,3,4,6,7,8-HpCDD	34.333	65748052	1.05	0.7532	97.7	97.7	0.8290	0.8290	97.70	
1,2,3,4,6,7,8-HpCDD	34.345	7201830	1.06	1.0174	10.8	10.8	0.1030	0.1030	108	
S Total HpCDD					10.8	10.8	0.1030	0.1030		
D 13C-OCDD	36.621	94246168	0.89	0.5621	187.7	187.7	0.3020	0.3020	93.83	
OCDF	36.717	12949120	0.90	1.3047	21.1	21.1	0.0471	0.0471	105	
OCDD	36.633	11182534	0.89	1.0997	21.6	21.6	0.0452	0.0452	108	

Reagents:

HRDXNL3_00025 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_4.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 14-Nov-2019 10:32:55 ALS Bottle#: 5 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC111419A CS-3 HRDXNL3_00025
Misc. Info.: 14NO1910D5
Operator ID: SMA Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Nov-2019 16:54:02 Calib Date: 14-Nov-2019 12:50:49
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: arghestanis Date: 14-Nov-2019 13:47:34

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.532	17.539	0		53299923	13586228	9879	24697	1375		
333.9339	17.532	17.539	0		67287545	17265010	10821	27052	1596	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.034	17.034	0	0.972	68173593	17388881	11766	29415	1478		
317.9389	17.034	17.034	0	0.972	87891453	22580056	13311	33277	1696	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.049	17.049	0	1.001	1297161	333740	742	1855	450		
305.8987	17.049	17.049	0	1.001	1677572	421948	1132	2830	373	0.77(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.729	17.729	0	1.011	50329650	11913389	9879	24697	1206		
333.9339	17.729	17.729	0	1.011	63723752	14987971	10821	27052	1385	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.744	17.744	0	1.001	1147364	273431	1082	2705	253		
321.8936	17.744	17.744	0	1.001	1427907	354903	716	1790	496	0.80(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.744	17.744	0	1.012	2863654	705946	995	2487	709		
13C-1,2,3,7,8-PeCDF											
351.9000	21.949	21.949	0	1.252	73679296	13004409	22060	55150	590		
353.8970	21.949	21.949	0	1.252	47143950	8319890	14612	36530	569	1.56(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.963	21.971	0	1.001	7724885	1382375	2624	6560	527		
341.8567	21.963	21.971	0	1.001	4844801	897690	2009	5022	447	1.59(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	23.258	23.258	0	1.327	72039556	12158566	22060	55150	551		
353.8970	23.258	23.258	0	1.327	46004726	7782970	14612	36530	533	1.57(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.286	23.286	0	1.001	7639301	1316285	2624	6560	502		
341.8567	23.286	23.286	0	1.001	4893311	835364	2009	5022	416	1.56(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.968	23.968	0	1.367	51305149	8033321	8094	20235	993		
369.8919	23.968	23.968	0	1.367	32730421	5088409	4721	11802	1078	1.57(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.995	23.995	0	1.001	5472297	866787	1189	2972	729		
357.8516	23.995	23.995	0	1.001	3429575	542178	687	1717	789	1.60(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.100	30.102	0	0.943	27947367	4590066	15865	39662	289		
385.8610	30.100	30.102	0	0.943	55030436	8781311	31202	78005	281	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.126	30.131	0	1.001	4978598	827046	3830	9575	216		
375.8178	30.126	30.131	0	1.001	4063999	652671	2767	6917	236	1.23(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.312	30.323	-1	0.950	31087012	5124500	15865	39662	323		
385.8610	30.312	30.323	-1	0.950	61165772	9991761	31202	78005	320	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.339	30.344	0	1.001	5708199	952062	3830	9575	249		
375.8178	30.339	30.344	0	1.001	4597896	769523	2767	6917	278	1.24(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.244	31.247	0	0.979	29219359	6532009	15865	39662	412		
385.8610	31.244	31.247	0	0.979	56364080	12528435	31202	78005	402	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.258	31.265	0	1.000	5364335	1211892	3830	9575	316		
375.8178	31.258	31.265	0	1.000	4359194	1000741	2767	6917	362	1.23(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.096	32.099	0	1.006	26210079	6318628	15865	39662	398		
385.8610	32.096	32.099	0	1.006	51431173	12284438	31202	78005	394	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.110	32.115	0	1.000	4929196	1198638	3830	9575	313		
375.8178	32.110	32.115	0	1.000	4013030	982057	2767	6917	355	1.23(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.910	31.912	0		49429439	11283756	15576	38940	724		
403.8529	31.910	31.912	0		39920874	9140122	12220	30550	748	1.24(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.444	31.452	0	0.985	38192156	9532992	15576	38940	612		
403.8529	31.444	31.452	0	0.985	30007145	7401844	12220	30550	606	1.27(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.471	31.470	0	1.001	3948736	990056	2070	5175	478		
391.8127	31.457	31.470	-1	1.000	3183687	804241	1668	4170	482	1.24(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.564	31.566	0	0.989	44835466	10309034	15576	38940	662		
403.8529	31.564	31.566	0	0.989	36033105	8285823	12220	30550	678	1.24(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.577	31.582	0	1.000	4736930	1108179	2070	5175	535		
391.8127	31.577	31.582	0	1.000	3796586	880699	1668	4170	528	1.25(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.923	31.926	0	1.015	4817128	1137262	2070	5175	549		
391.8127	31.923	31.926	0	1.015	3954271	927526	1668	4170	556	1.22(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.567	33.567	0	1.052	21576921	6310512	39561	98902	160		
419.8220	33.567	33.567	0	1.052	48272166	14111506	93878	234695	150	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.579	33.579	0	1.000	5469657	1592348	10862	27155	147		
409.7789	33.567	33.579	-1	1.000	5264156	1540634	11711	29277	132	1.04(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.612	34.619	0	1.085	19385153	5195647	39561	98902	131		
419.8220	34.612	34.619	0	1.085	44056032	11685953	93878	234695	124	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.624	34.629	0	1.000	4452113	1217487	10862	27155	112		
409.7789	34.624	34.629	0	1.000	4285065	1177996	11711	29277	101	1.04(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.333	34.340	0	1.076	33704084	8962414	25538	63845	351		
437.8140	34.333	34.340	0	1.076	32043968	8525454	25472	63680	335	1.05(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.345	34.349	0	1.000	3697894	999578	3443	8607	290		
425.7737	34.345	34.349	0	1.000	3503936	946852	3889	9722	243	1.06(0.88-1.20)	
13C-OCDD											
469.7779	36.621	36.624	0	1.148	44353956	9629235	6907	17267	1394		
471.7750	36.621	36.624	0	1.148	49892212	10772097	6961	17402	1547	0.89(0.76-1.02)	
OCDF											
441.7428	36.717	36.720	0	1.003	6127584	1409043	1263	3157	1116		
443.7399	36.717	36.720	0	1.003	6821536	1519193	1242	3105	1223	0.90(0.76-1.02)	
OCDD											
457.7377	36.633	36.636	0	1.000	5277968	1149602	884	2210	1300		
459.7348	36.621	36.636	-1	1.000	5904566	1283491	1144	2860	1122	0.89(0.76-1.02)	

Reagents:

HRDXNL3_00025 Amount Added: 1.00 Units: mL

Report Date: 14-Nov-2019 16:54:09 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

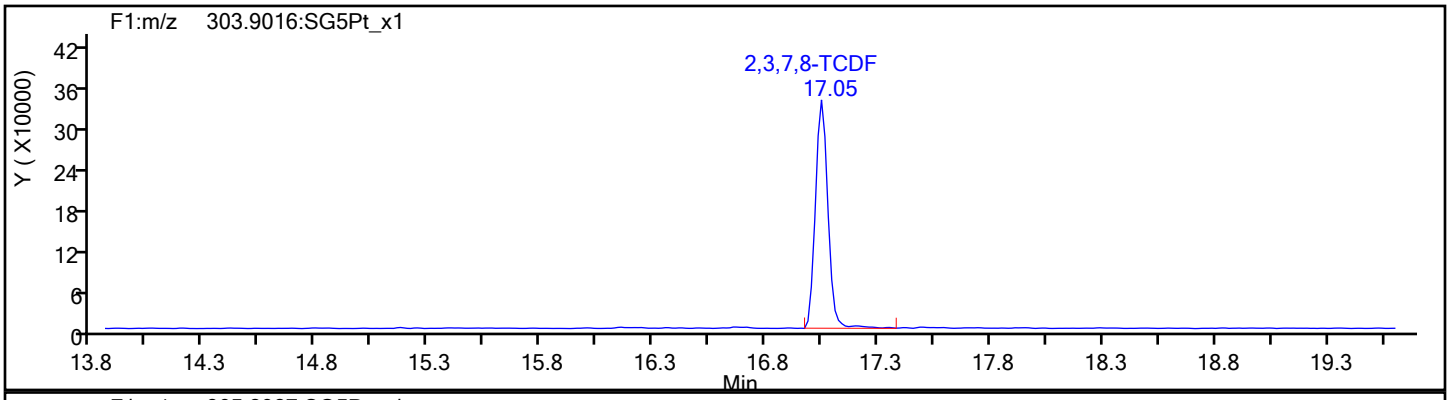

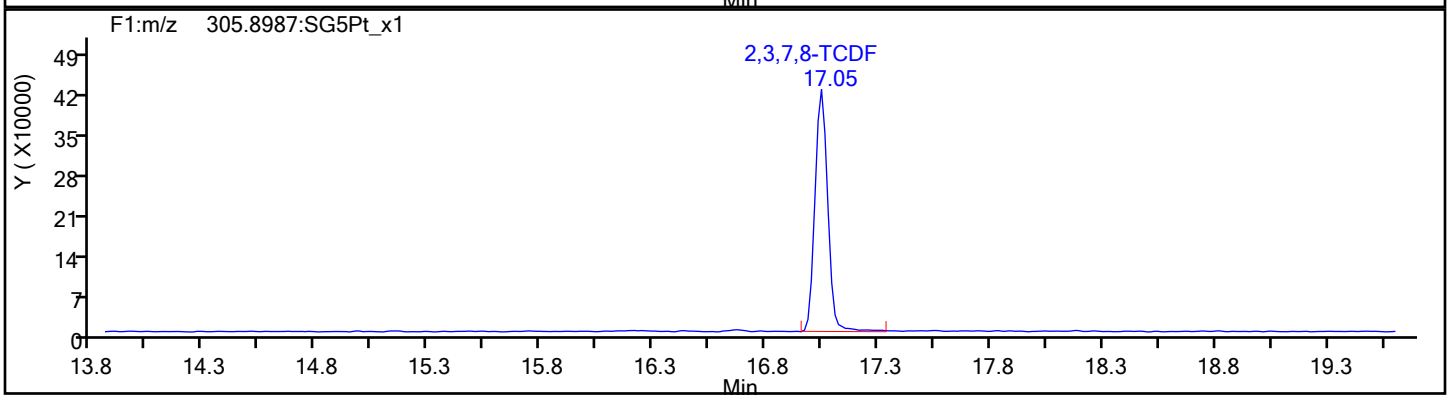

TCDF Standards

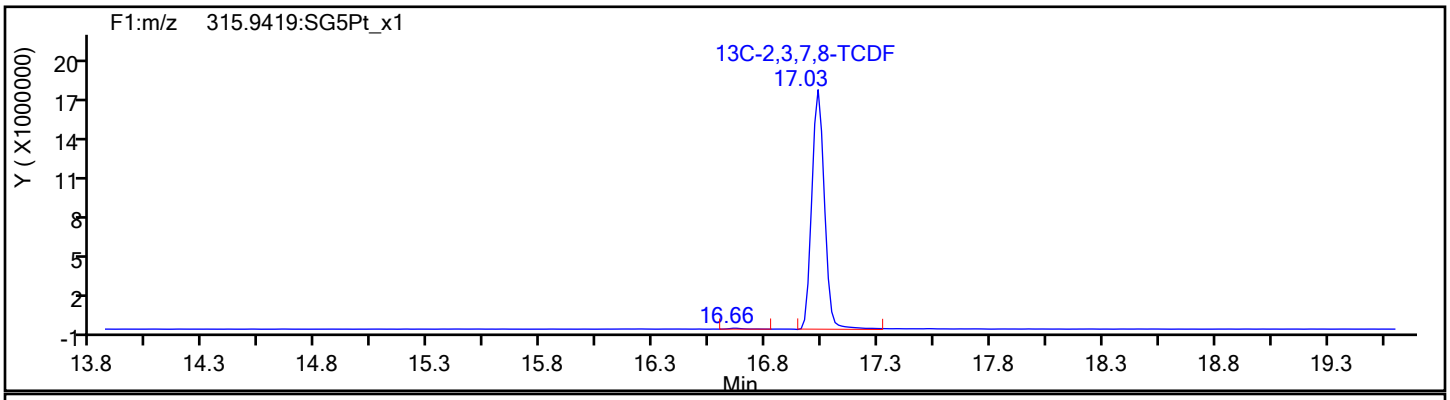

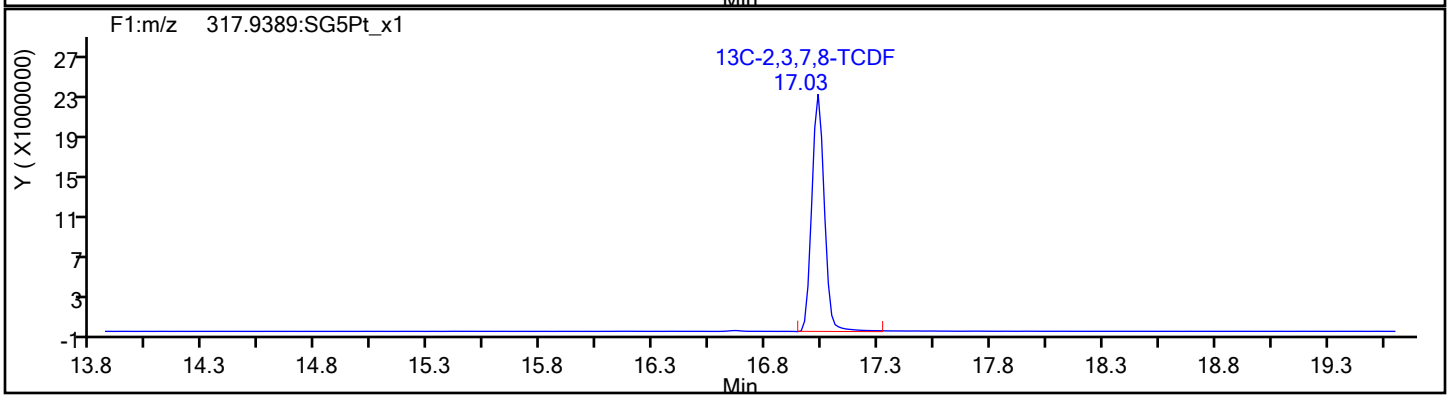

Report Date: 14-Nov-2019 16:54:09 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

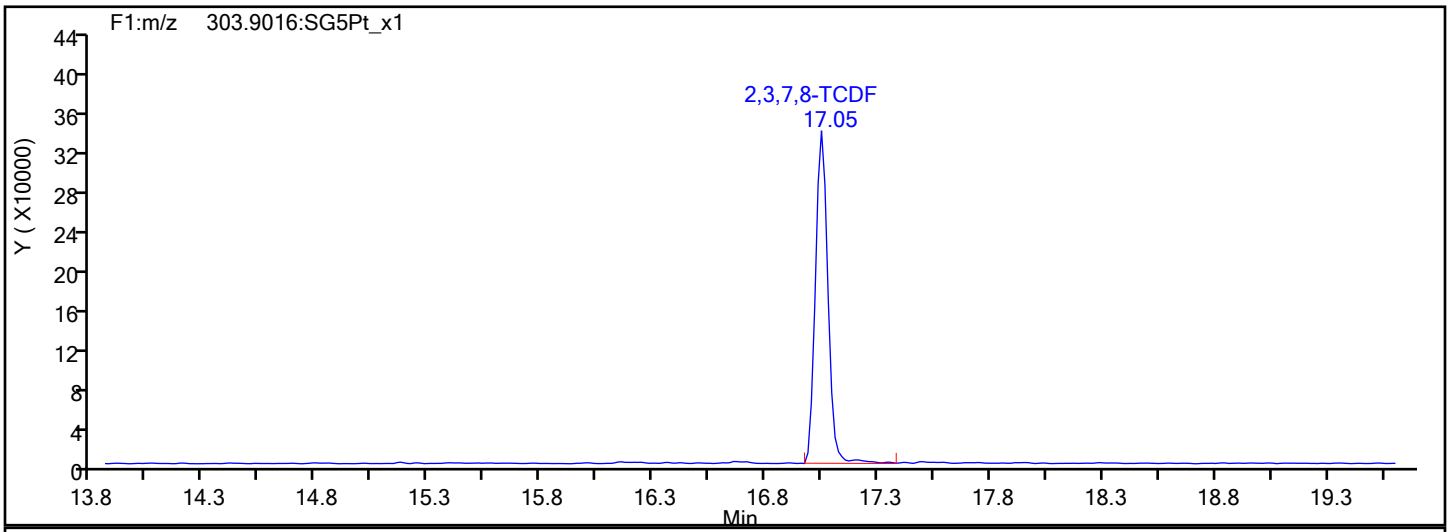

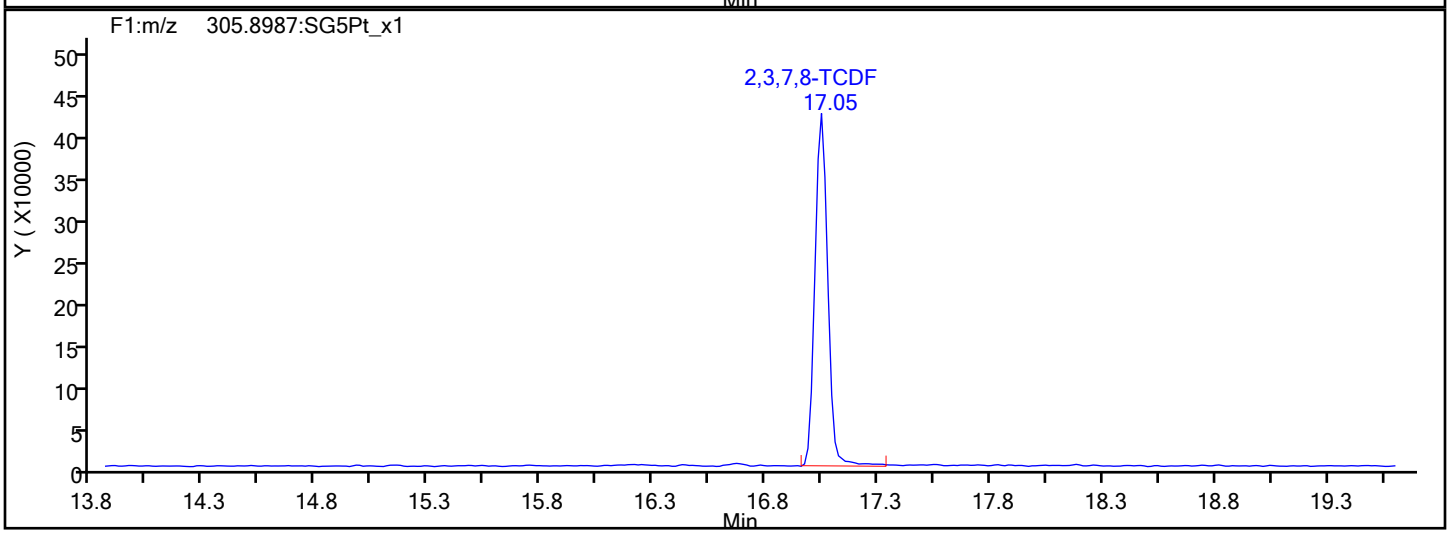

TCDF Interference Mass

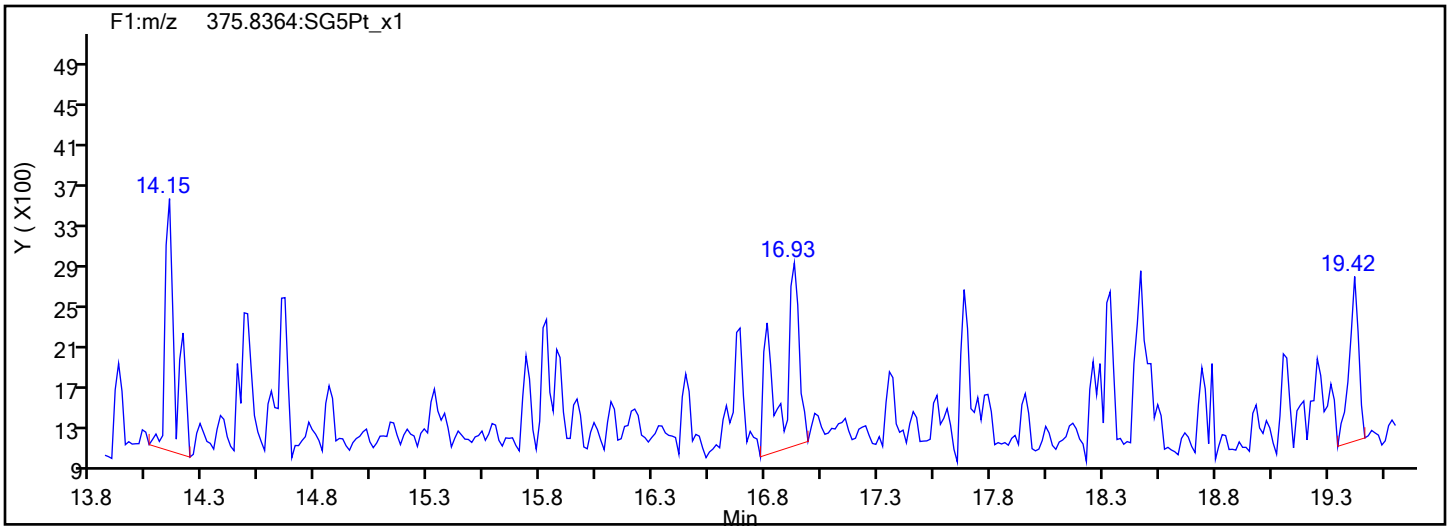

Report Date: 14-Nov-2019 16:54:09 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

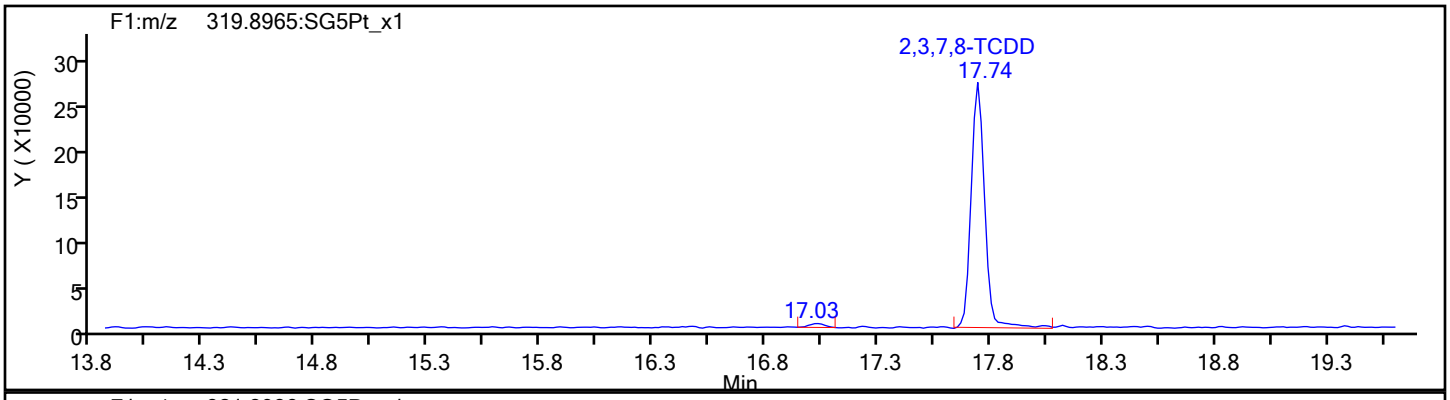

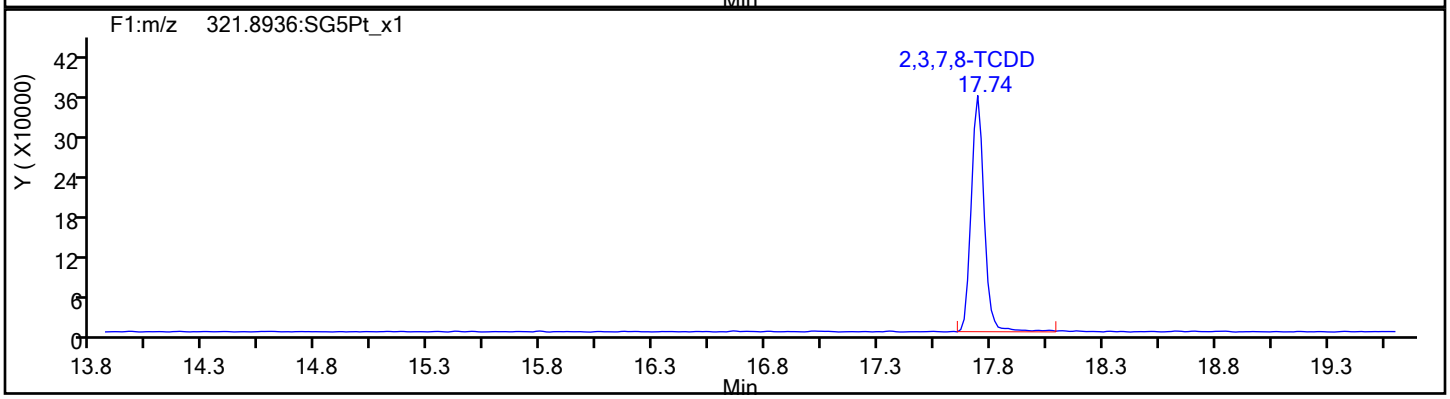

TCDD Standards

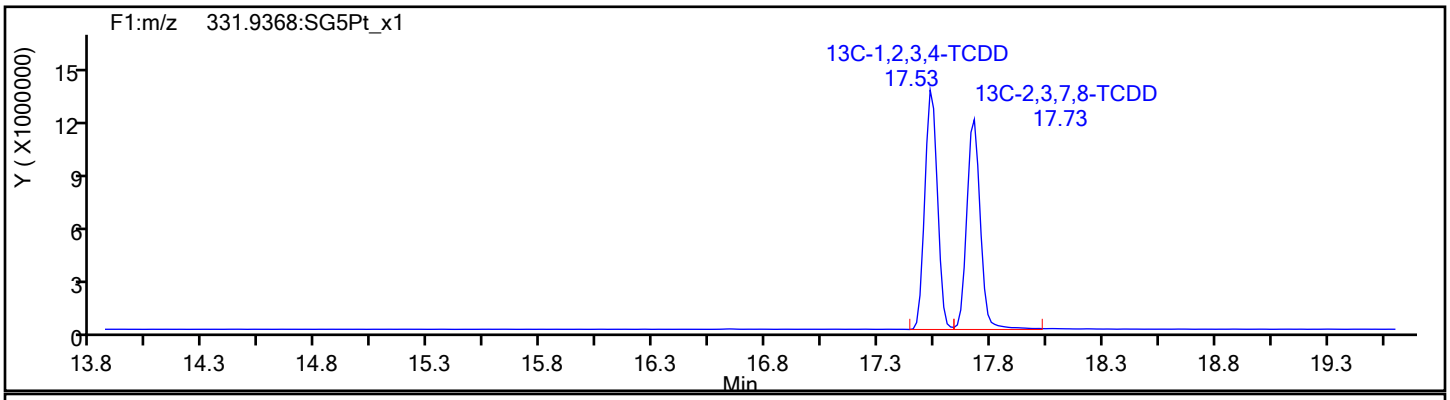

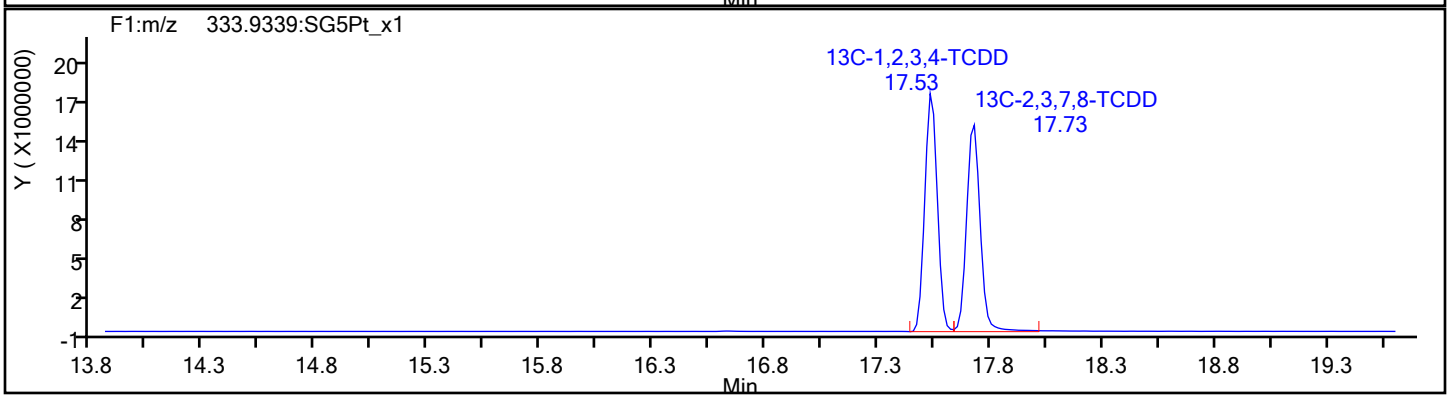

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

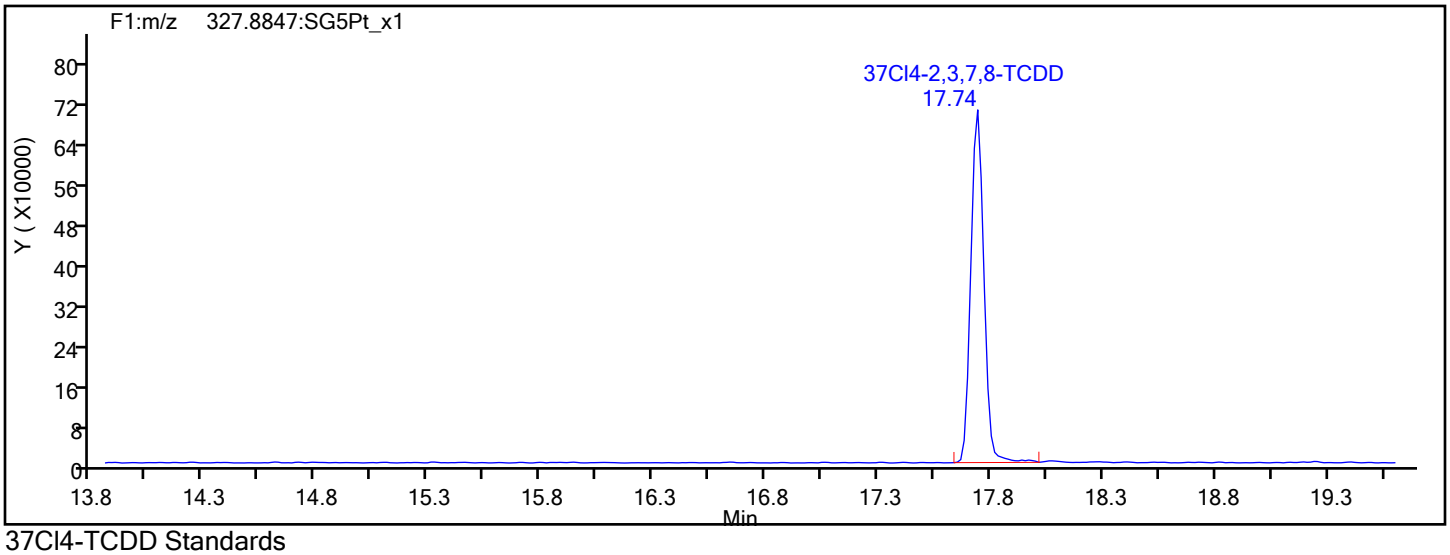

37Cl4-TCDD Standards

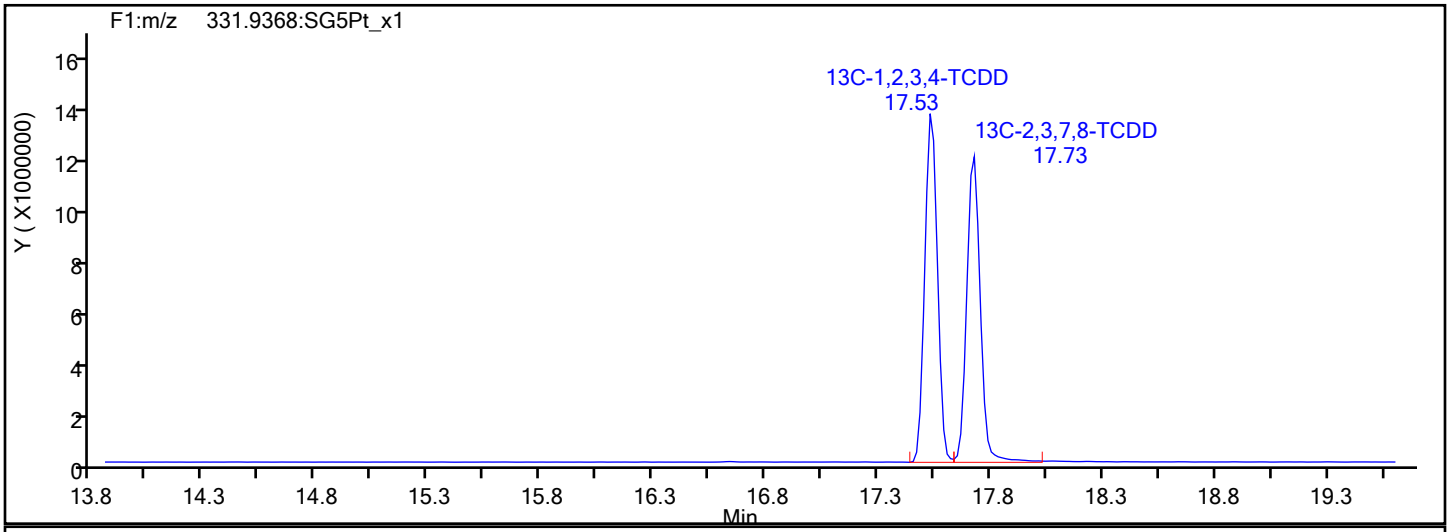

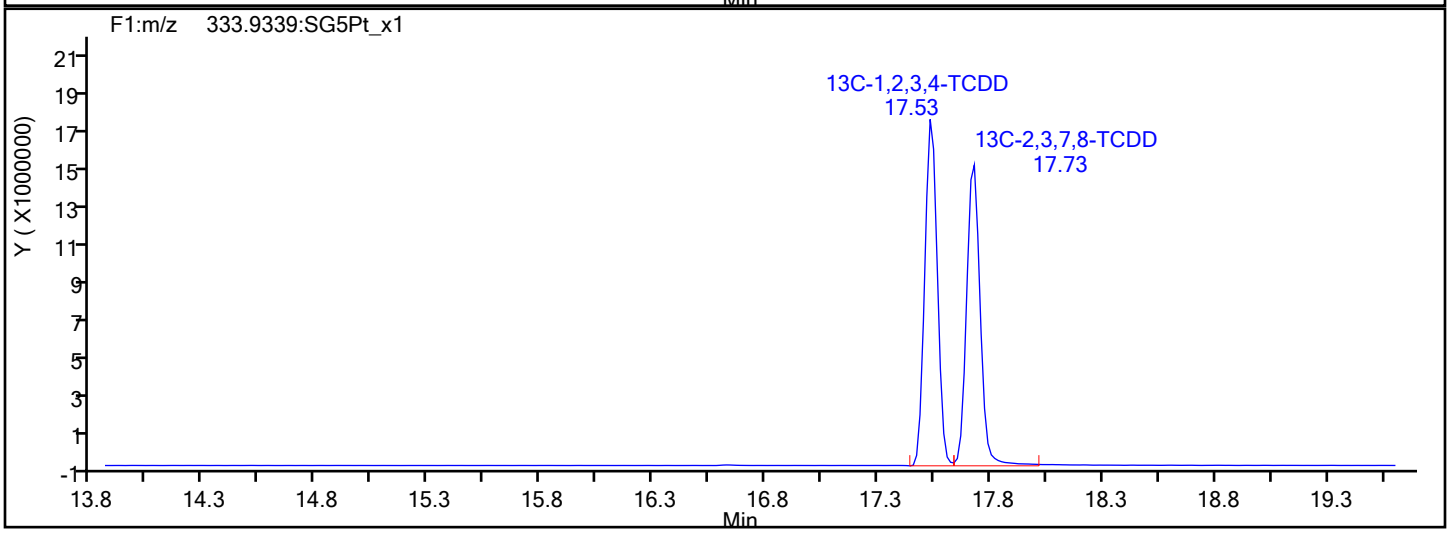

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Eurofins TestAmerica, Sacramento

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Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

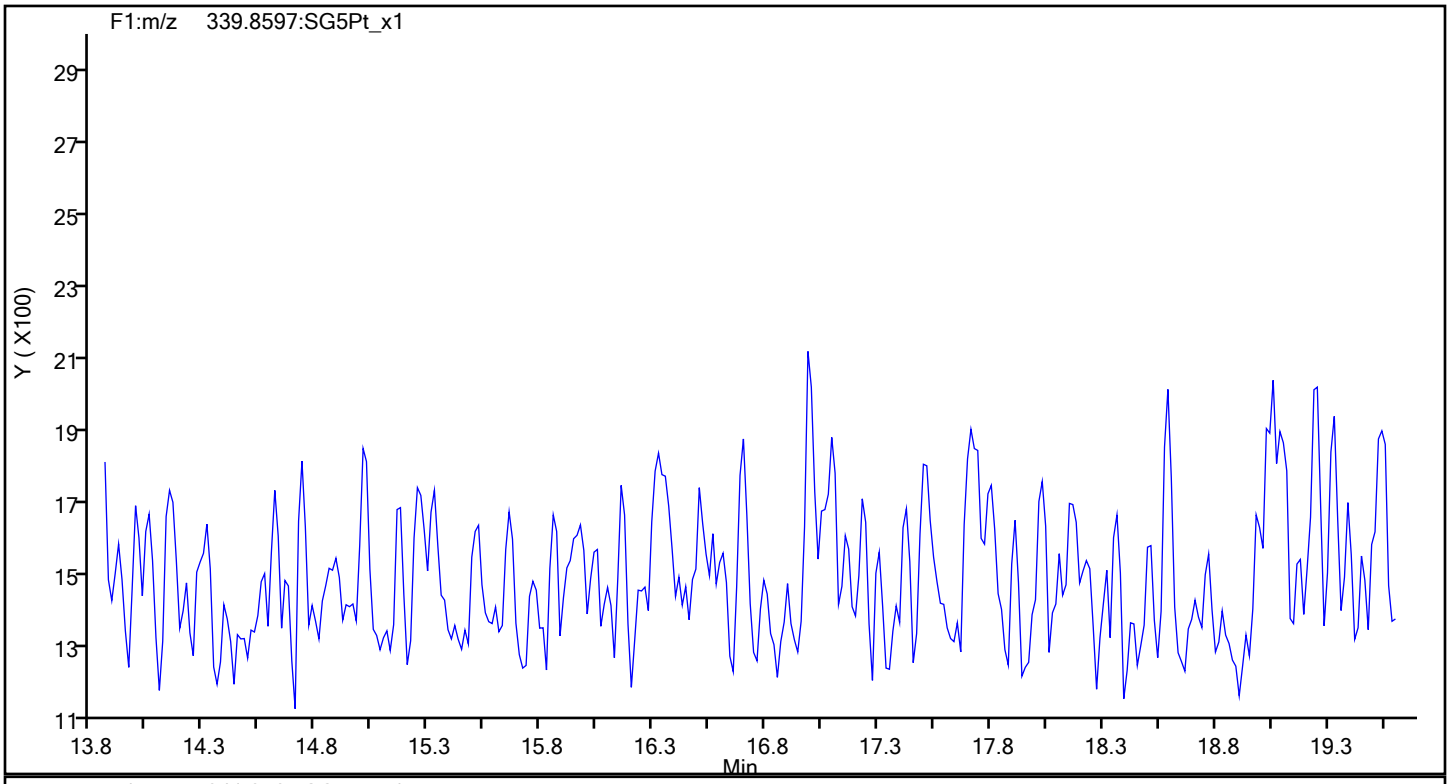

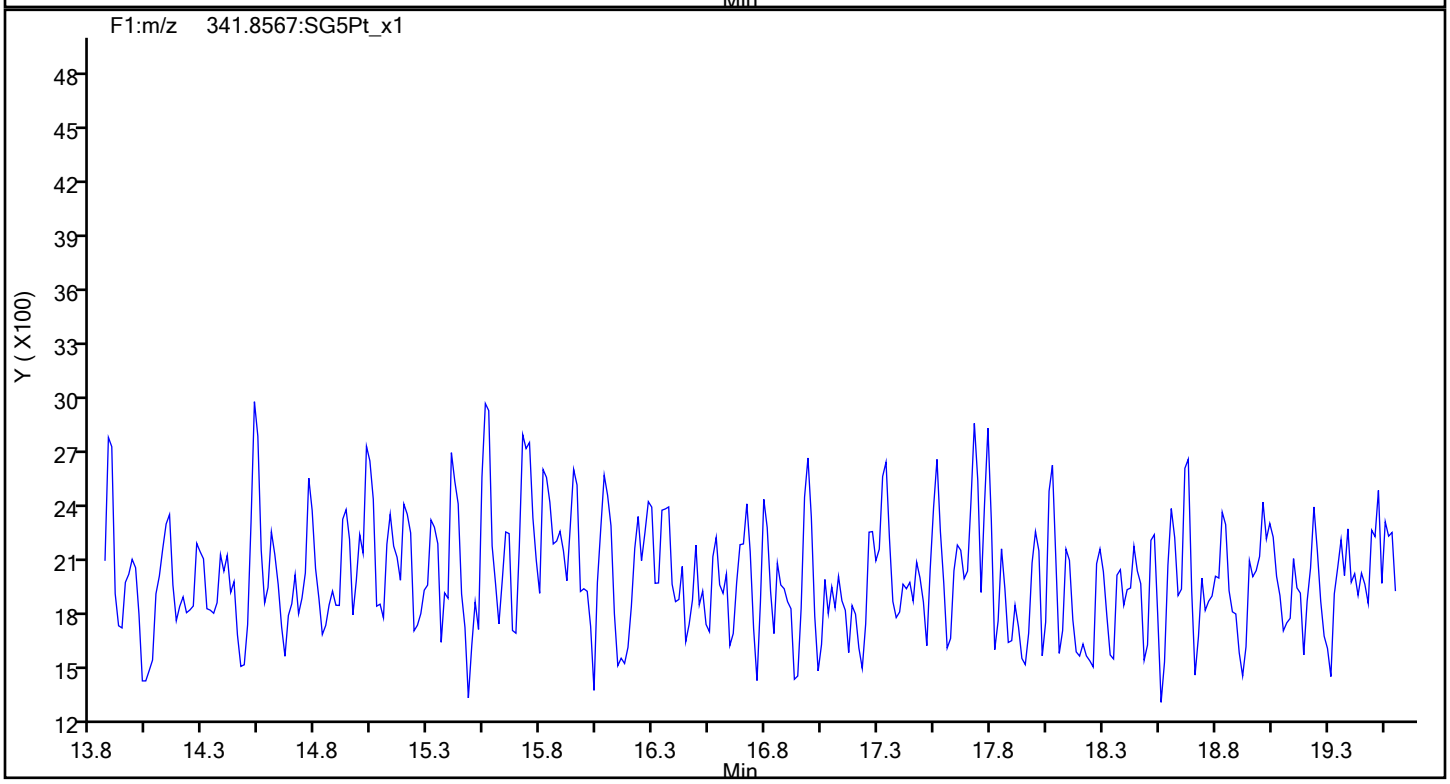

Report Date: 14-Nov-2019 16:54:09 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

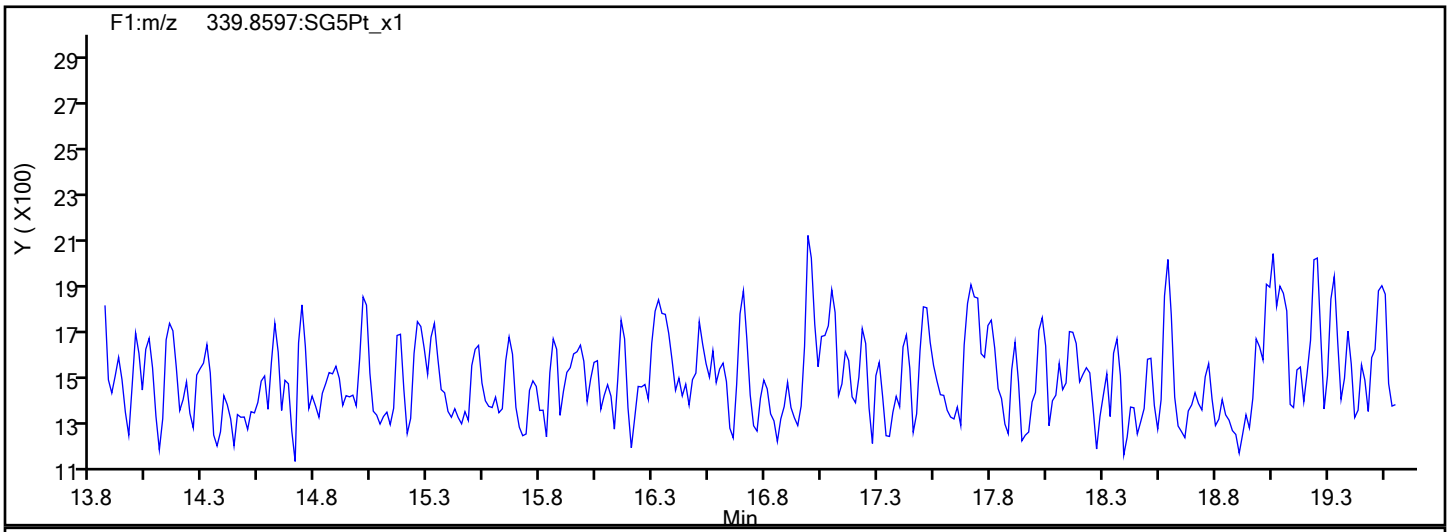

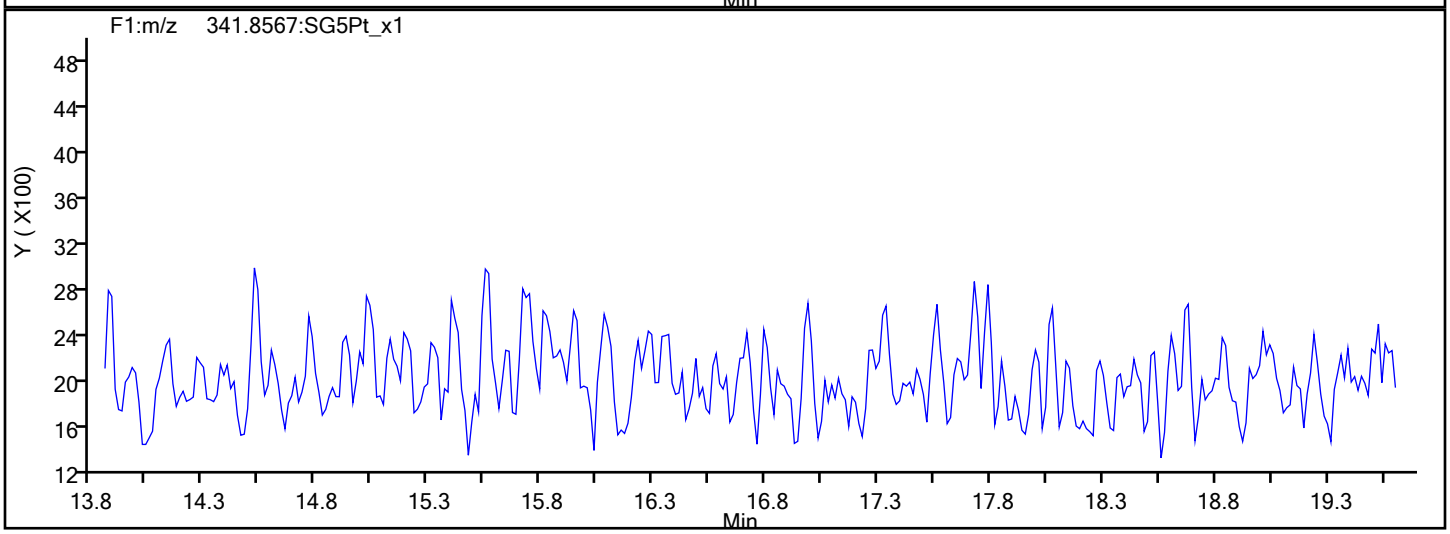

F1 PeCDFs Interference Mass

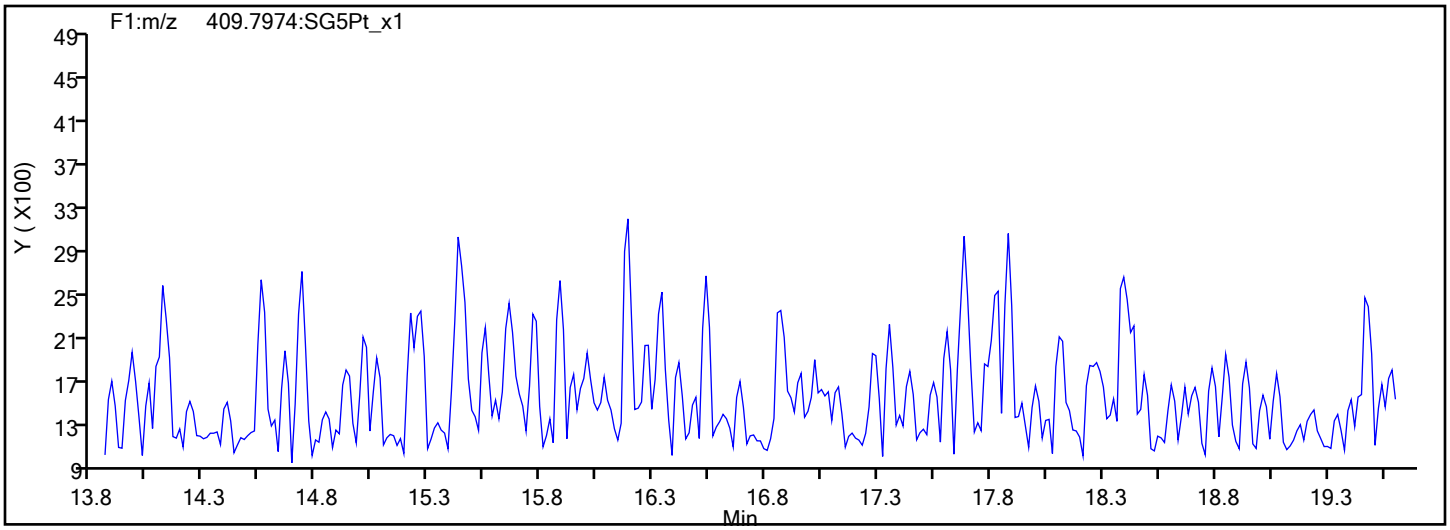

Report Date: 14-Nov-2019 16:54:09 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

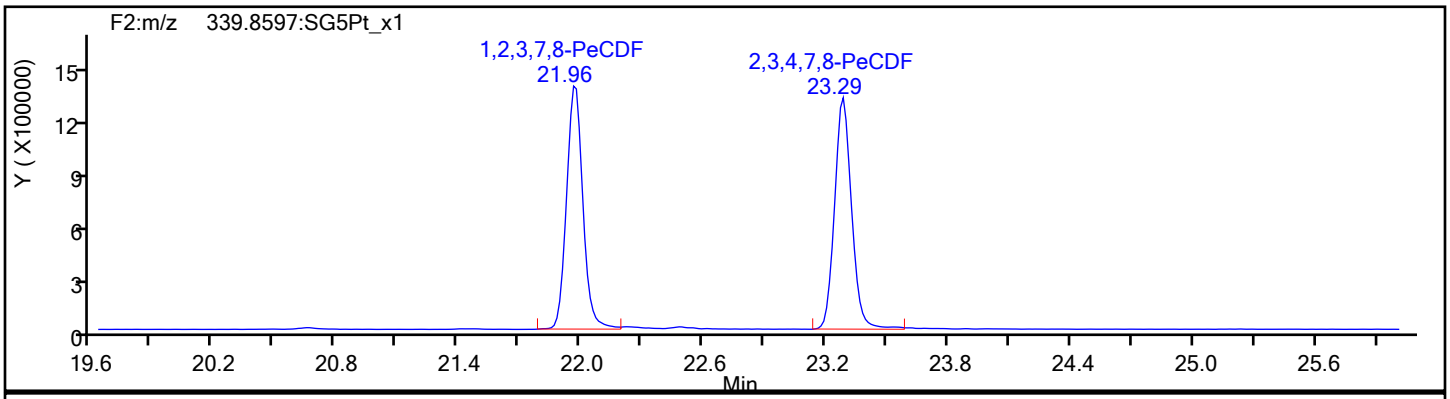

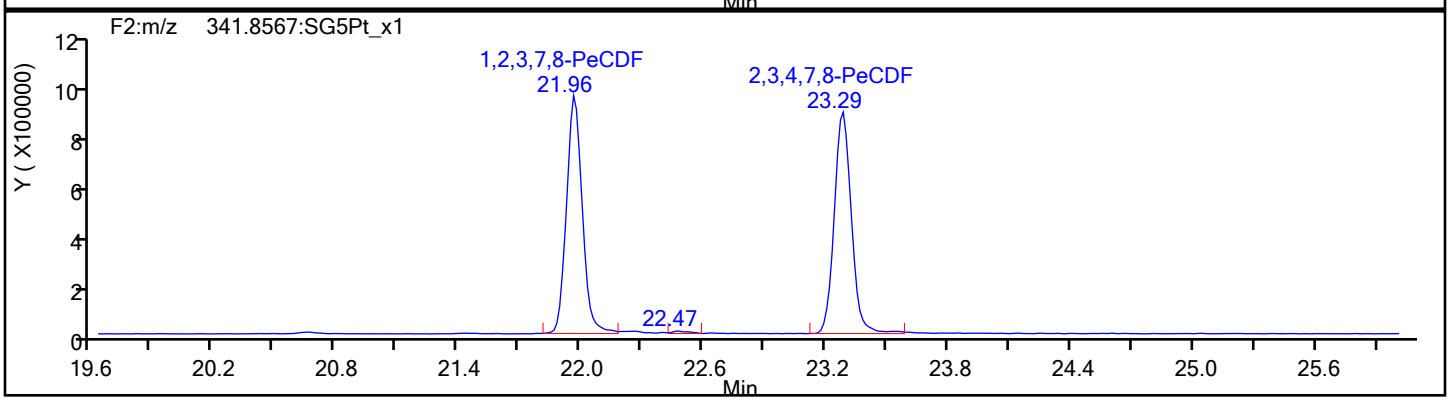

PeCDF Standards

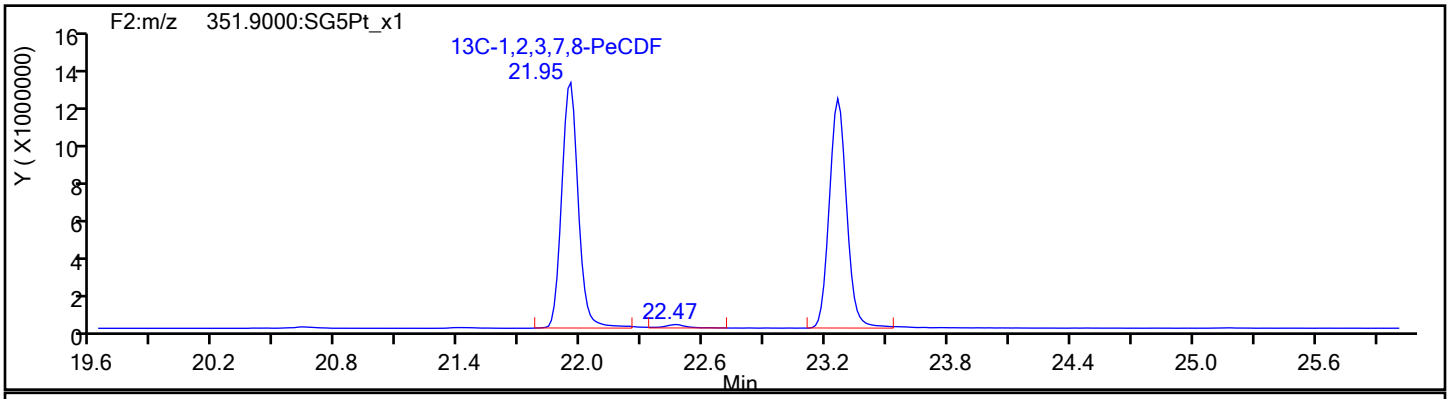

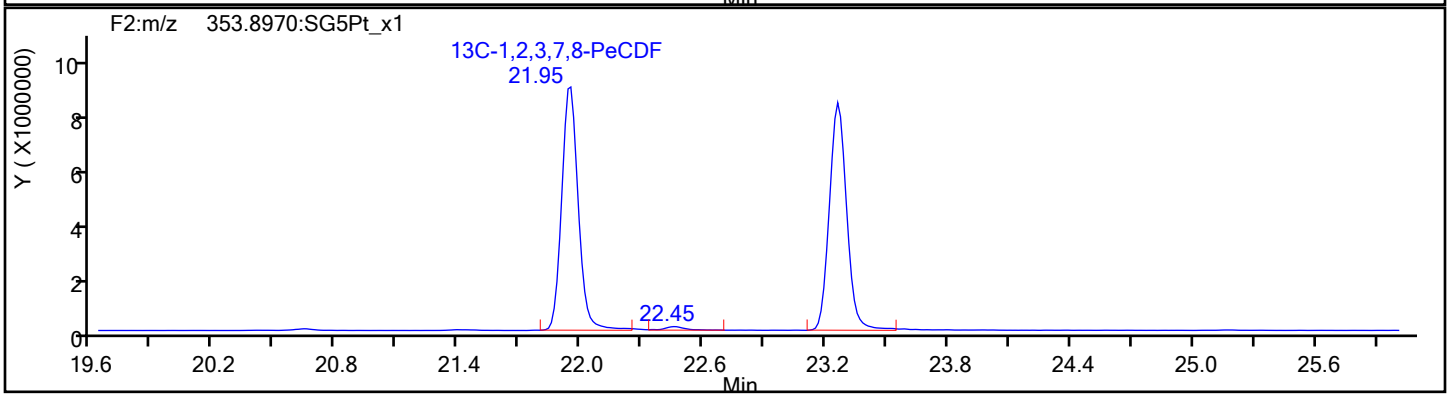

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

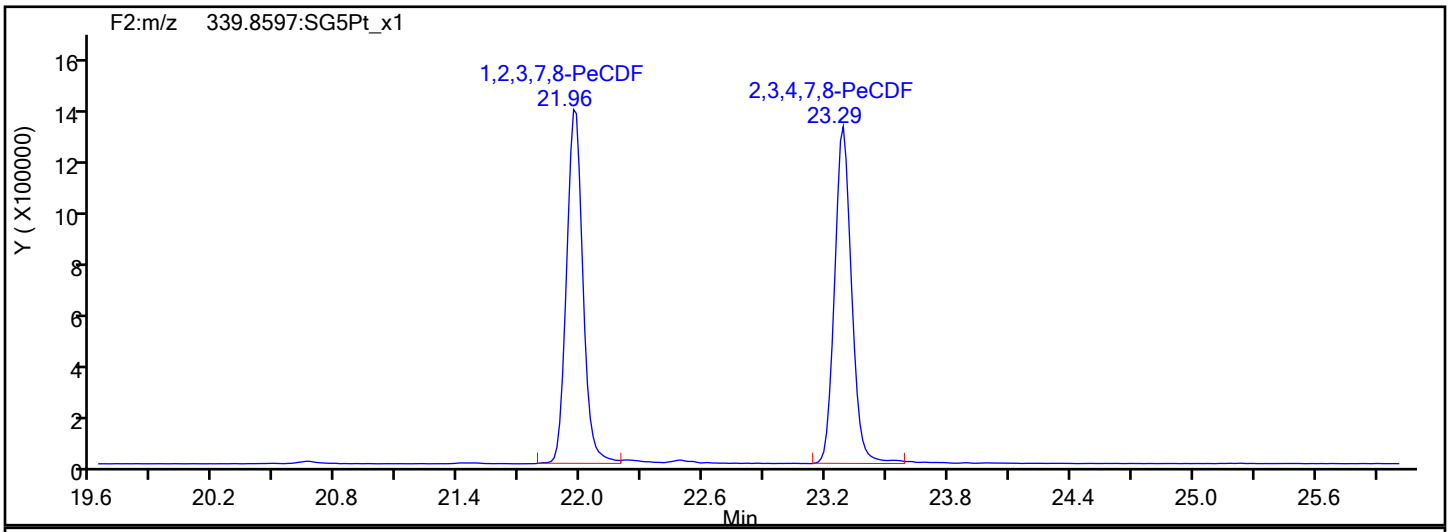

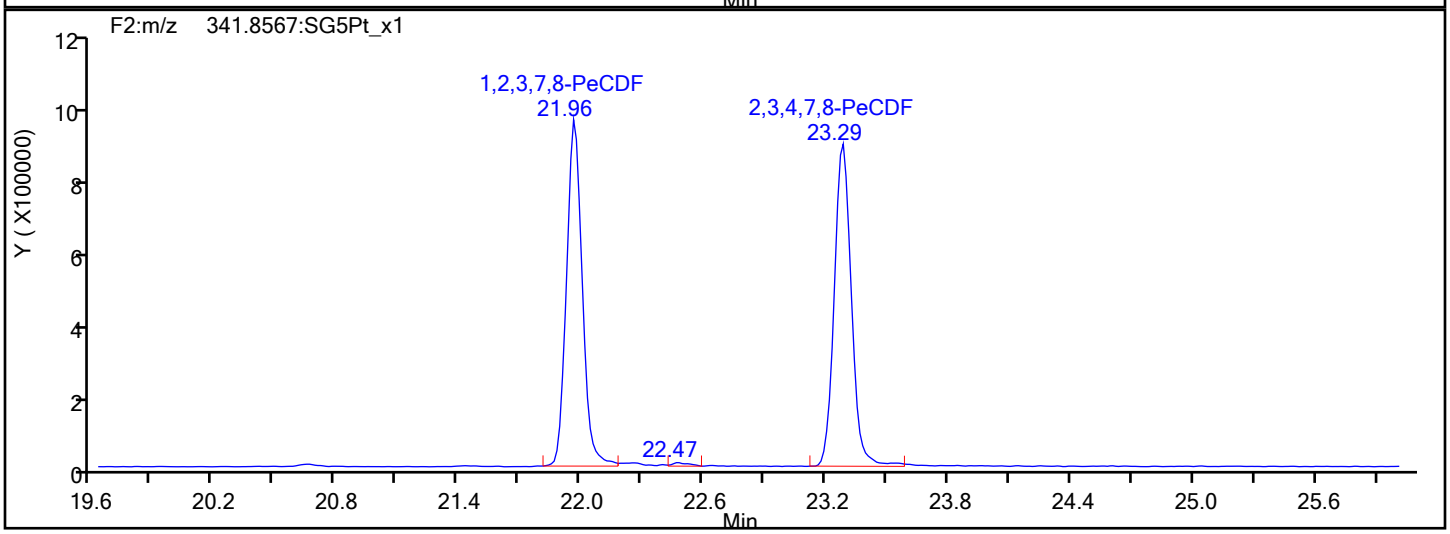

PeCDF Interference Mass

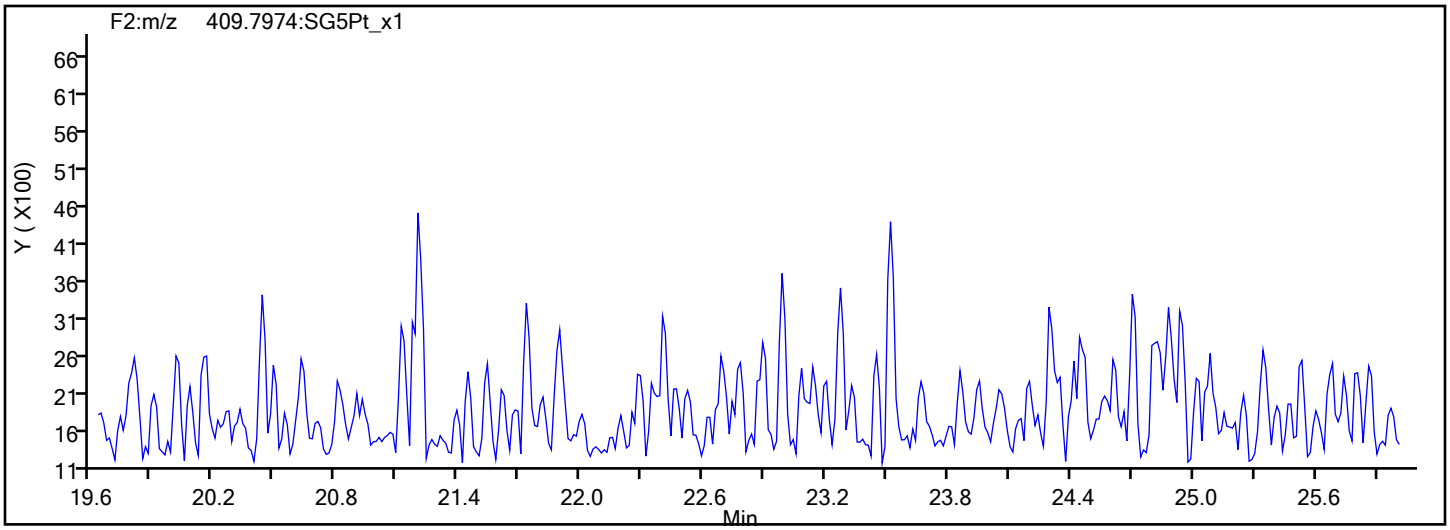

Report Date: 14-Nov-2019 16:54:09 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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13C-PeCDF

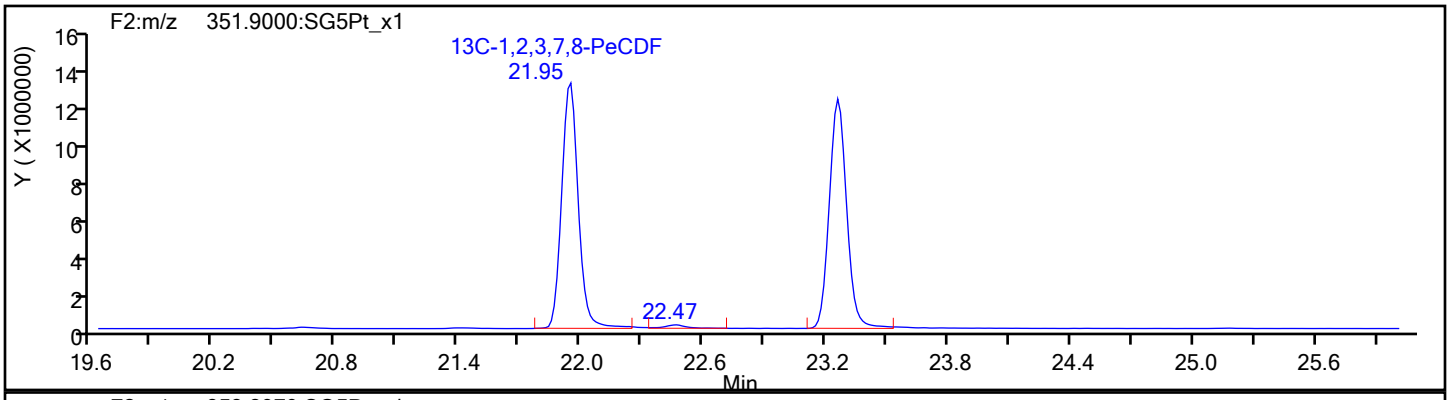

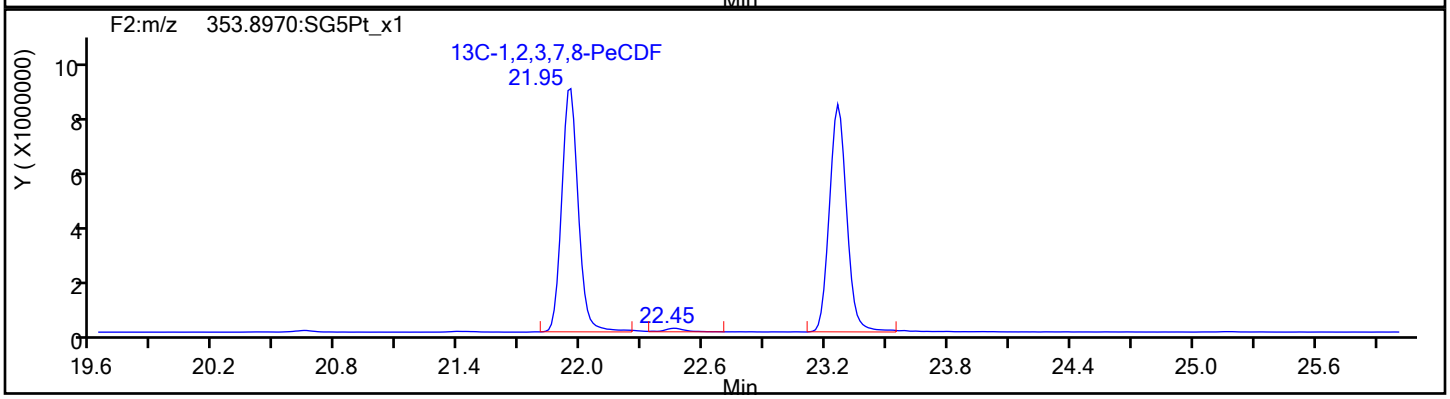

13C-PeCDF Standards

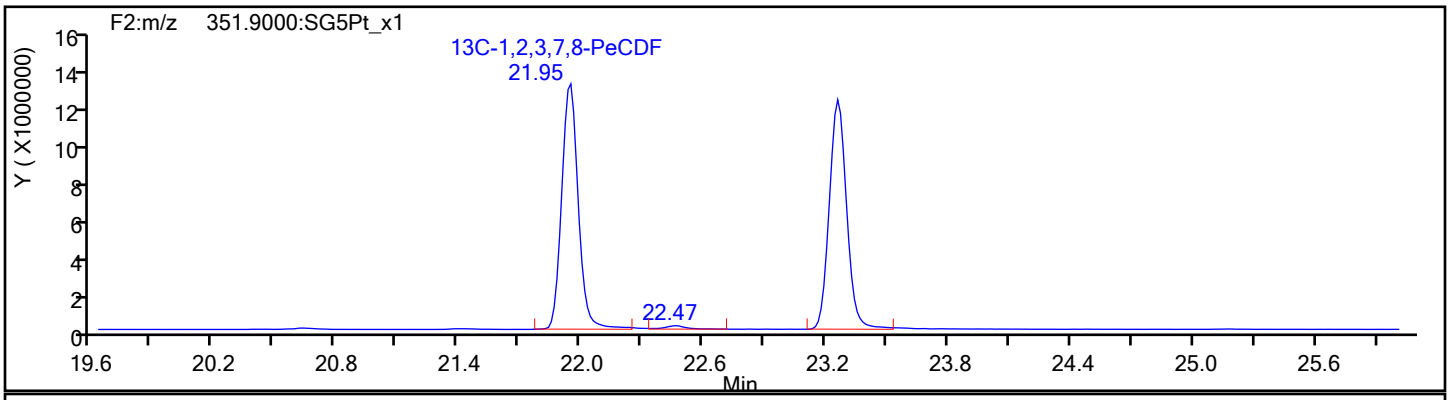

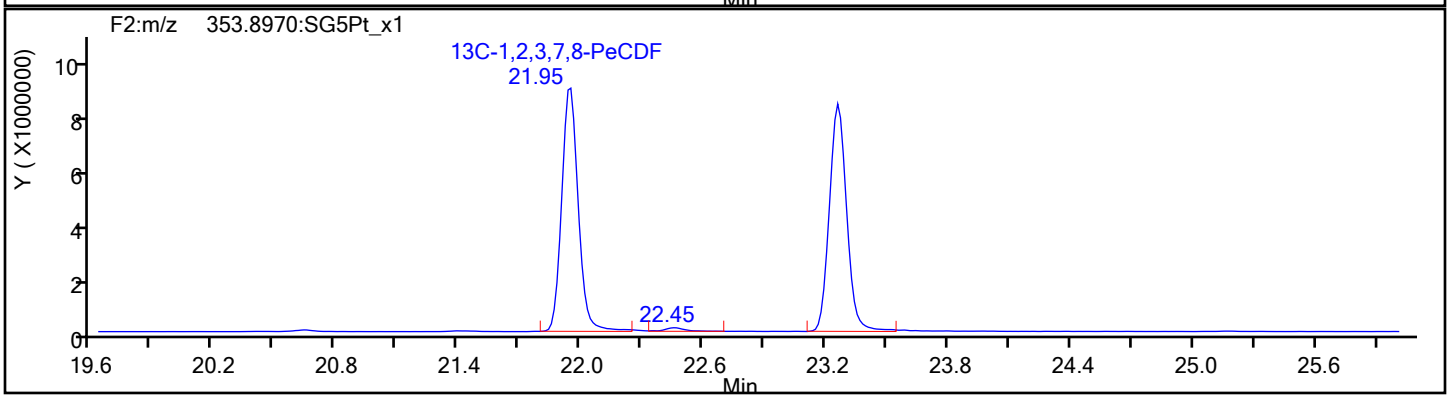

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Eurofins TestAmerica, Sacramento

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PeCDD

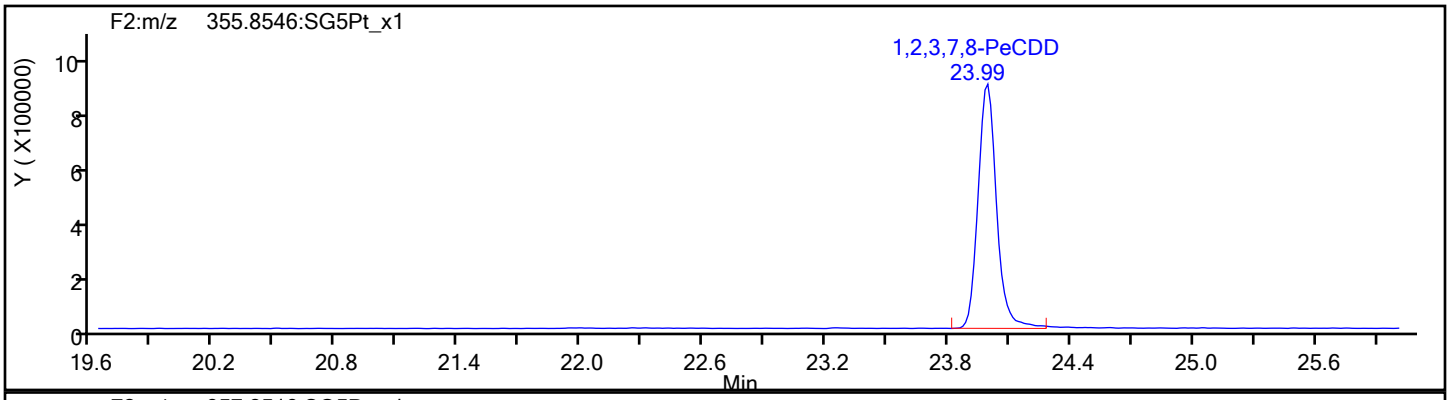

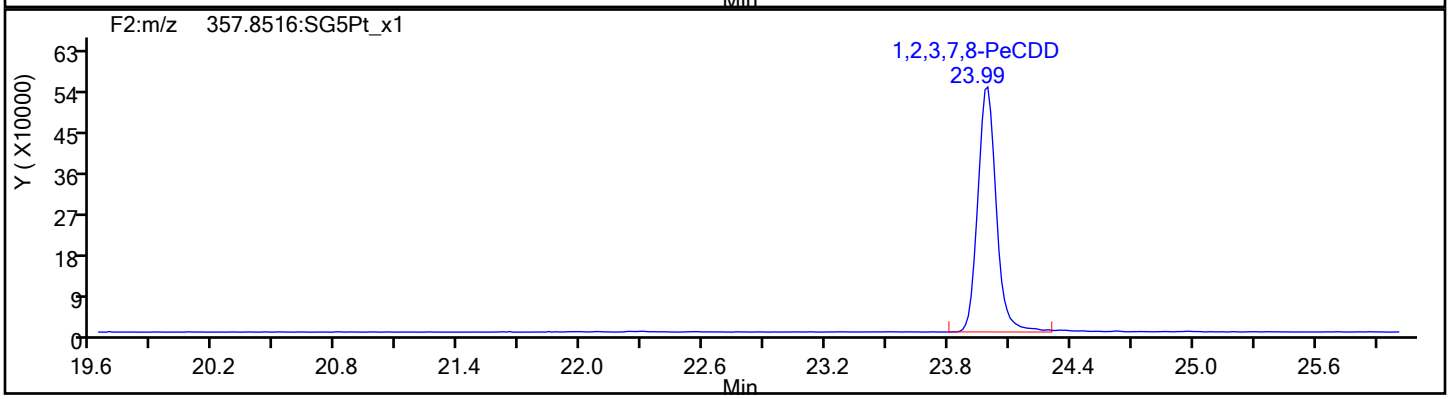

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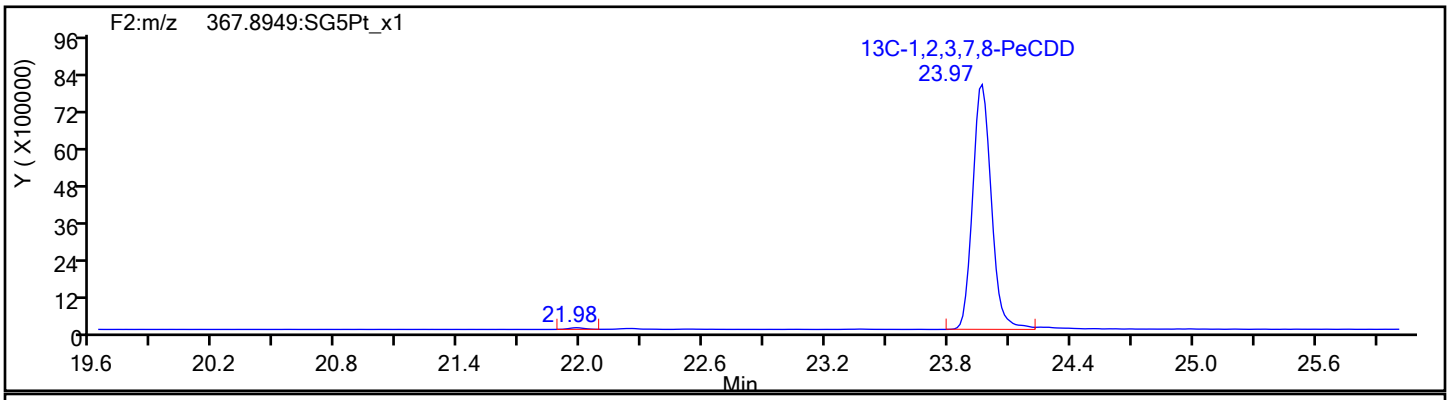

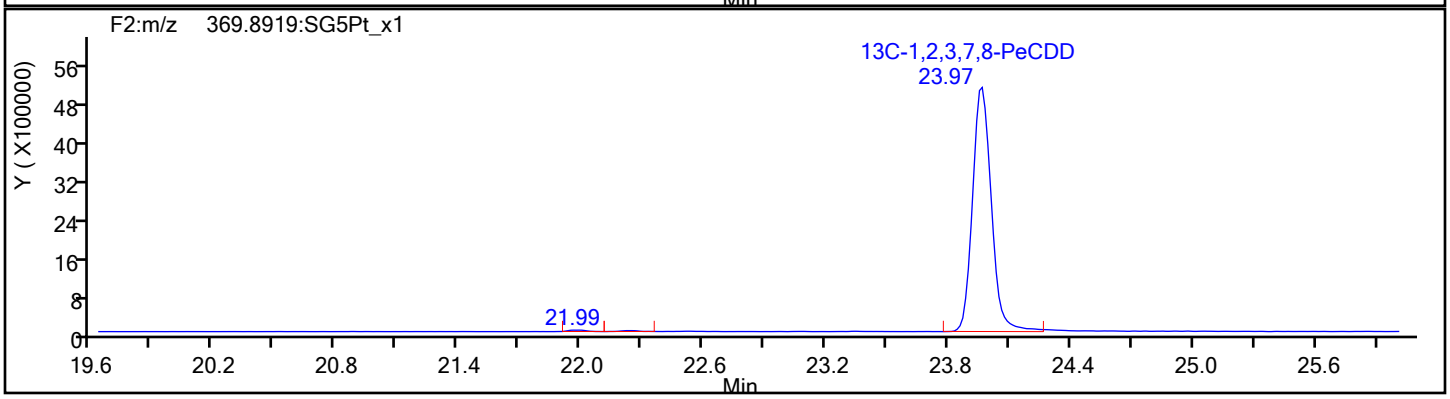

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Eurofins TestAmerica, Sacramento

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HxCDF

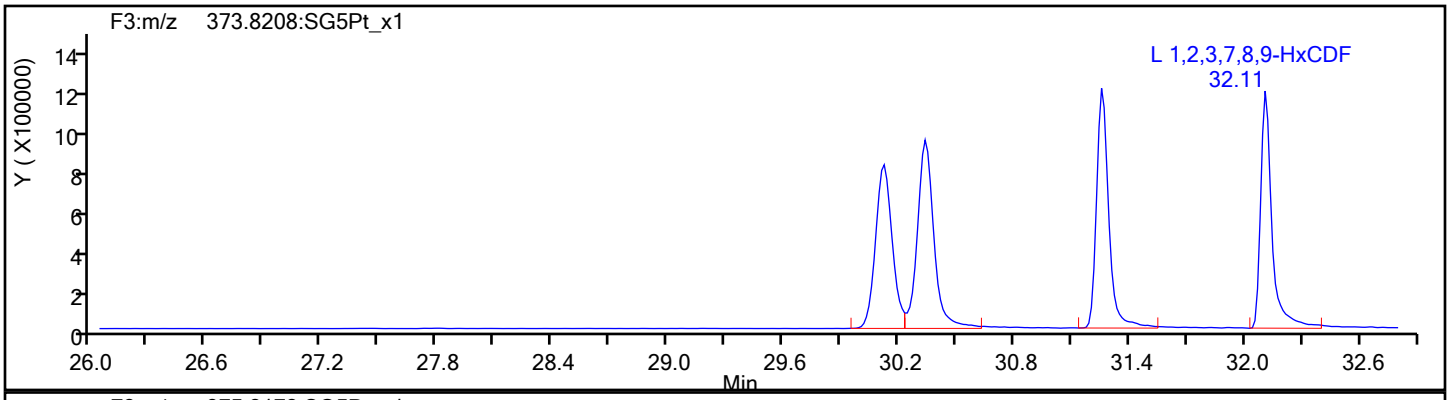

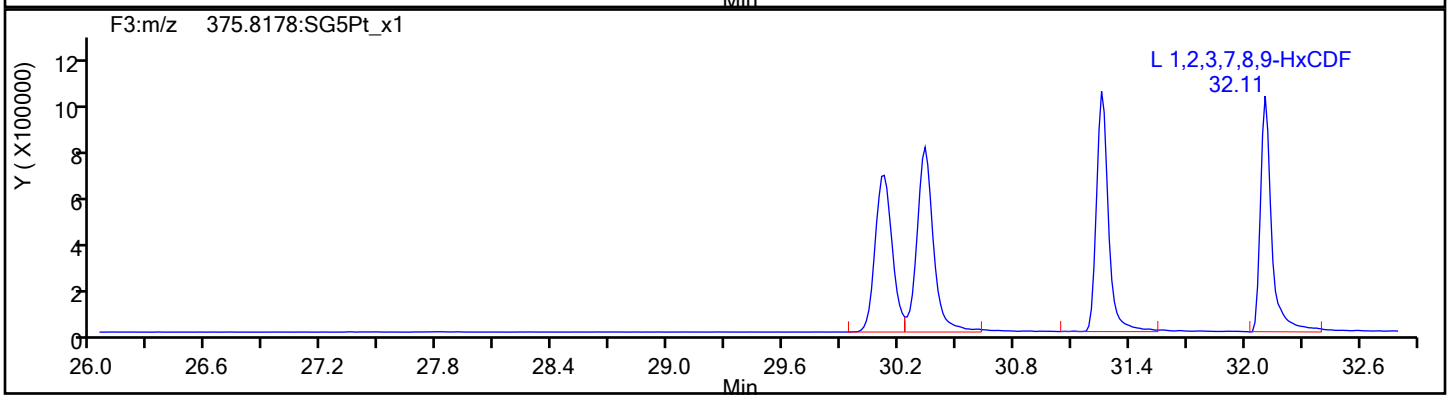

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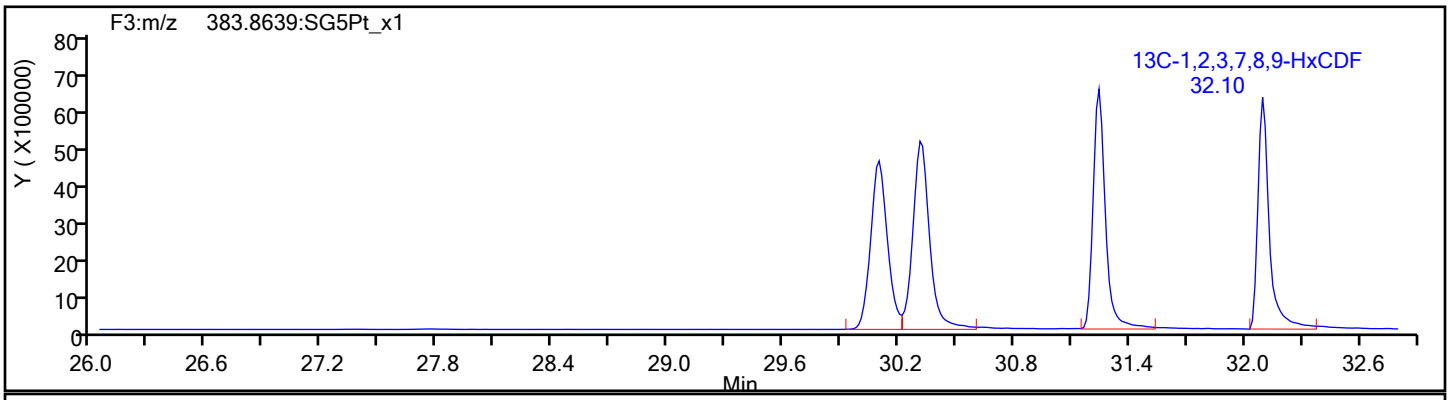

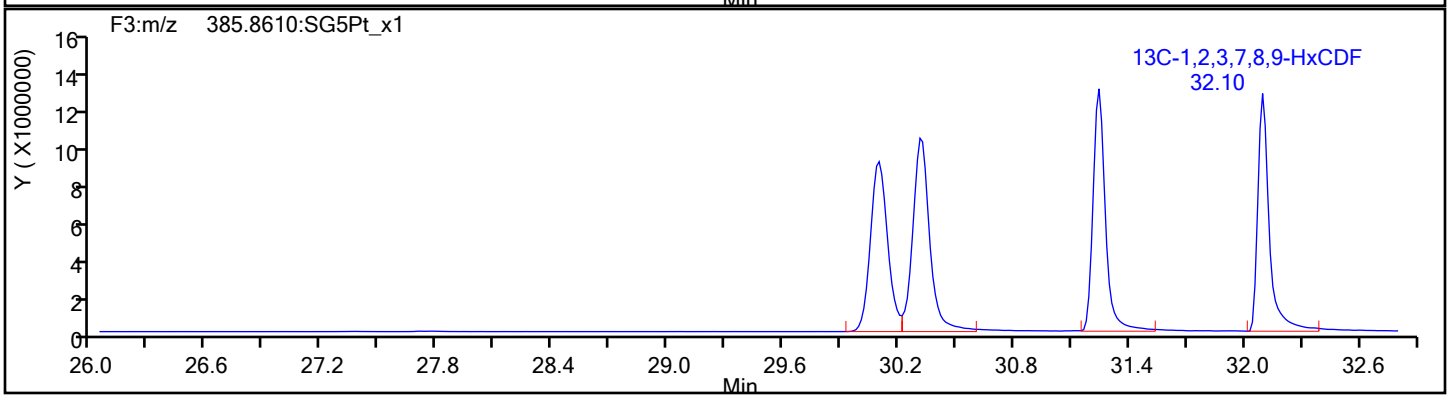

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Eurofins TestAmerica, Sacramento

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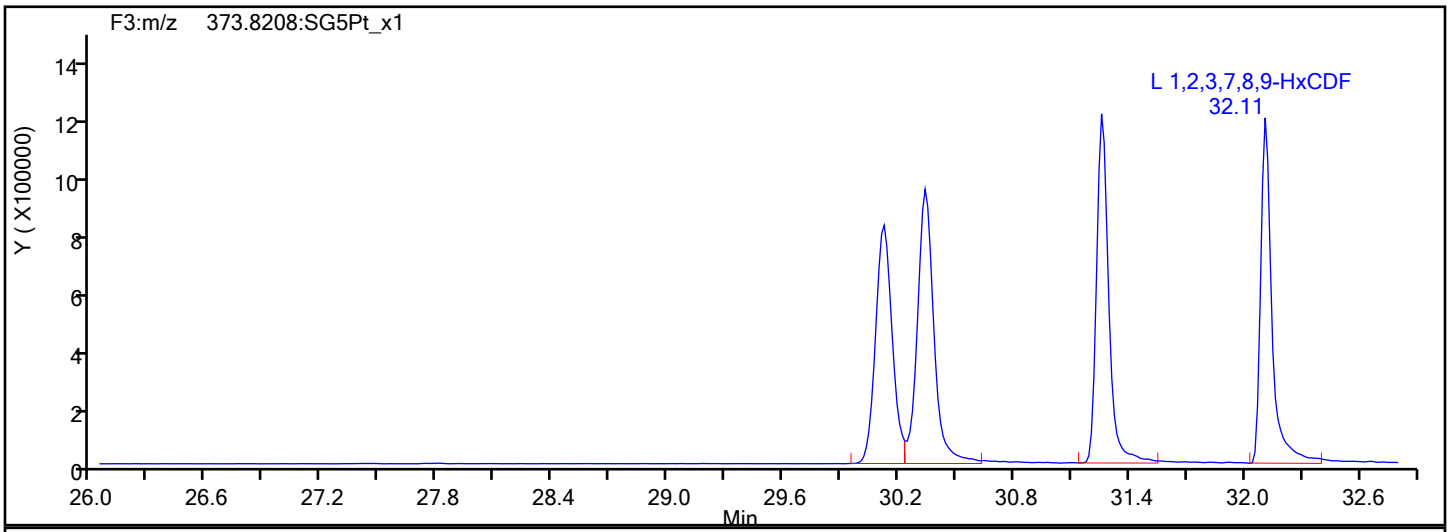

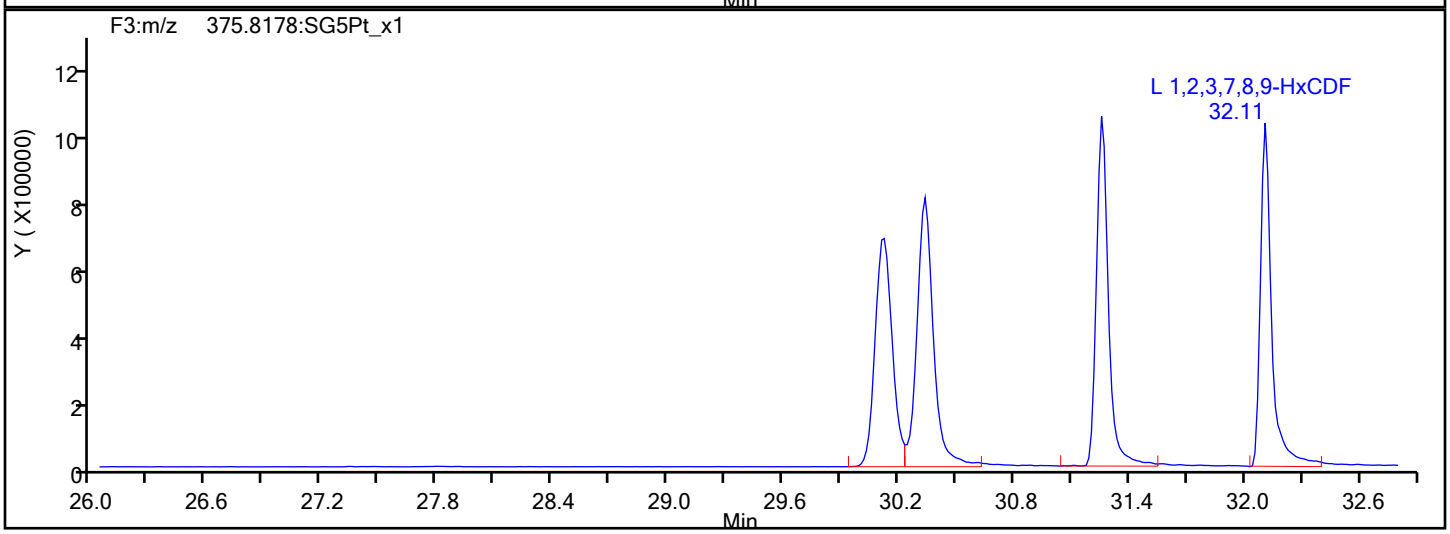

HxCDF Interference Mass

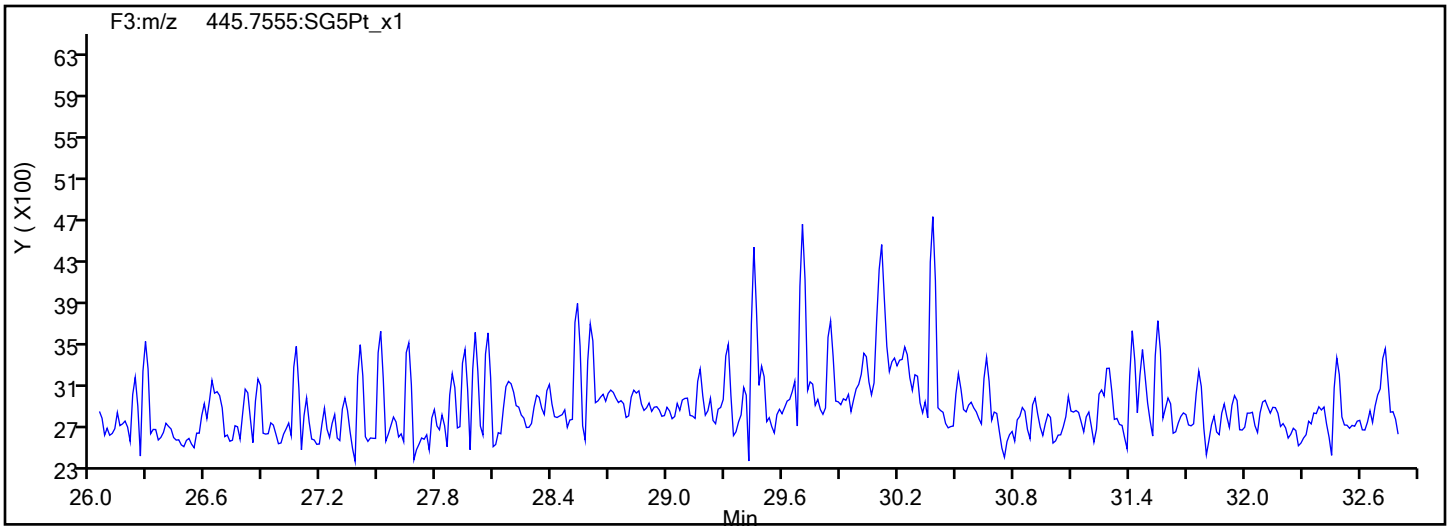

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Eurofins TestAmerica, Sacramento

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13C-HxCDF

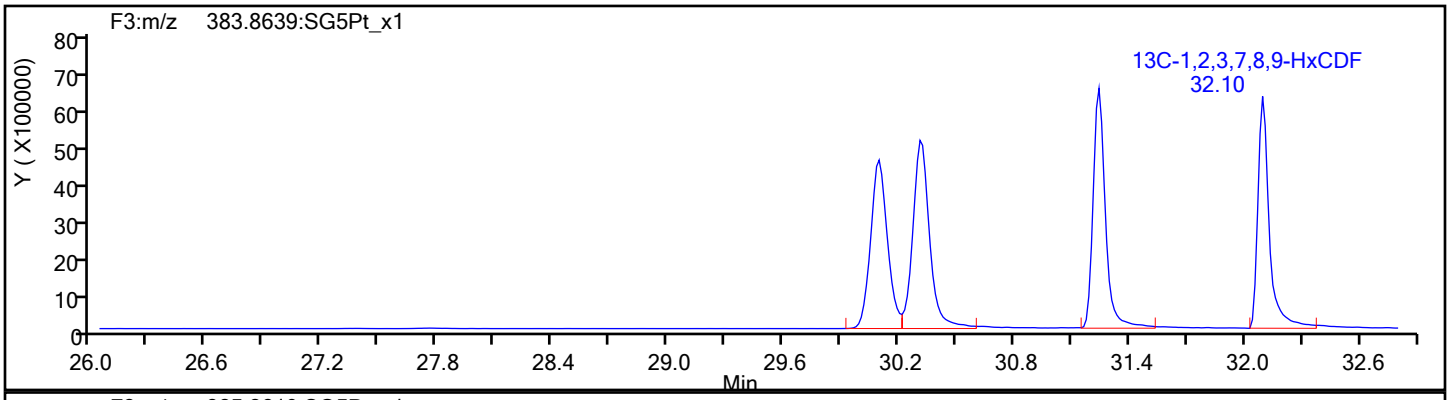

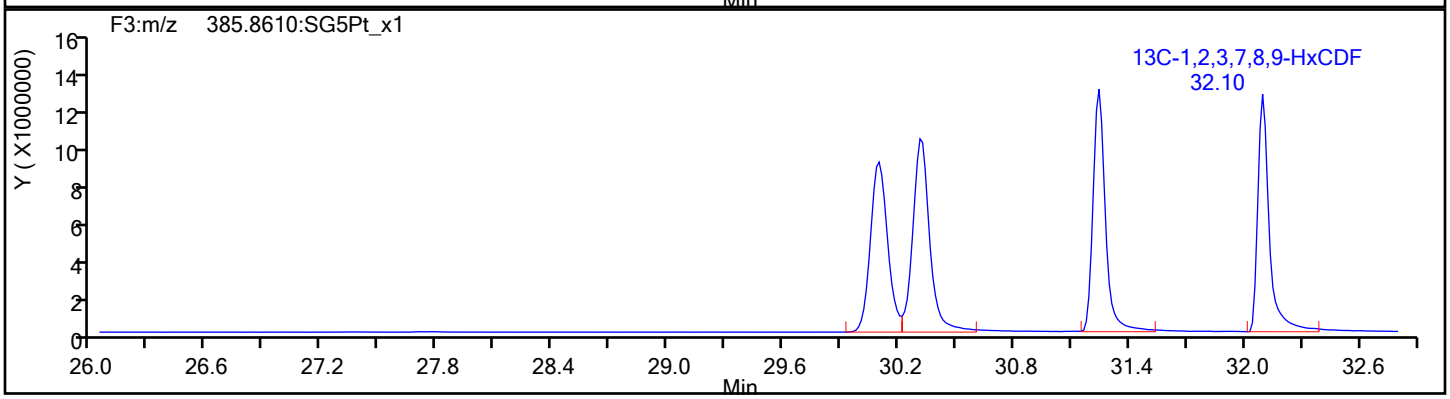

13C-HxCDF Standards

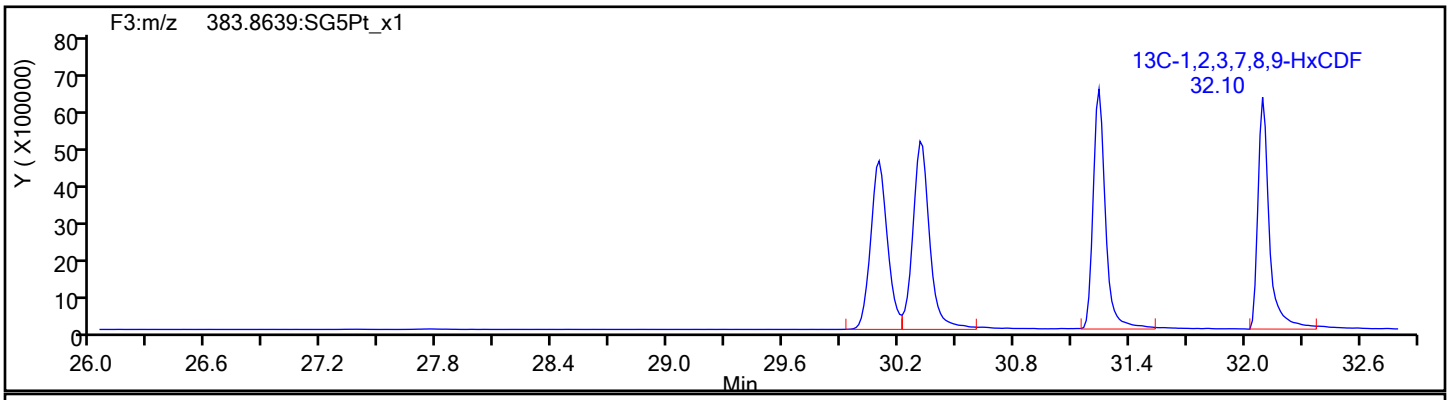

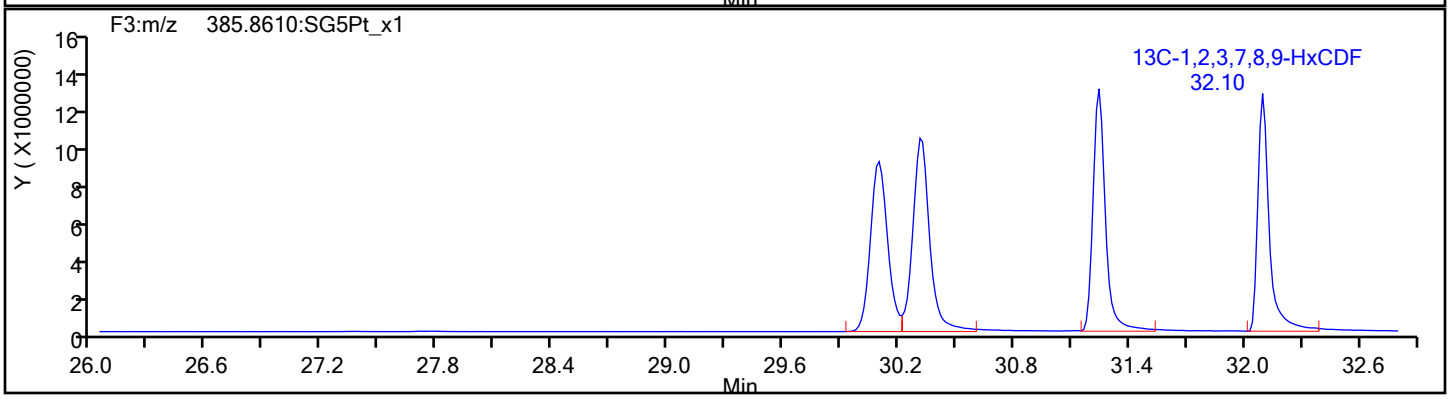

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Eurofins TestAmerica, Sacramento

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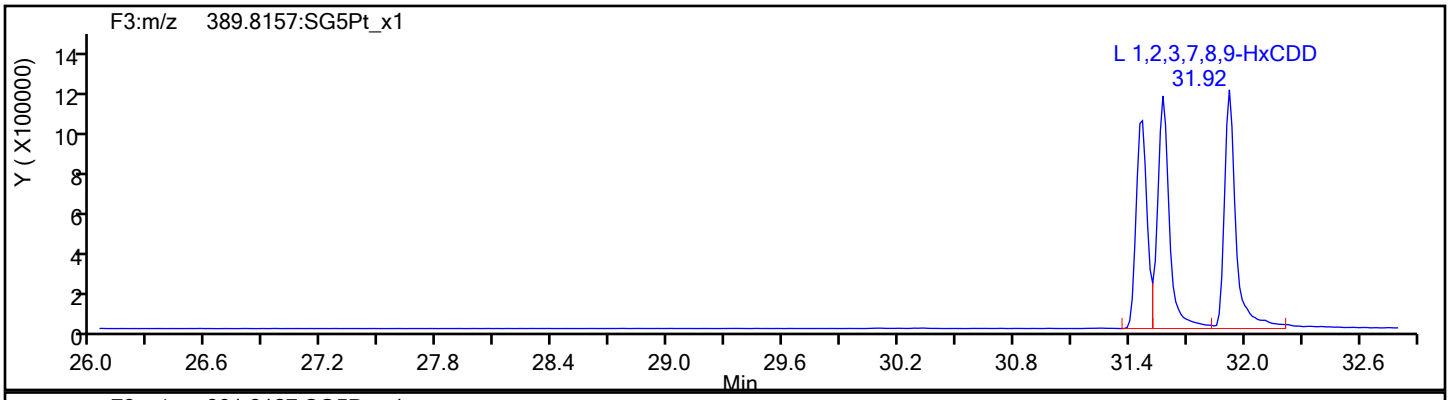

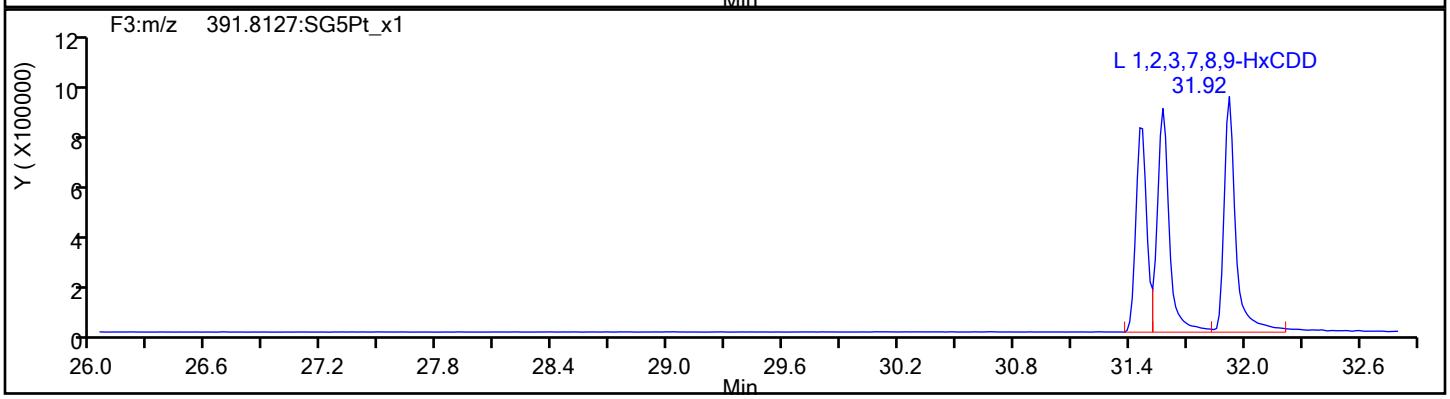

HxCDD Standards

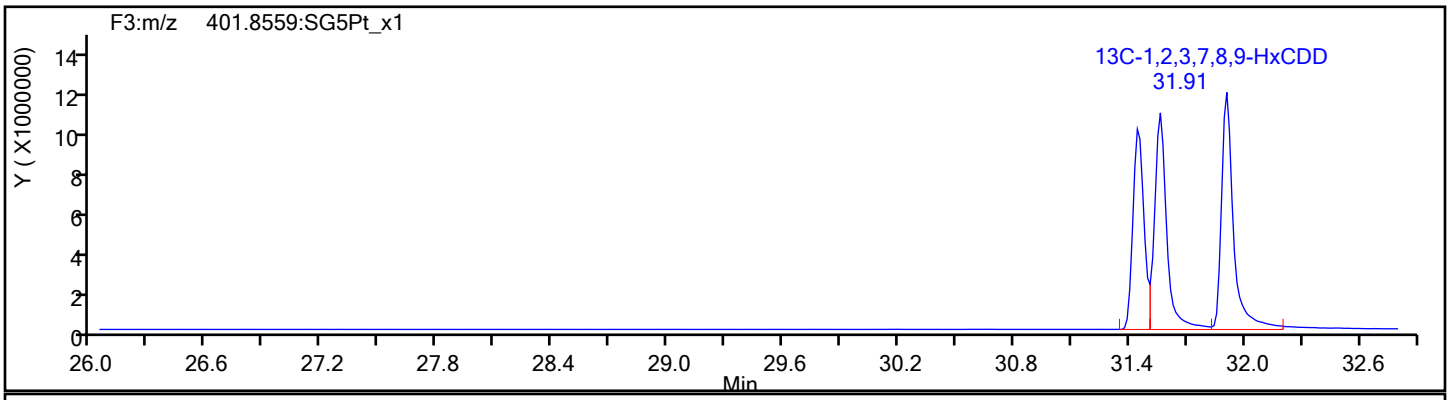

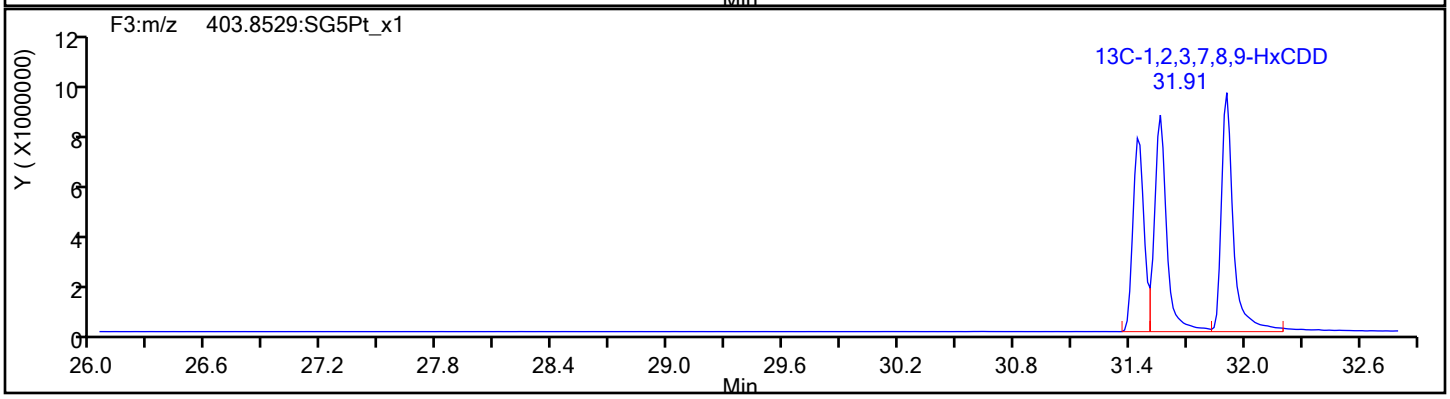

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Eurofins TestAmerica, Sacramento

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13C-HxCDD

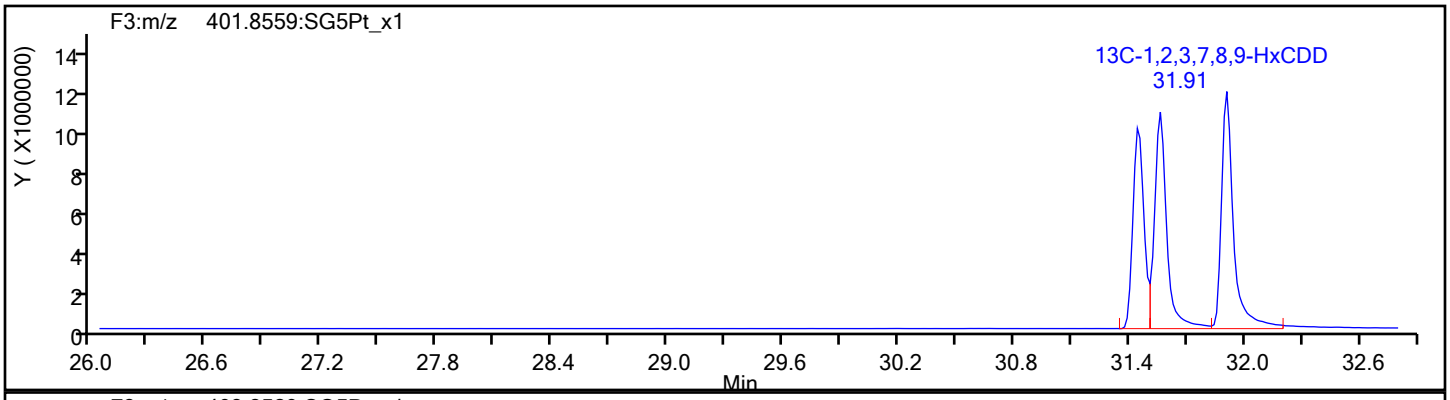

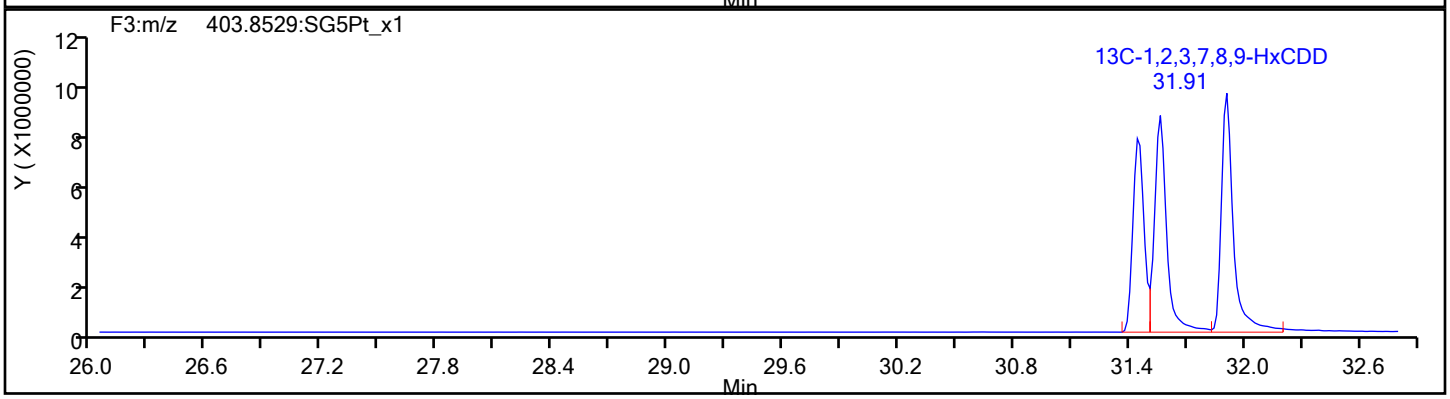

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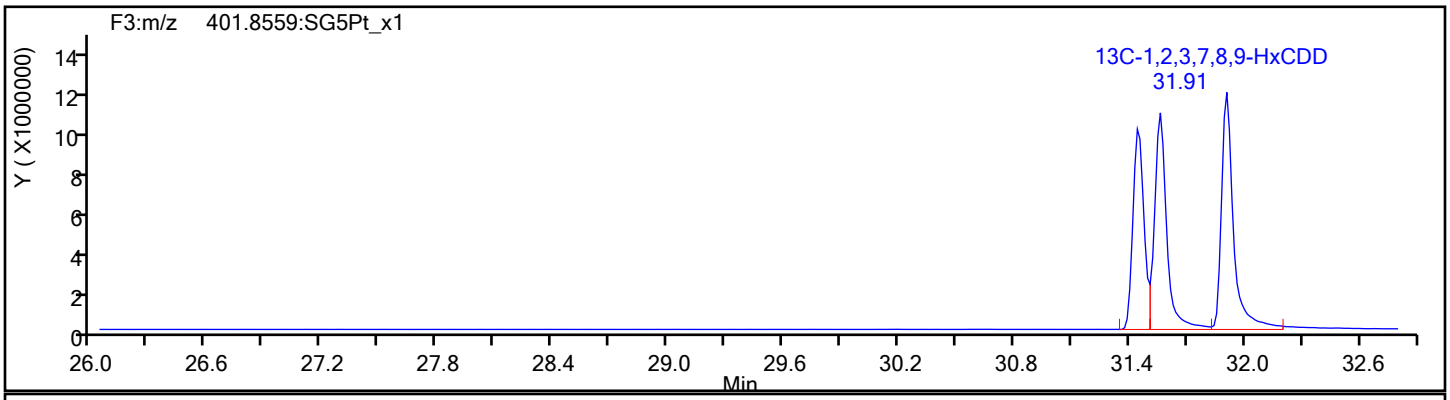

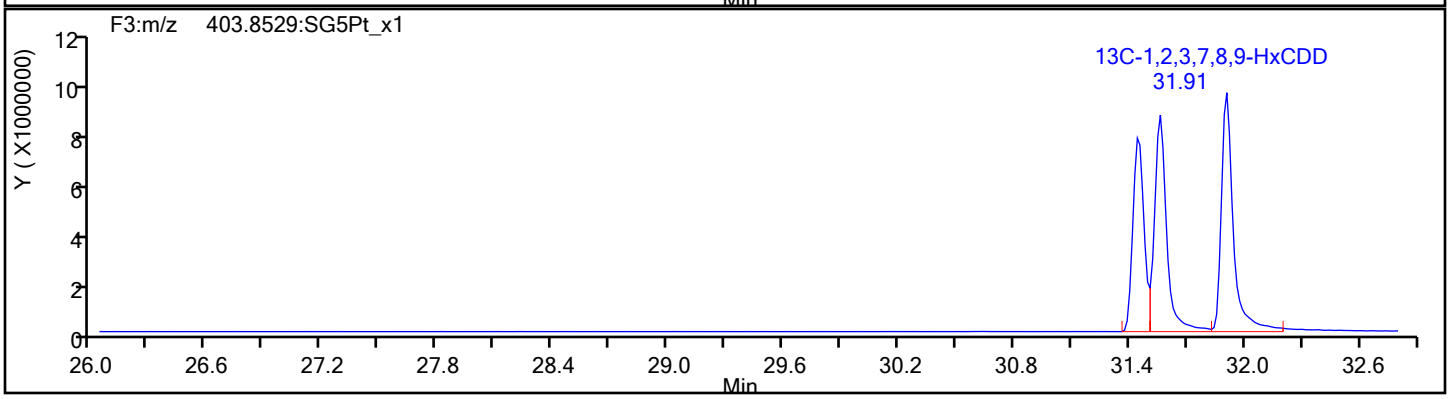

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Eurofins TestAmerica, Sacramento

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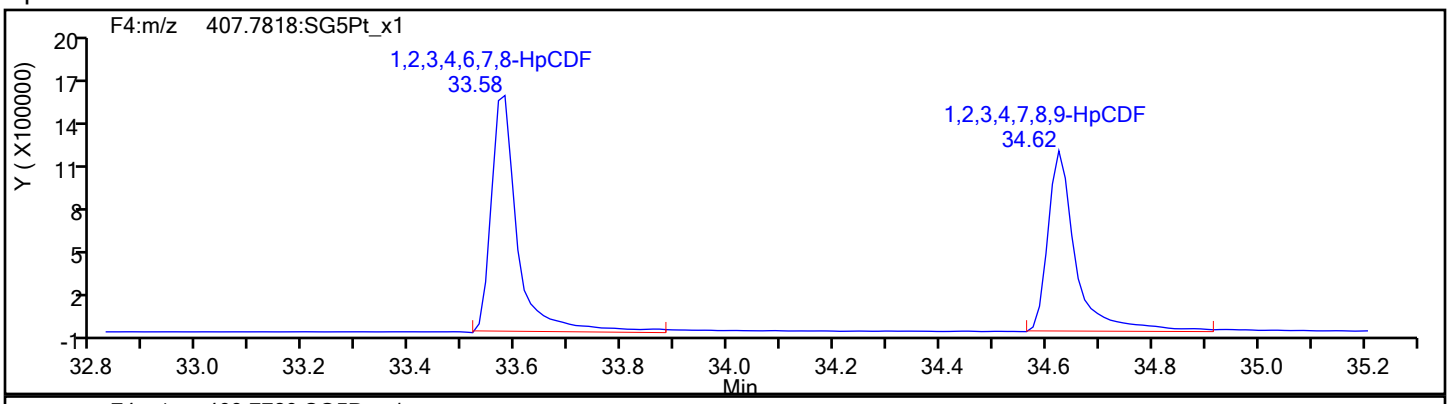

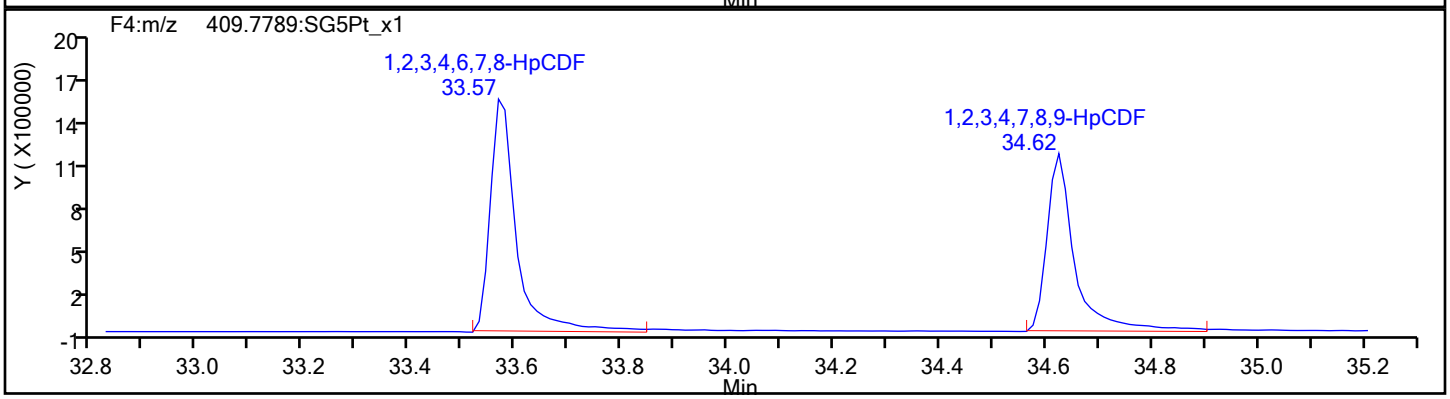

HpCDF Standards

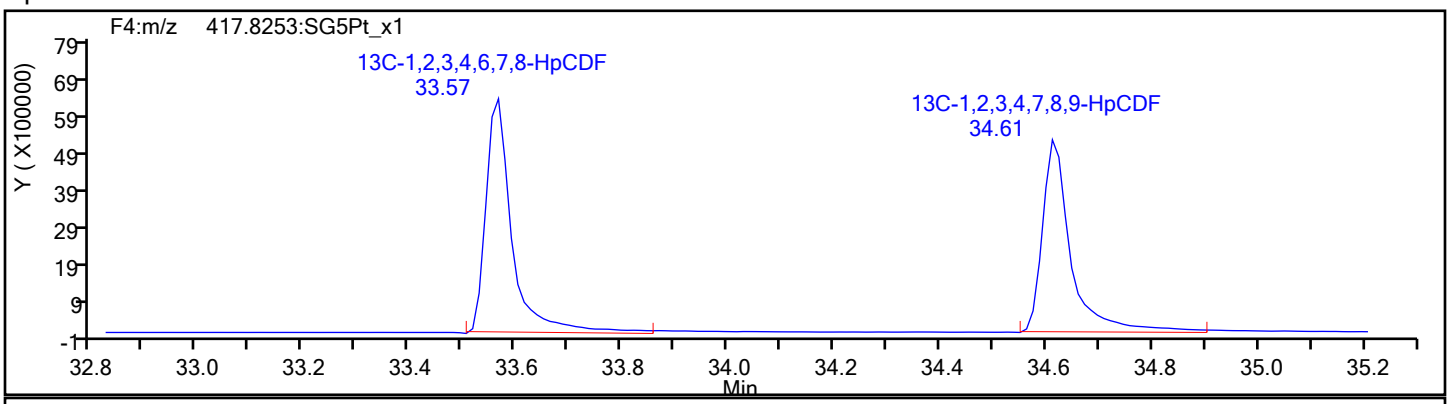

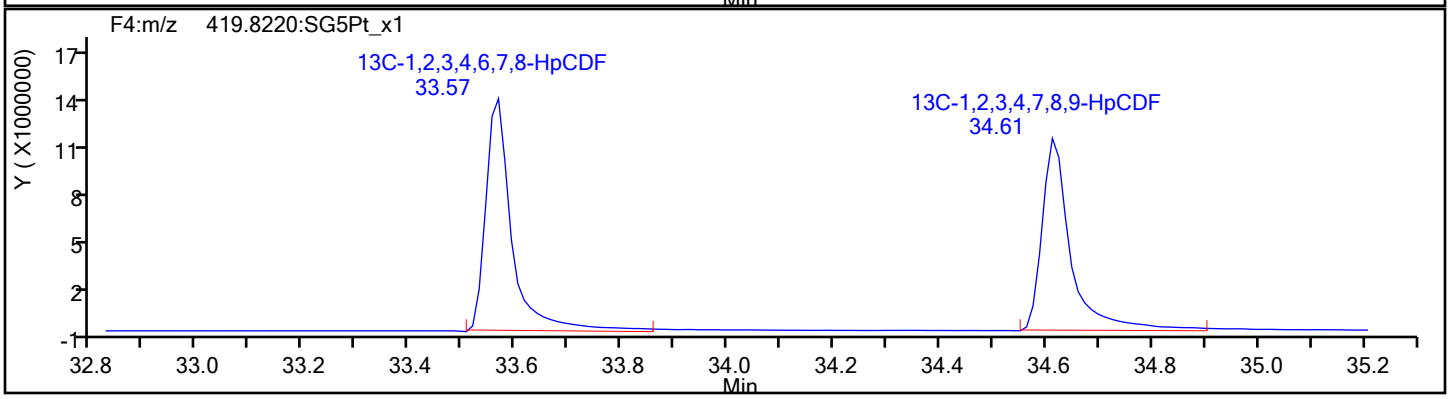

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Eurofins TestAmerica, Sacramento

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HpCDF

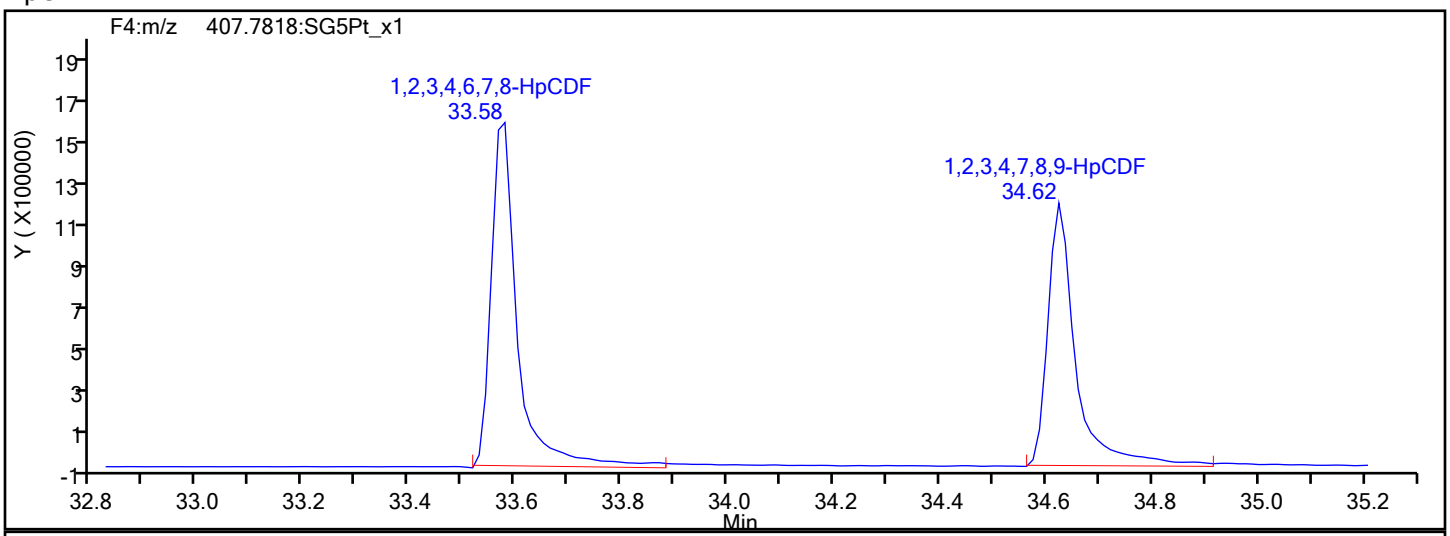

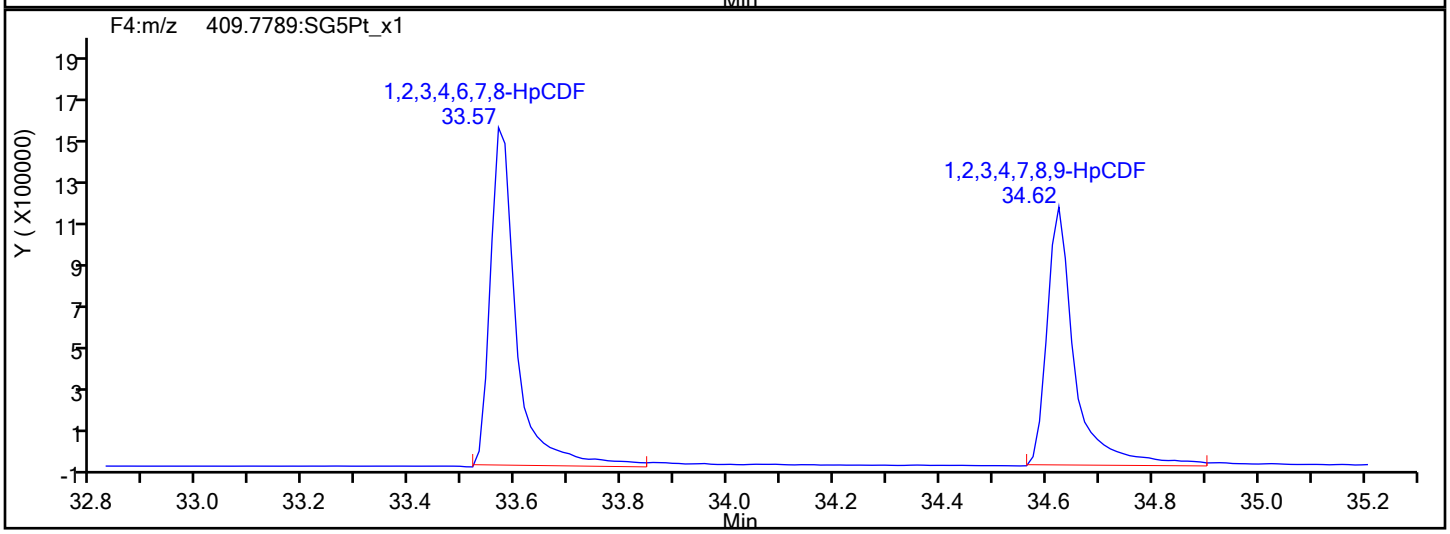

HpCDF Interference Mass

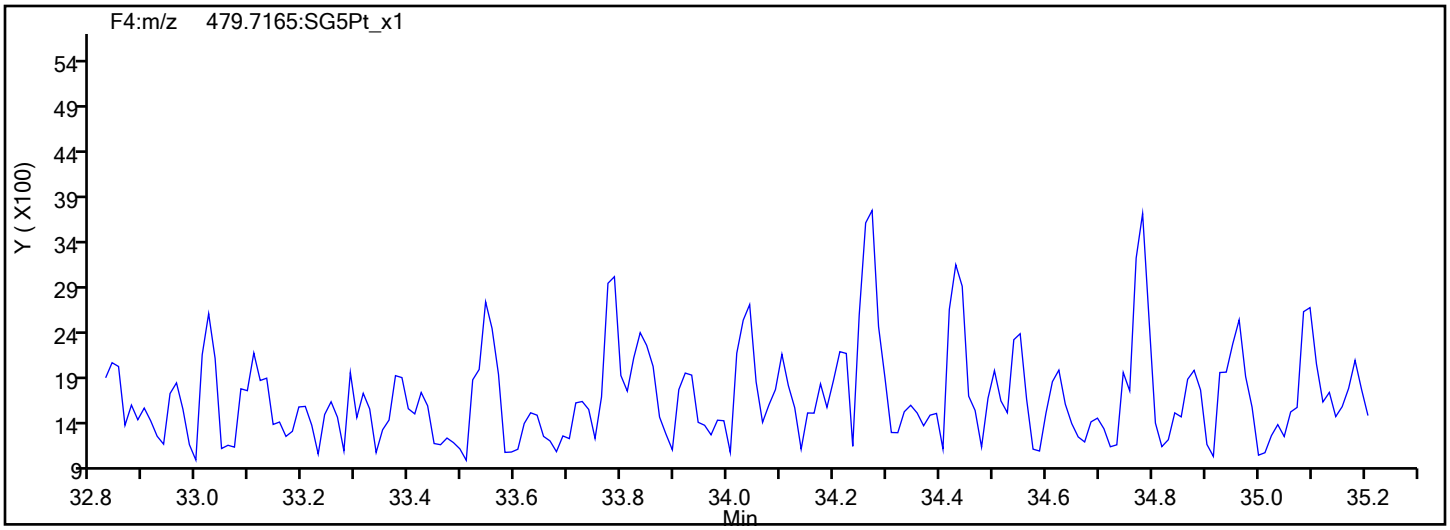

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Eurofins TestAmerica, Sacramento

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13C-HpCDF

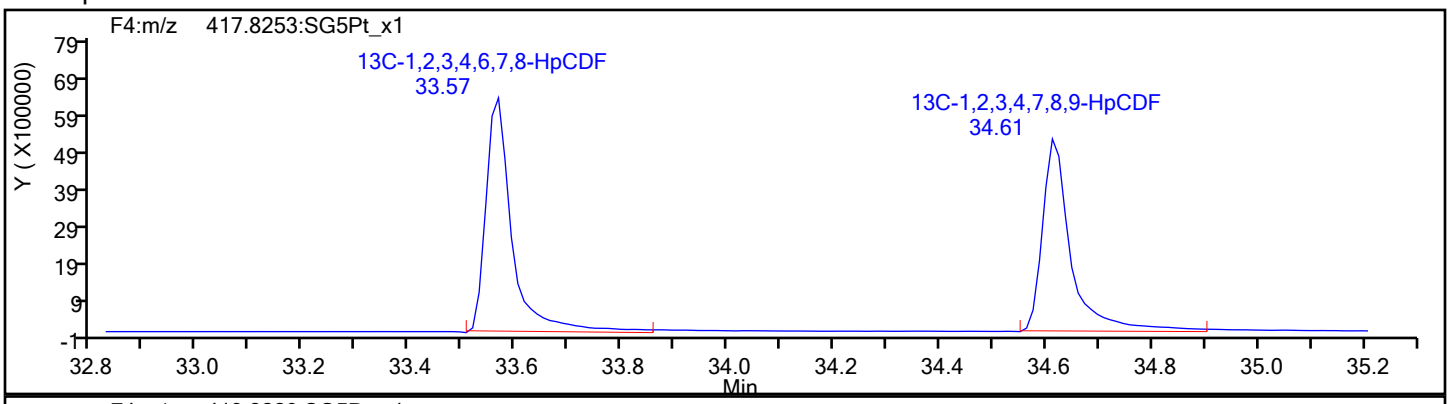

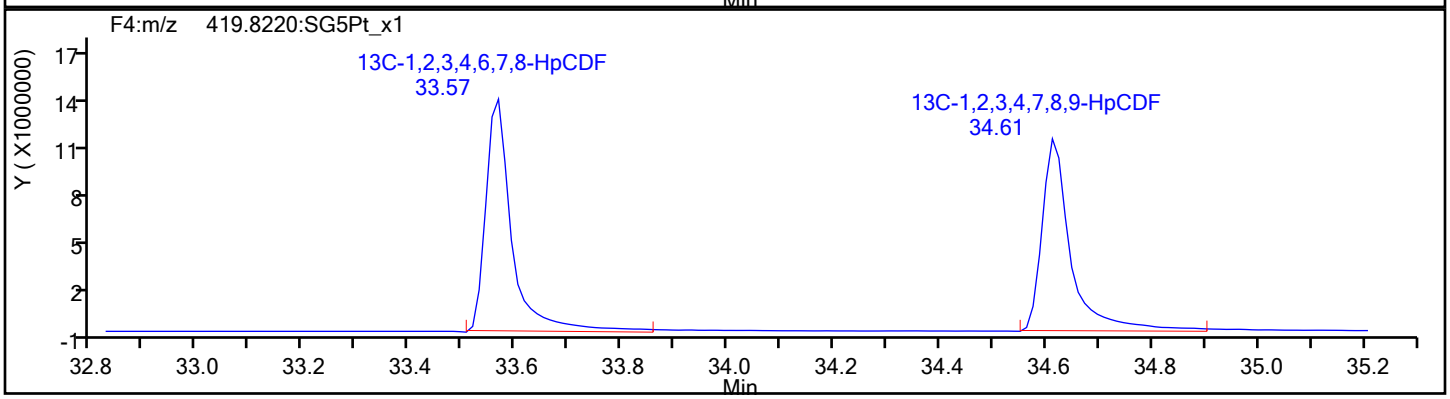

13C-HpCDF Standards

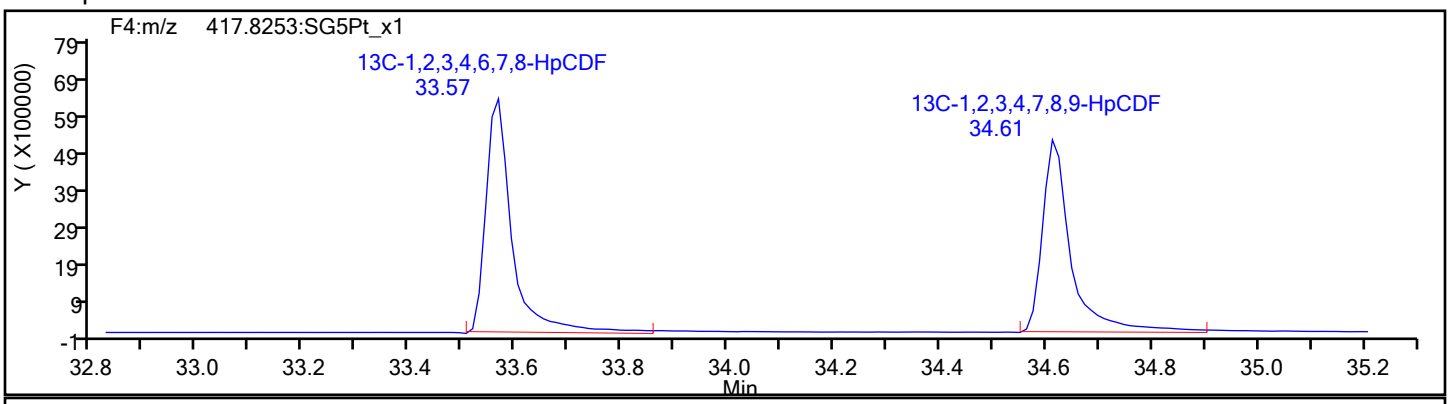

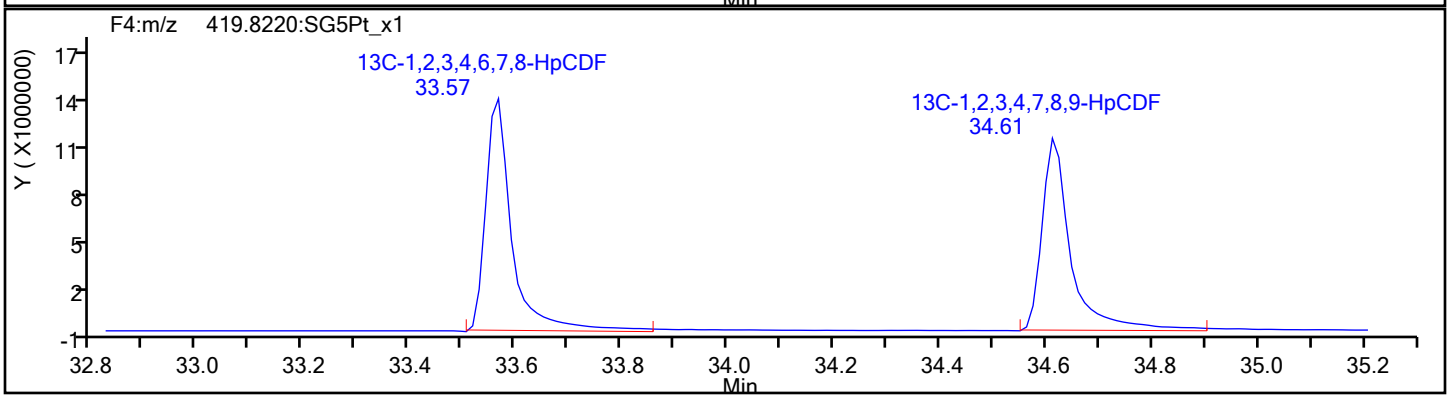

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Eurofins TestAmerica, Sacramento

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HpCDD

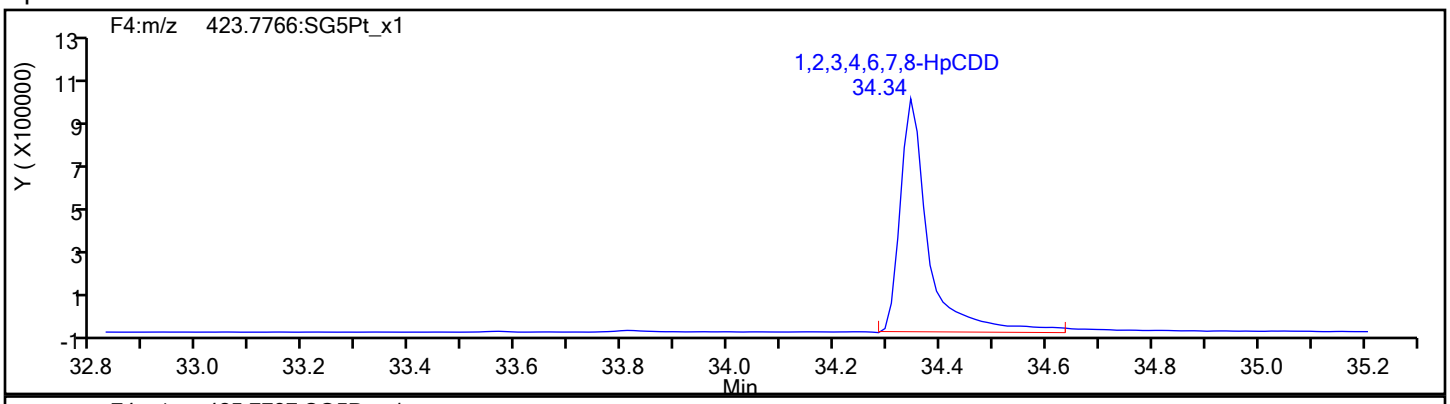

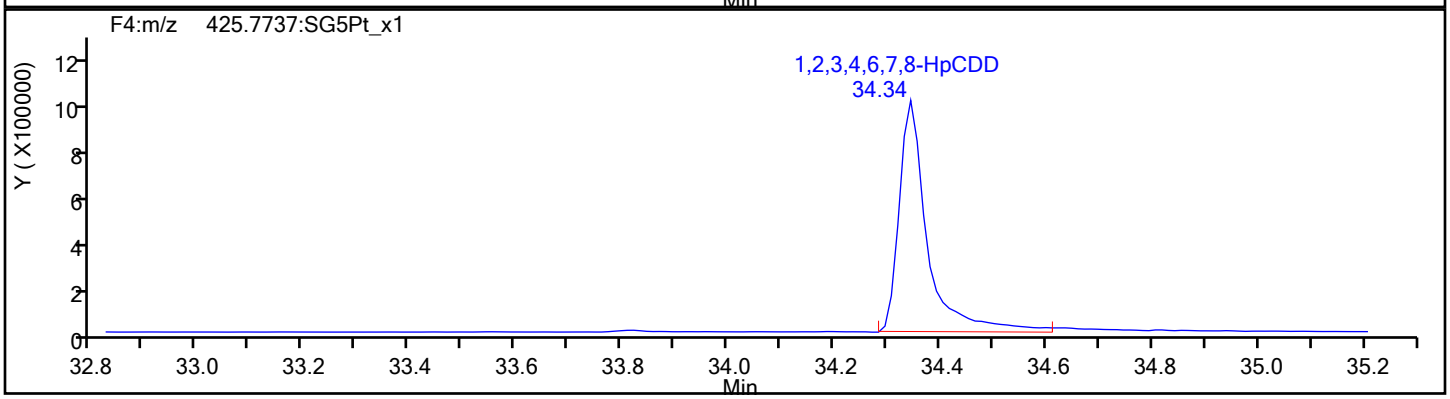

HpCDD Standards

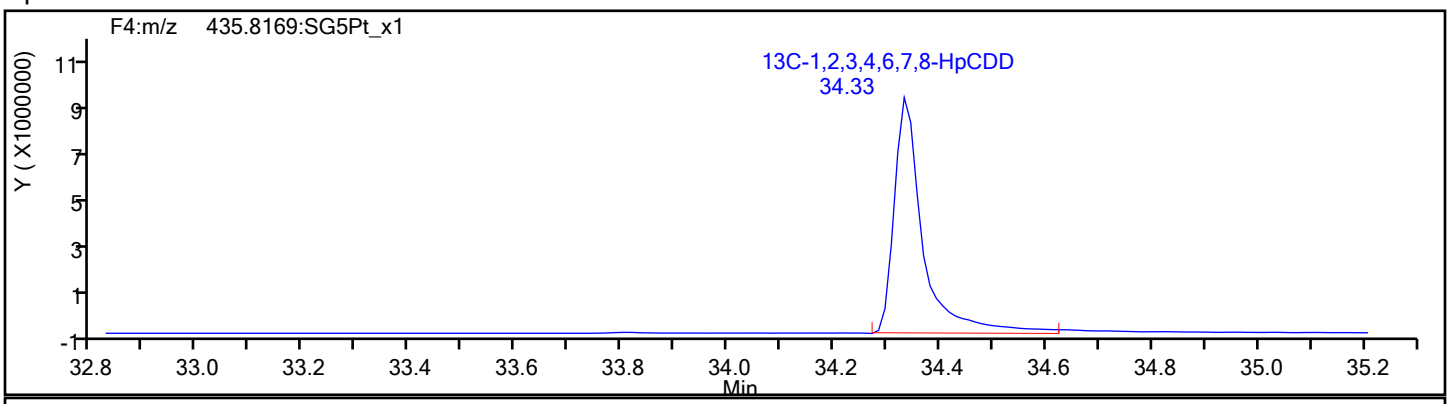

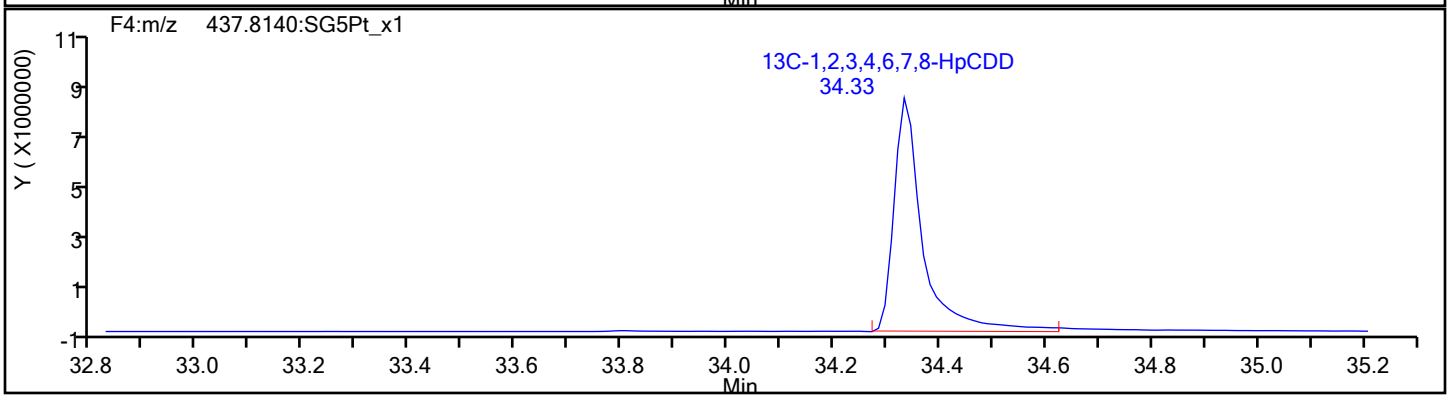

Report Date: 14-Nov-2019 16:54:09 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_4.d		
Injection Date:	14-Nov-2019 10:32:55	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

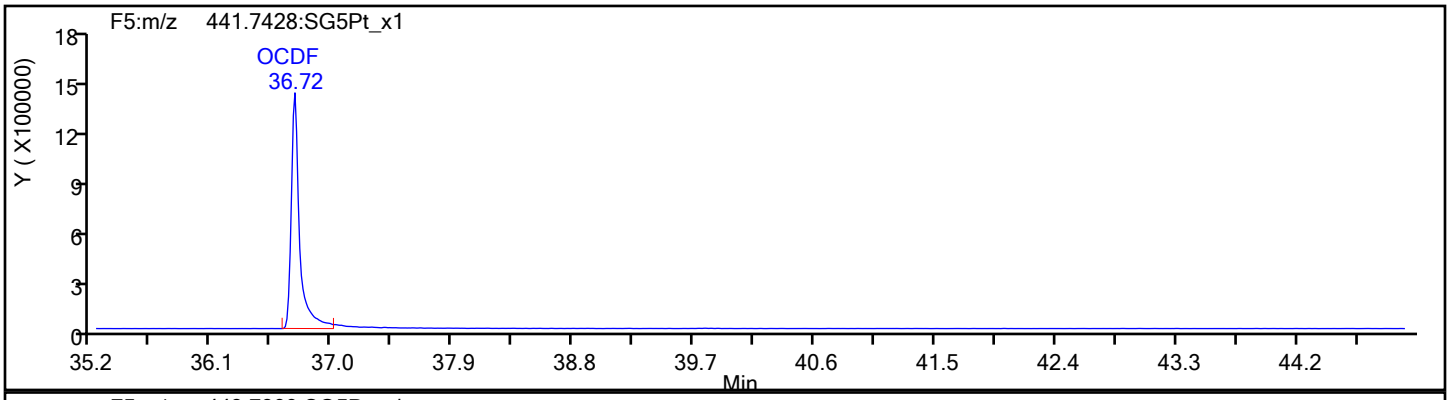

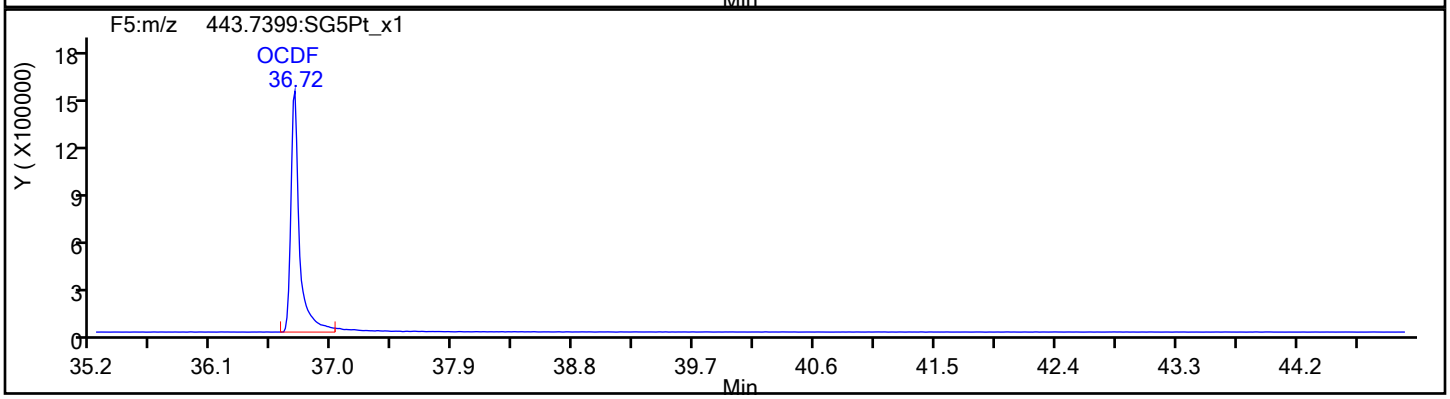

OCDF Standards

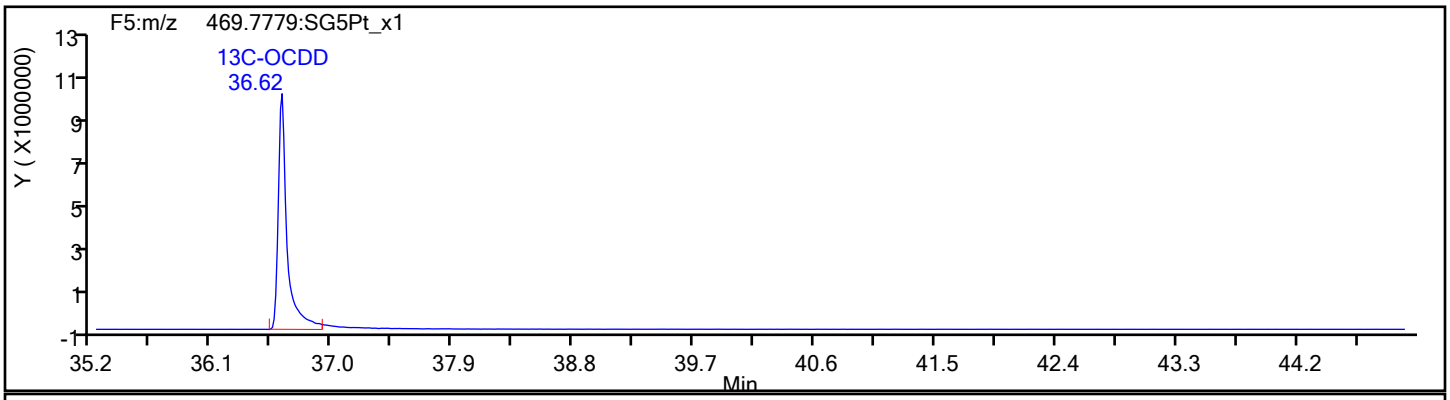

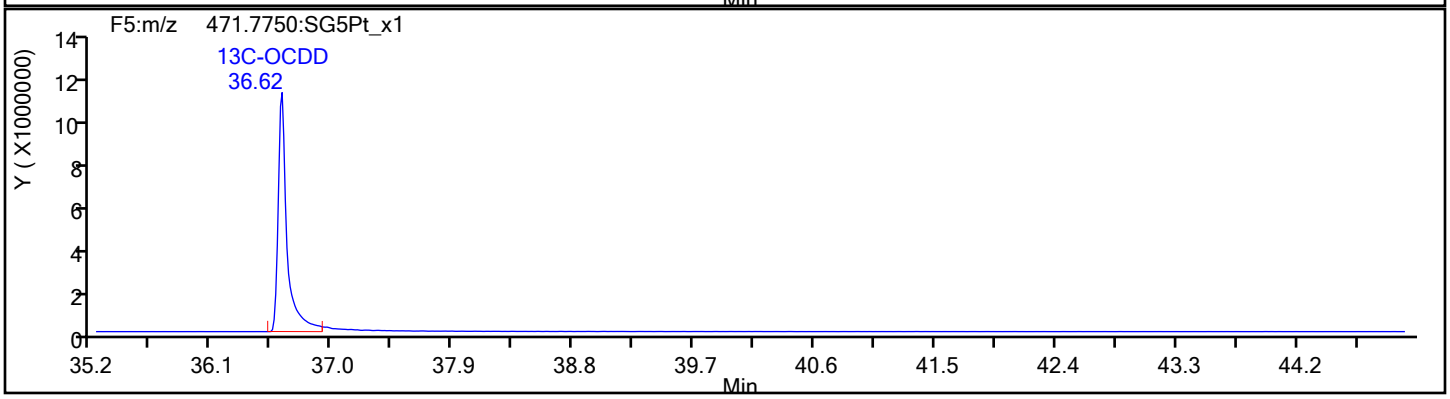

Report Date: 14-Nov-2019 16:54:09 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_4.d		
Injection Date:	14-Nov-2019 10:32:55	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

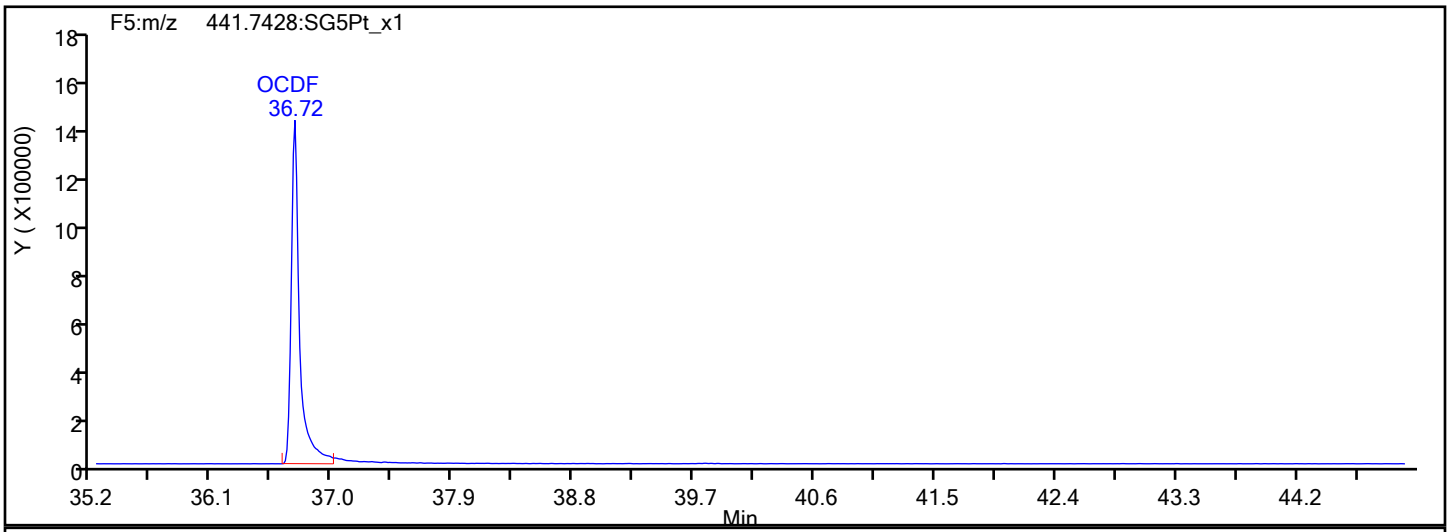

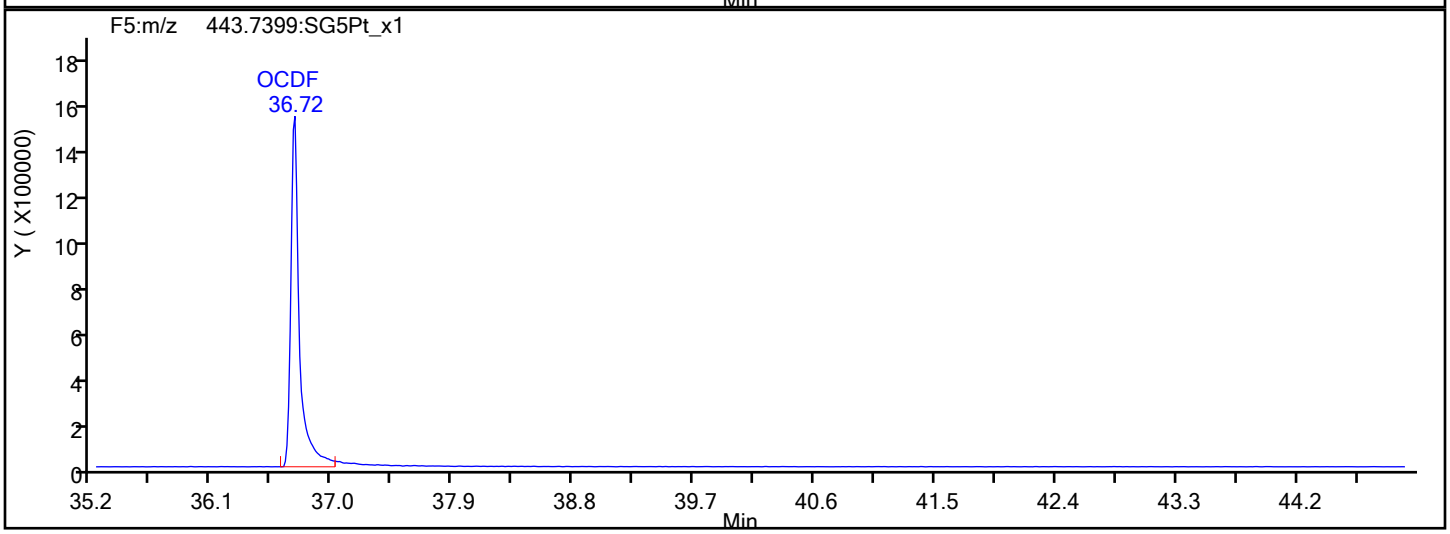

OCDF Interference Mass

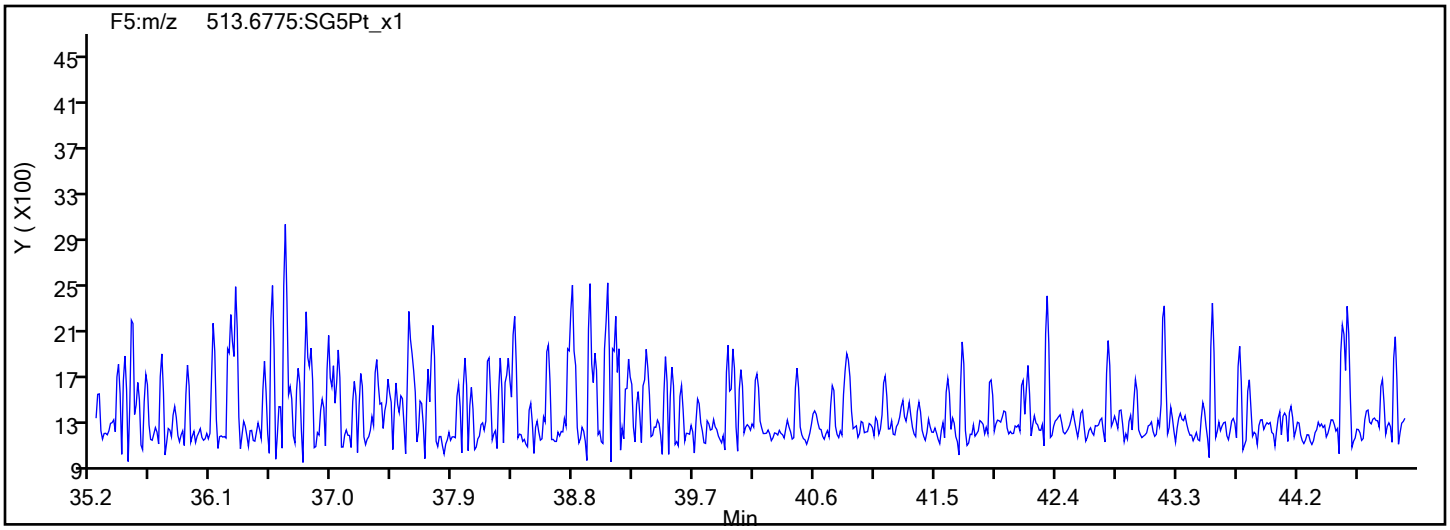

Report Date: 14-Nov-2019 16:54:09 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_4.d		
Injection Date:	14-Nov-2019 10:32:55	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

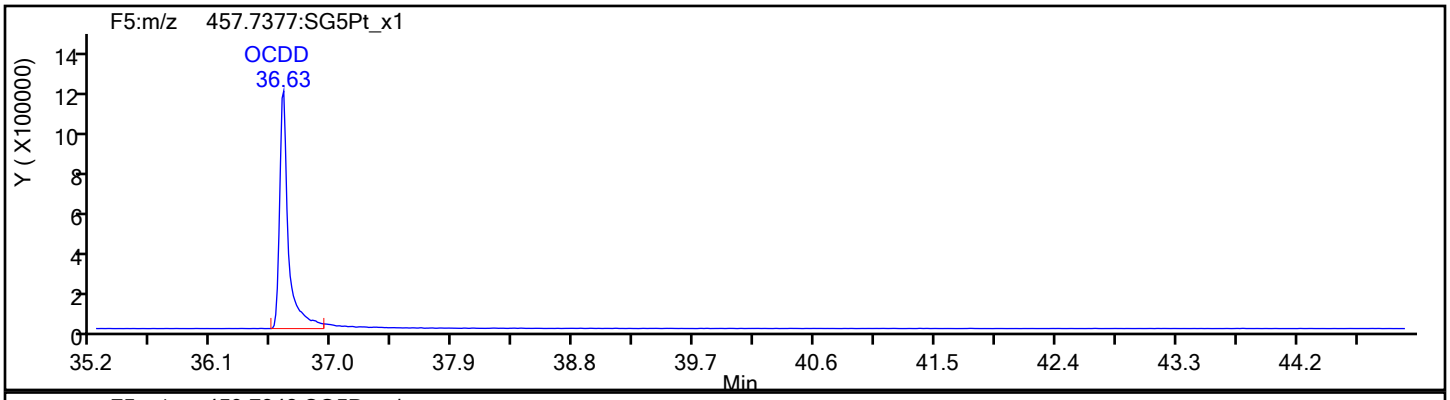

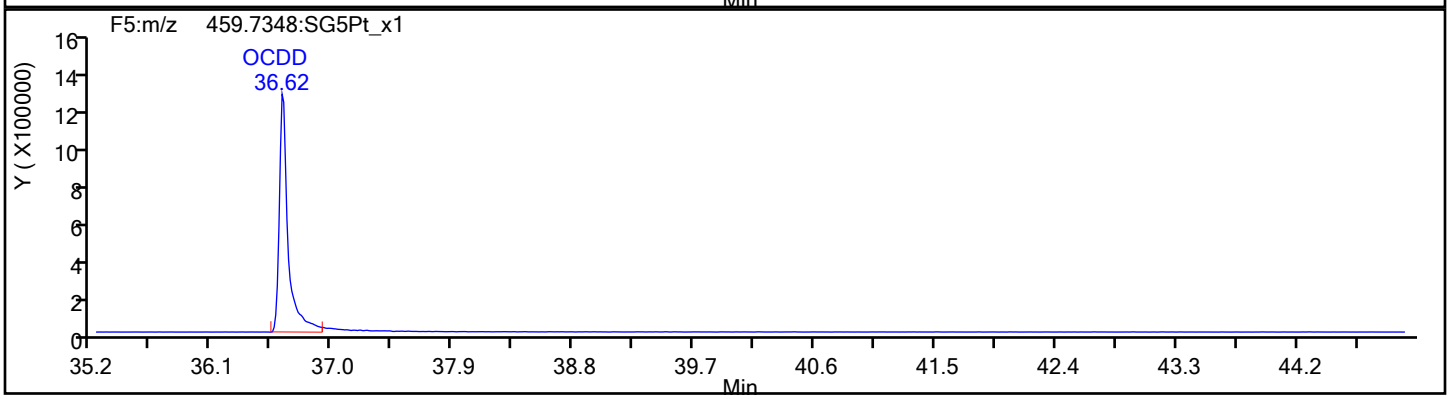

OCDD Standards

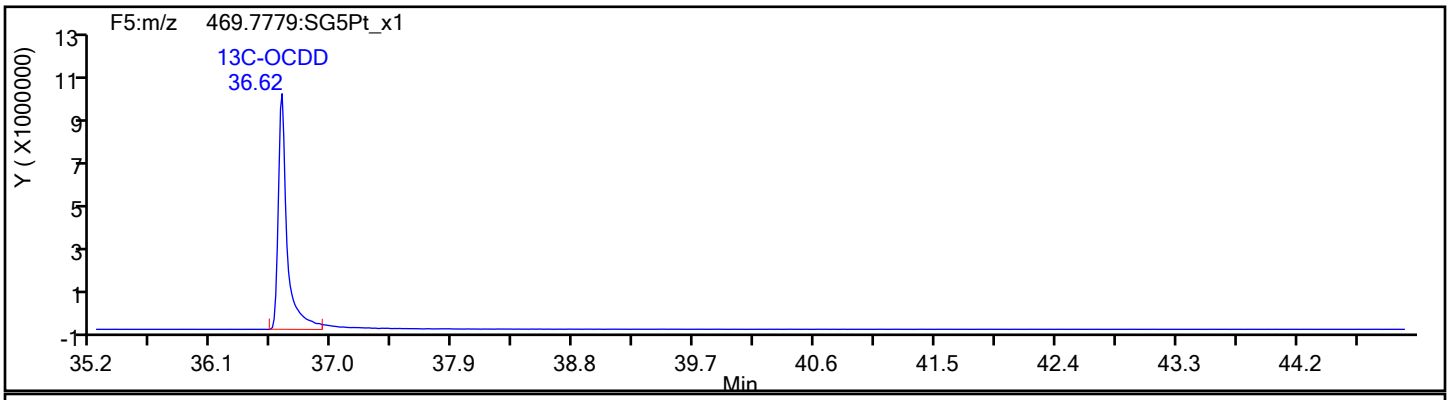

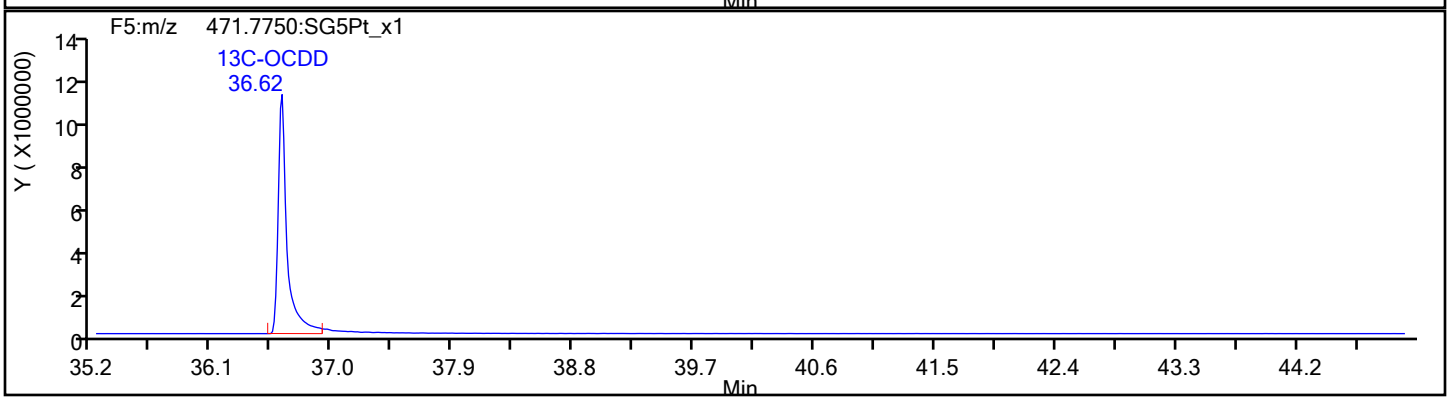

Report Date: 14-Nov-2019 16:54:09 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_4.d		
Injection Date:	14-Nov-2019 10:32:55	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

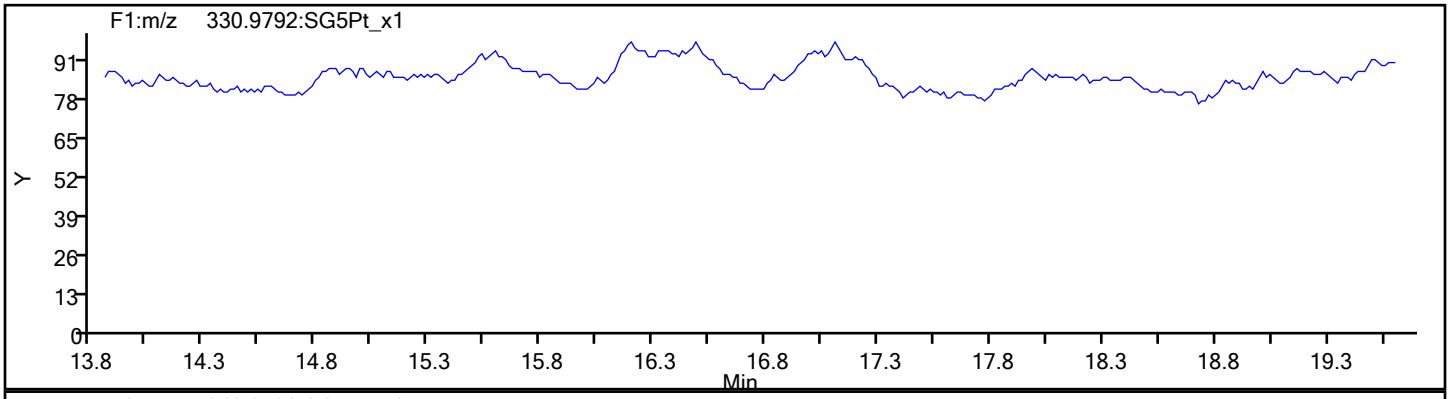

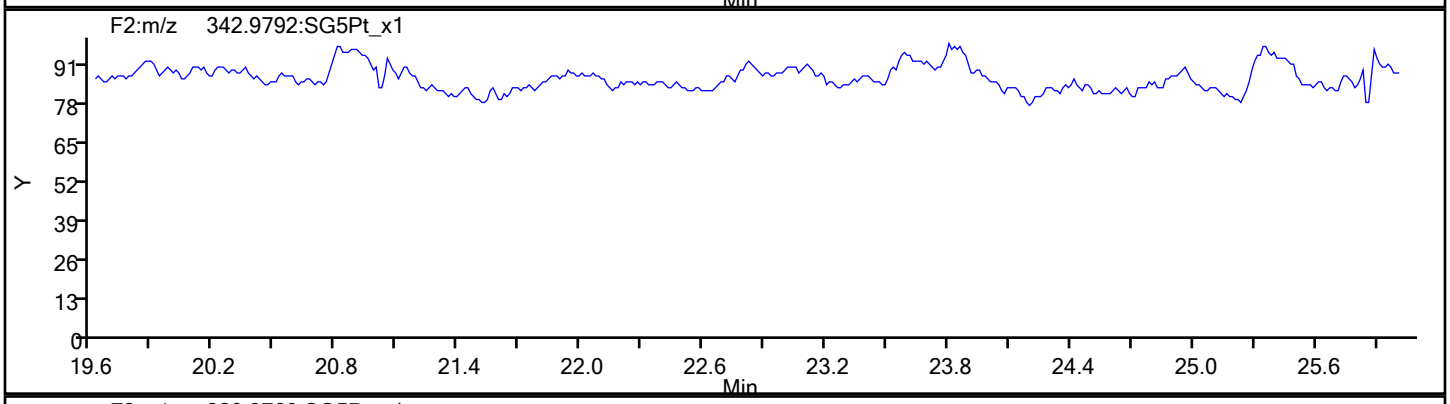

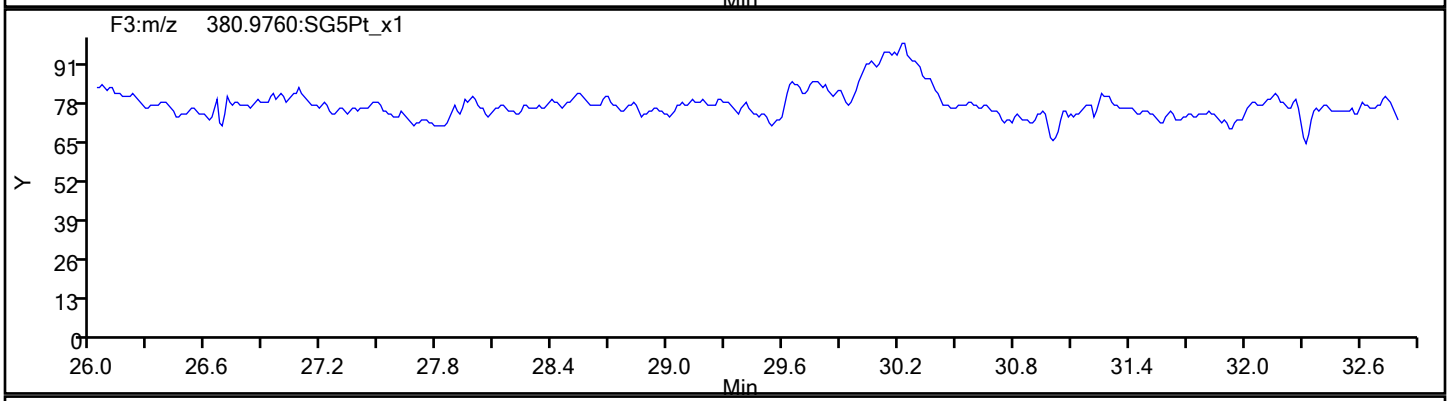

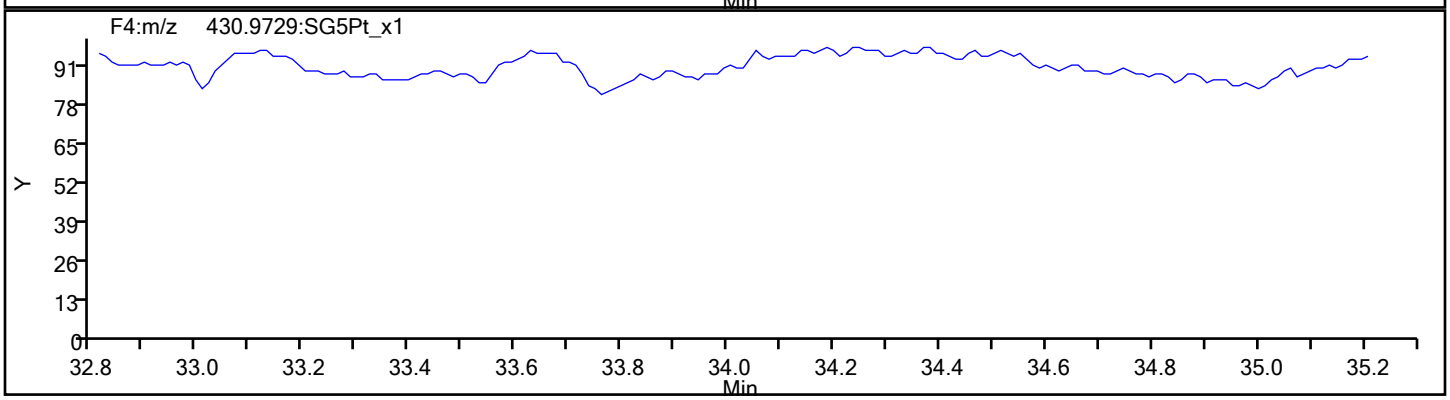

Report Date: 14-Nov-2019 16:54:09 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_4.d		
Injection Date:	14-Nov-2019 10:32:55	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

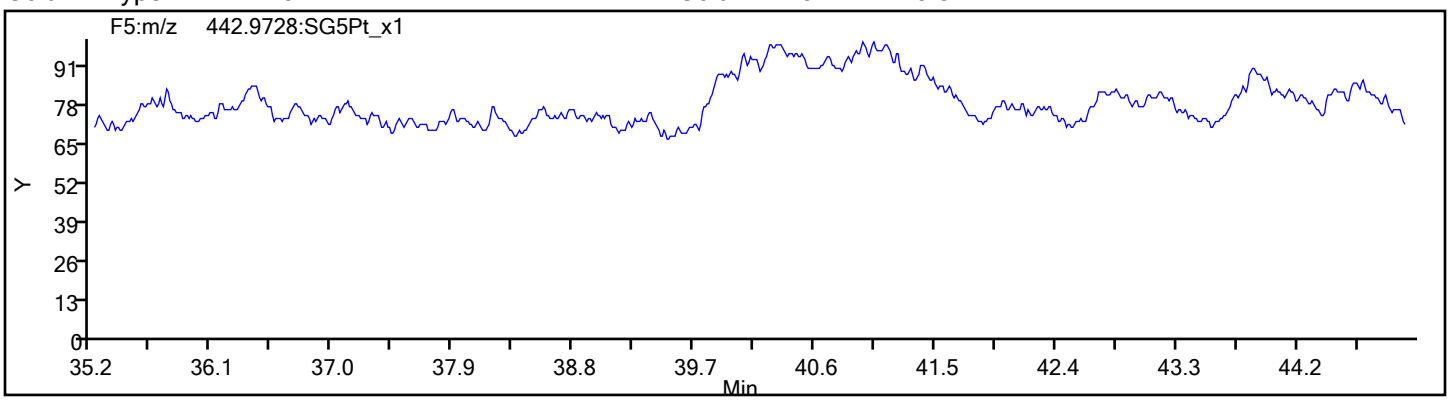

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_5.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 14-Nov-2019 11:18:54 ALS Bottle#: 2 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC111419B CS-4 HRDXNL4_00085
Misc. Info.: 14NO1910D5
Operator ID: SMA Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Nov-2019 16:54:23 Calib Date: 14-Nov-2019 12:50:49
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: arghestanis Date: 14-Nov-2019 13:00:48

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.548	121815021	0.80	1.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.034	161928326	0.77	1.3318	99.8	99.8	0.2580	0.2580	99.81	
2,3,7,8-TCDF	17.049	14438463	0.77	0.9005	9.902	9.902	0.0298	0.0298	99.02	
S Total TCDF					9.902	9.902	0.0298	0.0298		
D 13C-2,3,7,8-TCDD	17.729	118357002	0.79	0.9647	100.7	100.7	0.2065	0.2065	101	
2,3,7,8-TCDD	17.744	12186908	0.77	1.0698	9.625	9.625	0.0231	0.0231	96.25	
$ 37Cl4-2,3,7,8-TCDD	17.744	18499321		1.3082	11.6	11.6	0.0169	0.0169	116	
S Total TCDD					9.625	9.625	0.0231	0.0231		
D 13C-1,2,3,7,8-PeCDF	21.949	127384973	1.55	1.0537	99.2	99.2	0.2893	0.2893	99.24	
1,2,3,7,8-PeCDF	21.977	60982032	1.53	0.9704	49.3	49.3	0.2023	0.2023	98.67	
D 13C-2,3,4,7,8-PeCDF	23.258	125399433	1.56	1.0173	101.2	101.2	0.2997	0.2997	101	
2,3,4,7,8-PeCDF	23.286	60953518	1.55	0.9986	48.7	48.7	0.2139	0.2139	97.36	
S Total PeCDF					98.0	98.0	0.2081	0.2081		
D 13C-1,2,3,7,8-PeCDD	23.968	87404800	1.57	0.7281	98.5	98.5	0.1425	0.1425	98.54	
1,2,3,7,8-PeCDD	23.995	43513844	1.58	1.0023	49.7	49.7	0.0866	0.0866	99.34	
S Total PeCDD					49.7	49.7	0.0866	0.0866		
D 13C-1,2,3,4,7,8-HxCDF	30.100	90601161	0.52	0.9632	98.9	98.9	0.5568	0.5568	98.90	
1,2,3,4,7,8-HxCDF	30.126	45826476	1.23	1.0315	49.0	49.0	0.4019	0.4019	98.08	
D 13C-1,2,3,6,7,8-HxCDF	30.326	97586689	0.51	1.0646	96.4	96.4	0.5038	0.5038	96.38	
1,2,3,6,7,8-HxCDF	30.339	49548801	1.23	1.0235	49.6	49.6	0.3741	0.3741	99.21	
D 13C-2,3,4,6,7,8-HxCDF	31.244	89609086	0.51	0.9696	97.2	97.2	0.5531	0.5531	97.16	
2,3,4,6,7,8-HxCDF	31.257	47237432	1.22	1.0645	49.5	49.5	0.2798	0.2798	99.04	
D 13C-1,2,3,7,8,9-HxCDF	32.096	84048823	0.51	0.8955	98.7	98.7	0.5989	0.5989	98.68	
1,2,3,7,8,9-HxCDF	32.109	44109482	1.21	1.0664	49.2	49.2	0.2793	0.2793	98.43	
S Total HxCDF					197.4	197.4	0.3338	0.3338		
* 13C-1,2,3,7,8,9-HxCDD	31.910	95115852	1.24	8.8E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.444	71254969	1.26	0.7590	98.7	98.7	0.4033	0.4033	98.70	
1,2,3,4,7,8-HxCDD	31.471	34514378	1.24	1.0054	48.2	48.2	0.1947	0.1947	96.36	
D 13C-1,2,3,6,7,8-HxCDD	31.564	84454503	1.24	0.9247	96.0	96.0	0.3311	0.3311	96.02	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.577	41219178	1.25	0.9833	49.6	49.6	0.1814	0.1814	99.27	
1,2,3,7,8,9-HxCDD	31.923	42847509	1.24	1.1036	49.9	49.9	0.1691	0.1691	99.74	
S Total HxCDD					147.7	147.7	0.1817	0.1817		
D 13C-1,2,3,4,6,7,8-HpCDF	33.567	72198948	0.45	0.7930	95.7	95.7	1.686	1.686	95.72	
1,2,3,4,6,7,8-HpCDF	33.579	51117337	1.03	1.4240	49.7	49.7	0.7449	0.7449	99.44	
D 13C-1,2,3,4,7,8,9-HpCDF	34.612	68033057	0.44	0.7296	98.0	98.0	1.833	1.833	98.04	
1,2,3,4,7,8,9-HpCDF	34.624	42585703	1.03	1.2834	48.8	48.8	1.017	1.017	97.55	
S Total HpCDF					98.5	98.5	0.8808	0.8808		
D 13C-1,2,3,4,6,7,8-HpCDD	34.333	69012021	1.05	0.7532	96.3	96.3	0.8221	0.8221	96.34	
1,2,3,4,6,7,8-HpCDD	34.345	34696372	1.05	1.0174	49.4	49.4	0.3761	0.3761	98.83	
S Total HpCDD					49.4	49.4	0.3761	0.3761		
D 13C-OCDD	36.621	102939677	0.90	0.5621	192.6	192.6	0.2221	0.2221	96.28	
OCDF	36.717	66966196	0.90	1.3047	99.7	99.7	0.1124	0.1124	99.72	
OCDD	36.633	55739047	0.88	1.0997	98.5	98.5	0.1406	0.1406	98.48	

Reagents:

HRDXNL4_00085 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_5.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 14-Nov-2019 11:18:54 ALS Bottle#: 2 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC111419B CS-4 HRDXNL4_00085
Misc. Info.: 14NO1910D5
Operator ID: SMA Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Nov-2019 16:54:23 Calib Date: 14-Nov-2019 12:50:49
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: arghestanis Date: 14-Nov-2019 13:00:48

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.548	17.539	1		54002056	13582139	12007	30017	1131		
333.9339	17.548	17.539	1		67812965	17036405	12394	30985	1375	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.034	17.034	0	0.971	70407835	17881227	13148	32870	1360		
317.9389	17.034	17.034	0	0.971	91520491	23282630	28936	72340	805	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.049	17.049	0	1.001	6264348	1600871	2315	5787	692		
305.8987	17.049	17.049	0	1.001	8174115	2080188	2111	5277	985	0.77(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.729	17.729	0	1.010	52195788	12580259	12007	30017	1048		
333.9339	17.729	17.729	0	1.010	66161214	15953868	12394	30985	1287	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.744	17.744	0	1.001	5314822	1296631	1467	3667	884		
321.8936	17.744	17.744	0	1.001	6872086	1670695	1355	3387	1233	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.744	17.744	0	1.011	18499321	4476979	2715	6787	1649		
13C-1,2,3,7,8-PeCDF											
351.9000	21.949	21.949	0	1.251	77527228	14035181	22679	56697	619		
353.8970	21.949	21.949	0	1.251	49857745	9051978	14658	36645	618	1.55(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.977	21.971	0	1.001	36922633	6675391	10782	26955	619		
341.8567	21.963	21.971	0	1.001	24059399	4290604	7349	18372	584	1.53(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	23.258	23.258	0	1.325	76340044	12913305	22679	56697	569		
353.8970	23.258	23.258	0	1.325	49059389	8313064	14658	36645	567	1.56(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.286	23.286	0	1.001	37089816	6328557	10782	26955	587		
341.8567	23.286	23.286	0	1.001	23863702	4049618	7349	18372	551	1.55(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.968	23.968	0	1.366	53395935	8498225	7880	19700	1078		
369.8919	23.968	23.968	0	1.366	34008865	5446687	4825	12062	1129	1.57(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.995	23.995	0	1.001	26662200	4243637	3024	7560	1403		
357.8516	23.995	23.995	0	1.001	16851644	2681902	1819	4547	1474	1.58(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.100	30.102	0	0.943	30866650	5097555	16147	40367	316		
385.8610	30.100	30.102	0	0.943	59734511	9657318	31132	77830	310	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.126	30.131	0	1.001	25259600	4100959	13348	33370	307		
375.8178	30.126	30.131	0	1.001	20566876	3355902	11117	27792	302	1.23(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.326	30.323	0	0.950	33082900	5419500	16147	40367	336		
385.8610	30.326	30.323	0	0.950	64503789	10555675	31132	77830	339	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.339	30.344	0	1.000	27329421	4544896	13348	33370	340		
375.8178	30.339	30.344	0	1.000	22219380	3751171	11117	27792	337	1.23(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.244	31.247	0	0.979	30415948	6985625	16147	40367	433		
385.8610	31.244	31.247	0	0.979	59193138	13547114	31132	77830	435	0.51(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.257	31.265	0	1.000	25964728	5903158	13348	33370	442		
375.8178	31.257	31.265	0	1.000	21272704	4926918	11117	27792	443	1.22(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.096	32.099	0	1.006	28397023	6931491	16147	40367	429		
385.8610	32.096	32.099	0	1.006	55651800	13606643	31132	77830	437	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.109	32.115	0	1.000	24110557	5989271	13348	33370	449		
375.8178	32.109	32.115	0	1.000	19998925	4973720	11117	27792	447	1.21(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.910	31.912	0		52659556	12205361	14783	36957	826		
403.8529	31.910	31.912	0		42456296	9834248	12206	30515	806	1.24(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.444	31.452	0	0.985	39769871	9884694	14783	36957	669		
403.8529	31.457	31.452	0	0.986	31485098	7842504	12206	30515	643	1.26(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.471	31.470	0	1.001	19134734	5021391	7459	18647	673		
391.8127	31.471	31.470	0	1.001	15379644	3956252	6422	16055	616	1.24(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.564	31.566	0	0.989	46750317	10734244	14783	36957	726		
403.8529	31.564	31.566	0	0.989	37704186	8722569	12206	30515	715	1.24(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.577	31.582	0	1.000	22878211	5233445	7459	18647	702		
391.8127	31.577	31.582	0	1.000	18340967	4235342	6422	16055	660	1.25(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.923	31.926	0	1.015	23750479	5583880	7459	18647	749		
391.8127	31.923	31.926	0	1.015	19097030	4492354	6422	16055	700	1.24(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.567	33.567	0	1.052	22336285	6939747	34801	87002	199		
419.8220	33.567	33.567	0	1.052	49862663	15174928	83074	207685	183	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.579	33.579	0	1.000	25988743	7827093	47166	117915	166		
409.7789	33.579	33.579	0	1.000	25128594	7436827	46670	116675	159	1.03(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.612	34.619	0	1.085	20849318	5485349	34801	87002	158		
419.8220	34.612	34.619	0	1.085	47183739	12495639	83074	207685	150	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.624	34.629	0	1.000	21643792	5932555	47166	117915	126		
409.7789	34.624	34.629	0	1.000	20941911	5768738	46670	116675	124	1.03(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.333	34.340	0	1.076	35409022	9326056	28150	70375	331		
437.8140	34.333	34.340	0	1.076	33602999	8777343	26434	66085	332	1.05(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.345	34.349	0	1.000	17767248	4785774	14192	35480	337		
425.7737	34.345	34.349	0	1.000	16929124	4667973	13516	33790	345	1.05(0.88-1.20)	
13C-OCDD											
469.7779	36.621	36.624	0	1.148	48761834	10728267	5328	13320	2014		
471.7750	36.621	36.624	0	1.148	54177843	11803536	5677	14192	2079	0.90(0.76-1.02)	
OCDF											
441.7428	36.717	36.720	0	1.003	31734111	7332136	3050	7625	2404		
443.7399	36.717	36.720	0	1.003	35232085	8042592	3560	8900	2259	0.90(0.76-1.02)	
OCDD											
457.7377	36.633	36.636	0	1.000	26148565	5718372	3188	7970	1794		
459.7348	36.633	36.636	0	1.000	29590482	6427681	3779	9447	1701	0.88(0.76-1.02)	

Reagents:

HRDXNL4_00085 Amount Added: 1.00 Units: mL

Report Date: 14-Nov-2019 16:54:29 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_5.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

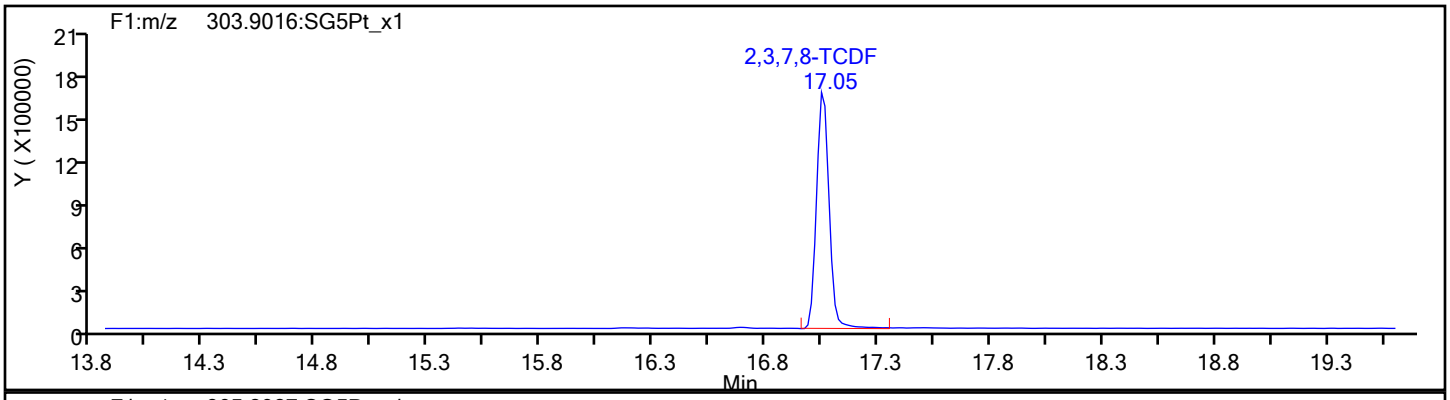

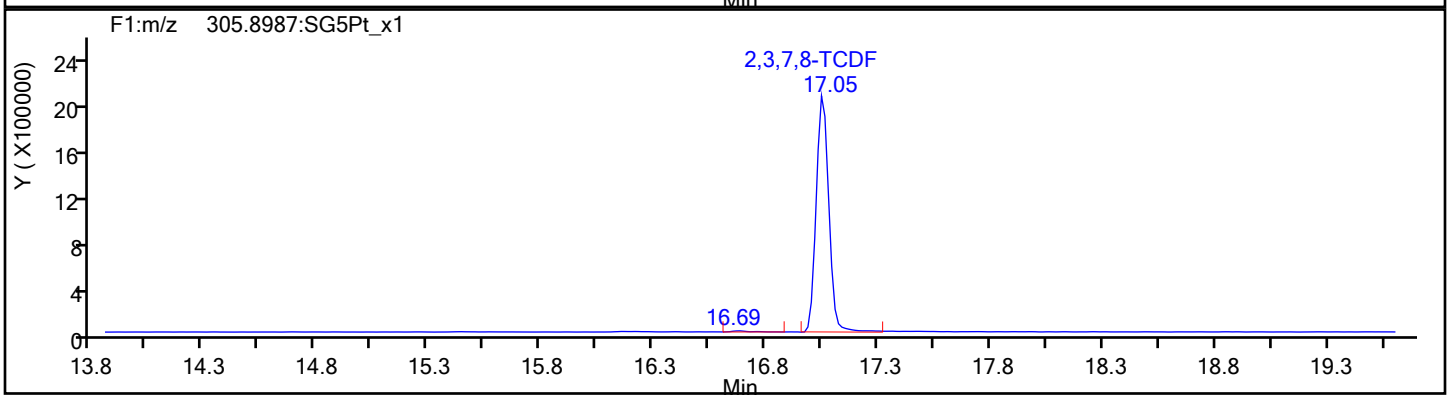

TCDF Standards

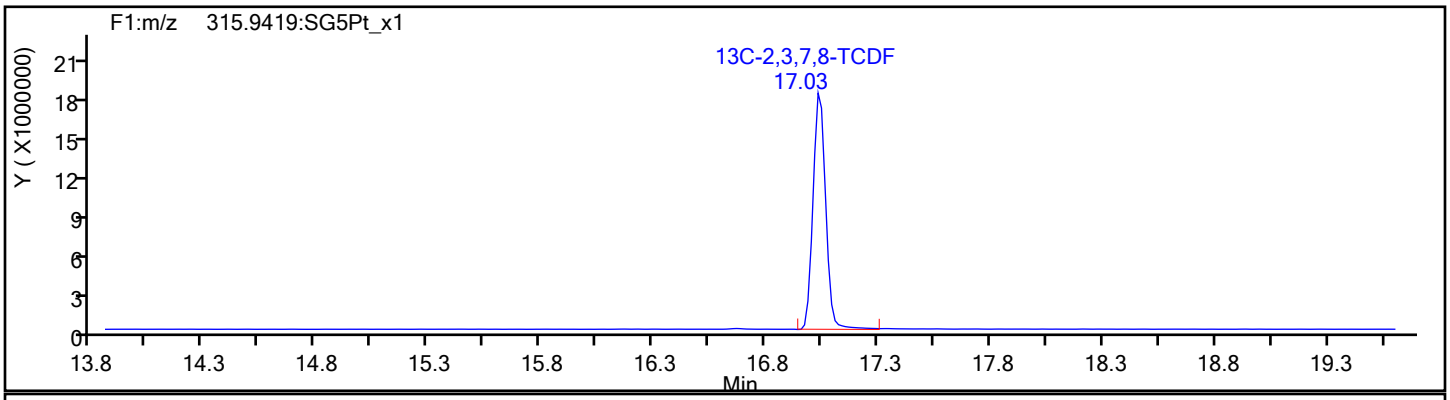

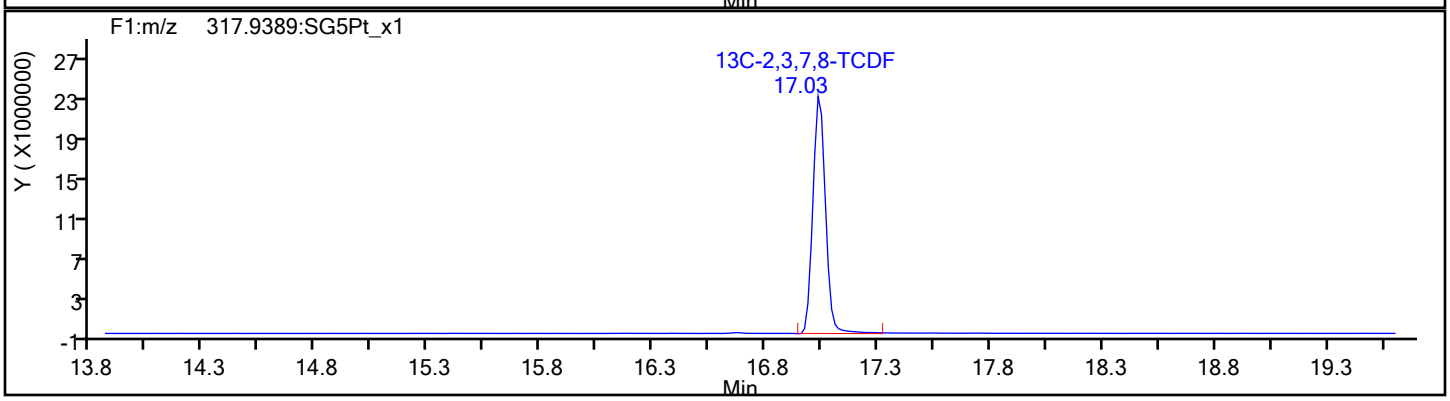

Report Date: 14-Nov-2019 16:54:29 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

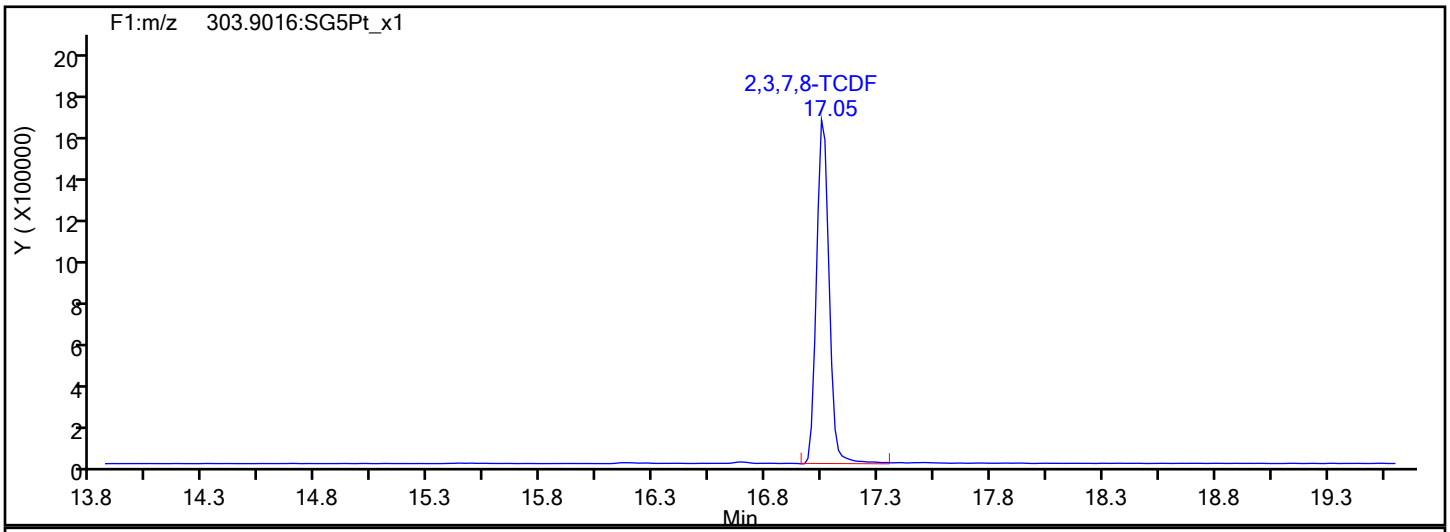

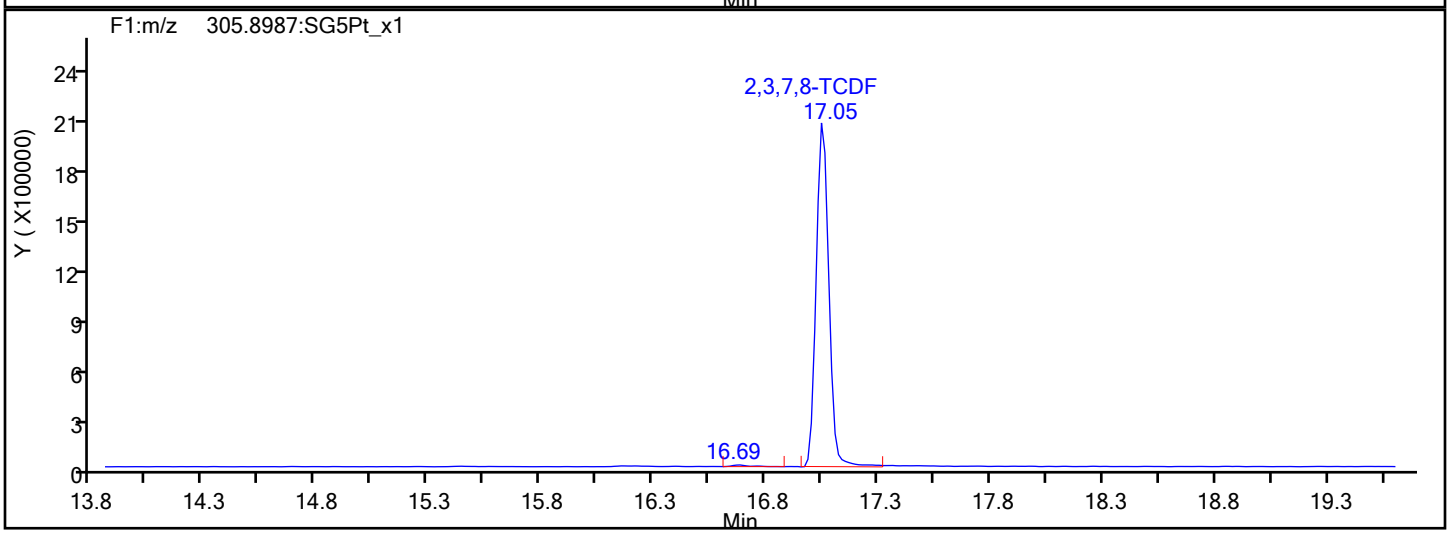

TCDF Interference Mass

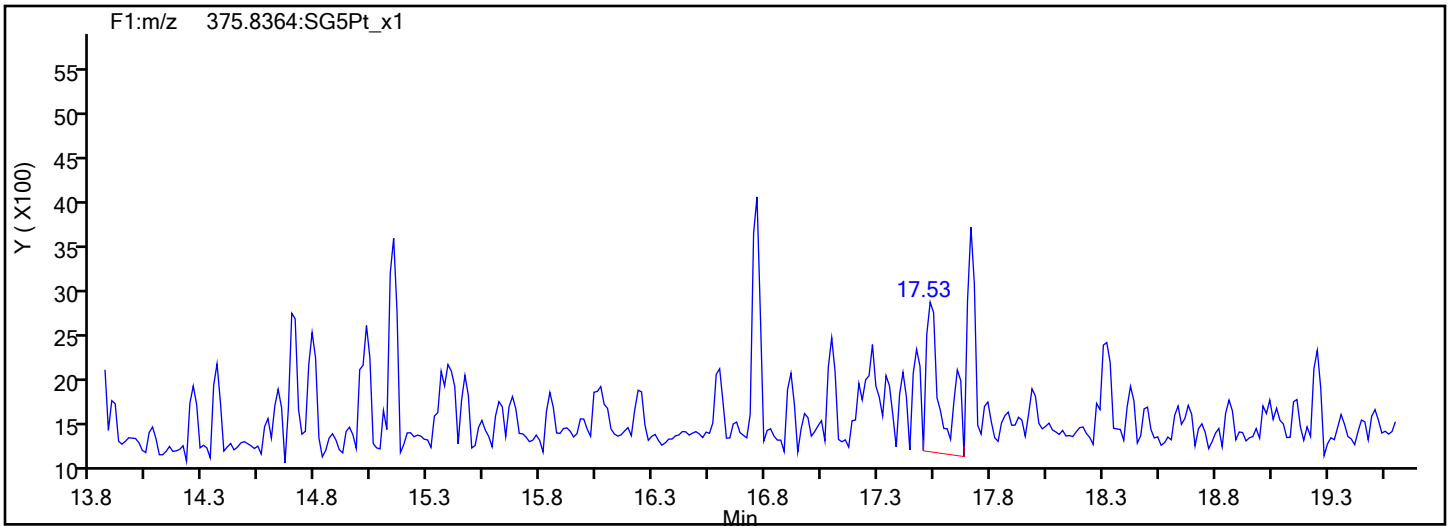

Report Date: 14-Nov-2019 16:54:29 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

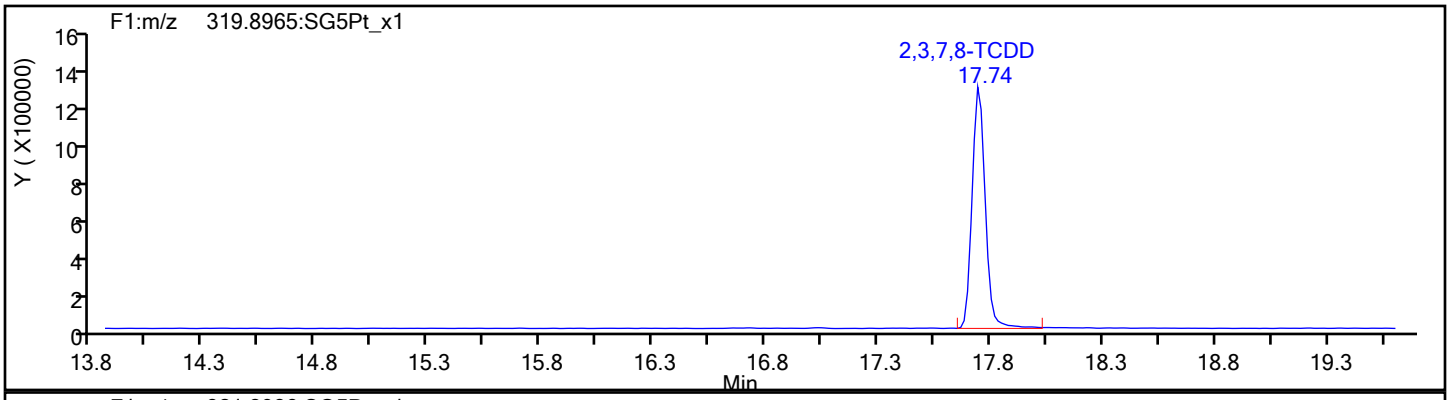

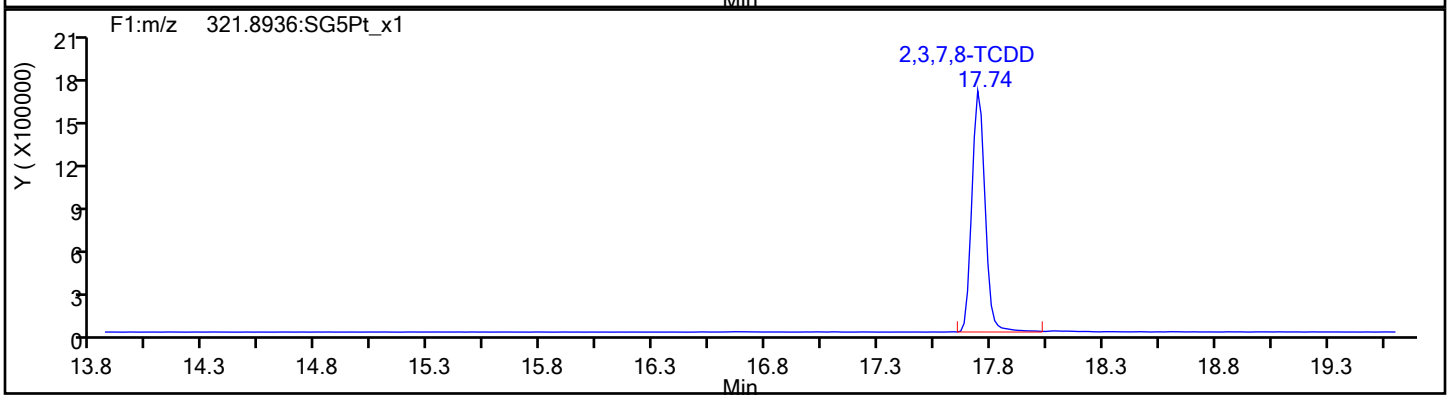

TCDD Standards

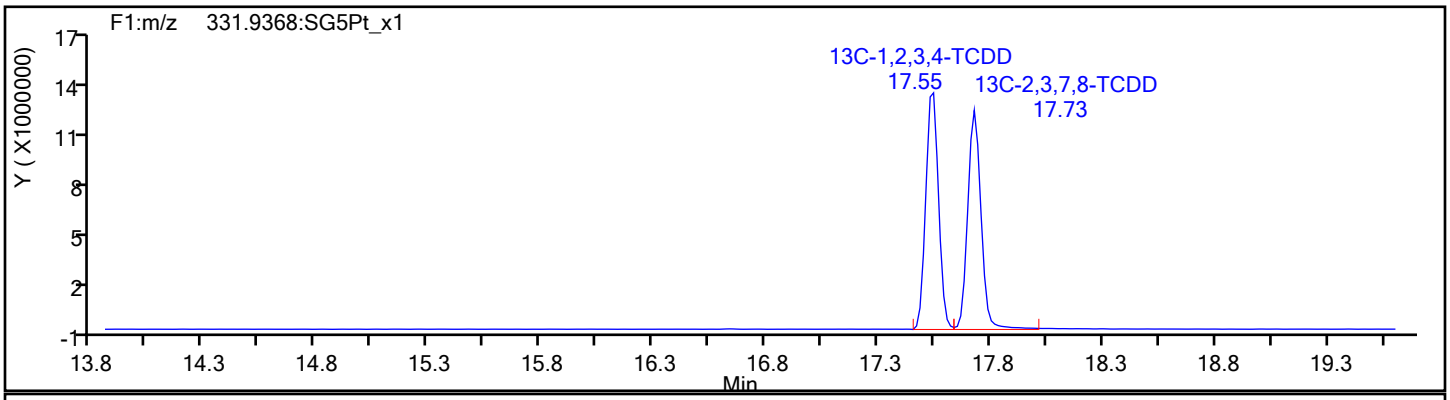

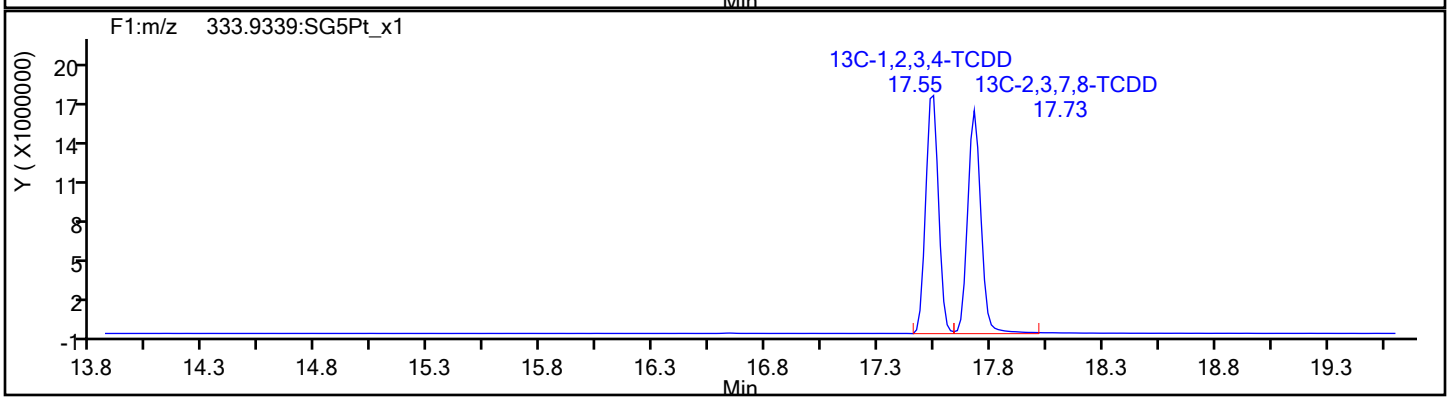

Report Date: 14-Nov-2019 16:54:29 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

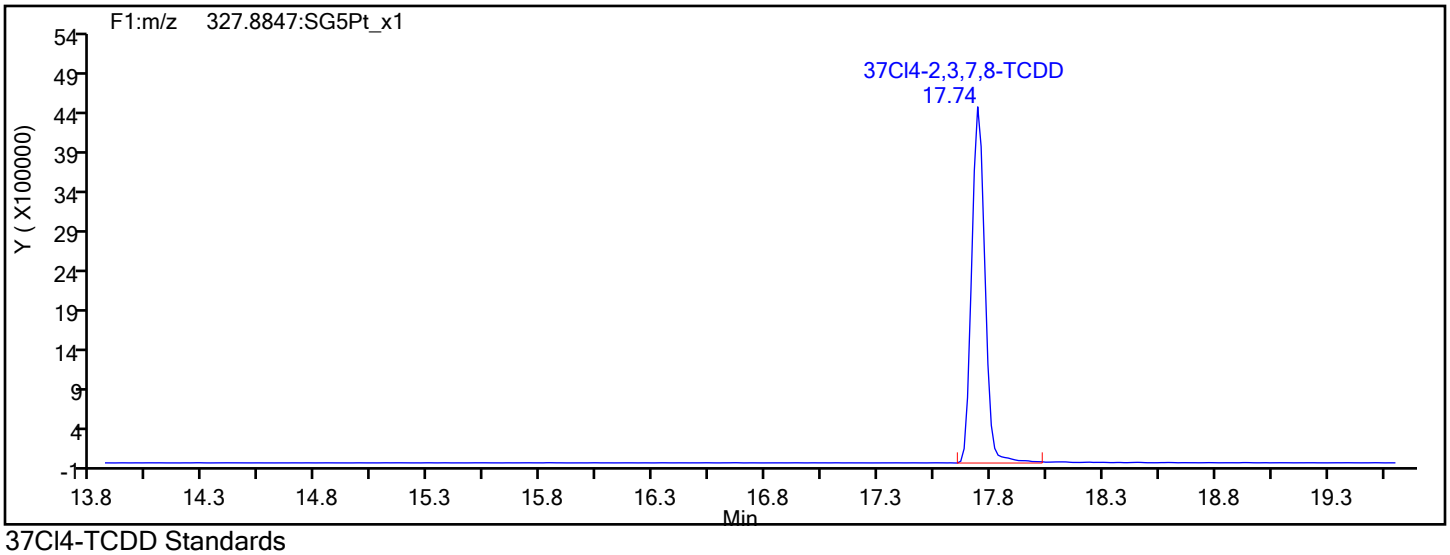

37Cl4-TCDD Standards

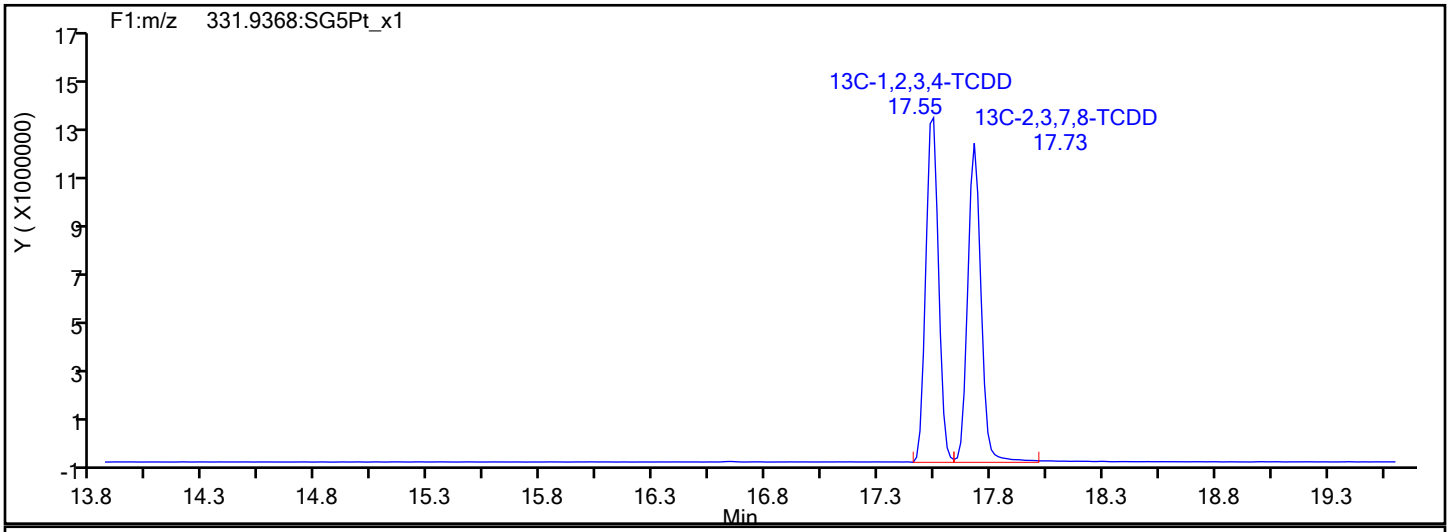

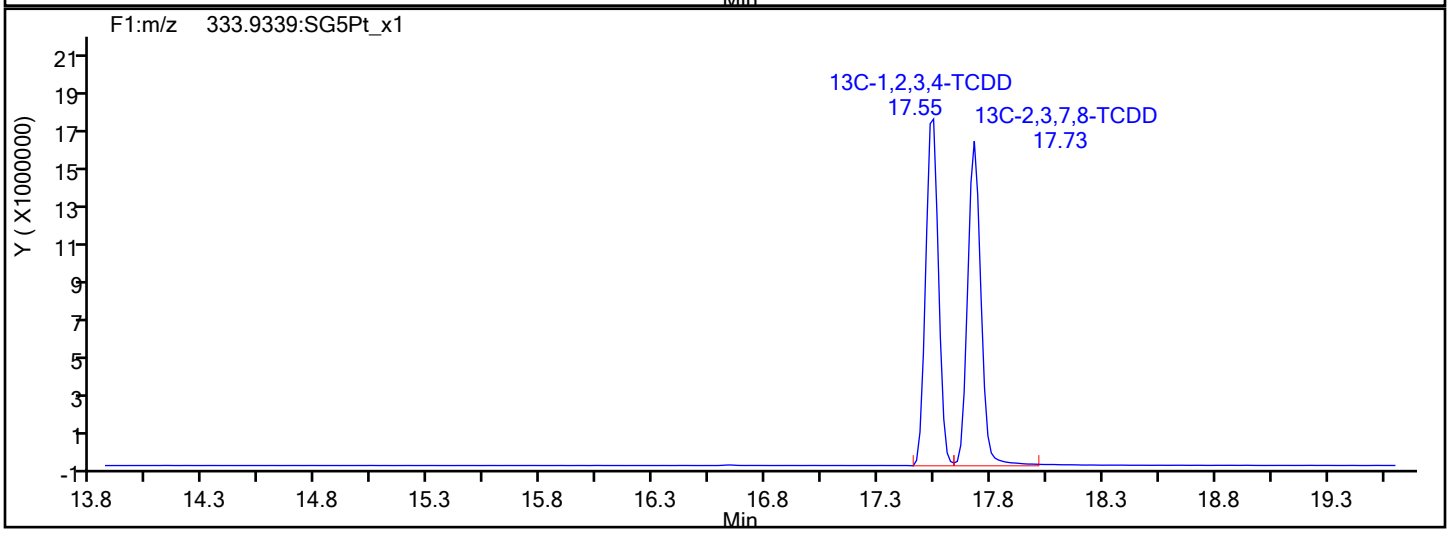

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

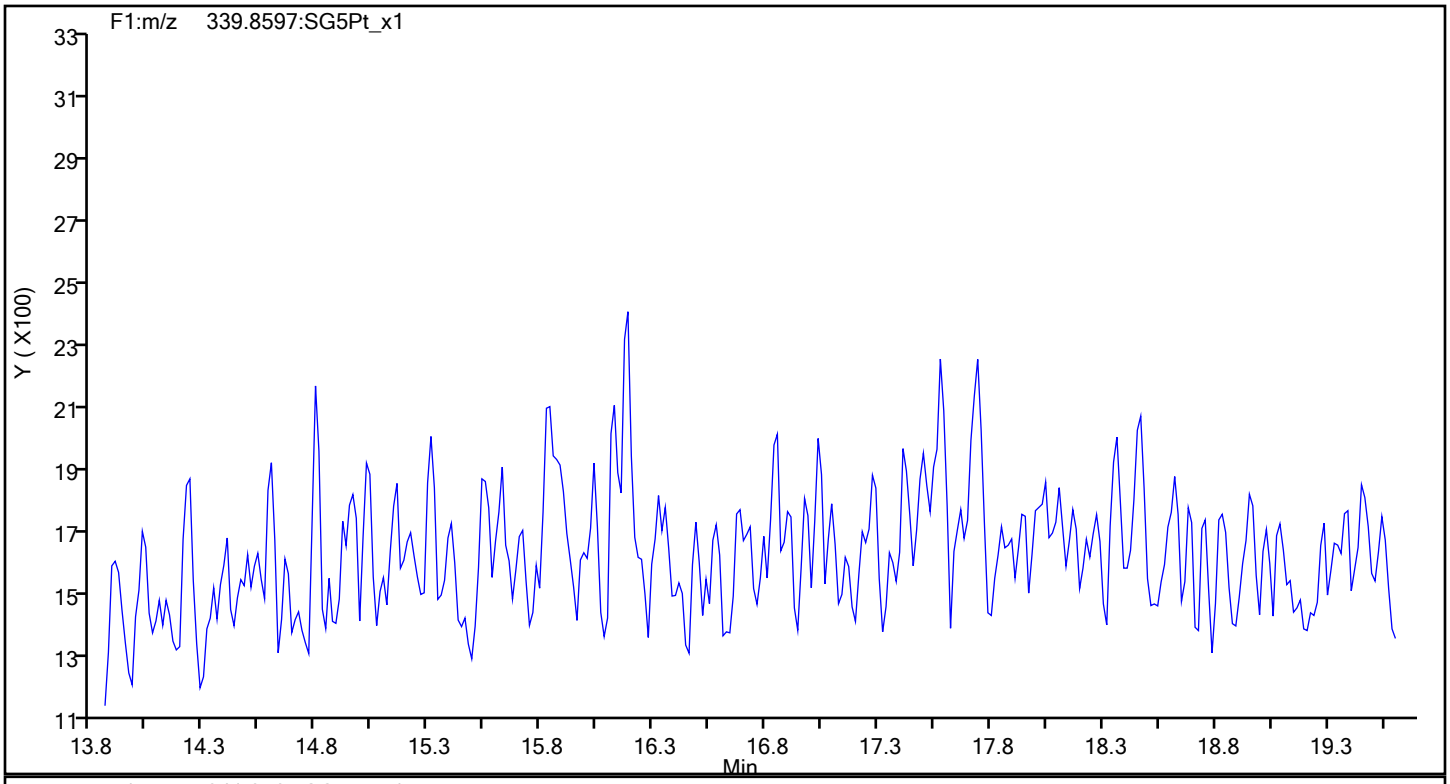

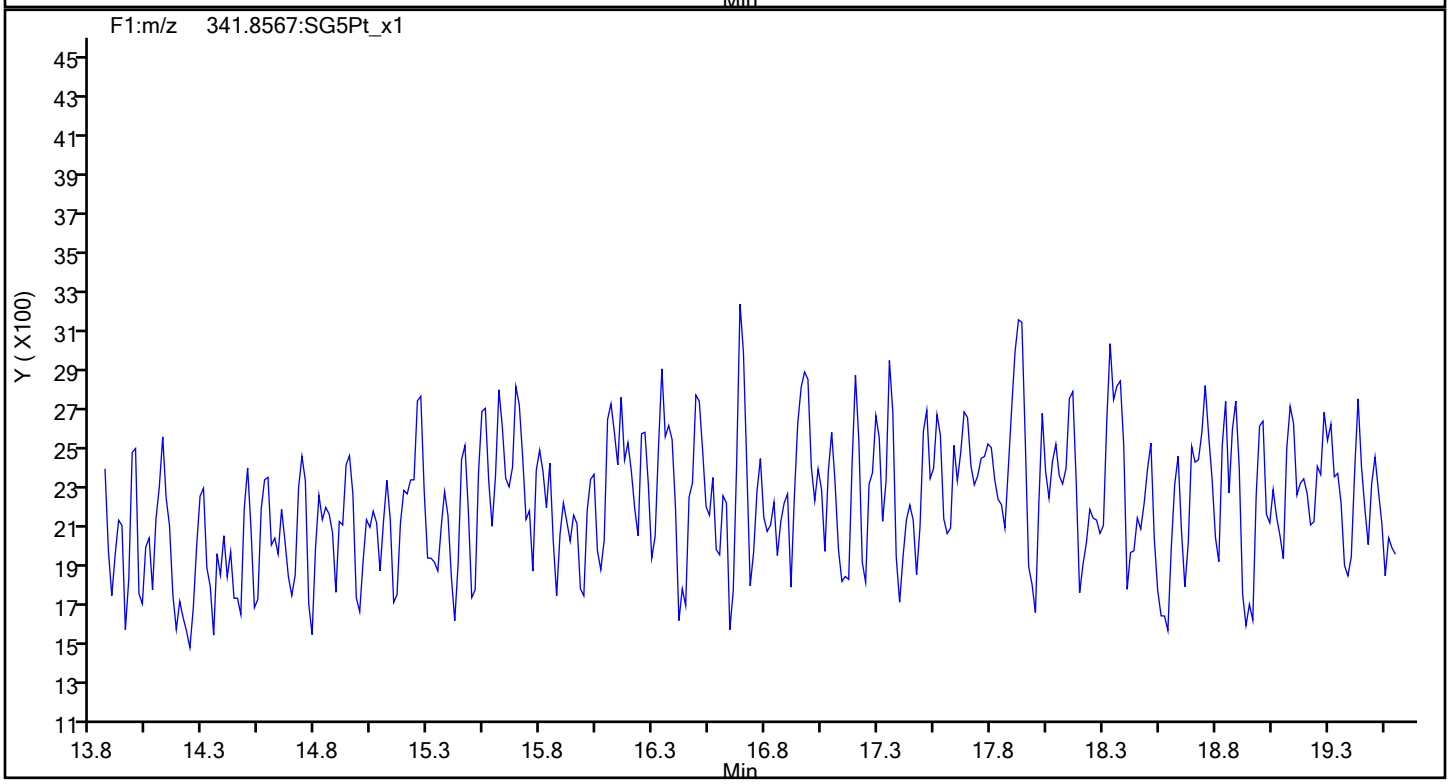

Report Date: 14-Nov-2019 16:54:29 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_5.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

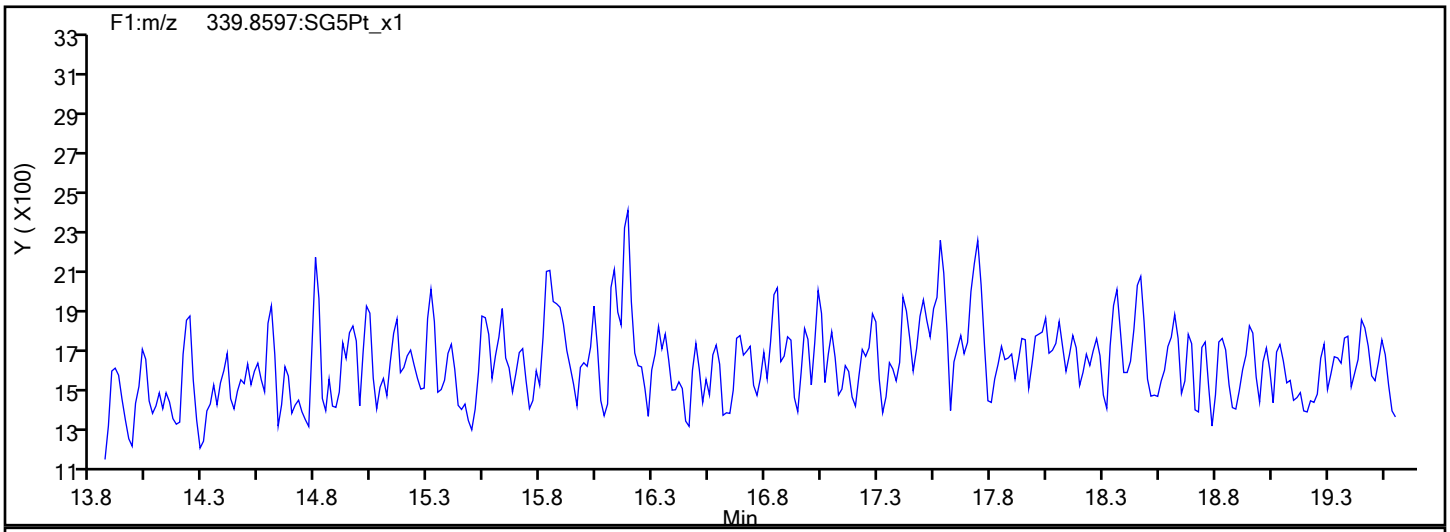

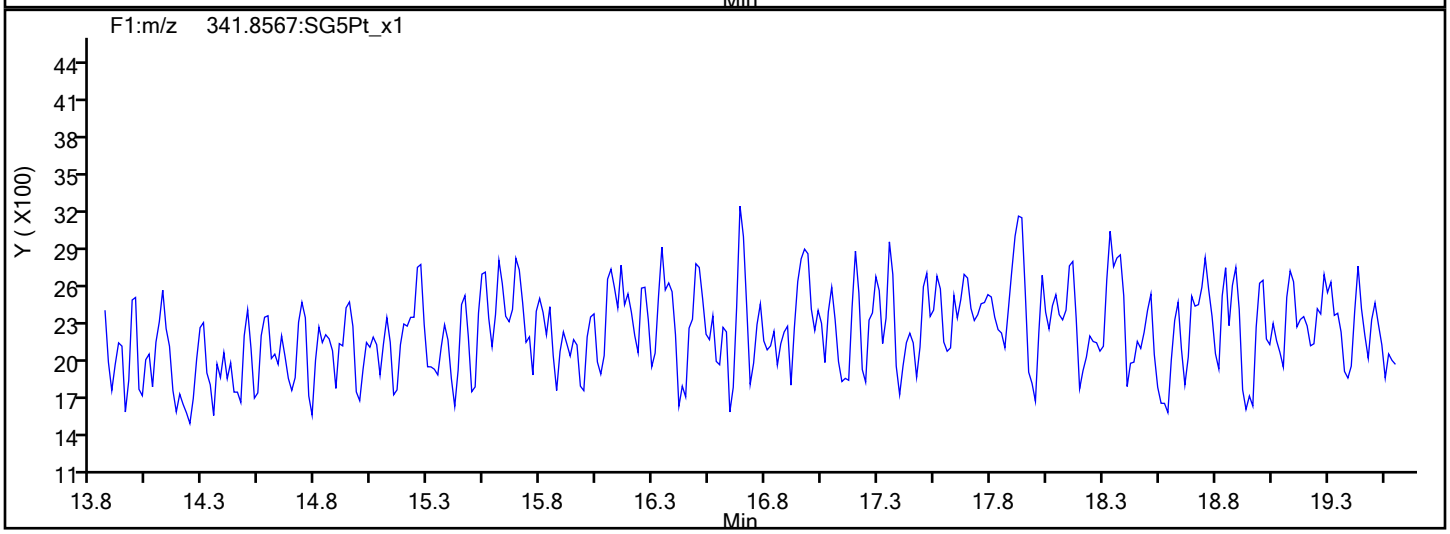

F1 PeCDFs Interference Mass

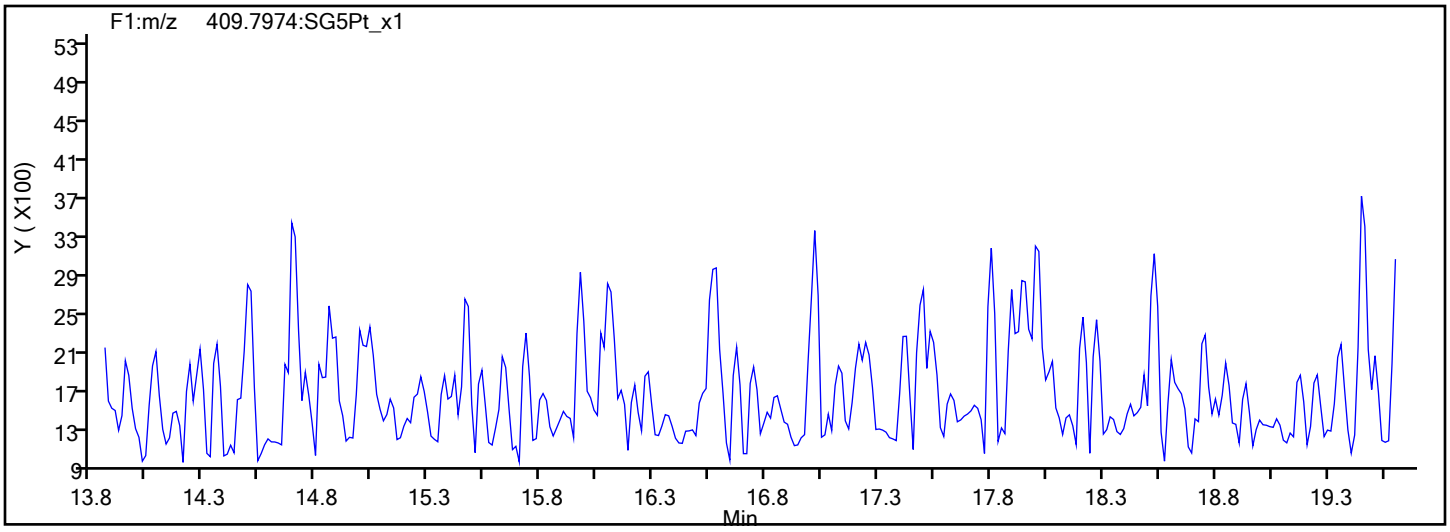

Report Date: 14-Nov-2019 16:54:29 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_5.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

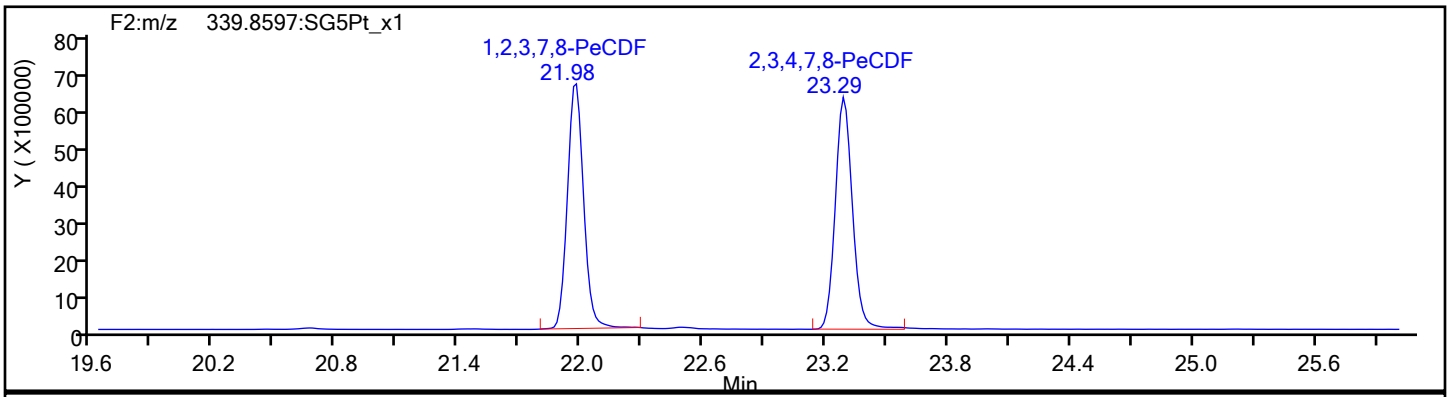

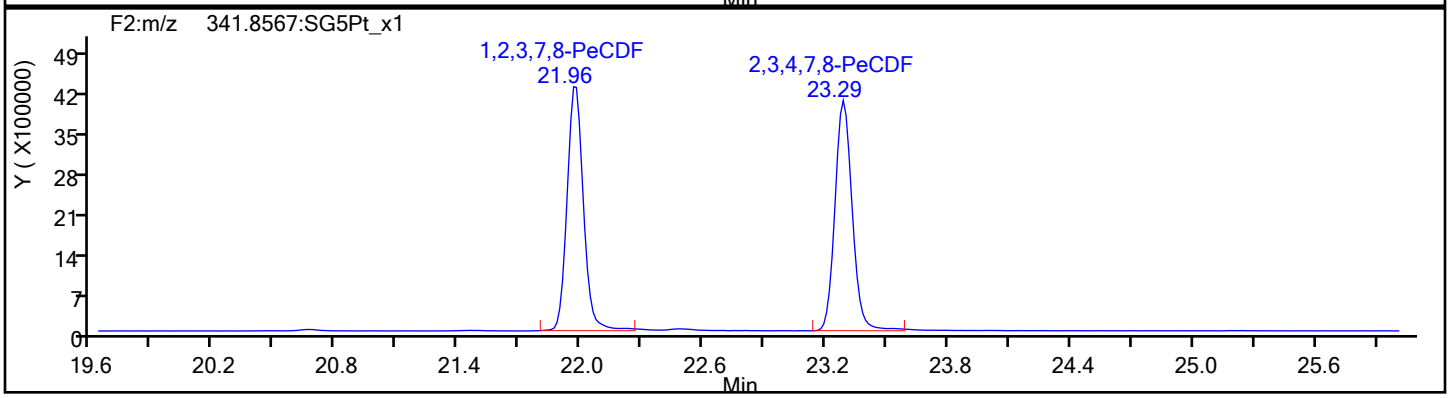

PeCDF Standards

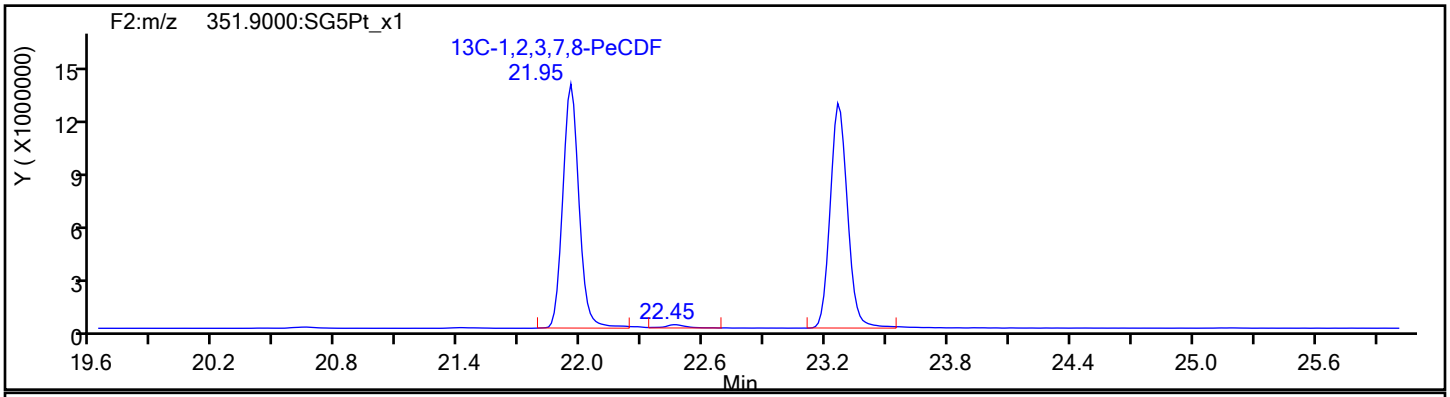

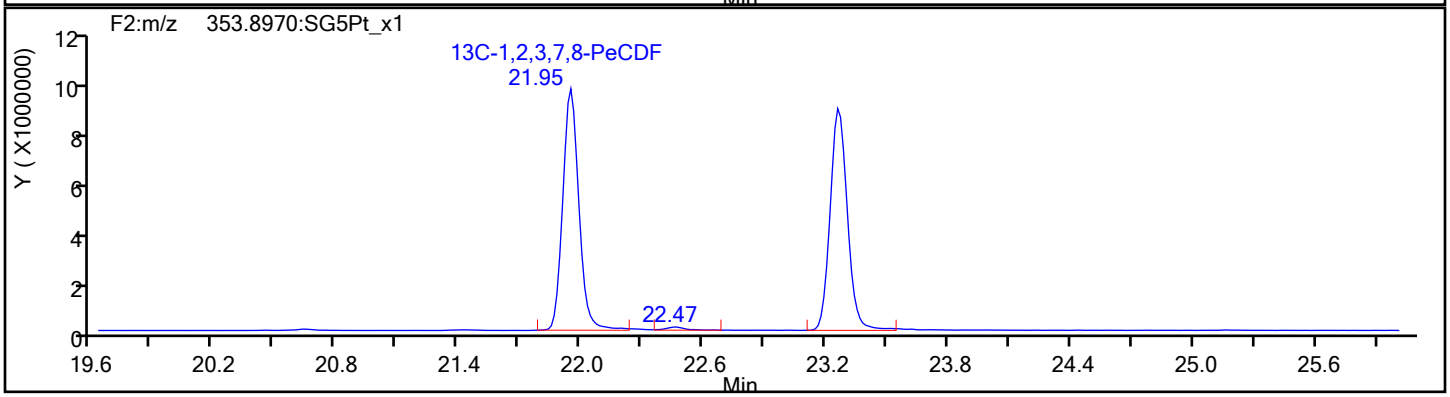

Report Date: 14-Nov-2019 16:54:30 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

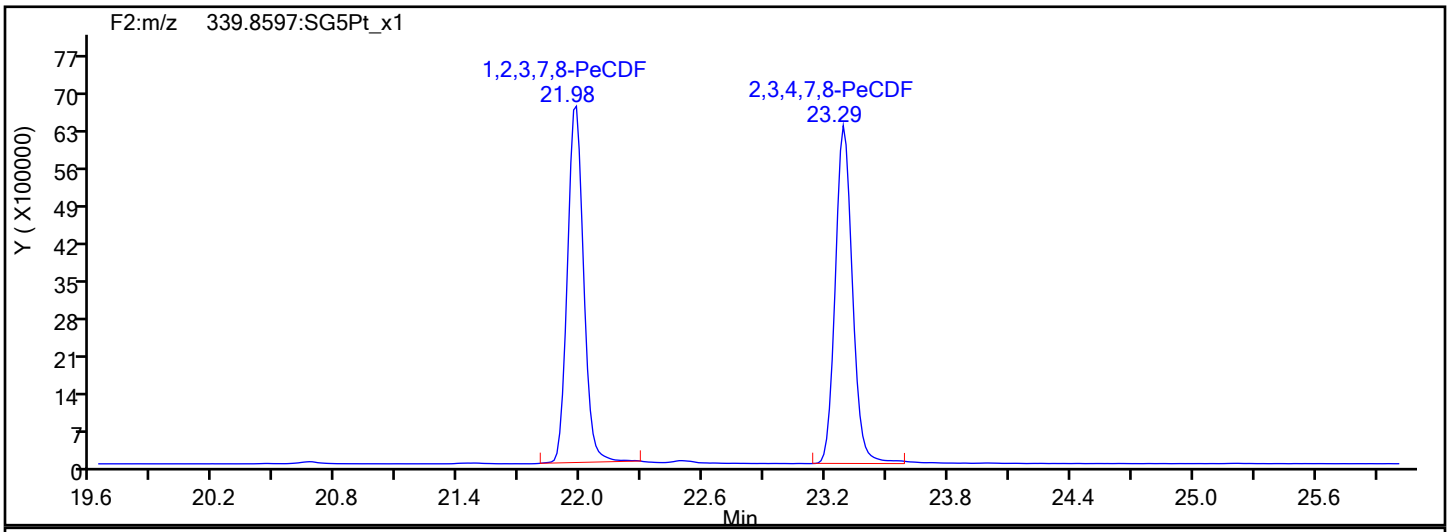

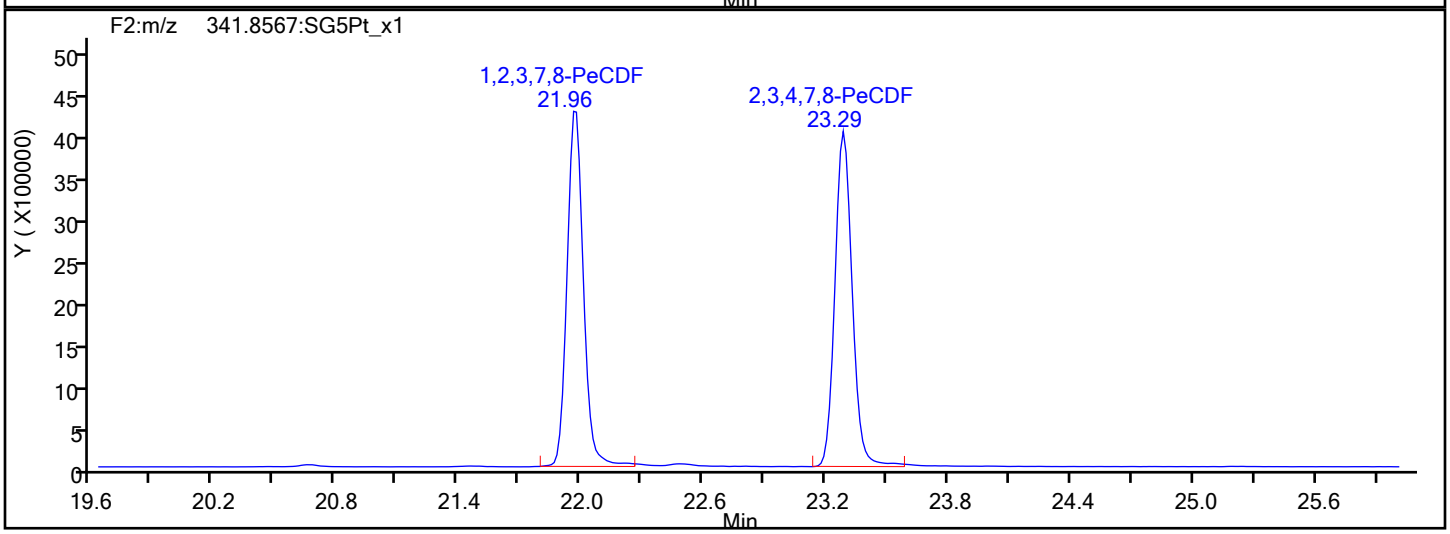

PeCDF Interference Mass

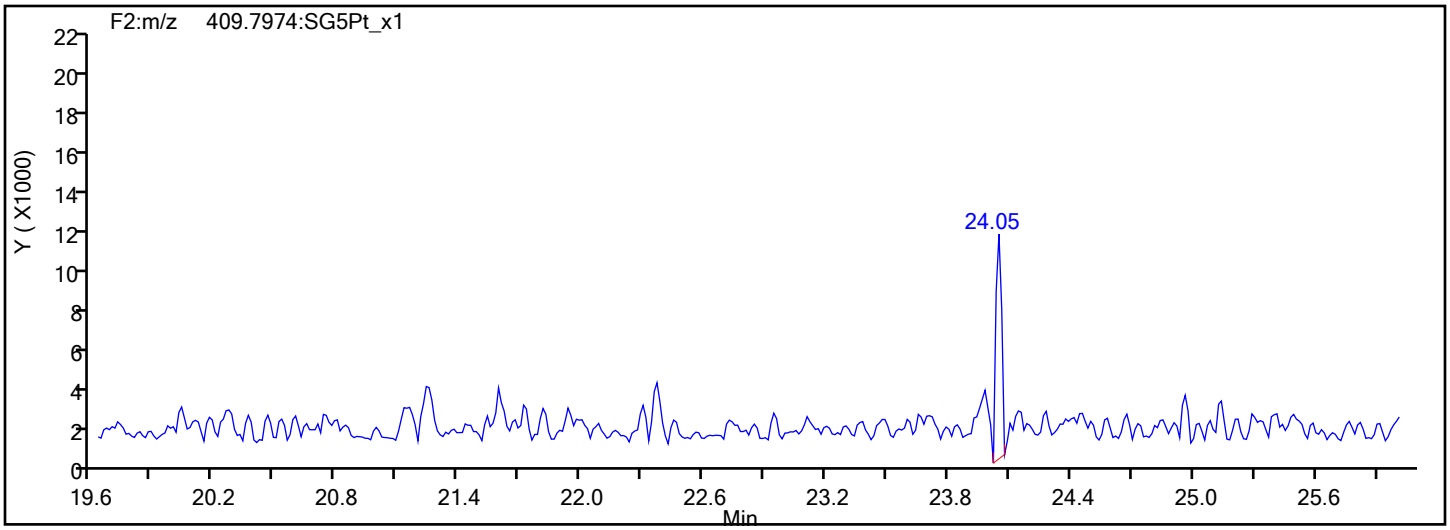

Report Date: 14-Nov-2019 16:54:30 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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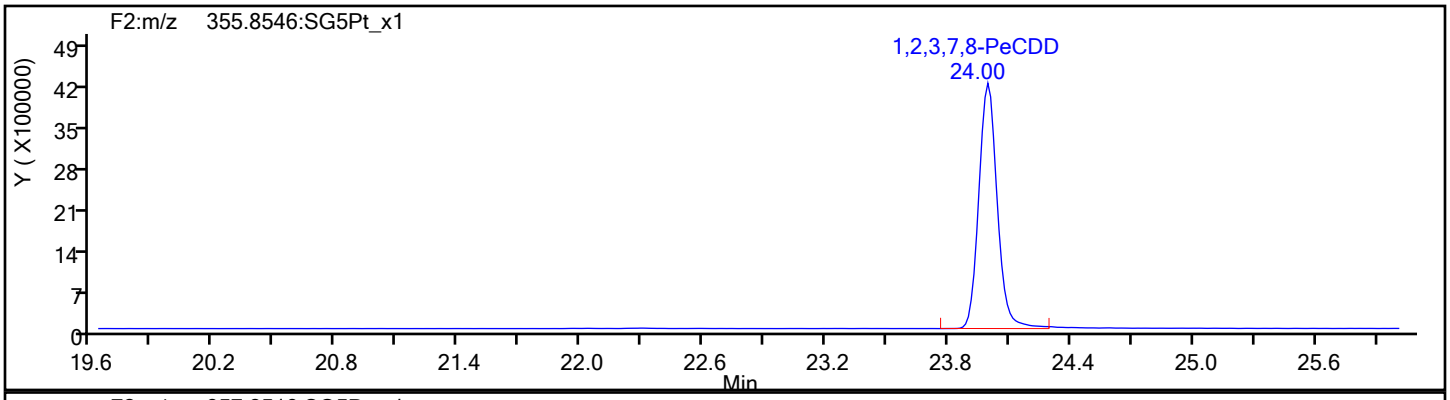

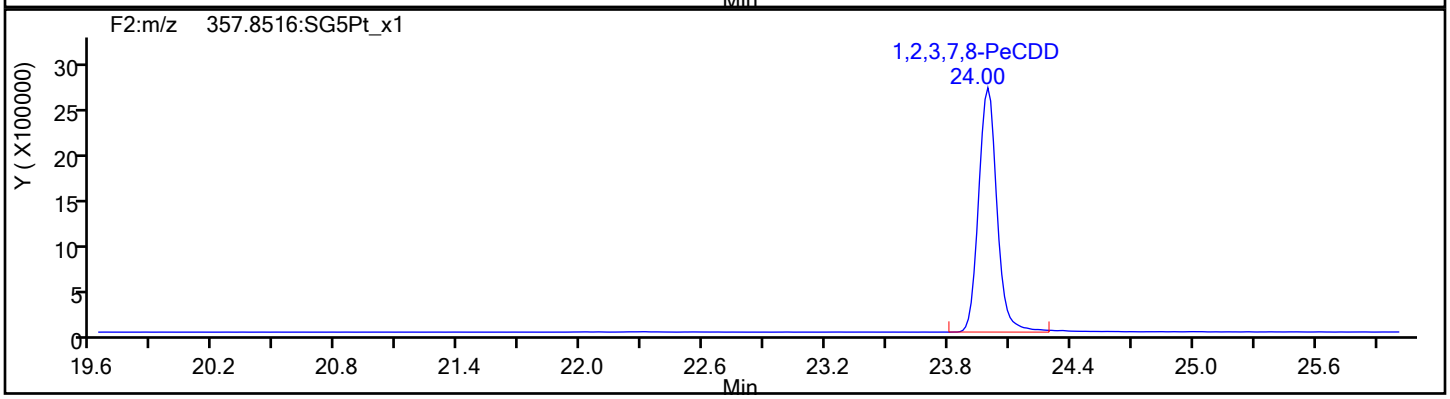

PeCDD Standards

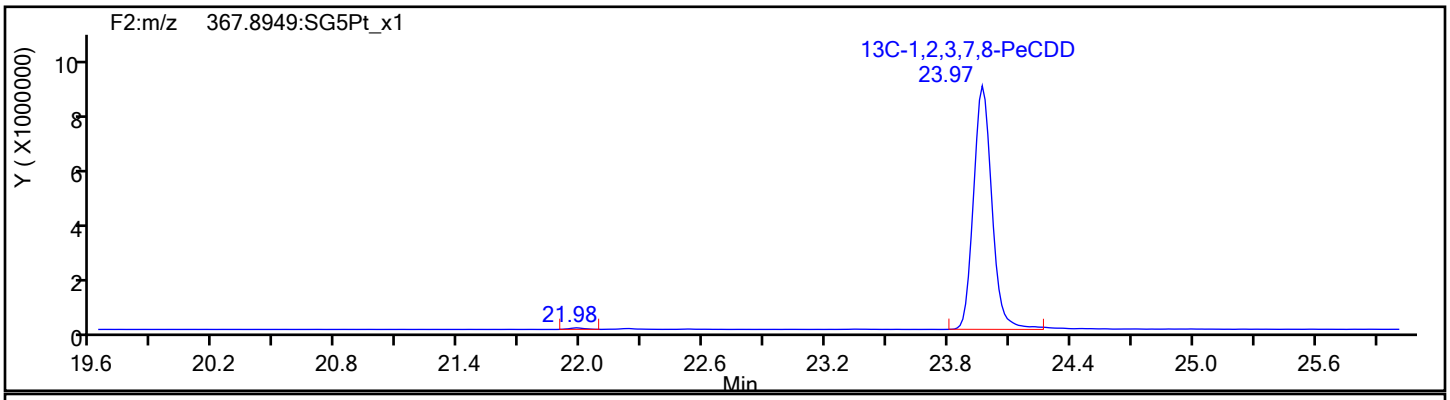

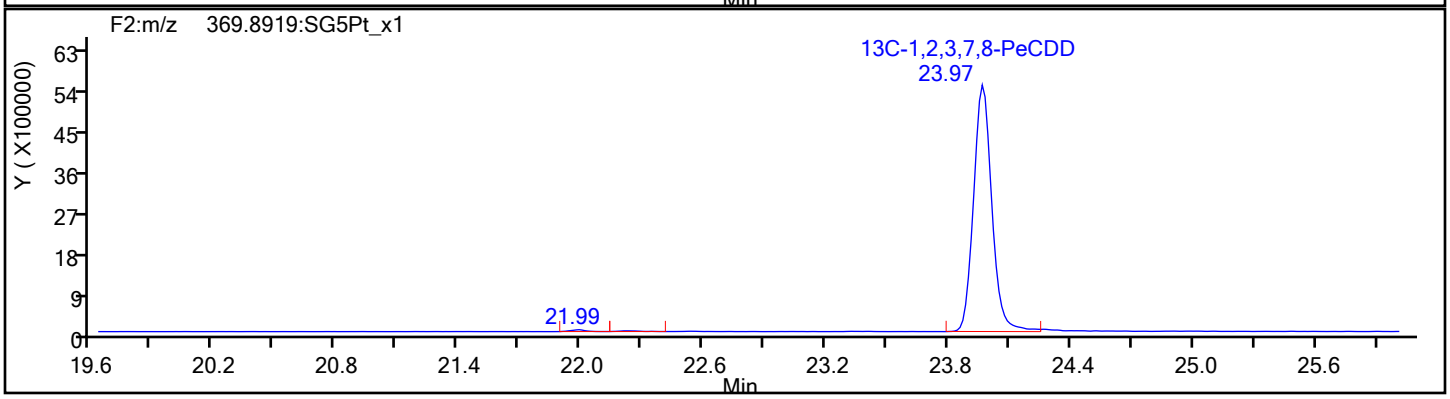

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Eurofins TestAmerica, Sacramento

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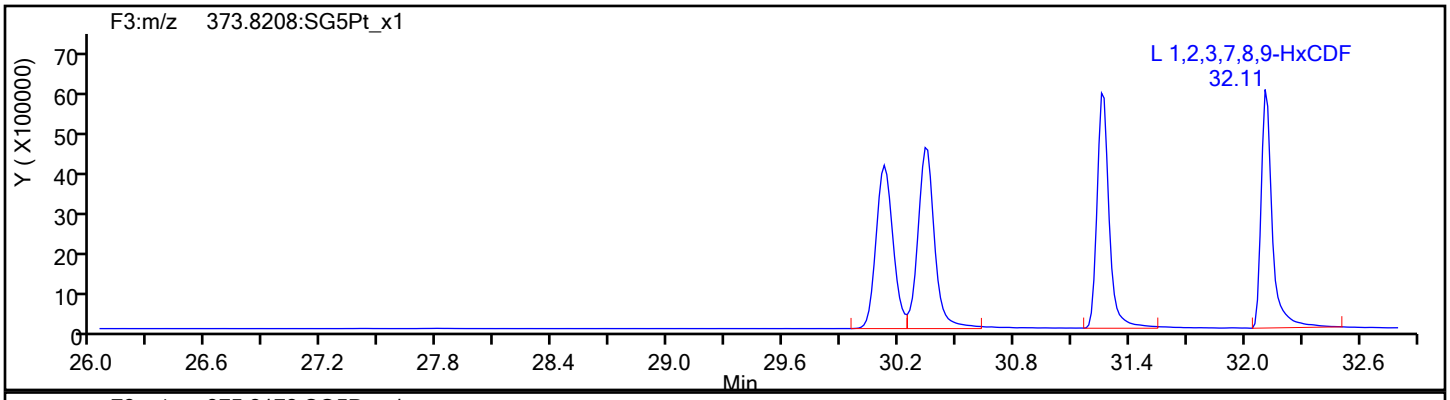

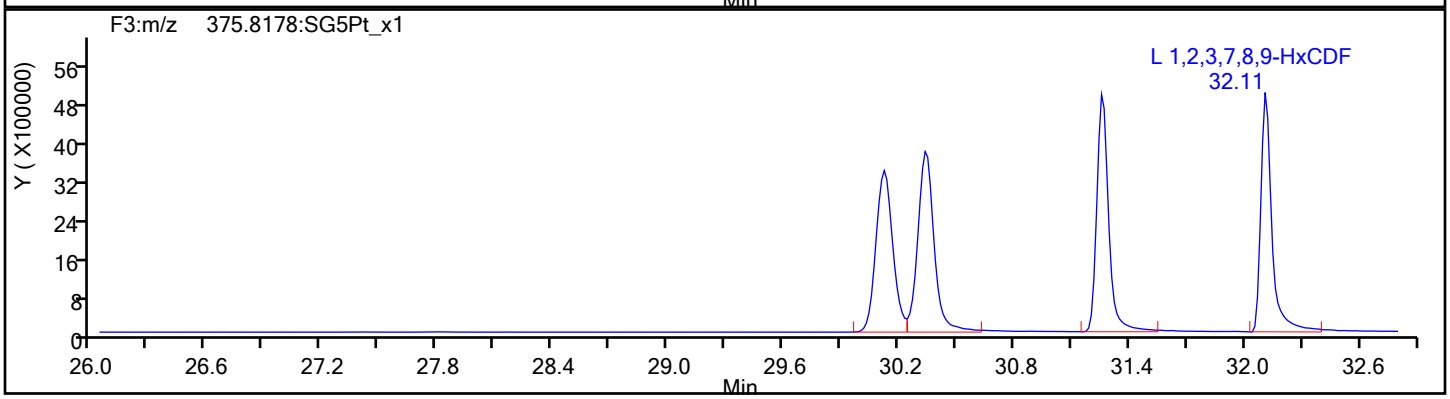

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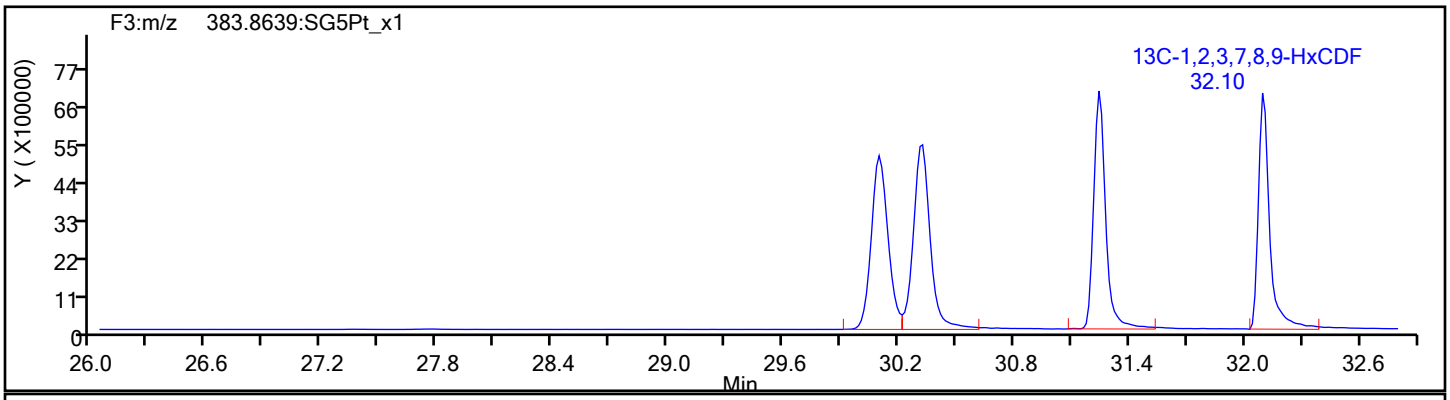

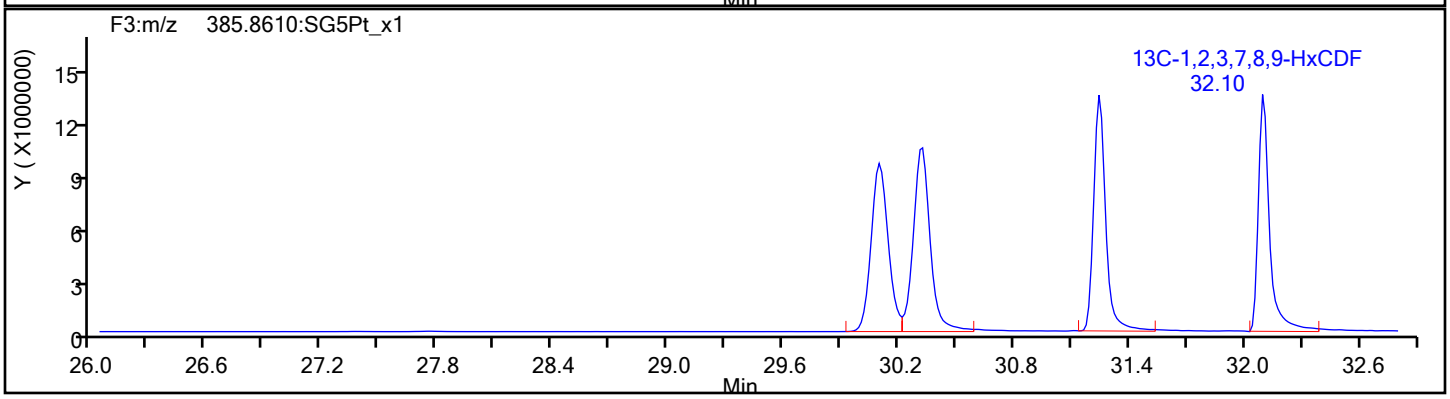

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Eurofins TestAmerica, Sacramento

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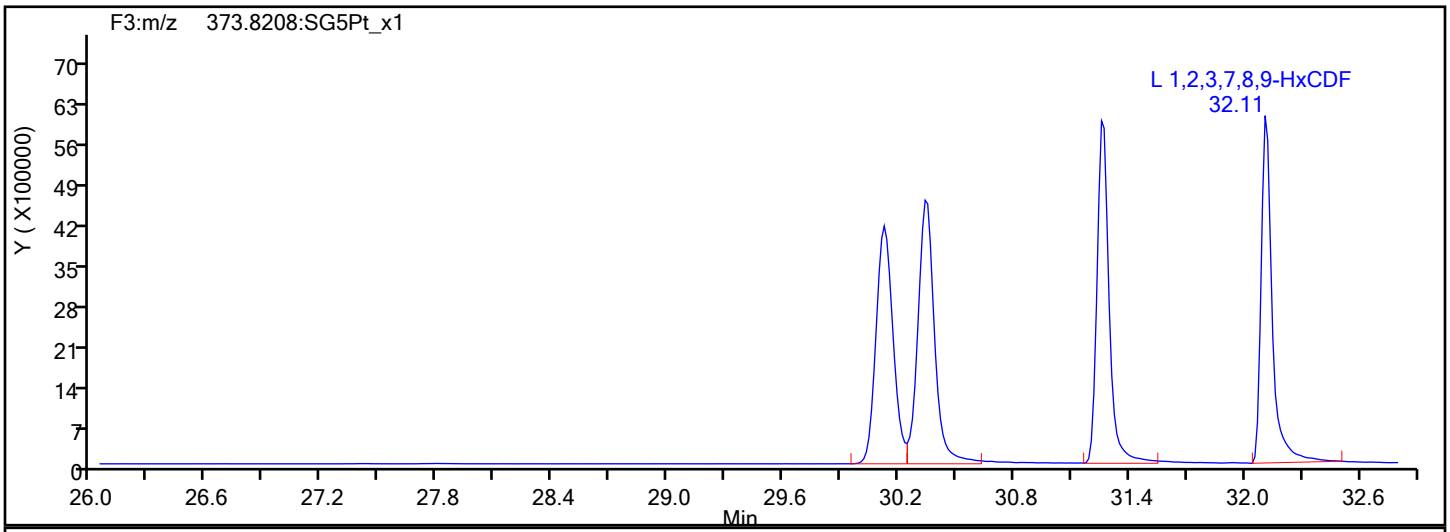

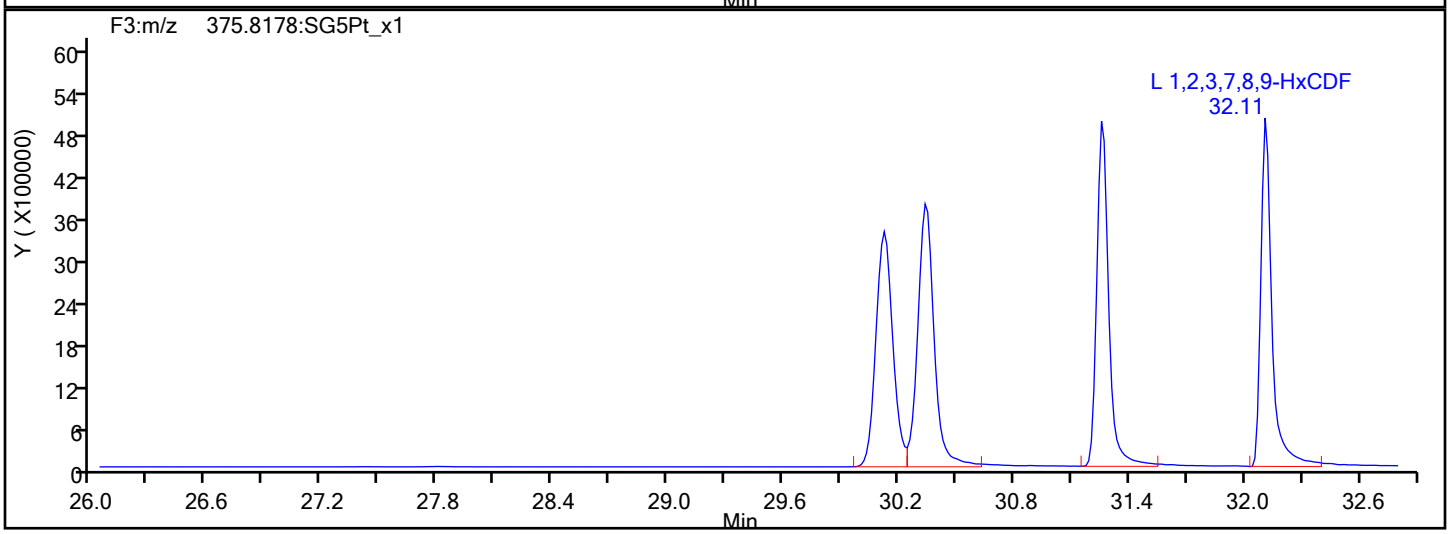

HxCDF Interference Mass

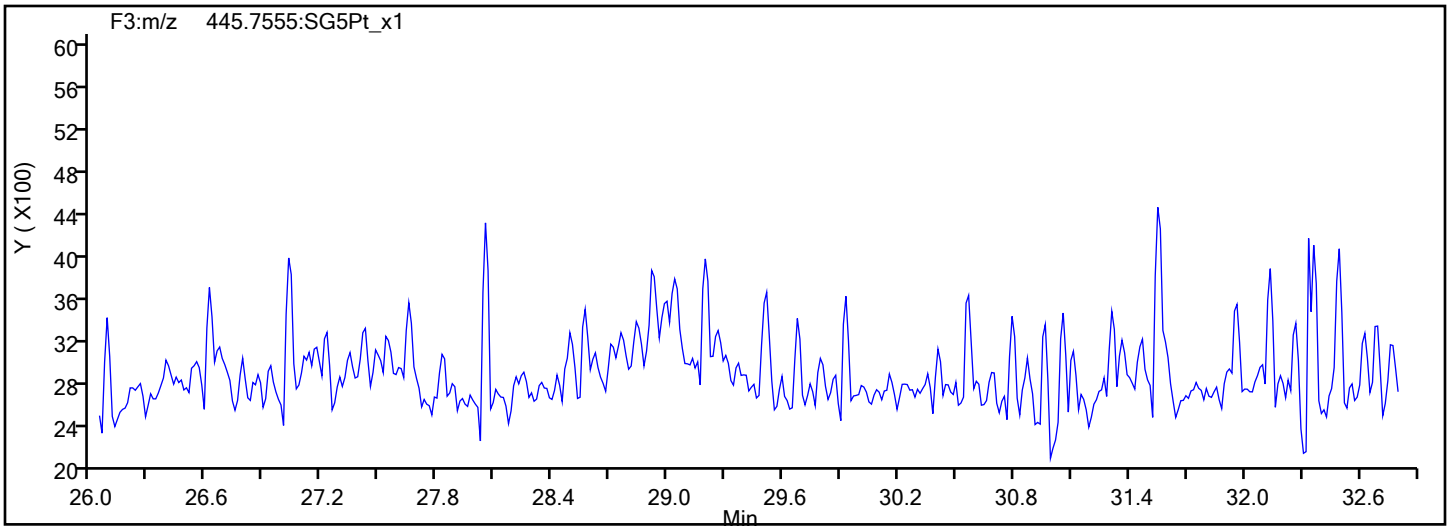

Report Date: 14-Nov-2019 16:54:30 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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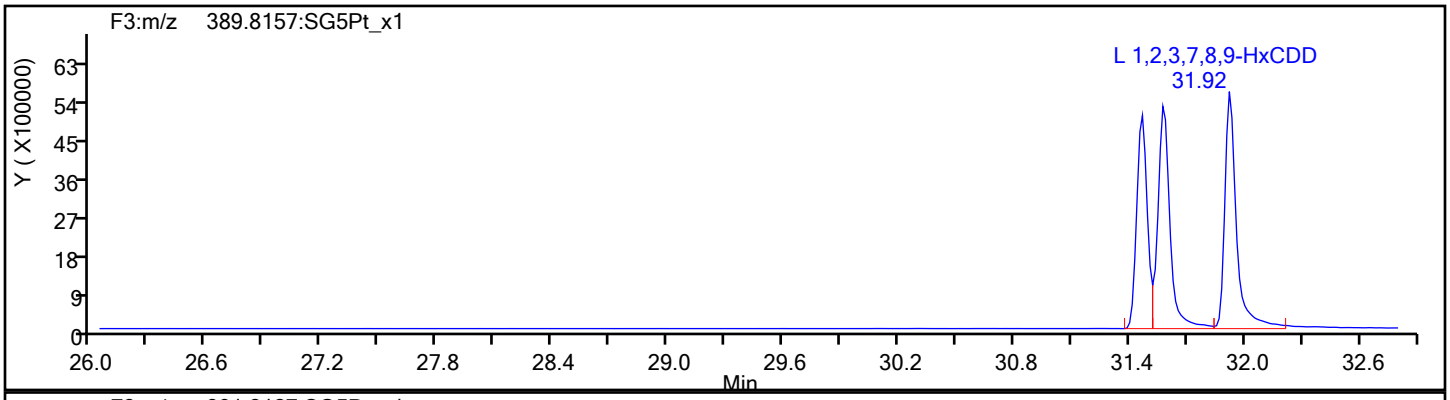

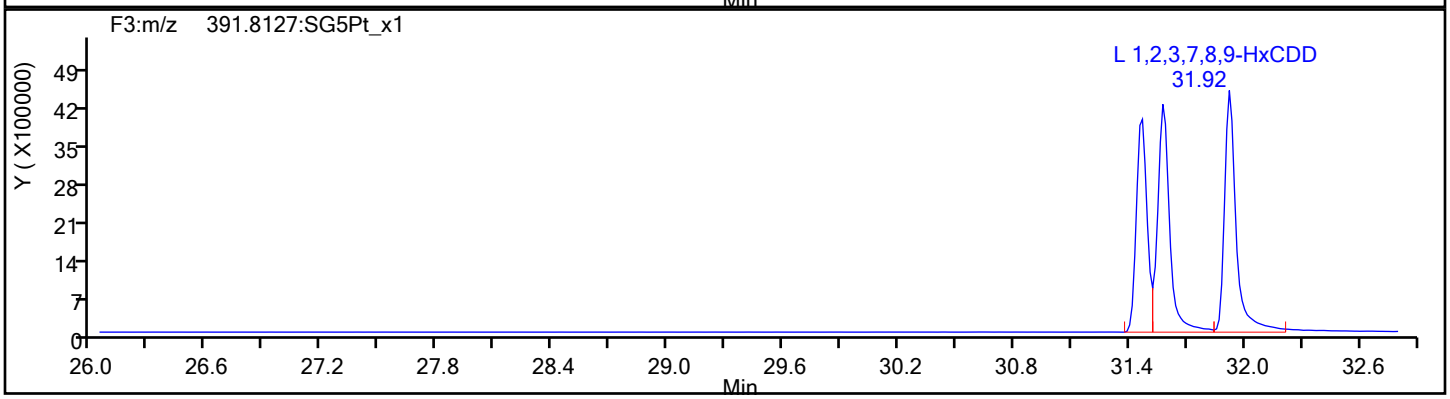

HxCDD Standards

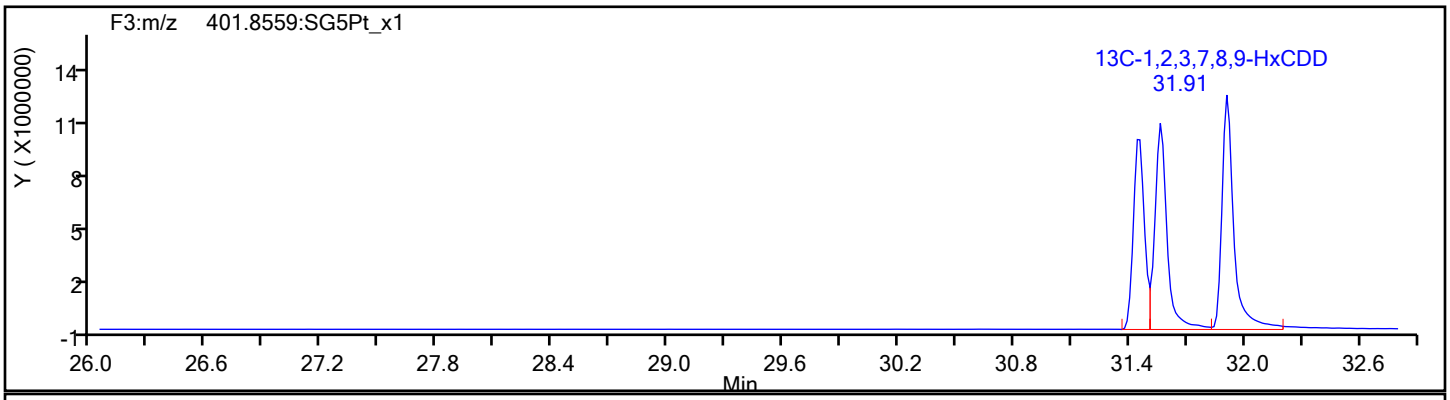

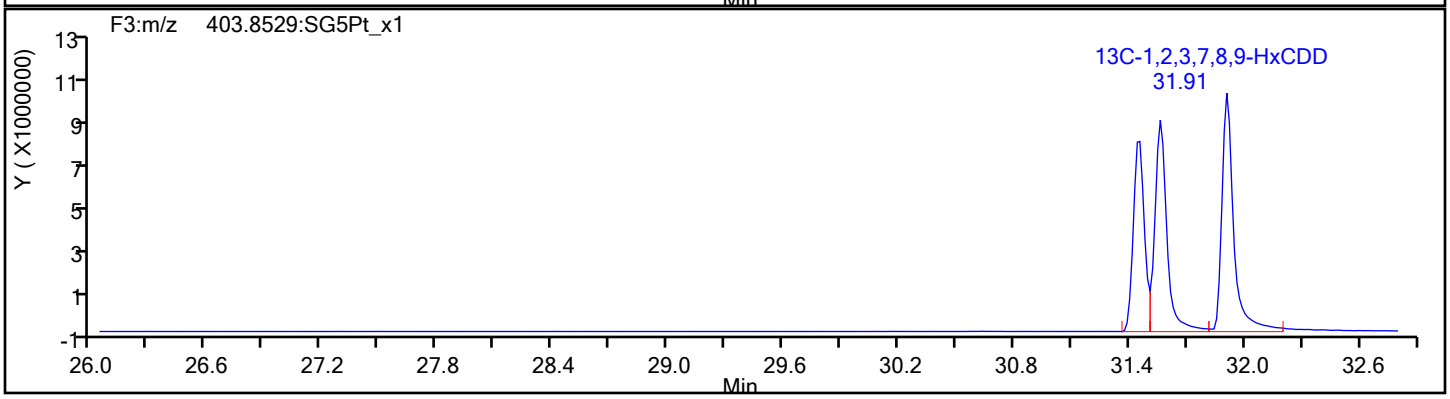

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Eurofins TestAmerica, Sacramento

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HpCDF

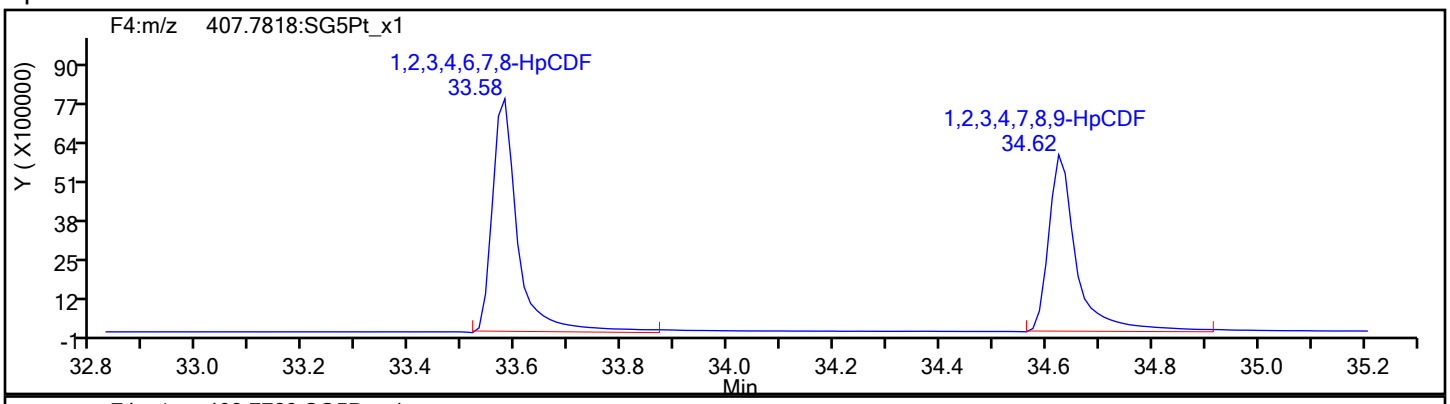

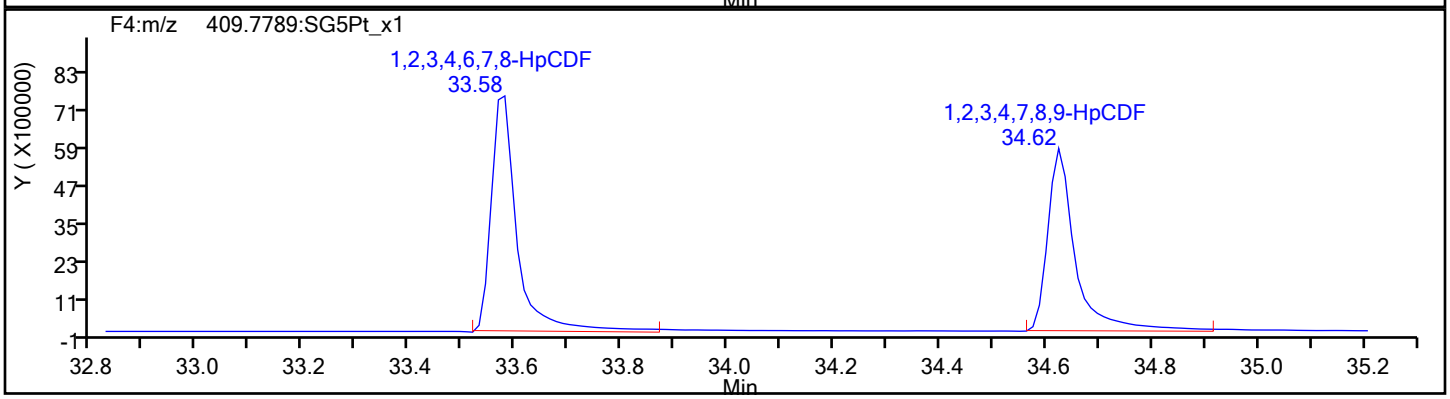

HpCDF Standards

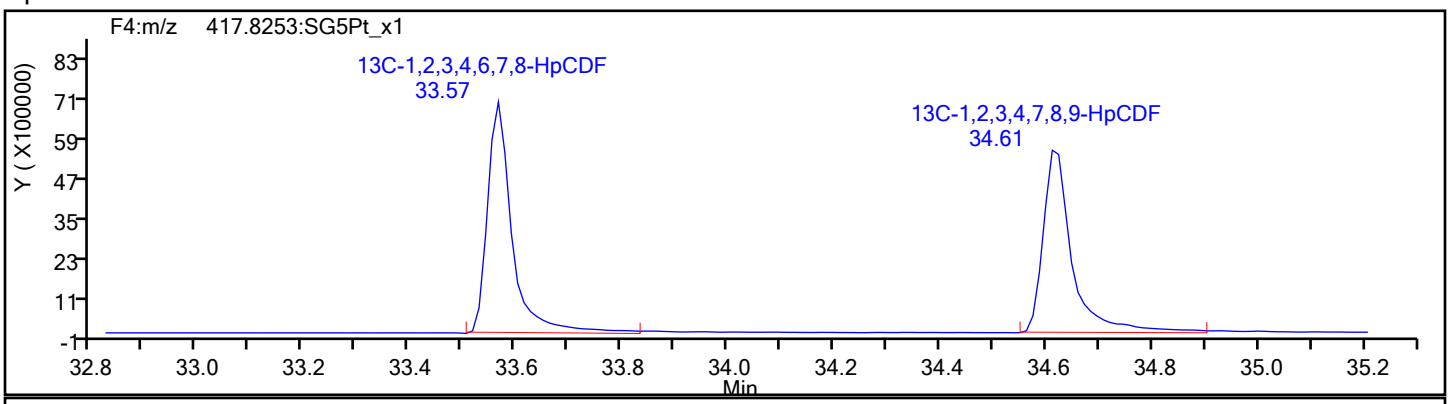

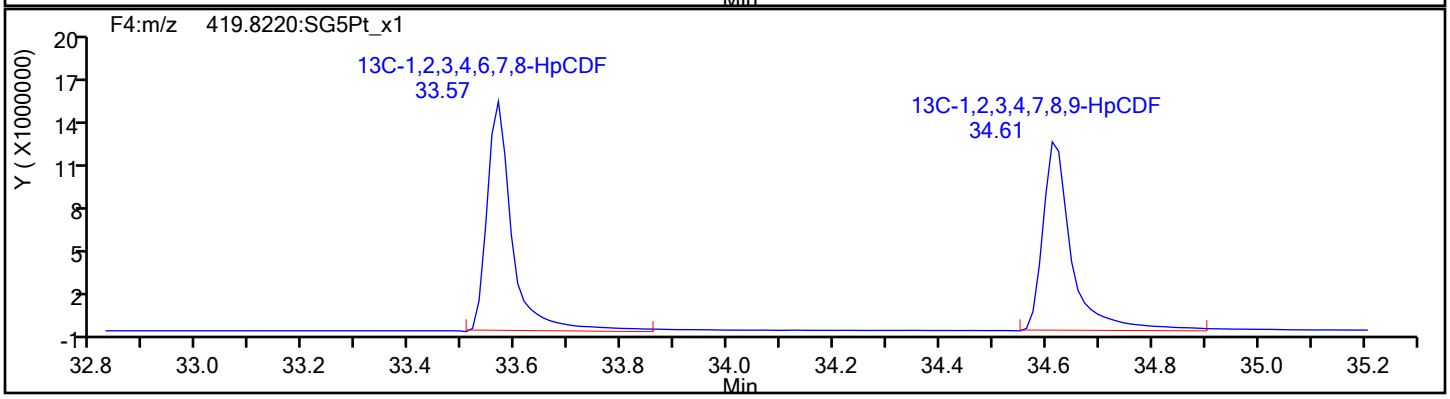

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Eurofins TestAmerica, Sacramento

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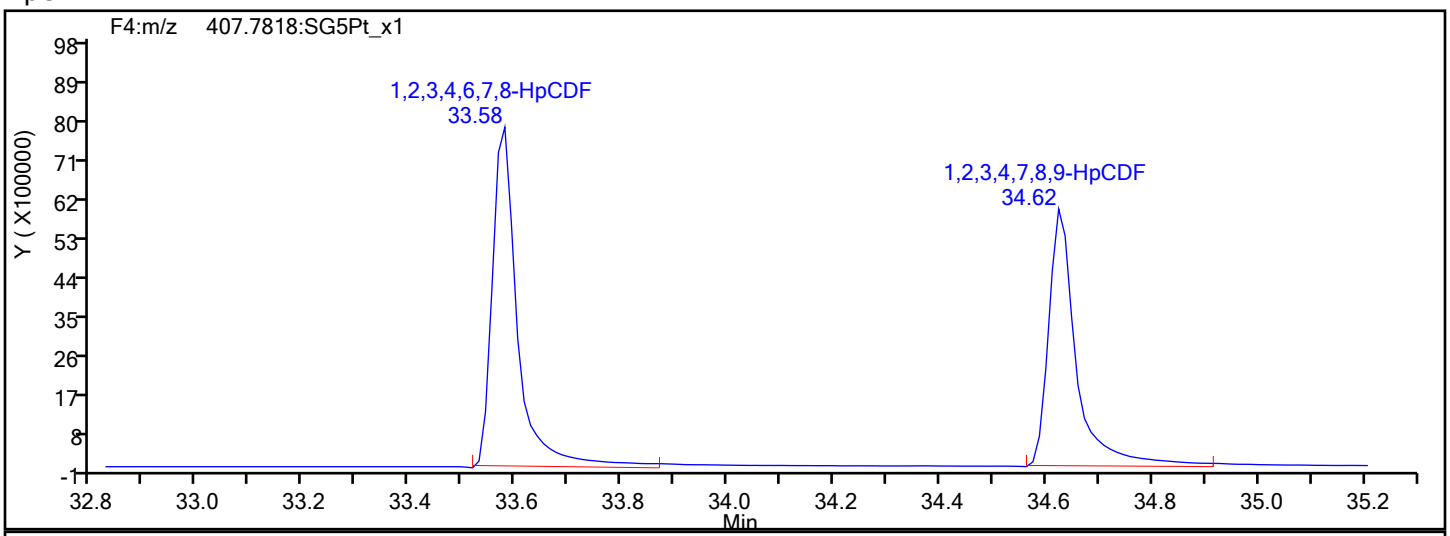

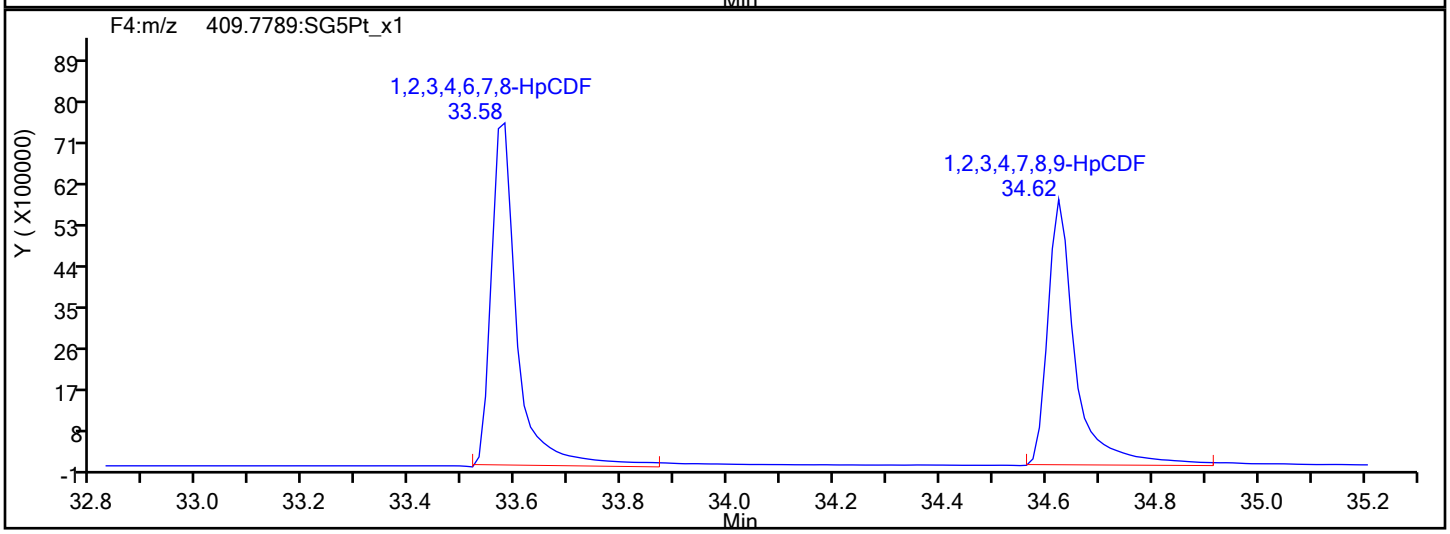

HpCDF Interference Mass

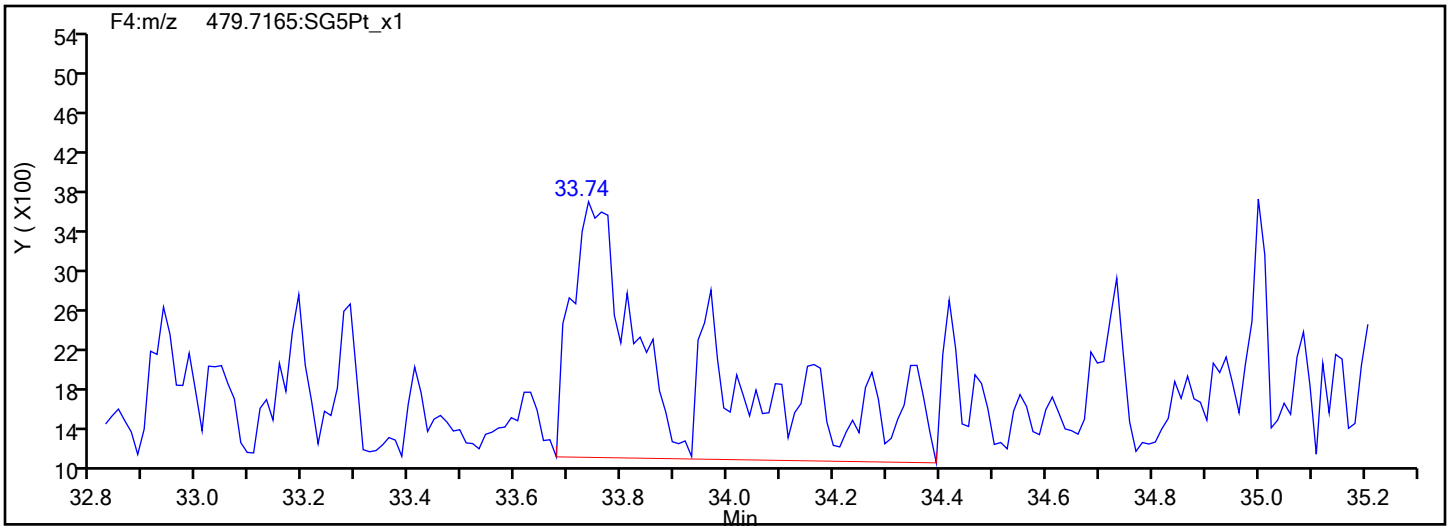

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Eurofins TestAmerica, Sacramento

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HpCDD

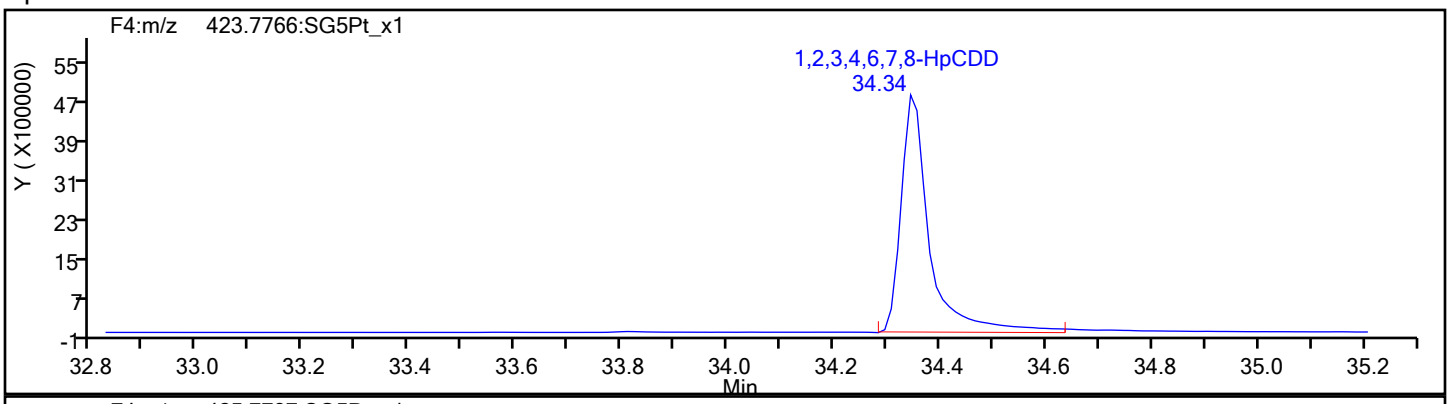

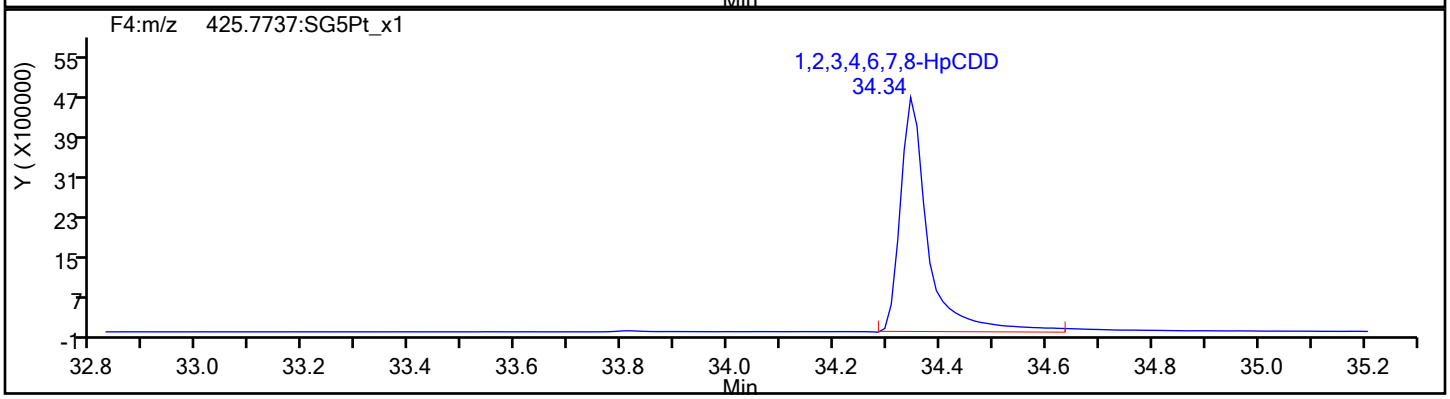

HpCDD Standards

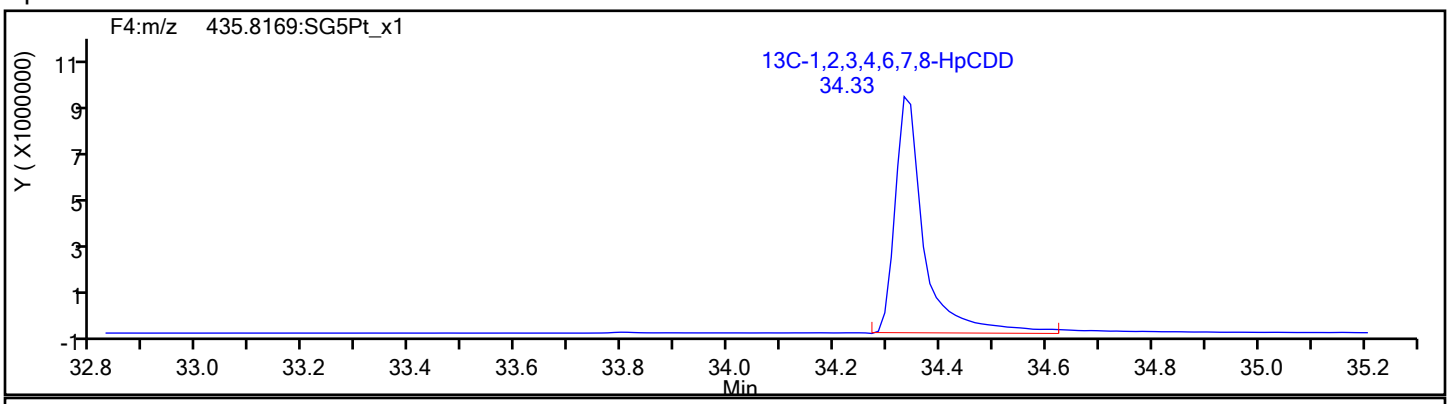

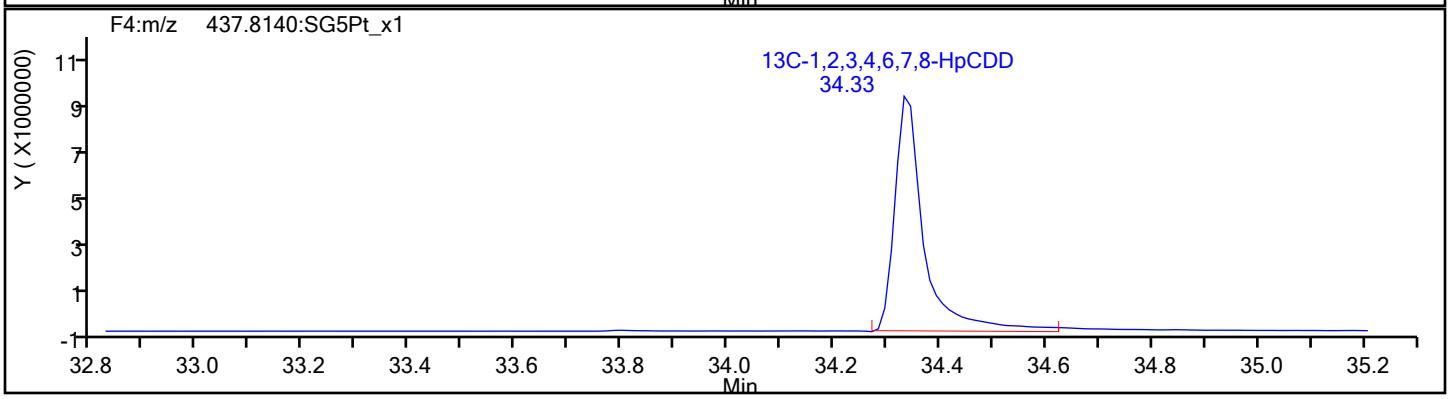

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Eurofins TestAmerica, Sacramento

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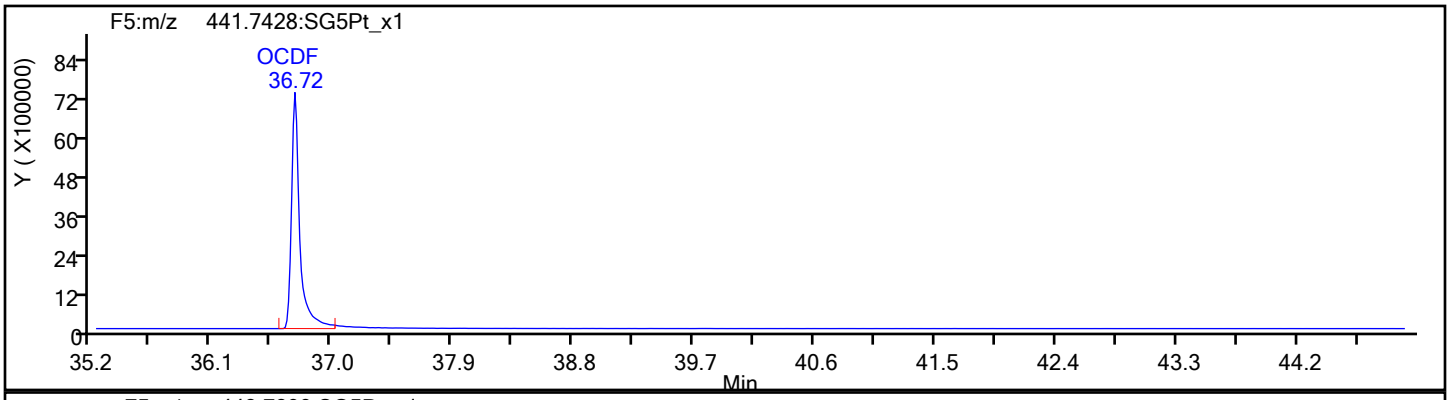

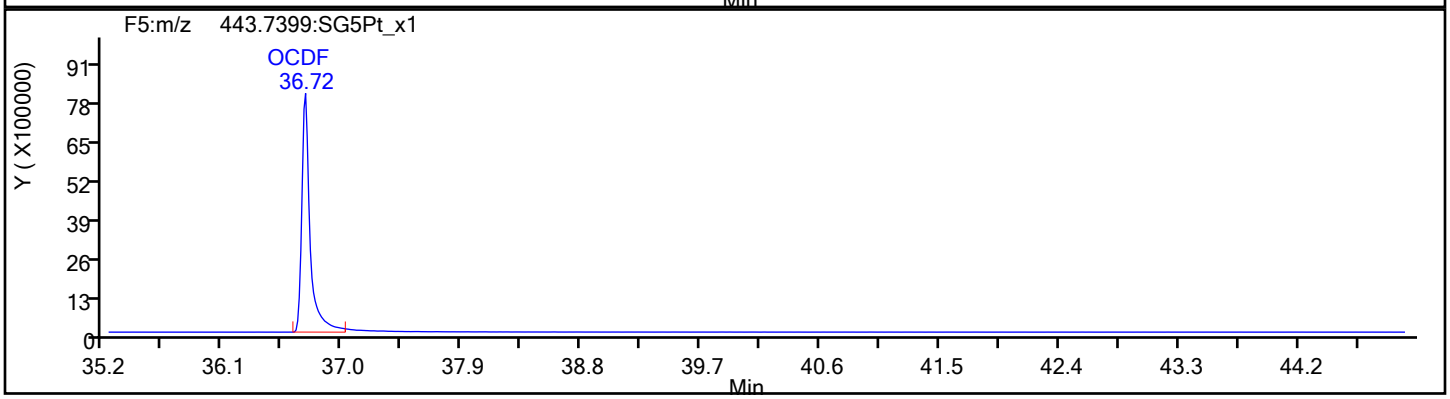

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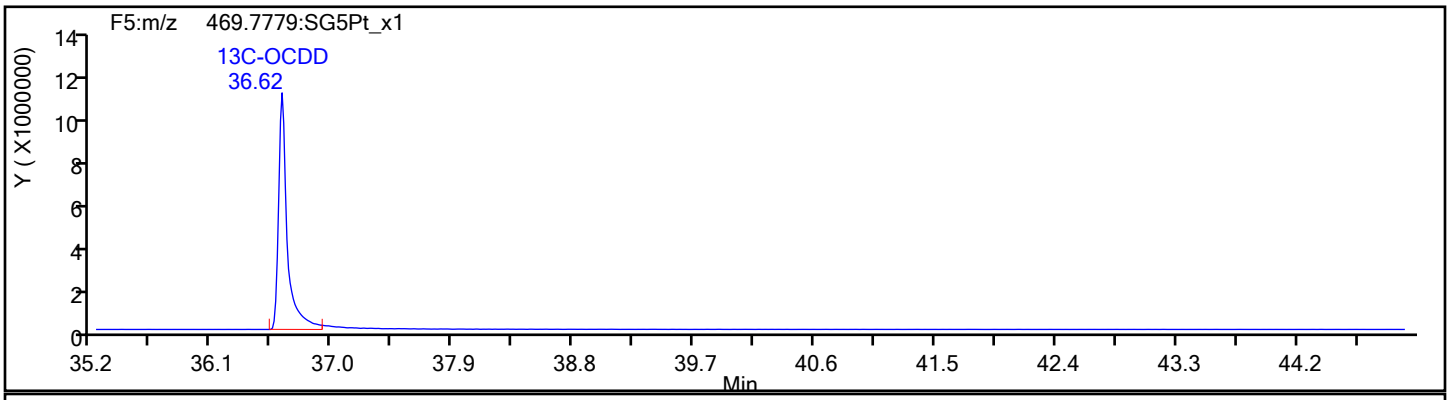

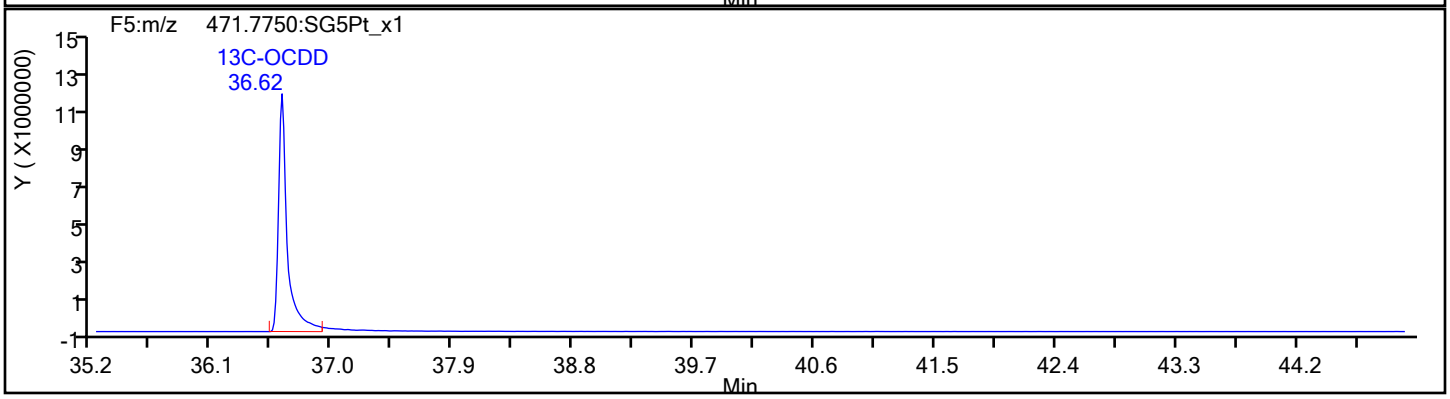

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Eurofins TestAmerica, Sacramento

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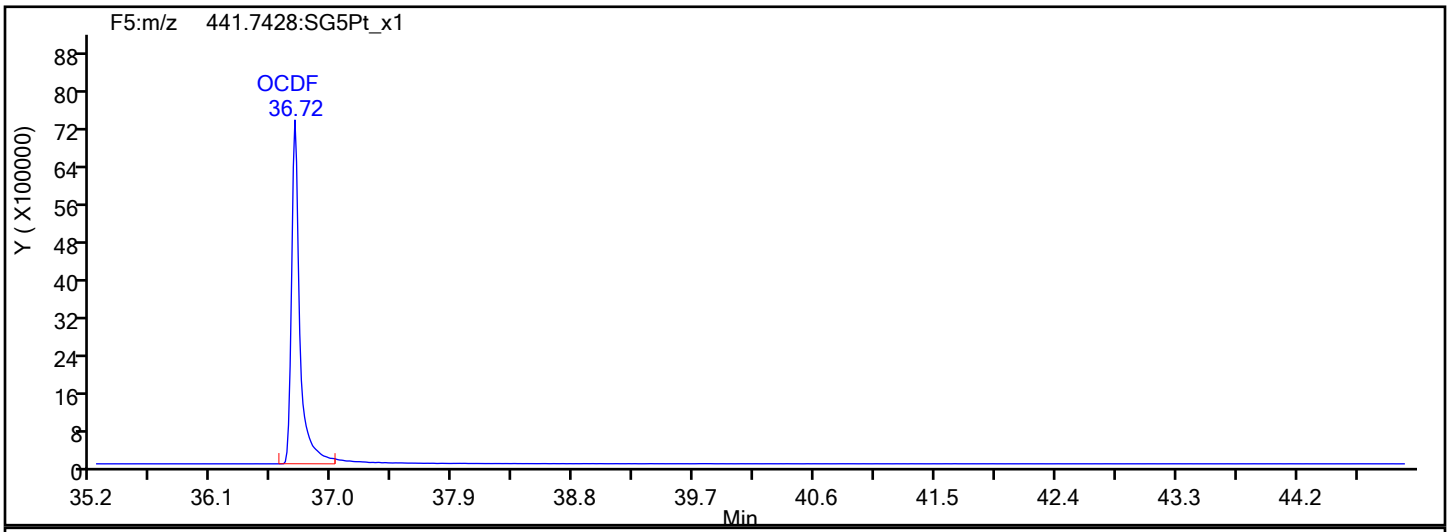

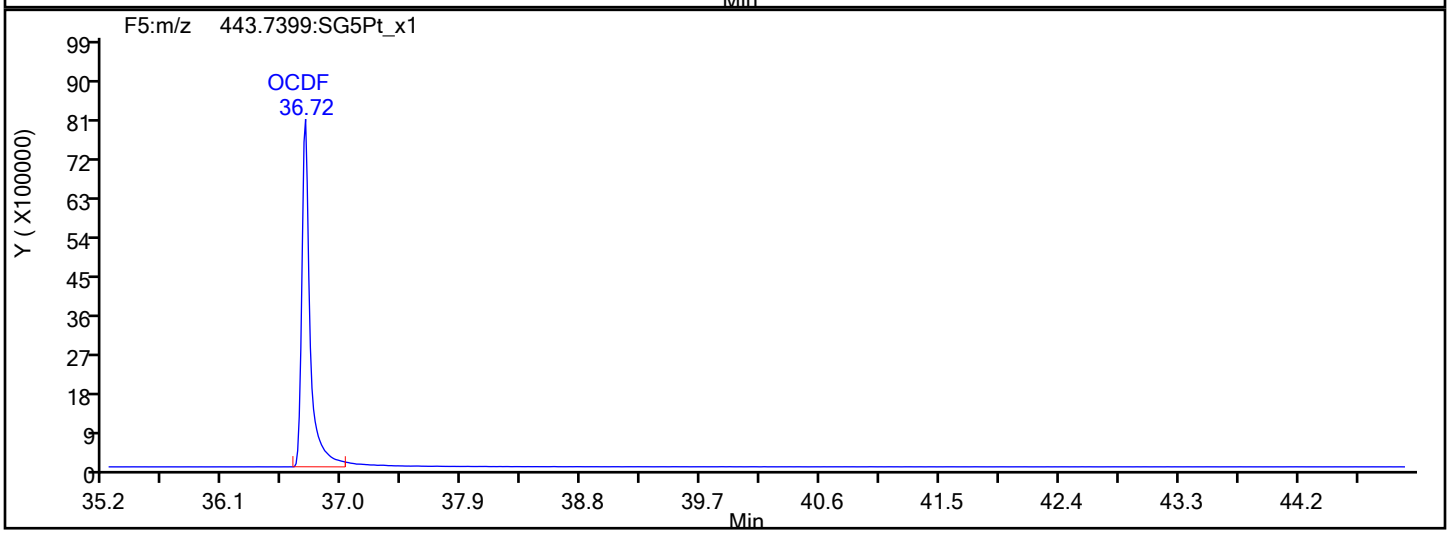

OCDF Interference Mass

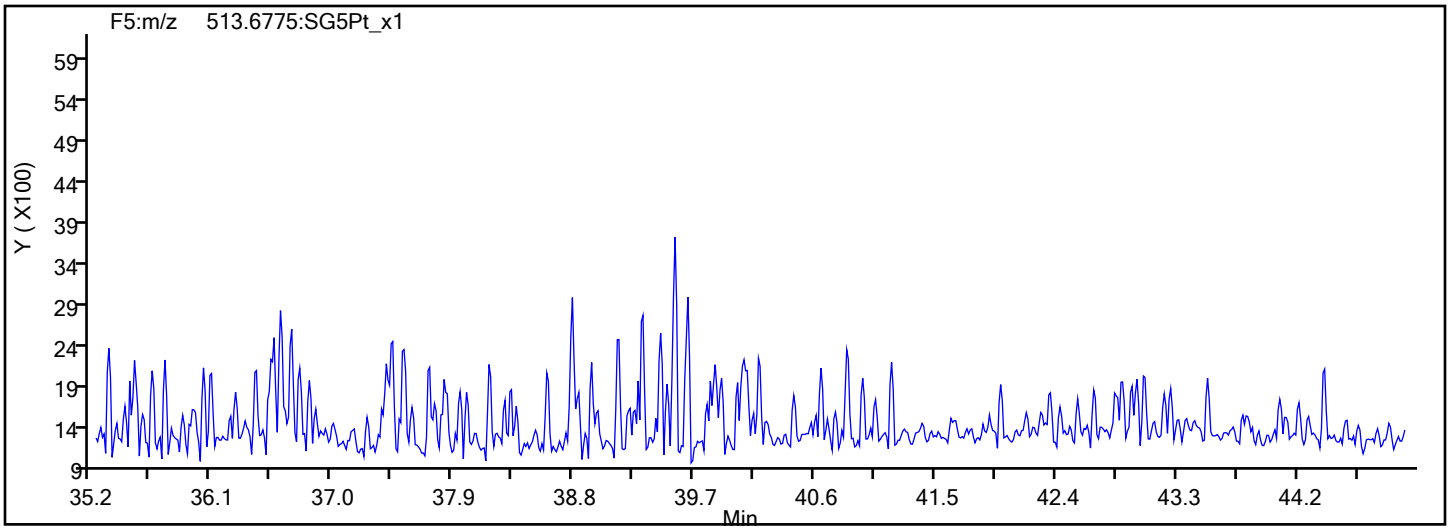

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Eurofins TestAmerica, Sacramento

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OCDD

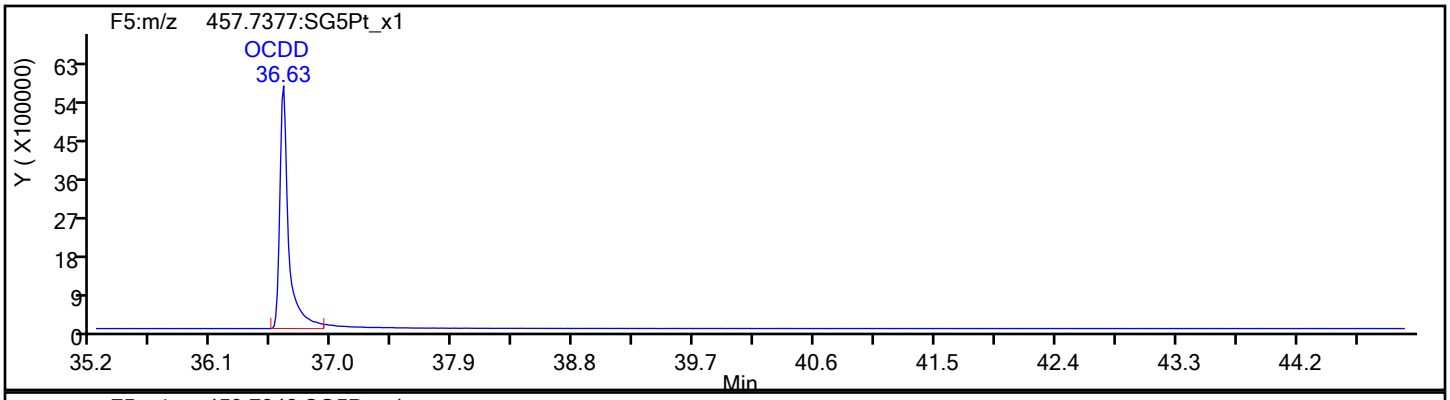

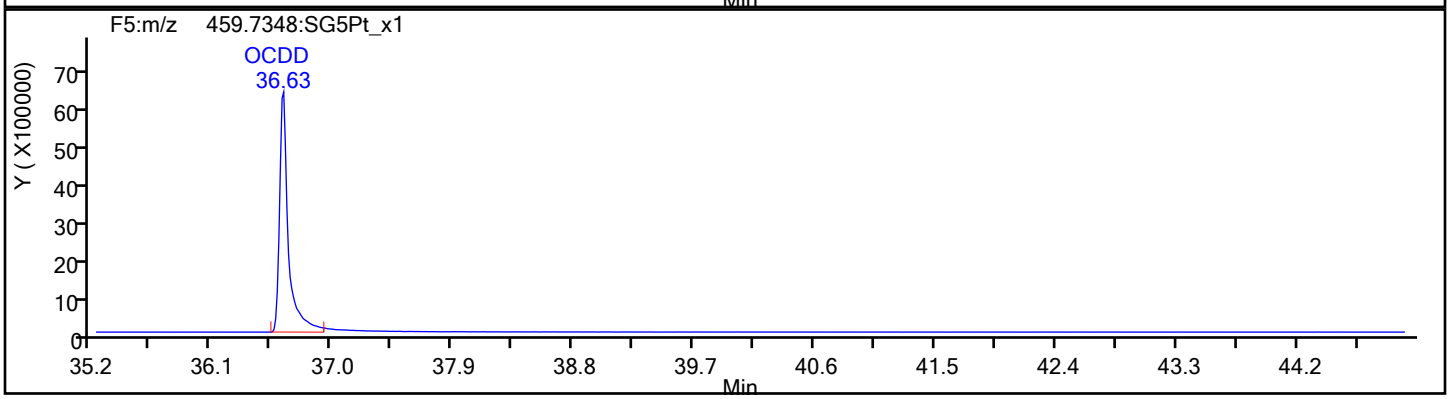

OCDD Standards

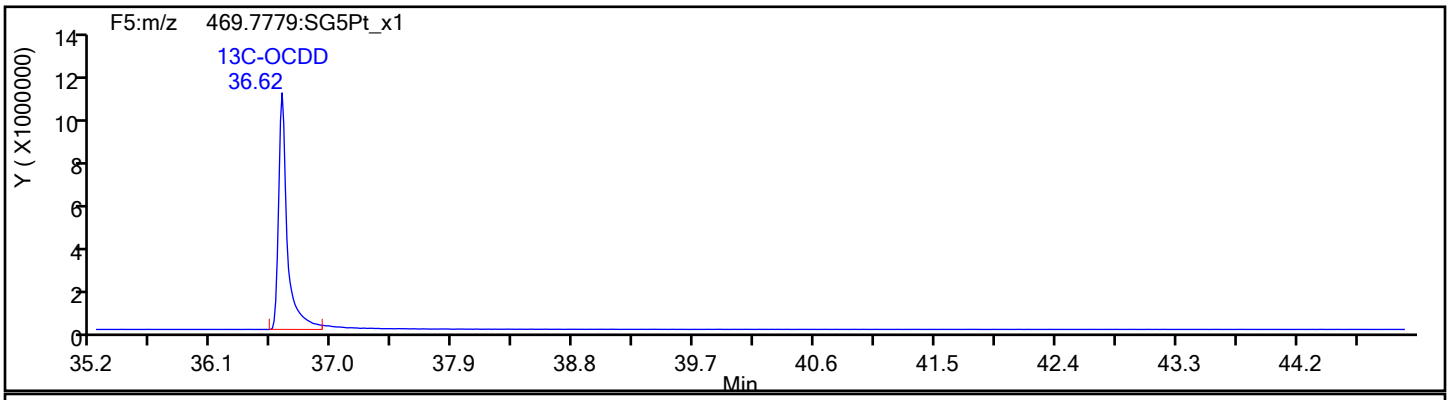

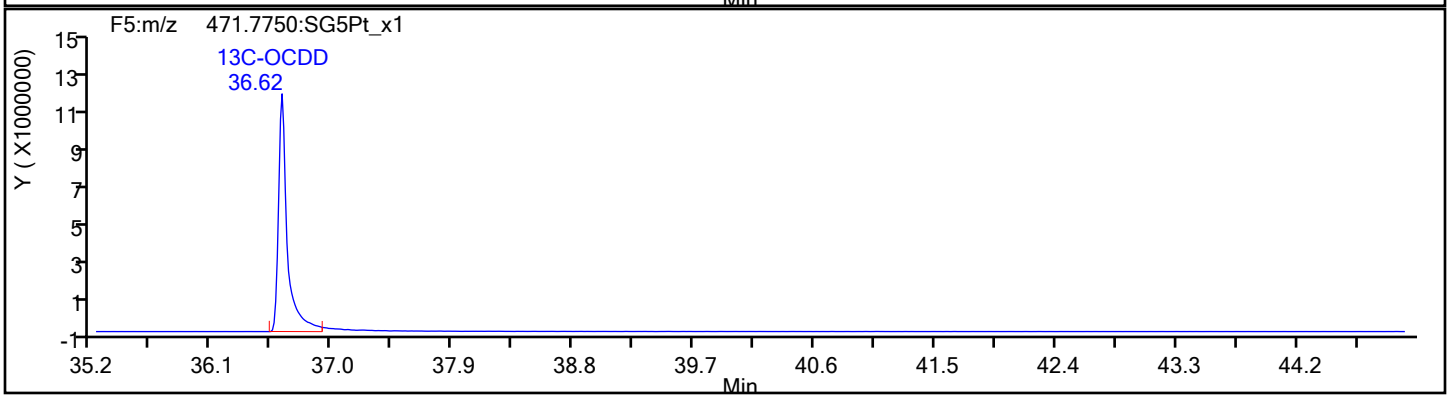

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Eurofins TestAmerica, Sacramento

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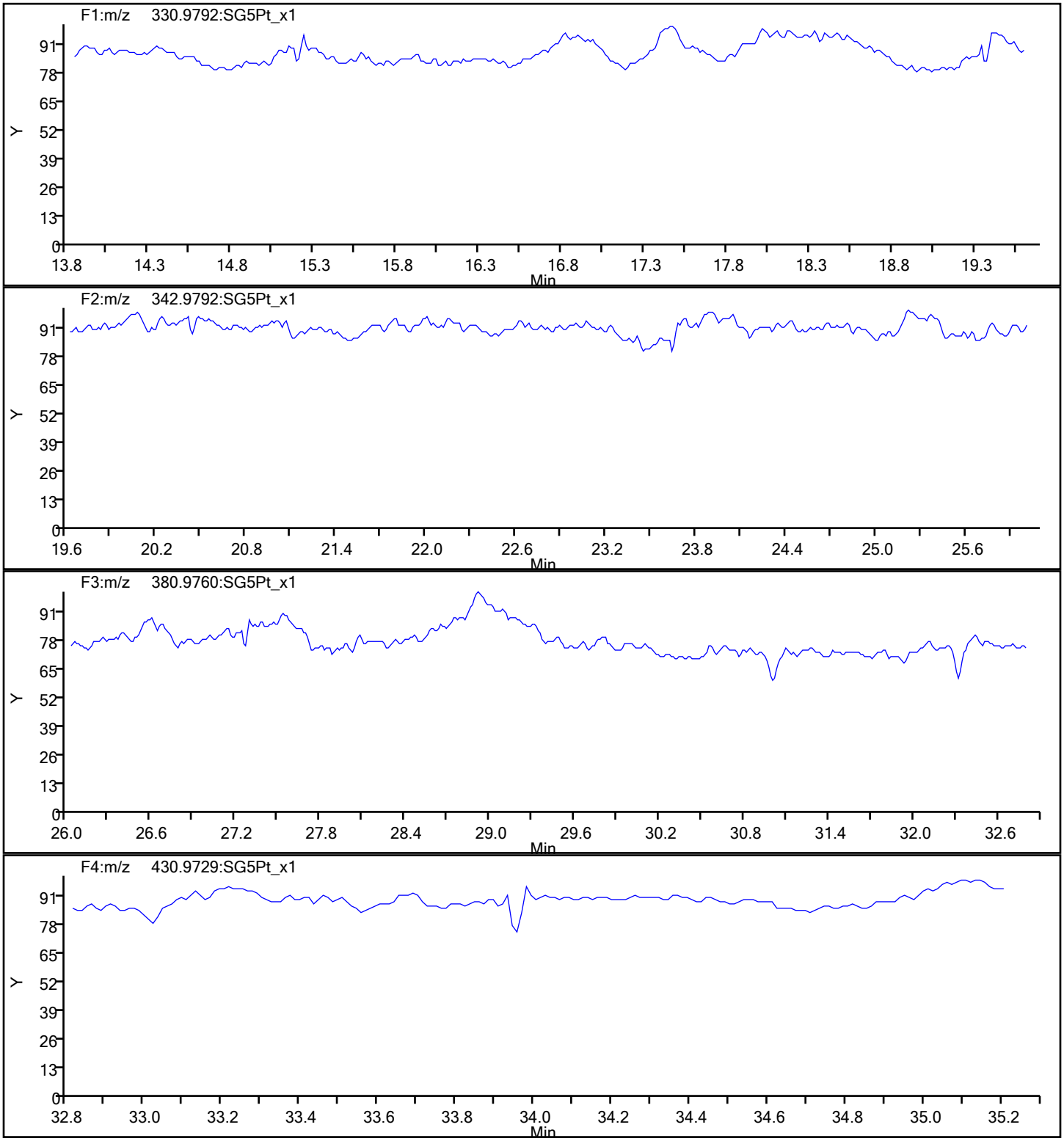

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Eurofins TestAmerica, Sacramento

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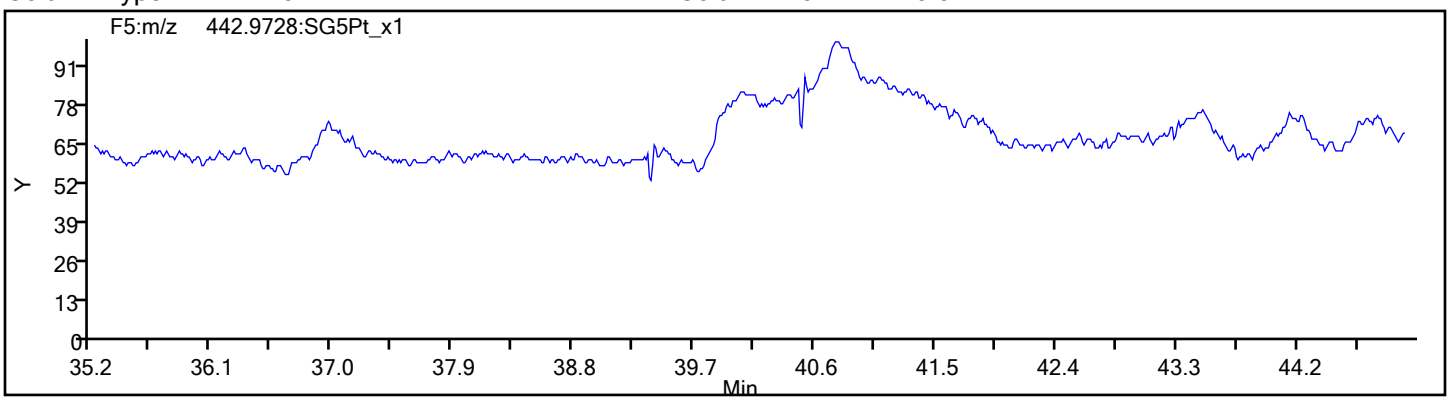

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_6.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 14-Nov-2019 12:04:51 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC111419C CS-5 HRDXNL5_00028
Misc. Info.: 14NO1910D5
Operator ID: SMA Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Nov-2019 16:54:33 Calib Date: 14-Nov-2019 12:50:49
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: arghestanis Date: 14-Nov-2019 13:49:38

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.532	118680858	0.79	1.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.034	160860723	0.77	1.3318	101.8	101.8	0.2072	0.2072	102	
2,3,7,8-TCDF	17.049	59808417	0.76	0.9005	41.3	41.3	0.0650	0.0650	103	
S Total TCDF					41.3	41.3	0.0650	0.0650		
D 13C-2,3,7,8-TCDD	17.729	115029444	0.79	0.9647	100.5	100.5	0.1570	0.1570	100	
2,3,7,8-TCDD	17.744	51246180	0.78	1.0698	41.6	41.6	0.0539	0.0539	104	
$ 37Cl4-2,3,7,8-TCDD	17.744	63777935		1.3082	41.1	41.1	0.0741	0.0741	103	
S Total TCDD					41.6	41.6	0.0539	0.0539		
D 13C-1,2,3,7,8-PeCDF	21.949	127455889	1.56	1.0537	101.9	101.9	0.2737	0.2737	102	
1,2,3,7,8-PeCDF	21.963	259554068	1.55	0.9704	209.9	209.9	0.7207	0.7207	105	
D 13C-2,3,4,7,8-PeCDF	23.258	120686165	1.57	1.0173	100.0	100.0	0.2836	0.2836	99.97	
2,3,4,7,8-PeCDF	23.286	255176989	1.55	0.9986	211.7	211.7	0.8040	0.8040	106	
S Total PeCDF					421.6	421.6	0.7624	0.7624		
D 13C-1,2,3,7,8-PeCDD	23.968	89271526	1.57	0.7281	103.3	103.3	0.1406	0.1406	103	
1,2,3,7,8-PeCDD	23.995	186964565	1.57	1.0023	208.9	208.9	0.3085	0.3085	104	
S Total PeCDD					208.9	208.9	0.3085	0.3085		
D 13C-1,2,3,4,7,8-HxCDF	30.099	88457179	0.51	0.9632	102.2	102.2	0.5148	0.5148	102	
1,2,3,4,7,8-HxCDF	30.126	194792330	1.22	1.0315	213.5	213.5	1.436	1.436	107	
D 13C-1,2,3,6,7,8-HxCDF	30.326	97731144	0.51	1.0646	102.2	102.2	0.4658	0.4658	102	
1,2,3,6,7,8-HxCDF	30.339	208690260	1.22	1.0235	208.6	208.6	1.288	1.288	104	
D 13C-2,3,4,6,7,8-HxCDF	31.244	88889402	0.51	0.9696	102.0	102.0	0.5114	0.5114	102	
2,3,4,6,7,8-HxCDF	31.271	196787993	1.21	1.0645	208.0	208.0	0.9769	0.9769	104	
D 13C-1,2,3,7,8,9-HxCDF	32.096	82765963	0.51	0.8955	102.9	102.9	0.5537	0.5537	103	
1,2,3,7,8,9-HxCDF	32.109	184050734	1.22	1.0664	208.5	208.5	0.9715	0.9715	104	
S Total HxCDF					838.6	838.6	1.168	1.168		
* 13C-1,2,3,7,8,9-HxCDD	31.910	89856346	1.25	8.8E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.457	69650431	1.24	0.7590	102.1	102.1	0.3627	0.3627	102	
1,2,3,4,7,8-HxCDD	31.470	147524233	1.23	1.0054	210.7	210.7	0.6771	0.6771	105	
D 13C-1,2,3,6,7,8-HxCDD	31.563	83609273	1.23	0.9247	100.6	100.6	0.2977	0.2977	101	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.577	172956675	1.24	0.9833	210.4	210.4	0.6236	0.6236	105	
1,2,3,7,8,9-HxCDD	31.923	177277735	1.24	1.1036	209.6	209.6	0.5846	0.5846	105	
S Total HxCDD					630.7	630.7	0.6284	0.6284		
D 13C-1,2,3,4,6,7,8-HpCDF	33.567	73893576	0.44	0.7930	103.7	103.7	1.482	1.482	104	
1,2,3,4,6,7,8-HpCDF	33.579	217460089	1.03	1.4240	206.7	206.7	2.632	2.632	103	
D 13C-1,2,3,4,7,8,9-HpCDF	34.624	66749921	0.44	0.7296	101.8	101.8	1.611	1.611	102	
1,2,3,4,7,8,9-HpCDF	34.624	180625829	1.03	1.2834	210.9	210.9	3.774	3.774	105	
S Total HpCDF					417.5	417.5	3.203	3.203		
D 13C-1,2,3,4,6,7,8-HpCDD	34.345	69874428	1.05	0.7532	103.2	103.2	0.6963	0.6963	103	
1,2,3,4,6,7,8-HpCDD	34.345	147557790	1.04	1.0174	207.6	207.6	1.192	1.192	104	
S Total HpCDD					207.6	207.6	1.192	1.192		
D 13C-OCDD	36.621	105005841	0.91	0.5621	207.9	207.9	0.2366	0.2366	104	
OCDF	36.717	285155825	0.90	1.3047	416.3	416.3	0.3438	0.3438	104	
OCDD	36.633	237100919	0.89	1.0997	410.7	410.7	0.4932	0.4932	103	

Reagents:

HRDXNL5_00028 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_6.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 14-Nov-2019 12:04:51 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC111419C CS-5 HRDXNL5_00028
Misc. Info.: 14NO1910D5
Operator ID: SMA Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Nov-2019 16:54:33 Calib Date: 14-Nov-2019 12:50:49
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: arghestanis Date: 14-Nov-2019 13:49:38

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.532	17.539	0		52234395	13070586	9047	22617	1445		
333.9339	17.532	17.539	0		66446463	16665045	8971	22427	1858	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.034	17.034	0	0.972	70168230	18029128	22275	55687	809		
317.9389	17.034	17.034	0	0.972	90692493	23450218	10547	26367	2223	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.049	17.049	0	1.001	25768565	6586648	4013	10032	1641		
305.8987	17.049	17.049	0	1.001	34039852	8759042	5694	14235	1538	0.76(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.729	17.729	0	1.011	50629302	12280035	9047	22617	1357		
333.9339	17.729	17.729	0	1.011	64400142	15683484	8971	22427	1748	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.744	17.744	0	1.001	22433859	5464575	3227	8067	1693		
321.8936	17.744	17.744	0	1.001	28812321	7071235	3224	8060	2193	0.78(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.744	17.744	0	1.012	63777935	15463623	11528	28820	1341		
13C-1,2,3,7,8-PeCDF											
351.9000	21.949	21.949	0	1.252	77742018	14329628	20741	51852	691		
353.8970	21.949	21.949	0	1.252	49713871	9134141	13567	33917	673	1.56(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.963	21.971	0	1.001	157652161	28580632	39533	98832	723		
341.8567	21.963	21.971	0	1.001	101901907	18458354	26110	65275	707	1.55(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	23.258	23.258	0	1.327	73724478	12475804	20741	51852	602		
353.8970	23.258	23.258	0	1.327	46961687	7965063	13567	33917	587	1.57(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.286	23.286	0	1.001	155044583	26514956	39533	98832	671		
341.8567	23.286	23.286	0	1.001	100132406	17110297	26110	65275	655	1.55(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.968	23.968	0	1.367	54487239	8826021	7327	18317	1205		
369.8919	23.968	23.968	0	1.367	34784287	5642662	4846	12115	1164	1.57(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.995	23.995	0	1.001	114244745	18730709	11134	27835	1682		
357.8516	23.995	23.995	0	1.001	72719820	11863469	6765	16912	1754	1.57(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.099	30.102	0	0.943	29987865	4924572	14459	36147	341		
385.8610	30.099	30.102	0	0.943	58469314	9557060	28952	72380	330	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.126	30.131	0	1.001	106916678	17515529	47659	119147	368		
375.8178	30.126	30.131	0	1.001	87875652	14458254	38159	95397	379	1.22(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.326	30.323	0	0.950	32931143	5475626	14459	36147	379		
385.8610	30.326	30.323	0	0.950	64800001	10797292	28952	72380	373	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.339	30.344	0	1.000	114869962	19308083	47659	119147	405		
375.8178	30.339	30.344	0	1.000	93820298	15888937	38159	95397	416	1.22(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.244	31.247	0	0.979	30018456	7012284	14459	36147	485		
385.8610	31.244	31.247	0	0.979	58870946	13619571	28952	72380	470	0.51(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.271	31.265	0	1.001	107932039	24542337	47659	119147	515		
375.8178	31.257	31.265	0	1.000	88855954	20331112	38159	95397	533	1.21(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.096	32.099	0	1.006	27998836	7013166	14459	36147	485		
385.8610	32.096	32.099	0	1.006	54767127	13696078	28952	72380	473	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.109	32.115	0	1.000	101144857	24921162	47659	119147	523		
375.8178	32.109	32.115	0	1.000	82905877	20842477	38159	95397	546	1.22(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.910	31.912	0		49877643	12166332	13366	33415	910		
403.8529	31.910	31.912	0		39978703	9721115	10736	26840	905	1.25(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.457	31.452	0	0.986	38531184	9899683	13366	33415	741		
403.8529	31.457	31.452	0	0.986	31119247	7903423	10736	26840	736	1.24(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.470	31.470	0	1.000	81310461	21577290	26813	67032	805		
391.8127	31.470	31.470	0	1.000	66213772	17450156	21663	54157	806	1.23(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.563	31.566	0	0.989	46199127	10954073	13366	33415	820		
403.8529	31.563	31.566	0	0.989	37410146	8809307	10736	26840	821	1.23(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.577	31.582	0	1.000	95658383	21871447	26813	67032	816		
391.8127	31.577	31.582	0	1.000	77298292	18171125	21663	54157	839	1.24(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.923	31.926	0	1.015	98058109	23704618	26813	67032	884		
391.8127	31.923	31.926	0	1.015	79219626	19390331	21663	54157	895	1.24(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.567	33.567	0	1.052	22694049	7200331	30809	77022	234		
419.8220	33.567	33.567	0	1.052	51199527	16096799	72104	180260	223	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.579	33.579	0	1.000	110552653	34534115	173980	434950	198		
409.7789	33.579	33.579	0	1.000	106907436	33026808	175309	438272	188	1.03(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.624	34.619	0	1.085	20485964	5561965	30809	77022	181		
419.8220	34.624	34.619	0	1.085	46263957	12466880	72104	180260	173	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.624	34.629	0	1.000	91754963	24820901	173980	434950	143		
409.7789	34.624	34.629	0	1.000	88870866	24456551	175309	438272	140	1.03(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.345	34.340	0	1.076	35805874	9838164	24742	61855	398		
437.8140	34.345	34.340	0	1.076	34068554	9368499	21174	52935	442	1.05(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.345	34.349	0	1.000	75295973	20352849	47315	118287	430		
425.7737	34.345	34.349	0	1.000	72261817	19971374	45878	114695	435	1.04(0.88-1.20)	
13C-OCDD											
469.7779	36.621	36.624	0	1.148	49916226	11141177	6096	15240	1828		
471.7750	36.621	36.624	0	1.148	55089615	12332581	5549	13872	2222	0.91(0.76-1.02)	
OCDF											
441.7428	36.717	36.720	0	1.003	135148972	31411063	10132	25330	3100		
443.7399	36.717	36.720	0	1.003	150006853	35123894	10929	27322	3214	0.90(0.76-1.02)	
OCDD											
457.7377	36.633	36.636	0	1.000	111747988	25346888	11674	29185	2171		
459.7348	36.633	36.636	0	1.000	125352931	28583246	13791	34477	2073	0.89(0.76-1.02)	

Reagents:

HRDXNL5_00028 Amount Added: 1.00 Units: mL

Report Date: 14-Nov-2019 16:54:39 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_6.d		
Injection Date:	14-Nov-2019 12:04:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

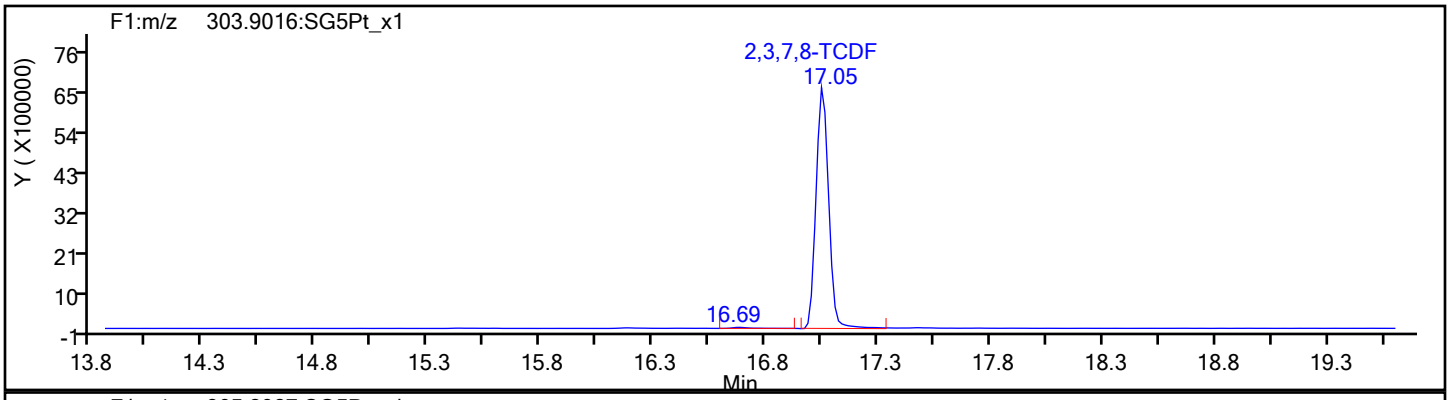

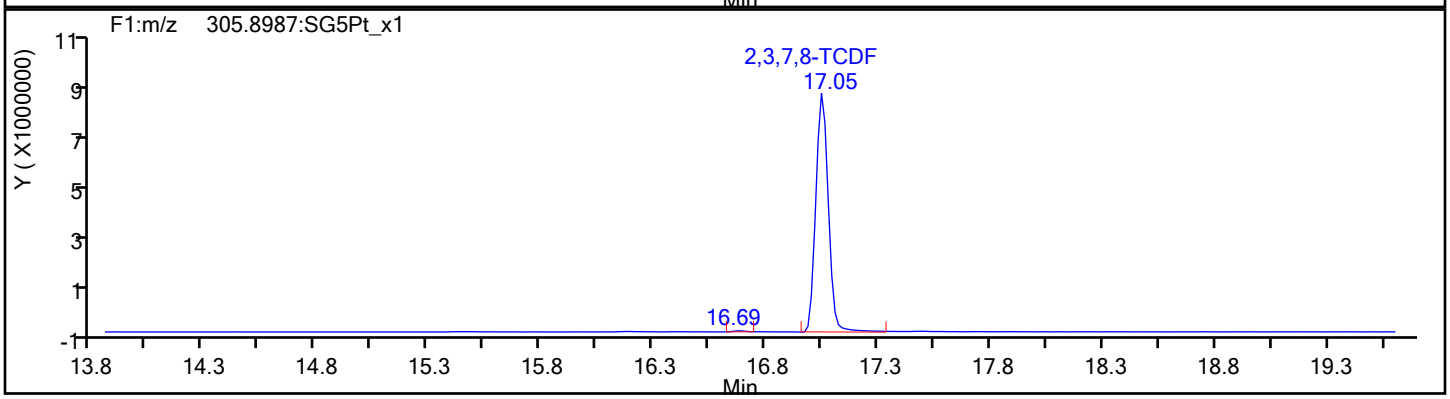

TCDF Standards

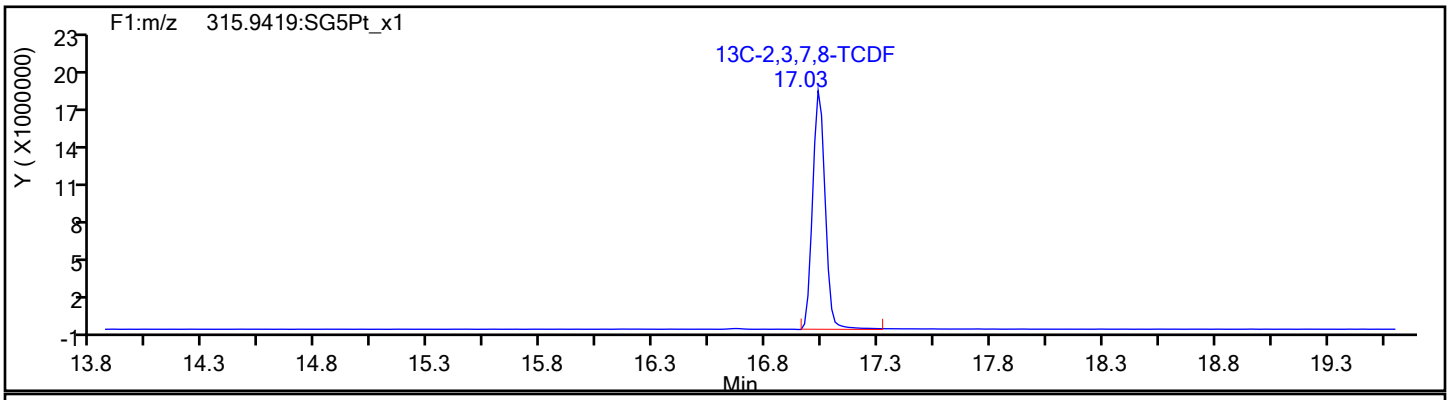

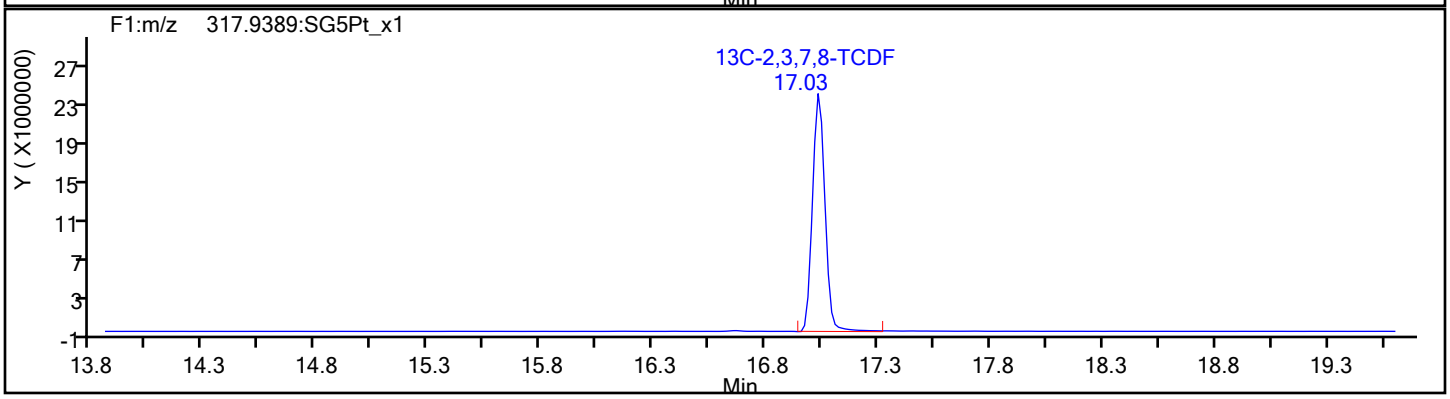

Report Date: 14-Nov-2019 16:54:39 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_6.d		
Injection Date:	14-Nov-2019 12:04:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

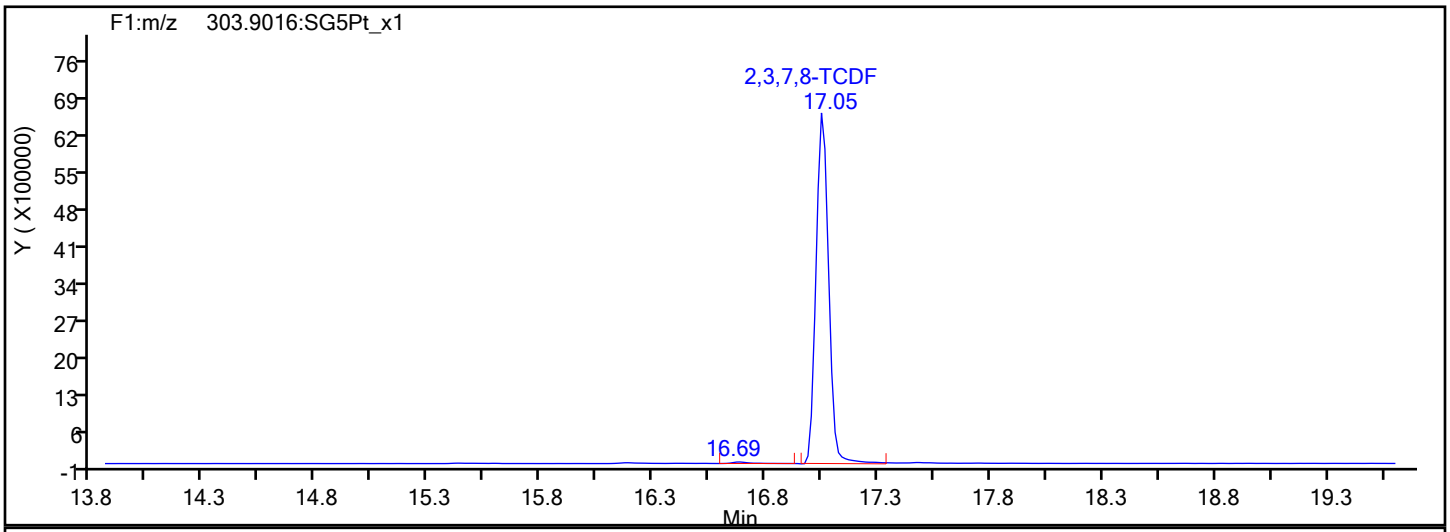

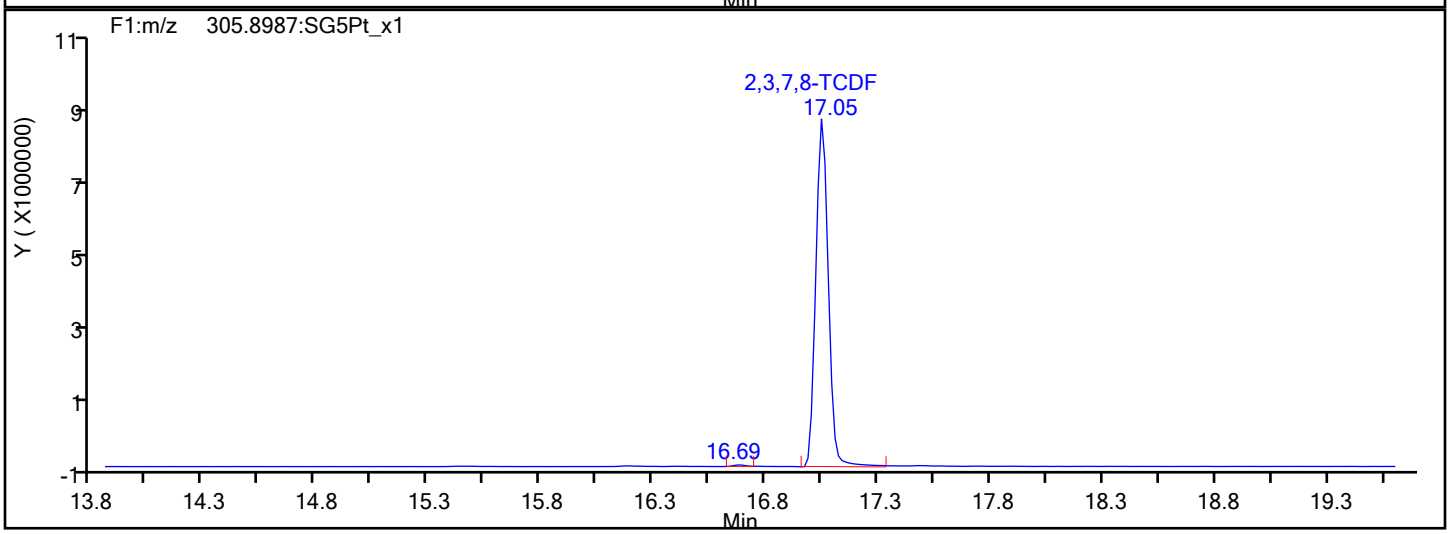

TCDF Interference Mass

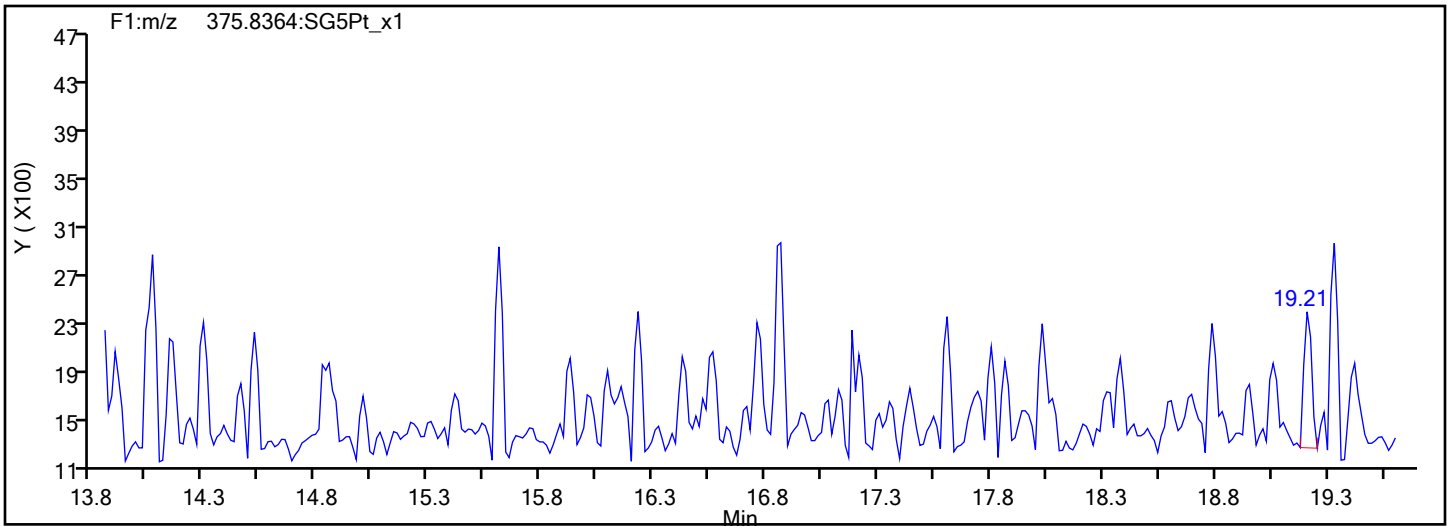

Report Date: 14-Nov-2019 16:54:39 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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TCDD

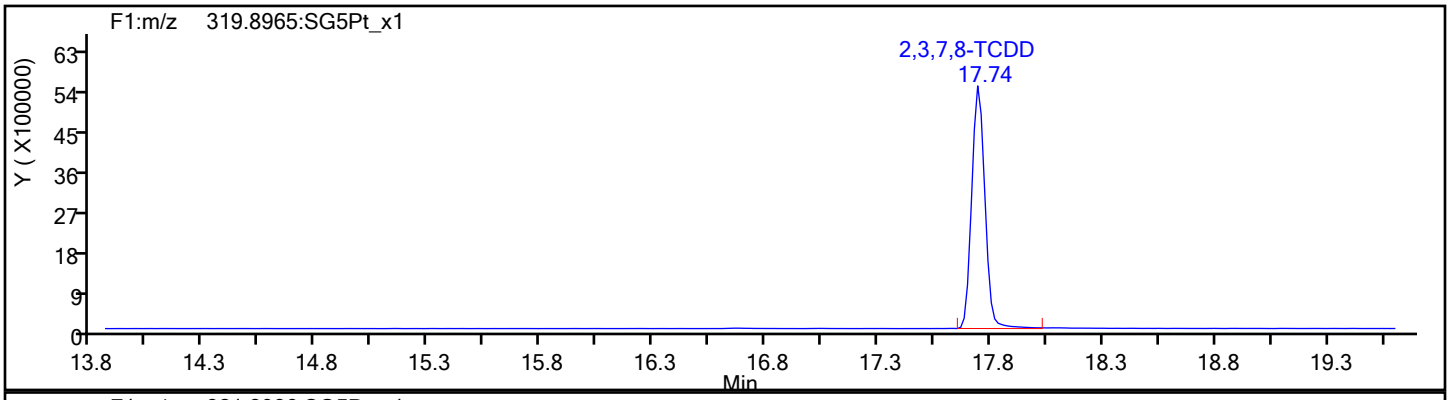

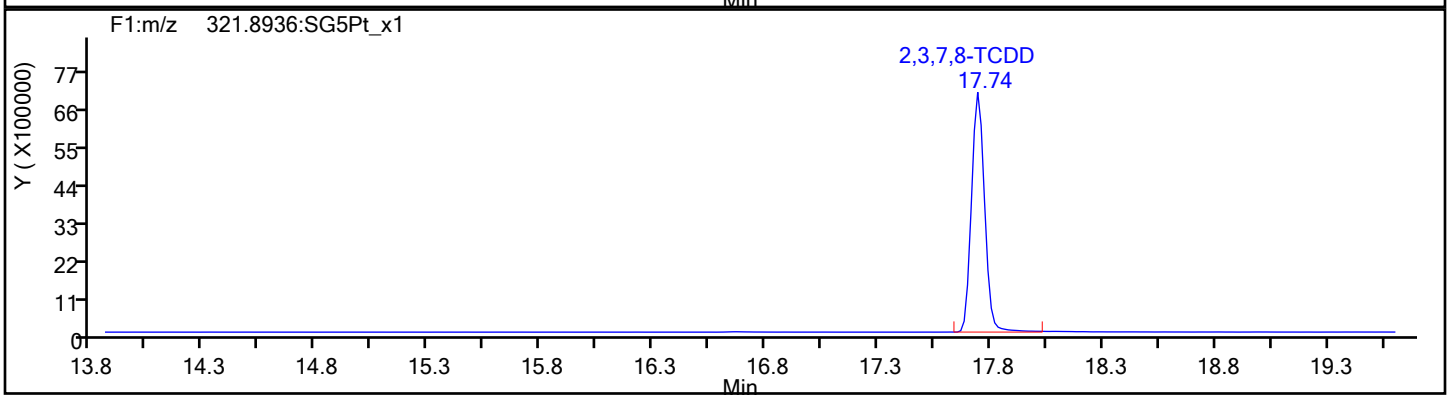

TCDD Standards

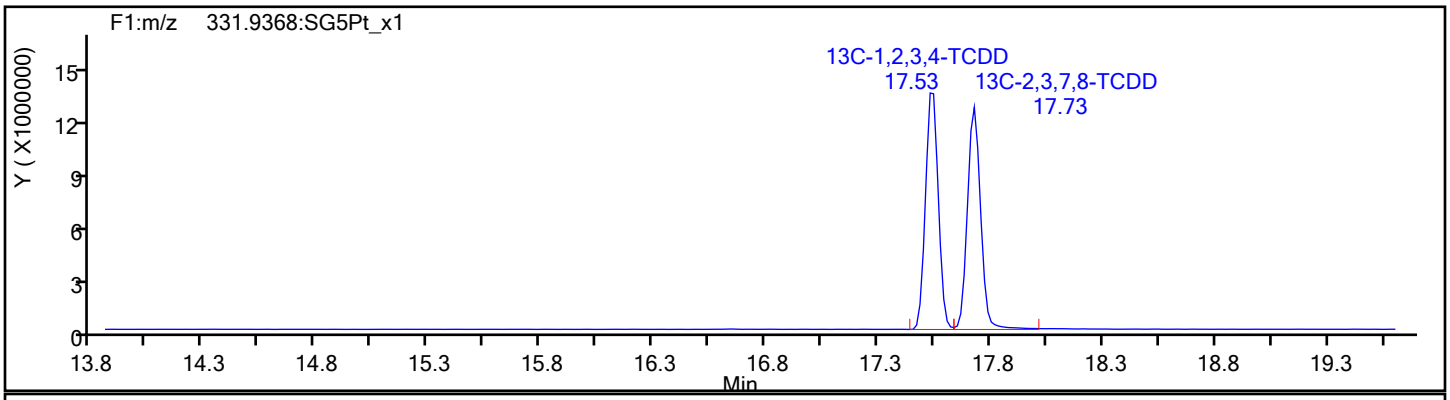

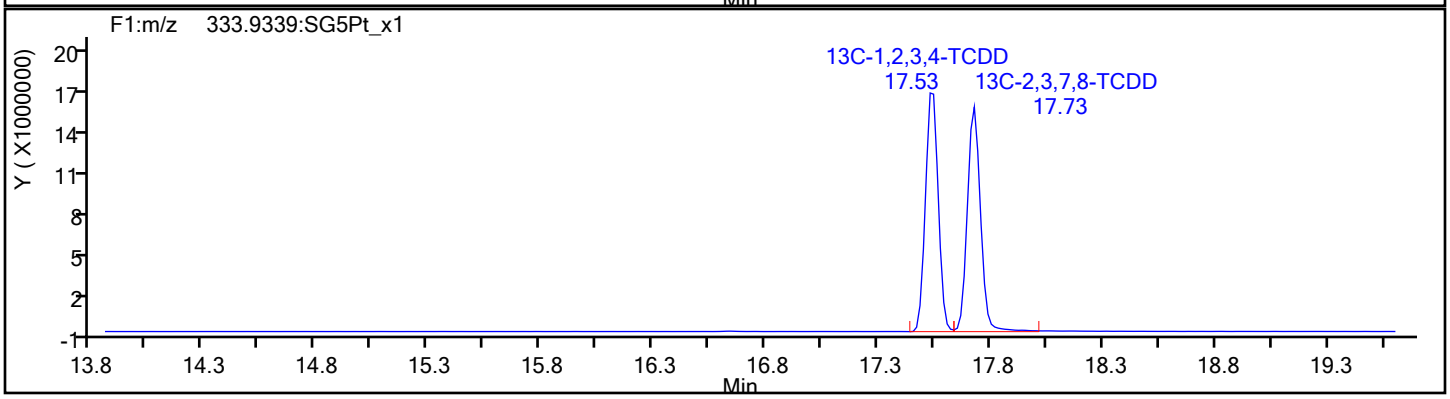

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Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

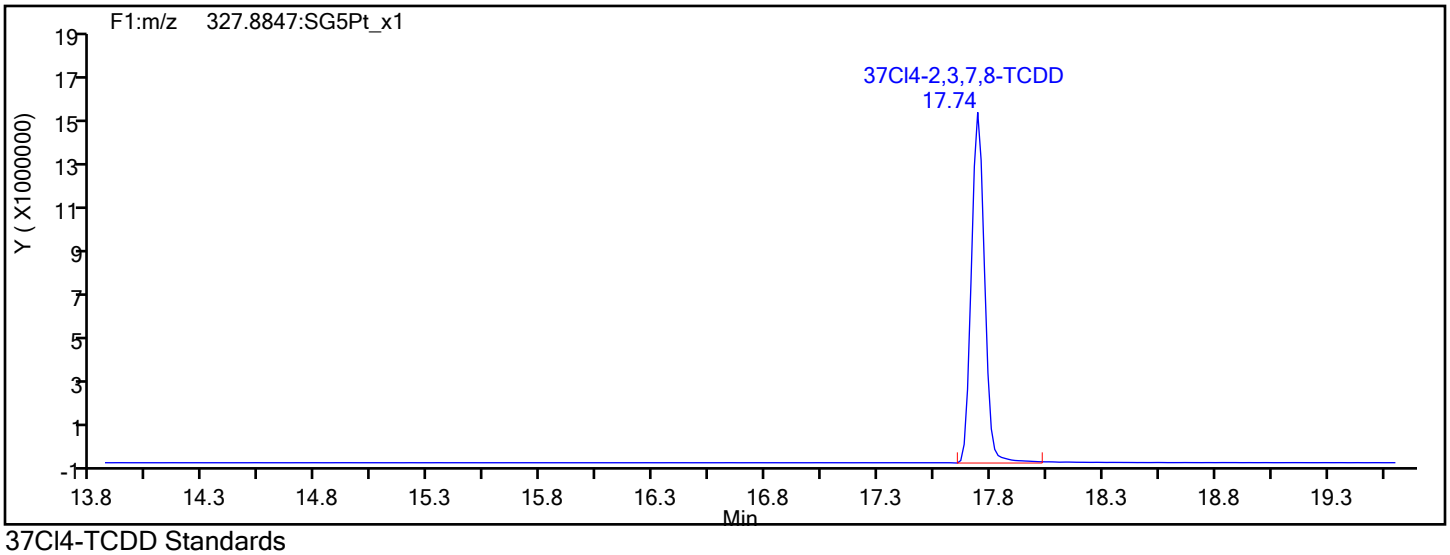

37Cl4-TCDD Standards

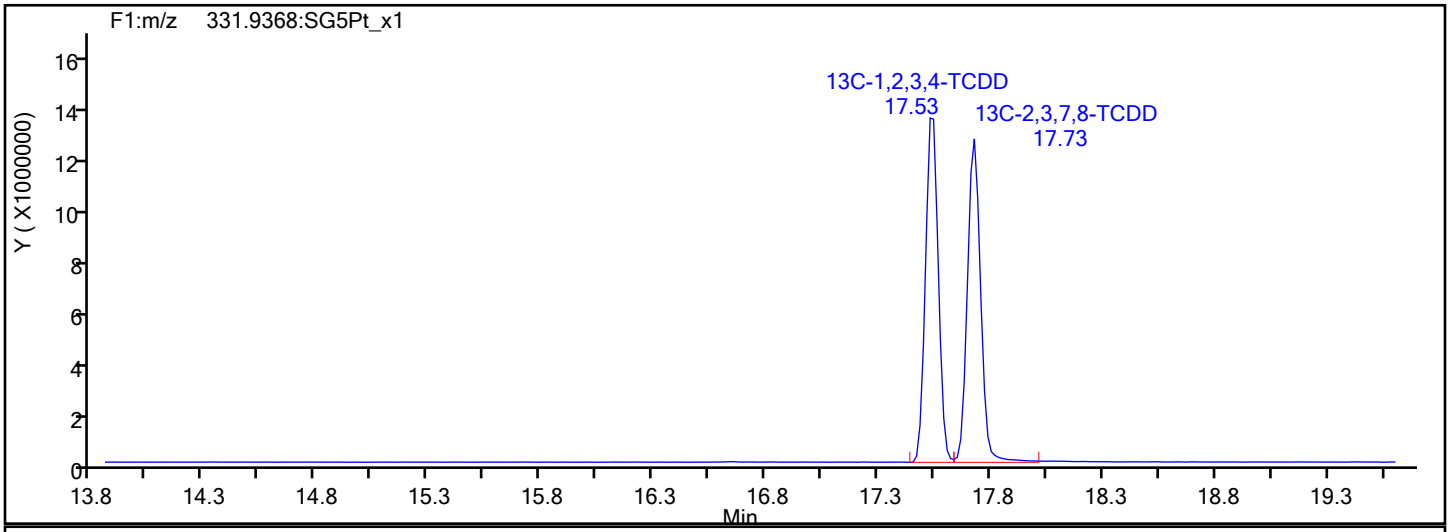

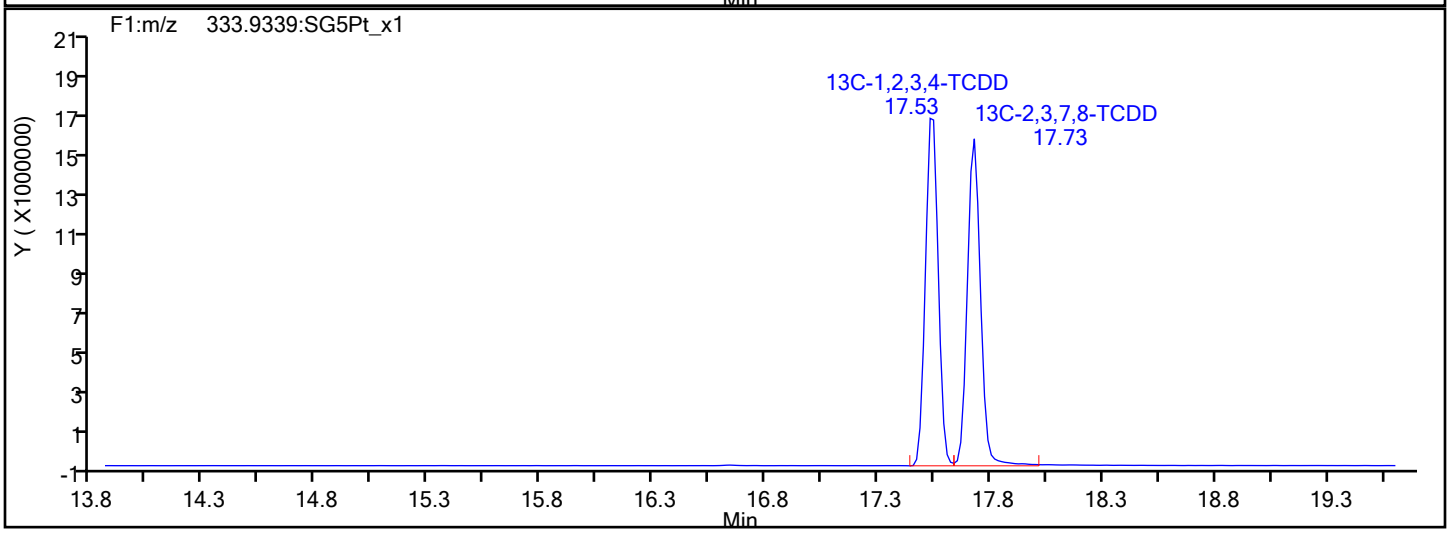

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

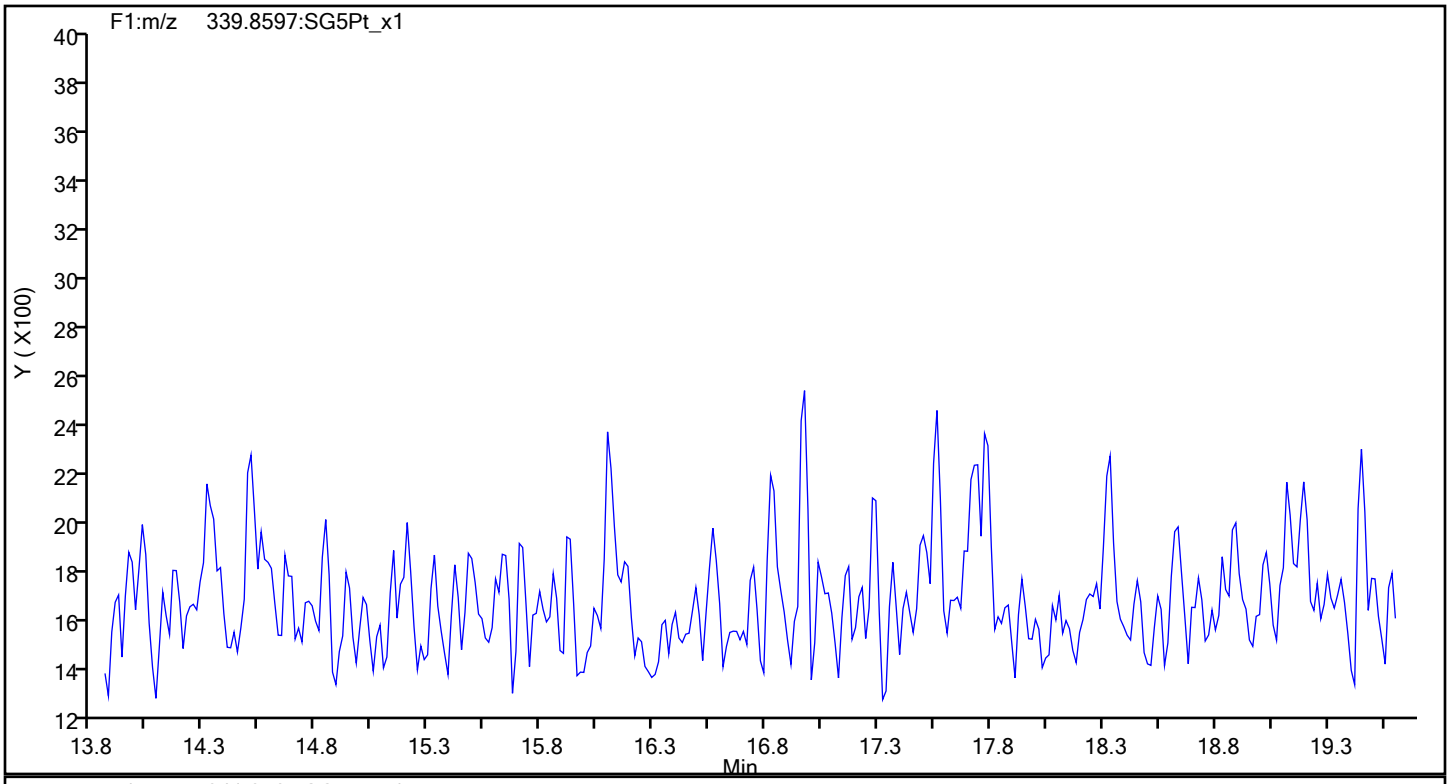

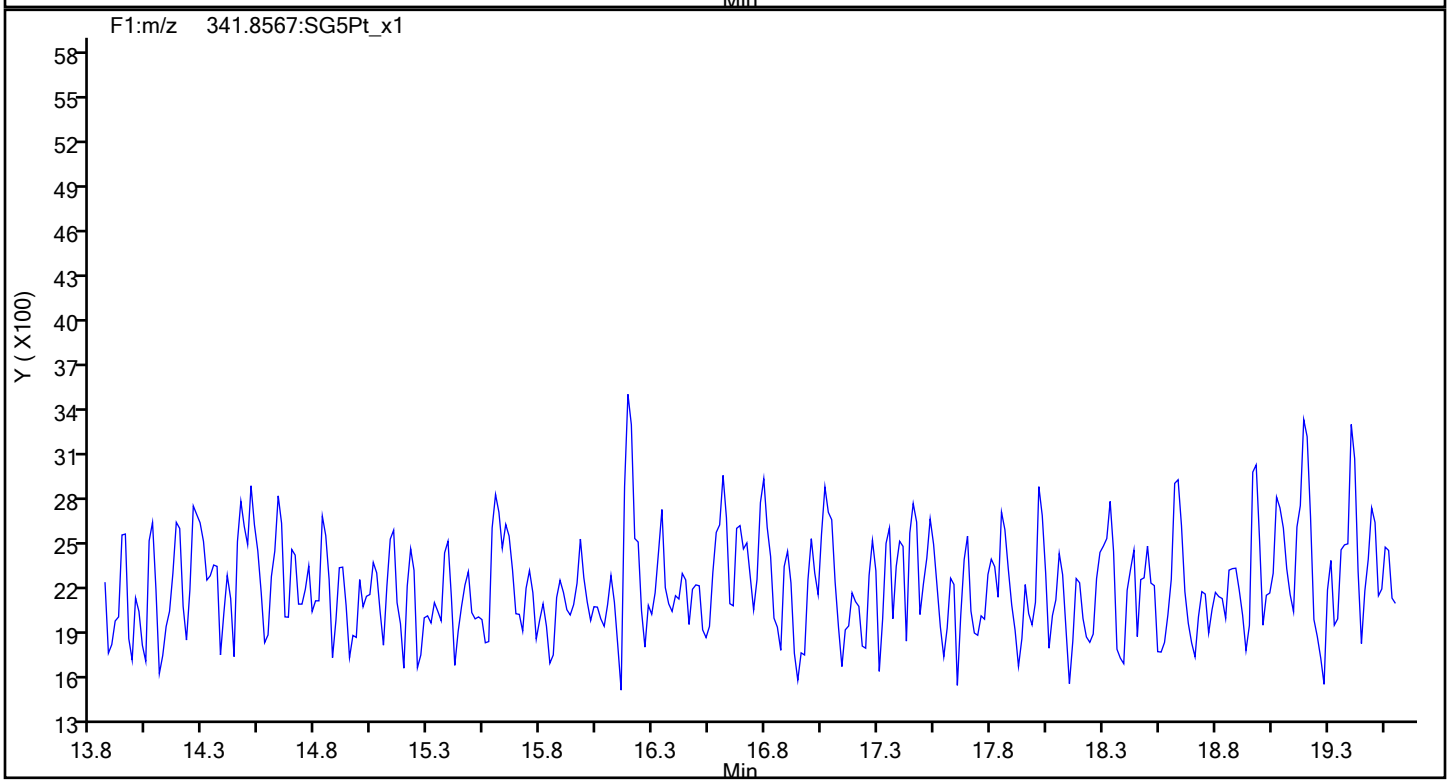

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

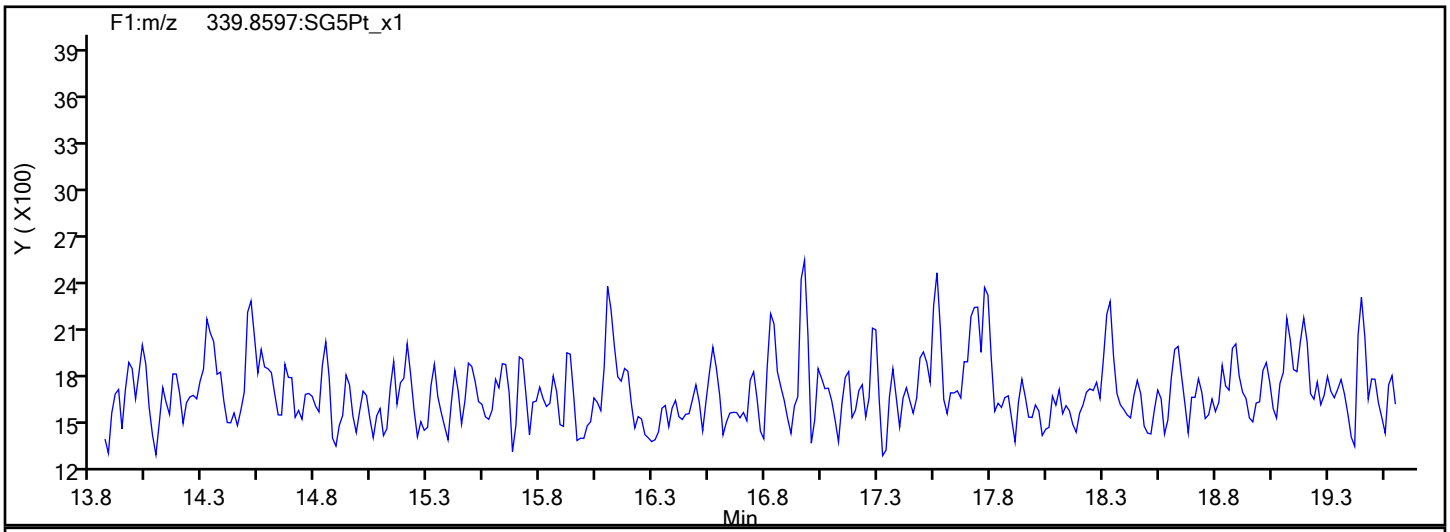

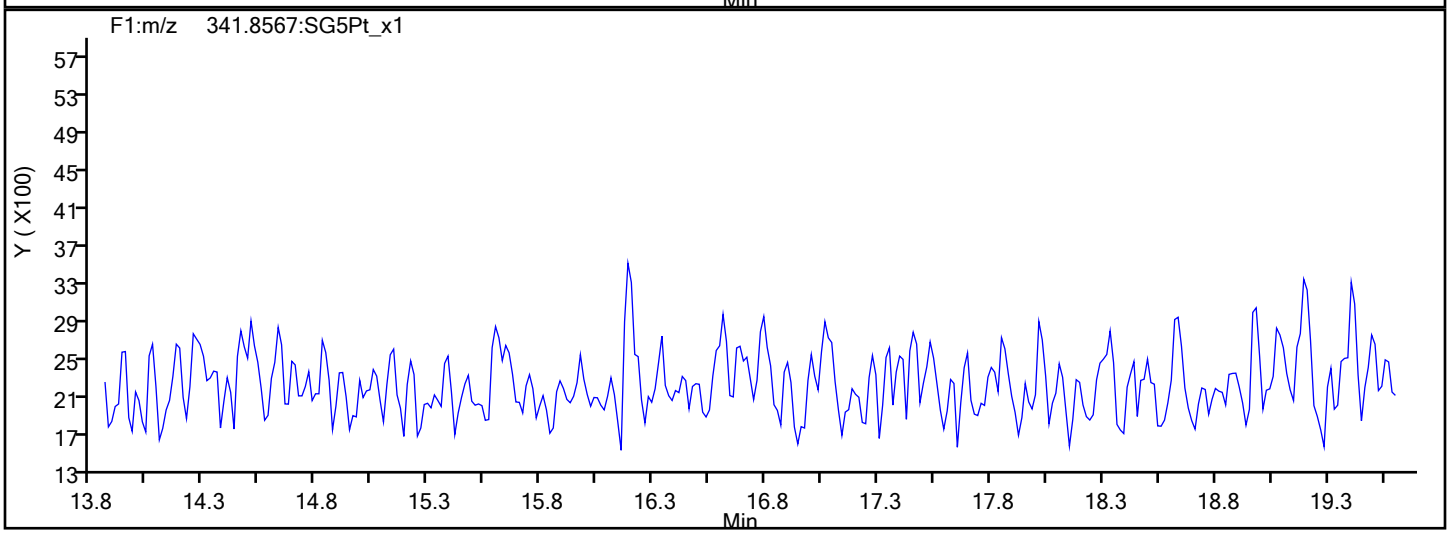

F1 PeCDFs Interference Mass

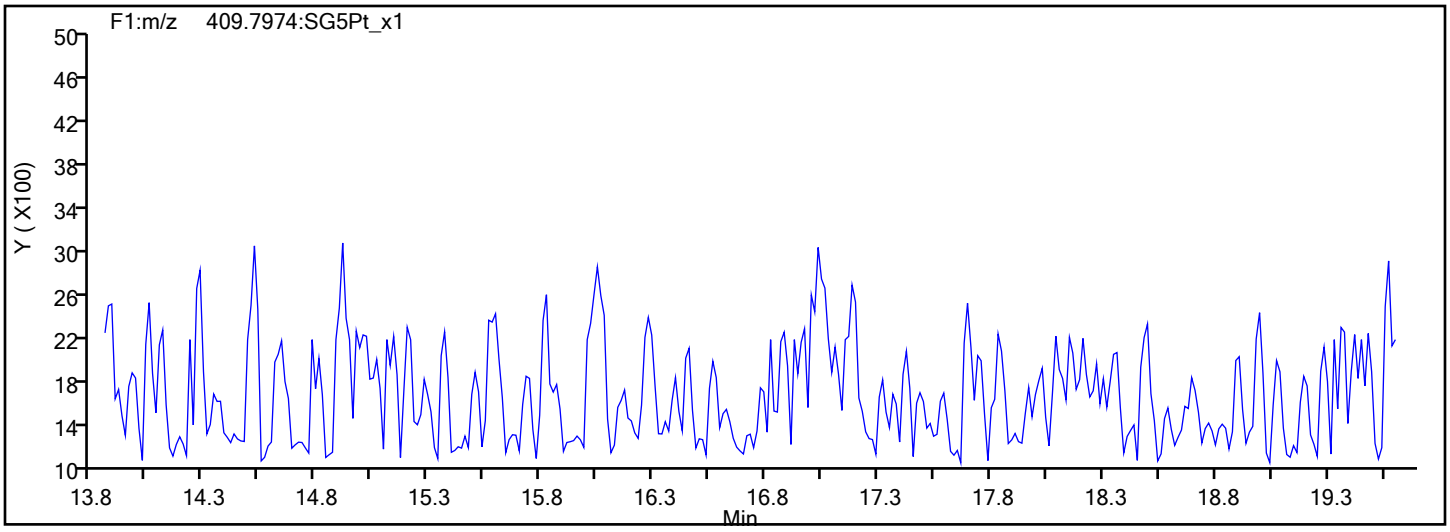

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Eurofins TestAmerica, Sacramento

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PeCDF

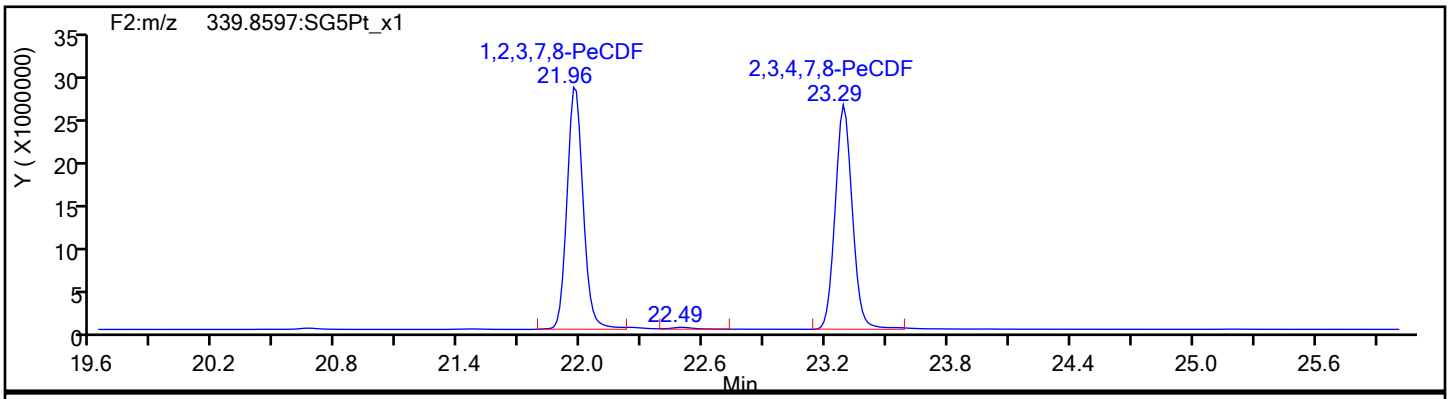

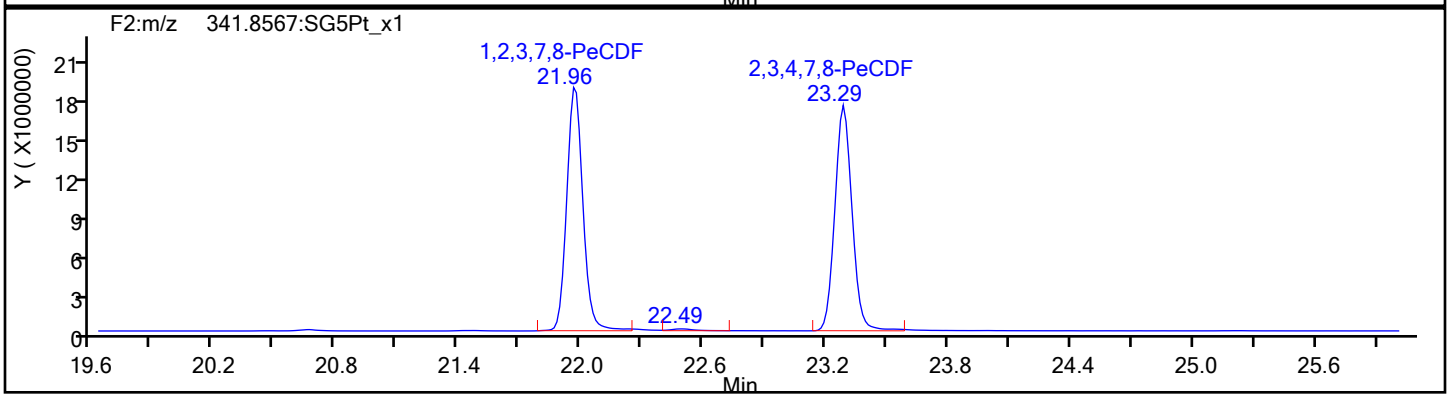

PeCDF Standards

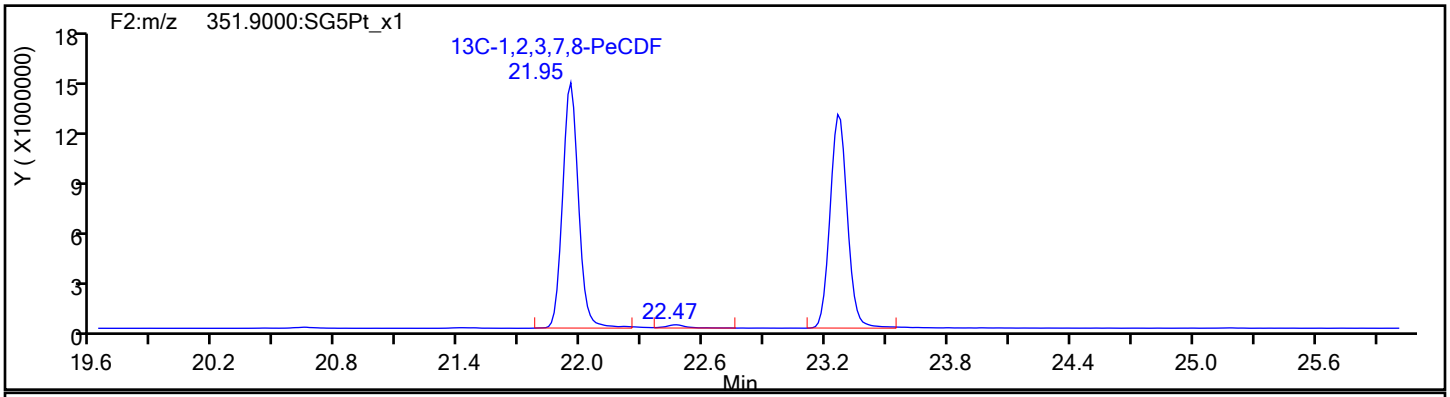

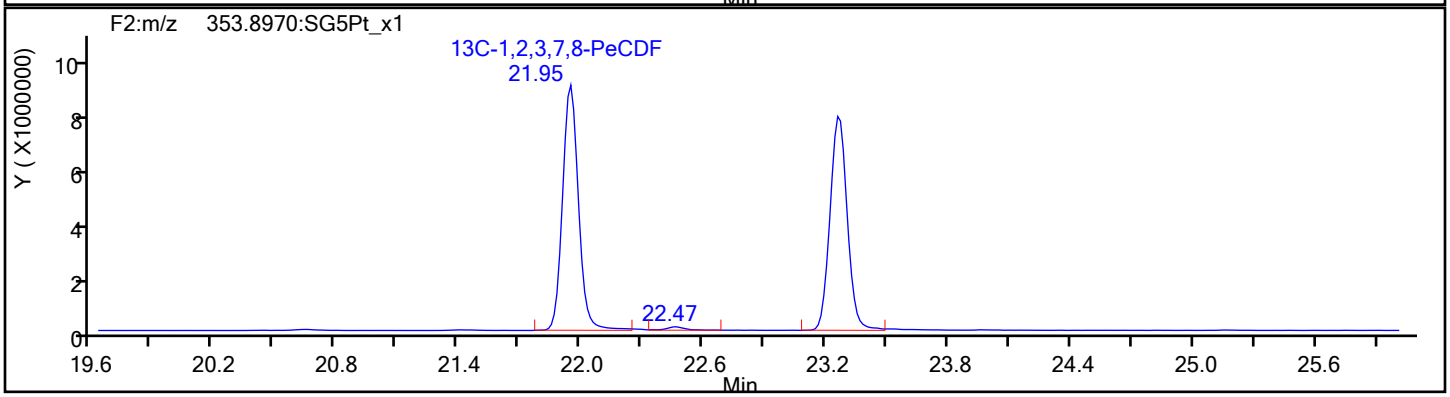

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Eurofins TestAmerica, Sacramento

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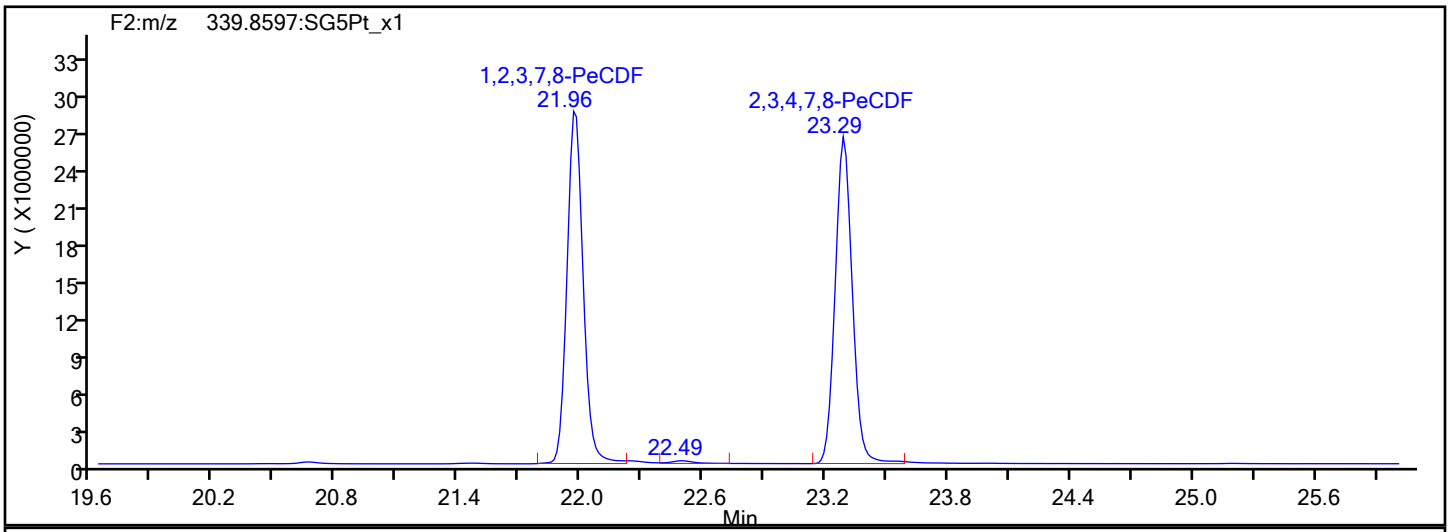

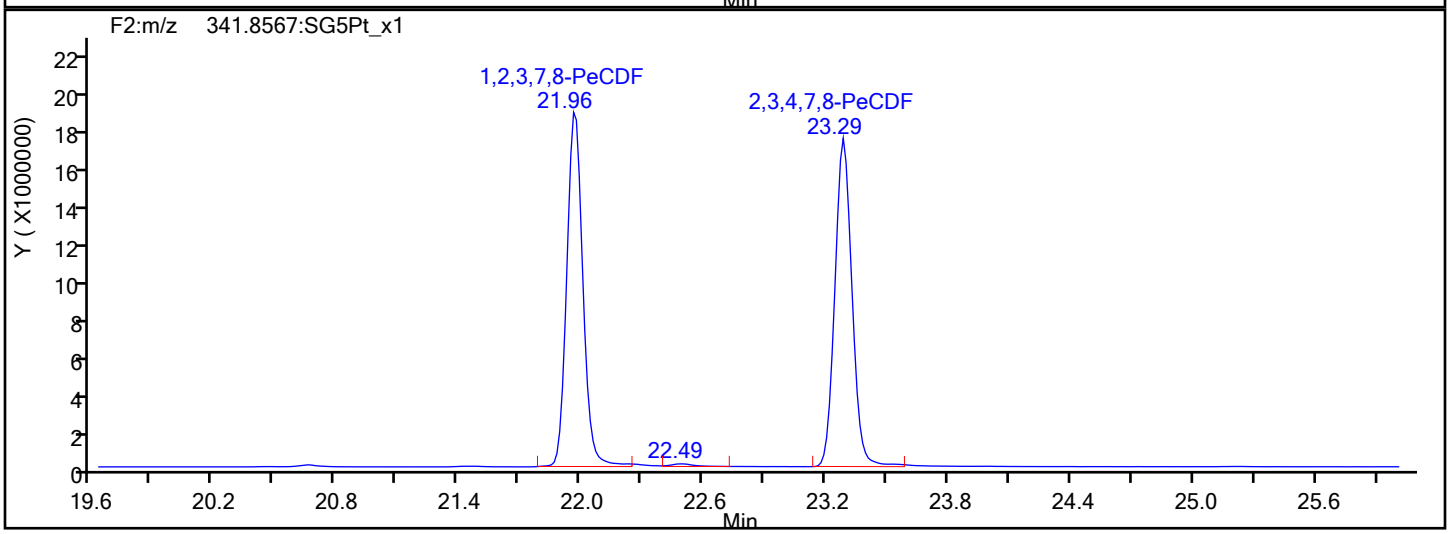

PeCDF Interference Mass

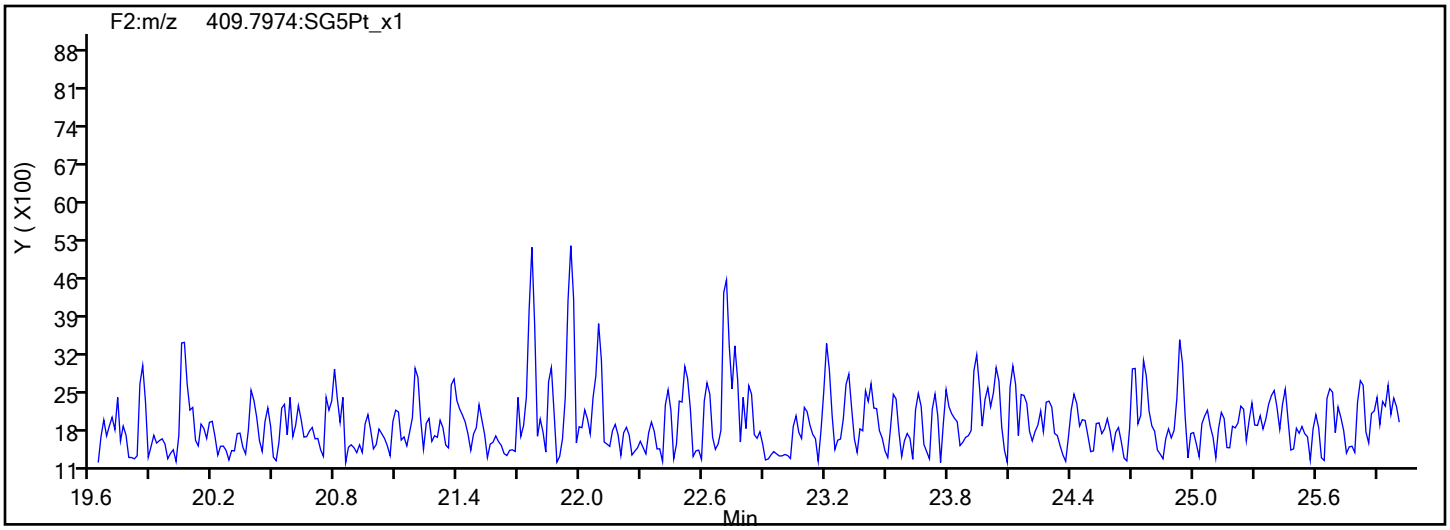

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Eurofins TestAmerica, Sacramento

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PeCDD

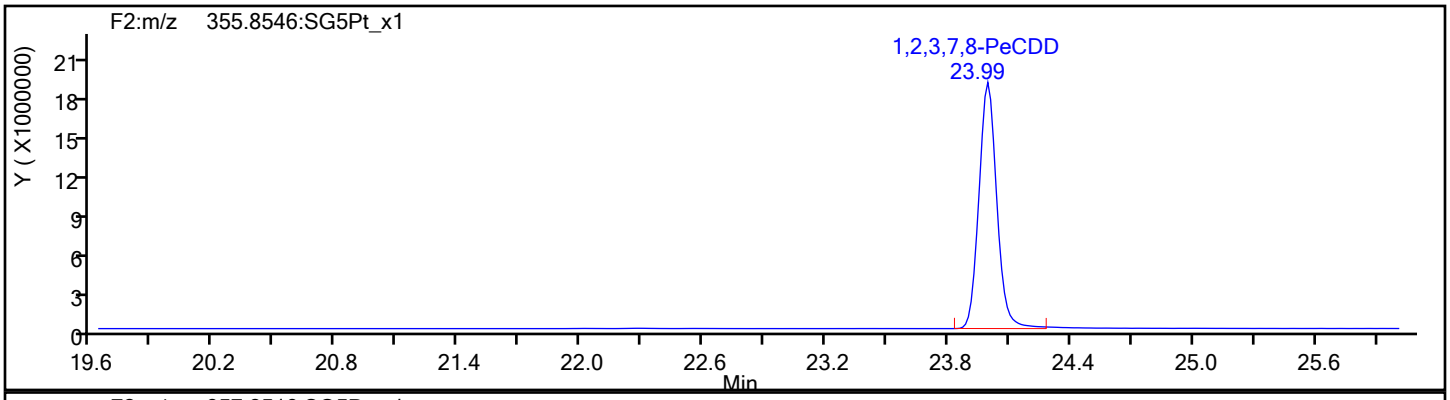

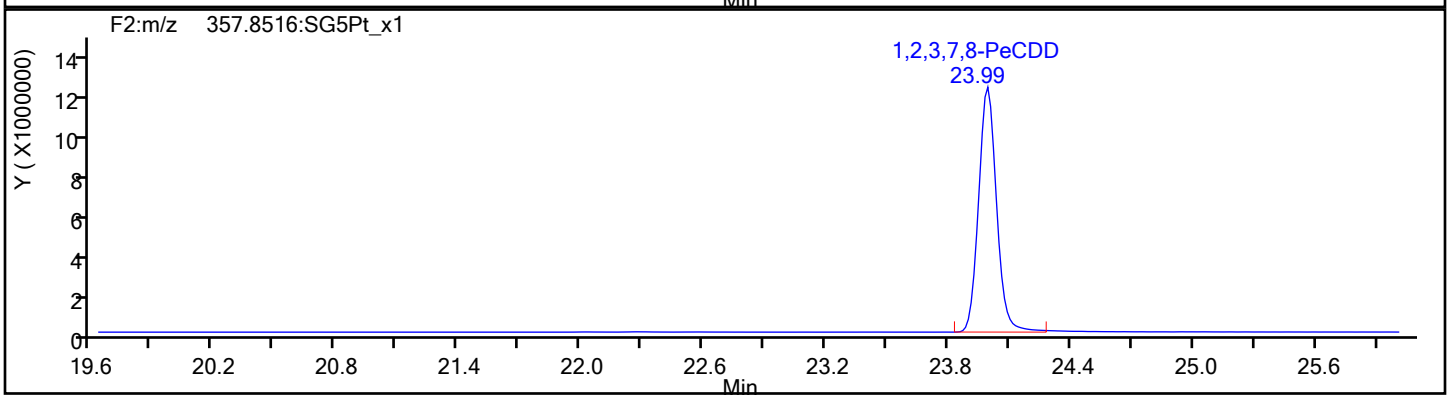

PeCDD Standards

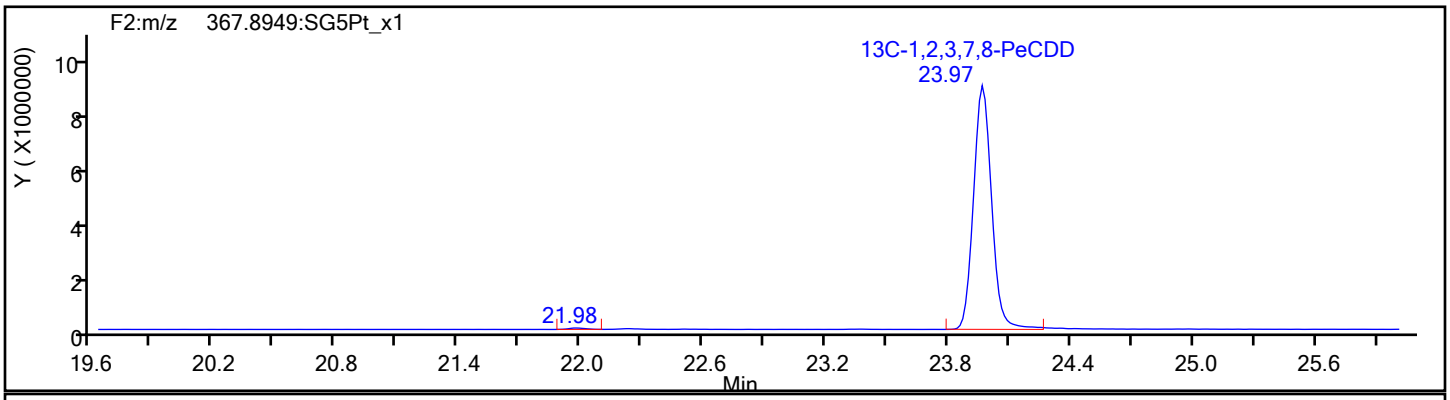

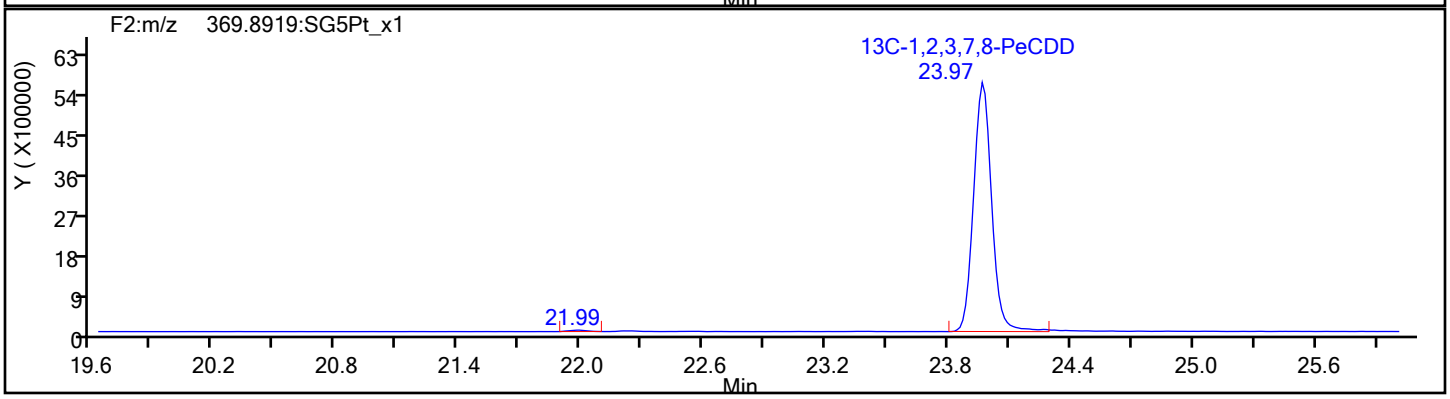

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Eurofins TestAmerica, Sacramento

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HxCDF

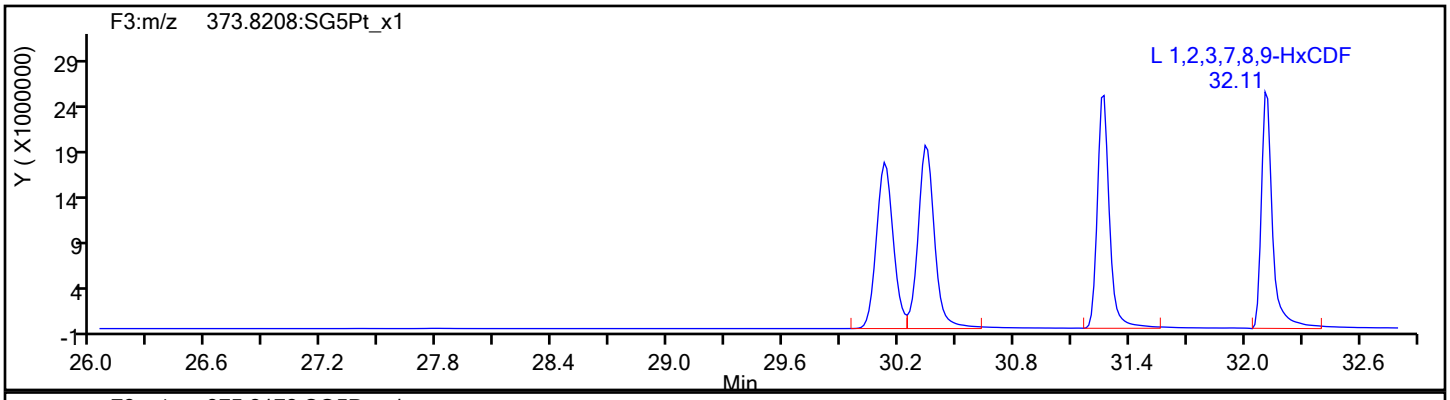

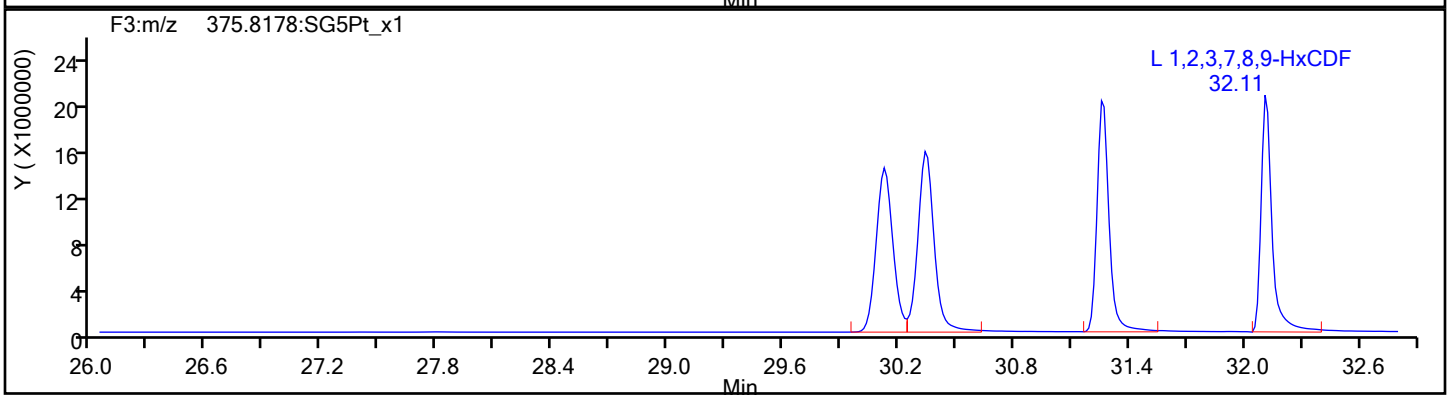

HxCDF Standards

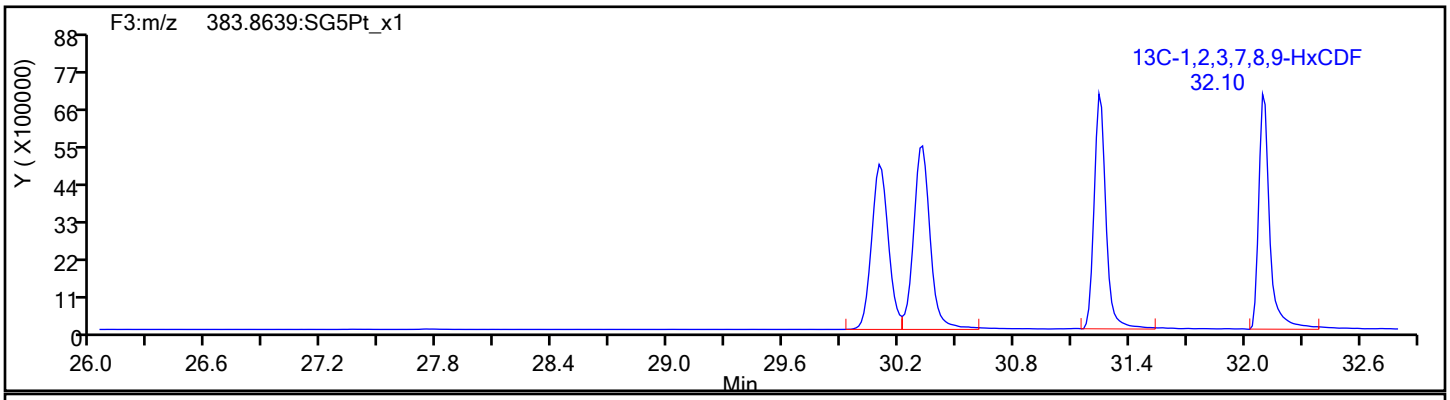

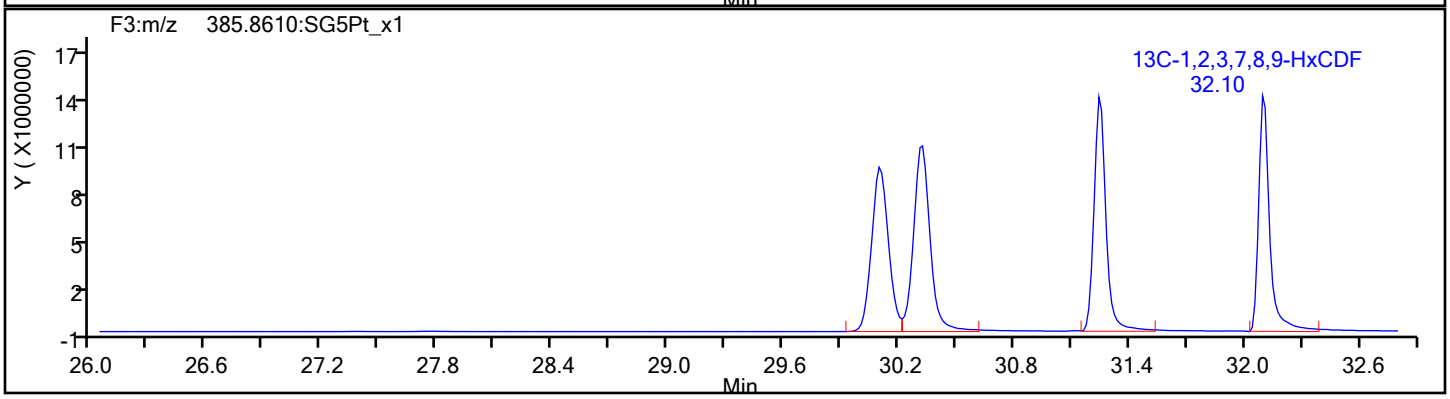

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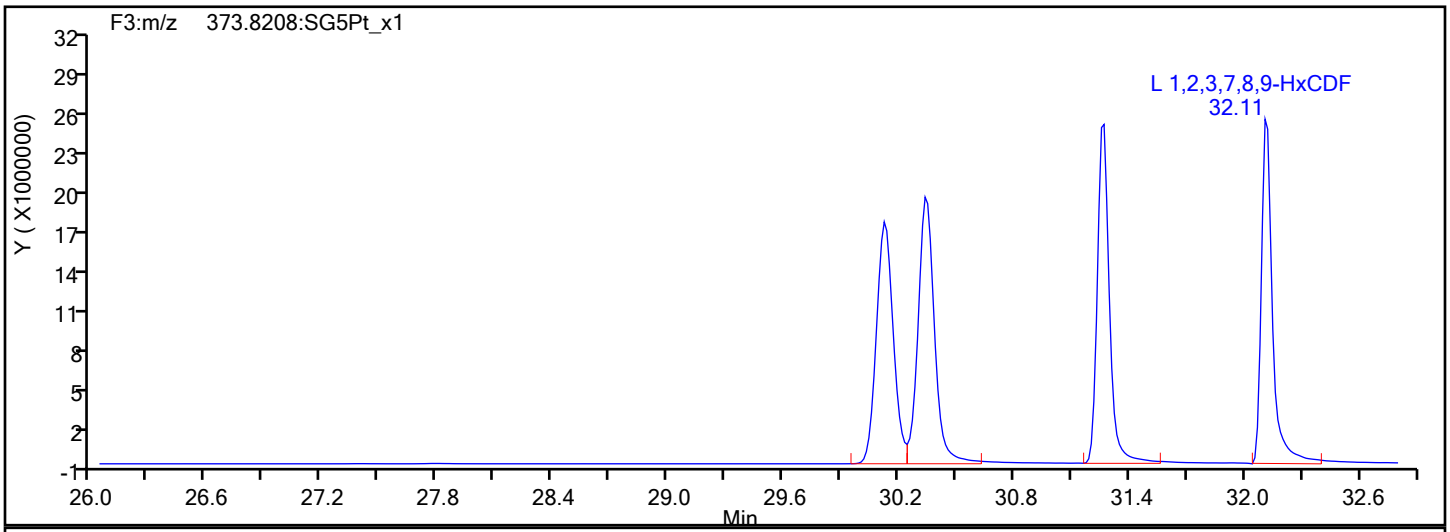

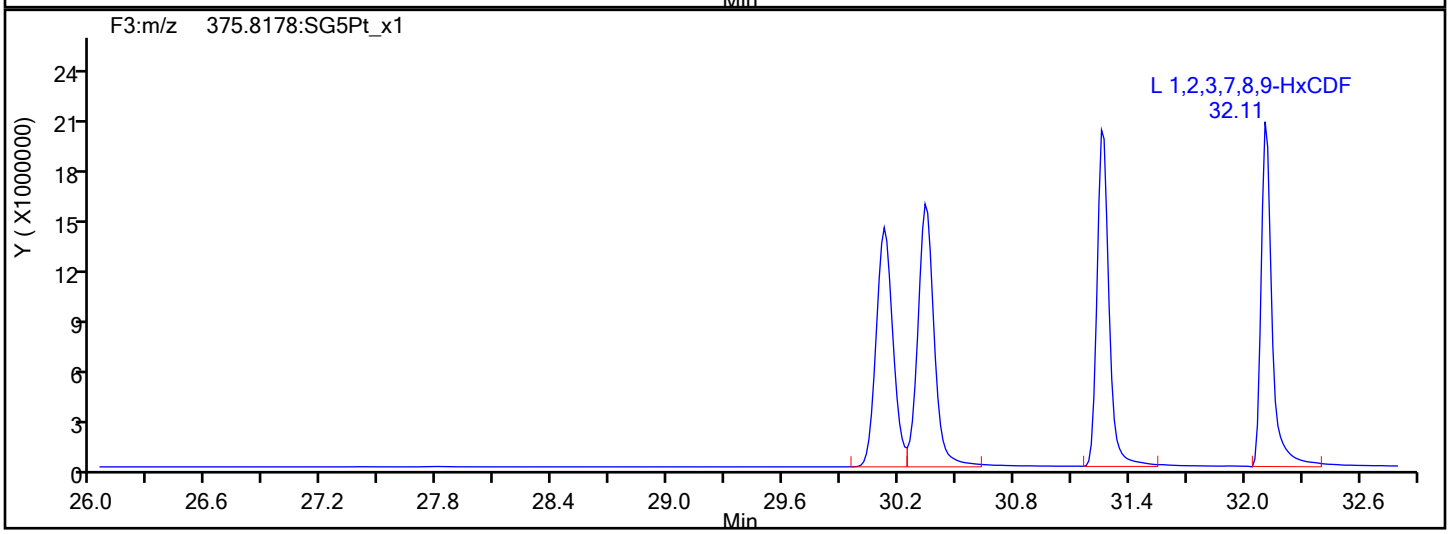

HxCDF Interference Mass

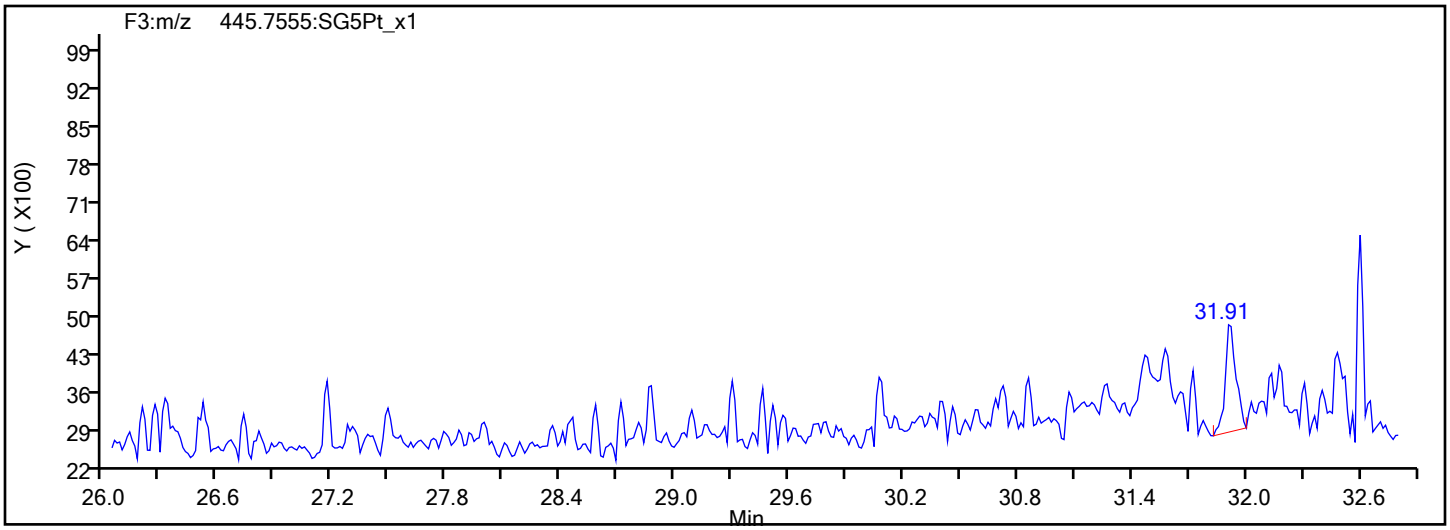

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HxCDD

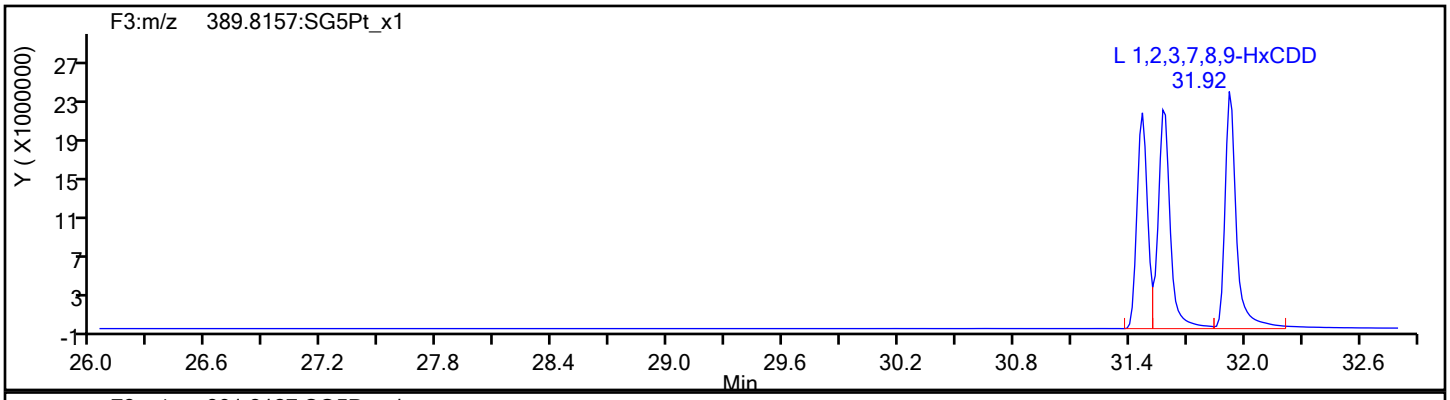

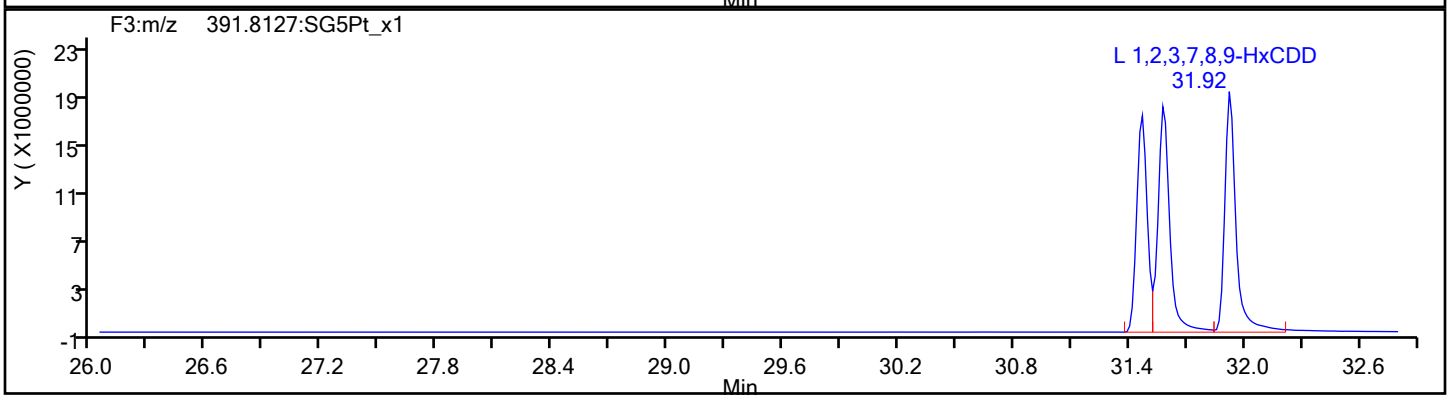

HxCDD Standards

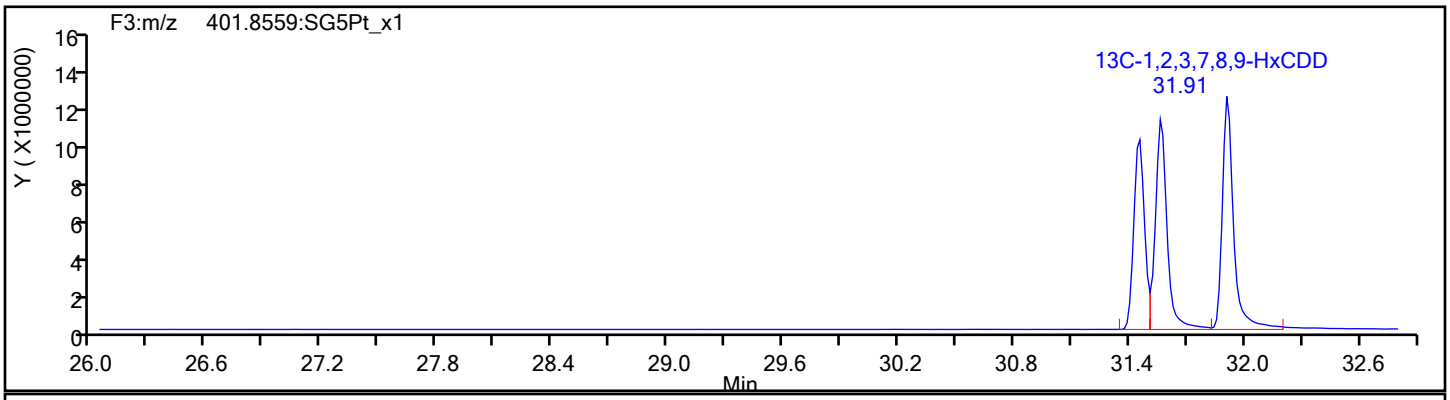

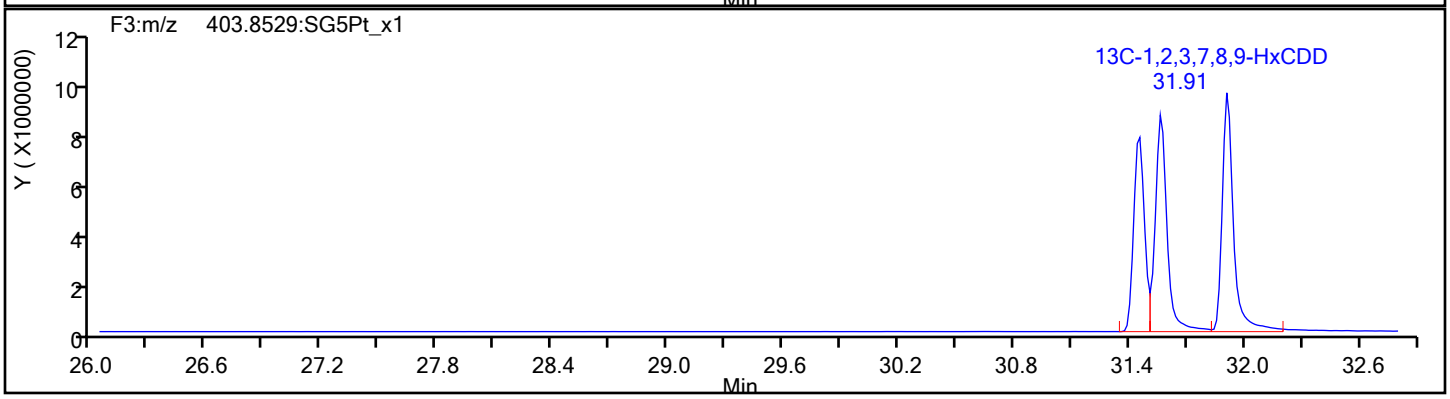

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HpCDF

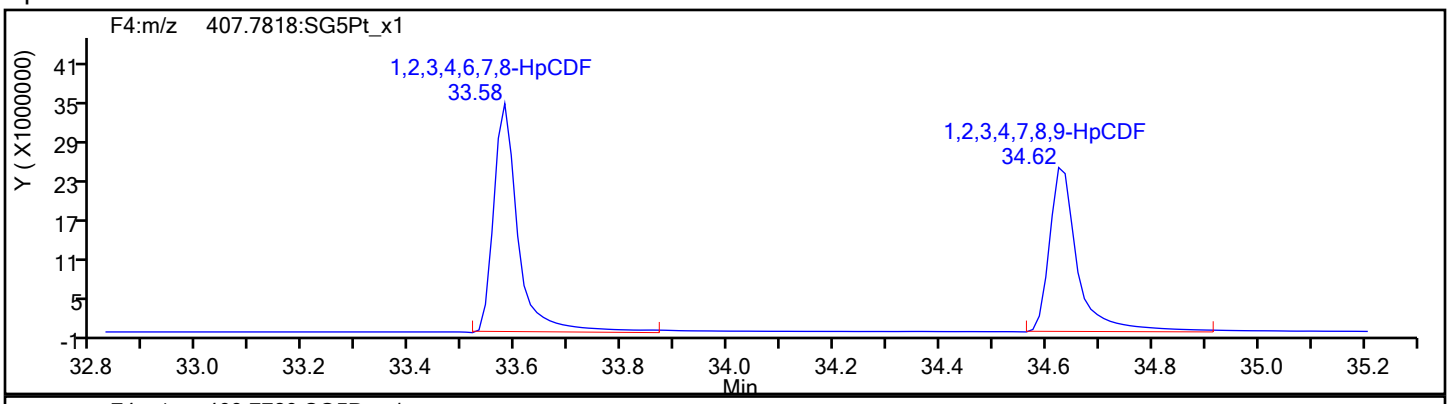

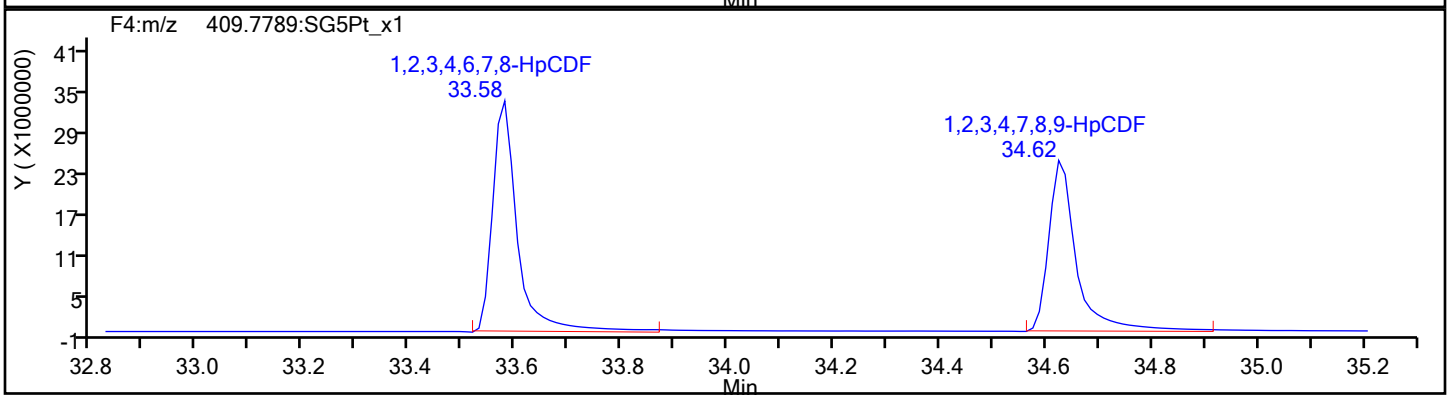

HpCDF Standards

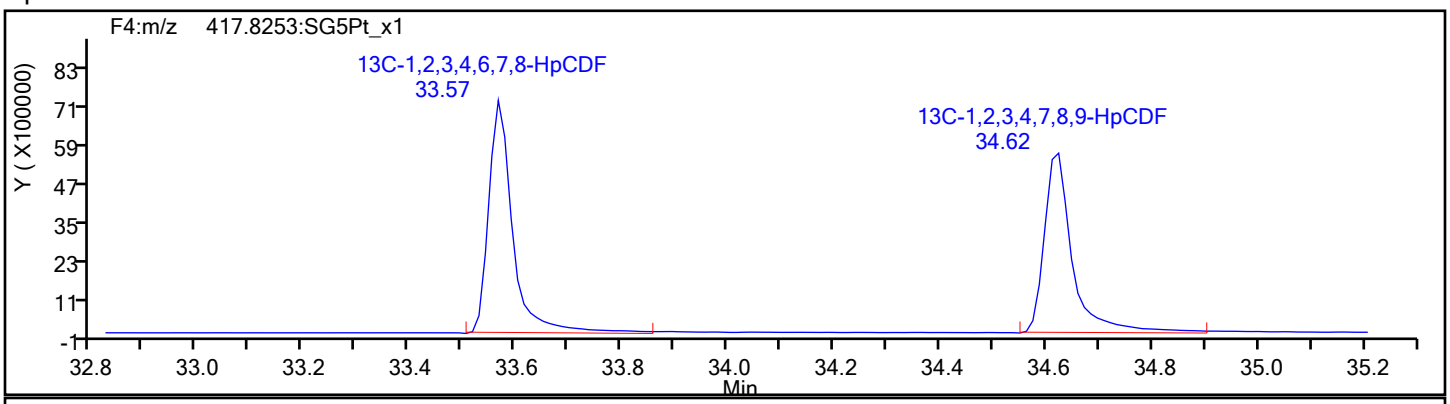

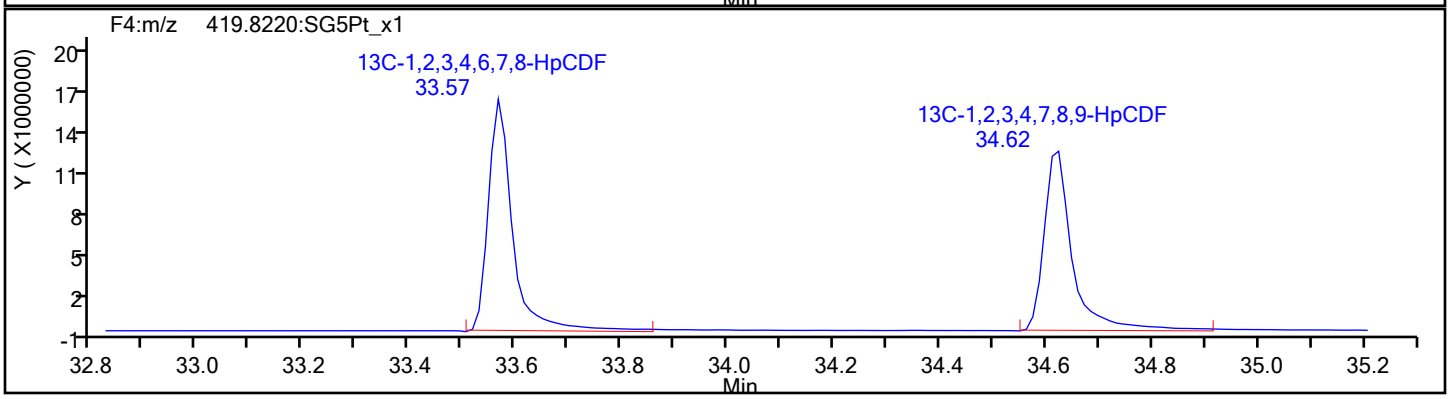

Report Date: 14-Nov-2019 16:54:39 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_6.d		
Injection Date:	14-Nov-2019 12:04:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

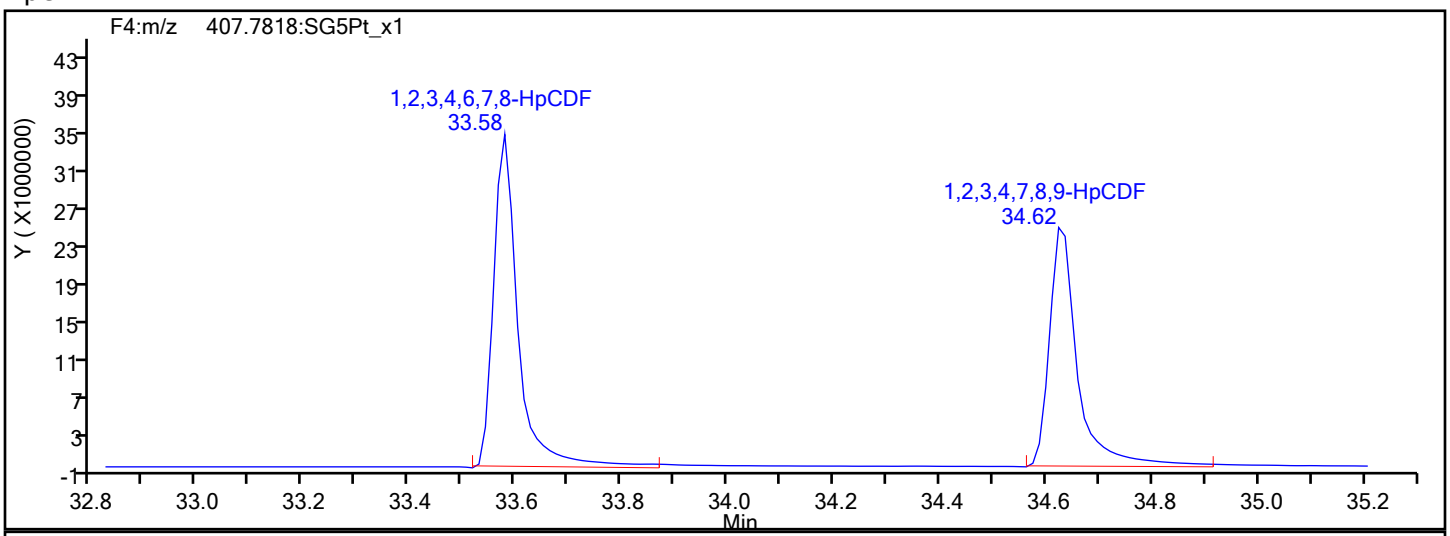

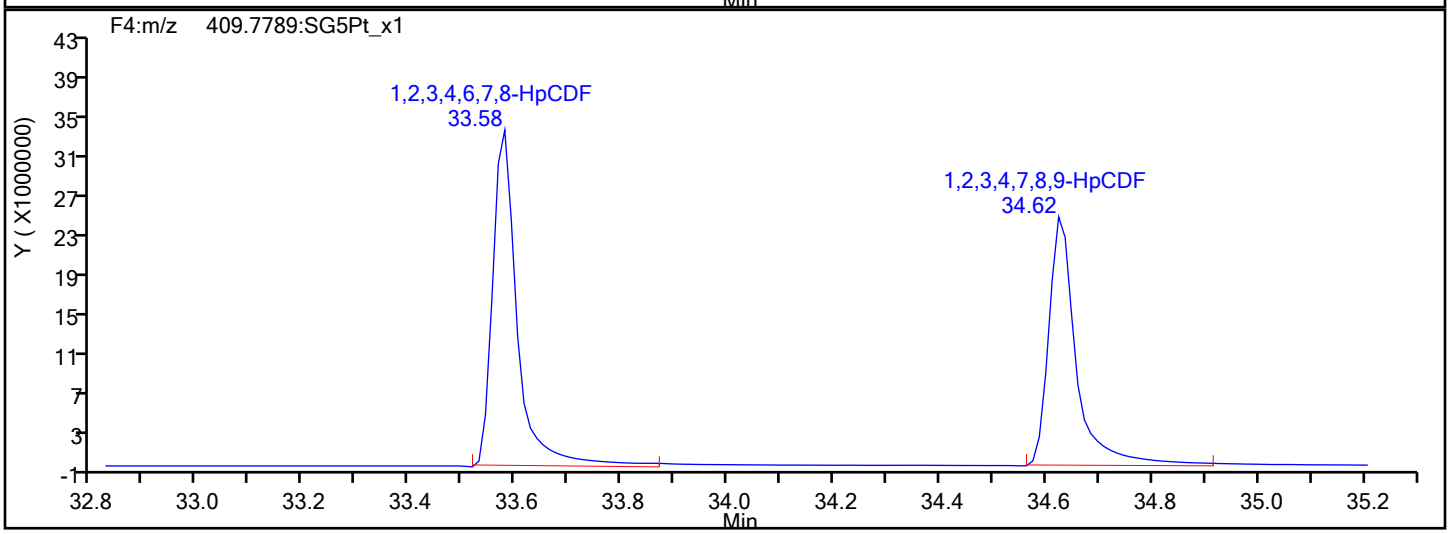

HpCDF Interference Mass

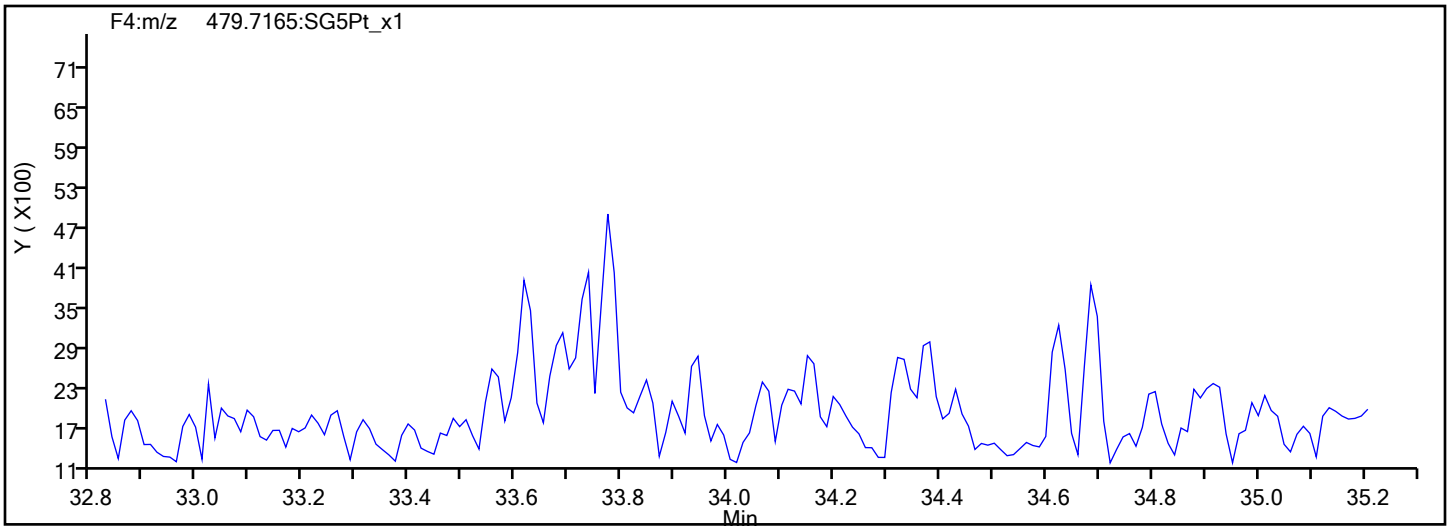

Report Date: 14-Nov-2019 16:54:39 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_6.d		
Injection Date:	14-Nov-2019 12:04:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

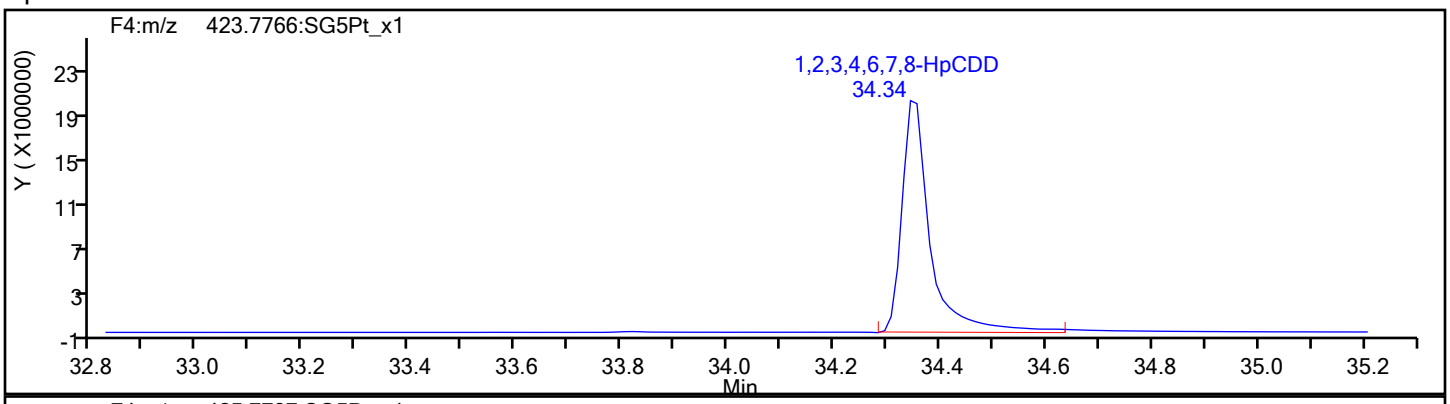

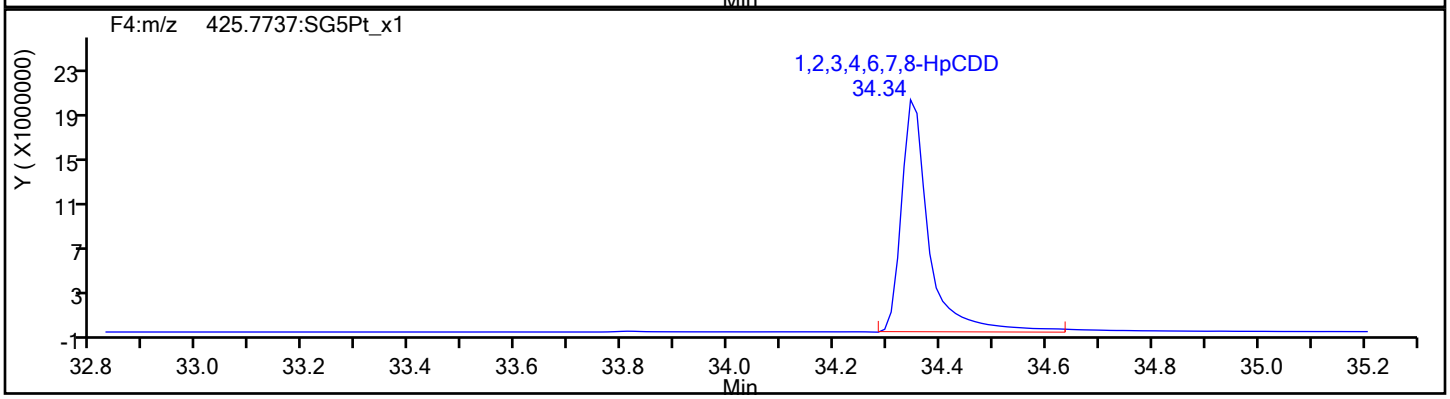

HpCDD Standards

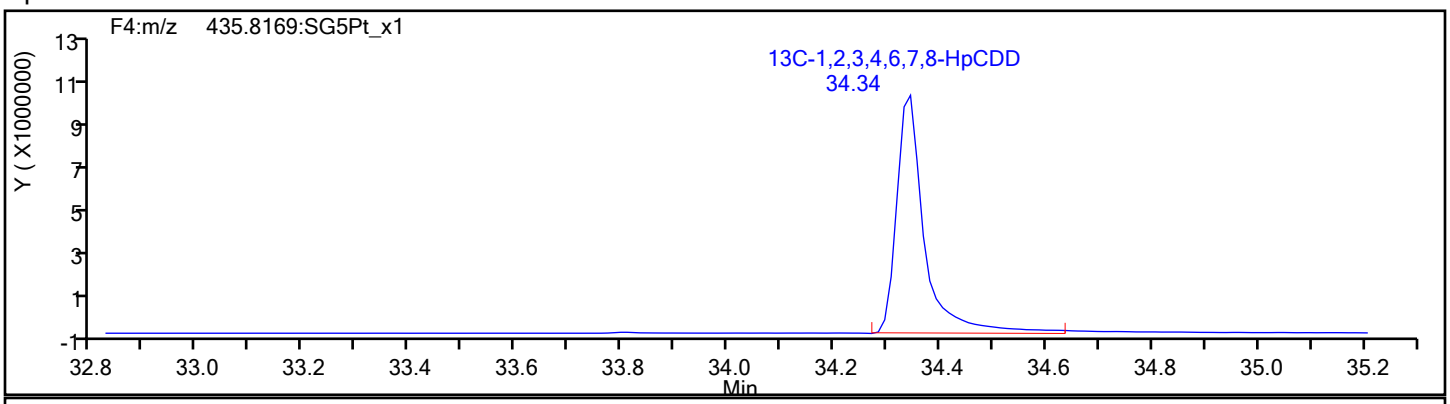

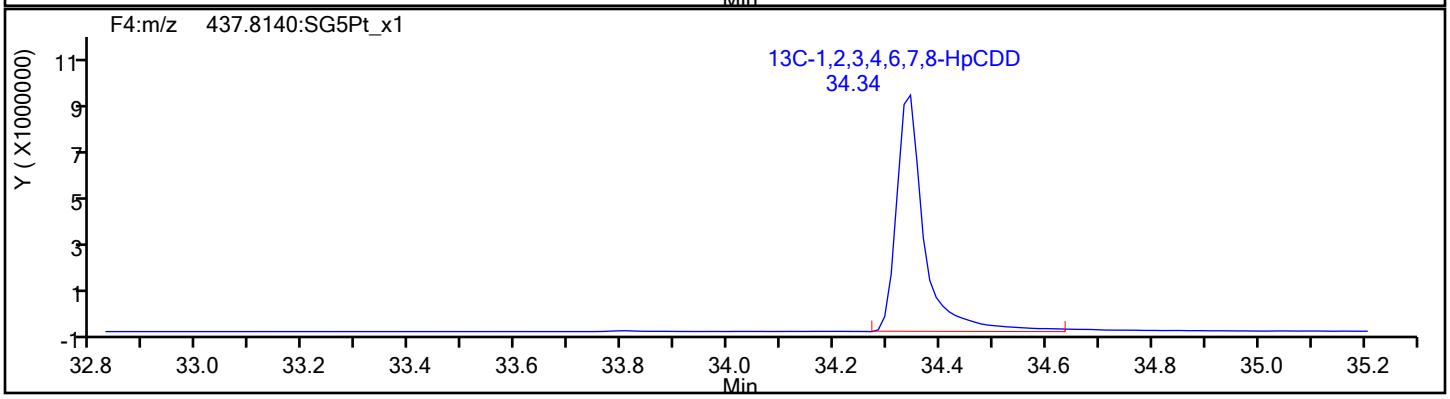

Report Date: 14-Nov-2019 16:54:39 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_6.d		
Injection Date:	14-Nov-2019 12:04:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

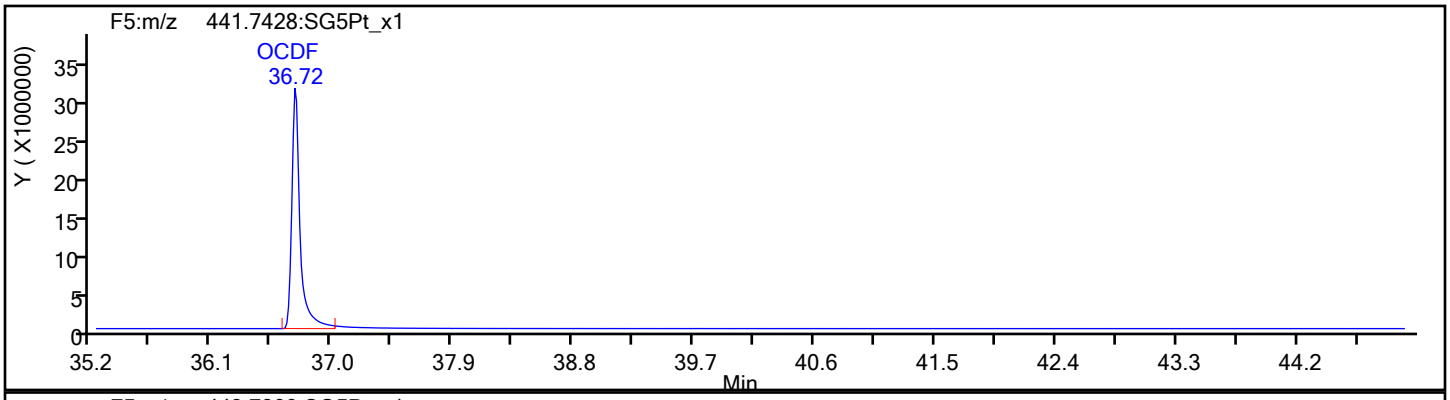

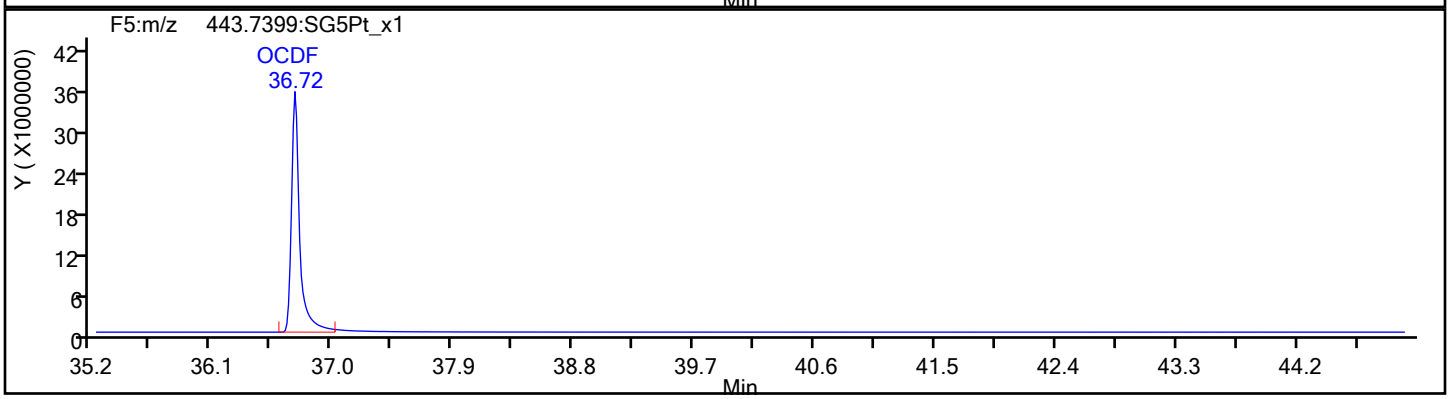

OCDF Standards

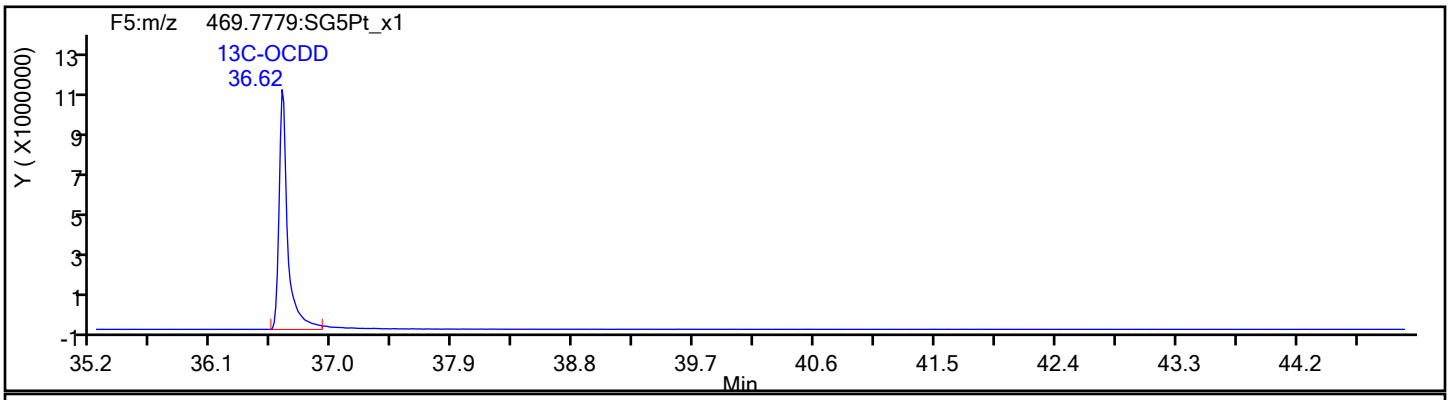

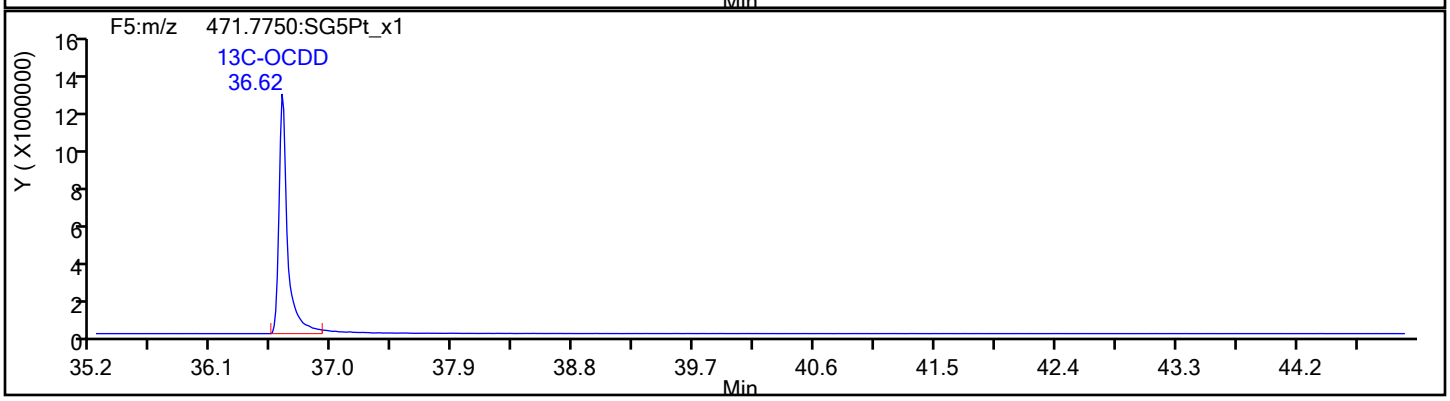

Report Date: 14-Nov-2019 16:54:39 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_6.d		
Injection Date:	14-Nov-2019 12:04:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

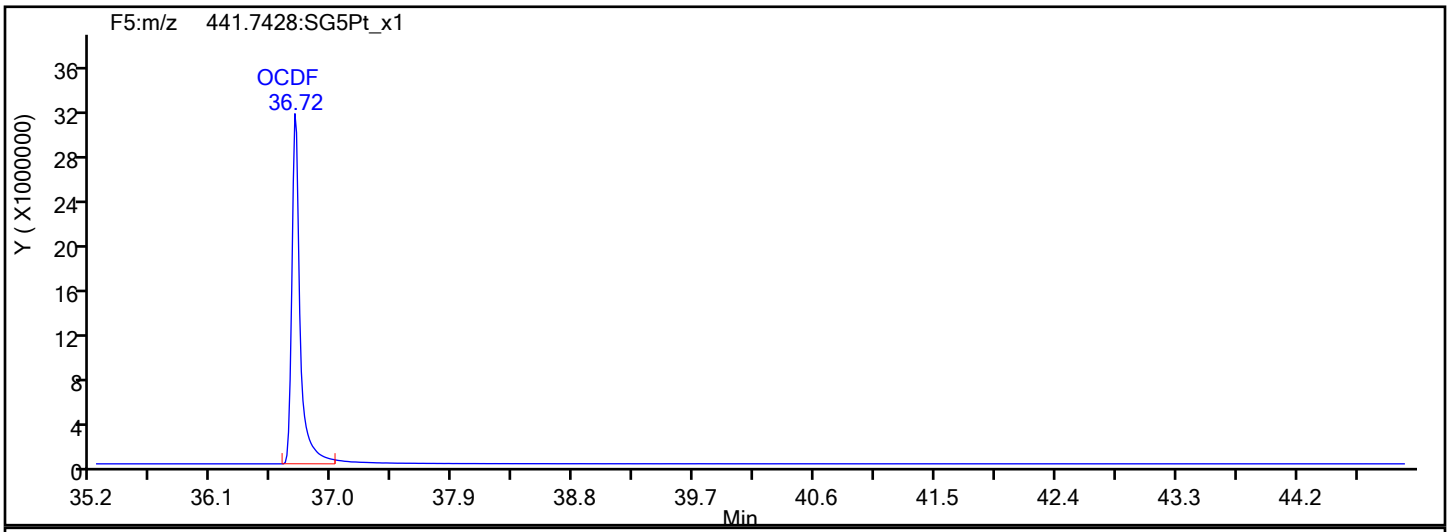

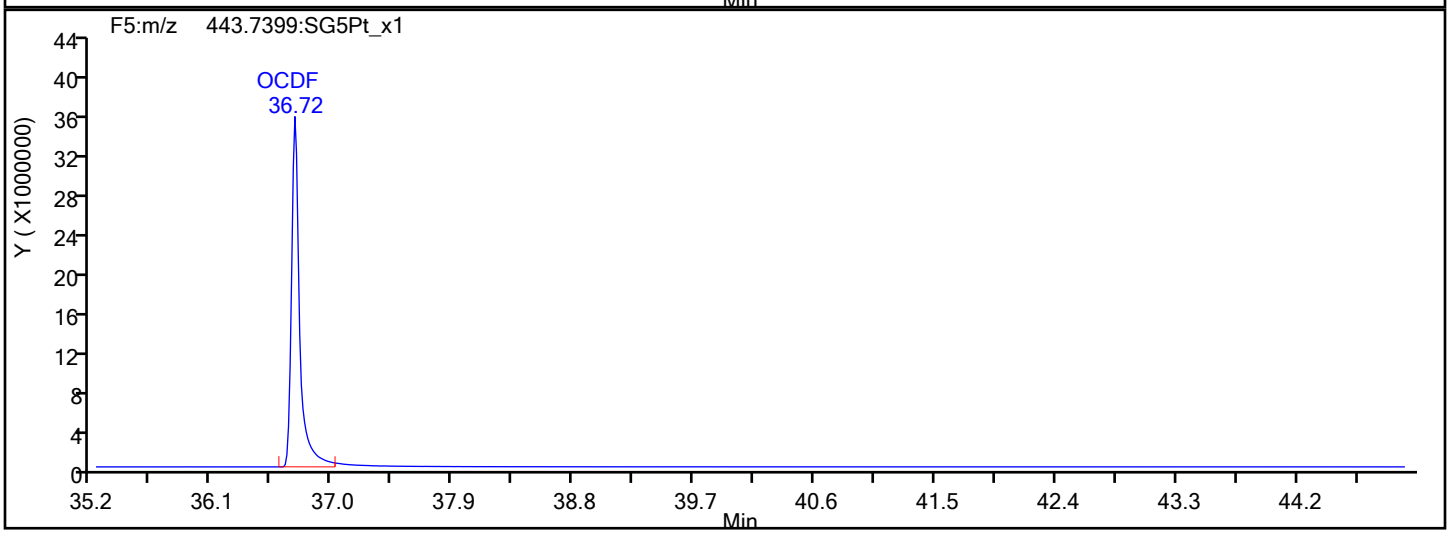

OCDF Interference Mass

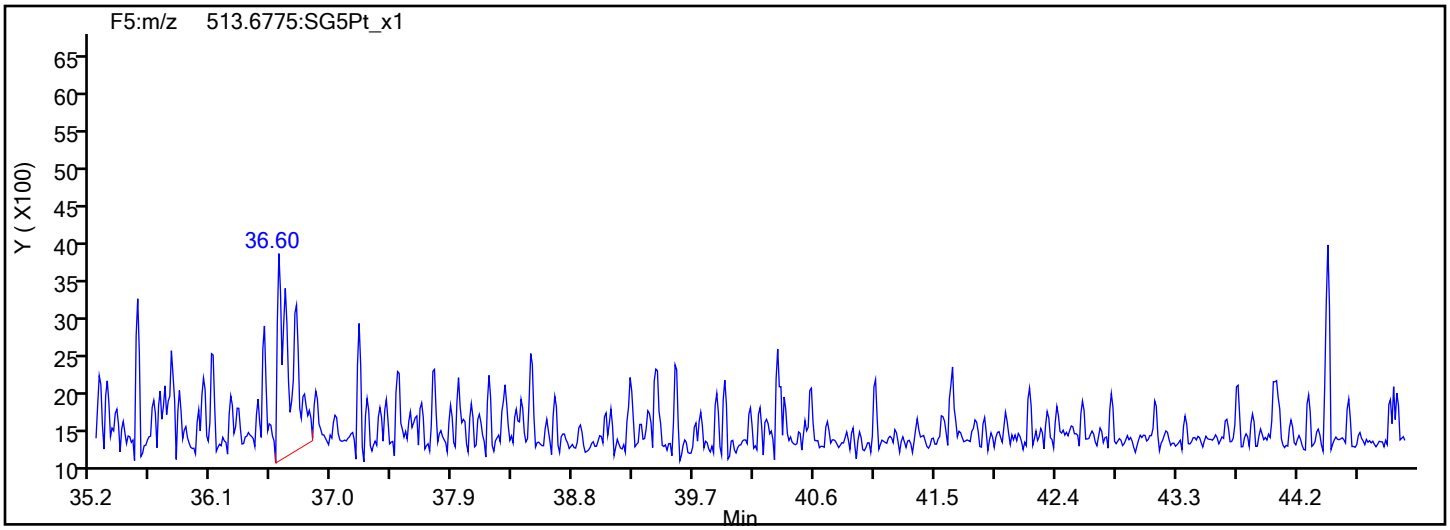

Report Date: 14-Nov-2019 16:54:39 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_6.d		
Injection Date:	14-Nov-2019 12:04:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

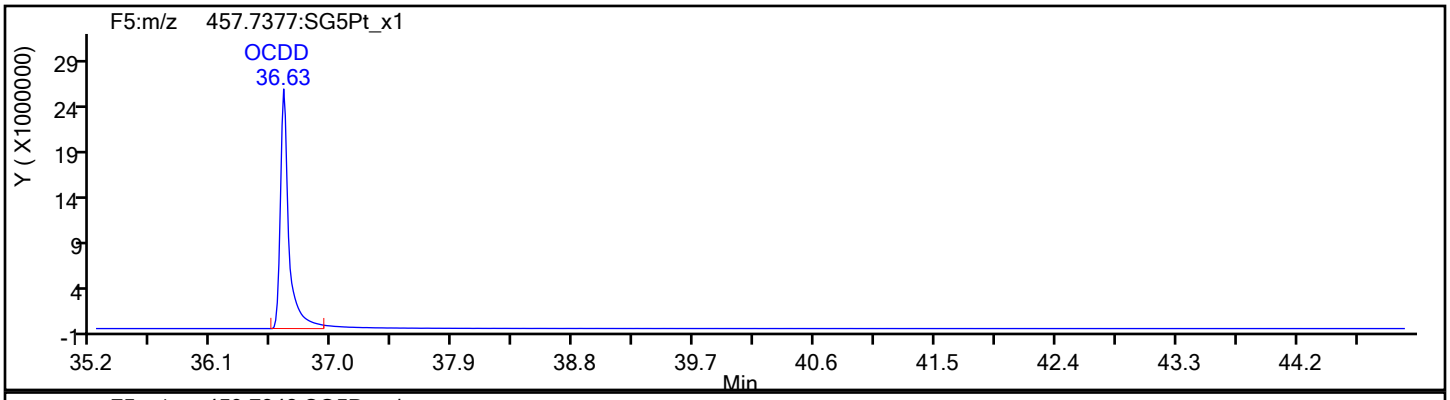

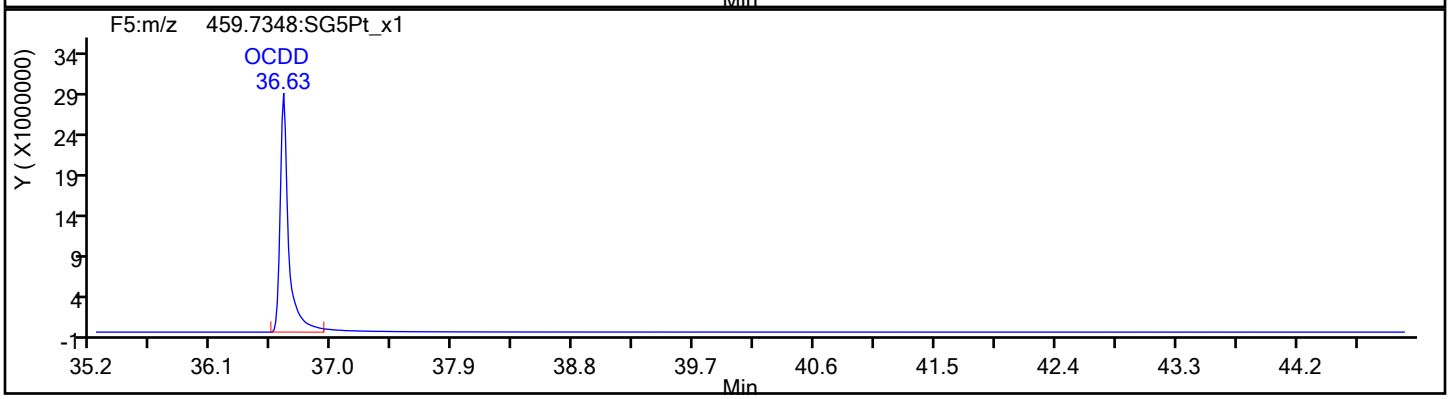

OCDD Standards

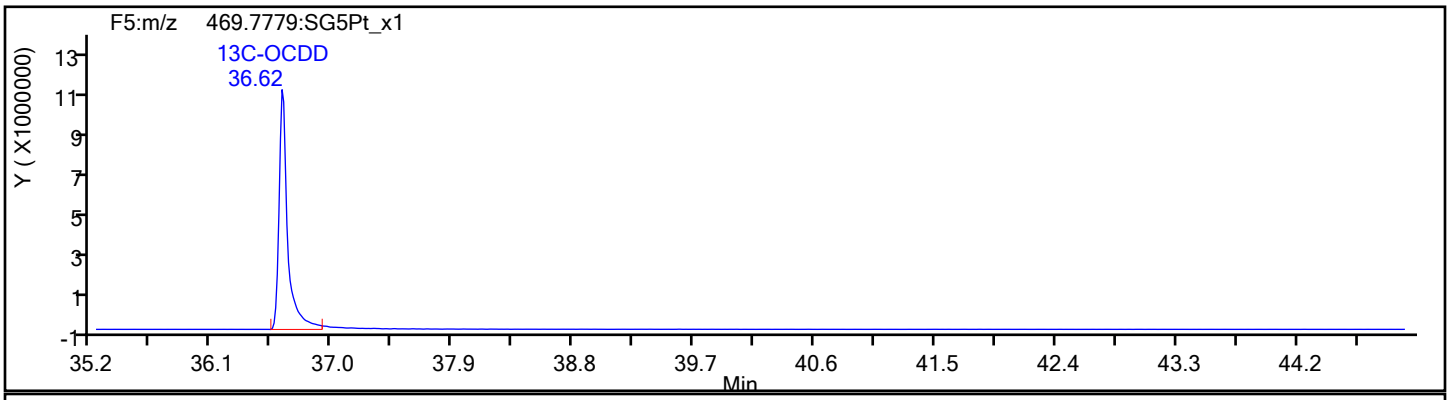

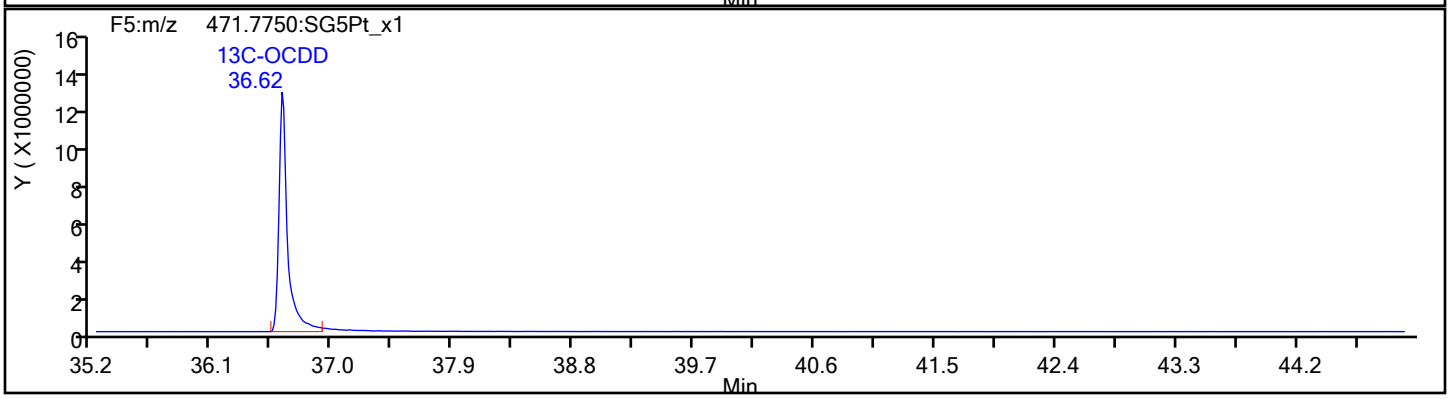

Report Date: 14-Nov-2019 16:54:39 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_6.d		
Injection Date:	14-Nov-2019 12:04:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

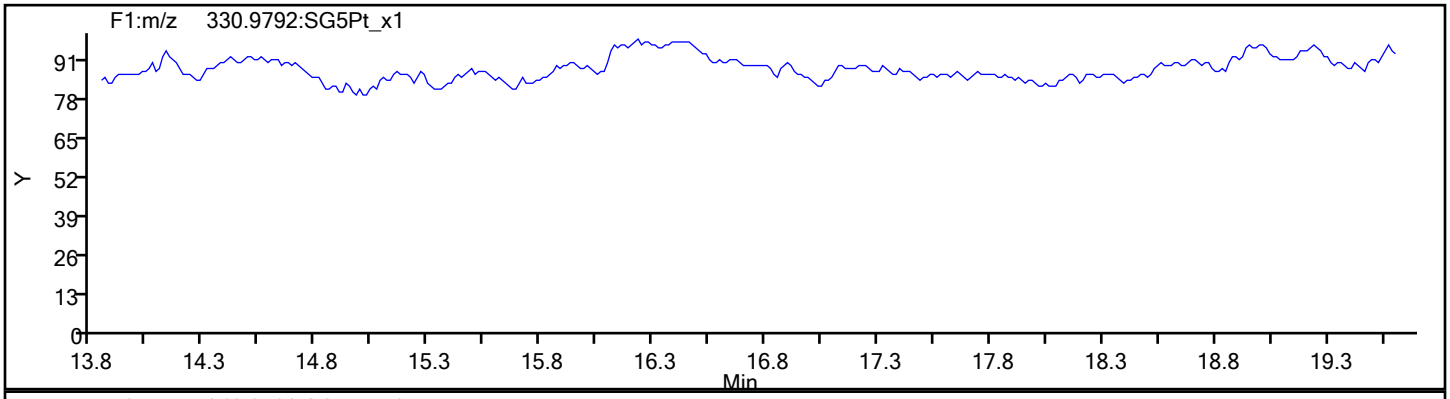

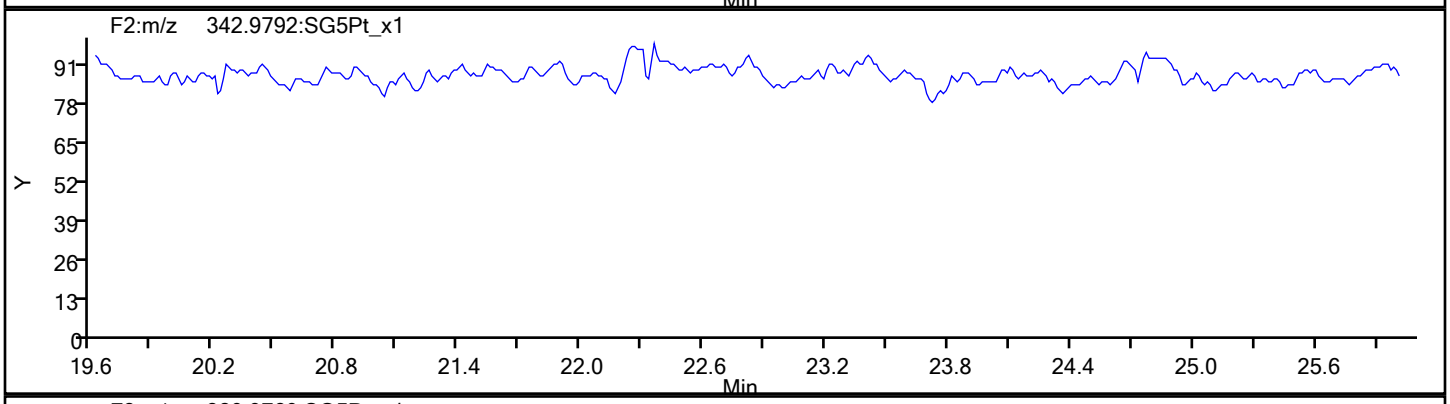

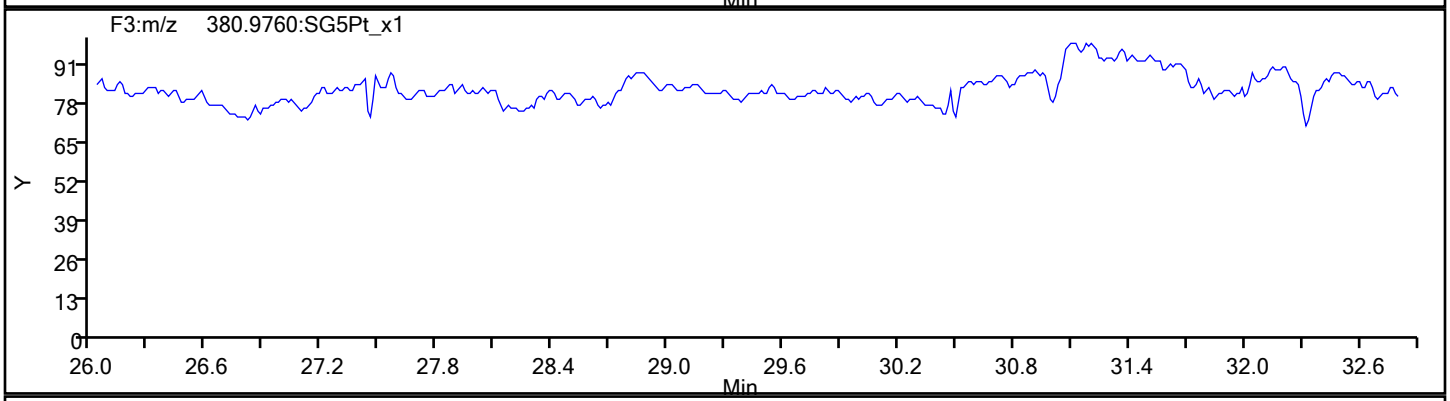

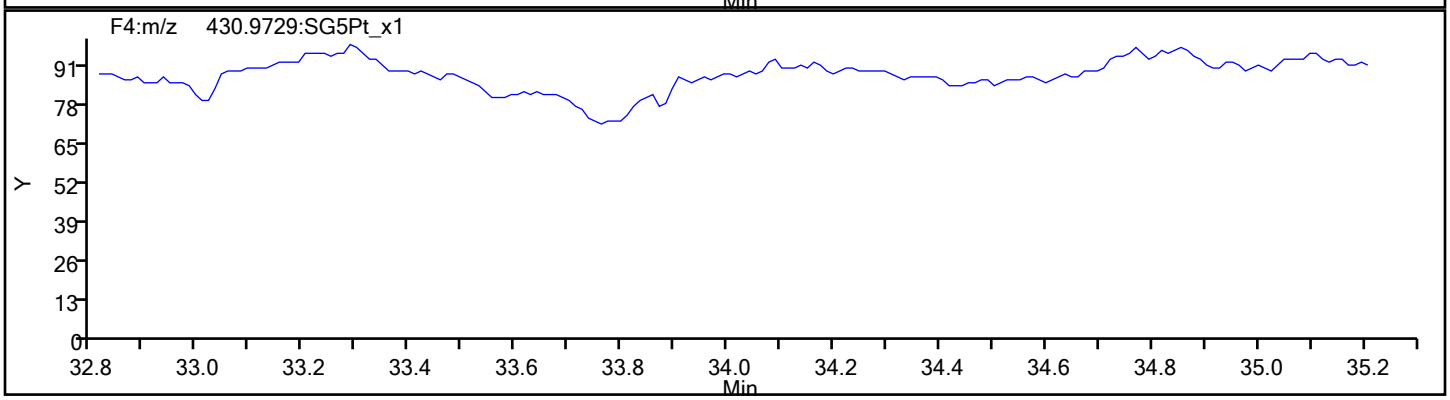

Report Date: 14-Nov-2019 16:54:39 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_6.d		
Injection Date:	14-Nov-2019 12:04:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

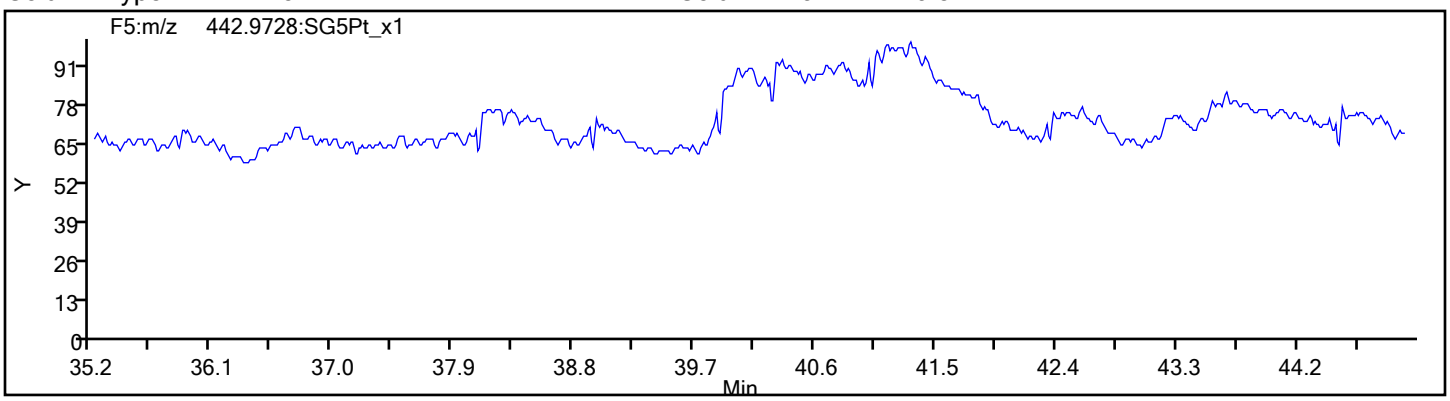

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_7.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 14-Nov-2019 12:50:49 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC111419D CS-6 HRDXNL6_00024
Misc. Info.: 14NO1910D5
Operator ID: SMA Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Nov-2019 16:54:42 Calib Date: 14-Nov-2019 12:50:49
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: arghestanis Date: 14-Nov-2019 13:53:34

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.532	104189512	0.80	1.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.034	139383549	0.77	1.3318	100.4	100.4	0.1502	0.1502	100	
2,3,7,8-TCDF	17.049	252127694	0.76	0.9005	200.9	200.9	0.3290	0.3290	100	
S Total TCDF					200.9	200.9	0.3290	0.3290		
D 13C-2,3,7,8-TCDD	17.729	102520996	0.78	0.9647	102.0	102.0	0.2050	0.2050	102	
2,3,7,8-TCDD	17.744	219628955	0.78	1.0698	200.3	200.3	0.2049	0.2049	100	
$ 37Cl4-2,3,7,8-TCDD	17.744	279889579		1.3082	205.3	205.3	0.3239	0.3239	103	
S Total TCDD					200.3	200.3	0.2049	0.2049		
D 13C-1,2,3,7,8-PeCDF	21.949	115062874	1.58	1.0537	104.8	104.8	0.2725	0.2725	105	
1,2,3,7,8-PeCDF	21.977	1124414192	1.55	0.9704	1007.0	1007.0	3.488	3.488	101	
D 13C-2,3,4,7,8-PeCDF	23.258	110168728	1.57	1.0173	103.9	103.9	0.2822	0.2822	104	
2,3,4,7,8-PeCDF	23.286	1101823445	1.54	0.9986	1001.6	1001.6	3.845	3.845	100	
S Total PeCDF					2008.6	2008.6	3.667	3.667		
D 13C-1,2,3,7,8-PeCDD	23.968	79581792	1.57	0.7281	104.9	104.9	0.1464	0.1464	105	
1,2,3,7,8-PeCDD	23.995	803296921	1.58	1.0023	1007.0	1007.0	1.370	1.370	101	
S Total PeCDD					1007.0	1007.0	1.370	1.370		
D 13C-1,2,3,4,7,8-HxCDF	30.113	80175121	0.52	0.9632	102.3	102.3	0.5088	0.5088	102	
1,2,3,4,7,8-HxCDF	30.140	844095405	1.21	1.0315	1020.7	1020.7	7.301	7.301	102	
D 13C-1,2,3,6,7,8-HxCDF	30.326	88786422	0.51	1.0646	102.5	102.5	0.4603	0.4603	103	
1,2,3,6,7,8-HxCDF	30.353	906309496	1.21	1.0235	997.3	997.3	6.332	6.332	99.73	
D 13C-2,3,4,6,7,8-HxCDF	31.258	80545635	0.52	0.9696	102.1	102.1	0.5054	0.5054	102	
2,3,4,6,7,8-HxCDF	31.271	848438372	1.21	1.0645	989.5	989.5	5.015	5.015	98.95	
D 13C-1,2,3,7,8,9-HxCDF	32.110	74684364	0.50	0.8955	102.5	102.5	0.5472	0.5472	103	
1,2,3,7,8,9-HxCDF	32.123	798982446	1.22	1.0664	1003.2	1003.2	4.759	4.759	100	
S Total HxCDF					4010.7	4010.7	5.852	5.852		
* 13C-1,2,3,7,8,9-HxCDD	31.923	81352582	1.24	8.8E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.457	63178776	1.24	0.7590	102.3	102.3	0.4431	0.4431	102	
1,2,3,4,7,8-HxCDD	31.471	661180887	1.29	1.0054	1040.9	1040.9	3.393	3.393	104	
D 13C-1,2,3,6,7,8-HxCDD	31.577	78792852	1.25	0.9247	104.7	104.7	0.3637	0.3637	105	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.590	758968703	1.20	0.9833	979.6	979.6	3.245	3.245	97.96	
1,2,3,7,8,9-HxCDD	31.937	769482602	1.24	1.1036	982.3	982.3	2.988	2.988	98.23	
S Total HxCDD					3002.8	3002.8	3.209	3.209		
D 13C-1,2,3,4,6,7,8-HpCDF	33.567	66583432	0.44	0.7930	103.2	103.2	1.934	1.934	103	
1,2,3,4,6,7,8-HpCDF	33.579	932005937	1.03	1.4240	982.9	982.9	11.5	11.5	98.29	
D 13C-1,2,3,4,7,8,9-HpCDF	34.624	62876654	0.44	0.7296	105.9	105.9	2.102	2.102	106	
1,2,3,4,7,8,9-HpCDF	34.637	807051823	1.03	1.2834	1000.1	1000.1	14.9	14.9	100	
S Total HpCDF					1983.1	1983.1	13.2	13.2		
D 13C-1,2,3,4,6,7,8-HpCDD	34.345	64235657	1.05	0.7532	104.8	104.8	0.6524	0.6524	105	
1,2,3,4,6,7,8-HpCDD	34.357	650929056	1.04	1.0174	996.0	996.0	5.161	5.161	99.60	
S Total HpCDD					996.0	996.0	5.161	5.161		
D 13C-OCDD	36.633	102351522	0.90	0.5621	223.8	223.8	0.3041	0.3041	112	
OCDF	36.729	1329507408	0.90	1.3047	1991.2	1991.2	1.558	1.558	99.56	
OCDD	36.646	1103964033	0.89	1.0997	1961.7	1961.7	2.344	2.344	98.08	

Reagents:

HRDXNL6_00024 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_7.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 14-Nov-2019 12:50:49 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC111419D CS-6 HRDXNL6_00024
Misc. Info.: 14NO1910D5
Operator ID: SMA Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Nov-2019 16:54:42 Calib Date: 14-Nov-2019 12:50:49
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: arghestanis Date: 14-Nov-2019 13:53:34

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.532	17.539	0		46236786	11633976	10501	26252	1108		
333.9339	17.532	17.539	0		57952726	14697189	10323	25807	1424	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.034	17.034	0	0.972	60749751	15566112	11308	28270	1377		
317.9389	17.034	17.034	0	0.972	78633798	20178356	9759	24397	2068	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.049	17.049	0	1.001	108470527	27601651	16205	40512	1703		
305.8987	17.049	17.049	0	1.001	143657167	36596012	26161	65402	1399	0.76(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.729	17.729	0	1.011	45055920	10702642	10501	26252	1019		
333.9339	17.729	17.729	0	1.011	57465076	13740013	10323	25807	1331	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.744	17.744	0	1.001	96256563	23442657	9921	24802	2363		
321.8936	17.744	17.744	0	1.001	123372392	30056521	11506	28765	2612	0.78(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.744	17.744	0	1.012	279889579	67879777	44630	111575	1521		
13C-1,2,3,7,8-PeCDF											
351.9000	21.949	21.949	0	1.252	70506890	12697127	17938	44845	708		
353.8970	21.949	21.949	0	1.252	44555984	8164125	12301	30752	664	1.58(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.977	21.971	0	1.001	683340291	122373852	172447	431117	710		
341.8567	21.977	21.971	0	1.001	441073901	78452721	110023	275057	713	1.55(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	23.258	23.258	0	1.327	67305378	11214899	17938	44845	625		
353.8970	23.258	23.258	0	1.327	42863350	7177108	12301	30752	583	1.57(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.286	23.286	0	1.001	668637233	110708982	172447	431117	642		
341.8567	23.286	23.286	0	1.001	433186212	71905558	110023	275057	654	1.54(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.968	23.968	0	1.367	48675269	7913699	7044	17610	1123		
369.8919	23.968	23.968	0	1.367	30906523	4903004	4180	10450	1173	1.57(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.995	23.995	0	1.001	491370587	79336248	43449	108622	1826		
357.8516	23.995	23.995	0	1.001	311926334	50196955	26934	67335	1864	1.58(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.113	30.102	1	0.943	27265510	4429566	12759	31897	347		
385.8610	30.113	30.102	1	0.943	52909611	8501490	25021	62552	340	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.140	30.131	0	1.001	462785731	75757000	216451	541127	350		
375.8178	30.126	30.131	0	1.000	381309674	62240038	173055	432637	360	1.21(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.326	30.323	0	0.950	30123983	5116260	12759	31897	401		
385.8610	30.326	30.323	0	0.950	58662439	9907672	25021	62552	396	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.353	30.344	1	1.001	496803305	84486770	216451	541127	390		
375.8178	30.353	30.344	1	1.001	409506191	69401335	173055	432637	401	1.21(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.258	31.247	1	0.979	27474097	6215033	12759	31897	487		
385.8610	31.258	31.247	1	0.979	53071538	12026572	25021	62552	481	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.271	31.265	0	1.000	464804254	108030184	216451	541127	499		
375.8178	31.271	31.265	0	1.000	383634118	89204020	173055	432637	515	1.21(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.110	32.099	1	1.006	25028983	6529616	12759	31897	512		
385.8610	32.110	32.099	1	1.006	49655381	12656763	25021	62552	506	0.50(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.123	32.115	0	1.000	439437206	112405900	216451	541127	519		
375.8178	32.123	32.115	0	1.000	359545240	90470116	173055	432637	523	1.22(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.923	31.912	1		45103570	10643779	15645	39112	680		
403.8529	31.923	31.912	1		36249012	8630595	10282	25705	839	1.24(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.457	31.452	0	0.985	34999223	9418989	15645	39112	602		
403.8529	31.457	31.452	0	0.985	28179553	7492132	10282	25705	729	1.24(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.471	31.470	0	1.000	372698533	95892507	139281	348202	688		
391.8127	31.471	31.470	0	1.000	288482354	77812791	91500	228750	850	1.29(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.577	31.566	1	0.989	43709013	10063164	15645	39112	643		
403.8529	31.577	31.566	1	0.989	35083839	8020792	10282	25705	780	1.25(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.590	31.582	0	1.000	414124659	100785468	139281	348202	724		
391.8127	31.590	31.582	0	1.000	344844044	79840617	91500	228750	873	1.20(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.937	31.926	1	1.015	426173139	102823281	139281	348202	738		
391.8127	31.923	31.926	0	1.015	343309463	81988301	91500	228750	896	1.24(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.567	33.567	0	1.051	20493054	6426150	35648	89120	180		
419.8220	33.567	33.567	0	1.051	46090378	14404490	82592	206480	174	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.579	33.579	0	1.000	473831834	150013839	682505	1706262	220		
409.7789	33.579	33.579	0	1.000	458174103	145958814	676323	1690807	216	1.03(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.624	34.619	0	1.085	19348857	5517602	35648	89120	155		
419.8220	34.624	34.619	0	1.085	43527797	12252910	82592	206480	148	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.637	34.629	0	1.000	410072714	114733033	682505	1706262	168		
409.7789	34.637	34.629	0	1.000	396979109	109312714	676323	1690807	162	1.03(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.345	34.340	0	1.076	32905584	9299037	20228	50570	460		
437.8140	34.345	34.340	0	1.076	31330073	8943517	17654	44135	507	1.05(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.357	34.349	0	1.000	332533058	93655389	196798	491995	476		
425.7737	34.357	34.349	0	1.000	318395998	88289091	186329	465822	474	1.04(0.88-1.20)	
13C-OCDD											
469.7779	36.633	36.624	1	1.148	48539634	11019070	7123	17807	1547		
471.7750	36.633	36.624	1	1.148	53811888	12249401	6055	15137	2023	0.90(0.76-1.02)	
OCDF											
441.7428	36.729	36.720	1	1.003	630543815	150072403	42259	105647	3551		
443.7399	36.729	36.720	1	1.003	698963593	164553935	52356	130890	3143	0.90(0.76-1.02)	
OCDD											
457.7377	36.646	36.636	1	1.000	520204093	116760134	64002	160005	1824		
459.7348	36.633	36.636	0	1.000	583759940	129638160	55943	139857	2317	0.89(0.76-1.02)	

Reagents:

HRDXNL6_00024 Amount Added: 1.00 Units: mL

Report Date: 14-Nov-2019 16:54:48 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

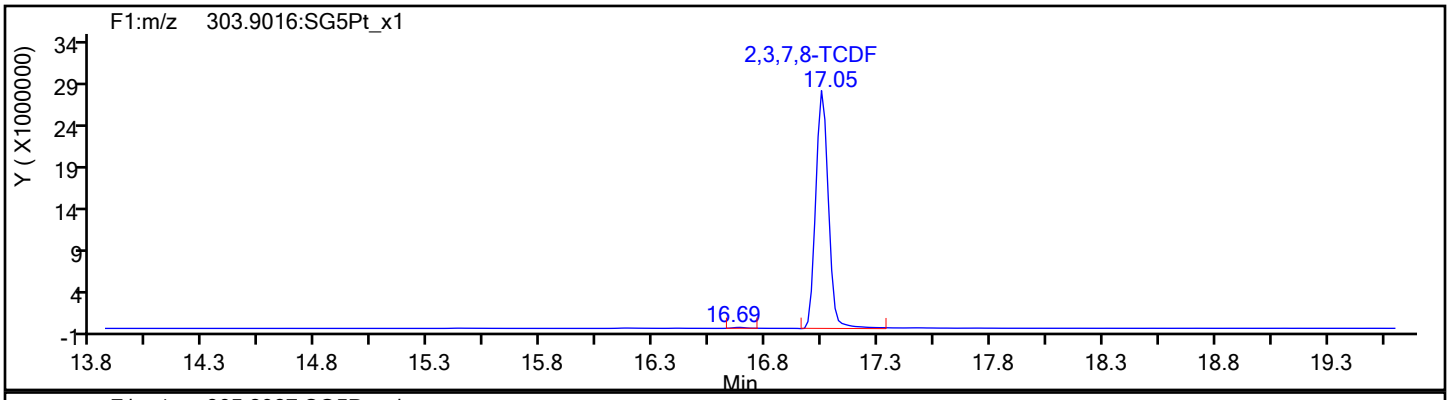

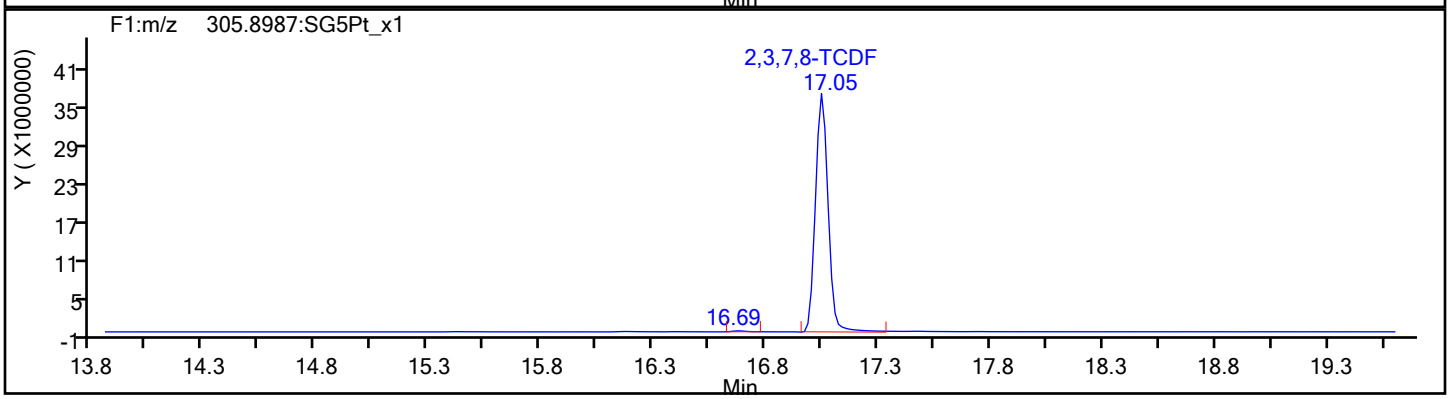

TCDF Standards

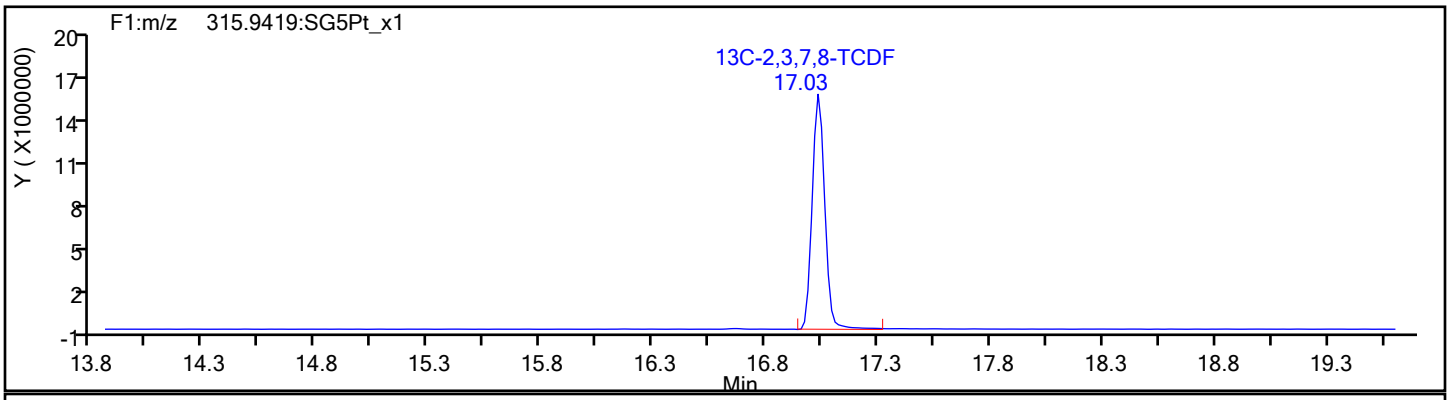

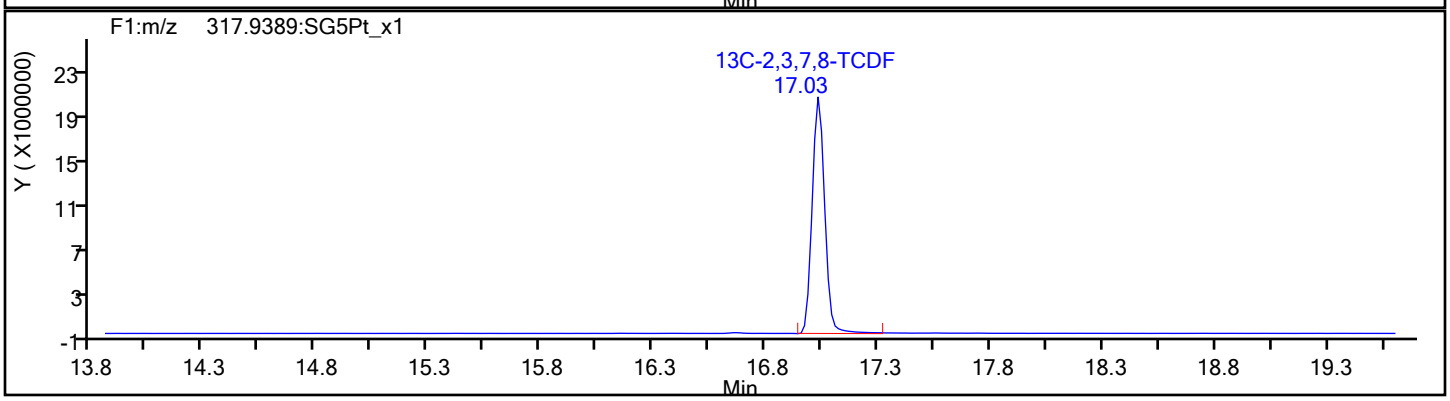

Report Date: 14-Nov-2019 16:54:48 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

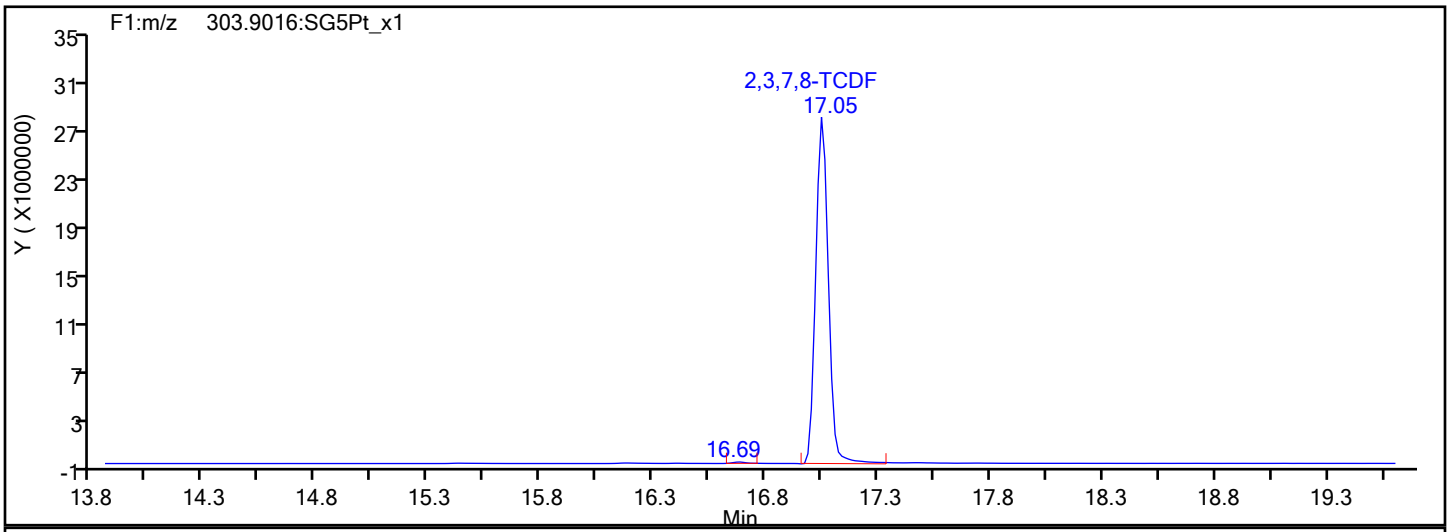

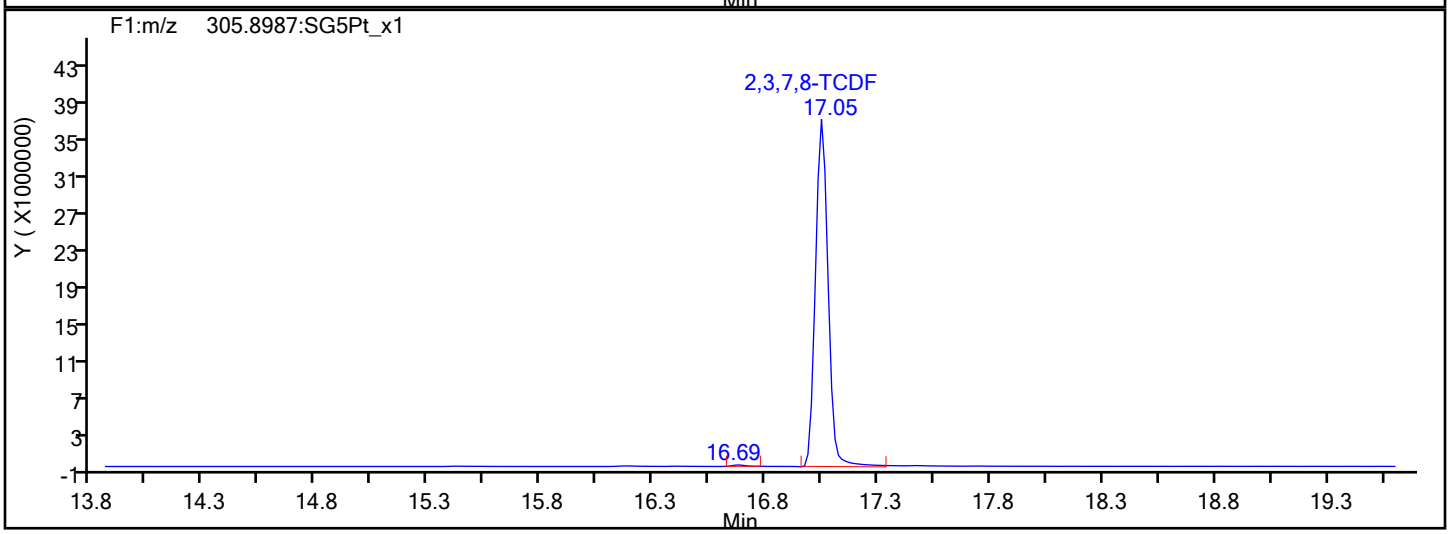

TCDF Interference Mass

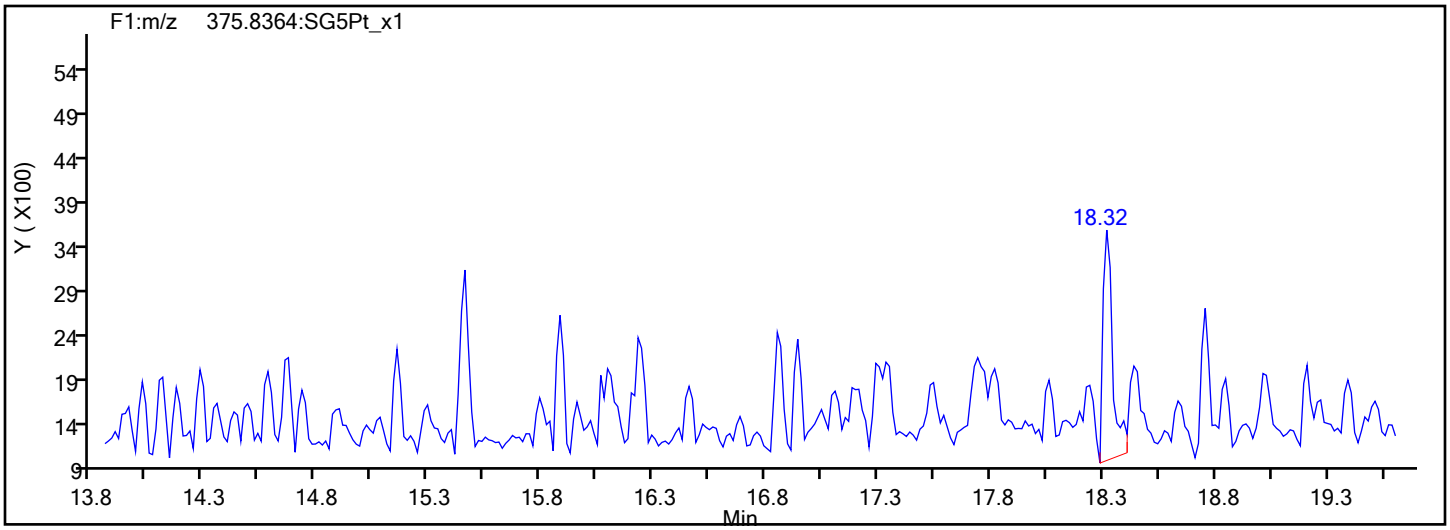

Report Date: 14-Nov-2019 16:54:48 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

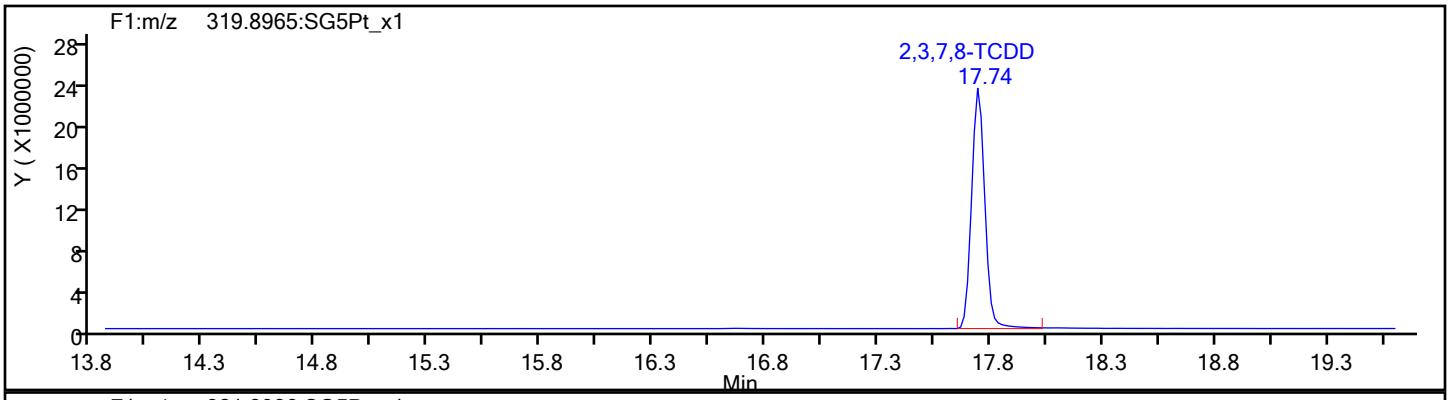

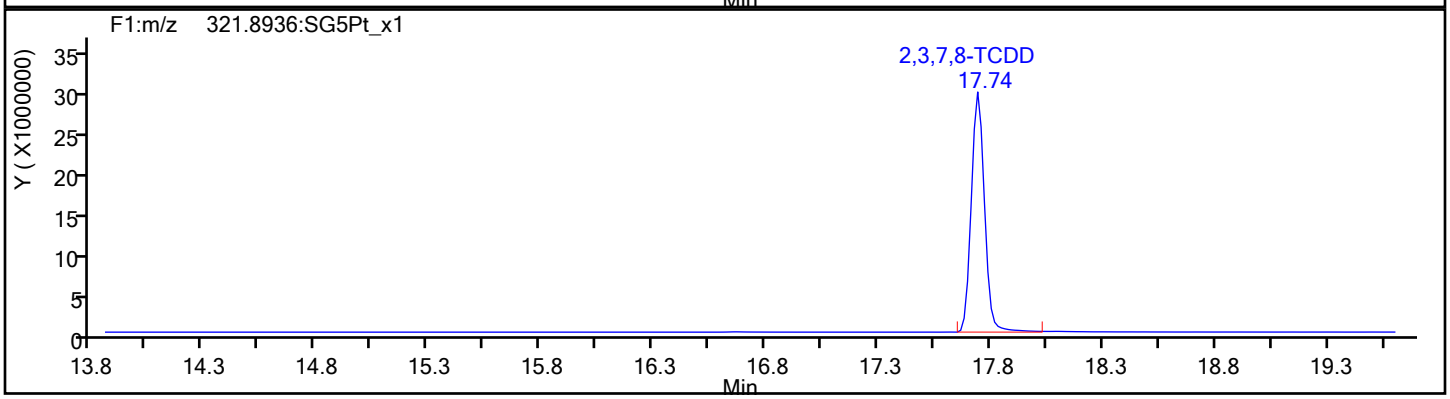

TCDD Standards

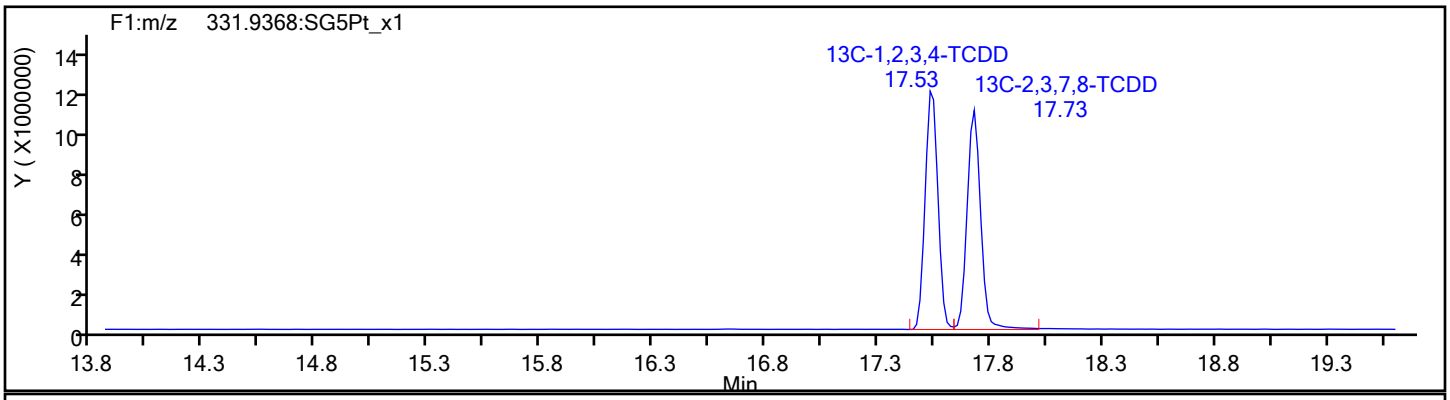

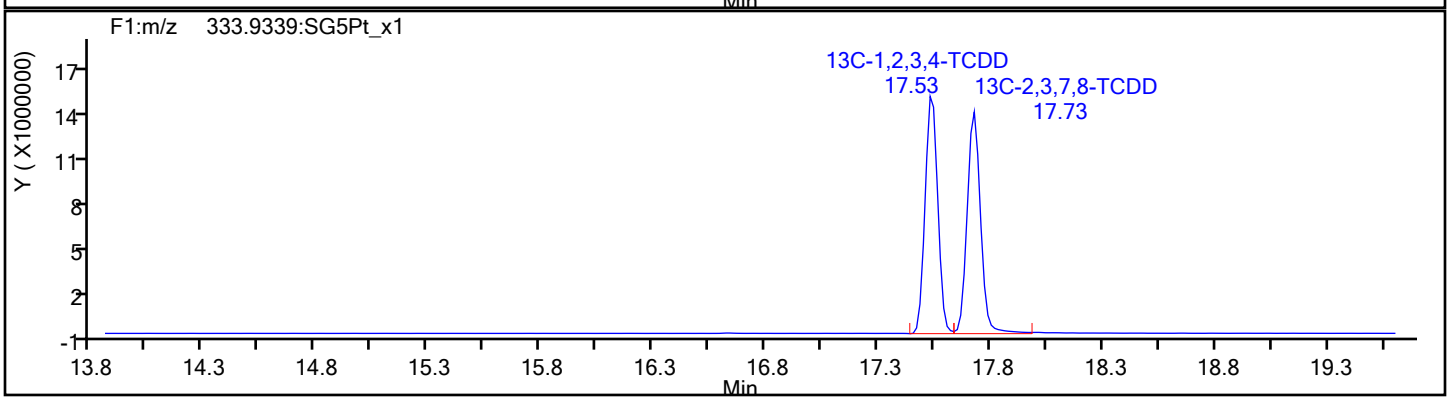

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

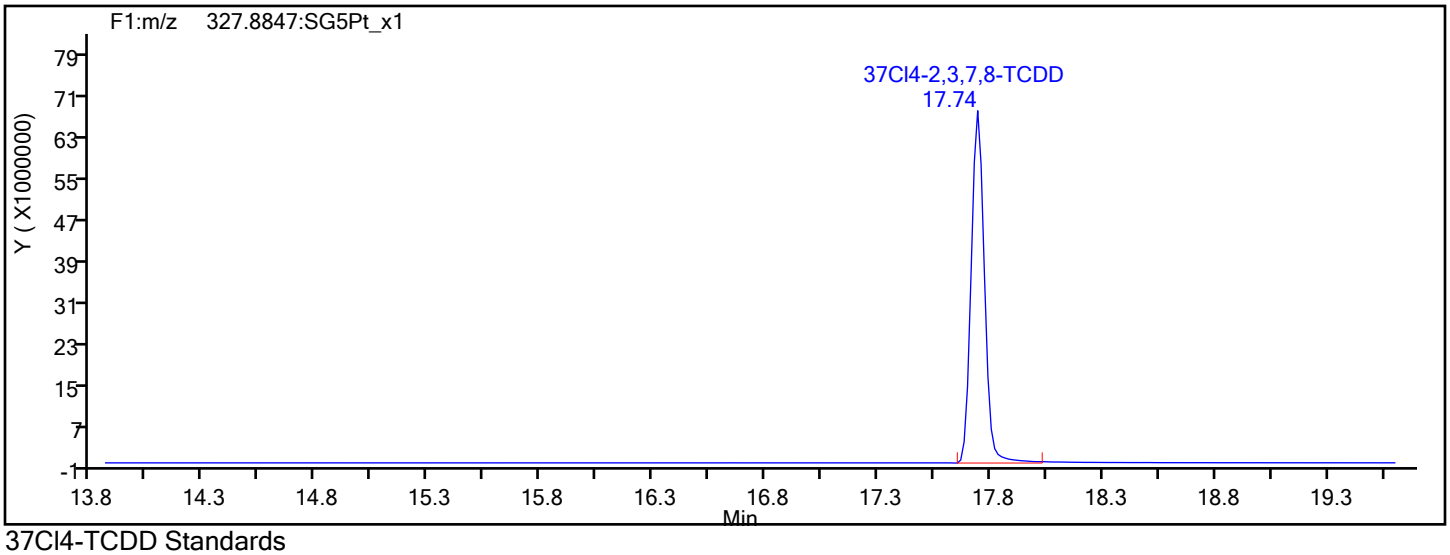

37Cl4-TCDD Standards

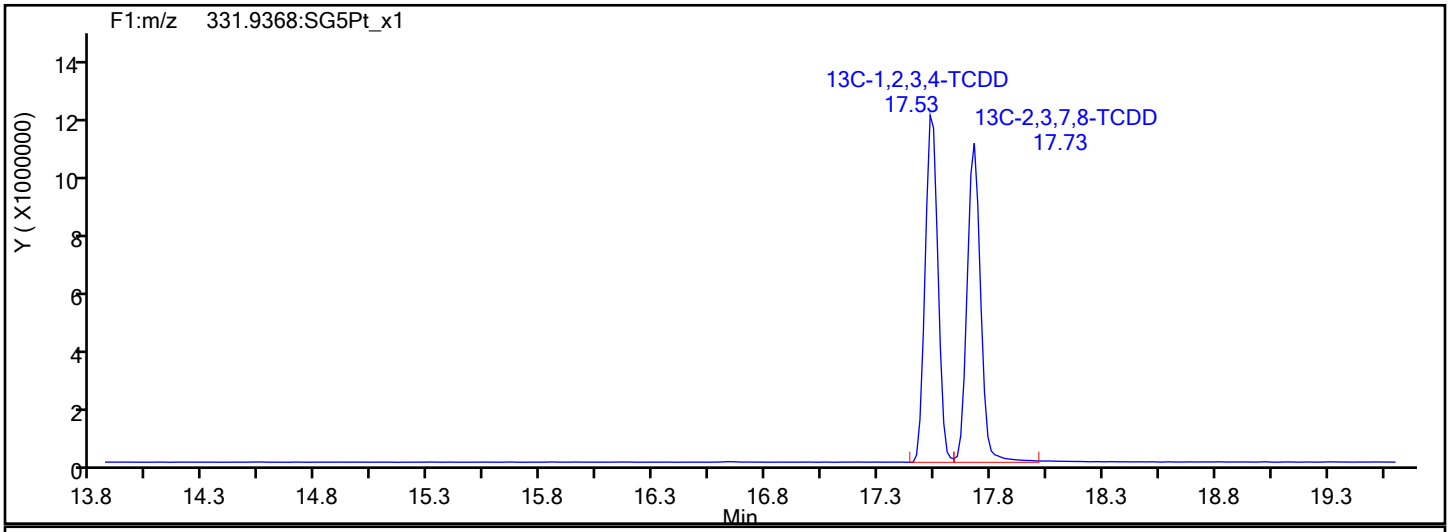

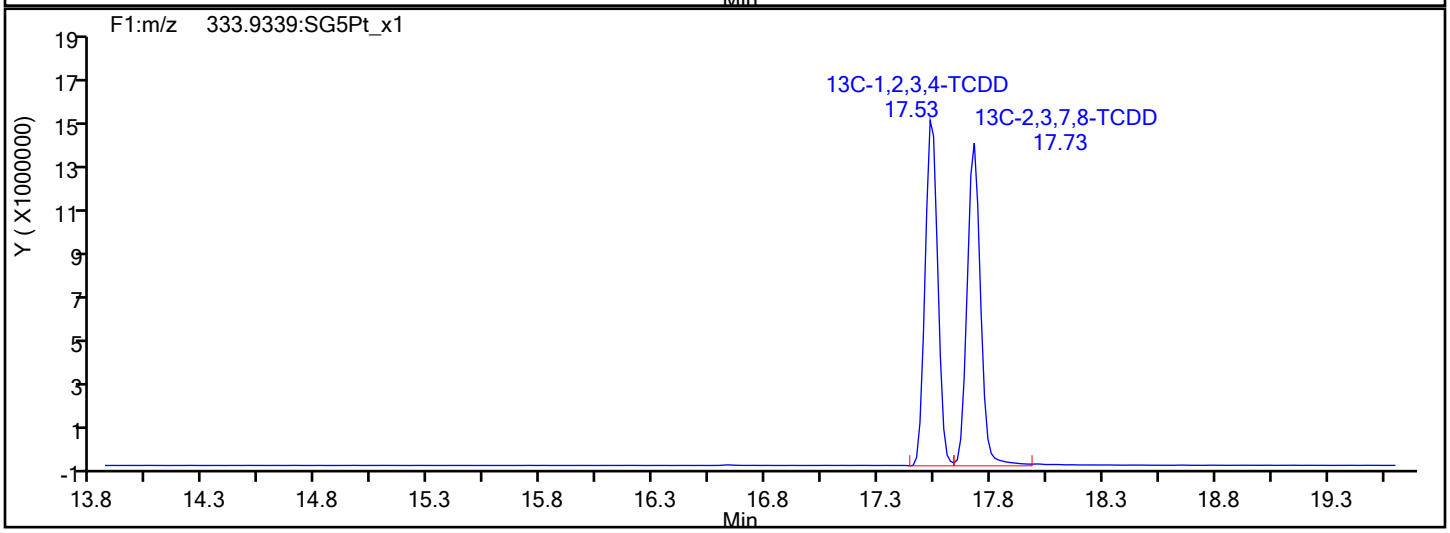

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

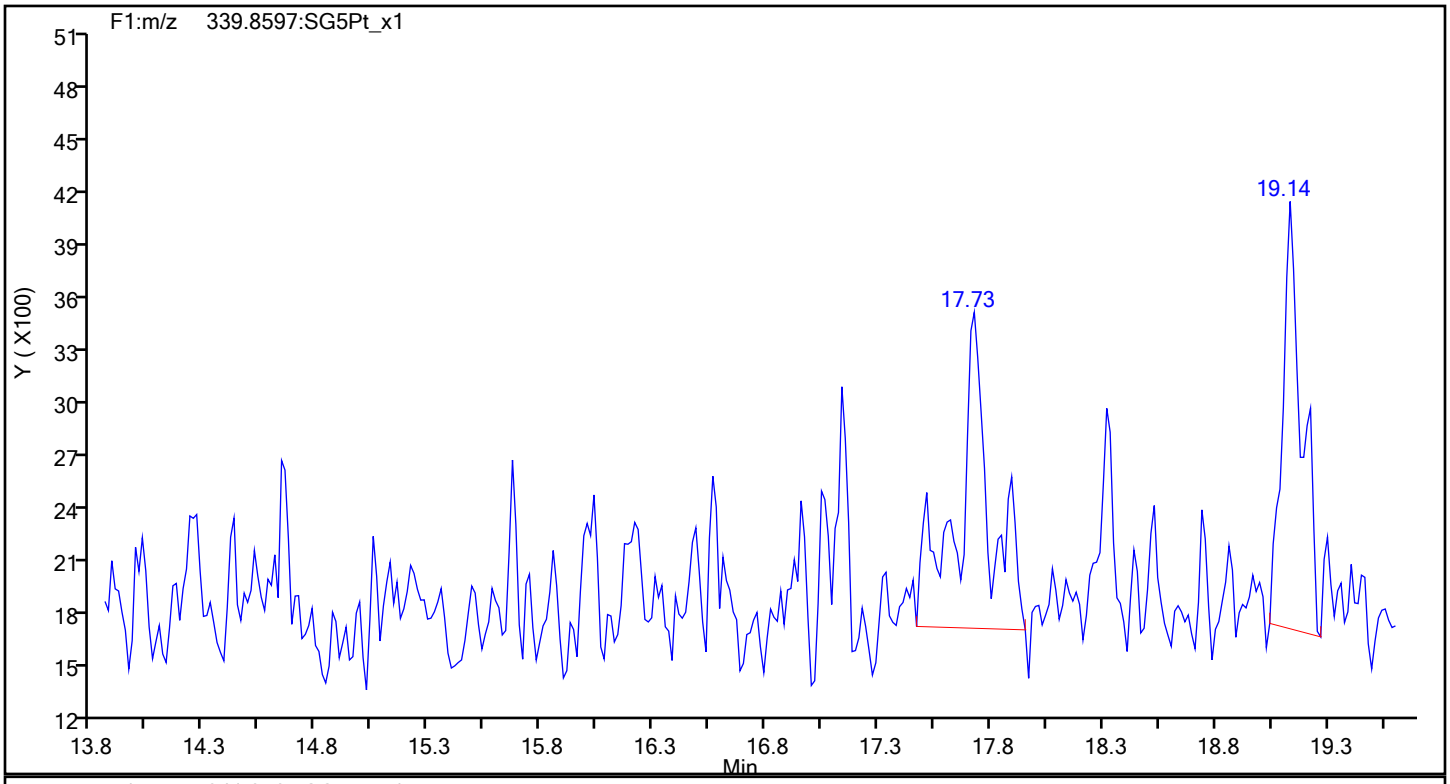

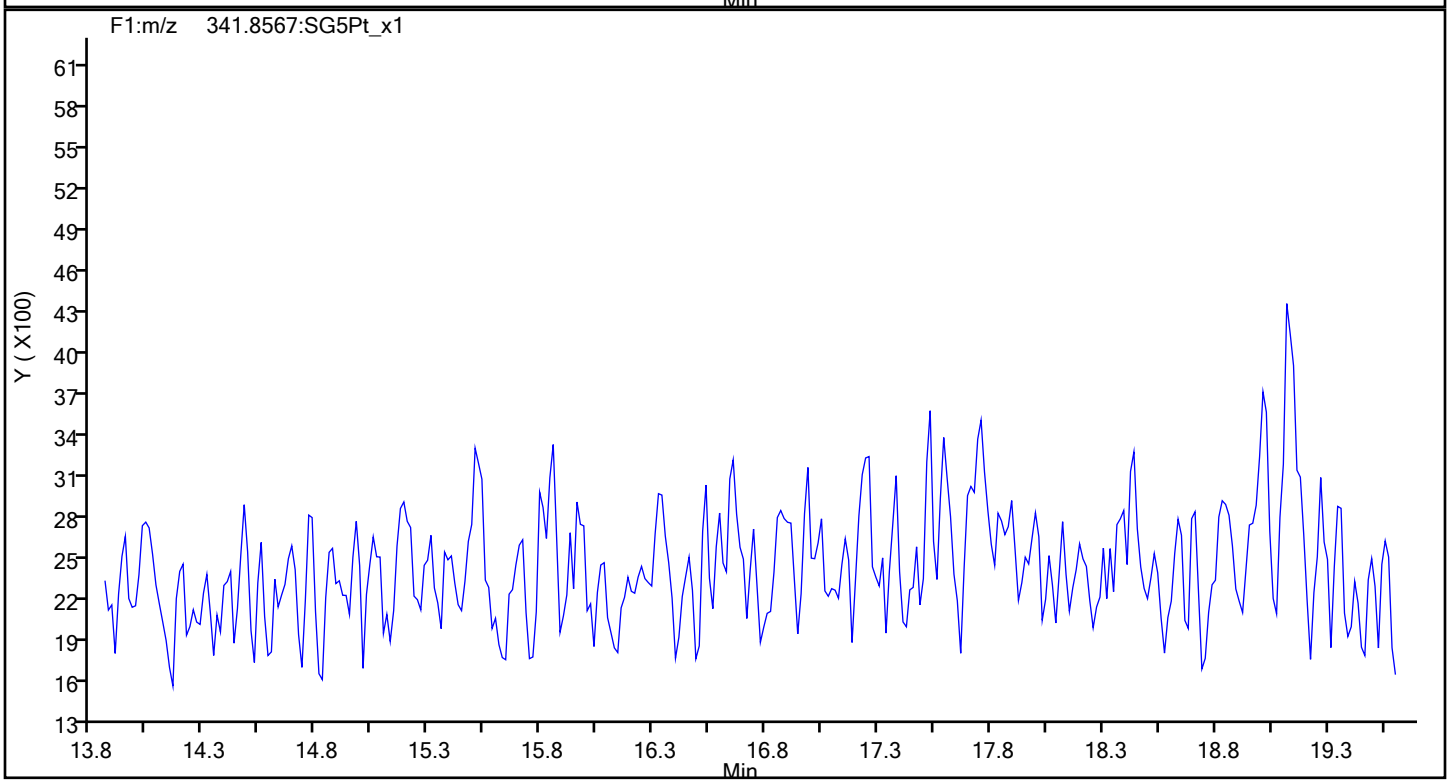

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

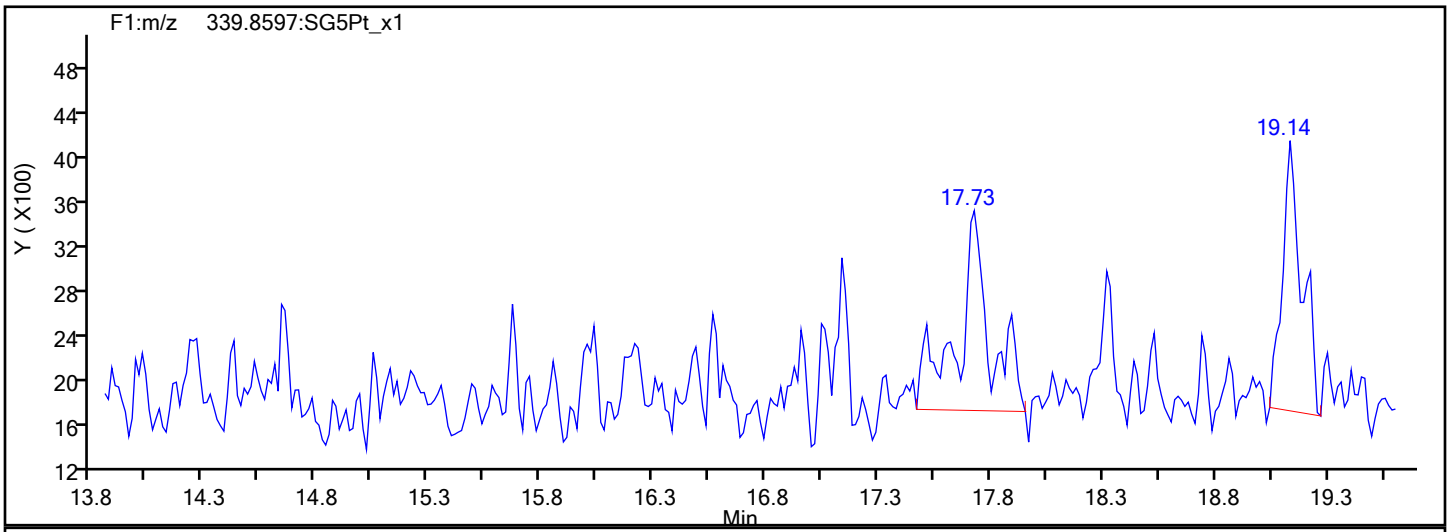

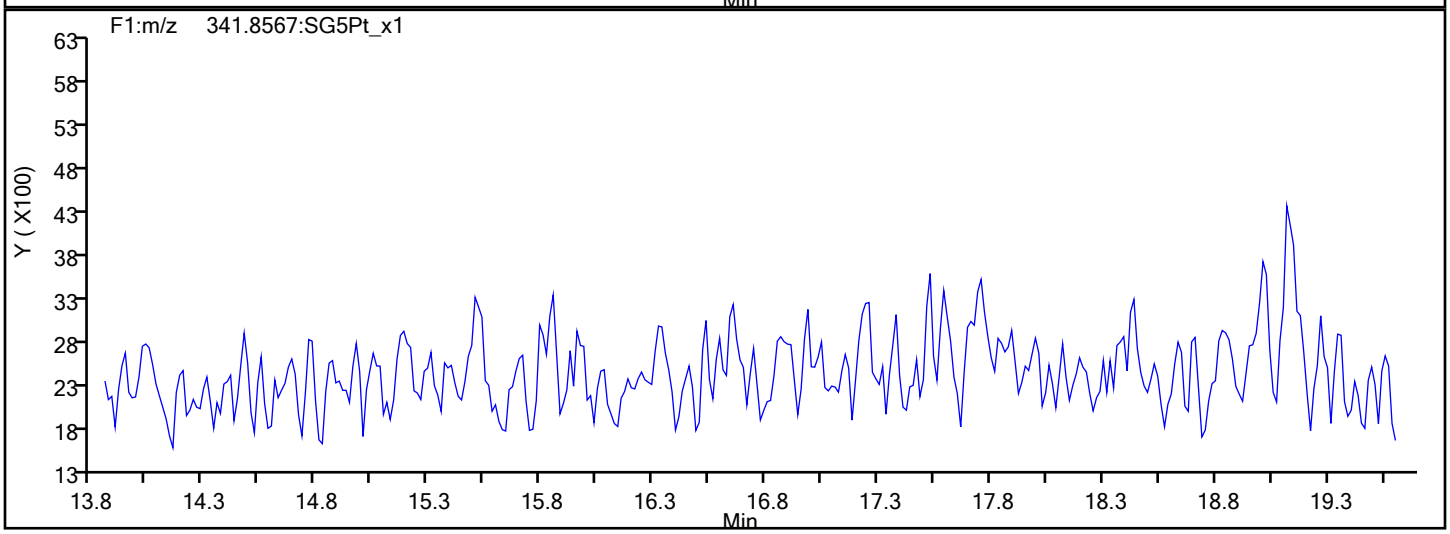

F1 PeCDFs Interference Mass

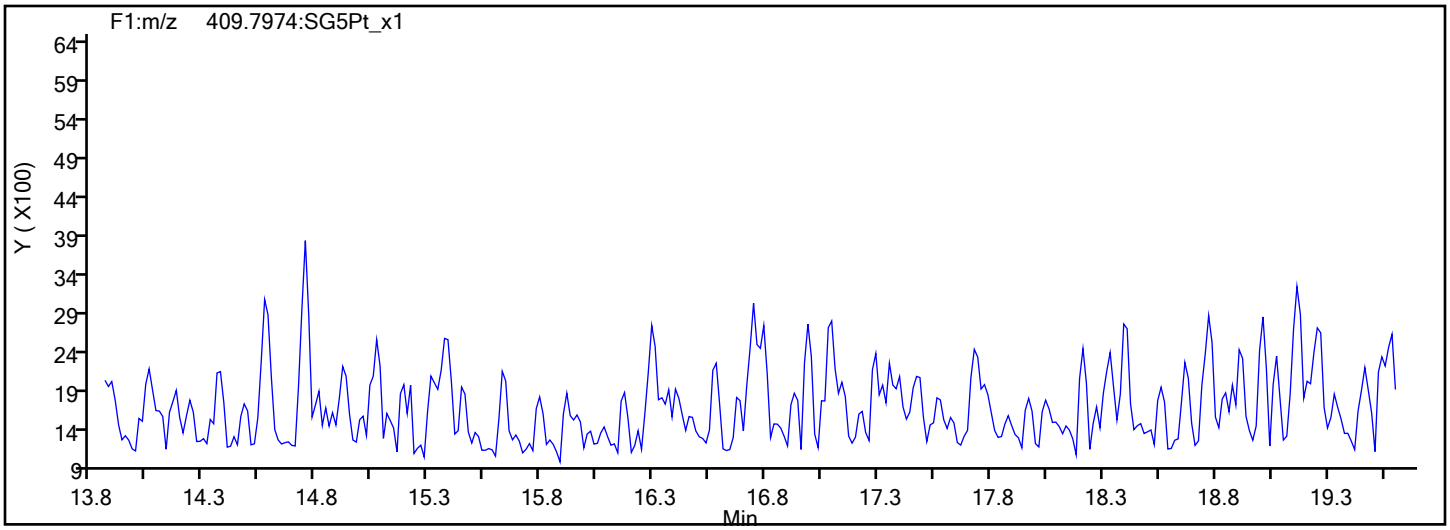

Report Date: 14-Nov-2019 16:54:48 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

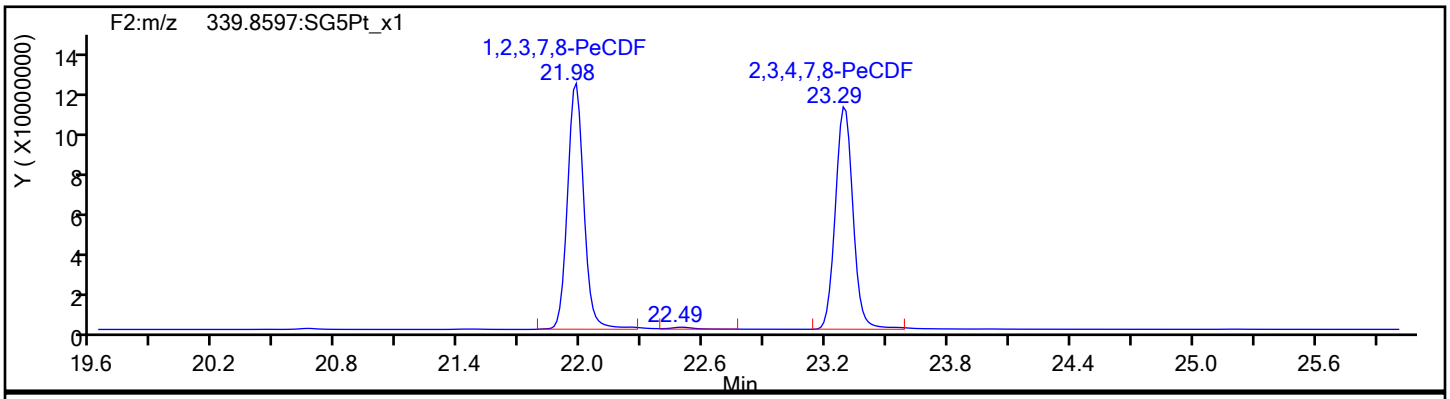

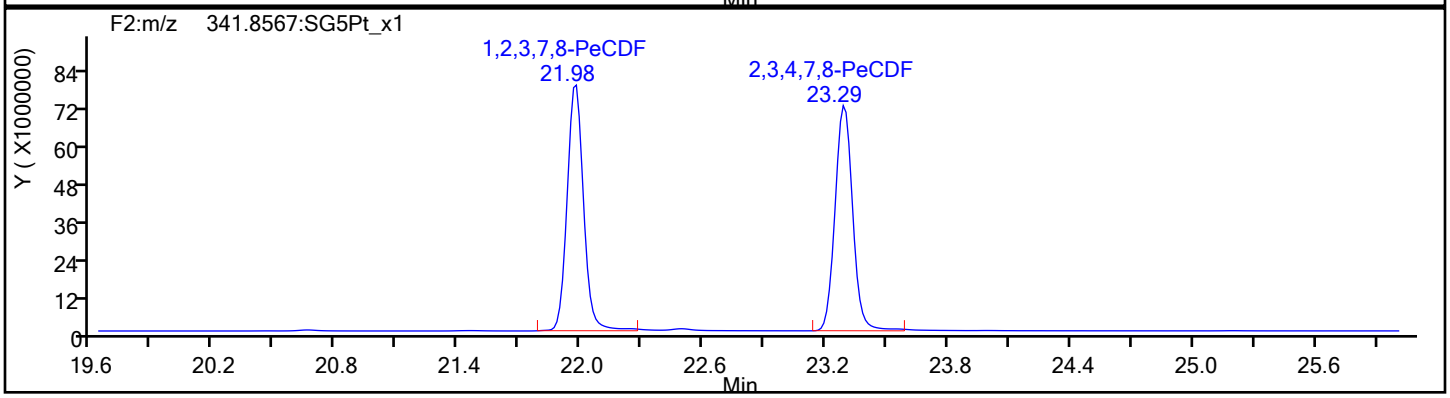

PeCDF Standards

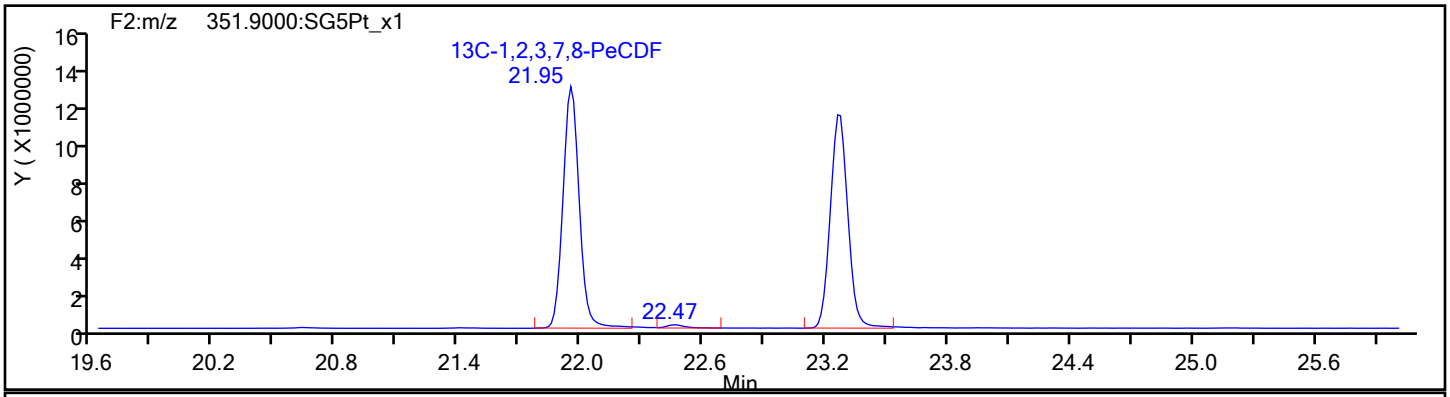

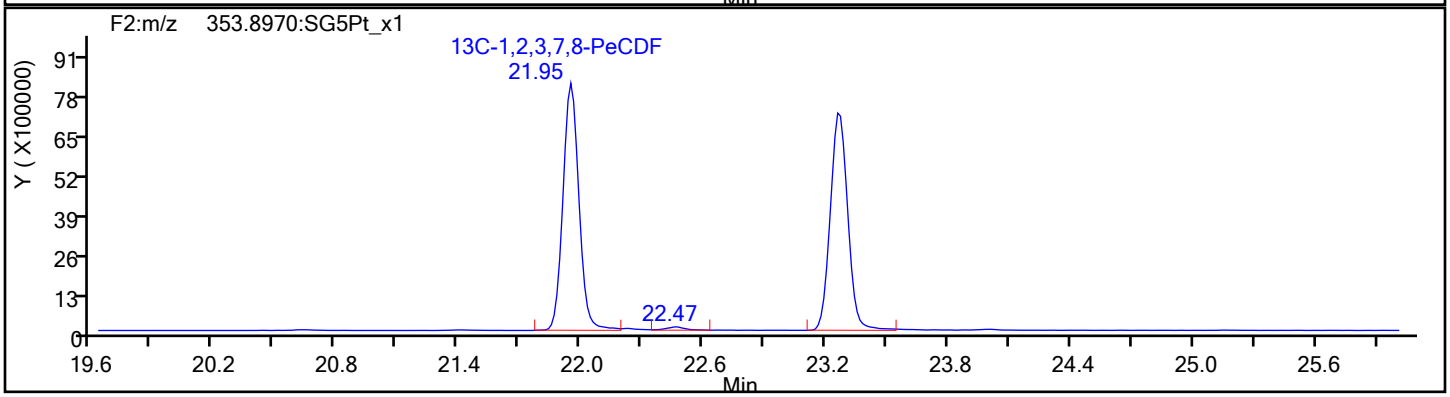

Report Date: 14-Nov-2019 16:54:48 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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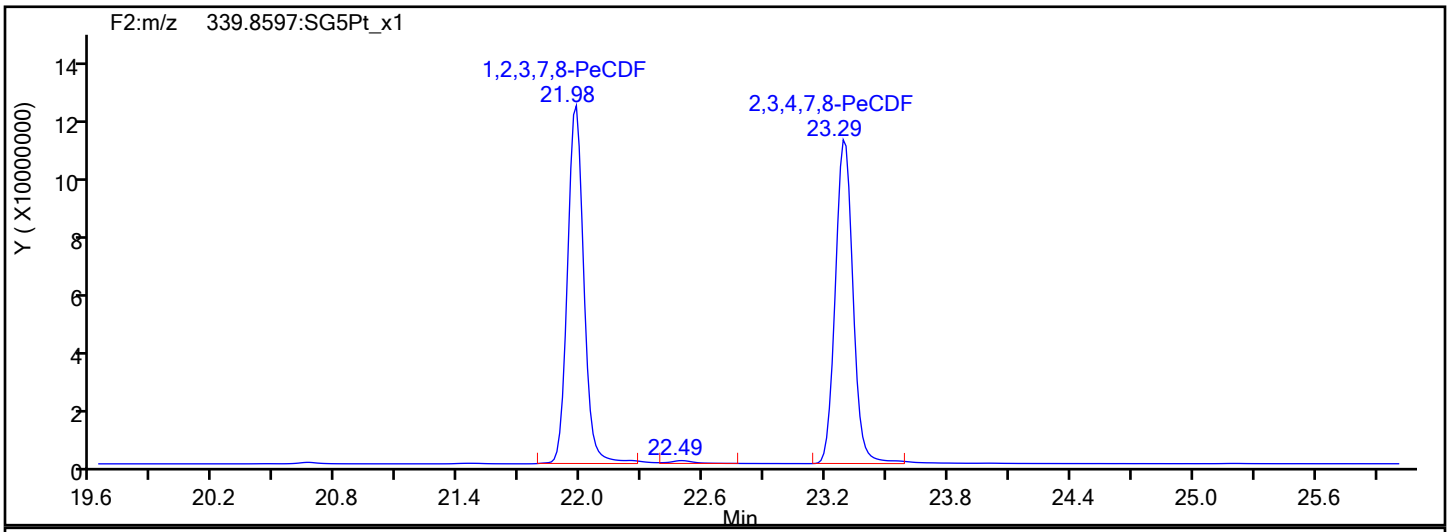

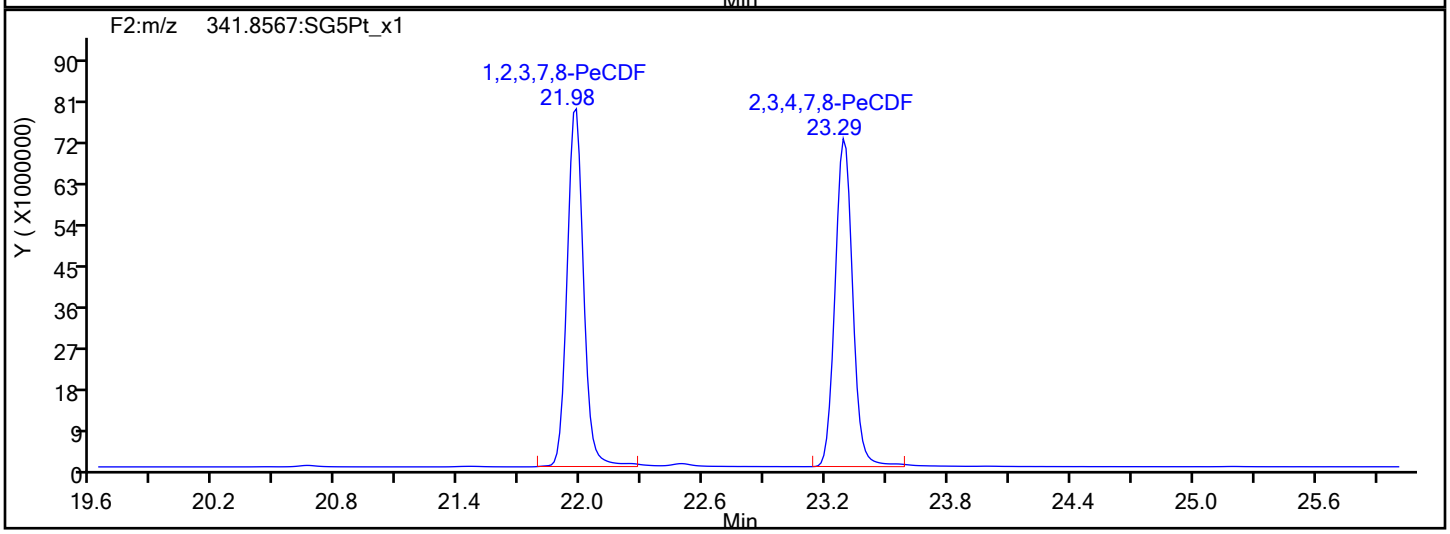

PeCDF Interference Mass

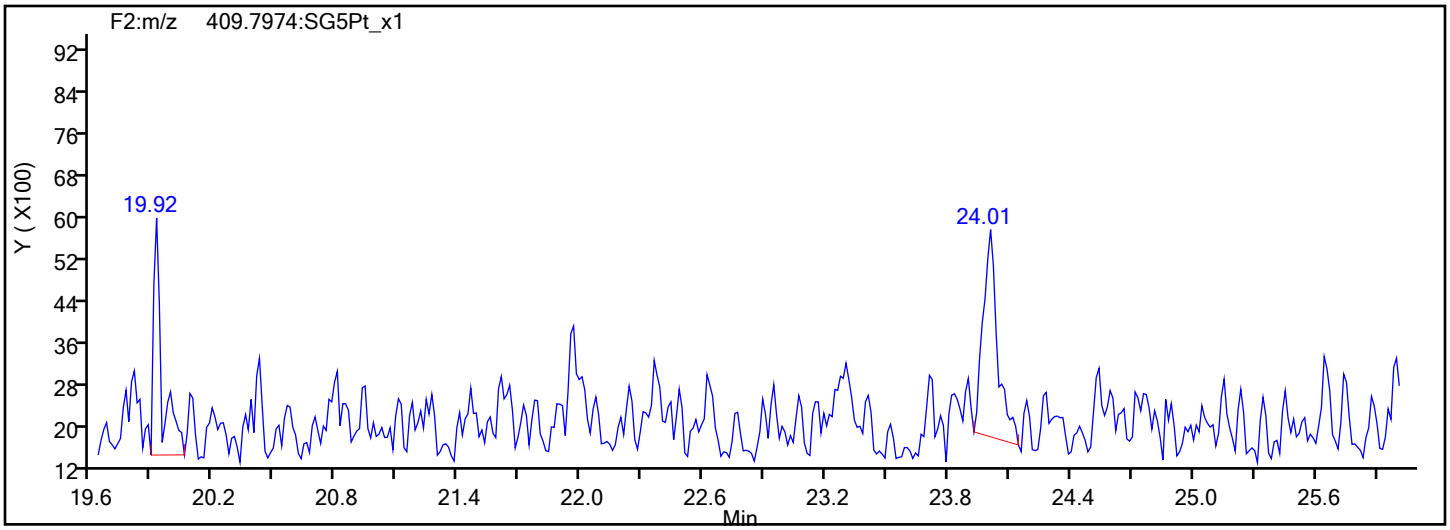

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Eurofins TestAmerica, Sacramento

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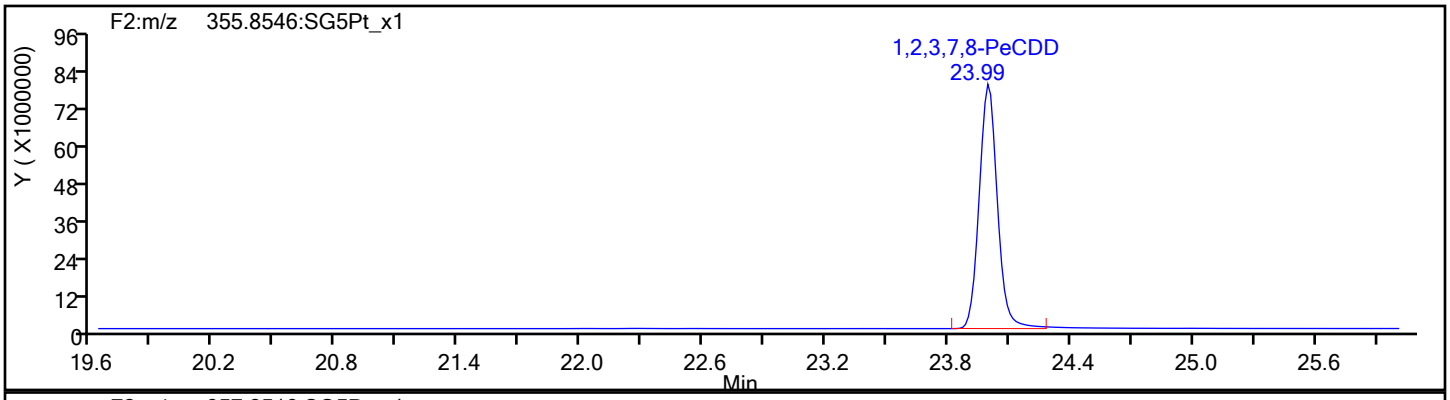

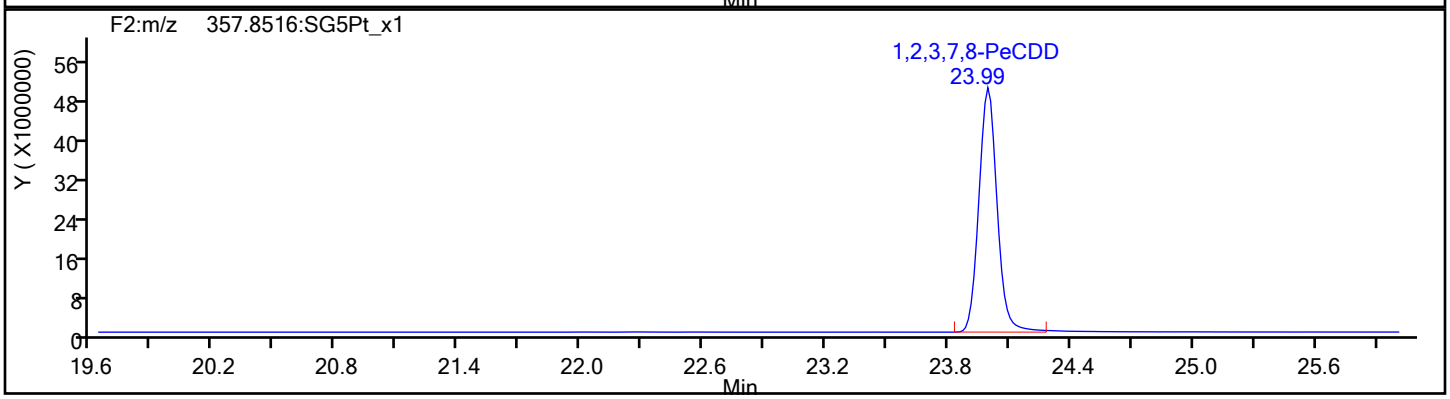

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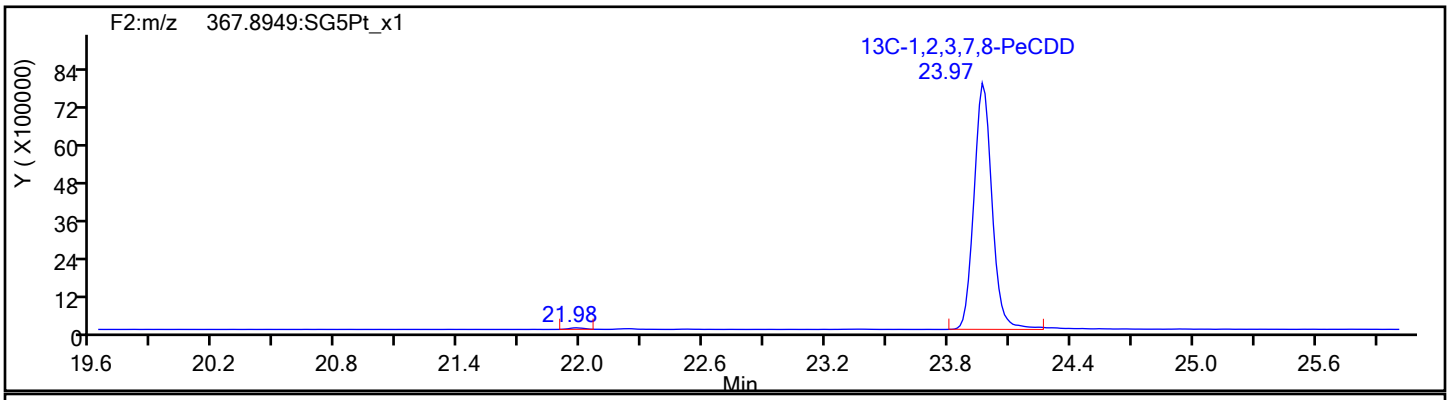

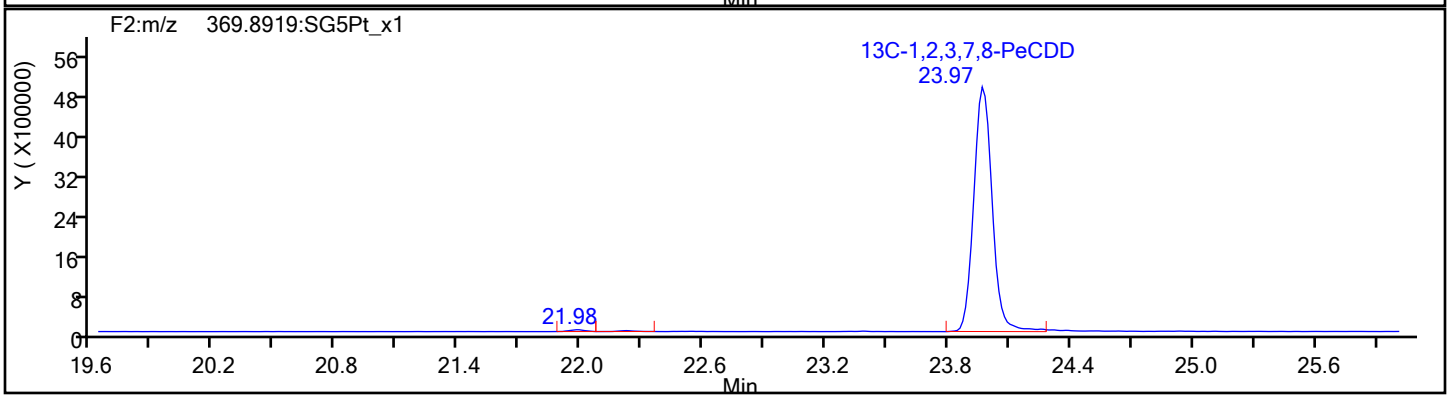

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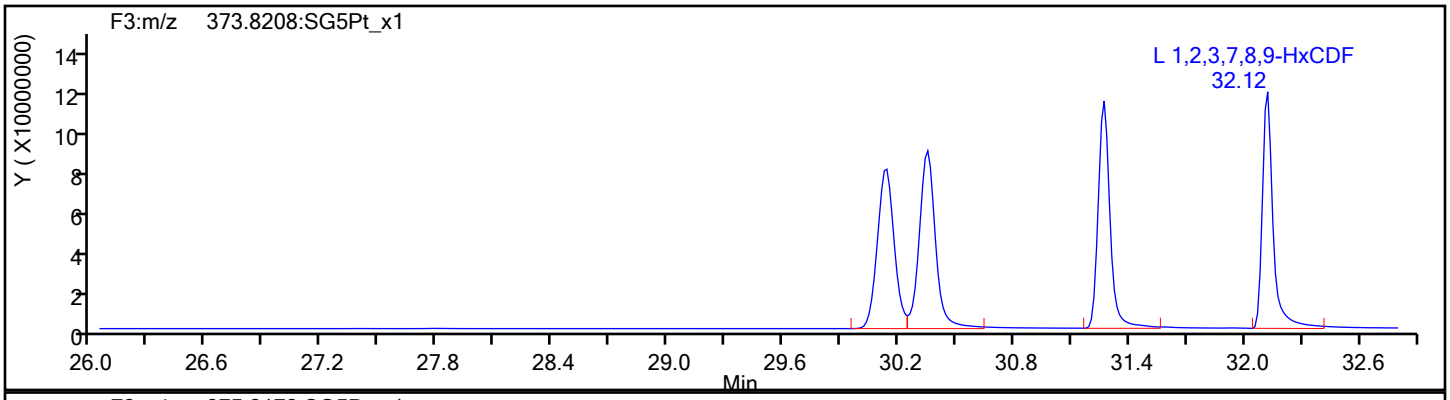

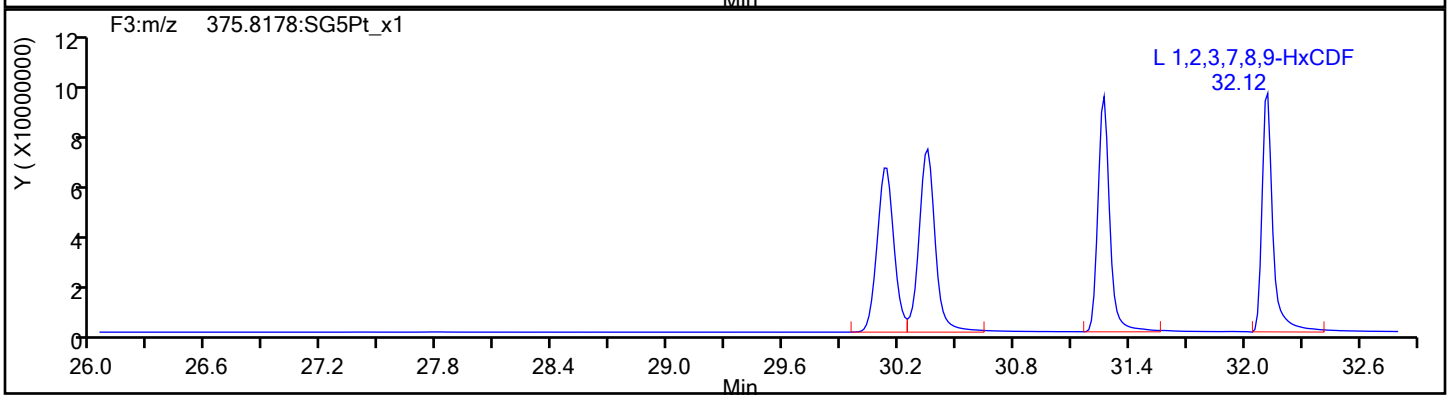

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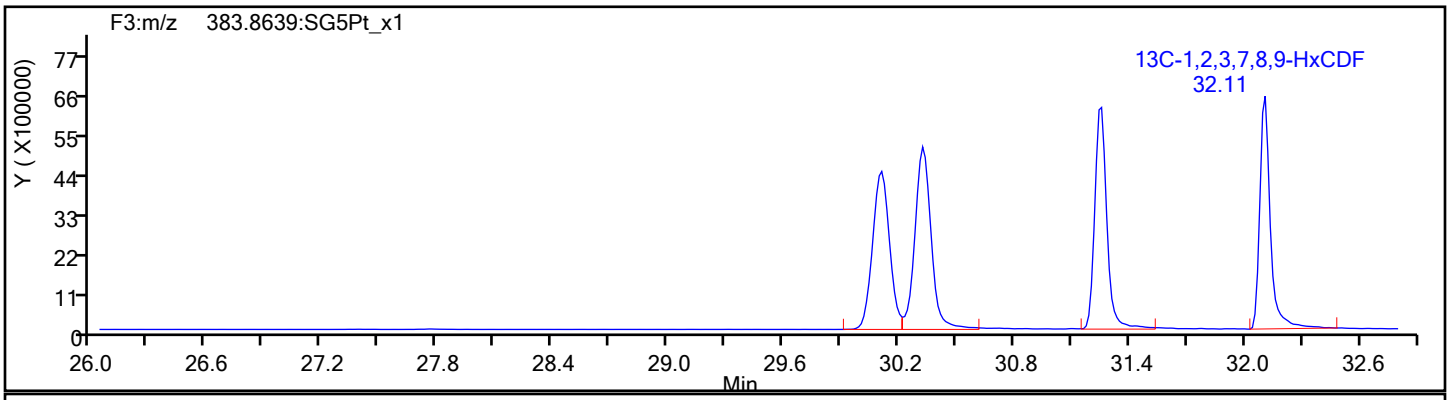

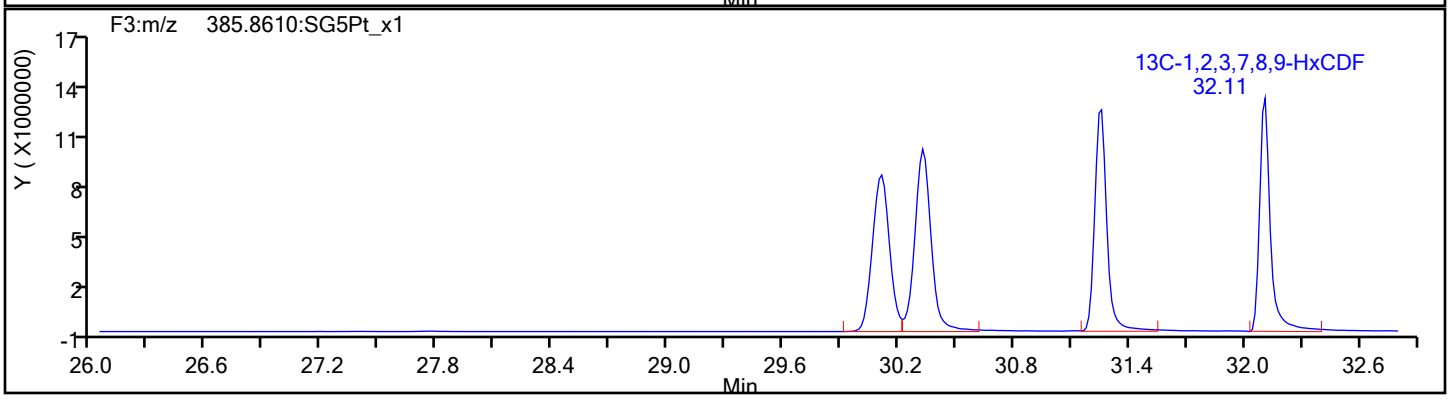

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Eurofins TestAmerica, Sacramento

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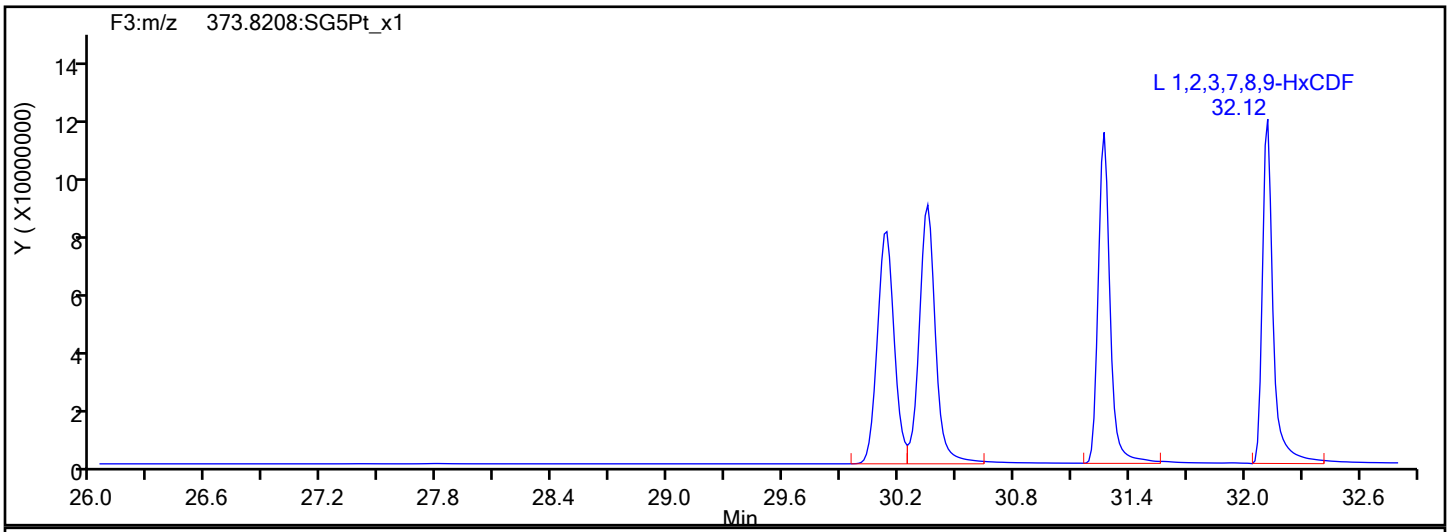

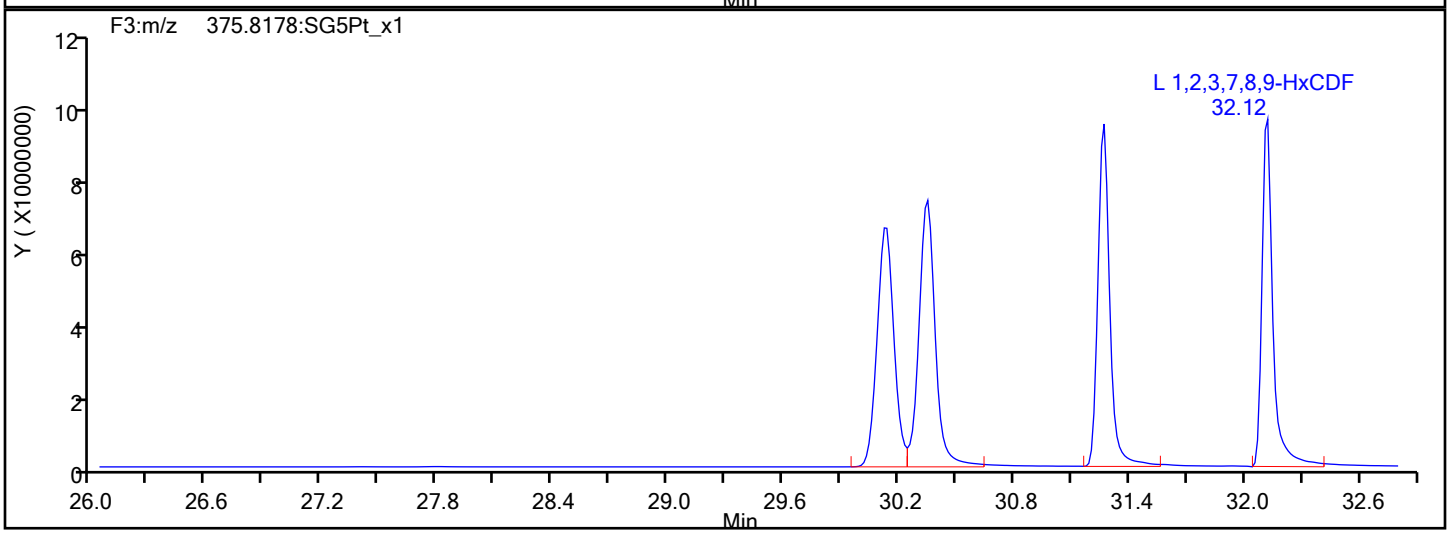

HxCDF Interference Mass

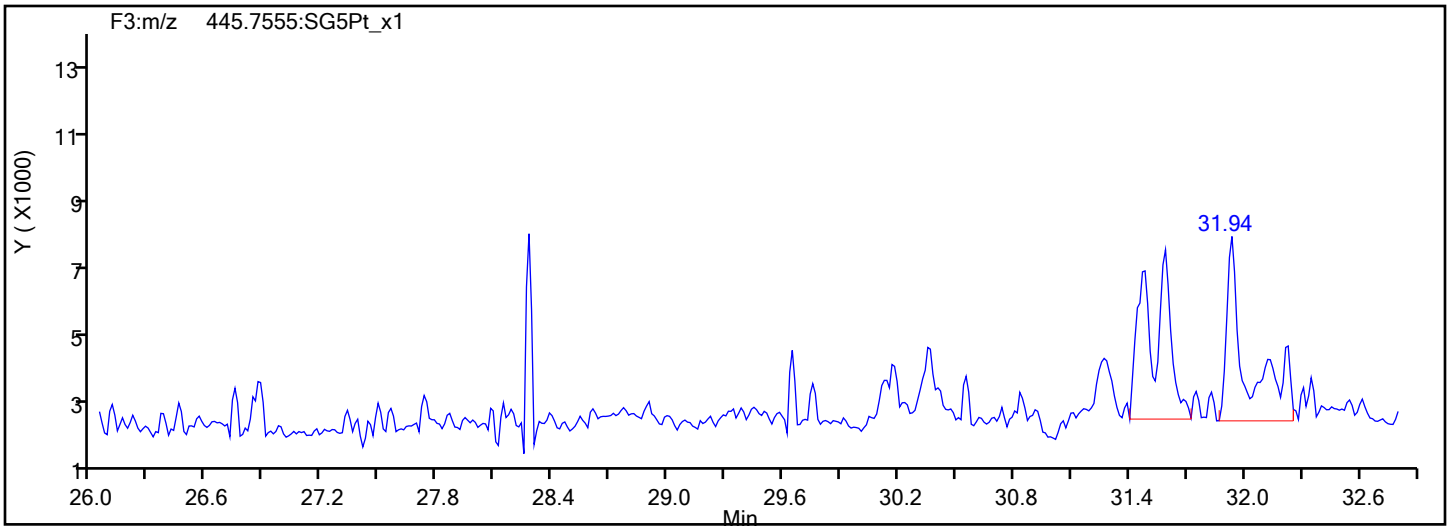

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Eurofins TestAmerica, Sacramento

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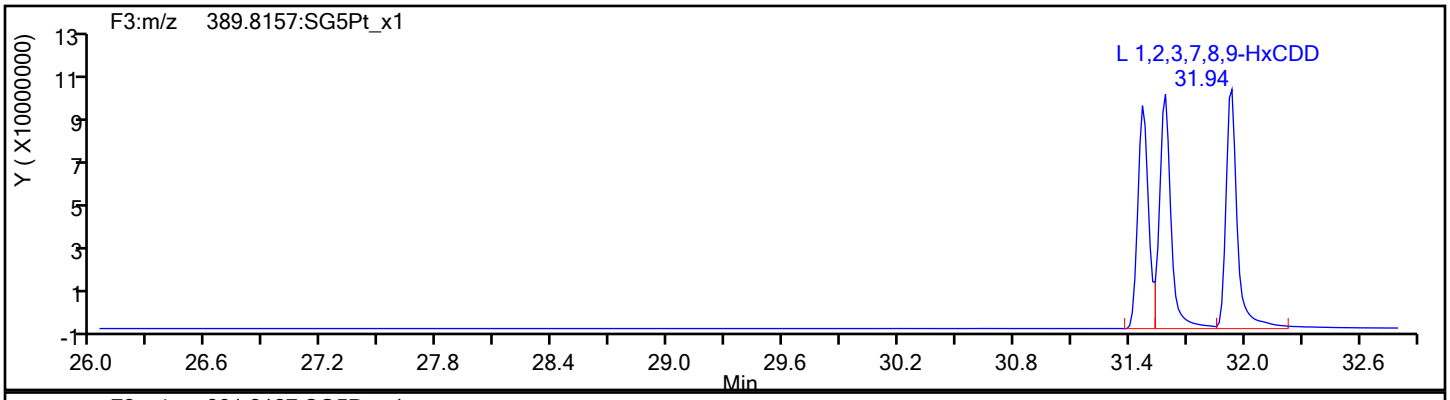

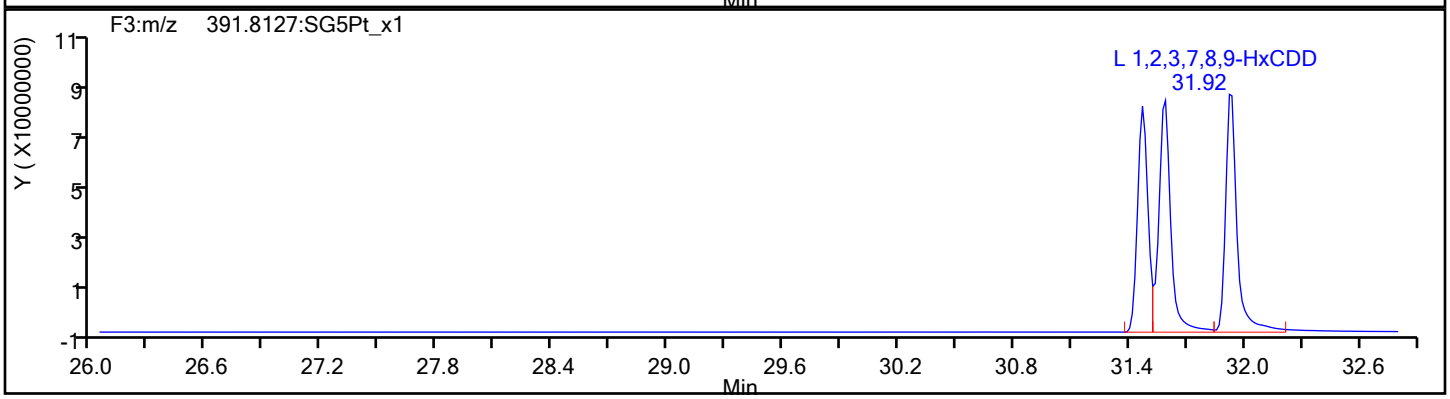

HxCDD Standards

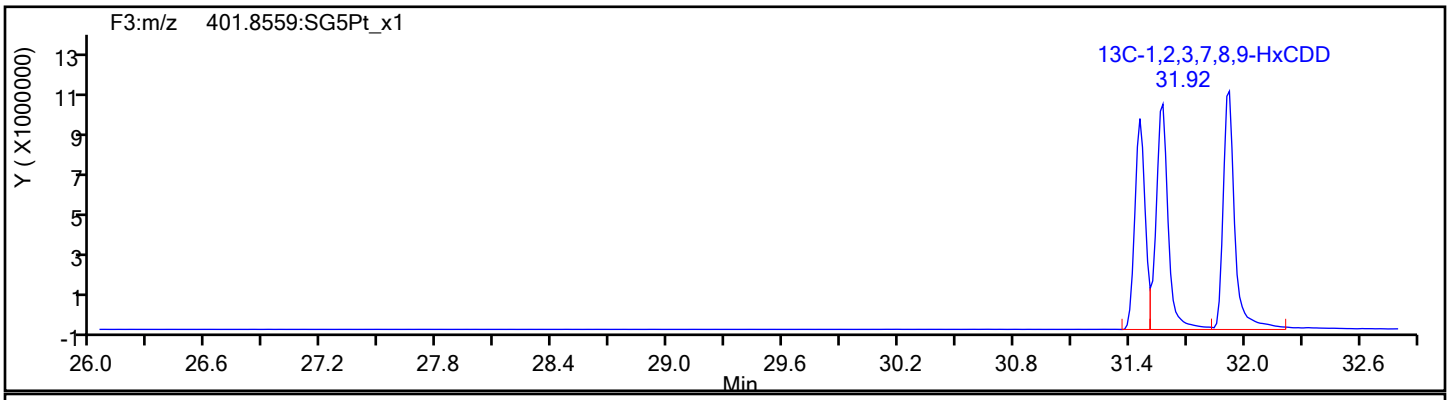

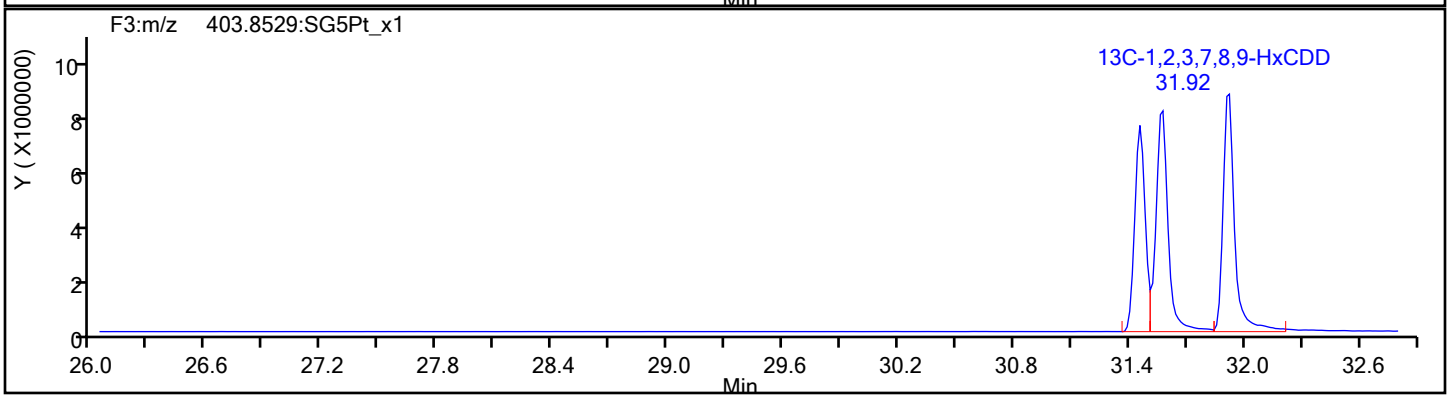

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Eurofins TestAmerica, Sacramento

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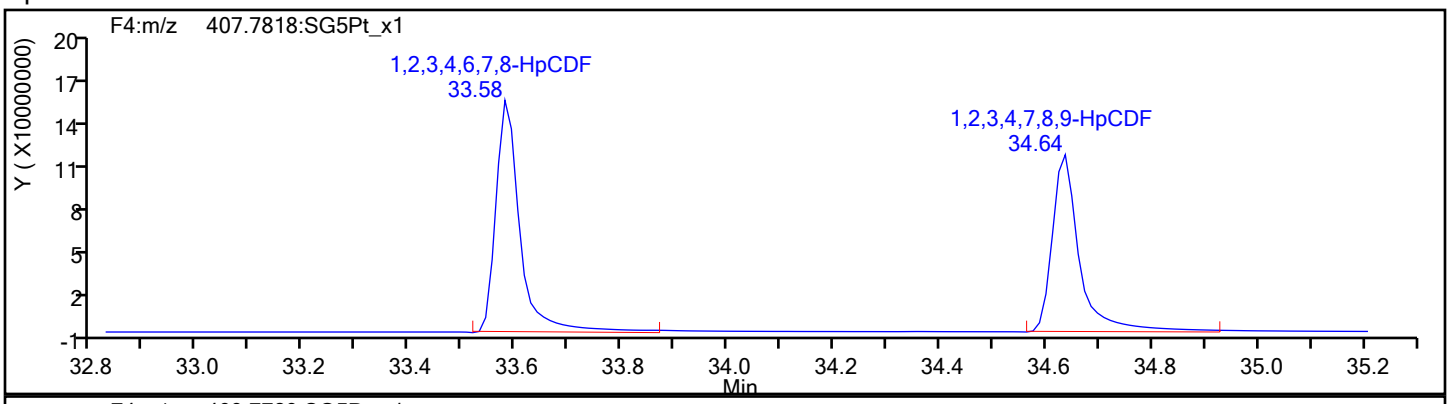

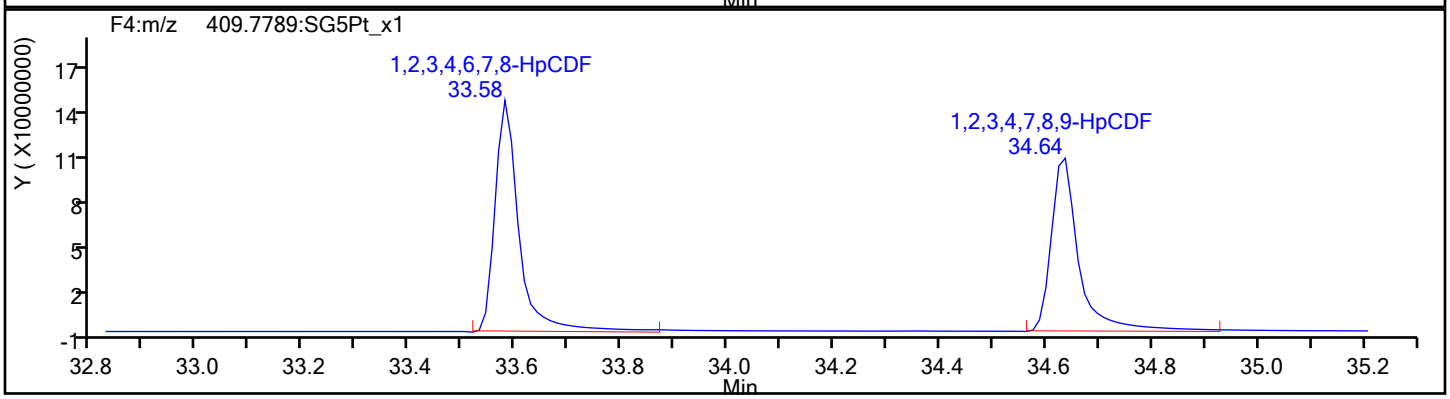

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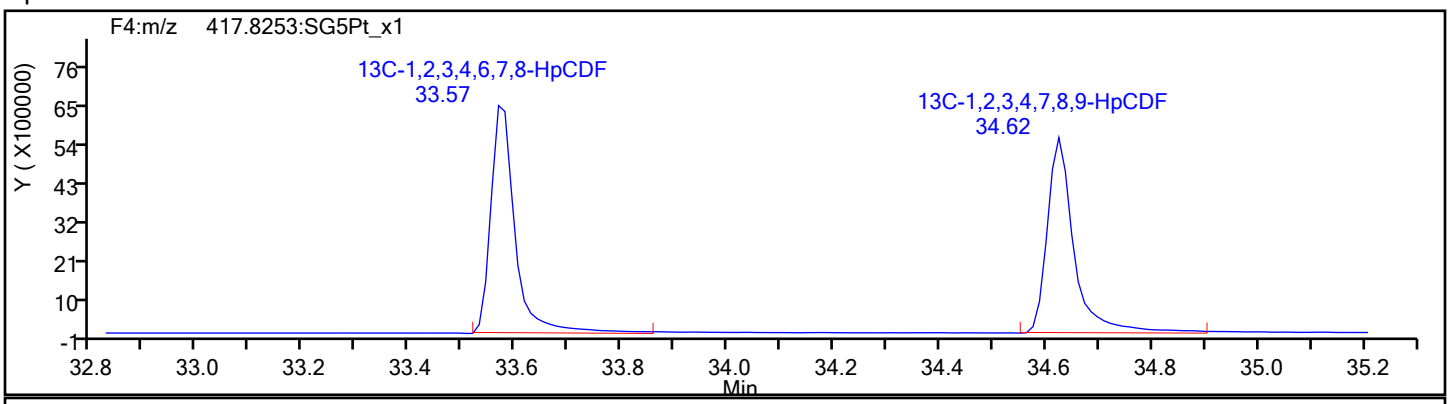

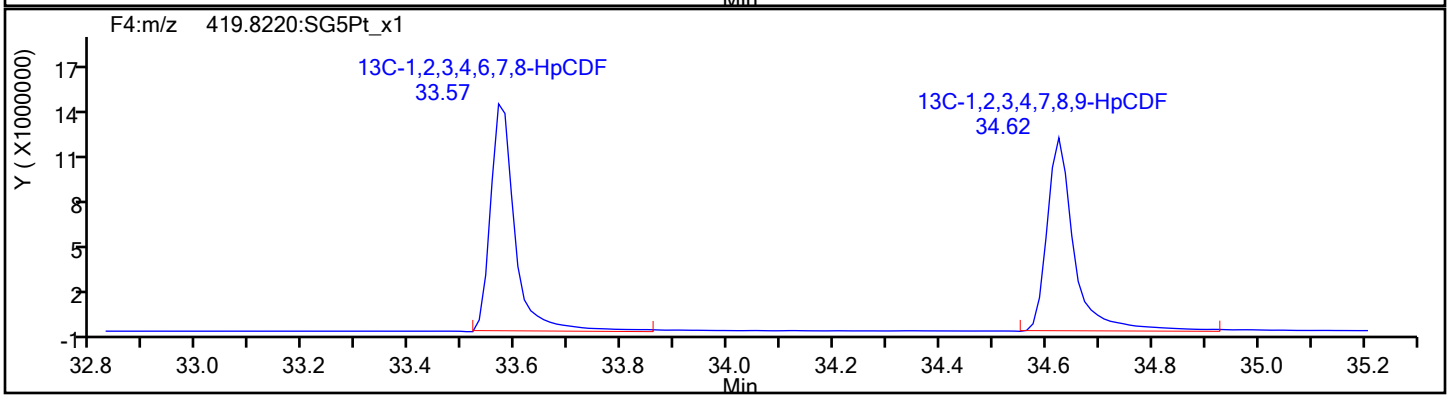

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Eurofins TestAmerica, Sacramento

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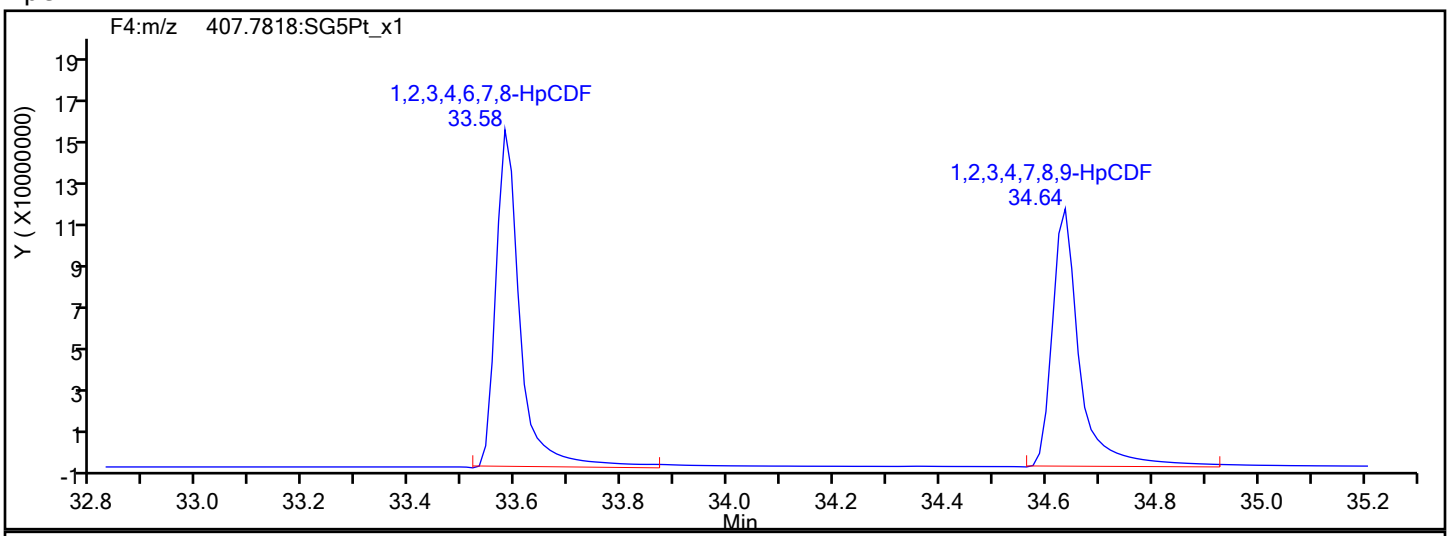

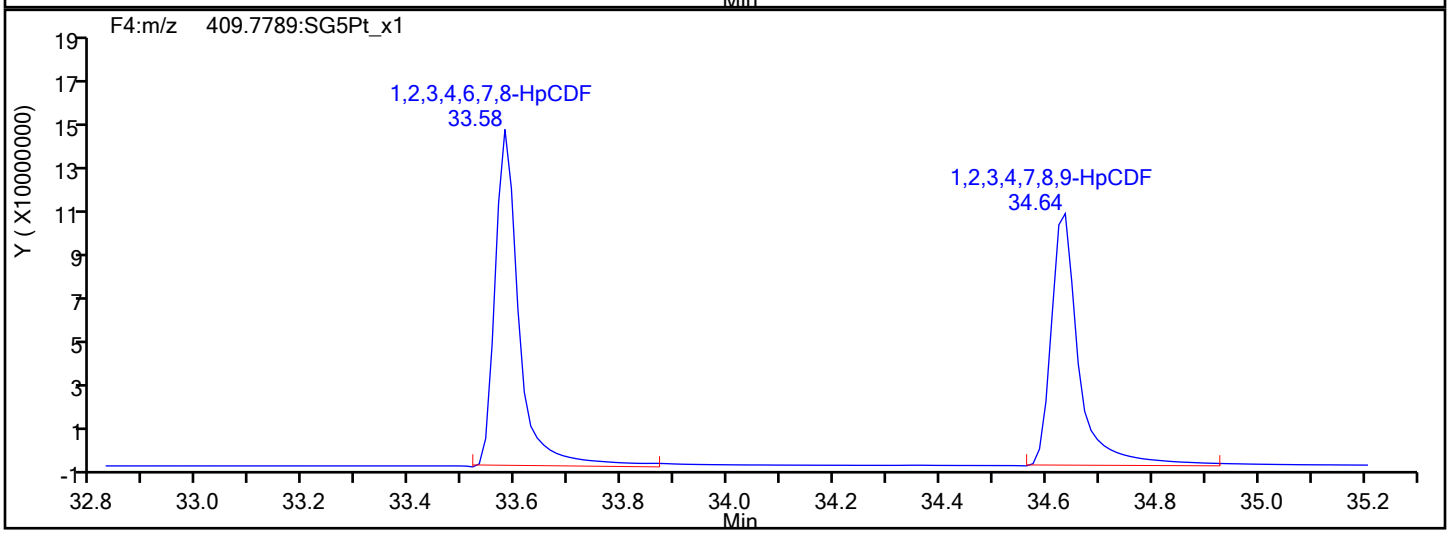

HpCDF Interference Mass

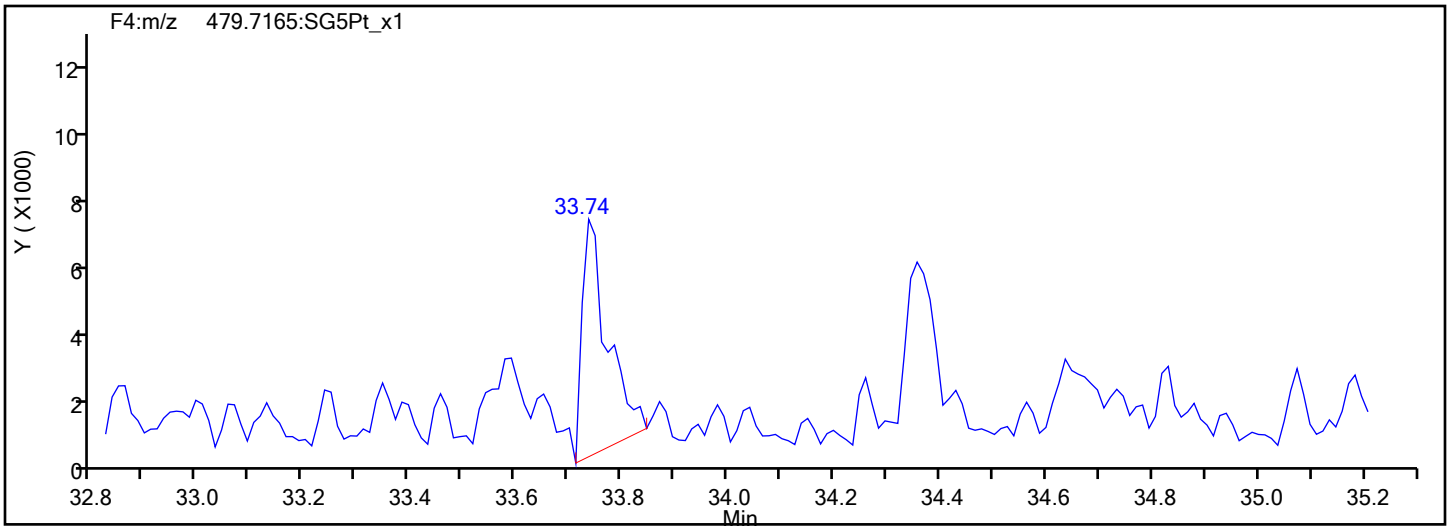

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Eurofins TestAmerica, Sacramento

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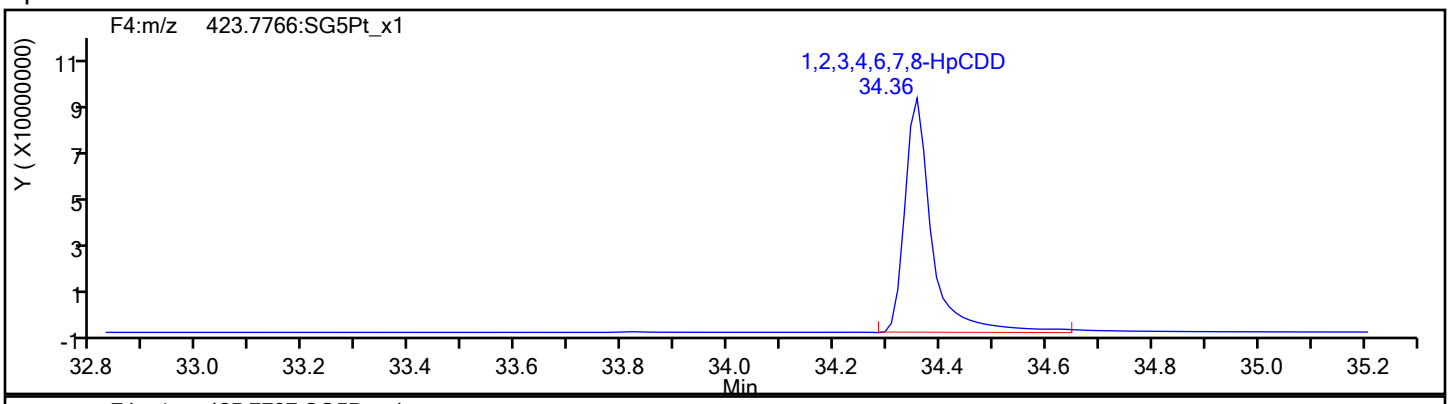

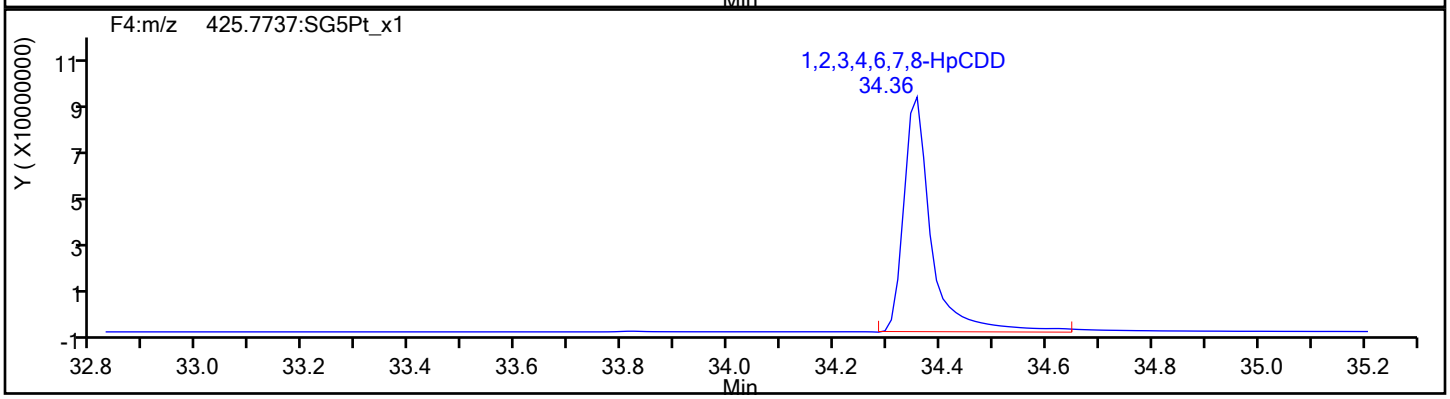

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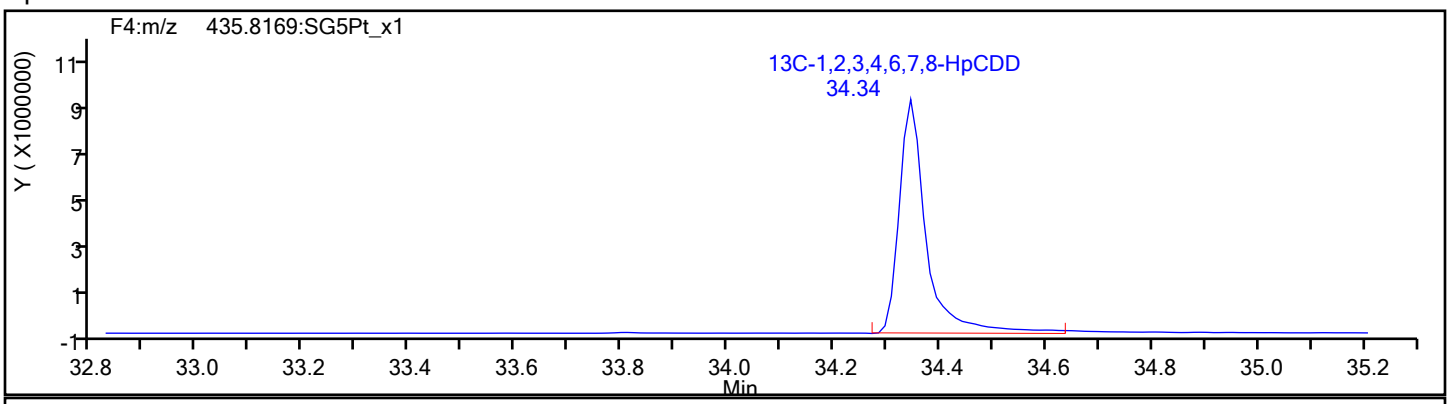

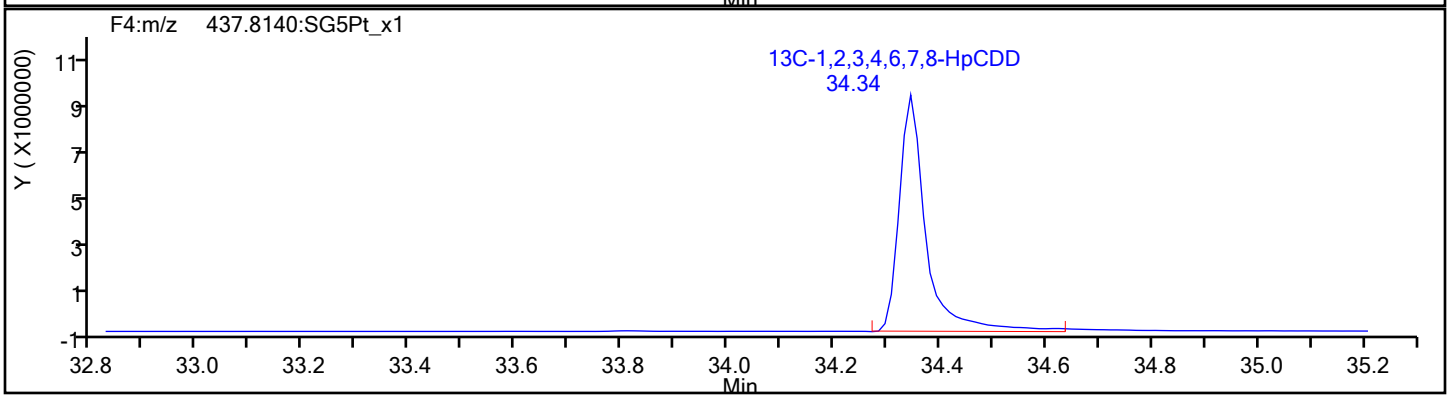

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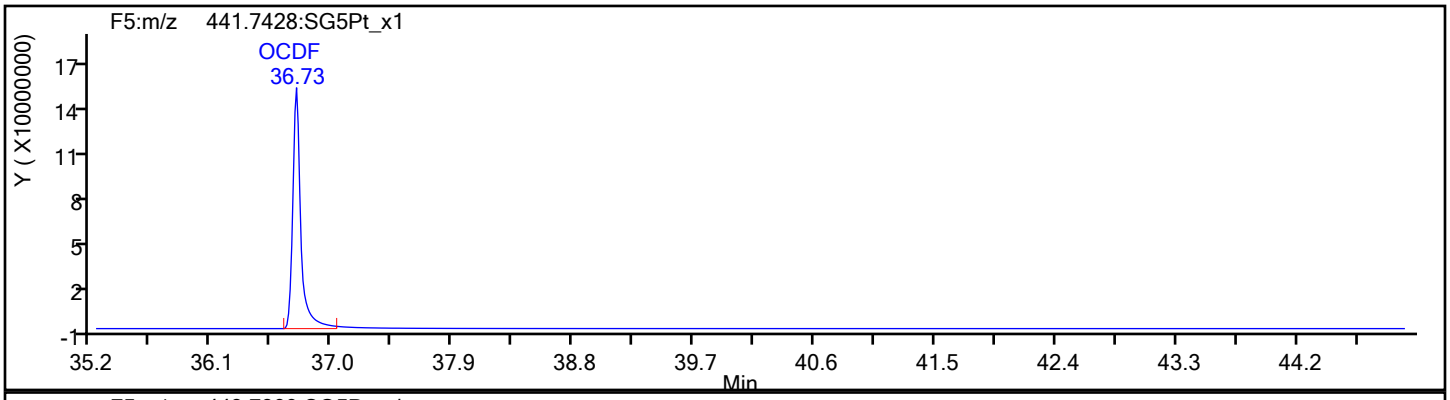

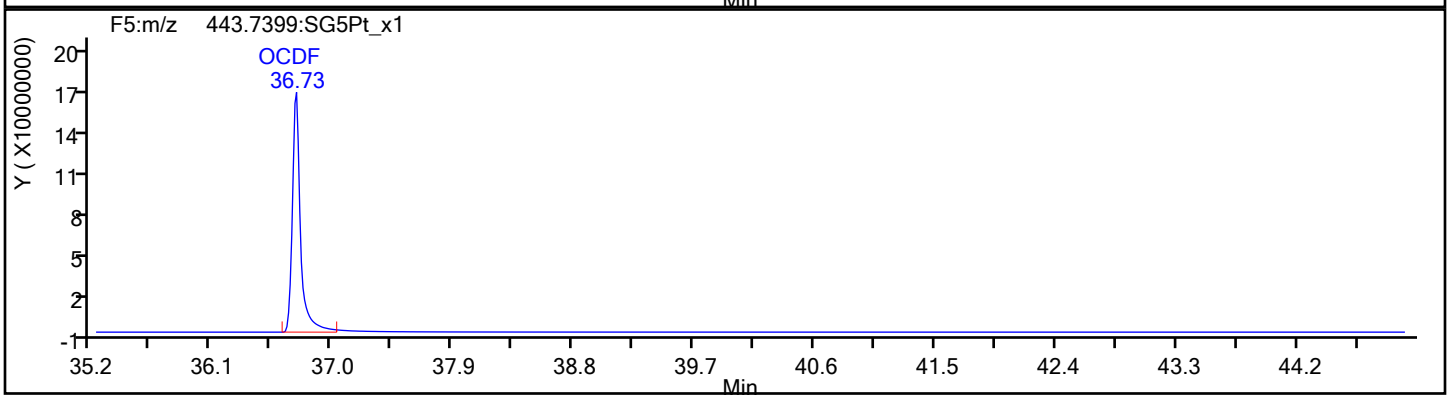

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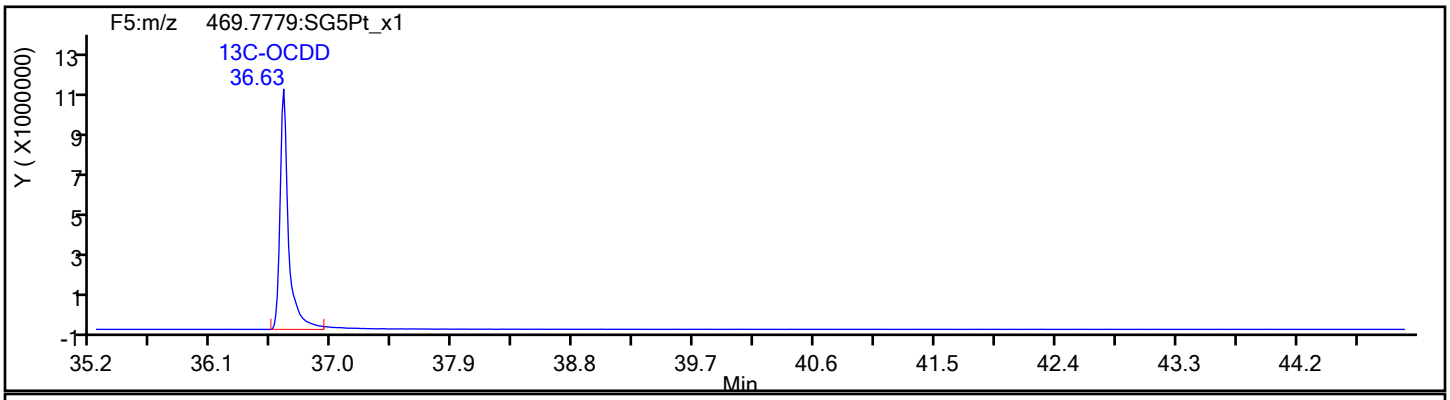

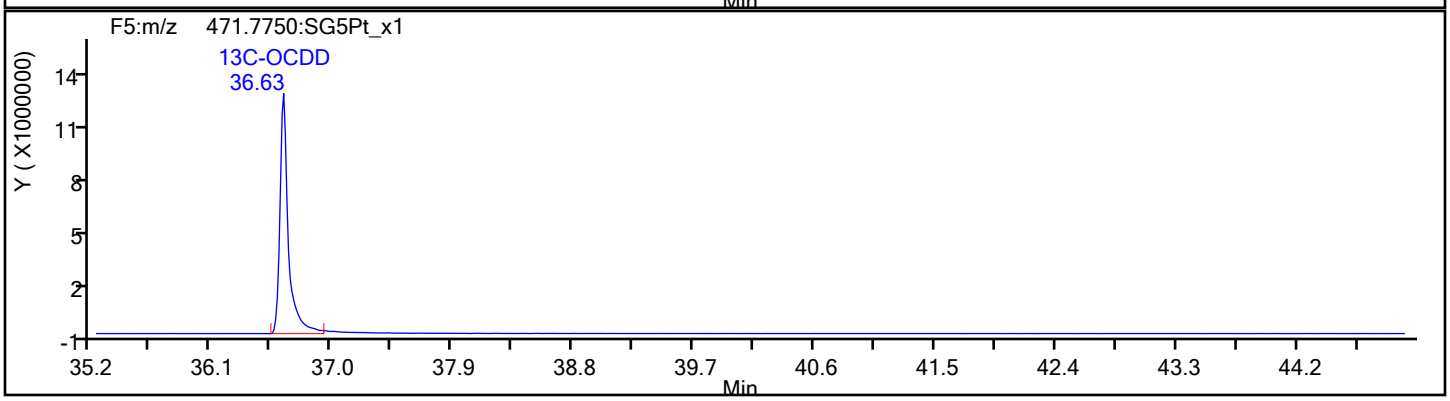

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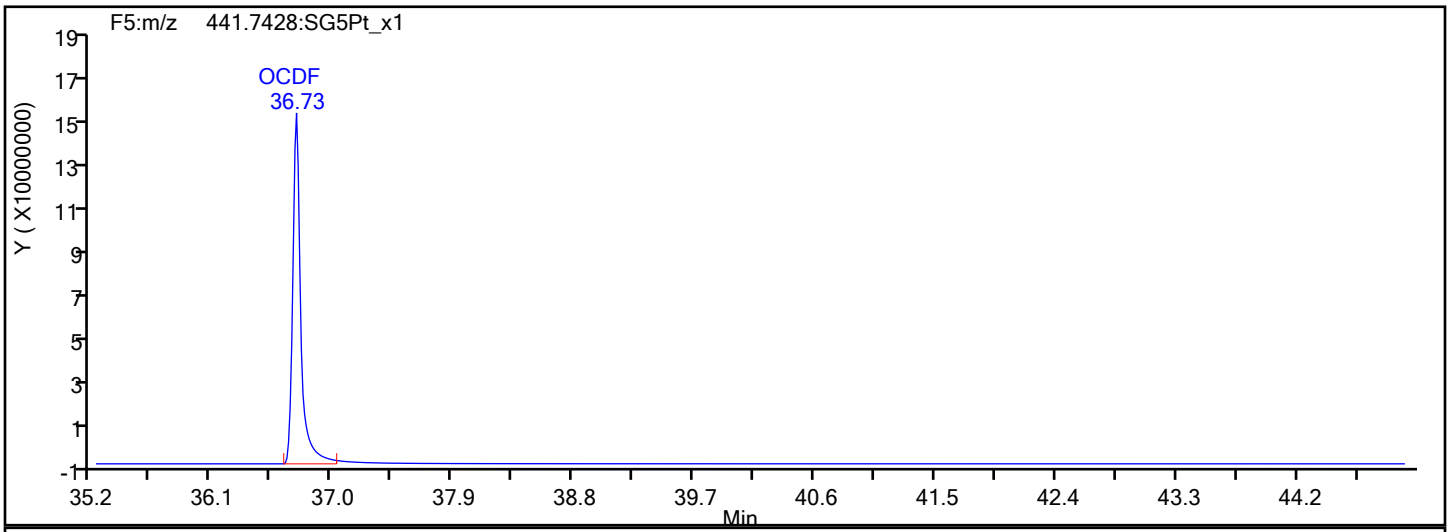

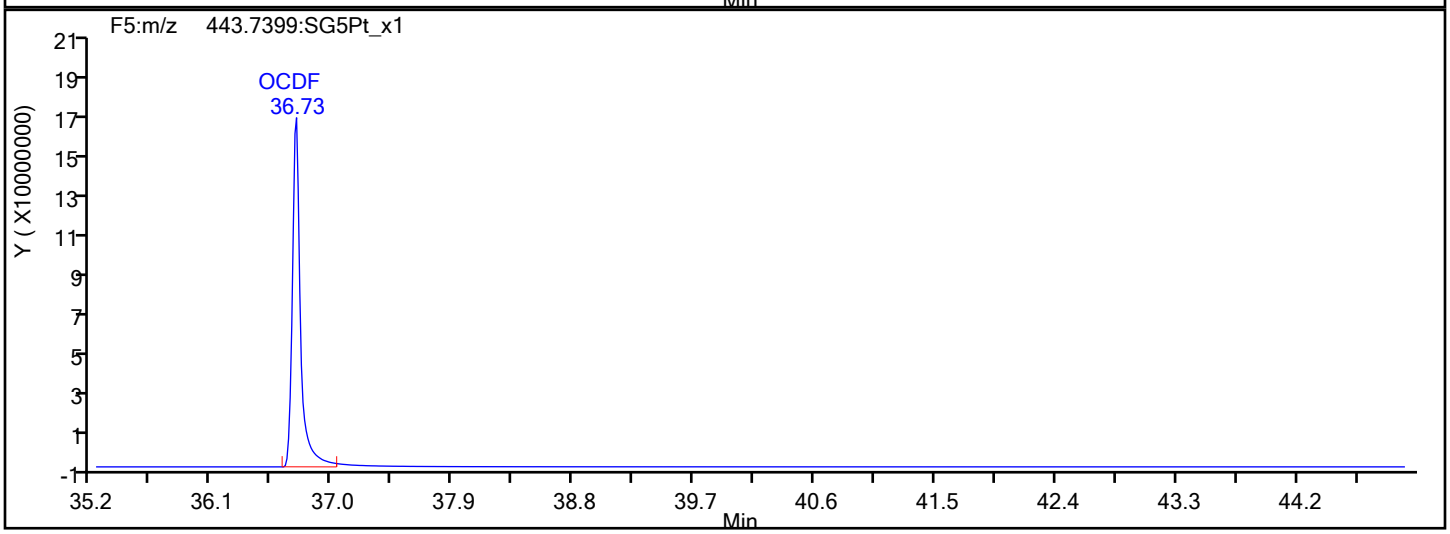

OCDF Interference Mass

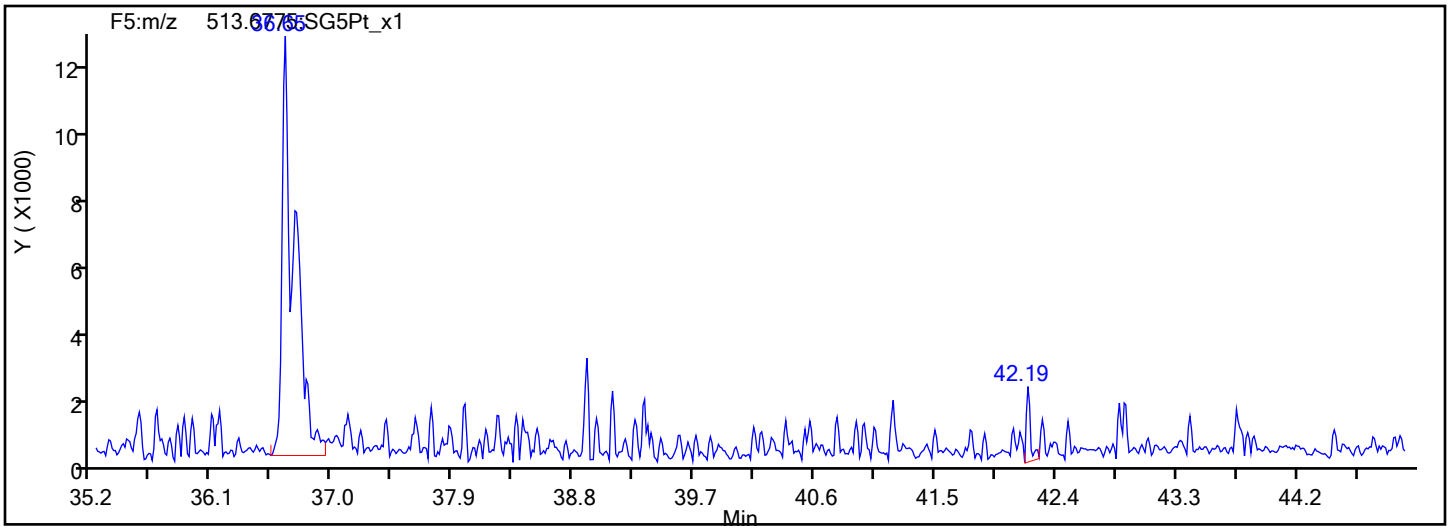

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Eurofins TestAmerica, Sacramento

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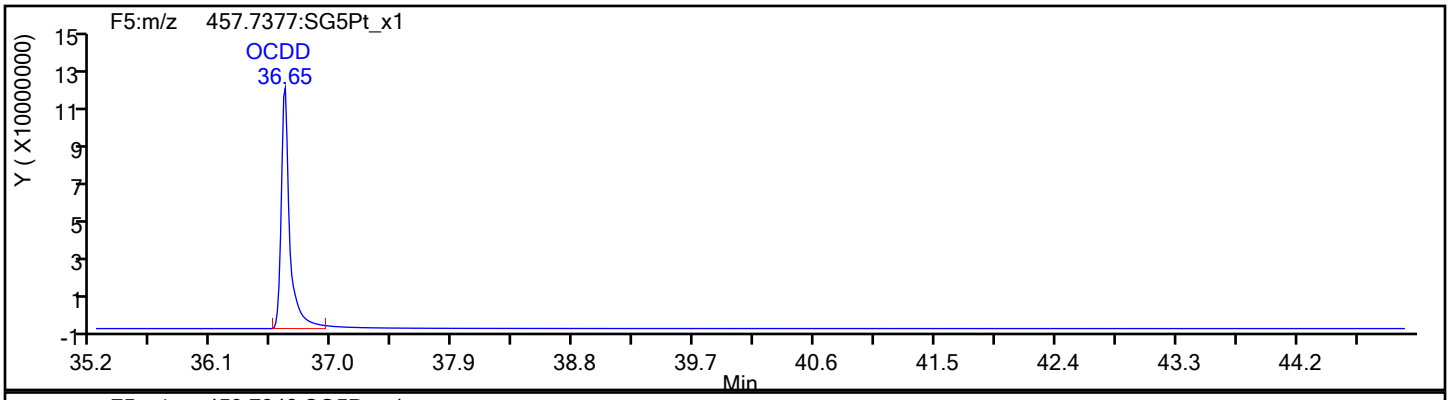

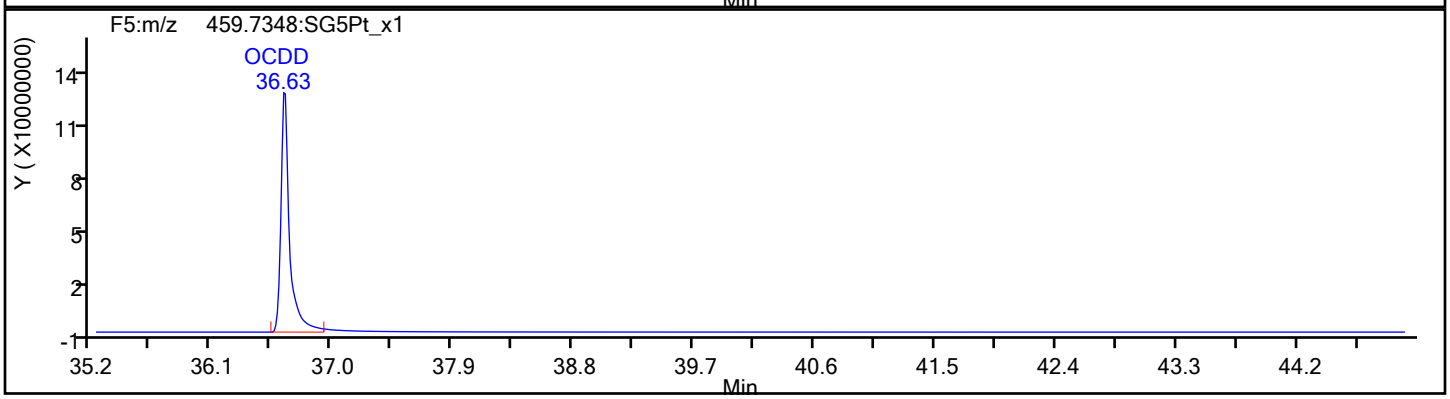

OCDD Standards

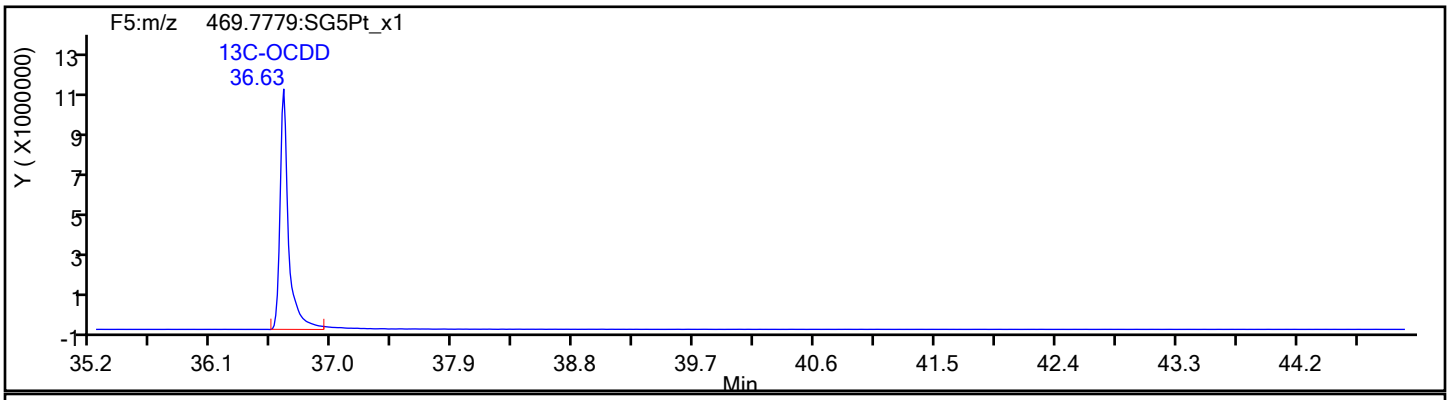

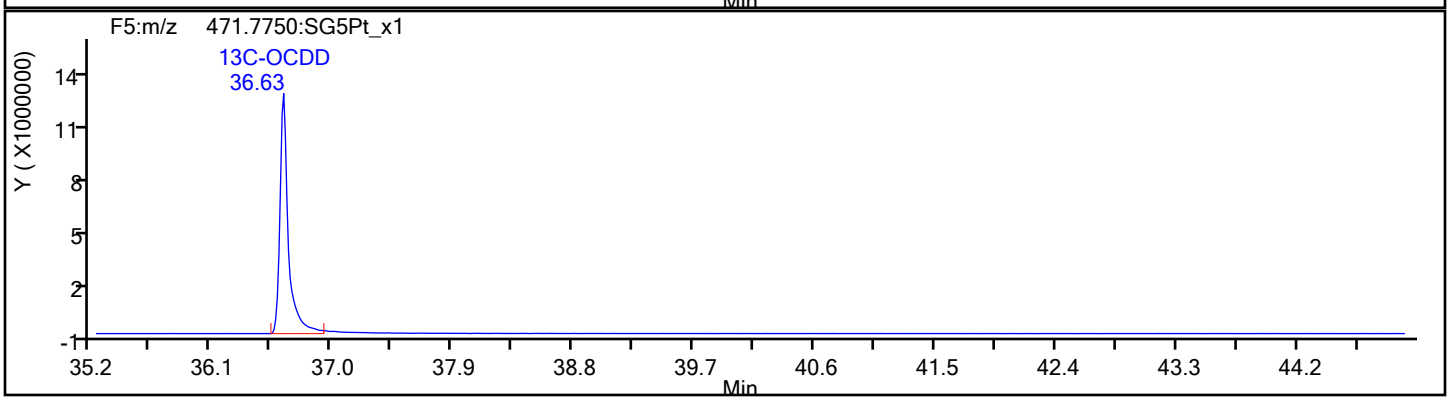

Report Date: 14-Nov-2019 16:54:48 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_7.d		
Injection Date:	14-Nov-2019 12:50:49	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

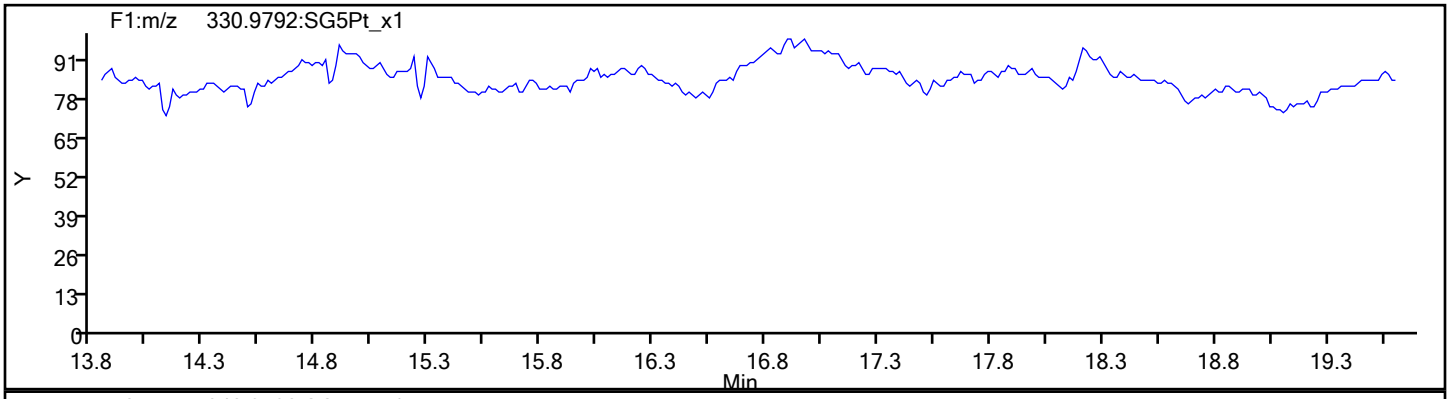

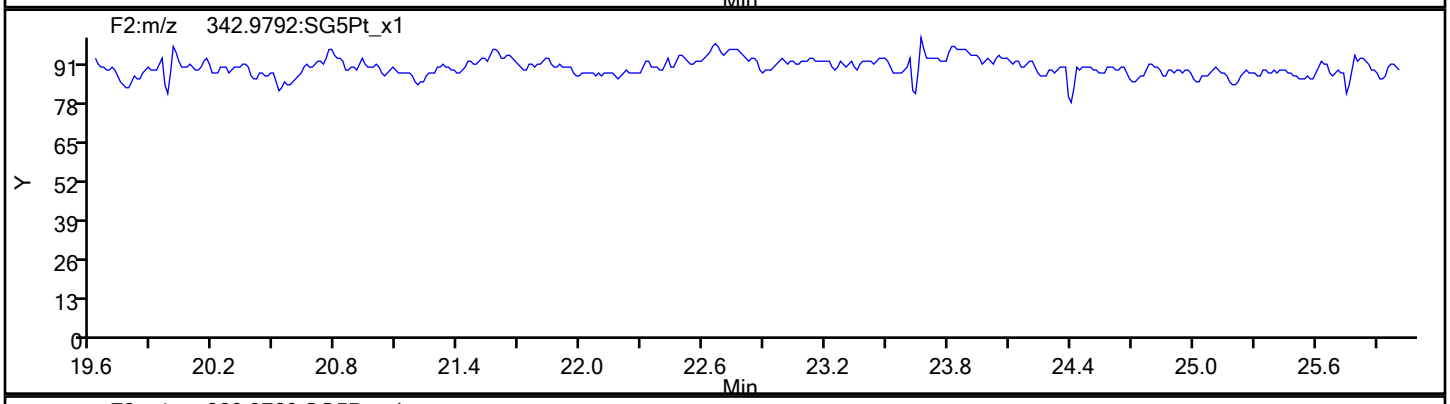

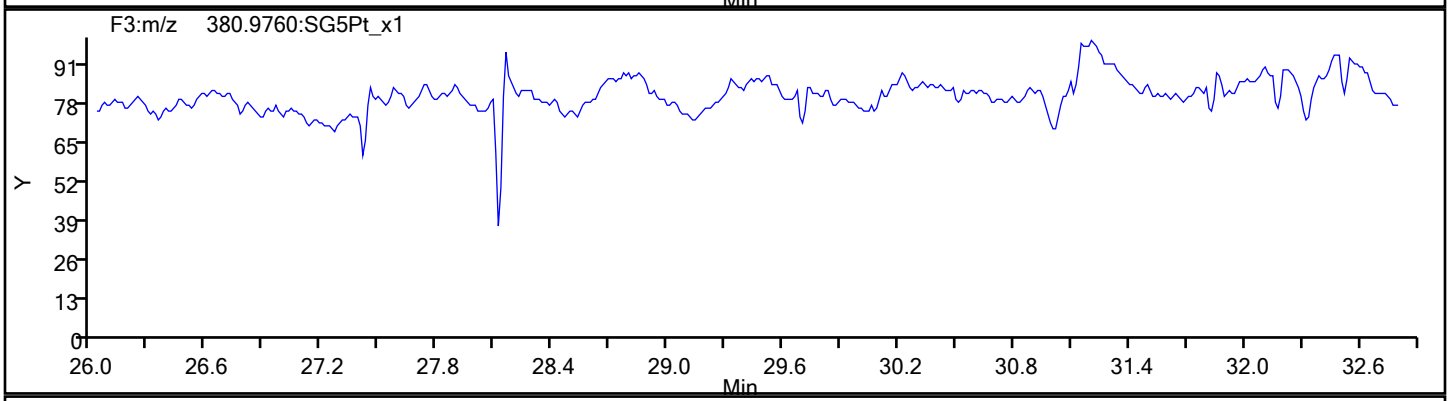

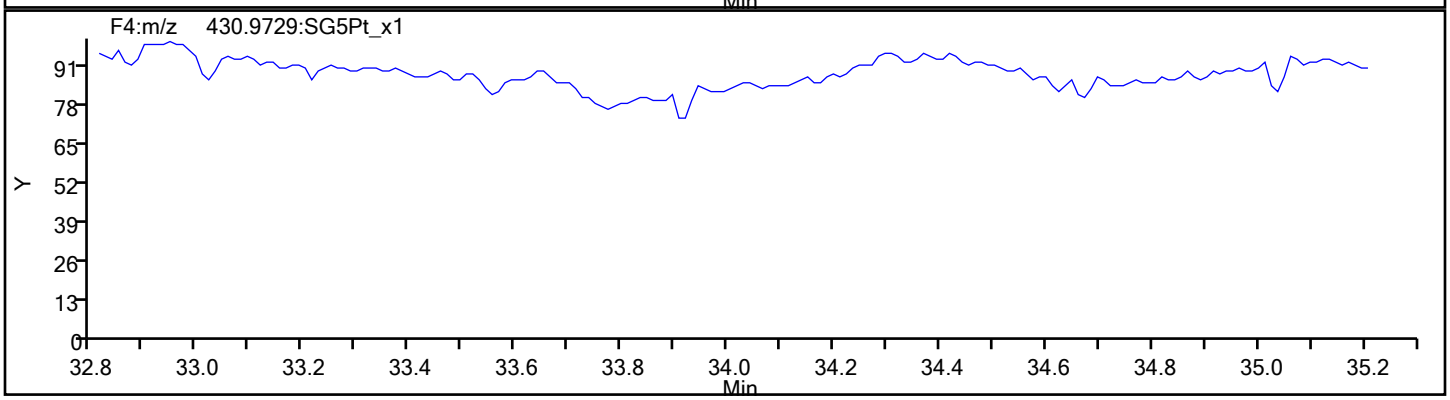

Report Date: 14-Nov-2019 16:54:48 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_7.d		
Injection Date:	14-Nov-2019 12:50:49	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

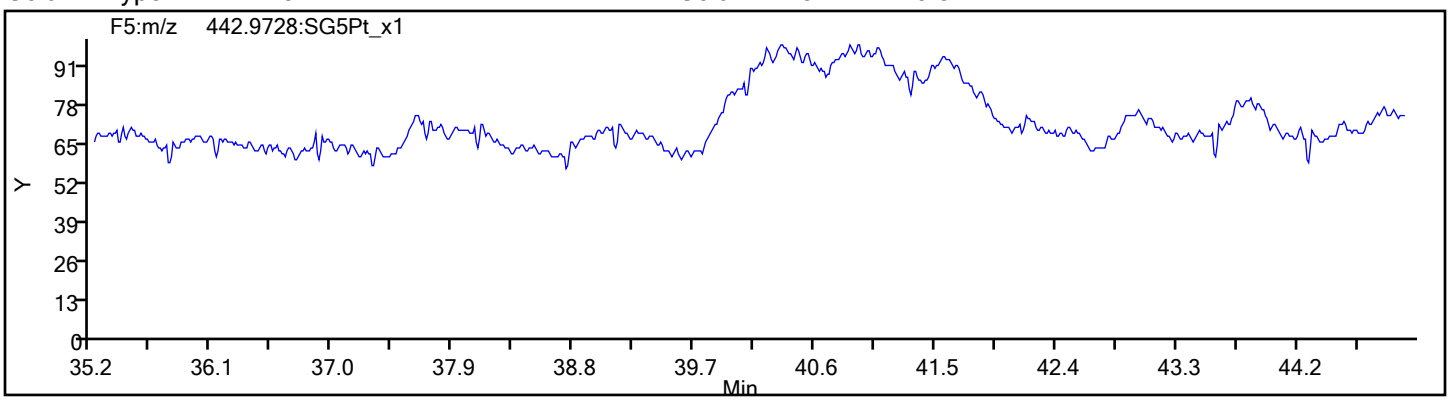

FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57624-1

SDG No.:

Lab Sample ID (1): WDM 320-338471/1 Instrument ID (1): 10D5

GC Column (1): DB-5 ID: 0.32(mm) Date Analyzed (1): 11/14/2019 08:14

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDD	17.74	22

Resolution Report

Eurofins TestAmerica, Sacramento

Data File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_1.d
Injection Date: 14-Nov-2019 08:14:53 Instrument ID: 10D5
Lims ID: WDM
Client ID:
Operator ID: SMA ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Column: DB-5 (0.32 mm)
Method: Dioxin_10D5 Limit Group: HR - 1613B - ICAL

2,3,7,8-TCDD

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 1593707
H (Peak Height) = 7323313

%R = 22 <= 25
Passed

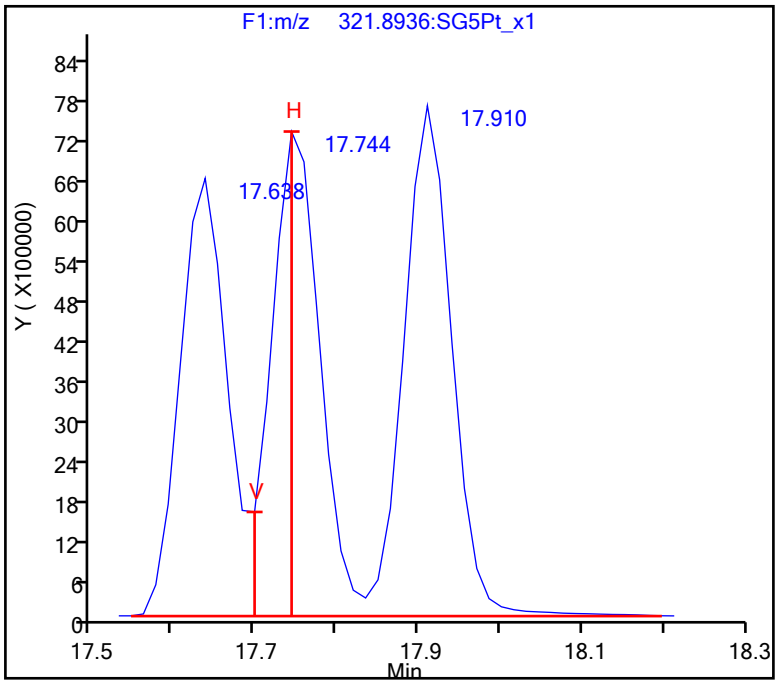

FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57624-1

SDG No.:

Lab Sample ID (1): WDM 320-350523/16 Instrument ID (1): 10D5

GC Column (1): DB-5 ID: 0.32(mm) Date Analyzed (1): 01/14/2020 00:36

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDD	17.83	19

Resolution Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_16.d				
Injection Date:	14-Jan-2020 00:36:18	Instrument ID:	10D5		
Lims ID:	WDM				
Client ID:					
Operator ID:	SMA/ALM	ALS Bottle#:	1	Worklist Smp#:	16
Injection Vol:	2.0 ul	Column:	DB-5 (0.32 mm)		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		

2,3,7,8-TCDD

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 769797
H (Peak Height) = 4057776

%R = 19 <= 25
Passed

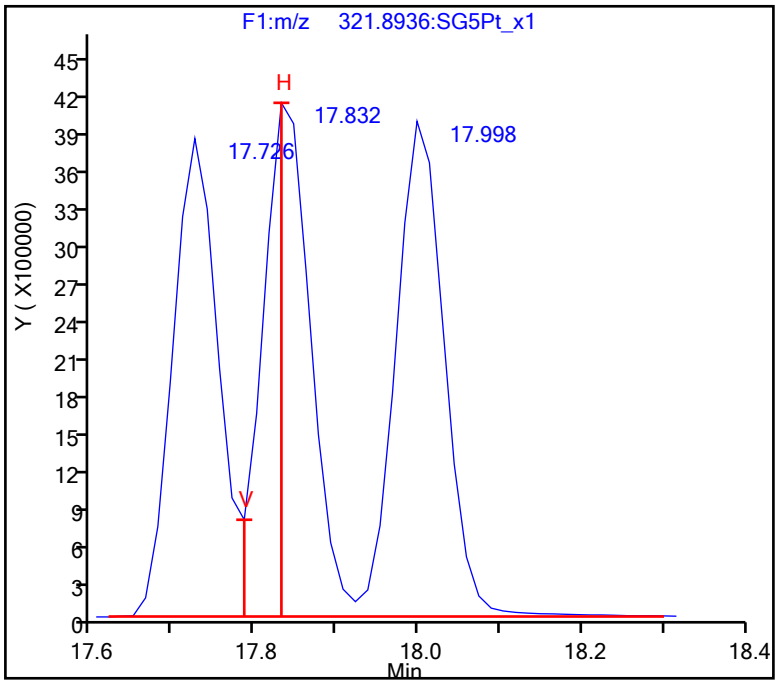

FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57624-1

SDG No.:

Lab Sample ID: ICV 320-338471/9 Calibration Date: 11/14/2019 14:22

Instrument ID: 10D5 Calib Start Date: 11/14/2019 09:46

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 11/14/2019 12:50

Lab File ID: 14NO1910D5_9.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
2,3,7,8-TCDF	AveID	0.9005	0.9429		41.9	40.0	105	70-130
2,3,7,8-TCDD	AveID	1.070	1.149		43.0	40.0	107	70-130
1,2,3,7,8-PeCDF	AveID	0.9704	0.9907		204	200	102	70-130
2,3,4,7,8-PeCDF	AveID	0.999	1.114		223	200	112	70-130
1,2,3,7,8-PeCDD	AveID	1.002	0.998		199	200	100	70-130
1,2,3,4,7,8-HxCDF	AveID	1.031	1.084		210	200	105	70-130
1,2,3,6,7,8-HxCDF	AveID	1.024	1.088		213	200	106	70-130
2,3,4,6,7,8-HxCDF	AveID	1.065	1.145		215	200	108	70-130
1,2,3,4,7,8-HxCDD	AveID	1.005	1.061		211	200	106	70-130
1,2,3,6,7,8-HxCDD	AveID	0.9833	1.095		223	200	111	70-130
1,2,3,7,8,9-HxCDD	AveID	1.104	1.123		204	200	102	70-130
1,2,3,7,8,9-HxCDF	AveID	1.066	1.091		205	200	102	70-130
1,2,3,4,6,7,8-HpCDF	AveID	1.424	1.525		214	200	107	70-130
1,2,3,4,6,7,8-HpCDD	AveID	1.017	1.082		213	200	106	70-130
1,2,3,4,7,8,9-HpCDF	AveID	1.283	1.321		206	200	103	70-130
OCDD	AveID	1.100	1.165		424	400	106	70-130
OCDF	AveID	1.305	1.365		418	400	105	70-130
13C-2,3,7,8-TCDF	Ave	1.332	1.319		99.1	100	99	71-140
13C-2,3,7,8-TCDD	Ave	0.9647	0.9598		99.5	100	99	82-121
13C-1,2,3,7,8-PeCDF	Ave	1.054	1.026		97.3	100	97	76-130
13C-2,3,4,7,8-PeCDF	Ave	1.017	1.025		101	100	101	77-130
13C-1,2,3,7,8-PeCDD	Ave	0.7281	0.7145		98.1	100	98	62-160
13C-1,2,3,4,7,8-HxCDF	Ave	0.9632	0.995		103	100	103	76-131
13C-1,2,3,6,7,8-HxCDF	Ave	1.065	1.057		99.3	100	99	70-143
13C-2,3,4,6,7,8-HxCDF	Ave	0.9696	0.9830		101	100	101	73-137
13C-1,2,3,4,7,8-HxCDD	Ave	0.7590	0.7881		104	100	104	85-117
13C-1,2,3,6,7,8-HxCDD	Ave	0.9247	0.9087		98.3	100	98	85-118
13C-1,2,3,7,8,9-HxCDF	Ave	0.8955	0.8949		99.9	100	100	74-135
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.7930	0.7978		101	100	101	78-129
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.7532	0.7616		101	100	101	72-138
13C-1,2,3,4,7,8,9-HpCDF	Ave	0.7296	0.7514		103	100	103	77-129
13C-OCDD	Ave	0.5621	0.5875		209	200	105	48-208
37Cl4-2,3,7,8-TCDD	Ave	1.308	1.352		41.3	40.0	103	79-127

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_9.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 14-Nov-2019 14:22:45 ALS Bottle#: 8 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ICV111419 ICV HRDXNIC_00042
Misc. Info.: 14NO1910D5
Operator ID: SMA Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Nov-2019 15:38:29 Calib Date: 14-Nov-2019 12:50:49
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: arghestanis Date: 14-Nov-2019 15:30:58

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.532	127753507	0.80	1.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.034	168537488	0.77	1.3318	99.1	99.1	0.2208	0.2208	99.05	
2,3,7,8-TCDF	17.049	63565277	0.75	0.9005	41.9	41.9	0.0807	0.0807	105	
A Non-2,3,7,8-sub-TCDF	16.769	503480	0.69	0.9005	0.3317	0.3317	0.0807	0.3317		
S Total TCDF					42.2	42.2	0.0807	0.0807		
D 13C-2,3,7,8-TCDD	17.729	122616706	0.79	0.9647	99.5	99.5	0.1990	0.1990	99.49	
2,3,7,8-TCDD	17.744	56356642	0.78	1.0698	43.0	43.0	0.0519	0.0519	107	
$ 37Cl4-2,3,7,8-TCDD	17.744	69105326		1.3082	41.3	41.3	0.0474	0.0474	103	
A Non-2,3,7,8-sub-TCDD	17.207	1045993	0.75	1.0698	0.7974	0.7974	0.0519	0.7974		
S Total TCDD					43.8	43.8	0.0519	0.0519		
D 13C-1,2,3,7,8-PeCDF	21.949	131024591	1.57	1.0537	97.3	97.3	0.2628	0.2628	97.33	
1,2,3,7,8-PeCDF	21.963	259623009	1.55	0.9704	204.2	204.2	0.9424	0.9424	102	
D 13C-2,3,4,7,8-PeCDF	23.258	130947062	1.55	1.0173	100.8	100.8	0.2723	0.2723	101	
2,3,4,7,8-PeCDF	23.286	291632166	1.54	0.9986	223.0	223.0	0.9647	0.9647	112	
A F1 PeCDFs	19.339						0.0139	0.0139		
A Non-2,3,7,8-sub-PeCDF	22.421	6765802	1.59	0.9845	5.247	5.247	0.9531	5.247		
S Total PeCDF					432.5	432.5	0.9535	0.9535		
D 13C-1,2,3,7,8-PeCDD	23.968	91275613	1.59	0.7281	98.1	98.1	0.1363	0.1363	98.13	
1,2,3,7,8-PeCDD	23.995	182196069	1.58	1.0023	199.1	199.1	0.3182	0.3182	99.57	
A Non-2,3,7,8-sub-PeCDD	22.911						0.3182	0.3182		
S Total PeCDD					199.1	199.1	0.3182	0.3182		
D 13C-1,2,3,4,7,8-HxCDF	30.099	94290378	0.51	0.9632	103.3	103.3	0.4979	0.4979	103	
1,2,3,4,7,8-HxCDF	30.126	204334683	1.23	1.0315	210.1	210.1	1.399	1.399	105	
D 13C-1,2,3,6,7,8-HxCDF	30.312	100156979	0.51	1.0646	99.3	99.3	0.4505	0.4505	99.31	
1,2,3,6,7,8-HxCDF	30.339	217981711	1.21	1.0235	212.6	212.6	1.258	1.258	106	
D 13C-2,3,4,6,7,8-HxCDF	31.244	93118959	0.51	0.9696	101.4	101.4	0.4946	0.4946	101	
2,3,4,6,7,8-HxCDF	31.257	213270521	1.23	1.0645	215.2	215.2	0.9471	0.9471	108	
D 13C-1,2,3,7,8,9-HxCDF	32.096	84774861	0.51	0.8955	99.9	99.9	0.5355	0.5355	99.93	
1,2,3,7,8,9-HxCDF	32.110	184937881	1.23	1.0664	204.6	204.6	0.9613	0.9613	102	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
A Non-2,3,7,8-sub-HxCDF	29.813						1.112	1.112		
S Total HxCDF					842.5	842.5	1.141	1.141		
* 13C-1,2,3,7,8,9-HxCDD	31.910	94732617	1.24	8.8E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.457	74661625	1.25	0.7590	103.8	103.8	0.3625	0.3625	104	
1,2,3,4,7,8-HxCDD	31.470	158412571	1.24	1.0054	211.0	211.0	0.6473	0.6473	106	
D 13C-1,2,3,6,7,8-HxCDD	31.563	86079261	1.24	0.9247	98.3	98.3	0.2976	0.2976	98.26	
1,2,3,6,7,8-HxCDD	31.577	188438557	1.24	0.9833	222.6	222.6	0.6210	0.6210	111	
1,2,3,7,8,9-HxCDD	31.923	180574133	1.24	1.1036	203.6	203.6	0.5709	0.5709	102	
A Non-2,3,7,8-sub-HxCDD	30.412						0.6112	0.6112		
S Total HxCDD					637.3	637.3	0.6131	0.6131		
D 13C-1,2,3,4,6,7,8-HpCDF	33.567	75573628	0.44	0.7930	100.6	100.6	1.442	1.442	101	
1,2,3,4,6,7,8-HpCDF	33.579	230450592	1.04	1.4240	214.1	214.1	2.684	2.684	107	
D 13C-1,2,3,4,7,8,9-HpCDF	34.624	71184611	0.44	0.7296	103.0	103.0	1.567	1.567	103	
1,2,3,4,7,8,9-HpCDF	34.624	188084404	1.04	1.2834	205.9	205.9	3.747	3.747	103	
A Non-2,3,7,8-sub-HpCDF	34.107						3.146	3.146		
S Total HpCDF					420.0	420.0	3.215	3.215		
D 13C-1,2,3,4,6,7,8-HpCDD	34.333	72144979	1.05	0.7532	101.1	101.1	0.6400	0.6400	101	
1,2,3,4,6,7,8-HpCDD	34.345	156189527	1.05	1.0174	212.8	212.8	1.241	1.241	106	
A Non-2,3,7,8-sub-HpCDD	34.745						1.241	1.241		
S Total HpCDD					212.8	212.8	1.241	1.241		
D 13C-OCDD	36.621	111309290	0.91	0.5621	209.1	209.1	0.3127	0.3127	105	
OCDF	36.717	303775810	0.89	1.3047	418.4	418.4	0.3454	0.3454	105	
OCDD	36.633	259273206	0.89	1.0997	423.6	423.6	0.5138	0.5138	106	

Reagents:

HRDXNIC_00042 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_9.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 14-Nov-2019 14:22:45 ALS Bottle#: 8 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ICV111419 ICV HRDXNIC_00042
Misc. Info.: 14NO1910D5
Operator ID: SMA Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Nov-2019 15:38:29 Calib Date: 14-Nov-2019 12:50:49
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: arghestanis Date: 14-Nov-2019 15:30:58

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.532	17.539	0		56748212	14295274	11666	29165	1225		
333.9339	17.532	17.539	0		71005295	17876659	13033	32582	1372	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.034	17.034	0	0.972	73519539	18880730	26215	65537	720		
317.9389	17.034	17.034	0	0.972	95017949	24476277	11636	29090	2103	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.049	17.049	0	1.001	27341233	6988990	5216	13040	1340		
305.8987	17.049	17.049	0	1.001	36224044	9308338	7391	18477	1259	0.75(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.414	16.769	-21	0.964	206397	52842	5216	13040	10		
305.8987	16.399	16.769	-22	0.963	297083	81682	7391	18477	11	0.69(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.729	17.729	0	1.011	54287694	13185379	11666	29165	1130		
333.9339	17.729	17.729	0	1.011	68329012	16599634	13033	32582	1274	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.744	17.744	0	1.001	24640234	6032361	3034	7585	1988		
321.8936	17.744	17.744	0	1.001	31716408	7764793	3587	8967	2165	0.78(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.744	17.744	0	1.012	69105326	16899338	7980	19950	2118		
A Non-2,3,7,8-sub-TCDD											
319.8965	17.638	17.207	26	0.995	447986	123608	3034	7585	41		
321.8936	17.638	17.207	26	0.995	598007	164265	3587	8967	46	0.75(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	21.949	21.949	0	1.252	80074999	14441130	21701	54252	665		
353.8970	21.949	21.949	0	1.252	50949592	9172063	13941	34852	658	1.57(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.963	21.971	0	1.001	157758948	28571111	51917	129792	550		
341.8567	21.963	21.971	0	1.001	101864061	18672781	34457	86142	542	1.55(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	23.258	23.258	0	1.327	79688867	13633117	21701	54252	628		
353.8970	23.258	23.258	0	1.327	51258195	8782710	13941	34852	630	1.55(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.286	23.286	0	1.001	176904202	30084309	51917	129792	579		
341.8567	23.286	23.286	0	1.001	114727964	19617785	34457	86142	569	1.54(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.339						547	1367			
341.8567	19.339						709	1772			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.481	22.421	4	1.024	4152473	701023	51917	129792	14		
341.8567	22.481	22.421	4	1.024	2613329	453840	34457	86142	13	1.59(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.968	23.968	0	1.367	56091702	8956077	7762	19405	1154		
369.8919	23.968	23.968	0	1.367	35183911	5701880	5007	12517	1139	1.59(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.995	23.995	0	1.001	111532802	18081800	11476	28690	1576		
357.8516	23.995	23.995	0	1.001	70663267	11358794	7223	18057	1573	1.58(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.911						11476	28690			
357.8516	22.911						7223	18057			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.099	30.102	0	0.943	31927571	5116694	15279	38197	335		
385.8610	30.099	30.102	0	0.943	62362807	10049266	28842	72105	348	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.126	30.131	0	1.001	112815761	18463364	48873	122182	378		
375.8178	30.126	30.131	0	1.001	91518922	15221715	38672	96680	394	1.23(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.312	30.323	-1	0.950	33944233	5776371	15279	38197	378		
385.8610	30.312	30.323	-1	0.950	66212746	11214448	28842	72105	389	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.339	30.344	0	1.001	119258588	20543798	48873	122182	420		
375.8178	30.339	30.344	0	1.001	98723123	16999042	38672	96680	440	1.21(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.244	31.247	0	0.979	31519259	7453180	15279	38197	488		
385.8610	31.244	31.247	0	0.979	61599700	14255685	28842	72105	494	0.51(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.257	31.265	0	1.000	117461840	26806991	48873	122182	549		
375.8178	31.257	31.265	0	1.000	95808681	22209989	38672	96680	574	1.23(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.096	32.099	0	1.006	28814125	7319080	15279	38197	479		
385.8610	32.096	32.099	0	1.006	55960736	14030795	28842	72105	486	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.110	32.115	0	1.000	101890299	25413541	48873	122182	520		
375.8178	32.110	32.115	0	1.000	83047582	21122013	38672	96680	546	1.23(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.813						48873	122182			
375.8178	29.813						38672	96680			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.910	31.912	0		52511910	12805184	13768	34420	930		
403.8529	31.910	31.912	0		42220707	10195168	11548	28870	883	1.24(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.457	31.452	0	0.986	41450414	10641684	13768	34420	773		
403.8529	31.457	31.452	0	0.986	33211211	8510160	11548	28870	737	1.25(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.470	31.470	0	1.000	87537626	23038723	27942	69855	825		
391.8127	31.470	31.470	0	1.000	70874945	18191910	21910	54775	830	1.24(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.563	31.566	0	0.989	47669476	11301600	13768	34420	821		
403.8529	31.563	31.566	0	0.989	38409785	9108712	11548	28870	789	1.24(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.577	31.582	0	1.000	104264488	24258359	27942	69855	868		
391.8127	31.577	31.582	0	1.000	84174069	19892753	21910	54775	908	1.24(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.923	31.926	0	1.015	99797219	24421387	27942	69855	874		
391.8127	31.923	31.926	0	1.015	80776914	19846531	21910	54775	906	1.24(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.412						27942	69855			
391.8127	30.412						21910	54775			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.567	33.567	0	1.052	23171360	7345725	31014	77535	237		
419.8220	33.567	33.567	0	1.052	52402268	16516100	74183	185457	223	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.579	33.579	0	1.000	117307635	37090120	180273	450682	206		
409.7789	33.579	33.579	0	1.000	113142957	35287943	184483	461207	191	1.04(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.624	34.619	0	1.085	21886650	5883467	31014	77535	190		
419.8220	34.612	34.619	0	1.085	49297961	13077653	74183	185457	176	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.624	34.629	0	1.000	95696618	26139394	180273	450682	145		
409.7789	34.624	34.629	0	1.000	92387786	25556834	184483	461207	139	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.107						180273	450682			
409.7789	34.107						184483	461207			

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Data File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_9.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.333	34.340	0	1.076	37011862	10041441	22198	55495	452		
437.8140	34.333	34.340	0	1.076	35133117	9629280	22148	55370	435	1.05(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.345	34.349	0	1.000	79879106	22019547	51333	128332	429		
425.7737	34.345	34.349	0	1.000	76310421	21337270	47994	119985	445	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.745						51333	128332			
425.7737	34.745						47994	119985			
13C-OCDD											
469.7779	36.621	36.624	0	1.148	52901559	11882037	5075	12687	2341		
471.7750	36.621	36.624	0	1.148	58407731	13125798	11094	27735	1183	0.91(0.76-1.02)	
OCDF											
441.7428	36.717	36.720	0	1.003	143317739	34056066	10453	26132	3258		
443.7399	36.717	36.720	0	1.003	160458071	38120299	12085	30212	3154	0.89(0.76-1.02)	
OCDD											
457.7377	36.633	36.636	0	1.000	121973324	27802079	12265	30662	2267		
459.7348	36.633	36.636	0	1.000	137299882	30917054	15993	39982	1933	0.89(0.76-1.02)	

Reagents:

HRDXNIC_00042 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_9.d
Lims ID: ICV
Client ID:
Inject. Date: 14-Nov-2019 14:22:45 Dil. Factor: 1.0000
Sample Type: ICV, ICal Verification
Instrument ID: 10D5 Operator: SMA
Lims Batch ID: 338471 Lims Sample ID: 9
Sublist: chrom-Dioxin_10D5*sub1

Non-2,3,7,8-sub-TCDF, RT: 16.769

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	0.901	D 13C-2,3,7,8-TCDF	100.000	168537488	43357007

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.901		100.000	168537488	43357007

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
16.414	206397	52842	297083	81682	0.3317	0.69	
Signal Totals:							
	206397	52842	297083	81682			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	503480	134524				0.69	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.3317 = (503480 * 100.000) / (168537488 * 0.901)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_9.d
Lims ID: ICV
Client ID:
Inject. Date: 14-Nov-2019 14:22:45 Dil. Factor: 1.0000
Sample Type: ICV, ICal Verification
Instrument ID: 10D5 Operator: SMA
Lims Batch ID: 338471 Lims Sample ID: 9
Sublist: chrom-Dioxin_10D5*sub1

Non-2,3,7,8-sub-TCDD, RT: 17.207

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.070	D 13C-2,3,7,8-TCDD	100.000	122616706	29785013

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.070		100.000	122616706	29785013

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
17.638	447986	123608	598007	164265	0.7974	0.75	
Signal Totals:							
	447986	123608	598007	164265			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1045993	287873				0.75	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.7974 = (1045993 * 100.000) / (122616706 * 1.070)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_9.d
Lims ID: ICV
Client ID:
Inject. Date: 14-Nov-2019 14:22:45 Dil. Factor: 1.0000
Sample Type: ICV, ICal Verification
Instrument ID: 10D5 Operator: SMA
Lims Batch ID: 338471 Lims Sample ID: 9
Sublist: chrom-Dioxin_10D5*sub1

Non-2,3,7,8-sub-PeCDF, RT: 22.421

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	0.970	D 13C-1,2,3,7,8-PeCDF	100.000	131024591	23613193
2,3,4,7,8-PeCDF	0.999	D 13C-2,3,4,7,8-PeCDF	100.000	130947062	22415827

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.984		100.000	130985826	23014510

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
22.481	4152473	701023	2613329	453840	5.25	1.59	
Signal Totals:							
	4152473	701023	2613329	453840			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	6765802	1154863				1.59	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 5.247 = (6765802 * 100.000) / (130985826 * 0.984)

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Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_9.d		
Injection Date:	14-Nov-2019 14:22:45	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

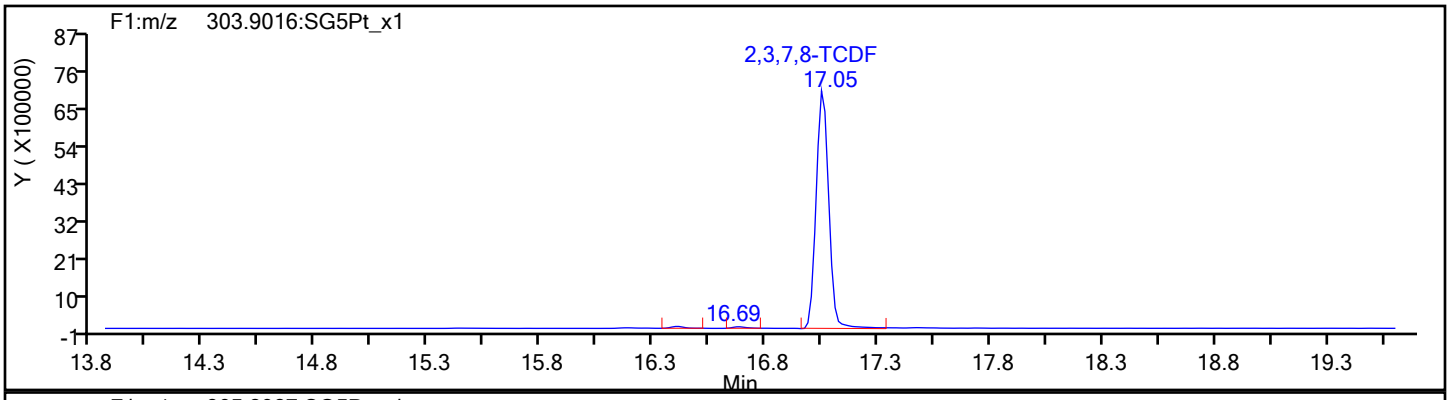

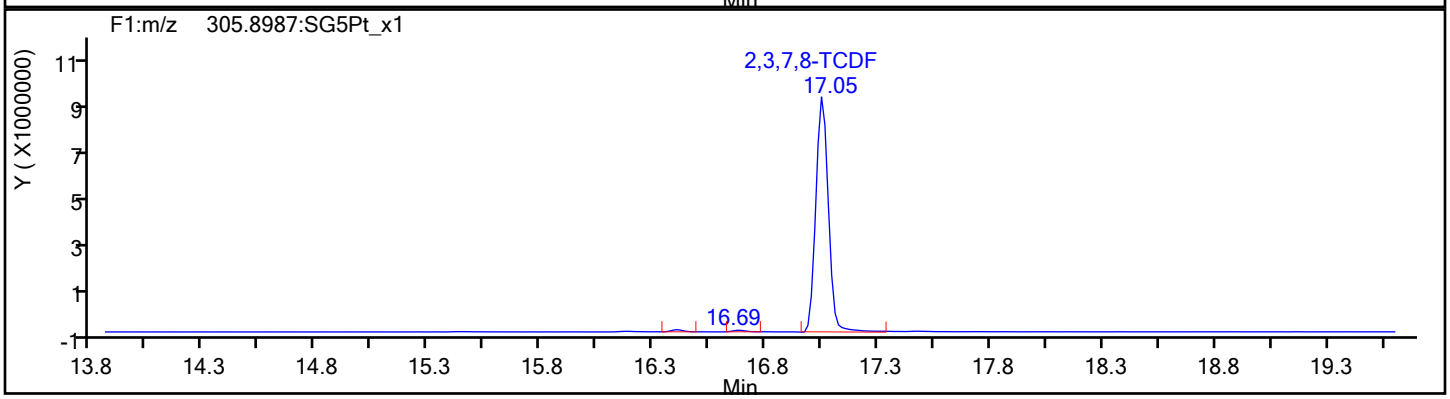

TCDF Standards

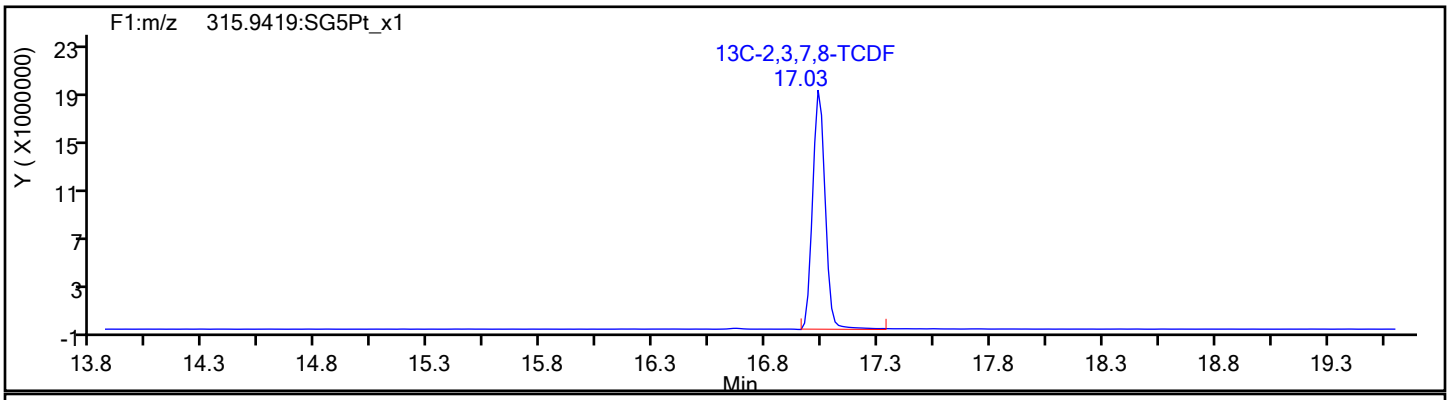

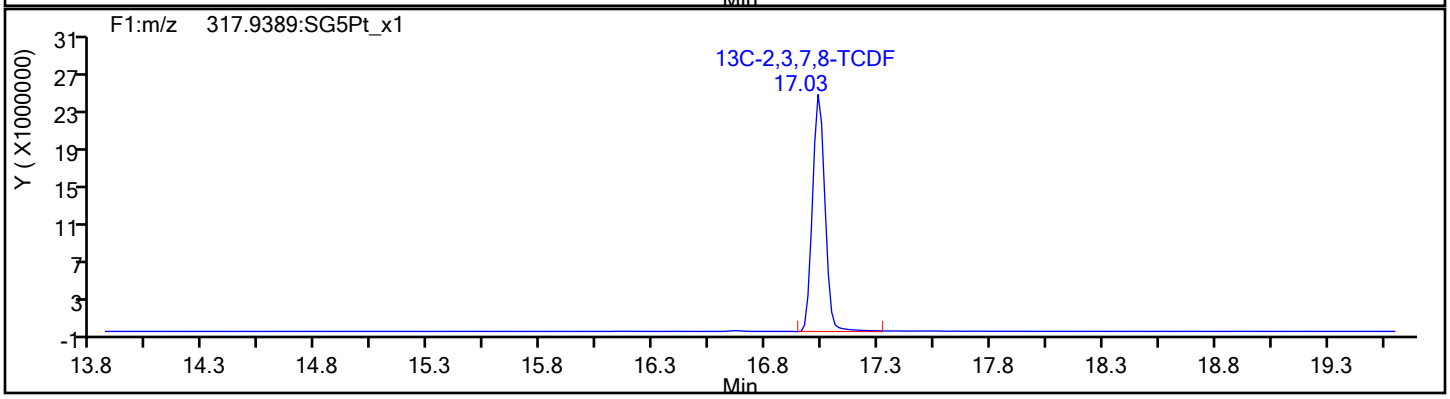

Report Date: 14-Nov-2019 15:38:34 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_9.d		
Injection Date:	14-Nov-2019 14:22:45	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

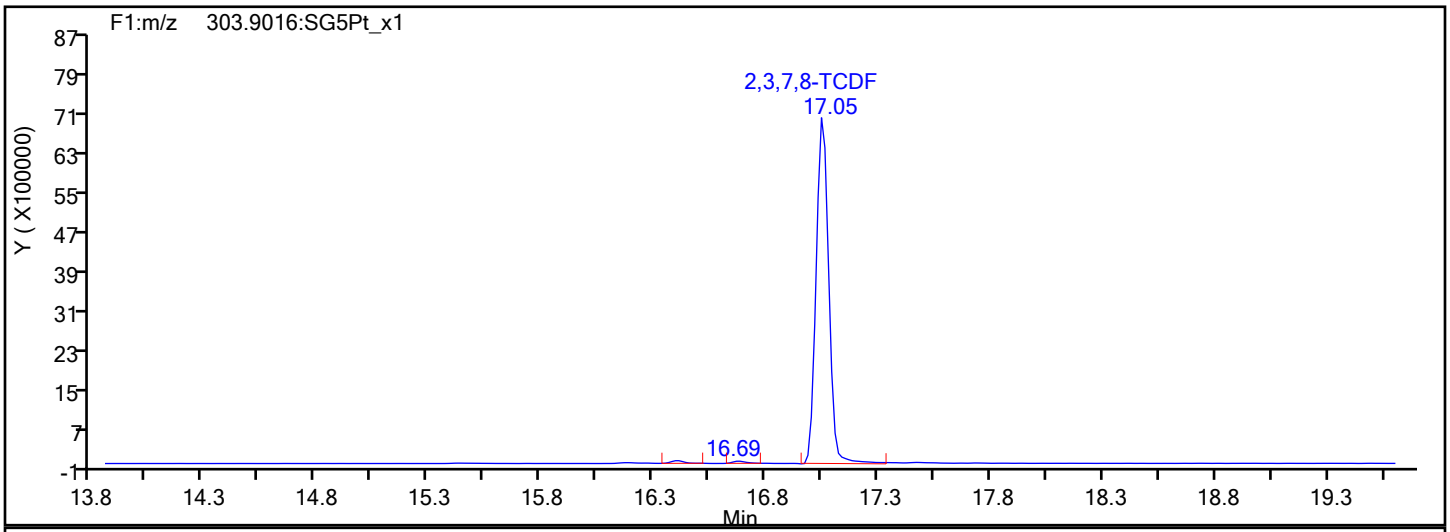

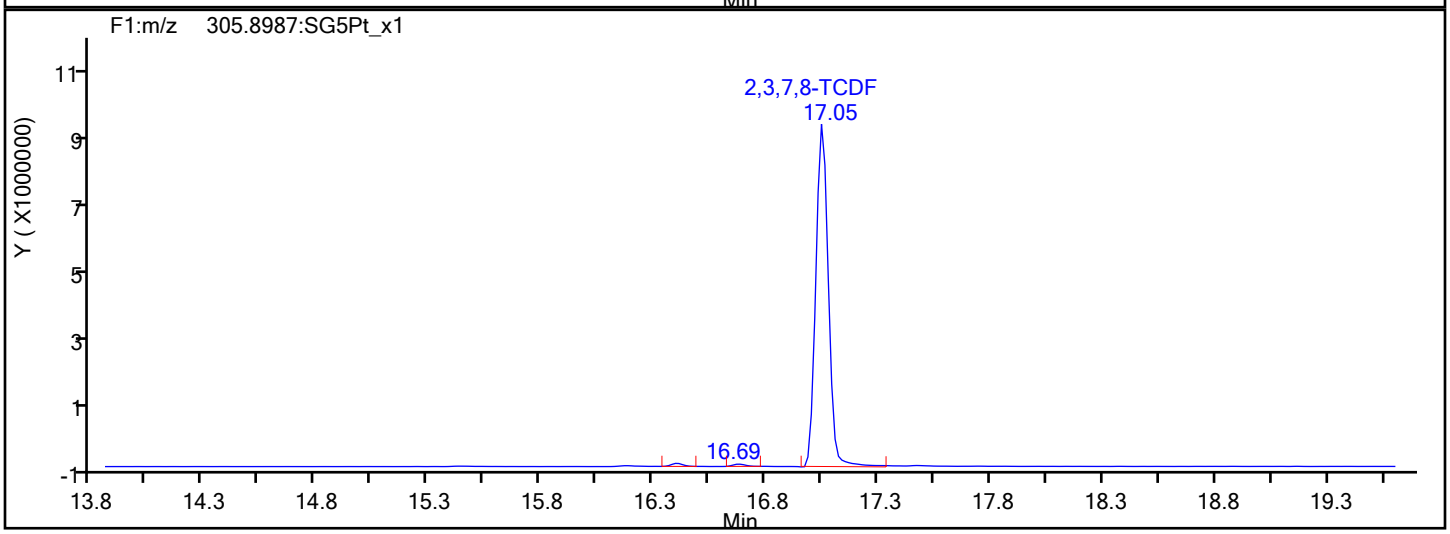

TCDF Interference Mass

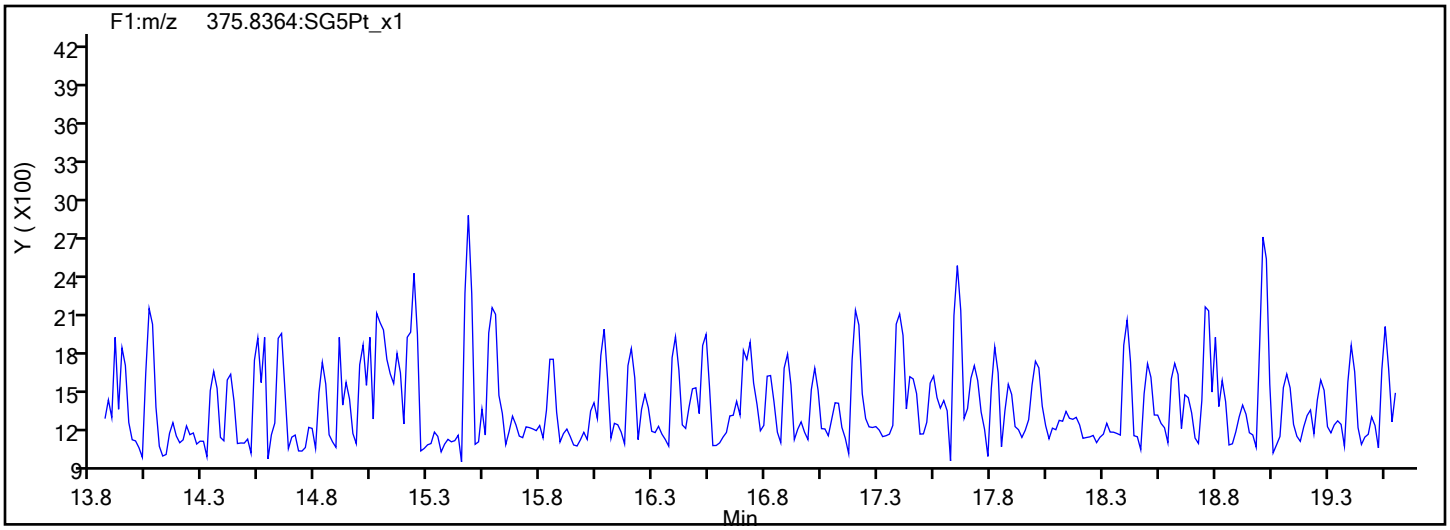

Report Date: 14-Nov-2019 15:38:34 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_9.d		
Injection Date:	14-Nov-2019 14:22:45	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

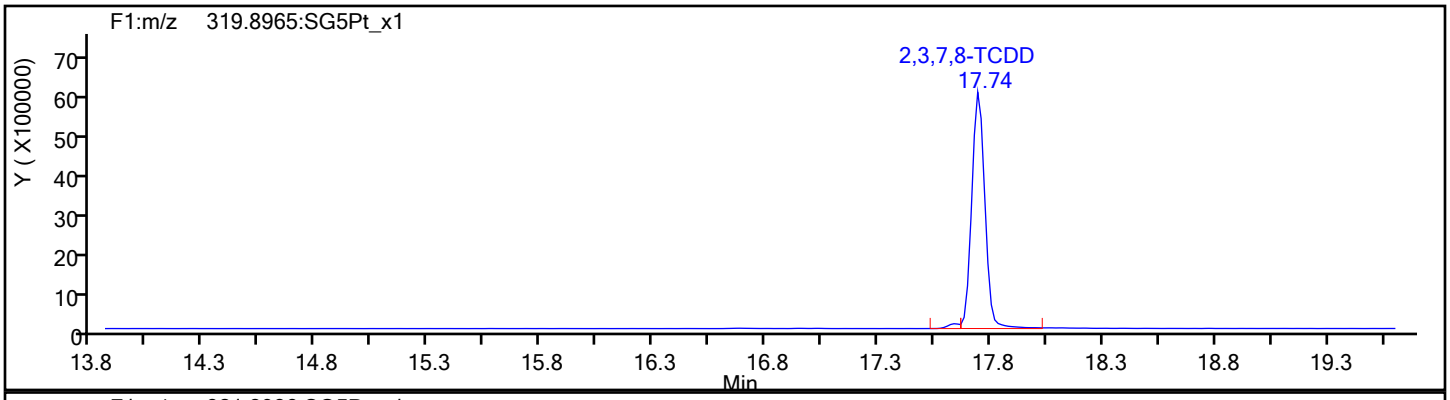

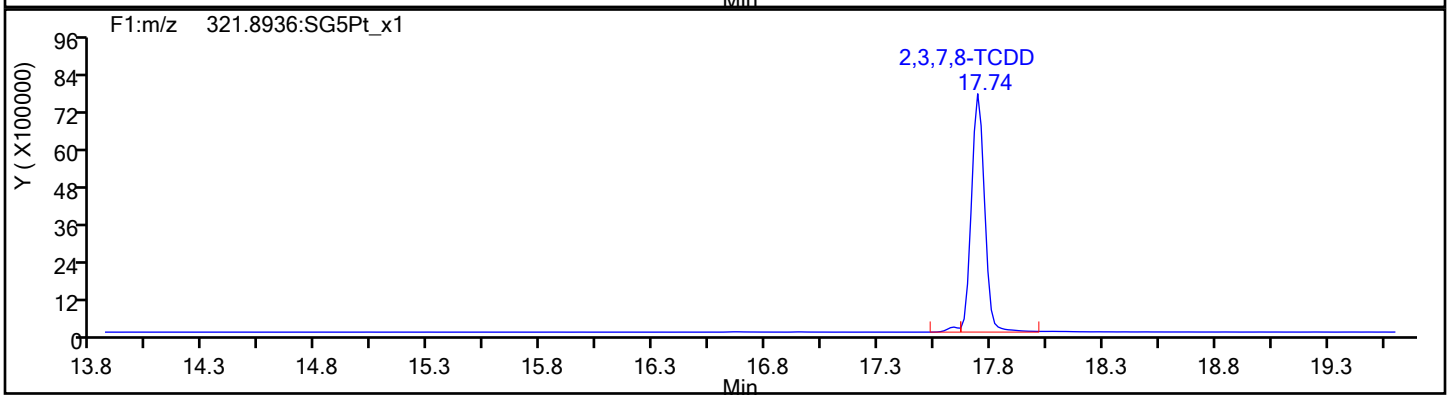

TCDD Standards

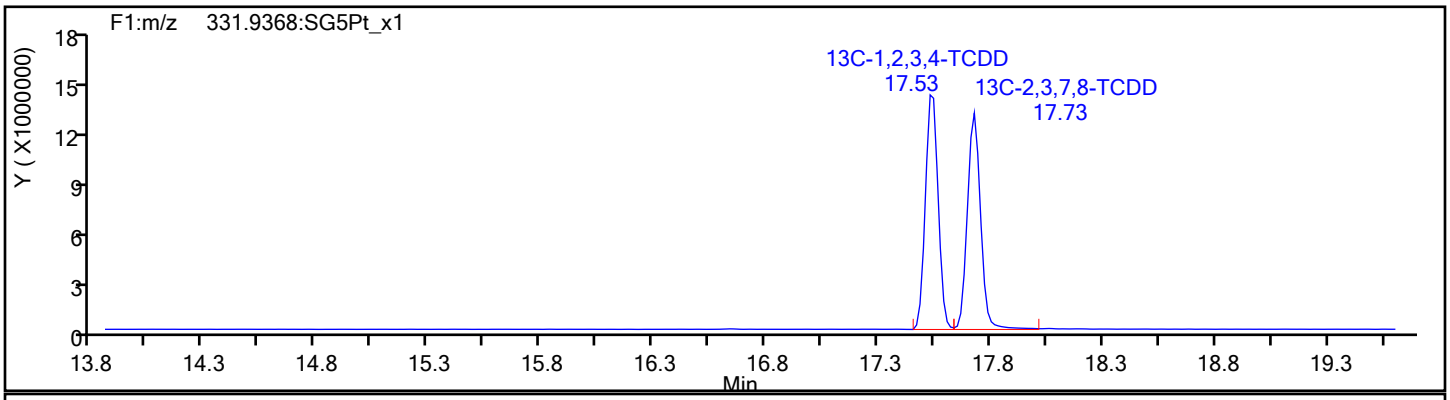

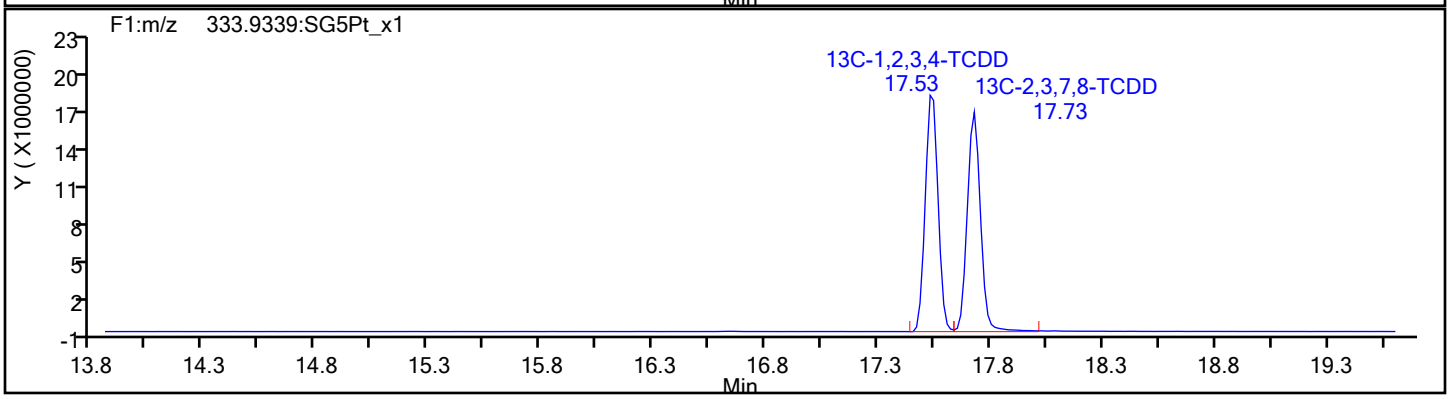

Report Date: 14-Nov-2019 15:38:34 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_9.d		
Injection Date:	14-Nov-2019 14:22:45	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

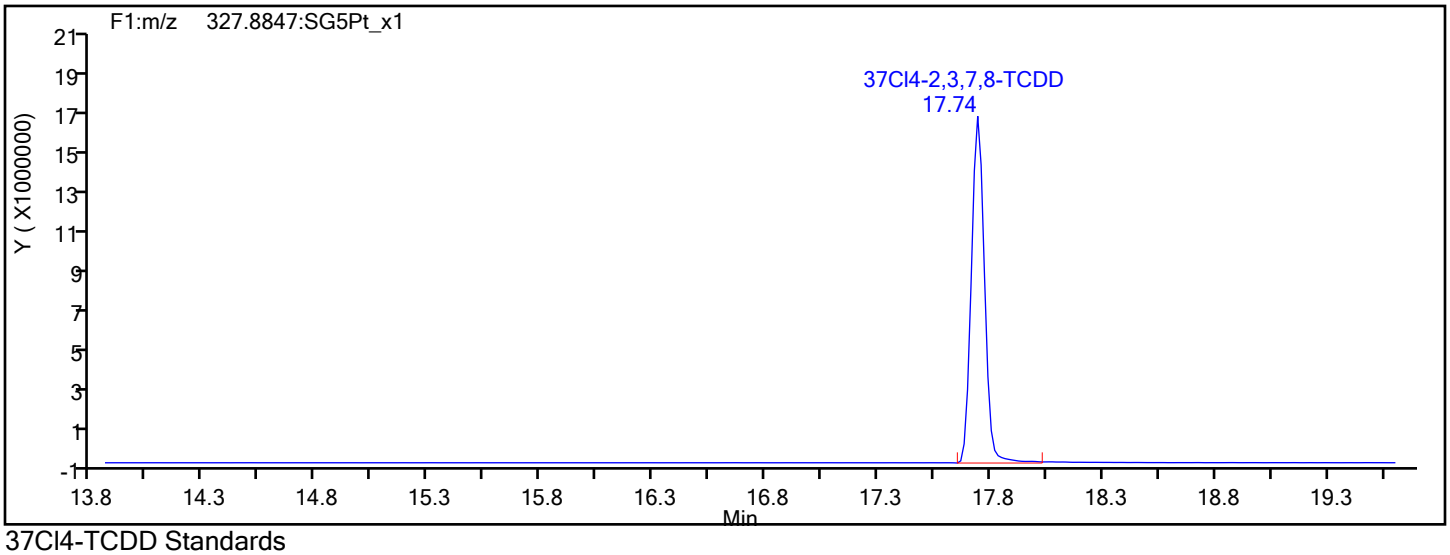

37Cl4-TCDD Standards

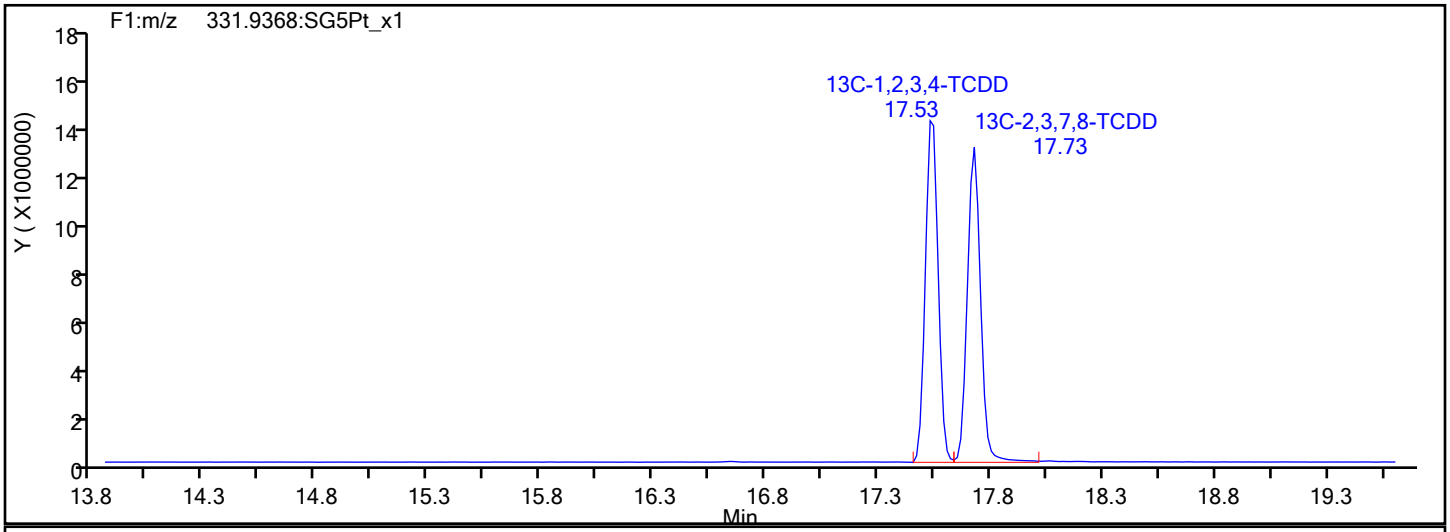

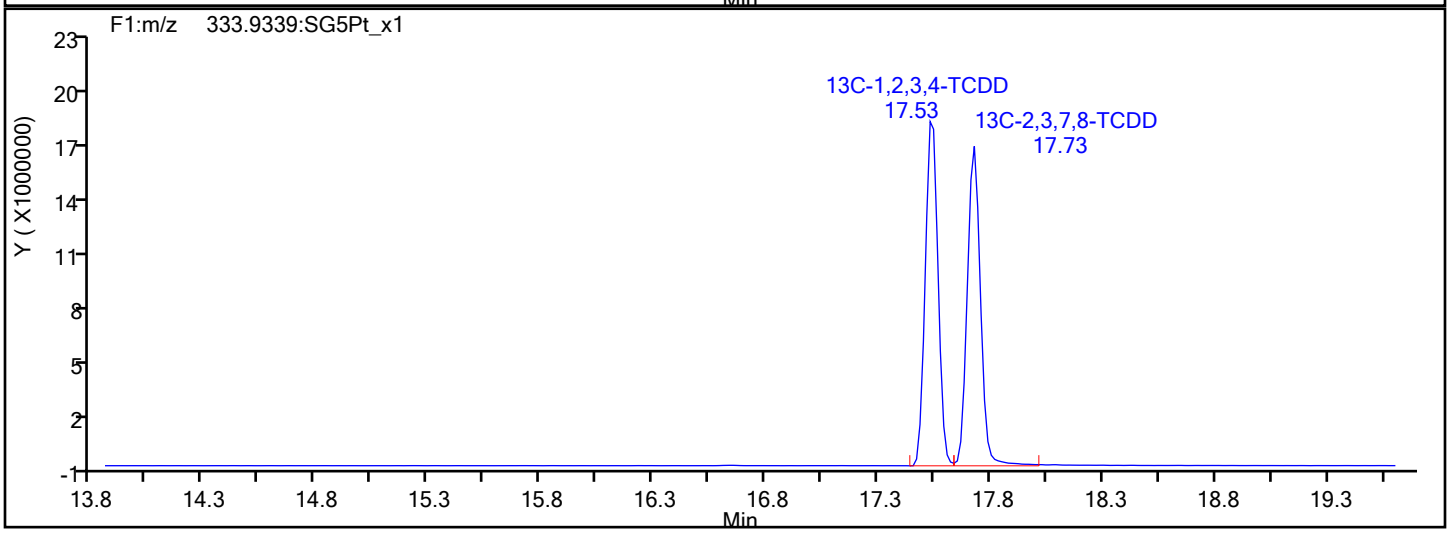

Report Date: 14-Nov-2019 15:38:34 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

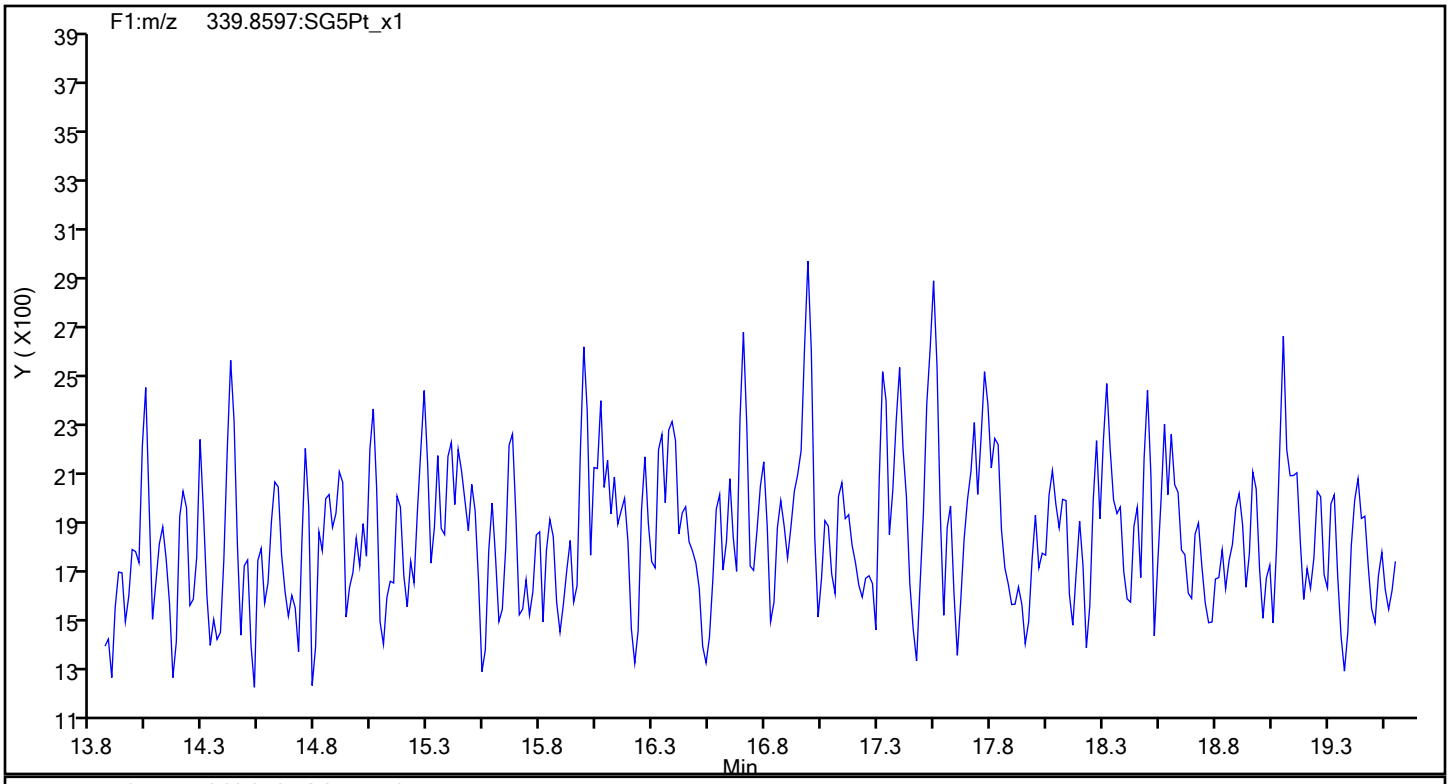

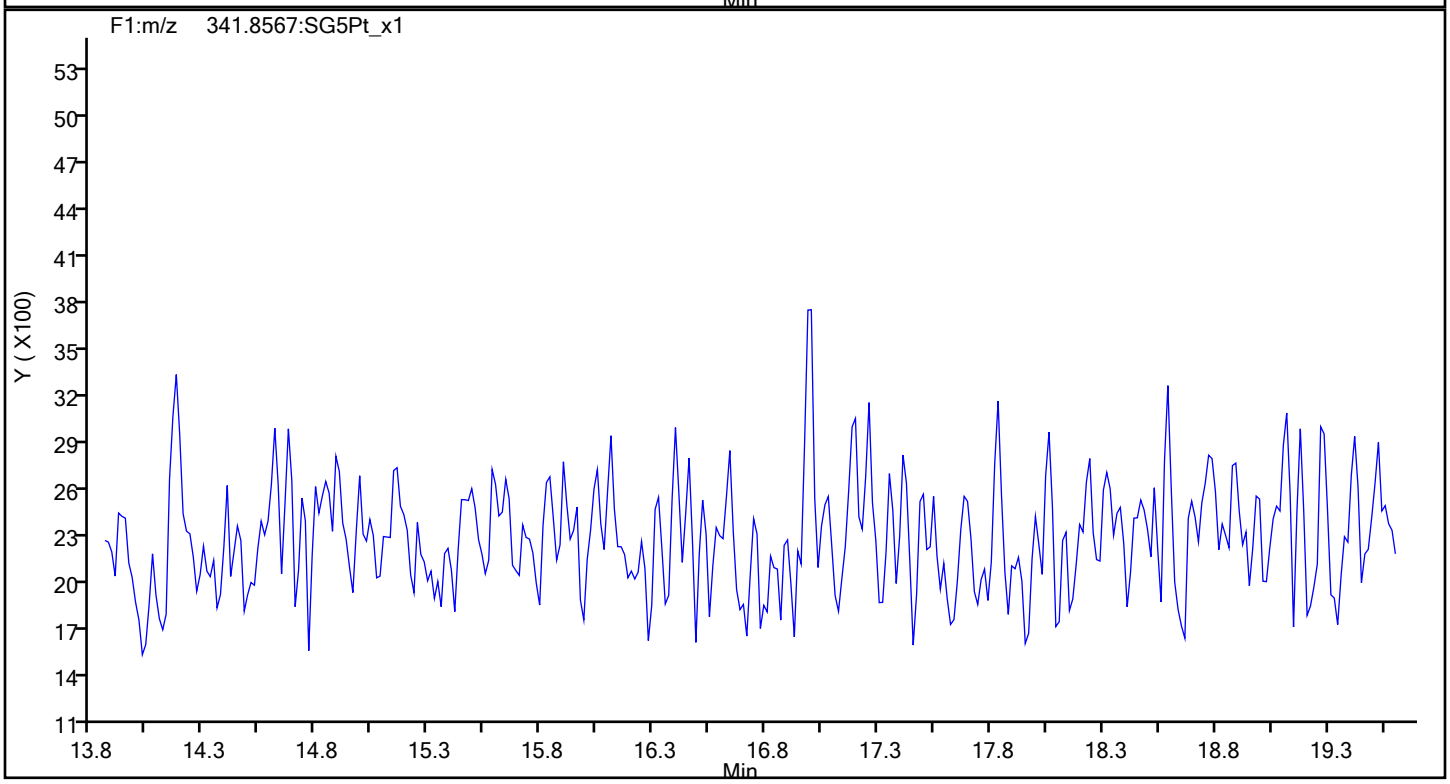

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

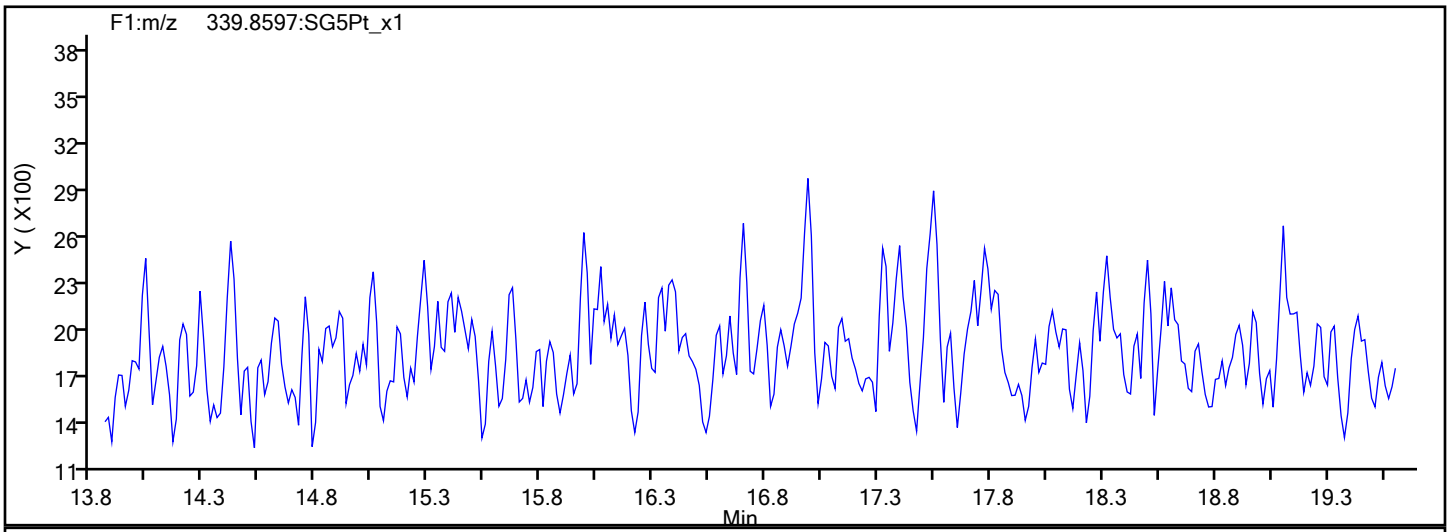

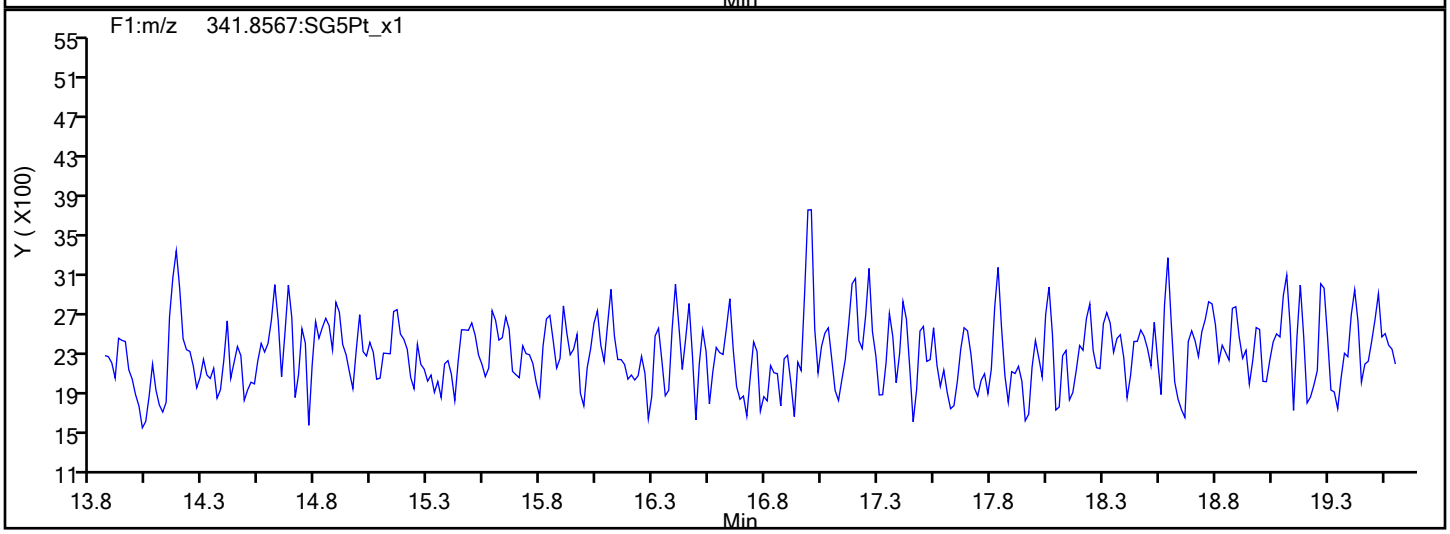

F1 PeCDFs Interference Mass

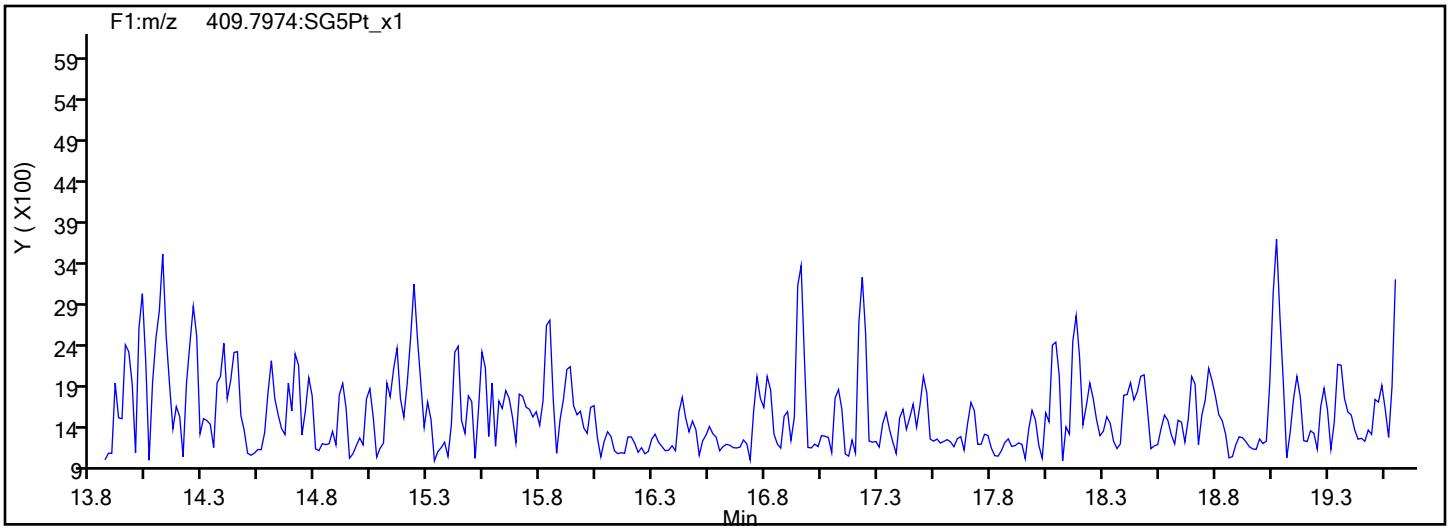

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Eurofins TestAmerica, Sacramento

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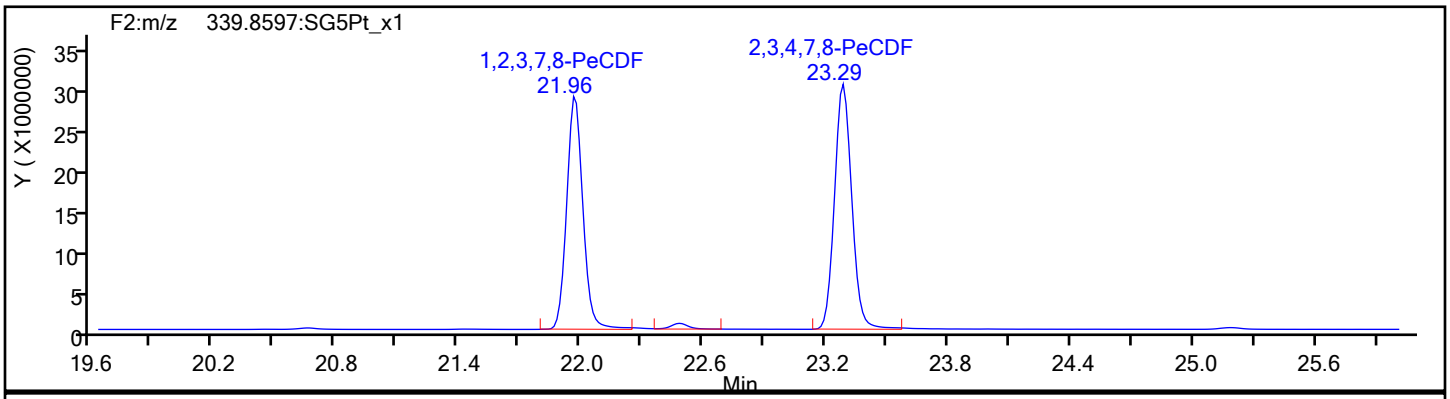

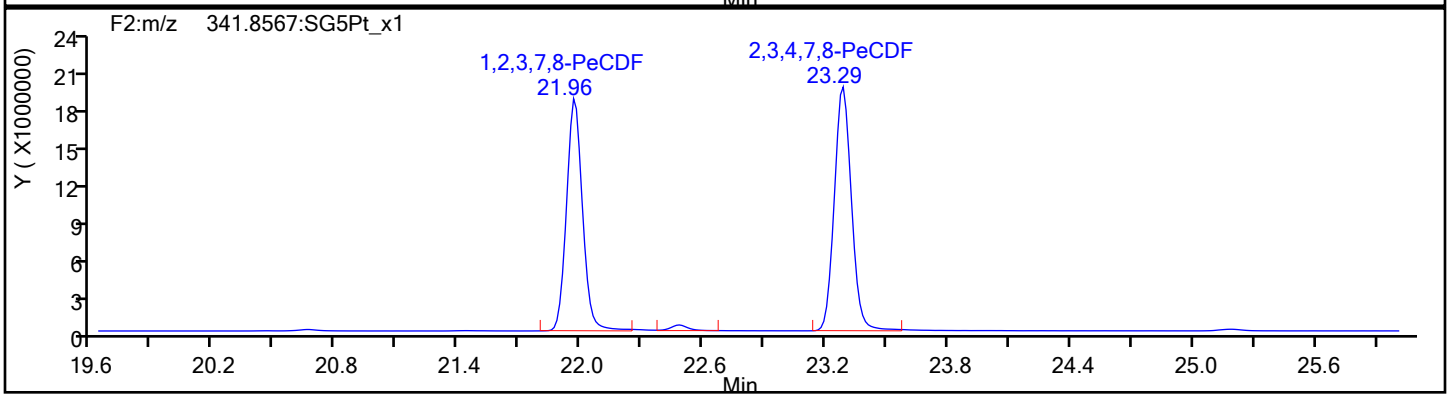

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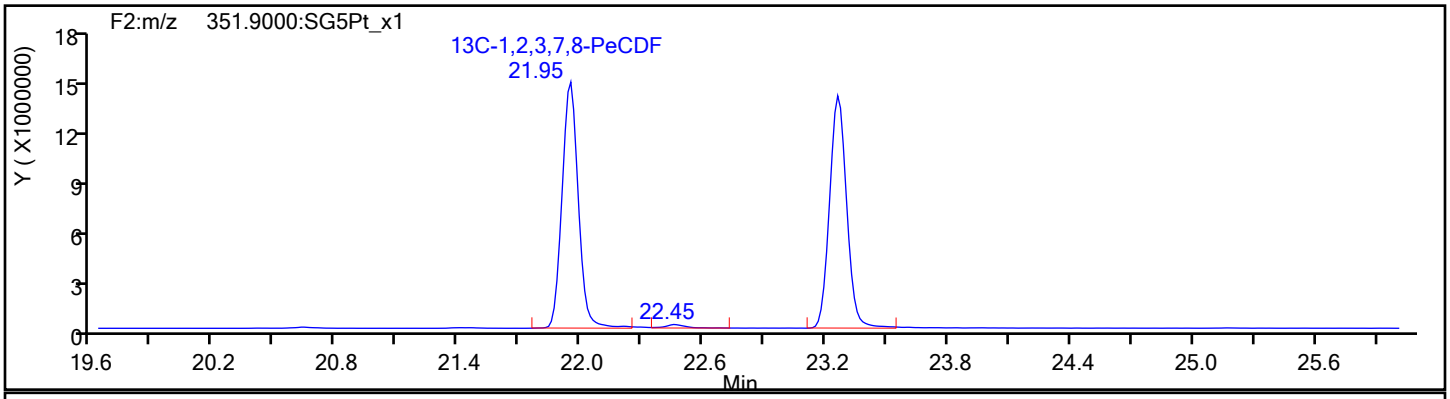

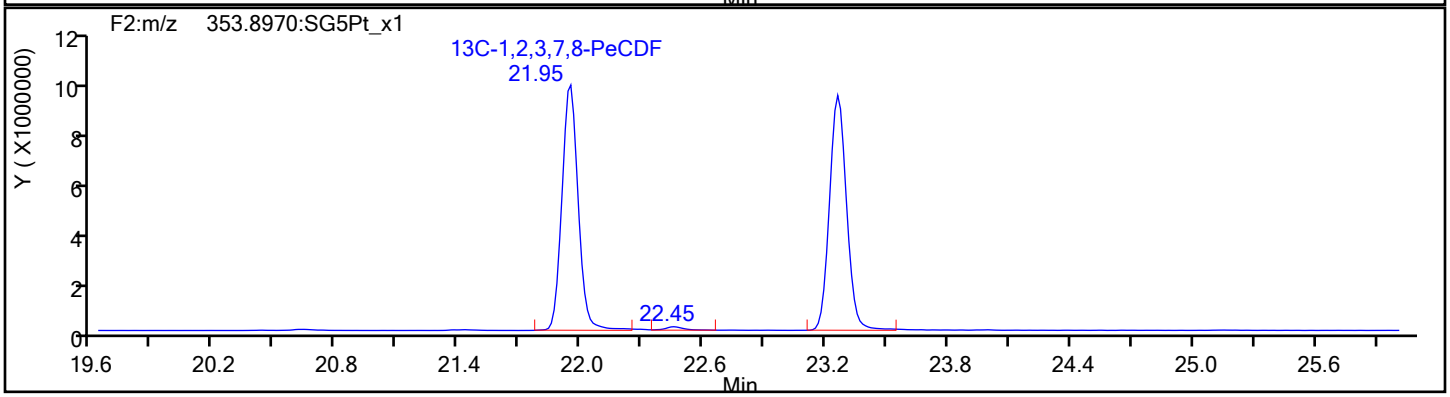

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Eurofins TestAmerica, Sacramento

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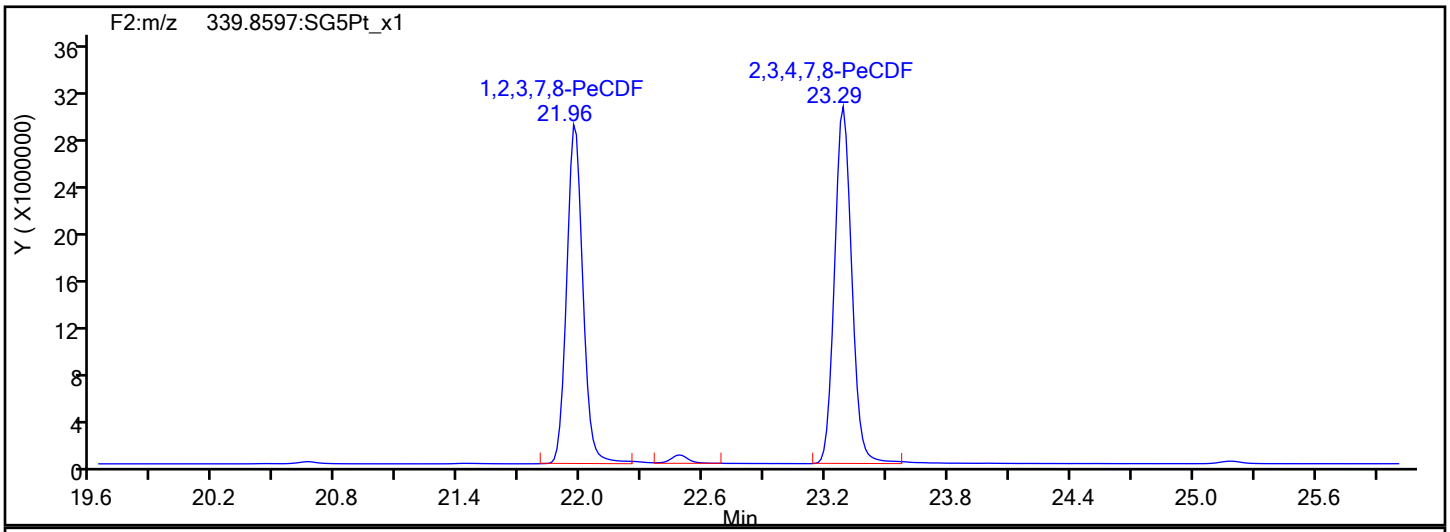

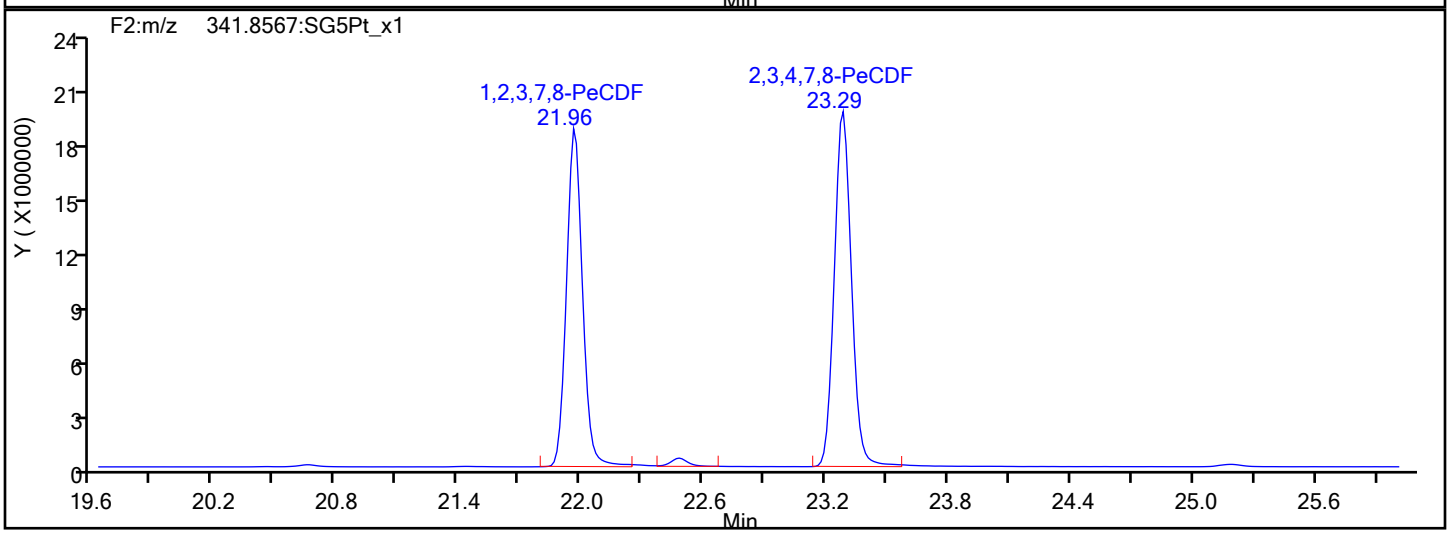

PeCDF Interference Mass

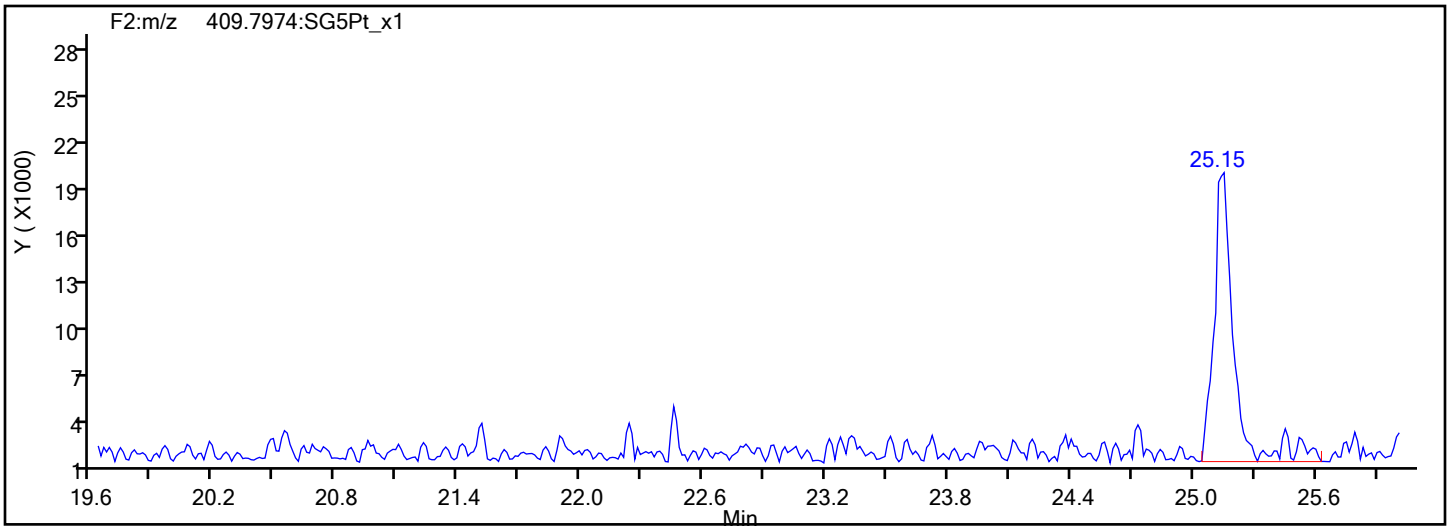

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Eurofins TestAmerica, Sacramento

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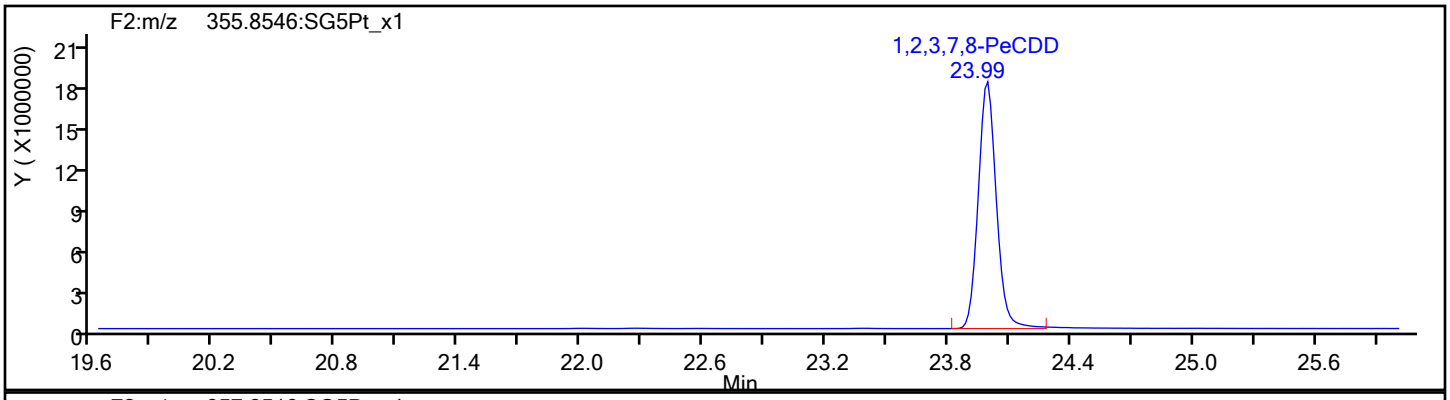

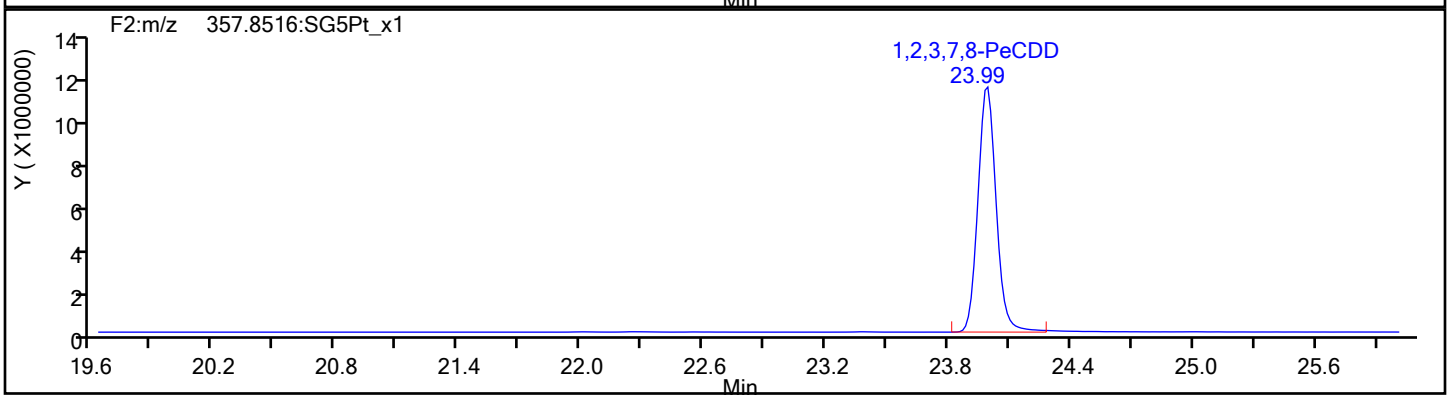

PeCDD Standards

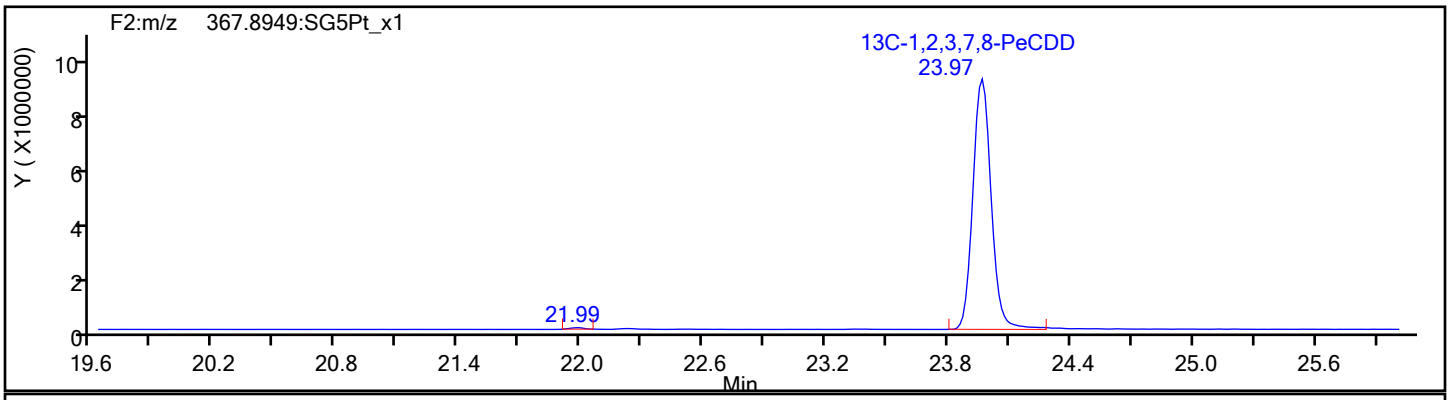

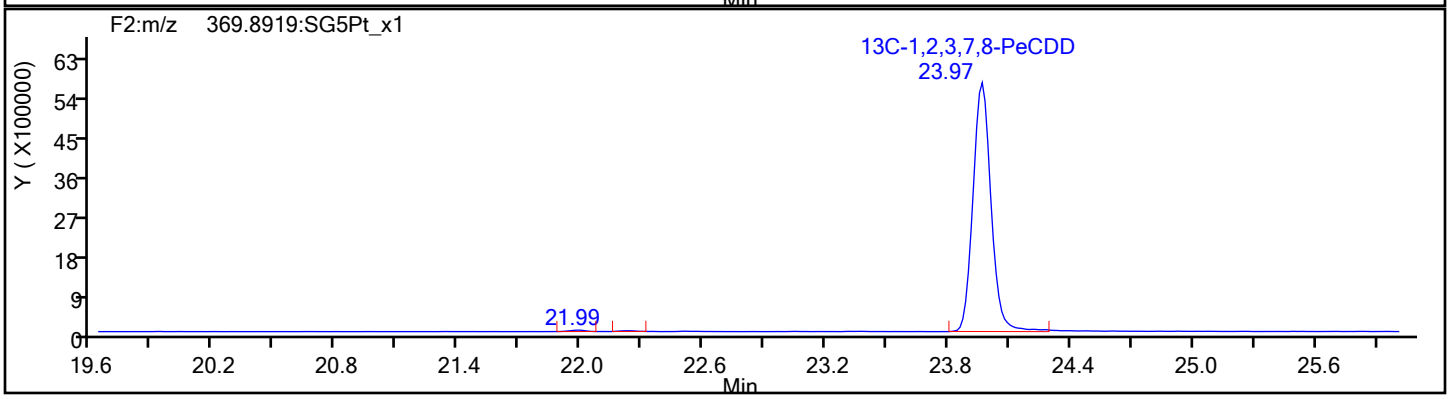

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Eurofins TestAmerica, Sacramento

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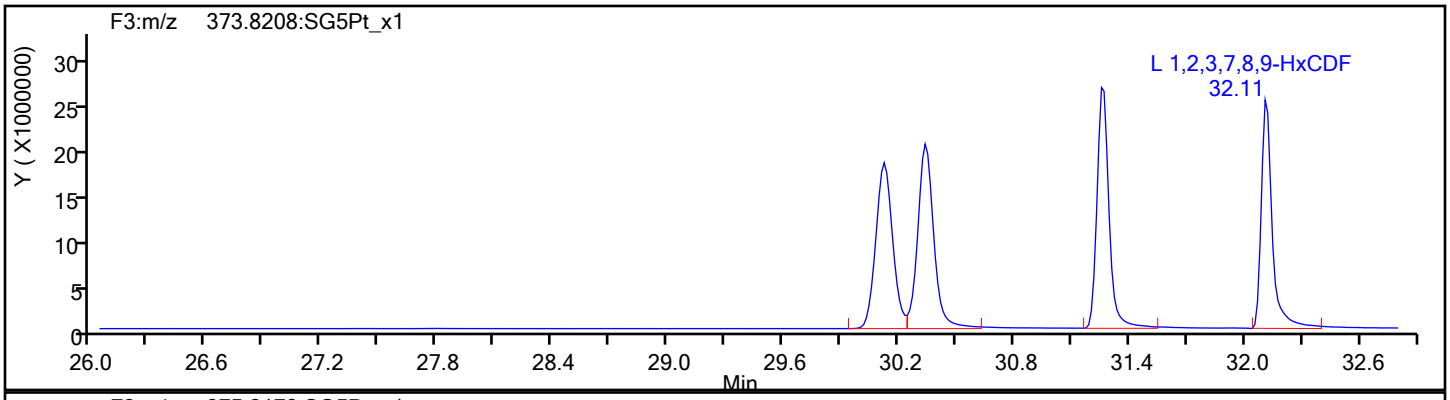

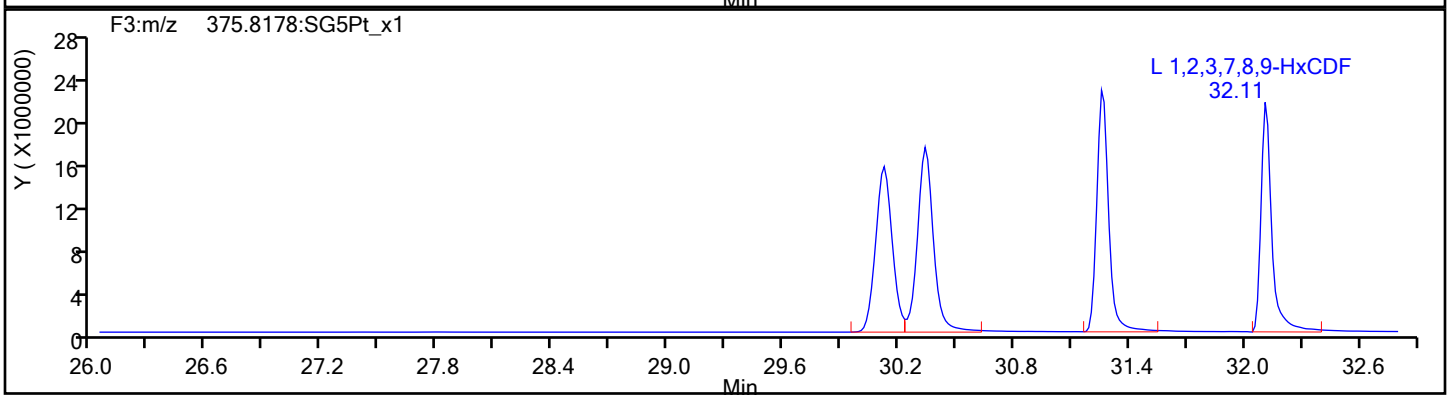

HxCDF Standards

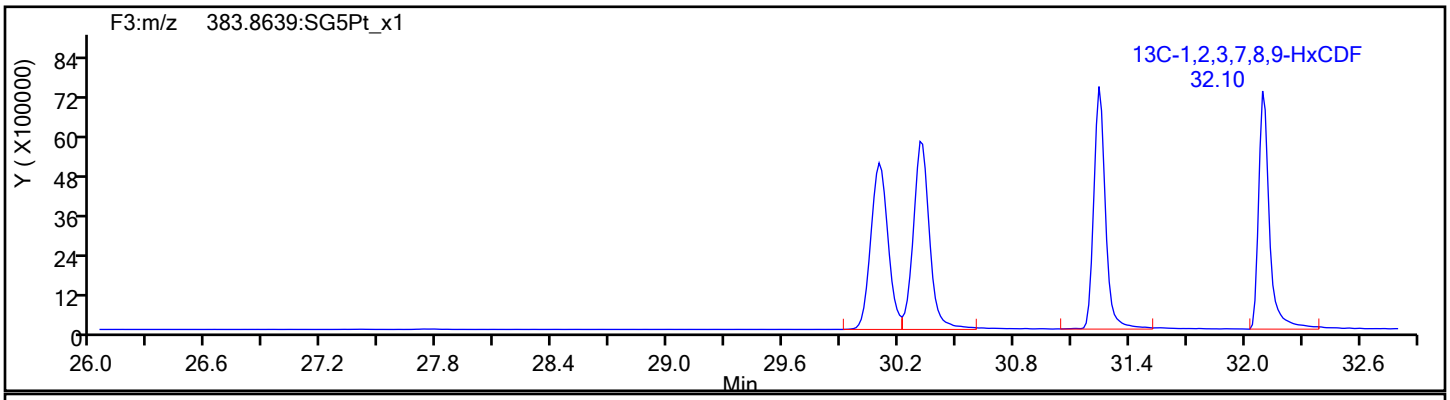

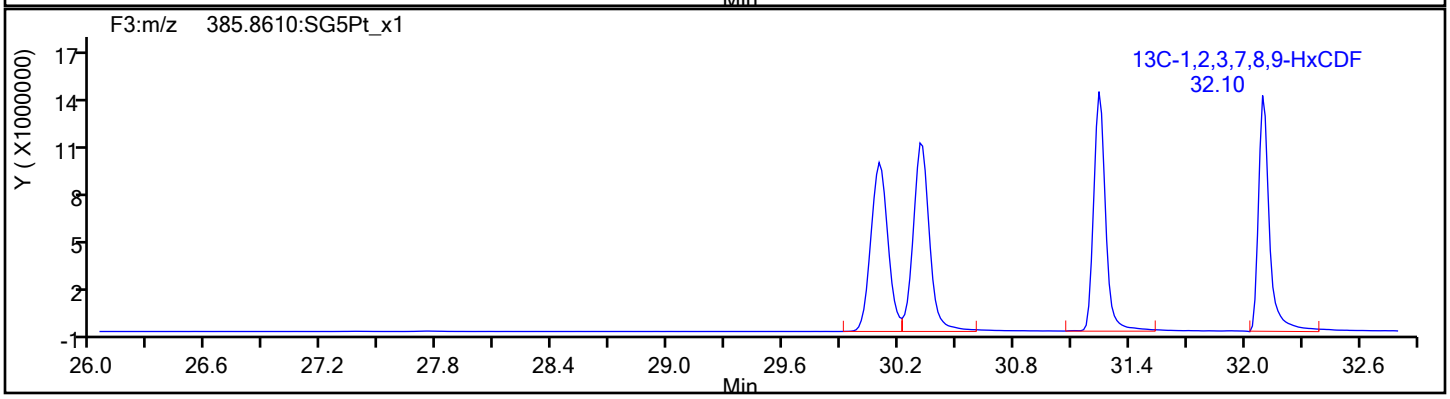

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Eurofins TestAmerica, Sacramento

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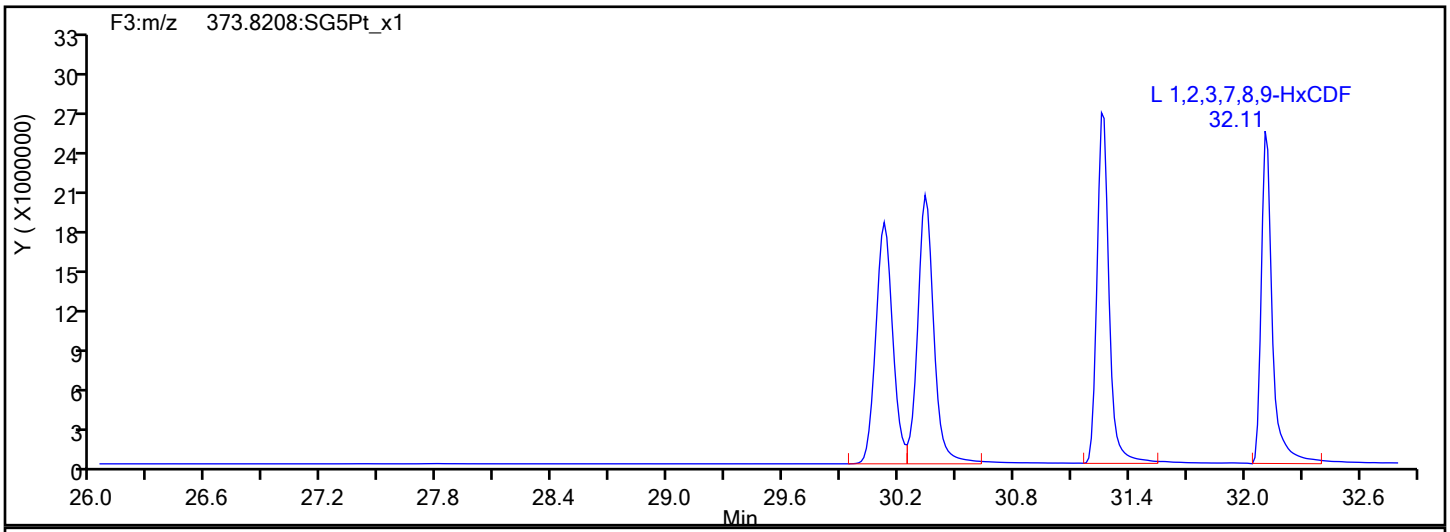

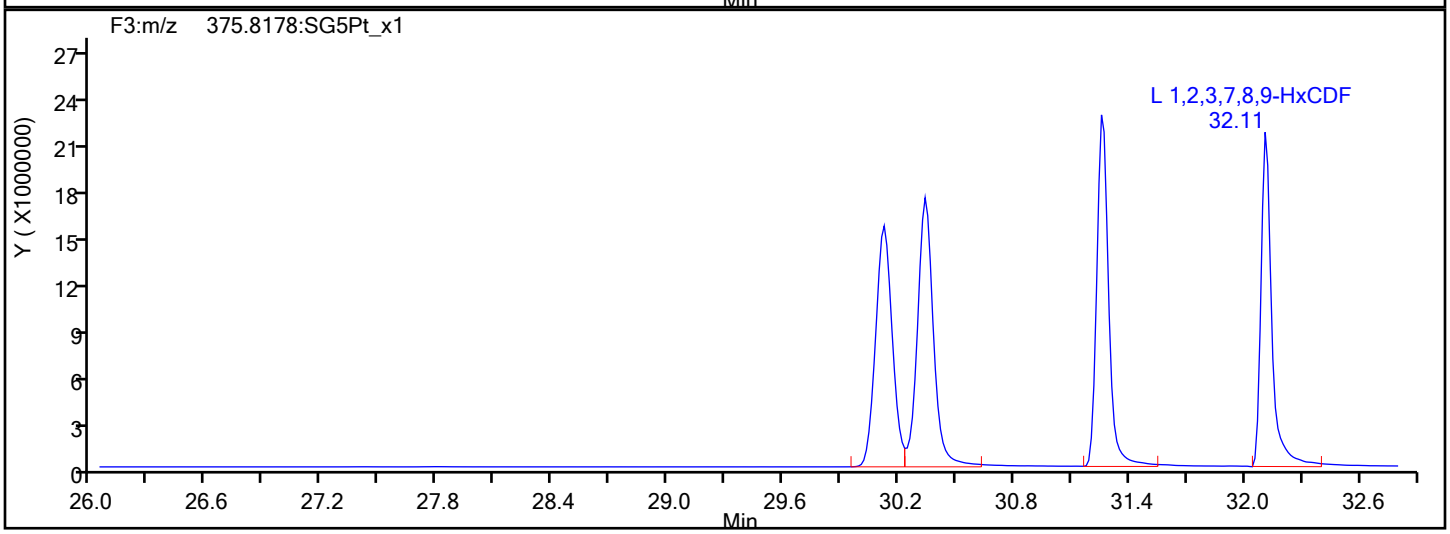

HxCDF Interference Mass

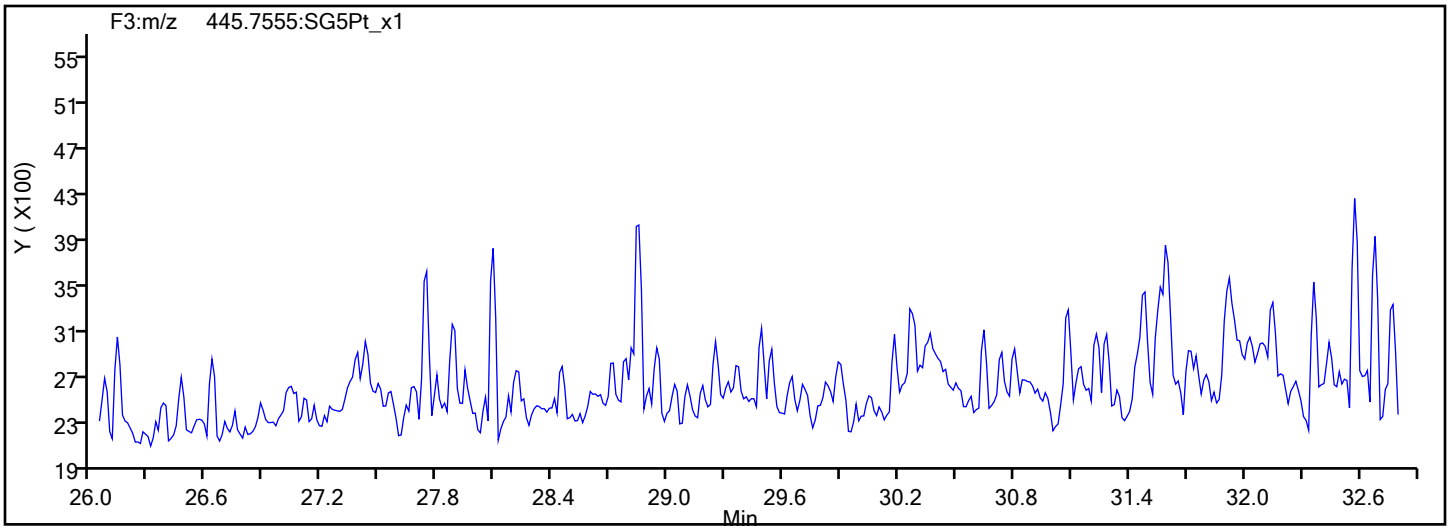

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Eurofins TestAmerica, Sacramento

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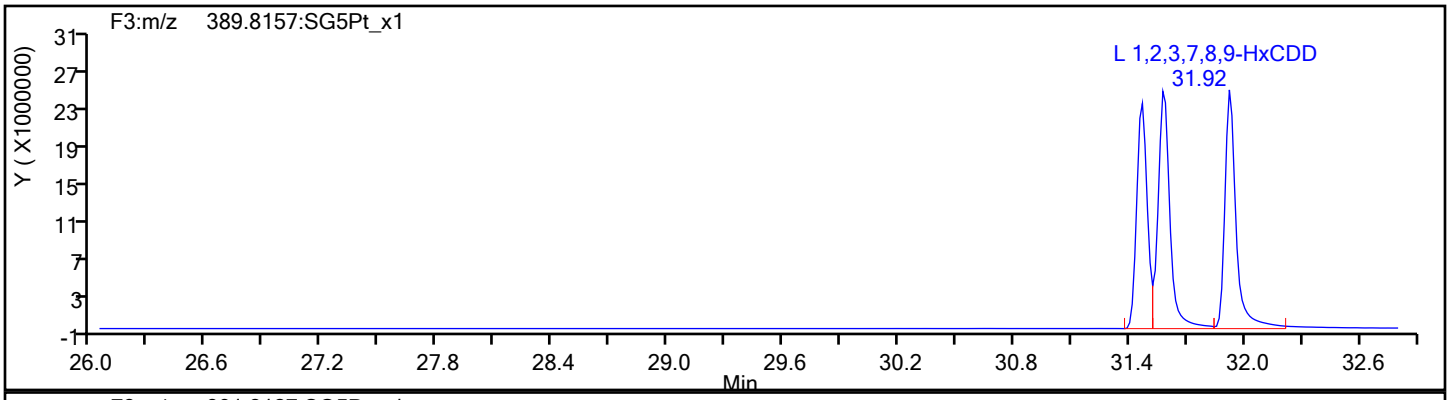

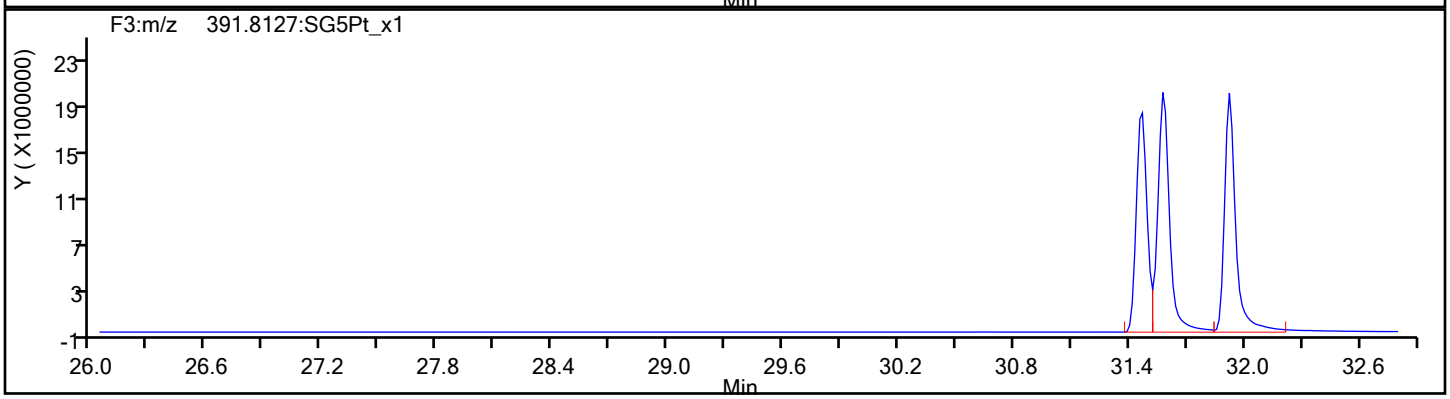

HxCDD Standards

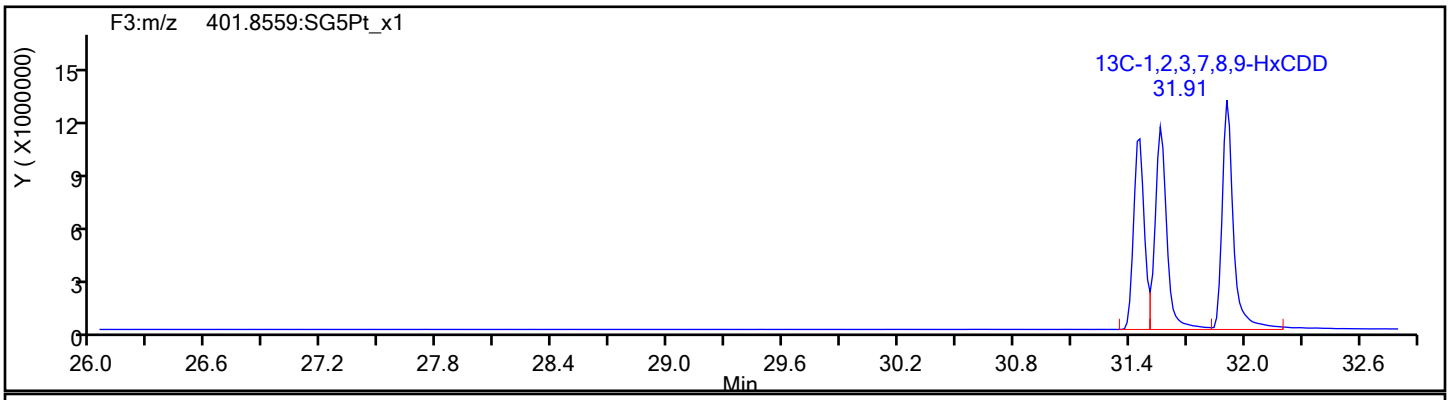

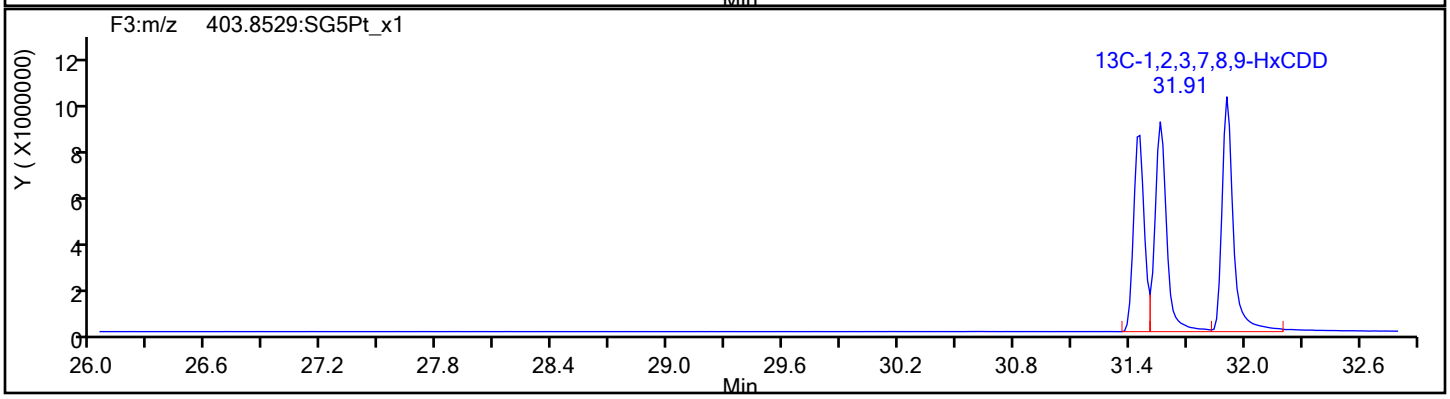

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Eurofins TestAmerica, Sacramento

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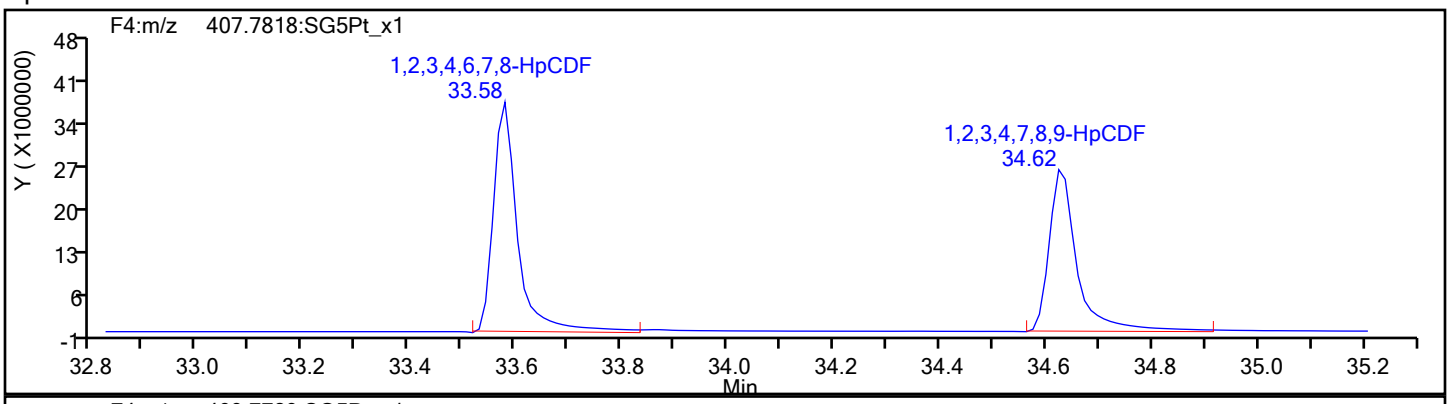

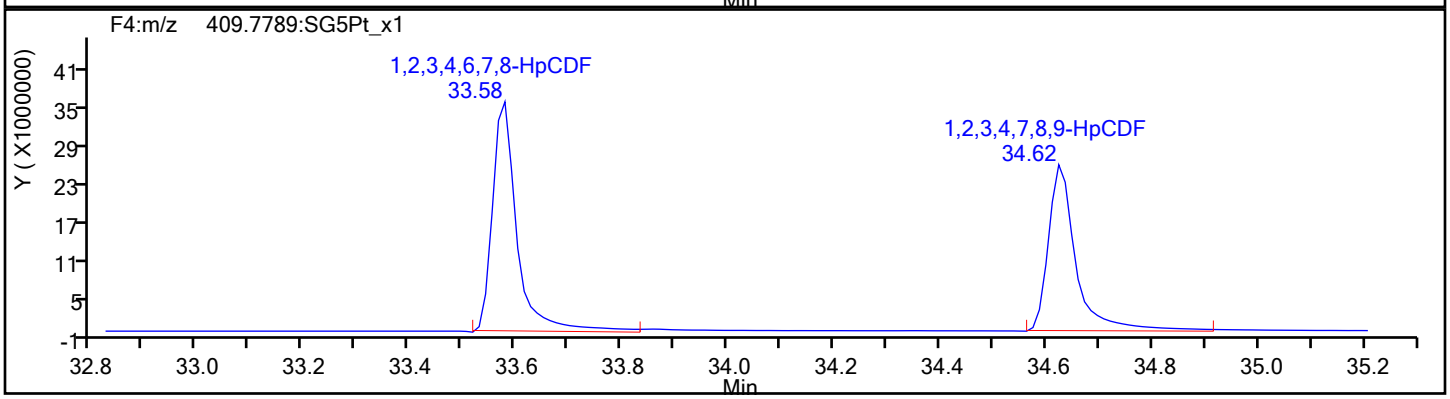

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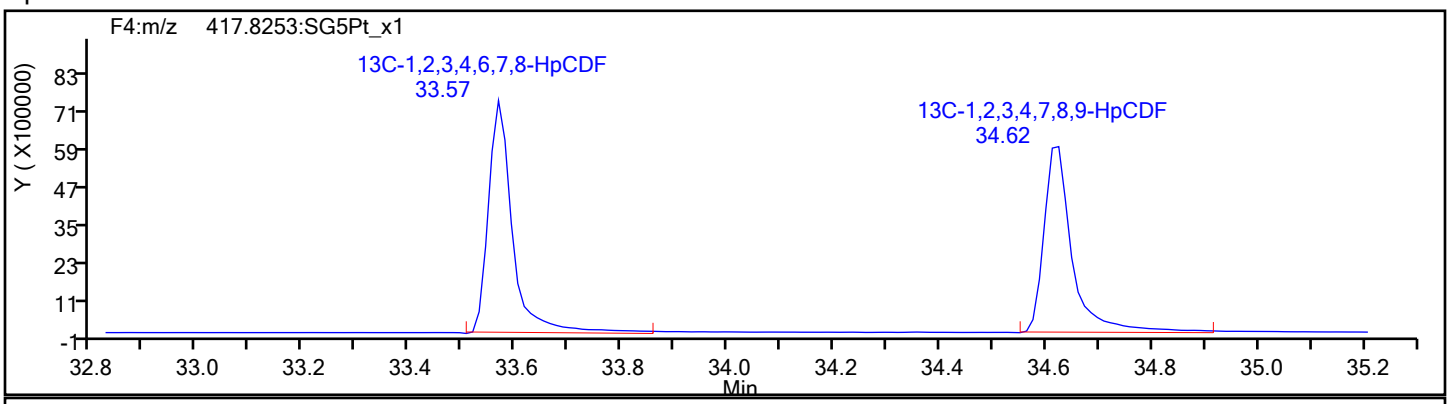

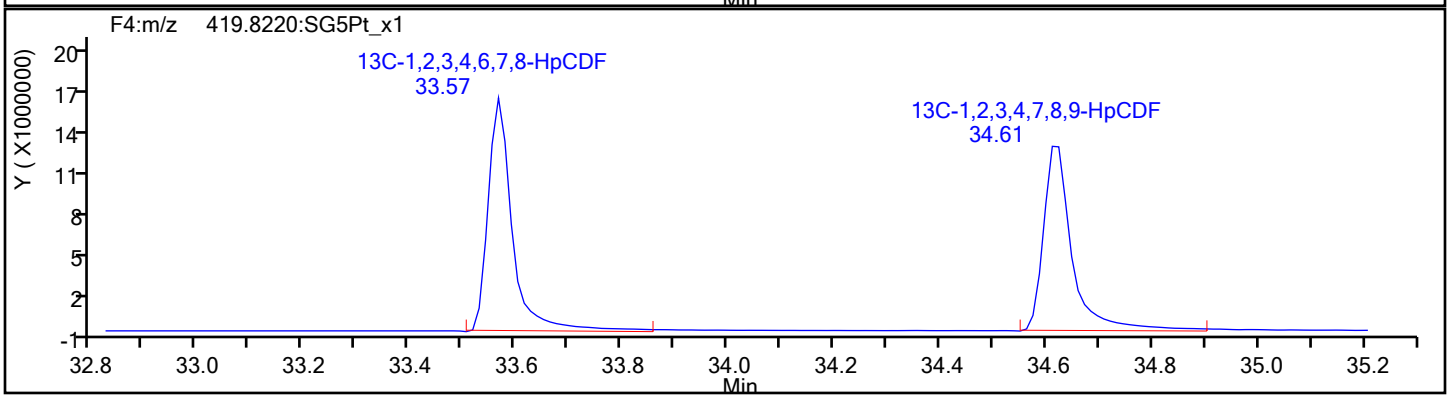

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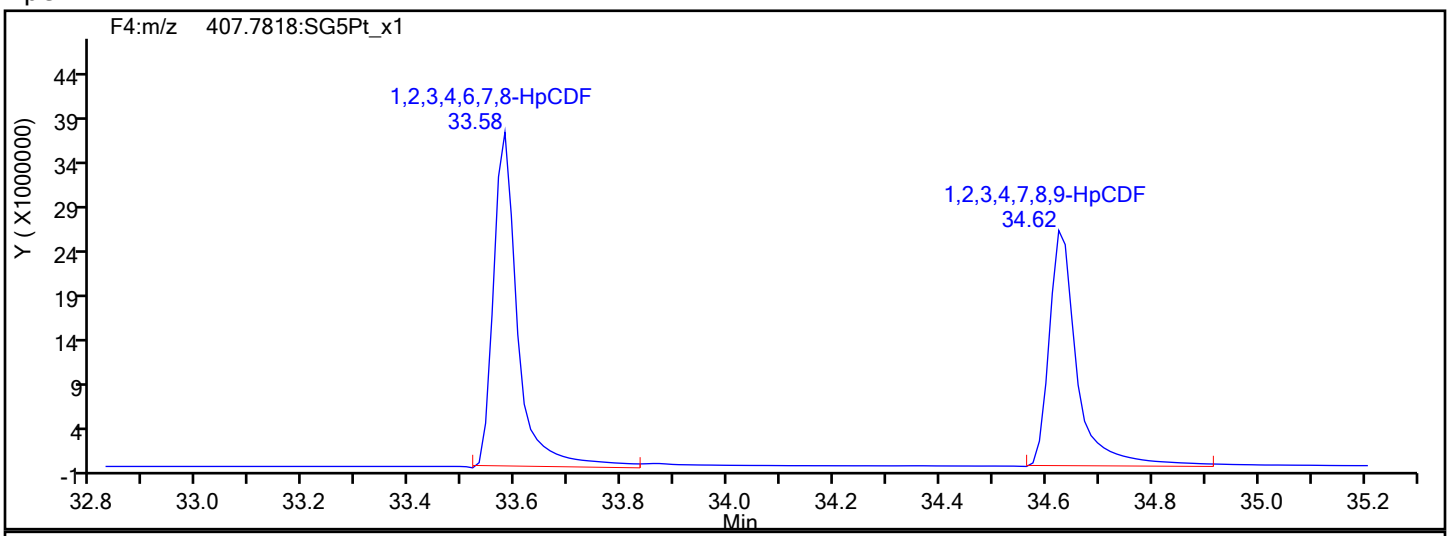

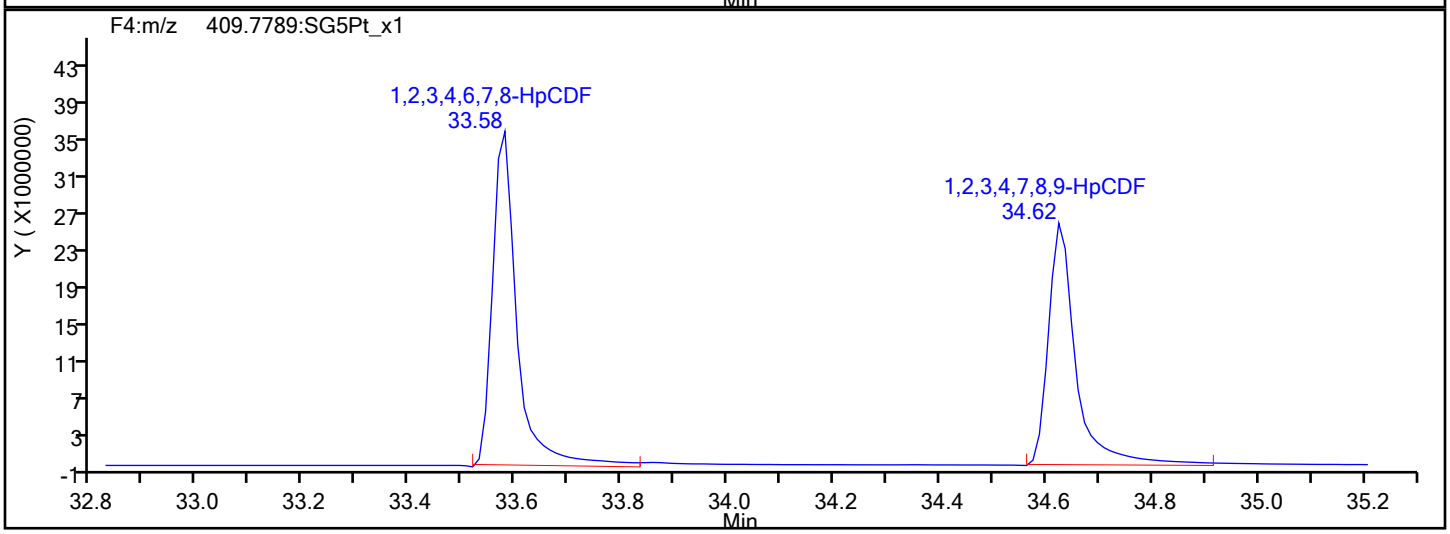

HpCDF Interference Mass

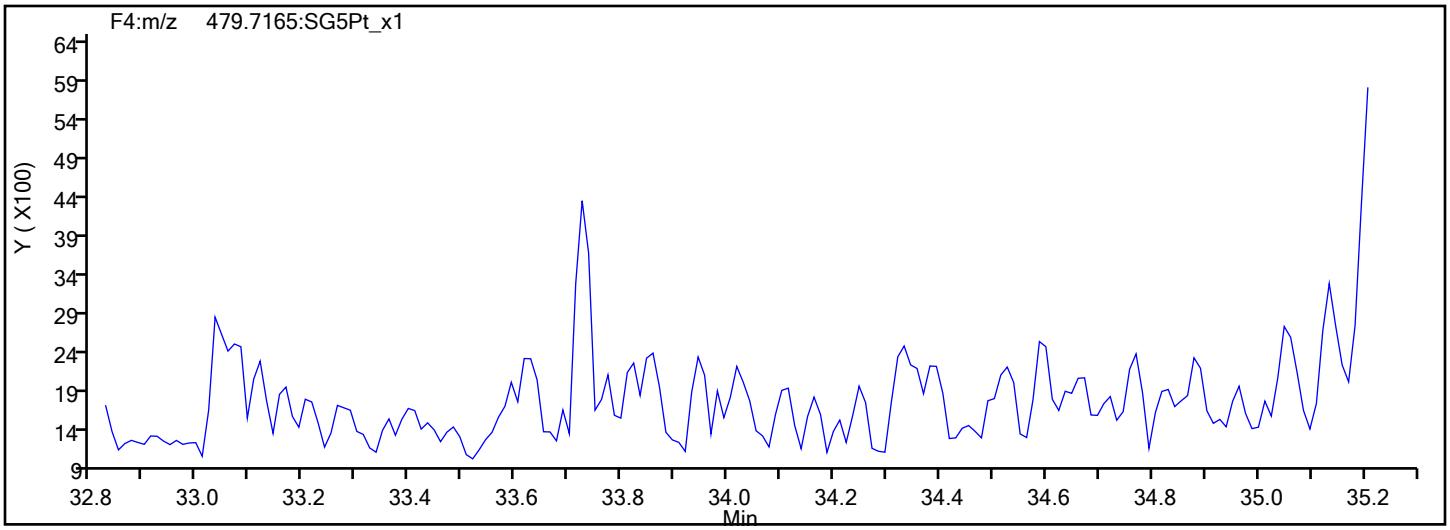

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Eurofins TestAmerica, Sacramento

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HpCDD

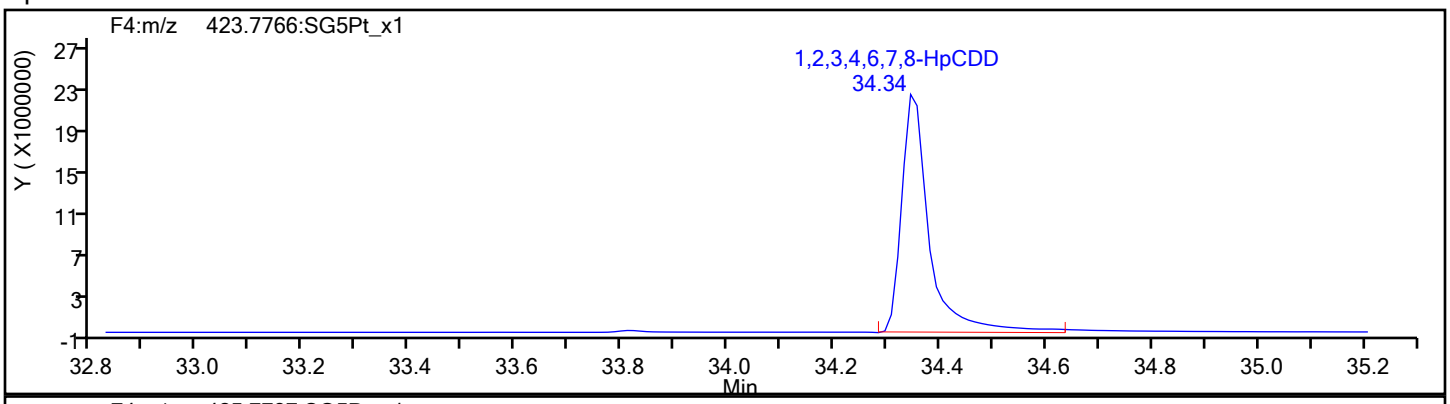

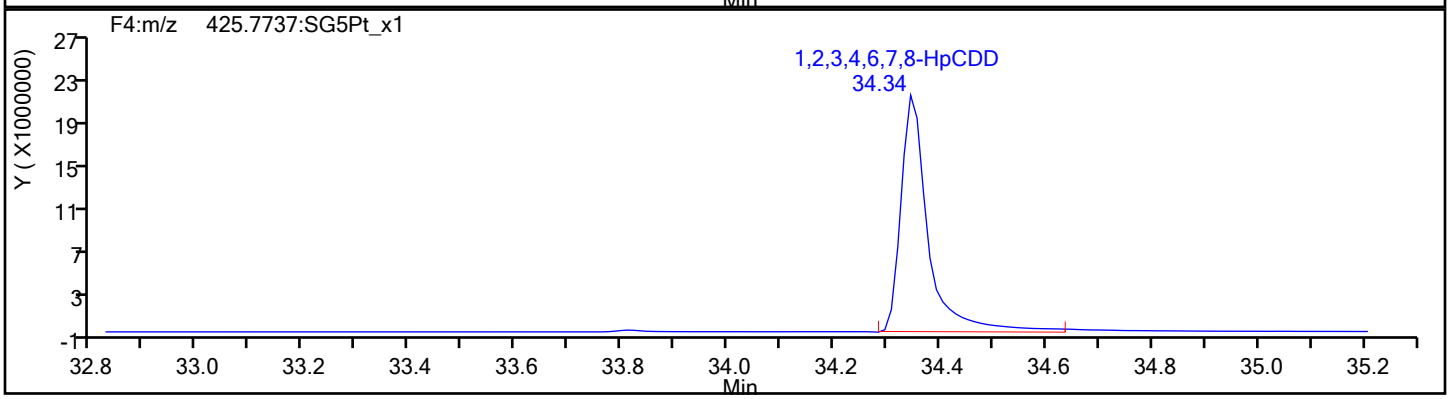

HpCDD Standards

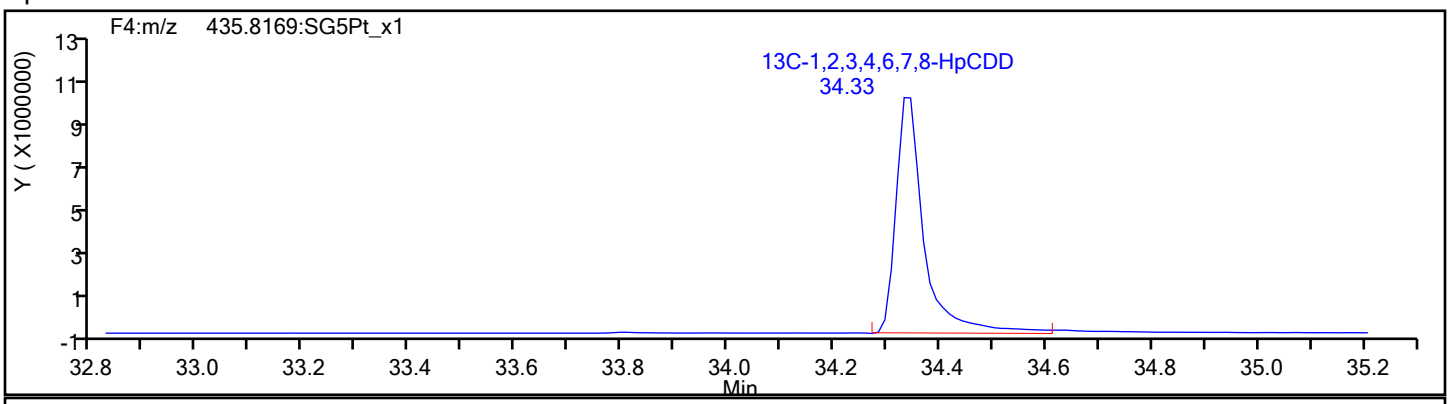

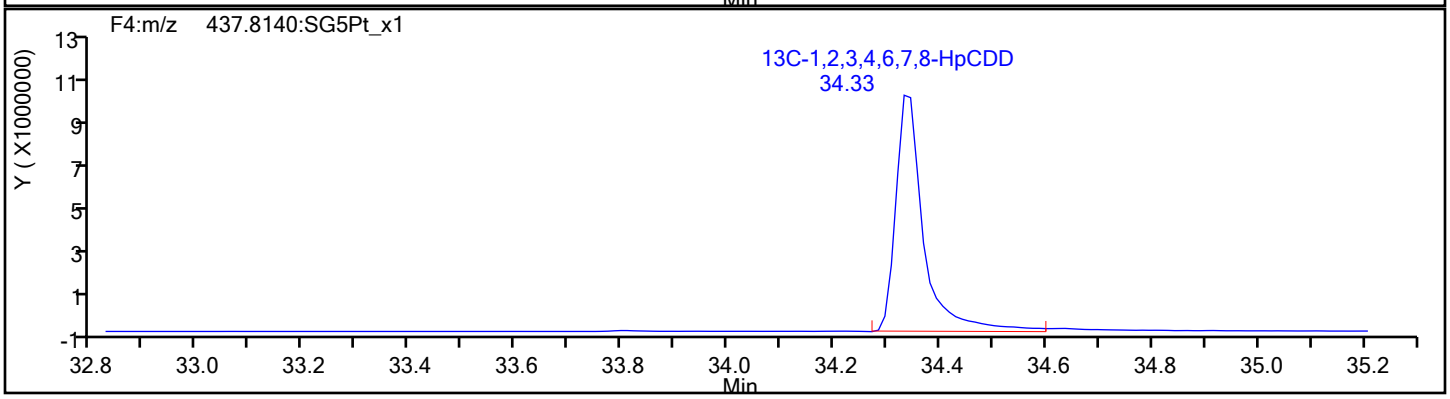

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Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_9.d		
Injection Date:	14-Nov-2019 14:22:45	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

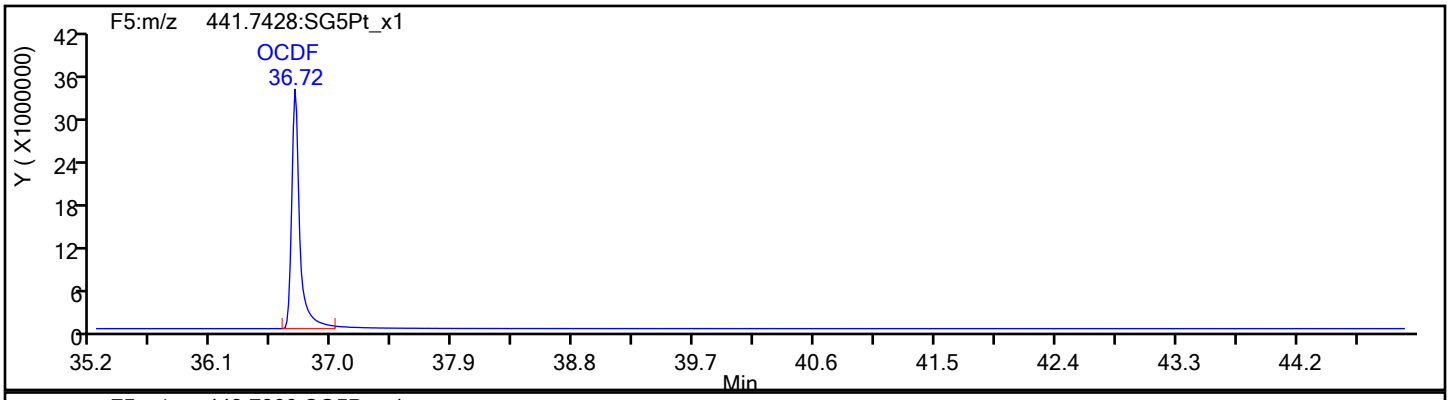

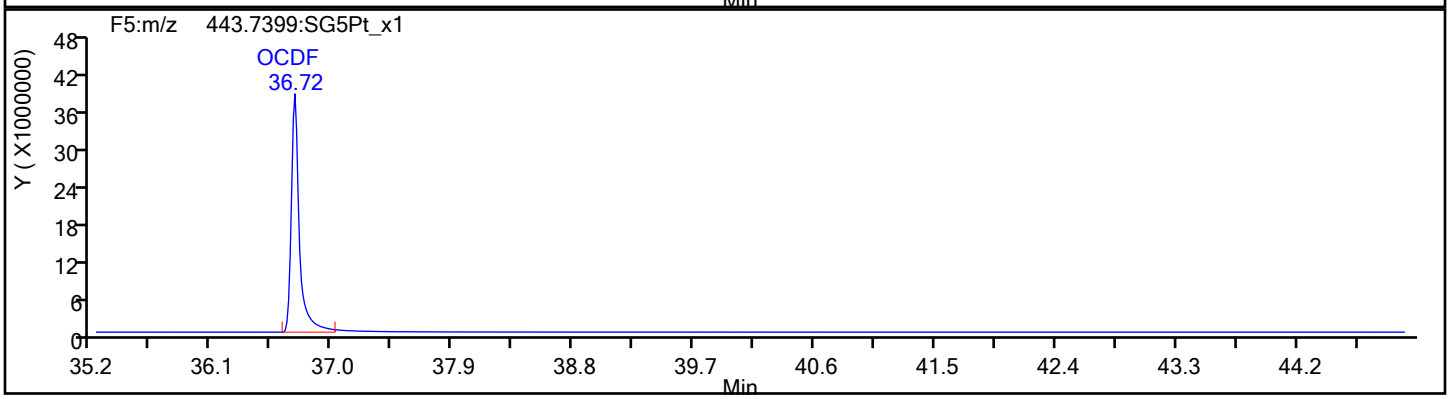

OCDF Standards

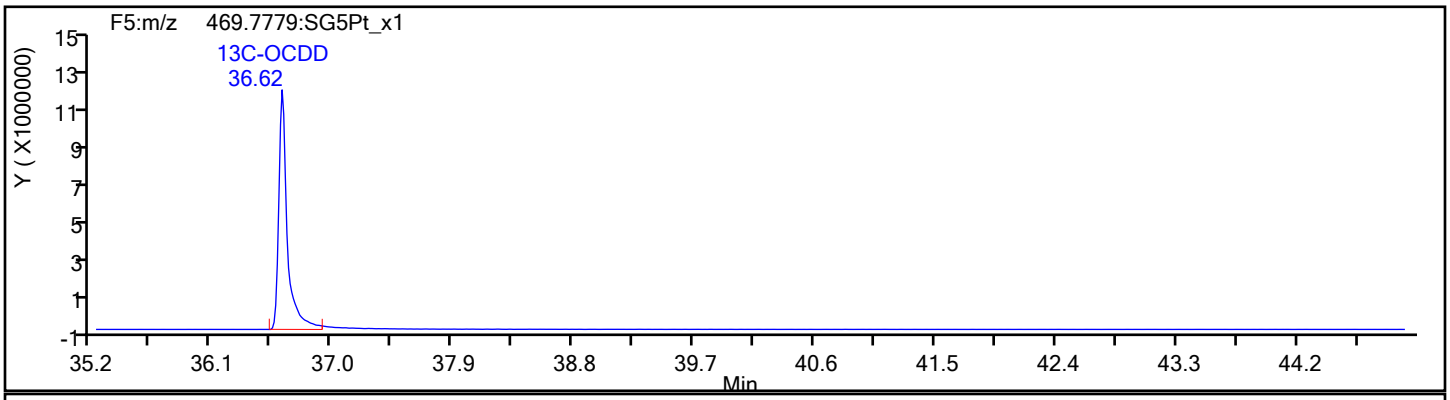

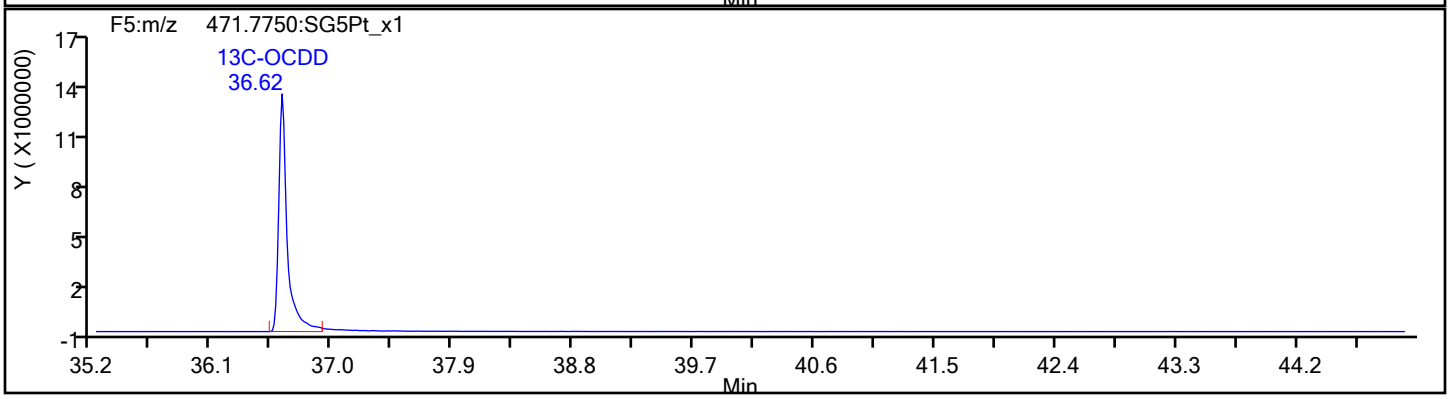

Report Date: 14-Nov-2019 15:38:35 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_9.d		
Injection Date:	14-Nov-2019 14:22:45	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

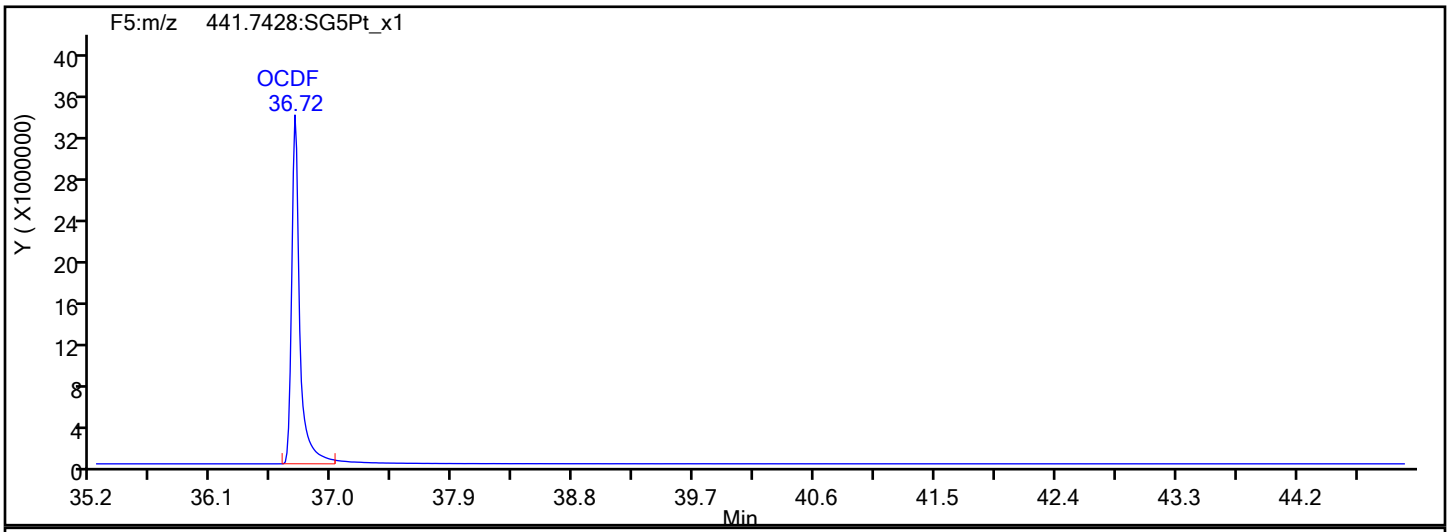

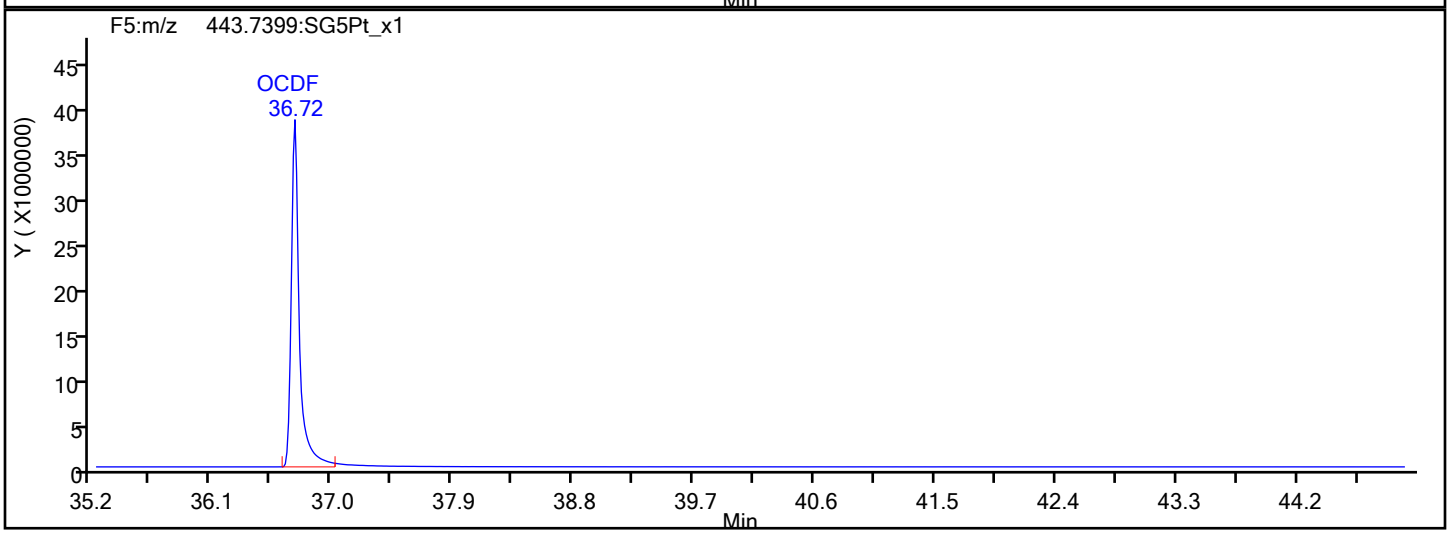

OCDF Interference Mass

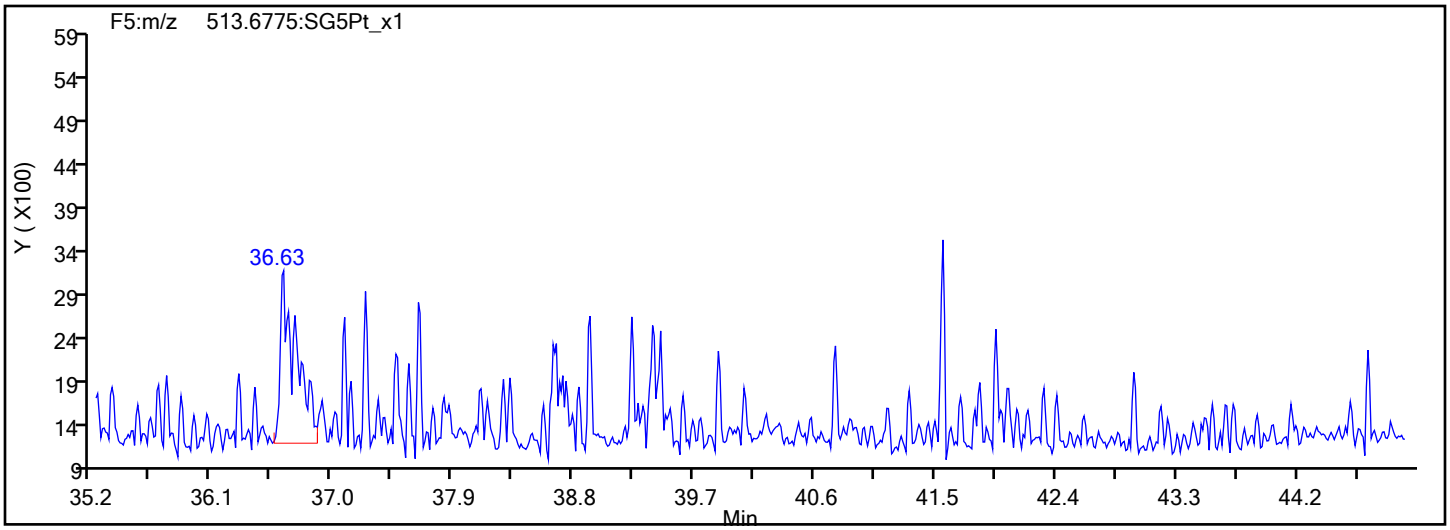

Report Date: 14-Nov-2019 15:38:35 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_9.d		
Injection Date:	14-Nov-2019 14:22:45	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

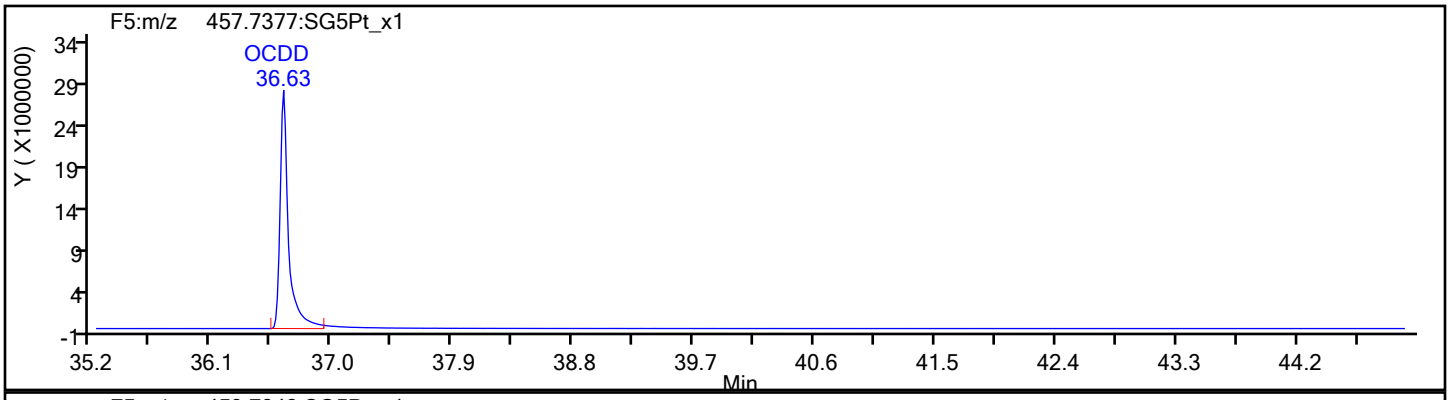

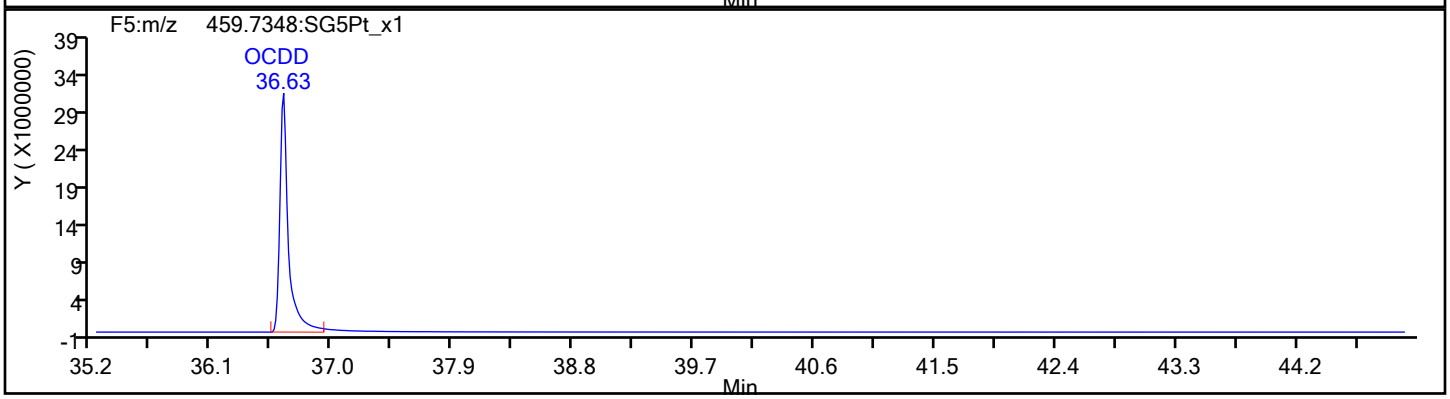

OCDD Standards

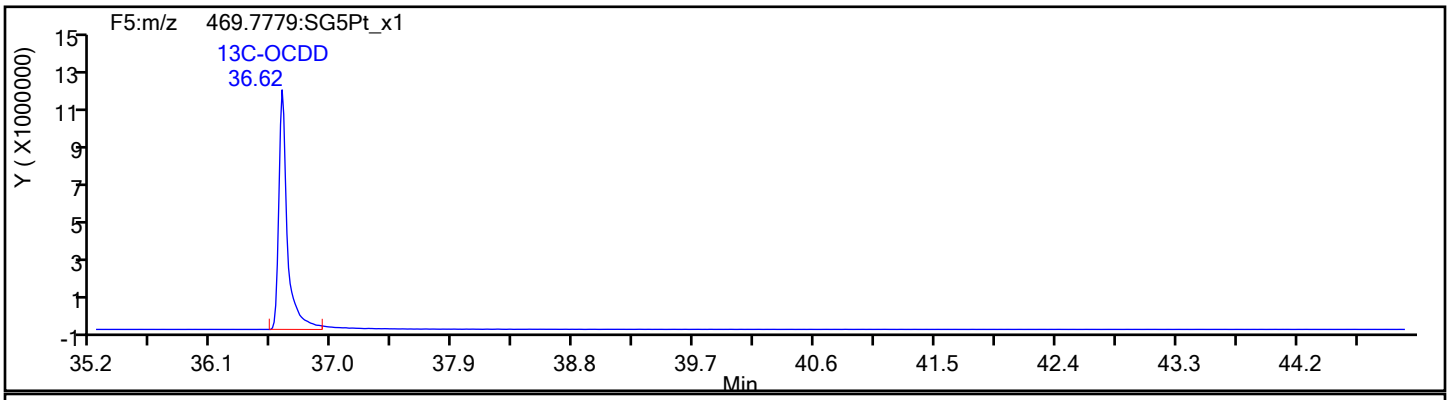

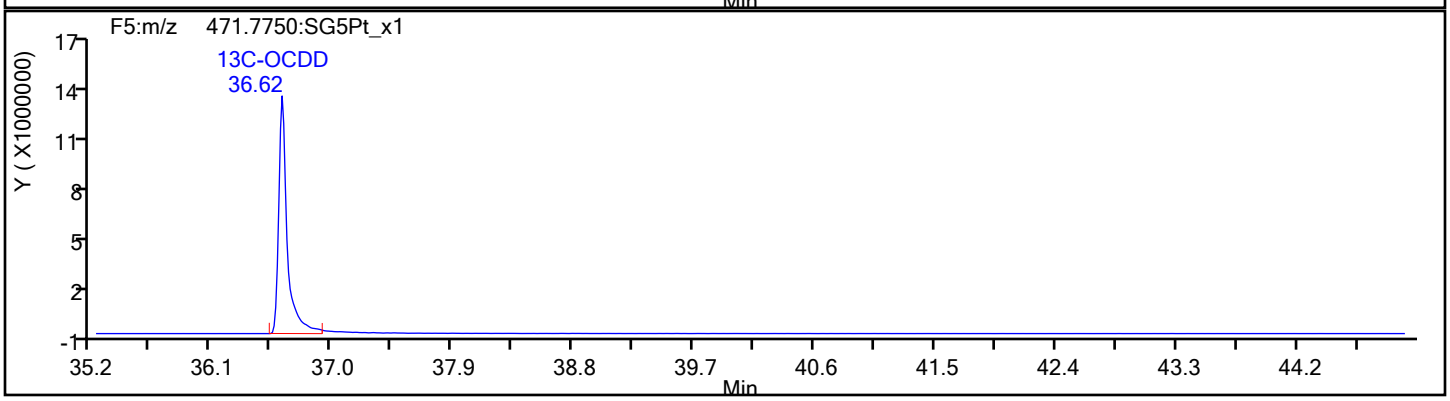

Report Date: 14-Nov-2019 15:38:35 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_9.d		
Injection Date:	14-Nov-2019 14:22:45	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

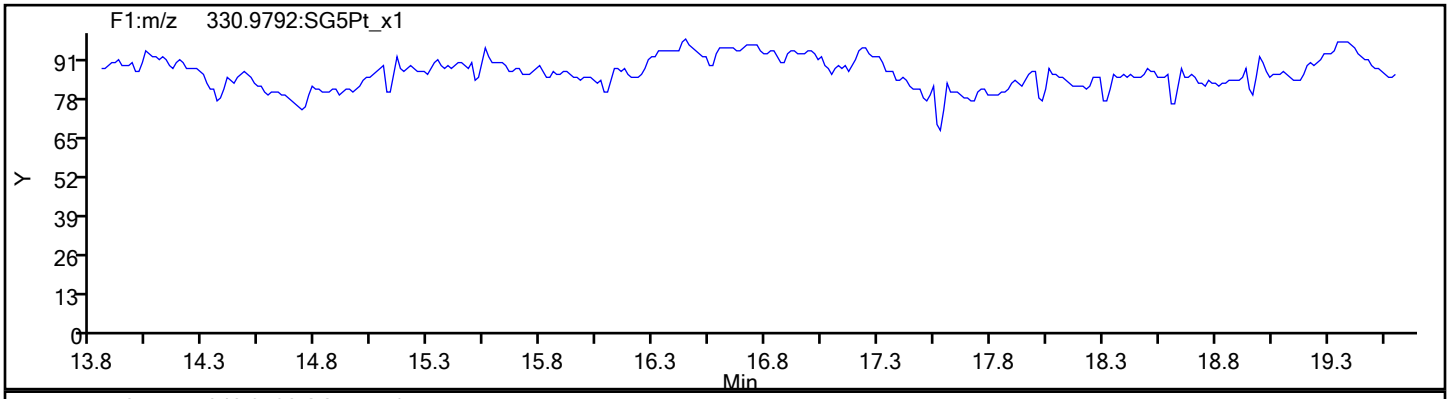

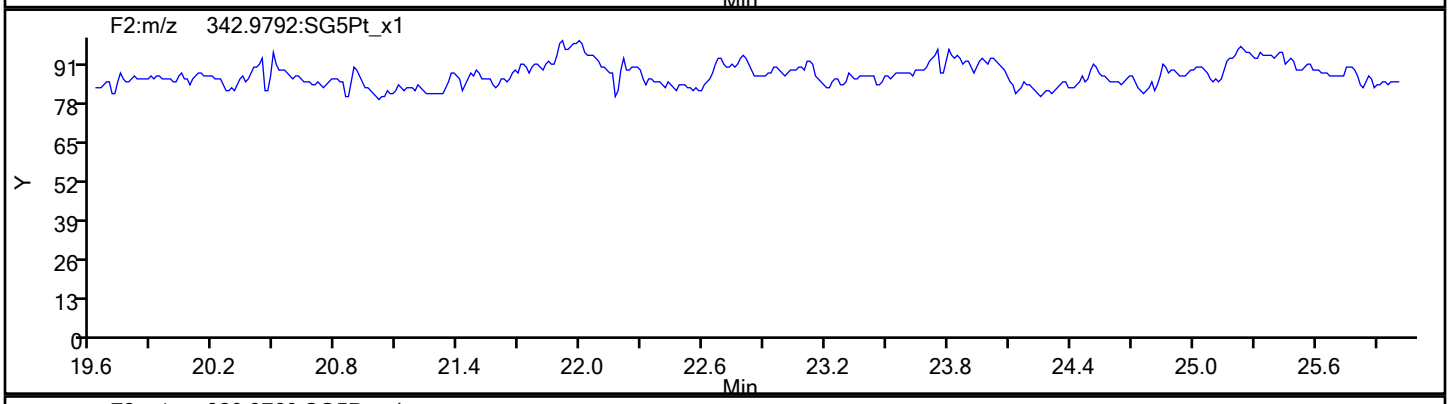

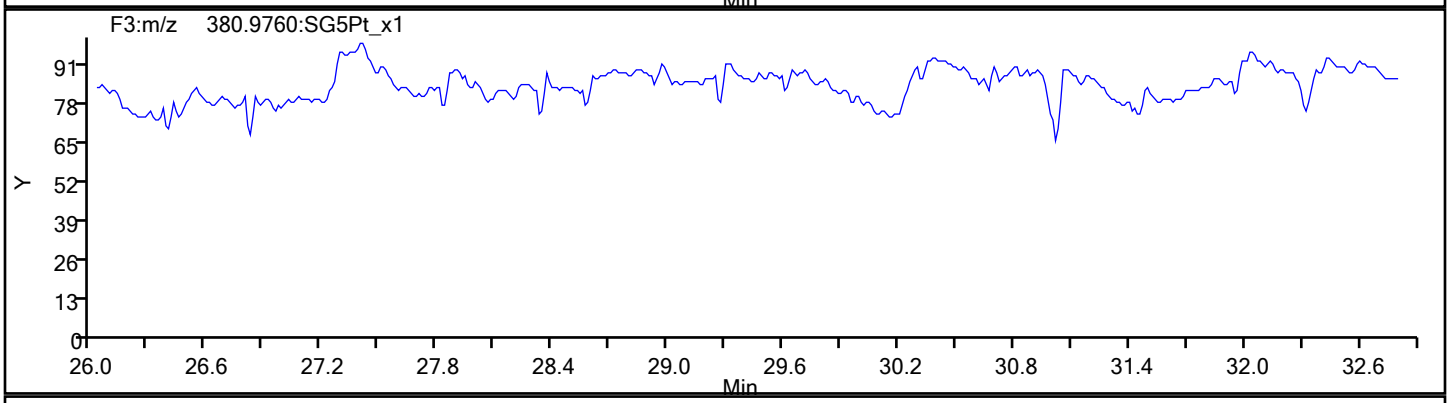

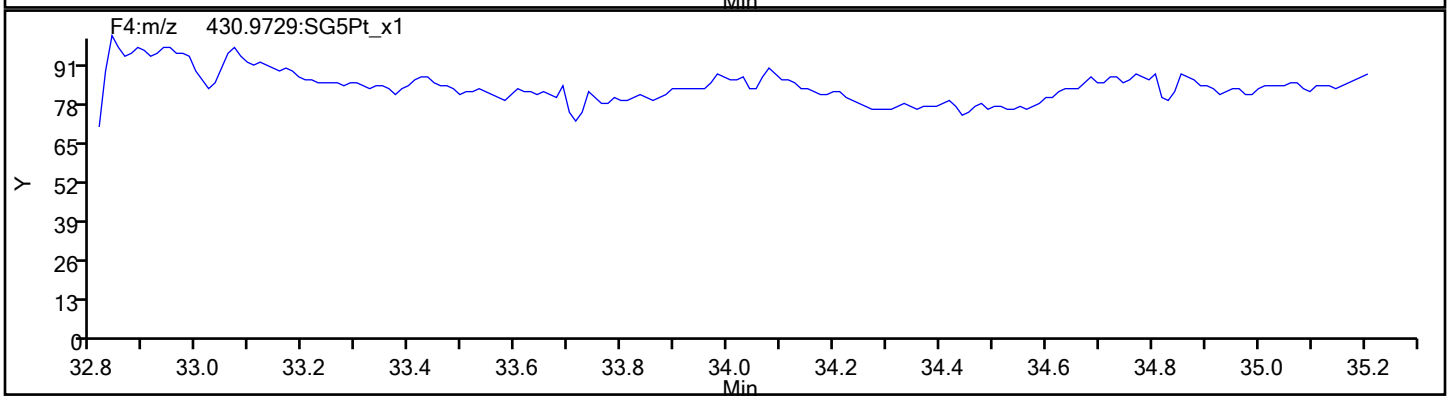

Report Date: 14-Nov-2019 15:38:35 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_9.d		
Injection Date:	14-Nov-2019 14:22:45	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

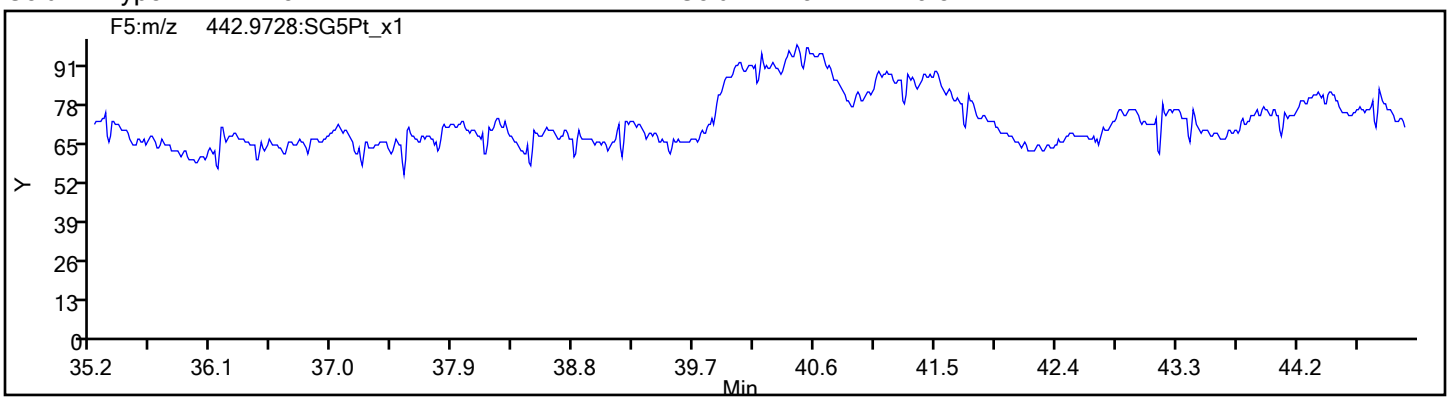

FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57624-1

SDG No.:

Lab Sample ID: CCV 320-350523/15 Calibration Date: 01/13/2020 23:38

Instrument ID: 10D5 Calib Start Date: 11/14/2019 09:46

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 11/14/2019 12:50

Lab File ID: 13JA2010D5_15.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
2,3,7,8-TCDF	AveID	0.9005	0.8356		9.28	10.0	93	84-120
2,3,7,8-TCDD	AveID	1.070	1.032		9.64	10.0	96	78-129
1,2,3,7,8-PeCDF	AveID	0.9704	0.9562		49.3	50.0	99	82-120
2,3,4,7,8-PeCDF	AveID	0.999	0.9341		46.8	50.0	94	82-122
1,2,3,7,8-PeCDD	AveID	1.002	1.002		50.0	50.0	100	78-130
1,2,3,4,7,8-HxCDF	AveID	1.031	0.9423		45.7	50.0	91	90-112
1,2,3,6,7,8-HxCDF	AveID	1.024	0.9613		47.0	50.0	94	88-114
2,3,4,6,7,8-HxCDF	AveID	1.065	0.9850		46.3	50.0	93	88-114
1,2,3,4,7,8-HxCDD	AveID	1.005	0.9949		49.5	50.0	99	78-128
1,2,3,6,7,8-HxCDD	AveID	0.9833	0.9133		46.4	50.0	93	78-128
1,2,3,7,8,9-HxCDD	AveID	1.104	1.094		49.5	50.0	99	82-122
1,2,3,7,8,9-HxCDF	AveID	1.066	0.9923		46.5	50.0	93	90-112
1,2,3,4,6,7,8-HpCDF	AveID	1.424	1.405		49.3	50.0	99	90-110
1,2,3,4,6,7,8-HpCDD	AveID	1.017	1.014		49.9	50.0	100	86-116
1,2,3,4,7,8,9-HpCDF	AveID	1.283	1.248		48.6	50.0	97	86-116
OCDD	AveID	1.100	1.106		101	100	101	79-126
OCDF	AveID	1.305	1.262		96.7	100	97	63-159
13C-2,3,7,8-TCDF	Ave	1.332	1.361		102	100	102	71-140
13C-2,3,7,8-TCDD	Ave	0.9647	0.9679		100	100	100	82-121
13C-1,2,3,7,8-PeCDF	Ave	1.054	1.109		105	100	105	76-130
13C-2,3,4,7,8-PeCDF	Ave	1.017	1.147		113	100	113	77-130
13C-1,2,3,7,8-PeCDD	Ave	0.7281	0.8011		110	100	110	62-160
13C-1,2,3,4,7,8-HxCDF	Ave	0.9632	0.9507		98.7	100	99	76-131
13C-1,2,3,6,7,8-HxCDF	Ave	1.065	0.9689		91.0	100	91	70-143
13C-2,3,4,6,7,8-HxCDF	Ave	0.9696	0.9307		96.0	100	96	73-137
13C-1,2,3,4,7,8-HxCDD	Ave	0.7590	0.7707		102	100	102	85-117
13C-1,2,3,6,7,8-HxCDD	Ave	0.9247	0.8637		93.4	100	93	85-118
13C-1,2,3,7,8,9-HxCDF	Ave	0.8955	0.8940		99.8	100	100	74-135
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.7930	0.7462		94.1	100	94	78-129
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.7532	0.6569		87.2	100	87	72-138
13C-1,2,3,4,7,8,9-HpCDF	Ave	0.7296	0.6474		88.7	100	89	77-129
13C-OCDD	Ave	0.5621	0.4868		173	200	87	48-208
37Cl4-2,3,7,8-TCDD	Ave	1.308	1.535		11.7	10.0	117	79-127

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #	User
1	13JA2010D5_1	WDM HRDXNCP_00040	WDM 011320	Tray01:1	Dioxin		SMA
2	13JA2010D5_2	CS-4 HRDXNL4_00085	CCV 011320	Tray01:2	Dioxin		SMA
3	13JA2010D5_3	Solvent Blank C-14	SB 011320	Tray01:3	---		SMA
4	13JA2010D5_4	MB 320-349535/1-A RI	MB 320-349535/1-A RI	Tray01:31	1613B/Water	D123	SMA/ALM
5	13JA2010D5_5	LCS 320-349535/2-A RI	LCS 320-349535/2-A RI	Tray01:32	1613B/Water	---	SMA/ALM
6	13JA2010D5_6	440-258216-E-1-A RI	440-258216-E-1-A RI	Tray01:33	1613B/Water	---	SMA/ALM
7	13JA2010D5_7	440-258216-E-2-A RI	440-258216-E-2-A RI	Tray01:34	1613B/Water	---	SMA/ALM
8	13JA2010D5_8	440-258216-E-3-A RI	440-258216-E-3-A RI	Tray01:35	1613B/Water	---	SMA/ALM
9	13JA2010D5_9	440-258216-E-4-A RI	440-258216-E-4-A RI	Tray01:36	1613B/Water	---	SMA/ALM
10	13JA2010D5_10	440-258216-G-5-A RI	440-258216-G-5-A RI	Tray01:37	1613B/Water	---	SMA/ALM
11	13JA2010D5_11	440-258216-H-6-A RI	440-258216-H-6-A RI	Tray01:38	1613B/Water	---	SMA/ALM
12	13JA2010D5_12	440-258219-B-1-A RI	440-258219-B-1-A RI	Tray01:39	1613B/Water	---	SMA/ALM
13	13JA2010D5_13	440-258227-I-1-A RI	440-258227-I-1-A RI	Tray01:40	1613B/Water	---	SMA/ALM
14	13JA2010D5_14	Solvent Blank C-14	SB 011320A	Tray01:3	---		SMA/ALM
15	13JA2010D5_15	CS-4 HRDXNL4_00085	CCV 011320A	Tray01:2	Dioxin		SMA/ALM
16	13JA2010D5_16	WDM HRDXNCP_00040	WDM 011320A	Tray01:1	Dioxin		SMA/ALM
17	13JA2010D5_17	Solvent Blank C-14	SB 011320B	Tray01:3	---		SMA/ALM
18	13JA2010D5_18	MB 320-350417/1-A	MB 320-350417/1-A	Tray01:43	1613B/Water	D123	SMA/ALM
19	13JA2010D5_19	LCS 320-350417/2-A	LCS 320-350417/2-A	Tray01:44	1613B/Water	---	SMA/ALM
20	13JA2010D5_20	LCSD 320-350417/3-A	LCSD 320-350417/3-A	Tray01:45	1613B/Water	---	SMA/ALM
21	13JA2010D5_21	320-57624-A-1-A	320-57624-A-1-A	Tray01:46	1613B/Water	---	SMA/ALM
22	13JA2010D5_22	320-57624-A-2-A	320-57624-A-2-A	Tray01:47	1613B/Water	---	SMA/ALM
23	13JA2010D5_23	320-57624-A-3-A	320-57624-A-3-A	Tray01:48	1613B/Water	---	SMA/ALM
24	13JA2010D5_24	Solvent Blank C-14	SB 011320C	Tray01:3	---		SMA/ALM
25	13JA2010D5_25	CS-4 HRDXNL4_00085	CCV 011320B	Tray01:2	Dioxin		SMA/ALM
26	13JA2010D5_26	WDM HRDXNCP_00040	WDM 011320B	Tray01:1	Dioxin		SMA/ALM
27	13JA2010D5_27	Solvent Blank C-14	SB 011320D	Tray01:3	---		SMA/ALM
28	13JA2010D5_28	MB 320-348799/1-A	MB 320-348799/1-A	Tray01:49	8290A/Solid	D123	SMA/ALM
29	13JA2010D5_29	LCS 320-348799/2-A	LCS 320-348799/2-A	Tray01:50	8290A/Solid	---	SMA/ALM
30	13JA2010D5_30	LCSD 320-348799/3-A	LCSD 320-348799/3-A	Tray01:51	8290A/Solid	---	SMA/ALM
31	13JA2010D5_31	320-57196-F-1-A	320-57196-F-1-A	Tray01:52	8290A/Solid	---	SMA/ALM
32	13JA2010D5_32	320-57196-E-3-A	320-57196-E-3-A	Tray01:53	8290A/Solid	---	SMA/ALM
33	13JA2010D5_33	Solvent Blank C-14	SB 011320E	Tray01:3	---		SMA/ALM
34	13JA2010D5_34	CS-4 HRDXNL4_00085	CCV 011320C	Tray01:2	Dioxin		SMA/ALM
35	13JA2010D5_35	WDM HRDXNCP_00040	WDM 011320C	Tray01:1	Dioxin		SMA/ALM
36	13JA2010D5_36	Solvent Blank C-14	SB 011320F	Tray01:3	---		SMA/ALM

logfile checked
1-13-20 ALM

Sample Size	Units	MS File	Inlet File	Inject Volume	Process
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
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1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
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1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
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1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover

Process Options	Action On Error	s5
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
C:\Masslynx\Autospec\dioxinrescheck.dat	Ignore Error	---
C:\Masslynx\Autospec\dioxinrescheck.dat	Ignore Error	---
C:\Masslynx\Autospec\dioxinrescheck.dat	Ignore Error	---
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
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M 292.9824 R 11312

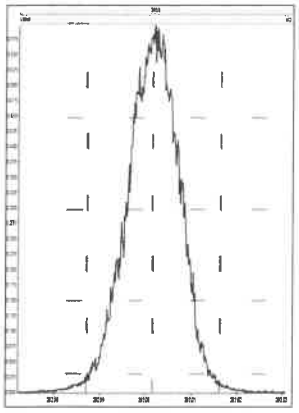

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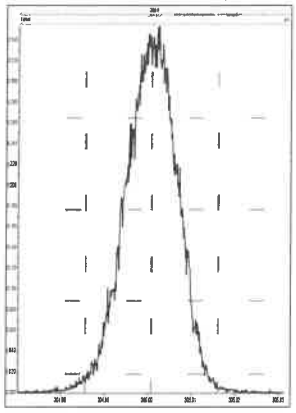

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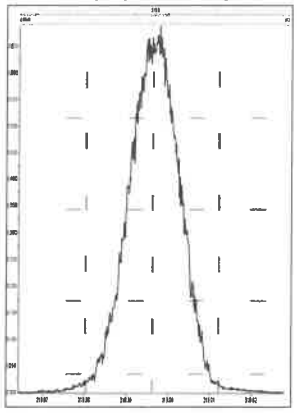

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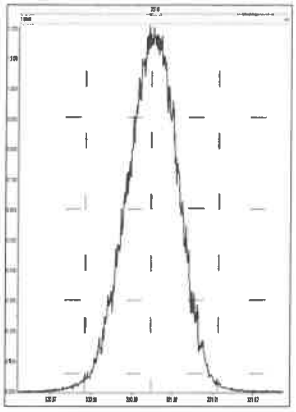

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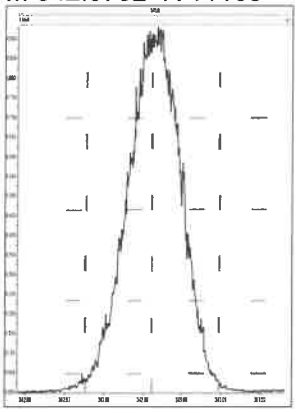

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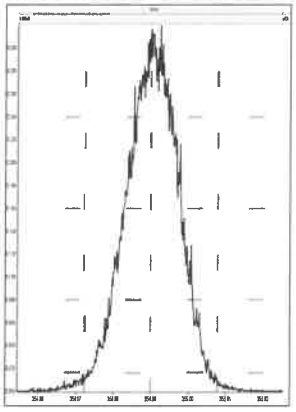

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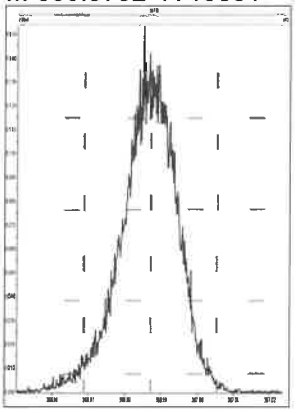

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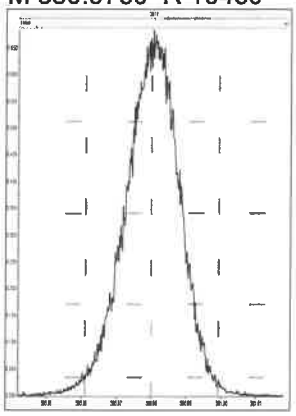

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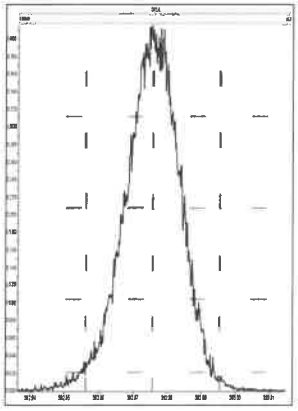

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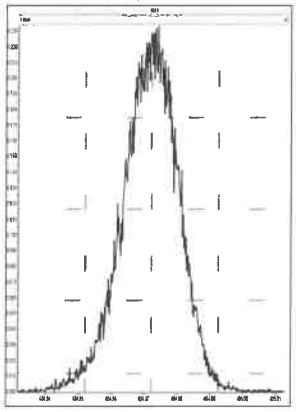

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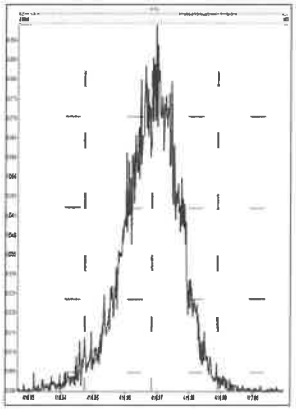

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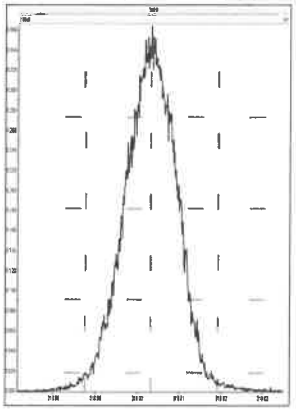

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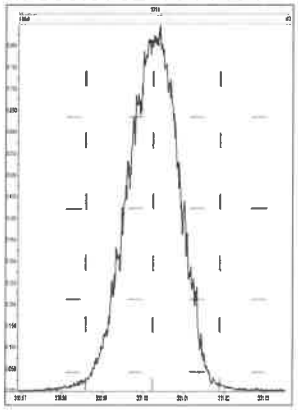

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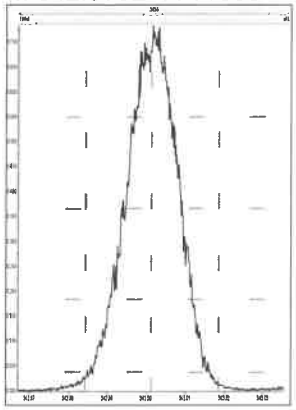

M 354.9792 R 11162

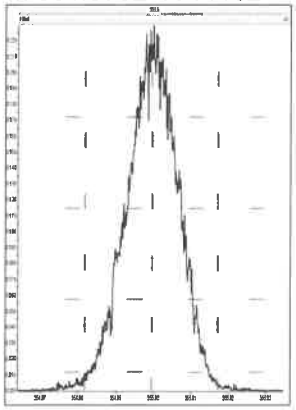

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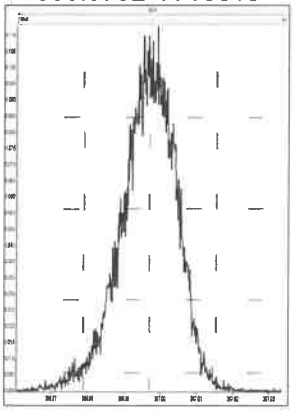

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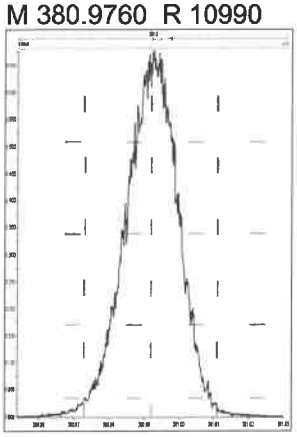

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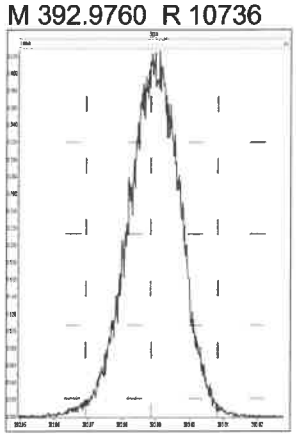

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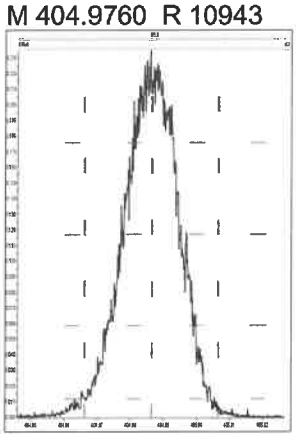

M 416.9760 R 11237

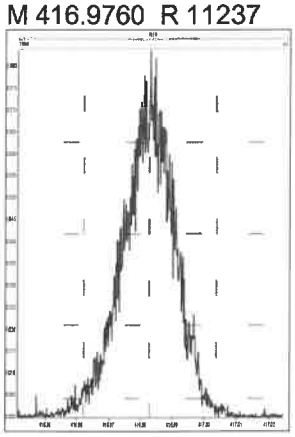

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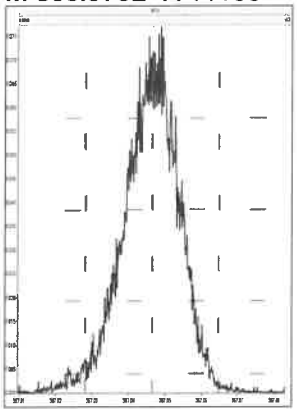

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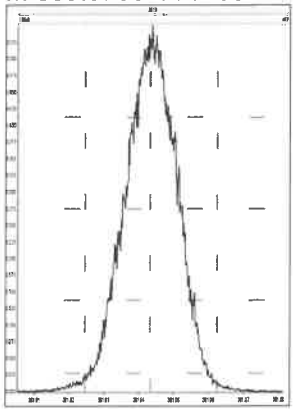

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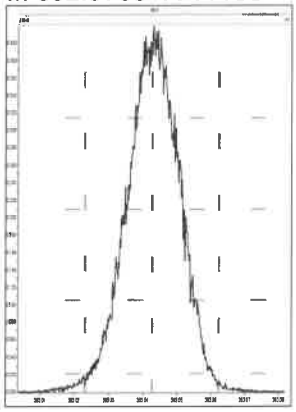

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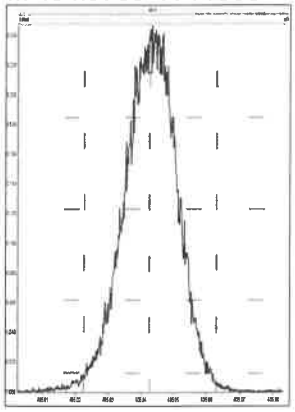

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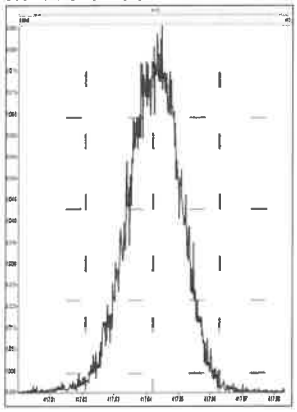

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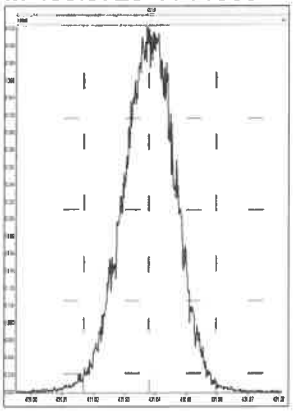

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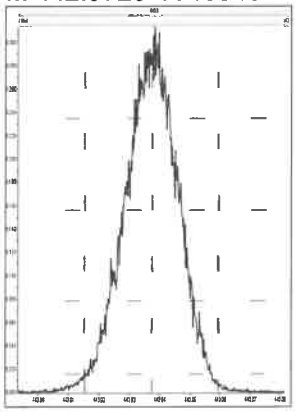

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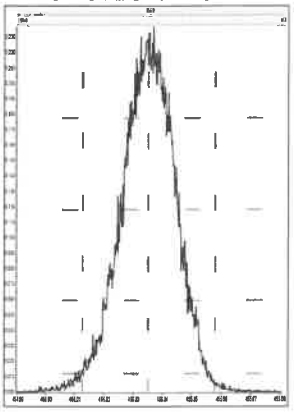

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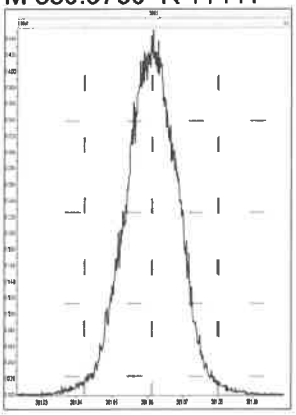

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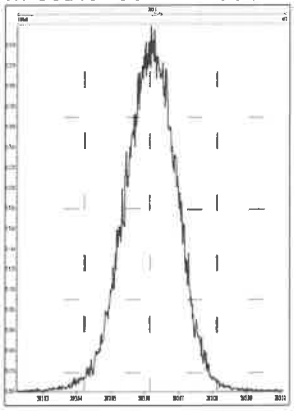

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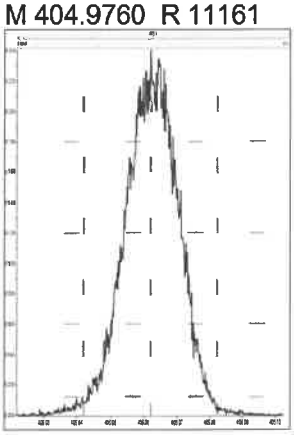

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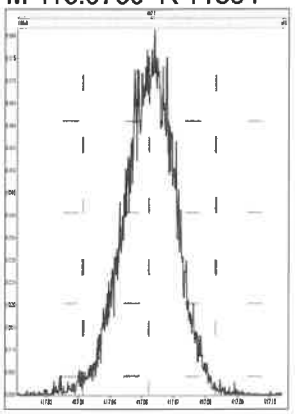

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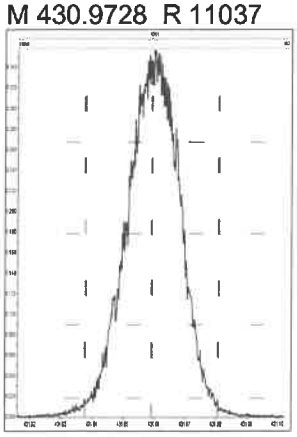

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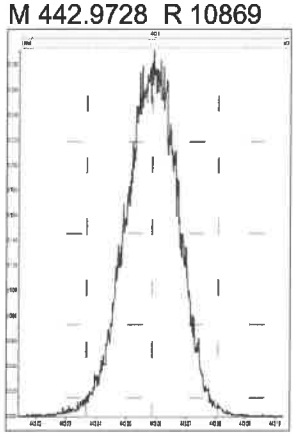

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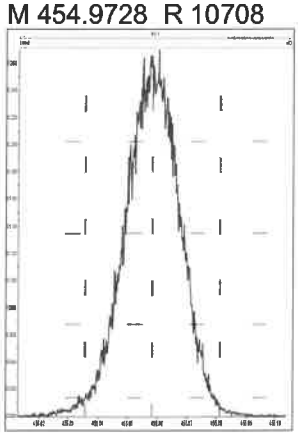

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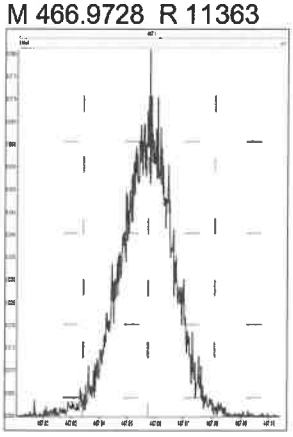

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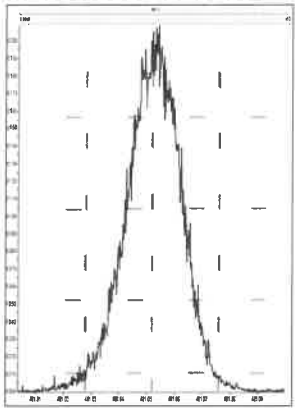

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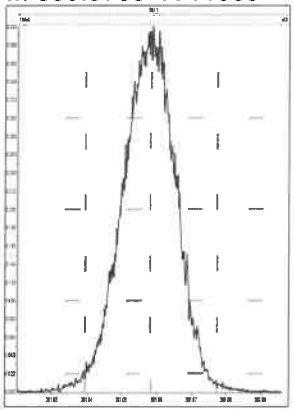

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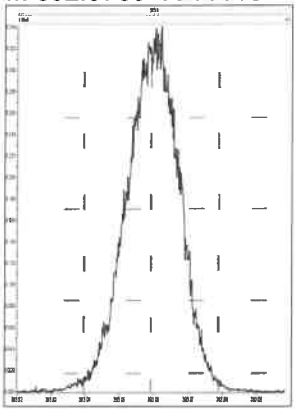

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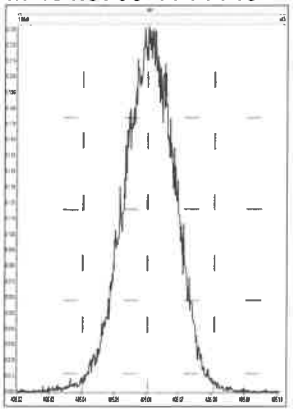

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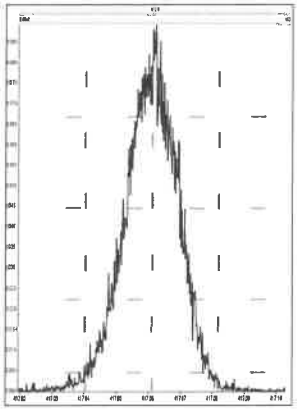

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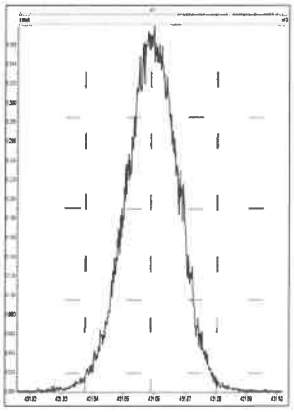

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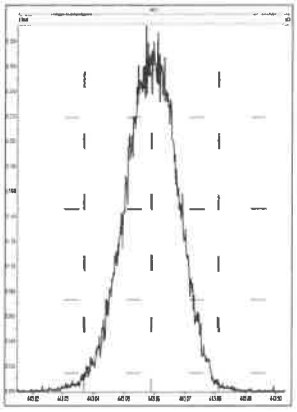

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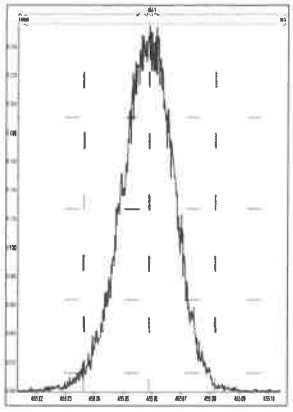

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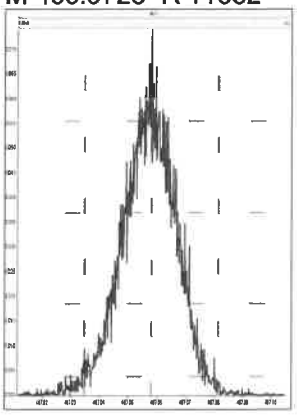

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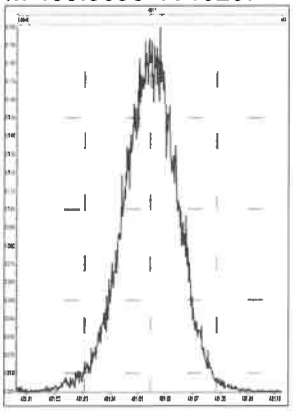

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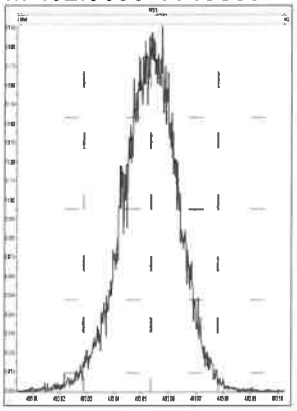

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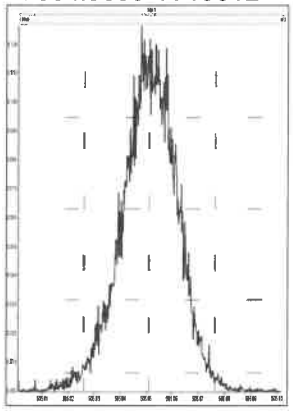

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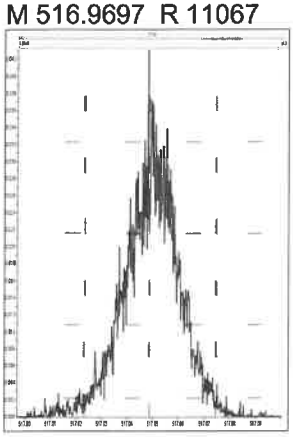

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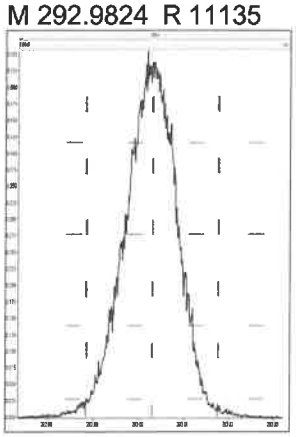

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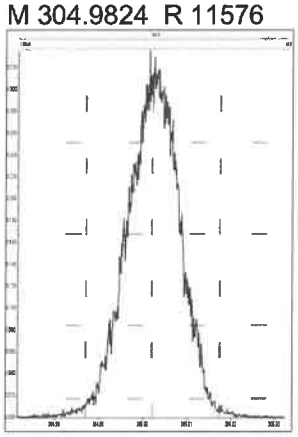

M 318.9792 R 11235

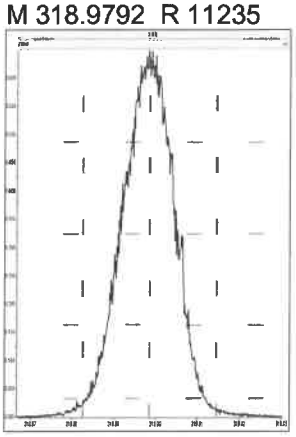

M 330.9792 R 11188

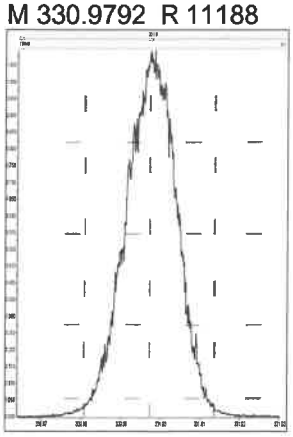

M 342.9792 R 11390

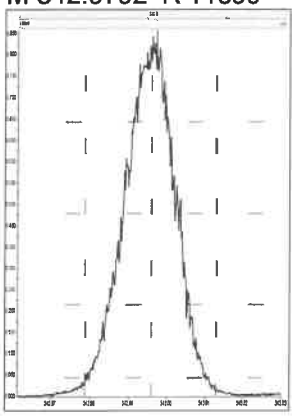

M 354.9792 R 10864

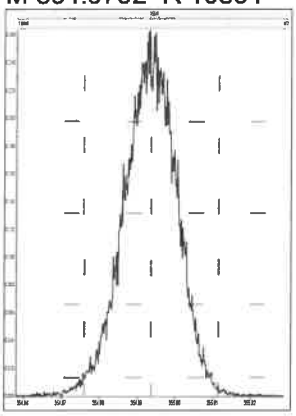

M 366.9792 R 11041

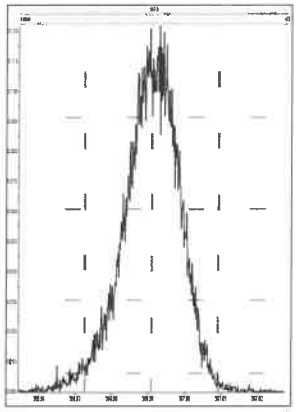

M 380.9760 R 10661

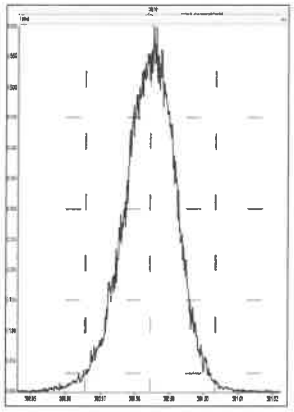

M 392.9760 R 10505

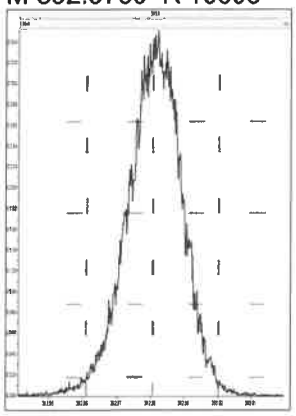

M 404.9760 R 10314

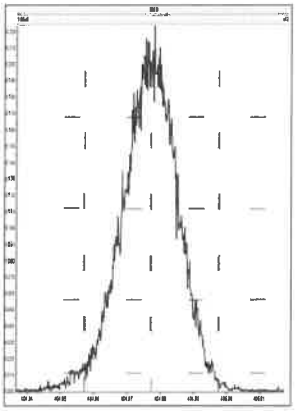

M 416.9760 R 10486

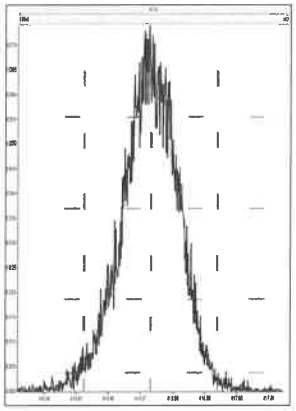

M 318.9792 R 11344

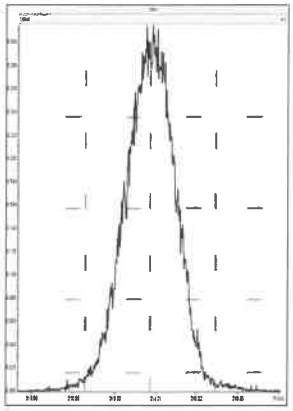

M 330.9792 R 11086

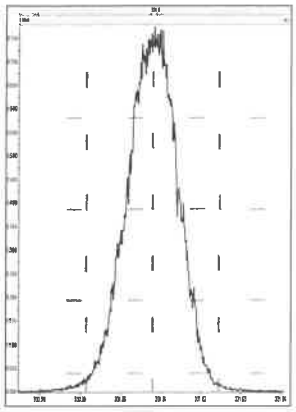

M 342.9792 R 11264

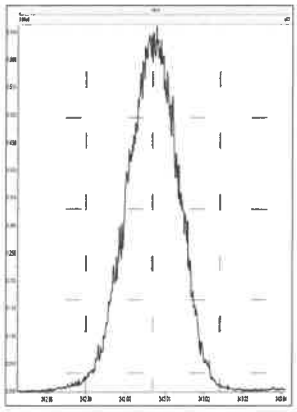

M 354.9792 R 11171

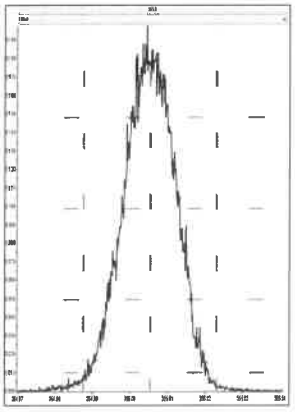

M 366.9792 R 11235

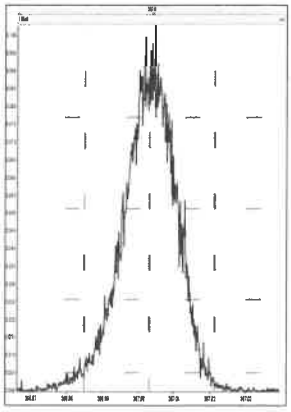

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M 380.9760 R 11062

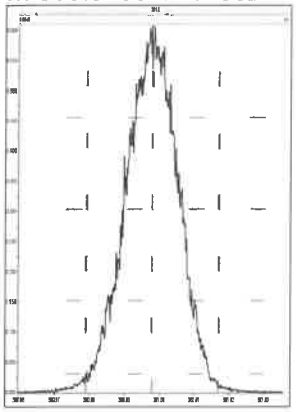

M 392.9760 R 10846

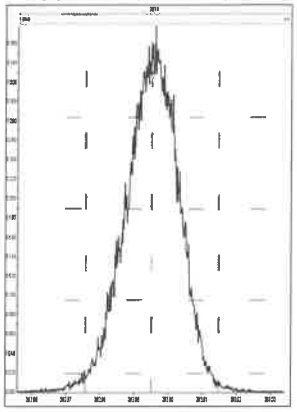

M 404.9760 R 10846

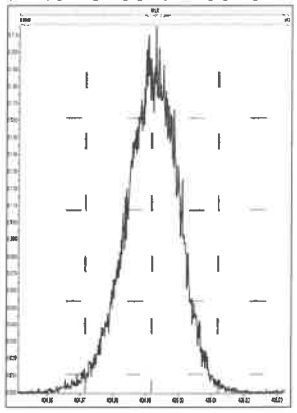

M 416.9760 R 11112

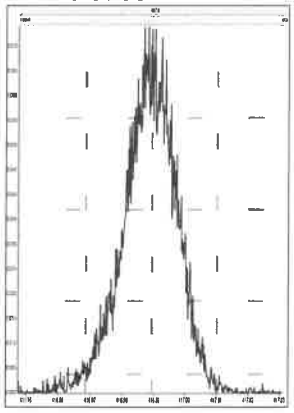

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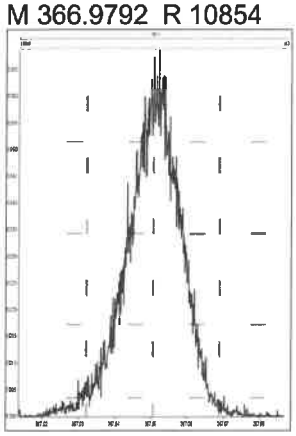

M 380.9760 R 11338

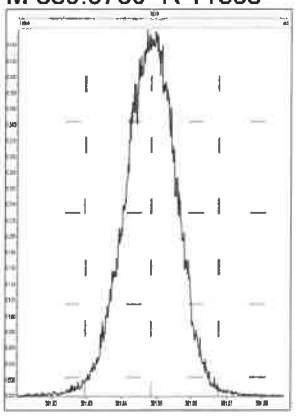

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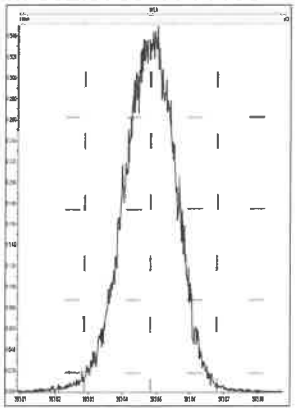

M 404.9760 R 11037

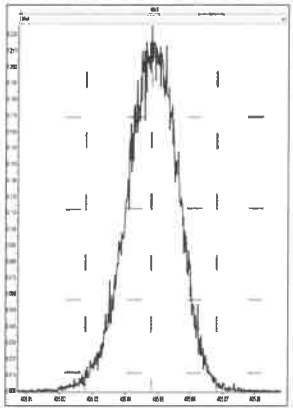

M 416.9760 R 11313

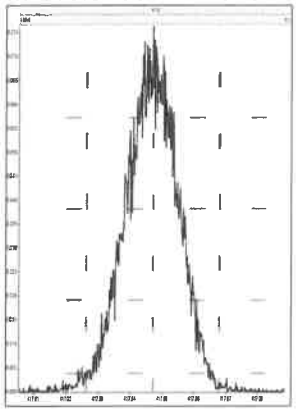

M 430.9728 R 10988

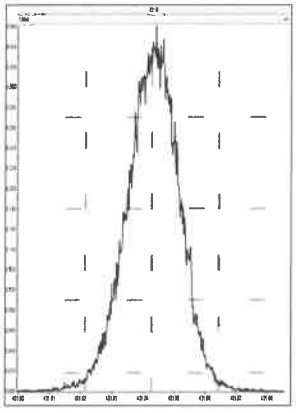

M 442.9728 R 10964

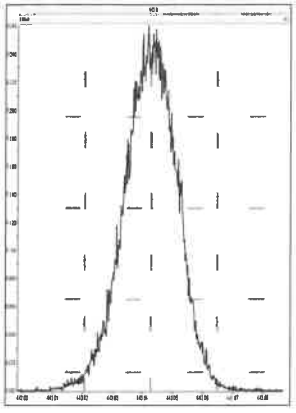

M 454.9728 R 10686

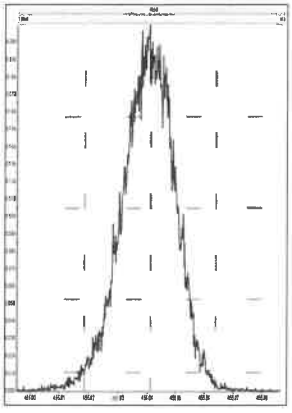

M 380.9760 R 10965

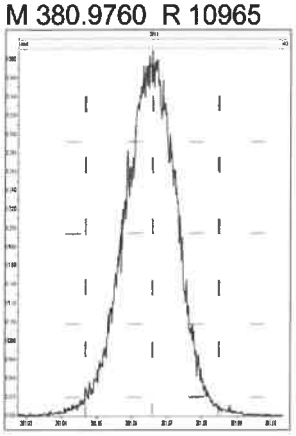

M 392.9760 R 11263

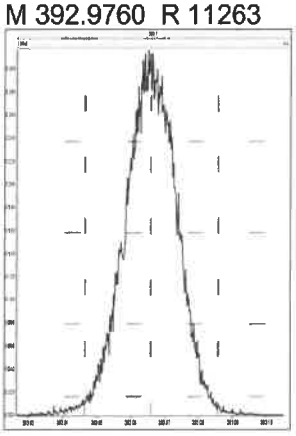

M 404.9760 R 11683

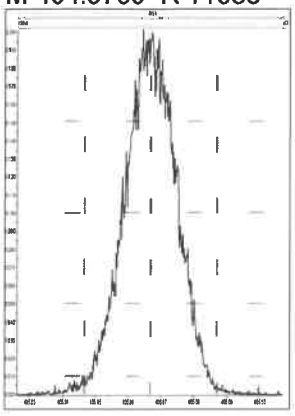

M 416.9760 R 11550

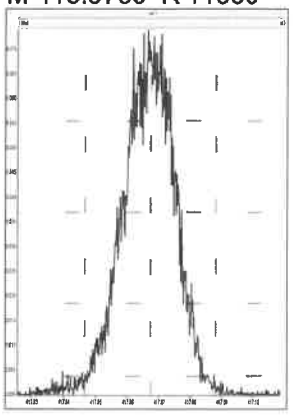

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M 430.9728 R 11135

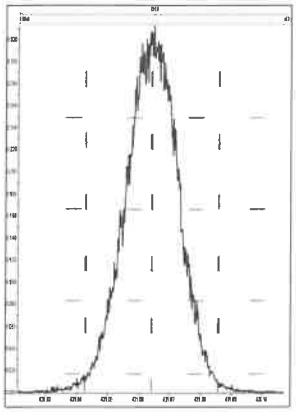

M 442.9728 R 11012

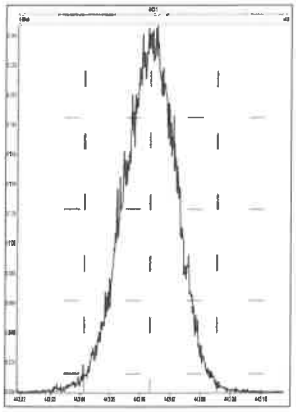

M 454.9728 R 10940

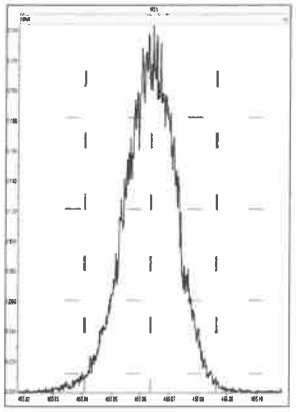

M 466.9728 R 12140

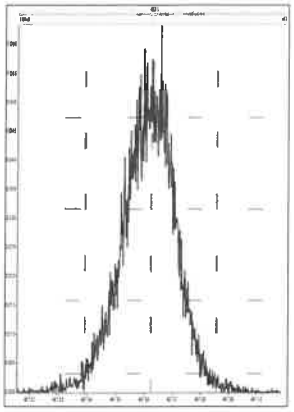

M 480.9696 R 10536

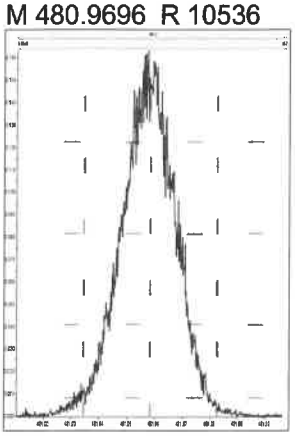

M 380.9760 R 11287

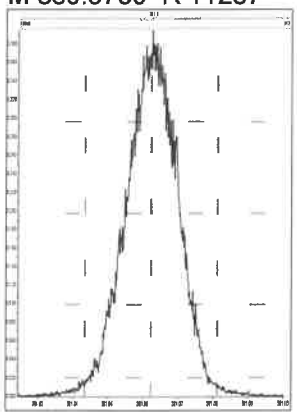

M 392.9760 R 11062

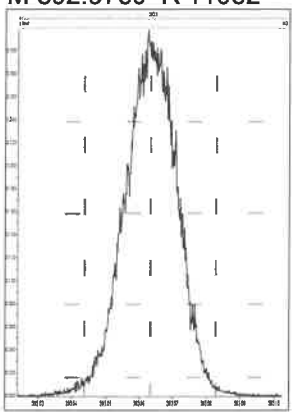

M 404.9760 R 11087

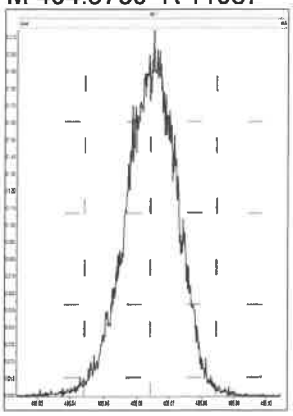

M 416.9760 R 11389

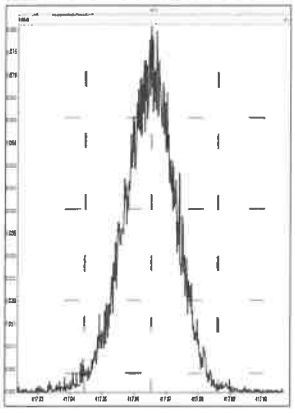

M 430.9728 R 10943

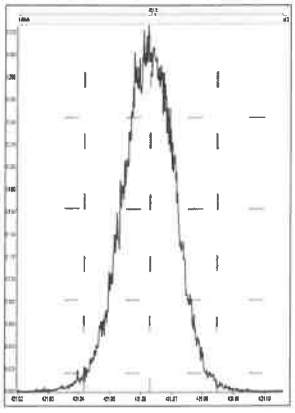

M 442.9728 R 10918

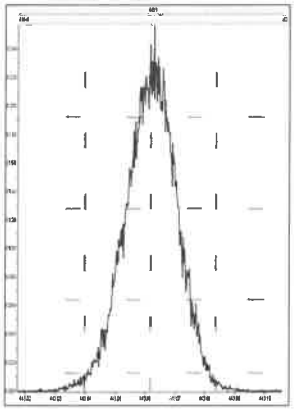

M 454.9728 R 11138

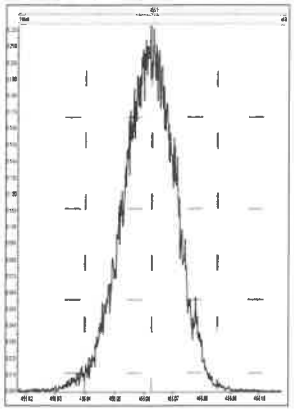

M 466.9728 R 11682

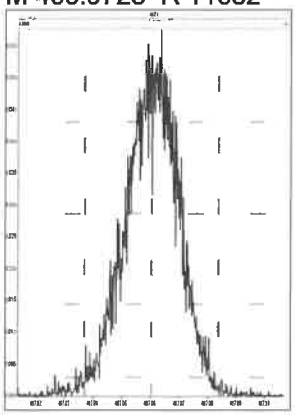

M 480.9696 R 10395

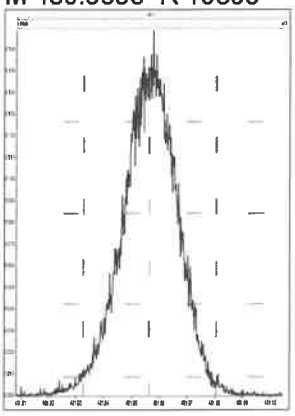

M 492.9696 R 10485

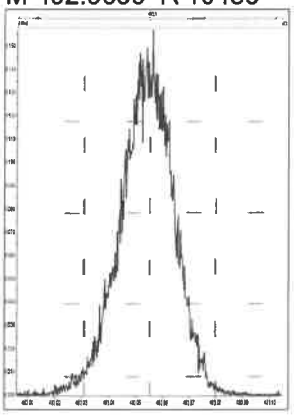

M 504.9696 R 10791

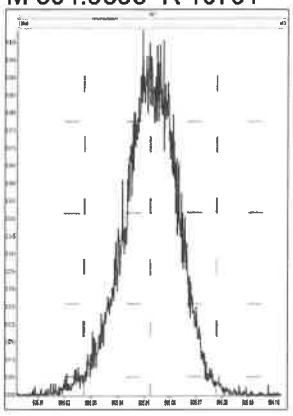

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M 516.9697 R 10959

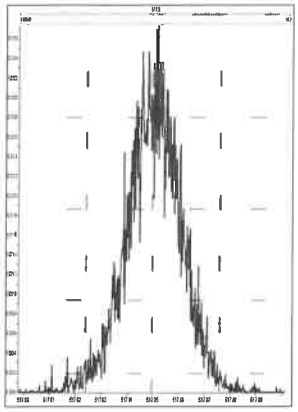

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M 292.9824 R 11573

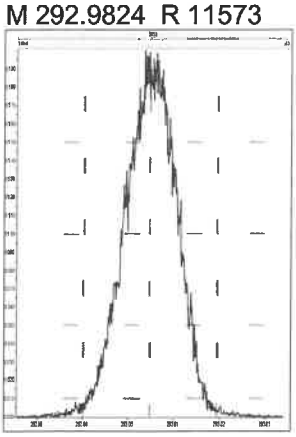

M 304.9824 R 11657

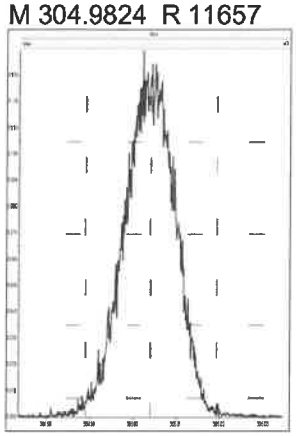

M 318.9792 R 11714

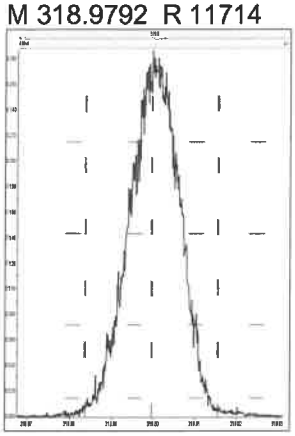

M 330.9792 R 11418

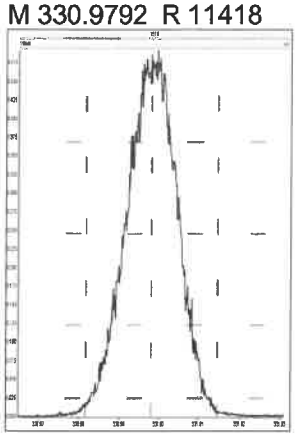

M 342.9792 R 11415

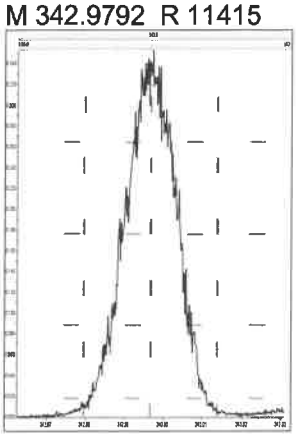

M 354.9792 R 11968

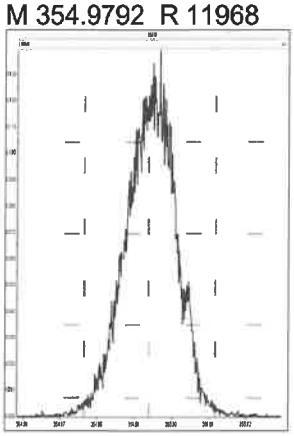

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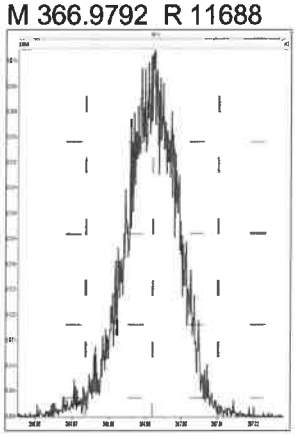

M 380.9760 R 10988

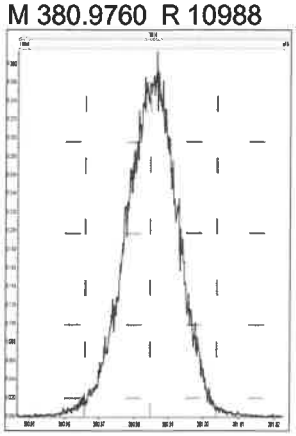

M 392.9760 R 11415

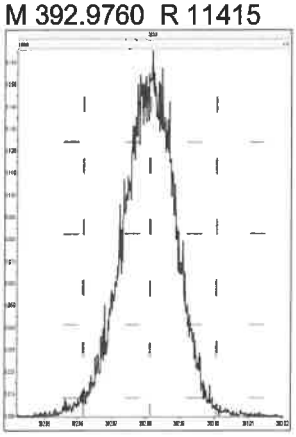

M 404.9760 R 10593

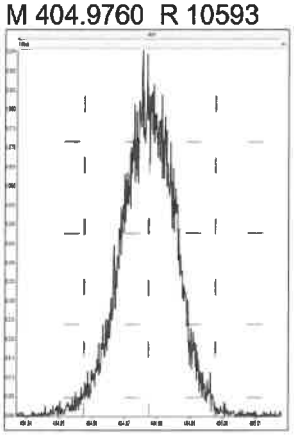

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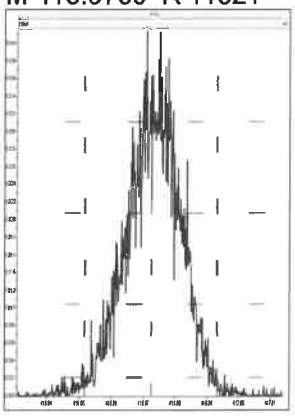

M 318.9792 R 11415

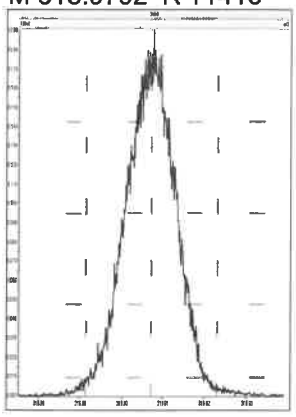

M 330.9792 R 11737

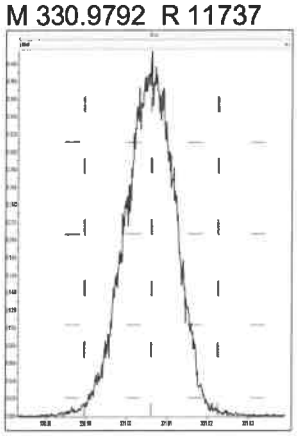

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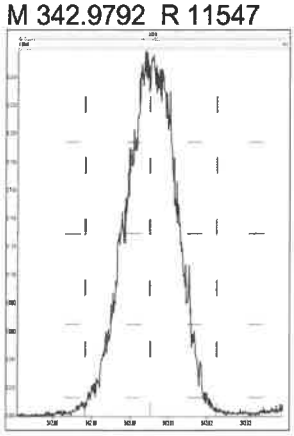

M 354.9792 R 11552

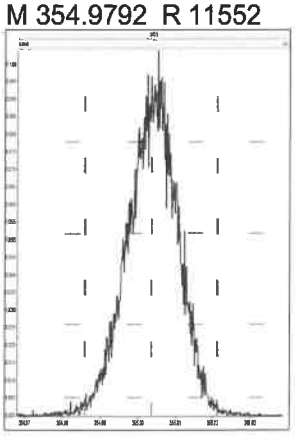

M 366.9792 R 11365

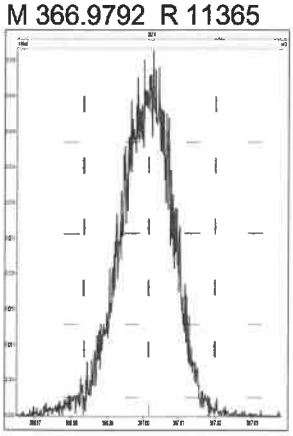

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M 380.9760 R 11441

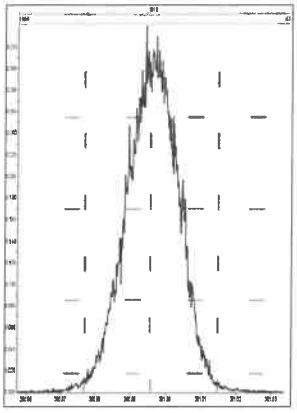

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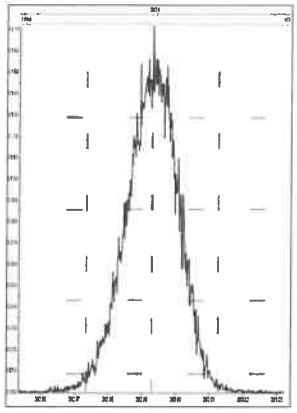

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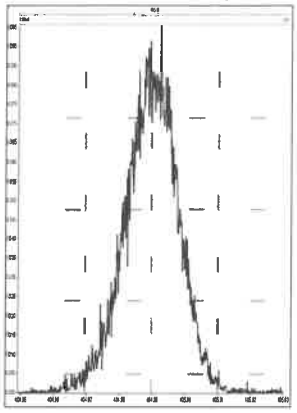

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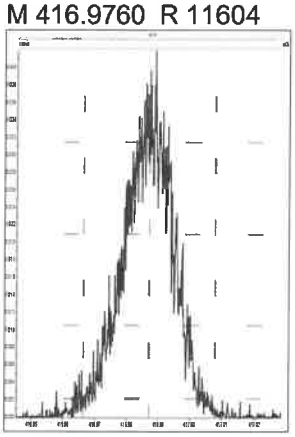

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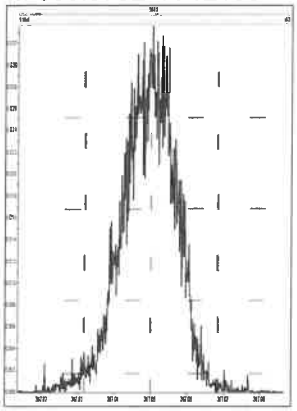

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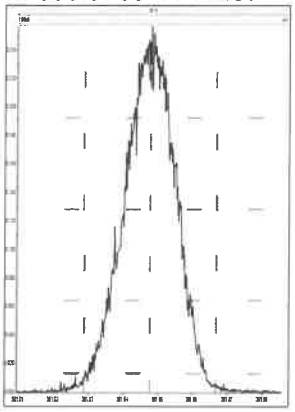

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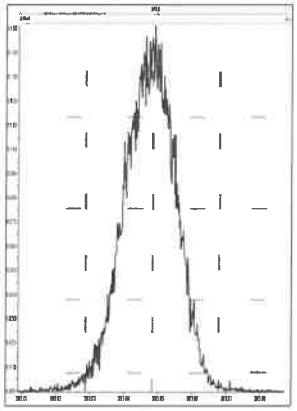

M 404.9760 R 11497

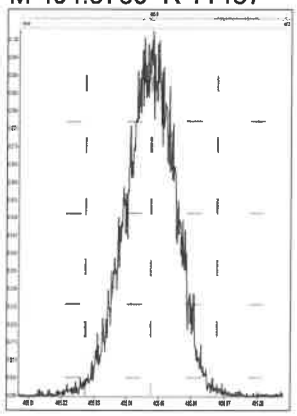

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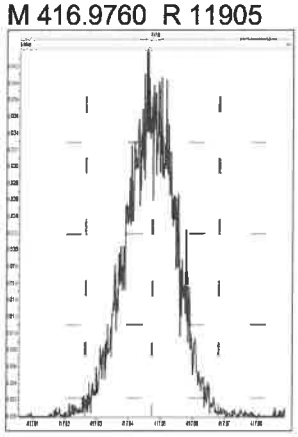

M 430.9728 R 11418

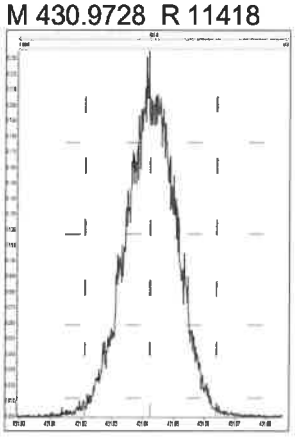

M 442.9728 R 11185

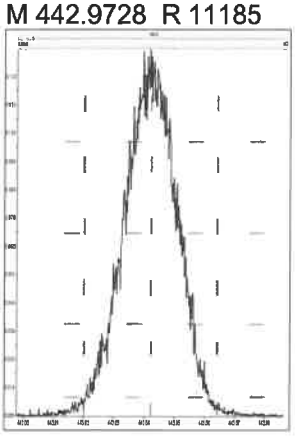

M 454.9728 R 11067

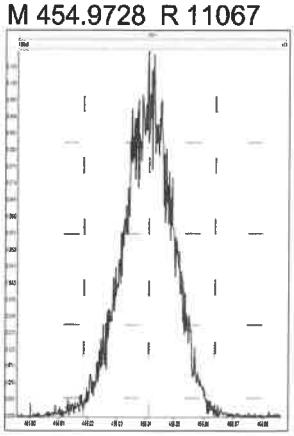

M 380.9760 R 11312

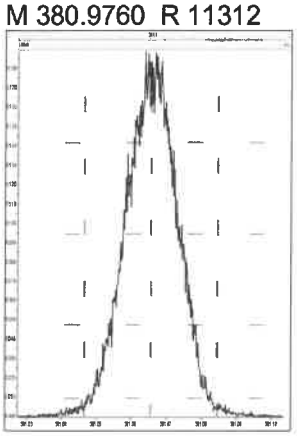

M 392.9760 R 11711

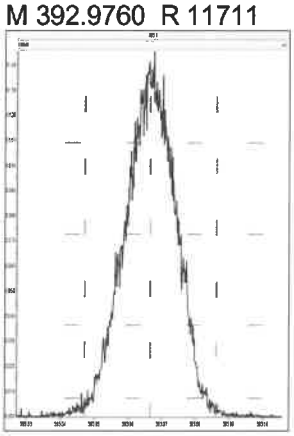

M 404.9760 R 11876

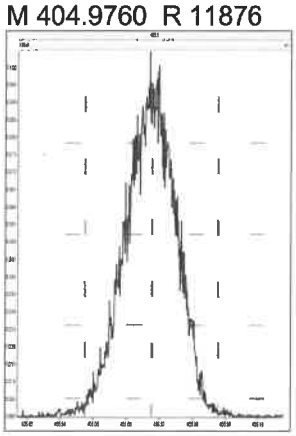

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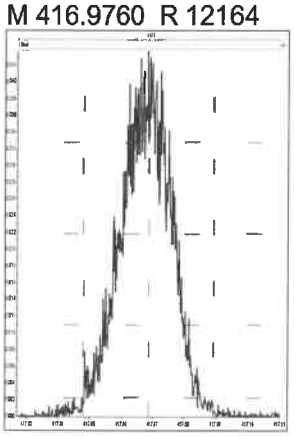

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M 430.9728 R 11137

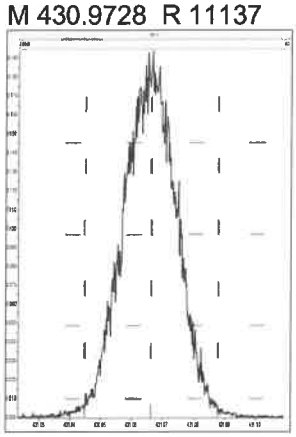

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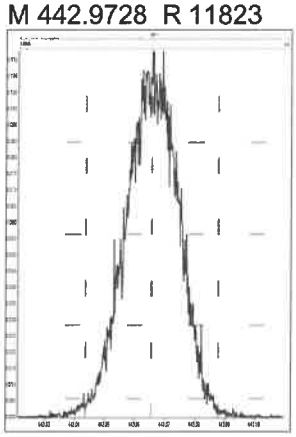

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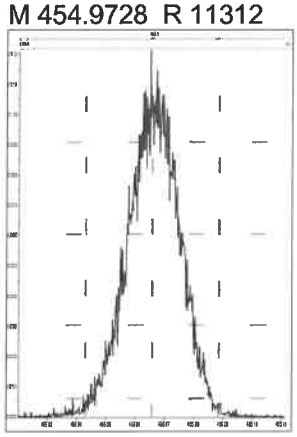

M 466.9728 R 11631

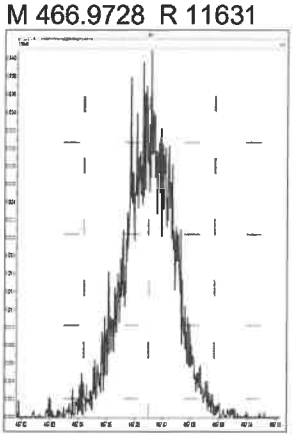

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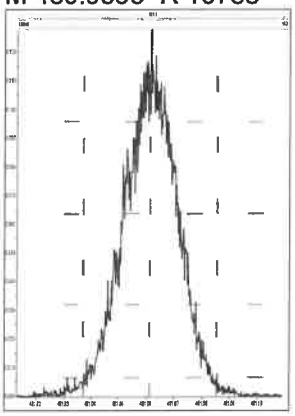

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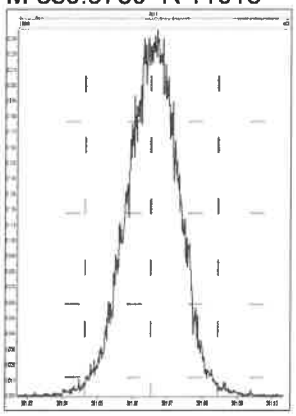

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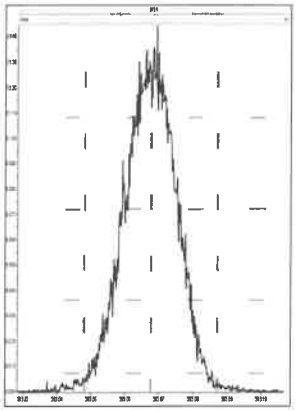

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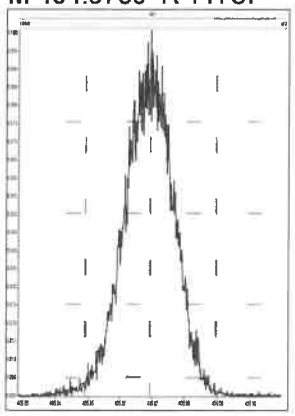

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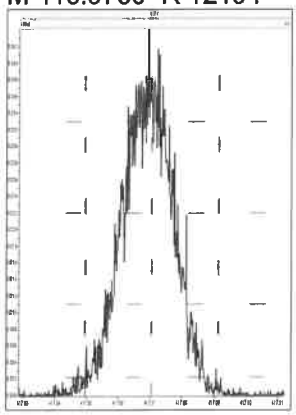

M 430.9728 R 11215

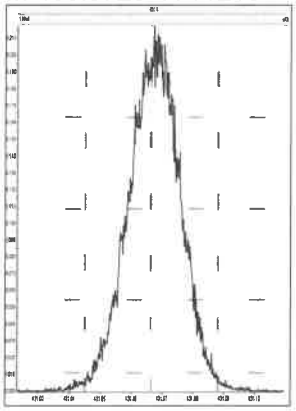

M 442.9728 R 11368

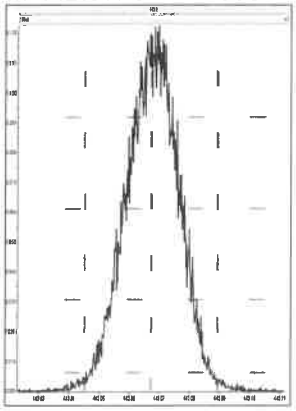

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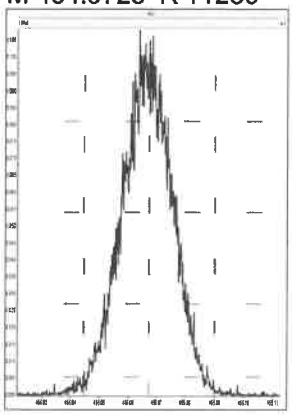

M 466.9728 R 11844

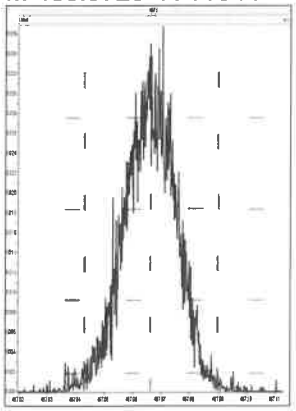

M 480.9696 R 11114

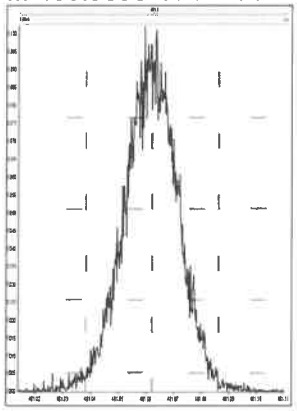

M 492.9696 R 10989

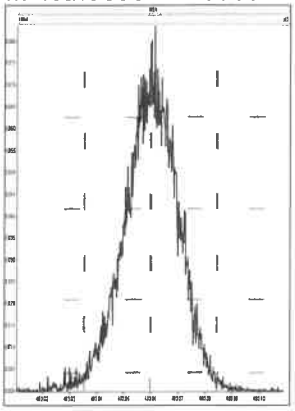

M 504.9696 R 11014

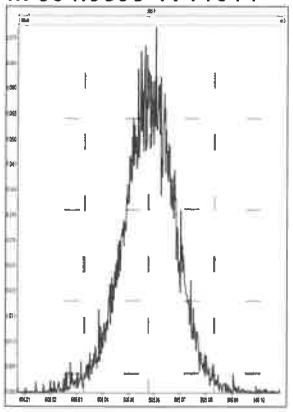

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M 516.9697 R 12036

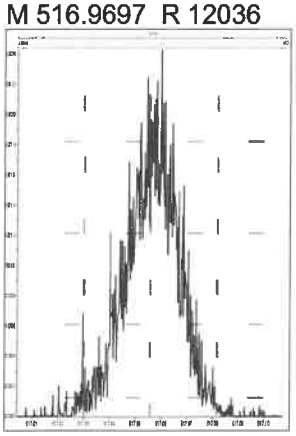

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_15.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 13-Jan-2020 23:38:36 ALS Bottle#: 2 Worklist Smp#: 15
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 011020F CS-4 HRDXNL4_00085
Misc. Info.: 13JA2010D5
Operator ID: SMA Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Jan-2020 13:34:22 Calib Date: 14-Nov-2019 12:50:49
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0312

First Level Reviewer: arghestanis Date: 14-Jan-2020 10:41:14

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.635	56490122	0.79	1.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.121	76896242	0.77	1.3318	102.2	102.2	0.4850	0.4850	102	
2,3,7,8-TCDF	17.136	6425738	0.77	0.9005	9.280	9.280	0.0361	0.0361	92.80	
A Non-2,3,7,8-sub-TCDF	16.849						0.0361	0.0361		
S Total TCDF					9.280	9.280	0.0361	0.0361		
D 13C-2,3,7,8-TCDD	17.816	54674873	0.79	0.9647	100.3	100.3	0.1818	0.1818	100	
2,3,7,8-TCDD	17.831	5639919	0.77	1.0698	9.642	9.642	0.0414	0.0414	96.42	
$ 37Cl4-2,3,7,8-TCDD	17.831	8672929		1.3082	11.7	11.7	0.0176	0.0176	117	
A Non-2,3,7,8-sub-TCDD	17.295						0.0414	0.0414		
S Total TCDD					9.642	9.642	0.0414	0.0414		
D 13C-1,2,3,7,8-PeCDF	22.060	62667818	1.59	1.0537	105.3	105.3	0.2265	0.2265	105	
1,2,3,7,8-PeCDF	22.073	29962765	1.56	0.9704	49.3	49.3	0.1399	0.1399	98.54	
D 13C-2,3,4,7,8-PeCDF	23.369	64786538	1.59	1.0173	112.7	112.7	0.2346	0.2346	113	
2,3,4,7,8-PeCDF	23.396	30257475	1.55	0.9986	46.8	46.8	0.1377	0.1377	93.54	
A F1 PeCDFs	19.691						0.0215	0.0215		
A Non-2,3,7,8-sub-PeCDF	22.784						0.1388	0.1388		
S Total PeCDF					96.0	96.0	0.1388	0.1388		
D 13C-1,2,3,7,8-PeCDD	24.078	45256340	1.57	0.7281	110.0	110.0	0.1361	0.1361	110	
1,2,3,7,8-PeCDD	24.105	22674707	1.60	1.0023	50.0	50.0	0.0666	0.0666	99.97	
A Non-2,3,7,8-sub-PeCDD	23.028						0.0666	0.0666		
S Total PeCDD					50.0	50.0	0.0666	0.0666		
D 13C-1,2,3,4,7,8-HxCDF	30.219	48710321	0.51	0.9632	98.7	98.7	0.2794	0.2794	98.71	
1,2,3,4,7,8-HxCDF	30.233	22950776	1.22	1.0315	45.7	45.7	0.2074	0.2074	91.36	
D 13C-1,2,3,6,7,8-HxCDF	30.419	49642785	0.50	1.0646	91.0	91.0	0.2528	0.2528	91.02	
1,2,3,6,7,8-HxCDF	30.445	23860939	1.21	1.0235	47.0	47.0	0.1974	0.1974	93.92	
D 13C-2,3,4,6,7,8-HxCDF	31.311	47681615	0.51	0.9696	96.0	96.0	0.2775	0.2775	95.98	
2,3,4,6,7,8-HxCDF	31.337	23483069	1.20	1.0645	46.3	46.3	0.1440	0.1440	92.53	
D 13C-1,2,3,7,8,9-HxCDF	32.149	45804751	0.50	0.8955	99.8	99.8	0.3005	0.3005	99.84	
1,2,3,7,8,9-HxCDF	32.162	22726299	1.20	1.0664	46.5	46.5	0.1351	0.1351	93.05	
A Non-2,3,7,8-sub-HxCDF	29.913						0.1656	0.1656		

Report Date: 14-Jan-2020 13:34:23 Chrom Revision: 2.3 23-Dec-2019 10:12:06
Data File: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_15.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					185.4	185.4	0.1710	0.1710		
* 13C-1,2,3,7,8,9-HxCDD	31.963	51234181	1.25	8.8E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.510	39486835	1.27	0.7590	101.5	101.5	0.2095	0.2095	102	
1,2,3,4,7,8-HxCDD	31.537	19641773	1.25	1.0054	49.5	49.5	0.0949	0.0949	98.95	
D 13C-1,2,3,6,7,8-HxCDD	31.630	44251106	1.27	0.9247	93.4	93.4	0.1720	0.1720	93.40	
1,2,3,6,7,8-HxCDD	31.643	20206099	1.25	0.9833	46.4	46.4	0.0971	0.0971	92.88	
1,2,3,7,8,9-HxCDD	31.976	22892184	1.23	1.1036	49.5	49.5	0.0865	0.0865	99.09	
A Non-2,3,7,8-sub-HxCDD	30.518						0.0926	0.0926		
S Total HxCDD					145.5	145.5	0.0928	0.0928		
D 13C-1,2,3,4,6,7,8-HpCDF	33.606	38229271	0.44	0.7930	94.1	94.1	0.995	0.995	94.10	
1,2,3,4,6,7,8-HpCDF	33.618	26862899	1.03	1.4240	49.3	49.3	0.2840	0.2840	98.69	
D 13C-1,2,3,4,7,8,9-HpCDF	34.675	33167470	0.43	0.7296	88.7	88.7	1.081	1.081	88.73	
1,2,3,4,7,8,9-HpCDF	34.675	20691940	1.05	1.2834	48.6	48.6	0.4211	0.4211	97.22	
A Non-2,3,7,8-sub-HpCDF	34.152						0.3418	0.3418		
S Total HpCDF					98.0	98.0	0.3526	0.3526		
D 13C-1,2,3,4,6,7,8-HpCDD	34.383	33657969	1.06	0.7532	87.2	87.2	0.3150	0.3150	87.23	
1,2,3,4,6,7,8-HpCDD	34.396	17071645	1.05	1.0174	49.9	49.9	0.1797	0.1797	99.71	
A Non-2,3,7,8-sub-HpCDD	34.134						0.1797	0.1797		
S Total HpCDD					49.9	49.9	0.1797	0.1797		
D 13C-OCDD	36.698	49886076	0.90	0.5621	173.2	173.2	0.1478	0.1478	86.62	
OCDF	36.794	31476708	0.89	1.3047	96.7	96.7	0.0711	0.0711	96.72	
OCDD	36.698	27583048	0.90	1.0997	100.6	100.6	0.0737	0.0737	101	

Reagents:

HRDXNL4_00085 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_15.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 13-Jan-2020 23:38:36 ALS Bottle#: 2 Worklist Smp#: 15
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 011020F CS-4 HRDXNL4_00085
Misc. Info.: 13JA2010D5
Operator ID: SMA Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Jan-2020 13:34:22 Calib Date: 14-Nov-2019 12:50:49
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0312

First Level Reviewer: arghestanis Date: 14-Jan-2020 10:41:14

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.635	17.635	0		25009452	6340512	6253	15632	1014		
333.9339	17.635	17.635	0		31480670	7918287	3750	9375	2112	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.121	17.121	0	0.971	33564025	8555187	20899	52247	409		
317.9389	17.121	17.121	0	0.971	43332217	11042937	15946	39865	693	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.136	17.136	0	1.001	2786265	714227	1068	2670	669		
305.8987	17.136	17.136	0	1.001	3639473	940212	1483	3707	634	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.849						1068	2670			
305.8987	16.849						1483	3707			
13C-2,3,7,8-TCDD											
331.9368	17.816	17.816	0	1.010	24108811	6002522	6253	15632	960		
333.9339	17.816	17.816	0	1.010	30566062	7526851	3750	9375	2007	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.831	17.831	0	1.001	2452800	594705	1598	3995	372		
321.8936	17.831	17.831	0	1.001	3187119	786390	796	1990	988	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.831	17.831	0	1.011	8672929	2097024	1314	3285	1596		
A Non-2,3,7,8-sub-TCDD											
319.8965	17.295						1598	3995			
321.8936	17.295						796	1990			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	22.060	22.060	0	1.251	38462977	7026190	8151	20377	862		
353.8970	22.046	22.060	-1	1.250	24204841	4439162	5461	13652	813	1.59(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.073	22.073	0	1.001	18266131	3338068	3668	9170	910		
341.8567	22.073	22.073	0	1.001	11696634	2168583	2556	6390	848	1.56(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	23.369	23.369	0	1.325	39753154	6901375	8151	20377	847		
353.8970	23.369	23.369	0	1.325	25033384	4411783	5461	13652	808	1.59(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.396	23.396	0	1.001	18370113	3102359	3668	9170	846		
341.8567	23.396	23.396	0	1.001	11887362	2042878	2556	6390	799	1.55(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.691						327	817			
341.8567	19.691						637	1592			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.784						3668	9170			
341.8567	22.784						2556	6390			
13C-1,2,3,7,8-PeCDD											
367.8949	24.078	24.078	0	1.365	27680801	4494558	3186	7965	1411		
369.8919	24.078	24.078	0	1.365	17575539	2898373	2468	6170	1174	1.57(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.105	24.105	0	1.001	13957978	2223630	1288	3220	1726		
357.8516	24.105	24.105	0	1.001	8716729	1379062	686	1715	2010	1.60(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.028						1288	3220			
357.8516	23.028						686	1715			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.219	30.219	0	0.945	16480224	2723412	4816	12040	565		
385.8610	30.219	30.219	0	0.945	32230097	5242763	8920	22300	588	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.233	30.233	0	1.000	12624235	2155245	3694	9235	583		
375.8178	30.233	30.233	0	1.000	10326541	1805420	3124	7810	578	1.22(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.419	30.419	0	0.952	16612862	2842296	4816	12040	590		
385.8610	30.419	30.419	0	0.952	33029923	5592211	8920	22300	627	0.50(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.445	30.445	0	1.001	13050531	2218678	3694	9235	601		
375.8178	30.432	30.445	-1	1.000	10810408	1828011	3124	7810	585	1.21(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.311	31.311	0	0.980	16174369	3787789	4816	12040	787		
385.8610	31.311	31.311	0	0.980	31507246	7331569	8920	22300	822	0.51(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.337	31.337	0	1.001	12830516	2940720	3694	9235	796		
375.8178	31.337	31.337	0	1.001	10652553	2439972	3124	7810	781	1.20(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.149	32.149	0	1.006	15279381	3949309	4816	12040	820		
385.8610	32.149	32.149	0	1.006	30525370	7883613	8920	22300	884	0.50(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.162	32.162	0	1.000	12381430	3156917	3694	9235	855		
375.8178	32.162	32.162	0	1.000	10344869	2658730	3124	7810	851	1.20(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.913						3694	9235			
375.8178	29.913						3124	7810			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.963	31.963	0		28474553	7045598	4524	11310	1557		
403.8529	31.963	31.963	0		22759628	5716560	3594	8985	1591	1.25(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.510	31.510	0	0.986	22106127	5725208	4524	11310	1266		
403.8529	31.510	31.510	0	0.986	17380708	4438603	3594	8985	1235	1.27(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.537	31.537	0	1.001	10914962	2688116	2124	5310	1266		
391.8127	31.524	31.537	-1	1.000	8726811	2139745	1756	4390	1219	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.630	31.630	0	0.990	24799847	5698373	4524	11310	1260		
403.8529	31.630	31.630	0	0.990	19451259	4466020	3594	8985	1243	1.27(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.643	31.643	0	1.000	11238210	2772353	2124	5310	1305		
391.8127	31.643	31.643	0	1.000	8967889	2184980	1756	4390	1244	1.25(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.976	31.976	0	1.015	12649263	3188718	2124	5310	1501		
391.8127	31.976	31.976	0	1.015	10242921	2611473	1756	4390	1487	1.23(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.518						2124	5310			
391.8127	30.518						1756	4390			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.606	33.606	0	1.051	11737479	3846396	14140	35350	272		
419.8220	33.606	33.606	0	1.051	26491792	8596930	26138	65345	329	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.618	33.618	0	1.000	13659818	4488511	10373	25932	433		
409.7789	33.618	33.618	0	1.000	13203081	4281661	9760	24400	439	1.03(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.675	34.675	0	1.085	10024775	2808031	14140	35350	199		
419.8220	34.675	34.675	0	1.085	23142695	6506242	26138	65345	249	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.675	34.675	0	1.000	10580936	2956703	10373	25932	285		
409.7789	34.675	34.675	0	1.000	10111004	2868871	9760	24400	294	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.152						10373	25932			
409.7789	34.152						9760	24400			

Report Date: 14-Jan-2020 13:34:23 Chrom Revision: 2.3 23-Dec-2019 10:12:06
Data File: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_15.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.383	34.383	0	1.076	17335008	5064652	6234	15585	812		
437.8140	34.383	34.383	0	1.076	16322961	4851071	5879	14697	825	1.06(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.396	34.396	0	1.000	8728625	2604334	3604	9010	723		
425.7737	34.396	34.396	0	1.000	8343020	2497616	3647	9117	685	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.134						3604	9010			
425.7737	34.134						3647	9117			
13C-OCDD											
469.7779	36.698	36.698	0	1.148	23680334	5969537	2211	5527	2700		
471.7750	36.698	36.698	0	1.148	26205742	6579680	2031	5077	3240	0.90(0.76-1.02)	
OCDF											
441.7428	36.794	36.794	0	1.003	14832312	3790452	1002	2505	3783		
443.7399	36.782	36.794	-1	1.002	16644396	4138444	1325	3312	3123	0.89(0.76-1.02)	
OCDD											
457.7377	36.698	36.698	0	1.000	13028074	3332642	1033	2582	3226		
459.7348	36.698	36.698	0	1.000	14554974	3750394	1002	2505	3743	0.90(0.76-1.02)	

Reagents:

HRDXNL4_00085 Amount Added: 2.00 Units: uL

Report Date: 14-Jan-2020 13:34:23 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_15.d		
Injection Date:	13-Jan-2020 23:38:36	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	350523	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

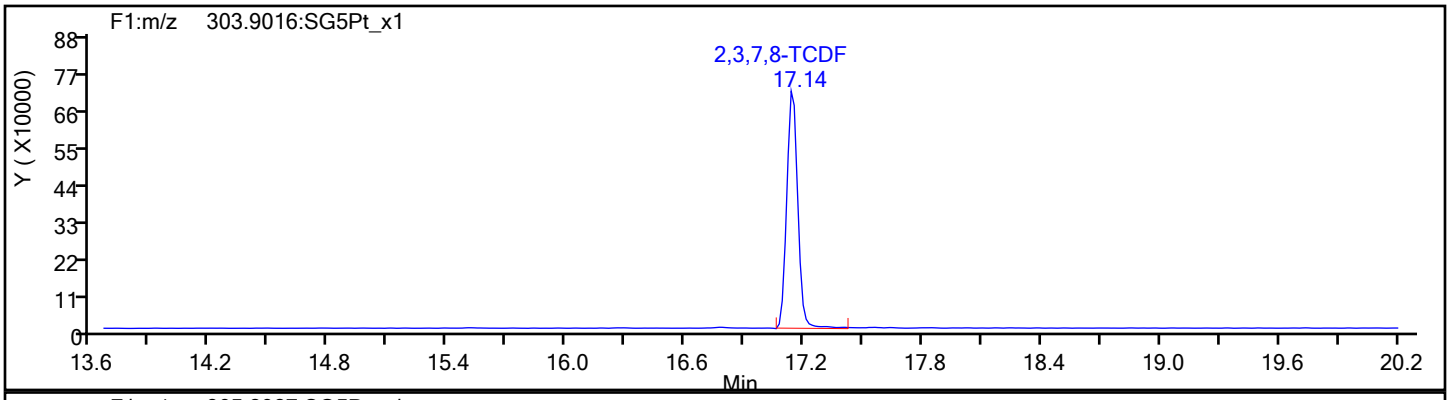

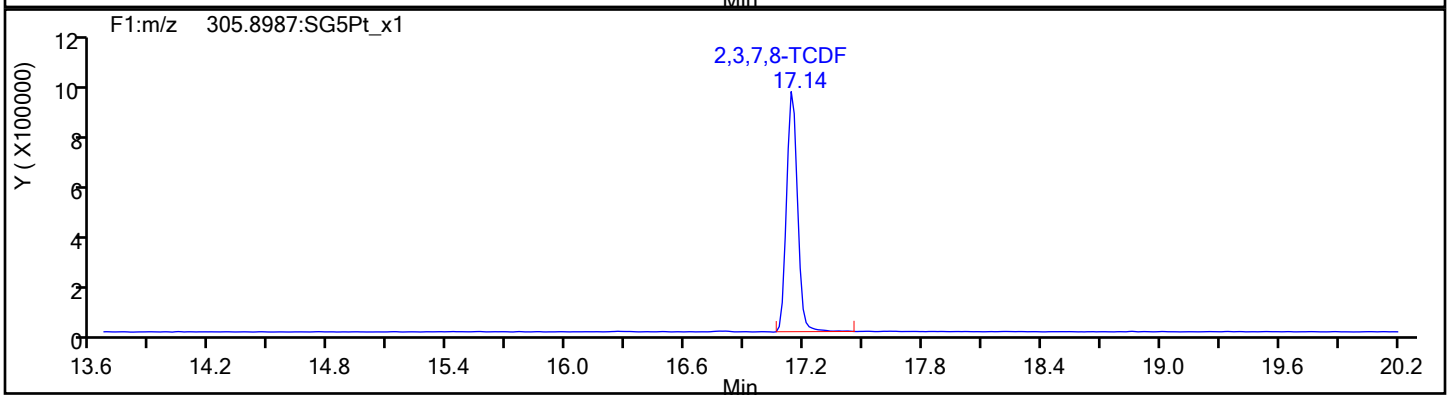

TCDF Standards

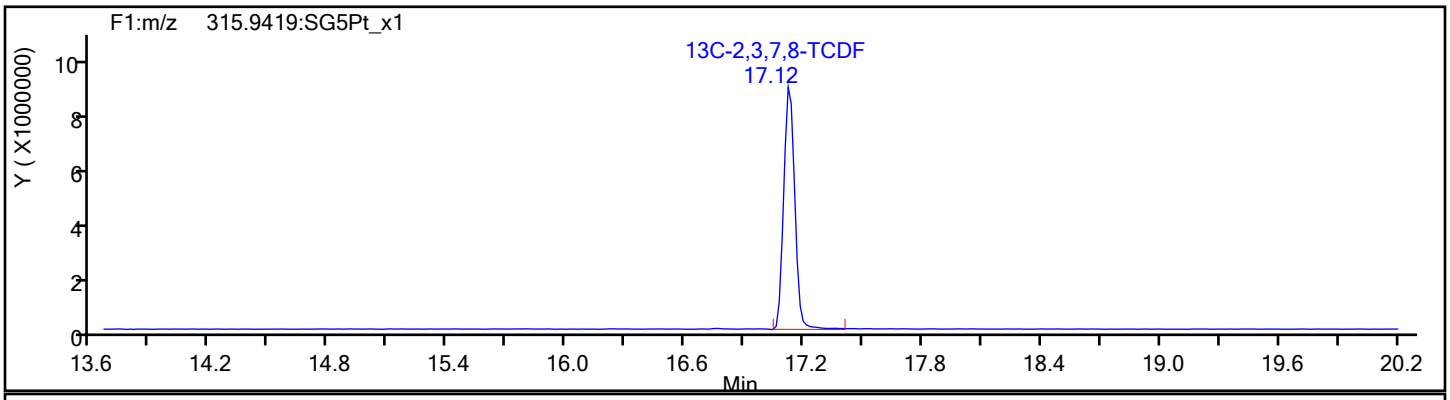

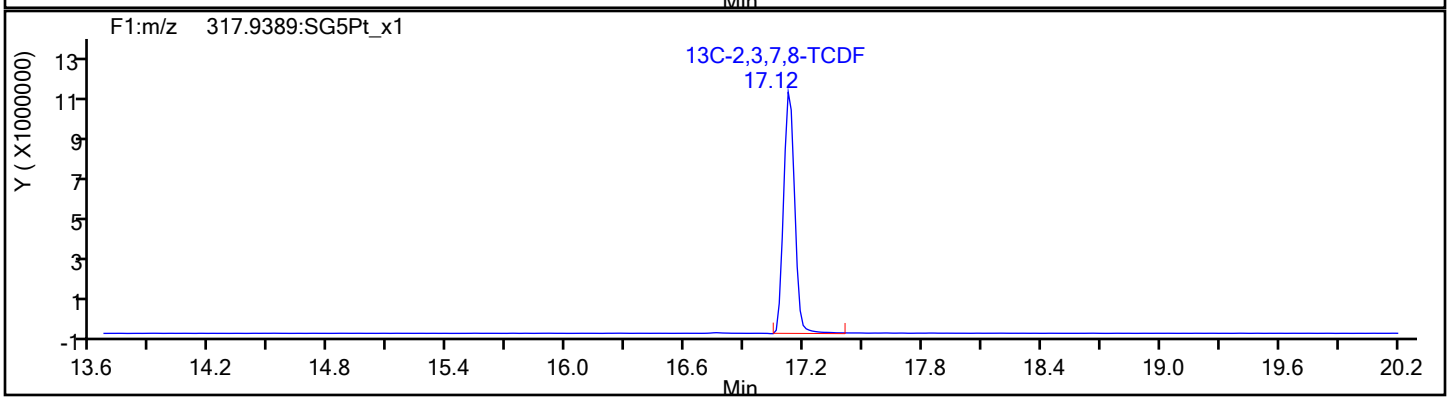

Report Date: 14-Jan-2020 13:34:23 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_15.d		
Injection Date:	13-Jan-2020 23:38:36	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	350523	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

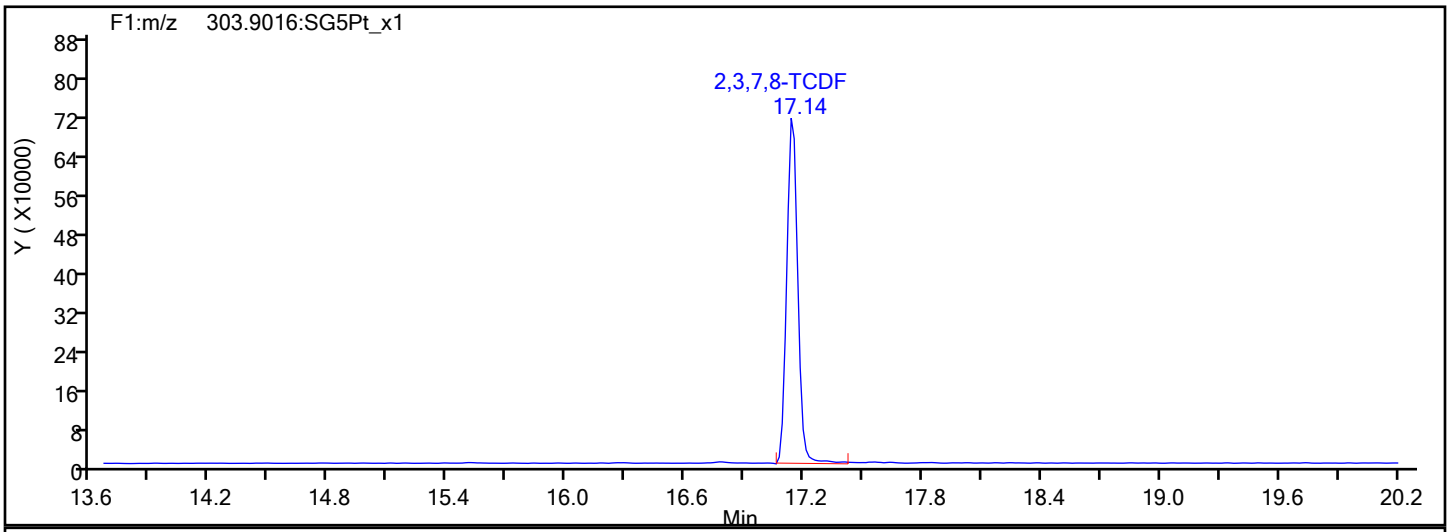

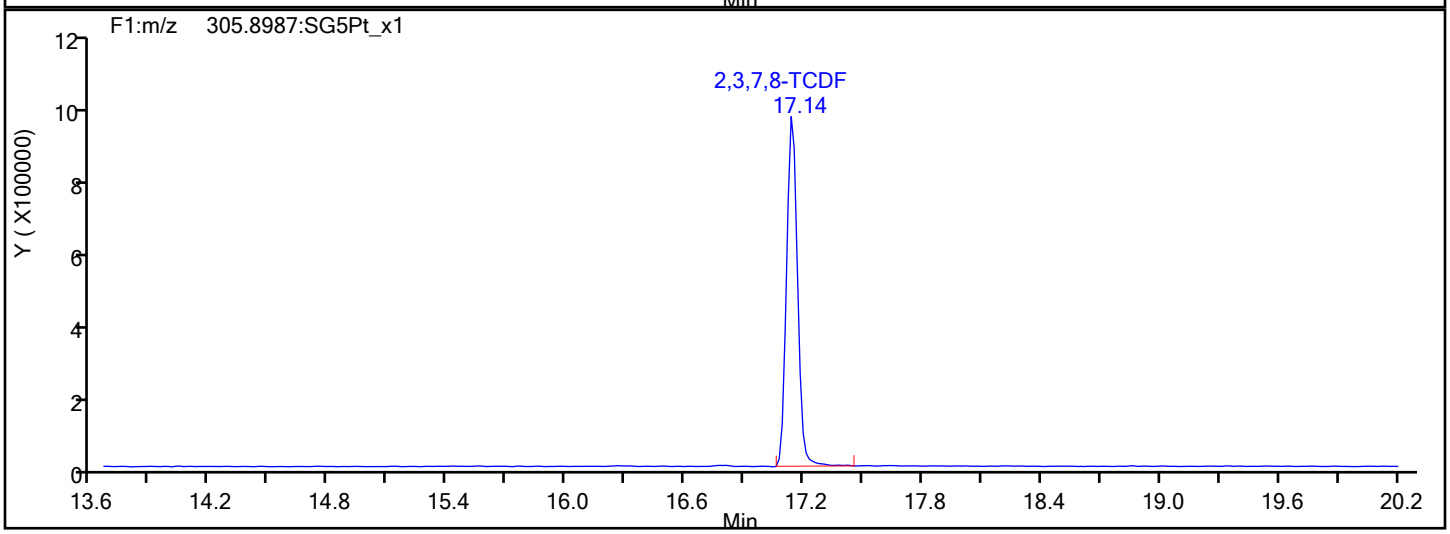

TCDF Interference Mass

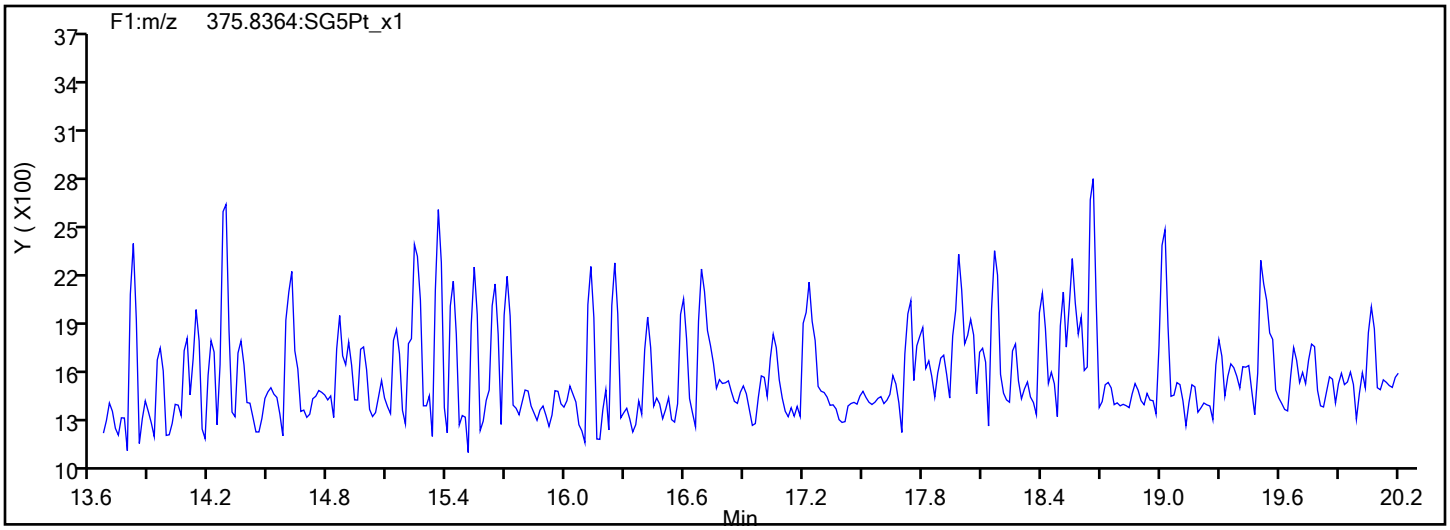

Report Date: 14-Jan-2020 13:34:23 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_15.d		
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Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

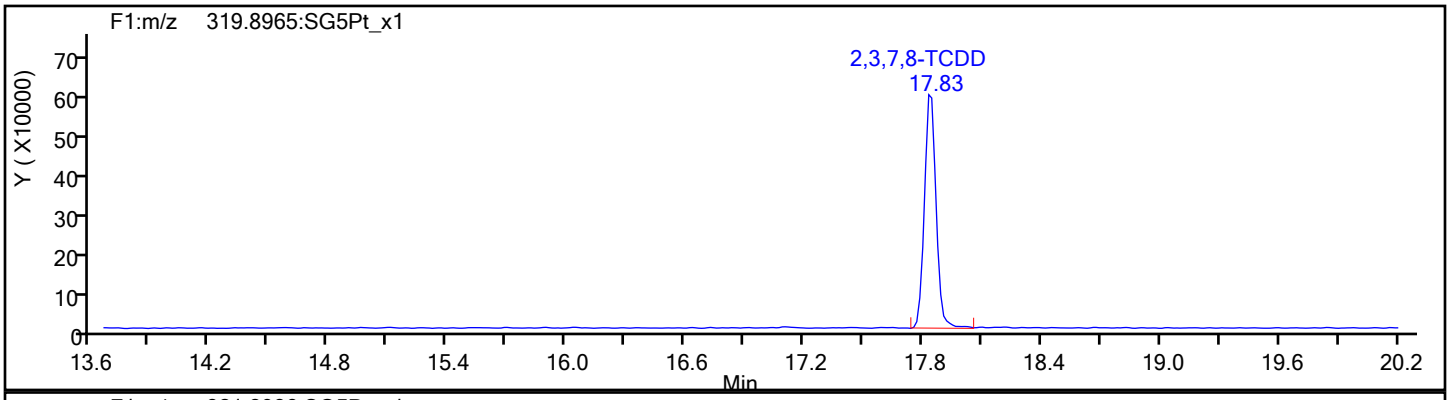

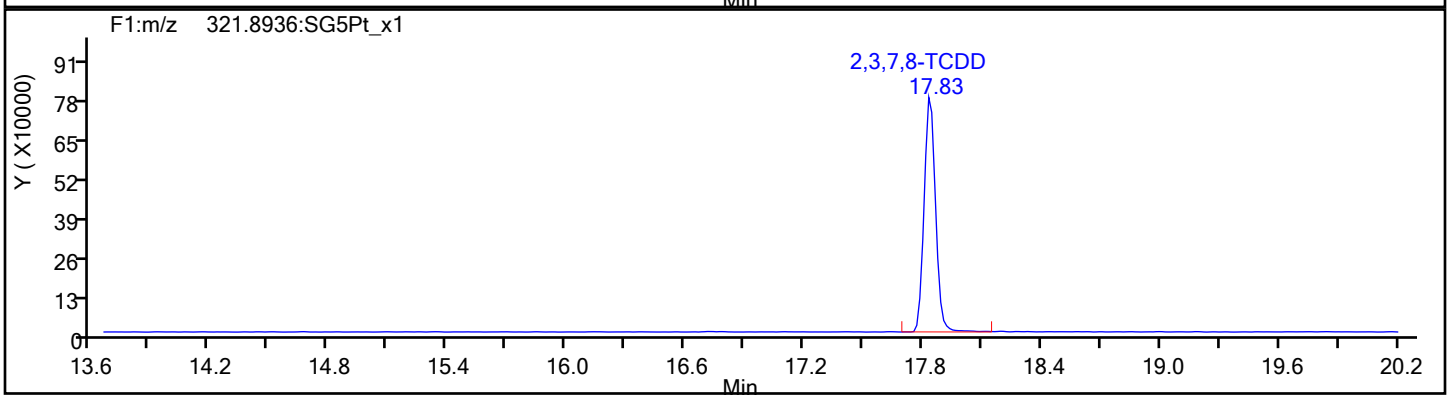

TCDD Standards

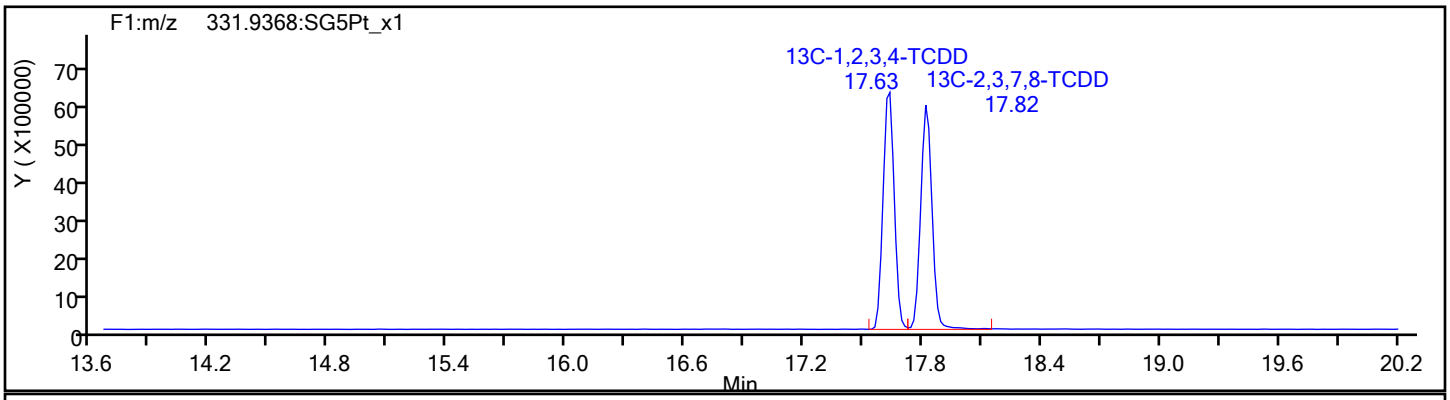

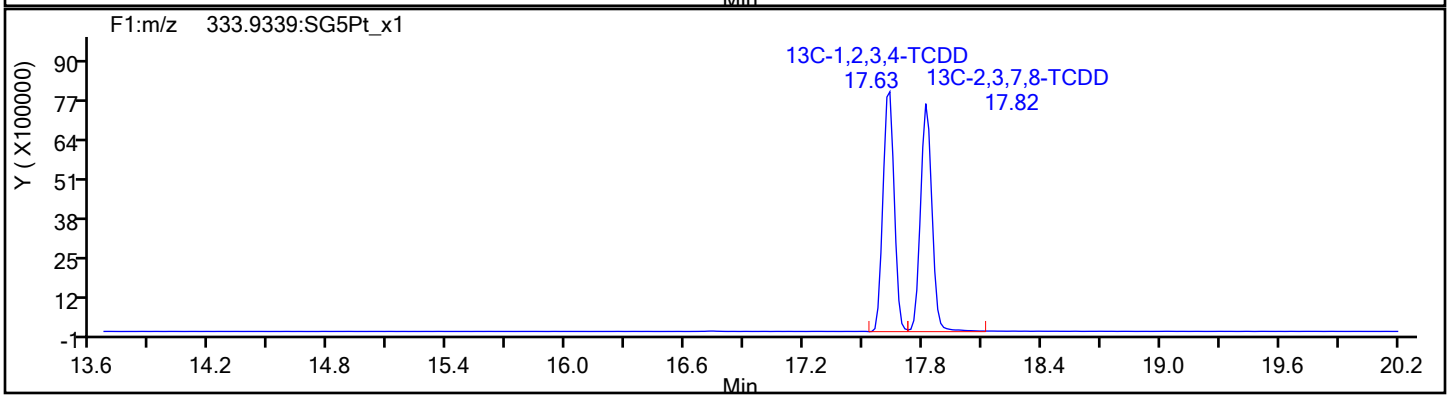

Report Date: 14-Jan-2020 13:34:23 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

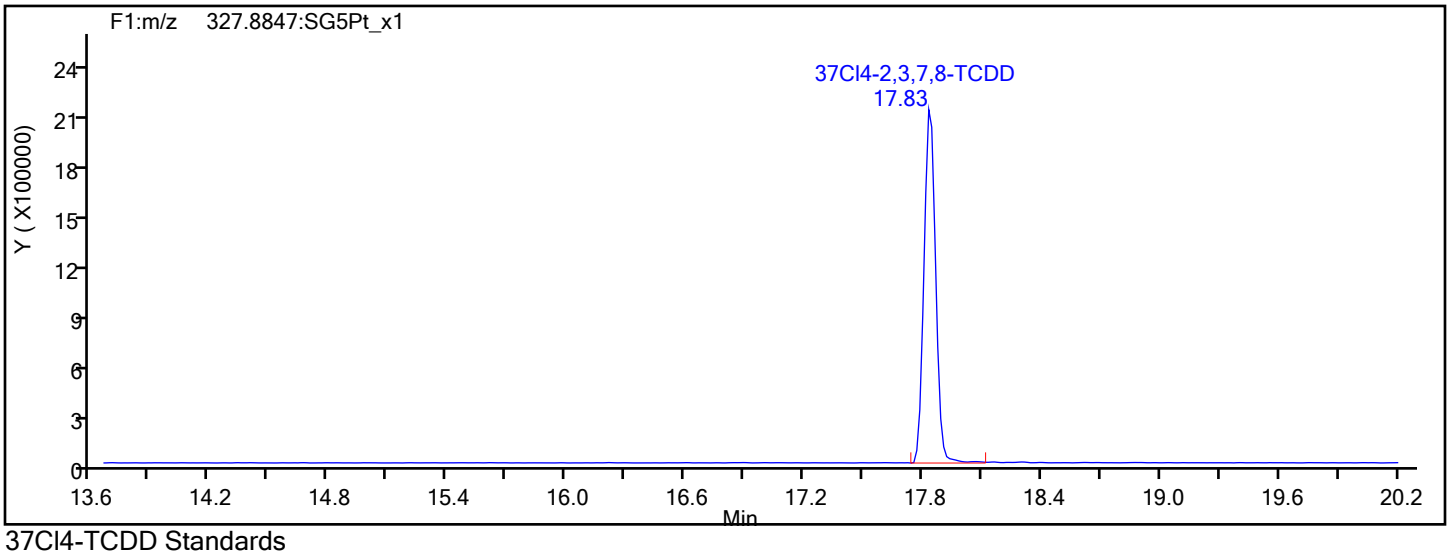

37Cl4-TCDD Standards

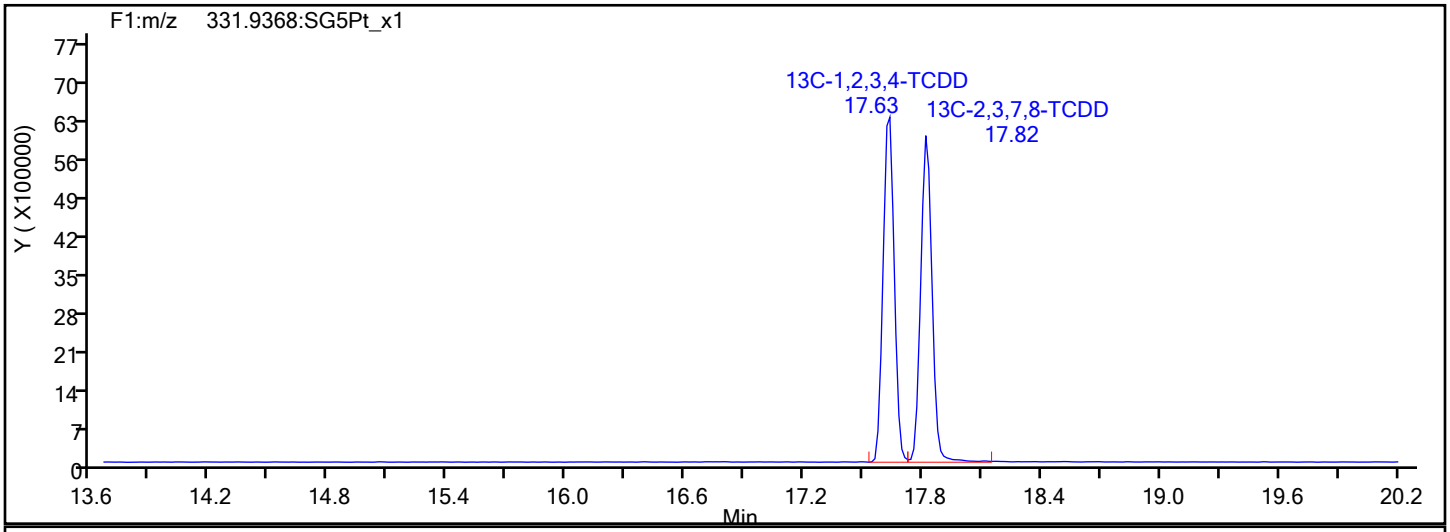

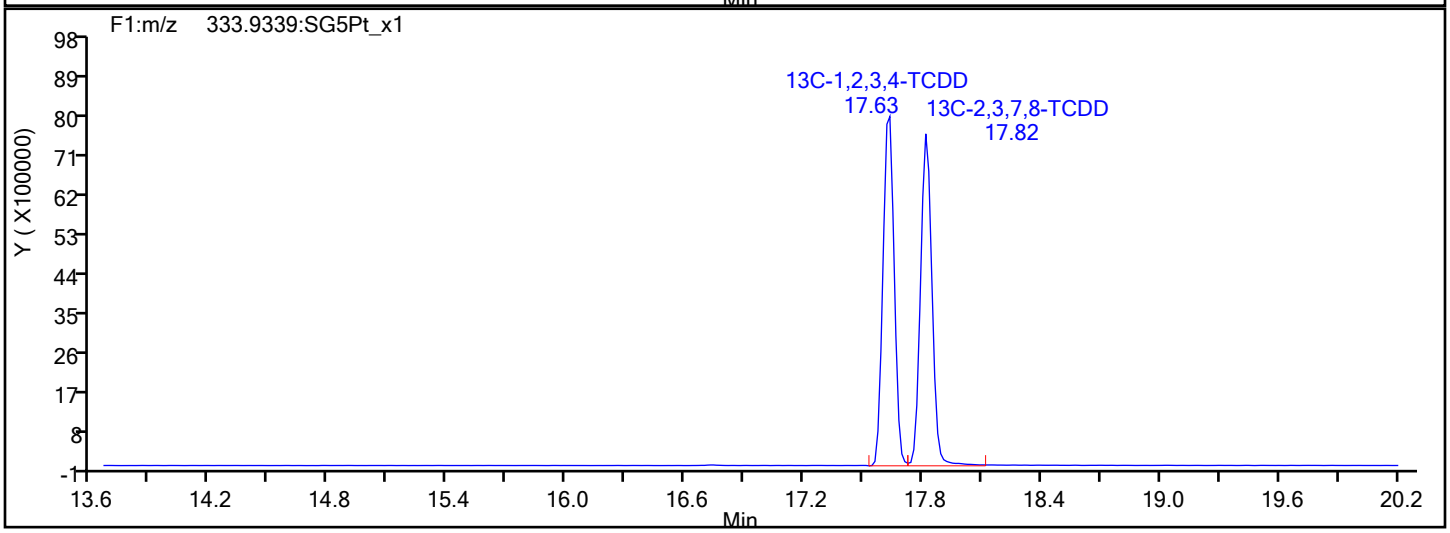

Report Date: 14-Jan-2020 13:34:24 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

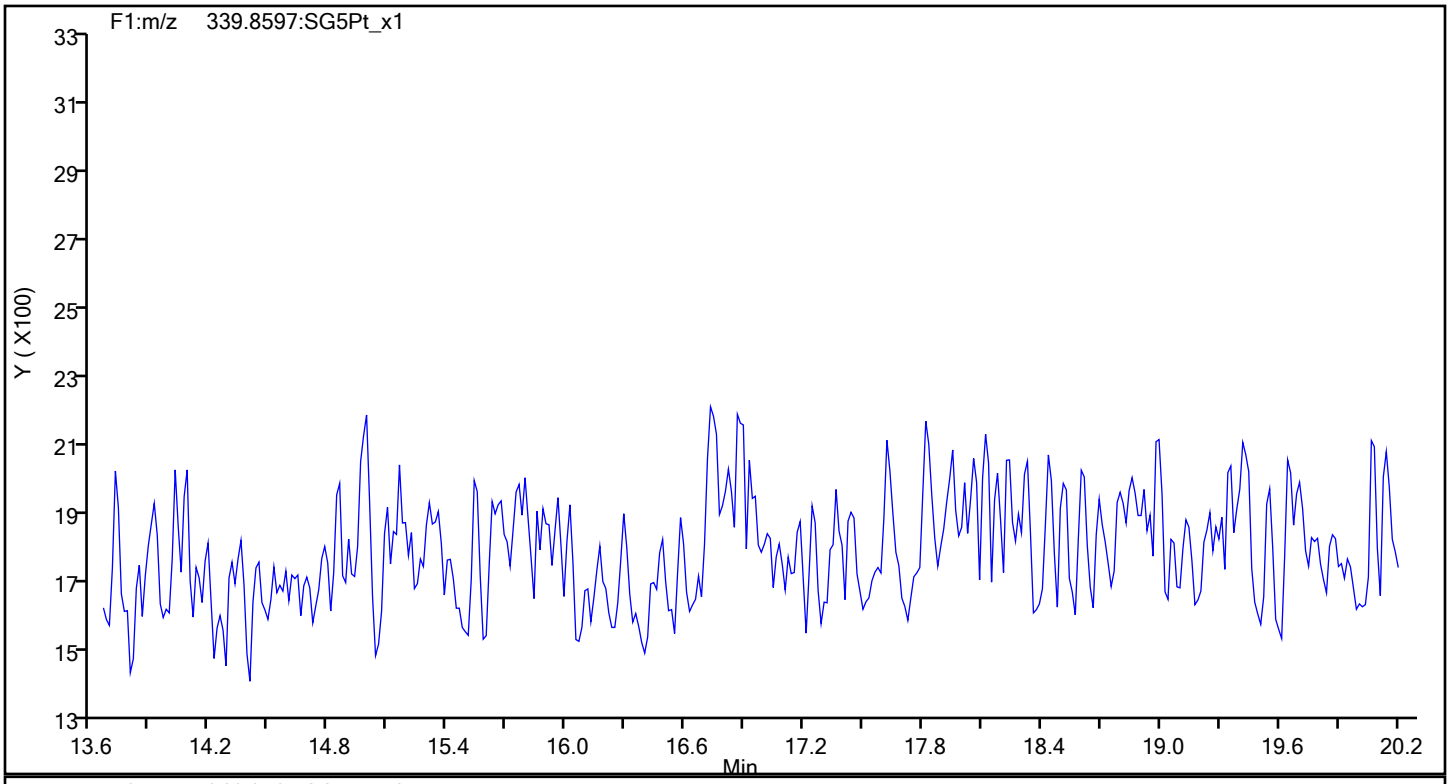

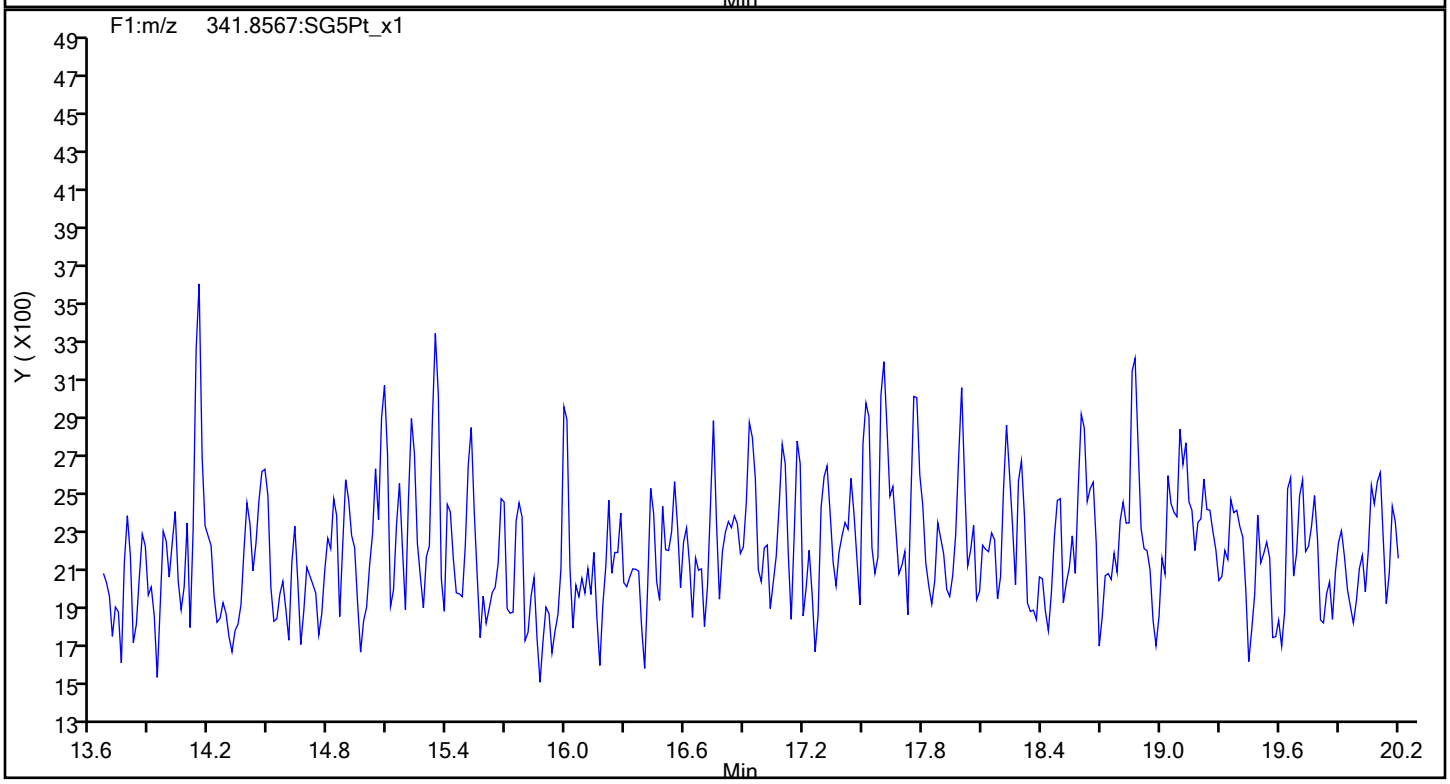

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

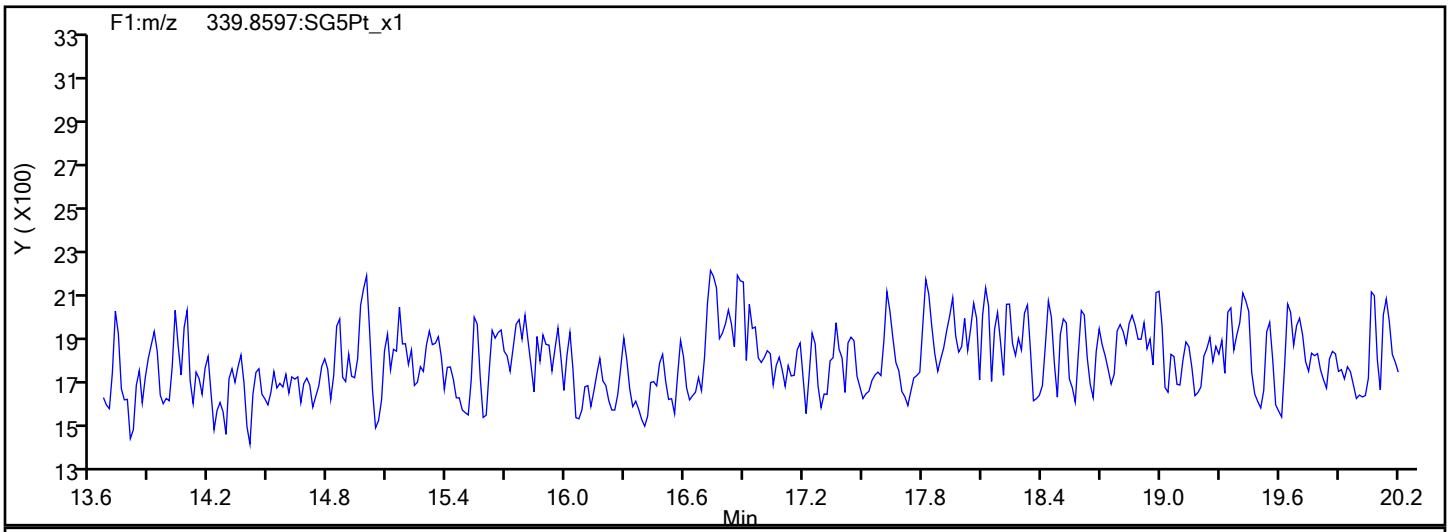

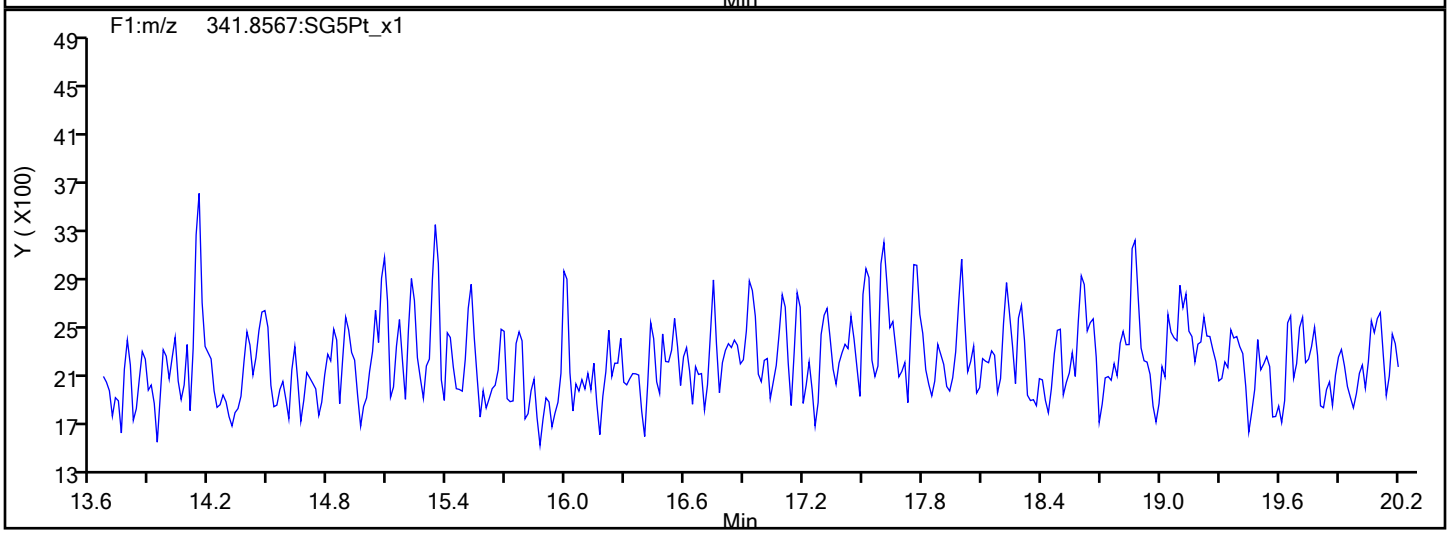

F1 PeCDFs Interference Mass

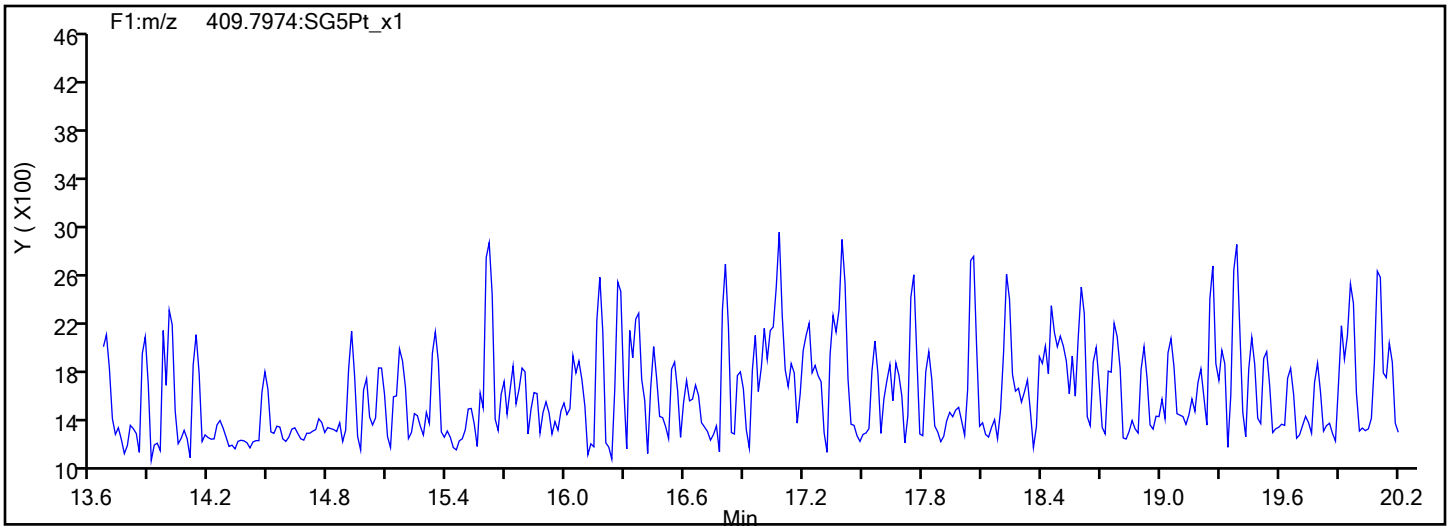

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Eurofins TestAmerica, Sacramento

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PeCDF

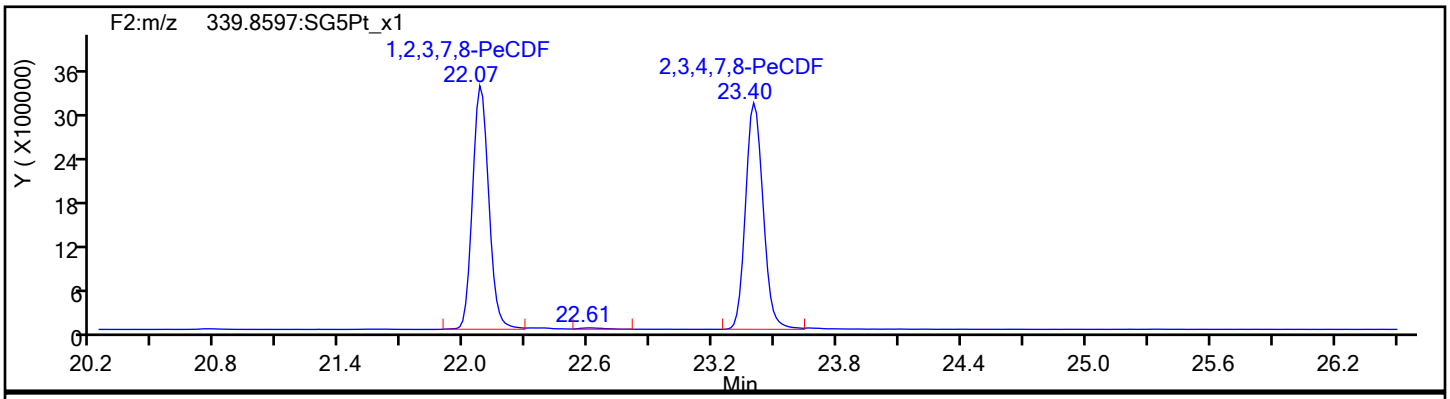

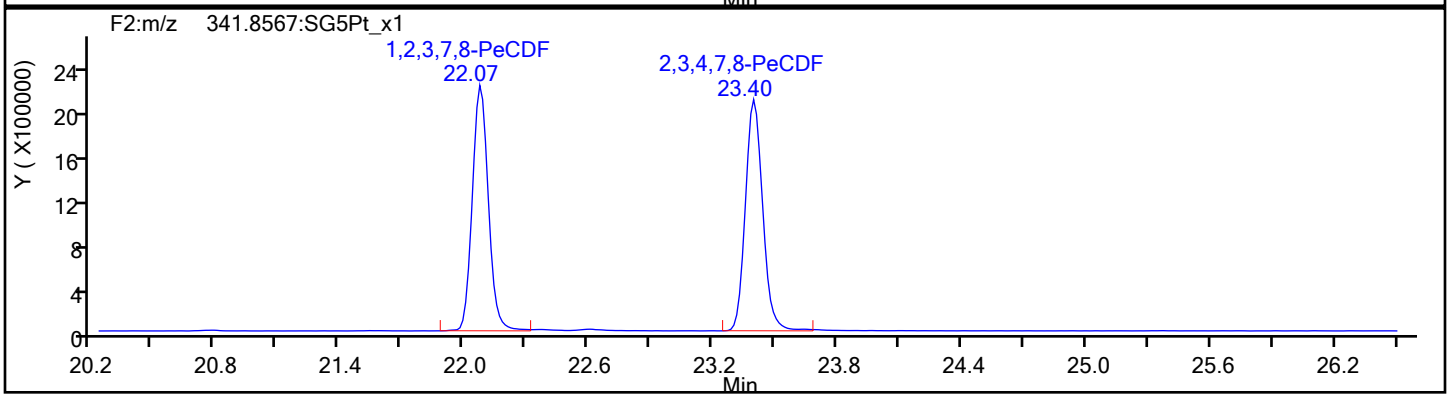

PeCDF Standards

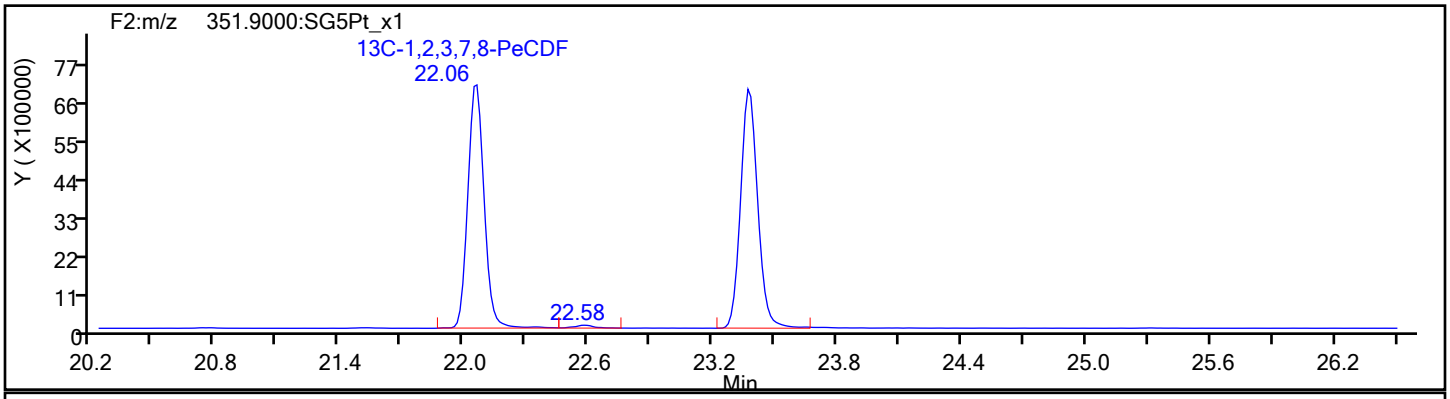

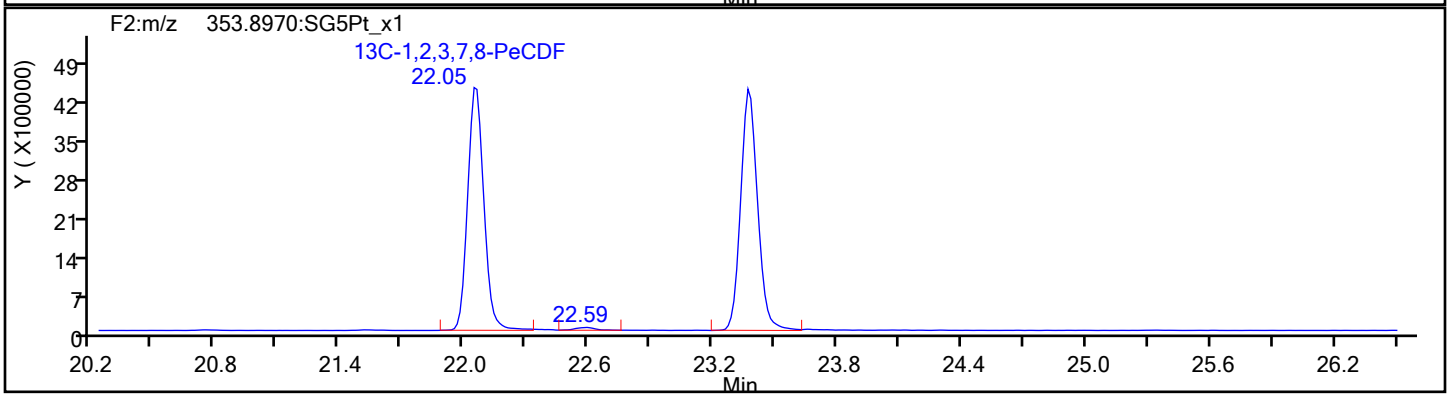

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Eurofins TestAmerica, Sacramento

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PeCDF

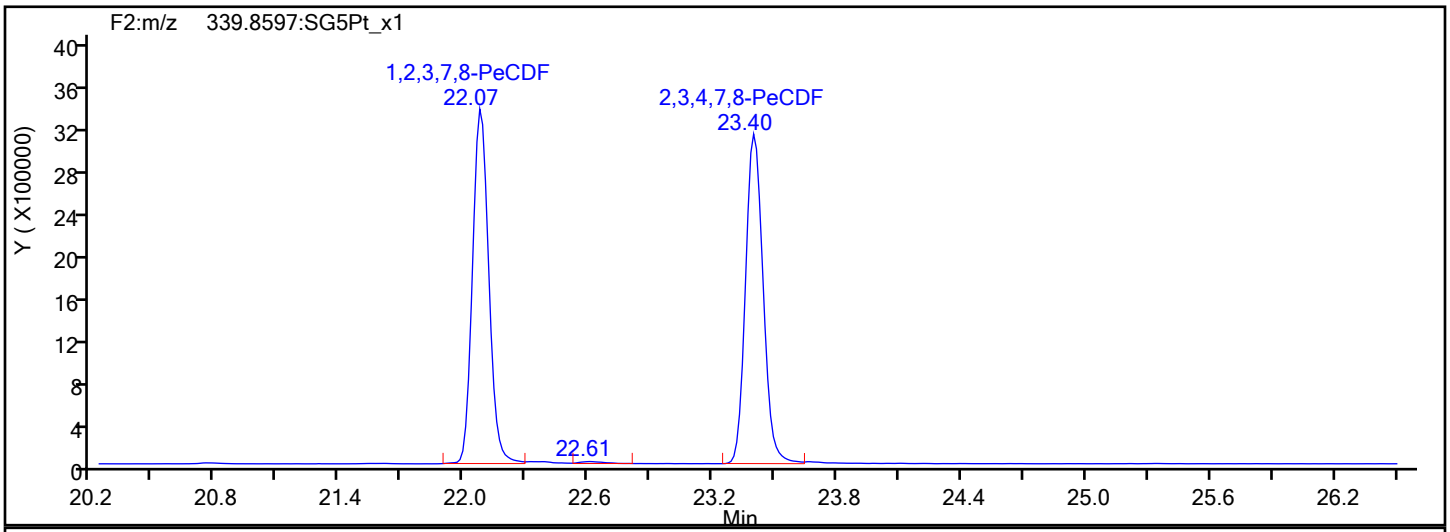

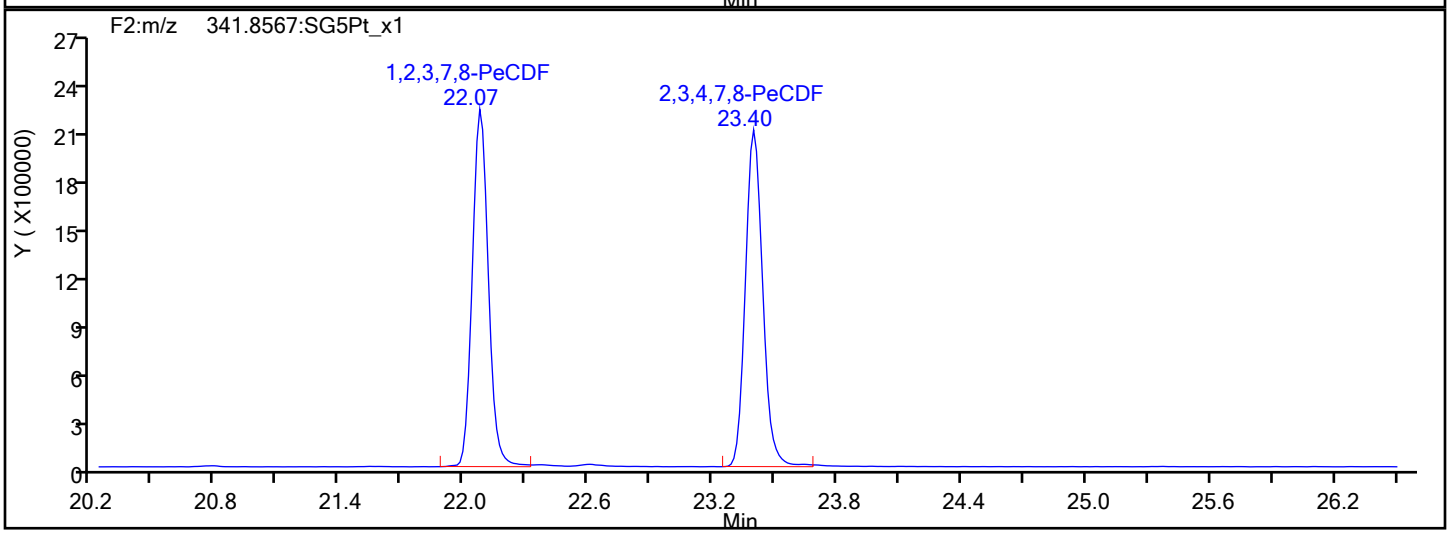

PeCDF Interference Mass

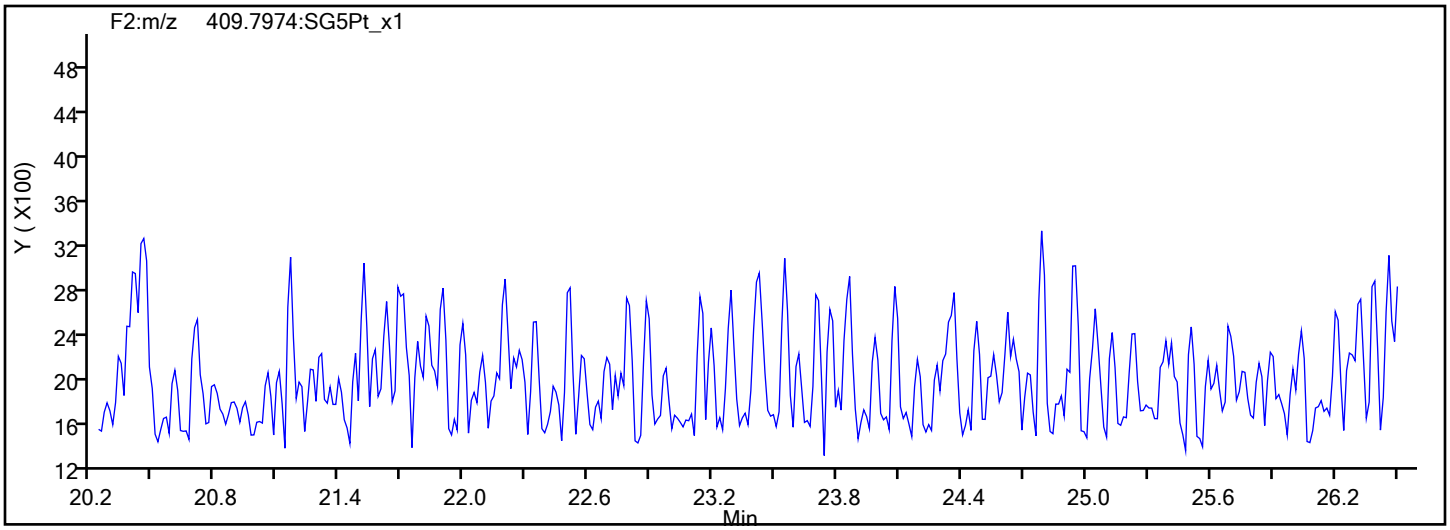

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Eurofins TestAmerica, Sacramento

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PeCDD

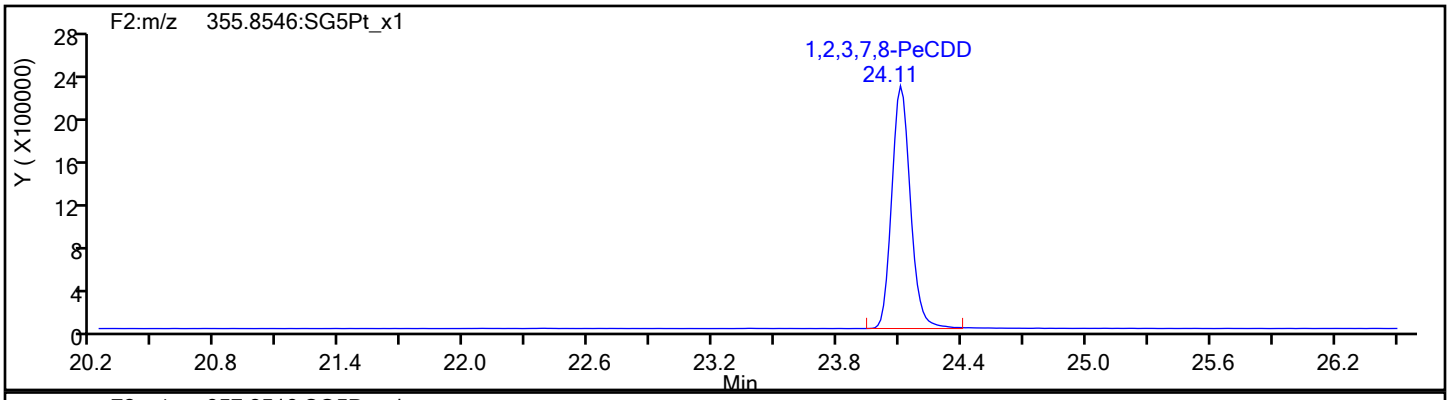

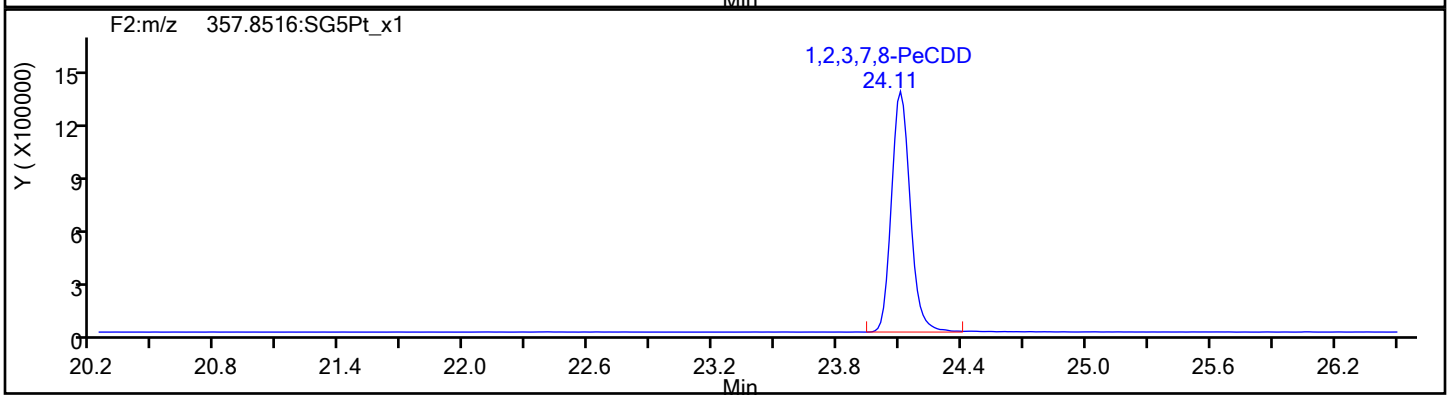

PeCDD Standards

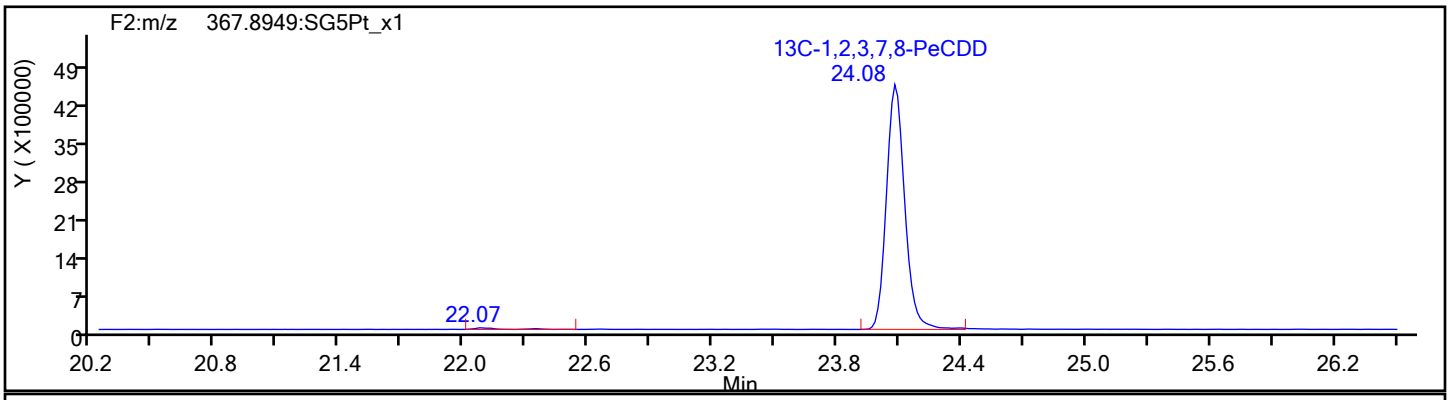

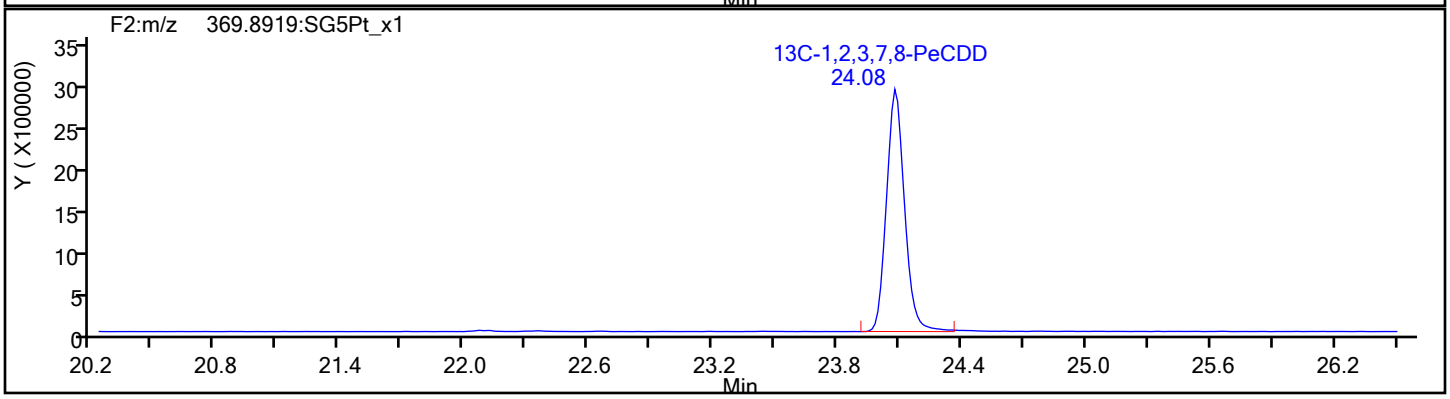

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Eurofins TestAmerica, Sacramento

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HxCDF

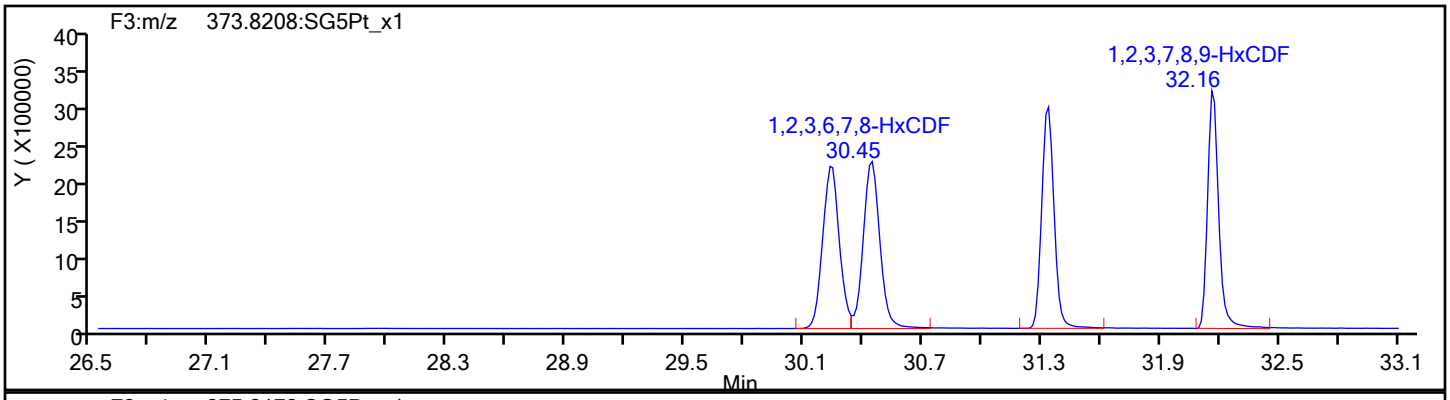

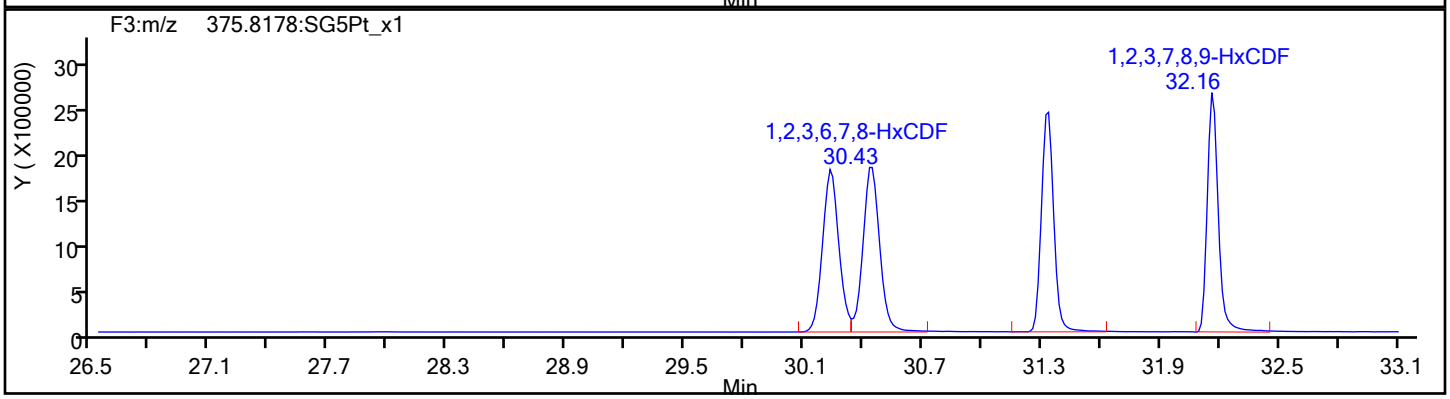

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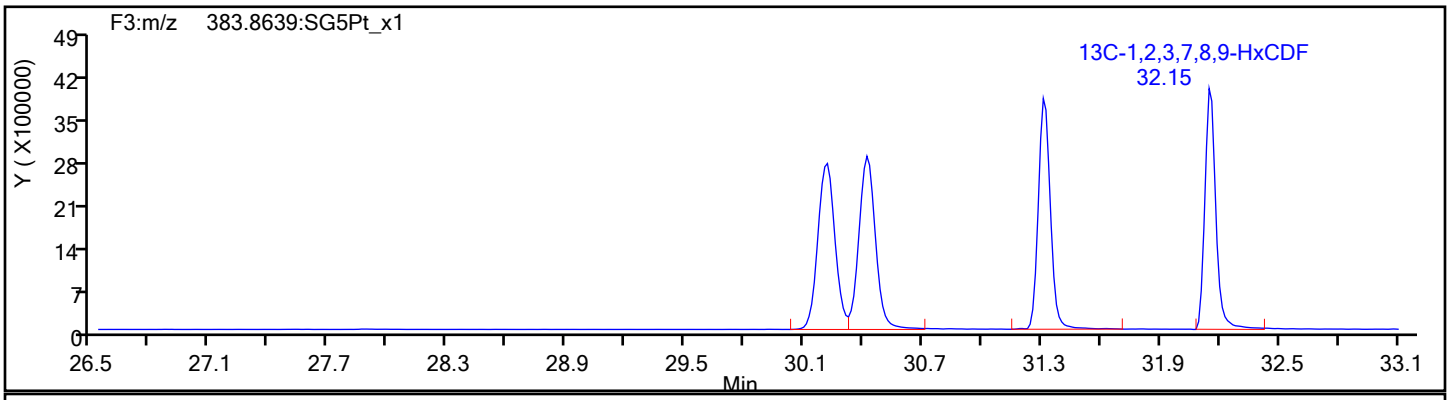

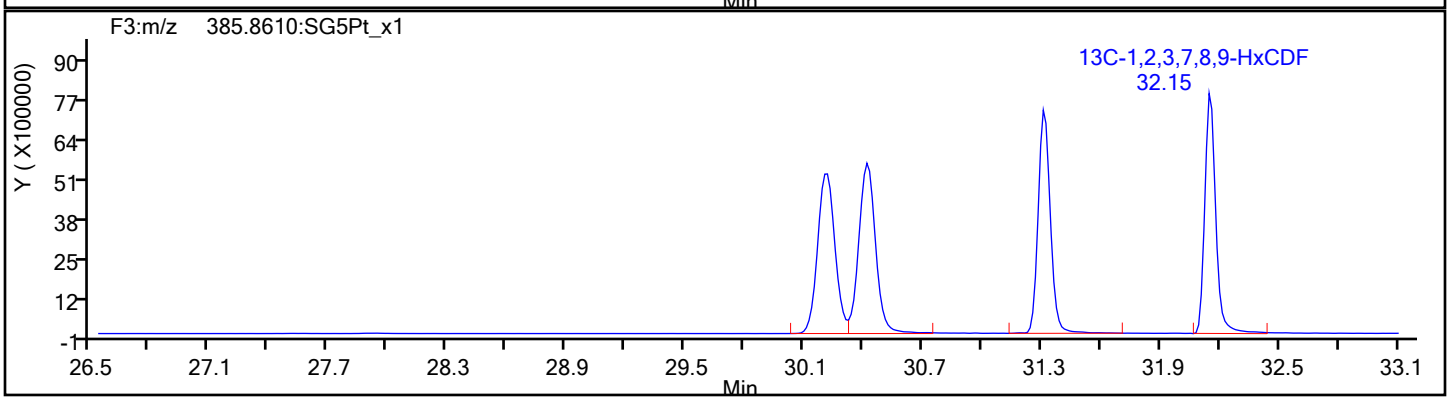

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Eurofins TestAmerica, Sacramento

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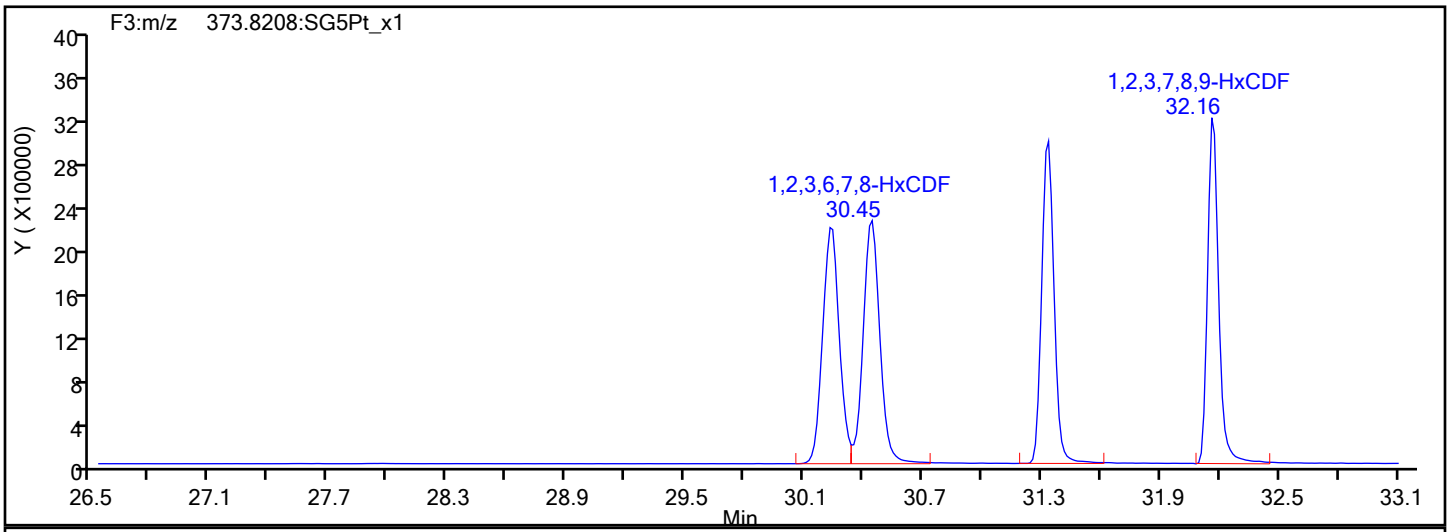

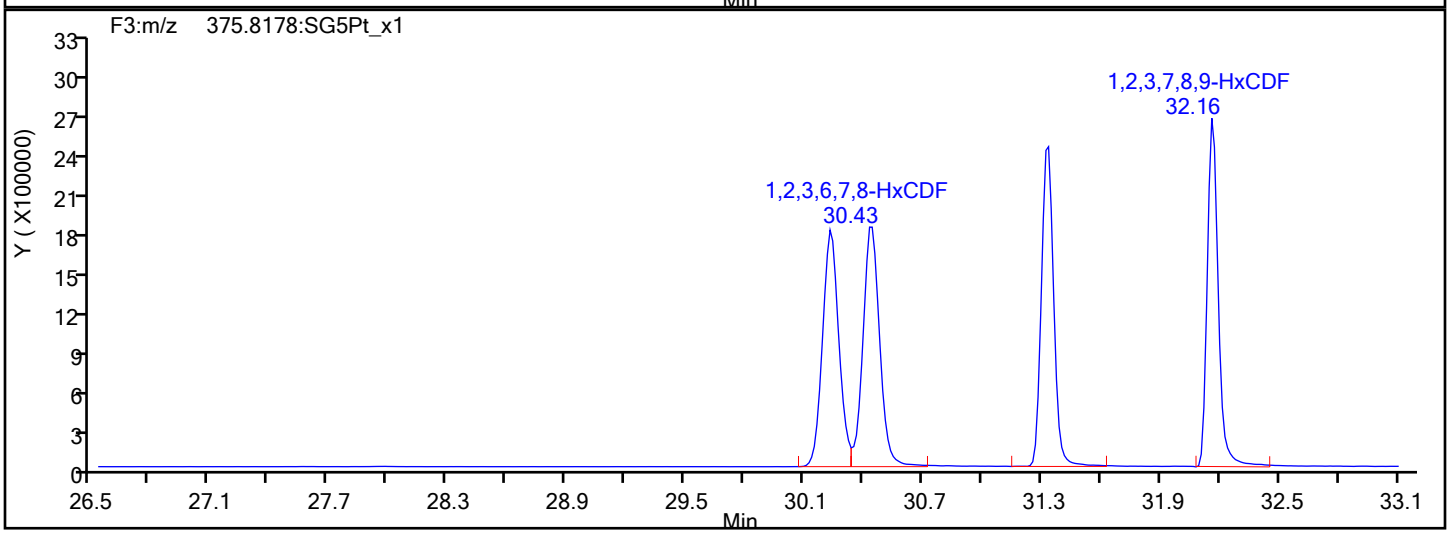

HxCDF Interference Mass

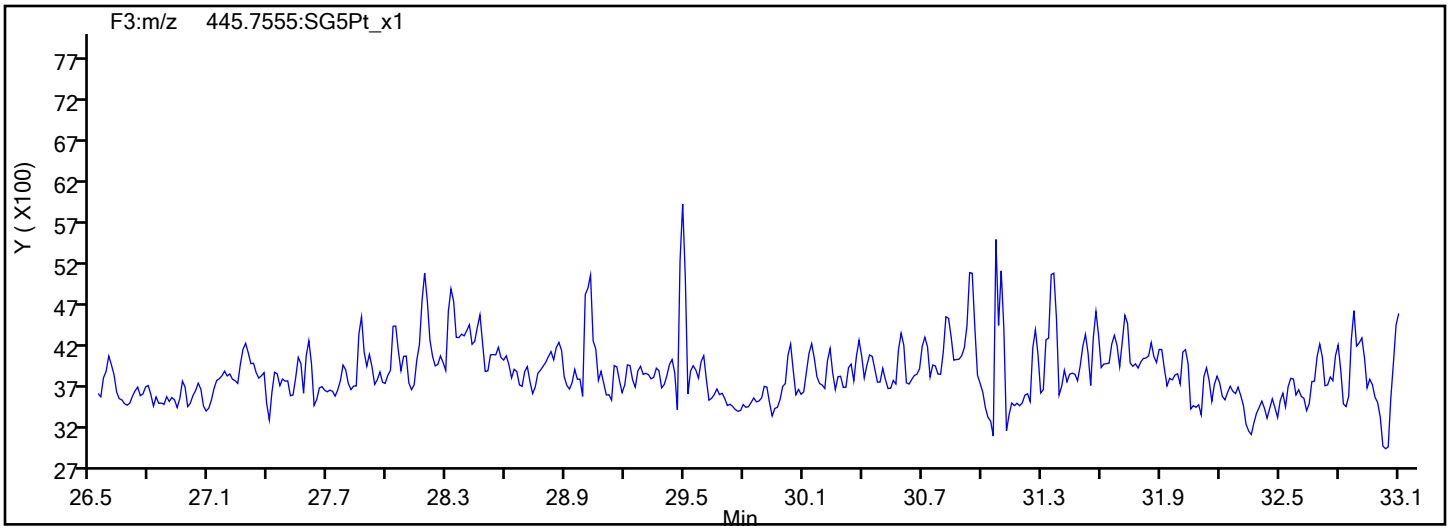

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HxCDD

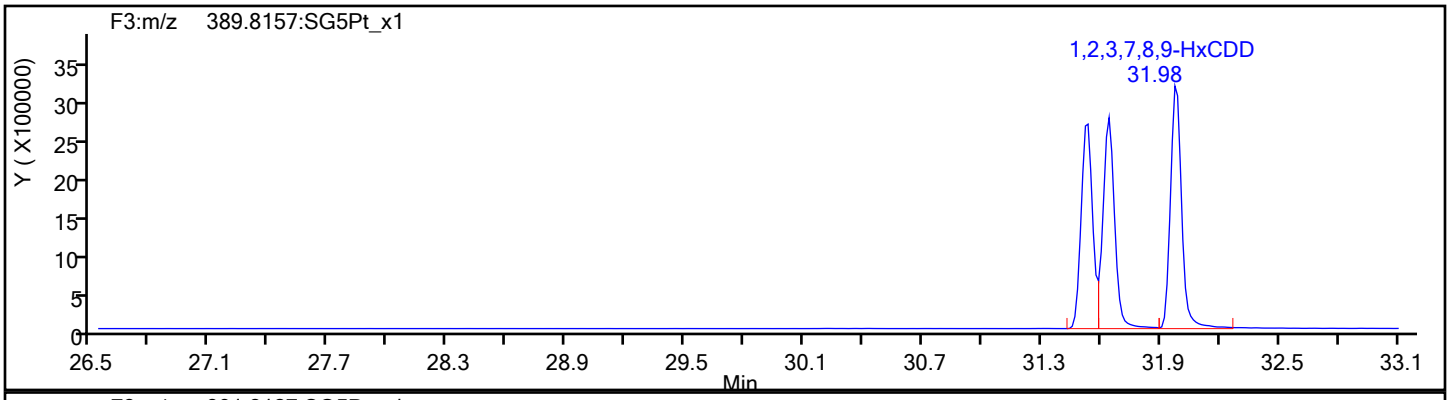

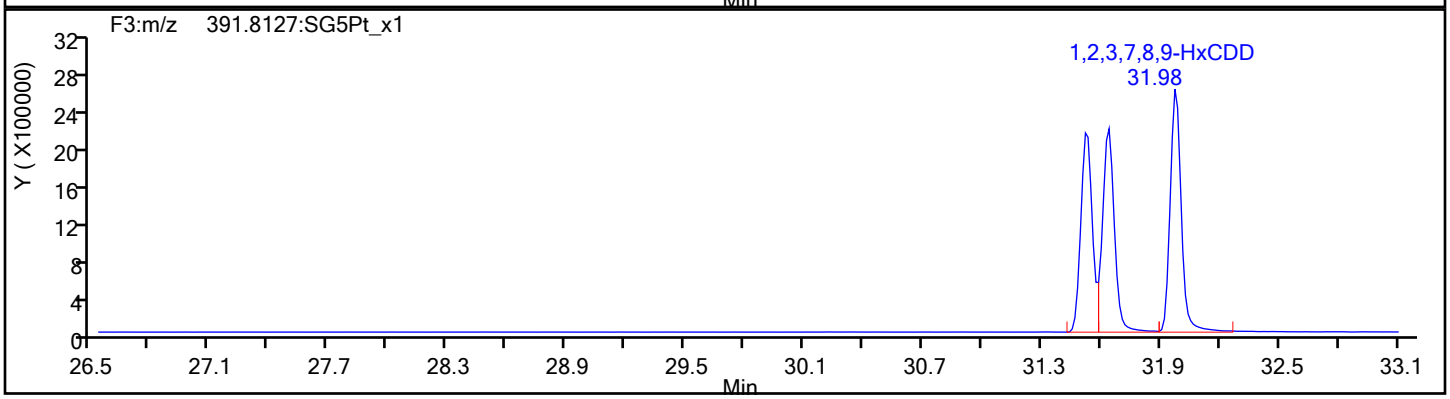

HxCDD Standards

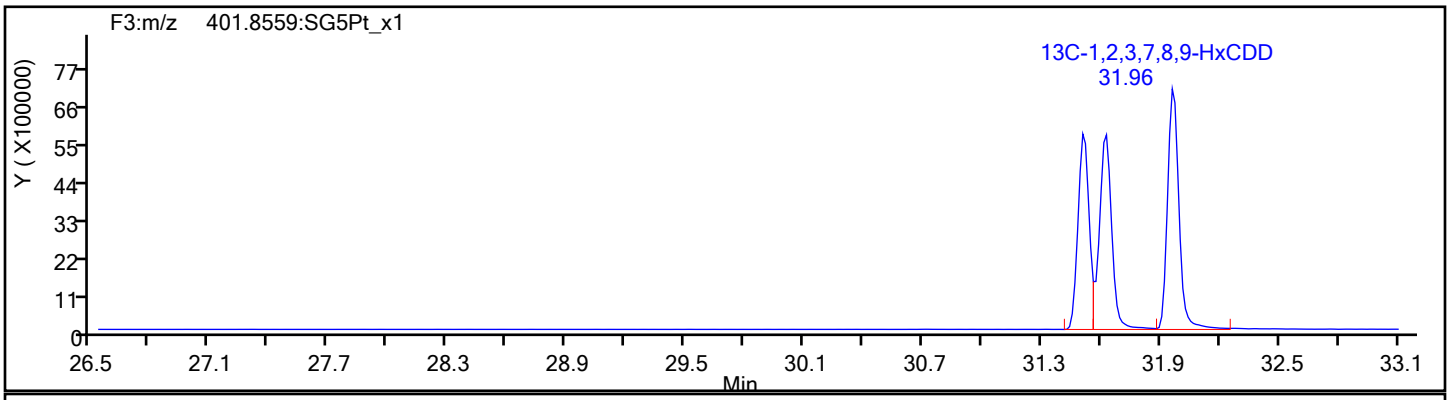

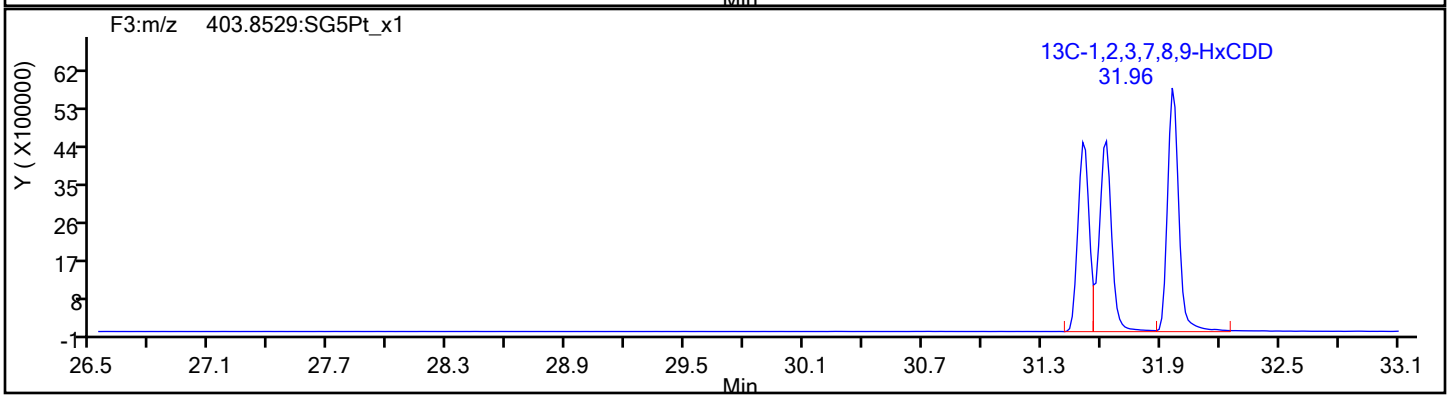

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Eurofins TestAmerica, Sacramento

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HpCDF

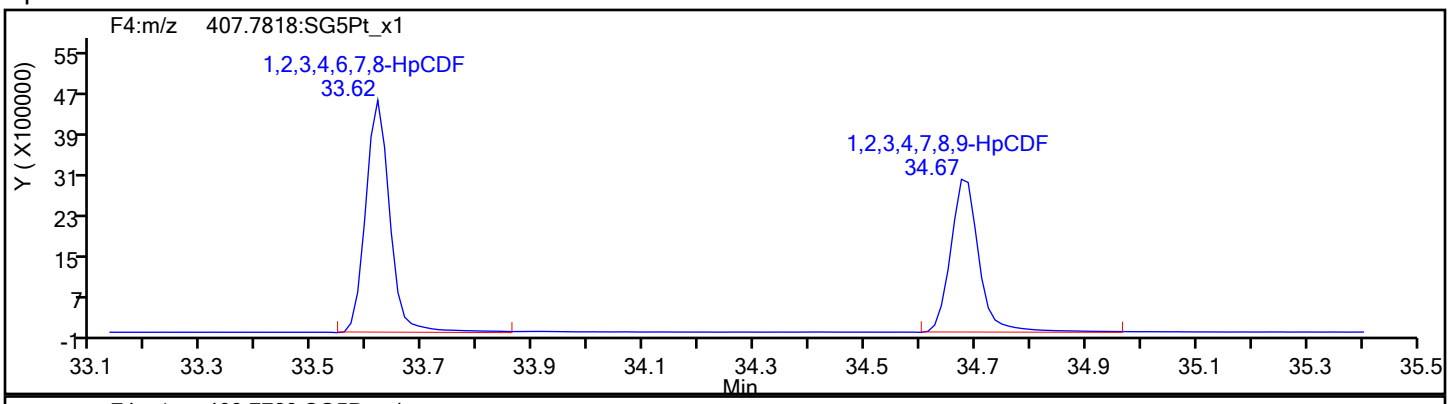

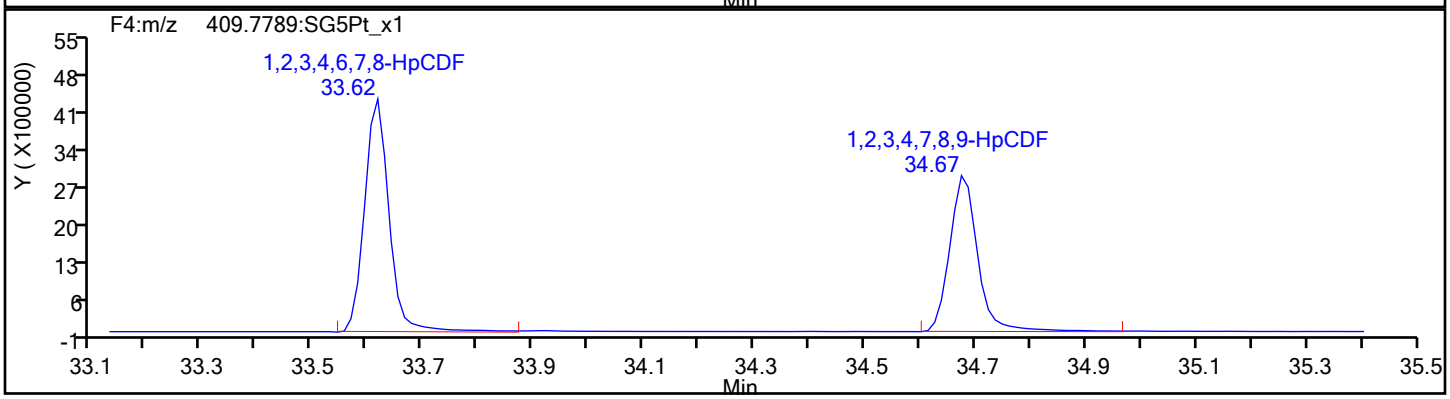

HpCDF Standards

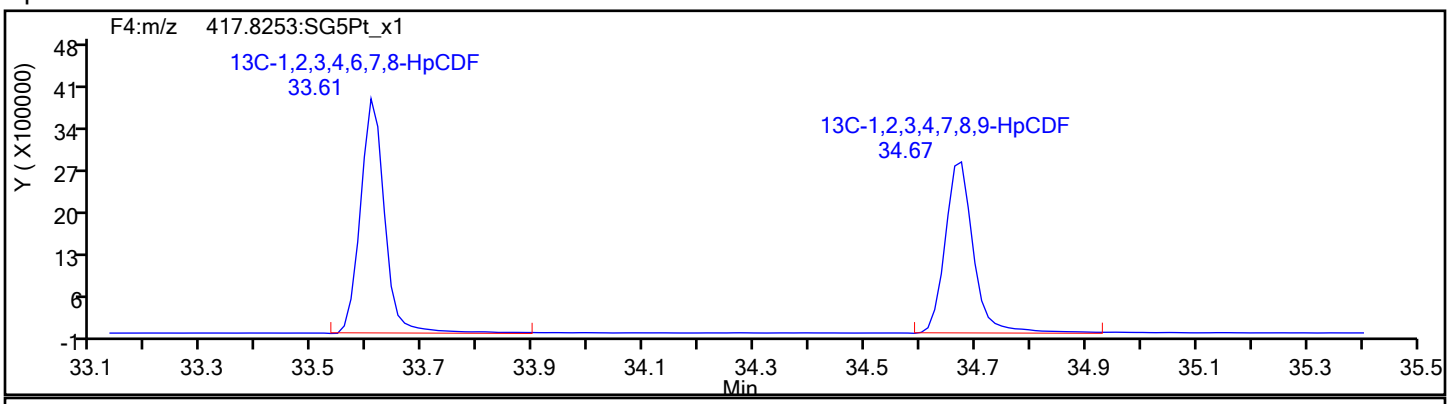

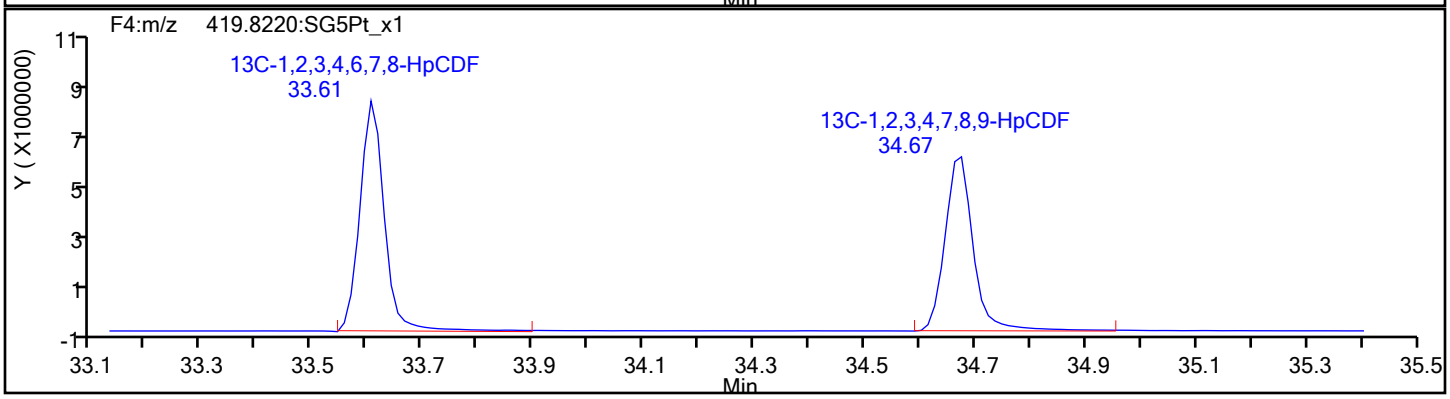

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Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

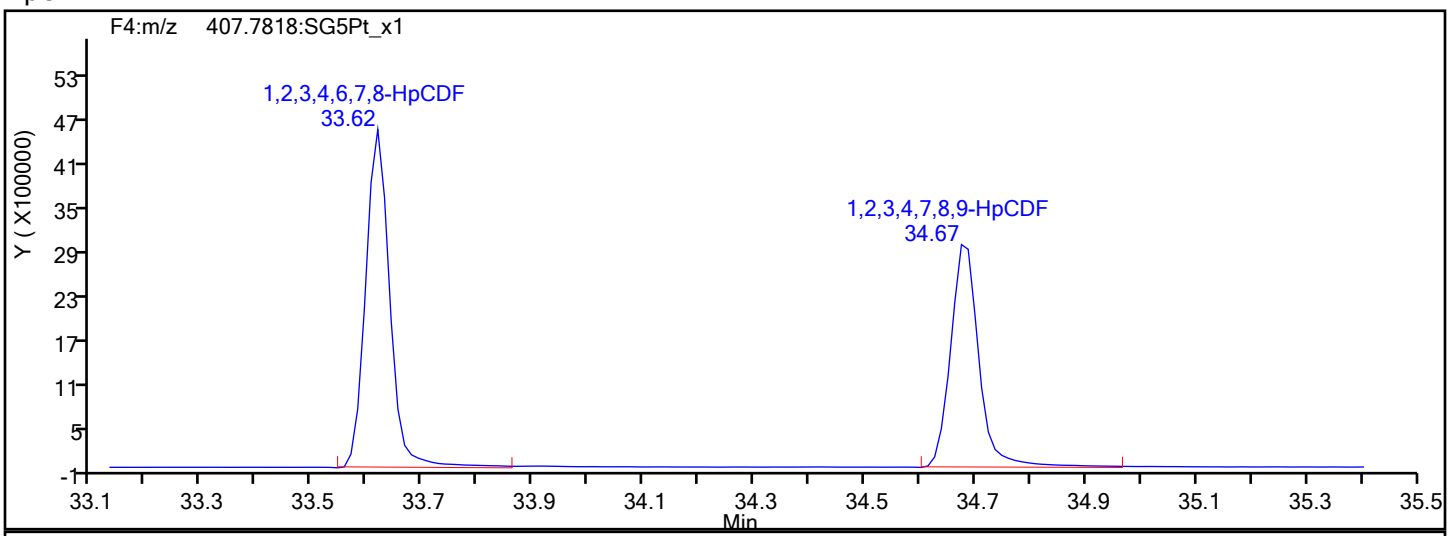

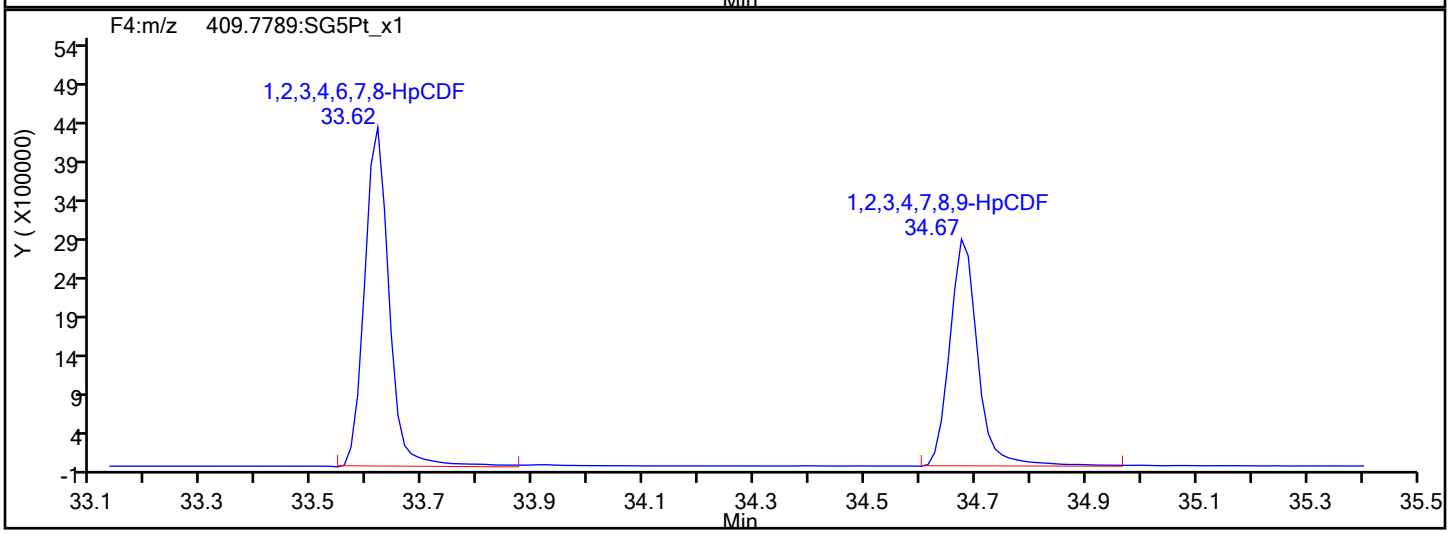

HpCDF Interference Mass

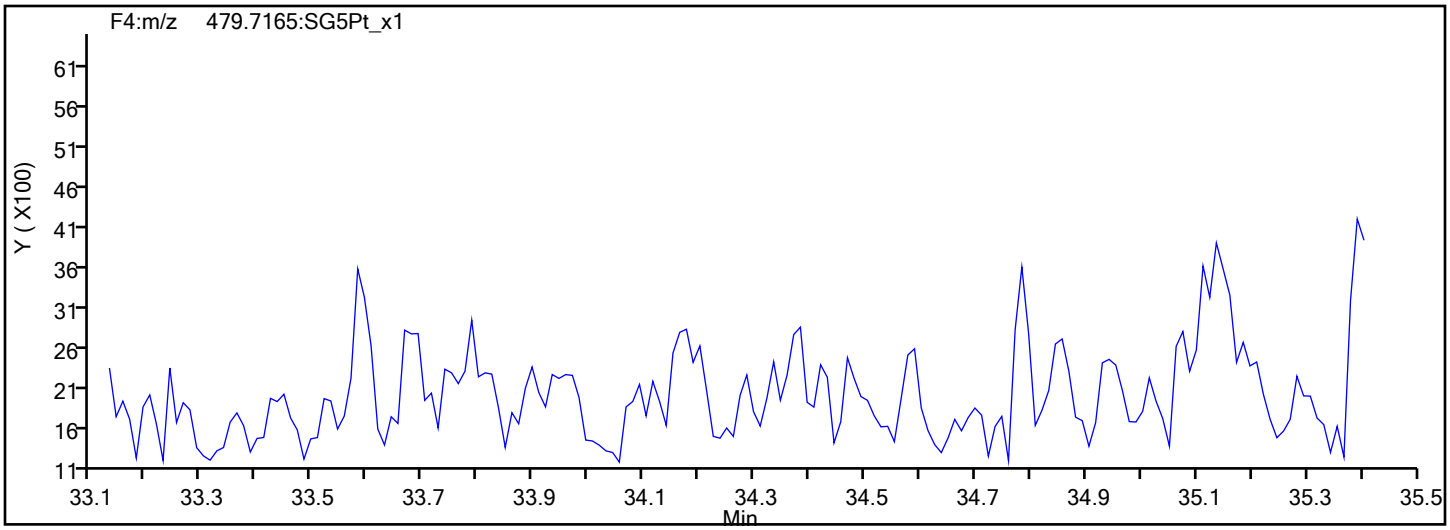

Report Date: 14-Jan-2020 13:34:25 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_15.d		
Injection Date:	13-Jan-2020 23:38:36	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	350523	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

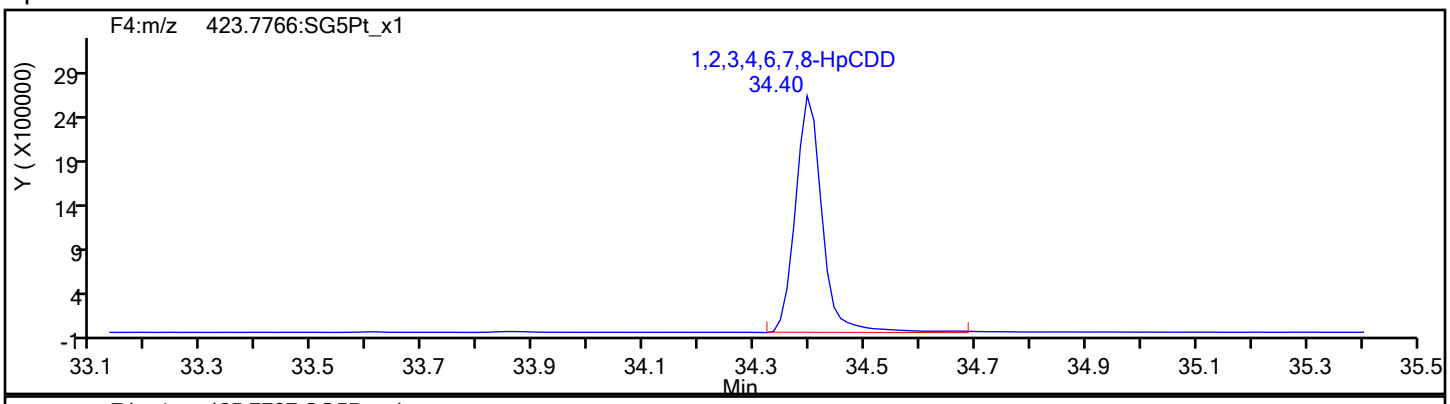

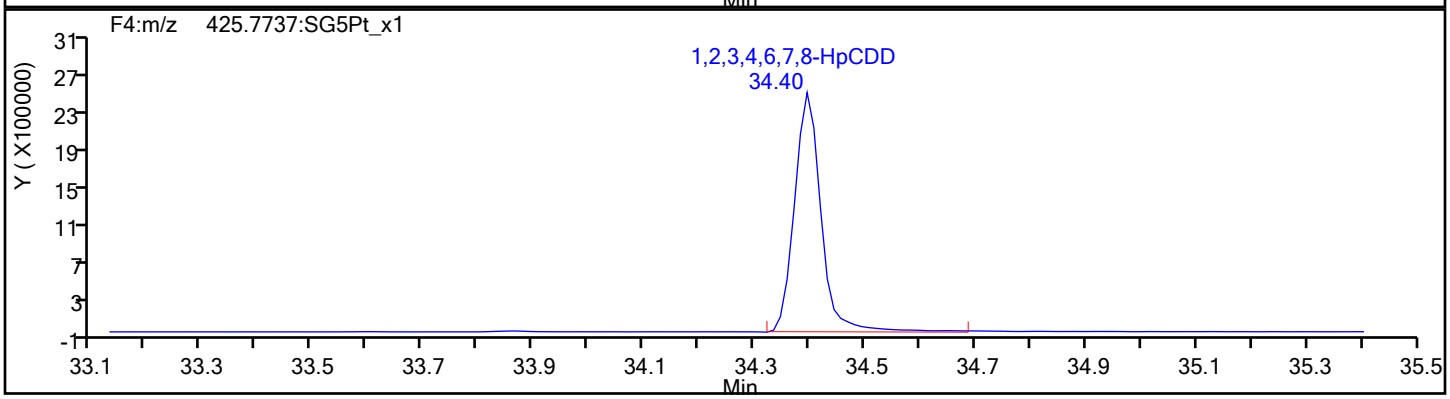

HpCDD Standards

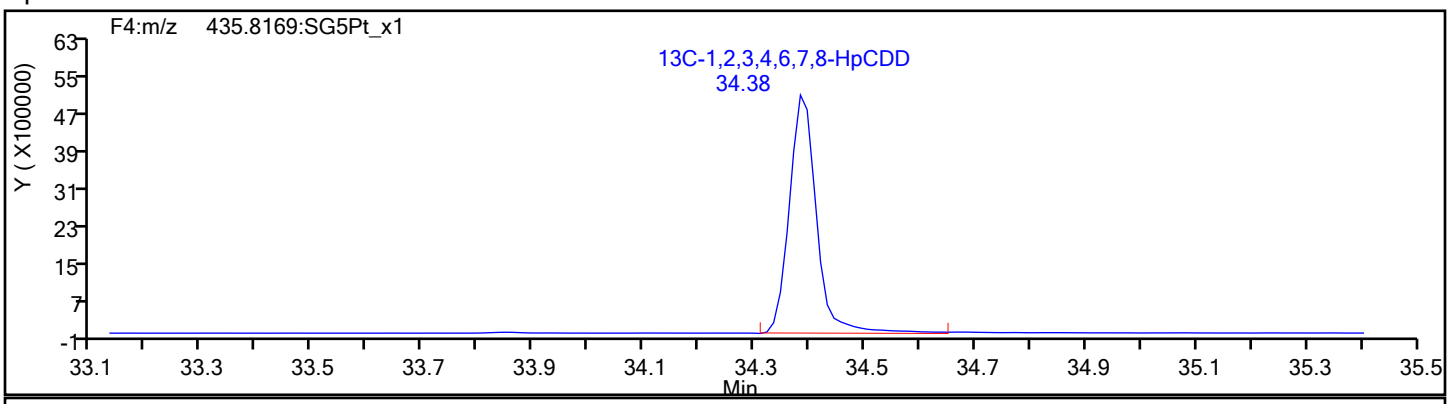

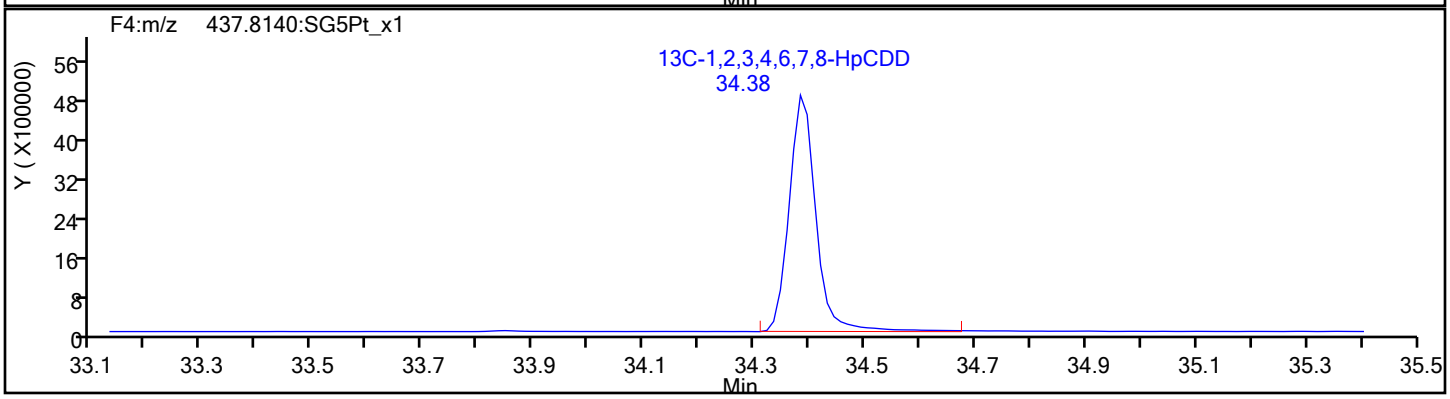

Report Date: 14-Jan-2020 13:34:25 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_15.d		
Injection Date:	13-Jan-2020 23:38:36	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	350523	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

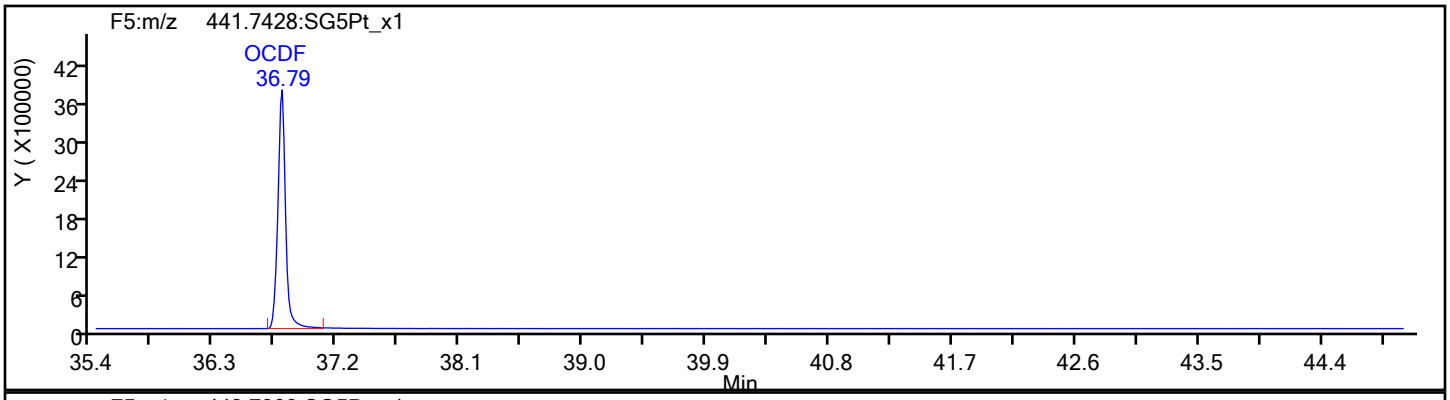

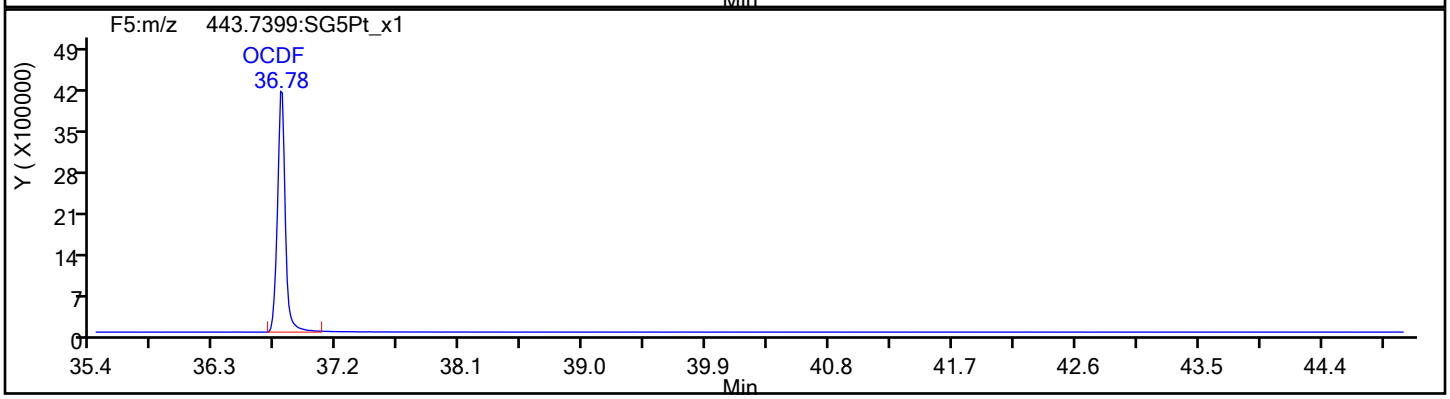

OCDF Standards

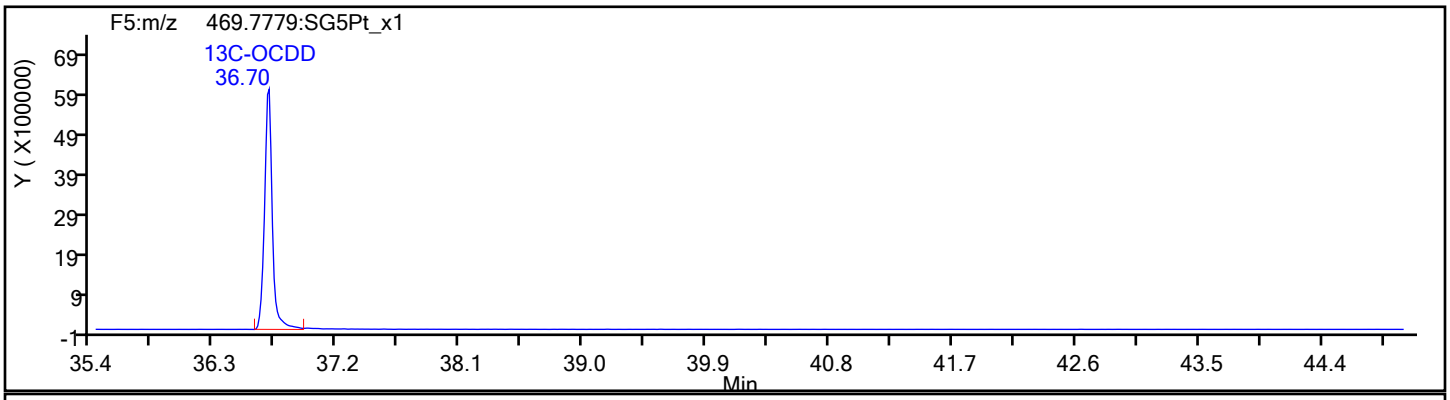

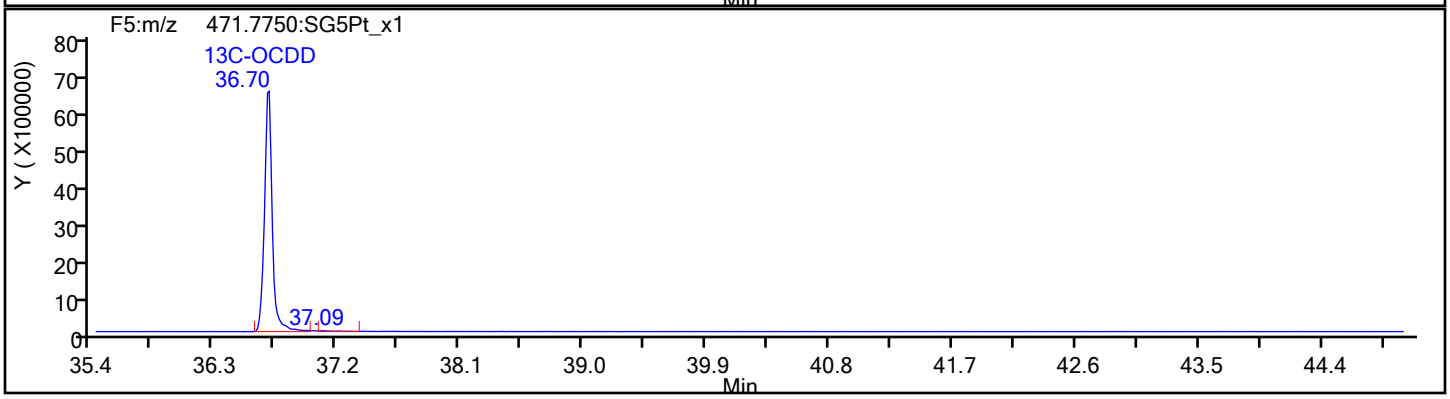

Report Date: 14-Jan-2020 13:34:25 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_15.d		
Injection Date:	13-Jan-2020 23:38:36	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	350523	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

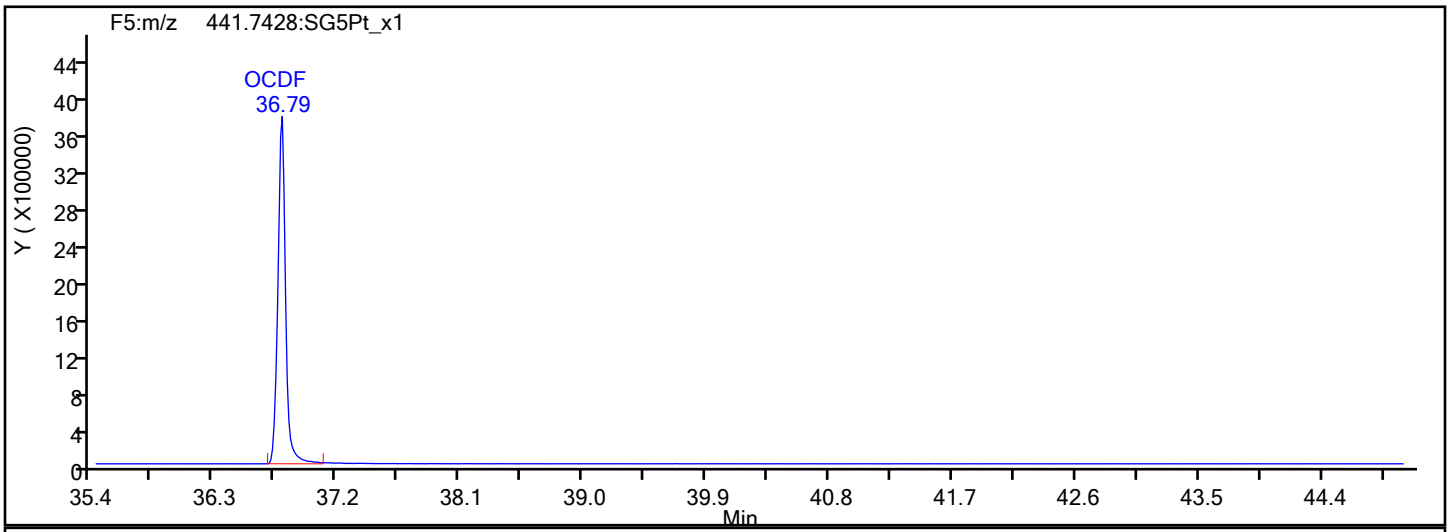

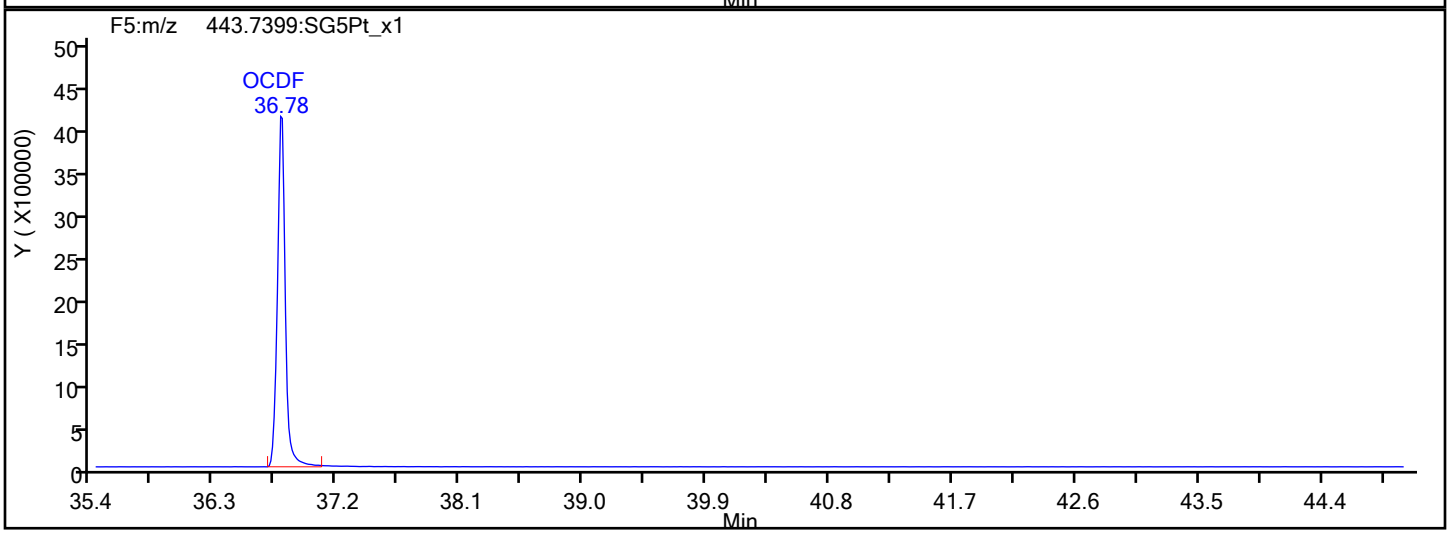

OCDF Interference Mass

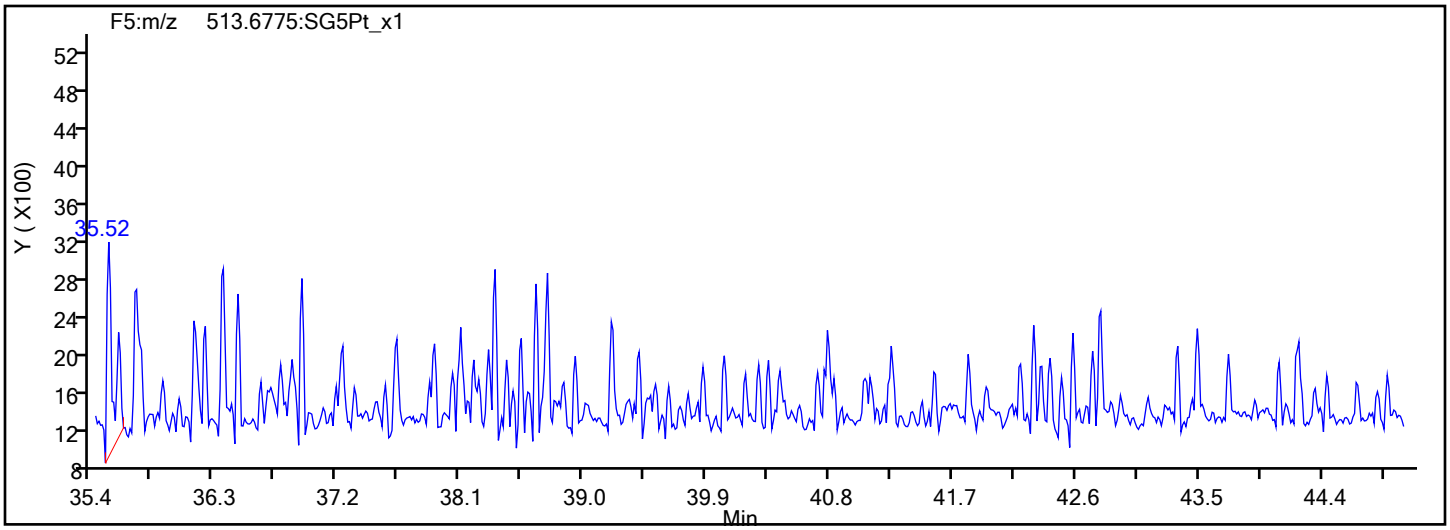

Report Date: 14-Jan-2020 13:34:25 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_15.d		
Injection Date:	13-Jan-2020 23:38:36	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	350523	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

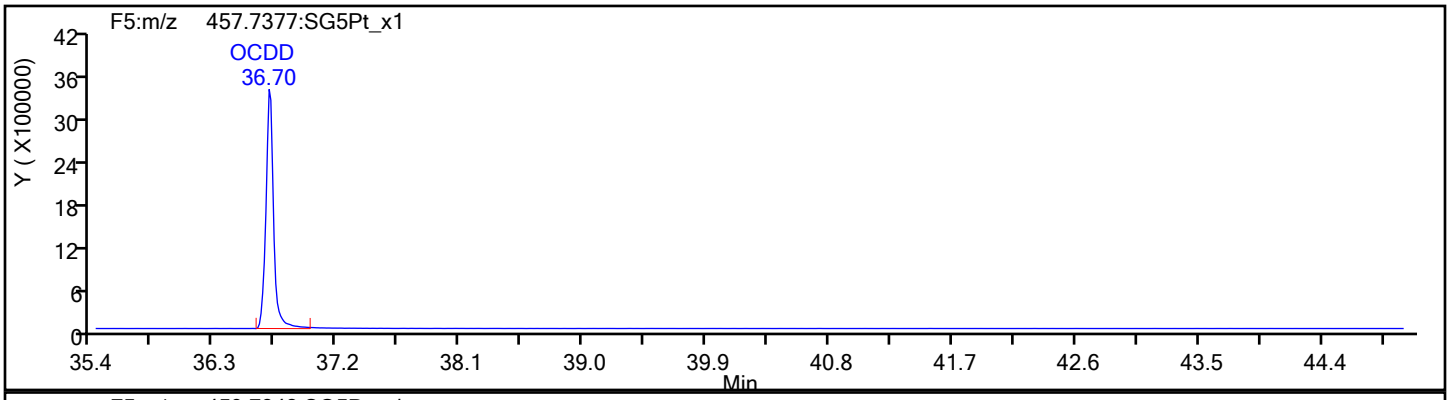

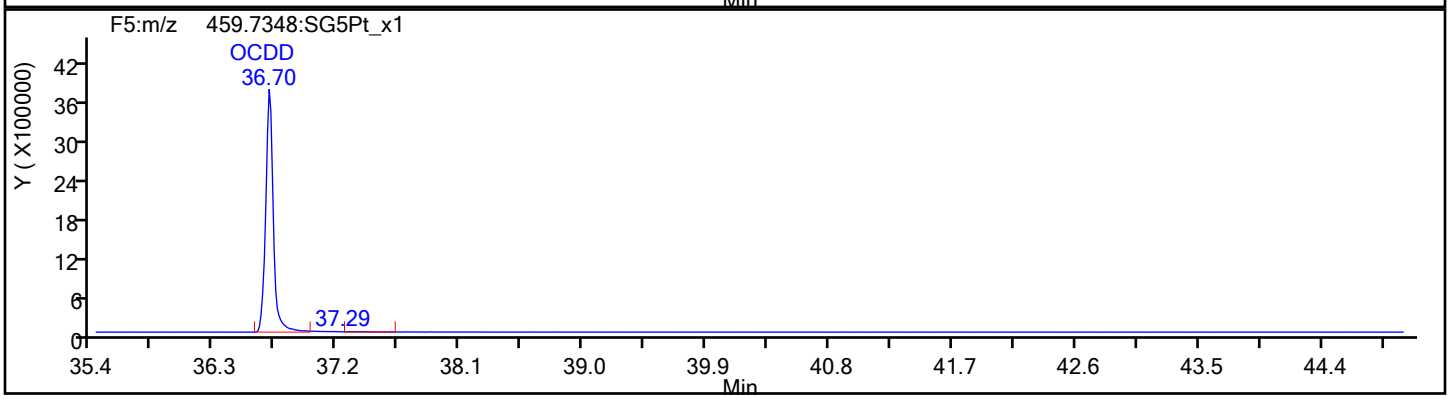

OCDD Standards

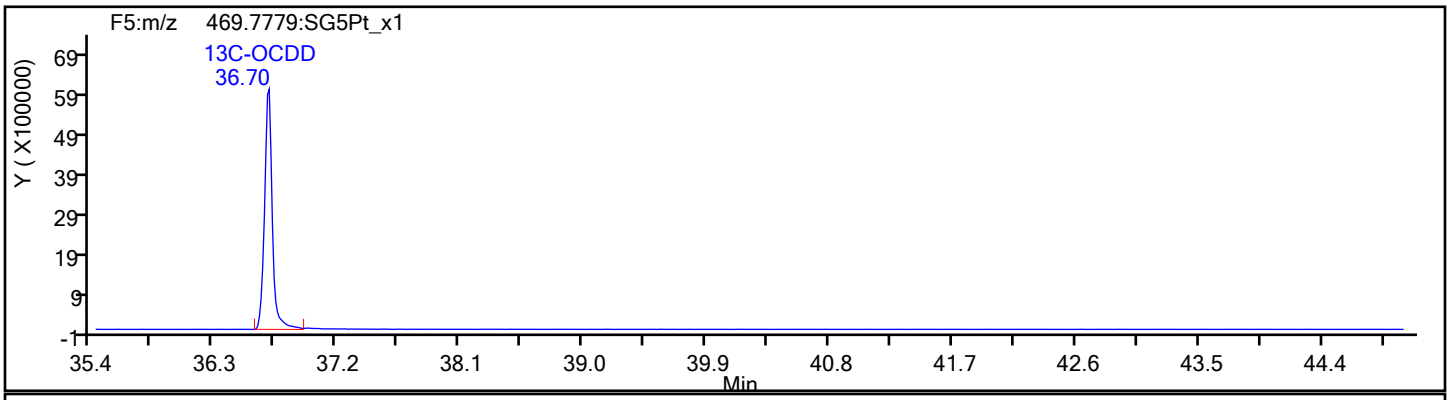

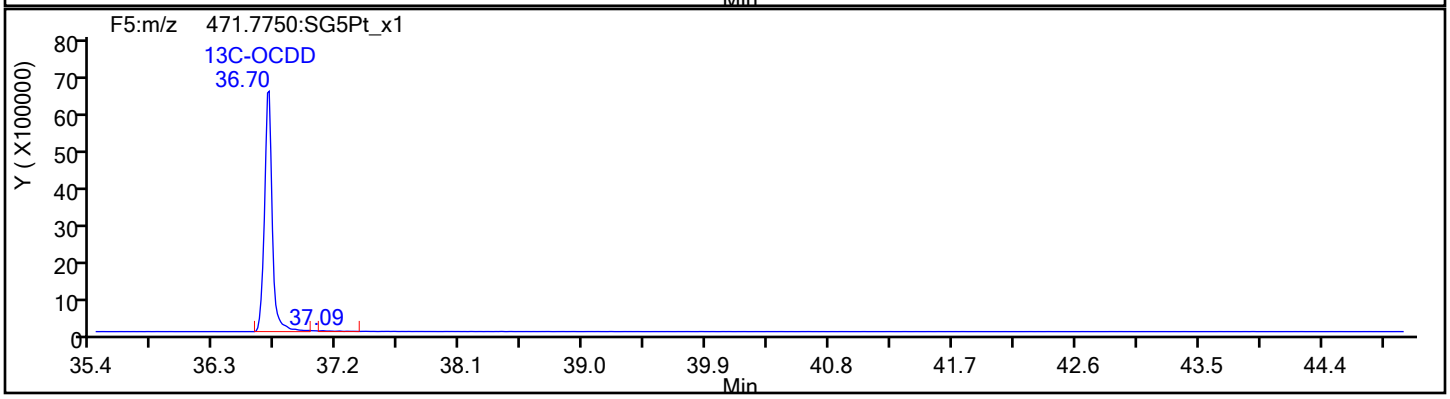

Report Date: 14-Jan-2020 13:34:26 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_15.d		
Injection Date:	13-Jan-2020 23:38:36	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	350523	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

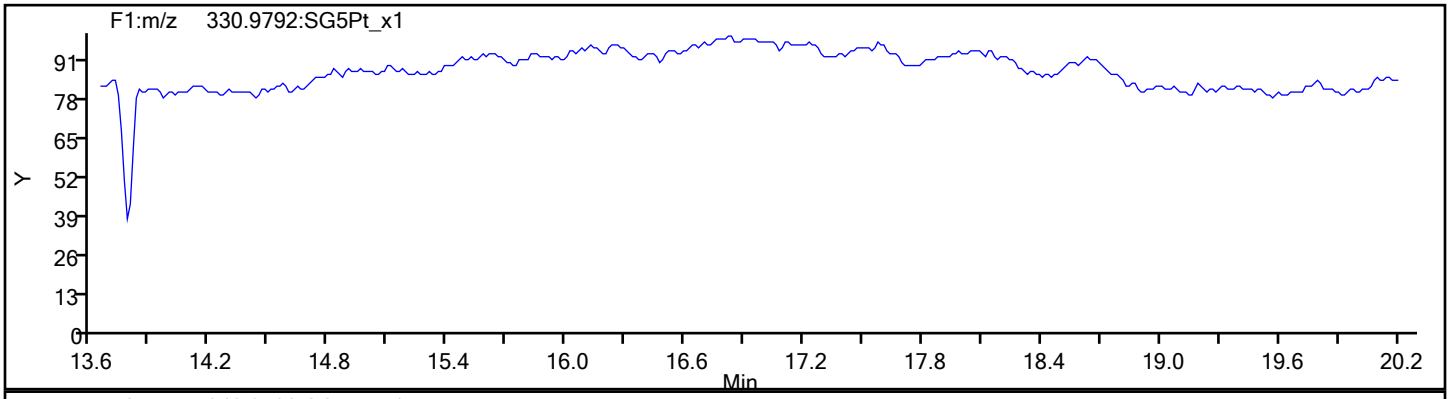

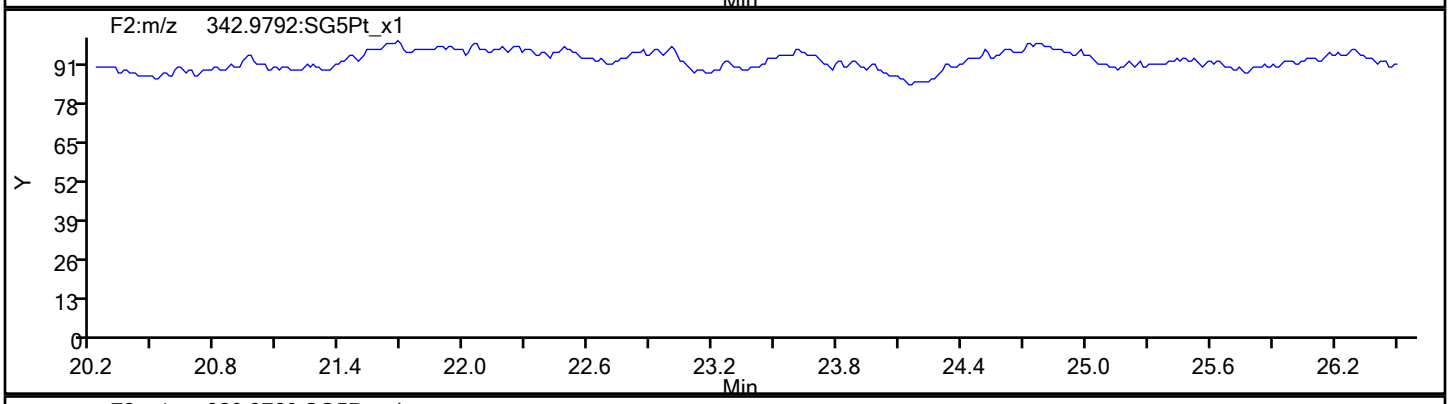

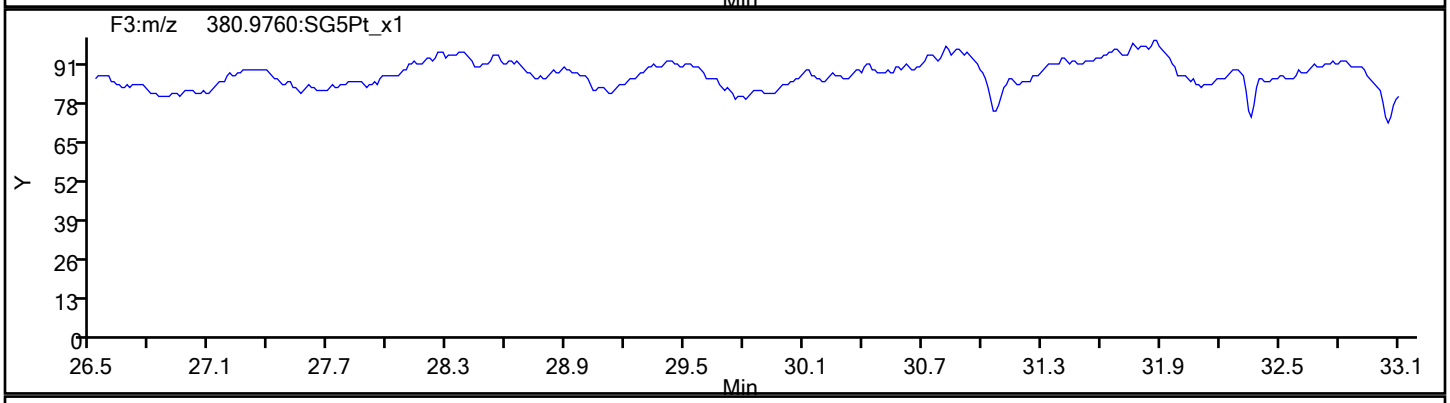

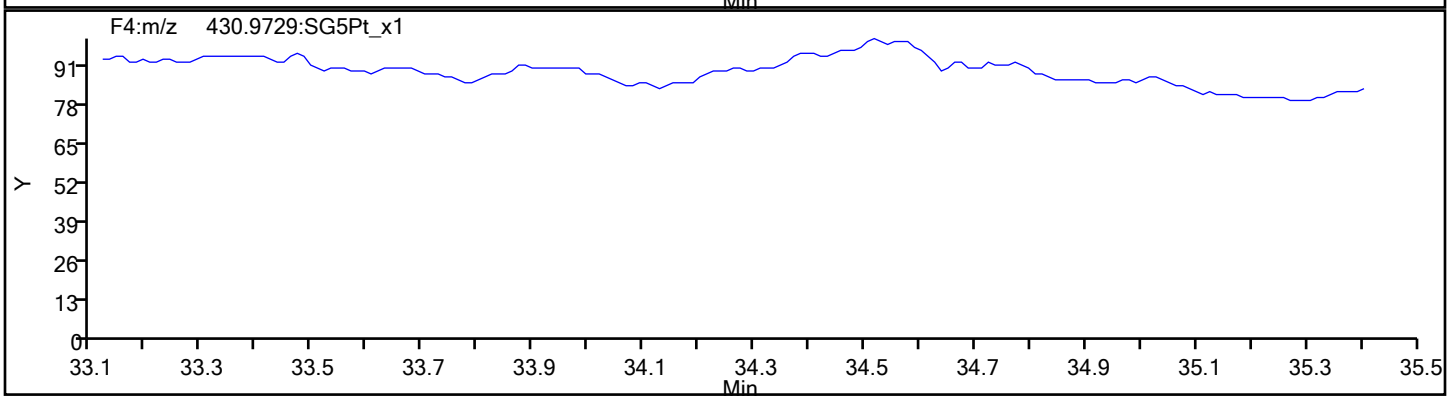

Report Date: 14-Jan-2020 13:34:26 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_15.d		
Injection Date:	13-Jan-2020 23:38:36	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	350523	Sample Line#:	15
Column Type:	DB-5	Column Dia:	0.32 mm

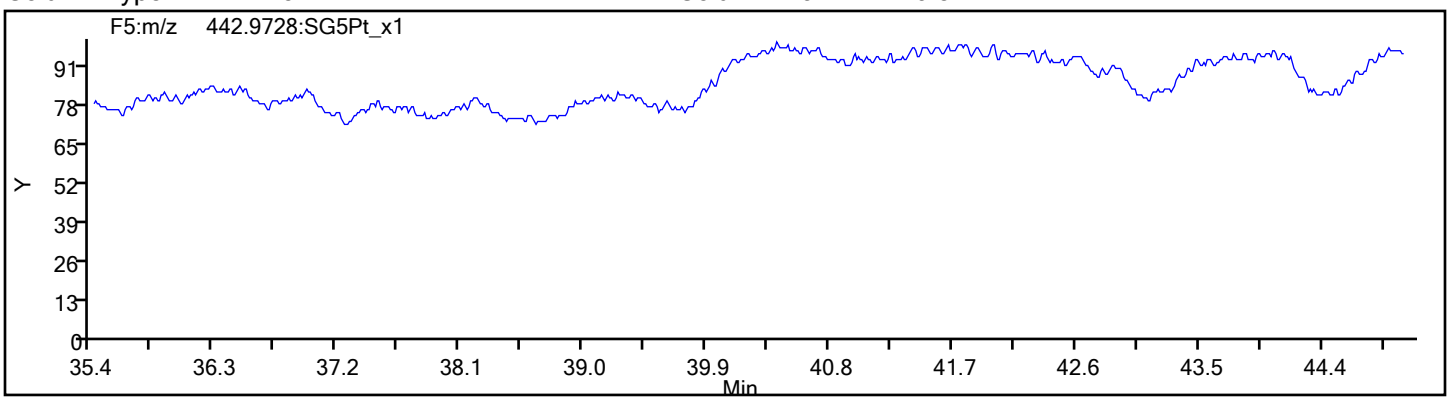

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_1.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 14-Nov-2019 08:14:53 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 111419 WDM HRDXNCP_00040
Misc. Info.: 14NO1910D5
Operator ID: SMA Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 15-Nov-2019 12:54:54 Calib Date: 14-Nov-2019 12:50:49
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0323

First Level Reviewer: stephensk Date: 15-Nov-2019 12:54:54

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	17.034	71088860	0.79	1.3318					0.00	
2,3,7,8-TCDF	17.064	131317678	0.75	0.9005	82.1	82.1	0.2600	0.2600		
A Non-2,3,7,8-sub-TCDF	16.769						0.2600	0.2600		
S Total TCDF					82.1	82.1	0.2600	0.2600		
D 13C-2,3,7,8-TCDD	17.729	48784400	0.80	0.9647					0.00	
2,3,7,8-TCDD	17.744	52736237	0.78	1.0698	40.4	40.4	0.2860	0.2860		
A Non-2,3,7,8-sub-TCDD	17.207						0.2860	0.2860		
S Total TCDD					40.4	40.4	0.2860	0.2860		
A F1 PeCDFs	19.339						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	22.421	913390	1.57	0.0000						
S Total PeCDF										
A Non-2,3,7,8-sub-PeCDD	22.911						0.0	0.0		
S Total PeCDD										
A Non-2,3,7,8-sub-HxCDF	29.813						0.0	0.0		
S Total HxCDF										
A Non-2,3,7,8-sub-HxCDD	30.412						0.0	0.0		
S Total HxCDD										
1,2,3,4,6,7,8-HpCDF	33.579	41308036	1.03	1.4240						
1,2,3,4,7,8,9-HpCDF	34.636	34514634	1.03	1.2834						
A Non-2,3,7,8-sub-HpCDF	34.107						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	34.356	27686370	1.05	1.0174						
A Non-2,3,7,8-sub-HpCDD	34.089						0.0	0.0		
S Total HpCDD										
1,3,6,8-TCDF	14.690	72836881	0.76							
1,3,6,8-TCDD	15.582	52906876	0.78							
2,3,4,7-TCDF	17.064	131317678	0.75							
1,2,3,7-TCDD	17.638	47854729	0.78							
1,2,3,9-TCDF	17.910	57573865	0.77							
1,2,3,9-TCDD	17.910	56596493	0.78							

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,8,9-TCDD	18.833	21892807								
1,2,8,9-TCDF	18.848	58664239	0.75							
1,3,4,6,8-PeCDF	19.105	69056670	1.55							
1,2,4,7,9-PeCDD	20.845	42866848	1.58							
1,2,3,8,9-PeCDD	24.977	39057505	1.60							
1,2,3,8,9-PeCDF	25.195	47095037	1.56							
1,2,3,4,6,8-HxCDF	27.411	40990392	1.22							
1,2,4,6,7,9-HxCDD	28.941	35148160	1.24							
1,2,3,4,6,7-HxCDD	31.883	33396222	1.24							
1,2,3,4,8,9-HxCDF	32.216	36251606	1.23							
1,2,3,4,6,7,9-HpCDD	33.822	31683527	1.05							

Reagents:

HRDXNCP_00040 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_1.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 14-Nov-2019 08:14:53 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 111419 WDM HRDXNCP_00040
Misc. Info.: 14NO1910D5
Operator ID: SMA Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 15-Nov-2019 12:54:54 Calib Date: 14-Nov-2019 12:50:49
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0323

First Level Reviewer: stephensk Date: 15-Nov-2019 12:54:54

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	17.034	17.034	0	1.000	31313800	7720150	9080	22700	850		
317.9389	17.034	17.034	0	1.000	39775060	9968768	7897	19742	1262	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.064	17.049	1	1.002	56367823	13266582	17184	42960	772		
305.8987	17.064	17.049	1	1.002	74949855	17706849	24227	60567	731	0.75(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.769						17184	42960			
305.8987	16.769						24227	60567			
13C-2,3,7,8-TCDD											
331.9368	17.729	17.729	0	1.000	21688015	5257745	7059	17647	745		
333.9339	17.729	17.729	0	1.000	27096385	6628913	4465	11162	1485	0.80(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.744	17.744	0	1.001	23028700	5641767	13814	34535	408		
321.8936	17.744	17.744	0	1.001	29707537	7323313	22550	56375	325	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.207						13814	34535			
321.8936	17.207						22550	56375			
A F1 PeCDFs											
339.8597	19.339						1382	3455			
341.8567	19.339						1519	3797			
A Non-2,3,7,8-sub-PeCDF											
339.8597	21.417	22.421	-60	1.000	149257	26995	4749	11872	6		
341.8567	21.417	22.421	-60	1.000	109682	18668	3891	9727	5	1.36(1.32-1.78)	
339.8597	21.977	22.421	-27	1.000	233572	28198	4749	11872	6		
341.8567	21.963	22.421	-27	1.000	144515	19014	3891	9727	5	1.62(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
339.8597	22.522	22.421	6	1.000	174851	26613	4749	11872	6		
341.8567	22.522	22.421	6	1.000	101513	16718	3891	9727	4	1.72(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.911						5813	14532			
357.8516	22.911						3503	8757			
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.813						6826	17065			
375.8178	29.813						5395	13487			
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.412						6286	15715			
391.8127	30.412						5033	12582			
1,2,3,4,6,7,8-HpCDF											
407.7818	33.579	33.579	0	1.000	20909426	6129774	47647	119117	129		
409.7789	33.579	33.579	0	1.000	20398610	5981280	37024	92560	162	1.03(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.636	34.629	0	1.000	17486437	4474188	47647	119117	94		
409.7789	34.636	34.629	0	1.000	17028197	4291296	37024	92560	116	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.107						47647	119117			
409.7789	34.107						37024	92560			
1,2,3,4,6,7,8-HpCDD											
423.7766	34.356	34.349	0	1.000	14163873	3712421	35302	88255	105		
425.7737	34.356	34.349	0	1.000	13522497	3489935	34596	86490	101	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.089						35302	88255			
425.7737	34.089						34596	86490			
1,3,6,8-TCDF											
303.9016	14.690	14.690	0		31486320	10256030	17184	42960	597		
305.8987	14.690	14.690	0		41350561	13354518	24227	60567	551	0.76(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	15.582	15.582	0		23178008	6815760	13814	34535	493		
321.8936	15.582	15.582	0		29728868	8577172	22550	56375	380	0.78(0.65-0.89)	
2,3,4,7-TCDF											
303.9016	17.064	17.064	0		56367823	13266582	17184	42960	772		
305.8987	17.064	17.064	0		74949855	17706849	24227	60567	731	0.75(0.65-0.89)	
1,2,3,7-TCDD											
319.8965	17.638	17.638	0		21012834	5232163	13814	34535	379		
321.8936	17.638	17.638	0		26841895	6618682	22550	56375	294	0.78(0.65-0.89)	
1,2,3,9-TCDF											
303.9016	17.910	17.910	0		24985520	6155159	17184	42960	358		
305.8987	17.910	17.910	0		32588345	7997634	24227	60567	330	0.77(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	17.910	17.910	0		24732086	6025748	13814	34535	436		
321.8936	17.910	17.910	0		31864407	7712994	22550	56375	342	0.78(0.65-0.89)	
1,2,8,9-TCDD											
319.8965	18.833	18.833	0		21892807	4984353	13814	34535	361		

Report Date: 15-Nov-2019 12:55:02 Chrom Revision: 2.3 31-Oct-2019 20:21:30
Data File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_1.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,8,9-TCDF											
303.9016	18.848	18.848	0		25098033	5635215	17184	42960	328		
305.8987	18.833	18.848	-1		33566206	7408842	24227	60567	306	0.75(0.65-0.89)	
1,3,4,6,8-PeCDF											
339.8597	19.105	19.105	0		41941201	9301647	1382	3455	6731		
341.8567	19.105	19.105	0		27115469	6057803	1519	3797	3988	1.55(1.32-1.78)	
1,2,4,7,9-PeCDD											
355.8546	20.845	20.845	0		26261054	4761926	5813	14532	819		
357.8516	20.845	20.845	0		16605794	3009451	3503	8757	859	1.58(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	24.977	24.977	0		24024983	3519789	5813	14532	606		
357.8516	24.977	24.977	0		15032522	2201465	3503	8757	628	1.60(1.32-1.78)	
1,2,3,8,9-PeCDF											
339.8597	25.195	25.195	0		28688854	4140718	4749	11872	872		
341.8567	25.195	25.195	0		18406183	2664386	3891	9727	685	1.56(1.32-1.78)	
1,2,3,4,6,8-HxCDF											
373.8208	27.411	27.411	0		22501597	3015418	6826	17065	442		
375.8178	27.411	27.411	0		18488795	2499708	5395	13487	463	1.22(1.05-1.43)	
1,2,4,6,7,9-HxCDD											
389.8157	28.941	28.941	0		19469349	2442738	6286	15715	389		
391.8127	28.941	28.941	0		15678811	1960439	5033	12582	390	1.24(1.05-1.43)	
1,2,3,4,6,7-HxCDD											
389.8157	31.883	31.883	0		18494152	4568168	6286	15715	727		
391.8127	31.883	31.883	0		14902070	3652757	5033	12582	726	1.24(1.05-1.43)	
1,2,3,4,8,9-HxCDF											
373.8208	32.216	32.216	0		20012667	5095885	6826	17065	747		
375.8178	32.202	32.216	-1		16238939	4121008	5395	13487	764	1.23(1.05-1.43)	
1,2,3,4,6,7,9-HpCDD											
423.7766	33.822	33.822	0		16238887	4477376	35302	88255	127		
425.7737	33.810	33.822	-1		15444640	4223506	34596	86490	122	1.05(0.88-1.20)	

Reagents:

HRDXNCP_00040 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_1.d
Lims ID: WDM
Client ID:
Inject. Date: 14-Nov-2019 08:14:53 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 10D5 Operator: SMA
Lims Batch ID: 338471 Lims Sample ID: 1

Non-2,3,7,8-sub-PeCDF, RT: 22.421

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	0.970				
2,3,4,7,8-PeCDF	0.999				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
21.417	149257	26995	109682	18668		1.36	
21.977	233572	28198	144515	19014		1.62	
22.522	174851	26613	101513	16718		1.72	
Signal Totals:							
	557680	81806	355710	54400			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	913390	136206				1.57	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (913390 * 0.0) / (0 * 0.000)

Report Date: 15-Nov-2019 12:55:03 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_1.d		
Injection Date:	14-Nov-2019 08:14:53	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

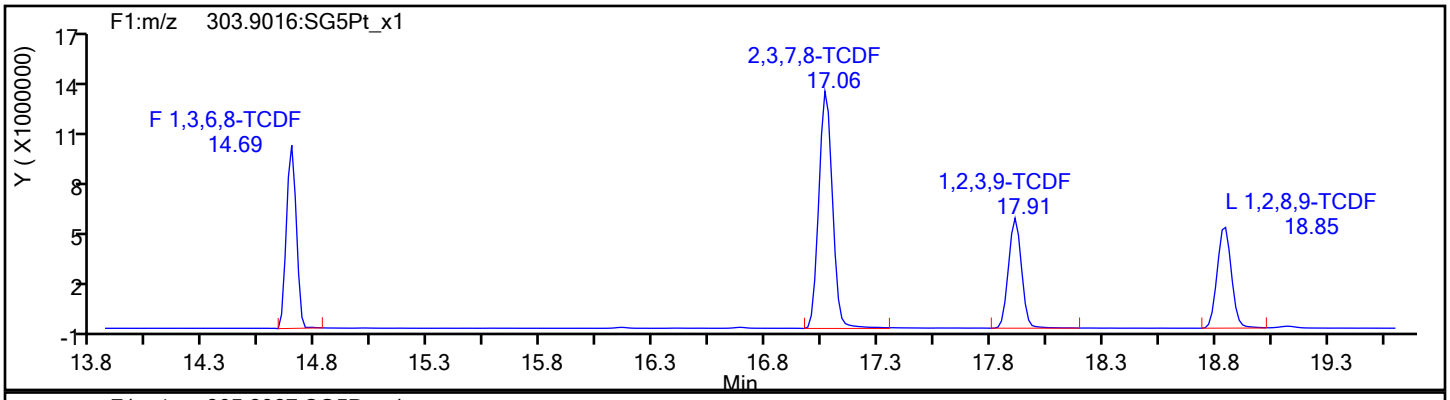

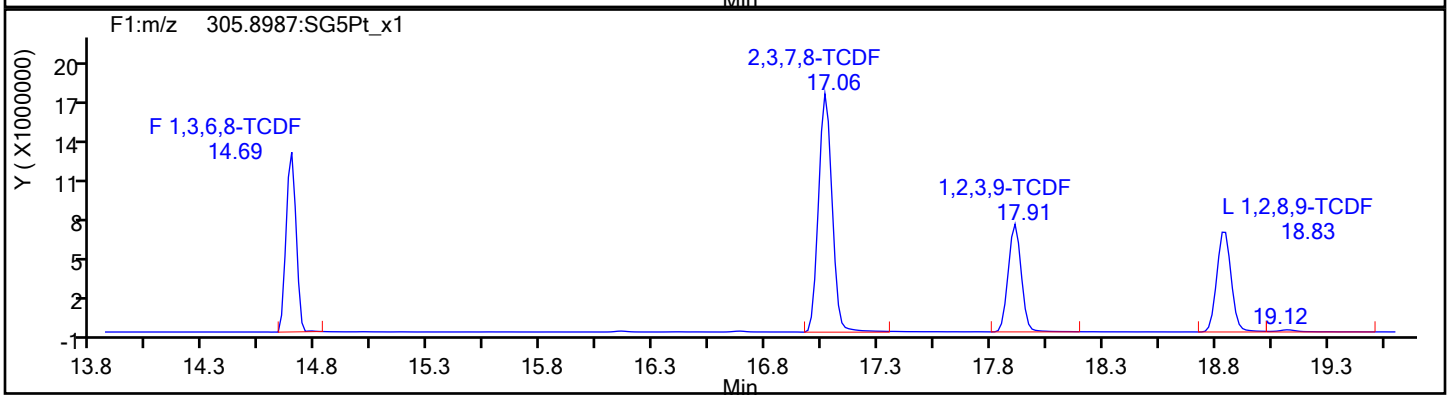

TCDF Standards

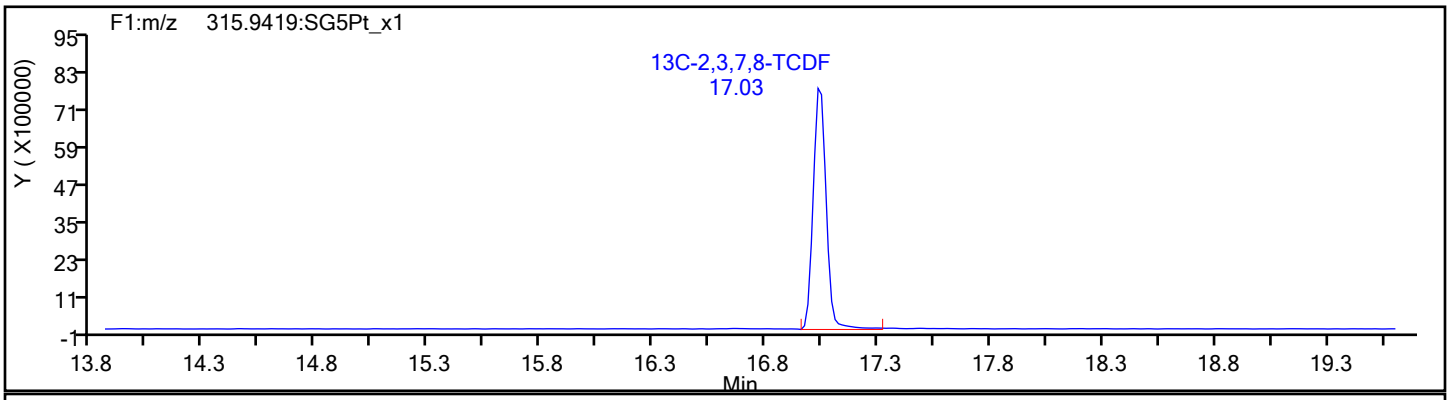

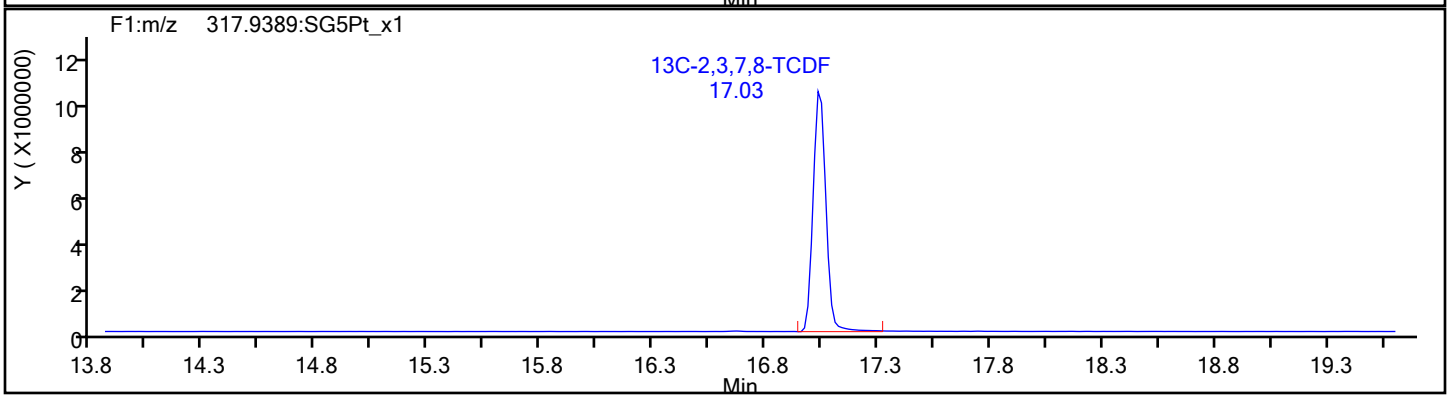

Report Date: 15-Nov-2019 12:55:03 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_1.d		
Injection Date:	14-Nov-2019 08:14:53	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

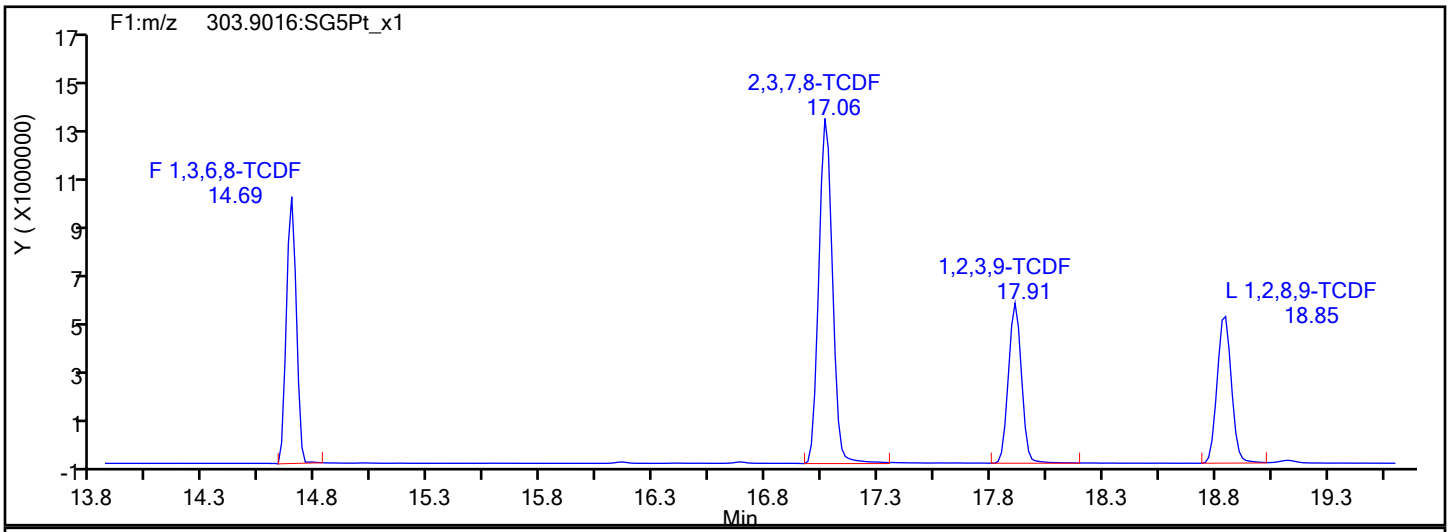

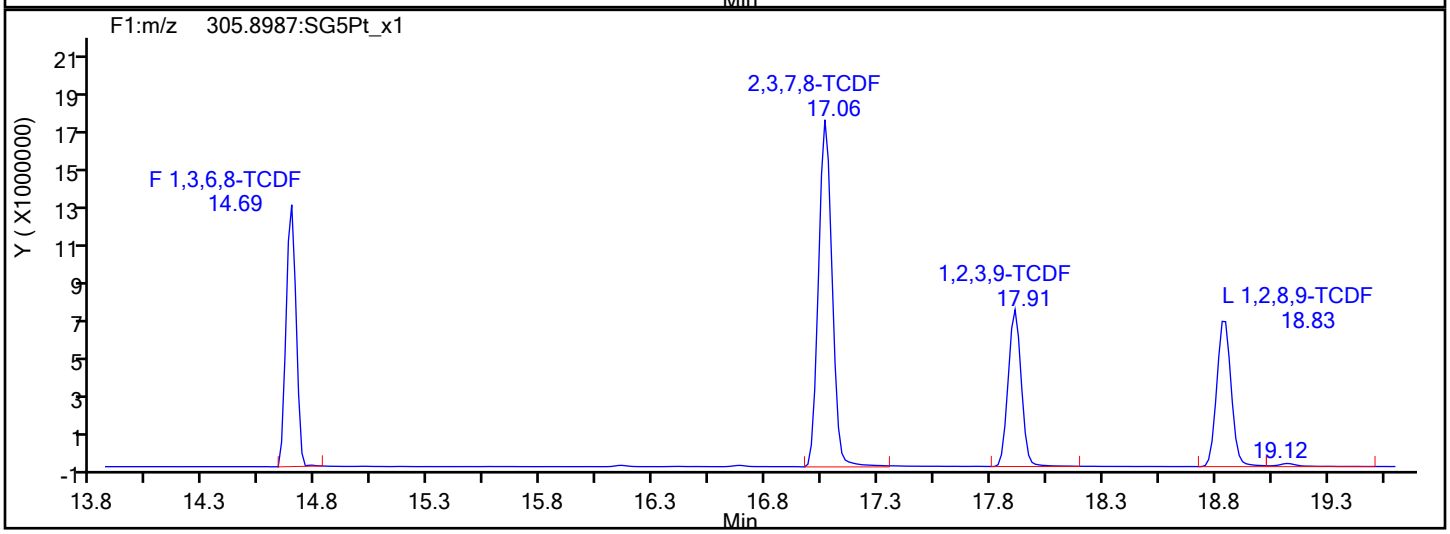

TCDF Interference Mass

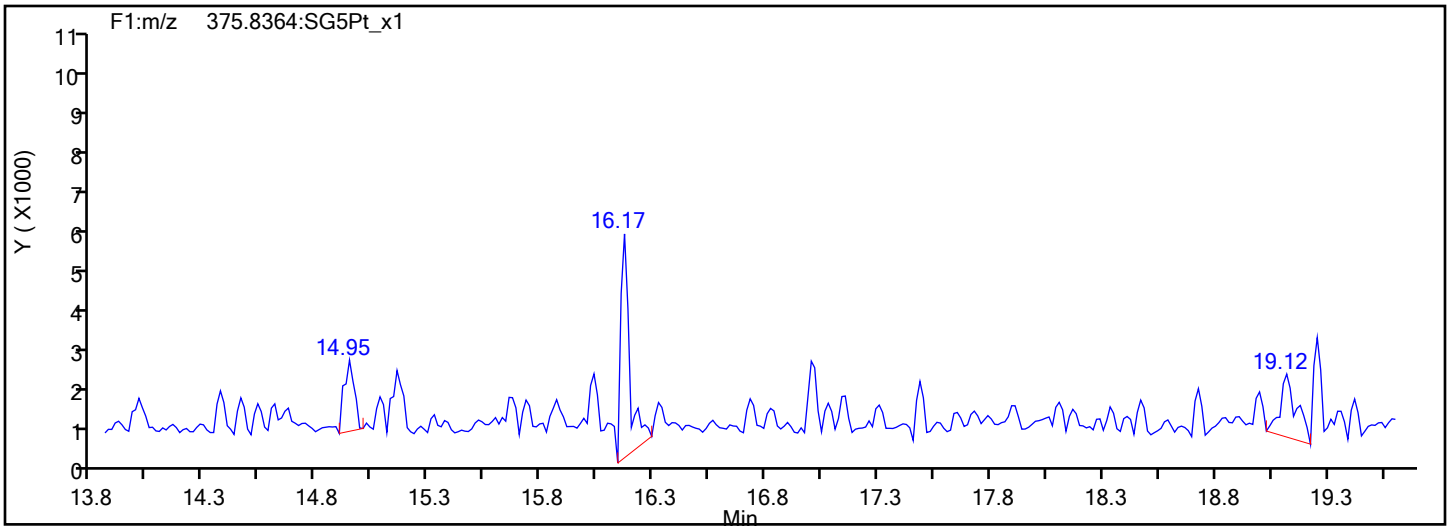

Report Date: 15-Nov-2019 12:55:03 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_1.d		
Injection Date:	14-Nov-2019 08:14:53	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

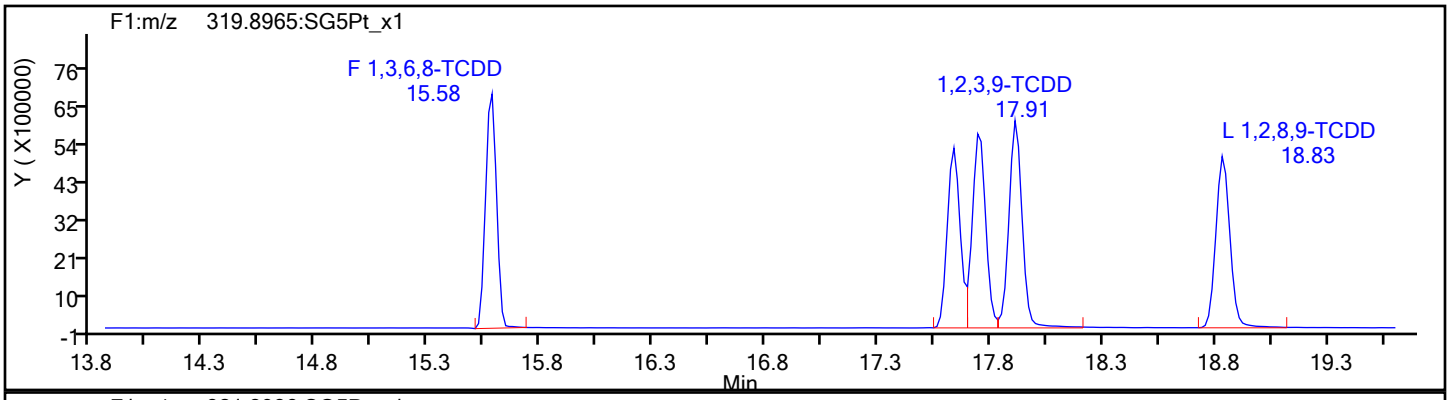

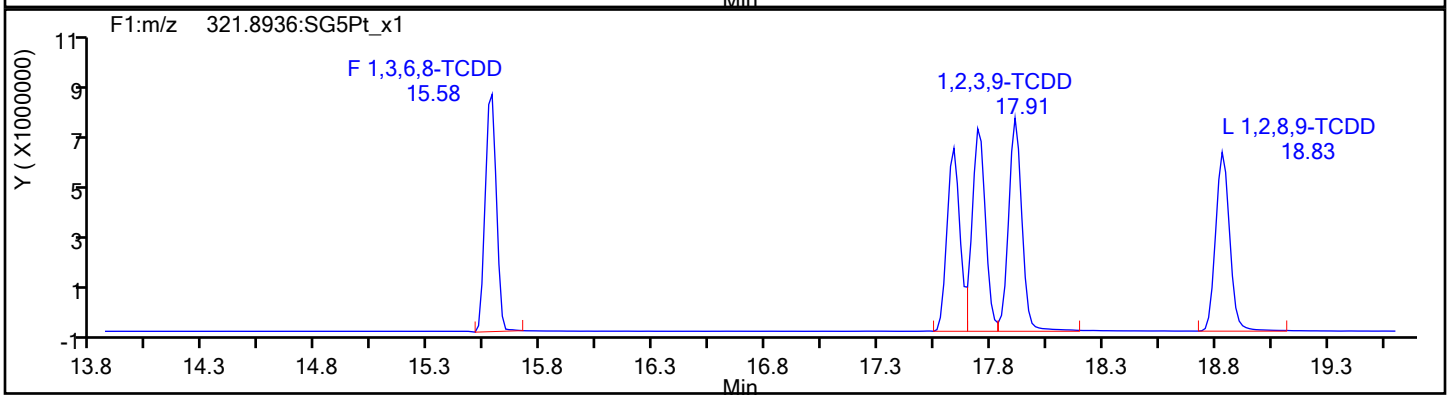

TCDD Standards

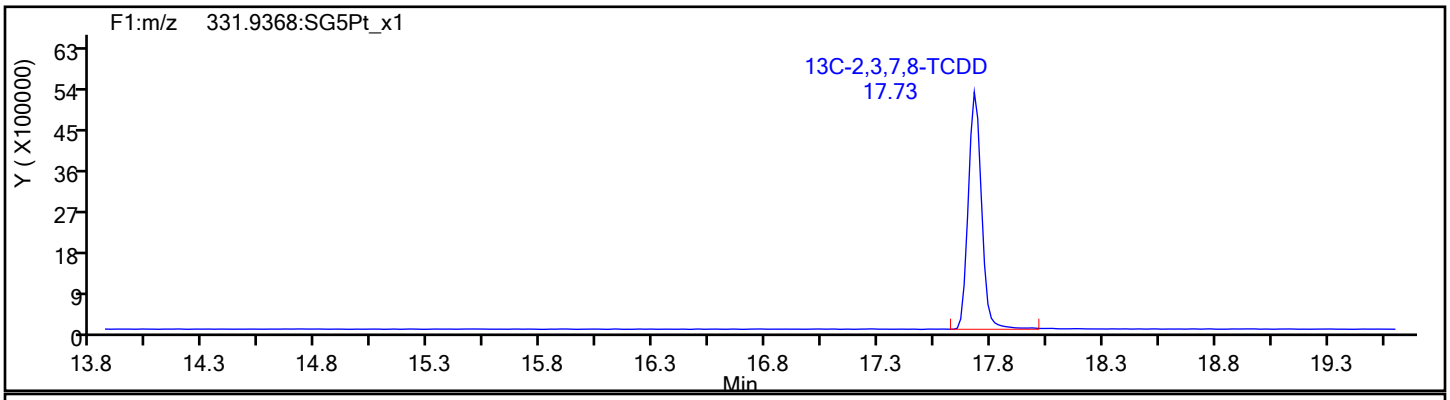

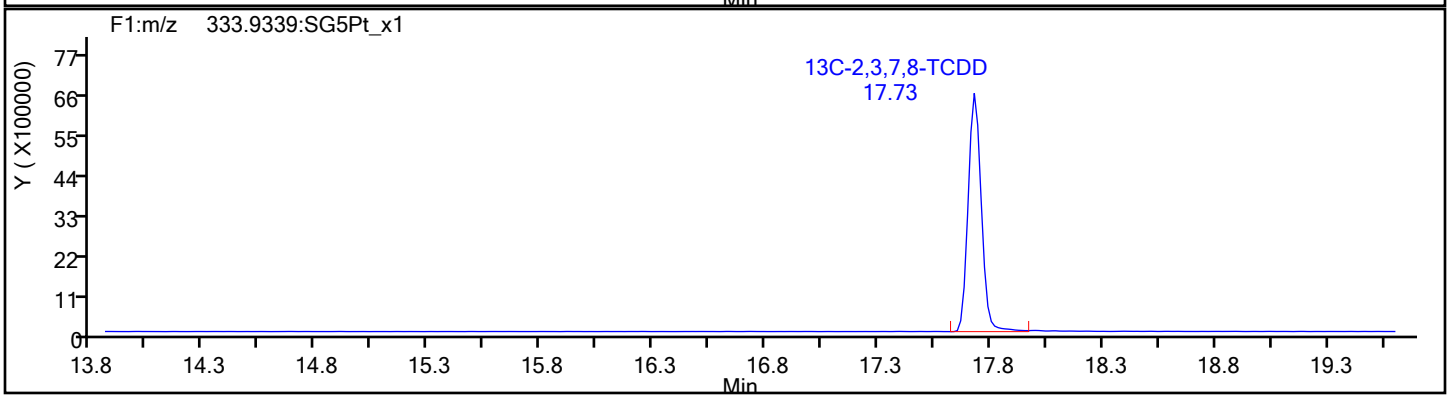

Report Date: 15-Nov-2019 12:55:03 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_1.d		
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Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

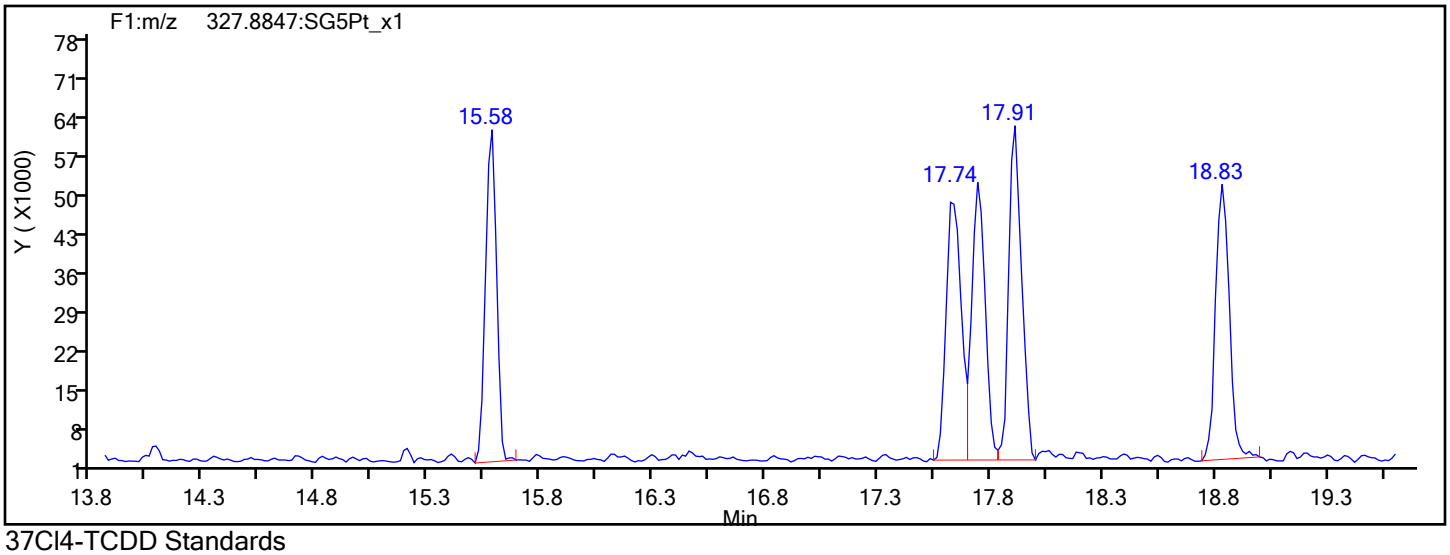

37Cl4-TCDD Standards

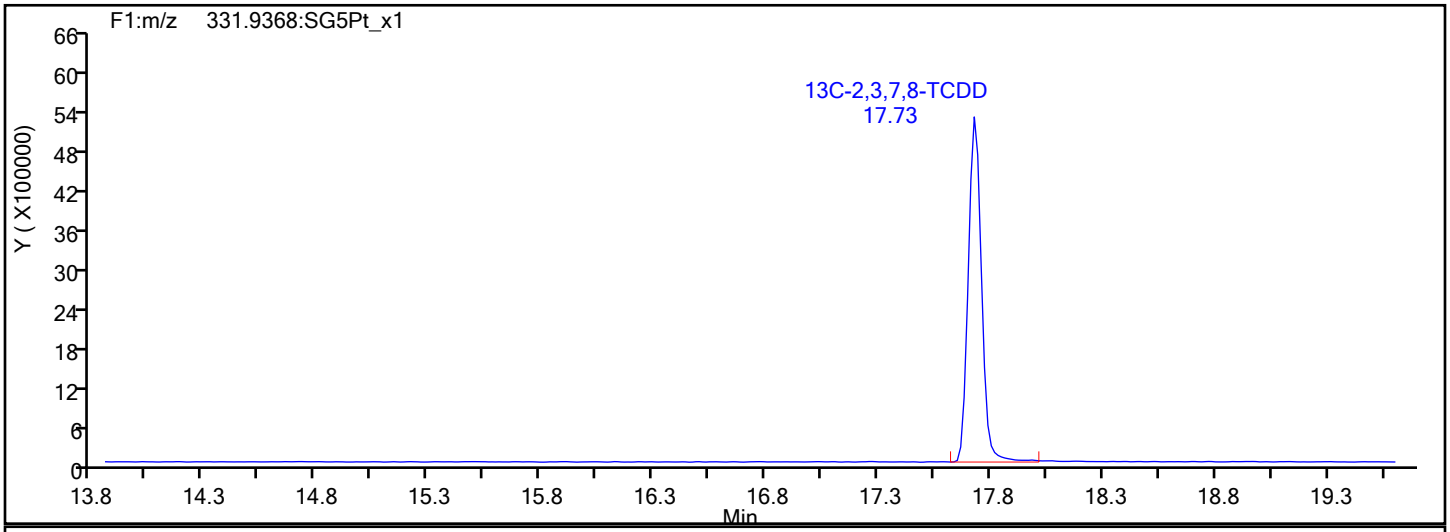

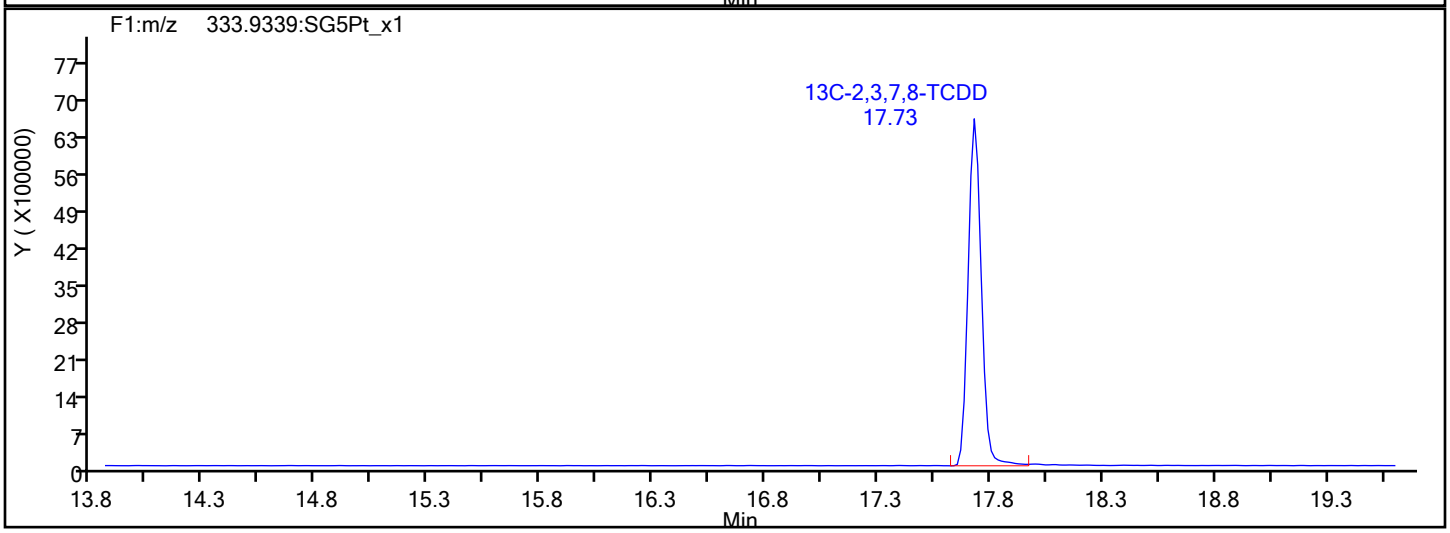

Report Date: 15-Nov-2019 12:55:03 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_1.d		
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Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

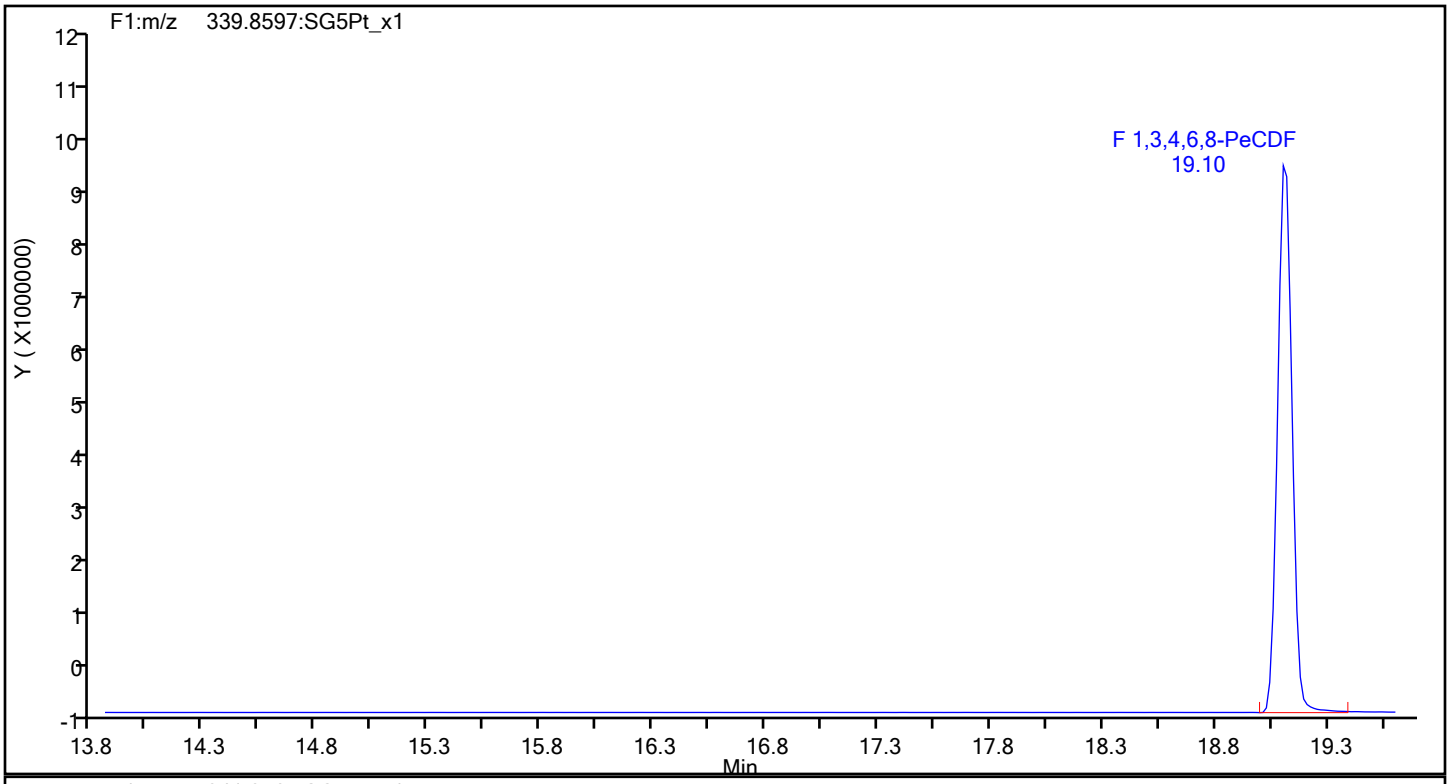

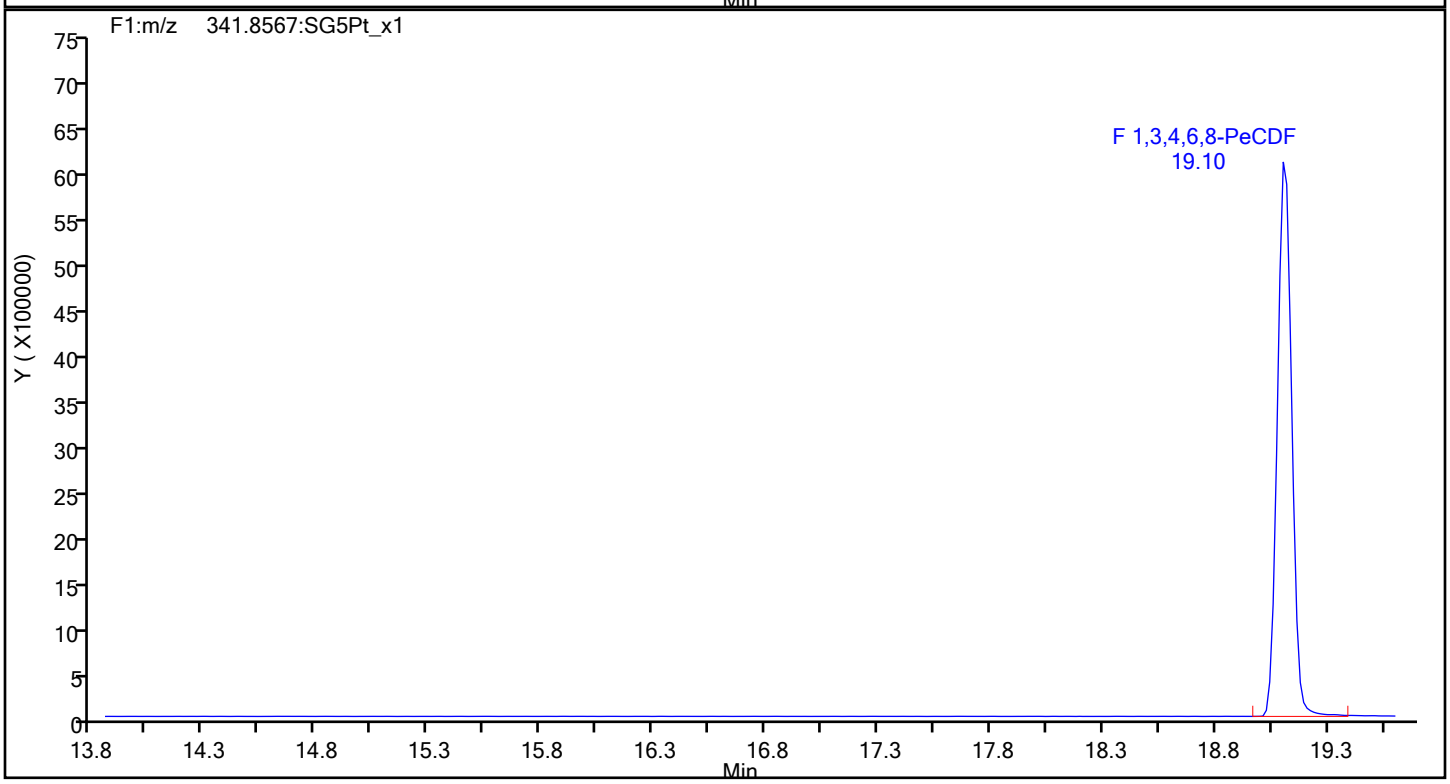

Report Date: 15-Nov-2019 12:55:03 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_1.d		
Injection Date:	14-Nov-2019 08:14:53	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

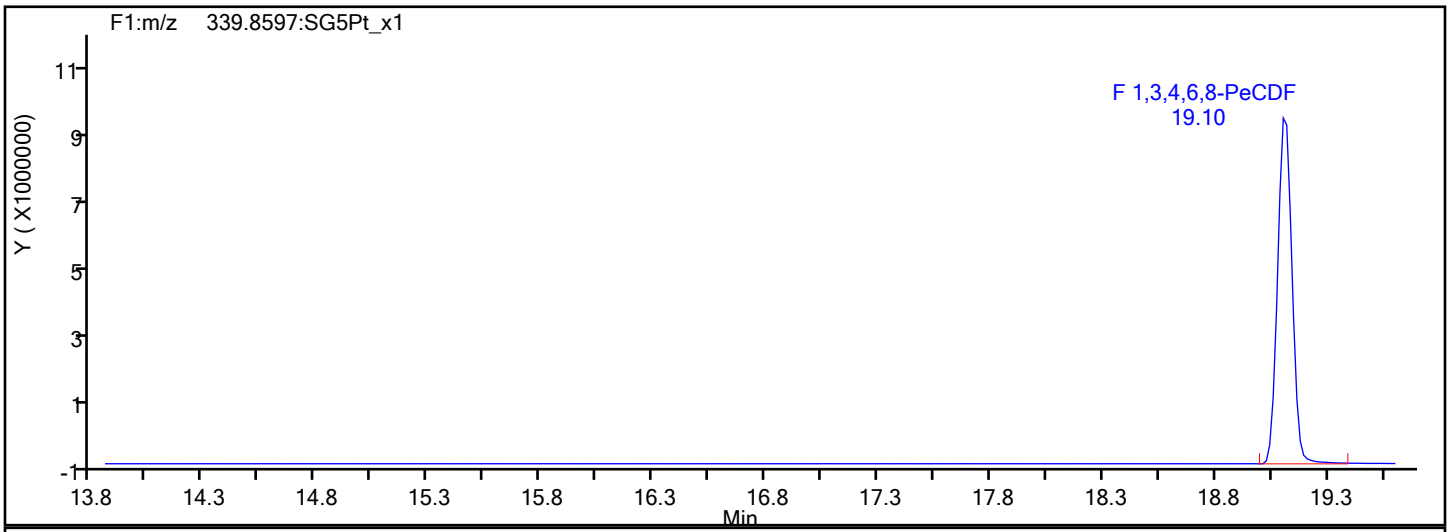

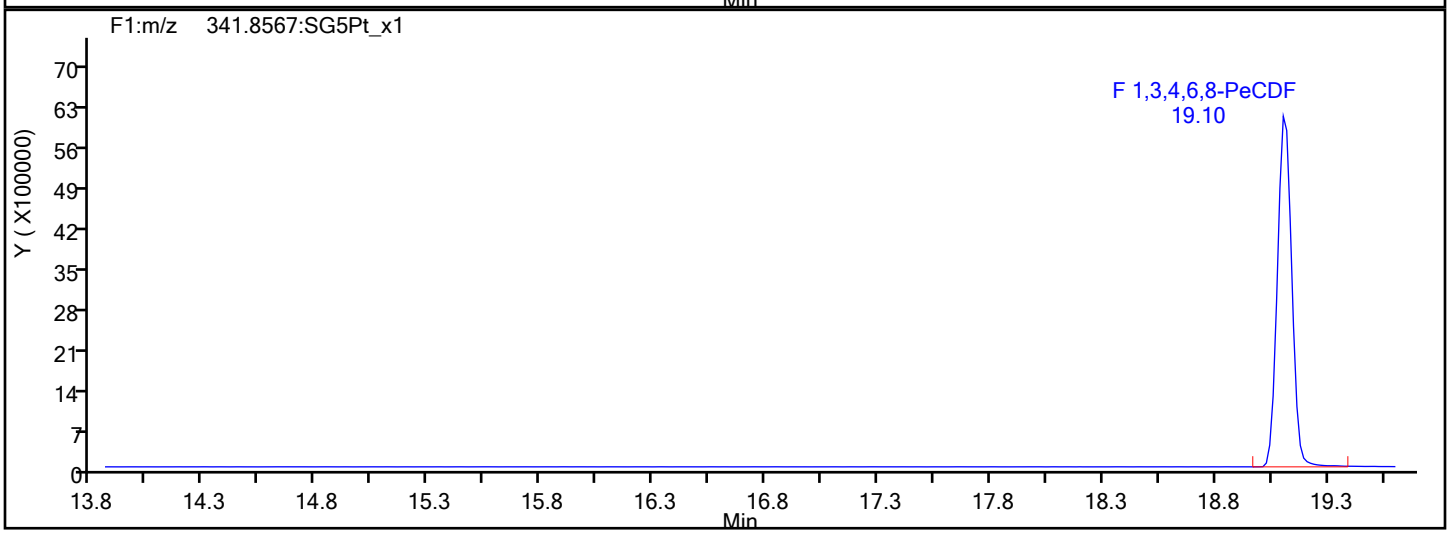

F1 PeCDFs Interference Mass

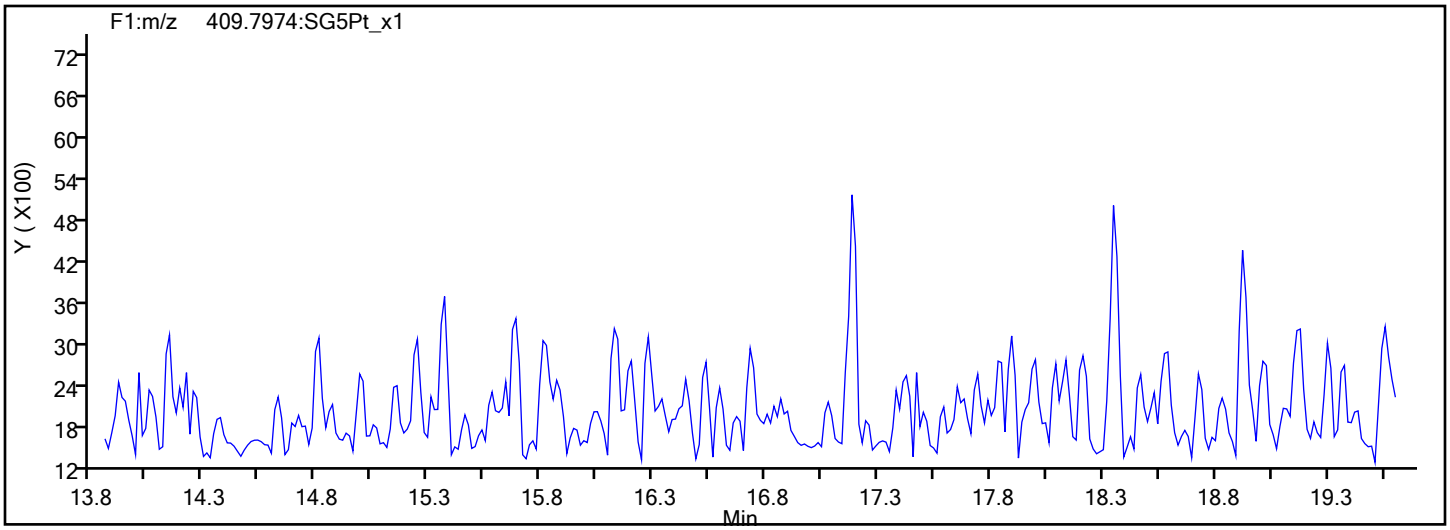

Report Date: 15-Nov-2019 12:55:03 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_1.d		
Injection Date:	14-Nov-2019 08:14:53	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

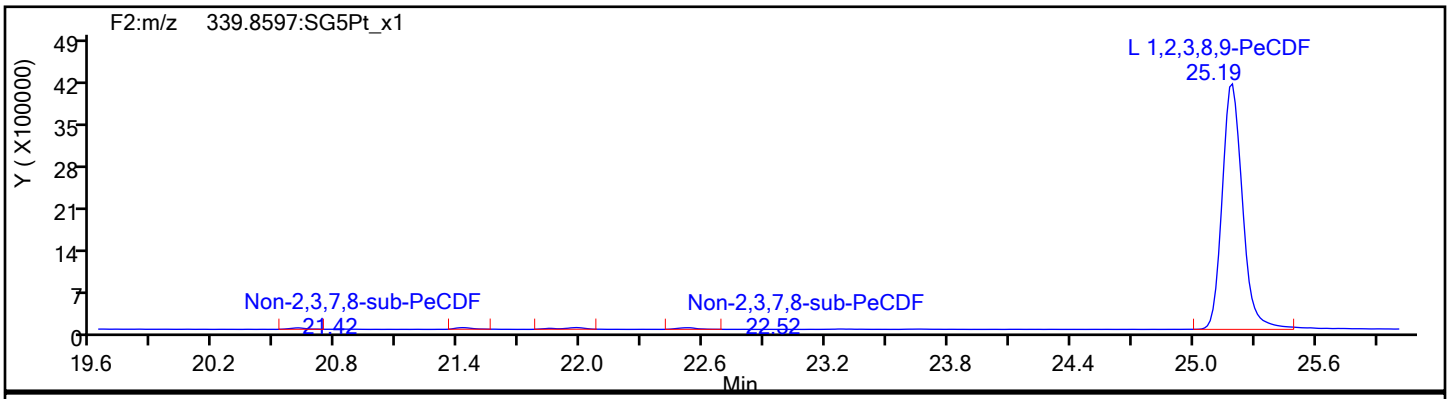

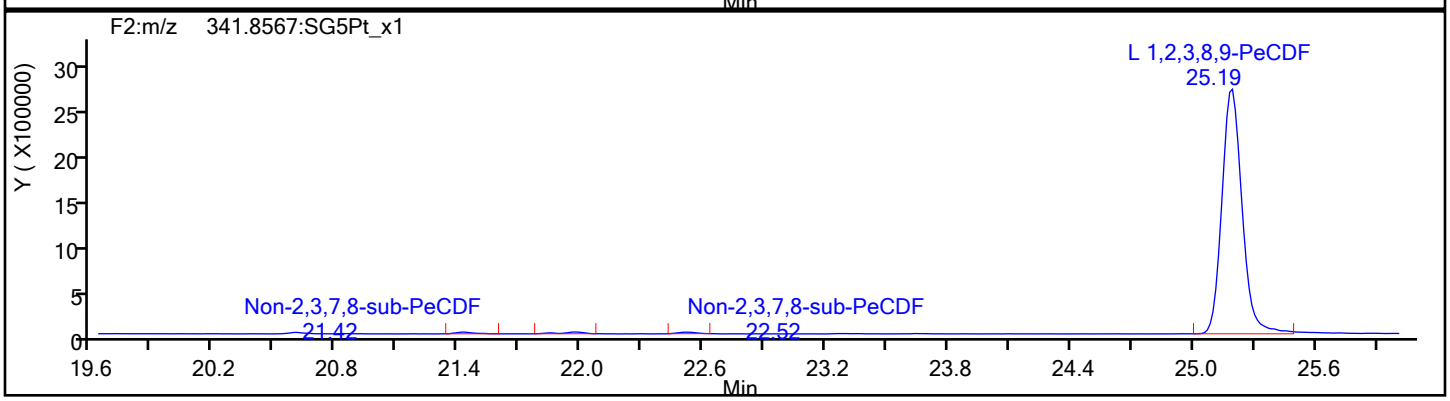

PeCDF Standards

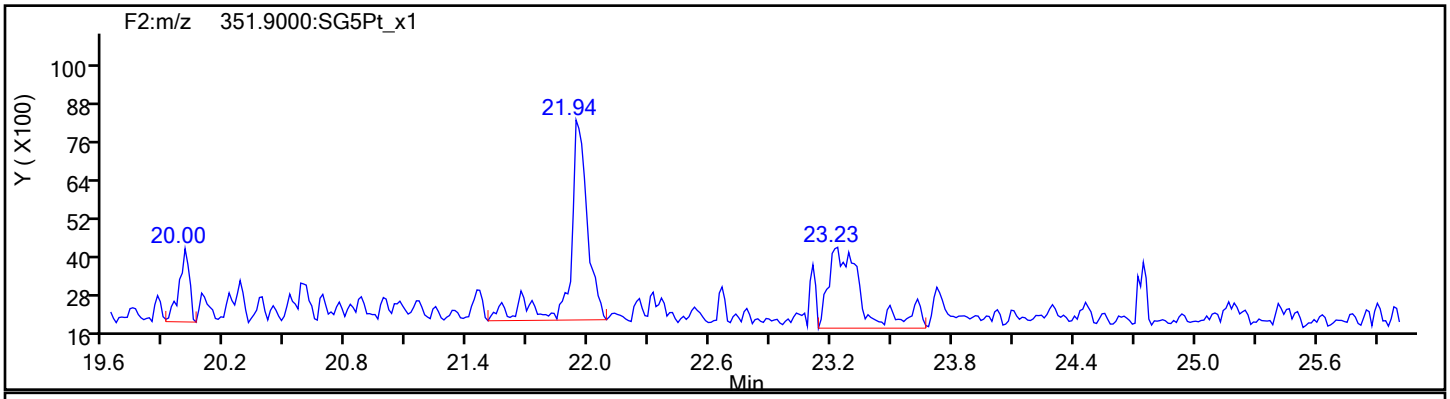

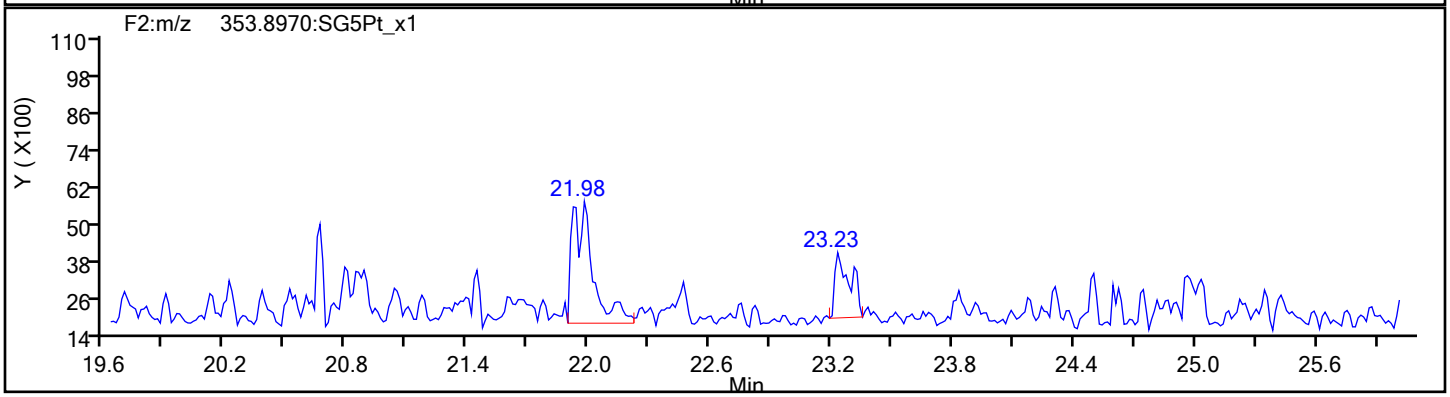

Report Date: 15-Nov-2019 12:55:03 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_1.d		
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Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

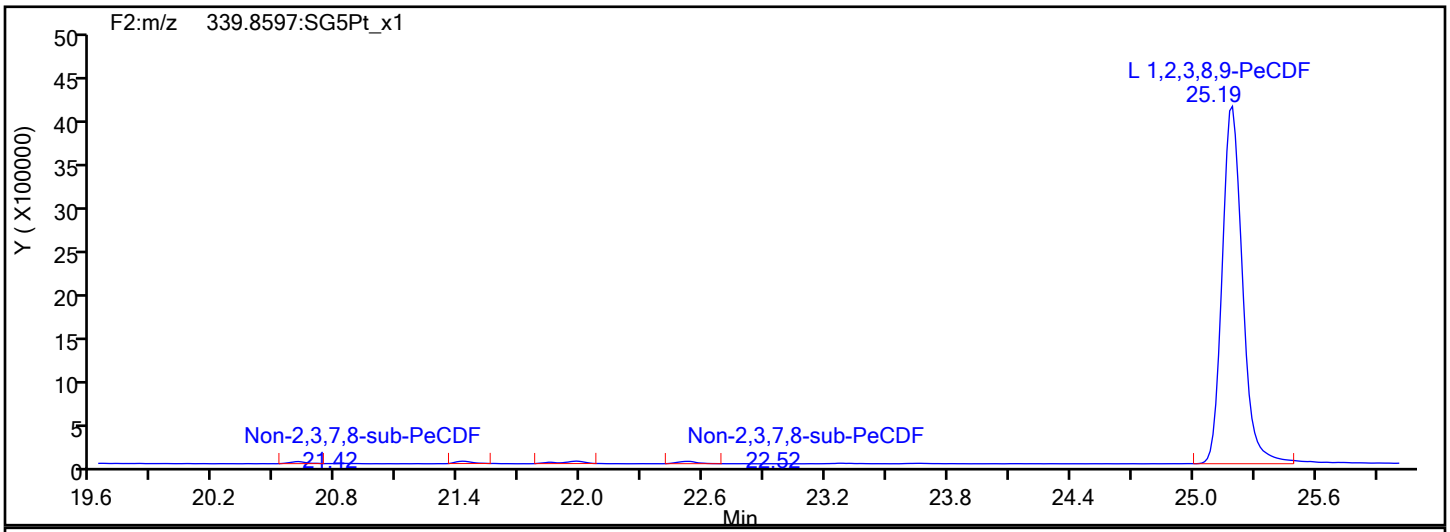

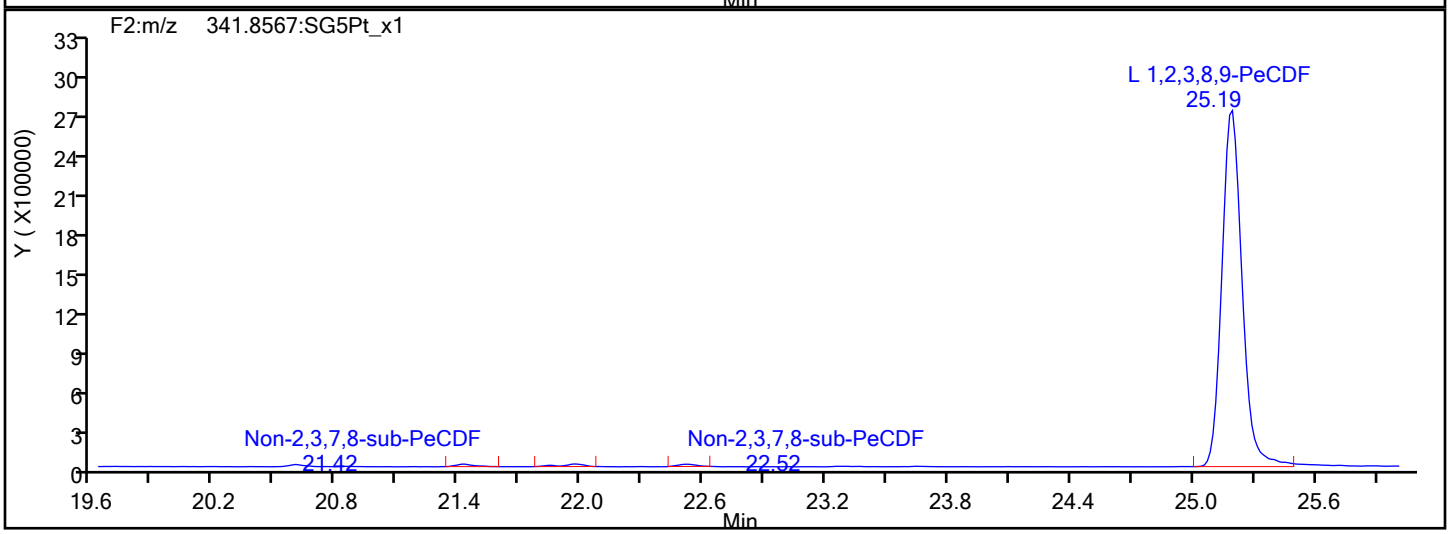

PeCDF Interference Mass

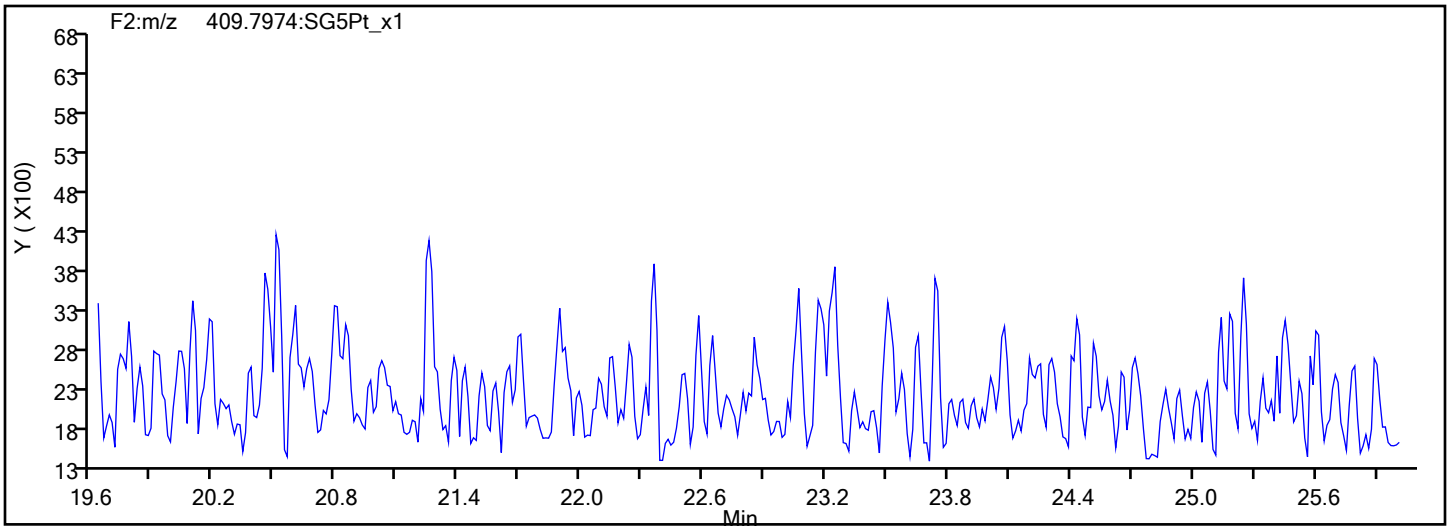

Report Date: 15-Nov-2019 12:55:03 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_1.d		
Injection Date:	14-Nov-2019 08:14:53	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

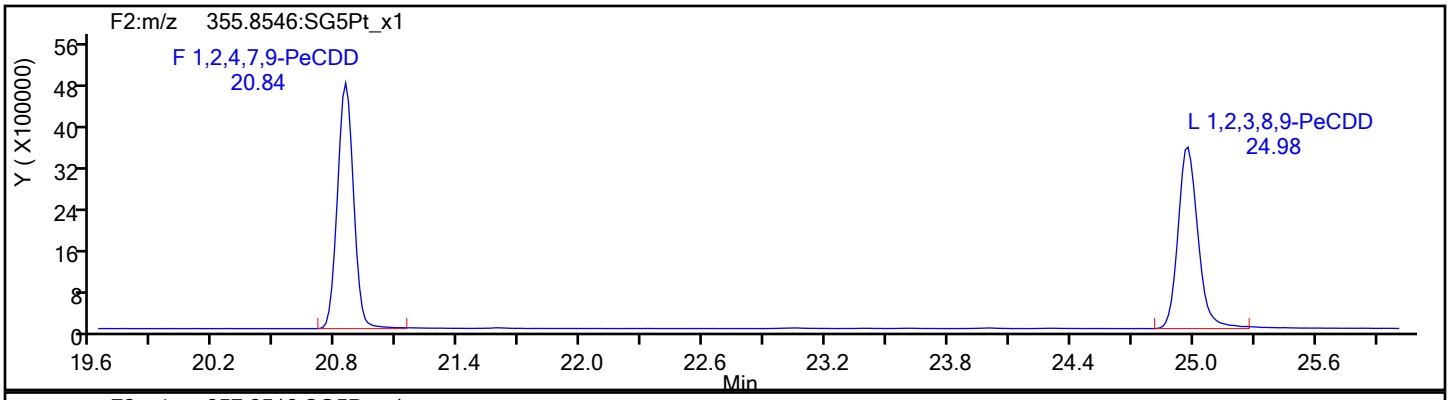

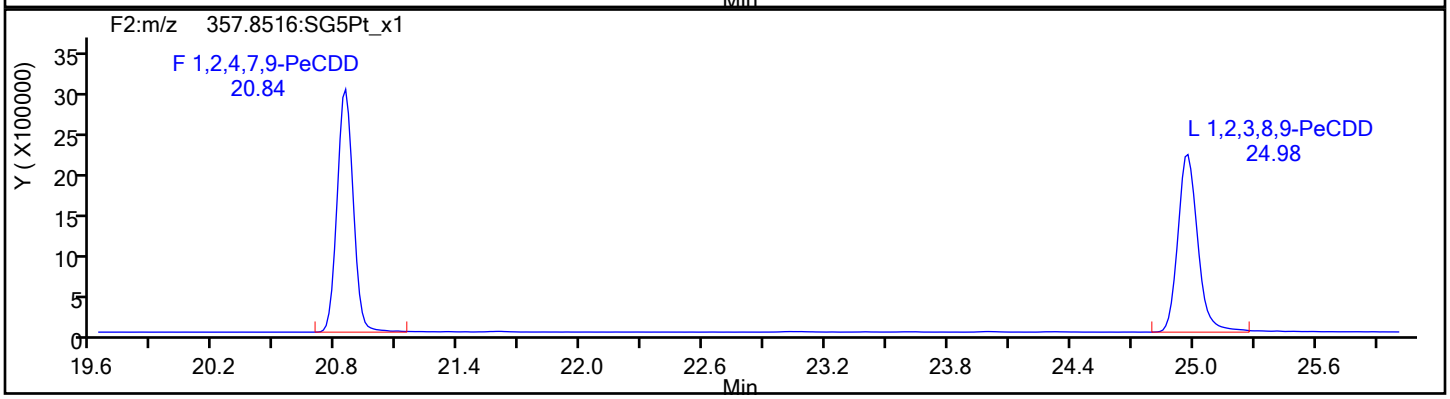

PeCDD Standards

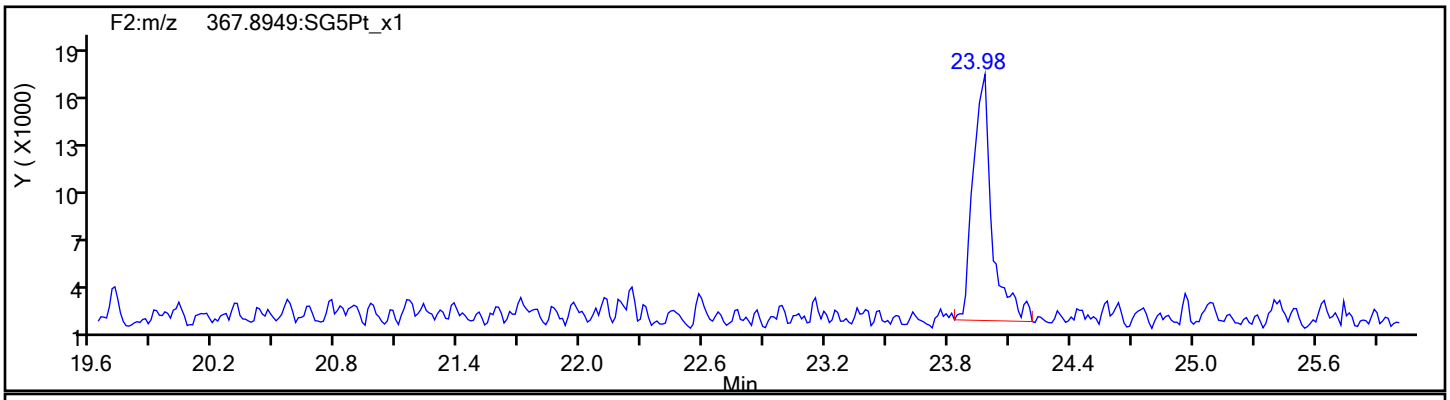

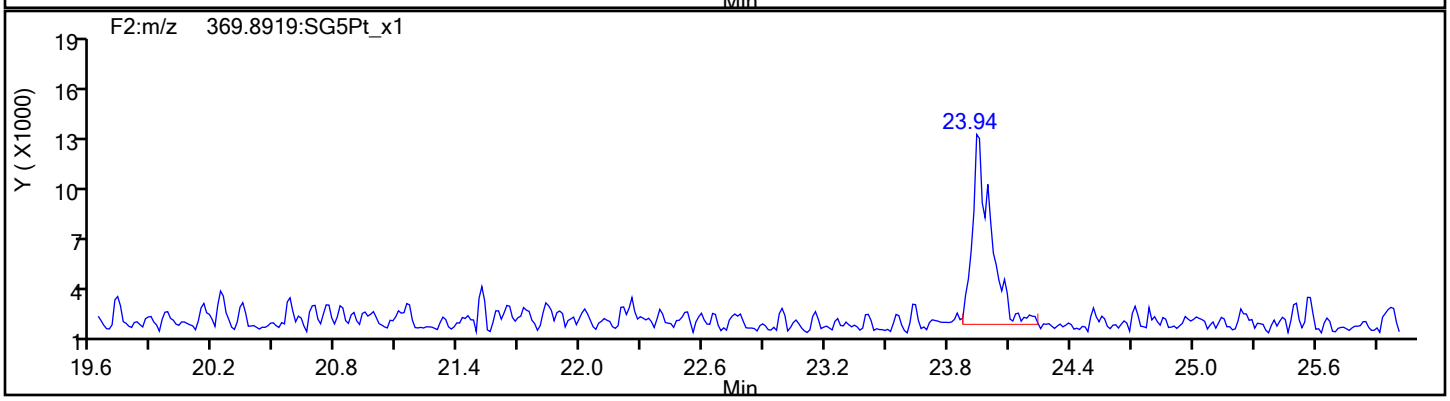

Report Date: 15-Nov-2019 12:55:03 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_1.d		
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Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

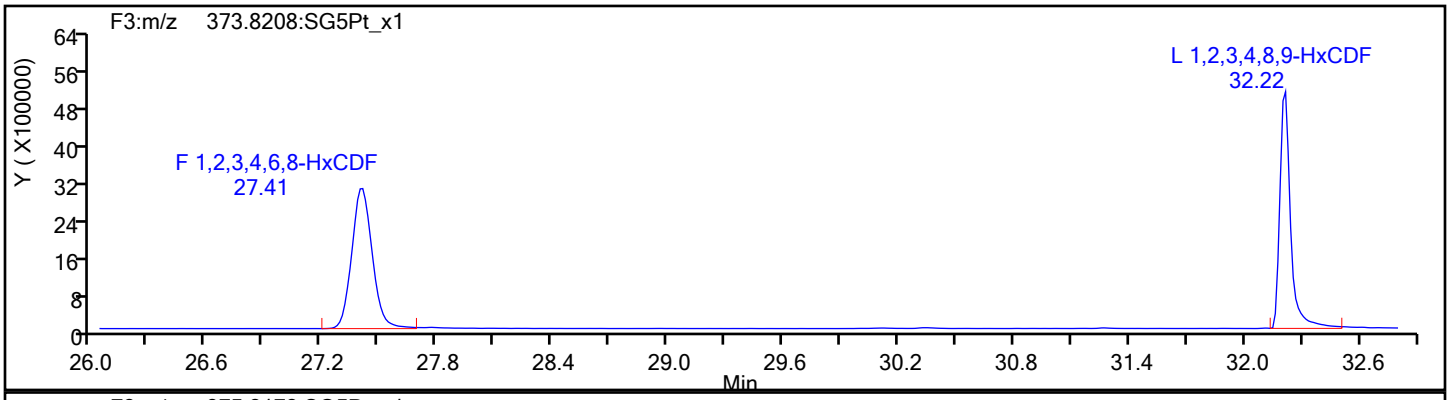

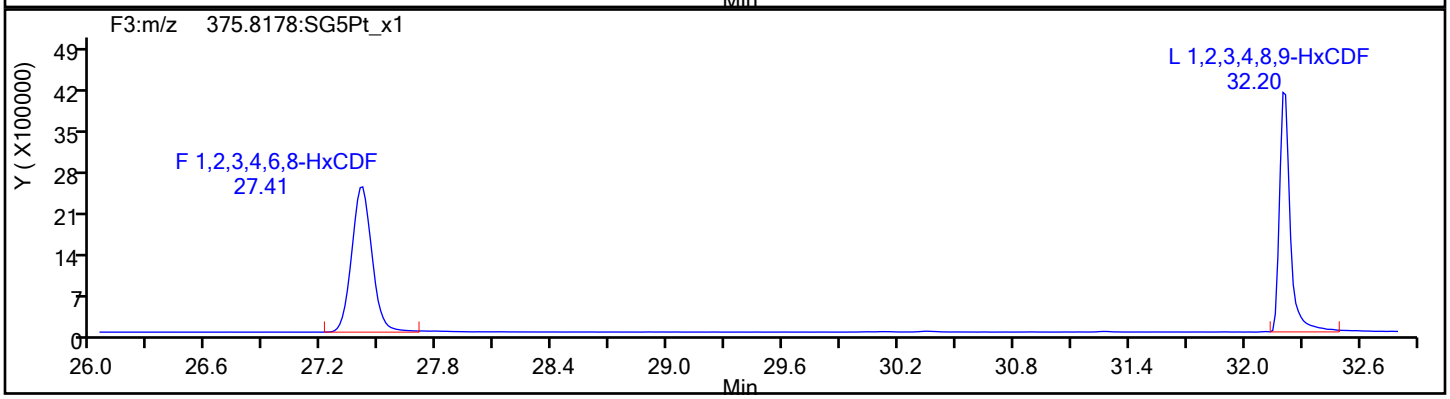

HxCDF Standards

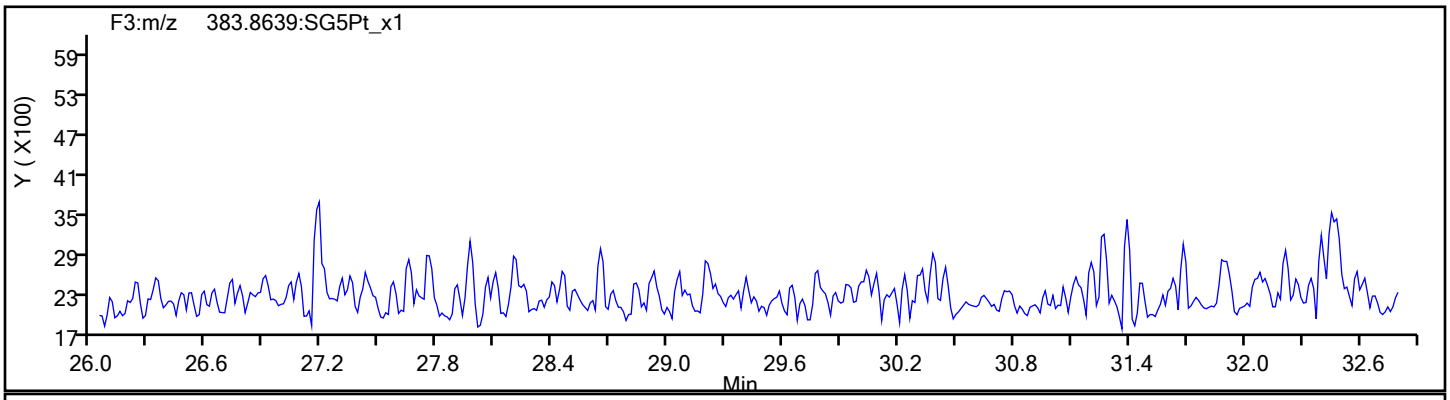

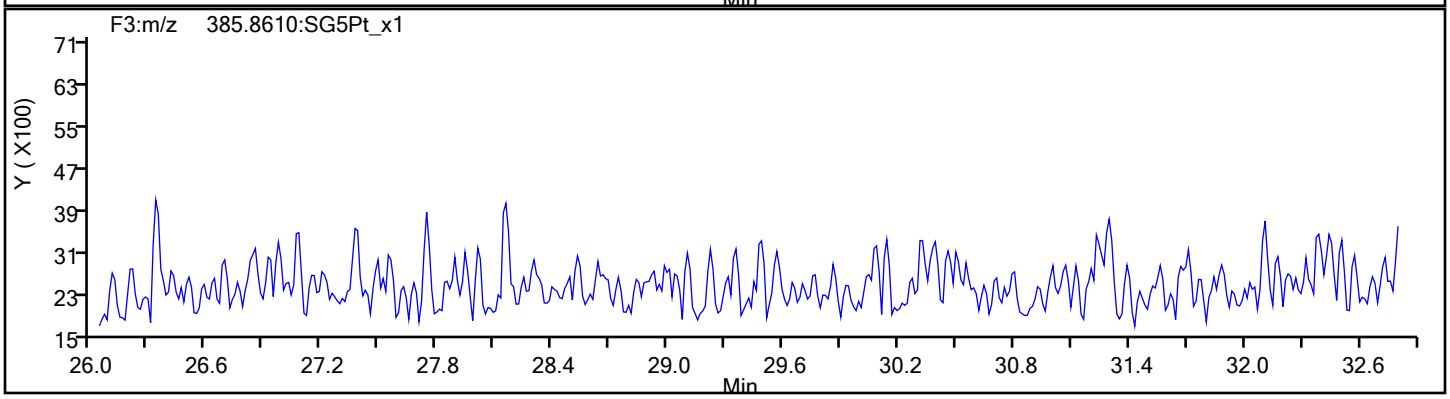

Report Date: 15-Nov-2019 12:55:03 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_1.d		
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Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

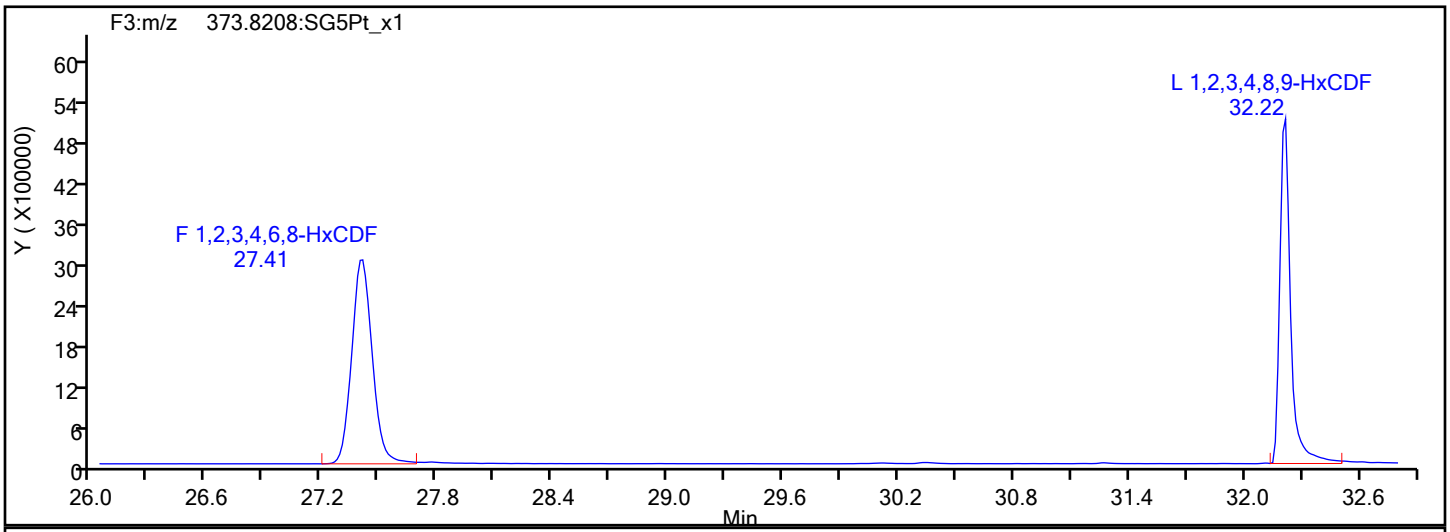

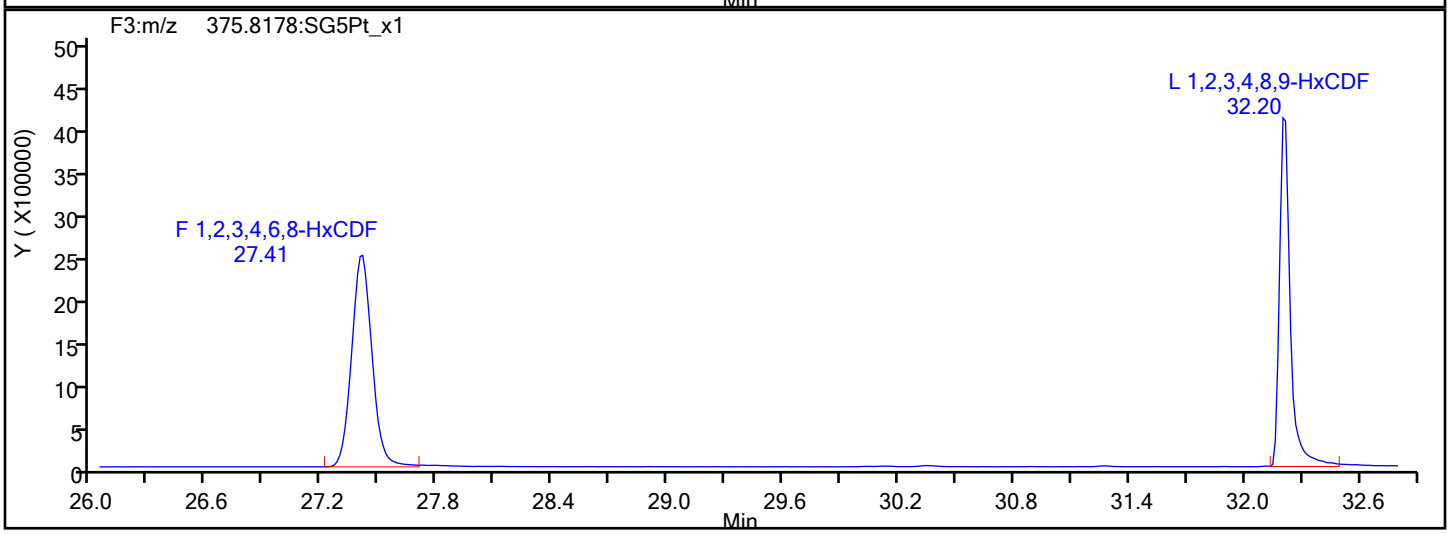

HxCDF Interference Mass

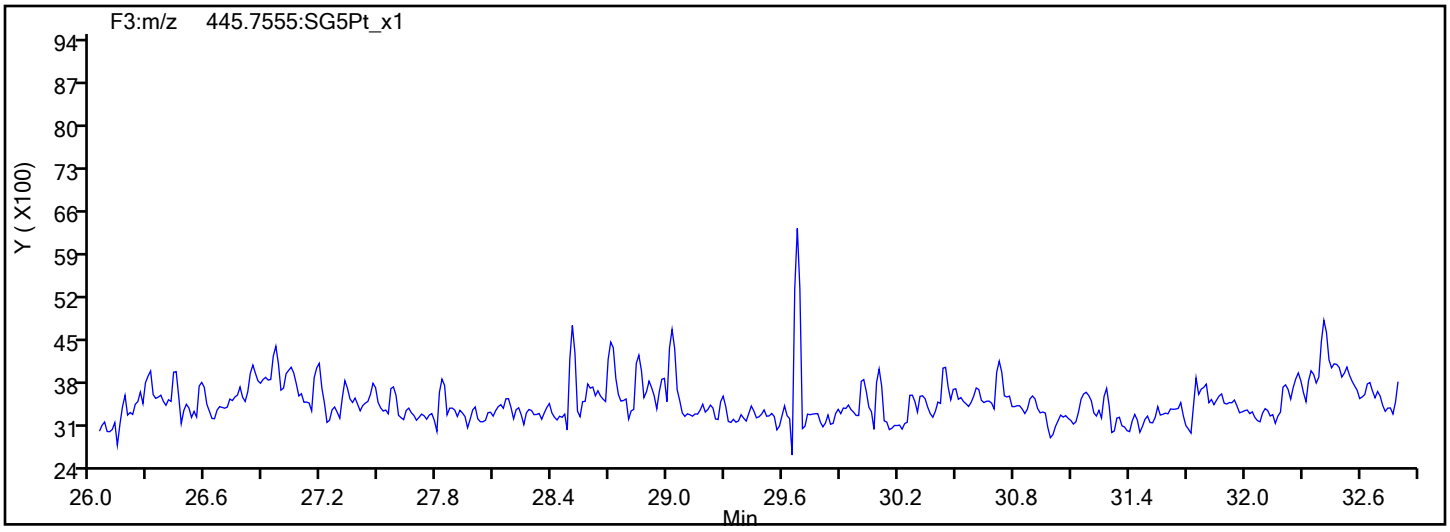

Report Date: 15-Nov-2019 12:55:03 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_1.d		
Injection Date:	14-Nov-2019 08:14:53	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDD

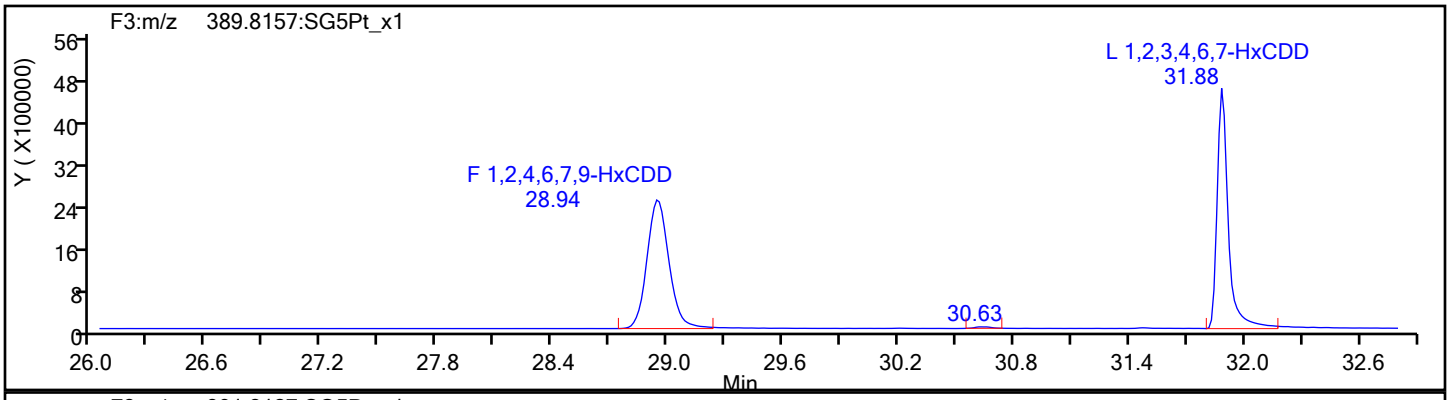

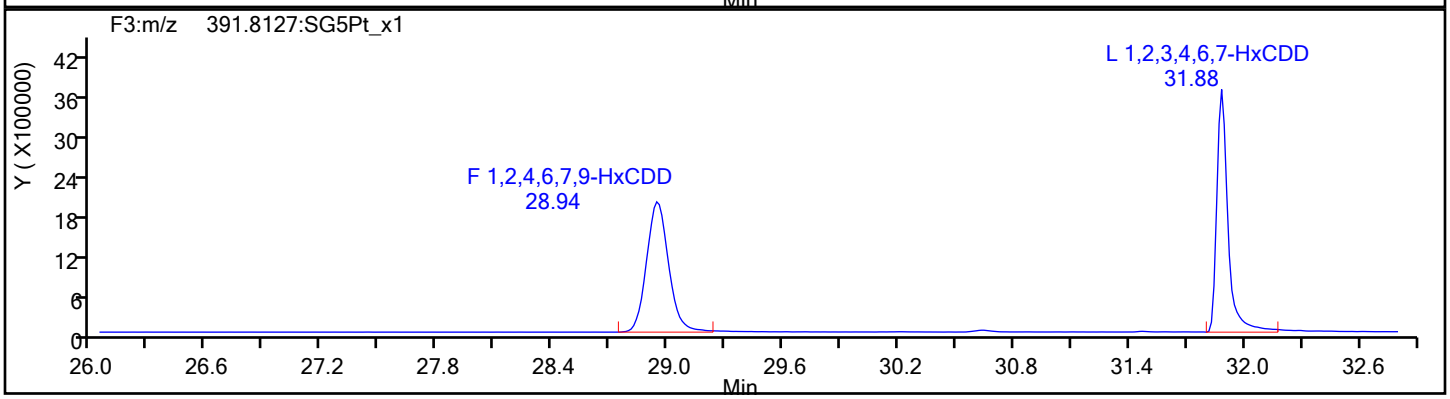

HxCDD Standards

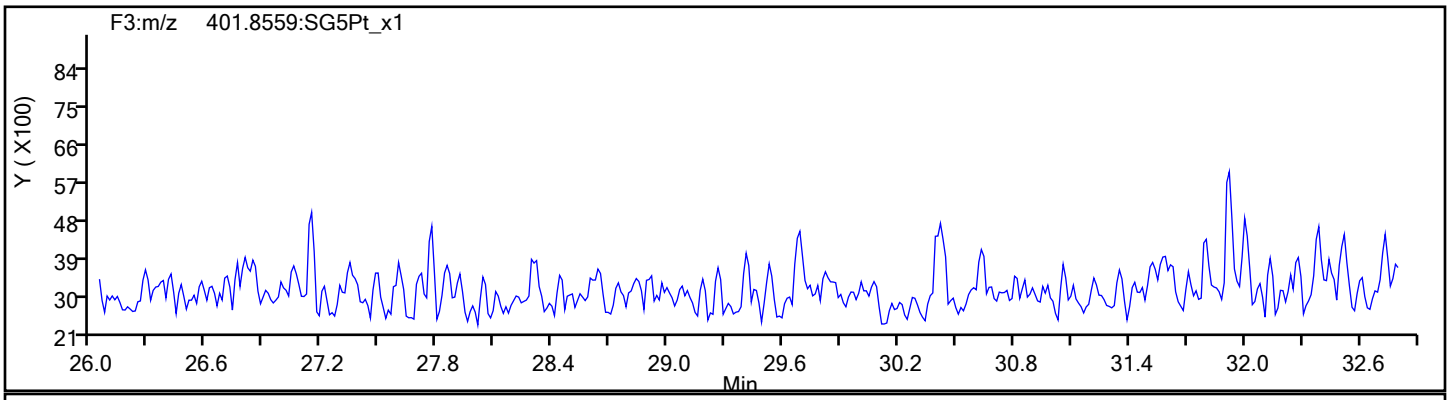

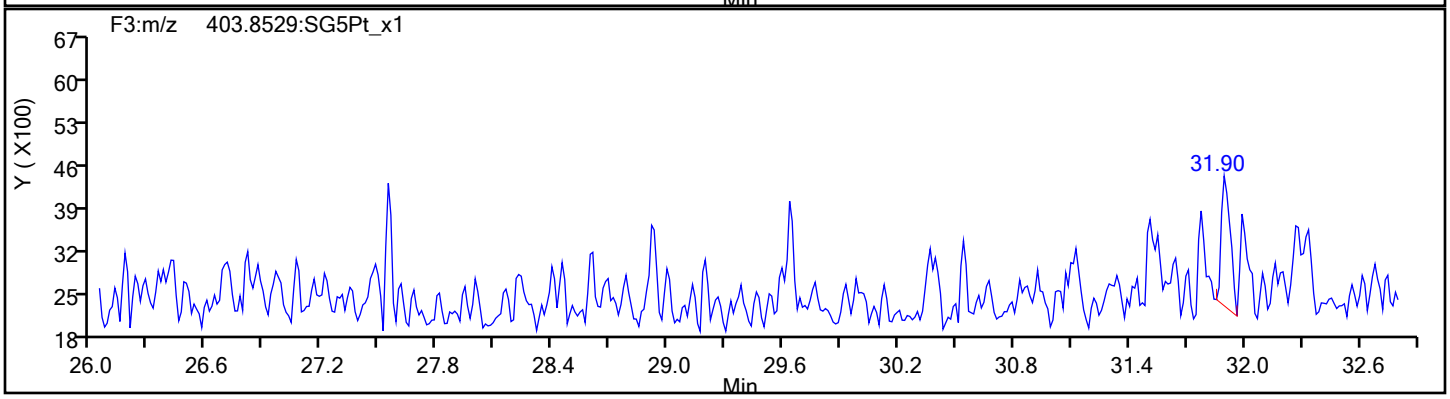

Report Date: 15-Nov-2019 12:55:03 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_1.d		
Injection Date:	14-Nov-2019 08:14:53	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

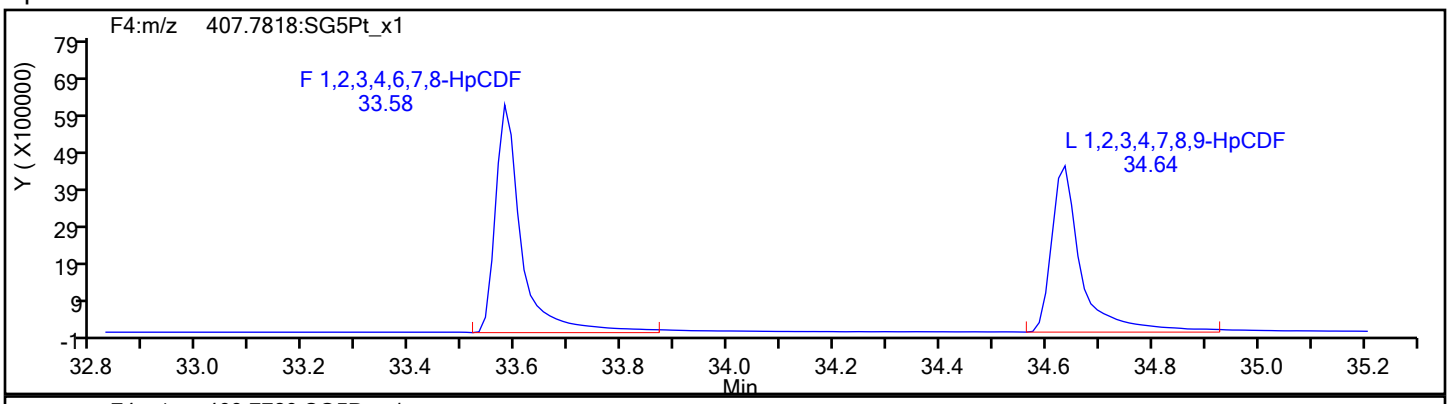

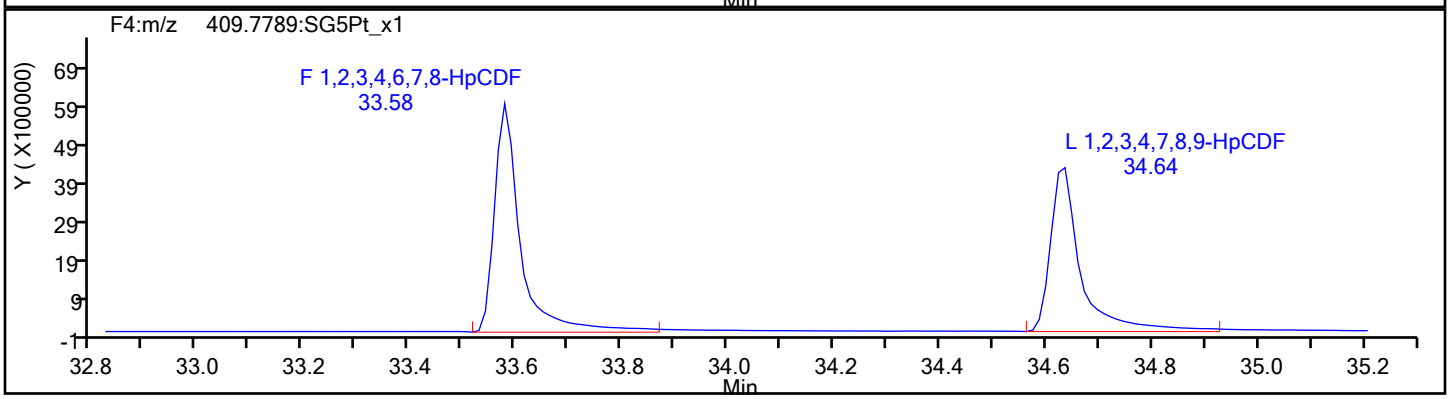

HpCDF Standards

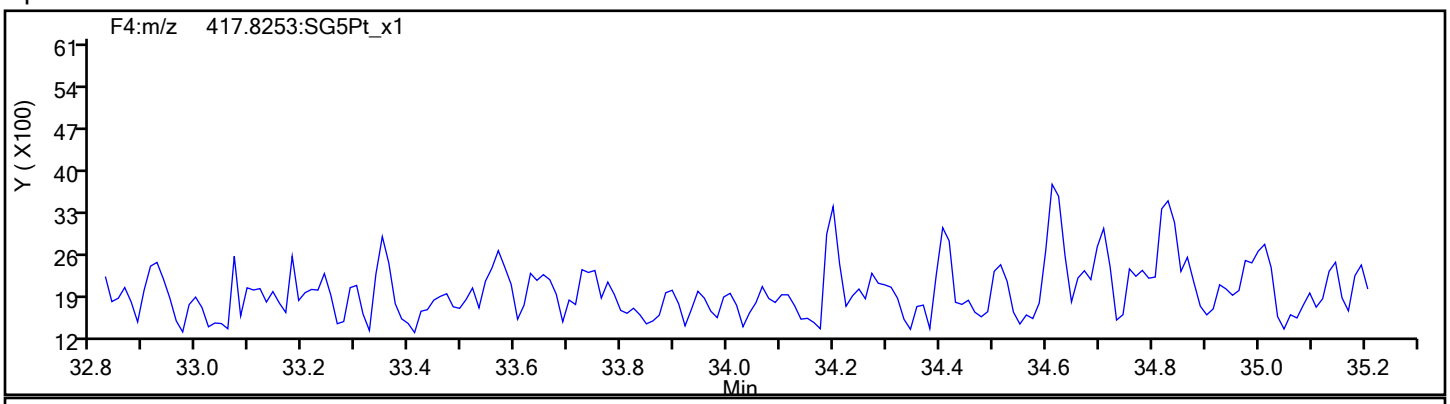

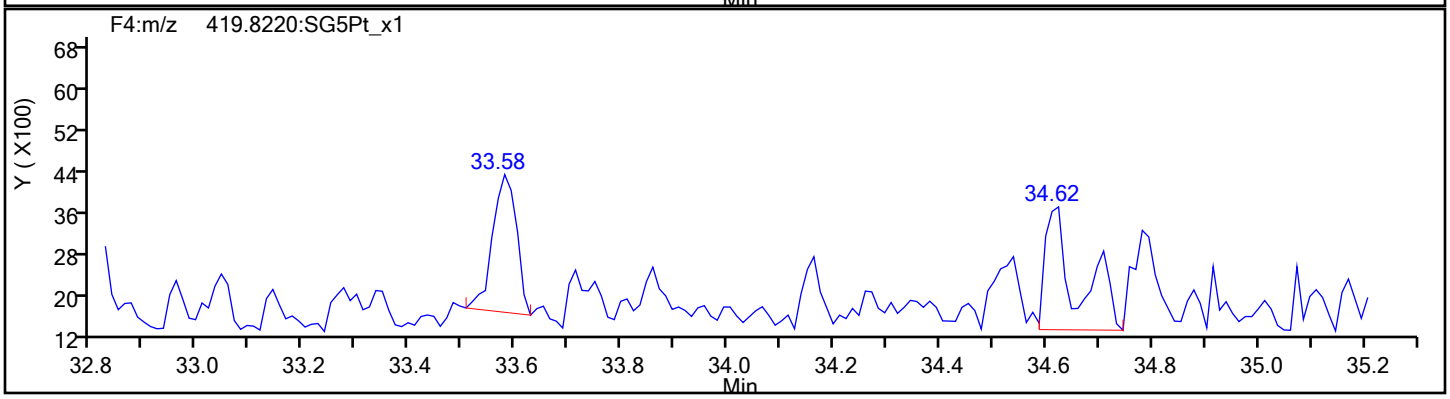

Report Date: 15-Nov-2019 12:55:03 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_1.d		
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Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

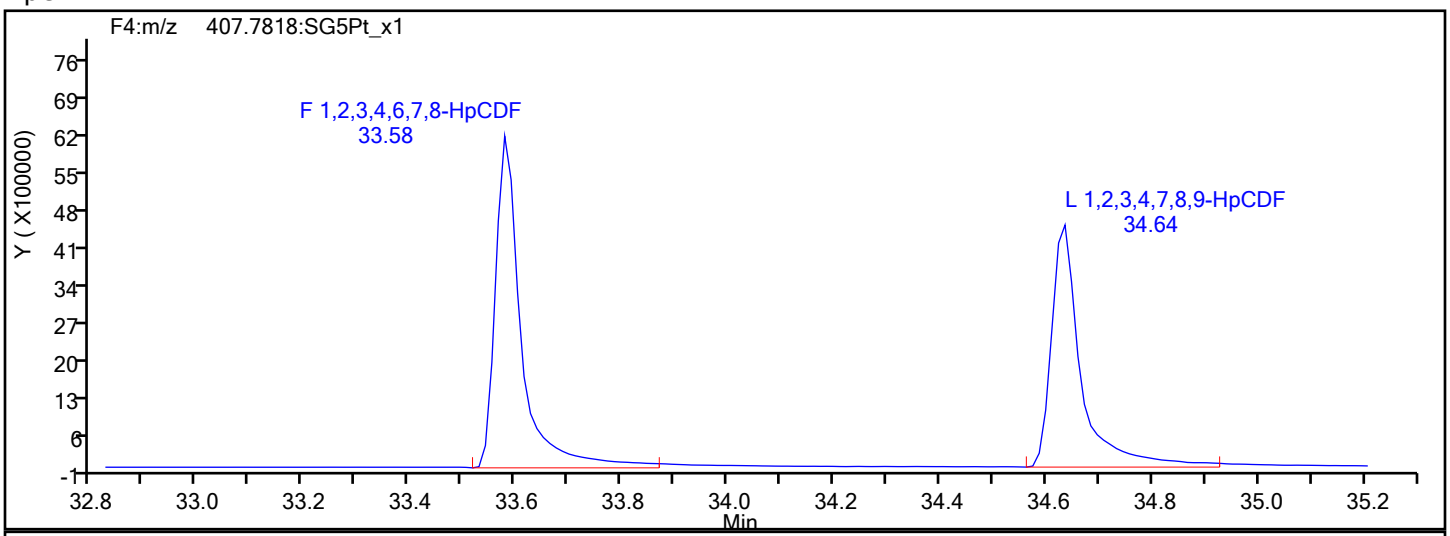

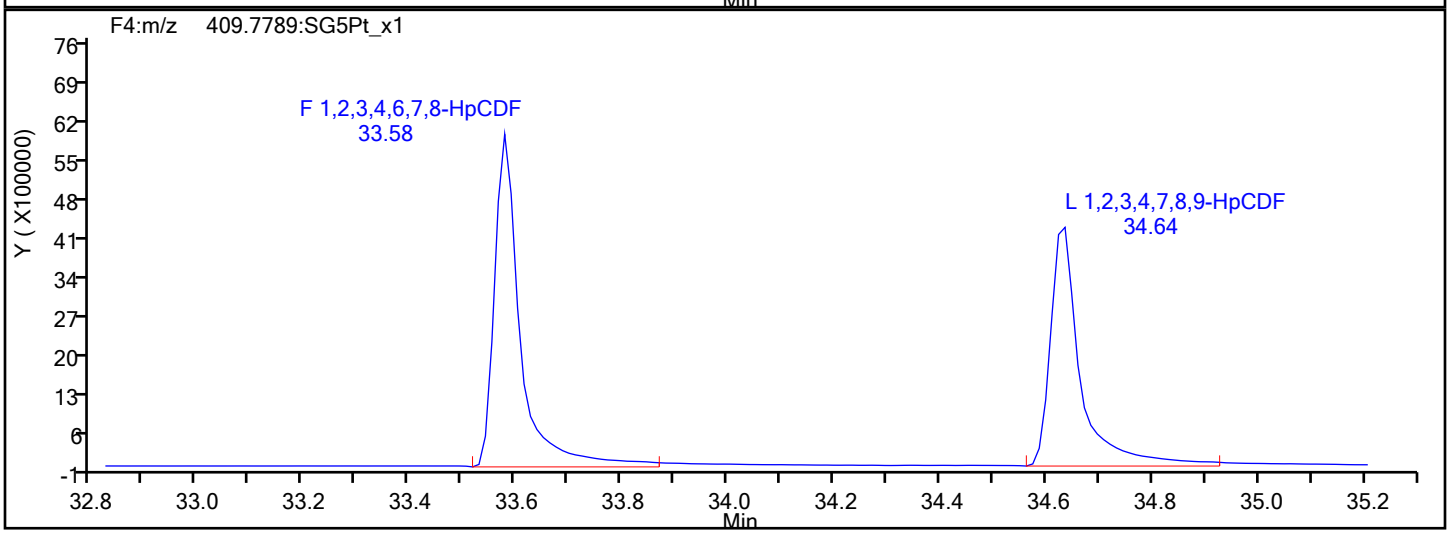

HpCDF Interference Mass

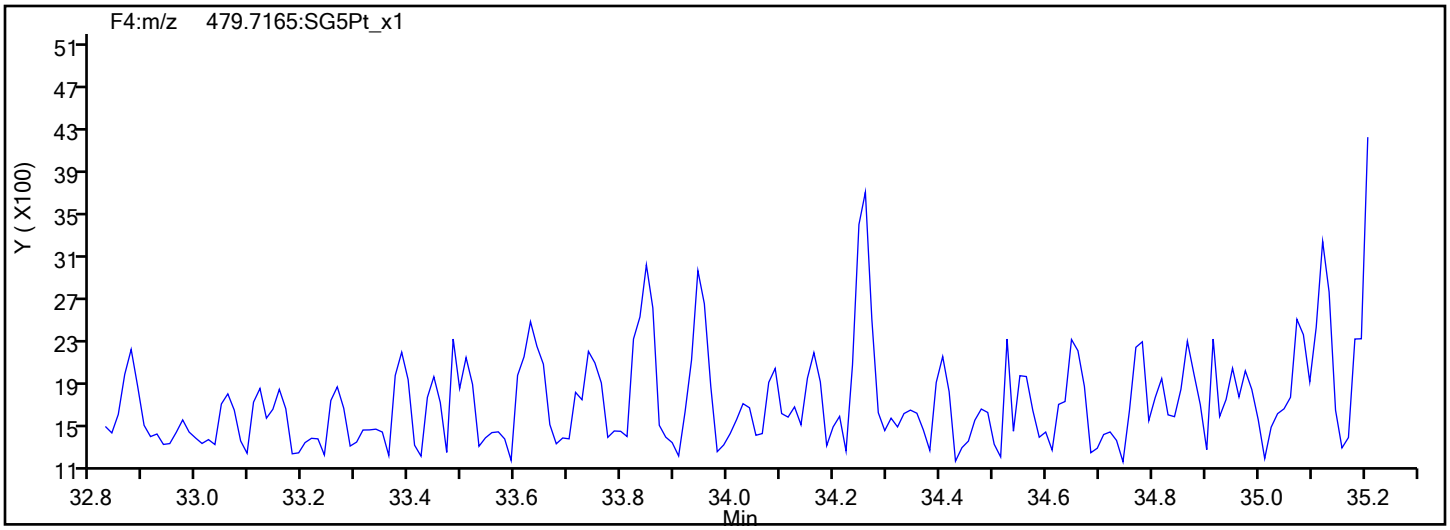

Report Date: 15-Nov-2019 12:55:03 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_1.d		
Injection Date:	14-Nov-2019 08:14:53	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

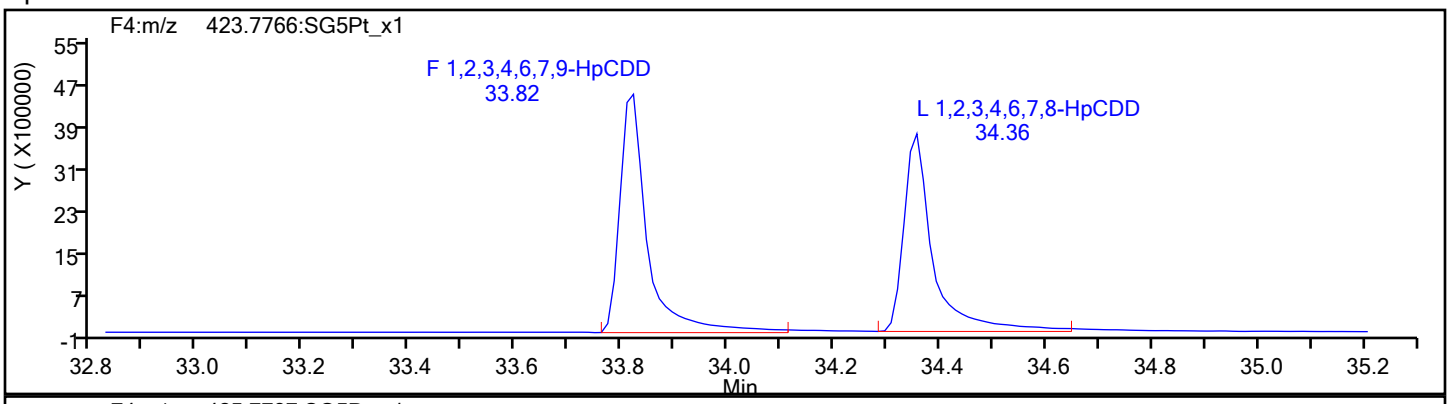

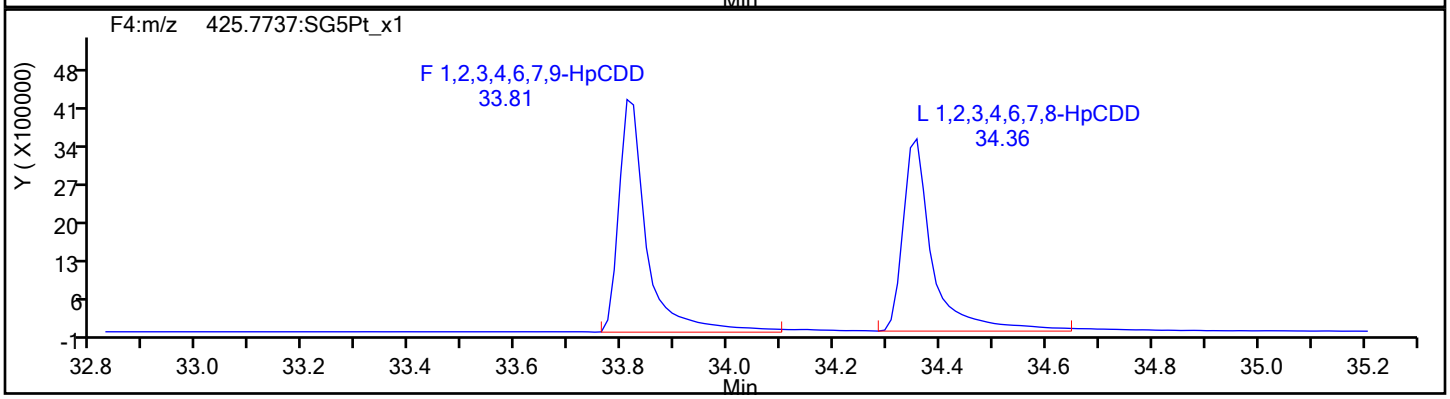

HpCDD Standards

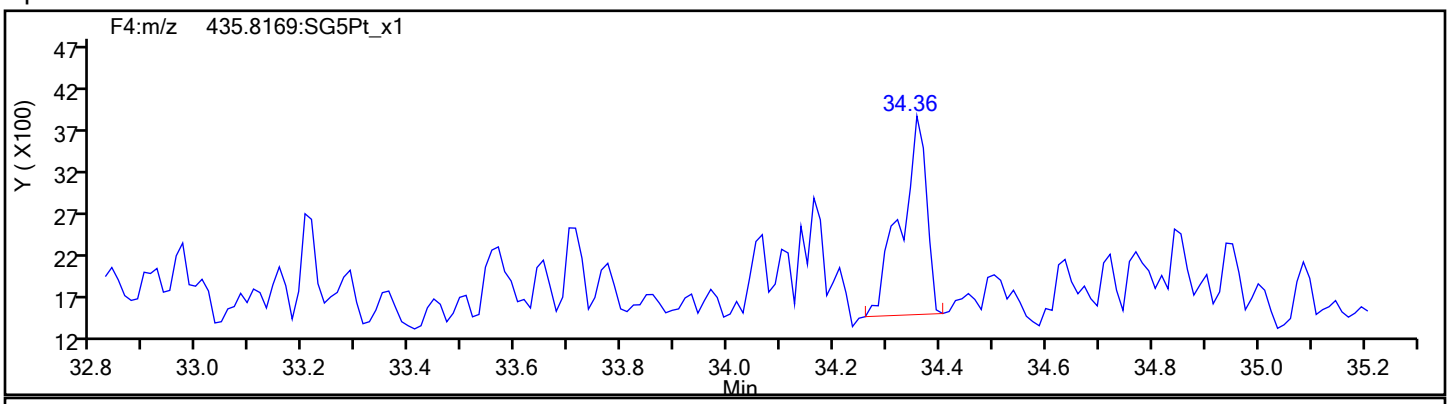

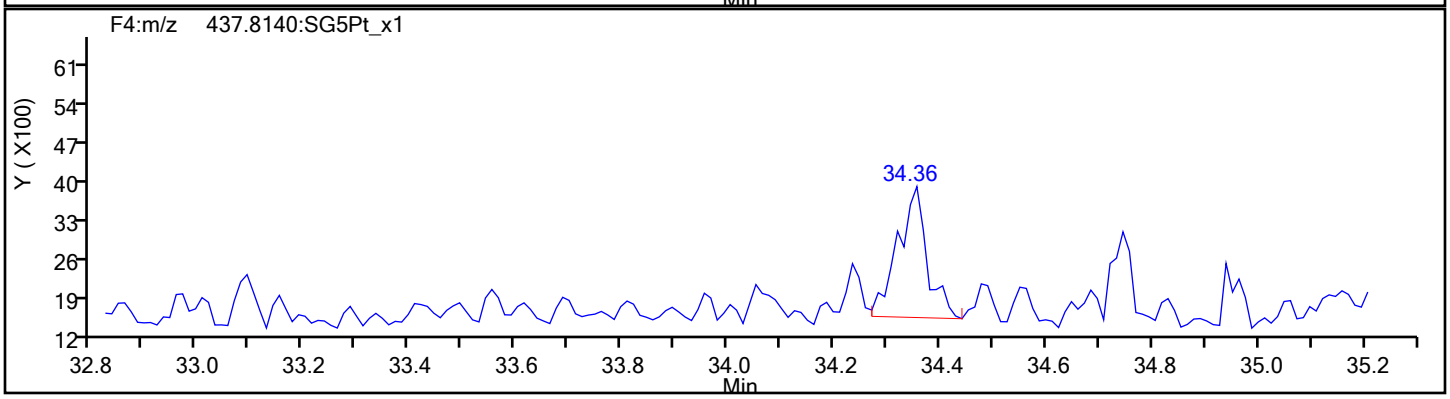

Report Date: 15-Nov-2019 12:55:03 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Injection Date:	14-Nov-2019 08:14:53	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

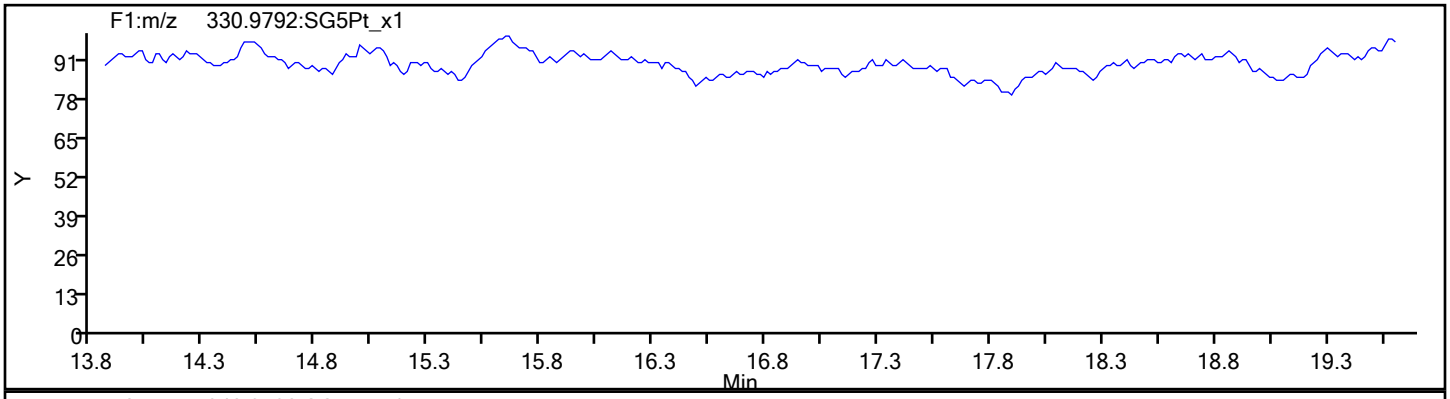

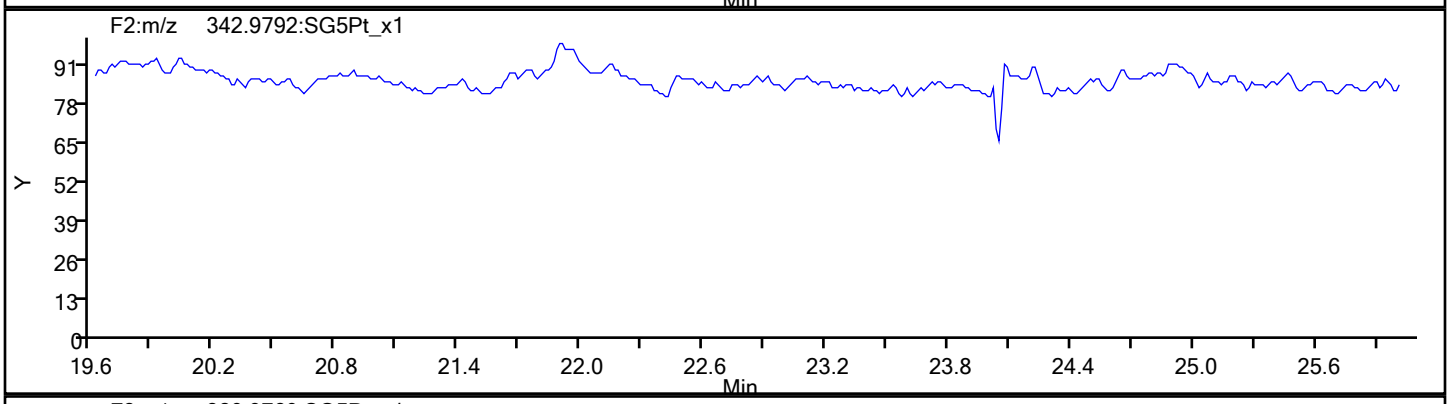

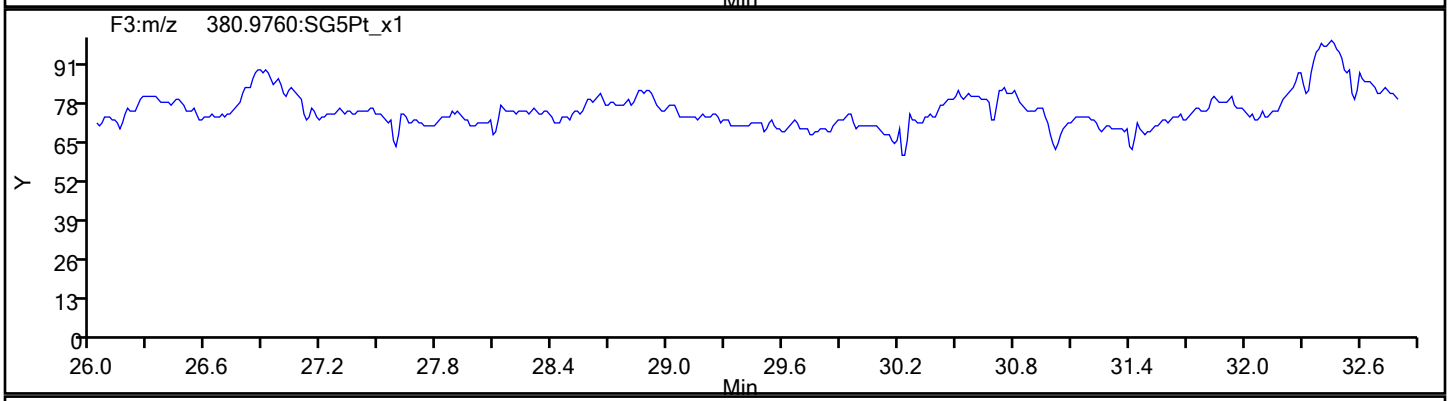

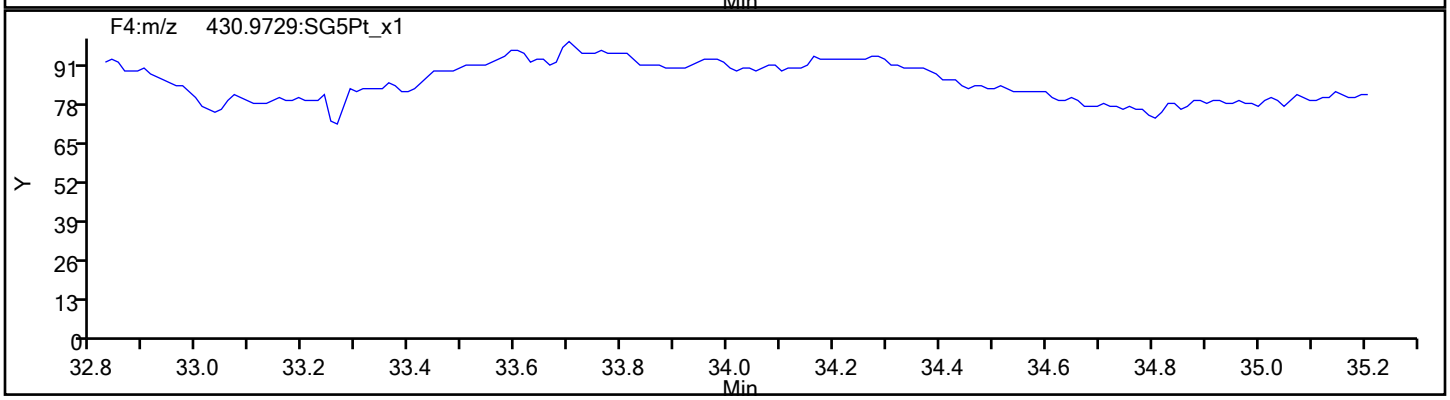

Report Date: 15-Nov-2019 12:55:03 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	338471	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

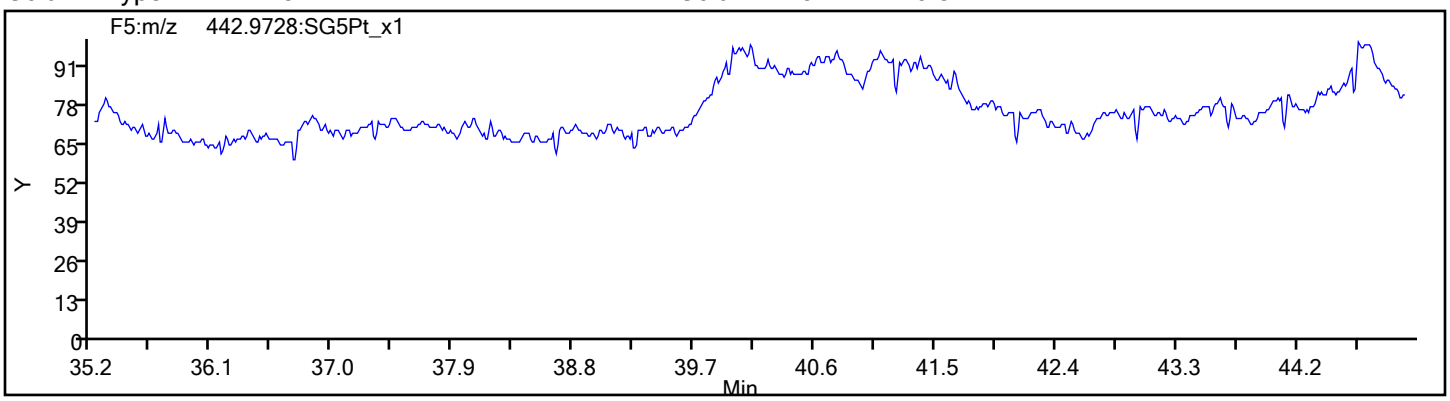

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_16.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 14-Jan-2020 00:36:18 ALS Bottle#: 1 Worklist Smp#: 16
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 011320A WDM HRDXNCP_00040
Misc. Info.: 13JA2010D5
Operator ID: SMA/ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Jan-2020 13:34:31 Calib Date: 14-Nov-2019 12:50:49
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0312

First Level Reviewer: arghestanis Date: 14-Jan-2020 13:25:16

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	17.121	39093598	0.78	1.3318					0.00	
2,3,7,8-TCDF	17.151	71877201	0.75	0.9005	81.7	81.7	0.3336	0.3336		
A Non-2,3,7,8-sub-TCDF	16.849						0.3336	0.3336		
S Total TCDF					81.7	81.7	0.3336	0.3336		
D 13C-2,3,7,8-TCDD	17.816	25920931	0.78	0.9647					0.00	
2,3,7,8-TCDD	17.832	28912354	0.77	1.0698	41.7	41.7	0.1283	0.1283		
A Non-2,3,7,8-sub-TCDD	17.295						0.1283	0.1283		
S Total TCDD					41.7	41.7	0.1283	0.1283		
A F1 PeCDFs	19.691						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	22.784	408690	1.55	0.0000						RQ
S Total PeCDF										RQ
A Non-2,3,7,8-sub-PeCDD	23.028						0.0	0.0		
S Total PeCDD										
A Non-2,3,7,8-sub-HxCDF	29.913						0.0	0.0		
S Total HxCDF										
A Non-2,3,7,8-sub-HxCDD	30.518	218916	1.12	0.0000						
S Total HxCDD										
1,2,3,4,6,7,8-HpCDF	33.618	25097187	1.02	1.4240						
1,2,3,4,7,8,9-HpCDF	34.687	20107646	1.04	1.2834						
A Non-2,3,7,8-sub-HpCDF	34.152						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	34.407	17415697	1.06	1.0174						
A Non-2,3,7,8-sub-HpCDD	34.134						0.0	0.0		
S Total HpCDD										
1,3,6,8-TCDF	14.762	38469812	0.73							
1,3,6,8-TCDD	15.654	28764709	0.77							
2,3,4,7-TCDF	17.151	71877201	0.75							
1,2,3,7-TCDD	17.726	26002976	0.77							
1,2,3,9-TCDF	17.998	29985869	0.76							
1,2,3,9-TCDD	17.998	29152709	0.78							

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,8,9-TCDD	18.935	12261141								
1,2,8,9-TCDF	18.935	32011831	0.76							
1,3,4,6,8-PeCDF	19.208	37376159	1.54							
1,2,4,7,9-PeCDD	20.955	23731218	1.57							
1,2,3,8,9-PeCDD	25.101	22805496	1.59							
1,2,3,8,9-PeCDF	25.319	27196183	1.57							
1,2,3,4,6,8-HxCDF	27.557	21838493	1.22							
1,2,4,6,7,9-HxCDD	29.101	20447682	1.24							
1,2,3,4,6,7-HxCDD	31.936	21297921	1.24							
1,2,3,4,8,9-HxCDF	32.269	21330208	1.20							
1,2,3,4,6,7,9-HpCDD	33.861	18579835	1.04							

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNCP_00040 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_16.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 14-Jan-2020 00:36:18 ALS Bottle#: 1 Worklist Smp#: 16
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 011320A WDM HRDXNCP_00040
Misc. Info.: 13JA2010D5
Operator ID: SMA/ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 14-Jan-2020 13:34:31 Calib Date: 14-Nov-2019 12:50:49
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0312

First Level Reviewer: arghestanis Date: 14-Jan-2020 13:25:16

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	17.121	17.121	0	1.000	17154802	4385730	18375	45937	239		
317.9389	17.121	17.121	0	1.000	21938796	5726574	4882	12205	1173	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.151	17.151	0	1.002	30908654	7314193	19597	48992	373		
305.8987	17.151	17.151	0	1.002	40968547	9687174	10785	26962	898	0.75(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.849						19597	48992			
305.8987	16.849						10785	26962			
13C-2,3,7,8-TCDD											
331.9368	17.816	17.816	0	1.000	11383532	2889954	4599	11497	628		
333.9339	17.816	17.816	0	1.000	14537399	3610223	2434	6085	1483	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.832	17.832	0	1.001	12567613	3037726	3654	9135	831		
321.8936	17.832	17.832	0	1.001	16344741	4056616	5271	13177	770	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.295						3654	9135			
321.8936	17.295						5271	13177			
A F1 PeCDFs											
339.8597	19.691						1037	2592			
341.8567	19.691						1232	3080			
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	21.555	22.784	-74	1.000	66740	10633	2379	5947	4		
341.8567	21.542	22.784	-74	1.000	37576	6763	1943	4857	3	1.78(1.32-1.78)	
339.8597	22.101	22.784	-41	1.000	110572	15670	2379	5947	7		
341.8567	22.101	22.784	-41	1.000	88279	11804	1943	4857	6	1.25(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
339.8597	22.646	22.784	-8	1.000	70259	9203	2379	5947	4		
341.8567	22.660	22.784	-7	1.000	52207	7178	1943	4857	4	1.35(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.028						2645	6612			
357.8516	23.028						1676	4190			
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.913						2741	6852			
375.8178	29.913						2016	5040			
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.738	30.518	13	1.000	115615	20256	2497	6242	8		
391.8127	30.738	30.518	13	1.000	103301	15533	2067	5167	8	1.12(1.05-1.43)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.618	33.618	0	1.000	12701963	3885391	11496	28740	338		
409.7789	33.618	33.618	0	1.000	12395224	3900531	12913	32282	302	1.02(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.687	34.687	0	1.000	10229299	2857044	11496	28740	249		
409.7789	34.687	34.687	0	1.000	9878347	2743797	12913	32282	212	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.152						11496	28740			
409.7789	34.152						12913	32282			
1,2,3,4,6,7,8-HpCDD											
423.7766	34.407	34.407	0	1.000	8957867	2596098	8161	20402	318		
425.7737	34.407	34.407	0	1.000	8457830	2445850	7651	19127	320	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.134						8161	20402			
425.7737	34.134						7651	19127			
1,3,6,8-TCDF											
303.9016	14.762	14.762	0		16233423	5261001	19597	48992	268		
305.8987	14.762	14.762	0		22236389	7021085	10785	26962	651	0.73(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	15.654	15.654	0		12525662	3750388	3654	9135	1026		
321.8936	15.654	15.654	0		16239047	4830746	5271	13177	916	0.77(0.65-0.89)	
2,3,4,7-TCDF											
303.9016	17.151	17.151	0		30908654	7314193	19597	48992	373		
305.8987	17.151	17.151	0		40968547	9687174	10785	26962	898	0.75(0.65-0.89)	
1,2,3,7-TCDD											
319.8965	17.726	17.726	0		11327797	2882630	3654	9135	789		
321.8936	17.726	17.726	0		14675179	3776063	5271	13177	716	0.77(0.65-0.89)	
1,2,3,9-TCDF											
303.9016	17.998	17.998	0		12901976	3153079	19597	48992	161		
305.8987	17.998	17.998	0		17083893	4256486	10785	26962	395	0.76(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	17.998	17.998	0		12799076	3056316	3654	9135	836		
321.8936	17.998	17.998	0		16353633	3911535	5271	13177	742	0.78(0.65-0.89)	
1,2,8,9-TCDD											
319.8965	18.935	18.935	0		12261141	2747926	3654	9135	752		

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Data File: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_16.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,8,9-TCDF											
303.9016	18.935	18.935	0		13772554	3186197	19597	48992	163		
305.8987	18.935	18.935	0		18239277	4300806	10785	26962	399	0.76(0.65-0.89)	
1,3,4,6,8-PeCDF											
339.8597	19.208	19.208	0		22682597	5125300	1037	2592	4942		
341.8567	19.208	19.208	0		14693562	3372617	1232	3080	2738	1.54(1.32-1.78)	
1,2,4,7,9-PeCDD											
355.8546	20.955	20.955	0		14507320	2622987	2645	6612	992		
357.8516	20.942	20.955	-1		9223898	1652431	1676	4190	986	1.57(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	25.101	25.101	0		13993788	2113524	2645	6612	799		
357.8516	25.101	25.101	0		8811708	1320168	1676	4190	788	1.59(1.32-1.78)	
1,2,3,8,9-PeCDF											
339.8597	25.319	25.319	0		16611247	2443267	2379	5947	1027		
341.8567	25.319	25.319	0		10584936	1588632	1943	4857	818	1.57(1.32-1.78)	
1,2,3,4,6,8-HxCDF											
373.8208	27.557	27.557	0		11986182	1586225	2741	6852	579		
375.8178	27.544	27.557	-1		9852311	1284001	2016	5040	637	1.22(1.05-1.43)	
1,2,4,6,7,9-HxCDD											
389.8157	29.101	29.101	0		11299114	1359687	2497	6242	545		
391.8127	29.101	29.101	0		9148568	1104442	2067	5167	534	1.24(1.05-1.43)	
1,2,3,4,6,7-HxCDD											
389.8157	31.936	31.936	0		11801245	3070068	2497	6242	1230		
391.8127	31.936	31.936	0		9496676	2520452	2067	5167	1219	1.24(1.05-1.43)	
1,2,3,4,8,9-HxCDF											
373.8208	32.269	32.269	0		11652382	3127463	2741	6852	1141		
375.8178	32.269	32.269	0		9677826	2568833	2016	5040	1274	1.20(1.05-1.43)	
1,2,3,4,6,7,9-HpCDD											
423.7766	33.861	33.861	0		9491313	2926459	8161	20402	359		
425.7737	33.861	33.861	0		9088522	2781246	7651	19127	364	1.04(0.88-1.20)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Reagents:

HRDXNCP_00040 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_16.d
Lims ID: WDM
Client ID:
Inject. Date: 14-Jan-2020 00:36:18 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 10D5 Operator: SMA/ALM
Lims Batch ID: 350523 Lims Sample ID: 16

Non-2,3,7,8-sub-PeCDF, RT: 22.784

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	0.970				
2,3,4,7,8-PeCDF	0.999				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
21.555	66740	10633	37576	6763		1.78	
22.101	110572	15670	88279	11804		1.25	R
22.646	70259	9203	52207	7178		1.35	
Signal Totals:							
	247571	35506	178062	25745			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	425633	61251				1.39	RQ
	408690	59556					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (425633 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (408690 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_16.d
Lims ID: WDM
Client ID:
Inject. Date: 14-Jan-2020 00:36:18 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 10D5 Operator: SMA/ALM
Lims Batch ID: 350523 Lims Sample ID: 16

Non-2,3,7,8-sub-HxCDD, RT: 30.518

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.005				
1,2,3,6,7,8-HxCDD	0.983				
1,2,3,7,8,9-HxCDD	1.104				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
30.738	115615	20256	103301	15533		1.12	
Signal Totals:							
	115615	20256	103301	15533			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	218916	35789				1.12	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (218916 * 0.0) / (0 * 0.000)

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Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_16.d		
Injection Date:	14-Jan-2020 00:36:18	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	350523	Sample Line#:	16
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

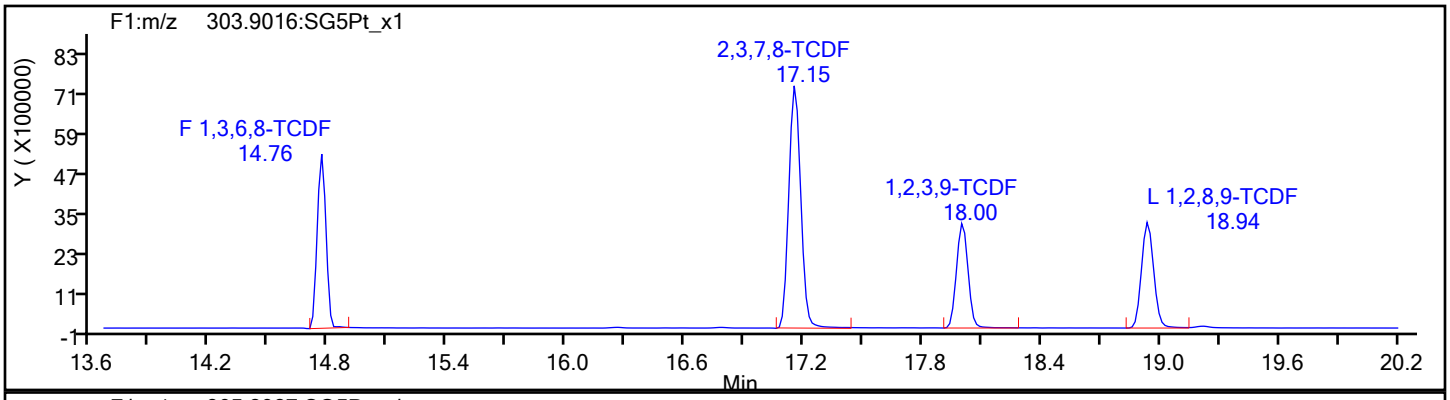

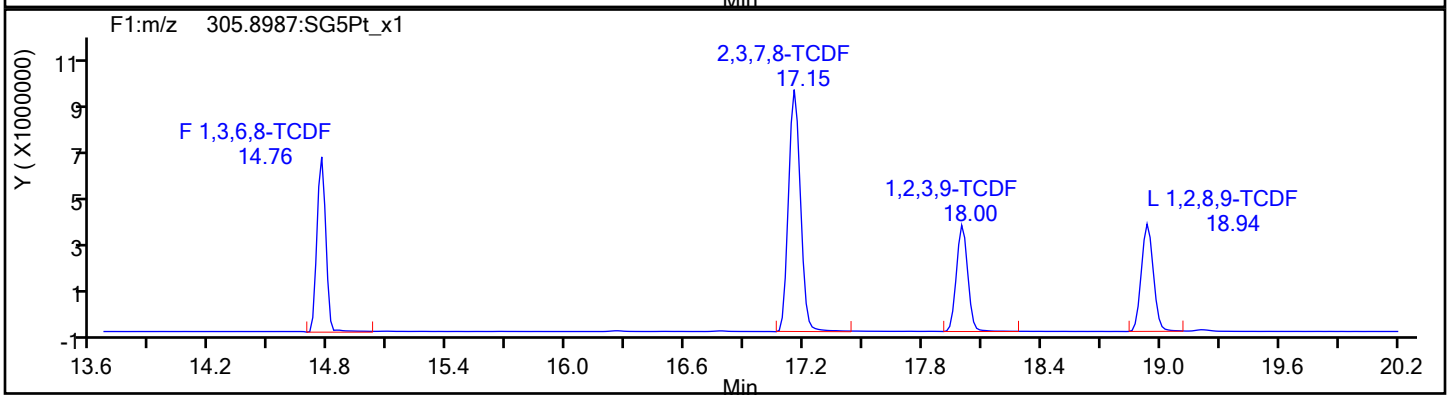

TCDF Standards

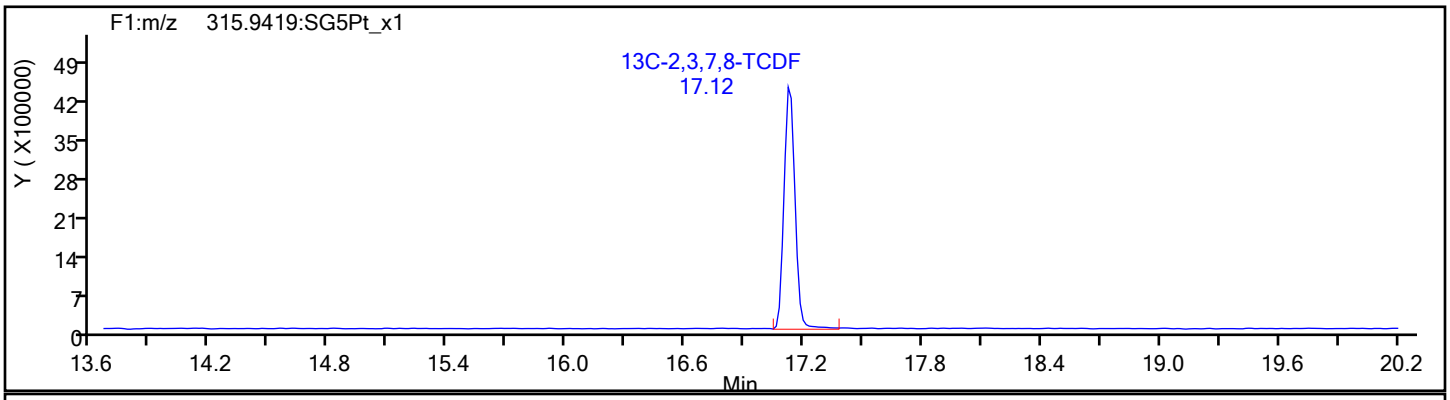

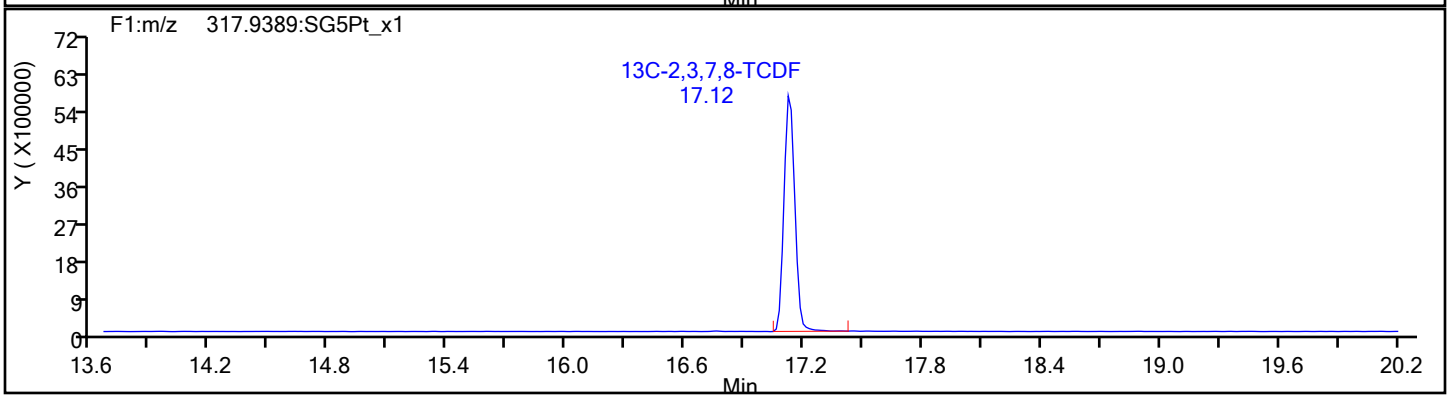

Report Date: 14-Jan-2020 13:34:32 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_16.d		
Injection Date:	14-Jan-2020 00:36:18	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	350523	Sample Line#:	16
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

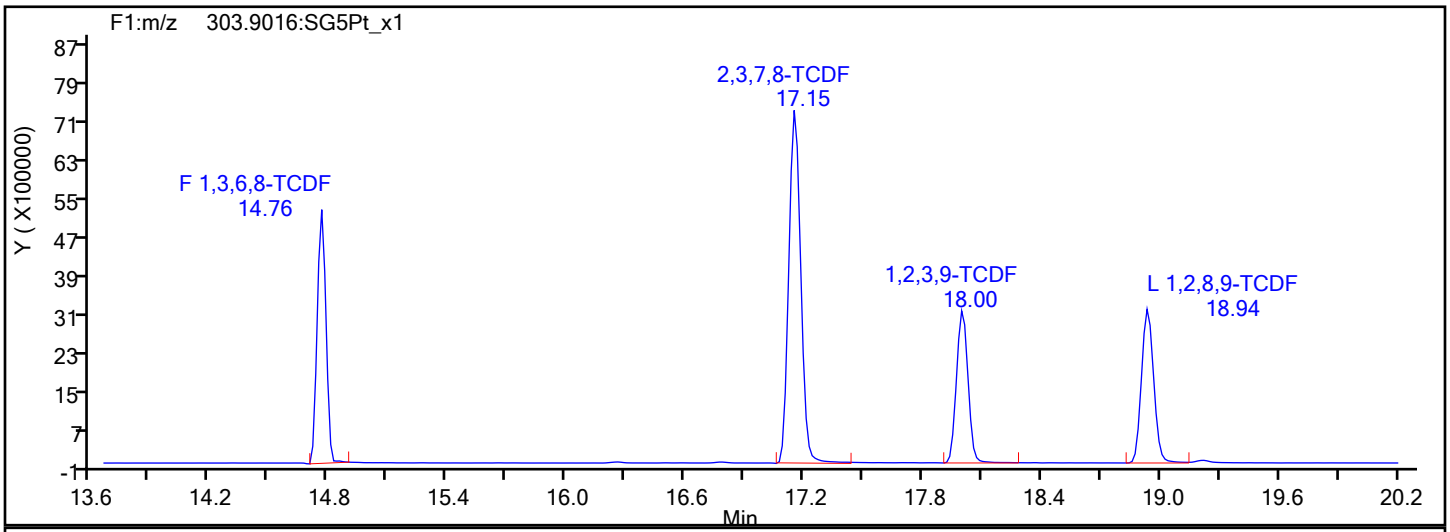

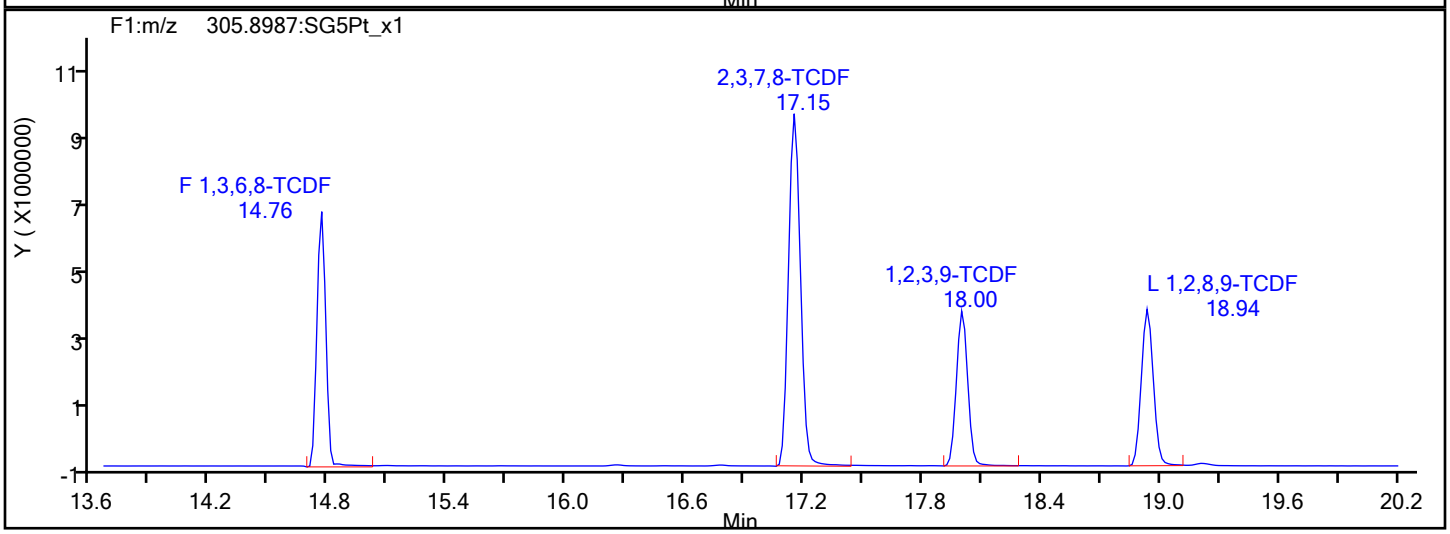

TCDF Interference Mass

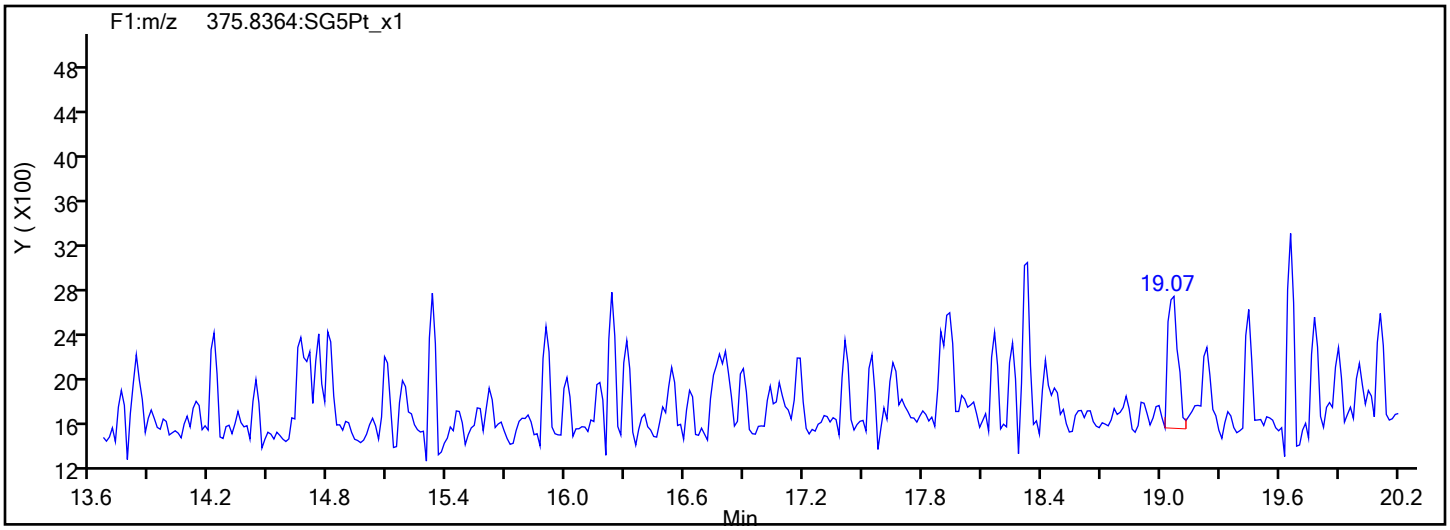

Report Date: 14-Jan-2020 13:34:32 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_16.d		
Injection Date:	14-Jan-2020 00:36:18	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	350523	Sample Line#:	16
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

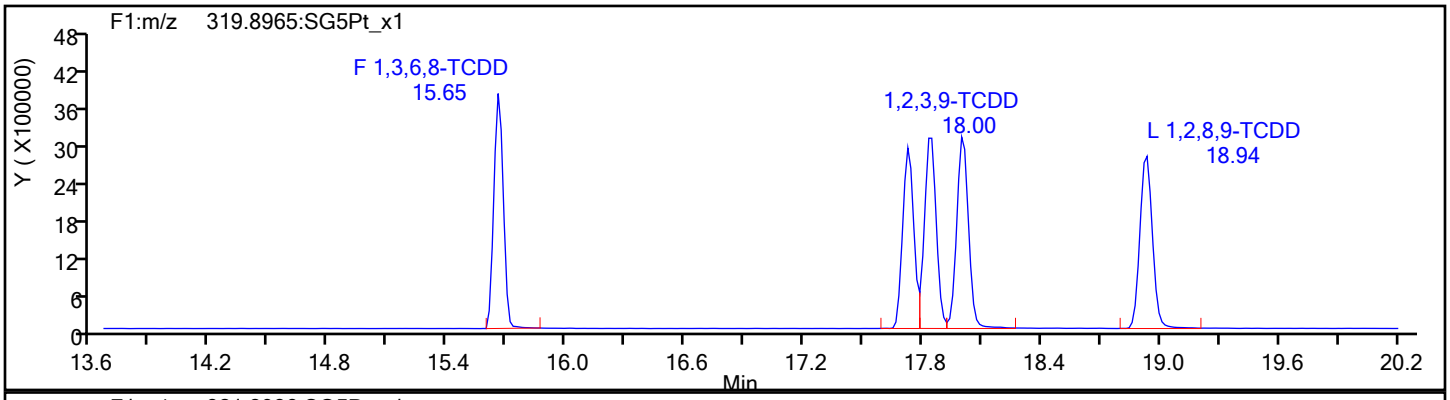

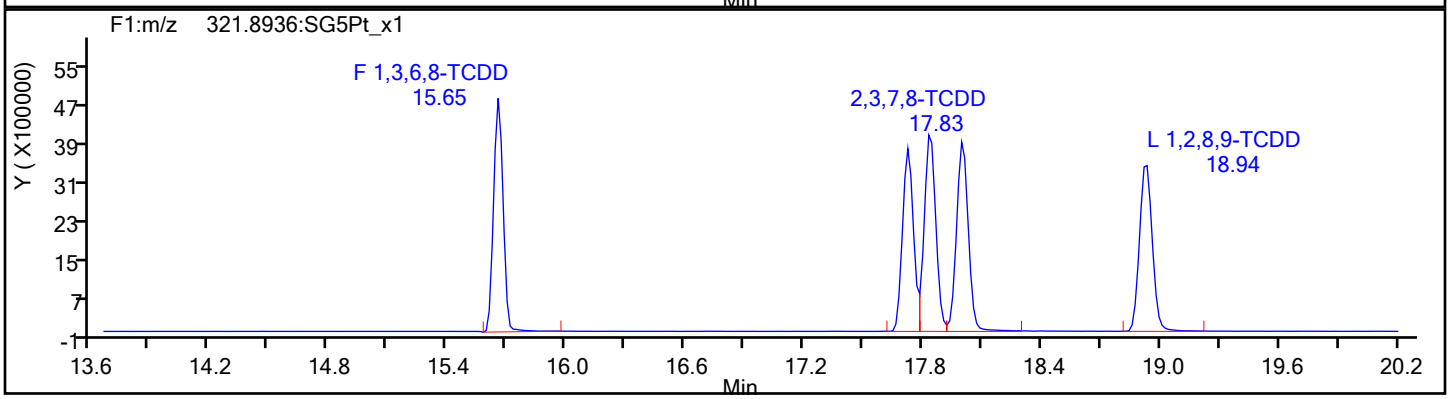

TCDD Standards

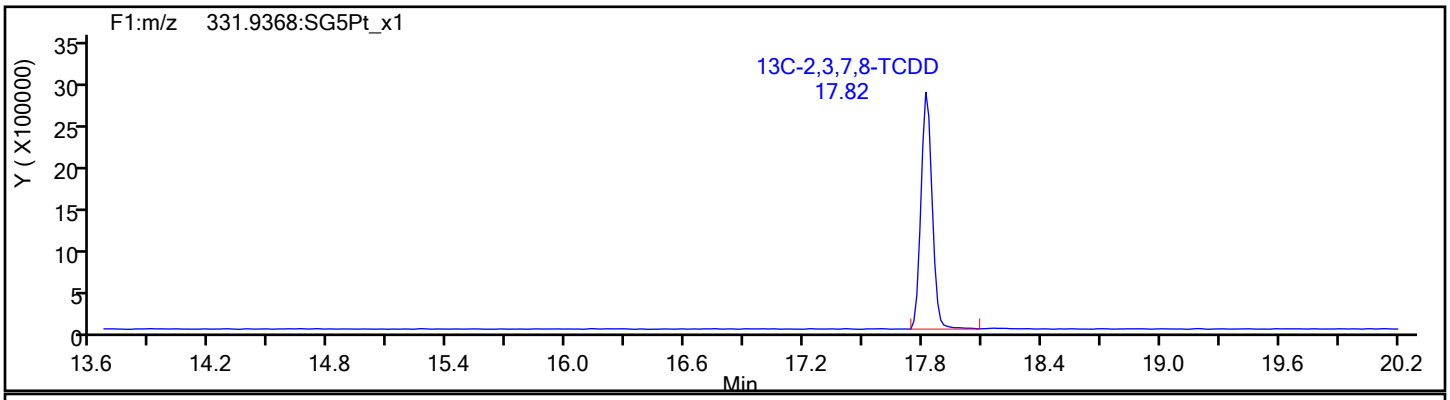

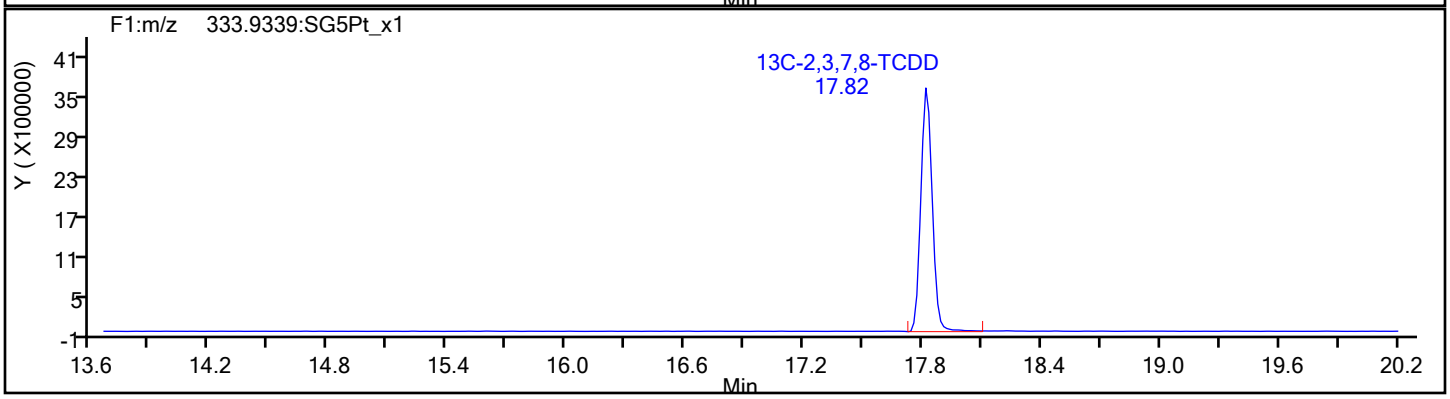

Report Date: 14-Jan-2020 13:34:32 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_16.d		
Injection Date:	14-Jan-2020 00:36:18	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	350523	Sample Line#:	16
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

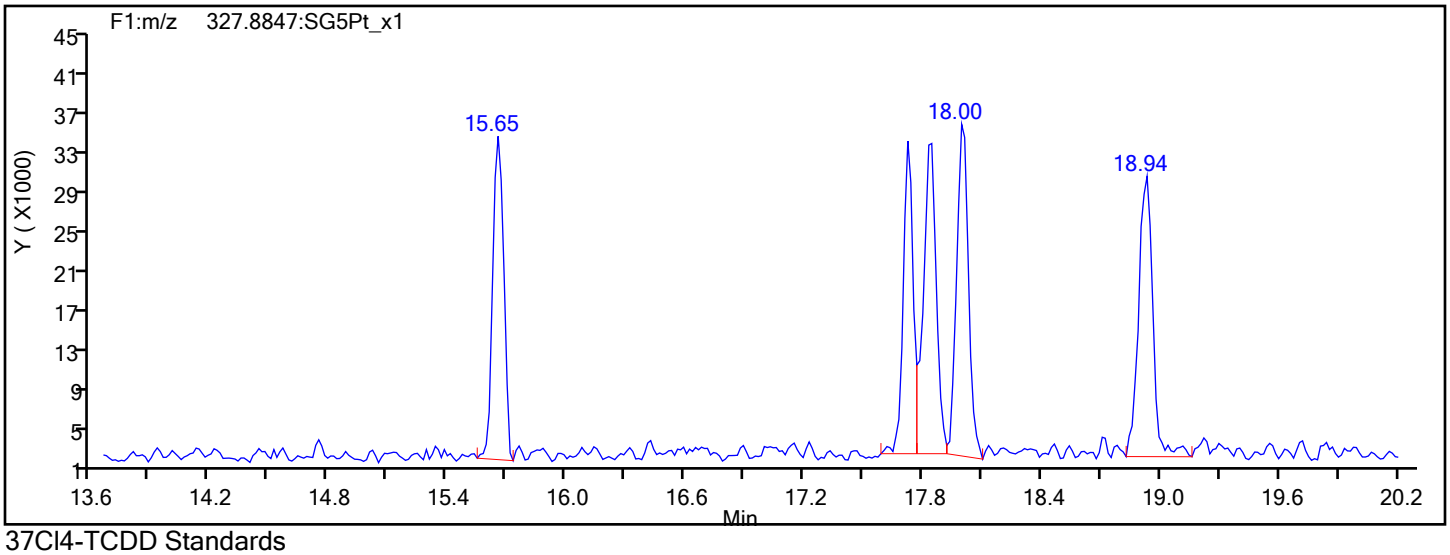

37Cl4-TCDD Standards

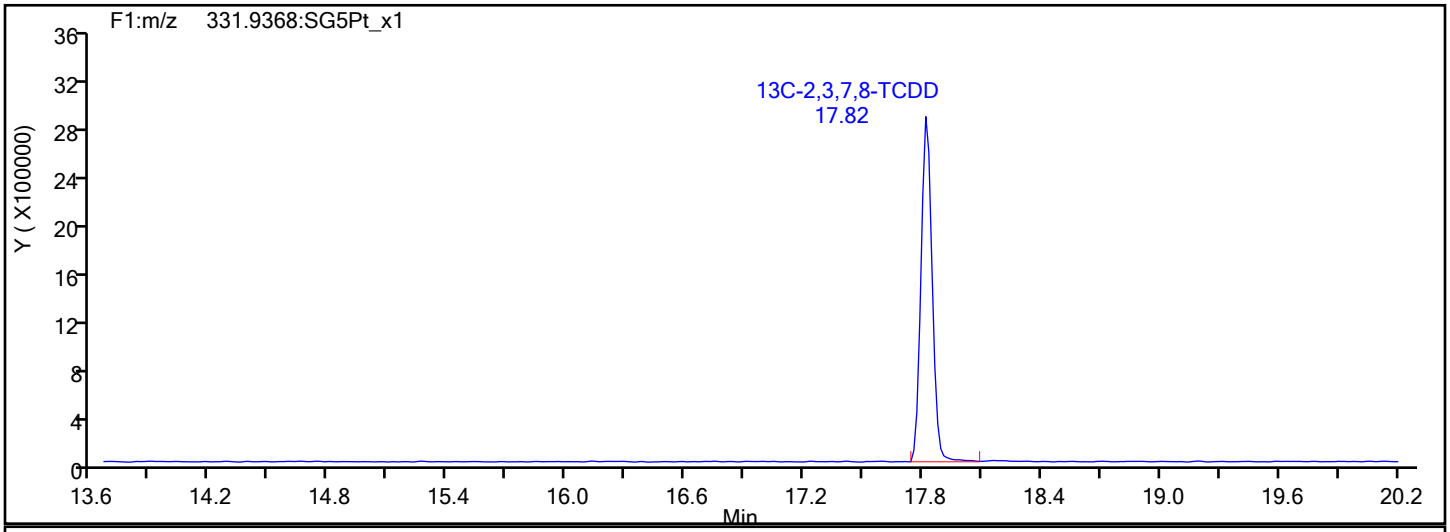

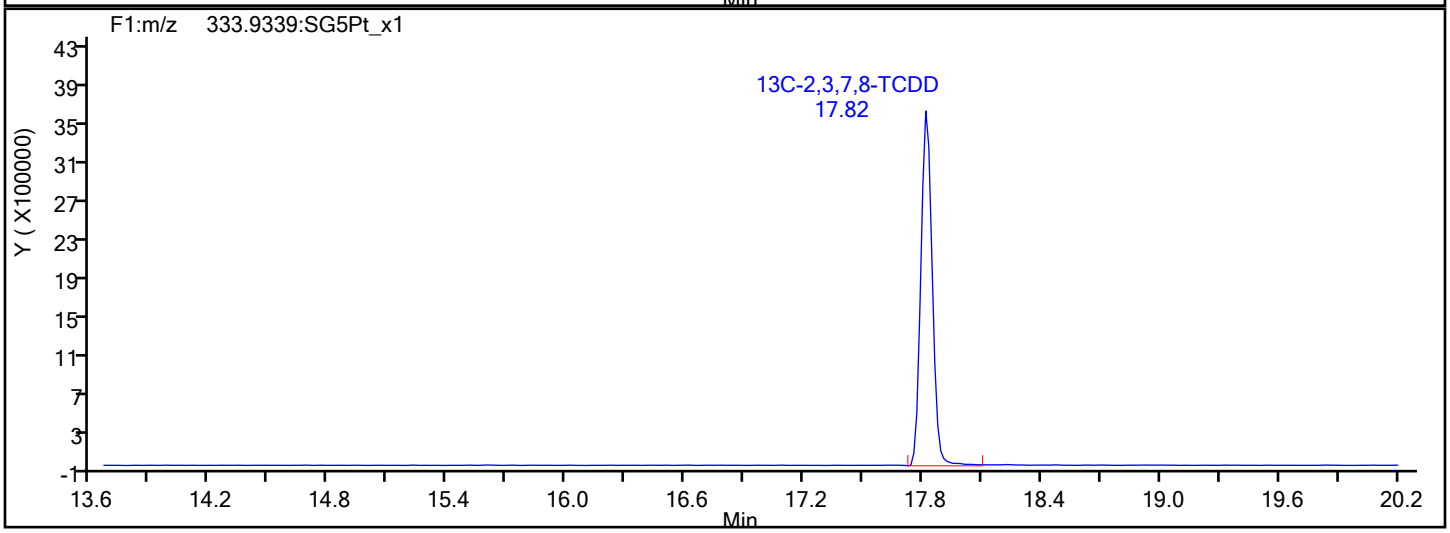

Report Date: 14-Jan-2020 13:34:32 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_16.d		
Injection Date:	14-Jan-2020 00:36:18	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	350523	Sample Line#:	16
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

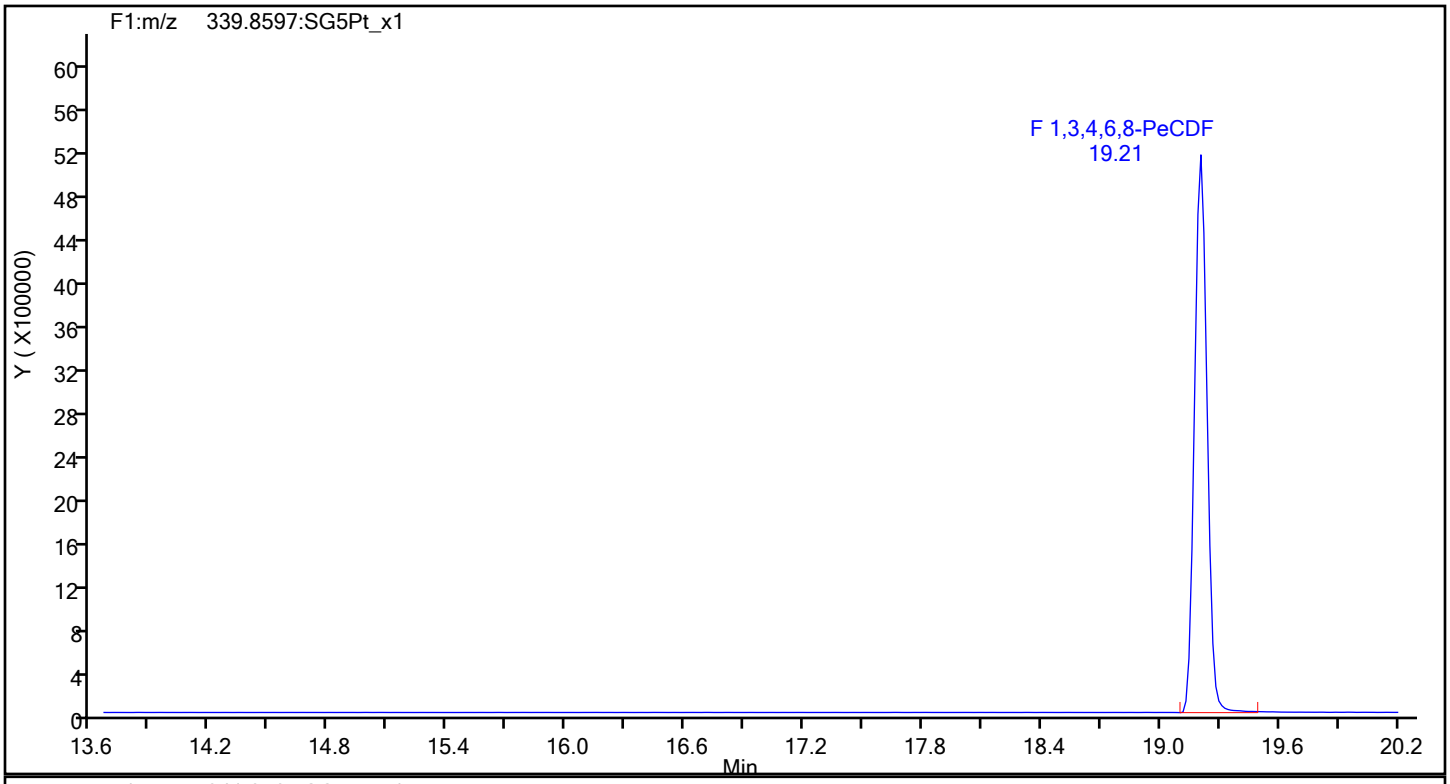

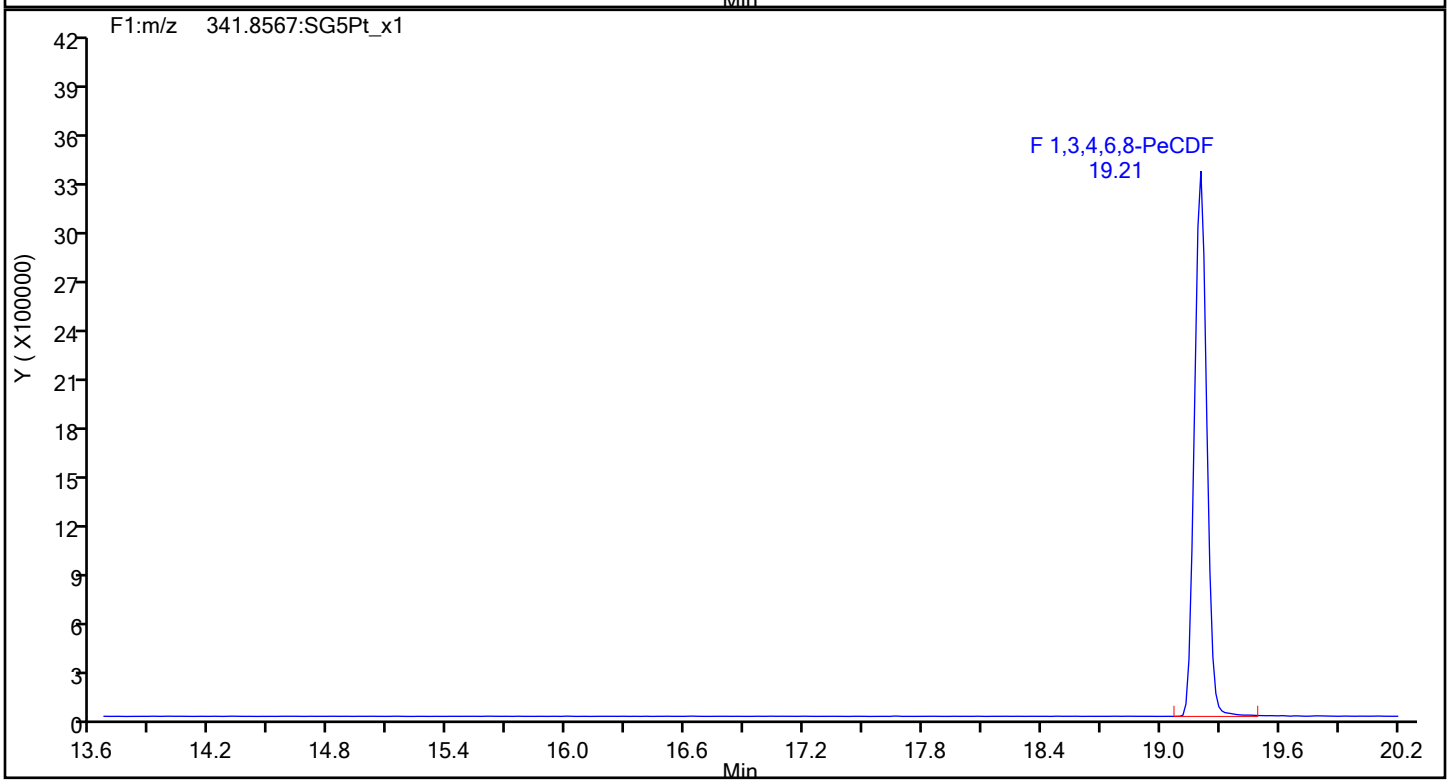

Report Date: 14-Jan-2020 13:34:32 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_16.d		
Injection Date:	14-Jan-2020 00:36:18	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	350523	Sample Line#:	16
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

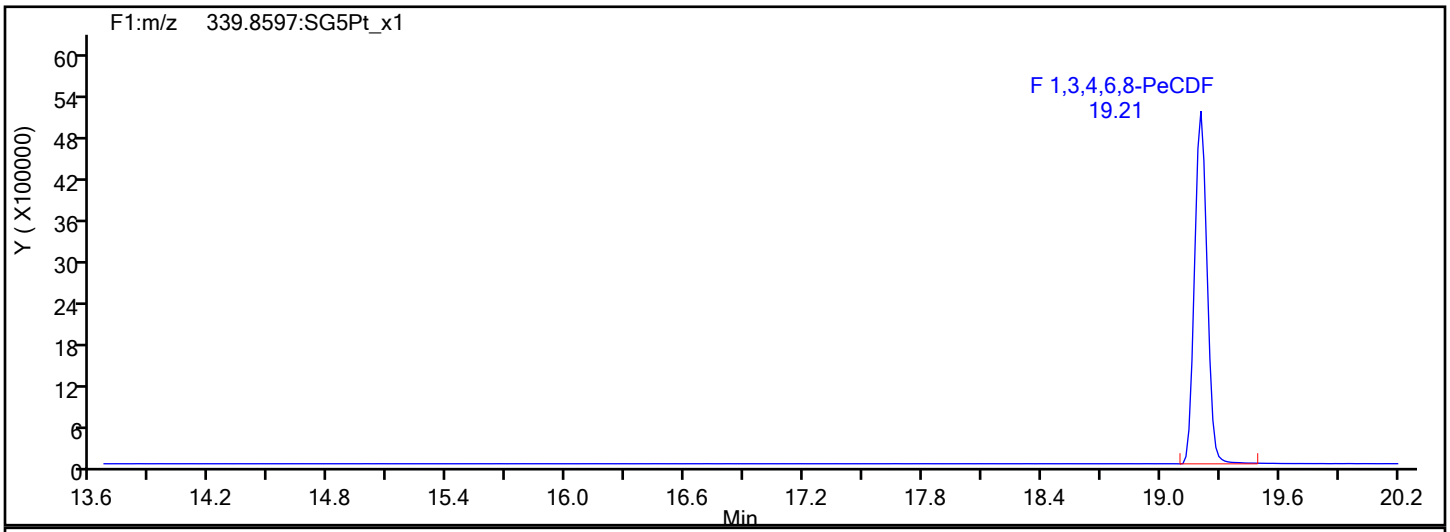

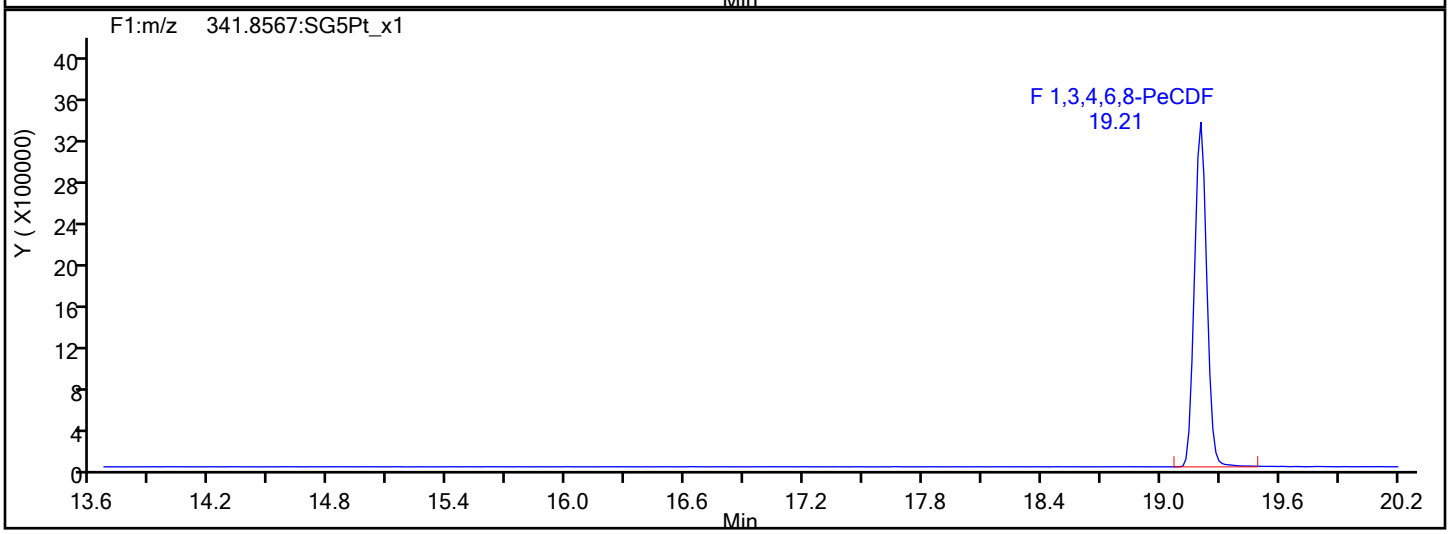

F1 PeCDFs Interference Mass

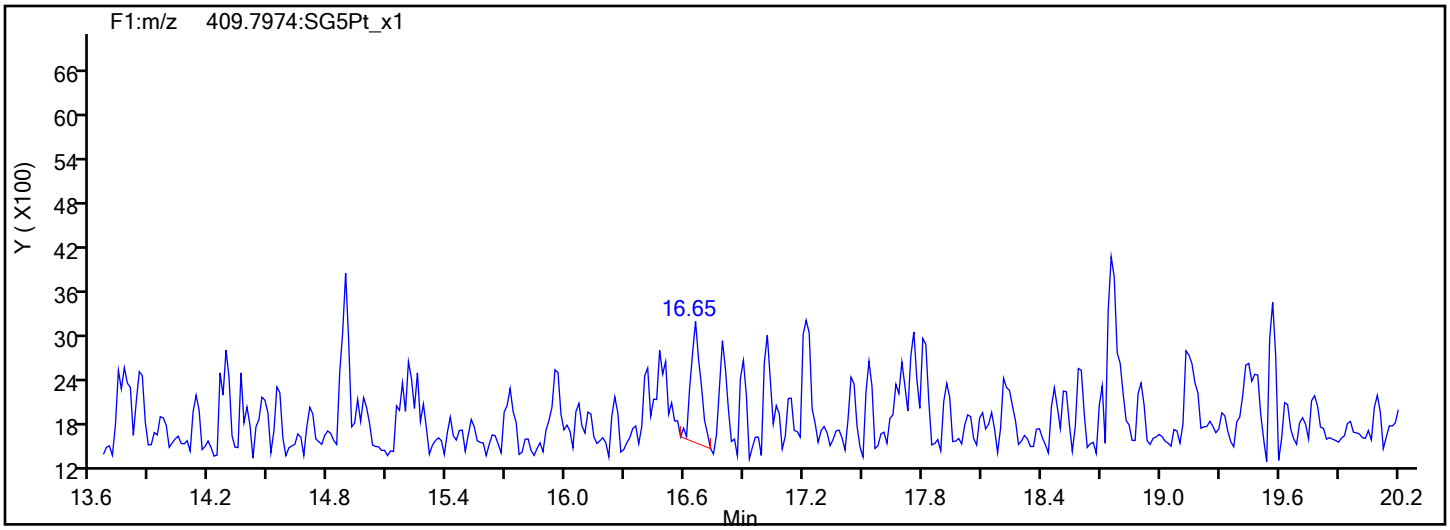

Report Date: 14-Jan-2020 13:34:32 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_16.d		
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Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Worklist#:	350523	Sample Line#:	16
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PeCDF

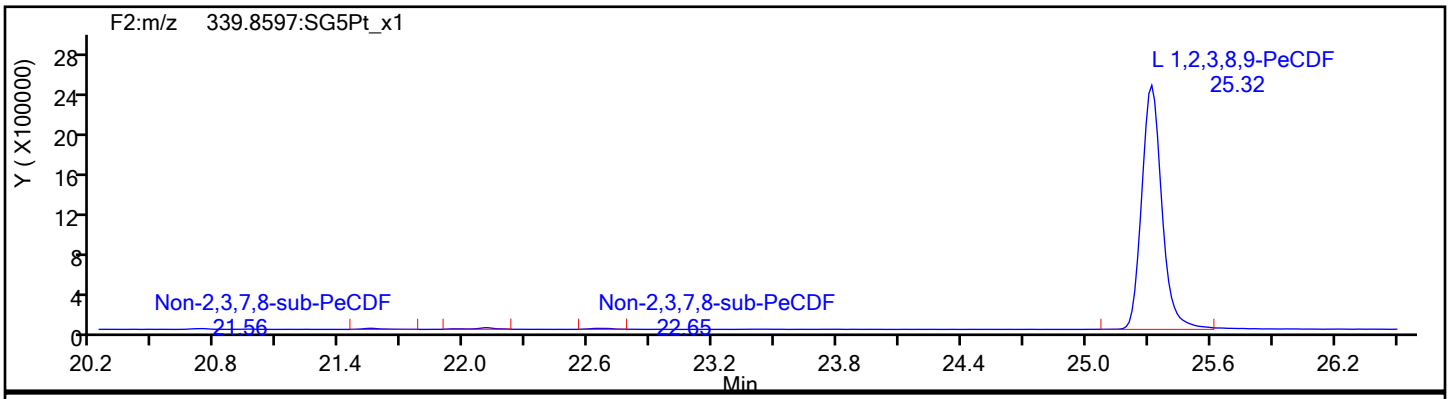

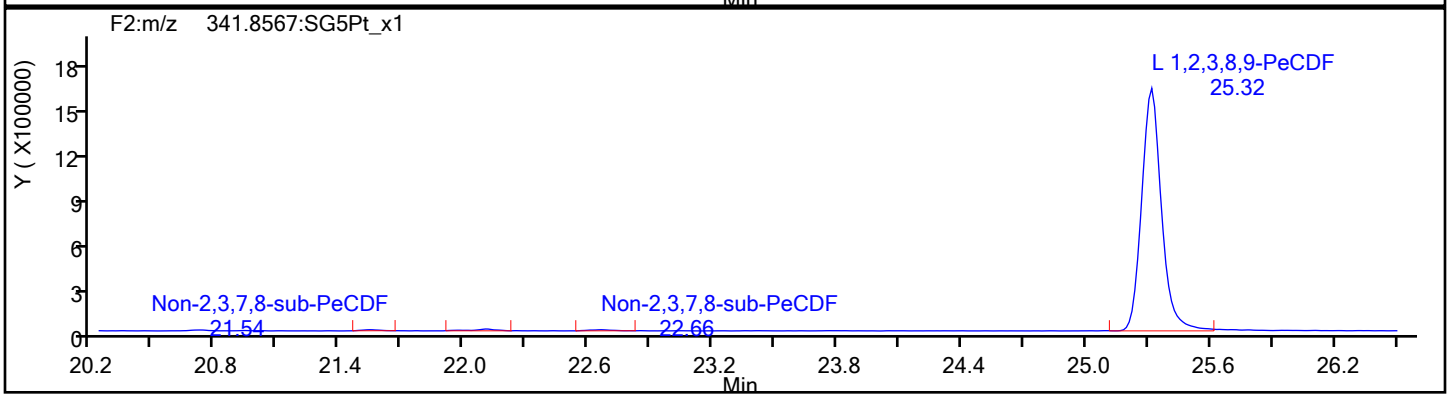

PeCDF Standards

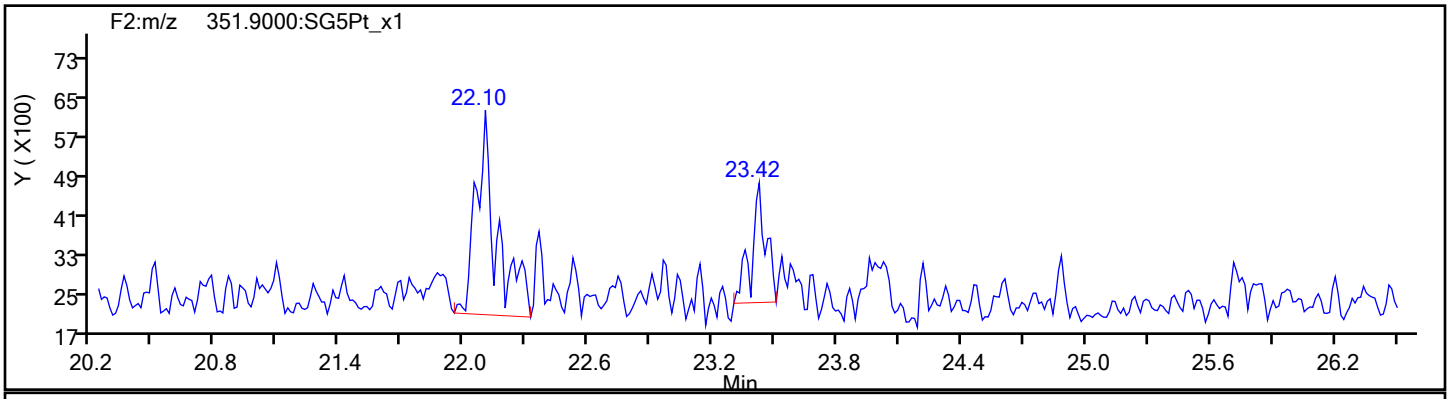

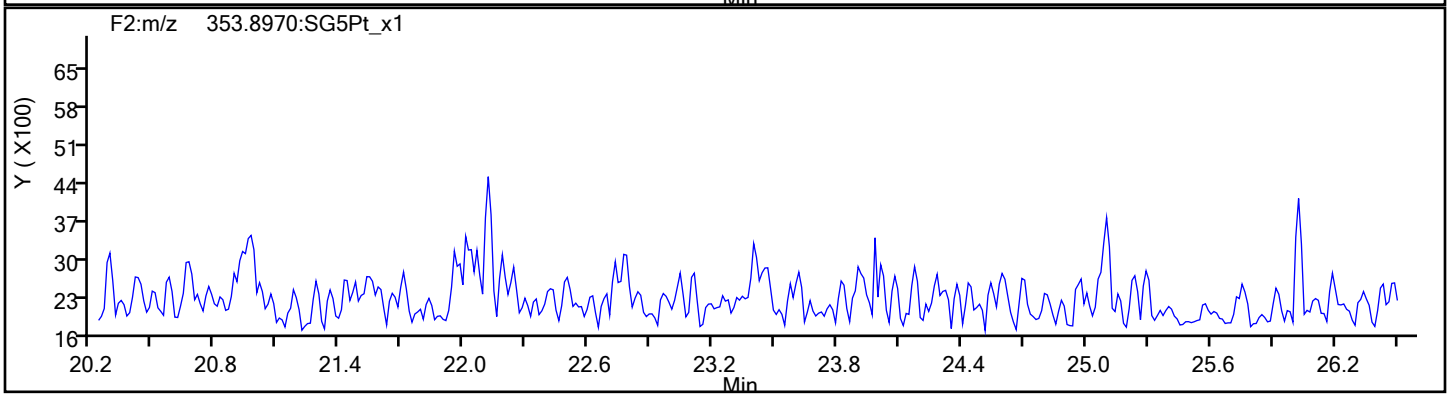

Report Date: 14-Jan-2020 13:34:32 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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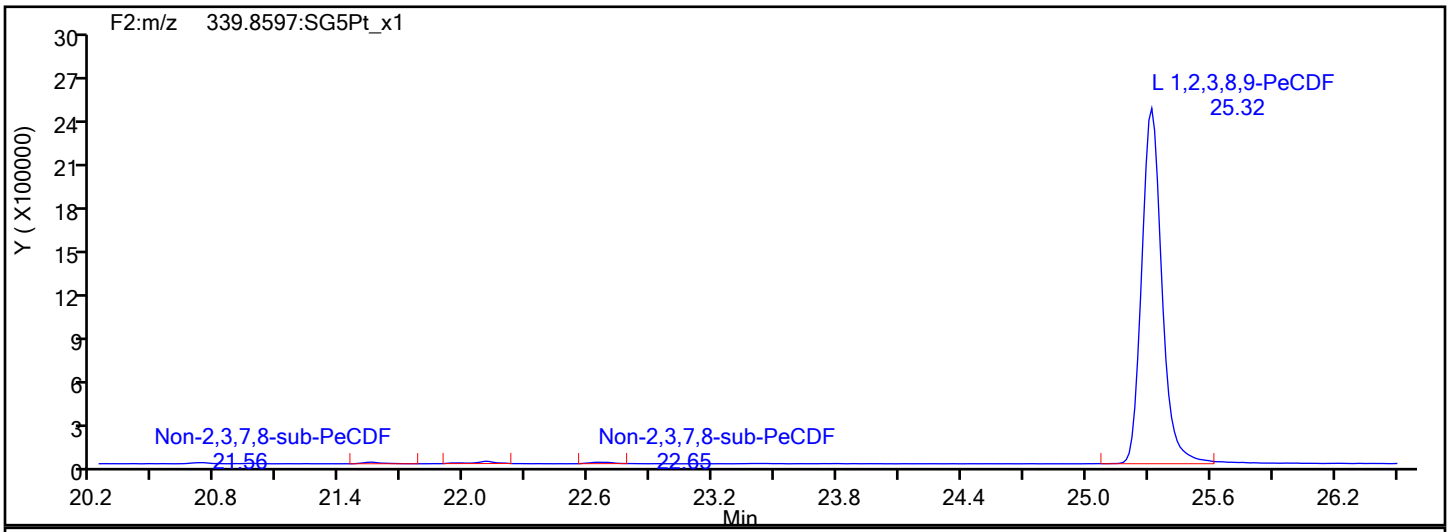

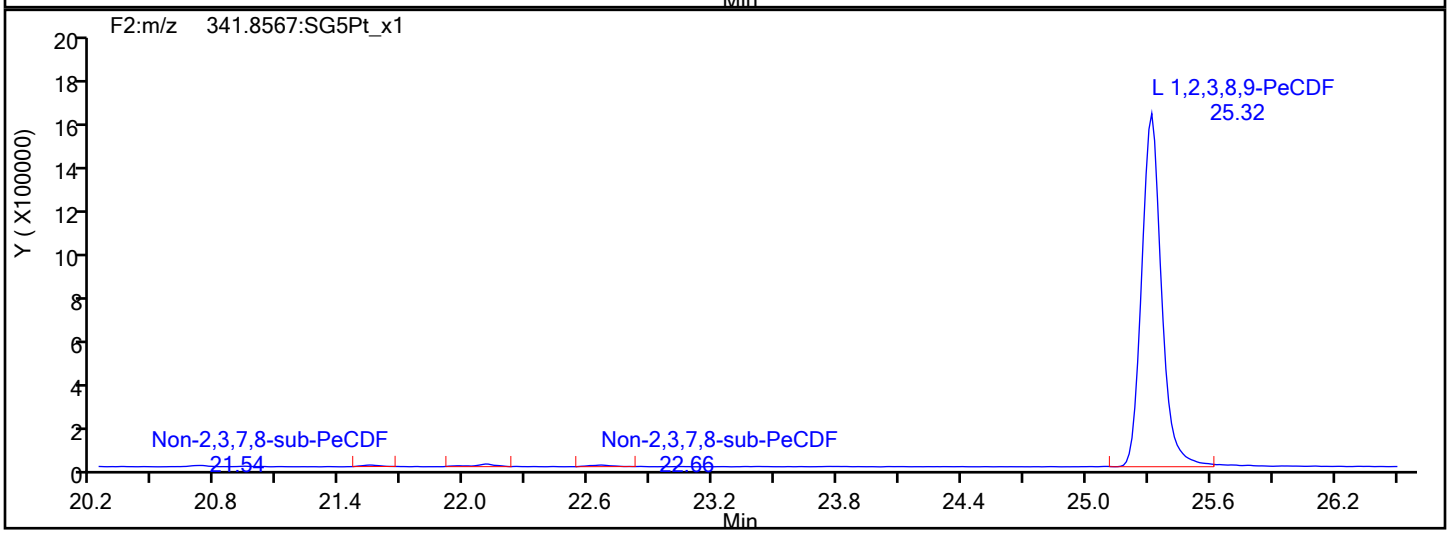

PeCDF Interference Mass

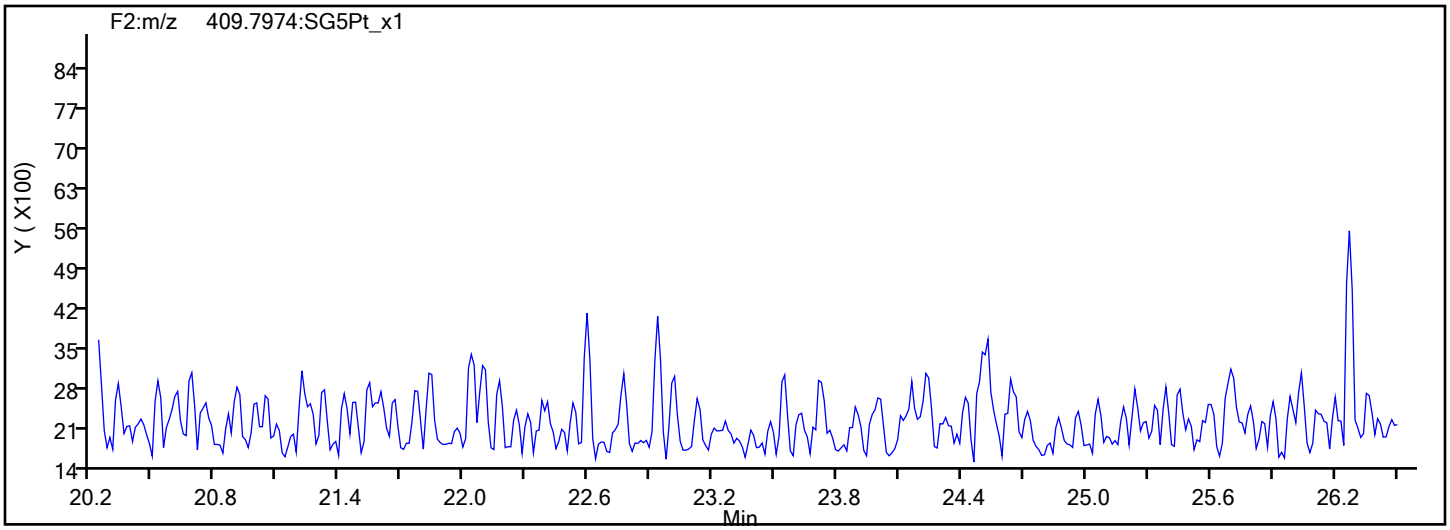

Report Date: 14-Jan-2020 13:34:32 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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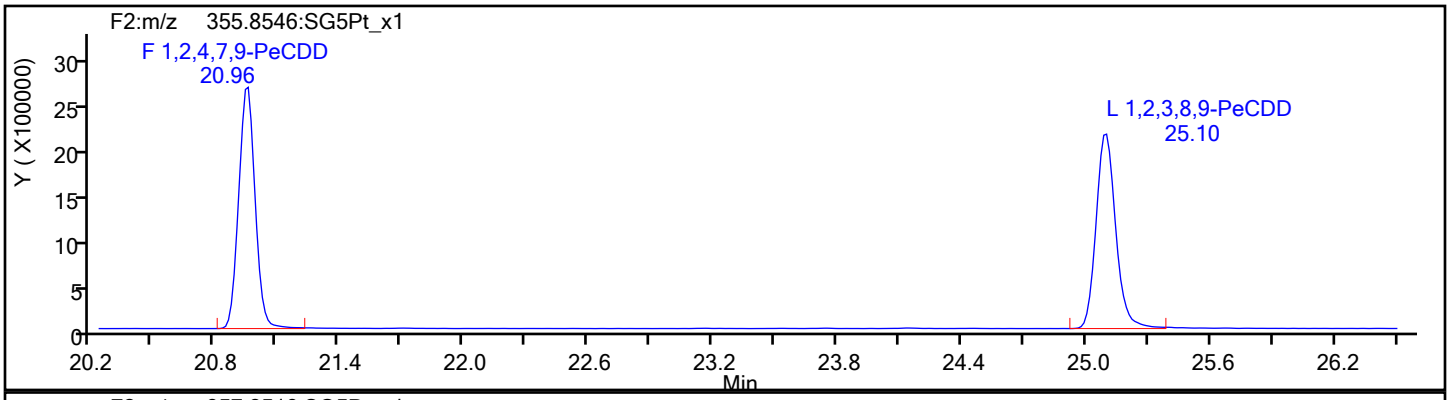

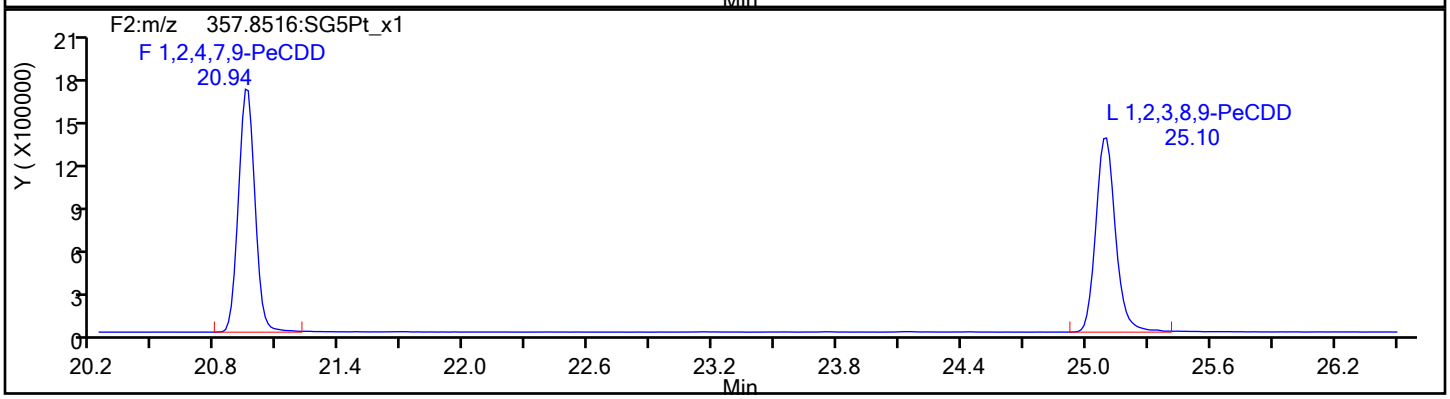

PeCDD Standards

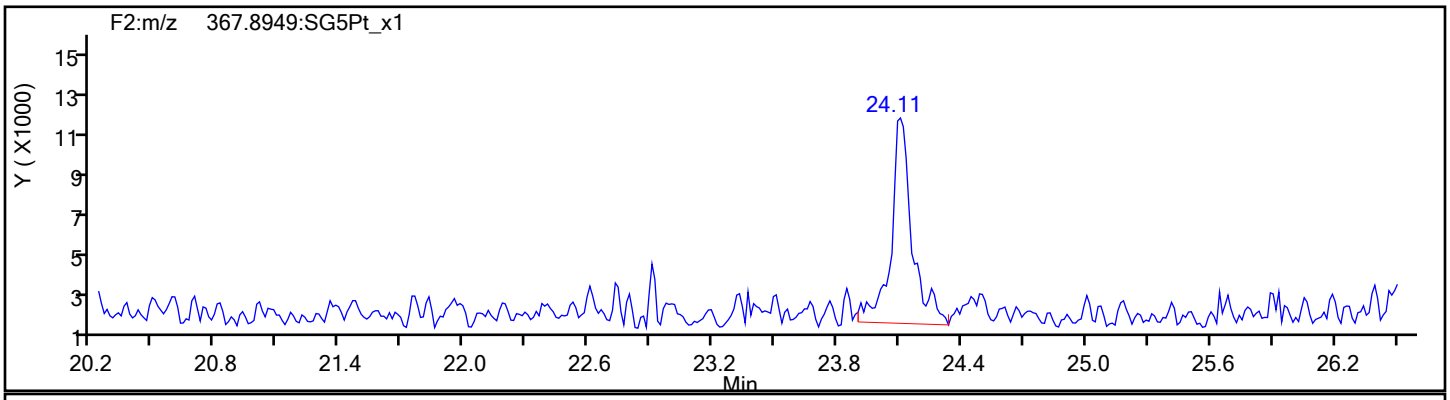

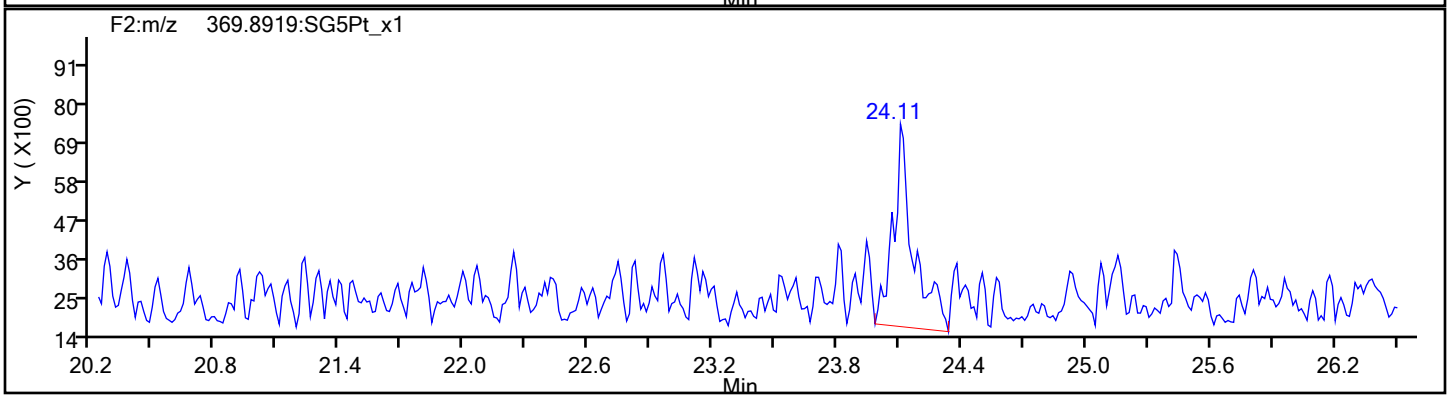

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Eurofins TestAmerica, Sacramento

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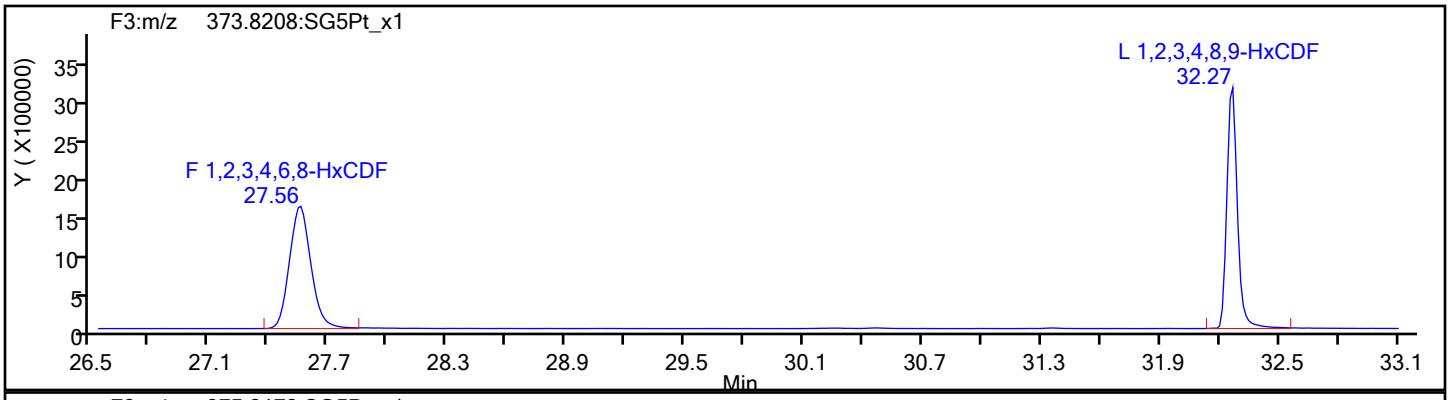

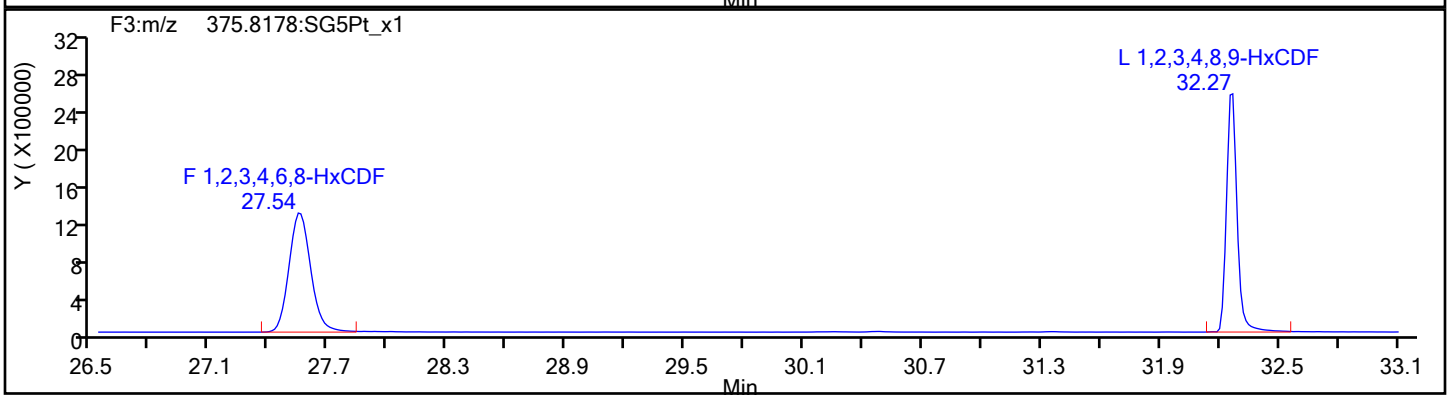

HxCDF Standards

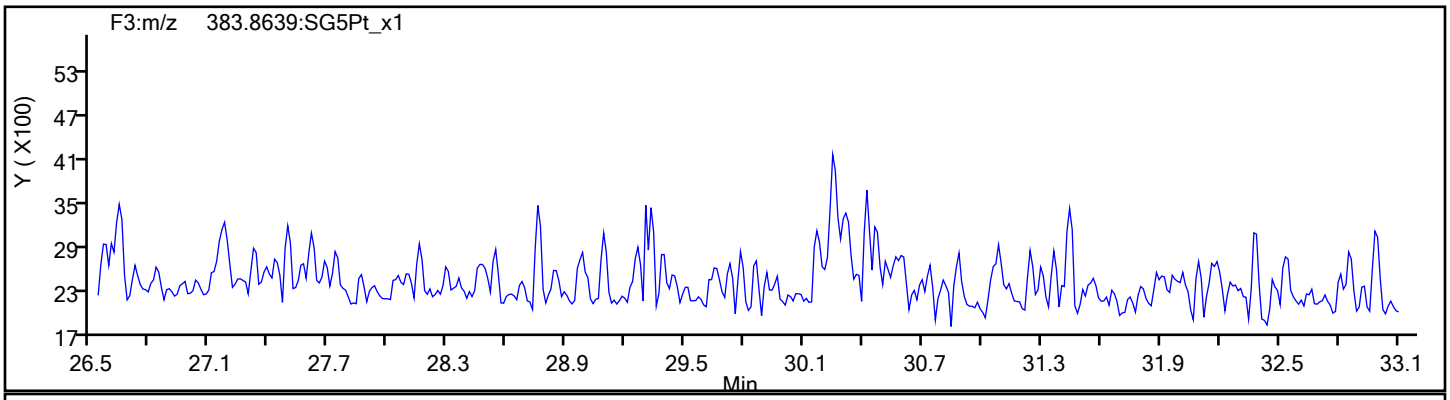

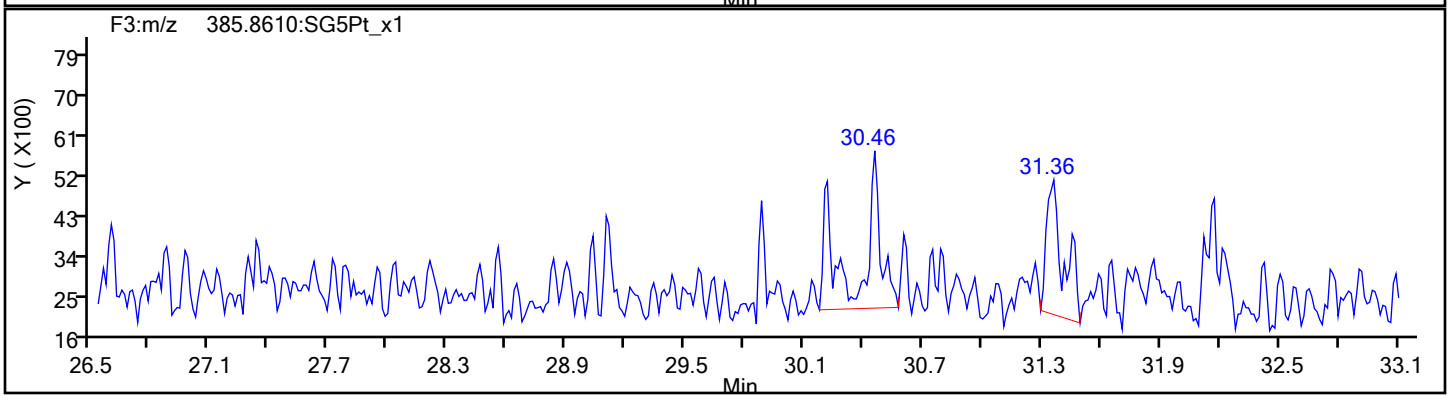

Report Date: 14-Jan-2020 13:34:32 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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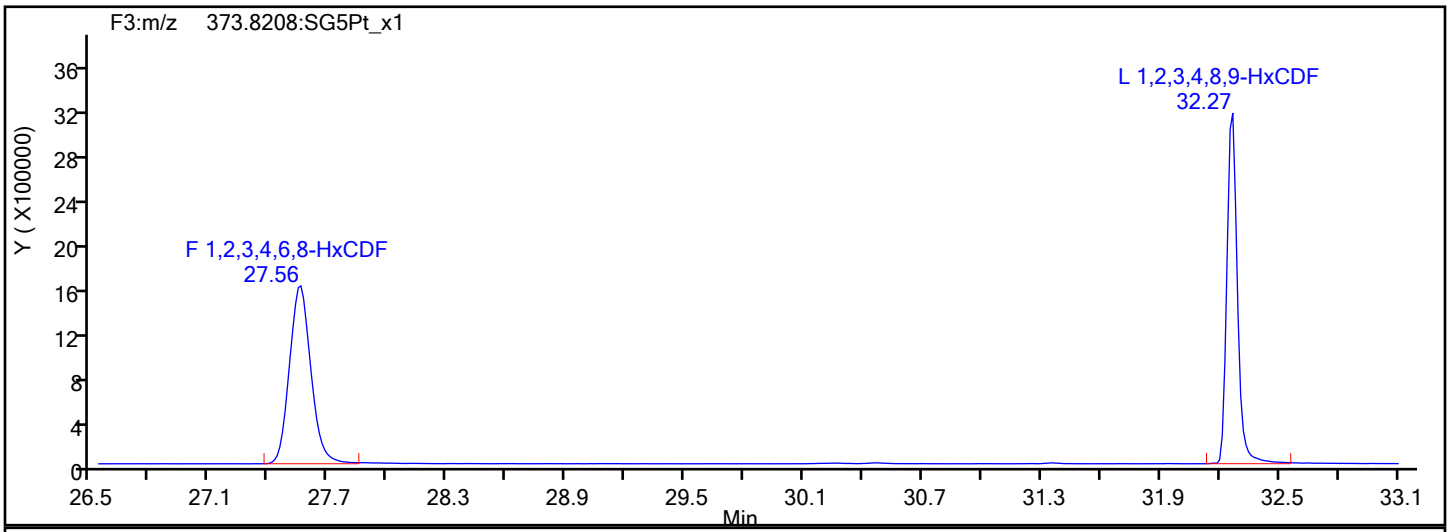

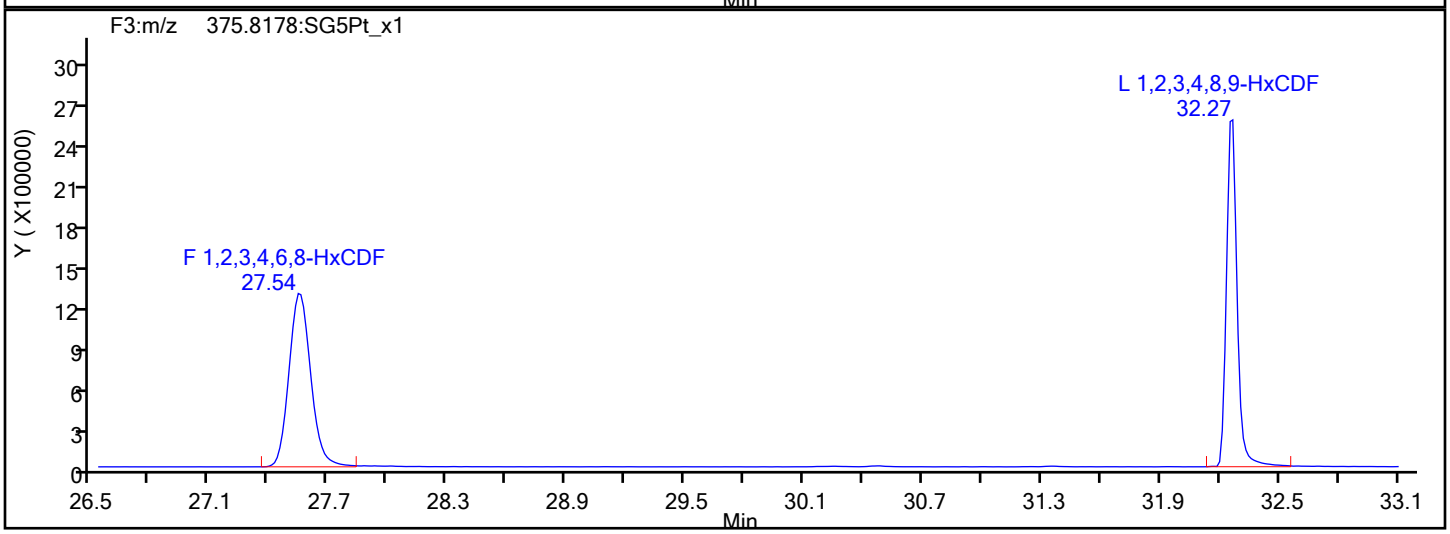

HxCDF Interference Mass

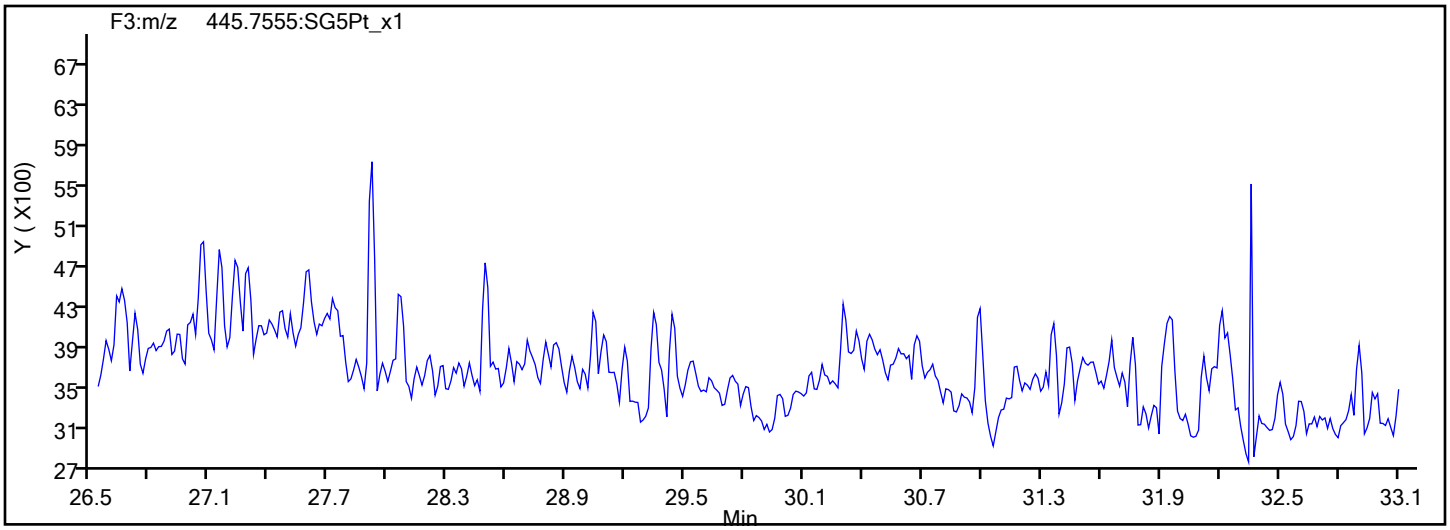

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Eurofins TestAmerica, Sacramento

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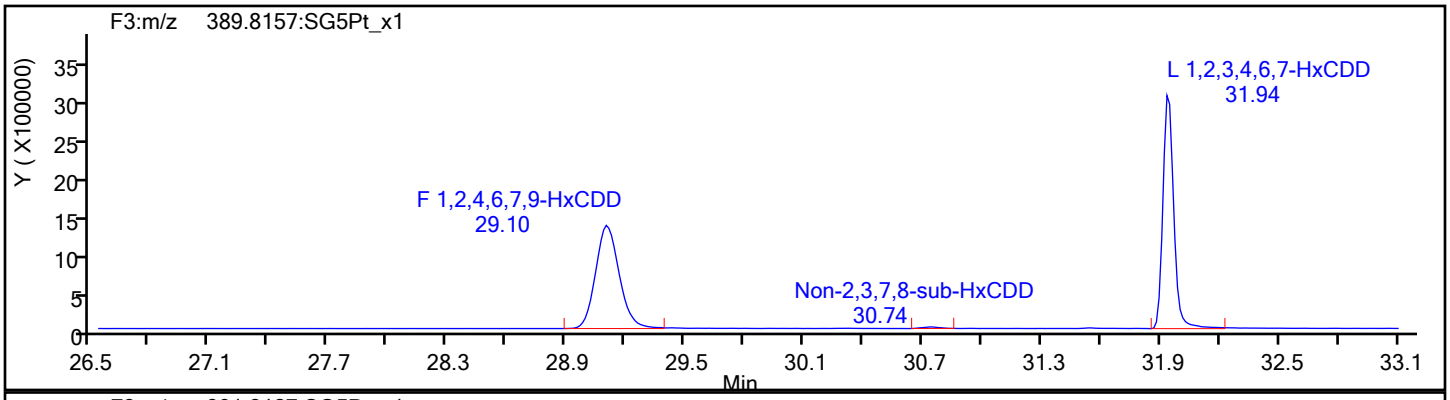

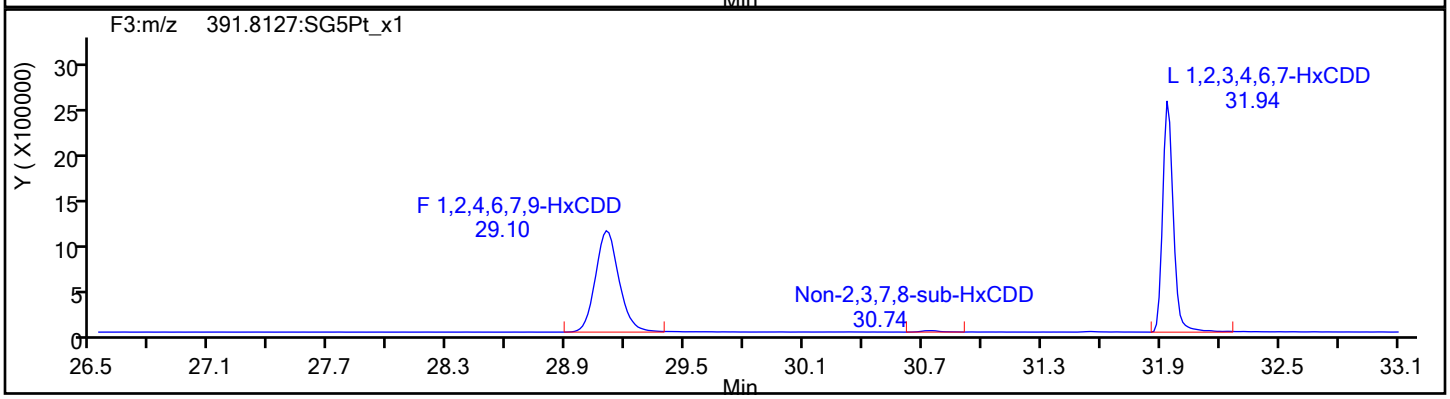

HxCDD Standards

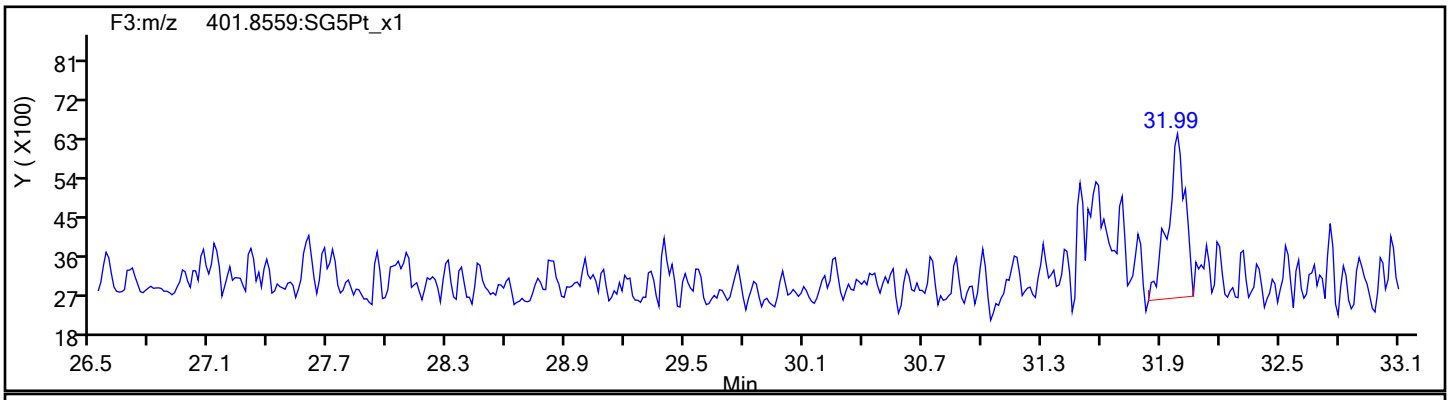

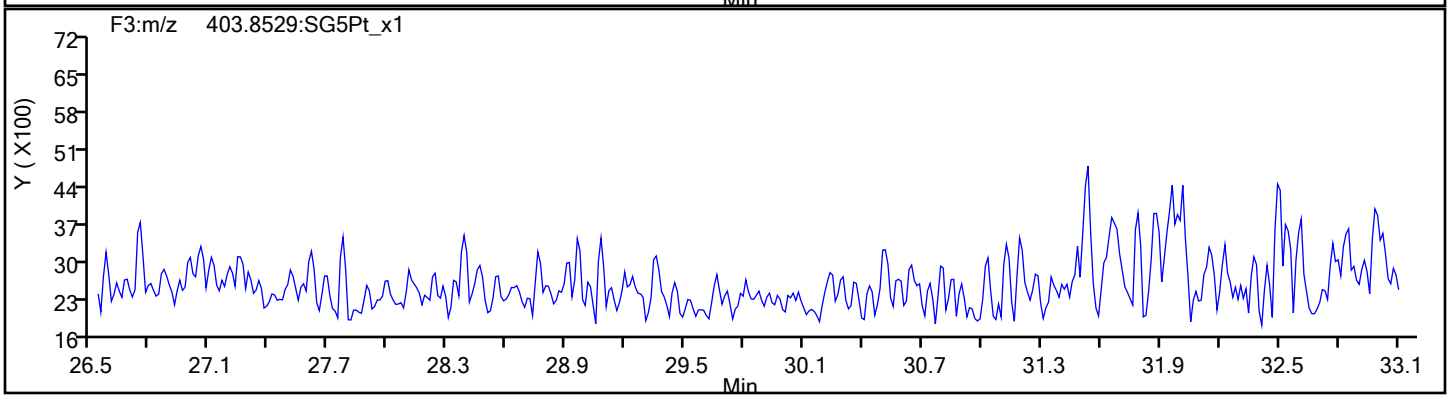

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Eurofins TestAmerica, Sacramento

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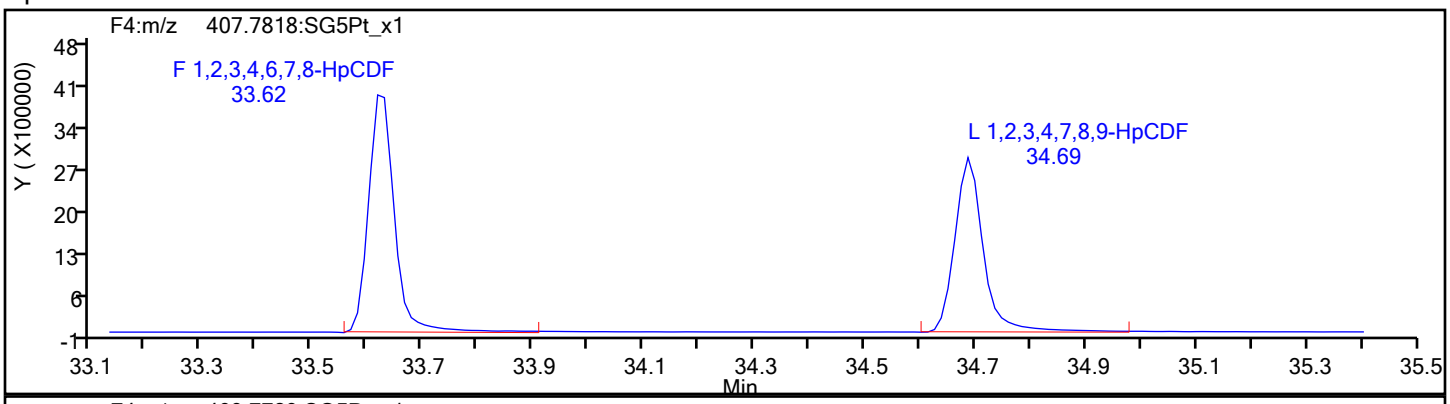

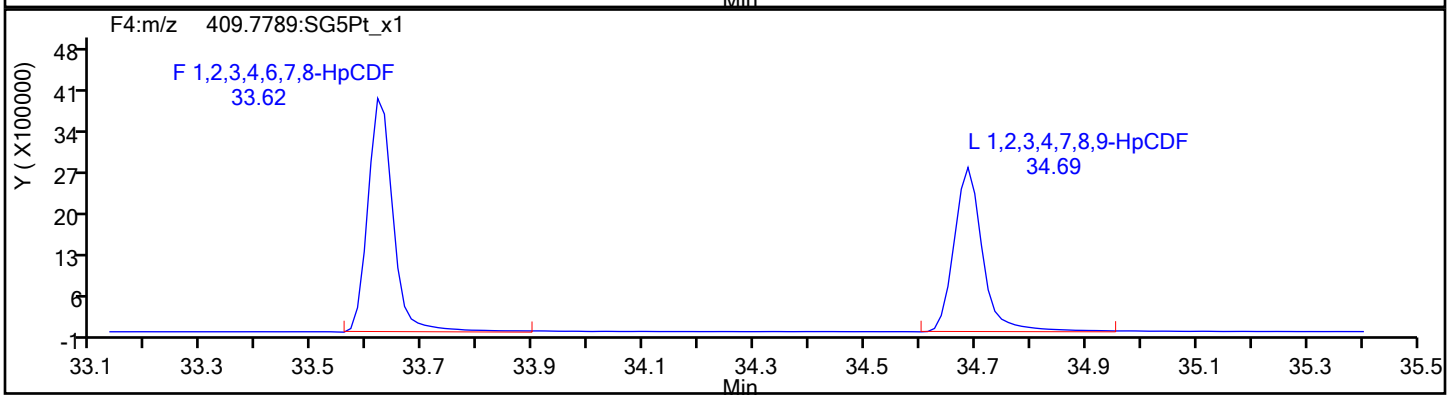

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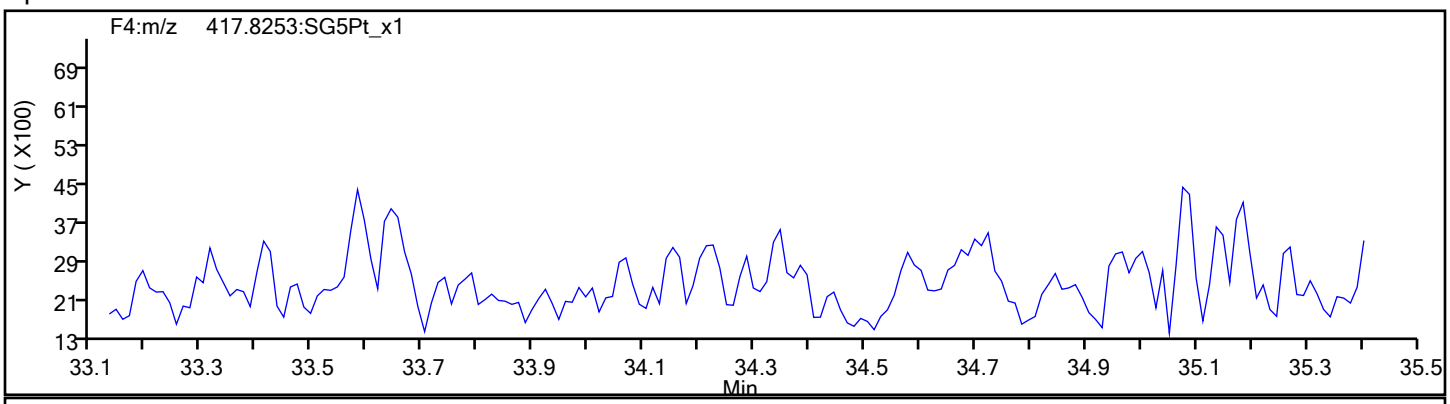

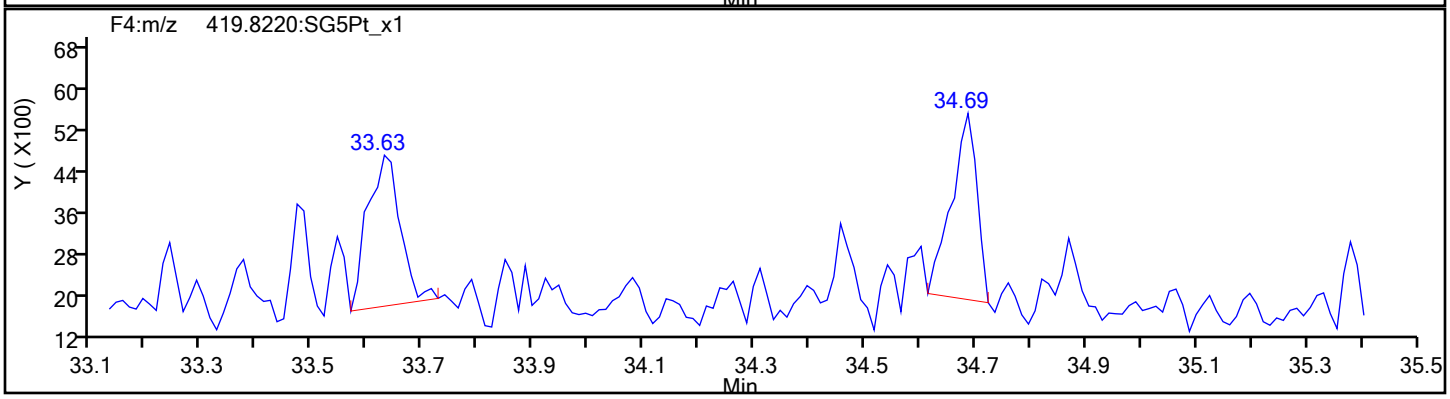

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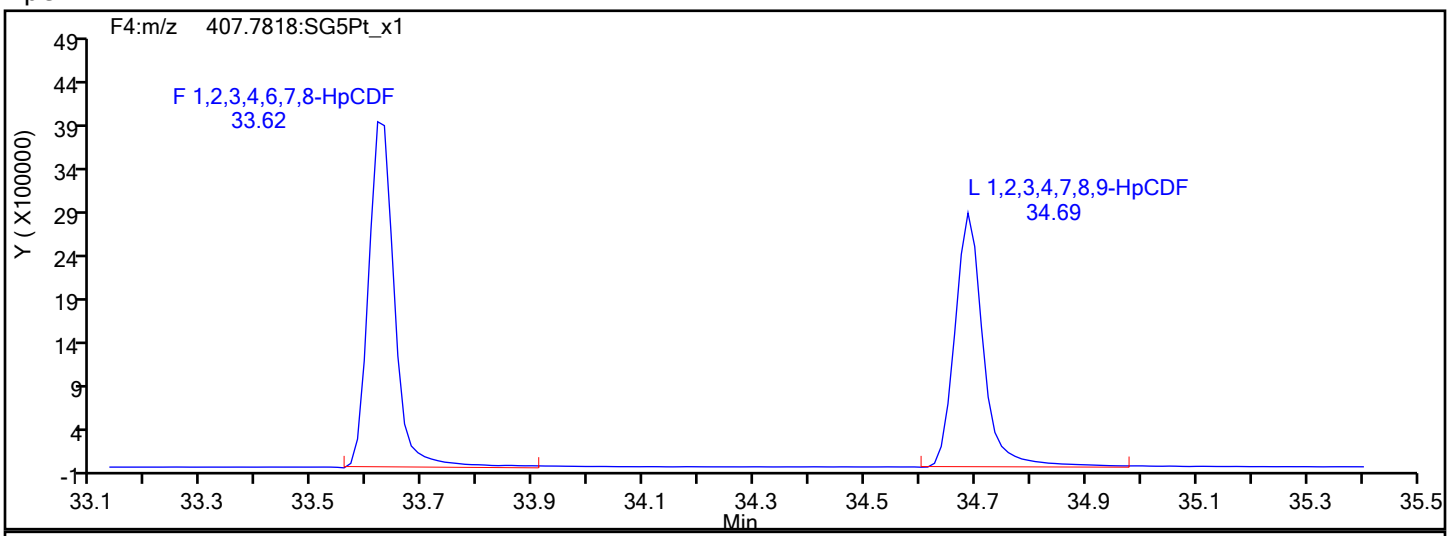

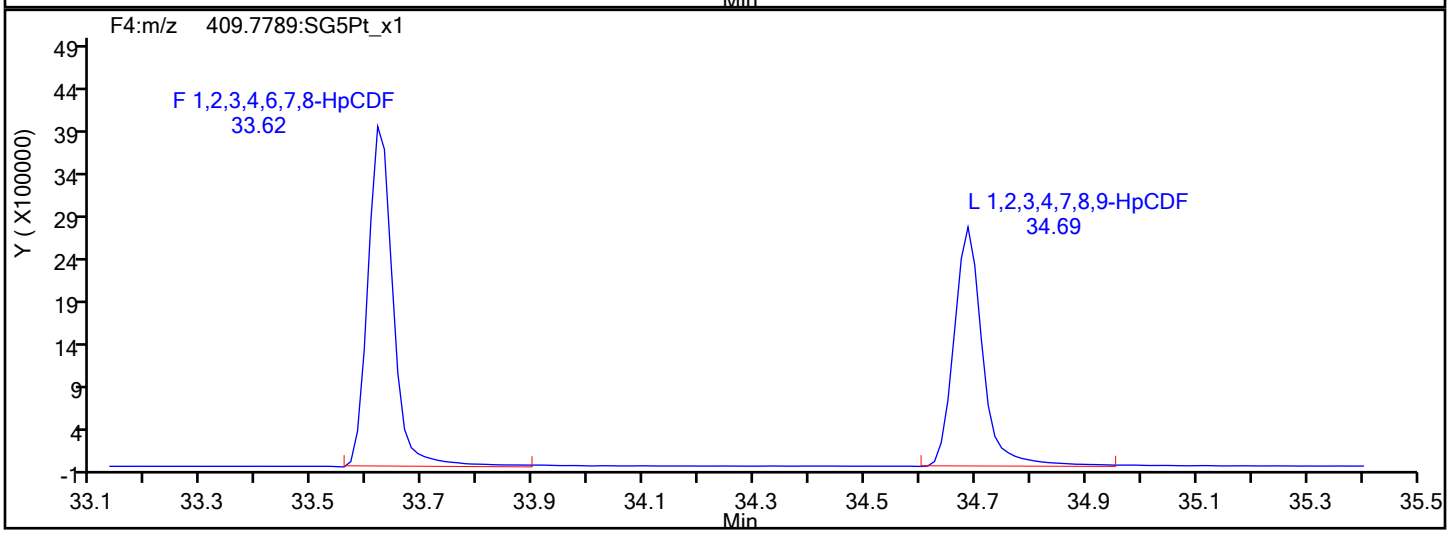

HpCDF Interference Mass

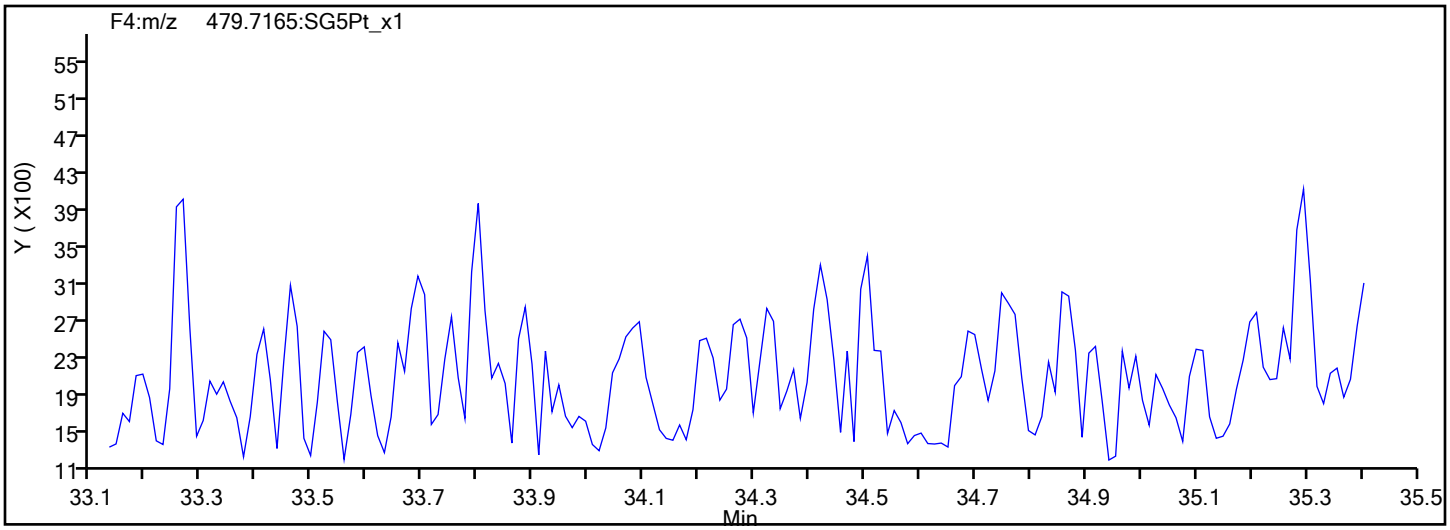

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Eurofins TestAmerica, Sacramento

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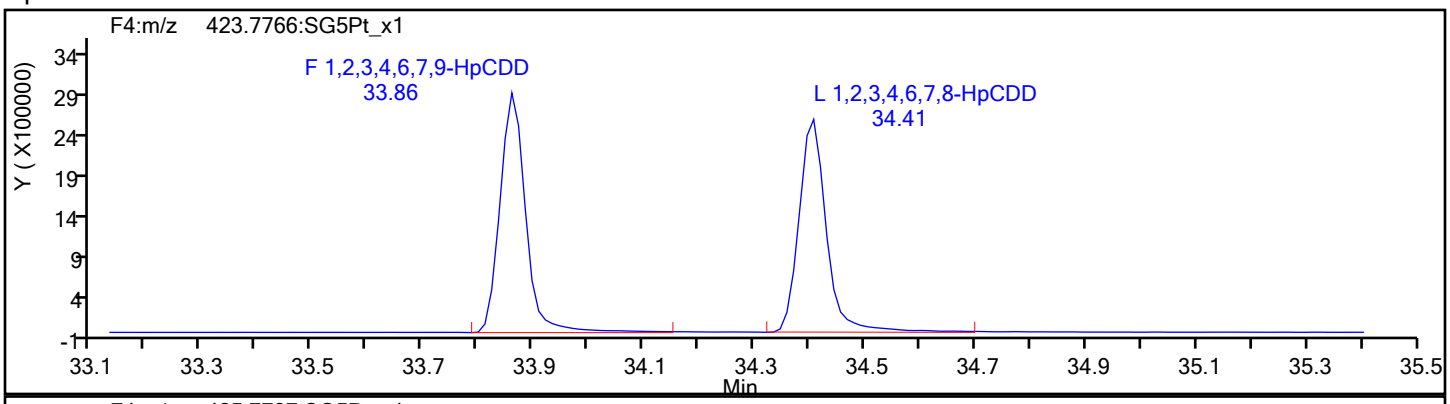

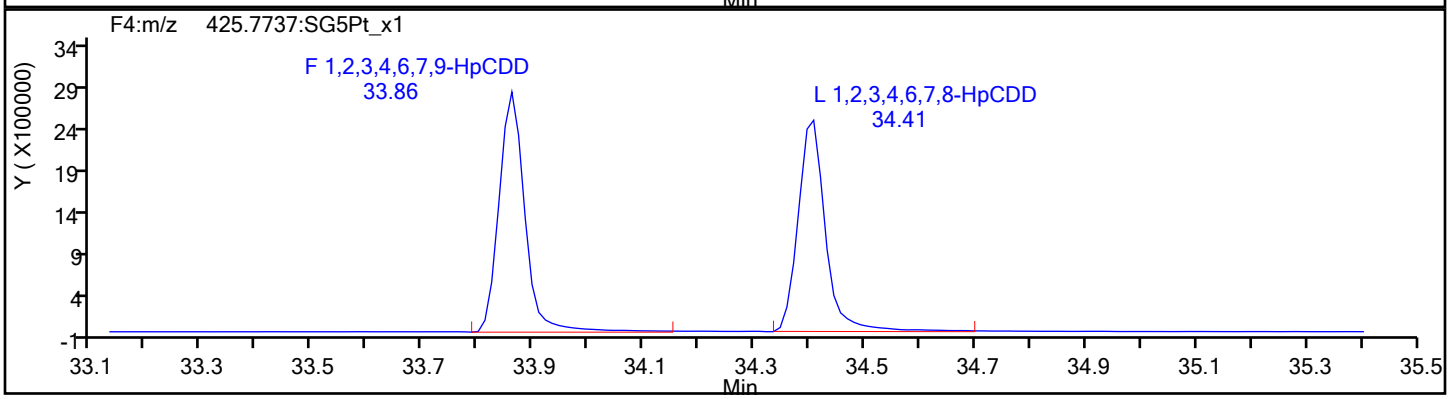

HpCDD Standards

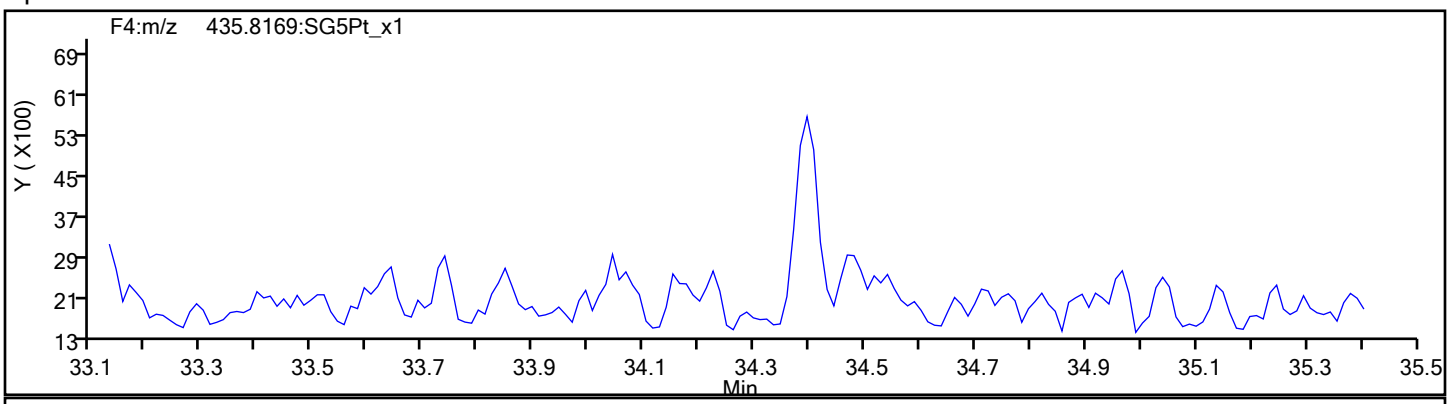

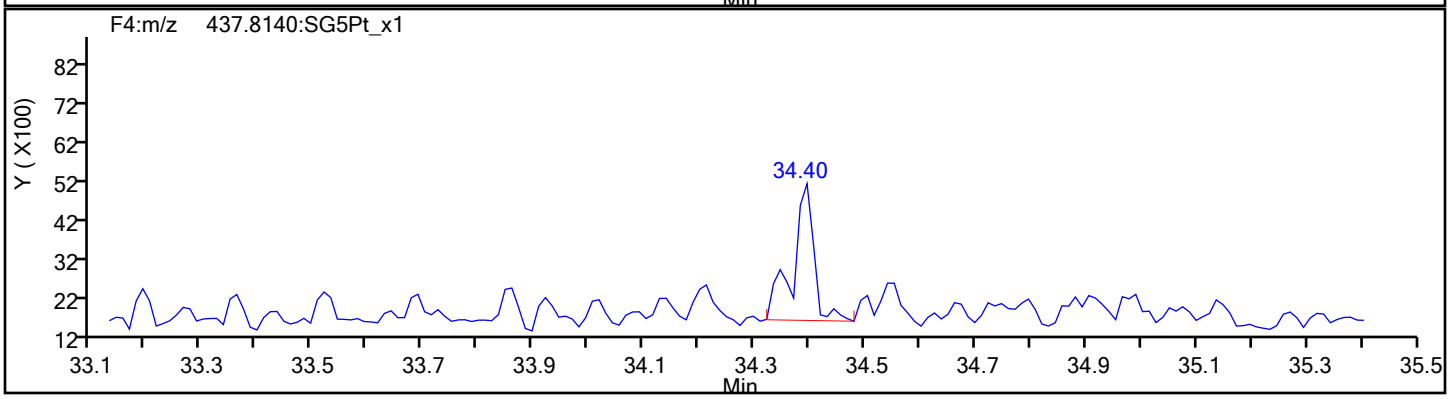

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Eurofins TestAmerica, Sacramento

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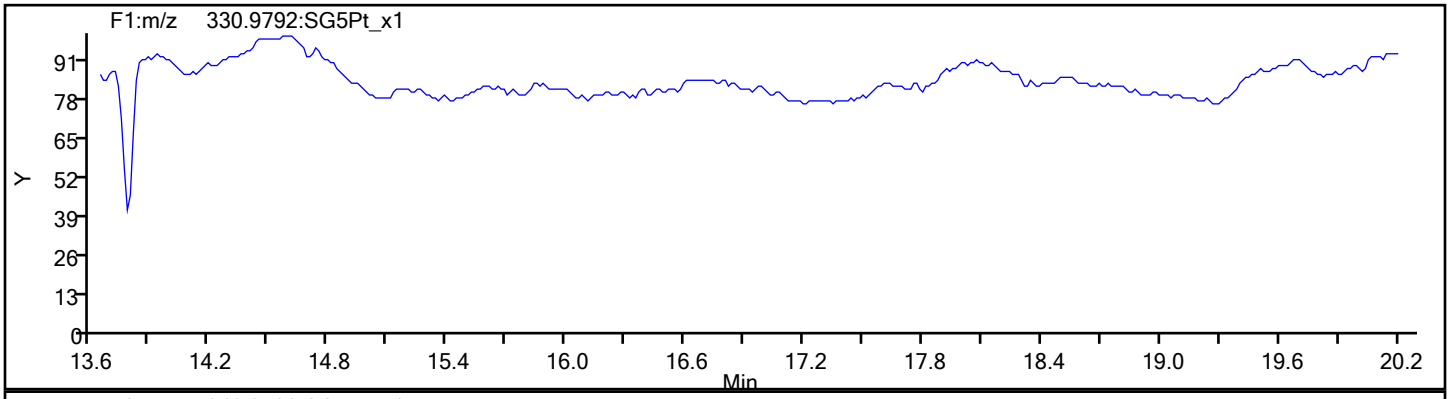

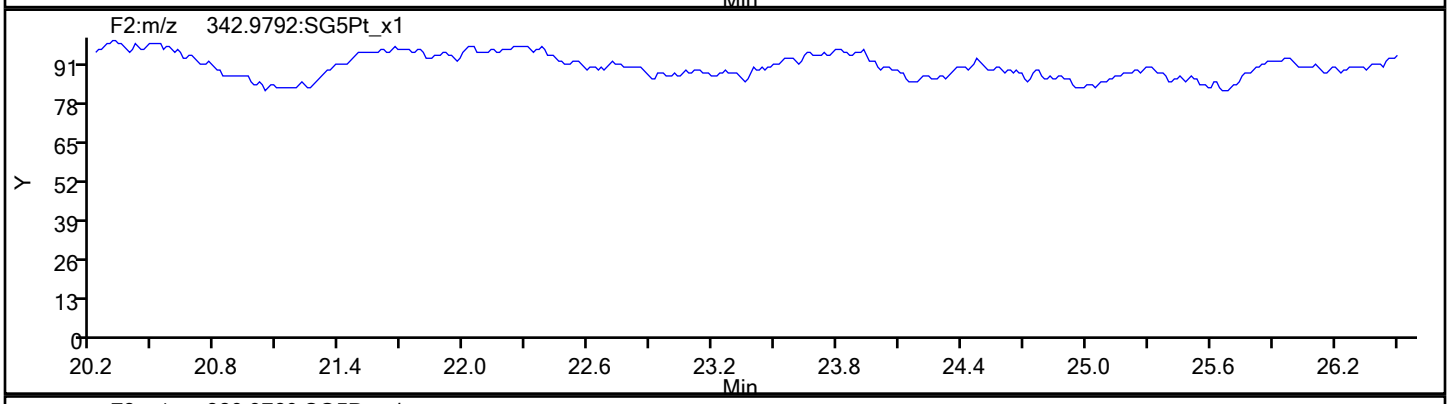

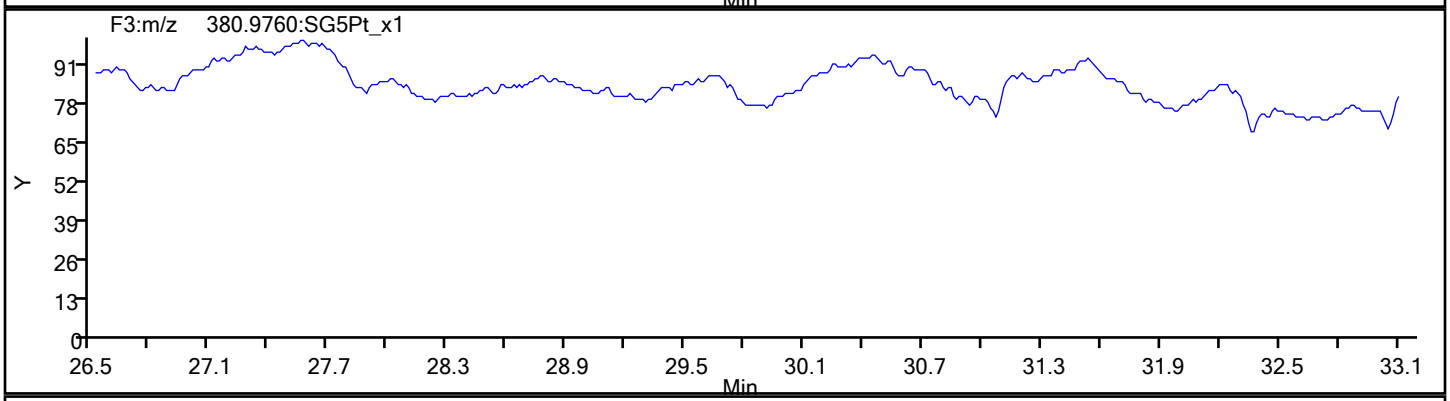

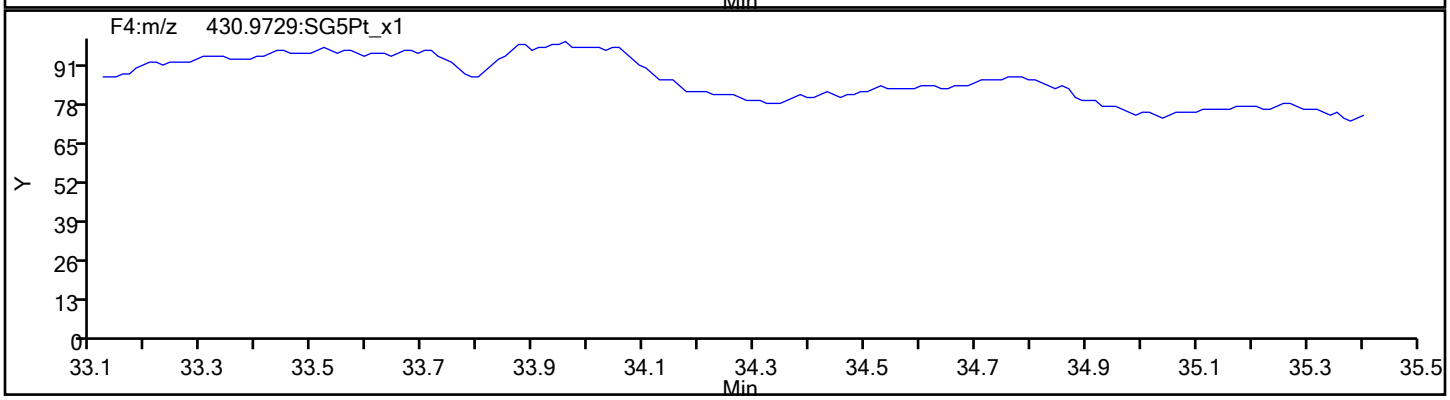

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Eurofins TestAmerica, Sacramento

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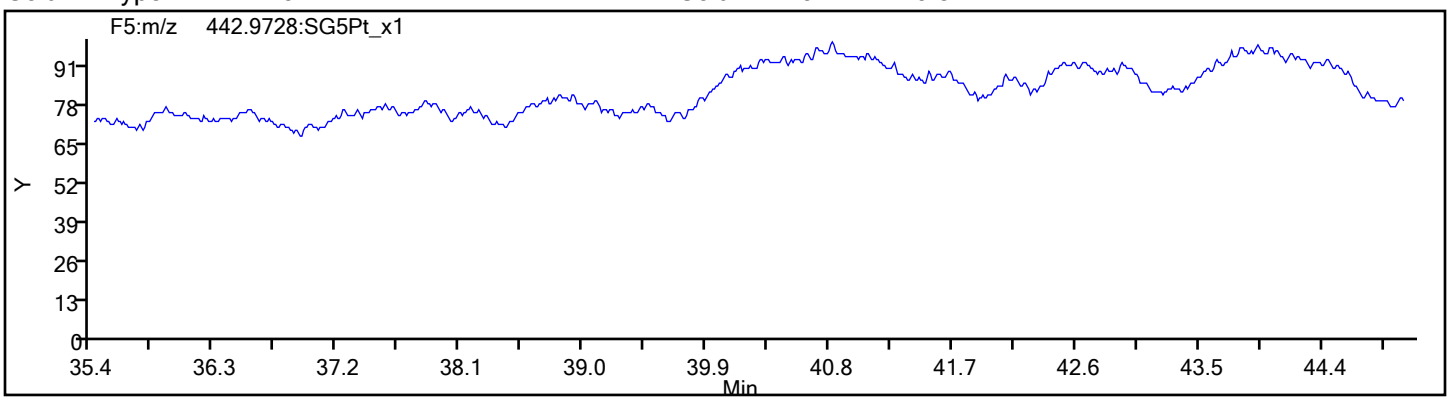

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 320-57624-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 320-350417/1-A
Matrix: Water
Lab File ID: 13JA2010D5_18.d
Analysis Method: 1613B
Date Collected:
Extract. Method: 1613B
Date Extracted: 01/13/2020 11:12
Sample wt/vol: 1000(mL)
Date Analyzed: 01/14/2020 02:08
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 350523
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		10	0.64
51207-31-9	2,3,7,8-TCDF	ND		10	0.39
40321-76-4	1,2,3,7,8-PeCDD	ND		50	0.49
57117-41-6	1,2,3,7,8-PeCDF	ND		50	0.33
57117-31-4	2,3,4,7,8-PeCDF	ND		50	0.33
39227-28-6	1,2,3,4,7,8-HxCDD	1.64	J	50	0.37
57653-85-7	1,2,3,6,7,8-HxCDD	ND		50	0.40
19408-74-3	1,2,3,7,8,9-HxCDD	ND		50	0.35
70648-26-9	1,2,3,4,7,8-HxCDF	ND		50	0.50
57117-44-9	1,2,3,6,7,8-HxCDF	ND		50	0.51
72918-21-9	1,2,3,7,8,9-HxCDF	ND		50	0.36
60851-34-5	2,3,4,6,7,8-HxCDF	ND		50	0.36
35822-46-9	1,2,3,4,6,7,8-HpCDD	0.722	J	50	0.32
67562-39-4	1,2,3,4,6,7,8-HpCDF	0.595	J	50	0.27
55673-89-7	1,2,3,4,7,8,9-HpCDF	ND		50	0.32
3268-87-9	OCDD	4.78	J	100	0.42
39001-02-0	OCDF	ND		100	0.63
41903-57-5	Total TCDD	ND		10	0.64
30402-14-3	Total TCDF	ND		10	0.39
36088-22-9	Total PeCDD	ND		50	0.49
30402-15-4	Total PeCDF	ND		50	0.45
34465-46-8	Total HxCDD	1.64	J	50	0.37
55684-94-1	Total HxCDF	ND		50	0.51
37871-00-4	Total HpCDD	1.69	J	50	0.32
38998-75-3	Total HpCDF	0.595	J	50	0.29

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57624-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 320-350417/1-A

Matrix: Water Lab File ID: 13JA2010D5_18.d

Analysis Method: 1613B Date Collected:

Extract. Method: 1613B Date Extracted: 01/13/2020 11:12

Sample wt/vol: 1000(mL) Date Analyzed: 01/14/2020 02:08

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 350523 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	89		25-164
89059-46-1	13C-2,3,7,8-TCDF	91		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	95		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	95		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	104		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	101		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	84		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	94		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	83		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	88		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	89		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	82		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	84		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	87		26-138
114423-97-1	13C-OCDD	76		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	102		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_18.d
Lims ID: MB 320-350417/1-A
Client ID:
Sample Type: MB
Inject. Date: 14-Jan-2020 02:08:23 ALS Bottle#: 43 Worklist Smp#: 18
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: MB 320-350417/1-A MB 320-350417/1-A
Misc. Info.: 13JA2010D5
Operator ID: SMA/ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 15-Jan-2020 12:54:26 Calib Date: 14-Nov-2019 12:50:49
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0339

First Level Reviewer: dadunj Date: 15-Jan-2020 10:56:16

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.635	65653110	0.79	1.2E+06	100.0	100.0				a
D 13C-2,3,7,8-TCDF	17.136	79346871	0.77	1.3318	90.7	90.7	0.2426	0.2426	90.74	
2,3,7,8-TCDF	17.121						0.0195	0.0195		
A Non-2,3,7,8-sub-TCDF	16.826						0.0195	0.0195		
S Total TCDF							0.0195	0.0195		
D 13C-2,3,7,8-TCDD	17.816	56364923	0.80	0.9647	89.0	89.0	0.1775	0.1775	89.00	
2,3,7,8-TCDD	17.816						0.0318	0.0318		
$ 37Cl4-2,3,7,8-TCDD	17.831	35043735		1.3082	40.8	40.8	0.0559	0.0559	102	
A Non-2,3,7,8-sub-TCDD	17.272						0.0318	0.0318		
S Total TCDD							0.0318	0.0318		
D 13C-1,2,3,7,8-PeCDF	22.060	65481276	1.60	1.0537	94.7	94.7	0.1870	0.1870	94.65	
1,2,3,7,8-PeCDF	22.032						0.0166	0.0166		
D 13C-2,3,4,7,8-PeCDF	23.369	69348597	1.60	1.0173	103.8	103.8	0.1937	0.1937	104	
2,3,4,7,8-PeCDF	23.355						0.0166	0.0166		
A F1 PeCDFs	19.676						0.0226	0.0226		
A Non-2,3,7,8-sub-PeCDF	22.763						0.0166	0.0166		
S Total PeCDF							0.0226	0.0226		
D 13C-1,2,3,7,8-PeCDD	24.078	45499462	1.59	0.7281	95.2	95.2	0.1028	0.1028	95.18	
1,2,3,7,8-PeCDD	24.064						0.0247	0.0247		
A Non-2,3,7,8-sub-PeCDD	22.980						0.0247	0.0247		
S Total PeCDD							0.0247	0.0247		
D 13C-1,2,3,4,7,8-HxCDF	30.219	51640803	0.50	0.9632	93.6	93.6	0.2520	0.2520	93.61	
1,2,3,4,7,8-HxCDF	30.192						0.0252	0.0252		
D 13C-1,2,3,6,7,8-HxCDF	30.432	50665522	0.50	1.0646	83.1	83.1	0.2280	0.2280	83.09	
1,2,3,6,7,8-HxCDF	30.405						0.0256	0.0256		
D 13C-2,3,4,6,7,8-HxCDF	31.324	49277141	0.50	0.9696	88.7	88.7	0.2503	0.2503	88.73	
2,3,4,6,7,8-HxCDF	31.310						0.0182	0.0182		
D 13C-1,2,3,7,8,9-HxCDF	32.162	45026053	0.50	0.8955	87.8	87.8	0.2710	0.2710	87.79	
1,2,3,7,8,9-HxCDF	32.149						0.0180	0.0180		
A Non-2,3,7,8-sub-HxCDF	29.873						0.0212	0.0212		
S Total HxCDF							0.0256	0.0256		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.976	57277633	1.26	8.8E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.524	43954177	1.29	0.7590	101.1	101.1	0.2140	0.2140	101	
1,2,3,4,7,8-HxCDD	31.537	36151	1.39	1.0054	0.0818	0.0818	0.0185	0.0185		M
D 13C-1,2,3,6,7,8-HxCDD	31.630	44676123	1.27	0.9247	84.3	84.3	0.1756	0.1756	84.35	
1,2,3,6,7,8-HxCDD	31.537						0.0200	0.0200		QMU
1,2,3,7,8,9-HxCDD	31.963						0.0174	0.0174		
A Non-2,3,7,8-sub-HxCDD	30.485						0.0186	0.0186		U
S Total HxCDD					0.0818	0.0818	0.0186	0.0186		
D 13C-1,2,3,4,6,7,8-HpCDF	33.618	38103222	0.44	0.7930	83.9	83.9	0.7637	0.7637	83.89	
1,2,3,4,6,7,8-HpCDF	33.630	16138	1.03	1.4240	0.0297	0.0297	0.0133	0.0133		M
D 13C-1,2,3,4,7,8,9-HpCDF	34.675	36500926	0.44	0.7296	87.3	87.3	0.8301	0.8301	87.35	
1,2,3,4,7,8,9-HpCDF	34.675						0.0162	0.0162		
A Non-2,3,7,8-sub-HpCDF	34.140						0.0146	0.0169		U
S Total HpCDF					0.0297	0.0297	0.0147	0.0147		
D 13C-1,2,3,4,6,7,8-HpCDD	34.396	35401530	1.04	0.7532	82.1	82.1	0.3085	0.3085	82.06	
1,2,3,4,6,7,8-HpCDD	34.408	13005	1.04	1.0174	0.0412	0.0361	0.0158	0.0158		RQ
A Non-2,3,7,8-sub-HpCDD	34.122	17506	0.95	1.0174	0.0486	0.0486	0.0158	0.0486		
S Total HpCDD					0.0898	0.0847	0.0158	0.0158		RQ
D 13C-OCDD	36.698	48815915	0.91	0.5621	151.6	151.6	0.1049	0.1049	75.82	
OCDF	36.782						0.0314	0.0314		
OCDD	36.710	64154	0.82	1.0997	0.2390	0.2390	0.0208	0.0208		M

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_18.d
Lims ID: MB 320-350417/1-A
Client ID:
Sample Type: MB
Inject. Date: 14-Jan-2020 02:08:23 ALS Bottle#: 43 Worklist Smp#: 18
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: MB 320-350417/1-A MB 320-350417/1-A
Misc. Info.: 13JA2010D5
Operator ID: SMA/ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 15-Jan-2020 12:54:26 Calib Date: 14-Nov-2019 12:50:49
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0339

First Level Reviewer: dadunj Date: 15-Jan-2020 10:56:16

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											a
331.9368	17.635	17.605	2		28893064	7564094	5306	13265	1426		a
333.9339	17.635	17.605	2		36760046	9531927	6402	16005	1489	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.136	17.106	2	0.972	34621093	8556022	15865	39662	539		
317.9389	17.136	17.106	2	0.972	44725778	11084730	6234	15585	1778	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.121						543	1357			
305.8987	17.121						836	2090			
A Non-2,3,7,8-sub-TCDF											
303.9016	16.826						543	1357			
305.8987	16.826						836	2090			
13C-2,3,7,8-TCDD											
331.9368	17.816	17.786	2	1.010	24986733	6213675	5306	13265	1171		
333.9339	17.816	17.786	2	1.010	31378190	7743902	6402	16005	1210	0.80(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.816						1364	3410			
321.8936	17.816						538	1345			
37Cl4-2,3,7,8-TCDD											
327.8847	17.831	17.816	1	1.011	35043735	8324240	4999	12497	1665		
A Non-2,3,7,8-sub-TCDD											
319.8965	17.272						1364	3410			
321.8936	17.272						538	1345			
13C-1,2,3,7,8-PeCDF											
351.9000	22.060	22.019	2	1.251	40312039	7410372	8161	20402	908		
353.8970	22.060	22.019	2	1.251	25169237	4682394	5312	13280	881	1.60(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	22.032						328	820			
341.8567	22.032						452	1130			
13C-2,3,4,7,8-PeCDF											
351.9000	23.369	23.328	2	1.325	42714840	7245182	8161	20402	888		
353.8970	23.382	23.328	3	1.326	26633757	4515047	5312	13280	850	1.60(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.355						328	820			
341.8567	23.355						452	1130			
A F1 PeCDFs											
339.8597	19.676						323	807			
341.8567	19.676						737	1842			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.763						328	820			
341.8567	22.763						452	1130			
13C-1,2,3,7,8-PeCDD											
367.8949	24.078	24.037	2	1.365	27934148	4558363	3007	7517	1516		
369.8919	24.078	24.037	2	1.365	17565314	2820015	2113	5282	1335	1.59(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.064						532	1330			
357.8516	24.064						200	500			
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.980						532	1330			
357.8516	22.980						200	500			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.219	30.166	3	0.945	17302762	2904569	4972	12430	584		
385.8610	30.219	30.166	3	0.945	34338041	5668529	9028	22570	628	0.50(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.192						578	1445			
375.8178	30.192						314	785			
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.432	30.379	3	0.952	16878148	2842623	4972	12430	572		
385.8610	30.419	30.379	2	0.951	33787374	5653041	9028	22570	626	0.50(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.405						578	1445			
375.8178	30.405						314	785			
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.324	31.284	2	0.980	16527417	3875460	4972	12430	779		
385.8610	31.324	31.284	2	0.980	32749724	7645443	9028	22570	847	0.50(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.310						578	1445			
375.8178	31.310						314	785			
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.162	32.136	2	1.006	15041136	3934466	4972	12430	791		
385.8610	32.162	32.136	2	1.006	29984917	7673999	9028	22570	850	0.50(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	32.149						578	1445			
375.8178	32.149						314	785			
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.873						578	1445			
375.8178	29.873						314	785			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.976	31.949	2		31967849	8075826	5198	12995	1554		
403.8529	31.976	31.949	2		25309784	6345460	4170	10425	1522	1.26(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.524	31.497	2	0.986	24722258	6314979	5198	12995	1215		
403.8529	31.524	31.497	2	0.986	19231919	4959869	4170	10425	1189	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											M
389.8157	31.537	31.510	2	1.000	21025	5225	447	1117	12		M
391.8127	31.537	31.510	2	1.000	15126	4065	393	982	10	1.39(1.05-1.43)	M
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.630	31.603	2	0.989	24964782	5989721	5198	12995	1152		
403.8529	31.630	31.603	2	0.989	19711341	4664323	4170	10425	1119	1.27(1.05-1.43)	
1,2,3,6,7,8-HxCDD											QMU
389.8157	31.617						447	1117			
391.8127	31.617						393	982			
1,2,3,7,8,9-HxCDD											
389.8157	31.963						447	1117			
391.8127	31.963						393	982			
A Non-2,3,7,8-sub-HxCDD											U
389.8157	30.485						447	1117			
391.8127	30.485						393	982			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.618	33.593	1	1.051	11710248	3723335	12261	30652	304		
419.8220	33.618	33.593	1	1.051	26392974	8199644	22675	56687	362	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											M
407.7818	33.630	33.605	1	1.000	8182	3056	635	1587	5		M
409.7789	33.630	33.605	1	1.000	7956	2663	269	672	10	1.03(0.88-1.20)	M
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.675	34.663	1	1.084	11115421	3353335	12261	30652	273		
419.8220	34.675	34.663	1	1.084	25385505	7538304	22675	56687	332	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.675						635	1587			
409.7789	34.675						269	672			
A Non-2,3,7,8-sub-HpCDF											U
407.7818	34.140						635	1587			
409.7789	34.140						269	672			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.396	34.371	1	1.076	18085772	5416110	6966	17415	778		
437.8140	34.396	34.371	1	1.076	17315758	5129205	6436	16090	797	1.04(0.88-1.20)	

Report Date: 15-Jan-2020 12:54:34 Chrom Revision: 2.3 23-Dec-2019 10:12:06
Data File: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_18.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											RQ
423.7766	34.408	34.383	1	1.000	6630	1550	396	990	4		
425.7737	34.408	34.383	1	1.000	8205	3090	281	702	11	0.81(0.88-1.20)	
	Empc Correction				6375	1490	281	702	5		
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.861	34.122	-16	0.984	8549	2210	396	990	6		
425.7737	33.861	34.122	-16	0.984	8957	2769	281	702	10	0.95(0.88-1.20)	
13C-OCDD											
469.7779	36.698	36.674	1	1.148	23265896	5829041	1455	3637	4006		
471.7750	36.698	36.674	1	1.148	25550019	6416554	1947	4867	3296	0.91(0.76-1.02)	
OCDF											
441.7428	36.782						422	1055			
443.7399	36.782						582	1455			
OCDD											M
457.7377	36.710	36.686	1	1.000	28923	6673	309	772	22		M
459.7348	36.698	36.686	1	1.000	35231	7266	251	627	29	0.82(0.76-1.02)	M

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_18.d
Lims ID: MB 320-350417/1-A
Client ID:
Inject. Date: 14-Jan-2020 02:08:23 Dil. Factor: 1.0000
Sample Type: MB, Method Blank
Instrument ID: 10D5 Operator: SMA/ALM
Lims Batch ID: 350523 Lims Sample ID: 18

Non-2,3,7,8-sub-HxCDD, RT: 30.485

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.005	D 13C-1,2,3,4,7,8-HxCDD	100.000	43954177	11274848
1,2,3,6,7,8-HxCDD	0.983	D 13C-1,2,3,6,7,8-HxCDD	100.000	44676123	10654044
1,2,3,7,8,9-HxCDD	1.104				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.031		100.000	44315150	10964446

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags

Compound is Marked ND

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_18.d
Lims ID: MB 320-350417/1-A
Client ID:
Inject. Date: 14-Jan-2020 02:08:23 Dil. Factor: 1.0000
Sample Type: MB, Method Blank
Instrument ID: 10D5 Operator: SMA/ALM
Lims Batch ID: 350523 Lims Sample ID: 18

Non-2,3,7,8-sub-HpCDF, RT: 34.140

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.424	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	38103222	11922979
1,2,3,4,7,8,9-HpCDF	1.283	D 13C-1,2,3,4,7,8,9-HpCDF	100.000	36500926	10891639

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.354		100.000	37302074	11407309

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags

Compound is Marked ND

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_18.d
Lims ID: MB 320-350417/1-A
Client ID:
Inject. Date: 14-Jan-2020 02:08:23 Dil. Factor: 1.0000
Sample Type: MB, Method Blank
Instrument ID: 10D5 Operator: SMA/ALM
Lims Batch ID: 350523 Lims Sample ID: 18

Non-2,3,7,8-sub-HpCDD, RT: 34.122

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.017	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	35401530	10545315

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.017		100.000	35401530	10545315

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
33.861	8549	2210	8957	2769	0.0486	0.95	
Signal Totals:							
	8549	2210	8957	2769			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	17506	4979				0.95	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0486 = (17506 * 100.000) / (35401530 * 1.017)

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_18.d				
Injection Date:	14-Jan-2020 02:08:23	Instrument ID:	10D5		
Lims ID:	MB 320-350417/1-A				
Client ID:					
Operator ID:	SMA/ALM	ALS Bottle#:	43	Worklist Smp#:	18
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 1

Processing Integration Results

RT: 31.54
Area: 26836
Amount: 0.113664
Amount Units: pg/ul

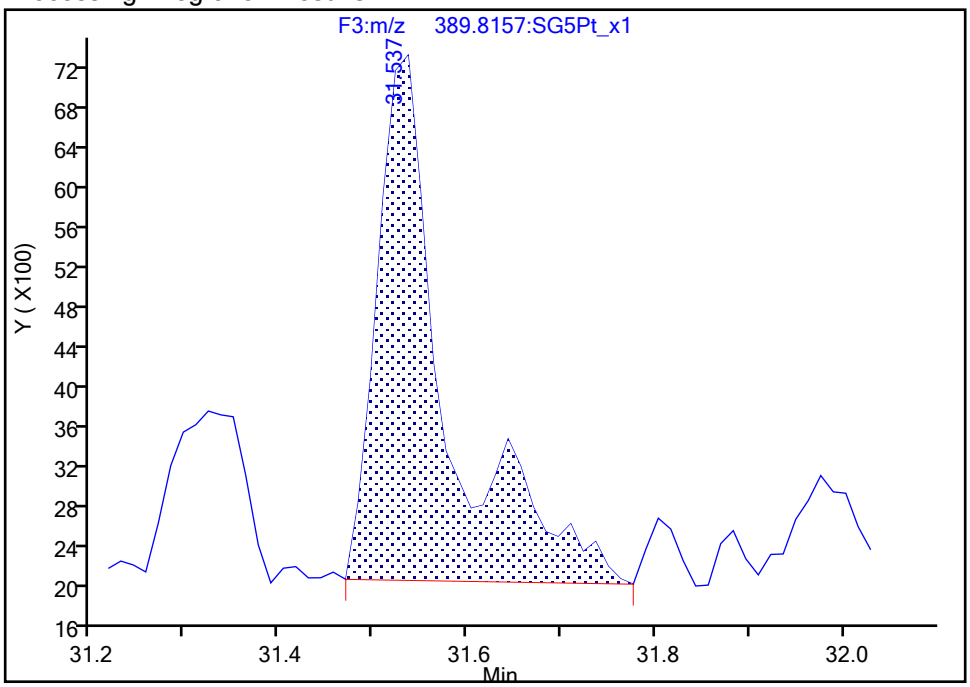

Manual Integration Results

RT: 31.54
Area: 21025
Amount: 0.081807
Amount Units: pg/ul

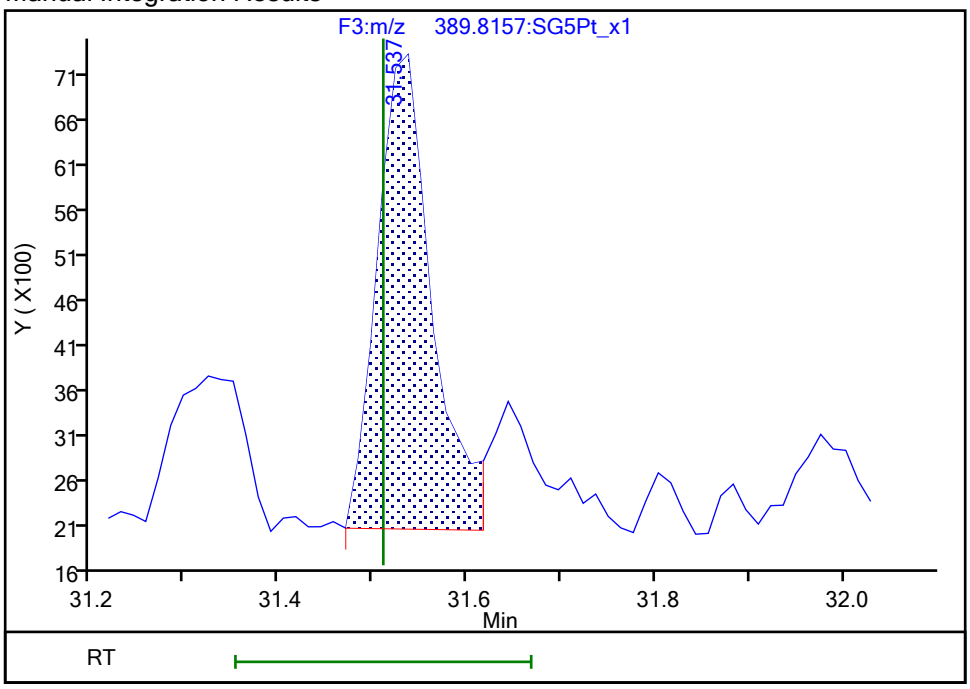

Reviewer: dadunj, 15-Jan-2020 12:53:09

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_18.d				
Injection Date:	14-Jan-2020 02:08:23	Instrument ID:	10D5		
Lims ID:	MB 320-350417/1-A				
Client ID:					
Operator ID:	SMA/ALM	ALS Bottle#:	43	Worklist Smp#:	18
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 2

Processing Integration Results

RT: 31.54
Area: 23393
Amount: 0.113664
Amount Units: pg/ul

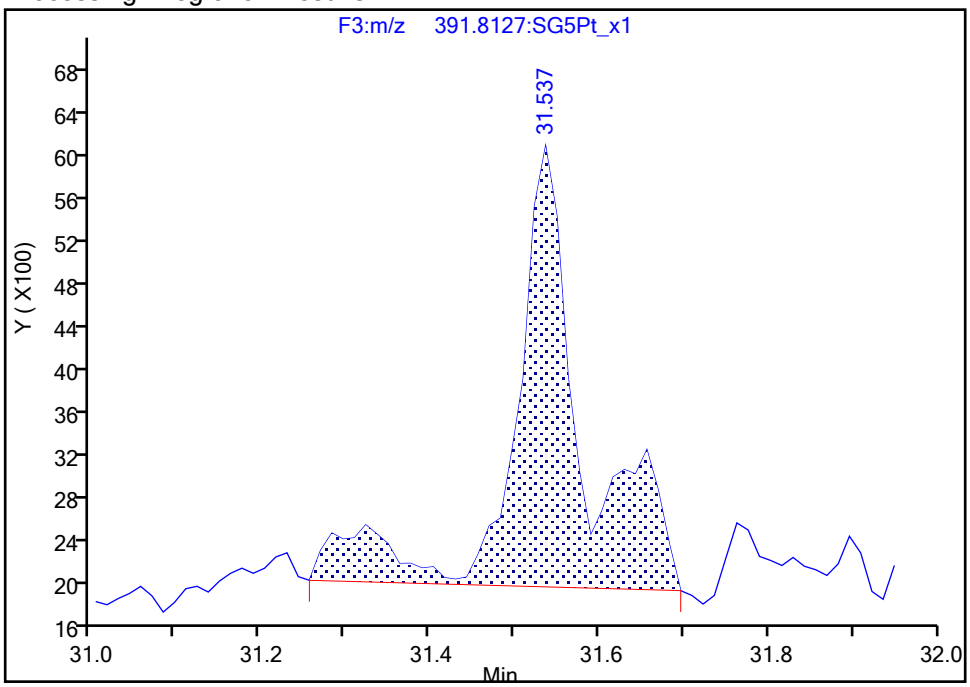

Manual Integration Results

RT: 31.54
Area: 15126
Amount: 0.081807
Amount Units: pg/ul

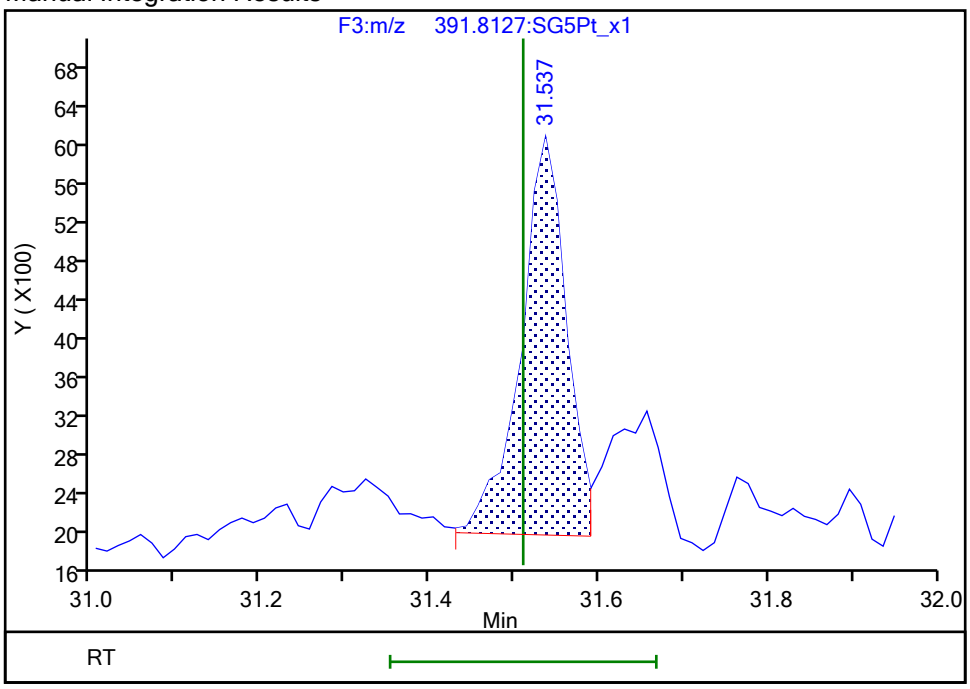

Reviewer: dadunj, 15-Jan-2020 12:53:11

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_18.d				
Injection Date:	14-Jan-2020 02:08:23	Instrument ID:	10D5		
Lims ID:	MB 320-350417/1-A				
Client ID:					
Operator ID:	SMA/ALM	ALS Bottle#:	43	Worklist Smp#:	18
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 1

Processing Integration Results

RT: 33.63
Area: 14118
Amount: 0.044360
Amount Units: pg/ul

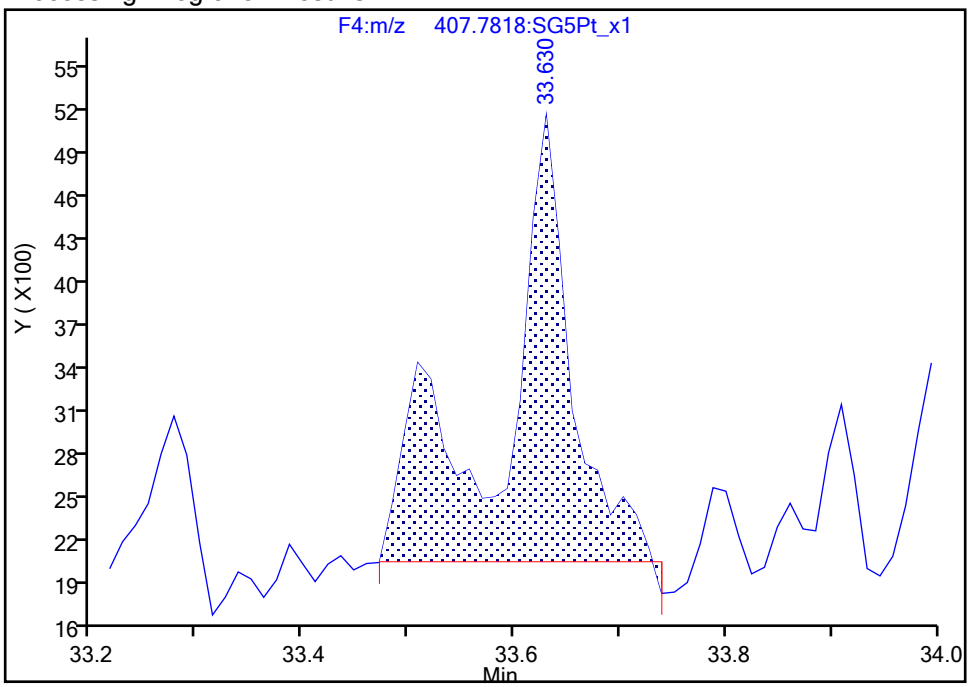

Manual Integration Results

RT: 33.63
Area: 8182
Amount: 0.029742
Amount Units: pg/ul

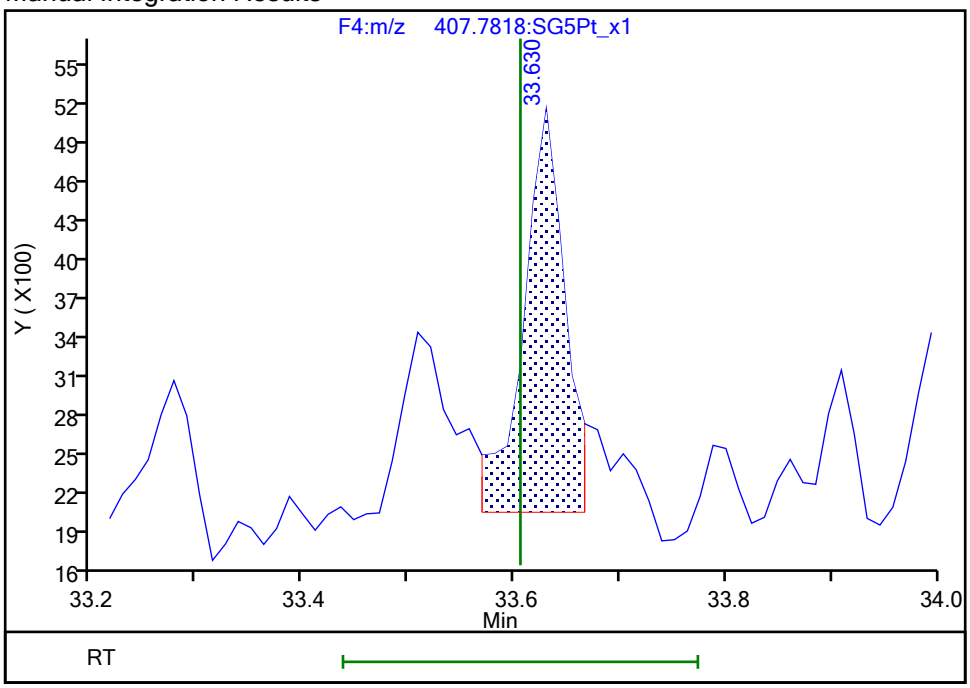

Reviewer: dadunj, 15-Jan-2020 12:53:26

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_18.d				
Injection Date:	14-Jan-2020 02:08:23	Instrument ID:	10D5		
Lims ID:	MB 320-350417/1-A				
Client ID:					
Operator ID:	SMA/ALM	ALS Bottle#:	43	Worklist Smp#:	18
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 2

Processing Integration Results

RT: 33.63
Area: 9952
Amount: 0.044360
Amount Units: pg/ul

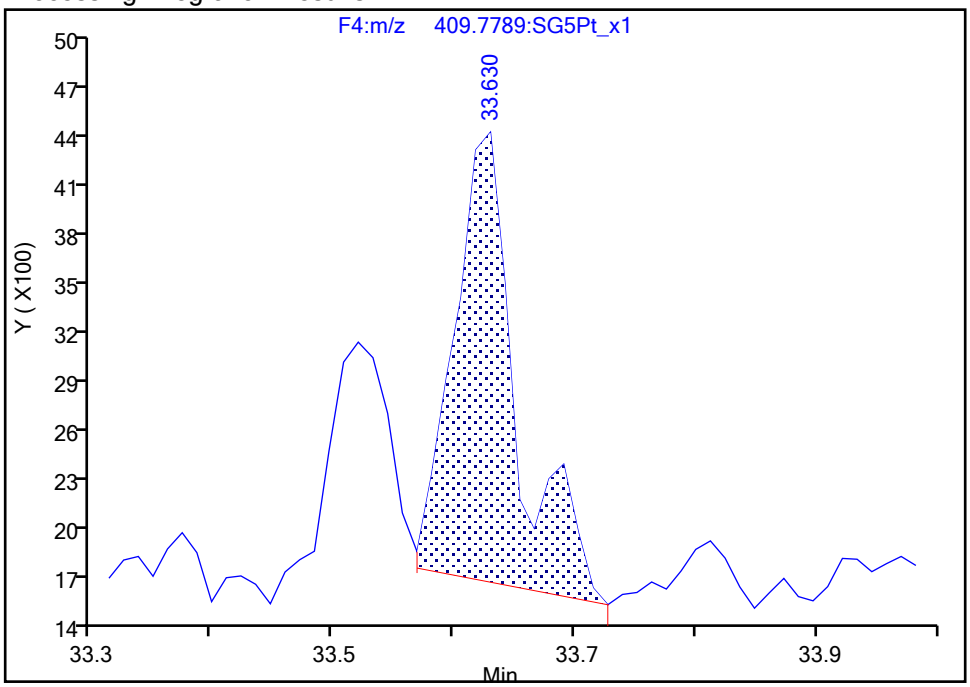

Manual Integration Results

RT: 33.63
Area: 7956
Amount: 0.029742
Amount Units: pg/ul

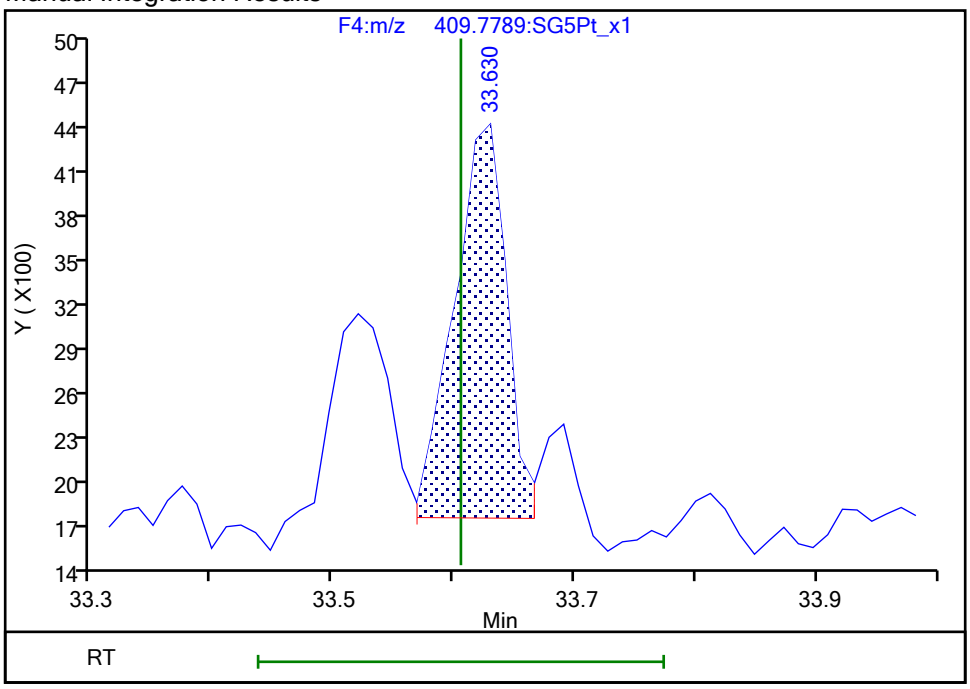

Reviewer: dadunj, 15-Jan-2020 12:53:34

Audit Action: Manually Integrated Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_18.d				
Injection Date:	14-Jan-2020 02:08:23	Instrument ID:	10D5		
Lims ID:	MB 320-350417/1-A				
Client ID:					
Operator ID:	SMA/ALM	ALS Bottle#:	43	Worklist Smp#:	18
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5:HRSIR		

OCDD, CAS: 3268-87-9

Signal: 1

Processing Integration Results

RT: 36.71
Area: 34244
Amount: 0.280158
Amount Units: pg/ul

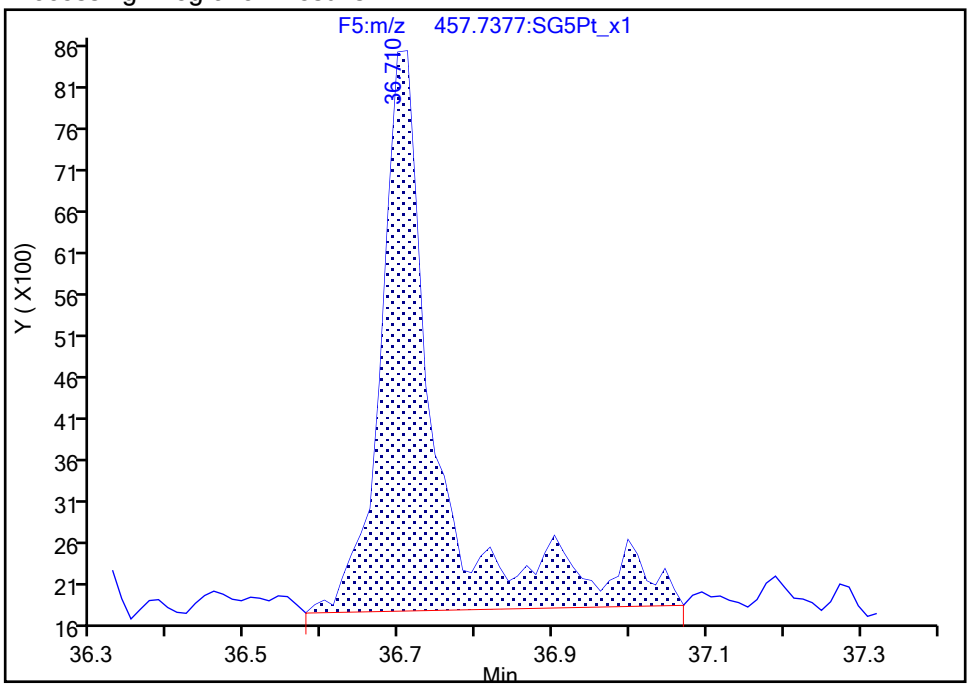

Manual Integration Results

RT: 36.71
Area: 28923
Amount: 0.239016
Amount Units: pg/ul

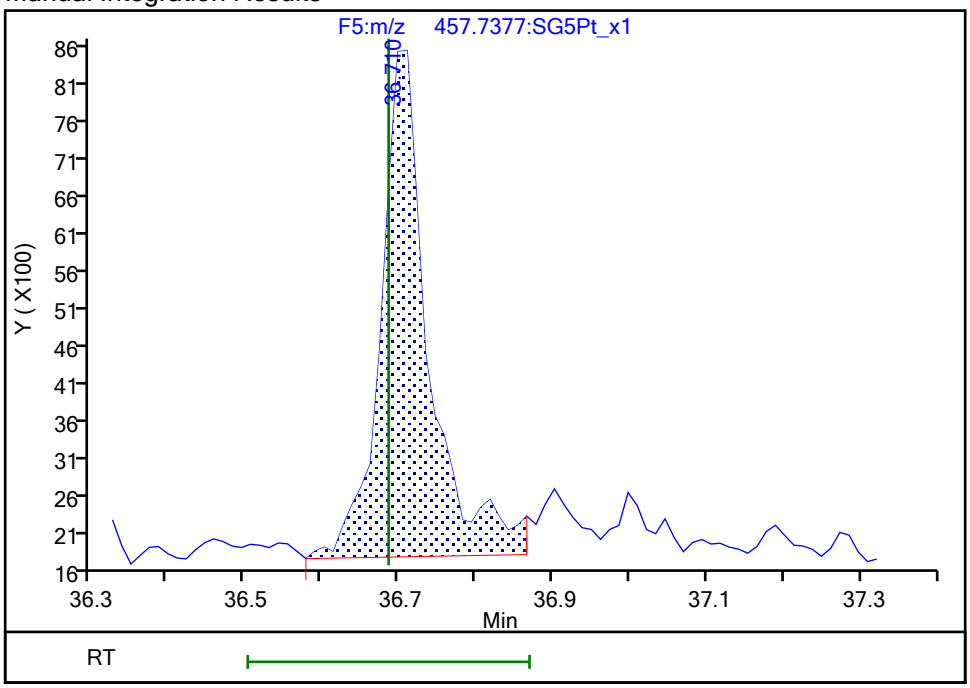

Reviewer: dadunj, 15-Jan-2020 12:53:51

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_18.d				
Injection Date:	14-Jan-2020 02:08:23	Instrument ID:	10D5		
Lims ID:	MB 320-350417/1-A				
Client ID:					
Operator ID:	SMA/ALM	ALS Bottle#:	43	Worklist Smp#:	18
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5:HRSIR		

OCDD, CAS: 3268-87-9

Signal: 2

Processing Integration Results

RT: 36.70
Area: 40953
Amount: 0.280158
Amount Units: pg/ul

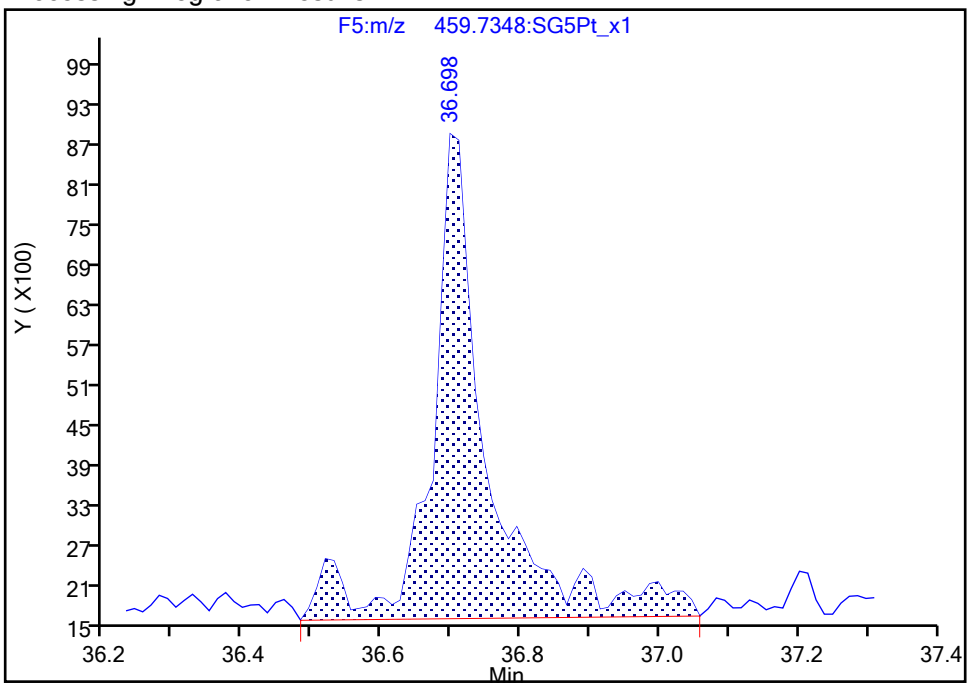

Manual Integration Results

RT: 36.70
Area: 35231
Amount: 0.239016
Amount Units: pg/ul

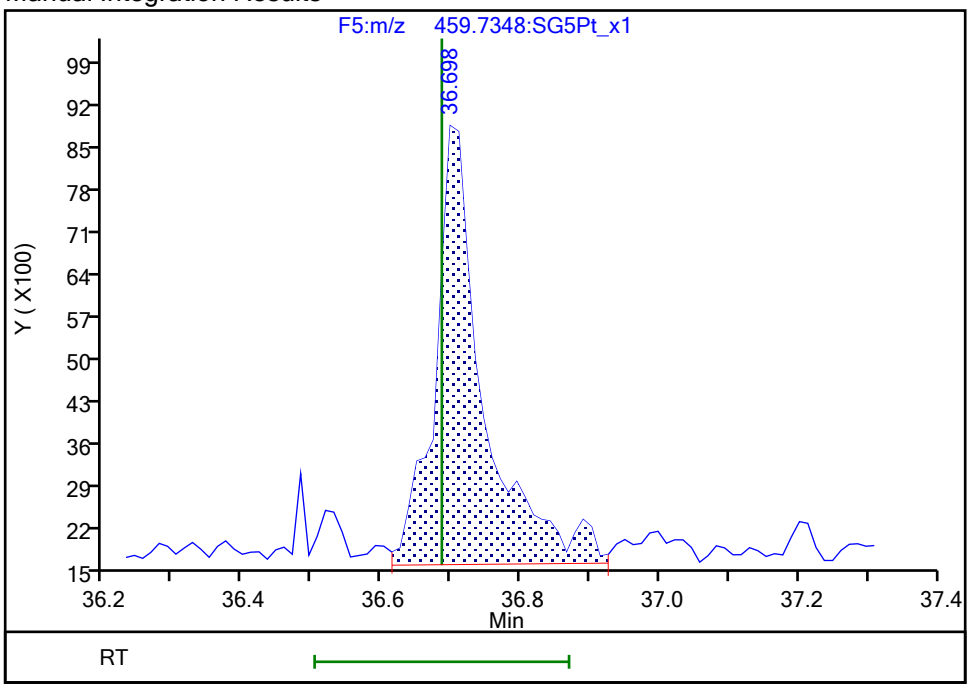

Reviewer: dadunj, 15-Jan-2020 12:53:53

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 15-Jan-2020 12:54:34 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_18.d		
Injection Date:	14-Jan-2020 02:08:23	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	350523	Sample Line#:	18
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

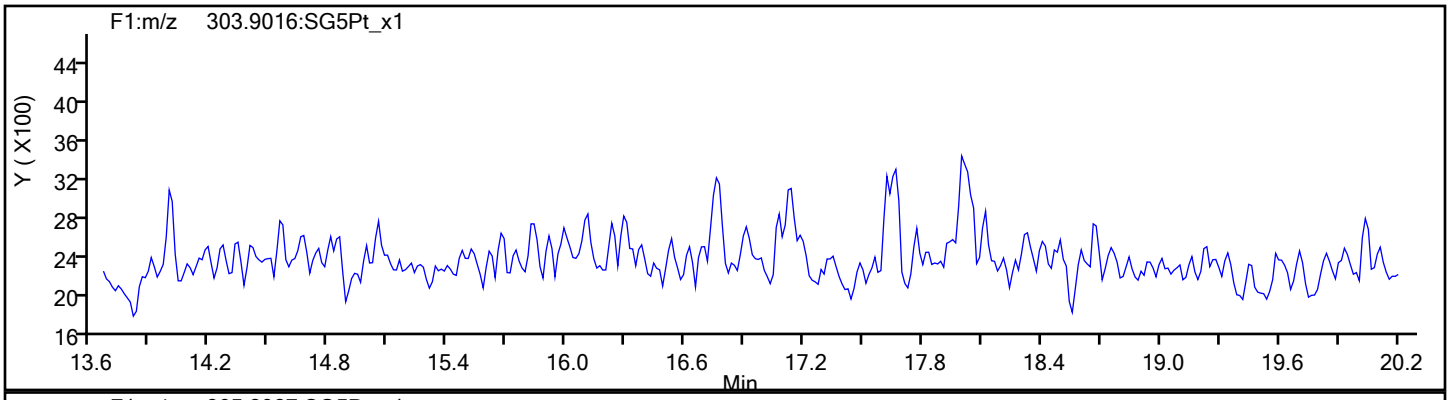

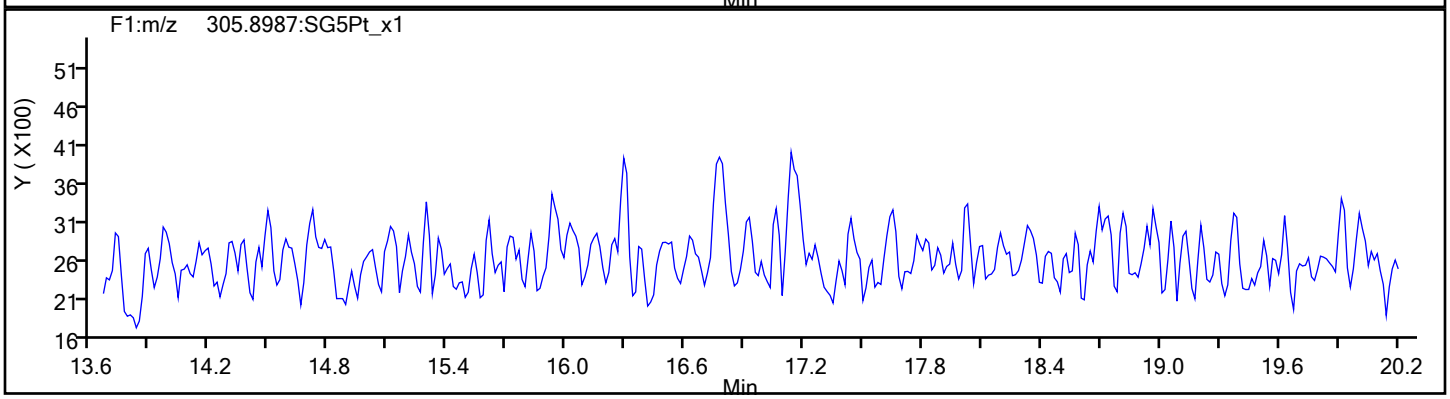

TCDF Standards

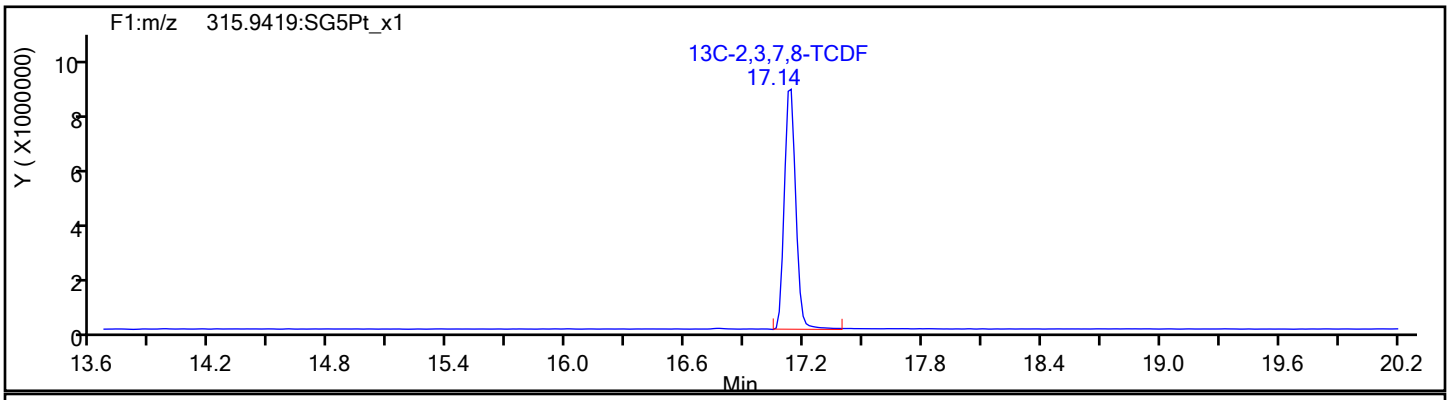

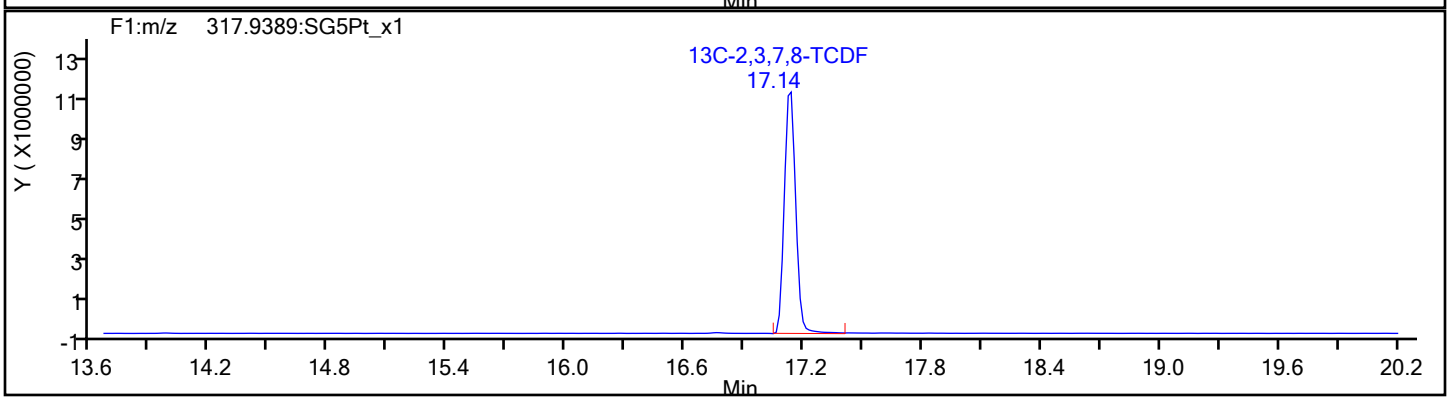

Report Date: 15-Jan-2020 12:54:34 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_18.d		
Injection Date:	14-Jan-2020 02:08:23	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	350523	Sample Line#:	18
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

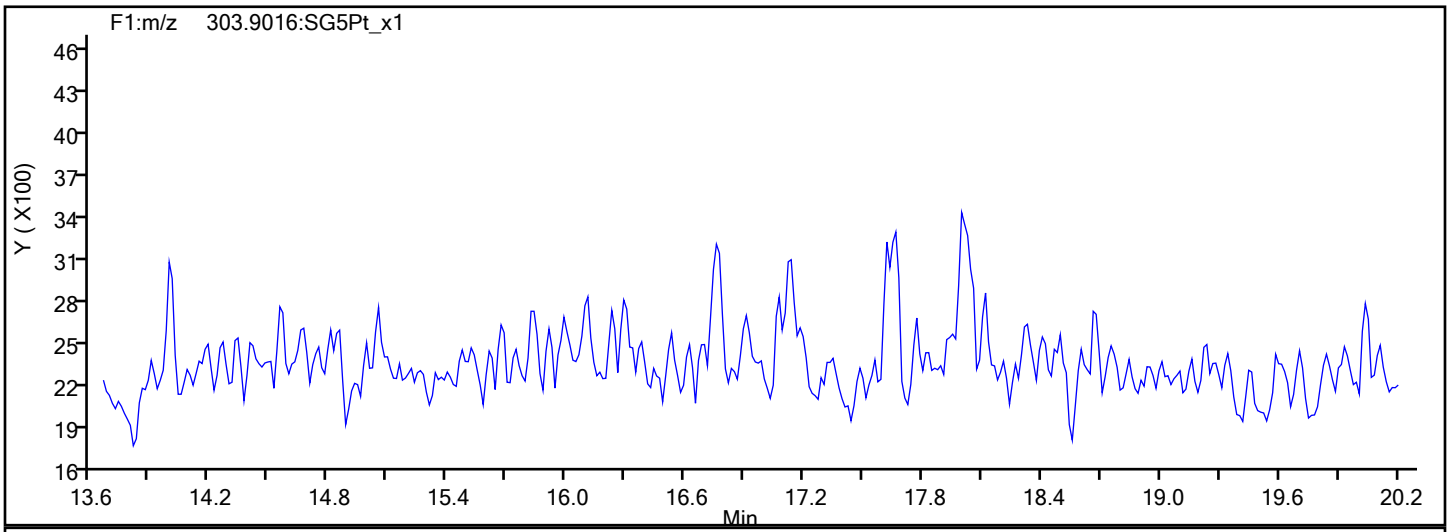

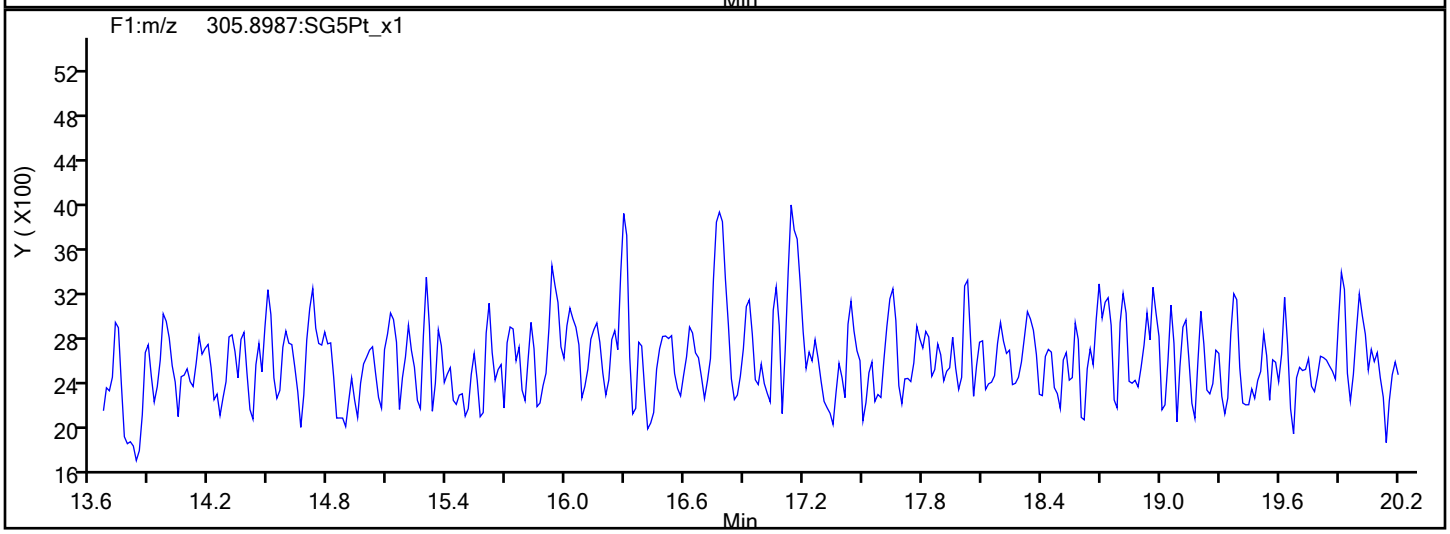

TCDF Interference Mass

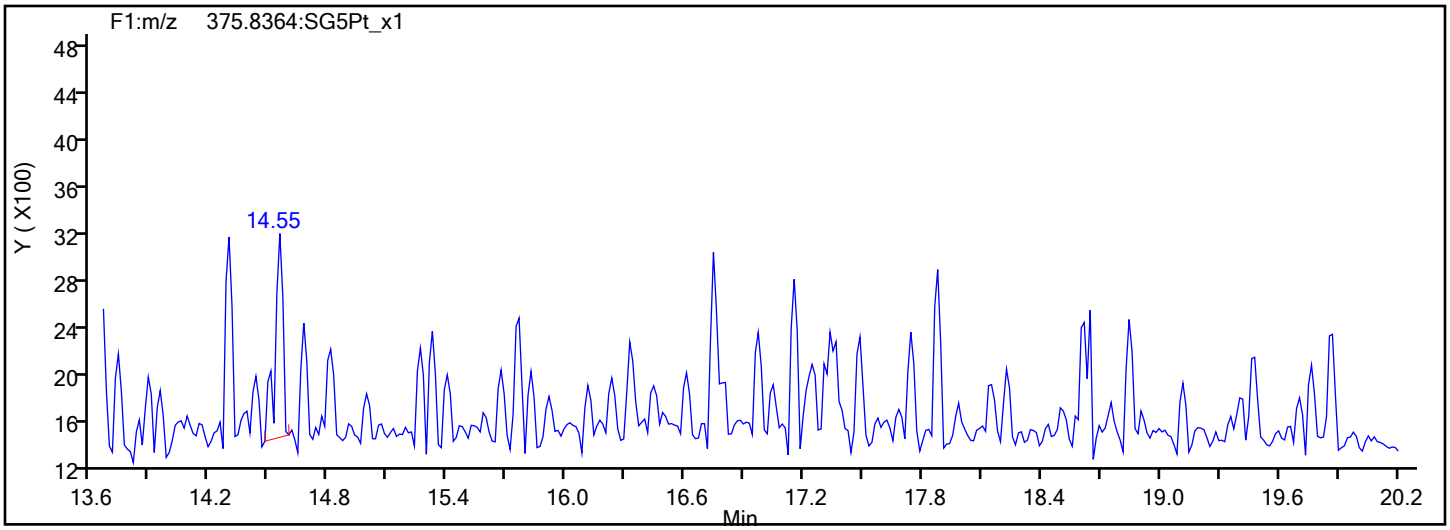

Report Date: 15-Jan-2020 12:54:34 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_18.d		
Injection Date:	14-Jan-2020 02:08:23	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	350523	Sample Line#:	18
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

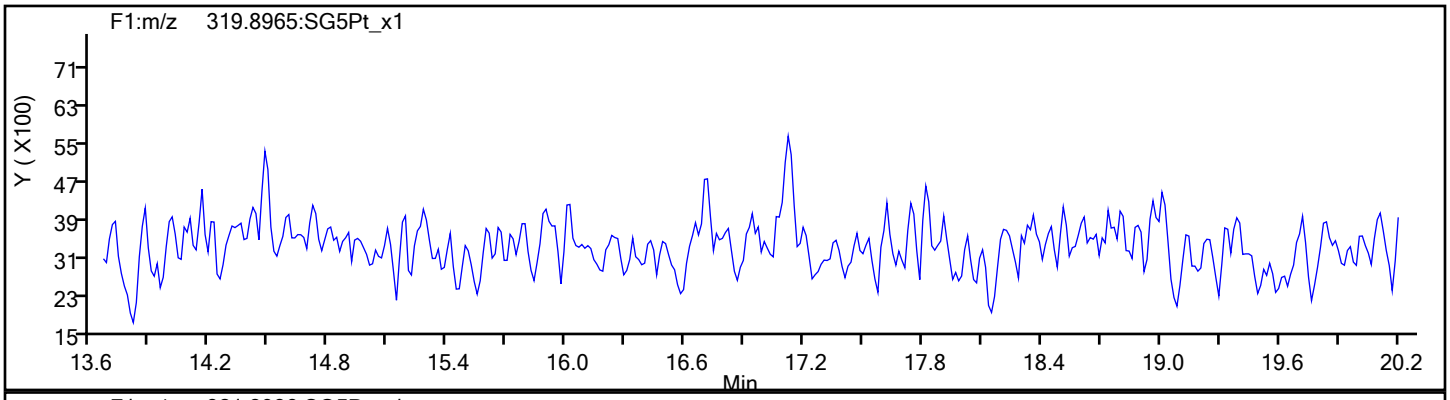

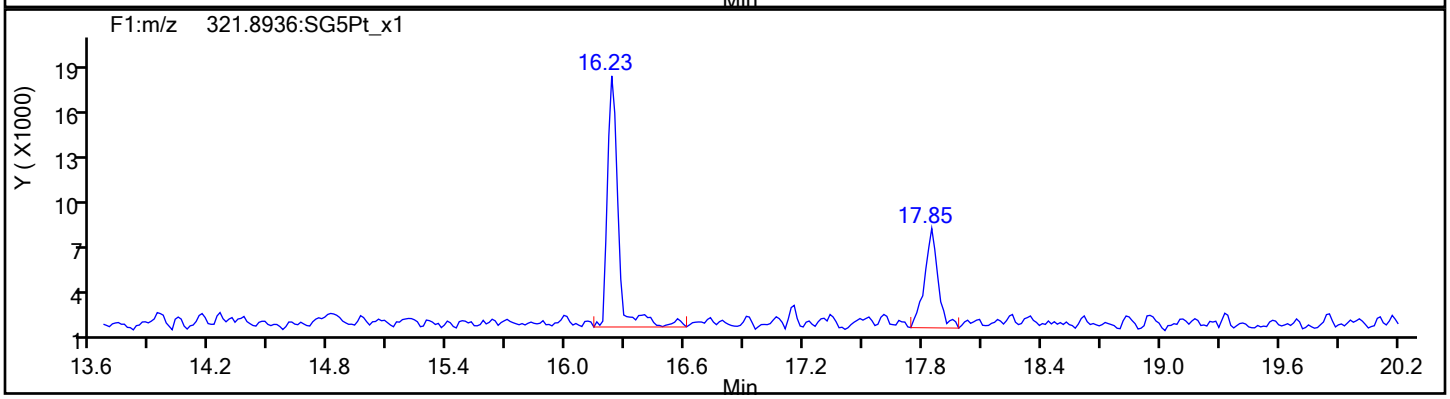

TCDD Standards

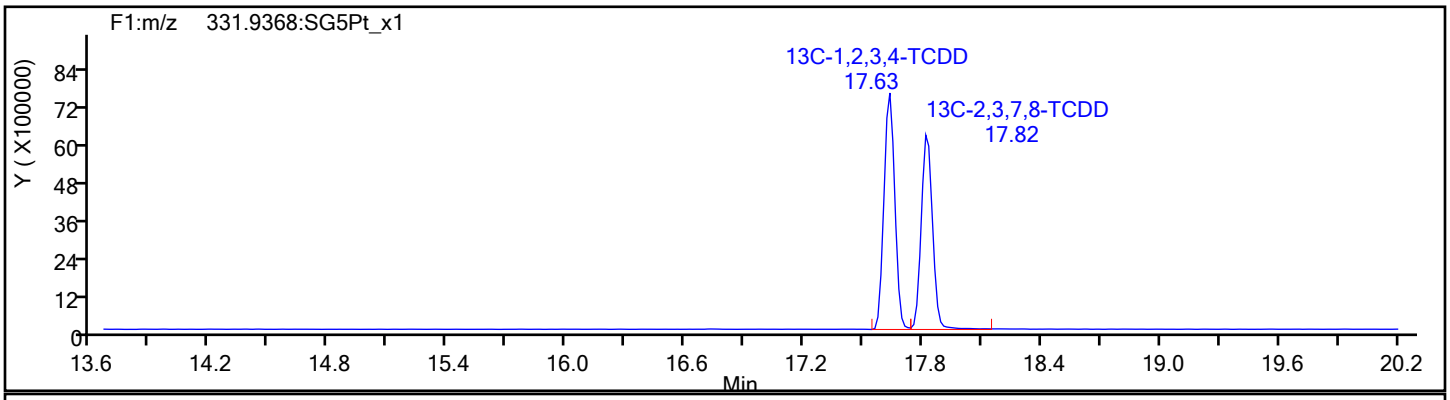

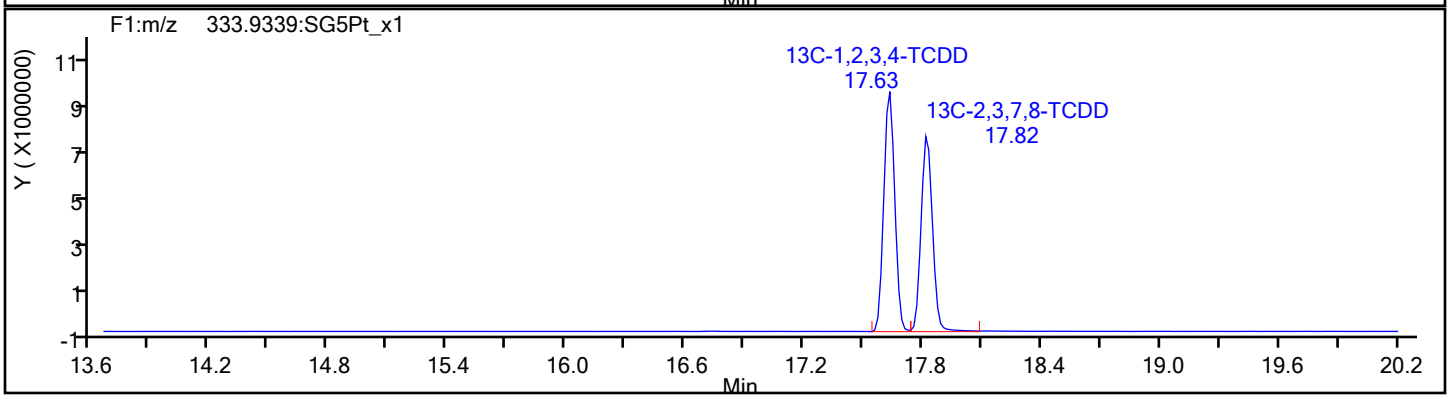

Report Date: 15-Jan-2020 12:54:34 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_18.d		
Injection Date:	14-Jan-2020 02:08:23	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	350523	Sample Line#:	18
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

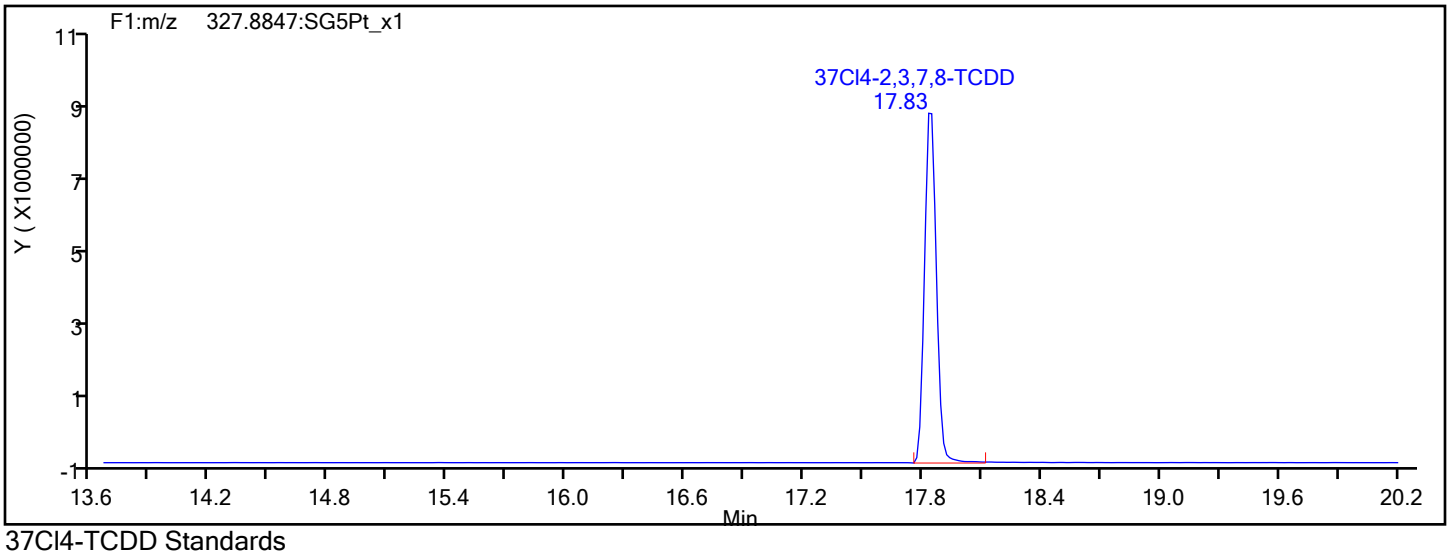

37Cl4-TCDD Standards

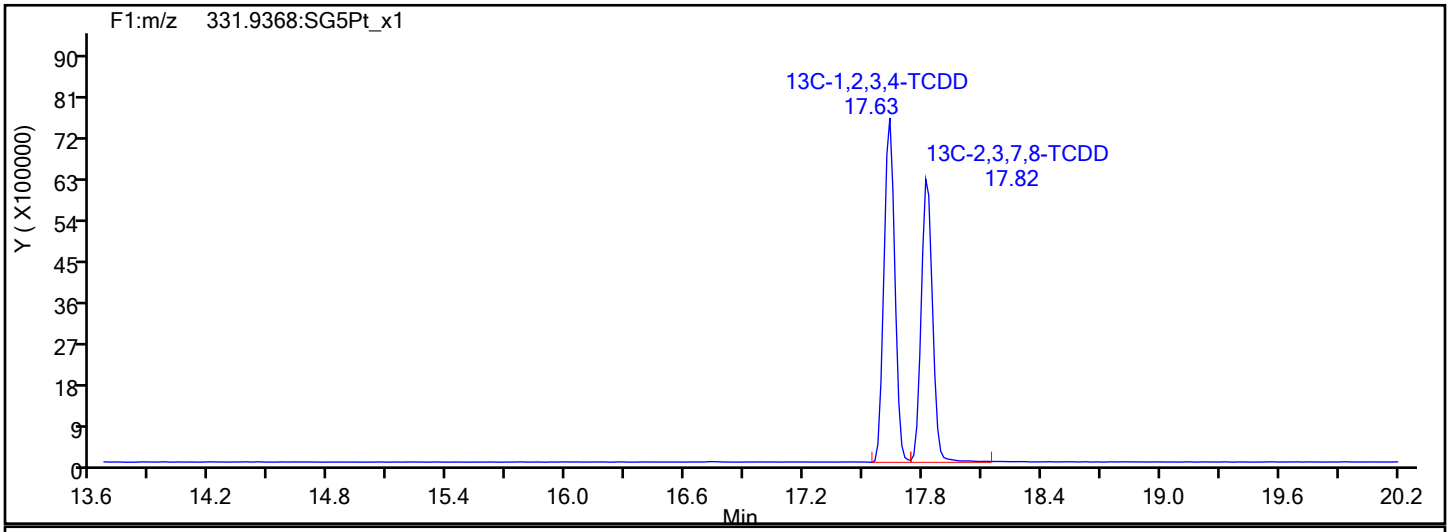

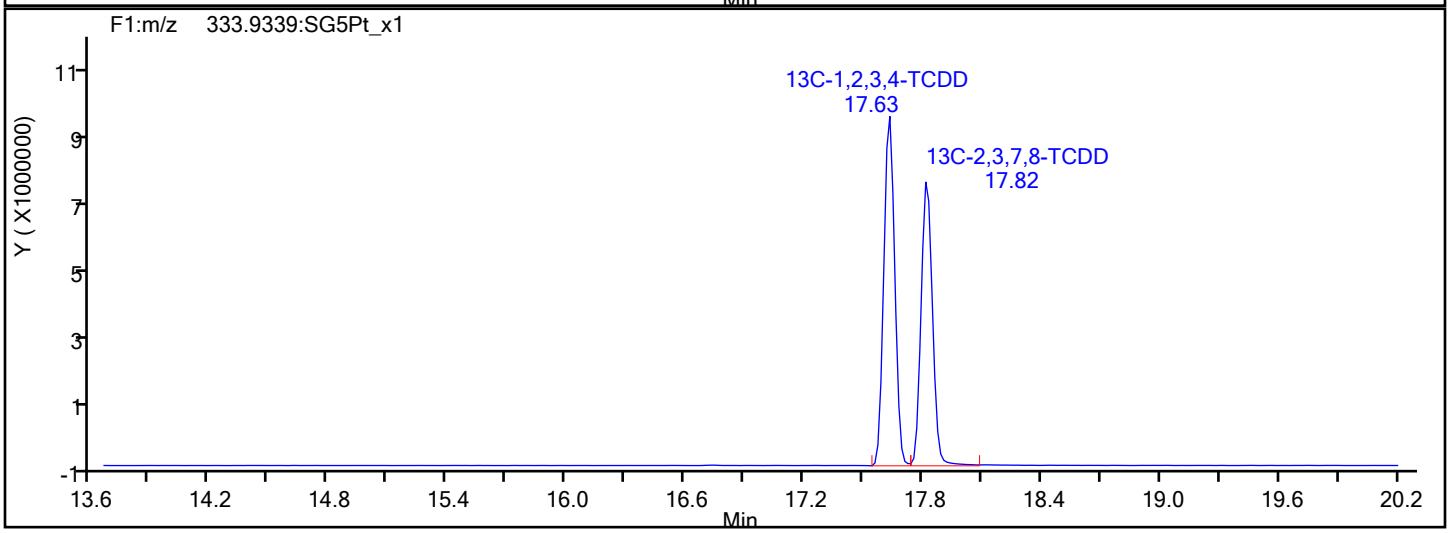

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

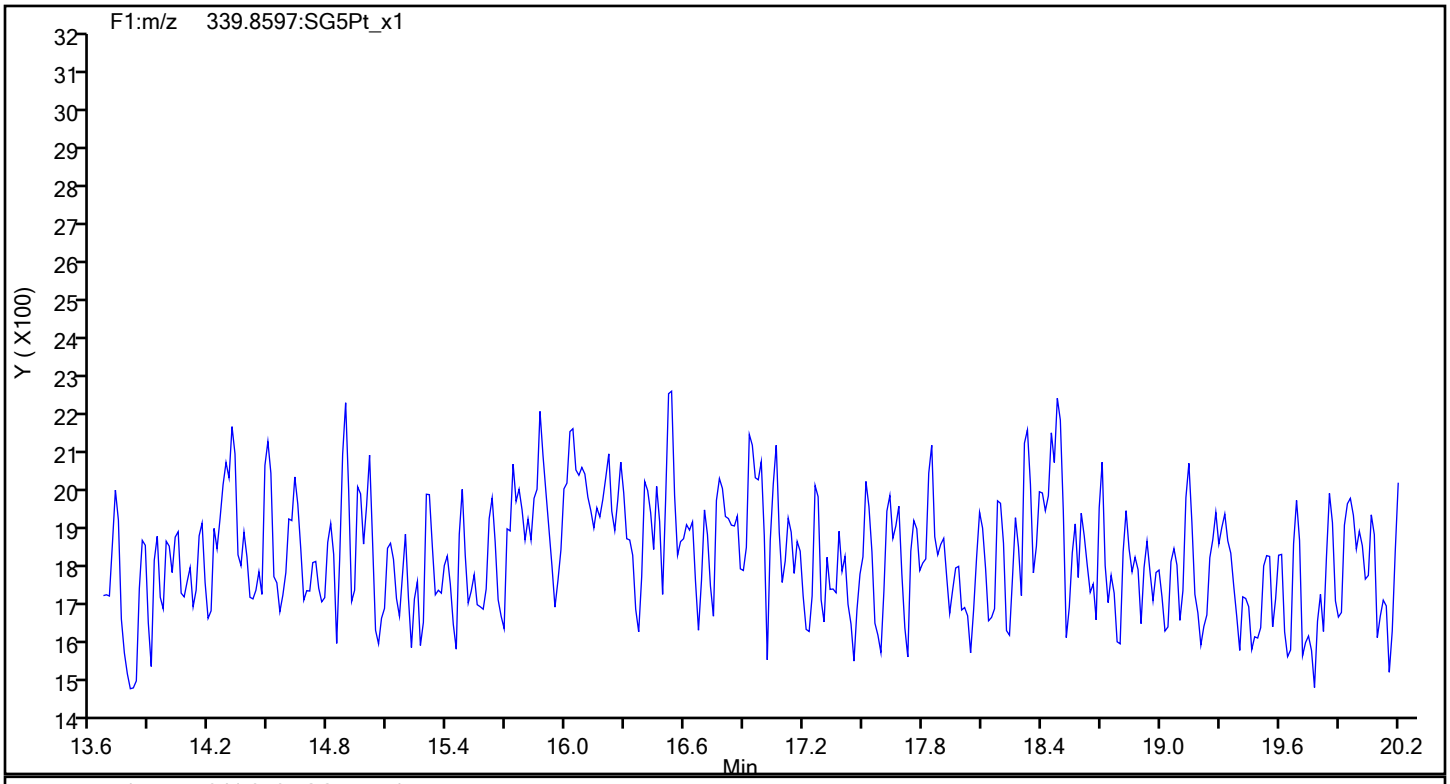

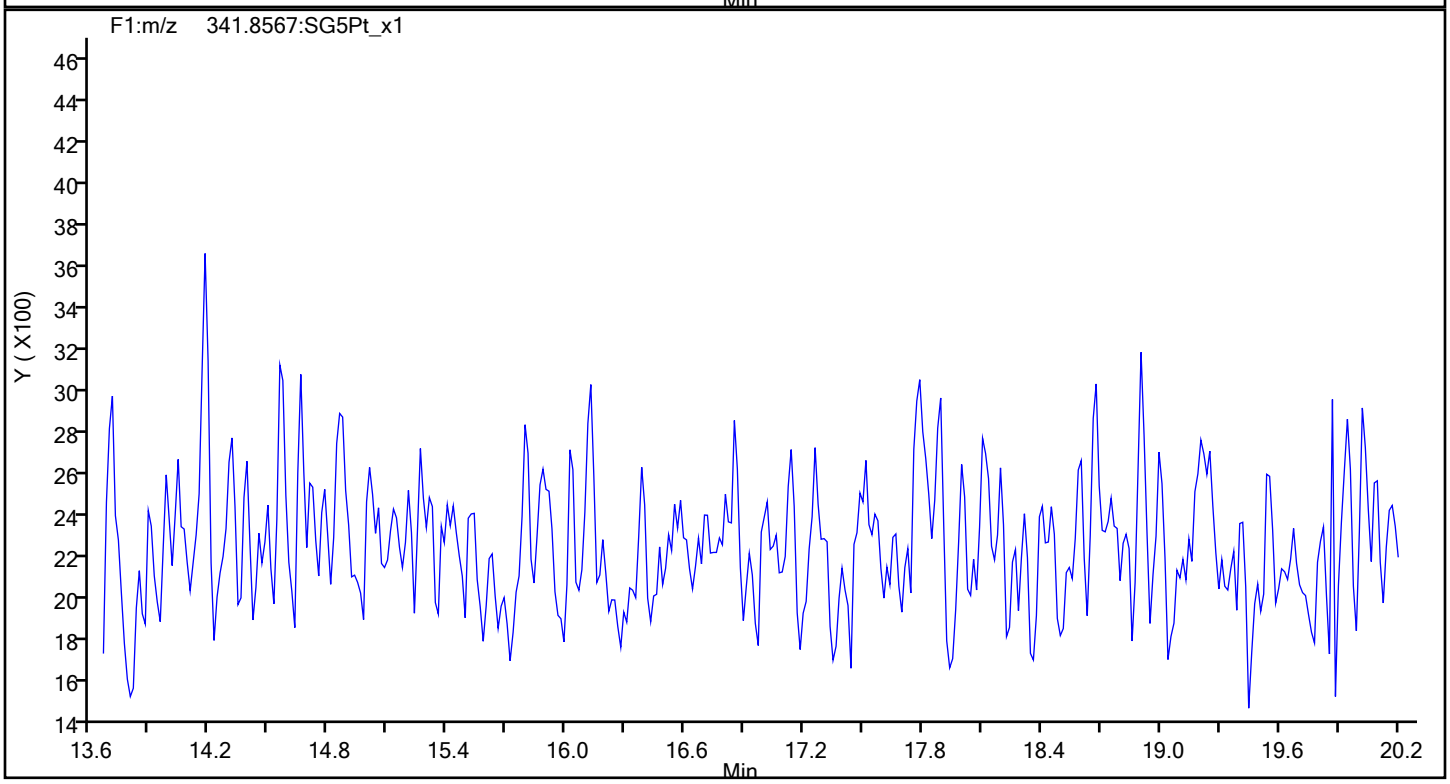

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

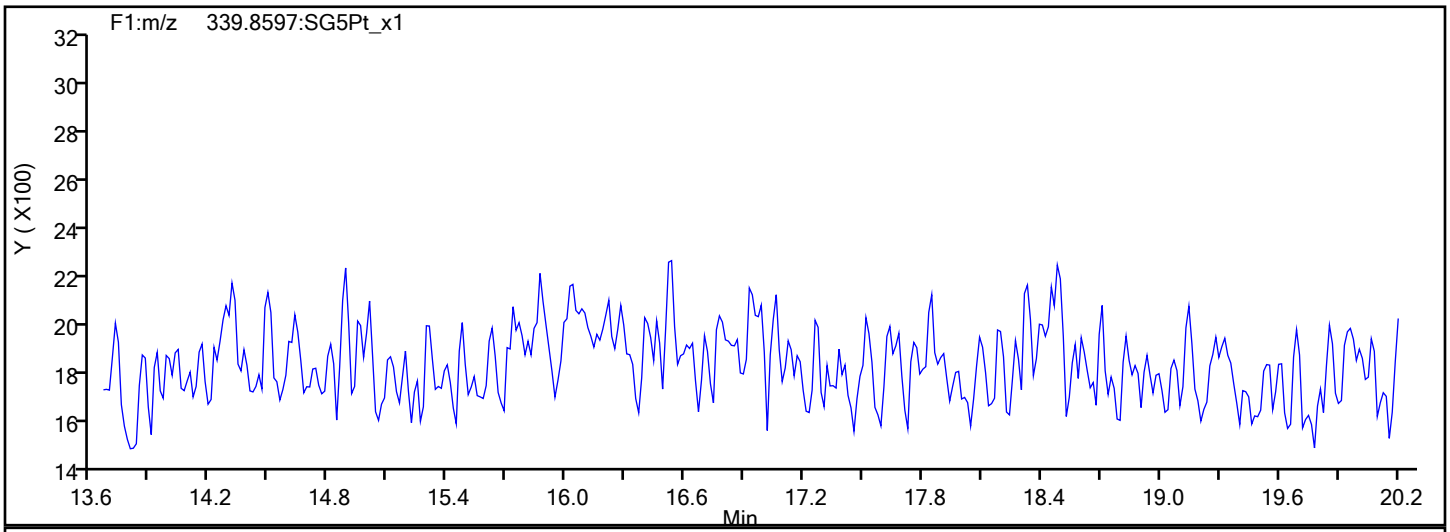

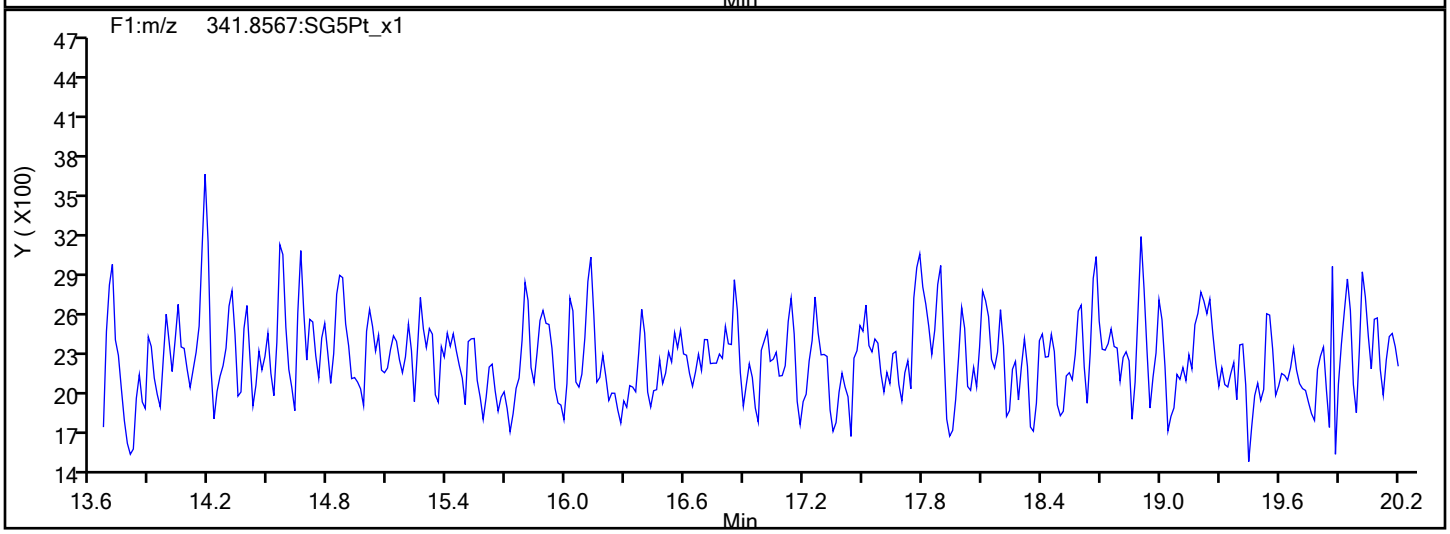

F1 PeCDFs Interference Mass

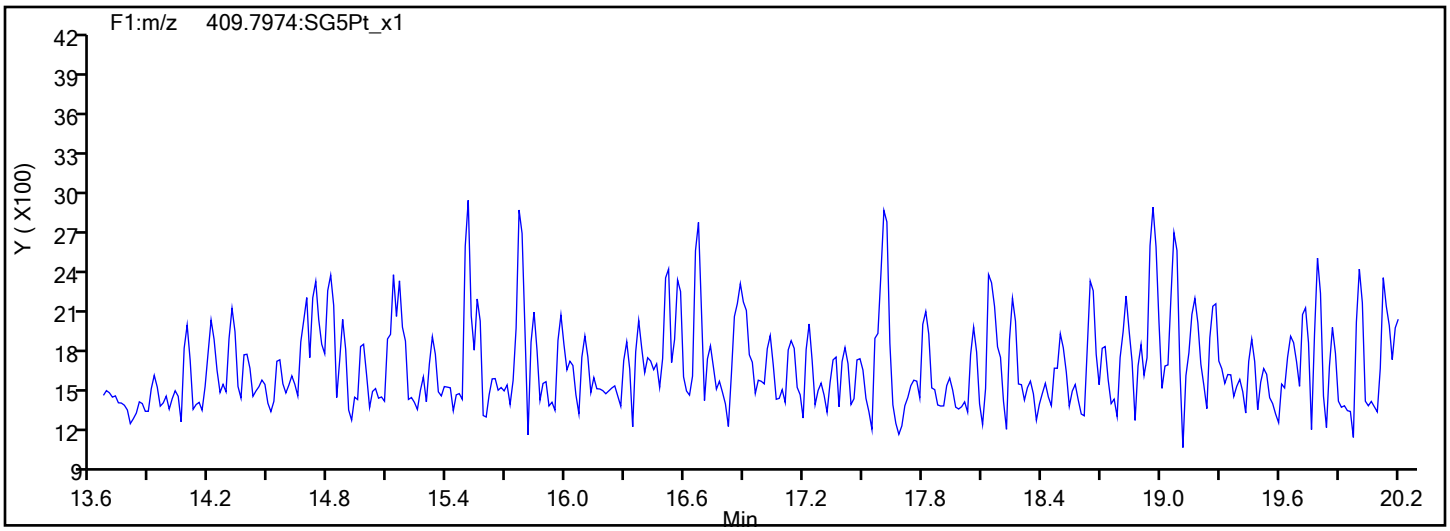

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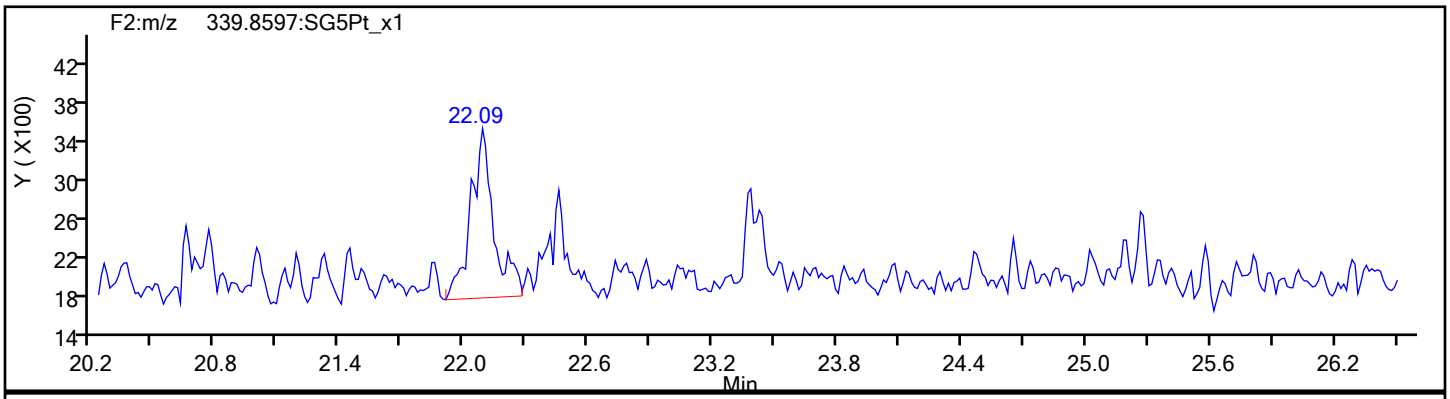

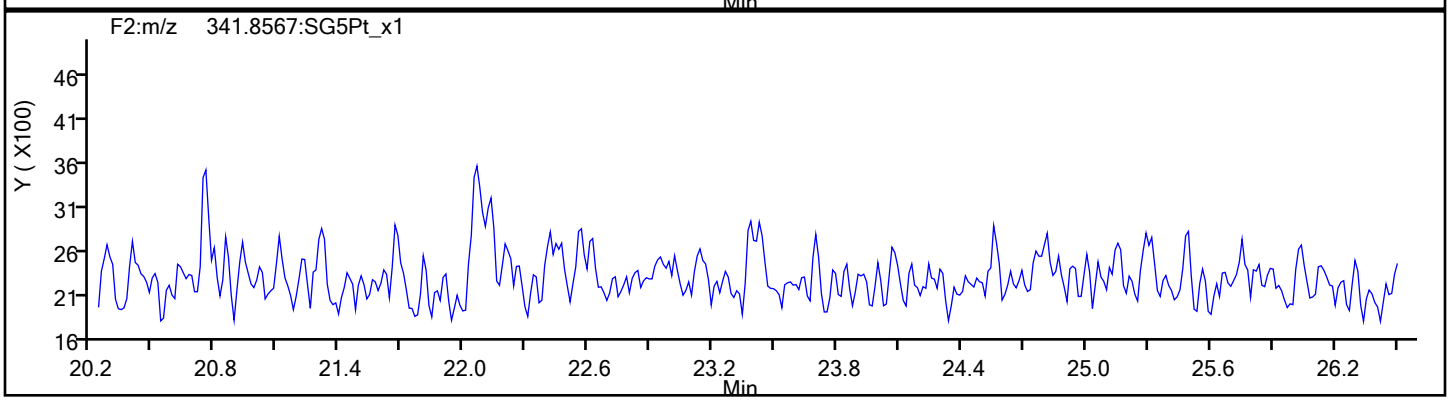

PeCDF Standards

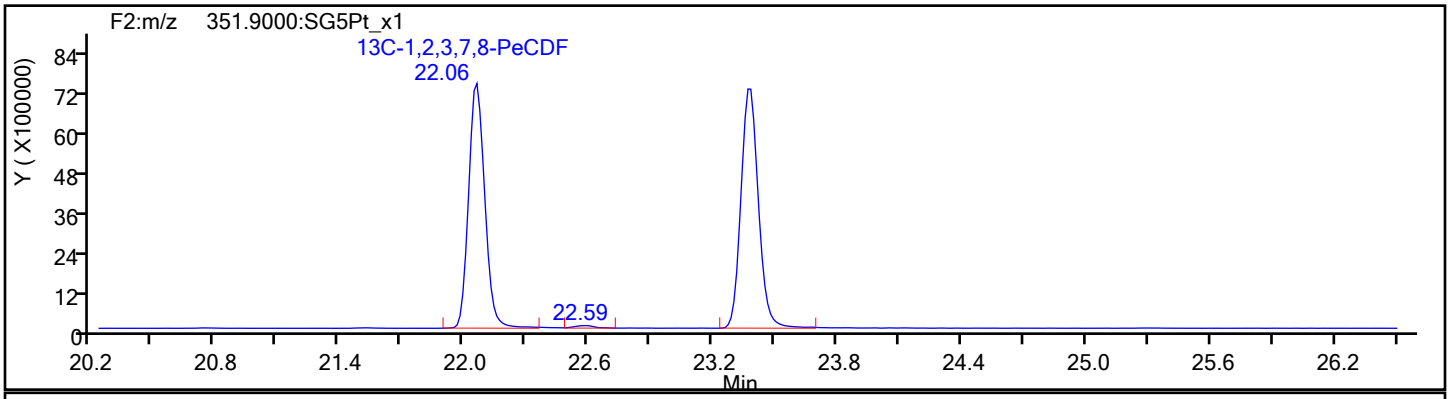

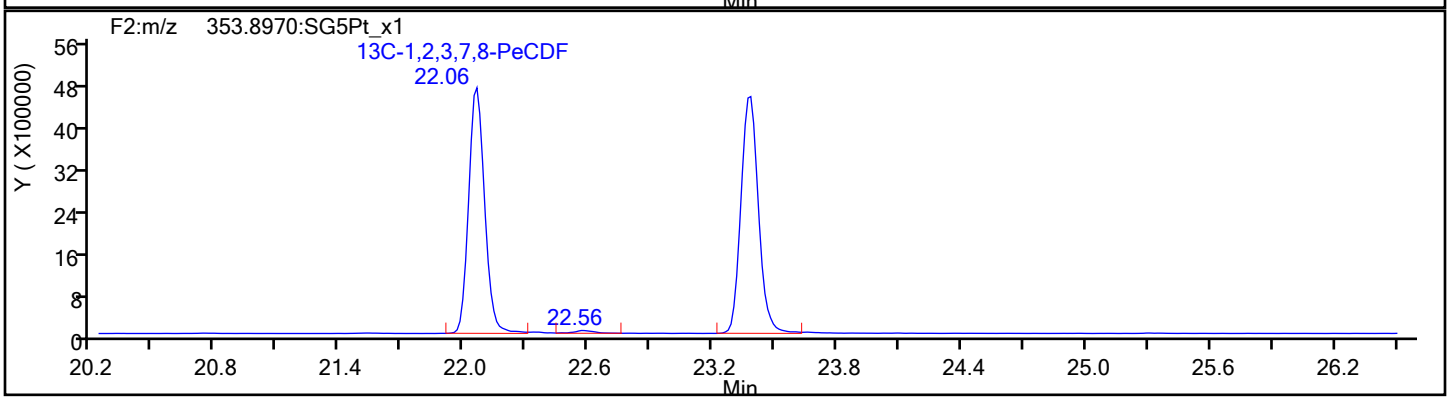

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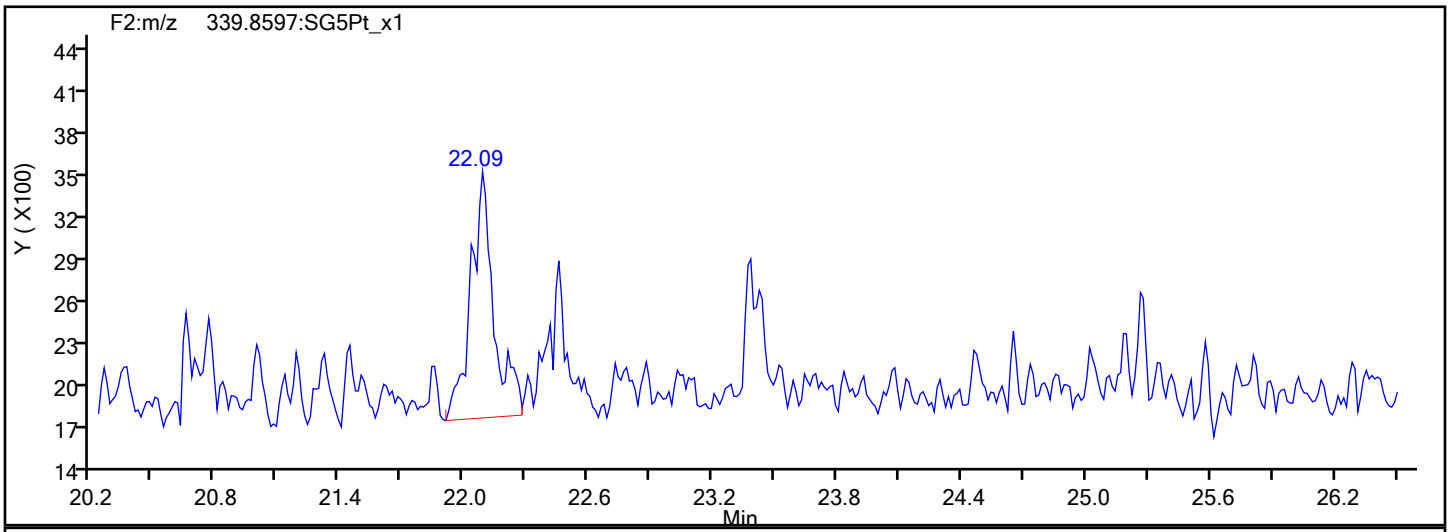

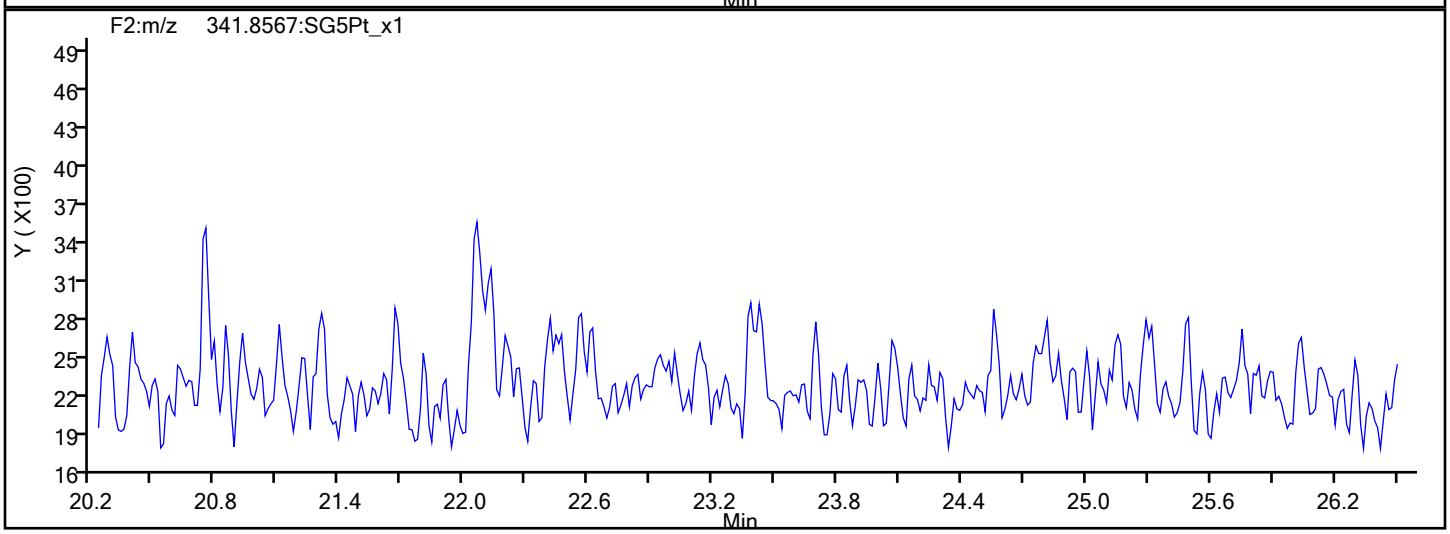

PeCDF Interference Mass

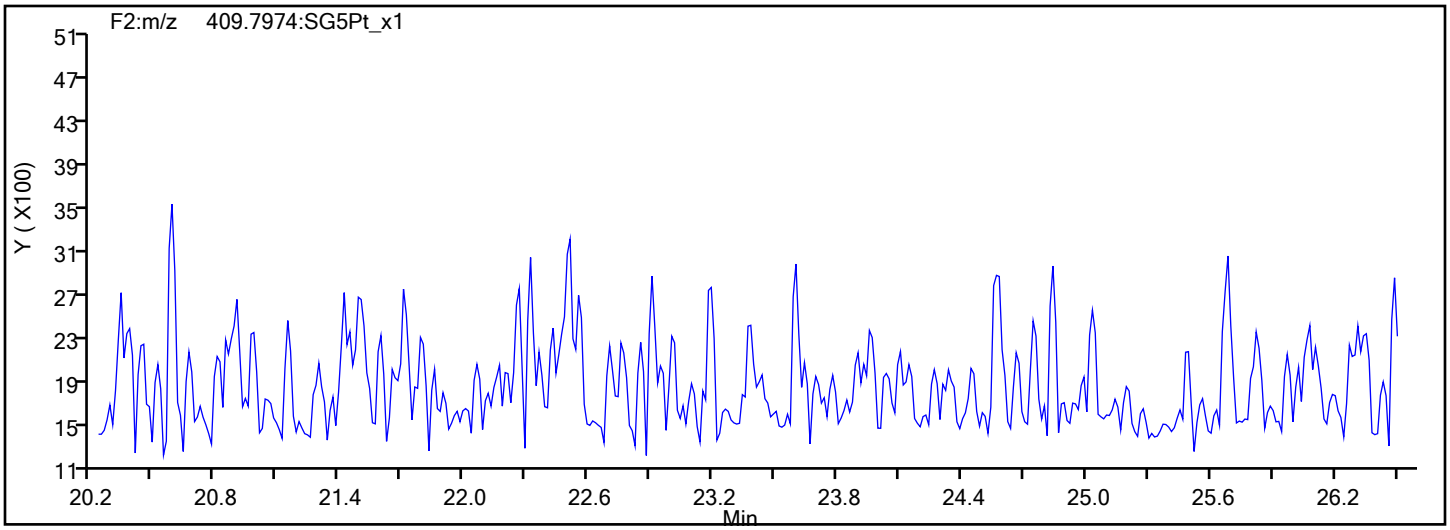

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Eurofins TestAmerica, Sacramento

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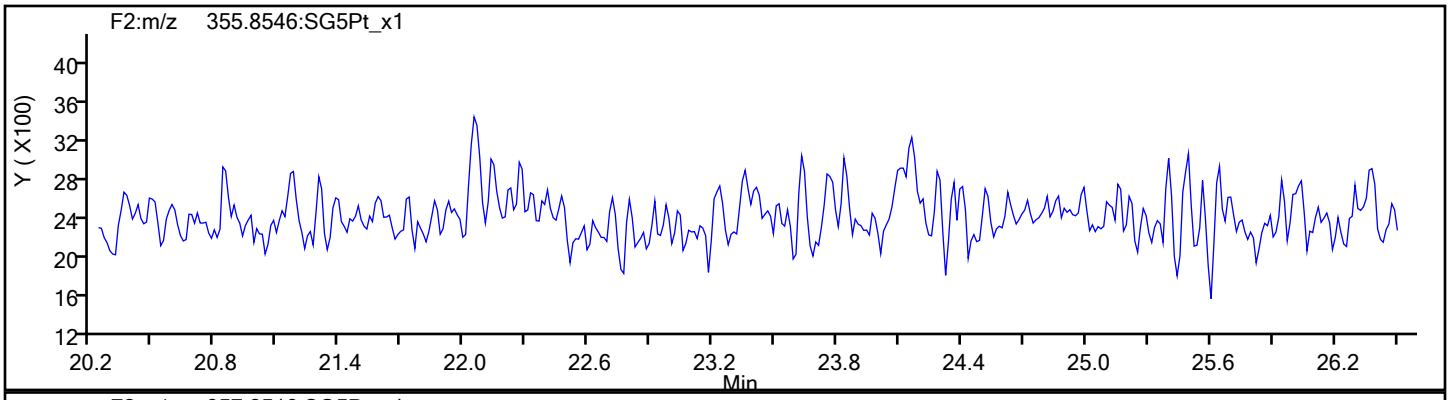

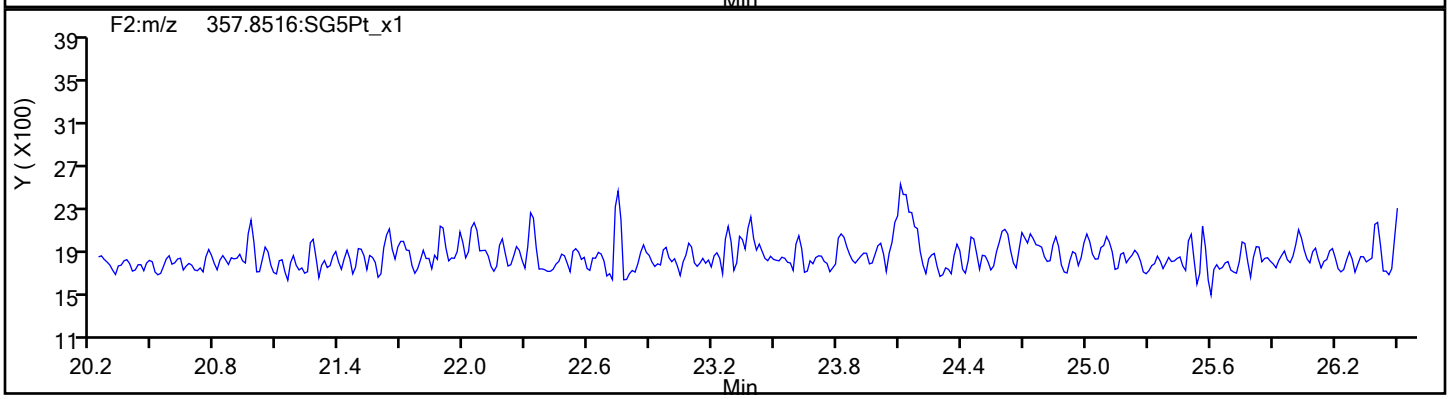

PeCDD Standards

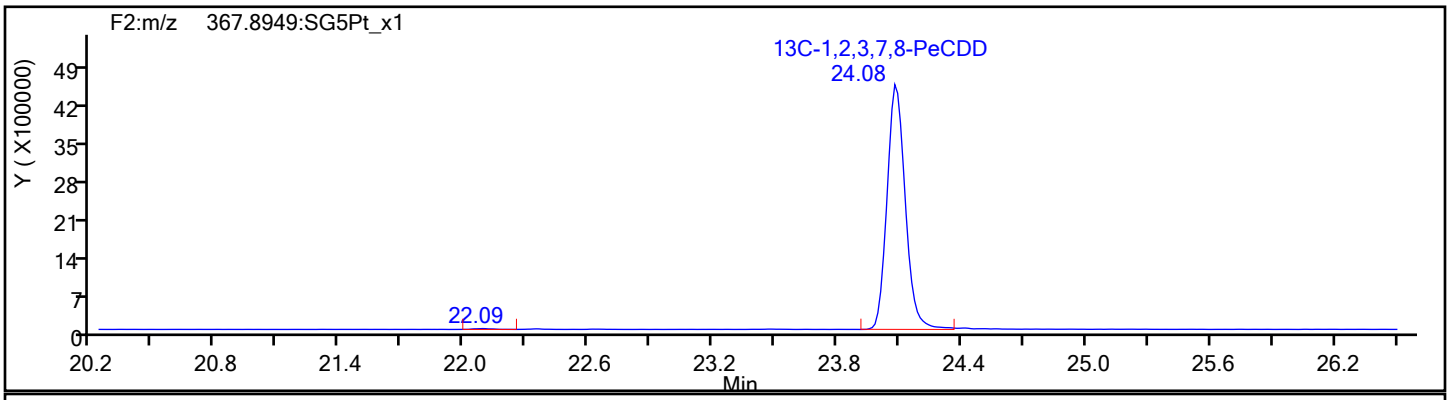

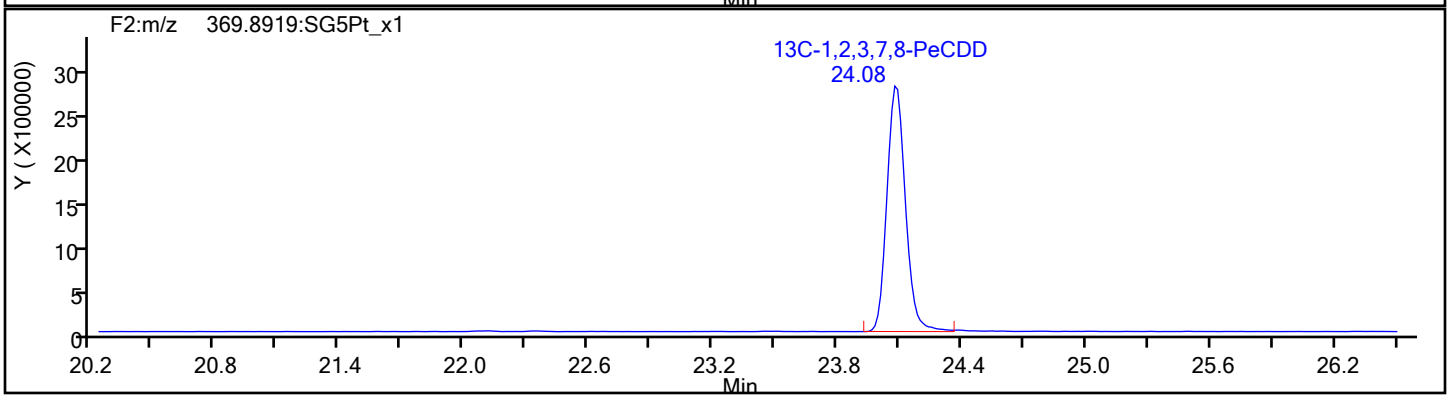

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Eurofins TestAmerica, Sacramento

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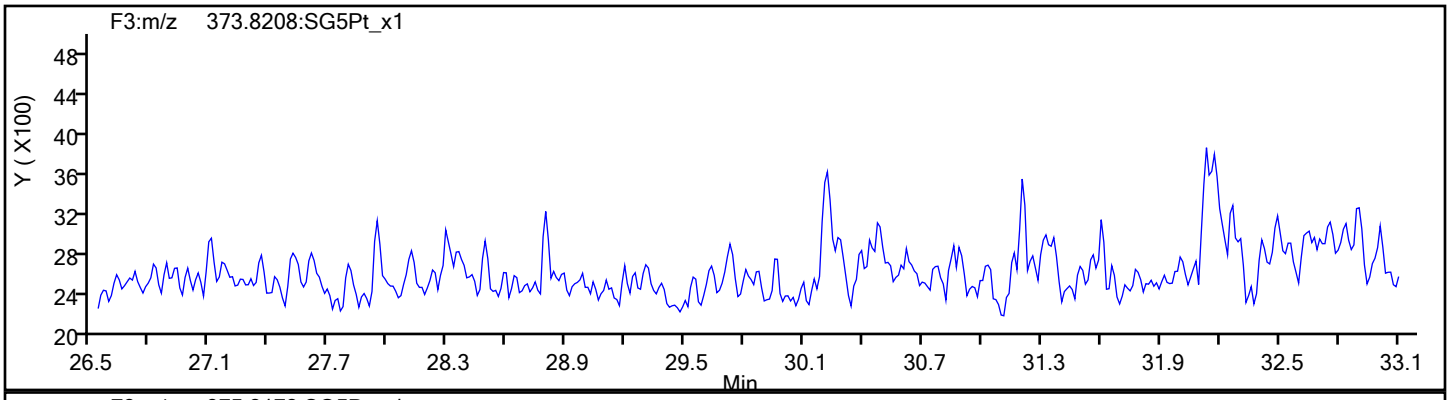

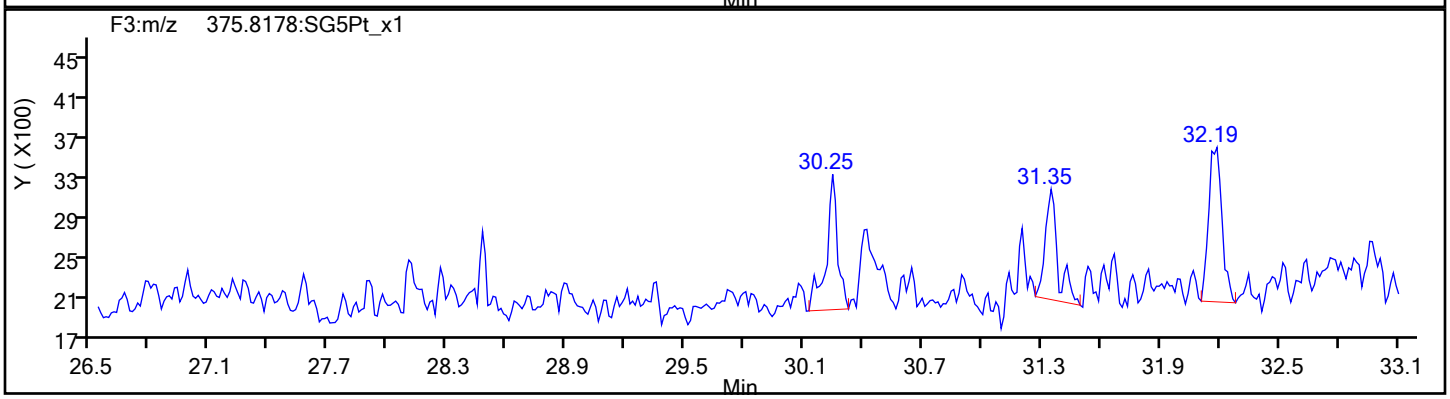

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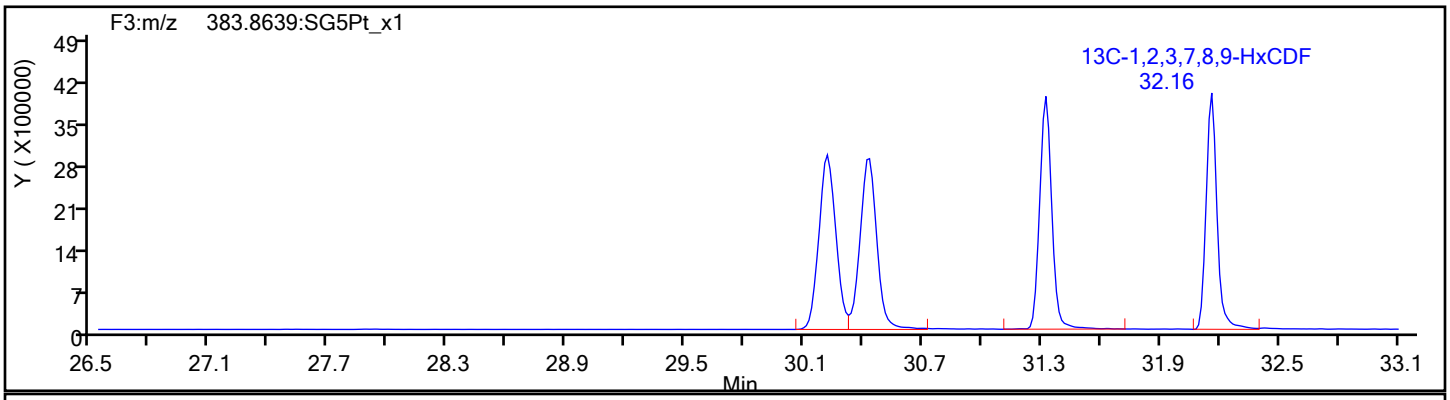

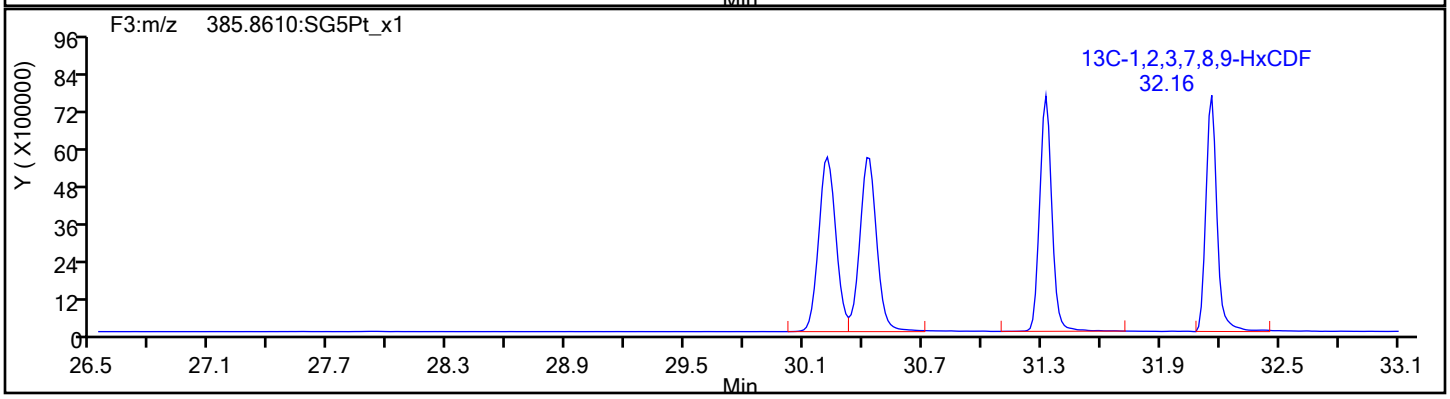

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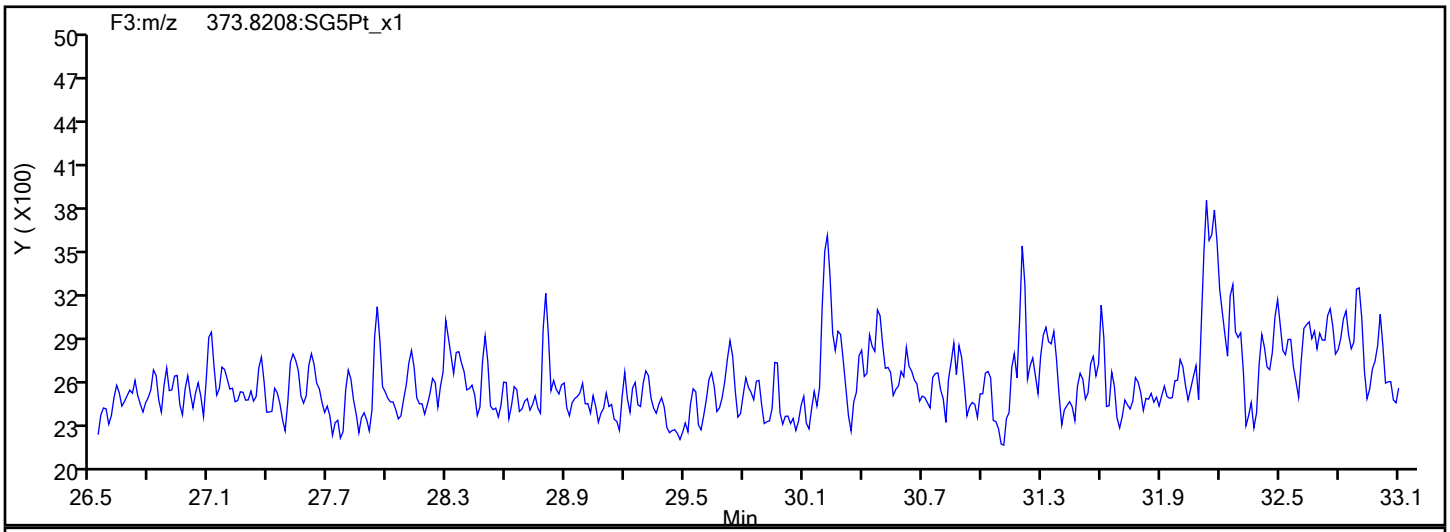

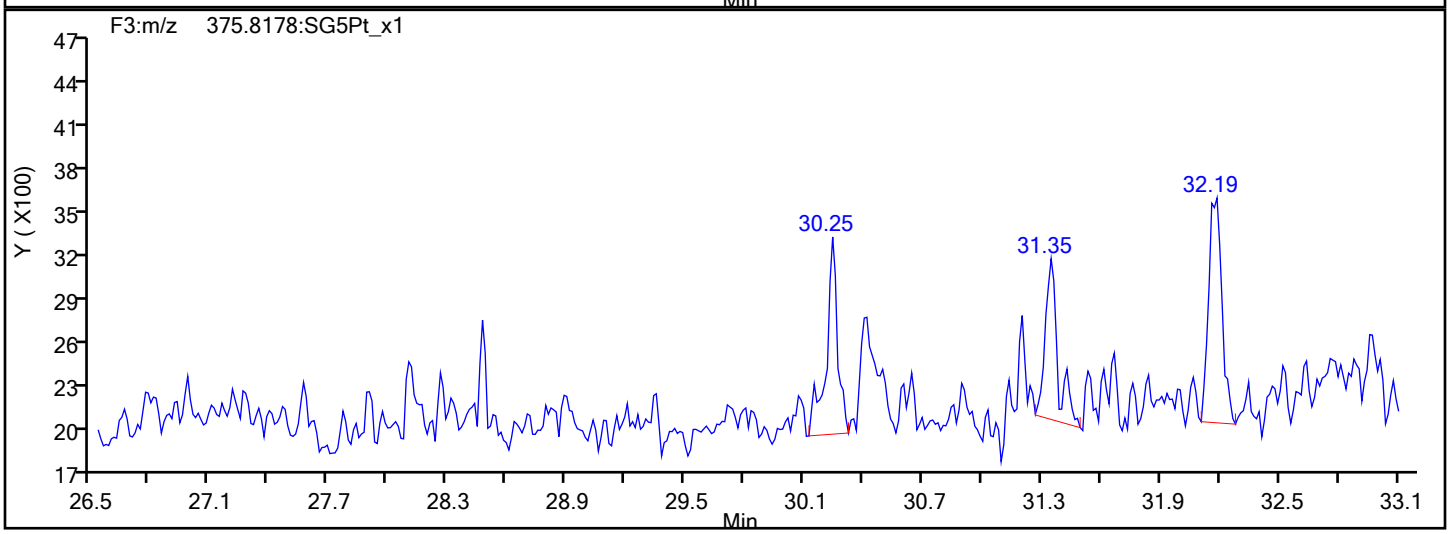

HxCDF Interference Mass

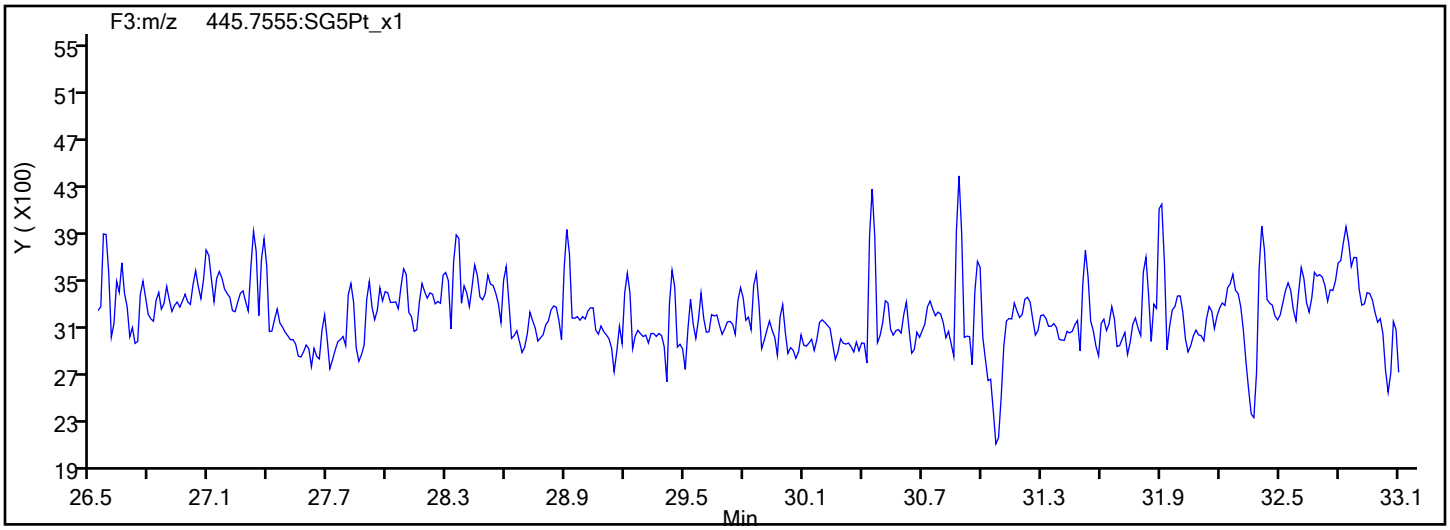

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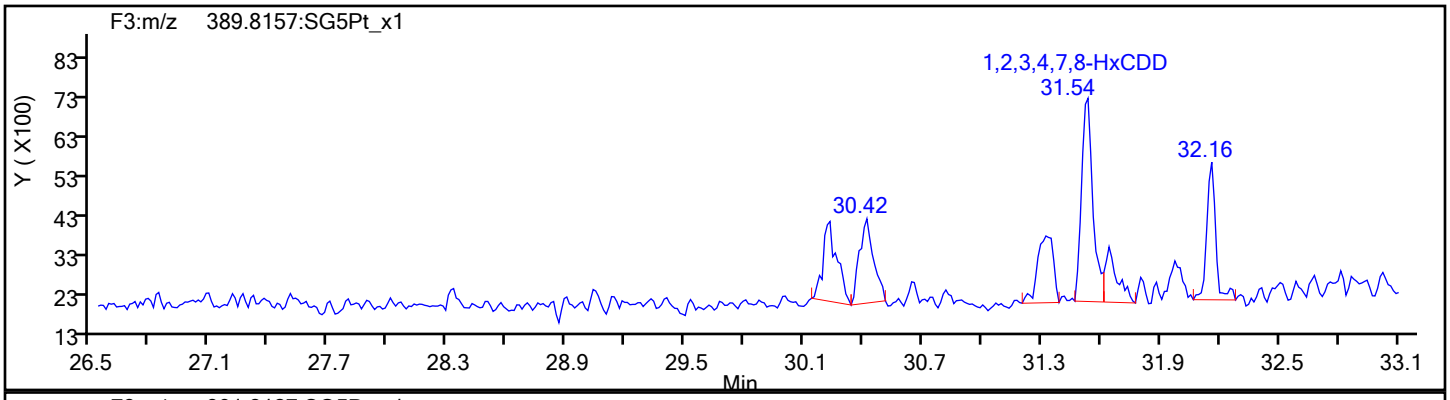

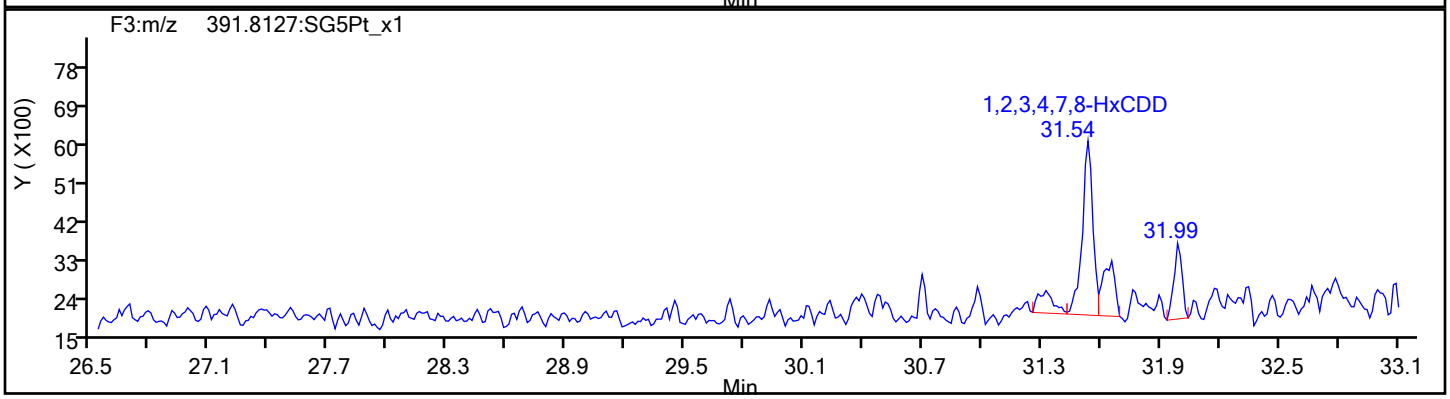

HxCDD Standards

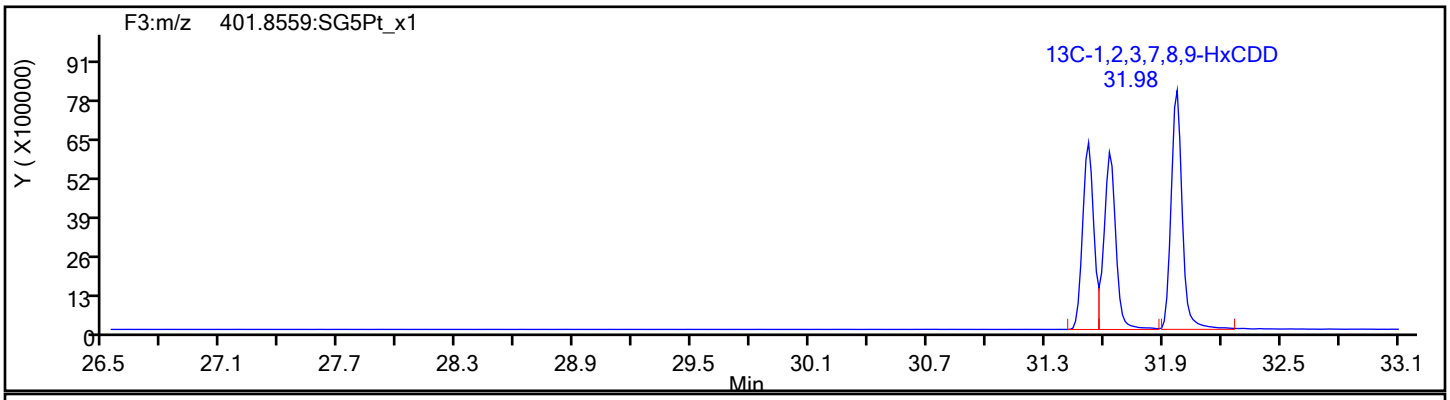

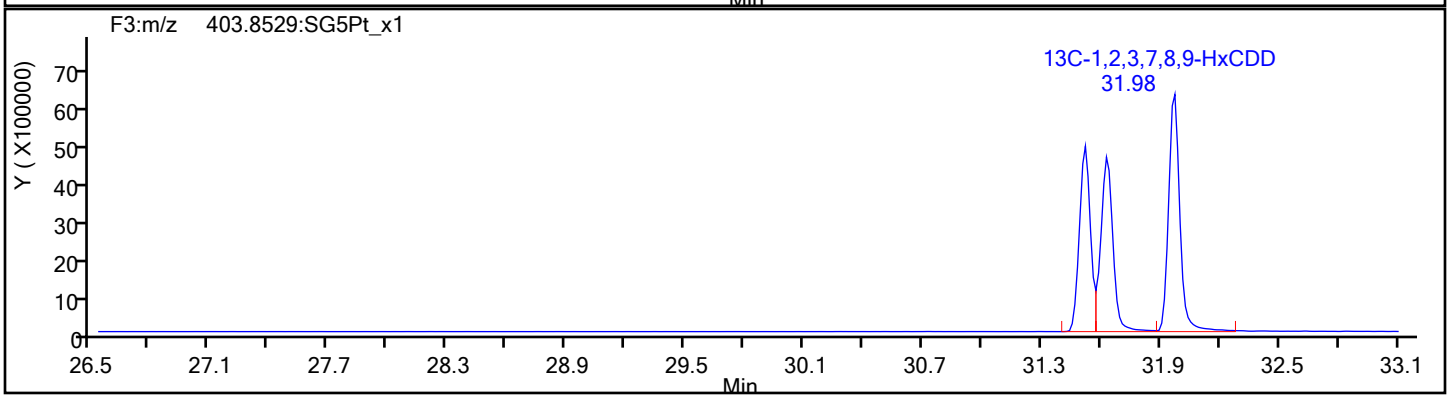

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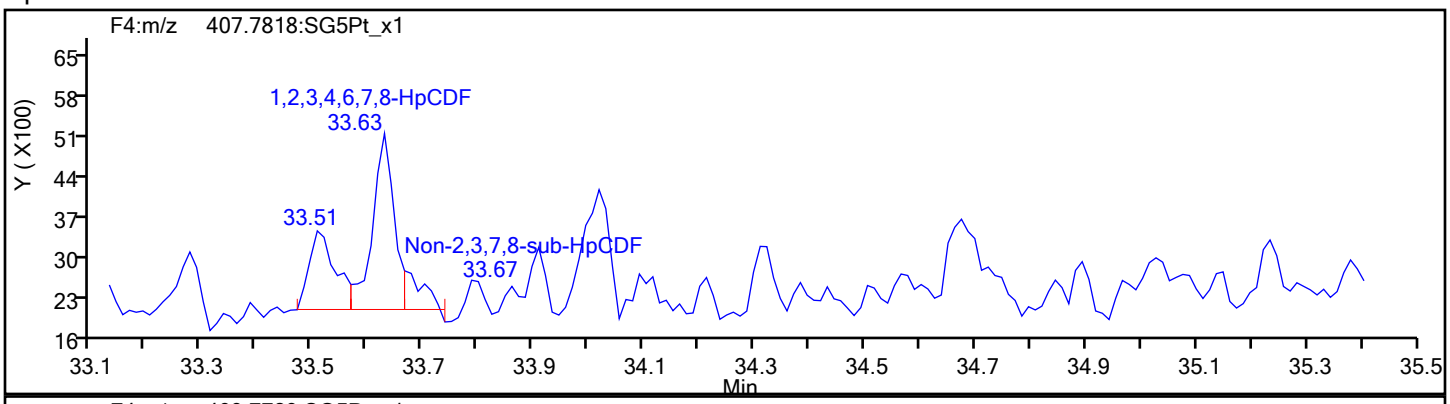

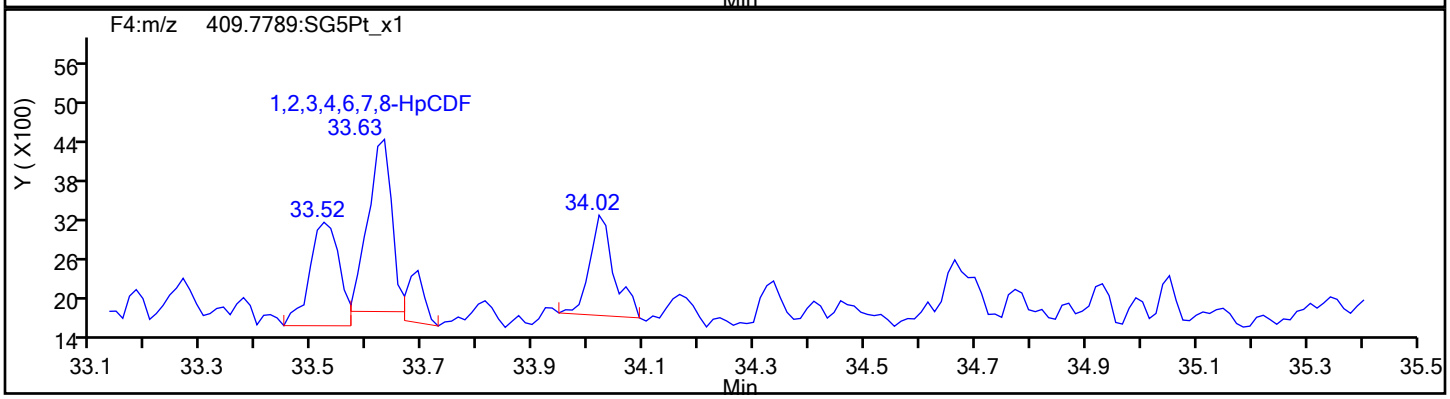

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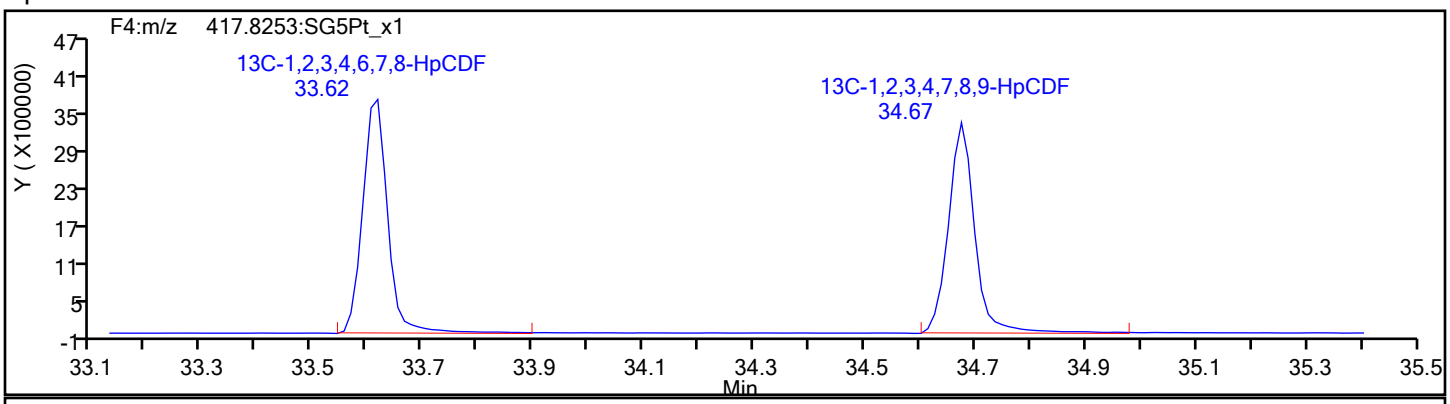

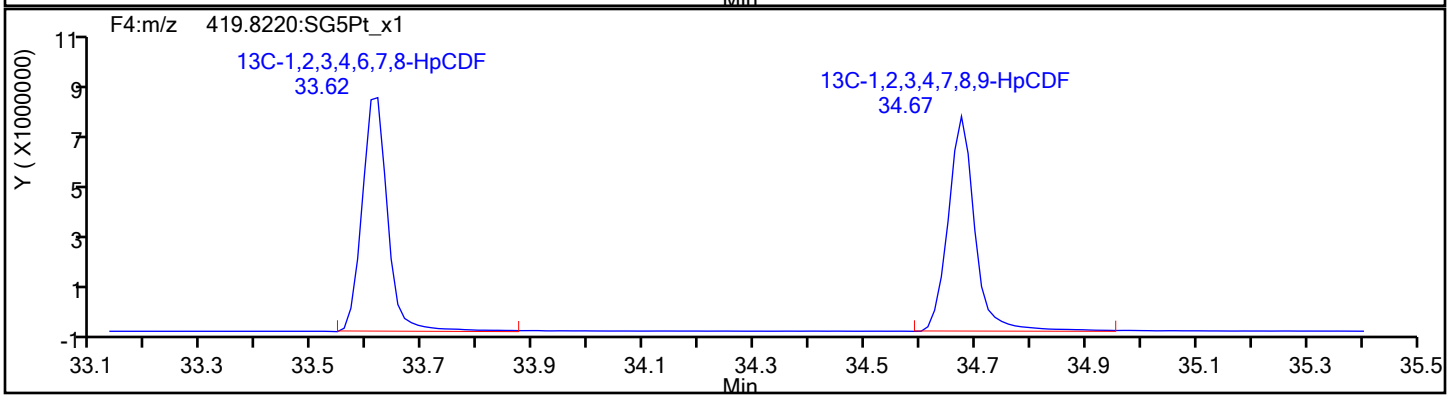

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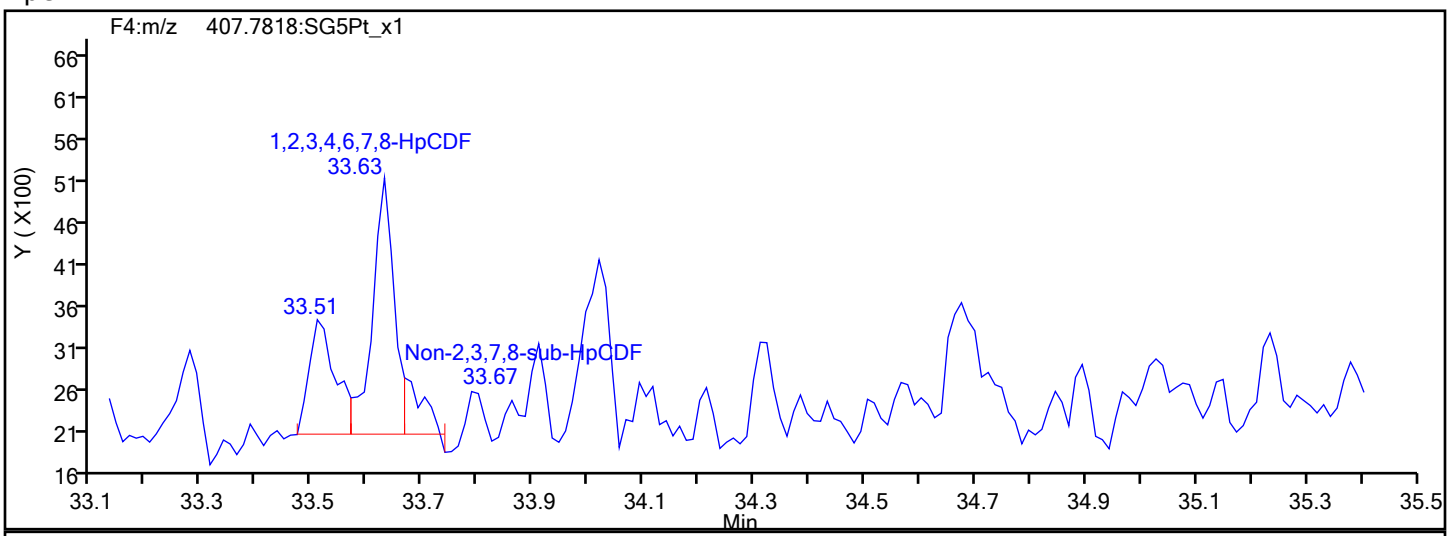

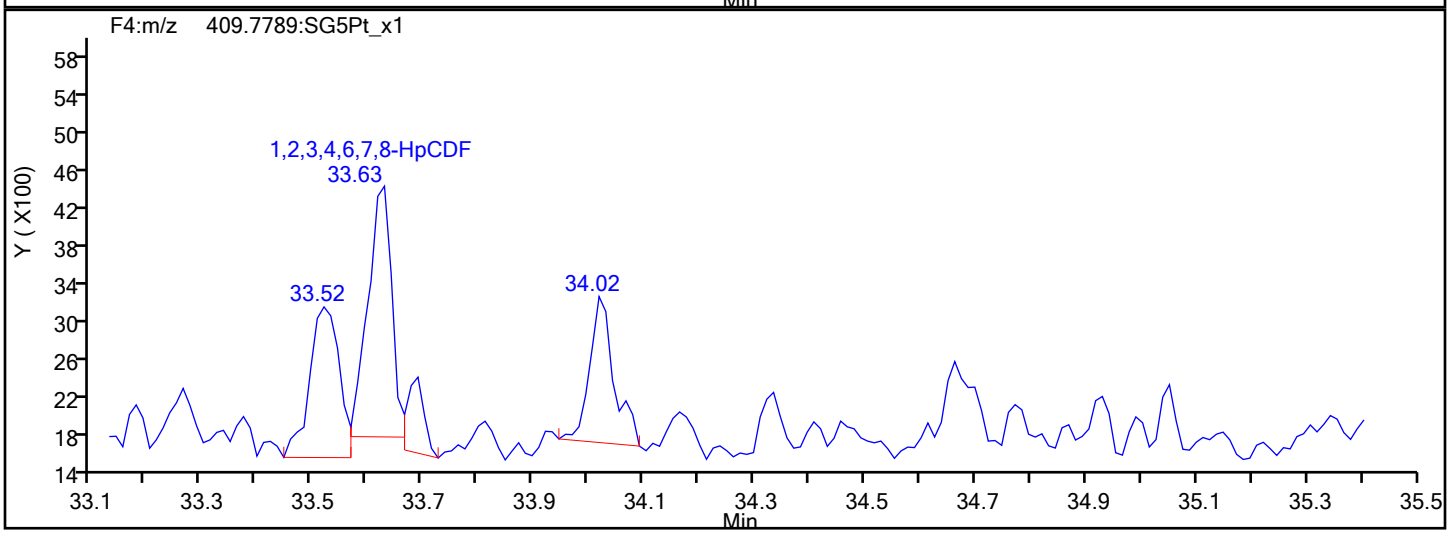

HpCDF Interference Mass

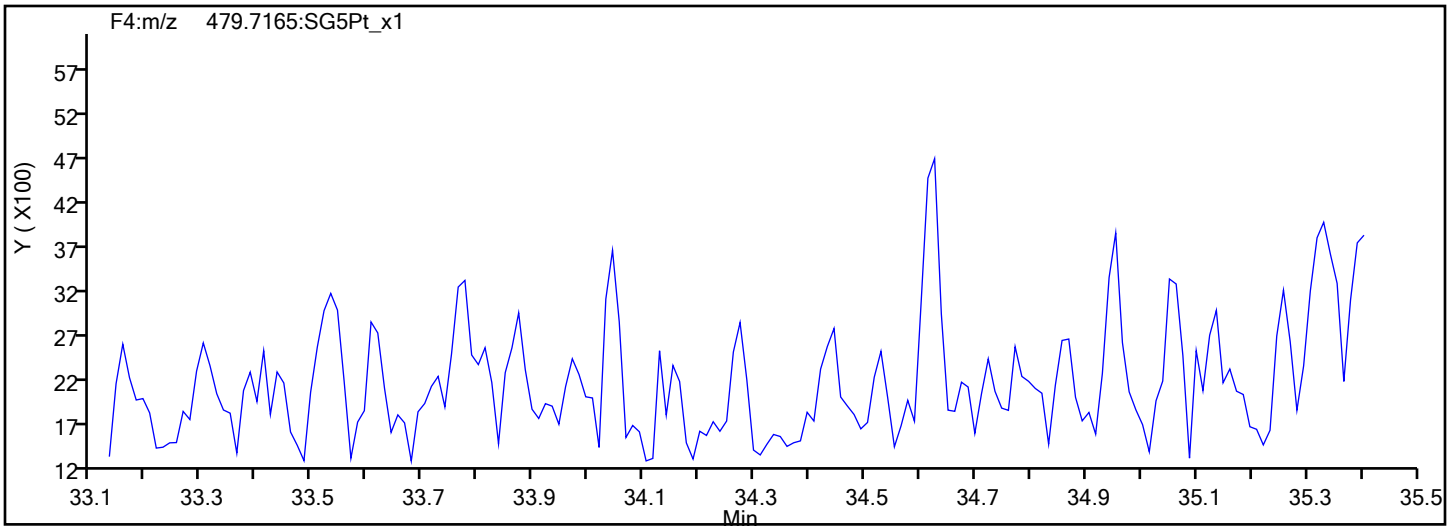

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Eurofins TestAmerica, Sacramento

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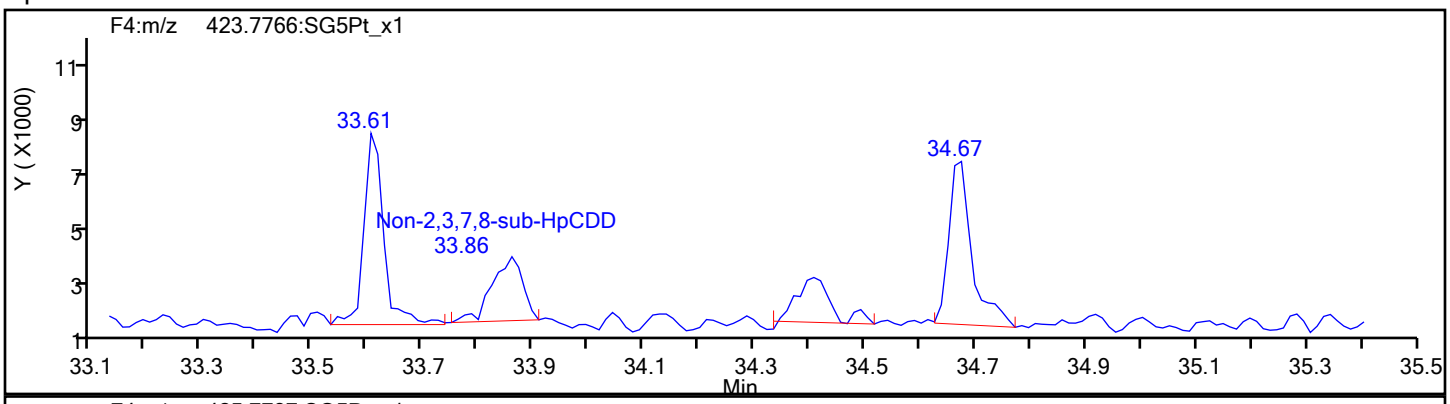

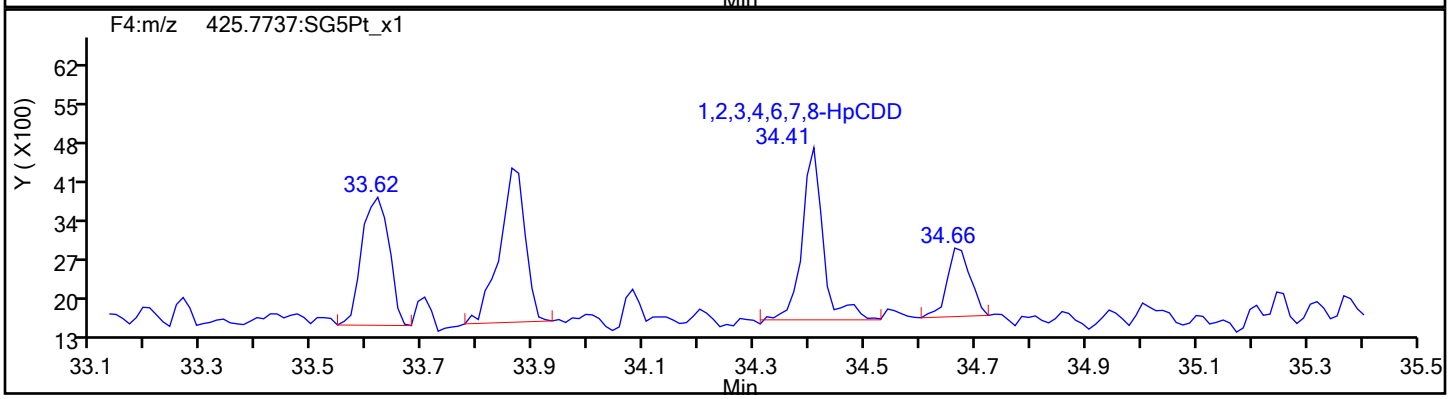

HpCDD Standards

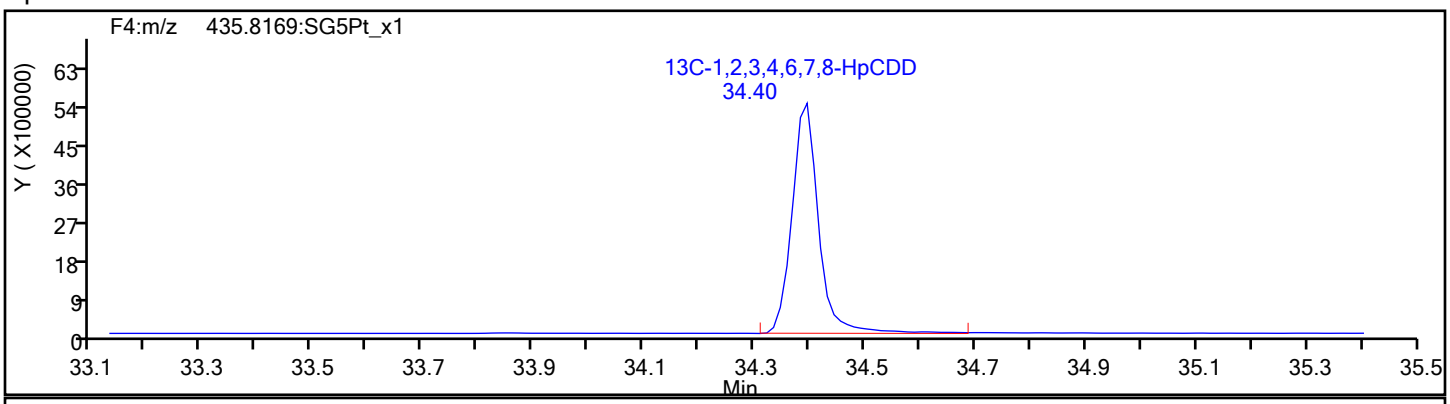

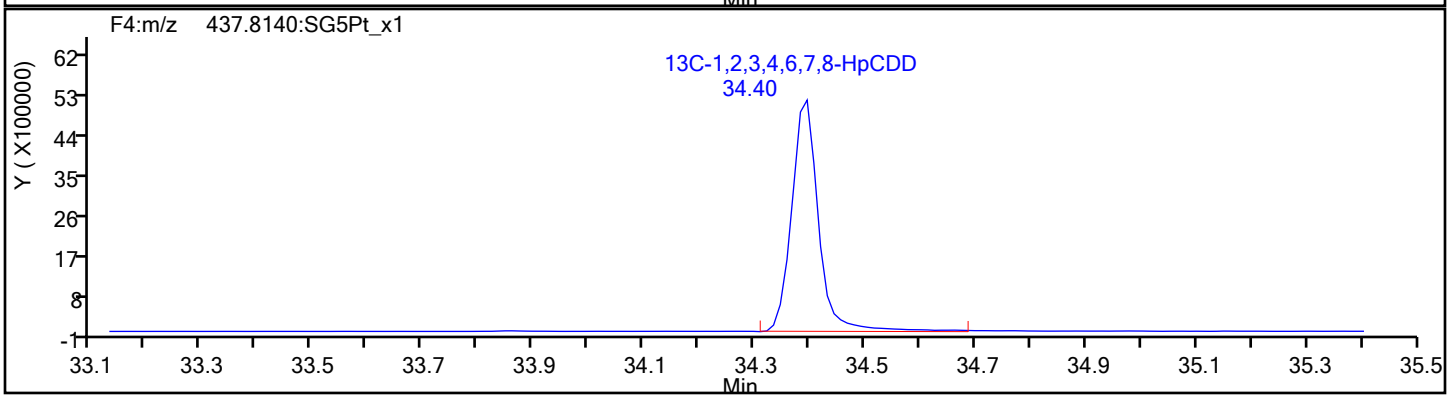

Report Date: 15-Jan-2020 12:54:35 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_18.d		
Injection Date:	14-Jan-2020 02:08:23	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	350523	Sample Line#:	18
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

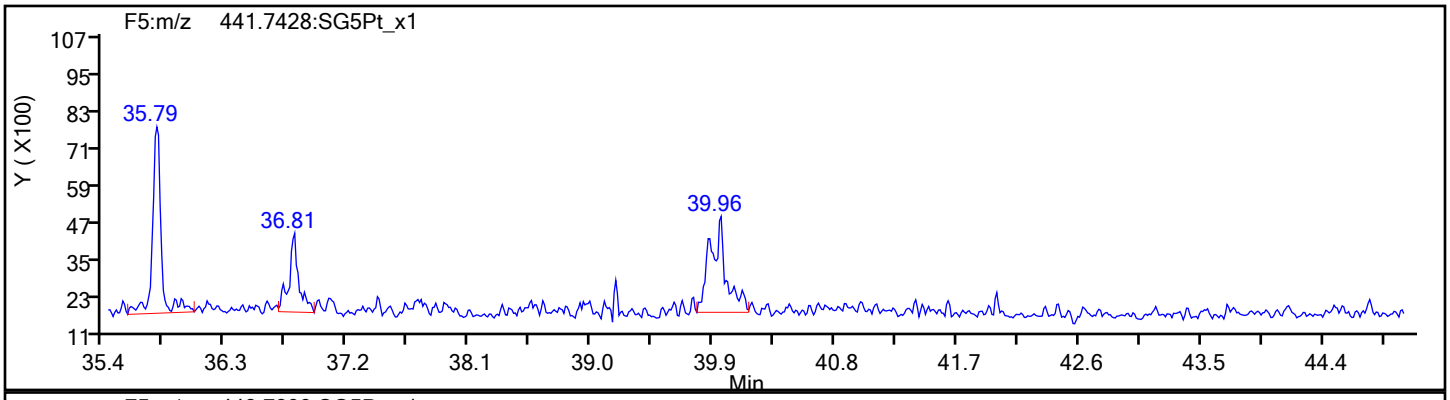

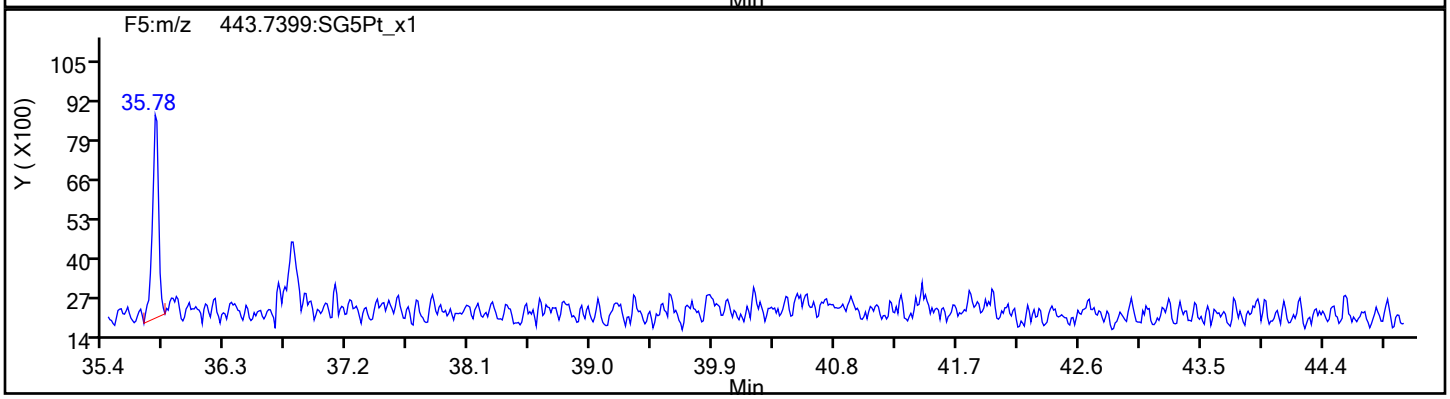

OCDF Standards

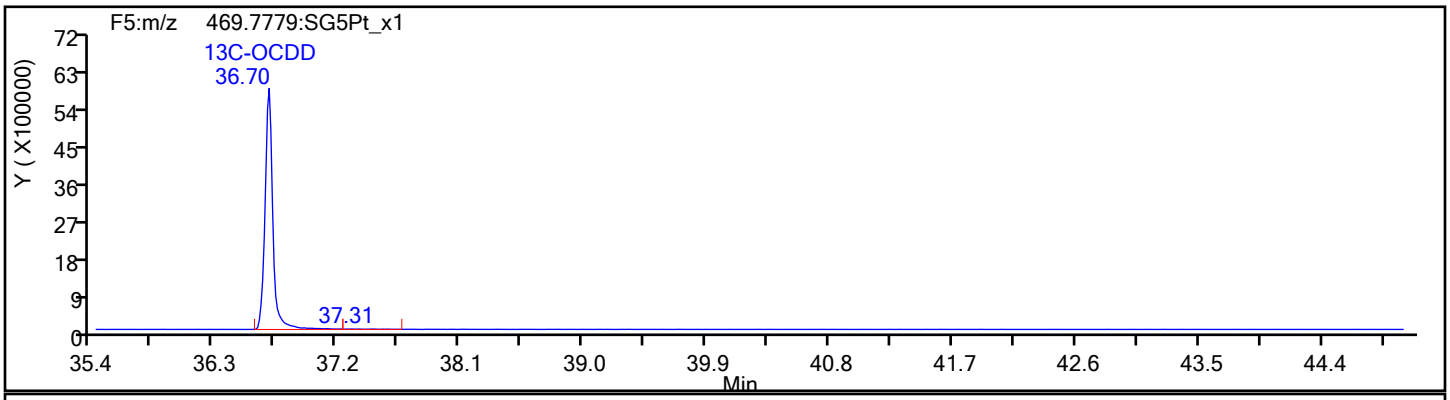

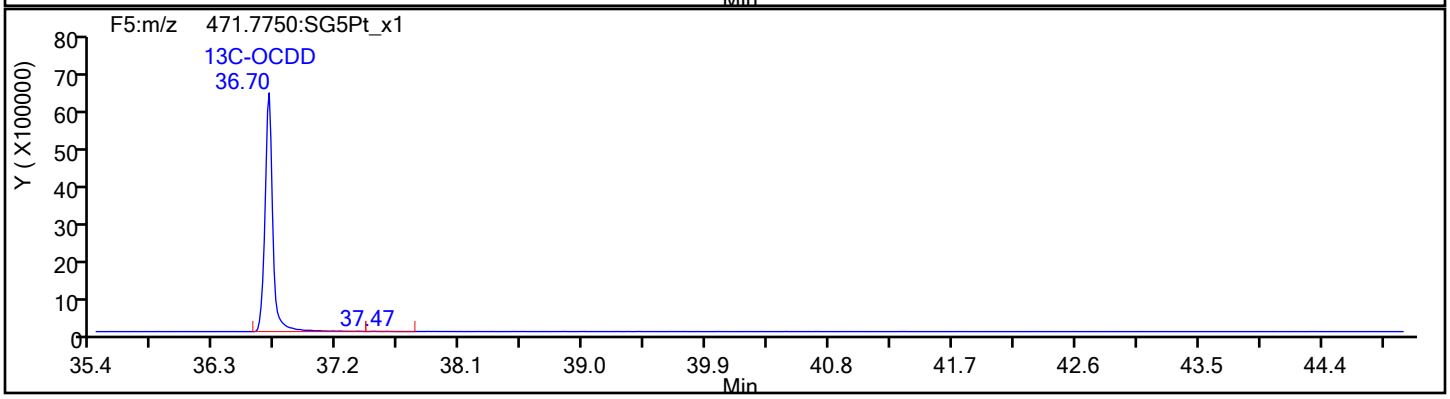

Report Date: 15-Jan-2020 12:54:35 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_18.d		
Injection Date:	14-Jan-2020 02:08:23	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	350523	Sample Line#:	18
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

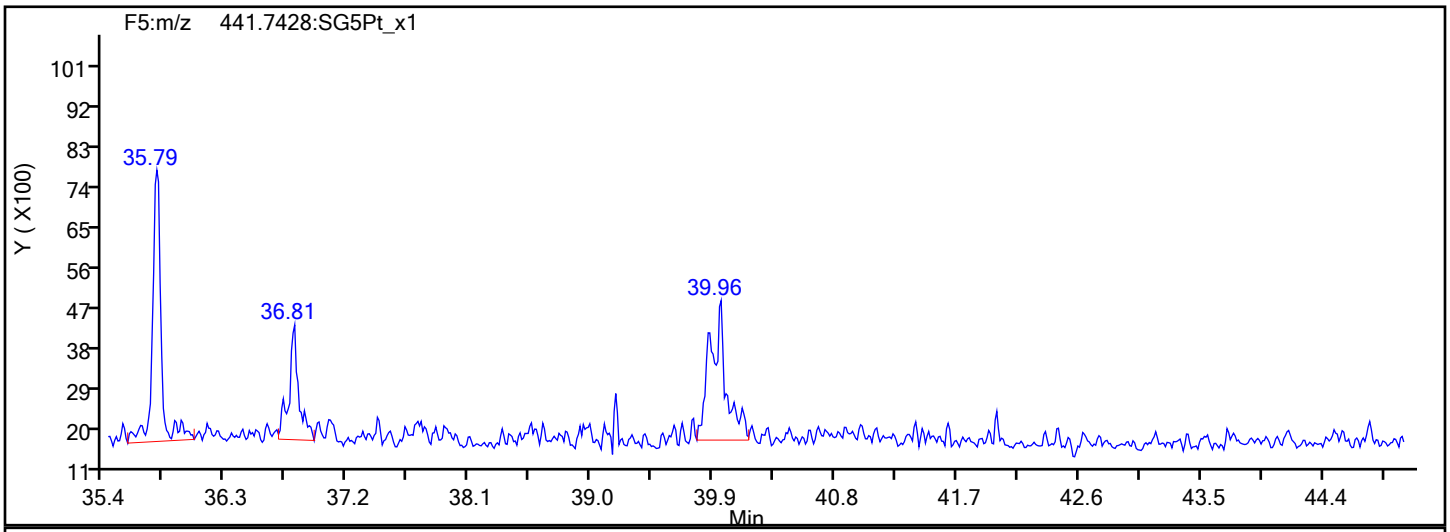

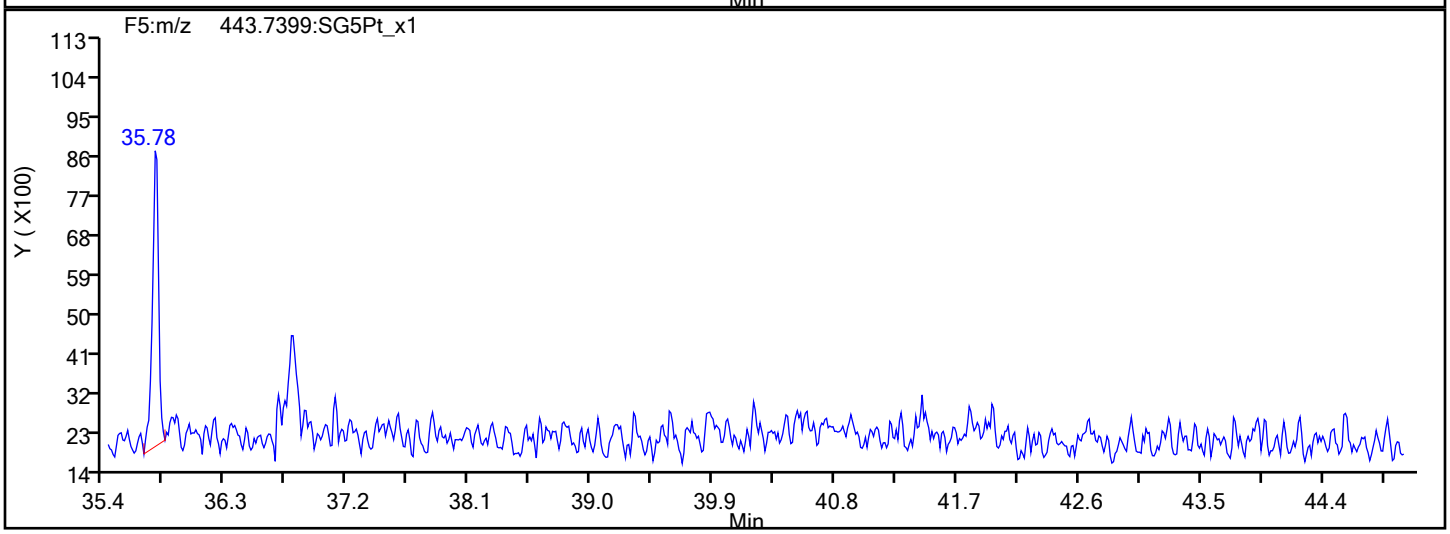

OCDF Interference Mass

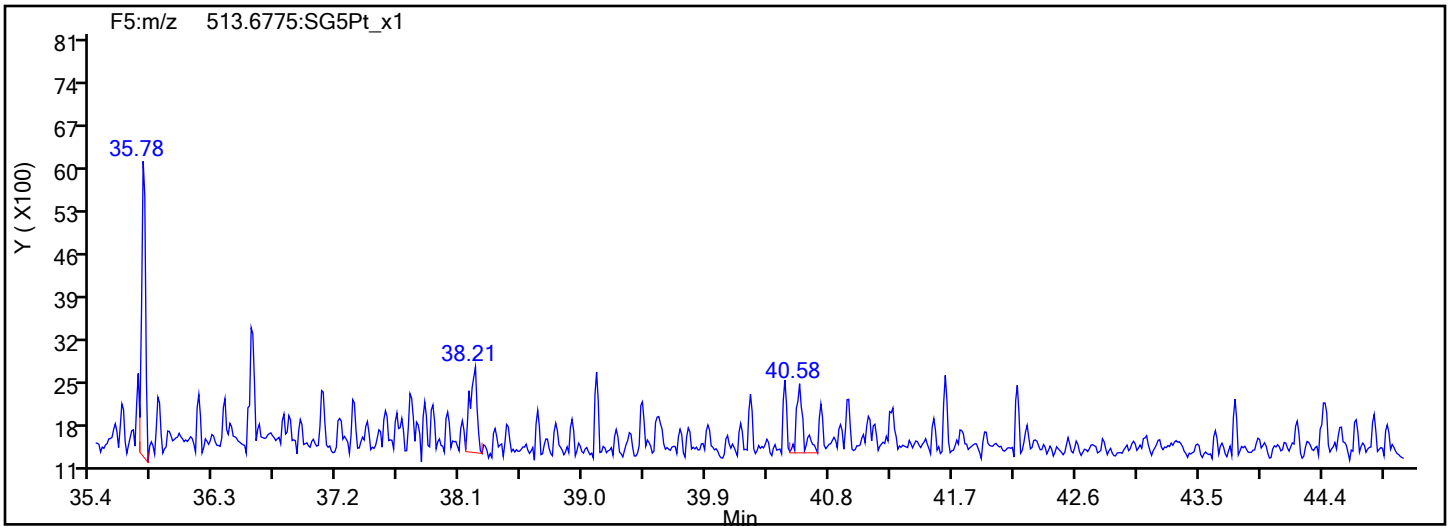

Report Date: 15-Jan-2020 12:54:35 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_18.d		
Injection Date:	14-Jan-2020 02:08:23	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	350523	Sample Line#:	18
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

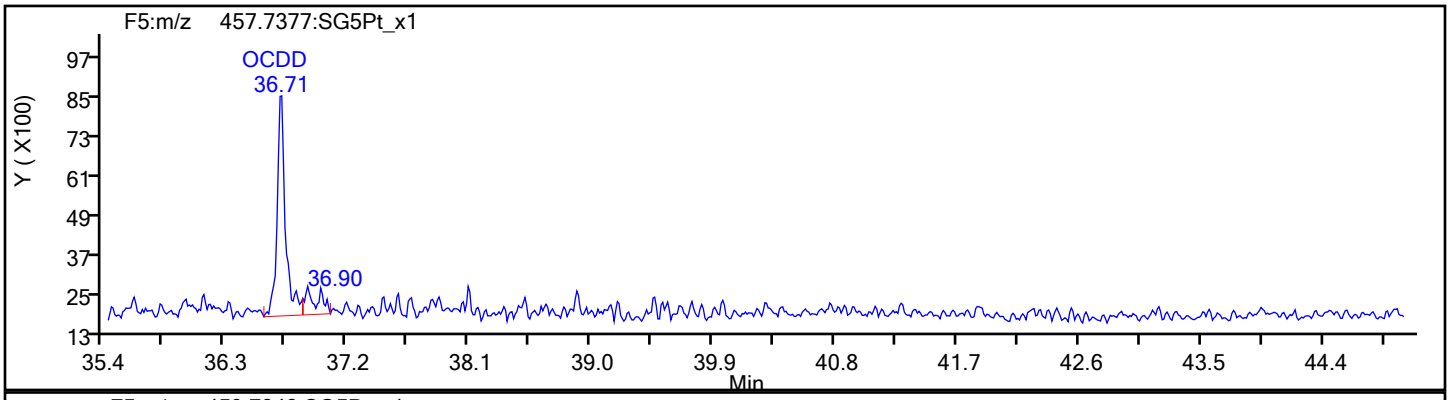

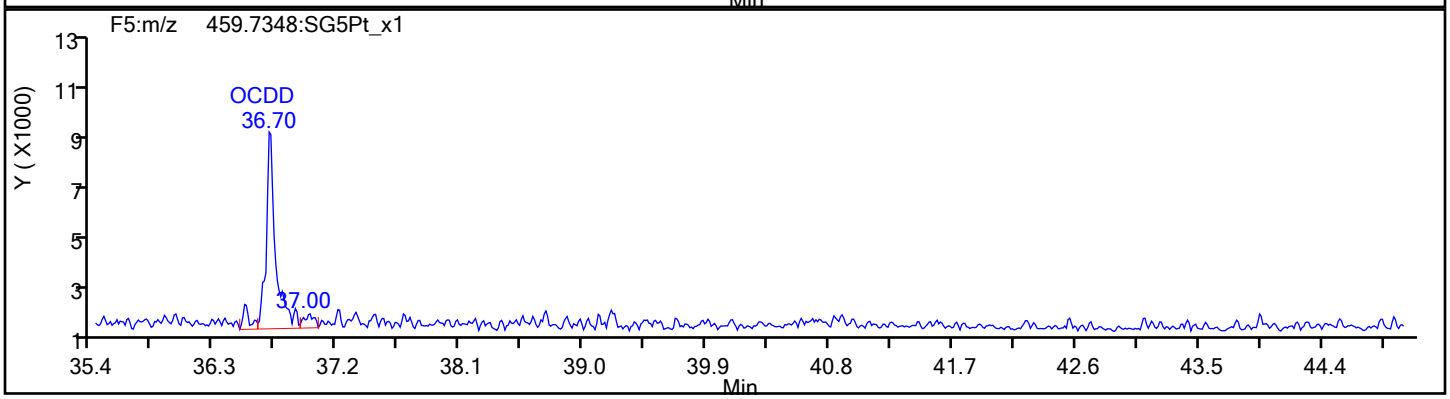

OCDD Standards

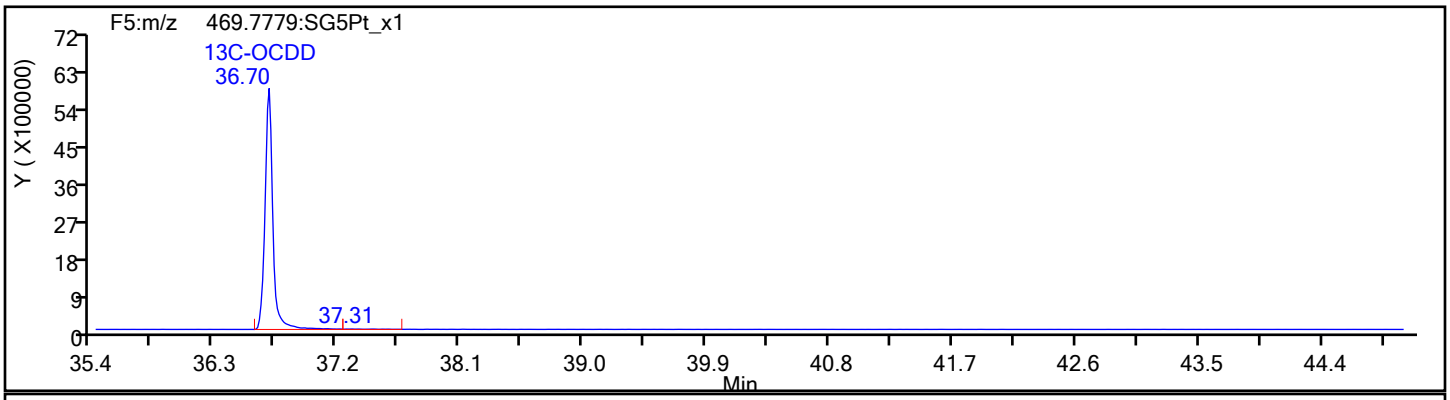

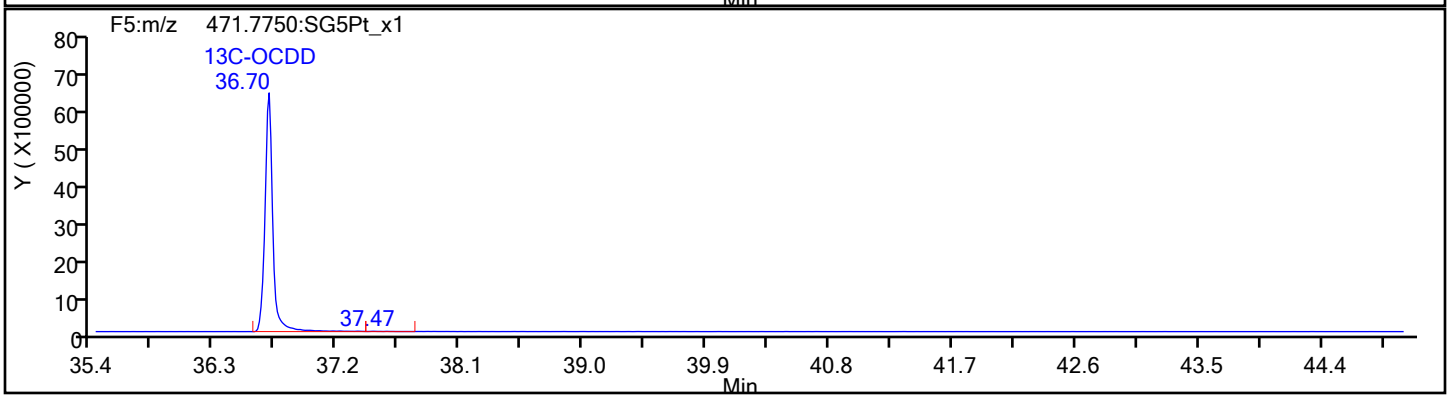

Report Date: 15-Jan-2020 12:54:35 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_18.d		
Injection Date:	14-Jan-2020 02:08:23	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	350523	Sample Line#:	18
Column Type:	DB-5	Column Dia:	0.32 mm

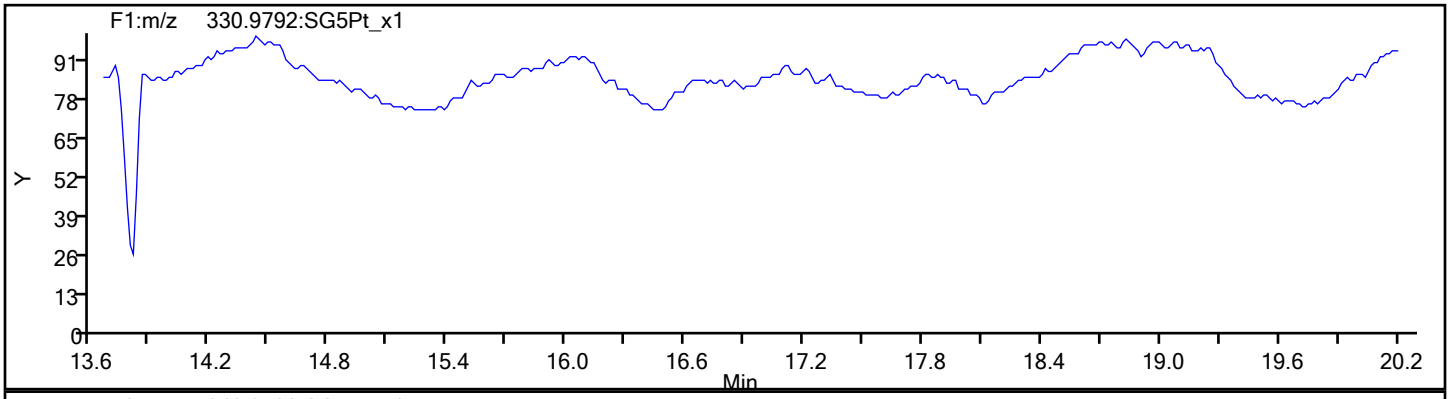

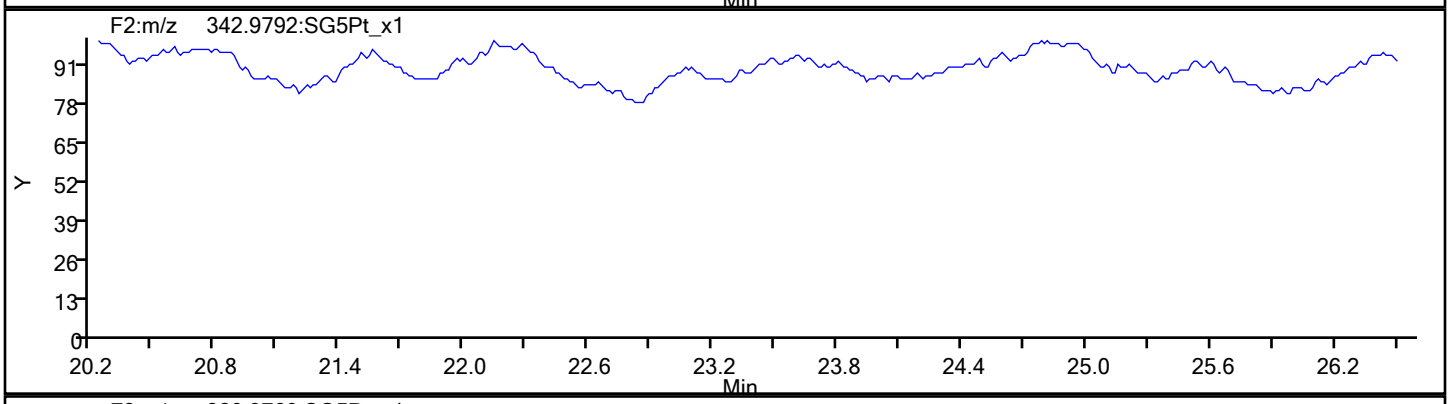

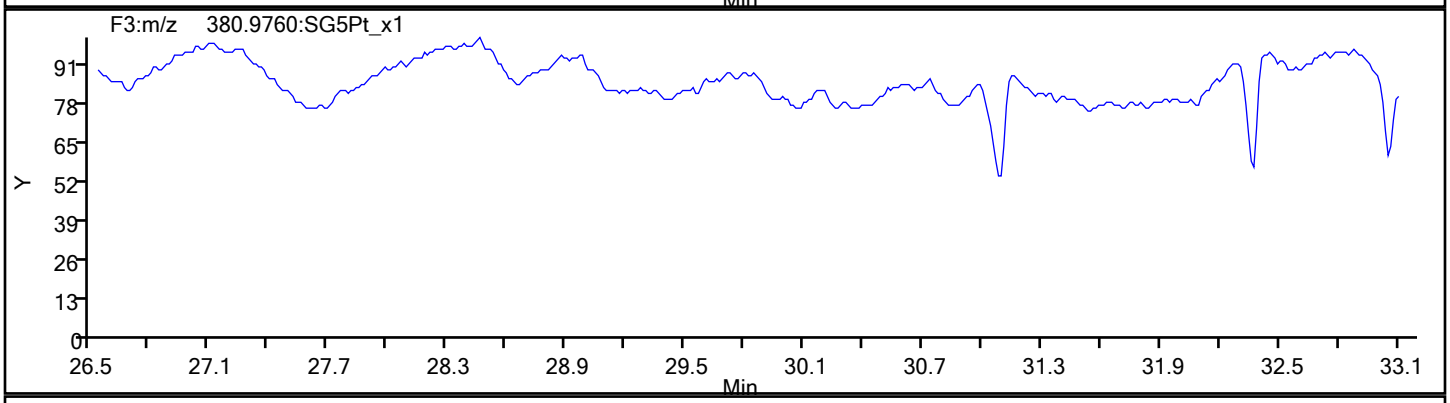

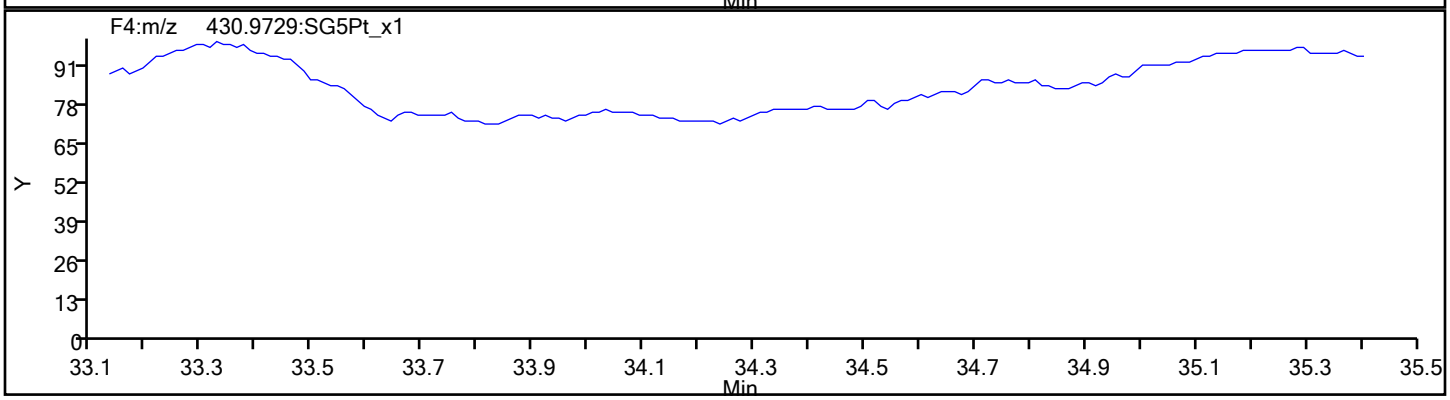

Report Date: 15-Jan-2020 12:54:35 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_18.d		
Injection Date:	14-Jan-2020 02:08:23	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	350523	Sample Line#:	18
Column Type:	DB-5	Column Dia:	0.32 mm

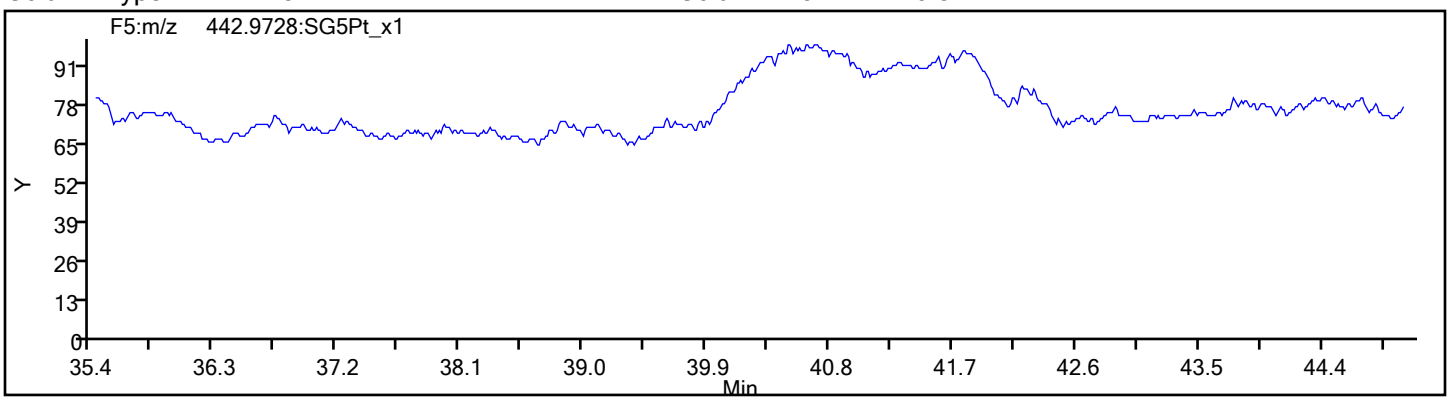

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 320-57624-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 320-350417/2-A
Matrix: Water
Lab File ID: 13JA2010D5_19.d
Analysis Method: 1613B
Date Collected:
Extract. Method: 1613B
Date Extracted: 01/13/2020 11:12
Sample wt/vol: 1000(mL)
Date Analyzed: 01/14/2020 02:54
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 350523
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	198		10	0.73
51207-31-9	2,3,7,8-TCDF	188		10	0.60
40321-76-4	1,2,3,7,8-PeCDD	1020		50	1.4
57117-41-6	1,2,3,7,8-PeCDF	986		50	2.5
57117-31-4	2,3,4,7,8-PeCDF	906		50	2.7
39227-28-6	1,2,3,4,7,8-HxCDD	910		50	2.0
57653-85-7	1,2,3,6,7,8-HxCDD	981		50	2.0
19408-74-3	1,2,3,7,8,9-HxCDD	1020		50	1.8
70648-26-9	1,2,3,4,7,8-HxCDF	868		50	4.1
57117-44-9	1,2,3,6,7,8-HxCDF	927		50	4.0
72918-21-9	1,2,3,7,8,9-HxCDF	942		50	2.7
60851-34-5	2,3,4,6,7,8-HxCDF	917		50	2.7
35822-46-9	1,2,3,4,6,7,8-HpCDD	1010		50	4.5
67562-39-4	1,2,3,4,6,7,8-HpCDF	993		50	6.6
55673-89-7	1,2,3,4,7,8,9-HpCDF	921		50	8.0
3268-87-9	OCDD	1990		100	1.9
39001-02-0	OCDF	1940		100	1.6
41903-57-5	Total TCDD	198		10	0.73
30402-14-3	Total TCDF	188		10	0.60
36088-22-9	Total PeCDD	1020		50	1.4
30402-15-4	Total PeCDF	1900		50	2.6
34465-46-8	Total HxCDD	2910		50	1.9
55684-94-1	Total HxCDF	3650		50	3.4
37871-00-4	Total HpCDD	1010		50	4.5
38998-75-3	Total HpCDF	1910		50	7.3

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57624-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 320-350417/2-A

Matrix: Water Lab File ID: 13JA2010D5_19.d

Analysis Method: 1613B Date Collected:

Extract. Method: 1613B Date Extracted: 01/13/2020 11:12

Sample wt/vol: 1000(mL) Date Analyzed: 01/14/2020 02:54

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 350523 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	82		20-175
89059-46-1	13C-2,3,7,8-TCDF	85		22-152
109719-79-1	13C-1,2,3,7,8-PeCDD	89		21-227
109719-77-9	13C-1,2,3,7,8-PeCDF	89		21-192
116843-02-8	13C-2,3,4,7,8-PeCDF	92		13-328
109719-80-4	13C-1,2,3,4,7,8-HxCDD	84		21-193
109719-81-5	13C-1,2,3,6,7,8-HxCDD	74		25-163
114423-98-2	13C-1,2,3,4,7,8-HxCDF	77		19-202
116843-03-9	13C-1,2,3,6,7,8-HxCDF	71		21-159
116843-04-0	13C-1,2,3,7,8,9-HxCDF	81		17-205
116843-05-1	13C-2,3,4,6,7,8-HxCDF	80		22-176
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	74		26-166
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	72		21-158
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	81		20-186
114423-97-1	13C-OCDD	71		13-199

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	101		31-191

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_19.d
Lims ID: LCS 320-350417/2-A
Client ID:
Sample Type: LCS
Inject. Date: 14-Jan-2020 02:54:20 ALS Bottle#: 44 Worklist Smp#: 19
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCS 320-350417/2-A LCS 320-350417/2-A
Misc. Info.: 13JA2010D5
Operator ID: SMA/ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 15-Jan-2020 12:37:03 Calib Date: 14-Nov-2019 12:50:49
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0339

First Level Reviewer: arghestanis Date: 14-Jan-2020 13:28:11

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.635	62984717	0.80	1.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.136	71468080	0.77	1.3318	85.2	85.2	0.2257	0.2257	85.20	
2,3,7,8-TCDF	17.151	6053955	0.73	0.9005	9.407	9.407	0.0299	0.0299	94.07	
A Non-2,3,7,8-sub-TCDF	16.826						0.0299	0.0299		
S Total TCDF					9.407	9.407	0.0299	0.0299		
D 13C-2,3,7,8-TCDD	17.831	49597551	0.79	0.9647	81.6	81.6	0.1741	0.1741	81.63	
2,3,7,8-TCDD	17.847	5240513	0.78	1.0698	9.877	9.877	0.0366	0.0366	98.77	
$ 37Cl4-2,3,7,8-TCDD	17.847	33367552		1.3082	40.5	40.5	0.0217	0.0217	101	
A Non-2,3,7,8-sub-TCDD	17.272						0.0366	0.0366		
S Total TCDD					9.877	9.877	0.0366	0.0366		
D 13C-1,2,3,7,8-PeCDF	22.060	59189937	1.58	1.0537	89.2	89.2	0.1554	0.1554	89.18	
1,2,3,7,8-PeCDF	22.087	28319803	1.56	0.9704	49.3	49.3	0.1263	0.1263	98.61	
D 13C-2,3,4,7,8-PeCDF	23.383	58718158	1.58	1.0173	91.6	91.6	0.1610	0.1610	91.65	
2,3,4,7,8-PeCDF	23.410	26566730	1.56	0.9986	45.3	45.3	0.1326	0.1326	90.62	
A F1 PeCDFs	19.676						0.0224	0.0224		
A Non-2,3,7,8-sub-PeCDF	22.763	224425	1.38	0.9845	0.3867	0.3867	0.1293	0.3867	0.00	
S Total PeCDF					95.0	95.0	0.1295	0.1295		
D 13C-1,2,3,7,8-PeCDD	24.092	40737214	1.60	0.7281	88.8	88.8	0.0911	0.0911	88.83	
1,2,3,7,8-PeCDD	24.119	20850210	1.60	1.0023	51.1	51.1	0.0685	0.0685	102	
A Non-2,3,7,8-sub-PeCDD	22.980						0.0685	0.0685		
S Total PeCDD					51.1	51.1	0.0685	0.0685		
D 13C-1,2,3,4,7,8-HxCDF	30.219	41495619	0.51	0.9632	77.0	77.0	0.2252	0.2252	77.02	
1,2,3,4,7,8-HxCDF	30.246	18575606	1.22	1.0315	43.4	43.4	0.2058	0.2058	86.80	
D 13C-1,2,3,6,7,8-HxCDF	30.432	42028817	0.50	1.0646	70.6	70.6	0.2037	0.2037	70.58	
1,2,3,6,7,8-HxCDF	30.445	19946757	1.19	1.0235	46.4	46.4	0.2025	0.2025	92.74	
D 13C-2,3,4,6,7,8-HxCDF	31.324	43601471	0.50	0.9696	80.4	80.4	0.2237	0.2237	80.39	
2,3,4,6,7,8-HxCDF	31.337	21290533	1.19	1.0645	45.9	45.9	0.1358	0.1358	91.74	
D 13C-1,2,3,7,8,9-HxCDF	32.162	40344410	0.50	0.8955	80.5	80.5	0.2422	0.2422	80.54	
1,2,3,7,8,9-HxCDF	32.175	20253520	1.20	1.0664	47.1	47.1	0.1357	0.1357	94.15	
A Non-2,3,7,8-sub-HxCDF	29.873						0.1636	0.1636		
S Total HxCDF					182.7	182.7	0.1700	0.1700		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.976	55938376	1.26	8.8E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.523	35757191	1.27	0.7590	84.2	84.2	0.1977	0.1977	84.22	
1,2,3,4,7,8-HxCDD	31.537	16363509	1.24	1.0054	45.5	45.5	0.0986	0.0986	91.04	
D 13C-1,2,3,6,7,8-HxCDD	31.630	38397727	1.27	0.9247	74.2	74.2	0.1623	0.1623	74.23	
1,2,3,6,7,8-HxCDD	31.656	18514191	1.25	0.9833	49.0	49.0	0.1000	0.1000	98.07	
1,2,3,7,8,9-HxCDD	31.989	20841800	1.24	1.1036	50.9	50.9	0.0894	0.0894	102	
A Non-2,3,7,8-sub-HxCDD	30.485						0.0958	0.0958		
S Total HxCDD					145.5	145.5	0.0960	0.0960		
D 13C-1,2,3,4,6,7,8-HpCDF	33.618	32037214	0.44	0.7930	72.2	72.2	0.5820	0.5820	72.22	
1,2,3,4,6,7,8-HpCDF	33.630	22651117	1.03	1.4240	49.6	49.6	0.3323	0.3323	99.30	
D 13C-1,2,3,4,7,8,9-HpCDF	34.675	32996666	0.44	0.7296	80.9	80.9	0.6326	0.6326	80.85	
1,2,3,4,7,8,9-HpCDF	34.687	19506475	1.03	1.2834	46.1	46.1	0.4010	0.4010	92.13	
A Non-2,3,7,8-sub-HpCDF	34.140						0.3642	0.3642		
S Total HpCDF					95.7	95.7	0.3667	0.3667		
D 13C-1,2,3,4,6,7,8-HpCDD	34.395	31313553	1.06	0.7532	74.3	74.3	0.3178	0.3178	74.33	
1,2,3,4,6,7,8-HpCDD	34.408	16011290	1.05	1.0174	50.3	50.3	0.2245	0.2245	101	
A Non-2,3,7,8-sub-HpCDD	34.122						0.2245	0.2245		
S Total HpCDD					50.3	50.3	0.2245	0.2245		
D 13C-OCDD	36.698	44373830	0.90	0.5621	141.1	141.1	0.1109	0.1109	70.57	
OCDF	36.794	28076668	0.89	1.3047	97.0	97.0	0.0800	0.0800	96.99	
OCDD	36.710	24296579	0.89	1.0997	99.6	99.6	0.0949	0.0949	99.58	

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_19.d
Lims ID: LCS 320-350417/2-A
Client ID:
Sample Type: LCS
Inject. Date: 14-Jan-2020 02:54:20 ALS Bottle#: 44 Worklist Smp#: 19
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCS 320-350417/2-A LCS 320-350417/2-A
Misc. Info.: 13JA2010D5
Operator ID: SMA/ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 15-Jan-2020 12:37:03 Calib Date: 14-Nov-2019 12:50:49
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0339

First Level Reviewer: arghestanis Date: 14-Jan-2020 13:28:11

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.635	17.605	2		28063662	7421029	7211	18027	1029		
333.9339	17.635	17.605	2		34921055	9073904	3871	9677	2344	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.136	17.106	2	0.972	31129432	8028512	13908	34770	577		
317.9389	17.136	17.106	2	0.972	40338648	10481954	5923	14807	1770	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.151	17.121	2	1.001	2557656	660677	782	1955	845		
305.8987	17.151	17.121	2	1.001	3496299	905839	1213	3032	747	0.73(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.826						782	1955			
305.8987	16.826						1213	3032			
13C-2,3,7,8-TCDD											
331.9368	17.831	17.786	3	1.011	21895625	5327393	7211	18027	739		
333.9339	17.831	17.786	3	1.011	27701926	6648543	3871	9677	1718	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.847	17.816	2	1.001	2290145	563315	1221	3052	461		
321.8936	17.847	17.816	2	1.001	2950368	732210	654	1635	1120	0.78(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.847	17.816	2	1.012	33367552	8124490	1873	4682	4338		
A Non-2,3,7,8-sub-TCDD											
319.8965	17.272						1221	3052			
321.8936	17.272						654	1635			
13C-1,2,3,7,8-PeCDF											
351.9000	22.060	22.019	2	1.251	36286782	6826698	6502	16255	1050		
353.8970	22.060	22.019	2	1.251	22903155	4278052	4304	10760	994	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	22.087	22.032	3	1.001	17262755	3187121	3197	7992	997		
341.8567	22.087	22.032	3	1.001	11057048	2036127	2249	5622	905	1.56(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	23.383	23.328	3	1.326	35927663	6274779	6502	16255	965		
353.8970	23.383	23.328	3	1.326	22790495	4005232	4304	10760	931	1.58(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.410	23.355	3	1.001	16169060	2767775	3197	7992	866		
341.8567	23.410	23.355	3	1.001	10397670	1788294	2249	5622	795	1.56(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.676						298	745			
341.8567	19.676						645	1612			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.619	22.763	-9	1.025	130241	16522	3197	7992	5		
341.8567	22.605	22.763	-9	1.025	94184	12449	2249	5622	6	1.38(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	24.092	24.037	3	1.366	25084498	4110503	2527	6317	1627		
369.8919	24.078	24.037	2	1.365	15652716	2570724	1848	4620	1391	1.60(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.119	24.064	3	1.001	12818913	2041106	1208	3020	1690		
357.8516	24.105	24.064	2	1.001	8031297	1268509	628	1570	2020	1.60(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.980						1208	3020			
357.8516	22.980						628	1570			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.219	30.166	3	0.945	13985880	2358723	4216	10540	559		
385.8610	30.219	30.166	3	0.945	27509739	4637672	8008	20020	579	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.246	30.192	3	1.001	10207473	1708247	3182	7955	537		
375.8178	30.246	30.192	3	1.001	8368133	1399706	2760	6900	507	1.22(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.432	30.379	3	0.952	14058434	2399951	4216	10540	569		
385.8610	30.432	30.379	3	0.952	27970383	4767229	8008	20020	595	0.50(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.445	30.405	2	1.000	10857729	1892941	3182	7955	595		
375.8178	30.445	30.405	2	1.000	9089028	1593676	2760	6900	577	1.19(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.324	31.284	2	0.980	14545095	3447655	4216	10540	818		
385.8610	31.324	31.284	2	0.980	29056376	6828741	8008	20020	853	0.50(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.337	31.310	2	1.000	11590471	2627895	3182	7955	826		
375.8178	31.337	31.310	2	1.000	9700062	2253298	2760	6900	816	1.19(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.162	32.136	2	1.006	13525774	3454235	4216	10540	819		
385.8610	32.162	32.136	2	1.006	26818636	6810197	8008	20020	850	0.50(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	32.175	32.149	2	1.000	11046840	2851902	3182	7955	896		
375.8178	32.175	32.149	2	1.000	9206680	2360560	2760	6900	855	1.20(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.873						3182	7955			
375.8178	29.873						2760	6900			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.976	31.949	2		31230910	7903762	4688	11720	1686		
403.8529	31.976	31.949	2		24707466	6185842	3770	9425	1641	1.26(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.523	31.497	2	0.986	20011497	5036256	4688	11720	1074		
403.8529	31.523	31.497	2	0.986	15745694	3987439	3770	9425	1058	1.27(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.537	31.510	2	1.000	9063974	2369232	1961	4902	1208		
391.8127	31.537	31.510	2	1.000	7299535	1879936	1617	4042	1163	1.24(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.630	31.603	2	0.989	21461982	5102769	4688	11720	1088		
403.8529	31.630	31.603	2	0.989	16935745	3997631	3770	9425	1060	1.27(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.656	31.617	2	1.001	10295547	2387285	1961	4902	1217		
391.8127	31.643	31.617	2	1.000	8218644	1903007	1617	4042	1177	1.25(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.989	31.963	2	1.015	11546337	2946535	1961	4902	1503		
391.8127	31.989	31.963	2	1.015	9295463	2359697	1617	4042	1459	1.24(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.485						1961	4902			
391.8127	30.485						1617	4042			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.618	33.593	1	1.051	9838383	3149912	7936	19840	397		
419.8220	33.618	33.593	1	1.051	22198831	7115833	18073	45182	394	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.630	33.605	1	1.000	11512208	3693107	9357	23392	395		
409.7789	33.630	33.605	1	1.000	11138909	3490426	10076	25190	346	1.03(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.675	34.663	1	1.084	10081477	2891803	7936	19840	364		
419.8220	34.675	34.663	1	1.084	22915189	6547895	18073	45182	362	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.687	34.675	1	1.000	9892565	2886954	9357	23392	309		
409.7789	34.687	34.675	1	1.000	9613910	2796249	10076	25190	278	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.140						9357	23392			
409.7789	34.140						10076	25190			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.395	34.371	1	1.076	16085446	4879567	6222	15555	784		
437.8140	34.395	34.371	1	1.076	15228107	4555102	7266	18165	627	1.06(0.88-1.20)	

Report Date: 15-Jan-2020 12:38:34 Chrom Revision: 2.3 23-Dec-2019 10:12:06
Data File: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_19.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.408	34.383	1	1.000	8187664	2461890	4340	10850	567		
425.7737	34.408	34.383	1	1.000	7823626	2304831	4280	10700	539	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.122						4340	10850			
425.7737	34.122						4280	10700			
13C-OCDD											
469.7779	36.698	36.674	1	1.148	21072557	5409379	2428	6070	2228		
471.7750	36.698	36.674	1	1.148	23301273	5943640	1085	2712	5478	0.90(0.76-1.02)	
OCDF											
441.7428	36.794	36.782	1	1.003	13195755	3463678	1068	2670	3243		
443.7399	36.794	36.782	1	1.003	14880913	3848920	1301	3252	2958	0.89(0.76-1.02)	
OCDD											
457.7377	36.710	36.686	1	1.000	11415339	2973666	972	2430	3059		
459.7348	36.710	36.686	1	1.000	12881240	3327933	1398	3495	2380	0.89(0.76-1.02)	

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_19.d
Lims ID: LCS 320-350417/2-A
Client ID:
Inject. Date: 14-Jan-2020 02:54:20 Dil. Factor: 1.0000
Sample Type: LCS, Lab Control Sample
Instrument ID: 10D5 Operator: SMA/ALM
Lims Batch ID: 350523 Lims Sample ID: 19

Non-2,3,7,8-sub-PeCDF, RT: 22.763

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	0.970	D 13C-1,2,3,7,8-PeCDF	100.000	59189937	11104750
2,3,4,7,8-PeCDF	0.999	D 13C-2,3,4,7,8-PeCDF	100.000	58718158	10280011

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.984		100.000	58954047	10692380

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
22.619	130241	16522	94184	12449	0.3867	1.38	
Signal Totals:							
	130241	16522	94184	12449			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	224425	28971				1.38	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.3867 = (224425 * 100.000) / (58954047 * 0.984)

Report Date: 15-Jan-2020 12:38:34 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_19.d		
Injection Date:	14-Jan-2020 02:54:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	350523	Sample Line#:	19
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

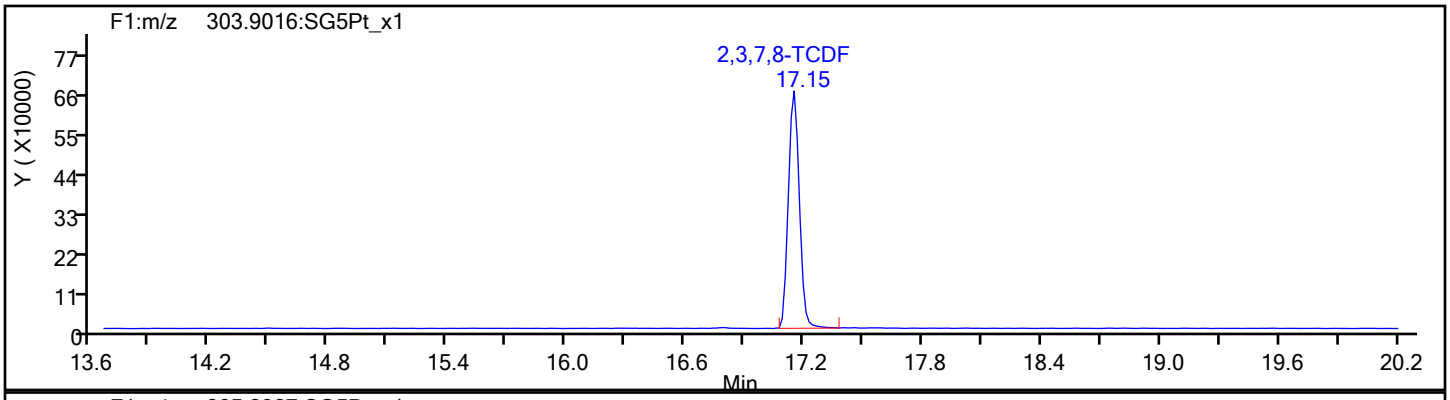

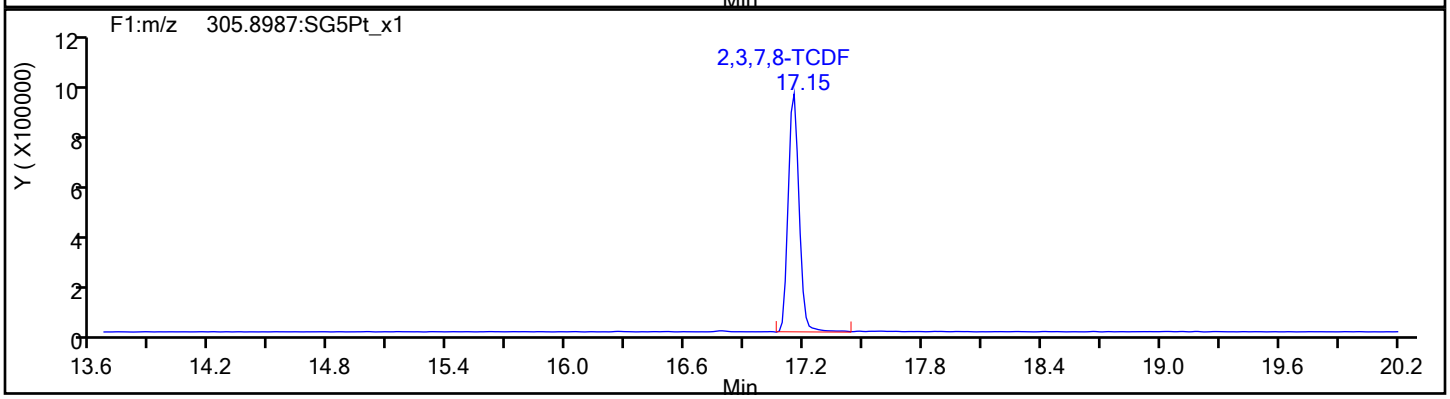

TCDF Standards

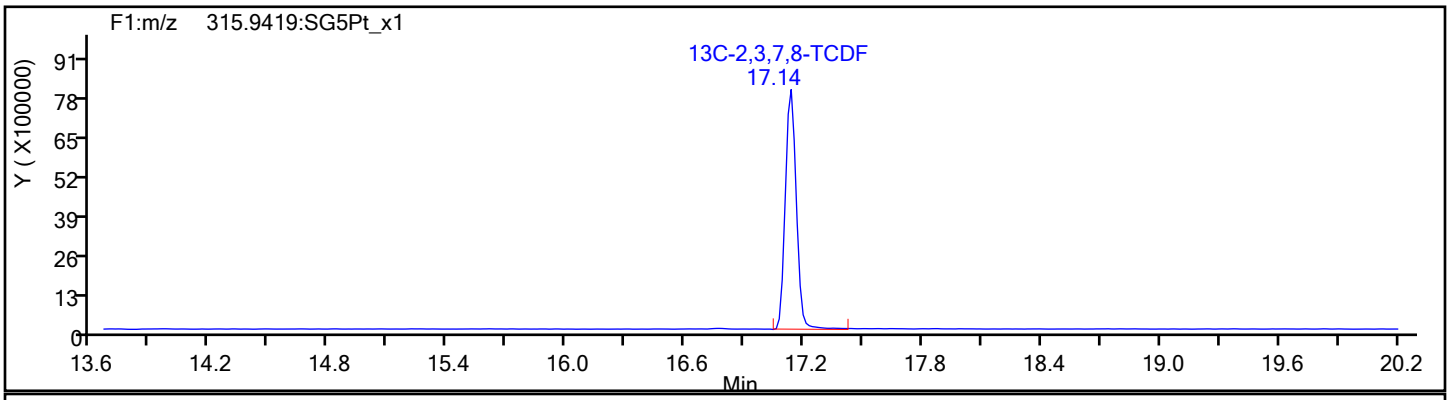

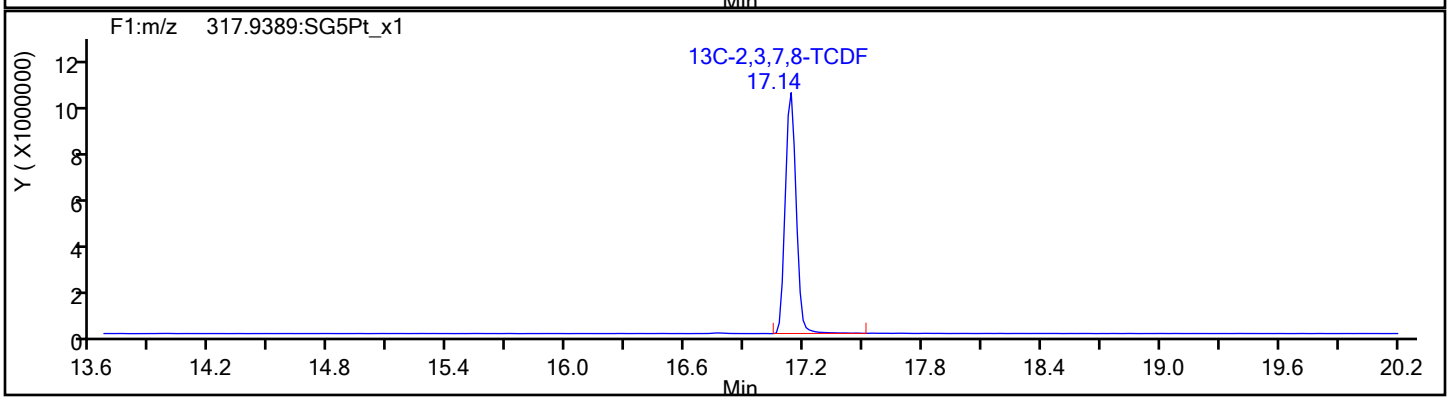

Report Date: 15-Jan-2020 12:38:34 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_19.d		
Injection Date:	14-Jan-2020 02:54:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	350523	Sample Line#:	19
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

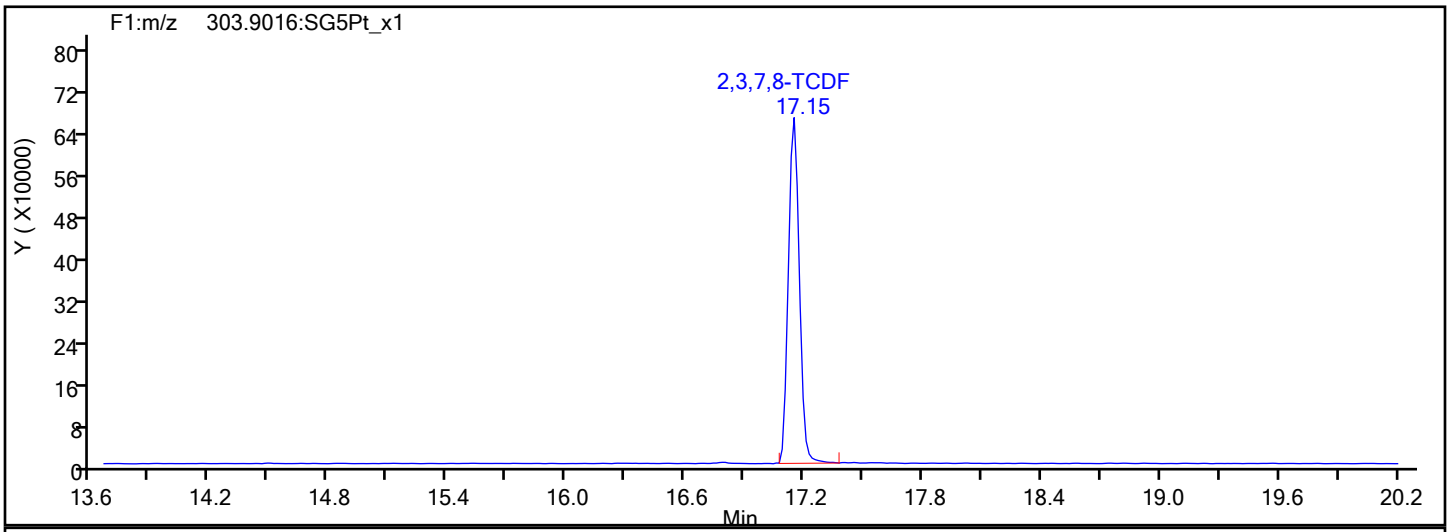

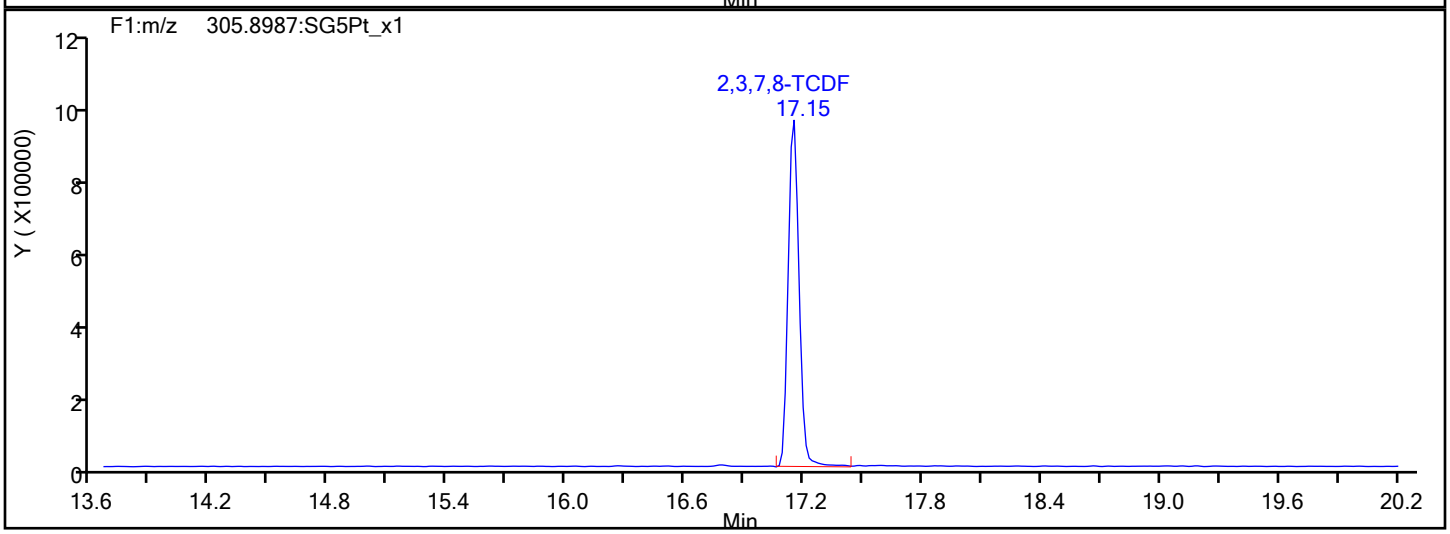

TCDF Interference Mass

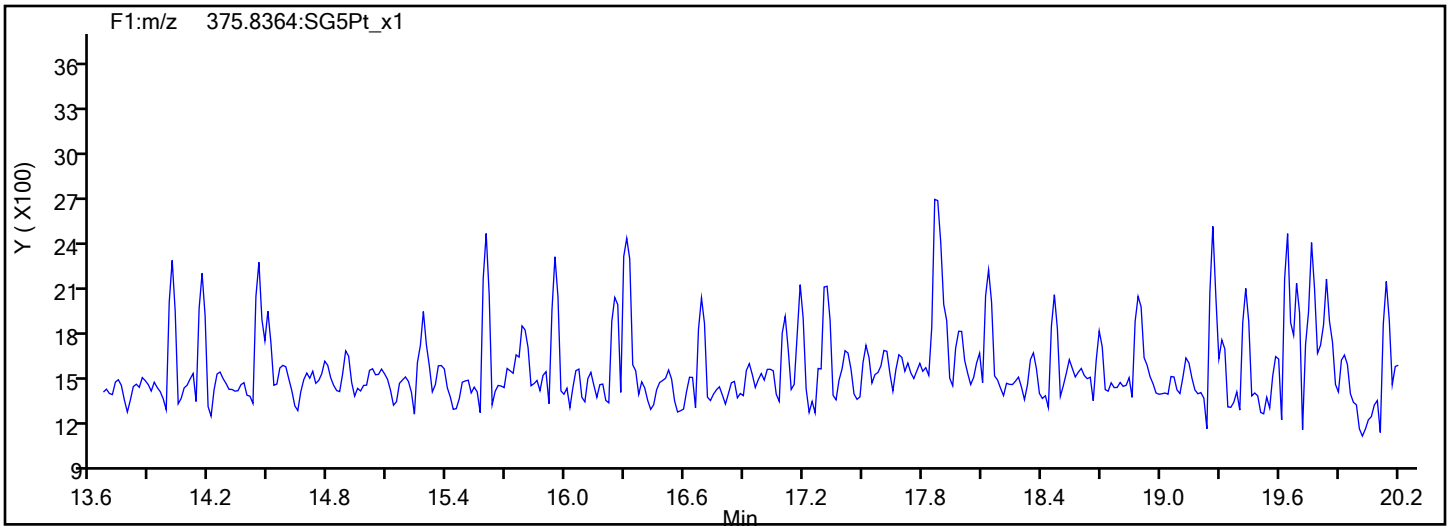

Report Date: 15-Jan-2020 12:38:34 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_19.d		
Injection Date:	14-Jan-2020 02:54:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	350523	Sample Line#:	19
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

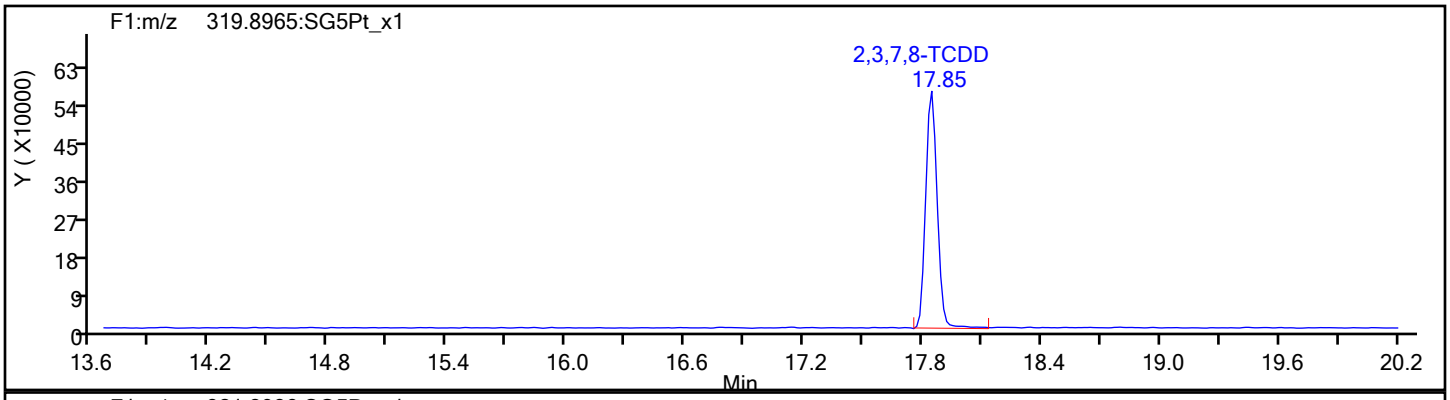

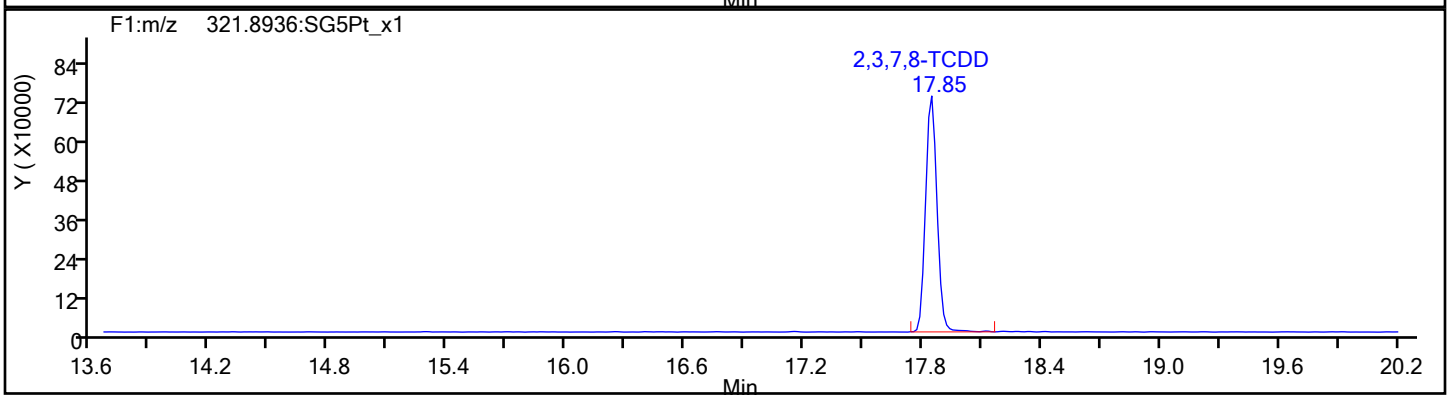

TCDD Standards

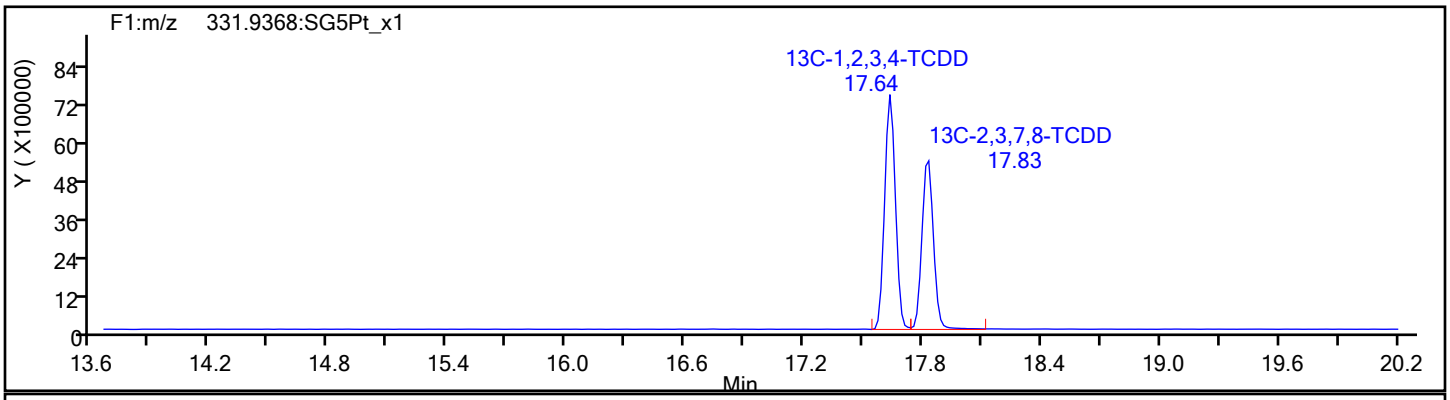

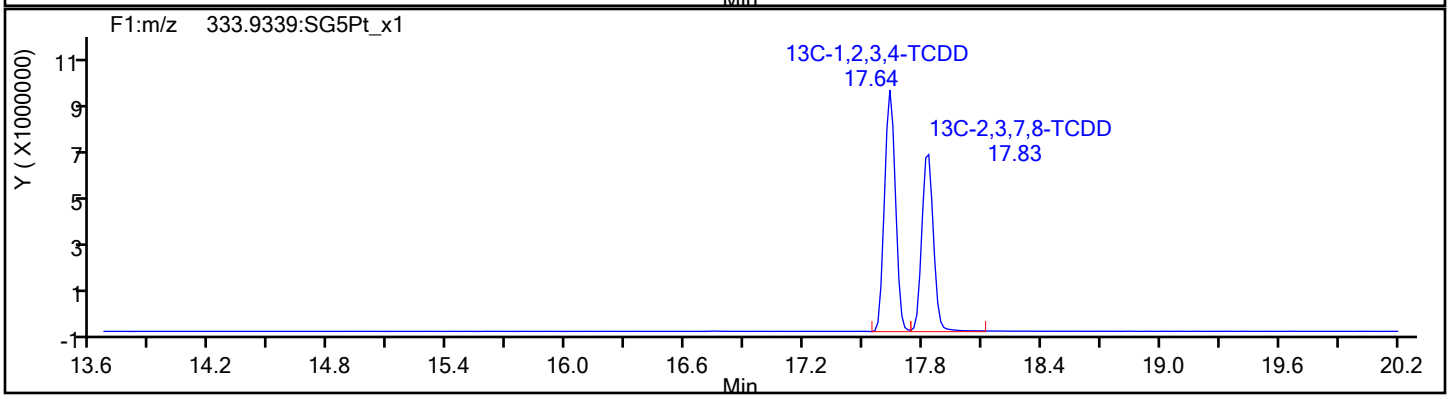

Report Date: 15-Jan-2020 12:38:34 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_19.d		
Injection Date:	14-Jan-2020 02:54:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	350523	Sample Line#:	19
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

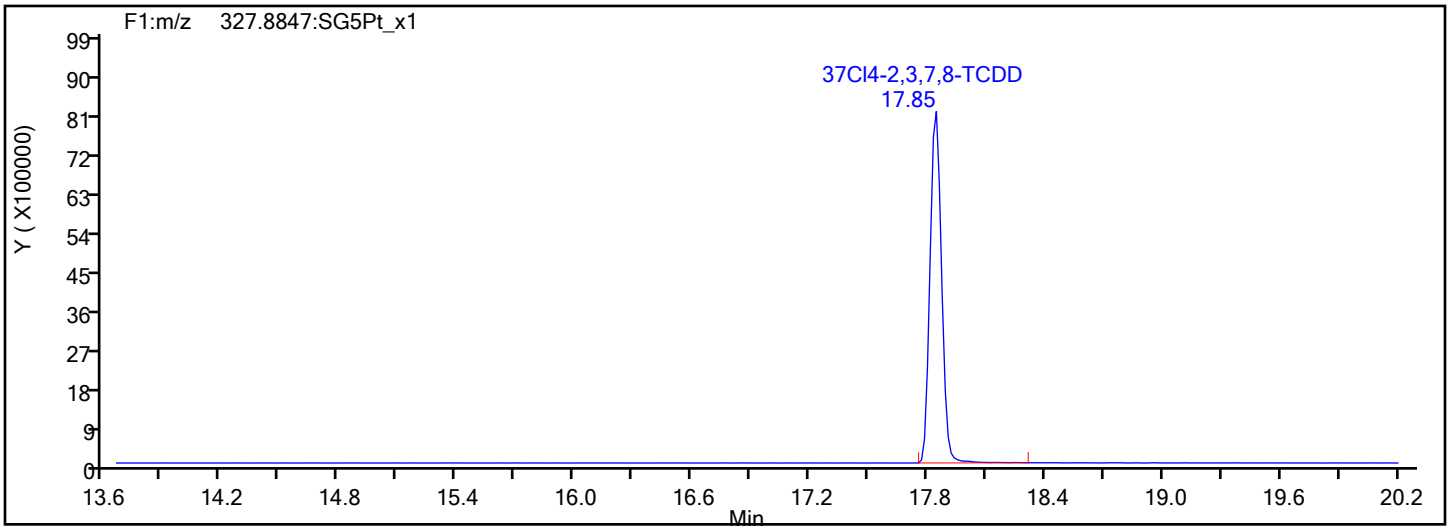

37Cl4-TCDD Standards

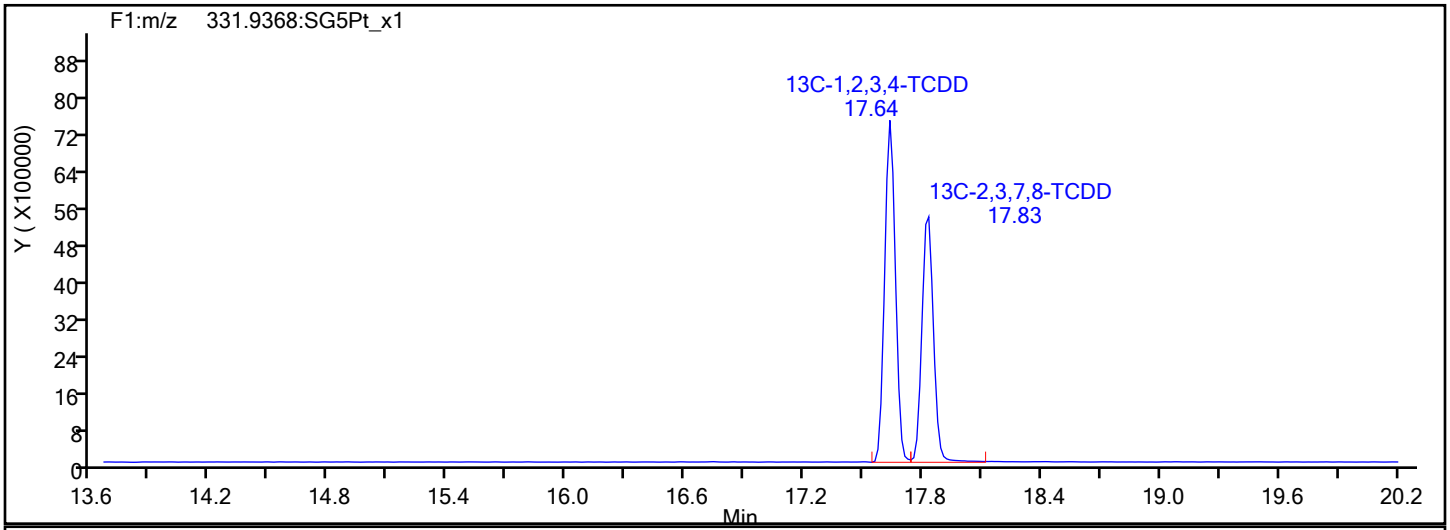

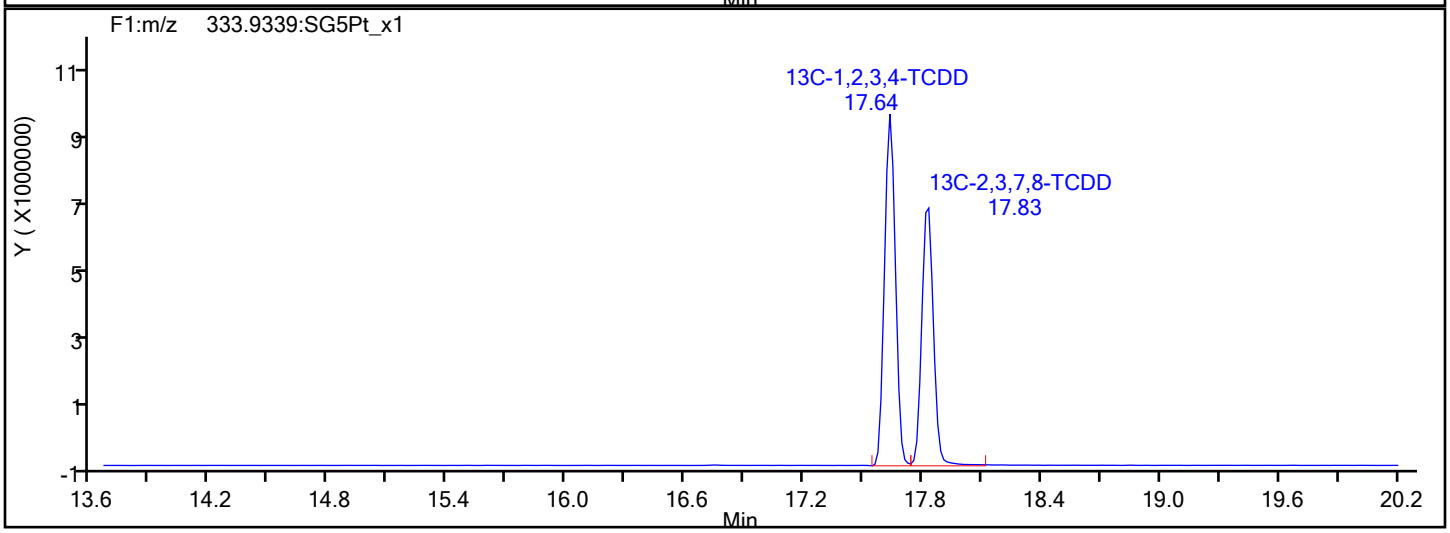

Report Date: 15-Jan-2020 12:38:34 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

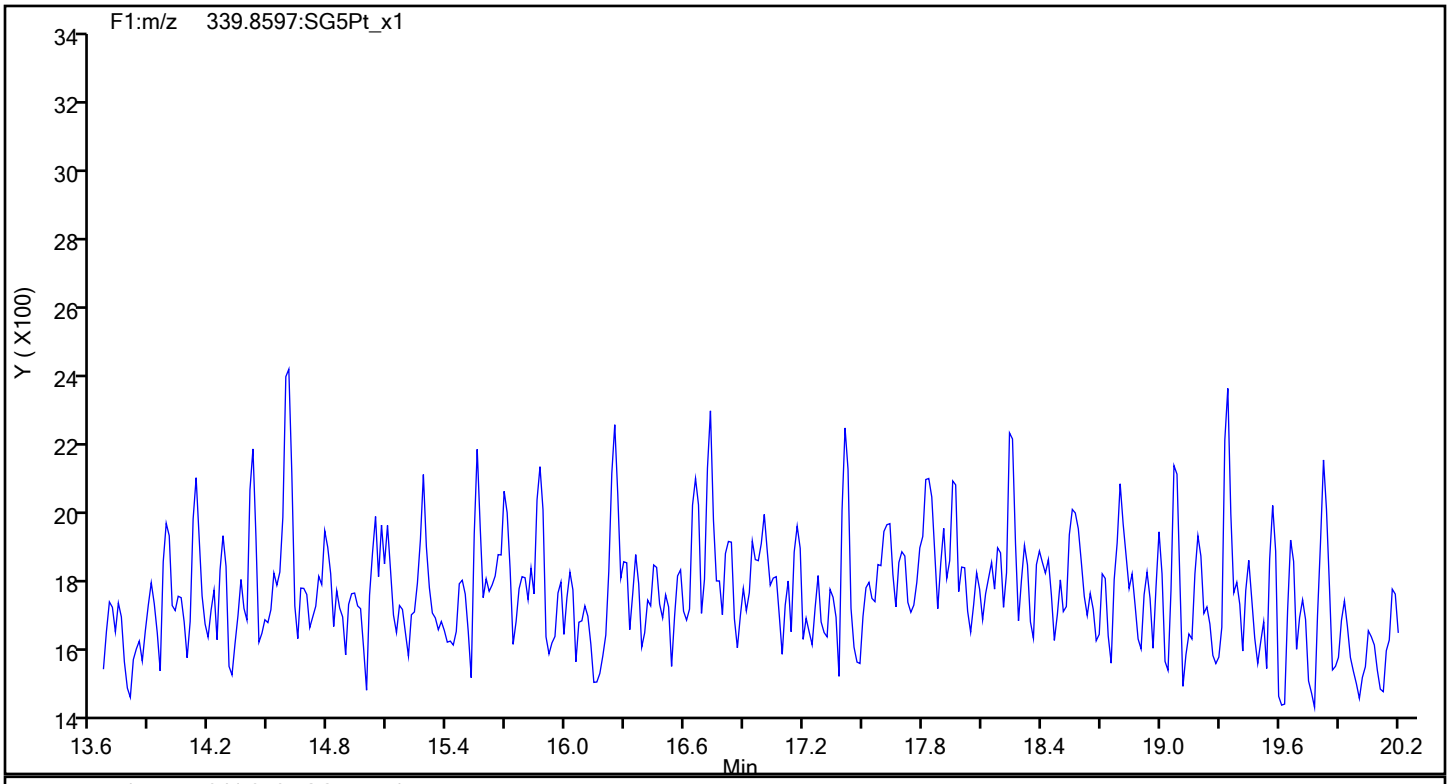

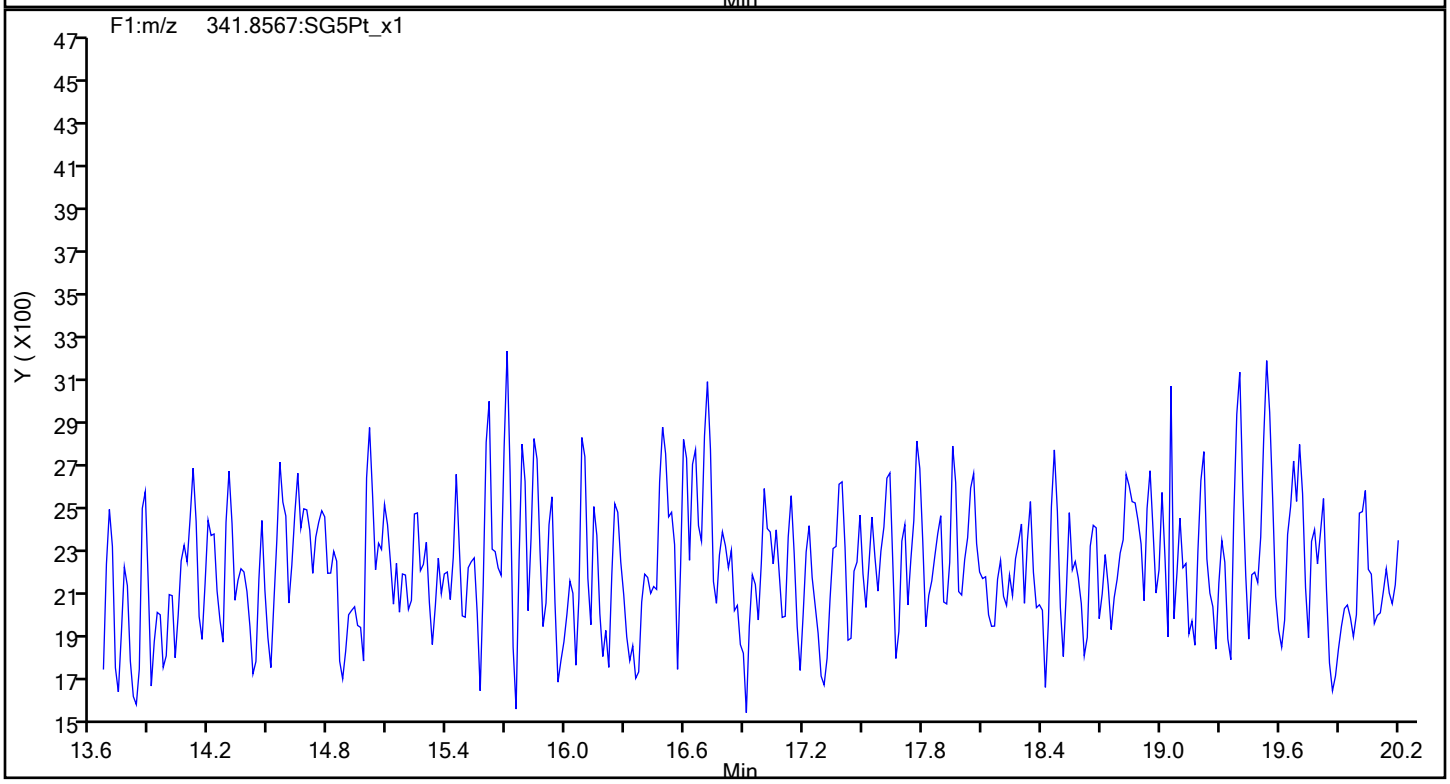

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

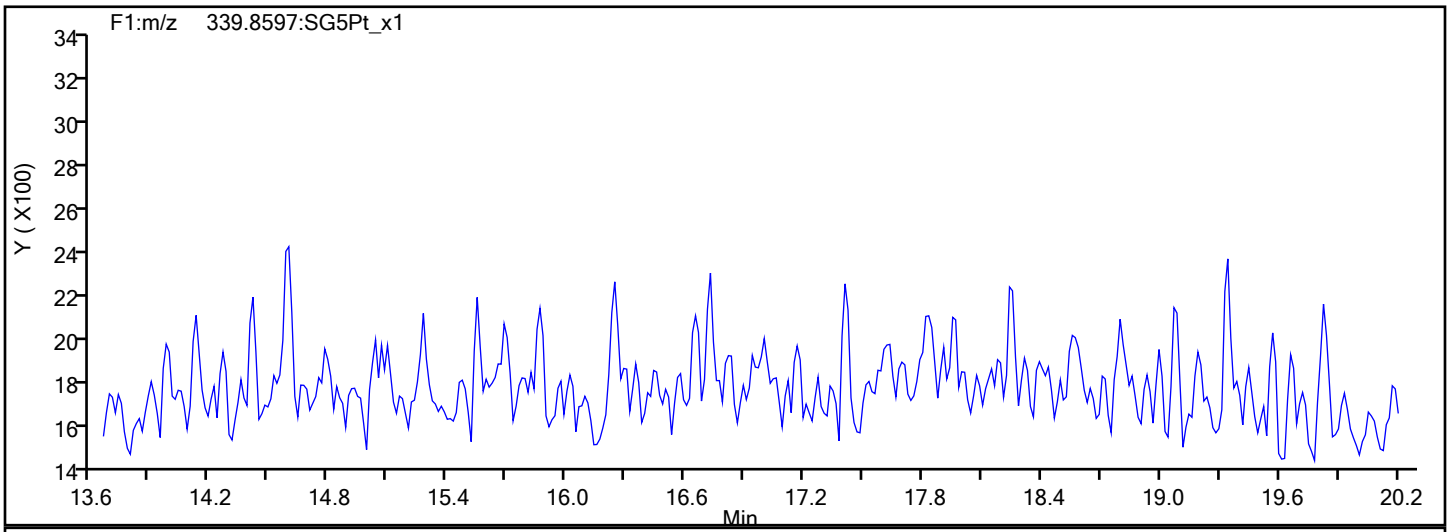

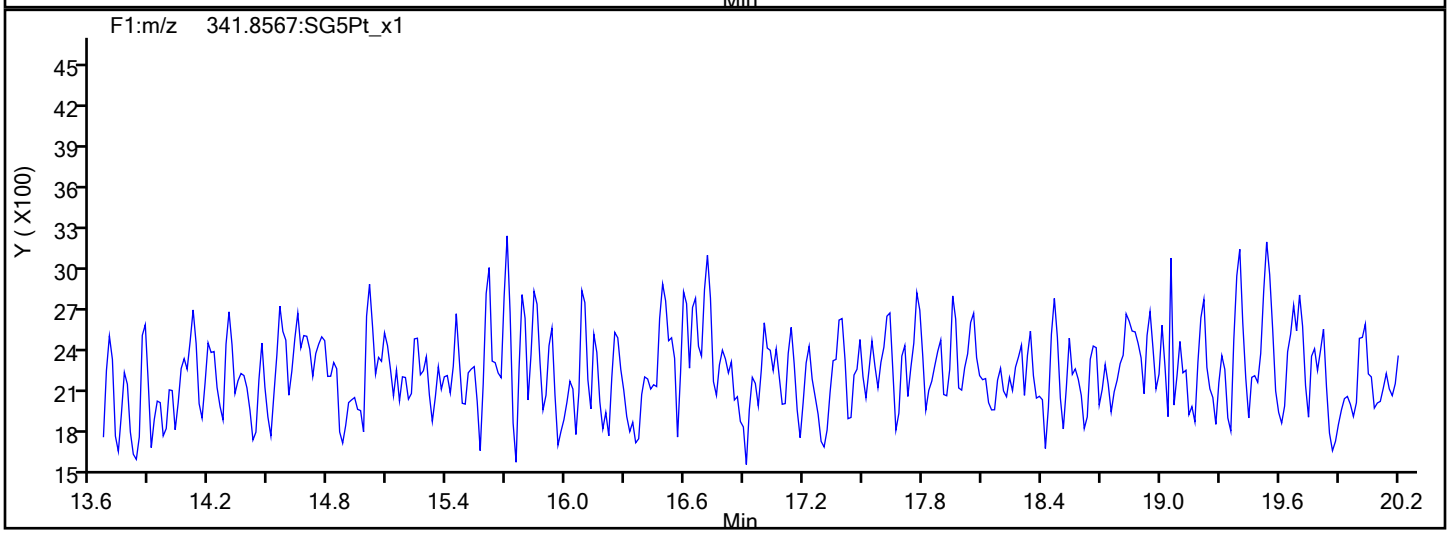

F1 PeCDFs Interference Mass

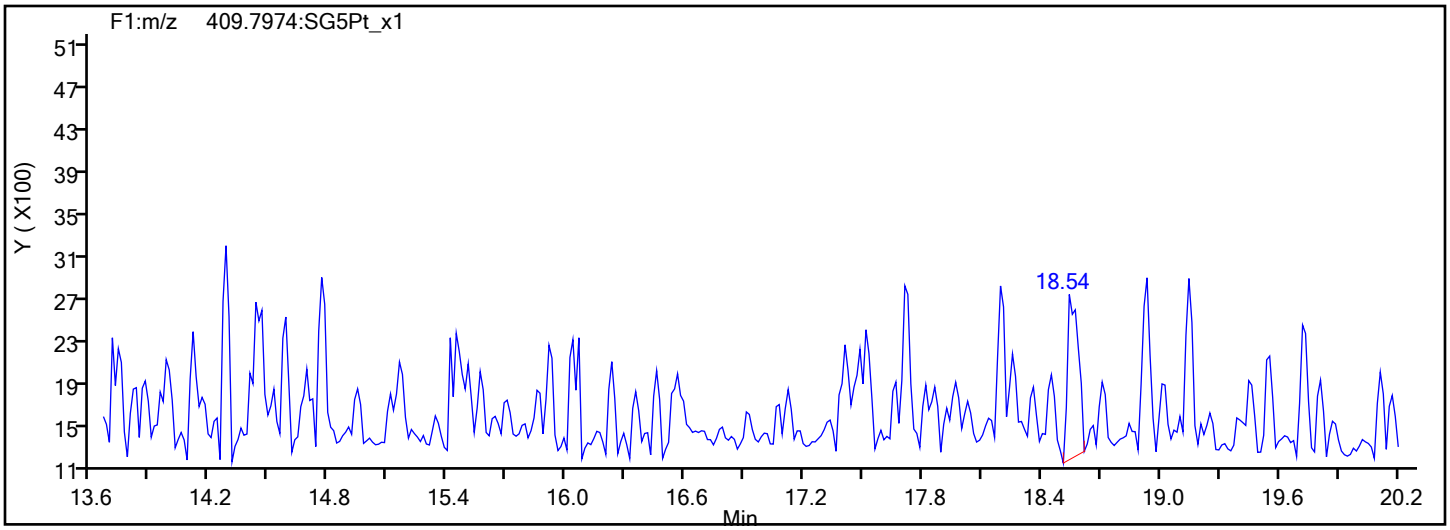

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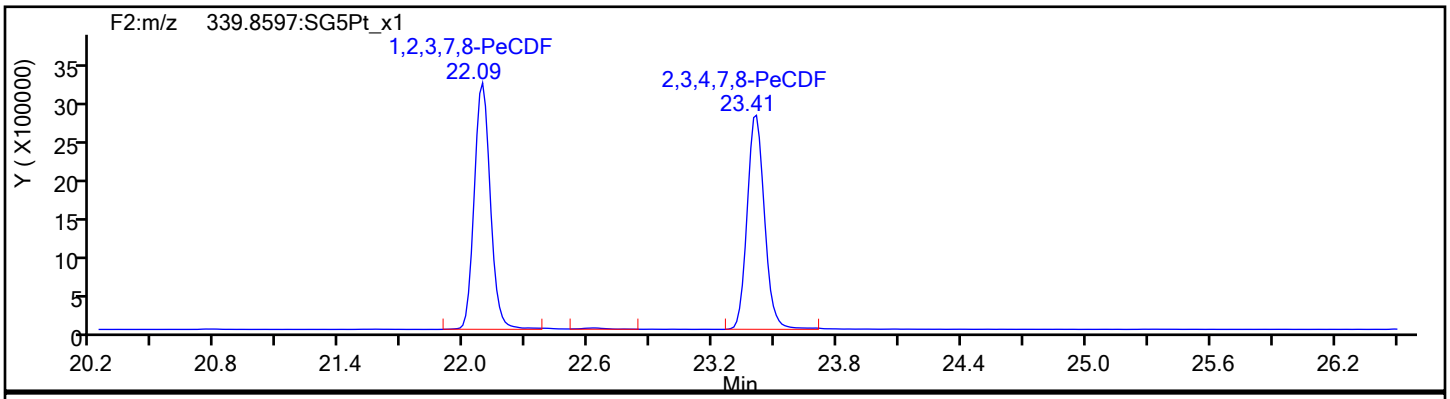

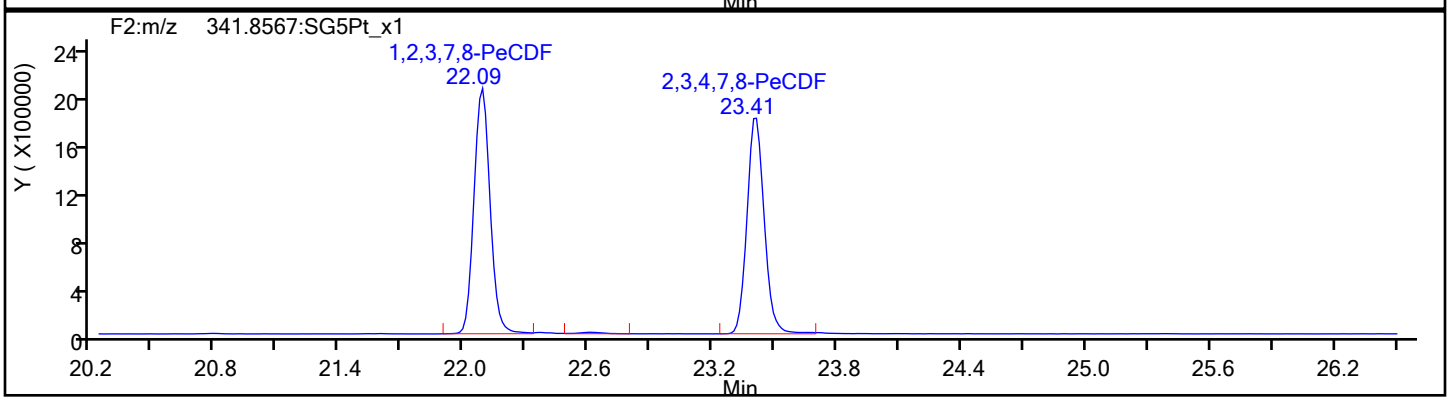

PeCDF Standards

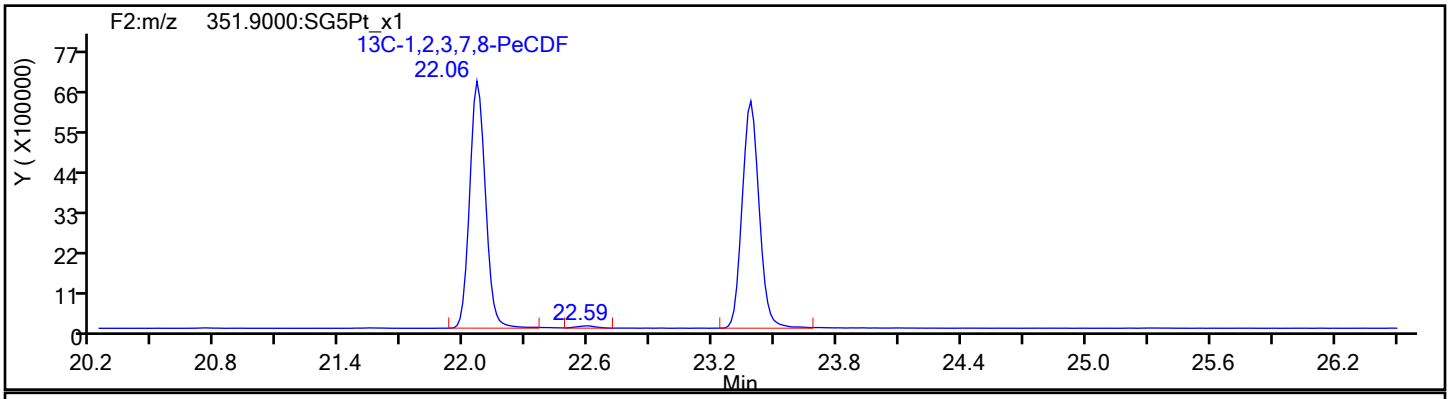

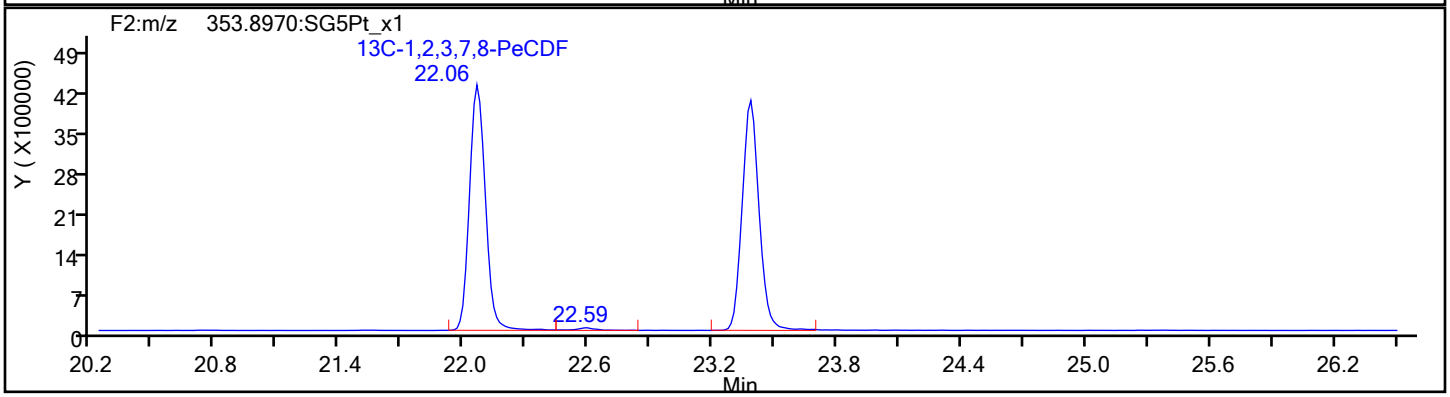

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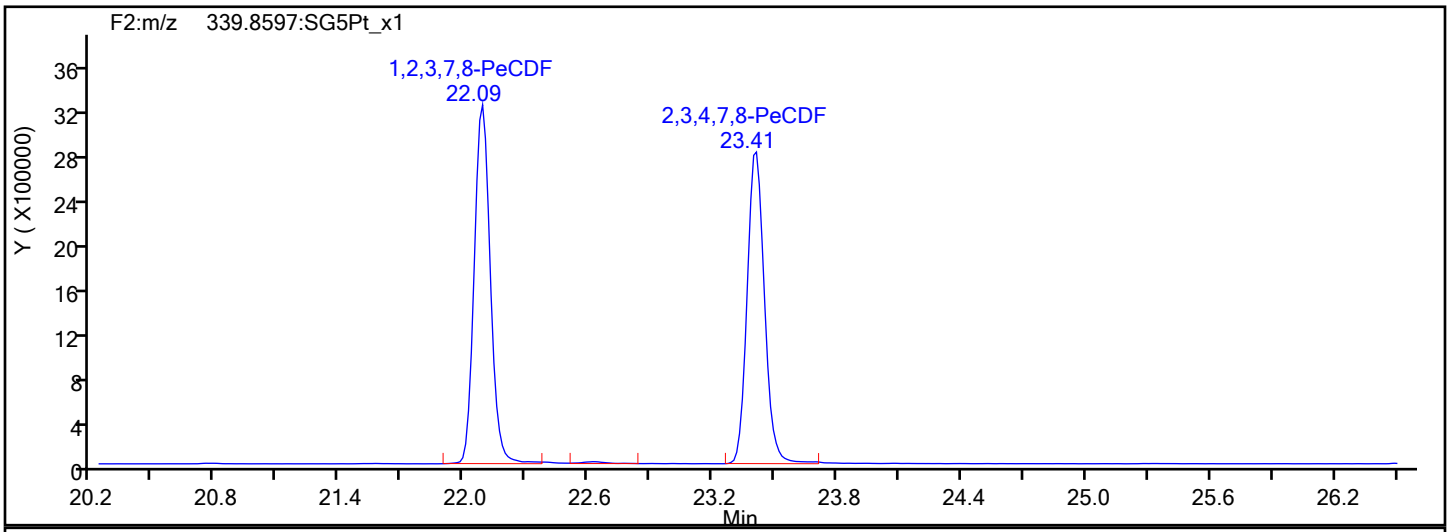

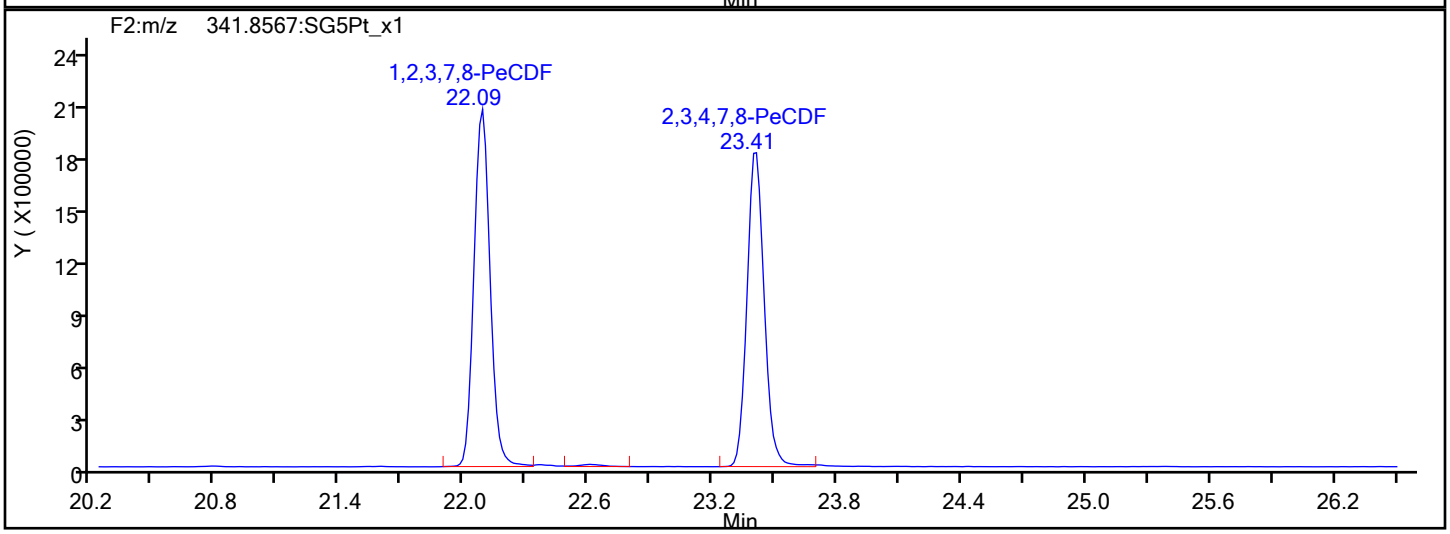

PeCDF Interference Mass

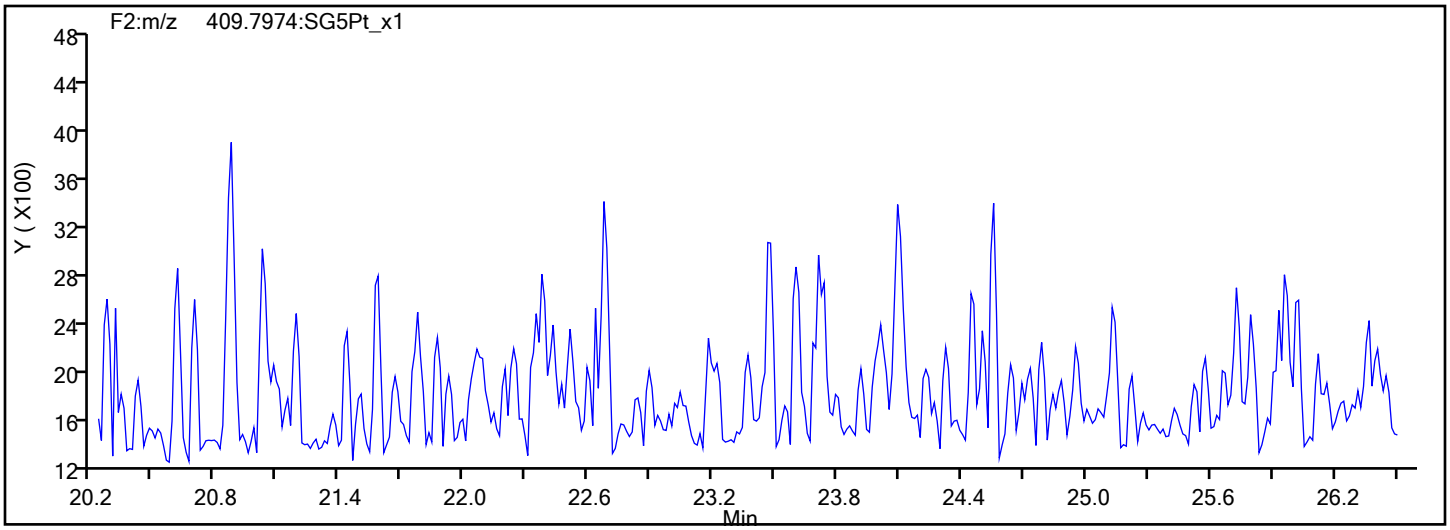

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Eurofins TestAmerica, Sacramento

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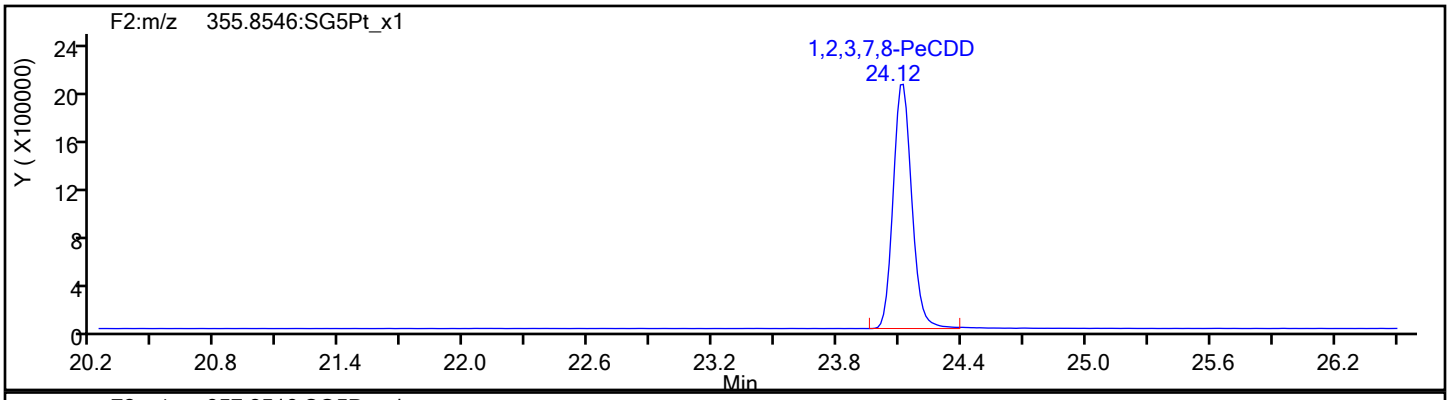

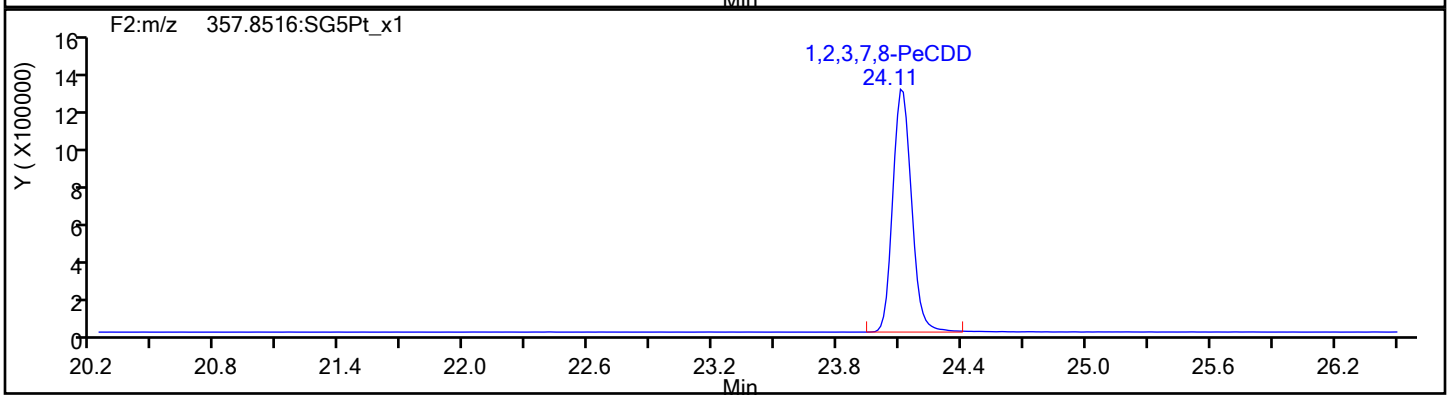

PeCDD Standards

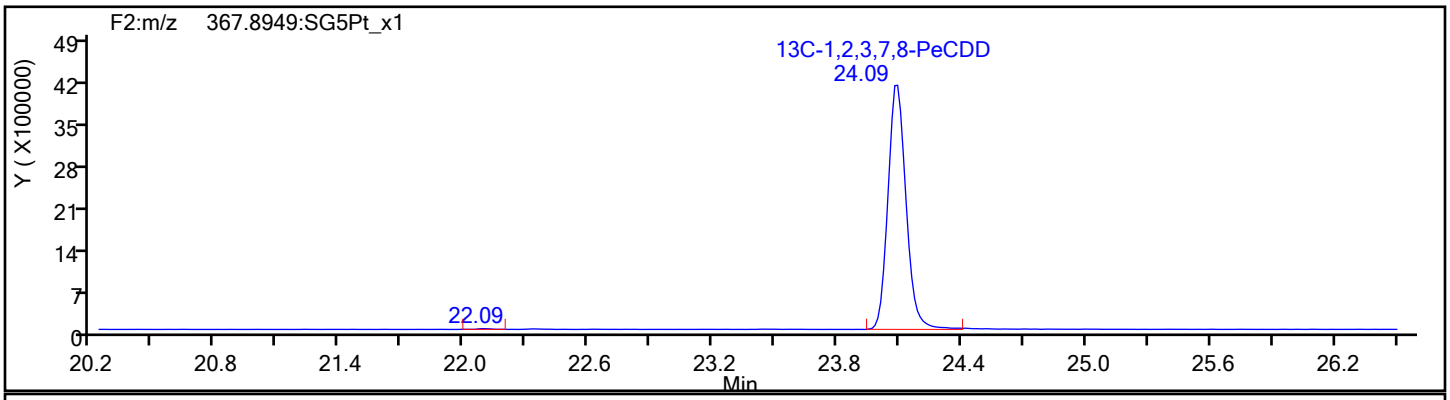

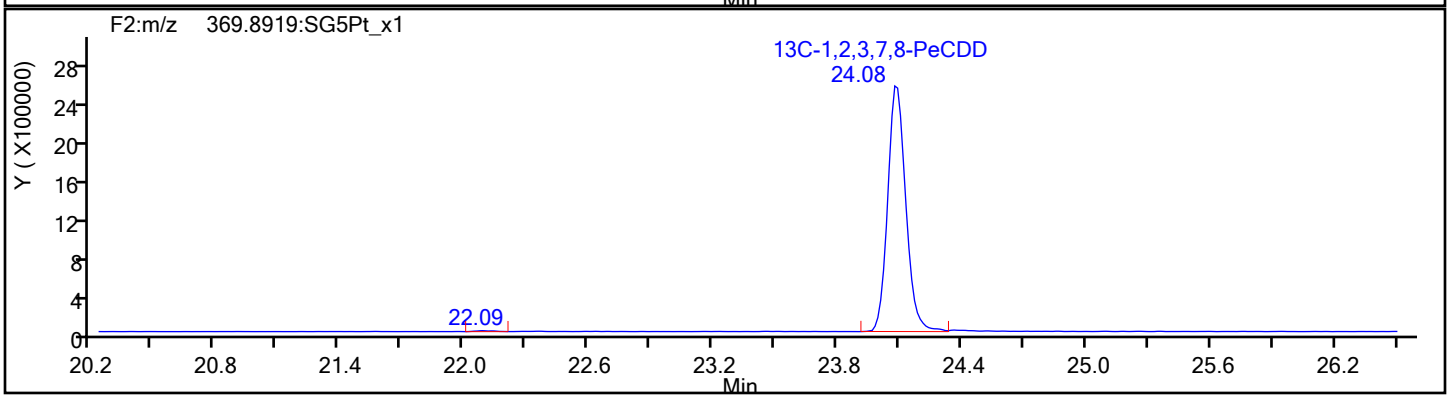

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Eurofins TestAmerica, Sacramento

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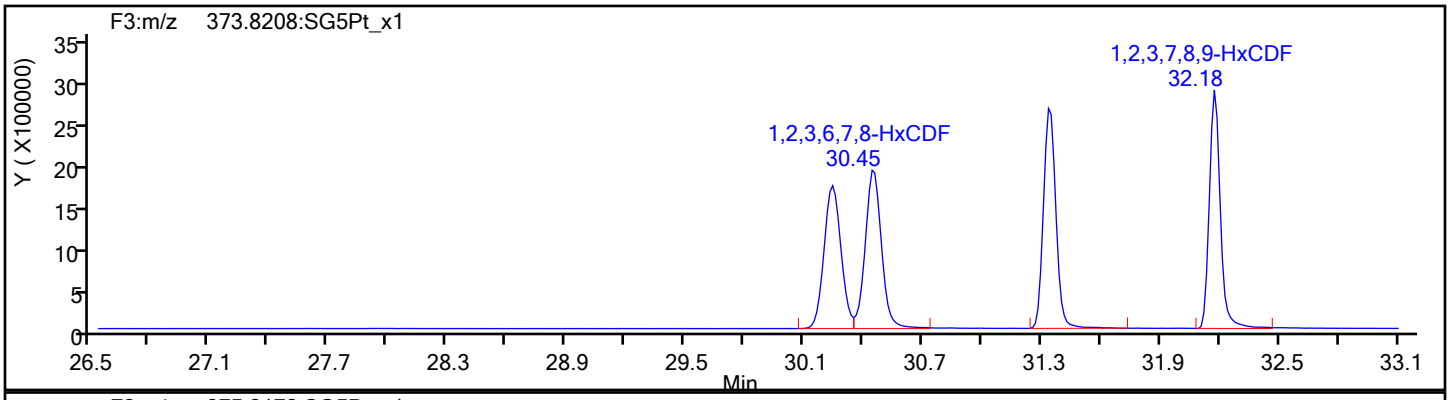

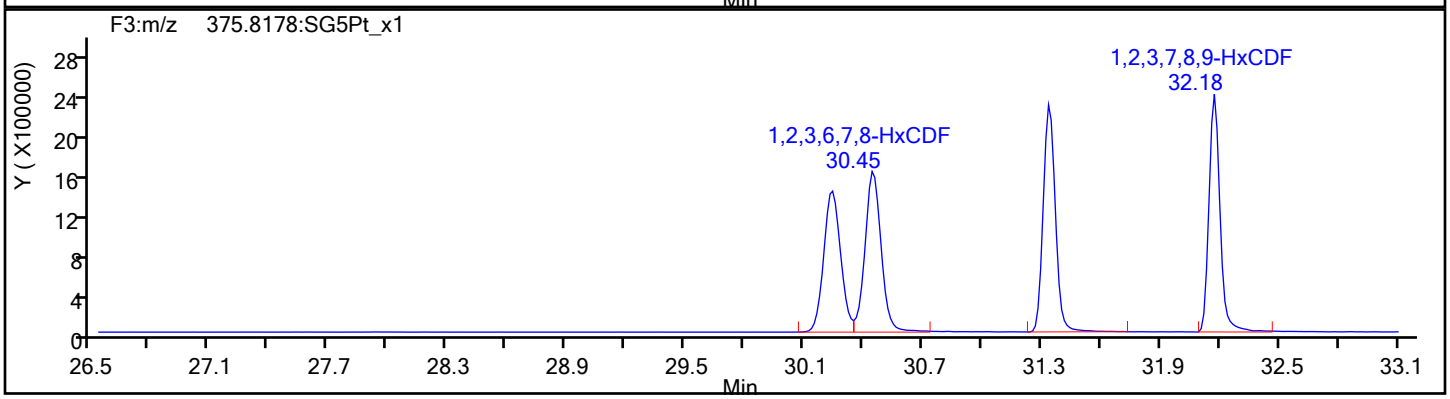

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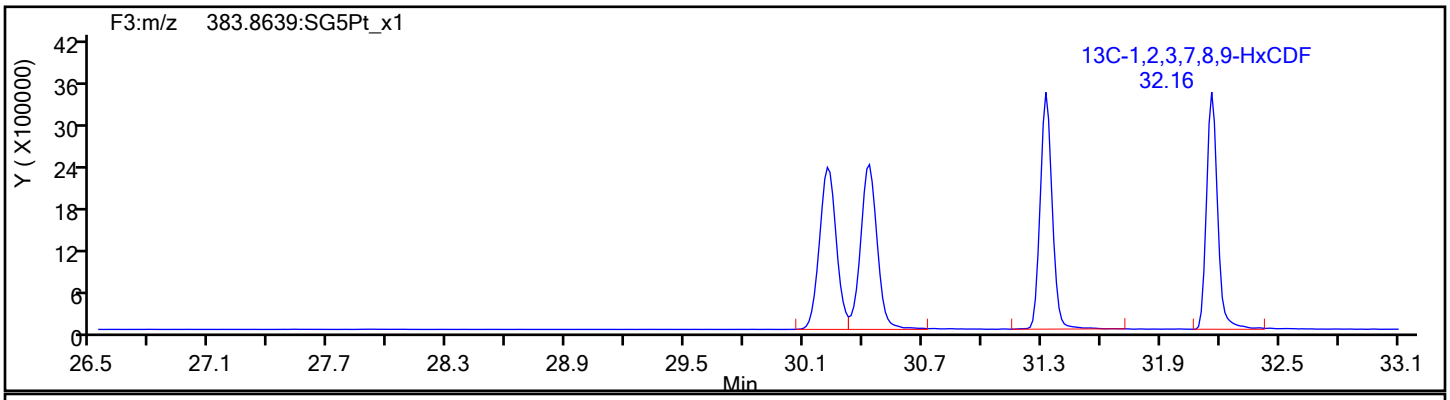

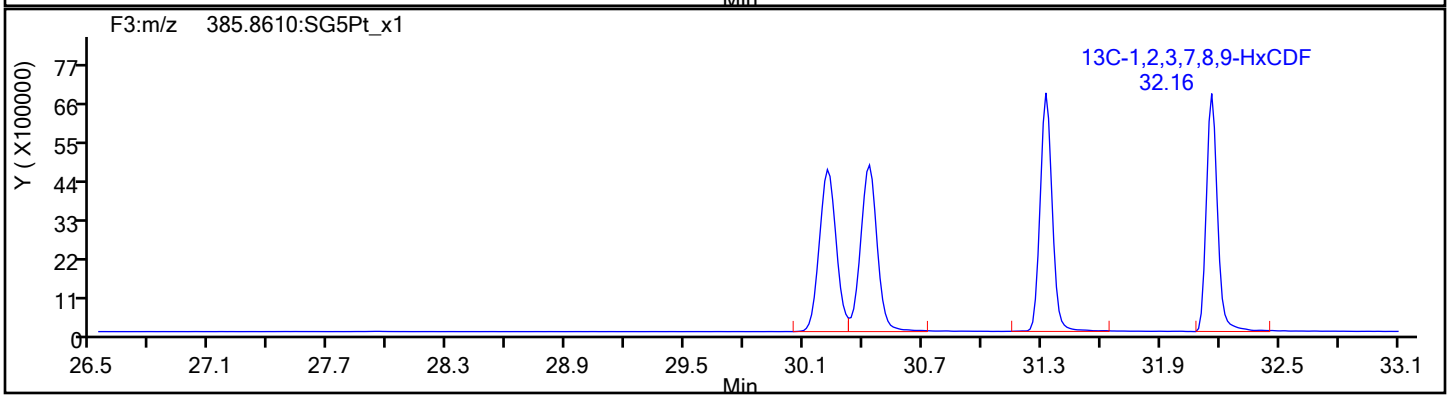

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Eurofins TestAmerica, Sacramento

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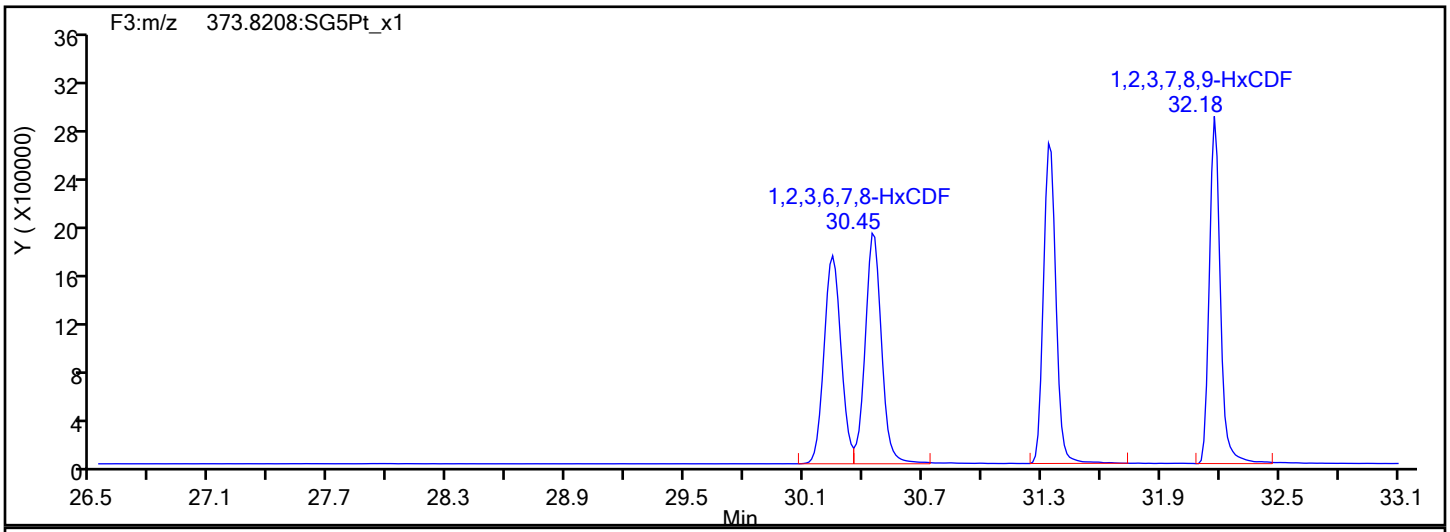

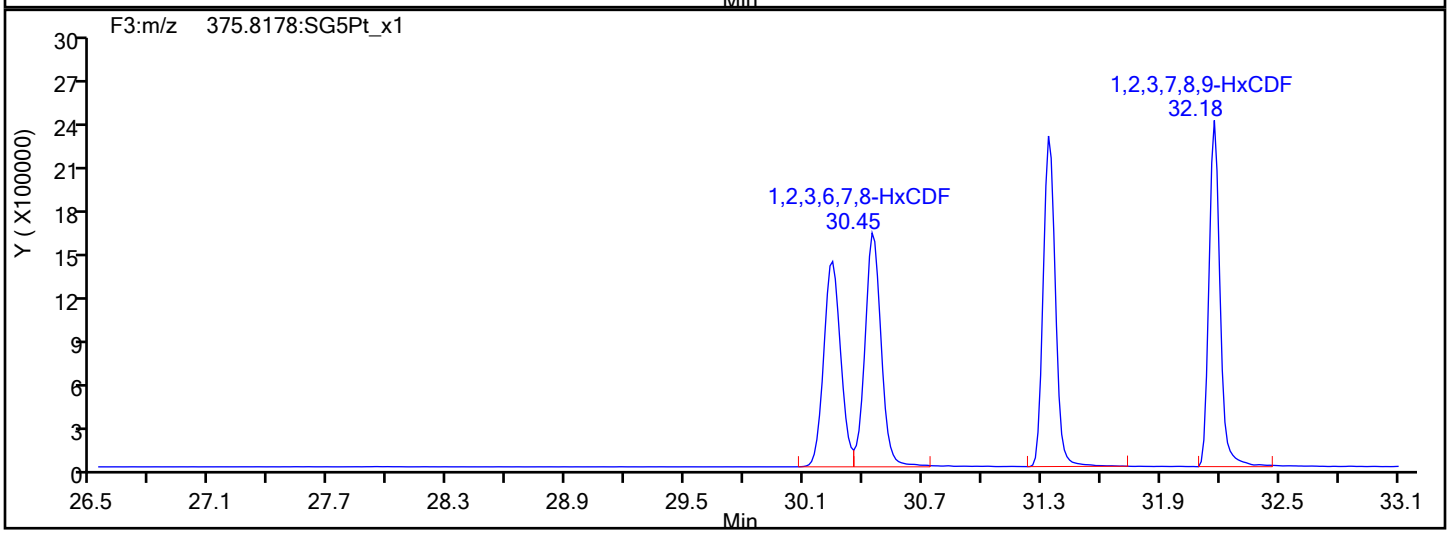

HxCDF Interference Mass

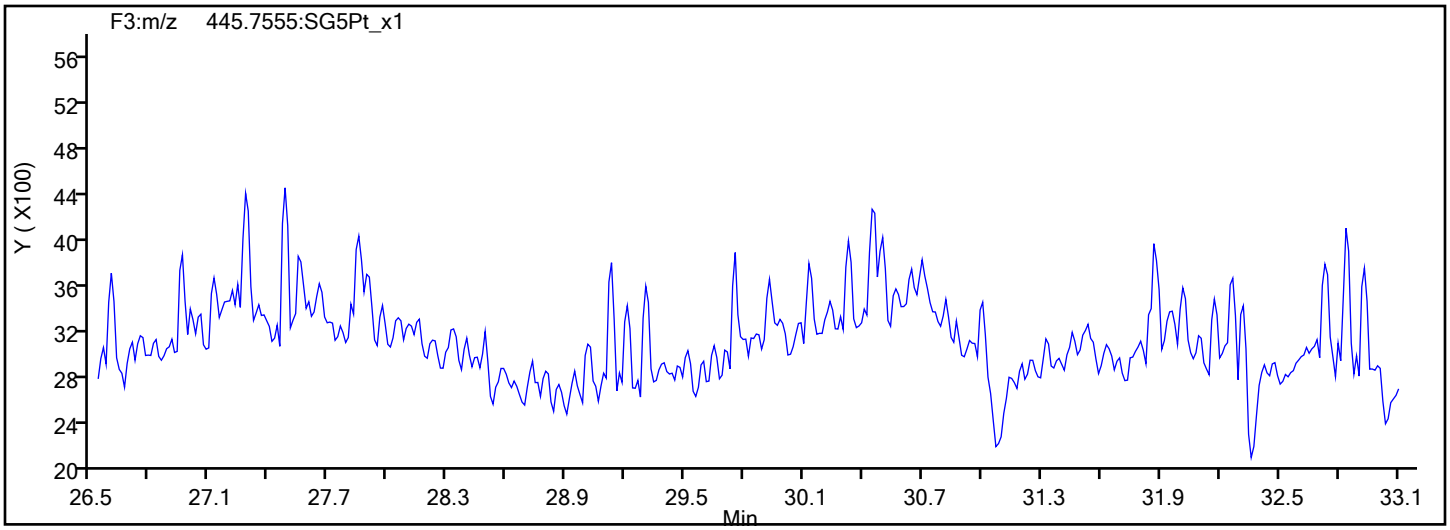

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Eurofins TestAmerica, Sacramento

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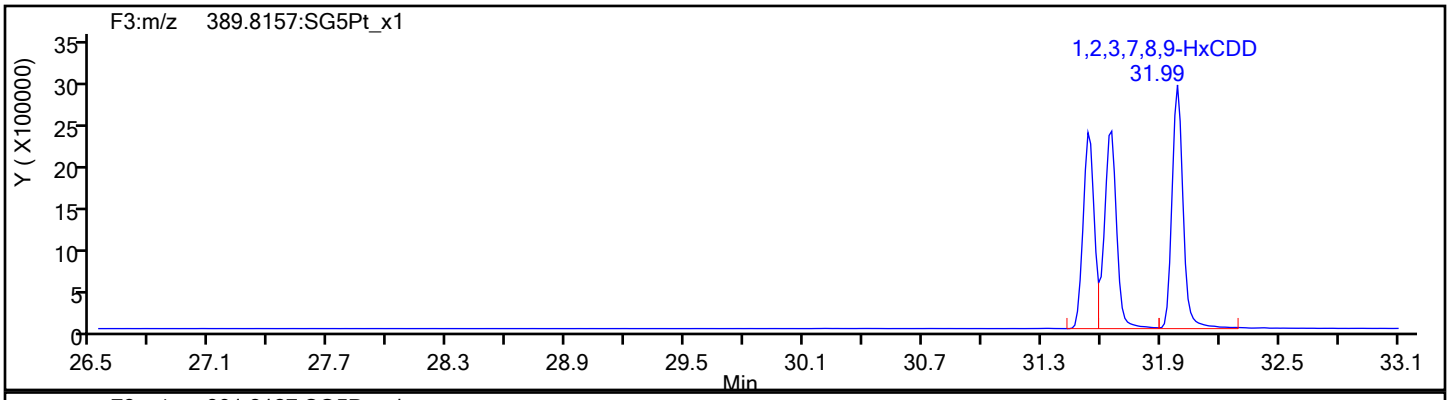

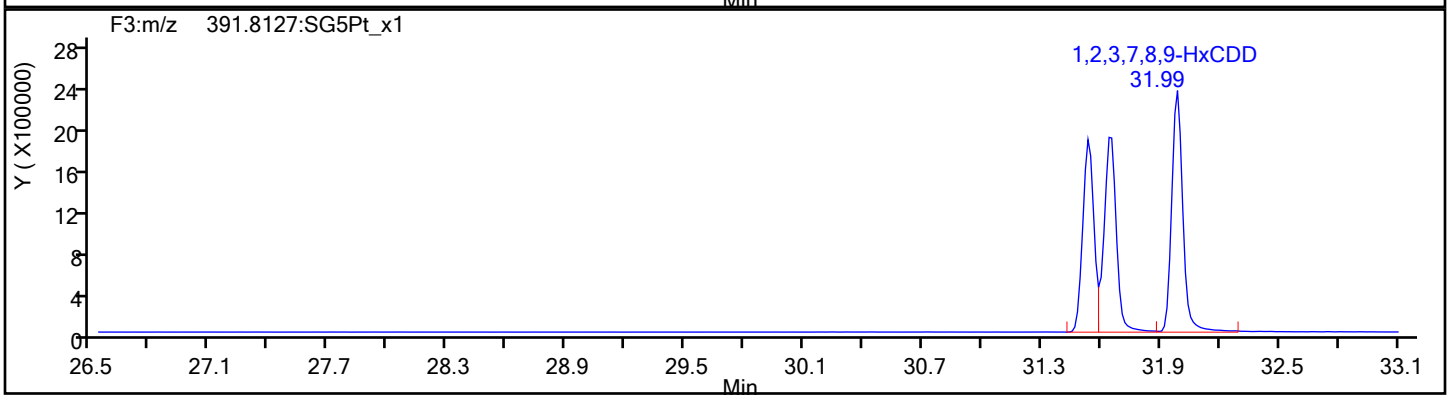

HxCDD Standards

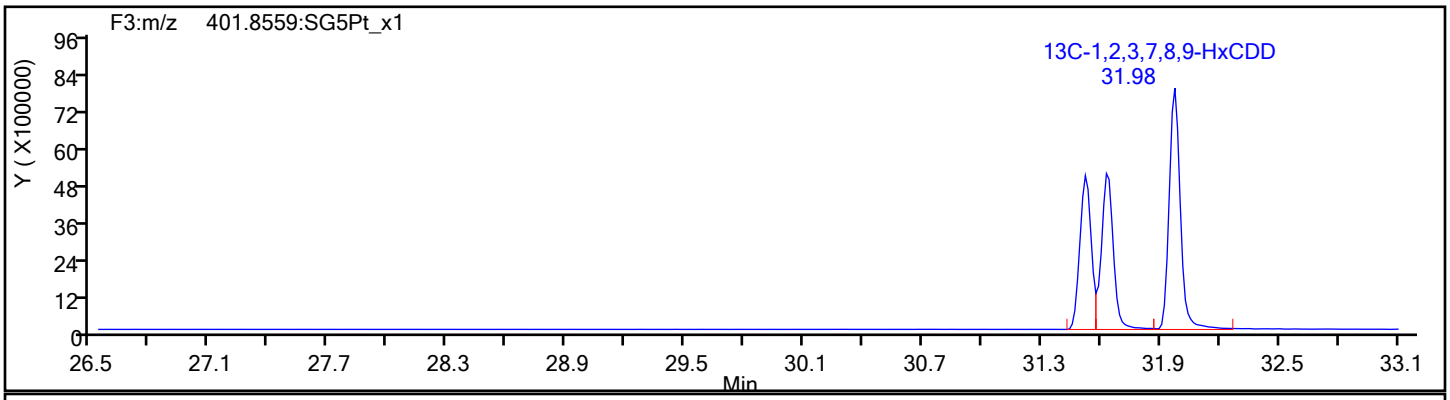

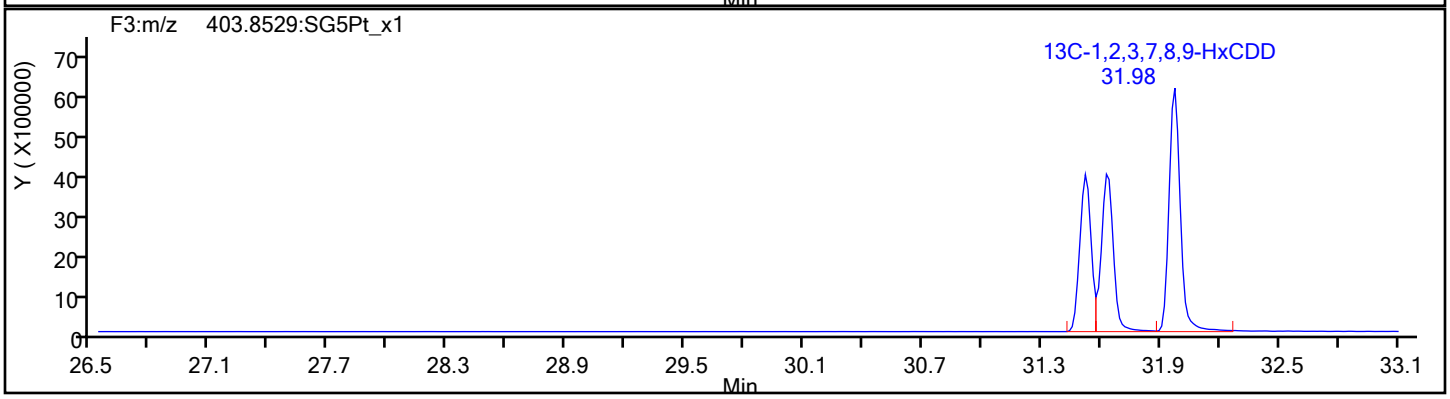

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Eurofins TestAmerica, Sacramento

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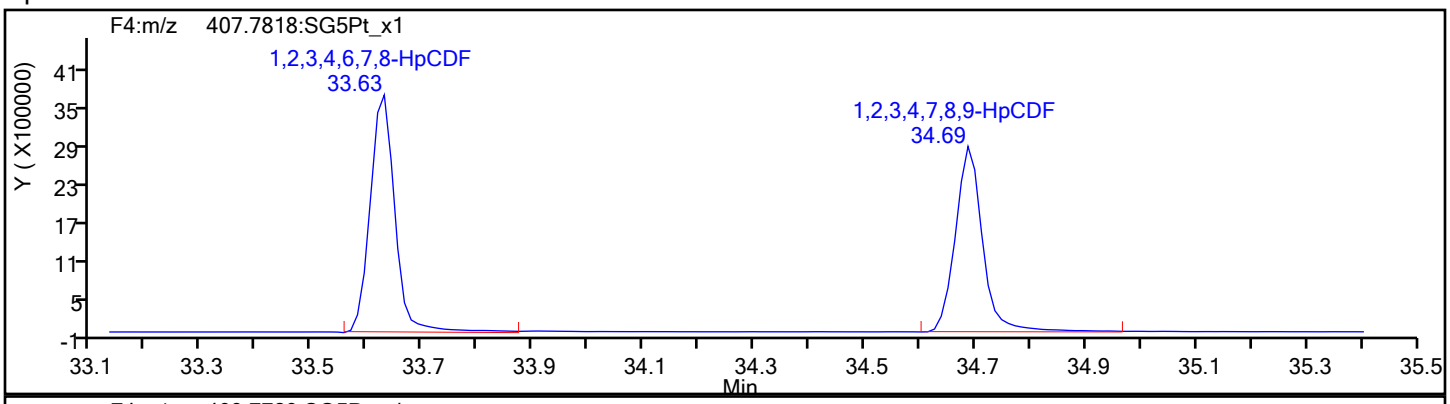

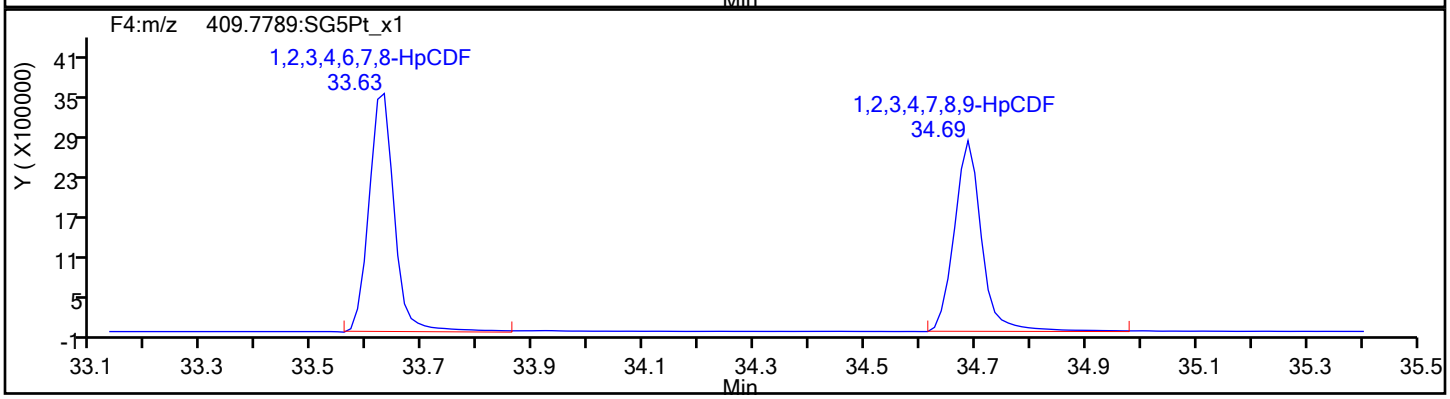

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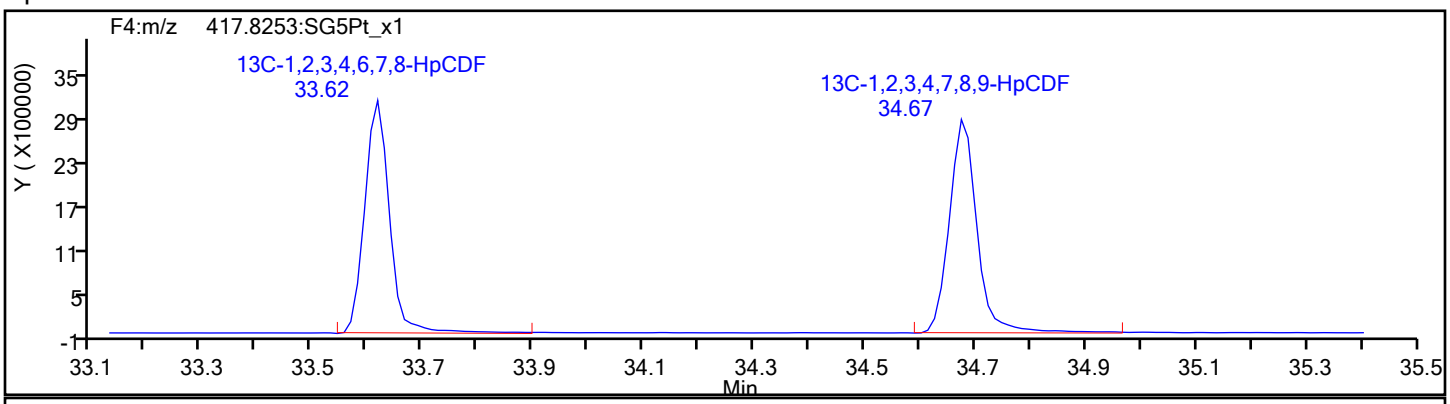

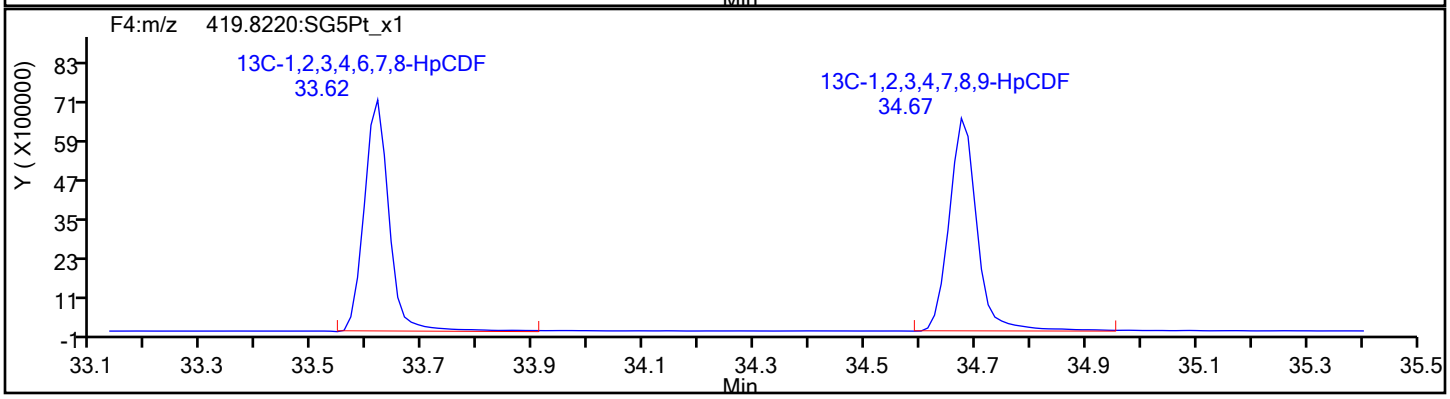

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Eurofins TestAmerica, Sacramento

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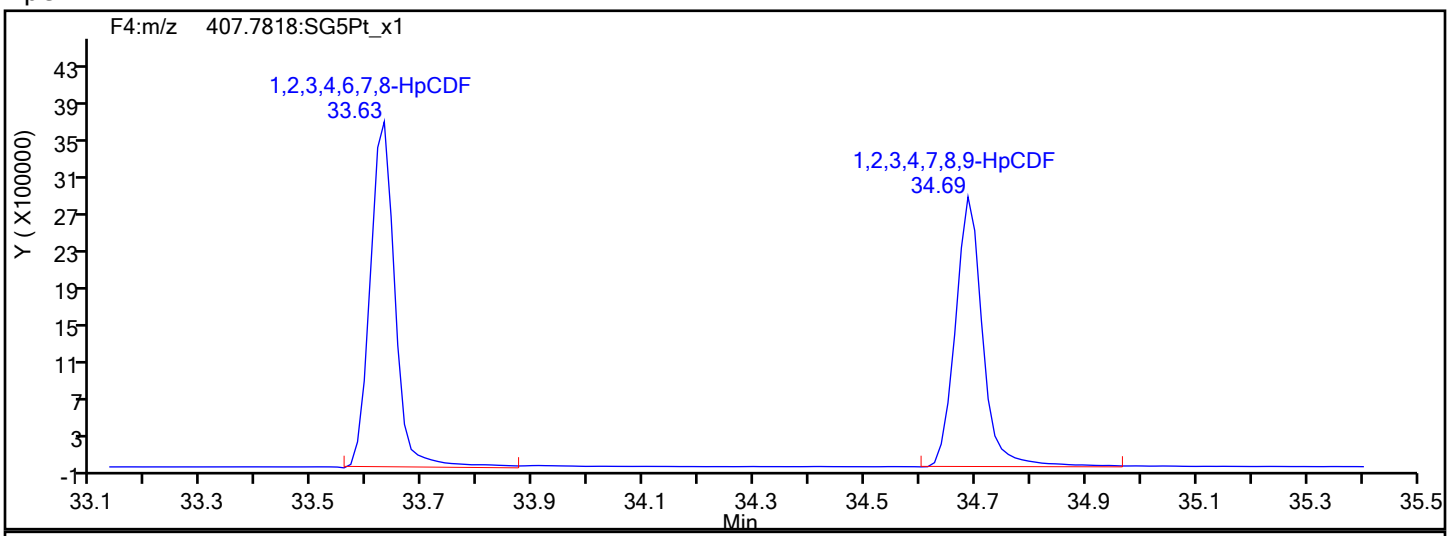

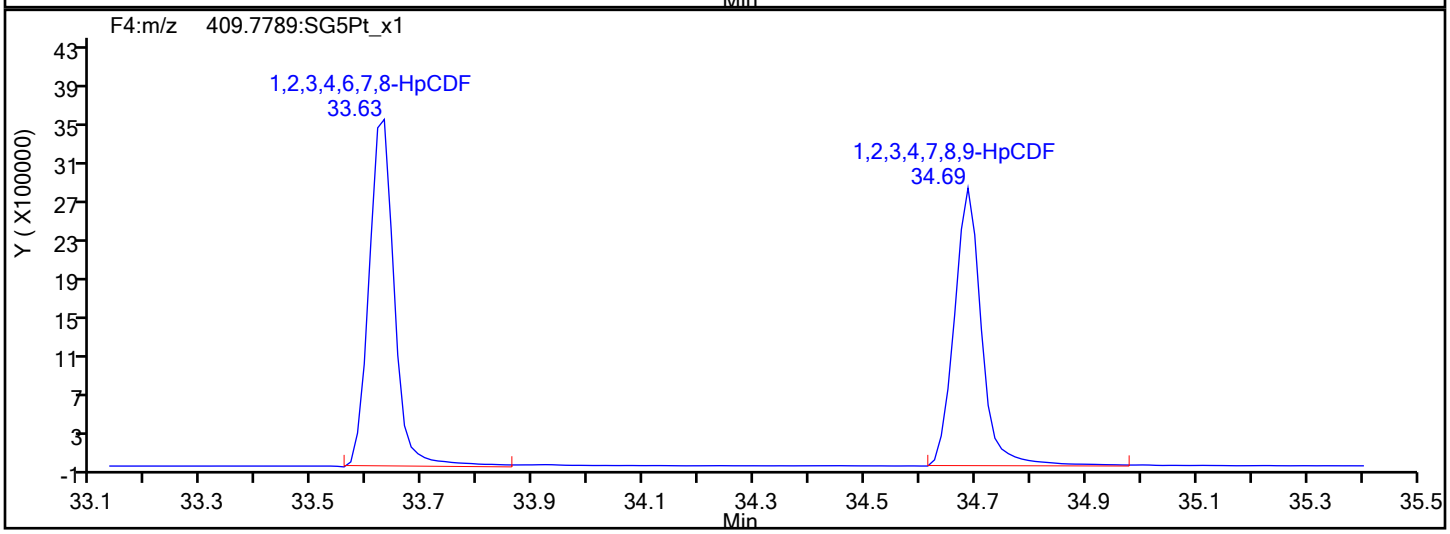

HpCDF Interference Mass

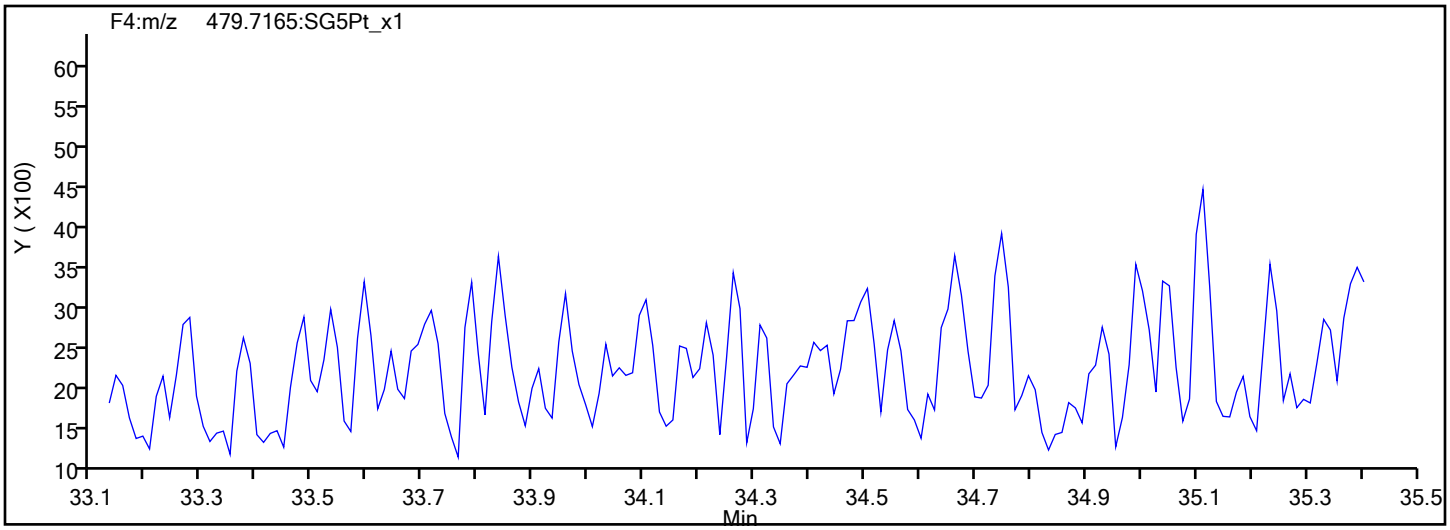

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Eurofins TestAmerica, Sacramento

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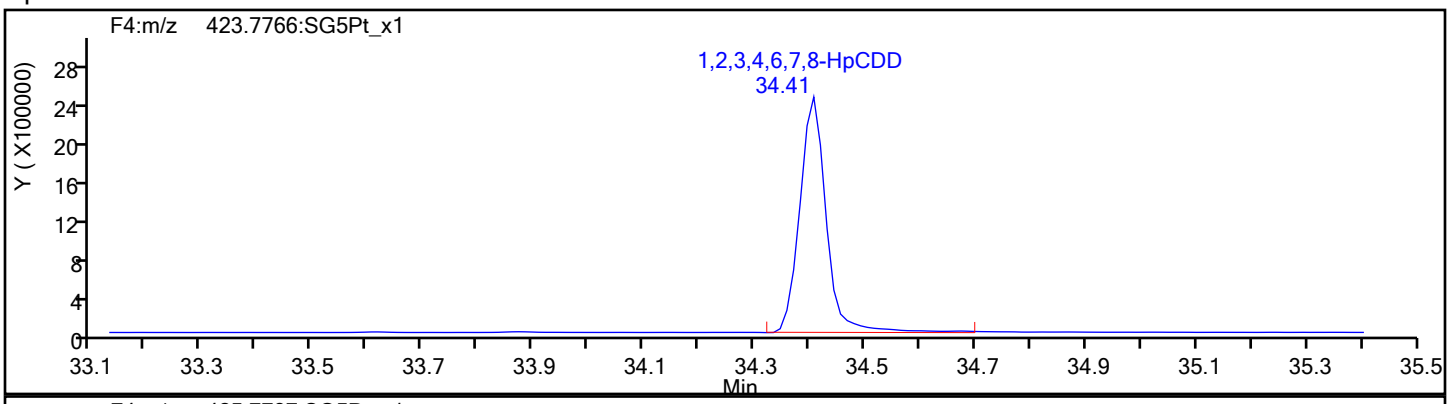

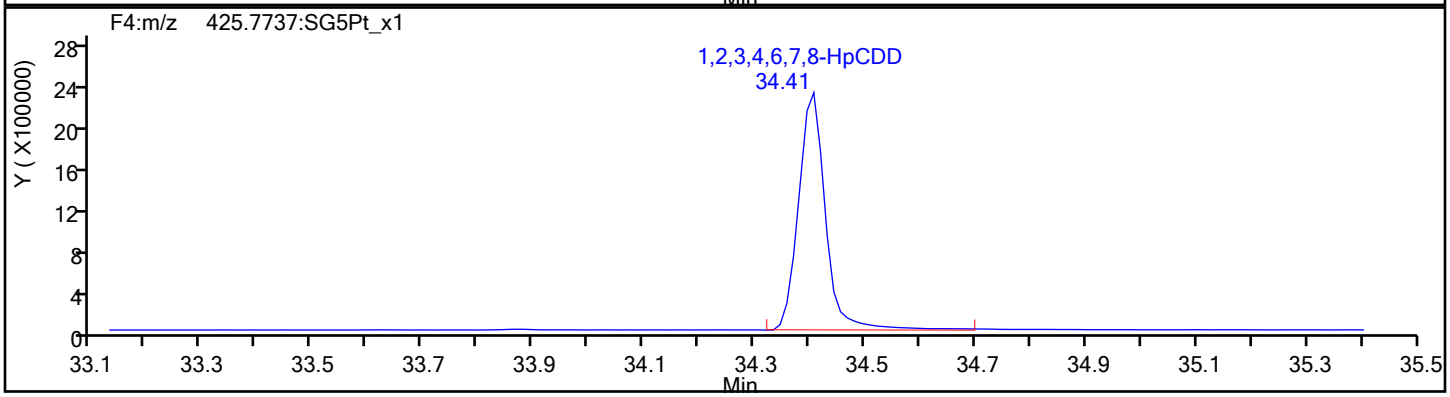

HpCDD Standards

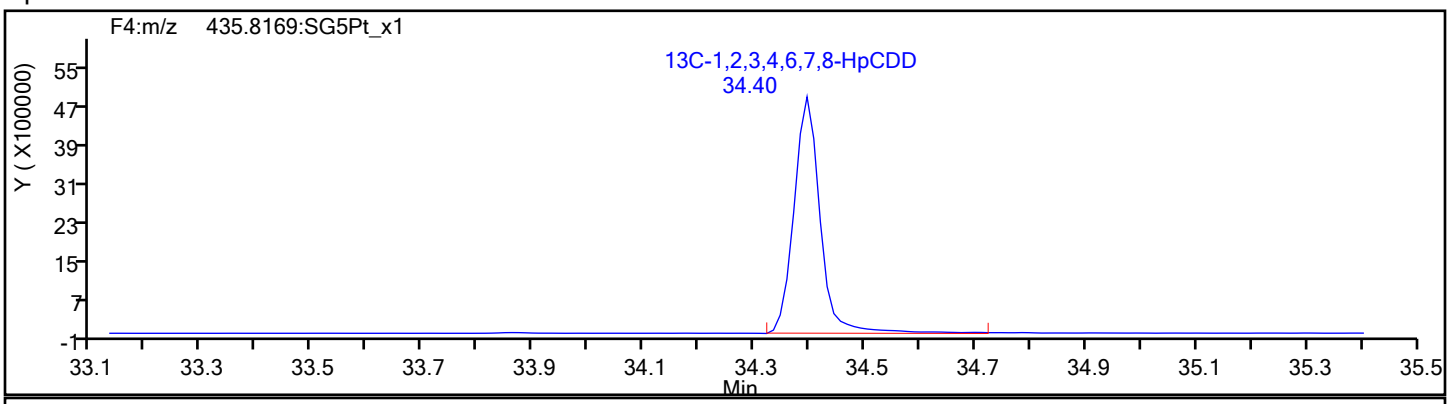

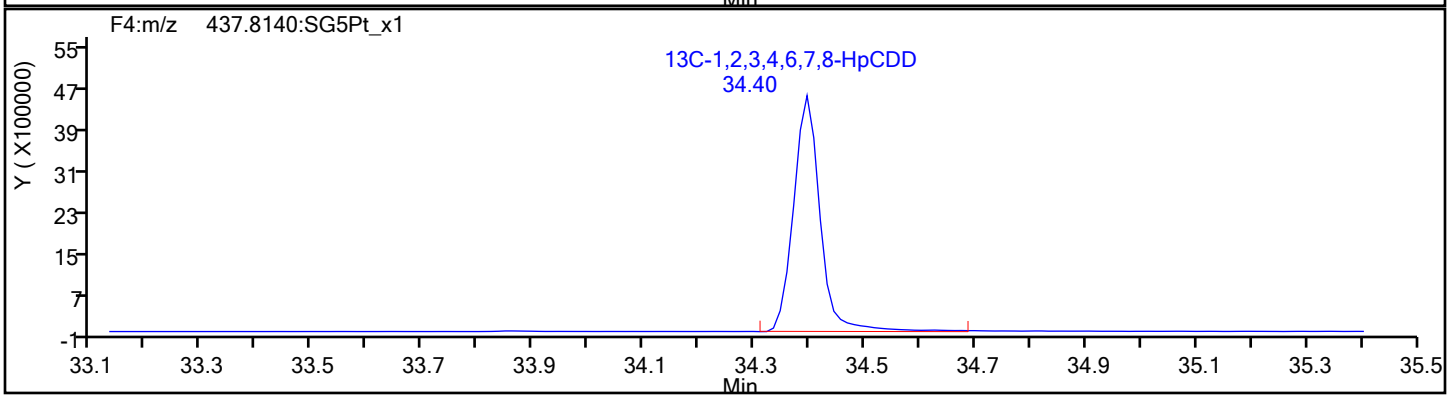

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Eurofins TestAmerica, Sacramento

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OCDF

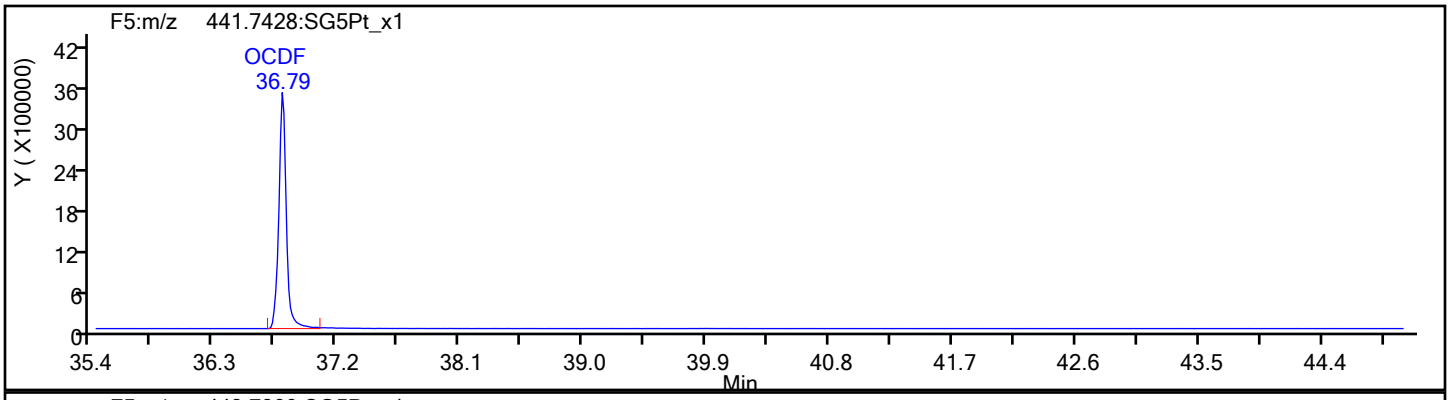

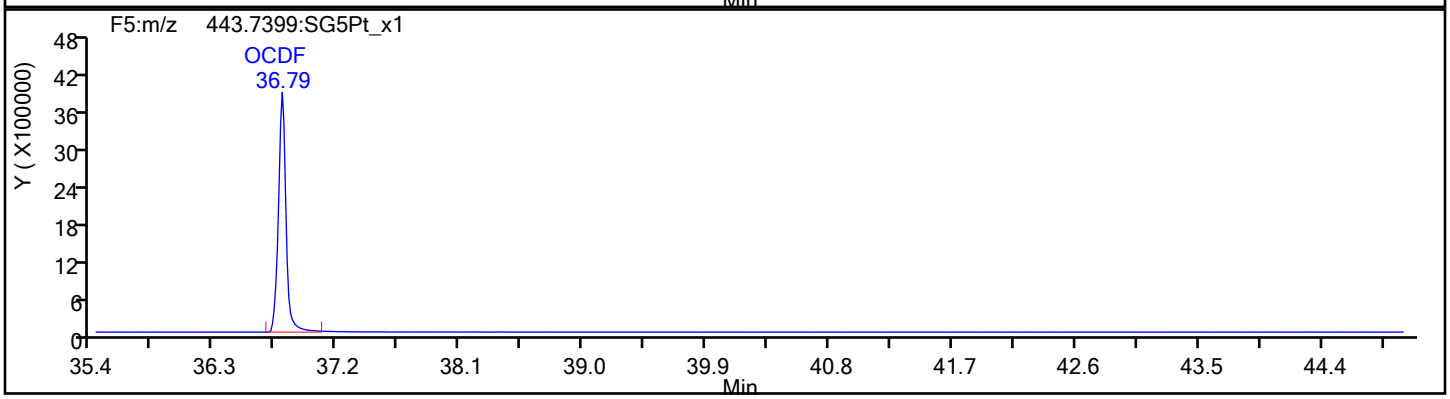

OCDF Standards

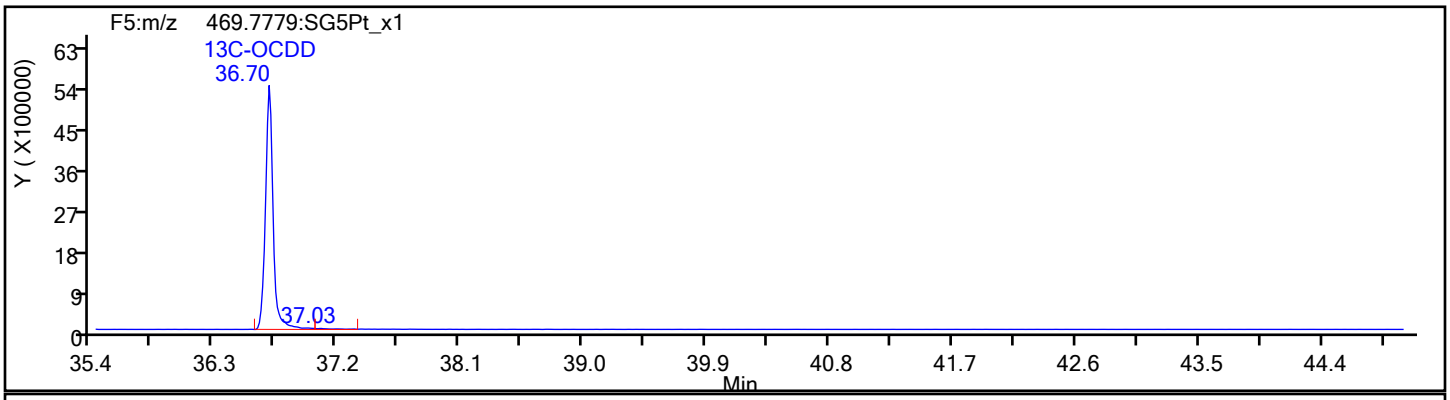

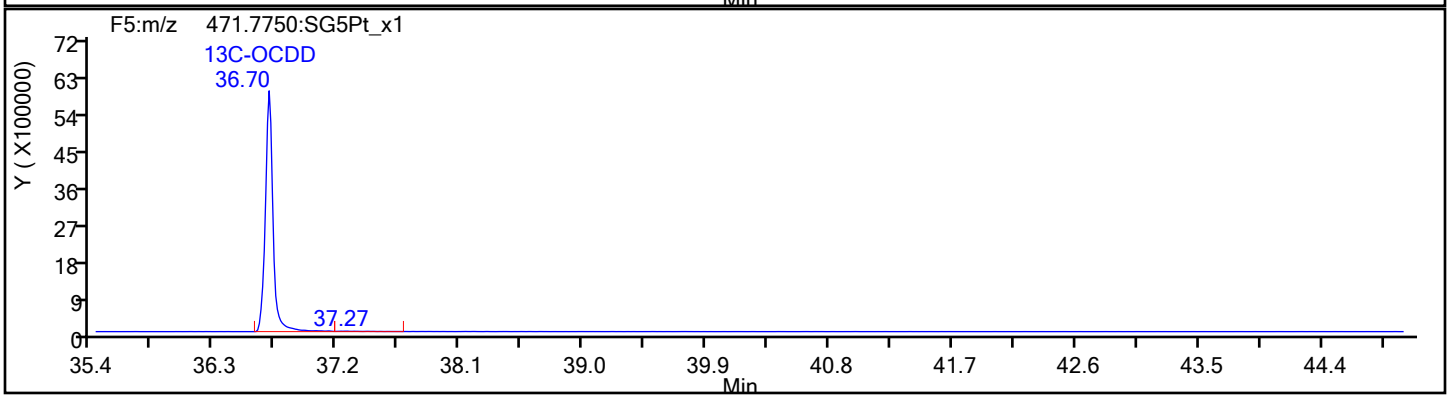

Report Date: 15-Jan-2020 12:38:35 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_19.d		
Injection Date:	14-Jan-2020 02:54:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	350523	Sample Line#:	19
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

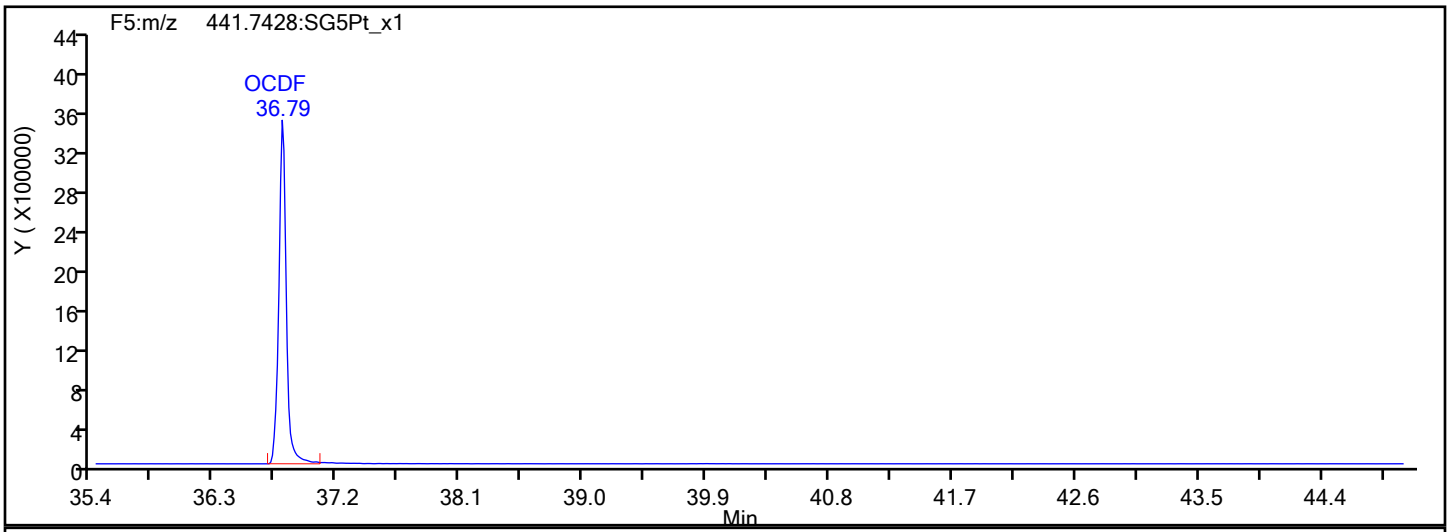

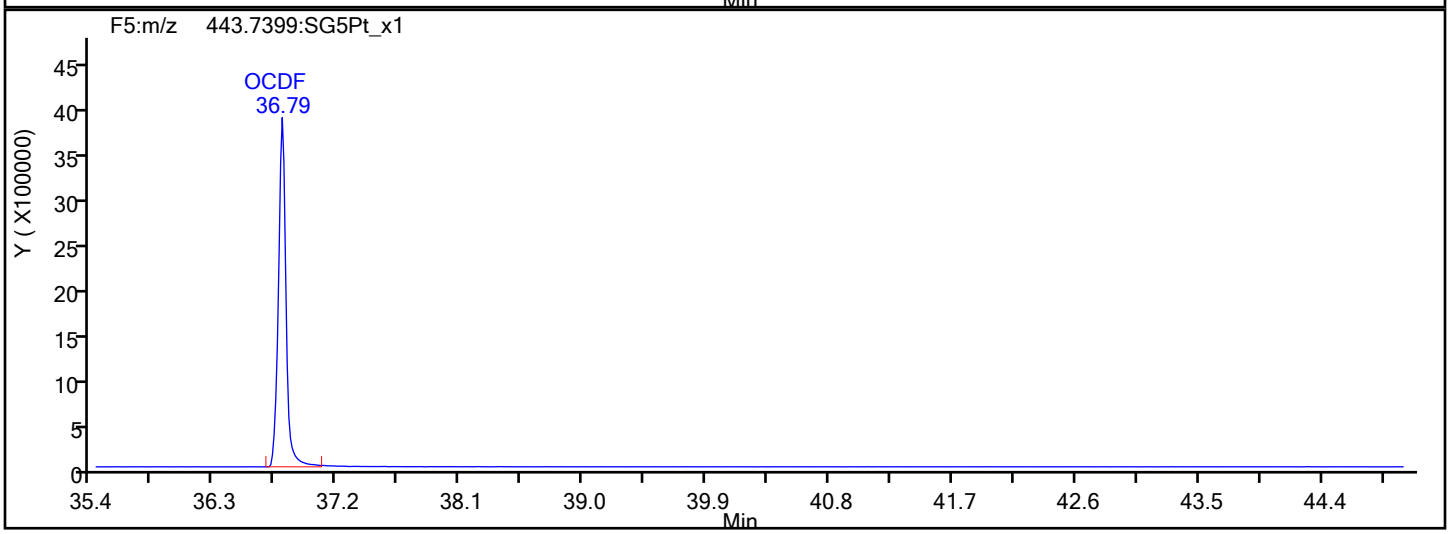

OCDF Interference Mass

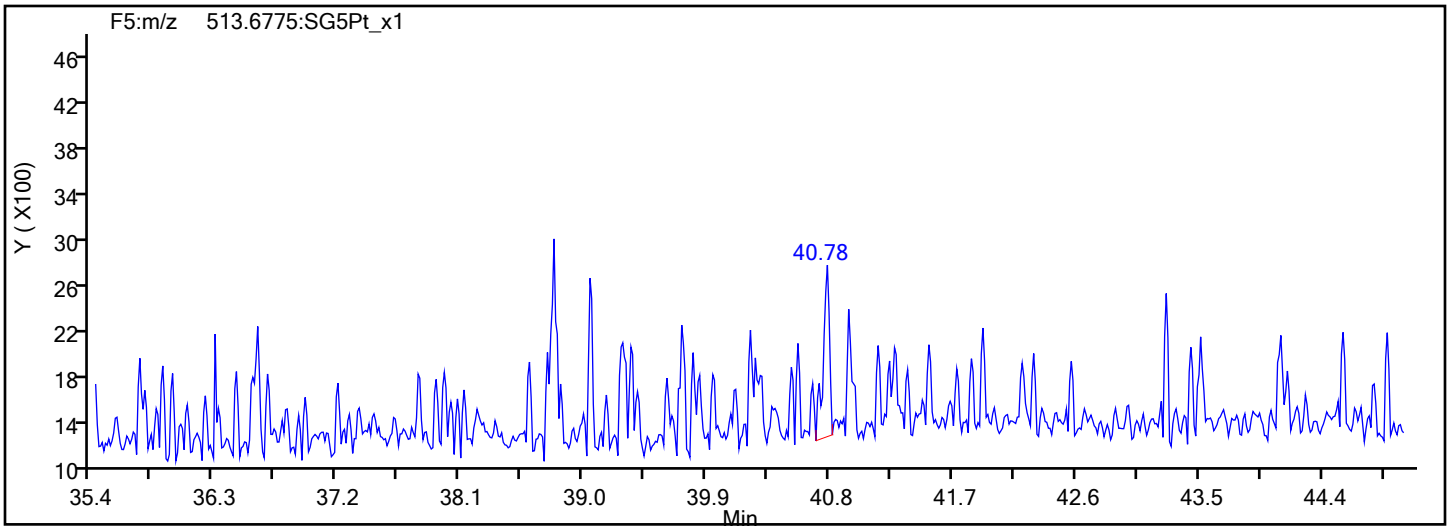

Report Date: 15-Jan-2020 12:38:35 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_19.d		
Injection Date:	14-Jan-2020 02:54:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	350523	Sample Line#:	19
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

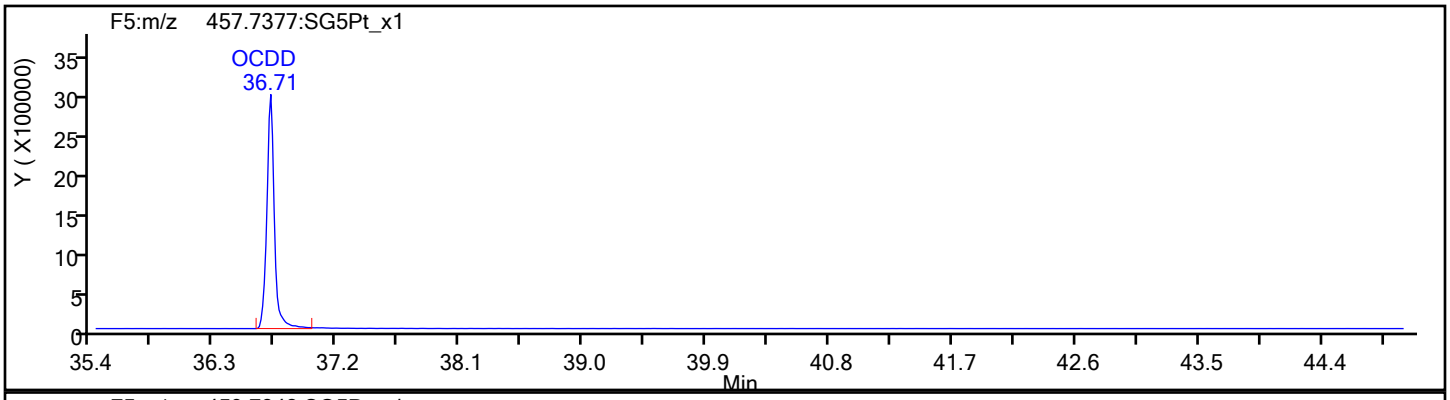

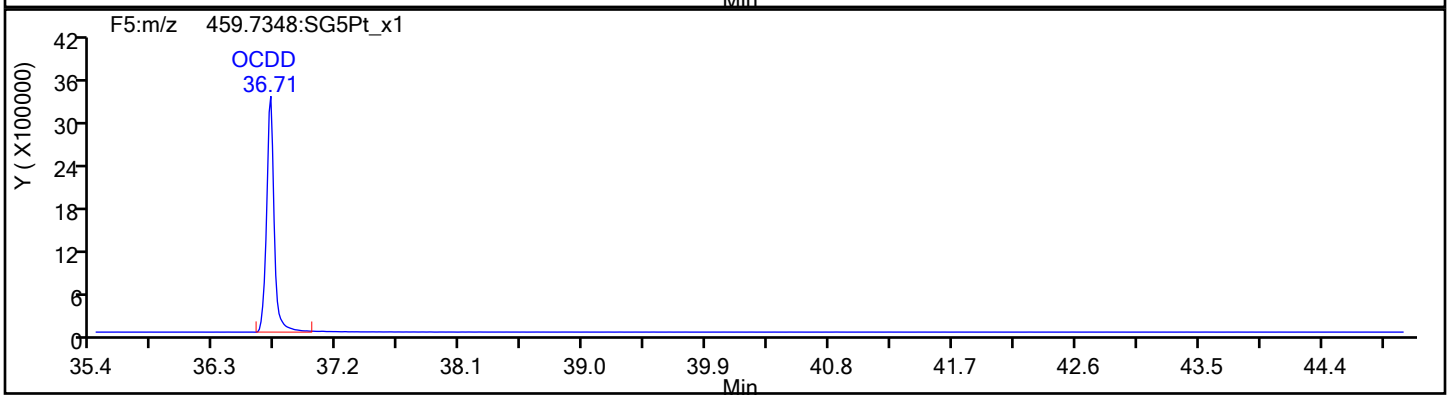

OCDD Standards

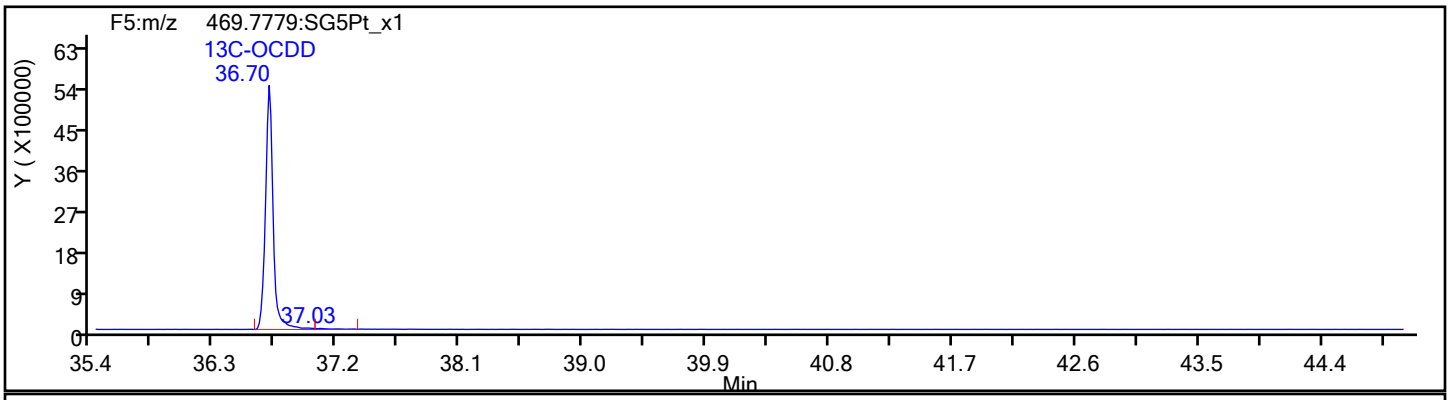

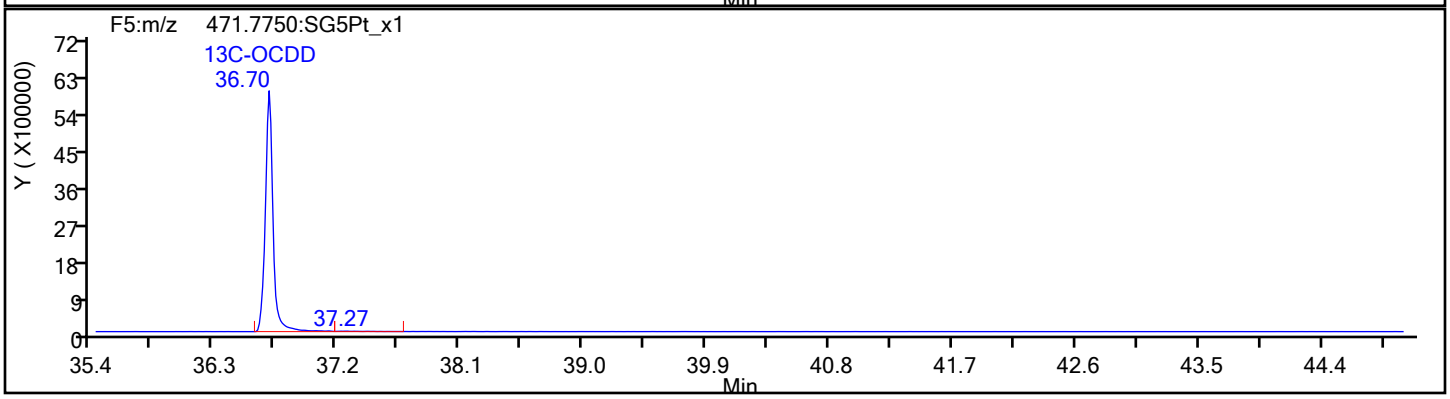

Report Date: 15-Jan-2020 12:38:35 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_19.d		
Injection Date:	14-Jan-2020 02:54:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	350523	Sample Line#:	19
Column Type:	DB-5	Column Dia:	0.32 mm

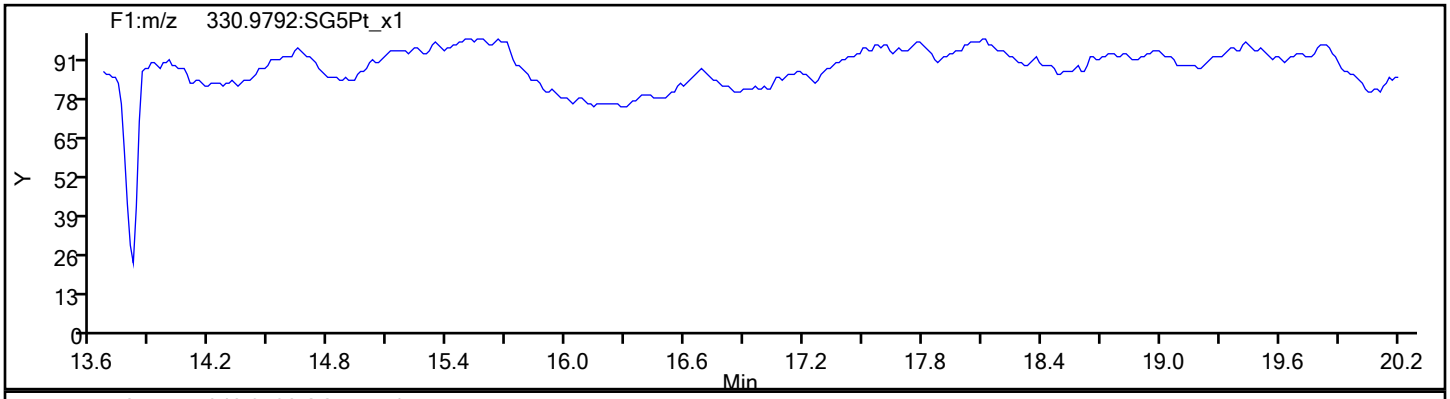

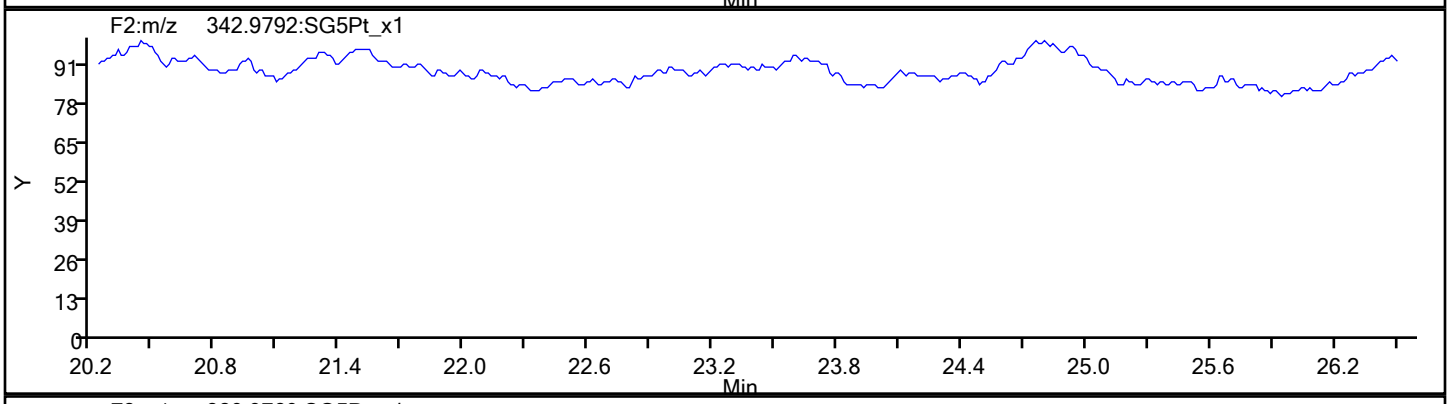

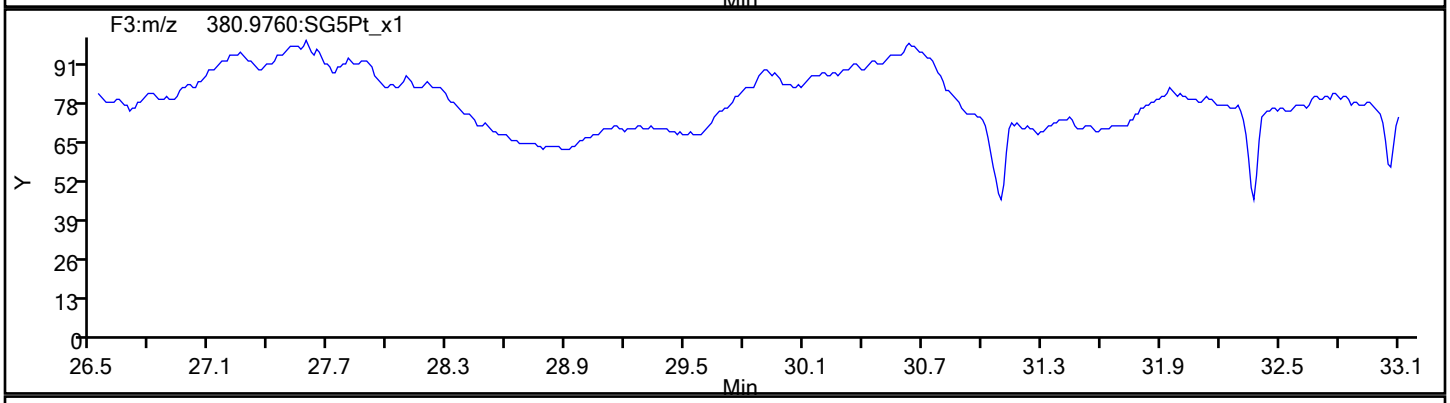

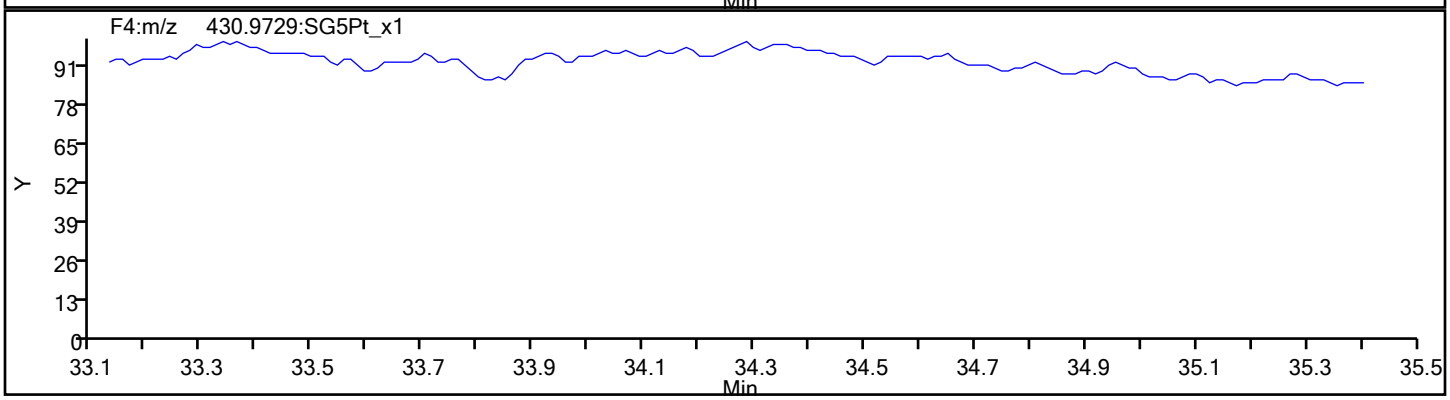

Report Date: 15-Jan-2020 12:38:35 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_19.d		
Injection Date:	14-Jan-2020 02:54:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	350523	Sample Line#:	19
Column Type:	DB-5	Column Dia:	0.32 mm

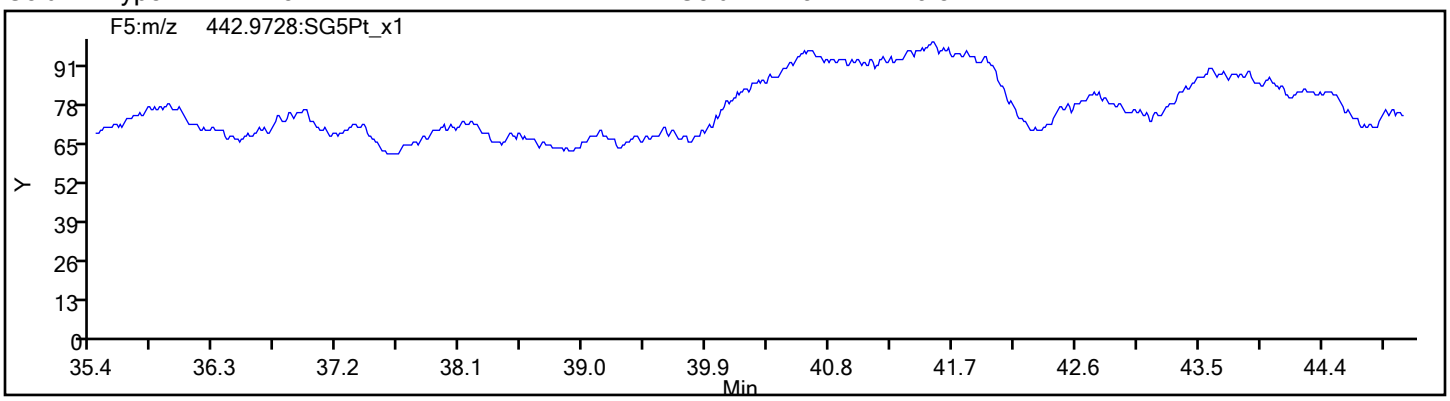

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 320-57624-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCSD 320-350417/3-A
Matrix: Water
Lab File ID: 13JA2010D5_20.d
Analysis Method: 1613B
Date Collected:
Extract. Method: 1613B
Date Extracted: 01/13/2020 11:12
Sample wt/vol: 1000(mL)
Date Analyzed: 01/14/2020 03:40
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 350523
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	211		10	0.58
51207-31-9	2,3,7,8-TCDF	200		10	0.58
40321-76-4	1,2,3,7,8-PeCDD	1100		50	1.2
57117-41-6	1,2,3,7,8-PeCDF	1060		50	2.6
57117-31-4	2,3,4,7,8-PeCDF	969		50	2.6
39227-28-6	1,2,3,4,7,8-HxCDD	973		50	1.9
57653-85-7	1,2,3,6,7,8-HxCDD	1050		50	1.9
19408-74-3	1,2,3,7,8,9-HxCDD	1040		50	1.7
70648-26-9	1,2,3,4,7,8-HxCDF	937		50	4.0
57117-44-9	1,2,3,6,7,8-HxCDF	995		50	3.8
72918-21-9	1,2,3,7,8,9-HxCDF	1000		50	2.7
60851-34-5	2,3,4,6,7,8-HxCDF	1010		50	2.8
35822-46-9	1,2,3,4,6,7,8-HpCDD	1070		50	4.2
67562-39-4	1,2,3,4,6,7,8-HpCDF	1060		50	6.1
55673-89-7	1,2,3,4,7,8,9-HpCDF	984		50	7.7
3268-87-9	OCDD	2100		100	1.4
39001-02-0	OCDF	2070		100	1.4
41903-57-5	Total TCDD	211		10	0.58
30402-14-3	Total TCDF	200		10	0.58
36088-22-9	Total PeCDD	1100		50	1.2
30402-15-4	Total PeCDF	2030		50	2.6
34465-46-8	Total HxCDD	3060		50	1.8
55684-94-1	Total HxCDF	3940		50	3.3
37871-00-4	Total HpCDD	1070		50	4.2
38998-75-3	Total HpCDF	2040		50	6.9

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57624-1

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 320-350417/3-A

Matrix: Water Lab File ID: 13JA2010D5_20.d

Analysis Method: 1613B Date Collected:

Extract. Method: 1613B Date Extracted: 01/13/2020 11:12

Sample wt/vol: 1000(mL) Date Analyzed: 01/14/2020 03:40

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 350523 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	89		20-175
89059-46-1	13C-2,3,7,8-TCDF	91		22-152
109719-79-1	13C-1,2,3,7,8-PeCDD	95		21-227
109719-77-9	13C-1,2,3,7,8-PeCDF	94		21-192
116843-02-8	13C-2,3,4,7,8-PeCDF	103		13-328
109719-80-4	13C-1,2,3,4,7,8-HxCDD	102		21-193
109719-81-5	13C-1,2,3,6,7,8-HxCDD	81		25-163
114423-98-2	13C-1,2,3,4,7,8-HxCDF	90		19-202
116843-03-9	13C-1,2,3,6,7,8-HxCDF	80		21-159
116843-04-0	13C-1,2,3,7,8,9-HxCDF	88		17-205
116843-05-1	13C-2,3,4,6,7,8-HxCDF	86		22-176
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	85		26-166
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	82		21-158
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	90		20-186
114423-97-1	13C-OCDD	79		13-199

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	103		31-191

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_20.d
Lims ID: LCSD 320-350417/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 14-Jan-2020 03:40:17 ALS Bottle#: 45 Worklist Smp#: 20
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 320-350417/3-A LCSD 320-350417/3-A
Misc. Info.: 13JA2010D5
Operator ID: SMA/ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 15-Jan-2020 12:37:03 Calib Date: 14-Nov-2019 12:50:49
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0339

First Level Reviewer: arghestanis Date: 14-Jan-2020 13:29:19

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.635	68603548	0.80	1.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.121	83421025	0.78	1.3318	91.3	91.3	0.2661	0.2661	91.30	
2,3,7,8-TCDF	17.136	7519471	0.71	0.9005	10.0	10.0	0.0290	0.0290	100	
A Non-2,3,7,8-sub-TCDF	16.826						0.0290	0.0290		
S Total TCDF					10.0	10.0	0.0290	0.0290		
D 13C-2,3,7,8-TCDD	17.816	58823002	0.79	0.9647	88.9	88.9	0.1603	0.1603	88.88	
2,3,7,8-TCDD	17.831	6639606	0.80	1.0698	10.6	10.6	0.0290	0.0290	106	
$ 37Cl4-2,3,7,8-TCDD	17.831	37004949		1.3082	41.2	41.2	0.0441	0.0441	103	
A Non-2,3,7,8-sub-TCDD	17.272						0.0290	0.0290		
S Total TCDD					10.6	10.6	0.0290	0.0290		
D 13C-1,2,3,7,8-PeCDF	22.046	68265744	1.56	1.0537	94.4	94.4	0.1725	0.1725	94.43	
1,2,3,7,8-PeCDF	22.073	35022815	1.55	0.9704	52.9	52.9	0.1292	0.1292	106	
D 13C-2,3,4,7,8-PeCDF	23.369	71769178	1.58	1.0173	102.8	102.8	0.1787	0.1787	103	
2,3,4,7,8-PeCDF	23.396	34711929	1.56	0.9986	48.4	48.4	0.1290	0.1290	96.87	
A F1 PeCDFs	19.676						0.0220	0.0220		
A Non-2,3,7,8-sub-PeCDF	22.763						0.1291	0.1291		
S Total PeCDF					101.3	101.3	0.1291	0.1291		
D 13C-1,2,3,7,8-PeCDD	24.078	47642928	1.59	0.7281	95.4	95.4	0.0956	0.0956	95.38	
1,2,3,7,8-PeCDD	24.105	26200016	1.60	1.0023	54.9	54.9	0.0614	0.0614	110	
A Non-2,3,7,8-sub-PeCDD	22.980						0.0614	0.0614		
S Total PeCDD					54.9	54.9	0.0614	0.0614		
D 13C-1,2,3,4,7,8-HxCDF	30.219	51479034	0.50	0.9632	90.1	90.1	0.2323	0.2323	90.11	
1,2,3,4,7,8-HxCDF	30.246	24877206	1.21	1.0315	46.9	46.9	0.1997	0.1997	93.70	
D 13C-1,2,3,6,7,8-HxCDF	30.419	50730835	0.51	1.0646	80.3	80.3	0.2102	0.2102	80.35	
1,2,3,6,7,8-HxCDF	30.445	25834682	1.21	1.0235	49.8	49.8	0.1907	0.1907	99.51	
D 13C-2,3,4,6,7,8-HxCDF	31.324	49641277	0.51	0.9696	86.3	86.3	0.2308	0.2308	86.32	
2,3,4,6,7,8-HxCDF	31.337	26632679	1.20	1.0645	50.4	50.4	0.1409	0.1409	101	
D 13C-1,2,3,7,8,9-HxCDF	32.149	46659405	0.51	0.8955	87.9	87.9	0.2499	0.2499	87.85	
1,2,3,7,8,9-HxCDF	32.162	24951755	1.20	1.0664	50.1	50.1	0.1349	0.1349	100	
A Non-2,3,7,8-sub-HxCDF	29.873						0.1620	0.1620		
S Total HxCDF					197.2	197.2	0.1666	0.1666		

Report Date: 15-Jan-2020 12:39:18 Chrom Revision: 2.3 23-Dec-2019 10:12:06
Data File: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_20.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.963	59311646	1.26	8.8E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.510	45860362	1.28	0.7590	101.9	101.9	0.2007	0.2007	102	
1,2,3,4,7,8-HxCDD	31.537	22429680	1.24	1.0054	48.6	48.6	0.0935	0.0935	97.29	
D 13C-1,2,3,6,7,8-HxCDD	31.630	44627001	1.26	0.9247	81.4	81.4	0.1647	0.1647	81.37	
1,2,3,6,7,8-HxCDD	31.643	23123090	1.25	0.9833	52.7	52.7	0.0964	0.0964	105	
1,2,3,7,8,9-HxCDD	31.976	25848591	1.24	1.1036	51.8	51.8	0.0855	0.0855	104	
A Non-2,3,7,8-sub-HxCDD	30.485						0.0916	0.0916		
S Total HxCDD					153.1	153.1	0.0918	0.0918		
D 13C-1,2,3,4,6,7,8-HpCDF	33.605	38373095	0.44	0.7930	81.6	81.6	0.7735	0.7735	81.59	
1,2,3,4,6,7,8-HpCDF	33.618	28873777	1.03	1.4240	52.8	52.8	0.3063	0.3063	106	
D 13C-1,2,3,4,7,8,9-HpCDF	34.675	39148915	0.44	0.7296	90.5	90.5	0.8407	0.8407	90.47	
1,2,3,4,7,8,9-HpCDF	34.675	24717340	1.03	1.2834	49.2	49.2	0.3850	0.3850	98.39	
A Non-2,3,7,8-sub-HpCDF	34.140						0.3422	0.3422		
S Total HpCDF					102.0	102.0	0.3456	0.3456		
D 13C-1,2,3,4,6,7,8-HpCDD	34.383	37864653	1.04	0.7532	84.8	84.8	0.3124	0.3124	84.76	
1,2,3,4,6,7,8-HpCDD	34.395	20516829	1.05	1.0174	53.3	53.3	0.2102	0.2102	107	
A Non-2,3,7,8-sub-HpCDD	34.122						0.2102	0.2102		
S Total HpCDD					53.3	53.3	0.2102	0.2102		
D 13C-OCDD	36.686	52834875	0.91	0.5621	158.5	158.5	0.1569	0.1569	79.25	
OCDF	36.794	35750162	0.90	1.3047	103.7	103.7	0.0723	0.0723	104	
OCDD	36.698	30537803	0.89	1.0997	105.1	105.1	0.0702	0.0702	105	

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_20.d
Lims ID: LCSD 320-350417/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 14-Jan-2020 03:40:17 ALS Bottle#: 45 Worklist Smp#: 20
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 320-350417/3-A LCSD 320-350417/3-A
Misc. Info.: 13JA2010D5
Operator ID: SMA/ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 15-Jan-2020 12:37:03 Calib Date: 14-Nov-2019 12:50:49
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20191114-86664.b\14NO1910D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0339

First Level Reviewer: arghestanis Date: 14-Jan-2020 13:29:19

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.635	17.605	2		30406889	7566399	7157	17892	1057		
333.9339	17.620	17.605	1		38196659	9526222	3415	8537	2790	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.121	17.106	1	0.971	36520197	9440195	12815	32037	737		
317.9389	17.121	17.106	1	0.971	46900828	12103299	11416	28540	1060	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.136	17.121	1	1.001	3116267	805853	905	2262	890		
305.8987	17.136	17.121	1	1.001	4403204	1147748	1346	3365	853	0.71(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.826						905	2262			
305.8987	16.826						1346	3365			
13C-2,3,7,8-TCDD											
331.9368	17.816	17.786	2	1.010	26007675	6445846	7157	17892	901		
333.9339	17.816	17.786	2	1.010	32815327	8127707	3415	8537	2380	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.831	17.816	1	1.001	2941056	730314	1093	2732	668		
321.8936	17.831	17.816	1	1.001	3698550	932656	715	1787	1304	0.80(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.831	17.816	1	1.011	37004949	9260923	3944	9860	2348		
A Non-2,3,7,8-sub-TCDD											
319.8965	17.272						1093	2732			
321.8936	17.272						715	1787			
13C-1,2,3,7,8-PeCDF											
351.9000	22.046	22.019	2	1.250	41589723	7726271	7569	18922	1021		
353.8970	22.046	22.019	2	1.250	26676021	4921754	4859	12147	1013	1.56(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	22.073	22.032	2	1.001	21309232	4069884	3654	9135	1114		
341.8567	22.073	22.032	2	1.001	13713583	2598590	2687	6717	967	1.55(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	23.369	23.328	2	1.325	43909299	7515136	7569	18922	993		
353.8970	23.369	23.328	2	1.325	27859879	4788791	4859	12147	986	1.58(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.396	23.355	2	1.001	21152474	3668890	3654	9135	1004		
341.8567	23.396	23.355	2	1.001	13559455	2328804	2687	6717	867	1.56(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.676						279	697			
341.8567	19.676						800	2000			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.763						3654	9135			
341.8567	22.763						2687	6717			
13C-1,2,3,7,8-PeCDD											
367.8949	24.078	24.037	2	1.365	29263665	4767362	2774	6935	1719		
369.8919	24.078	24.037	2	1.365	18379263	3036296	1983	4957	1531	1.59(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.105	24.064	2	1.001	16132503	2597609	1225	3062	2120		
357.8516	24.105	24.064	2	1.001	10067513	1634900	697	1742	2346	1.60(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.980						1225	3062			
357.8516	22.980						697	1742			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.219	30.166	3	0.945	17179666	2850068	4615	11537	618		
385.8610	30.219	30.166	3	0.945	34299368	5650401	8750	21875	646	0.50(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.246	30.192	3	1.001	13601277	2294511	3840	9600	598		
375.8178	30.232	30.192	2	1.000	11275929	1935971	3164	7910	612	1.21(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.419	30.379	2	0.952	17044439	3016204	4615	11537	654		
385.8610	30.419	30.379	2	0.952	33686396	5955360	8750	21875	681	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.445	30.405	2	1.001	14141268	2490689	3840	9600	649		
375.8178	30.445	30.405	2	1.001	11693414	2036390	3164	7910	644	1.21(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.324	31.284	2	0.980	16745237	3943538	4615	11537	855		
385.8610	31.310	31.284	2	0.980	32896040	7727413	8750	21875	883	0.51(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.337	31.310	2	1.000	14547369	3455049	3840	9600	900		
375.8178	31.337	31.310	2	1.000	12085310	2807246	3164	7910	887	1.20(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.149	32.136	1	1.006	15674970	4069234	4615	11537	882		
385.8610	32.149	32.136	1	1.006	30984435	8099535	8750	21875	926	0.51(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	32.162	32.149	1	1.000	13621576	3532862	3840	9600	920		
375.8178	32.162	32.149	1	1.000	11330179	2993082	3164	7910	946	1.20(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.873						3840	9600			
375.8178	29.873						3164	7910			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.963	31.949	1		33089402	8302595	5039	12597	1648		
403.8529	31.963	31.949	1		26222244	6629524	4060	10150	1633	1.26(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.510	31.497	1	0.986	25721667	6352361	5039	12597	1261		
403.8529	31.510	31.497	1	0.986	20138695	4957477	4060	10150	1221	1.28(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.537	31.510	2	1.001	12420350	3158332	2385	5962	1324		
391.8127	31.537	31.510	2	1.001	10009330	2495794	1868	4670	1336	1.24(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.630	31.603	2	0.990	24847670	6218773	5039	12597	1234		
403.8529	31.630	31.603	2	0.990	19779331	5000373	4060	10150	1232	1.26(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.643	31.617	2	1.000	12851319	3203243	2385	5962	1343		
391.8127	31.643	31.617	2	1.000	10271771	2558864	1868	4670	1370	1.25(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.976	31.963	1	1.015	14308803	3629805	2385	5962	1522		
391.8127	31.976	31.963	1	1.015	11539788	2959818	1868	4670	1584	1.24(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.485						2385	5962			
391.8127	30.485						1868	4670			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.605	33.593	1	1.051	11734402	3939016	8460	21150	466		
419.8220	33.605	33.593	1	1.051	26638693	8883765	28175	70437	315	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.618	33.605	1	1.000	14670257	4848555	10983	27457	441		
409.7789	33.618	33.605	1	1.000	14203520	4660763	11388	28470	409	1.03(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.675	34.663	1	1.085	11992315	3563635	8460	21150	421		
419.8220	34.675	34.663	1	1.085	27156600	7756574	28175	70437	275	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.675	34.675	0	1.000	12530214	3685739	10983	27457	336		
409.7789	34.675	34.675	0	1.000	12187126	3618061	11388	28470	318	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.140						10983	27457			
409.7789	34.140						11388	28470			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.383	34.371	1	1.076	19310022	5957377	7184	17960	829		
437.8140	34.383	34.371	1	1.076	18554631	5716654	6870	17175	832	1.04(0.88-1.20)	

Report Date: 15-Jan-2020 12:39:18 Chrom Revision: 2.3 23-Dec-2019 10:12:06
Data File: \\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_20.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.395	34.383	1	1.000	10515080	3232481	4928	12320	656		
425.7737	34.395	34.383	1	1.000	10001749	3087725	5058	12645	610	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.122						4928	12320			
425.7737	34.122						5058	12645			
13C-OCDD											
469.7779	36.686	36.674	1	1.148	25136398	6329375	2068	5170	3061		
471.7750	36.686	36.674	1	1.148	27698477	7098872	3200	8000	2218	0.91(0.76-1.02)	
OCDF											
441.7428	36.794	36.782	1	1.003	16887725	4343606	1108	2770	3920		
443.7399	36.782	36.782	0	1.003	18862437	4979804	1426	3565	3492	0.90(0.76-1.02)	
OCDD											
457.7377	36.698	36.686	1	1.000	14340840	3717576	983	2457	3782		
459.7348	36.698	36.686	1	1.000	16196963	4204571	1091	2727	3854	0.89(0.76-1.02)	

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Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_20.d		
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Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	350523	Sample Line#:	20
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

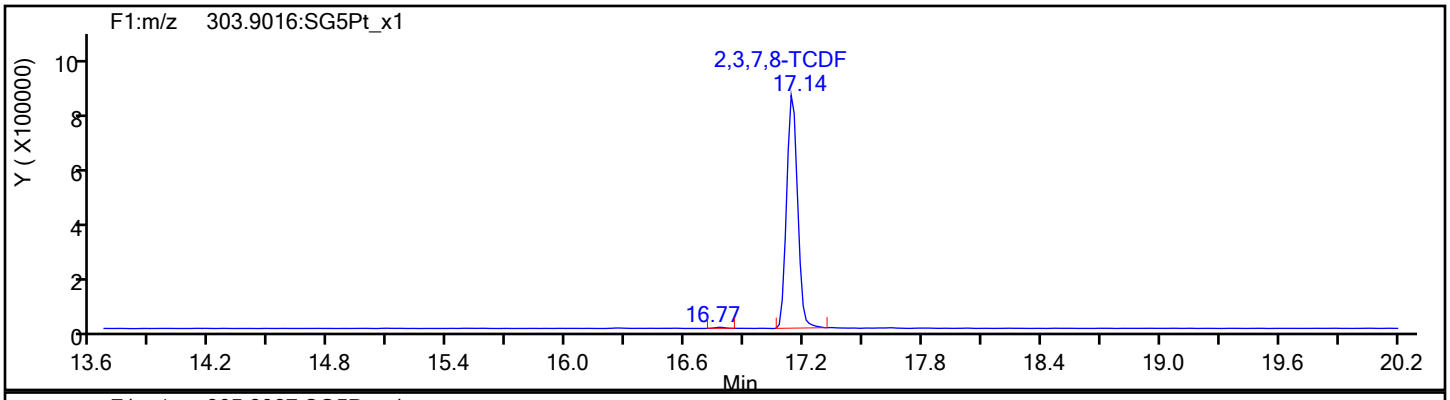

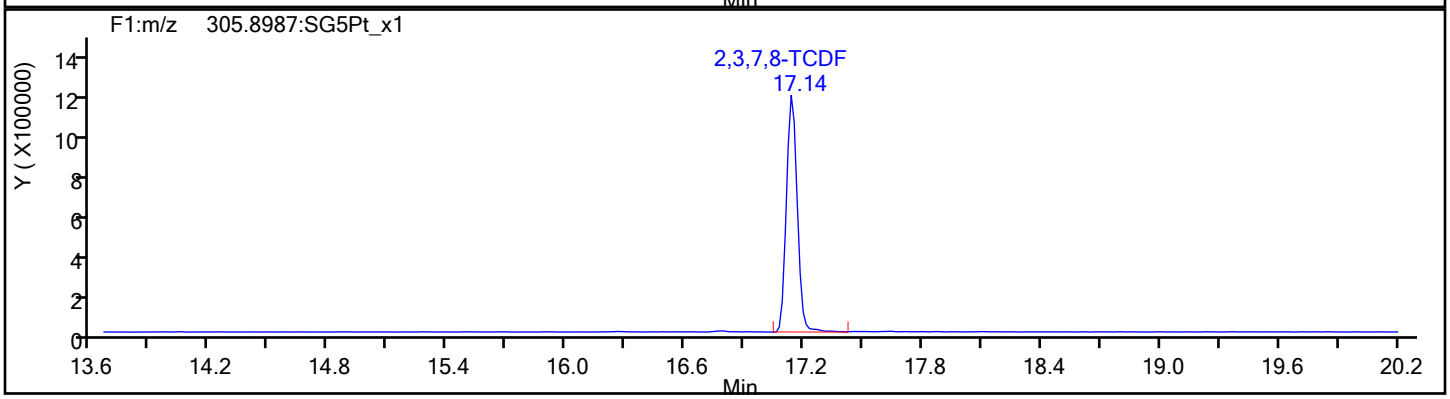

TCDF Standards

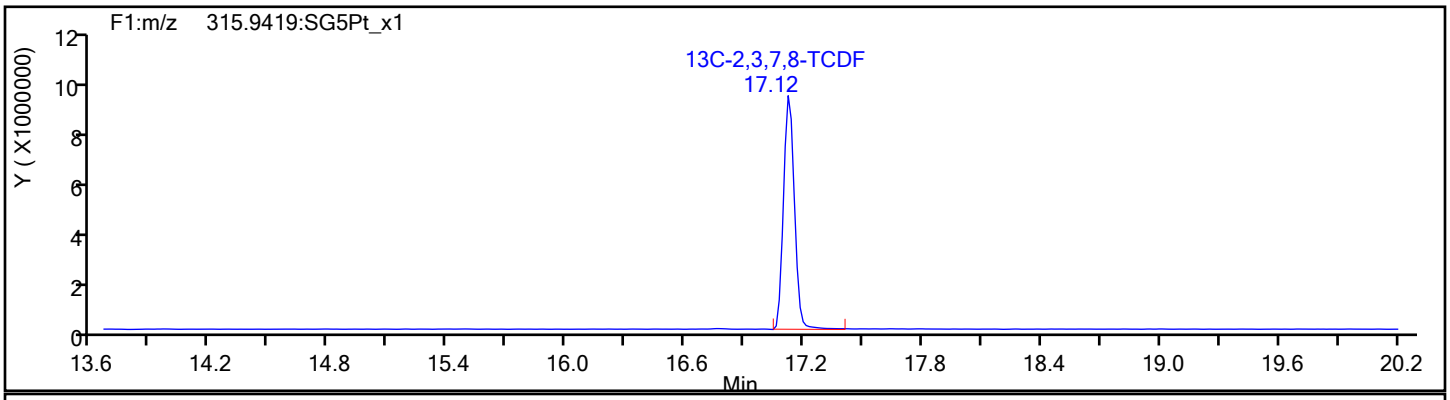

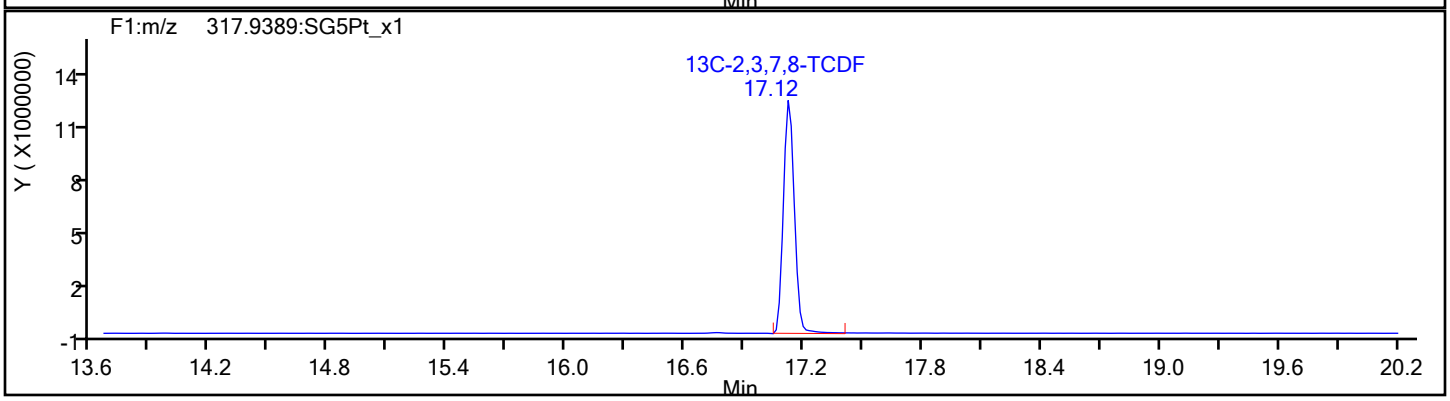

Report Date: 15-Jan-2020 12:39:18 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_20.d		
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Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	350523	Sample Line#:	20
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

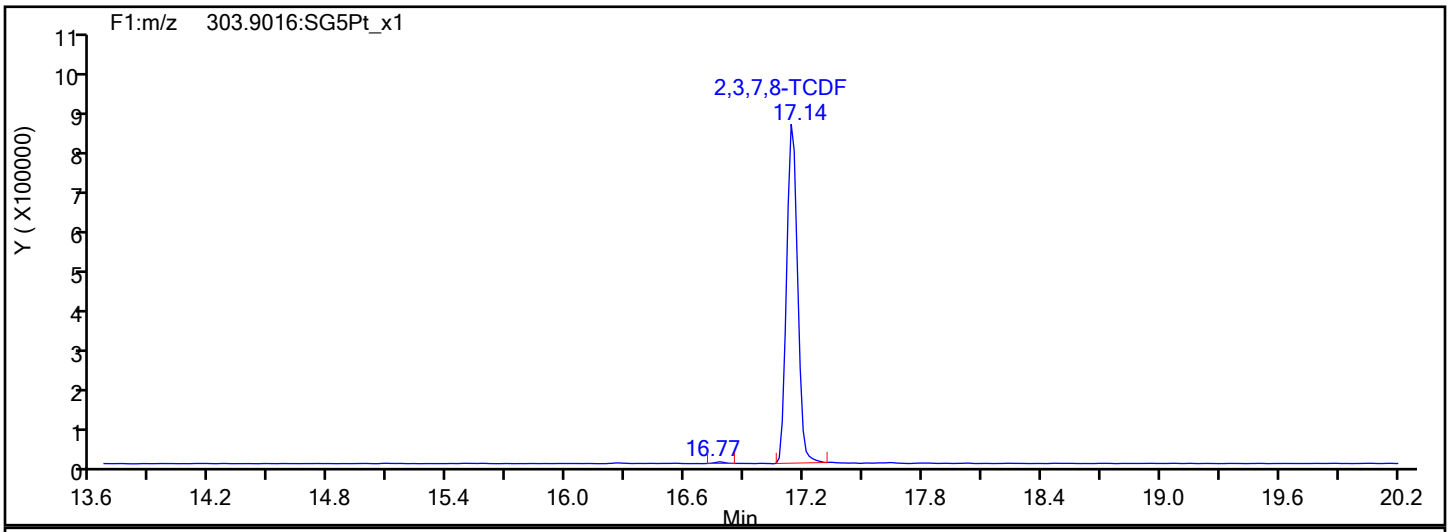

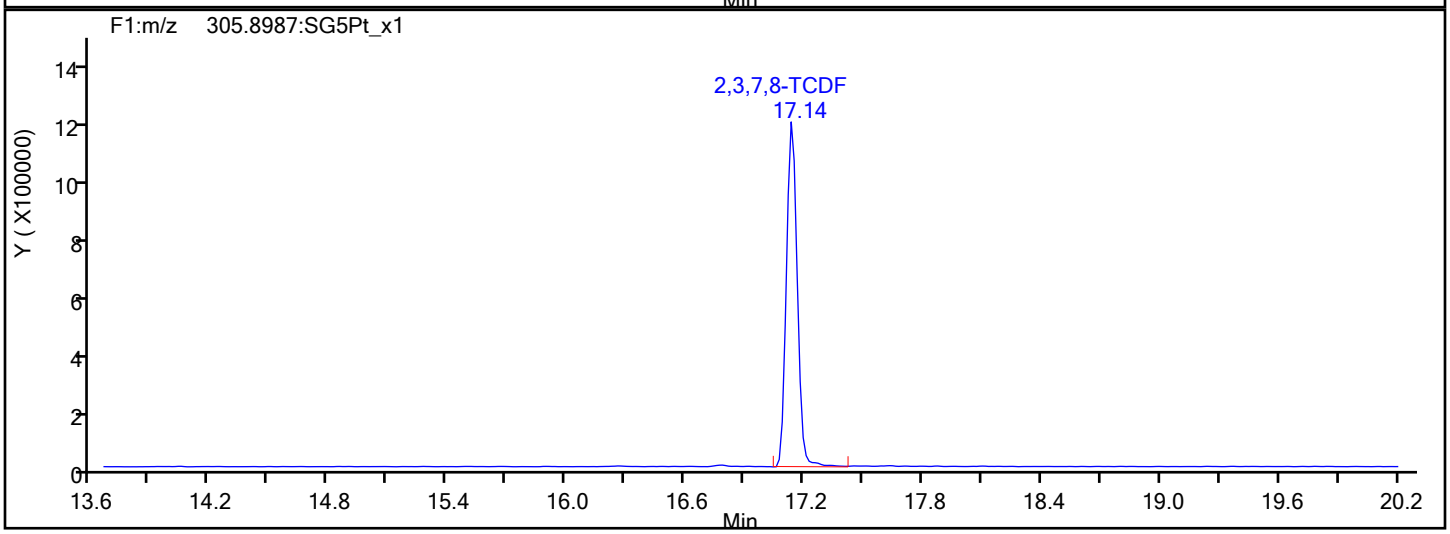

TCDF Interference Mass

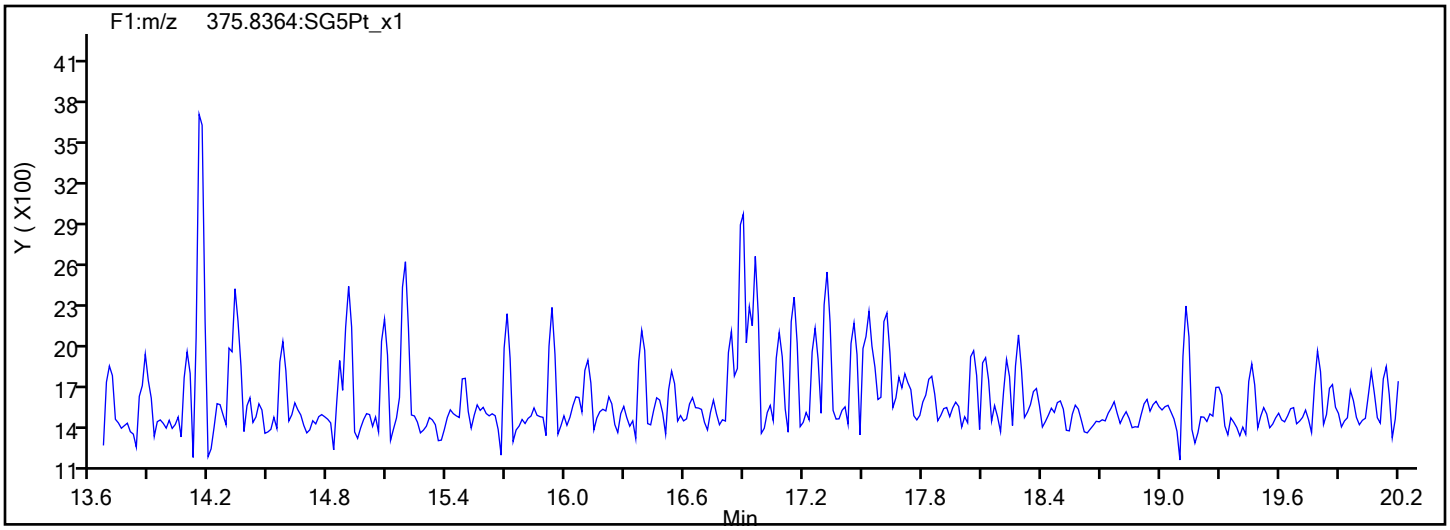

Report Date: 15-Jan-2020 12:39:18 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_20.d		
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Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	350523	Sample Line#:	20
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

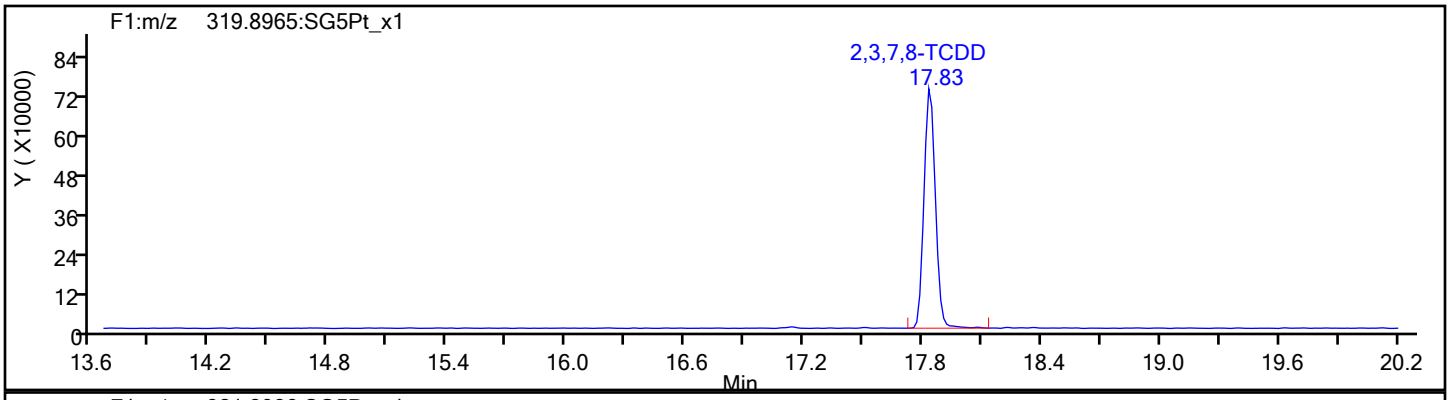

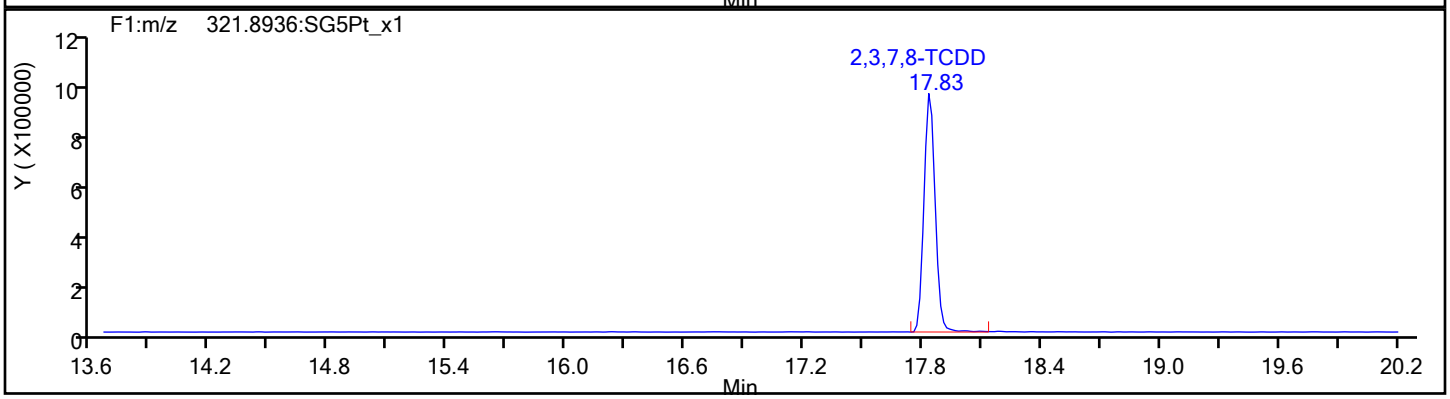

TCDD Standards

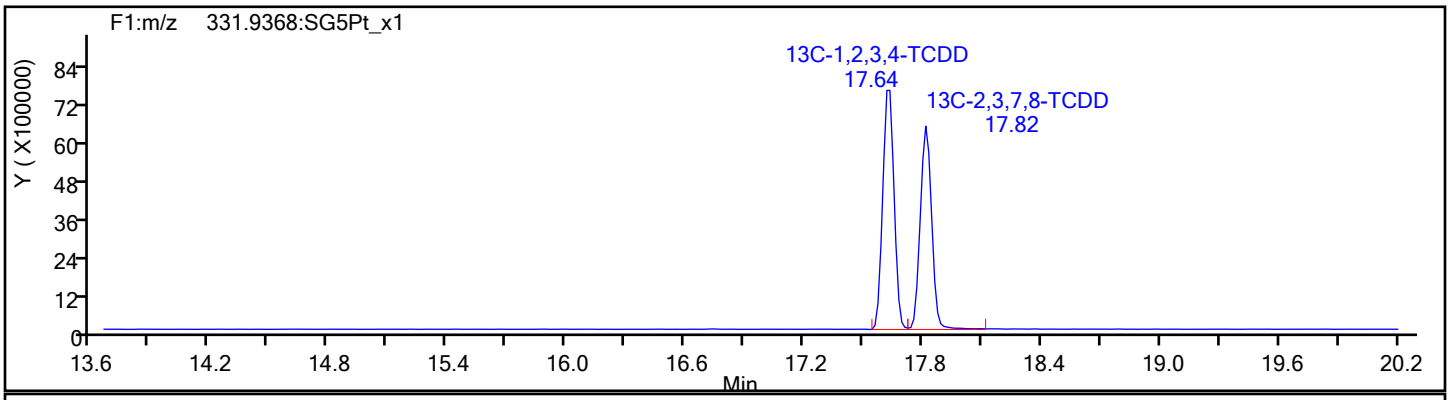

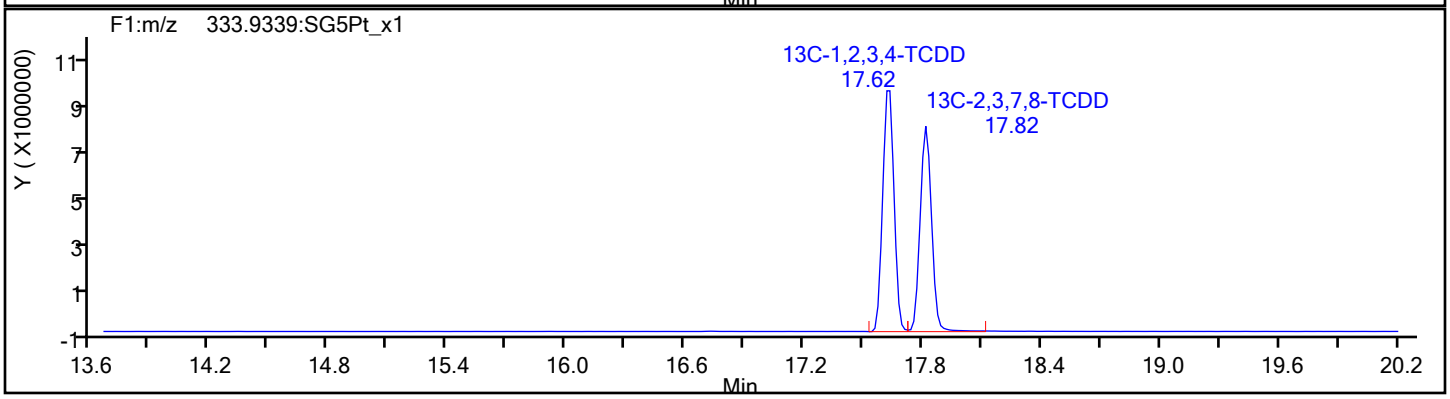

Report Date: 15-Jan-2020 12:39:18 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_20.d		
Injection Date:	14-Jan-2020 03:40:17	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	350523	Sample Line#:	20
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

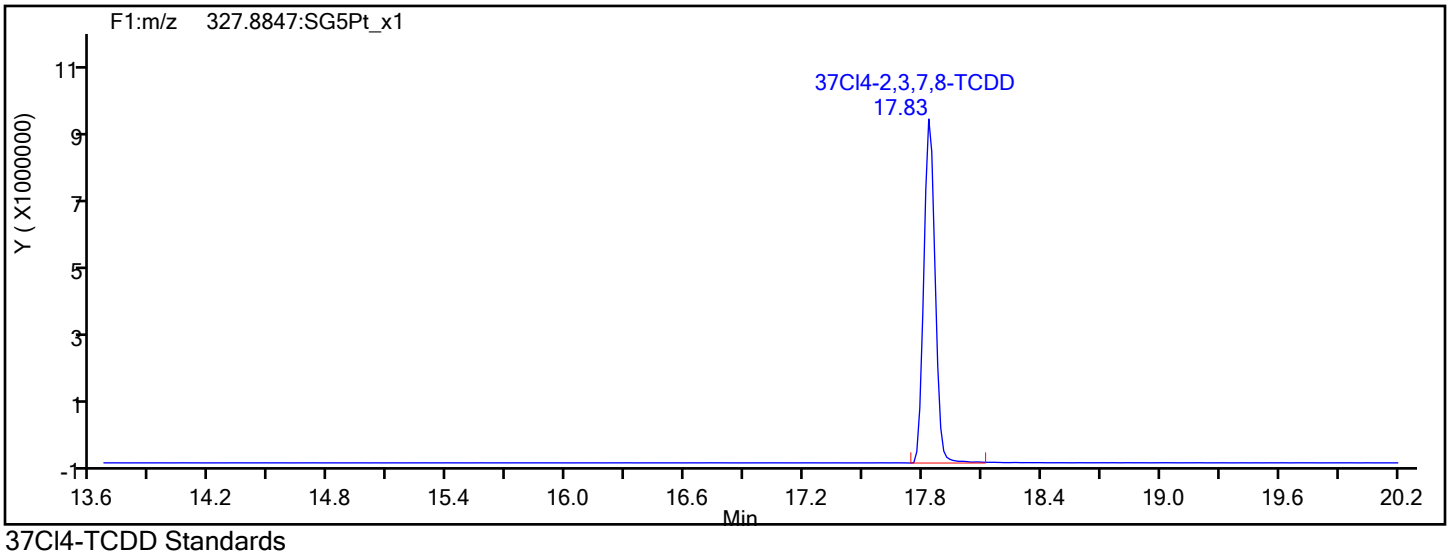

37Cl4-TCDD Standards

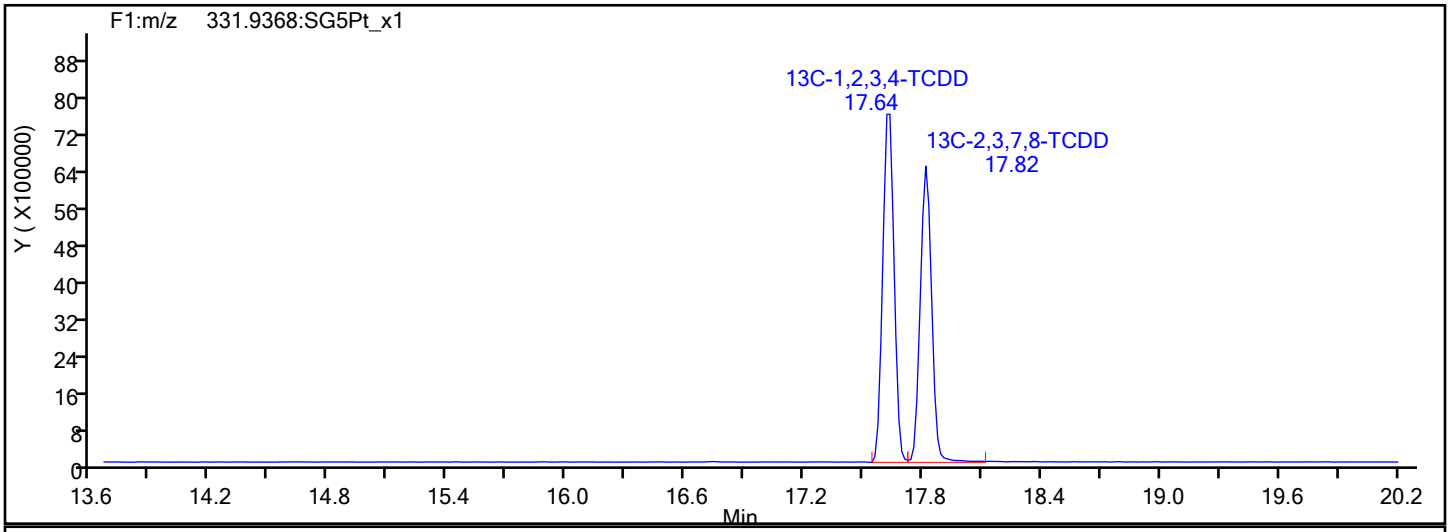

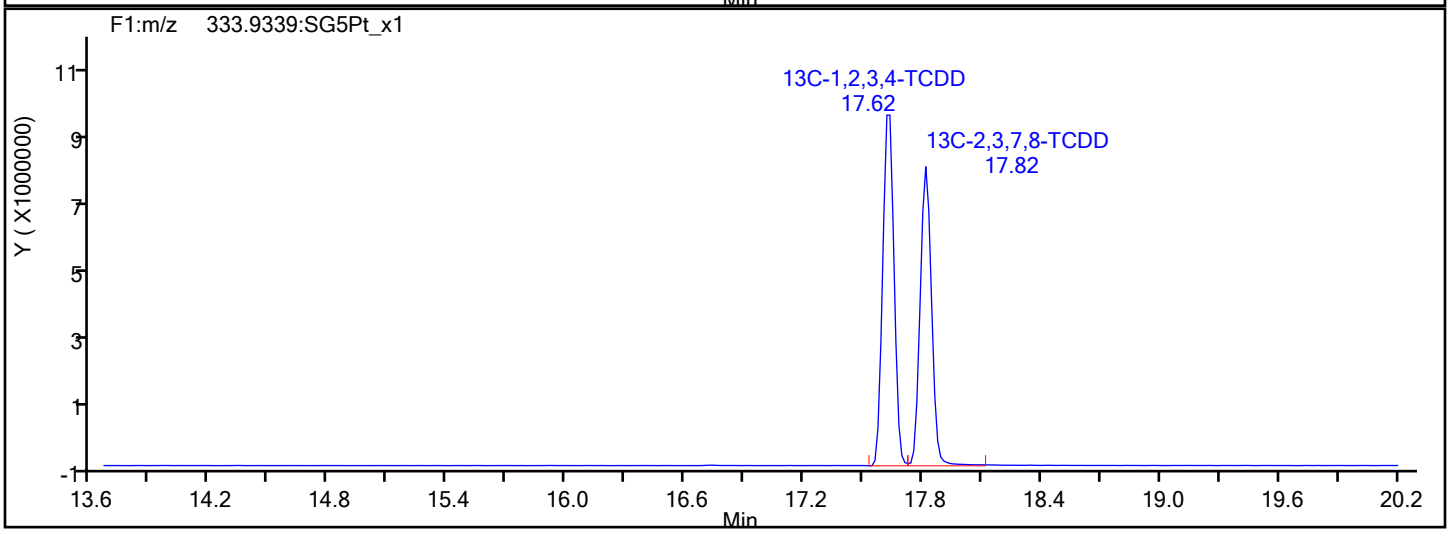

Report Date: 15-Jan-2020 12:39:18 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_20.d		
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Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	350523	Sample Line#:	20
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

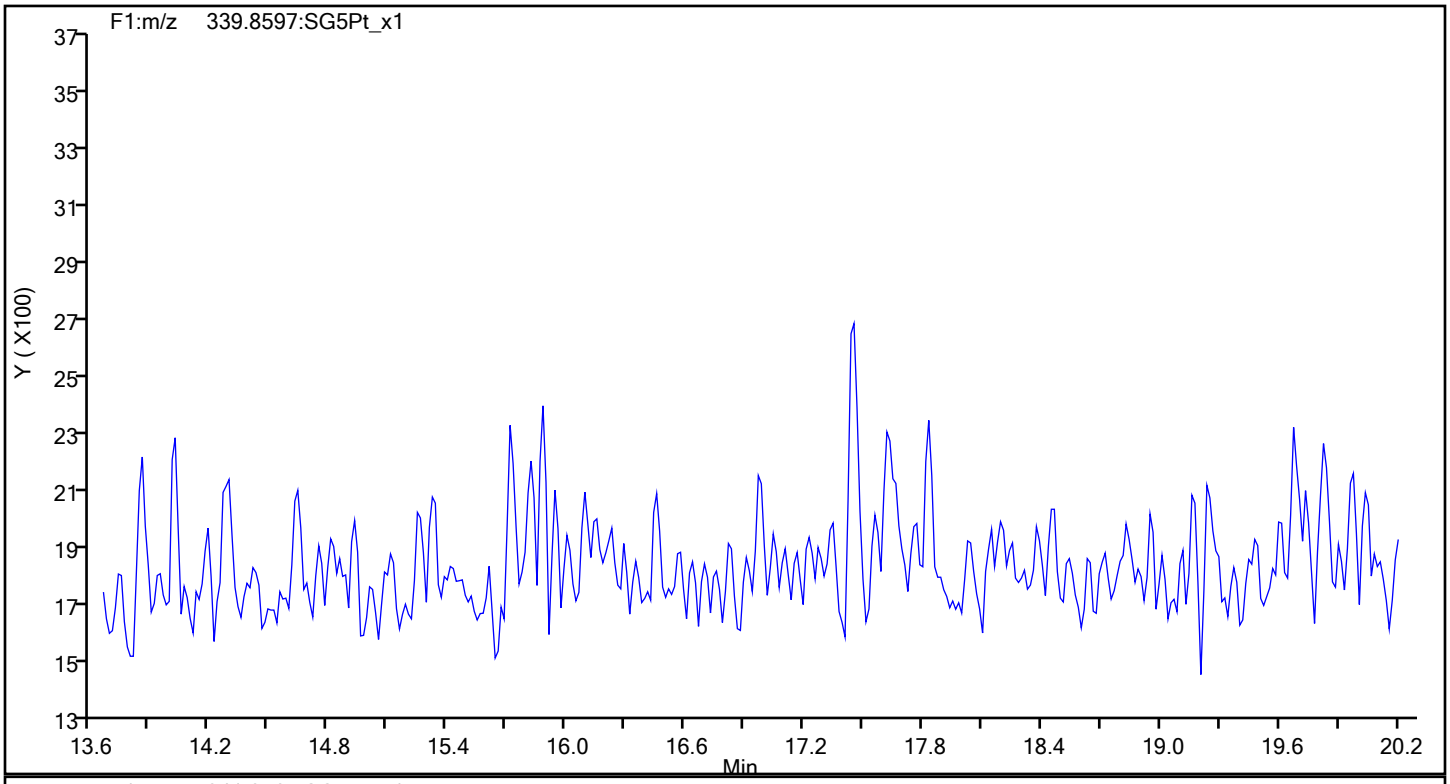

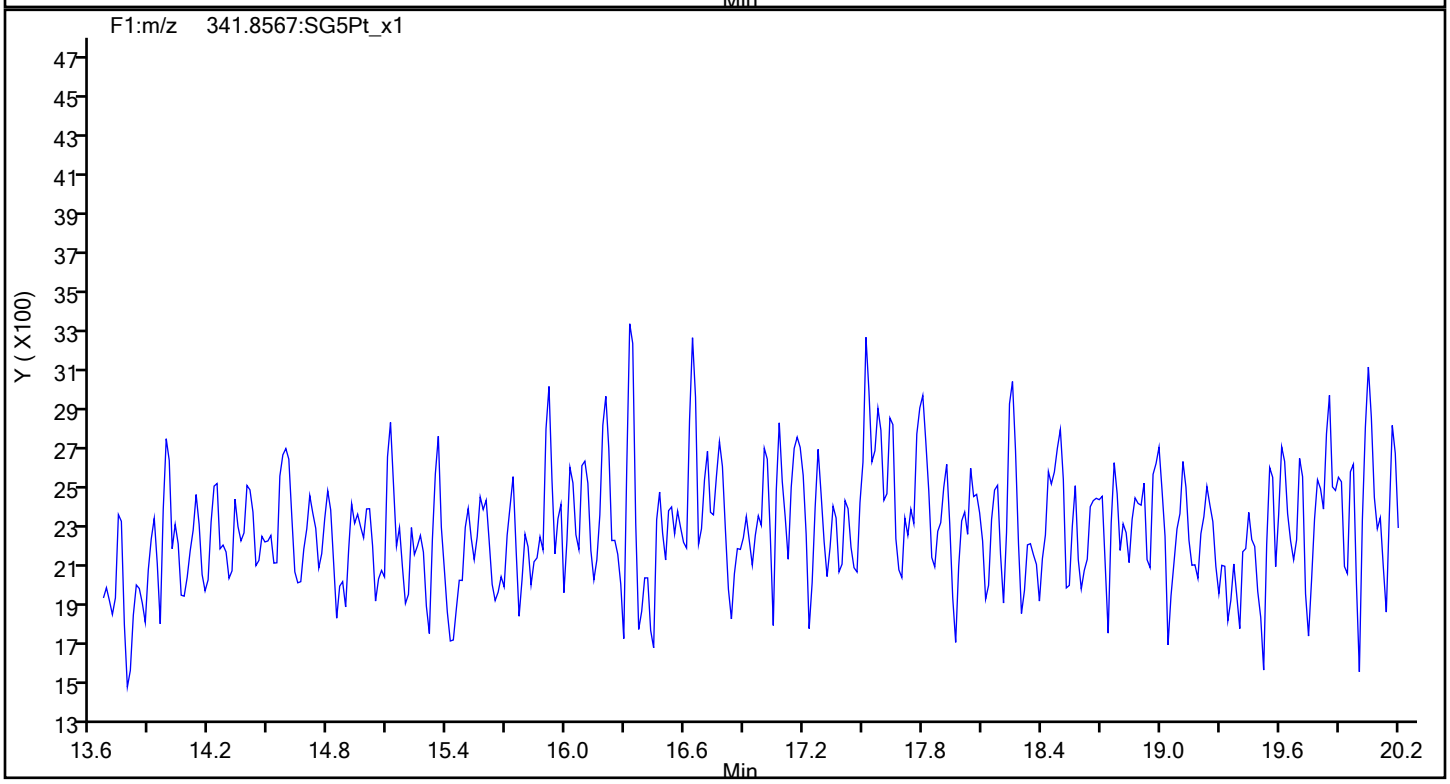

Report Date: 15-Jan-2020 12:39:18 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_20.d		
Injection Date:	14-Jan-2020 03:40:17	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	350523	Sample Line#:	20
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

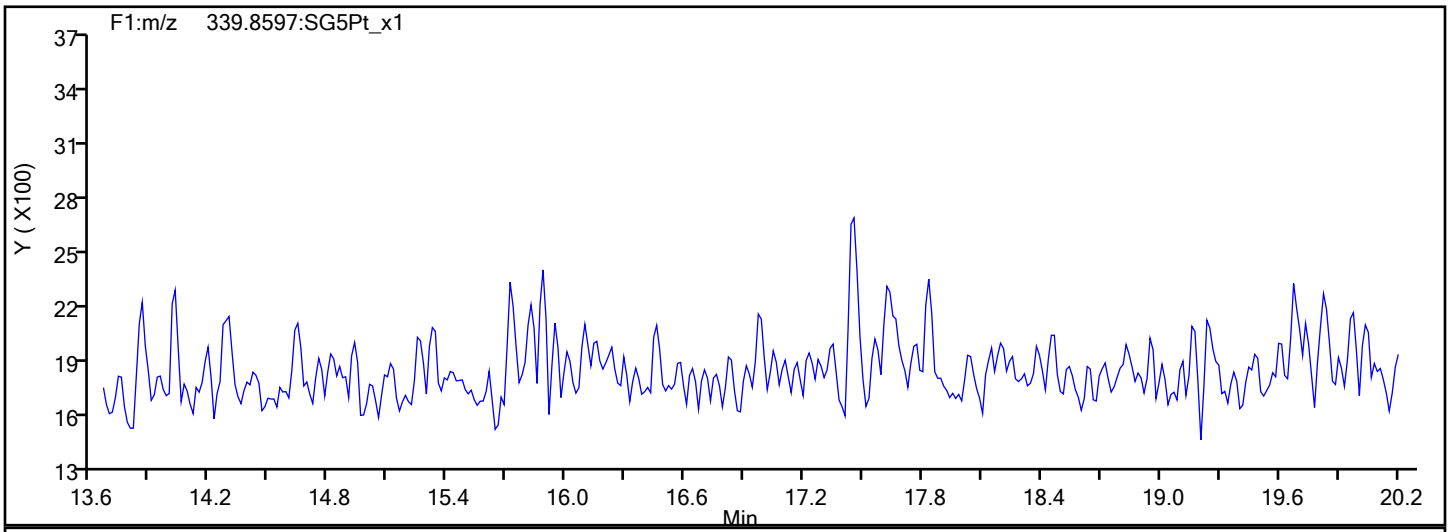

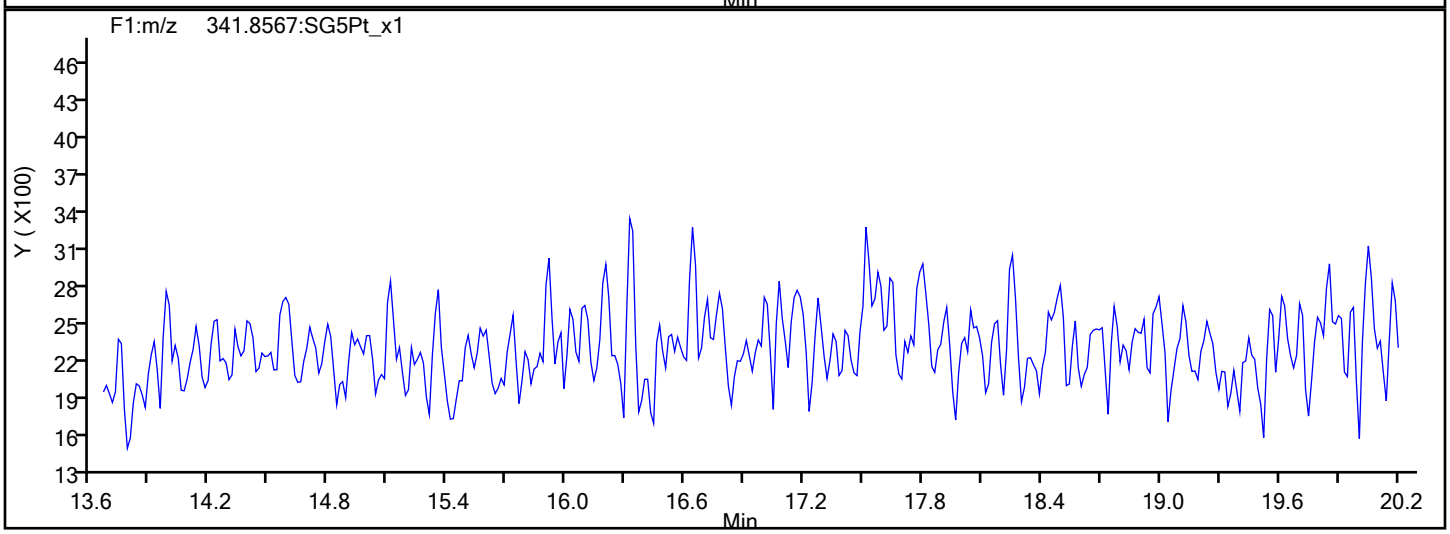

F1 PeCDFs Interference Mass

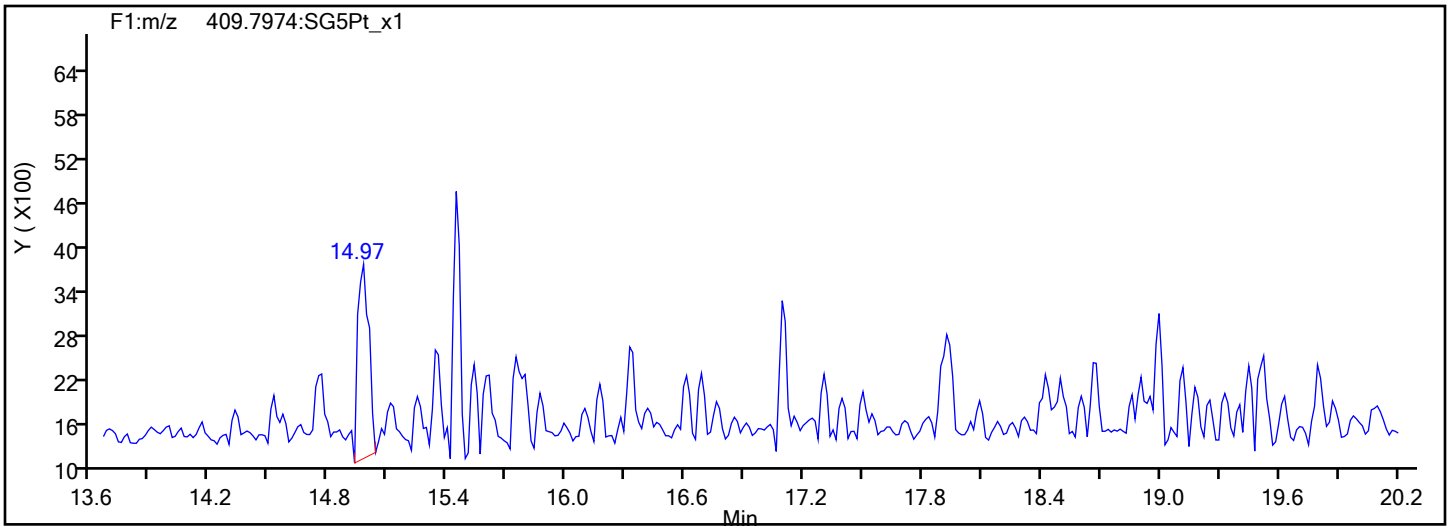

Report Date: 15-Jan-2020 12:39:18 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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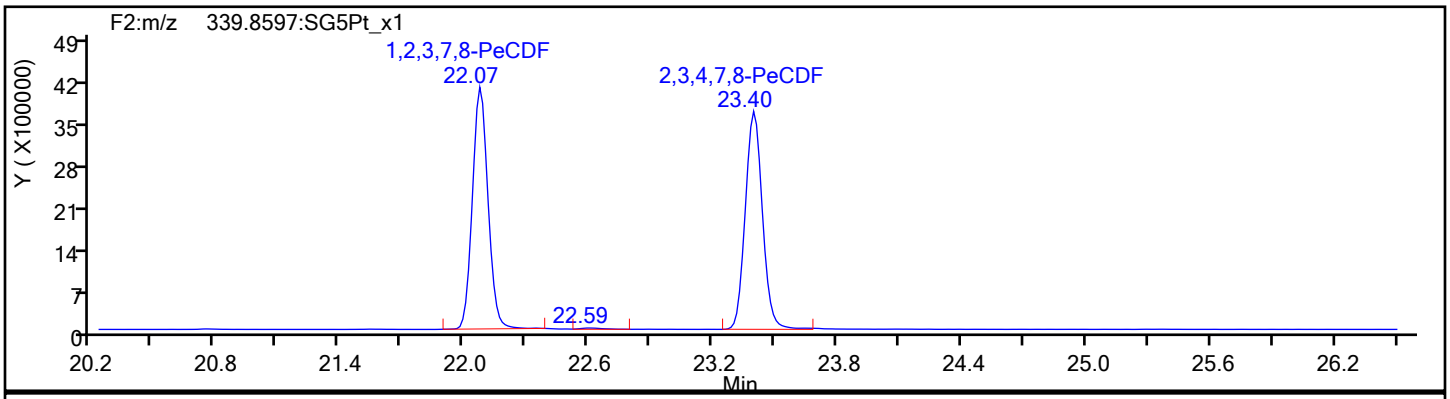

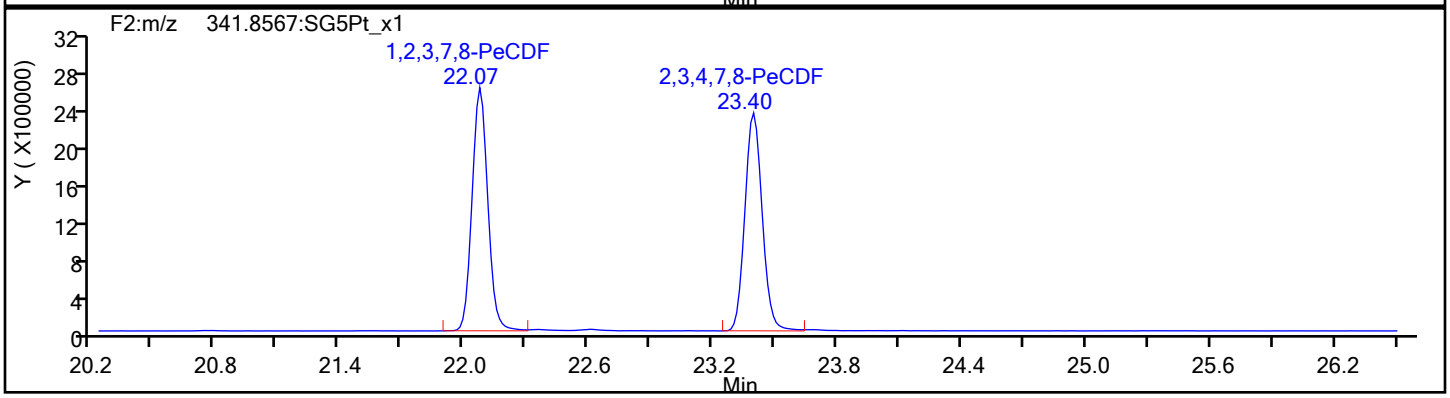

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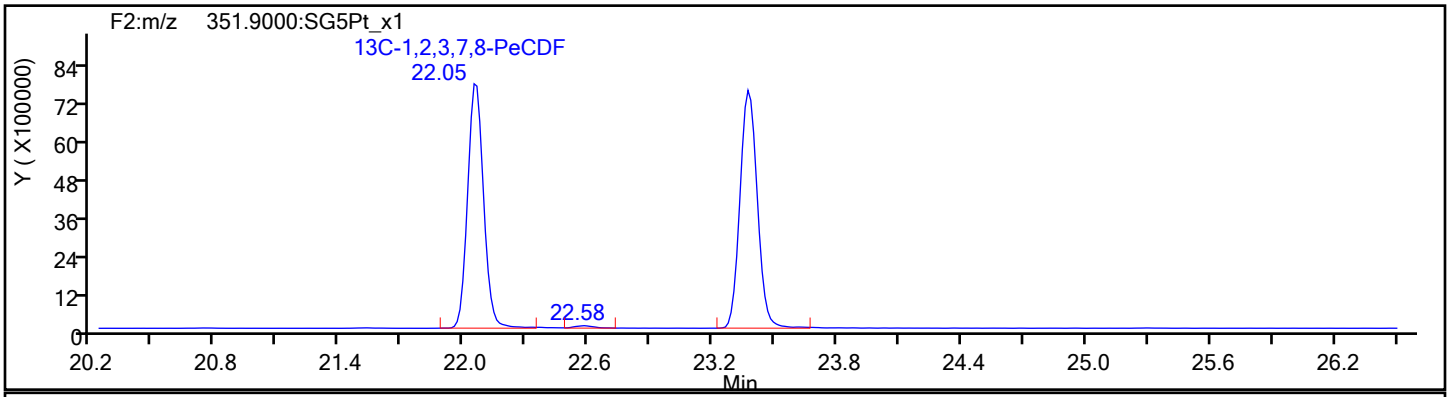

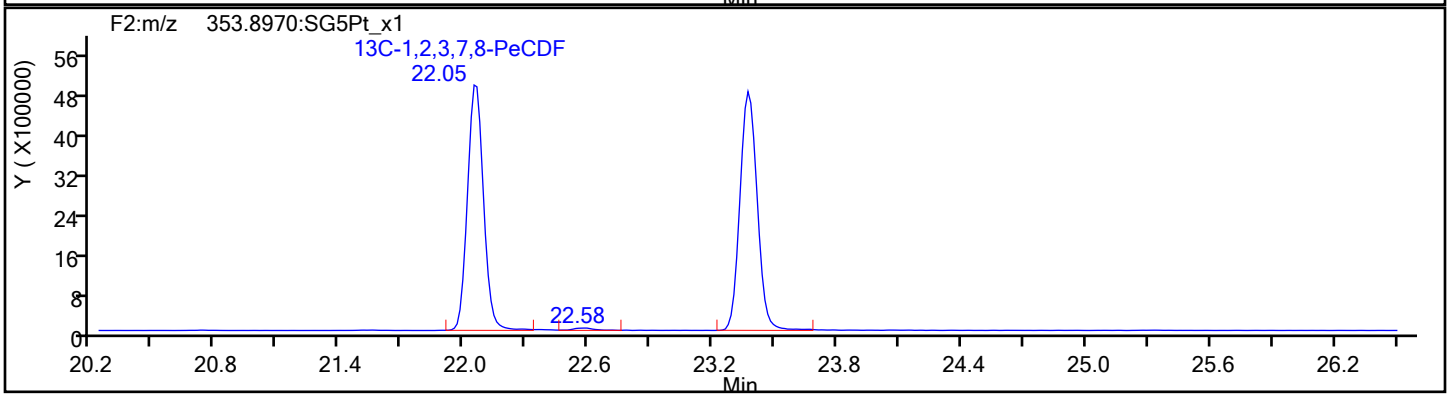

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Eurofins TestAmerica, Sacramento

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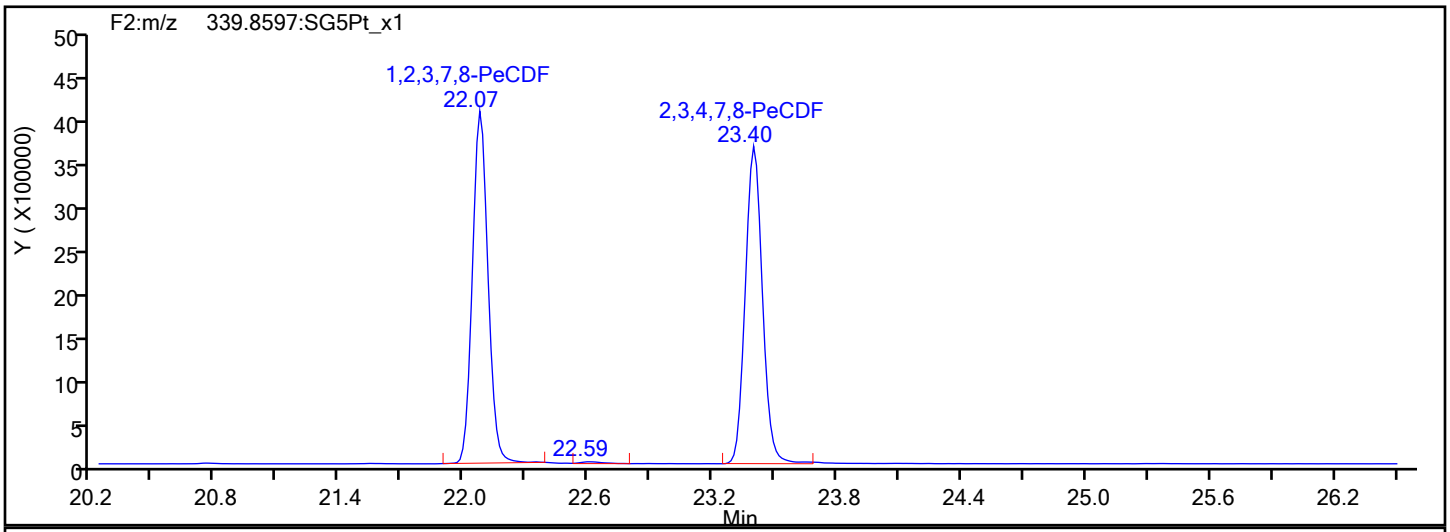

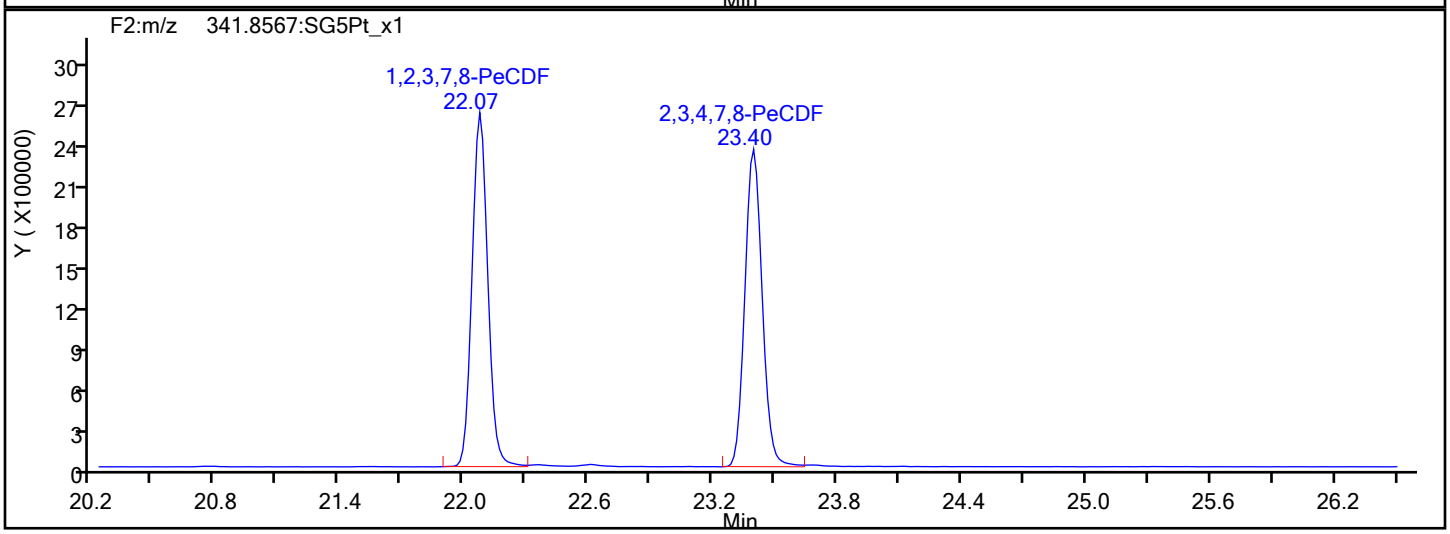

PeCDF Interference Mass

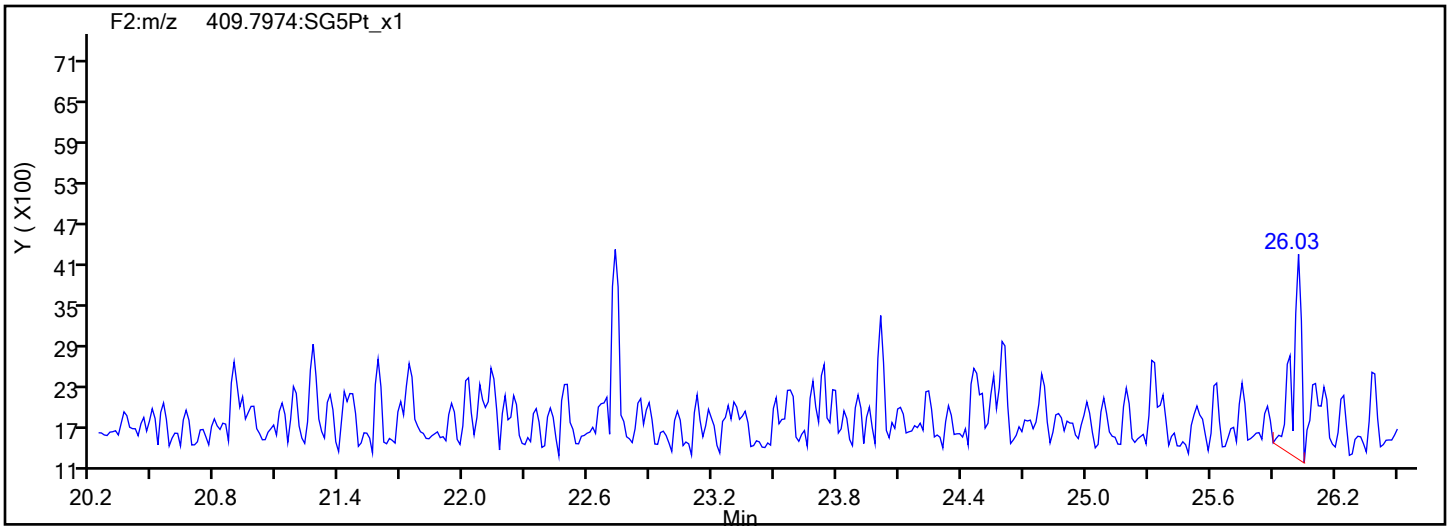

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Eurofins TestAmerica, Sacramento

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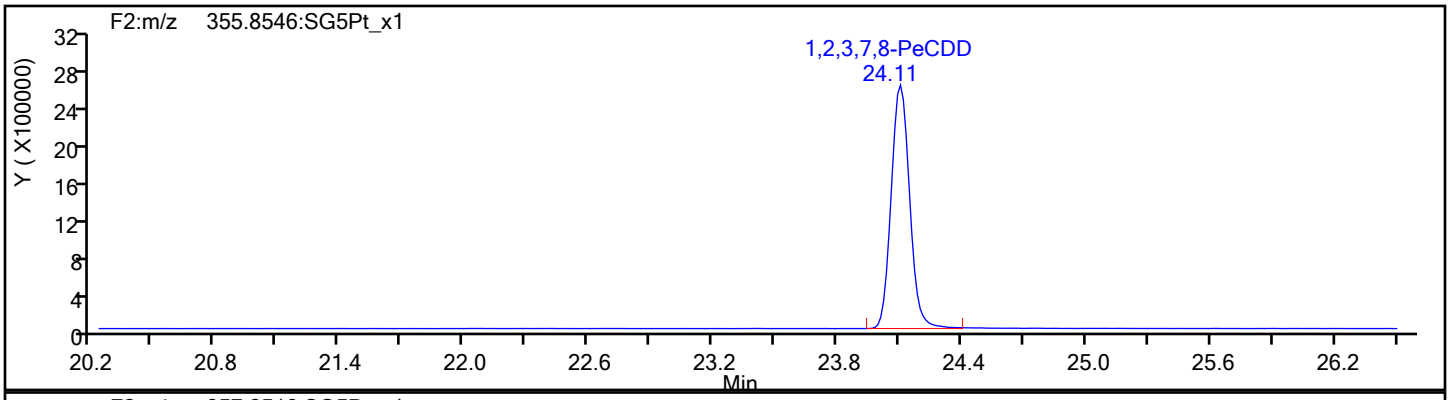

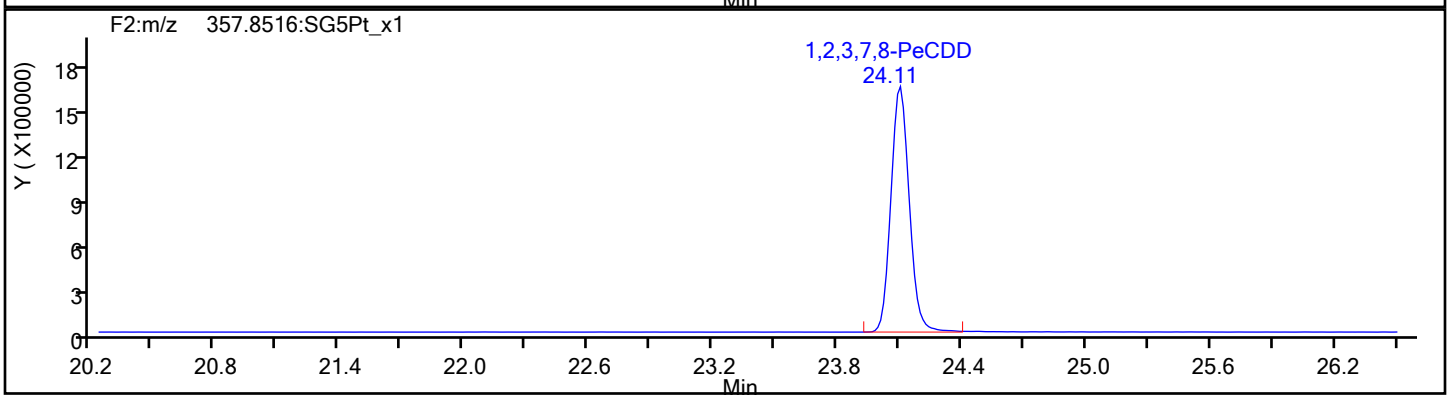

PeCDD Standards

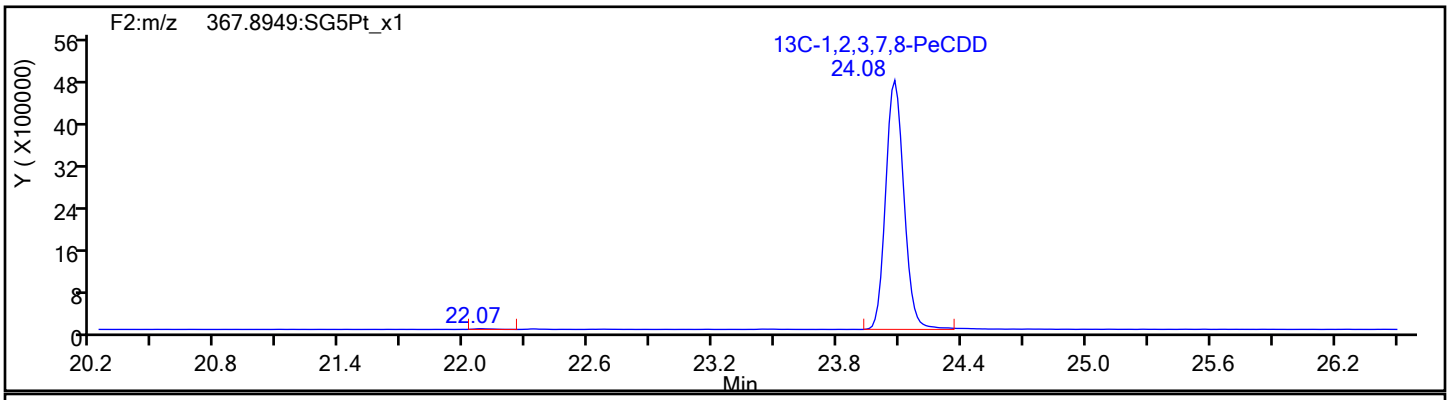

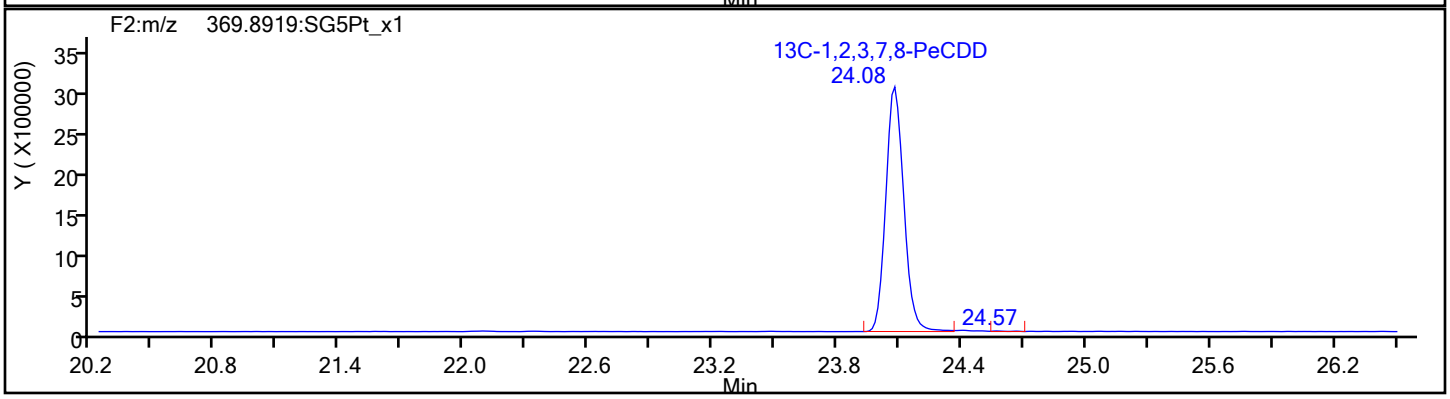

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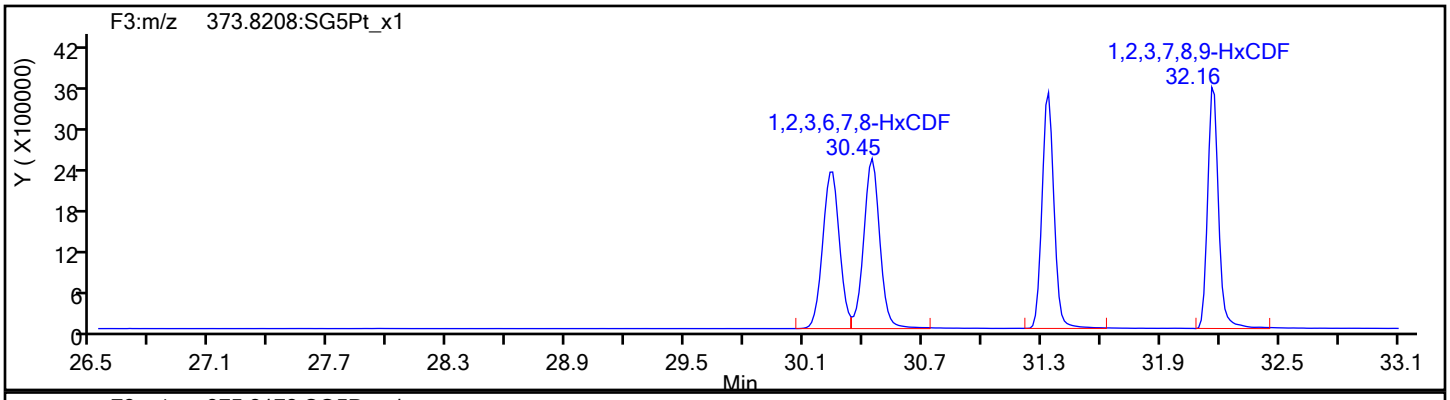

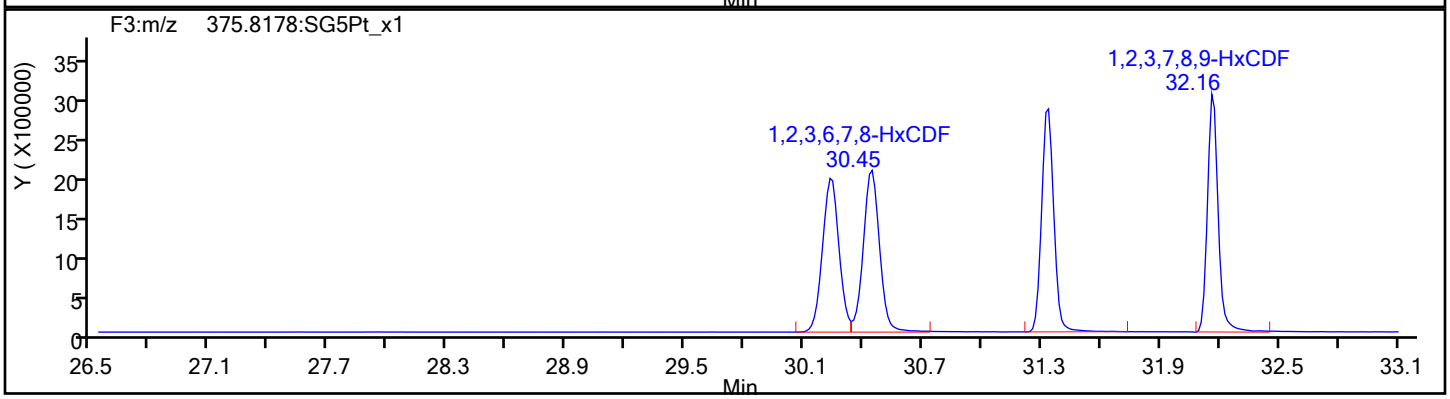

HxCDF Standards

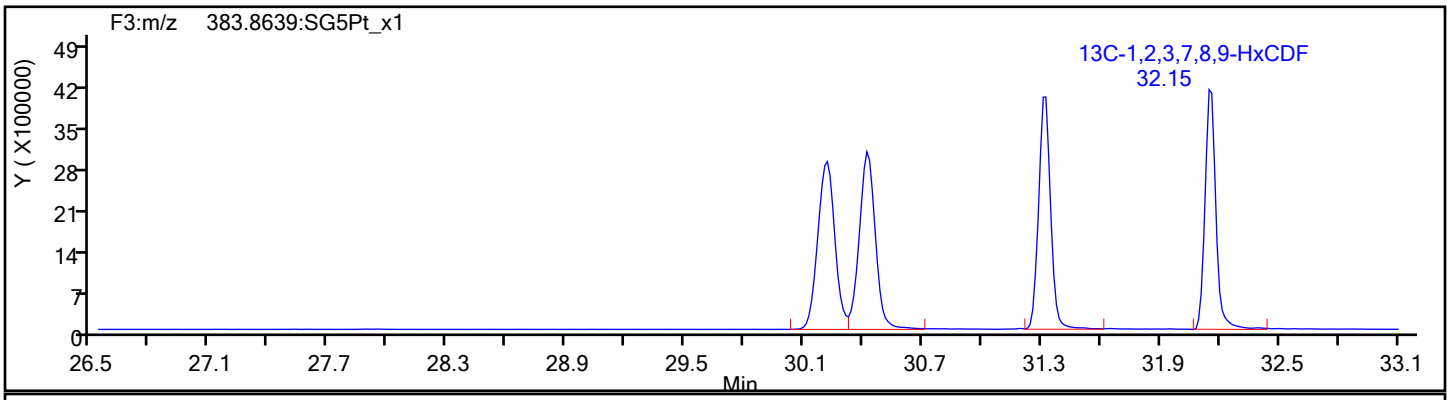

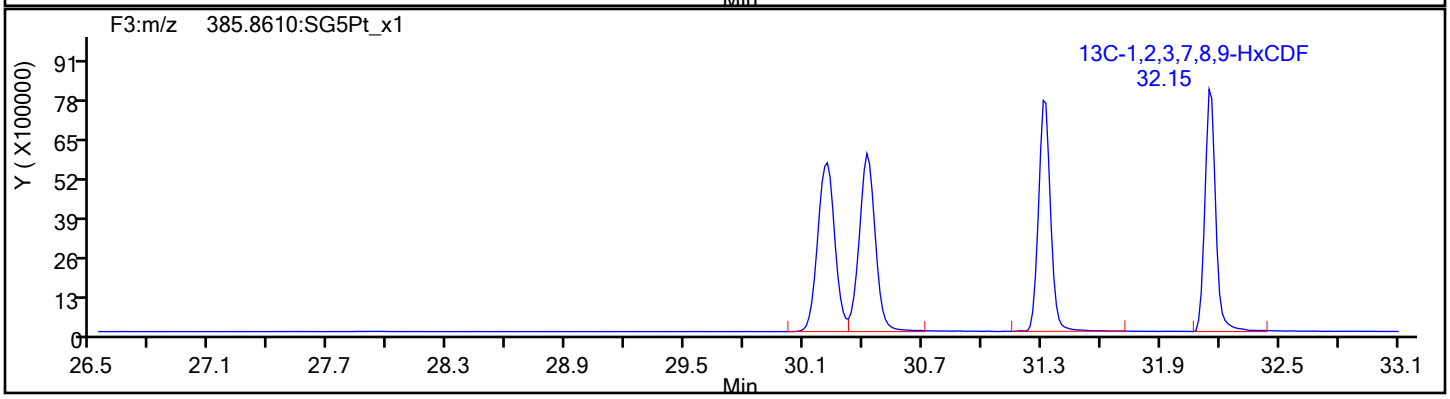

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Eurofins TestAmerica, Sacramento

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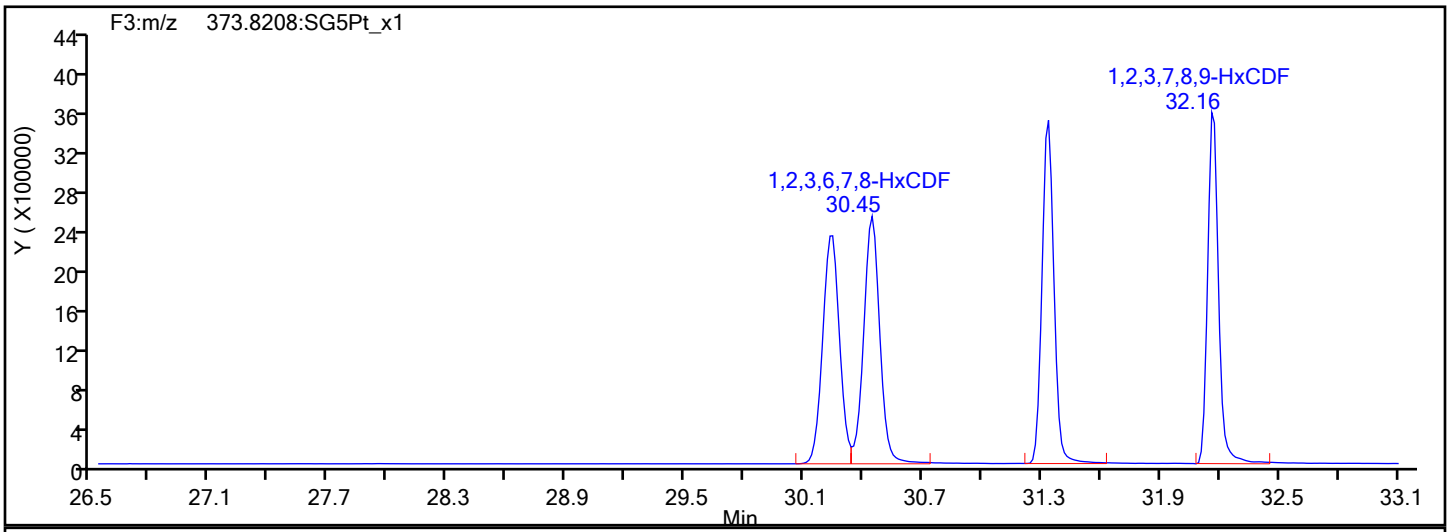

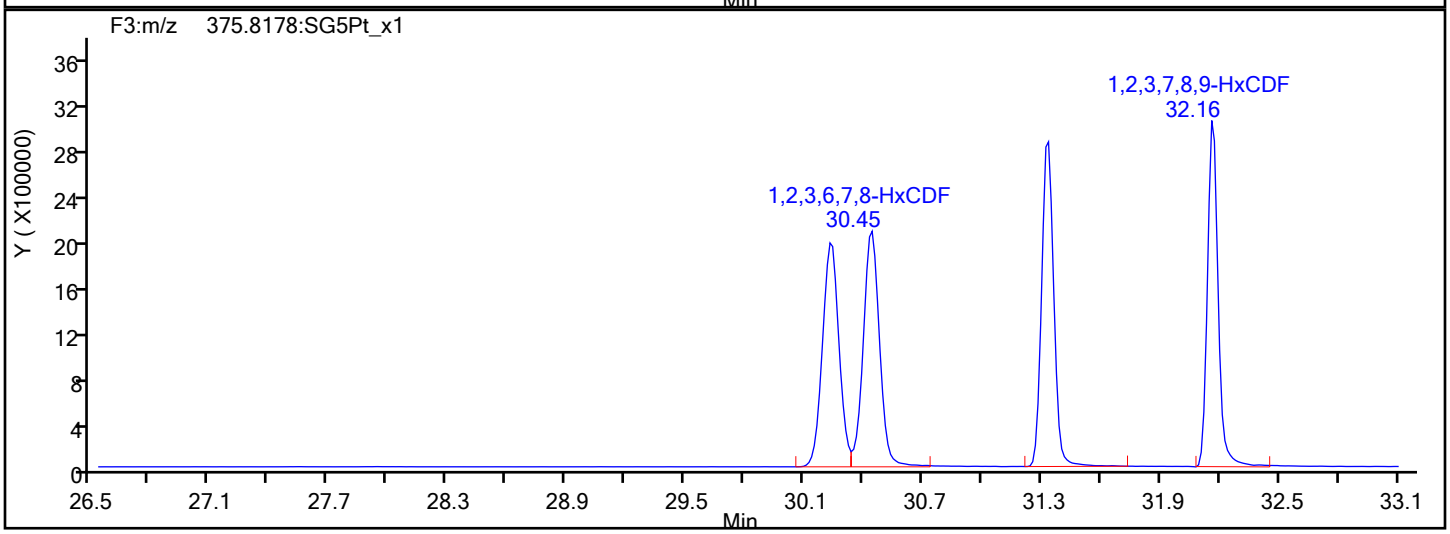

HxCDF Interference Mass

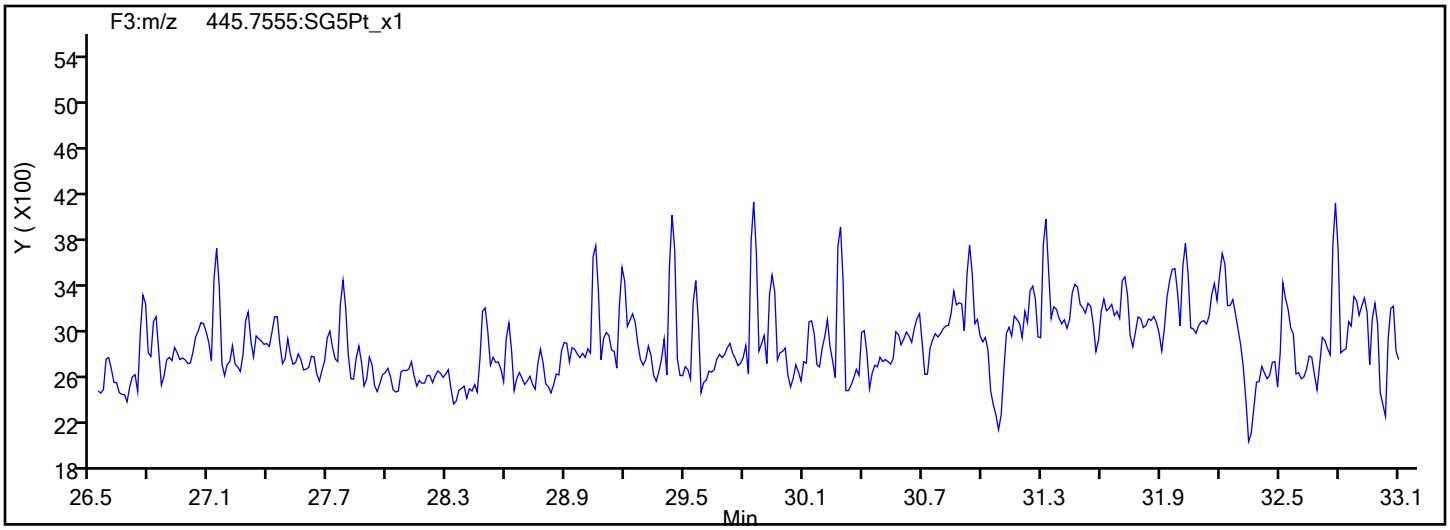

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Eurofins TestAmerica, Sacramento

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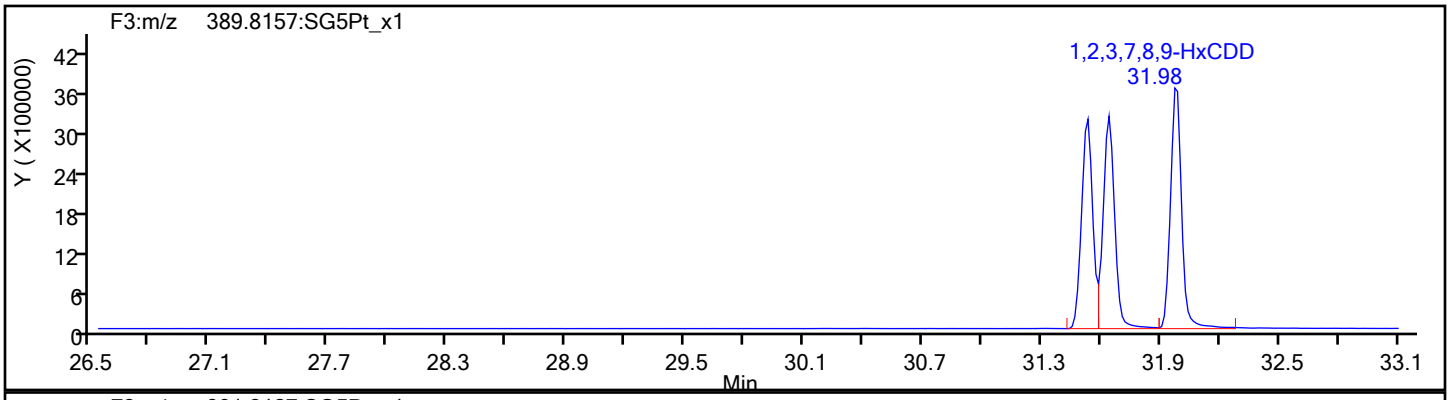

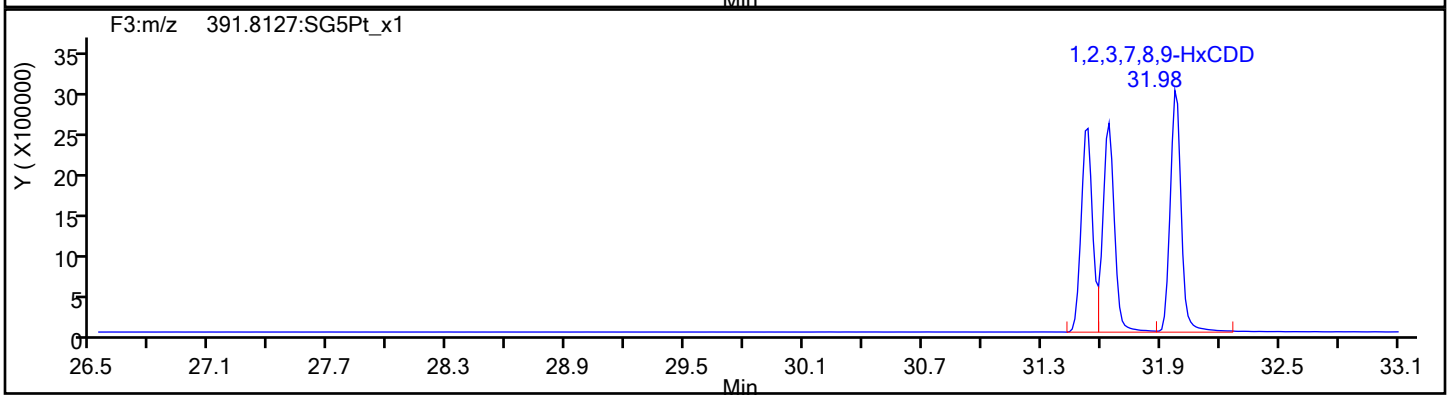

HxCDD Standards

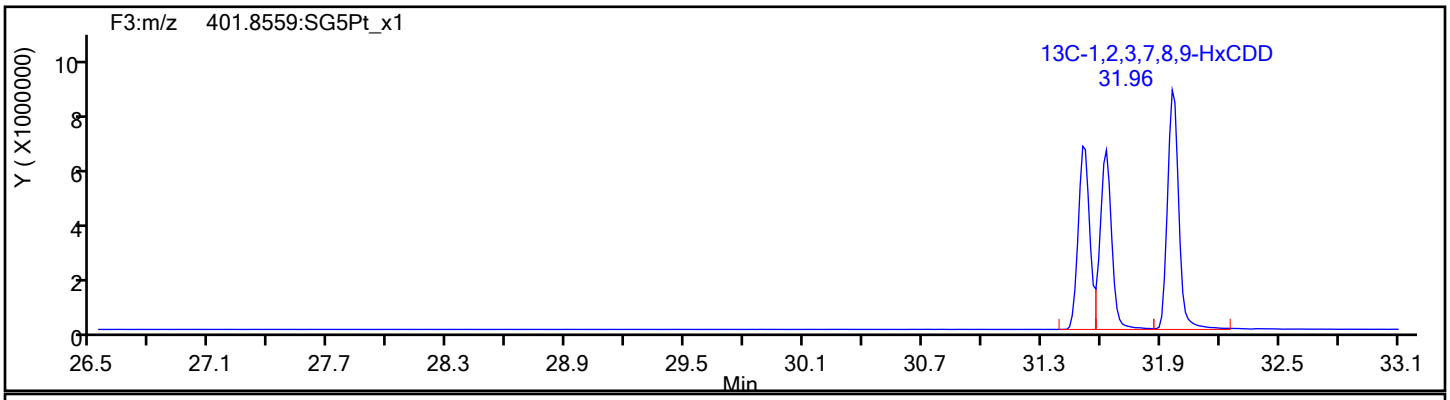

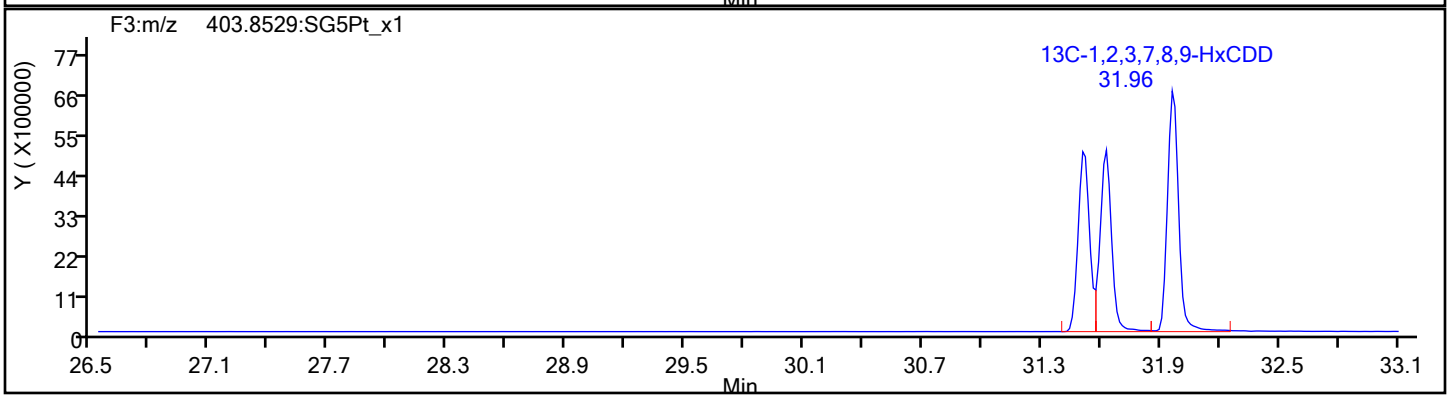

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Eurofins TestAmerica, Sacramento

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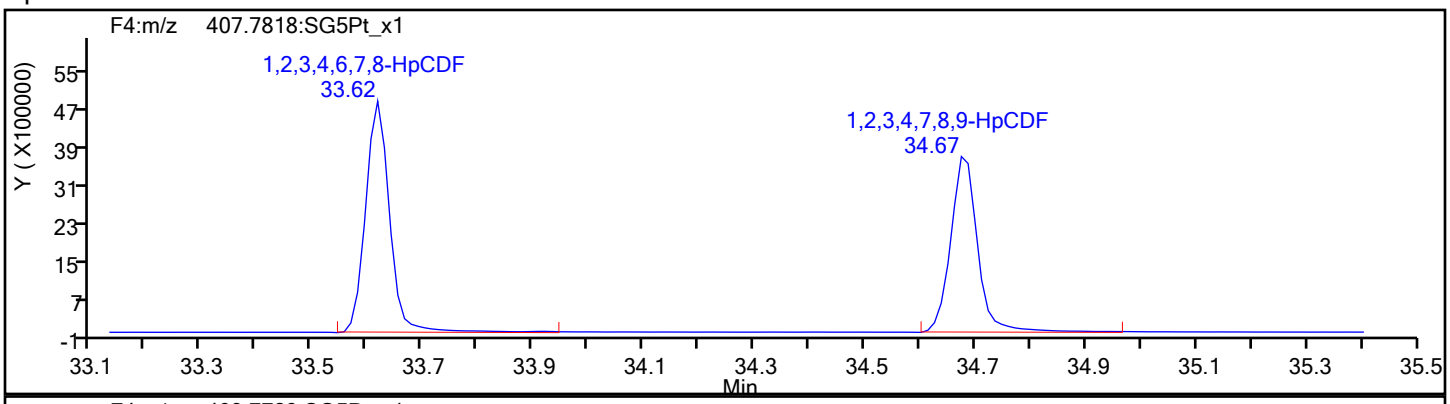

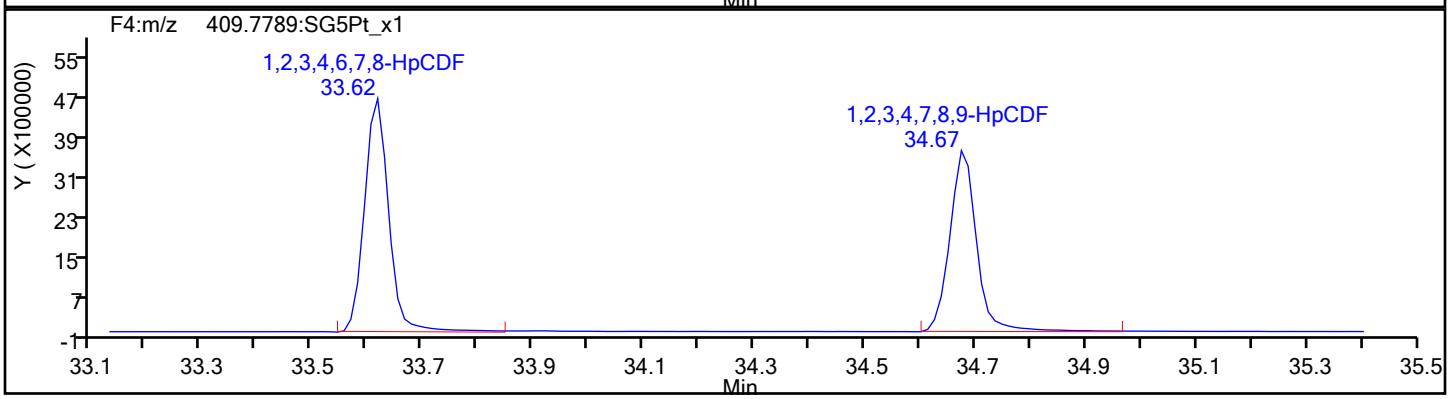

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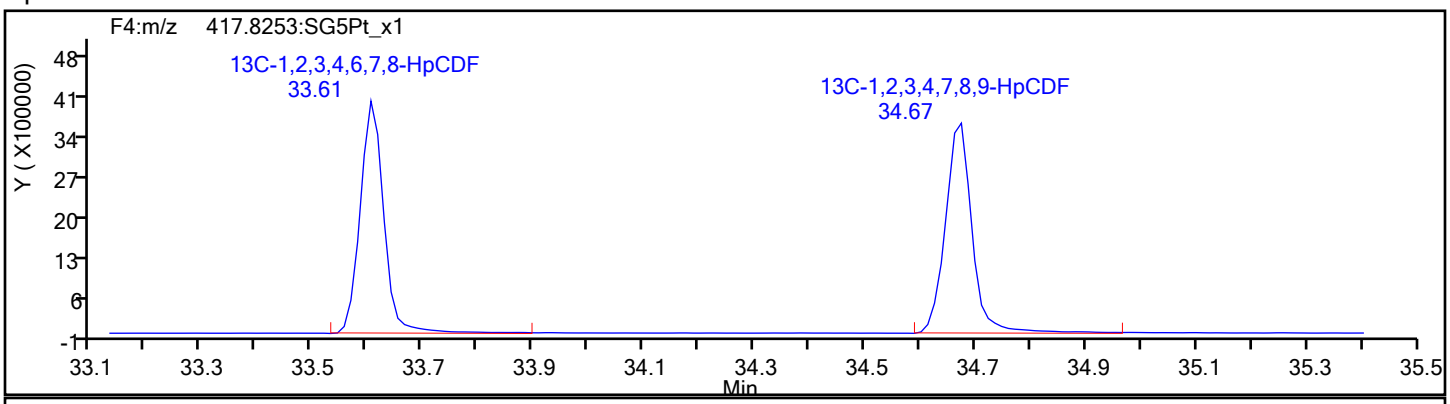

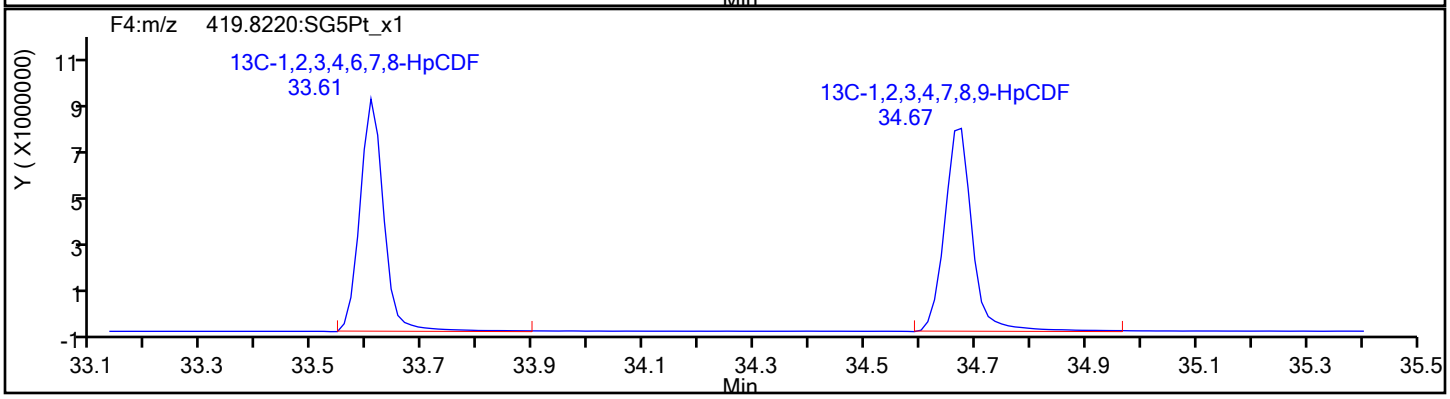

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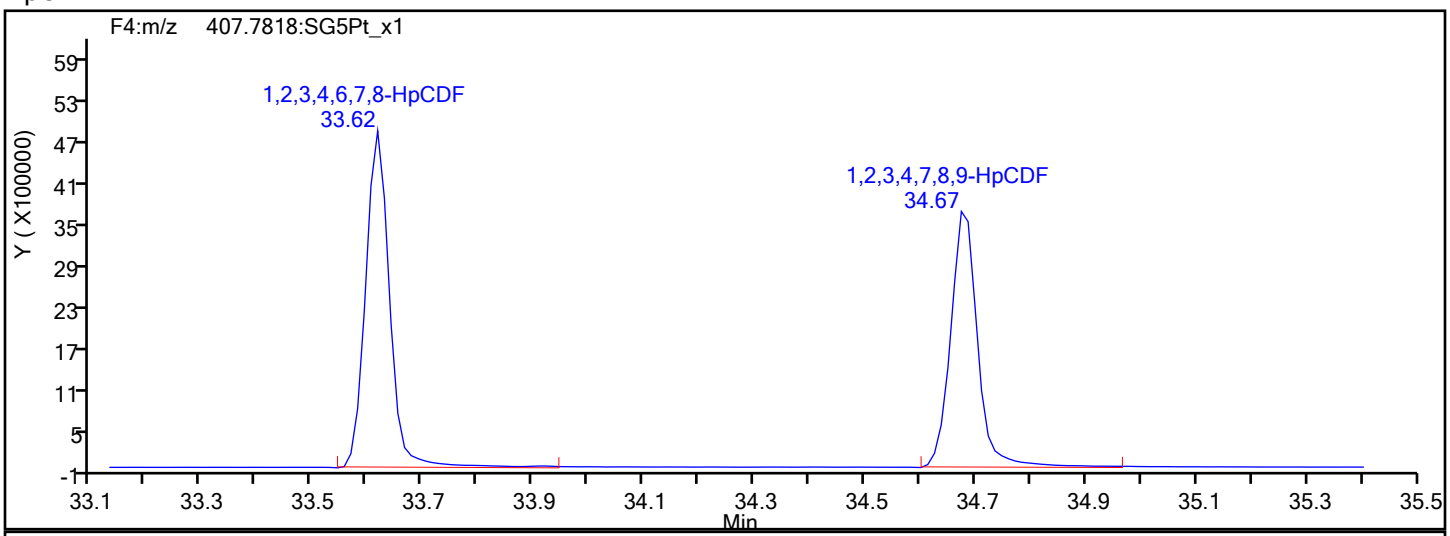

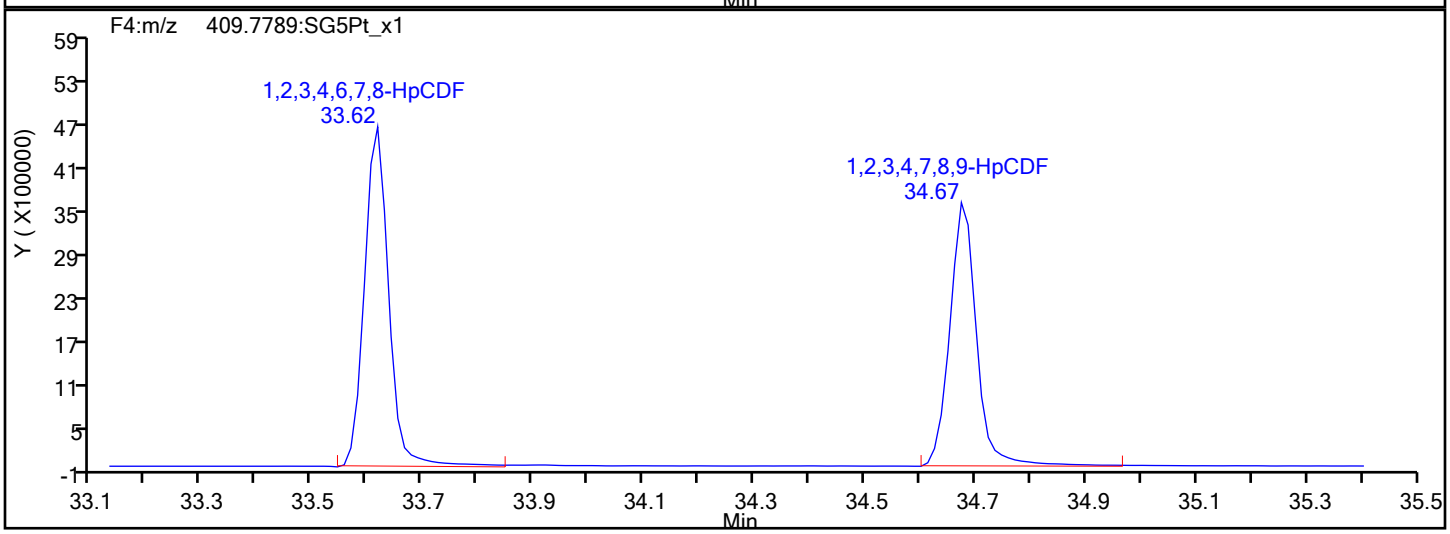

HpCDF Interference Mass

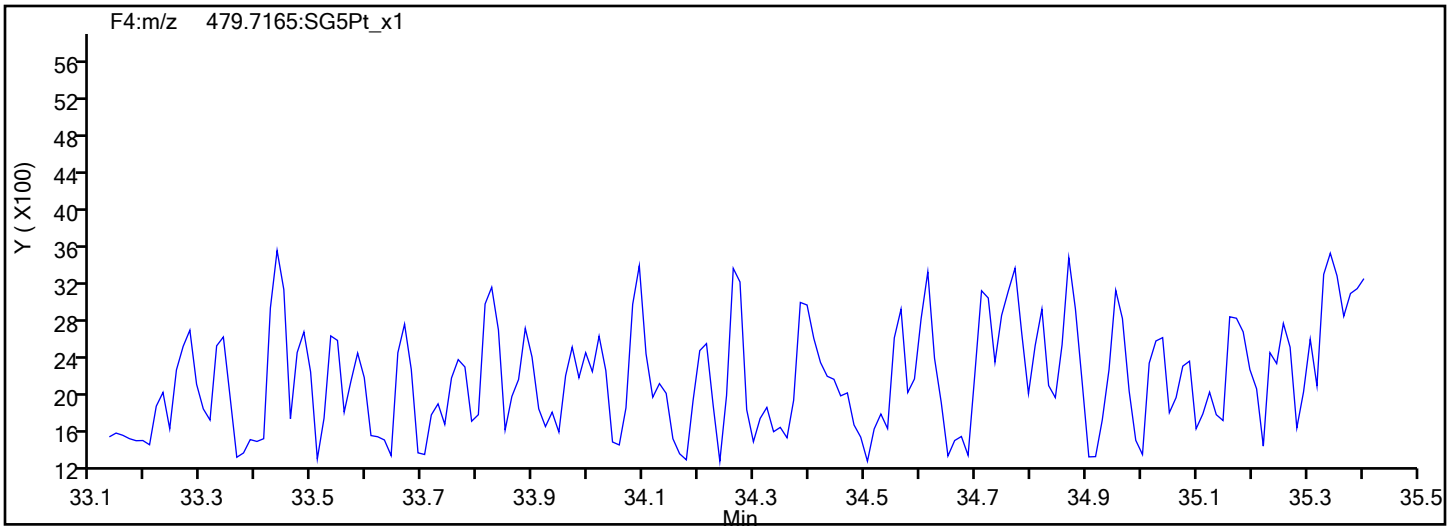

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Eurofins TestAmerica, Sacramento

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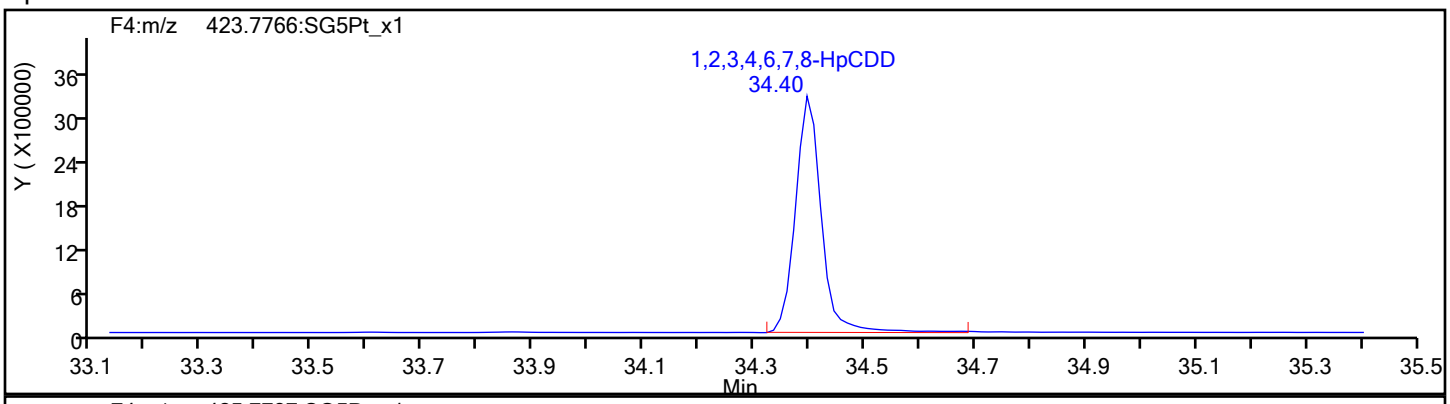

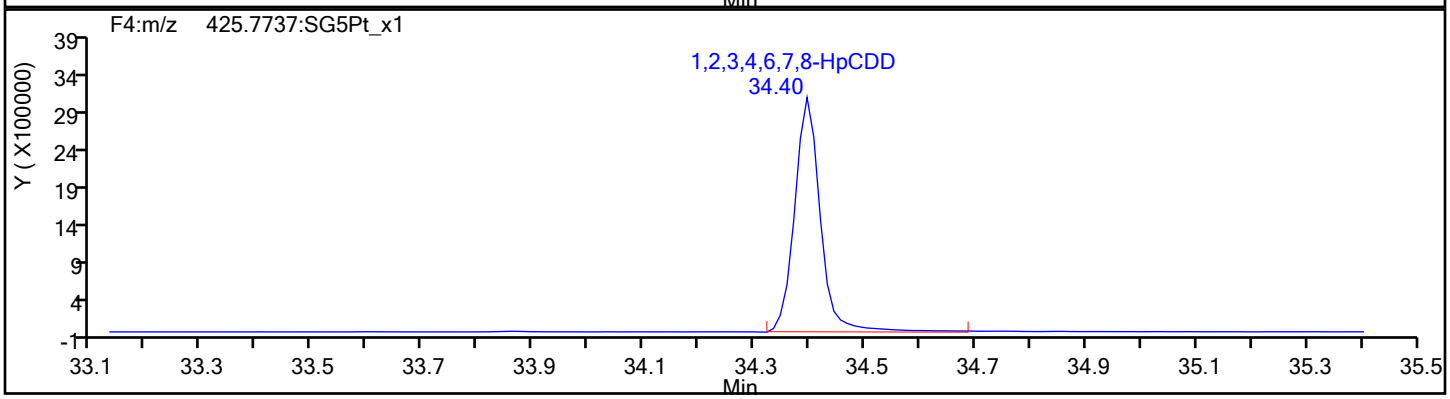

HpCDD Standards

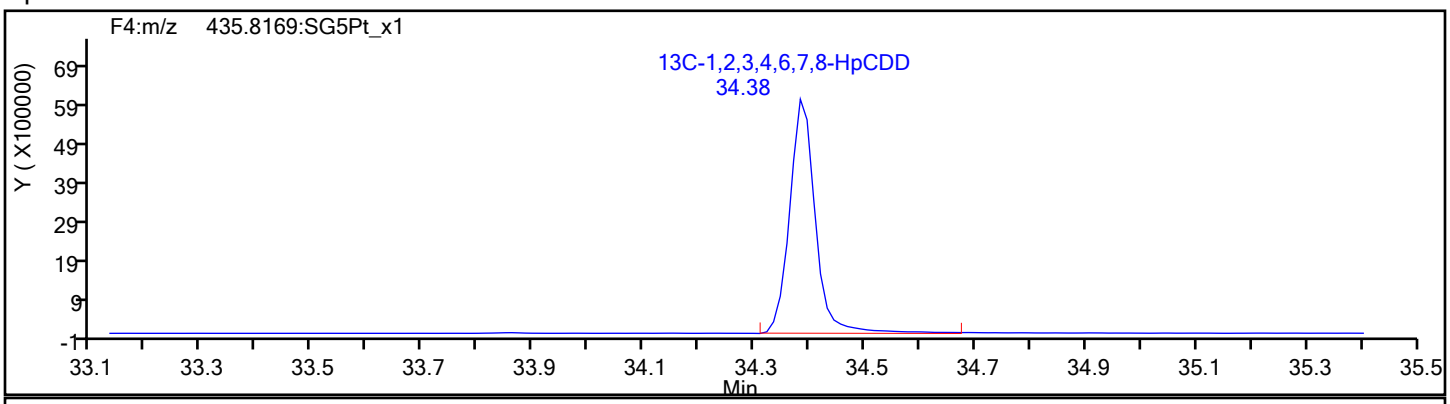

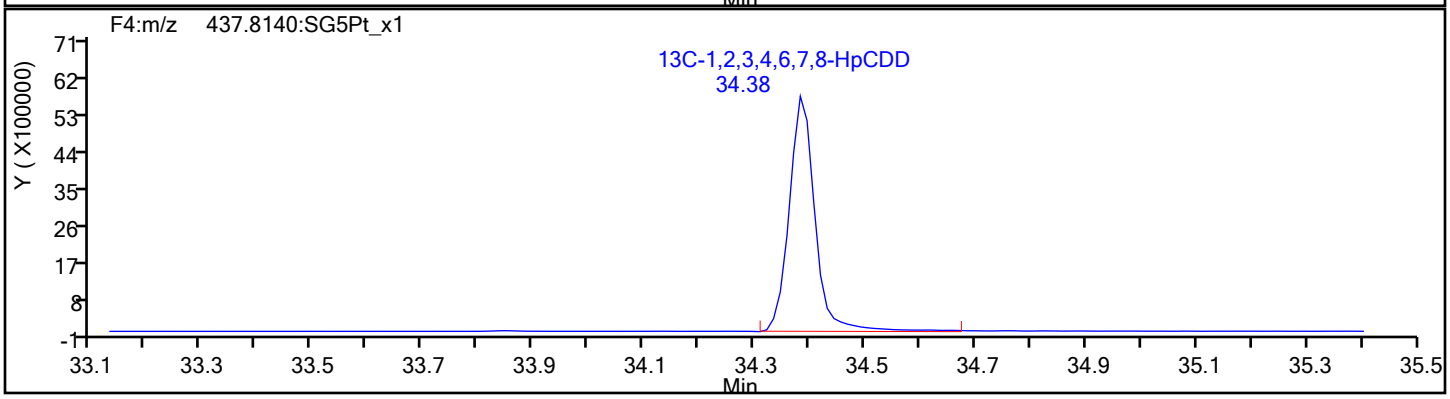

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OCDF

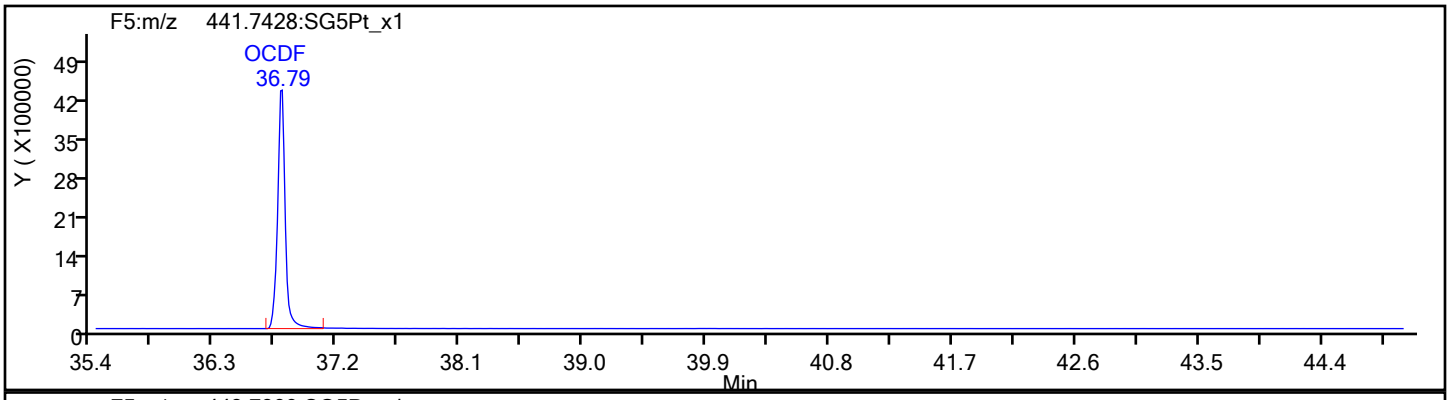

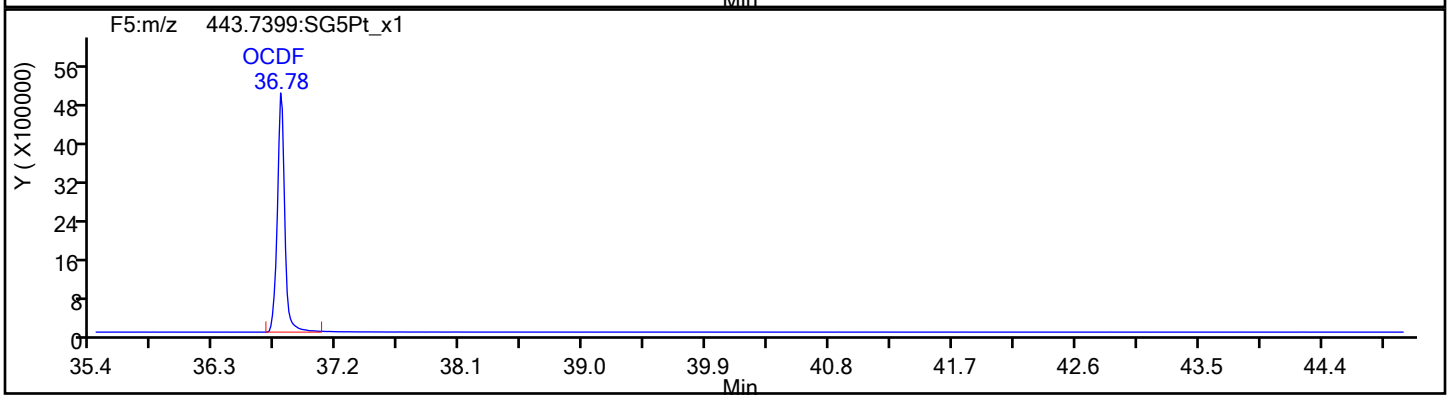

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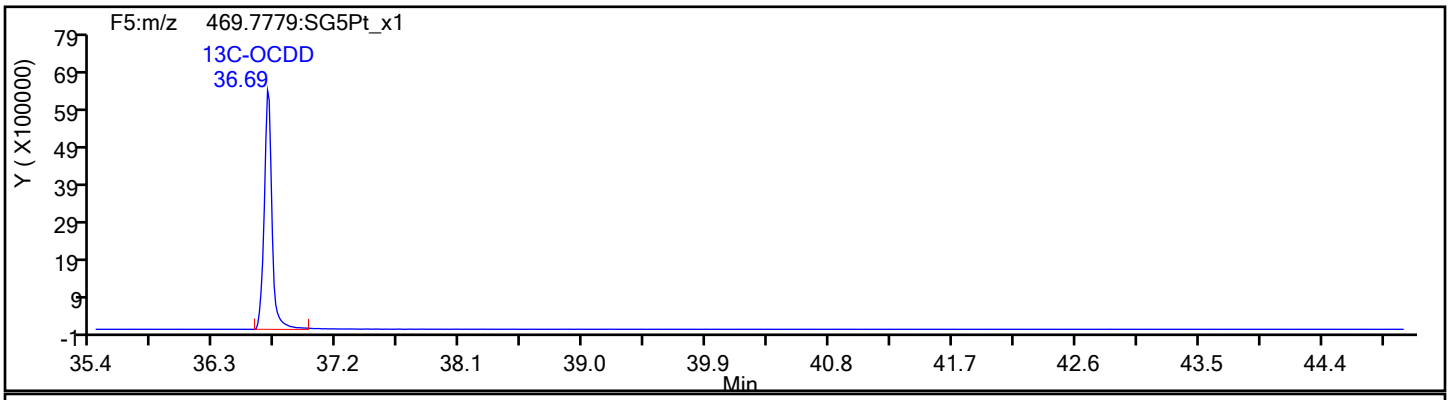

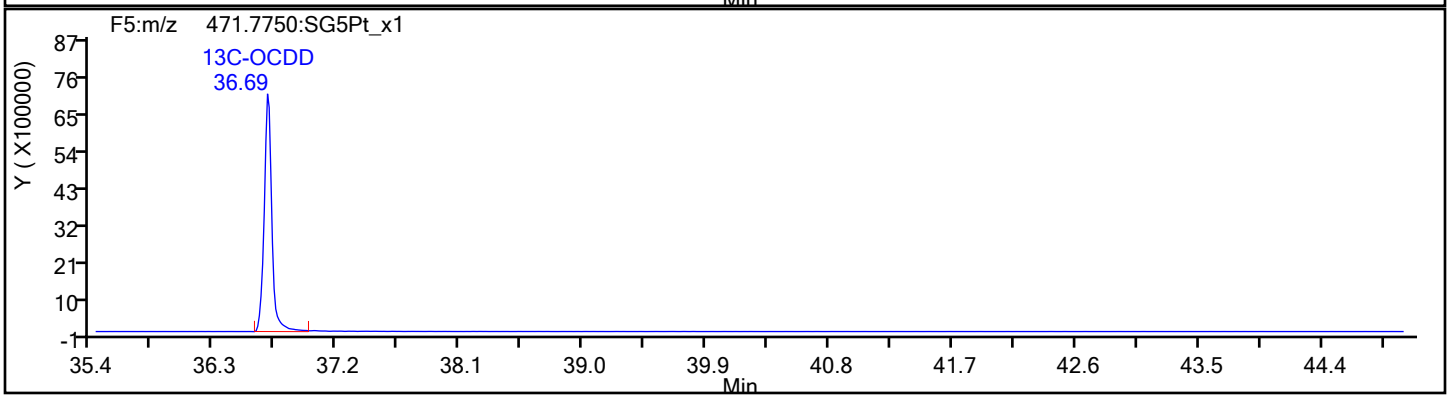

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OCDF

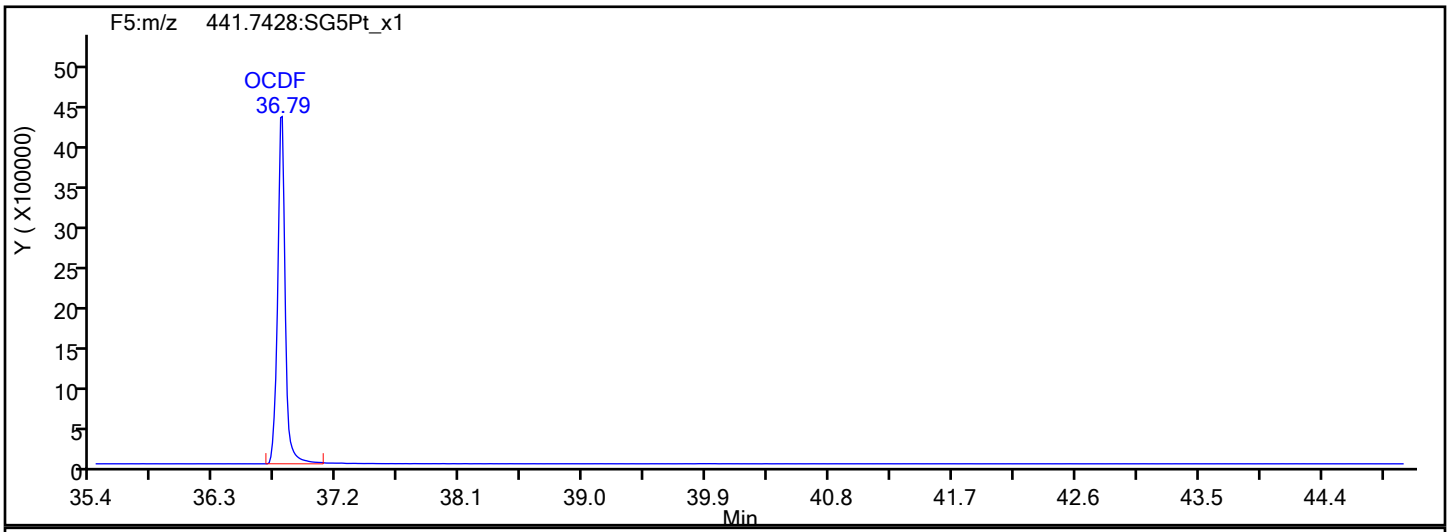

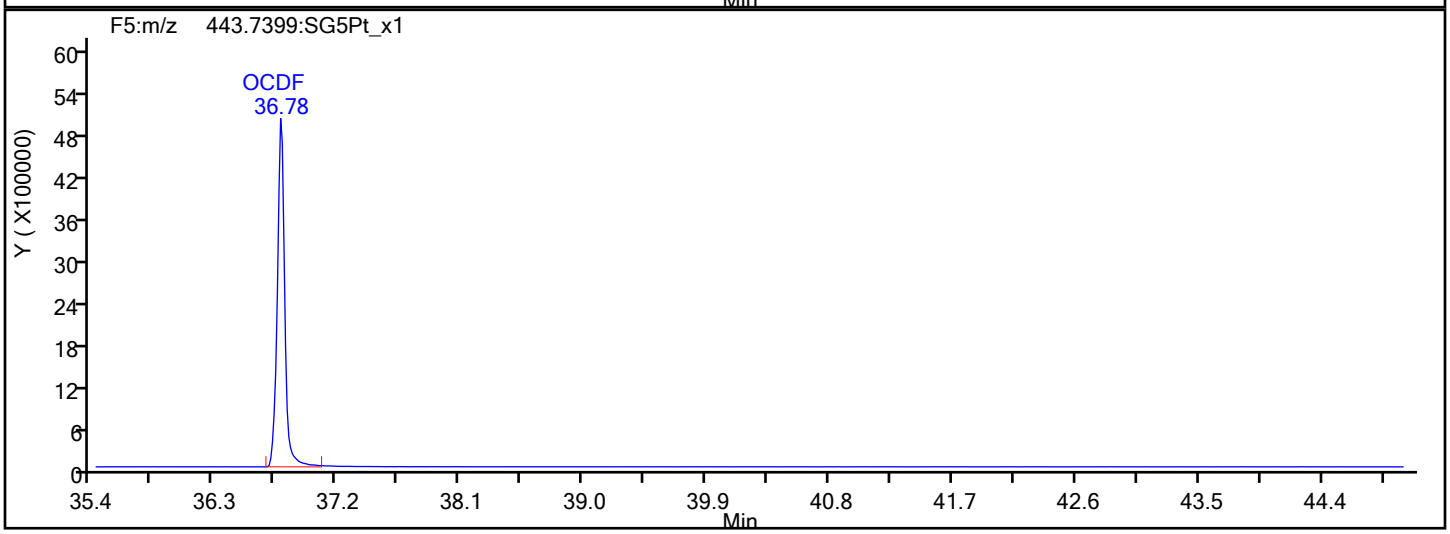

OCDF Interference Mass

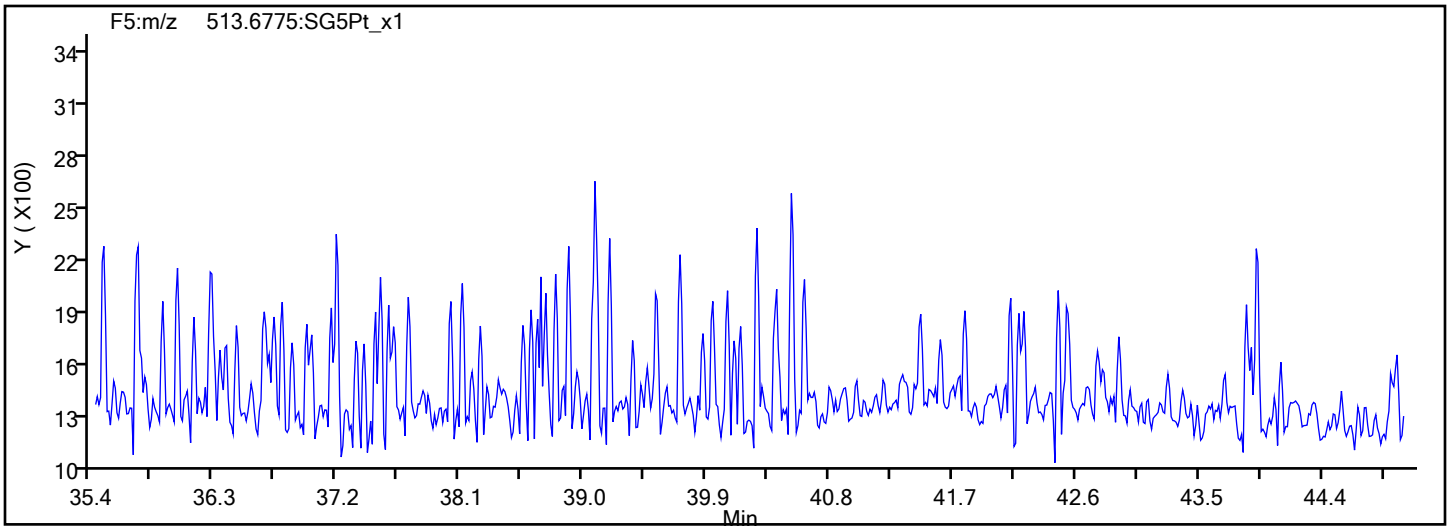

Report Date: 15-Jan-2020 12:39:18 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_20.d		
Injection Date:	14-Jan-2020 03:40:17	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	350523	Sample Line#:	20
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

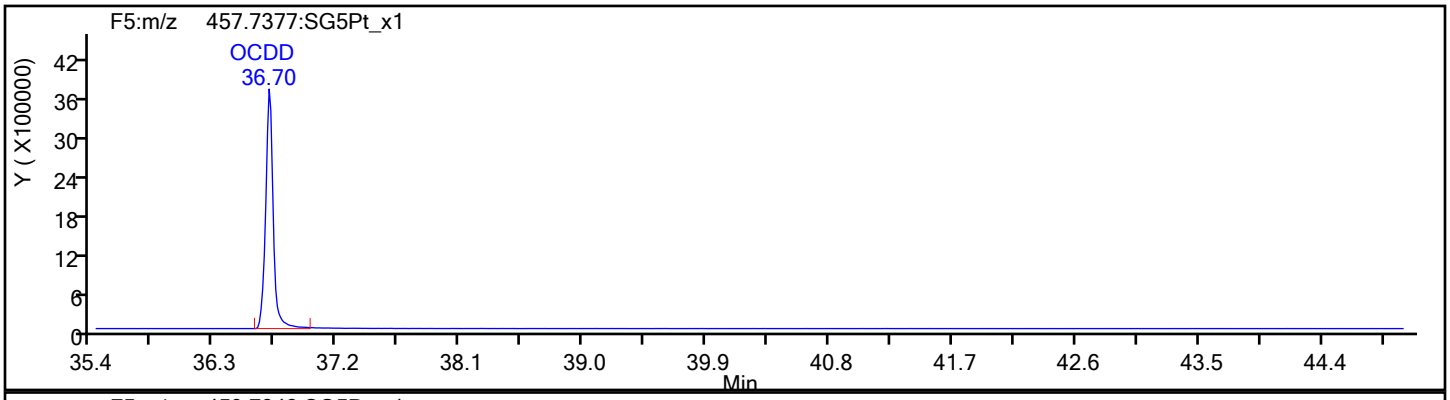

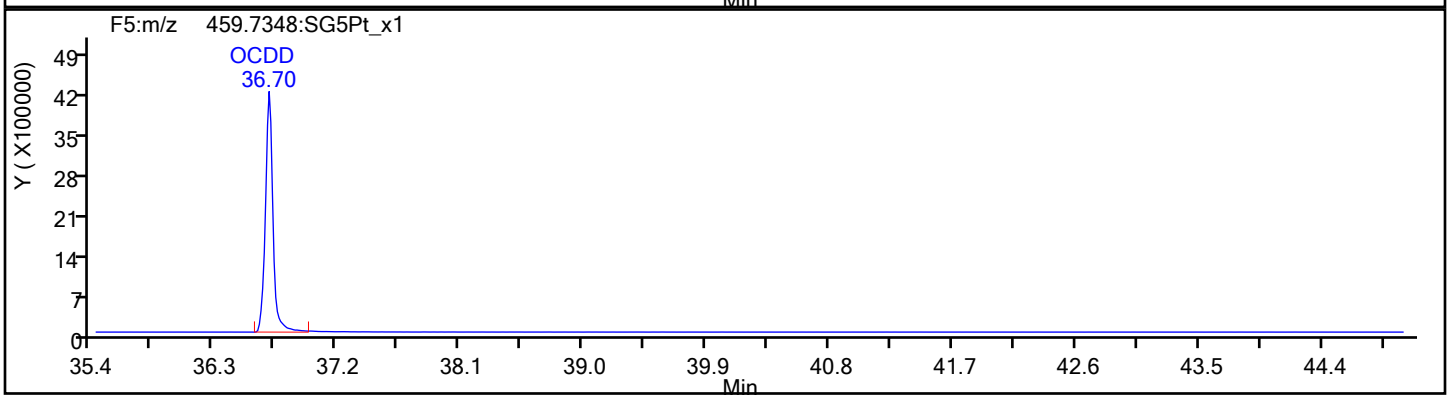

OCDD Standards

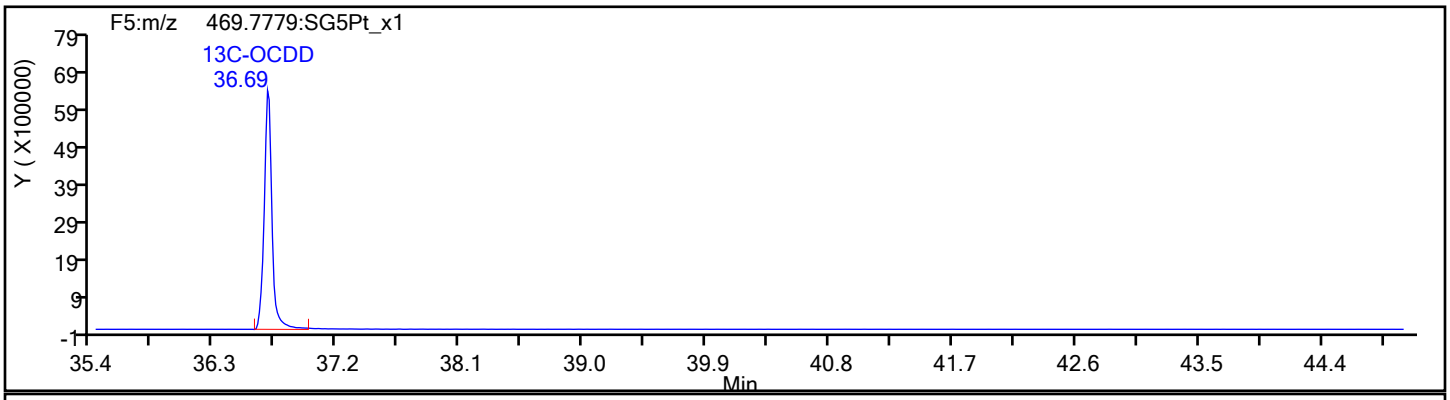

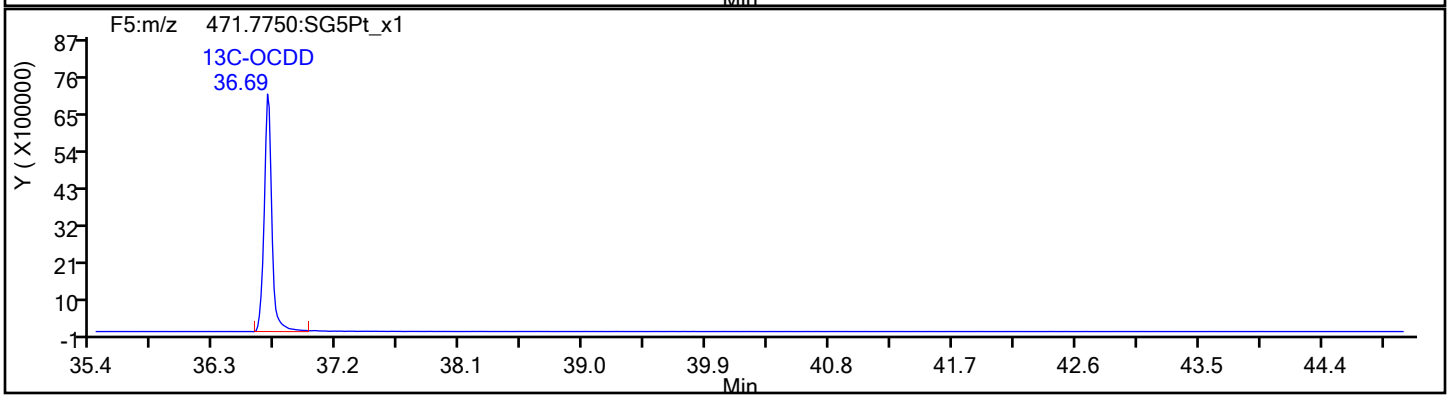

Report Date: 15-Jan-2020 12:39:19 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_20.d		
Injection Date:	14-Jan-2020 03:40:17	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	350523	Sample Line#:	20
Column Type:	DB-5	Column Dia:	0.32 mm

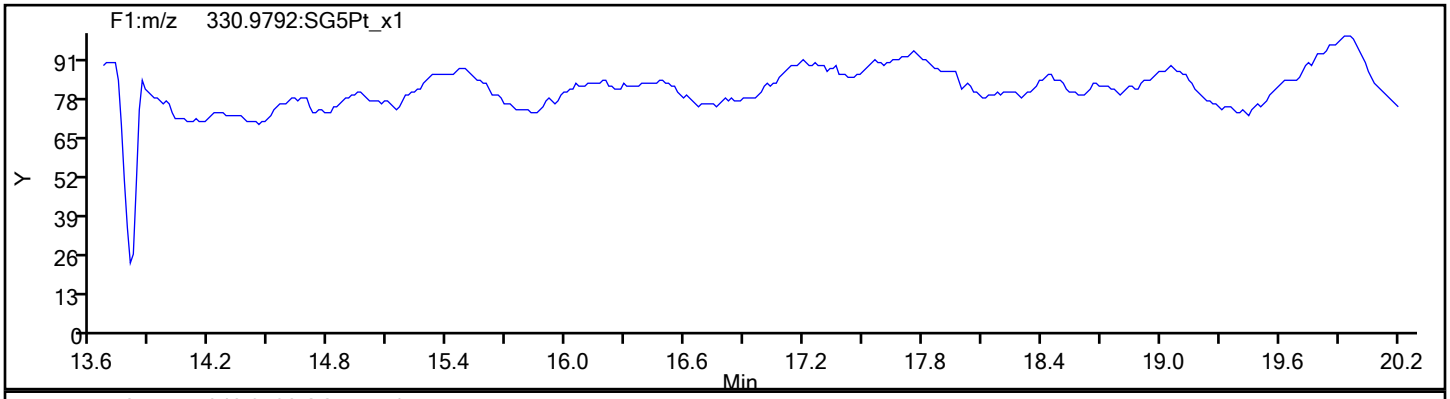

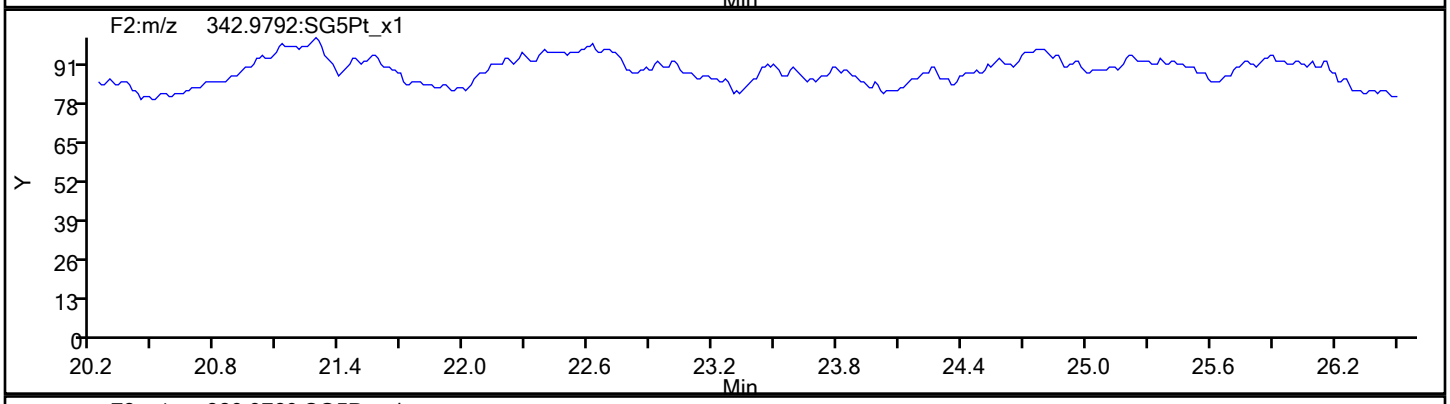

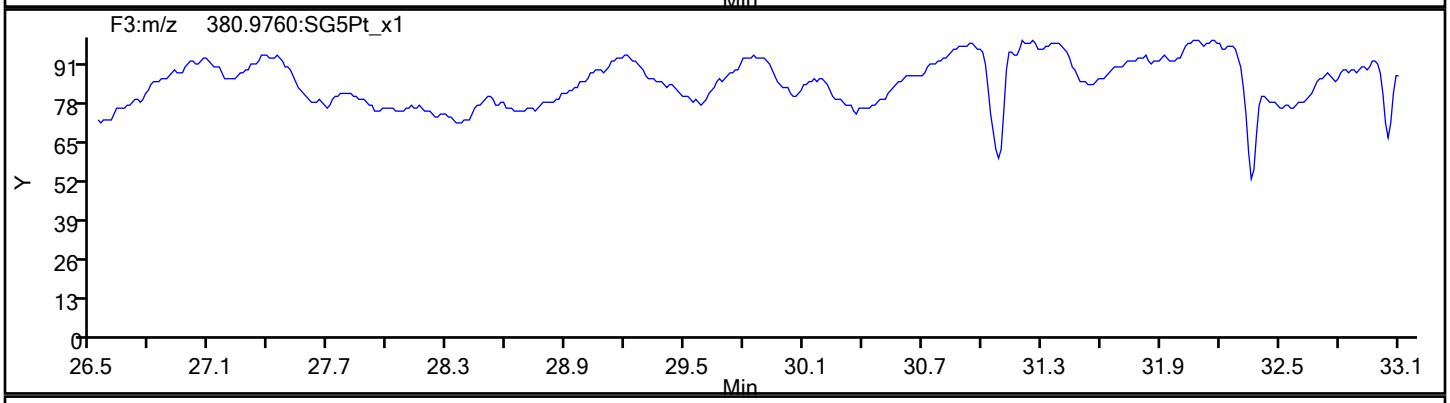

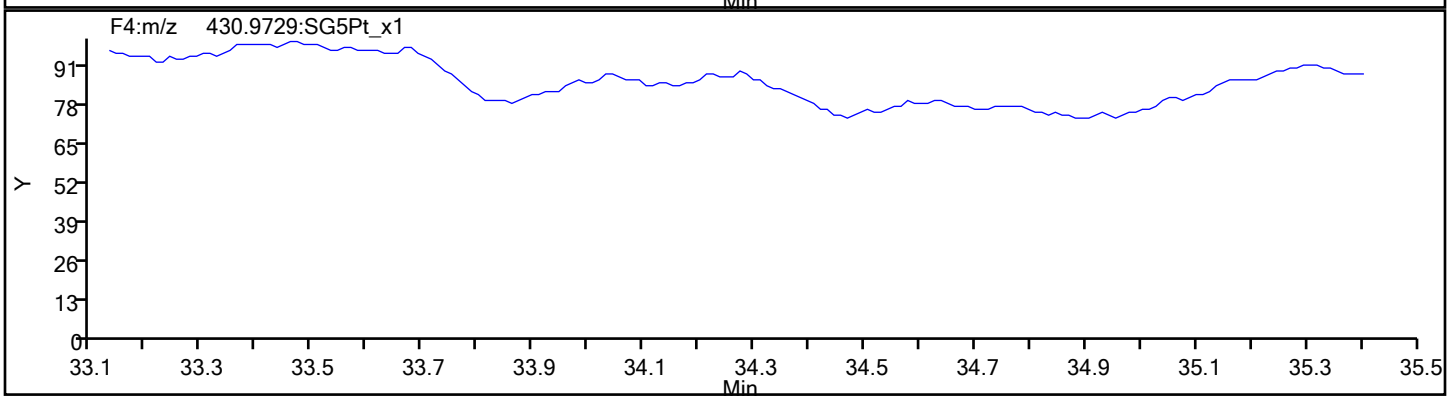

Report Date: 15-Jan-2020 12:39:19 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200113-89484.b\13JA2010D5_20.d		
Injection Date:	14-Jan-2020 03:40:17	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA/ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	350523	Sample Line#:	20
Column Type:	DB-5	Column Dia:	0.32 mm

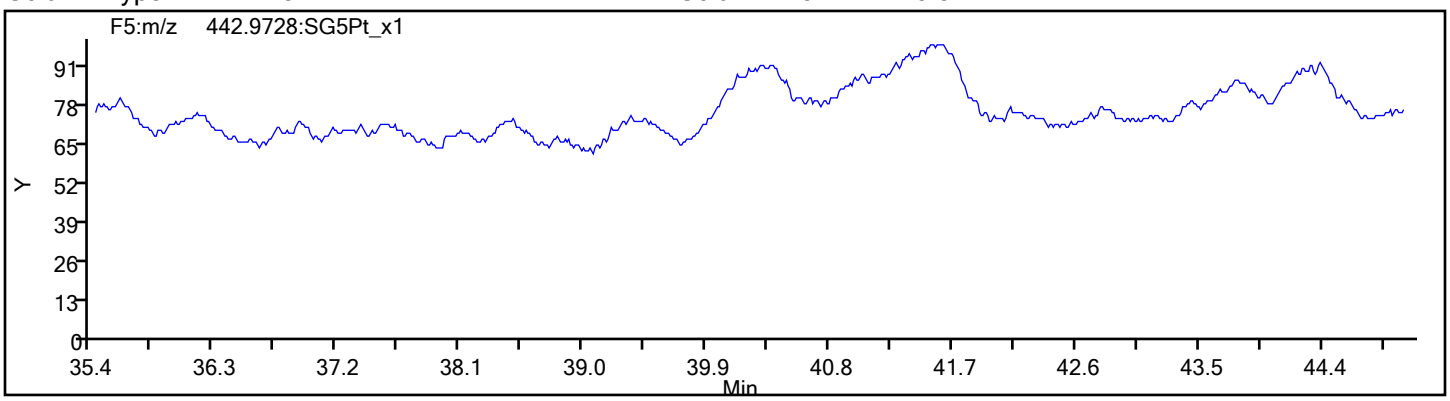

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57624-1

SDG No.:

Instrument ID: 10D5 Start Date: 11/14/2019 08:14

Analysis Batch Number: 338471 End Date: 11/14/2019 14:22

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
WDM 320-338471/1		11/14/2019 08:14	1	14NO1910D5_1.d	DB-5 0.32(mm)
IC 320-338471/3		11/14/2019 09:46	1	14NO1910D5_3.d	DB-5 0.32(mm)
IC 320-338471/4		11/14/2019 10:32	1	14NO1910D5_4.d	DB-5 0.32(mm)
IC 320-338471/5		11/14/2019 11:18	1	14NO1910D5_5.d	DB-5 0.32(mm)
IC 320-338471/6		11/14/2019 12:04	1	14NO1910D5_6.d	DB-5 0.32(mm)
IC 320-338471/7		11/14/2019 12:50	1	14NO1910D5_7.d	DB-5 0.32(mm)
ICV 320-338471/9		11/14/2019 14:22	1	14NO1910D5_9.d	DB-5 0.32(mm)

1613B

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57624-1

SDG No.:

Instrument ID: 10D5 Start Date: 01/13/2020 23:38

Analysis Batch Number: 350523 End Date: 01/14/2020 06:54

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 320-350523/15		01/13/2020 23:38	1	13JA2010D5_15.d	DB-5 0.32(mm)
WDM 320-350523/16		01/14/2020 00:36	1	13JA2010D5_16.d	DB-5 0.32(mm)
ZZZZZ		01/14/2020 01:22	1		DB-5 0.32(mm)
MB 320-350417/1-A		01/14/2020 02:08	1	13JA2010D5_18.d	DB-5 0.32(mm)
LCS 320-350417/2-A		01/14/2020 02:54	1	13JA2010D5_19.d	DB-5 0.32(mm)
LCSD 320-350417/3-A		01/14/2020 03:40	1	13JA2010D5_20.d	DB-5 0.32(mm)
320-57624-1		01/14/2020 04:26	1	13JA2010D5_21.d	DB-5 0.32(mm)
320-57624-2		01/14/2020 05:12	1	13JA2010D5_22.d	DB-5 0.32(mm)
320-57624-3		01/14/2020 05:58	1	13JA2010D5_23.d	DB-5 0.32(mm)
ZZZZZ		01/14/2020 06:54	1		DB-5 0.32(mm)

1613B

DIOXIN BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Sacramen Job No.: 320-57624-1

SDG No.:

Batch Number: 350417 Batch Start Date: 01/13/20 11:12 Batch Analyst: Ruiz, Noe I

Batch Method: 1613B Batch End Date: 01/13/20 19:10

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	HRDXNIDA 00411	HRDXNIS 00121
MB 320-350417/1		1613B, 1613B				1000 mL	20 uL	1 mL	20 uL
LCS 320-350417/2		1613B, 1613B				1000 mL	20 uL	1 mL	20 uL
LCSD 320-350417/3		1613B, 1613B				1000 mL	20 uL	1 mL	20 uL
320-57624-A-1	11187072-FEFF-0.1um	1613B, 1613B	T	1537.8 g	507.48 g	1030.3 mL	20 uL	1 mL	20 uL
320-57624-A-2	11187072-FEFF-0.45um	1613B, 1613B	T	1565.8 g	507.57 g	1058.2 mL	20 uL	1 mL	20 uL
320-57624-A-3	11187072-FEFF-1um	1613B, 1613B	T	1562.0 g	505.35 g	1056.7 mL	20 uL	1 mL	20 uL

Lab Sample ID	Client Sample ID	Method Chain	Basis	HRDXNSU 00230	HRDXNTA 00117				
MB 320-350417/1		1613B, 1613B		1 mL					
LCS 320-350417/2		1613B, 1613B		1 mL	50 uL				
LCSD 320-350417/3		1613B, 1613B		1 mL	50 uL				
320-57624-A-1	11187072-FEFF-0.1um	1613B, 1613B	T	1 mL					
320-57624-A-2	11187072-FEFF-0.45um	1613B, 1613B	T	1 mL					
320-57624-A-3	11187072-FEFF-1um	1613B, 1613B	T	1 mL					

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

DIOXIN BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Sacramen Job No.: 320-57624-1

SDG No.:

Batch Number: 350417 Batch Start Date: 01/13/20 11:12 Batch Analyst: Ruiz, Noe I

Batch Method: 1613B Batch End Date: 01/13/20 19:10

Batch Notes	
20% DCM:Hexane ID	1783360 mL
65% DCM:Hexane ID	1845833 mL
Acid Silica Gel ID	1858133
Acid Alumina ID	28X
Balance ID	QA-70
Batch Comment	Samples will not contain solid portion as is usual with the 1613B_Sox_Sep_P method, Therefore, ther
C14 ID	NR 01/13/2020 STBJ0716
Hexane ID	0000234722 mL
IFB Clean Up	SR/NR 01/13/20
MeCL2 ID	0000242956 mL
Na2SO4 ID	0000235304
Analyst ID - IDA Reagent Drop	NR 01/13/2020 HRDXNIDA_00411 B 1/4 HD05018 1 mL
Analyst ID - IDA Reagent Drop Witness	RDR 01/13/20
Analyst ID - IS Reagent Drop	SR 01/13/20 DB15270 B-2/4 HRDXNIS_00121
Analyst ID - IS Reagent Drop Witness	NR 01/13/20
Analyst ID - SU Reagent Drop	SR 01/13/20 HD05018 B-1/2 HRDXNSU_00230
Analyst ID - SU Reagent Drop Witness	NR 01/13/20
Analyst ID - TA Reagent Drop	NR 01/13/2020 HRDXNTA_00117 B 9/10 DB15270 50 uL
Analyst ID - TA Reagent Drop Witness	RDR 01/13/20
Silica Gel ID	1845858
Storage Box ID	DXN-123

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Shipping and Receiving Documents

CHAIN OF CUSTODY RECORD

COC NO.: 59393

Address: 2055 Niagara Falls Blvd PAGE ___ OF ___

Phone: 716-297-6150 Fax:

Project No/ Phase/Task Code: 11187072	Laboratory Name: Eurofins / TestAmerica	Lab Location: ~~Buffalo~~ Sacramento	SSOW ID:
Project Name: San Jacinto	Lab Contact: Carrie Gamber / Beth Hill		Cooler No:
Project Location: Texas			Carrier:
GHD Chemistry Contact: Debbie Brennan			Airbill No:
Sampler(s): Don Pope			Total # of Containers: 3

Item	Sample Identification (Containers for each sample may be combined on one line)	Date (mm/dd/yy)	Time (hh:mm)	Matrix Code (see back of COC)	Grab (G) or Comp (C)	Filtered (Y/N)	Dioxins and Furans												Total Containers/sample	MS/MSD Request	Comments/ Special Instructions:
	PRESERVATION - (SEE BACK OF COC FOR ABBREVIATIONS)																				
1	11187072-FEFP-0.1um	1/9/20	12:00	WG			X												1		Attn to: Carrie Gamber
2	11187072-FEFF-0.45um	↓	↓	↓			X												1		
3	11187072-FEFF-1um	↓	↓	↓			X												1		* 5-day TAT
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

320-57624 Chain of Custody

TAT Required in business days (use separate COCs for different TATs):

☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 1 Week ☐ 2 Week ☐ Other:

Notes/ Special Requirements:

7.7c cor 7.5c

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1. Don Pope	GHD	1/9/20	15:00	1. [signature]	EA Sac	1/10/20	915
2.				2.			
3.				3.			

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT – ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE – Fully Executed Copy (CRA) YELLOW – Receiving Laboratory Copy PINK – Shipper GOLDENROD – Sampling Crew

GHD Form: COC-10B (20110804)

eurofins | Environment Testing TestAmerica

Sacramento Sample Receiving Notes

320-57624 Field Sheet

Tracking # : 4576 5884 8546

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSO / OnTrac / Goldstreak / USPS / Other_____

Job:_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations. File in the job folder with the COC.

Notes: samples were individually wrapped and placed in center of cooler. ~~Bubble wrapped some voids and padded samples.~~ wrap ST 1/10/20
Two large bags of ice were on either end of the cooler but samples were divided by bubble wrap so samples were not touching any cooling agents
ST 1/10/20

cooler didn't have any tape keeping it shut but was hard to open; does not look like it was opened or tampered with ST 1/10/20

Therm. ID: AK5 Corr. Factor: (+) 0.2 °C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal: —

Cooler ID: —

Temp Observed: 7.7 °C Corrected: 7.5 °C
From: Temp Blank ☐ Sample ☑

During Initial Triage	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☑	☐
CoC is complete w/o discrepancies? ST 1/10/20	☑	☐	☐
Samples received within holding time?	☑	☐	☐

Initials: ST Date: 1/10/20

During Labeling	Yes	No	NA
Samples compromised/tampered with?	☐	☑	☐
Sample containers have legible labels?	☑	☐	☐
Sample custody seal?	☐	☑	☐
Containers are not broken or leaking?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☐	☐	☑
NCM Filed	☐	☑	☐

Initials: EKT Date: 01-20-2020

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

ORIGIN ID:DKKA (716) 297-2160
BRITT GEBHARDT
GHD
2055 NIAGARA FALLS BLVD

NIAGARA FALLS, NY 14304
UNITED STATES US

SHIP DATE: 09JAN20
ACTWGT: 30.00 LB MAN
CAD: 68417/CAFE3211

BILL SENDER

TO

TEST AMERICA/EUROFINS
880 RIVERSIDE PARKWAY

W. SACRAMENTO CA 95605
(916) 373-5600
REF: 11187072 - NI0402 GEB (POPE)

FedEx Express

TRK# 0201 4576 5884 8546

FRI - 10 JAN 10:30A
PRIORITY OVERNIGHT

XH BLUA

95605
CA-US SMF

Part # 154254-354 RIT EXP 02/20

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 320-57624-1

Login Number: 57624
List Number: 1
Creator: Oropeza, Salvador

List Source: Eurofins TestAmerica, Sacramento

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	False	Cooler temperature outside required temperature criteria.
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Environment Testing America

ANALYTICAL REPORT

Job Number: 320-57717-1

Job Description: San Jacinto River Waste Pits Superfund

For:
GHD Services Inc.
5551 Corporate Boulevard
Suite 200
Baton Rouge, LA 70808

Attention: Janie Smith

Approved for release.
Carrie L Gamber
Senior Project Manager
5/19/2020 1:10 PM

Carrie L Gamber, Senior Project Manager
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2428
carrie.gamber@testamericainc.com
05/19/2020
Revision: 1

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of TestAmerica and its client. All questions regarding this report should be directed to the TestAmerica Project Manager or designee who has signed this report.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins TestAmerica Project Manager.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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Qualifiers

Dioxin

Qualifier	Qualifier Description
*	Isotope Dilution analyte is outside acceptance limits.
B	Compound was found in the blank and sample.
G	The reported quantitation limit has been raised due to an exhibited elevated noise or matrix interference
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE

Client: GHD Services Inc.

Project: San Jacinto River Waste Pits Superfund

Report Number: 320-57717-1 REVISED

NOTE: Per the client's request, the TEQ summaries have been removed from this report.

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 01/14/2020; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.5 C.

NOTE: NOTE: Results for non-detect PCDD/PCDF analytes are reported using the Estimated Detection Limit (EDL) convention, which provides the lowest possible detection limits for each analyte in each sample based on the magnitude of chromatographic and detector 'noise' at the expected retention time of each analyte. EDL values are typically well below 1 pg/g, and the TEQ-weighted sum of EDL values is below the targeted action limit of 30 pg/g in each reported sample.

DIOXINS

The following water samples were filtered by the client prior to shipping samples to Eurofins TestAmerica. Thus, Method 1613's requirements for filtration and extraction of the particulate material was not applicable to these samples: 11187072-FEFF-0.025um (320-57717-1) and 11187072-FEFF-0.050um (320-57717-2).

EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD and 13C-1,2,3,7,8,9-HxCDD associated with the following samples run on instrument 3D5 exceeded this criteria: 11187072-FEFF-0.025um (320-57717-1), 11187072-FEFF-0.050um (320-57717-2), (CCV 320-351160/2), (LCS 320-350857/2-A), (LCSD 320-350857/3-A) and (MB 320-350857/1-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

1,2,3,7,8,9-HxCDF, OCDD, Total HxCDD and Total HxCDF were detected in method blank MB 320-350857/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Detection Summary

Client: GHD Services Inc.
Job ID: 320-57717-1
Project/Site: San Jacinto River Waste Pits Superfund

Client Sample ID: 11187072-FEFF-0.025um — Lab Sample ID: 320-57717-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	1.8	J	47	0.58	pg/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.85	J	47	0.60	pg/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.68	J B q	47	0.43	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	1.3	J q	47	0.45	pg/L	1		1613B	Total/NA
OCDD	14	J B q	95	0.76	pg/L	1		1613B	Total/NA
Total TCDD	0.90	J q	9.5	0.70	pg/L	1		1613B	Total/NA
Total HxCDD	2.6	J B	47	0.57	pg/L	1		1613B	Total/NA
Total HxCDF	0.68	J B q	47	0.59	pg/L	1		1613B	Total/NA
Total HpCDD	2.9	J q	47	0.45	pg/L	1		1613B	Total/NA

Client Sample ID: 11187072-FEFF-0.050um — Lab Sample ID: 320-57717-2

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	1.6	J q	47	0.46	pg/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.66	J q	47	0.54	pg/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.96	J B	47	0.36	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.73	J	47	0.44	pg/L	1		1613B	Total/NA
OCDD	3.7	J B q	95	0.62	pg/L	1		1613B	Total/NA
OCDF	1.3	J q	95	0.76	pg/L	1		1613B	Total/NA
Total TCDD	1.0	J q	9.5	0.62	pg/L	1		1613B	Total/NA
Total HxCDD	5.6	J B q	47	0.48	pg/L	1		1613B	Total/NA
Total HxCDF	0.96	J B	47	0.51	pg/L	1		1613B	Total/NA
Total HpCDD	1.8	J	47	0.44	pg/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 320-57717-1

Client Sample ID: 11187072-FEFF-0.025um

Date Collected: 01/13/20 12:00
Date Received: 01/14/20 09:35

Lab Sample ID: 320-57717-1

Matrix: Water

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		9.5	0.70	pg/L		01/15/20 07:32	01/16/20 04:38	1
2,3,7,8-TCDF	ND		9.5	0.41	pg/L		01/15/20 07:32	01/16/20 04:38	1
1,2,3,7,8-PeCDD	ND		47	1.2	pg/L		01/15/20 07:32	01/16/20 04:38	1
1,2,3,7,8-PeCDF	ND		47	0.78	pg/L		01/15/20 07:32	01/16/20 04:38	1
2,3,4,7,8-PeCDF	ND		47	0.80	pg/L		01/15/20 07:32	01/16/20 04:38	1
1,2,3,4,7,8-HxCDD	**1.8**	**J**	47	0.58	pg/L		01/15/20 07:32	01/16/20 04:38	1
1,2,3,6,7,8-HxCDD	**0.85**	**J**	47	0.60	pg/L		01/15/20 07:32	01/16/20 04:38	1
1,2,3,7,8,9-HxCDD	ND		47	0.52	pg/L		01/15/20 07:32	01/16/20 04:38	1
1,2,3,4,7,8-HxCDF	ND		47	0.72	pg/L		01/15/20 07:32	01/16/20 04:38	1
1,2,3,6,7,8-HxCDF	ND		47	0.71	pg/L		01/15/20 07:32	01/16/20 04:38	1
1,2,3,7,8,9-HxCDF	**0.68**	**J B q**	47	0.43	pg/L		01/15/20 07:32	01/16/20 04:38	1
2,3,4,6,7,8-HxCDF	ND		47	0.48	pg/L		01/15/20 07:32	01/16/20 04:38	1
1,2,3,4,6,7,8-HpCDD	**1.3**	**J q**	47	0.45	pg/L		01/15/20 07:32	01/16/20 04:38	1
1,2,3,4,6,7,8-HpCDF	ND		47	0.84	pg/L		01/15/20 07:32	01/16/20 04:38	1
1,2,3,4,7,8,9-HpCDF	ND		47	0.96	pg/L		01/15/20 07:32	01/16/20 04:38	1
OCDD	**14**	**J B q**	95	0.76	pg/L		01/15/20 07:32	01/16/20 04:38	1
OCDF	ND		95	0.93	pg/L		01/15/20 07:32	01/16/20 04:38	1
Total TCDD	**0.90**	**J q**	9.5	0.70	pg/L		01/15/20 07:32	01/16/20 04:38	1
Total TCDF	ND		9.5	0.41	pg/L		01/15/20 07:32	01/16/20 04:38	1
Total PeCDD	ND		47	1.2	pg/L		01/15/20 07:32	01/16/20 04:38	1
Total PeCDF	ND		47	0.80	pg/L		01/15/20 07:32	01/16/20 04:38	1
Total HxCDD	**2.6**	**J B**	47	0.57	pg/L		01/15/20 07:32	01/16/20 04:38	1
Total HxCDF	**0.68**	**J B q**	47	0.59	pg/L		01/15/20 07:32	01/16/20 04:38	1
Total HpCDD	**2.9**	**J q**	47	0.45	pg/L		01/15/20 07:32	01/16/20 04:38	1
Total HpCDF	ND		47	0.96	pg/L		01/15/20 07:32	01/16/20 04:38	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*83*		*25 - 164*	*01/15/20 07:32*	*01/16/20 04:38*	*1*
13C-2,3,7,8-TCDF	*85*		*24 - 169*	*01/15/20 07:32*	*01/16/20 04:38*	*1*
13C-1,2,3,7,8-PeCDD	*91*		*25 - 181*	*01/15/20 07:32*	*01/16/20 04:38*	*1*
13C-1,2,3,7,8-PeCDF	*79*		*24 - 185*	*01/15/20 07:32*	*01/16/20 04:38*	*1*
13C-2,3,4,7,8-PeCDF	*88*		*21 - 178*	*01/15/20 07:32*	*01/16/20 04:38*	*1*
13C-1,2,3,4,7,8-HxCDD	*93*		*32 - 141*	*01/15/20 07:32*	*01/16/20 04:38*	*1*
13C-1,2,3,6,7,8-HxCDD	*91*		*28 - 130*	*01/15/20 07:32*	*01/16/20 04:38*	*1*
13C-1,2,3,4,7,8-HxCDF	*88*		*26 - 152*	*01/15/20 07:32*	*01/16/20 04:38*	*1*
13C-1,2,3,6,7,8-HxCDF	*79*		*26 - 123*	*01/15/20 07:32*	*01/16/20 04:38*	*1*
13C-1,2,3,7,8,9-HxCDF	*90*		*29 - 147*	*01/15/20 07:32*	*01/16/20 04:38*	*1*
13C-2,3,4,6,7,8-HxCDF	*82*		*28 - 136*	*01/15/20 07:32*	*01/16/20 04:38*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*86*		*23 - 140*	*01/15/20 07:32*	*01/16/20 04:38*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*79*		*28 - 143*	*01/15/20 07:32*	*01/16/20 04:38*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*94*		*26 - 138*	*01/15/20 07:32*	*01/16/20 04:38*	*1*
13C-OCDD	*91*		*17 - 157*	*01/15/20 07:32*	*01/16/20 04:38*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*101*		*35 - 197*	*01/15/20 07:32*	*01/16/20 04:38*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 320-57717-1

Client Sample ID: 11187072-FEFF-0.050um

Date Collected: 01/13/20 12:00
Date Received: 01/14/20 09:35

Lab Sample ID: 320-57717-2

Matrix: Water

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		9.5	0.62	pg/L		01/15/20 07:32	01/16/20 05:26	1
2,3,7,8-TCDF	ND		9.5	0.34	pg/L		01/15/20 07:32	01/16/20 05:26	1
1,2,3,7,8-PeCDD	ND		47	1.1	pg/L		01/15/20 07:32	01/16/20 05:26	1
1,2,3,7,8-PeCDF	ND		47	0.59	pg/L		01/15/20 07:32	01/16/20 05:26	1
2,3,4,7,8-PeCDF	ND		47	0.62	pg/L		01/15/20 07:32	01/16/20 05:26	1
1,2,3,4,7,8-HxCDD	**1.6**	**J q**	47	0.46	pg/L		01/15/20 07:32	01/16/20 05:26	1
1,2,3,6,7,8-HxCDD	**0.66**	**J q**	47	0.54	pg/L		01/15/20 07:32	01/16/20 05:26	1
1,2,3,7,8,9-HxCDD	ND		47	0.44	pg/L		01/15/20 07:32	01/16/20 05:26	1
1,2,3,4,7,8-HxCDF	ND		47	0.65	pg/L		01/15/20 07:32	01/16/20 05:26	1
1,2,3,6,7,8-HxCDF	ND		47	0.63	pg/L		01/15/20 07:32	01/16/20 05:26	1
1,2,3,7,8,9-HxCDF	**0.96**	**J B**	47	0.36	pg/L		01/15/20 07:32	01/16/20 05:26	1
2,3,4,6,7,8-HxCDF	ND		47	0.41	pg/L		01/15/20 07:32	01/16/20 05:26	1
1,2,3,4,6,7,8-HpCDD	**0.73**	**J**	47	0.44	pg/L		01/15/20 07:32	01/16/20 05:26	1
1,2,3,4,6,7,8-HpCDF	ND		47	0.67	pg/L		01/15/20 07:32	01/16/20 05:26	1
1,2,3,4,7,8,9-HpCDF	ND		47	0.80	pg/L		01/15/20 07:32	01/16/20 05:26	1
OCDD	**3.7**	**J B q**	95	0.62	pg/L		01/15/20 07:32	01/16/20 05:26	1
OCDF	**1.3**	**J q**	95	0.76	pg/L		01/15/20 07:32	01/16/20 05:26	1
Total TCDD	**1.0**	**J q**	9.5	0.62	pg/L		01/15/20 07:32	01/16/20 05:26	1
Total TCDF	ND		9.5	0.34	pg/L		01/15/20 07:32	01/16/20 05:26	1
Total PeCDD	ND		47	1.1	pg/L		01/15/20 07:32	01/16/20 05:26	1
Total PeCDF	ND		47	0.62	pg/L		01/15/20 07:32	01/16/20 05:26	1
Total HxCDD	**5.6**	**J B q**	47	0.48	pg/L		01/15/20 07:32	01/16/20 05:26	1
Total HxCDF	**0.96**	**J B**	47	0.51	pg/L		01/15/20 07:32	01/16/20 05:26	1
Total HpCDD	**1.8**	**J**	47	0.44	pg/L		01/15/20 07:32	01/16/20 05:26	1
Total HpCDF	ND		47	0.80	pg/L		01/15/20 07:32	01/16/20 05:26	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*84*		*25 - 164*	*01/15/20 07:32*	*01/16/20 05:26*	*1*
13C-2,3,7,8-TCDF	*84*		*24 - 169*	*01/15/20 07:32*	*01/16/20 05:26*	*1*
13C-1,2,3,7,8-PeCDD	*78*		*25 - 181*	*01/15/20 07:32*	*01/16/20 05:26*	*1*
13C-1,2,3,7,8-PeCDF	*79*		*24 - 185*	*01/15/20 07:32*	*01/16/20 05:26*	*1*
13C-2,3,4,7,8-PeCDF	*84*		*21 - 178*	*01/15/20 07:32*	*01/16/20 05:26*	*1*
13C-1,2,3,4,7,8-HxCDD	*89*		*32 - 141*	*01/15/20 07:32*	*01/16/20 05:26*	*1*
13C-1,2,3,6,7,8-HxCDD	*77*		*28 - 130*	*01/15/20 07:32*	*01/16/20 05:26*	*1*
13C-1,2,3,4,7,8-HxCDF	*79*		*26 - 152*	*01/15/20 07:32*	*01/16/20 05:26*	*1*
13C-1,2,3,6,7,8-HxCDF	*72*		*26 - 123*	*01/15/20 07:32*	*01/16/20 05:26*	*1*
13C-1,2,3,7,8,9-HxCDF	*81*		*29 - 147*	*01/15/20 07:32*	*01/16/20 05:26*	*1*
13C-2,3,4,6,7,8-HxCDF	*76*		*28 - 136*	*01/15/20 07:32*	*01/16/20 05:26*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*81*		*23 - 140*	*01/15/20 07:32*	*01/16/20 05:26*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*73*		*28 - 143*	*01/15/20 07:32*	*01/16/20 05:26*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*89*		*26 - 138*	*01/15/20 07:32*	*01/16/20 05:26*	*1*
13C-OCDD	*88*		*17 - 157*	*01/15/20 07:32*	*01/16/20 05:26*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*102*		*35 - 197*	*01/15/20 07:32*	*01/16/20 05:26*	*1*

Default Detection Limits

Client: GHD Services Inc.
Job ID: 320-57717-1
Project/Site: San Jacinto River Waste Pits Superfund

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Prep: 1613B

Analyte	RL		Units
1,2,3,4,6,7,8-HpCDD	50		pg/L
1,2,3,4,6,7,8-HpCDF	50		pg/L
1,2,3,4,7,8,9-HpCDF	50		pg/L
1,2,3,4,7,8-HxCDD	50		pg/L
1,2,3,4,7,8-HxCDF	50		pg/L
1,2,3,6,7,8-HxCDD	50		pg/L
1,2,3,6,7,8-HxCDF	50		pg/L
1,2,3,7,8,9-HxCDD	50		pg/L
1,2,3,7,8,9-HxCDF	50		pg/L
1,2,3,7,8-PeCDD	50		pg/L
1,2,3,7,8-PeCDF	50		pg/L
2,3,4,6,7,8-HxCDF	50		pg/L
2,3,4,7,8-PeCDF	50		pg/L
2,3,7,8-TCDD	10		pg/L
2,3,7,8-TCDF	10		pg/L
OCDD	100		pg/L
OCDF	100		pg/L
Total HpCDD	50		pg/L
Total HpCDF	50		pg/L
Total HxCDD	50		pg/L
Total HxCDF	50		pg/L
Total PeCDD	50		pg/L
Total PeCDF	50		pg/L
Total TCDD	10		pg/L
Total TCDF	10		pg/L

Surrogate Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 320-57717-1

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	**Client Sample ID**	**37TCDD (35-197)**							
320-57717-1	11187072-FEFF-0.025um	101							
320-57717-2	11187072-FEFF-0.050um	102							
MB 320-350857/1-A	Method Blank	102							

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	**Client Sample ID**	**37TCDD (31-191)**							
LCS 320-350857/2-A	Lab Control Sample	101							
LCSD 320-350857/3-A	Lab Control Sample Dup	105							

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 320-57717-1

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		TCDD	TCDF	PeCDD	PeCDF	PeCF	HxCDD	HxDD	HxCDF
Lab Sample ID	Client Sample ID	(25-164)	(24-169)	(25-181)	(24-185)	(21-178)	(32-141)	(28-130)	(26-152)
320-57717-1	11187072-FEFF-0.025um	83	85	91	79	88	93	91	88
320-57717-2	11187072-FEFF-0.050um	84	84	78	79	84	89	77	79
MB 320-350857/1-A	Method Blank	86	89	77	74	81	96	88	85

		Percent Isotope Dilution Recovery (Acceptance Limits)						
		HxDF	HxCF	13CHxCF	HpCDD	HpCDF	HpCDF2	OCDD
Lab Sample ID	Client Sample ID	(26-123)	(29-147)	(28-136)	(23-140)	(28-143)	(26-138)	(17-157)
320-57717-1	11187072-FEFF-0.025um	79	90	82	86	79	94	91
320-57717-2	11187072-FEFF-0.050um	72	81	76	81	73	89	88
MB 320-350857/1-A	Method Blank	80	91	84	86	80	94	91

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		TCDD	TCDF	PeCDD	PeCDF	PeCF	HxCDD	HxDD	HxCDF
Lab Sample ID	Client Sample ID	(20-175)	(22-152)	(21-227)	(21-192)	(13-328)	(21-193)	(25-163)	(19-202)
LCS 320-350857/2-A	Lab Control Sample	75	75	68	67	71	82	76	76
LCSD 320-350857/3-A	Lab Control Sample Dup	88	83	78	78	80	97	88	90

		Percent Isotope Dilution Recovery (Acceptance Limits)						
		HxDF	HxCF	13CHxCF	HpCDD	HpCDF	HpCDF2	OCDD
Lab Sample ID	Client Sample ID	(21-159)	(17-205)	(22-176)	(26-166)	(21-158)	(20-186)	(13-199)
LCS 320-350857/2-A	Lab Control Sample	73	76	73	86	70	91	85
LCSD 320-350857/3-A	Lab Control Sample Dup	80	92	84	87	81	95	96

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF

Isotope Dilution Summary

Client: GHD Services Inc.

Job ID: 320-57717-1

Project/Site: San Jacinto River Waste Pits Superfund

HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-350857/1-A
Matrix: Water
Analysis Batch: 351160

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 350857

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		10	0.78	pg/L		01/15/20 07:32	01/16/20 02:16	1
2,3,7,8-TCDF	ND		10	0.45	pg/L		01/15/20 07:32	01/16/20 02:16	1
1,2,3,7,8-PeCDD	ND		50	1.2	pg/L		01/15/20 07:32	01/16/20 02:16	1
1,2,3,7,8-PeCDF	ND		50	0.69	pg/L		01/15/20 07:32	01/16/20 02:16	1
2,3,4,7,8-PeCDF	ND		50	0.71	pg/L		01/15/20 07:32	01/16/20 02:16	1
1,2,3,4,7,8-HxCDD	ND		50	0.57	pg/L		01/15/20 07:32	01/16/20 02:16	1
1,2,3,6,7,8-HxCDD	ND		50	0.62	pg/L		01/15/20 07:32	01/16/20 02:16	1
1,2,3,7,8,9-HxCDD	ND		50	0.53	pg/L		01/15/20 07:32	01/16/20 02:16	1
1,2,3,4,7,8-HxCDF	ND		50	0.70	pg/L		01/15/20 07:32	01/16/20 02:16	1
1,2,3,6,7,8-HxCDF	ND		50	0.66	pg/L		01/15/20 07:32	01/16/20 02:16	1
1,2,3,7,8,9-HxCDF	0.657	J	50	0.36	pg/L		01/15/20 07:32	01/16/20 02:16	1
2,3,4,6,7,8-HxCDF	ND		50	0.44	pg/L		01/15/20 07:32	01/16/20 02:16	1
1,2,3,4,6,7,8-HpCDD	ND		50	0.51	pg/L		01/15/20 07:32	01/16/20 02:16	1
1,2,3,4,6,7,8-HpCDF	ND		50	0.80	pg/L		01/15/20 07:32	01/16/20 02:16	1
1,2,3,4,7,8,9-HpCDF	ND		50	0.94	pg/L		01/15/20 07:32	01/16/20 02:16	1
OCDD	4.55	J	100	0.78	pg/L		01/15/20 07:32	01/16/20 02:16	1
OCDF	ND		100	1.1	pg/L		01/15/20 07:32	01/16/20 02:16	1
Total TCDD	ND		10	0.78	pg/L		01/15/20 07:32	01/16/20 02:16	1
Total TCDF	ND		10	0.45	pg/L		01/15/20 07:32	01/16/20 02:16	1
Total PeCDD	ND		50	1.2	pg/L		01/15/20 07:32	01/16/20 02:16	1
Total PeCDF	ND		50	0.88	pg/L		01/15/20 07:32	01/16/20 02:16	1
Total HxCDD	7.14	J q	50	0.57	pg/L		01/15/20 07:32	01/16/20 02:16	1
Total HxCDF	0.657	J	50	0.54	pg/L		01/15/20 07:32	01/16/20 02:16	1
Total HpCDD	ND		50	0.51	pg/L		01/15/20 07:32	01/16/20 02:16	1
Total HpCDF	ND		50	0.94	pg/L		01/15/20 07:32	01/16/20 02:16	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*86*		*25 - 164*	*01/15/20 07:32*	*01/16/20 02:16*	*1*
13C-2,3,7,8-TCDF	*89*		*24 - 169*	*01/15/20 07:32*	*01/16/20 02:16*	*1*
13C-1,2,3,7,8-PeCDD	*77*		*25 - 181*	*01/15/20 07:32*	*01/16/20 02:16*	*1*
13C-1,2,3,7,8-PeCDF	*74*		*24 - 185*	*01/15/20 07:32*	*01/16/20 02:16*	*1*
13C-2,3,4,7,8-PeCDF	*81*		*21 - 178*	*01/15/20 07:32*	*01/16/20 02:16*	*1*
13C-1,2,3,4,7,8-HxCDD	*96*		*32 - 141*	*01/15/20 07:32*	*01/16/20 02:16*	*1*
13C-1,2,3,6,7,8-HxCDD	*88*		*28 - 130*	*01/15/20 07:32*	*01/16/20 02:16*	*1*
13C-1,2,3,4,7,8-HxCDF	*85*		*26 - 152*	*01/15/20 07:32*	*01/16/20 02:16*	*1*
13C-1,2,3,6,7,8-HxCDF	*80*		*26 - 123*	*01/15/20 07:32*	*01/16/20 02:16*	*1*
13C-1,2,3,7,8,9-HxCDF	*91*		*29 - 147*	*01/15/20 07:32*	*01/16/20 02:16*	*1*
13C-2,3,4,6,7,8-HxCDF	*84*		*28 - 136*	*01/15/20 07:32*	*01/16/20 02:16*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*86*		*23 - 140*	*01/15/20 07:32*	*01/16/20 02:16*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*80*		*28 - 143*	*01/15/20 07:32*	*01/16/20 02:16*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*94*		*26 - 138*	*01/15/20 07:32*	*01/16/20 02:16*	*1*
13C-OCDD	*91*		*17 - 157*	*01/15/20 07:32*	*01/16/20 02:16*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*102*		*35 - 197*	*01/15/20 07:32*	*01/16/20 02:16*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-350857/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 351160 **Prep Batch: 350857**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	200	206		pg/L		103	67 - 158
2,3,7,8-TCDF	200	213		pg/L		107	75 - 158
1,2,3,7,8-PeCDD	1000	973		pg/L		97	70 - 142
1,2,3,7,8-PeCDF	1000	936		pg/L		94	80 - 134
2,3,4,7,8-PeCDF	1000	914		pg/L		91	68 - 160
1,2,3,4,7,8-HxCDD	1000	911		pg/L		91	70 - 164
1,2,3,6,7,8-HxCDD	1000	940		pg/L		94	76 - 134
1,2,3,7,8,9-HxCDD	1000	907		pg/L		91	64 - 162
1,2,3,4,7,8-HxCDF	1000	943		pg/L		94	72 - 134
1,2,3,6,7,8-HxCDF	1000	977		pg/L		98	84 - 130
1,2,3,7,8,9-HxCDF	1000	1020		pg/L		102	78 - 130
2,3,4,6,7,8-HxCDF	1000	1010		pg/L		101	70 - 156
1,2,3,4,6,7,8-HpCDD	1000	964		pg/L		96	70 - 140
1,2,3,4,6,7,8-HpCDF	1000	995		pg/L		99	82 - 122
1,2,3,4,7,8,9-HpCDF	1000	925		pg/L		93	78 - 138
OCDD	2000	1870		pg/L		93	78 - 144
OCDF	2000	2030		pg/L		102	63 - 170

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*75*		*20 - 175*
13C-2,3,7,8-TCDF	*75*		*22 - 152*
13C-1,2,3,7,8-PeCDD	*68*		*21 - 227*
13C-1,2,3,7,8-PeCDF	*67*		*21 - 192*
13C-2,3,4,7,8-PeCDF	*71*		*13 - 328*
13C-1,2,3,4,7,8-HxCDD	*82*		*21 - 193*
13C-1,2,3,6,7,8-HxCDD	*76*		*25 - 163*
13C-1,2,3,4,7,8-HxCDF	*76*		*19 - 202*
13C-1,2,3,6,7,8-HxCDF	*73*		*21 - 159*
13C-1,2,3,7,8,9-HxCDF	*76*		*17 - 205*
13C-2,3,4,6,7,8-HxCDF	*73*		*22 - 176*
13C-1,2,3,4,6,7,8-HpCDD	*86*		*26 - 166*
13C-1,2,3,4,6,7,8-HpCDF	*70*		*21 - 158*
13C-1,2,3,4,7,8,9-HpCDF	*91*		*20 - 186*
13C-OCDD	*85*		*13 - 199*

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
37Cl4-2,3,7,8-TCDD	*101*		*31 - 191*

Lab Sample ID: LCSD 320-350857/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 351160 **Prep Batch: 350857**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD	200	208		pg/L		104	67 - 158	1	50
2,3,7,8-TCDF	200	216		pg/L		108	75 - 158	1	50
1,2,3,7,8-PeCDD	1000	997		pg/L		100	70 - 142	2	50
1,2,3,7,8-PeCDF	1000	999		pg/L		100	80 - 134	7	50
2,3,4,7,8-PeCDF	1000	937		pg/L		94	68 - 160	3	50

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-350857/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 351160 **Prep Batch: 350857**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3,4,7,8-HxCDD	1000	884		pg/L		88	70 - 164	3	50
1,2,3,6,7,8-HxCDD	1000	987		pg/L		99	76 - 134	5	50
1,2,3,7,8,9-HxCDD	1000	943		pg/L		94	64 - 162	4	50
1,2,3,4,7,8-HxCDF	1000	968		pg/L		97	72 - 134	3	50
1,2,3,6,7,8-HxCDF	1000	969		pg/L		97	84 - 130	1	50
1,2,3,7,8,9-HxCDF	1000	1060		pg/L		106	78 - 130	4	50
2,3,4,6,7,8-HxCDF	1000	1050		pg/L		105	70 - 156	4	50
1,2,3,4,6,7,8-HpCDD	1000	1010		pg/L		101	70 - 140	5	50
1,2,3,4,6,7,8-HpCDF	1000	991		pg/L		99	82 - 122	0	50
1,2,3,4,7,8,9-HpCDF	1000	974		pg/L		97	78 - 138	5	50
OCDD	2000	1880		pg/L		94	78 - 144	1	50
OCDF	2000	1990		pg/L		100	63 - 170	2	50

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*88*		*20 - 175*
13C-2,3,7,8-TCDF	*83*		*22 - 152*
13C-1,2,3,7,8-PeCDD	*78*		*21 - 227*
13C-1,2,3,7,8-PeCDF	*78*		*21 - 192*
13C-2,3,4,7,8-PeCDF	*80*		*13 - 328*
13C-1,2,3,4,7,8-HxCDD	*97*		*21 - 193*
13C-1,2,3,6,7,8-HxCDD	*88*		*25 - 163*
13C-1,2,3,4,7,8-HxCDF	*90*		*19 - 202*
13C-1,2,3,6,7,8-HxCDF	*80*		*21 - 159*
13C-1,2,3,7,8,9-HxCDF	*92*		*17 - 205*
13C-2,3,4,6,7,8-HxCDF	*84*		*22 - 176*
13C-1,2,3,4,6,7,8-HpCDD	*87*		*26 - 166*
13C-1,2,3,4,6,7,8-HpCDF	*81*		*21 - 158*
13C-1,2,3,4,7,8,9-HpCDF	*95*		*20 - 186*
13C-OCDD	*96*		*13 - 199*

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
37Cl4-2,3,7,8-TCDD	*105*		*31 - 191*

QC Association Summary

Client: GHD Services Inc.
Job ID: 320-57717-1
Project/Site: San Jacinto River Waste Pits Superfund

Specialty Organics

Prep Batch: 350857

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-57717-1	11187072-FEFF-0.025um	Total/NA	Water	1613B	
320-57717-2	11187072-FEFF-0.050um	Total/NA	Water	1613B	
MB 320-350857/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-350857/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-350857/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 351160

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-57717-1	11187072-FEFF-0.025um	Total/NA	Water	1613B	350857
320-57717-2	11187072-FEFF-0.050um	Total/NA	Water	1613B	350857
MB 320-350857/1-A	Method Blank	Total/NA	Water	1613B	350857
LCS 320-350857/2-A	Lab Control Sample	Total/NA	Water	1613B	350857
LCSD 320-350857/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	350857

Lab Chronicle

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 320-57717-1

Client Sample ID: 11187072-FEFF-0.025um

Lab Sample ID: 320-57717-1

Date Collected: 01/13/20 12:00
Date Received: 01/14/20 09:35

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			350857	01/15/20 07:32	RDR	TAL SAC
Total/NA	Analysis	1613B		1	351160	01/16/20 04:38	AS	TAL SAC

Client Sample ID: 11187072-FEFF-0.050um

Lab Sample ID: 320-57717-2

Date Collected: 01/13/20 12:00
Date Received: 01/14/20 09:35

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			350857	01/15/20 07:32	RDR	TAL SAC
Total/NA	Analysis	1613B		1	351160	01/16/20 05:26	AS	TAL SAC

Laboratory References:

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GHD Services Inc. Job ID: 320-57717-1
Project/Site: San Jacinto River Waste Pits Superfund

Laboratory: Eurofins TestAmerica, Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704399-19-13	05-31-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
TEQ		Water	Total Dioxin/Furan TEQ

Laboratory: Eurofins TestAmerica, Pittsburgh

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704528	03-31-20

Method Summary

Client: GHD Services Inc.
Job ID: 320-57717-1
Project/Site: San Jacinto River Waste Pits Superfund

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	40CFR136A	TAL SAC
TEQ	Total TEQ Calculation	TAL SOP	TAL SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	40CFR136A	TAL SAC

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GHD Services Inc.
Job ID: 320-57717-1
Project/Site: San Jacinto River Waste Pits Superfund

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
320-57717-1	11187072-FEFF-0.025um	Water	01/13/20 12:00	01/14/20 09:35	
320-57717-2	11187072-FEFF-0.050um	Water	01/13/20 12:00	01/14/20 09:35	

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Sacram Job No.: 320-57717-1

SDG No.:

Instrument ID: 3D5 Analysis Batch Number: 345037

Lab Sample ID: IC 320-345037/4 Client Sample ID:

Date Analyzed: 12/12/19 12:16 Lab File ID: 12DE193D5_4.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
13C-2,3,4,7,8-PeCDF	23.41	Peak assignment corrected	stephensk	12/12/19 13:35
13C-1,2,3,4,7,8-HxCDD	31.55	Peak assignment corrected	stephensk	12/12/19 13:36
13C-1,2,3,4,7,8,9-HpCDF	34.72	Peak assignment corrected	stephensk	12/12/19 13:36

Lab Sample ID: IC 320-345037/6 Client Sample ID:

Date Analyzed: 12/12/19 13:51 Lab File ID: 12DE193D5_6.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
13C-2,3,4,7,8-PeCDF	23.42	Peak assignment corrected	stephensk	12/12/19 14:41
13C-1,2,3,4,7,8-HxCDD	31.55	Peak assignment corrected	stephensk	12/12/19 14:41
13C-1,2,3,4,7,8,9-HpCDF	34.72	Peak assignment corrected	stephensk	12/12/19 14:41

Lab Sample ID: IC 320-345037/7 Client Sample ID:

Date Analyzed: 12/12/19 14:39 Lab File ID: 12DE193D5_7.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
13C-2,3,4,7,8-PeCDF	23.42	Peak assignment corrected	stephensk	12/12/19 15:48
13C-1,2,3,4,7,8-HxCDD	31.55	Peak assignment corrected	stephensk	12/12/19 15:48
13C-1,2,3,4,7,8,9-HpCDF	34.72	Peak assignment corrected	stephensk	12/12/19 15:49

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Sacram Job No.: 320-57717-1

SDG No.:

Instrument ID: 3D5 Analysis Batch Number: 351160

Lab Sample ID: MB 320-350857/1-A Client Sample ID:

Date Analyzed: 01/16/20 02:16 Lab File ID: 15JA203D5_9.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,7,8,9-HxCDF	31.93	Baseline	ruangyotsakuld	01/17/20 08:25

Lab Sample ID: 320-57717-1 Client Sample ID: 11187072-FEFF-0.025um

Date Analyzed: 01/16/20 04:38 Lab File ID: 15JA203D5_12.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,4,7,8-HxCDD	31.26	Invalid Compound ID	ruangyotsakuld	01/17/20 08:34
1,2,3,6,7,8-HxCDD	31.34	Invalid Compound ID	ruangyotsakuld	01/17/20 08:34
1,2,3,7,8,9-HxCDF	31.96	Baseline	ruangyotsakuld	01/17/20 08:34
1,2,3,4,6,7,8-HpCDD	34.27	Assign Peak	ruangyotsakuld	01/17/20 08:35
OCDD	36.58	Split Peak	ruangyotsakuld	01/17/20 08:37

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Sacram Job No.: 320-57717-1

SDG No.:

Instrument ID: 3D5 Analysis Batch Number: 351160

Lab Sample ID: 320-57717-2 Client Sample ID: 11187072-FEFF-0.050um

Date Analyzed: 01/16/20 05:26 Lab File ID: 15JA203D5_13.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,4,7,8-HxCDD	31.29	Invalid Compound ID	ruangyots akuld	01/17/20 08:39
1,2,3,6,7,8-HxCDD	31.45	Invalid Compound ID	ruangyots akuld	01/17/20 08:39
1,2,3,7,8,9-HxCDF	31.98	Baseline	ruangyots akuld	01/17/20 08:39
1,2,3,4,6,7,8-HpCDD	34.28	Baseline	ruangyots akuld	01/17/20 08:41
OCDD	36.61	Baseline	ruangyots akuld	01/17/20 08:41

1613B

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57717-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
HRDXNCP_00040	08/30/20	08/30/19	C14, Lot STBH7678	6 mL	HRDXNCP_00039	1.2 mL	1,2,3,4,6,7,9-HpCDD	40 pg/uL
							1,2,3,4,6,7-HxCDD	40 pg/uL
							1,2,3,4,6,8-HxCDF	40 pg/uL
							1,2,3,4,8,9-HxCDF	40 pg/uL
							1,2,3,7-TCDD	40 pg/uL
							1,2,3,8,9-PeCDD	40 pg/uL
							1,2,3,8,9-PeCDF	40 pg/uL
							1,2,3,9-TCDD	40 pg/uL
							1,2,3,9-TCDF	40 pg/uL
							1,2,4,6,7,9-HxCDD	40 pg/uL
							1,2,4,7,9-PeCDD	40 pg/uL
							1,2,8,9-TCDD	40 pg/uL
							1,2,8,9-TCDF	40 pg/uL
							1,3,4,6,8-PeCDF	40 pg/uL
							1,3,6,8-TCDD	40 pg/uL
							1,3,6,8-TCDF	40 pg/uL
							13C-2,3,7,8-TCDD	40 pg/uL
							13C-2,3,7,8-TCDF	40 pg/uL
							2,3,4,7-TCDF	40 pg/uL
							2,3,7,8-TCDD	40 pg/uL
							2,3,7,8-TCDF	40 pg/uL
.HRDXNCP_00039	03/31/25		CIL, Lot ER03111502		(Purchased Reagent)		1,2,3,4,6,7,9-HpCDD	200 ng/mL
							1,2,3,4,6,7-HxCDD	200 ng/mL
							1,2,3,4,6,8-HxCDF	200 ng/mL
							1,2,3,4,8,9-HxCDF	200 ng/mL
							1,2,3,7-TCDD	200 ng/mL
							1,2,3,8,9-PeCDD	200 ng/mL
							1,2,3,8,9-PeCDF	200 ng/mL
							1,2,3,9-TCDD	200 ng/mL
							1,2,3,9-TCDF	200 ng/mL
							1,2,4,6,7,9-HxCDD	200 ng/mL
							1,2,4,7,9-PeCDD	200 ng/mL
							1,2,8,9-TCDD	200 ng/mL
							1,2,8,9-TCDF	200 ng/mL
							1,3,4,6,8-PeCDF	200 ng/mL
							1,3,6,8-TCDD	200 ng/mL
							1,3,6,8-TCDF	200 ng/mL
							13C-2,3,7,8-TCDD	200 ng/mL
							13C-2,3,7,8-TCDF	200 ng/mL
							2,3,4,7-TCDF	200 ng/mL
							2,3,7,8-TCDD	200 ng/mL
							2,3,7,8-TCDF	200 ng/mL
HRDXNIC_00042	04/29/20	07/02/19	C14, Lot STBH7678	0.5 mL	HRDXNIDA_00303	0.125 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.25 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57717-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNSU_00196	0.05 mL	37Cl4-2,3,7,8-TCDD	40 ng/mL
					HRDXNTA_00102	0.5 mL	1,2,3,4,6,7,8-HpCDD	200 ng/mL
							1,2,3,4,6,7,8-HpCDF	200 ng/mL
							1,2,3,4,7,8,9-HpCDF	200 ng/mL
							1,2,3,4,7,8-HxCDD	200 ng/mL
							1,2,3,4,7,8-HxCDF	200 ng/mL
							1,2,3,6,7,8-HxCDD	200 ng/mL
							1,2,3,6,7,8-HxCDF	200 ng/mL
							1,2,3,7,8,9-HxCDD	200 ng/mL
							1,2,3,7,8,9-HxCDF	200 ng/mL
							1,2,3,7,8-PeCDD	200 ng/mL
							1,2,3,7,8-PeCDF	200 ng/mL
							2,3,4,6,7,8-HxCDF	200 ng/mL
							2,3,4,7,8-PeCDF	200 ng/mL
							2,3,7,8-TCDD	40 ng/mL
							2,3,7,8-TCDF	40 ng/mL
							OCDD	400 ng/mL
							OCDF	400 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57717-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00102	03/01/25	Wellington Labs, Lot 13PAR0418			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	200 ng/mL
							1,2,3,4,6,7,8-HpCDF	200 ng/mL
							1,2,3,4,7,8,9-HpCDF	200 ng/mL
							1,2,3,4,7,8-HxCDD	200 ng/mL
							1,2,3,4,7,8-HxCDF	200 ng/mL
							1,2,3,6,7,8-HxCDD	200 ng/mL
							1,2,3,6,7,8-HxCDF	200 ng/mL
							1,2,3,7,8,9-HxCDD	200 ng/mL
							1,2,3,7,8,9-HxCDF	200 ng/mL
							1,2,3,7,8-PeCDD	200 ng/mL
							1,2,3,7,8-PeCDF	200 ng/mL
							2,3,4,6,7,8-HxCDF	200 ng/mL
							2,3,4,7,8-PeCDF	200 ng/mL
							2,3,7,8-TCDD	40 ng/mL
							2,3,7,8-TCDF	40 ng/mL
							OCDD	400 ng/mL
							OCDF	400 ng/mL
HRDXNIDA_00411	11/30/20	12/27/19	Acetone, Lot 0000236139	500 mL	HRDXNIDA_00364	5 mL	13C-1,2,3,4,6,7,8-HpCDD	2 pg/uL
							13C-1,2,3,4,6,7,8-HpCDF	2 pg/uL
							13C-2,3,7,8-TCDF	2 pg/uL
							13C-2,3,7,8-TCDD	2 pg/uL
							13C-1,2,3,6,7,8-HxCDF	2 pg/uL
							13C-1,2,3,7,8,9-HxCDF	2 pg/uL
							13C-2,3,4,6,7,8-HxCDF	2 pg/uL
							13C-1,2,3,7,8-PeCDD	2 pg/uL
							13C-1,2,3,7,8-PeCDF	2 pg/uL
							13C-1,2,3,6,7,8-HxCDD	2 pg/uL
							13C-OCDD	4 pg/uL
					HRDXNIDA_00379	2.5 mL	13C-1,2,3,4,7,8,9-HpCDF	2 pg/uL
							13C-2,3,4,7,8-PeCDF	2 pg/uL
							13C-1,2,3,4,7,8-HxCDD	2 pg/uL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57717-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-1,2,3,4,7,8-HxCDF	2 pg/uL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIDA_00379	04/11/26	04/11/19	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00375	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00376	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00377	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00378	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00375	05/31/26	CIL, Lot ER04251601			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00376	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00377	06/30/26	CIL, Lot ER04211601			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00378	07/31/27	CIL, Lot ER04211701			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
HRDXNIS_00121	10/09/20	10/09/19	C14, Lot STBJ0716	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
.HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
..HRDXNIS_00110	09/30/26	CIL, Lot ER08221601			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
..HRDXNIS_00111	01/31/27	CIL, Lot ER11081602			(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
HRDXNL2_00027	04/29/20	07/02/19	C14, Lot STBH7678	1 mL	HRDXNIDA_00303	0.25 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.5 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57717-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIS_00117	1 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00217	0.625 mL	37Cl4-2,3,7,8-TCDD	0.5 ng/mL
					HRDXNTA_00113	0.125 mL	1,2,3,4,6,7,8-HpCDD	2.5 ng/mL
							1,2,3,4,6,7,8-HpCDF	2.5 ng/mL
							1,2,3,4,7,8,9-HpCDF	2.5 ng/mL
							1,2,3,4,7,8-HxCDD	2.5 ng/mL
							1,2,3,4,7,8-HxCDF	2.5 ng/mL
							1,2,3,6,7,8-HxCDD	2.5 ng/mL
							1,2,3,6,7,8-HxCDF	2.5 ng/mL
							1,2,3,7,8,9-HxCDD	2.5 ng/mL
							1,2,3,7,8,9-HxCDF	2.5 ng/mL
							1,2,3,7,8-PeCDD	2.5 ng/mL
							1,2,3,7,8-PeCDF	2.5 ng/mL
							2,3,4,6,7,8-HxCDF	2.5 ng/mL
							2,3,4,7,8-PeCDF	2.5 ng/mL
							2,3,7,8-TCDD	0.5 ng/mL
							2,3,7,8-TCDF	0.5 ng/mL
							OCDD	5 ng/mL
							OCDF	5 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57717-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26	CIL, Lot ER08221601			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27	CIL, Lot ER11081602			(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00217	07/01/20	07/01/19	Isooctane, Lot 0000201867	500 mL	HRDXNSU_00196	1000 uL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
..HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
...HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
....HRDXNSU_00187	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00113	05/29/20	05/29/19	Acetone, Lot 00000197752	25 mL	HRDXNTA_00092	0.25 mL	1,2,3,4,6,7,8-HpCDD	20 ng/mL
							1,2,3,4,6,7,8-HpCDF	20 ng/mL
							1,2,3,4,7,8,9-HpCDF	20 ng/mL
							1,2,3,4,7,8-HxCDD	20 ng/mL
							1,2,3,4,7,8-HxCDF	20 ng/mL
							1,2,3,6,7,8-HxCDD	20 ng/mL
							1,2,3,6,7,8-HxCDF	20 ng/mL
							1,2,3,7,8,9-HxCDD	20 ng/mL
							1,2,3,7,8,9-HxCDF	20 ng/mL
							1,2,3,7,8-PeCDD	20 ng/mL
							1,2,3,7,8-PeCDF	20 ng/mL
							2,3,4,6,7,8-HxCDF	20 ng/mL
							2,3,4,7,8-PeCDF	20 ng/mL
							2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL
							OCDD	40 ng/mL
							OCDF	40 ng/mL
..HRDXNTA_00092	04/30/26	CIL, Lot ER02241602			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57717-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL3_00025	04/29/20	07/02/19	C14, Lot STBH7678	0.5 mL	HRDXNIDA_00303	0.125 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.25 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIS_00117	0.5 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00217	1.25 mL	37Cl4-2,3,7,8-TCDD	2 ng/mL
					HRDXNTA_00113	0.25 mL	1,2,3,4,6,7,8-HpCDD	10 ng/mL
							1,2,3,4,6,7,8-HpCDF	10 ng/mL
							1,2,3,4,7,8,9-HpCDF	10 ng/mL
							1,2,3,4,7,8-HxCDD	10 ng/mL
							1,2,3,4,7,8-HxCDF	10 ng/mL
							1,2,3,6,7,8-HxCDD	10 ng/mL
							1,2,3,6,7,8-HxCDF	10 ng/mL
							1,2,3,7,8,9-HxCDD	10 ng/mL
							1,2,3,7,8,9-HxCDF	10 ng/mL
							1,2,3,7,8-PeCDD	10 ng/mL
							1,2,3,7,8-PeCDF	10 ng/mL
							2,3,4,6,7,8-HxCDF	10 ng/mL
							2,3,4,7,8-PeCDF	10 ng/mL
							2,3,7,8-TCDD	2 ng/mL
							2,3,7,8-TCDF	2 ng/mL
							OCDD	20 ng/mL

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57717-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							OCDF	20 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26	CIL, Lot ER08221601			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27	CIL, Lot ER11081602			(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00217	07/01/20	07/01/19	Isooctane, Lot 0000201867	500 mL	HRDXNSU_00196	1000 uL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
..HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
...HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
....HRDXNSU_00187	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00113	05/29/20	05/29/19	Acetone, Lot 00000197752	25 mL	HRDXNTA_00092	0.25 mL	1,2,3,4,6,7,8-HpCDD	20 ng/mL

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57717-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,4,6,7,8-HpCDF	20 ng/mL
							1,2,3,4,7,8,9-HpCDF	20 ng/mL
							1,2,3,4,7,8-HxCDD	20 ng/mL
							1,2,3,4,7,8-HxCDF	20 ng/mL
							1,2,3,6,7,8-HxCDD	20 ng/mL
							1,2,3,6,7,8-HxCDF	20 ng/mL
							1,2,3,7,8,9-HxCDD	20 ng/mL
							1,2,3,7,8,9-HxCDF	20 ng/mL
							1,2,3,7,8-PeCDD	20 ng/mL
							1,2,3,7,8-PeCDF	20 ng/mL
							2,3,4,6,7,8-HxCDF	20 ng/mL
							2,3,4,7,8-PeCDF	20 ng/mL
							2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL
							OCDD	40 ng/mL
							OCDF	40 ng/mL
..HRDXNTA_00092	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL4_00086	04/29/20	10/03/19	C14, Lot STBH7678	1 mL	HRDXNIDA_00364	0.5 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIDA_00379	0.25 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57717-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIS_00117	1 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00196	0.025 mL	37Cl4-2,3,7,8-TCDD	10 ng/mL
					HRDXNTA_00093	0.025 mL	1,2,3,4,6,7,8-HpCDD	50 ng/mL
							1,2,3,4,6,7,8-HpCDF	50 ng/mL
							1,2,3,4,7,8,9-HpCDF	50 ng/mL
							1,2,3,4,7,8-HxCDD	50 ng/mL
							1,2,3,4,7,8-HxCDF	50 ng/mL
							1,2,3,6,7,8-HxCDD	50 ng/mL
							1,2,3,6,7,8-HxCDF	50 ng/mL
							1,2,3,7,8,9-HxCDD	50 ng/mL
							1,2,3,7,8,9-HxCDF	50 ng/mL
							1,2,3,7,8-PeCDD	50 ng/mL
							1,2,3,7,8-PeCDF	50 ng/mL
							2,3,4,6,7,8-HxCDF	50 ng/mL
							2,3,4,7,8-PeCDF	50 ng/mL
							2,3,7,8-TCDD	10 ng/mL
							2,3,7,8-TCDF	10 ng/mL
							OCDD	100 ng/mL
							OCDF	100 ng/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIDA_00379	04/11/26	04/11/19	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00375	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00376	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00377	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57717-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					HRDXNIDA_00378	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00375	05/31/26		CIL, Lot ER04251601		(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00376	01/31/27		CIL, Lot ER01061701		(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00377	06/30/26		CIL, Lot ER04211601		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00378	07/31/27		CIL, Lot ER04211701		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26		CIL, Lot ER08221601		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27		CIL, Lot ER11081602		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00093	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL5_00028	04/29/20	07/02/19	C14, Lot STBH7678	0.2 mL	HRDXNIDA_00303	0.05 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.1 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57717-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-OCDD	200 ng/mL
					HRDXNIS_00117	0.2 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00196	0.02 mL	37Cl4-2,3,7,8-TCDD	40 ng/mL
					HRDXNTA_00093	0.02 mL	1,2,3,4,6,7,8-HpCDD	200 ng/mL
							1,2,3,4,6,7,8-HpCDF	200 ng/mL
							1,2,3,4,7,8,9-HpCDF	200 ng/mL
							1,2,3,4,7,8-HxCDD	200 ng/mL
							1,2,3,4,7,8-HxCDF	200 ng/mL
							1,2,3,6,7,8-HxCDD	200 ng/mL
							1,2,3,6,7,8-HxCDF	200 ng/mL
							1,2,3,7,8,9-HxCDD	200 ng/mL
							1,2,3,7,8,9-HxCDF	200 ng/mL
							1,2,3,7,8-PeCDD	200 ng/mL
							1,2,3,7,8-PeCDF	200 ng/mL
							2,3,4,6,7,8-HxCDF	200 ng/mL
							2,3,4,7,8-PeCDF	200 ng/mL
							2,3,7,8-TCDD	40 ng/mL
							2,3,7,8-TCDF	40 ng/mL
							OCDD	400 ng/mL
							OCDF	400 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57717-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNIDA_00359	12/31/20		CIL, Lot ER100610-02		(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21		CIL, Lot ER012111-01		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28		CIL, Lot ER03151801		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27		CIL, Lot ER04051701		(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26		CIL, Lot ER08221601		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27		CIL, Lot ER11081602		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00093	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL6_00024	04/29/20	07/02/19	C14, Lot STBH7678	0.2 mL	HRDXNIDA_00303	0.05 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.1 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57717-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-OCDD	200 ng/mL
					HRDXNIS_00117	0.2 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00196	0.1 mL	37Cl4-2,3,7,8-TCDD	200 ng/mL
					HRDXNTA_00093	0.1 mL	1,2,3,4,6,7,8-HpCDD	1000 ng/mL
							1,2,3,4,6,7,8-HpCDF	1000 ng/mL
							1,2,3,4,7,8,9-HpCDF	1000 ng/mL
							1,2,3,4,7,8-HxCDD	1000 ng/mL
							1,2,3,4,7,8-HxCDF	1000 ng/mL
							1,2,3,6,7,8-HxCDD	1000 ng/mL
							1,2,3,6,7,8-HxCDF	1000 ng/mL
							1,2,3,7,8,9-HxCDD	1000 ng/mL
							1,2,3,7,8,9-HxCDF	1000 ng/mL
							1,2,3,7,8-PeCDD	1000 ng/mL
							1,2,3,7,8-PeCDF	1000 ng/mL
							2,3,4,6,7,8-HxCDF	1000 ng/mL
							2,3,4,7,8-PeCDF	1000 ng/mL
							2,3,7,8-TCDD	200 ng/mL
							2,3,7,8-TCDF	200 ng/mL
							OCDD	2000 ng/mL
							OCDF	2000 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57717-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26	CIL, Lot ER08221601			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27	CIL, Lot ER11081602			(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00093	04/30/26	CIL, Lot ER02241602			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNSU_00230	01/08/21	01/08/20	Isooctane, Lot 0000221197	250 mL	HRDXNSU_00229	500 uL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
.HRDXNSU_00229	07/31/25	01/08/20	Isooctane, Lot 0000221197	25 mL	HRDXNSU_00228	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00228	07/31/25	01/08/20	Isooctane, Lot 0000221197	10 mL	HRDXNSU_00211	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00211	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
HRDXNTA_00117	10/18/20	10/18/19	Acetone, Lot 00000236139	25 mL	HRDXNTA_00093	0.25 mL	1,2,3,4,6,7,8-HpCDD	20 ng/mL
							1,2,3,4,6,7,8-HpCDF	20 ng/mL
							1,2,3,4,7,8,9-HpCDF	20 ng/mL
							1,2,3,4,7,8-HxCDD	20 ng/mL
							1,2,3,4,7,8-HxCDF	20 ng/mL
							1,2,3,6,7,8-HxCDD	20 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57717-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,6,7,8-HxCDF	20 ng/mL
							1,2,3,7,8,9-HxCDD	20 ng/mL
							1,2,3,7,8,9-HxCDF	20 ng/mL
							1,2,3,7,8-PeCDD	20 ng/mL
							1,2,3,7,8-PeCDF	20 ng/mL
							2,3,4,6,7,8-HxCDF	20 ng/mL
							2,3,4,7,8-PeCDF	20 ng/mL
							2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL
							OCDD	40 ng/mL
							OCDF	40 ng/mL
.HRDXNTA_00093	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL

Reagent

HRDXNCP_00039

received 8/30/19 KSS

(pg 1/6)

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

PCDD/PCDF Window Defining and Isomer Specificity Mix (DB-5)

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number:	EDF-4147
Solution Lot:	ER03111502
Expiration Date:	March 2025
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/ analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies.
- Ampules are overfilled to ensure a minimum 1 2 mL volume We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

March 24, 2015
Date

Component	Chromatographic Purity	Concentration
1,3,6,8-Tetrachlorodibenzo-p-dioxin	99.9%	200.3 ± 2.0 ng/mL
1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin	99.8%	200.6 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzo-p-dioxin	99.2%	200.3 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	98.9%	200.1 ± 2.0 ng/mL
1,2,3,9-Tetrachlorodibenzo-p-dioxin	99.6%	199.9 ± 2.0 ng/mL
1,2,8,9-Tetrachlorodibenzo-p-dioxin	99.2%	200.2 ± 2.0 ng/mL
1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin	98.9%	200.6 ± 2.0 ng/mL
1,2,3,8,9-Pentachlorodibenzo-p-dioxin	99.0%	200.1 ± 2.0 ng/mL
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin	98.7%	200.2 ± 2.0 ng/mL
1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin	99.0%	200.5 ± 2.0 ng/mL
1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin	98.9%	200.1 ± 2.0 ng/mL
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	99.8%	200.3 ± 2.0 ng/mL
1,3,6,8-Tetrachlorodibenzofuran	98.5%	200.1 ± 2.0 ng/mL
1,2,3,9-Tetrachlorodibenzofuran	98.2%	200.4 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzofuran	99.4%	200.0 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	99.2%	200.5 ± 2.0 ng/mL
2,3,4,7-Tetrachlorodibenzofuran	98.7%	200.2 ± 2.0 ng/mL
1,2,8,9-Tetrachlorodibenzofuran	99.3%	199.9 ± 2.0 ng/mL
1,3,4,6,8-Pentachlorodibenzofuran	99.5%	200.6 ± 2.0 ng/mL
1,2,3,8,9-Pentachlorodibenzofuran	99.0%	200.5 ± 2.0 ng/mL
1,2,3,4,6,8-Hexachlorodibenzofuran	98.6%	200.5 ± 2.0 ng/mL
1,2,3,4,8,9-Hexachlorodibenzofuran	99.7%	200.5 ± 2.0 ng/mL
1,2,3,4,6,7,8-Heptachlorodibenzofuran	98.9%	200.6 ± 2.0 ng/mL
1,2,3,4,7,8,9-Heptachlorodibenzofuran	99.1%	200.1 ± 2.0 ng/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Stock solution concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.

Standard Solution Assay Parameters

Analysis Method:	GC/MS
Column:	DB-5ms 30 m x 0.25 mm ID, 0.25 µm film thickness
Temp Program:	140°C to 200°C at 40°C/min 200°C to 300°C at 4°C/min
Injector Temp:	Cool-on-Column
Detector Temp:	280°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	1

Solution Standard Verification and Homogeneity

Compound	Verified Concentration ng/mL	Acceptance Criteria	%RSD - Homogeneity %	Acceptance Criteria
1,3,6,8-Tetrachlorodibenzo-p-dioxin	200.4	± 10%	1.6	≤ 5%
1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin/ 2,3,7,8-Tetrachlorodibenzo-p-dioxin/ 1,2,3,9-Tetrachlorodibenzo-p-dioxin [1]	591.2	± 10%	1.6	≤ 5%
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	196.8	± 10%	2.7	≤ 5%
1,2,8,9-Tetrachlorodibenzo-p-dioxin	197.2	± 10%	2.8	≤ 5%
1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin	194.6	± 10%	2.8	≤ 5%
1,2,3,8,9-Pentachlorodibenzo-p-dioxin	194.7	± 10%	2.3	≤ 5%
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin	195.3	± 10%	1.7	≤ 5%
1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin	192.6	± 10%	2.3	≤ 5%
1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin	191.2	± 10%	2.5	≤ 5%
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	196.7	± 10%	2.1	≤ 5%
1,3,6,8-Tetrachlorodibenzofuran	202.3	± 10%	2.1	≤ 5%
1,2,3,9-Tetrachlorodibenzofuran	194.4	± 10%	2.4	≤ 5%
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	198.0	± 10%	3.3	≤ 5%
2,3,4,7-Tetrachlorodibenzofuran/ 2,3,7,8-Tetrachlorodibenzofuran [1]	399.3	± 10%	2.4	≤ 5%
1,2,8,9-Tetrachlorodibenzofuran	198.9	± 10%	2.9	≤ 5%
1,3,4,6,8-Pentachlorodibenzofuran	195.0	± 10%	2.1	≤ 5%
1,2,3,8,9-Pentachlorodibenzofuran	199.6	± 10%	2.1	≤ 5%
1,2,3,4,6,8-Hexachlorodibenzofuran	195.5	± 10%	2.4	≤ 5%
1,2,3,4,8,9-Hexachlorodibenzofuran	196.4	± 10%	1.8	≤ 5%
1,2,3,4,6,7,8-Heptachlorodibenzofuran	197.4	± 10%	2.9	≤ 5%
1,2,3,4,7,8,9-Heptachlorodibenzofuran	195.3	± 10%	2.1	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The %RSD of samples pulled from across the lot demonstrate homogeneity.
- Product is compared to prior lot and meets acceptance criteria of ± 10%.

[1] Compounds co-elute. Concentration is the sum of both or all analytes.

Neat Material Data

Compound	Lot Number	CAS Number	Chemical Formula	Molecular Weight	Chromatographic Purity
1,3,6,8-Tetrachlorodibenzo-p-dioxin	ER040811-02	33423-92-6	$C_{12}H_4Cl_4O_2$	321.97	99.9%
1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin	ER021510-01	NA	$C_{12}H_4Cl_4O_2$	321.97	99.8%
2,3,7,8-Tetrachlorodibenzo-p-dioxin	ER061009-02	1746-01-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	ER01031401	76523-40-5	$^{13}C_{12}H_4Cl_4O_2$	333.84	98.9%
1,2,3,9-Tetrachlorodibenzo-p-dioxin	ER0529401	71669-26-6	$C_{12}H_4Cl_4O_2$	321.97	99.6%
1,2,8,9-Tetrachlorodibenzo-p-dioxin	ER11201301	62470-54-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%
1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin	ER11051302	NA	$C_{12}H_3Cl_5O_2$	356.42	98.9%
1,2,3,8,9-Pentachlorodibenzo-p-dioxin	ER05161401	NA	$C_{12}H_3Cl_5O_2$	356.42	99.0%
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin	ER08101402	NA	$C_{12}H_2Cl_6O_2$	390.86	98.7%
1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin	ER030107-01	NA	$C_{12}H_2Cl_6O_2$	390.86	99.0%
1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin	ER01201502	58200-70-7	$C_{12}HCl_7O_2$	425.31	98.9%
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	ER100207-02	35822-46-9	$C_{12}HCl_7O_2$	425.31	99.8%
1,3,6,8-Tetrachlorodibenzofuran	ER021808-01	71998-72-6	$C_{12}H_4Cl_4O$	305.98	98.5%
1,2,3,9-Tetrachlorodibenzofuran	ER071107-01	NA	$C_{12}H_4Cl_4O$	305.98	98.2%
2,3,7,8-Tetrachlorodibenzofuran	ER101211-02	51207-31-9	$C_{12}H_4Cl_4O$	305.98	99.4%
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	ER12101304	89059-46-1	$^{13}C_{12}H_4Cl_4O$	317.88	99.2%
2,3,4,7-Tetrachlorodibenzofuran	ER052307-01	NA	$C_{12}H_4Cl_4O$	305.98	98.7%
1,2,8,9-Tetrachlorodibenzofuran	ER041508-03	NA	$C_{12}H_4Cl_4O$	305.98	99.3%
1,3,4,6,8-Pentachlorodibenzofuran	ER04231401	NA	$C_{12}H_3Cl_5O$	340.42	99.5%
1,2,3,8,9-Pentachlorodibenzofuran	ER12101303	NA	$C_{12}H_3Cl_5O$	340.42	99.0%
1,2,3,4,6,8-Hexachlorodibenzofuran	ER04231402	NA	$C_{12}H_2Cl_6O$	374.86	98.6%
1,2,3,4,8,9-Hexachlorodibenzofuran	ER12091401	92341-07-6	$C_{12}H_2Cl_6O$	374.86	99.7%
1,2,3,4,6,7,8-Heptachlorodibenzofuran	ER02281403	67562-39-4	$C_{12}HCl_7O$	409.31	98.9%
1,2,3,4,7,8,9-Heptachlorodibenzofuran	ER01121503	55673-89-7	$C_{12}HCl_7O$	409.31	99.1%

Product Analysis

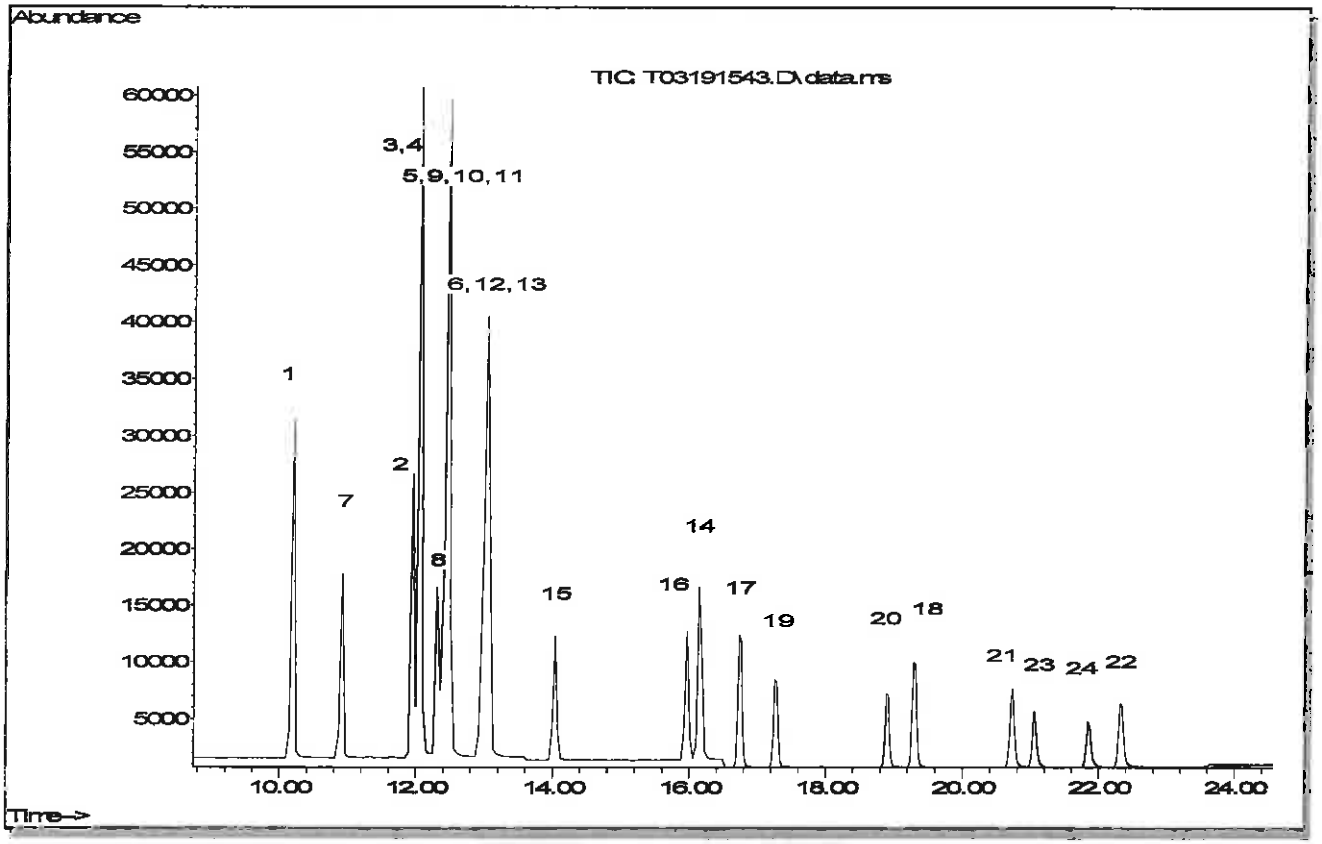

1 1,3,6,8-Tetrachlorodibenzofuran
2 2,3,4,7-Tetrachlorodibenzofuran
3 2,3,7,8-Tetrachlorodibenzofuran
4 2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$
5 1,2,3,9-Tetrachlorodibenzofuran
6 1,2,8,9-Tetrachlorodibenzofuran
7 1,3,6,8-Tetrachlorodibenzo-p-dioxin
8 1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin
9 1,2,3,9-Tetrachlorodibenzo-p-dioxin
10 2,3,7,8-Tetrachlorodibenzo-p-dioxin
11 2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$
12 1,2,8,9-Tetrachlorodibenzo-p-dioxin
13 1,3,4,6,8-Pentachlorodibenzofuran
14 1,2,3,8,9-Pentachlorodibenzofuran
15 1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin
16 1,2,3,8,9-Pentachlorodibenzo-p-dioxin
17 1,2,3,4,6,8-Hexachlorodibenzofuran
18 1,2,3,4,8,9-Hexachlorodibenzofuran
19 1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin
20 1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin
21 1,2,3,4,6,7,8-Heptachlorodibenzofuran
22 1,2,3,4,7,8,9-Heptachlorodibenzofuran
23 1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin
24 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin

COA Revision History

Revision No.	Date	Reason for Revision
00	March 24, 2015	Initial version

Reagent

HRDXNIDA_00075

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-$^{13}C_{12}$

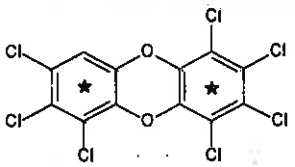

Catalog Number:	ED-972
Solution Lot:	ER111010-01
Expiration Date:	November 2020
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature Do not store cold
Intended Use:	For laboratory use only Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-$^{13}C_{12}$	98.9%	50.03 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER111010-01	50.5	± 5%	0.5	≤ 3%
Previous Lot	ER011807-01	47.4	± 5%	1.8	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

January 15, 2016
Date

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 60°C to 300°C at 40°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 4
Linearity (r): 1.000

Neat Material Data

Compound Name: 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-$^{13}C_{12}$
Compound Lot: ER100110-01

Chemical Formula: $^{13}C_{12}HO_2Cl_7$
CAS Number: NA
Molecular Weight: 437.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.9%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.10% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		98.91%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

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Spectral and Physical Data

GC/FID

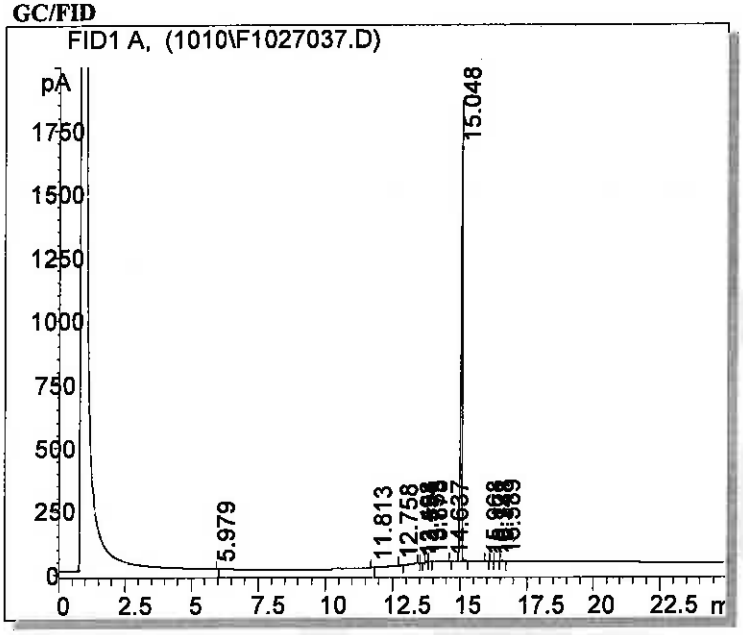

Column:	DB-5ms, 30m x 0.53mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-column
Detector Temp:	325°C
Data File Name:	S:\GC\GC6\2010\1010\F1027037.D
Instrument:	GC#6
Sample Name:	ER100110-01
Acquired:	October 28, 2010

Peak #	Ret Time	Area	Height	Area %
1	5.98	0.34	0.18	0.00
2	11.81	1.00	0.08	0.01
3	12.76	10.96	2.89	0.16
4	13.50	1.19	0.32	0.02
5	13.55	2.63	0.80	0.04
6	13.75	13.39	3.28	0.19
7	13.88	7.04	1.81	0.10
8	14.64	0.86	0.28	0.01
9	15.05	6900.70	1812.09	98.81
10	15.97	3.15	0.73	0.05
11	16.17	2.25	0.55	0.03
12	16.35	5.12	1.10	0.07
13	16.59	18.93	4.26	0.27
14	26.99	15.17	0.35	0.22
15	35.58	0.06	0.21	0.00
16	41.80	0.77	0.13	0.01

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-13C
Lab Number : [illegible]
Instrument : Agilent 5973N MSD/5890N GC
Operator-Inst ID : [illegible] - 010106
Date Reported : Wed Oct 27 [illegible] 2010
Column Type : [illegible]
Temp. Program : [illegible]
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : [illegible] mL/min
Transfer Line Temp. : [illegible]

Scan Range : 50-650

Total Ion Chromatogram

Mass Spectrum

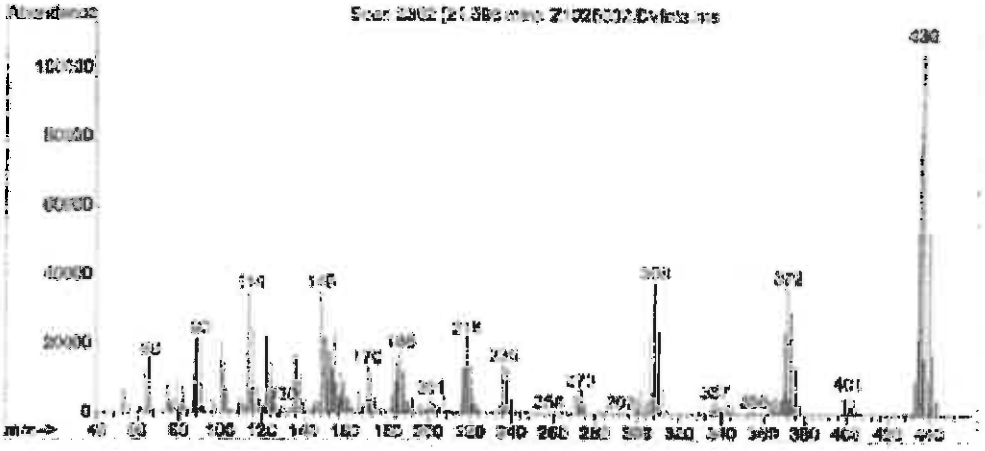

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

COA Revision History

Revision No.	Date	Reason for Revision
00	November 24, 2010	Initial version
01	January 15, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

Reagent

HRDXNIDA_00247

Received 8-17-16

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$

HpCDF

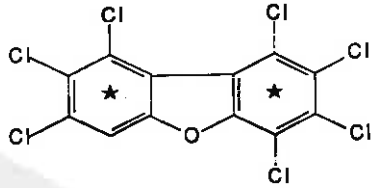

Catalog Number:	EF-988
Solution Lot:	ER04251601
Expiration Date:	March 2026
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	99.1%	49.99 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04251601	49.11	± 5%	0.2	≤ 3%
Previous Lot	ER053107-02	50.58	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

June 21, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}HCl_7O$
Compound Lot:	ER04041602	**CAS Number:**	109719-94-0
		Molecular Weight:	421.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.1%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS SIM	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.16% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.10%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data (cont.)

GC/FID

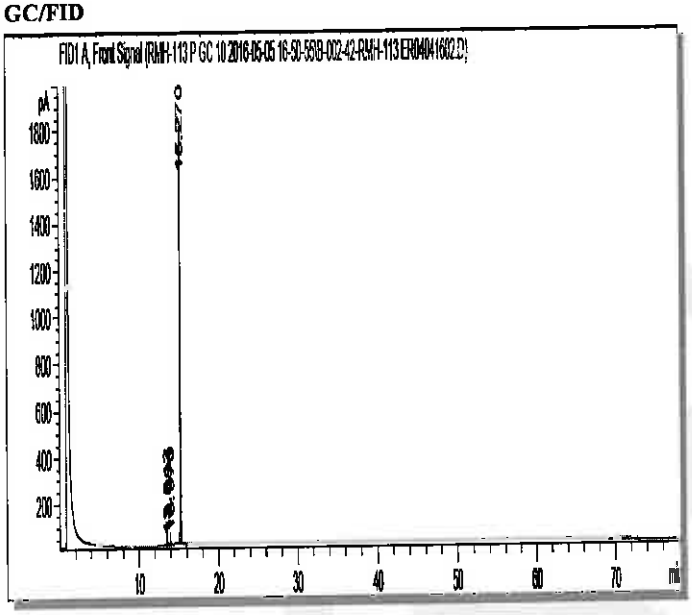

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Data File Name:	RMH-113 P GC 10 2016-05-05 16-50-55\B-002-42.D
Instrument:	GC#10
Sample Name:	ER04041602
Acquired:	May 05, 2016

Peak #	Ret Time	Area	Height	Area %
1	13.51	8.76	2.52	0.12
2	13.68	17.42	7.45	0.24
3	13.97	39.65	15.48	0.54
4	15.27	7226.95	1798.33	99.10

Spectral and Physical Data (cont.)

GC/MS

```
Compound Name          : 1,2,3,4,7,8,9-Heptachlorodibenzofuran-13C12
Lot Number             : EM04041602
Instrument             : Agilent GCMS
Operator               : ECM(SGIUFFRE)
Date Reported          : Wed May 04 15:34:28 2016
Column Type            : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program          : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.         : Cool on-column
Carrier Gas            : Helium
Flow Rate (mL\min)     : 0.80 mL/min
Transfer Line Temp.    : 280°C
Scan Range             : 50-550
```

Total Ion Chromatogram

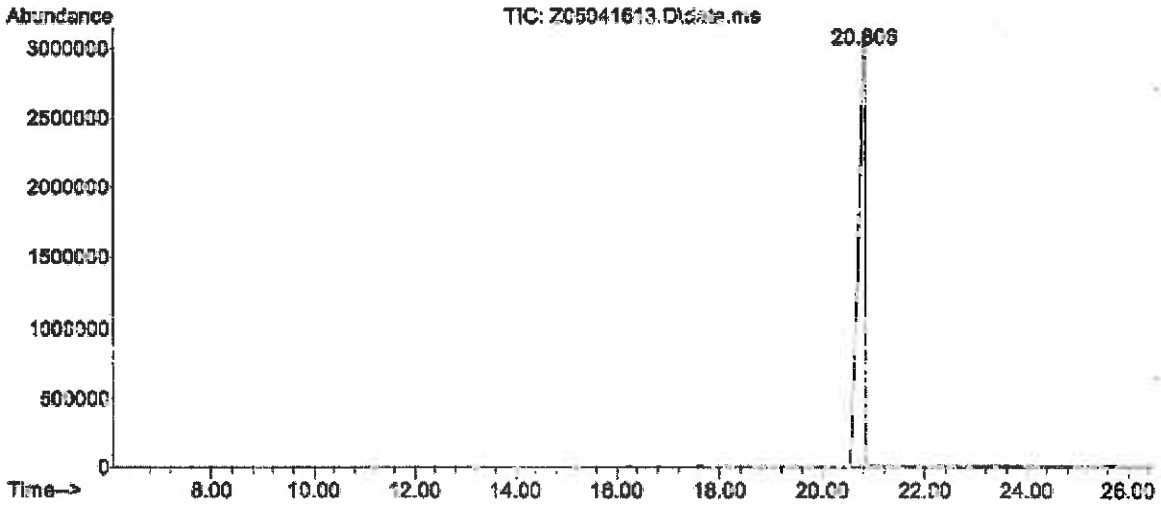

Mass Spectrum

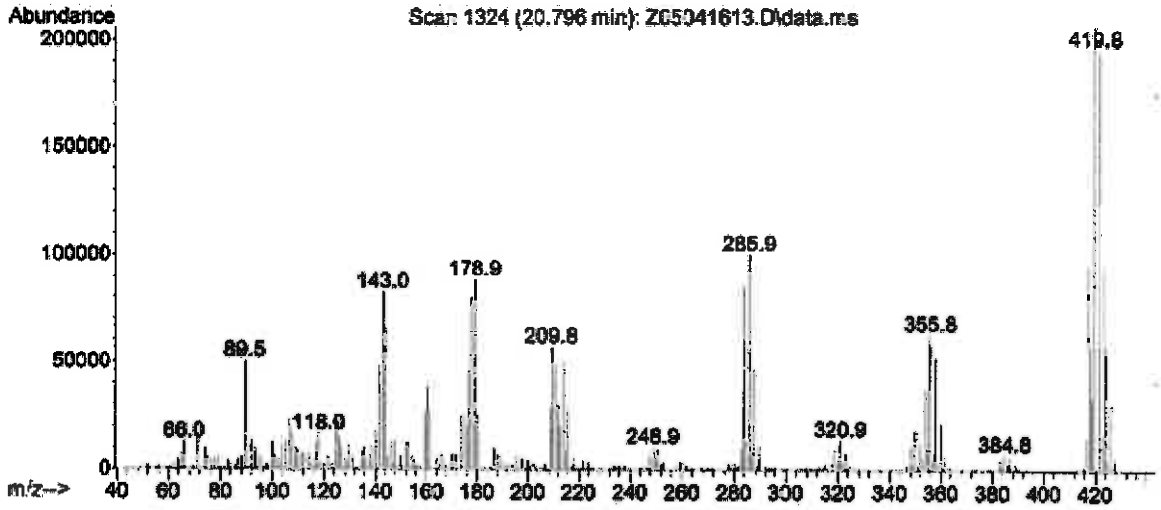

COA Revision History

Revision No.	Date	Reason for Revision
00	June 21, 2016	Initial version

Reagent

HRDXNIDA_00297

r: 9/28/17 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

1042065
ID: HRDXNIDA_00297
Exp: 01/31/27 Prpd: SKV
13C-2,3,4,7,8-PeCDF [50ug

CIL

Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$

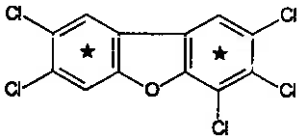

Catalog Number: EF-958
Solution Lot: ER01061701
Expiration Date: January 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	97.9%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s); measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER01061701	50.51	± 5%	0.1	≤ 3%
Previous Lot	ER11041601	49.56	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

January 27, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3Cl_5O$
Compound Lot:	ER11101601	**CAS Number:**	116843-02-8
		Molecular Weight:	352.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0102	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.02% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 0.5%
Mass Balance Purity Factor		98.33%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

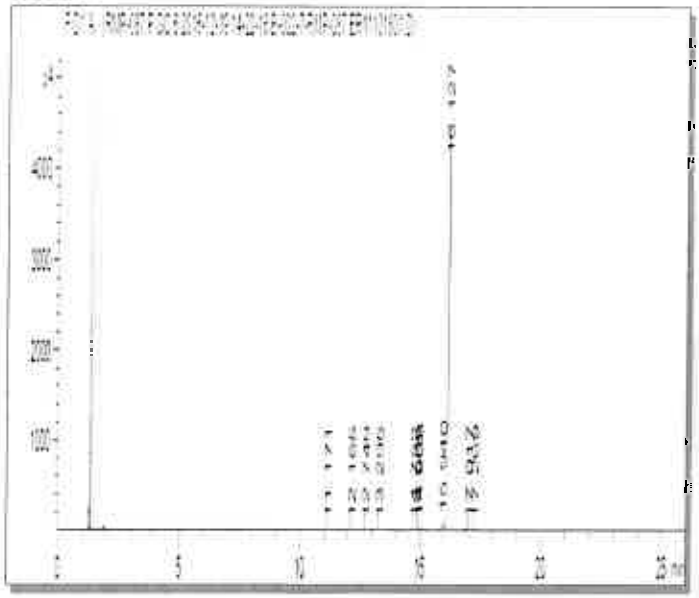

Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 100°C to 300°C at 15°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: RMP-087 P GC 6 2016-12-19 14-22-16\B-002-7.D
Instrument: GC#6
Sample Name: ER11101601
Acquired: December 19, 2016

Peak #	Ret Time	Area	Height	Area %
1	11.17	0.94	0.40	0.01
2	12.17	1.30	0.39	0.01
3	12.75	0.47	0.20	0.00
4	13.30	0.90	0.35	0.01
5	14.75	1.70	0.87	0.02
6	14.91	1.09	0.56	0.01
7	14.97	32.24	17.54	0.29
8	15.94	124.38	64.36	1.13
9	16.13	10866.60	4688.80	98.41
10	17.02	6.31	2.46	0.06
11	17.27	6.76	2.34	0.06

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 2,3,4,7,8-Pentachlorodibenzofuran-13C12
Lot Number	: ER11101601
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRS)
Date Reported	: Tue Dec 20 12:19:55 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.50 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

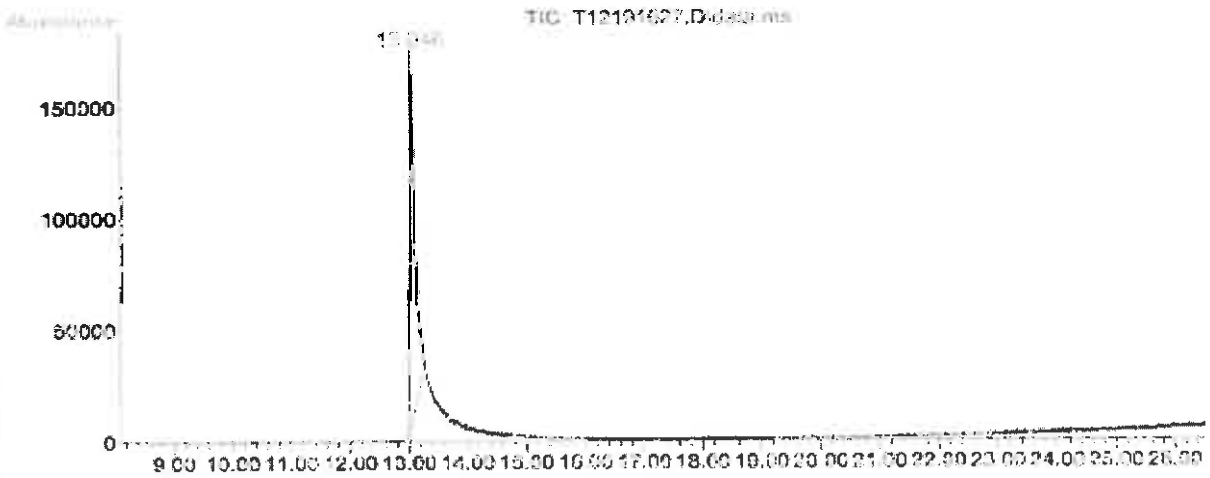

Mass Spectrum

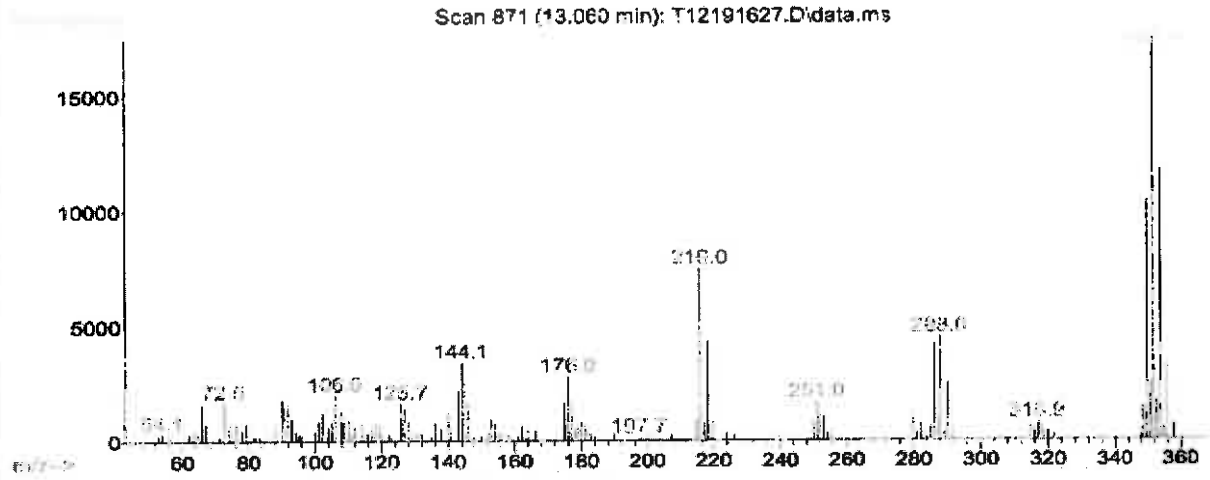

Reagent

HRDXNIDA_00301

n: 9/20/17 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

1042073
ID: HRDXNIDA_00301
Exp: 10/31/21 Prpd: SKV
13C-1,2,3,4,7,8-HxCDD [50

CIL

Certificate of Analysis

Certificate Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 9001
GMP/GLP

1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

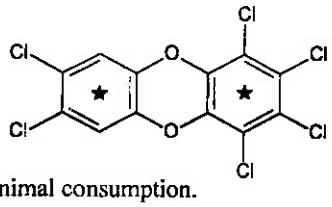

Catalog Number: ED-946
Solution Lot: ER102711-01
Expiration Date: October 2021
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.0%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER102711-01	48.2	± 5%	0.2	≤ 3%
Previous Lot	ER012208-01	49.6	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS ACCREDITED
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

September 17, 2015
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O_2$
Compound Lot:	ER011008-01	**CAS Number:**	109719-80-4
		Molecular Weight:	402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.2%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.08% $^{13}C_0$ vs $^{13}C_{12}$
		0.19% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.19%

- Chromatographic purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

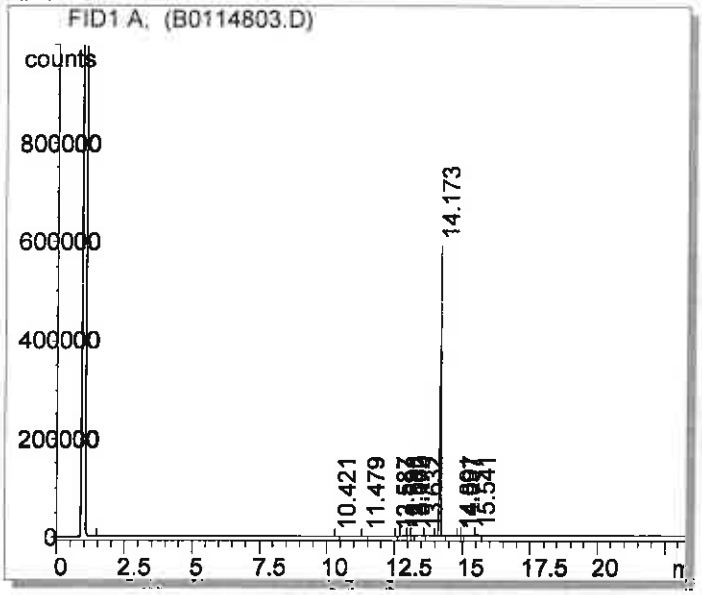

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0114803.D
Instrument:	GC#2
Sample Name:	ER011008-01
Acquired:	January 14, 2008

Peak #	Ret Time	Area	Height	Area %
1	10.42	287.44	132.33	0.02
2	11.48	242.24	92.03	0.01
3	12.59	389.12	196.33	0.02
4	12.90	3015.36	1199.07	0.17
5	13.06	2243.36	788.13	0.13
6	13.17	2243.90	754.45	0.13
7	13.63	2349.03	134.07	0.02
8	14.17	427.02	588610.00	99.20
9	14.89	1731980.00	110.79	0.03
10	15.00	512.26	86.41	0.02
11	15.54	4077.63	1008.44	0.23

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

Compound Name : 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-13C12
Lot Number : [illegible]-01
Instrument : Agilent 5973N MSD/6890N GC
Operator-Inst ID : REC - C1010E
Date Reported : Wed Jan 16 11:15:58 2008
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 300°C@6°C/min (5 min)
Injection Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 280°C

Scan Range : 50-550

Total Ion Chromatogram

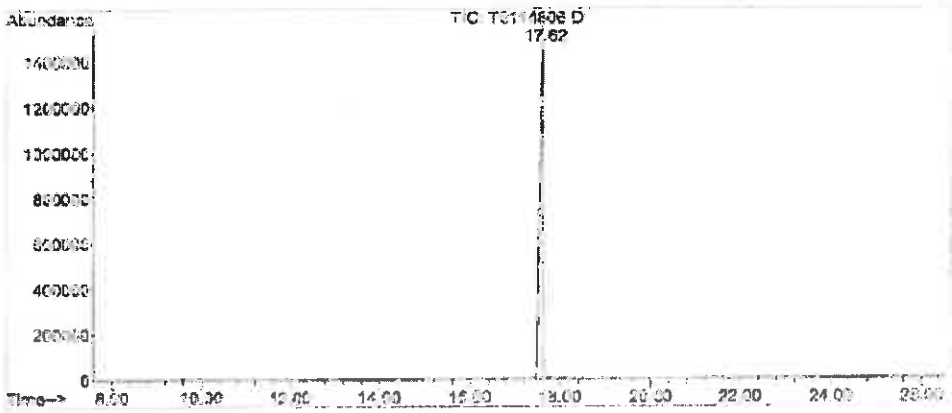

Mass Spectrum

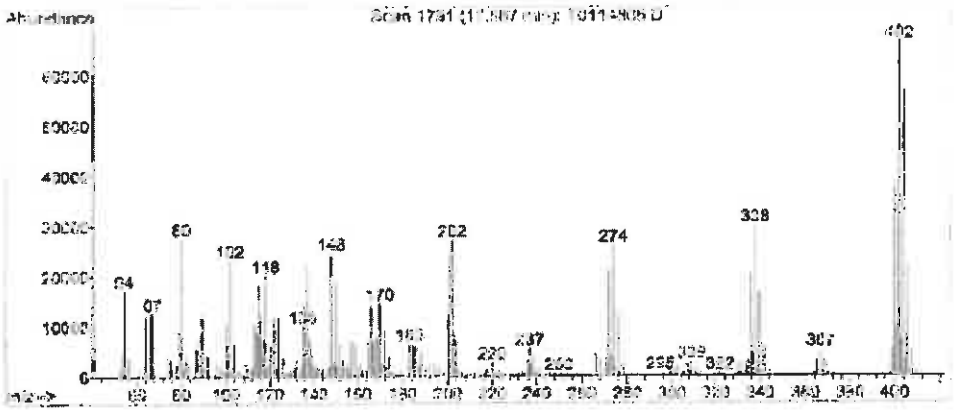

COA Revision History

Revision No.	Date	Reason for Revision
00	November 12, 2011	Initial version
01	September 17, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet"

Reagent

HRDXNIDA_00302

r: 9/20/17 SKV

1042074
ID: HRDXNIDA_00302
Exp: 07/31/20 Prpd: SKV
13C-1,2,3,4,7,8-HxCDF [50

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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

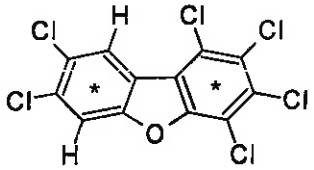

Catalog Number:	EF-963
Solution Lot:	ER072810-02
Expiration Date:	July 2020
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Protect from air and light, store at room temperature. Do not store cold.
Intended Use:	For laboratory use only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration.

Component	Chromatographic Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.6%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Acceptance Criteria	%RSD - Homogeneity Actual Results	Acceptance Criteria
New Lot	ER072810-02	47.4	± 5%	0.3	≤ 3%
Previous Lot	LR011907-01	46.6	—	1.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

November 15, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$
Compound Lot:	35135-45

Chemical Formula:	$^{13}C_{12}H_2OCl_6$
CAS Number:	114423-98-2
Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.6%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% C_0 vs C_{12}
		0.13% C_6 vs C_{12}
Purity Factor		99.57%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

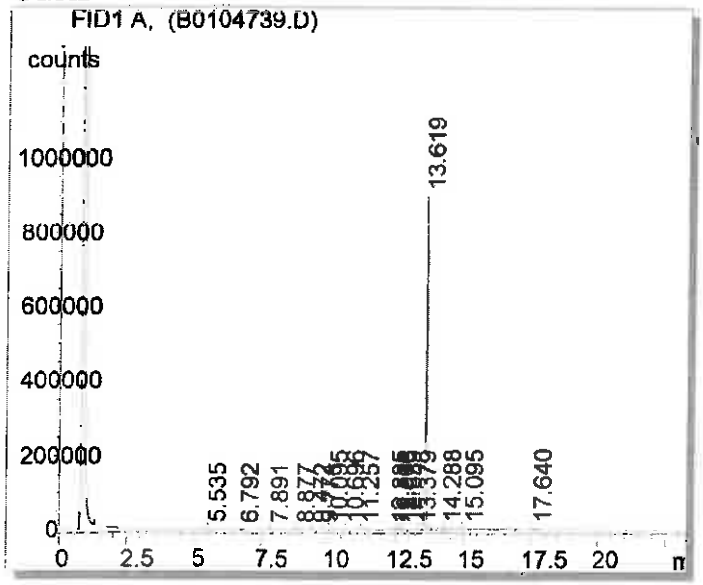

Column:	DB-5ms, 30m x 0.53mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0104739.D
Instrument:	GC#2
Sample Name:	35135-45
Acquired:	January 05, 2007

Peak #	Ret Time	Area	Height	Area %
1	4.21	615.24	161.26	0.02
2	5.21	1024.94	292.85	0.04
3	6.09	326.05	83.67	0.01
4	7.10	301.83	31.69	0.01
5	7.75	169.71	40.31	0.01
6	8.38	136.91	47.17	0.01
7	8.97	123.76	38.29	0.00
8	12.30	2684.80	1153.73	0.10
9	12.48	1162.83	467.42	0.04
10	12.56	1893.94	719.41	0.07
11	12.68	466.69	180.24	0.02
12	12.86	690.32	301.63	0.03
13	13.62	2651450.00	979725.00	99.58
14	14.34	274.11	82.01	0.01
15	15.17	1208.09	320.67	0.05
16	19.00	166.44	32.66	0.01

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

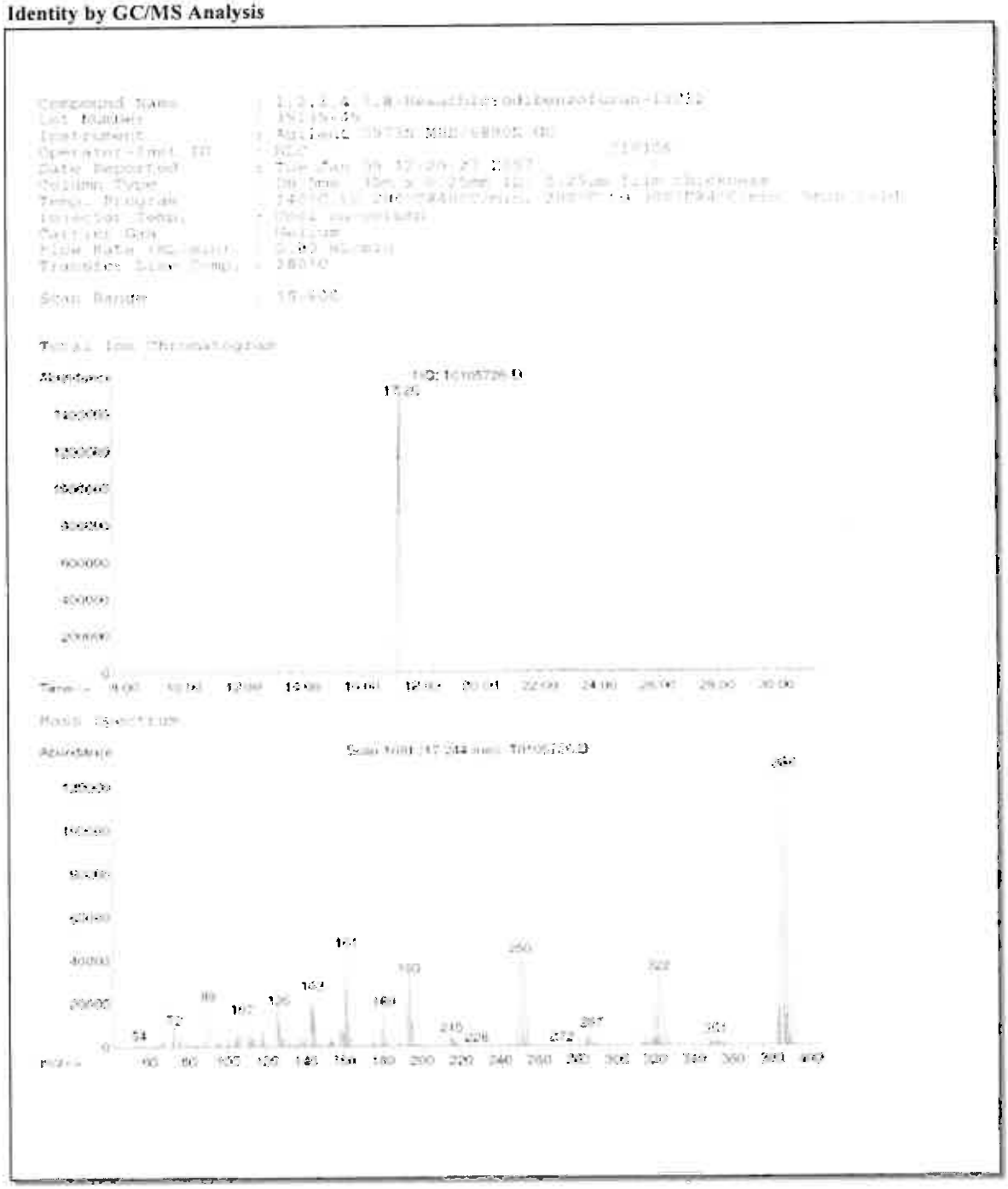

COA Revision History

Revision No.	Date	Reason for Revision
00	September 22, 2010	Initial version
01	September 22, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet"
02	November 15, 2016	Corrected Molecular Weight from 368.77 to 386.77

Reagent

HRDXNIDA_00353

r: 11/28/18 SKV

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Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,6,7,8-Heptachlorodibenzofuran-$^{13}C_{12}$

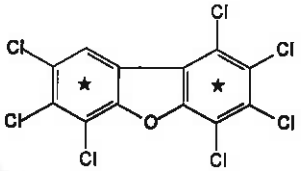

Catalog Number: EF-974
Solution Lot: ER08101404
Expiration Date: November 2024
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,6,7,8-Heptachlorodibenzofuran-$^{13}C_{12}$	98.3%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER08101404	48.75	± 5%	0.3	≤ 3%
Previous Lot	ER102711-02	51.49	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

December 03, 2015
Date

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 60°C to 300°C at 40°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 4
Linearity (r): 1.000

Neat Material Data

Compound Name: 1,2,3,4,6,7,8-Heptachlorodibenzofuran-$^{13}C_{12}$
Compound Lot: ER020507-02

Chemical Formula: $^{13}C_{12}HCl_7O$
CAS Number: 109719-84-8
Molecular Weight: 421.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	98.7%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.16% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS	SP10-0105	Pass
		no single DD/DF impurity ≥1.0%
Purity Factor		98.69%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

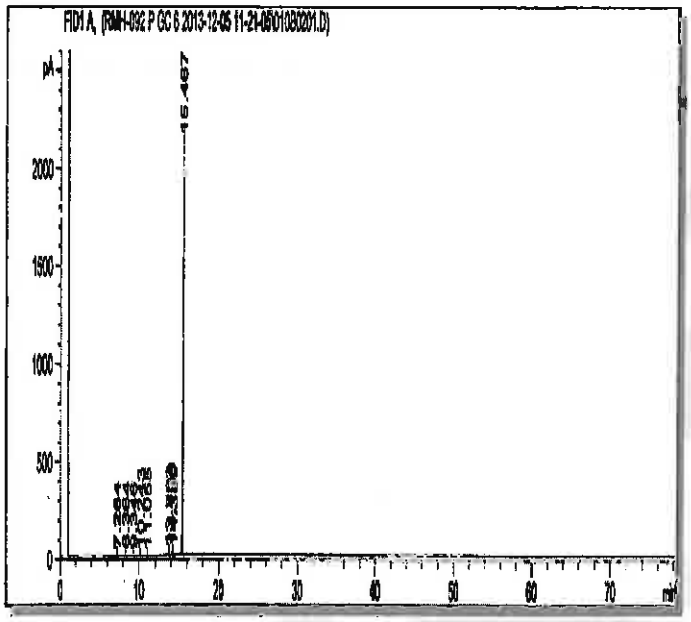

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-092 P GC 6 2013-12-05 11-21-05\010B0201.D
Instrument:	GC#6
Sample Name:	ER020507-02
Acquired:	December 05, 2013

Peak #	Ret Time	Area	Height	Area %
1	7.26	4.41	2.08	0.05
2	8.36	11 76	5.45	0.12
3	9 35	5 20	2.32	0.05
4	10 24	1 47	0.62	0.02
5	11 06	0 34	0.17	0.00
6	13 75	8 81	4.38	0.09
7	13.80	23 67	9.98	0.25
8	14.13	43 07	16.42	0.45
9	14.20	21 73	8.77	0.23
10	14.39	4 79	1.81	0.05
11	15.47	9349 36	2200.33	98.68

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 1,2,3,4,6,7,8-Heptachlorodibenzofuran-13C12
Lot Number : ER020507-02
Instrument : Agilent GCMS
Operator : ECM(BRYAN_DOCKERY)
Date Reported : Tue Dec 17 09:08:58 2013
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL\min) : 0.80 mL/min
Transfer Line Temp. : 280°C
Scan Range : 50-550

Total Ion Chromatogram

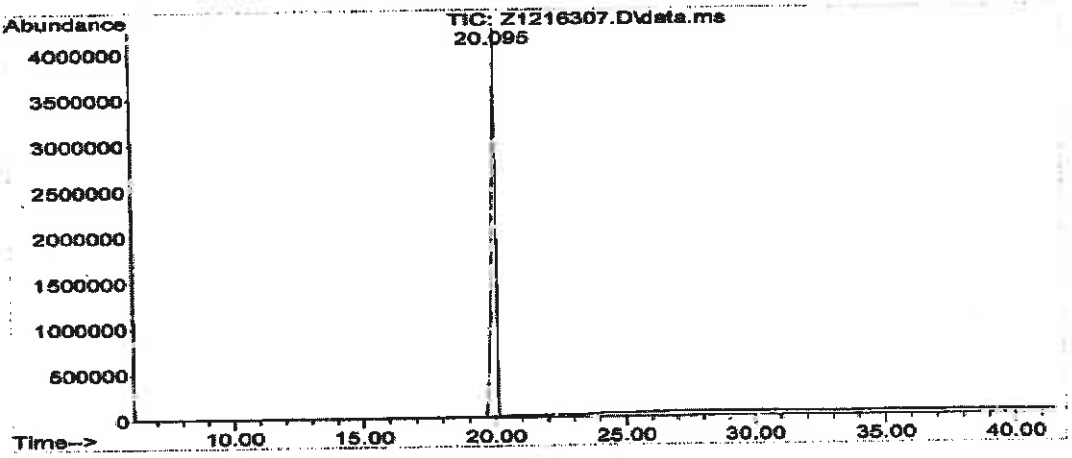

Mass Spectrum

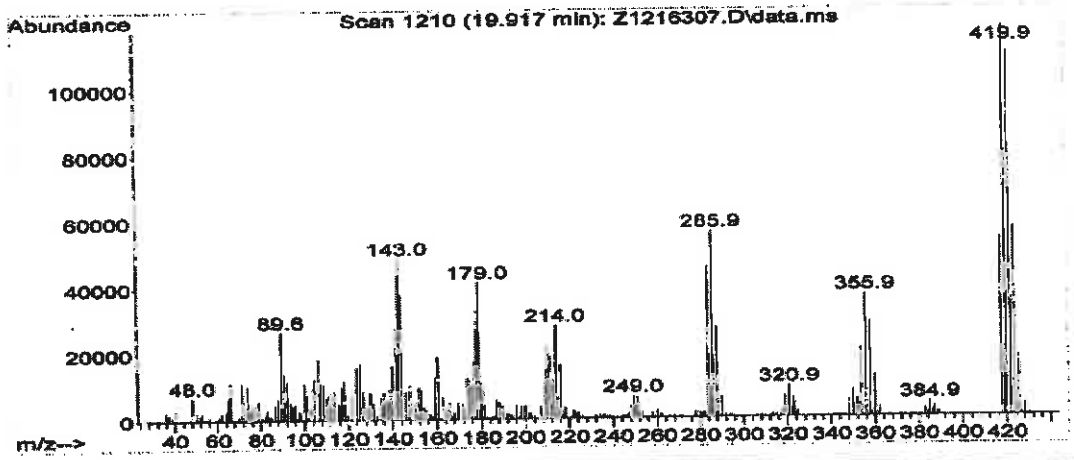

COA Revision History

Revision No.	Date	Reason for Revision
00	January 19, 2015	Initial version
01	December 04, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet"

Reagent

HRDXNIDA_00354

Rec: 11/28/18 SKV

Cerilliant Analytical Reference Standards
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Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$

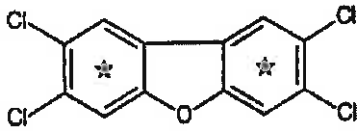

Catalog Number: EF-904
Solution Lot: ER09131601
Expiration Date: September 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	99.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER09131601	49.91	± 5%	0.2	≤ 3%
Previous Lot	ER12101304	51.13	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

November 02, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_4Cl_4O$
Compound Lot:	ER01161401	**CAS Number:**	89059-46-1
		Molecular Weight:	317.88

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.2%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS SIM	SP10-0105	No single DD/DF ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.00% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.24%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

GC/FID

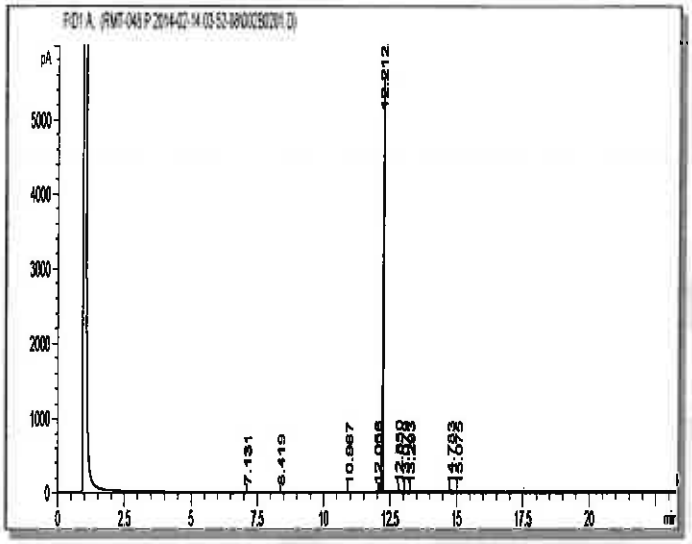

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMT-048 P 2014-02-14 03-52-08\002B0201.D
Instrument:	GC#10
Sample Name:	ER01161401
Acquired:	February 14, 2014

Peak #	Ret Time	Area	Height	Area %
1	7.13	1.19	0.61	0.01
2	8.42	3.23	1.42	0.03
3	10.97	3.57	1.04	0.03
4	12.06	20.86	12.47	0.18
5	12.21	11764.70	5466.96	99.29
6	12.85	30.72	15.48	0.26
7	13.08	7.62	4.03	0.06
8	13.29	5.47	2.91	0.05
9	14.78	7.62	2.76	0.06
10	15.08	3.87	1.33	0.03

GC/MS

Compound Name	: 2,3,7,8-Tetrachlorodibenzofuran-13C12
Lot Number	: ER01161401
Instrument	: Agilent GCMS
Operator	: ECM(SAMUEL_GIUFFRE)
Date Reported	: Thu Feb 13 11:57:07 2014
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

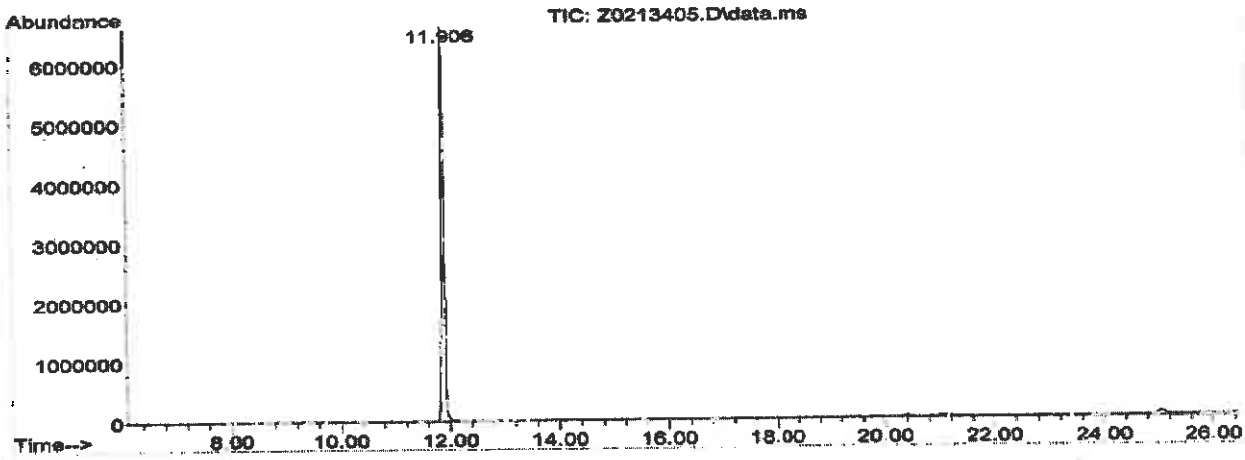

Mass Spectrum

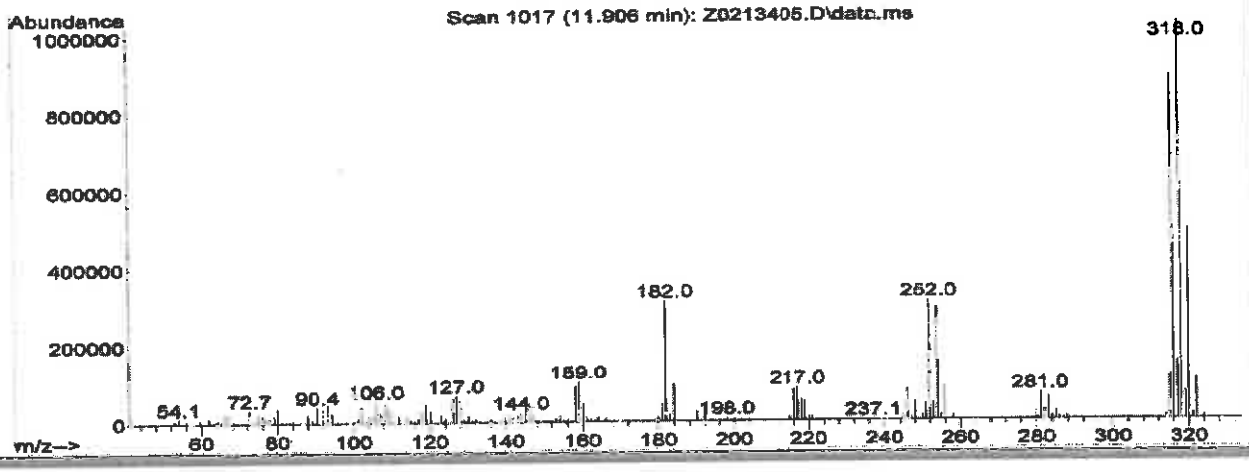

COA Revision History

Revision No.	Date	Reason for Revision
00	November 02, 2016	Initial version

Reagent

HRDXNIDA_00355

Rec: 11/28/18 SJV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$

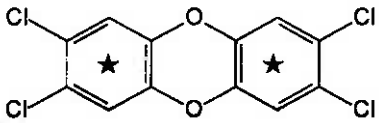

Catalog Number: ED-900
Solution Lot: ER03031601
Expiration Date: March 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.4%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution, and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER03031601	52.66	± 5%	0.3	≤ 3%
Previous Lot	ER01031401	49.83	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

March 24, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-35ms 30 m x 0.53 mm ID, 1.0 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_4Cl_4O_2$
Compound Lot:	ER01201405	**CAS Number:**	76523-40-5
		Molecular Weight:	333.88

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity and Distribution by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.05% $^{13}C_6$ vs $^{13}C_{12}$
Impurities by GC/MS SIM Analysis	SP10-0105	no single DD/DF impurity $\geq$0.5%
Mass Balance Purity Factor		99.34%

- The primary chromatographic purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Mass Balance Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

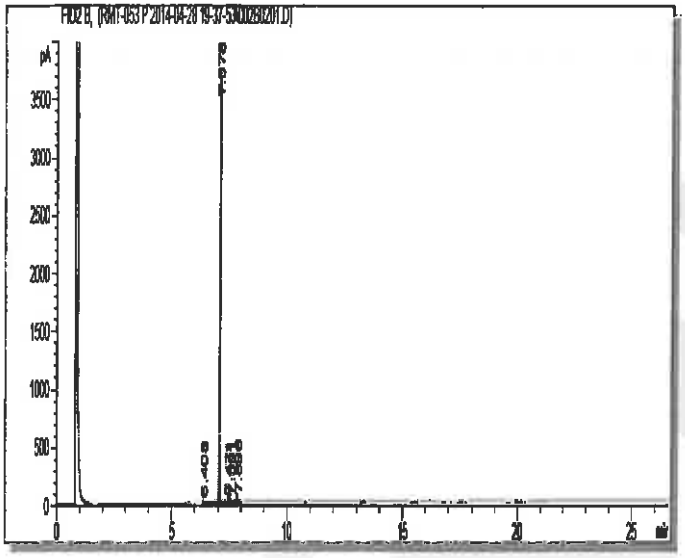

Column:	DB-35ms, 30 m x 0.53 mm ID, 1.0 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMT-053 P 2014-04-28 19-37-53\002B0201.D
Instrument:	GC#6
Sample Name:	ER01201405
Acquired:	April 28, 2014

Peak #	Ret Time	Area	Height	Area %
1	6.41	4 36	2.80	0.08
2	7 08	5225 21	3678.99	99.32
3	7 47	5 29	3.00	0.10
4	7 59	9 11	4.81	0.17
5	7.90	17 05	9.22	0.32

GC/MS

Compound Name	: 2,3,7,8-Tetrachlorodibenzo-p-dioxin-13C12
Lot Number	: ERD1201405
Instrument	: Agilent GCMS
Operator	: ECM(SAMUEL_GIUITRE)
Date Reported	: Tue May 06 09:30:26 2014
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 220°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

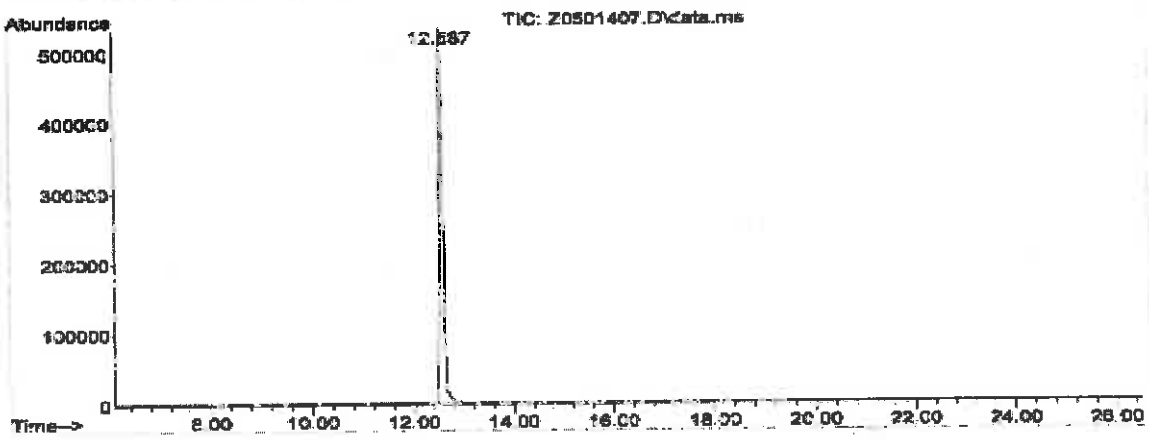

Mass Spectrum

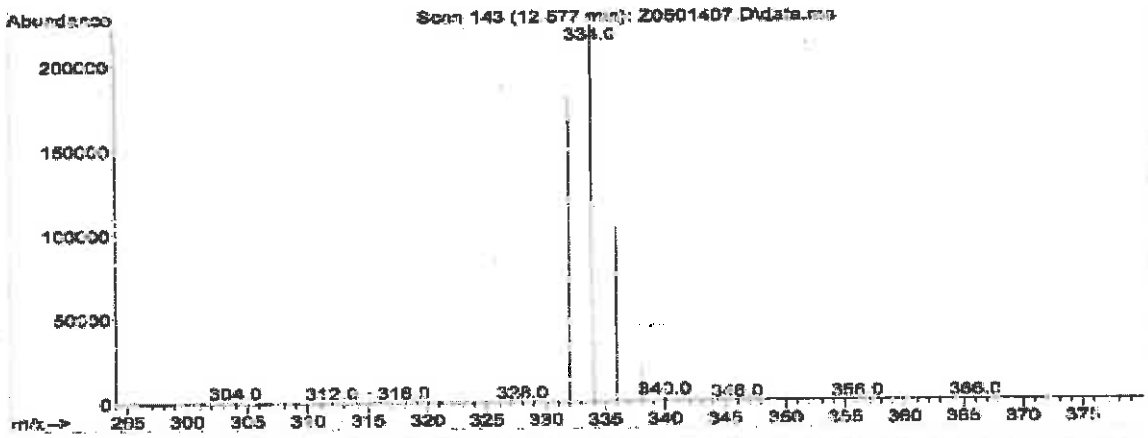

Reagent

HRDXNIDA_00357

r: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Certificate of Analysis

1,2,3,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

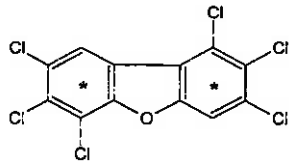

Catalog Number: EF-985
Solution Lot: ER02241603
Expiration Date: April 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.6%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER02241603	50.09	± 5%	0.4	≤ 3%
Previous Lot	ER053107-03	50.81	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

May 04, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O$
Compound Lot:	ER051607-01	**CAS Number:**	116843-03-9
		Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.06% $^{13}C_6$ vs $^{13}C_{12}$
Impurities by GC/MS SIM Analysis	SP10-0105	no single DD/DF impurity ≥ 0.5%
Mass Balance Purity Factor		99.01%

- The chromatographic purity is calculated as the average of two independently performed analyses utilizing two different methods Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Mass Balance Purity Factor
- Mass Balance Purity Factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

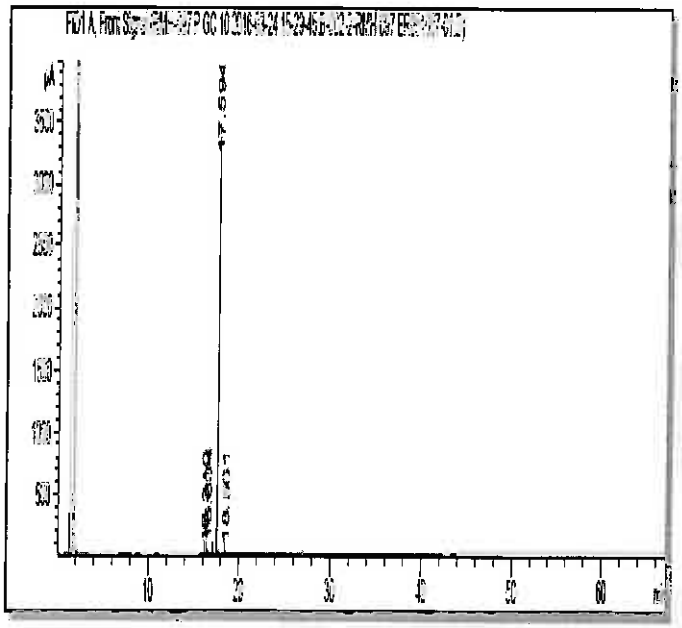

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	40°C to 300°C at 15°C/min hold 50 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-097 P GC 10 2016-03-24 15-29-45\B-002-2.D
Instrument:	GC#10
Sample Name:	ER051607-01
Acquired:	March 24, 2016

Peak #	Ret Time	Area	Height	Area %
1	16.31	6.97	3.21	0.08
2	16.60	77.08	33.51	0.83
3	17.59	9156.82	3458.38	99.00
4	18.56	8.48	2.69	0.09

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 1,2,3,6,7,8-Hexachlorodibenzofuran-13C12
Lot Number	: ER051607-01
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Fri Mar 18 07:08:54 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

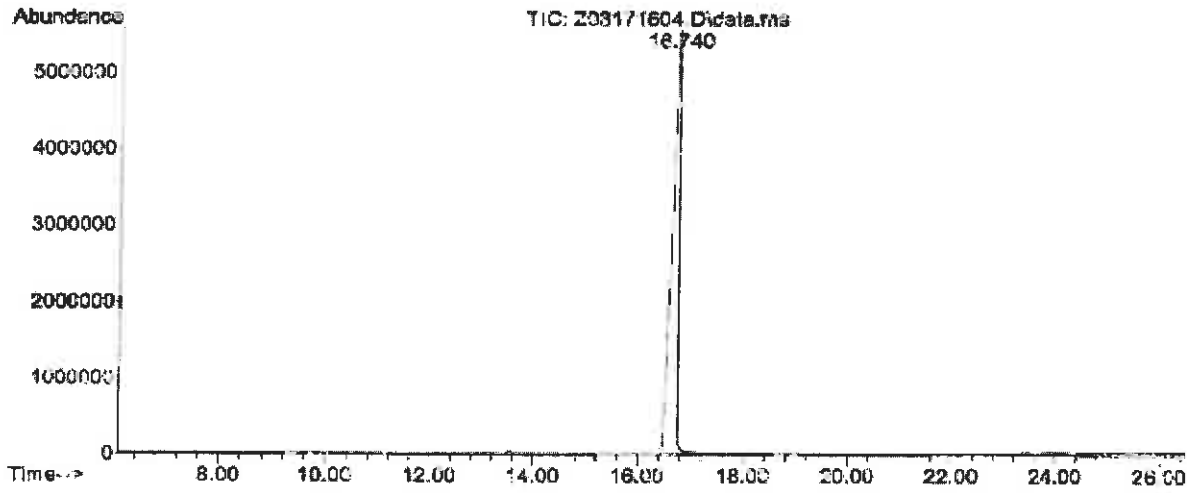

Mass Spectrum

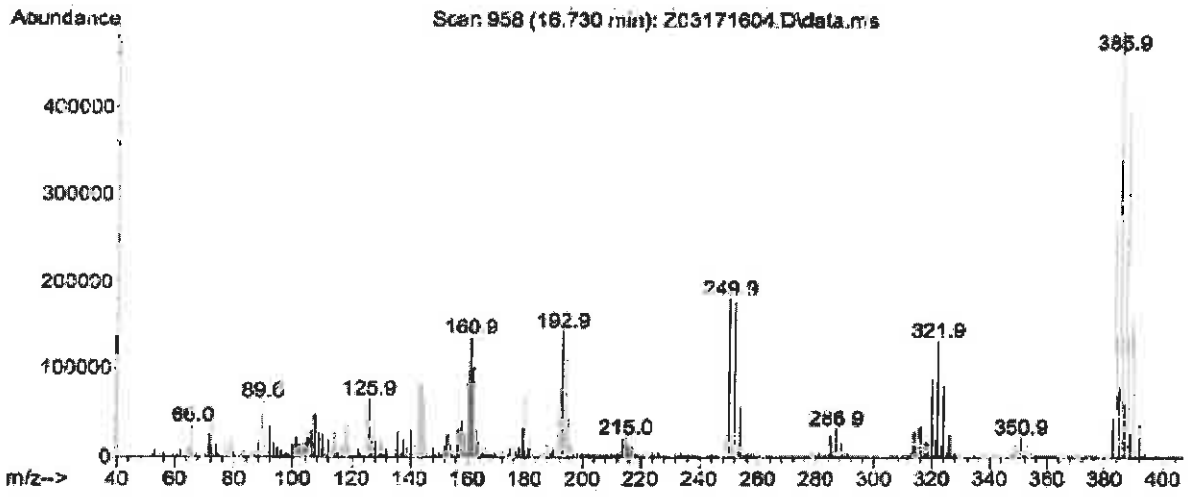

COA Revision History

Revision No.	Date	Reason for Revision
00	May 04, 2016	Initial version

Reagent

HRDXNIDA_00358

r: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,7,8,9-Hexachlorodibenzofuran-$^{13}C_{12}$

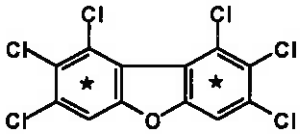

Catalog Number:	EF-986
Solution Lot:	ER100610-01
Expiration Date:	December 2020
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For laboratory use only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
1,2,3,7,8,9-Hexachlorodibenzofuran-$^{13}C_{12}$	99.5%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER100610-01	51.2	± 5%	0.4	≤ 3%
Previous Lot	ER100107-01	49.9	± 5%	1.4	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

February 14, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2OCl_6$
Compound Lot:	ER080108-03	**CAS Number:**	116843-04-0
		Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.5%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.03% $^{13}C_0$ vs $^{13}C_{12}$
		0.09% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.49%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

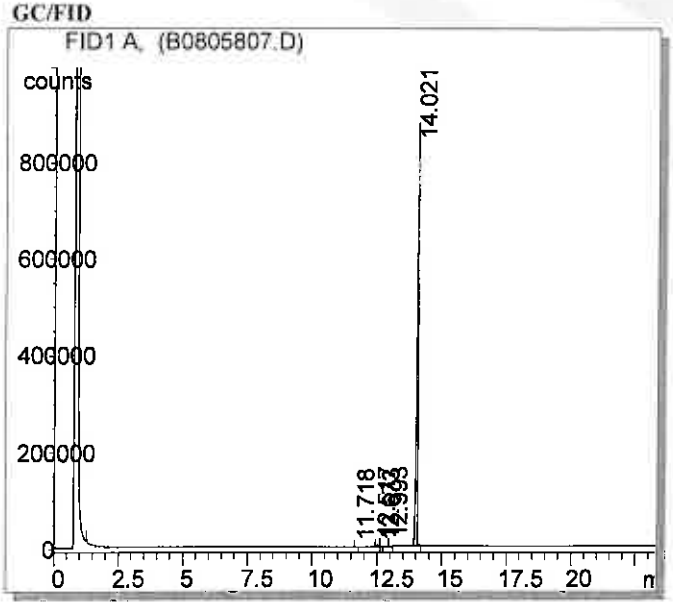

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0805807.D
Instrument:	GC#2
Sample Name:	ER080108-03
Acquired:	August 05, 2008

Peak #	Ret Time	Area	Height	Area %
1	11.72	318.47	152.10	0.01
2	12.52	8294.54	2994.64	0.30
3	12.67	155.17	67.29	0.01
4	12.99	4248.66	1646.53	0.16
5	14.02	2708910.00	880320.00	99.52

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

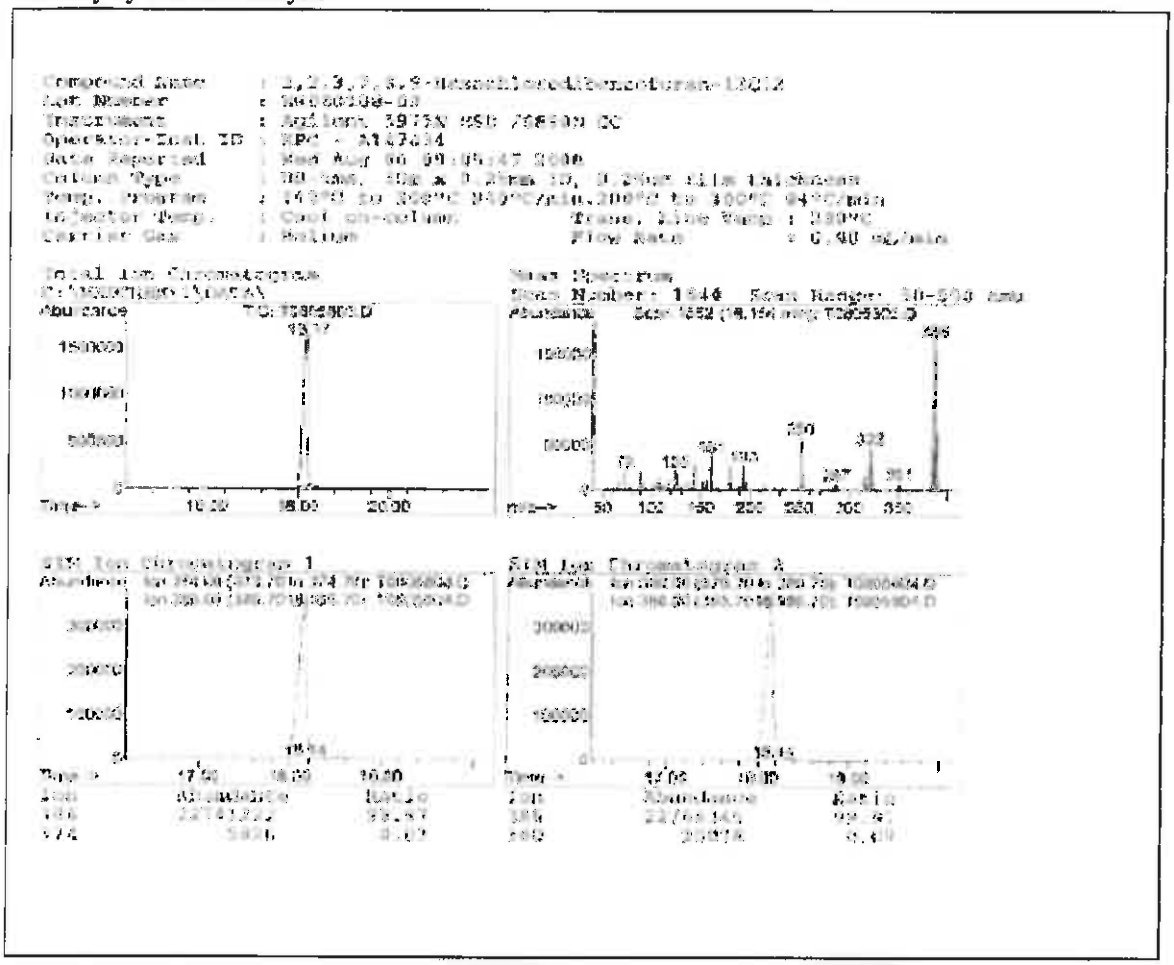

COA Revision History

Revision No.	Date	Reason for Revision
00	January 12, 2011	Initial version
01	November 05, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".
02	February 14, 2017	Corrected Isotopic Purity by GC/MS SIM from C to ^{13}C.

Reagent

HRDXNIDA_00359

r: 1/15/19 SKV

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CIL

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

2,3,4,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

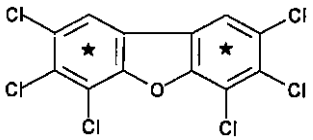

Catalog Number: EF-987
Solution Lot: ER100610-02
Expiration Date: December 2020
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For laboratory use only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
2,3,4,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.4%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER100610-02	50.9	± 5%	0.6	≤ 3%
Previous Lot	ER031507-03	50.3	± 5%	1.8	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

January 15, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,4,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O$
Compound Lot:	ER061906-02	**CAS Number:**	116843-05-1
		Molecular Weight:	386.73

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.4%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.04% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.40%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

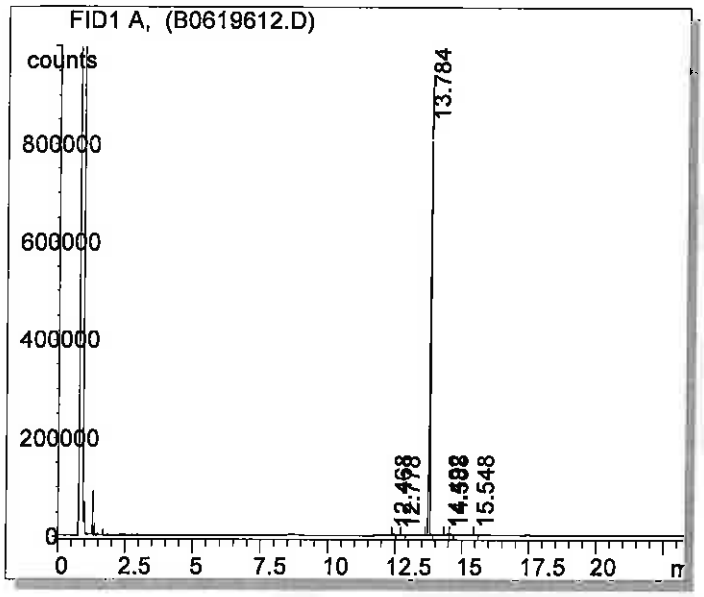

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0619612.D
Instrument:	GC#2
Sample Name:	ER061906-02
Acquired:	June 19, 2006

Peak #	Ret Time	Area	Height	Area %
1	12.47	4458	1822	0.18
2	12.78	3496	1304	0.14
3	13.78	2443150	925399	99.39
4	14.49	1528	387	0.06
5	14.59	4236	1332	0.17
6	15.55	1361	348	0.06

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 2,3,4,6,7,8-Hexachlorodibenzofuran-13C12
Lab Number : ZR061906-02
Instrument : Agilent 5975N MSD /6890N GC
Operator Inst ID : RPC - A147434
Date Reported : Tue Jun 20 08:44:12 2006
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 290°C 8.0°C/min,200°C to 320°C @4°C/min
Injector Temp. : Cool on-column Trans. Line Temp : 280°C
Carrier Gas : Helium Flow Rate : 0.80 mL/min

Total Ion Chromatogram
C:\MSDCHEM\1\DATA\
Abundance TIC T061906 11.D

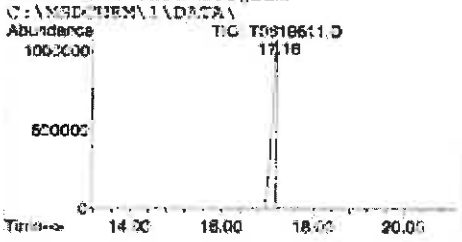

Mass Spectrum
Scan Number: 1614 Scan Range: 50-550 amu
Abundance Scan 1600 (17.157 min): T061906 11.D

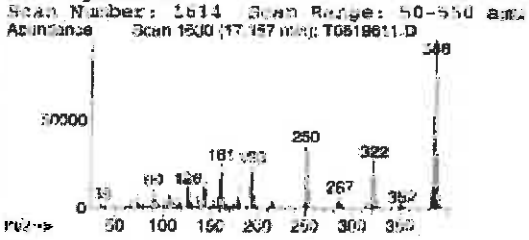

SIM Ion Chromatogram 1
Abundance Ion 374.00 (373.70 to 374.70): T061906 12.D

Ion	Abundance	Ratio
386	32369658	99.39
374	1998	0.01

SIM Ion Chromatogram 2
Abundance Ion 380.00 (379.70 to 380.70): T061906 12.D

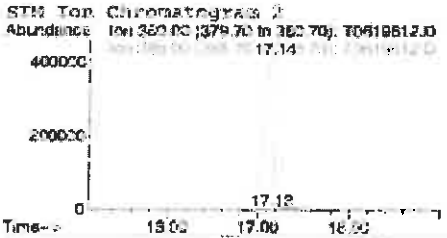

Ion	Abundance	Ratio
386	32389446	99.86
380	12574	0.04

COA Revision History

Revision No.	Date	Reason for Revision
00	January 04, 2011	Initial version
01	January 15, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Reagent

HRDXNIDA_00360

r: 1/15/19 SKV

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Analytical Reference Standards
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Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,7,8-Pentachlorodibenzo-p-dioxin-$^{13}C_{12}$

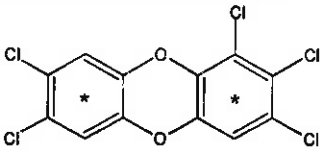

Catalog Number: ED-955
Solution Lot: ER08041401
Expiration Date: August 2024
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,7,8-Pentachlorodibenzo-p-dioxin-$^{13}C_{12}$	98.2%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER08041401	48.80	± 5%	0.3	≤ 3%
Previous Lot	ER030907-02	49.84	± 5%	0.4	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

February 10, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,7,8-Pentachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3Cl_5O_2$
Compound Lot:	ER06241403	**CAS Number:**	109719-79-1
		Molecular Weight:	368.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.9%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS-SIM Analysis	SP10-0105	0.07% $^{13}C_0$ vs $^{13}C_{12}$
		0.14% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS	SP10-0105	No single DD/DF $\geq$ 0.5%
Mass Balance Purity Factor		98.90%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

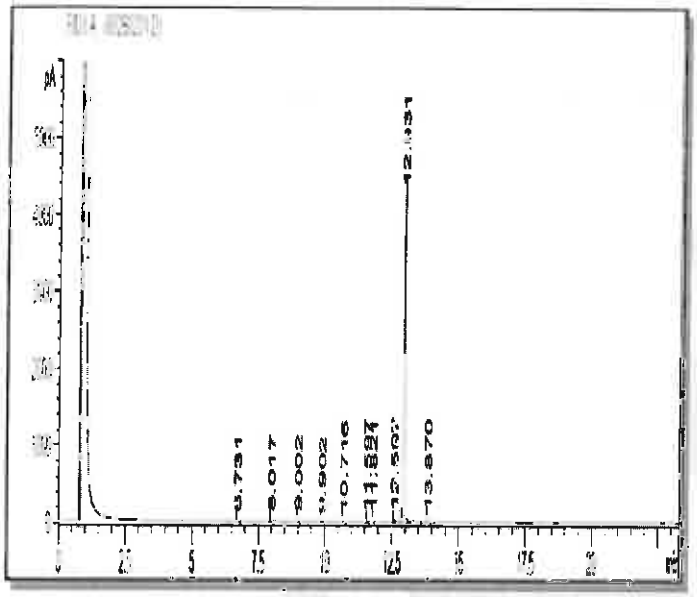

Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 100°C to 300°C at 15°C/min, hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: RMP-085 P GC 6 2014-07-30 18-11-11\002B0201.D
Instrument: GC#6
Sample Name: ER06241403
Acquired: July 30, 2014

Peak #	Ret Time	Area	Height	Area %
1	6.73	7.32	3.42	0.07
2	8.02	3.79	1.60	0.04
3	9.00	8.74	3.64	0.08
4	9.90	3.38	1.35	0.03
5	10.72	1.31	0.45	0.01
6	11.60	14.46	6.69	0.14
7	11.82	2.21	1.11	0.02
8	12.60	68.05	28.10	0.64
9	12.93	10594.10	4235.85	98.91
10	13.87	7.09	2.57	0.07

Spectral and Physical Data (cont.)

GC/MS

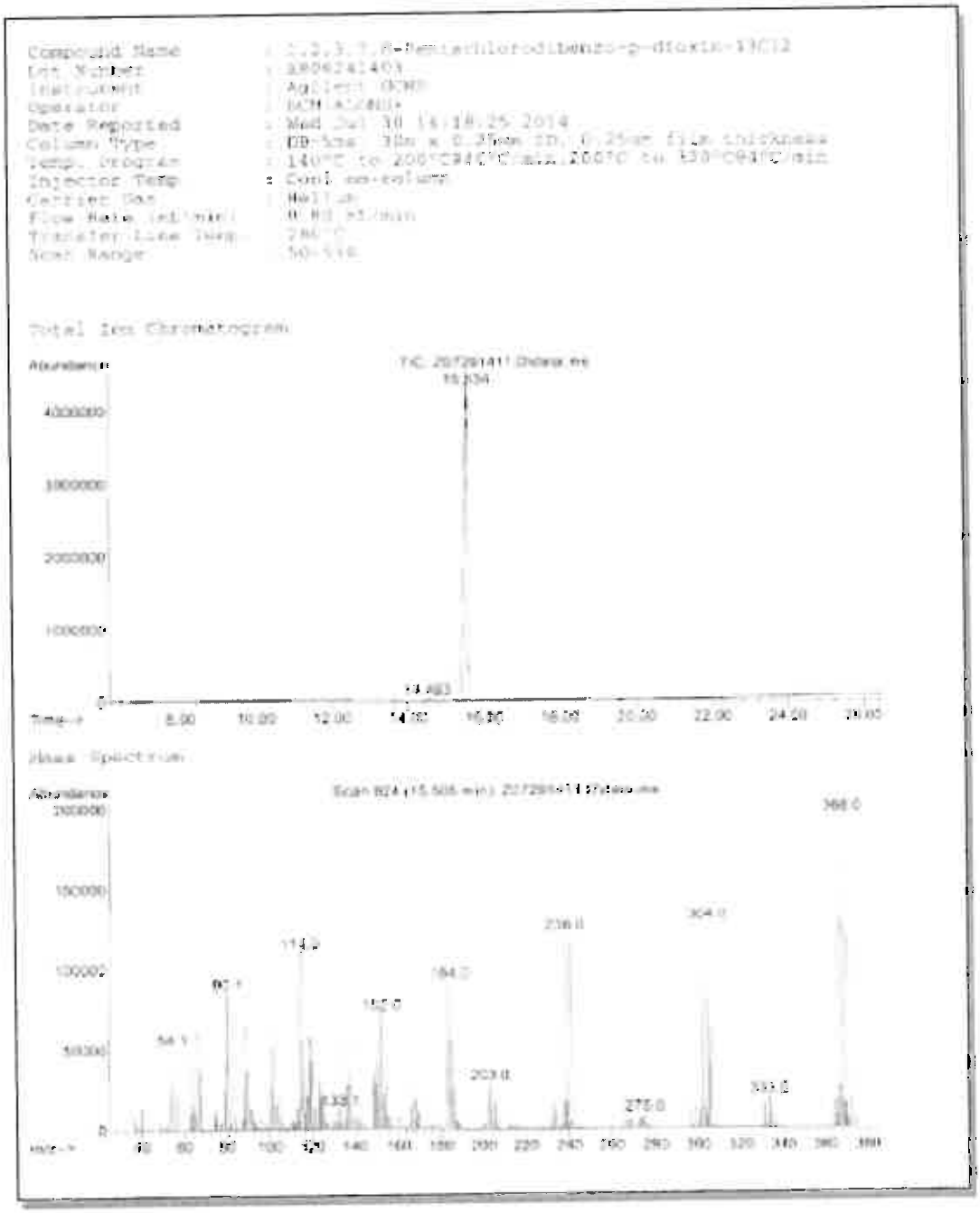

COA Revision History

Revision No.	Date	Reason for Revision
00	September 24, 2014	Initial version
01	February 10, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Reagent

HRDXNIDA_00361

r: 1/15/19 SKV

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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$

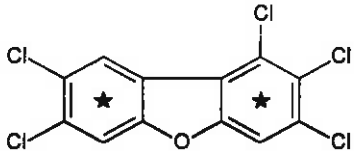

Catalog Number: EF-952
Solution Lot: ER012111-01
Expiration Date: January 2021
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For laboratory use only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
1,2,3,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	99.2%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER012111-01	50.7	± 5%	0.4	≤ 3%
Previous Lot	ER0100407-02	51.0	± 5%	0.5	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

February 15, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3OCl_5$
Compound Lot:	ER090110-01	**CAS Number:**	109719-77-9
		Molecular Weight:	352.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.2%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.03% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.17%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

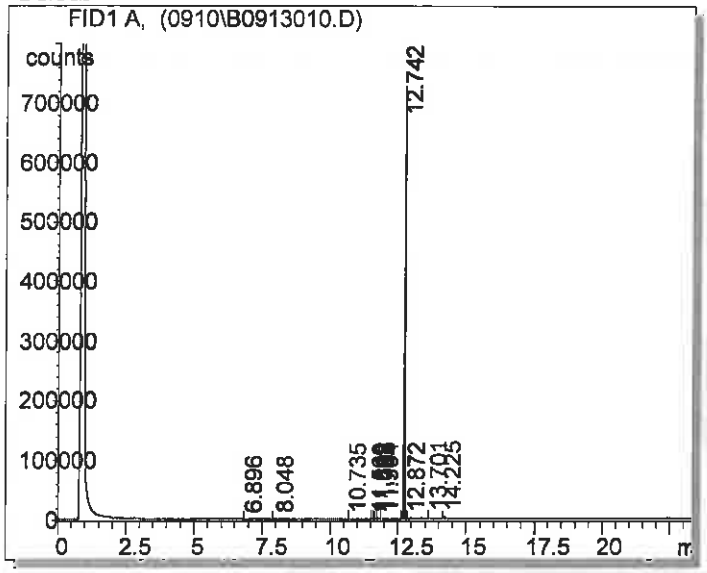

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	S:\GC\GC2\2010\0910\B0913010.D
Instrument:	GC#2
Sample Name:	ER090110-01
Acquired:	September 13, 2010

Peak #	Ret Time	Area	Height	Area %
1	6.90	618.64	296.84	0.04
2	8.05	254 50	102.70	0.01
3	10.74	162 25	70.86	0.01
4	11 57	145 03	82.11	0.01
5	11 62	468 46	216.27	0.03
6	11 69	1863 76	870.51	0.11
7	11.79	1631 76	576.35	0.10
8	11.90	421 31	184.81	0.02
9	12.74	1702290 00	729831.00	99.20
10	12.87	308 15	147.54	0.02
11	13.70	3743 55	1299.40	0.22
12	14.23	4032 24	1491.01	0.23

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

Compound Name : 1,2,3,7,8-Pentachlorodibenzofuran-13C12
Lot Number : EX090110-01
Instrument : Agilent 5973N MSD/6890N GC
Operator-Inst ID : RPC - CI0106
Date Reported : Tue Sep 14 11:05:33 2010
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 280°C

Scan Range : 50-550

Total Ion Chromatogram

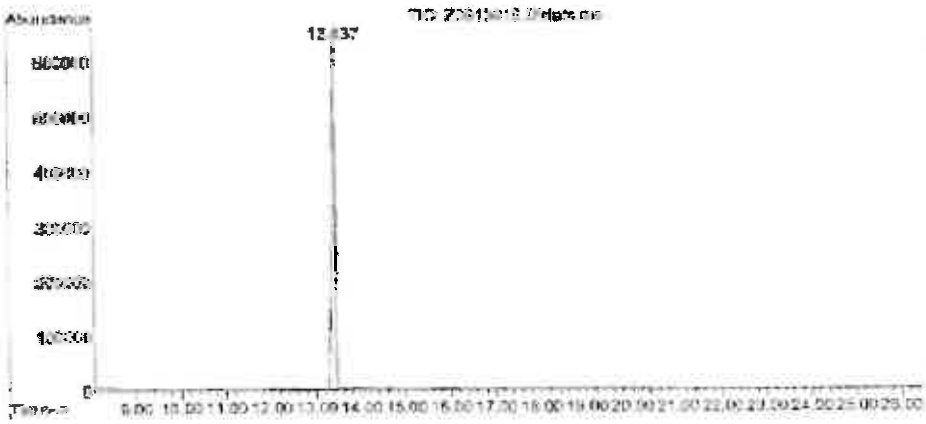

Mass Spectrum

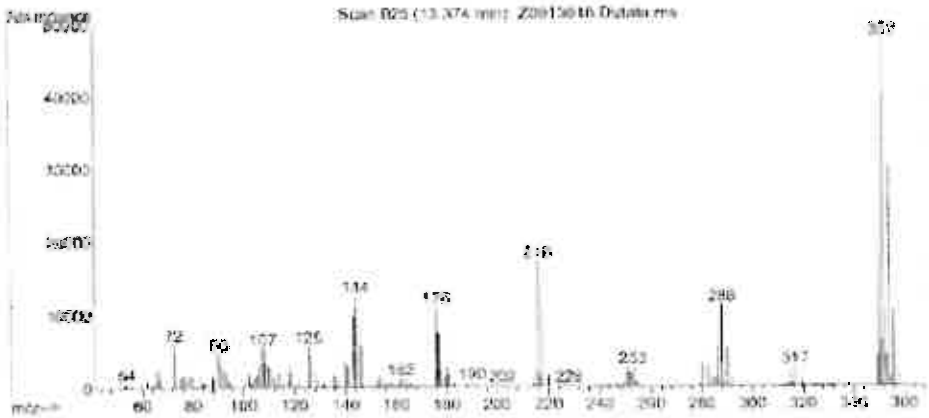

COA Revision History

Revision No.	Date	Reason for Revision
00	February 11, 2011	Initial version
01	March 01, 2011	Corrected typographical error: Chemical Structure
02	February 15, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Reagent

HRDXNIDA_00362

P: 1/15/19 SKV

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Analytical Reference Standards
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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

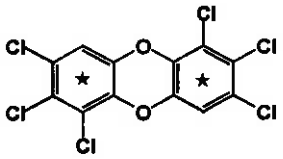

Catalog Number: ED-966
Solution Lot: ER03151801
Expiration Date: March 2028
Solvent: n-Nonane:Toluene (80:20) (v/v)
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	> 99.9%	50.03 ± 0.28 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER03151801	52.29	± 5%	0.2	≤ 3%
Previous Lot	ER010209-01	48.05	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using balances that have been qualified and calibrated to ISO 17025 requirements. All calibrations utilize NIST traceable weights which are calibrated externally by a qualified ISO 17025 accredited calibration laboratory to NIST standards. Qualification of each balance includes the assignment of a minimum weighing by a qualified and ISO 17025 accredited calibration vendor taking into consideration the balance and installed environmental conditions to ensure compliance with USP tolerances of NMT 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

April 19, 2018
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O_2$
Compound Lot:	FN01151802	**CAS Number:**	109719-81-5
		Molecular Weight:	402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.04% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 1.0%
Mass Balance Purity Factor		98.96%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

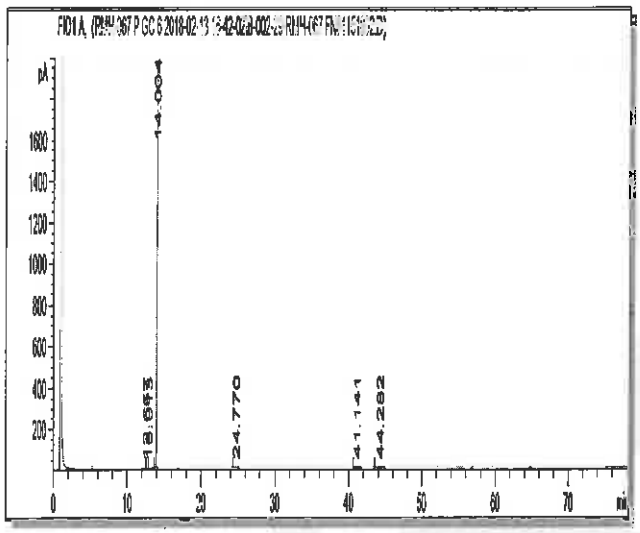

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-067 P GC 6 2018-02-13 16-42-02\B-002-29.D
Instrument:	GC#6
Sample Name:	FN01151802
Acquired:	February 13, 2018

Peak #	Ret Time	Area	Height	Area %
1	12.66	1 69	0.62	0.03
2	13.01	1 96	0.53	0.03
3	14 00	5617 62	1952.76	98.87
4	24 77	5.26	0.34	0.09
5	41 14	10.58	0.38	0.19
6	44 28	44.69	1.49	0.79

Spectral and Physical Data (cont.)

GC/MS

```
Compound Name          : 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-13C12
Lot Number             : FN01151802
Instrument             : Agilent GCMS
Operator               : FCM(SGIUFTRE)
Date Reported          : Mon Mar 05 10:17:32 2018
Column Type            : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program          : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.         : Cool on-column
Carrier Gas            : Helium
Flow Rate (mL\min)     : 0.80 mL/min
Transfer Line Temp.    : 280°C
Scan Range             : 50-550
```

Total Ion Chromatogram

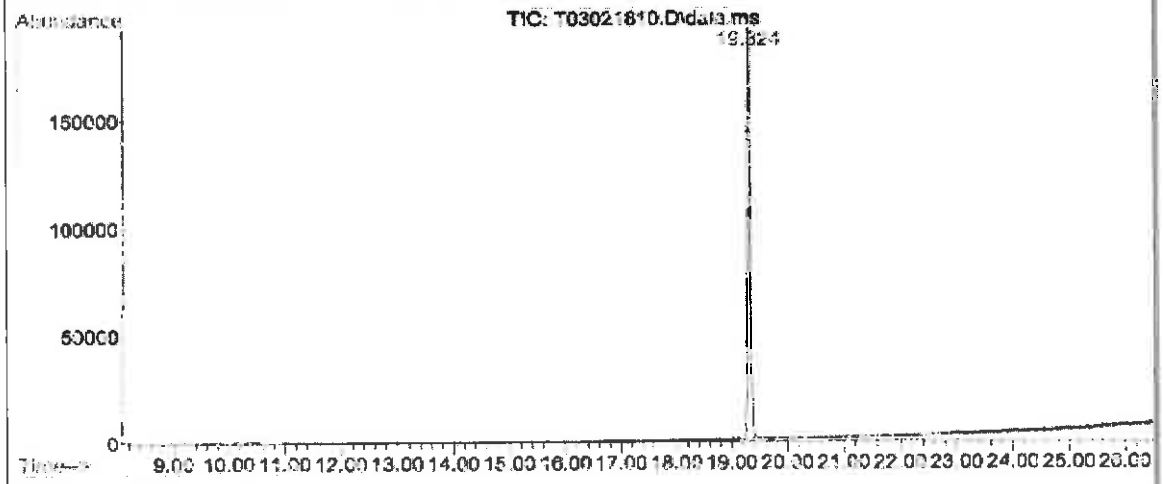

Mass Spectrum

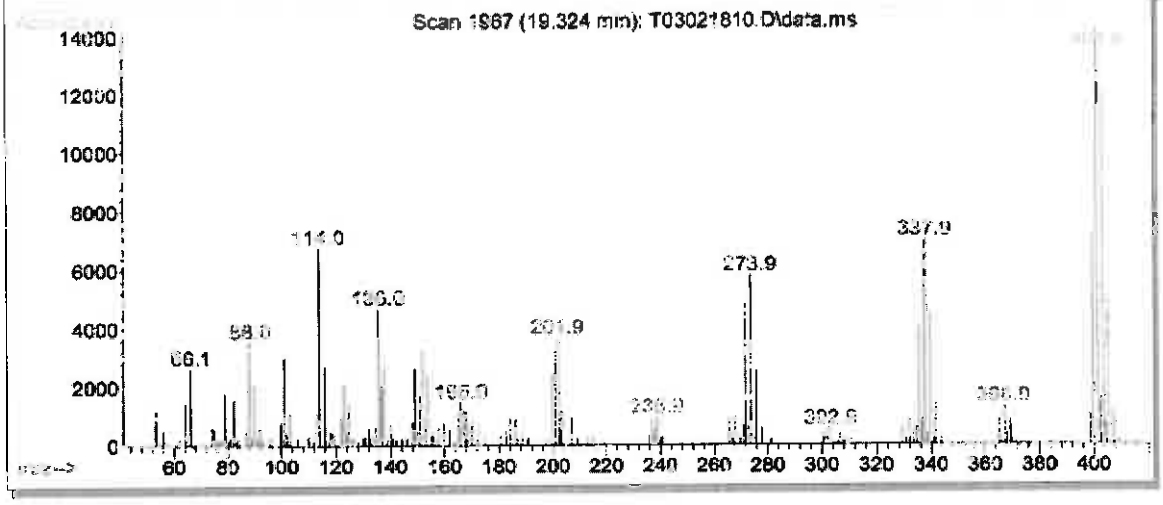

Reagent

HRDXNIDA_00365

Rec 11/28/18 SKV

1450145
ID: HRDXNIDA_00347
Exp: 04/30/27 Prpd: SKV
13C-OCDD [10 ug/mL]

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Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Octachlorodibenzo-p-dioxin-$^{13}C_{12}$

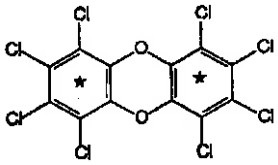

Catalog Number: ED-981-1.2
Solution Lot: ER04051701
Expiration Date: April 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
Octachlorodibenzo-p-dioxin-$^{13}C_{12}$	> 99.9%	10.00 ± 0.05 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04057101	10.22	± 5%	1.1	≤ 5%
Previous Lot	ER06061601	10.17	± 5%	0 8	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

May 19, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.25 mm ID, 0.25 µm film thickness
Temp Program:	70°C to 200°C at 40°C/min 200°C to 280°C at 10°C/min hold 15 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	3
Linearity (r):	0.997

Neat Material Data

Compound Name:	Octachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}Cl_8O_2$
Compound Lot:	ER04041601	**CAS Number:**	114423-97-1
		Molecular Weight:	471.66

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.1%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.07% $^{13}C_0$ vs $^{13}C_{12}$
		0.96% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.15%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

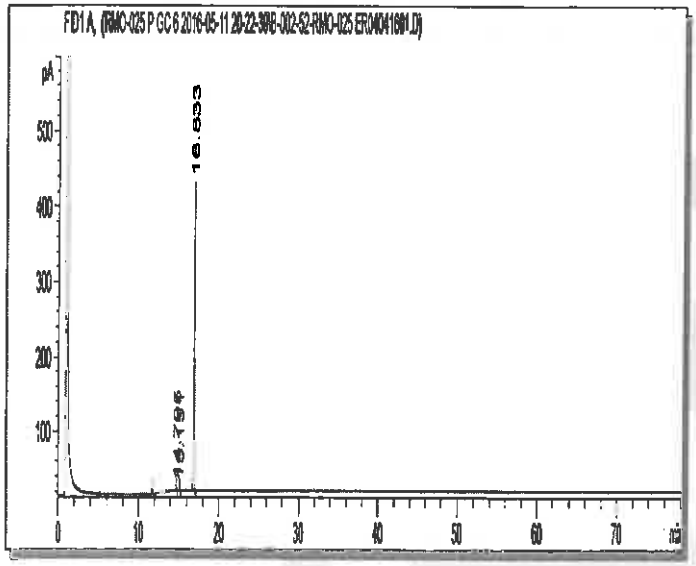

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMO-025 P GC 6 2016-05-11 20-22-39\B-002-52.D
Instrument:	GC#6
Sample Name:	ER04041601
Acquired:	May 11, 2016

Peak #	Ret Time	Area	Height	Area %
1	14.80	12.12	3.62	0.61
2	15.15	4.72	1.32	0.24
3	16.83	1980.56	409.54	99.16

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: Octachlorodibenzo-p-dioxin-13C12
Lot Number	: ERC4041601
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Wed May 04 13:45:40 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

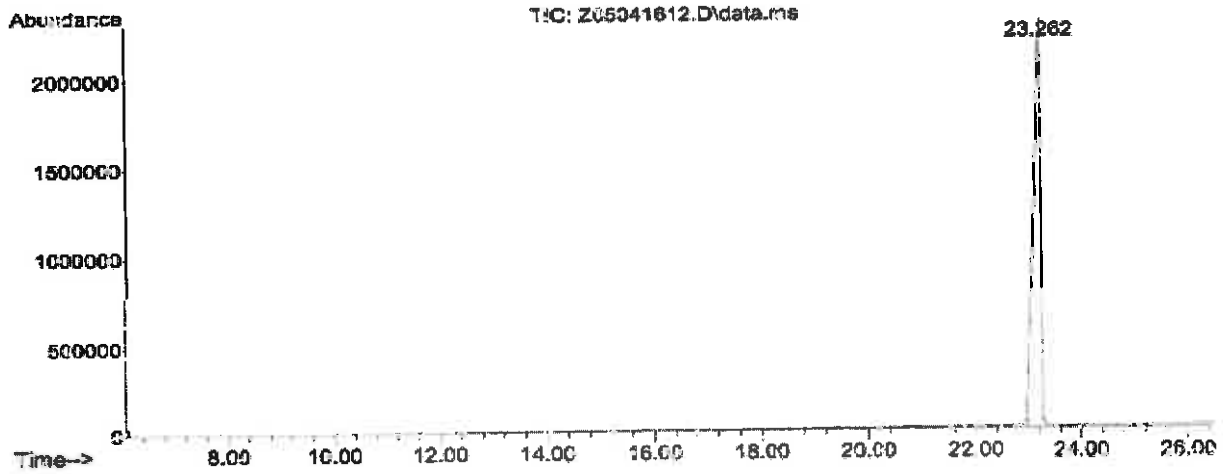

Mass Spectrum

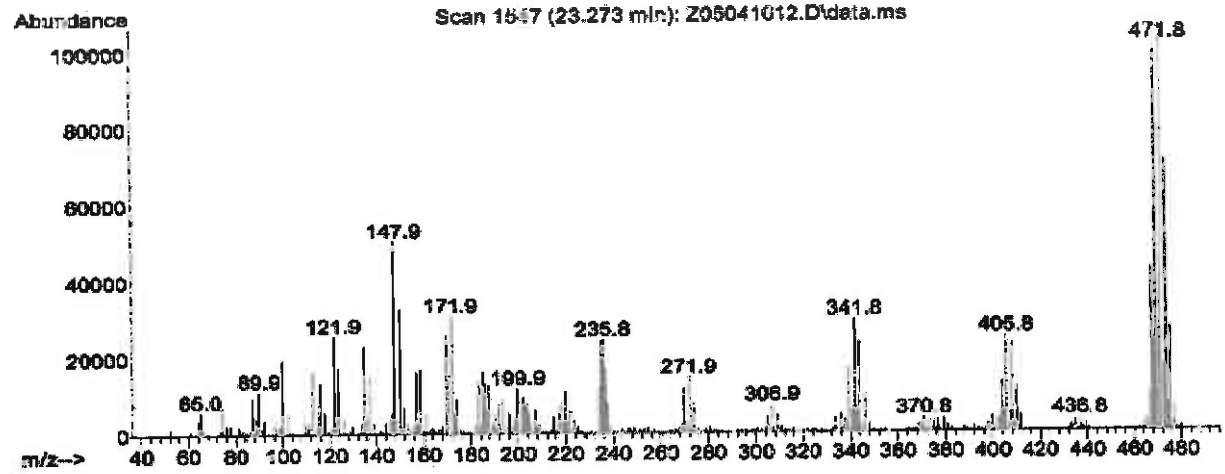

Reagent

HRDXNIDA_00375

nc 4/8/16 BWJ

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Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$

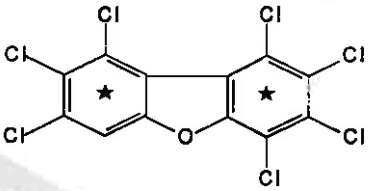

Catalog Number: EF-988
Solution Lot: ER04251601
Expiration Date: May 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	99.1%	49.99 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass, Purity Factor of the analyte(s), measured mass of the solution, and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04251601	49.11	± 5%	0.2	≤ 3%
Previous Lot	ER053107-02	50.58	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

November 09, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}HCl_7O$
Compound Lot:	ER04041602	**CAS Number:**	109719-94-0
		Molecular Weight:	421.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.1%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS SIM	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.16% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.10%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data (cont.)

GC/FID

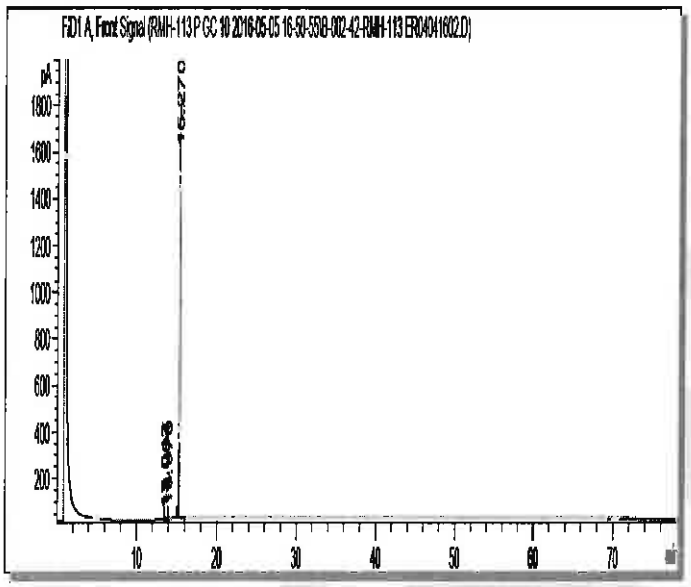

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-113 P GC 10 2016-05-05 16-50-55\B-002-42.D
Instrument:	GC#10
Sample Name:	ER04041602
Acquired:	May 05, 2016

Peak #	Ret Time	Area	Height	Area %
1	13.51	8.76	2.52	0.12
2	13.68	17.42	7.45	0.24
3	13.97	39.65	15.48	0.54
4	15.27	7226.95	1798.33	99.10

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 1,2,3,4,7,8,9-Heptachlorodibenzofuran-13C12
Lot Number	: ER04041602
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Wed May 04 15:34:28 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

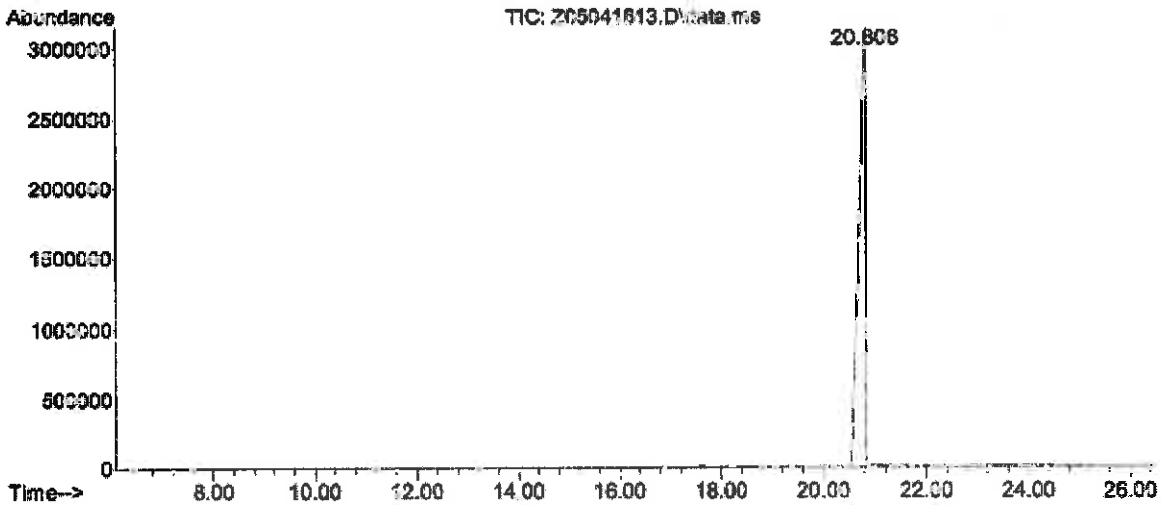

Mass Spectrum

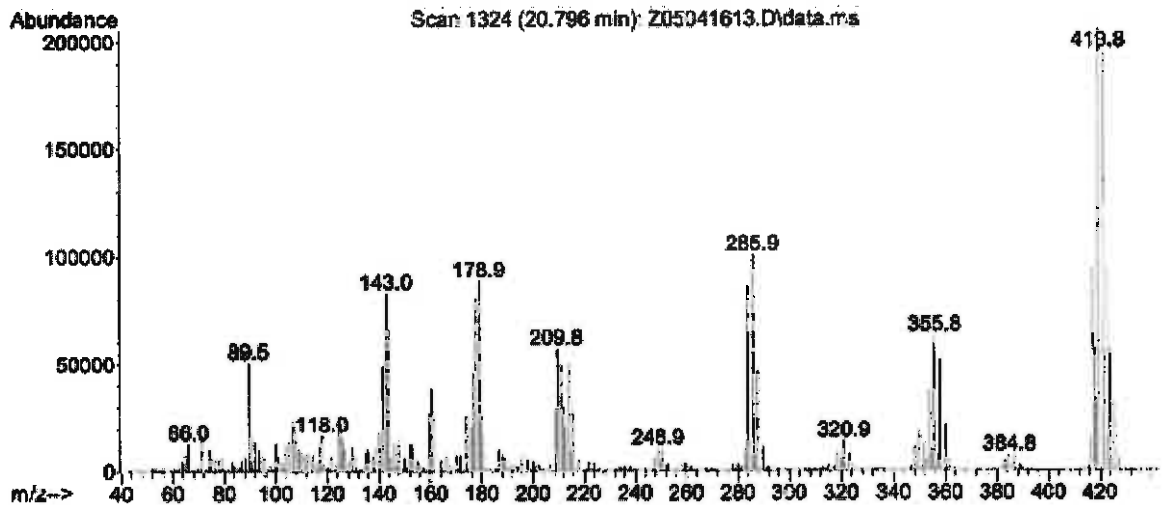

COA Revision History

Revision No.	Date	Reason for Revision
00	June 21, 2016	Initial version
01	November 09, 2016	Corrected Expiration Date from March 2026 to May 2026.

Reagent

HRDXNIDA_00376

N: 4/8/19 SW

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$

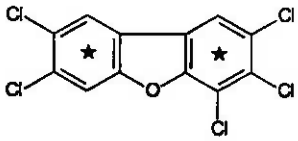

Catalog Number: EF-958
Solution Lot: ER01061701
Expiration Date: January 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	97.9%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass, Purity Factor of the analyte(s), measured mass of the solution, and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Acceptance Criteria	%RSD - Homogeneity Actual Results	Acceptance Criteria
New Lot	ER01061701	50.51	± 5%	0.1	≤ 3%
Previous Lot	ER11041601	49.56	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

January 27, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3Cl_5O$
Compound Lot:	ER11101601	**CAS Number:**	116843-02-8
		Molecular Weight:	352.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0102	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.02% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 0.5%
Mass Balance Purity Factor		**98.33%**

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

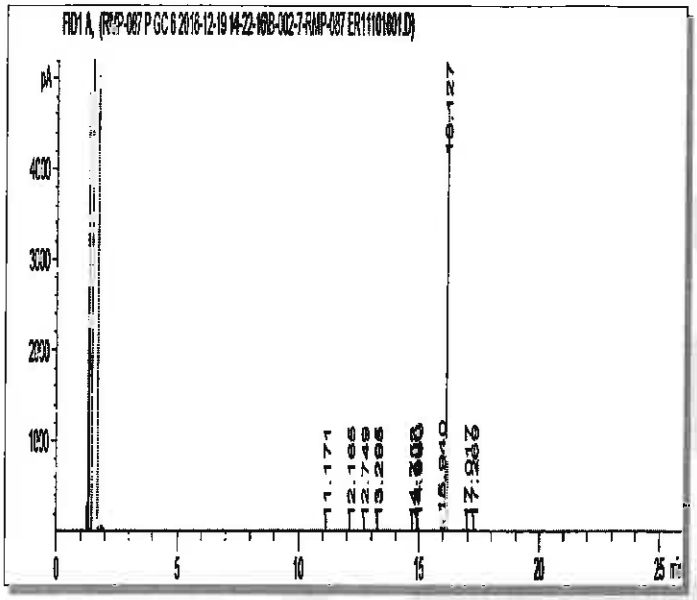

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMP-087 P GC 6 2016-12-19 14-22-16\B-002-7.D
Instrument:	GC#6
Sample Name:	ER11101601
Acquired:	December 19, 2016

Peak #	Ret Time	Area	Height	Area %
1	11.17	0.94	0.40	0.01
2	12.17	1.30	0.39	0.01
3	12.75	0.47	0.20	0.00
4	13.30	0.90	0.35	0.01
5	14.75	1.70	0.87	0.02
6	14.91	1.09	0.56	0.01
7	14.97	32.24	17.54	0.29
8	15.94	124.38	64.36	1.13
9	16.13	10866.60	4688.80	98.41
10	17.02	6.31	2.46	0.06
11	17.27	6.76	2.34	0.06

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 2,3,4,7,8-Pentachlorodibenzofuran-13C12
Lot Number	: ER11101601
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Tue Dec 20 12:19:55 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

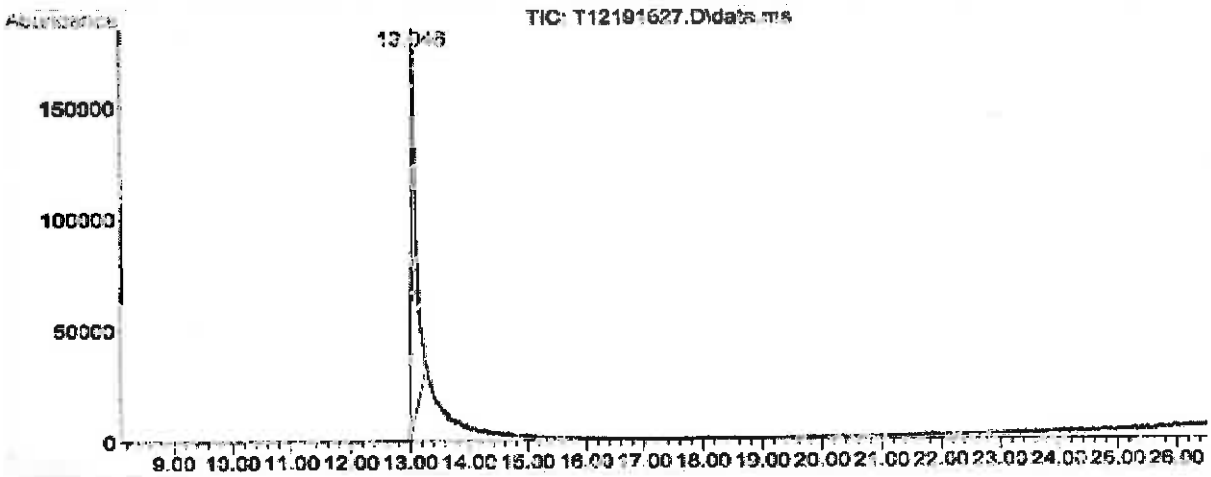

Mass Spectrum

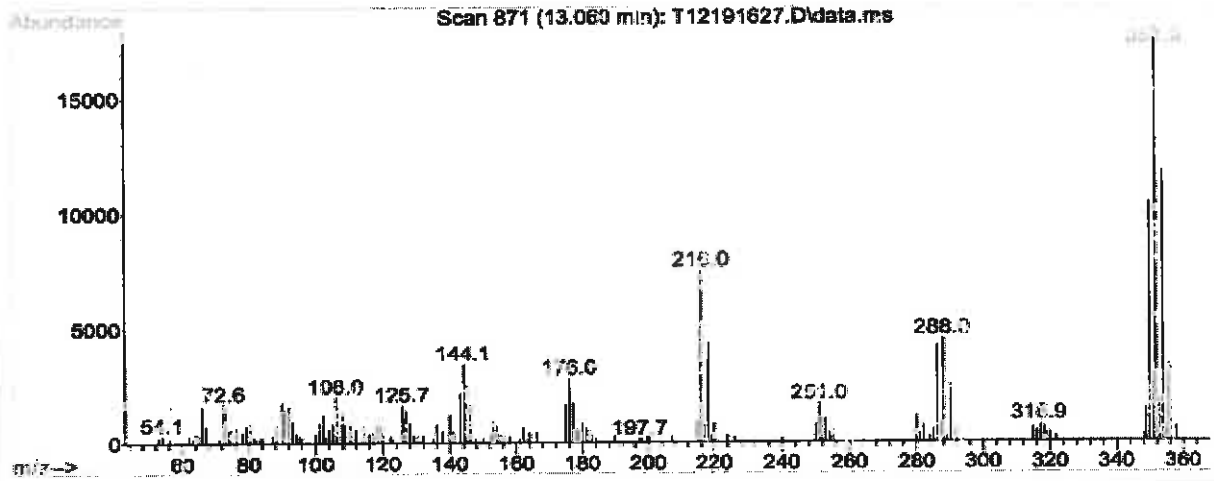

Reagent

HRDXNIDA_00377

r: 4/8/16 SKJ

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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

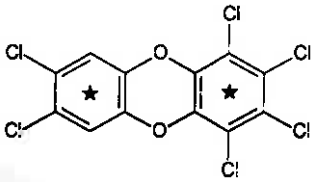

Catalog Number:	ED-946
Solution Lot:	ER04211601
Expiration Date:	June 2026
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.3%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04211601	49.24	± 5%	0.4	≤ 3%
Previous Lot	ER102711-01	49.69	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

August 11, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$
Compound Lot:	ER011008-01

Chemical Formula:	$^{13}C_{12}H_2Cl_6O_2$
CAS Number:	109719-80-4
Molecular Weight:	402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.08% $^{13}C_0$ vs $^{13}C_{12}$
		0.21% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.26%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

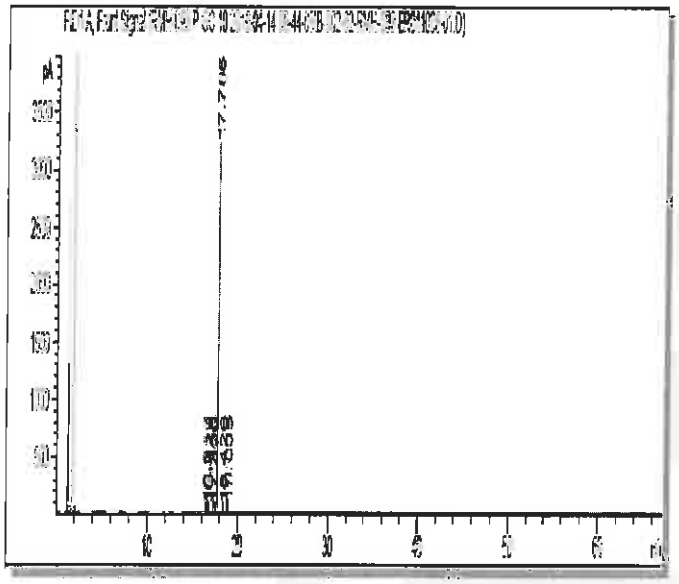

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	40°C to 300°C at 15°C/min hold 50 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-098 P GC 10 2016-04-14 08-44-08\B-002-62.D
Instrument:	GC#10
Sample Name:	ER011008-01
Acquired:	April 14, 2016

Peak #	Ret Time	Area	Height	Area %
1	16.56	16.58	7.74	0.19
2	16.72	11.25	5.08	0.13
3	16.83	8.45	4.05	0.10
4	17.30	1.81	0.71	0.02
5	17.48	1.07	0.50	0.01
6	17.79	8682.22	3203.58	99.29
7	18.43	1.99	0.68	0.02
8	19.01	20.62	6.08	0.24

Spectral and Physical Data (cont.)

GC/MS

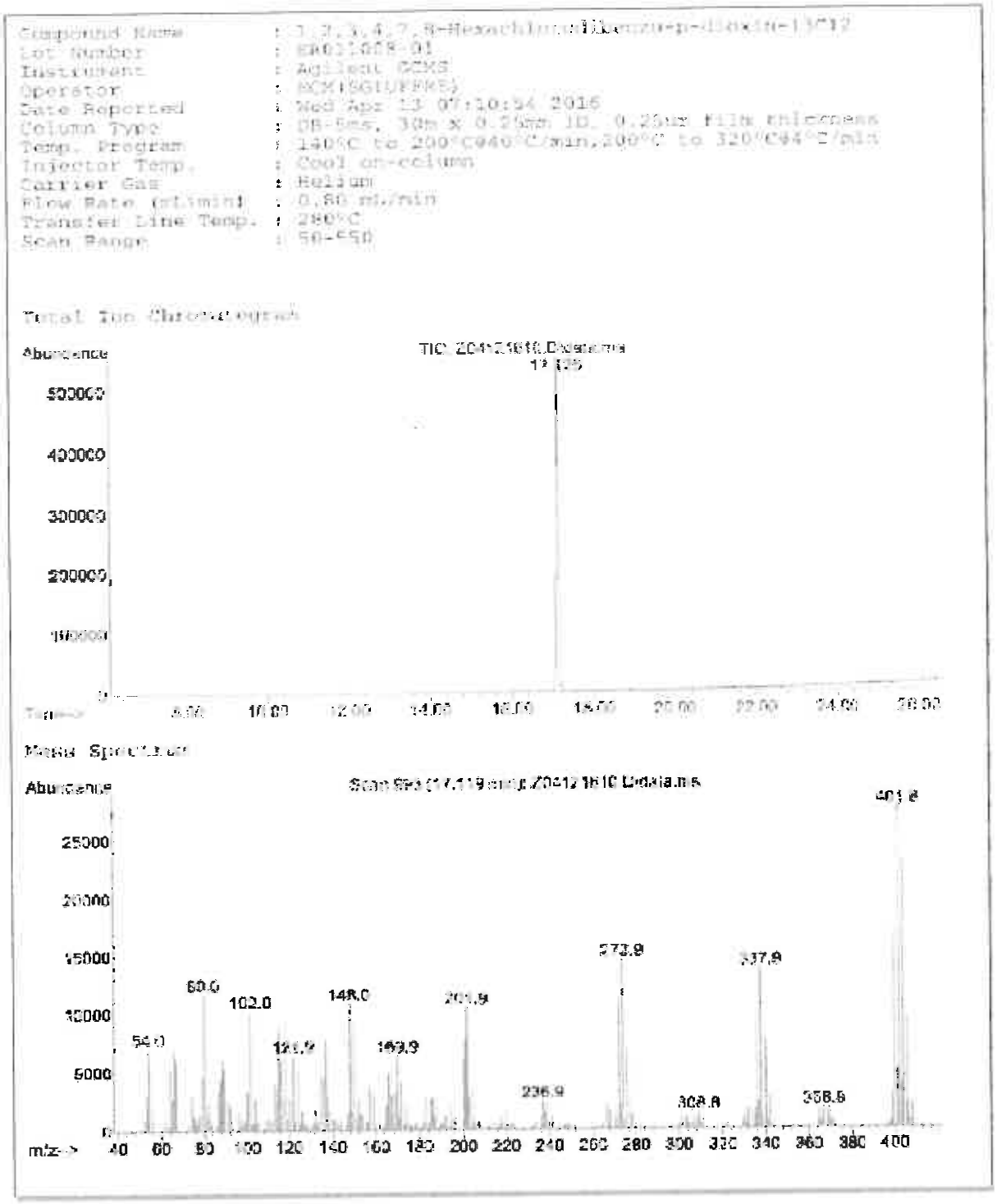

Reagent

HRDXNIDA_00378

r: 4/8/19 SKJ

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Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

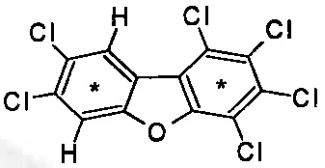

Catalog Number:	EF-963
Solution Lot:	ER04211701
Expiration Date:	July 2027
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.4%	50.00 ± 0.28 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04211701	49.47	± 5%	0.2	≤ 3%
Previous Lot	ER072810-02	45.87	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release

Traceability

- Gravemetrically prepared using balances that have been qualified and calibrated to ISO 17025 requirements. All calibrations utilize NIST traceable weights which are calibrated externally by a qualified ISO 17025 accredited calibration laboratory to NIST standards. Qualification of each balance includes the assignment of a minimum weighing by a qualified and ISO 17025 accredited calibration vendor taking into consideration the balance and installed environmental conditions to ensure compliance with USP tolerances of NMT 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

September 11, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}Cl_6H_2O$
Compound Lot:	ER11281601	**CAS Number:**	114423-98-2
		Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0102	99.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.06% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 0.5%
Mass Balance Purity Factor		99.31%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

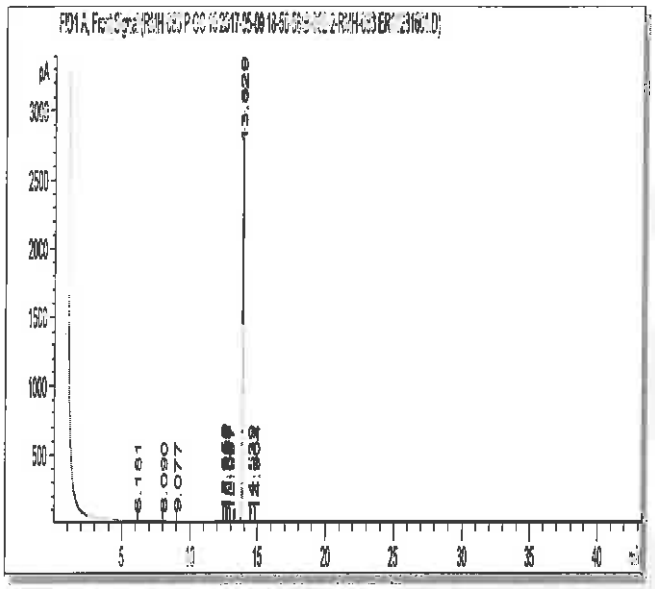

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 30 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-083 P GC 10 2017-05-09 18-50-58\B-002-2.D
Instrument:	GC#10
Sample Name:	ER11281601
Acquired:	May 09, 2017

Peak #	Ret Time	Area	Height	Area %
1	6.18	1.10	0.64	0.01
2	8.09	2.00	0.70	0.02
3	9.08	1.17	0.48	0.01
4	12.55	14.76	7.25	0.16
5	12.73	32.67	11.32	0.36
6	12.84	5.45	2.50	0.06
7	13.00	2.51	1.30	0.03
8	13.83	8993.56	3122.16	99.30
9	14.54	1.11	0.20	0.01
10	14.90	2.71	0.86	0.03

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 1,2,3,4,7,8-hexachlorodibenzofuran-13C12
Lot Number : SRI128160[illegible]
Instrument : Agilent GCMS
Operator : ECM(SGIDEFKE)
Date Reported : Mon May 08 09:30:09 2017
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@60°C/min,200°C to 320°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL\min) : 0.80 mL/min
Transfer Line Temp. : 280°C
Scan Range : 50-550

Total Ion Chromatogram

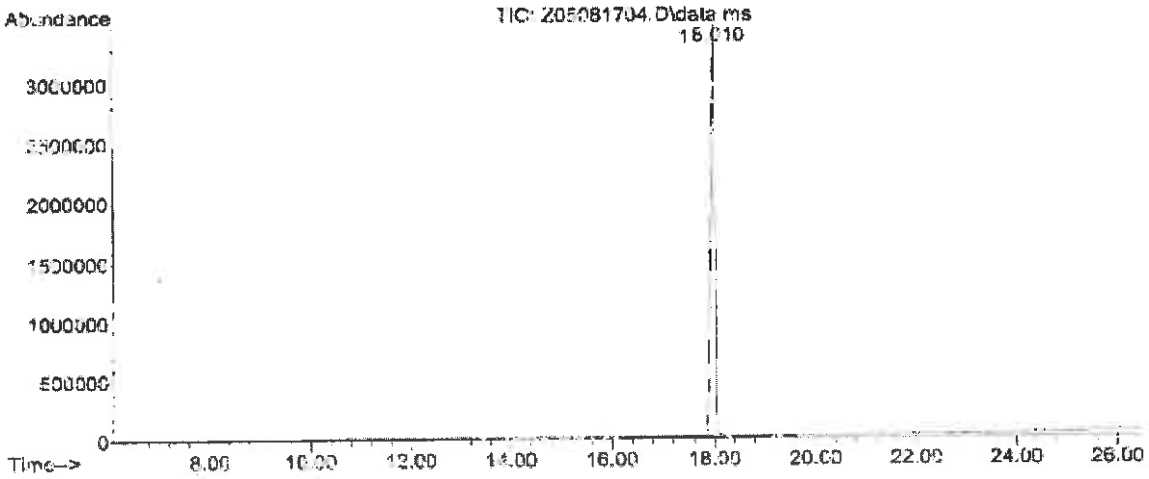

Mass Spectrum

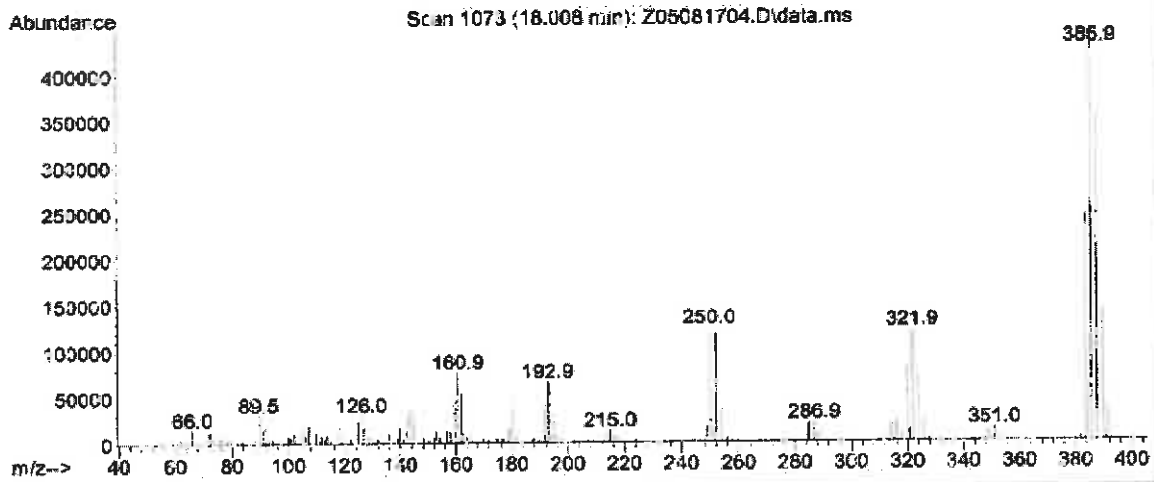

Reagent

HRDXNIS_00110

r: 9/4/18 SKV

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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

Catalog Number: ED-996
Solution Lot: ER08221601
Expiration Date: September 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER08221601	49.20	± 5%	0.3	≤ 3%
Previous Lot	ER021313-01	49.56	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

September 28, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O_2$
Compound Lot:	ER110510-01	**CAS Number:**	109719-82-6
		Molecular Weight:	402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.04% $^{13}C_0$ vs $^{13}C_{12}$
		0.27% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.02%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

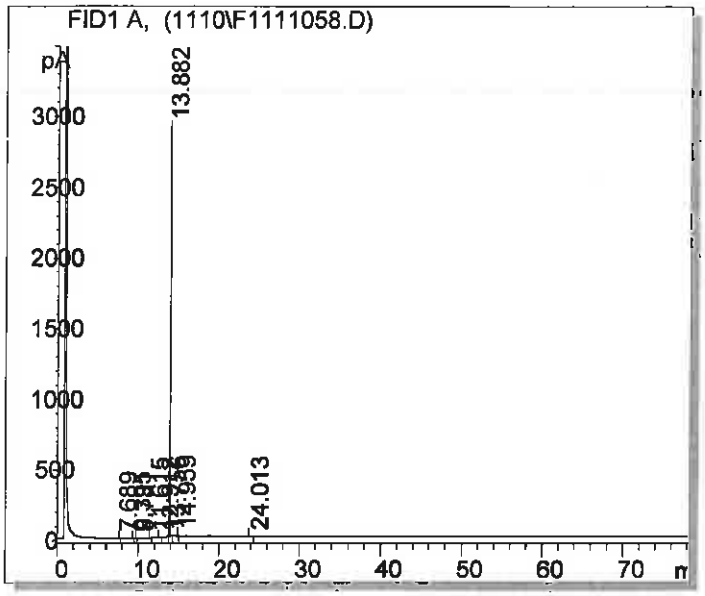

Column:	DB-5ms 30m x 0.53mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-column
Detector Temp:	325°C
Data File Name:	S:\GC\GC6\2010\1110\F1111058.D
Instrument:	GC#6
Sample Name:	ER110510-01
Acquired:	November 12, 2010

Peak #	Ret Time	Area	Height	Area %
1	4 69	0.45	0.10	0.01
2	9.40	0 72	0.14	0.01
3	9.78	0 80	0.13	0.01
4	11 62	7.34	2.54	0.09
5	12 91	2.59	0.23	0.03
6	13 76	1.91	1.00	0.02
7	13 88	8026.07	2938.74	99.11
8	14.96	36.82	11.38	0.45
9	24.01	21.08	1.62	0.26

Spectral and Physical Data (cont.)

GC/MS

```
Compound Name      : 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-13C12
Lot Number         : ER110510-01
Instrument         : Agilent 5973N MSD /6890N GC
Operator-Inst ID   : RPC - A147434
Date Reported      : Fri Nov 12 16:41:14 2010
Column Type        : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program      : 140°C to 200°C @40°C/min,200°C to 320°C @4°C/min
Injector Temp.     : Cool on-column          Trans. Line Temp : 280°C
Carrier Gas        : Helium                  Flow Rate        : 0.80 mL/min
```

Total Ion Chromatogram
S:\GCMS\GCMS2\2010\1110\

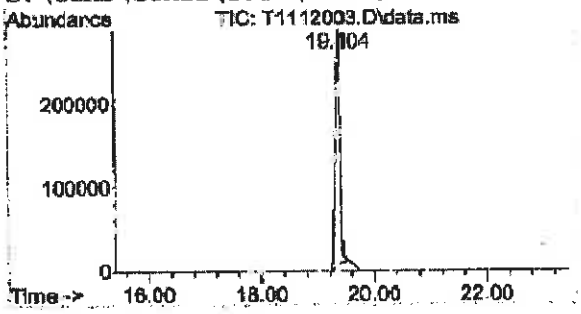

Mass Spectrum
Scan Number: 1976 Scan Range: 50-550 amu

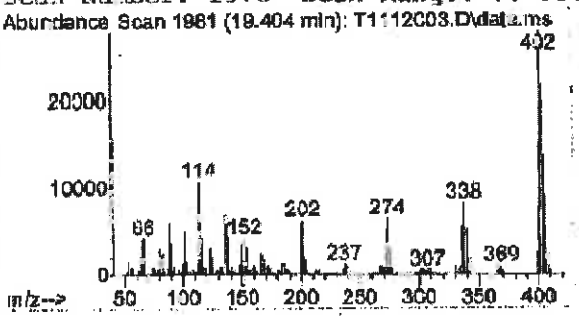

SIM Ion Chromatogram 1

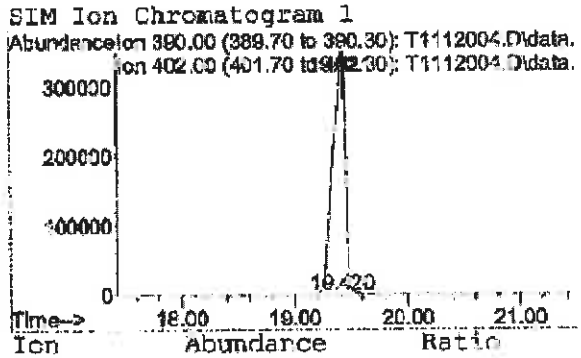

Ion	Abundance	Ratio
402	26368380	99.96
390	9776	0.04

SIM Ion Chromatogram 2

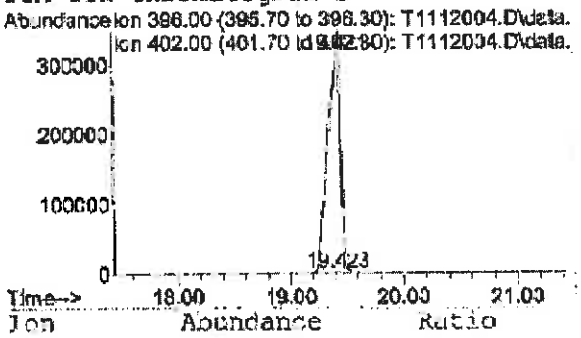

Ion	Abundance	Ratio
402	26368380	99.73
396	71626	0.27

Reagent

HRDXNIS_00111

Rec: 9/4/18 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$

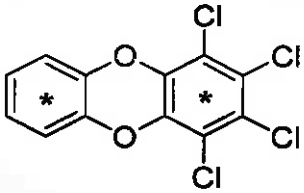

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number: ED-911
Solution Lot: ER11081602
Expiration Date: January 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.7%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER11081602	51.01	± 10%	0.1	≤ 3%
Previous Lot	ER060710-01	50.59	± 10%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

January 23, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$
Compound Lot:	ER02021602

Chemical Formula:	$^{13}C_{12}H_4Cl_4O_2$
CAS Number:	114423-99-3
Molecular Weight:	333.88

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS	SP10-0105	no single DD/DF impurity ≥ 1.0%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.03% $^{13}C_0$ vs $^{13}C_{12}$
		0.01% $^{13}C_6$ vs $^{13}C_{12}$
Identity by ^{1}H-NMR Analysis	USP <761>, SP10-0116	Consistent with Structure
Residual Solvent by ^{1}H-NMR Analysis	USP <761>, SP10-0116	0.31% Dichloromethane
Mass Balance Purity Factor		98.71%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

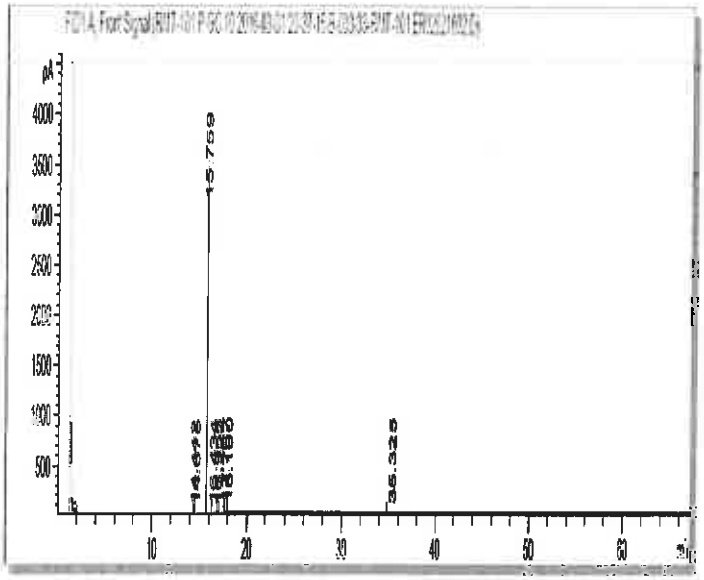

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	40°C to 300°C at 15°C/min hold 50 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMT-101 P GC 10 2016-03-01 20-37-15\B-003-33.D
Instrument:	GC#10
Sample Name:	ER02021602
Acquired:	March 01, 2016

Peak #	Ret Time	Area	Height	Area %
1	14.44	1.34	0.53	0.02
2	14.68	3.60	0.58	0.05
3	15.76	7522.29	3054.11	99.22
4	16.43	3.51	0.80	0.05
5	16.96	2.38	1.09	0.03
6	17.13	4.79	2.26	0.06
7	17.77	8.72	3.38	0.11
8	18.10	1.68	0.54	0.02
9	35.33	32.94	1.28	0.43

^{1}H NMR

Instrument:	JEOL ECS 400
Solvent:	Chloroform-D

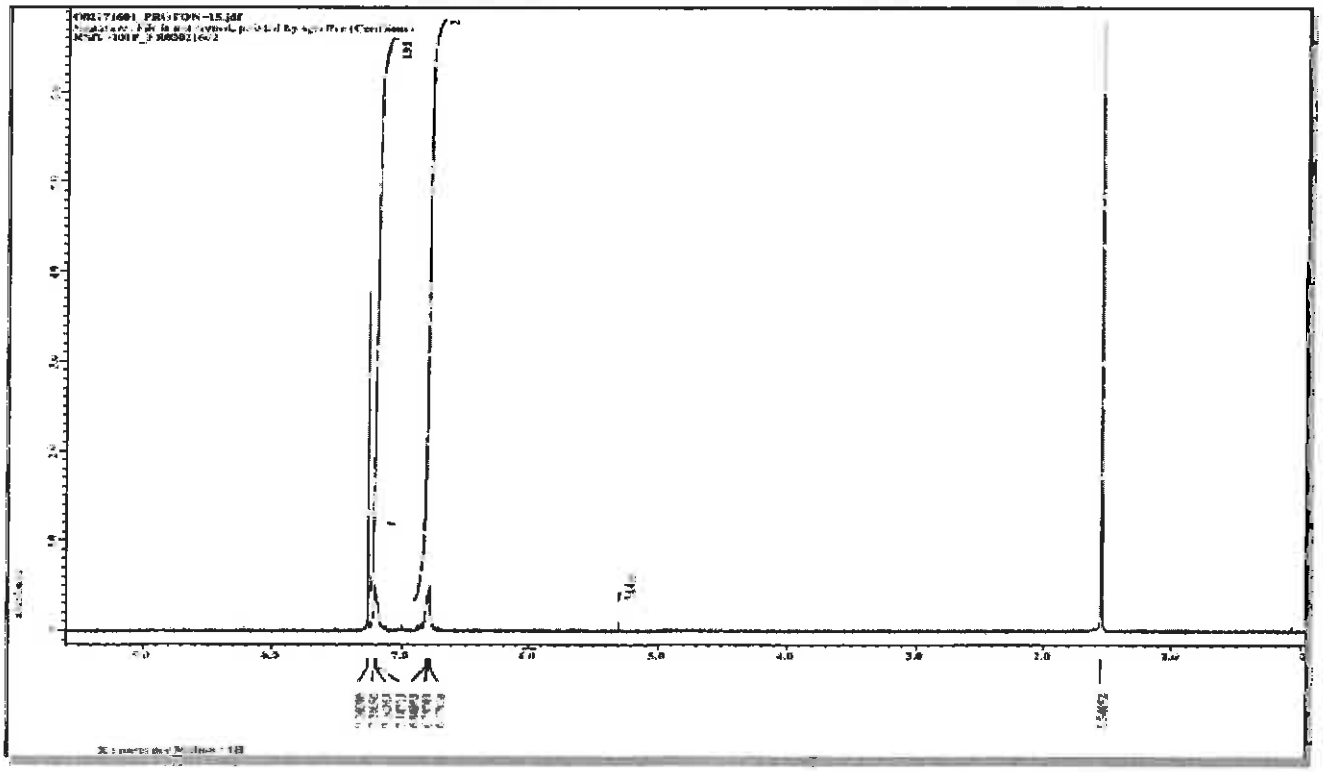

Spectral and Physical Data (cont.)

GC/MS

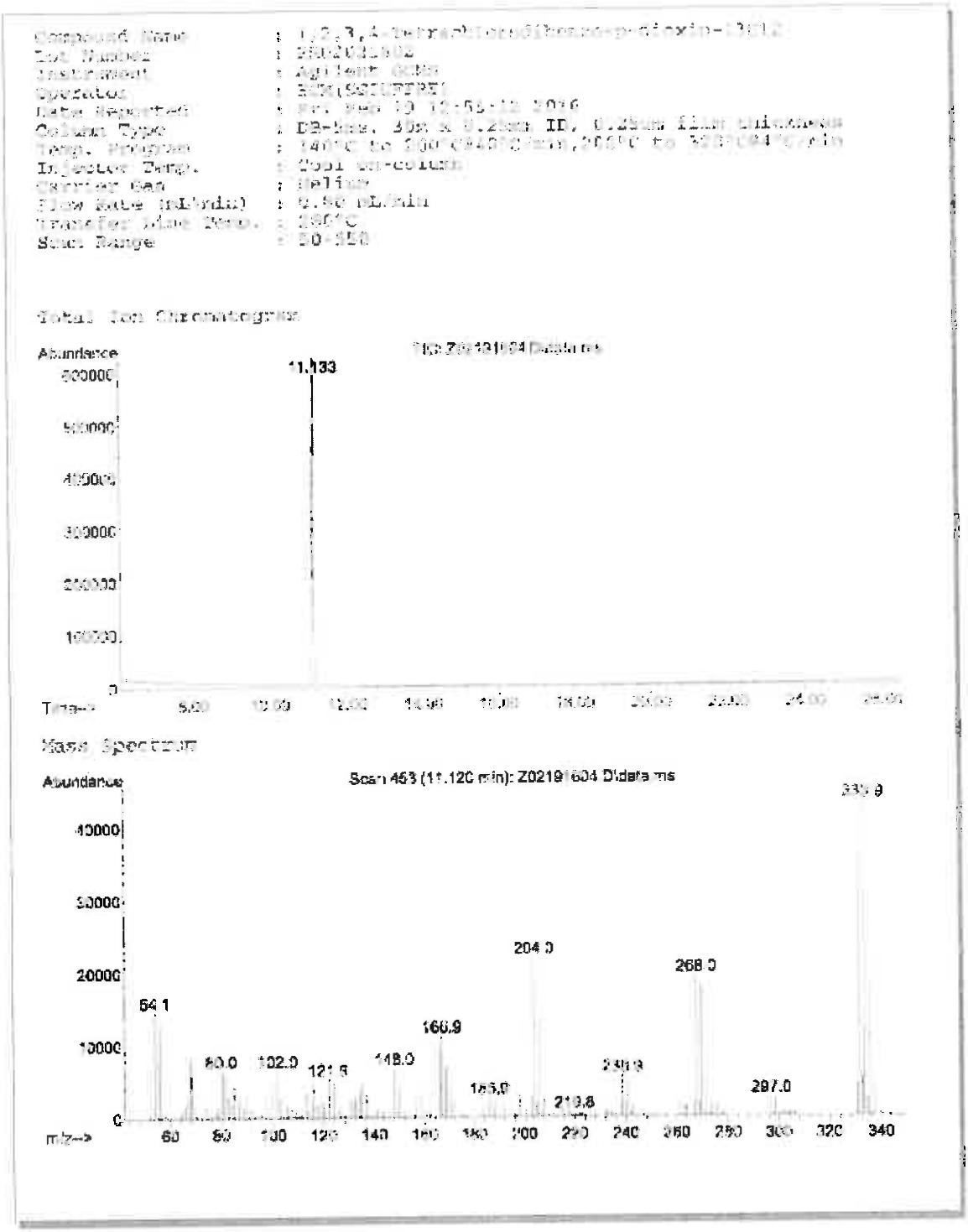

Reagent

HRDXNSU_00187

r: 7/30/18 SKN

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Analytical Reference Standards
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CIL

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$

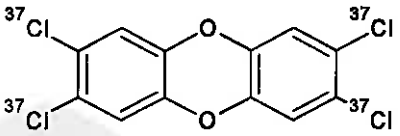

Catalog Number: ED-907
Solution Lot: ER05211501
Expiration Date: July 2025
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold
Shipping: Ambient.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Instructions for Use: Sonicate before use.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration
- For MS Applications, we advise laboratories not to mix lots during a single sequence.

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$	98.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Acceptance Criteria	%RSD - Homogeneity Actual Results	Acceptance Criteria
New Lot	ER05211501	50.60	± 10%	0.2	≤ 5%
Previous Lot	ER052010-02	49.73	± 10%	0.5	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after

ACLASS ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

August 03, 2015
Date

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 60°C to 300°C at 40°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 4
Linearity (r): 1.000

Neat Material Data

Compound Name: 2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$
Compound Lot: ER040510-01

Chemical Formula: $C_{12}H_4O_2{}^{37}Cl_4$
CAS Number 85508-50-5
Molecular Weight 328.02

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{37}Cl_0$ vs $^{37}Cl_4$
Identity by ^{1}H-NMR Analysis	USP <761>, SP10-0116	Consistent with Structure
Residual Solvent Analysis by ^{1}H-NMR	USP <761>, SP10-0116	1.2% Chloroform
Purity Factor		97.14%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

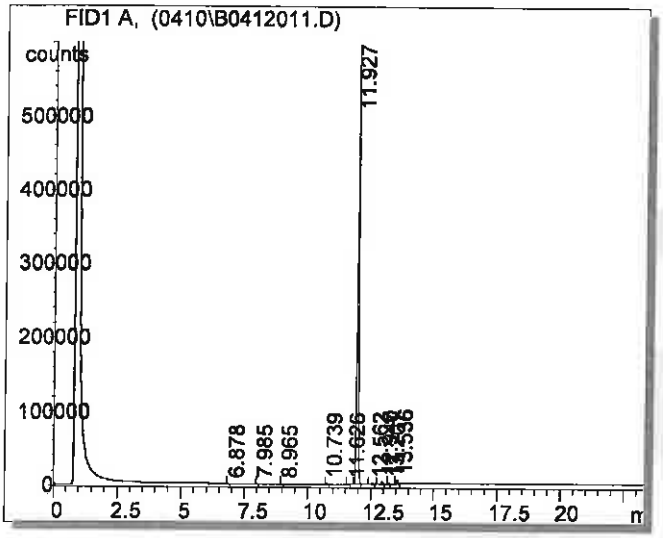

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	S:\GC\GC2\2010\0410\B0412011.D
Instrument:	GC#2
Sample Name:	ER040510-01
Acquired:	April 13, 2010

Peak #	Ret Time	Area	Height	Area %
1	6.88	245.58	89.37	0.01
2	7.99	304.03	131.27	0.01
3	8.97	233.91	72.32	0.01
4	10.74	931.14	265.29	0.04
5	11.63	127.86	46.74	0.01
6	11.93	2261830.00	580792.00	98.34
7	12.56	6435.54	1838.17	0.28
8	12.94	13336.80	4373.86	0.58
9	13.20	2178.30	729.98	0.09
10	13.54	14483.80	5038.43	0.63

^{1}H NMR

Instrument:	JEOL ECS 400
Solvent:	Toluene-D_8

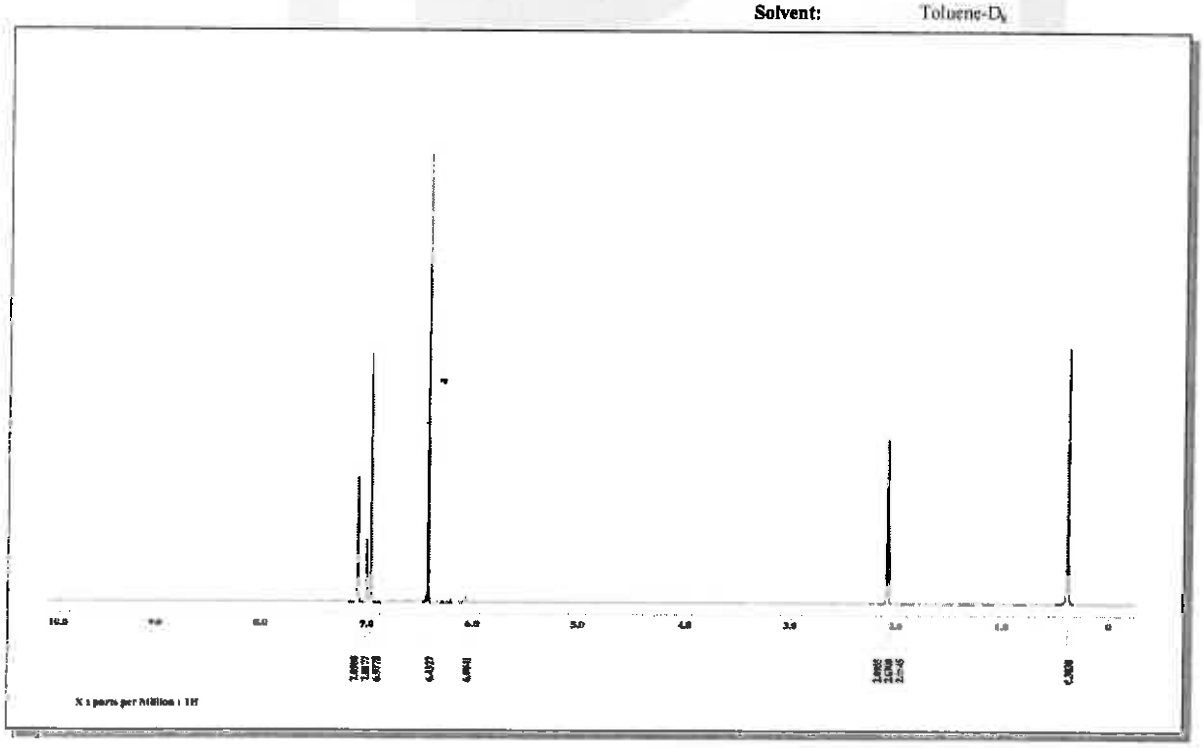

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

Compound Name : 2,3,7,8-Tetrachlorodibenzo-p-dioxin-37C14
Lot Number : [illegible]
Instrument : Agilent 5973N MSD/6890N GC
Operator-Inst ID : RPC - C10106
Date Acquired : Mon Apr 19 [illegible] 2010
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : [illegible]
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 280°C

Scan Range : 50-550

Total Ion Chromatogram

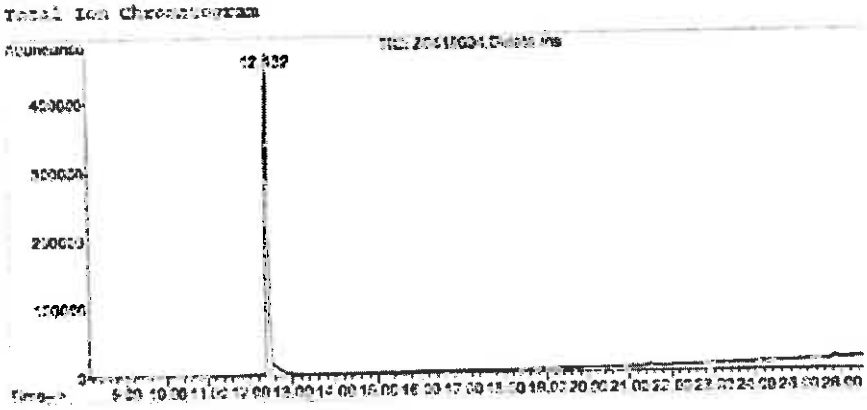

Mass Spectrum

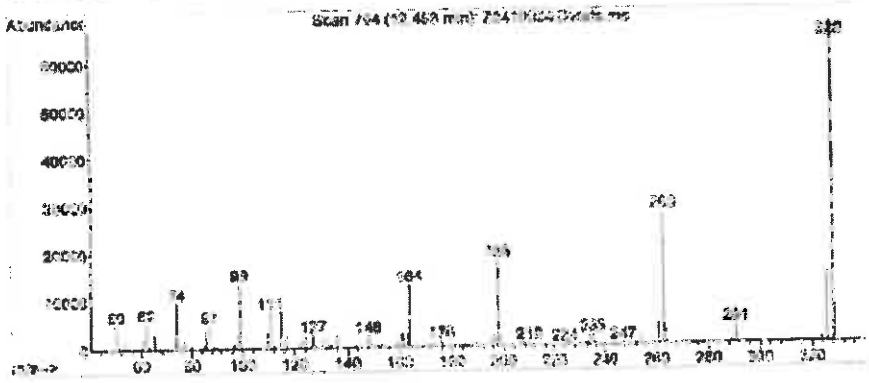

Reagent

HRDXNSU_00211

Rec 4/30/19 SW

(8)

Cerilliant
Analytical Reference Standards
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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$

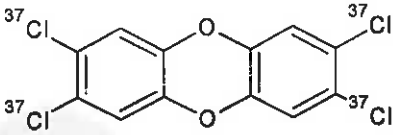

Catalog Number: ED-907
Solution Lot: ER05211501
Expiration Date: July 2025
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold
Shipping: Ambient.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Instructions for Use: Sonicate before use.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration
- For MS Applications, we advise laboratories not to mix lots during a single sequence.

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$	98.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER05211501	50.60	± 10%	0.2	≤ 5%
Previous Lot	ER052010-02	49.73	± 10%	0.5	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after

ACLASS

Darron Ellsworth, Quality Assurance Manager

August 03, 2015
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$
Compound Lot:	ER040510-01
Chemical Formula:	$C_{12}H_4O_2{}^{37}Cl_4$
CAS Number:	85508-50-5
Molecular Weight:	328.02

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{37}Cl_0$ vs $^{37}Cl_4$
Identity by ^{1}H-NMR Analysis	USP <761>, SP10-0116	Consistent with Structure
Residual Solvent Analysis by ^{1}H-NMR	USP <761>, SP10-0116	1.2% Chloroform
Purity Factor		97.14%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

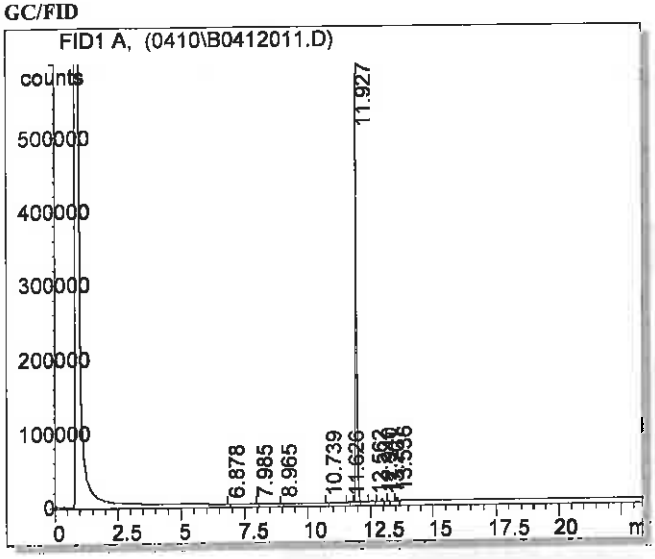

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	S:\GC\GC2\2010\0410\B0412011.D
Instrument:	GC#2
Sample Name:	ER040510-01
Acquired:	April 13, 2010

Peak #	Ret Time	Area	Height	Area %
1	6.88	245.58	89.37	0.01
2	7.99	304.03	131.27	0.01
3	8.97	233.91	72.32	0.01
4	10.74	931.14	265.29	0.04
5	11.63	127.86	46.74	0.01
6	11.93	2261830.00	580792.00	98.34
7	12.56	6435.54	1838.17	0.28
8	12.94	13336.80	4373.86	0.58
9	13.20	2178.30	729.98	0.09
10	13.54	14483.80	5038.43	0.63

^{1}H NMR

Instrument:	JEOL ECS 400
Solvent:	Toluene-D_8

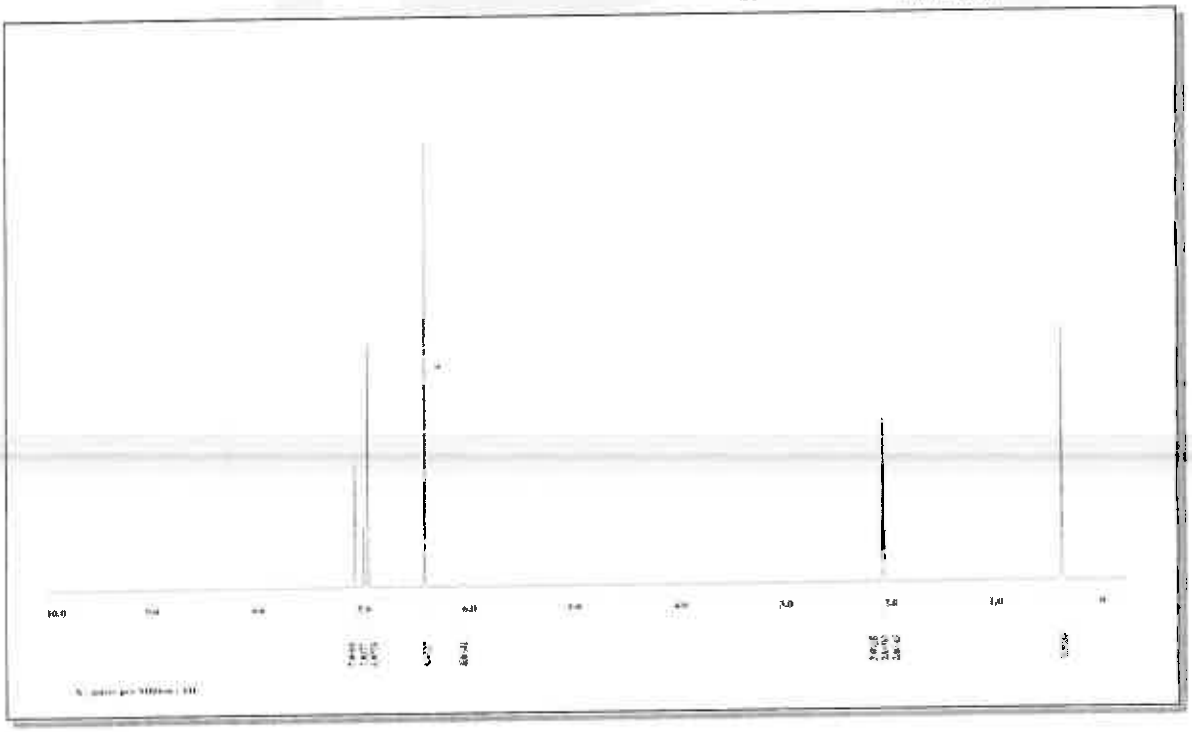

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

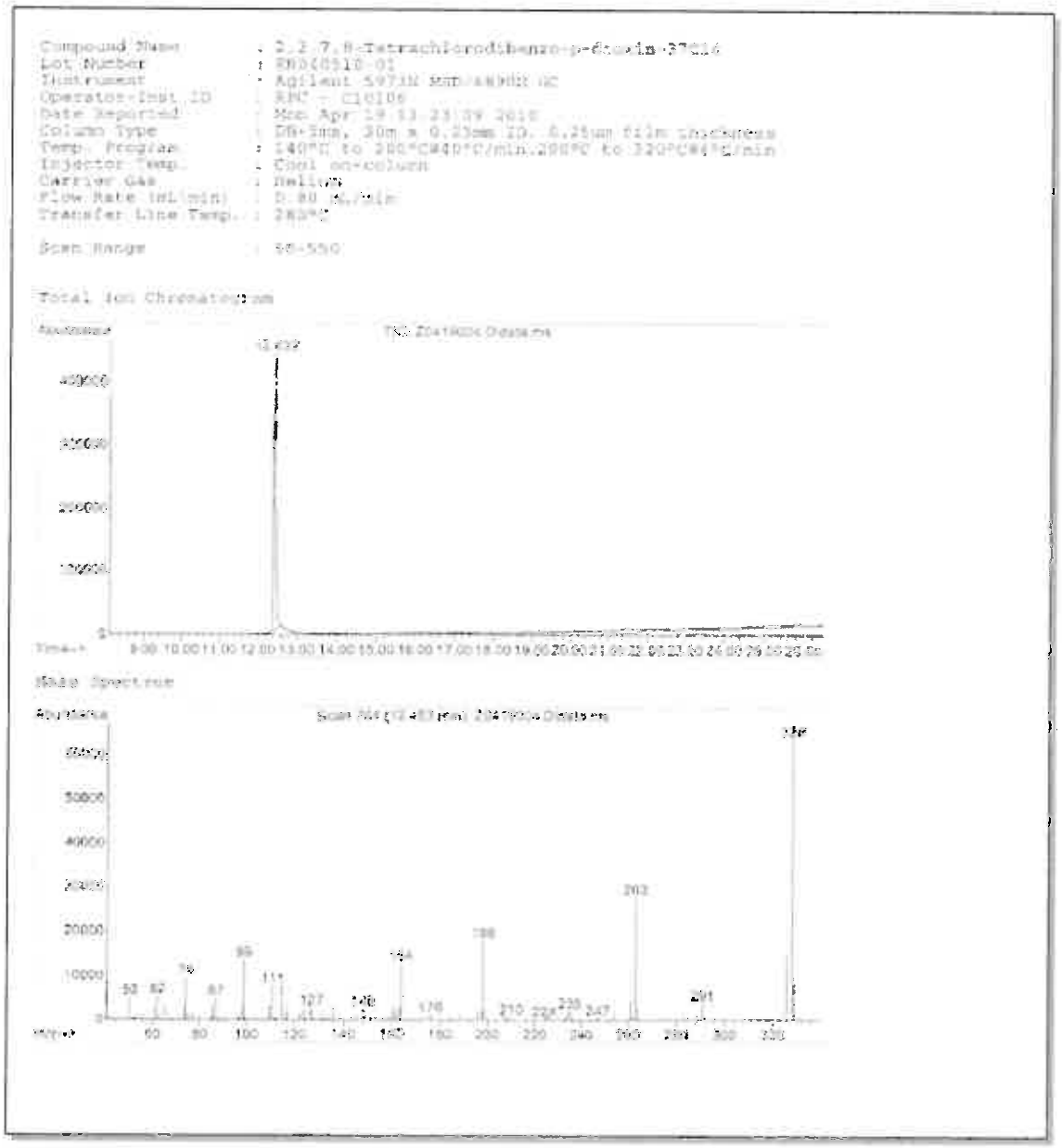

Reagent

HRDXNTA_00092

R: 7/6/18 SKJ

Cerilliant
Analytical Reference Standards
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CIL

Certificate of Analysis

Method 1613 PAR Stock Solution

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number: EDF-7999-10X
Solution Lot: ER02241602
Expiration Date: April 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/ analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 volume. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Lot Number	CAS Number	Chemical Formula	Molecular Weight	Chromatographic Purity	Concentration
2,3,7,8-TeCDD	ER04271502	1746-01-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%	399.9 ± 4.0 ng/mL
2,3,7,8-TeCDF	ER101211-02	51207-31-9	$C_{12}H_4Cl_4O$	305.97	99.4%	399.9 ± 4.0 ng/mL
1,2,3,7,8-PeCDD	ER110909-02	40321-76-4	$C_{12}H_3Cl_5O_2$	356.42	99.2%	2000 ± 20 ng/mL
1,2,3,7,8-PeCDF	ER03121401	57117-41-6	$C_{12}H_3Cl_5O$	340.42	99.5%	1999 ± 20 ng/mL
2,3,4,7,8-PeCDF	ER070710-01	57117-31-4	$C_{12}H_3Cl_5O$	340.42	99.4%	1999 ± 20 ng/mL
1,2,3,4,7,8-HxCDD	ER080108-02	39227-28-6	$C_{12}H_2Cl_6O_2$	390.86	98.6%	2000 ± 20 ng/mL
1,2,3,6,7,8-HxCDD	ER03231501	57653-85-7	$C_{12}H_2Cl_6O_2$	390.86	99.6%	2000 ± 20 ng/mL
1,2,3,7,8,9-HxCDD	ER02041601	19408-74-3	$C_{12}H_2Cl_6O_2$	390.86	99.2%	2000 ± 20 ng/mL
1,2,3,4,7,8-HxCDF	ER021110-01	70648-26-9	$C_{12}H_2Cl_6O$	374.86	99.0%	2000 ± 20 ng/mL
1,2,3,6,7,8-HxCDF	ER04161501	57117-44-9	$C_{12}H_2Cl_6O$	374.86	99.8%	2000 ± 20 ng/mL
1,2,3,7,8,9-HxCDF	ER060107-01	72918-21-9	$C_{12}H_2Cl_6O$	374.86	97.5%	1999 ± 20 ng/mL
2,3,4,6,7,8-HxCDF	ER02041602	60851-34-5	$C_{12}H_2Cl_6O$	374.86	99.1%	2001 ± 20 ng/mL
1,2,3,4,6,7,8-HpCDD	ER01201504	35822-46-9	$C_{12}HCl_7O_2$	425.31	98.5%	1999 ± 20 ng/mL
1,2,3,4,6,7,8-HpCDF	ER02281403	67562-39-4	$C_{12}HCl_7O$	409.31	98.9%	1999 ± 20 ng/mL
1,2,3,4,7,8,9-HpCDF	ER01121503	55673-89-7	$C_{12}HCl_7O$	409.31	99.1%	1999 ± 20 ng/mL
OCDD	ER05221301	3268-87-9	$C_{12}Cl_8O_2$	459.75	99.9%	3999 ± 40 ng/mL
OCDF	ER040811-01	39001-02-0	$C_{12}Cl_8O$	443.75	98.9%	4000 ± 40 ng/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Stock solution concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

April 28, 2016
Date

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.

Standard Solution Assay Parameters

Analysis Method: GC/ECD
Column: DB-5ms, 30 m x 0.25 mm ID, 0 25 µm film thickness
Temp Program: 140°C to 200°C at 40°C/min, 200°C to 300°C at 4°C/min hold 3 min
Injector Temp: Cool on-column
Detector Temp: 280°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 1

Solution Standard Verification and Homogeneity

Compound	Verified Concentration ng/mL	Acceptance Criteria	%RSD - Homogeneity %	Acceptance Criteria
2,3,7,8-TeCDD	397 1	± 10%	0.7	≤ 5%
2,3,7,8-TeCDF	386 6	± 10%	0.7	≤ 5%
1,2,3,7,8-PeCDD	1937	± 10%	0 8	≤ 5%
1,2,3,7,8-PeCDF	1919	± 10%	0.8	≤ 5%
2,3,4,7,8-PeCDF	1941	± 10%	0.8	≤ 5%
1,2,3,4,7,8-HxCDD	1932	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDD	1987	± 10%	0 8	≤ 5%
1,2,3,7,8,9-HxCDD	1943	± 10%	0 7	≤ 5%
1,2,3,4,7,8-HxCDF	1933	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDF	1909	± 10%	0.9	≤ 5%
1,2,3,7,8,9-HxCDF	1942	± 10%	0.7	≤ 5%
2,3,4,6,7,8-HxCDF	1950	± 10%	0.8	≤ 5%
1.2.3.4.6.7.8-HpCDD	1930	± 10%	0.9	≤ 5%
1,2,3,4,6,7,8-HpCDF	1919	± 10%	0.9	≤ 5%
1,2,3,4,7,8,9-HpCDF	1943	± 10%	1.0	≤ 5%
OCDD	3844	± 10%	1.0	≤ 5%
OCDF	3906	± 10%	0.9	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The %RSD of samples pulled from across the lot demonstrate homogeneity.
- Product is compared to prior lot and meets acceptance criteria of ± 10%.

Product Analysis

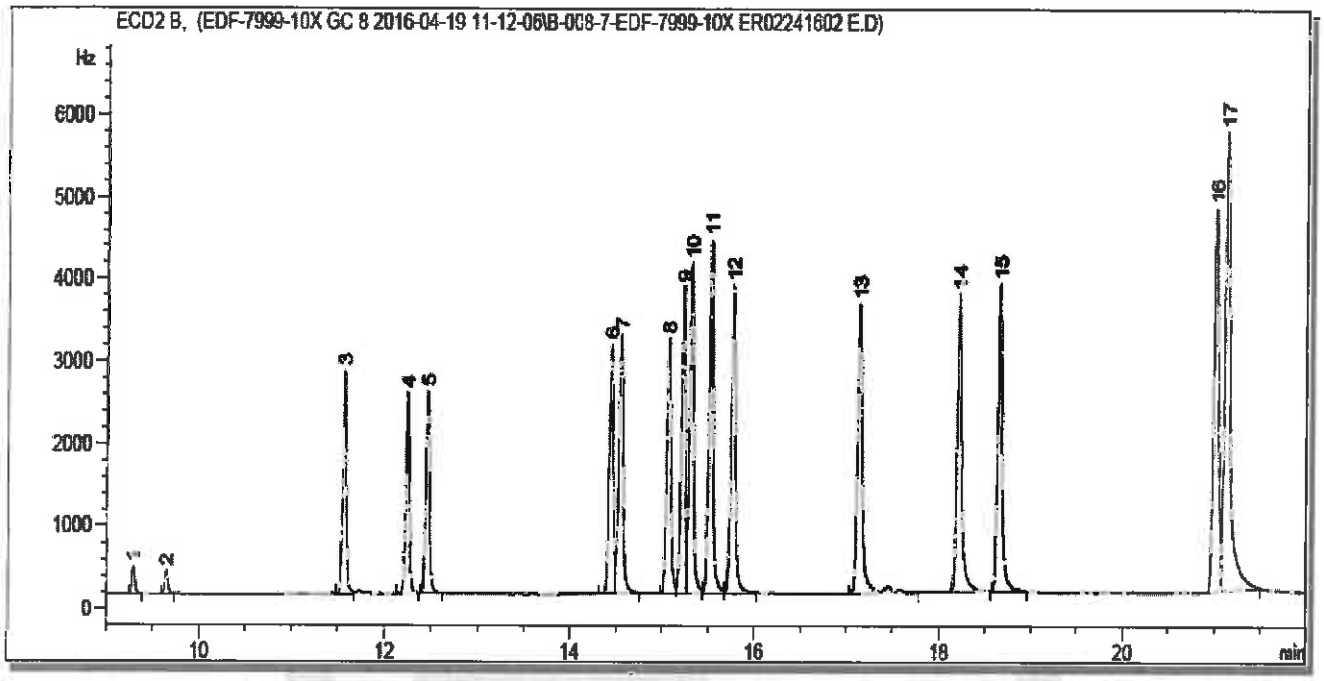

Peak:	Analyte:
1	2,3,7,8-Tetrachlorodibenzofuran
2	2,3,7,8-Tetrachloro-p-dioxin
3	1,2,3,7,8-Pentachlorodibenzofuran
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13	1,2,3,4,6,7,8-Heptachlorodibenzofuran
14	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin
15	1,2,3,4,7,8,9-Heptachlorodibenzofuran
16	Octachlorodibenzo-p-dioxin
17	Octachlorodibenzofuran

COA Revision History

Revision No.	Date	Reason for Revision
00	April 28, 2016	Initial version

Reagent

HRDXNTA_00093

R: 7/6/18 SKJ

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Method 1613 PAR Stock Solution

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number: EDF-7999-10X
Solution Lot: ER02241602
Expiration Date: April 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/ analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
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ANAB ACCREDITED
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

April 28, 2016
Date

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Calibration Curve: Linear Regression
Number of Points: 1

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Product Analysis

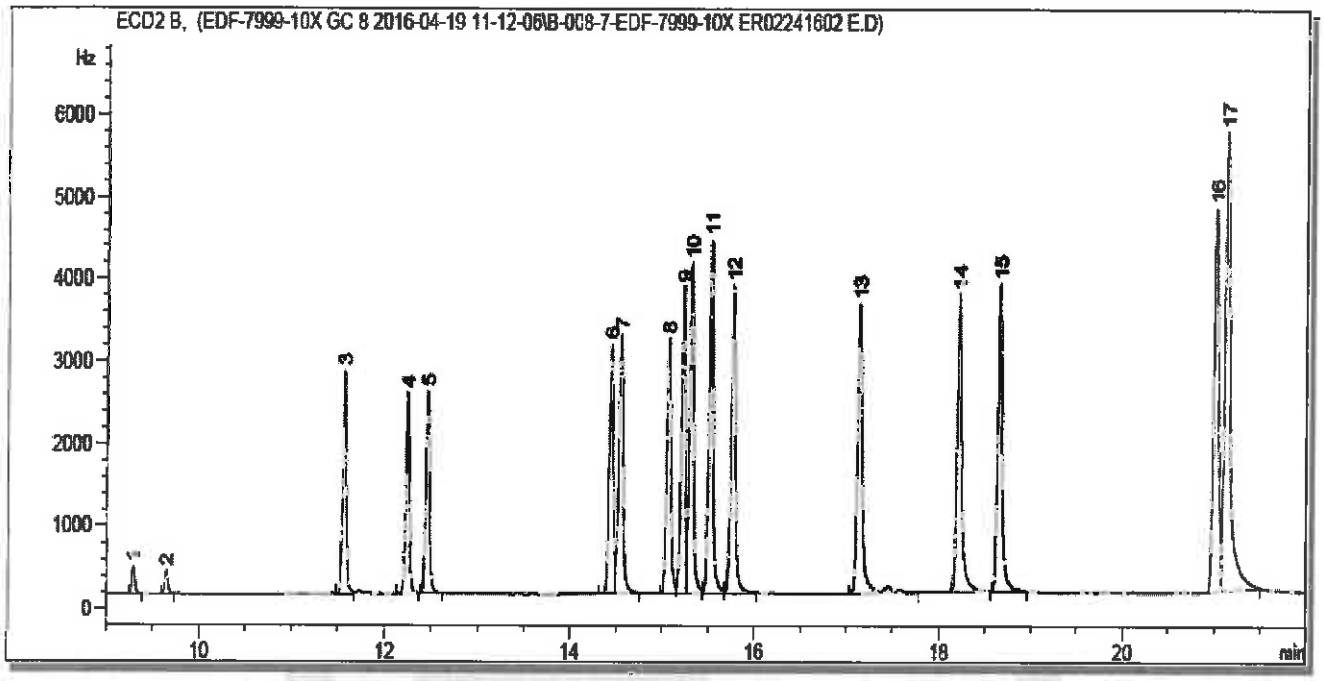

Peak:	Analyte:
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15	1,2,3,4,7,8,9-Heptachlorodibenzofuran
16	Octachlorodibenzo-p-dioxin
17	Octachlorodibenzofuran

COA Revision History

Revision No.	Date	Reason for Revision
00	April 28, 2016	Initial version

Reagent

HRDXNTA_00102

Rec: 1/31/19 SKV

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

EPA-1613PAR

U.S. EPA Method 1613 Native PCDD/PCDF
Precision and Recovery Stock Solution

PRODUCT CODE:	EPA-1613PAR
LOT NUMBER:	13PAR0418
SOLVENT(S):	Nonane/Toluene
DATE PREPARED: (mm/dd/yyyy)	04/11/2018
LAST TESTED: (mm/dd/yyyy)	04/12/2018
EXPIRY DATE: (mm/dd/yyyy)	03/01/2025
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION:

EPA-1613PAR is a solution/mixture of all the 2,3,7,8-substituted chlorinated dibenzo-p-dioxins (PCDDs) and 2,3,7,8-substituted dibenzofurans (PCDFs). The components and their concentrations are given in Table A.

EPA-1613PAR was designed for, and prepared to be used according to, U.S. EPA Method 1613 (Revision B).

The individual PCDDs and PCDFs all have chemical purities of >98%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: HRGC/HRMS Data (SIR; 10,000 mass resolving power)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Table A: **EPA-1613PAR; Components and Concentrations (ng/ml, ± 5% in nonane/ 2.4% toluene)**

	Concentration (ng/ml)
PCDDs:	
2,3,7,8-Tetrachlorodibenzo-p-dioxin	40
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	200
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	200
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	200
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	200
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	200
Octachlorodibenzo-p-dioxin	400
PCDFs:	
2,3,7,8-Tetrachlorodibenzofuran	40
1,2,3,7,8-Pentachlorodibenzofuran	200
2,3,4,7,8-Pentachlorodibenzofuran	200
1,2,3,4,7,8-Hexachlorodibenzofuran	200
1,2,3,6,7,8-Hexachlorodibenzofuran	200
1,2,3,7,8,9-Hexachlorodibenzofuran	200
2,3,4,6,7,8-Hexachlorodibenzofuran	200
1,2,3,4,6,7,8-Heptachlorodibenzofuran	200
1,2,3,4,7,8,9-Heptachlorodibenzofuran	200
Octachlorodibenzofuran	400

Certified By: _____ **Date:** 04/16/2018 (mm/dd/yyyy)

B.G. Chittim, General Manager

Figure 1: **EPA-1613PAR; HRGC/HRMS Data (60 m DB-5 Column)**

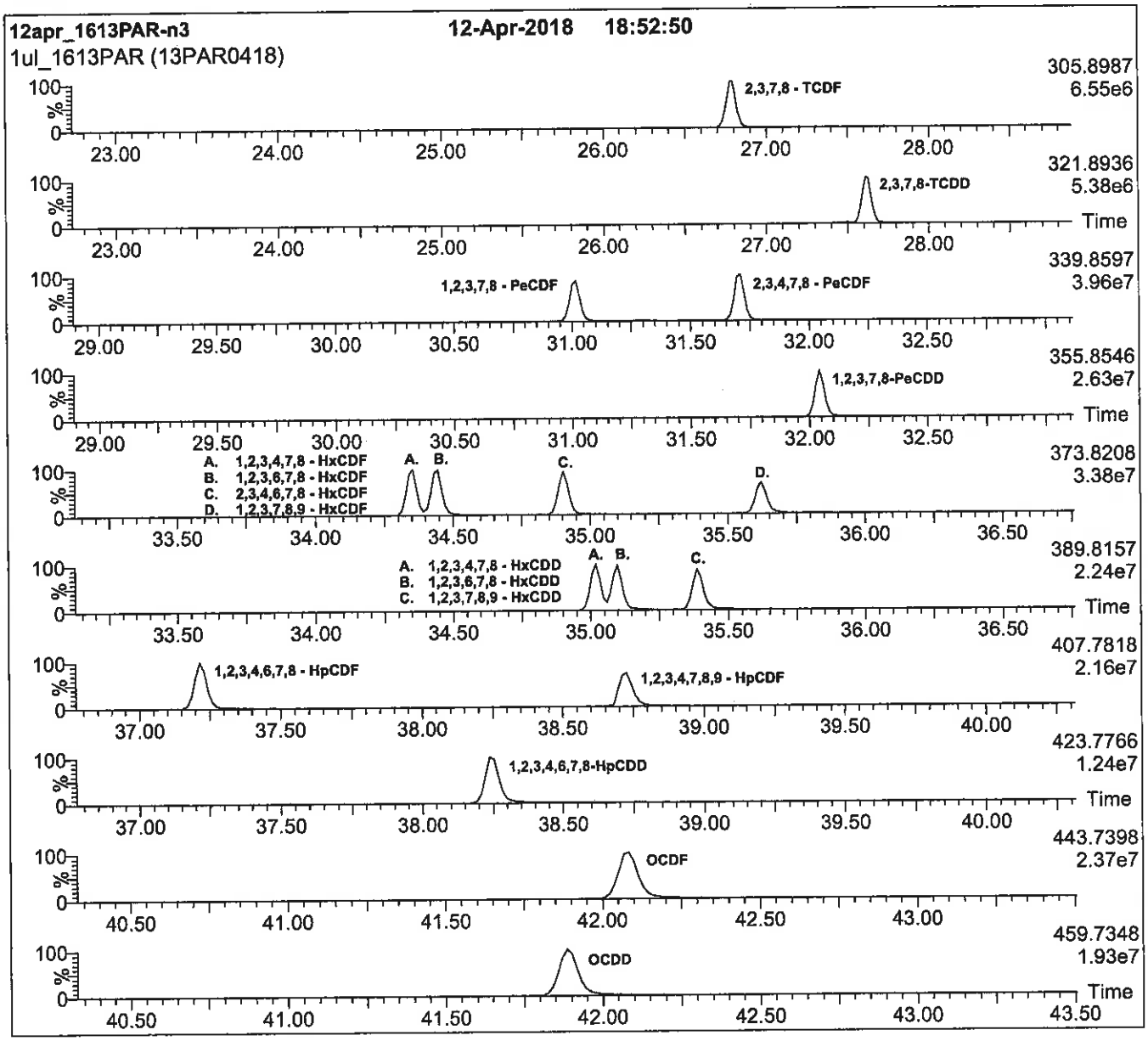

HRGC/HRMS:

Agilent 6890N (HRGC)
Autospec Ultima (HRMS)

Chromatographic Conditions:

Column: 60 m DB-5 (0.25 mm id, 0.25 µm film thickness) Agilent J&W

Flow:	Constant at 1 ml/min	Oven:	150 °C (1 min)
Injector:	280 °C (Splitless Injection)		12 °C/min to 200 °C
Ionization:	EI+		3 °C/min to 235 °C
Detector:	280 °C		235 °C (8 min)
	SIR at 10,000 mass resolving power		8 °C/min to 310 °C
			310 °C (8 min)

Method 1613B

Dioxins and Furans (HRGC/HRMS) by Method 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57717-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCDF #	TCDD #	37TCDD #	PeCDF #	PeCF #	PeCDD #	HxCDF #	HxDF #
	LCS 320-350857/2-A	75	75	101	67	71	68	76	73
	LCSD 320-350857/3-A	83	88	105	78	80	78	90	80

	QC LIMITS
TCDF = 13C-2,3,7,8-TCDF	22-152
TCDD = 13C-2,3,7,8-TCDD	20-175
37TCDD = 37Cl4-2,3,7,8-TCDD	31-191
PeCDF = 13C-1,2,3,7,8-PeCDF	21-192
PeCF = 13C-2,3,4,7,8-PeCDF	13-328
PeCDD = 13C-1,2,3,7,8-PeCDD	21-227
HxCDF = 13C-1,2,3,4,7,8-HxCDF	19-202
HxDF = 13C-1,2,3,6,7,8-HxCDF	21-159

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57717-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	13CHxCF #	HxCDD #	HxDD #	HxCF #	HpCDF #	HpCDD #	HpCDF2 #	OCDD #
	LCS 320-350857/2-A	73	82	76	76	70	86	91	85
	LCSD 320-350857/3-A	84	97	88	92	81	87	95	96

	QC LIMITS
13CHxCF = 13C-2,3,4,6,7,8-HxCDF	22-176
HxCDD = 13C-1,2,3,4,7,8-HxCDD	21-193
HxDD = 13C-1,2,3,6,7,8-HxCDD	25-163
HxCF = 13C-1,2,3,7,8,9-HxCDF	17-205
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF	21-158
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD	26-166
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF	20-186
OCDD = 13C-OCDD	13-199

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57717-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCDF #	TCDD #	37TCDD #	PeCDF #	PeCF #	PeCDD #	HxCDF #	HxDF #
11187072-FEFF-0.025um	320-57717-1	85	83	101	79	88	91	88	79
11187072-FEFF-0.050um	320-57717-2	84	84	102	79	84	78	79	72
	MB 320-350857/1-A	89	86	102	74	81	77	85	80

	QC LIMITS
TCDF = 13C-2,3,7,8-TCDF	24-169
TCDD = 13C-2,3,7,8-TCDD	25-164
37TCDD = 37Cl4-2,3,7,8-TCDD	35-197
PeCDF = 13C-1,2,3,7,8-PeCDF	24-185
PeCF = 13C-2,3,4,7,8-PeCDF	21-178
PeCDD = 13C-1,2,3,7,8-PeCDD	25-181
HxCDF = 13C-1,2,3,4,7,8-HxCDF	26-152
HxDF = 13C-1,2,3,6,7,8-HxCDF	26-123

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57717-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	13CHxCF #	HxCDD #	HxDD #	HxCF #	HpCDF #	HpCDD #	HpCDF2 #	OCDD #
11187072-FEFF-0.025um	320-57717-1	82	93	91	90	79	86	94	91
11187072-FEFF-0.050um	320-57717-2	76	89	77	81	73	81	89	88
	MB 320-350857/1-A	84	96	88	91	80	86	94	91

	QC LIMITS
13CHxCF = 13C-2,3,4,6,7,8-HxCDF	28-136
HxCDD = 13C-1,2,3,4,7,8-HxCDD	32-141
HxDD = 13C-1,2,3,6,7,8-HxCDD	28-130
HxCF = 13C-1,2,3,7,8,9-HxCDF	29-147
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF	28-143
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD	23-140
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF	26-138
OCDD = 13C-OCDD	17-157

Column to be used to flag recovery values

FORM II 1613B

FORM III
DIOXIN LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57717-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 15JA203D5_10.d

Lab ID: LCS 320-350857/2-A Client ID:

COMPOUND	SPIKE ADDED (pg/L)	LCS CONCENTRATION (pg/L)	LCS % REC	QC LIMITS REC	#
2,3,7,8-TCDD	200	206	103	67-158	
2,3,7,8-TCDF	200	213	107	75-158	
1,2,3,7,8-PeCDD	1000	973	97	70-142	
1,2,3,7,8-PeCDF	1000	936	94	80-134	
2,3,4,7,8-PeCDF	1000	914	91	68-160	
1,2,3,4,7,8-HxCDD	1000	911	91	70-164	
1,2,3,6,7,8-HxCDD	1000	940	94	76-134	
1,2,3,7,8,9-HxCDD	1000	907	91	64-162	
1,2,3,4,7,8-HxCDF	1000	943	94	72-134	
1,2,3,6,7,8-HxCDF	1000	977	98	84-130	
1,2,3,7,8,9-HxCDF	1000	1020	102	78-130	
2,3,4,6,7,8-HxCDF	1000	1010	101	70-156	
1,2,3,4,6,7,8-HpCDD	1000	964	96	70-140	
1,2,3,4,6,7,8-HpCDF	1000	995	99	82-122	
1,2,3,4,7,8,9-HpCDF	1000	925	93	78-138	
OCDD	2000	1870	93	78-144	
OCDF	2000	2030	102	63-170	
13C-2,3,7,8-TCDD	2000	1500	75	20-175	
13C-2,3,7,8-TCDF	2000	1500	75	22-152	
13C-1,2,3,7,8-PeCDD	2000	1350	68	21-227	
13C-1,2,3,7,8-PeCDF	2000	1330	67	21-192	
13C-2,3,4,7,8-PeCDF	2000	1420	71	13-328	
13C-1,2,3,4,7,8-HxCDD	2000	1630	82	21-193	
13C-1,2,3,6,7,8-HxCDD	2000	1520	76	25-163	
13C-1,2,3,4,7,8-HxCDF	2000	1530	76	19-202	
13C-1,2,3,6,7,8-HxCDF	2000	1460	73	21-159	
13C-1,2,3,7,8,9-HxCDF	2000	1520	76	17-205	
13C-2,3,4,6,7,8-HxCDF	2000	1450	73	22-176	
13C-1,2,3,4,6,7,8-HpCDD	2000	1710	86	26-166	
13C-1,2,3,4,6,7,8-HpCDF	2000	1400	70	21-158	
13C-1,2,3,4,7,8,9-HpCDF	2000	1820	91	20-186	
13C-OCDD	4000	3420	85	13-199	

Column to be used to flag recovery and RPD values

FORM III 1613B

FORM III
DIOXIN LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57717-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 15JA203D5_11.d

Lab ID: LCSD 320-350857/3-A Client ID:

COMPOUND	SPIKE ADDED (pg/L)	LCSD CONCENTRATION (pg/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
2,3,7,8-TCDD	200	208	104	1	50	67-158	
2,3,7,8-TCDF	200	216	108	1	50	75-158	
1,2,3,7,8-PeCDD	1000	997	100	2	50	70-142	
1,2,3,7,8-PeCDF	1000	999	100	7	50	80-134	
2,3,4,7,8-PeCDF	1000	937	94	3	50	68-160	
1,2,3,4,7,8-HxCDD	1000	884	88	3	50	70-164	
1,2,3,6,7,8-HxCDD	1000	987	99	5	50	76-134	
1,2,3,7,8,9-HxCDD	1000	943	94	4	50	64-162	
1,2,3,4,7,8-HxCDF	1000	968	97	3	50	72-134	
1,2,3,6,7,8-HxCDF	1000	969	97	1	50	84-130	
1,2,3,7,8,9-HxCDF	1000	1060	106	4	50	78-130	
2,3,4,6,7,8-HxCDF	1000	1050	105	4	50	70-156	
1,2,3,4,6,7,8-HpCDD	1000	1010	101	5	50	70-140	
1,2,3,4,6,7,8-HpCDF	1000	991	99	0	50	82-122	
1,2,3,4,7,8,9-HpCDF	1000	974	97	5	50	78-138	
OCDD	2000	1880	94	1	50	78-144	
OCDF	2000	1990	100	2	50	63-170	
13C-2,3,7,8-TCDD	2000	1760	88			20-175	
13C-2,3,7,8-TCDF	2000	1670	83			22-152	
13C-1,2,3,7,8-PeCDD	2000	1560	78			21-227	
13C-1,2,3,7,8-PeCDF	2000	1560	78			21-192	
13C-2,3,4,7,8-PeCDF	2000	1600	80			13-328	
13C-1,2,3,4,7,8-HxCDD	2000	1940	97			21-193	
13C-1,2,3,6,7,8-HxCDD	2000	1760	88			25-163	
13C-1,2,3,4,7,8-HxCDF	2000	1800	90			19-202	
13C-1,2,3,6,7,8-HxCDF	2000	1600	80			21-159	
13C-1,2,3,7,8,9-HxCDF	2000	1830	92			17-205	
13C-2,3,4,6,7,8-HxCDF	2000	1670	84			22-176	
13C-1,2,3,4,6,7,8-HpCDD	2000	1740	87			26-166	
13C-1,2,3,4,6,7,8-HpCDF	2000	1610	81			21-158	
13C-1,2,3,4,7,8,9-HpCDF	2000	1900	95			20-186	
13C-OCDD	4000	3840	96			13-199	

Column to be used to flag recovery and RPD values

FORM III 1613B

FORM IV
DIOXIN METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57717-1

SDG No.:

Lab File ID: 15JA203D5_9.d Lab Sample ID: MB 320-350857/1-A

Matrix: Water Date Extracted: 01/15/2020 07:32

Instrument ID: 3D5 Date Analyzed: 01/16/2020 02:16

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 320-350857/2-A	15JA203D5_10.d	01/16/2020 03:03
	LCSD 320-350857/3-A	15JA203D5_11.d	01/16/2020 03:51
11187072-FEFF-0.025um	320-57717-1	15JA203D5_12.d	01/16/2020 04:38
11187072-FEFF-0.050um	320-57717-2	15JA203D5_13.d	01/16/2020 05:26

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 320-57717-1
SDG No.:
Client Sample ID: 11187072-FEFF-0.025um
Lab Sample ID: 320-57717-1
Matrix: Water
Lab File ID: 15JA203D5_12.d
Analysis Method: 1613B
Date Collected: 01/13/2020 12:00
Extract. Method: 1613B
Date Extracted: 01/15/2020 07:32
Sample wt/vol: 1057.9(mL)
Date Analyzed: 01/16/2020 04:38
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 351160
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		9.5	0.70
51207-31-9	2,3,7,8-TCDF	ND		9.5	0.41
40321-76-4	1,2,3,7,8-PeCDD	ND		47	1.2
57117-41-6	1,2,3,7,8-PeCDF	ND		47	0.78
57117-31-4	2,3,4,7,8-PeCDF	ND		47	0.80
39227-28-6	1,2,3,4,7,8-HxCDD	1.8	J	47	0.58
57653-85-7	1,2,3,6,7,8-HxCDD	0.85	J	47	0.60
19408-74-3	1,2,3,7,8,9-HxCDD	ND		47	0.52
70648-26-9	1,2,3,4,7,8-HxCDF	ND		47	0.72
57117-44-9	1,2,3,6,7,8-HxCDF	ND		47	0.71
72918-21-9	1,2,3,7,8,9-HxCDF	0.68	J B q	47	0.43
60851-34-5	2,3,4,6,7,8-HxCDF	ND		47	0.48
35822-46-9	1,2,3,4,6,7,8-HpCDD	1.3	J q	47	0.45
67562-39-4	1,2,3,4,6,7,8-HpCDF	ND		47	0.84
55673-89-7	1,2,3,4,7,8,9-HpCDF	ND		47	0.96
3268-87-9	OCDD	14	J B q	95	0.76
39001-02-0	OCDF	ND		95	0.93
41903-57-5	Total TCDD	0.90	J q	9.5	0.70
30402-14-3	Total TCDF	ND		9.5	0.41
36088-22-9	Total PeCDD	ND		47	1.2
30402-15-4	Total PeCDF	ND		47	0.80
34465-46-8	Total HxCDD	2.6	J B	47	0.57
55684-94-1	Total HxCDF	0.68	J B q	47	0.59
37871-00-4	Total HpCDD	2.9	J q	47	0.45
38998-75-3	Total HpCDF	ND		47	0.96

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57717-1

SDG No.:

Client Sample ID: 11187072-FEFF-0.025um Lab Sample ID: 320-57717-1

Matrix: Water Lab File ID: 15JA203D5_12.d

Analysis Method: 1613B Date Collected: 01/13/2020 12:00

Extract. Method: 1613B Date Extracted: 01/15/2020 07:32

Sample wt/vol: 1057.9(mL) Date Analyzed: 01/16/2020 04:38

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 351160 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	83		25-164
89059-46-1	13C-2,3,7,8-TCDF	85		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	91		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	79		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	88		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	93		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	91		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	88		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	79		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	90		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	82		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	86		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	79		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	94		26-138
114423-97-1	13C-OCDD	91		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	101		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_12.d
Lims ID: 320-57717-A-1-A
Client ID: 11187072-FEFF-0.025um
Sample Type: Client
Inject. Date: 16-Jan-2020 04:38:51 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-57717-A-1-A 320-57717-A-1-A
Misc. Info.: 15JA203D5
Operator ID: ALM Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20200116-89625.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 17-Jan-2020 08:51:28 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0324

First Level Reviewer: ruangyotsakuld Date: 17-Jan-2020 08:51:28

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.324	156243255	0.79	2.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.841	187443326	0.77	1.4157	84.7	84.7	0.1509	0.1509	84.74	
2,3,7,8-TCDF	16.856						0.0219	0.0219		
A Non-2,3,7,8-sub-TCDF	16.531						0.0219	0.0219		
S Total TCDF							0.0219	0.0219		
D 13C-2,3,7,8-TCDD	17.521	126744173	0.79	0.9751	83.2	83.2	0.2178	0.2178	83.19	
2,3,7,8-TCDD	17.521						0.0370	0.0370		
$ 37Cl4-2,3,7,8-TCDD	17.536	85125052		1.3480	40.4	40.4	0.0451	0.0451	101	
A Non-2,3,7,8-sub-TCDD	16.969	63435	0.77	1.0477	0.1696	0.0478	0.0370	0.0478		RQ
S Total TCDD					0.1696	0.0478	0.0370	0.0370		RQ
D 13C-1,2,3,7,8-PeCDF	21.640	145943606	1.56	1.1786	79.3	79.3	0.2169	0.2169	79.25	
1,2,3,7,8-PeCDF	21.653						0.0412	0.0412		
D 13C-2,3,4,7,8-PeCDF	22.935	155544537	1.56	1.1308	88.0	88.0	0.2261	0.2261	88.04	
2,3,4,7,8-PeCDF	22.935						0.0426	0.0426		
A F1 PeCDFs	19.207						0.0359	0.0359		
A Non-2,3,7,8-sub-PeCDF	22.200						0.0419	0.0419		
S Total PeCDF							0.0426	0.0426		
D 13C-1,2,3,7,8-PeCDD	23.617	108061507	1.62	0.7572	91.3	91.3	0.1152	0.1152	91.34	
1,2,3,7,8-PeCDD	23.617						0.0632	0.0632		
A Non-2,3,7,8-sub-PeCDD	22.533						0.0632	0.0632		
S Total PeCDD							0.0632	0.0632		
D 13C-1,2,3,4,7,8-HxCDF	29.745	143865156	0.52	1.1043	87.6	87.6	0.2142	0.2142	87.63	
1,2,3,4,7,8-HxCDF	29.732						0.0383	0.0383		
D 13C-1,2,3,6,7,8-HxCDF	29.998	135017935	0.53	1.1470	79.2	79.2	0.2062	0.2062	79.17	
1,2,3,6,7,8-HxCDF	29.998						0.0375	0.0375		
D 13C-2,3,4,6,7,8-HxCDF	31.023	131734184	0.51	1.0769	82.3	82.3	0.2196	0.2196	82.28	
2,3,4,6,7,8-HxCDF	31.037						0.0256	0.0256		
D 13C-1,2,3,7,8,9-HxCDF	31.942	135914963	0.53	1.0115	90.4	90.4	0.2338	0.2338	90.38	
1,2,3,7,8,9-HxCDF	31.955	57374	1.24	1.1717	0.0409	0.0360	0.0226	0.0226		RQM
A Non-2,3,7,8-sub-HxCDF	29.465						0.0295	0.0295		
S Total HxCDF					0.0409	0.0360	0.0310	0.0310		RQ

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.742	148673649	1.26	2.1E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.250	109611131	1.29	0.7962	92.6	92.6	0.1742	0.1742	92.60	
1,2,3,4,7,8-HxCDD	31.263	111275	1.07	1.0934	0.0928	0.0928	0.0308	0.0308		M
D 13C-1,2,3,6,7,8-HxCDD	31.369	118490667	1.27	0.8720	91.4	91.4	0.1591	0.1591	91.40	
1,2,3,6,7,8-HxCDD	31.343	55794	1.09	1.0429	0.0452	0.0452	0.0317	0.0317		nMa
1,2,3,7,8,9-HxCDD	31.742						0.0276	0.0276		
A Non-2,3,7,8-sub-HxCDD	30.164						0.0299	0.0299		
S Total HxCDD					0.1380	0.1380	0.0300	0.0300		
D 13C-1,2,3,4,6,7,8-HpCDF	33.476	88598752	0.45	0.7577	78.7	78.7	0.4406	0.4406	78.65	
1,2,3,4,6,7,8-HpCDF	33.476						0.0443	0.0443		
D 13C-1,2,3,4,7,8,9-HpCDF	34.533	96850607	0.45	0.6941	93.8	93.8	0.4809	0.4809	93.85	
1,2,3,4,7,8,9-HpCDF	34.545						0.0510	0.0510		
A Non-2,3,7,8-sub-HpCDF	33.992						0.0474	0.0474		
S Total HpCDF							0.0510	0.0510		
D 13C-1,2,3,4,6,7,8-HpCDD	34.254	89910126	1.06	0.7058	85.7	85.7	0.2657	0.2657	85.68	
1,2,3,4,6,7,8-HpCDD	34.266	66059	1.04	1.0535	0.0957	0.0697	0.0238	0.0238		RQM
A Non-2,3,7,8-sub-HpCDD	33.968	78750	1.04	1.0535	0.0981	0.0831	0.0238	0.0831		RQMa
S Total HpCDD					0.1937	0.1529	0.0238	0.0238		RQ
D 13C-OCDD	36.571	125210194	0.92	0.4603	183.0	183.0	0.1644	0.1644	91.49	
OCDF	36.667						0.0491	0.0491		
OCDD	36.583	531966	0.89	1.1362	0.8196	0.7479	0.0404	0.0404		RQM

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- n - Failed Sig-To-Noise Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_12.d
Lims ID: 320-57717-A-1-A
Client ID: 11187072-FEFF-0.025um
Sample Type: Client
Inject. Date: 16-Jan-2020 04:38:51 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-57717-A-1-A 320-57717-A-1-A
Misc. Info.: 15JA203D5
Operator ID: ALM Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20200116-89625.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 17-Jan-2020 08:51:28 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0324

First Level Reviewer: ruangyotsakuld Date: 17-Jan-2020 08:51:28

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.324	17.324	0		68926312	17535643	21119	52797	830		
333.9339	17.324	17.324	0		87316943	22347187	12762	31905	1751	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.841	16.826	1	0.972	81727092	20426890	18709	46772	1092		
317.9389	16.841	16.826	1	0.972	105716234	26820491	15372	38430	1745	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.856						1235	3087			
305.8987	16.856						2702	6755			
A Non-2,3,7,8-sub-TCDF											
303.9016	16.531						1235	3087			
305.8987	16.531						2702	6755			
13C-2,3,7,8-TCDD											
331.9368	17.521	17.506	1	1.011	55882673	13366951	21119	52797	633		
333.9339	17.521	17.506	1	1.011	70861500	16828459	12762	31905	1319	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.521						2790	6975			
321.8936	17.521						1891	4727			
37Cl4-2,3,7,8-TCDD											
327.8847	17.536	17.521	1	1.012	85125052	20094449	9706	24265	2070		
A Non-2,3,7,8-sub-TCDD											RQ
319.8965	16.841	16.969	-8	0.961	189374	39270	2790	6975	14		
	Empc Correction				27596	6334	2790	6975	2		
321.8936	16.826	16.969	-9	0.960	35839	8226	1891	4727	4	5.28(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	21.640	21.626	1	1.249	88926424	16121430	25037	62592	644		
353.8970	21.640	21.626	1	1.249	57017182	10414086	15749	39372	661	1.56(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.653						1336	3340			
341.8567	21.653						3169	7922			
13C-2,3,4,7,8-PeCDF											
351.9000	22.935	22.908	2	1.324	94850808	15492126	25037	62592	619		
353.8970	22.935	22.908	2	1.324	60693729	9931177	15749	39372	631	1.56(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.935						1336	3340			
341.8567	22.935						3169	7922			
A F1 PeCDFs											
339.8597	19.207						1035	2587			
341.8567	19.207						2833	7082			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.200						1336	3340			
341.8567	22.200						3169	7922			
13C-1,2,3,7,8-PeCDD											
367.8949	23.617	23.603	1	1.363	66841100	10563522	8208	20520	1287		
369.8919	23.617	23.603	1	1.363	41220407	6670932	5712	14280	1168	1.62(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.617						3362	8405			
357.8516	23.617						1368	3420			
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.533						3362	8405			
357.8516	22.533						1368	3420			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.745	29.705	2	0.937	49337179	6610100	12917	32292	512		
385.8610	29.745	29.705	2	0.937	94527977	12867089	22385	55962	575	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.732						1916	4790			
375.8178	29.732						1505	3762			
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.998	29.971	2	0.945	46869971	6956035	12917	32292	539		
385.8610	29.998	29.971	2	0.945	88147964	12972223	22385	55962	580	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	29.998						1916	4790			
375.8178	29.998						1505	3762			
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.023	31.010	1	0.977	44388594	9671705	12917	32292	749		
385.8610	31.023	31.010	1	0.977	87345590	18836205	22385	55962	841	0.51(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.037						1916	4790			
375.8178	31.037						1505	3762			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.942	31.929	1	1.006	46814149	11044764	12917	32292	855		
385.8610	31.942	31.929	1	1.006	89100814	21236841	22385	55962	949	0.53(0.43-0.59)	
1,2,3,7,8,9-HxCDF											RQM
373.8208	31.955	31.942	1	1.000	31761	8950	1916	4790	5		M
375.8178	31.942	31.942	0	1.000	33339	8508	1505	3762	6	0.95(1.05-1.43)	M
	Empc Correction				25613	7217	1505	3762	5		
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.465						1916	4790			
375.8178	29.465						1505	3762			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.742	31.729	1		83033337	21029903	10791	26977	1949		
403.8529	31.729	31.729	0		65640312	16282290	9915	24787	1642	1.26(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.250	31.236	1	0.984	61669707	15118367	10791	26977	1401		
403.8529	31.250	31.236	1	0.984	47941424	11577372	9915	24787	1168	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											M
389.8157	31.263	31.250	1	1.000	57499	12401	1491	3727	8		M
391.8127	31.250	31.250	0	1.000	53776	13665	2107	5267	6	1.07(1.05-1.43)	M
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.369	31.356	1	0.988	66295365	15115931	10791	26977	1401		
403.8529	31.369	31.356	1	0.988	52195302	12114725	9915	24787	1222	1.27(1.05-1.43)	
1,2,3,6,7,8-HxCDD											nMa
389.8157	31.343	31.369	-2	0.999	29152	5243	1491	3727	4		M
391.8127	31.396	31.369	2	1.001	26642	4680	2107	5267	2	1.09(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.742						1491	3727			
391.8127	31.742						2107	5267			
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.164						1491	3727			
391.8127	30.164						2107	5267			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.476	33.464	1	1.055	27678081	9546388	18888	47220	505		
419.8220	33.464	33.464	0	1.054	60920671	20959363	30930	77325	678	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.476						6021	15052			
409.7789	33.476						1989	4972			
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.533	34.533	0	1.088	30020052	9391437	18888	47220	497		
419.8220	34.533	34.533	0	1.088	66830555	20981054	30930	77325	678	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.545						6021	15052			
409.7789	34.545						1989	4972			
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.992						6021	15052			
409.7789	33.992						1989	4972			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.254	34.254	0	1.079	46242062	15697163	14977	37442	1048		
437.8140	34.254	34.254	0	1.079	43668064	15060036	13013	32532	1157	1.06(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											RQM
423.7766	34.266	34.266	0	1.000	58237	16553	1789	4472	9		M
	Empc Correction				33677	10814	1789	4472	6		
425.7737	34.266	34.266	0	1.000	32382	10399	1296	3240	8	1.80(0.88-1.20)	M
A Non-2,3,7,8-sub-HpCDD											RQMa
423.7766	33.731	33.968	-14	0.985	54281	13701	1789	4472	8		a
	Empc Correction				40147	13097	1789	4472	7		
425.7737	33.719	33.968	-15	0.984	38603	12594	1296	3240	10	1.41(0.88-1.20)	
13C-OCDD											
469.7779	36.571	36.571	0	1.152	59923866	16979110	6104	15260	2782		
471.7750	36.571	36.571	0	1.152	65286328	18476272	5188	12970	3561	0.92(0.76-1.02)	
OCDF											
441.7428	36.667						2077	5192			
443.7399	36.667						2777	6942			
OCDD											RQM
457.7377	36.583	36.583	0	1.000	301500	73937	1734	4335	43		M
	Empc Correction				250502	65864	1734	4335	38		
459.7348	36.583	36.583	0	1.000	281464	74005	1519	3797	49	1.07(0.76-1.02)	

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- n - Failed Sig-To-Noise Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_12.d		
Lims ID:	320-57717-A-1-A		
Client ID:	11187072-FEFF-0.025um		
Inject. Date:	16-Jan-2020 04:38:51	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	ALM
Lims Batch ID:	351160	Lims Sample ID:	12

Non-2,3,7,8-sub-TCDD, RT: 16.969

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.048	D 13C-2,3,7,8-TCDD	100.000	126744173	30195410

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.048		100.000	126744173	30195410

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
16.841	189374	39270	35839	8226	0.1696	5.28	RQ
16.841	27596	6334	35839	8226	0.0478		Empc Correction
Signal Totals:							
	27596	6334	35839	8226			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	225213	47496				5.28	RQ
	63435	14560					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.1696 = (225213 * 100.000) / (126744173 * 1.048)
Empc Amount: 0.0478 = (63435 * 100.000) / (126744173 * 1.048)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_12.d		
Lims ID:	320-57717-A-1-A		
Client ID:	11187072-FEFF-0.025um		
Inject. Date:	16-Jan-2020 04:38:51	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	3D5	Operator:	ALM
Lims Batch ID:	351160	Lims Sample ID:	12

Non-2,3,7,8-sub-HpCDD, RT: 33.968

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.054	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	89910126	30757199

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.054		100.000	89910126	30757199

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
33.731	54281	13701	38603	12594	0.0981	1.41	RQa
33.731	40147	13097	38603	12594	0.0831		Empc Correction
Signal Totals:							
	40147	13097	38603	12594			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	92884	26295				1.41	RQa
	78750	25691					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0981 = (92884 * 100.000) / (89910126 * 1.054)
Empc Amount: 0.0831 = (78750 * 100.000) / (89910126 * 1.054)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
a - User Assigned ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_12.d				
Injection Date:	16-Jan-2020 04:38:51	Instrument ID:	3D5		
Lims ID:	320-57717-A-1-A	Lab Sample ID:	320-57717-1		
Client ID:	11187072-FEFF-0.025um				
Operator ID:	ALM	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 2

Processing Integration Results

RT: 31.94
Area: 43312
Amount: 0.062892
Amount Units: pg/ul

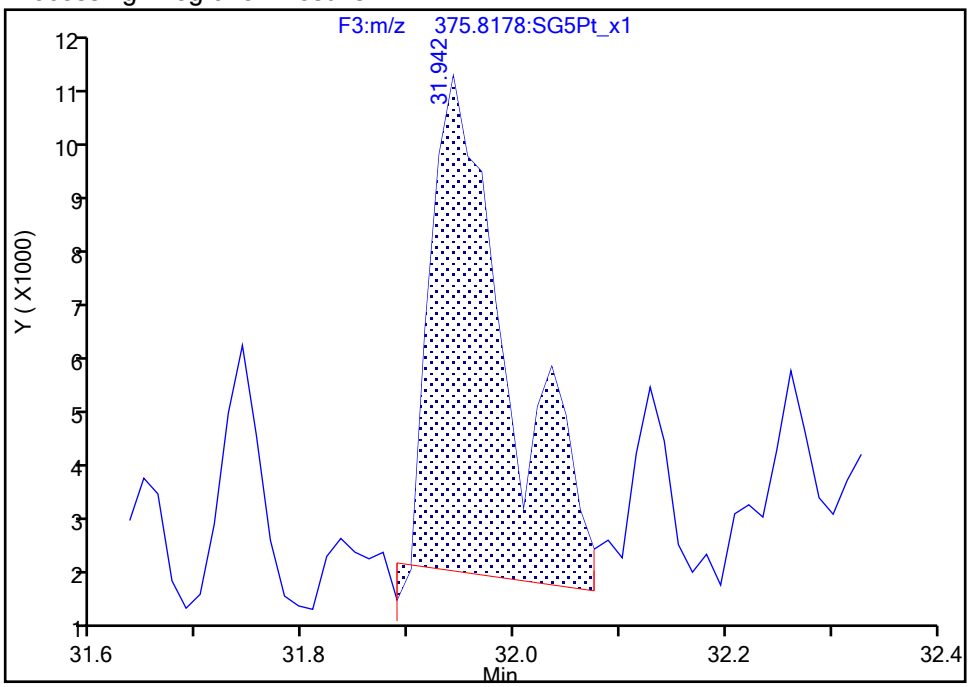

Manual Integration Results

RT: 31.94
Area: 33339
Amount: 0.040880
Amount Units: pg/ul

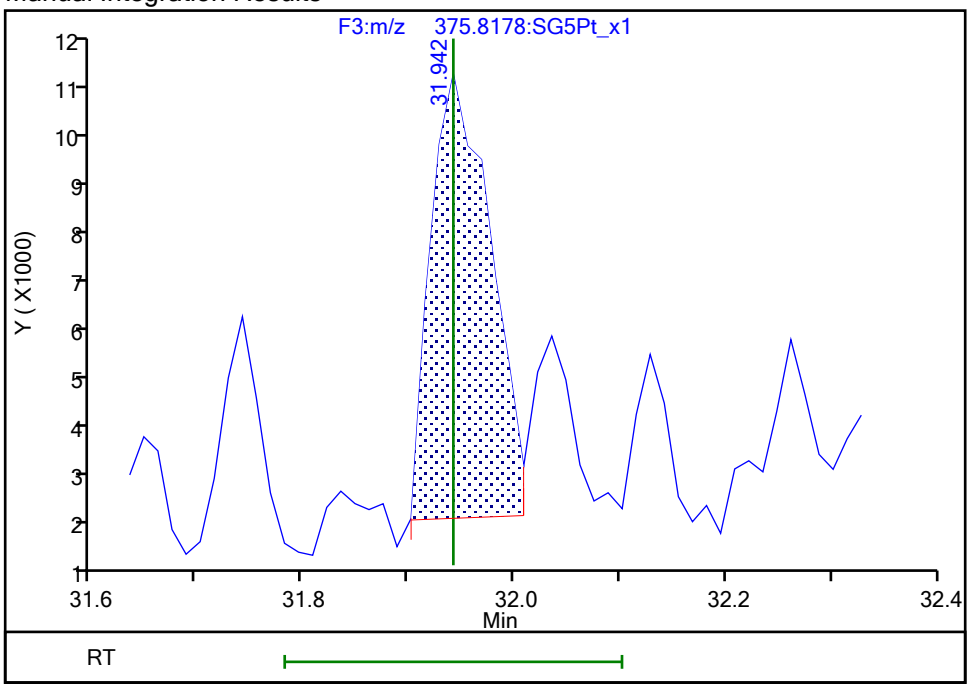

Reviewer: ruangyotsakuld, 17-Jan-2020 08:34:23

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_12.d				
Injection Date:	16-Jan-2020 04:38:51	Instrument ID:	3D5		
Lims ID:	320-57717-A-1-A	Lab Sample ID:	320-57717-1		
Client ID:	11187072-FEFF-0.025um				
Operator ID:	ALM	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 1

Processing Integration Results

RT: 31.96
Area: 56840
Amount: 0.062892
Amount Units: pg/ul

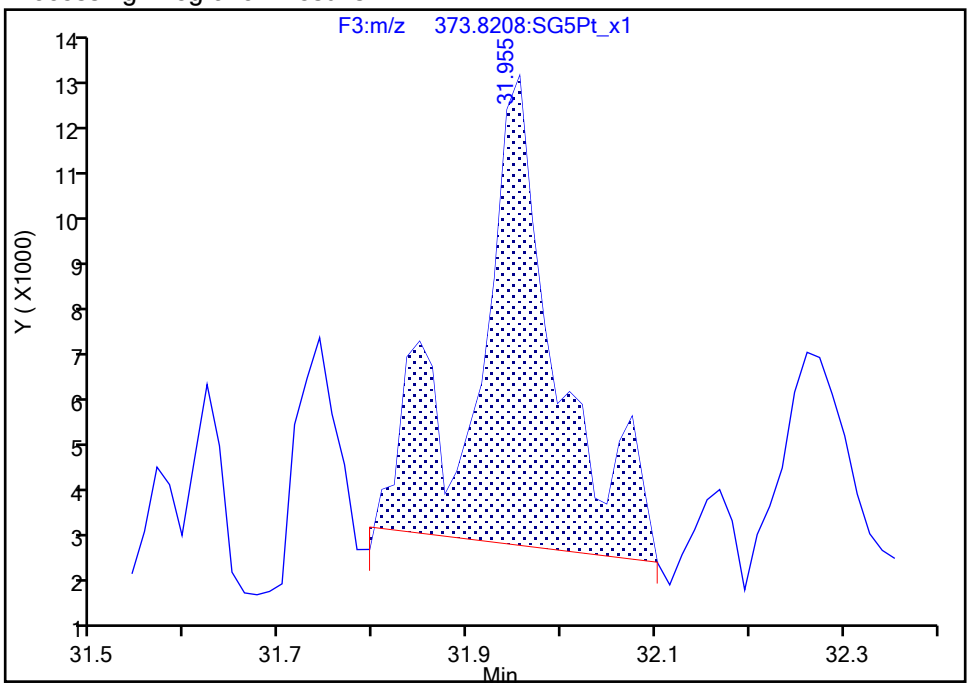

Manual Integration Results

RT: 31.96
Area: 31761
Amount: 0.040880
Amount Units: pg/ul

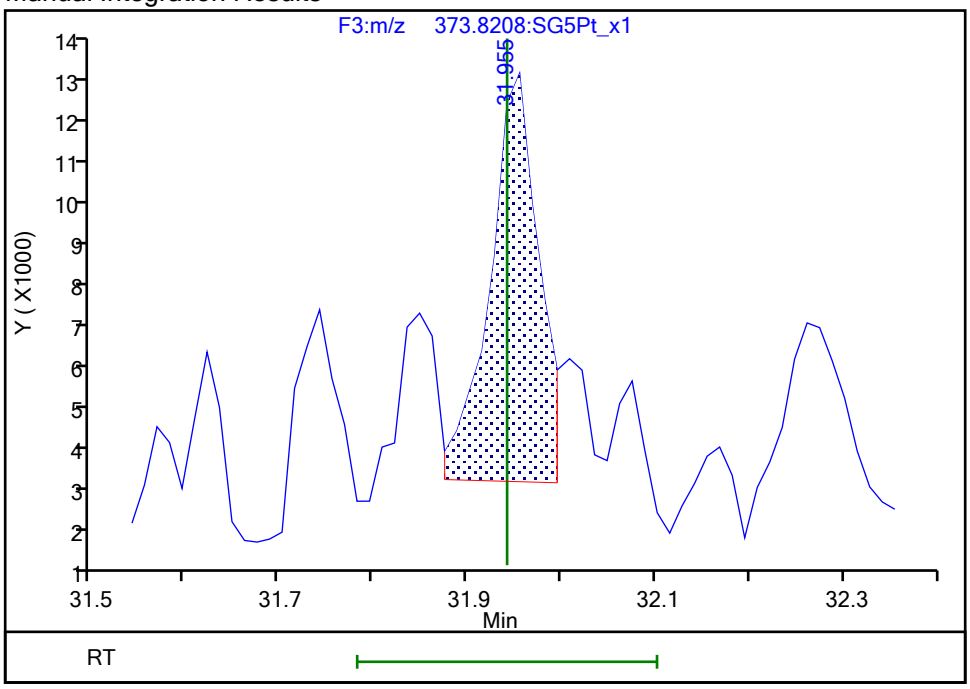

Reviewer: ruangyotsakuld, 17-Jan-2020 08:34:31

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_12.d				
Injection Date:	16-Jan-2020 04:38:51	Instrument ID:	3D5		
Lims ID:	320-57717-A-1-A	Lab Sample ID:	320-57717-1		
Client ID:	11187072-FEFF-0.025um				
Operator ID:	ALM	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 3

Processing Integration Results

RT: 31.26
Area: 186775
Amount: 0.155845
Amount Units: pg/ul

Manual Integration Results

RT: 31.26
Area: 111275
Amount: 0.092848
Amount Units: pg/ul
Reviewer: ruangyotsakuld, 17-Jan-2020 08:34:45
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_12.d				
Injection Date:	16-Jan-2020 04:38:51	Instrument ID:	3D5		
Lims ID:	320-57717-A-1-A	Lab Sample ID:	320-57717-1		
Client ID:	11187072-FEFF-0.025um				
Operator ID:	ALM	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 2

Processing Integration Results

RT: 31.25
Area: 87956
Amount: 0.155845
Amount Units: pg/ul

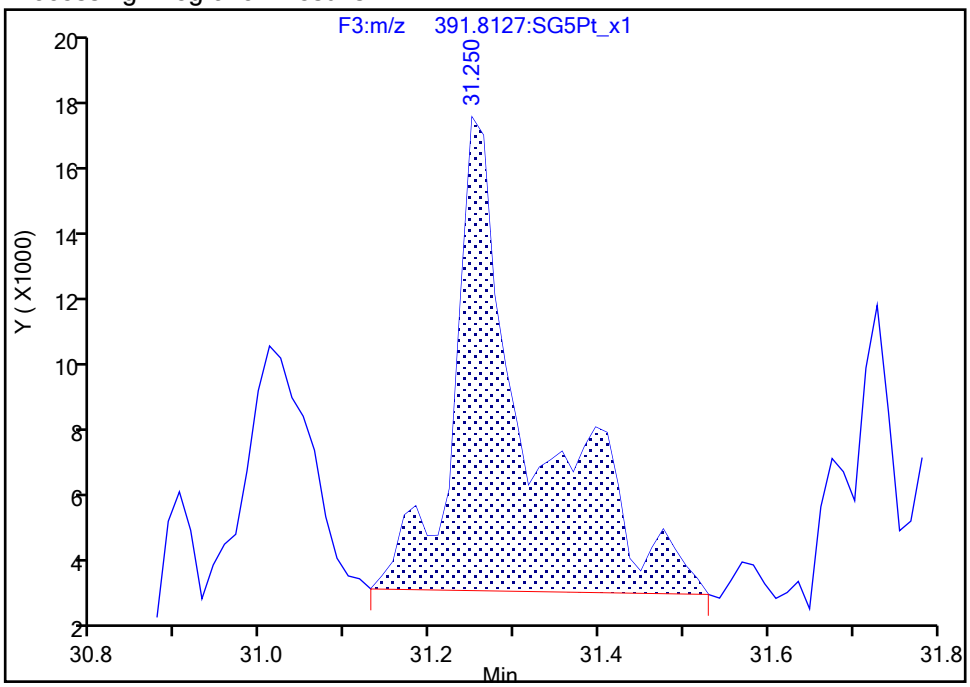

Manual Integration Results

RT: 31.25
Area: 53776
Amount: 0.092848
Amount Units: pg/ul

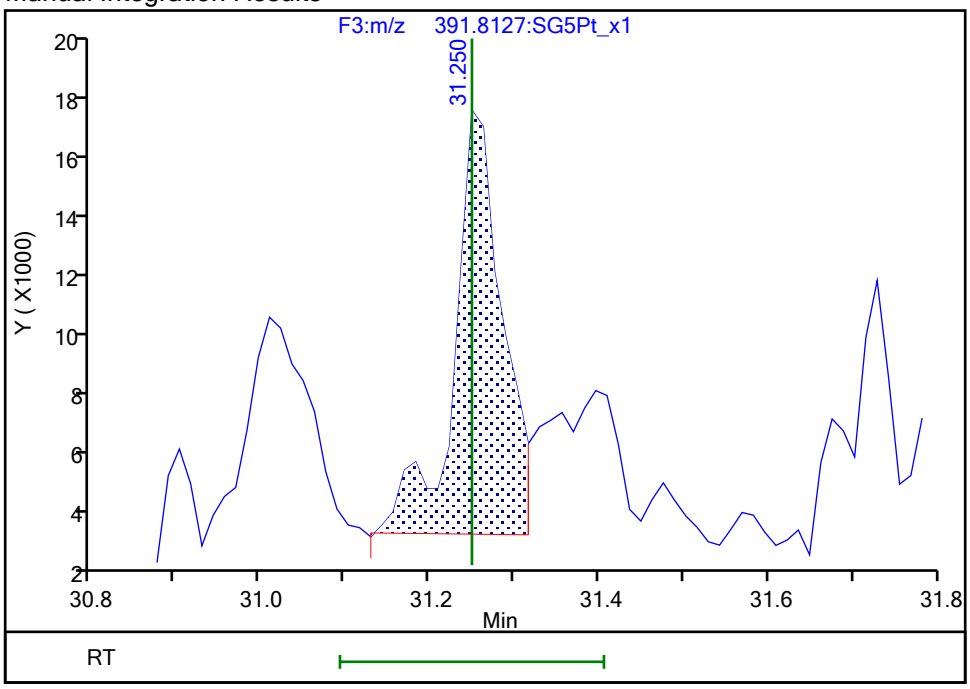

Reviewer: ruangyotsakuld, 17-Jan-2020 08:35:11

Audit Action: Split an Integrated Peak Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_12.d				
Injection Date:	16-Jan-2020 04:38:51	Instrument ID:	3D5		
Lims ID:	320-57717-A-1-A	Lab Sample ID:	320-57717-1		
Client ID:	11187072-FEFF-0.025um				
Operator ID:	ALM	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 1

Processing Integration Results

RT: 31.26
Area: 98819
Amount: 0.155845
Amount Units: pg/ul

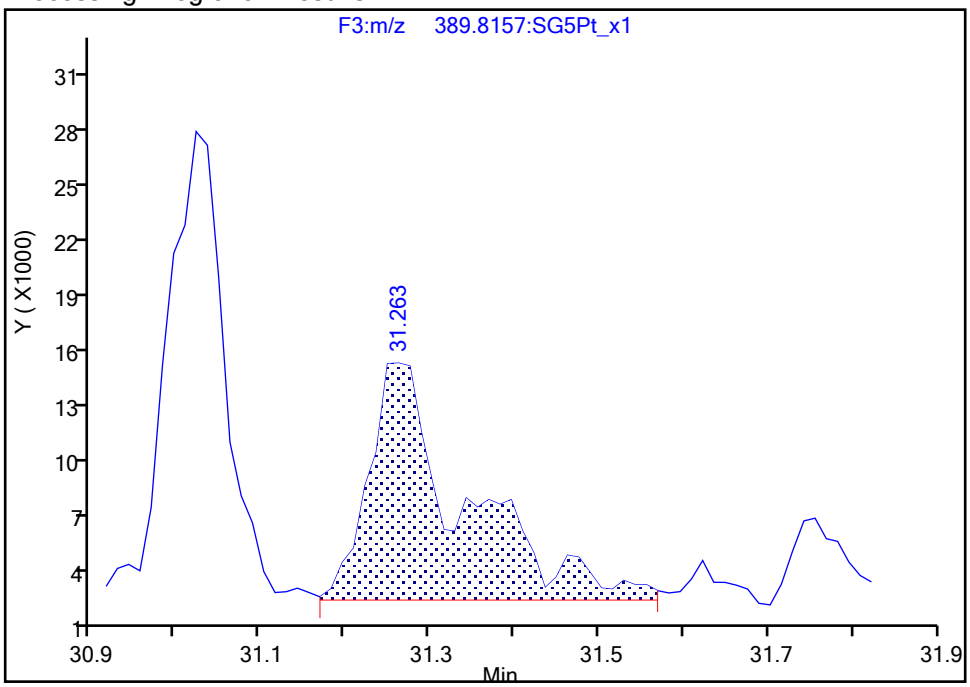

Manual Integration Results

RT: 31.26
Area: 57499
Amount: 0.092848
Amount Units: pg/ul

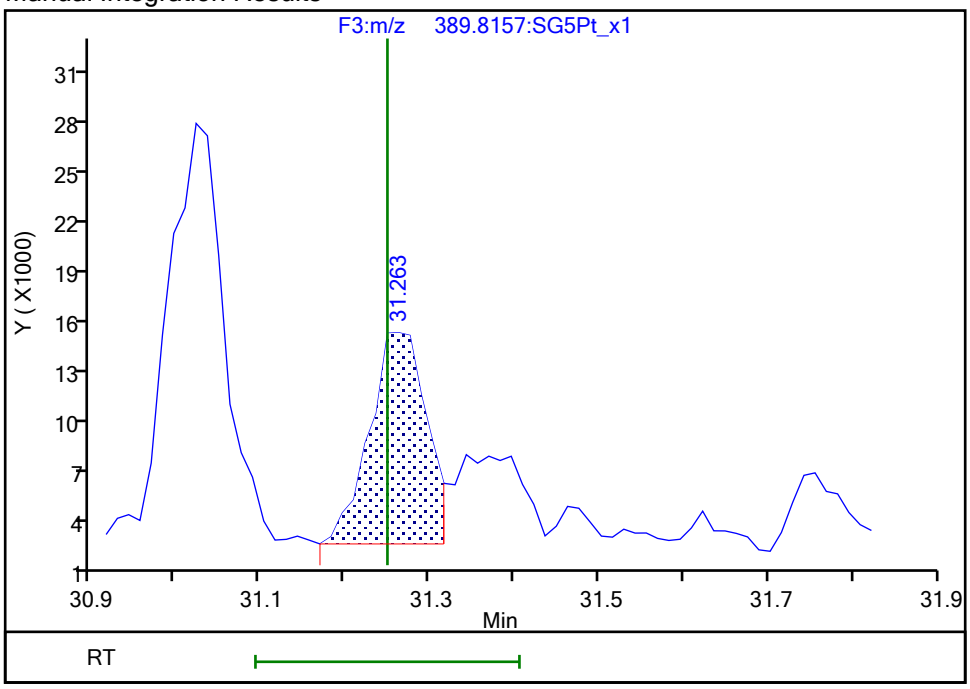

Reviewer: ruangyotsakuld, 17-Jan-2020 08:35:14

Audit Action: Split an Integrated Peak Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_12.d				
Injection Date:	16-Jan-2020 04:38:51	Instrument ID:	3D5		
Lims ID:	320-57717-A-1-A	Lab Sample ID:	320-57717-1		
Client ID:	11187072-FEFF-0.025um				
Operator ID:	ALM	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 2

Processing Integration Results

RT: 31.25
Area: 87956
Amount: 0.151144
Amount Units: pg/ul

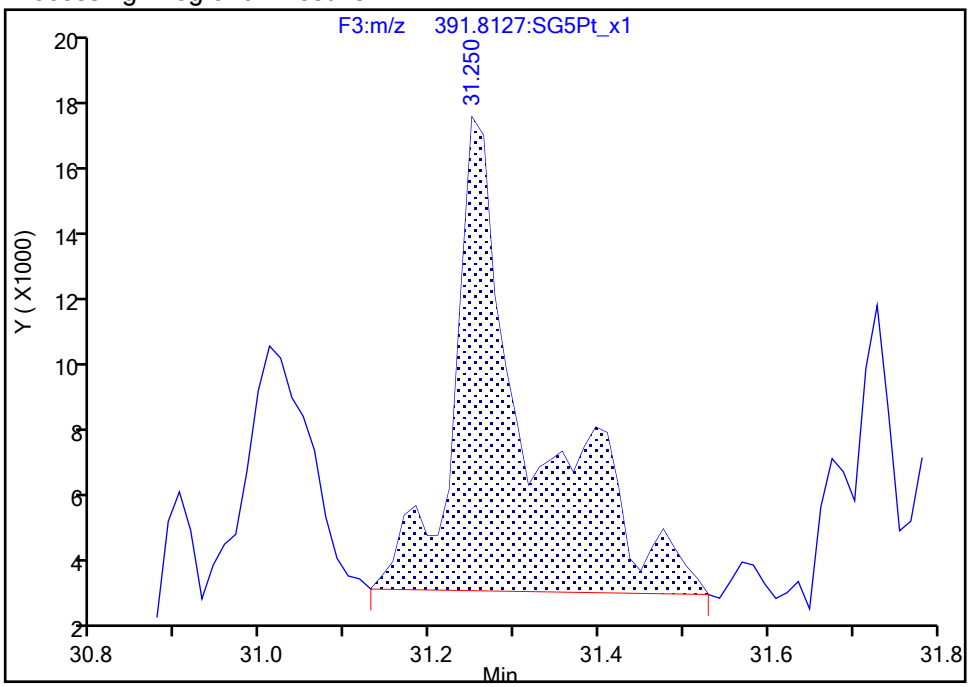

Manual Integration Results

RT: 31.40
Area: 26642
Amount: 0.045150
Amount Units: pg/ul

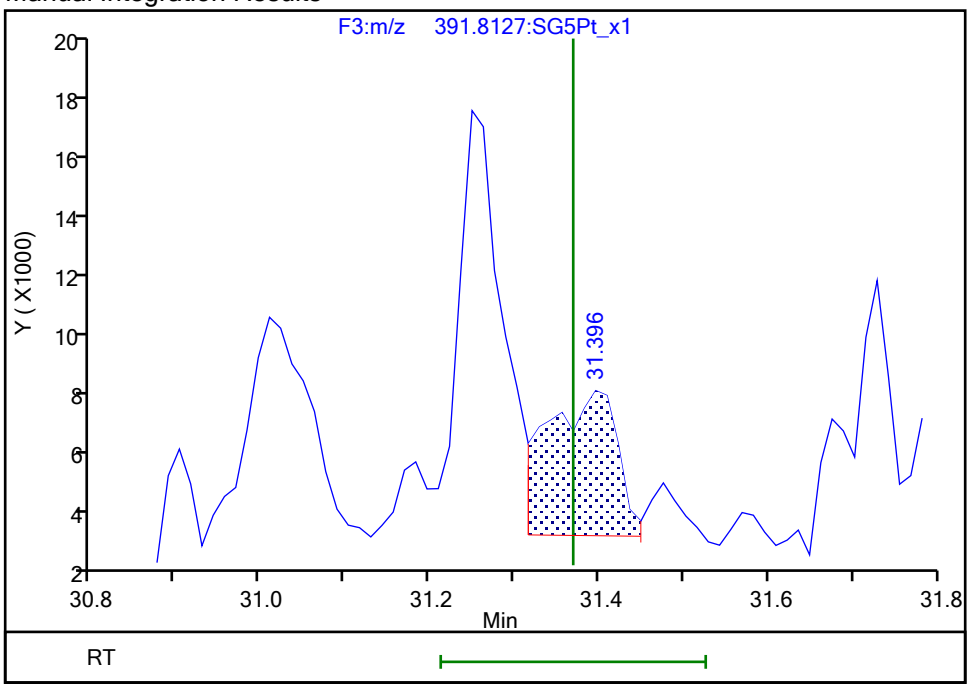

Reviewer: ruangyotsakuld, 17-Jan-2020 08:34:47

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_12.d				
Injection Date:	16-Jan-2020 04:38:51	Instrument ID:	3D5		
Lims ID:	320-57717-A-1-A	Lab Sample ID:	320-57717-1		
Client ID:	11187072-FEFF-0.025um				
Operator ID:	ALM	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 3

Processing Integration Results

RT: 31.26
Area: 186775
Amount: 0.151144
Amount Units: pg/ul

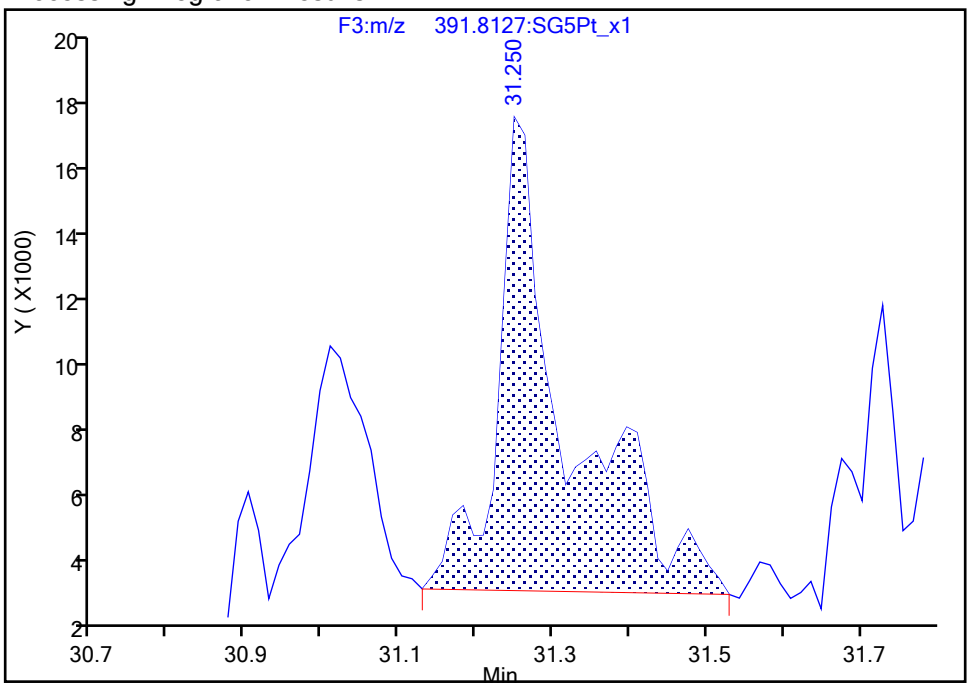

Manual Integration Results

RT: 31.34
Area: 55794
Amount: 0.045150
Amount Units: pg/ul
Reviewer: ruangyotsakuld, 17-Jan-2020 08:34:47
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_12.d				
Injection Date:	16-Jan-2020 04:38:51	Instrument ID:	3D5		
Lims ID:	320-57717-A-1-A	Lab Sample ID:	320-57717-1		
Client ID:	11187072-FEFF-0.025um				
Operator ID:	ALM	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 1

Processing Integration Results

RT: 31.26
Area: 98819
Amount: 0.151144
Amount Units: pg/ul

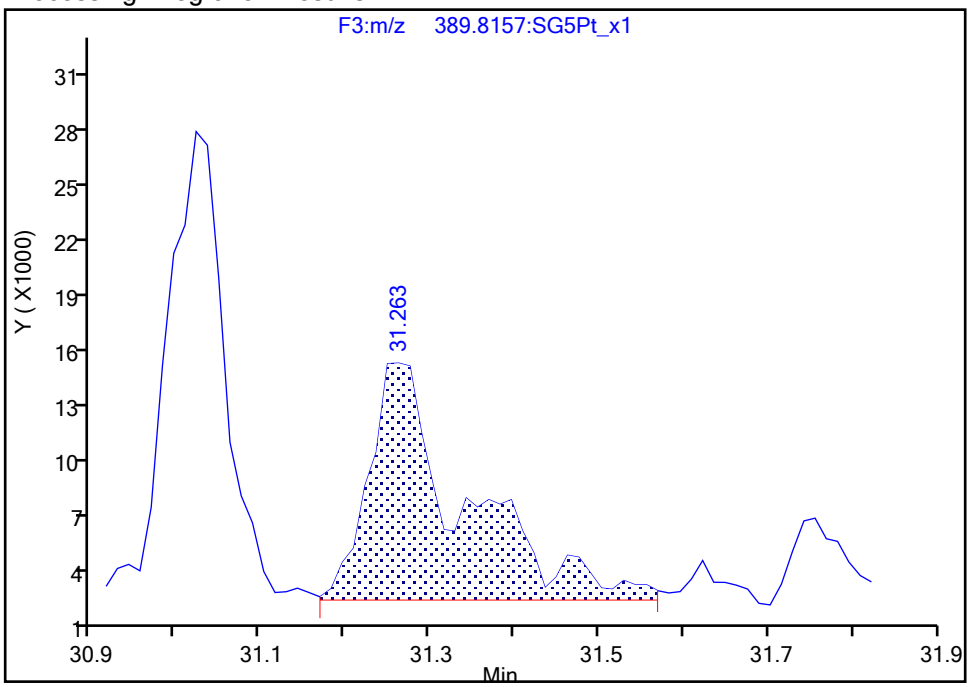

Manual Integration Results

RT: 31.34
Area: 29152
Amount: 0.045150
Amount Units: pg/ul

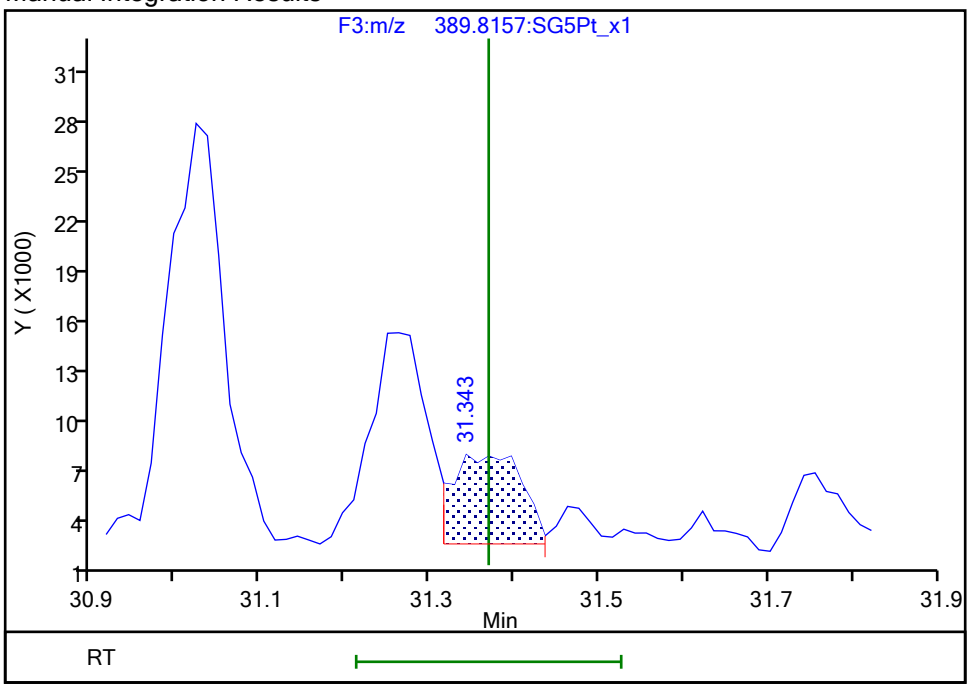

Reviewer: ruangyotsakuld, 17-Jan-2020 08:35:23

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_12.d				
Injection Date:	16-Jan-2020 04:38:51	Instrument ID:	3D5		
Lims ID:	320-57717-A-1-A	Lab Sample ID:	320-57717-1		
Client ID:	11187072-FEFF-0.025um				
Operator ID:	ALM	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 2

Processing Integration Results

RT: 34.27
Area: 30084
Amount: 0.107301
Amount Units: pg/ul

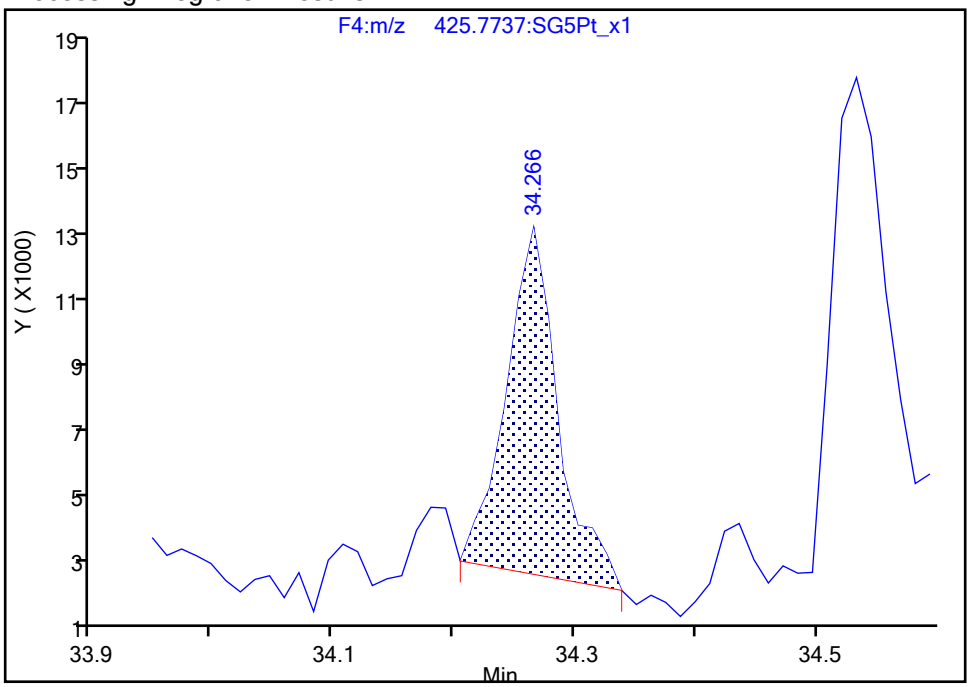

Manual Integration Results

RT: 34.27
Area: 32382
Amount: 0.095667
Amount Units: pg/ul

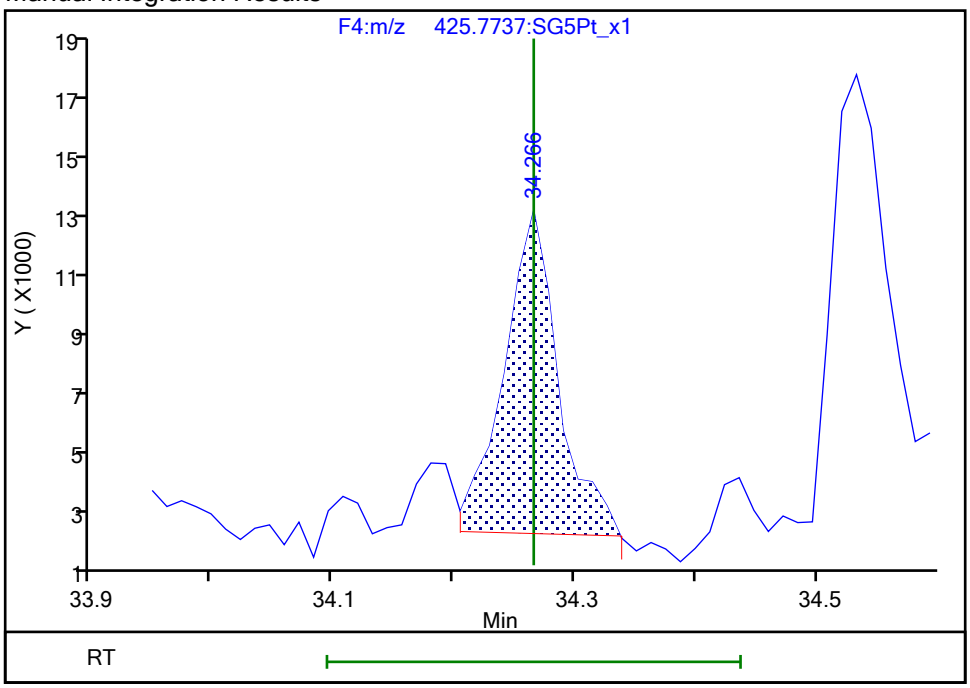

Reviewer: ruangyotsakuld, 17-Jan-2020 08:35:46

Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_12.d				
Injection Date:	16-Jan-2020 04:38:51	Instrument ID:	3D5		
Lims ID:	320-57717-A-1-A	Lab Sample ID:	320-57717-1		
Client ID:	11187072-FEFF-0.025um				
Operator ID:	ALM	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 1

Processing Integration Results

RT: 34.27
Area: 71556
Amount: 0.107301
Amount Units: pg/ul

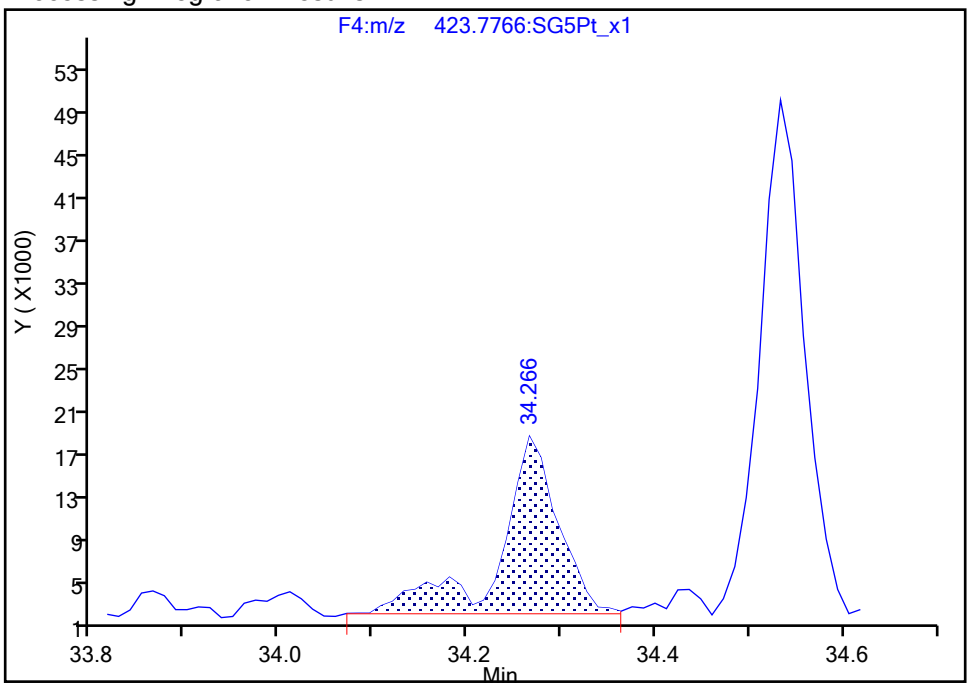

Manual Integration Results

RT: 34.27
Area: 58237
Amount: 0.095667
Amount Units: pg/ul

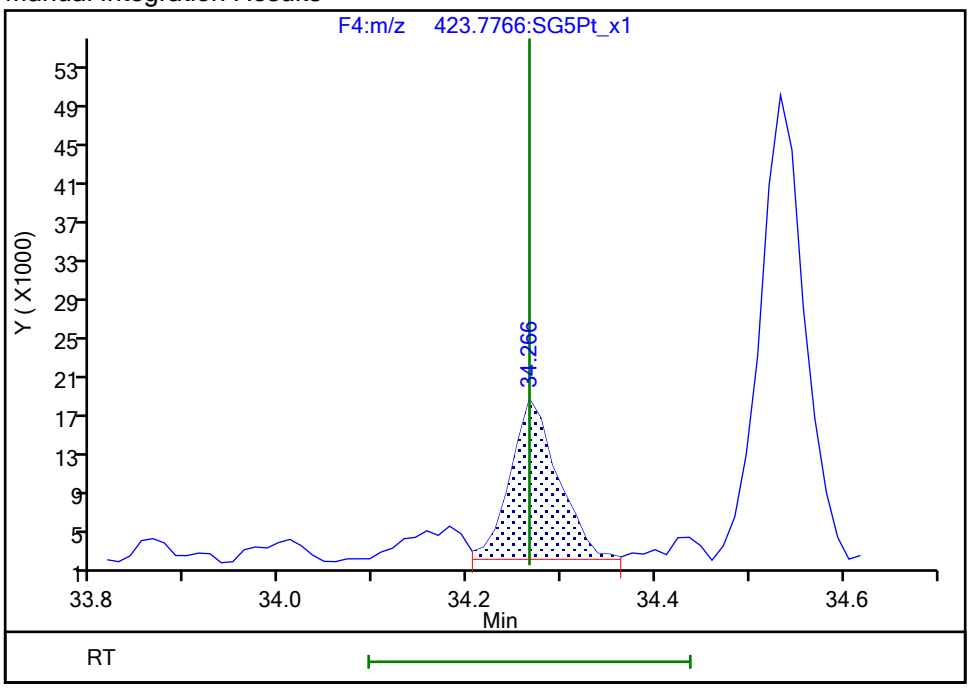

Reviewer: ruangyotsakuld, 17-Jan-2020 08:35:49

Audit Action: Split an Integrated Peak Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_12.d				
Injection Date:	16-Jan-2020 04:38:51	Instrument ID:	3D5		
Lims ID:	320-57717-A-1-A	Lab Sample ID:	320-57717-1		
Client ID:	11187072-FEFF-0.025um				
Operator ID:	ALM	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5:HRSIR		

OCDD, CAS: 3268-87-9

Signal: 1

Processing Integration Results

RT: 36.58
Area: 317852
Amount: 0.842560
Amount Units: pg/ul

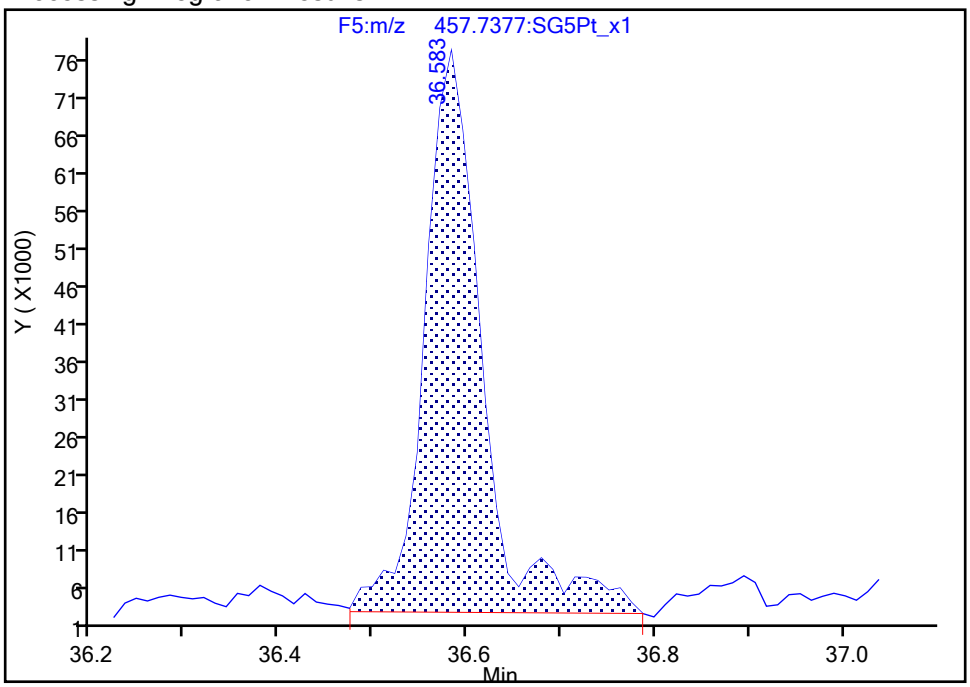

Manual Integration Results

RT: 36.58
Area: 301500
Amount: 0.819571
Amount Units: pg/ul

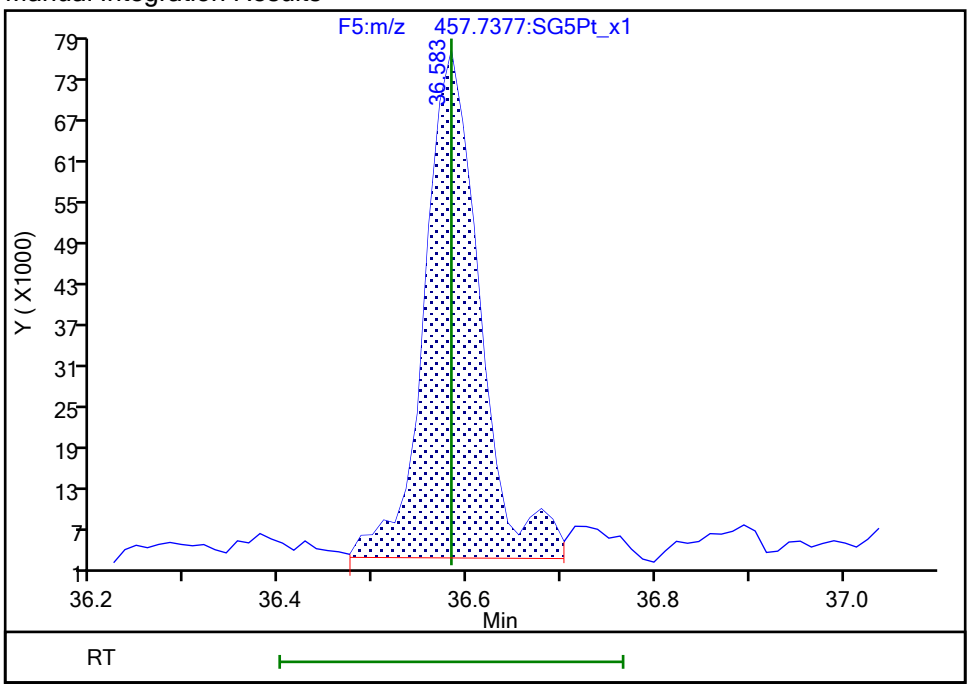

Reviewer: ruangyotsakuld, 17-Jan-2020 08:37:33

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 17-Jan-2020 08:52:36 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_12.d		
Injection Date:	16-Jan-2020 04:38:51	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-0.025um		
Worklist#:	351160	Sample Line#:	12
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

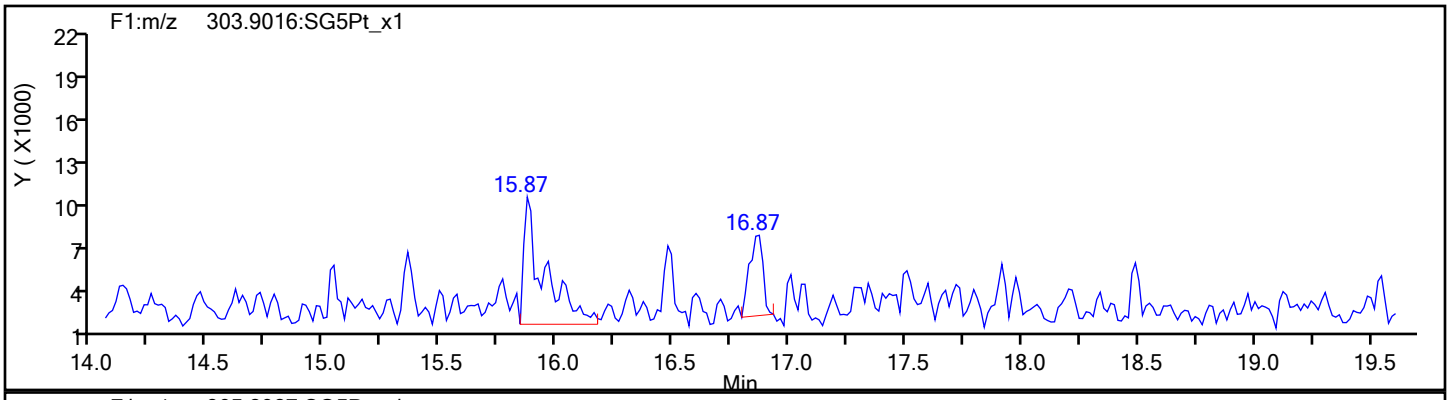

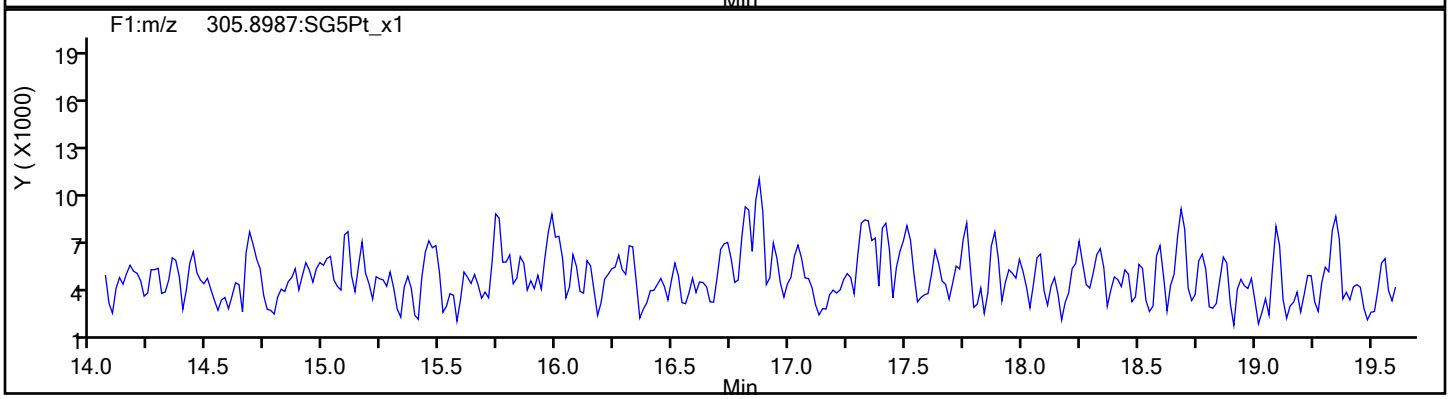

TCDF Standards

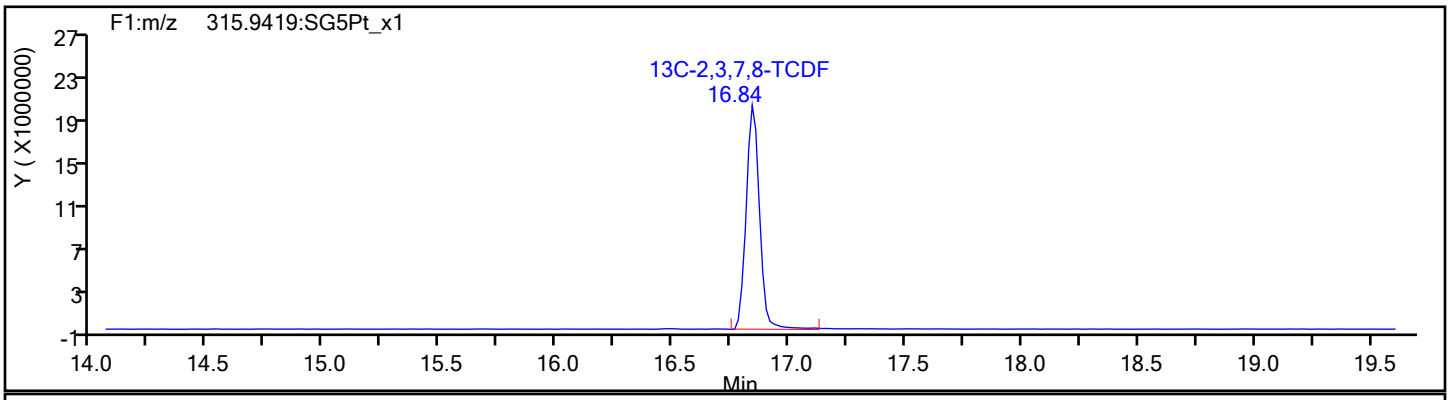

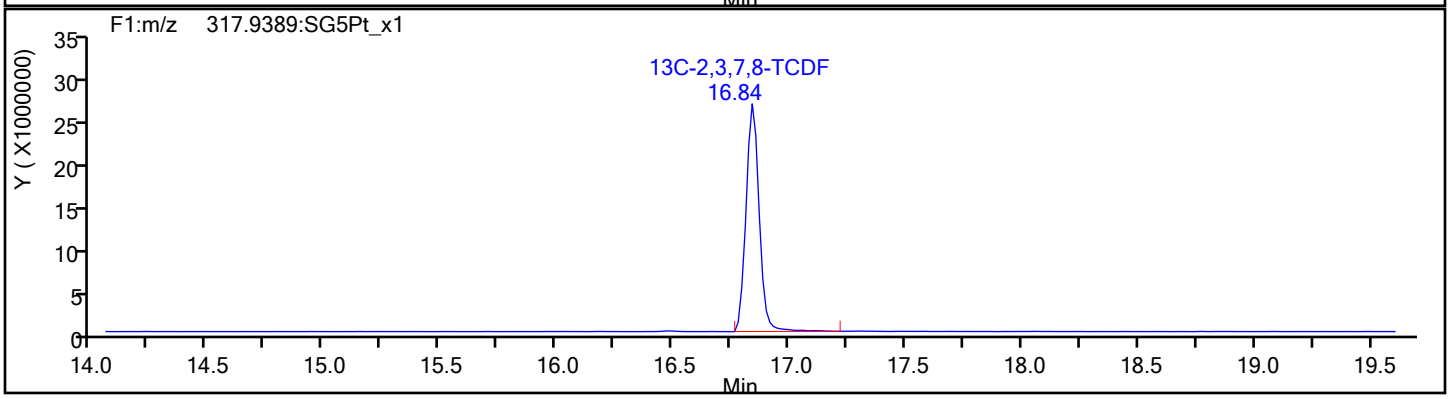

Report Date: 17-Jan-2020 08:52:36 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_12.d		
Injection Date:	16-Jan-2020 04:38:51	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-0.025um		
Worklist#:	351160	Sample Line#:	12
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

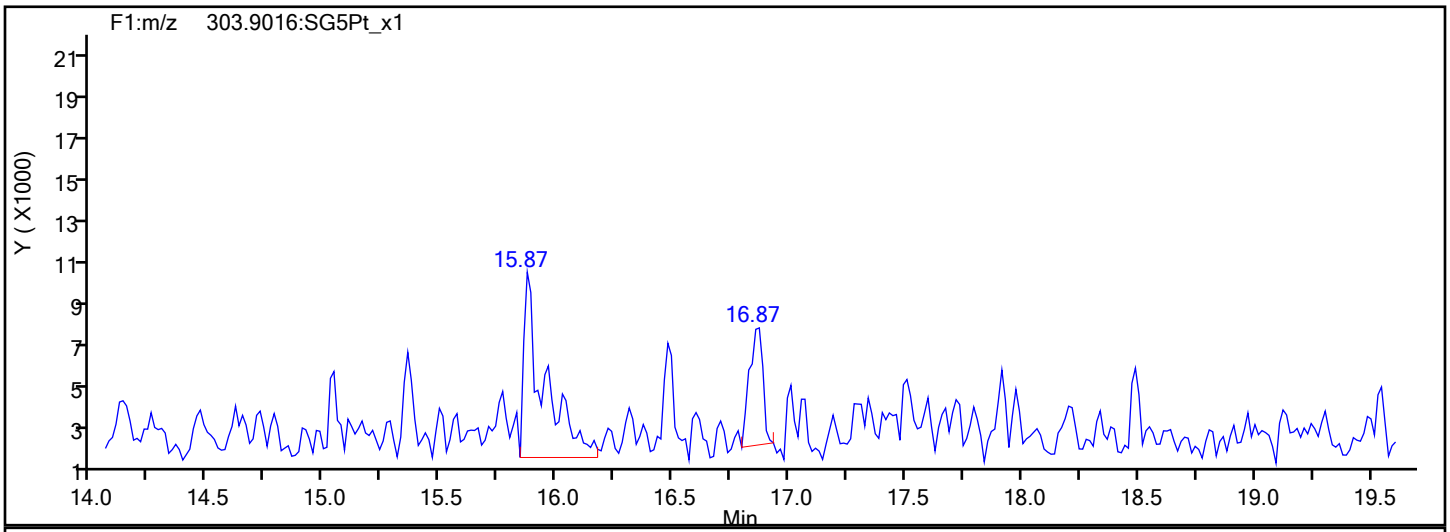

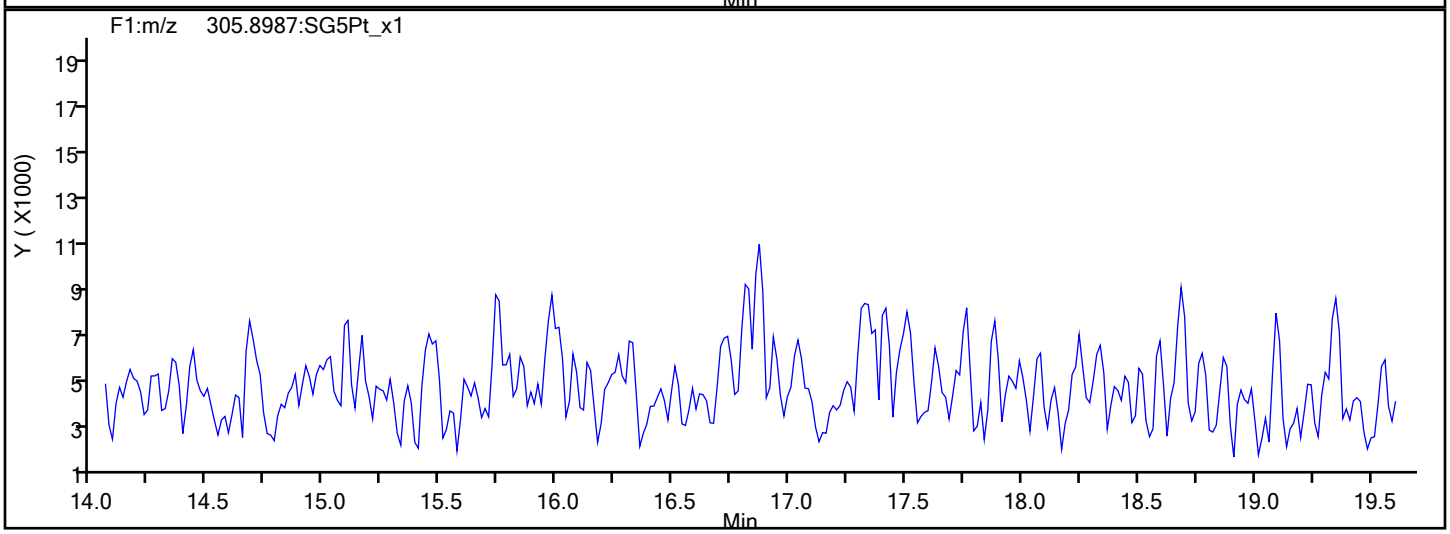

TCDF Interference Mass

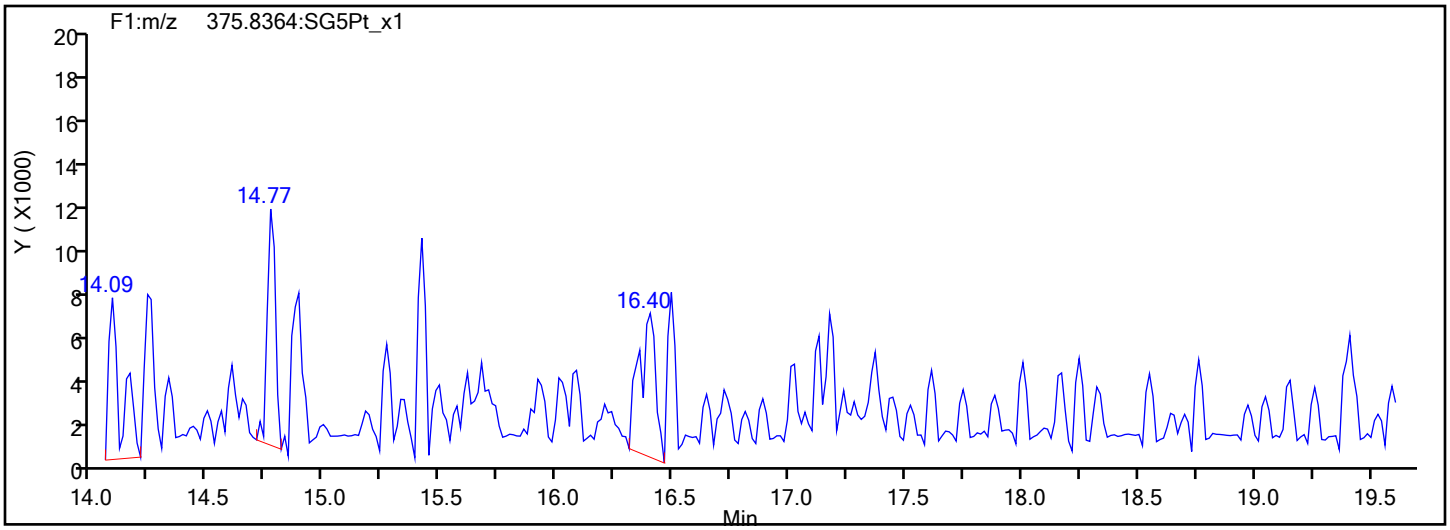

Report Date: 17-Jan-2020 08:52:36 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_12.d		
Injection Date:	16-Jan-2020 04:38:51	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-0.025um		
Worklist#:	351160	Sample Line#:	12
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TCDD

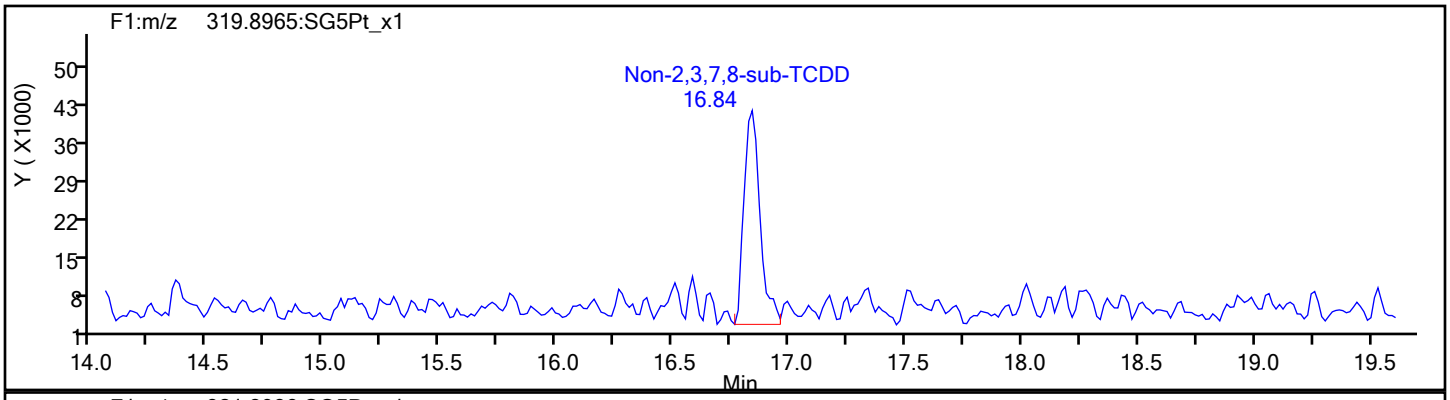

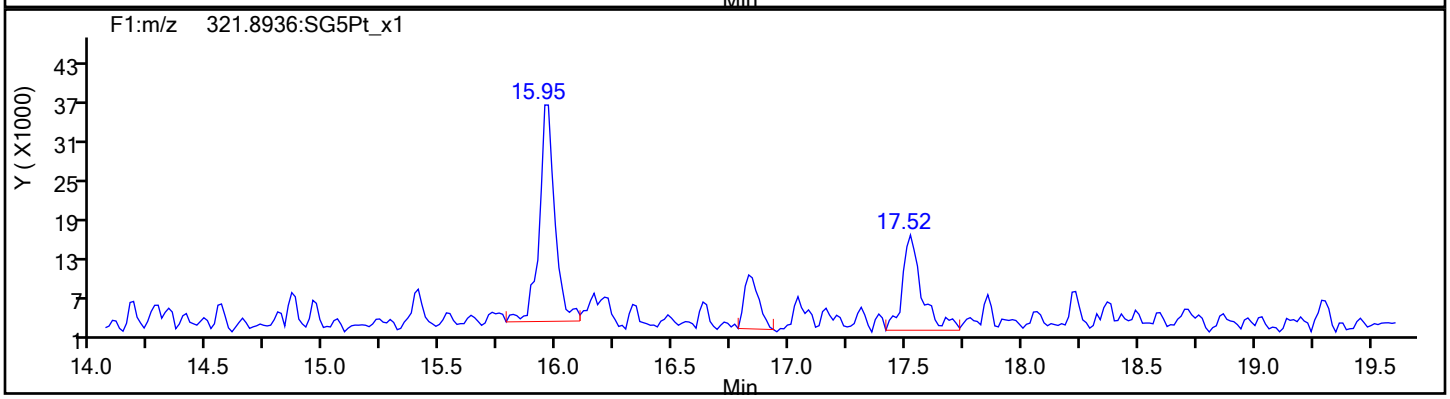

TCDD Standards

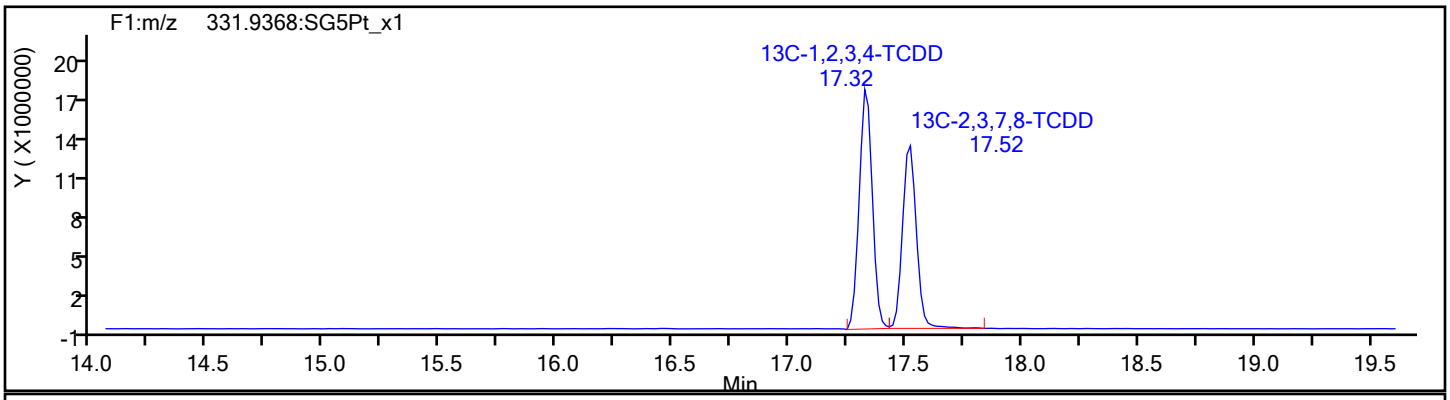

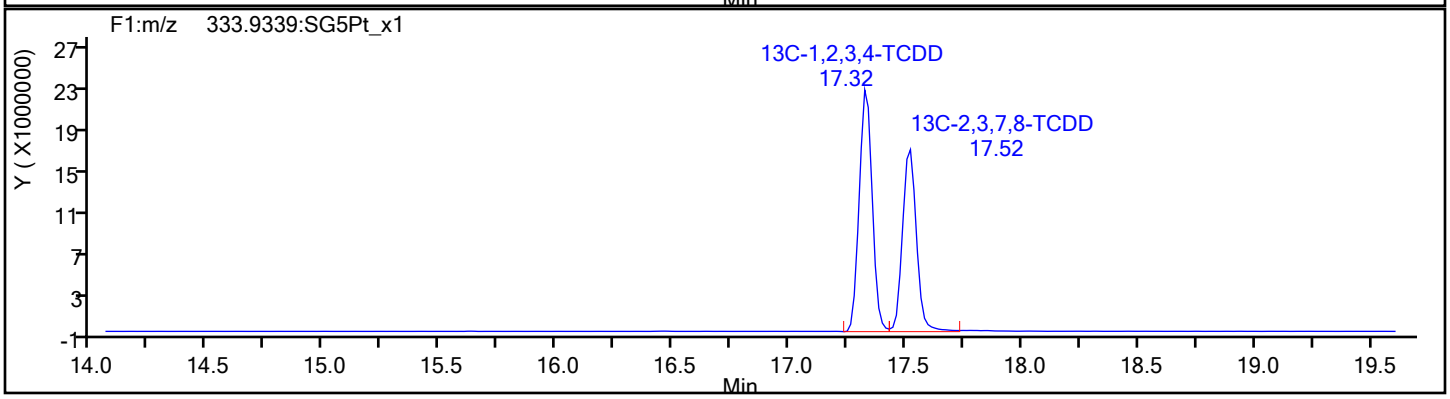

Report Date: 17-Jan-2020 08:52:36 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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37Cl4-TCDD

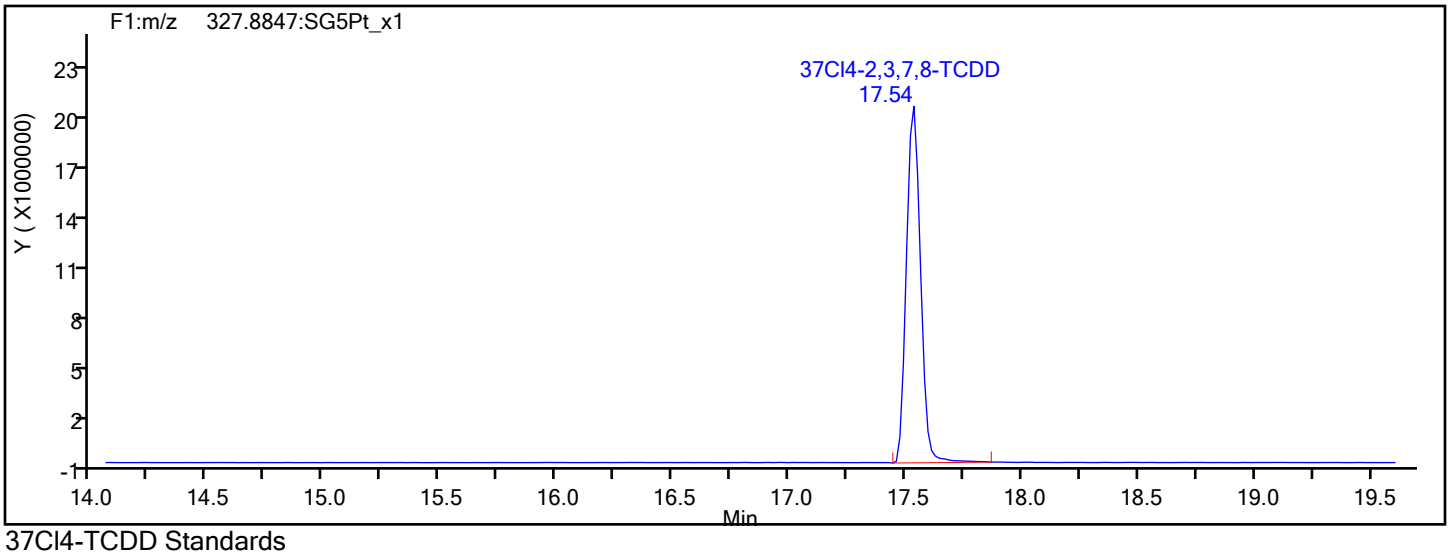

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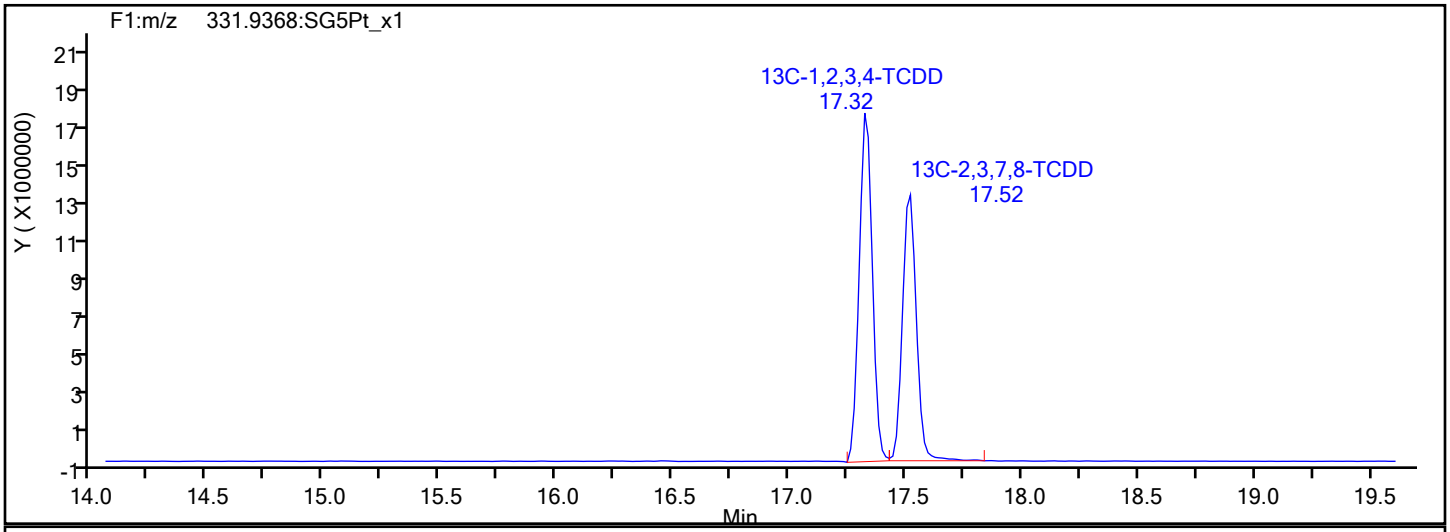

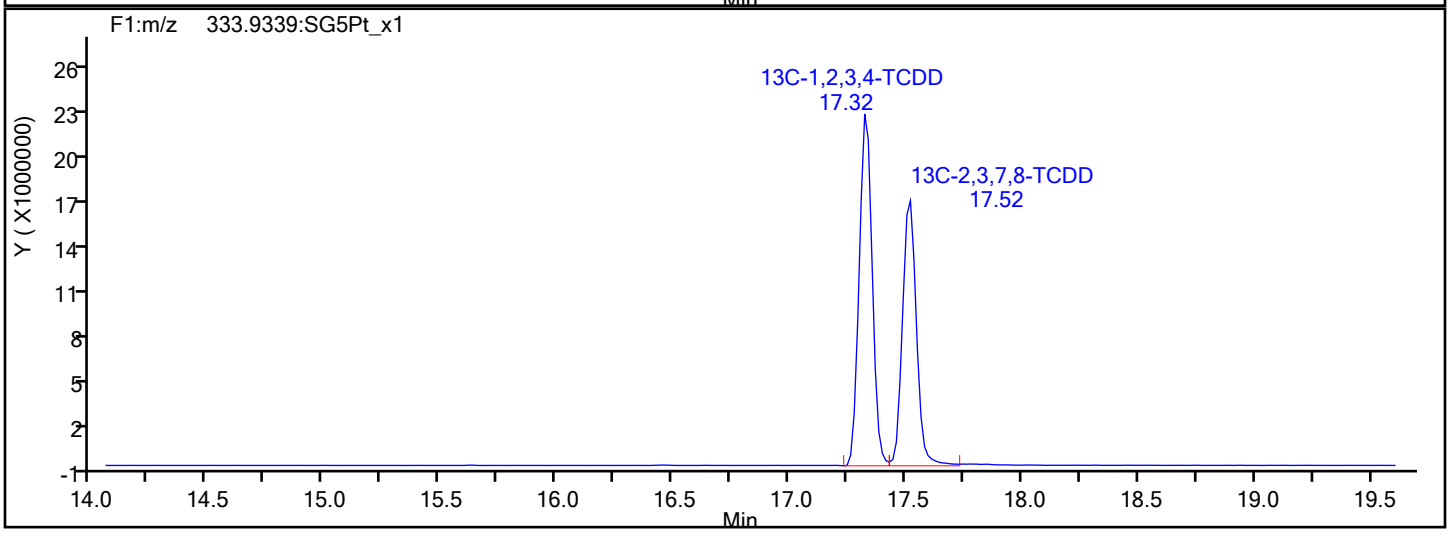

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

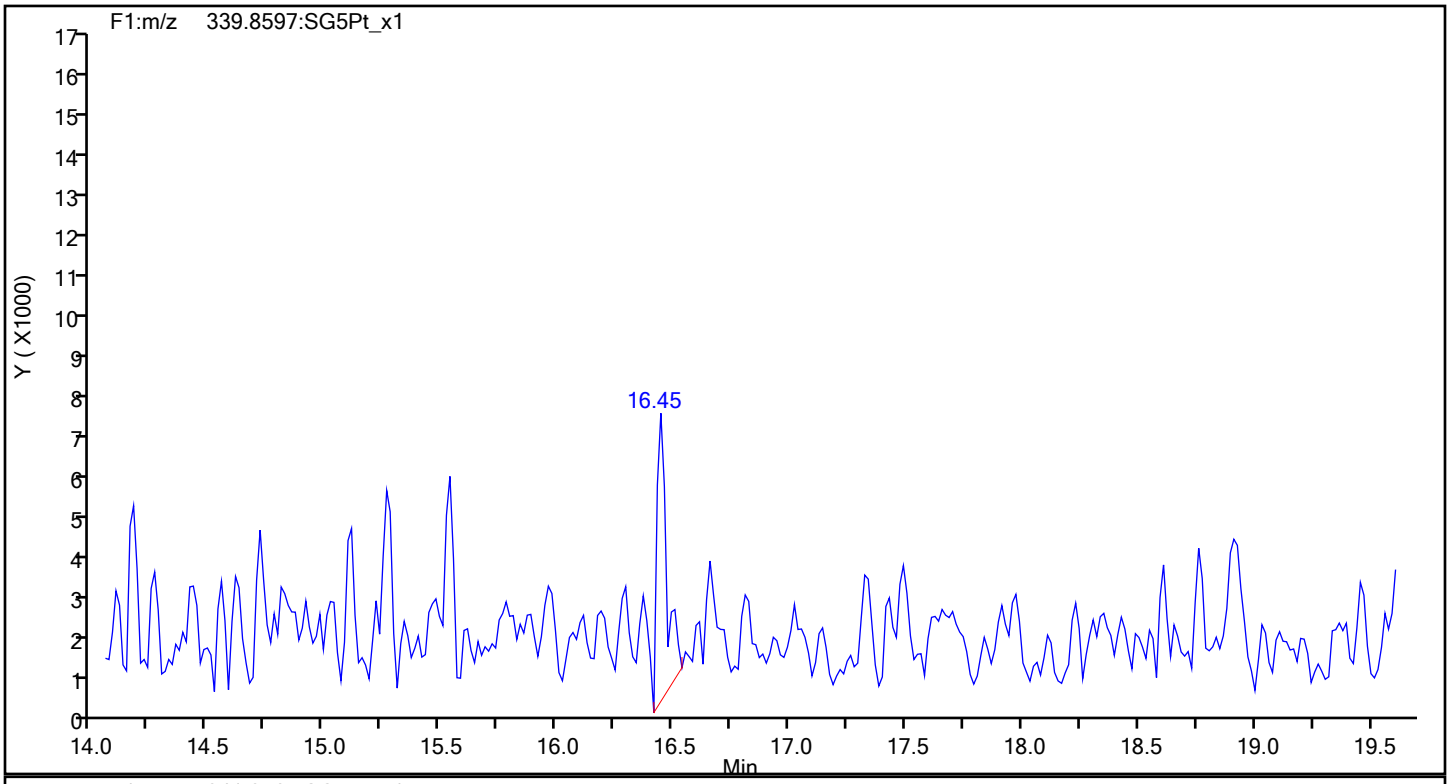

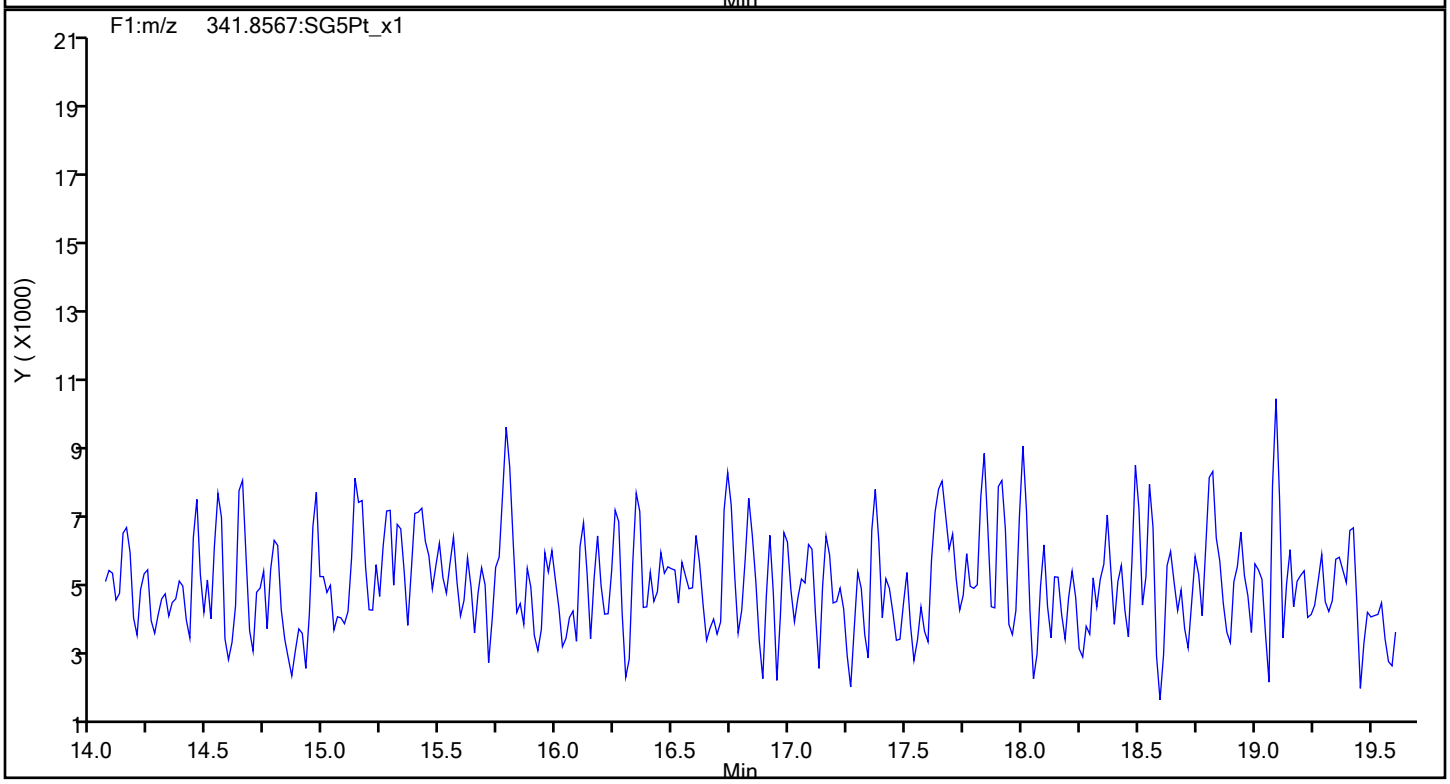

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

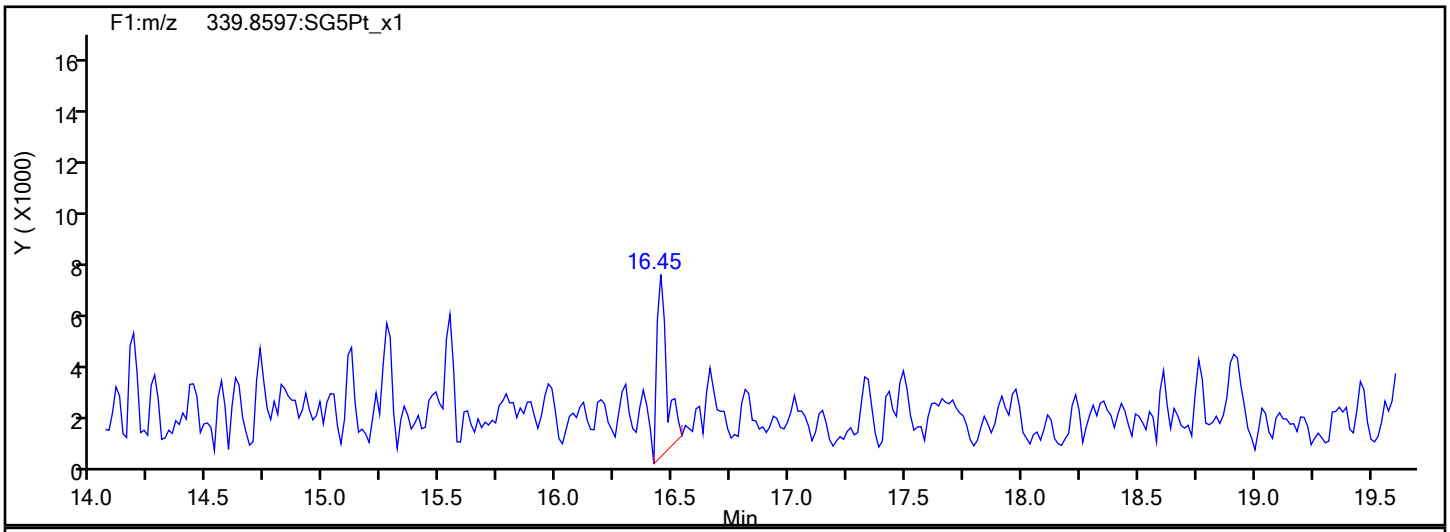

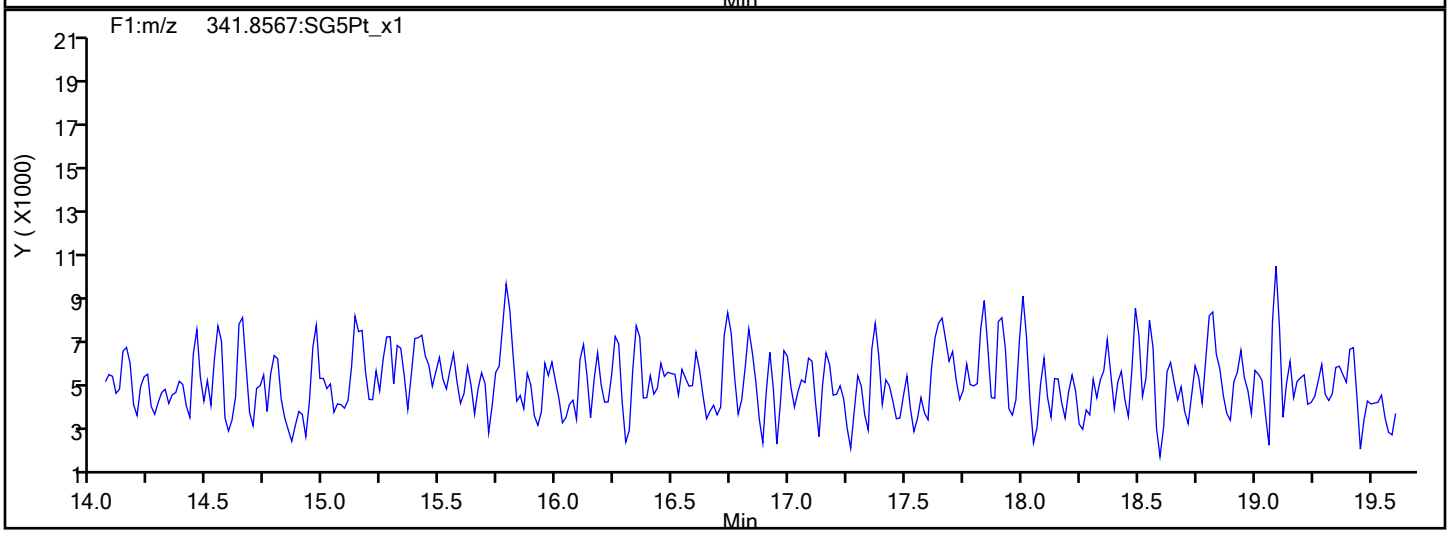

F1 PeCDFs Interference Mass

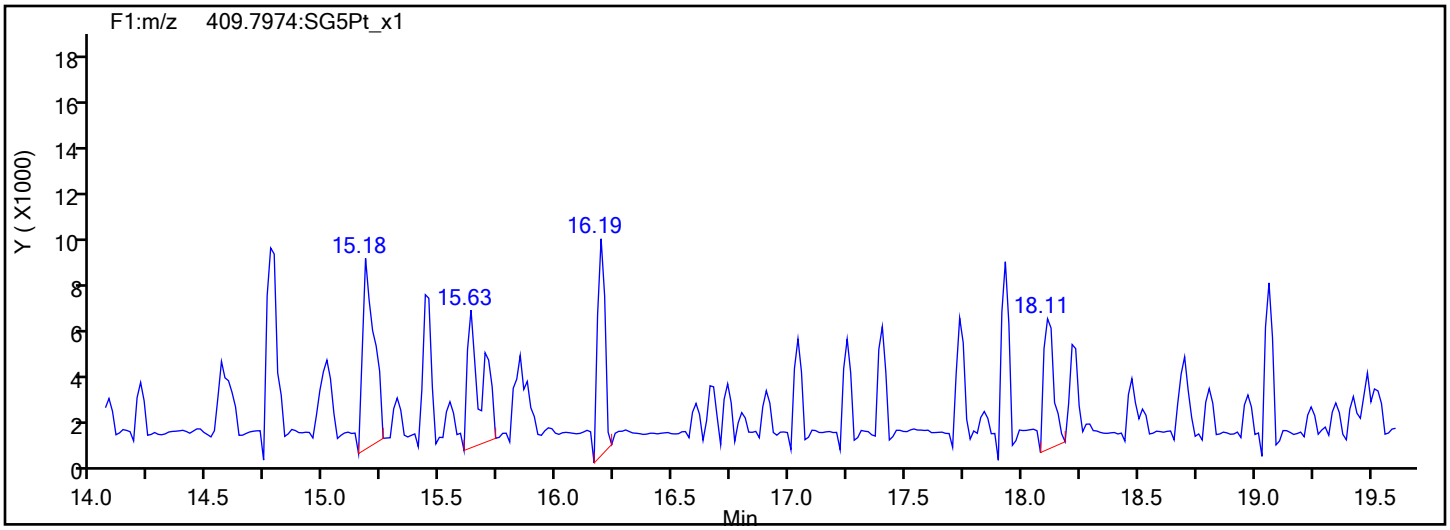

Report Date: 17-Jan-2020 08:52:36 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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PeCDF

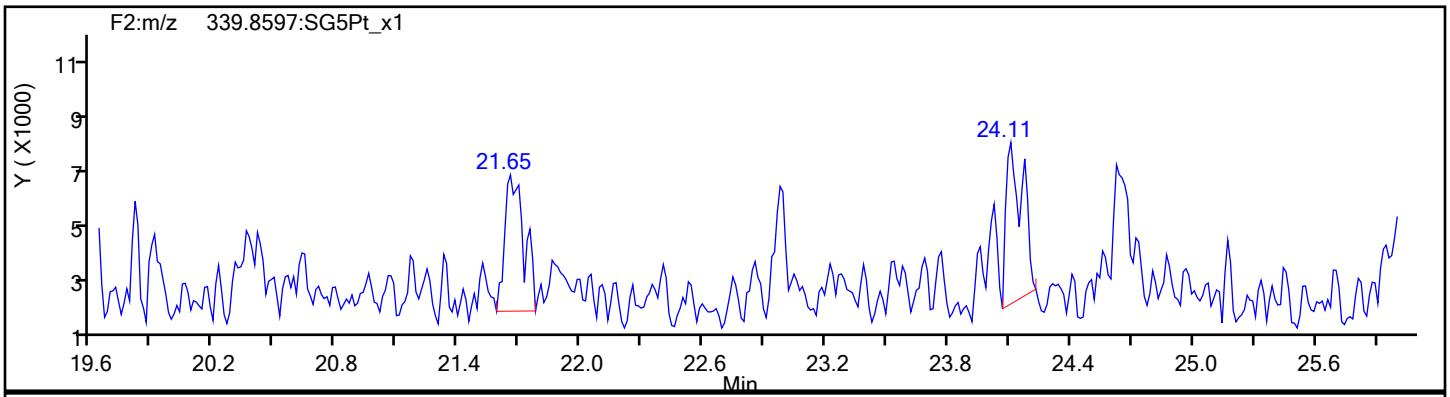

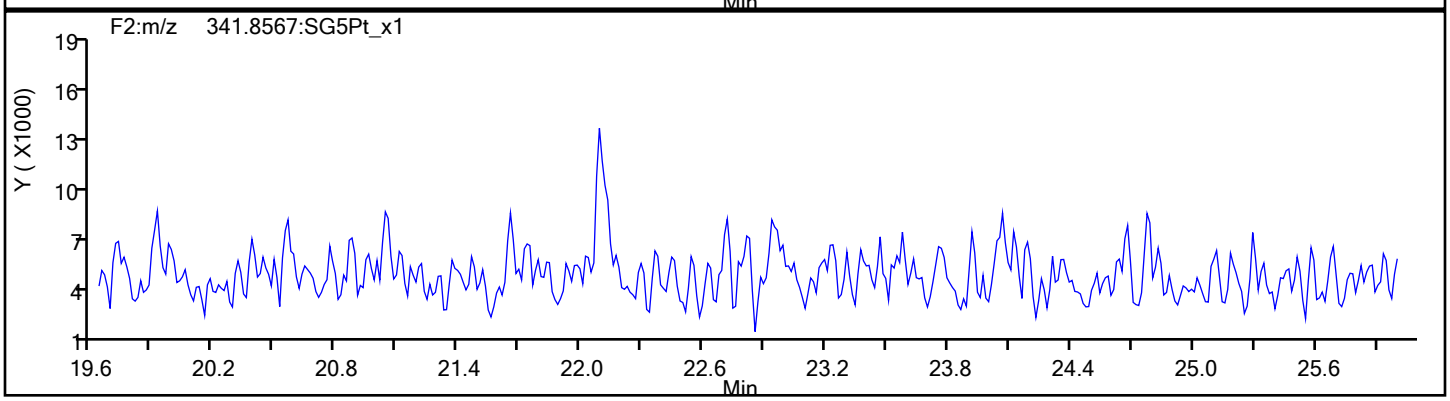

PeCDF Standards

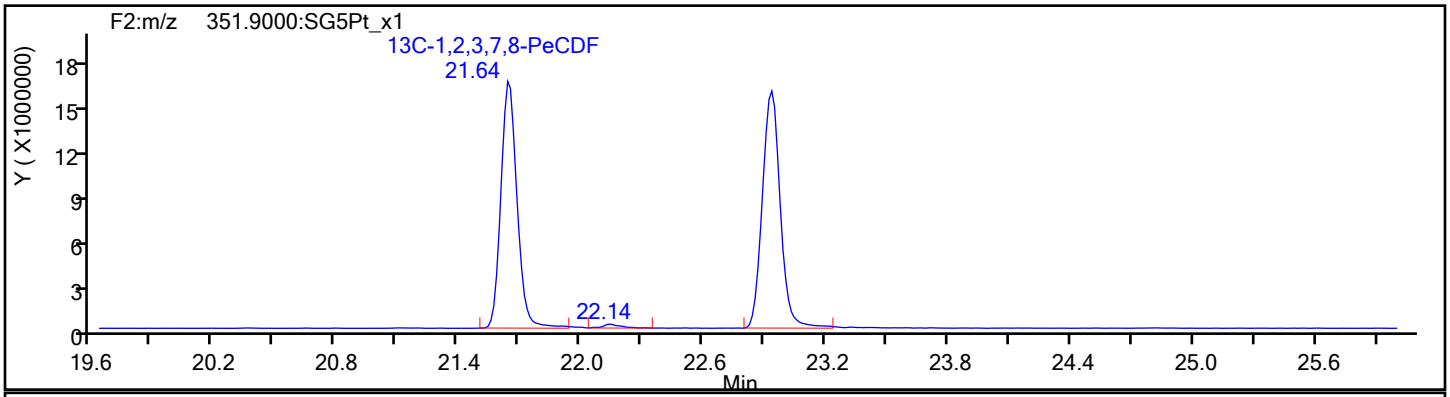

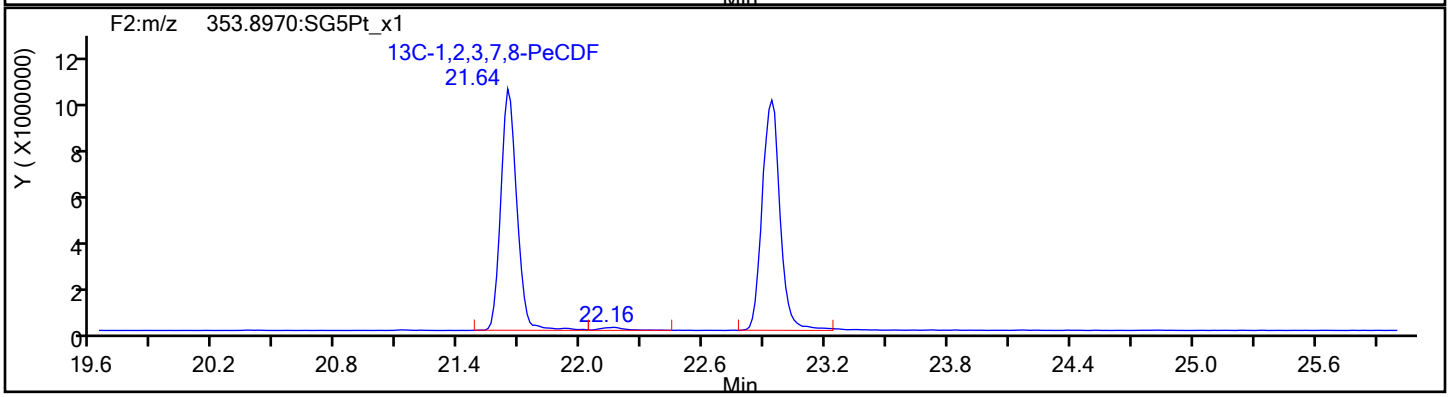

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Eurofins TestAmerica, Sacramento

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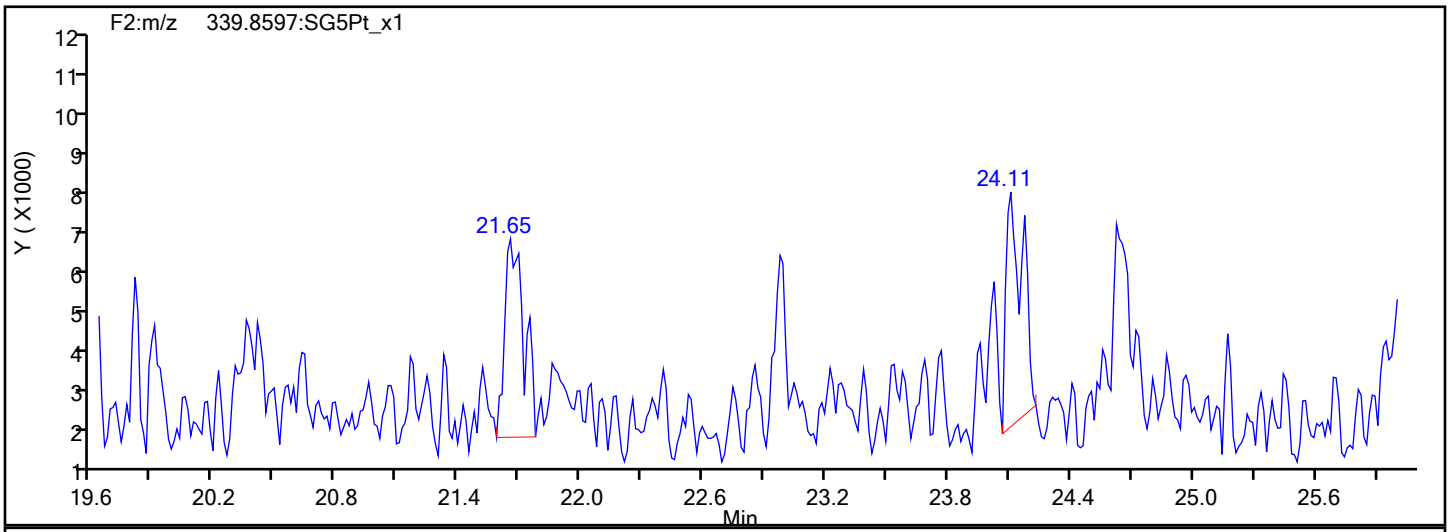

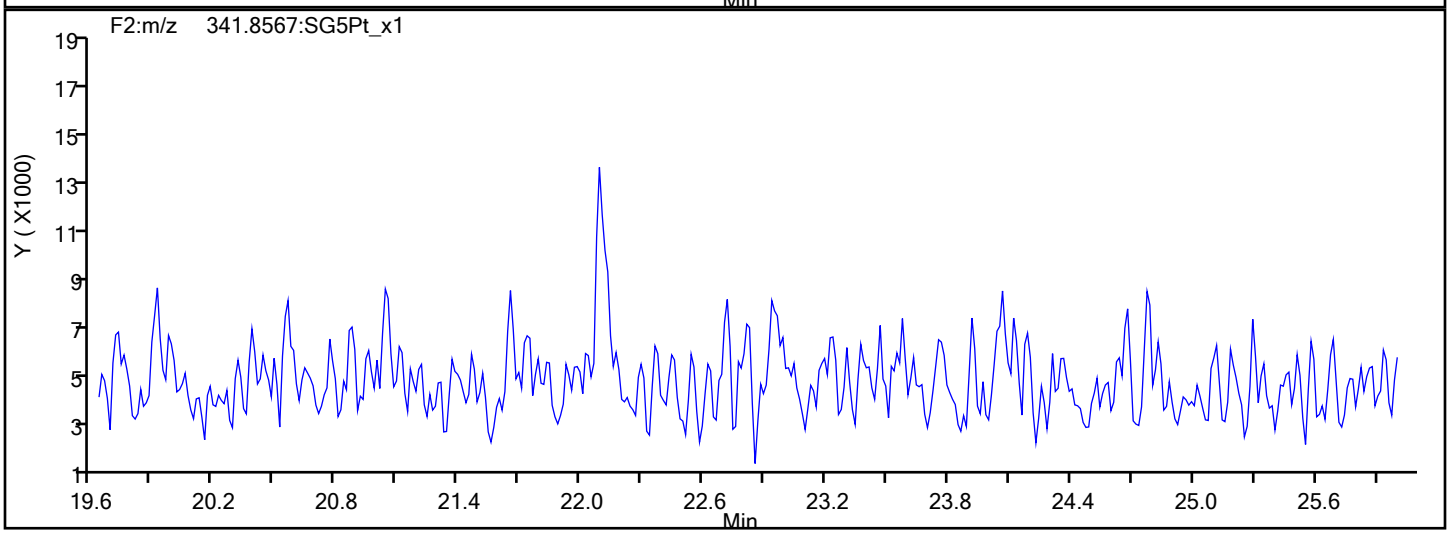

PeCDF Interference Mass

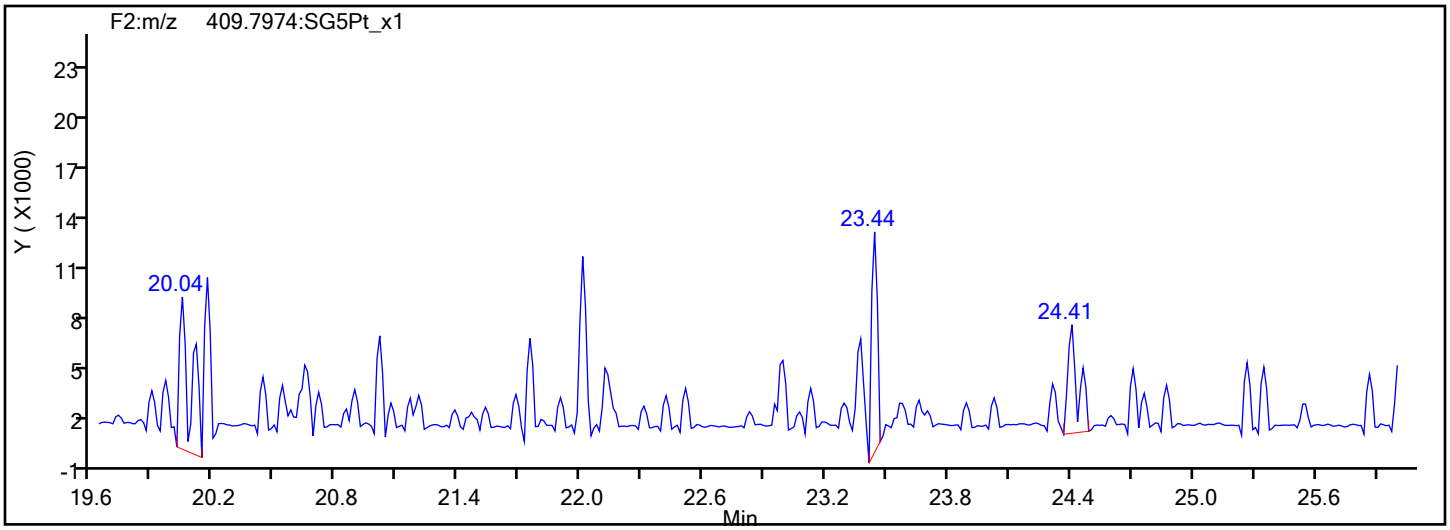

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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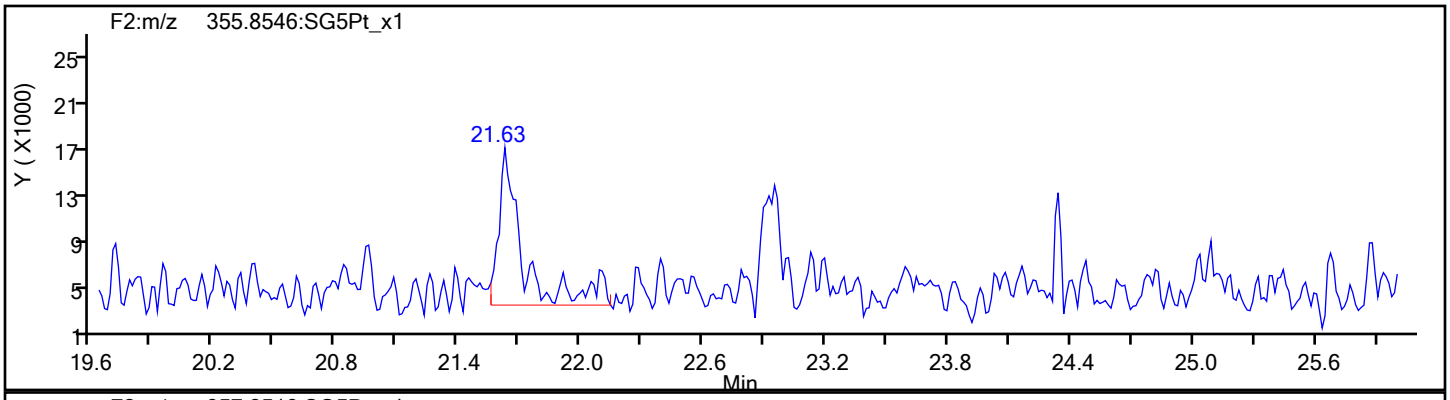

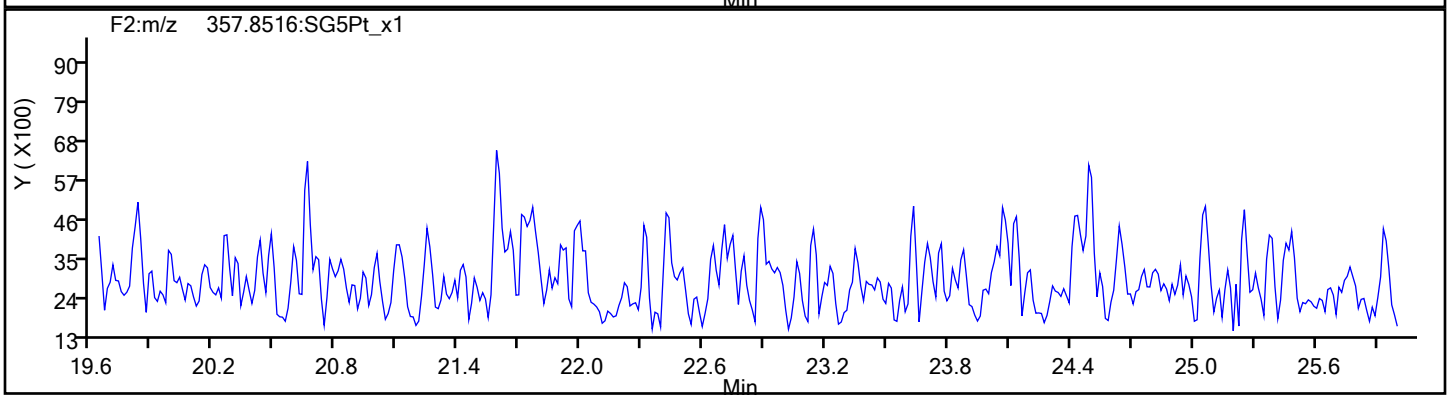

PeCDD Standards

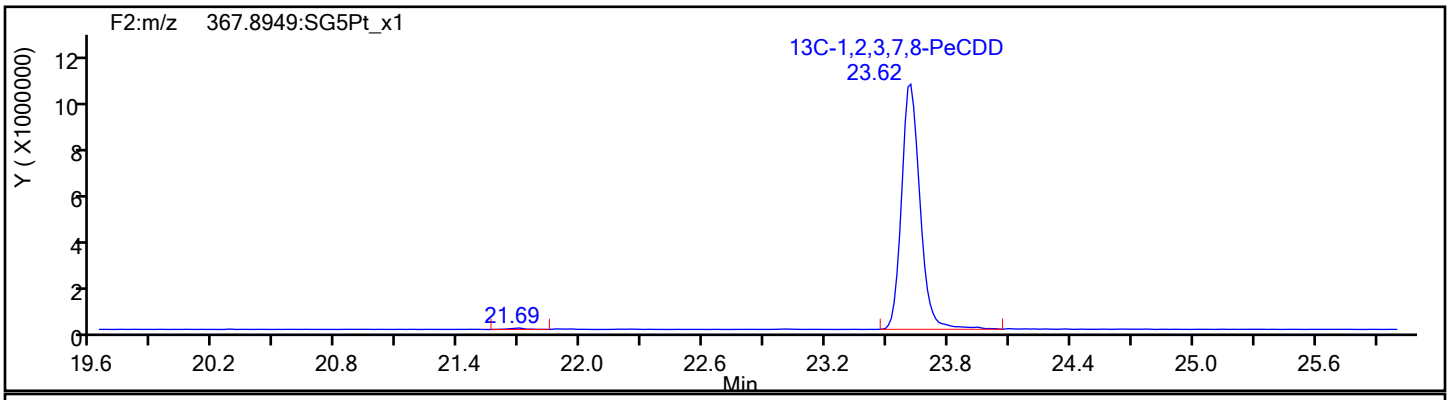

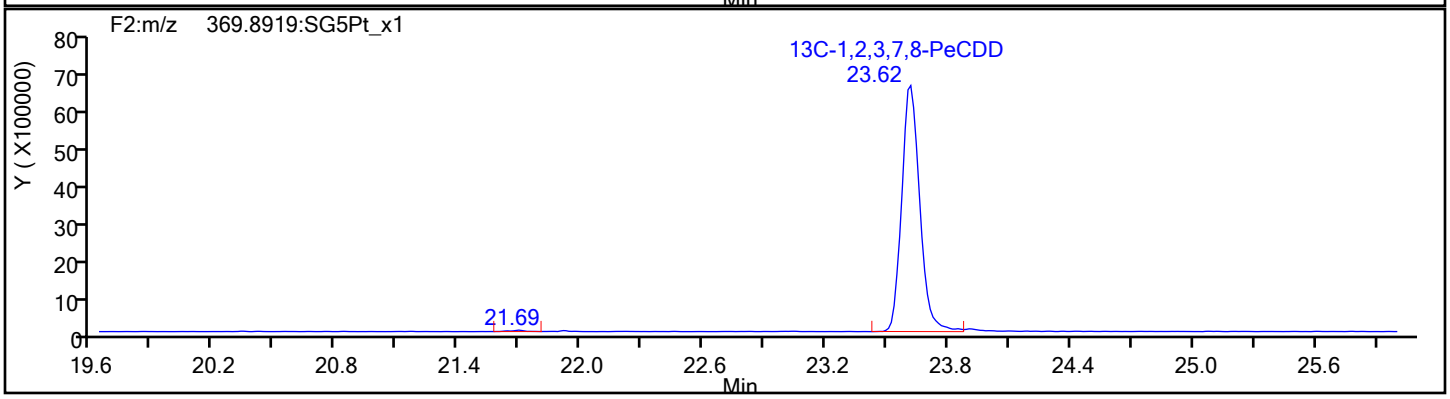

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Eurofins TestAmerica, Sacramento

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HxCDF

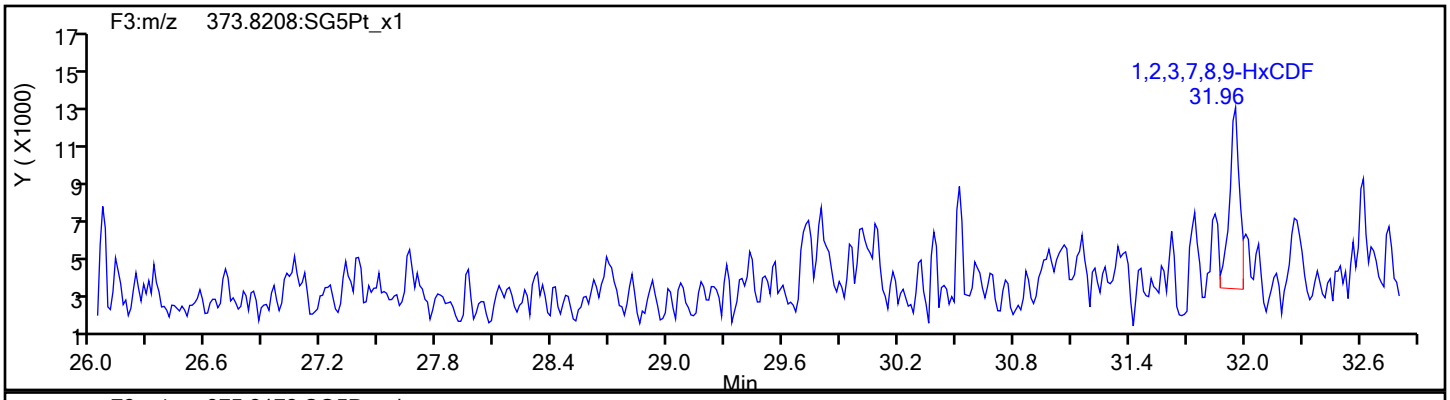

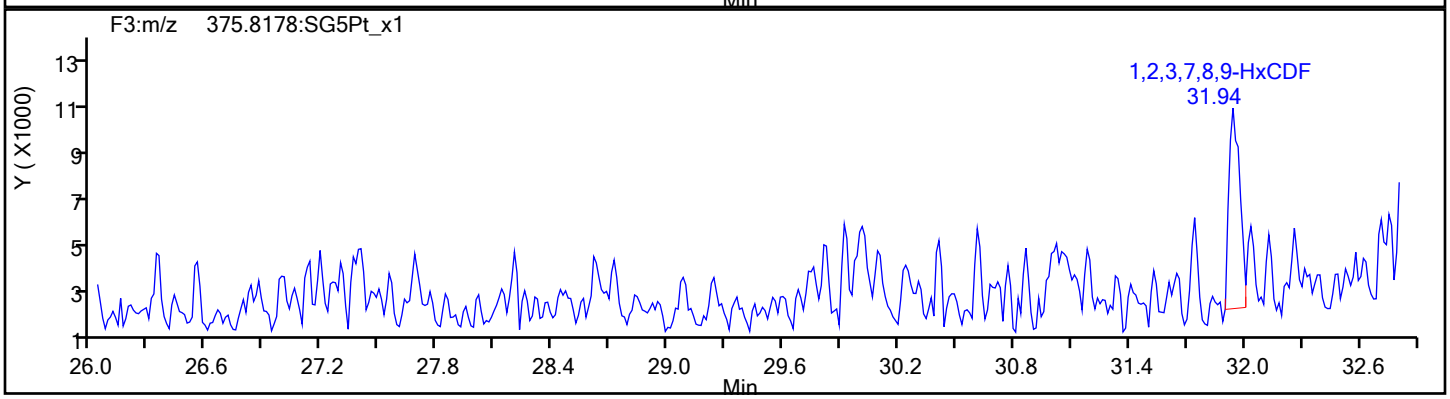

HxCDF Standards

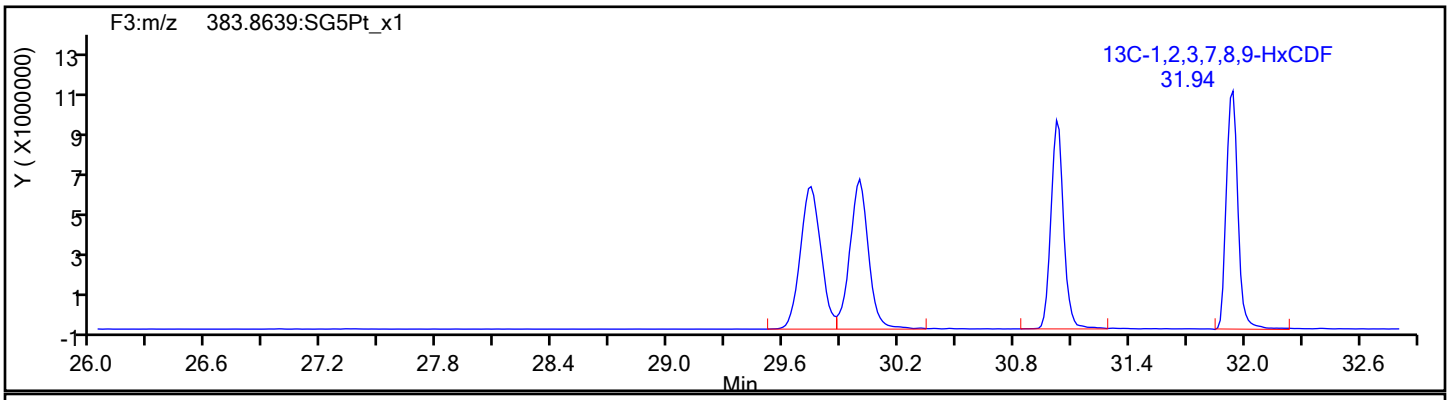

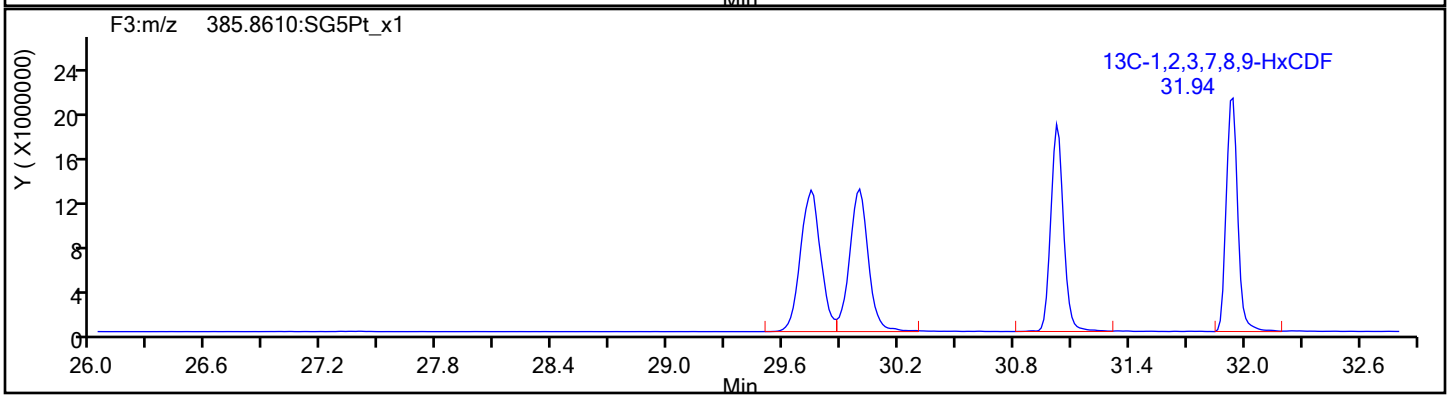

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Eurofins TestAmerica, Sacramento

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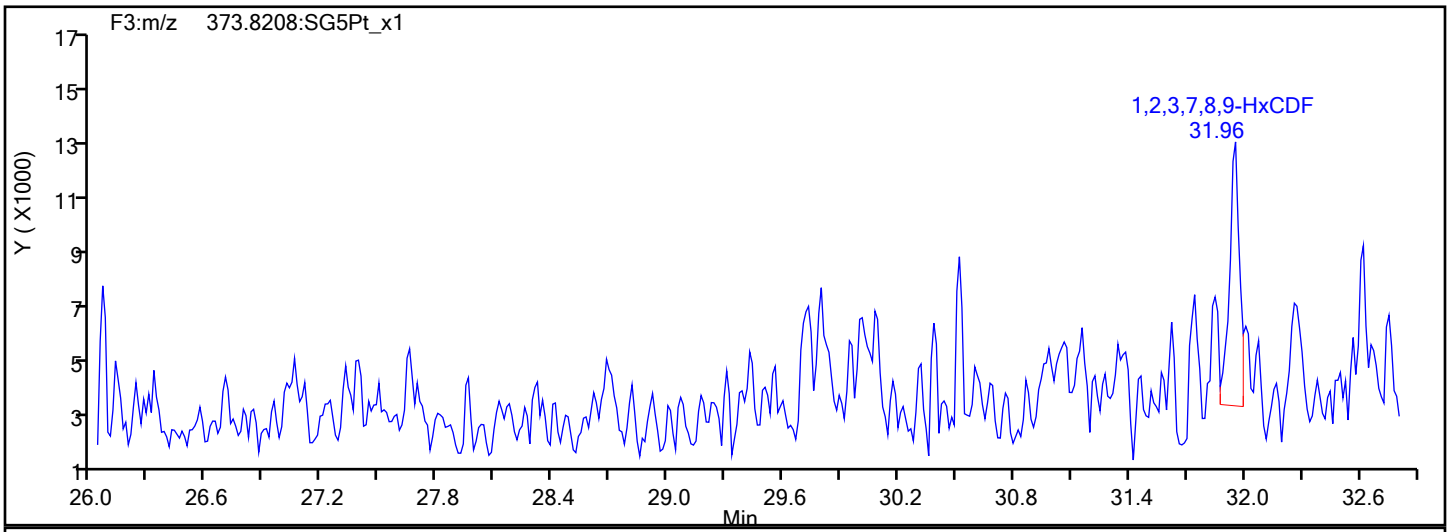

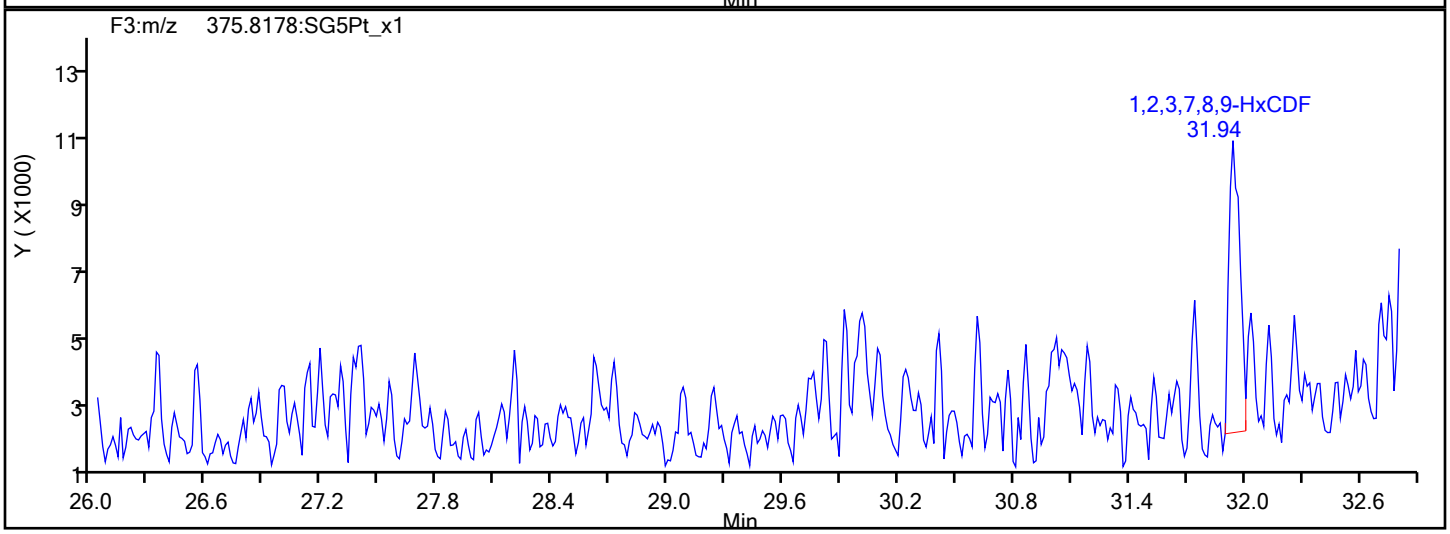

HxCDF Interference Mass

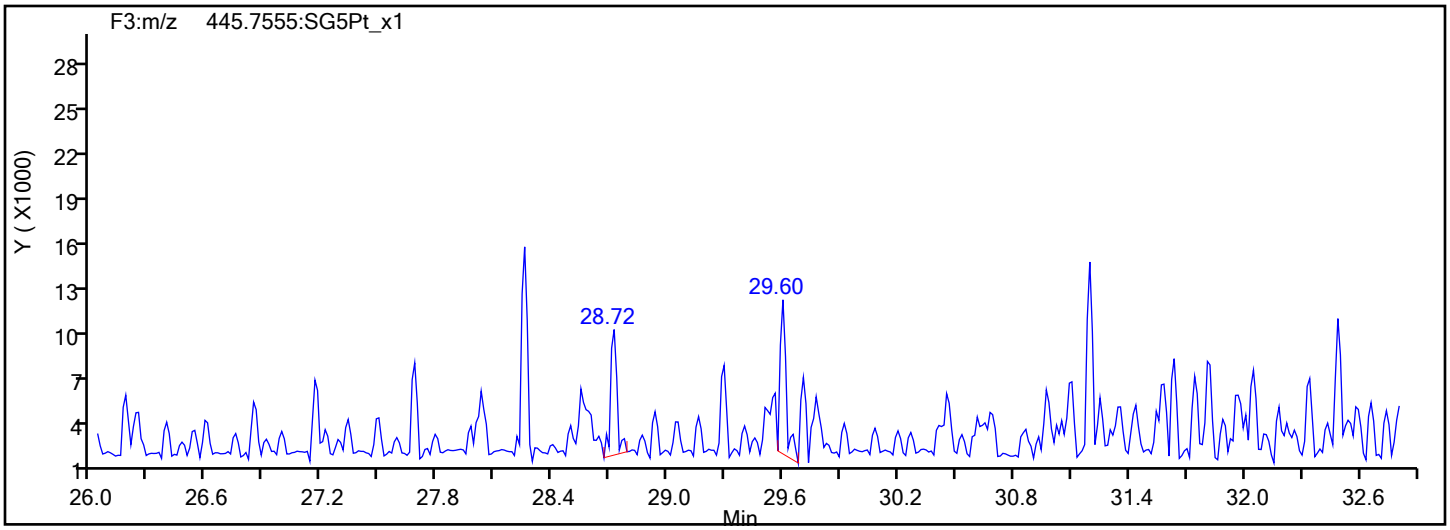

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Eurofins TestAmerica, Sacramento

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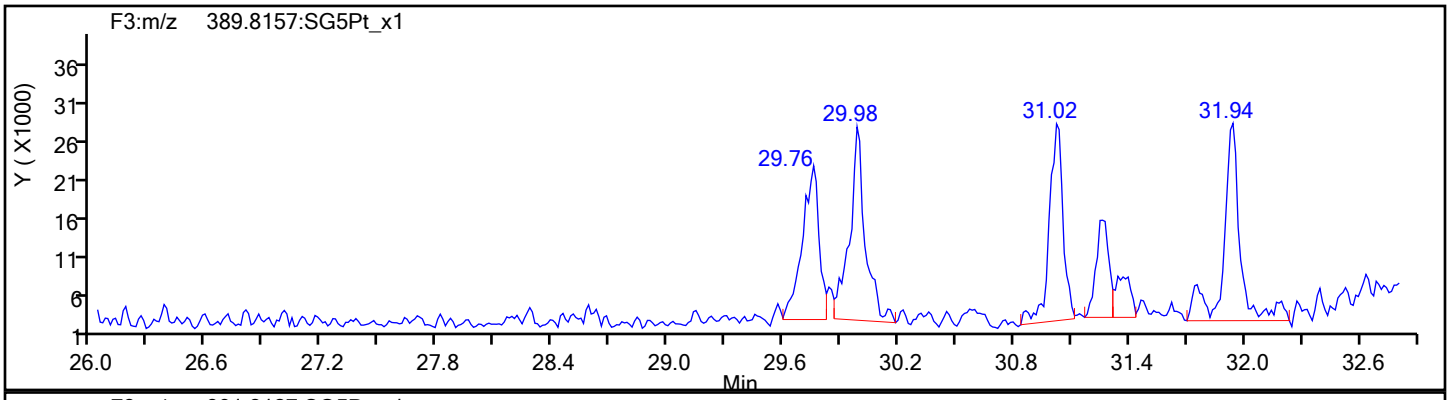

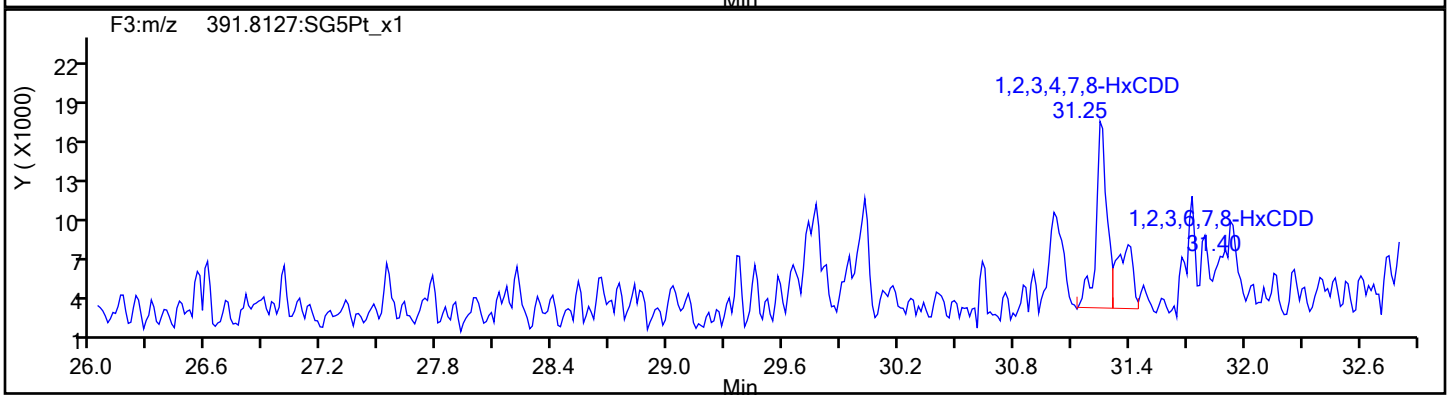

HxCDD Standards

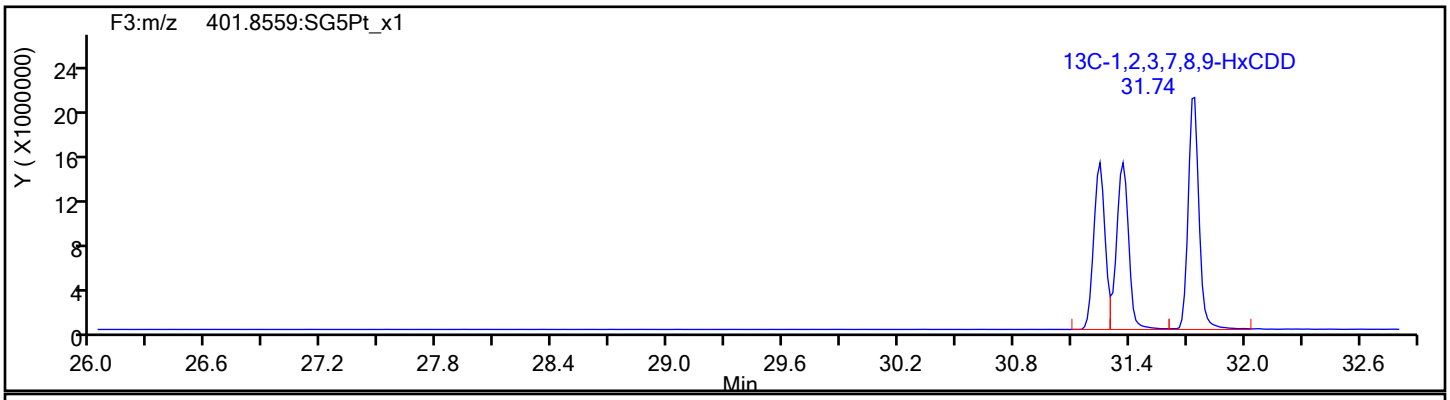

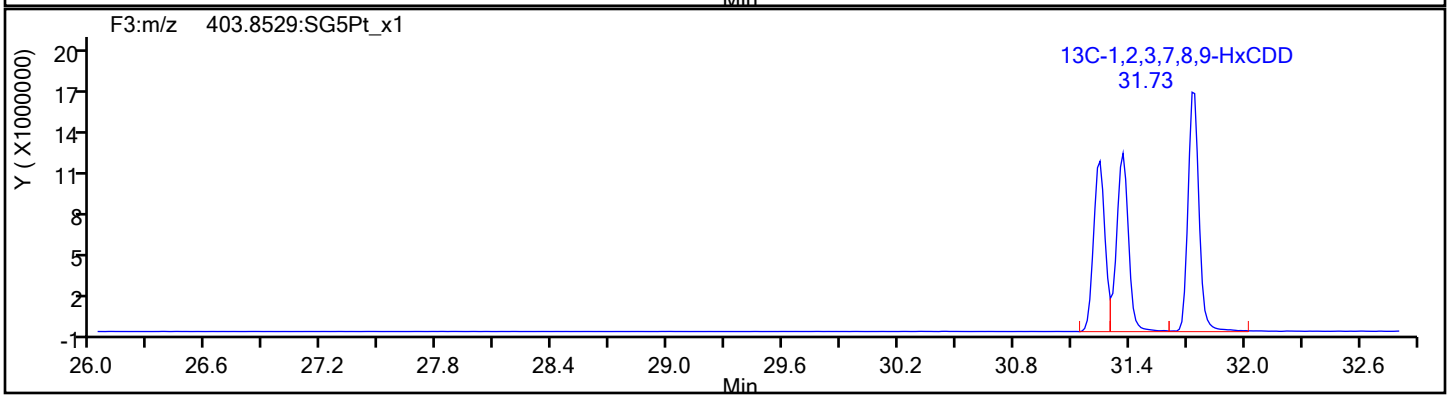

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Eurofins TestAmerica, Sacramento

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HpCDF

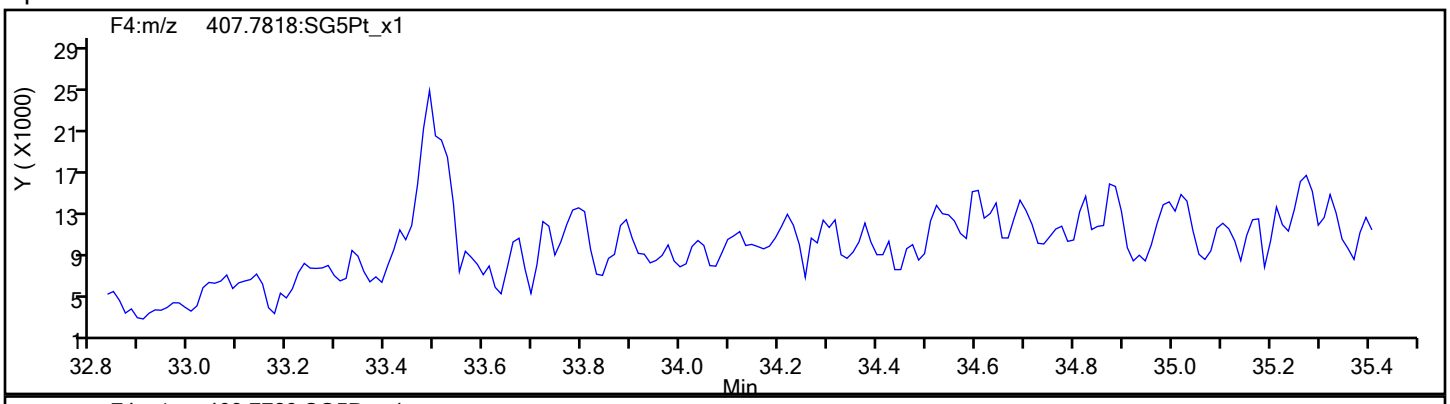

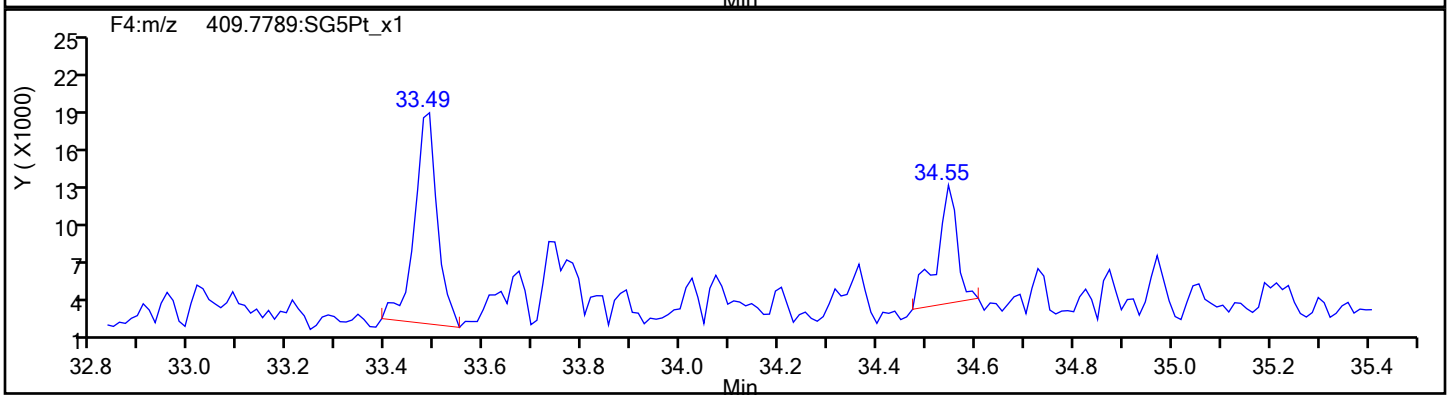

HpCDF Standards

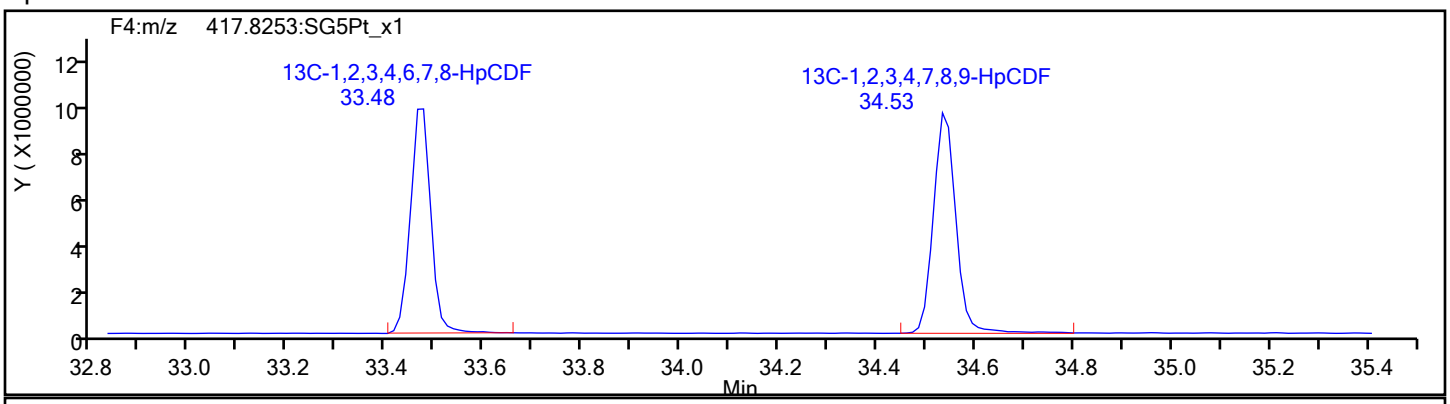

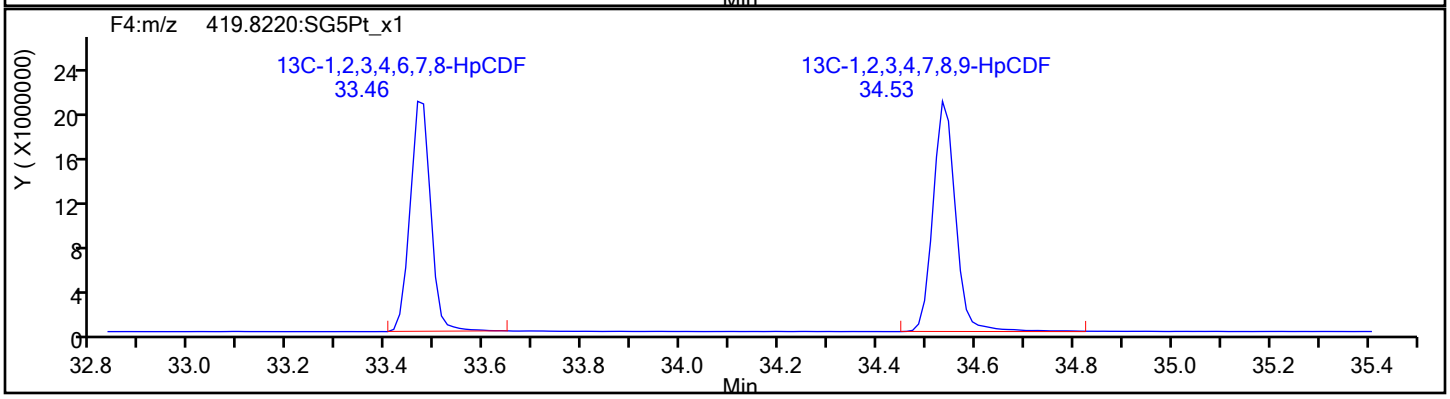

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Eurofins TestAmerica, Sacramento

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HpCDF

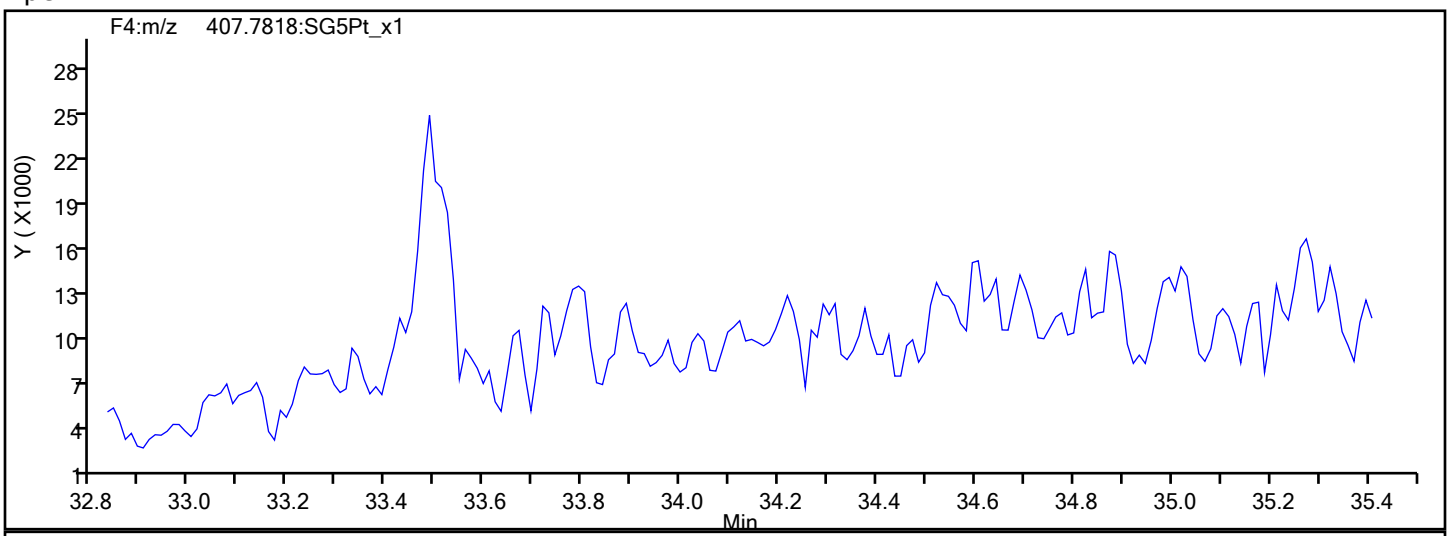

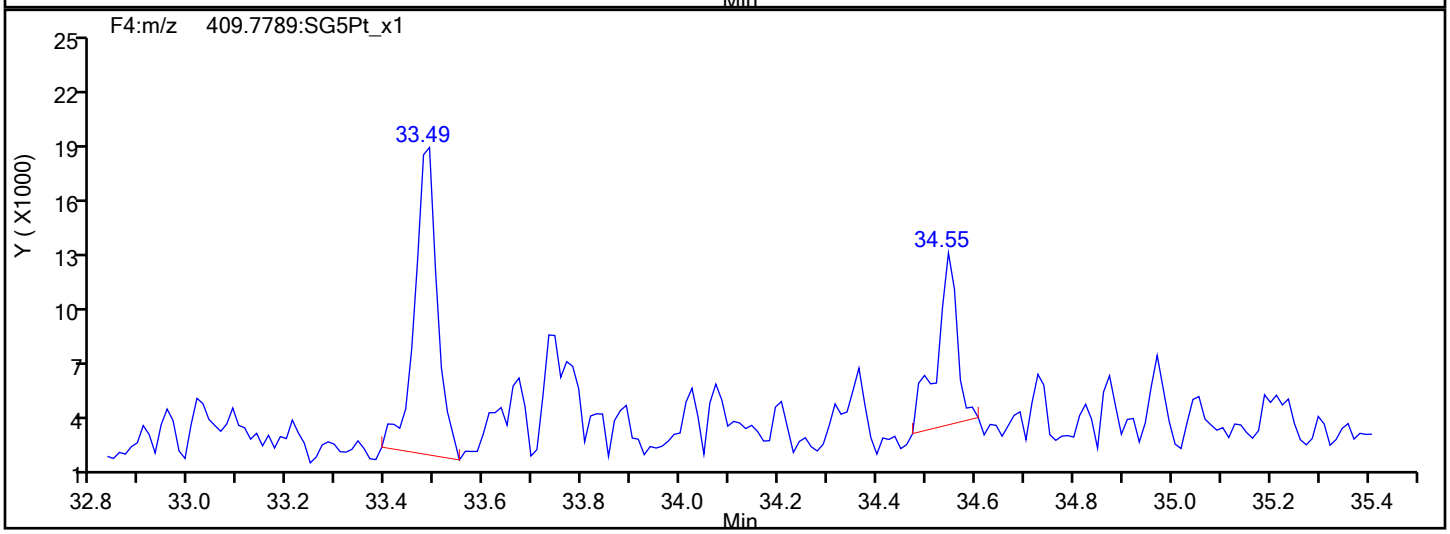

HpCDF Interference Mass

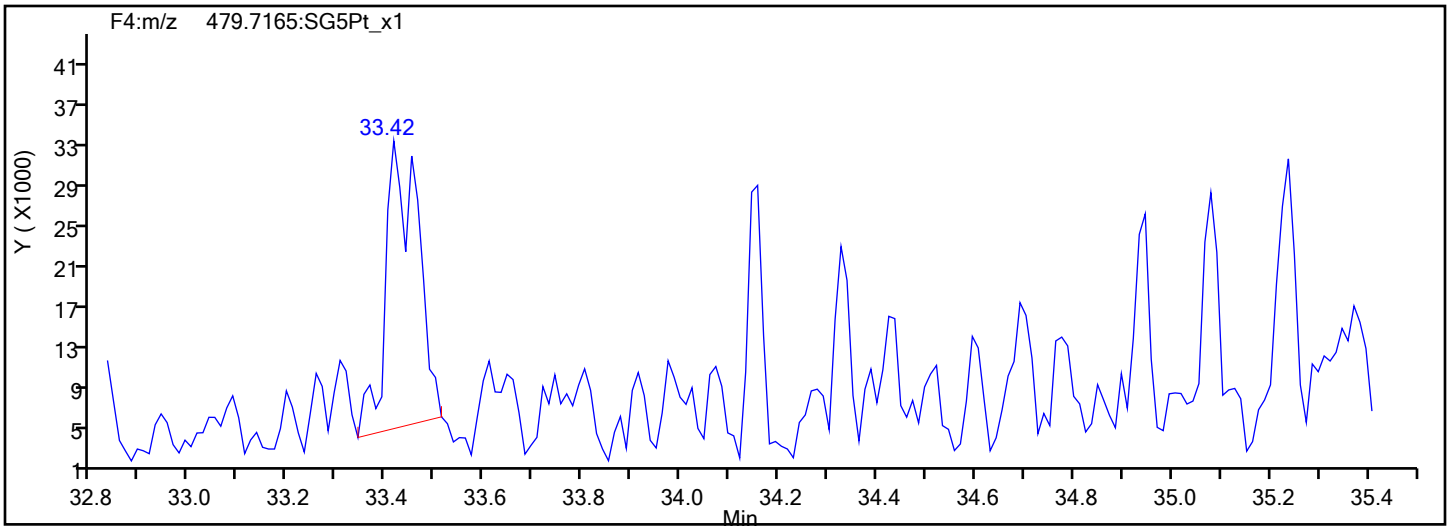

Report Date: 17-Jan-2020 08:52:37 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_12.d		
Injection Date:	16-Jan-2020 04:38:51	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-0.025um		
Worklist#:	351160	Sample Line#:	12
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

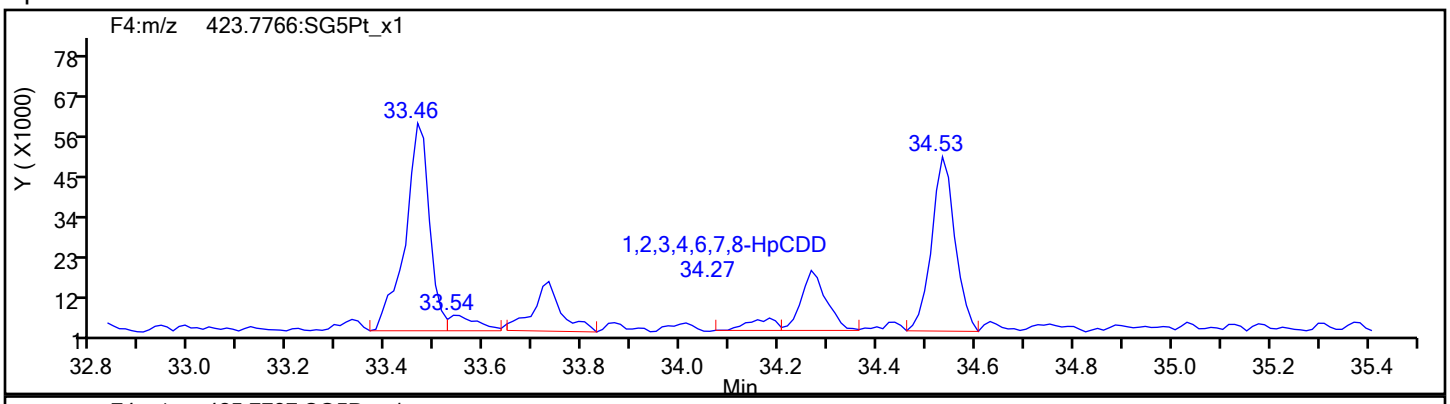

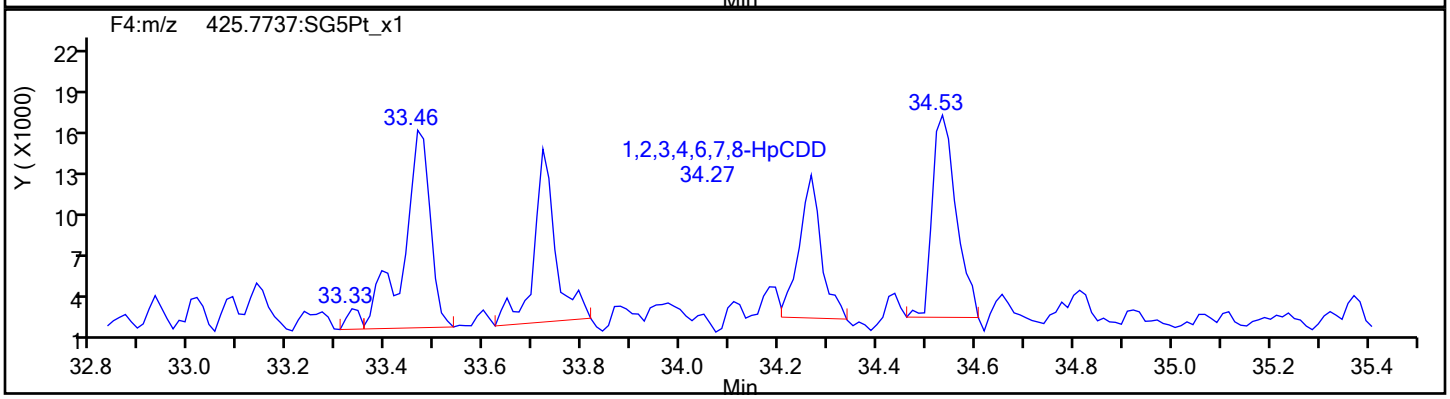

HpCDD Standards

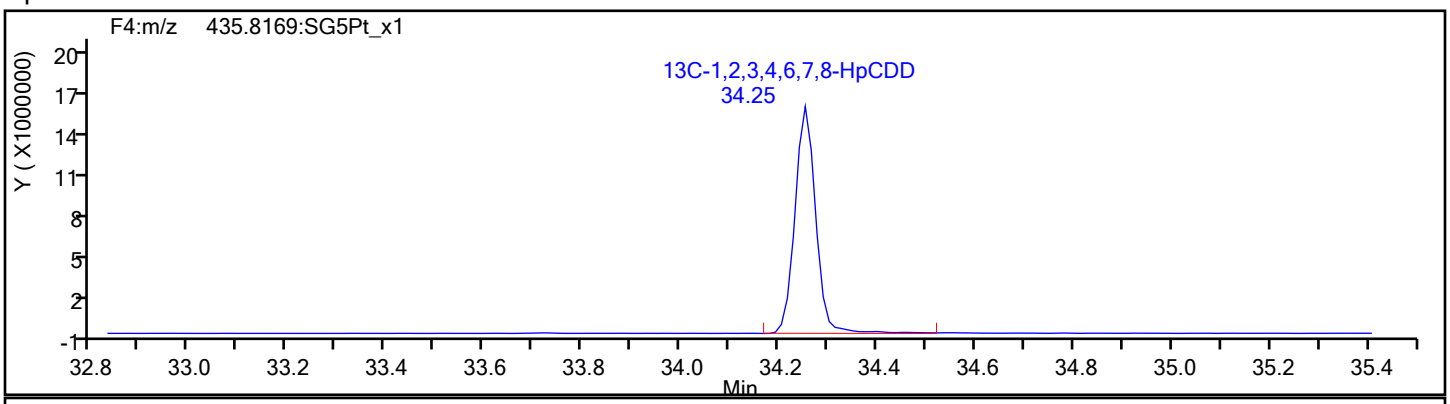

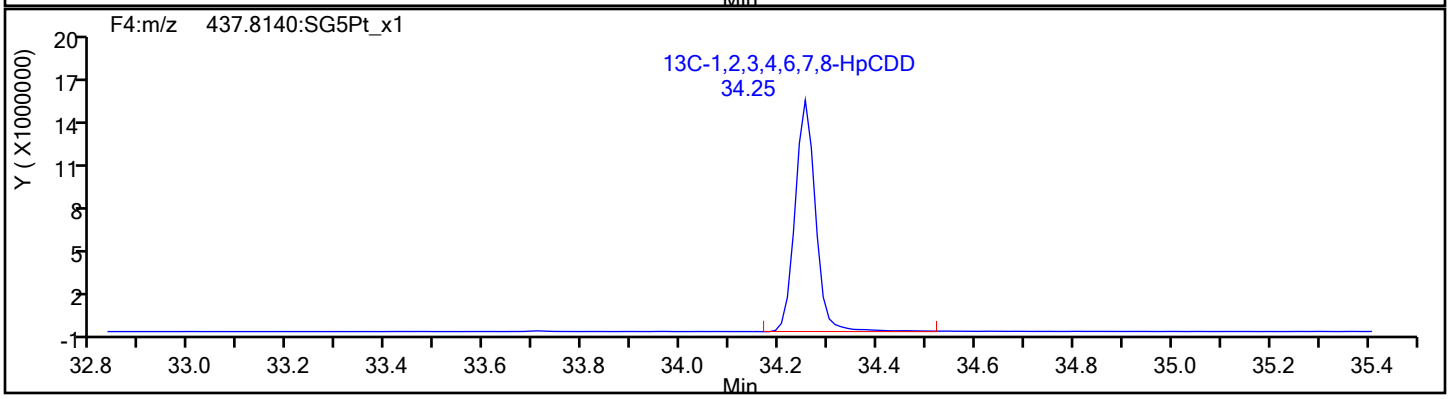

Report Date: 17-Jan-2020 08:52:37 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_12.d		
Injection Date:	16-Jan-2020 04:38:51	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-0.025um		
Worklist#:	351160	Sample Line#:	12
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

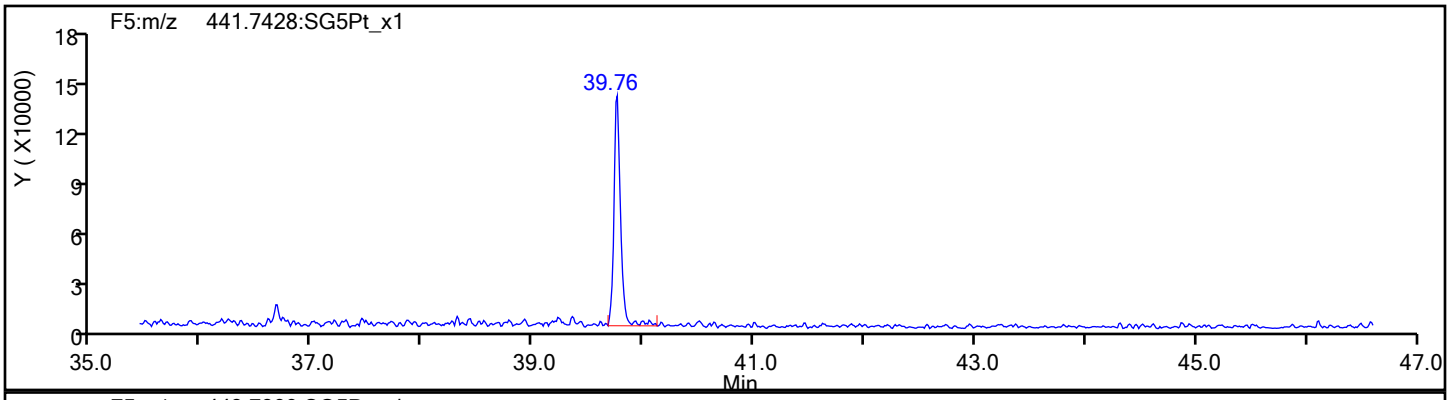

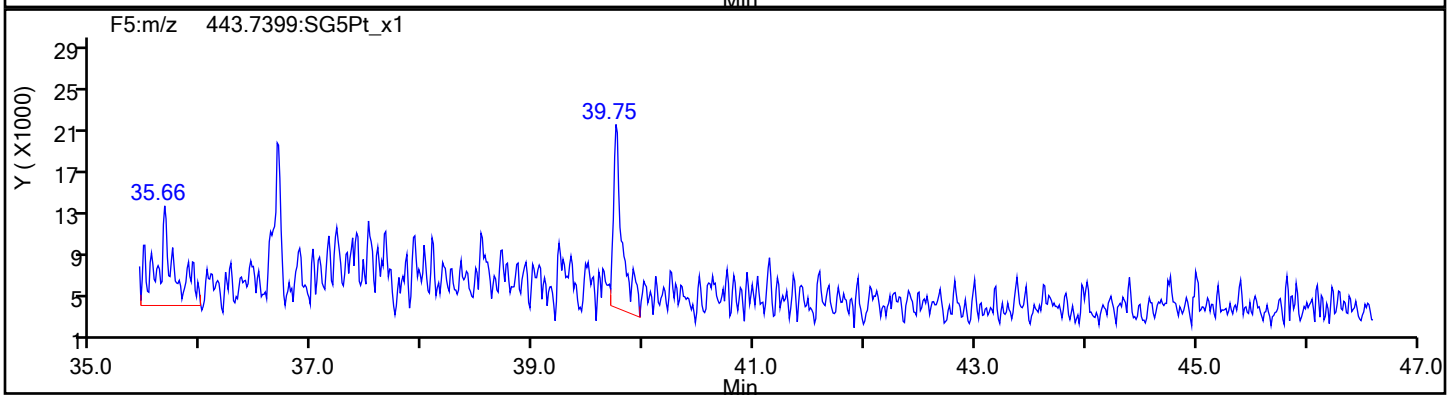

OCDF Standards

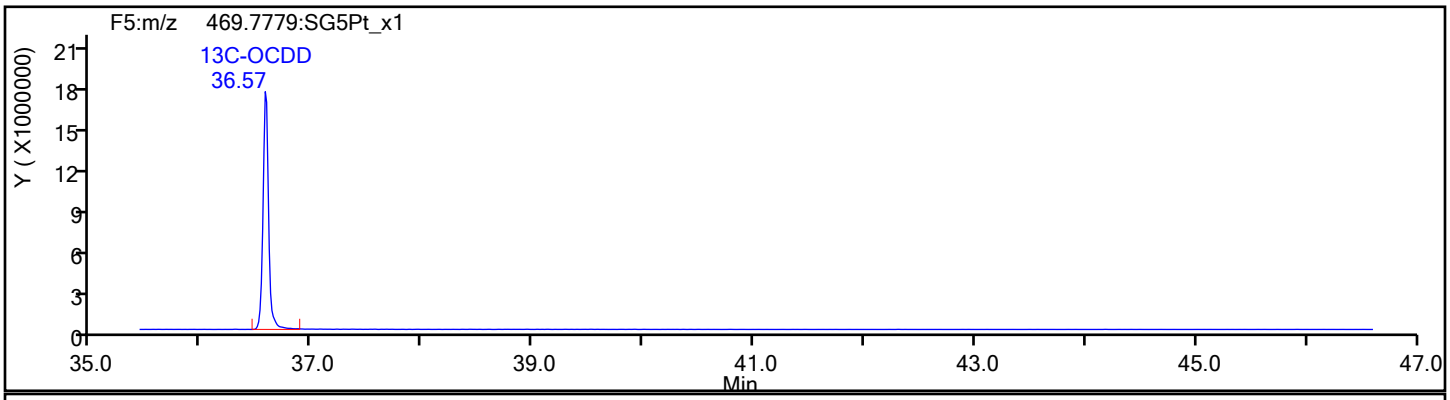

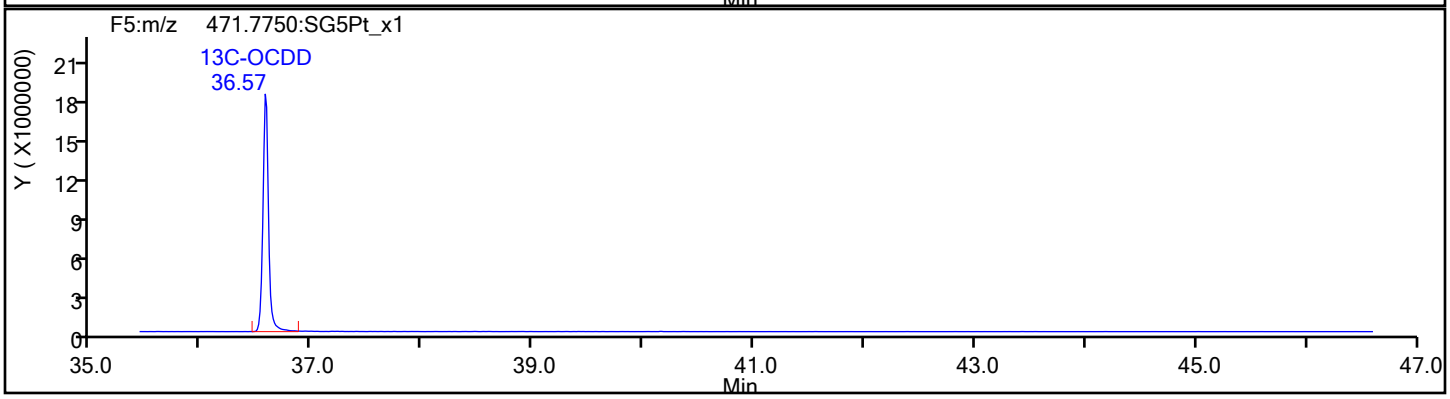

Report Date: 17-Jan-2020 08:52:37 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_12.d		
Injection Date:	16-Jan-2020 04:38:51	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-0.025um		
Worklist#:	351160	Sample Line#:	12
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

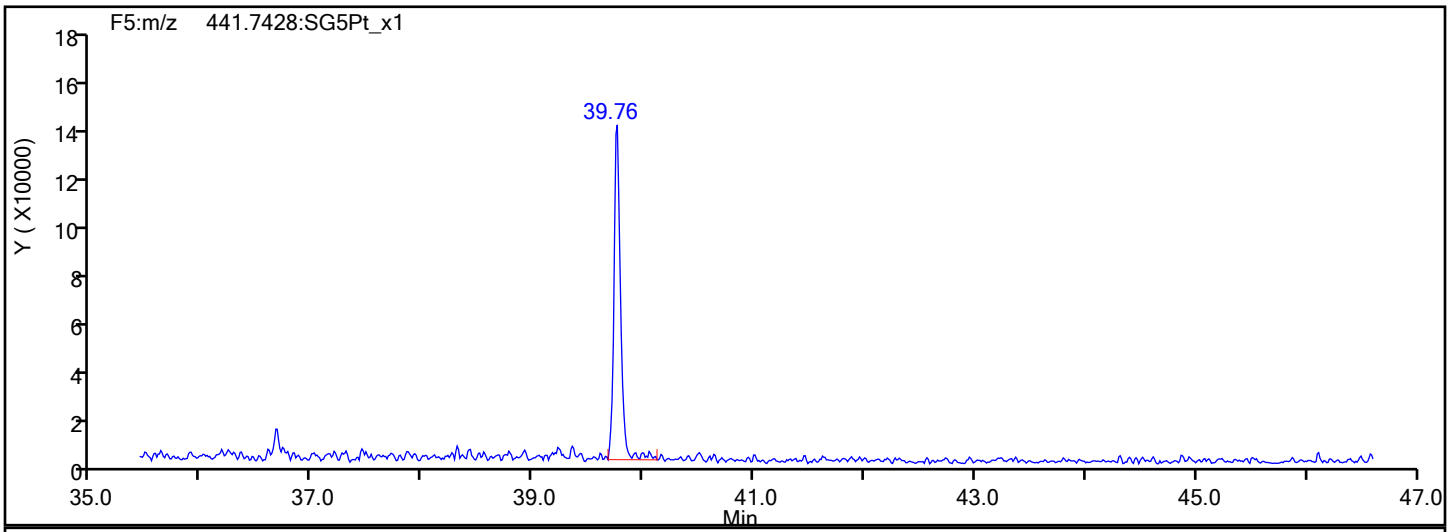

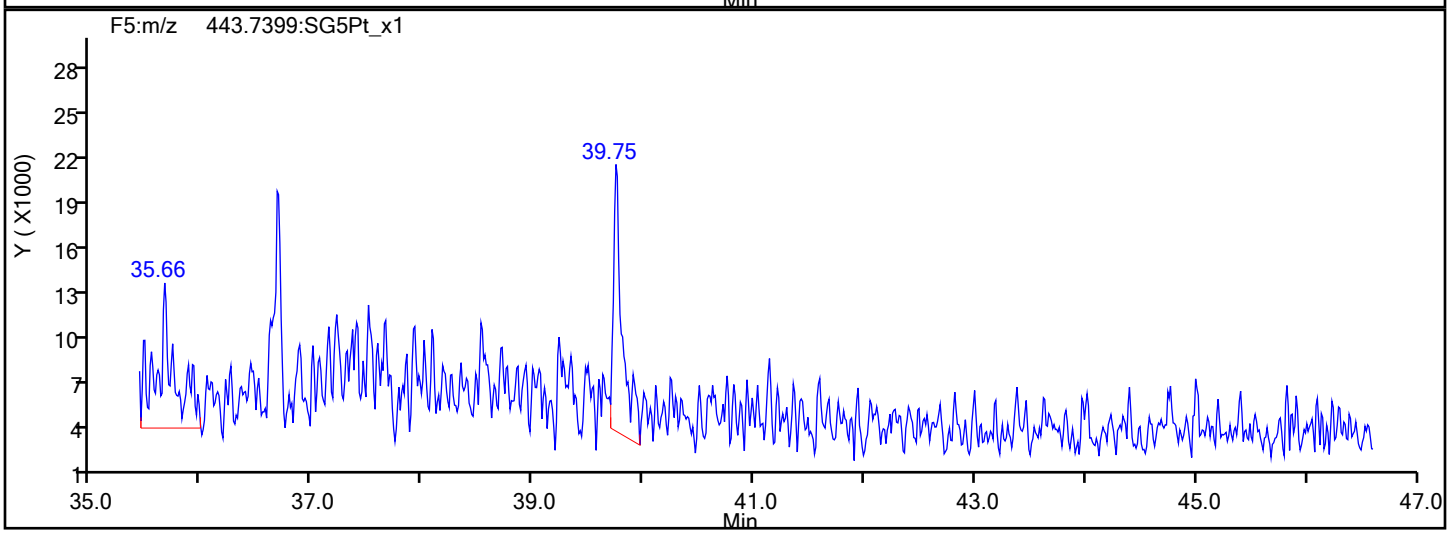

OCDF Interference Mass

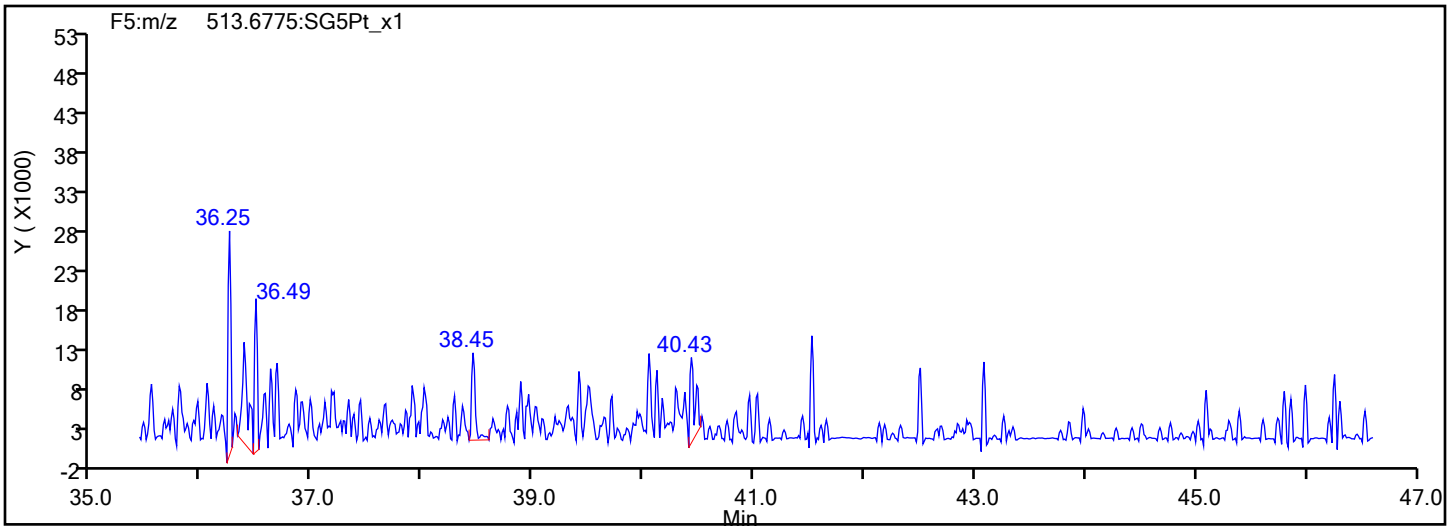

Report Date: 17-Jan-2020 08:52:37 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_12.d		
Injection Date:	16-Jan-2020 04:38:51	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-0.025um		
Worklist#:	351160	Sample Line#:	12
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

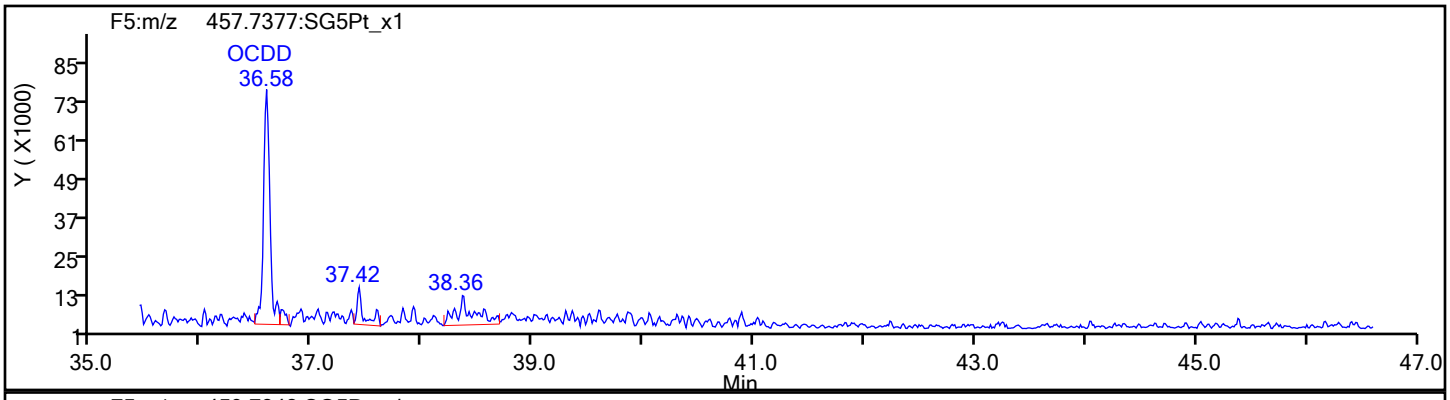

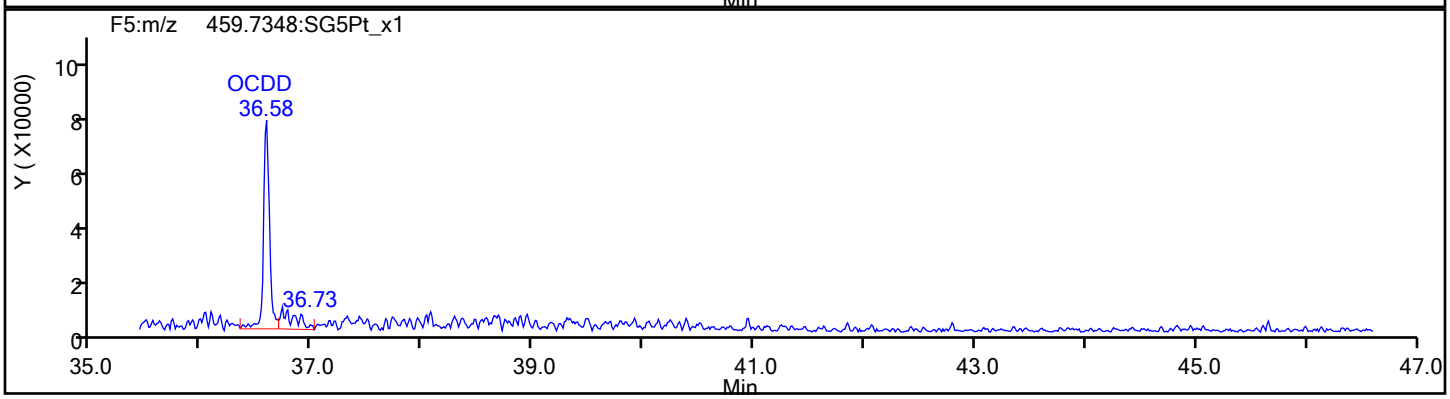

OCDD Standards

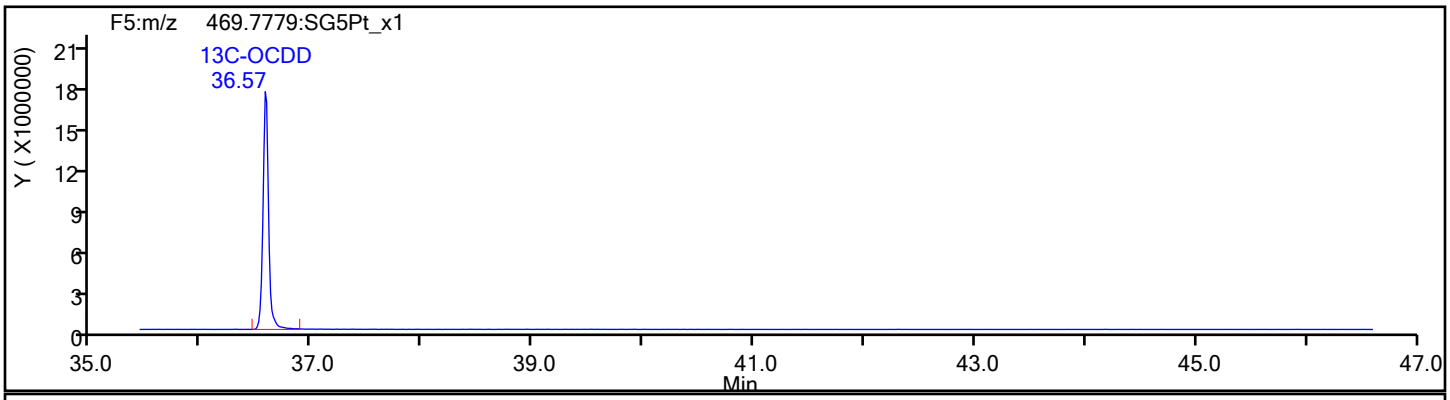

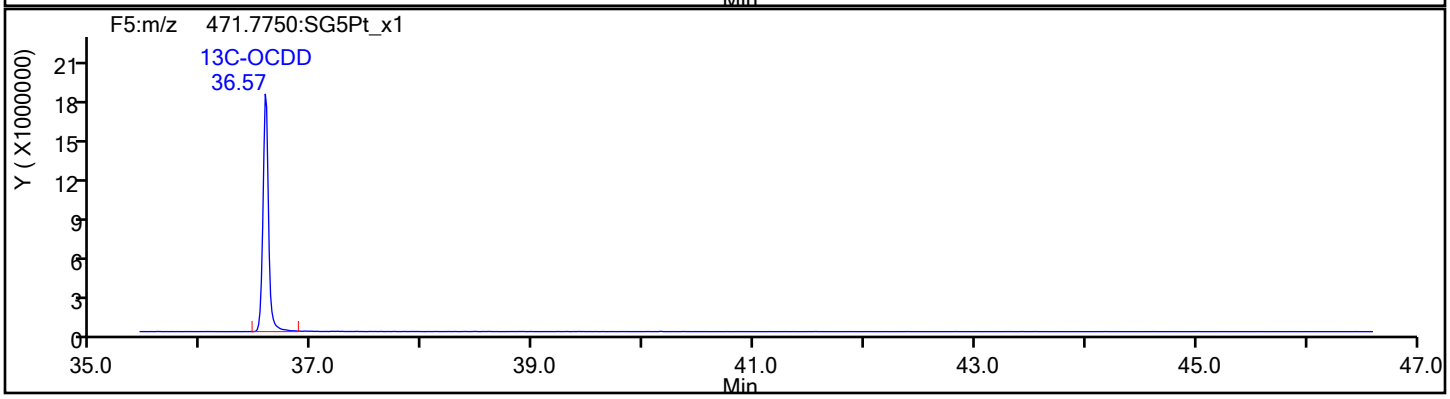

Report Date: 17-Jan-2020 08:52:37 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_12.d		
Injection Date:	16-Jan-2020 04:38:51	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-0.025um		
Worklist#:	351160	Sample Line#:	12
Column Type:	DB-5	Column Dia:	0.32 mm

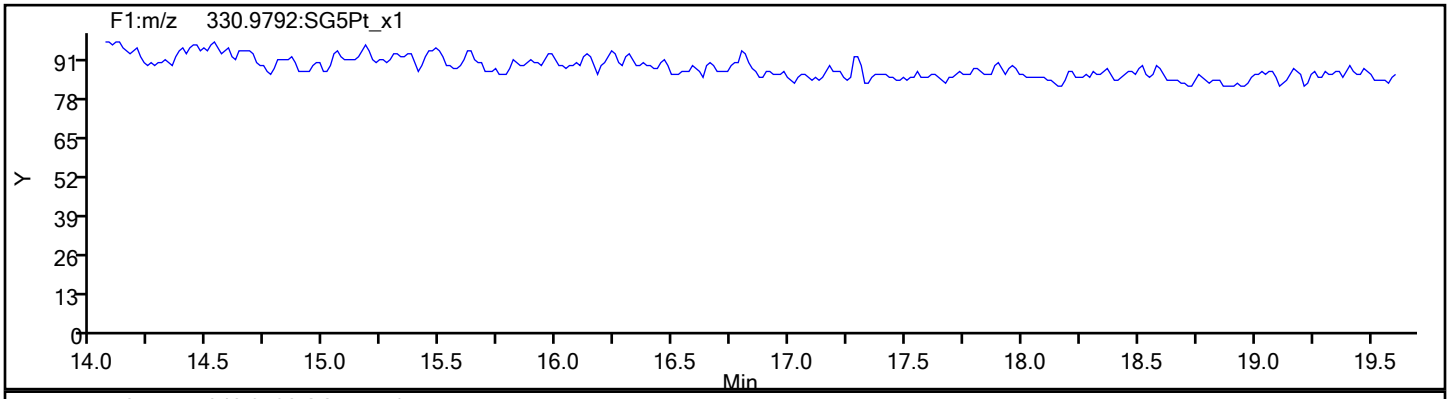

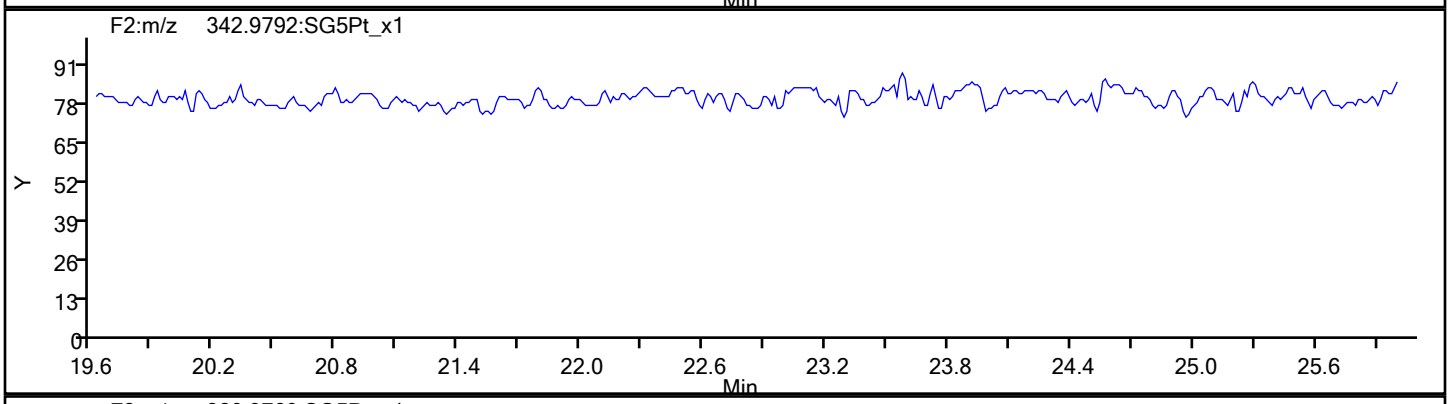

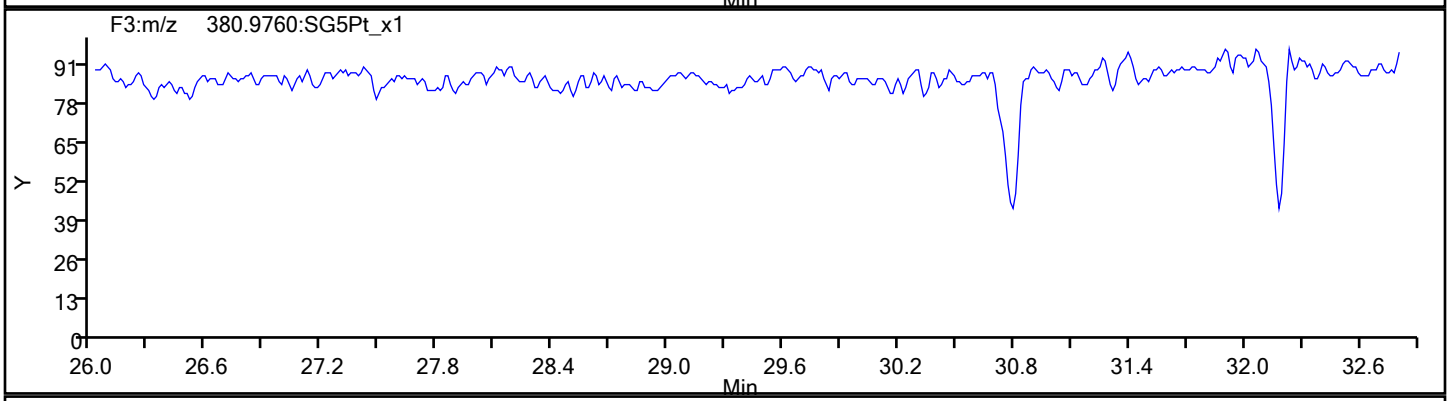

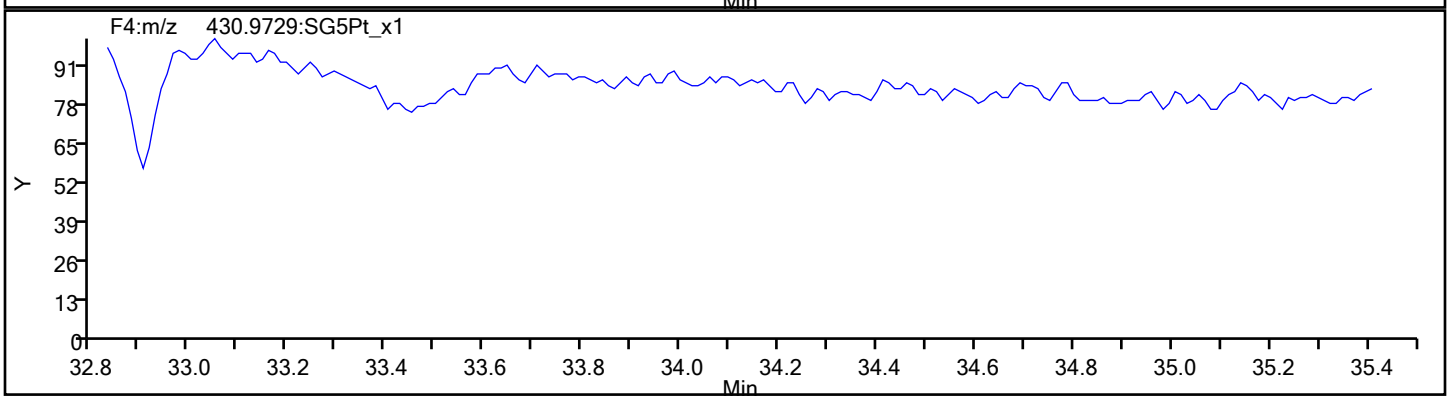

Report Date: 17-Jan-2020 08:52:37 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_12.d		
Injection Date:	16-Jan-2020 04:38:51	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-0.025um		
Worklist#:	351160	Sample Line#:	12
Column Type:	DB-5	Column Dia:	0.32 mm

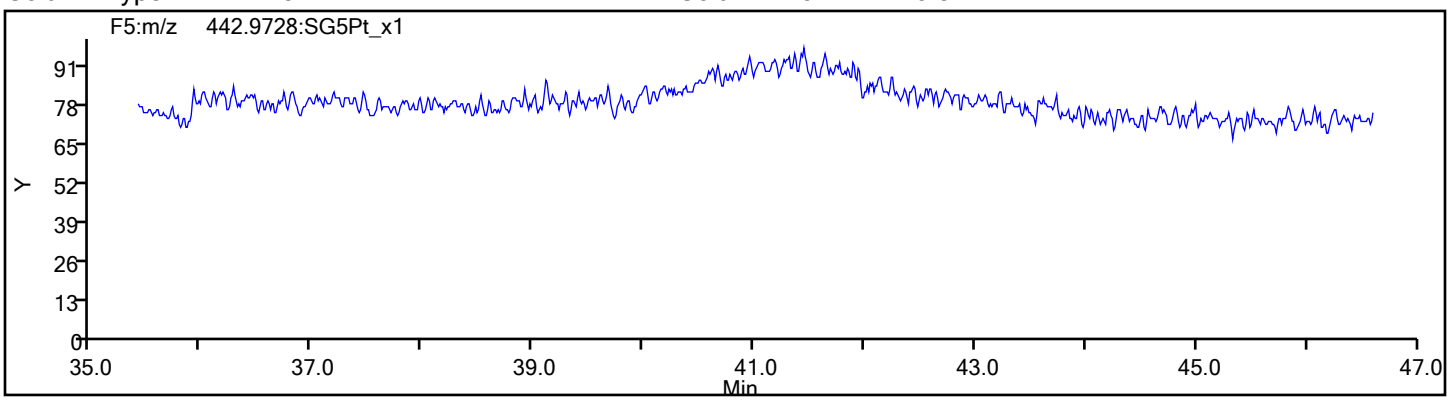

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 320-57717-1
SDG No.:
Client Sample ID: 11187072-FEFF-0.050um
Lab Sample ID: 320-57717-2
Matrix: Water
Lab File ID: 15JA203D5_13.d
Analysis Method: 1613B
Date Collected: 01/13/2020 12:00
Extract. Method: 1613B
Date Extracted: 01/15/2020 07:32
Sample wt/vol: 1055.6(mL)
Date Analyzed: 01/16/2020 05:26
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 351160
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		9.5	0.62
51207-31-9	2,3,7,8-TCDF	ND		9.5	0.34
40321-76-4	1,2,3,7,8-PeCDD	ND		47	1.1
57117-41-6	1,2,3,7,8-PeCDF	ND		47	0.59
57117-31-4	2,3,4,7,8-PeCDF	ND		47	0.62
39227-28-6	1,2,3,4,7,8-HxCDD	1.6	J q	47	0.46
57653-85-7	1,2,3,6,7,8-HxCDD	0.66	J q	47	0.54
19408-74-3	1,2,3,7,8,9-HxCDD	ND		47	0.44
70648-26-9	1,2,3,4,7,8-HxCDF	ND		47	0.65
57117-44-9	1,2,3,6,7,8-HxCDF	ND		47	0.63
72918-21-9	1,2,3,7,8,9-HxCDF	0.96	J B	47	0.36
60851-34-5	2,3,4,6,7,8-HxCDF	ND		47	0.41
35822-46-9	1,2,3,4,6,7,8-HpCDD	0.73	J	47	0.44
67562-39-4	1,2,3,4,6,7,8-HpCDF	ND		47	0.67
55673-89-7	1,2,3,4,7,8,9-HpCDF	ND		47	0.80
3268-87-9	OCDD	3.7	J B q	95	0.62
39001-02-0	OCDF	1.3	J q	95	0.76
41903-57-5	Total TCDD	1.0	J q	9.5	0.62
30402-14-3	Total TCDF	ND		9.5	0.34
36088-22-9	Total PeCDD	ND		47	1.1
30402-15-4	Total PeCDF	ND		47	0.62
34465-46-8	Total HxCDD	5.6	J B q	47	0.48
55684-94-1	Total HxCDF	0.96	J B	47	0.51
37871-00-4	Total HpCDD	1.8	J	47	0.44
38998-75-3	Total HpCDF	ND		47	0.80

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57717-1

SDG No.:

Client Sample ID: 11187072-FEFF-0.050um Lab Sample ID: 320-57717-2

Matrix: Water Lab File ID: 15JA203D5_13.d

Analysis Method: 1613B Date Collected: 01/13/2020 12:00

Extract. Method: 1613B Date Extracted: 01/15/2020 07:32

Sample wt/vol: 1055.6(mL) Date Analyzed: 01/16/2020 05:26

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 351160 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	84		25-164
89059-46-1	13C-2,3,7,8-TCDF	84		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	78		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	79		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	84		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	89		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	77		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	79		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	72		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	81		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	76		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	81		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	73		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	89		26-138
114423-97-1	13C-OCDD	88		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	102		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_13.d
Lims ID: 320-57717-A-2-A
Client ID: 11187072-FEFF-0.050um
Sample Type: Client
Inject. Date: 16-Jan-2020 05:26:23 ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-57717-A-2-A 320-57717-A-2-A
Misc. Info.: 15JA203D5
Operator ID: ALM Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20200116-89625.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 17-Jan-2020 08:53:29 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0324

First Level Reviewer: shardaa Date: 16-Jan-2020 11:42:23

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.355	187326523	0.80	2.2E+06	100.0	100.0				a
D 13C-2,3,7,8-TCDF	16.856	222316634	0.77	1.4157	83.8	83.8	0.1786	0.1786	83.83	
2,3,7,8-TCDF	16.856						0.0180	0.0180		
A Non-2,3,7,8-sub-TCDF	16.531						0.0180	0.0180		
S Total TCDF							0.0180	0.0180		
D 13C-2,3,7,8-TCDD	17.536	154275613	0.81	0.9751	84.5	84.5	0.1975	0.1975	84.46	
2,3,7,8-TCDD	17.521						0.0327	0.0327		
$ 37Cl4-2,3,7,8-TCDD	17.551	103130727		1.3480	40.8	40.8	0.0805	0.0805	102	
A Non-2,3,7,8-sub-TCDD	16.969	85970	0.77	1.0477	0.1599	0.0532	0.0327	0.0532		RQM
S Total TCDD					0.1599	0.0532	0.0327	0.0327		RQ
D 13C-1,2,3,7,8-PeCDF	21.667	173798478	1.60	1.1786	78.7	78.7	0.1926	0.1926	78.72	
1,2,3,7,8-PeCDF	21.653						0.0311	0.0311		
D 13C-2,3,4,7,8-PeCDF	22.949	178929470	1.58	1.1308	84.5	84.5	0.2007	0.2007	84.47	
2,3,4,7,8-PeCDF	22.935						0.0325	0.0325		
A F1 PeCDFs	19.207						0.0290	0.0290		
A Non-2,3,7,8-sub-PeCDF	22.200						0.0318	0.0318		
S Total PeCDF							0.0325	0.0325		
D 13C-1,2,3,7,8-PeCDD	23.644	111182708	1.59	0.7572	78.4	78.4	0.1124	0.1124	78.38	
1,2,3,7,8-PeCDD	23.617						0.0560	0.0560		
A Non-2,3,7,8-sub-PeCDD	22.533						0.0560	0.0560		
S Total PeCDD							0.0560	0.0560		
D 13C-1,2,3,4,7,8-HxCDF	29.771	161631467	0.53	1.1043	78.7	78.7	0.1702	0.1702	78.71	
1,2,3,4,7,8-HxCDF	29.732						0.0342	0.0342		
D 13C-1,2,3,6,7,8-HxCDF	30.011	154555609	0.51	1.1470	72.5	72.5	0.1639	0.1639	72.46	
1,2,3,6,7,8-HxCDF	29.998						0.0332	0.0332		
D 13C-2,3,4,6,7,8-HxCDF	31.050	151891774	0.52	1.0769	75.9	75.9	0.1745	0.1745	75.85	
2,3,4,6,7,8-HxCDF	31.037						0.0219	0.0219		
D 13C-1,2,3,7,8,9-HxCDF	31.955	151560662	0.52	1.0115	80.6	80.6	0.1858	0.1858	80.58	
1,2,3,7,8,9-HxCDF	31.982	90024	1.27	1.1717	0.0507	0.0507	0.0188	0.0188		M
A Non-2,3,7,8-sub-HxCDF	29.465						0.0253	0.0253		
S Total HxCDF					0.0507	0.0507	0.0270	0.0270		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.756	185952229	1.26	2.1E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.263	131057523	1.28	0.7962	88.5	88.5	0.1399	0.1399	88.52	
1,2,3,4,7,8-HxCDD	31.289	120795	1.24	1.0934	0.0929	0.0843	0.0245	0.0245		RQM
D 13C-1,2,3,6,7,8-HxCDD	31.383	125598402	1.28	0.8720	77.5	77.5	0.1277	0.1277	77.46	
1,2,3,6,7,8-HxCDD	31.449	45426	1.24	1.0429	0.0586	0.0347	0.0282	0.0282		RnQMa
1,2,3,7,8,9-HxCDD	31.742						0.0232	0.0232		
A Non-2,3,7,8-sub-HxCDD	30.164	251721	1.24	1.1145	0.3794	0.1760	0.0252	0.0766		RQ
S Total HxCDD					0.5309	0.2950	0.0253	0.0253		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	33.488	102614236	0.45	0.7577	72.8	72.8	0.3984	0.3984	72.83	
1,2,3,4,6,7,8-HpCDF	33.476						0.0354	0.0354		
D 13C-1,2,3,4,7,8,9-HpCDF	34.557	115116045	0.45	0.6941	89.2	89.2	0.4349	0.4349	89.18	
1,2,3,4,7,8,9-HpCDF	34.545						0.0420	0.0420		
A Non-2,3,7,8-sub-HpCDF	33.992						0.0385	0.0385		
S Total HpCDF							0.0420	0.0420		
D 13C-1,2,3,4,6,7,8-HpCDD	34.266	105677223	1.09	0.7058	80.5	80.5	0.1840	0.1840	80.52	
1,2,3,4,6,7,8-HpCDD	34.278	42934	0.98	1.0535	0.0386	0.0386	0.0231	0.0231		M
A Non-2,3,7,8-sub-HpCDD	33.968	59916	1.20	1.0535	0.0538	0.0538	0.0231	0.0538		a
S Total HpCDD					0.0924	0.0924	0.0231	0.0231		
D 13C-OCDD	36.595	150265401	0.91	0.4603	175.6	175.6	0.1410	0.1410	87.79	
OCDF	36.690	72491	0.89	1.3945	0.0962	0.0692	0.0401	0.0401		RQ
OCDD	36.606	165509	0.89	1.1362	0.2159	0.1939	0.0325	0.0325		RQM

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- n - Failed Sig-To-Noise Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_13.d
Lims ID: 320-57717-A-2-A
Client ID: 11187072-FEFF-0.050um
Sample Type: Client
Inject. Date: 16-Jan-2020 05:26:23 ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-57717-A-2-A 320-57717-A-2-A
Misc. Info.: 15JA203D5
Operator ID: ALM Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20200116-89625.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 17-Jan-2020 08:53:29 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0324

First Level Reviewer: shardaa Date: 16-Jan-2020 11:42:23

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											a
331.9368	17.355	17.324	2		83454369	21182648	15287	38217	1386		a
333.9339	17.355	17.324	2		103872154	26193504	21212	53030	1235	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.856	16.826	2	0.971	96874895	23752894	20601	51502	1153		
317.9389	16.856	16.826	2	0.971	125441739	30853007	27310	68275	1130	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.856						1531	3827			
305.8987	16.856						2199	5497			
A Non-2,3,7,8-sub-TCDF											
303.9016	16.531						1531	3827			
305.8987	16.531						2199	5497			
13C-2,3,7,8-TCDD											
331.9368	17.536	17.506	2	1.010	68963380	17028750	15287	38217	1114		
333.9339	17.536	17.506	2	1.010	85312233	21193701	21212	53030	999	0.81(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.521						3208	8020			
321.8936	17.521						2030	5075			
37Cl4-2,3,7,8-TCDD											
327.8847	17.551	17.521	2	1.011	103130727	25428476	20568	51420	1236		
A Non-2,3,7,8-sub-TCDD											RQM
319.8965	16.856	16.969	-7	0.961	209945	49650	3208	8020	15		M
	Empc Correction				37399	8484	3208	8020	3		
321.8936	16.856	16.969	-7	0.961	48571	11019	2030	5075	5	4.32(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	21.667	21.626	2	1.248	106943023	19234063	26511	66277	726		
353.8970	21.667	21.626	2	1.248	66855455	12269657	16496	41240	744	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.653						1463	3657			
341.8567	21.653						2579	6447			
13C-2,3,4,7,8-PeCDF											
351.9000	22.949	22.908	2	1.322	109650408	18362808	26511	66277	693		
353.8970	22.949	22.908	2	1.322	69279062	11502538	16496	41240	697	1.58(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.935						1463	3657			
341.8567	22.935						2579	6447			
A F1 PeCDFs											
339.8597	19.207						1243	3107			
341.8567	19.207						2440	6100			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.200						1463	3657			
341.8567	22.200						2579	6447			
13C-1,2,3,7,8-PeCDD											
367.8949	23.644	23.603	2	1.362	68303733	11098004	9618	24045	1154		
369.8919	23.644	23.603	2	1.362	42878975	6896441	6505	16262	1060	1.59(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.617						2774	6935			
357.8516	23.617						1598	3995			
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.533						2774	6935			
357.8516	22.533						1598	3995			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.771	29.705	4	0.938	56328297	7521952	12758	31895	590		
385.8610	29.758	29.705	3	0.937	105303170	14068336	23390	58475	601	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.732						1958	4895			
375.8178	29.732						1433	3582			
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.011	29.971	2	0.945	52277658	7459014	12758	31895	585		
385.8610	30.011	29.971	2	0.945	102277951	14852625	23390	58475	635	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	29.998						1958	4895			
375.8178	29.998						1433	3582			
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.050	31.010	2	0.978	51827925	11227107	12758	31895	880		
385.8610	31.050	31.010	2	0.978	100063849	21811825	23390	58475	933	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.037						1958	4895			
375.8178	31.037						1433	3582			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.955	31.929	2	1.006	52019574	13278745	12758	31895	1041		
385.8610	31.955	31.929	2	1.006	99541088	25251765	23390	58475	1080	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											M
373.8208	31.982	31.942	2	1.001	50342	15645	1958	4895	8		M
375.8178	32.022	31.942	5	1.002	39682	6314	1433	3582	4	1.27(1.05-1.43)	M
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.465						1958	4895			
375.8178	29.465						1433	3582			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.756	31.729	2		103499659	26847081	11525	28812	2329		
403.8529	31.756	31.729	2		82452570	21231220	9894	24735	2146	1.26(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.263	31.236	2	0.984	73556241	17515685	11525	28812	1520		
403.8529	31.263	31.236	2	0.984	57501282	13732968	9894	24735	1388	1.28(1.05-1.43)	
1,2,3,4,7,8-HxCDD											RQM
389.8157	31.289	31.250	2	1.001	66869	15018	1537	3842	10		M
391.8127	31.289	31.250	2	1.001	66247	11304	1808	4520	6	1.01(1.05-1.43)	M
	Empc Correction				53926	12111	1808	4520	7		
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.383	31.356	2	0.988	70501773	15939185	11525	28812	1383		
403.8529	31.383	31.356	2	0.988	55096629	12449343	9894	24735	1258	1.28(1.05-1.43)	
1,2,3,6,7,8-HxCDD											RnQMa
389.8157	31.449	31.369	5	1.002	25147	2910	1537	3842	2		M
391.8127	31.383	31.369	1	1.000	51574	6686	1808	4520	4	0.49(1.05-1.43)	
	Empc Correction				20279	2346	1808	4520	1		
1,2,3,7,8,9-HxCDD											
389.8157	31.742						1537	3842			
391.8127	31.742						1808	4520			
A Non-2,3,7,8-sub-HxCDD											RQ
389.8157	30.011	30.164	-9	0.956	160976	27214	1537	3842	18		
	Empc Correction				35327	7814	1537	3842	5		
391.8127	30.011	30.164	-9	0.956	28490	6302	1808	4520	3	5.65(1.05-1.43)	
389.8157	31.050	30.164	53	0.989	121325	34050	1537	3842	22		
	Empc Correction				43387	7995	1537	3842	5		
391.8127	31.010	30.164	51	0.988	34990	6448	1808	4520	4	3.47(1.05-1.43)	
389.8157	31.955	30.164	107	1.018	148010	28343	1537	3842	18		
	Empc Correction				60631	9120	1537	3842	6		
391.8127	31.969	30.164	108	1.019	48896	7355	1808	4520	4	3.03(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.488	33.464	1	1.055	31676149	11083944	21074	52685	526		
419.8220	33.488	33.464	1	1.055	70938087	25050232	36976	92440	677	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.476						5774	14435			
409.7789	33.476						1805	4512			

Report Date: 17-Jan-2020 08:53:37 Chrom Revision: 2.3 14-Jan-2020 22:23:42
Data File: \\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_13.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.557	34.533	1	1.088	35880559	10910664	21074	52685	518		
419.8220	34.557	34.533	1	1.088	79235486	23998429	36976	92440	649	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.545						5774	14435			
409.7789	34.545						1805	4512			
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.992						5774	14435			
409.7789	33.992						1805	4512			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.266	34.254	1	1.079	55212219	18029044	13265	33162	1359		
437.8140	34.266	34.254	1	1.079	50465004	16598236	11706	29265	1418	1.09(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											M
423.7766	34.278	34.266	1	1.000	21296	6835	1666	4165	4		
425.7737	34.290	34.266	1	1.001	21638	5518	1698	4245	3	0.98(0.88-1.20)	M
A Non-2,3,7,8-sub-HpCDD											a
423.7766	33.731	33.968	-14	0.984	32679	10395	1666	4165	6		a
425.7737	33.731	33.968	-14	0.984	27237	7846	1698	4245	5	1.20(0.88-1.20)	
13C-OCDD											
469.7779	36.595	36.571	1	1.152	71482407	20159439	4964	12410	4061		
471.7750	36.595	36.571	1	1.152	78782994	22377099	7520	18800	2976	0.91(0.76-1.02)	
OCDF											RQ
441.7428	36.690	36.667	1	1.003	34136	7559	1878	4695	4		
443.7399	36.690	36.667	1	1.003	66665	13021	2879	7197	5	0.51(0.76-1.02)	
	Empc Correction				38355	8493	2879	7197	3		
OCDD											RQM
457.7377	36.606	36.583	1	1.000	96766	20546	1536	3840	13		
	Empc Correction				77938	22457	1536	3840	15		
459.7348	36.606	36.583	1	1.000	87571	25233	1606	4015	16	1.11(0.76-1.02)	M

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- n - Failed Sig-To-Noise Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_13.d
Lims ID: 320-57717-A-2-A
Client ID: 11187072-FEFF-0.050um
Inject. Date: 16-Jan-2020 05:26:23 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5 Operator: ALM
Lims Batch ID: 351160 Lims Sample ID: 13

Non-2,3,7,8-sub-TCDD, RT: 16.969

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.048	D 13C-2,3,7,8-TCDD	100.000	154275613	38222451

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.048		100.000	154275613	38222451

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
16.856	209945	49650	48571	11019	0.1599	4.32	RQM
16.856	37399	8484	48571	11019	0.0532		Empc Correction
Signal Totals:							
	37399	8484	48571	11019			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	258516	60669				4.32	RQM
	85970	19503					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.1599 = (258516 * 100.000) / (154275613 * 1.048)
Empc Amount: 0.0532 = (85970 * 100.000) / (154275613 * 1.048)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_13.d
Lims ID: 320-57717-A-2-A
Client ID: 11187072-FEFF-0.050um
Inject. Date: 16-Jan-2020 05:26:23 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5 Operator: ALM
Lims Batch ID: 351160 Lims Sample ID: 13

Non-2,3,7,8-sub-HxCDD, RT: 30.164

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.093	D 13C-1,2,3,4,7,8-HxCDD	100.000	131057523	31248653
1,2,3,6,7,8-HxCDD	1.043	D 13C-1,2,3,6,7,8-HxCDD	100.000	125598402	28388528
1,2,3,7,8,9-HxCDD	1.207				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.115		100.000	128327962	29818590

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
30.011	160976	27214	28490	6302	0.1325	5.65	RQ
30.011	35327	7814	28490	6302	0.0446		Empc Correction
31.050	121325	34050	34990	6448	0.1093	3.47	RQ
31.050	43387	7995	34990	6448	0.0548		Empc Correction
31.955	148010	28343	48896	7355	0.1377	3.03	RQ
31.955	60631	9120	48896	7355	0.0766		Empc Correction
Signal Totals:							
	139345	24929	112376	20105			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	542687	109712				3.83	RQ
	251721	45034					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.3794 = (542687 * 100.000) / (128327962 * 1.115)
Empc Amount: 0.1760 = (251721 * 100.000) / (128327962 * 1.115)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_13.d
Lims ID: 320-57717-A-2-A
Client ID: 11187072-FEFF-0.050um
Inject. Date: 16-Jan-2020 05:26:23 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5 Operator: ALM
Lims Batch ID: 351160 Lims Sample ID: 13

Non-2,3,7,8-sub-HpCDD, RT: 33.968

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.054	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	105677223	34627280

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.054		100.000	105677223	34627280

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
33.731	32679	10395	27237	7846	0.0538	1.20	a
Signal Totals:							
	32679	10395	27237	7846			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	59916	18241				1.20	a

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0538 = (59916 * 100.000) / (105677223 * 1.054)

QC Flag Legend

Review Flags
a - User Assigned ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_13.d				
Injection Date:	16-Jan-2020 05:26:23	Instrument ID:	3D5		
Lims ID:	320-57717-A-2-A	Lab Sample ID:	320-57717-2		
Client ID:	11187072-FEFF-0.050um				
Operator ID:	ALM	ALS Bottle#:	13	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

Non-2,3,7,8-sub-TCDD, Signal: 1, m/z: 319.8965, RT: (15.34- 18.59)

Signal: 1

Processing Integration Results

RT = 16.856 Area = 253521

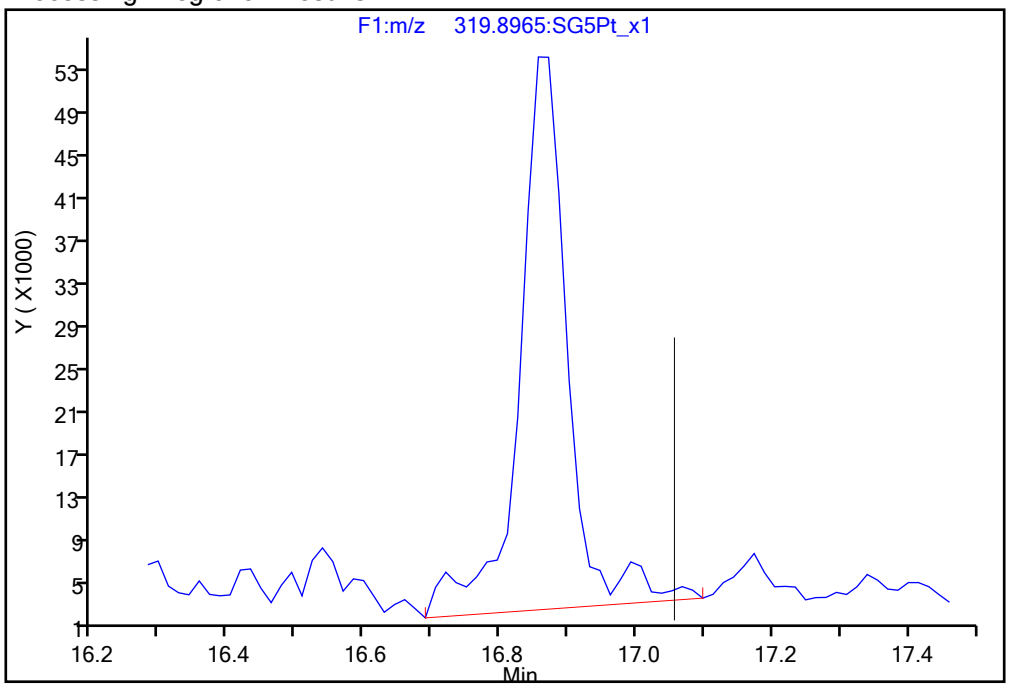

Manual Integration Results

RT = 16.856 Area = 209945 M

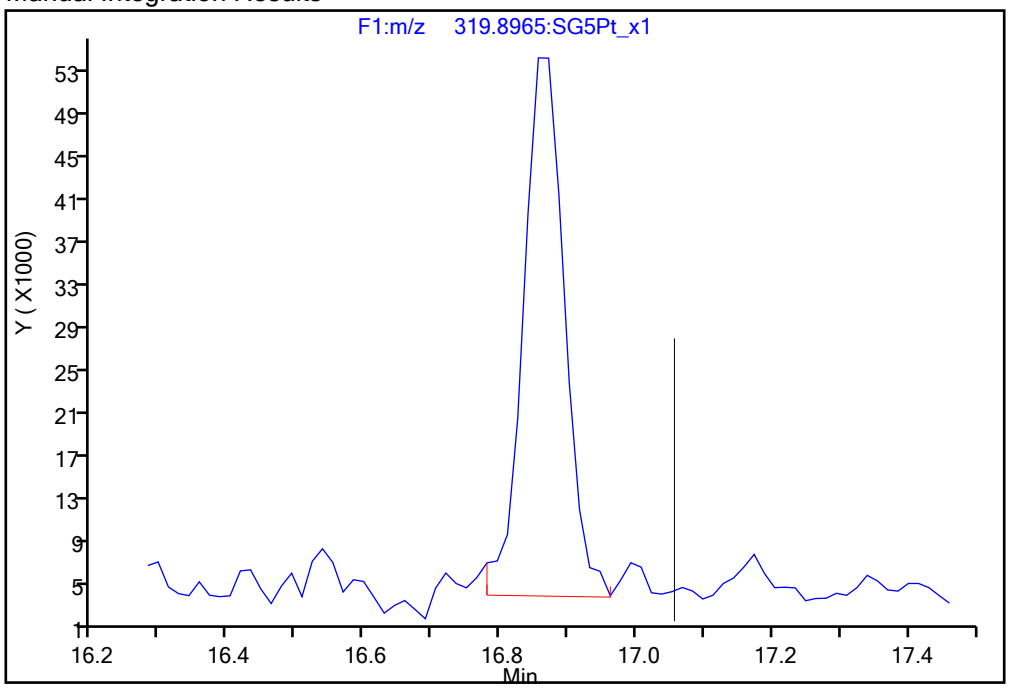

Reviewer: ruangyotsakuld, 17-Jan-2020 08:38:52

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_13.d				
Injection Date:	16-Jan-2020 05:26:23	Instrument ID:	3D5		
Lims ID:	320-57717-A-2-A	Lab Sample ID:	320-57717-2		
Client ID:	11187072-FEFF-0.050um				
Operator ID:	ALM	ALS Bottle#:	13	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 1

Processing Integration Results

RT: 31.98
Area: 52937
Amount: 0.059553
Amount Units: pg/ul

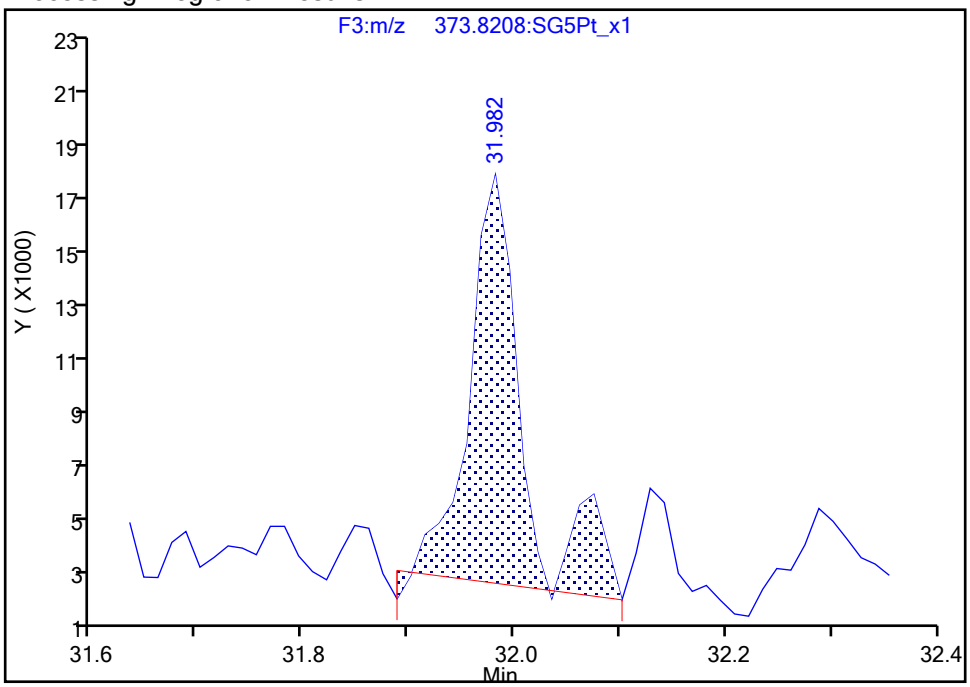

Manual Integration Results

RT: 31.98
Area: 50342
Amount: 0.050696
Amount Units: pg/ul

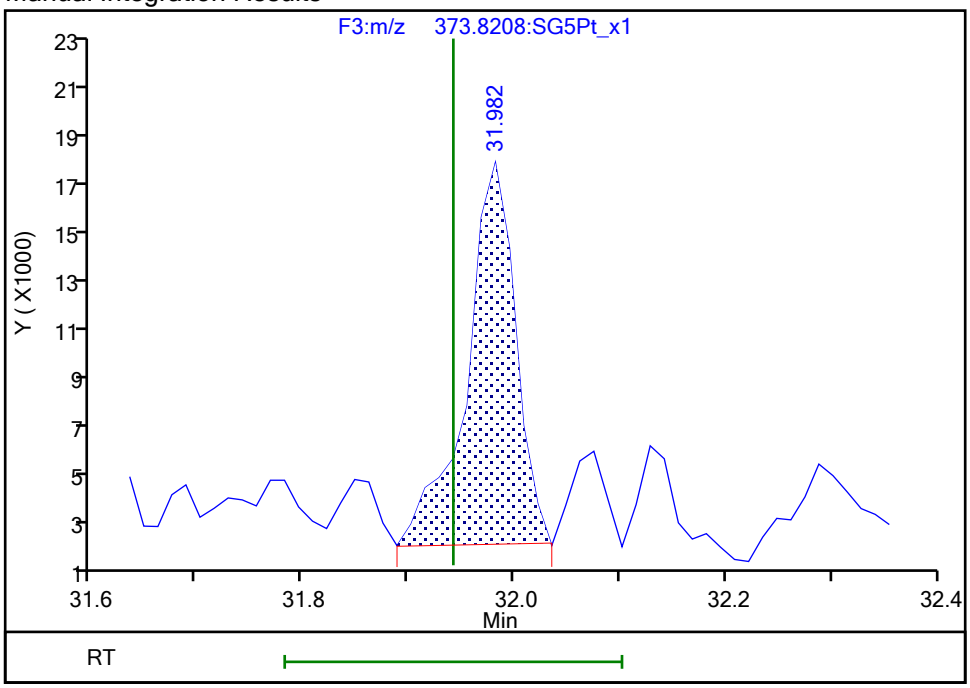

Reviewer: ruangyotsakuld, 17-Jan-2020 08:39:17

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_13.d				
Injection Date:	16-Jan-2020 05:26:23	Instrument ID:	3D5		
Lims ID:	320-57717-A-2-A	Lab Sample ID:	320-57717-2		
Client ID:	11187072-FEFF-0.050um				
Operator ID:	ALM	ALS Bottle#:	13	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 2

Processing Integration Results

RT: 32.02
Area: 52816
Amount: 0.059553
Amount Units: pg/ul

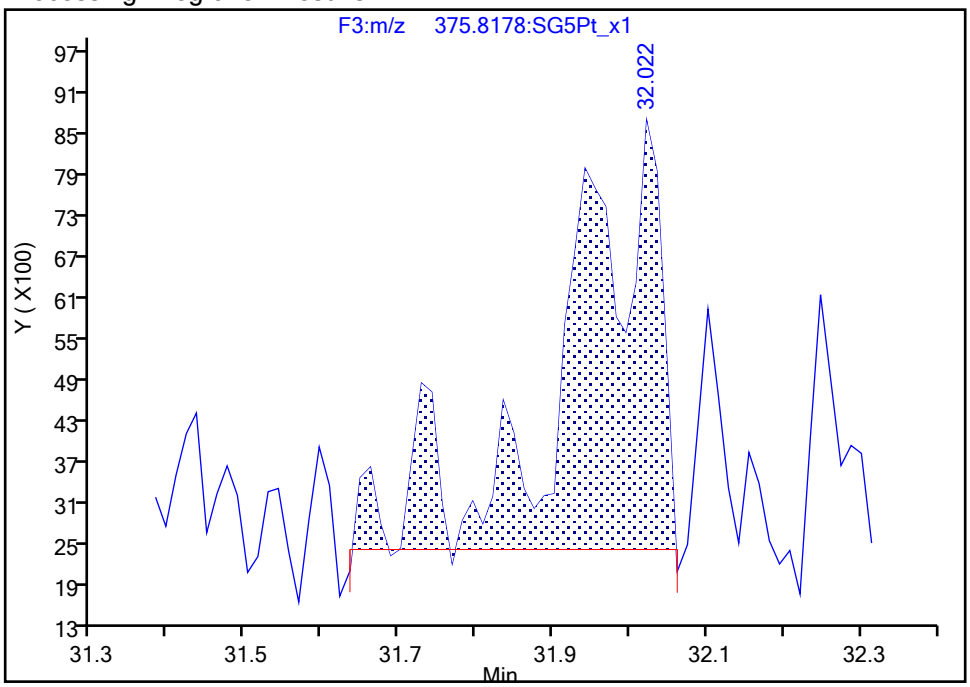

Manual Integration Results

RT: 32.02
Area: 39682
Amount: 0.050696
Amount Units: pg/ul

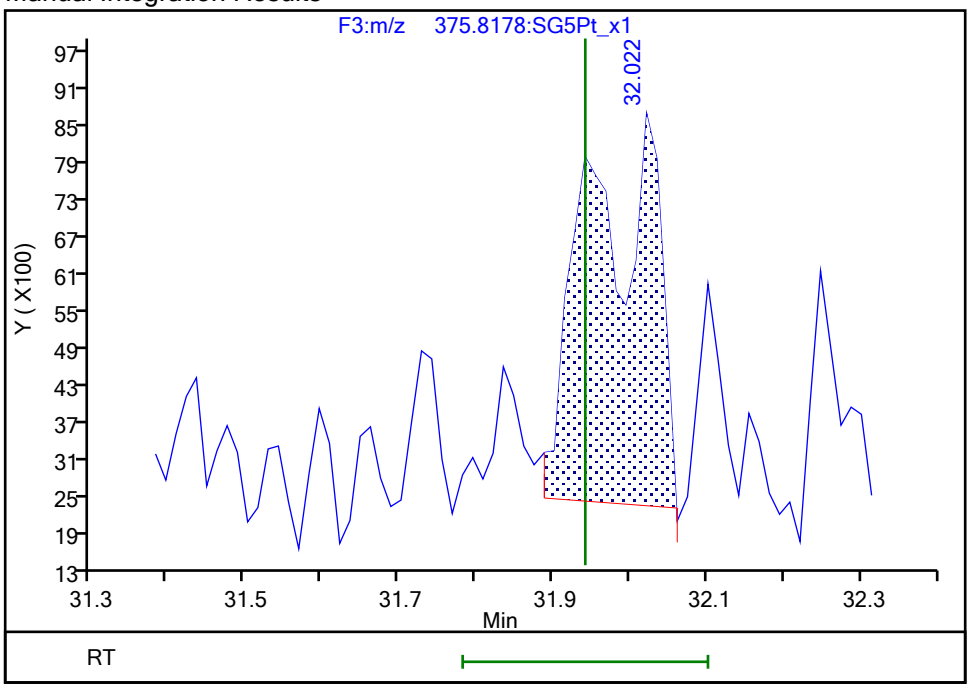

Reviewer: ruangyotsakuld, 17-Jan-2020 08:39:24

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_13.d				
Injection Date:	16-Jan-2020 05:26:23	Instrument ID:	3D5		
Lims ID:	320-57717-A-2-A	Lab Sample ID:	320-57717-2		
Client ID:	11187072-FEFF-0.050um				
Operator ID:	ALM	ALS Bottle#:	13	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 3

Processing Integration Results

RT:	31.29
Area:	175748
Amount:	0.122647
Amount Units:	pg/ul

Manual Integration Results

RT:	31.29
Area:	133116
Amount:	0.092896
Amount Units:	pg/ul

Reviewer: ruangyotsakuld, 17-Jan-2020 08:39:38

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_13.d				
Injection Date:	16-Jan-2020 05:26:23	Instrument ID:	3D5		
Lims ID:	320-57717-A-2-A	Lab Sample ID:	320-57717-2		
Client ID:	11187072-FEFF-0.050um				
Operator ID:	ALM	ALS Bottle#:	13	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 1

Processing Integration Results

RT: 31.29
Area: 65058
Amount: 0.122647
Amount Units: pg/ul

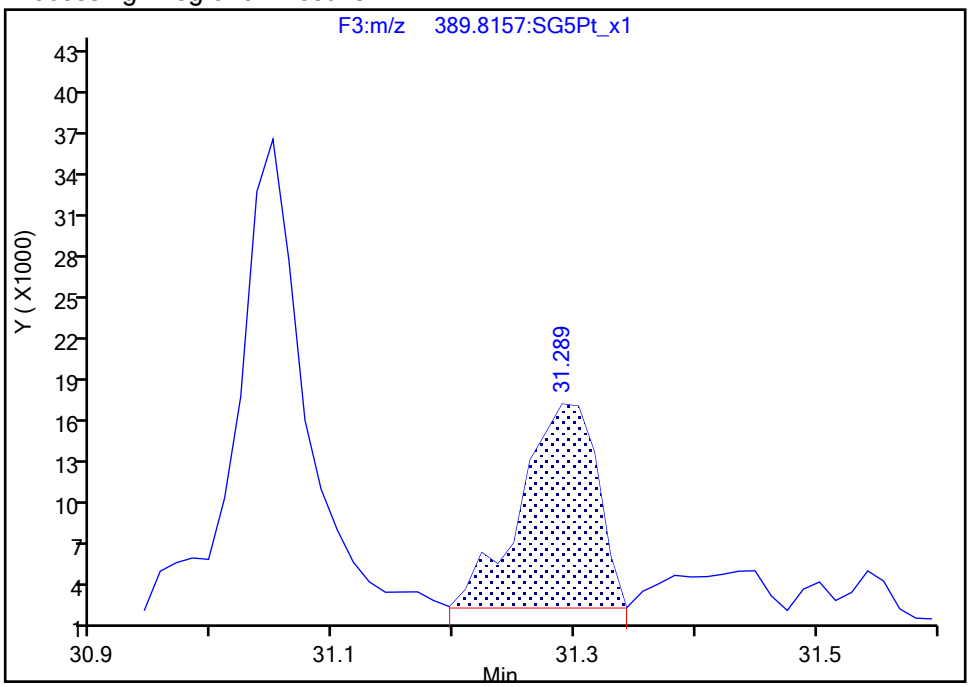

Manual Integration Results

RT: 31.29
Area: 66869
Amount: 0.092896
Amount Units: pg/ul

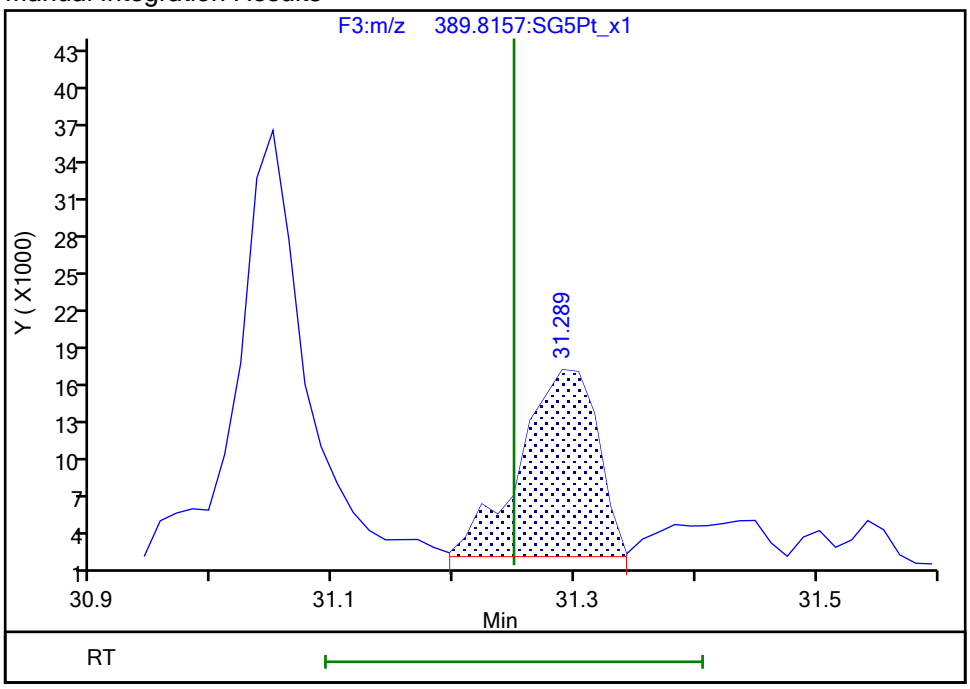

Reviewer: ruangyotsakuld, 17-Jan-2020 08:40:10

Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_13.d				
Injection Date:	16-Jan-2020 05:26:23	Instrument ID:	3D5		
Lims ID:	320-57717-A-2-A	Lab Sample ID:	320-57717-2		
Client ID:	11187072-FEFF-0.050um				
Operator ID:	ALM	ALS Bottle#:	13	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 2

Processing Integration Results

RT: 31.29
Area: 110690
Amount: 0.122647
Amount Units: pg/ul

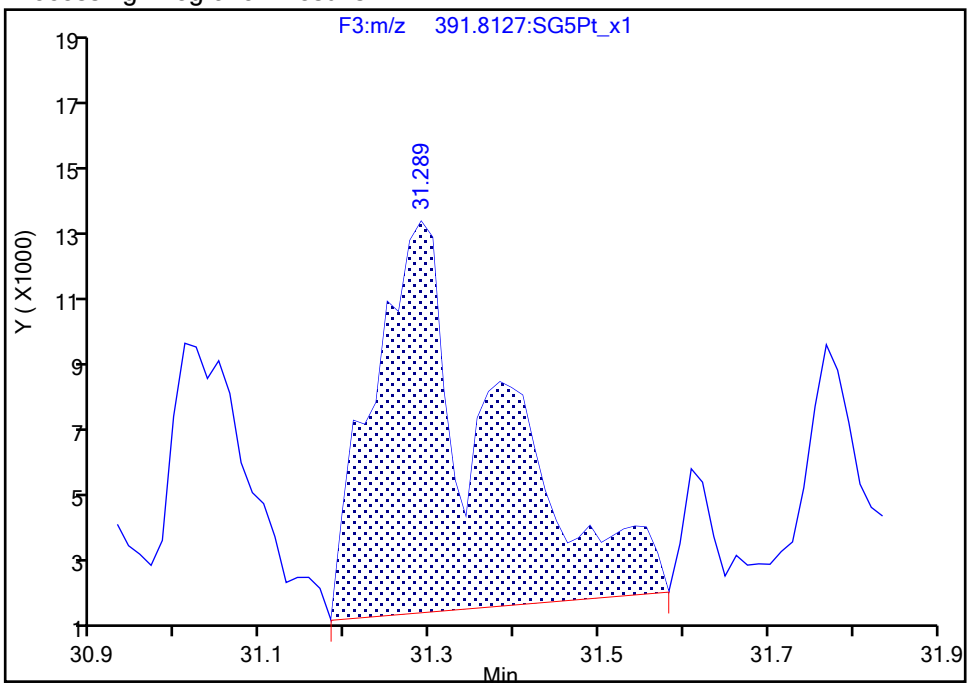

Manual Integration Results

RT: 31.29
Area: 66247
Amount: 0.092896
Amount Units: pg/ul

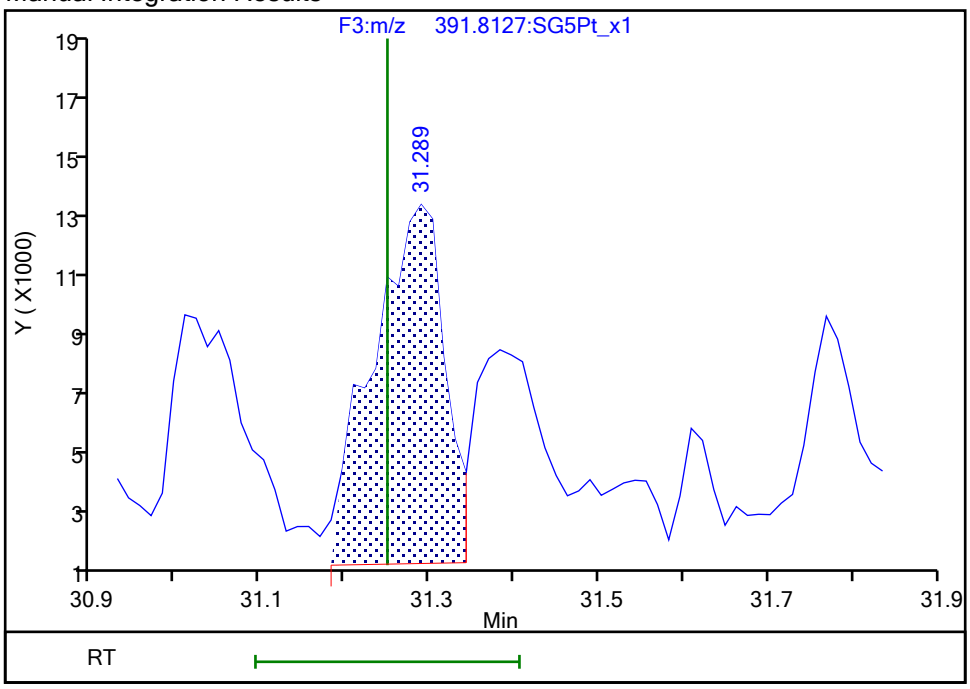

Reviewer: ruangyotsakuld, 17-Jan-2020 08:40:13

Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_13.d				
Injection Date:	16-Jan-2020 05:26:23	Instrument ID:	3D5		
Lims ID:	320-57717-A-2-A	Lab Sample ID:	320-57717-2		
Client ID:	11187072-FEFF-0.050um				
Operator ID:	ALM	ALS Bottle#:	13	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 2

Processing Integration Results

RT: 31.29
Area: 110690
Amount: 0.134172
Amount Units: pg/ul

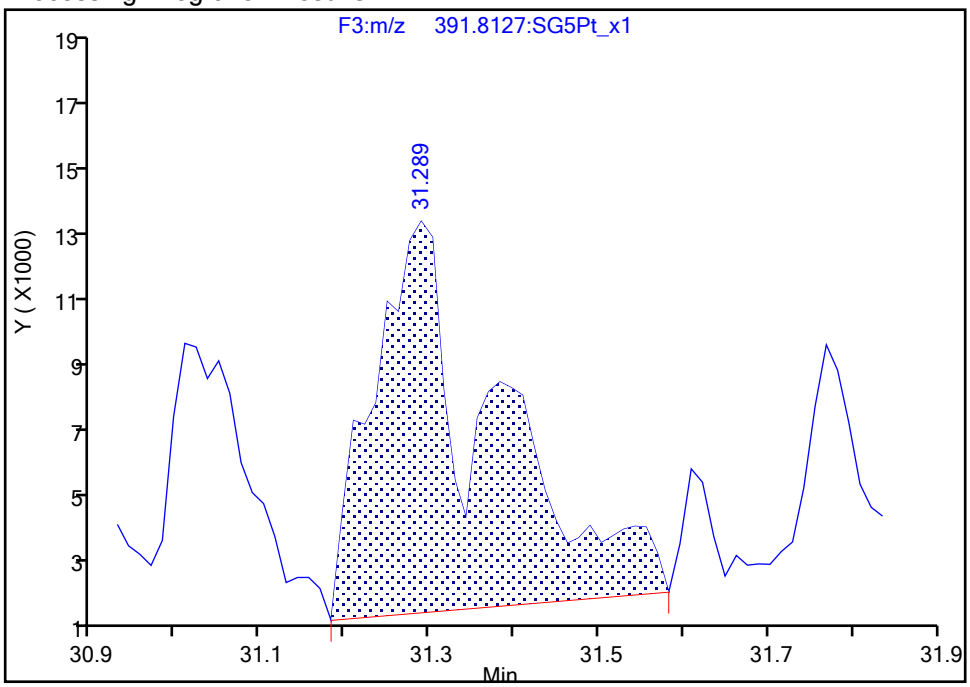

Manual Integration Results

RT: 31.38
Area: 51574
Amount: 0.058571
Amount Units: pg/ul

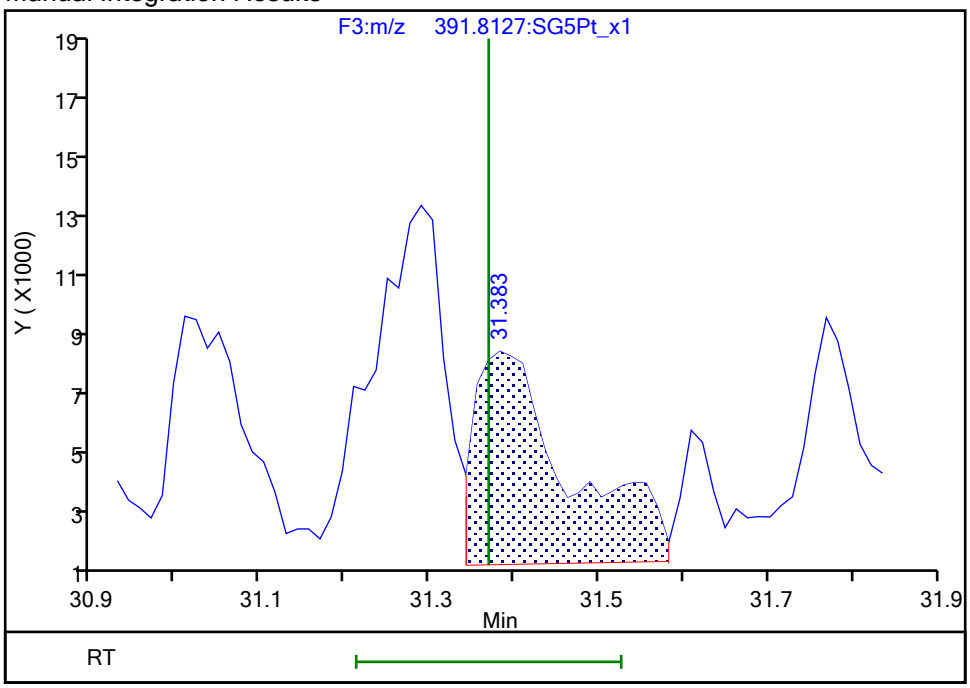

Reviewer: ruangyotsakuld, 17-Jan-2020 08:39:40

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_13.d				
Injection Date:	16-Jan-2020 05:26:23	Instrument ID:	3D5		
Lims ID:	320-57717-A-2-A	Lab Sample ID:	320-57717-2		
Client ID:	11187072-FEFF-0.050um				
Operator ID:	ALM	ALS Bottle#:	13	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 3

RT: 31.29
Area: 175748
Amount: 0.134172
Amount Units: pg/ul

Processing Integration Results

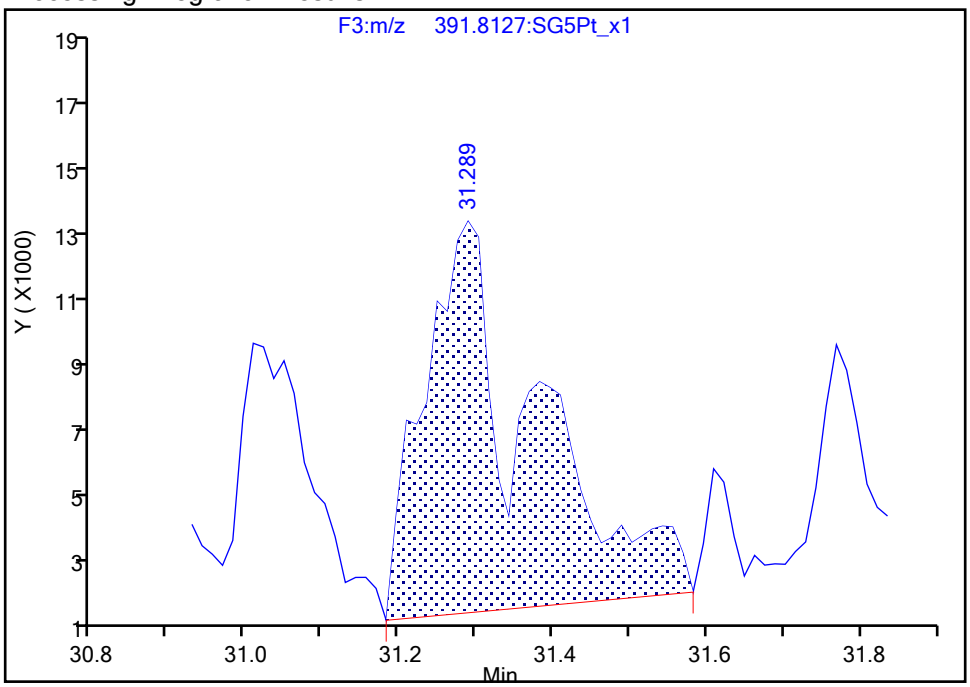

Manual Integration Results

RT: 31.45
Area: 76721
Amount: 0.058571
Amount Units: pg/ul
Reviewer: ruangyotsakuld, 17-Jan-2020 08:39:40
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_13.d				
Injection Date:	16-Jan-2020 05:26:23	Instrument ID:	3D5		
Lims ID:	320-57717-A-2-A	Lab Sample ID:	320-57717-2		
Client ID:	11187072-FEFF-0.050um				
Operator ID:	ALM	ALS Bottle#:	13	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 1

Processing Integration Results

RT: 31.29
Area: 65058
Amount: 0.134172
Amount Units: pg/ul

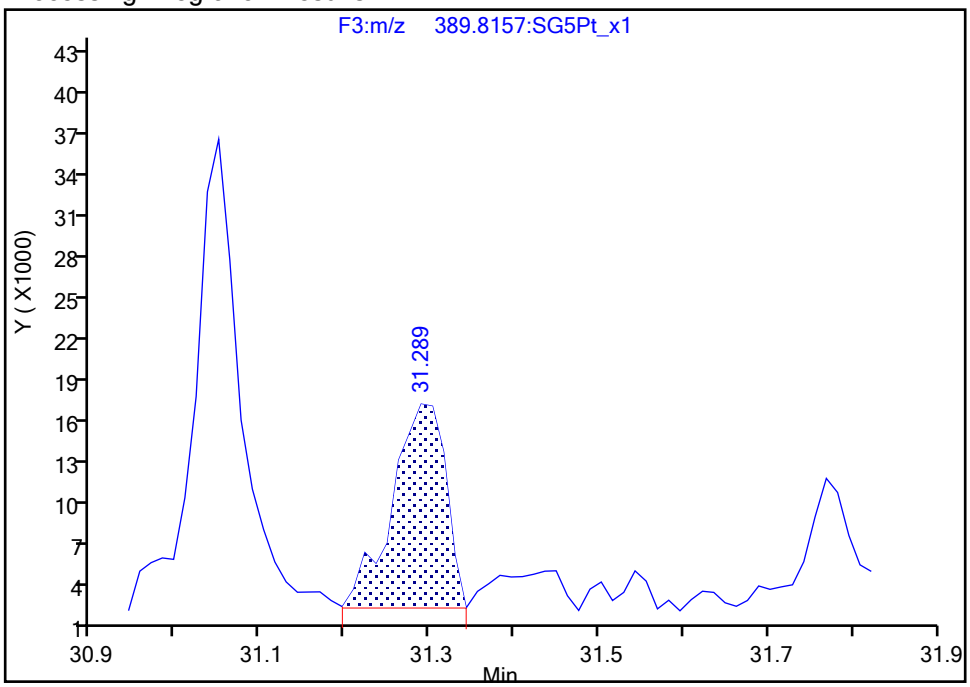

Manual Integration Results

RT: 31.45
Area: 25147
Amount: 0.058571
Amount Units: pg/ul

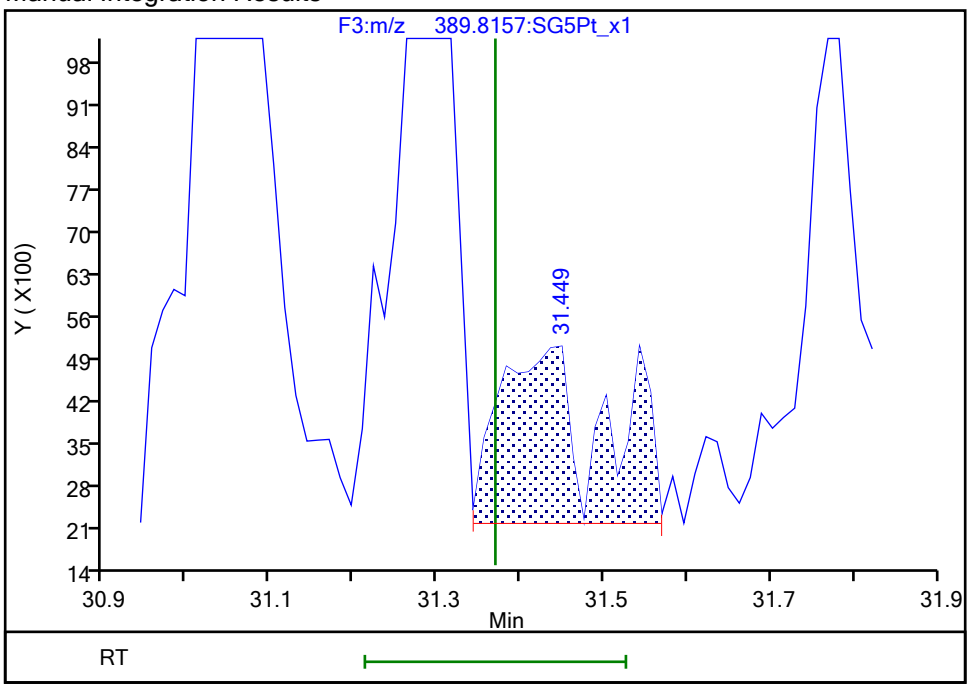

Reviewer: ruangyotsakuld, 17-Jan-2020 08:40:22

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_13.d				
Injection Date:	16-Jan-2020 05:26:23	Instrument ID:	3D5		
Lims ID:	320-57717-A-2-A	Lab Sample ID:	320-57717-2		
Client ID:	11187072-FEFF-0.050um				
Operator ID:	ALM	ALS Bottle#:	13	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 2

Processing Integration Results

RT: 34.29
Area: 26161
Amount: 0.042625
Amount Units: pg/ul

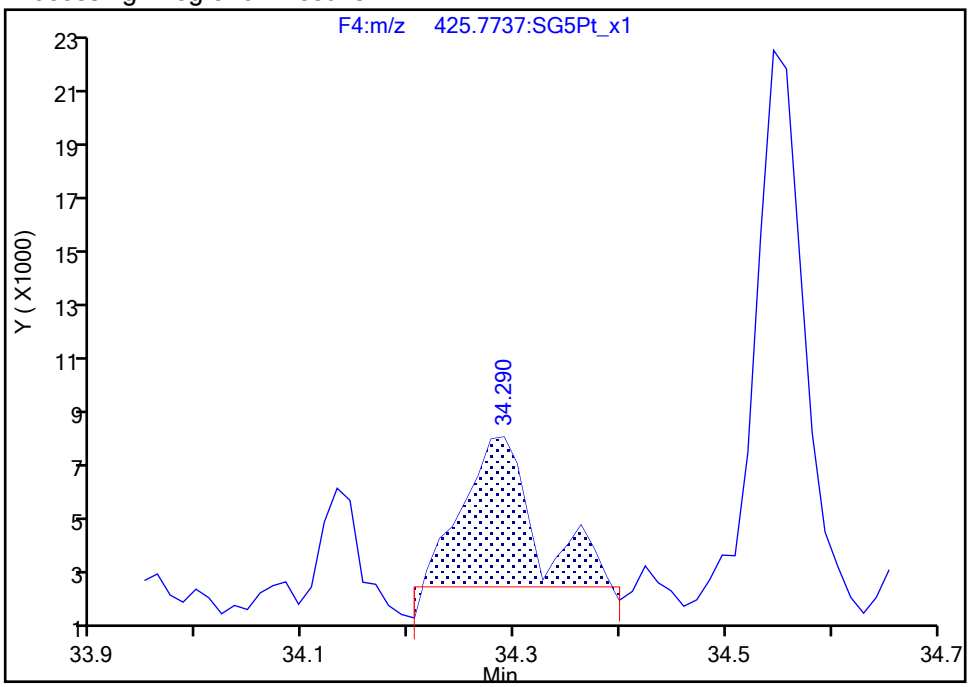

Manual Integration Results

RT: 34.29
Area: 21638
Amount: 0.038563
Amount Units: pg/ul

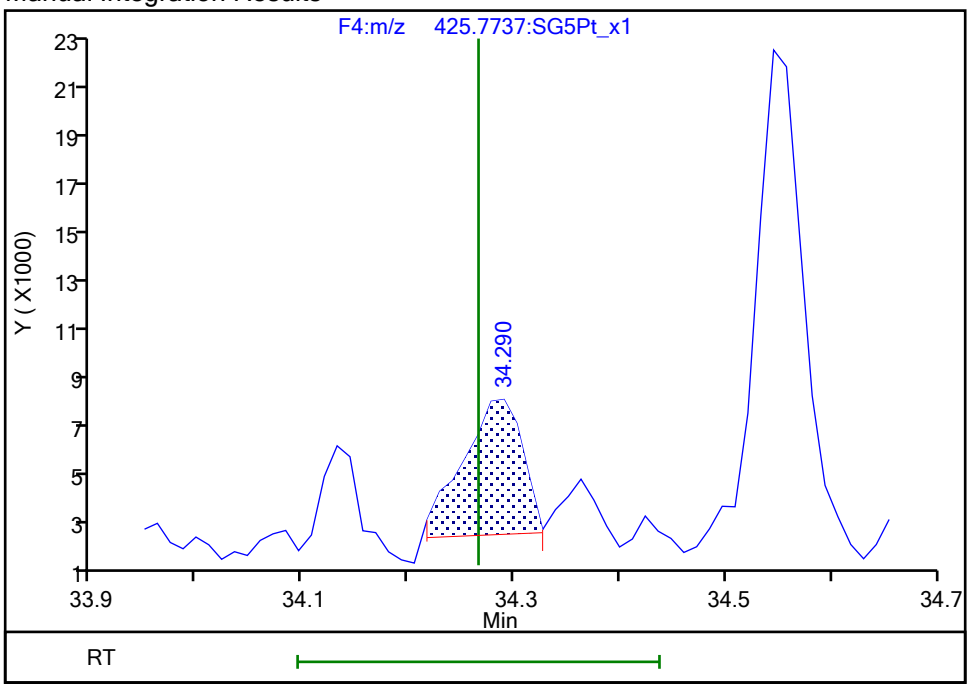

Reviewer: ruangyotsakuld, 17-Jan-2020 08:41:18

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_13.d				
Injection Date:	16-Jan-2020 05:26:23	Instrument ID:	3D5		
Lims ID:	320-57717-A-2-A	Lab Sample ID:	320-57717-2		
Client ID:	11187072-FEFF-0.050um				
Operator ID:	ALM	ALS Bottle#:	13	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5:HRSIR		

OCDD, CAS: 3268-87-9

Signal: 2

Processing Integration Results

RT: 36.61
Area: 114993
Amount: 0.248066
Amount Units: pg/ul

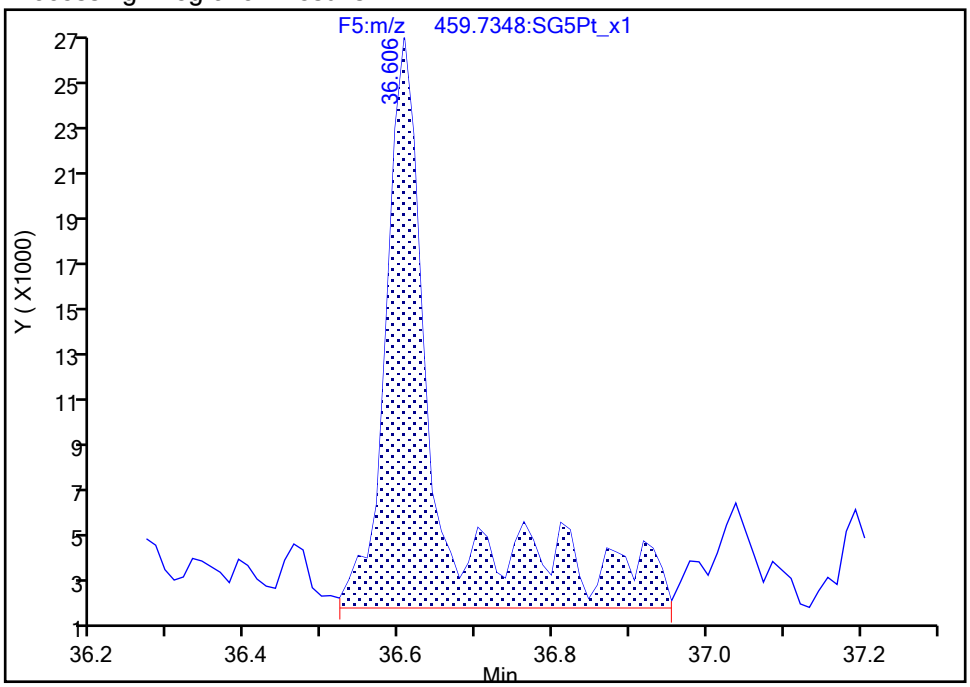

Manual Integration Results

RT: 36.61
Area: 87571
Amount: 0.215942
Amount Units: pg/ul

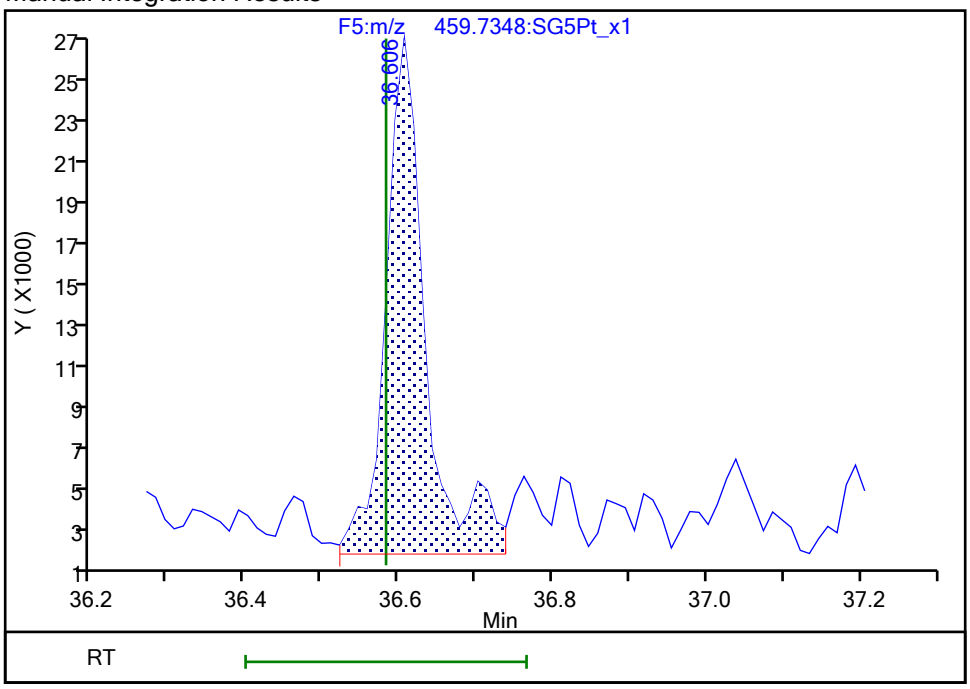

Reviewer: ruangyotsakuld, 17-Jan-2020 08:41:48

Audit Action: Split an Integrated Peak Audit Reason: Baseline

Report Date: 17-Jan-2020 08:53:38 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_13.d		
Injection Date:	16-Jan-2020 05:26:23	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-0.050um		
Worklist#:	351160	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

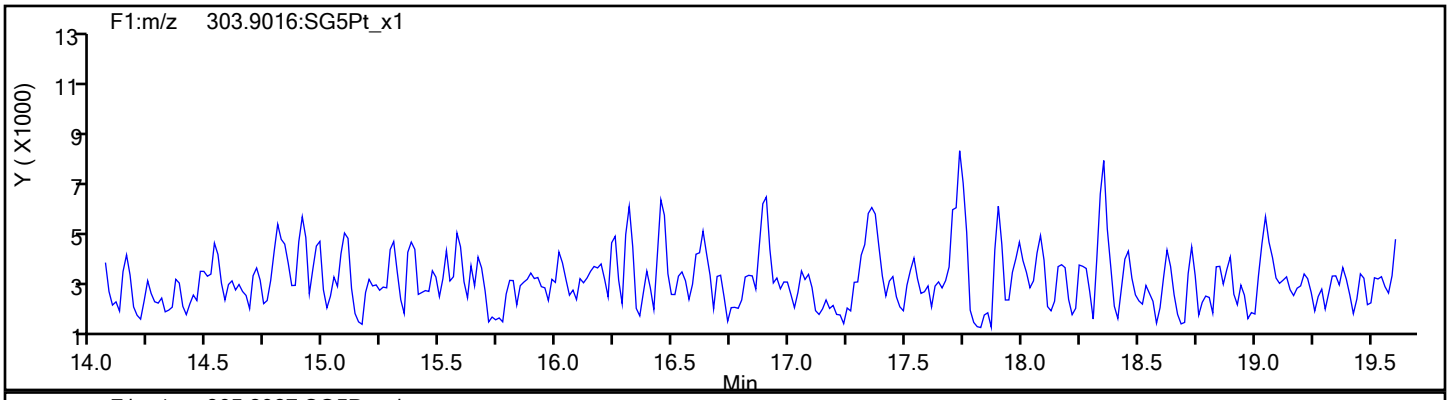

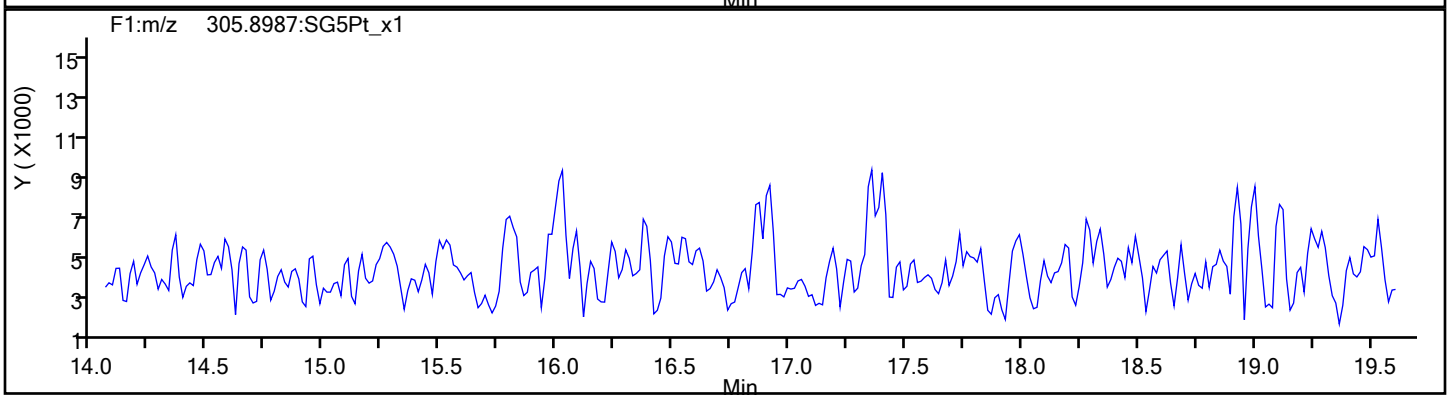

TCDF Standards

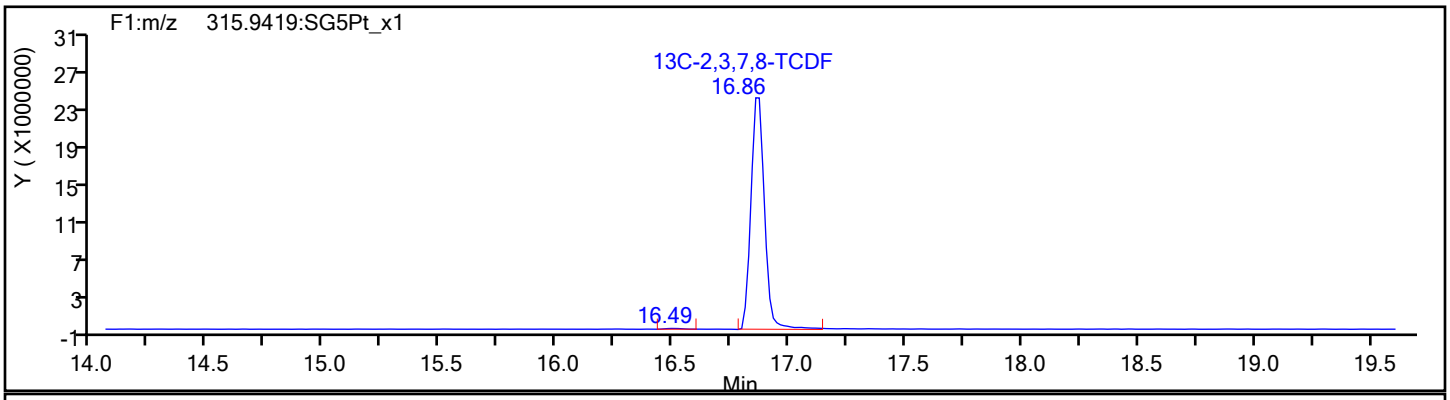

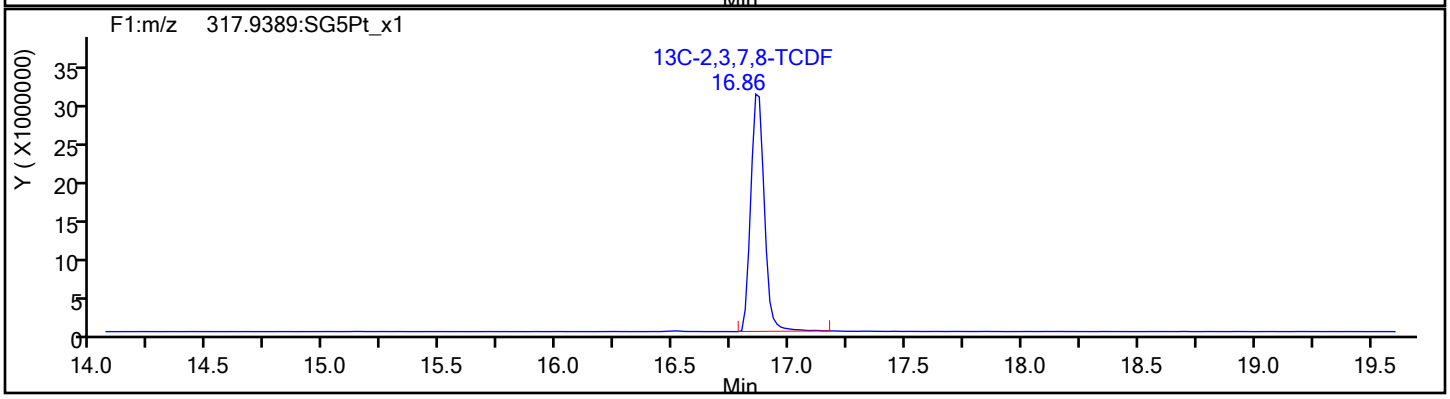

Report Date: 17-Jan-2020 08:53:38 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_13.d		
Injection Date:	16-Jan-2020 05:26:23	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-0.050um		
Worklist#:	351160	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

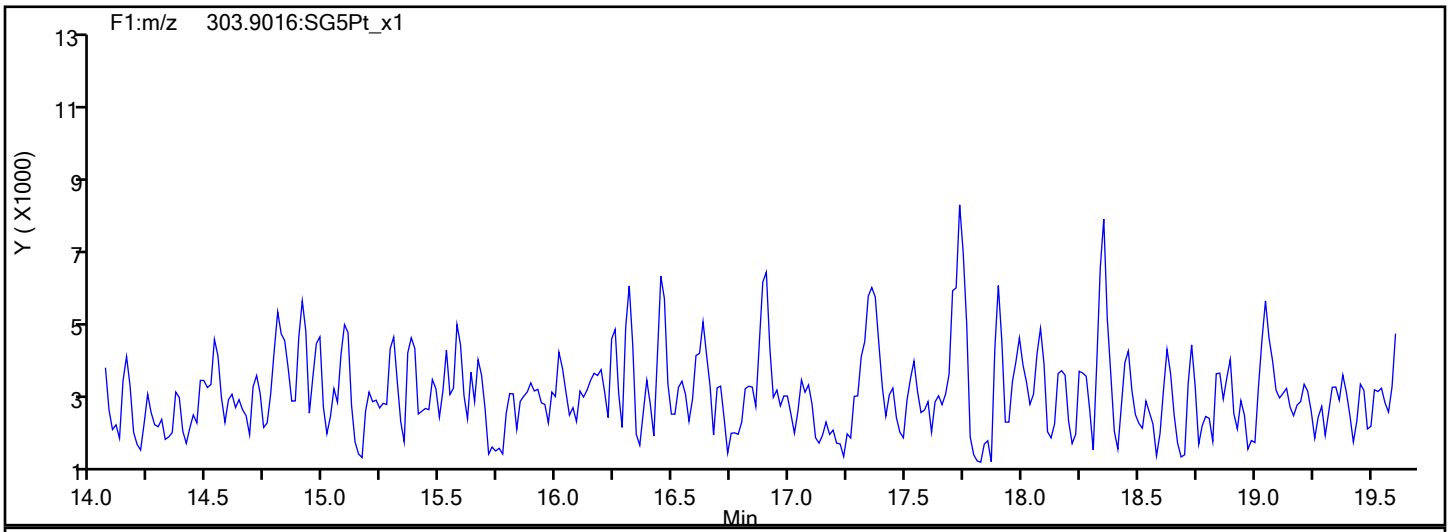

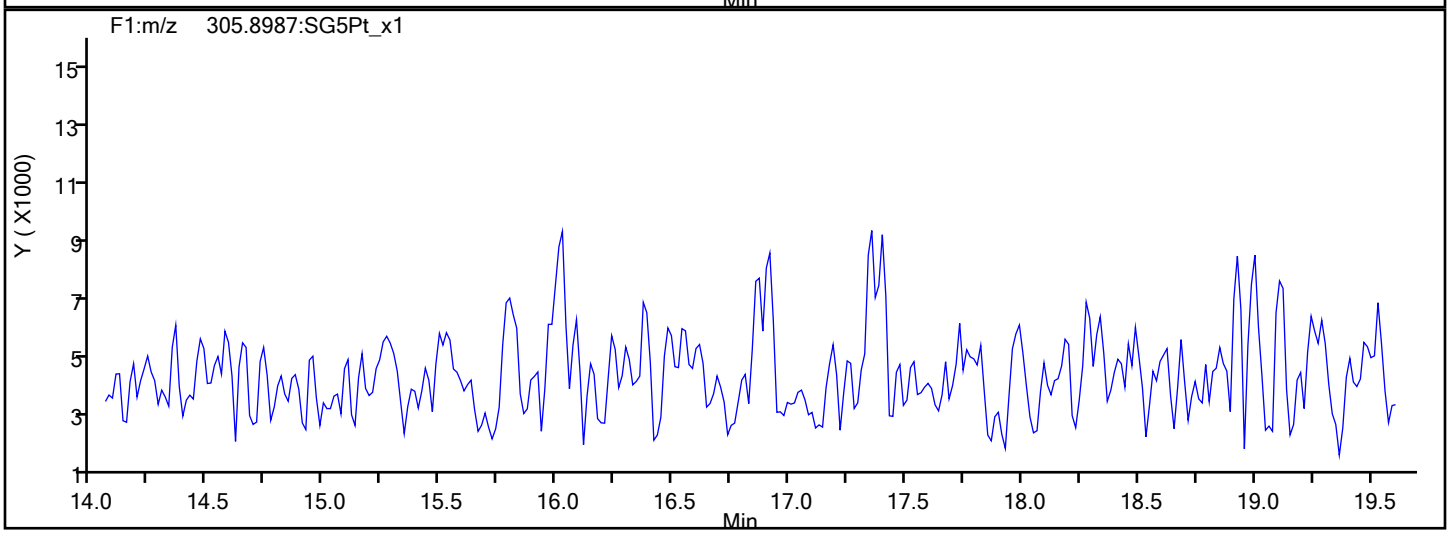

TCDF Interference Mass

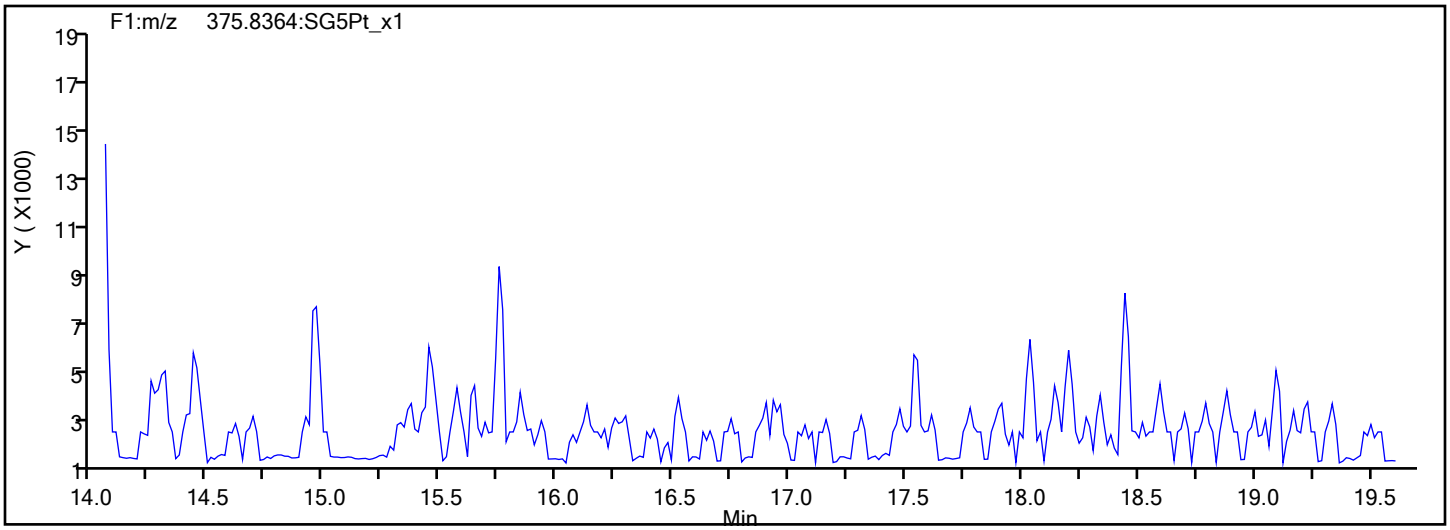

Report Date: 17-Jan-2020 08:53:42 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_13.d		
Injection Date:	16-Jan-2020 05:26:23	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

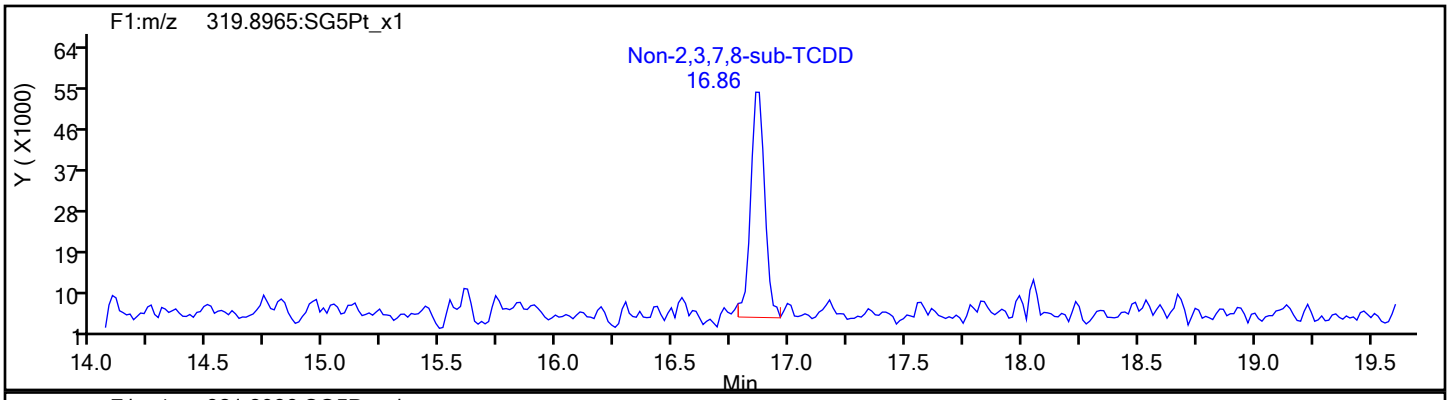

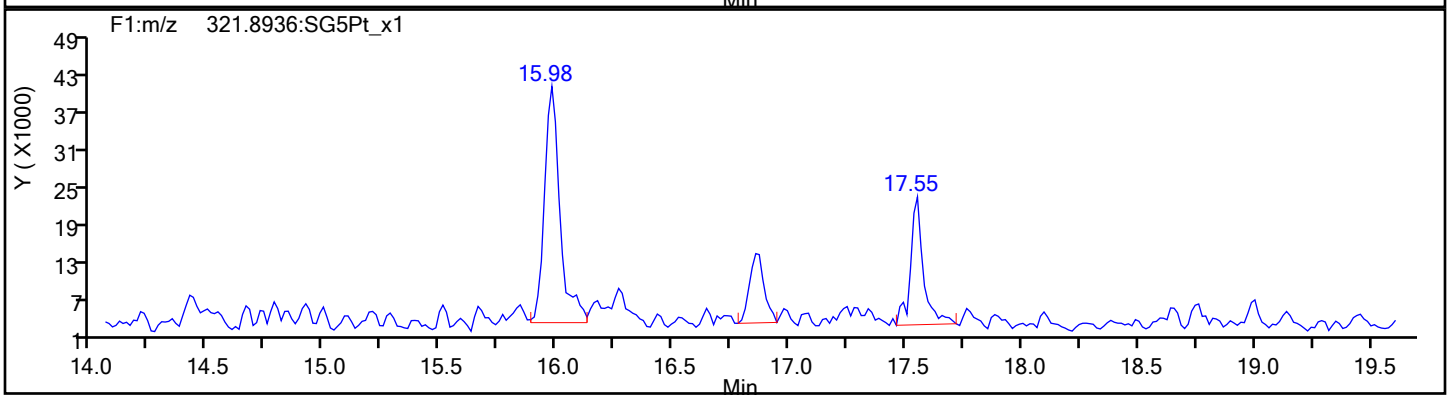

TCDD Standards

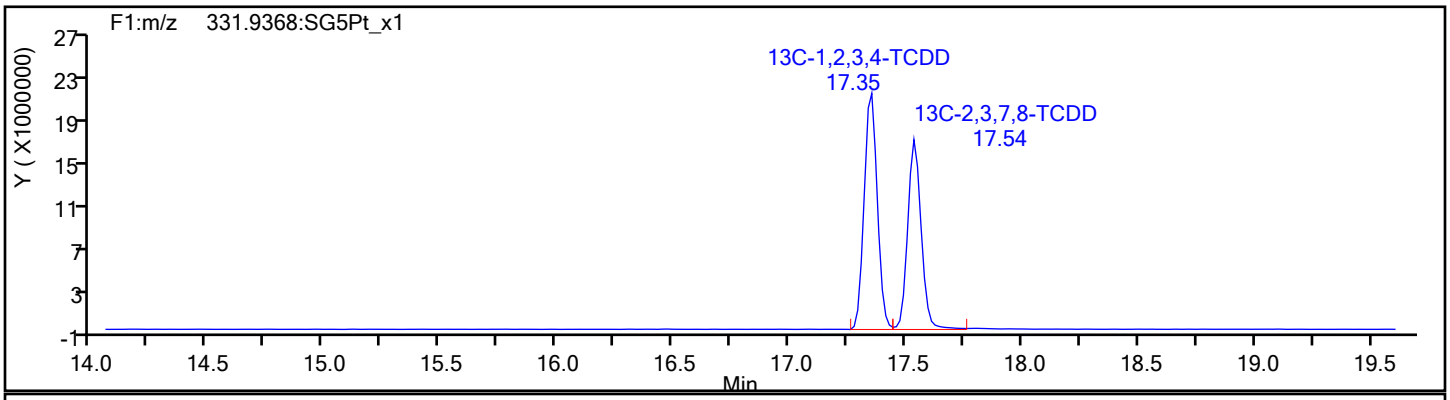

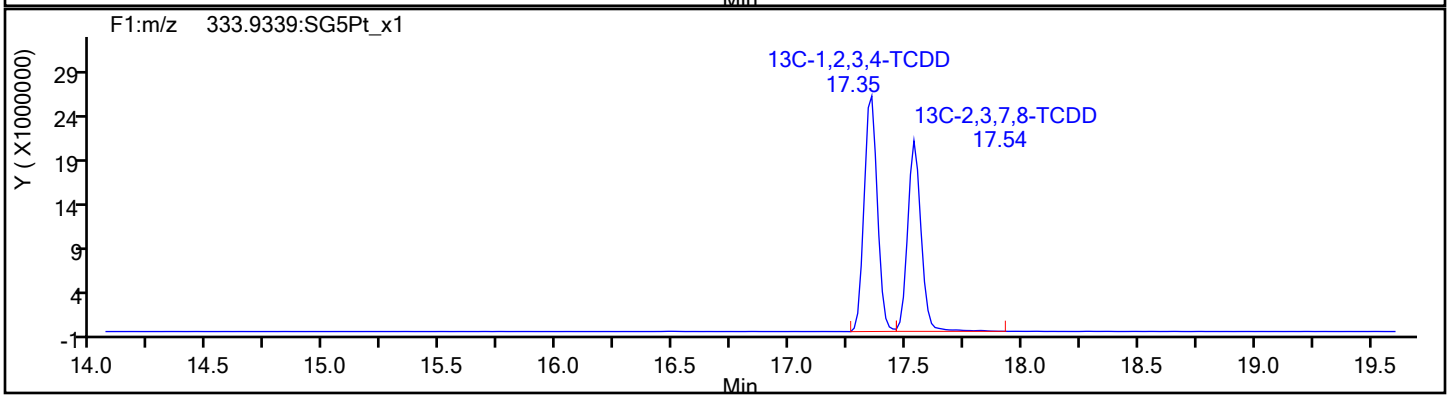

Report Date: 17-Jan-2020 08:53:42 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

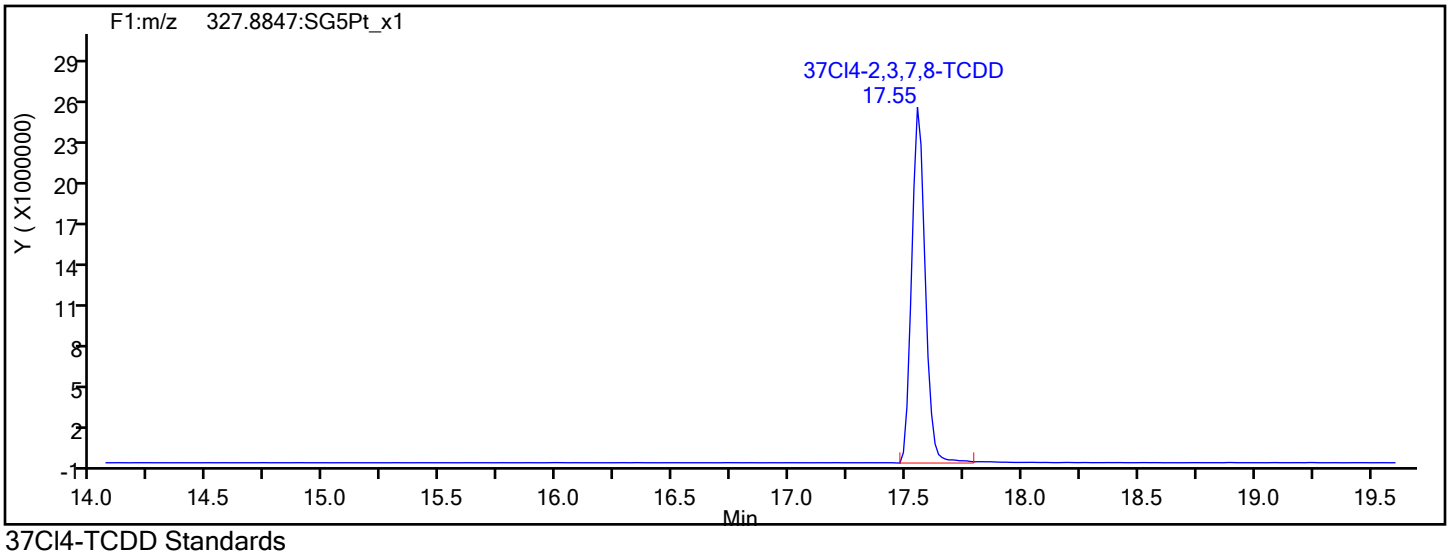

37Cl4-TCDD Standards

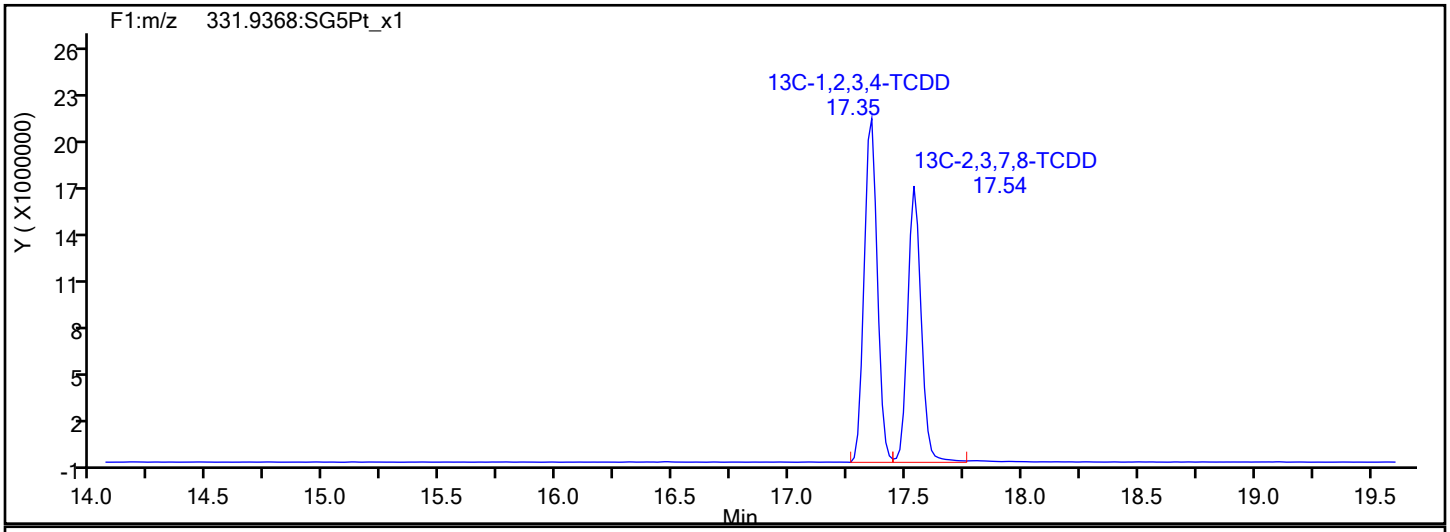

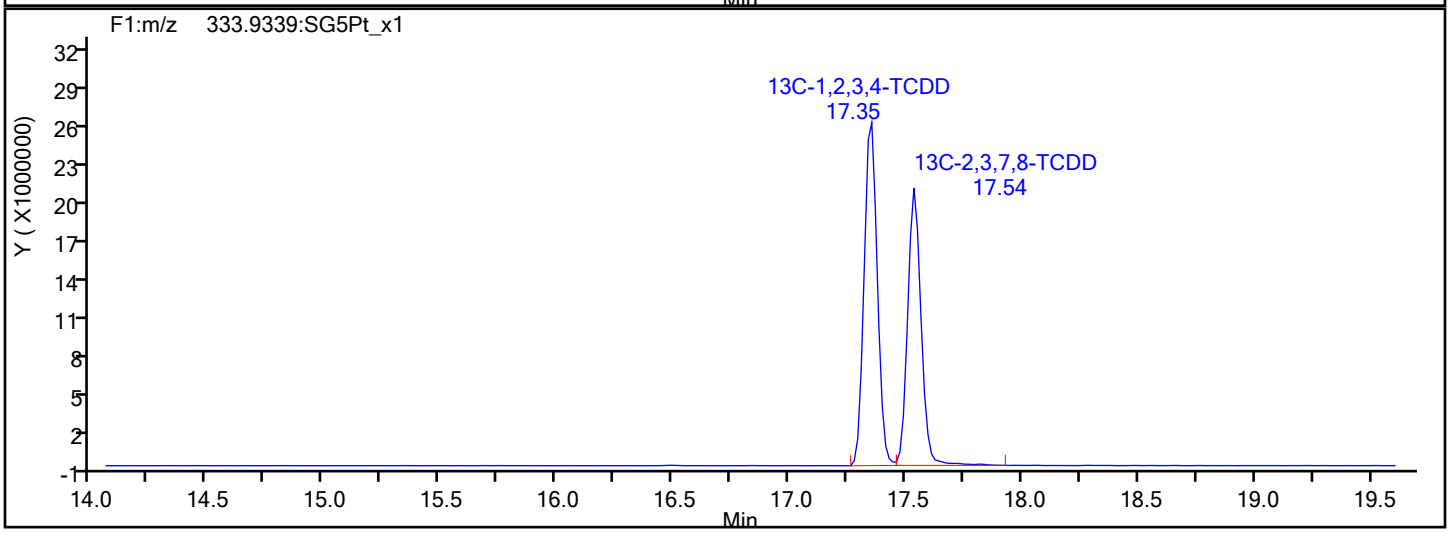

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

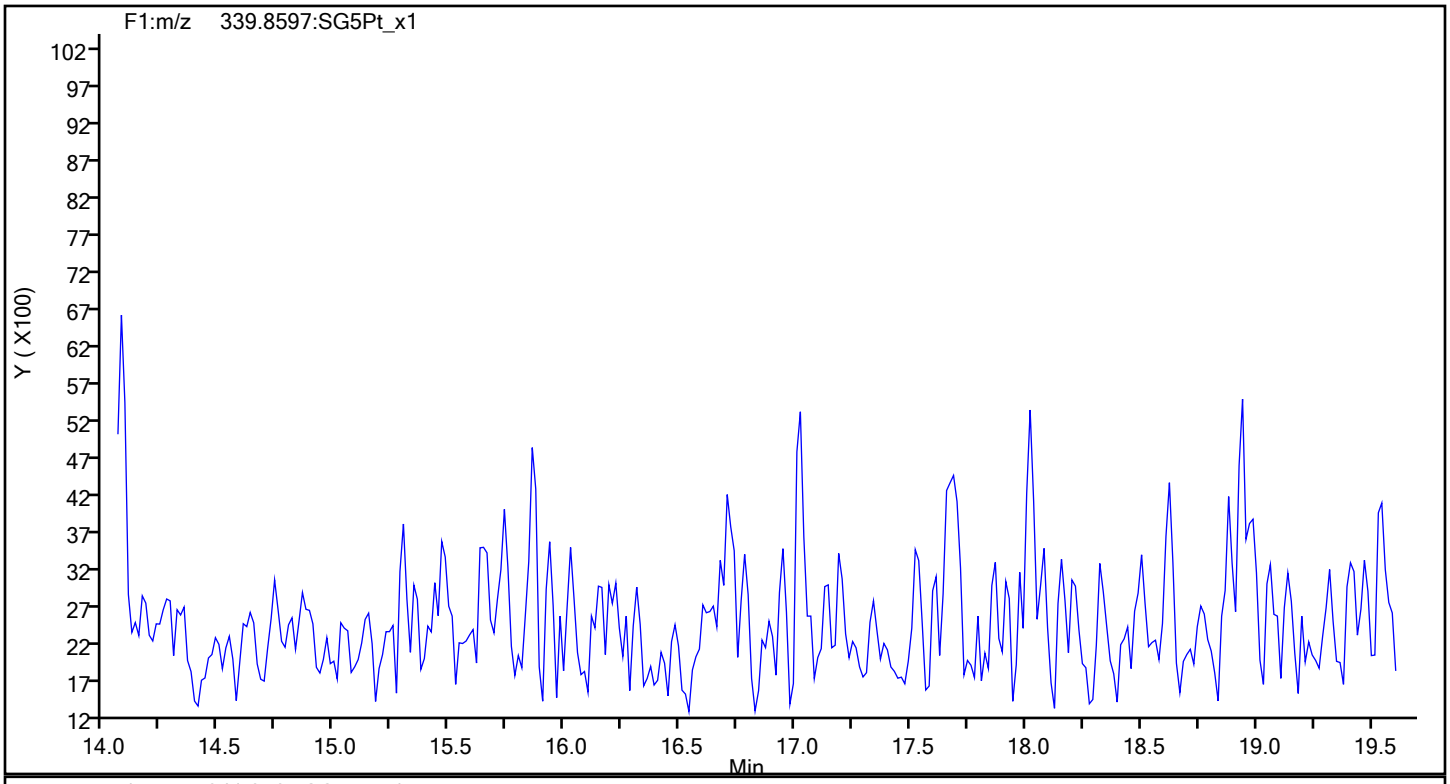

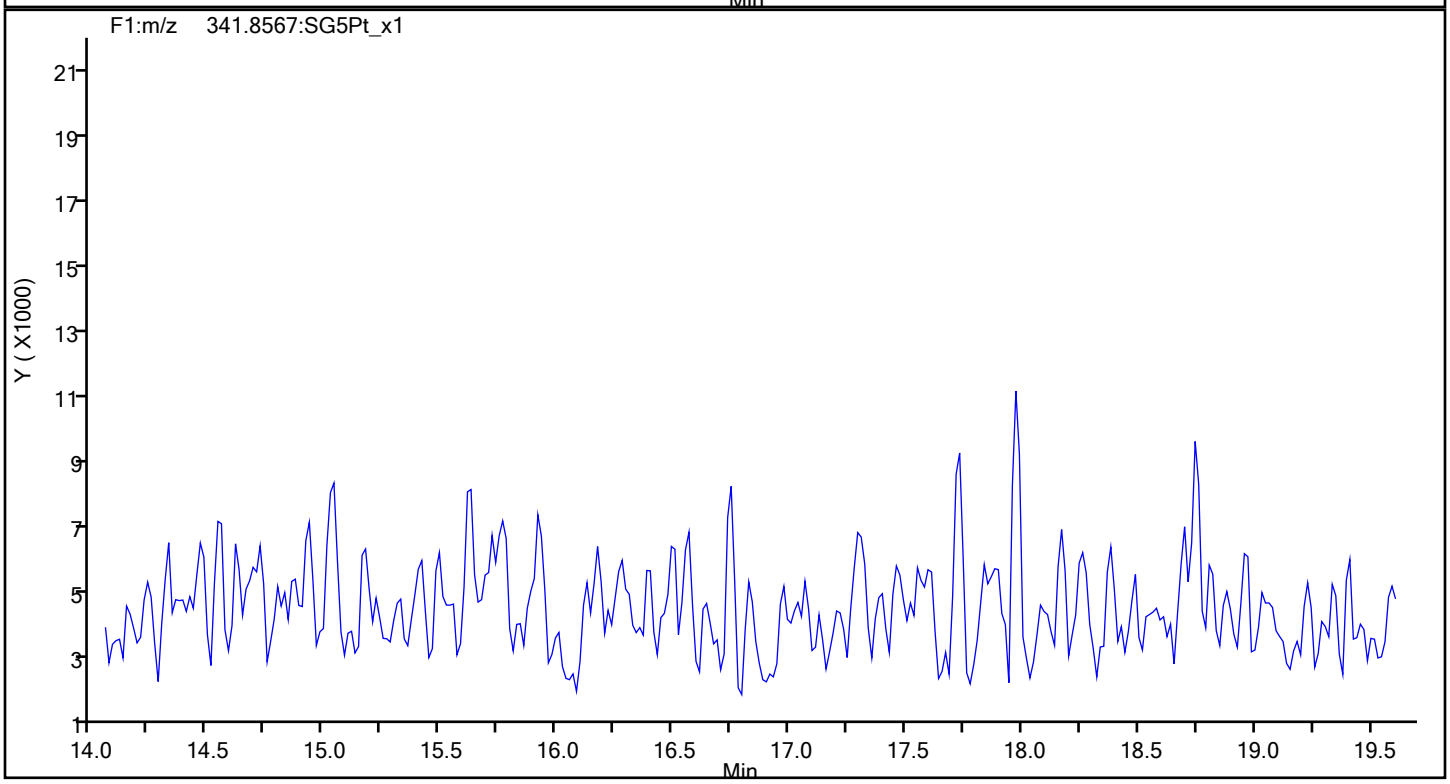

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

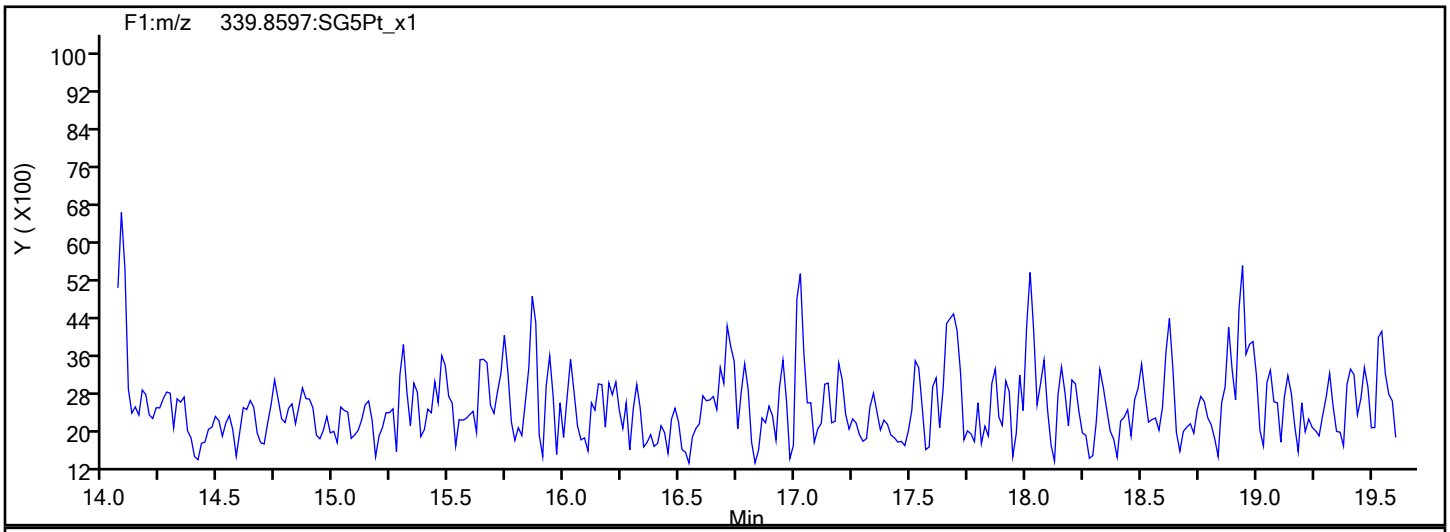

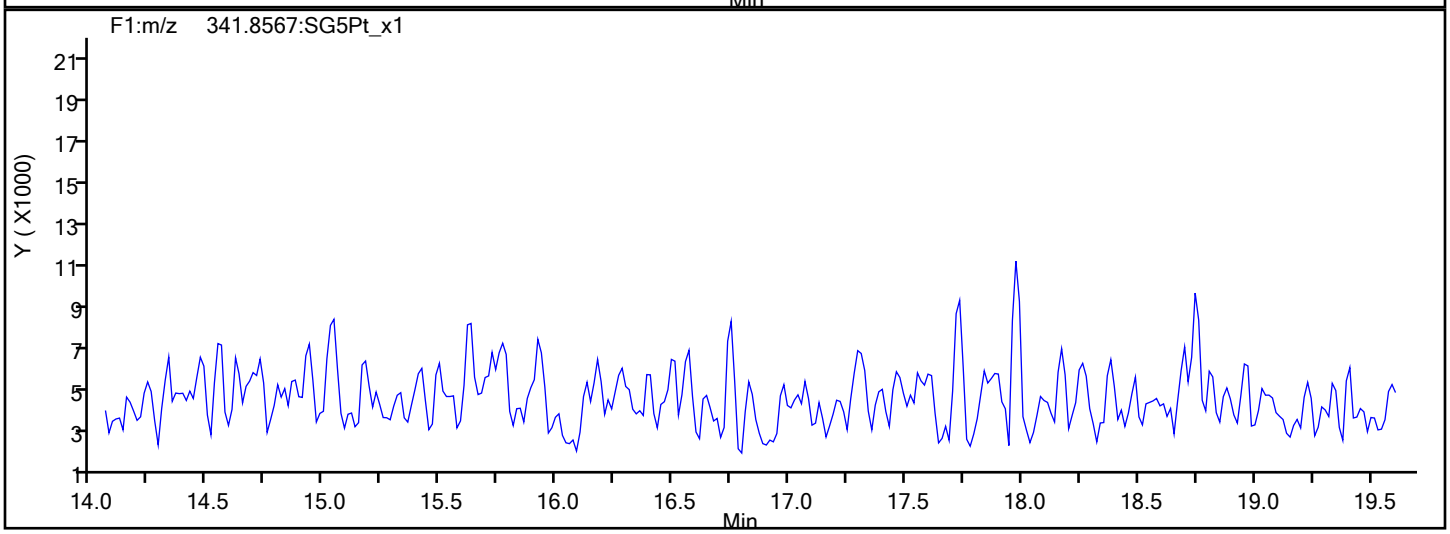

F1 PeCDFs Interference Mass

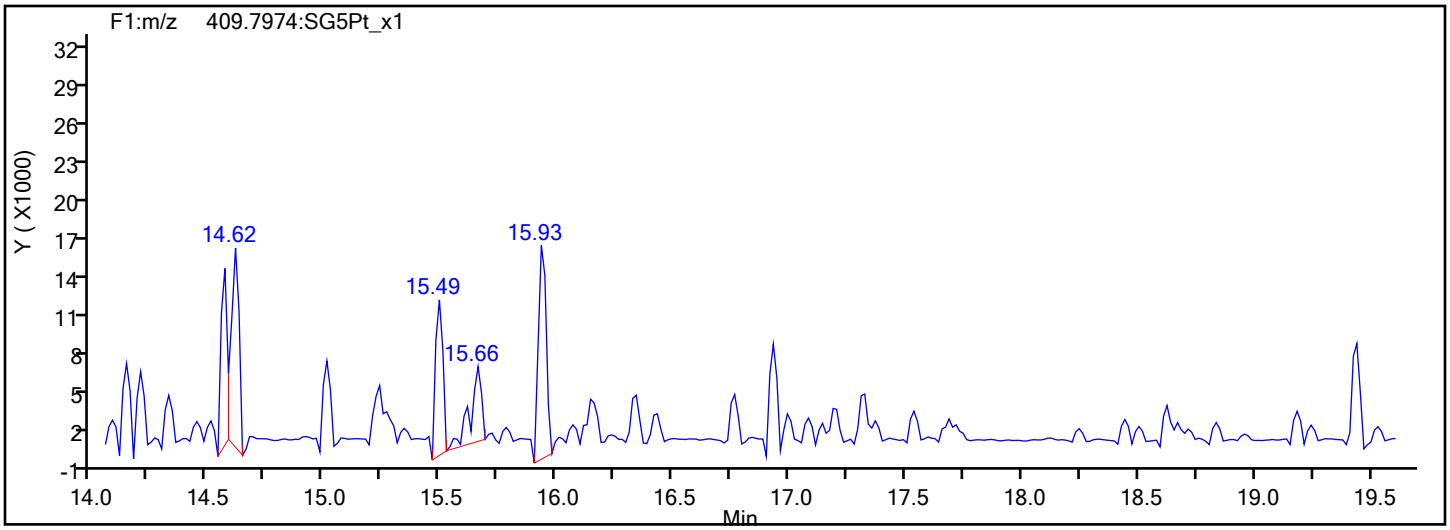

Report Date: 17-Jan-2020 08:53:42 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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PeCDF

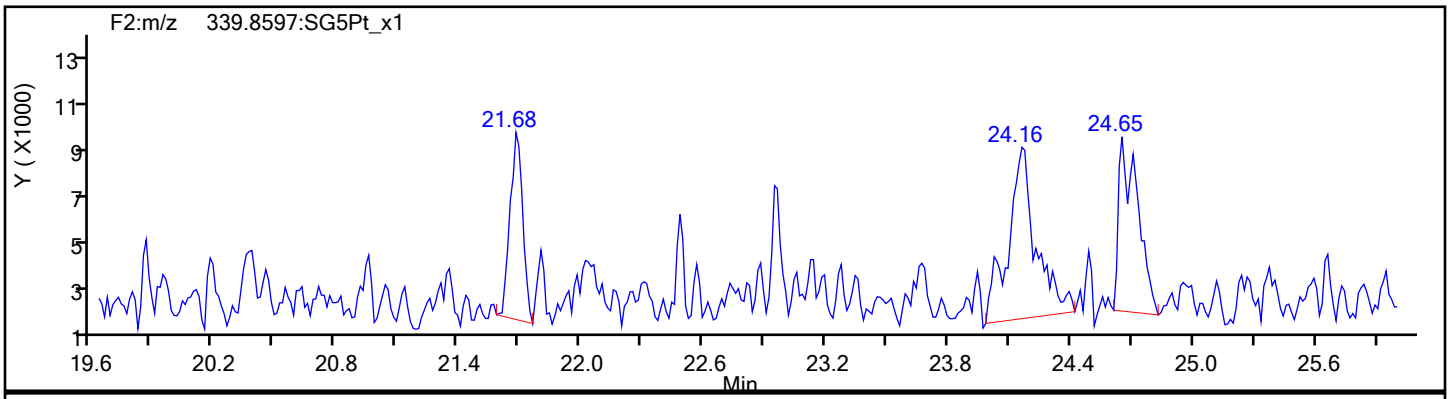

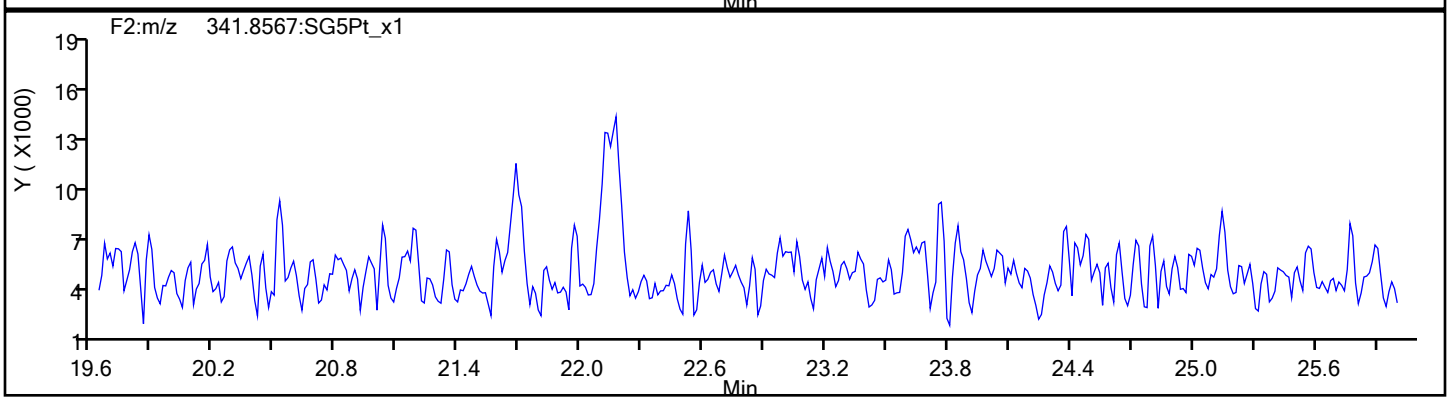

PeCDF Standards

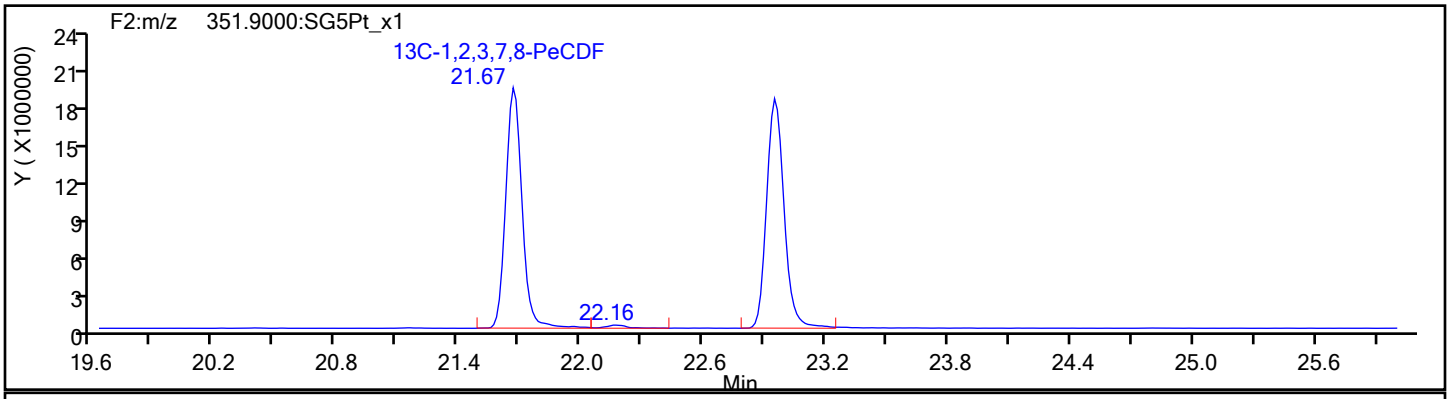

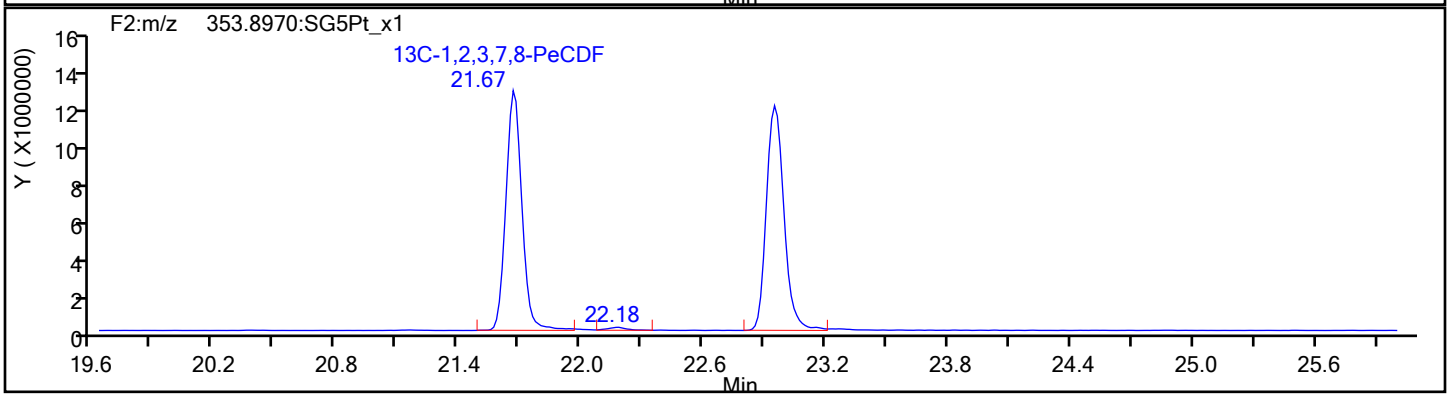

Report Date: 17-Jan-2020 08:53:43 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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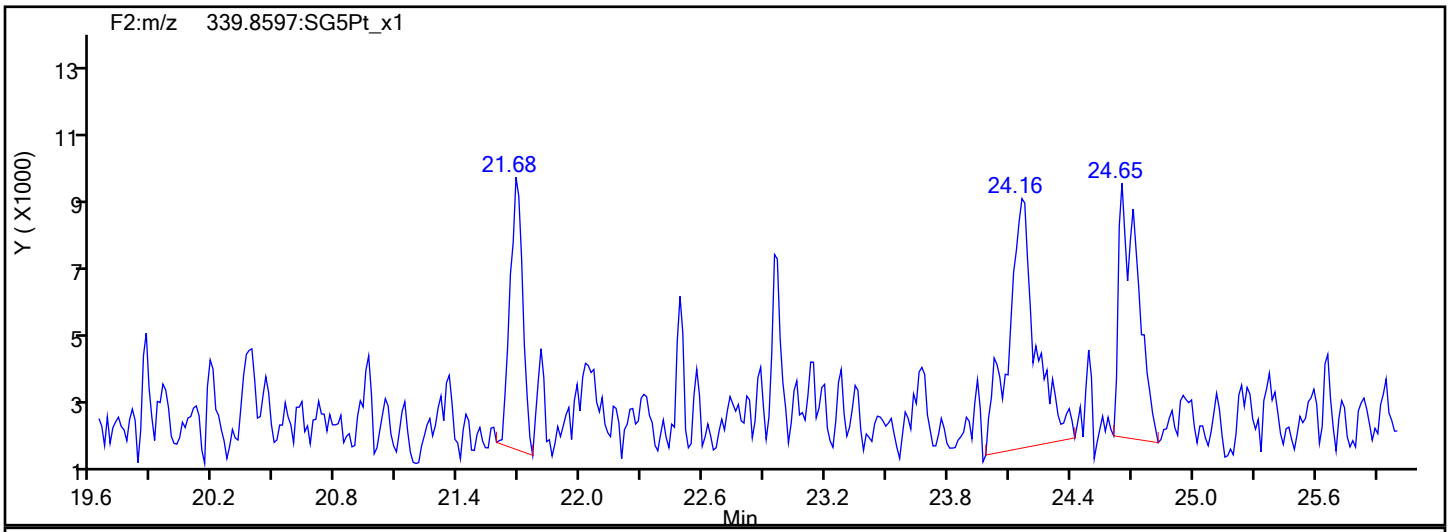

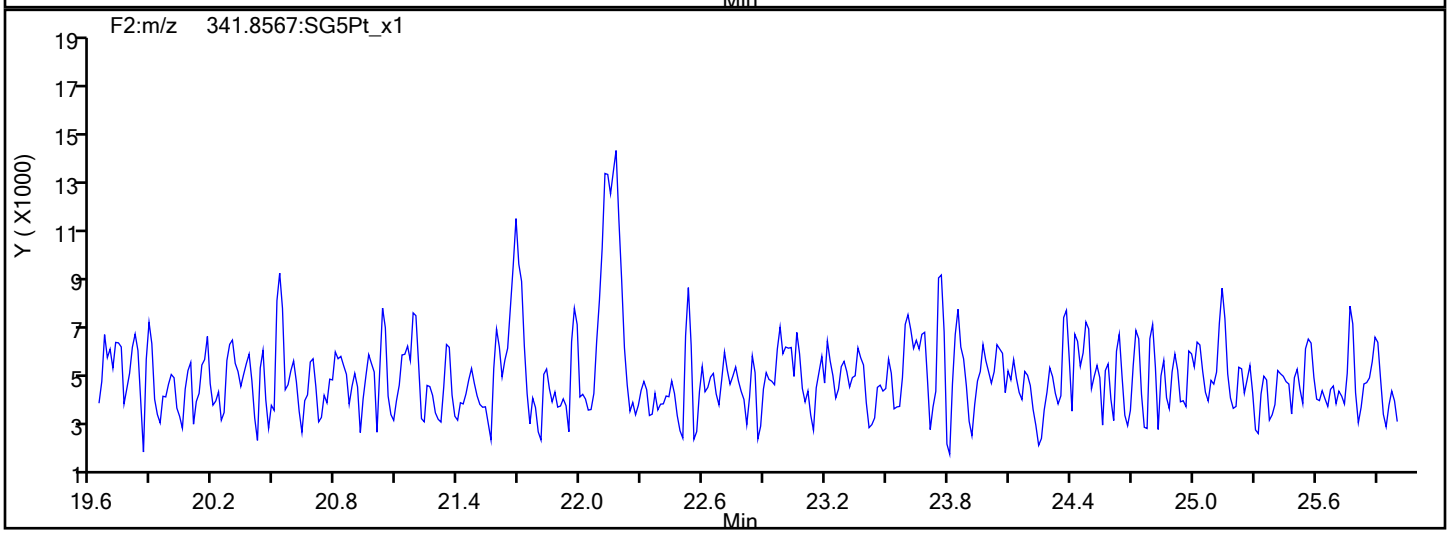

PeCDF Interference Mass

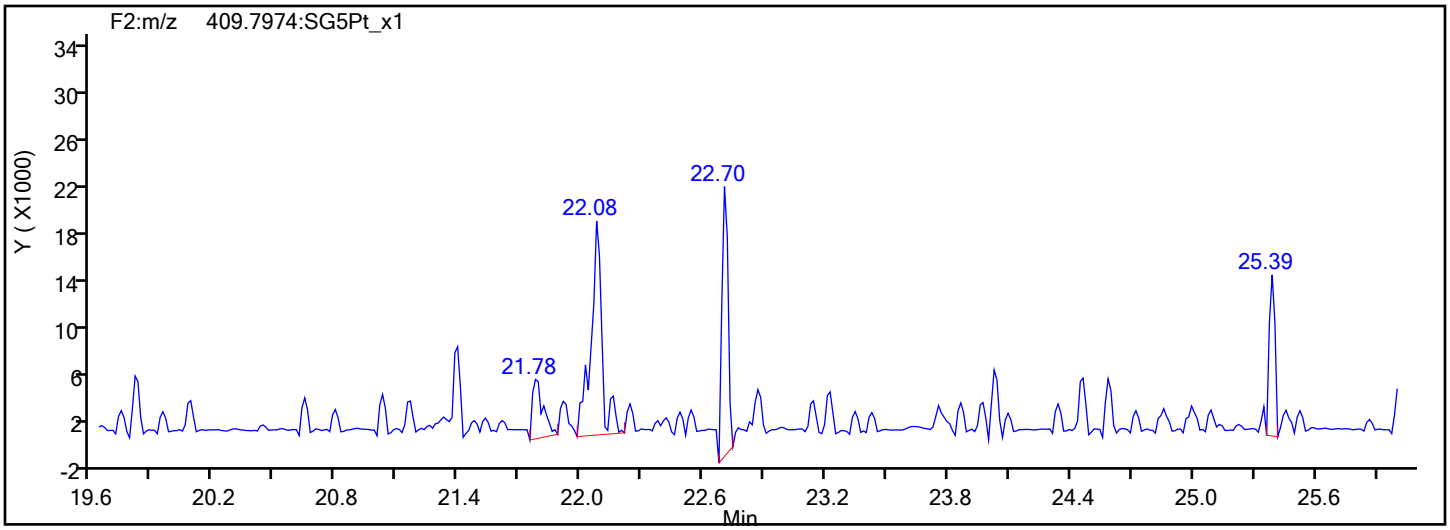

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Eurofins TestAmerica, Sacramento

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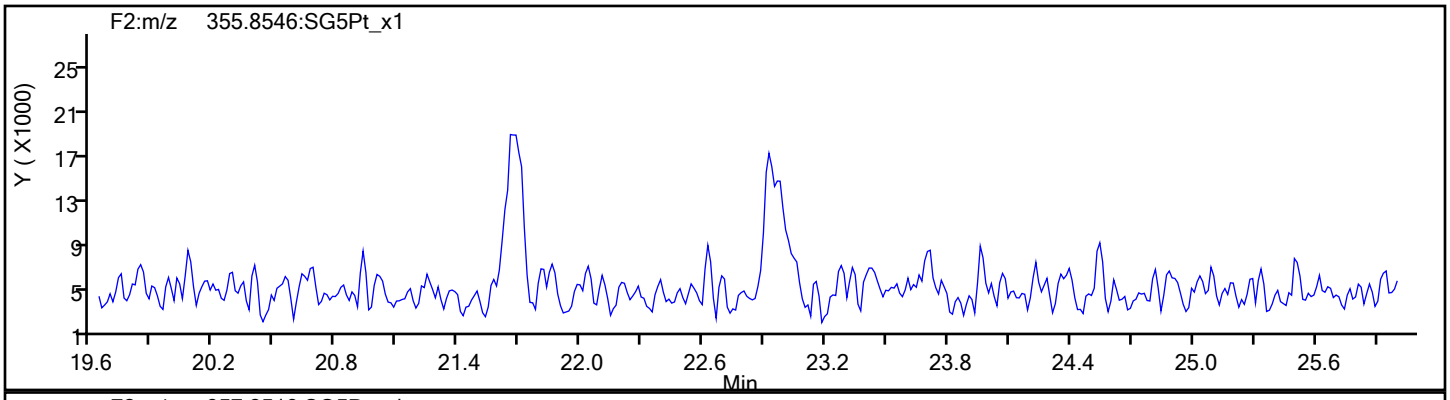

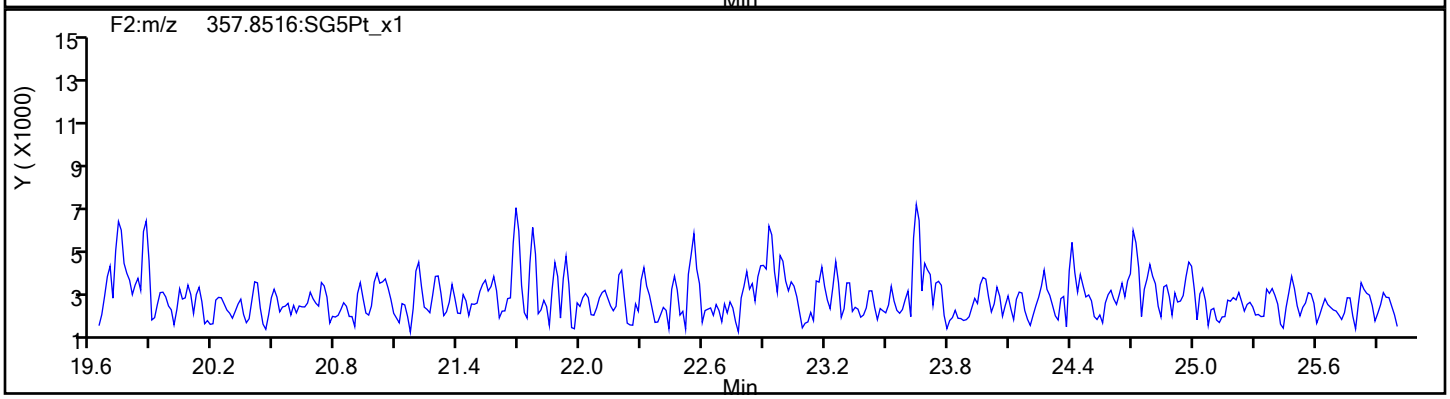

PeCDD Standards

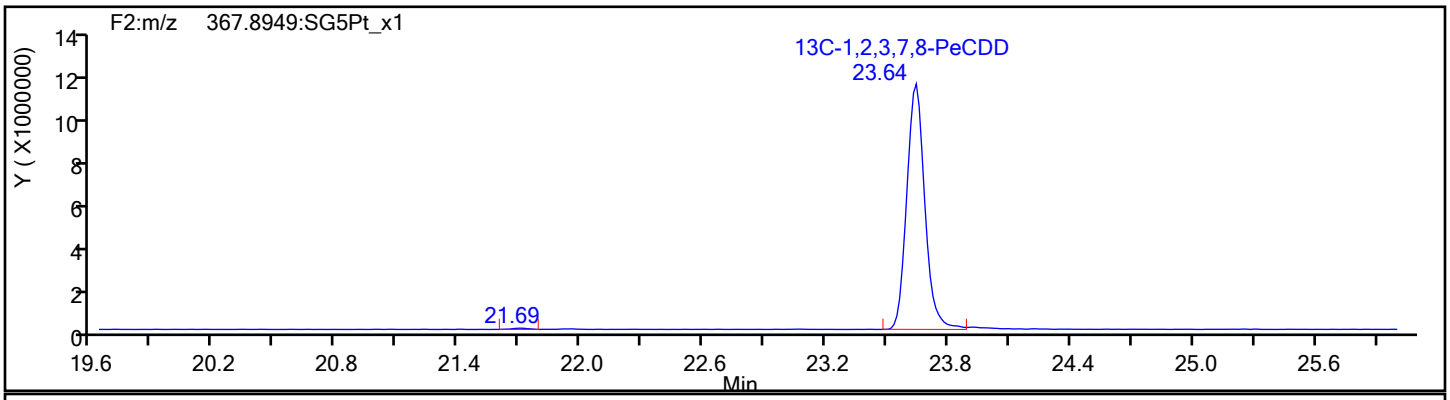

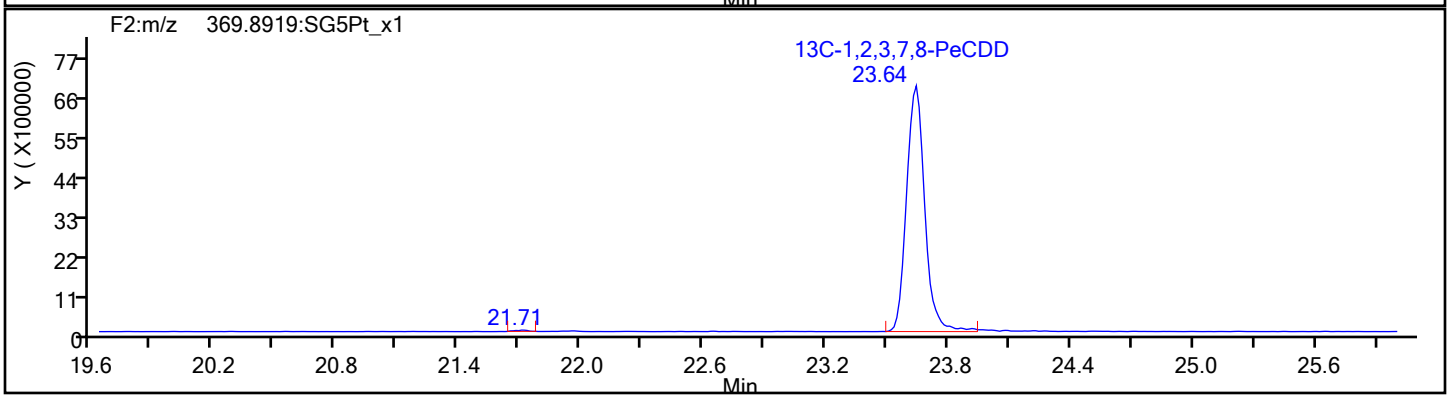

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Eurofins TestAmerica, Sacramento

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HxCDF

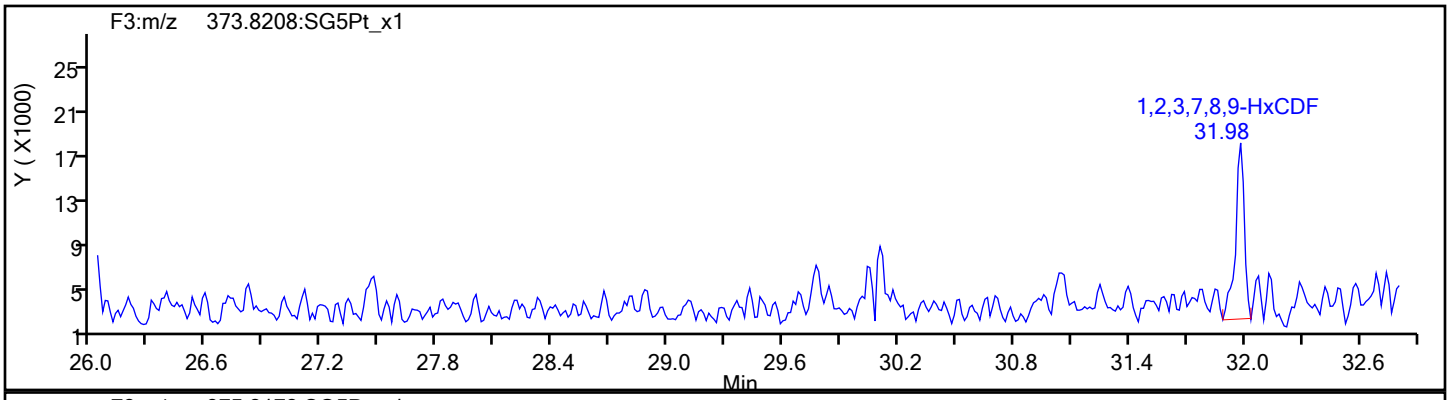

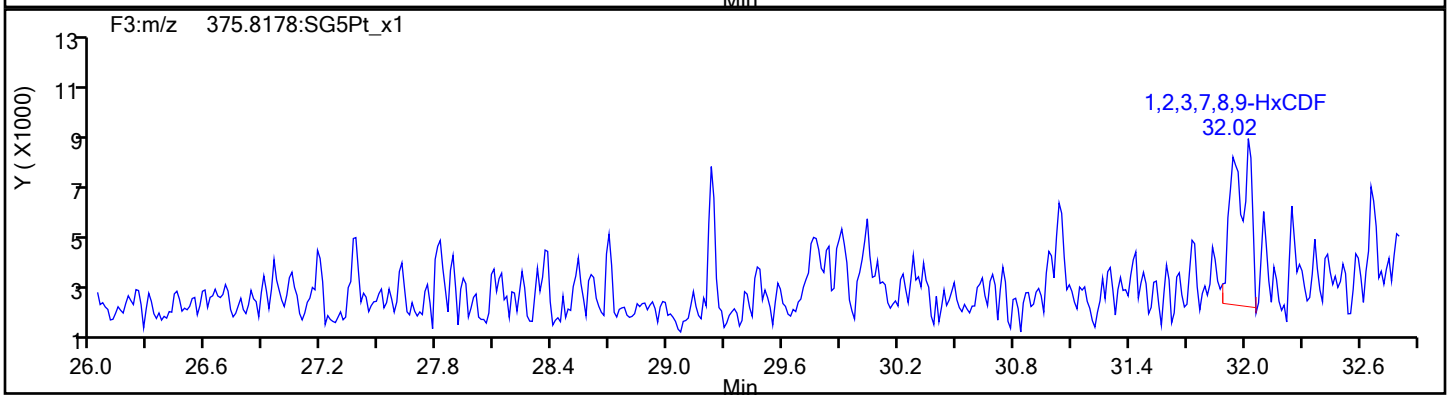

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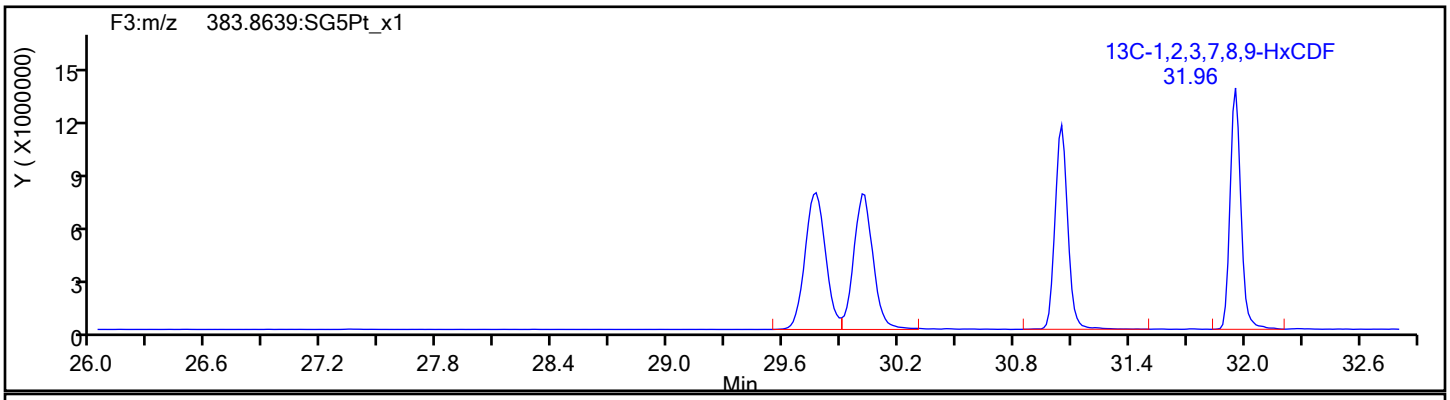

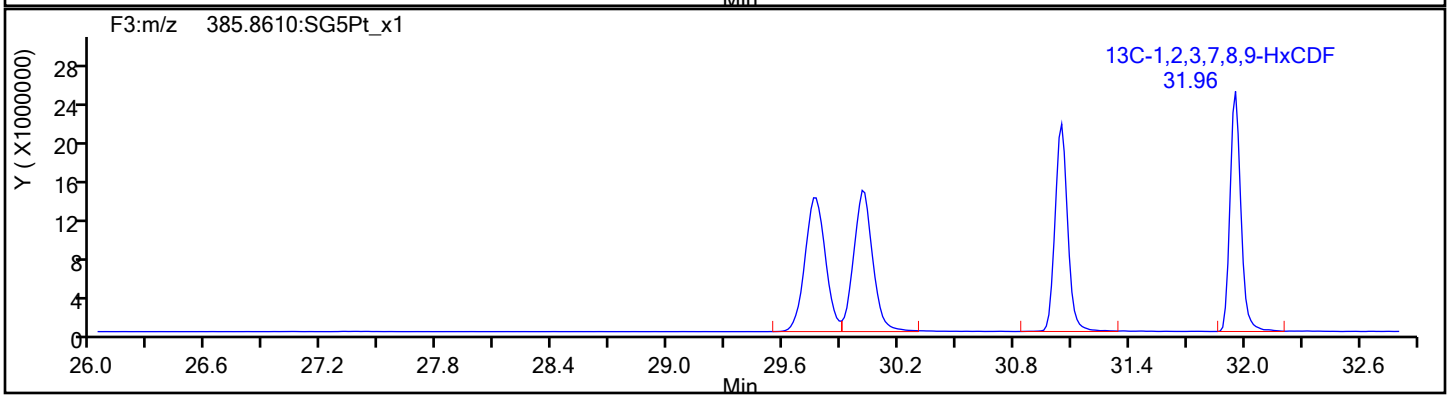

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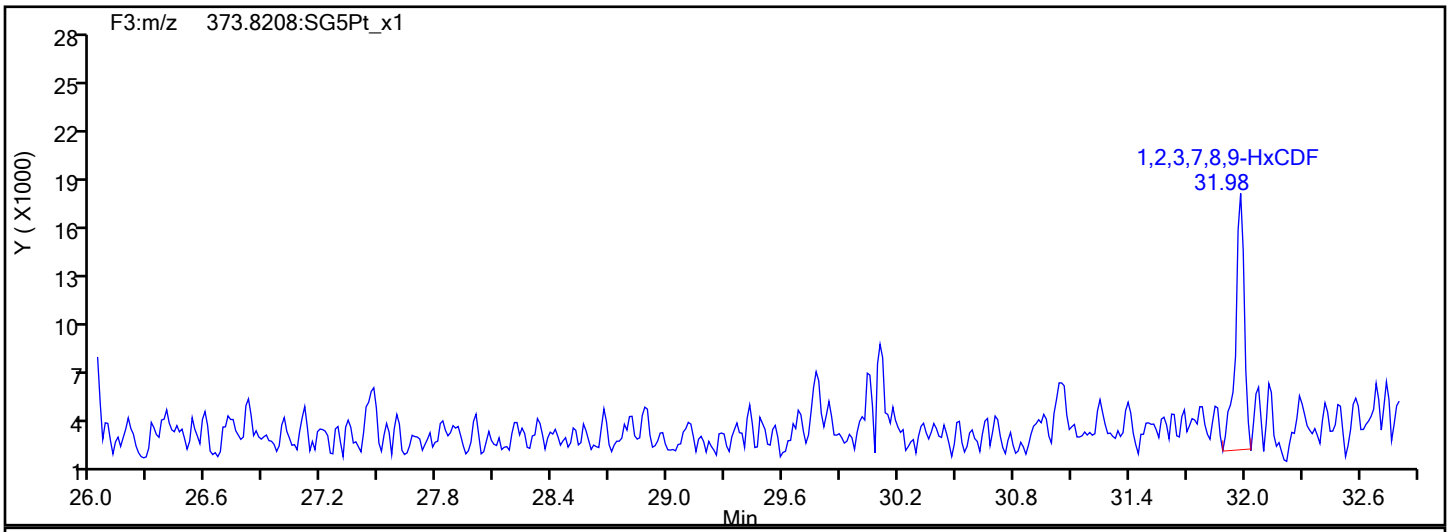

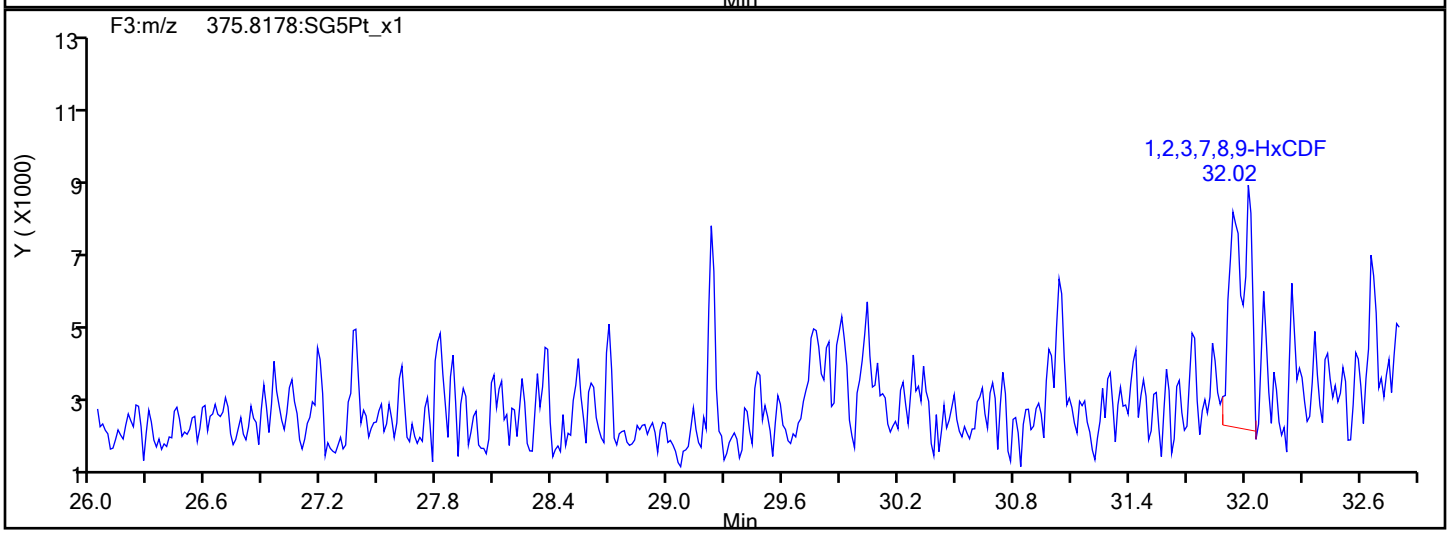

HxCDF Interference Mass

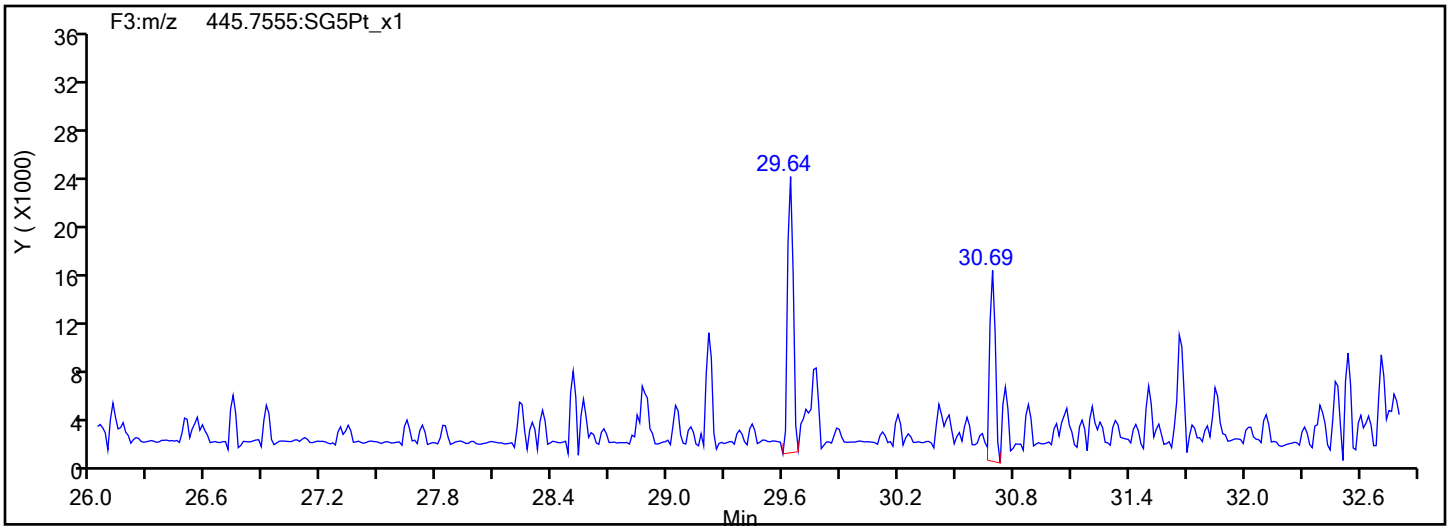

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Eurofins TestAmerica, Sacramento

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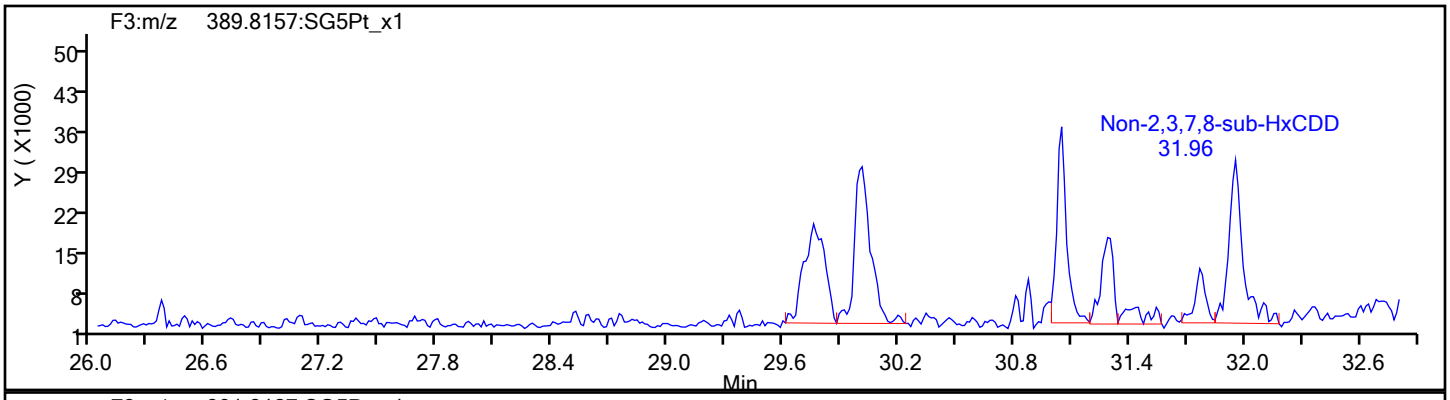

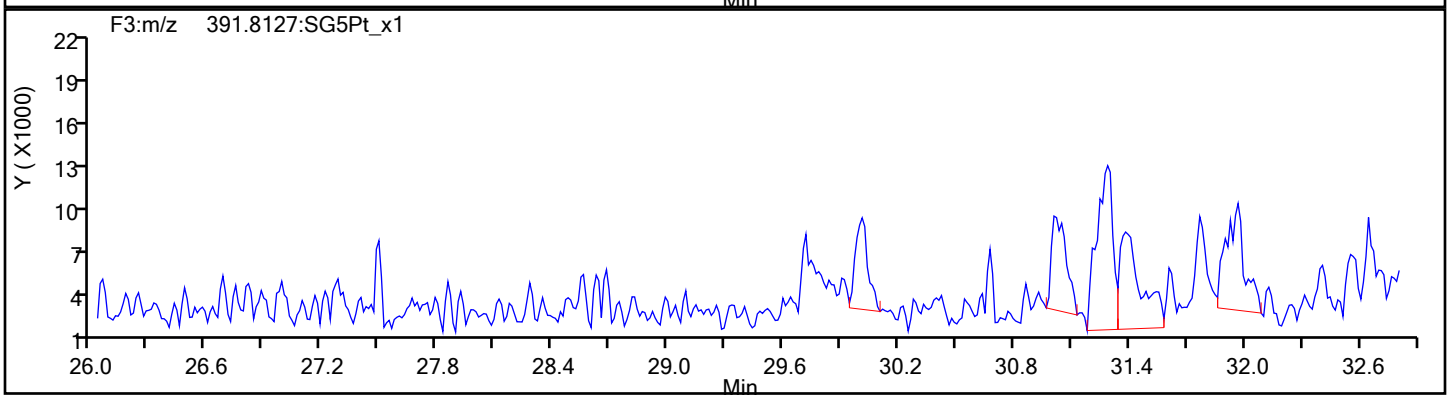

HxCDD Standards

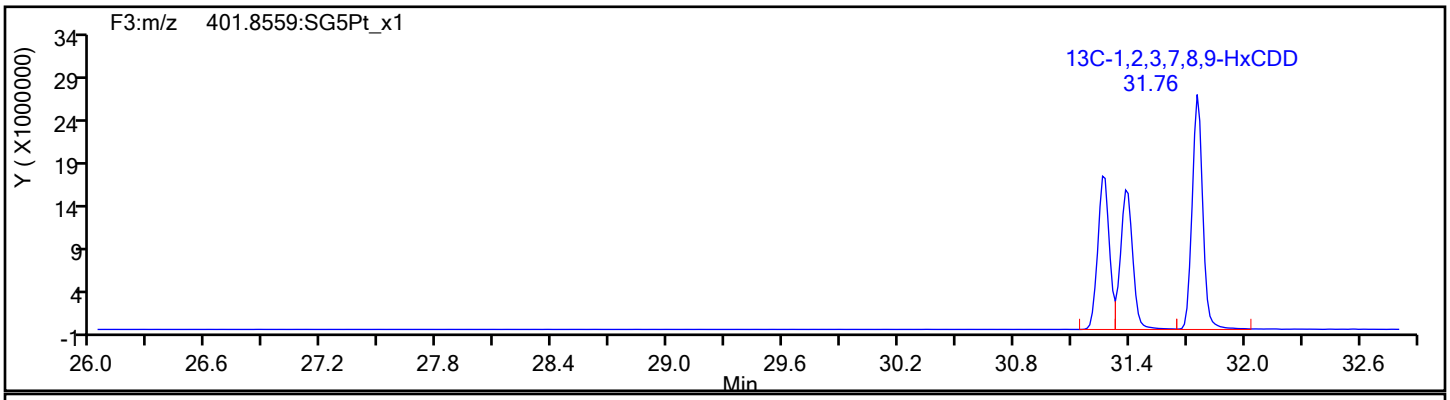

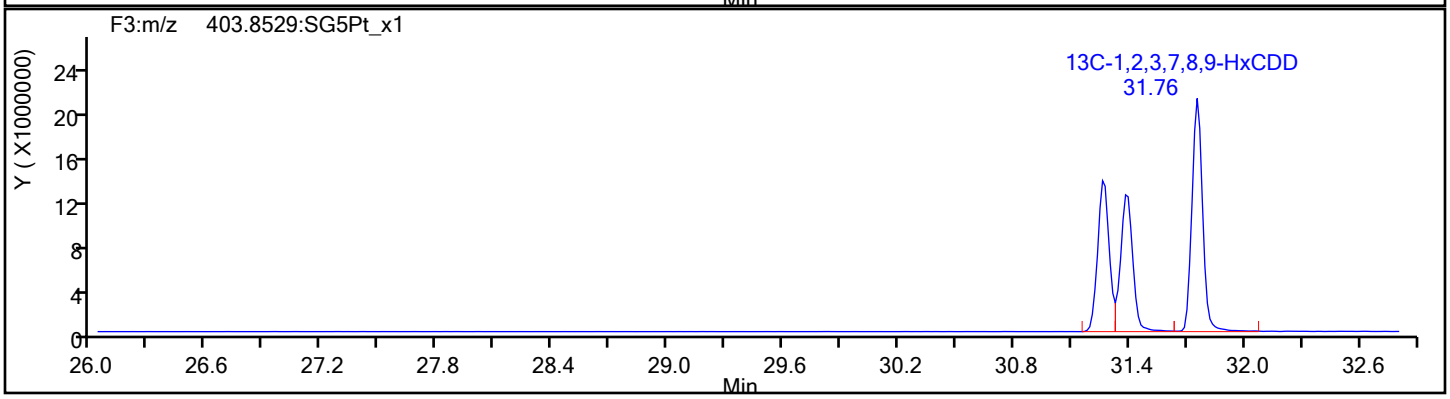

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Eurofins TestAmerica, Sacramento

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HpCDF

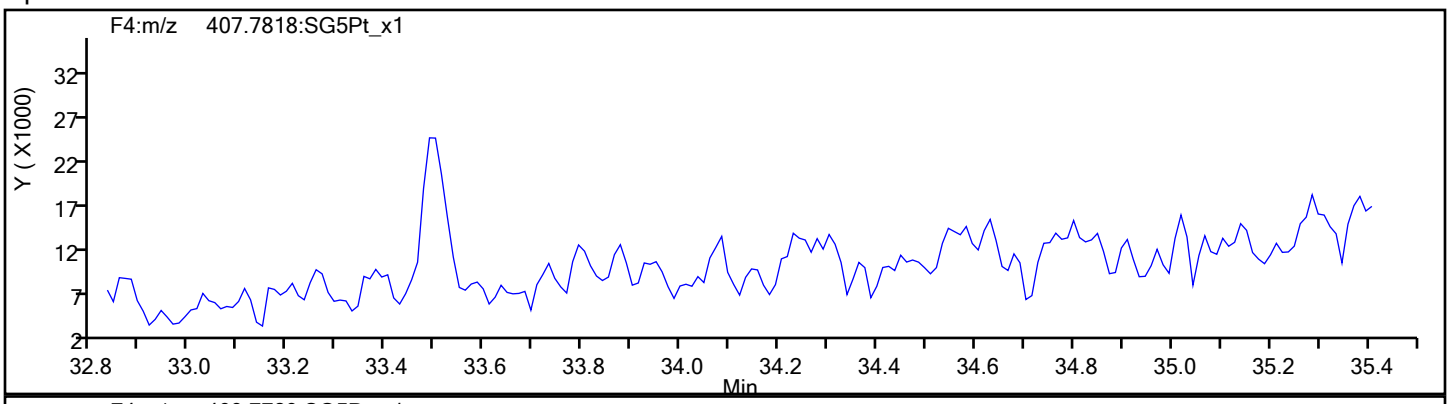

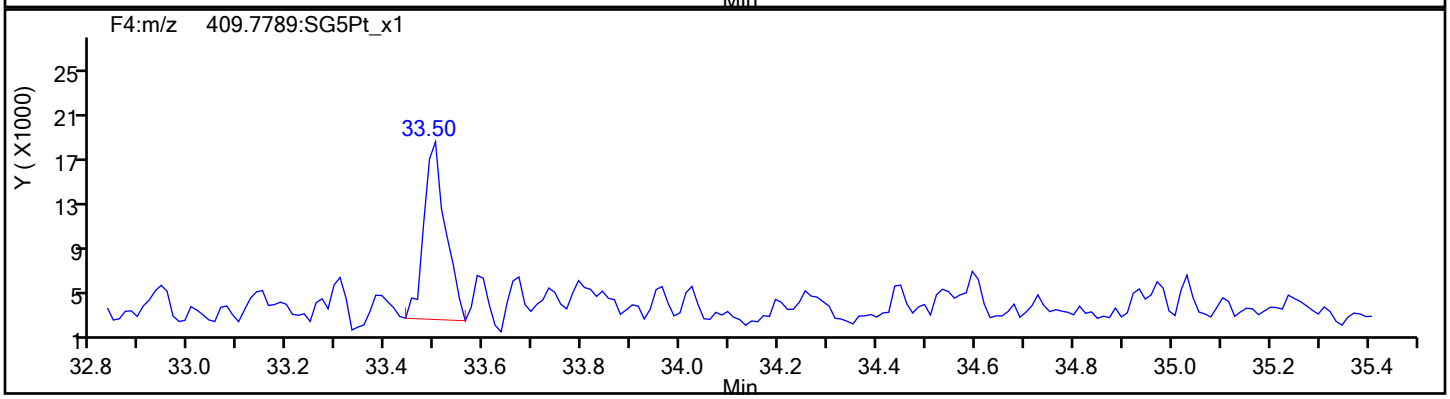

HpCDF Standards

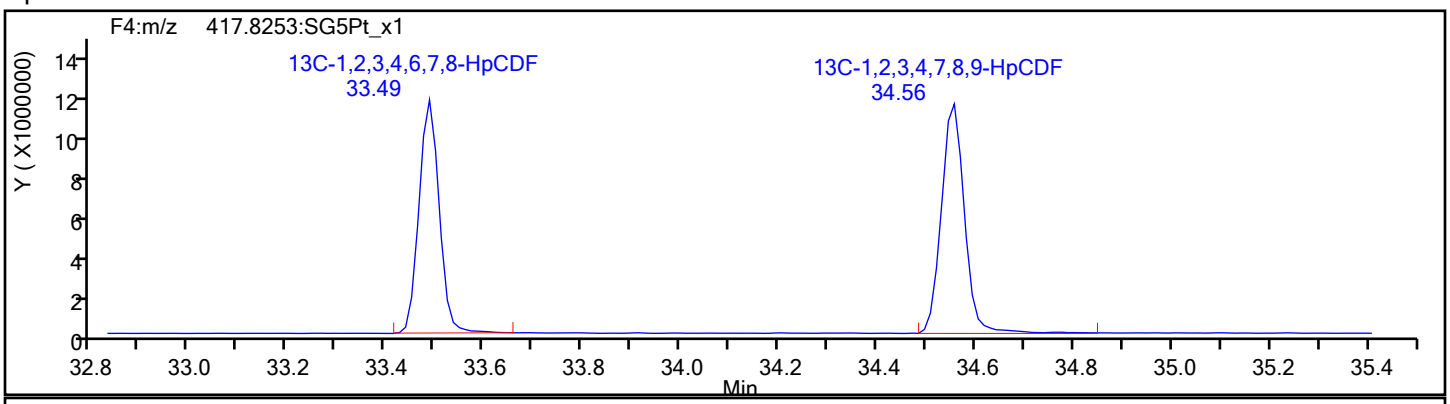

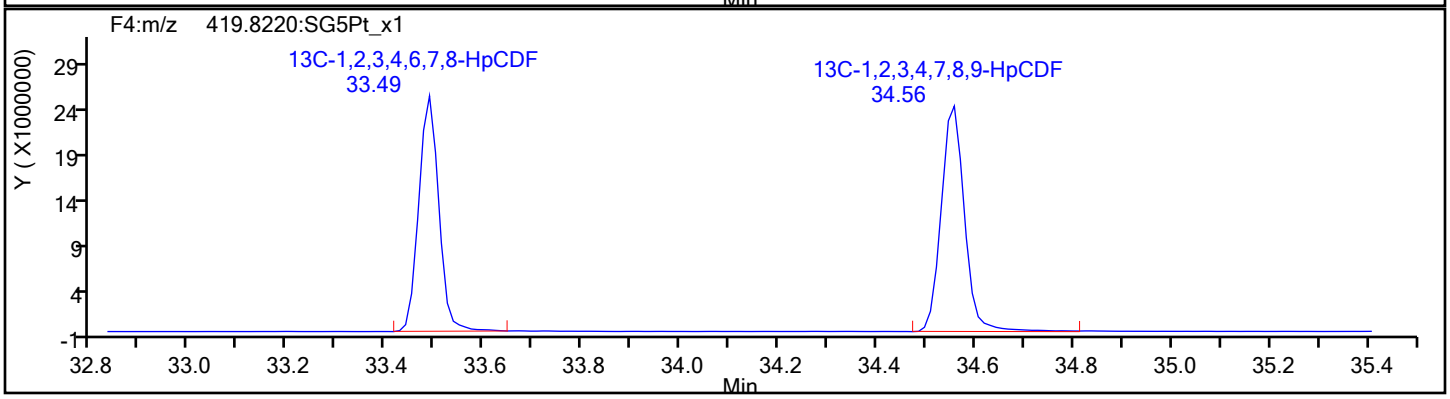

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Eurofins TestAmerica, Sacramento

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HpCDF

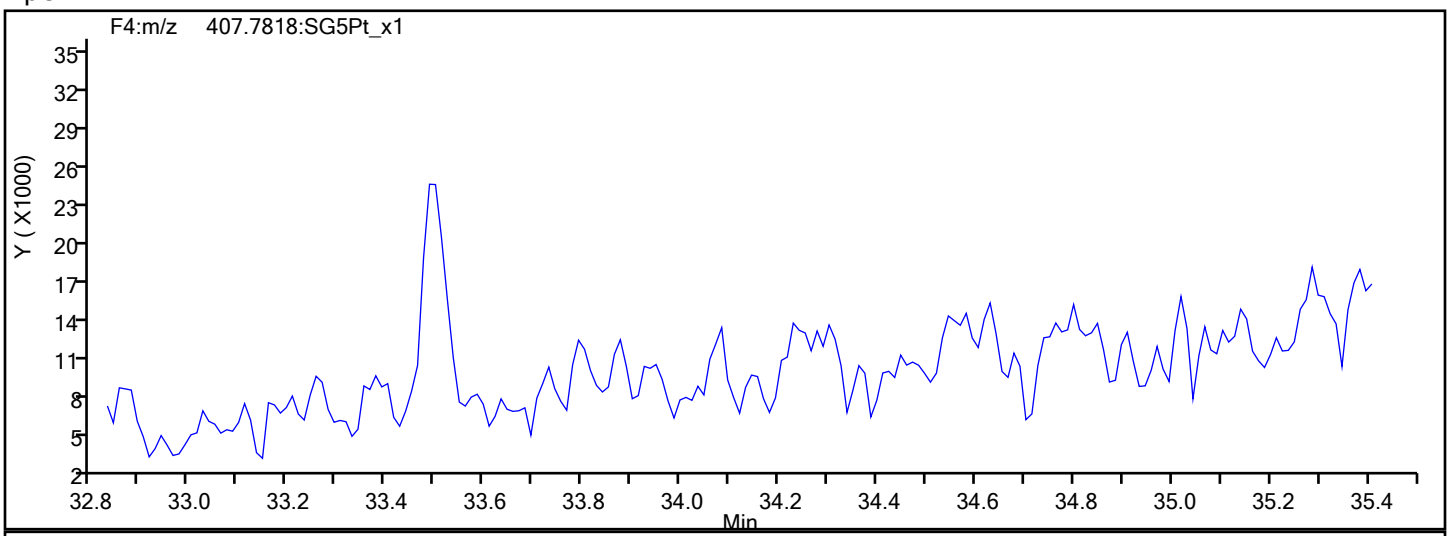

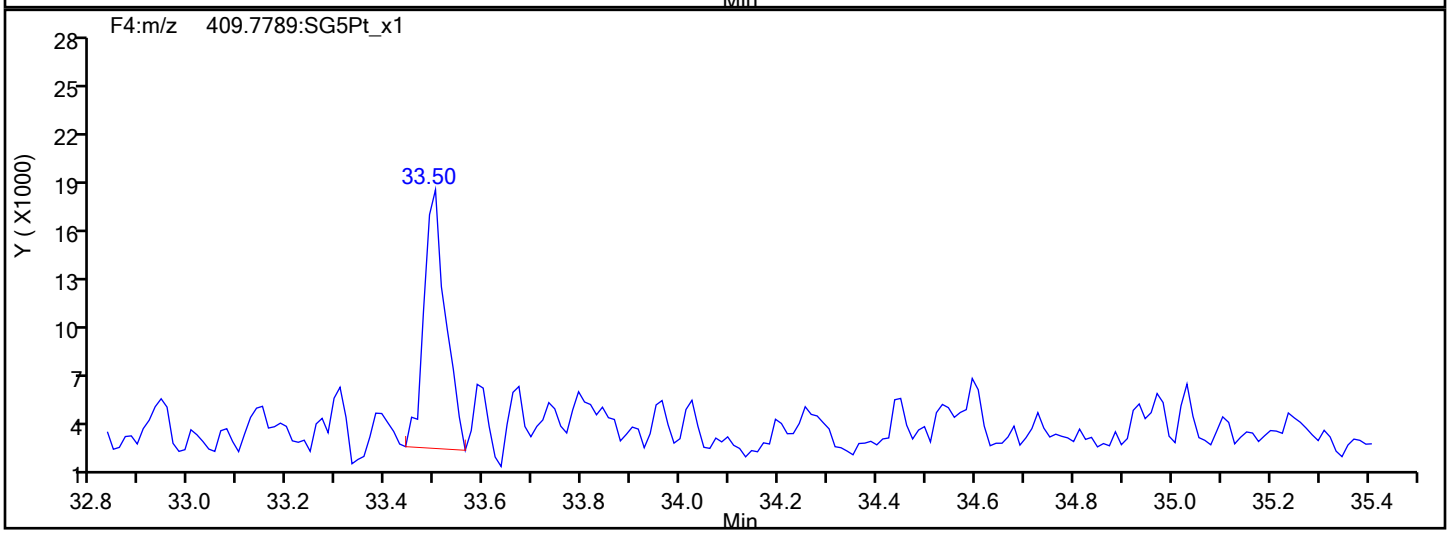

HpCDF Interference Mass

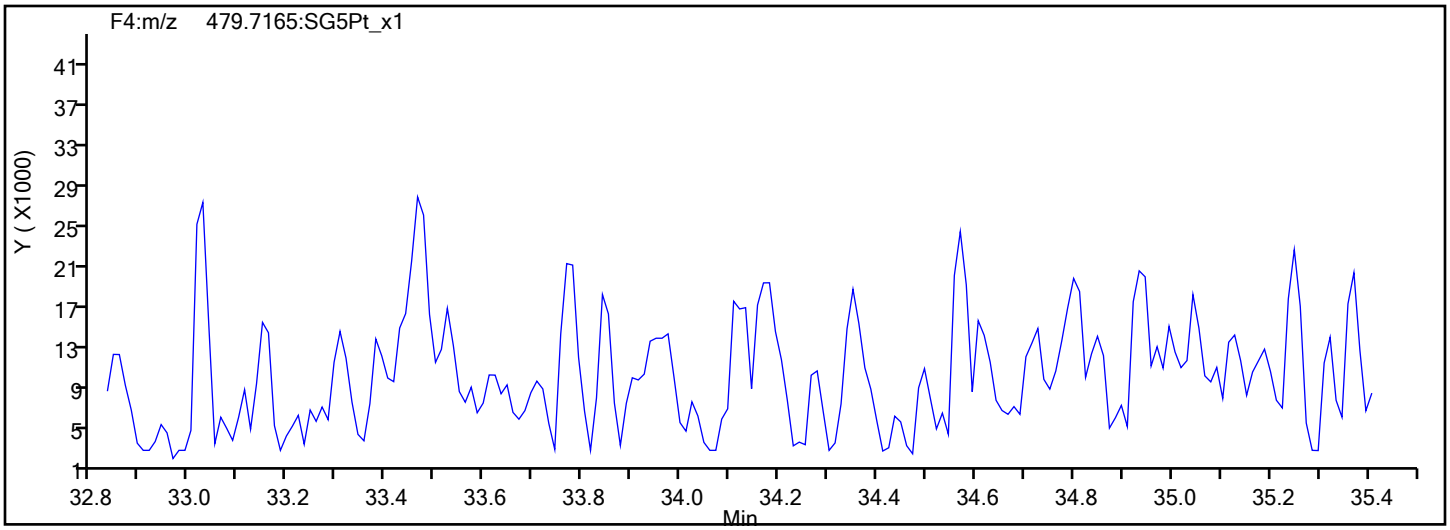

Report Date: 17-Jan-2020 08:53:43 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_13.d		
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Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-0.050um		
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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

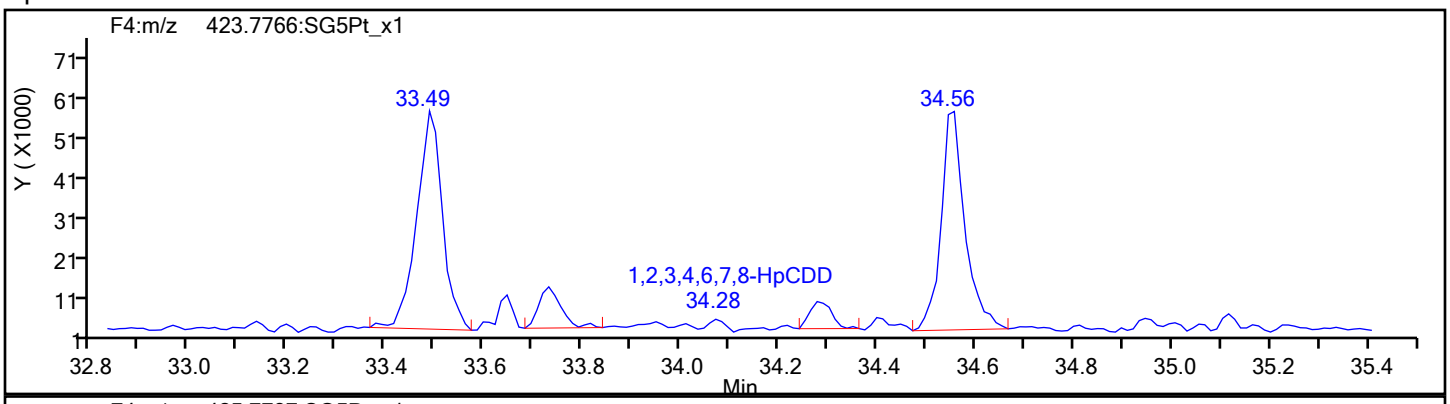

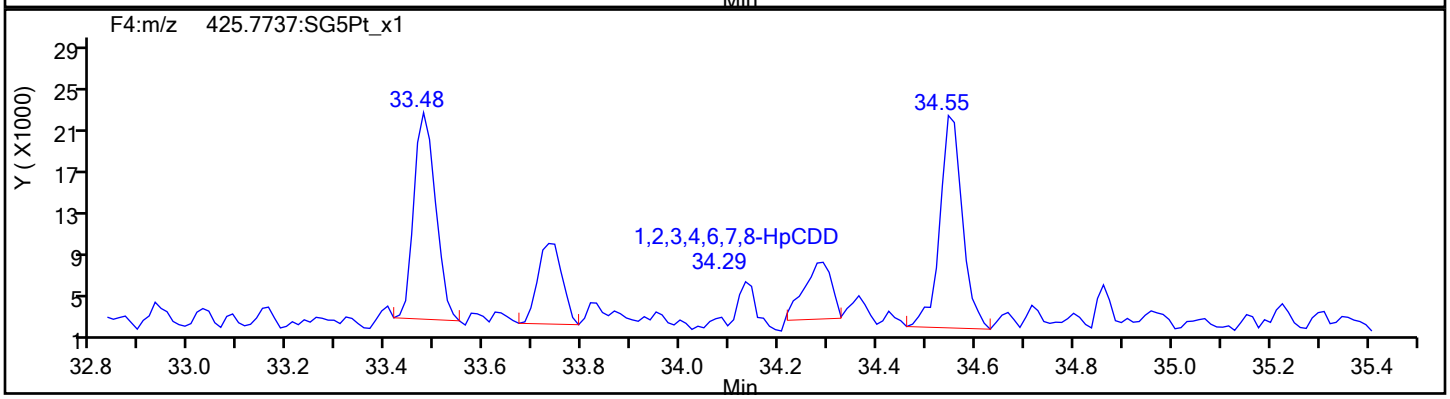

HpCDD Standards

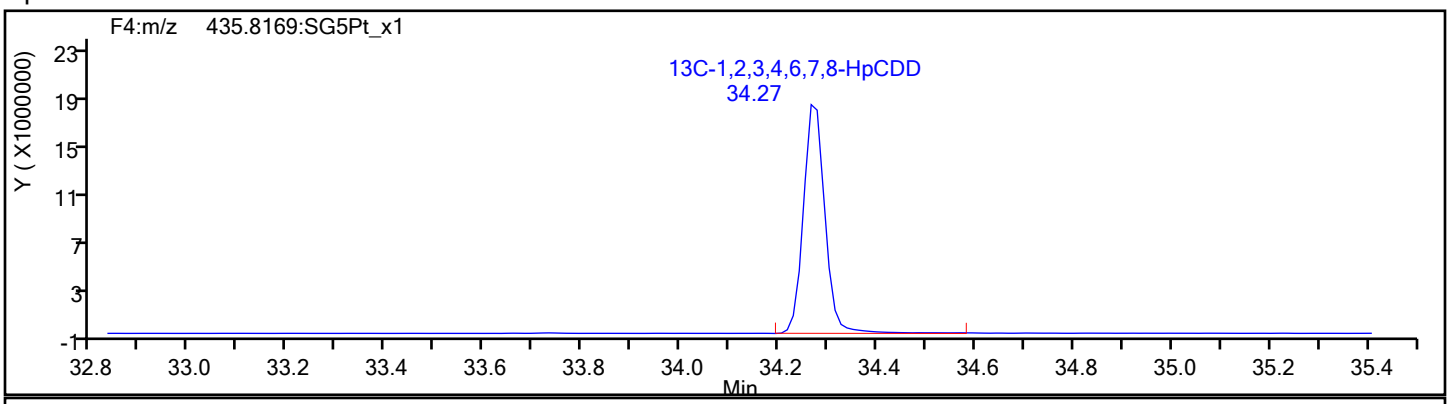

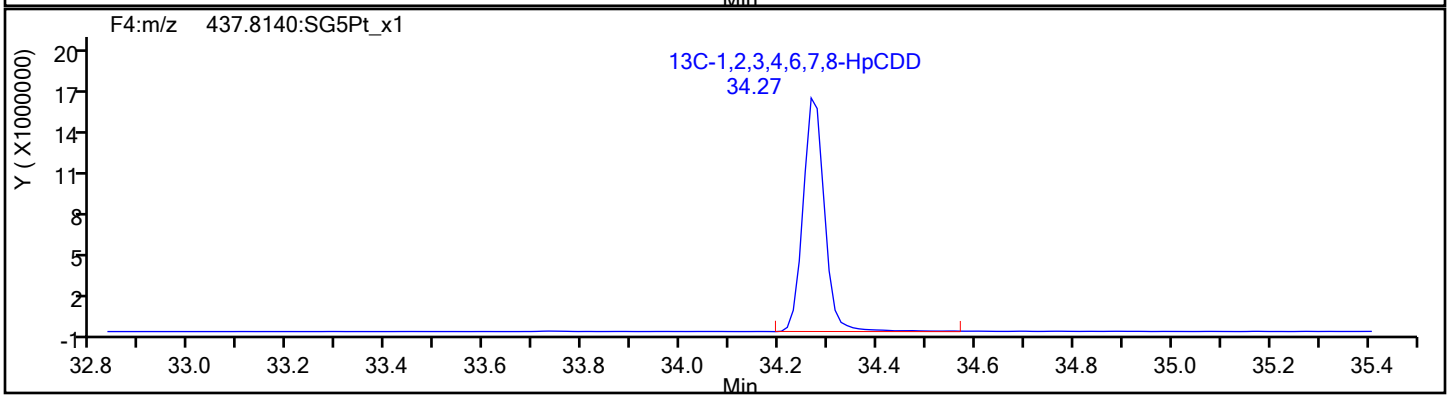

Report Date: 17-Jan-2020 08:53:43 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_13.d		
Injection Date:	16-Jan-2020 05:26:23	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-0.050um		
Worklist#:	351160	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

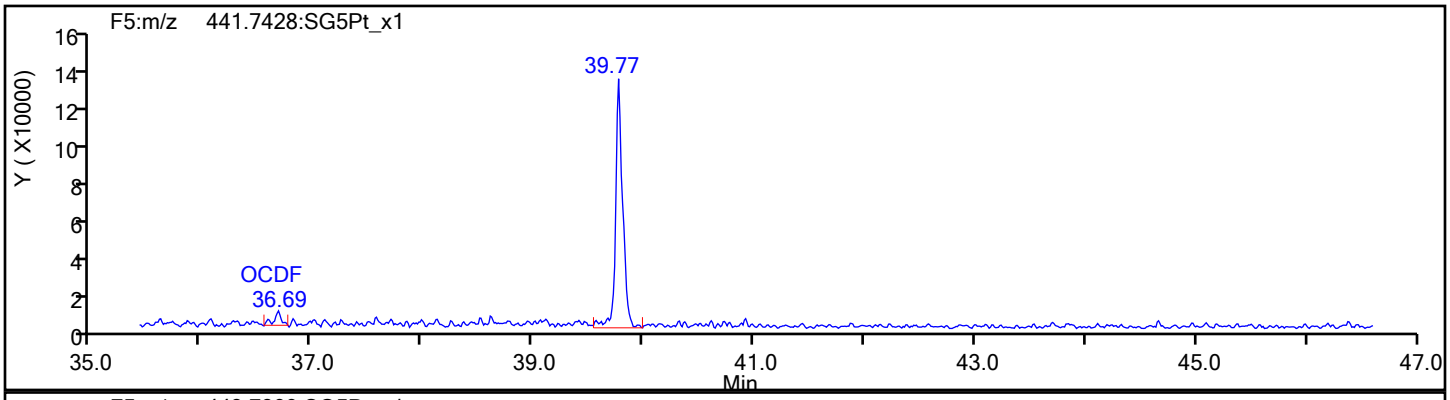

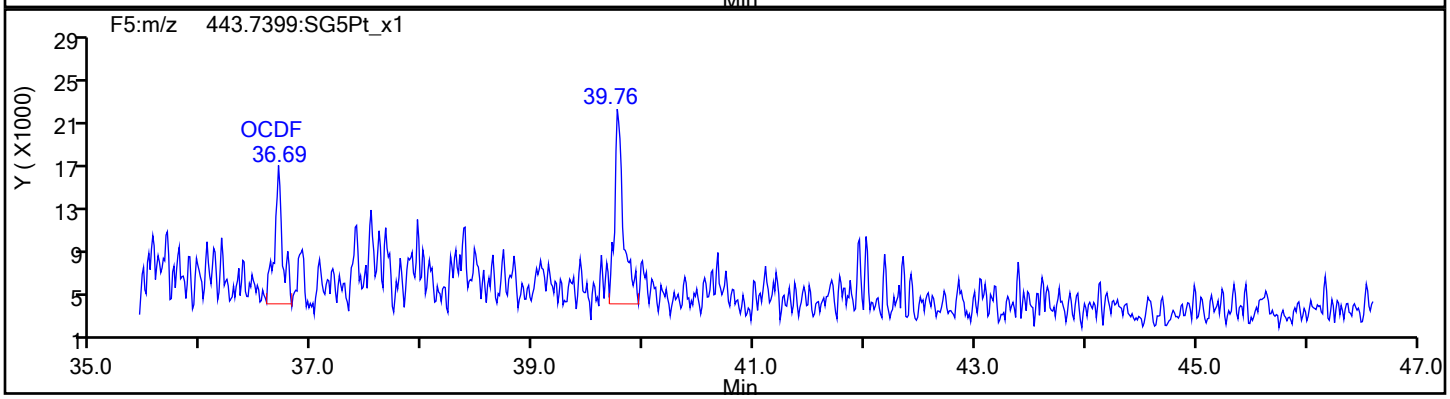

OCDF Standards

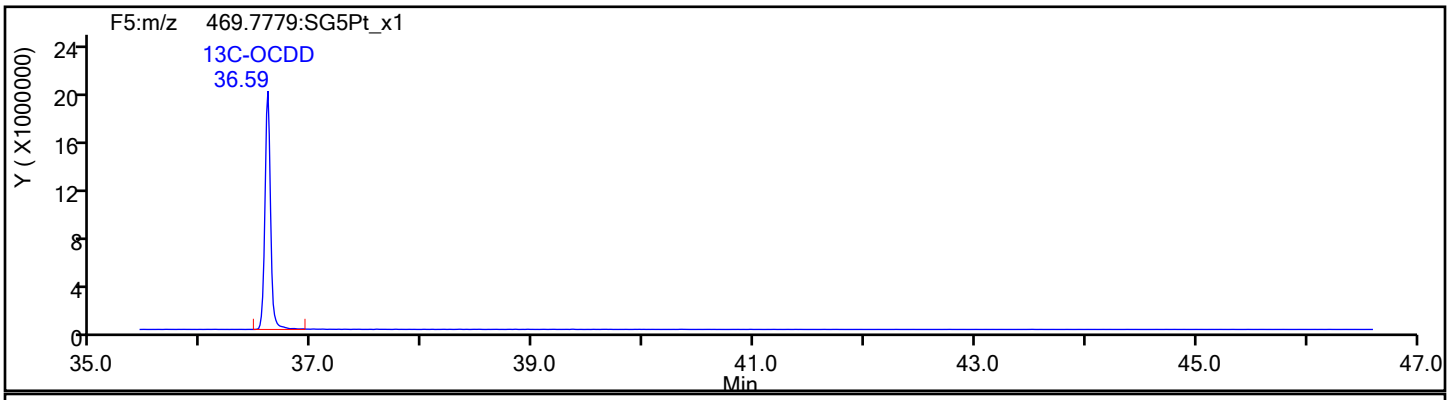

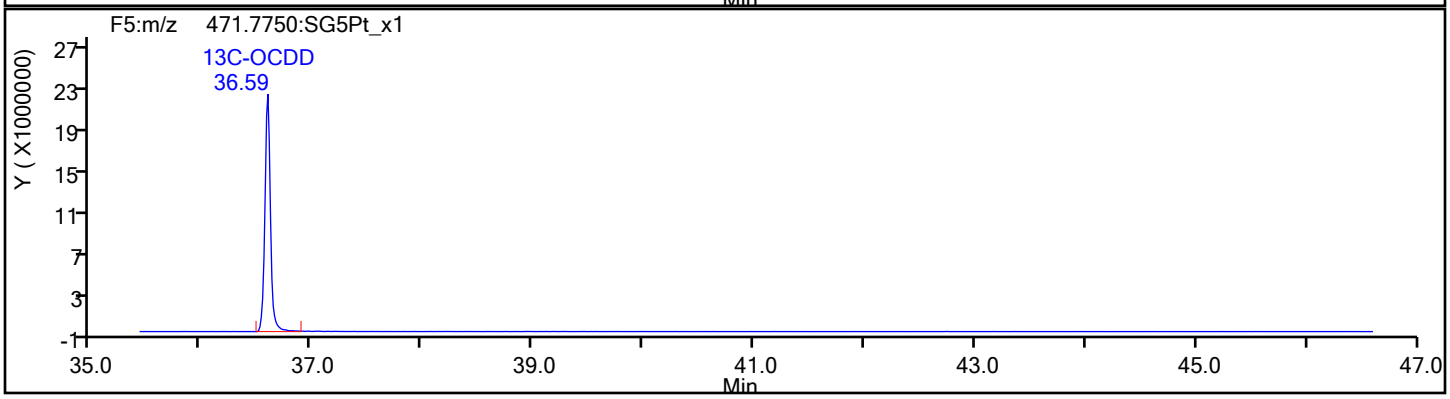

Report Date: 17-Jan-2020 08:53:43 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_13.d		
Injection Date:	16-Jan-2020 05:26:23	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-0.050um		
Worklist#:	351160	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

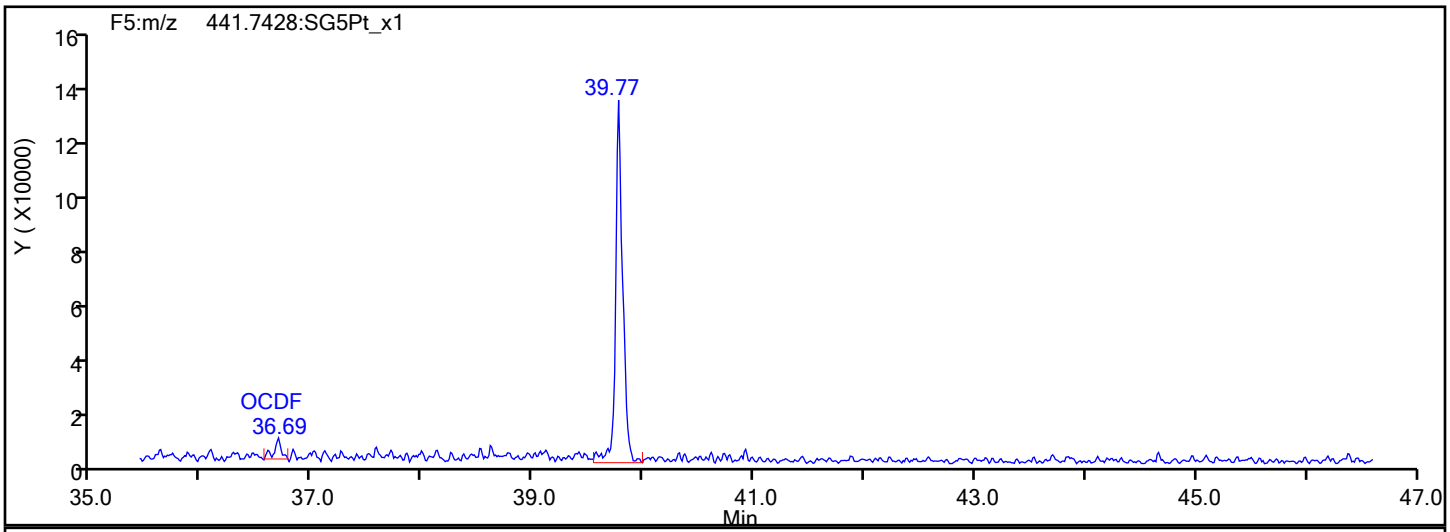

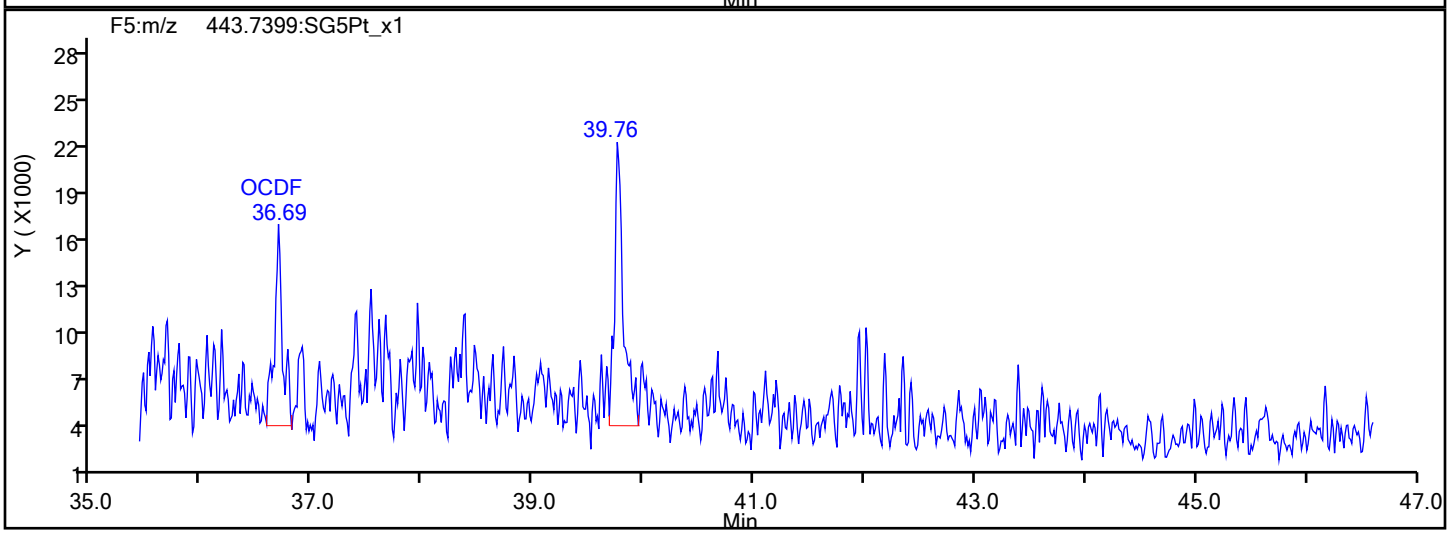

OCDF Interference Mass

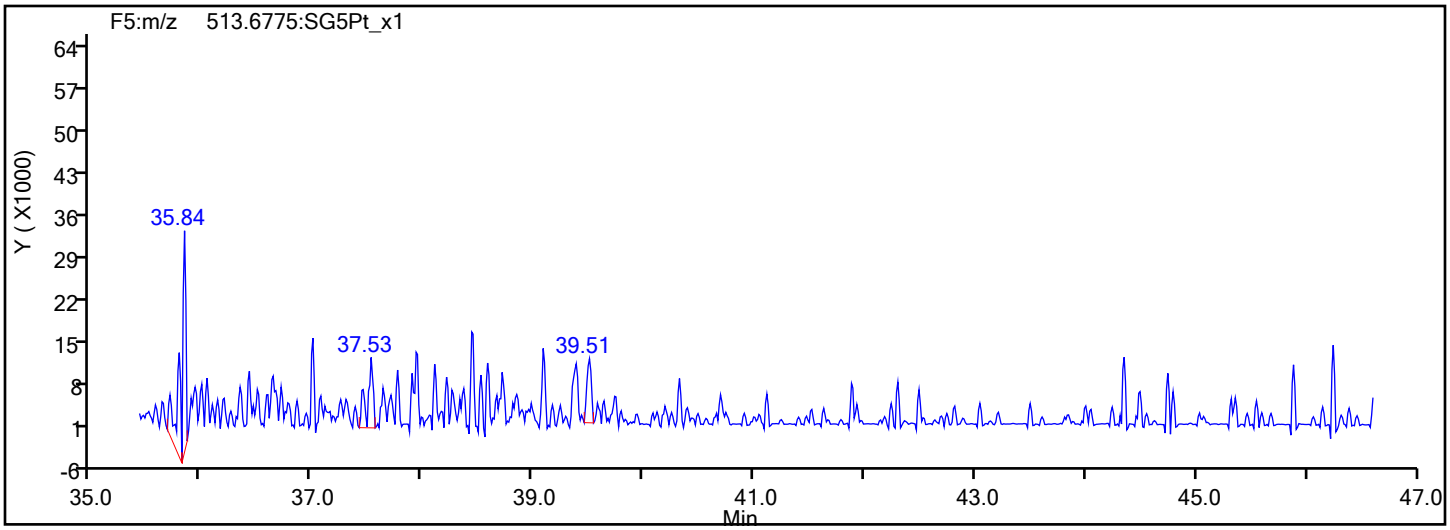

Report Date: 17-Jan-2020 08:53:43 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_13.d		
Injection Date:	16-Jan-2020 05:26:23	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-0.050um		
Worklist#:	351160	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

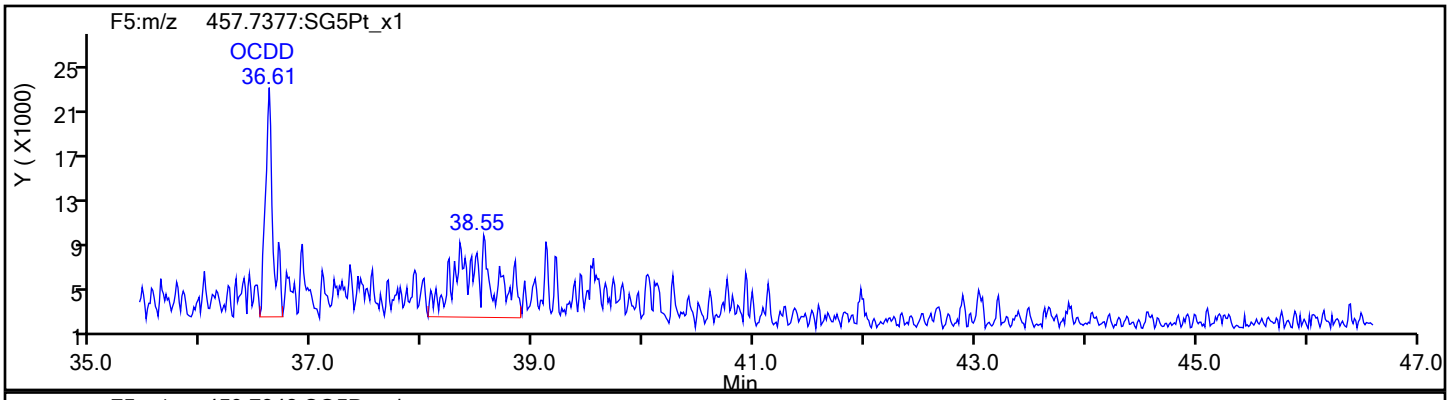

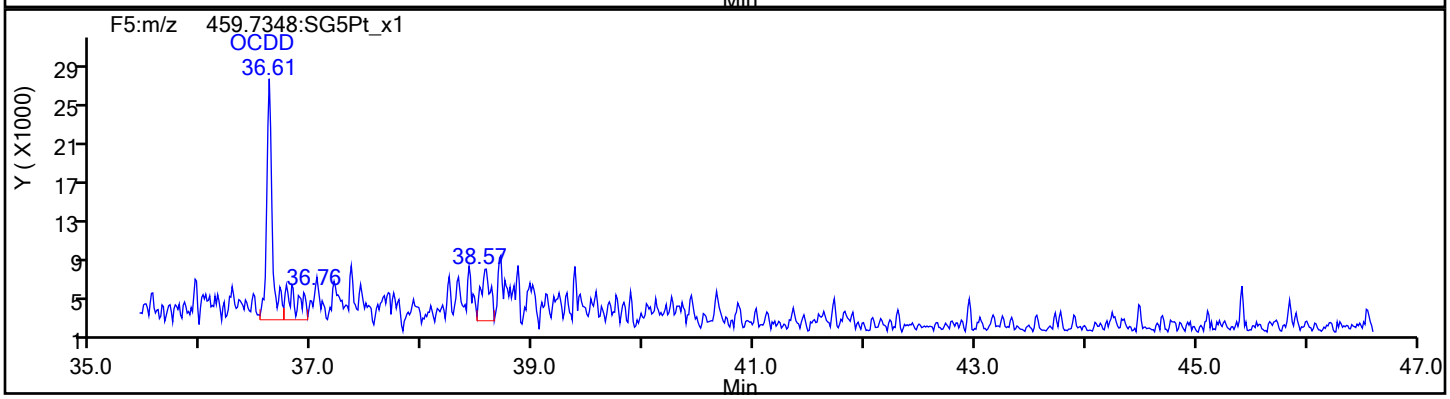

OCDD Standards

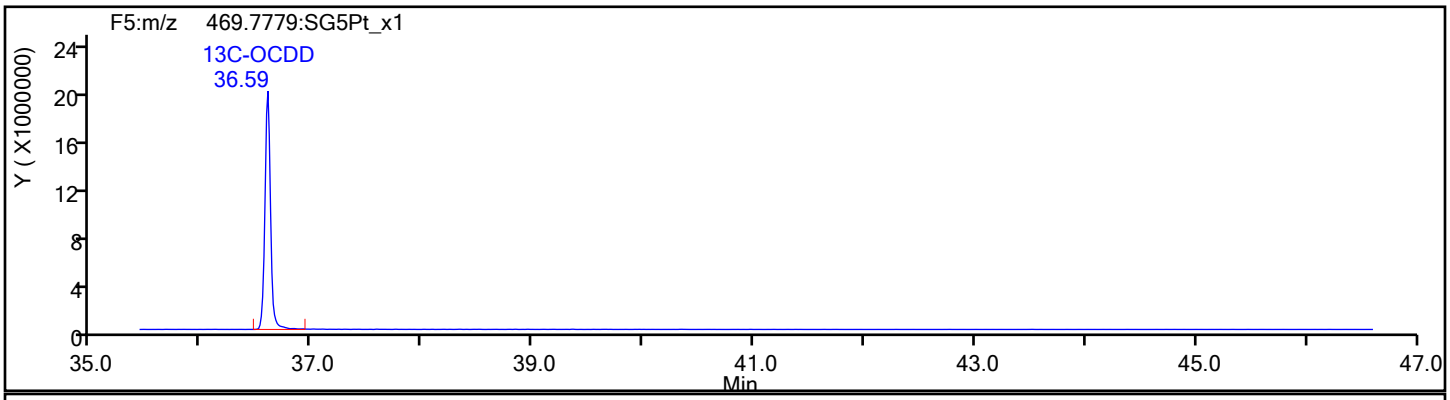

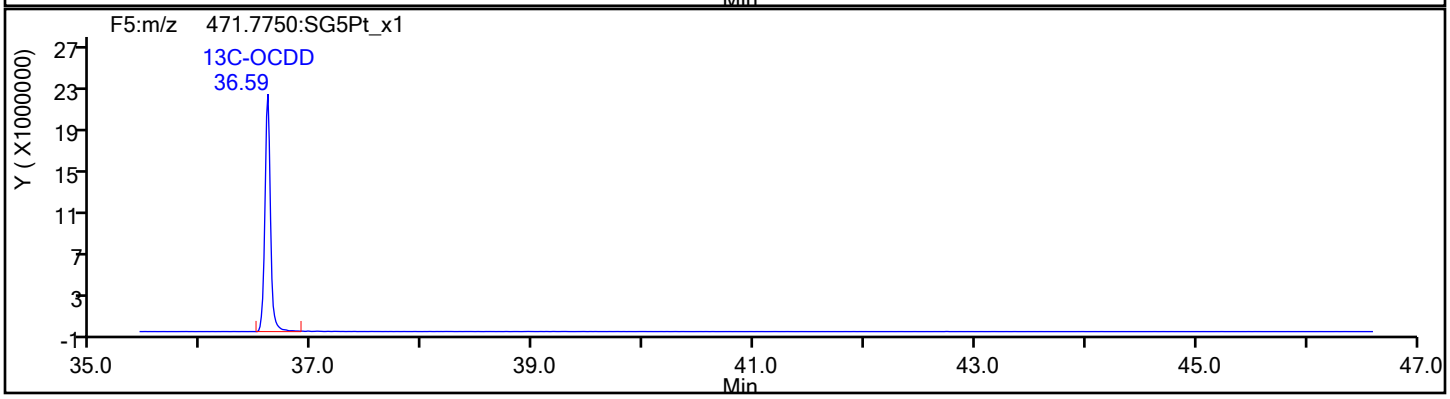

Report Date: 17-Jan-2020 08:53:43 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_13.d		
Injection Date:	16-Jan-2020 05:26:23	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-0.050um		
Worklist#:	351160	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

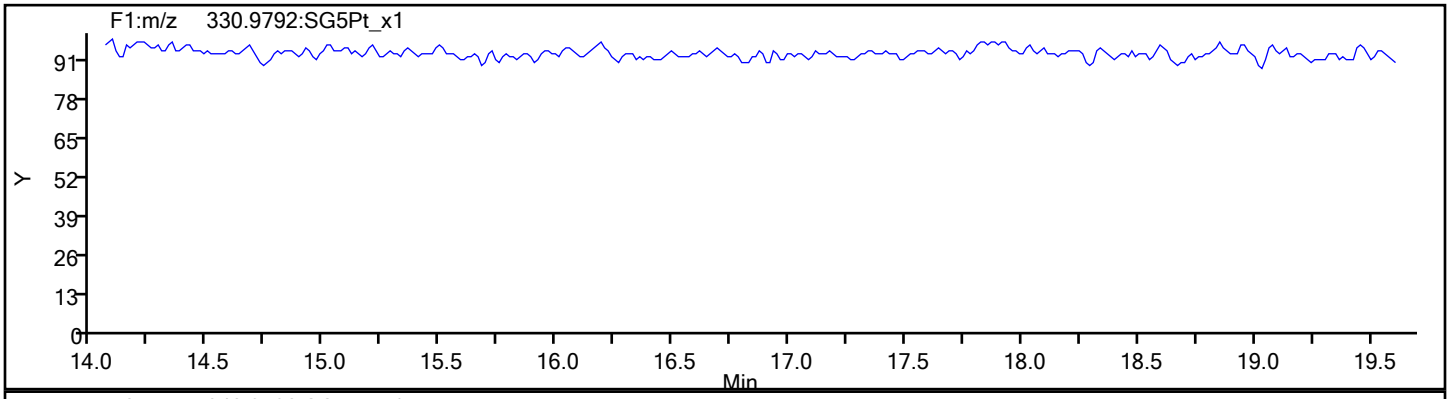

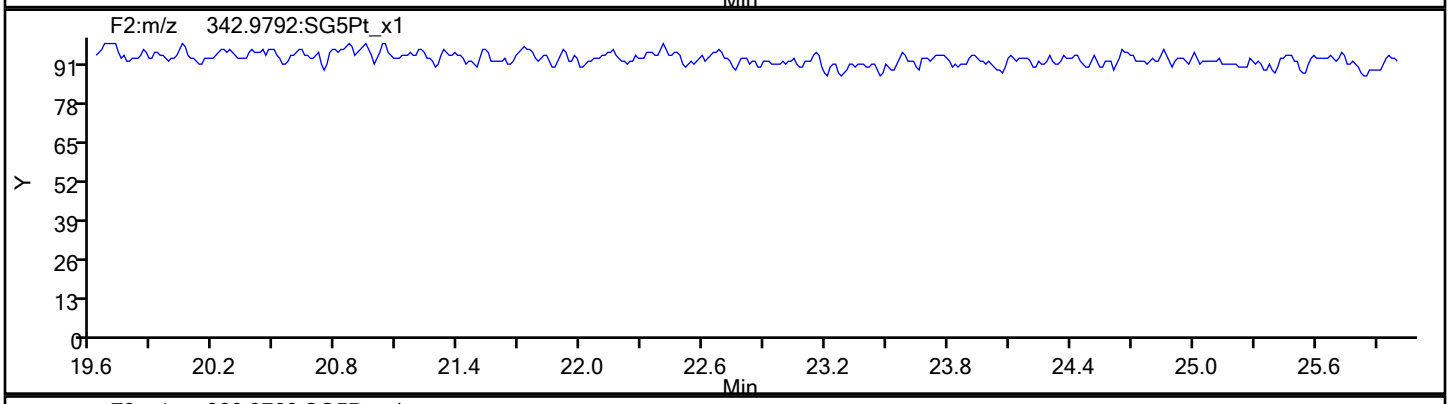

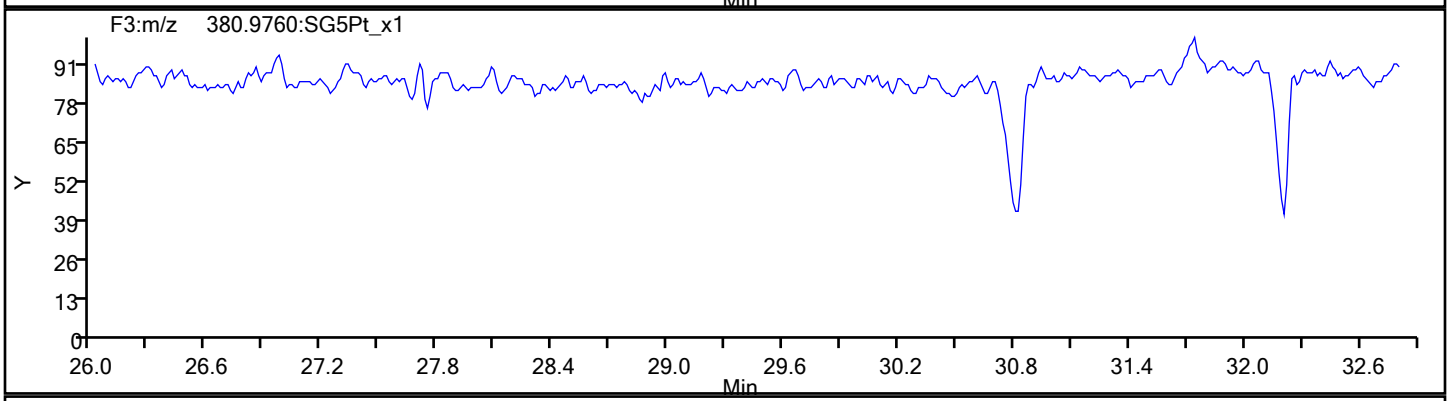

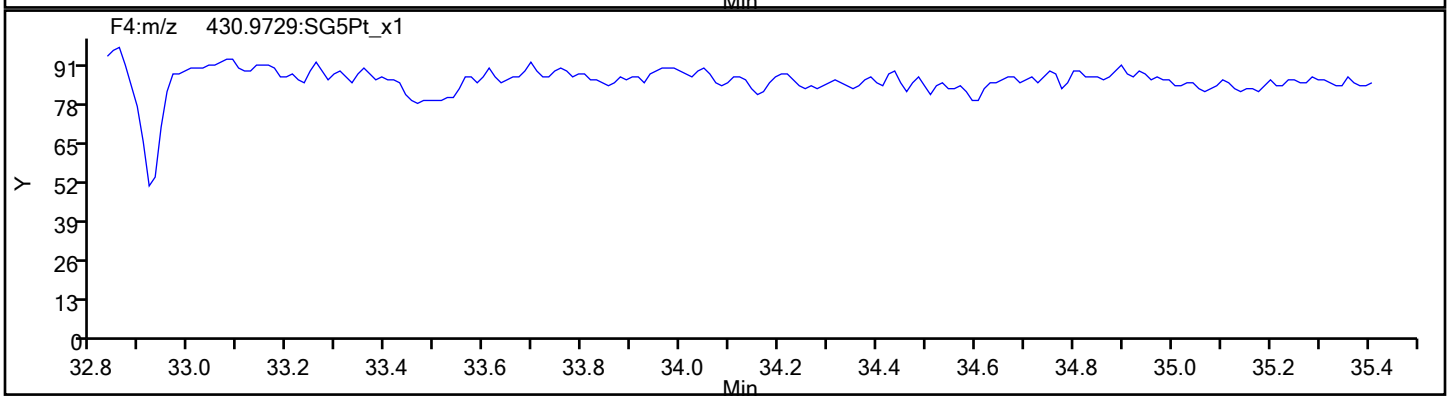

Report Date: 17-Jan-2020 08:53:43 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_13.d		
Injection Date:	16-Jan-2020 05:26:23	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-FEFF-0.050um		
Worklist#:	351160	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

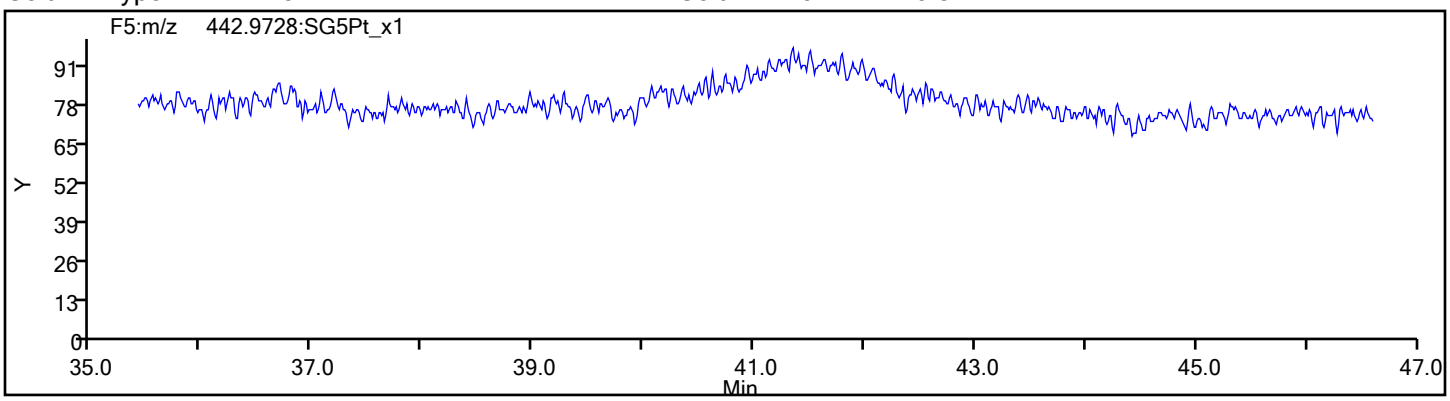

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57717-1 Analy Batch No.: 345037

SDG No.:

Instrument ID: 3D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/12/2019 11:28 Calibration End Date: 12/12/2019 14:39 Calibration ID: 48401

Calibration Files:

LEVEL:	LAB SAMPLE ID:	EPA SAMPLE NO:	LAB FILE ID:
Level 1	IC 320-345037/3	L2	12DE193D5_3.d
Level 2	IC 320-345037/4	L3	12DE193D5_4.d
Level 3	IC 320-345037/5	L4	12DE193D5_5.d
Level 4	IC 320-345037/6	L5	12DE193D5_6.d
Level 5	IC 320-345037/7	L6	12DE193D5_7.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
2,3,7,8-TCDF	0.7733	0.9283	0.9752	1.0509	1.0232	AveID		0.9502				11.5		20.0			
2,3,7,8-TCDD	0.8866	1.0677	1.0581	1.1092	1.1170	AveID		1.0477				8.9		20.0			
1,2,3,7,8-PeCDF	0.8736	1.1020	1.0451	1.0906	1.0398	AveID		1.0302				8.9		20.0			
2,3,4,7,8-PeCDF	0.8948	1.1141	0.9855	1.1344	1.0759	AveID		1.0410				9.6		20.0			
1,2,3,7,8-PeCDD	0.9736	1.1578	1.1149	1.1160	1.0652	AveID		1.0855				6.5		20.0			
1,2,3,4,7,8-HxCDF	0.9727	1.2028	1.1378	1.2189	1.2038	AveID		1.1472				8.9		20.0			
1,2,3,6,7,8-HxCDF	0.9782	1.2008	1.1729	1.2146	1.1586	AveID		1.1450				8.4		20.0			
2,3,4,6,7,8-HxCDF	1.0083	1.2303	1.2055	1.2332	1.1857	AveID		1.1726				8.0		20.0			
1,2,3,4,7,8-HxCDD	0.9769	1.1694	1.0703	1.1689	1.0815	AveID		1.0934				7.3		20.0			
1,2,3,6,7,8-HxCDD	0.8928	1.1393	1.0733	1.0530	1.0561	AveID		1.0429				8.7		20.0			
1,2,3,7,8,9-HxCDD	1.1190	1.2983	1.2307	1.2270	1.1617	AveID		1.2073				5.7		20.0			
1,2,3,7,8,9-HxCDF	1.0099	1.2240	1.2032	1.2271	1.1941	AveID		1.1717				7.8		20.0			
1,2,3,4,6,7,8-HpCDF	1.2679	1.5610	1.4386	1.6231	1.5111	AveID		1.4804				9.2		20.0			
1,2,3,4,6,7,8-HpCDD	0.9486	1.0921	1.0633	1.0950	1.0688	AveID		1.0535				5.7		20.0			
1,2,3,4,7,8,9-HpCDF	1.1475	1.3140	1.2683	1.3777	1.3590	AveID		1.2933				7.1		20.0			
OCDD	1.0920	1.2499	1.1141	1.1447	1.0802	AveID		1.1362				6.0		20.0			
OCDF	1.2883	1.5239	1.3341	1.4689	1.3572	AveID		1.3945				7.0		20.0			
13C-2,3,7,8-TCDF	1.4149	1.3615	1.4301	1.4025	1.4697	Ave		1.4157				2.8		35.0			
13C-2,3,7,8-TCDD	0.9639	0.9558	0.9685	0.9943	0.9929	Ave		0.9751				1.8		35.0			
13C-1,2,3,7,8-PeCDF	1.1504	1.1299	1.1699	1.1868	1.2560	Ave		1.1786				4.1		35.0			
13C-2,3,4,7,8-PeCDF	1.1012	1.0905	1.1528	1.1309	1.1785	Ave		1.1308				3.2		35.0			
13C-1,2,3,7,8-PeCDD	0.7490	0.7273	0.7283	0.7794	0.8019	Ave		0.7572				4.3		35.0			
13C-1,2,3,4,7,8-HxCDF	1.0651	1.1051	1.1007	1.1073	1.1431	Ave		1.1043				2.5		35.0			
13C-1,2,3,6,7,8-HxCDF	1.1269	1.1509	1.1084	1.1531	1.1960	Ave		1.1470				2.9		35.0			
13C-2,3,4,6,7,8-HxCDF	1.0491	1.0900	1.0279	1.1014	1.1159	Ave		1.0769				3.4		35.0			
13C-1,2,3,4,7,8-HxCDD	0.7651	0.8011	0.7923	0.7924	0.8302	Ave		0.7962				2.9		35.0			
13C-1,2,3,6,7,8-HxCDD	0.8463	0.8650	0.8355	0.9041	0.9091	Ave		0.8720				3.8		35.0			
13C-1,2,3,7,8,9-HxCDF	0.9635	1.0187	0.9696	1.0318	1.0740	Ave		1.0115				4.5		35.0			
13C-1,2,3,4,6,7,8-HpCDF	0.7007	0.7750	0.7261	0.7657	0.8206	Ave		0.7577				6.1		35.0			
13C-1,2,3,4,6,7,8-HpCDD	0.6455	0.7147	0.6645	0.7528	0.7517	Ave		0.7058				7.0		35.0			
13C-1,2,3,4,7,8,9-HpCDF	0.6248	0.6970	0.6631	0.7301	0.7557	Ave		0.6941				7.5		35.0			
13C-OCDD	0.4116	0.4270	0.4351	0.4924	0.5352	Ave		0.4603				11.3		35.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57717-1 Analy Batch No.: 345037

SDG No.:

Instrument ID: 3D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/12/2019 11:28 Calibration End Date: 12/12/2019 14:39 Calibration ID: 48401

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
37Cl4-2,3,7,8-TCDD	1.2285	1.2329	1.5190	1.3729	1.3866	Ave		1.3480				9.0					

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57717-1 Analy Batch No.: 345037

SDG No.:

Instrument ID: 3D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/12/2019 11:28 Calibration End Date: 12/12/2019 14:39 Calibration ID: 48401

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-345037/3	12DE193D5_3.d
Level 2	IC 320-345037/4	12DE193D5_4.d
Level 3	IC 320-345037/5	12DE193D5_5.d
Level 4	IC 320-345037/6	12DE193D5_6.d
Level 5	IC 320-345037/7	12DE193D5_7.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (PG/UL)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
2,3,7,8-TCDF		AveID	1274172	5903543	32091889	132413553	567933884	0.500	2.00	10.0	40.0	200
2,3,7,8-TCDD		AveID	995222	4766996	23580601	99082308	418876400	0.500	2.00	10.0	40.0	200
1,2,3,7,8-PeCDF		AveID	5851206	29080170	140673612	581363087	2466178873	2.50	10.0	50.0	200	1000
2,3,4,7,8-PeCDF		AveID	5737636	28373728	130713898	576277220	2394358497	2.50	10.0	50.0	200	1000
1,2,3,7,8-PeCDD		AveID	4246020	19667667	93429816	390728173	1612908693	2.50	10.0	50.0	200	1000
1,2,3,4,7,8-HxCDF		AveID	5545989	27852640	137734608	570996325	2563115775	2.50	10.0	50.0	200	1000
1,2,3,6,7,8-HxCDF		AveID	5900625	28957236	142961587	592549839	2581265503	2.50	10.0	50.0	200	1000
2,3,4,6,7,8-HxCDF		AveID	5662489	28098536	136271106	574663111	2464596807	2.50	10.0	50.0	200	1000
1,2,3,4,7,8-HxCDD		AveID	4000505	19629316	93254778	391874961	1672379041	2.50	10.0	50.0	200	1000
1,2,3,6,7,8-HxCDD		AveID	4044419	20651010	98614866	402773504	1788364825	2.50	10.0	50.0	200	1000
1,2,3,7,8,9-HxCDD		AveID	4825859	22661690	110159416	440337374	1881769266	2.50	10.0	50.0	200	1000
1,2,3,7,8,9-HxCDF		AveID	5208722	26126431	128293546	535635876	2388744572	2.50	10.0	50.0	200	1000
1,2,3,4,6,7,8-HpCDF		AveID	4755914	25350445	114883210	525836756	2309957389	2.50	10.0	50.0	200	1000
1,2,3,4,6,7,8-HpCDD		AveID	3277321	16353697	77704317	348725265	1496594886	2.50	10.0	50.0	200	1000
1,2,3,4,7,8,9-HpCDF		AveID	3837855	19189830	92482689	425539186	1913174732	2.50	10.0	50.0	200	1000
OCDD		AveID	4811448	22367401	106623239	476901861	2153864314	5.00	20.0	100	400	2000
OCDF		AveID	5676582	27270567	127683858	611942959	2706173170	5.00	20.0	100	400	2000
13C-2,3,7,8-TCDF	13CTC	Ave	329541553	317966293	329077583	314996891	277528864	100	100	100	100	100
13C-2,3,7,8-TCDD	13CTC	Ave	224505471	223228422	222854376	223322673	187504800	100	100	100	100	100
13C-1,2,3,7,8-PeCDF	13CTC	Ave	267927119	263888884	269197886	266542876	237179506	100	100	100	100	100
13C-2,3,4,7,8-PeCDF	13CTC	Ave	256478177	254672733	265262610	253995484	222542126	100	100	100	100	100
13C-1,2,3,7,8-PeCDD	13CTC	Ave	174446593	169864186	167599127	175058491	151420854	100	100	100	100	100
13C-1,2,3,4,7,8-HxCDF	13CHx	Ave	228057392	231563640	242099177	234227258	212926355	100	100	100	100	100
13C-1,2,3,6,7,8-HxCDF	13CHx	Ave	241275292	241149788	243784643	243919748	222786807	100	100	100	100	100
13C-2,3,4,6,7,8-HxCDF	13CHx	Ave	224637565	228396958	226090409	232992892	207860074	100	100	100	100	100
13C-1,2,3,4,7,8-HxCDD	13CHx	Ave	163808128	167853325	174266733	167631105	154639045	100	100	100	100	100
13C-1,2,3,6,7,8-HxCDD	13CHx	Ave	181206025	181254882	183758146	191249218	169339469	100	100	100	100	100
13C-1,2,3,7,8,9-HxCDF	13CHx	Ave	206305806	213447196	213252409	218257445	200052961	100	100	100	100	100
13C-1,2,3,4,6,7,8-HpCDF	13CHx	Ave	150037410	162401122	159712904	161981056	152865078	100	100	100	100	100
13C-1,2,3,4,6,7,8-HpCDD	13CHx	Ave	138203122	149748569	146156878	159237326	140028109	100	100	100	100	100
13C-1,2,3,4,7,8,9-HpCDF	13CHx	Ave	133781139	146041140	145840544	154442339	140774596	100	100	100	100	100
13C-OCDD	13CHx	Ave	176245574	178956155	191409180	208300311	199399104	200	200	200	200	200
37Cl4-2,3,7,8-TCDD	13CTC	Ave	1430622	5758902	34952681	123340927	523686187	0.500	2.00	10.0	40.0	200

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57717-1 Analy Batch No.: 345037

SDG No.:

Instrument ID: 3D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/12/2019 11:28 Calibration End Date: 12/12/2019 14:39 Calibration ID: 48401

Curve Type Legend:

Ave = Average ISTD
AveID = Average isotope dilution

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #	User	Sample Size
1	12DE193D5_1	WDM HRDXNCP_00040	WDM 121219	Tray1:1	DXN		KSS	1.000000
2	12DE193D5_2	SB Solvent Blank C-14	SB 121219	Tray1:3			KSS	1.000000
3	12DE193D5_3	IC HRDXNL2_00027	IC 121219	Tray1:4	DXN	ICAL	KSS	1.000000
4	12DE193D5_4	IC HRDXNL3_00025	IC 121219A	Tray1:5	DXN	ICAL	KSS	1.000000
5	12DE193D5_5	IC HRDXNL4_00086	IC 121219B	Tray1:2	DXN	ICAL	KSS	1.000000
6	12DE193D5_6	IC HRDXNL5_00028	IC 121219C	Tray1:6	DXN	ICAL	KSS	1.000000
7	12DE193D5_7	IC HRDXNL6_00024	IC 121219D	Tray1:7	DXN	ICAL	KSS	1.000000
8	12DE193D5_8	SB Solvent Blank C-14	SB 121219A	Tray1:3			KSS	1.000000
9	12DE193D5_9	ICV HRDXNIC_00042	ICV 121219	Tray1:9	DXN	ICAL	KSS	1.000000

logfile checked
12-12-19 ALM

Units	MS File	Inlet File	Inject Volume	Sample Type	Conc A	Conc B	Conc C	Conc D	Conc E	Conc F
---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---	---	---
	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---	---	---
---	Dioxin3D5	dioxinnogc	2.000000	Analyte	0.5	2.5	5	100	200	0.25
---	Dioxin3D5	dioxinnogc	2.000000	Analyte	2	10	20	100	200	1
---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100	100	200	5
---	Dioxin3D5	dioxinnogc	2.000000	Analyte	40	200	400	100	200	20
---	Dioxin3D5	dioxinnogc	2.000000	Analyte	200	1000	2000	100	200	100
	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---	---	---
	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---	---	---

Conc G	Process	Process Options	Action On Error	s5
---	FBAT_ML_FileMover	---	---	C:\CHROM
---	FBAT_ML_FileMover	---	---	C:\CHROM
100	FBAT_ML_FileMover	---	---	C:\CHROM
100	FBAT_ML_FileMover	---	---	C:\CHROM
100	FBAT_ML_FileMover	---	---	C:\CHROM
100	FBAT_ML_FileMover	---	---	C:\CHROM
100	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error	---
---	FBAT_ML_FileMover	---	---	C:\CHROM
---	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error	---

File: Experiment: Dioxin3D5.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed: Thursday, December 12, 2019 09:42:14 Pacific Standard Time

M 292.9824 R 12889

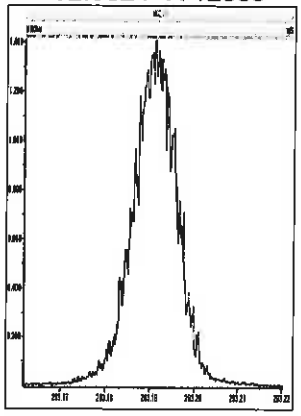

M 304.9824 R 13022

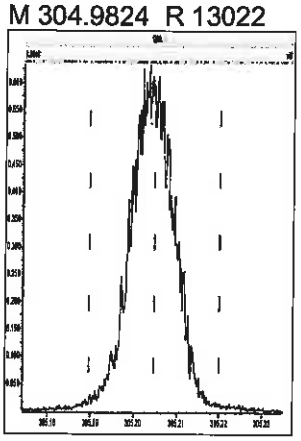

M 318.9792 R 13369

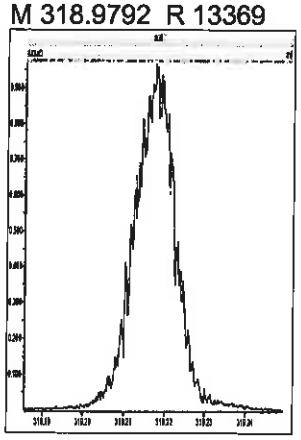

M 330.9792 R 14122

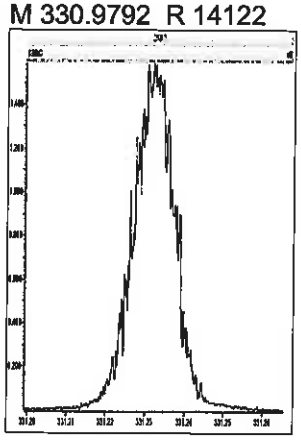

M 342.9792 R 14201

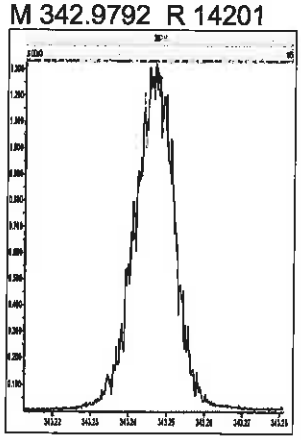

M 354.9792 R 14125

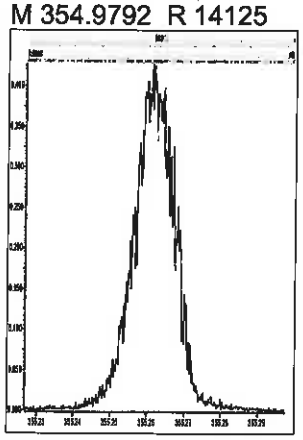

M 366.9792 R 12562

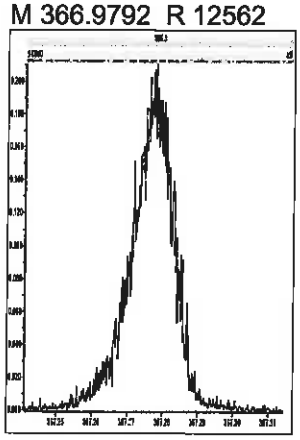

M 380.9760 R 13368

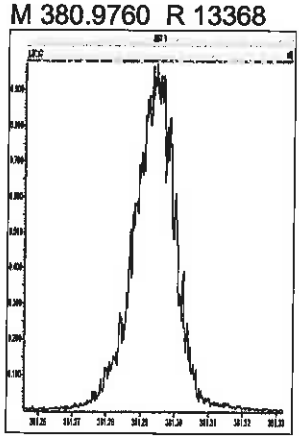

M 392.9760 R 12693

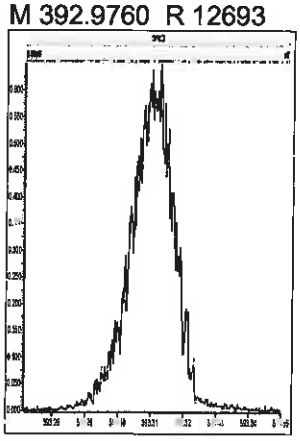

M 404.9760 R 12078

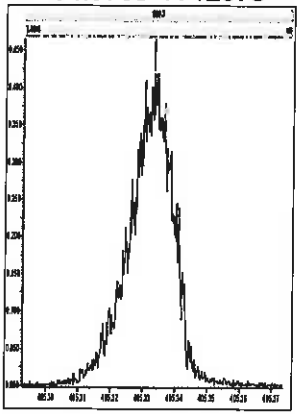

M 416.9760 R 12686

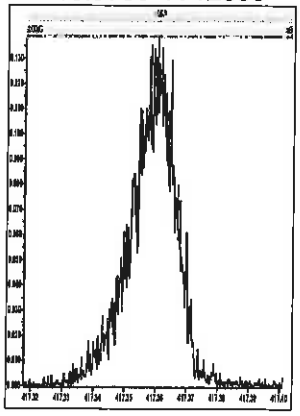

File: Experiment: Dioxin3D5.exp Reference: Pfk.ref Function: 2 @ 200 (ppm)

Printed: Thursday, December 12, 2019 09:42:39 Pacific Standard Time

M 318.9792 R 13888

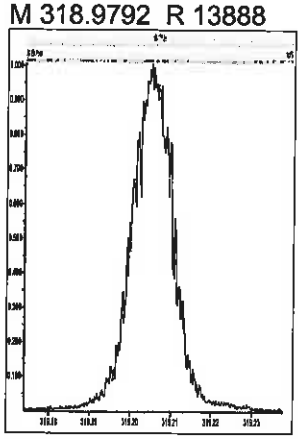

M 330.9792 R 13893

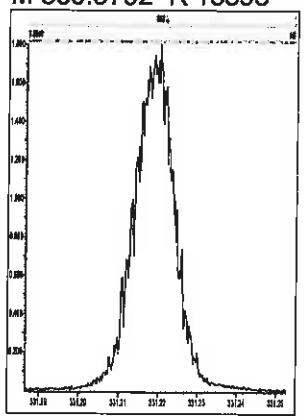

M 342.9792 R 14207

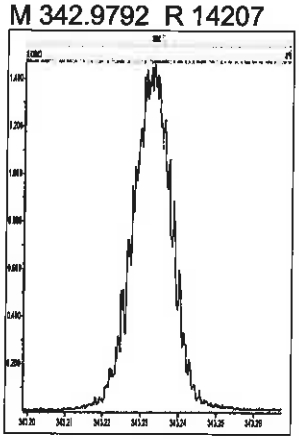

M 354.9792 R 14620

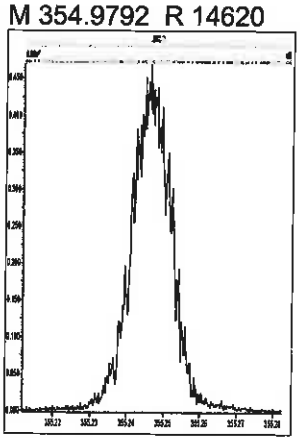

M 366.9792 R 12952

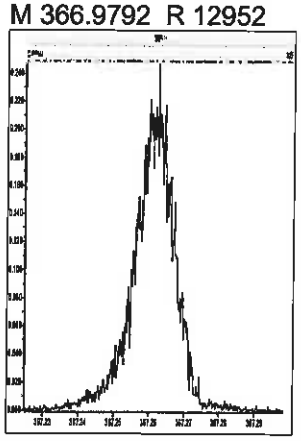

M 380.9760 R 14043

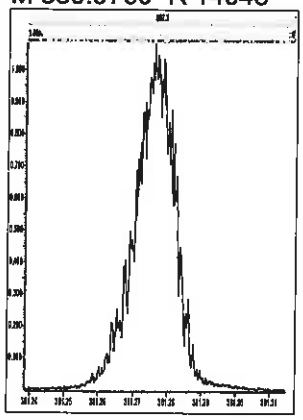

M 392.9760 R 13891

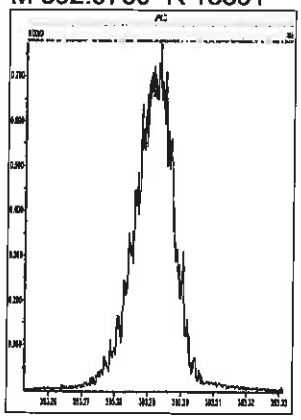

M 404.9760 R 13967

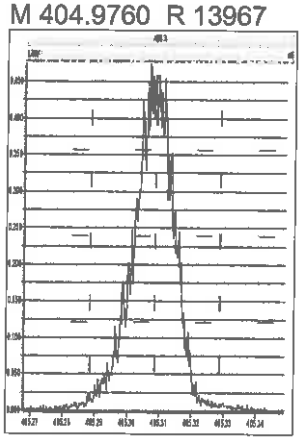

M 416.9760 R 13888

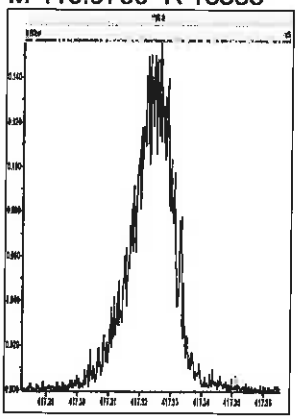

File: Experiment: Dioxin3D5.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

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M 366.9792 R 13888

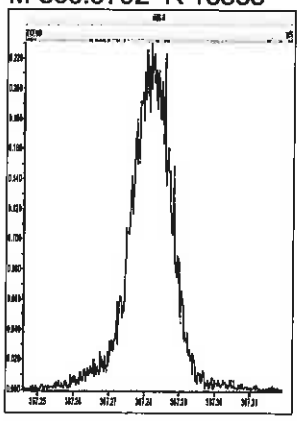

M 380.9760 R 14284

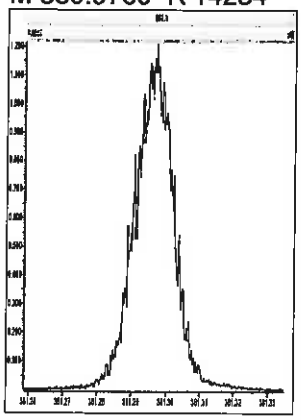

M 392.9760 R 14703

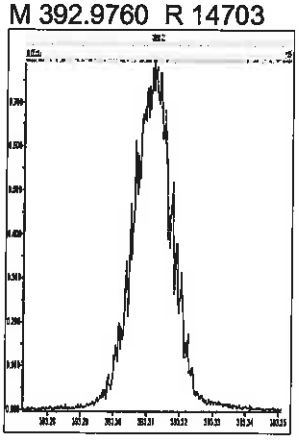

M 404.9760 R 15056

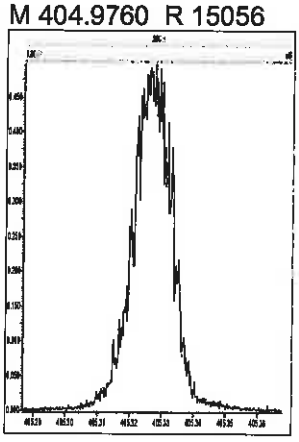

M 416.9760 R 14535

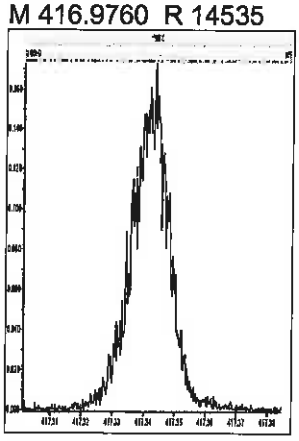

M 430.9728 R 13368

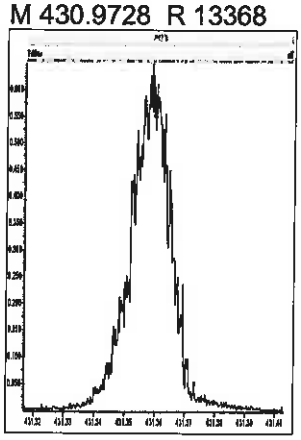

M 442.9728 R 13969

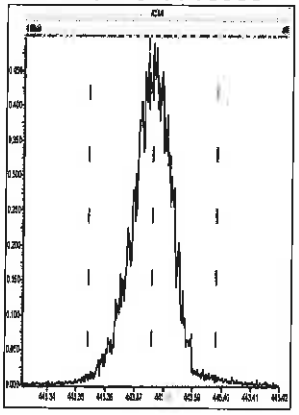

M 454.9728 R 13738

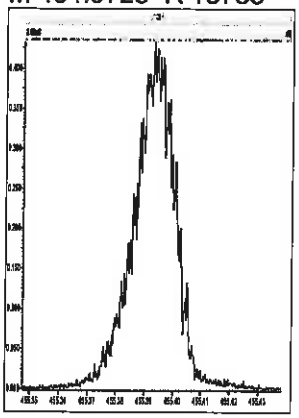

File: Experiment: Dioxin3D5.exp Reference: Pfk.ref Function: 4 @ 200 (ppm)

Printed: Thursday, December 12, 2019 09:43:27 Pacific Standard Time

M 380.9760 R 14046

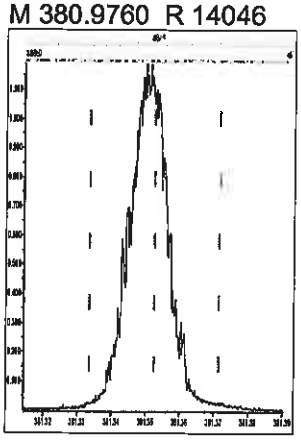

M 392.9760 R 16346

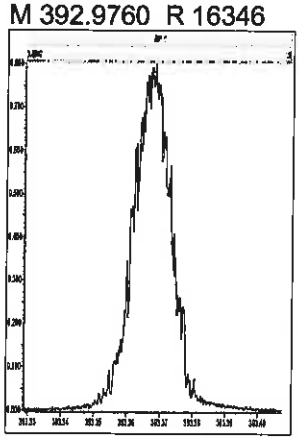

M 404.9760 R 15821

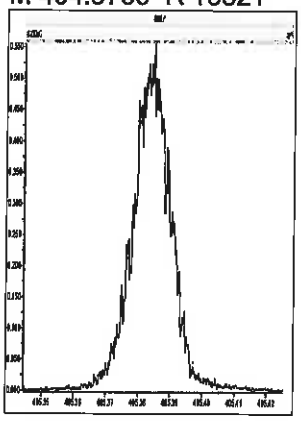

M 416.9760 R 15240

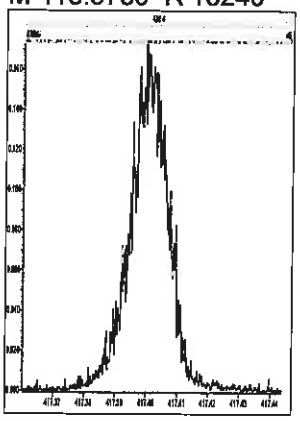

M 430.9728 R 13890

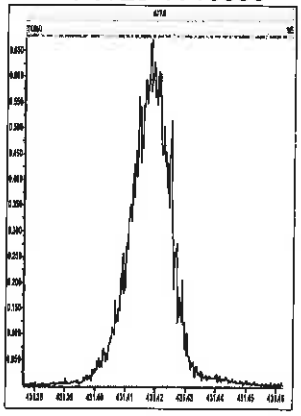

M 442.9728 R 13736

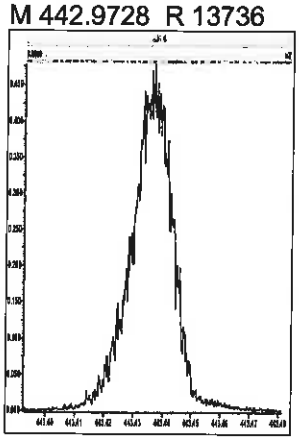

M 454.9728 R 13161

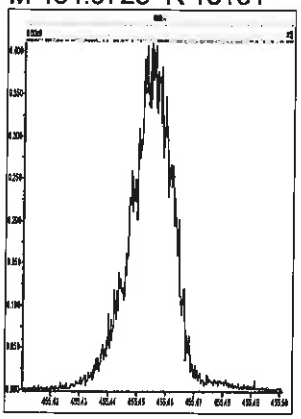

M 466.9728 R 13659

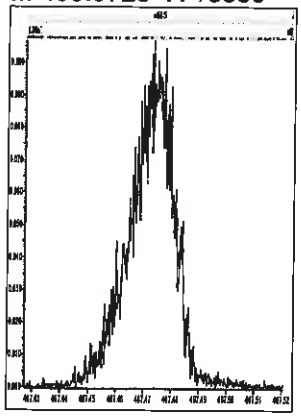

M 480.9696 R 12252

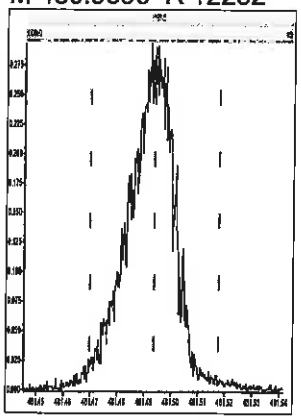

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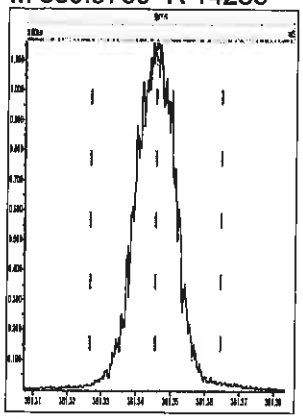

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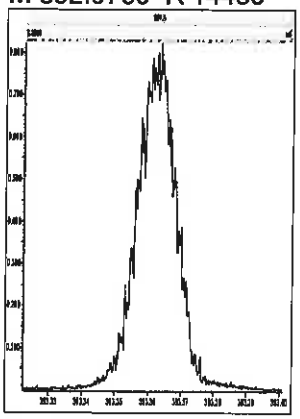

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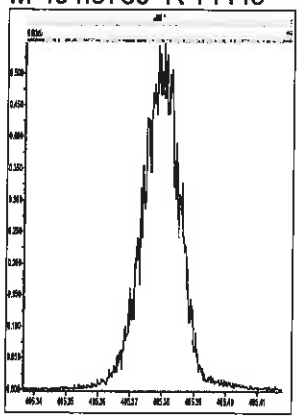

M 416.9760 R 14288

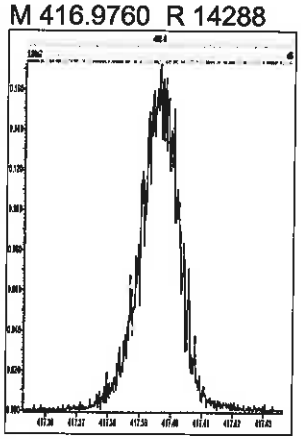

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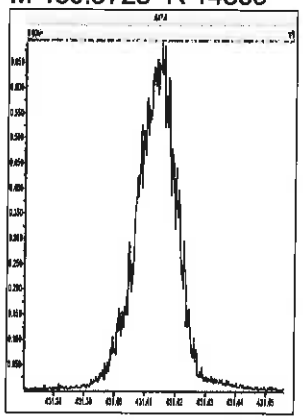

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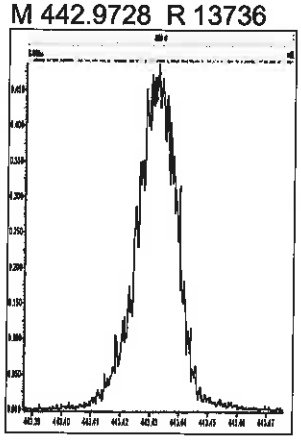

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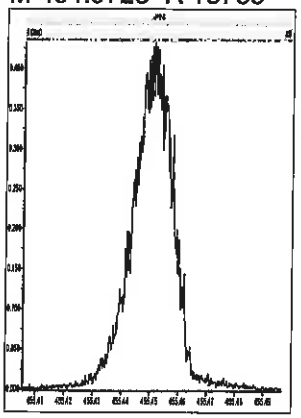

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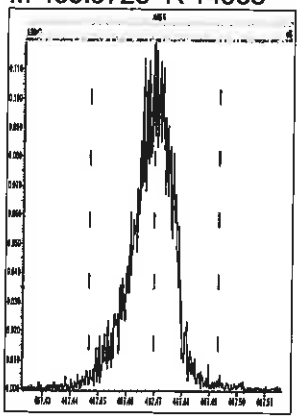

M 480.9696 R 12196

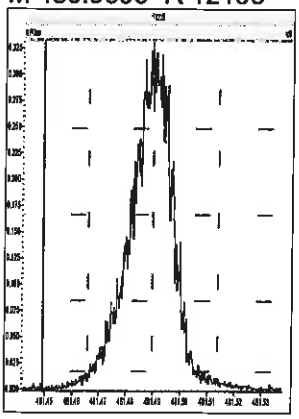

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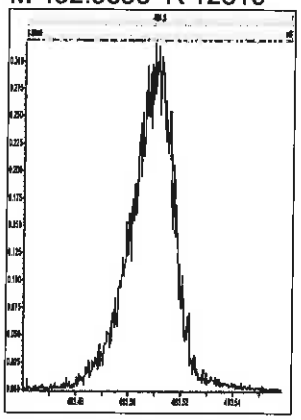

M 504.9696 R 13297

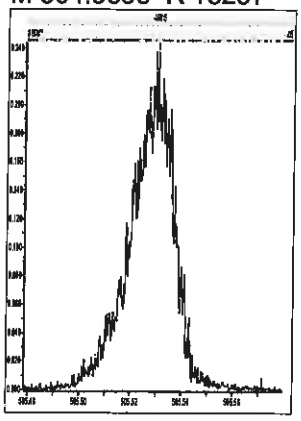

M 516.9697 R 13887

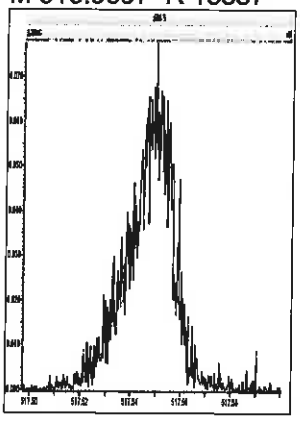

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M 292.9824 R 13393

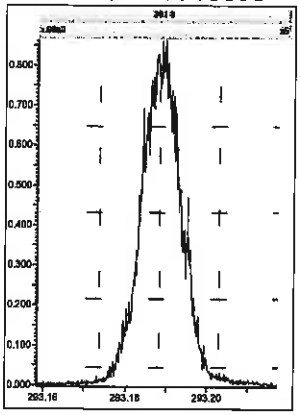

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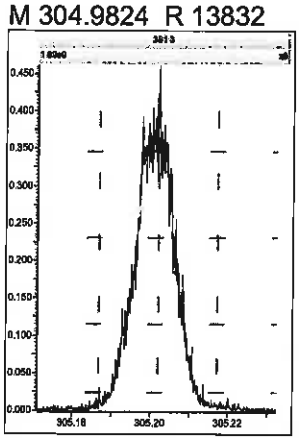

M 318.9792 R 13746

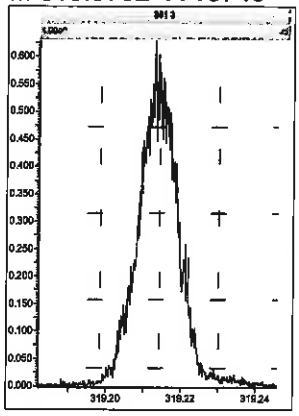

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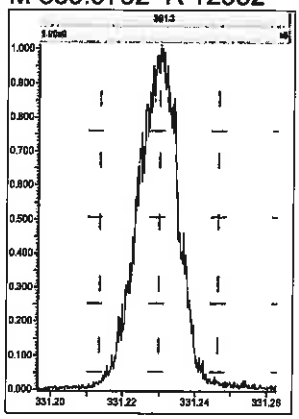

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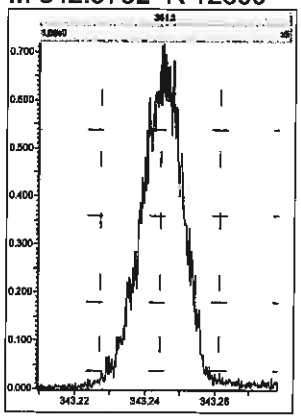

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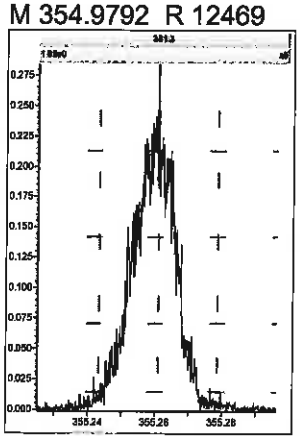

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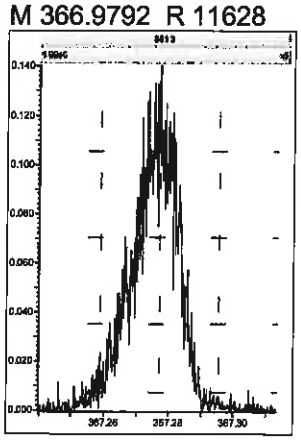

M 380.9760 R 10895

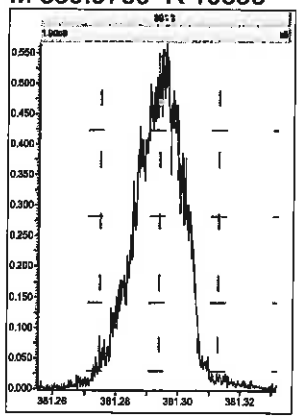

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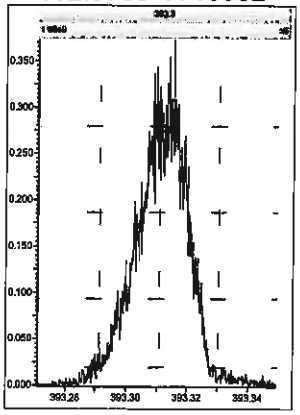

M 404.9760 R 11088

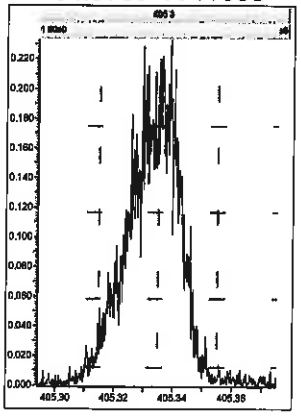

M 416.9760 R 10941

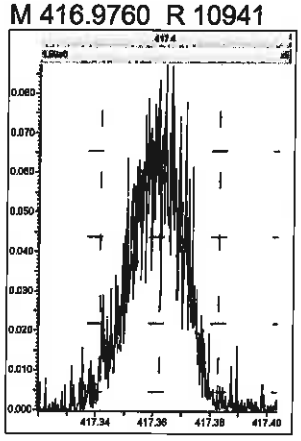

M 318.9792 R 14226

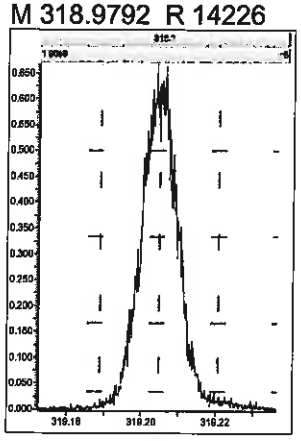

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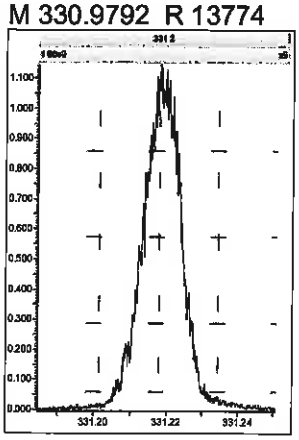

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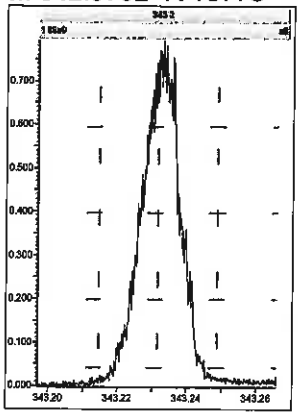

M 354.9792 R 13586

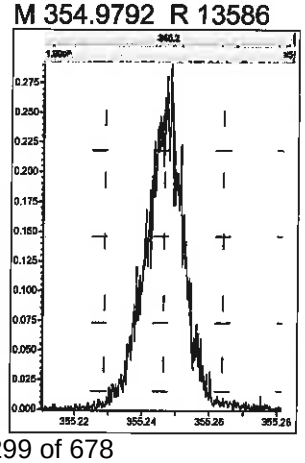

M 366.9792 R 12759

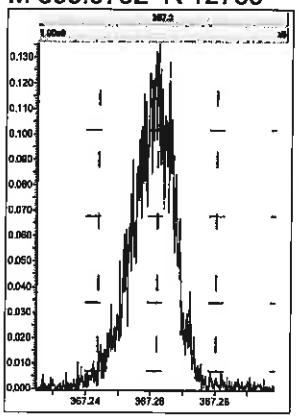

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M 380.9760 R 11493

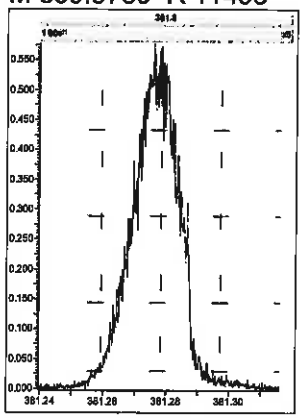

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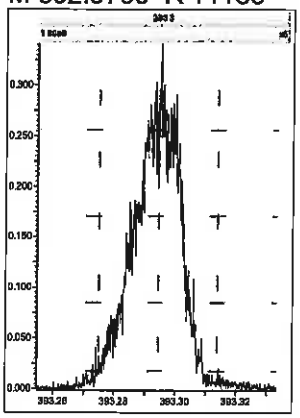

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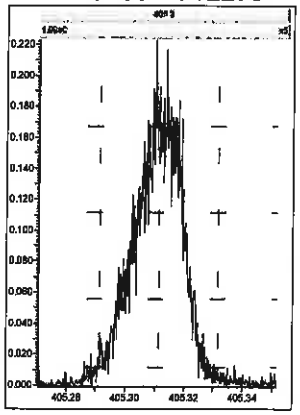

M 416.9760 R 11589

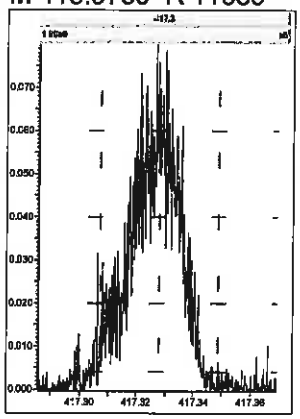

M 366.9792 R 13858

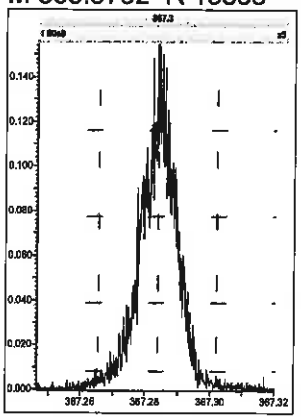

M 380.9760 R 13143

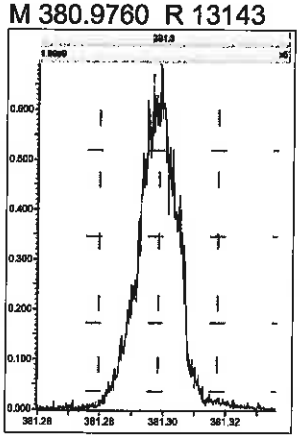

M 392.9760 R 13230

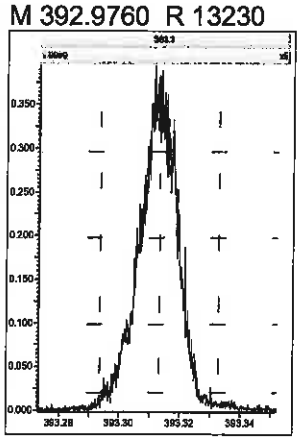

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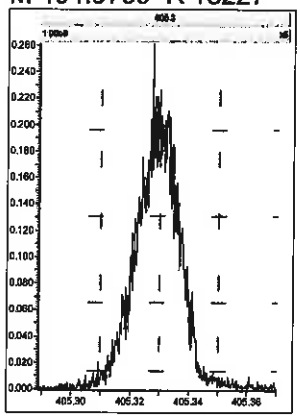

M 416.9760 R 13020

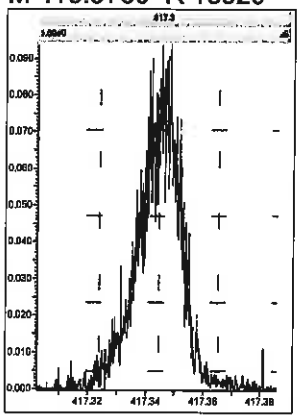

M 430.9728 R 12021

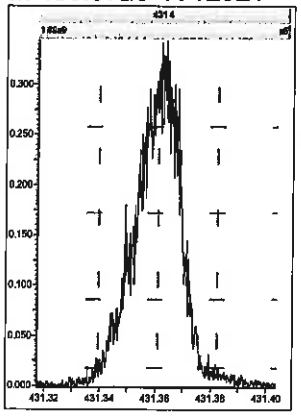

M 442.9728 R 11966

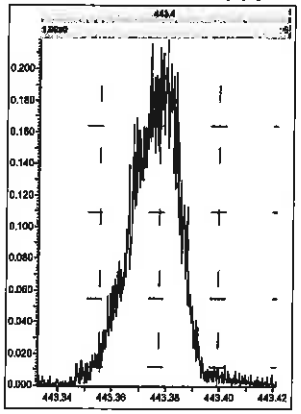

M 454.9728 R 11497

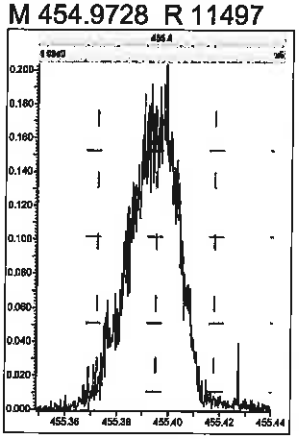

M 380.9760 R 13930

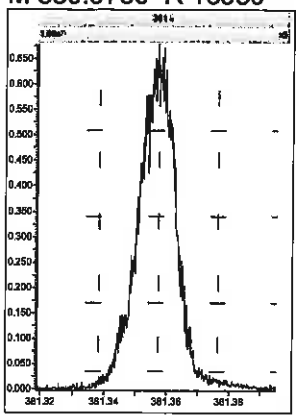

M 392.9760 R 13889

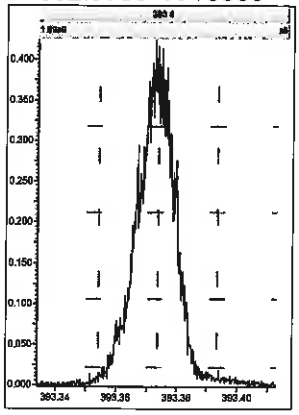

M 404.9760 R 13374

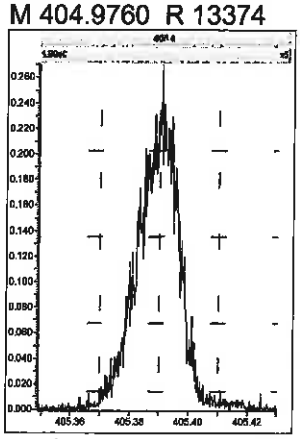

M 416.9760 R 14752

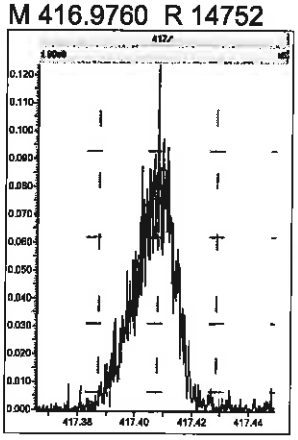

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M 430.9728 R 11792

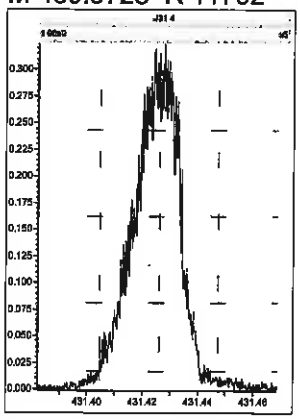

M 442.9728 R 12345

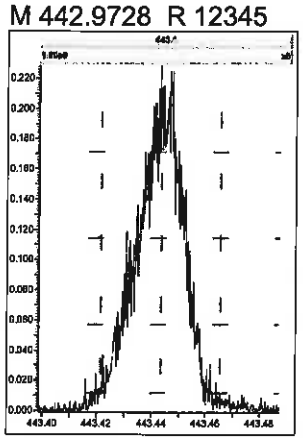

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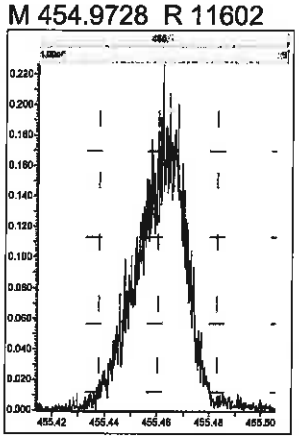

M 466.9728 R 13405

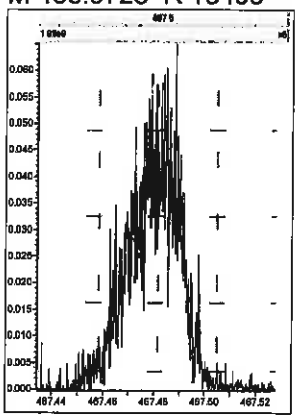

M 480.9696 R 11038

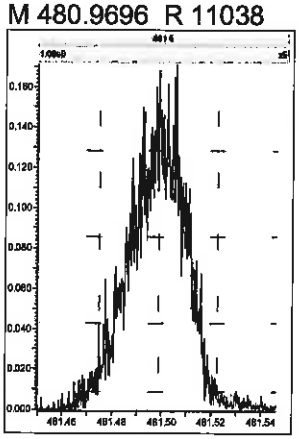

M 380.9760 R 14215

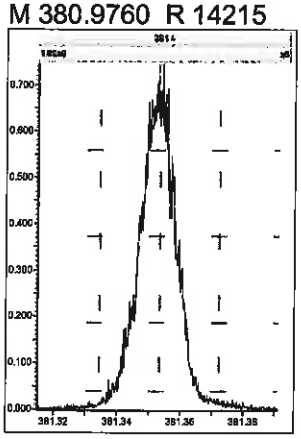

M 392.9760 R 13966

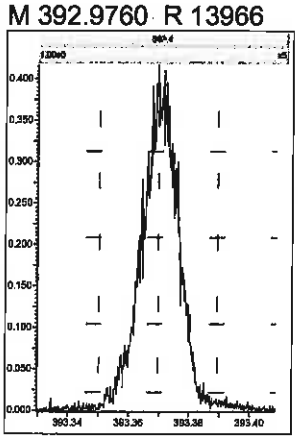

M 404.9760 R 12993

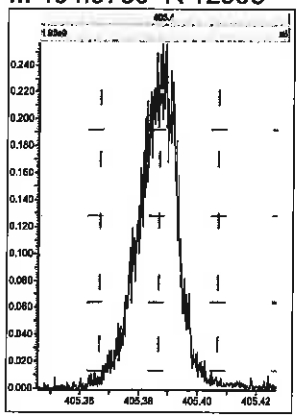

M 416.9760 R 13278

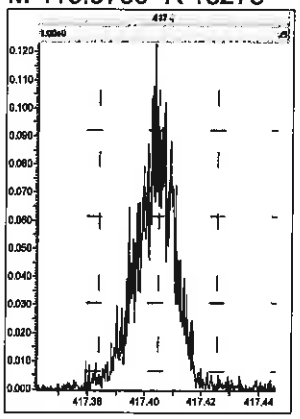

M 430.9728 R 12021

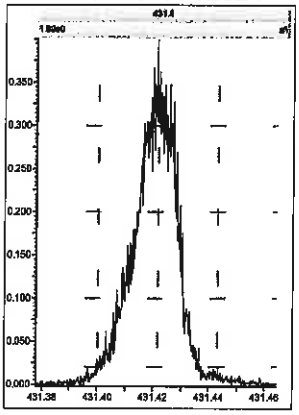

M 442.9728 R 12383

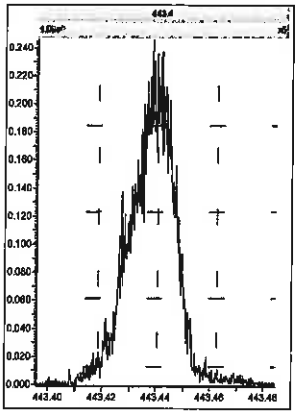

M 454.9728 R 11366

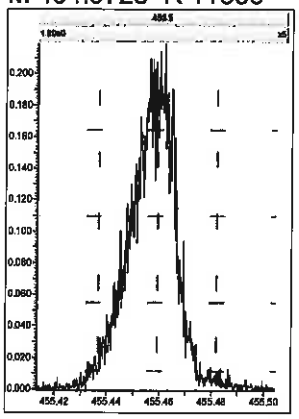

M 466.9728 R 14111

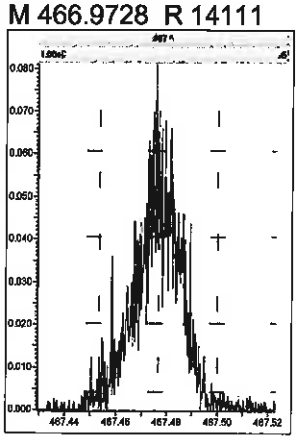

M 480.9696 R 10809

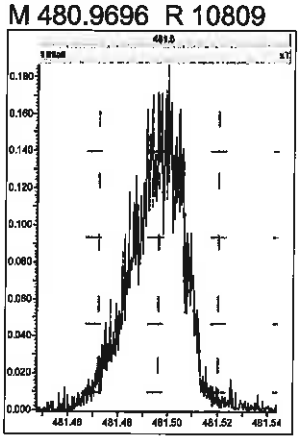

M 492.9696 R 11501

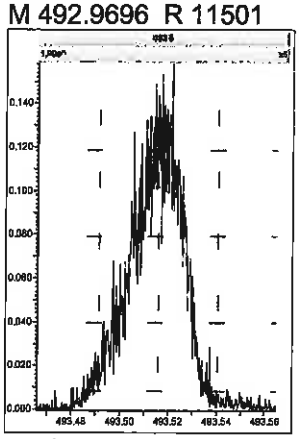

M 504.9696 R 10727

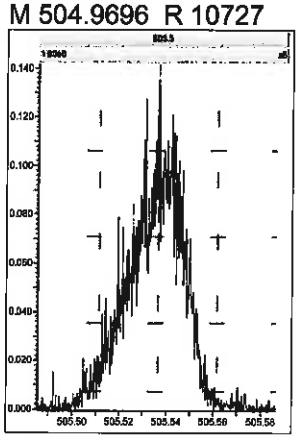

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M 516.9697 R 11957

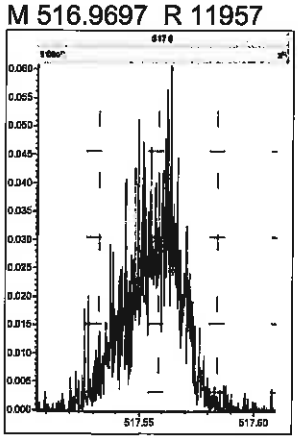

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M 292.9824 R 13349

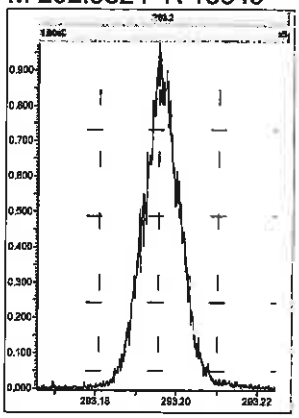

M 304.9824 R 14164

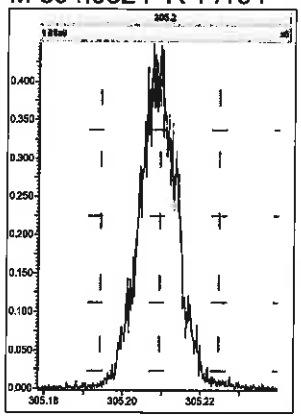

M 318.9792 R 13791

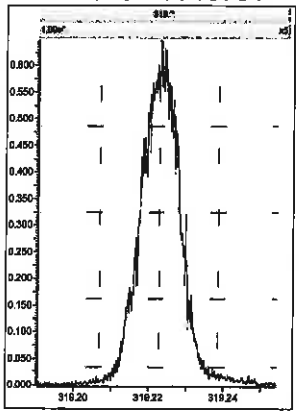

M 330.9792 R 12596

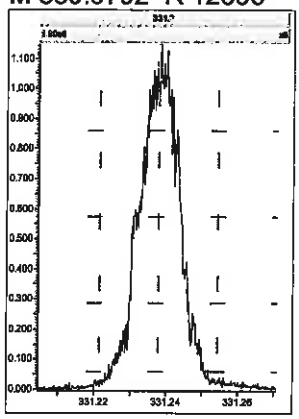

M 342.9792 R 12821

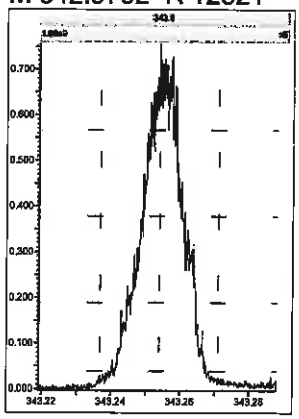

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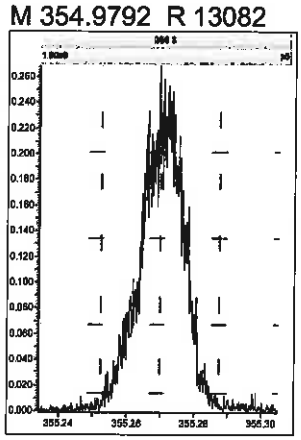

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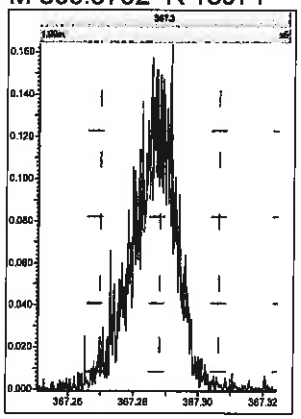

M 380.9760 R 10799

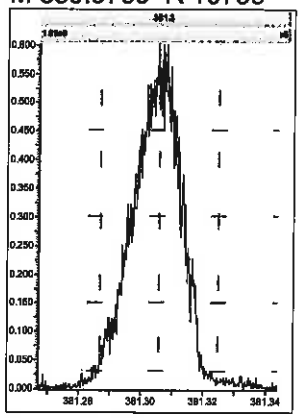

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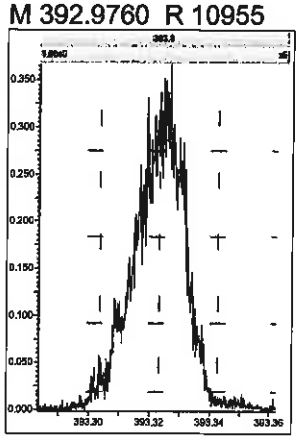

M 404.9760 R 10733

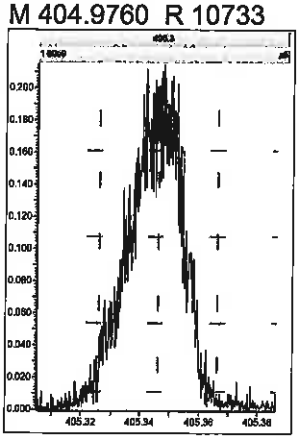

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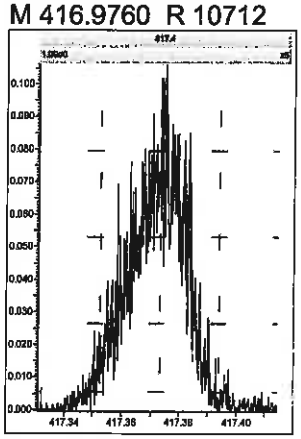

M 318.9792 R 14371

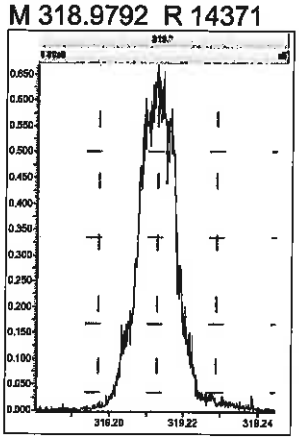

M 330.9792 R 13371

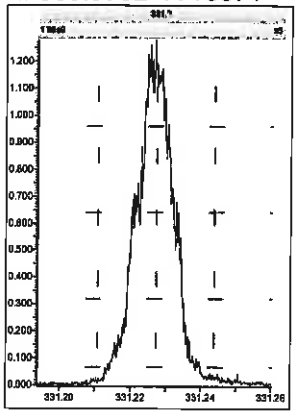

M 342.9792 R 13812

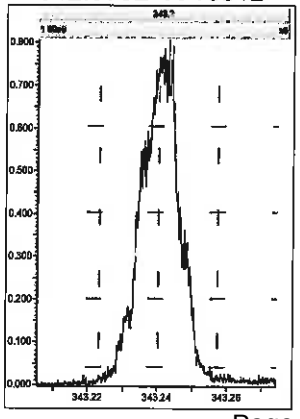

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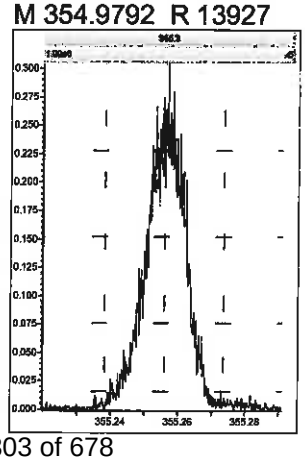

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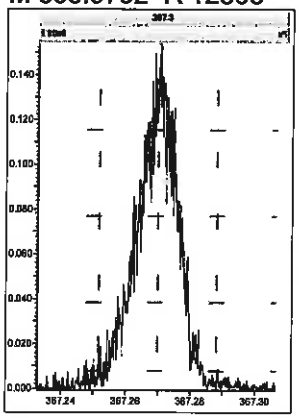

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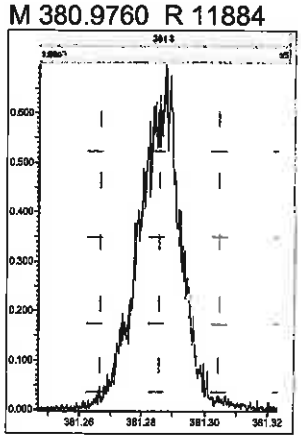

M 392.9760 R 11367

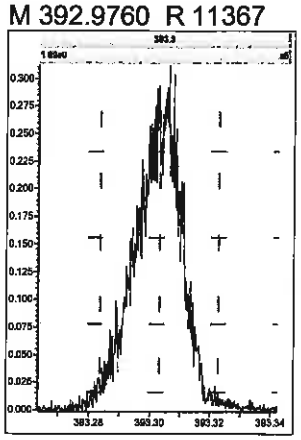

M 404.9760 R 11656

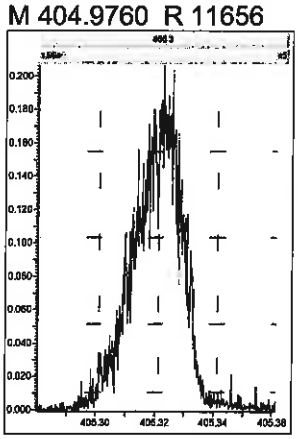

M 416.9760 R 13283

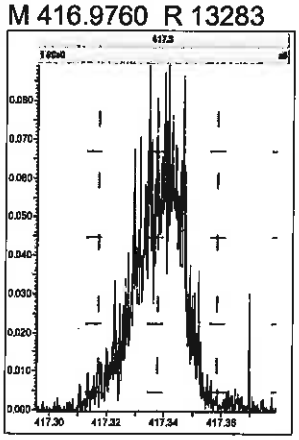

M 366.9792 R 15105

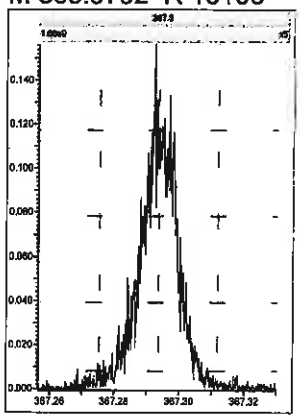

M 380.9760 R 13693

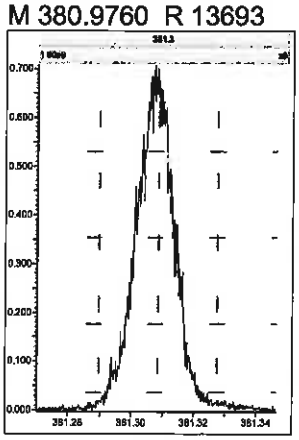

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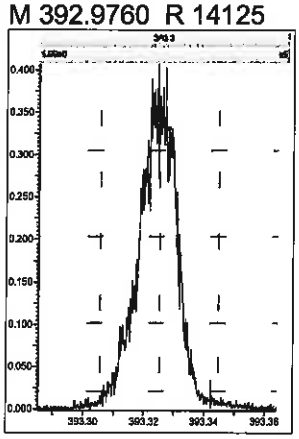

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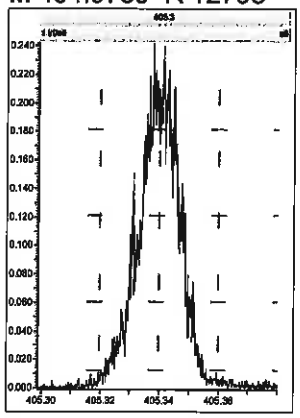

M 416.9760 R 14536

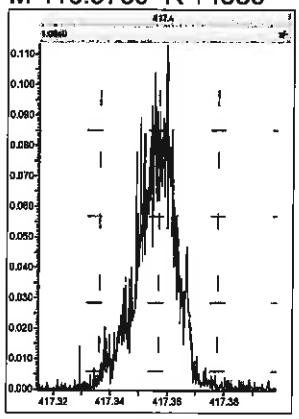

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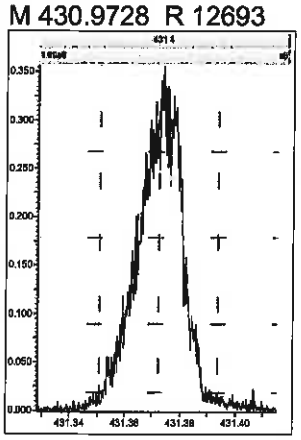

M 442.9728 R 11186

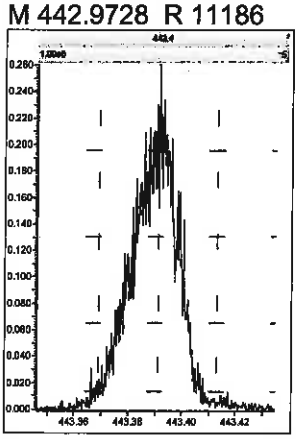

M 454.9728 R 11224

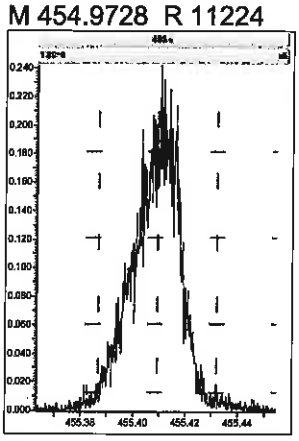

M 380.9760 R 13631

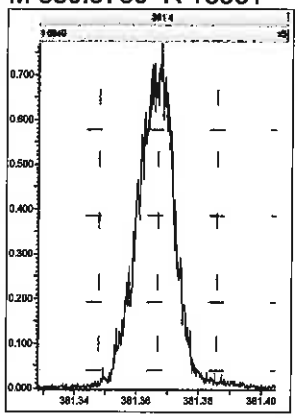

M 392.9760 R 13923

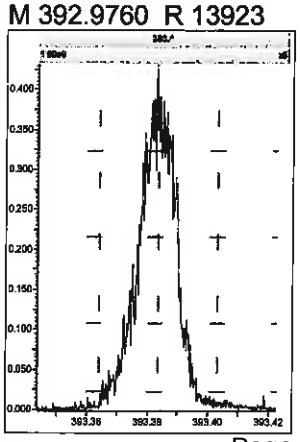

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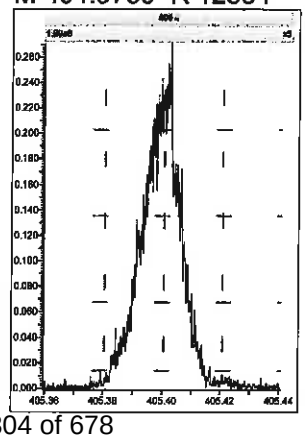

M 416.9760 R 14295

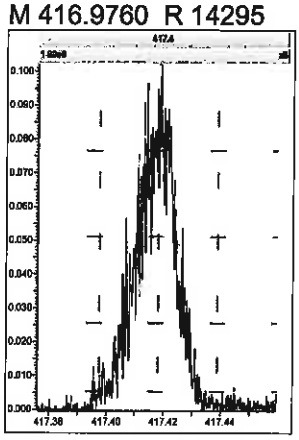

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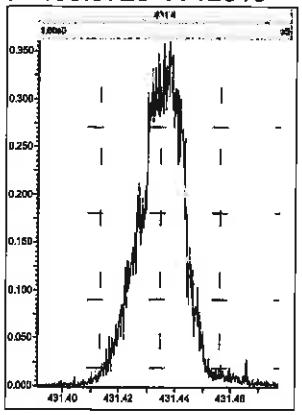

M 442.9728 R 11688

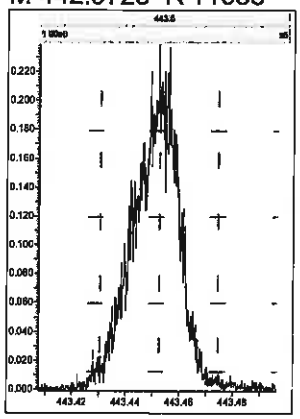

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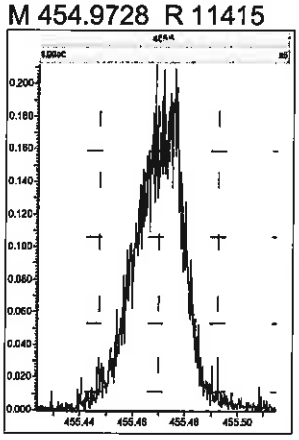

M 466.9728 R 13066

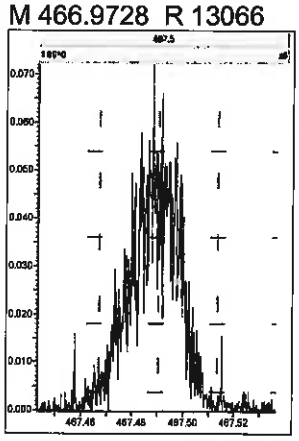

M 480.9696 R 10623

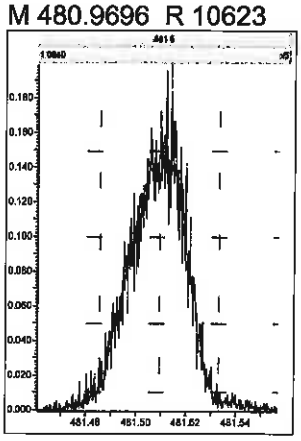

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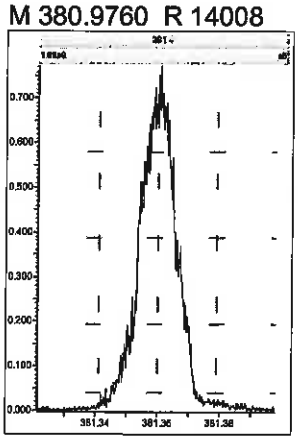

M 392.9760 R 14662

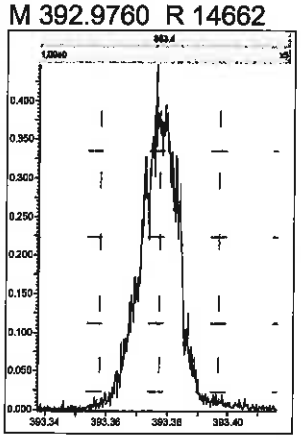

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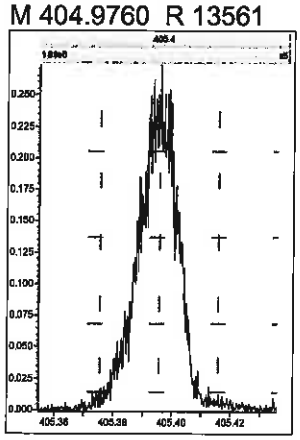

M 416.9760 R 14060

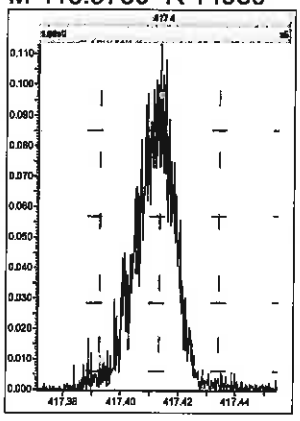

M 430.9728 R 12423

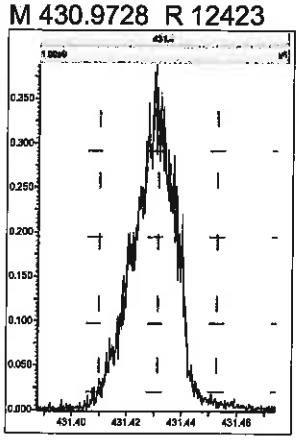

M 442.9728 R 11834

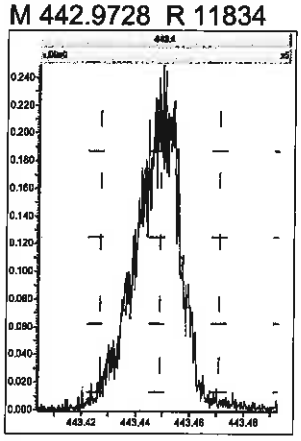

M 454.9728 R 11163

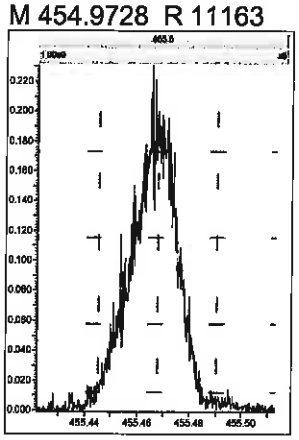

M 466.9728 R 12603

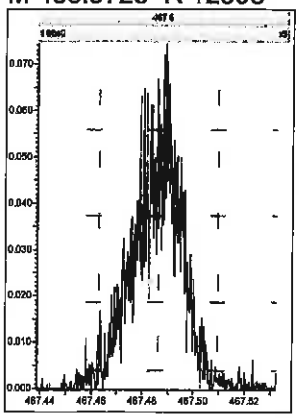

M 480.9696 R 10287

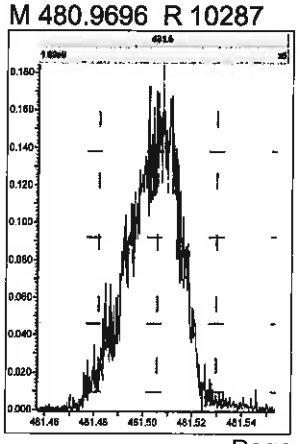

M 492.9696 R 10542

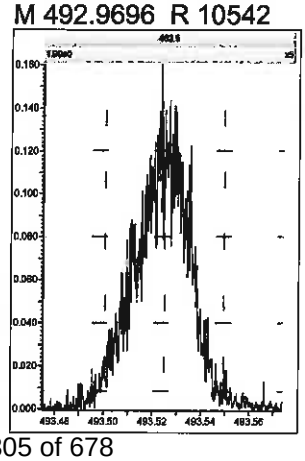

M 504.9696 R 10105

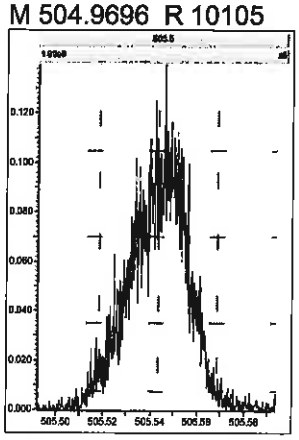

Printed: Thursday, December 12, 2019 17:21:39 Pacific Standard Time

M 516.9697 R 11908

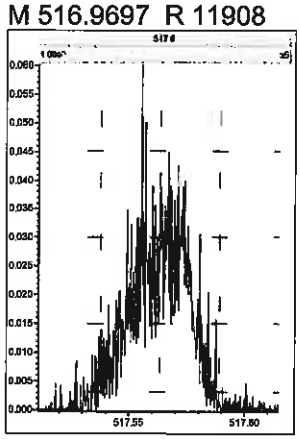

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_3.d
Lims ID: IC 2
Client ID: L2
Sample Type: IC Calib Level: 2
Inject. Date: 12-Dec-2019 11:28:54 ALS Bottle#: 4 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 121219 IC HRDXNL2_00027
Misc. Info.: 12DE193D5
Operator ID: KSS Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 12-Dec-2019 15:54:08 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: stephensk Date: 12-Dec-2019 13:35:12

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.672	232904111	0.79	2.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.173	329541553	0.77	1.4157	99.9	99.9	0.2093	0.2093	99.94	
2,3,7,8-TCDF	17.173	1274172	0.88	0.9502	0.4069	0.4069	0.0250	0.0250	81.38	
S Total TCDF					0.4069	0.4069	0.0250	0.0250		
D 13C-2,3,7,8-TCDD	17.854	224505471	0.79	0.9751	98.9	98.9	0.1651	0.1651	98.86	
2,3,7,8-TCDD	17.869	995222	0.78	1.0477	0.4231	0.4231	0.0273	0.0273	84.62	
$ 37Cl4-2,3,7,8-TCDD	17.869	1430622		1.3480	0.4557	0.4557	0.0167	0.0167	91.14	
S Total TCDD					0.4231	0.4231	0.0273	0.0273		
D 13C-1,2,3,7,8-PeCDF	22.114	267927119	1.60	1.1786	97.6	97.6	0.2528	0.2528	97.61	
1,2,3,7,8-PeCDF	22.141	5851206	1.59	1.0302	2.120	2.120	0.0436	0.0436	84.79	
D 13C-2,3,4,7,8-PeCDF	23.437	256478177	1.60	1.1308	97.4	97.4	0.2635	0.2635	97.39	
2,3,4,7,8-PeCDF	23.464	5737636	1.64	1.0410	2.149	2.149	0.0481	0.0481	85.96	
S Total PeCDF					4.269	4.269	0.0458	0.0458		
D 13C-1,2,3,7,8-PeCDD	24.146	174446593	1.59	0.7572	98.9	98.9	0.1508	0.1508	98.92	
1,2,3,7,8-PeCDD	24.159	4246020	1.69	1.0855	2.242	2.242	0.0566	0.0566	89.69	
S Total PeCDD					2.242	2.242	0.0566	0.0566		
D 13C-1,2,3,4,7,8-HxCDF	30.273	228057392	0.51	1.1043	96.5	96.5	0.2688	0.2688	96.46	
1,2,3,4,7,8-HxCDF	30.313	5545989	1.17	1.1472	2.120	2.120	0.0312	0.0312	84.79	
D 13C-1,2,3,6,7,8-HxCDF	30.473	241275292	0.51	1.1470	98.2	98.2	0.2588	0.2588	98.24	
1,2,3,6,7,8-HxCDF	30.499	5900625	1.17	1.1450	2.136	2.136	0.0296	0.0296	85.43	
D 13C-2,3,4,6,7,8-HxCDF	31.365	224637565	0.53	1.0769	97.4	97.4	0.2757	0.2757	97.43	
2,3,4,6,7,8-HxCDF	31.378	5662489	1.16	1.1726	2.150	2.150	0.0226	0.0226	85.99	
D 13C-1,2,3,7,8,9-HxCDF	32.204	206305806	0.52	1.0115	95.3	95.3	0.2935	0.2935	95.26	
1,2,3,7,8,9-HxCDF	32.217	5208722	1.21	1.1717	2.155	2.155	0.0235	0.0235	86.19	
S Total HxCDF					8.560	8.560	0.0267	0.0267		
* 13C-1,2,3,7,8,9-HxCDD	32.004	214114257	1.24	2.1E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.565	163808128	1.29	0.7962	96.1	96.1	0.2305	0.2305	96.09	
1,2,3,4,7,8-HxCDD	31.578	4000505	1.21	1.0934	2.234	2.234	0.0334	0.0334	89.34	
D 13C-1,2,3,6,7,8-HxCDD	31.671	181206025	1.27	0.8720	97.1	97.1	0.2105	0.2105	97.05	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.684	4044419	1.22	1.0429	2.140	2.140	0.0318	0.0318	85.61	
1,2,3,7,8,9-HxCDD	32.031	4825859	1.15	1.2073	2.317	2.317	0.0288	0.0288	92.68	
S Total HxCDD					6.691	6.691	0.0314	0.0314		
D 13C-1,2,3,4,6,7,8-HpCDF	33.652	150037410	0.44	0.7577	92.5	92.5	1.159	1.159	92.49	
1,2,3,4,6,7,8-HpCDF	33.664	4755914	1.18	1.4804	2.141	2.141	0.0490	0.0490	85.65	
D 13C-1,2,3,4,7,8,9-HpCDF	34.734	133781139	0.44	0.6941	90.0	90.0	1.265	1.265	90.01	
1,2,3,4,7,8,9-HpCDF	34.746	3837855	1.11	1.2933	2.218	2.218	0.0660	0.0660	88.73	
S Total HpCDF					4.359	4.359	0.0575	0.0575		
D 13C-1,2,3,4,6,7,8-HpCDD	34.442	138203122	1.05	0.7058	91.4	91.4	0.4508	0.4508	91.45	
1,2,3,4,6,7,8-HpCDD	34.454	3277321	0.97	1.0535	2.251	2.251	0.0263	0.0263	90.03	
S Total HpCDD					2.251	2.251	0.0263	0.0263		
D 13C-OCDD	36.770	176245574	0.88	0.4603	178.8	178.8	0.1805	0.1805	89.42	
OCDF	36.877	5676582	0.95	1.3945	4.619	4.619	0.0557	0.0557	92.39	
OCDD	36.782	4811448	0.89	1.1362	4.806	4.806	0.0425	0.0425	96.11	

Reagents:

HRDXNL2_00027 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_3.d
Lims ID: IC 2
Client ID: L2
Sample Type: IC Calib Level: 2
Inject. Date: 12-Dec-2019 11:28:54 ALS Bottle#: 4 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 121219 IC HRDXNL2_00027
Misc. Info.: 12DE193D5
Operator ID: KSS Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 12-Dec-2019 15:54:08 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: stephensk Date: 12-Dec-2019 13:35:12

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.672	17.666	0		102601529	26223424	24034	60085	1091		
333.9339	17.672	17.666	0		130302582	32981144	14096	35240	2340	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.173	17.164	1	0.972	143162383	35138724	33977	84942	1034		
317.9389	17.158	17.164	0	0.971	186379170	44913079	36197	90492	1241	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.173	17.176	0	1.000	597494	161938	2758	6895	59		
305.8987	17.173	17.176	0	1.000	676678	155092	4856	12140	32	0.88(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.854	17.854	0	1.010	98843345	22651530	24034	60085	942		
333.9339	17.854	17.854	0	1.010	125662126	29074532	14096	35240	2063	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.869	17.872	0	1.001	435714	109775	4000	10000	27		
321.8936	17.884	17.872	1	1.002	559508	133812	1921	4802	70	0.78(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.869	17.872	0	1.011	1430622	305157	5346	13365	57		
13C-1,2,3,7,8-PeCDF											
351.9000	22.114	22.103	1	1.251	164768205	29211398	41861	104652	698		
353.8970	22.114	22.103	1	1.251	103158914	18407331	28706	71765	641	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.141	22.130	1	1.001	3594154	634928	2668	6670	238		
341.8567	22.127	22.130	0	1.001	2257052	386507	5878	14695	66	1.59(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	23.437	23.426	1	1.326	157892502	26441421	41861	104652	632		
353.8970	23.437	23.426	1	1.326	98585675	16252239	28706	71765	566	1.60(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.464	23.450	1	1.001	3563135	595769	2668	6670	223		
341.8567	23.450	23.450	0	1.001	2174501	346430	5878	14695	59	1.64(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	24.146	24.137	0	1.366	107170547	17008758	16296	40740	1044		
369.8919	24.146	24.137	0	1.366	67276046	10989017	10745	26862	1023	1.59(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.159	24.162	0	1.001	2665340	393517	5091	12727	77		
357.8516	24.159	24.162	0	1.001	1580680	244694	1792	4480	137	1.69(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.273	30.270	0	0.946	77253554	14027029	22263	55657	630		
385.8610	30.273	30.270	0	0.946	150803838	27508910	43796	109490	628	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.313	30.300	1	1.001	2986669	520795	3356	8390	155		
375.8178	30.300	30.300	0	1.001	2559320	449115	2585	6462	174	1.17(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.473	30.473	0	0.952	81506617	14891702	22263	55657	669		
385.8610	30.473	30.473	0	0.952	159768675	28934549	43796	109490	661	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.499	30.497	0	1.001	3180012	591716	3356	8390	176		
375.8178	30.499	30.497	0	1.001	2720613	514140	2585	6462	199	1.17(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.365	31.357	0	0.980	77774082	19640762	22263	55657	882		
385.8610	31.365	31.357	0	0.980	146863483	36420034	43796	109490	832	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.378	31.375	0	1.000	3034914	784754	3356	8390	234		
375.8178	31.378	31.375	0	1.000	2627575	661174	2585	6462	256	1.16(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.204	32.196	0	1.006	70786307	18972528	22263	55657	852		
385.8610	32.204	32.196	0	1.006	135519499	35003127	43796	109490	799	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.217	32.209	0	1.000	2853990	754034	3356	8390	225		
375.8178	32.217	32.209	0	1.000	2354732	581418	2585	6462	225	1.21(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.004	32.004	0		118740246	30809175	21848	54620	1410		
403.8529	32.004	32.004	0		95374011	24823233	19000	47500	1306	1.24(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.565	31.557	0	0.986	92162296	24211600	21848	54620	1108		
403.8529	31.551	31.557	0	0.986	71645832	19161827	19000	47500	1009	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.578	31.570	0	1.000	2187039	559529	2526	6315	222		
391.8127	31.578	31.570	0	1.000	1813466	500239	3818	9545	131	1.21(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.671	31.666	0	0.990	101462065	26895597	21848	54620	1231		
403.8529	31.671	31.666	0	0.990	79743960	20856177	19000	47500	1098	1.27(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.684	31.682	0	1.000	2220379	596423	2526	6315	236		
391.8127	31.684	31.682	0	1.000	1824040	520180	3818	9545	136	1.22(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.031	32.023	0	1.015	2583152	723772	2526	6315	287		
391.8127	32.031	32.023	0	1.015	2242707	565938	3818	9545	148	1.15(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.652	33.647	0	1.051	46052027	15310112	59871	149677	256		
419.8220	33.652	33.647	0	1.051	103985383	34503747	135580	338950	254	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.664	33.659	0	1.000	2571421	950159	10708	26770	89		
409.7789	33.664	33.659	0	1.000	2184493	818813	3748	9370	218	1.18(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.734	34.726	0	1.085	40988902	13212969	59871	149677	221		
419.8220	34.734	34.726	0	1.085	92792237	29102895	135580	338950	215	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.746	34.736	1	1.000	2022434	643925	10708	26770	60		
409.7789	34.746	34.736	1	1.000	1815421	576272	3748	9370	154	1.11(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.442	34.437	0	1.076	70840109	23993001	34698	86745	691		
437.8140	34.442	34.437	0	1.076	67363013	22937398	36110	90275	635	1.05(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.454	34.449	0	1.000	1617099	515334	2601	6502	198		
425.7737	34.454	34.449	0	1.000	1660222	560602	2601	6502	216	0.97(0.88-1.20)	
13C-OCDD											
469.7779	36.770	36.767	0	1.149	82535262	22666516	9705	24262	2336		
471.7750	36.770	36.767	0	1.149	93710312	26260117	8785	21962	2989	0.88(0.76-1.02)	
OCDF											
441.7428	36.877	36.870	0	1.003	2759791	781017	2559	6397	305		
443.7399	36.877	36.870	0	1.003	2916791	820491	5045	12612	163	0.95(0.76-1.02)	
OCDD											
457.7377	36.782	36.779	0	1.000	2266337	646718	2724	6810	237		
459.7348	36.782	36.779	0	1.000	2545111	730372	2001	5002	365	0.89(0.76-1.02)	

Reagents:

HRDXNL2_00027 Amount Added: 2.00 Units: uL

Report Date: 12-Dec-2019 15:54:09 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_3.d		
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TCDF

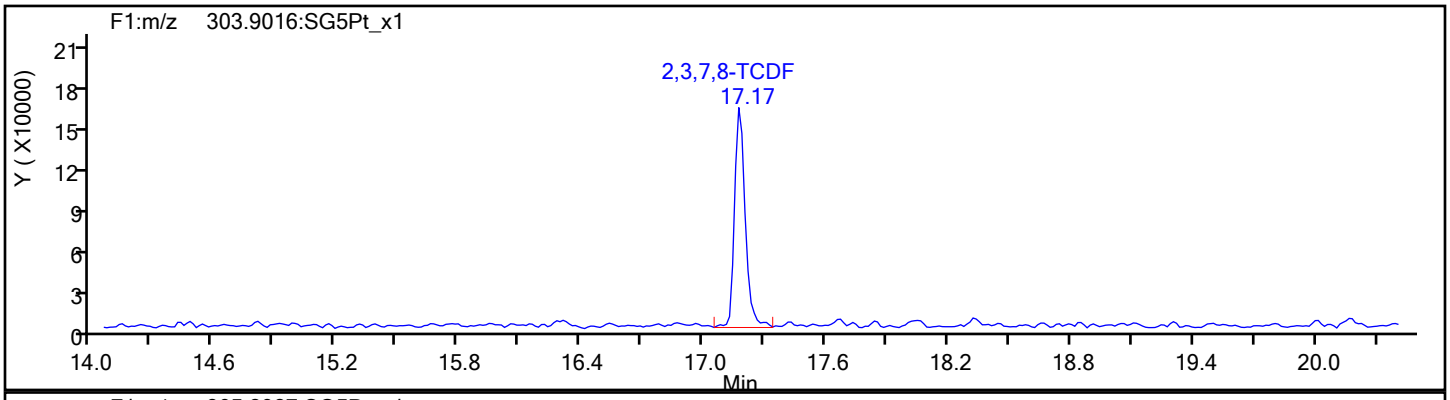

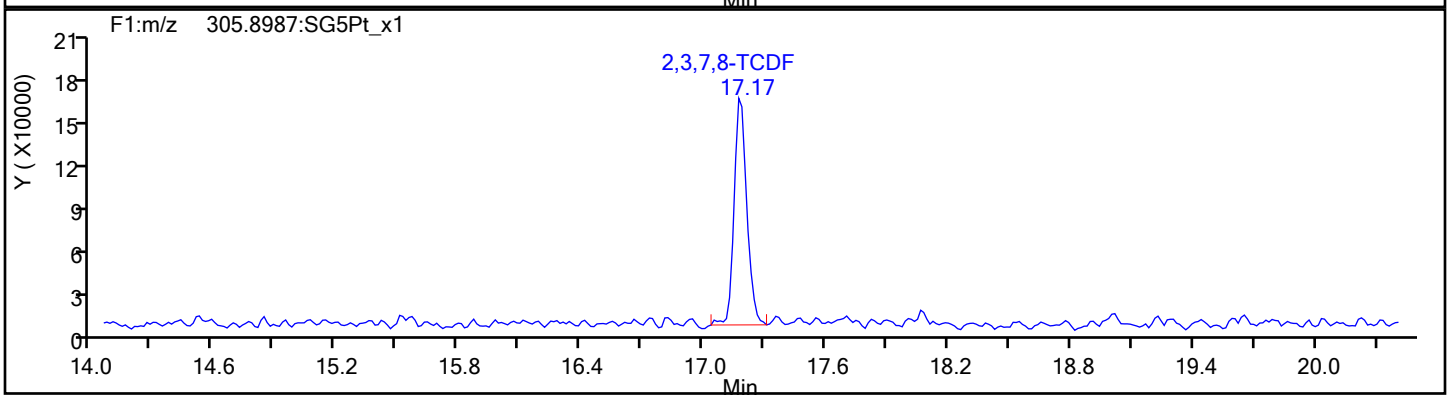

TCDF Standards

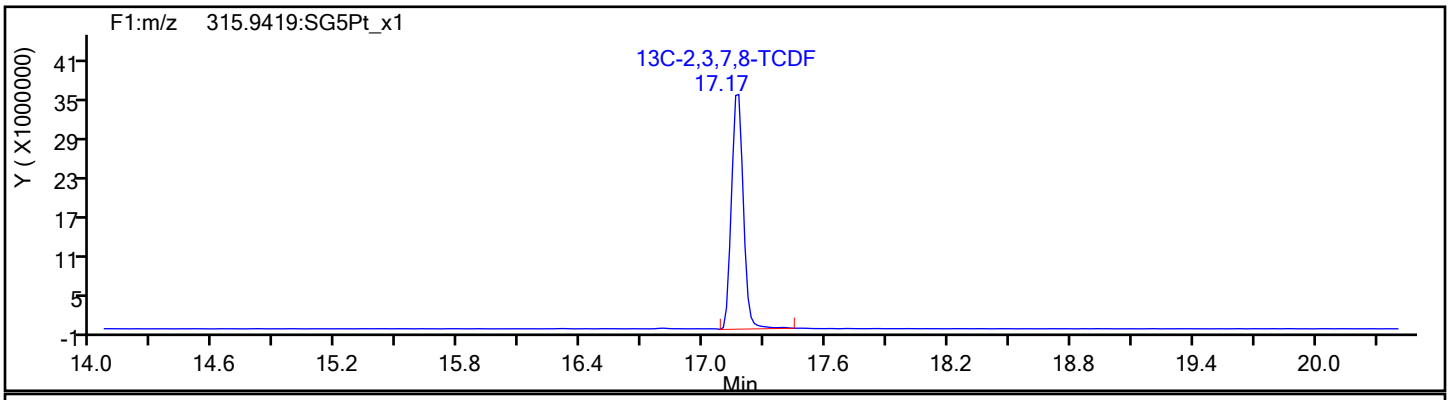

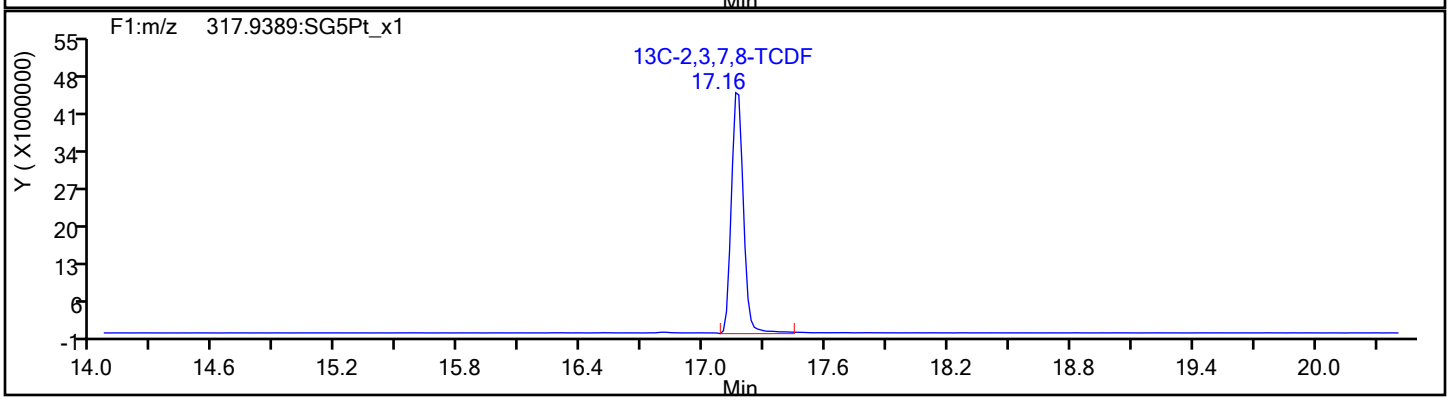

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Eurofins TestAmerica, Sacramento

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TCDF

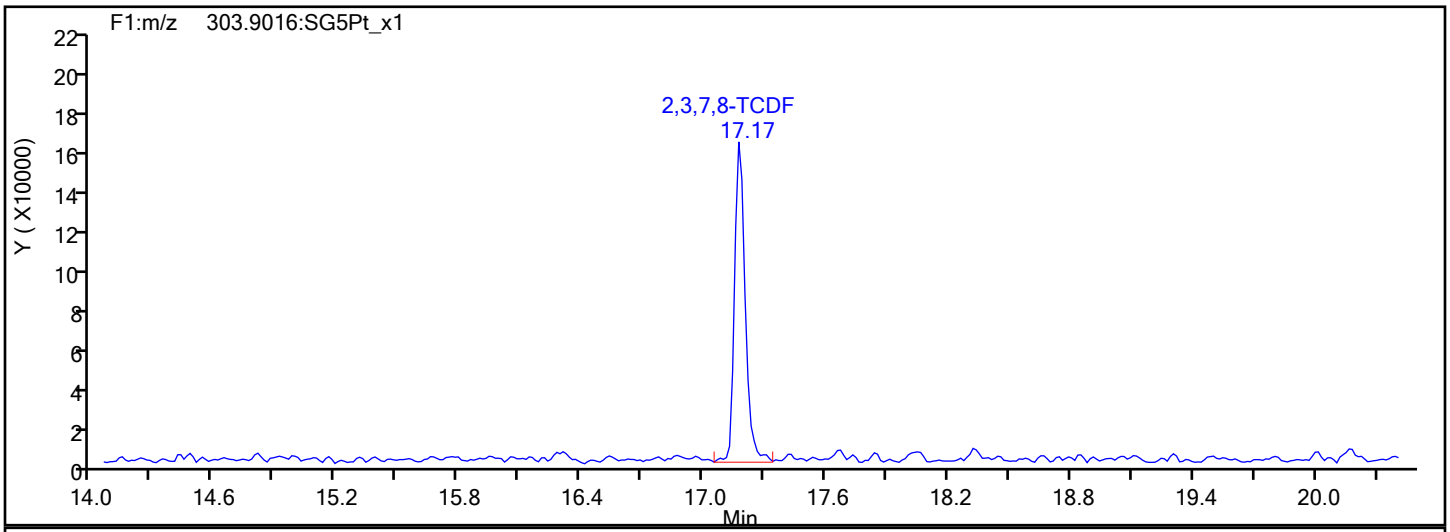

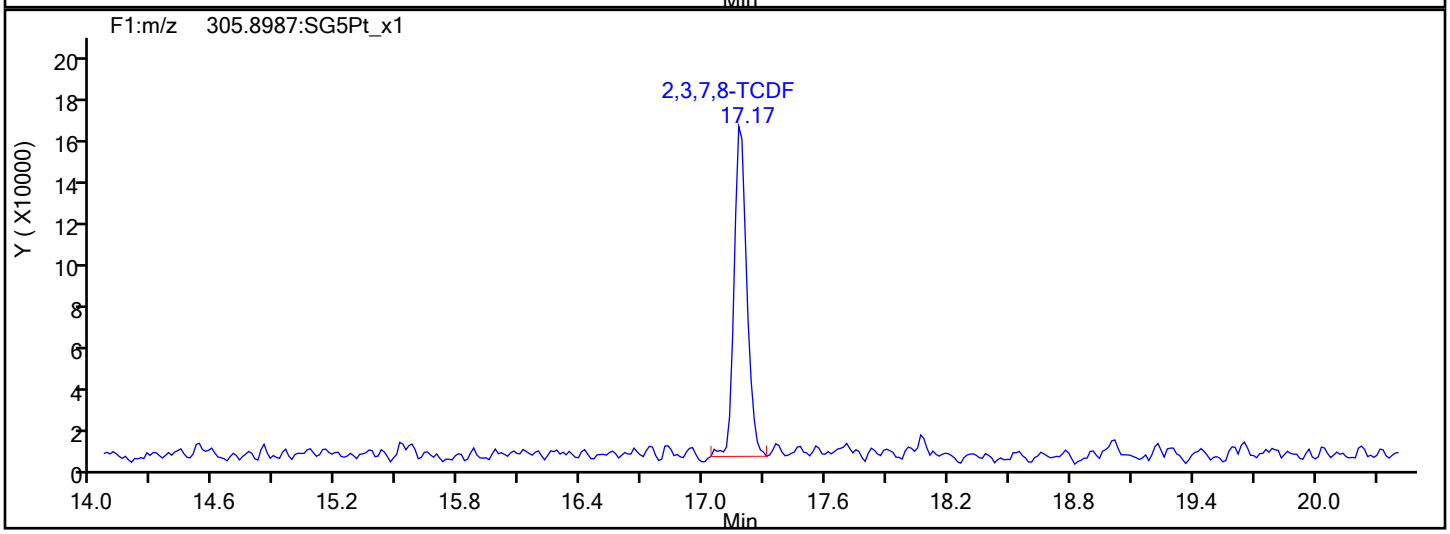

TCDF Interference Mass

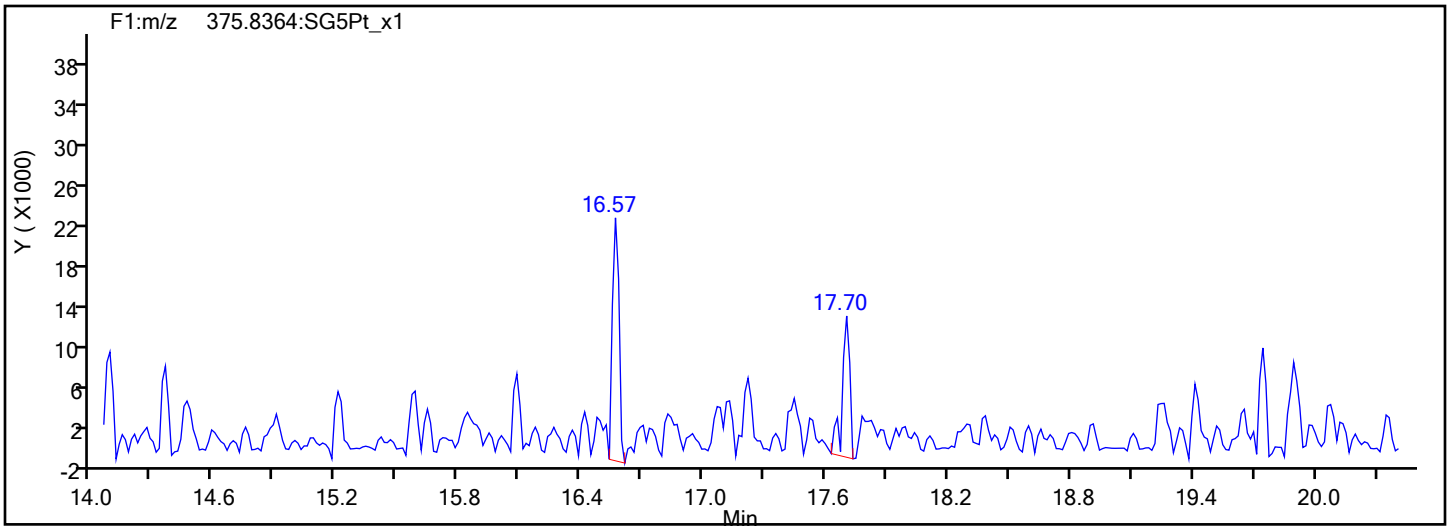

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Eurofins TestAmerica, Sacramento

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TCDD

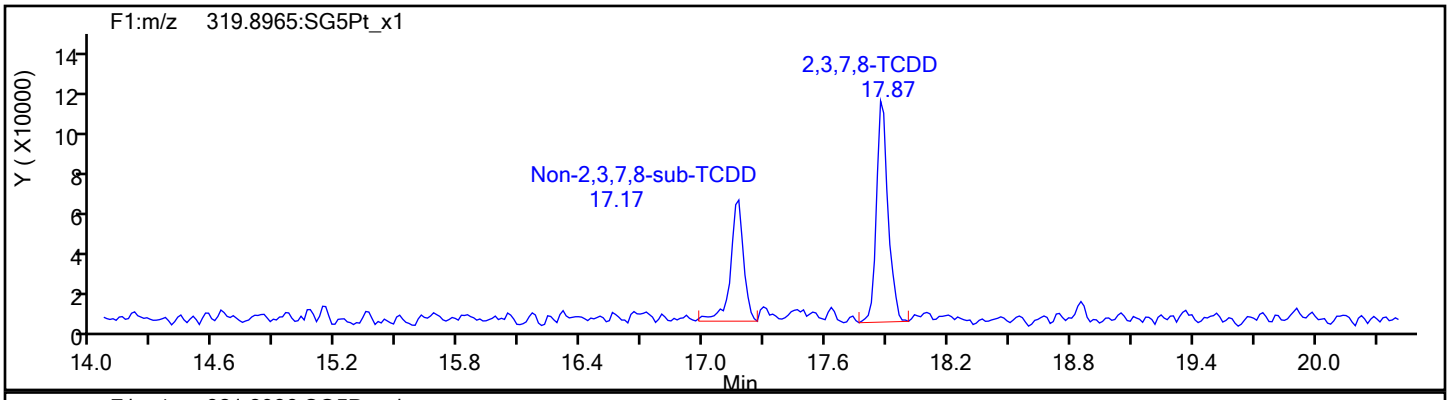

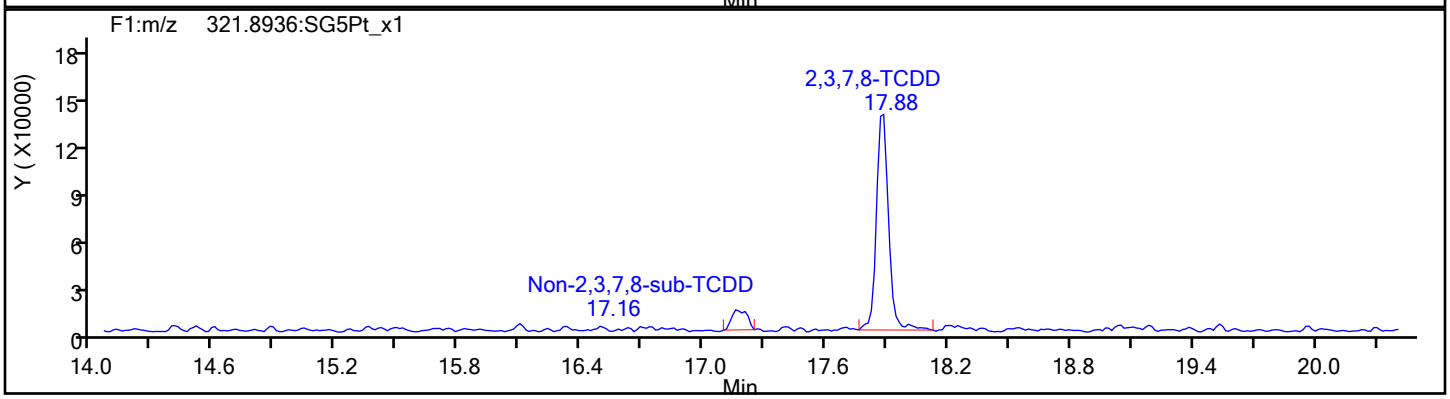

TCDD Standards

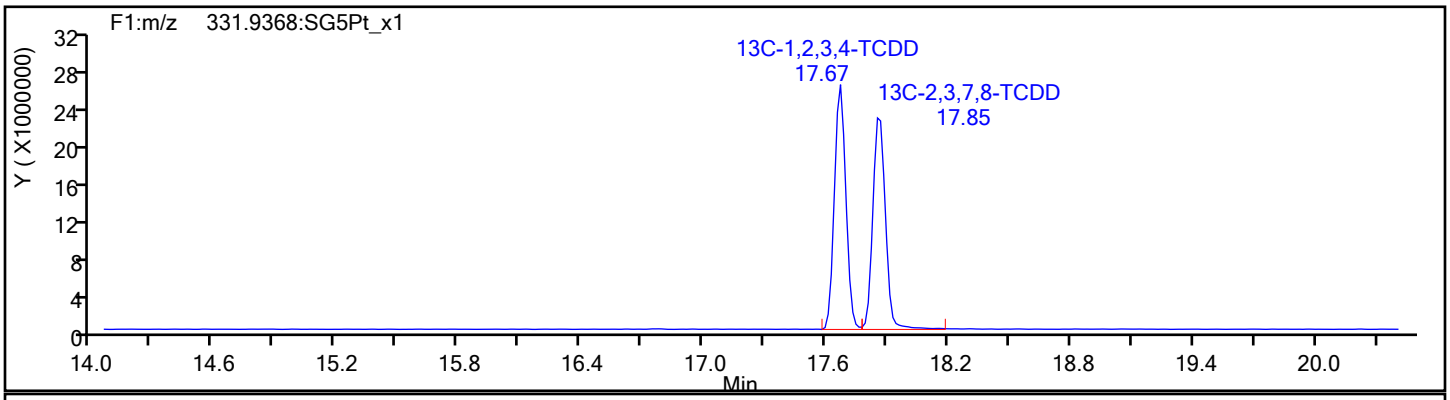

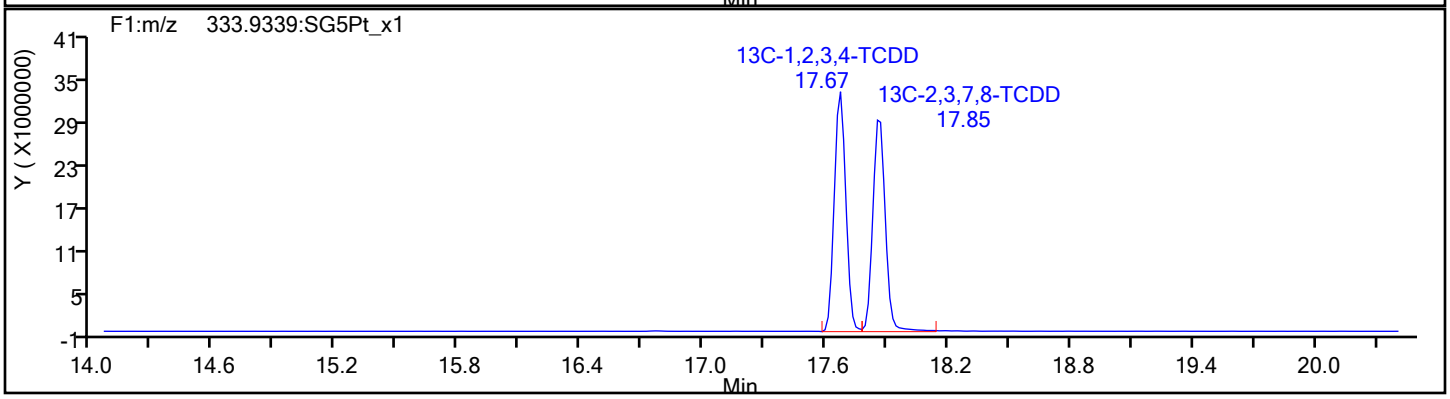

Report Date: 12-Dec-2019 15:54:09 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

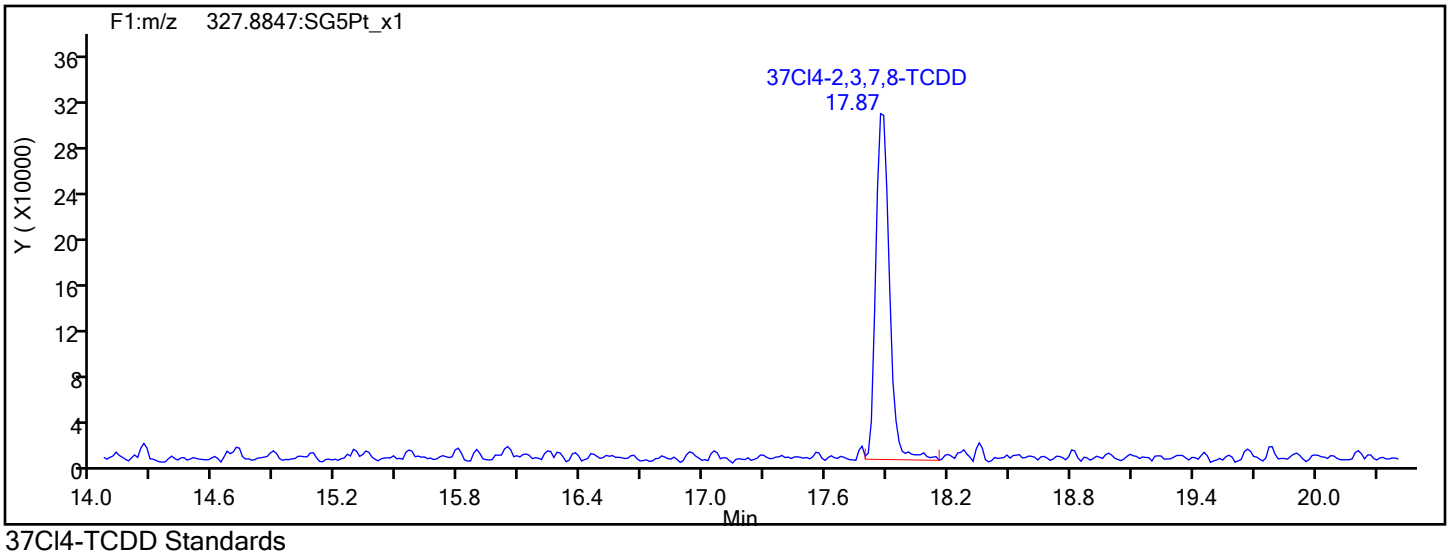

37Cl4-TCDD Standards

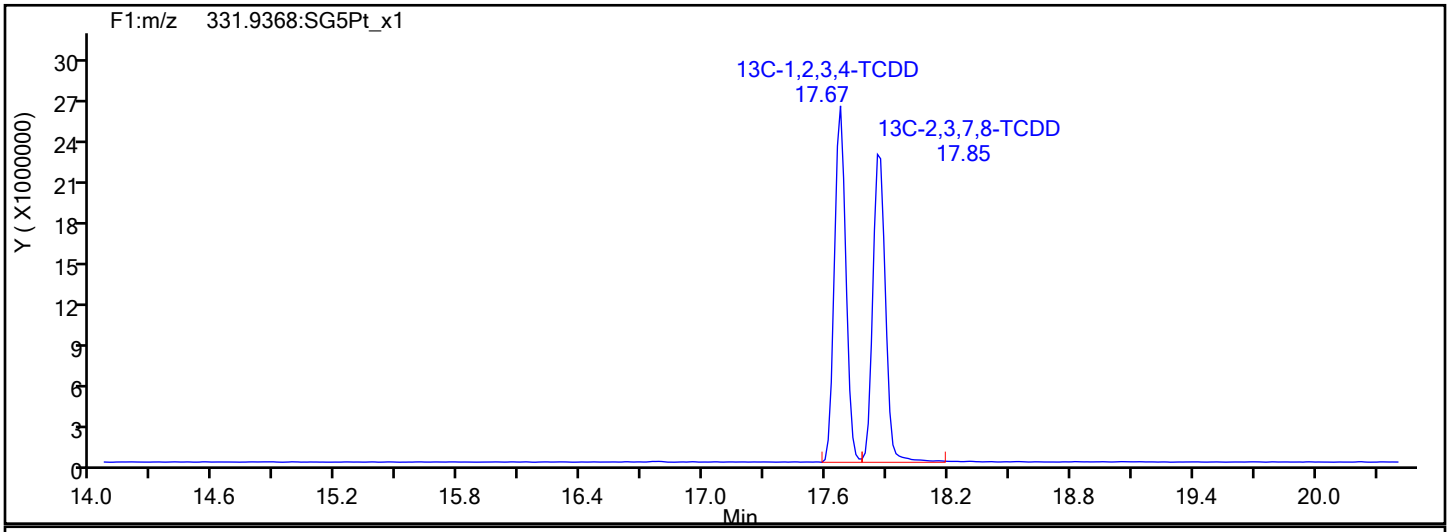

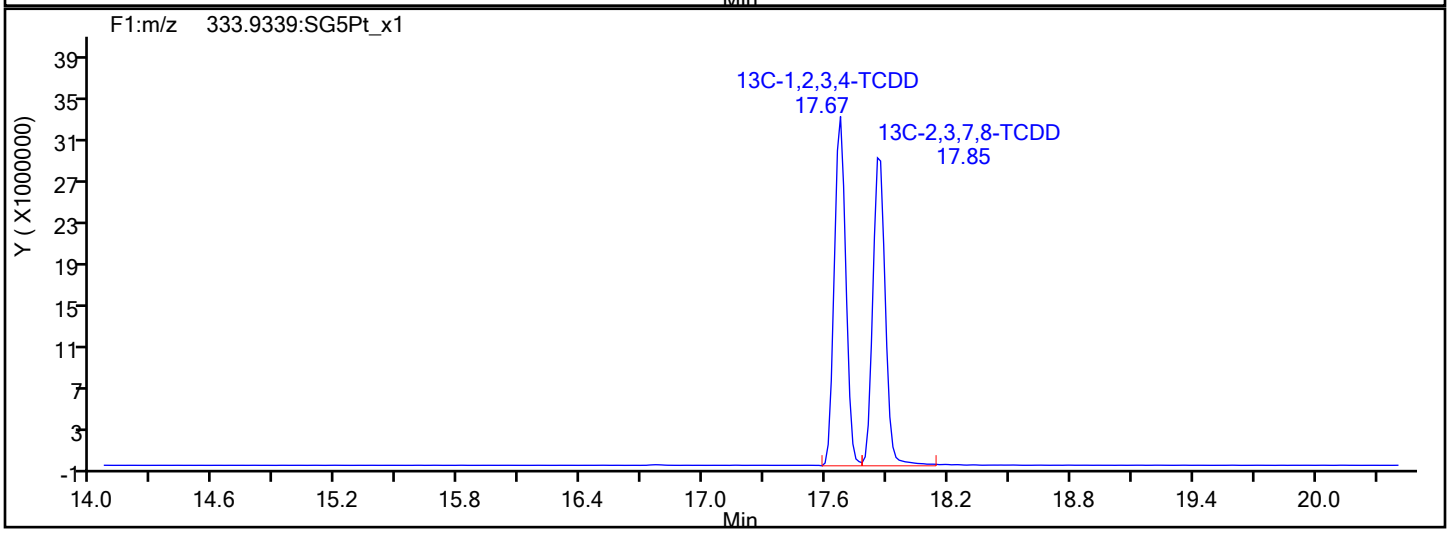

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

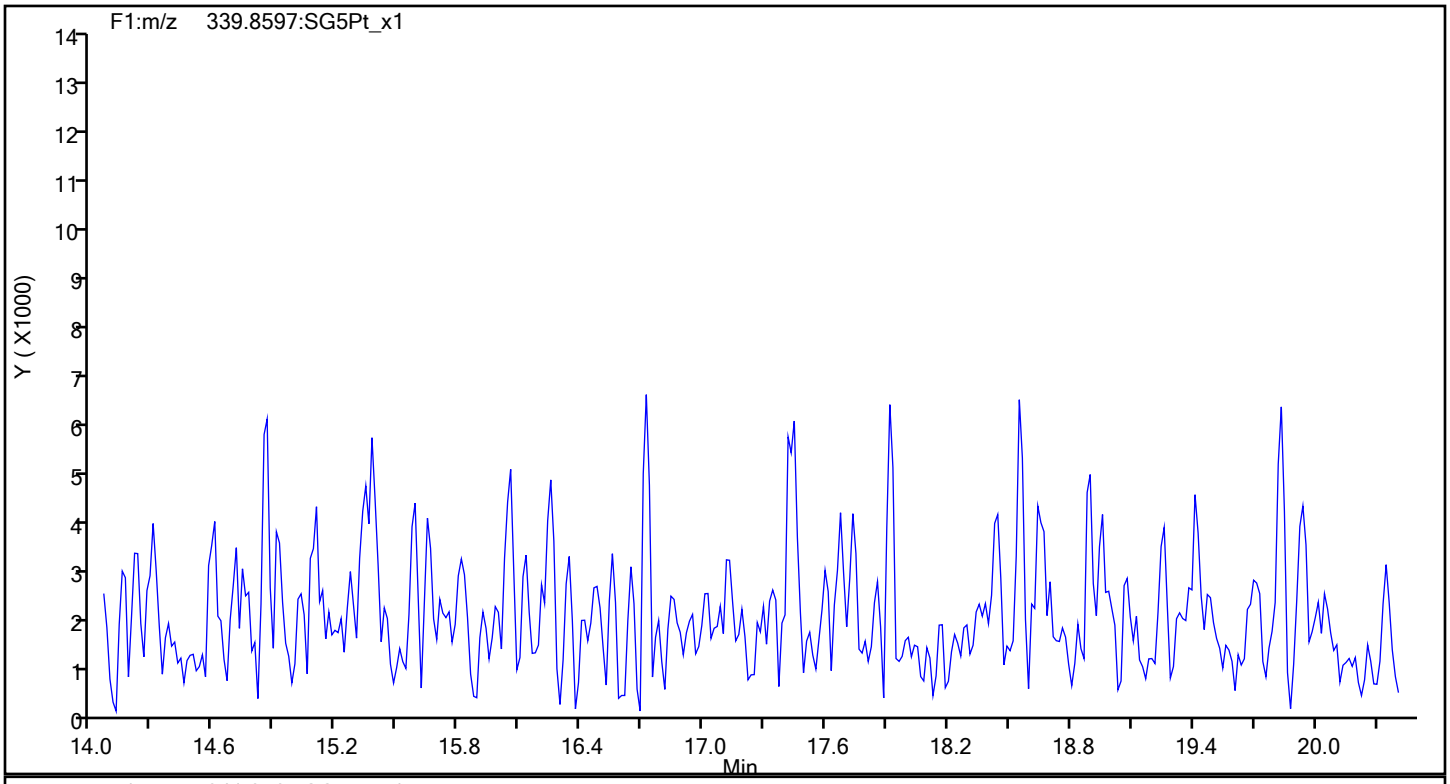

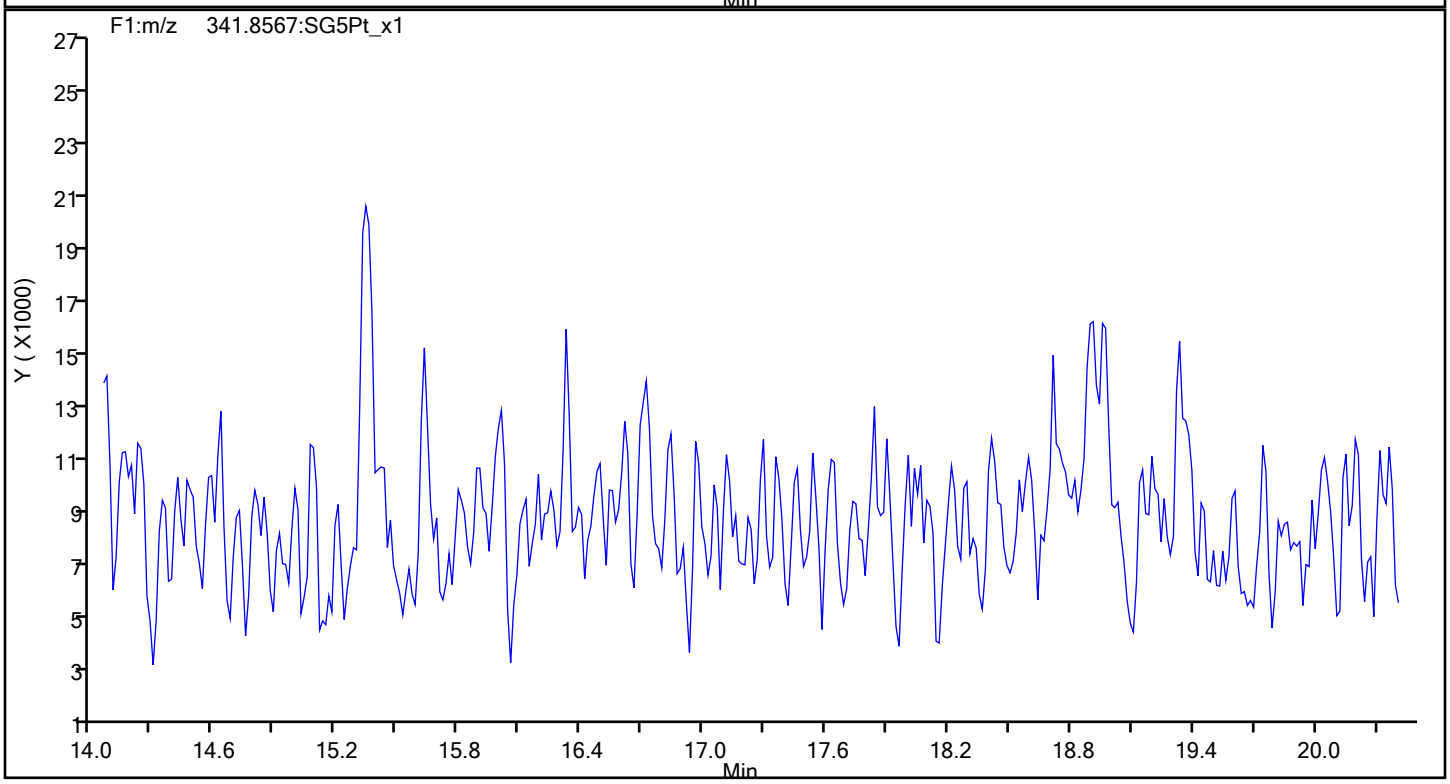

Report Date: 12-Dec-2019 15:54:09 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

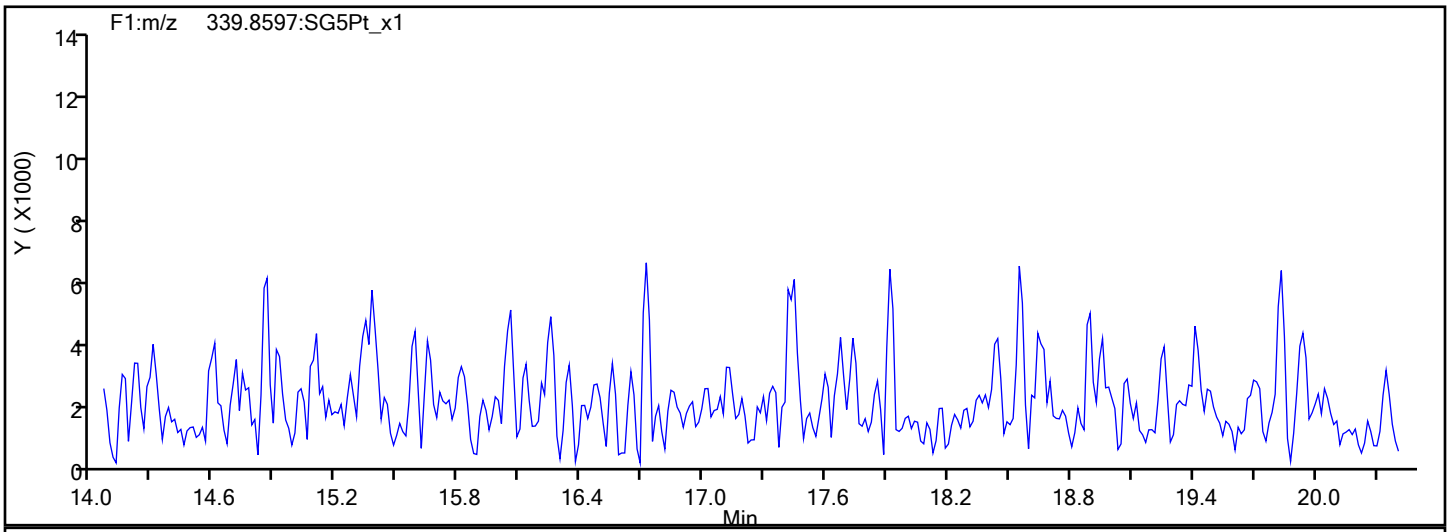

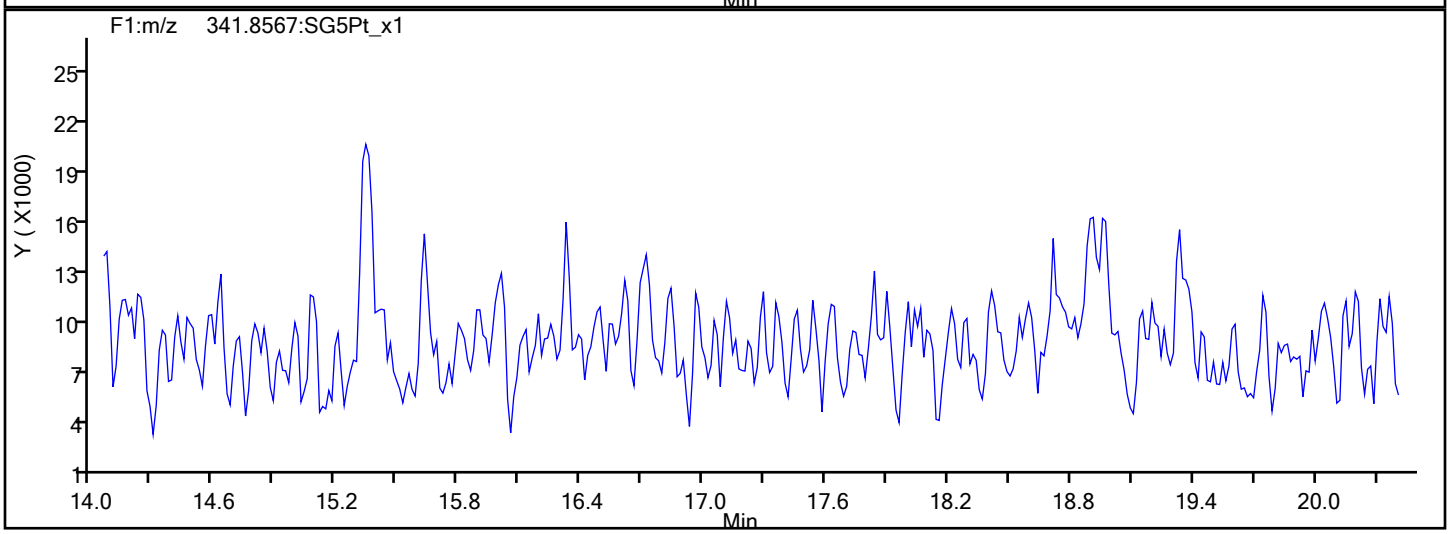

F1 PeCDFs Interference Mass

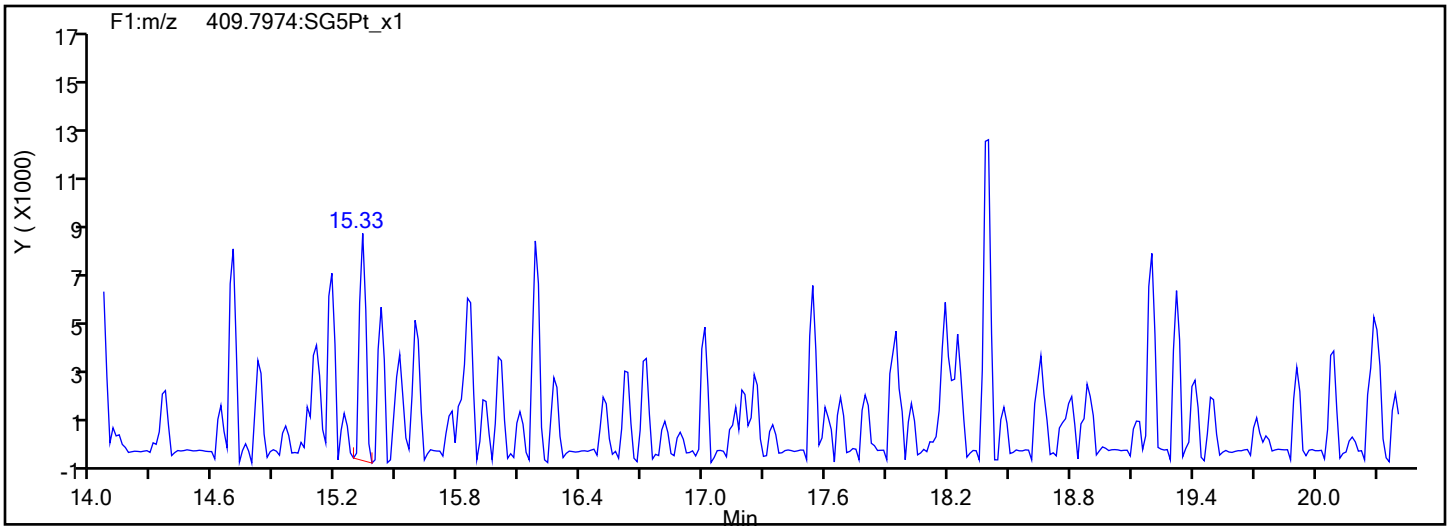

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Eurofins TestAmerica, Sacramento

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PeCDF

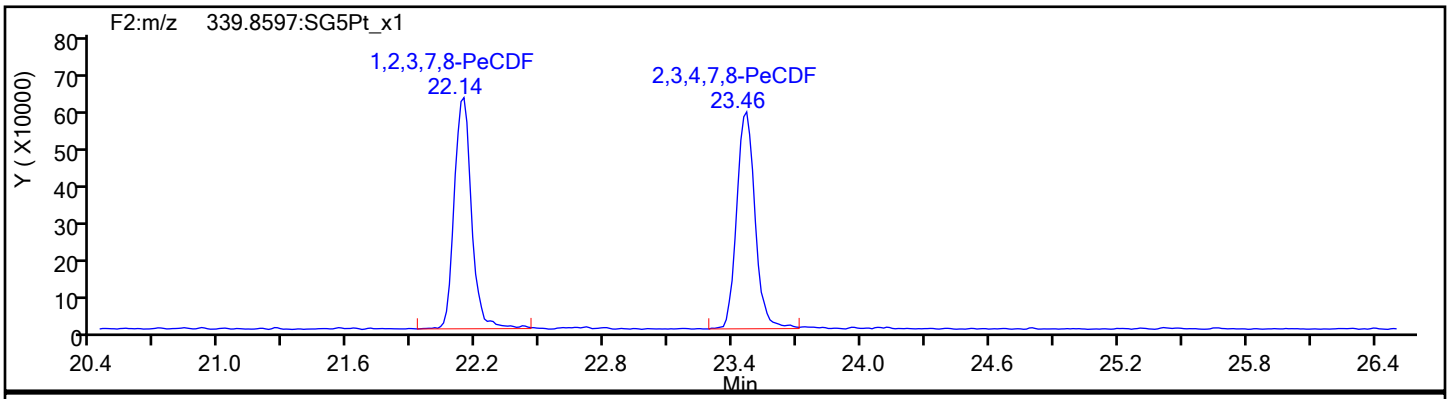

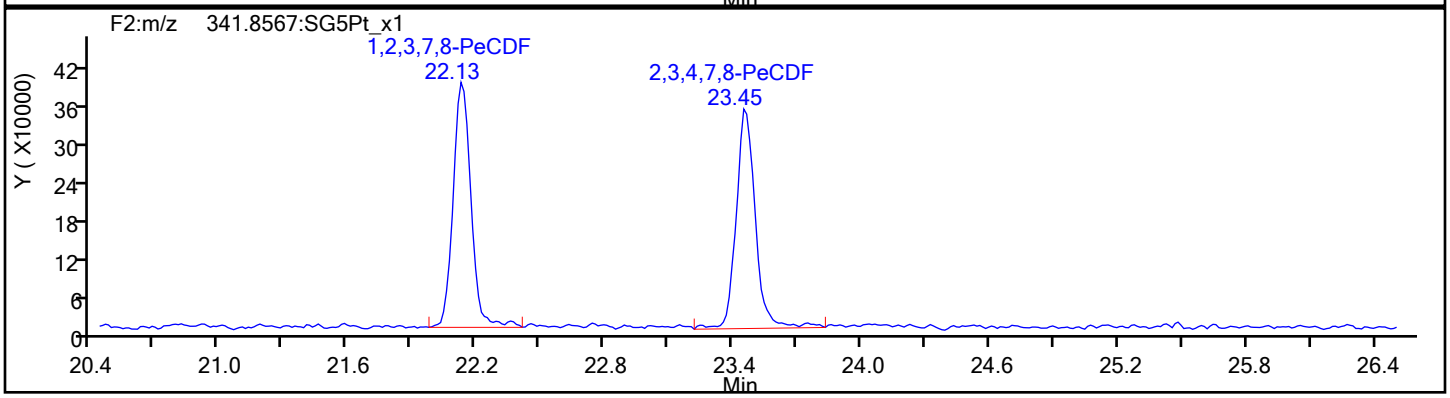

PeCDF Standards

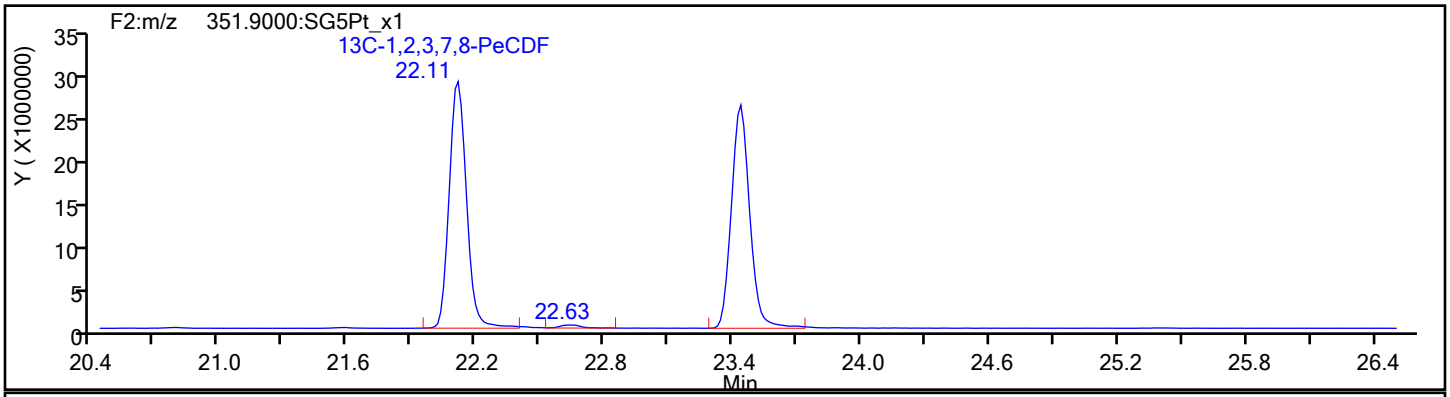

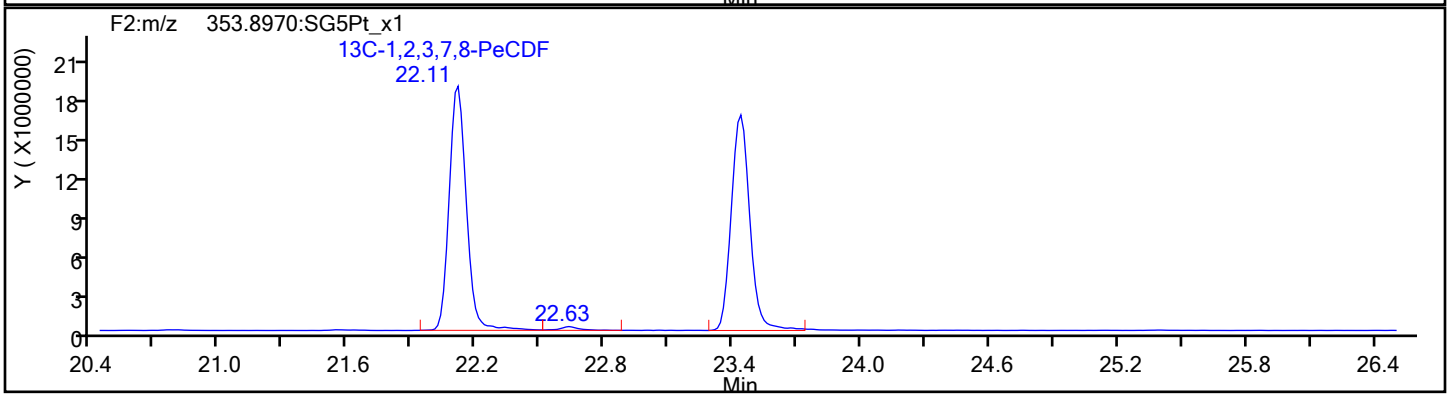

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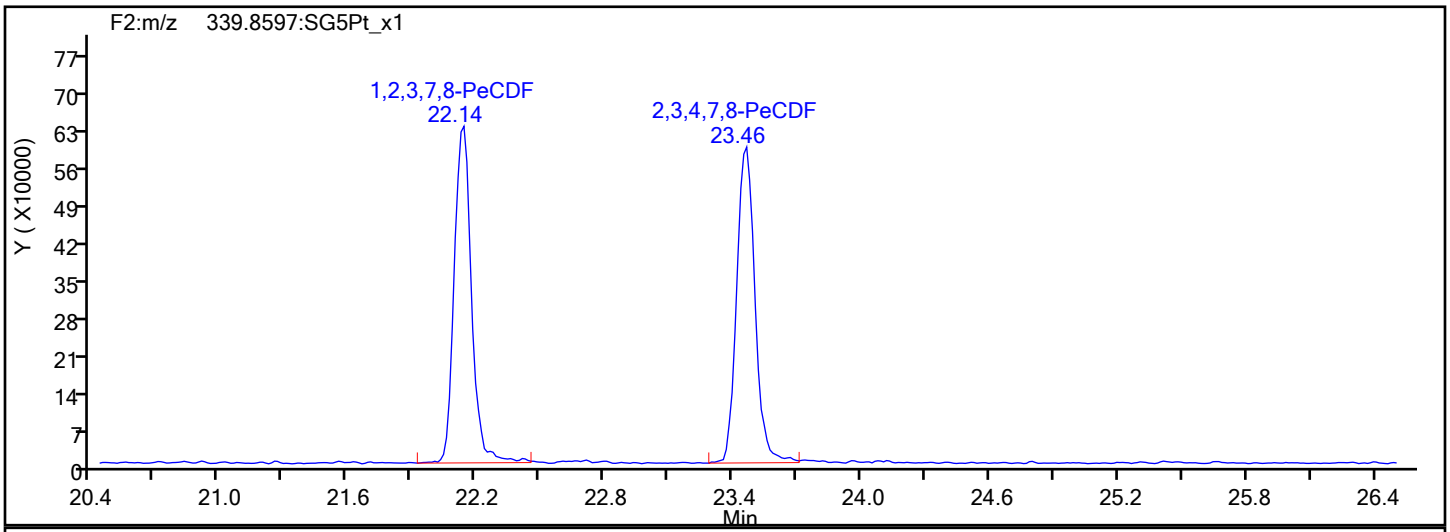

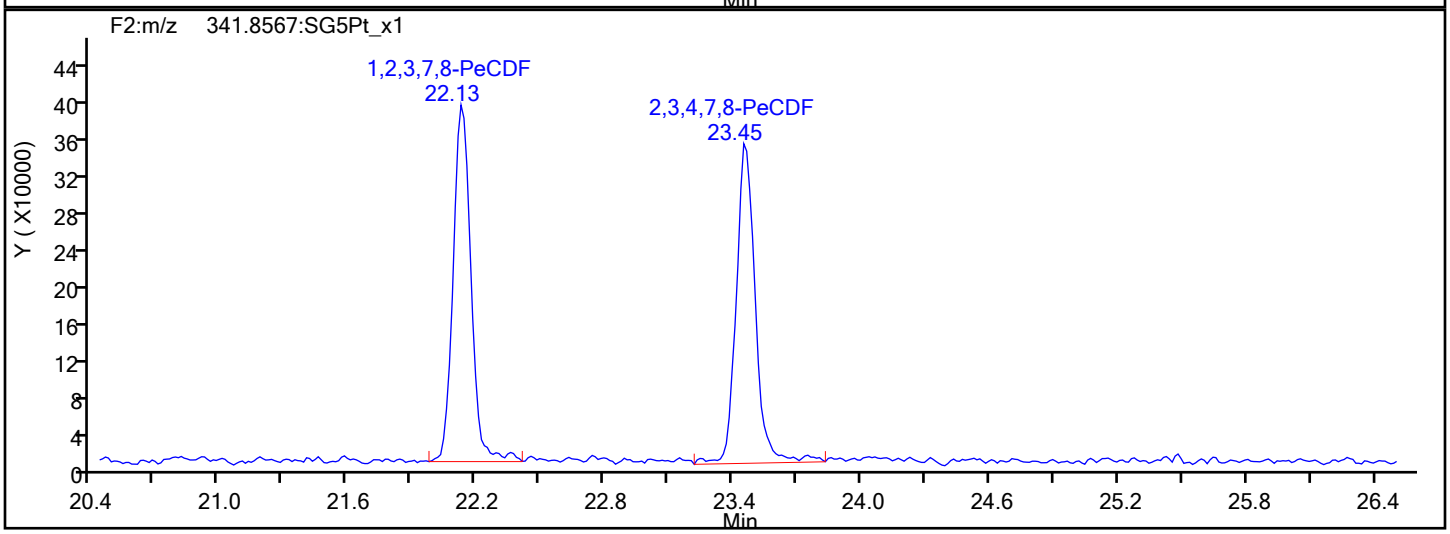

PeCDF Interference Mass

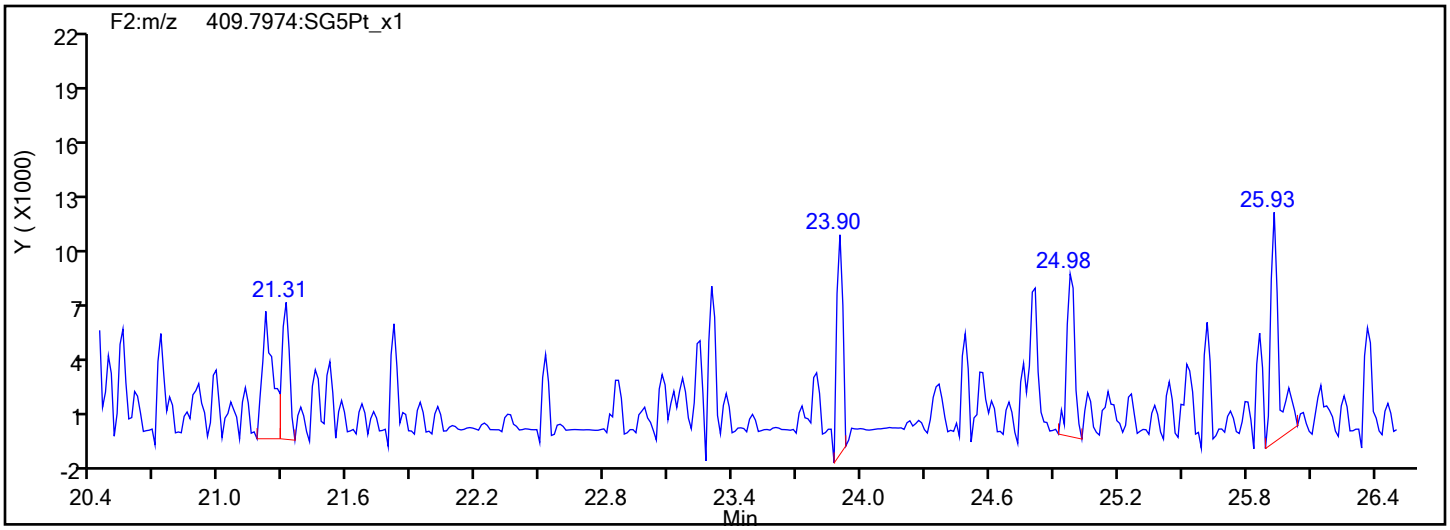

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Eurofins TestAmerica, Sacramento

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PeCDD

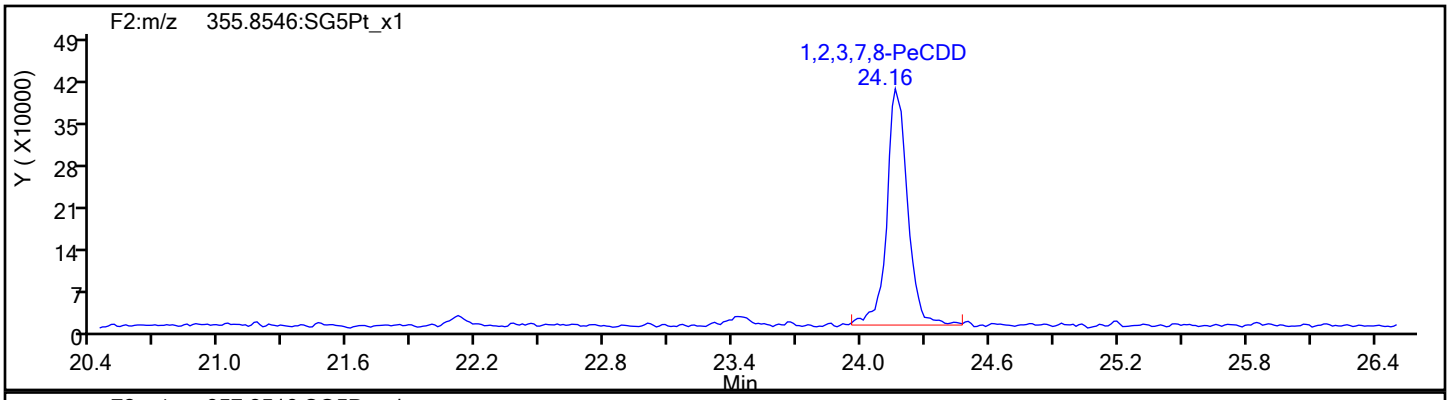

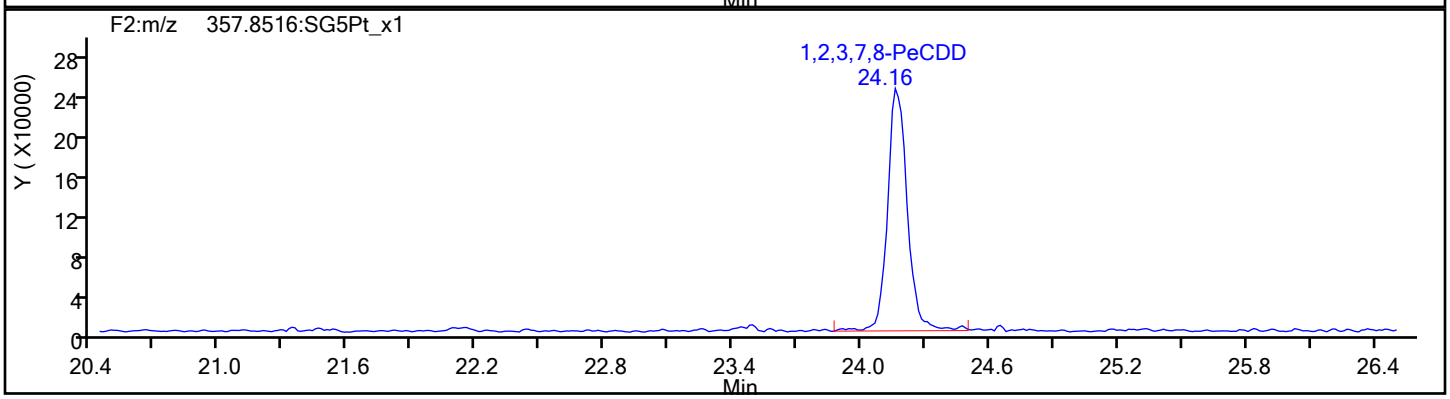

PeCDD Standards

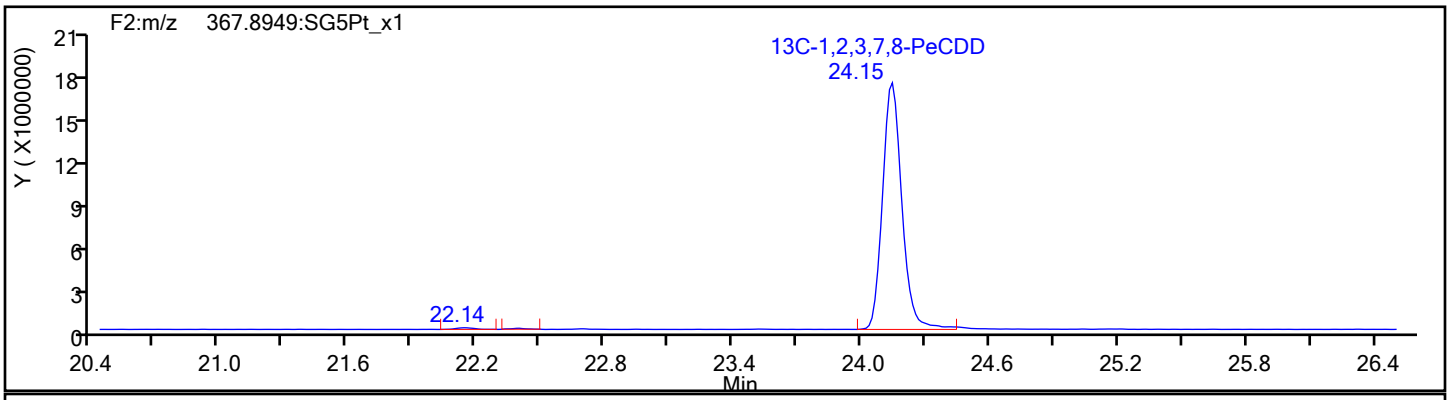

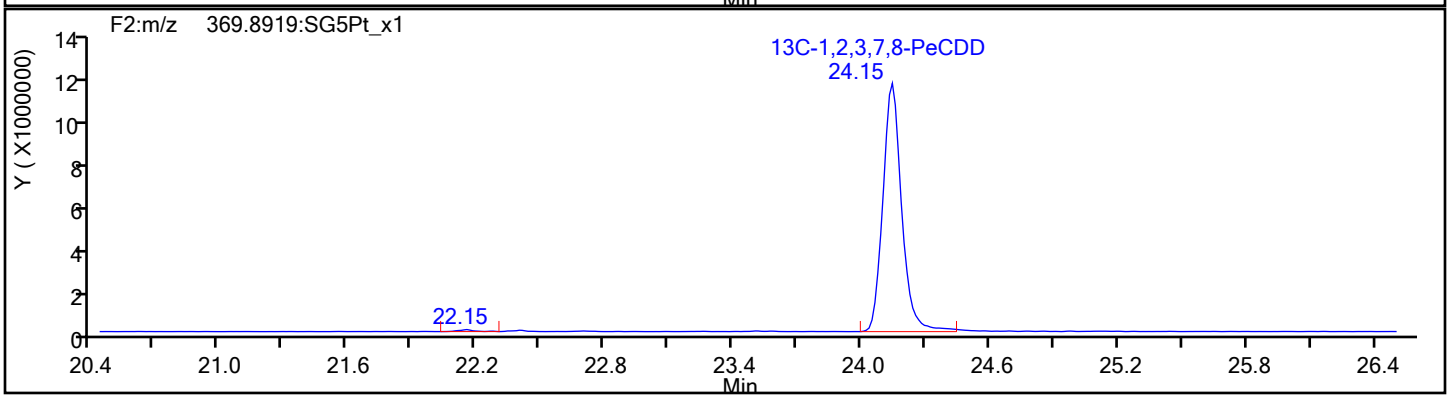

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HxCDF

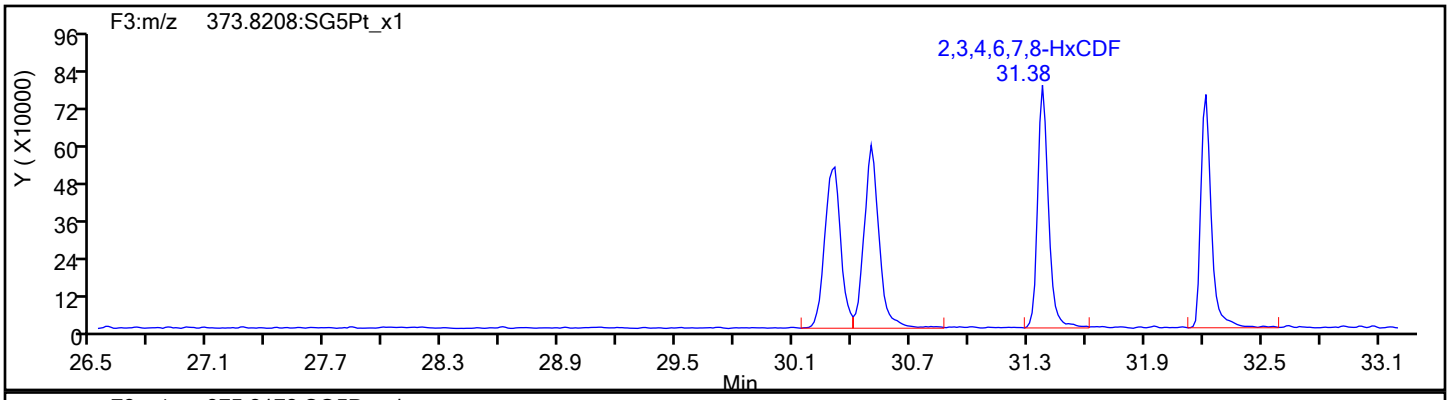

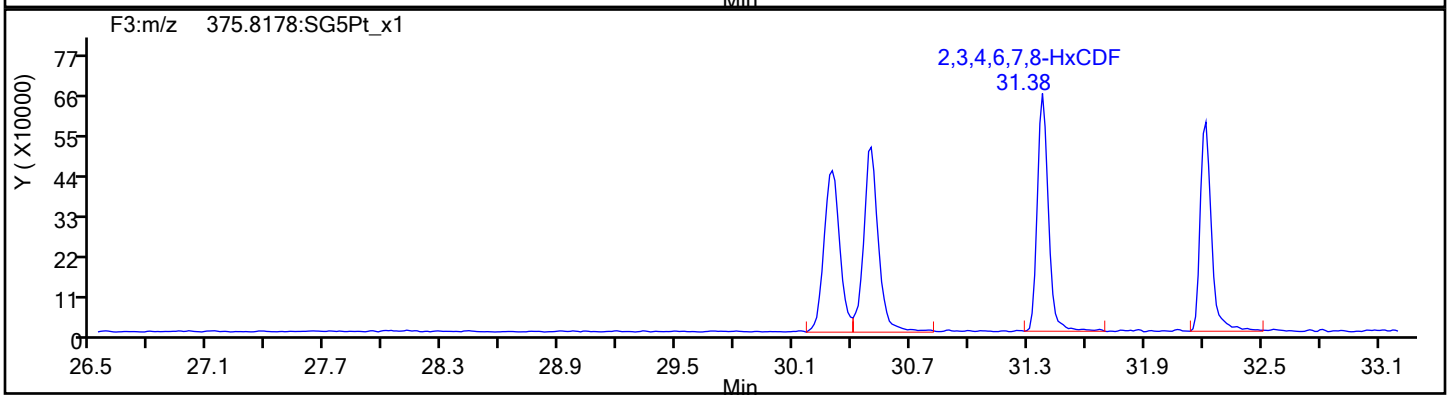

HxCDF Standards

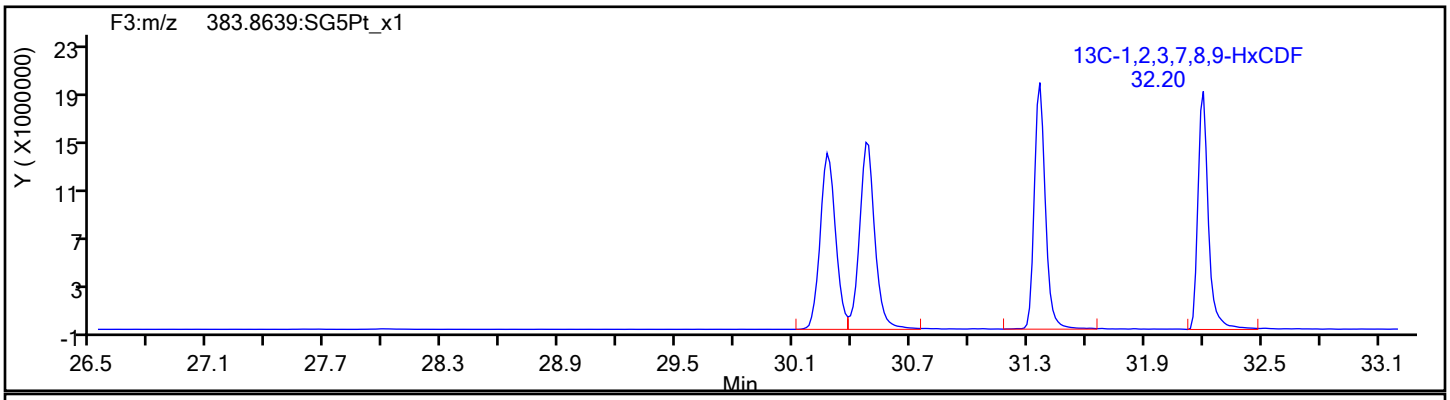

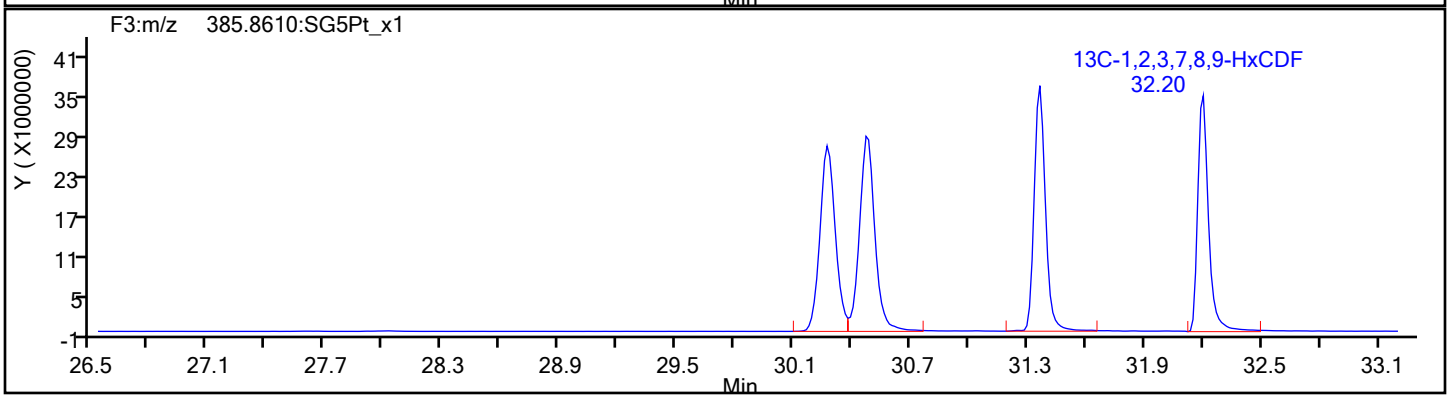

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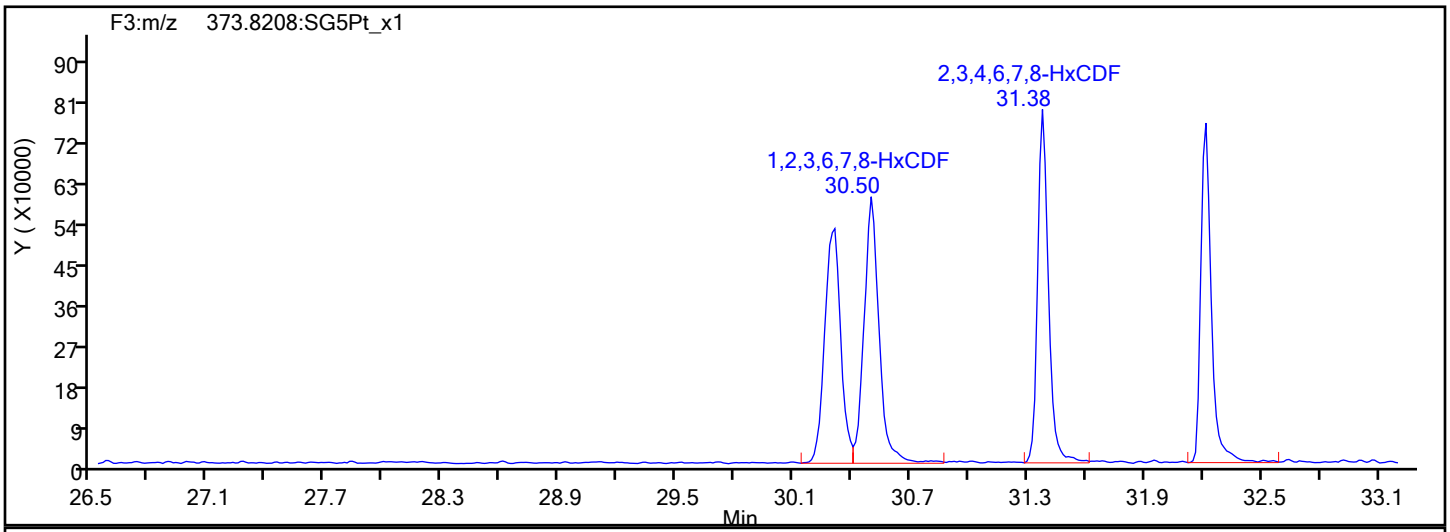

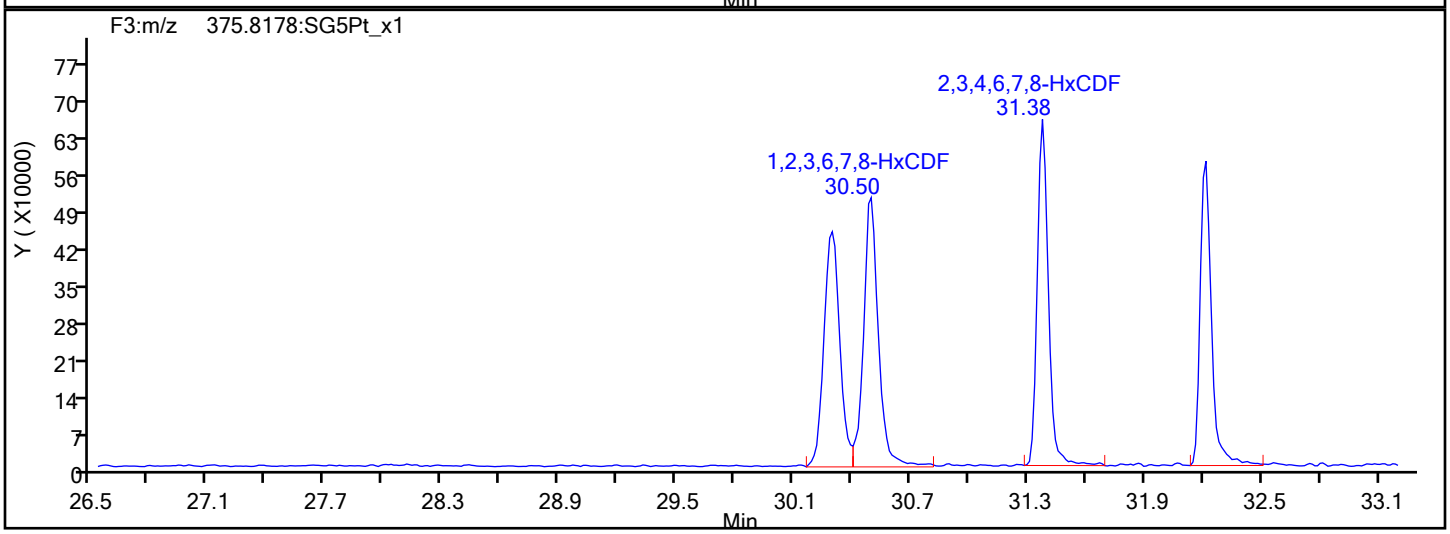

HxCDF Interference Mass

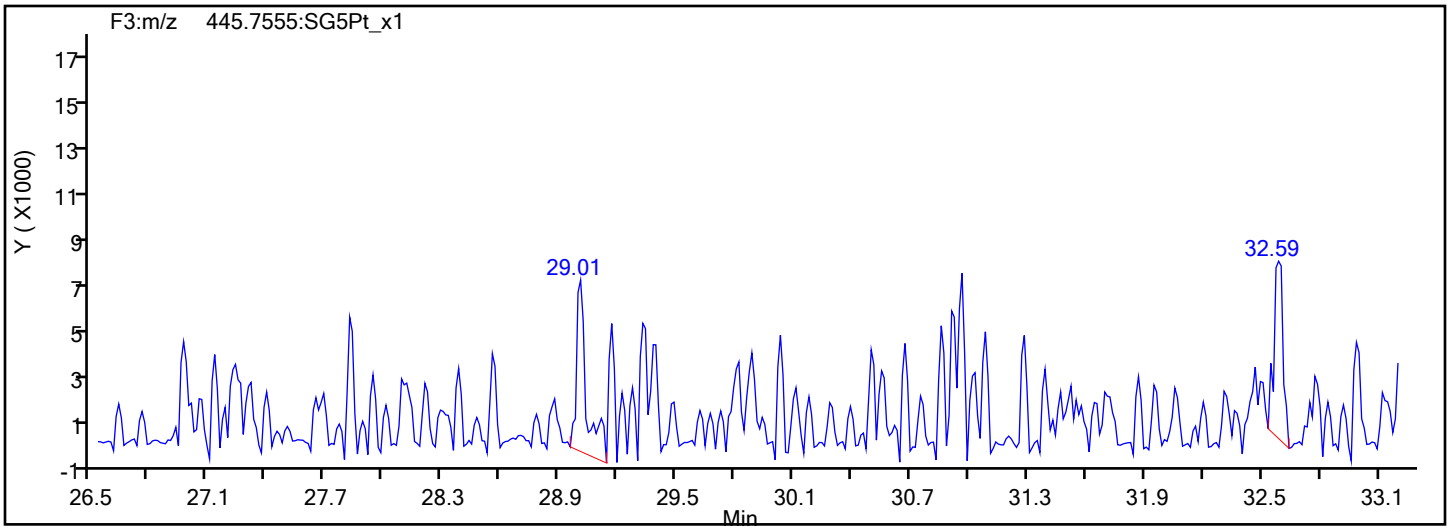

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Client ID:	L2		
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Column Type:	DB-5	Column Dia:	0.32 mm

HxCDD

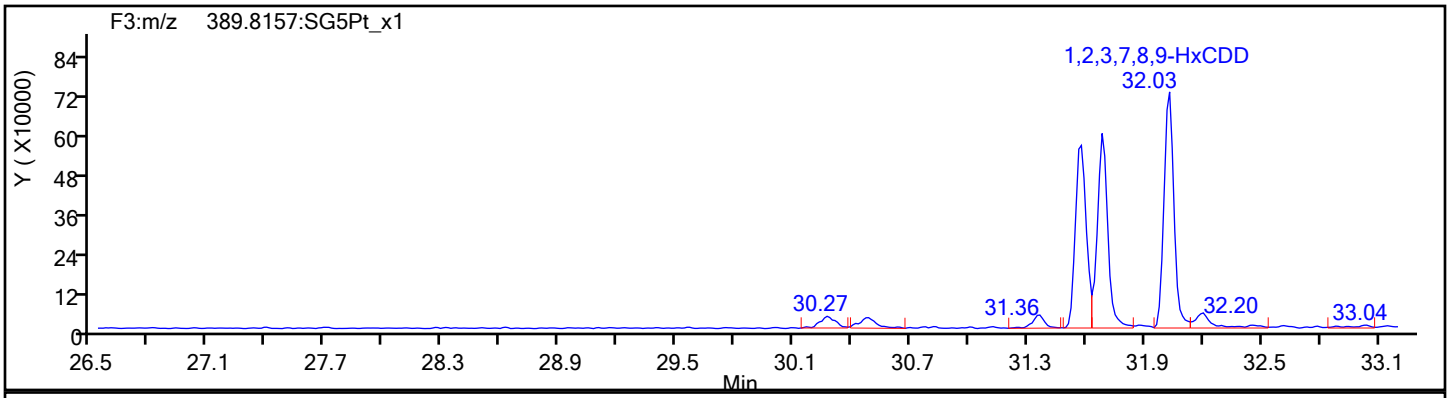

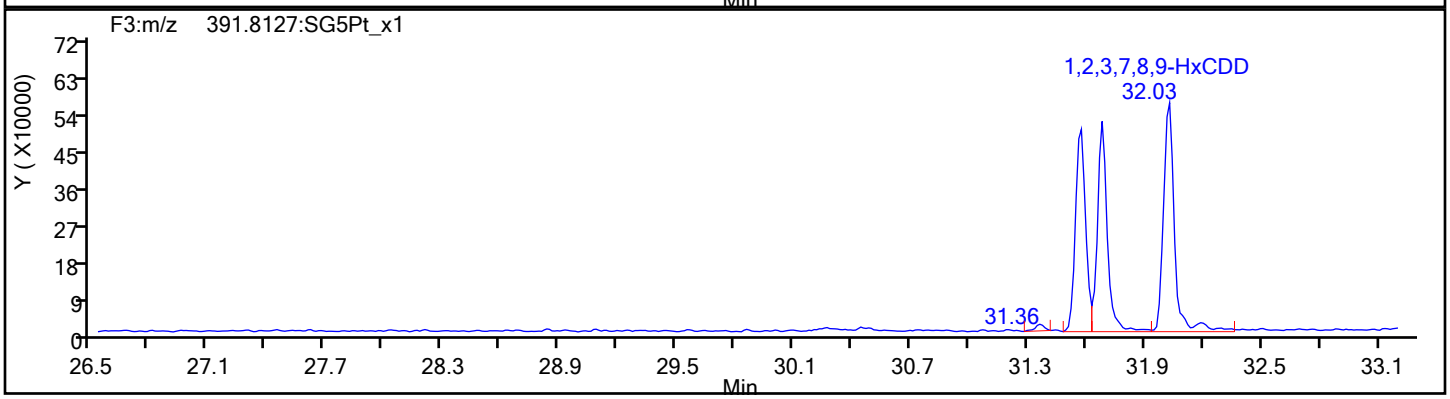

HxCDD Standards

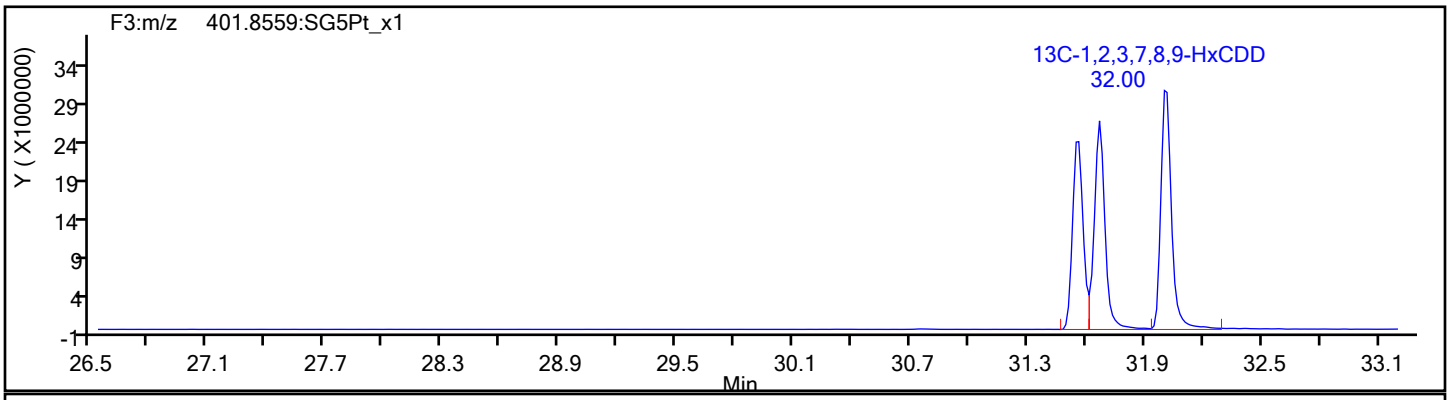

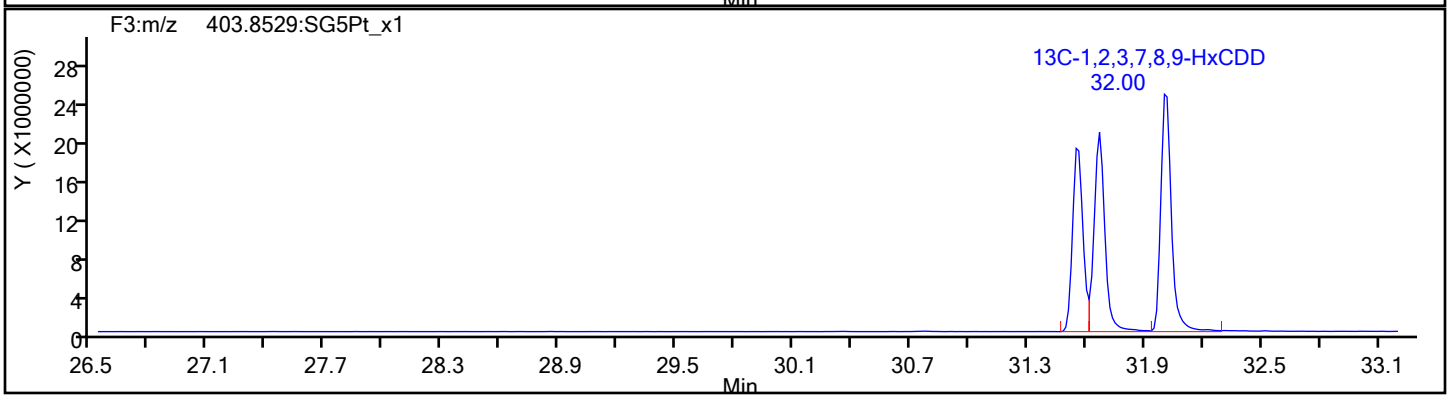

Report Date: 12-Dec-2019 15:54:10 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_3.d		
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Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L2		
Worklist#:	345037	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

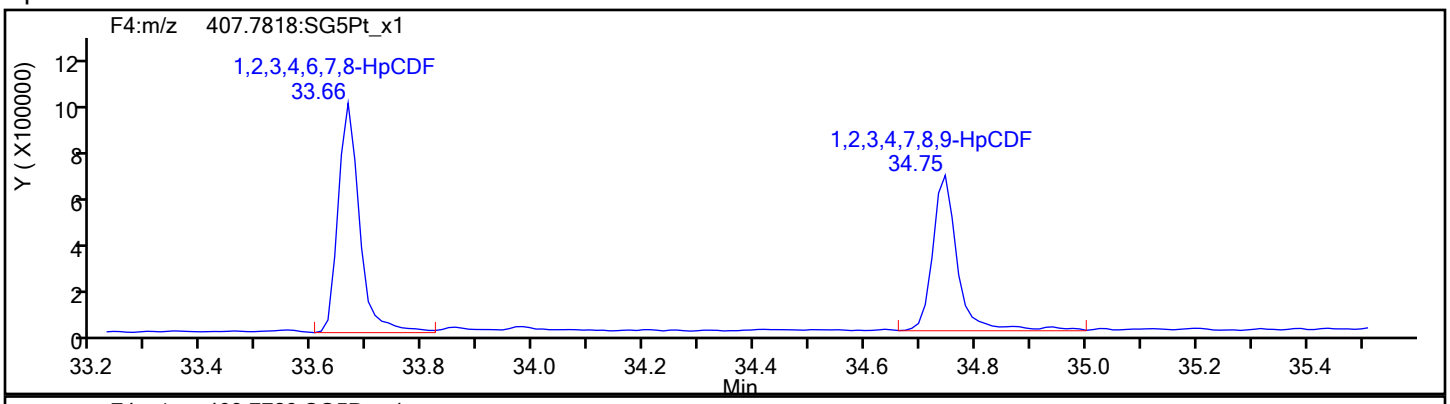

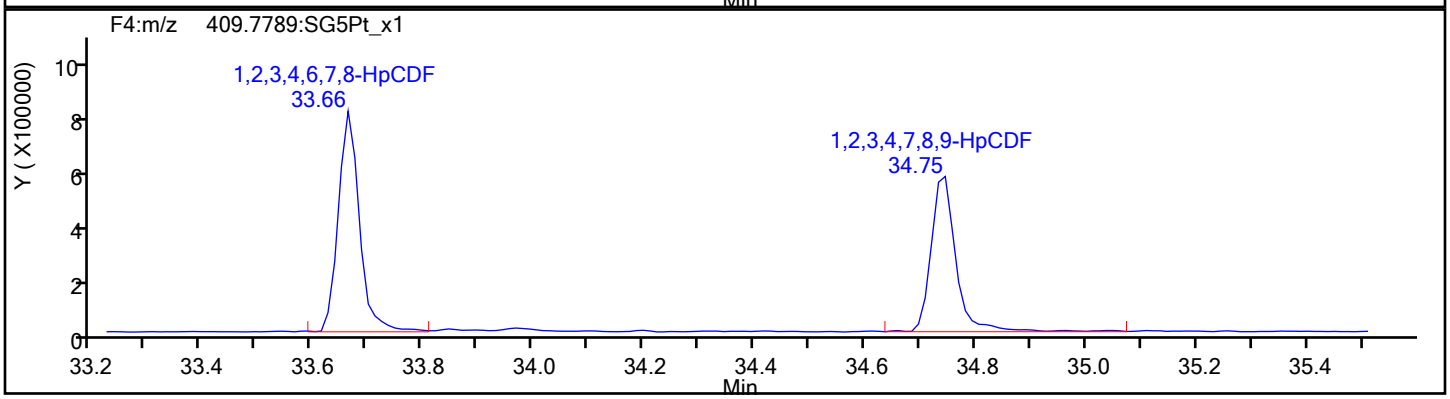

HpCDF Standards

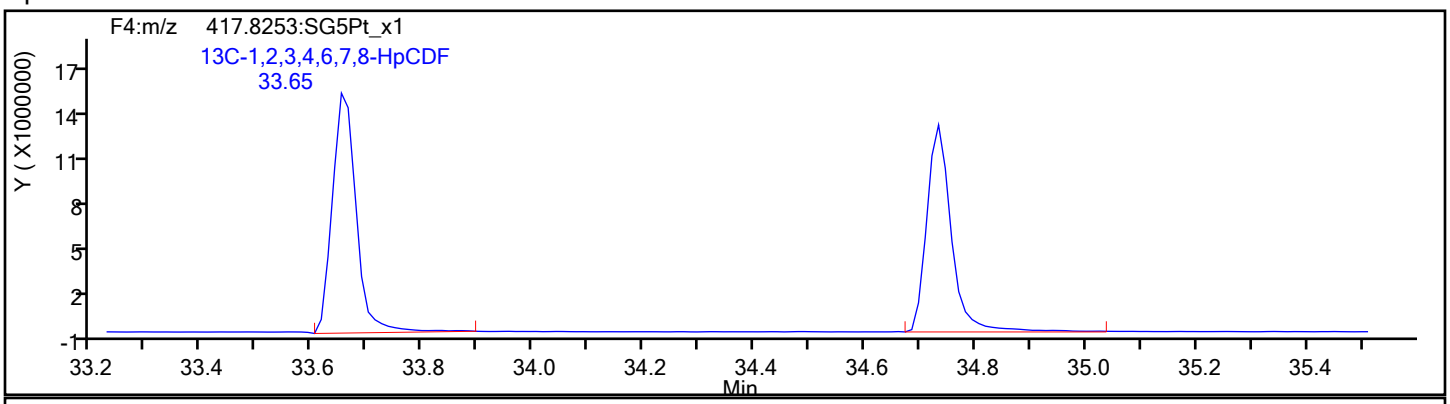

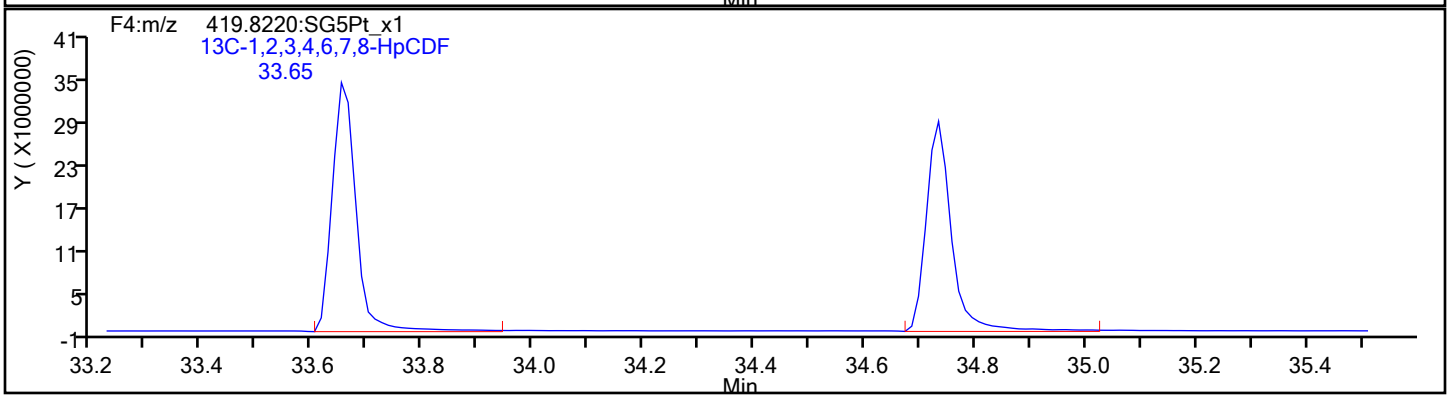

Report Date: 12-Dec-2019 15:54:10 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_3.d		
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Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L2		
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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

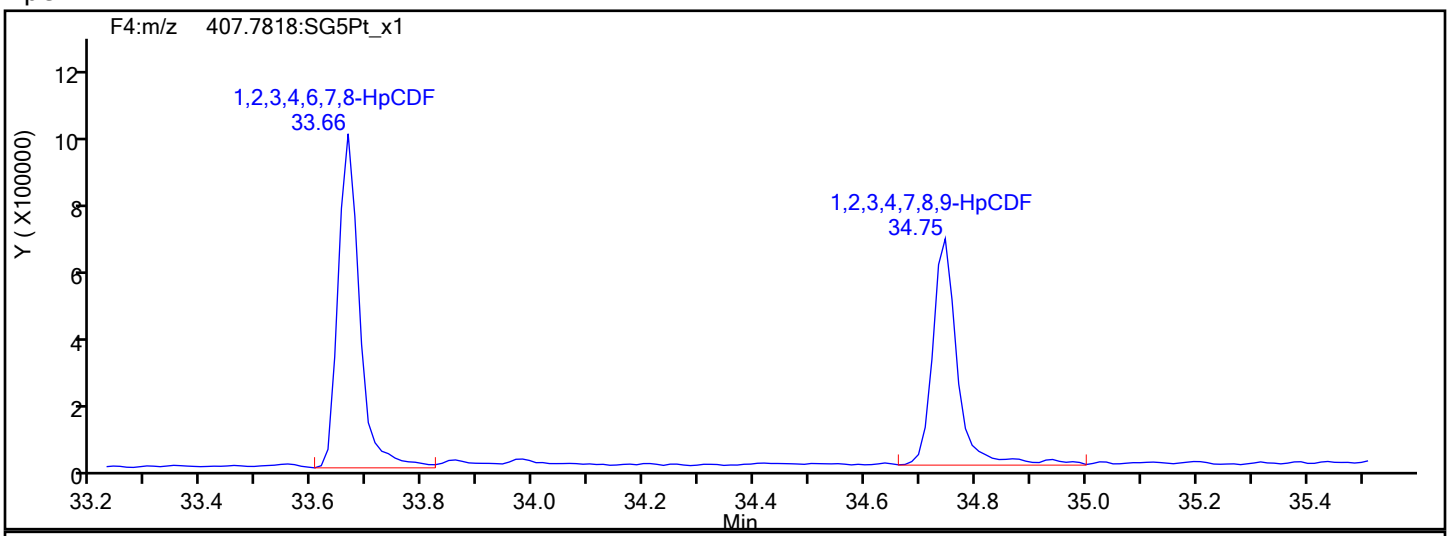

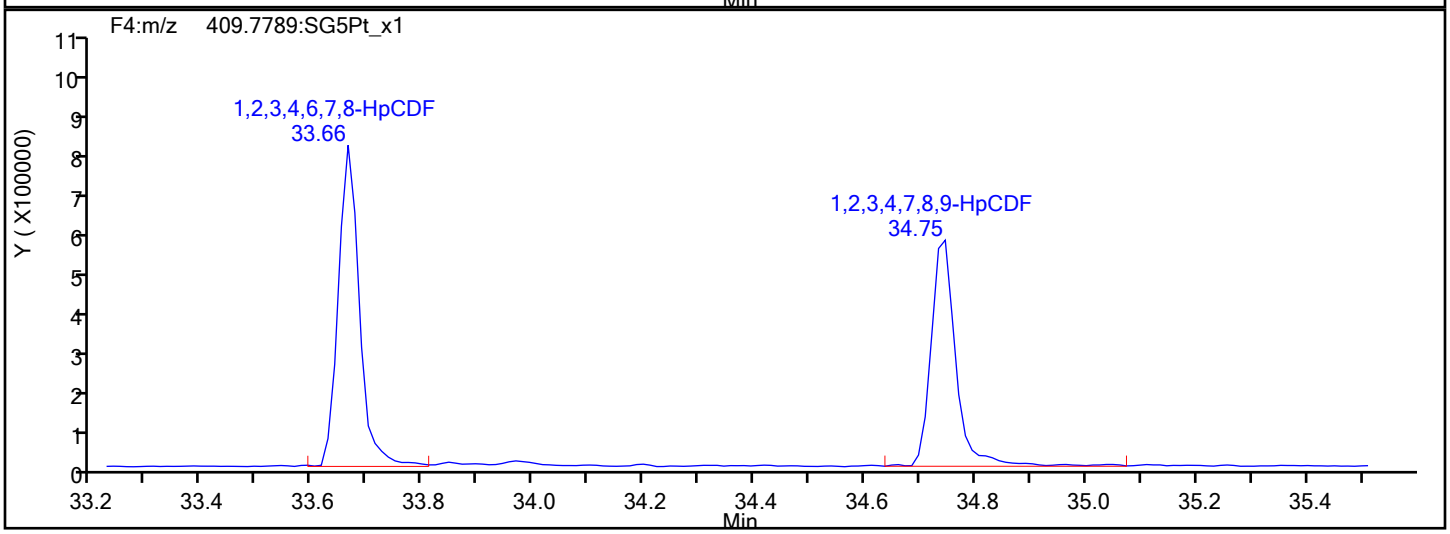

HpCDF Interference Mass

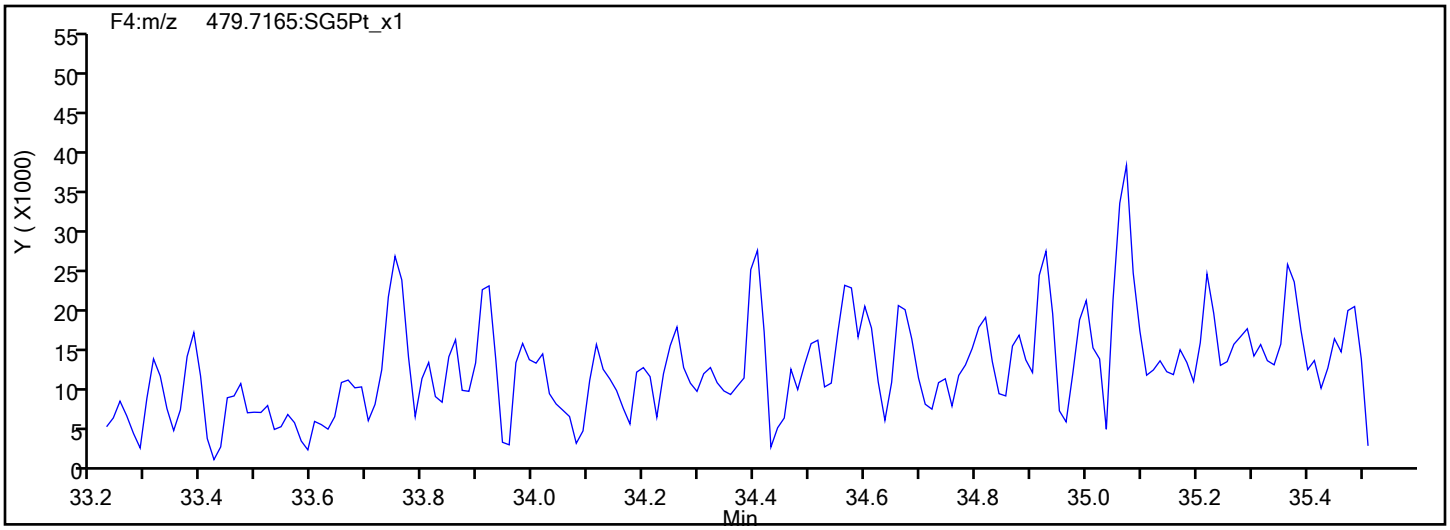

Report Date: 12-Dec-2019 15:54:10 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_3.d		
Injection Date:	12-Dec-2019 11:28:54	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L2		
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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

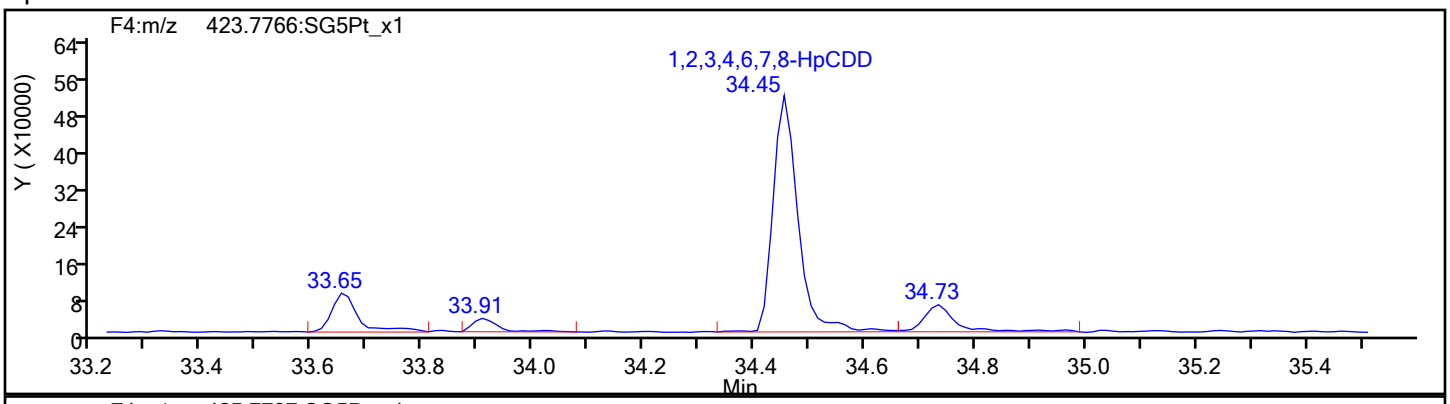

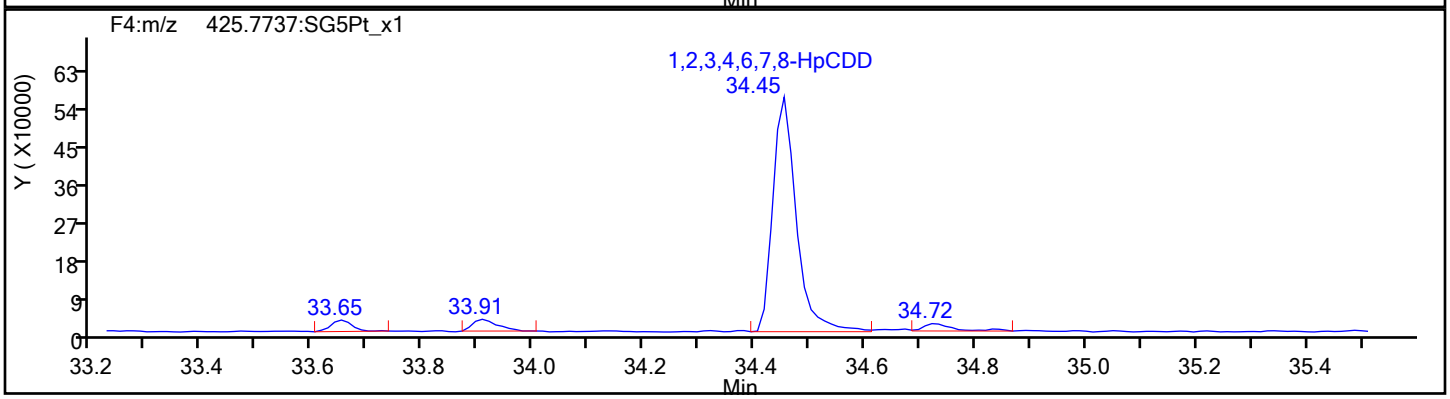

HpCDD Standards

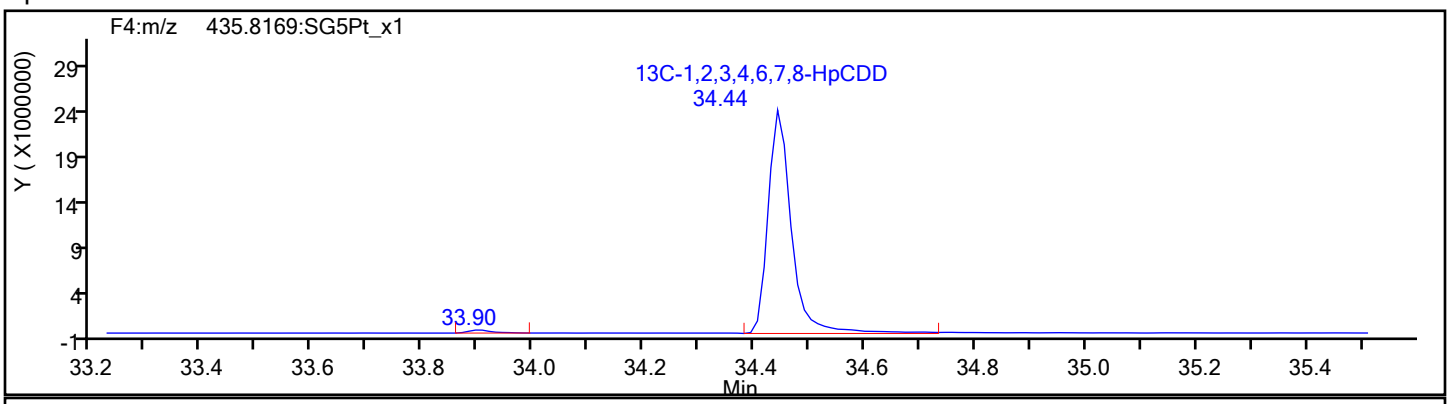

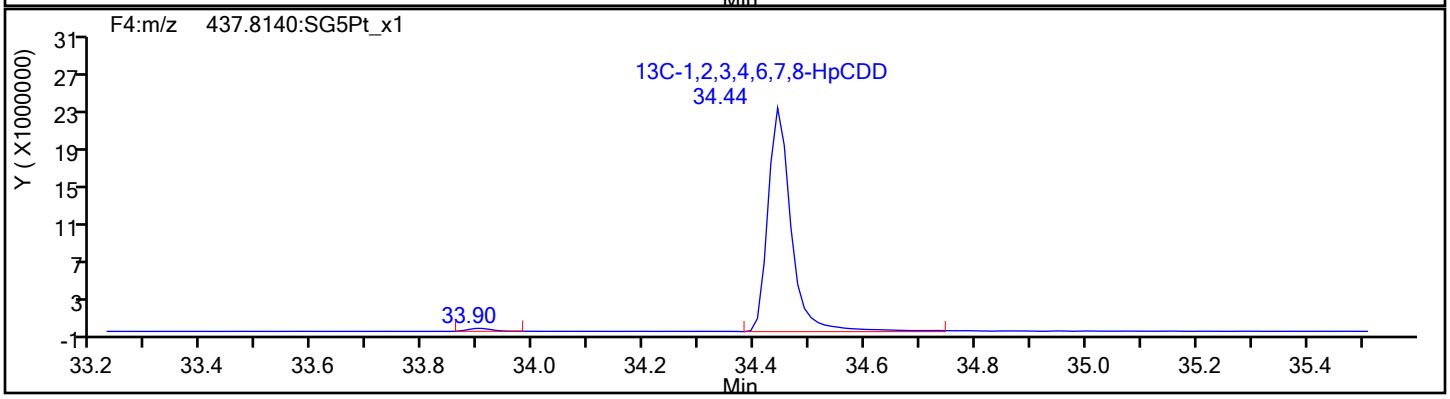

Report Date: 12-Dec-2019 15:54:10 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_3.d		
Injection Date:	12-Dec-2019 11:28:54	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L2		
Worklist#:	345037	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

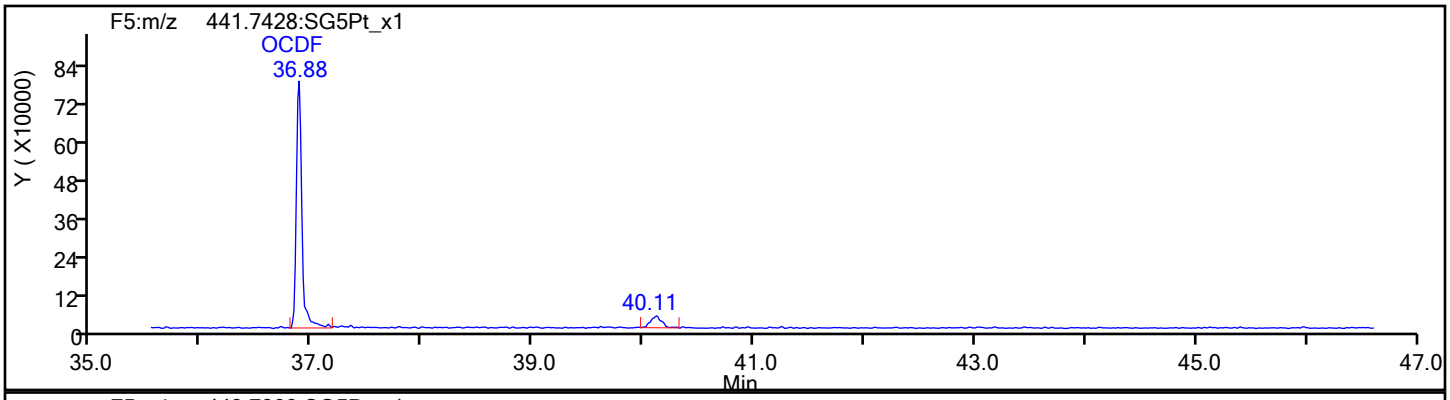

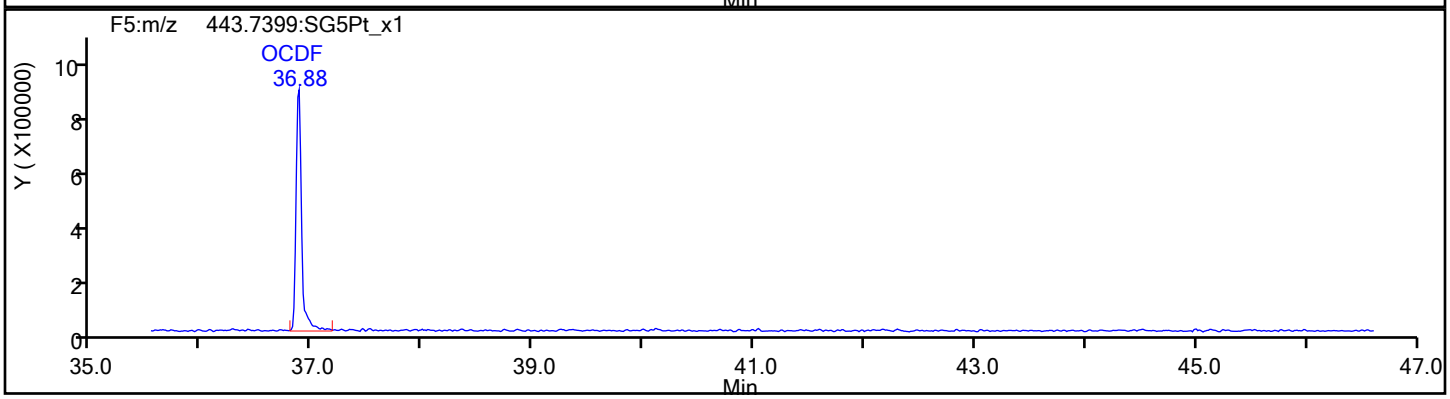

OCDF Standards

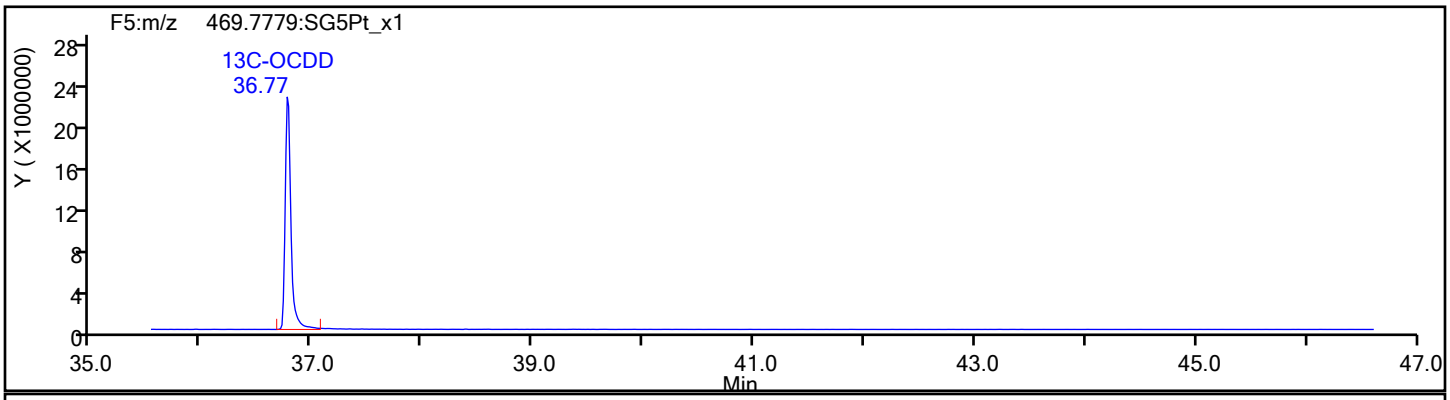

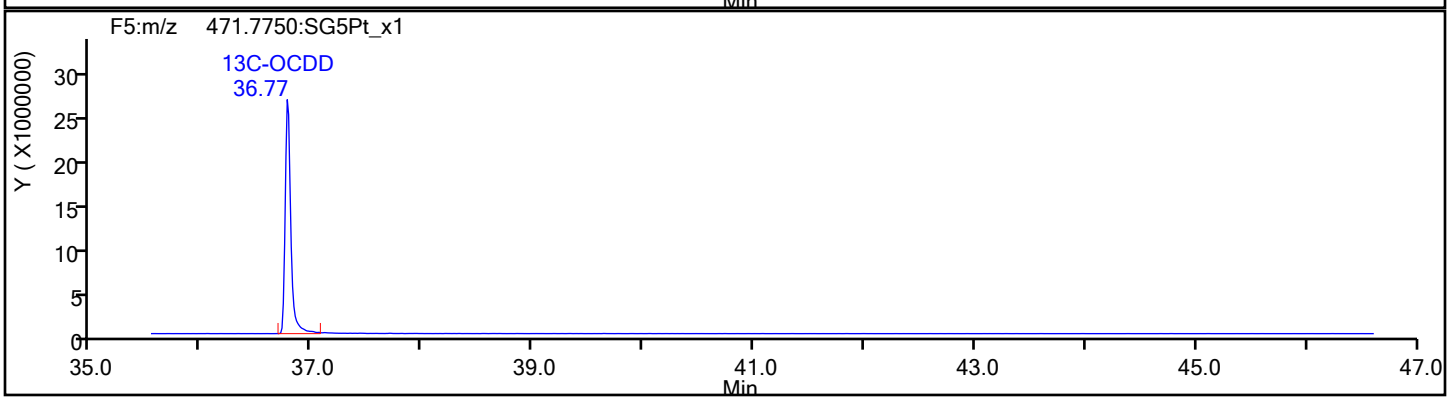

Report Date: 12-Dec-2019 15:54:10 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_3.d		
Injection Date:	12-Dec-2019 11:28:54	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L2		
Worklist#:	345037	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

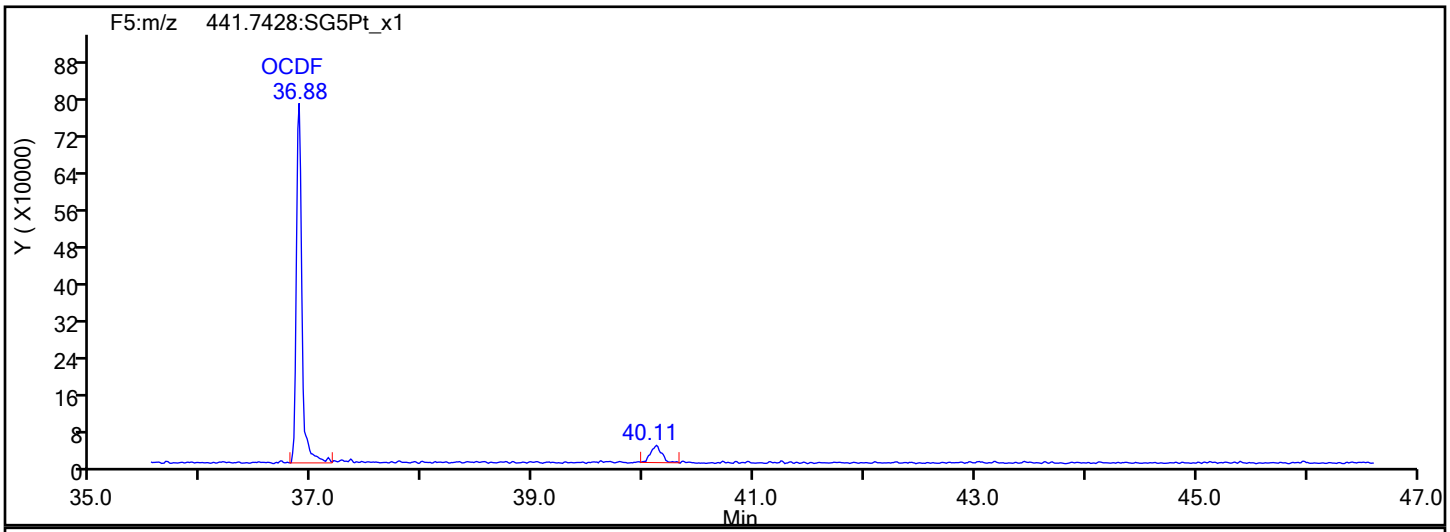

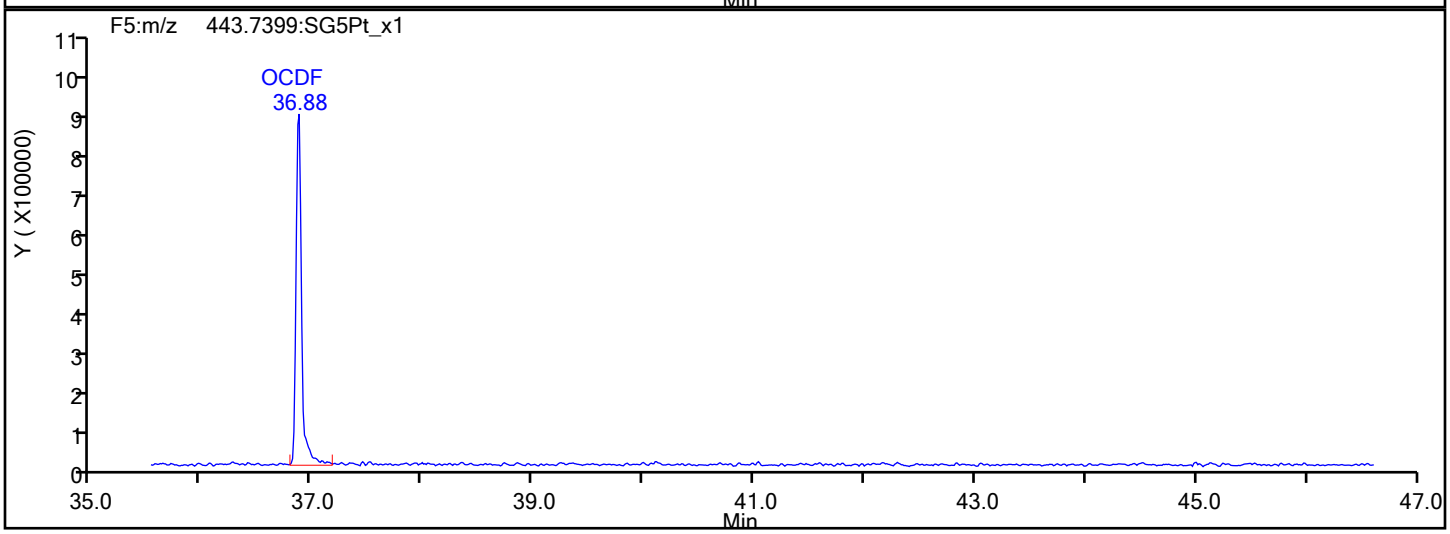

OCDF Interference Mass

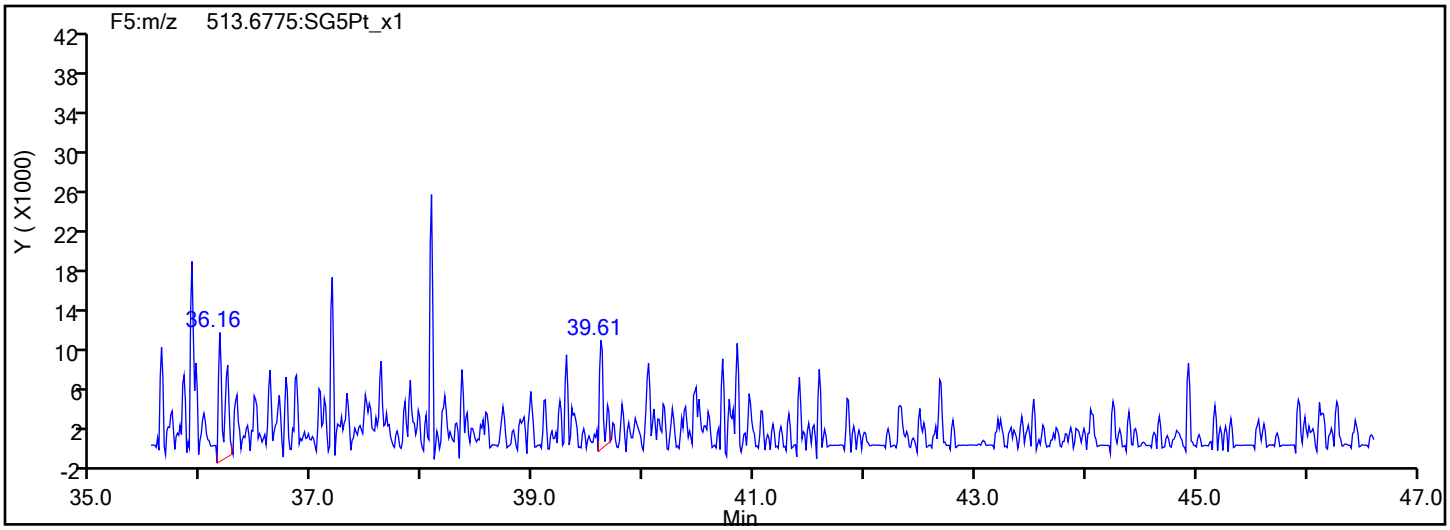

Report Date: 12-Dec-2019 15:54:10 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_3.d		
Injection Date:	12-Dec-2019 11:28:54	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L2		
Worklist#:	345037	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

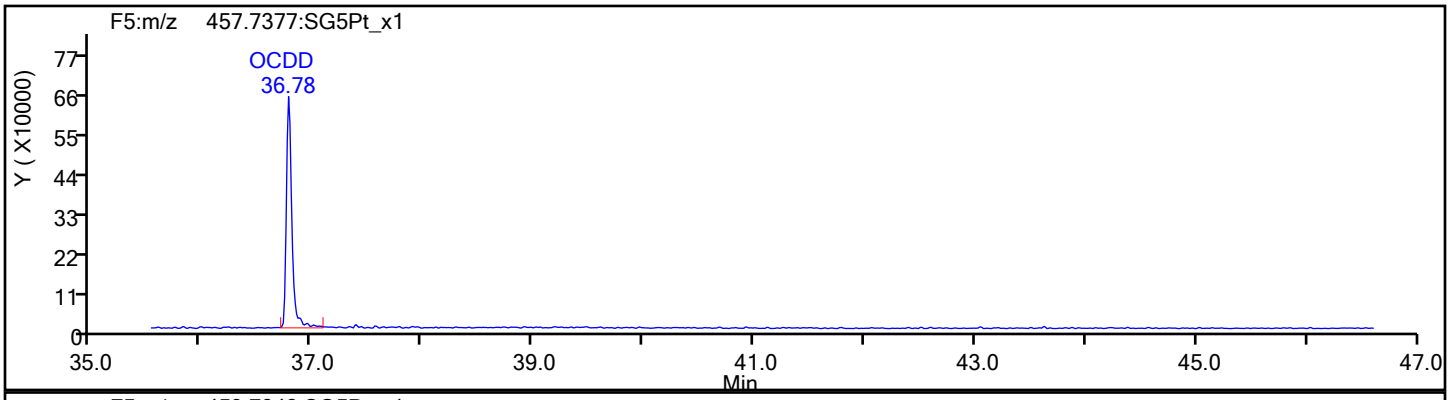

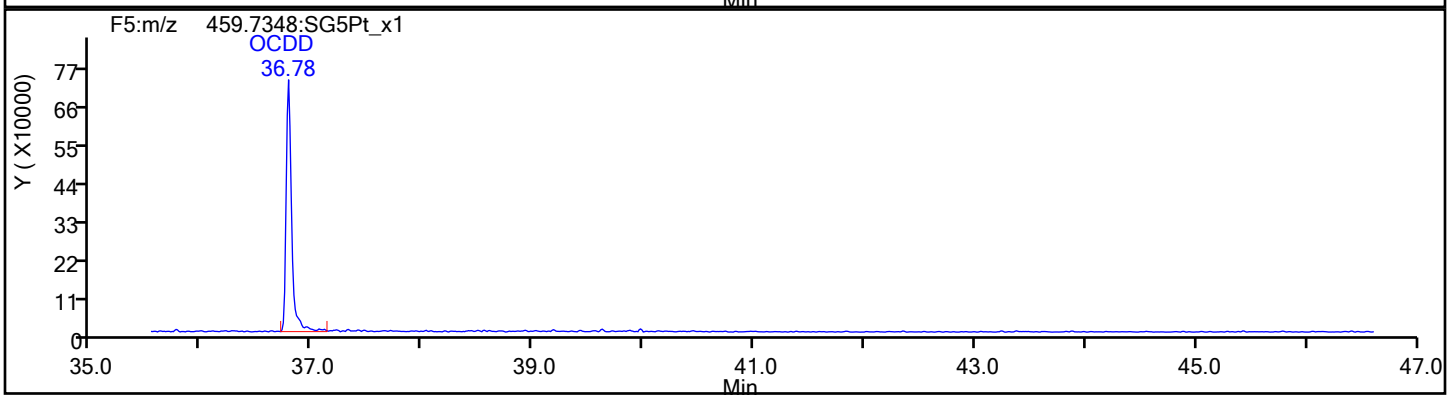

OCDD Standards

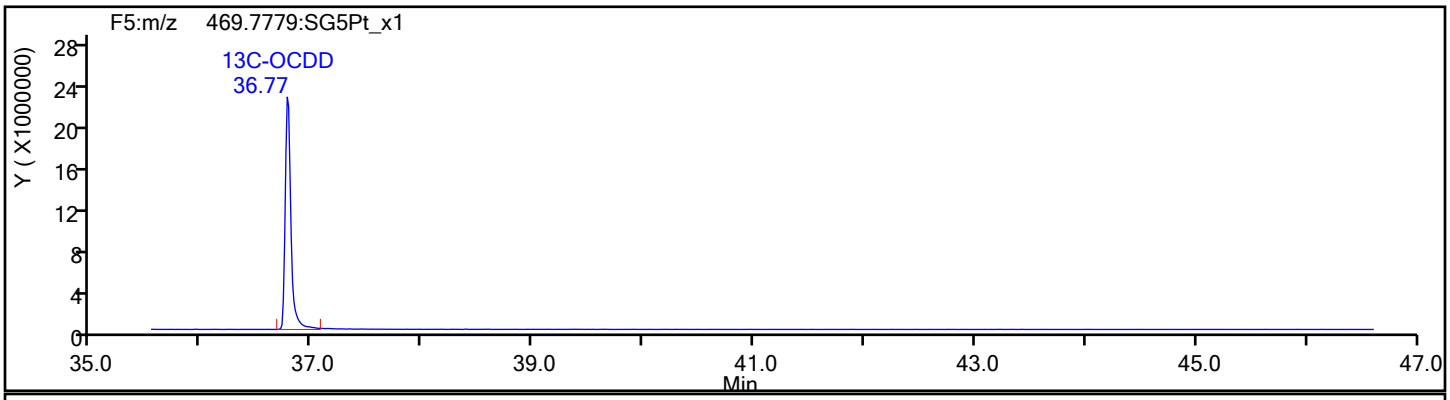

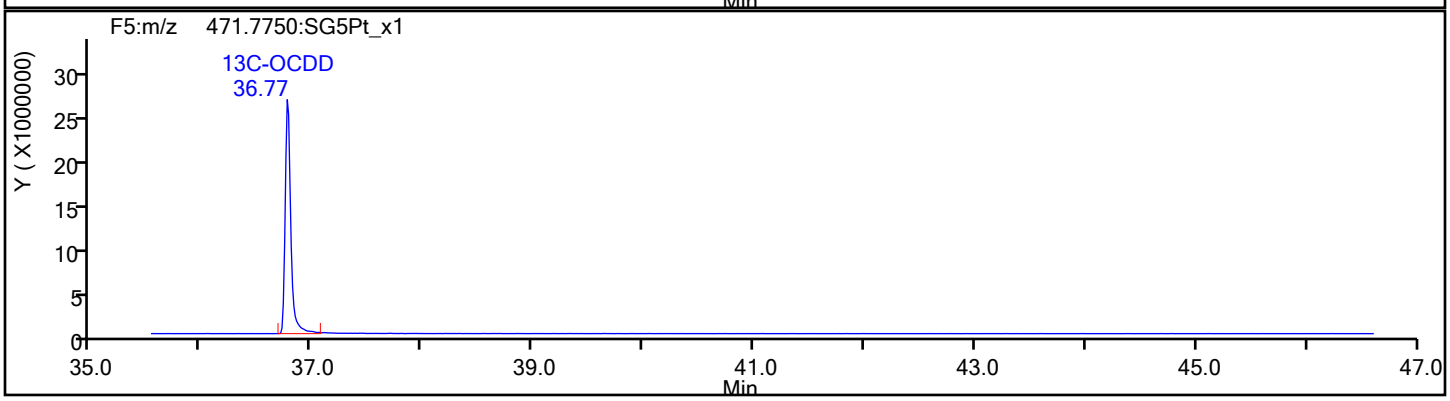

Report Date: 12-Dec-2019 15:54:10 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_3.d		
Injection Date:	12-Dec-2019 11:28:54	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L2		
Worklist#:	345037	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

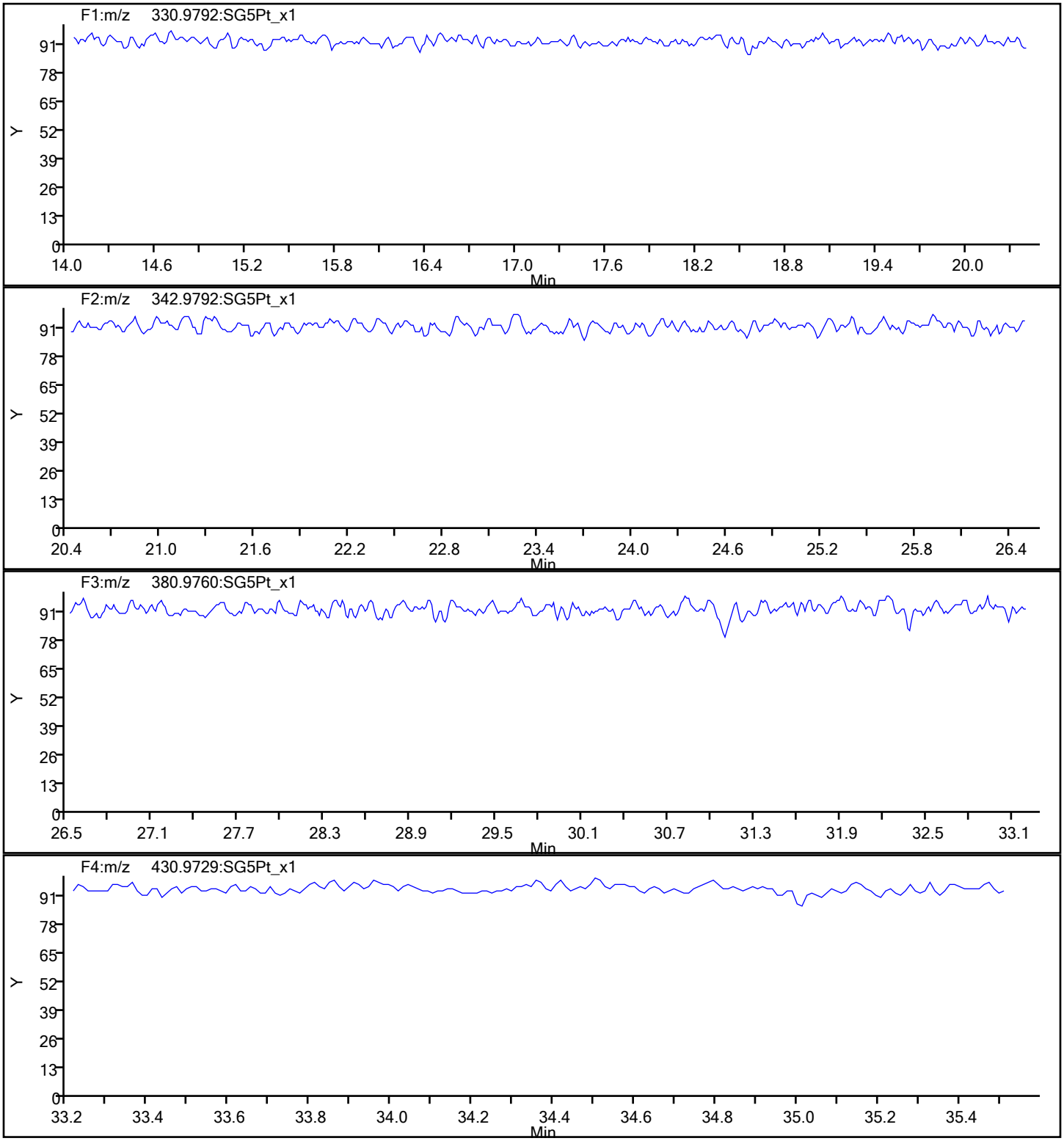

Report Date: 12-Dec-2019 15:54:10 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_3.d		
Injection Date:	12-Dec-2019 11:28:54	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L2		
Worklist#:	345037	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

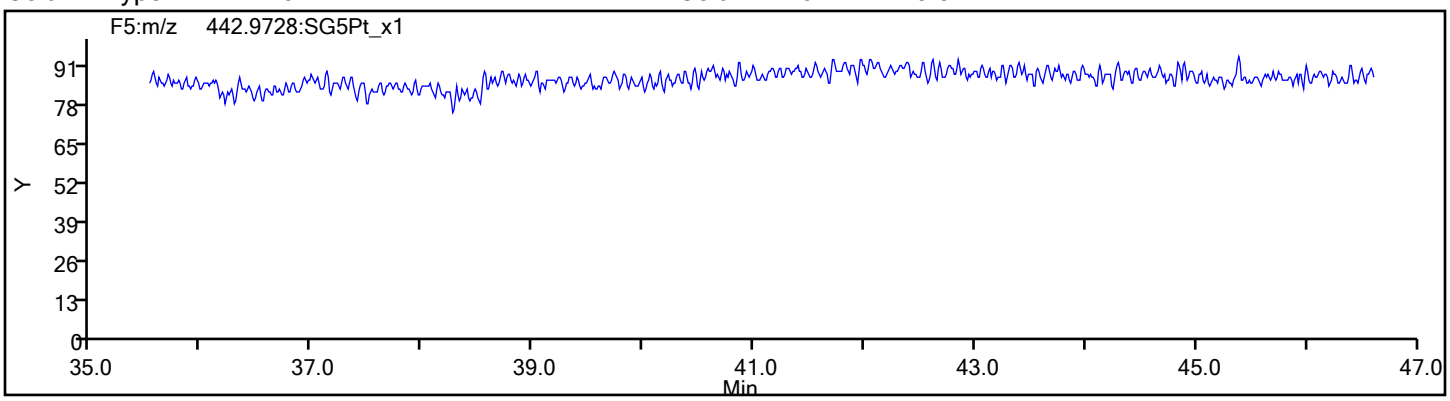

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_4.d
Lims ID: IC 3
Client ID: L3
Sample Type: IC Calib Level: 3
Inject. Date: 12-Dec-2019 12:16:27 ALS Bottle#: 5 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 121219A IC HRDXNL3_00025
Misc. Info.: 12DE193D5
Operator ID: KSS Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 12-Dec-2019 15:54:15 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: stephensk Date: 12-Dec-2019 13:36:49

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.657	233547342	0.81	2.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.158	317966293	0.80	1.4157	96.2	96.2	0.1604	0.1604	96.17	
2,3,7,8-TCDF	17.173	5903543	0.75	0.9502	1.954	1.954	0.0287	0.0287	97.70	
S Total TCDF					1.954	1.954	0.0287	0.0287		
D 13C-2,3,7,8-TCDD	17.839	223228422	0.77	0.9751	98.0	98.0	0.2185	0.2185	98.02	
2,3,7,8-TCDD	17.869	4766996	0.72	1.0477	2.038	2.038	0.0287	0.0287	102	
$ 37Cl4-2,3,7,8-TCDD	17.869	5758902		1.3480	1.829	1.829	0.0169	0.0169	91.46	
S Total TCDD					2.038	2.038	0.0287	0.0287		
D 13C-1,2,3,7,8-PeCDF	22.086	263888884	1.59	1.1786	95.9	95.9	0.2594	0.2594	95.87	
1,2,3,7,8-PeCDF	22.114	29080170	1.67	1.0302	10.7	10.7	0.0686	0.0686	107	
D 13C-2,3,4,7,8-PeCDF	23.409	254672733	1.58	1.1308	96.4	96.4	0.2703	0.2703	96.44	a
2,3,4,7,8-PeCDF	23.436	28373728	1.51	1.0410	10.7	10.7	0.0747	0.0747	107	
S Total PeCDF					21.4	21.4	0.0717	0.0717		
D 13C-1,2,3,7,8-PeCDD	24.132	169864186	1.60	0.7572	96.1	96.1	0.1493	0.1493	96.05	
1,2,3,7,8-PeCDD	24.159	19667667	1.64	1.0855	10.7	10.7	0.0671	0.0671	107	
S Total PeCDD					10.7	10.7	0.0671	0.0671		
D 13C-1,2,3,4,7,8-HxCDF	30.260	231563640	0.52	1.1043	100.1	100.1	0.2612	0.2612	100	
1,2,3,4,7,8-HxCDF	30.286	27852640	1.19	1.1472	10.5	10.5	0.0609	0.0609	105	
D 13C-1,2,3,6,7,8-HxCDF	30.459	241149788	0.53	1.1470	100.3	100.3	0.2514	0.2514	100	
1,2,3,6,7,8-HxCDF	30.486	28957236	1.21	1.1450	10.5	10.5	0.0577	0.0577	105	
D 13C-2,3,4,6,7,8-HxCDF	31.351	228396958	0.51	1.0769	101.2	101.2	0.2678	0.2678	101	
2,3,4,6,7,8-HxCDF	31.365	28098536	1.18	1.1726	10.5	10.5	0.0444	0.0444	105	
D 13C-1,2,3,7,8,9-HxCDF	32.190	213447196	0.52	1.0115	100.7	100.7	0.2851	0.2851	101	
1,2,3,7,8,9-HxCDF	32.203	26126431	1.27	1.1717	10.4	10.4	0.0440	0.0440	104	
S Total HxCDF					41.9	41.9	0.0517	0.0517		
* 13C-1,2,3,7,8,9-HxCDD	31.990	209536560	1.29	2.1E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.551	167853325	1.27	0.7962	100.6	100.6	0.2289	0.2289	101	a
1,2,3,4,7,8-HxCDD	31.565	19629316	1.28	1.0934	10.7	10.7	0.0733	0.0733	107	
D 13C-1,2,3,6,7,8-HxCDD	31.658	181254882	1.28	0.8720	99.2	99.2	0.2090	0.2090	99.20	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.671	20651010	1.24	1.0429	10.9	10.9	0.0731	0.0731	109	
1,2,3,7,8,9-HxCDD	32.017	22661690	1.27	1.2073	10.8	10.8	0.0647	0.0647	108	
S Total HxCDD					32.4	32.4	0.0704	0.0704		
D 13C-1,2,3,4,6,7,8-HpCDF	33.640	162401122	0.42	0.7577	102.3	102.3	0.7492	0.7492	102	
1,2,3,4,6,7,8-HpCDF	33.652	25350445	1.02	1.4804	10.5	10.5	0.0845	0.0845	105	
D 13C-1,2,3,4,7,8,9-HpCDF	34.721	146041140	0.45	0.6941	100.4	100.4	0.8178	0.8178	100	a
1,2,3,4,7,8,9-HpCDF	34.721	19189830	1.03	1.2933	10.2	10.2	0.1196	0.1196	102	
S Total HpCDF					20.7	20.7	0.1020	0.1020		
D 13C-1,2,3,4,6,7,8-HpCDD	34.430	149748569	1.07	0.7058	101.3	101.3	0.5362	0.5362	101	
1,2,3,4,6,7,8-HpCDD	34.442	16353697	1.05	1.0535	10.4	10.4	0.0807	0.0807	104	
S Total HpCDD					10.4	10.4	0.0807	0.0807		
D 13C-OCDD	36.758	178956155	0.91	0.4603	185.6	185.6	0.1540	0.1540	92.78	
OCDF	36.866	27270567	0.91	1.3945	21.9	21.9	0.0615	0.0615	109	
OCDD	36.770	22367401	0.90	1.1362	22.0	22.0	0.0537	0.0537	110	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

HRDXNL3_00025 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_4.d
Lims ID: IC 3
Client ID: L3
Sample Type: IC Calib Level: 3
Inject. Date: 12-Dec-2019 12:16:27 ALS Bottle#: 5 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 121219A IC HRDXNL3_00025
Misc. Info.: 12DE193D5
Operator ID: KSS Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 12-Dec-2019 15:54:15 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: stephensk Date: 12-Dec-2019 13:36:49

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.657	17.666	-1		104662717	26747295	22496	56240	1189		
333.9339	17.657	17.666	-1		128884625	32879364	28326	70815	1161	0.81(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.158	17.164	0	0.972	141397908	33164820	26286	65715	1262		
317.9389	17.158	17.164	0	0.972	176568385	41354591	27869	69672	1484	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.173	17.176	0	1.001	2535723	667276	3116	7790	214		
305.8987	17.173	17.176	0	1.001	3367820	860456	5012	12530	172	0.75(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.839	17.854	-1	1.010	96904646	22067106	22496	56240	981		
333.9339	17.839	17.854	-1	1.010	126323776	29552129	28326	70815	1043	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.869	17.872	0	1.002	1996583	458998	4079	10197	113		
321.8936	17.869	17.872	0	1.002	2770413	702094	2125	5312	330	0.72(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.869	17.872	0	1.012	5758902	1359398	5441	13602	250		
13C-1,2,3,7,8-PeCDF											
351.9000	22.086	22.103	-1	1.251	162011430	29168116	44703	111757	652		
353.8970	22.086	22.103	-1	1.251	101877454	17995974	28209	70522	638	1.59(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.114	22.130	-1	1.001	18199461	3342738	5528	13820	605		
341.8567	22.114	22.130	-1	1.001	10880709	1959223	7807	19517	251	1.67(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											a
351.9000	23.409	23.426	-1	1.326	155851342	26185405	44703	111757	586		a
353.8970	23.423	23.426	0	1.327	98821391	16678843	28209	70522	591	1.58(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.436	23.450	-1	1.001	17090087	3030493	5528	13820	548		
341.8567	23.436	23.450	-1	1.001	11283641	1898405	7807	19517	243	1.51(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	24.132	24.137	0	1.367	104622747	16323037	16102	40255	1014		
369.8919	24.132	24.137	0	1.367	65241439	10221375	10855	27137	942	1.60(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.159	24.162	0	1.001	12203730	1938062	5168	12920	375		
357.8516	24.146	24.162	-1	1.001	7463937	1235624	2570	6425	481	1.64(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.260	30.270	-1	0.946	79653125	13936170	21408	53520	651		
385.8610	30.260	30.270	-1	0.946	151910515	26566208	41154	102885	646	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.286	30.300	-1	1.001	15123024	2754138	6329	15822	435		
375.8178	30.286	30.300	-1	1.001	12729616	2240803	4992	12480	449	1.19(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.459	30.473	-1	0.952	84009479	14851340	21408	53520	694		
385.8610	30.459	30.473	-1	0.952	157140309	27991883	41154	102885	680	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.486	30.497	-1	1.001	15835206	2829861	6329	15822	447		
375.8178	30.486	30.497	-1	1.001	13122030	2485303	4992	12480	498	1.21(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.351	31.357	0	0.980	77515211	18074944	21408	53520	844		
385.8610	31.351	31.357	0	0.980	150881747	36268746	41154	102885	881	0.51(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.365	31.375	-1	1.000	15198110	3769186	6329	15822	596		
375.8178	31.365	31.375	-1	1.000	12900426	3247170	4992	12480	650	1.18(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.190	32.196	0	1.006	73446813	19093412	21408	53520	892		
385.8610	32.190	32.196	0	1.006	140000383	35859683	41154	102885	871	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.203	32.209	0	1.000	14635281	4045617	6329	15822	639		
375.8178	32.203	32.209	0	1.000	11491150	3054590	4992	12480	612	1.27(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.990	32.004	-1		117929616	30467986	20414	51035	1493		
403.8529	31.990	32.004	-1		91606944	23762720	19117	47792	1243	1.29(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											a
401.8559	31.551	31.557	0	0.986	93982258	24855119	20414	51035	1218		a
403.8529	31.538	31.557	-1	0.986	73871067	19150014	19117	47792	1002	1.27(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.565	31.570	0	1.000	11001177	3028965	8713	21782	348		
391.8127	31.565	31.570	0	1.000	8628139	2291510	5398	13495	425	1.28(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.658	31.666	0	0.990	101608718	25876318	20414	51035	1268		
403.8529	31.658	31.666	0	0.990	79646164	20425256	19117	47792	1068	1.28(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.671	31.682	-1	1.000	11440593	3016792	8713	21782	346		
391.8127	31.671	31.682	-1	1.000	9210417	2335920	5398	13495	433	1.24(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.017	32.023	0	1.015	12668415	3326529	8713	21782	382		
391.8127	32.004	32.023	-1	1.014	9993275	2630549	5398	13495	487	1.27(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.640	33.647	0	1.052	47679327	16977900	44531	111327	381		
419.8220	33.640	33.647	0	1.052	114721795	39636130	78601	196502	504	0.42(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.652	33.659	0	1.000	12772687	4580630	16196	40490	283		
409.7789	33.652	33.659	0	1.000	12577758	4538391	12118	30295	375	1.02(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											a
417.8253	34.721	34.726	0	1.085	45238008	14292822	44531	111327	321		a
419.8220	34.721	34.726	0	1.085	100803132	31457091	78601	196502	400	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.721	34.736	-1	1.000	9741829	2988285	16196	40490	185		
409.7789	34.721	34.736	-1	1.000	9448001	3019813	12118	30295	249	1.03(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.430	34.437	0	1.076	77355572	25448372	44231	110577	575		
437.8140	34.430	34.437	0	1.076	72392997	23906285	37864	94660	631	1.07(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.442	34.449	0	1.000	8362316	2927448	10490	26225	279		
425.7737	34.442	34.449	0	1.000	7991381	2681537	6303	15757	425	1.05(0.88-1.20)	
13C-OCDD											
469.7779	36.758	36.767	-1	1.149	85394423	24155307	8629	21572	2799		
471.7750	36.758	36.767	-1	1.149	93561732	25728540	6744	16860	3815	0.91(0.76-1.02)	
OCDF											
441.7428	36.866	36.870	0	1.003	13003258	3649120	3679	9197	992		
443.7399	36.854	36.870	-1	1.003	14267309	3989890	4872	12180	819	0.91(0.76-1.02)	
OCDD											
457.7377	36.770	36.779	-1	1.000	10610136	3037425	3003	7507	1011		
459.7348	36.770	36.779	-1	1.000	11757265	3345664	3079	7697	1087	0.90(0.76-1.02)	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

HRDXNL3_00025 Amount Added: 2.00 Units: uL

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_4.d				
Injection Date:	12-Dec-2019 12:16:27	Instrument ID:	3D5		
Lims ID:	IC 3				
Client ID:	L3				
Operator ID:	KSS	ALS Bottle#:	5	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

13C-2,3,4,7,8-PeCDF, CAS: 116843-02-8

Signal: 1

Not Detected
Expected RT: 23.43

Processing Integration Results

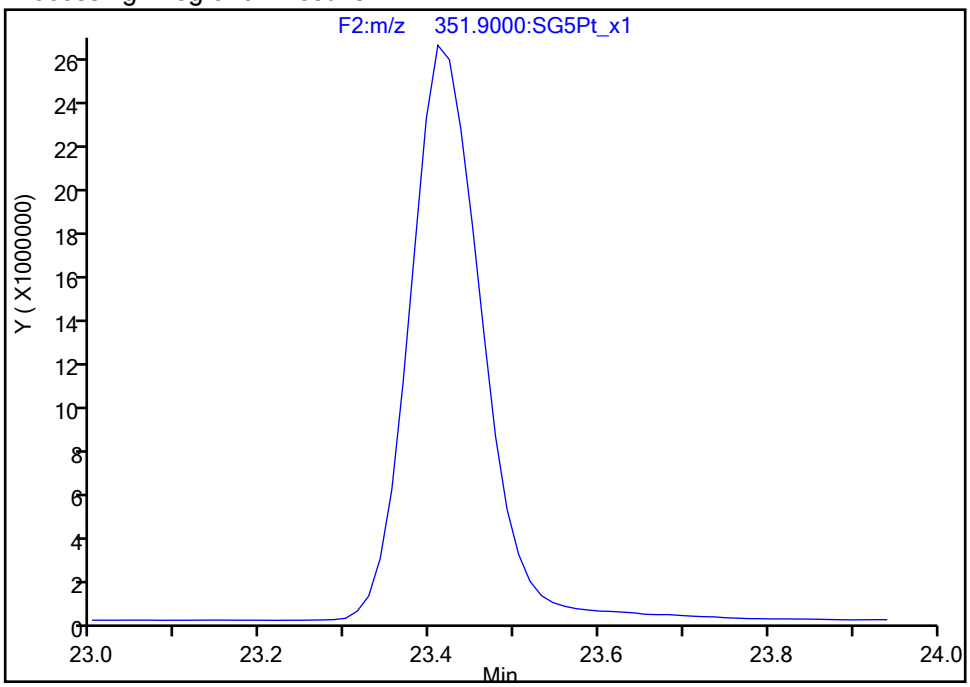

Manual Integration Results

RT: 23.41
Area: 155851342
Amount: 96.435079
Amount Units: pg/ul

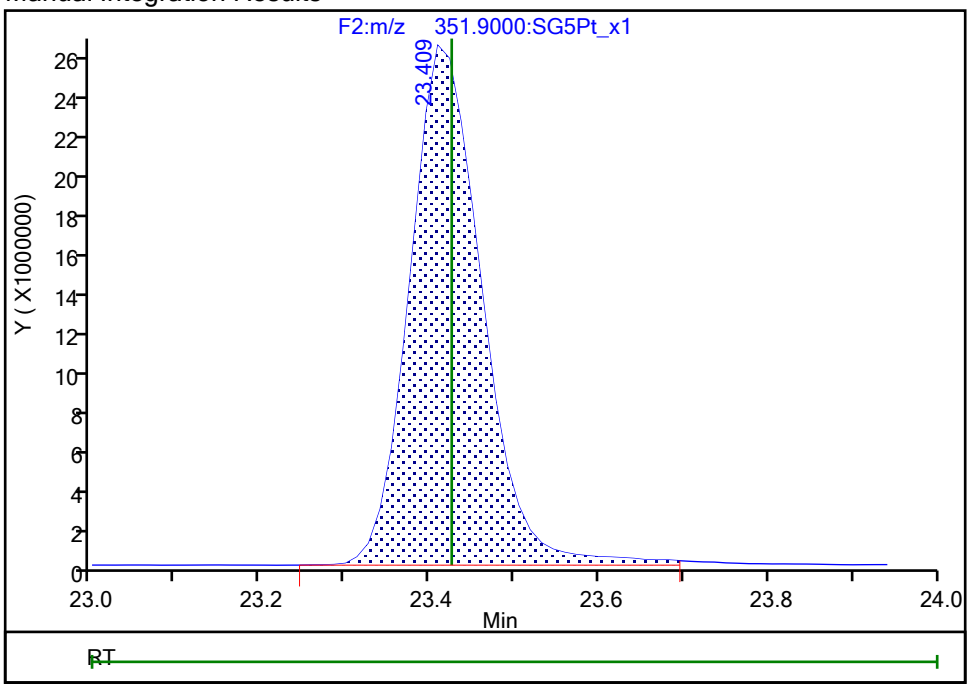

Reviewer: stephensk, 12-Dec-2019 13:35:45
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_4.d				
Injection Date:	12-Dec-2019 12:16:27	Instrument ID:	3D5		
Lims ID:	IC 3				
Client ID:	L3				
Operator ID:	KSS	ALS Bottle#:	5	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

13C-1,2,3,4,7,8-HxCDD, CAS: 109719-80-4

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 31.56

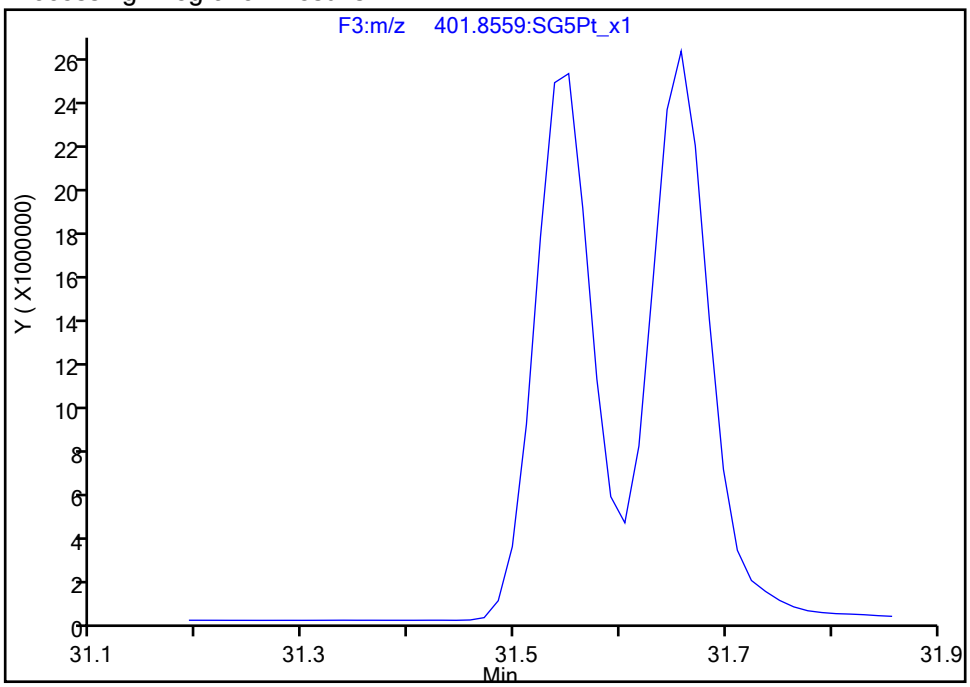

Manual Integration Results

RT:	31.55
Area:	93982258
Amount:	100.6108
Amount Units:	pg/ul

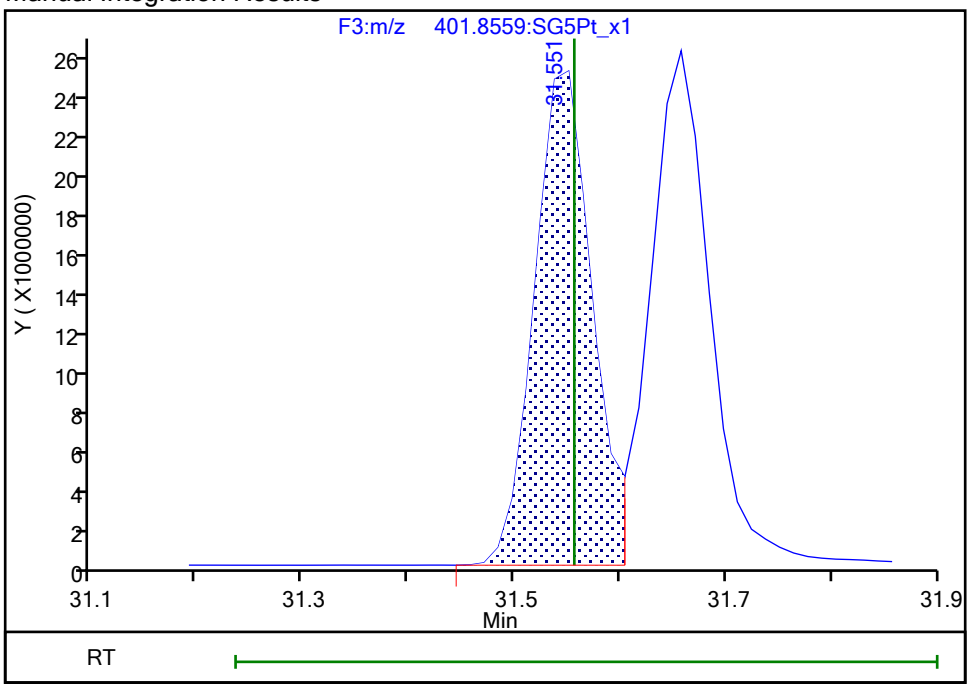

Reviewer: stephensk, 12-Dec-2019 13:36:09
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_4.d				
Injection Date:	12-Dec-2019 12:16:27	Instrument ID:	3D5		
Lims ID:	IC 3				
Client ID:	L3				
Operator ID:	KSS	ALS Bottle#:	5	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

13C-1,2,3,4,7,8,9-HpCDF, CAS: 109719-94-0

Signal: 1

Not Detected
Expected RT: 34.73

Processing Integration Results

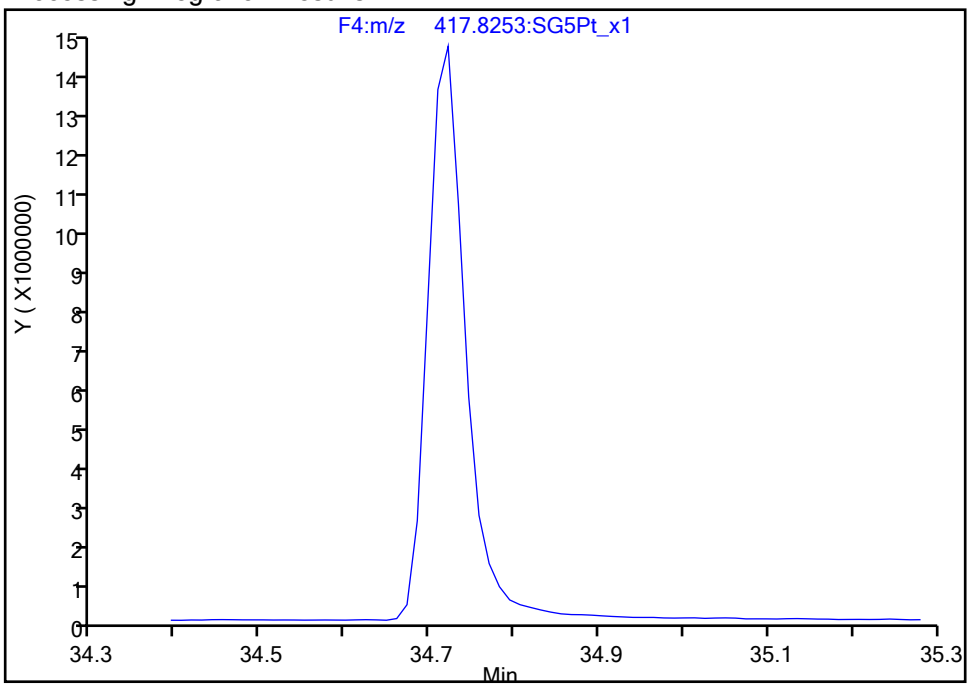

Manual Integration Results

RT:	34.72
Area:	45238008
Amount:	100.4087
Amount Units:	pg/ul

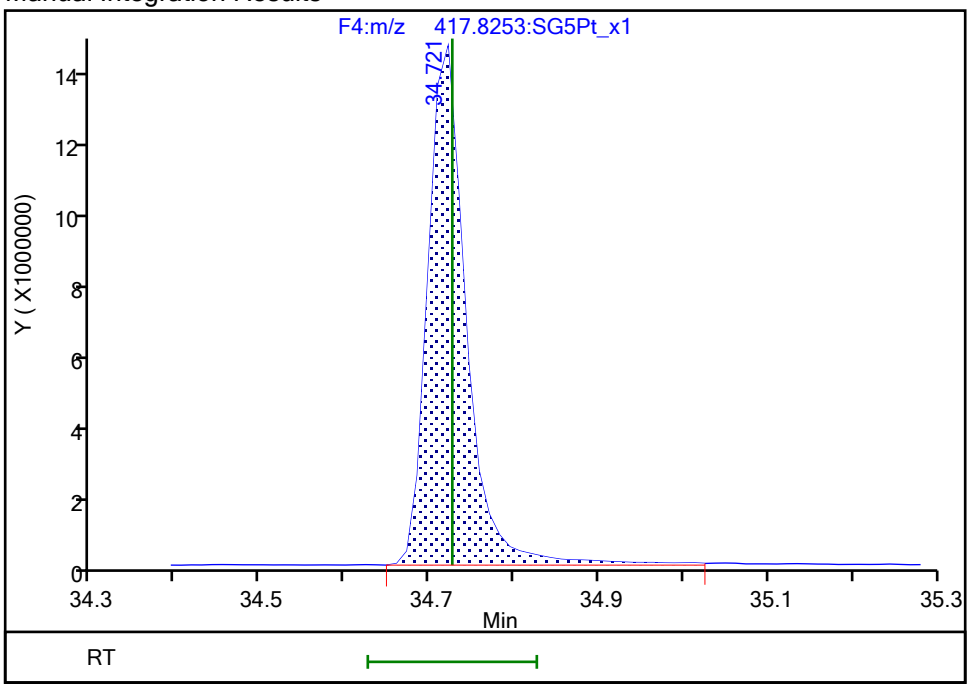

Reviewer: stephensk, 12-Dec-2019 13:36:34
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Report Date: 12-Dec-2019 15:54:17 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_4.d		
Injection Date:	12-Dec-2019 12:16:27	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L3		
Worklist#:	345037	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

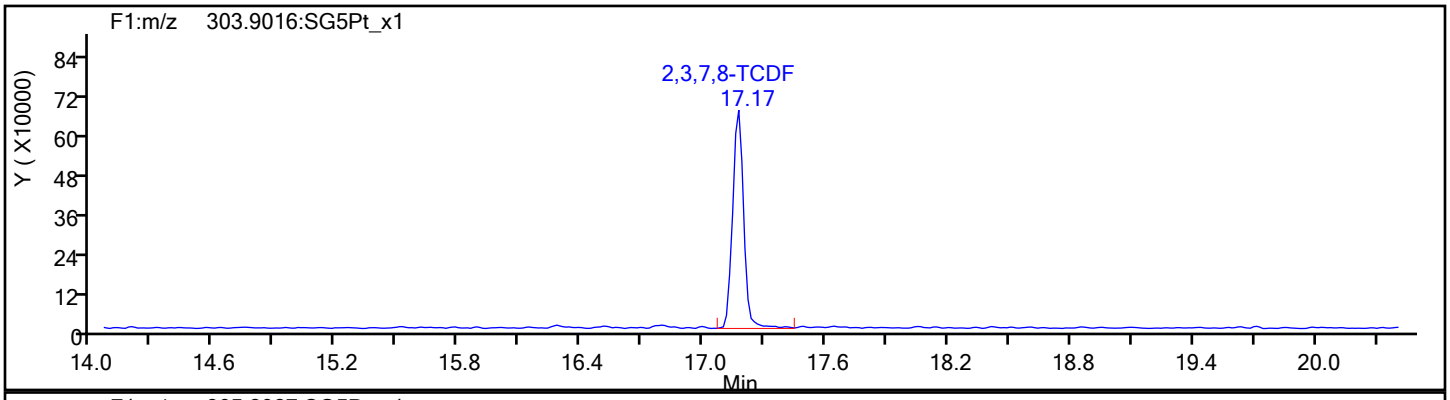

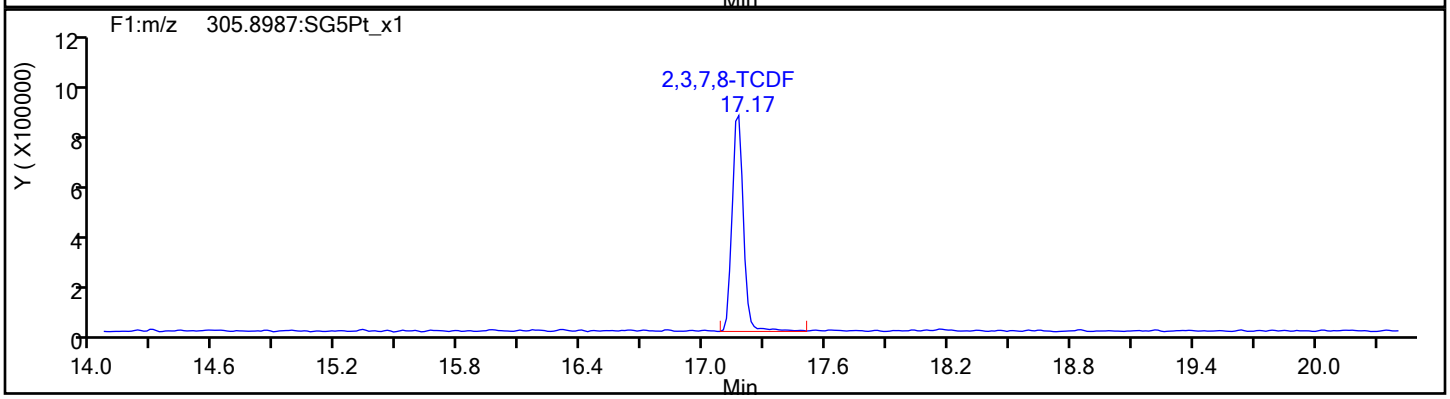

TCDF Standards

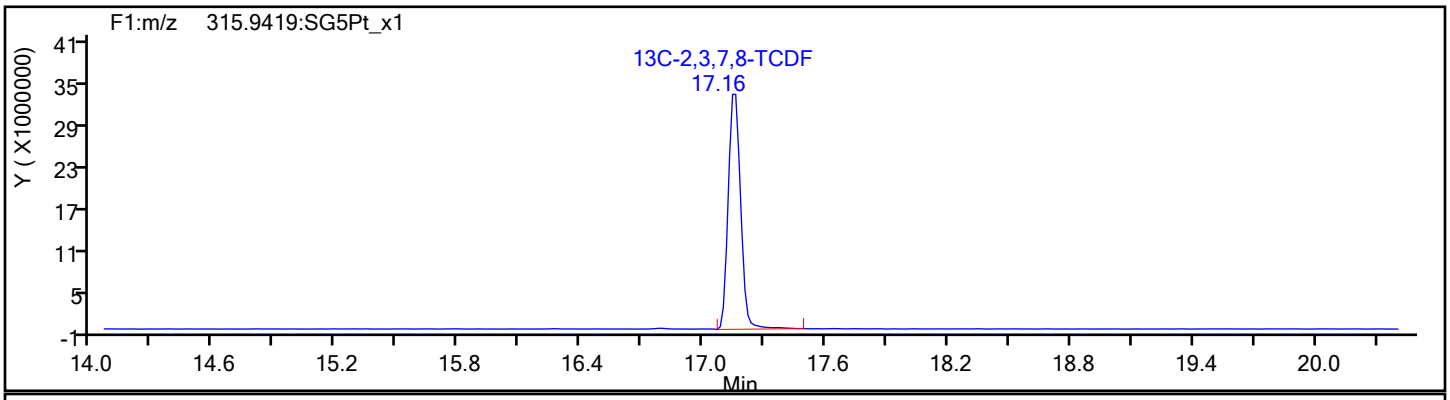

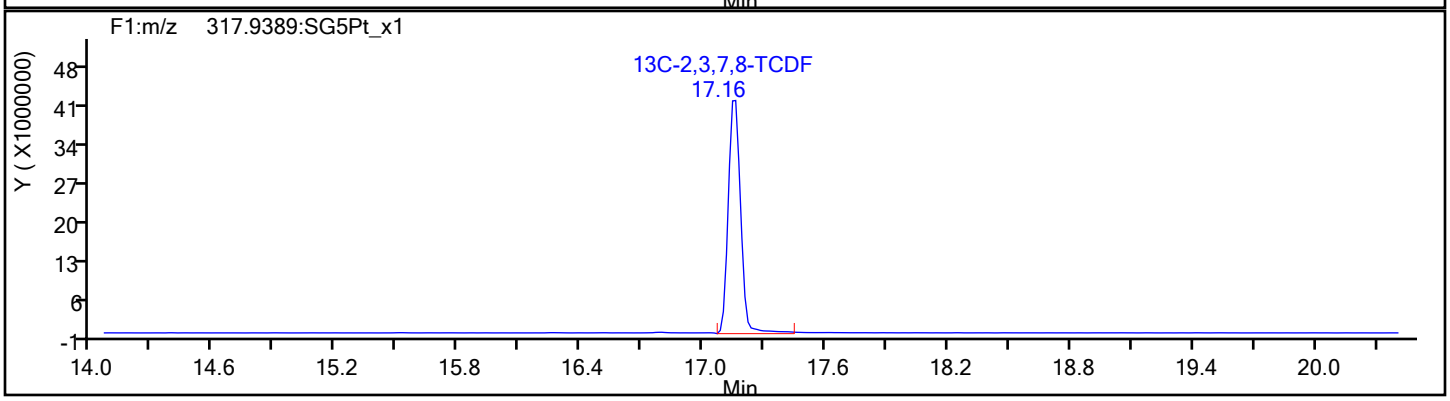

Report Date: 12-Dec-2019 15:54:17 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_4.d		
Injection Date:	12-Dec-2019 12:16:27	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L3		
Worklist#:	345037	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

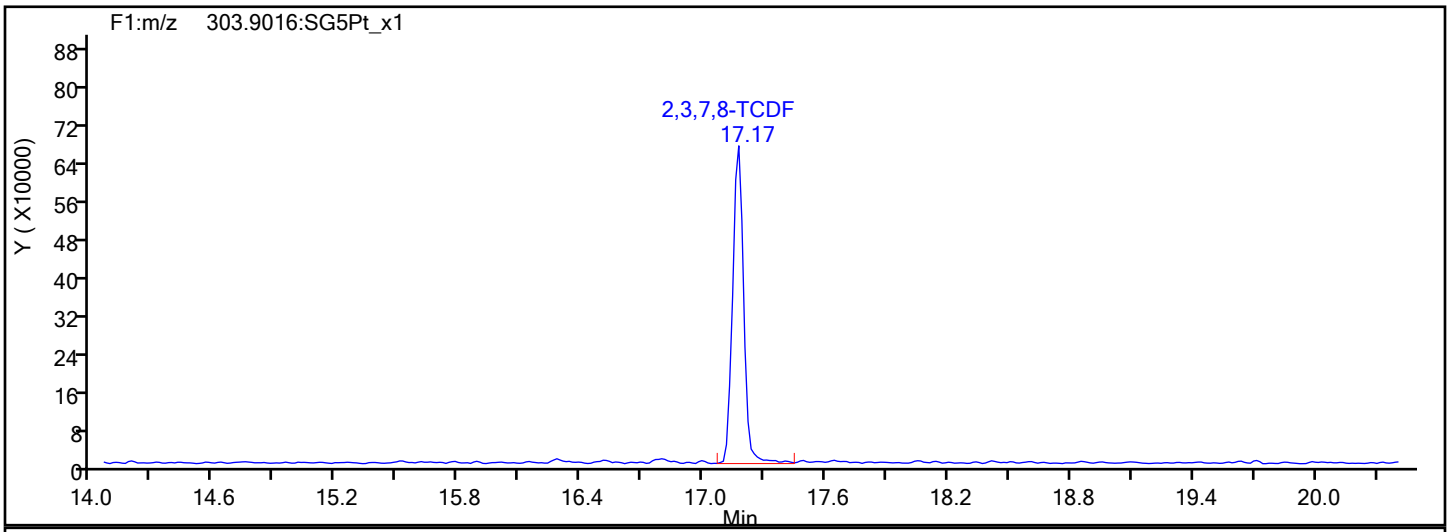

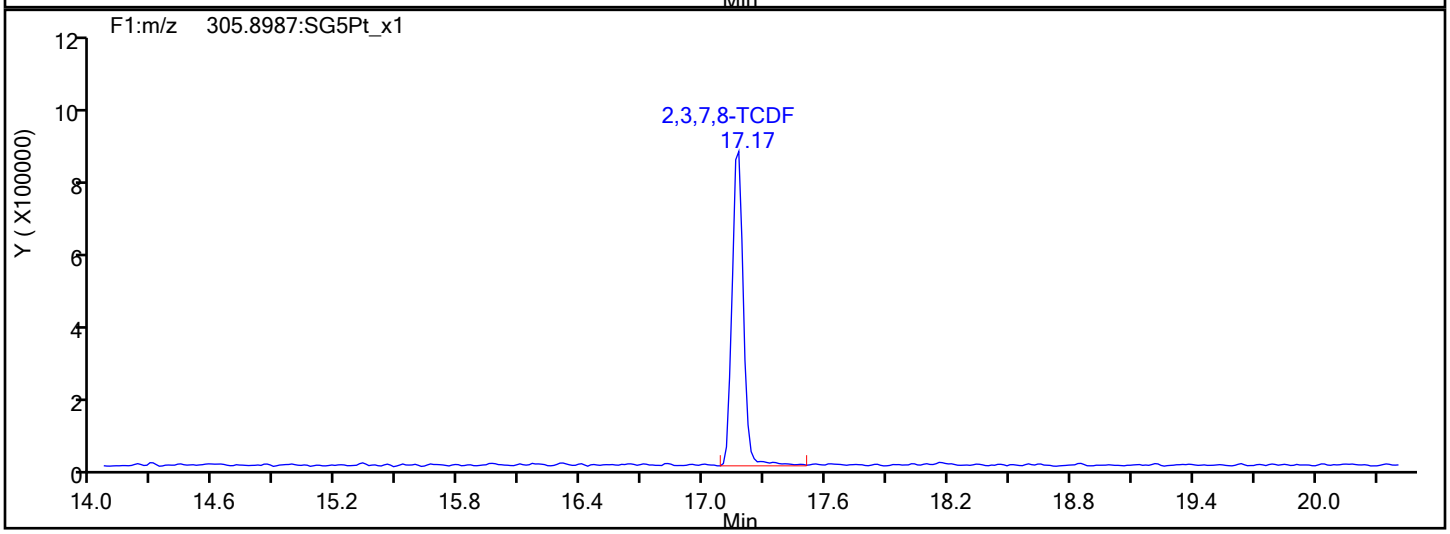

TCDF Interference Mass

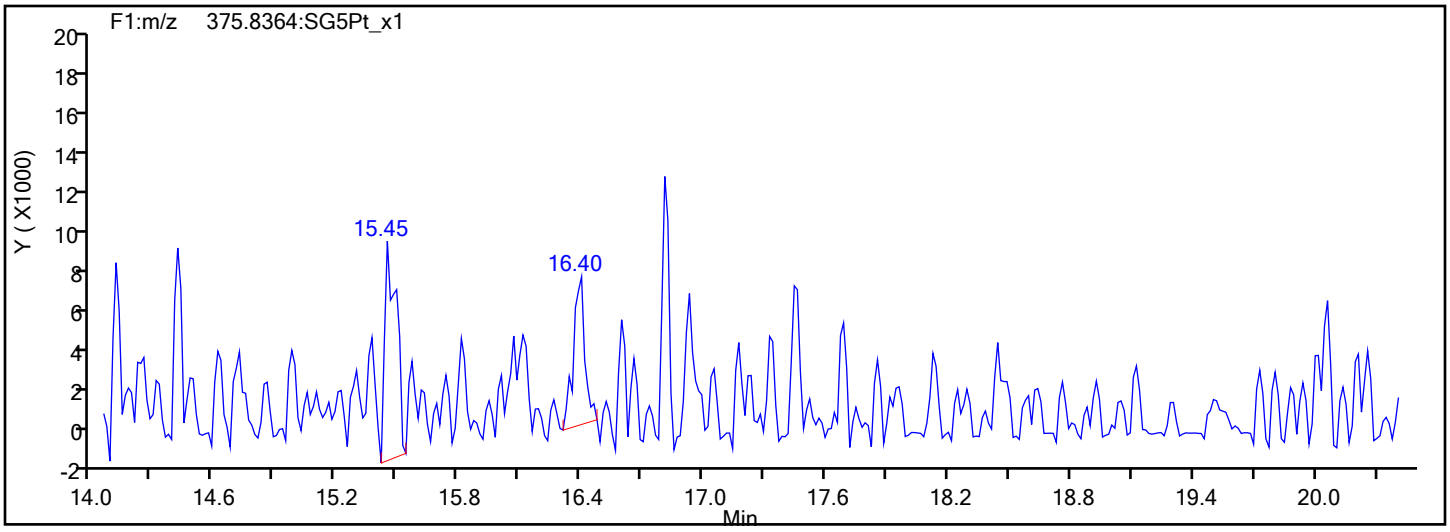

Report Date: 12-Dec-2019 15:54:17 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_4.d		
Injection Date:	12-Dec-2019 12:16:27	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L3		
Worklist#:	345037	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

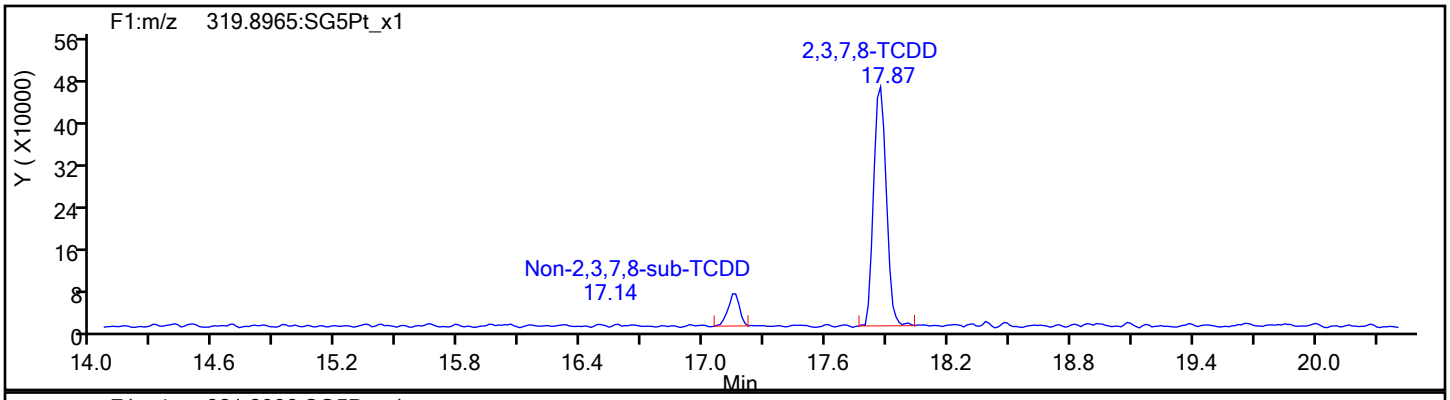

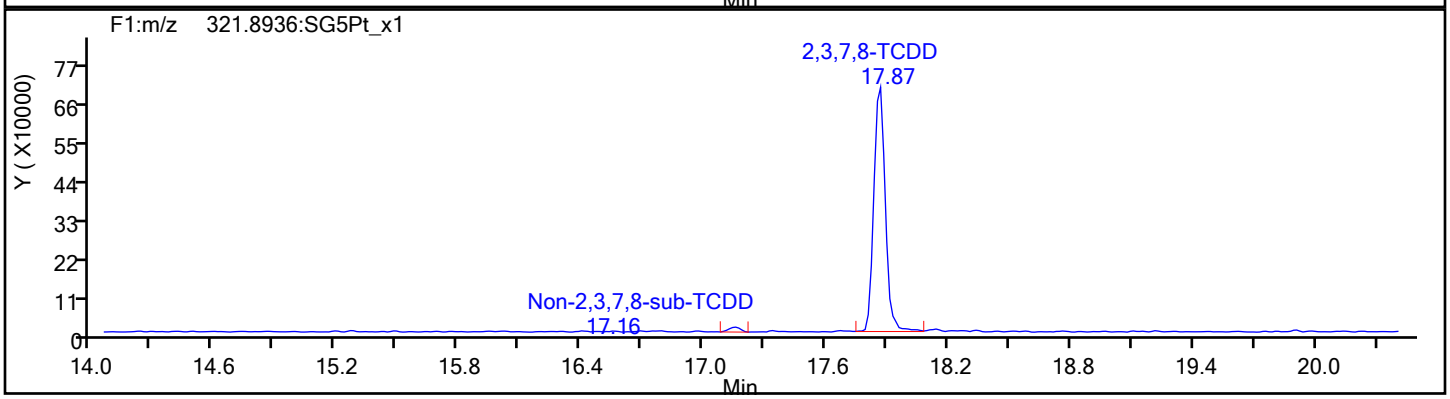

TCDD Standards

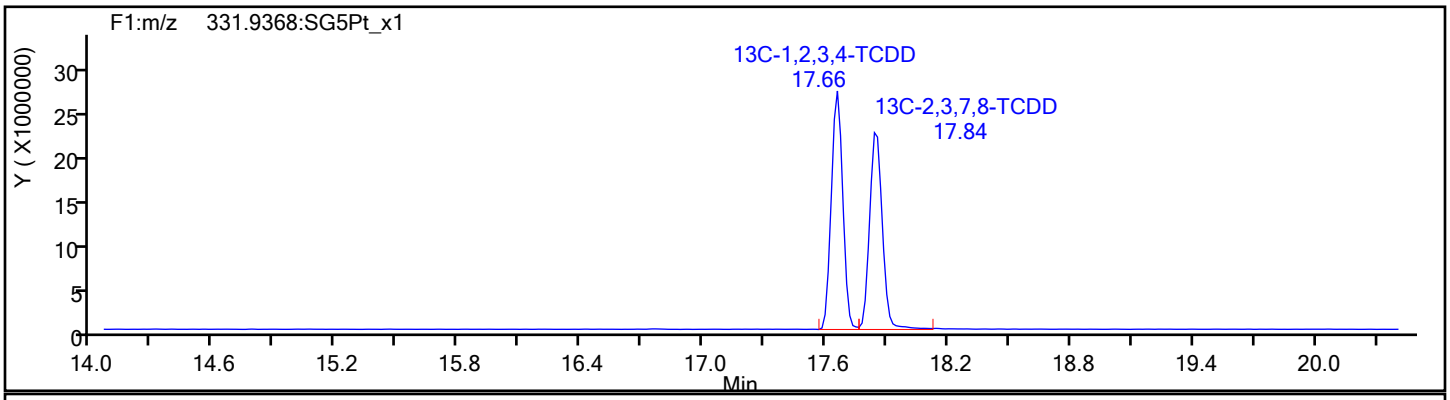

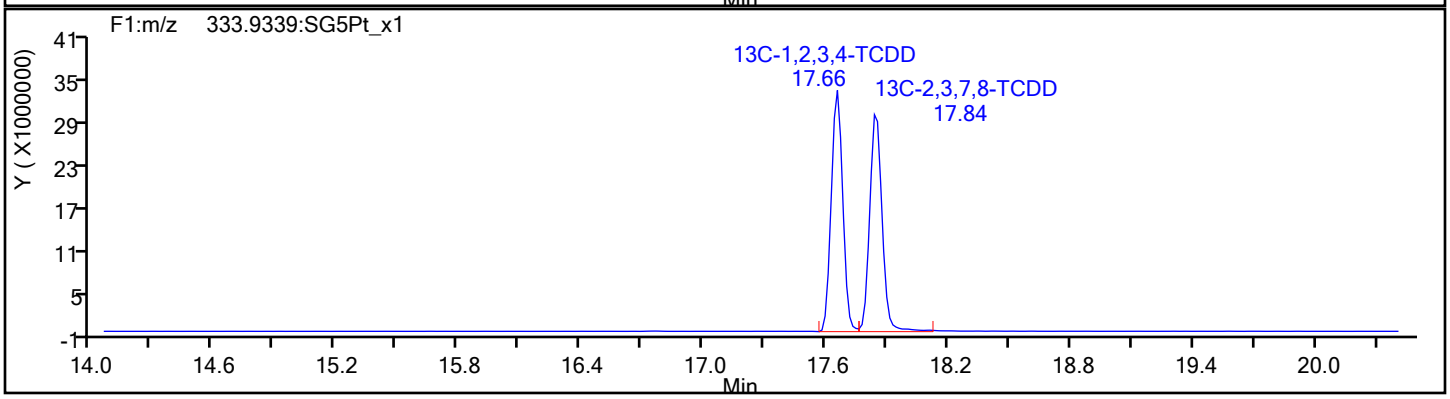

Report Date: 12-Dec-2019 15:54:17 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

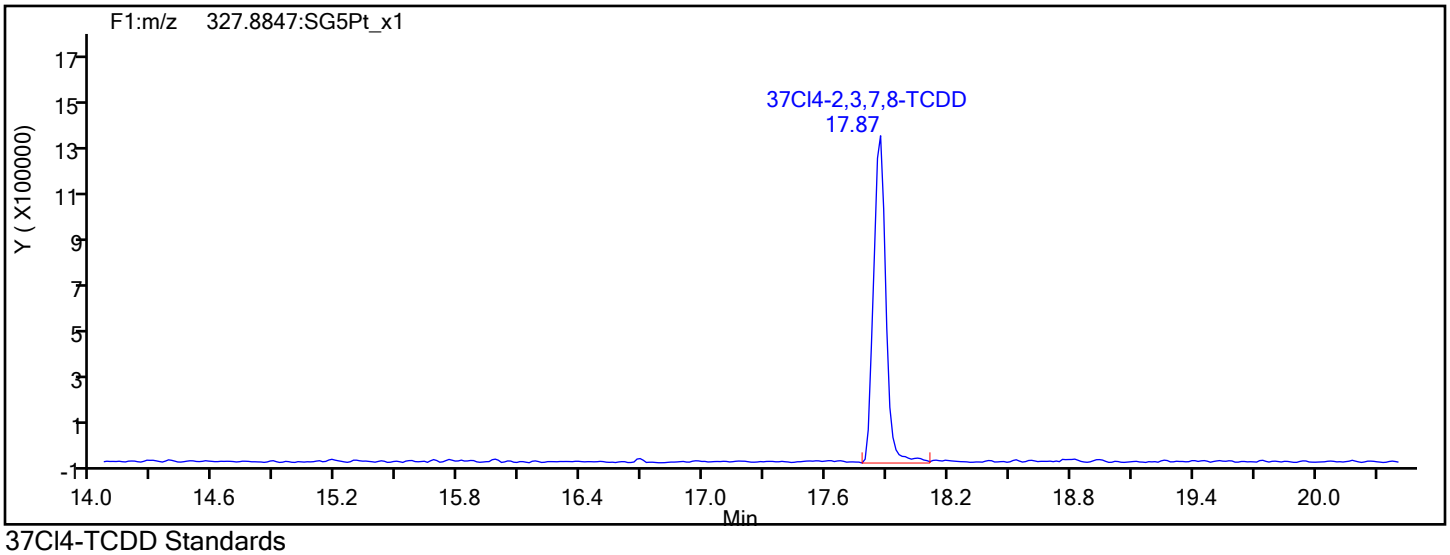

37Cl4-TCDD Standards

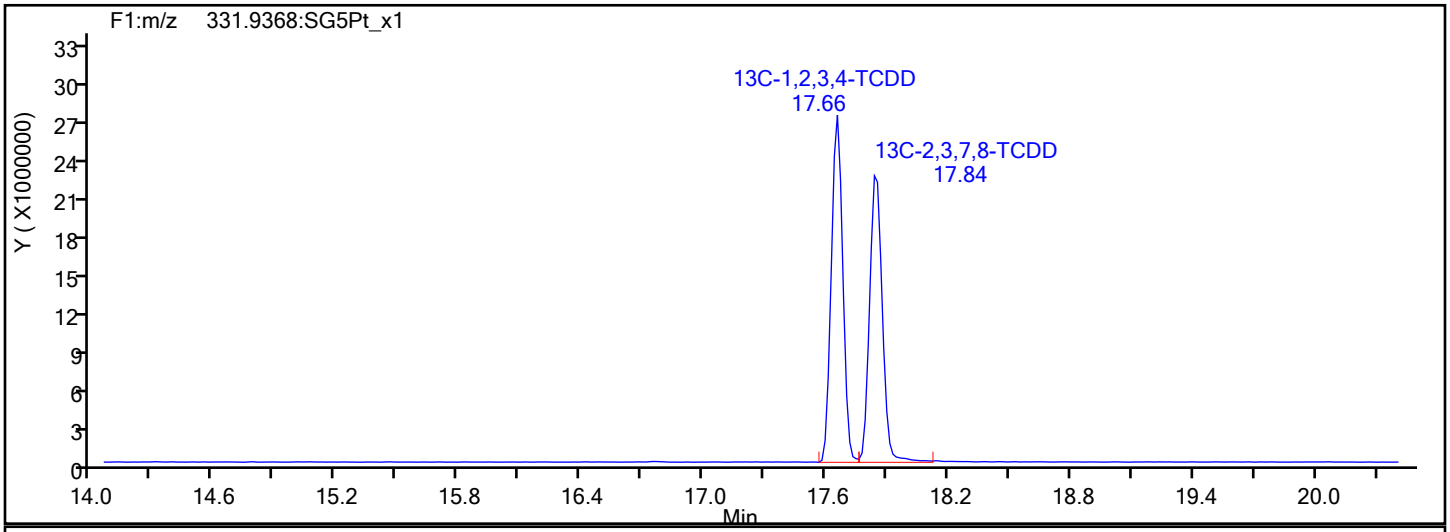

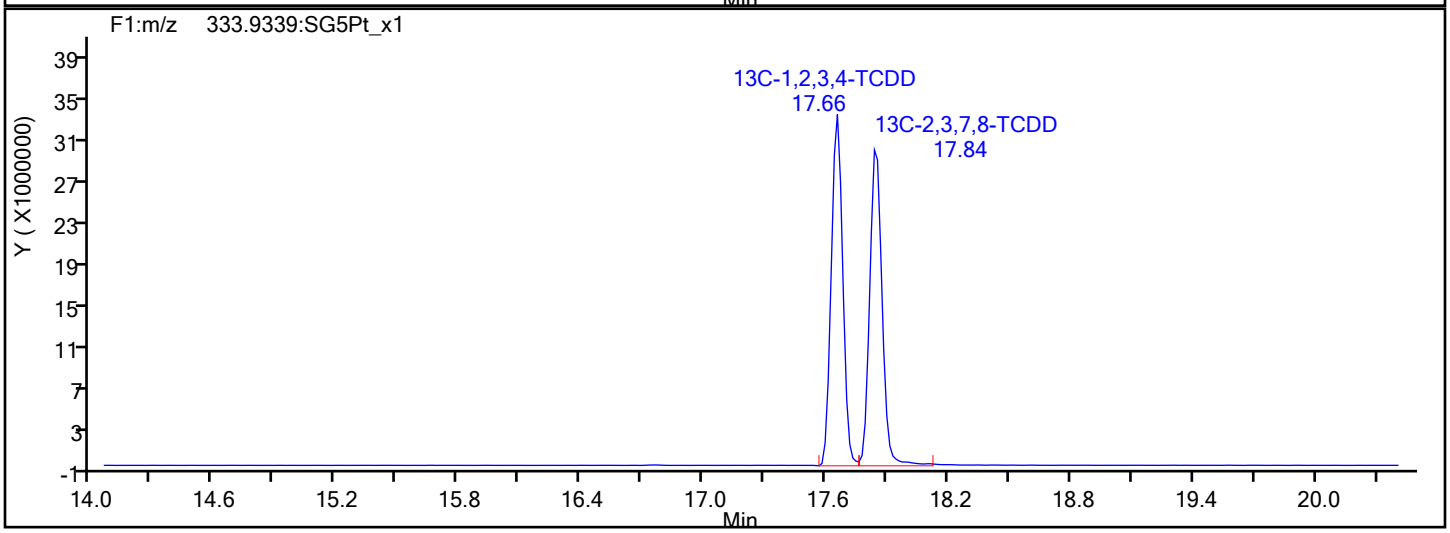

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

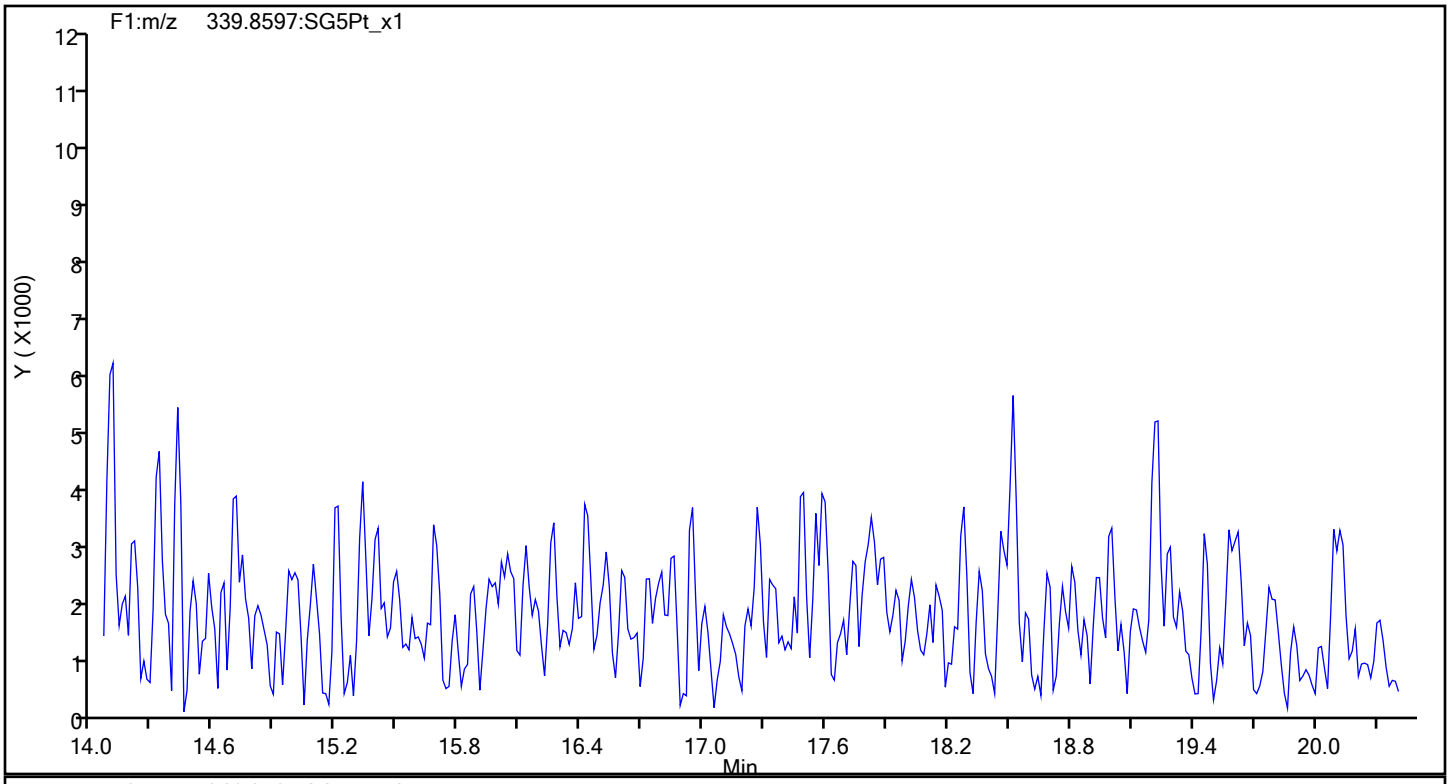

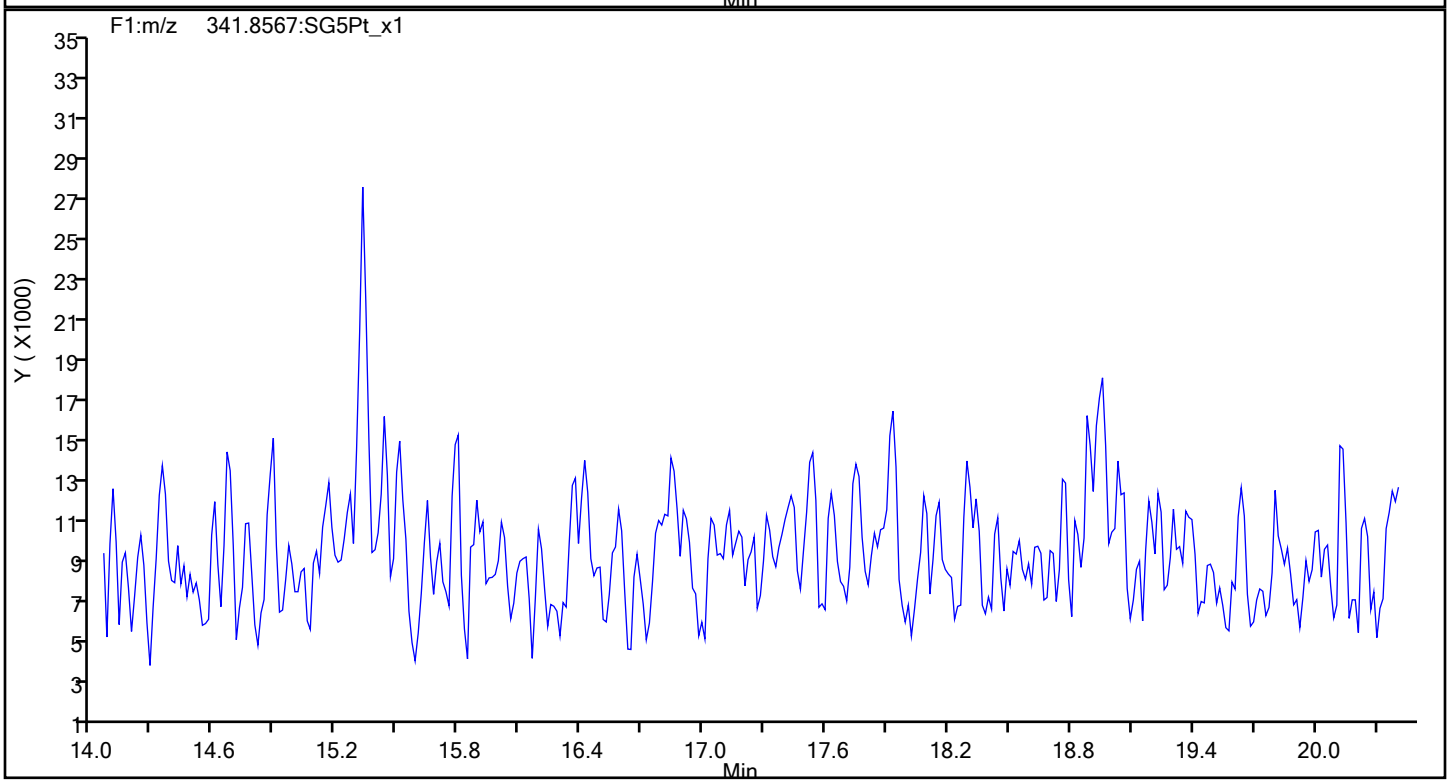

Report Date: 12-Dec-2019 15:54:17 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

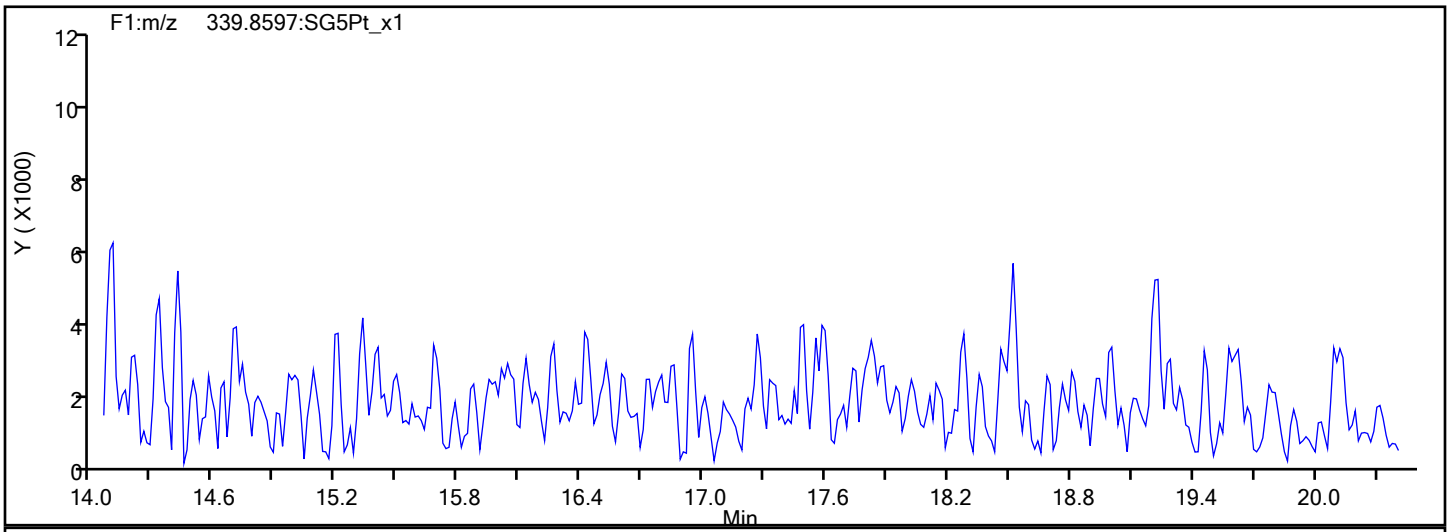

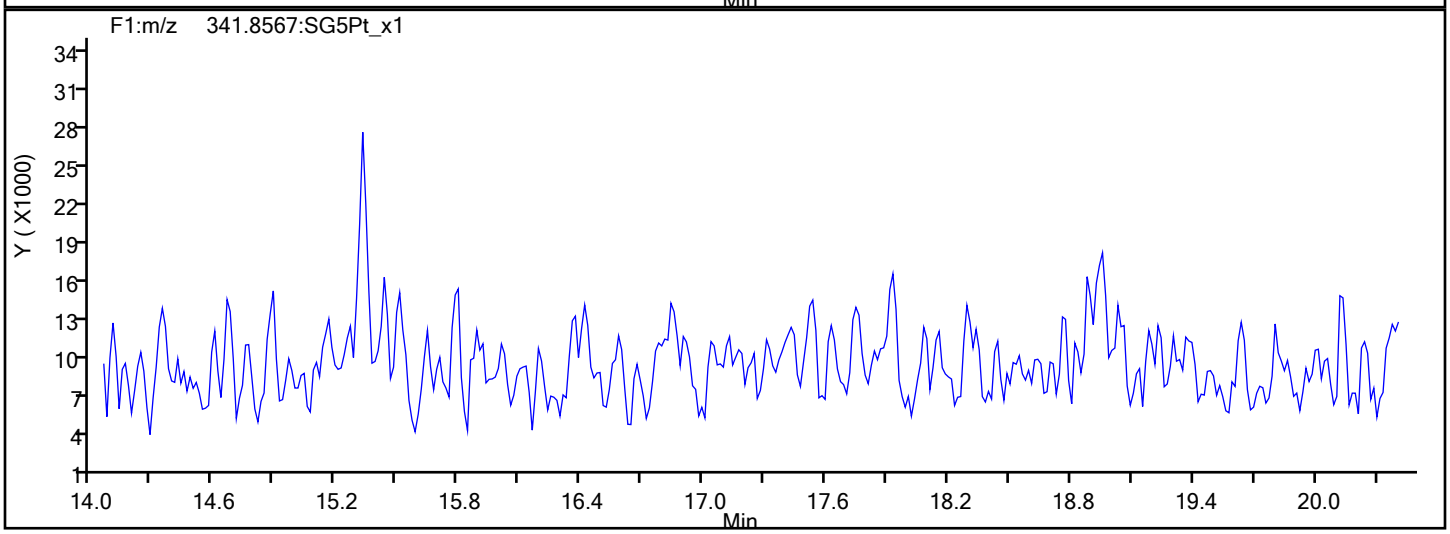

F1 PeCDFs Interference Mass

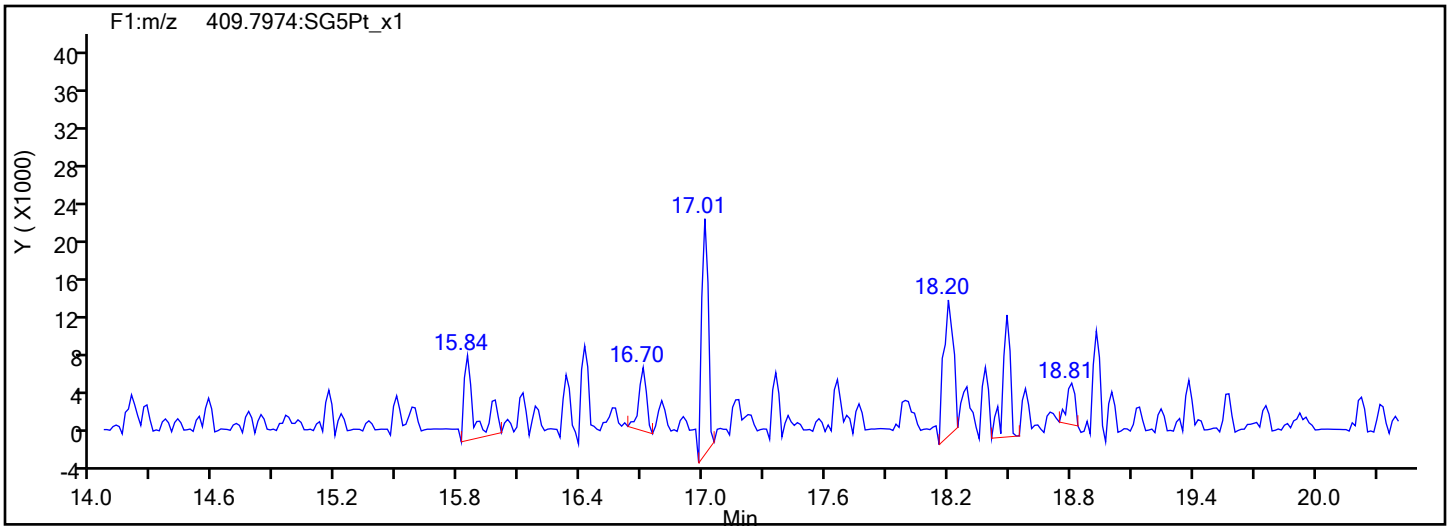

Report Date: 12-Dec-2019 15:54:17 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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PeCDF

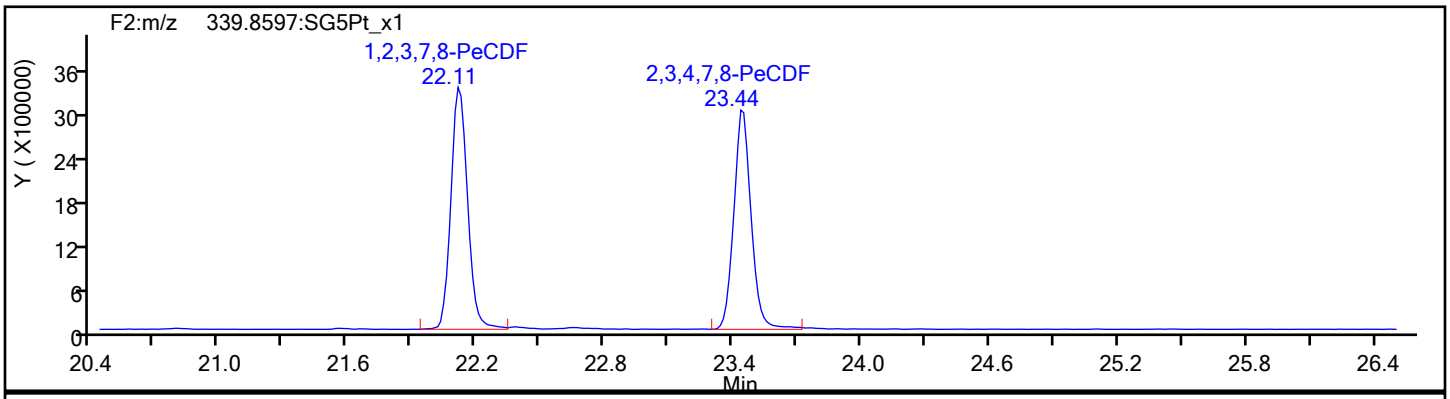

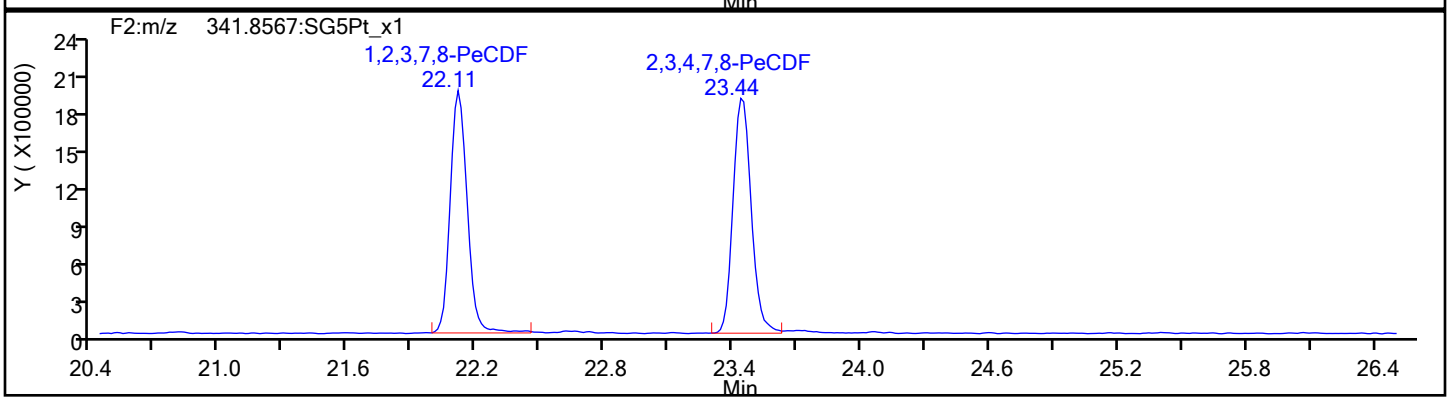

PeCDF Standards

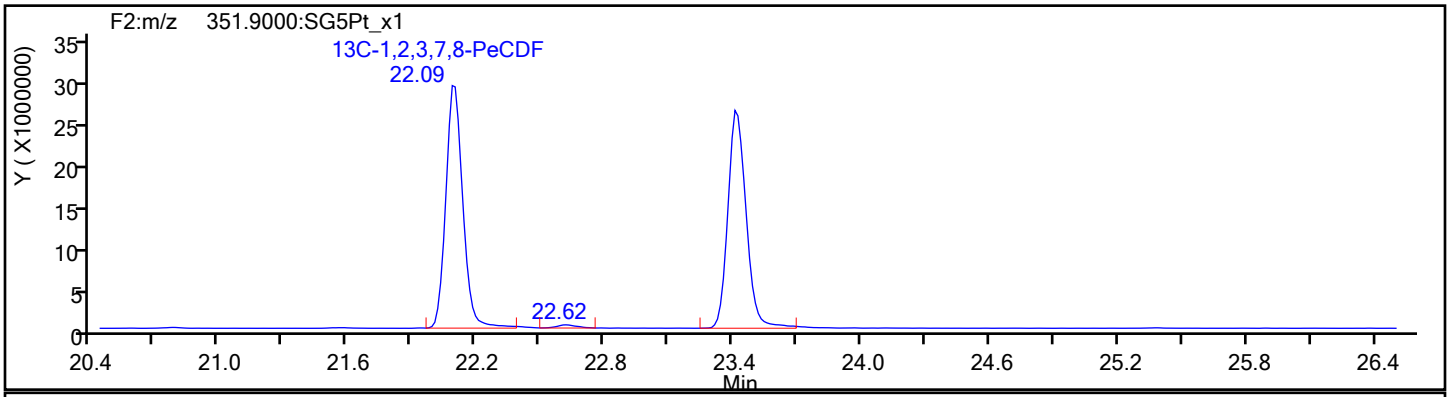

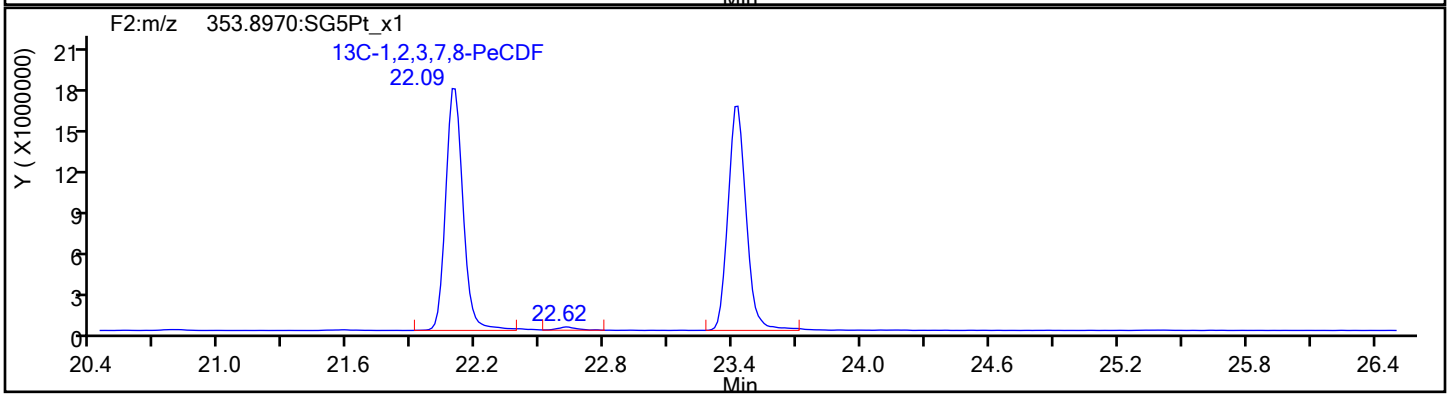

Report Date: 12-Dec-2019 15:54:17 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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PeCDF

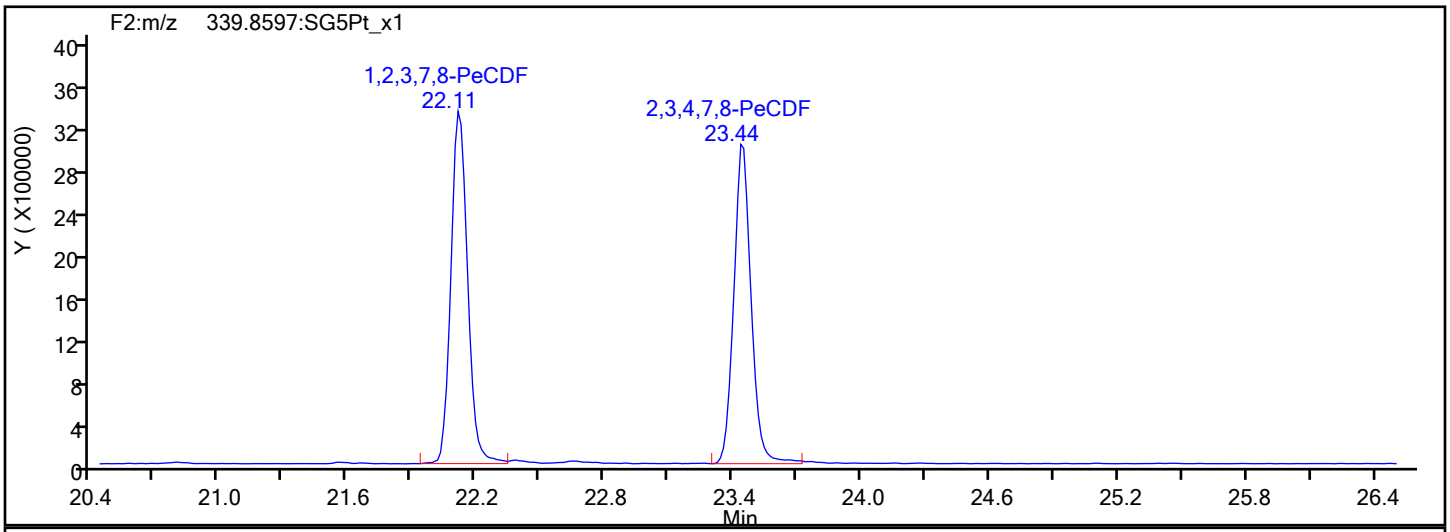

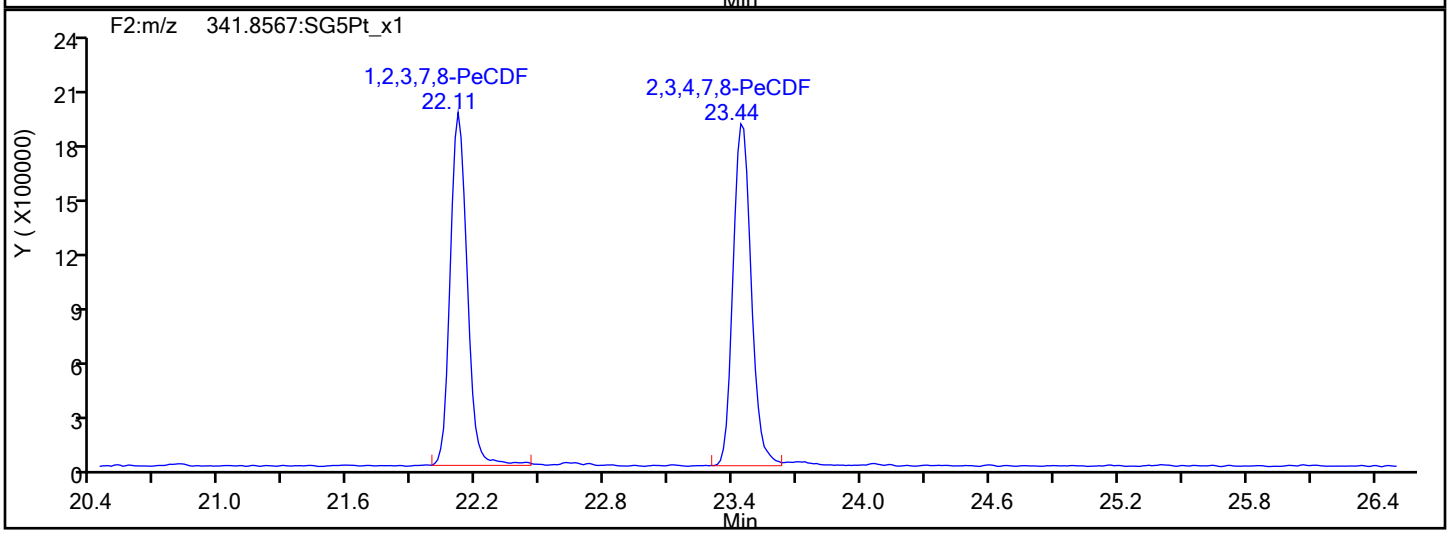

PeCDF Interference Mass

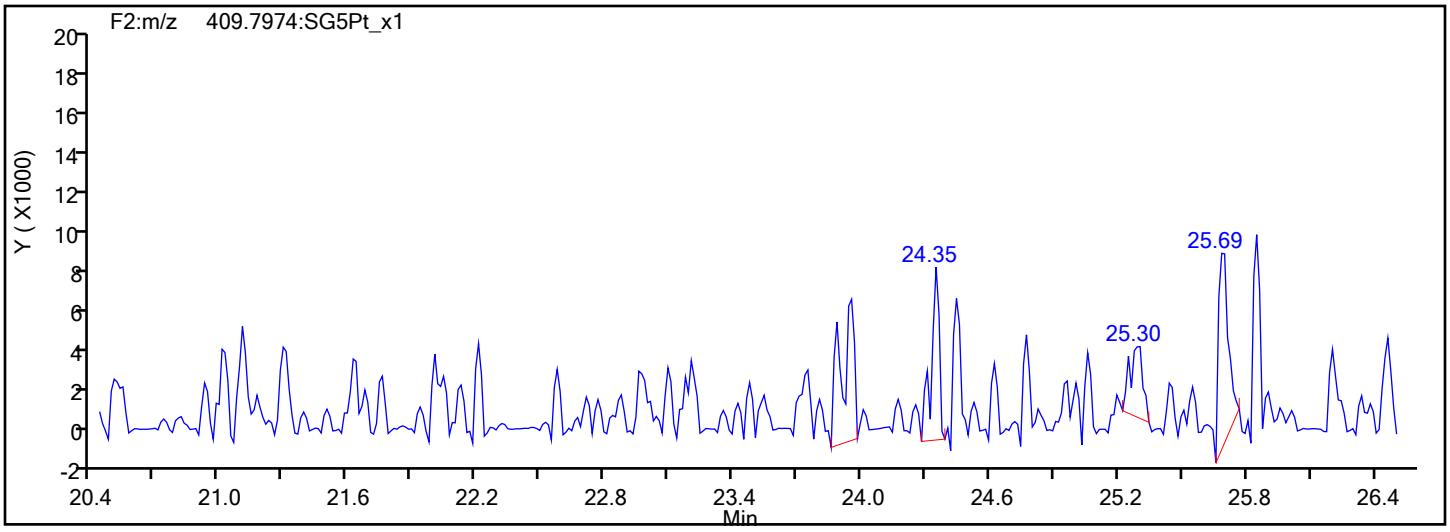

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Eurofins TestAmerica, Sacramento

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PeCDD

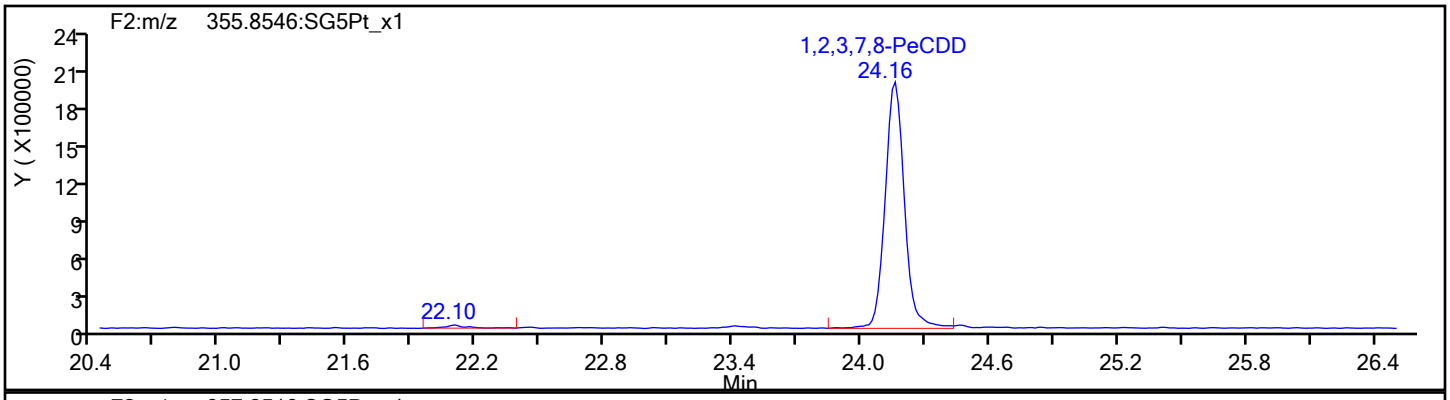

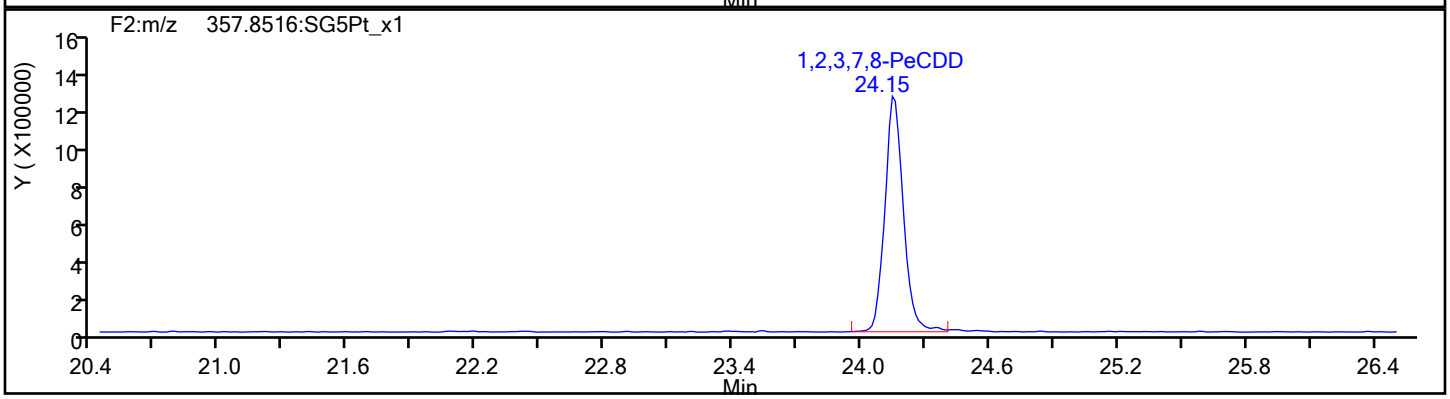

PeCDD Standards

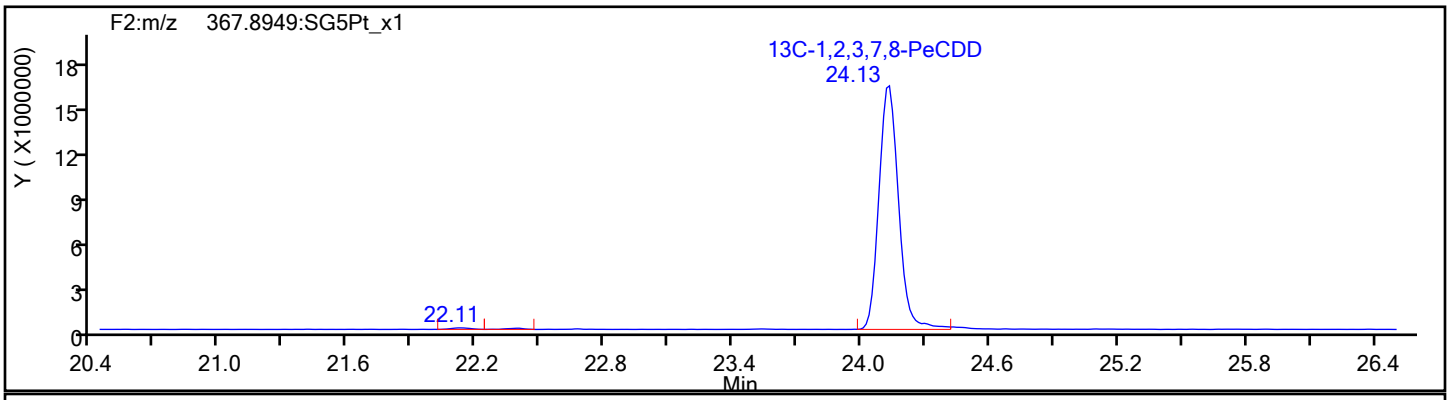

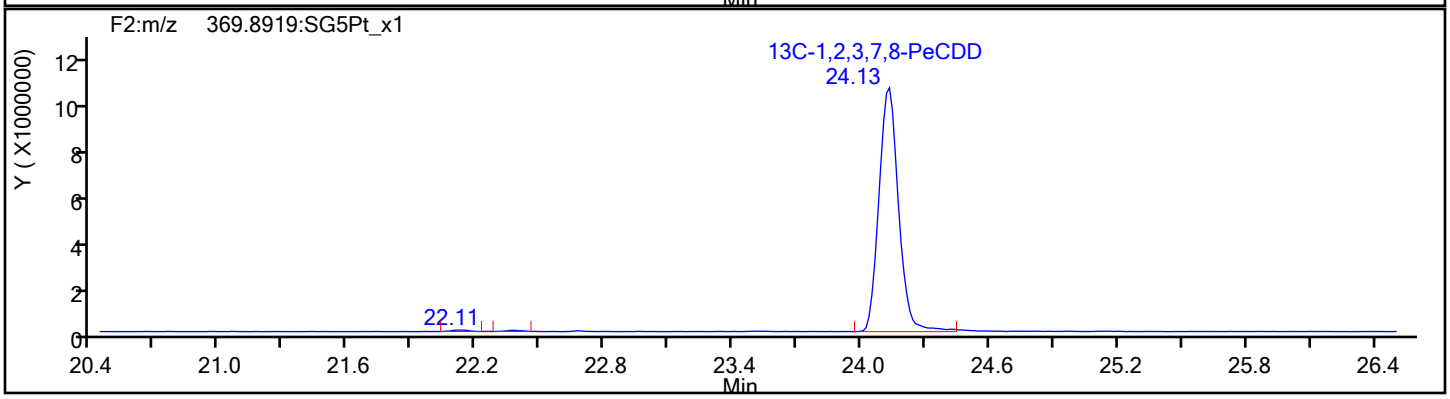

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Eurofins TestAmerica, Sacramento

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HxCDF

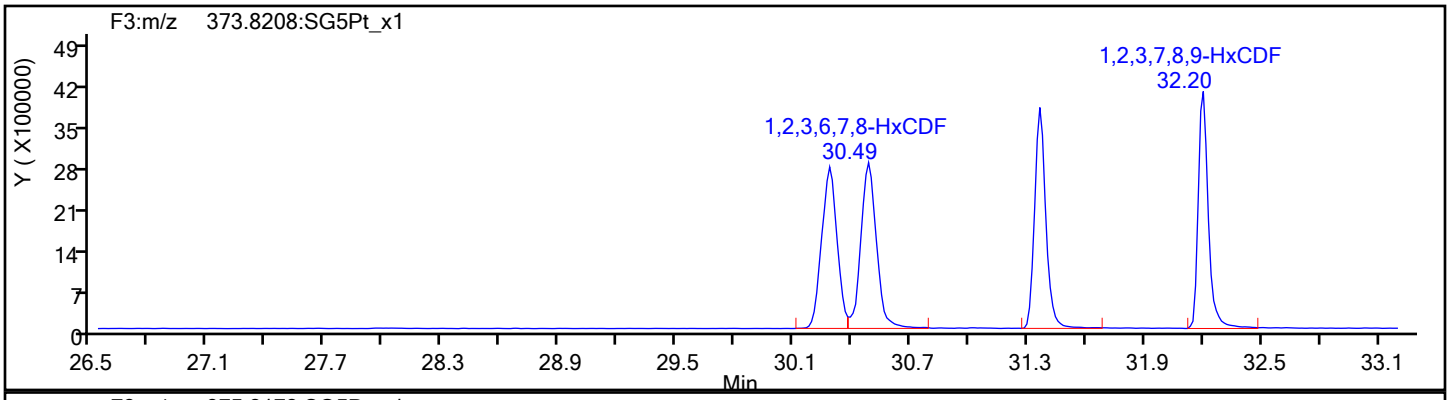

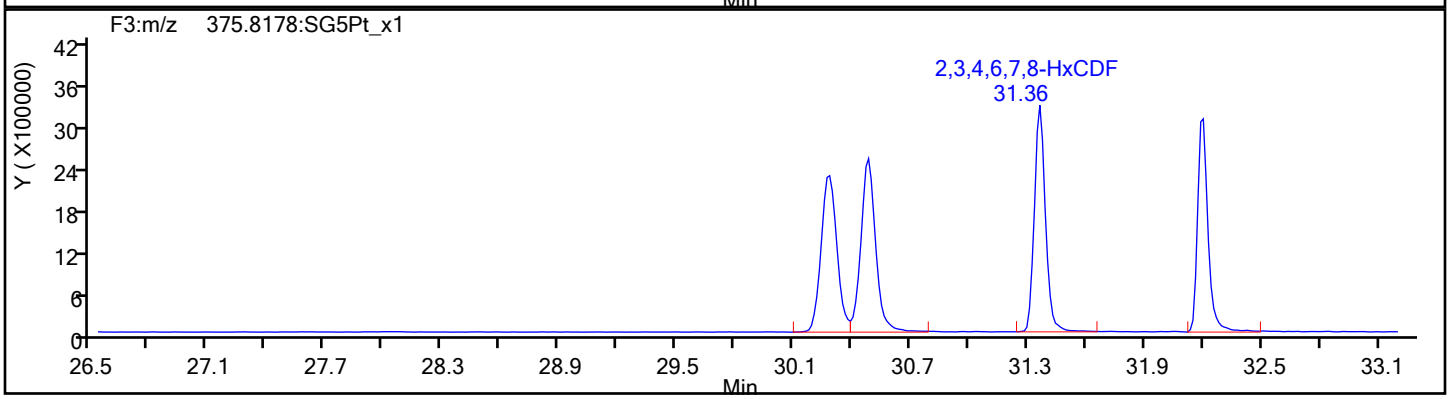

HxCDF Standards

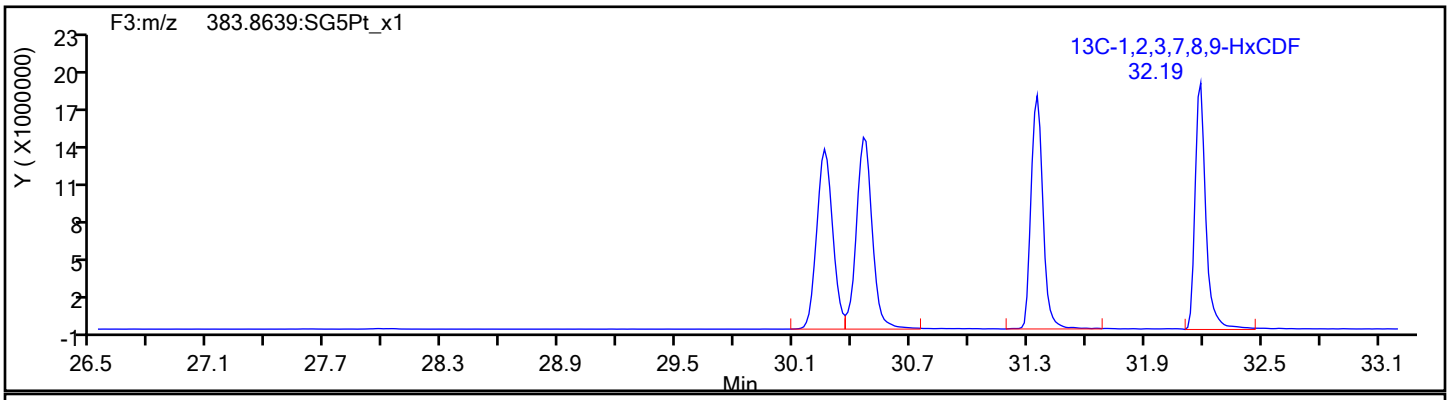

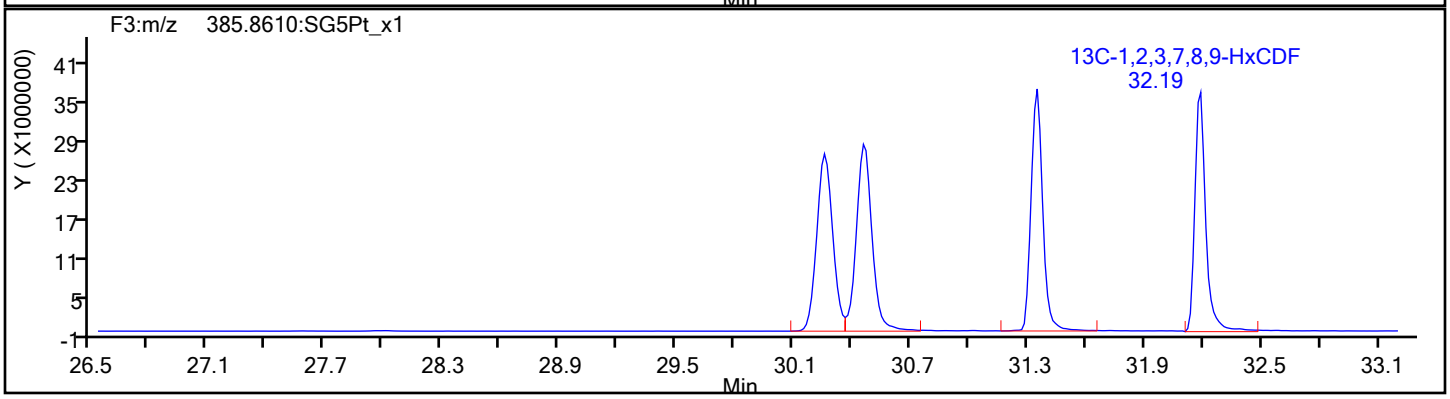

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Eurofins TestAmerica, Sacramento

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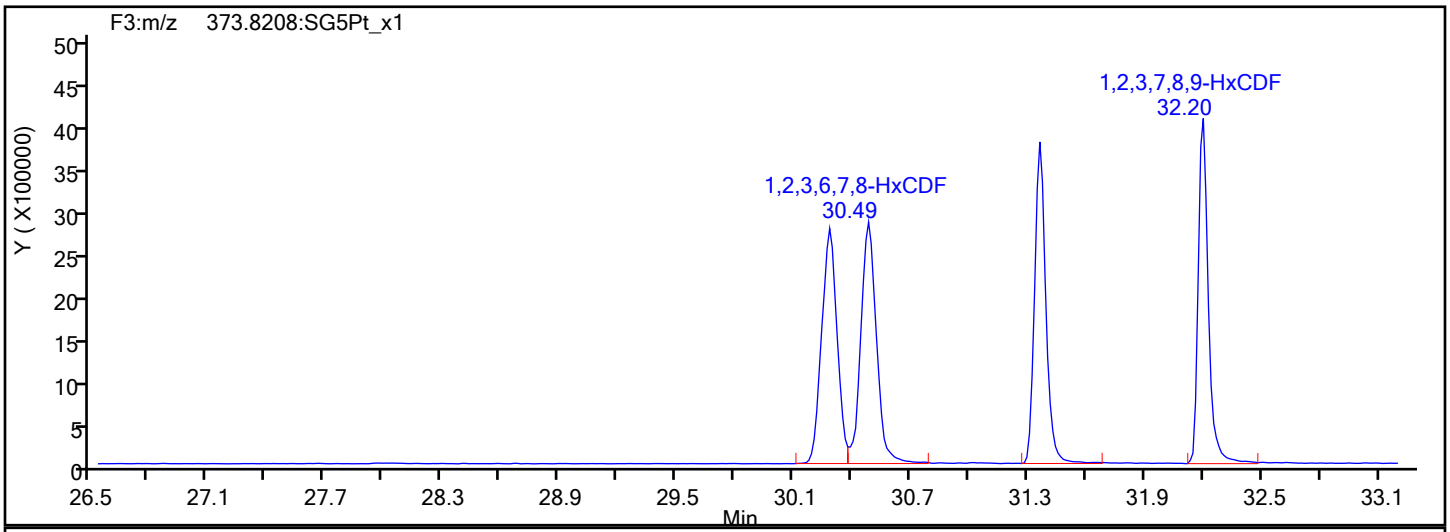

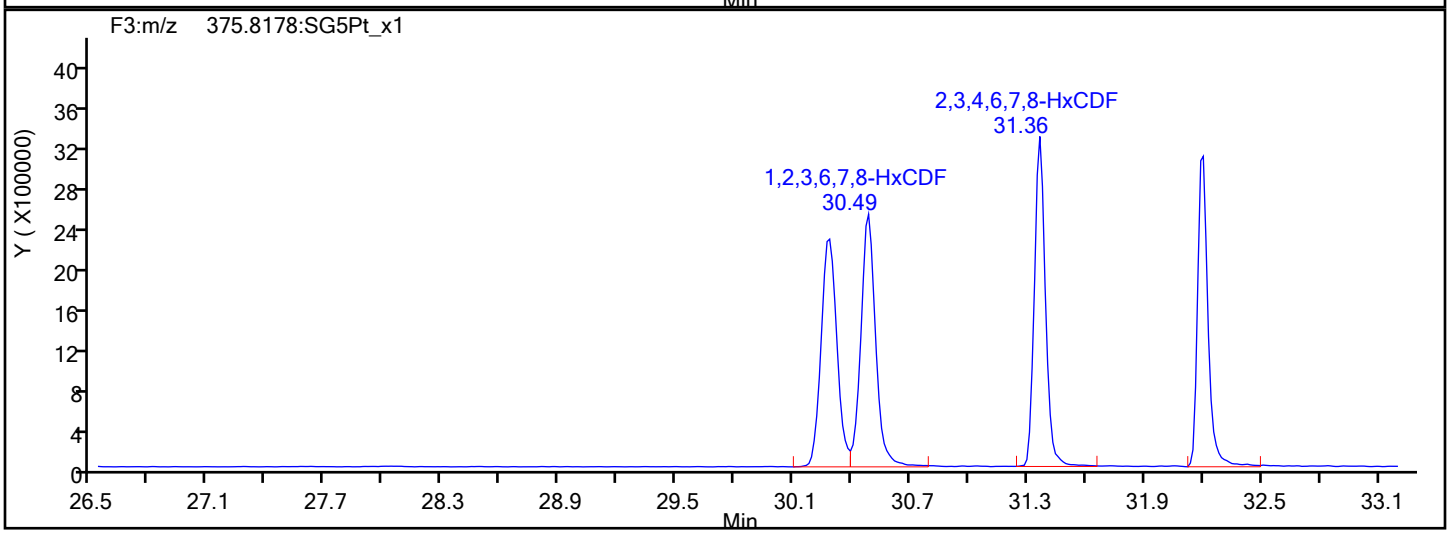

HxCDF Interference Mass

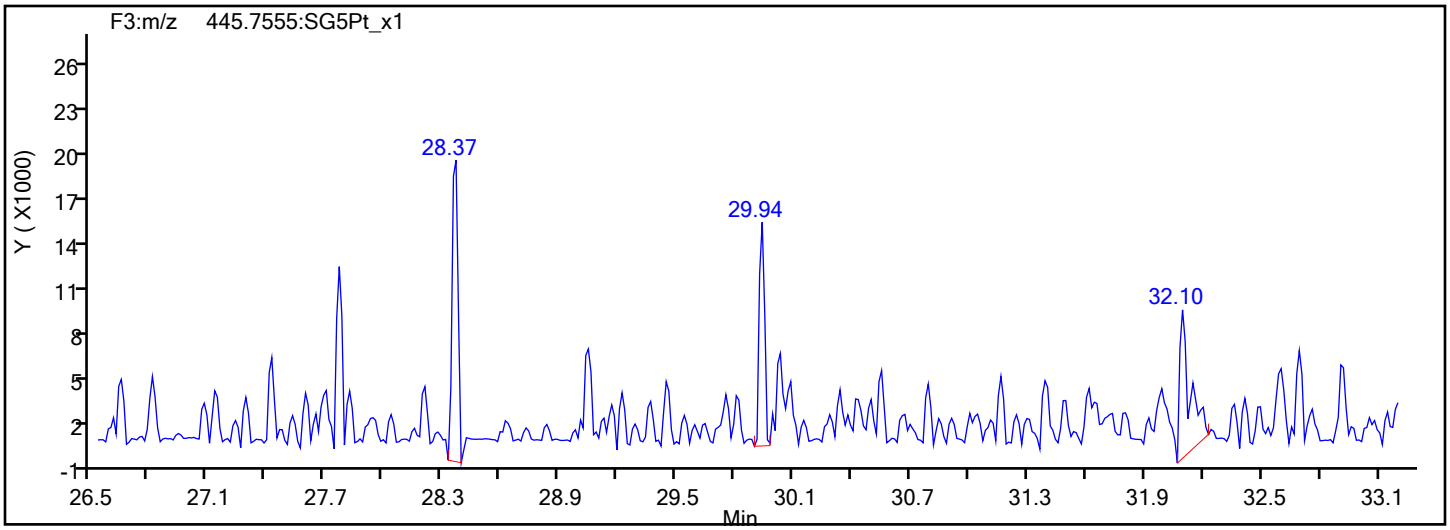

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Eurofins TestAmerica, Sacramento

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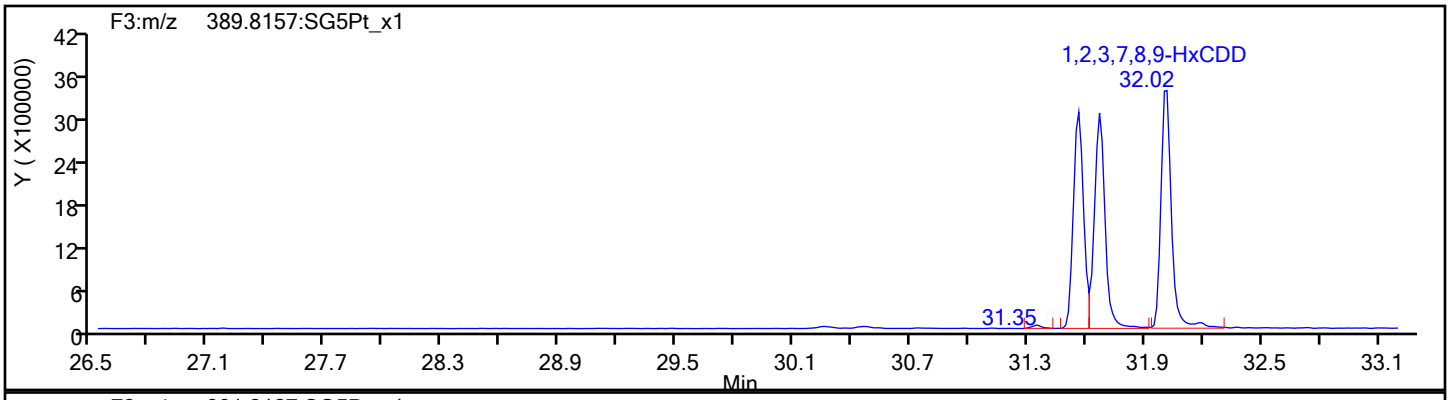

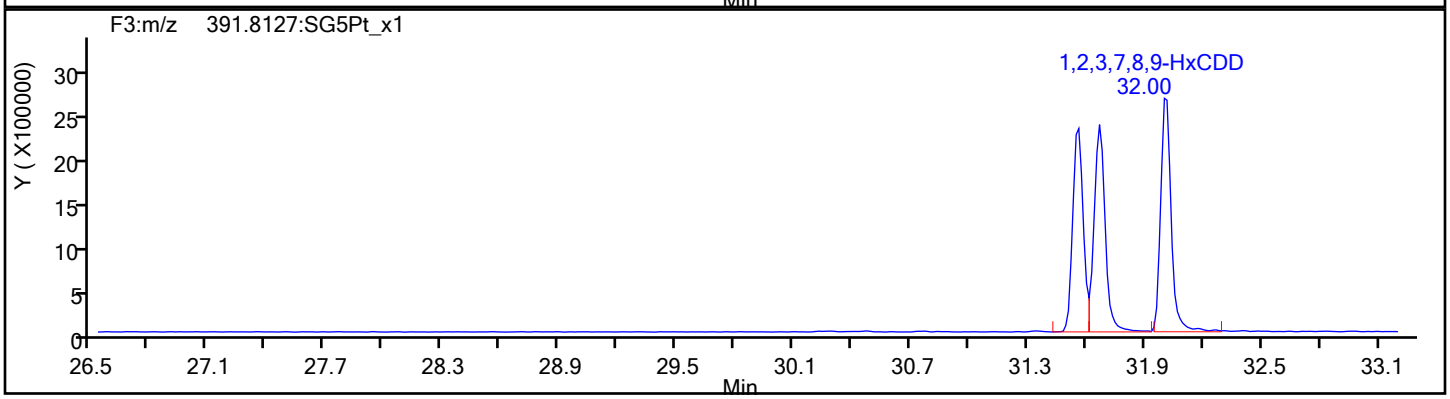

HxCDD Standards

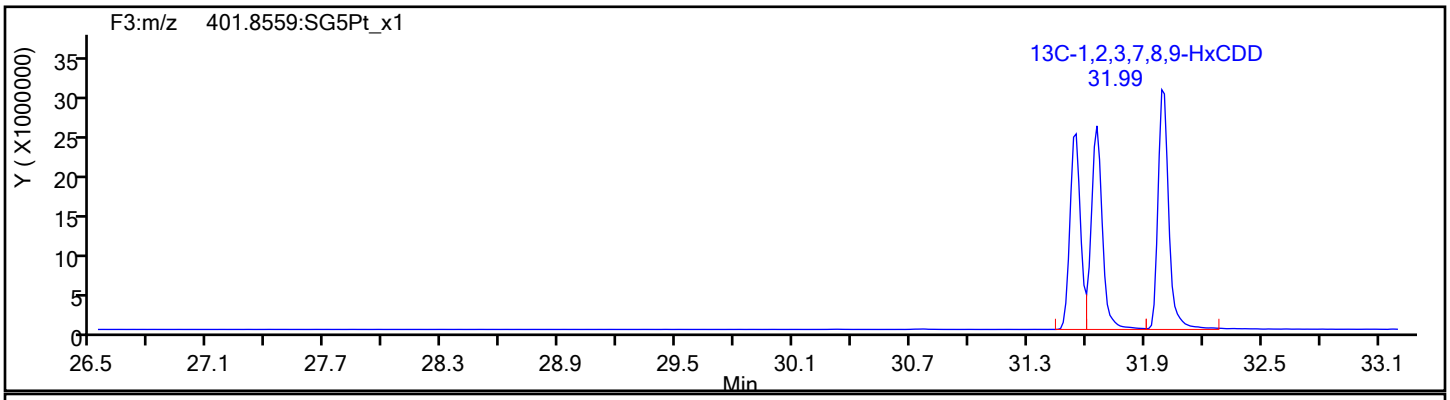

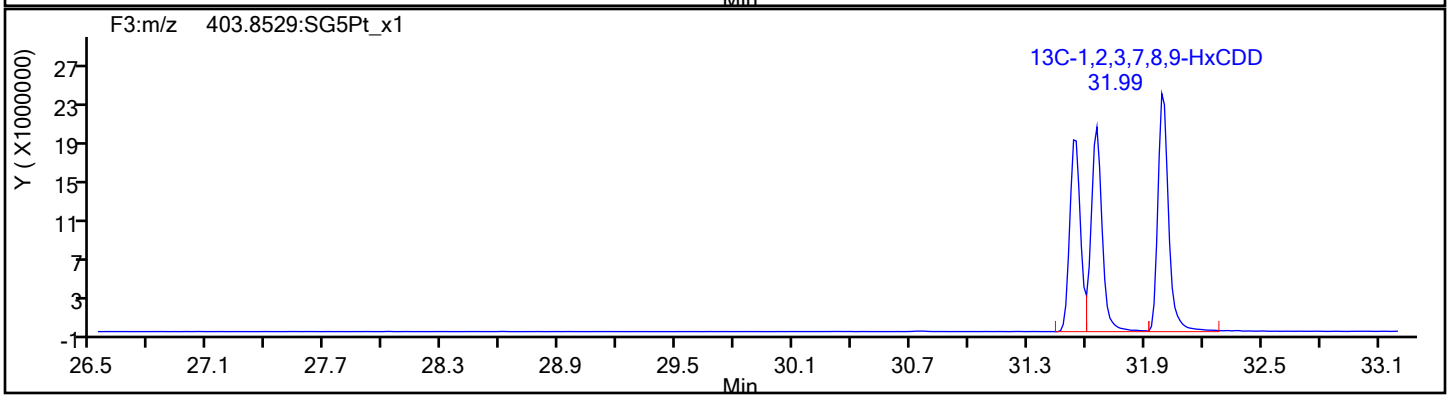

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Eurofins TestAmerica, Sacramento

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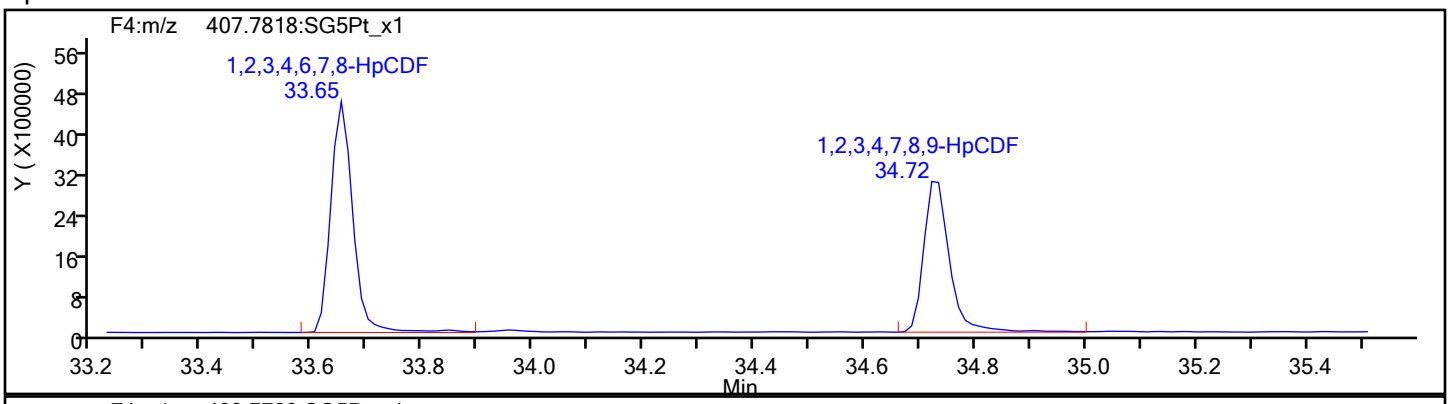

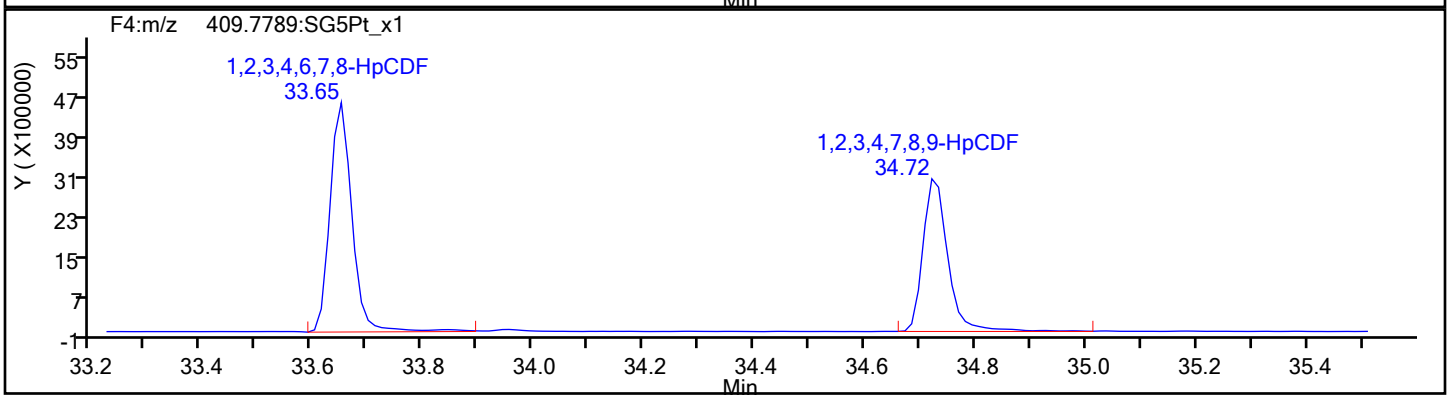

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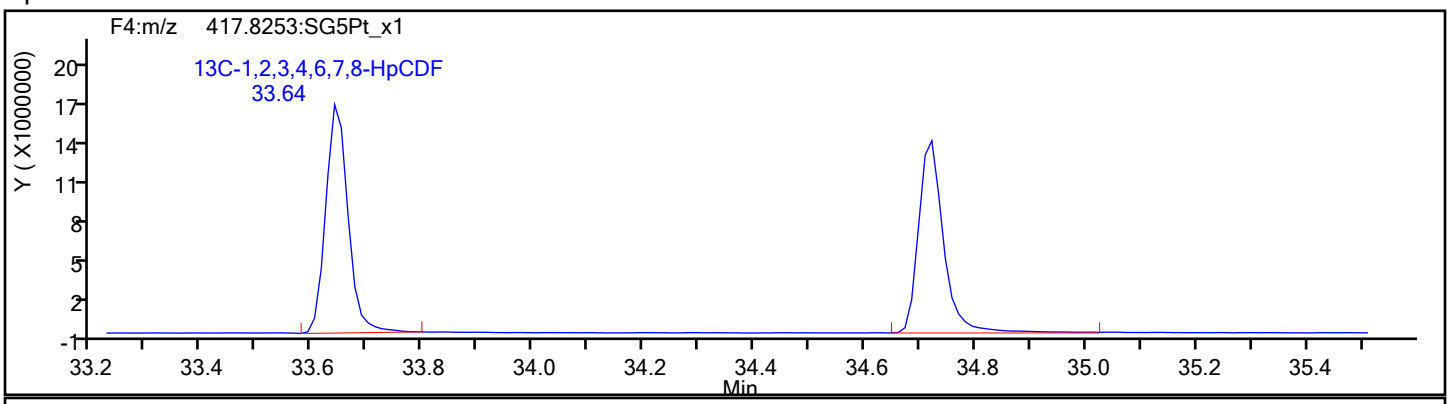

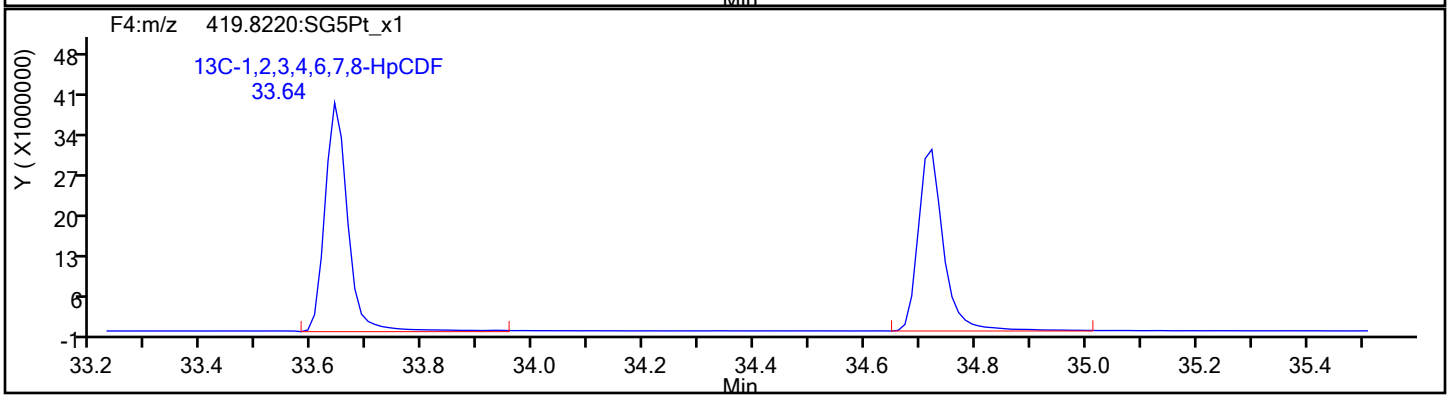

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Eurofins TestAmerica, Sacramento

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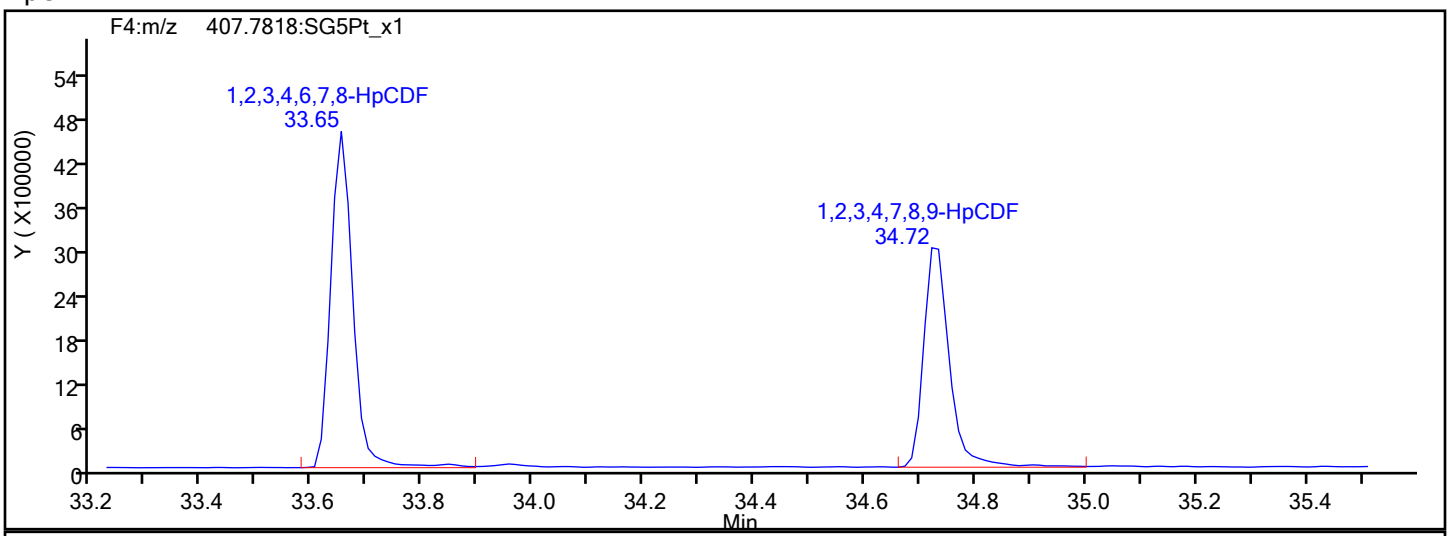

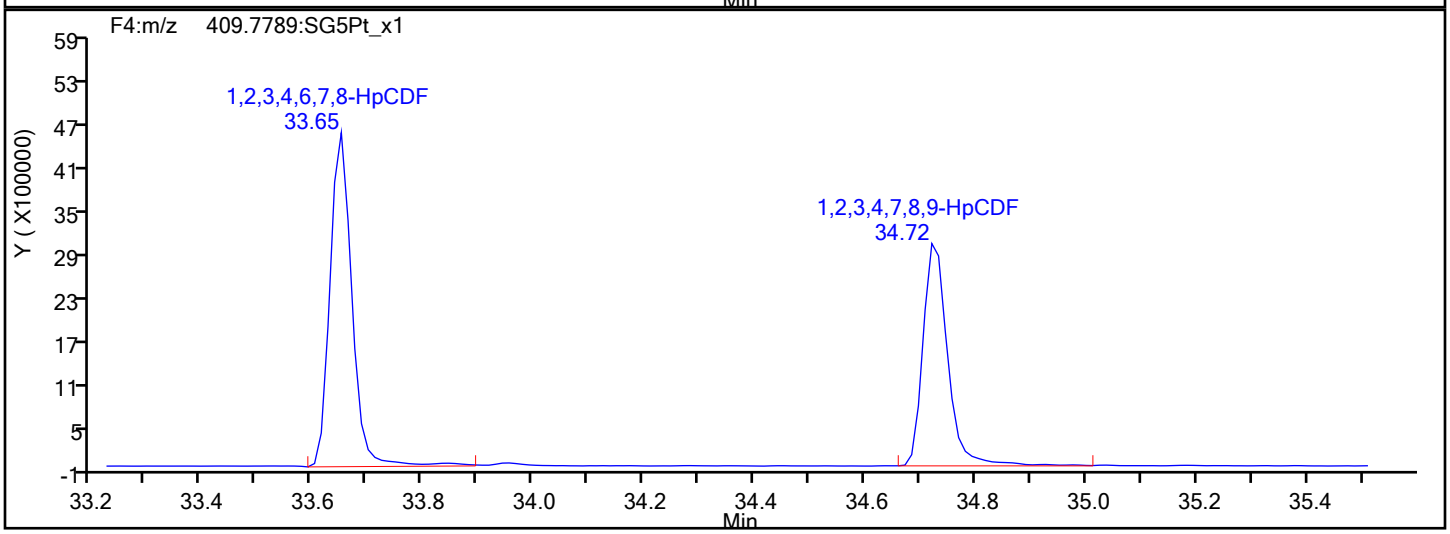

HpCDF Interference Mass

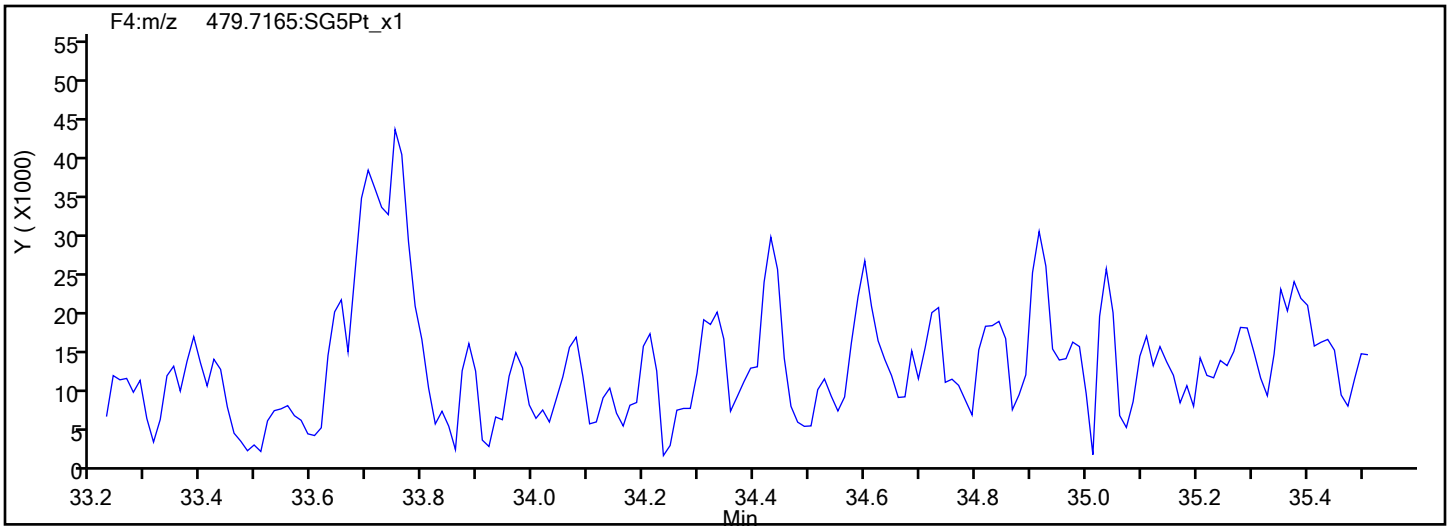

Report Date: 12-Dec-2019 15:54:17 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_4.d		
Injection Date:	12-Dec-2019 12:16:27	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L3		
Worklist#:	345037	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

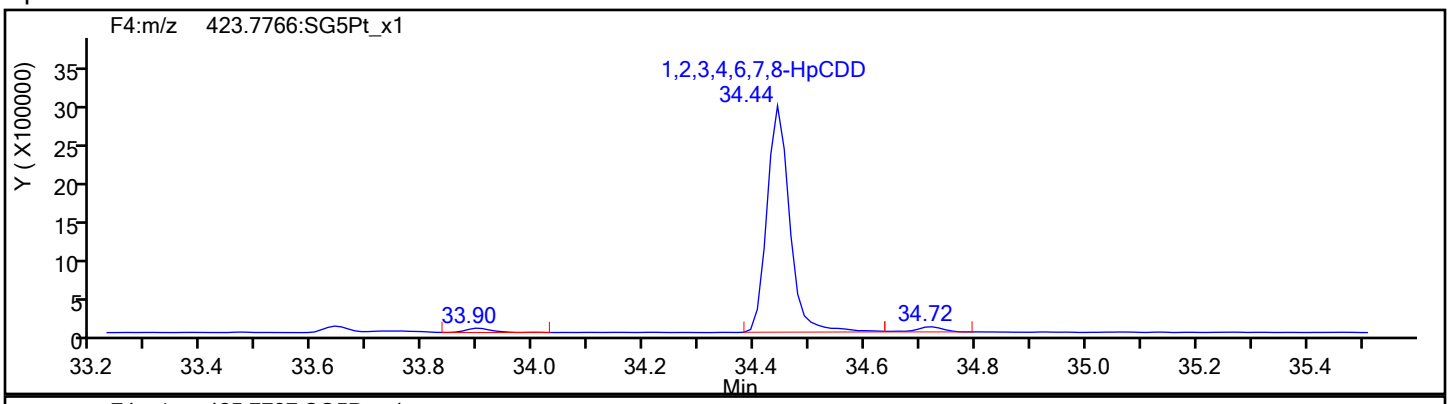

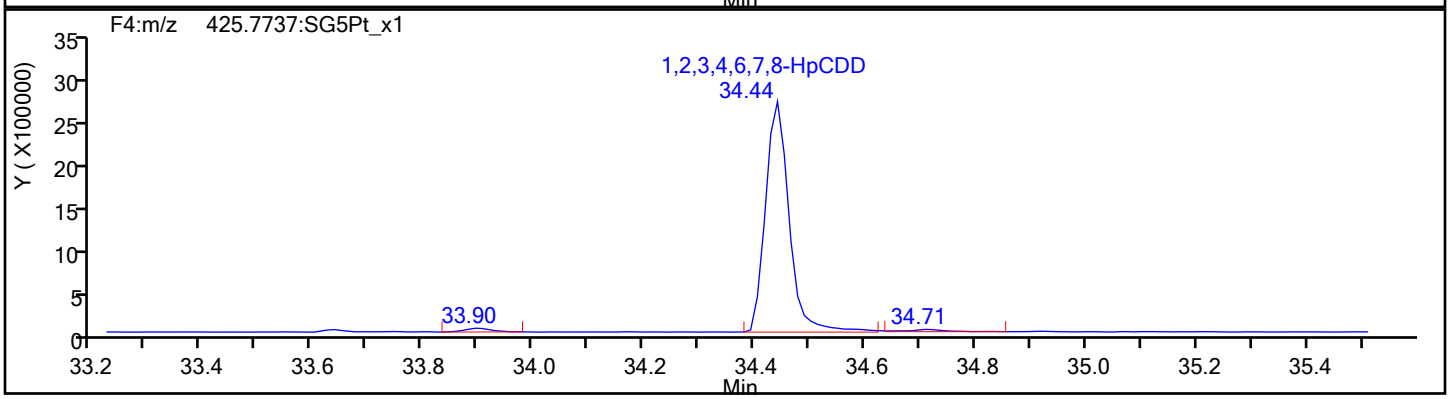

HpCDD Standards

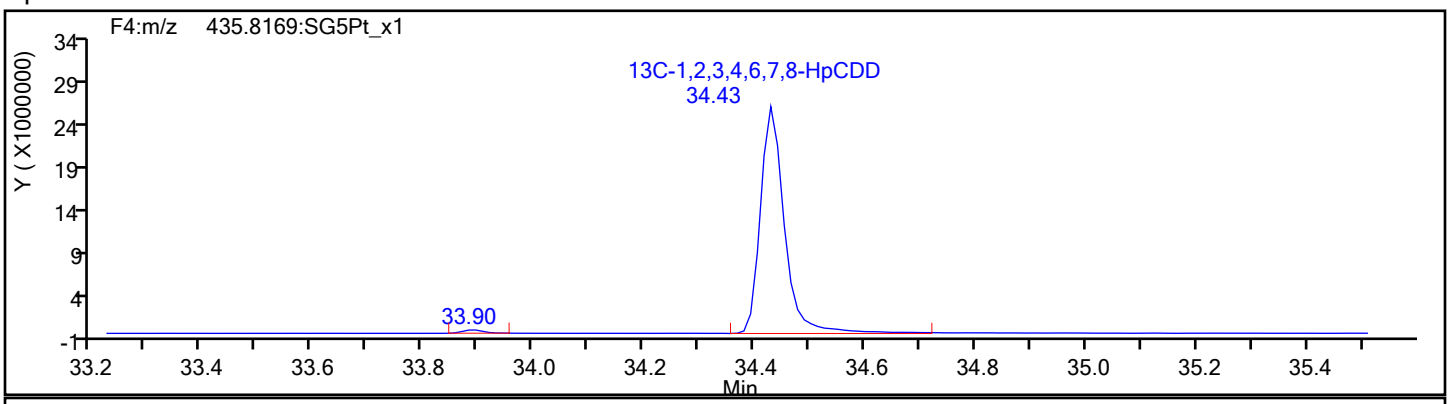

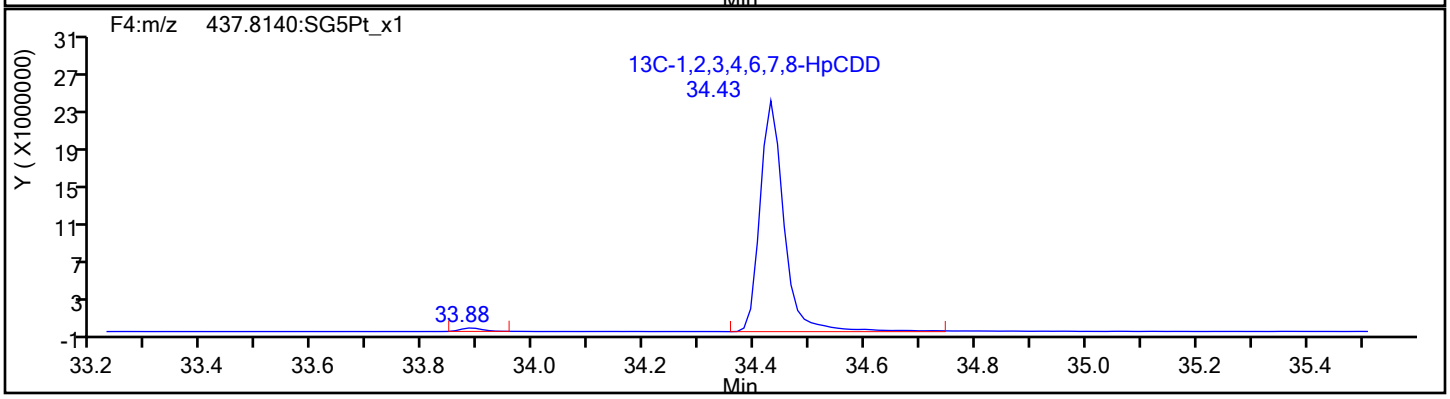

Report Date: 12-Dec-2019 15:54:17 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_4.d		
Injection Date:	12-Dec-2019 12:16:27	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L3		
Worklist#:	345037	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

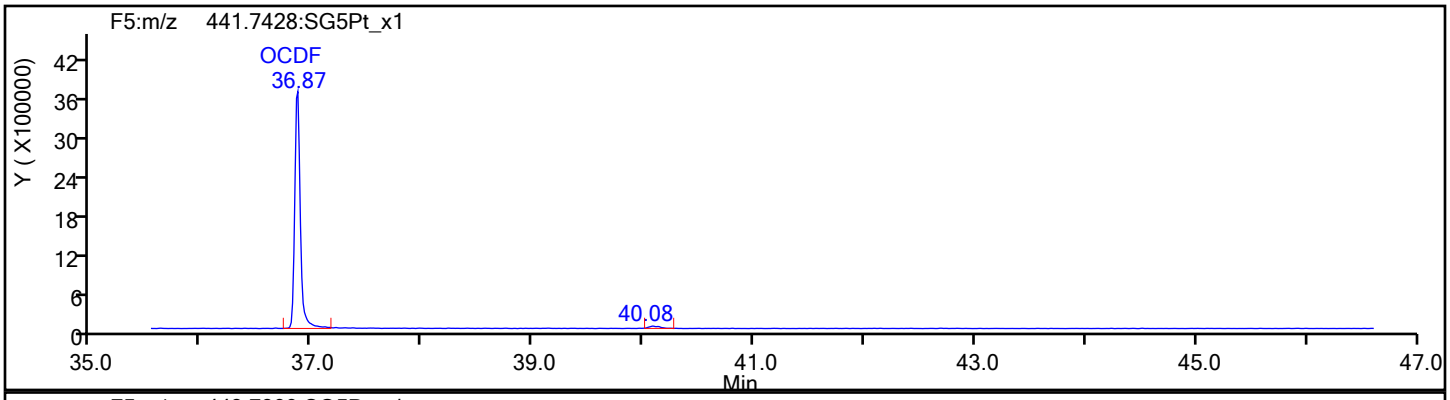

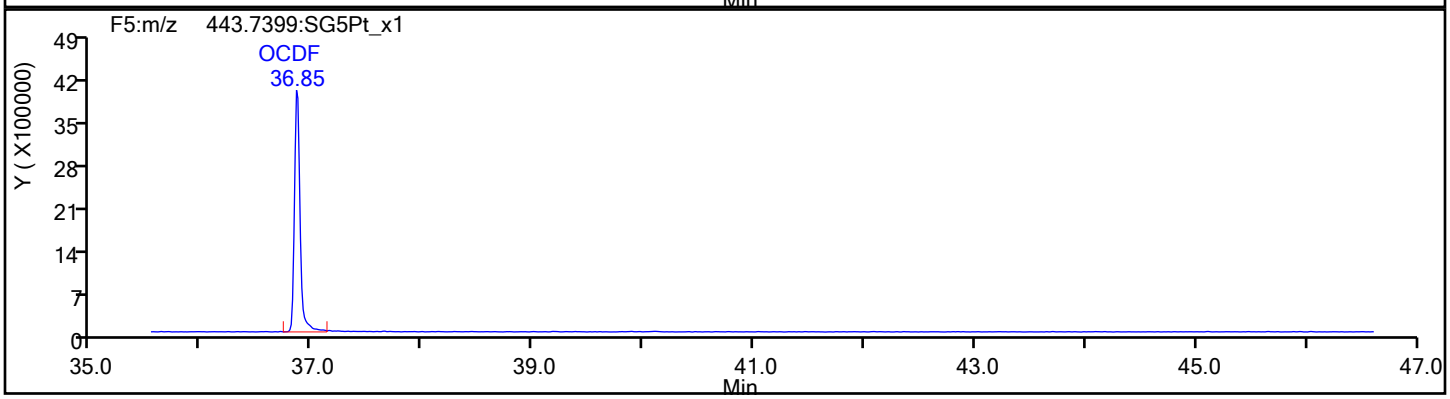

OCDF Standards

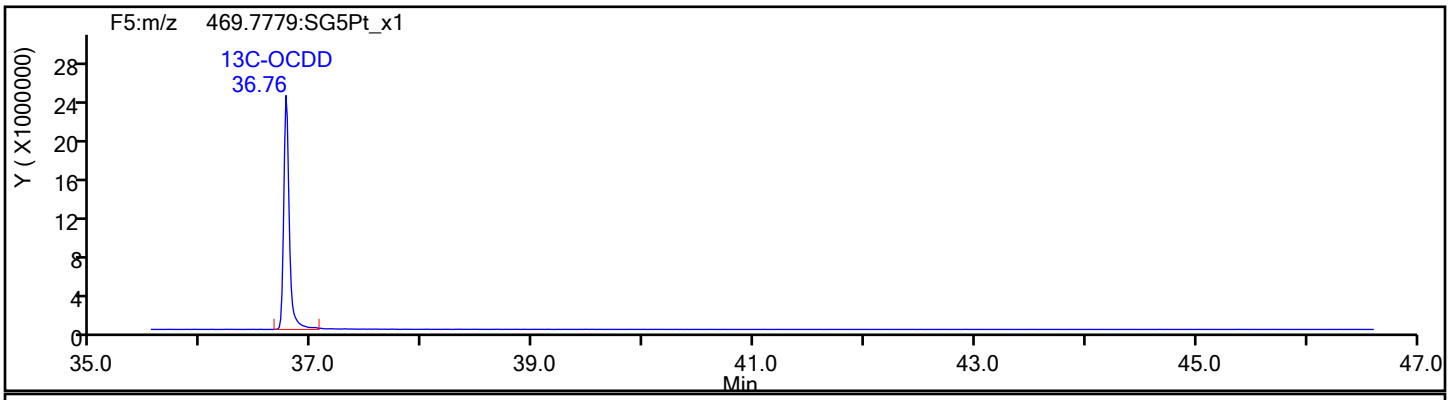

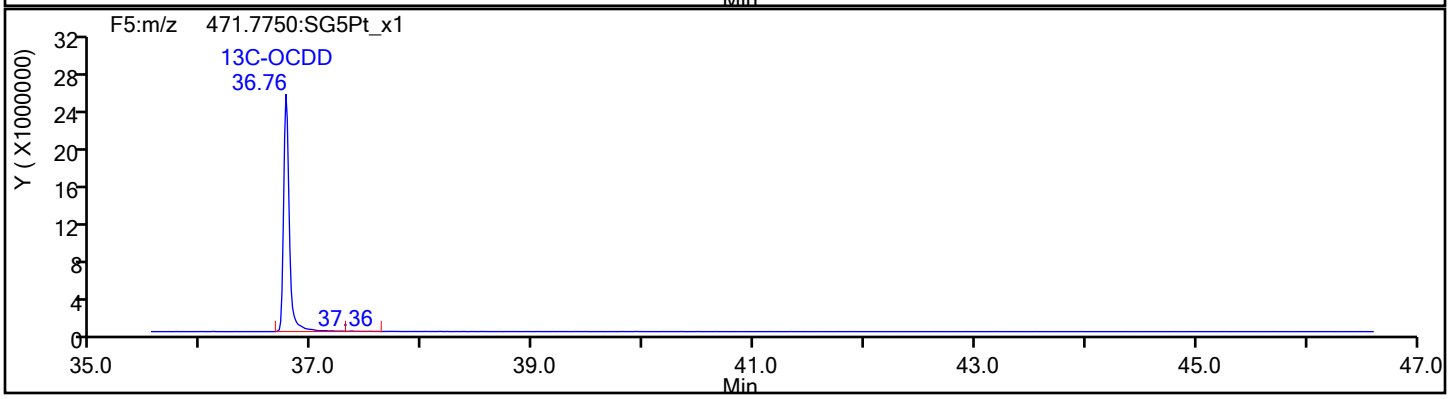

Report Date: 12-Dec-2019 15:54:17 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_4.d		
Injection Date:	12-Dec-2019 12:16:27	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L3		
Worklist#:	345037	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

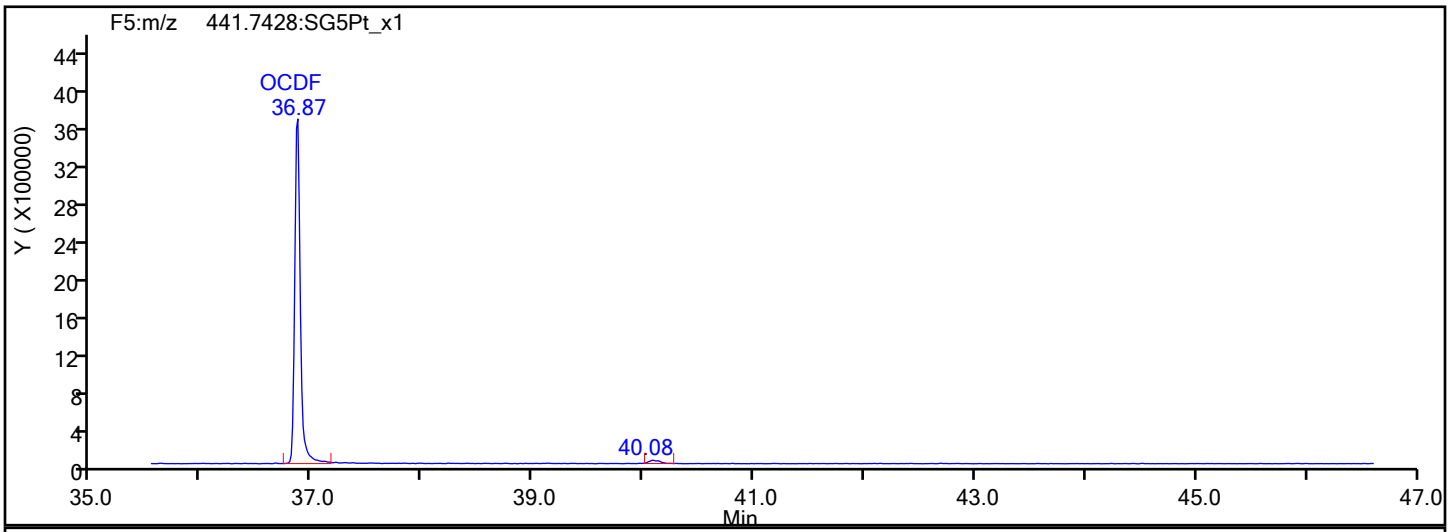

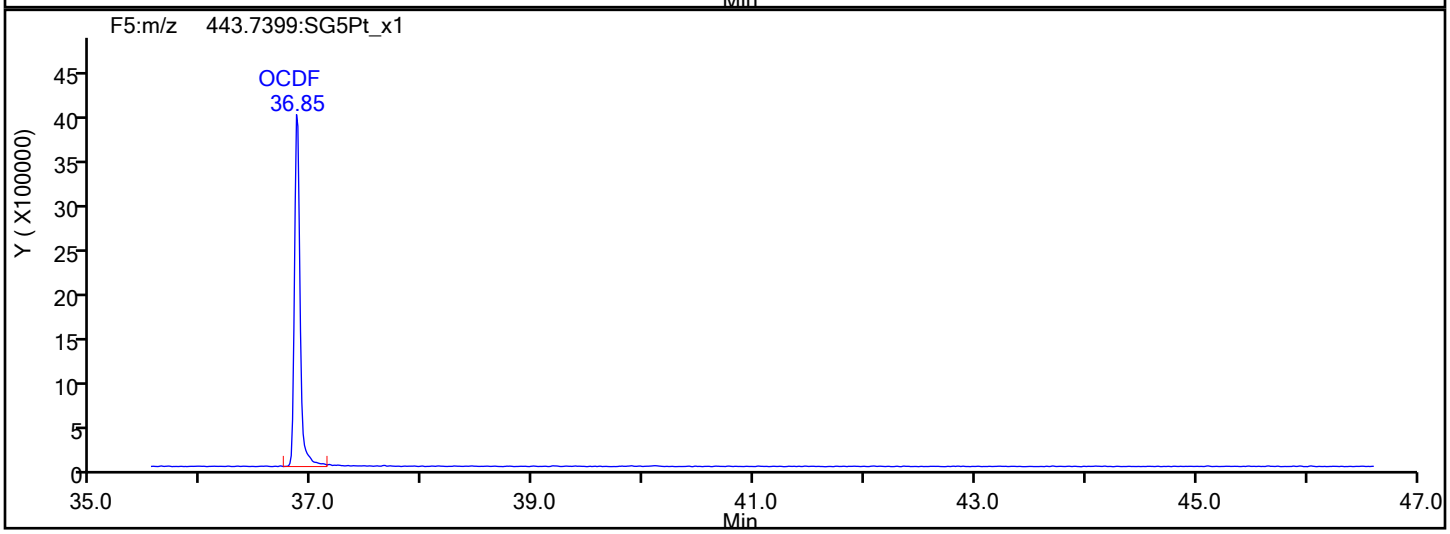

OCDF Interference Mass

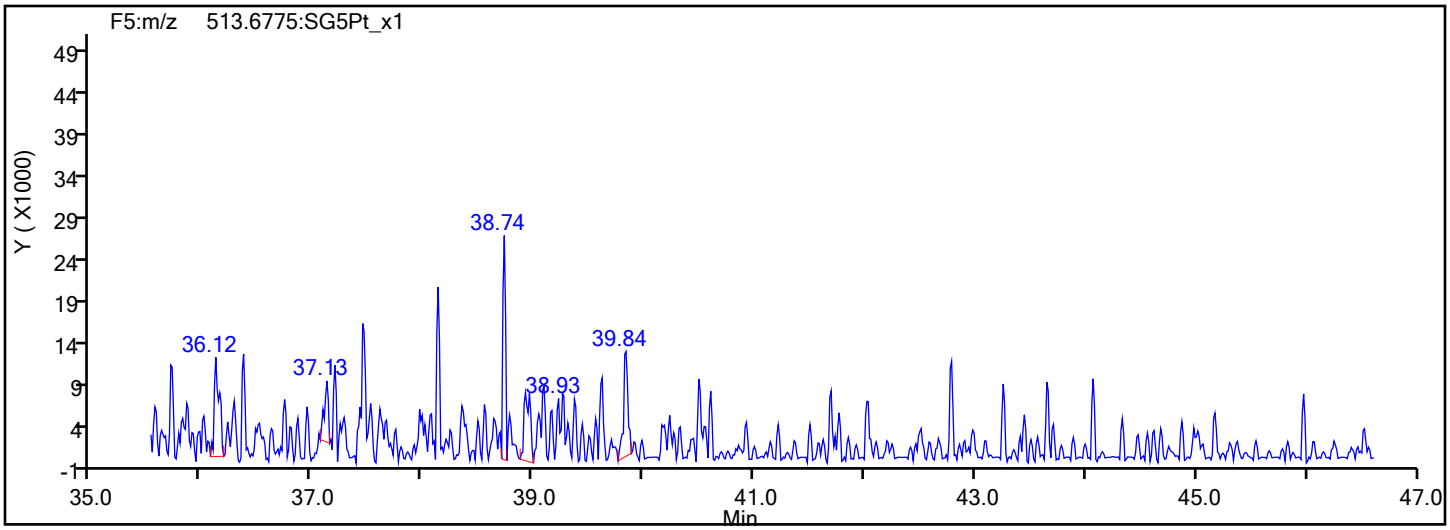

Report Date: 12-Dec-2019 15:54:17 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_4.d		
Injection Date:	12-Dec-2019 12:16:27	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L3		
Worklist#:	345037	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

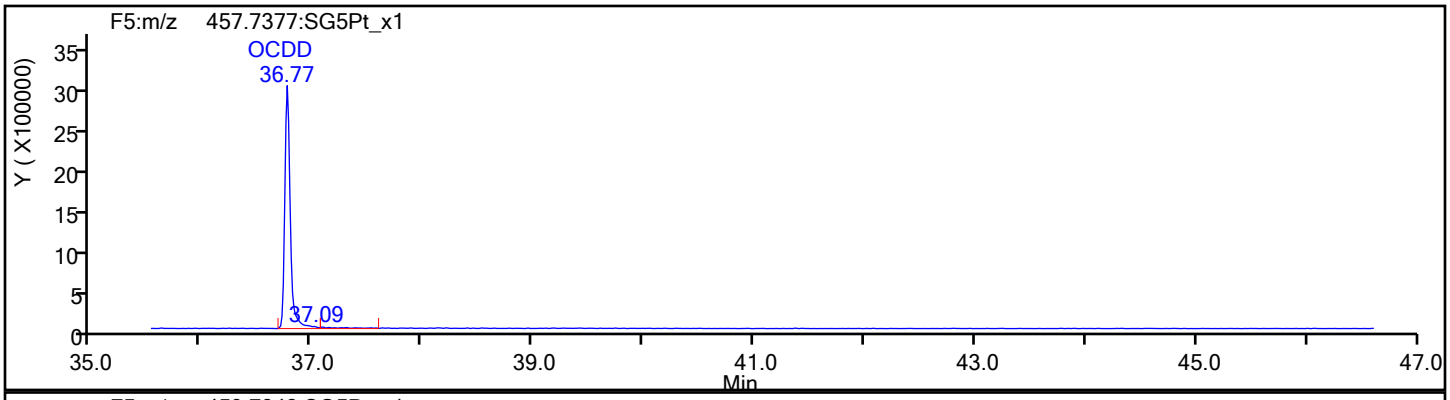

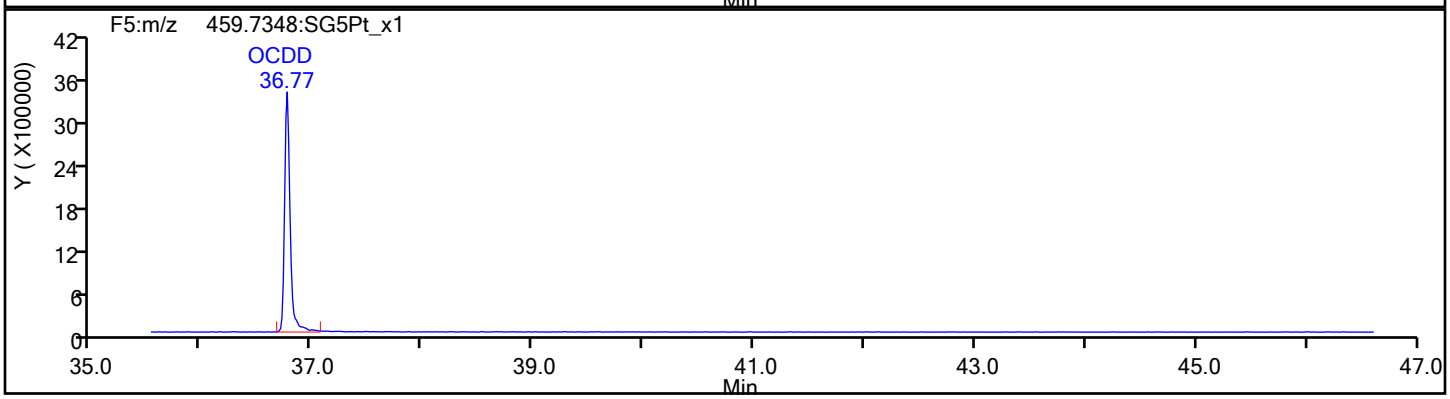

OCDD Standards

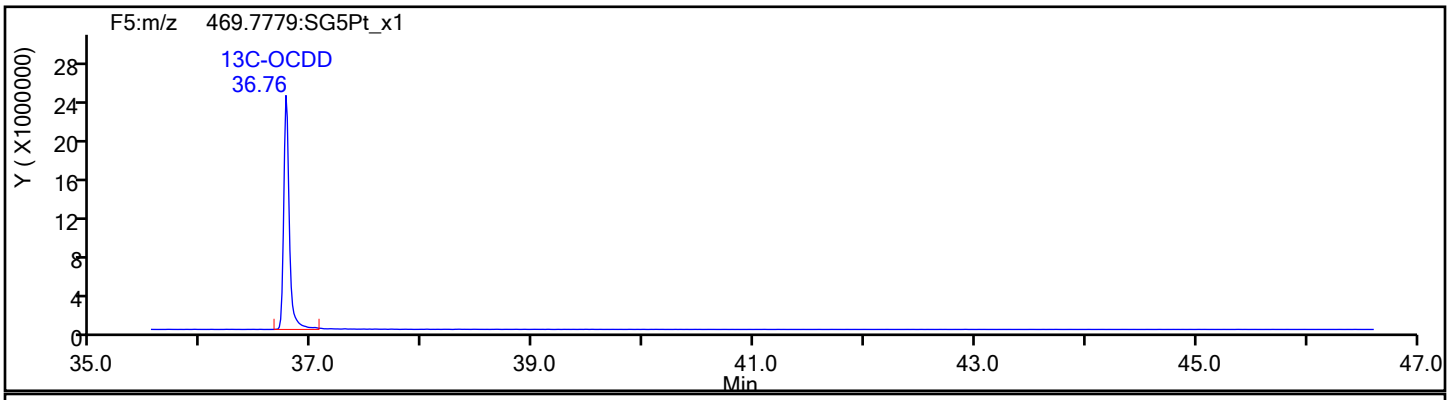

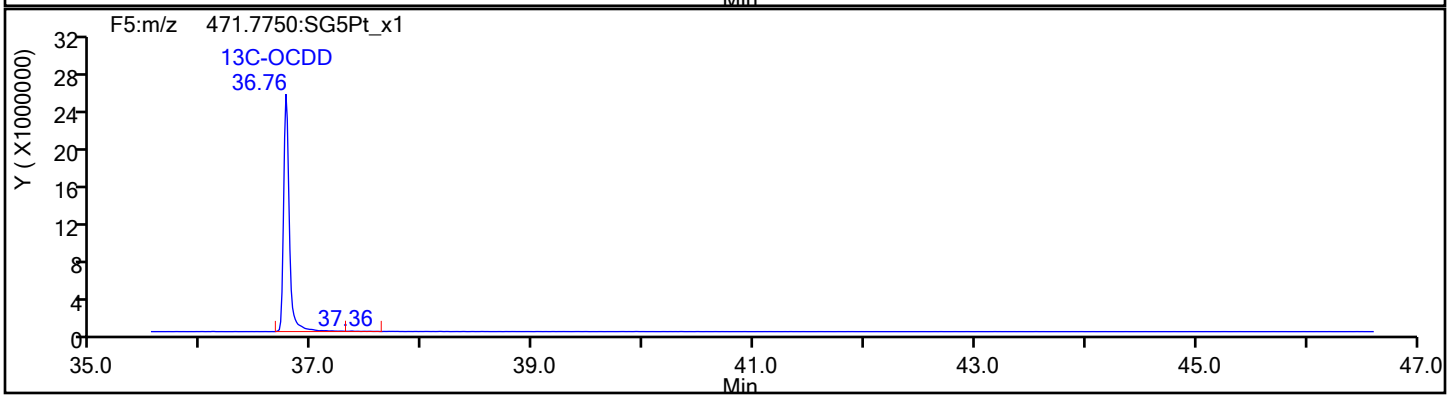

Report Date: 12-Dec-2019 15:54:17 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_4.d		
Injection Date:	12-Dec-2019 12:16:27	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L3		
Worklist#:	345037	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

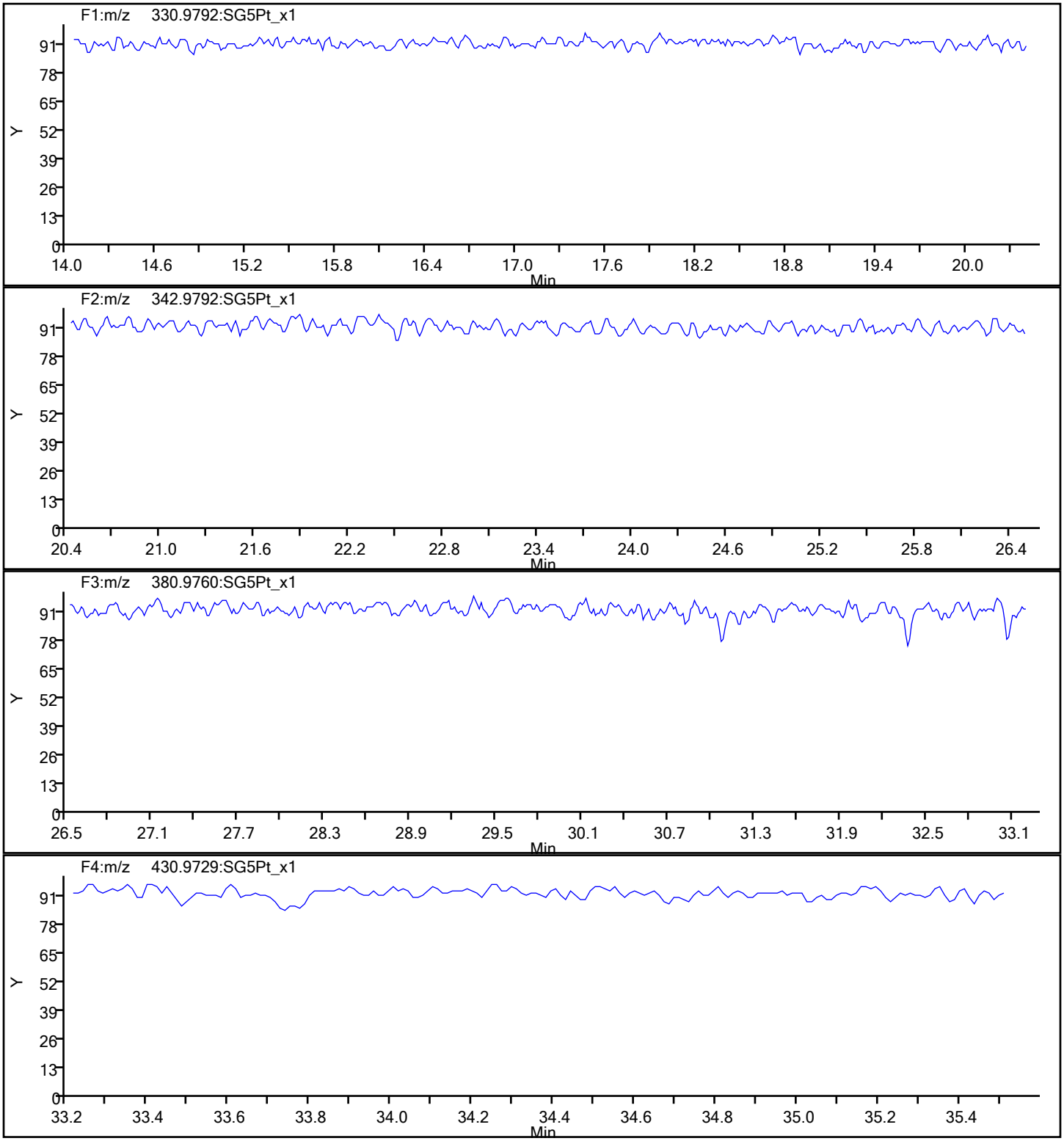

Report Date: 12-Dec-2019 15:54:17 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_4.d		
Injection Date:	12-Dec-2019 12:16:27	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L3		
Worklist#:	345037	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

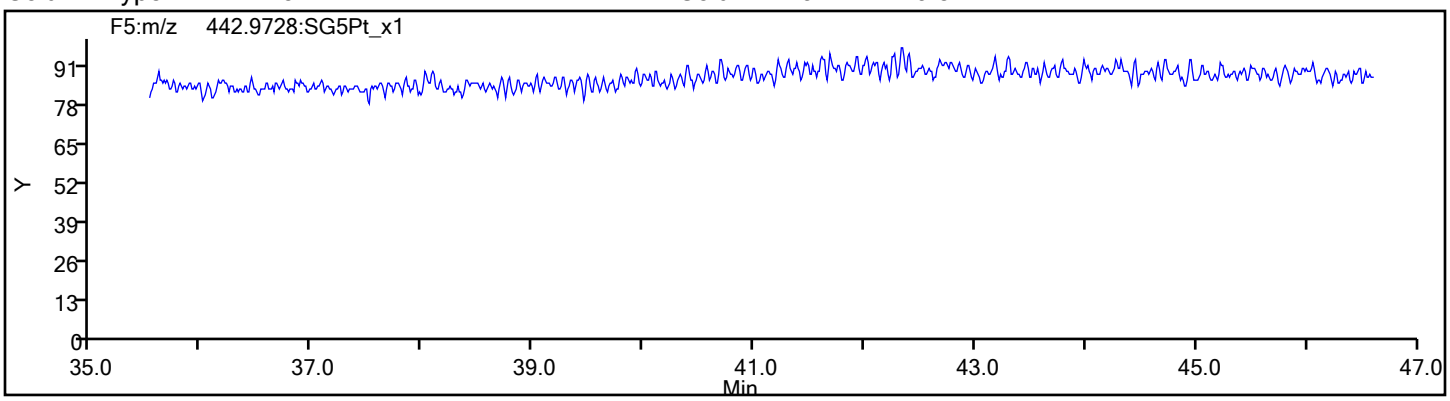

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_5.d
Lims ID: IC 4
Client ID: L4
Sample Type: IC Calib Level: 4
Inject. Date: 12-Dec-2019 13:04:00 ALS Bottle#: 2 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 121219B IC HRDXNL4_00086
Misc. Info.: 12DE193D5
Operator ID: KSS Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 12-Dec-2019 15:54:24 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: stephensk Date: 12-Dec-2019 14:41:14

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.672	230108476	0.78	2.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.173	329077583	0.82	1.4157	101.0	101.0	0.1434	0.1434	101	
2,3,7,8-TCDF	17.188	32091889	0.79	0.9502	10.3	10.3	0.0363	0.0363	103	
S Total TCDF					10.3	10.3	0.0363	0.0363		
D 13C-2,3,7,8-TCDD	17.869	222854376	0.80	0.9751	99.3	99.3	0.2013	0.2013	99.32	
2,3,7,8-TCDD	17.884	23580601	0.81	1.0477	10.1	10.1	0.0328	0.0328	101	
$ 37Cl4-2,3,7,8-TCDD	17.884	34952681		1.3480	11.3	11.3	0.0222	0.0222	113	
S Total TCDD					10.1	10.1	0.0328	0.0328		
D 13C-1,2,3,7,8-PeCDF	22.114	269197886	1.59	1.1786	99.3	99.3	0.2470	0.2470	99.26	
1,2,3,7,8-PeCDF	22.141	140673612	1.59	1.0302	50.7	50.7	0.1695	0.1695	101	
D 13C-2,3,4,7,8-PeCDF	23.437	265262610	1.60	1.1308	101.9	101.9	0.2575	0.2575	102	
2,3,4,7,8-PeCDF	23.450	130713898	1.53	1.0410	47.3	47.3	0.1817	0.1817	94.68	
S Total PeCDF					98.1	98.1	0.1756	0.1756		
D 13C-1,2,3,7,8-PeCDD	24.146	167599127	1.60	0.7572	96.2	96.2	0.1540	0.1540	96.19	
1,2,3,7,8-PeCDD	24.173	93429816	1.57	1.0855	51.4	51.4	0.1277	0.1277	103	
S Total PeCDD					51.4	51.4	0.1277	0.1277		
D 13C-1,2,3,4,7,8-HxCDF	30.273	242099177	0.51	1.1043	99.7	99.7	0.2432	0.2432	99.68	
1,2,3,4,7,8-HxCDF	30.299	137734608	1.20	1.1472	49.6	49.6	0.1763	0.1763	99.18	
D 13C-1,2,3,6,7,8-HxCDF	30.486	243784643	0.51	1.1470	96.6	96.6	0.2342	0.2342	96.63	
1,2,3,6,7,8-HxCDF	30.499	142961587	1.23	1.1450	51.2	51.2	0.1730	0.1730	102	
D 13C-2,3,4,6,7,8-HxCDF	31.365	226090409	0.54	1.0769	95.5	95.5	0.2494	0.2494	95.45	
2,3,4,6,7,8-HxCDF	31.378	136271106	1.23	1.1726	51.4	51.4	0.1322	0.1322	103	
D 13C-1,2,3,7,8,9-HxCDF	32.204	213252409	0.51	1.0115	95.9	95.9	0.2656	0.2656	95.85	
1,2,3,7,8,9-HxCDF	32.217	128293546	1.22	1.1717	51.3	51.3	0.1275	0.1275	103	
S Total HxCDF					203.6	203.6	0.1523	0.1523		
* 13C-1,2,3,7,8,9-HxCDD	32.017	219948678	1.29	2.1E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.565	174266733	1.28	0.7962	99.5	99.5	0.2058	0.2058	99.51	
1,2,3,4,7,8-HxCDD	31.578	93254778	1.29	1.0934	48.9	48.9	0.1071	0.1071	97.88	
D 13C-1,2,3,6,7,8-HxCDD	31.671	183758146	1.29	0.8720	95.8	95.8	0.1879	0.1879	95.81	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.684	98614866	1.28	1.0429	51.5	51.5	0.1127	0.1127	103	
1,2,3,7,8,9-HxCDD	32.030	110159416	1.25	1.2073	51.0	51.0	0.0972	0.0972	102	
S Total HxCDD					151.4	151.4	0.1056	0.1056		
D 13C-1,2,3,4,6,7,8-HpCDF	33.652	159712904	0.44	0.7577	95.8	95.8	1.031	1.031	95.84	
1,2,3,4,6,7,8-HpCDF	33.664	114883210	1.05	1.4804	48.6	48.6	0.4672	0.4672	97.18	
D 13C-1,2,3,4,7,8,9-HpCDF	34.734	145840544	0.44	0.6941	95.5	95.5	1.125	1.125	95.52	
1,2,3,4,7,8,9-HpCDF	34.746	92482689	1.14	1.2933	49.0	49.0	0.6351	0.6351	98.07	
S Total HpCDF					97.6	97.6	0.5512	0.5512		
D 13C-1,2,3,4,6,7,8-HpCDD	34.442	146156878	1.07	0.7058	94.1	94.1	0.6652	0.6652	94.15	
1,2,3,4,6,7,8-HpCDD	34.454	77704317	1.06	1.0535	50.5	50.5	0.3333	0.3333	101	
S Total HpCDD					50.5	50.5	0.3333	0.3333		
D 13C-OCDD	36.770	191409180	0.93	0.4603	189.1	189.1	0.1713	0.1713	94.54	
OCDF	36.877	127683858	0.91	1.3945	95.7	95.7	0.0845	0.0845	95.67	
OCDD	36.782	106623239	0.90	1.1362	98.1	98.1	0.0768	0.0768	98.06	

Reagents:

HRDXNL4_00086 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_5.d
Lims ID: IC 4
Client ID: L4
Sample Type: IC Calib Level: 4
Inject. Date: 12-Dec-2019 13:04:00 ALS Bottle#: 2 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 121219B IC HRDXNL4_00086
Misc. Info.: 12DE193D5
Operator ID: KSS Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 12-Dec-2019 15:54:24 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: stephensk Date: 12-Dec-2019 14:41:14

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.672	17.666	0		100646493	26054224	25756	64390	1012		
333.9339	17.672	17.666	0		129461983	33352164	20891	52227	1596	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.173	17.164	1	0.972	148097005	37302247	26680	66700	1398		
317.9389	17.173	17.164	1	0.972	180980578	44947883	21559	53897	2085	0.82(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.188	17.176	1	1.001	14195019	3703043	5026	12565	737		
305.8987	17.188	17.176	1	1.001	17896870	4565831	6334	15835	721	0.79(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.869	17.854	1	1.011	99038720	23452241	25756	64390	911		
333.9339	17.869	17.854	1	1.011	123815656	28590510	20891	52227	1369	0.80(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.884	17.872	1	1.001	10569215	2553534	4609	11522	554		
321.8936	17.884	17.872	1	1.001	13011386	3080359	2541	6352	1212	0.81(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.884	17.872	1	1.012	34952681	8297944	7115	17787	1166		
13C-1,2,3,7,8-PeCDF											
351.9000	22.114	22.103	1	1.251	165287075	30019770	40905	102262	734		
353.8970	22.114	22.103	1	1.251	103910811	18863812	28281	70702	667	1.59(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.141	22.130	1	1.001	86311912	15620236	18085	45212	864		
341.8567	22.127	22.130	0	1.001	54361700	9970298	16064	40160	621	1.59(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	23.437	23.426	1	1.326	163093024	27685229	40905	102262	677		
353.8970	23.437	23.426	1	1.326	102169586	17441677	28281	70702	617	1.60(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.450	23.450	0	1.001	78965684	12640006	18085	45212	699		
341.8567	23.464	23.450	1	1.001	51748214	8335290	16064	40160	519	1.53(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	24.146	24.137	0	1.366	103252705	16542346	16807	42017	984		
369.8919	24.146	24.137	0	1.366	64346422	10277195	10896	27240	943	1.60(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.173	24.162	1	1.001	57119994	9304403	9790	24475	950		
357.8516	24.173	24.162	1	1.001	36309822	5917276	5080	12700	1165	1.57(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.273	30.270	0	0.946	82296238	14406879	22532	56330	639		
385.8610	30.273	30.270	0	0.946	159802939	28643839	41418	103545	692	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.299	30.300	0	1.001	75239346	13462429	18834	47085	715		
375.8178	30.299	30.300	0	1.001	62495262	11173585	16002	40005	698	1.20(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.486	30.473	1	0.952	82485356	14921046	22532	56330	662		
385.8610	30.486	30.473	1	0.952	161299287	29038923	41418	103545	701	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.499	30.497	0	1.000	78848595	14484100	18834	47085	769		
375.8178	30.499	30.497	0	1.000	64112992	11951221	16002	40005	747	1.23(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.365	31.357	0	0.980	78892516	19703531	22532	56330	874		
385.8610	31.365	31.357	0	0.980	147197893	36465715	41418	103545	880	0.54(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.378	31.375	0	1.000	75096482	19315307	18834	47085	1026		
375.8178	31.378	31.375	0	1.000	61174624	15153830	16002	40005	947	1.23(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.204	32.196	0	1.006	71691344	19663388	22532	56330	873		
385.8610	32.204	32.196	0	1.006	141561065	38629634	41418	103545	933	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.217	32.209	0	1.000	70626531	19376007	18834	47085	1029		
375.8178	32.217	32.209	0	1.000	57667015	15830229	16002	40005	989	1.22(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.017	32.004	1		123883759	33584704	21780	54450	1542		
403.8529	32.017	32.004	1		96064919	25935284	17229	43072	1505	1.29(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.565	31.557	0	0.986	97992334	26849414	21780	54450	1233		
403.8529	31.565	31.557	0	0.986	76274399	20962976	17229	43072	1217	1.28(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.578	31.570	0	1.000	52536003	14668722	12137	30342	1209		
391.8127	31.578	31.570	0	1.000	40718775	11337787	10249	25622	1106	1.29(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.671	31.666	0	0.989	103381913	26694519	21780	54450	1226		
403.8529	31.671	31.666	0	0.989	80376233	20910507	17229	43072	1214	1.29(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.684	31.682	0	1.000	55419441	14148502	12137	30342	1166		
391.8127	31.684	31.682	0	1.000	43195425	11159771	10249	25622	1089	1.28(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.030	32.023	0	1.015	61189359	16622466	12137	30342	1370		
391.8127	32.030	32.023	0	1.015	48970057	13234369	10249	25622	1291	1.25(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.652	33.647	0	1.051	48689452	17719541	49975	124937	355		
419.8220	33.652	33.647	0	1.051	111023452	38611583	135949	339872	284	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.664	33.659	0	1.000	58935767	21942144	74726	186815	294		
409.7789	33.664	33.659	0	1.000	55947443	21112986	81100	202750	260	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.734	34.726	0	1.085	44614173	14611319	49975	124937	292		
419.8220	34.734	34.726	0	1.085	101226371	32813726	135949	339872	241	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.746	34.736	1	1.000	49189461	15452037	74726	186815	207		
409.7789	34.746	34.736	1	1.000	43293228	14014895	81100	202750	173	1.14(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.442	34.437	0	1.076	75641640	25399742	35620	89050	713		
437.8140	34.442	34.437	0	1.076	70515238	23743066	76163	190407	312	1.07(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.454	34.449	0	1.000	40042499	13531877	45519	113797	297		
425.7737	34.454	34.449	0	1.000	37661818	12776415	23509	58772	543	1.06(0.88-1.20)	
13C-OCDD											
469.7779	36.770	36.767	0	1.148	92170386	25778405	10027	25067	2571		
471.7750	36.770	36.767	0	1.148	99238794	27541934	8740	21850	3151	0.93(0.76-1.02)	
OCDF											
441.7428	36.877	36.870	0	1.003	60846957	17590255	5390	13475	3263		
443.7399	36.866	36.870	0	1.003	66836901	18992346	7175	17937	2647	0.91(0.76-1.02)	
OCDD											
457.7377	36.782	36.779	0	1.000	50544978	14413363	4729	11822	3048		
459.7348	36.782	36.779	0	1.000	56078261	16151394	4573	11432	3532	0.90(0.76-1.02)	

Reagents:

HRDXNL4_00086 Amount Added: 2.00 Units: uL

Report Date: 12-Dec-2019 15:54:25 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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Injection Date:	12-Dec-2019 13:04:00	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L4		
Worklist#:	345037	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

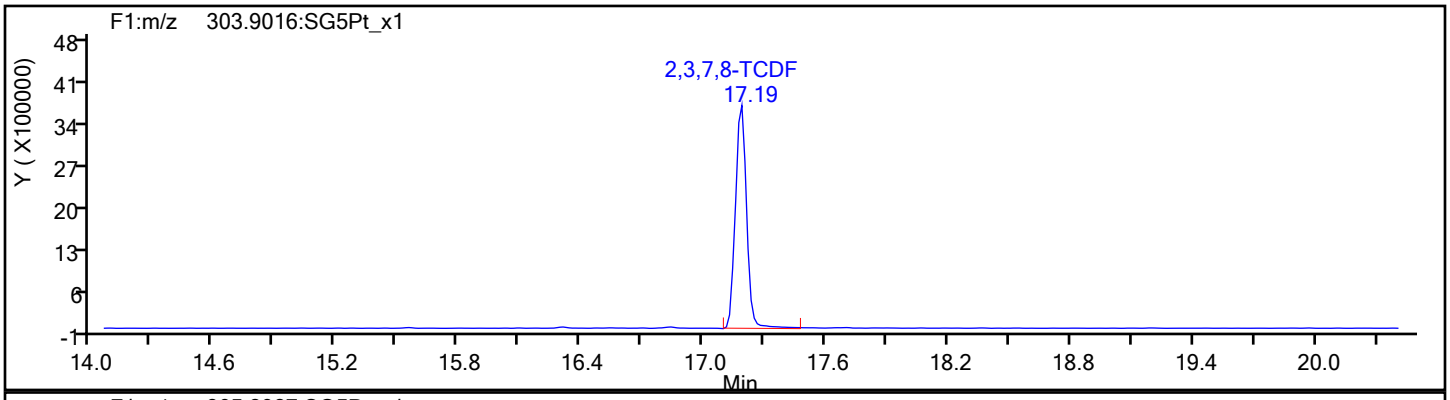

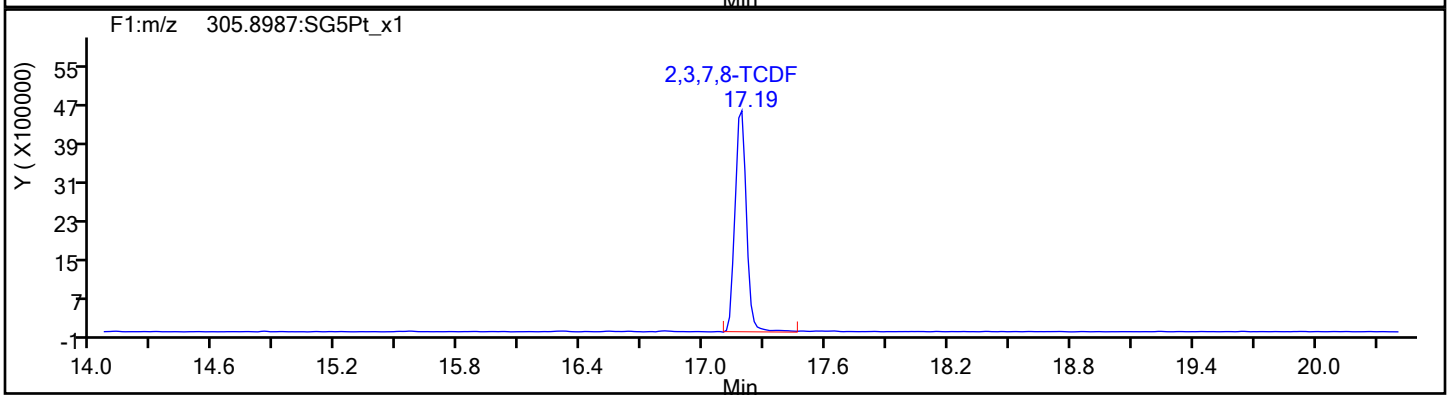

TCDF Standards

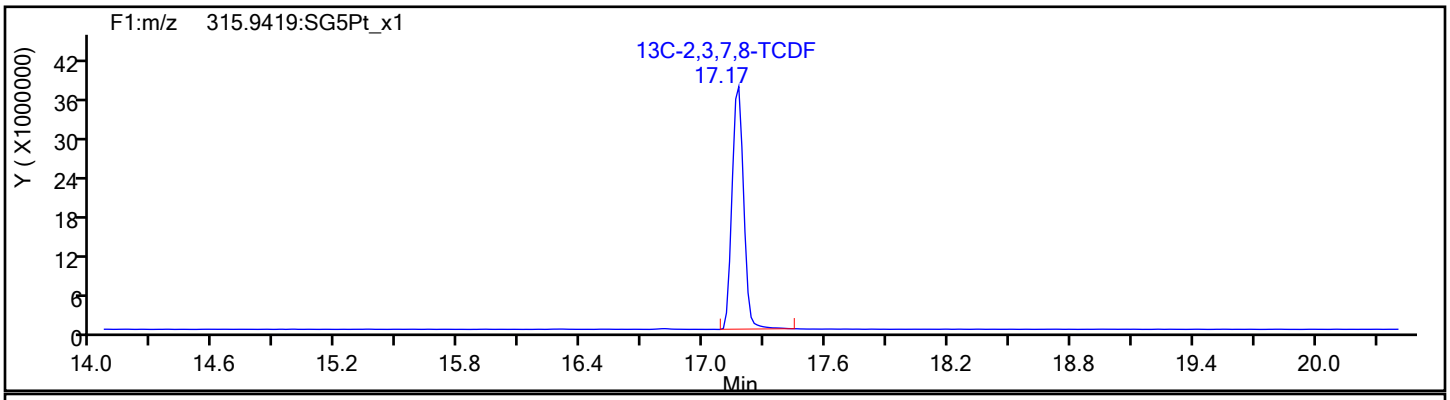

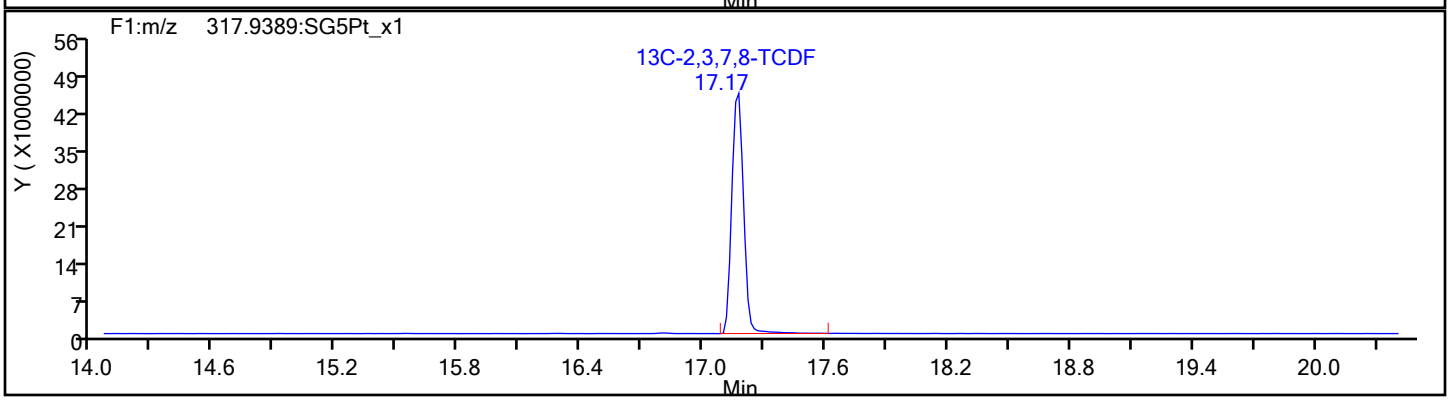

Report Date: 12-Dec-2019 15:54:25 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L4		
Worklist#:	345037	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

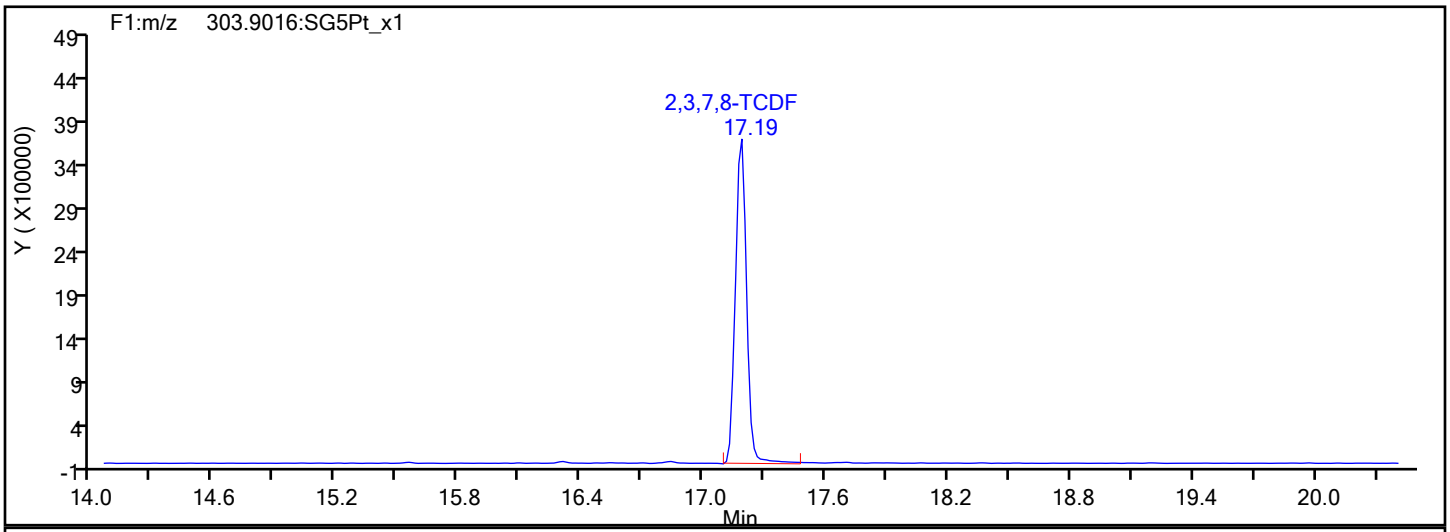

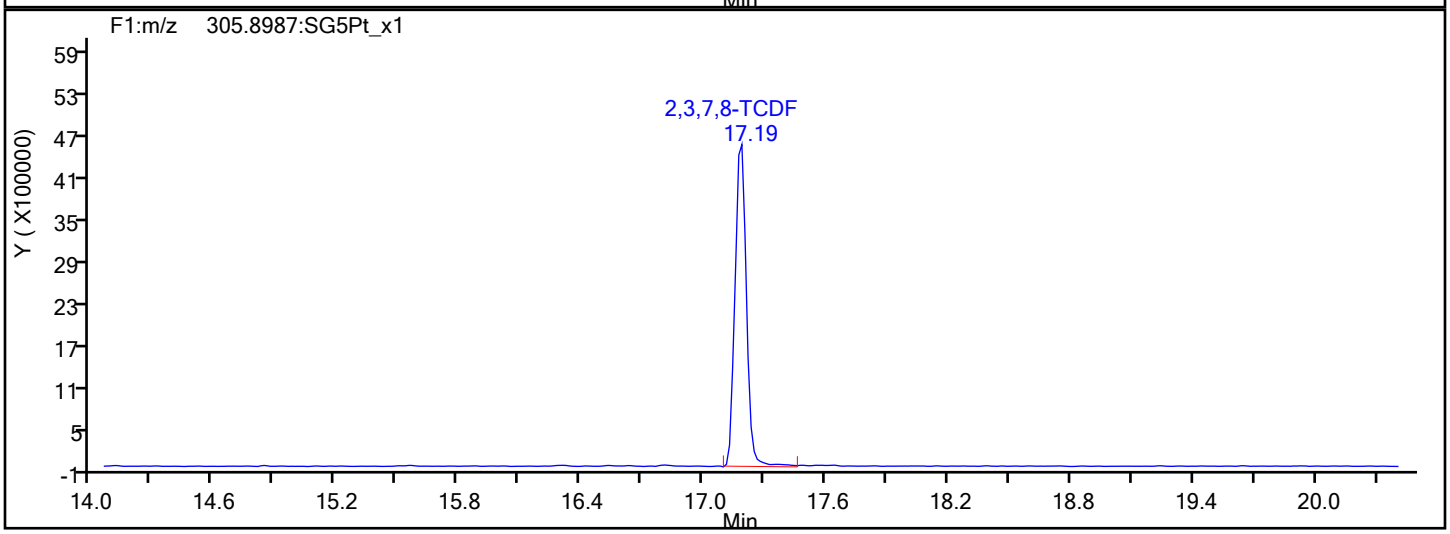

TCDF Interference Mass

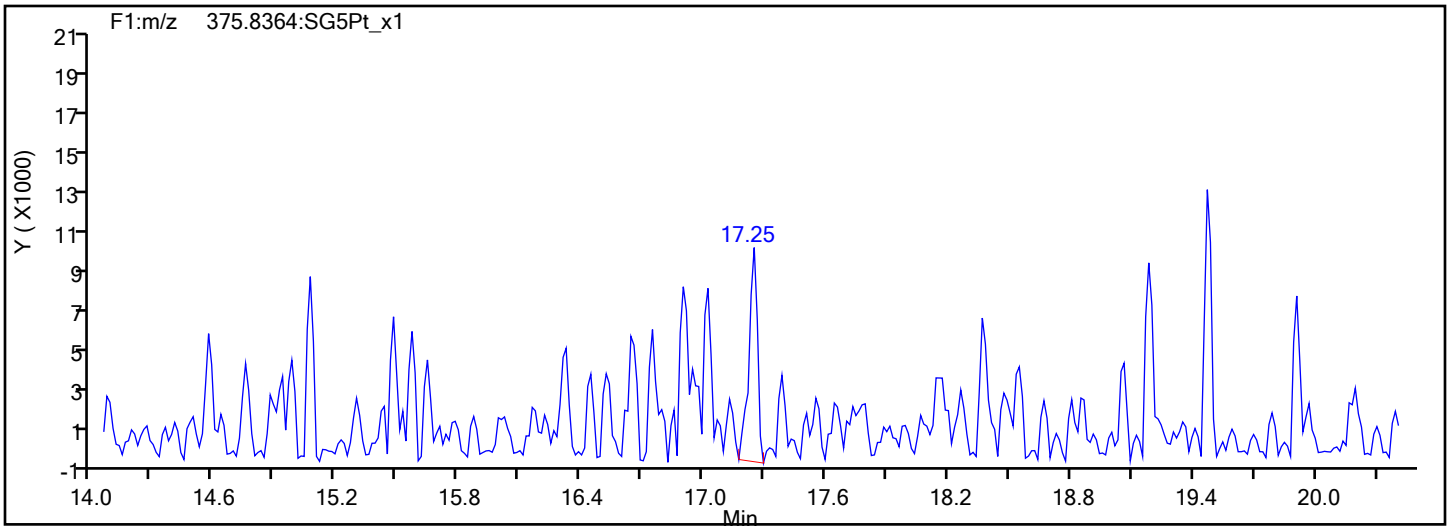

Report Date: 12-Dec-2019 15:54:25 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L4		
Worklist#:	345037	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

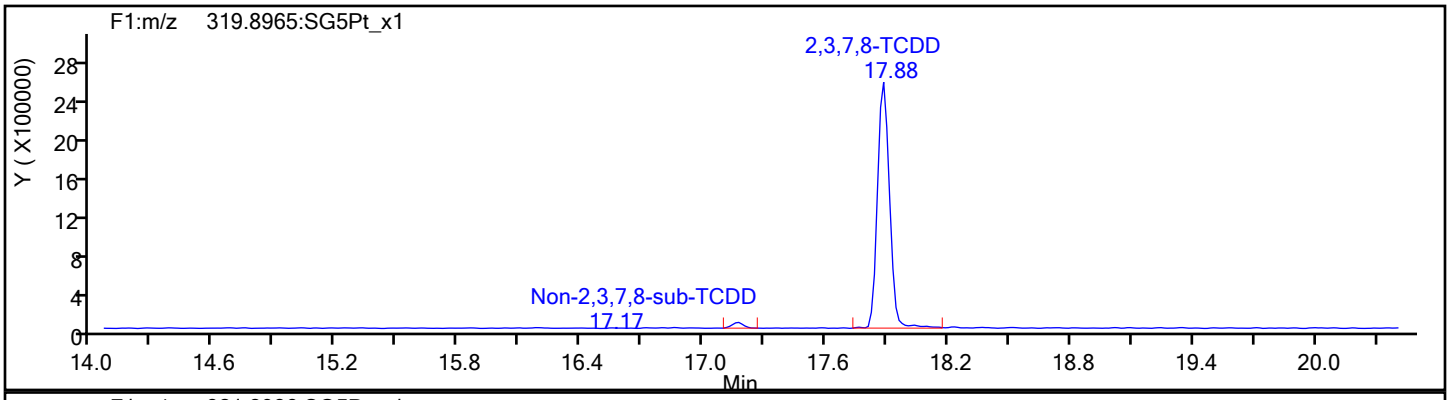

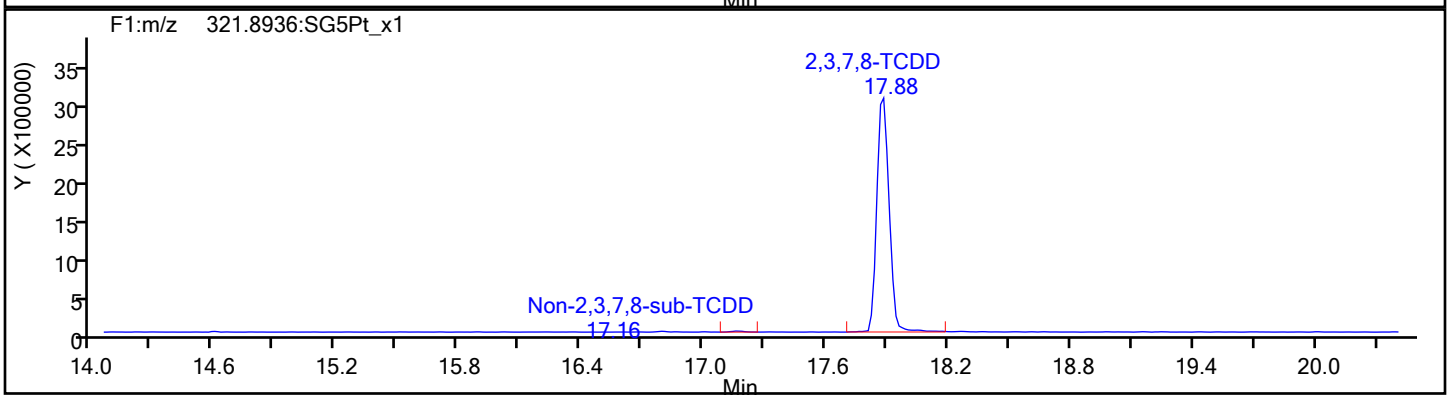

TCDD Standards

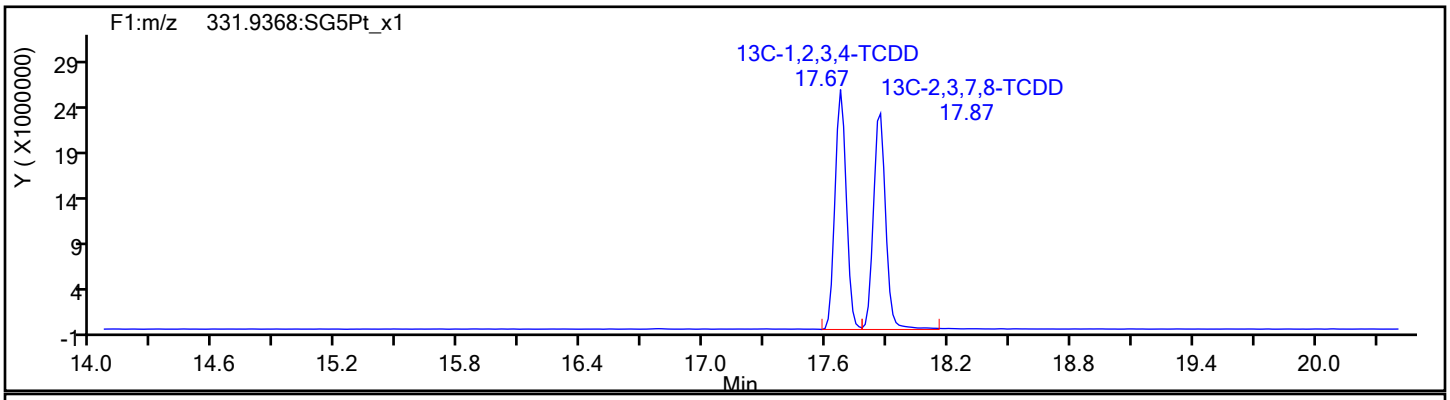

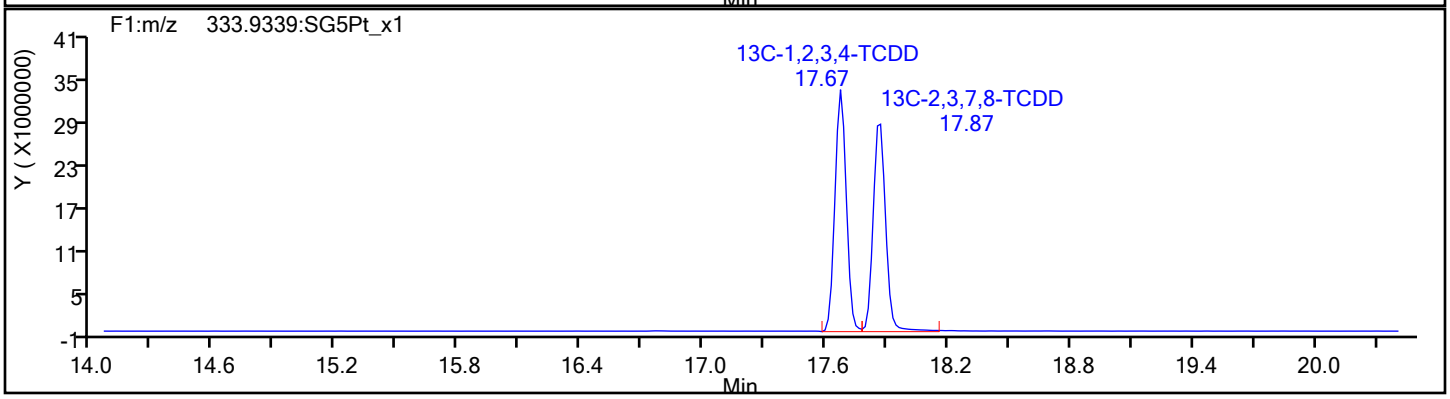

Report Date: 12-Dec-2019 15:54:25 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

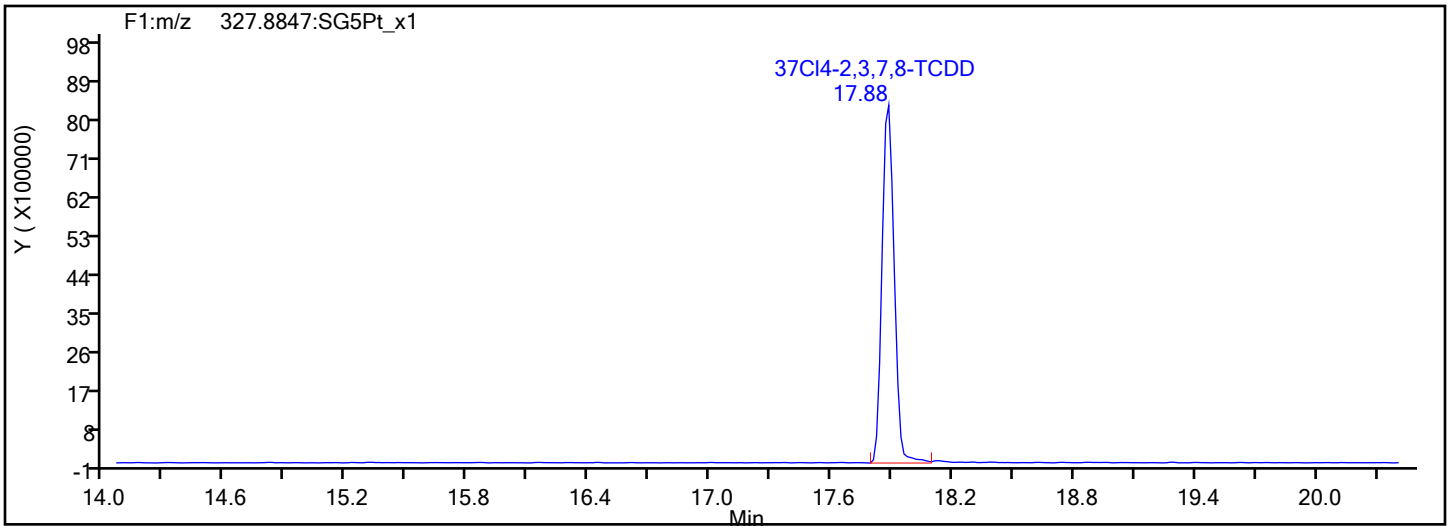

37Cl4-TCDD Standards

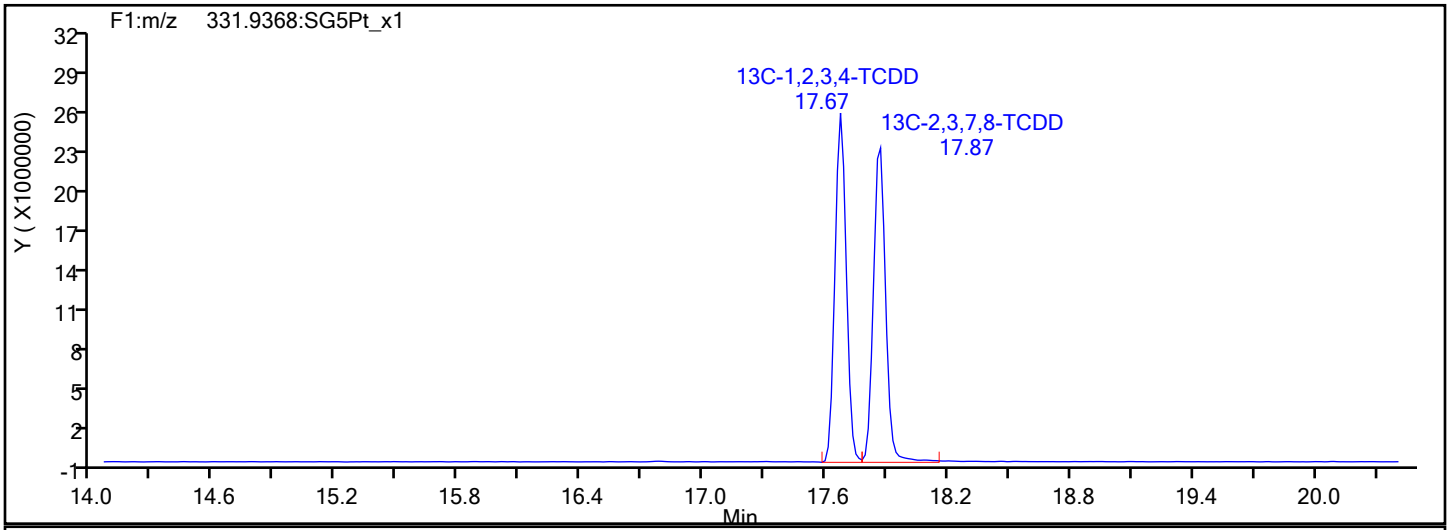

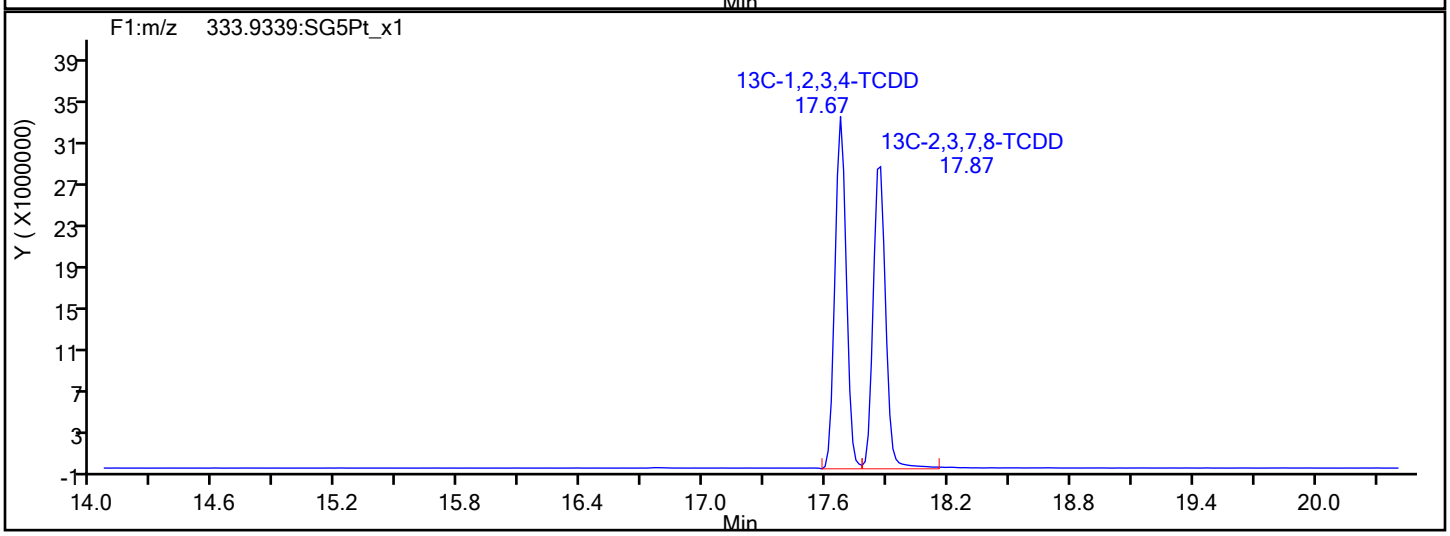

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Eurofins TestAmerica, Sacramento

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Worklist#:	345037	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

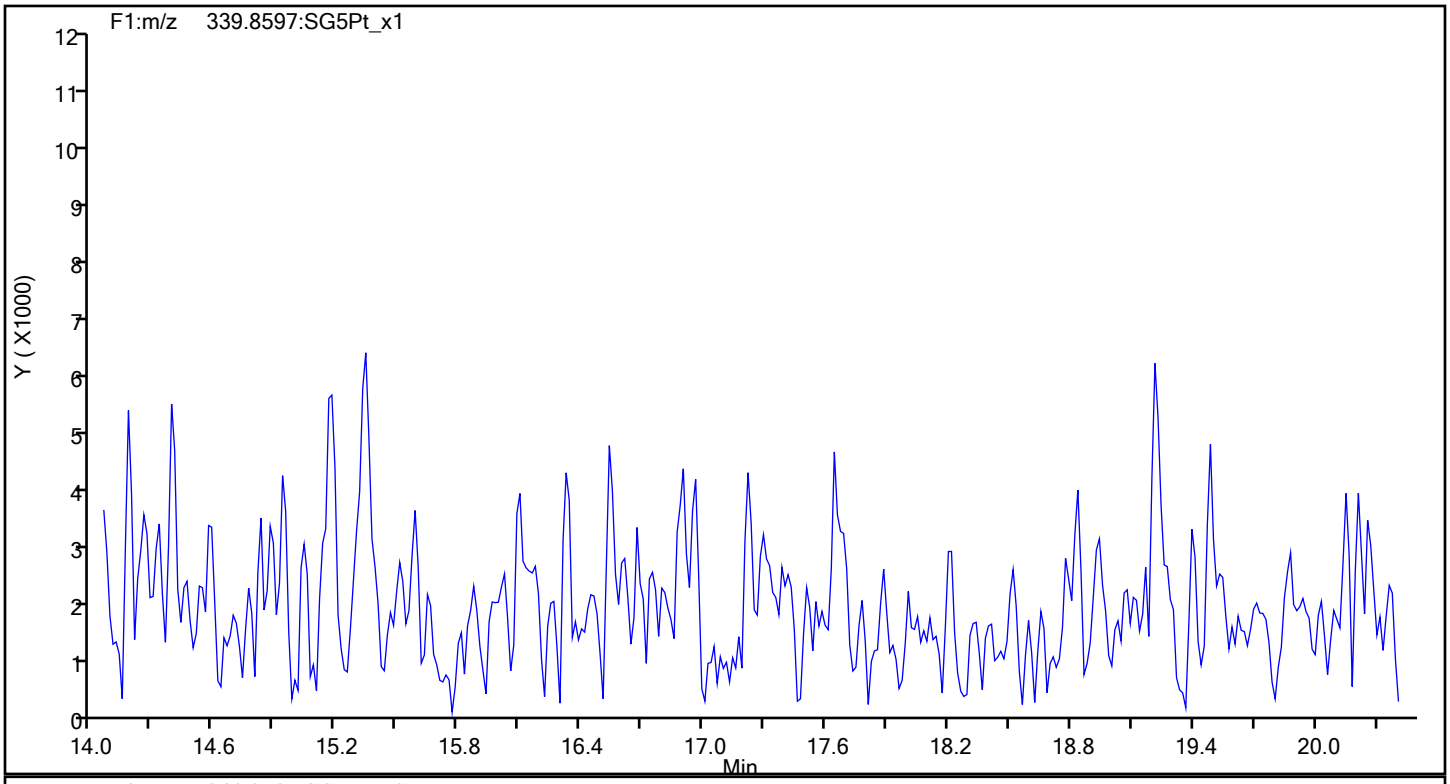

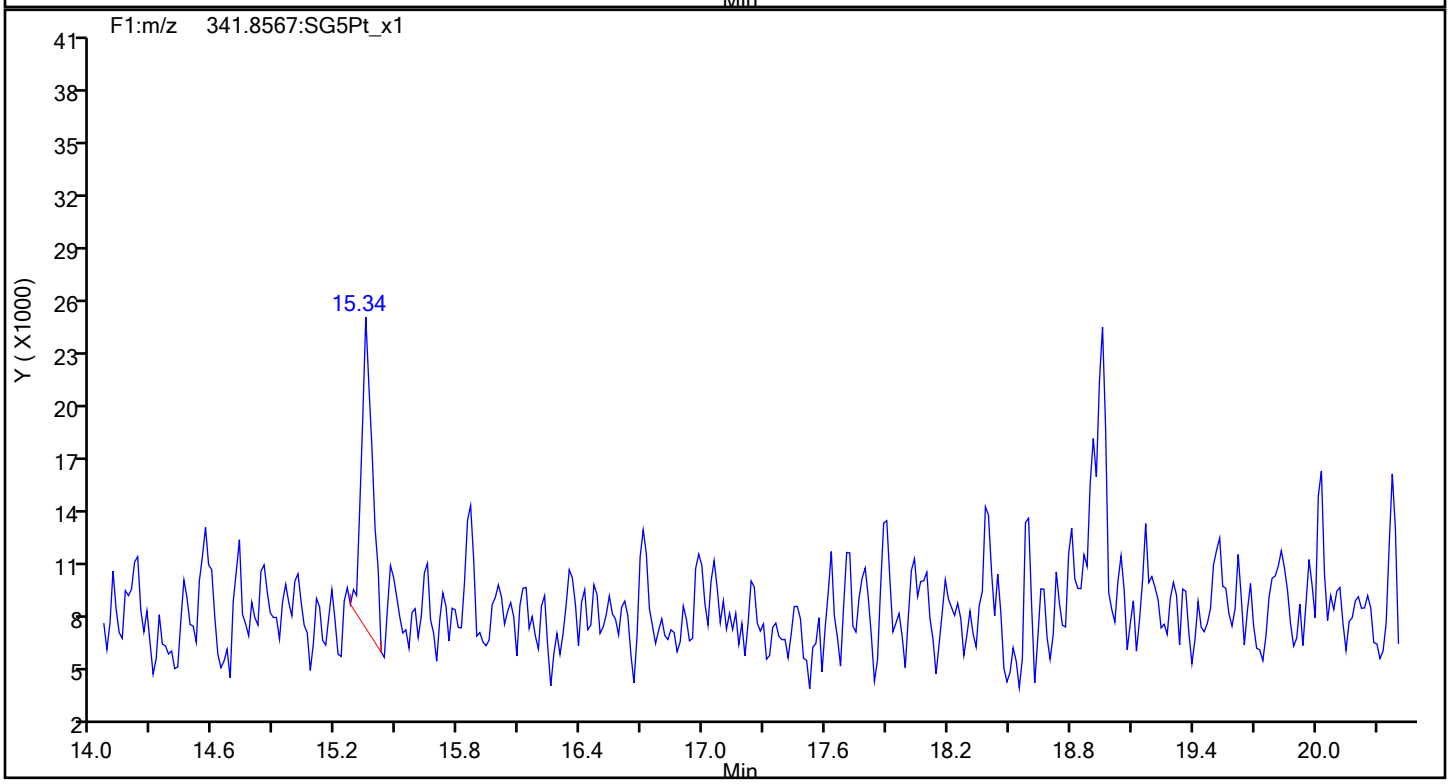

Report Date: 12-Dec-2019 15:54:25 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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Client ID:	L4		
Worklist#:	345037	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

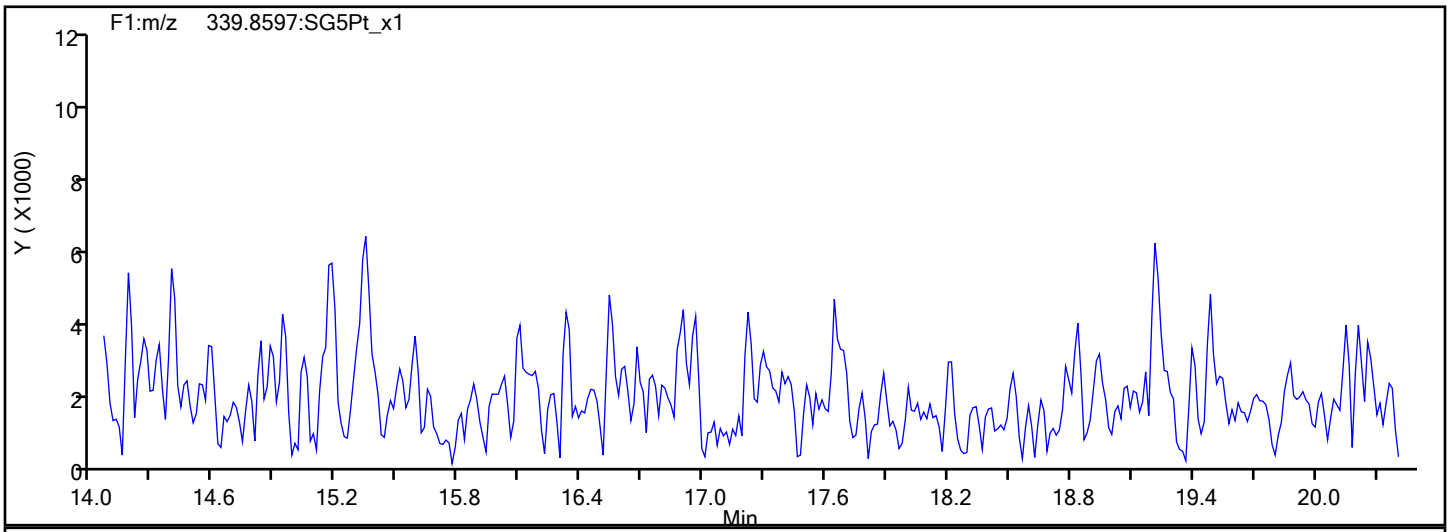

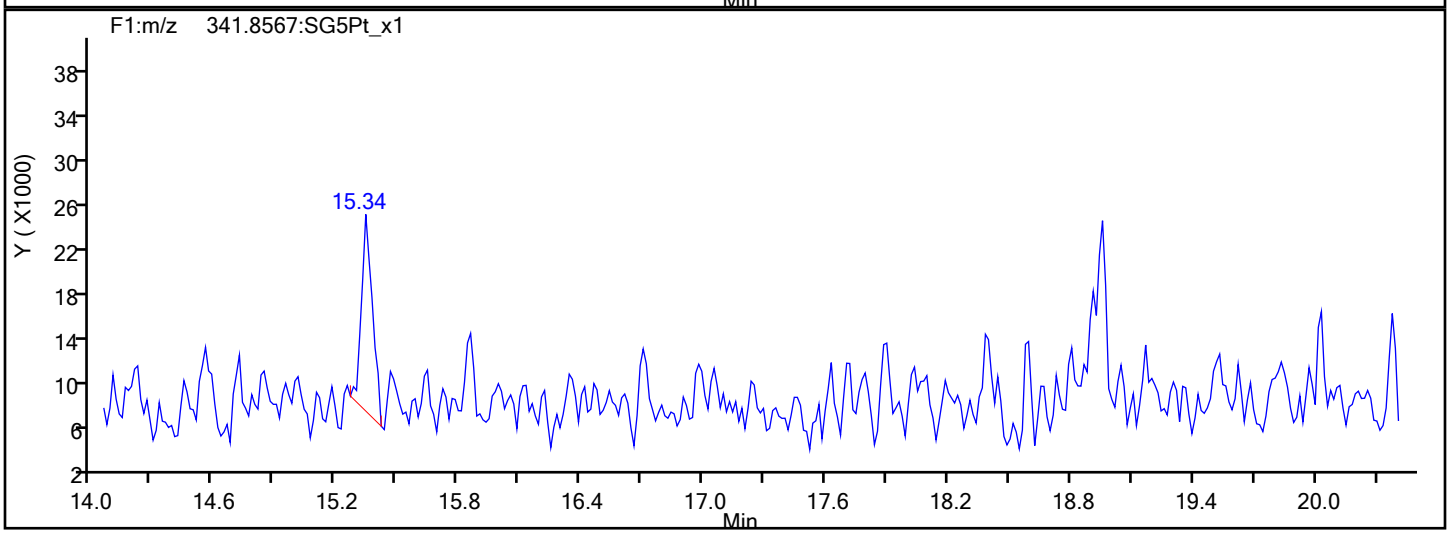

F1 PeCDFs Interference Mass

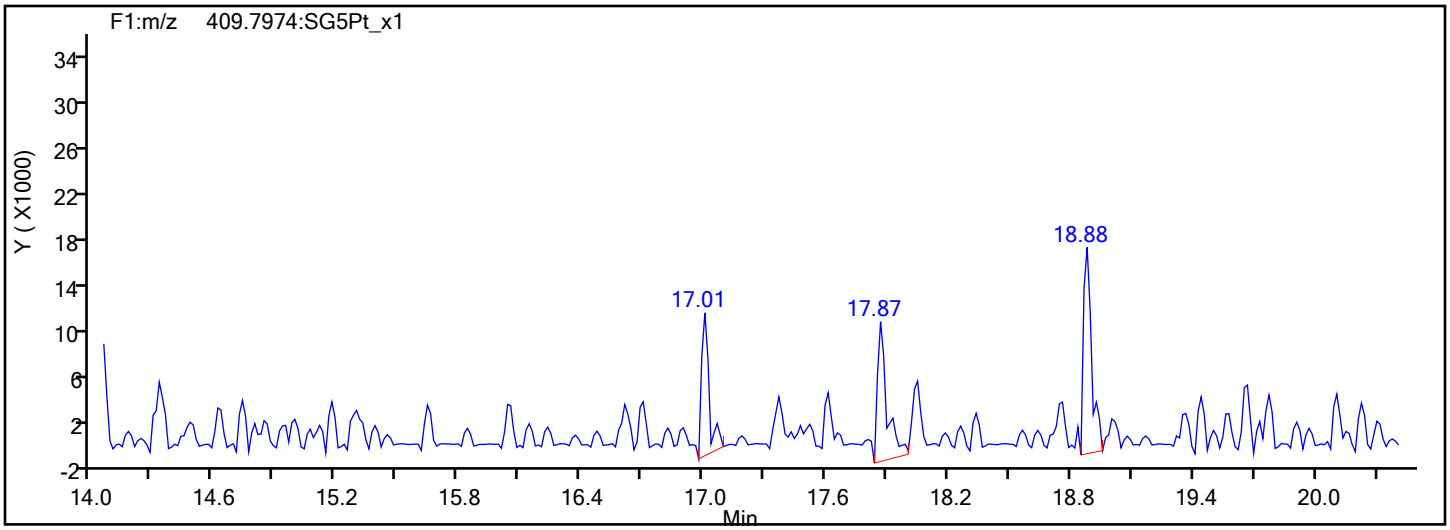

Report Date: 12-Dec-2019 15:54:25 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L4		
Worklist#:	345037	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

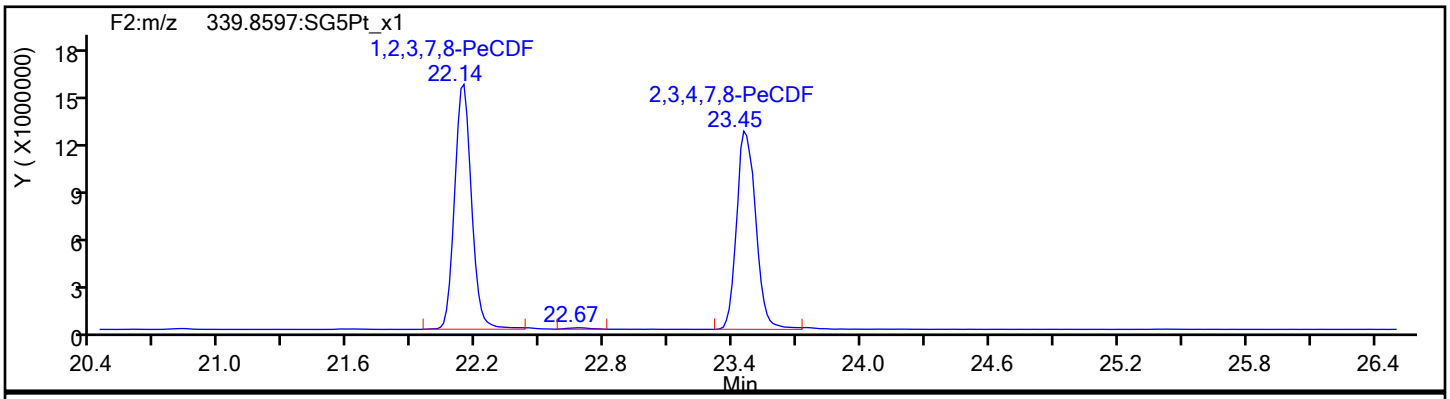

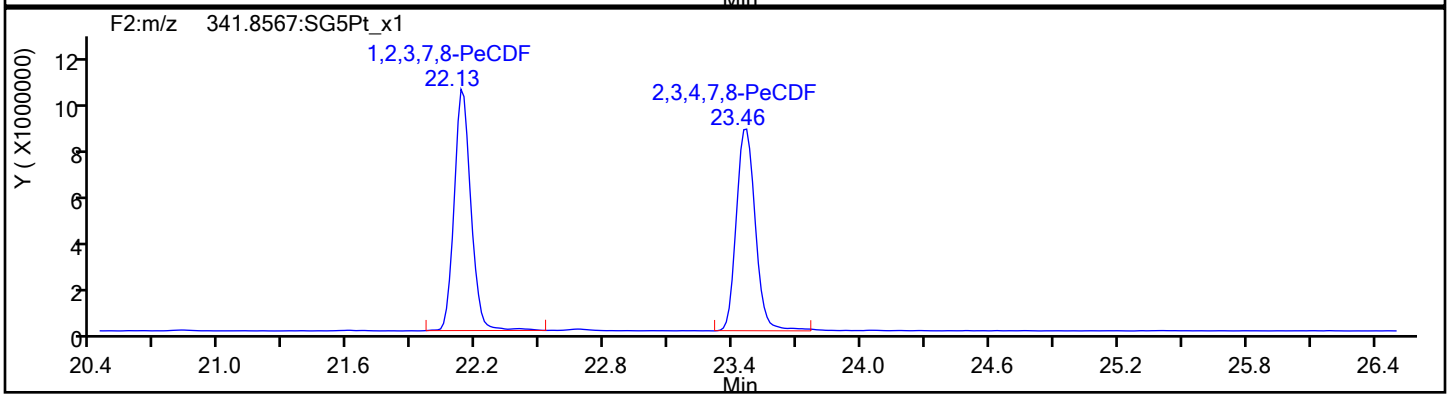

PeCDF Standards

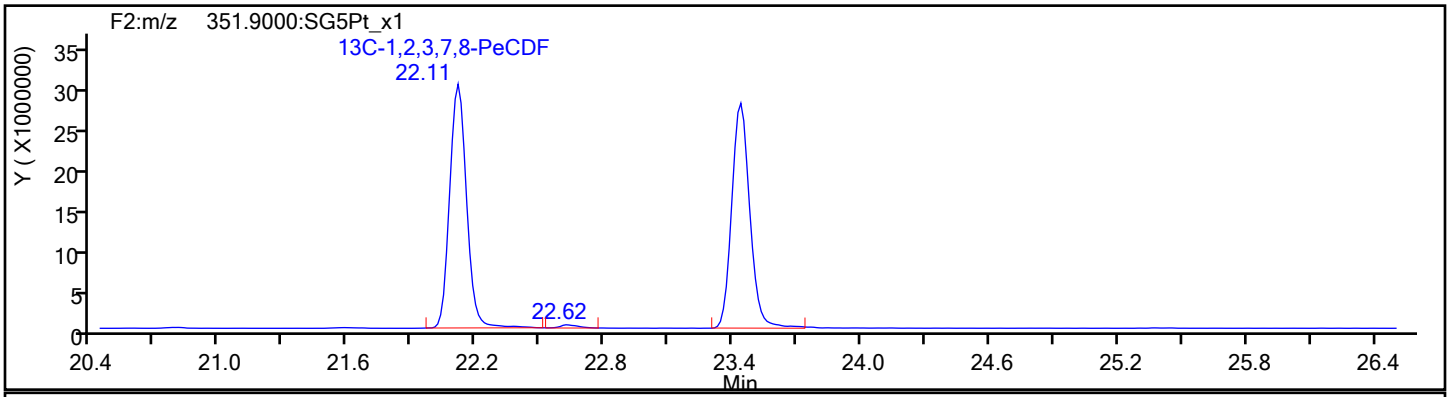

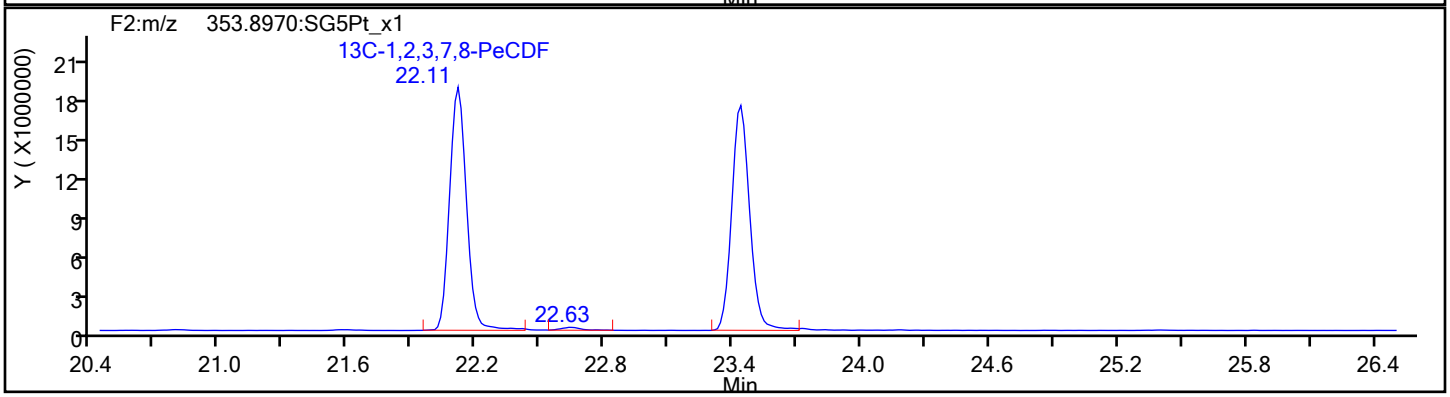

Report Date: 12-Dec-2019 15:54:25 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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PeCDF

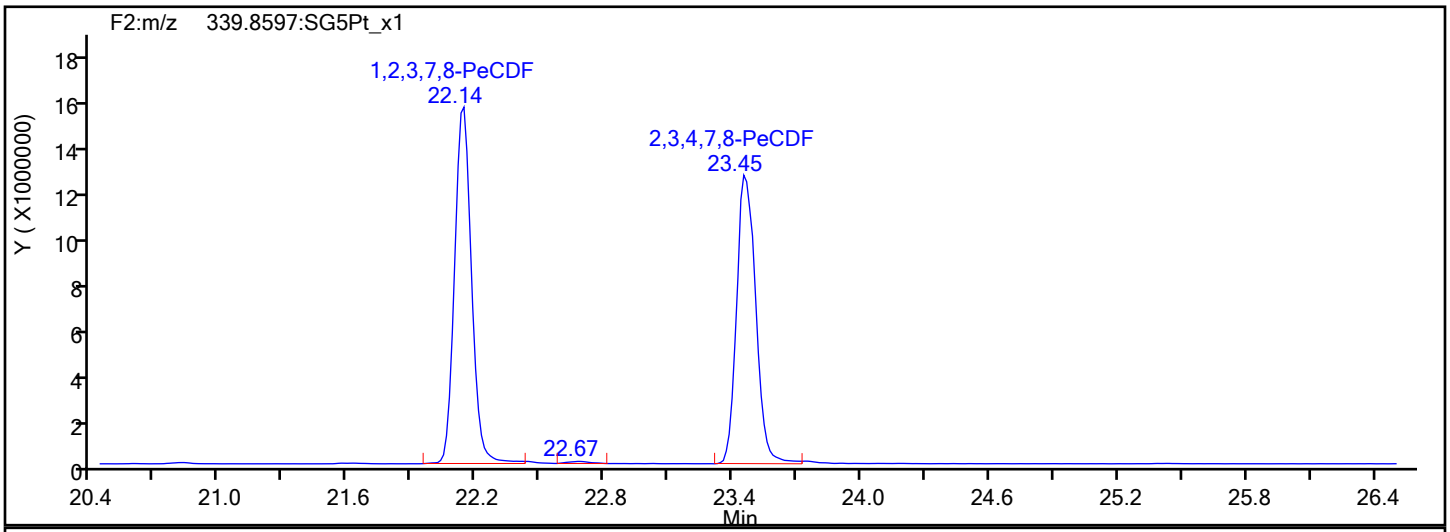

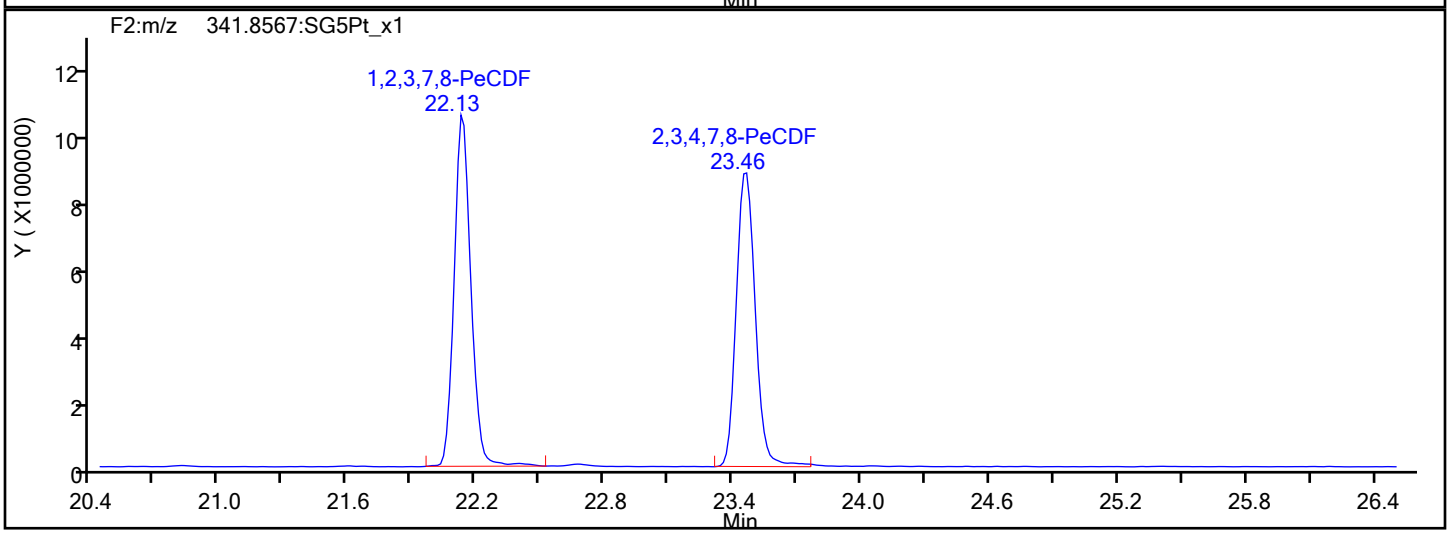

PeCDF Interference Mass

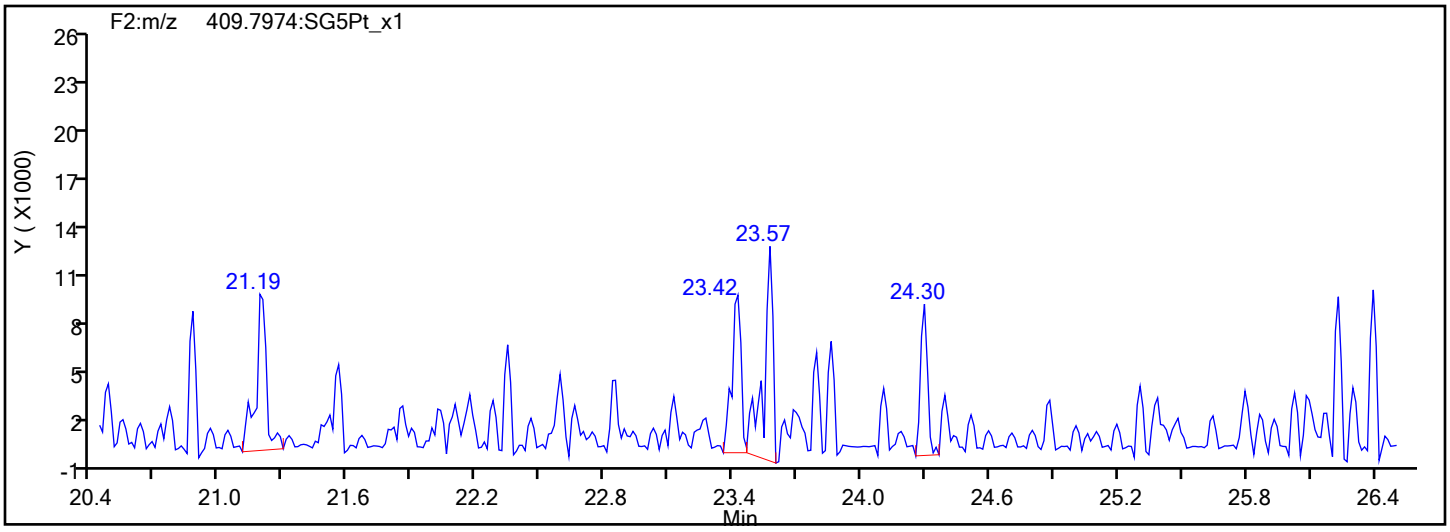

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Eurofins TestAmerica, Sacramento

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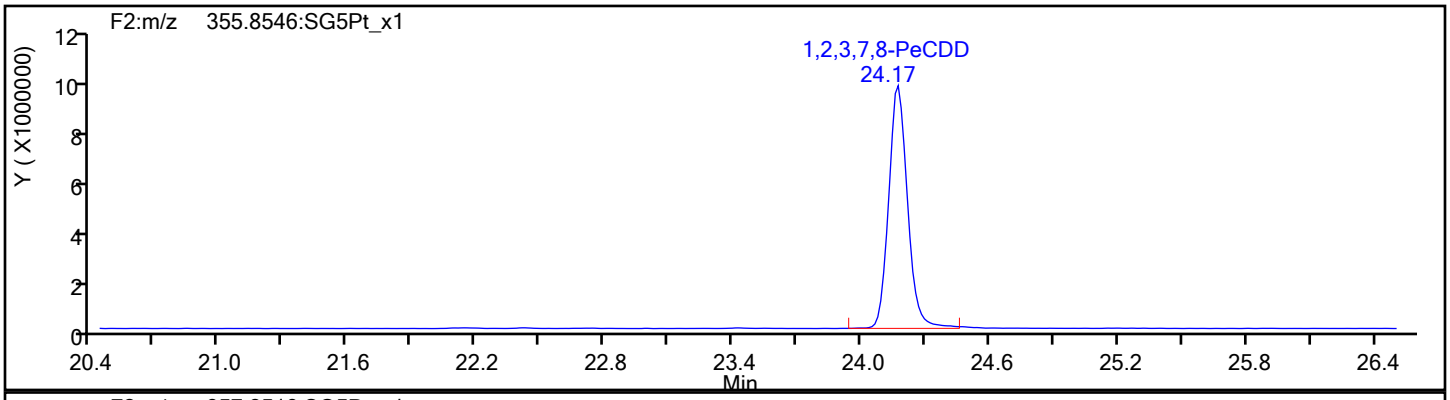

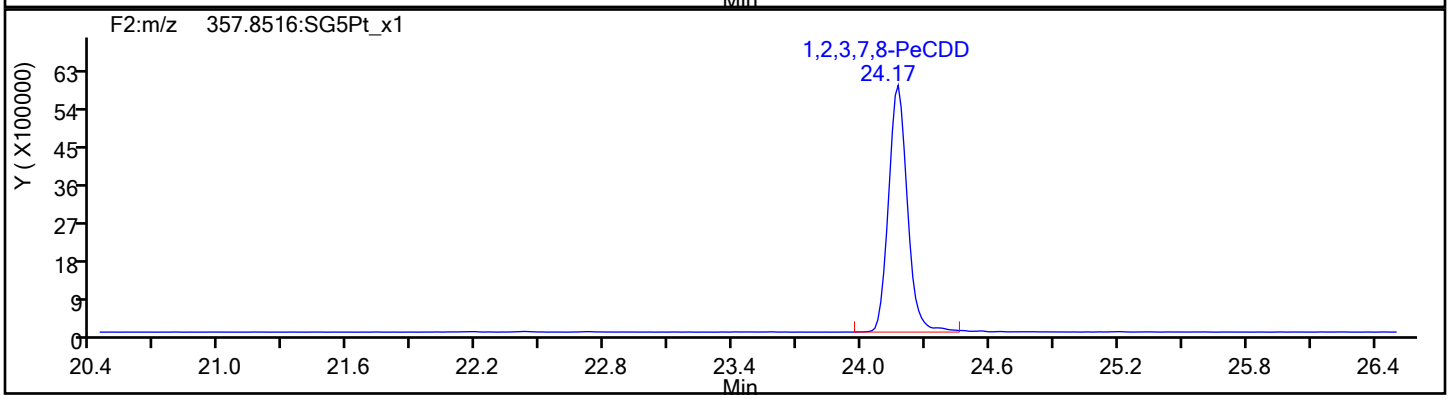

PeCDD Standards

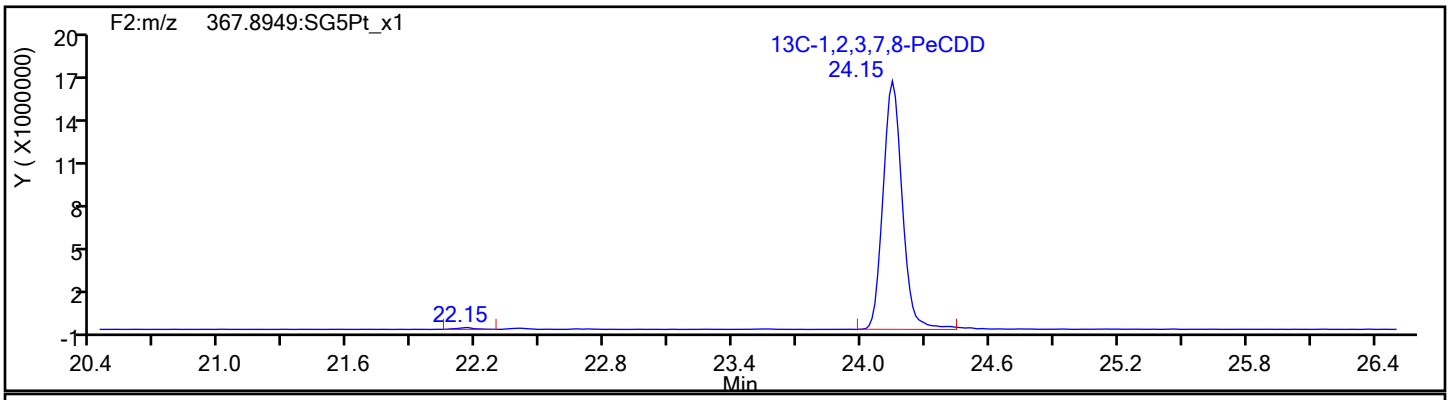

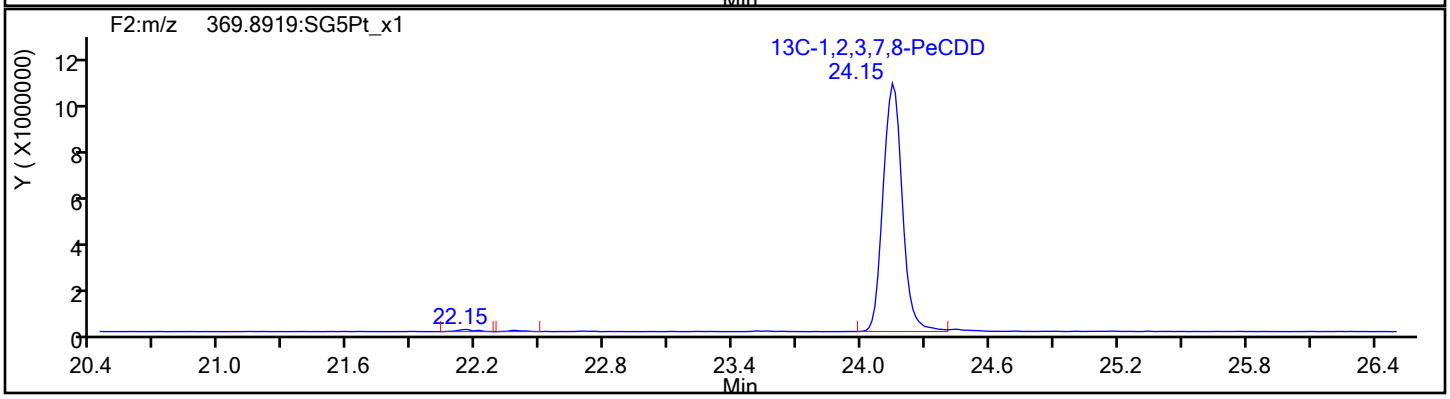

Report Date: 12-Dec-2019 15:54:25 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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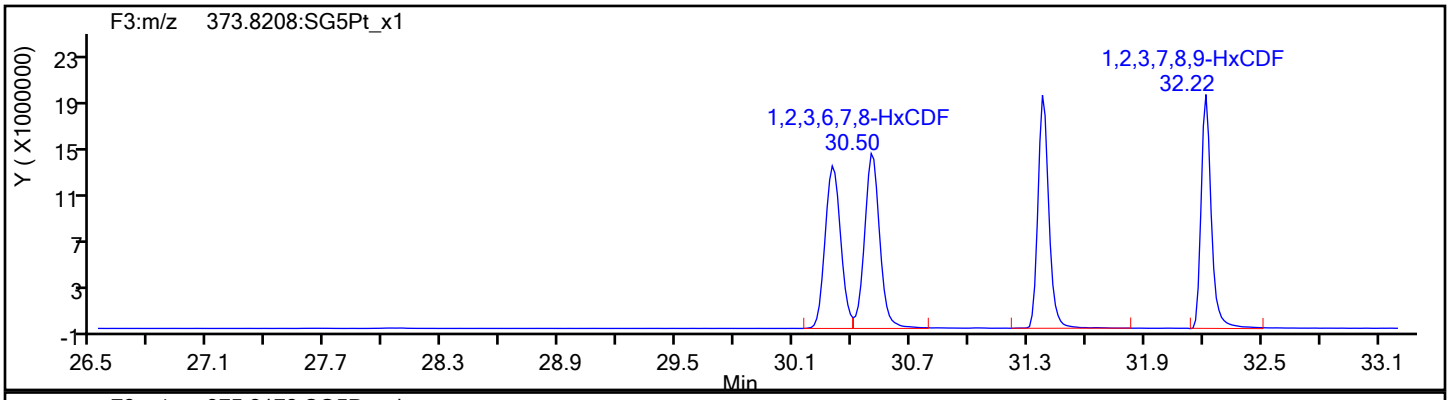

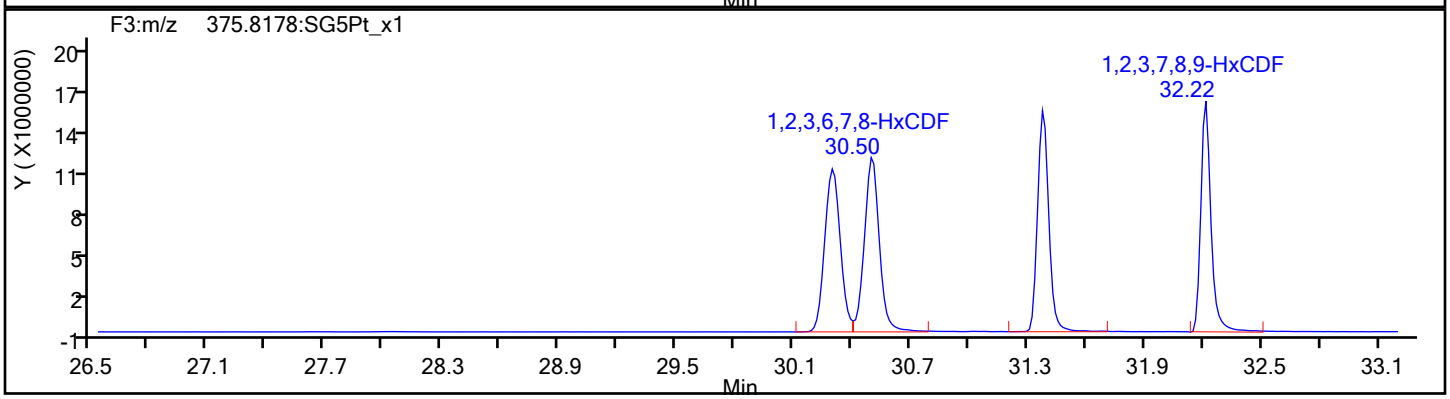

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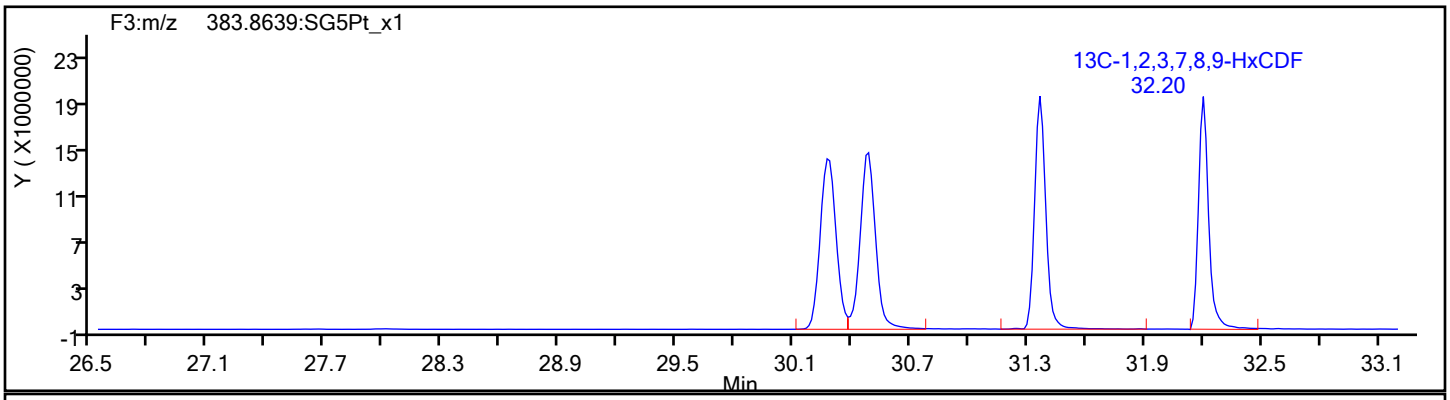

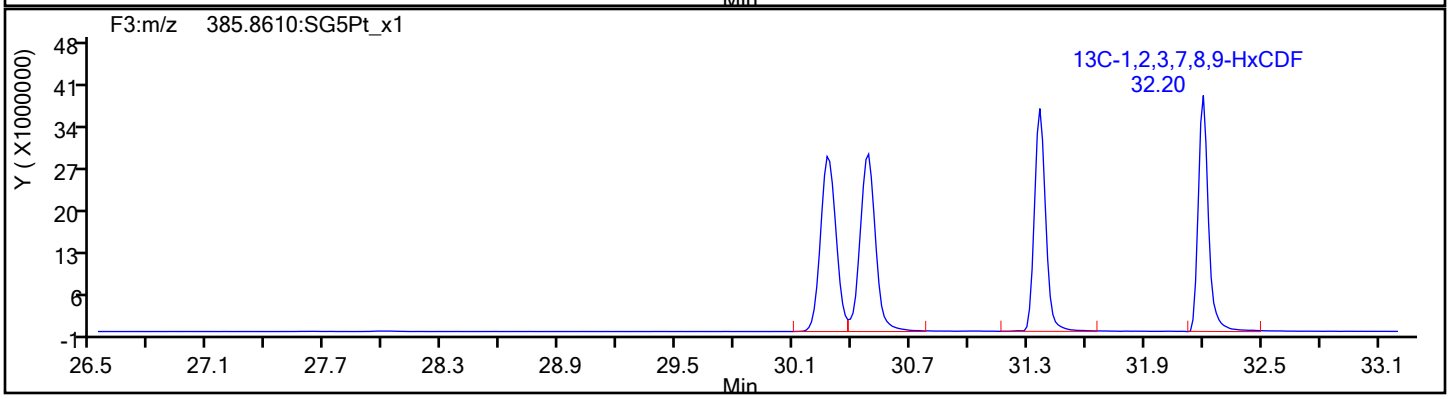

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Eurofins TestAmerica, Sacramento

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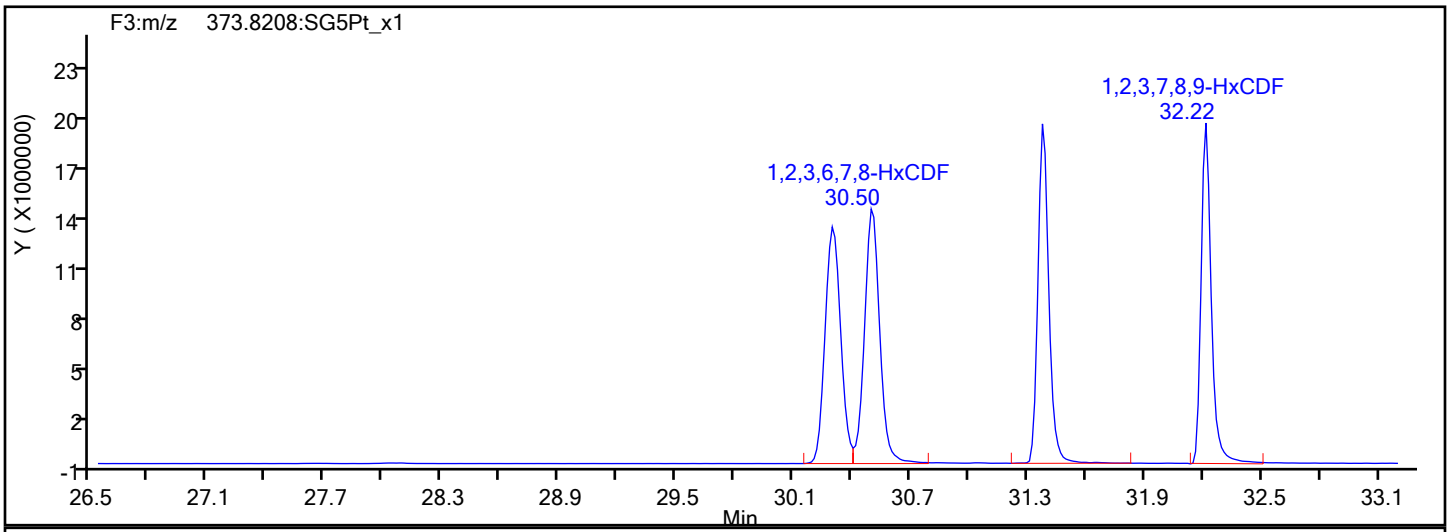

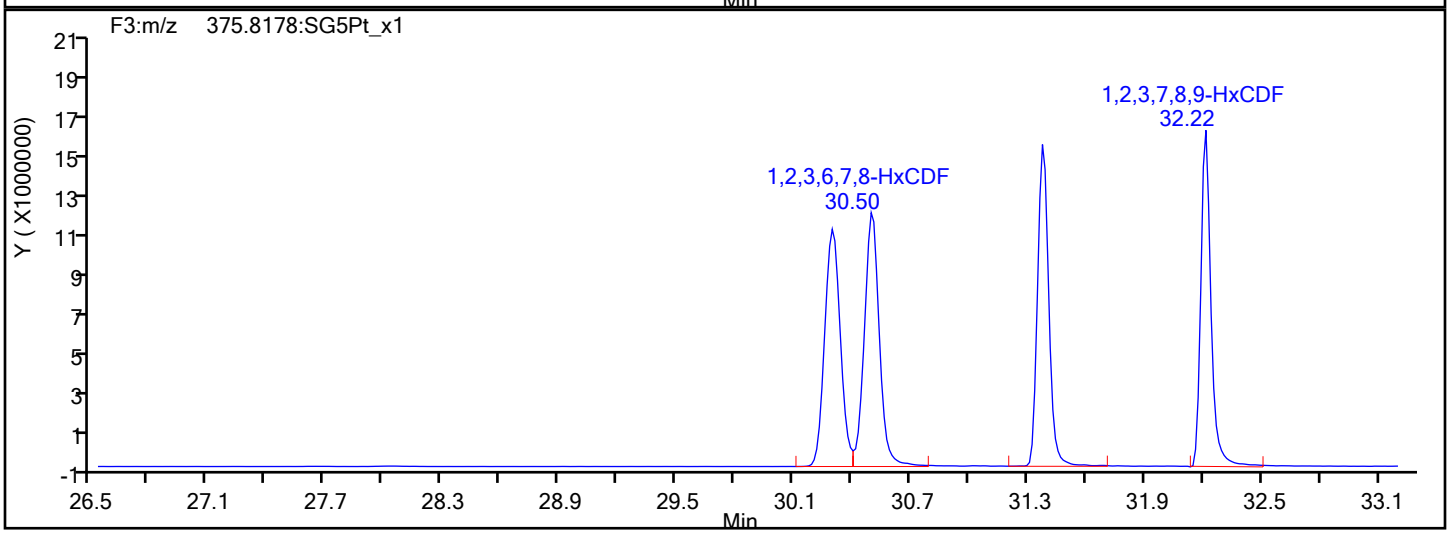

HxCDF Interference Mass

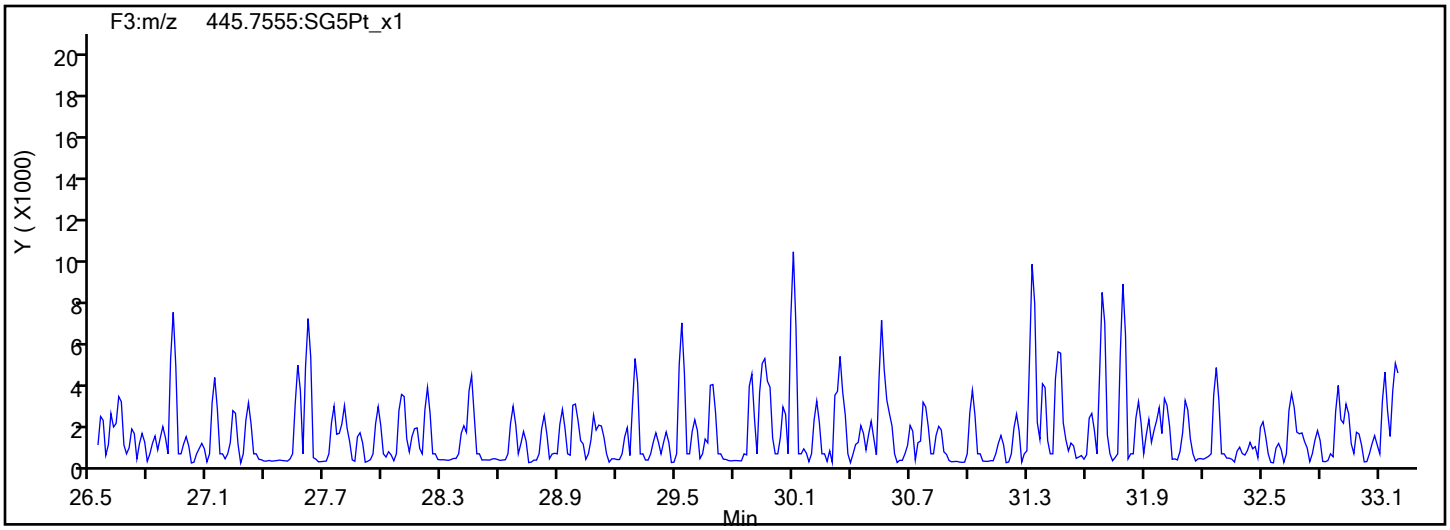

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Eurofins TestAmerica, Sacramento

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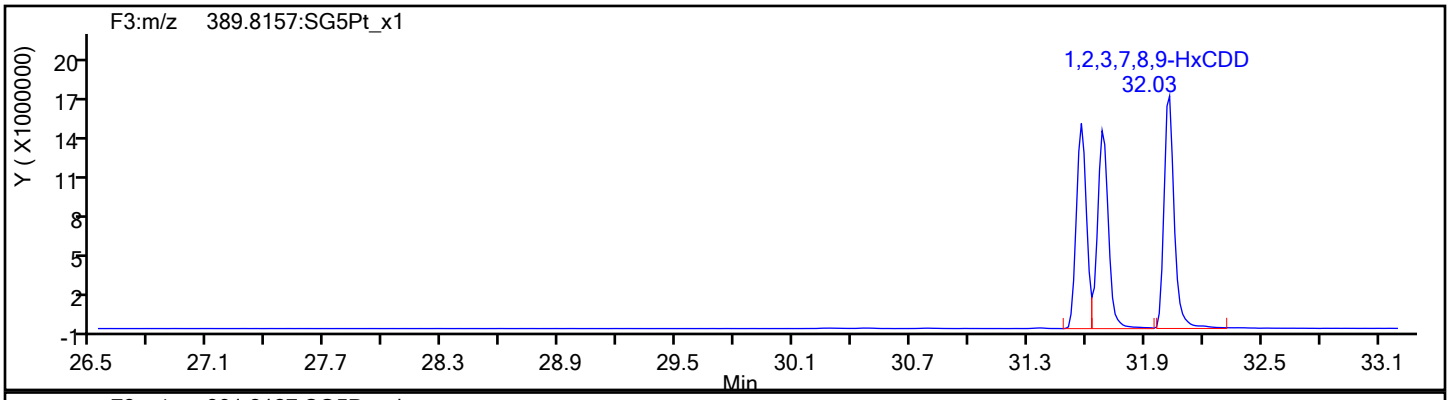

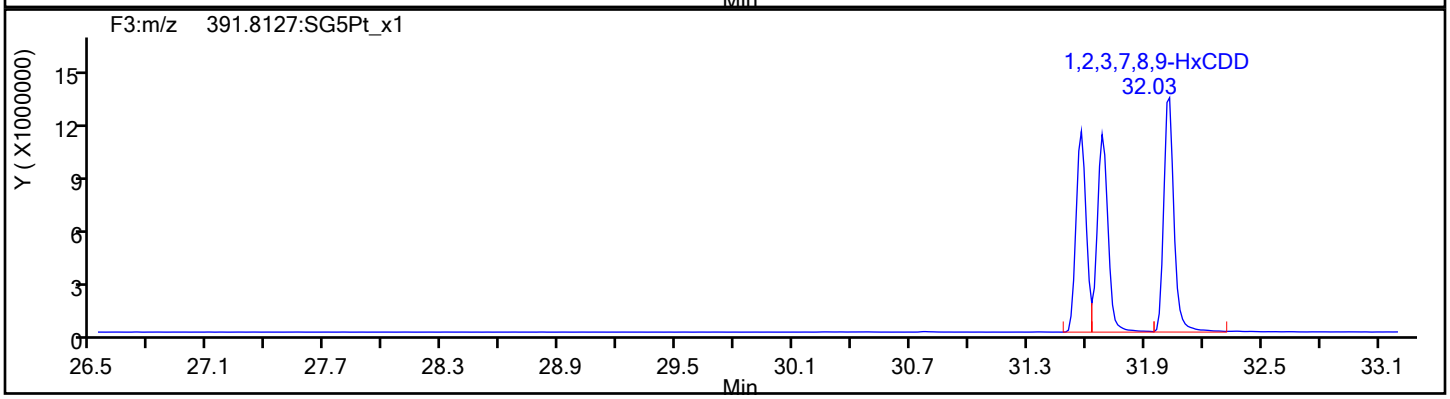

HxCDD Standards

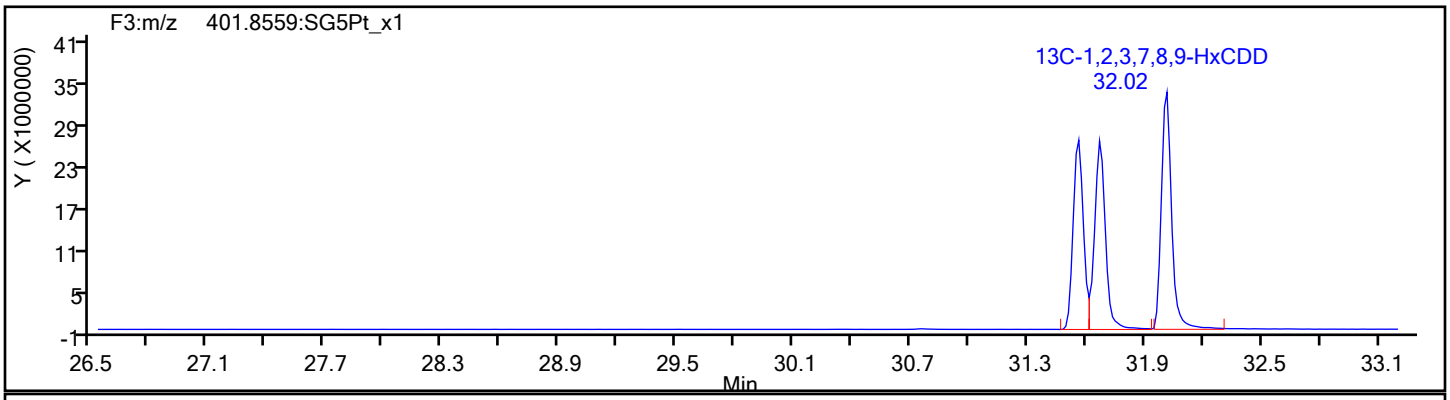

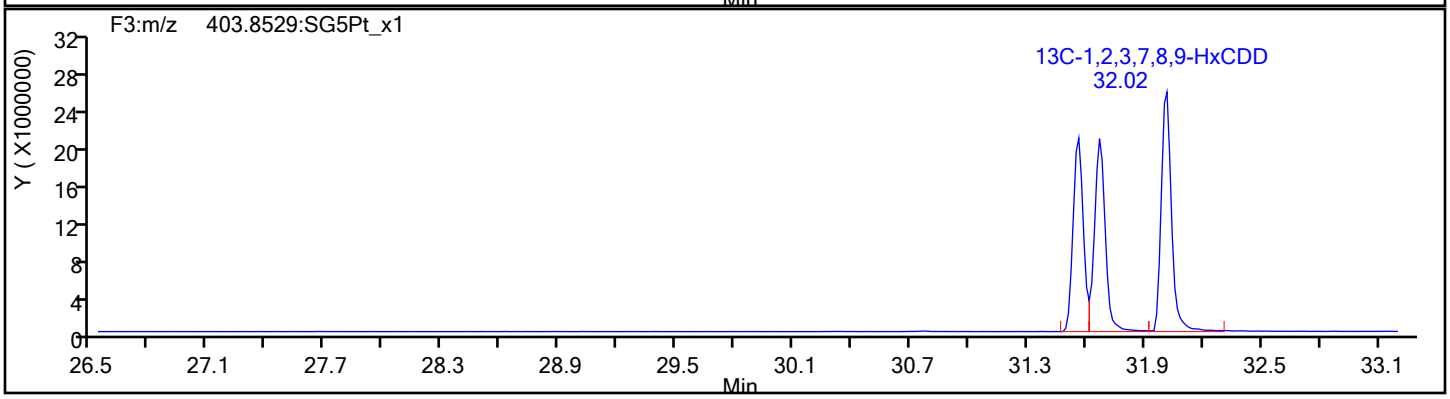

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Eurofins TestAmerica, Sacramento

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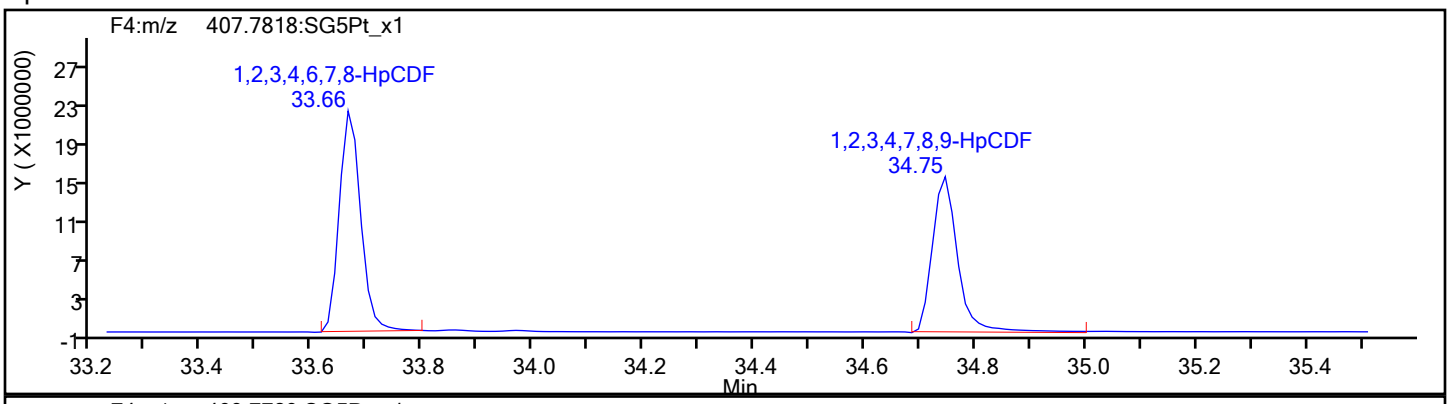

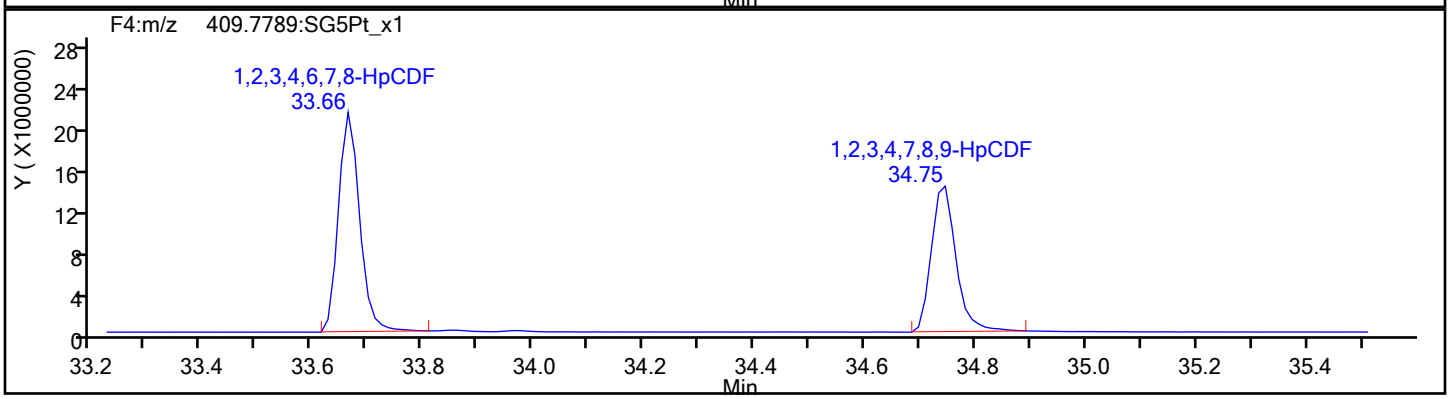

HpCDF Standards

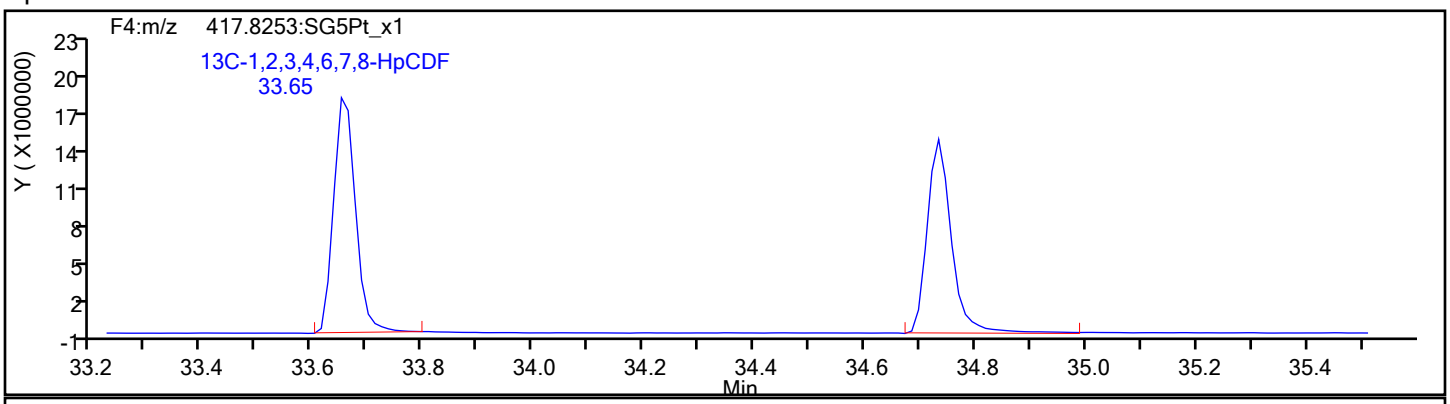

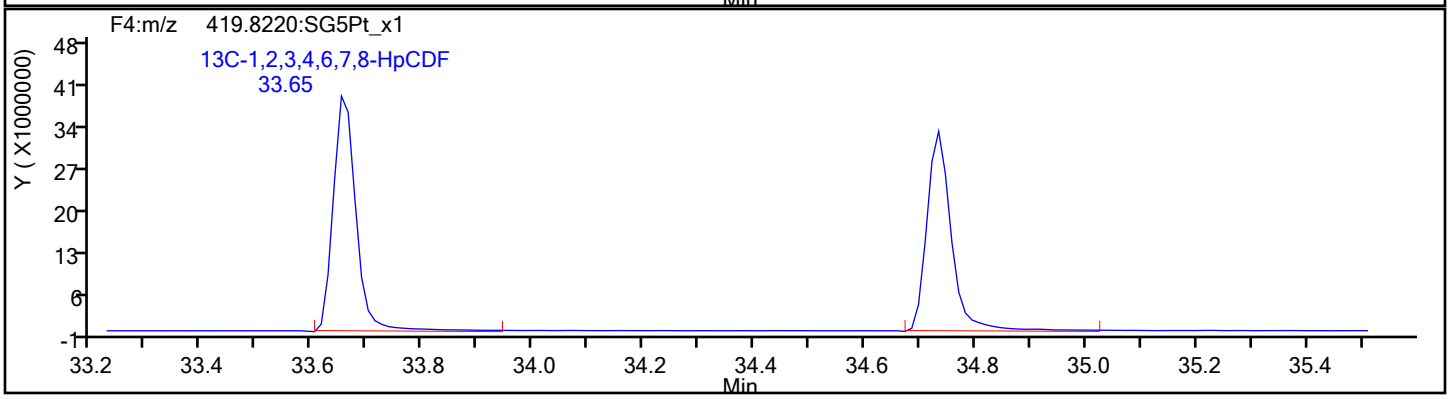

Report Date: 12-Dec-2019 15:54:26 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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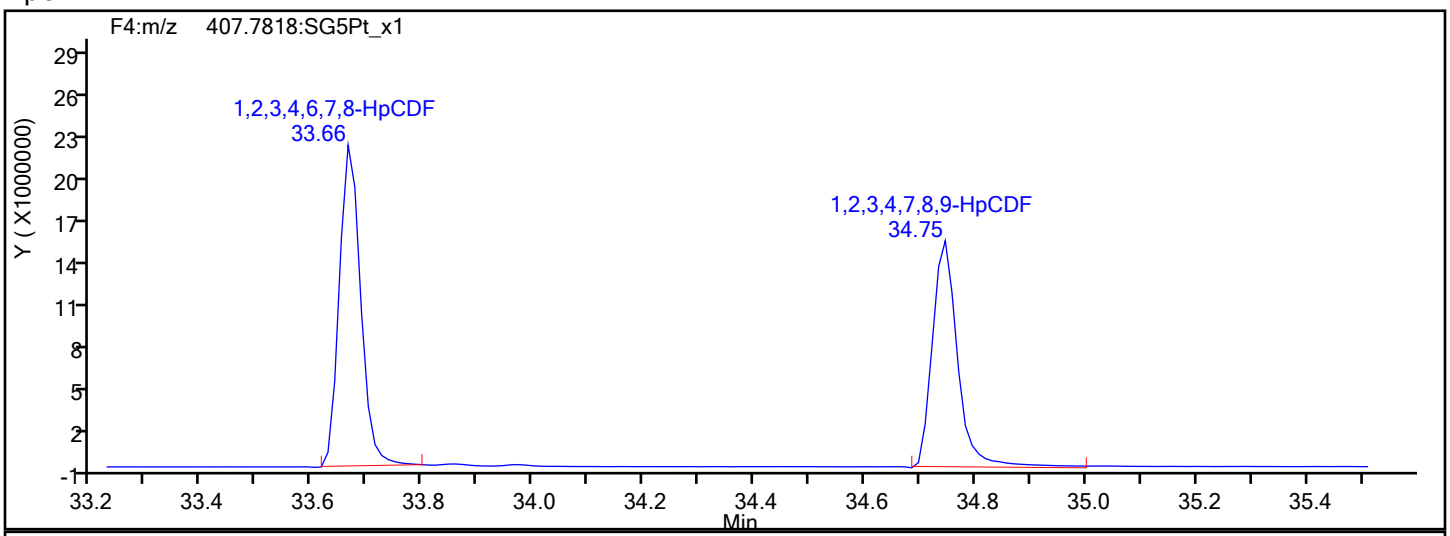

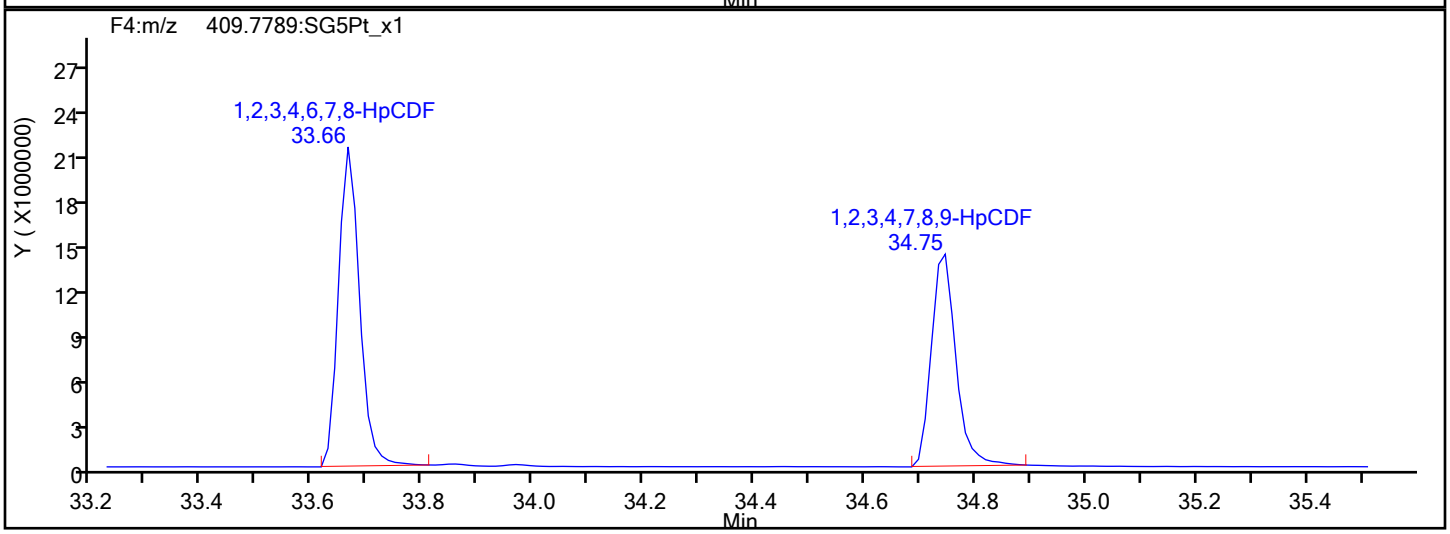

HpCDF Interference Mass

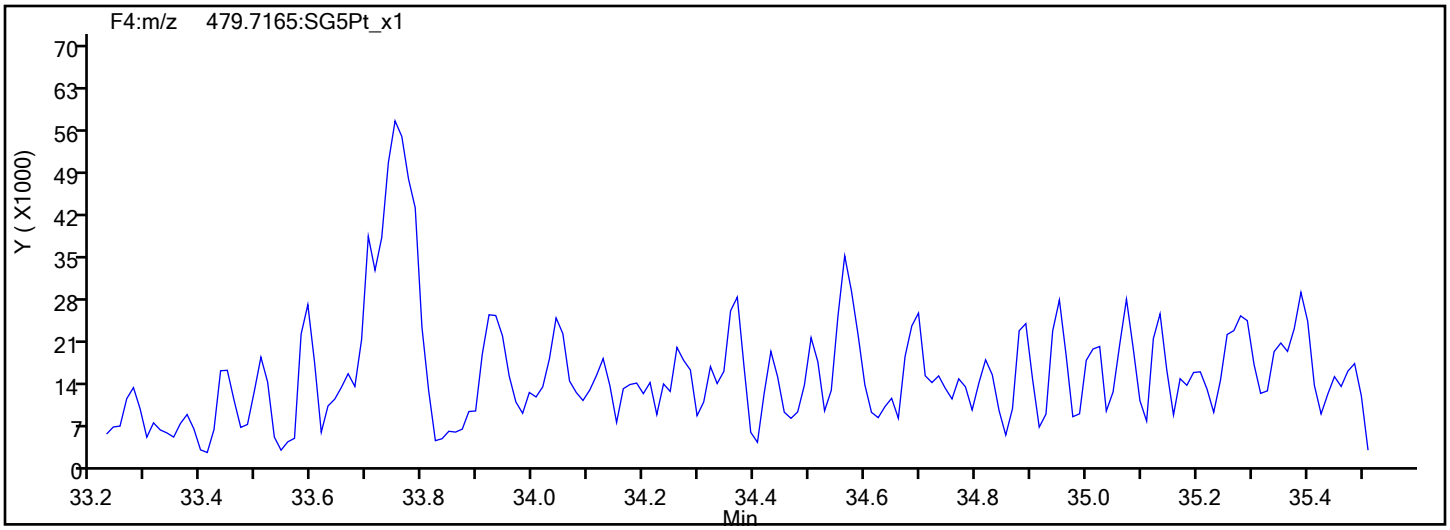

Report Date: 12-Dec-2019 15:54:26 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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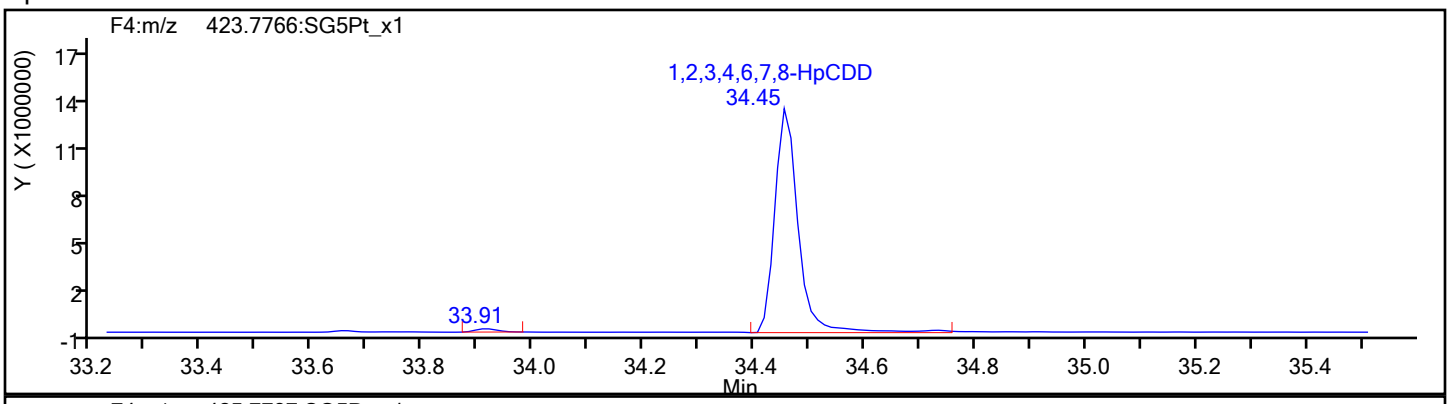

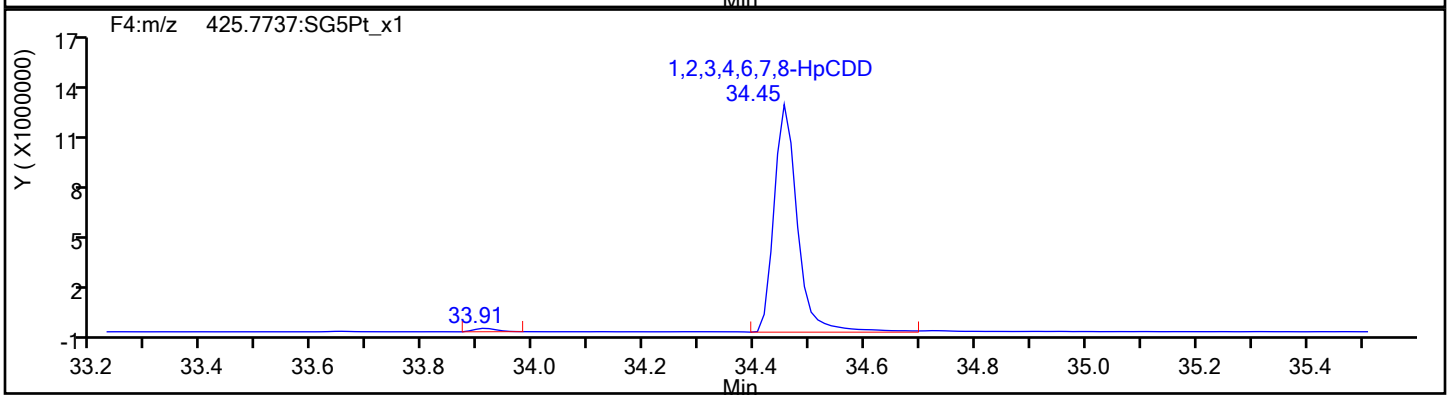

HpCDD Standards

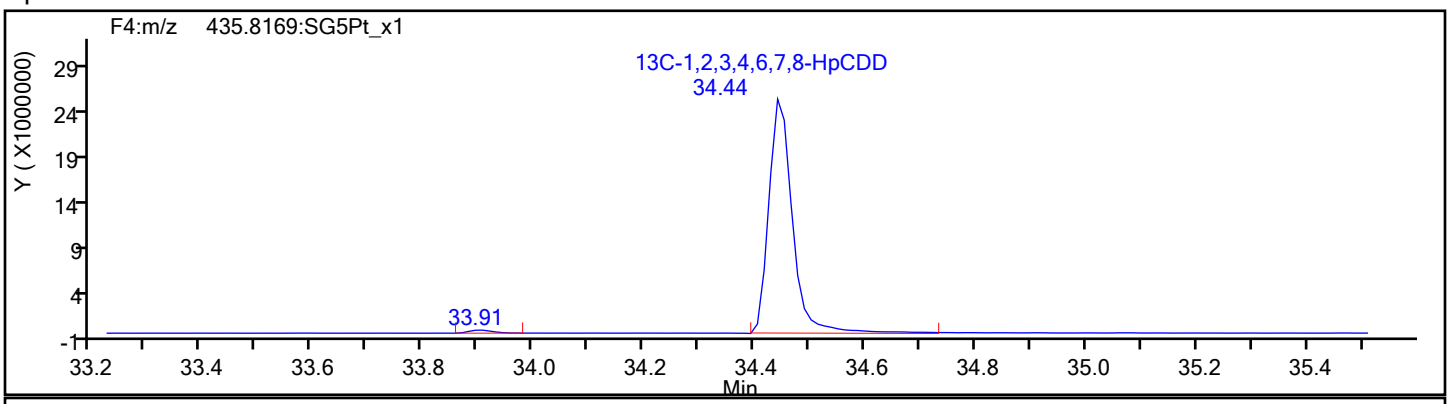

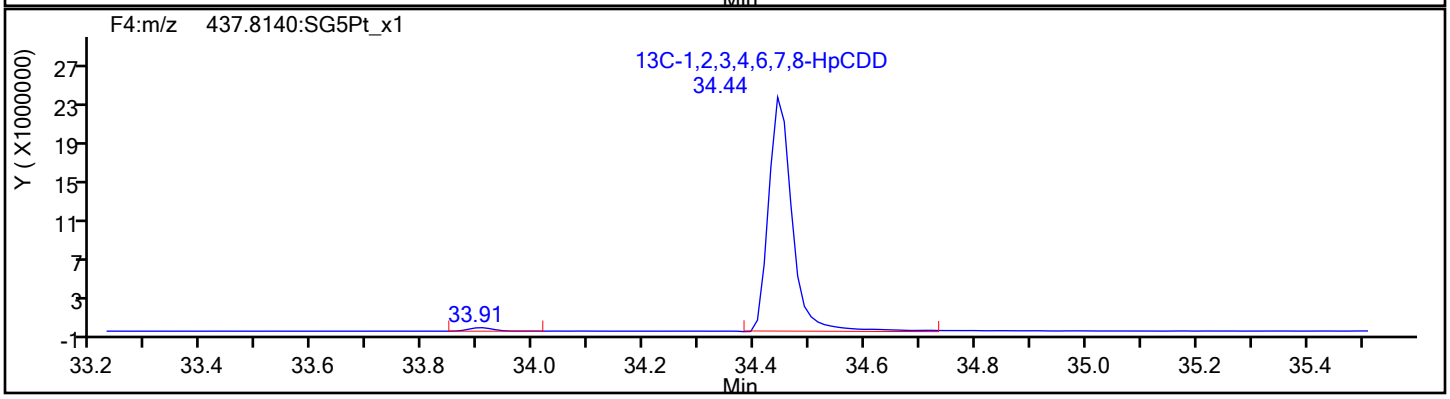

Report Date: 12-Dec-2019 15:54:26 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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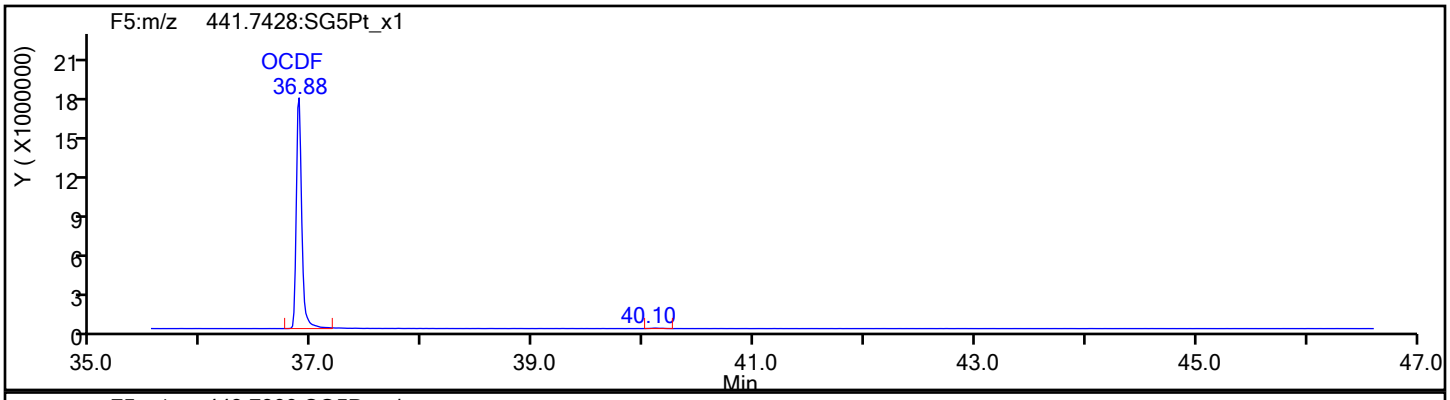

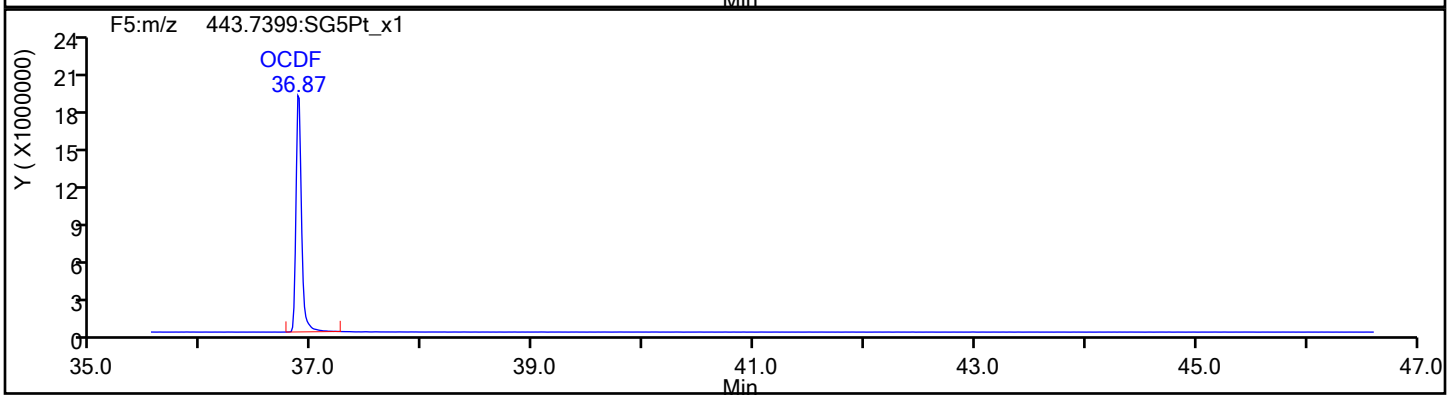

OCDF Standards

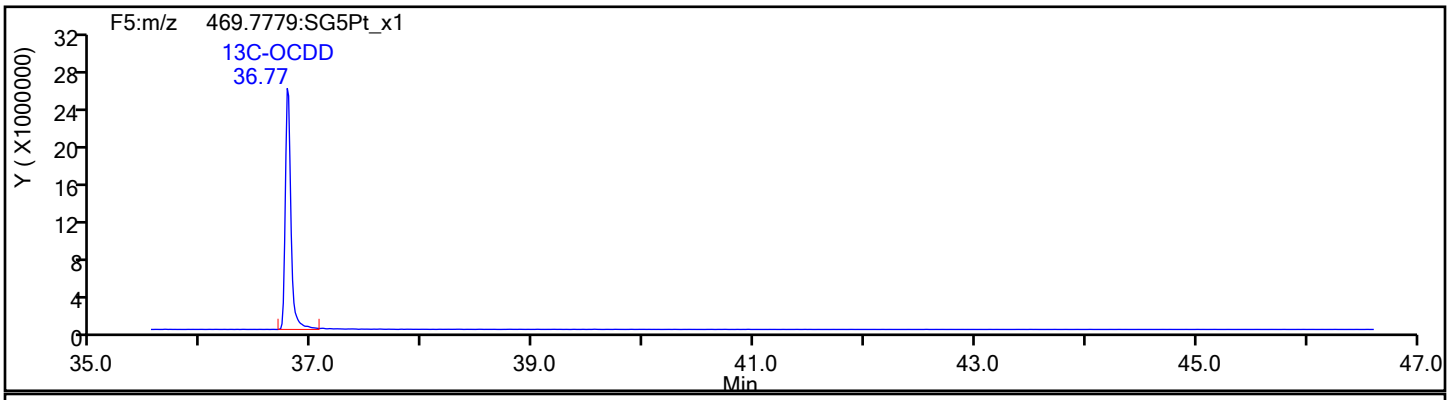

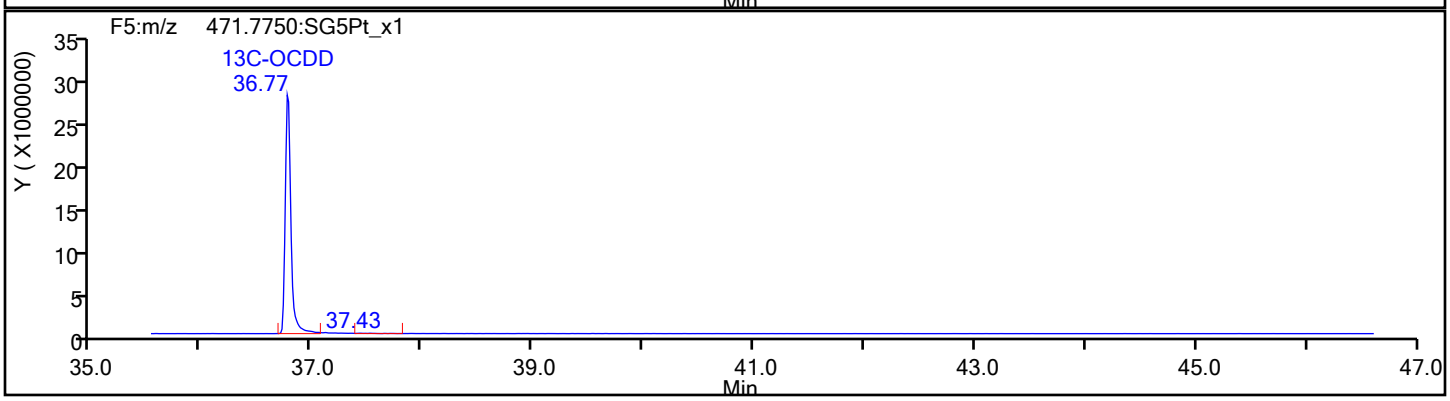

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Eurofins TestAmerica, Sacramento

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OCDF

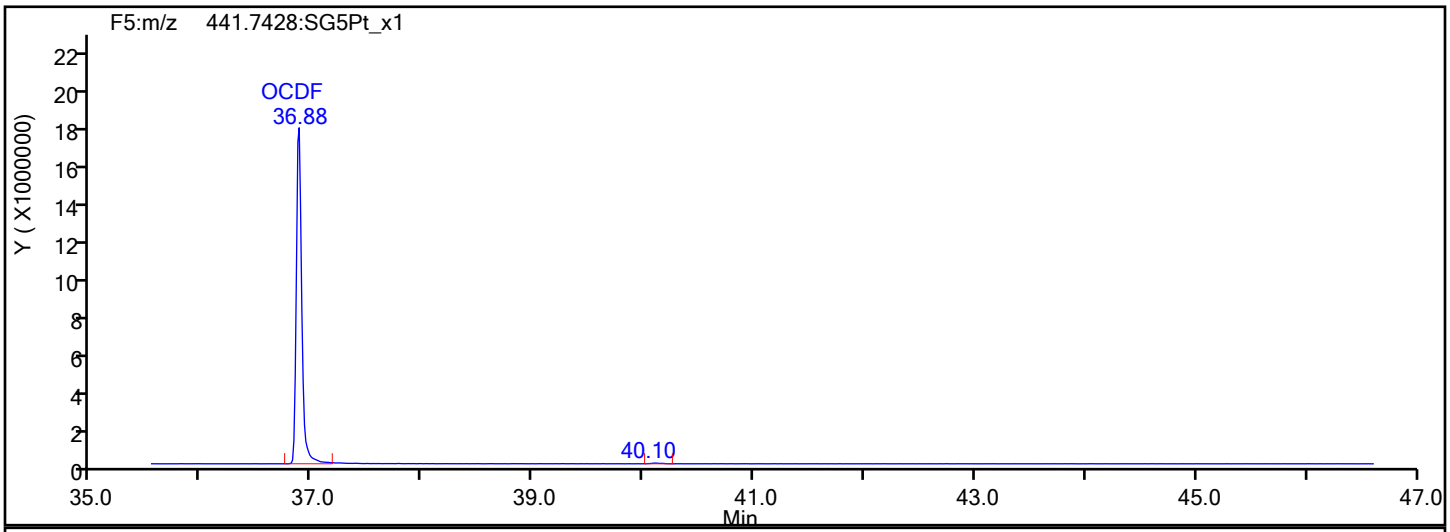

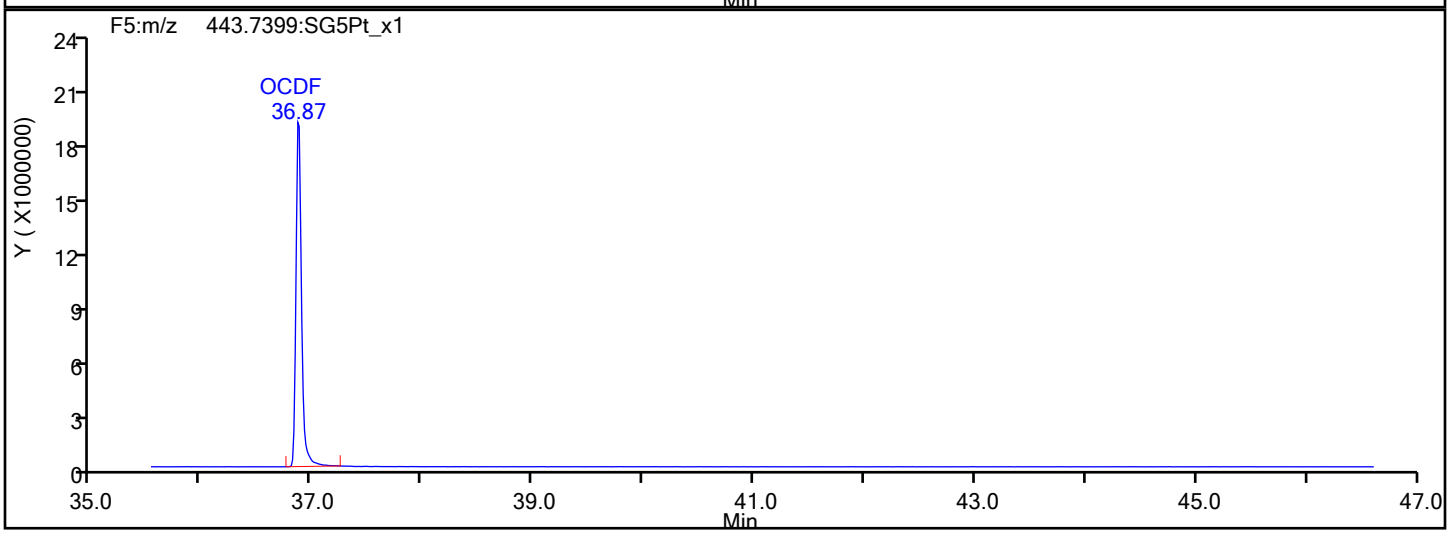

OCDF Interference Mass

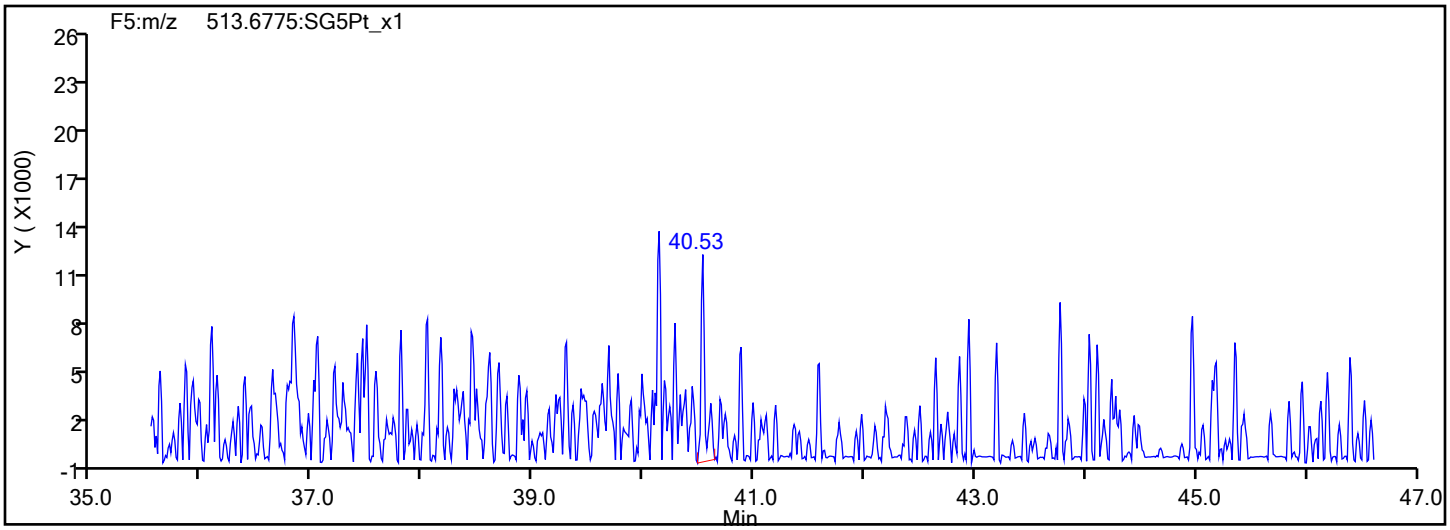

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Eurofins TestAmerica, Sacramento

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OCDD

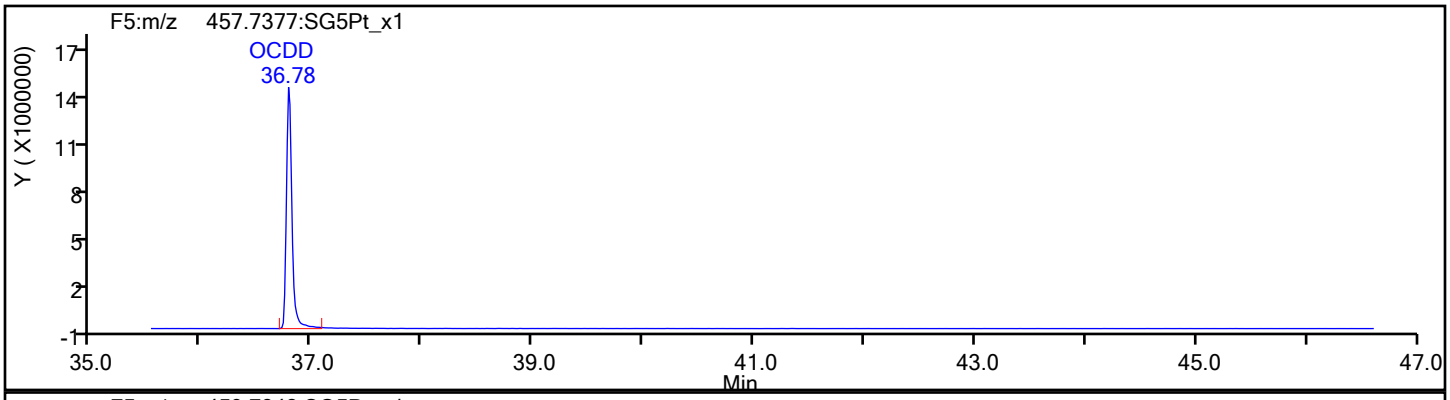

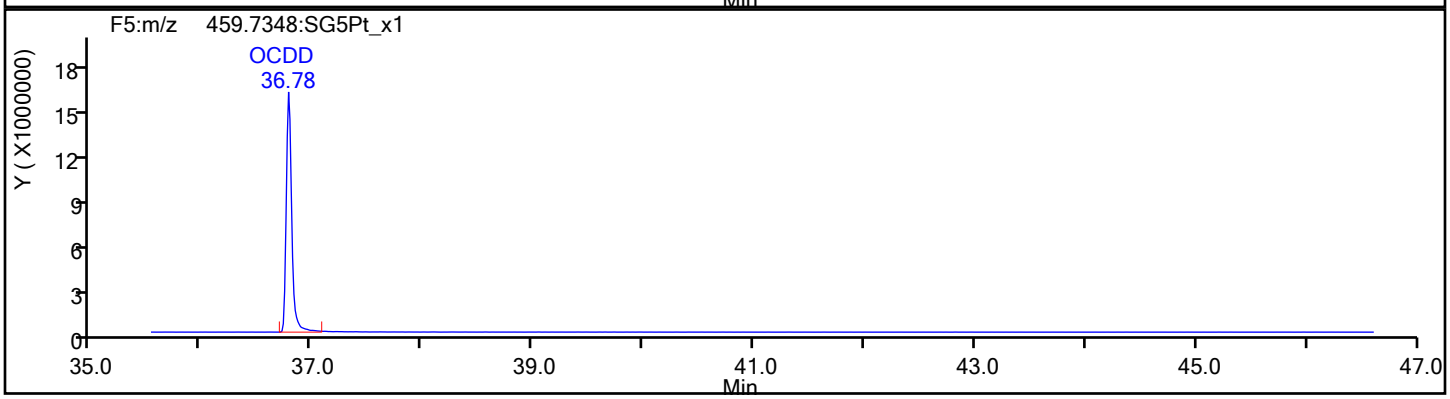

OCDD Standards

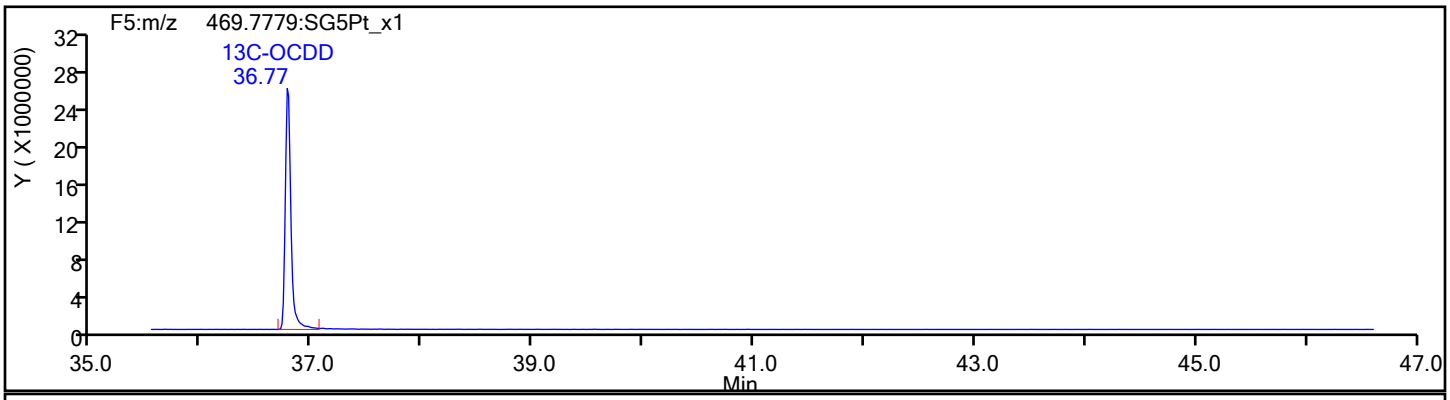

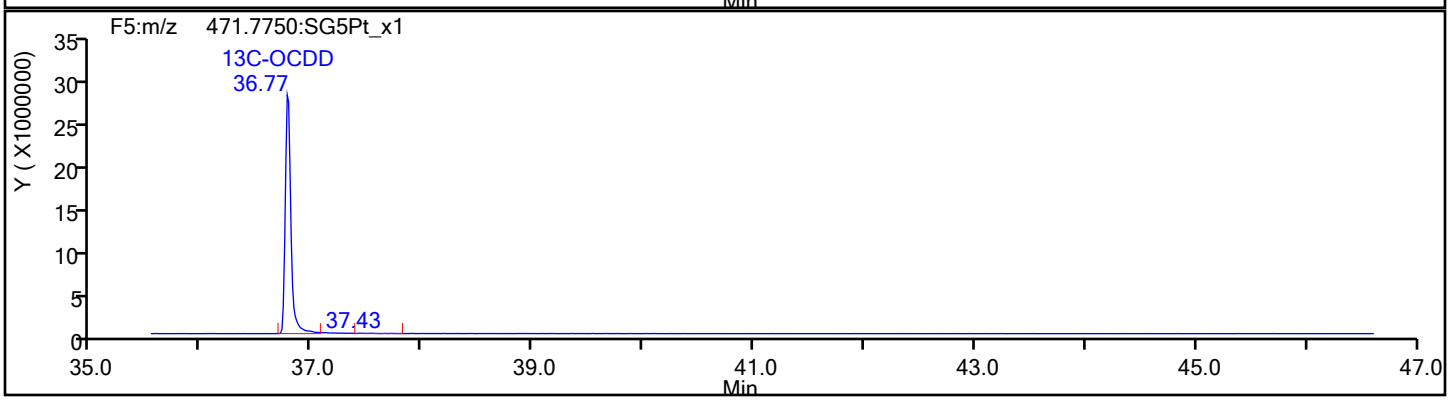

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Eurofins TestAmerica, Sacramento

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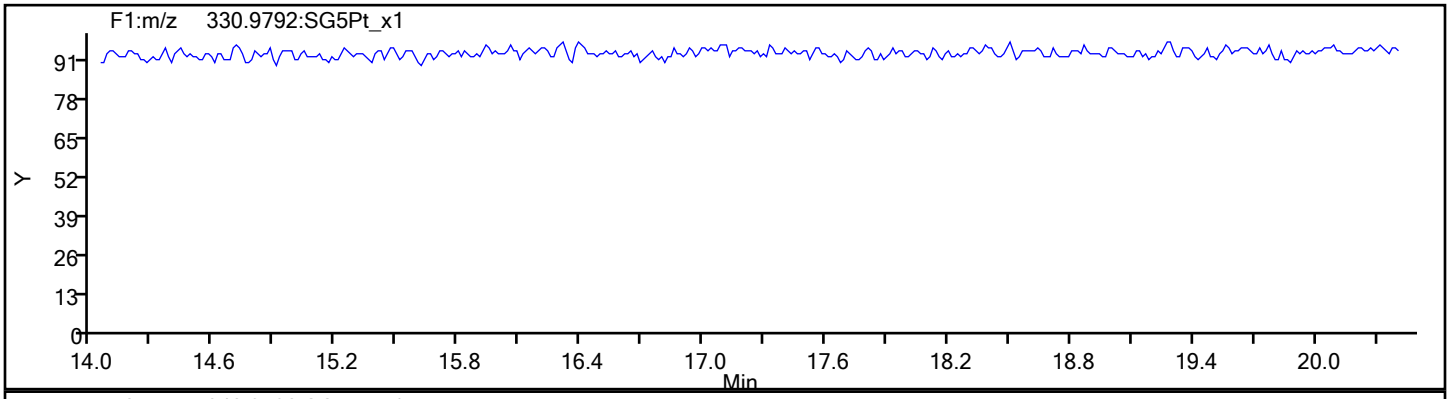

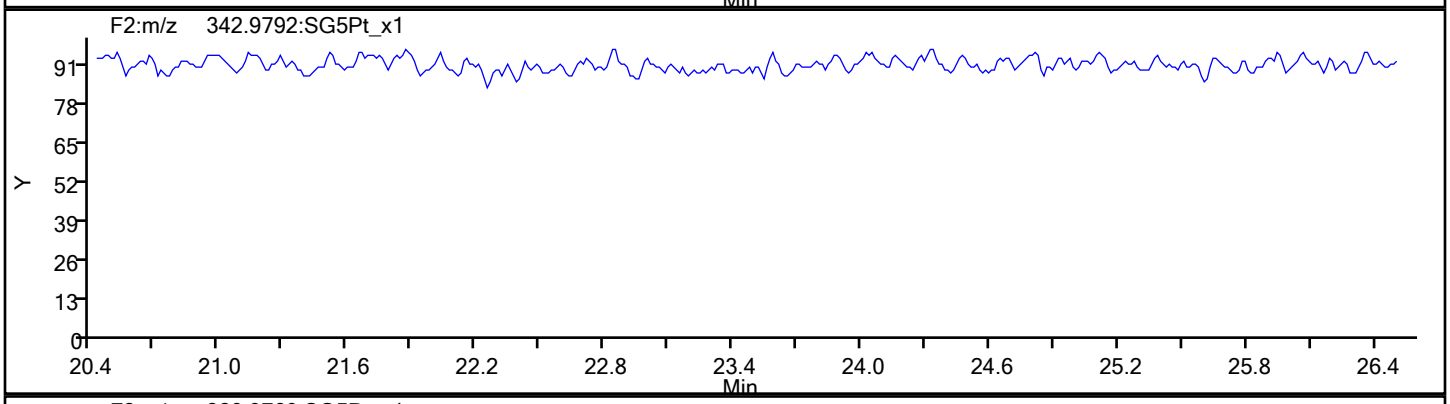

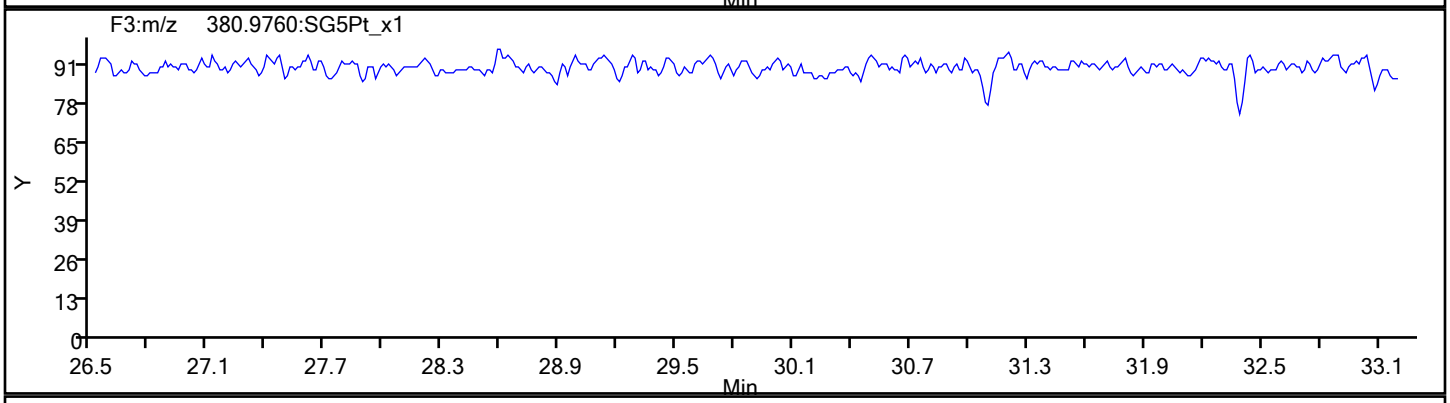

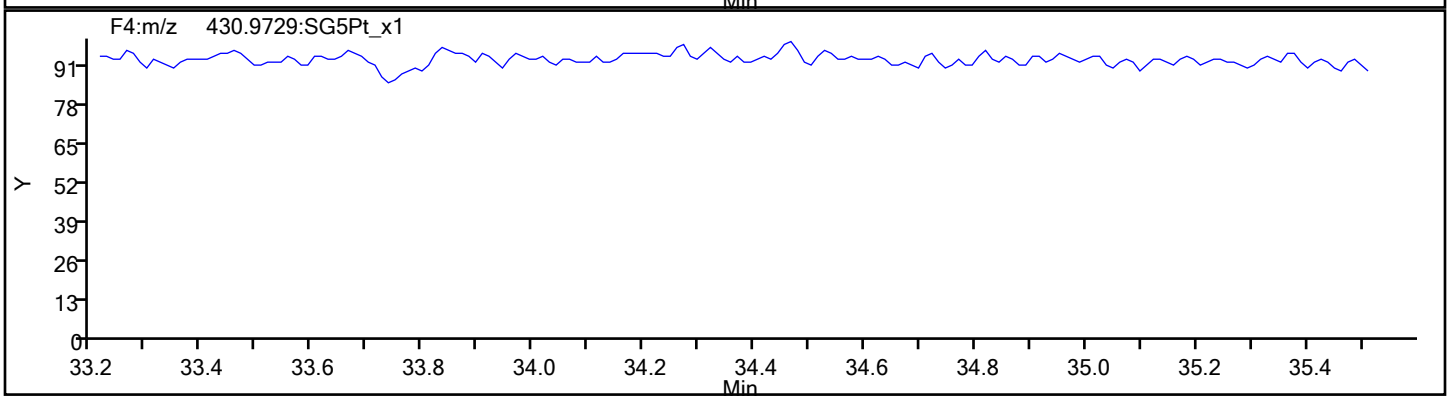

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Injection Date:	12-Dec-2019 13:04:00	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L4		
Worklist#:	345037	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

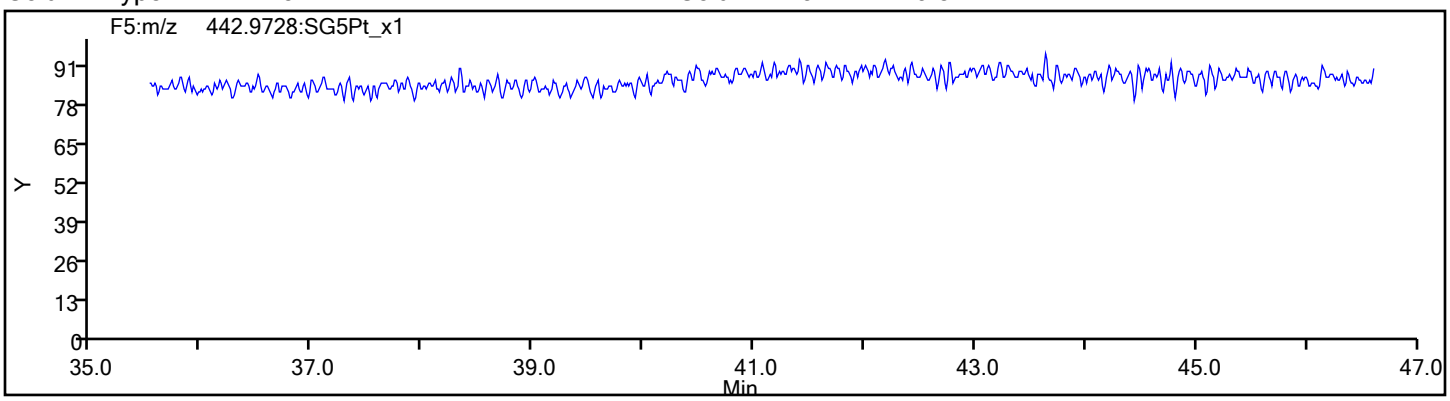

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_6.d
Lims ID: IC 5
Client ID: L5
Sample Type: IC Calib Level: 5
Inject. Date: 12-Dec-2019 13:51:32 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 121219C IC HRDXNL5_00028
Misc. Info.: 12DE193D5
Operator ID: KSS Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 12-Dec-2019 15:54:32 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: stephensk Date: 12-Dec-2019 14:41:50

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.672	224595364	0.78	2.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.158	314996891	0.81	1.4157	99.1	99.1	0.1628	0.1628	99.07	
2,3,7,8-TCDF	17.173	132413553	0.79	0.9502	44.2	44.2	0.1052	0.1052	111	
S Total TCDF					44.2	44.2	0.1052	0.1052		
D 13C-2,3,7,8-TCDD	17.854	223322673	0.80	0.9751	102.0	102.0	0.2435	0.2435	102	
2,3,7,8-TCDD	17.869	99082308	0.80	1.0477	42.3	42.3	0.0517	0.0517	106	
$ 37Cl4-2,3,7,8-TCDD	17.869	123340927		1.3480	40.7	40.7	0.0568	0.0568	102	
S Total TCDD					42.3	42.3	0.0517	0.0517		
D 13C-1,2,3,7,8-PeCDF	22.100	266542876	1.60	1.1786	100.7	100.7	0.2421	0.2421	101	
1,2,3,7,8-PeCDF	22.127	581363087	1.58	1.0302	211.7	211.7	0.6180	0.6180	106	
D 13C-2,3,4,7,8-PeCDF	23.423	253995484	1.60	1.1308	100.0	100.0	0.2524	0.2524	100	a
2,3,4,7,8-PeCDF	23.450	576277220	1.55	1.0410	218.0	218.0	0.6853	0.6853	109	
S Total PeCDF					429.7	429.7	0.6517	0.6517		
D 13C-1,2,3,7,8-PeCDD	24.132	175058491	1.60	0.7572	102.9	102.9	0.1407	0.1407	103	
1,2,3,7,8-PeCDD	24.159	390728173	1.59	1.0855	205.6	205.6	0.2728	0.2728	103	
S Total PeCDD					205.6	205.6	0.2728	0.2728		
D 13C-1,2,3,4,7,8-HxCDF	30.273	234227258	0.51	1.1043	100.3	100.3	0.3003	0.3003	100	
1,2,3,4,7,8-HxCDF	30.300	570996325	1.21	1.1472	212.5	212.5	0.6662	0.6662	106	
D 13C-1,2,3,6,7,8-HxCDF	30.473	243919748	0.54	1.1470	100.5	100.5	0.2891	0.2891	101	
1,2,3,6,7,8-HxCDF	30.499	592549839	1.27	1.1450	212.2	212.2	0.6189	0.6189	106	
D 13C-2,3,4,6,7,8-HxCDF	31.351	232992892	0.53	1.0769	102.3	102.3	0.3079	0.3079	102	
2,3,4,6,7,8-HxCDF	31.378	574663111	1.24	1.1726	210.3	210.3	0.4726	0.4726	105	
D 13C-1,2,3,7,8,9-HxCDF	32.190	218257445	0.52	1.0115	102.0	102.0	0.3278	0.3278	102	
1,2,3,7,8,9-HxCDF	32.204	535635876	1.21	1.1717	209.5	209.5	0.4483	0.4483	105	
S Total HxCDF					844.5	844.5	0.5515	0.5515		
* 13C-1,2,3,7,8,9-HxCDD	32.004	211535818	1.29	2.1E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.551	167631105	1.27	0.7962	99.5	99.5	0.1878	0.1878	99.53	a
1,2,3,4,7,8-HxCDD	31.565	391874961	1.25	1.0934	213.8	213.8	0.3654	0.3654	107	
D 13C-1,2,3,6,7,8-HxCDD	31.671	191249218	1.28	0.8720	103.7	103.7	0.1715	0.1715	104	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.684	402773504	1.26	1.0429	201.9	201.9	0.3687	0.3687	101	
1,2,3,7,8,9-HxCDD	32.017	440337374	1.26	1.2073	203.3	203.3	0.3246	0.3246	102	
S Total HxCDD					619.0	619.0	0.3529	0.3529		
D 13C-1,2,3,4,6,7,8-HpCDF	33.652	161981056	0.45	0.7577	101.1	101.1	0.6163	0.6163	101	
1,2,3,4,6,7,8-HpCDF	33.664	525836756	1.01	1.4804	219.3	219.3	1.577	1.577	110	
D 13C-1,2,3,4,7,8,9-HpCDF	34.722	154442339	0.45	0.6941	105.2	105.2	0.6727	0.6727	105	a
1,2,3,4,7,8,9-HpCDF	34.734	425539186	1.06	1.2933	213.0	213.0	2.068	2.068	107	
S Total HpCDF					432.3	432.3	1.823	1.823		
D 13C-1,2,3,4,6,7,8-HpCDD	34.442	159237326	1.08	0.7058	106.7	106.7	0.5432	0.5432	107	
1,2,3,4,6,7,8-HpCDD	34.454	348725265	1.05	1.0535	207.9	207.9	1.074	1.074	104	
S Total HpCDD					207.9	207.9	1.074	1.074		
D 13C-OCDD	36.770	208300311	0.92	0.4603	213.9	213.9	0.1729	0.1729	107	
OCDF	36.866	611942959	0.92	1.3945	421.3	421.3	0.1647	0.1647	105	
OCDD	36.782	476901861	0.90	1.1362	403.0	403.0	0.1660	0.1660	101	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

HRDXNL5_00028 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_6.d
Lims ID: IC 5
Client ID: L5
Sample Type: IC Calib Level: 5
Inject. Date: 12-Dec-2019 13:51:32 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 121219C IC HRDXNL5_00028
Misc. Info.: 12DE193D5
Operator ID: KSS Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 12-Dec-2019 15:54:32 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: stephensk Date: 12-Dec-2019 14:41:50

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.672	17.666	0		98666902	24515919	22061	55152	1111		
333.9339	17.657	17.666	-1		125928462	31246645	30891	77227	1012	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.158	17.164	0	0.971	141027224	35995868	31921	79802	1128		
317.9389	17.158	17.164	0	0.971	173969667	43295209	19473	48682	2223	0.81(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.173	17.176	0	1.001	58421847	14939787	13152	32880	1136		
305.8987	17.173	17.176	0	1.001	73991706	19209026	18537	46342	1036	0.79(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.854	17.854	0	1.010	99307865	24850045	22061	55152	1126		
333.9339	17.854	17.854	0	1.010	124014808	31162735	30891	77227	1009	0.80(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.869	17.872	0	1.001	43913881	10690254	7340	18350	1456		
321.8936	17.869	17.872	0	1.001	55168427	13628007	4800	12000	2839	0.80(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.869	17.872	0	1.011	123340927	30294267	17089	42722	1773		
13C-1,2,3,7,8-PeCDF											
351.9000	22.100	22.103	0	1.251	163865860	29956021	36906	92265	812		
353.8970	22.100	22.103	0	1.251	102677016	18751883	26749	66872	701	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.127	22.130	0	1.001	356370962	66490206	72745	181862	914		
341.8567	22.127	22.130	0	1.001	224992125	40936011	51308	128270	798	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											a
351.9000	23.423	23.426	0	1.325	156282583	26674373	36906	92265	723		a
353.8970	23.423	23.426	0	1.325	97712901	16797541	26749	66872	628	1.60(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.450	23.450	0	1.001	350354478	57462536	72745	181862	790		
341.8567	23.450	23.450	0	1.001	225922742	37730273	51308	128270	735	1.55(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	24.132	24.137	0	1.366	107751383	17516576	13542	33855	1294		
369.8919	24.132	24.137	0	1.366	67307108	10994191	10221	25552	1076	1.60(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.159	24.162	0	1.001	239758273	39037102	21414	53535	1823		
357.8516	24.159	24.162	0	1.001	150969900	24882755	12353	30882	2014	1.59(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.273	30.270	0	0.946	78644228	14104833	24363	60907	579		
385.8610	30.273	30.270	0	0.946	155583030	28295769	55002	137505	514	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.300	30.300	0	1.001	313081855	56478414	75373	188432	749		
375.8178	30.286	30.300	-1	1.000	257914470	46425640	54242	135605	856	1.21(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.473	30.473	0	0.952	85087686	15906610	24363	60907	653		
385.8610	30.473	30.473	0	0.952	158832062	29820804	55002	137505	542	0.54(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.499	30.497	0	1.001	331562685	60661773	75373	188432	805		
375.8178	30.499	30.497	0	1.001	260987154	47748698	54242	135605	880	1.27(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.351	31.357	0	0.980	81056434	20265978	24363	60907	832		
385.8610	31.351	31.357	0	0.980	151936458	38212025	55002	137505	695	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.378	31.375	0	1.001	317706357	79190734	75373	188432	1051		
375.8178	31.378	31.375	0	1.001	256956754	63014833	54242	135605	1162	1.24(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.190	32.196	0	1.006	74527909	21136572	24363	60907	868		
385.8610	32.190	32.196	0	1.006	143729536	40554765	55002	137505	737	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.204	32.209	0	1.000	292943277	81353735	75373	188432	1079		
375.8178	32.204	32.209	0	1.000	242692599	67884862	54242	135605	1252	1.21(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.004	32.004	0		119156228	33909457	18818	47045	1802		
403.8529	32.004	32.004	0		92379590	25930247	16982	42455	1527	1.29(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											a
401.8559	31.551	31.557	0	0.986	93899540	26128579	18818	47045	1388		a
403.8529	31.551	31.557	0	0.986	73731565	20820763	16982	42455	1226	1.27(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.565	31.570	0	1.000	218078173	57189299	41171	102927	1389		
391.8127	31.565	31.570	0	1.000	173796788	45825138	33854	84635	1354	1.25(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.671	31.666	0	0.990	107339574	27522450	18818	47045	1463		
403.8529	31.671	31.666	0	0.990	83909644	21260845	16982	42455	1252	1.28(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.684	31.682	0	1.000	224582682	60738483	41171	102927	1475		
391.8127	31.684	31.682	0	1.000	178190822	47473358	33854	84635	1402	1.26(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.017	32.023	0	1.015	245673103	69976937	41171	102927	1700		
391.8127	32.017	32.023	0	1.015	194664271	55809192	33854	84635	1649	1.26(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.652	33.647	0	1.051	50617005	18038718	30961	77402	583		
419.8220	33.652	33.647	0	1.051	111364051	39847587	80813	202032	493	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.664	33.659	0	1.000	264742118	97611249	262056	655140	372		
409.7789	33.664	33.659	0	1.000	261094638	90622375	278481	696202	325	1.01(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											a
417.8253	34.722	34.726	0	1.085	47887734	15735543	30961	77402	508		a
419.8220	34.722	34.726	0	1.085	106554605	34781659	80813	202032	430	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.734	34.736	0	1.000	218627803	71787981	262056	655140	274		
409.7789	34.734	34.736	0	1.000	206911383	68370612	278481	696202	246	1.06(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.442	34.437	0	1.076	82684782	27916319	55153	137882	506		
437.8140	34.442	34.437	0	1.076	76552544	25864716	36611	91527	706	1.08(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.454	34.449	0	1.000	178857029	60226461	105925	264812	569		
425.7737	34.454	34.449	0	1.000	169868236	55711988	137410	343525	405	1.05(0.88-1.20)	
13C-OCDD											
469.7779	36.770	36.767	0	1.149	99727463	28654535	8561	21402	3347		
471.7750	36.770	36.767	0	1.149	108572848	30945683	10486	26215	2951	0.92(0.76-1.02)	
OCDF											
441.7428	36.866	36.870	0	1.003	293821227	87767807	11843	29607	7411		
443.7399	36.866	36.870	0	1.003	318121732	95847756	15528	38820	6173	0.92(0.76-1.02)	
OCDD											
457.7377	36.782	36.779	0	1.000	225772958	64929459	10884	27210	5966		
459.7348	36.782	36.779	0	1.000	251128903	70952785	11602	29005	6116	0.90(0.76-1.02)	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

HRDXNL5_00028 Amount Added: 2.00 Units: uL

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_6.d				
Injection Date:	12-Dec-2019 13:51:32	Instrument ID:	3D5		
Lims ID:	IC 5				
Client ID:	L5				
Operator ID:	KSS	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

13C-2,3,4,7,8-PeCDF, CAS: 116843-02-8

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 23.43

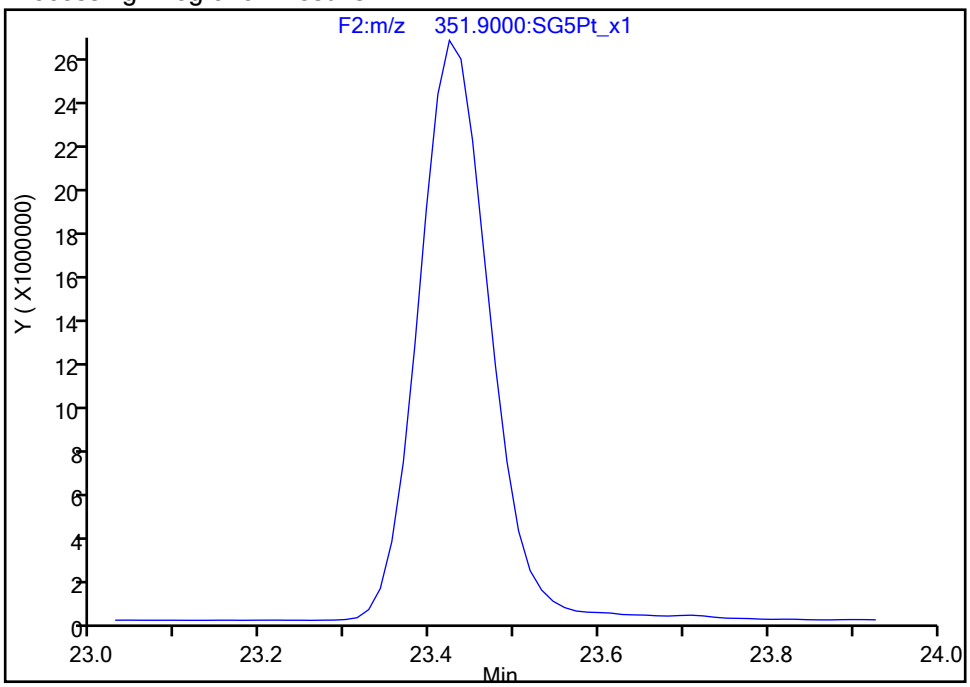

Manual Integration Results

RT: 23.42
Area: 156282583
Amount: 100.0121
Amount Units: pg/ul

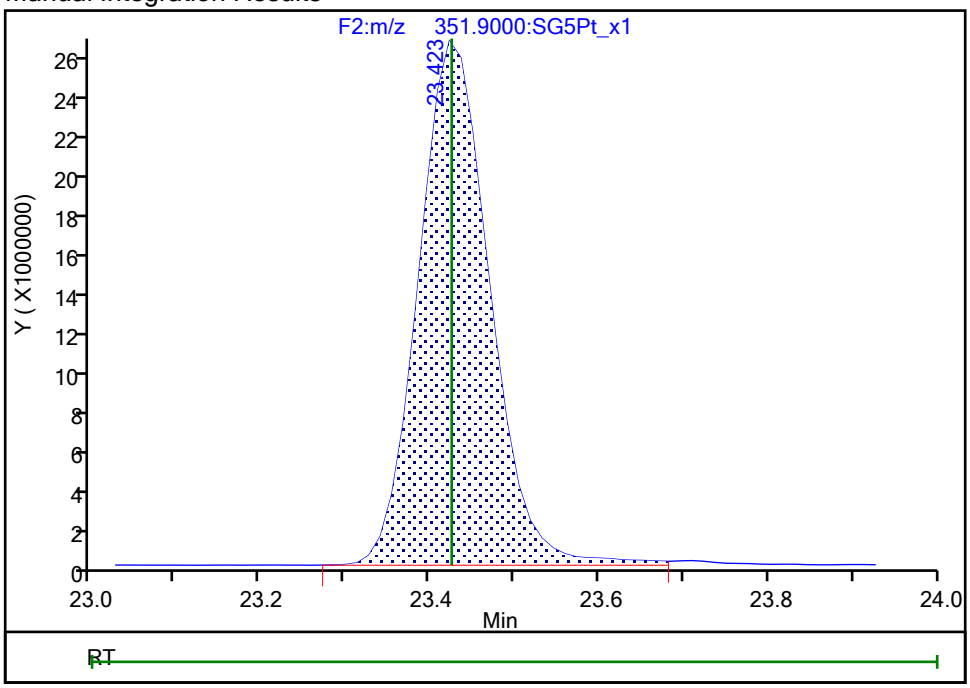

Reviewer: stephensk, 12-Dec-2019 14:41:39
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_6.d				
Injection Date:	12-Dec-2019 13:51:32	Instrument ID:	3D5		
Lims ID:	IC 5				
Client ID:	L5				
Operator ID:	KSS	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

13C-1,2,3,4,7,8-HxCDD, CAS: 109719-80-4

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 31.56

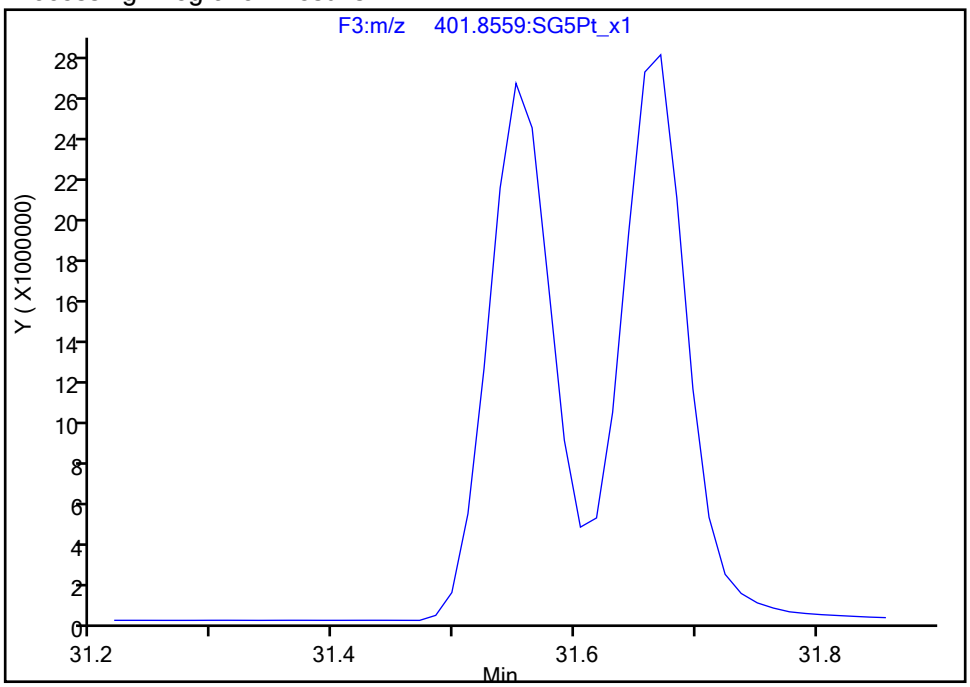

Manual Integration Results

RT: 31.55
Area: 93899540
Amount: 99.528000
Amount Units: pg/ul

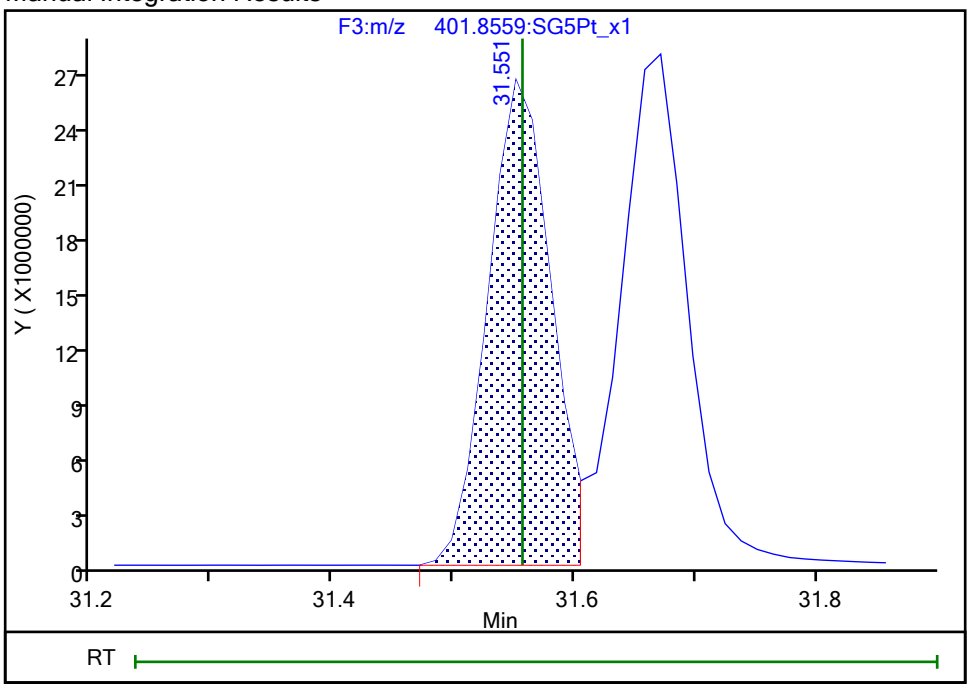

Reviewer: stephensk, 12-Dec-2019 14:41:25
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_6.d				
Injection Date:	12-Dec-2019 13:51:32	Instrument ID:	3D5		
Lims ID:	IC 5				
Client ID:	L5				
Operator ID:	KSS	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

13C-1,2,3,4,7,8,9-HpCDF, CAS: 109719-94-0

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 34.73

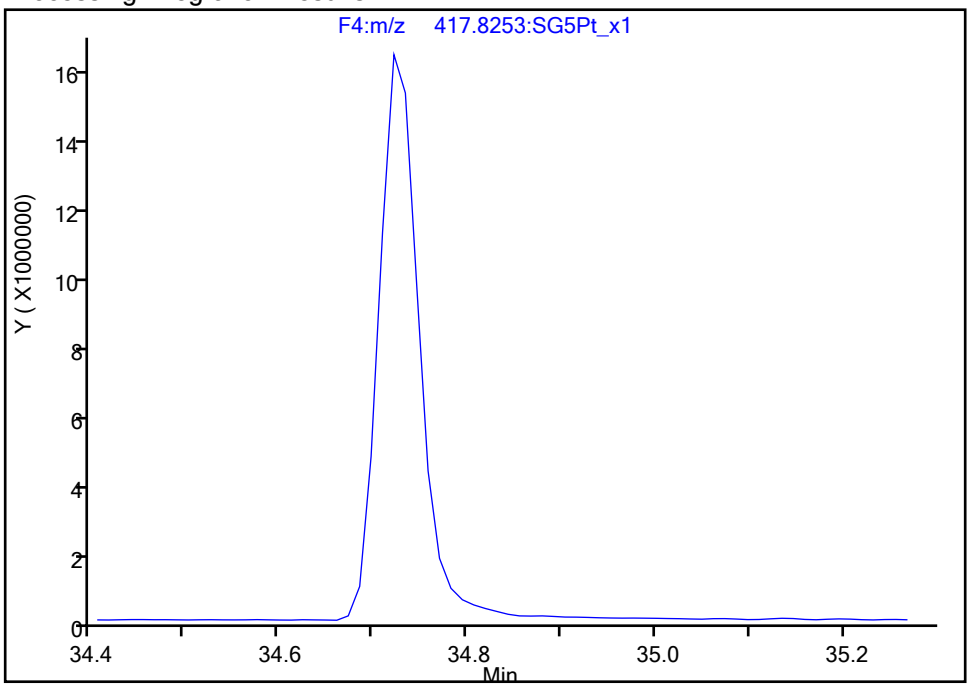

Manual Integration Results

RT: 34.72
Area: 47887734
Amount: 105.1812
Amount Units: pg/ul

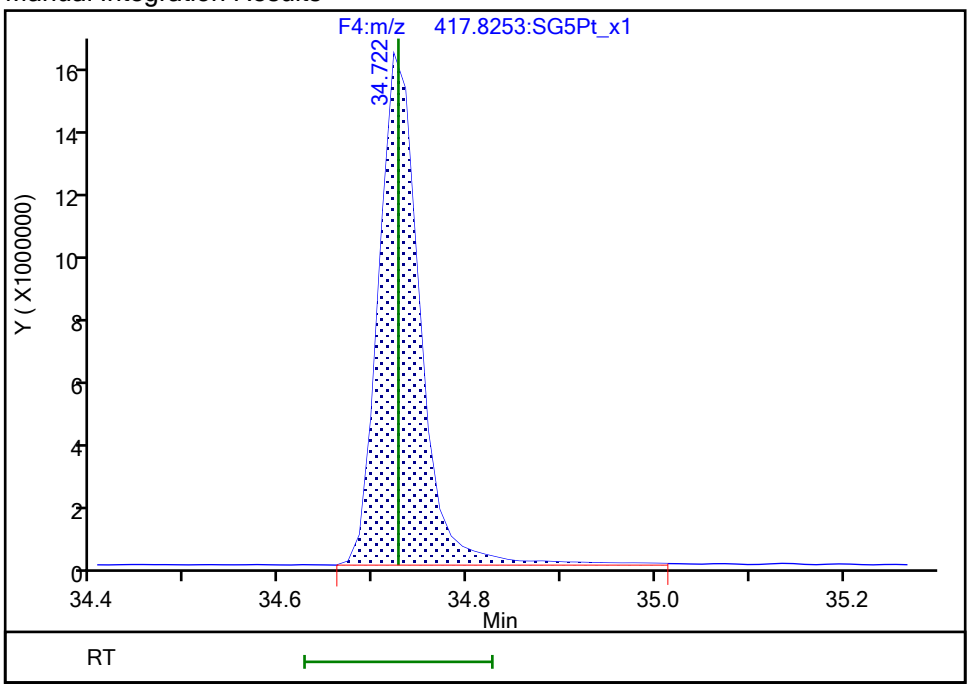

Reviewer: stephensk, 12-Dec-2019 14:41:31
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Report Date: 12-Dec-2019 15:54:33 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_6.d		
Injection Date:	12-Dec-2019 13:51:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
Worklist#:	345037	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

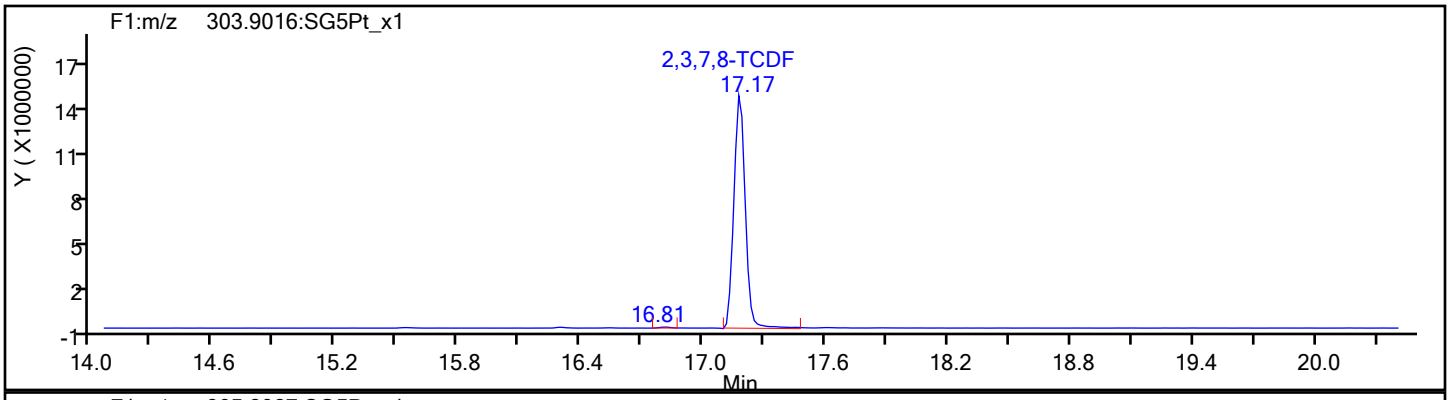

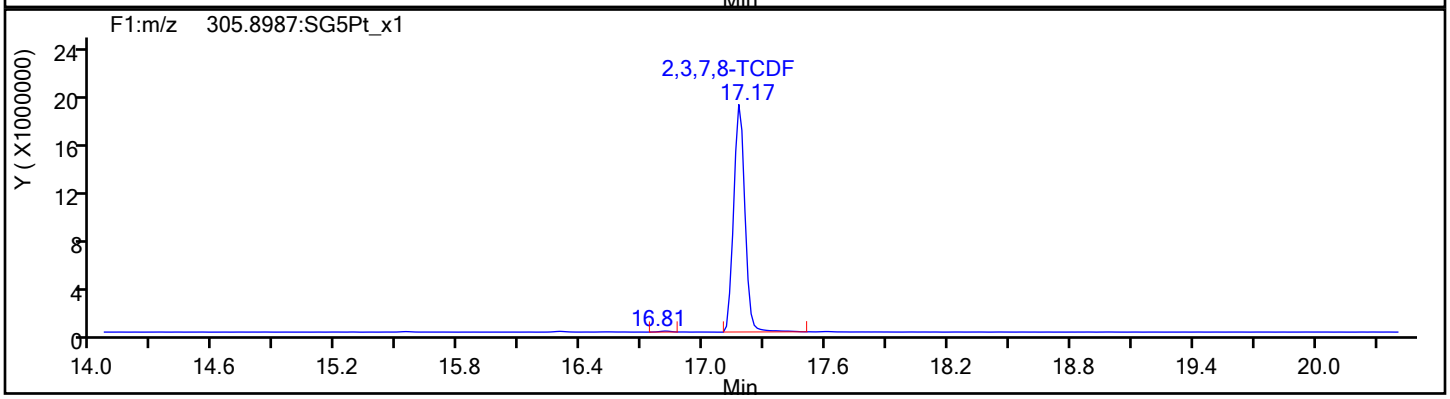

TCDF Standards

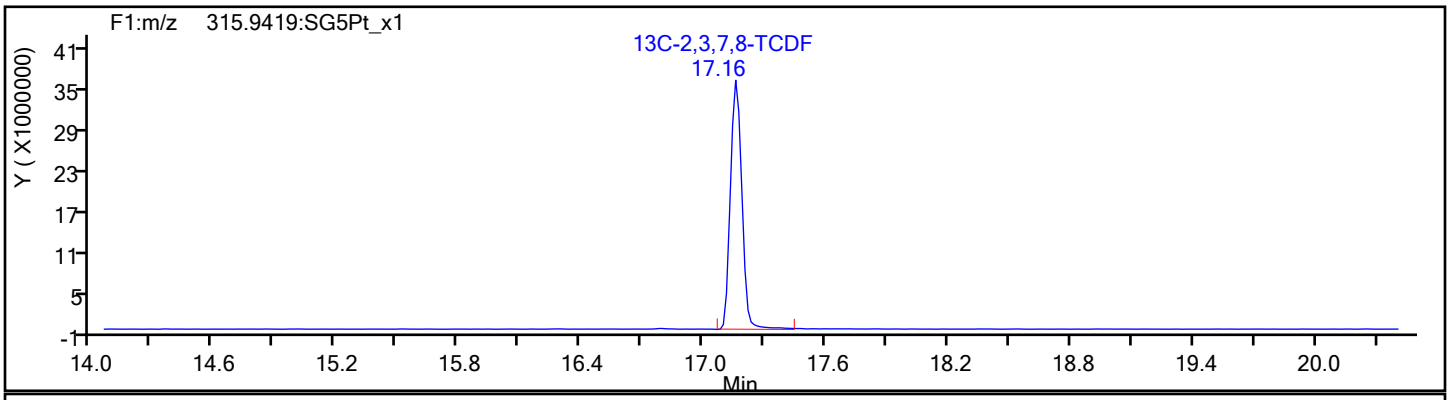

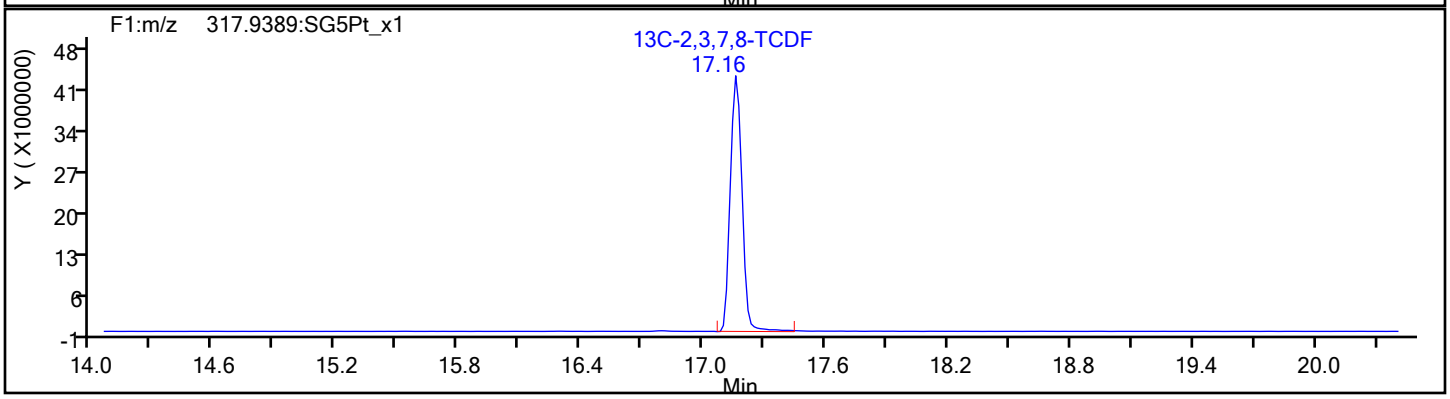

Report Date: 12-Dec-2019 15:54:34 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_6.d		
Injection Date:	12-Dec-2019 13:51:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
Worklist#:	345037	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

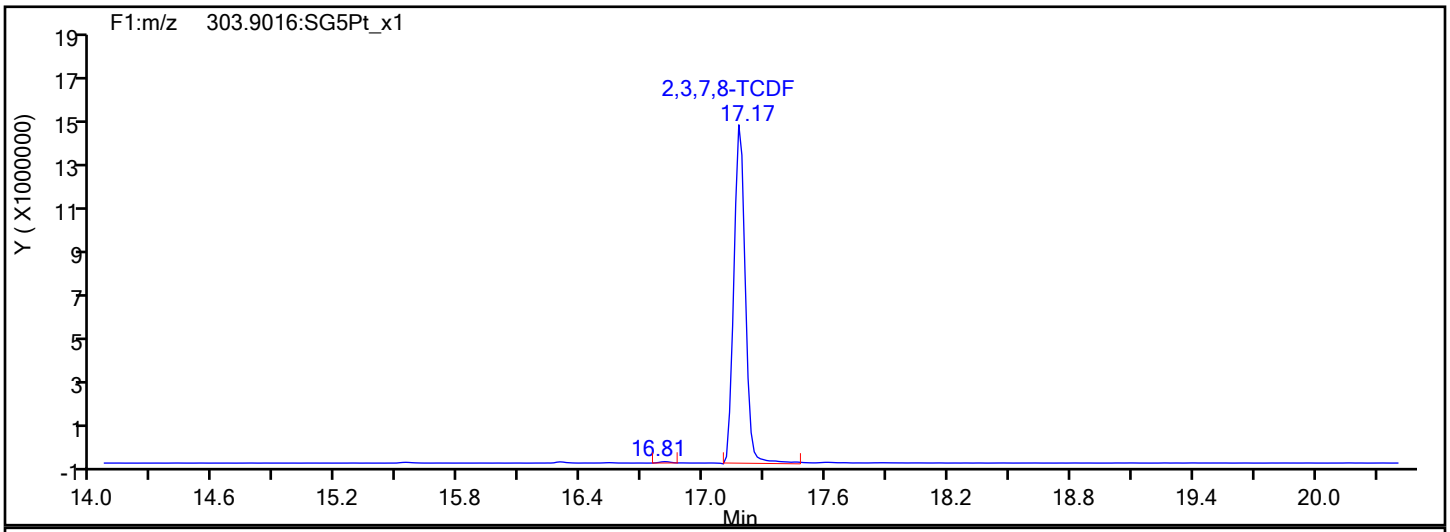

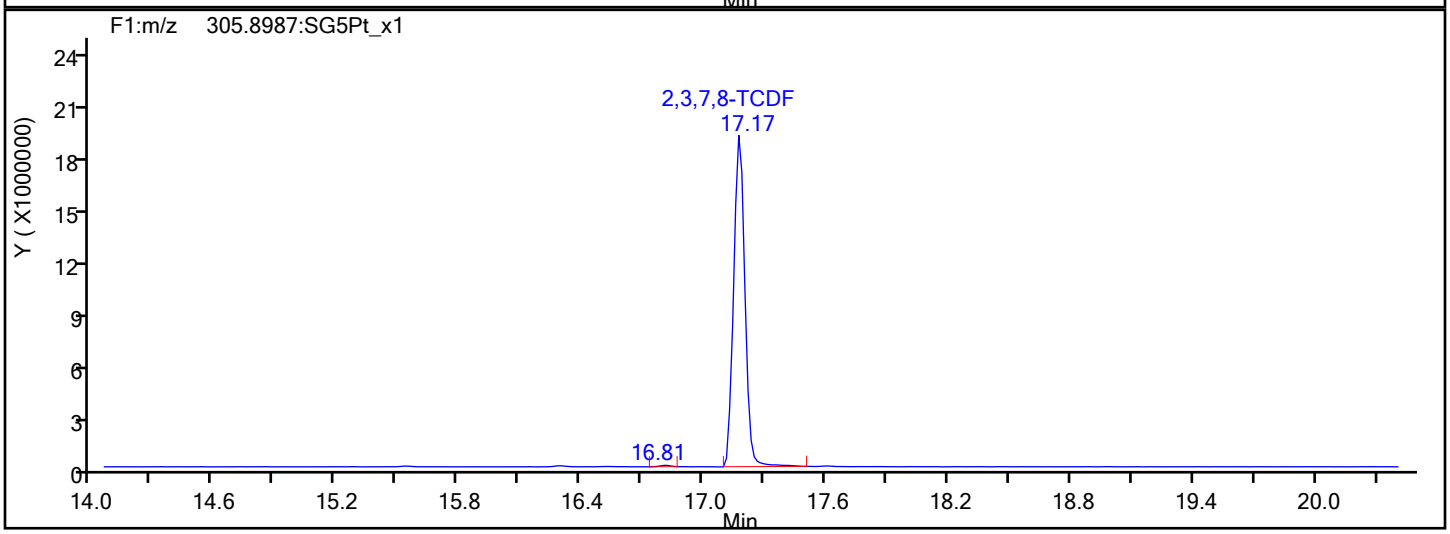

TCDF Interference Mass

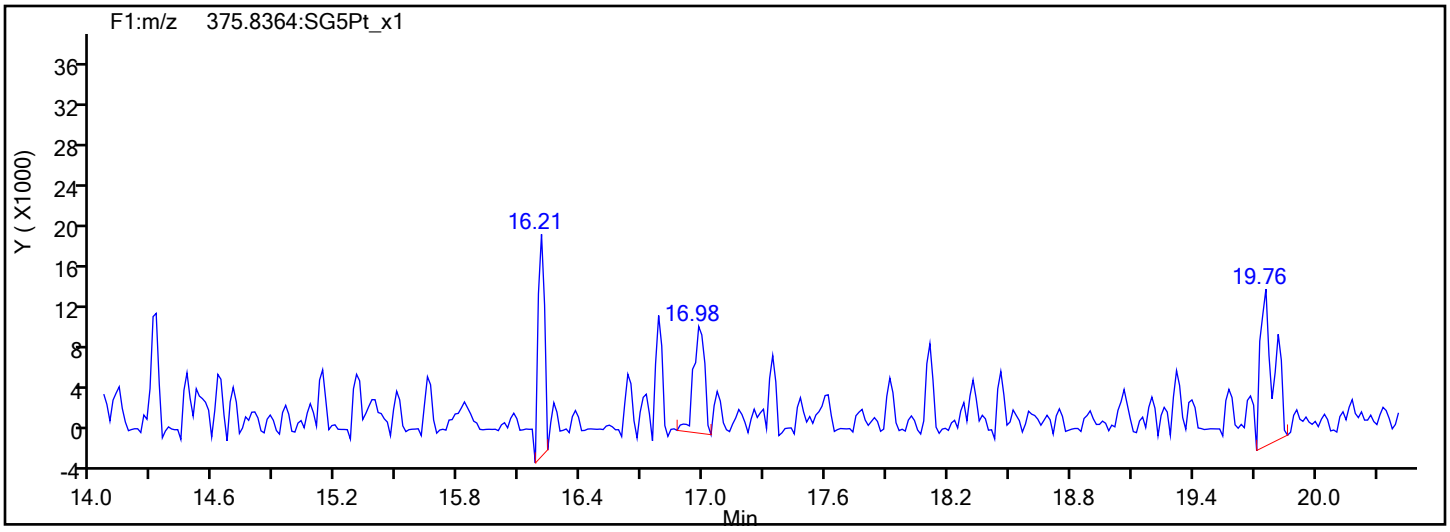

Report Date: 12-Dec-2019 15:54:34 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_6.d		
Injection Date:	12-Dec-2019 13:51:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
Worklist#:	345037	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

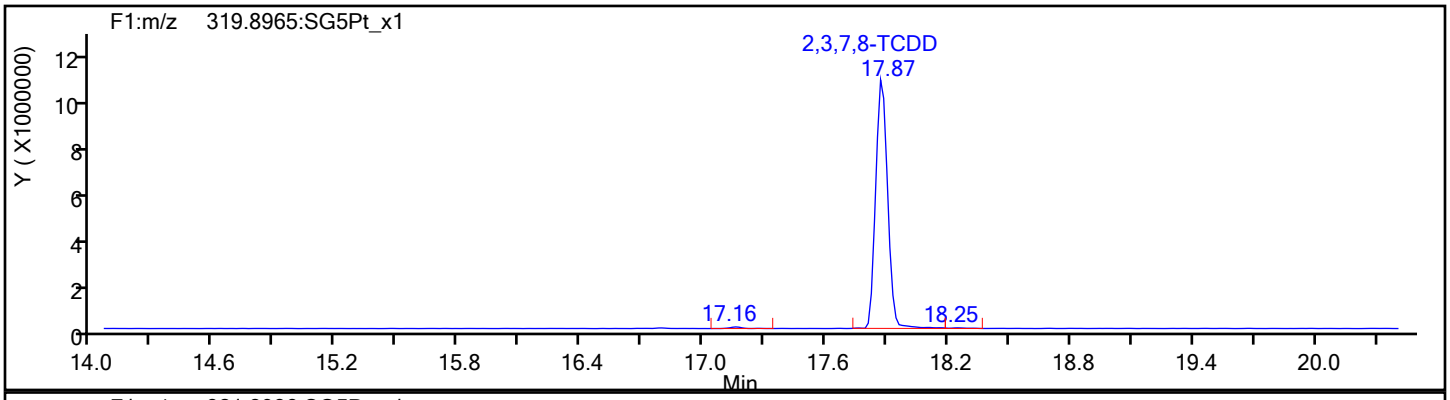

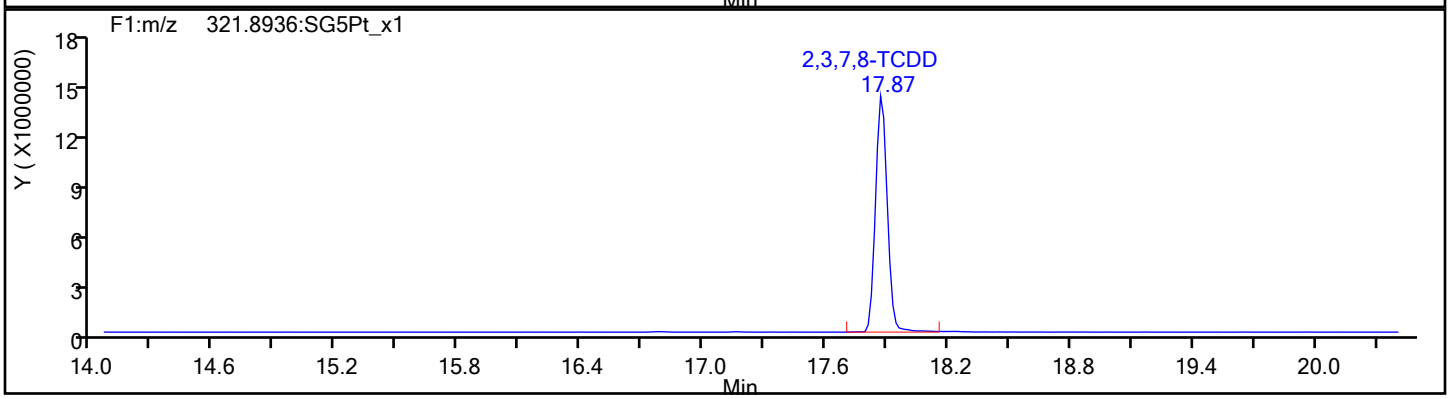

TCDD Standards

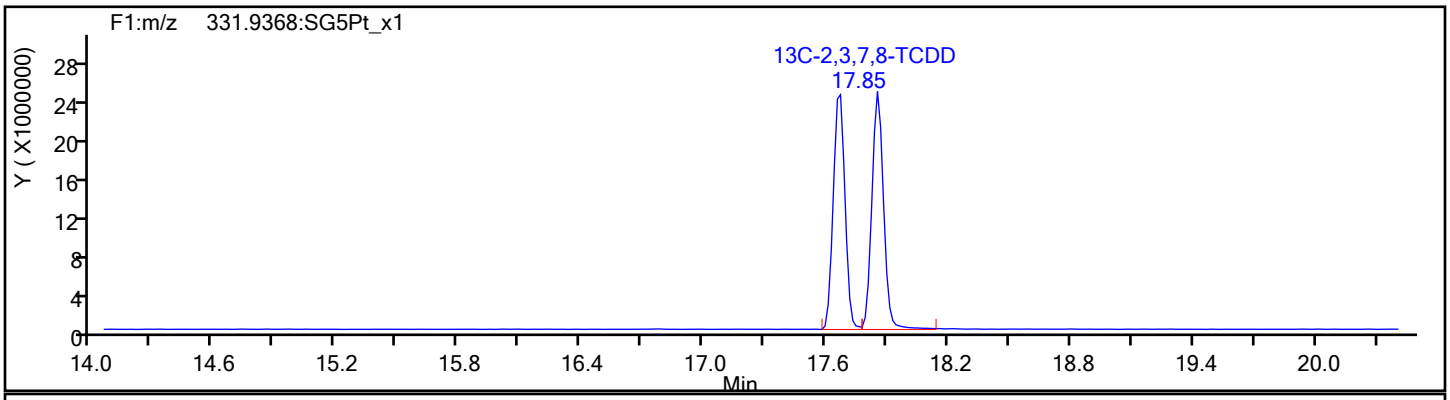

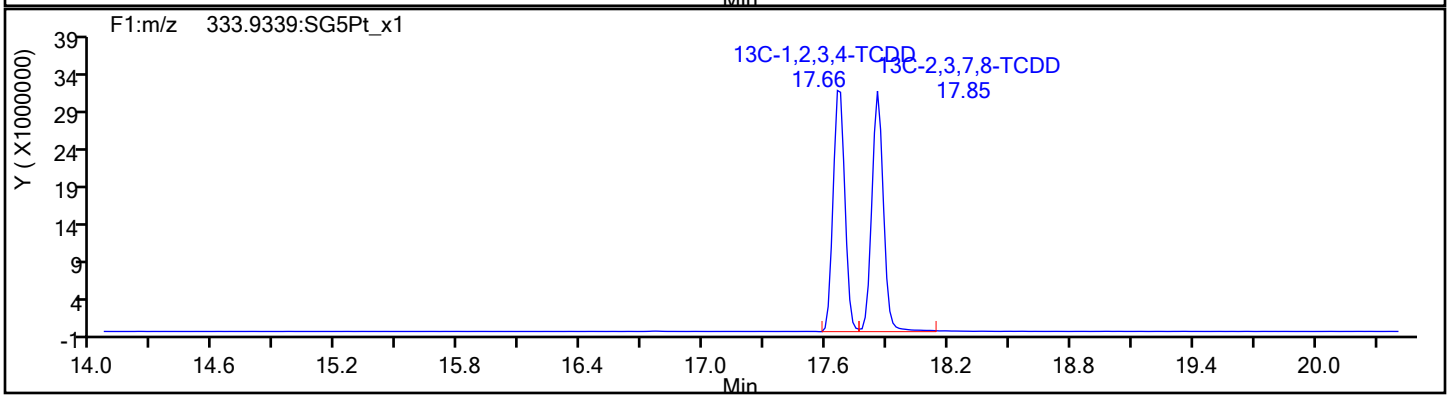

Report Date: 12-Dec-2019 15:54:34 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_6.d		
Injection Date:	12-Dec-2019 13:51:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
Worklist#:	345037	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

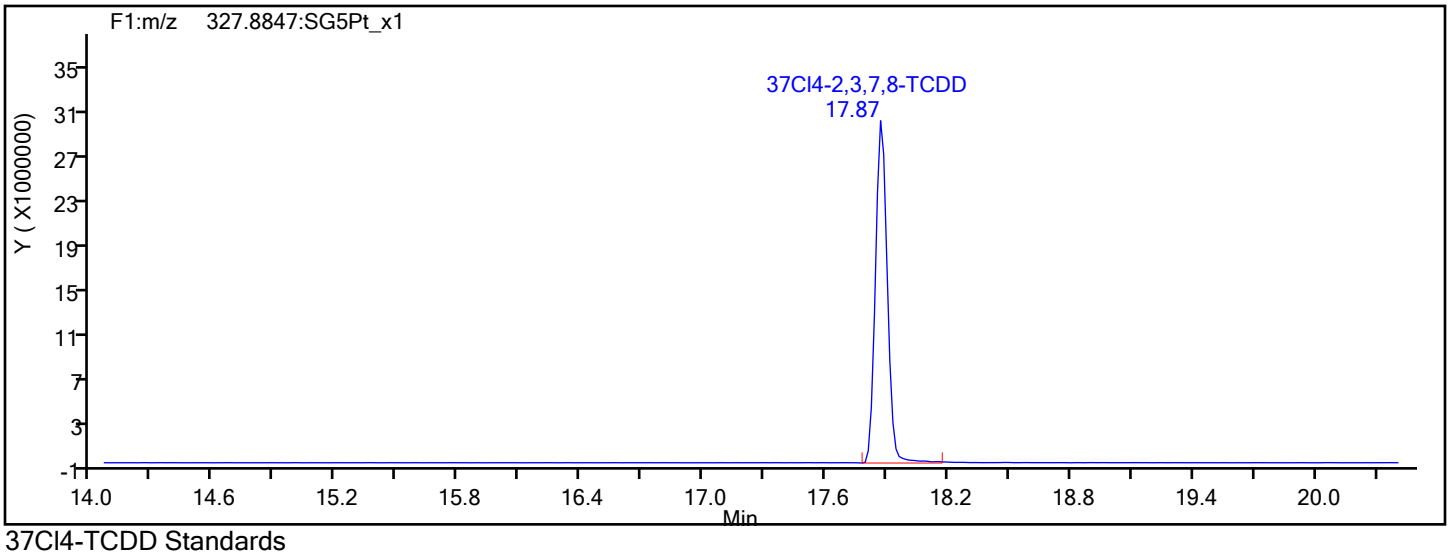

37Cl4-TCDD Standards

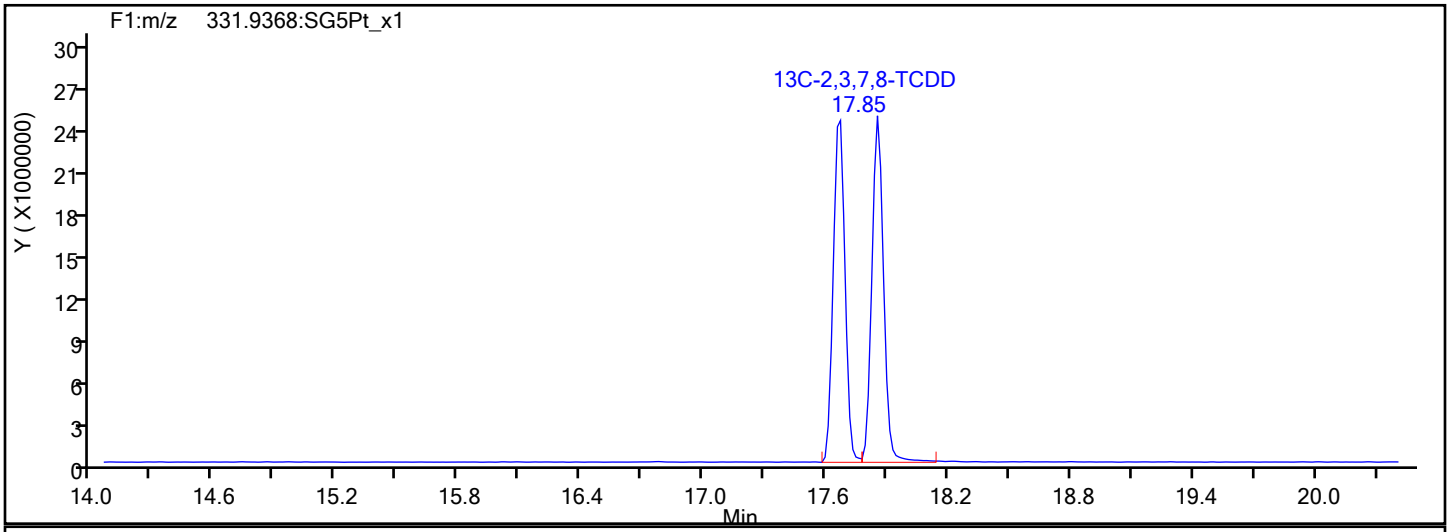

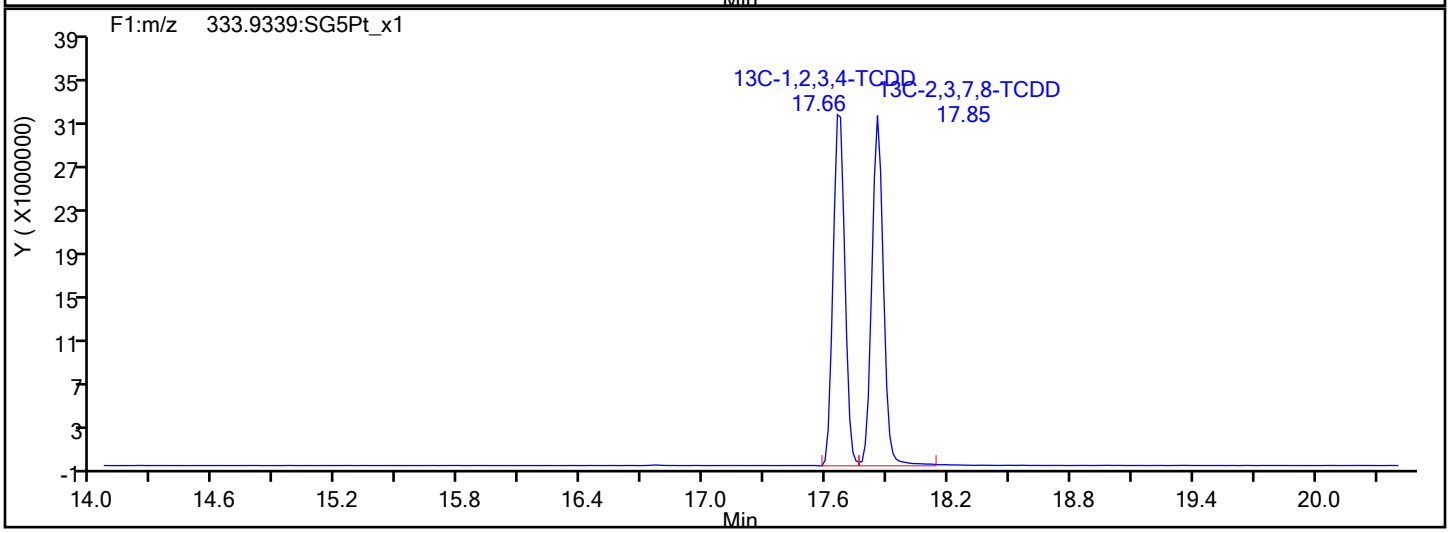

Report Date: 12-Dec-2019 15:54:34 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

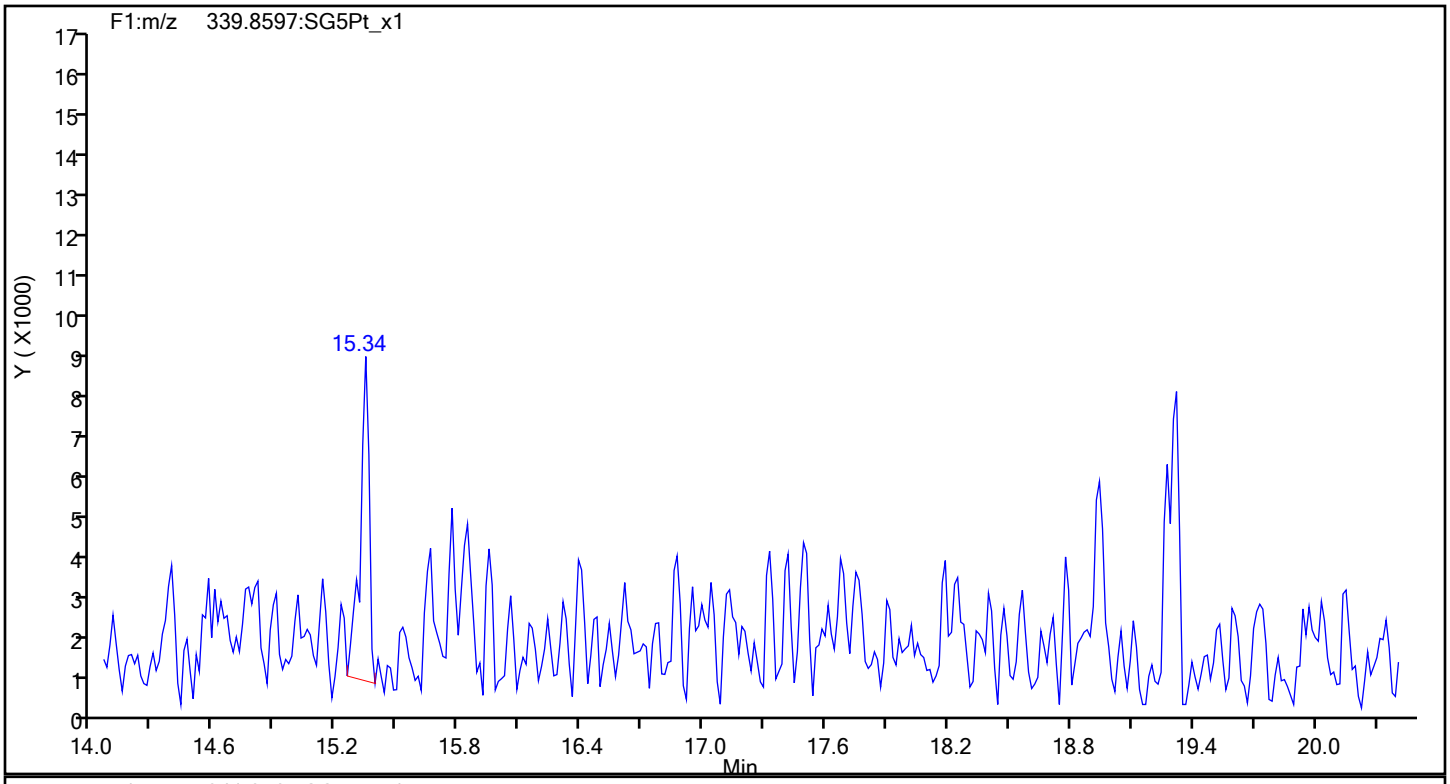

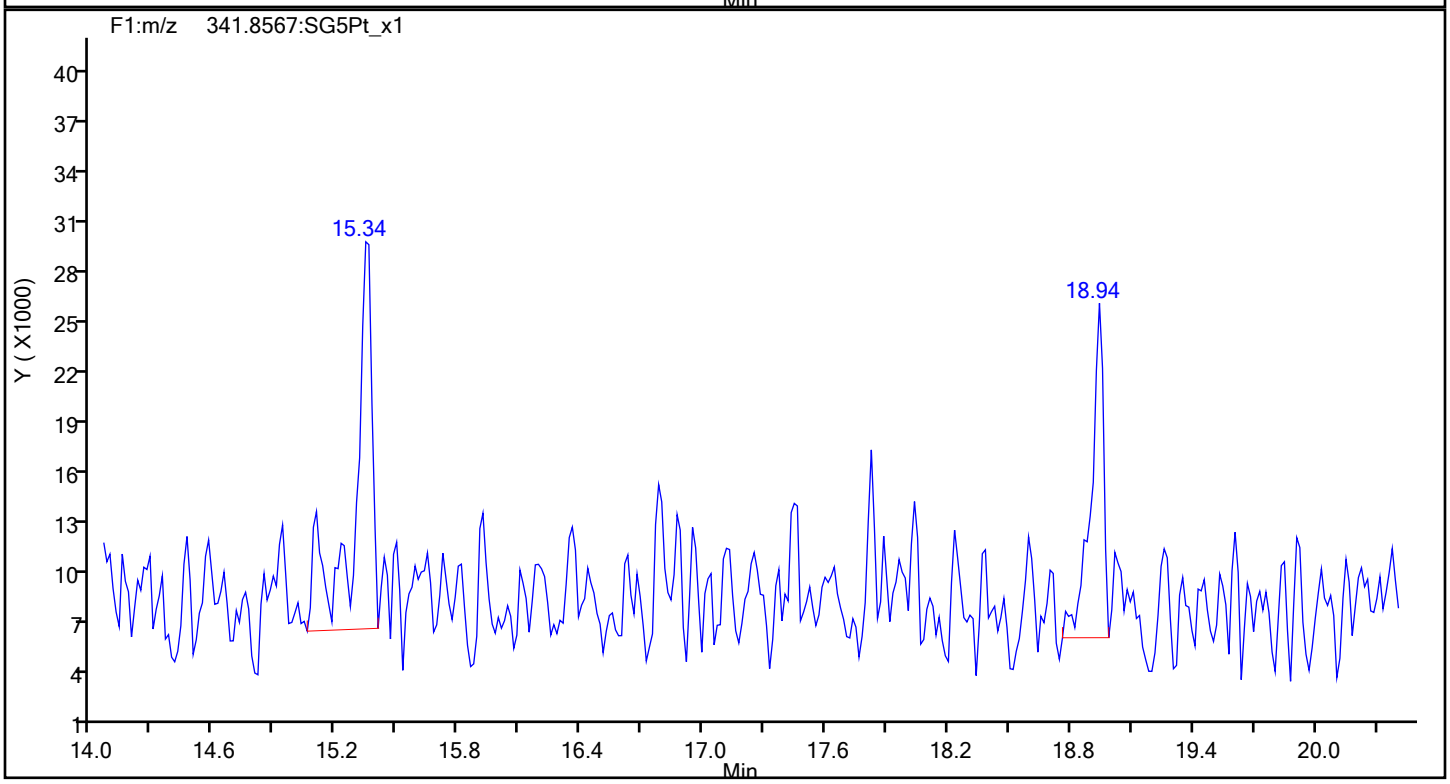

Report Date: 12-Dec-2019 15:54:34 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_6.d		
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

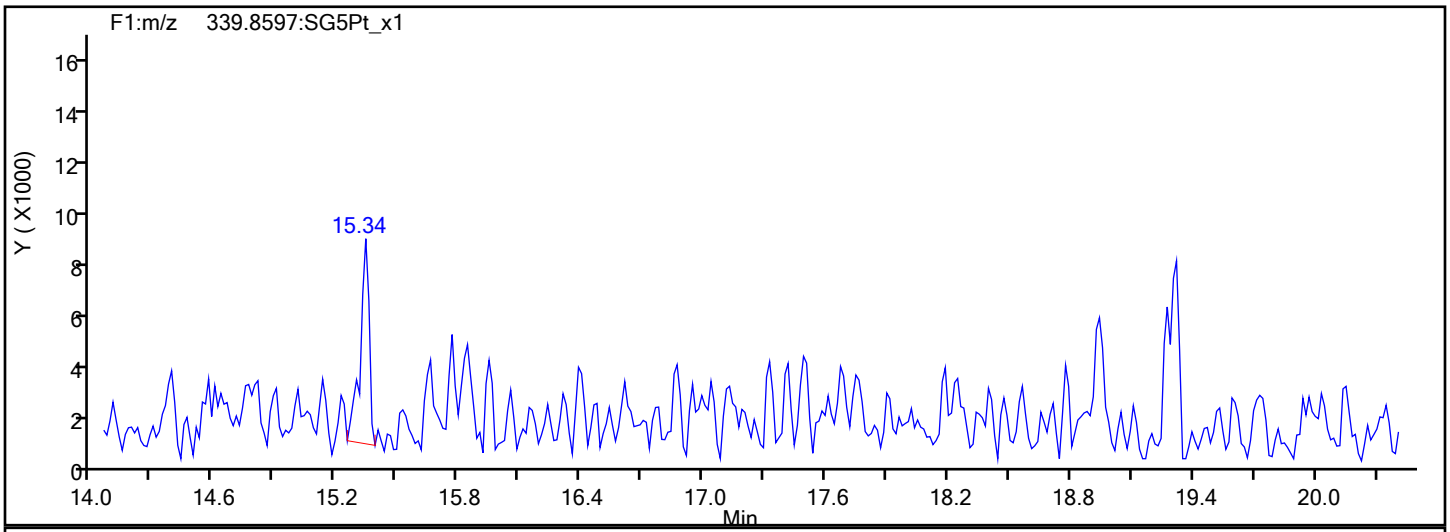

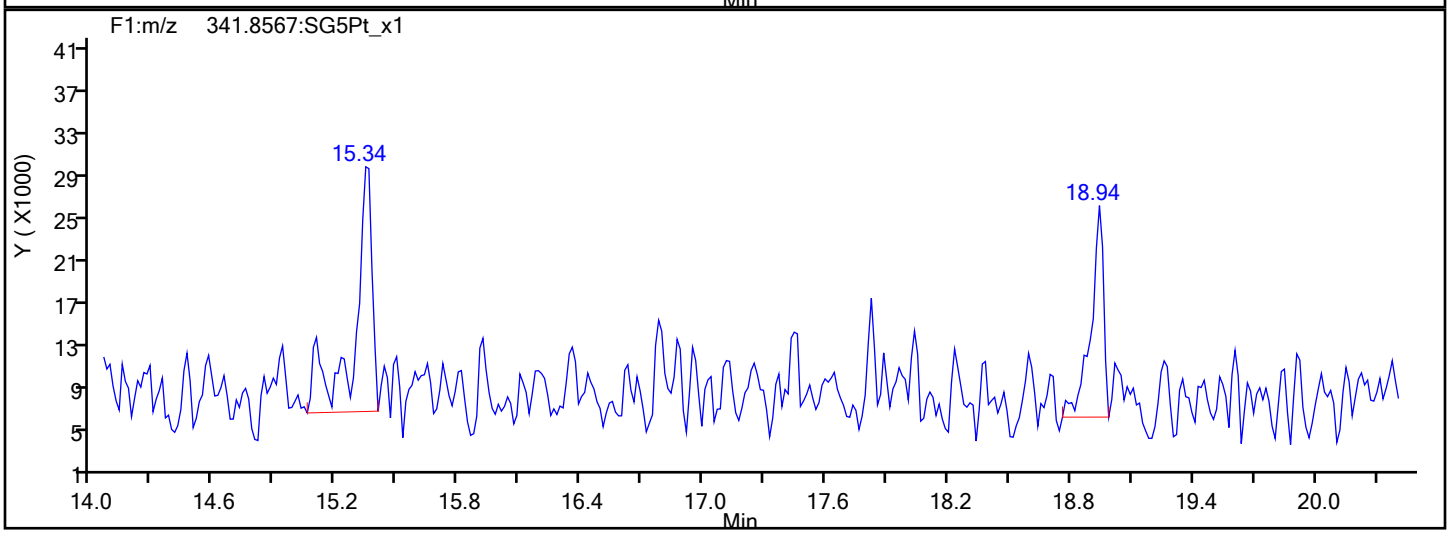

F1 PeCDFs Interference Mass

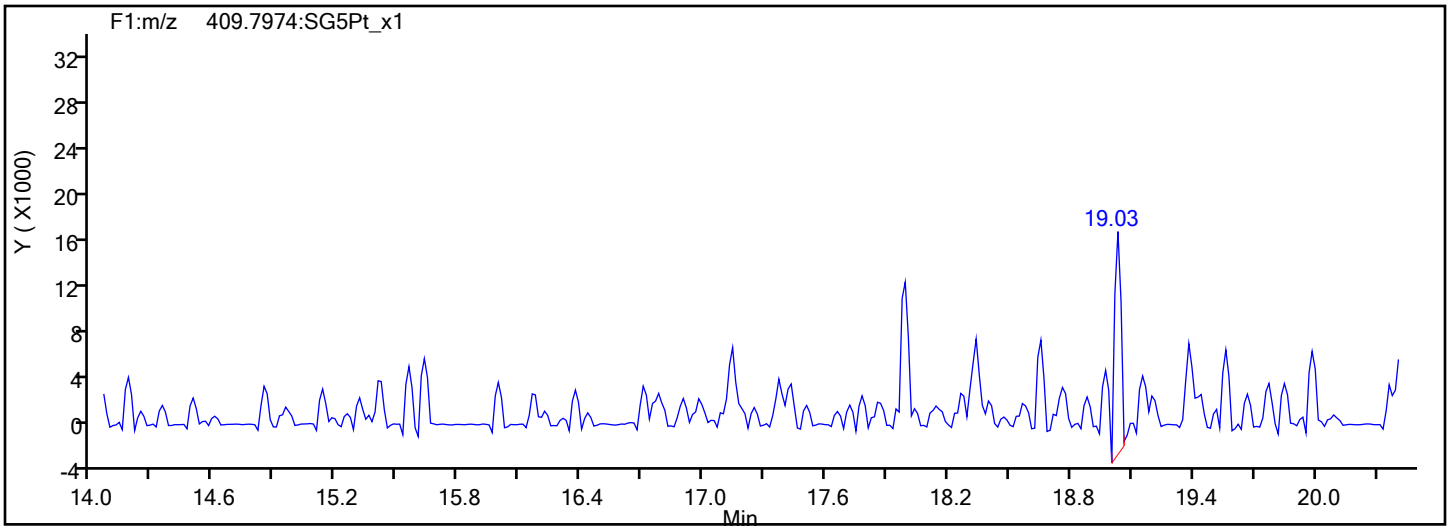

Report Date: 12-Dec-2019 15:54:34 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_6.d		
Injection Date:	12-Dec-2019 13:51:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
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PeCDF

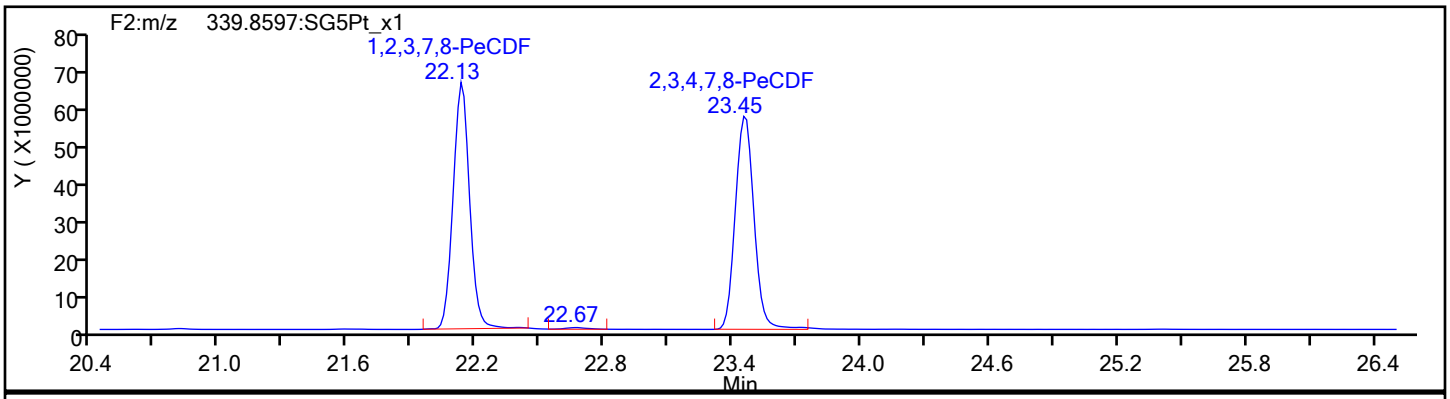

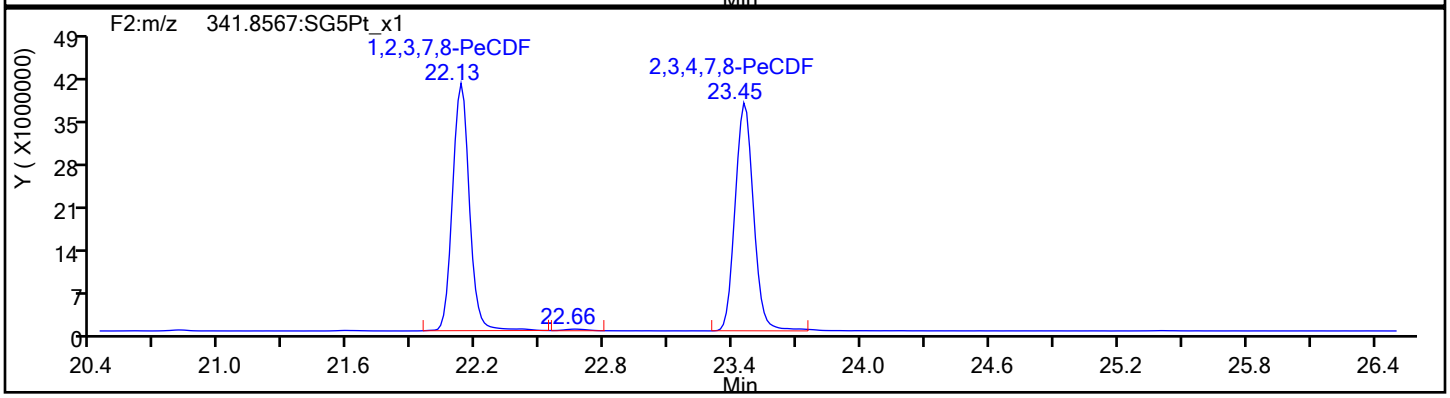

PeCDF Standards

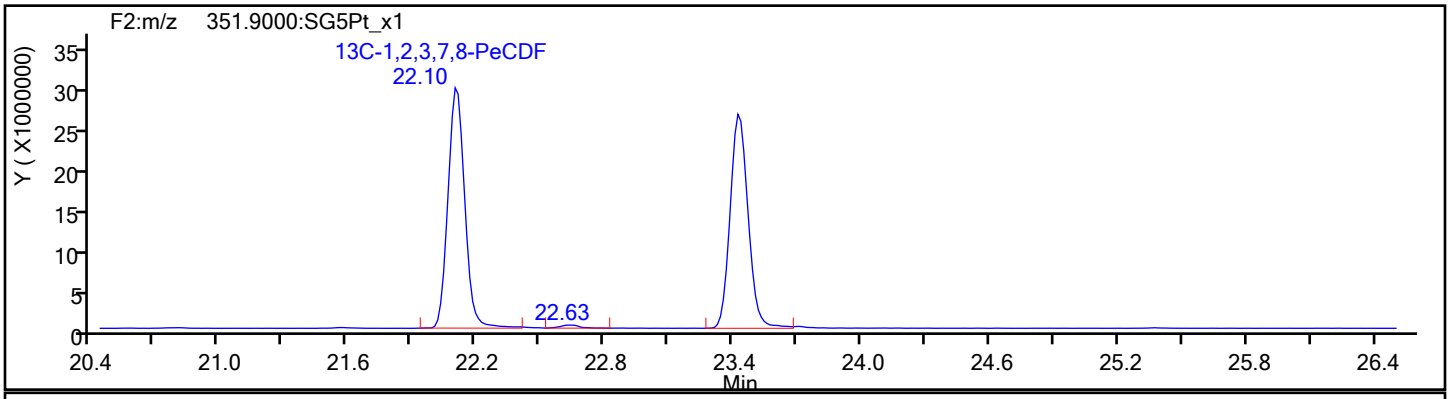

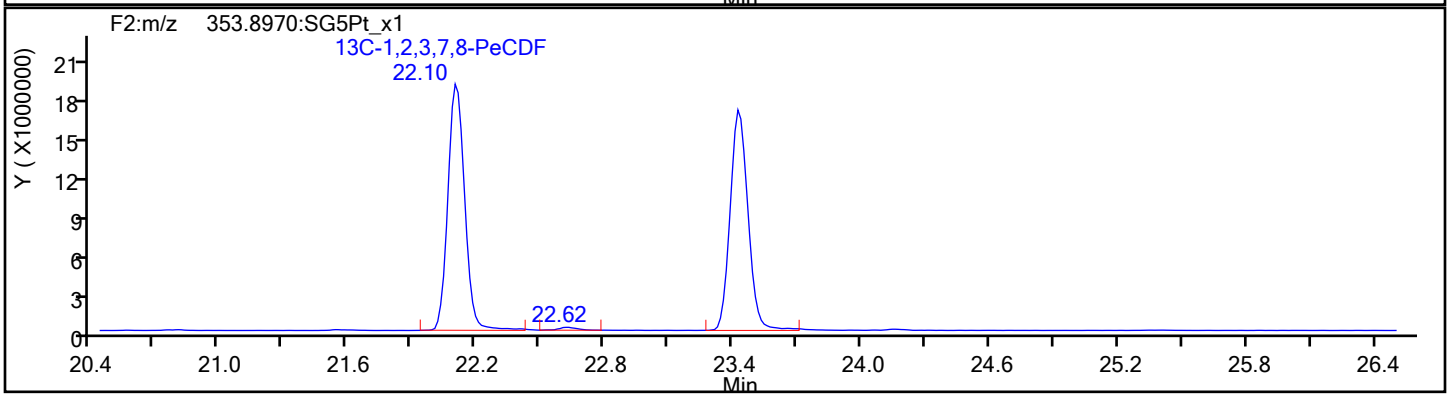

Report Date: 12-Dec-2019 15:54:34 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_6.d		
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Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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PeCDF

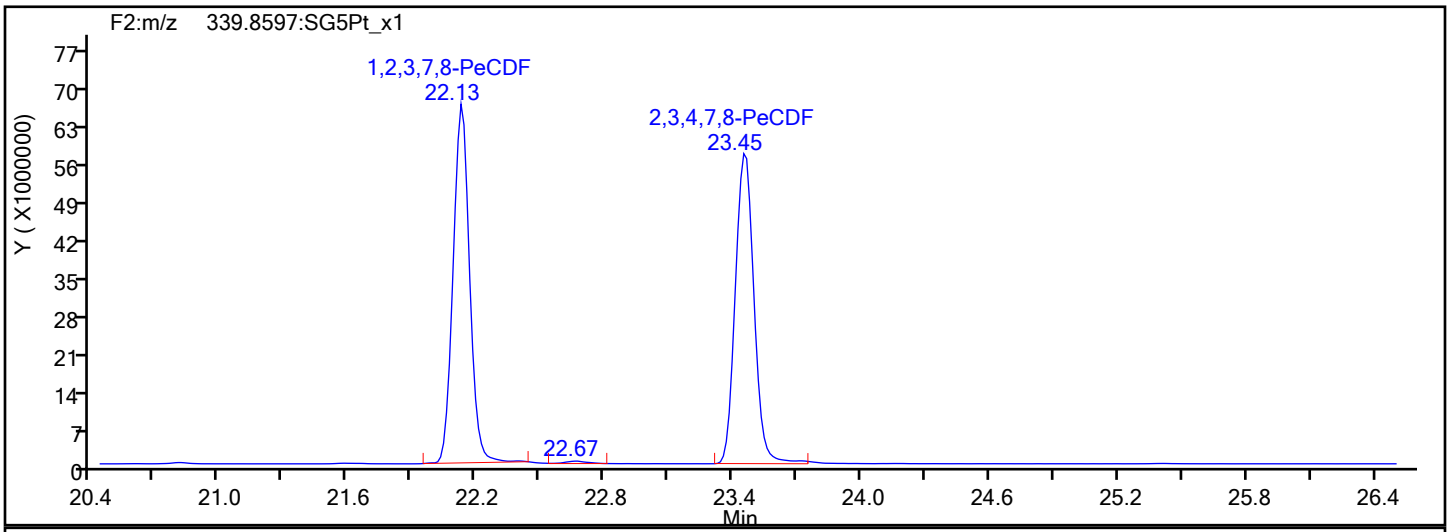

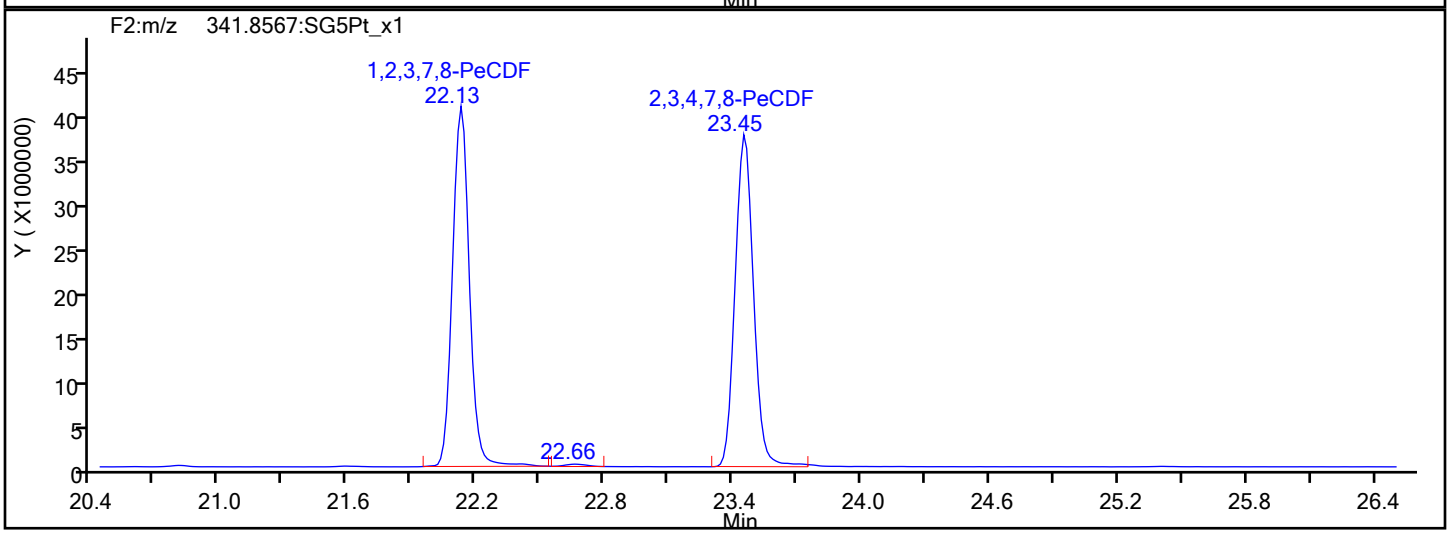

PeCDF Interference Mass

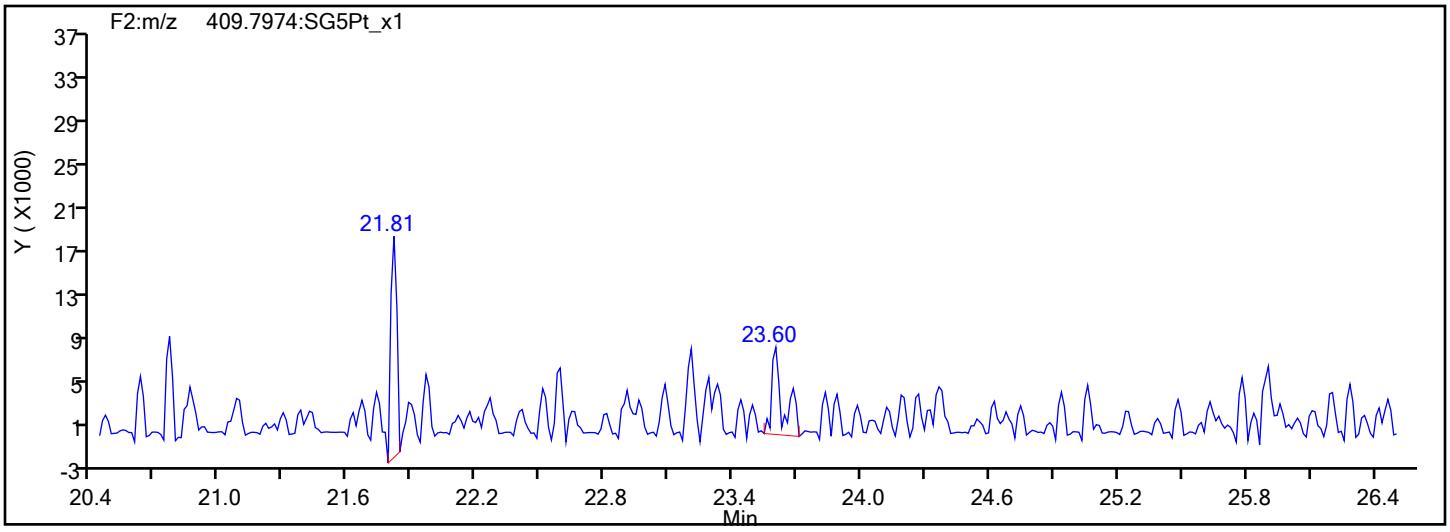

Report Date: 12-Dec-2019 15:54:34 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_6.d		
Injection Date:	12-Dec-2019 13:51:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

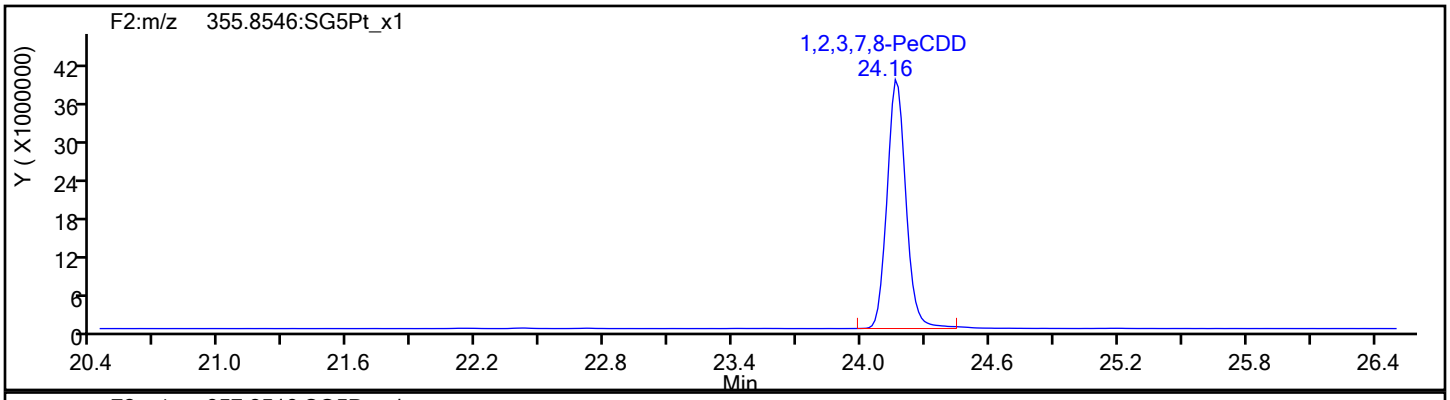

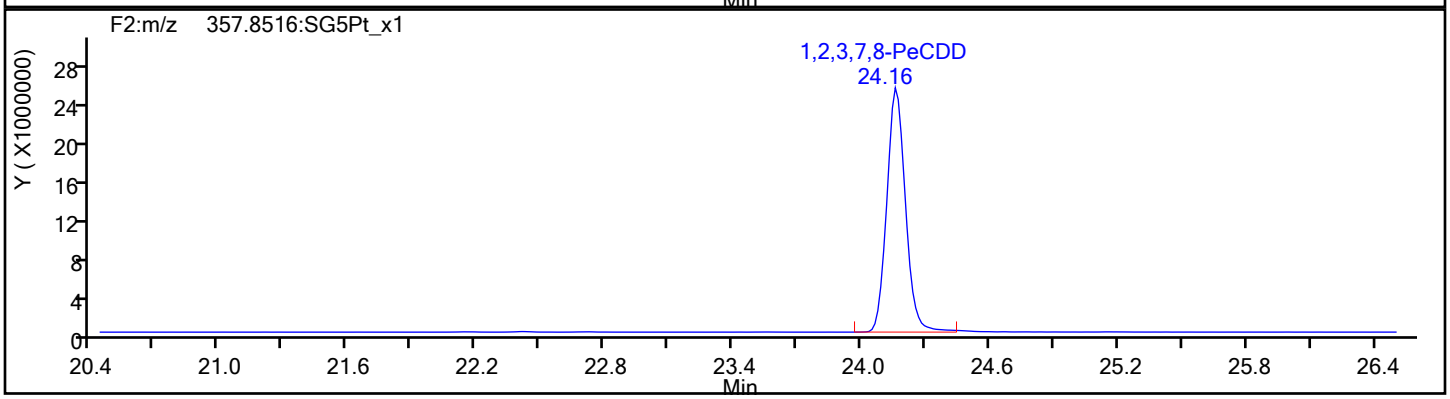

PeCDD Standards

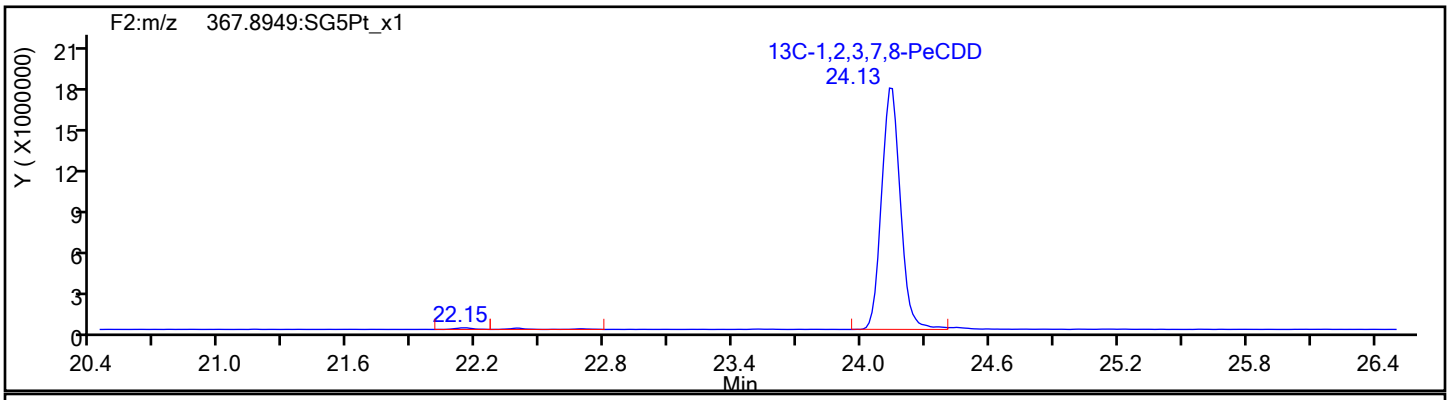

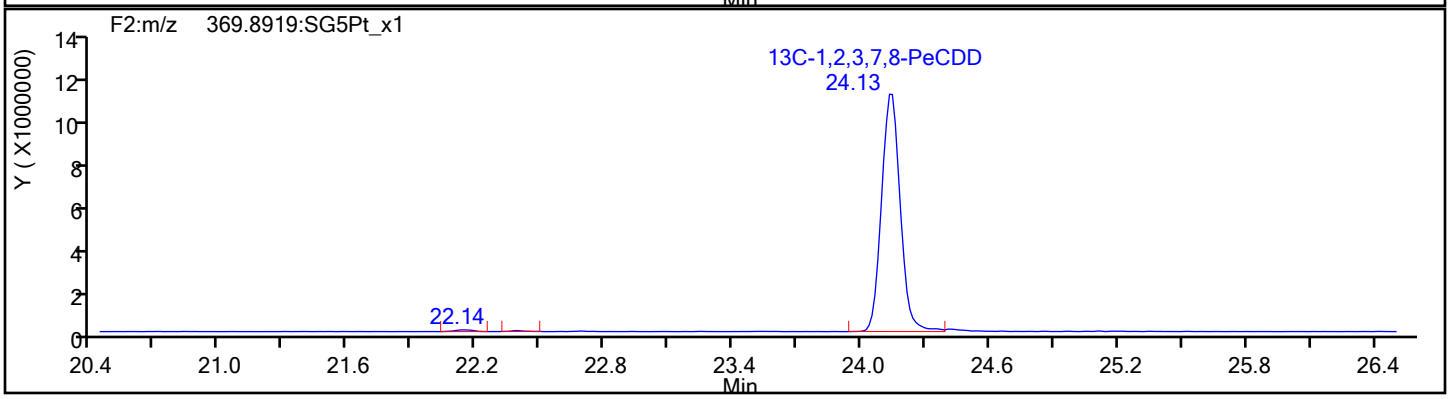

Report Date: 12-Dec-2019 15:54:34 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_6.d		
Injection Date:	12-Dec-2019 13:51:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
Worklist#:	345037	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

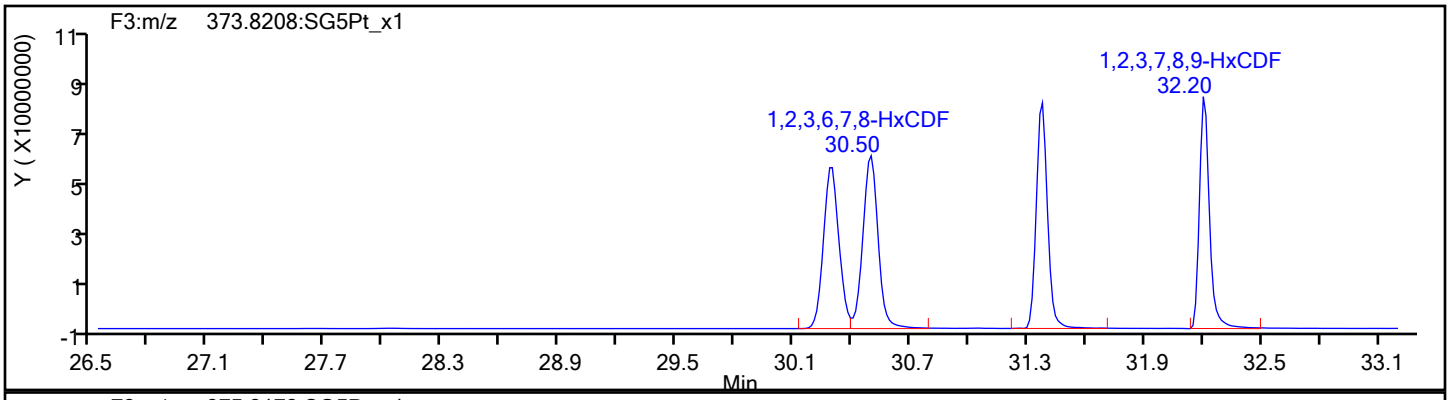

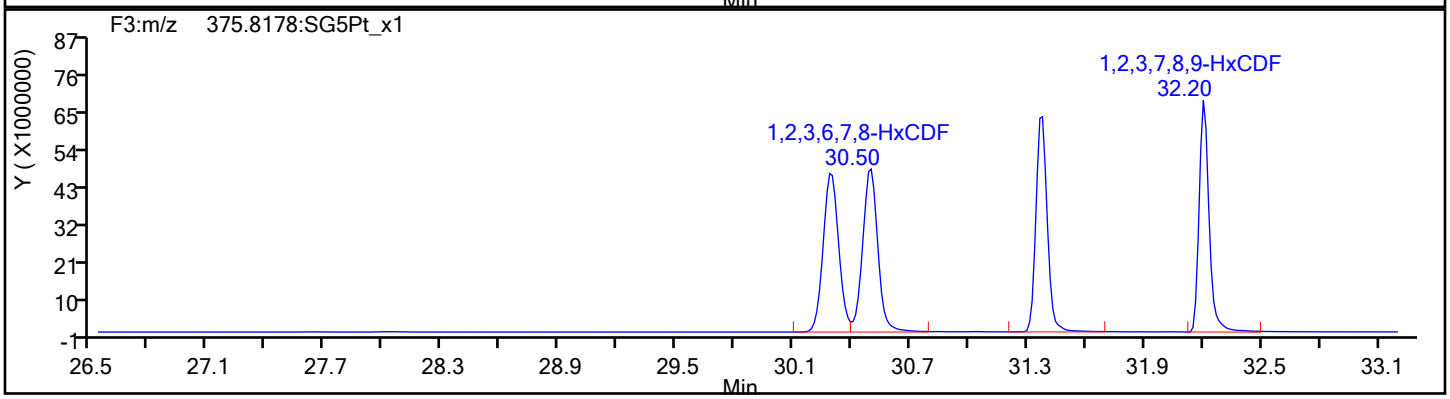

HxCDF Standards

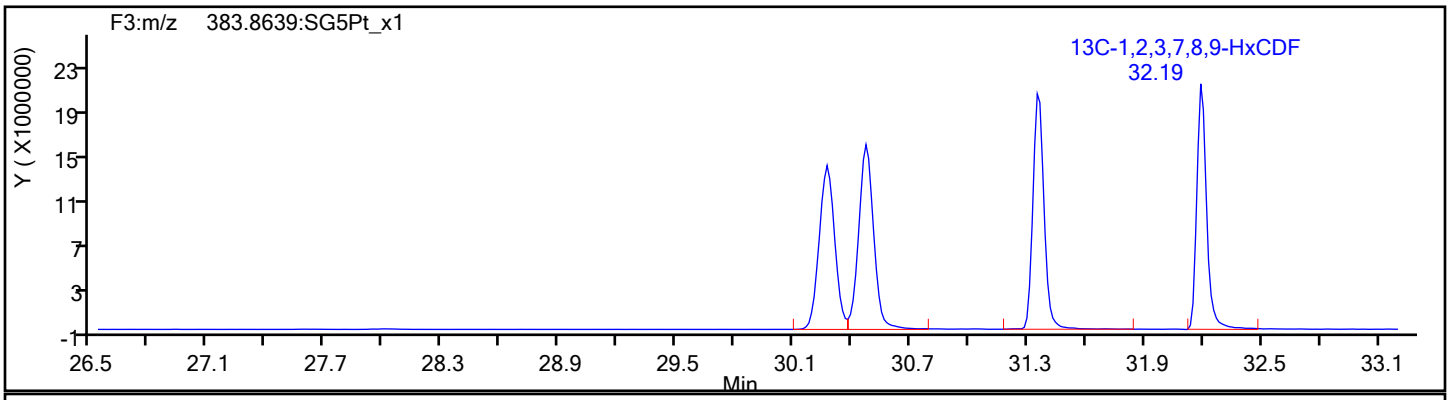

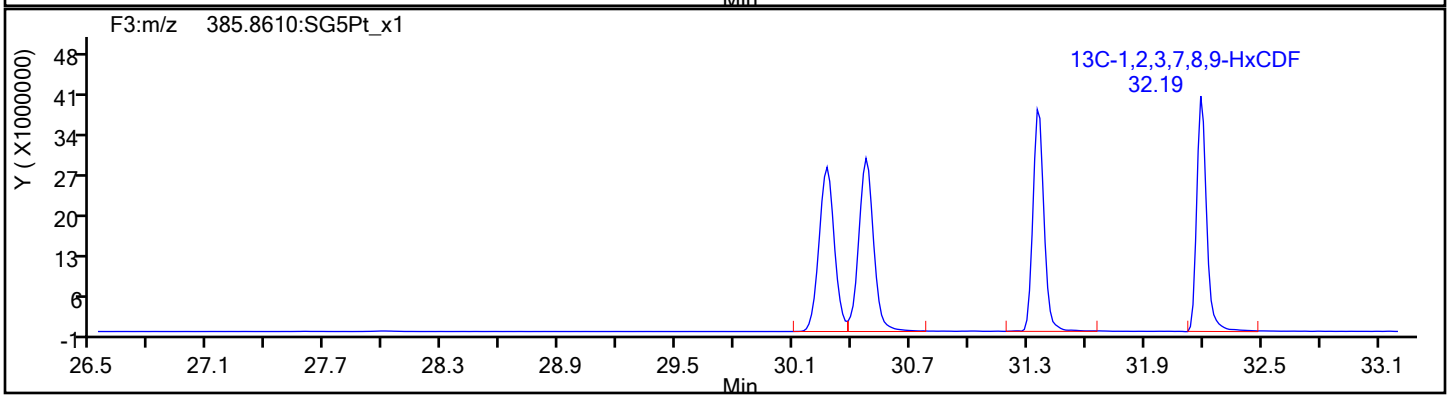

Report Date: 12-Dec-2019 15:54:34 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_6.d		
Injection Date:	12-Dec-2019 13:51:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
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Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

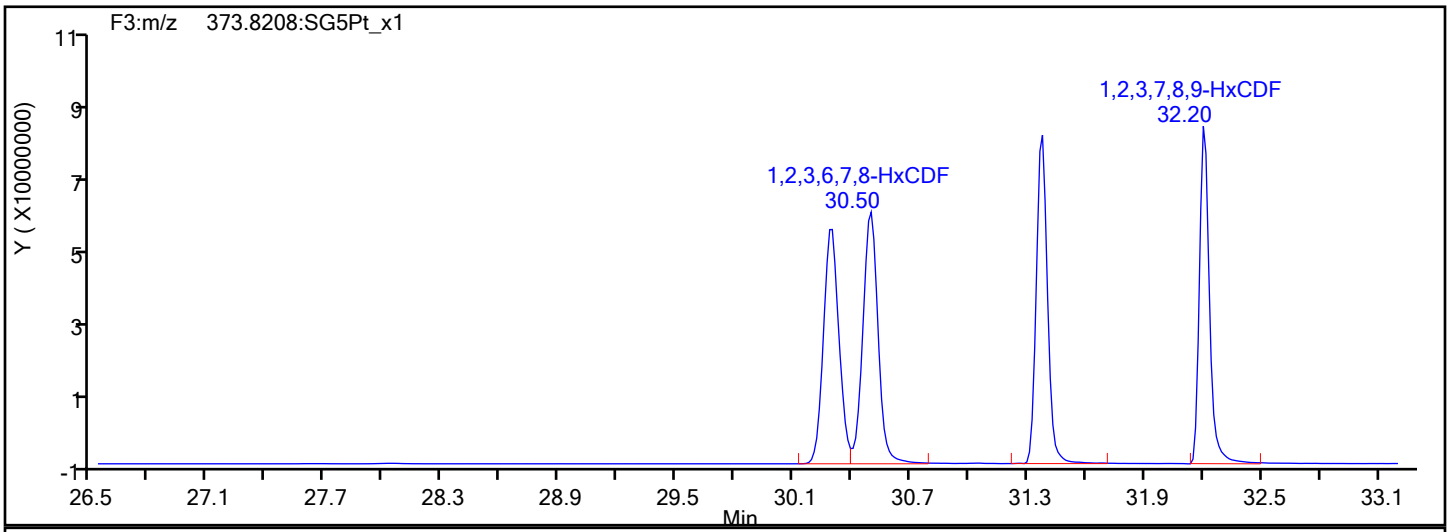

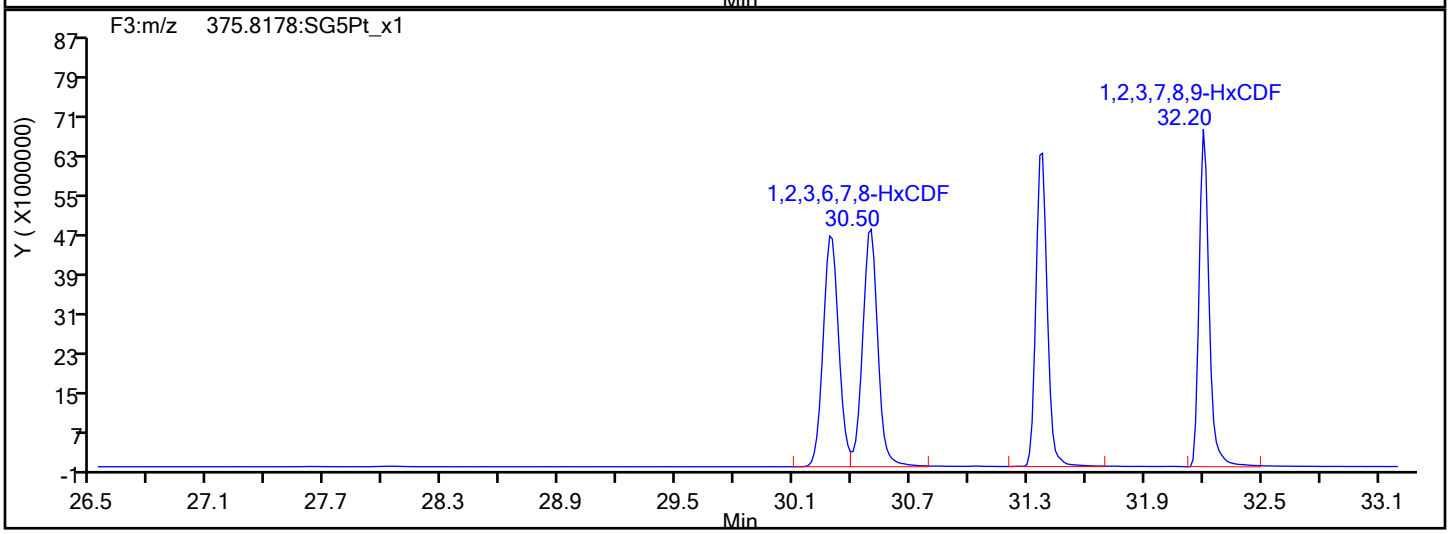

HxCDF Interference Mass

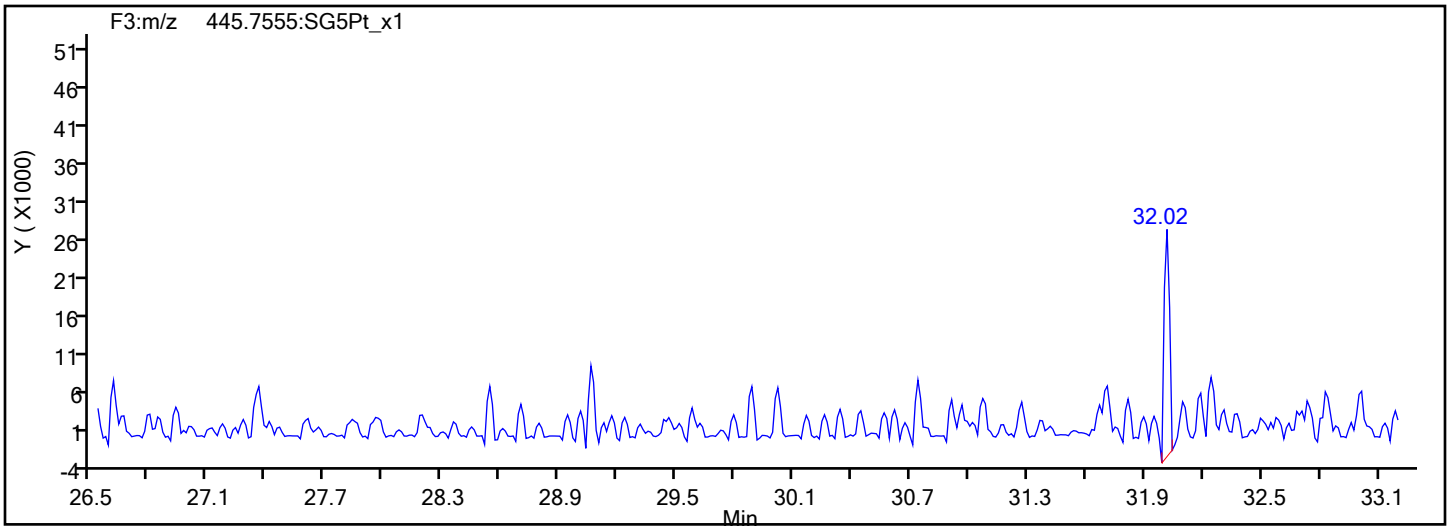

Report Date: 12-Dec-2019 15:54:34 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_6.d		
Injection Date:	12-Dec-2019 13:51:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
Worklist#:	345037	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDD

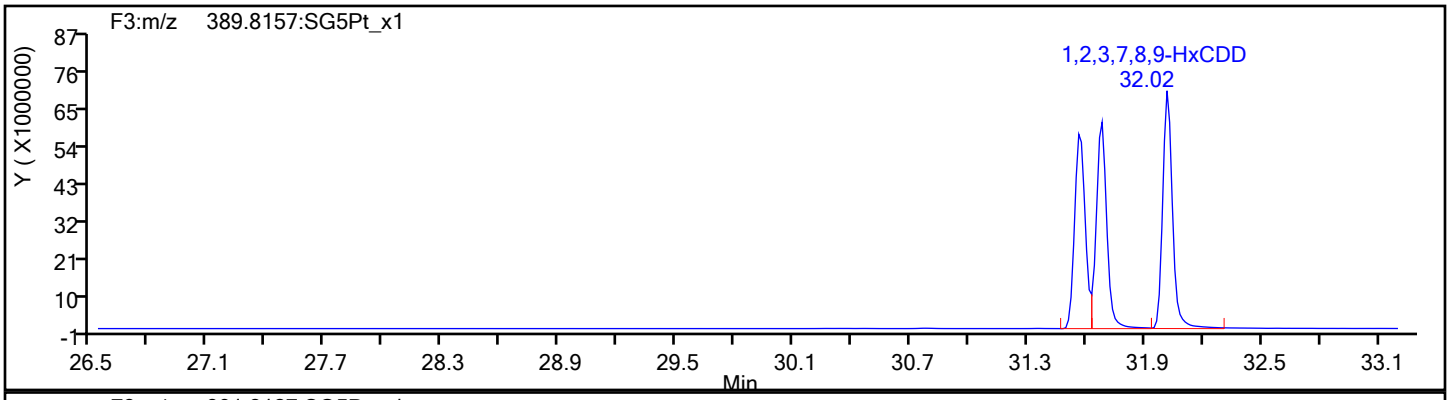

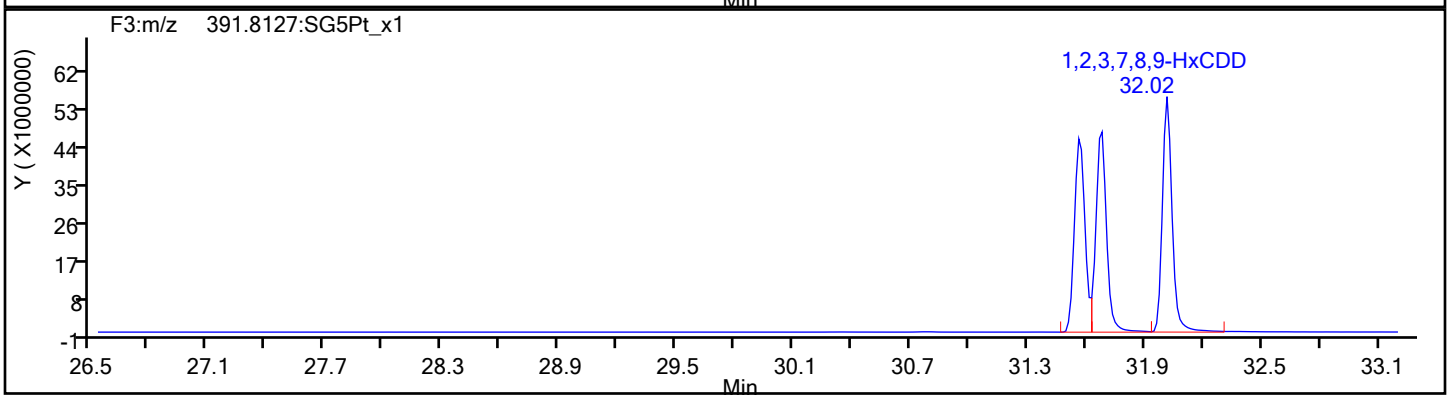

HxCDD Standards

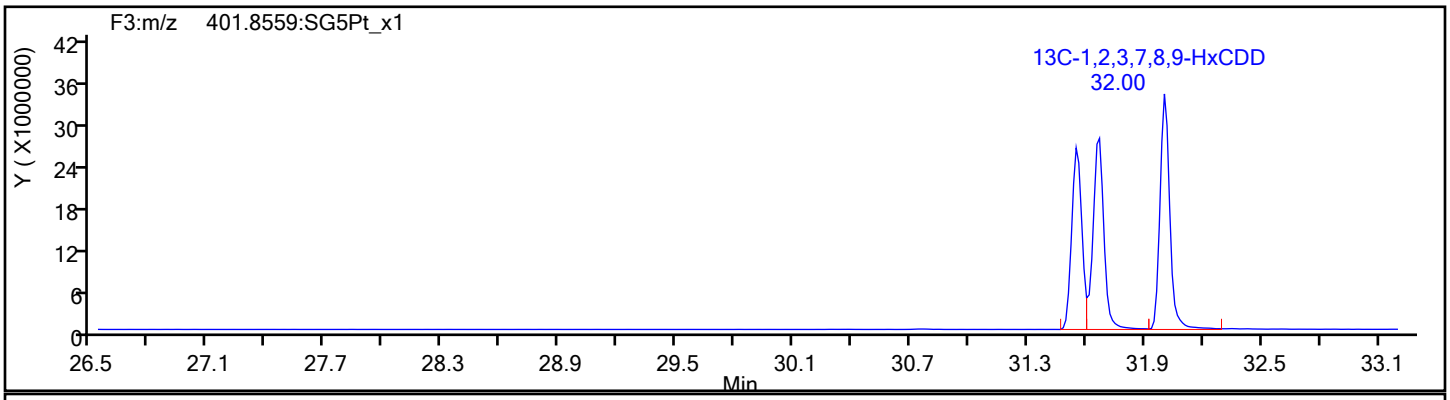

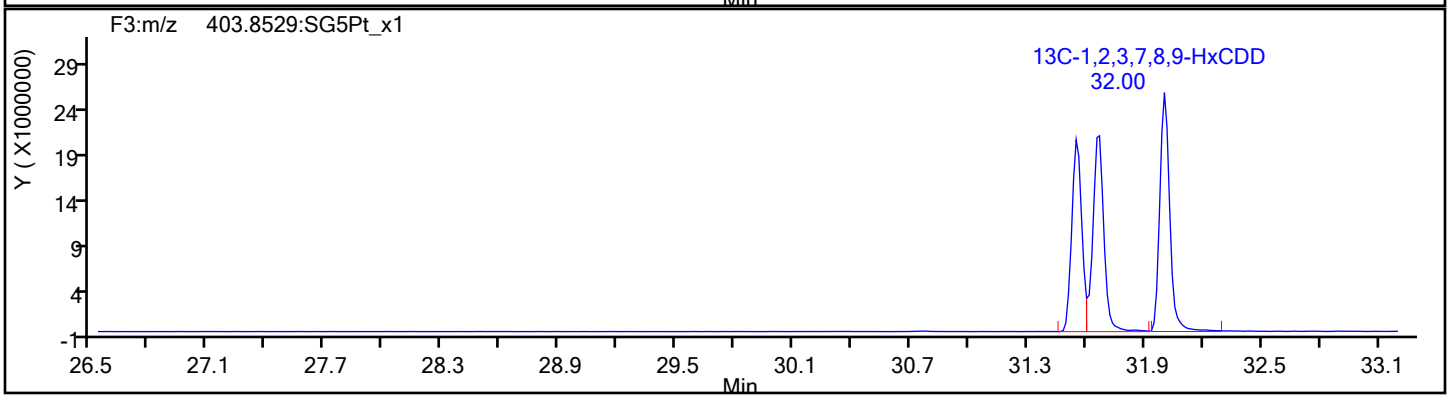

Report Date: 12-Dec-2019 15:54:34 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_6.d		
Injection Date:	12-Dec-2019 13:51:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
Worklist#:	345037	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

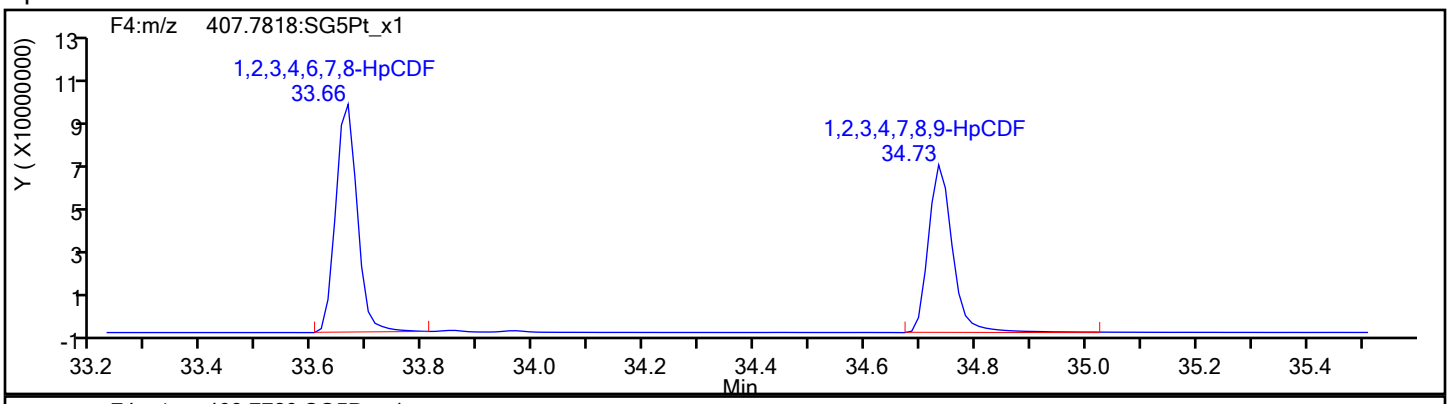

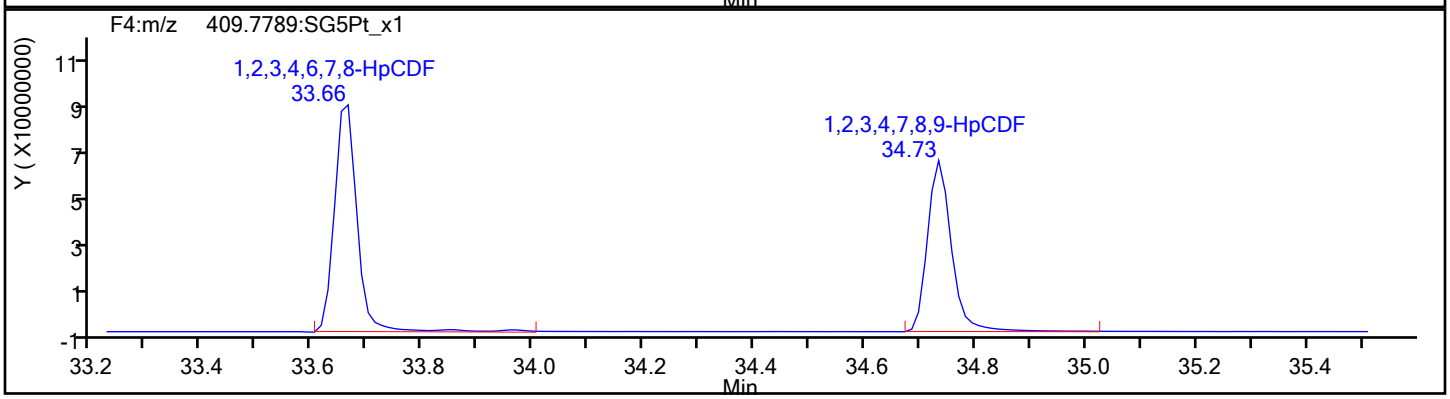

HpCDF Standards

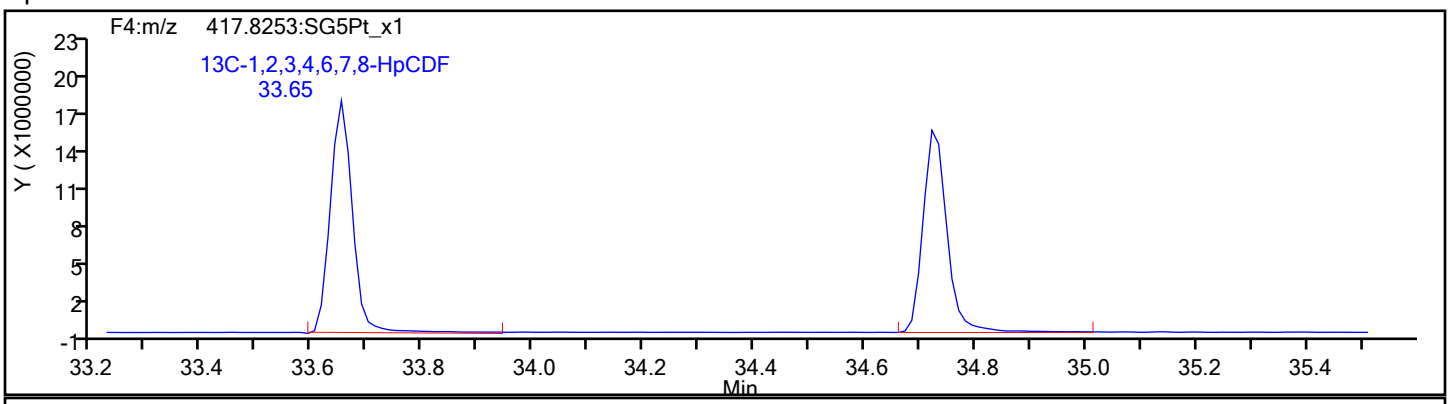

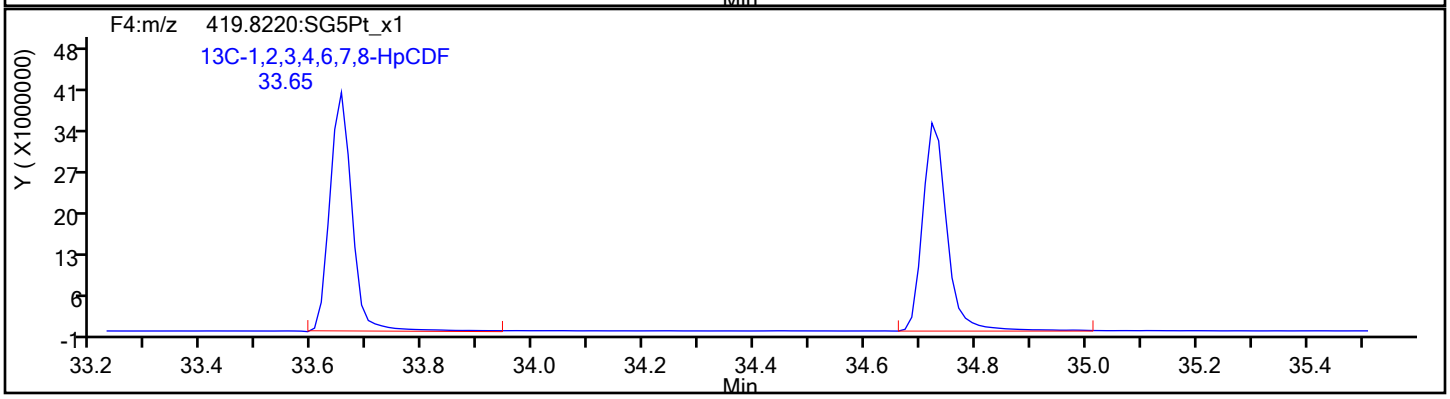

Report Date: 12-Dec-2019 15:54:34 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_6.d		
Injection Date:	12-Dec-2019 13:51:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
Worklist#:	345037	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

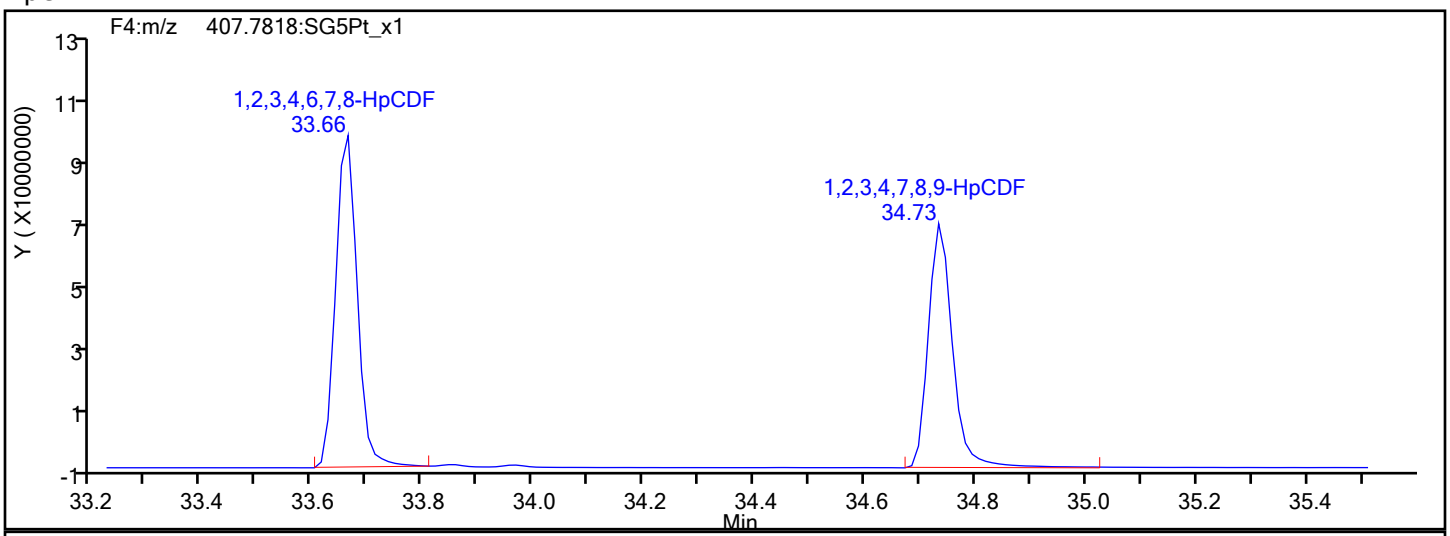

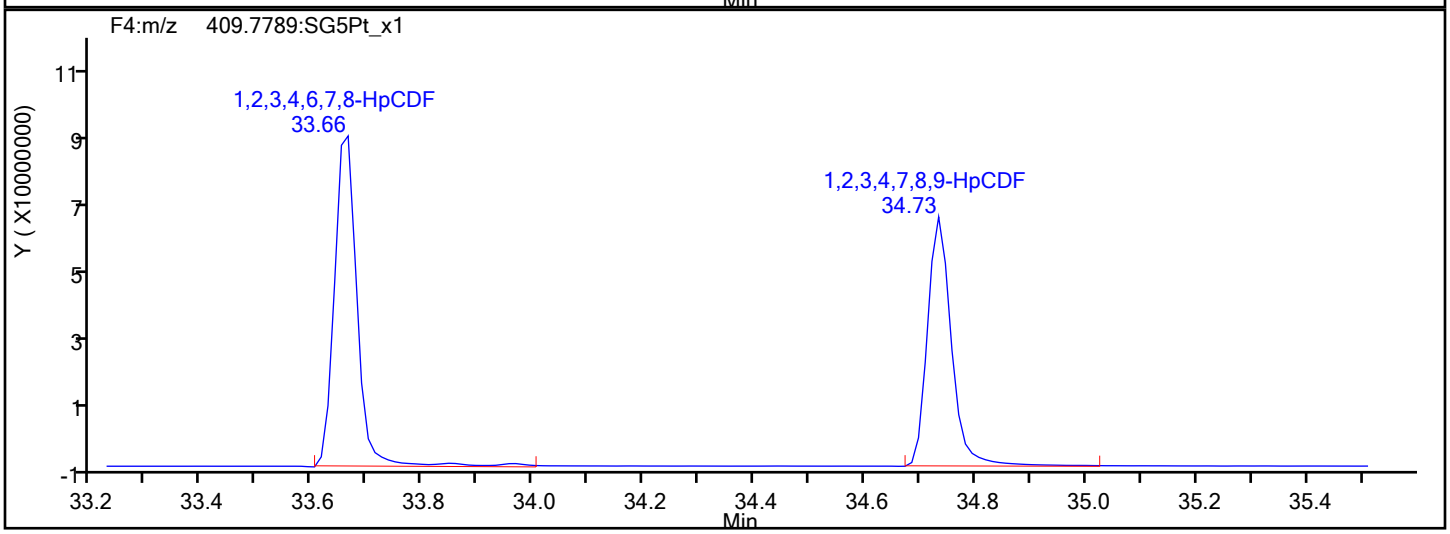

HpCDF Interference Mass

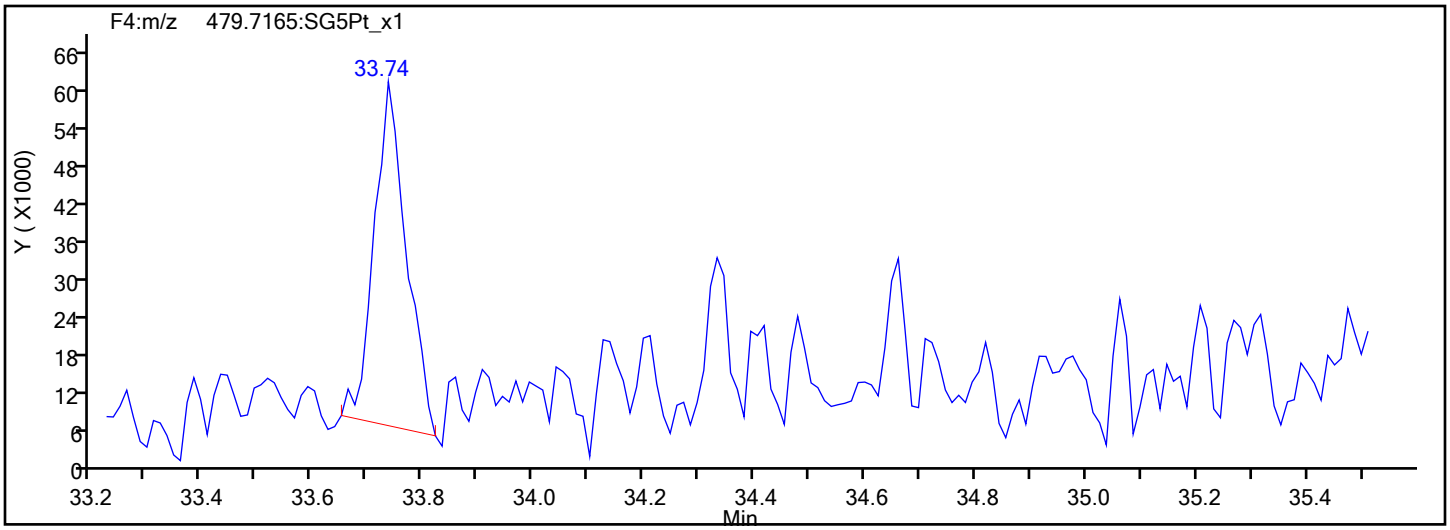

Report Date: 12-Dec-2019 15:54:34 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_6.d		
Injection Date:	12-Dec-2019 13:51:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

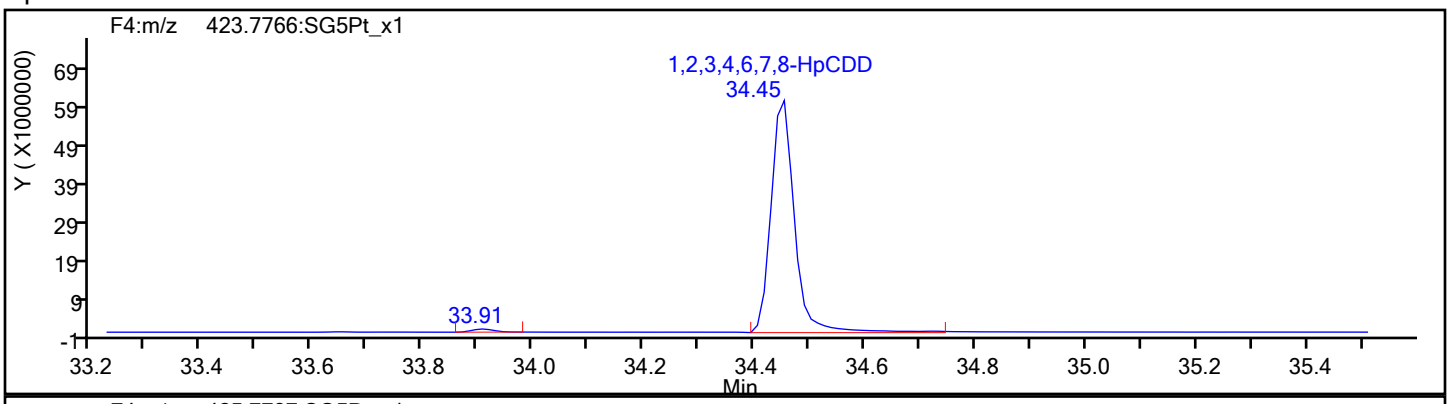

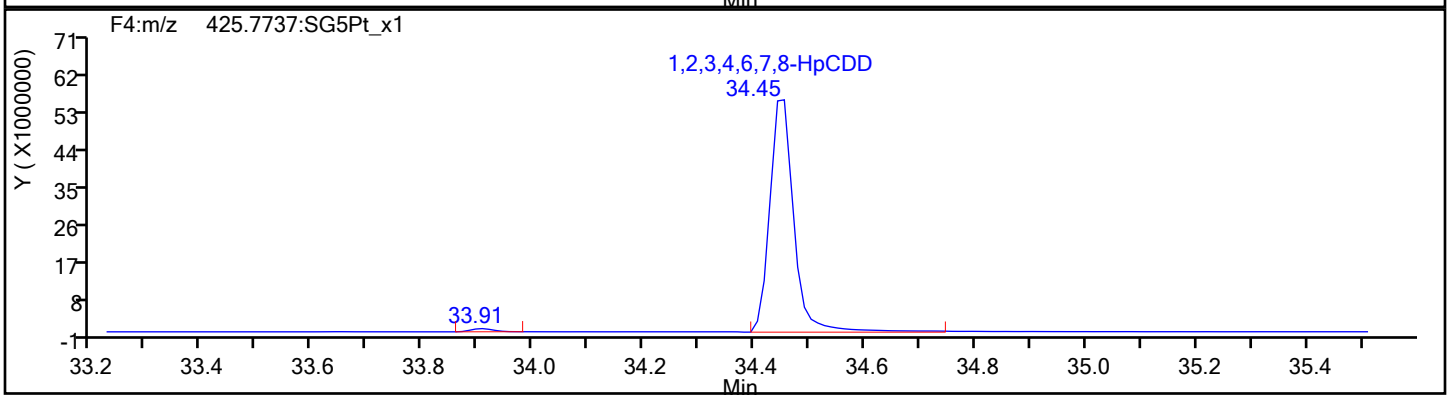

HpCDD Standards

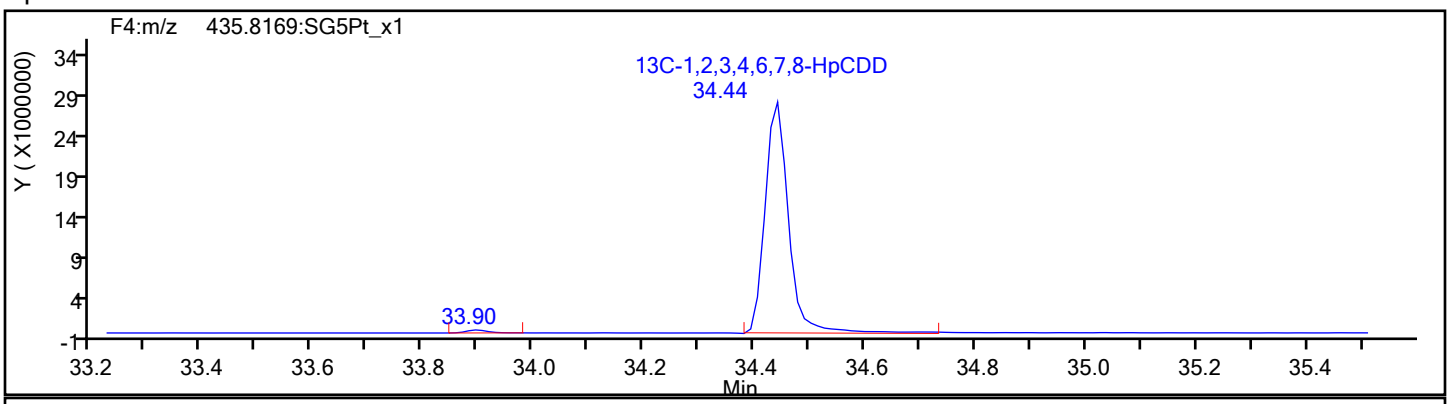

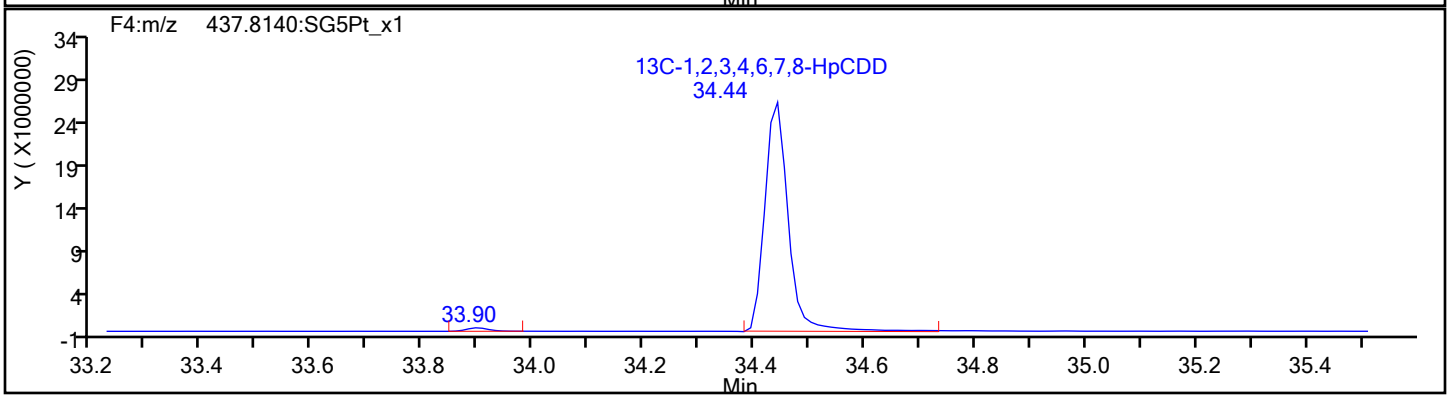

Report Date: 12-Dec-2019 15:54:34 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_6.d		
Injection Date:	12-Dec-2019 13:51:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
Worklist#:	345037	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

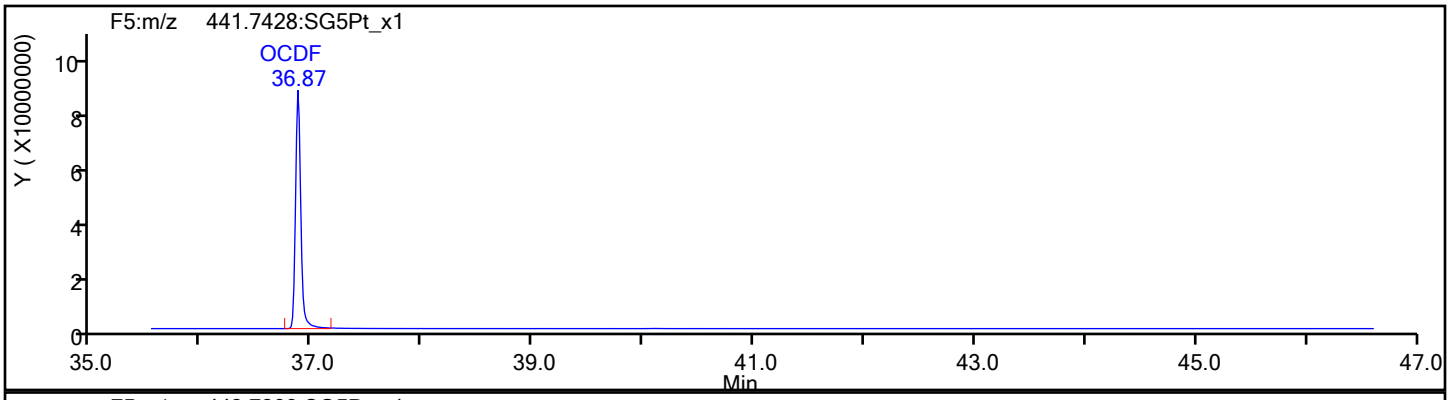

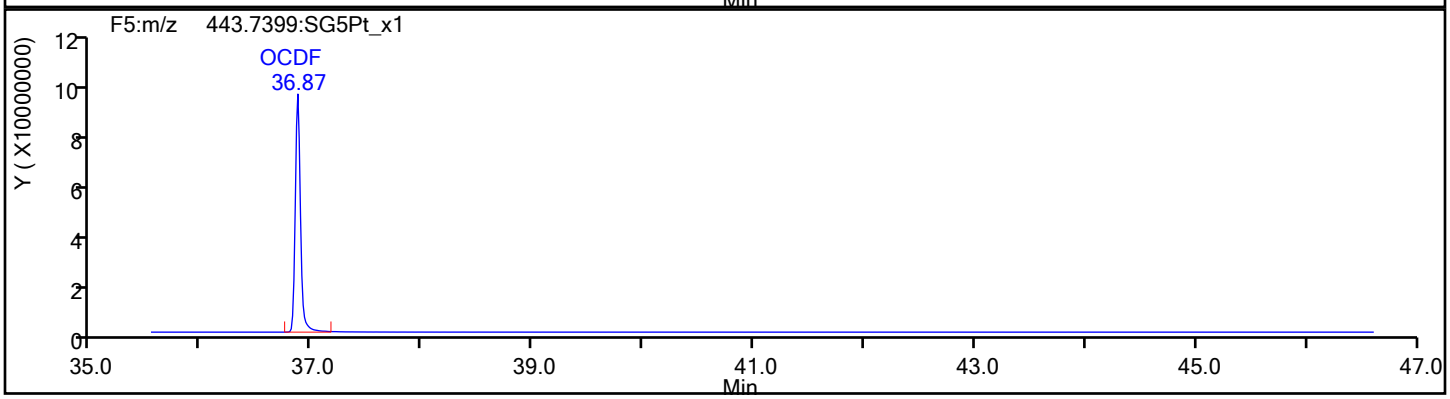

OCDF Standards

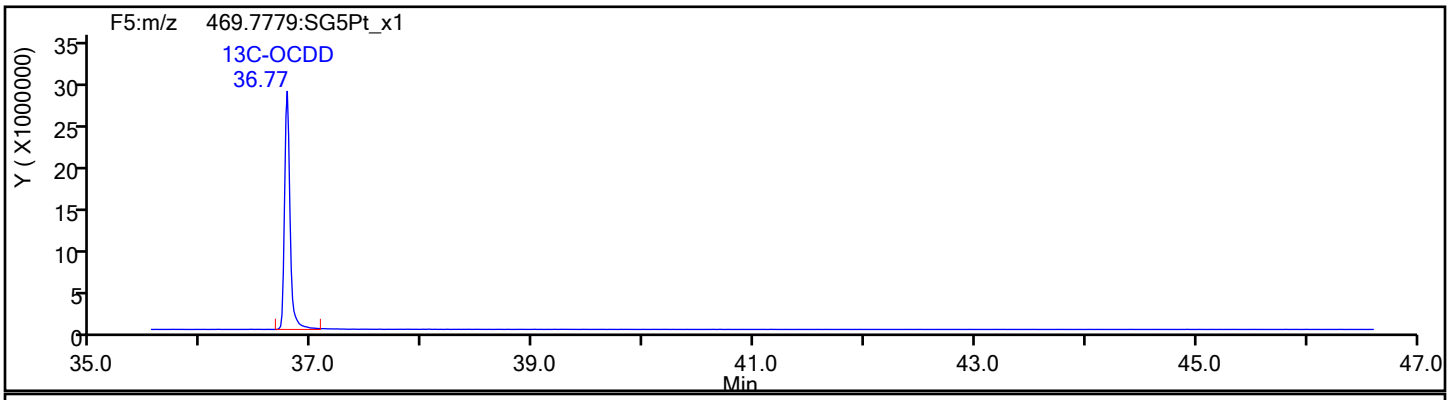

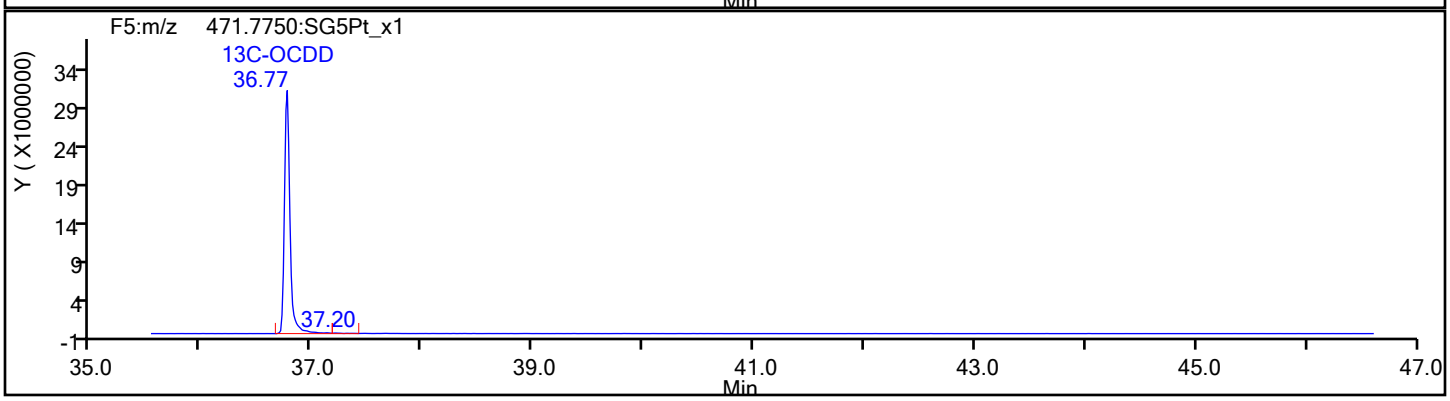

Report Date: 12-Dec-2019 15:54:34 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_6.d		
Injection Date:	12-Dec-2019 13:51:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
Worklist#:	345037	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

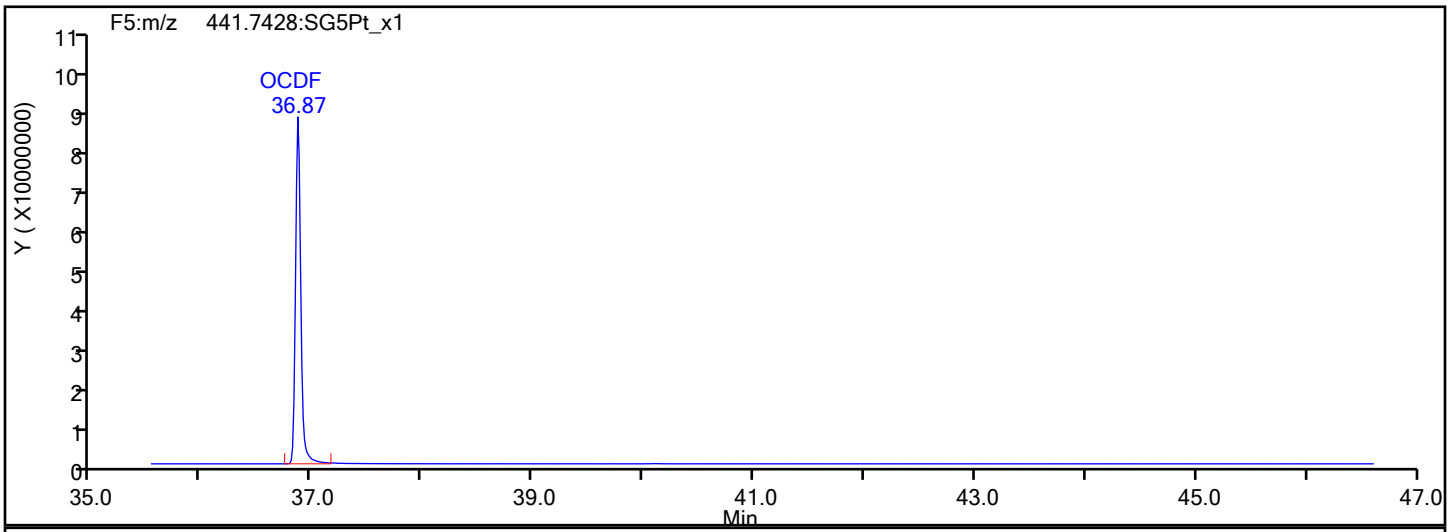

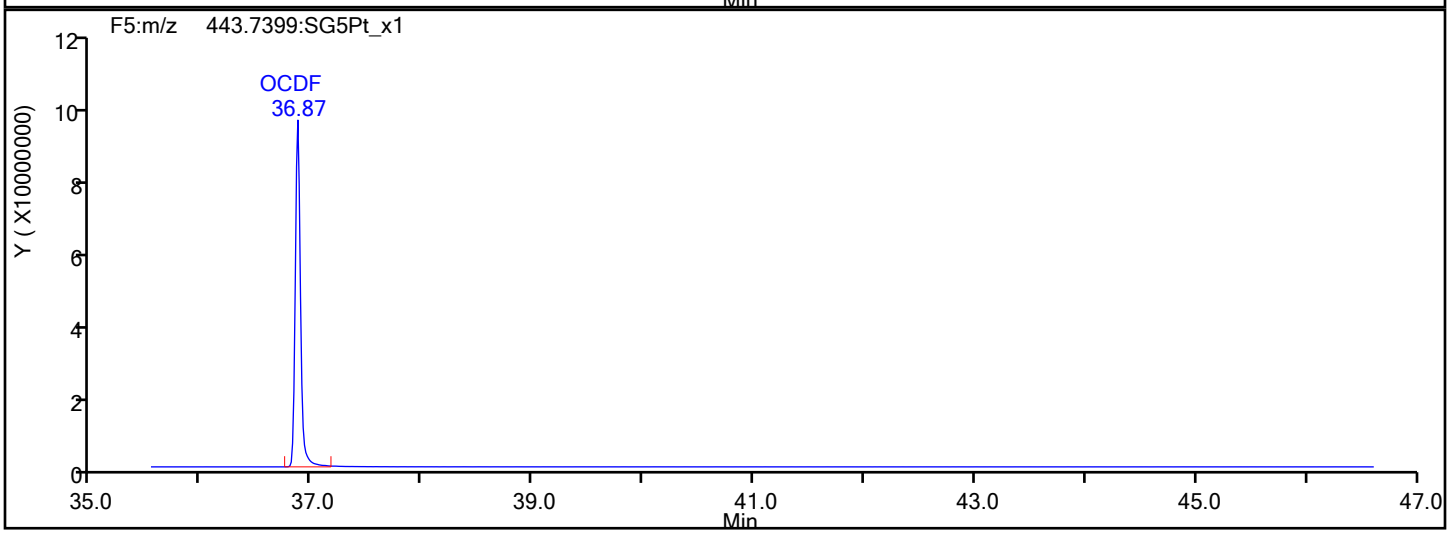

OCDF Interference Mass

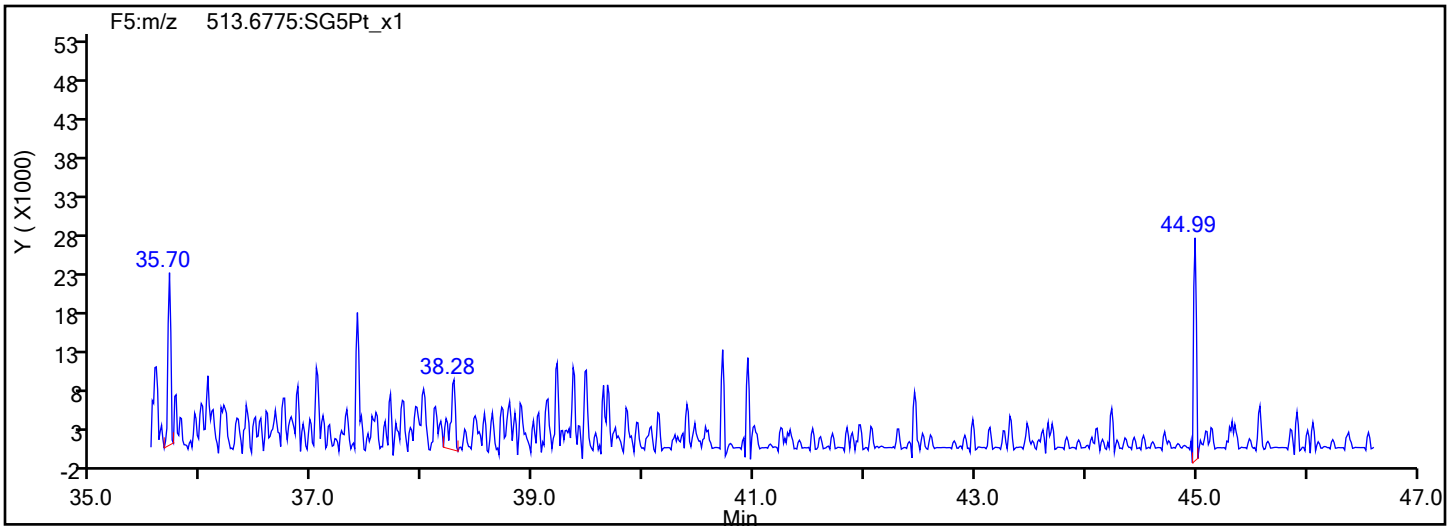

Report Date: 12-Dec-2019 15:54:34 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_6.d		
Injection Date:	12-Dec-2019 13:51:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
Worklist#:	345037	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

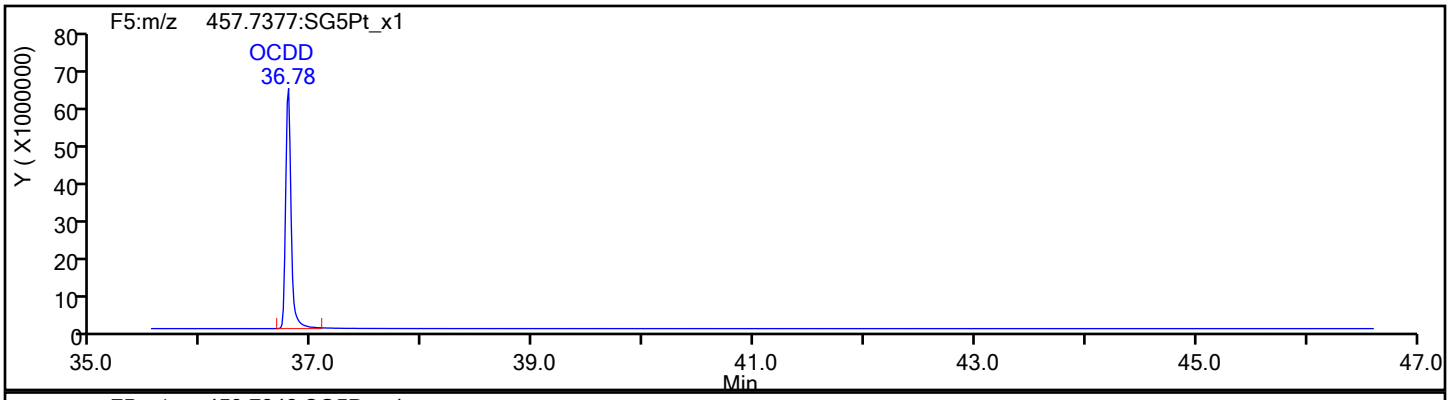

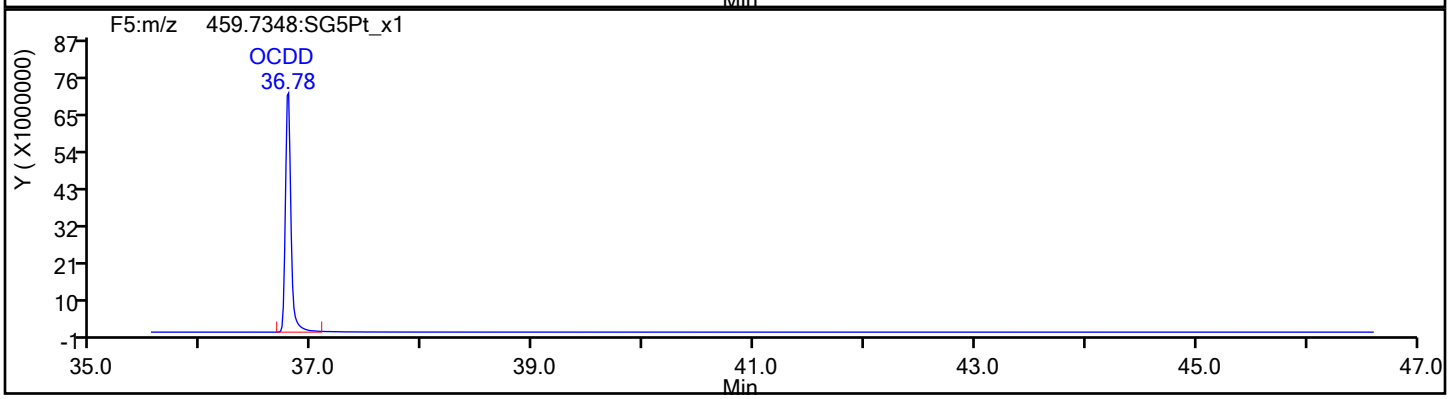

OCDD Standards

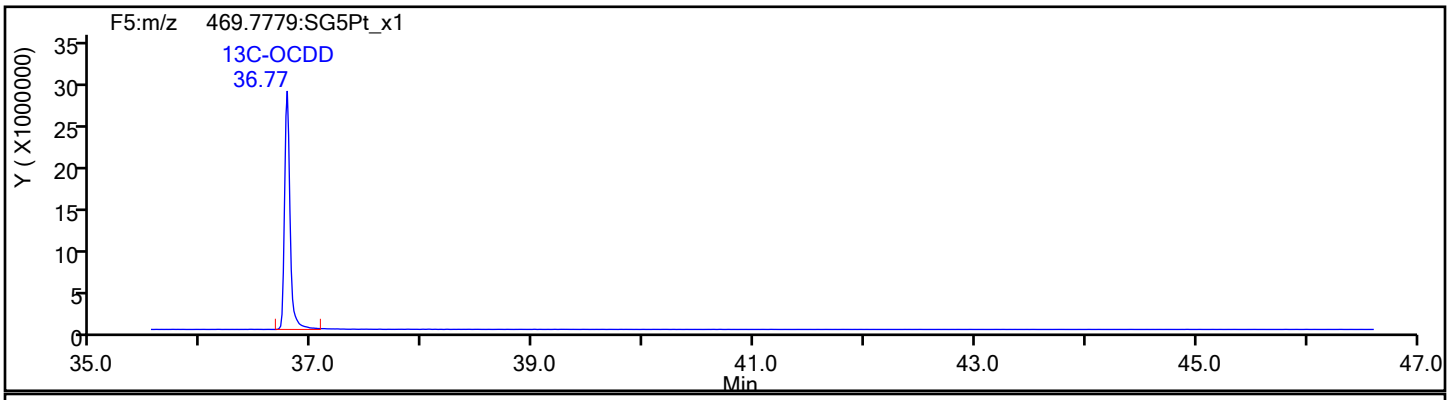

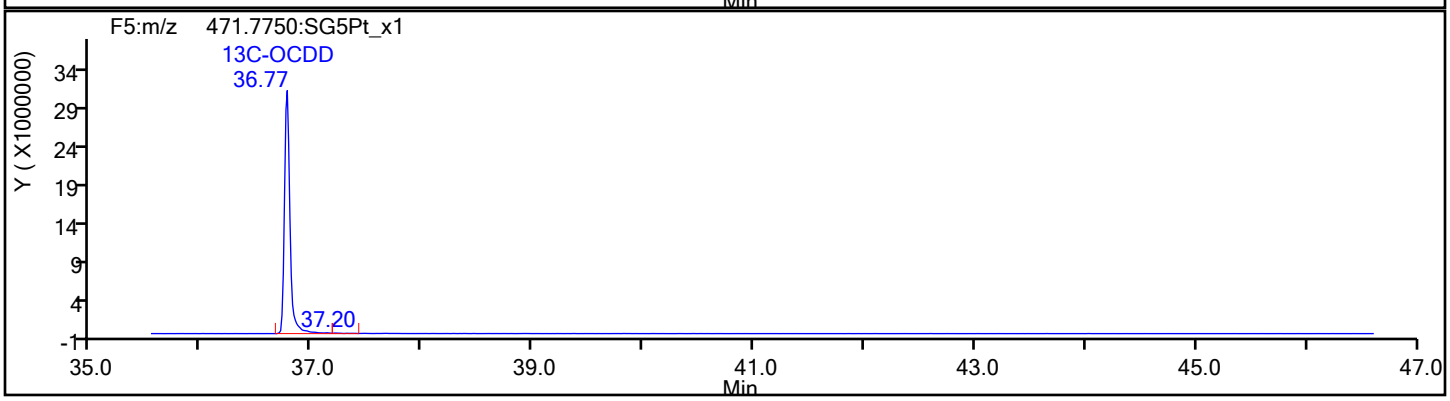

Report Date: 12-Dec-2019 15:54:34 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_6.d		
Injection Date:	12-Dec-2019 13:51:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
Worklist#:	345037	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

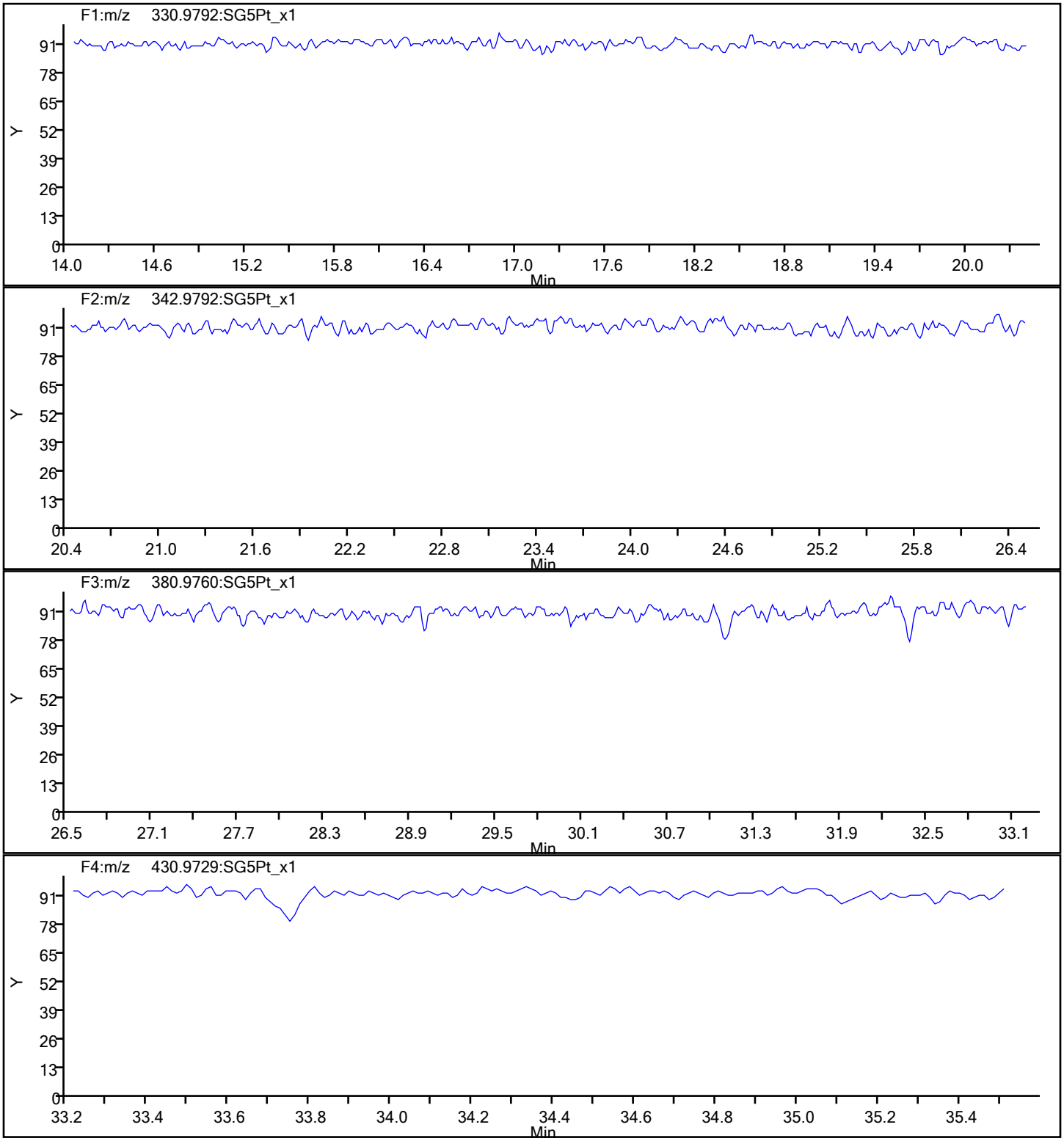

Report Date: 12-Dec-2019 15:54:34 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_6.d		
Injection Date:	12-Dec-2019 13:51:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
Worklist#:	345037	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

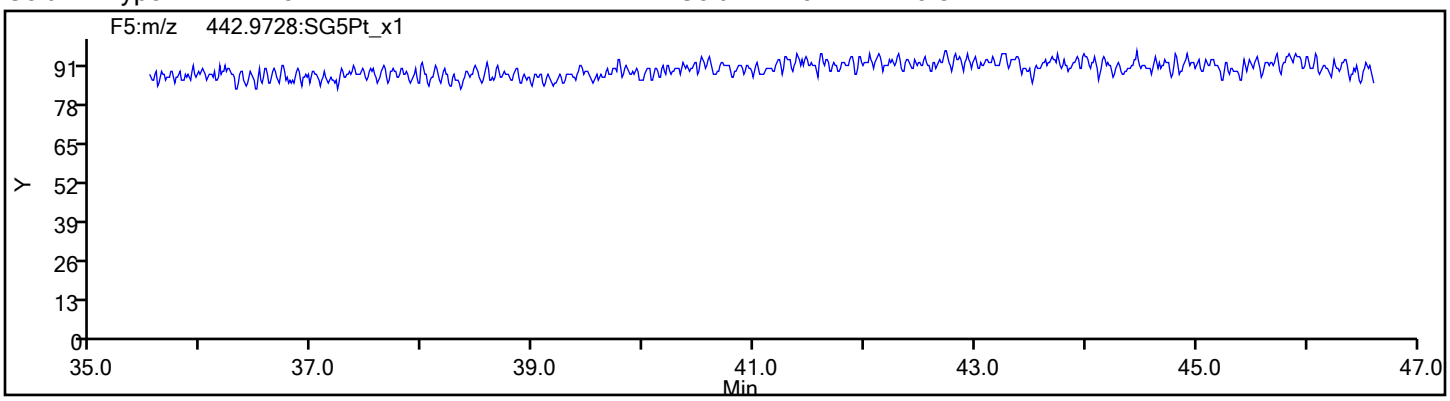

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d
Lims ID: IC 6
Client ID: L6
Sample Type: IC Calib Level: 6
Inject. Date: 12-Dec-2019 14:39:03 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 121219D IC HRDXNL6_00024
Misc. Info.: 12DE193D5
Operator ID: KSS Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 12-Dec-2019 15:54:41 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: stephensk Date: 12-Dec-2019 15:49:44

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.657	188838327	0.79	2.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.158	277528864	0.78	1.4157	103.8	103.8	0.1674	0.1674	104	
2,3,7,8-TCDF	17.173	567933884	0.79	0.9502	215.4	215.4	0.4520	0.4520	108	
S Total TCDF					215.4	215.4	0.4520	0.4520		
D 13C-2,3,7,8-TCDD	17.854	187504800	0.79	0.9751	101.8	101.8	0.1949	0.1949	102	
2,3,7,8-TCDD	17.869	418876400	0.79	1.0477	213.2	213.2	0.1533	0.1533	107	
$ 37Cl4-2,3,7,8-TCDD	17.869	523686187		1.3480	205.7	205.7	0.4046	0.4046	103	
S Total TCDD					213.2	213.2	0.1533	0.1533		
D 13C-1,2,3,7,8-PeCDF	22.100	237179506	1.59	1.1786	106.6	106.6	0.2447	0.2447	107	
1,2,3,7,8-PeCDF	22.127	2466178873	1.58	1.0302	1009.3	1009.3	2.494	2.494	101	
D 13C-2,3,4,7,8-PeCDF	23.423	222542126	1.58	1.1308	104.2	104.2	0.2551	0.2551	104	a
2,3,4,7,8-PeCDF	23.450	2394358497	1.55	1.0410	1033.6	1033.6	2.898	2.898	103	
S Total PeCDF					2042.9	2042.9	2.696	2.696		
D 13C-1,2,3,7,8-PeCDD	24.132	151420854	1.60	0.7572	105.9	105.9	0.1615	0.1615	106	
1,2,3,7,8-PeCDD	24.159	1612908693	1.58	1.0855	981.3	981.3	1.052	1.052	98.13	
S Total PeCDD					981.3	981.3	1.052	1.052		
D 13C-1,2,3,4,7,8-HxCDF	30.273	212926355	0.53	1.1043	103.5	103.5	0.1858	0.1858	104	
1,2,3,4,7,8-HxCDF	30.299	2563115775	1.26	1.1472	1049.3	1049.3	2.784	2.784	105	
D 13C-1,2,3,6,7,8-HxCDF	30.473	222786807	0.53	1.1470	104.3	104.3	0.1788	0.1788	104	
1,2,3,6,7,8-HxCDF	30.499	2581265503	1.25	1.1450	1011.9	1011.9	2.490	2.490	101	
D 13C-2,3,4,6,7,8-HxCDF	31.351	207860074	0.52	1.0769	103.6	103.6	0.1905	0.1905	104	
2,3,4,6,7,8-HxCDF	31.378	2464596807	1.24	1.1726	1011.2	1011.2	2.007	2.007	101	
D 13C-1,2,3,7,8,9-HxCDF	32.190	200052961	0.52	1.0115	106.2	106.2	0.2028	0.2028	106	
1,2,3,7,8,9-HxCDF	32.204	2388744572	1.24	1.1717	1019.1	1019.1	1.747	1.747	102	
S Total HxCDF					4091.5	4091.5	2.257	2.257		
* 13C-1,2,3,7,8,9-HxCDD	32.004	186277075	1.31	2.1E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.551	154639045	1.27	0.7962	104.3	104.3	0.1737	0.1737	104	a
1,2,3,4,7,8-HxCDD	31.565	1672379041	1.27	1.0934	989.1	989.1	1.243	1.243	98.91	
D 13C-1,2,3,6,7,8-HxCDD	31.658	169339469	1.28	0.8720	104.3	104.3	0.1586	0.1586	104	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.684	1788364825	1.26	1.0429	1012.6	1012.6	1.235	1.235	101	
1,2,3,7,8,9-HxCDD	32.017	1881769266	1.26	1.2073	962.2	962.2	1.095	1.095	96.22	
S Total HxCDD					2963.9	2963.9	1.191	1.191		
D 13C-1,2,3,4,6,7,8-HpCDF	33.640	152865078	0.44	0.7577	108.3	108.3	0.996	0.996	108	
1,2,3,4,6,7,8-HpCDF	33.652	2309957389	1.05	1.4804	1020.8	1020.8	7.834	7.834	102	
D 13C-1,2,3,4,7,8,9-HpCDF	34.721	140774596	0.45	0.6941	108.9	108.9	1.087	1.087	109	a
1,2,3,4,7,8,9-HpCDF	34.734	1913174732	1.07	1.2933	1050.8	1050.8	10.6	10.6	105	
S Total HpCDF					2071.6	2071.6	9.199	9.199		
D 13C-1,2,3,4,6,7,8-HpCDD	34.430	140028109	1.06	0.7058	106.5	106.5	0.4261	0.4261	107	
1,2,3,4,6,7,8-HpCDD	34.442	1496594886	1.06	1.0535	1014.5	1014.5	3.513	3.513	101	
S Total HpCDD					1014.5	1014.5	3.513	3.513		
D 13C-OCDD	36.770	199399104	0.90	0.4603	232.6	232.6	0.1424	0.1424	116	
OCDF	36.866	2706173170	0.91	1.3945	1946.5	1946.5	0.4617	0.4617	97.32	
OCDD	36.782	2153864314	0.90	1.1362	1901.4	1901.4	0.5913	0.5913	95.07	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

HRDXNL6_00024 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d
Lims ID: IC 6
Client ID: L6
Sample Type: IC Calib Level: 6
Inject. Date: 12-Dec-2019 14:39:03 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 121219D IC HRDXNL6_00024
Misc. Info.: 12DE193D5
Operator ID: KSS Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 12-Dec-2019 15:54:41 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: stephensk Date: 12-Dec-2019 15:49:44

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.657	17.666	-1		83564714	21577386	22000	55000	981		
333.9339	17.657	17.666	-1		105273613	27513016	15318	38295	1796	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.158	17.164	0	0.972	121895716	31329327	22298	55745	1405		
317.9389	17.158	17.164	0	0.972	155633148	39478925	24242	60605	1629	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.173	17.176	0	1.001	250240699	63148791	46539	116347	1357		
305.8987	17.173	17.176	0	1.001	317693185	79789284	75095	187737	1063	0.79(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.854	17.854	0	1.011	82790590	20124816	22000	55000	915		
333.9339	17.854	17.854	0	1.011	104714210	25060871	15318	38295	1636	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.869	17.872	0	1.001	184989351	46007272	14533	36332	3166		
321.8936	17.869	17.872	0	1.001	233887049	57402962	14506	36265	3957	0.79(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.869	17.872	0	1.012	523686187	127631105	107091	267727	1192		
13C-1,2,3,7,8-PeCDF											
351.9000	22.100	22.103	0	1.252	145535198	27804087	29026	72565	958		
353.8970	22.100	22.103	0	1.252	91644308	17332335	27615	69037	628	1.59(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.127	22.130	0	1.001	1511912726	280981043	283011	707527	993		
341.8567	22.127	22.130	0	1.001	954266147	176189062	180870	452175	974	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											a
351.9000	23.423	23.426	0	1.327	136268845	23481541	29026	72565	809		a
353.8970	23.423	23.426	0	1.327	86273281	14959019	27615	69037	542	1.58(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.450	23.450	0	1.001	1456222017	254944581	283011	707527	901		
341.8567	23.450	23.450	0	1.001	938136480	163300906	180870	452175	903	1.55(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	24.132	24.137	0	1.367	93280756	15111276	14214	35535	1063		
369.8919	24.132	24.137	0	1.367	58140098	9460564	9797	24492	966	1.60(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.159	24.162	0	1.001	988724157	160523690	68846	172115	2332		
357.8516	24.159	24.162	0	1.001	624184536	102295717	43362	108405	2359	1.58(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.273	30.270	0	0.946	73575187	13415942	15619	39047	859		
385.8610	30.273	30.270	0	0.946	139351168	24979720	29533	73832	846	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.299	30.300	0	1.001	1428159559	262993927	271530	678825	969		
375.8178	30.286	30.300	-1	1.000	1134956216	208140679	219056	547640	950	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.473	30.473	0	0.952	77296638	14994756	15619	39047	960		
385.8610	30.473	30.473	0	0.952	145490169	28014930	29533	73832	949	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.499	30.497	0	1.001	1432647832	268450864	271530	678825	989		
375.8178	30.486	30.497	-1	1.000	1148617671	215350626	219056	547640	983	1.25(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.351	31.357	0	0.980	71478208	18056132	15619	39047	1156		
385.8610	31.351	31.357	0	0.980	136381866	34065069	29533	73832	1153	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.378	31.375	0	1.001	1366153637	346597380	271530	678825	1276		
375.8178	31.365	31.375	-1	1.000	1098443170	277212218	219056	547640	1265	1.24(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.190	32.196	0	1.006	68790551	20692649	15619	39047	1325		
385.8610	32.190	32.196	0	1.006	131262410	39242010	29533	73832	1329	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.204	32.209	0	1.000	1324529876	395878194	271530	678825	1458		
375.8178	32.204	32.209	0	1.000	1064214696	313784696	219056	547640	1432	1.24(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.004	32.004	0		105532438	31259756	15504	38760	2016		
403.8529	32.004	32.004	0		80744637	23764608	14928	37320	1592	1.31(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											a
401.8559	31.551	31.557	0	0.986	86613004	24369652	15504	38760	1572		a
403.8529	31.551	31.557	0	0.986	68026041	18996198	14928	37320	1273	1.27(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.565	31.570	0	1.000	935066782	268480797	131209	328022	2046		
391.8127	31.565	31.570	0	1.000	737312259	211543510	104462	261155	2025	1.27(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.658	31.666	0	0.989	95146559	25619096	15504	38760	1652		
403.8529	31.658	31.666	0	0.989	74192910	20108305	14928	37320	1347	1.28(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.684	31.682	0	1.001	996220992	261077237	131209	328022	1990		
391.8127	31.671	31.682	-1	1.000	792143833	209894463	104462	261155	2009	1.26(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.017	32.023	0	1.015	1049116210	310668645	131209	328022	2368		
391.8127	32.017	32.023	0	1.015	832653056	244077375	104462	261155	2337	1.26(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.640	33.647	0	1.051	46733620	17595027	54412	136030	323		
419.8220	33.640	33.647	0	1.051	106131458	39067926	111724	279310	350	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.652	33.659	0	1.000	1183135025	439502144	13054	913263727	337		
409.7789	33.652	33.659	0	1.000	1126822364	423476232	13231	193307797	320	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											a
417.8253	34.721	34.726	0	1.085	43429979	14929393	54412	136030	274		a
419.8220	34.721	34.726	0	1.085	97344617	33174544	111724	279310	297	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.734	34.736	0	1.000	989548862	337327270	13054	913263727	258		
409.7789	34.734	34.736	0	1.000	923625870	310086210	13231	193307797	234	1.07(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.430	34.437	0	1.076	72140842	25597315	34784	86960	736		
437.8140	34.430	34.437	0	1.076	67887267	24359367	31415	78537	775	1.06(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.442	34.449	0	1.000	769189585	280356398	363826	909565	771		
425.7737	34.442	34.449	0	1.000	727405301	265970164	375758	939395	708	1.06(0.88-1.20)	
13C-OCDD											
469.7779	36.770	36.767	0	1.149	94611986	29685306	7599	18997	3906		
471.7750	36.770	36.767	0	1.149	104787118	32469541	6829	17072	4755	0.90(0.76-1.02)	
OCDF											
441.7428	36.866	36.870	0	1.003	1292260901	401703074	39115	97787	10270		
443.7399	36.866	36.870	0	1.003	1413912269	436740000	40915	102287	10674	0.91(0.76-1.02)	
OCDD											
457.7377	36.782	36.779	0	1.000	1018958639	313411053	44158	110395	7097		
459.7348	36.770	36.779	-1	1.000	1134905675	349675570	39355	98387	8885	0.90(0.76-1.02)	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

HRDXNL6_00024 Amount Added: 2.00 Units: uL

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d				
Injection Date:	12-Dec-2019 14:39:03	Instrument ID:	3D5		
Lims ID:	IC 6				
Client ID:	L6				
Operator ID:	KSS	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

13C-2,3,4,7,8-PeCDF, CAS: 116843-02-8

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 23.43

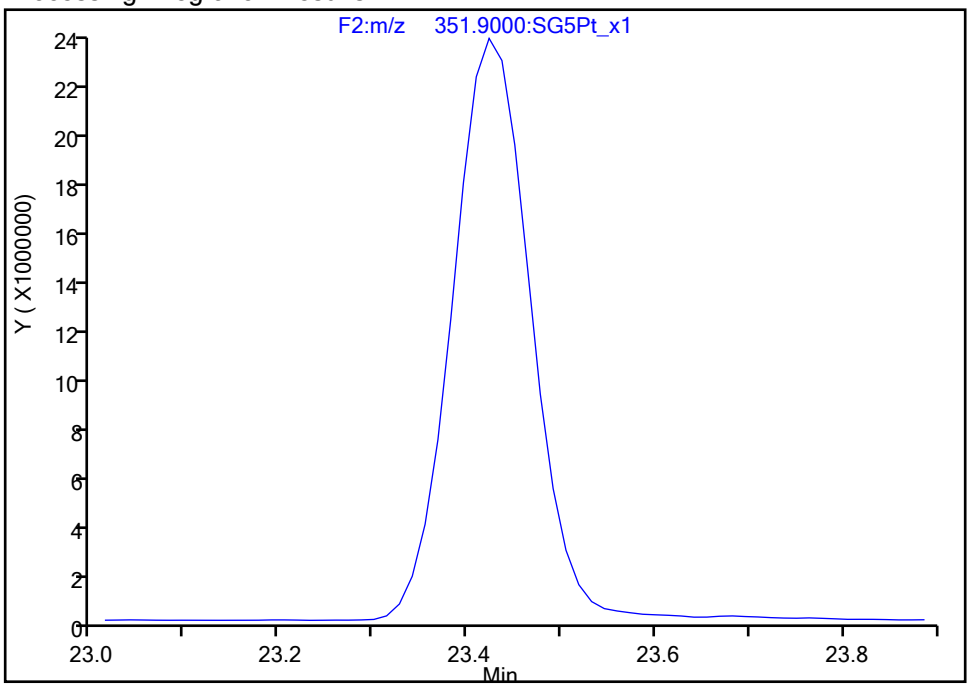

Manual Integration Results

RT: 23.42
Area: 136268845
Amount: 104.2196
Amount Units: pg/ul

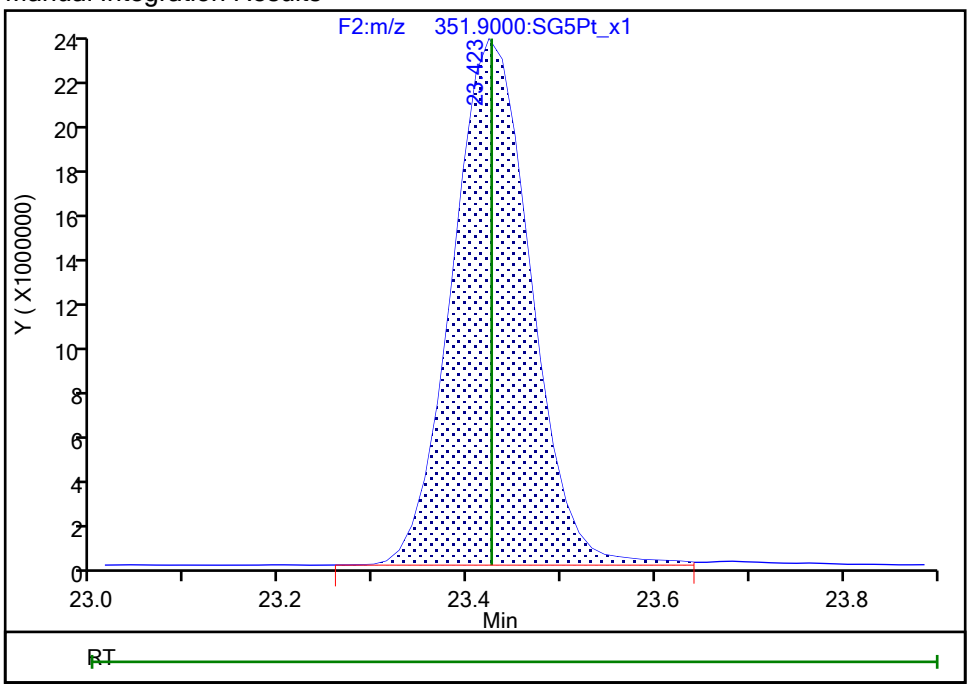

Reviewer: stephensk, 12-Dec-2019 15:48:50
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d				
Injection Date:	12-Dec-2019 14:39:03	Instrument ID:	3D5		
Lims ID:	IC 6				
Client ID:	L6				
Operator ID:	KSS	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

13C-1,2,3,4,7,8-HxCDD, CAS: 109719-80-4

Signal: 1

Not Detected
Expected RT: 31.56

Processing Integration Results

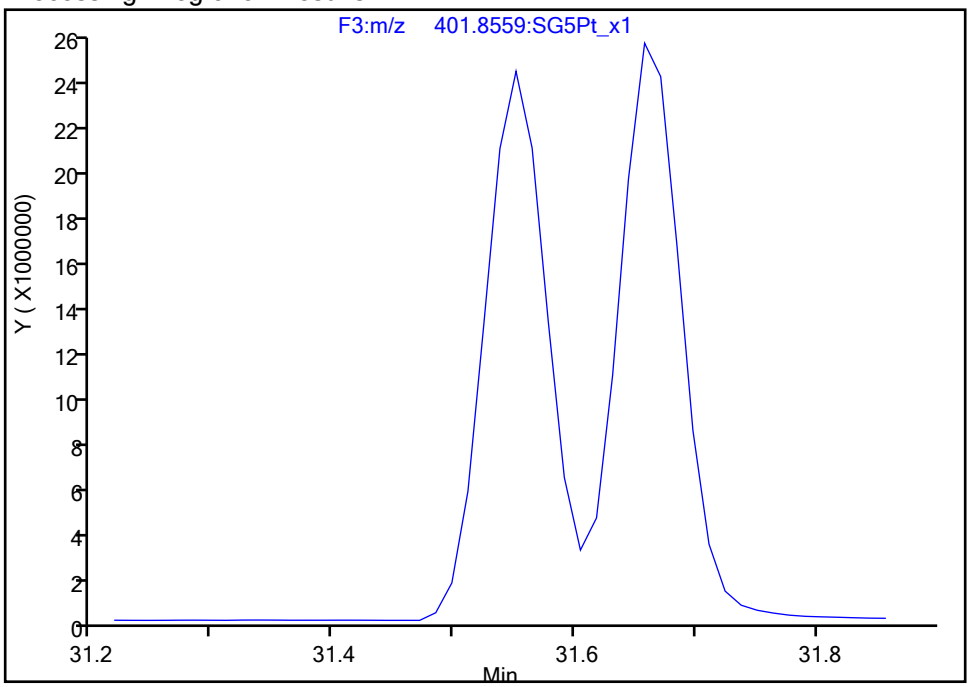

Manual Integration Results

RT: 31.55
Area: 86613004
Amount: 104.2640
Amount Units: pg/ul

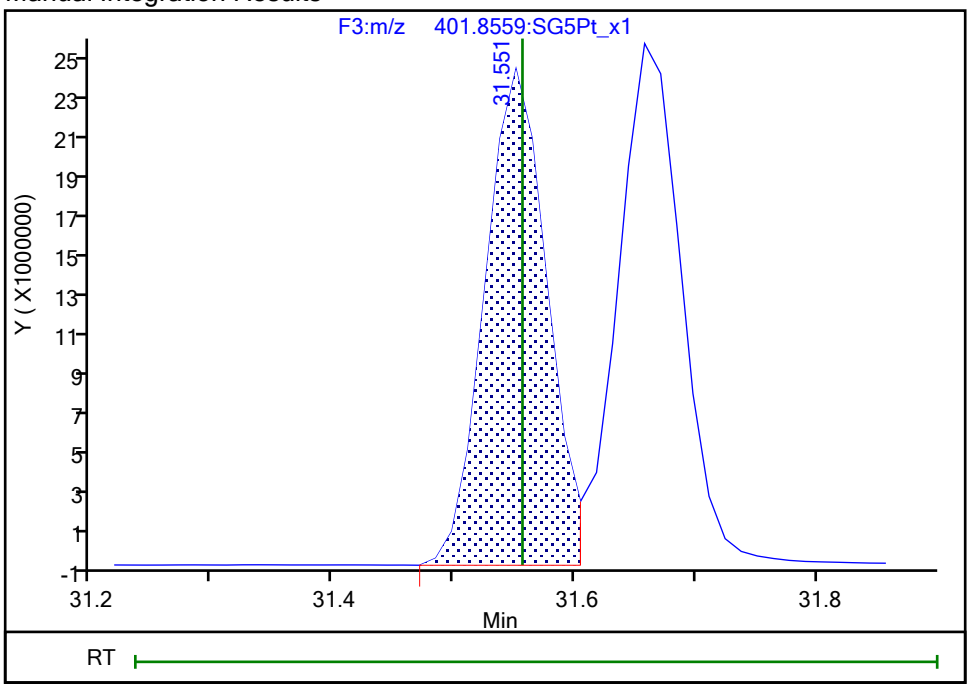

Reviewer: stephensk, 12-Dec-2019 15:48:56
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d				
Injection Date:	12-Dec-2019 14:39:03	Instrument ID:	3D5		
Lims ID:	IC 6				
Client ID:	L6				
Operator ID:	KSS	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

13C-1,2,3,4,7,8,9-HpCDF, CAS: 109719-94-0

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 34.73

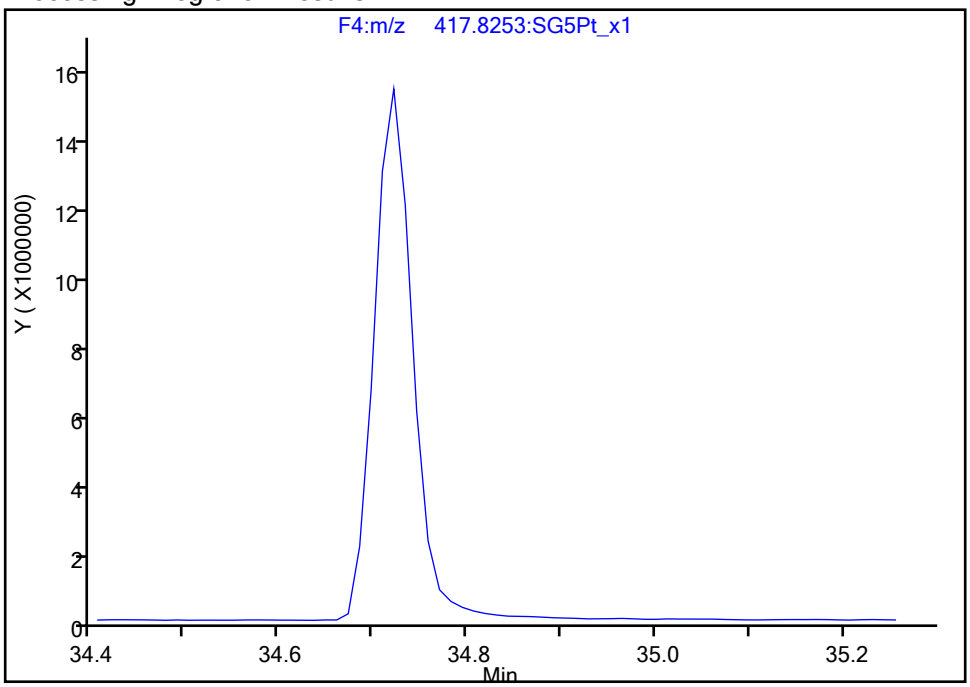

Manual Integration Results

RT: 34.72
Area: 43429979
Amount: 108.8731
Amount Units: pg/ul

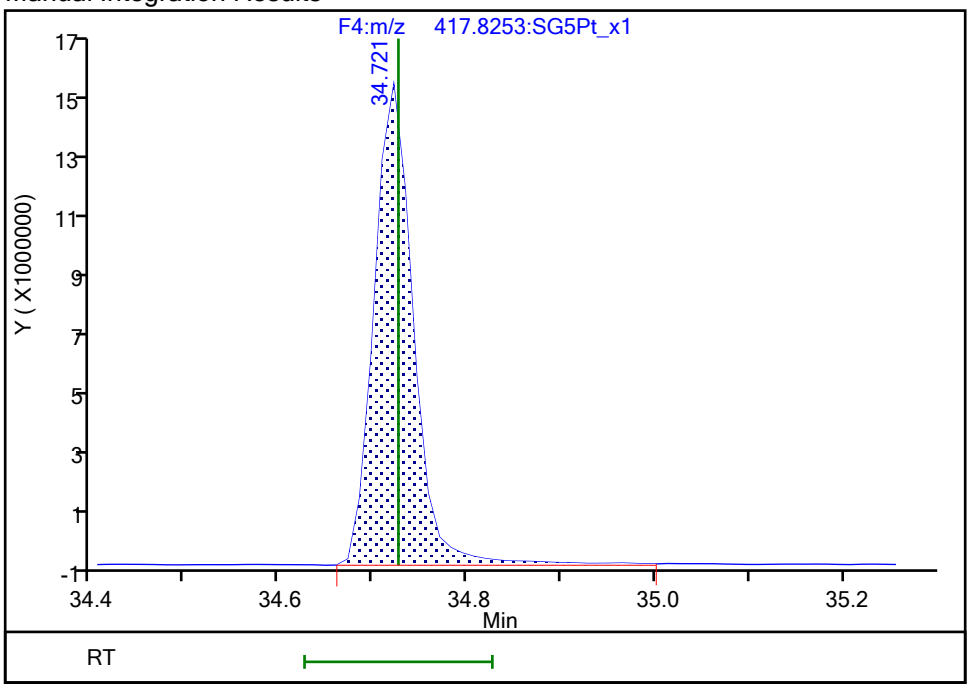

Reviewer: stephensk, 12-Dec-2019 15:49:01
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Report Date: 12-Dec-2019 15:54:43 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d		
Injection Date:	12-Dec-2019 14:39:03	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L6		
Worklist#:	345037	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

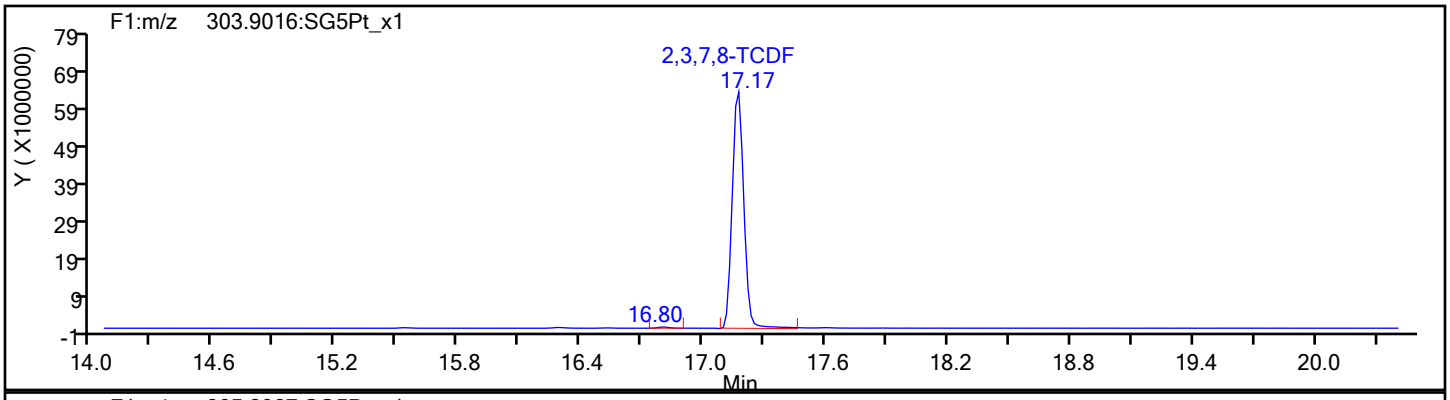

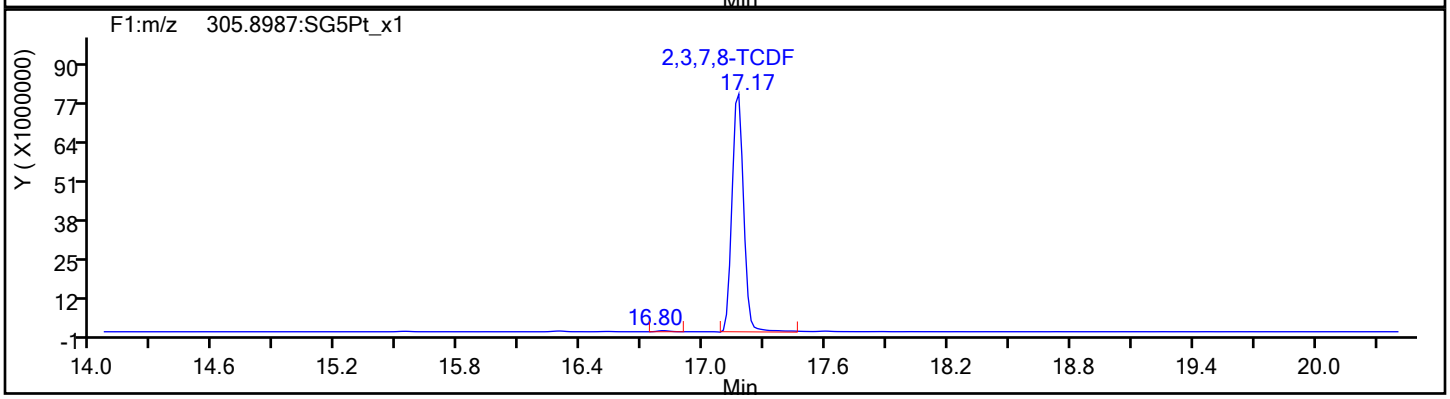

TCDF Standards

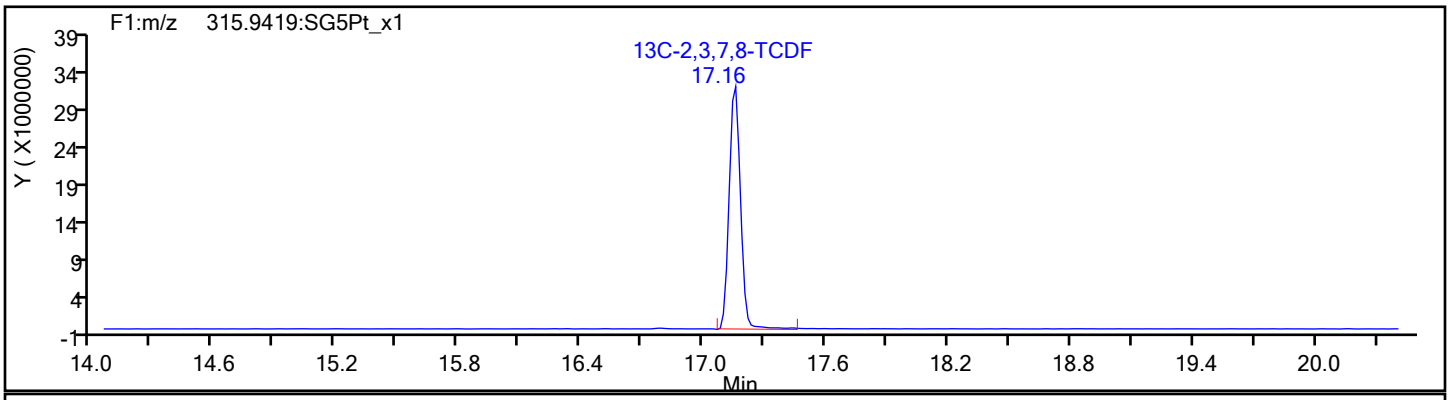

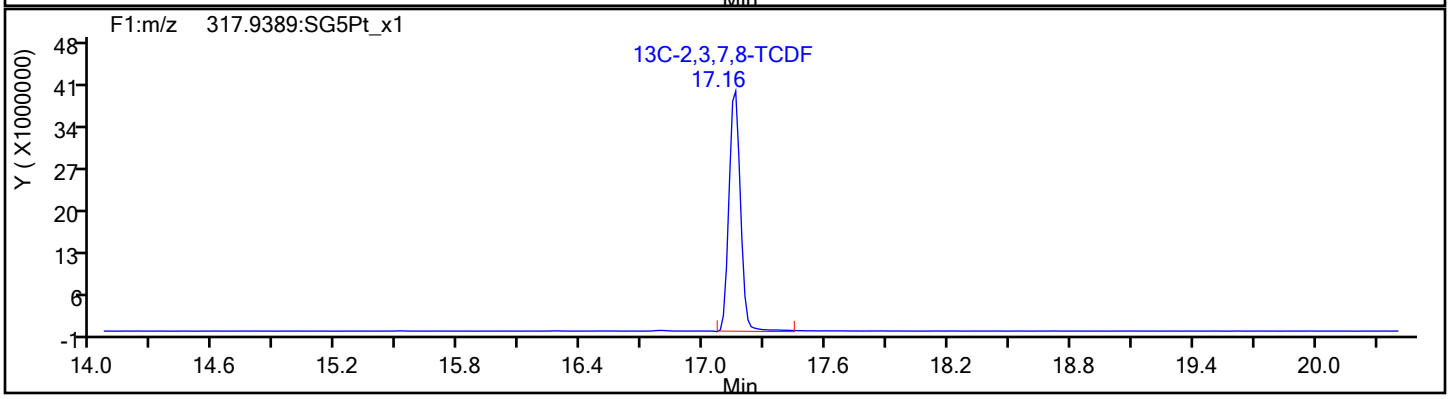

Report Date: 12-Dec-2019 15:54:43 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d		
Injection Date:	12-Dec-2019 14:39:03	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L6		
Worklist#:	345037	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

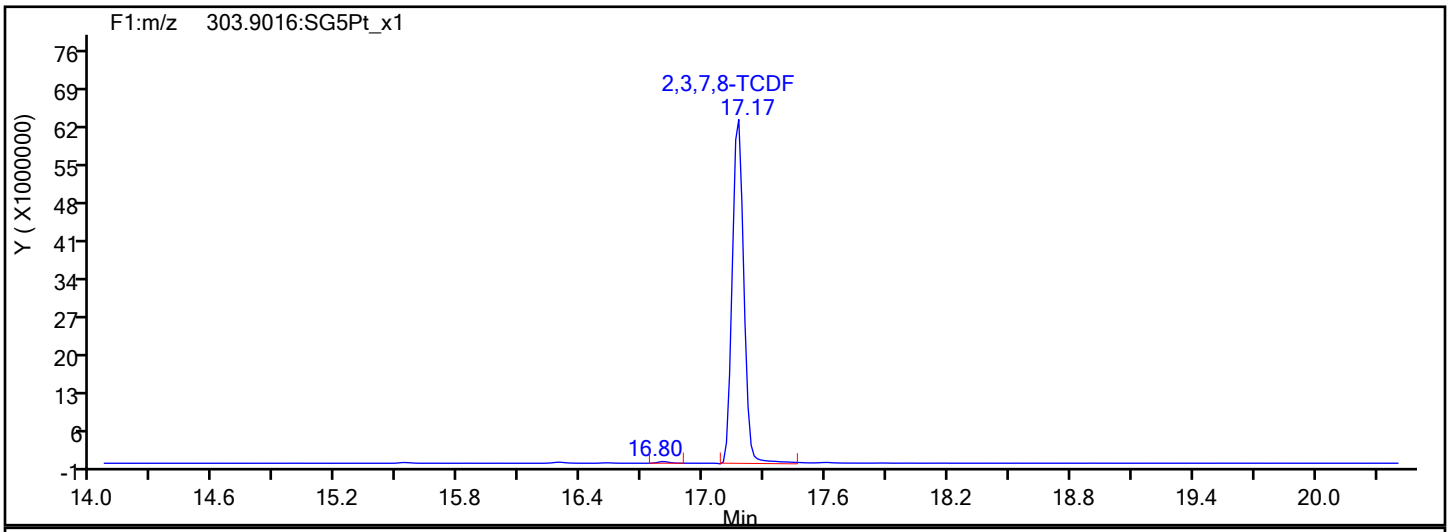

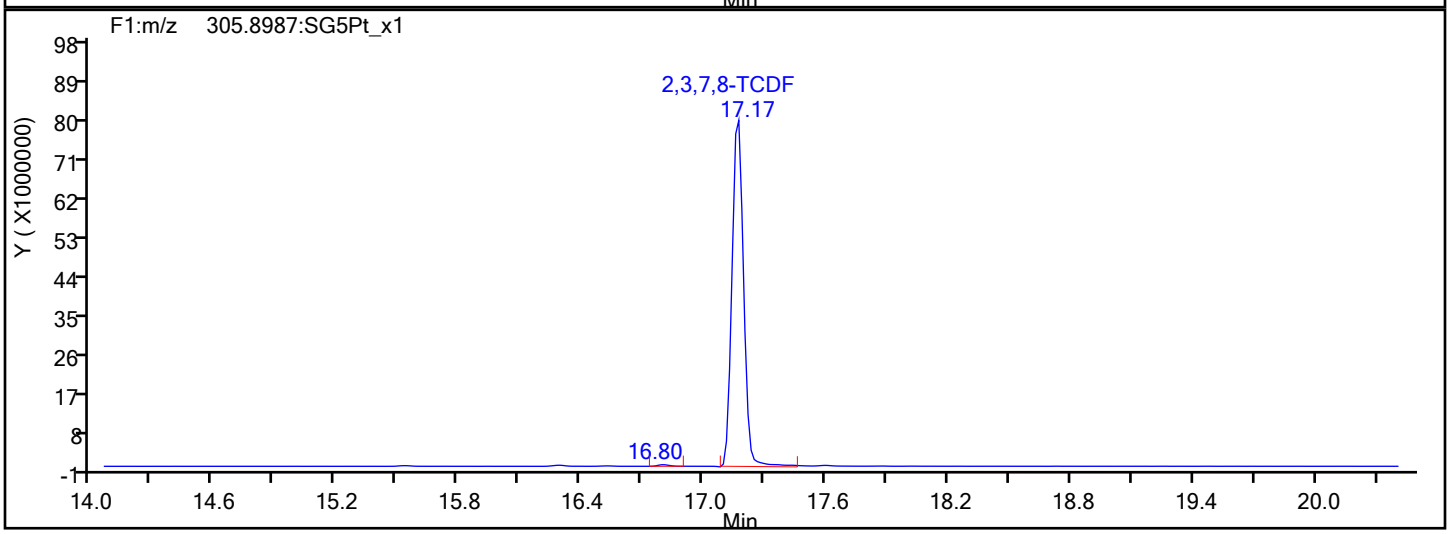

TCDF Interference Mass

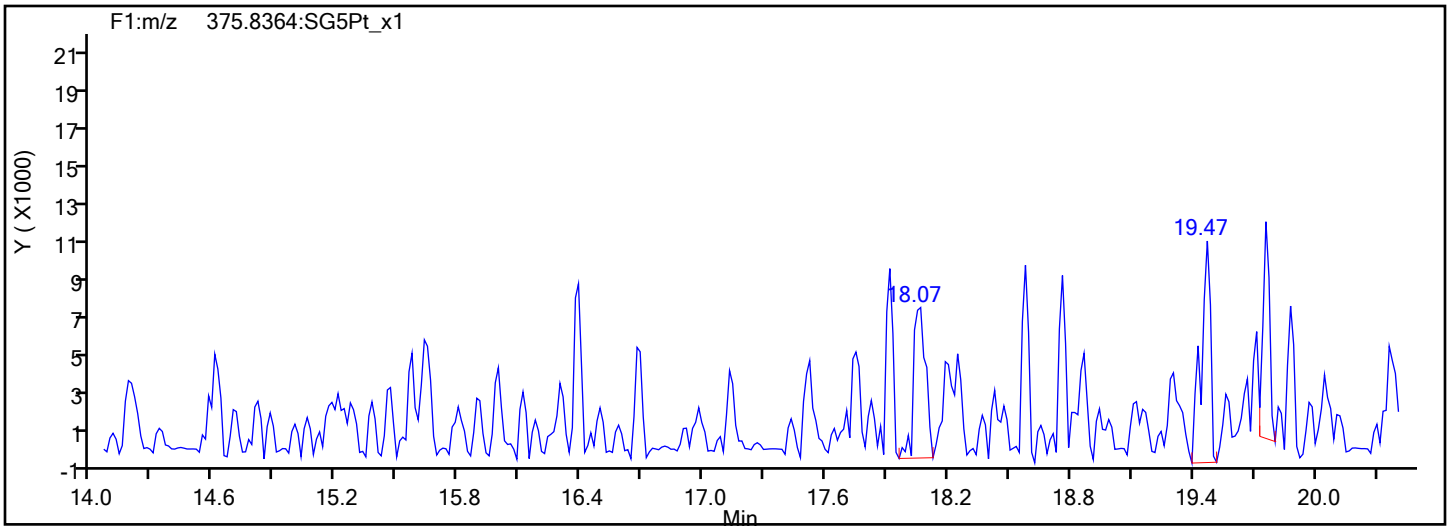

Report Date: 12-Dec-2019 15:54:43 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

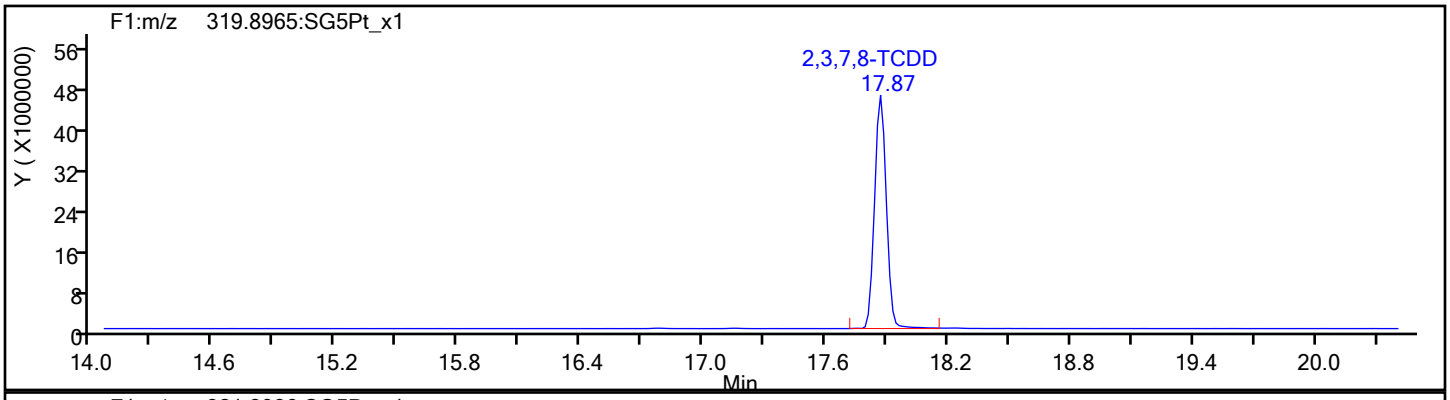

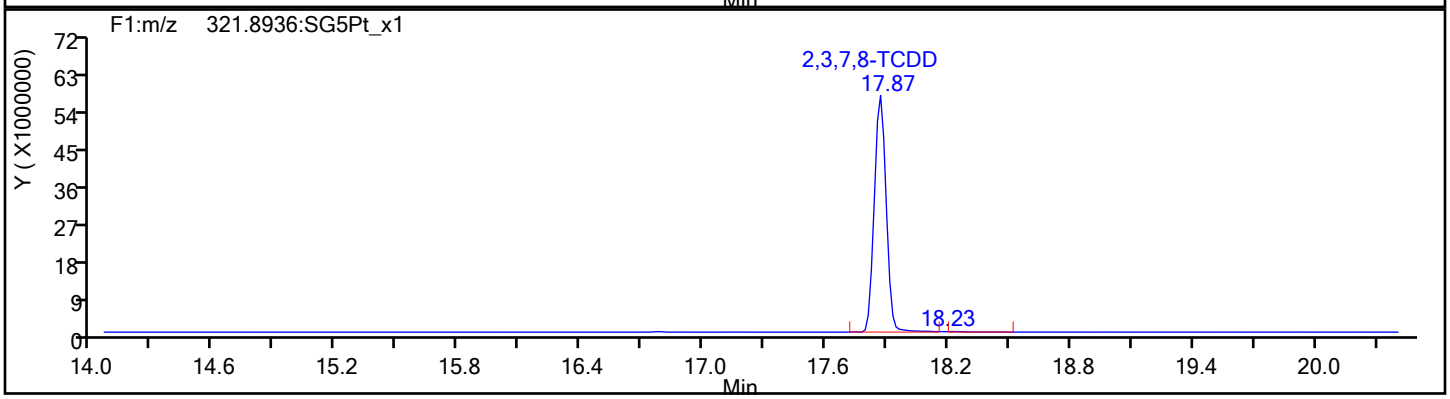

TCDD Standards

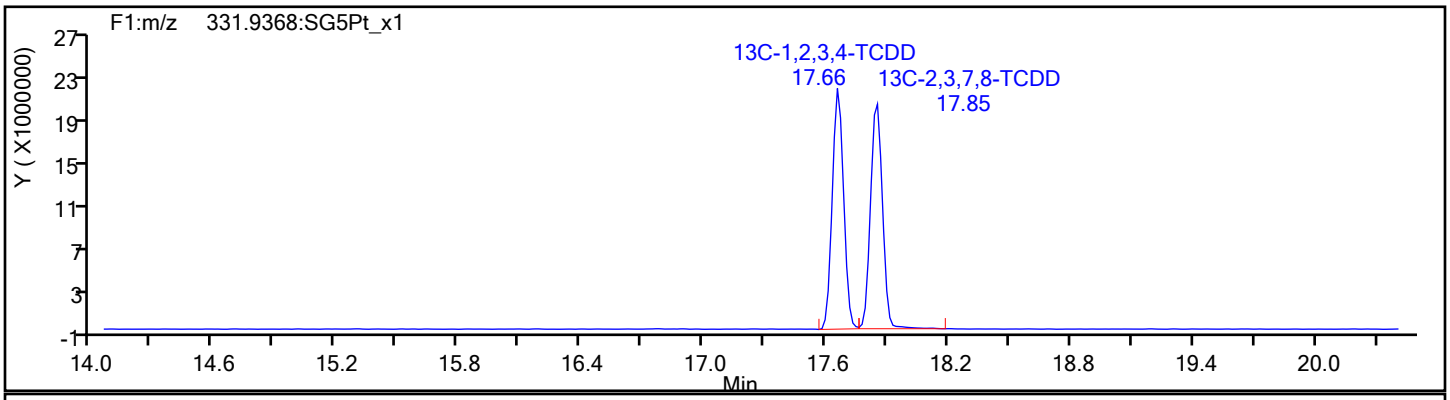

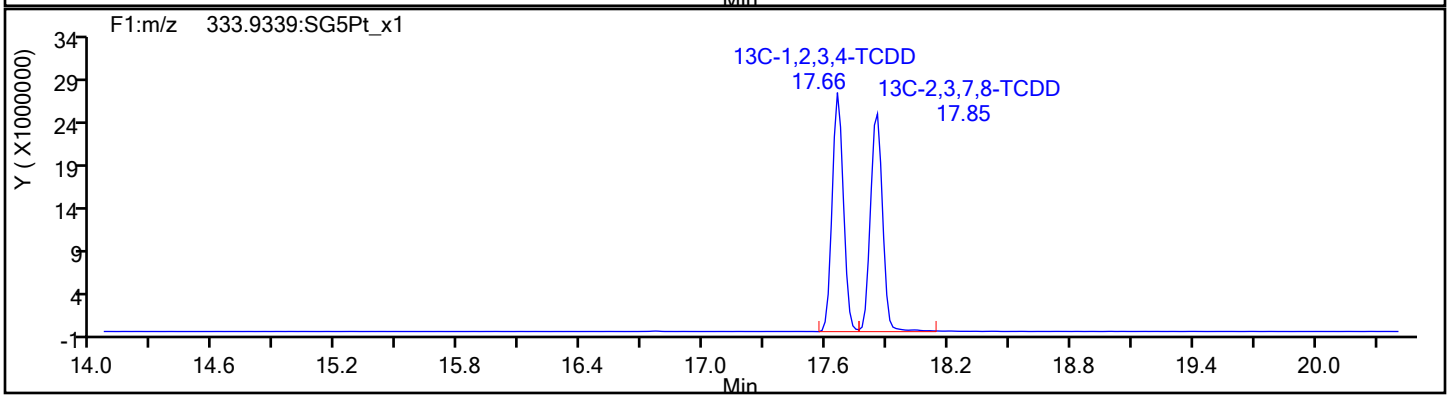

Report Date: 12-Dec-2019 15:54:43 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

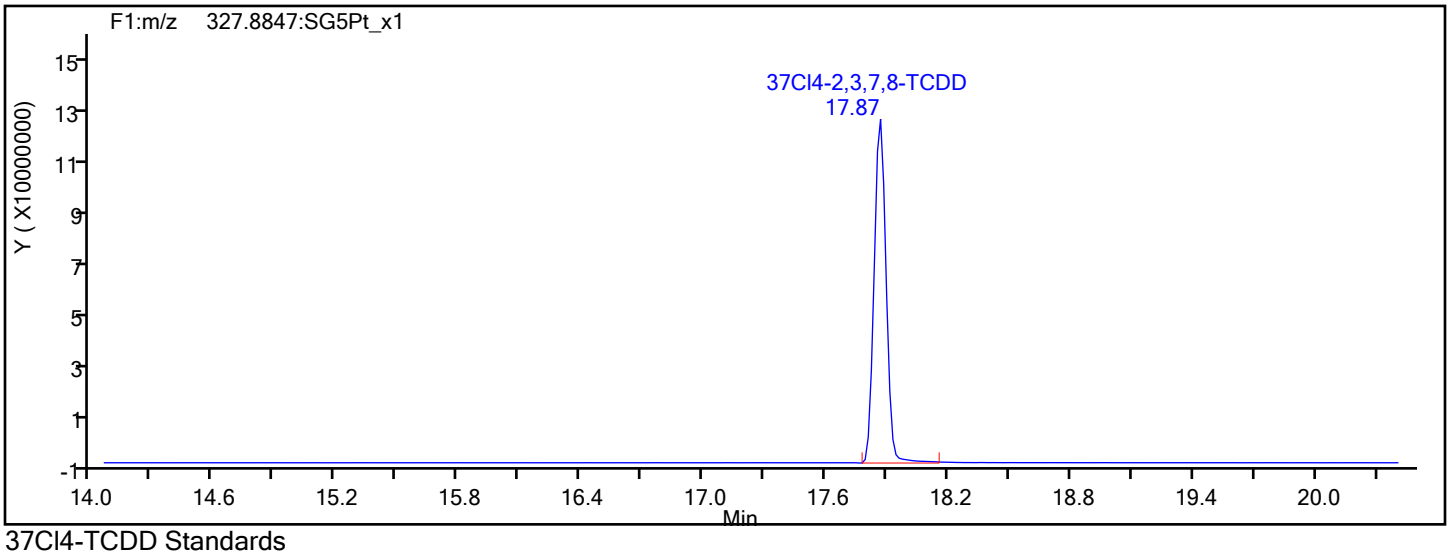

37Cl4-TCDD Standards

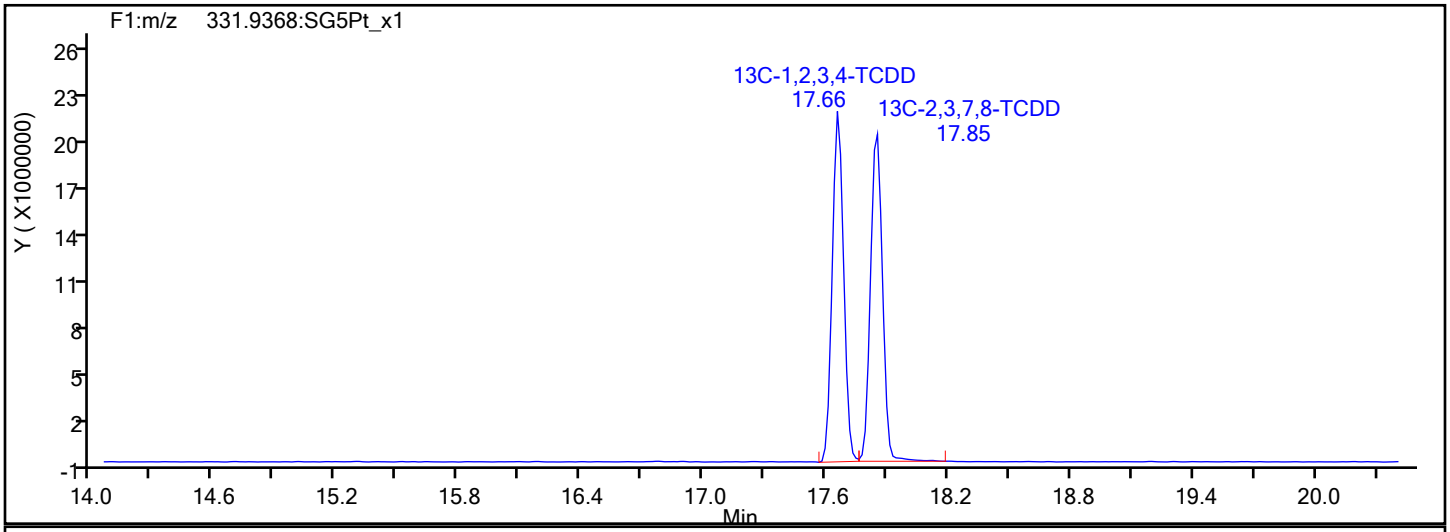

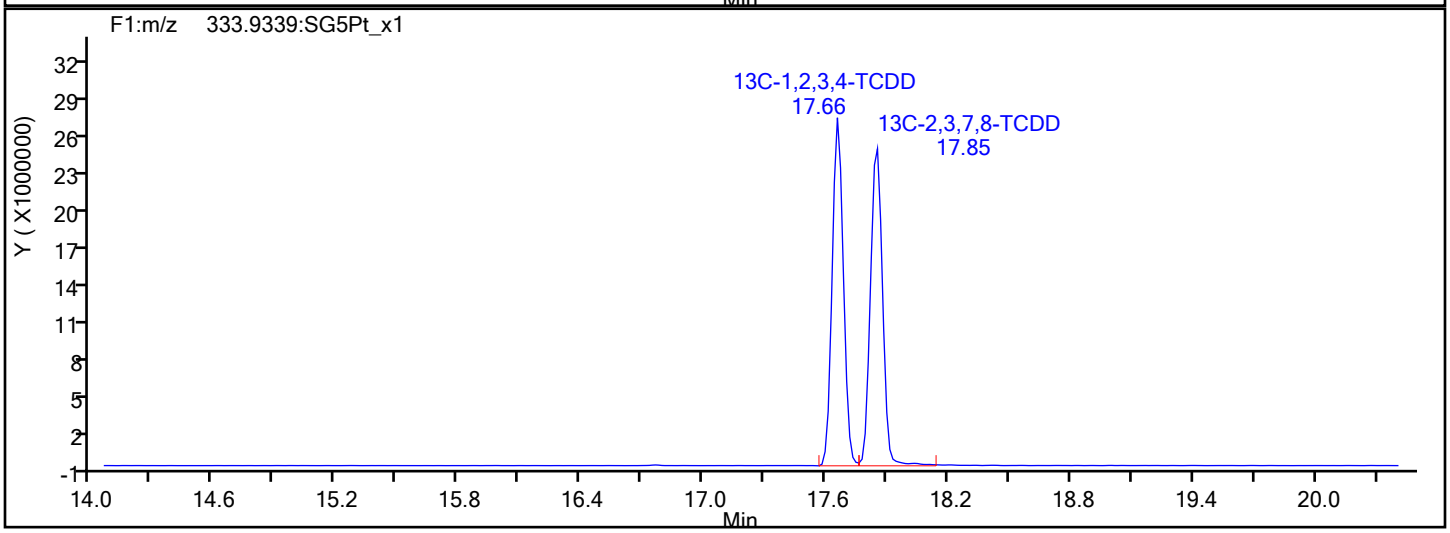

Report Date: 12-Dec-2019 15:54:43 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

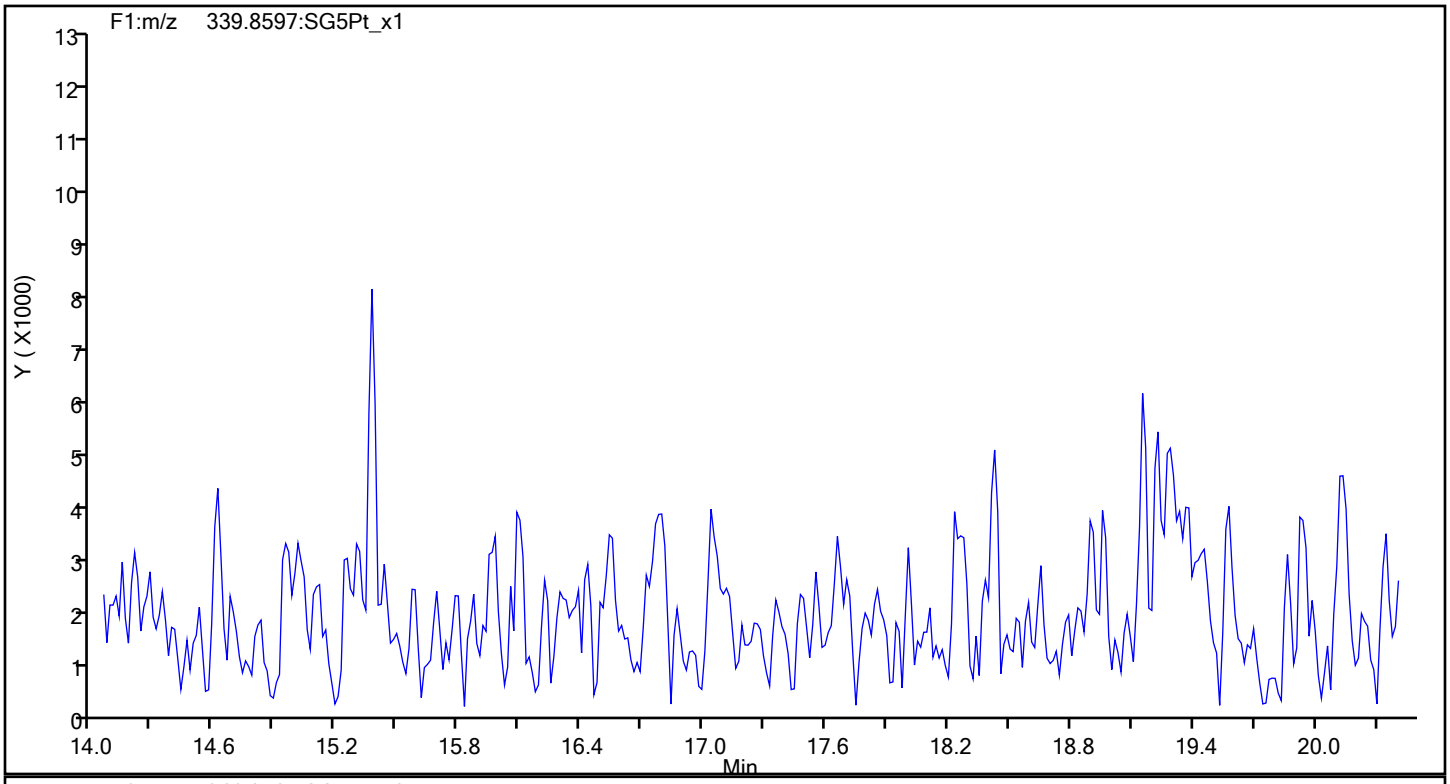

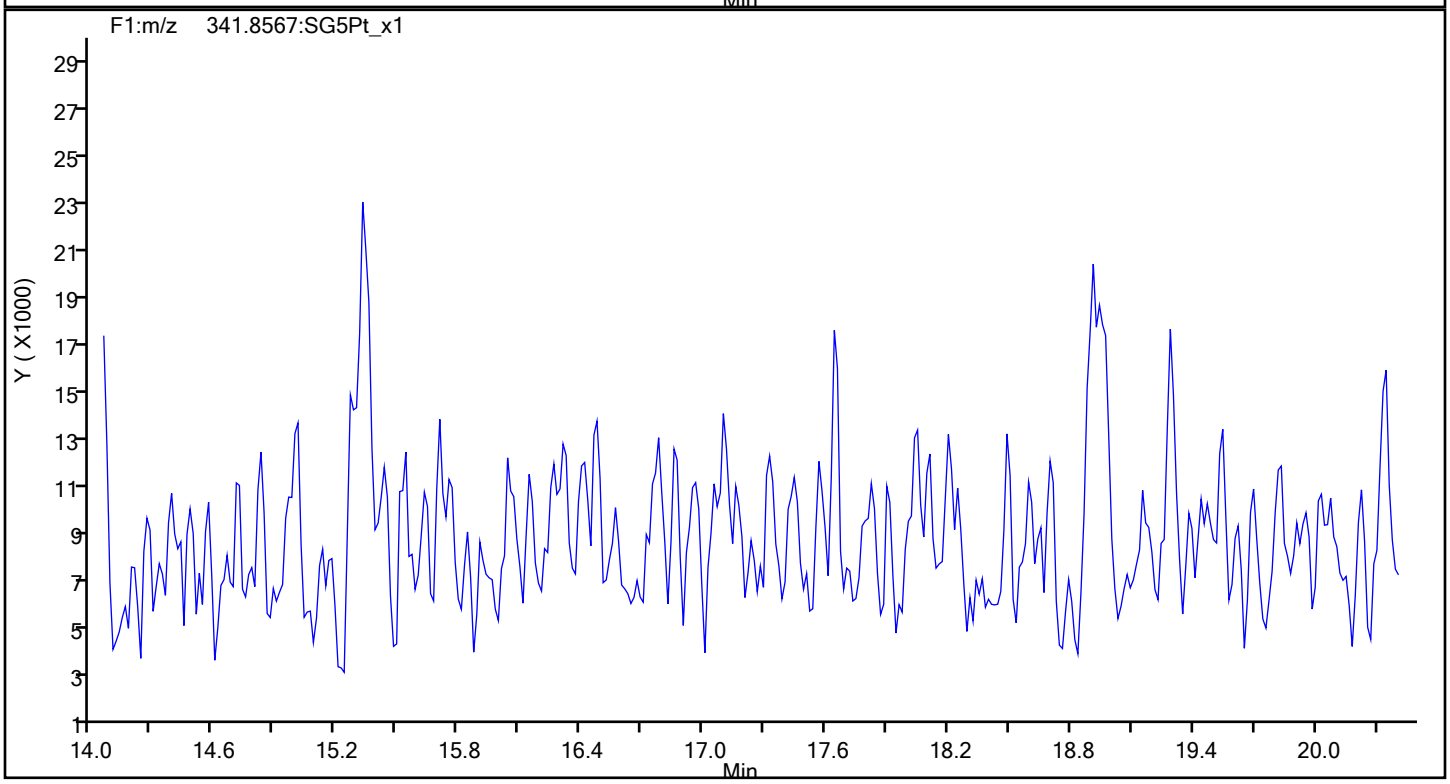

Report Date: 12-Dec-2019 15:54:43 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

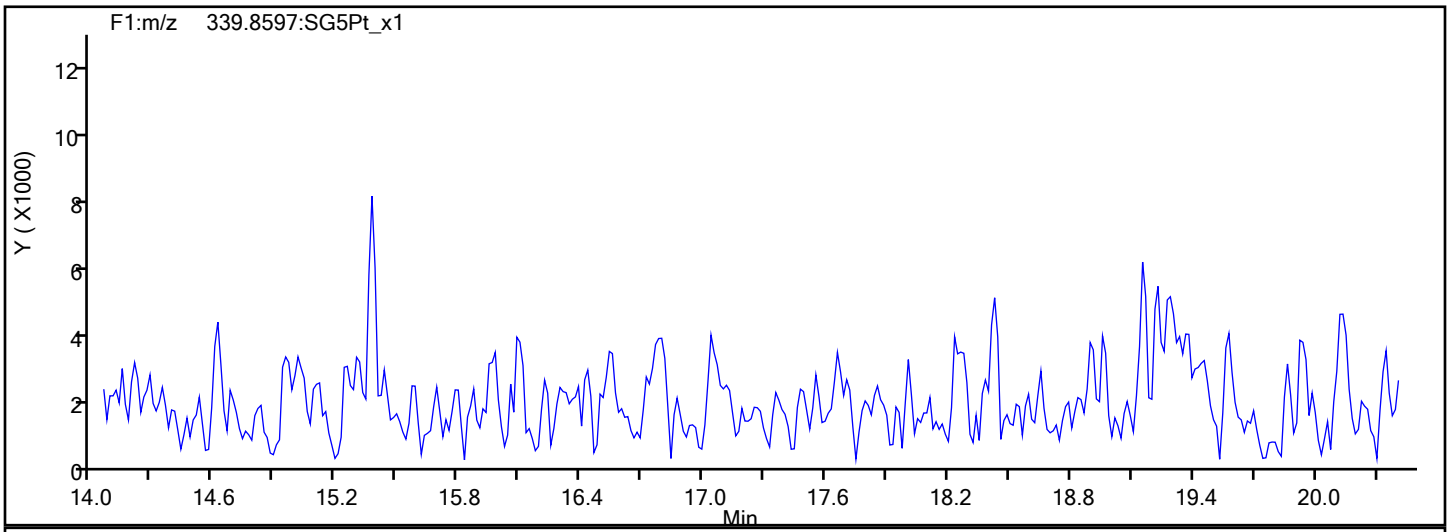

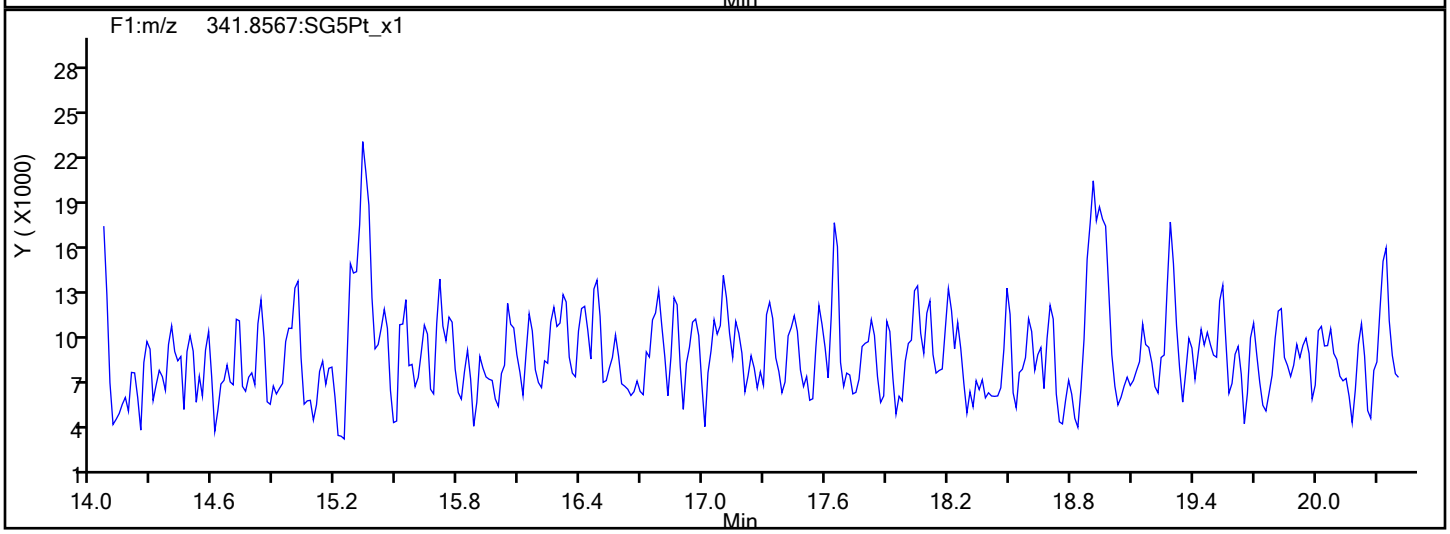

F1 PeCDFs Interference Mass

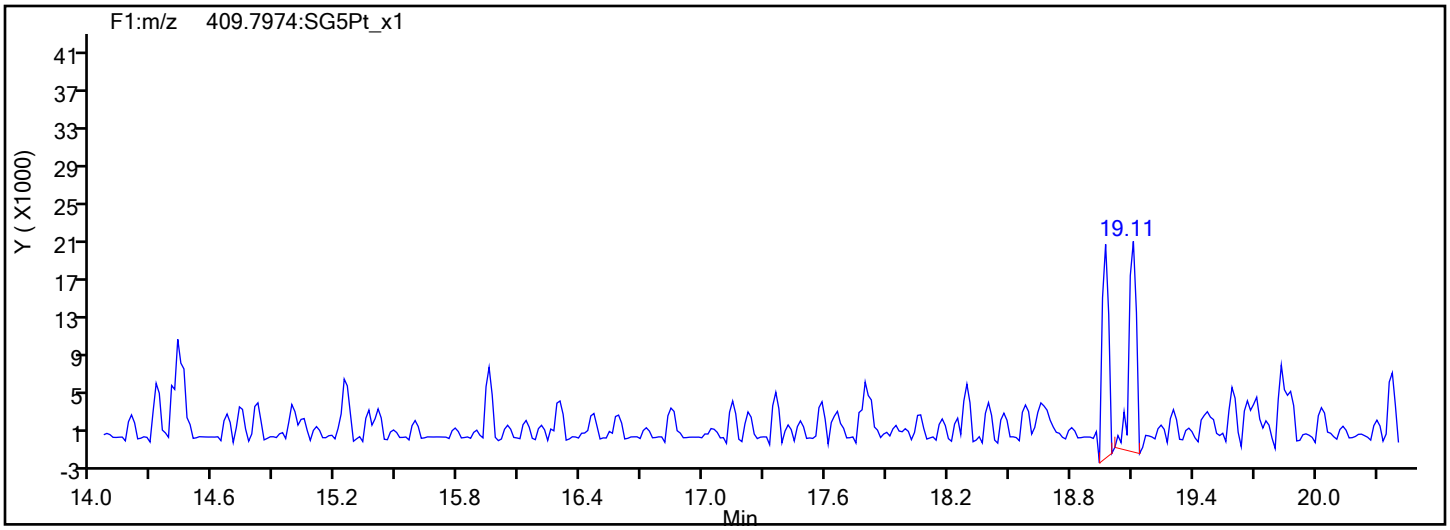

Report Date: 12-Dec-2019 15:54:43 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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PeCDF

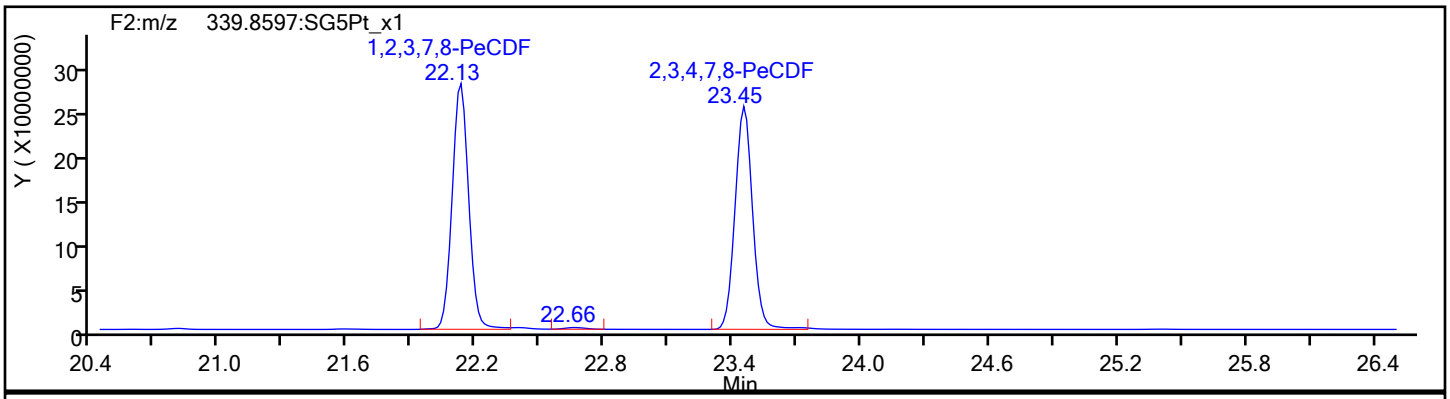

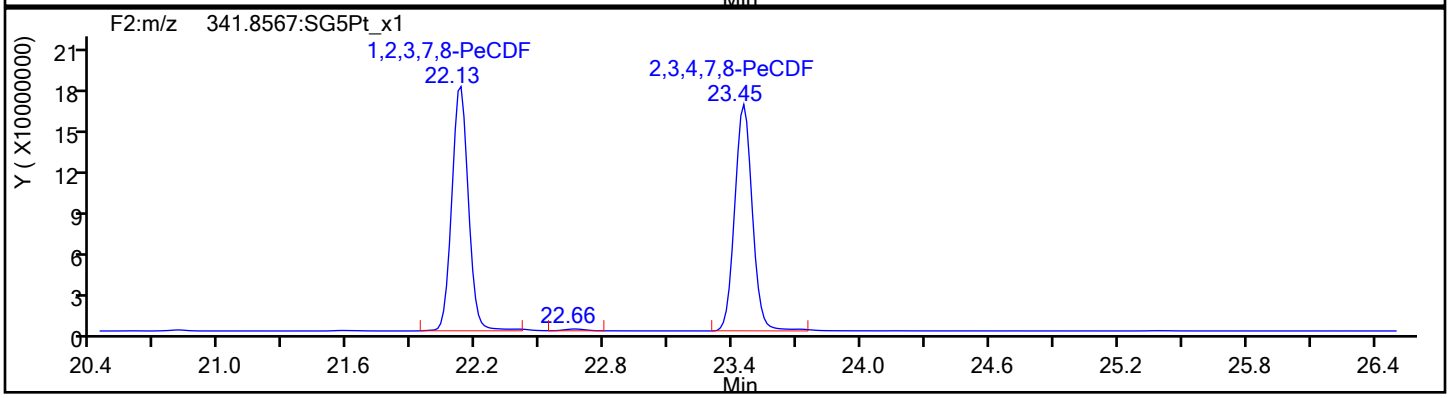

PeCDF Standards

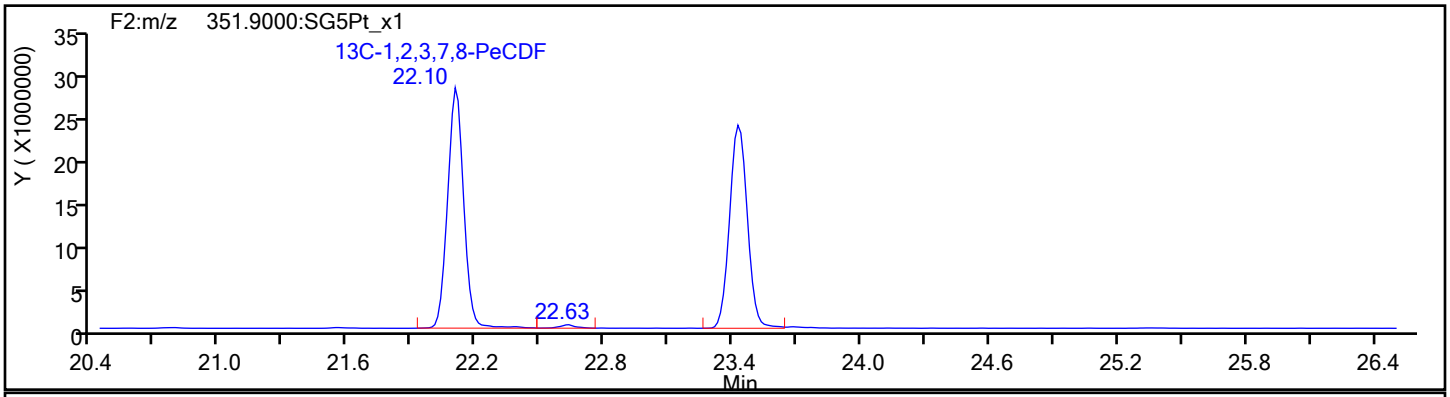

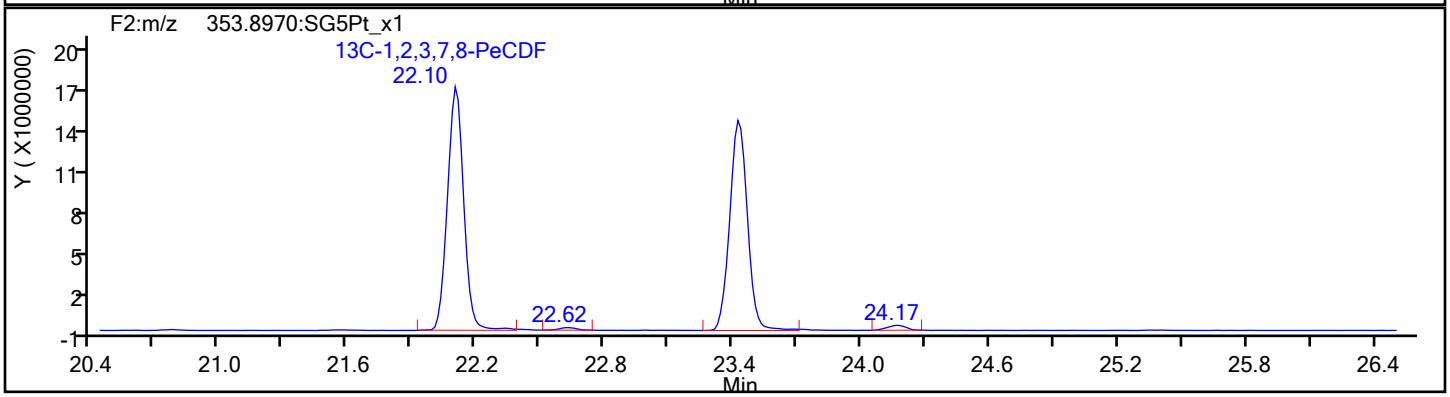

Report Date: 12-Dec-2019 15:54:43 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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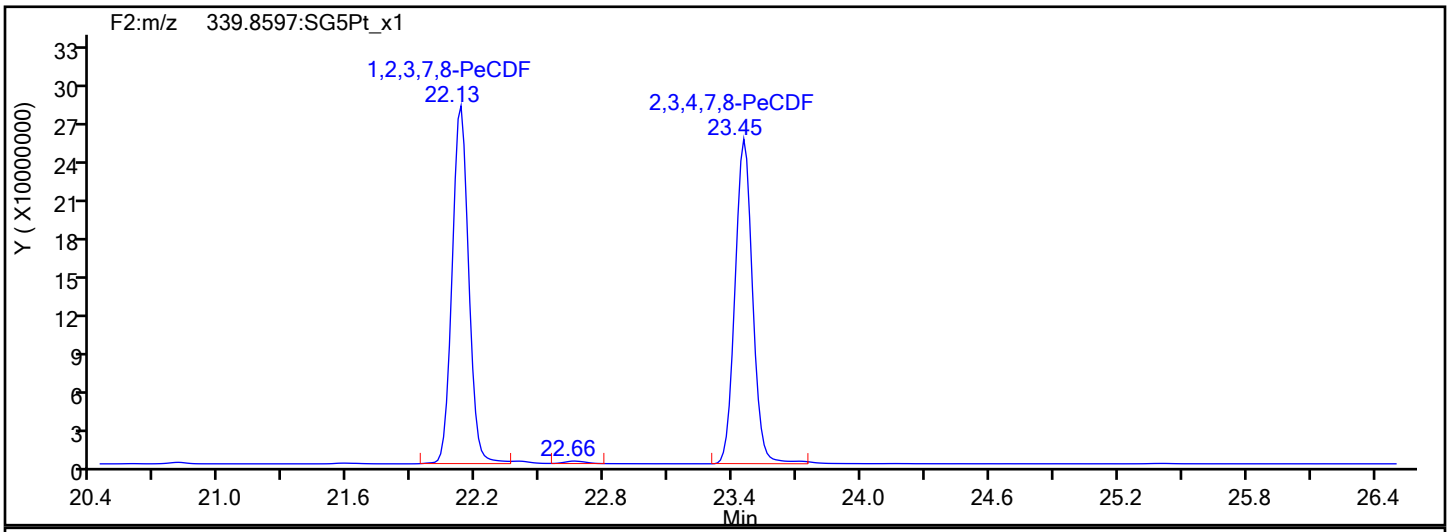

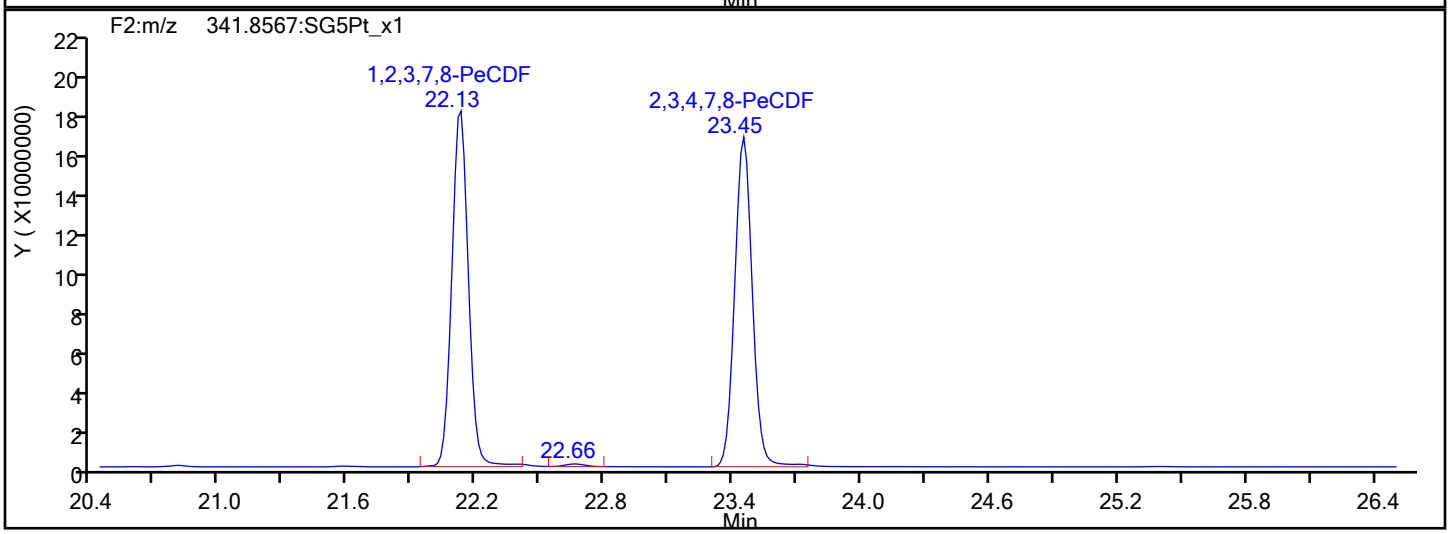

PeCDF Interference Mass

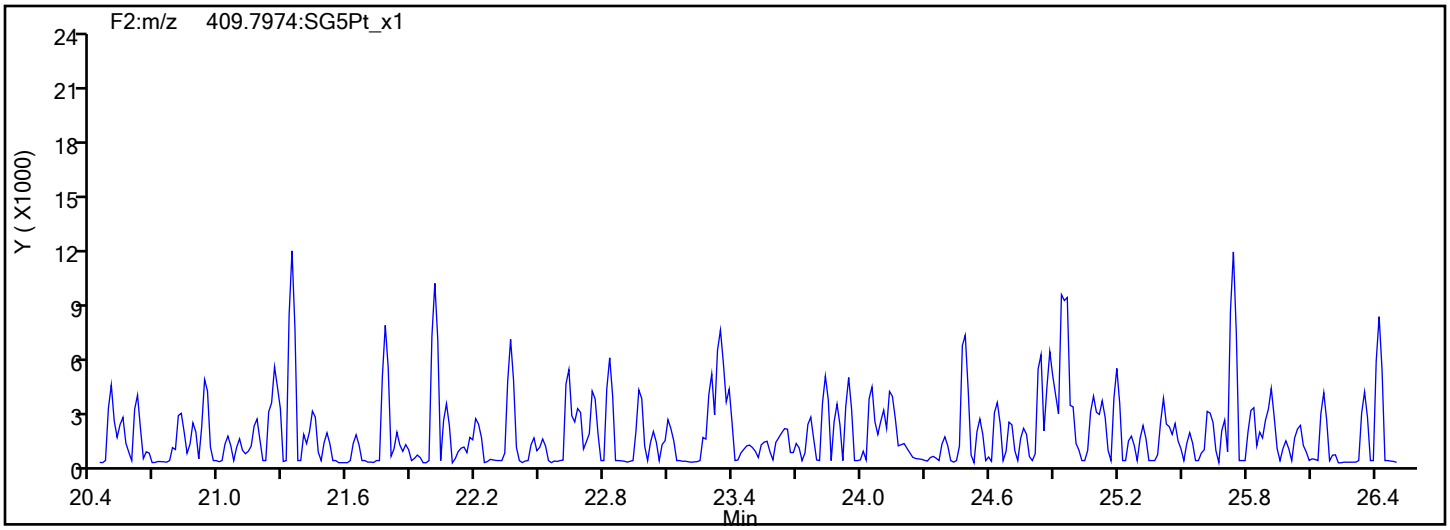

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Eurofins TestAmerica, Sacramento

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PeCDD

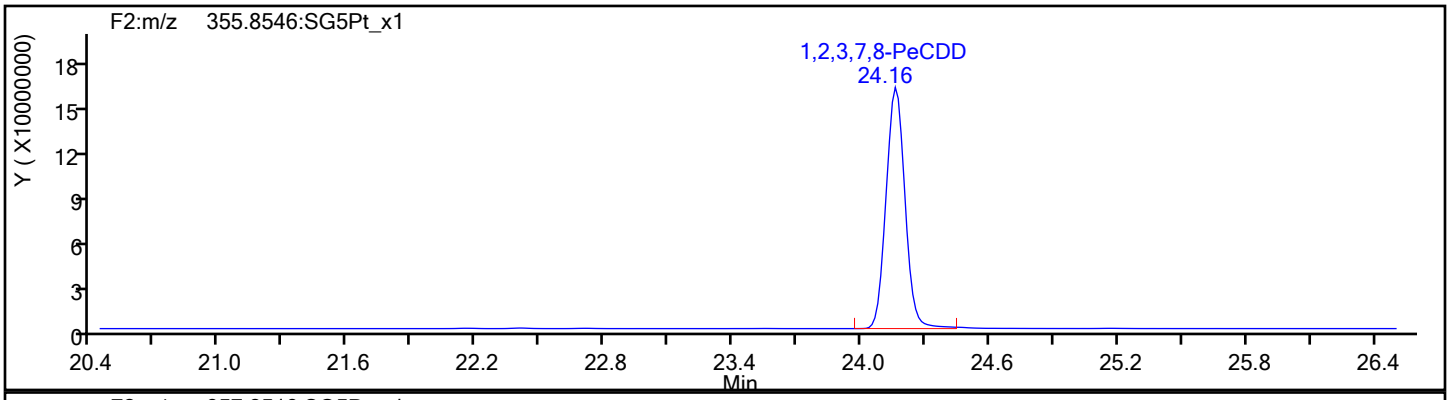

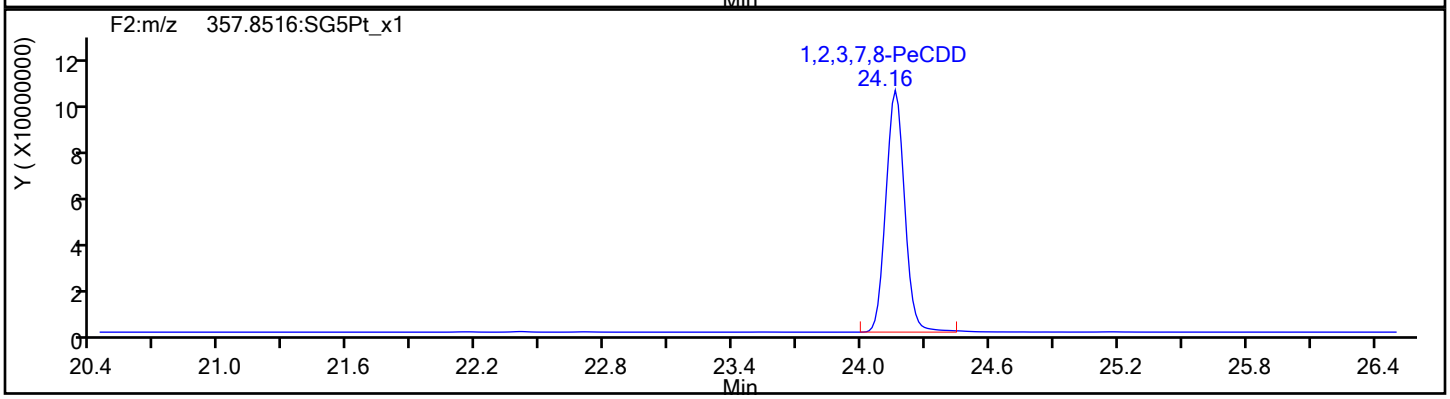

PeCDD Standards

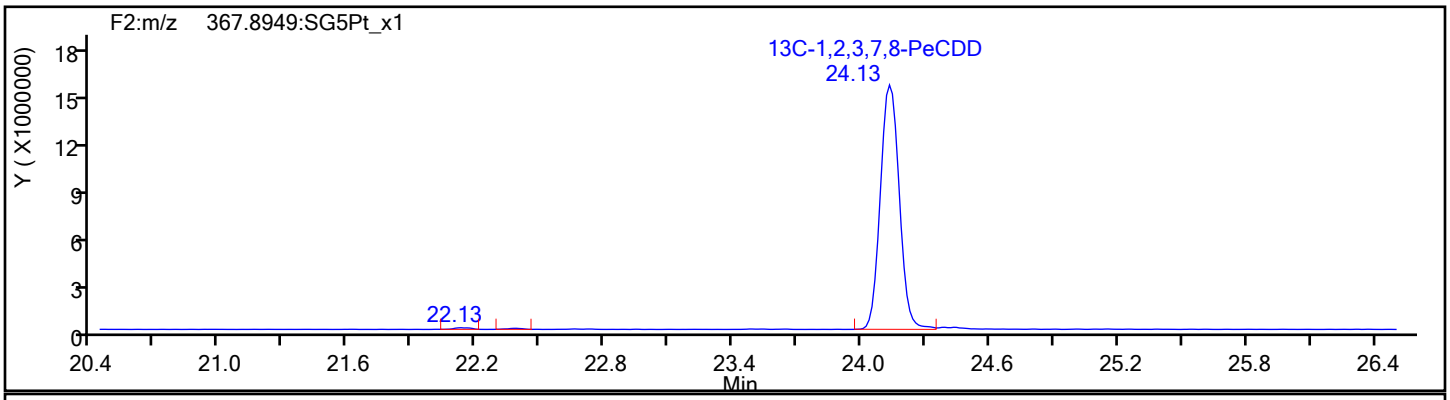

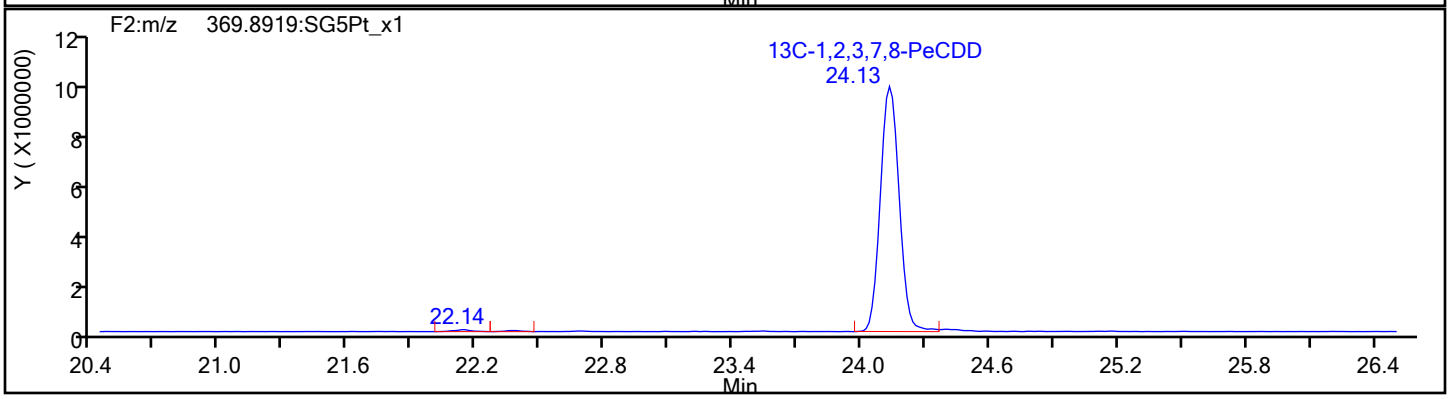

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HxCDF

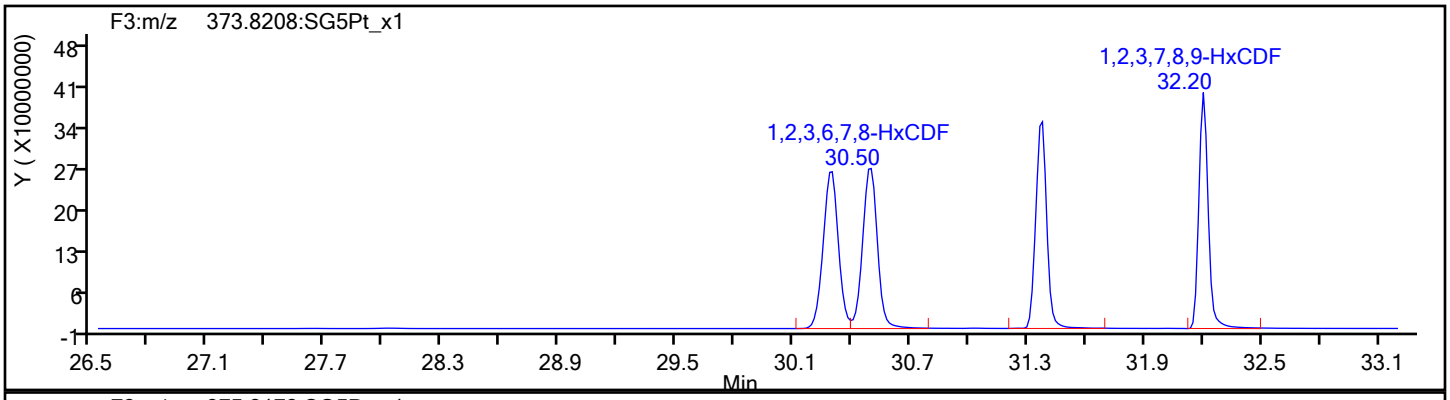

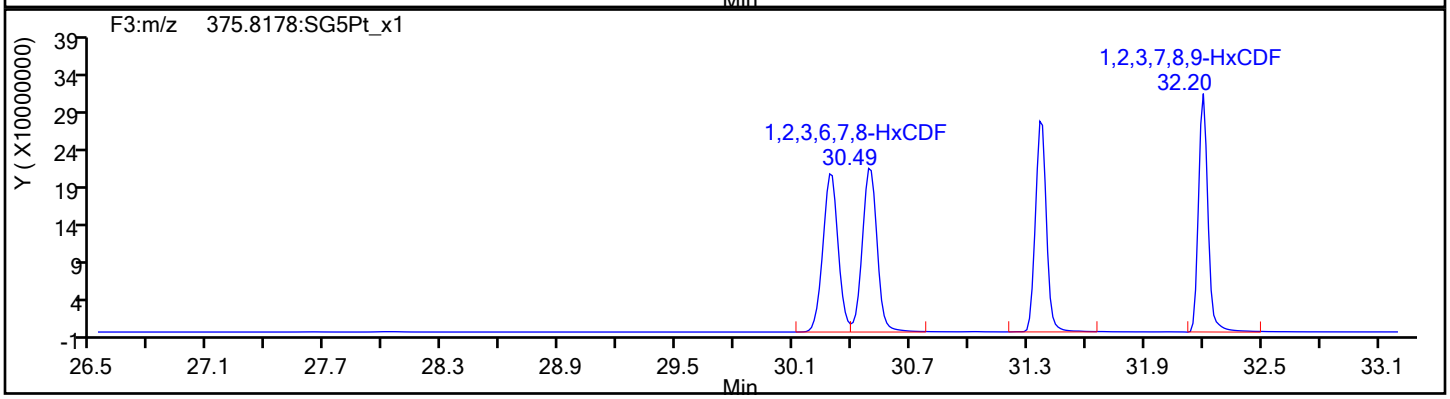

HxCDF Standards

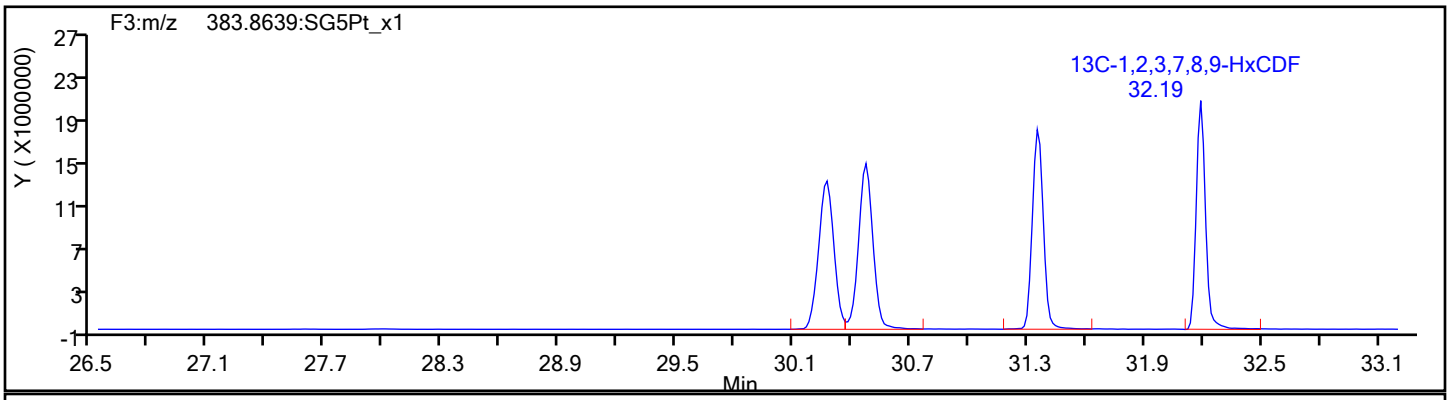

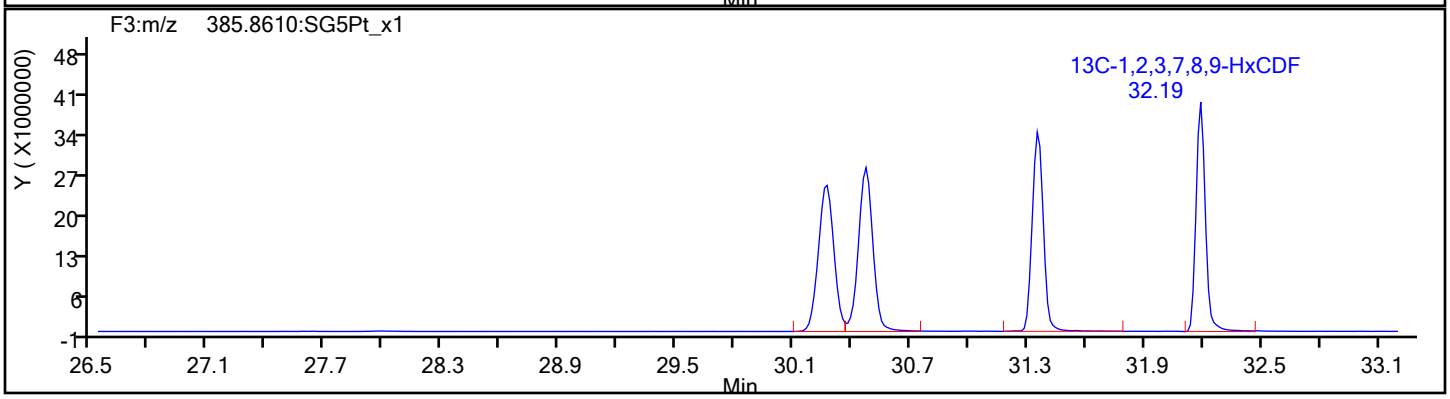

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Eurofins TestAmerica, Sacramento

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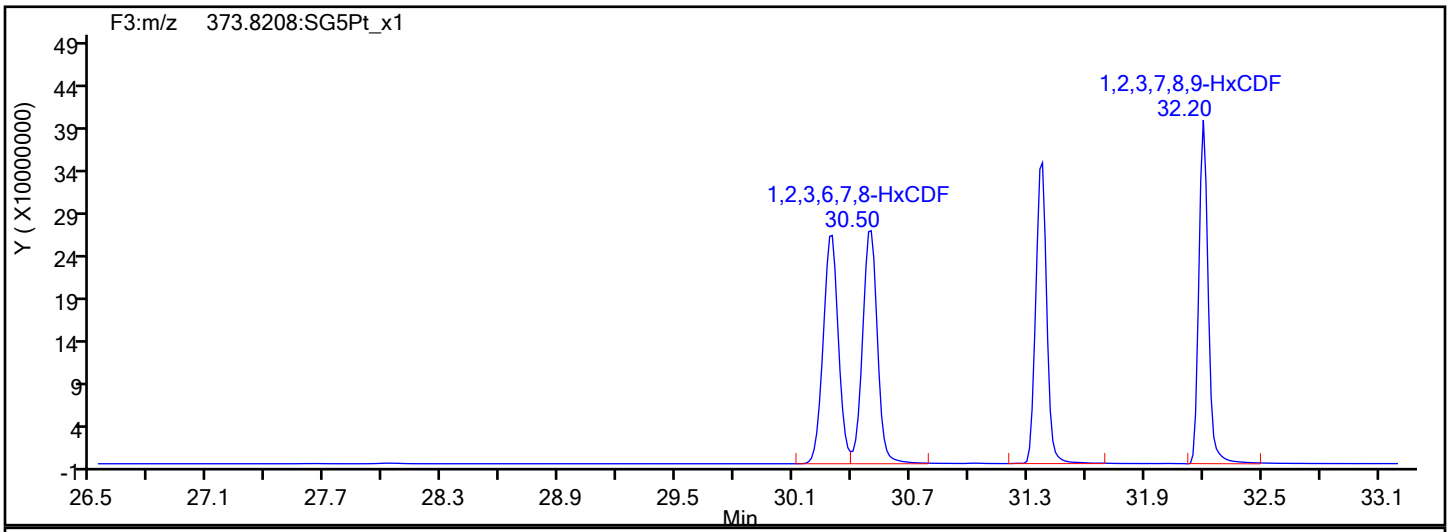

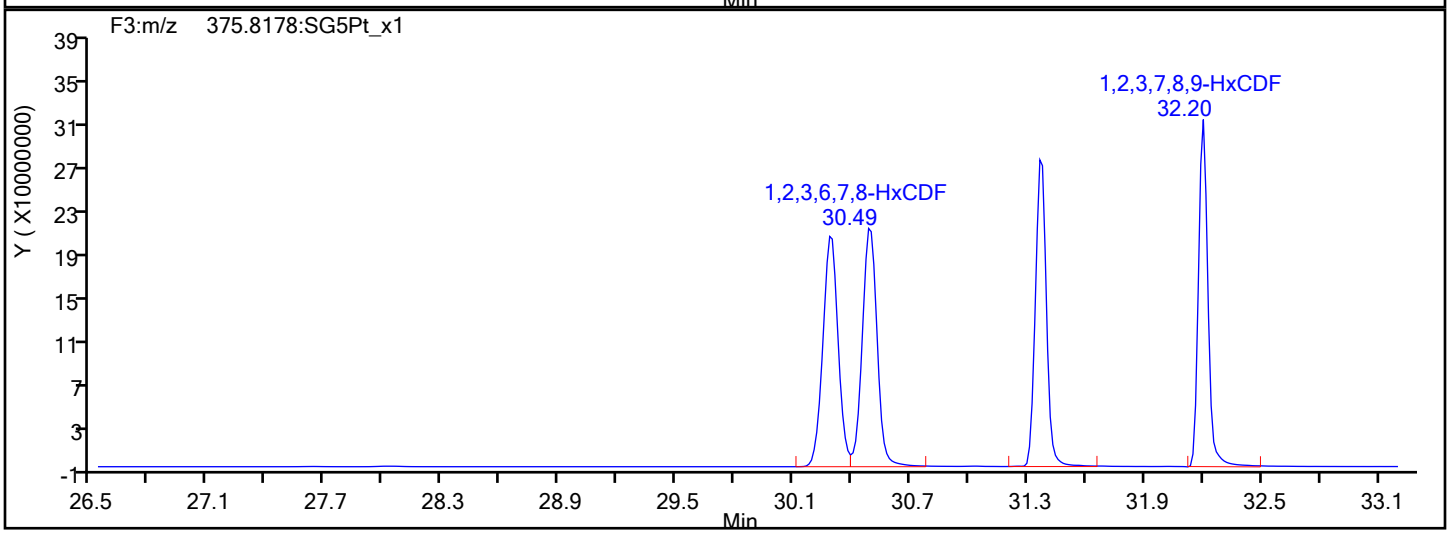

HxCDF Interference Mass

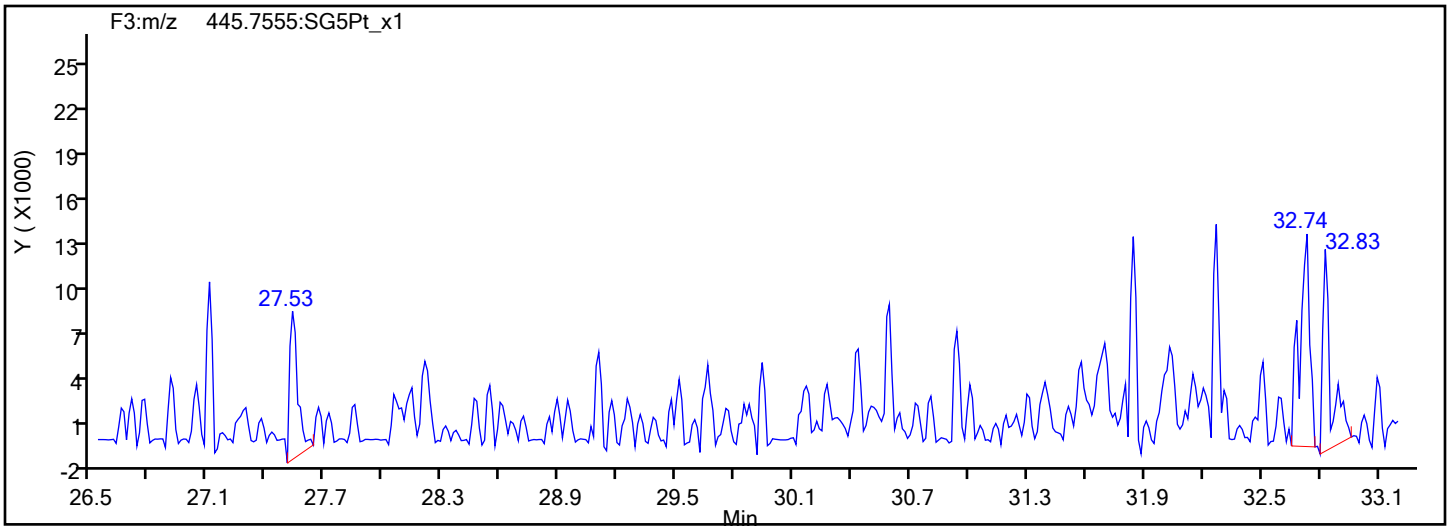

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Eurofins TestAmerica, Sacramento

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HxCDD

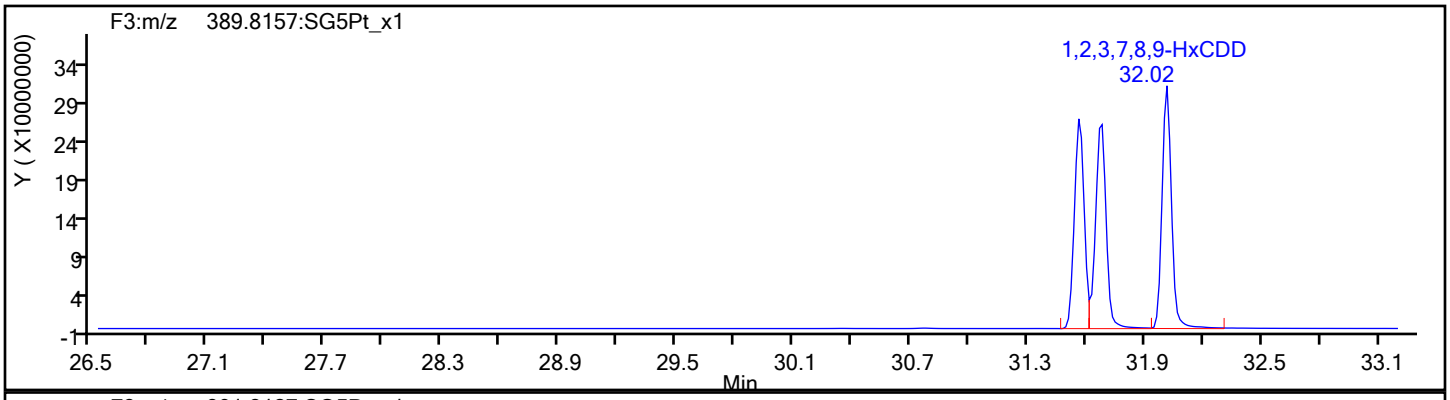

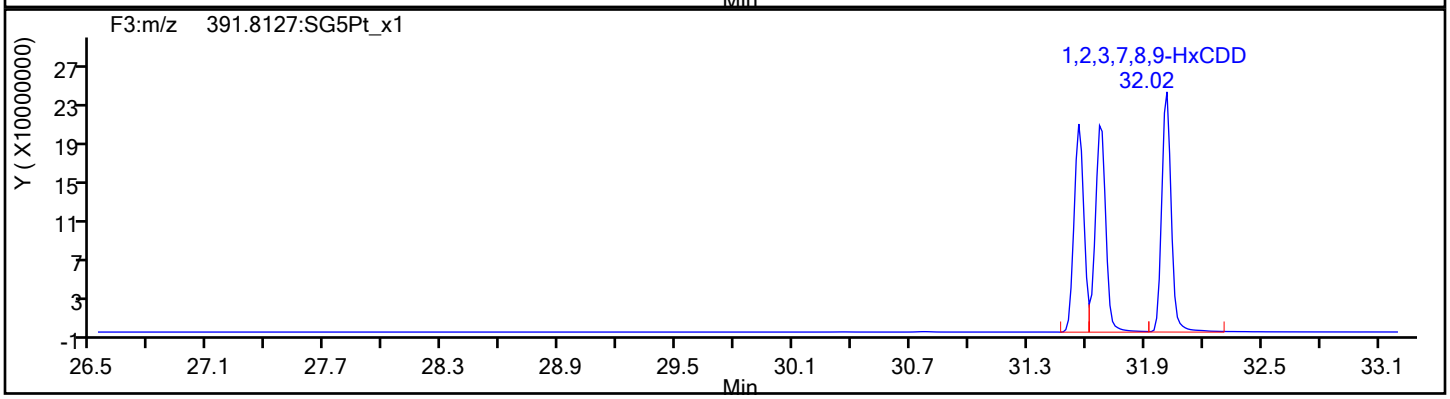

HxCDD Standards

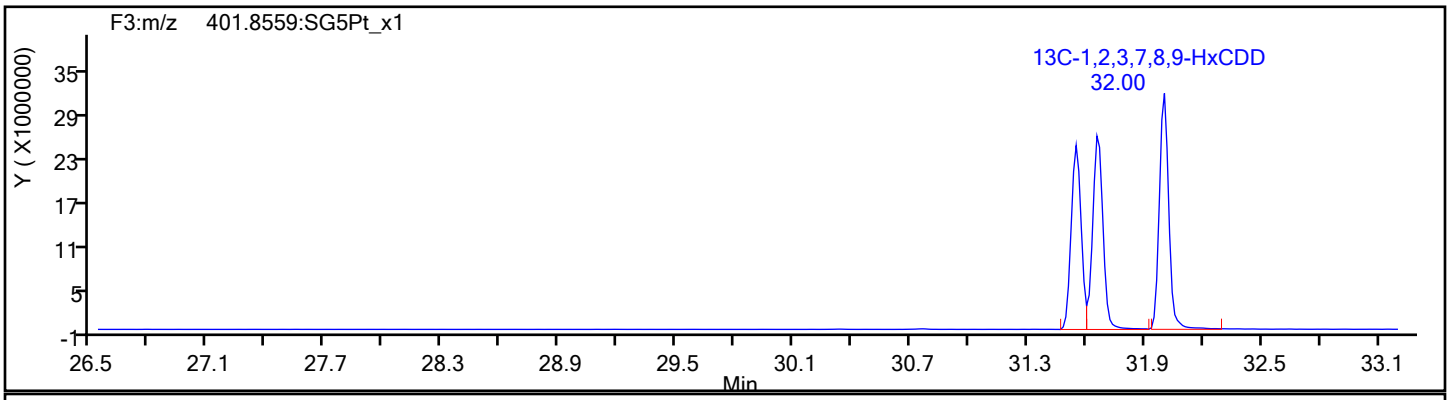

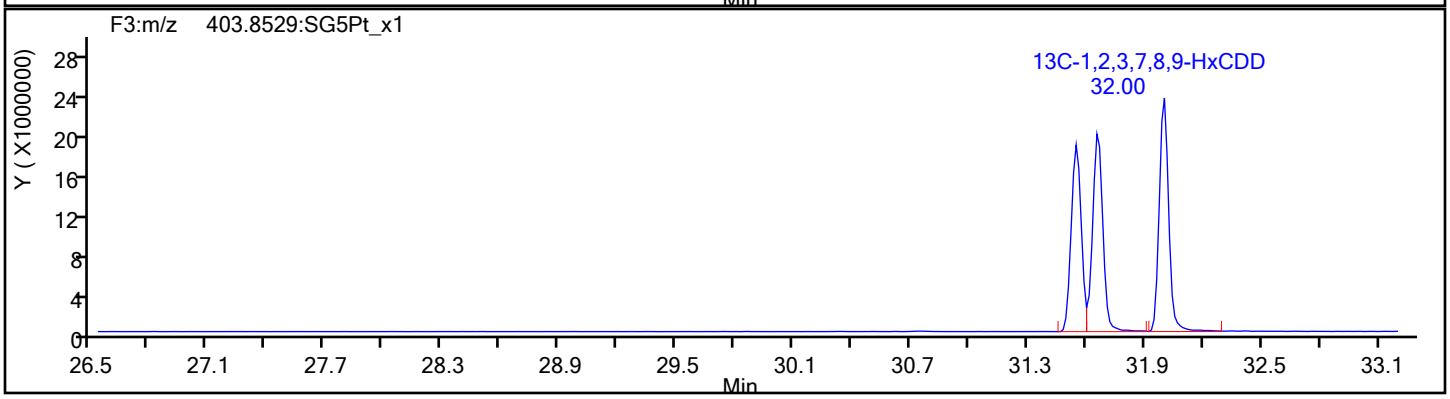

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Eurofins TestAmerica, Sacramento

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HpCDF

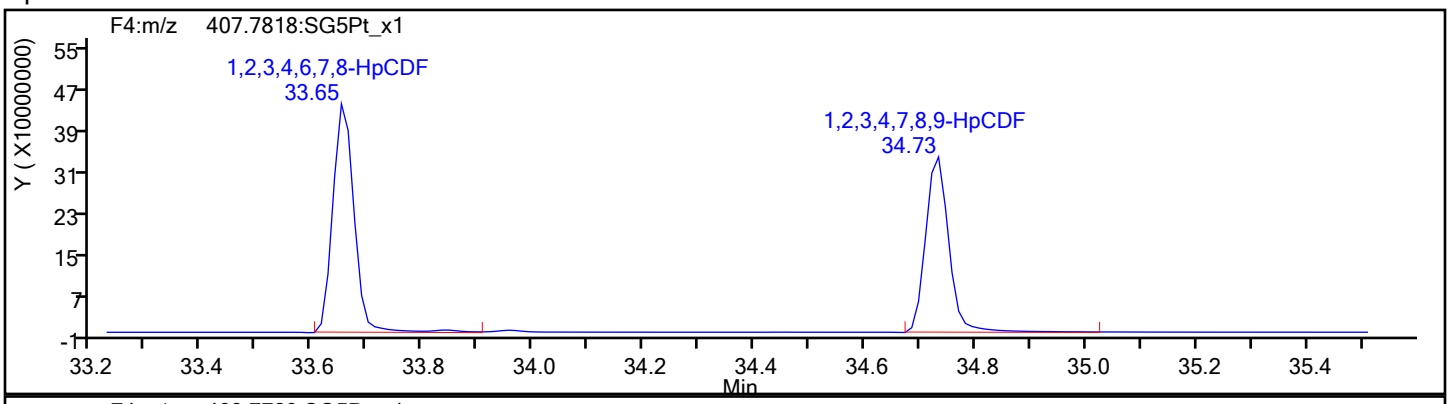

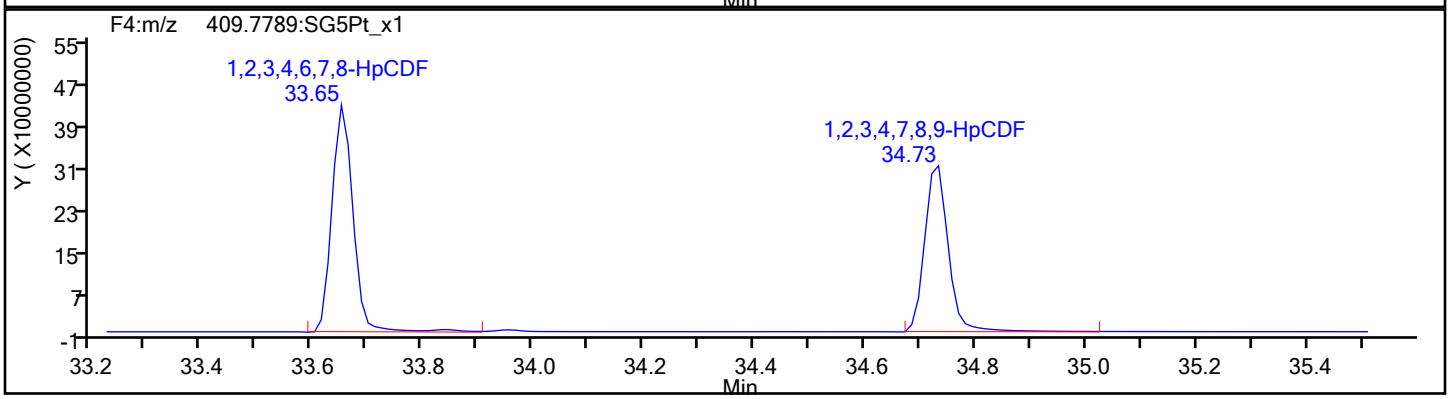

HpCDF Standards

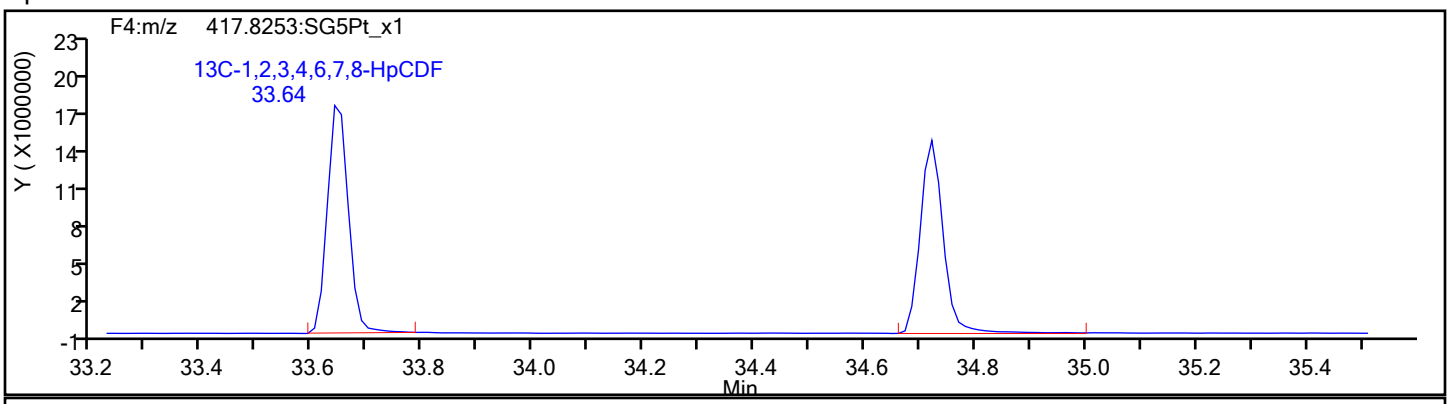

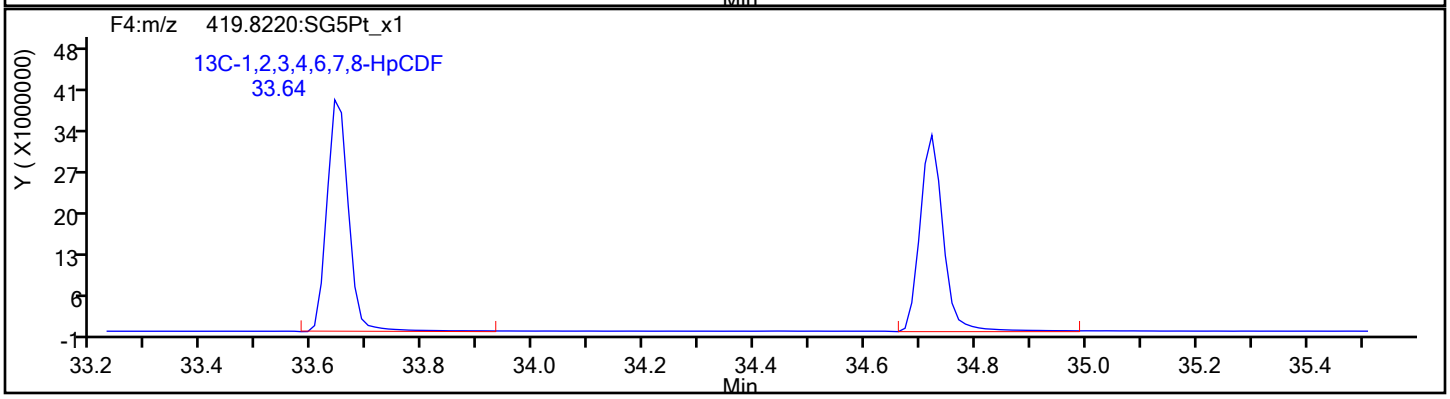

Report Date: 12-Dec-2019 15:54:43 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d		
Injection Date:	12-Dec-2019 14:39:03	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L6		
Worklist#:	345037	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

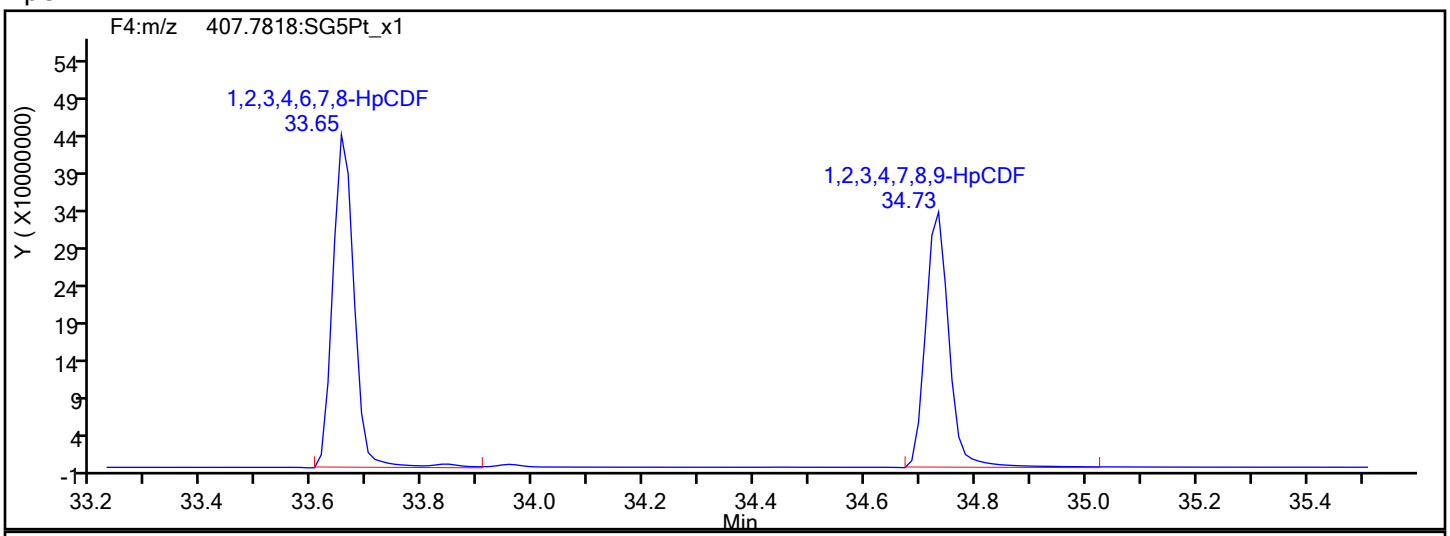

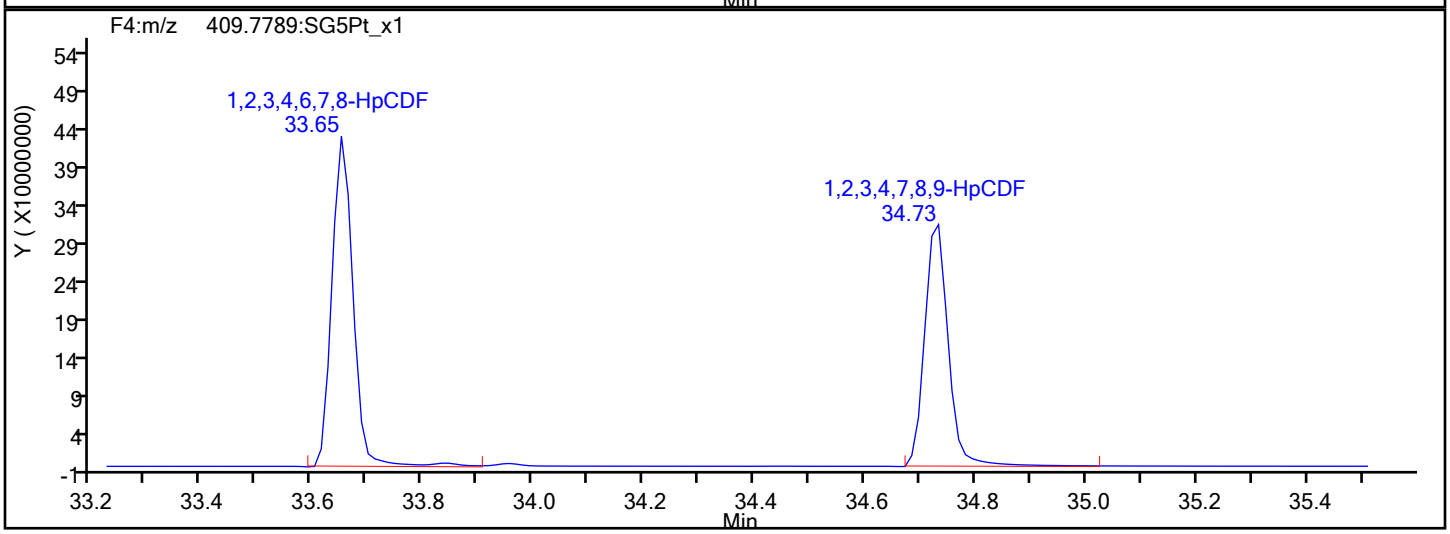

HpCDF Interference Mass

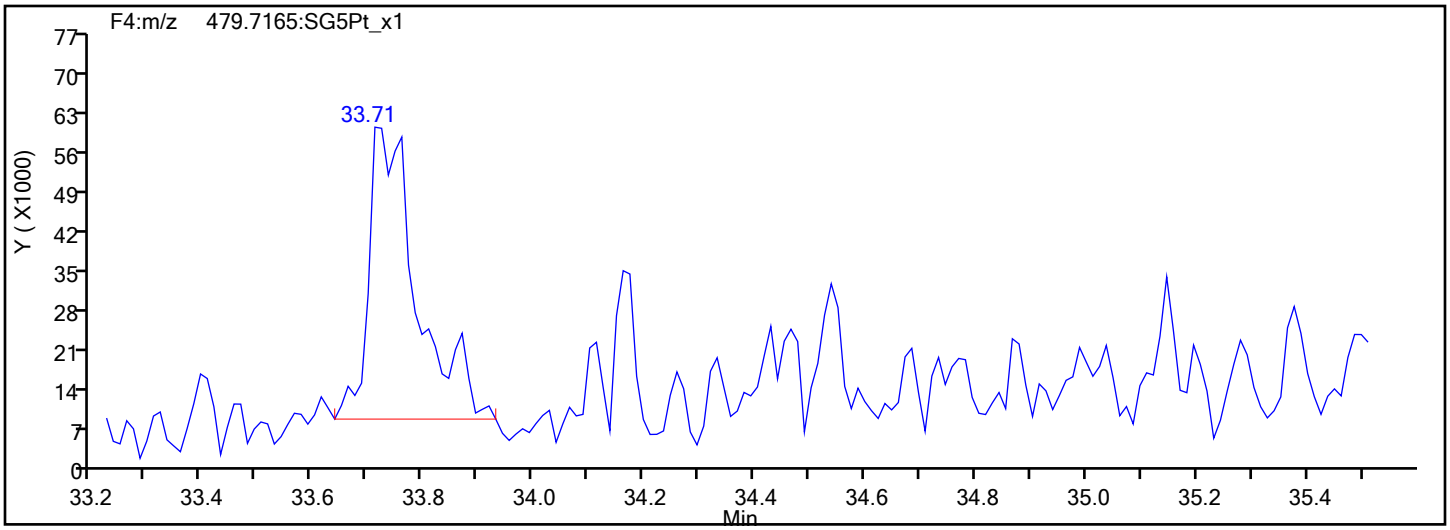

Report Date: 12-Dec-2019 15:54:43 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d		
Injection Date:	12-Dec-2019 14:39:03	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L6		
Worklist#:	345037	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

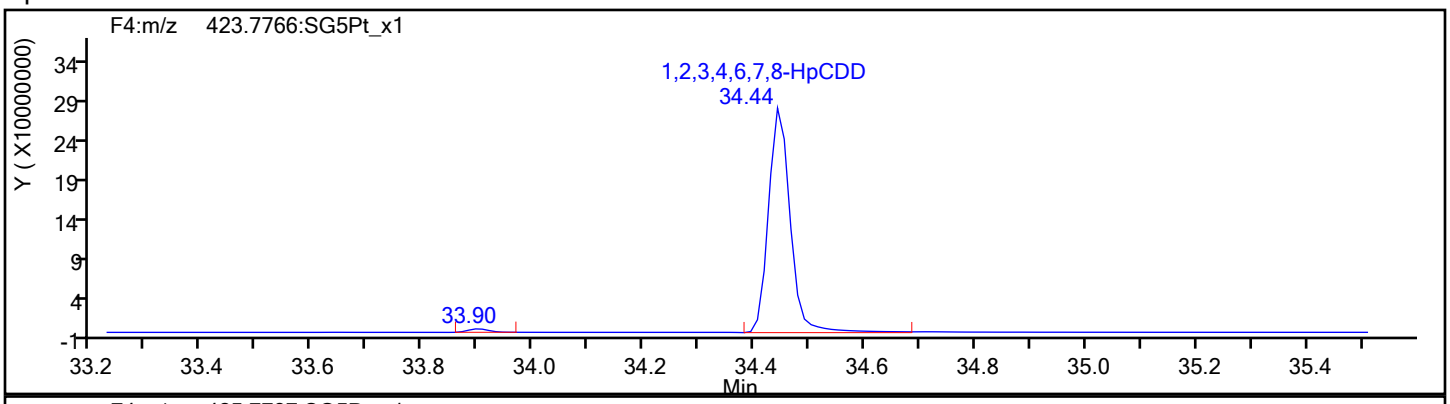

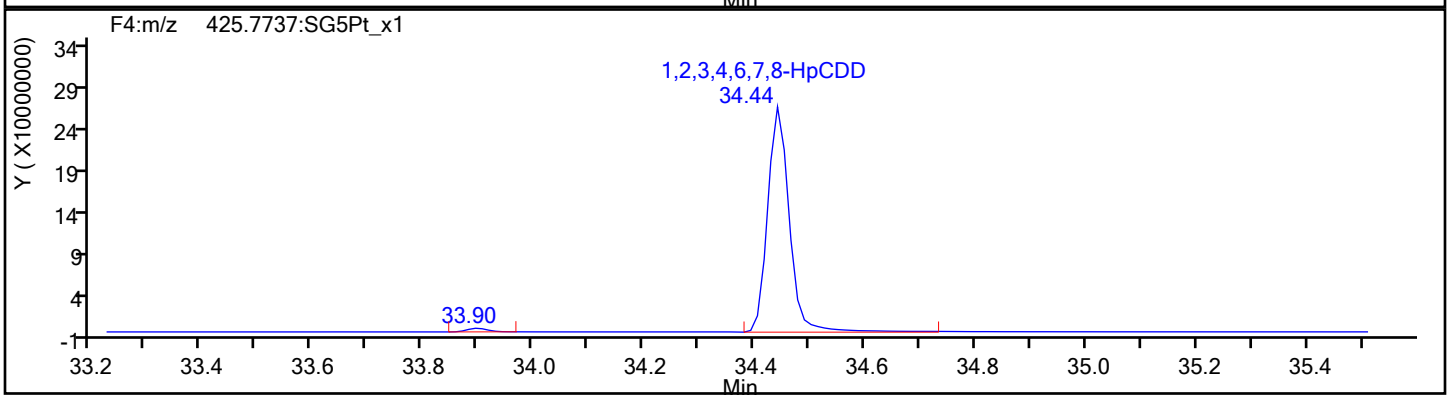

HpCDD Standards

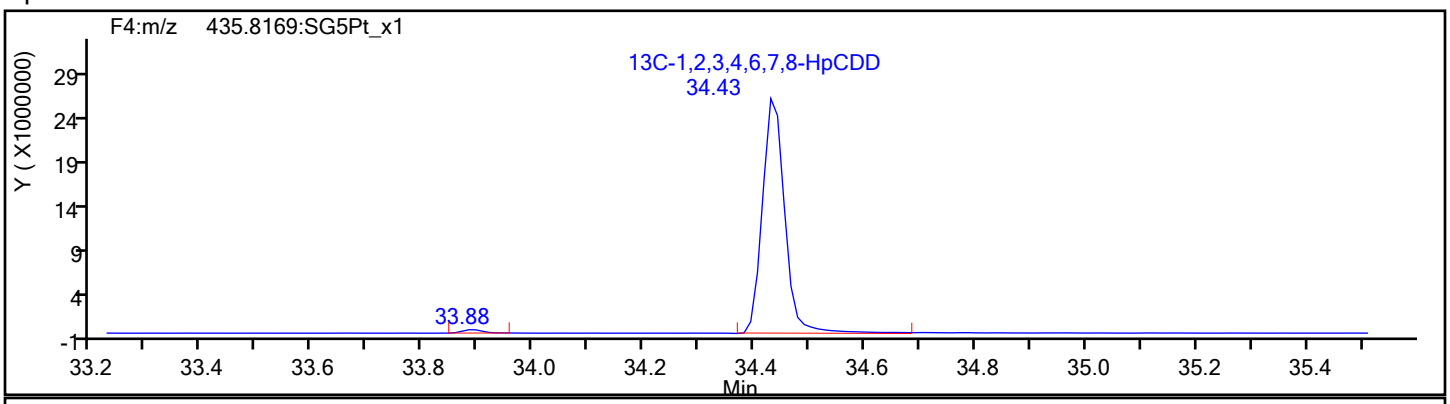

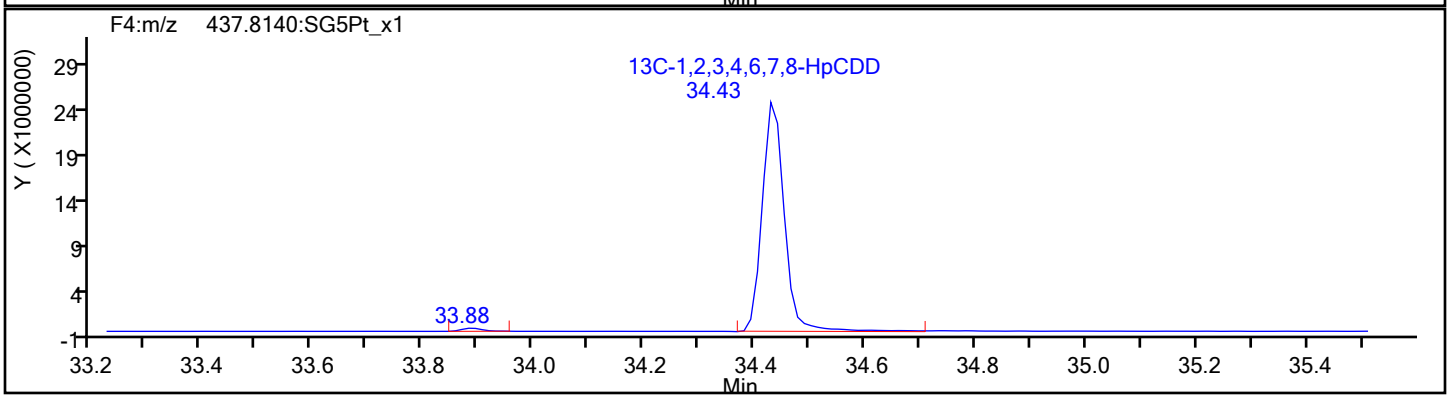

Report Date: 12-Dec-2019 15:54:43 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d		
Injection Date:	12-Dec-2019 14:39:03	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L6		
Worklist#:	345037	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

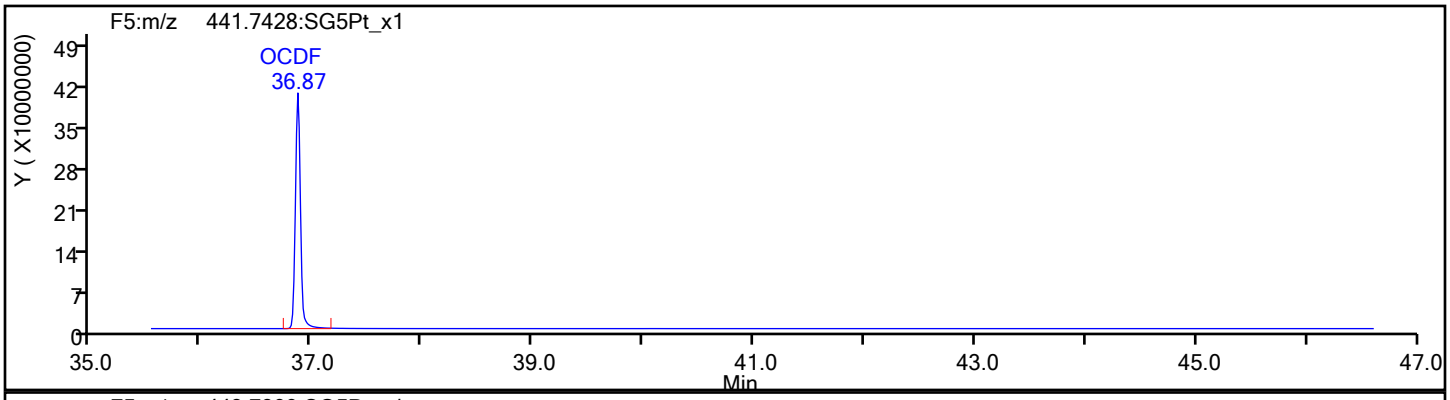

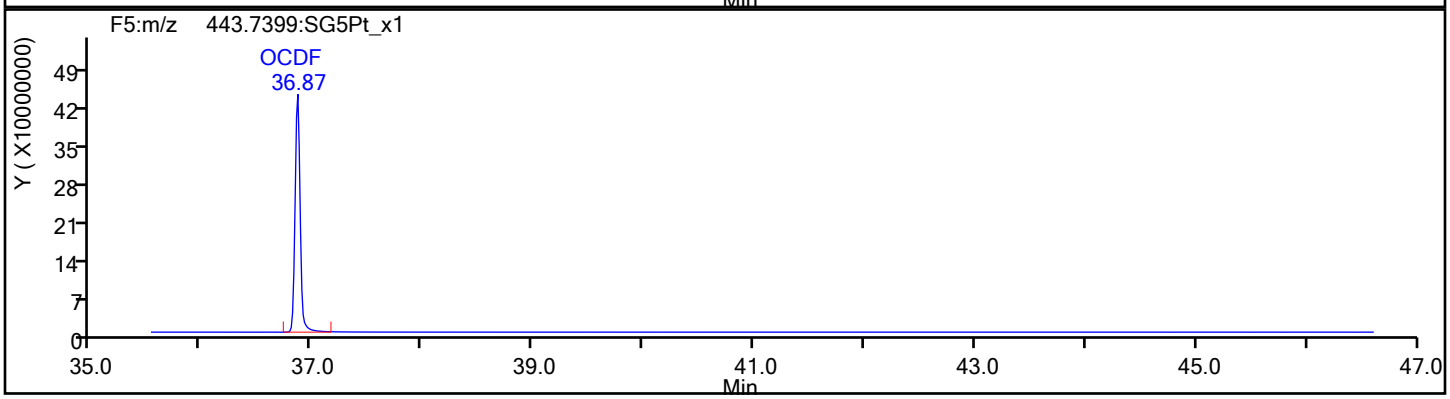

OCDF Standards

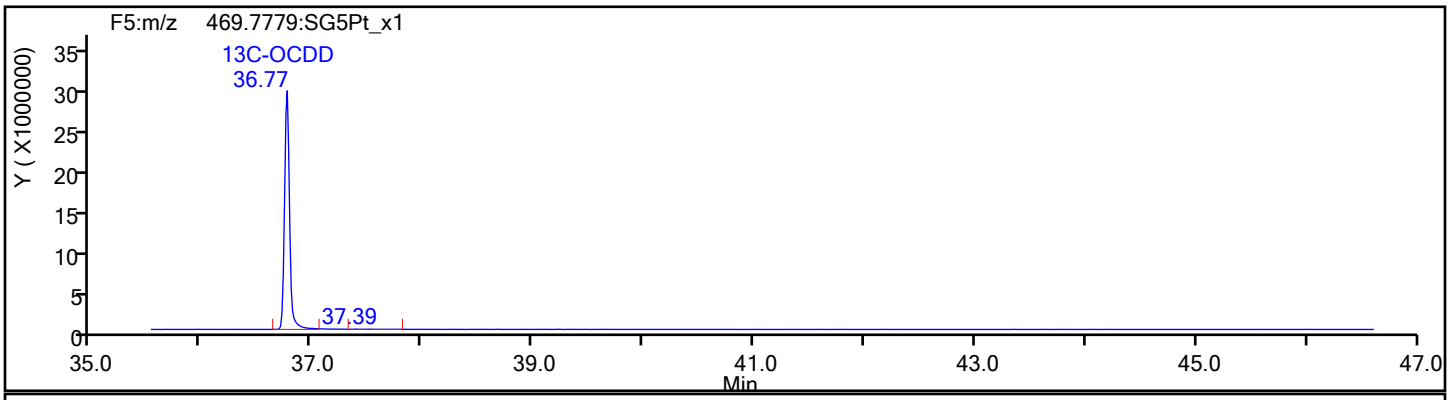

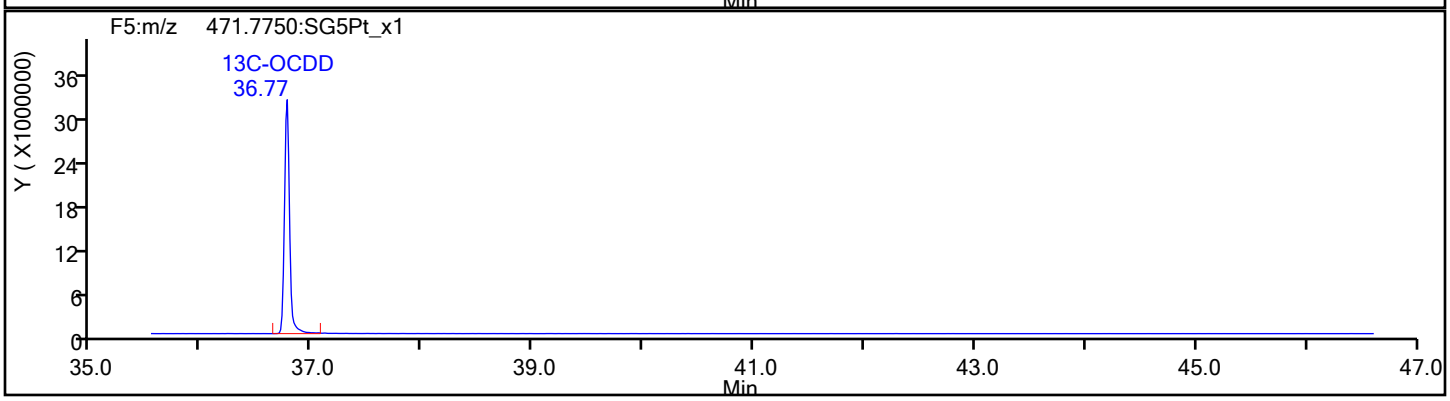

Report Date: 12-Dec-2019 15:54:43 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d		
Injection Date:	12-Dec-2019 14:39:03	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L6		
Worklist#:	345037	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

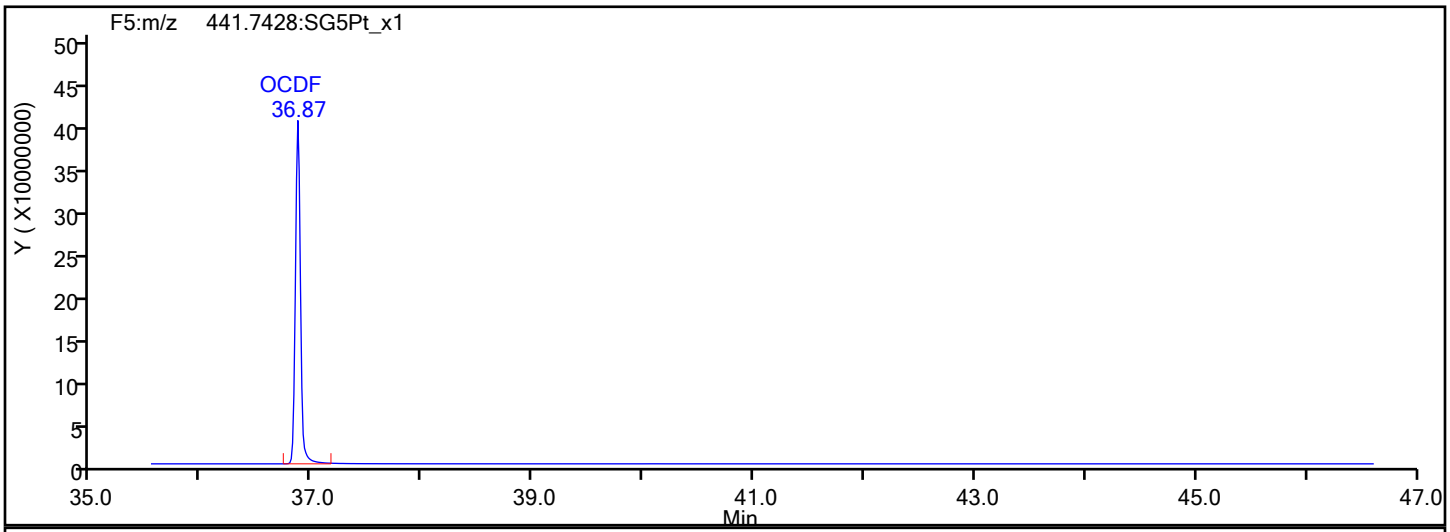

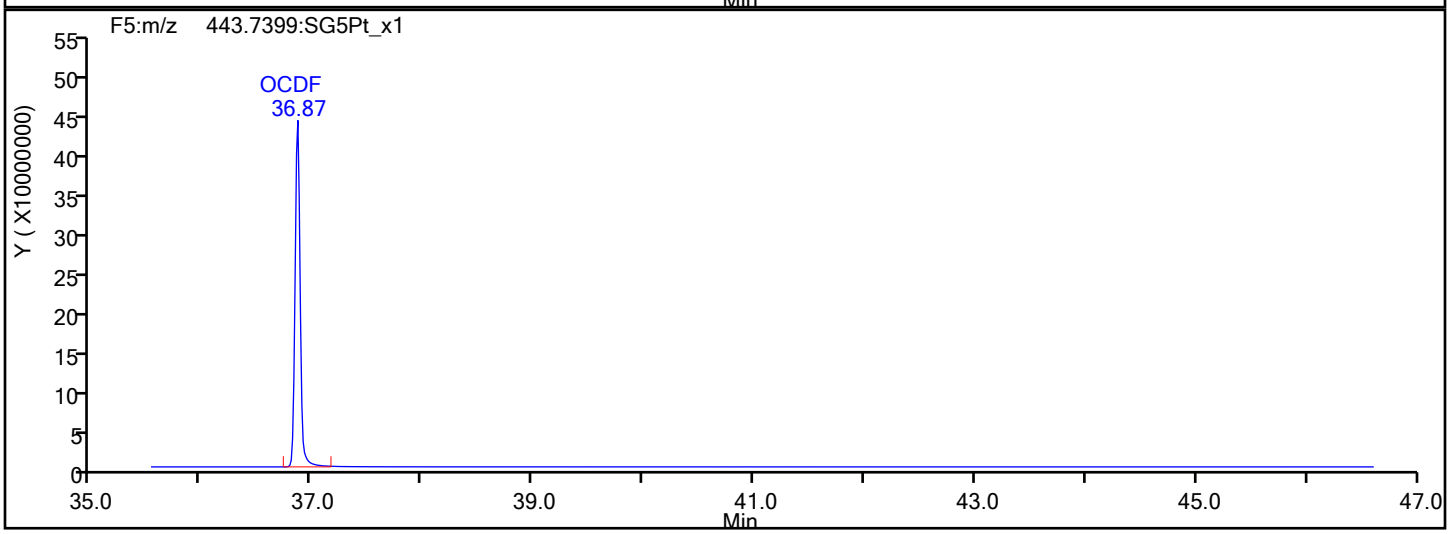

OCDF Interference Mass

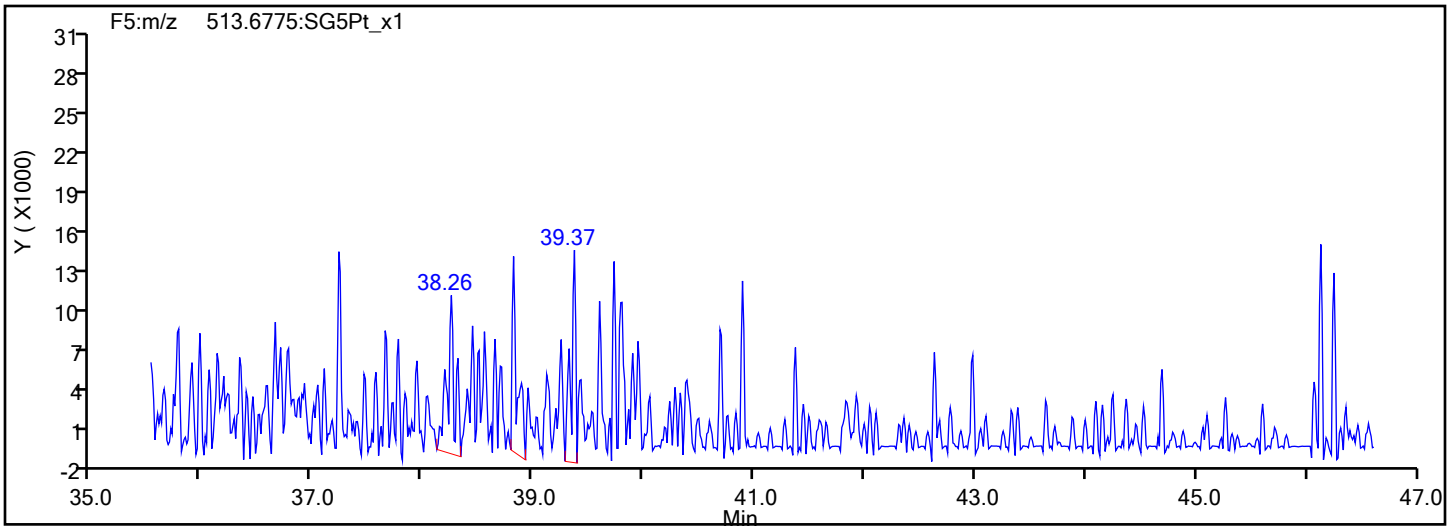

Report Date: 12-Dec-2019 15:54:43 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d		
Injection Date:	12-Dec-2019 14:39:03	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L6		
Worklist#:	345037	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

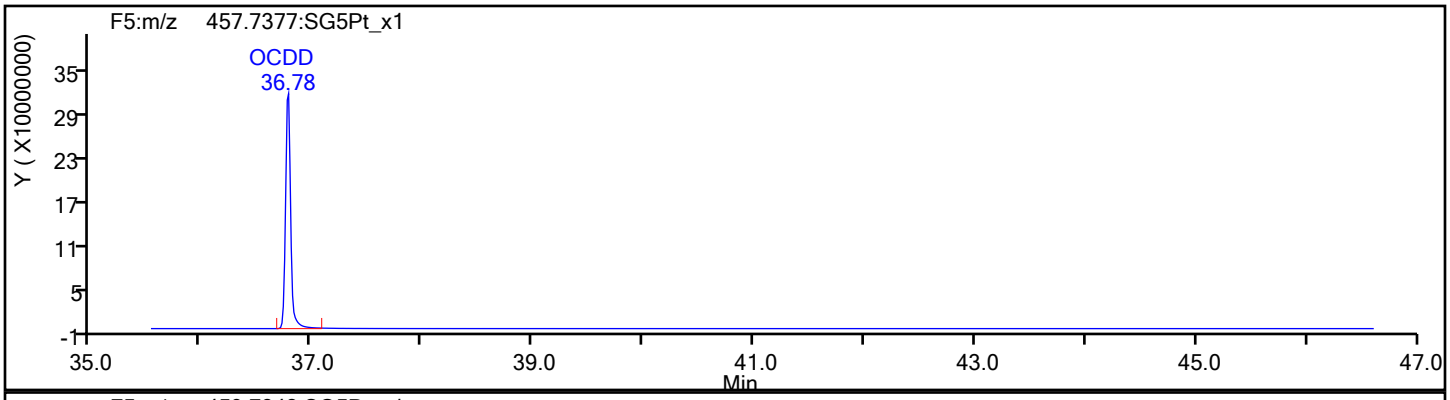

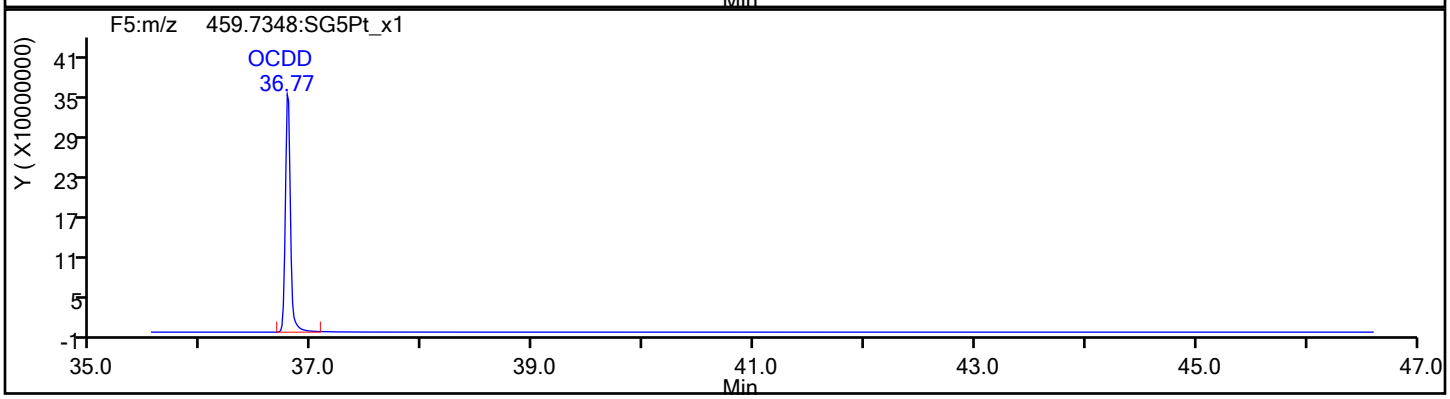

OCDD Standards

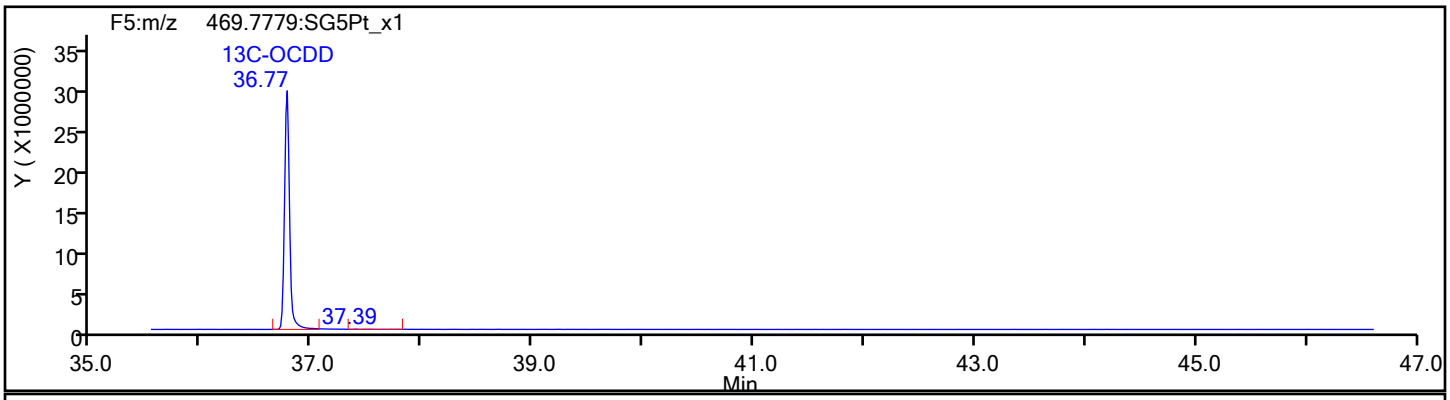

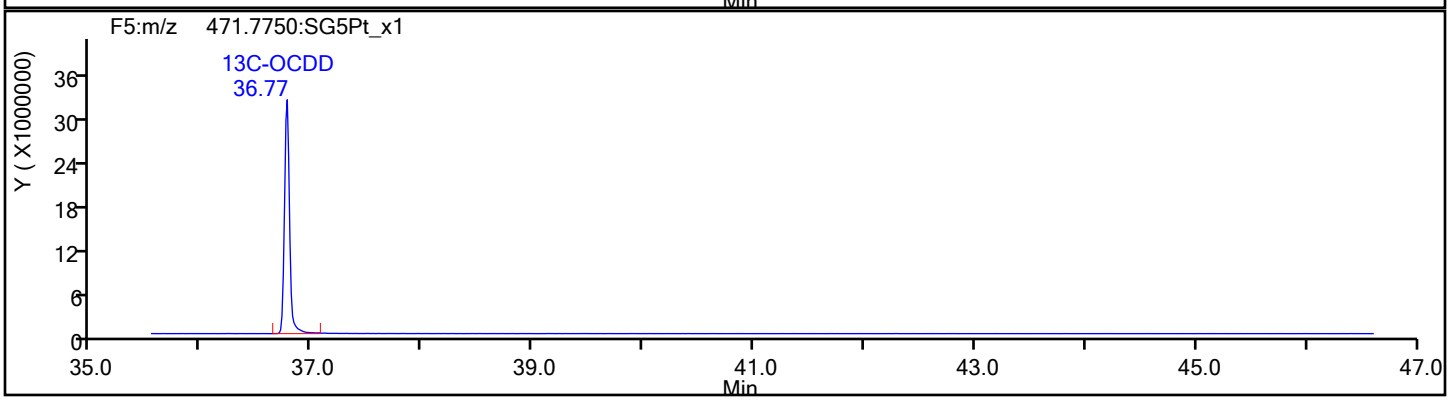

Report Date: 12-Dec-2019 15:54:43 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d		
Injection Date:	12-Dec-2019 14:39:03	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L6		
Worklist#:	345037	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

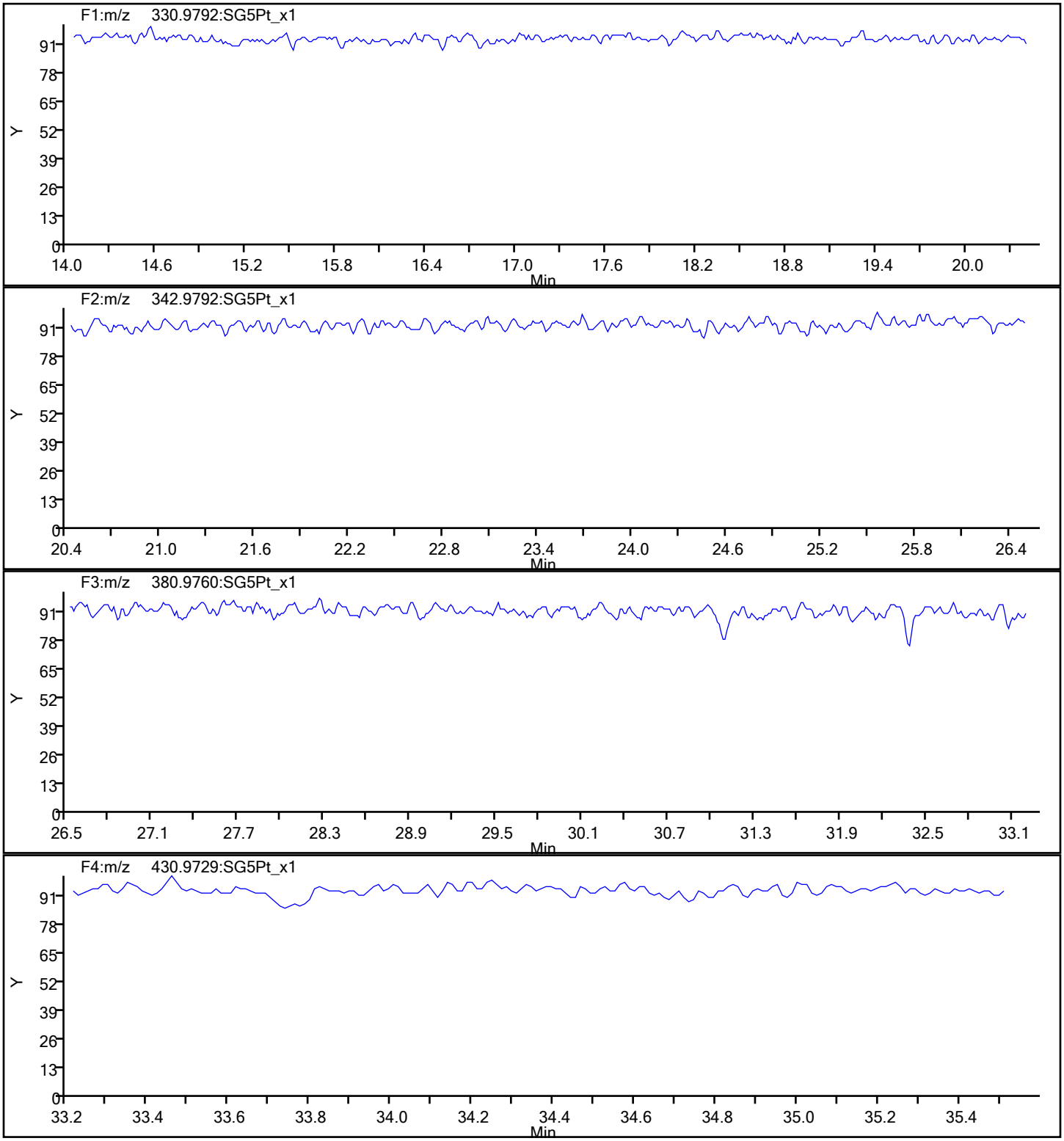

Report Date: 12-Dec-2019 15:54:43 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d		
Injection Date:	12-Dec-2019 14:39:03	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L6		
Worklist#:	345037	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

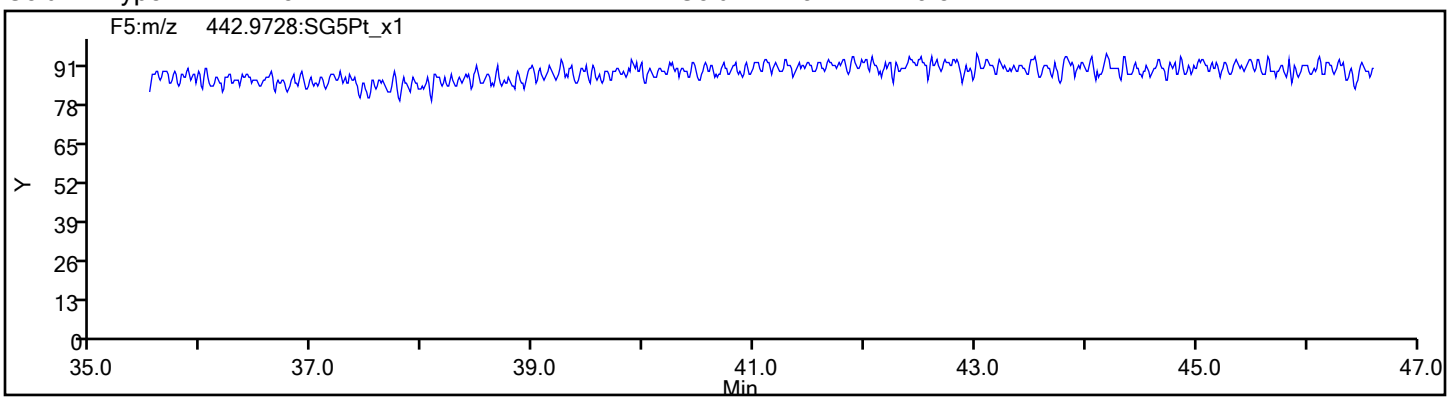

Calibration / 1,2,3,4,6,7,8-HpCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.054

Error Coefficients

Standard Error:	769000000
Relative Standard Error:	5.7
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-345037/3	2.5	2.37138	100.0	138203122.0	0.948552	Y
2	IC 320-345037/4	10.0	10.92077	100.0	149748569.0	1.092077	Y
3	IC 320-345037/5	50.0	53.165009	100.0	146156878.0	1.0633	Y
4	IC 320-345037/6	200.0	218.997187	100.0	159237326.0	1.094986	Y
5	IC 320-345037/7	1000.0	1068.781759	100.0	140028109.0	1.068782	Y

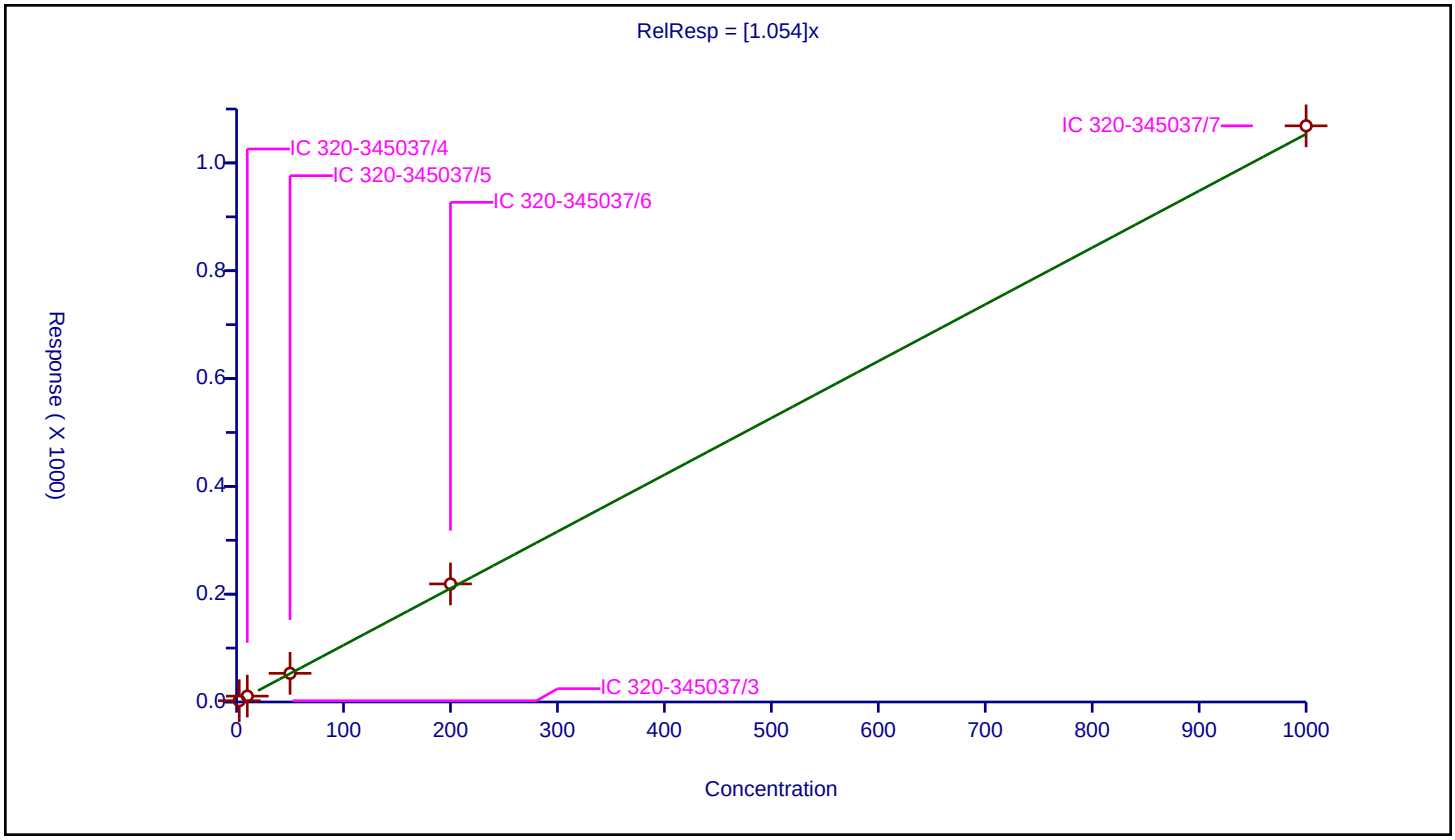

Calibration / 1,2,3,4,6,7,8-HpCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.48

Error Coefficients

Standard Error:	1190000000
Relative Standard Error:	9.2
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-345037/3	2.5	3.169819	100.0	150037410.0	1.267928	Y
2	IC 320-345037/4	10.0	15.609772	100.0	162401122.0	1.560977	Y
3	IC 320-345037/5	50.0	71.931076	100.0	159712904.0	1.438622	Y
4	IC 320-345037/6	200.0	324.628552	100.0	161981056.0	1.623143	Y
5	IC 320-345037/7	1000.0	1511.108632	100.0	152865078.0	1.511109	Y

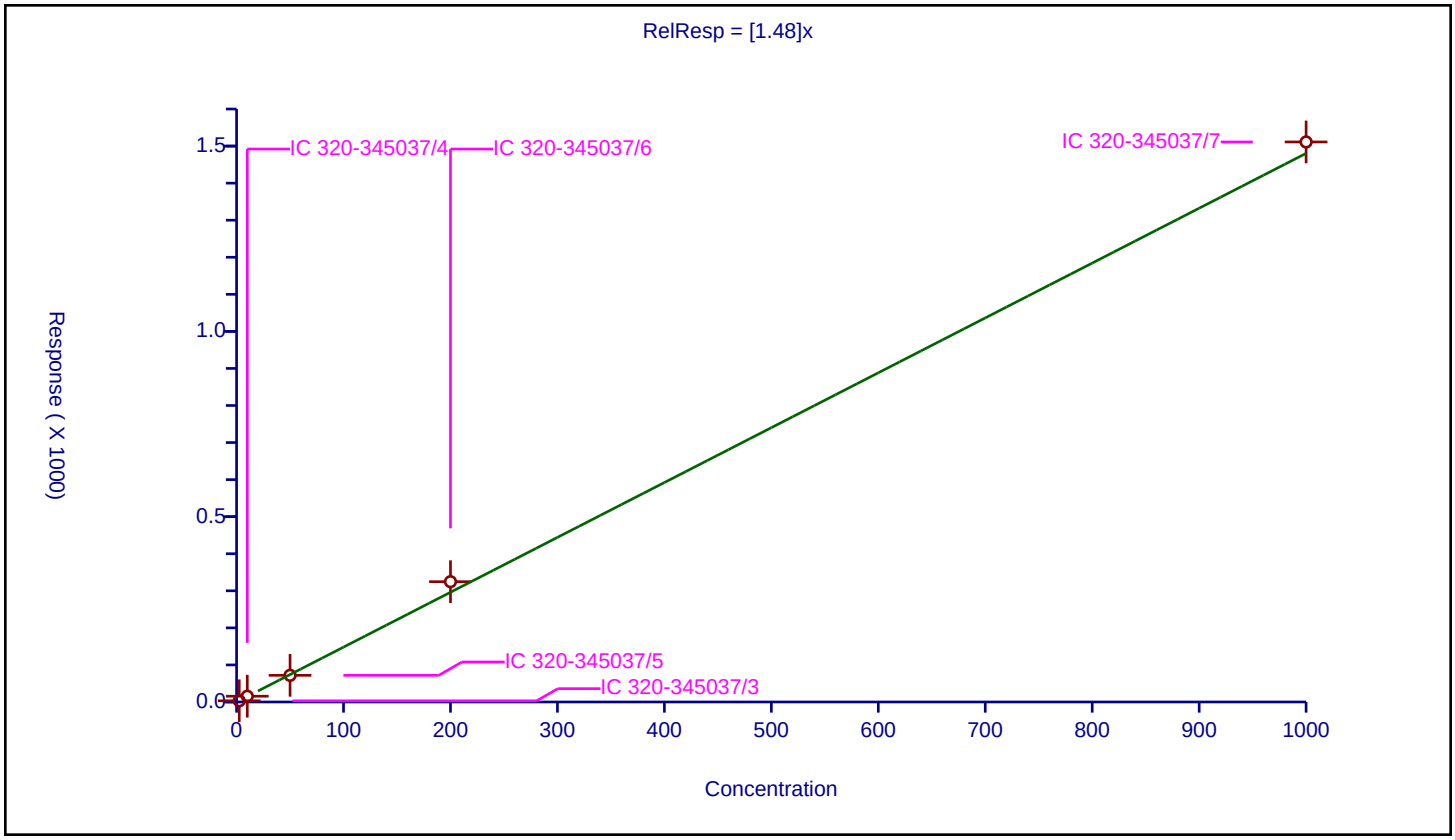

Calibration / 1,2,3,4,7,8,9-HpCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.293

Error Coefficients

Standard Error:	981000000
Relative Standard Error:	7.1
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-345037/3	2.5	2.868756	100.0	133781139.0	1.147503	Y
2	IC 320-345037/4	10.0	13.140017	100.0	146041140.0	1.314002	Y
3	IC 320-345037/5	50.0	63.413566	100.0	145840544.0	1.268271	Y
4	IC 320-345037/6	200.0	275.532726	100.0	154442339.0	1.377664	Y
5	IC 320-345037/7	1000.0	1359.034077	100.0	140774596.0	1.359034	Y

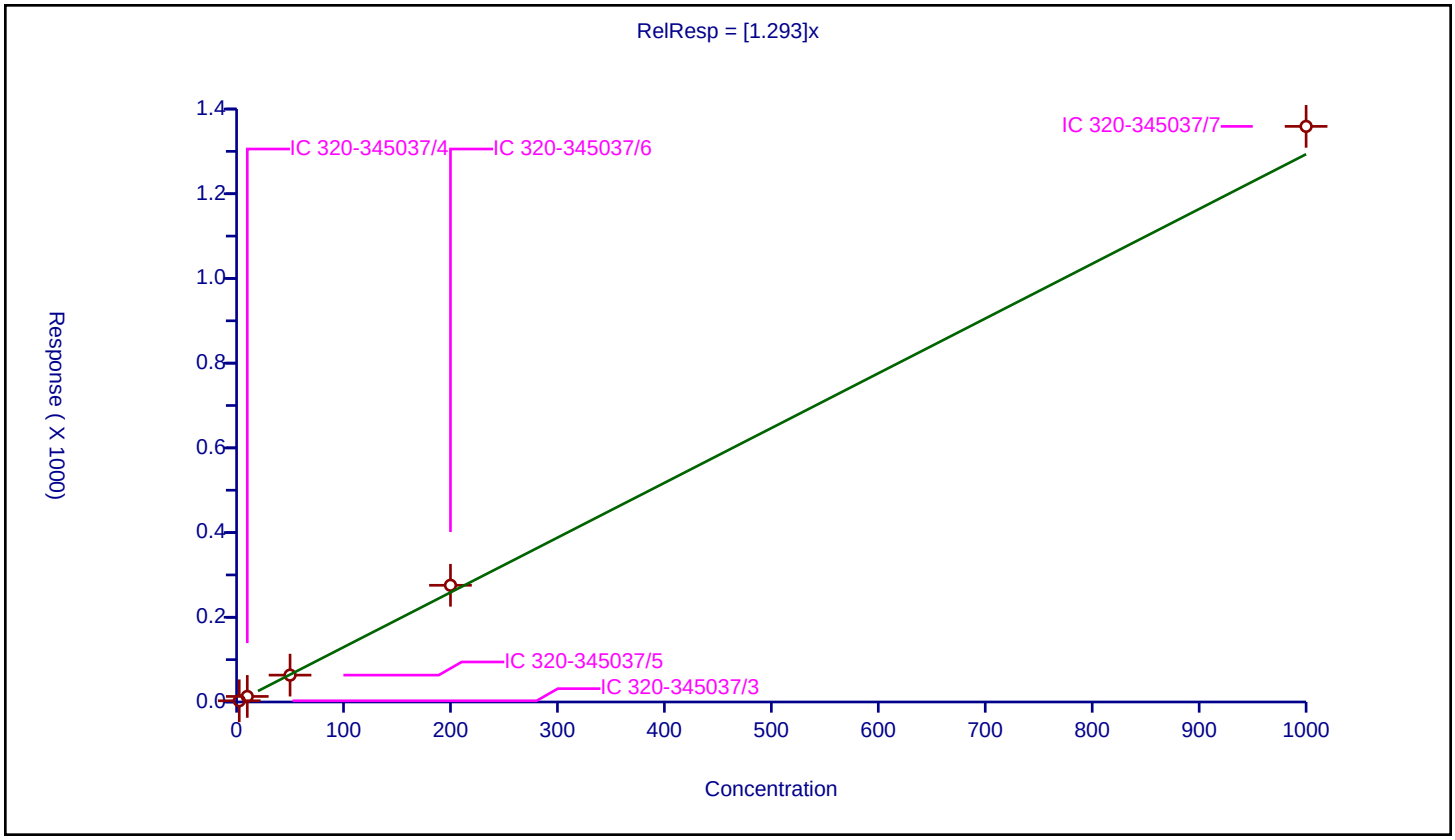

Calibration / 1,2,3,4,7,8-HxCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.093

Error Coefficients

Standard Error:	860000000
Relative Standard Error:	7.3
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-345037/3	2.5	2.44219	100.0	163808128.0	0.976876	Y
2	IC 320-345037/4	10.0	11.694327	100.0	167853325.0	1.169433	Y
3	IC 320-345037/5	50.0	53.512668	100.0	174266733.0	1.070253	Y
4	IC 320-345037/6	200.0	233.772223	100.0	167631105.0	1.168861	Y
5	IC 320-345037/7	1000.0	1081.472691	100.0	154639045.0	1.081473	Y

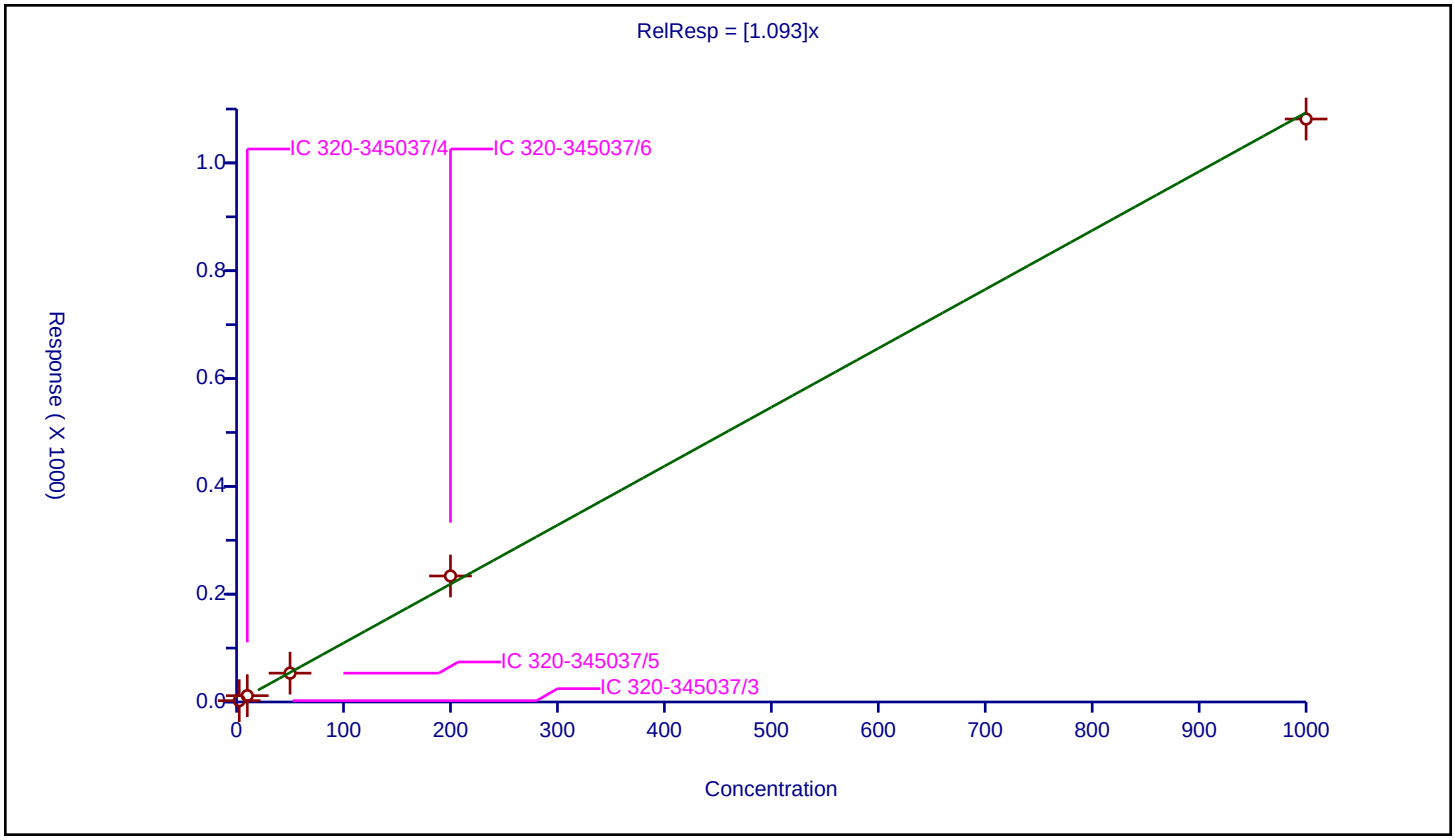

Calibration / 1,2,3,4,7,8-HxCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.147

Error Coefficients

Standard Error:	1310000000
Relative Standard Error:	8.9
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-345037/3	2.5	2.431839	100.0	228057392.0	0.972736	Y
2	IC 320-345037/4	10.0	12.028071	100.0	231563640.0	1.202807	Y
3	IC 320-345037/5	50.0	56.891812	100.0	242099177.0	1.137836	Y
4	IC 320-345037/6	200.0	243.778768	100.0	234227258.0	1.218894	Y
5	IC 320-345037/7	1000.0	1203.75694	100.0	212926355.0	1.203757	Y

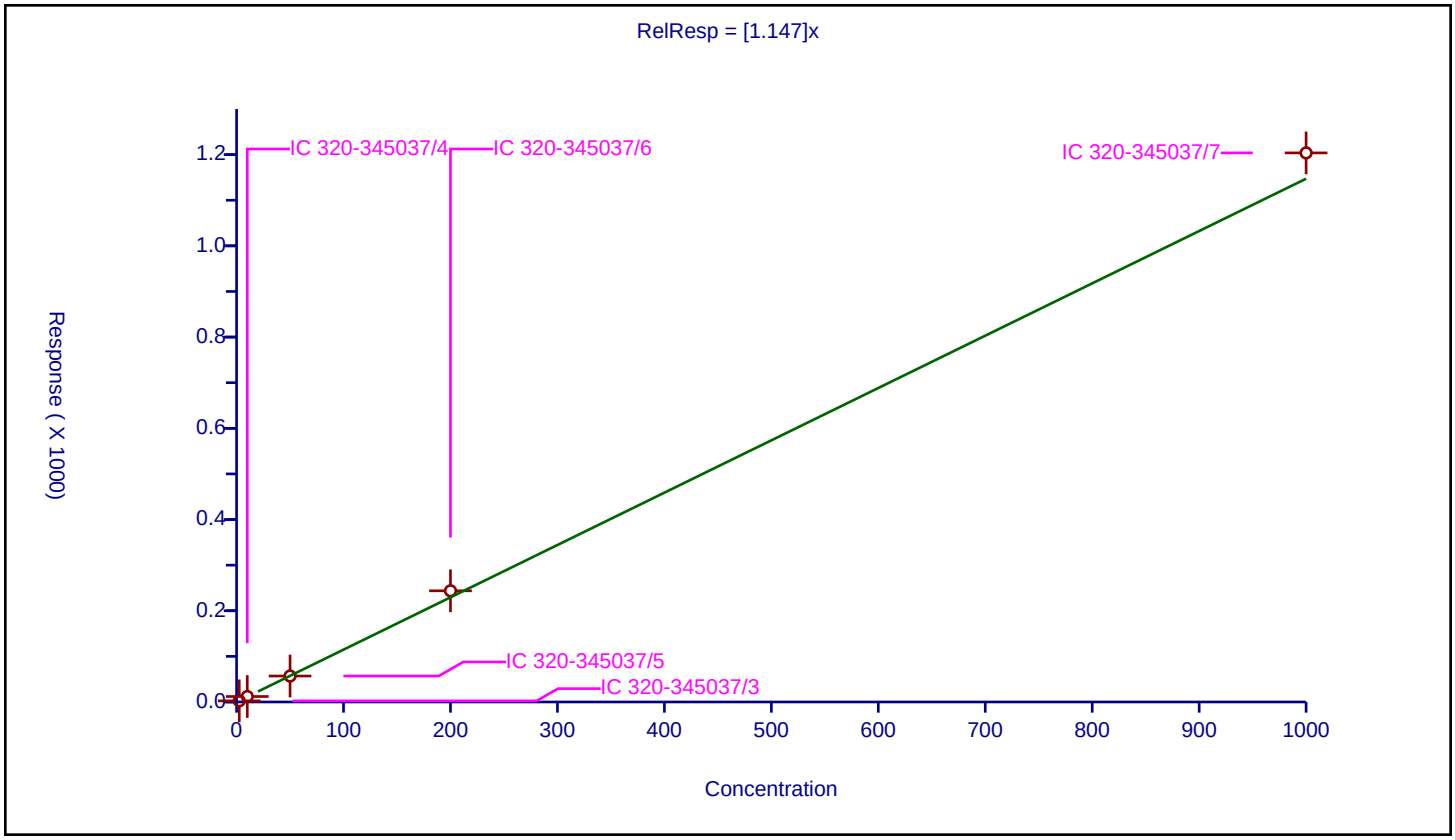

Calibration / 1,2,3,6,7,8-HxCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.043

Error Coefficients

Standard Error:	918000000
Relative Standard Error:	8.7
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.992

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-345037/3	2.5	2.231945	100.0	181206025.0	0.892778	Y
2	IC 320-345037/4	10.0	11.393354	100.0	181254882.0	1.139335	Y
3	IC 320-345037/5	50.0	53.665575	100.0	183758146.0	1.073312	Y
4	IC 320-345037/6	200.0	210.601386	100.0	191249218.0	1.053007	Y
5	IC 320-345037/7	1000.0	1056.082693	100.0	169339469.0	1.056083	Y

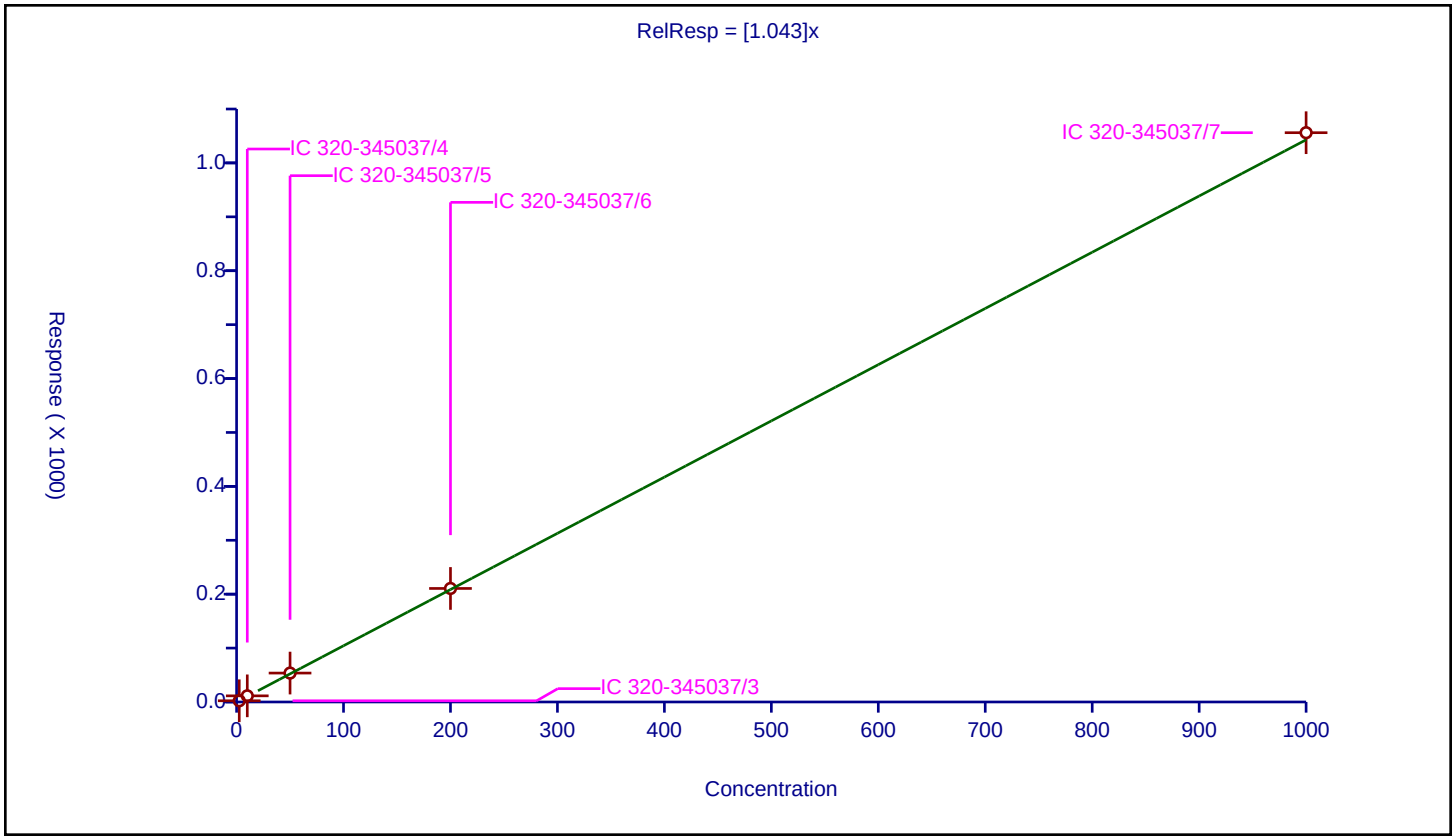

Calibration / 1,2,3,6,7,8-HxCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.145

Error Coefficients

Standard Error:	1330000000
Relative Standard Error:	8.4
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.992

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-345037/3	2.5	2.445599	100.0	241275292.0	0.978239	Y
2	IC 320-345037/4	10.0	12.007987	100.0	241149788.0	1.200799	Y
3	IC 320-345037/5	50.0	58.642573	100.0	243784643.0	1.172851	Y
4	IC 320-345037/6	200.0	242.928194	100.0	243919748.0	1.214641	Y
5	IC 320-345037/7	1000.0	1158.625835	100.0	222786807.0	1.158626	Y

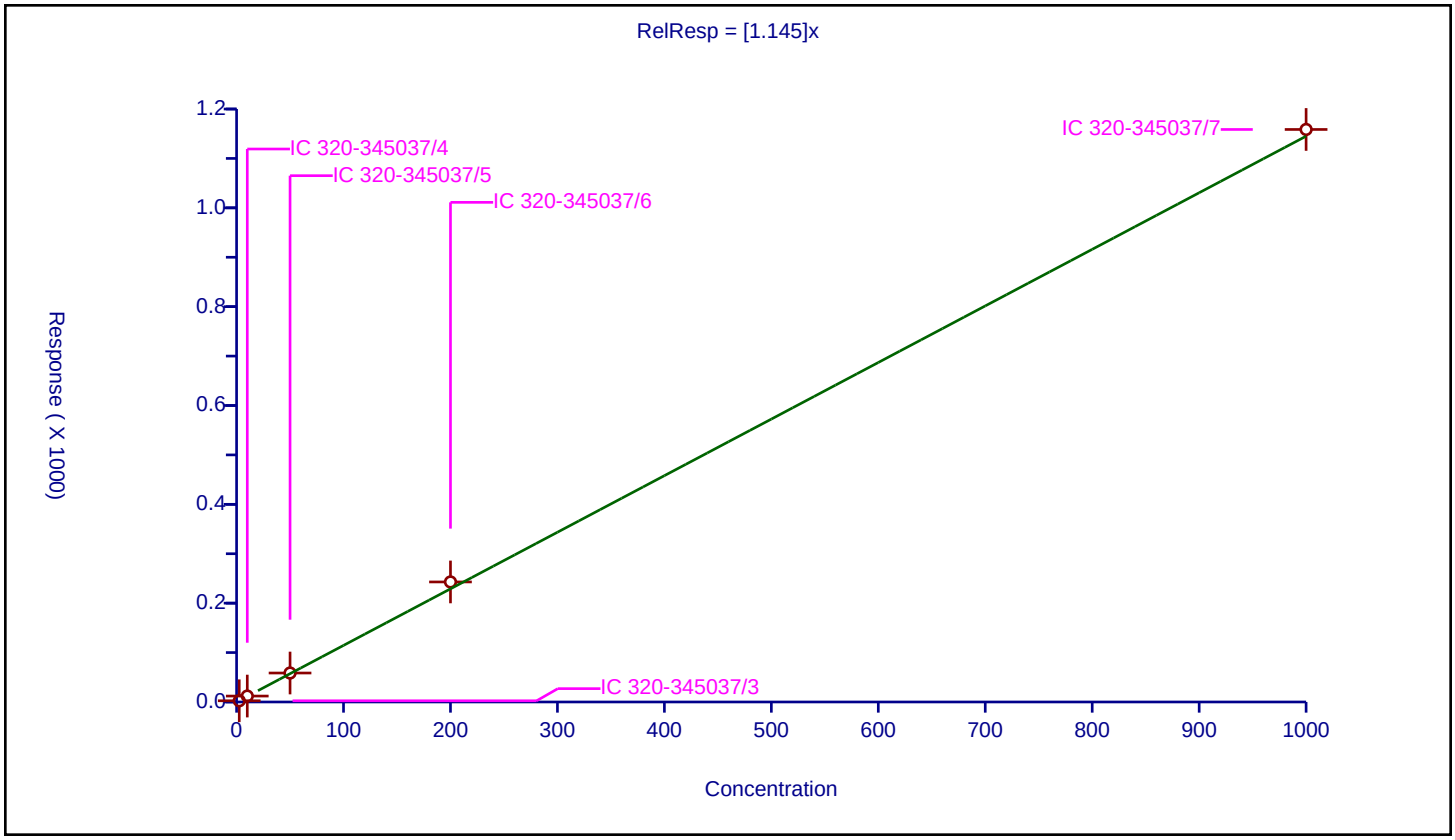

Calibration / 1,2,3,7,8,9-HxCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.265

Error Coefficients

Standard Error:	968000000
Relative Standard Error:	5.5
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-345037/3	2.5	2.946044	100.0	163808128.0	1.178417	Y
2	IC 320-345037/4	10.0	13.500888	100.0	167853325.0	1.350089	Y
3	IC 320-345037/5	50.0	63.213107	100.0	174266733.0	1.264262	Y
4	IC 320-345037/6	200.0	262.682379	100.0	167631105.0	1.313412	Y
5	IC 320-345037/7	1000.0	1216.878484	100.0	154639045.0	1.216878	Y

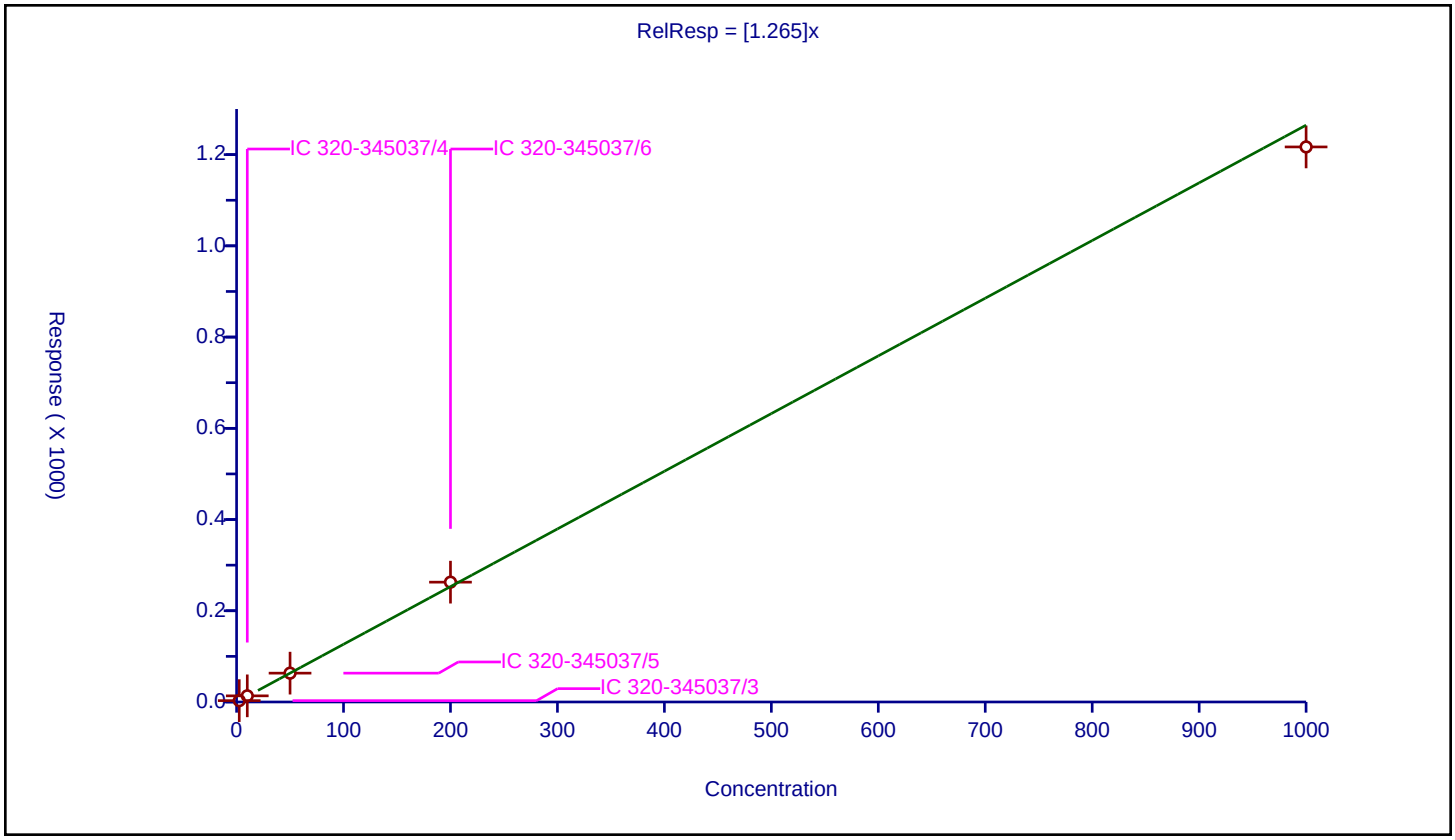

Calibration / 1,2,3,7,8,9-HxCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.172

Error Coefficients

Standard Error:	1230000000
Relative Standard Error:	7.8
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-345037/3	2.5	2.524758	100.0	206305806.0	1.009903	Y
2	IC 320-345037/4	10.0	12.240232	100.0	213447196.0	1.224023	Y
3	IC 320-345037/5	50.0	60.160421	100.0	213252409.0	1.203208	Y
4	IC 320-345037/6	200.0	245.41471	100.0	218257445.0	1.227074	Y
5	IC 320-345037/7	1000.0	1194.056094	100.0	200052961.0	1.194056	Y

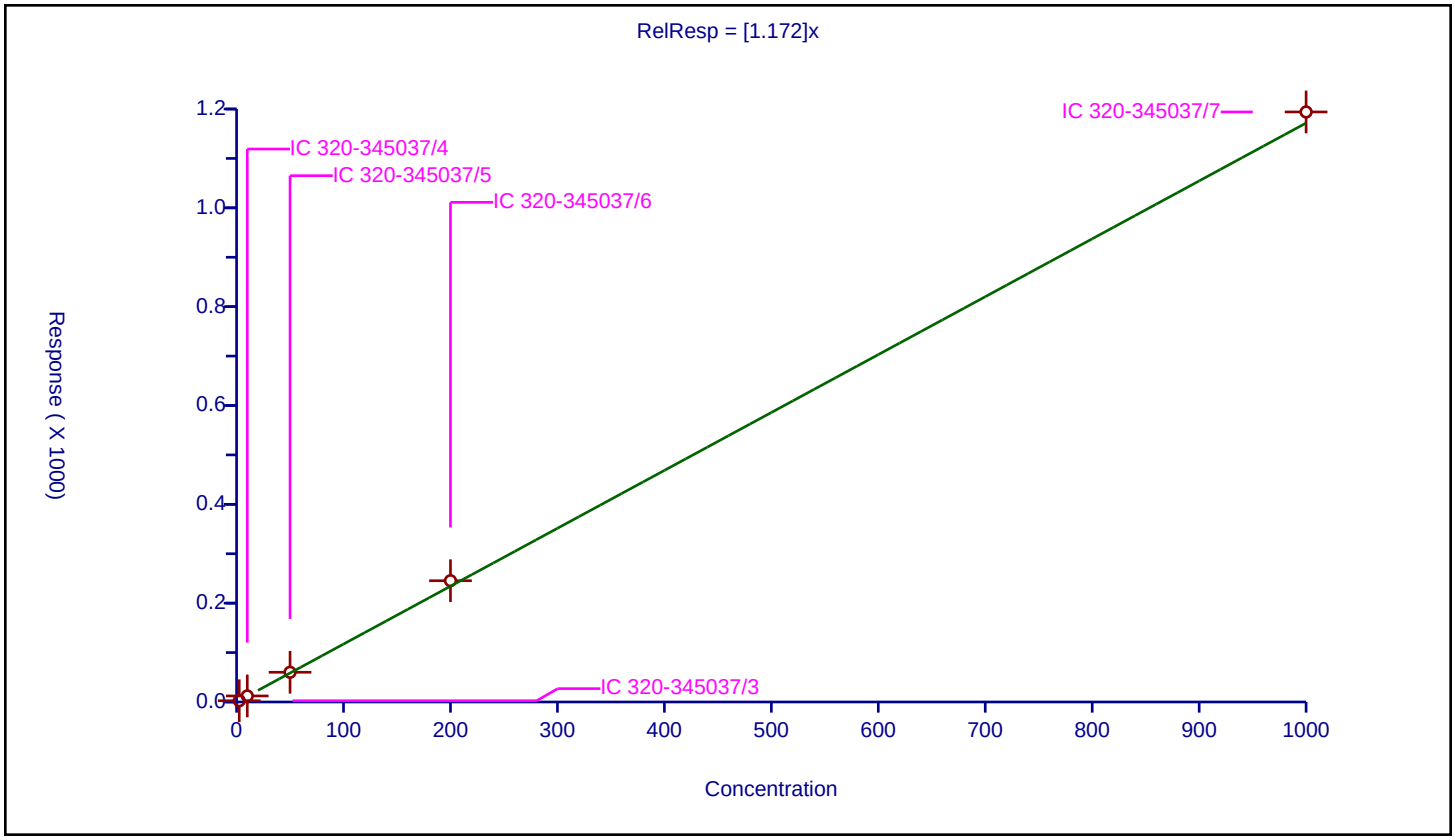

Calibration / 1,2,3,7,8-PeCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.086

Error Coefficients

Standard Error:	831000000
Relative Standard Error:	6.5
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-345037/3	2.5	2.433994	100.0	174446593.0	0.973598	Y
2	IC 320-345037/4	10.0	11.578466	100.0	169864186.0	1.157847	Y
3	IC 320-345037/5	50.0	55.746004	100.0	167599127.0	1.11492	Y
4	IC 320-345037/6	200.0	223.198641	100.0	175058491.0	1.115993	Y
5	IC 320-345037/7	1000.0	1065.182668	100.0	151420854.0	1.065183	Y

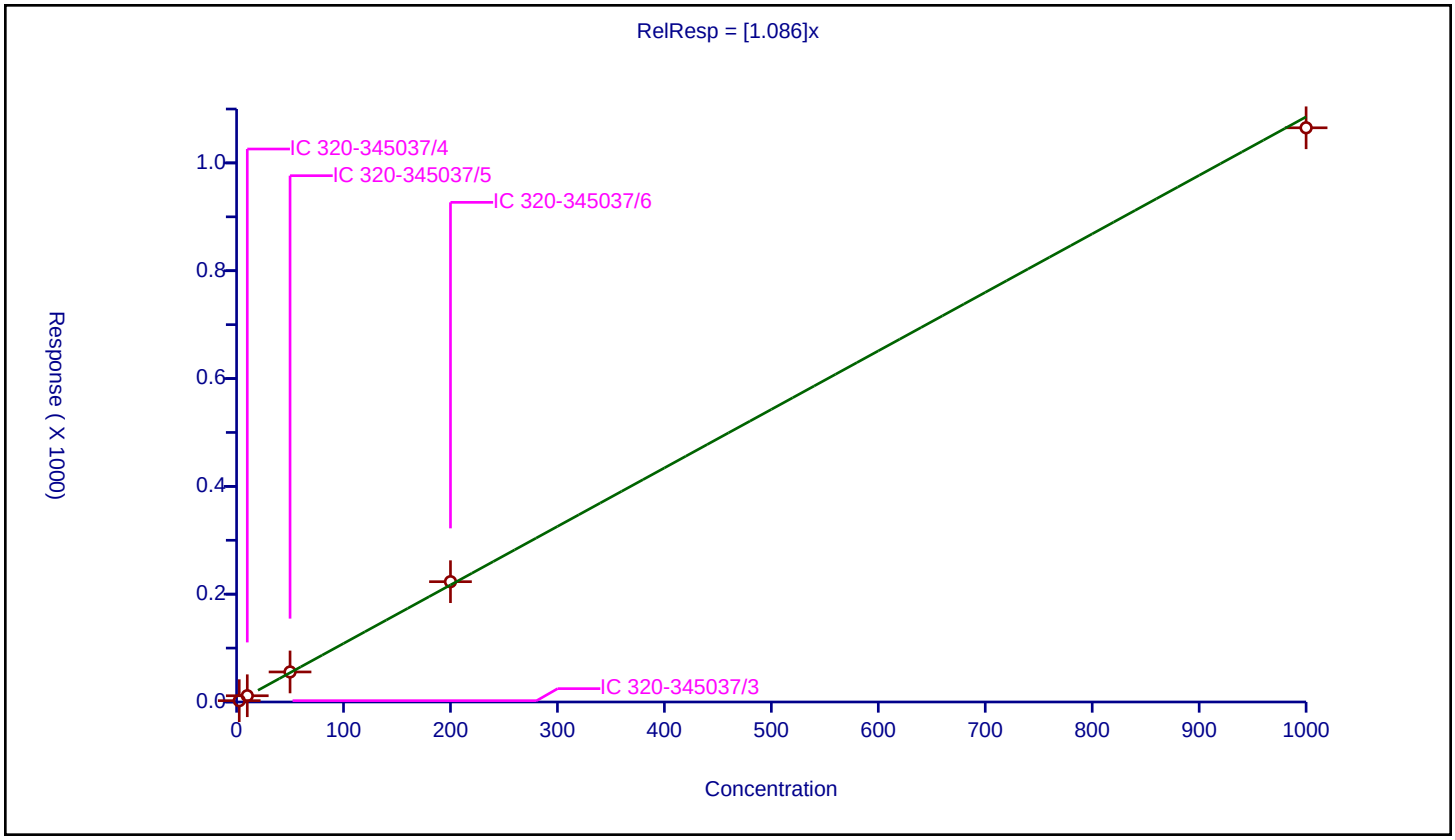

Calibration / 1,2,3,7,8-PeCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.03

Error Coefficients

Standard Error:	1270000000
Relative Standard Error:	8.9
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-345037/3	2.5	2.18388	100.0	267927119.0	0.873552	Y
2	IC 320-345037/4	10.0	11.019854	100.0	263888884.0	1.101985	Y
3	IC 320-345037/5	50.0	52.256581	100.0	269197886.0	1.045132	Y
4	IC 320-345037/6	200.0	218.112409	100.0	266542876.0	1.090562	Y
5	IC 320-345037/7	1000.0	1039.794253	100.0	237179506.0	1.039794	Y

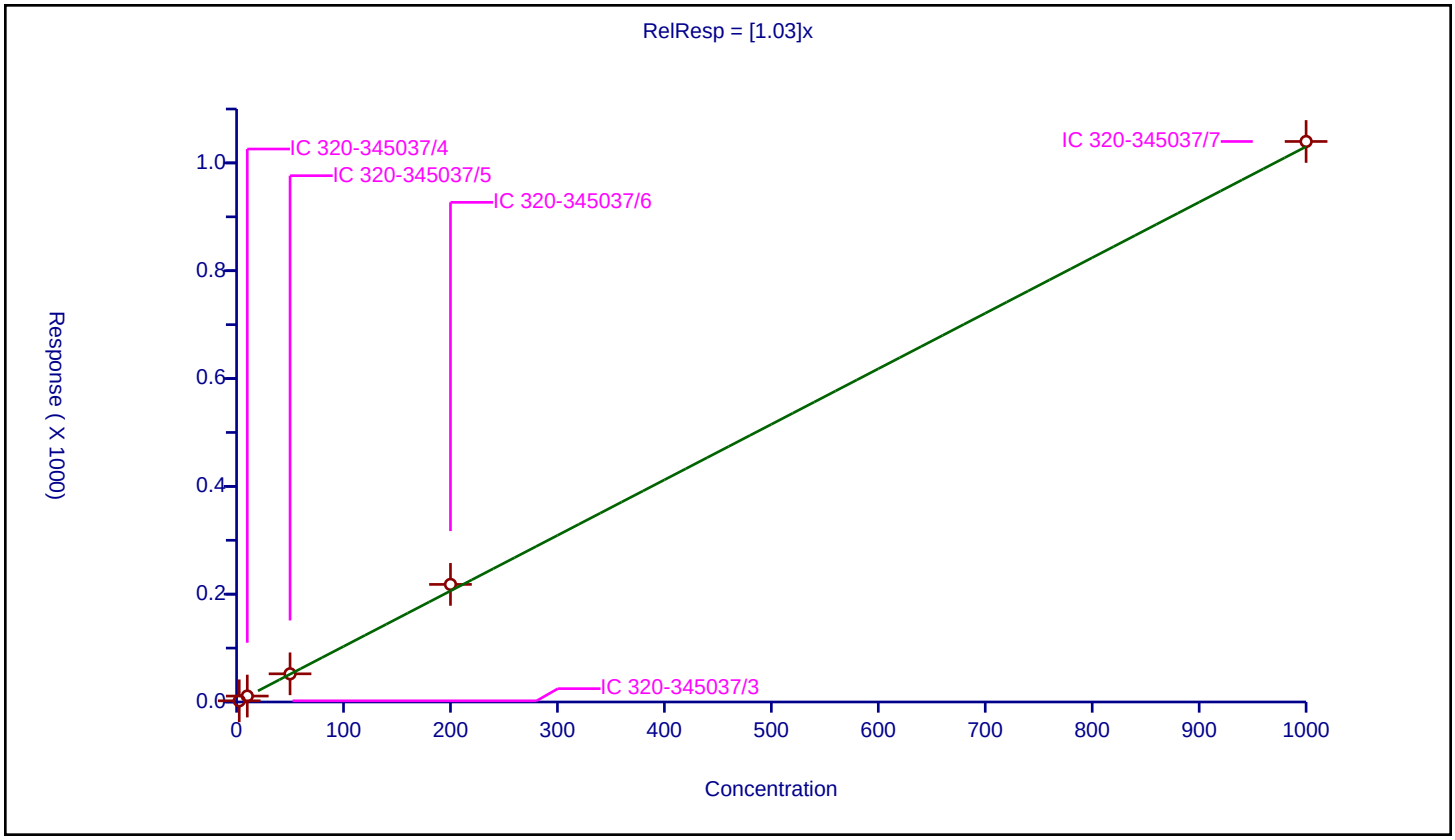

Calibration / 2,3,4,6,7,8-HxCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.173

Error Coefficients

Standard Error:	1270000000
Relative Standard Error:	8.0
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-345037/3	2.5	2.520722	100.0	224637565.0	1.008289	Y
2	IC 320-345037/4	10.0	12.3025	100.0	228396958.0	1.23025	Y
3	IC 320-345037/5	50.0	60.272838	100.0	226090409.0	1.205457	Y
4	IC 320-345037/6	200.0	246.644053	100.0	232992892.0	1.23322	Y
5	IC 320-345037/7	1000.0	1185.699957	100.0	207860074.0	1.1857	Y

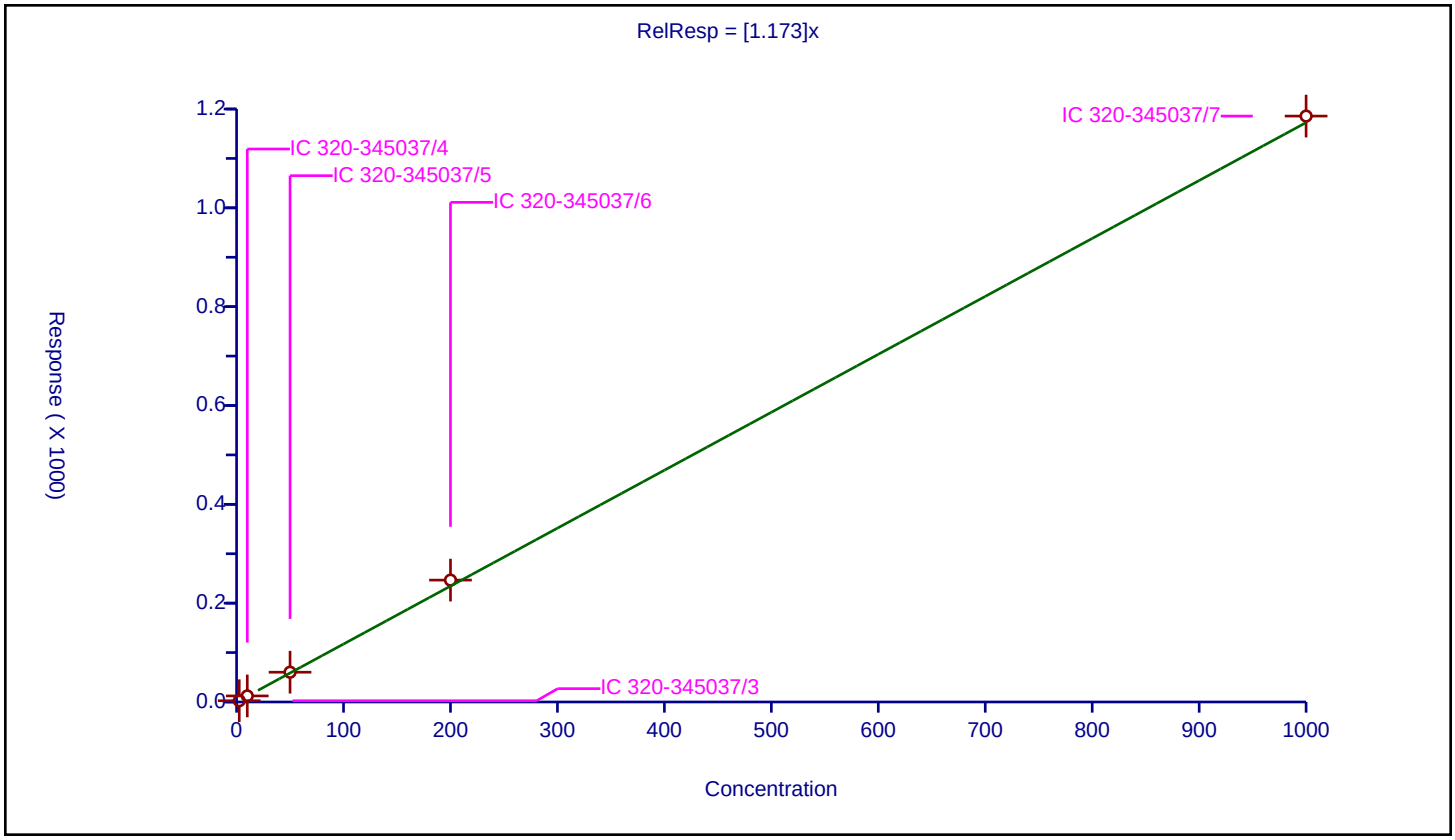

Calibration / 2,3,4,7,8-PeCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.041

Error Coefficients

Standard Error:	1230000000
Relative Standard Error:	9.6
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.990

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-345037/3	2.5	2.237085	100.0	256478177.0	0.894834	Y
2	IC 320-345037/4	10.0	11.141251	100.0	254672733.0	1.114125	Y
3	IC 320-345037/5	50.0	49.277167	100.0	265262610.0	0.985543	Y
4	IC 320-345037/6	200.0	226.884829	100.0	253995484.0	1.134424	Y
5	IC 320-345037/7	1000.0	1075.912476	100.0	222542126.0	1.075912	Y

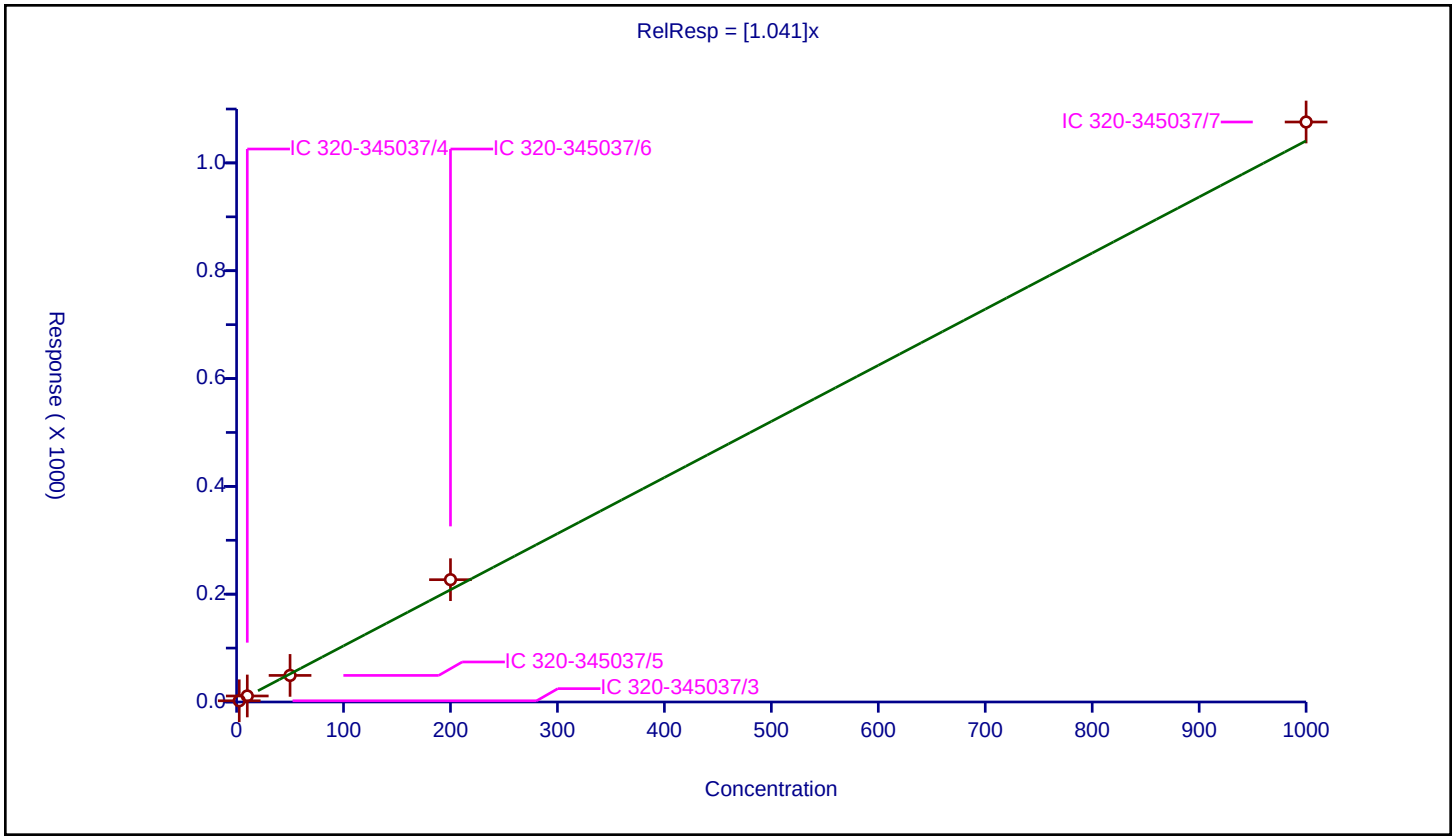

Calibration / 2,3,7,8-TCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.048

Error Coefficients

Standard Error:	216000000
Relative Standard Error:	8.9
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-345037/3	0.5	0.443295	100.0	224505471.0	0.88659	Y
2	IC 320-345037/4	2.0	2.135479	100.0	223228422.0	1.067739	Y
3	IC 320-345037/5	10.0	10.58117	100.0	222854376.0	1.058117	Y
4	IC 320-345037/6	40.0	44.36733	100.0	223322673.0	1.109183	Y
5	IC 320-345037/7	200.0	223.395028	100.0	187504800.0	1.116975	Y

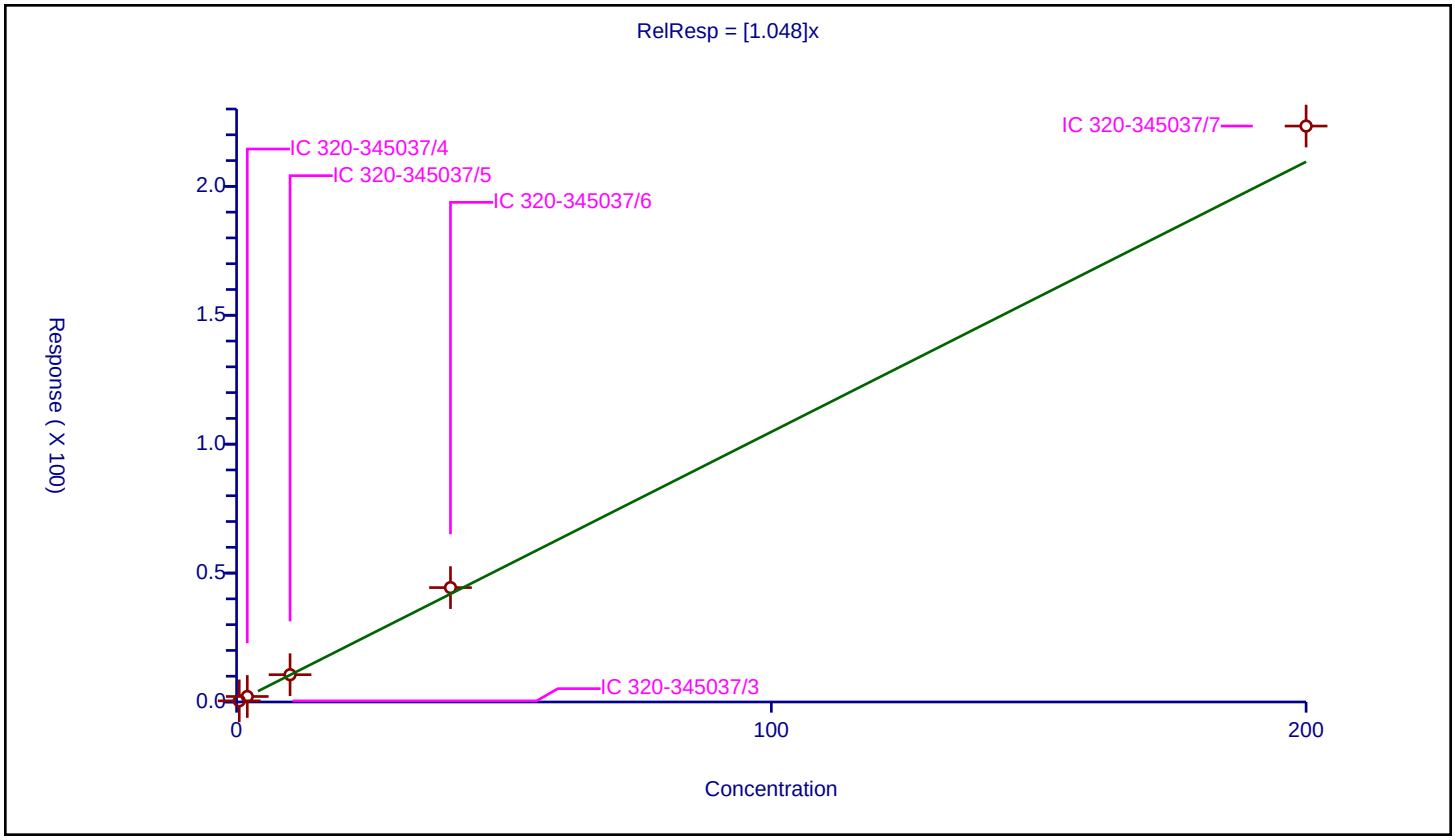

Calibration / 2,3,7,8-TCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.9502

Error Coefficients

Standard Error:	292000000
Relative Standard Error:	11.5
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.986

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-345037/3	0.5	0.38665	100.0	329541553.0	0.7733	Y
2	IC 320-345037/4	2.0	1.856657	100.0	317966293.0	0.928328	Y
3	IC 320-345037/5	10.0	9.752074	100.0	329077583.0	0.975207	Y
4	IC 320-345037/6	40.0	42.036463	100.0	314996891.0	1.050912	Y
5	IC 320-345037/7	200.0	204.639574	100.0	277528864.0	1.023198	Y

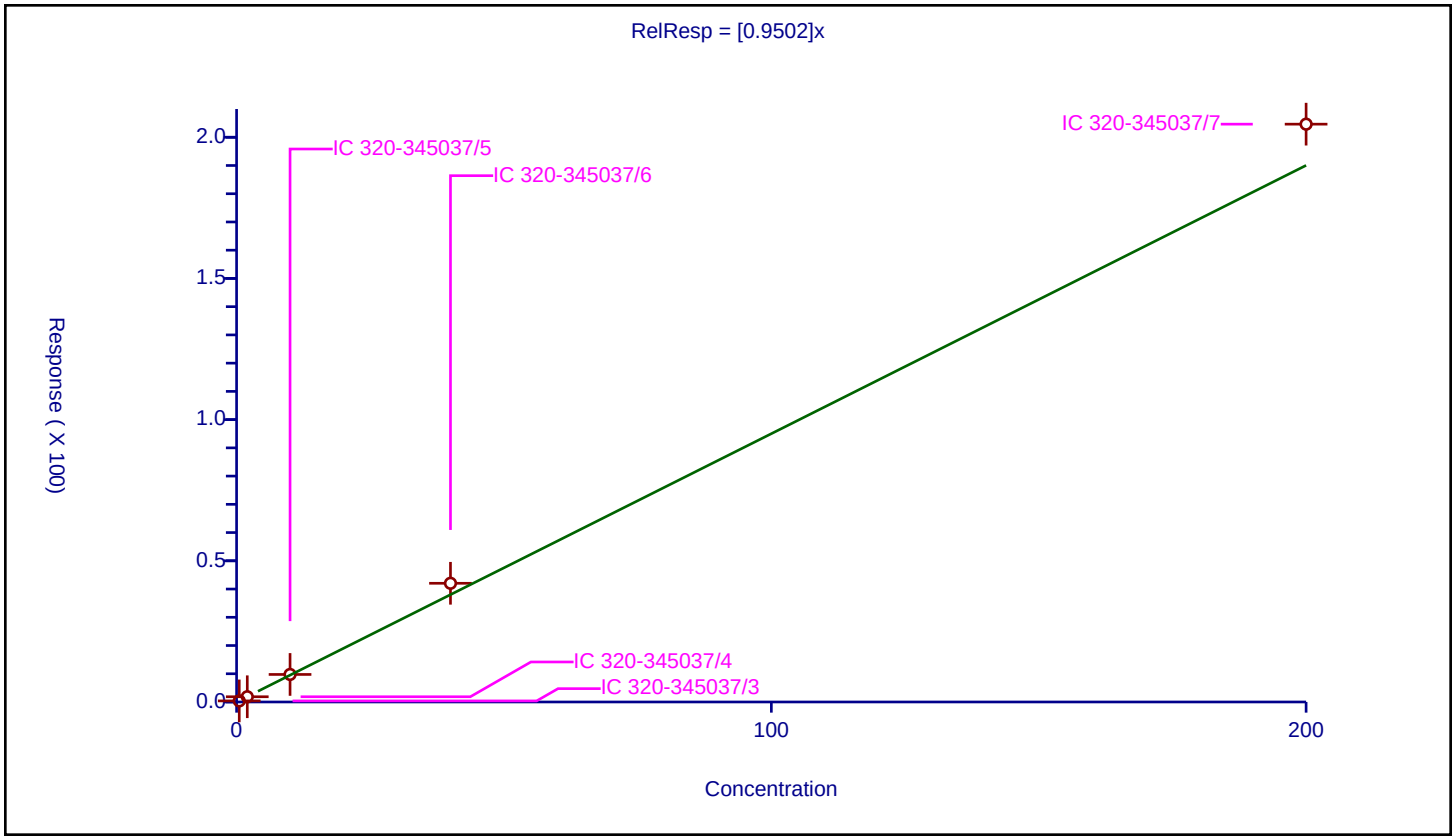

Calibration / 37Cl4-2,3,7,8-TCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.348

Error Coefficients

Standard Error:	270000000
Relative Standard Error:	9.0
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-345037/3	0.5	0.614254	100.0	232904111.0	1.228507	Y
2	IC 320-345037/4	2.0	2.465839	100.0	233547342.0	1.23292	Y
3	IC 320-345037/5	10.0	15.189654	100.0	230108476.0	1.518965	Y
4	IC 320-345037/6	40.0	54.916951	100.0	224595364.0	1.372924	Y
5	IC 320-345037/7	200.0	277.319862	100.0	188838327.0	1.386599	Y

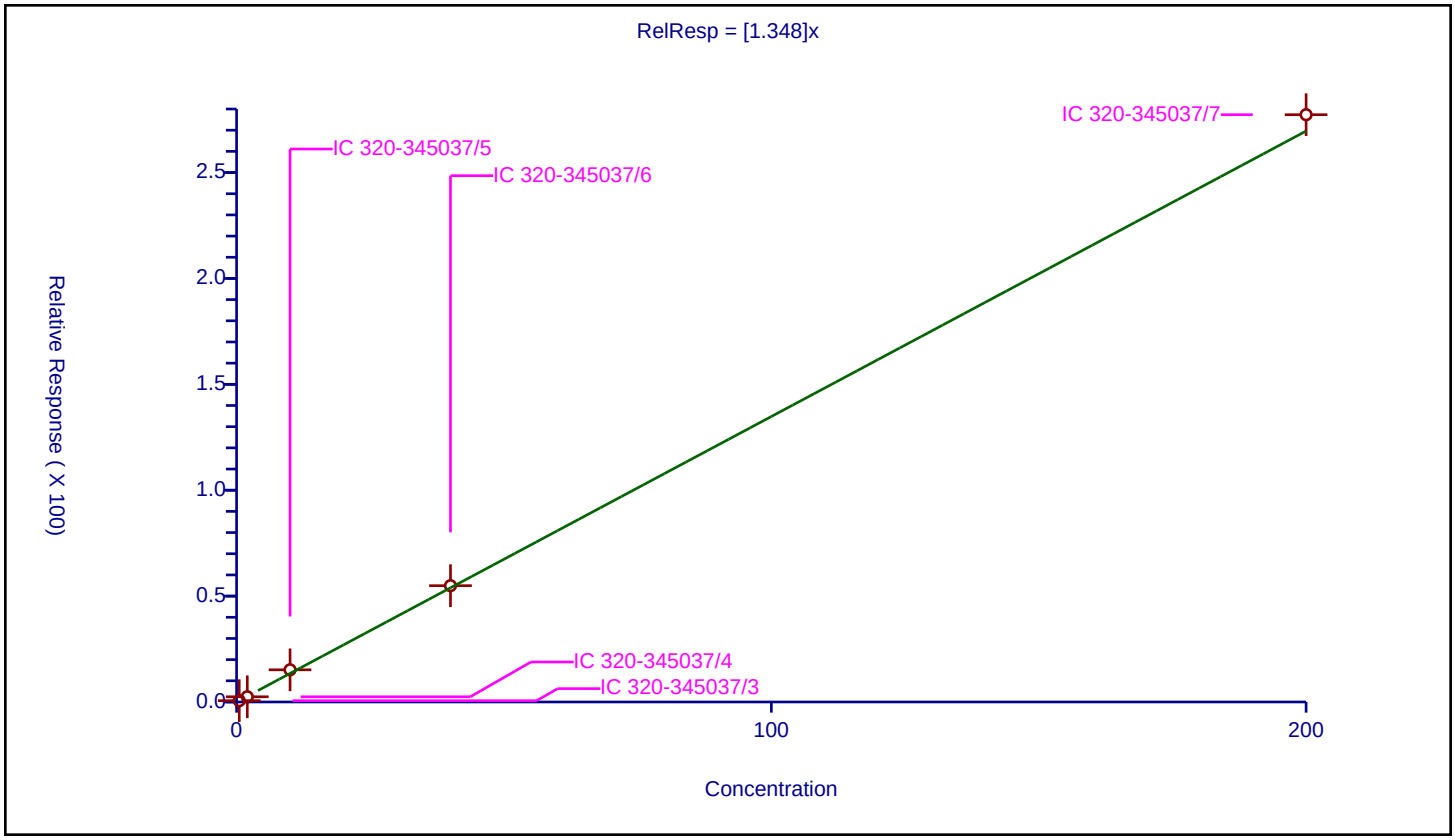

Calibration / OCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.136

Error Coefficients

Standard Error:	1100000000
Relative Standard Error:	6.0
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-345037/3	5.0	5.459936	200.0	176245574.0	1.091987	Y
2	IC 320-345037/4	20.0	24.997633	200.0	178956155.0	1.249882	Y
3	IC 320-345037/5	100.0	111.408699	200.0	191409180.0	1.114087	Y
4	IC 320-345037/6	400.0	457.898367	200.0	208300311.0	1.144746	Y
5	IC 320-345037/7	2000.0	2160.355058	200.0	199399104.0	1.080178	Y

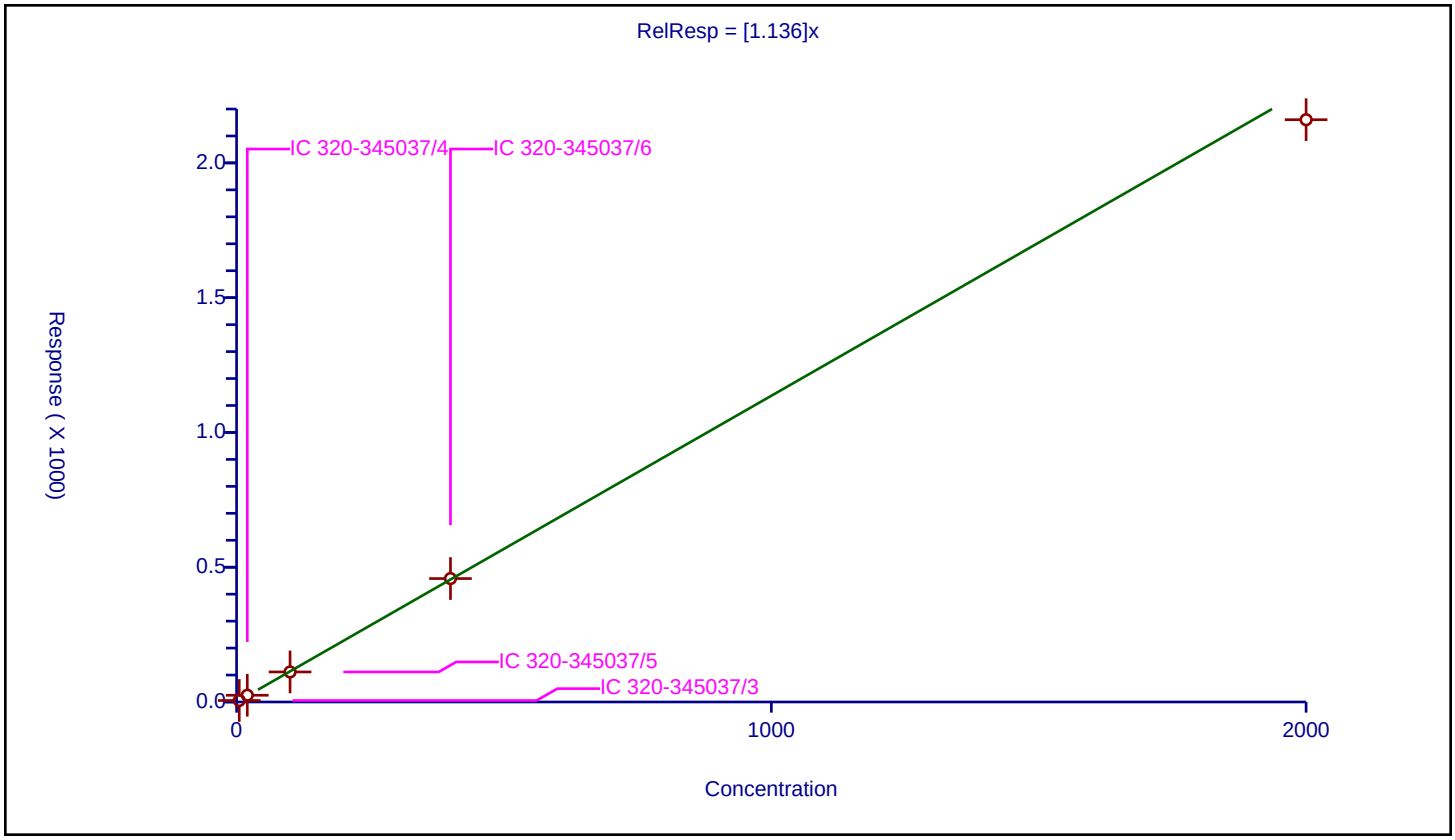

Calibration / OCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.394

Error Coefficients

Standard Error:	1390000000
Relative Standard Error:	7.0
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-345037/3	5.0	6.441673	200.0	176245574.0	1.288335	Y
2	IC 320-345037/4	20.0	30.477373	200.0	178956155.0	1.523869	Y
3	IC 320-345037/5	100.0	133.41456	200.0	191409180.0	1.334146	Y
4	IC 320-345037/6	400.0	587.558373	200.0	208300311.0	1.468896	Y
5	IC 320-345037/7	2000.0	2714.328315	200.0	199399104.0	1.357164	Y

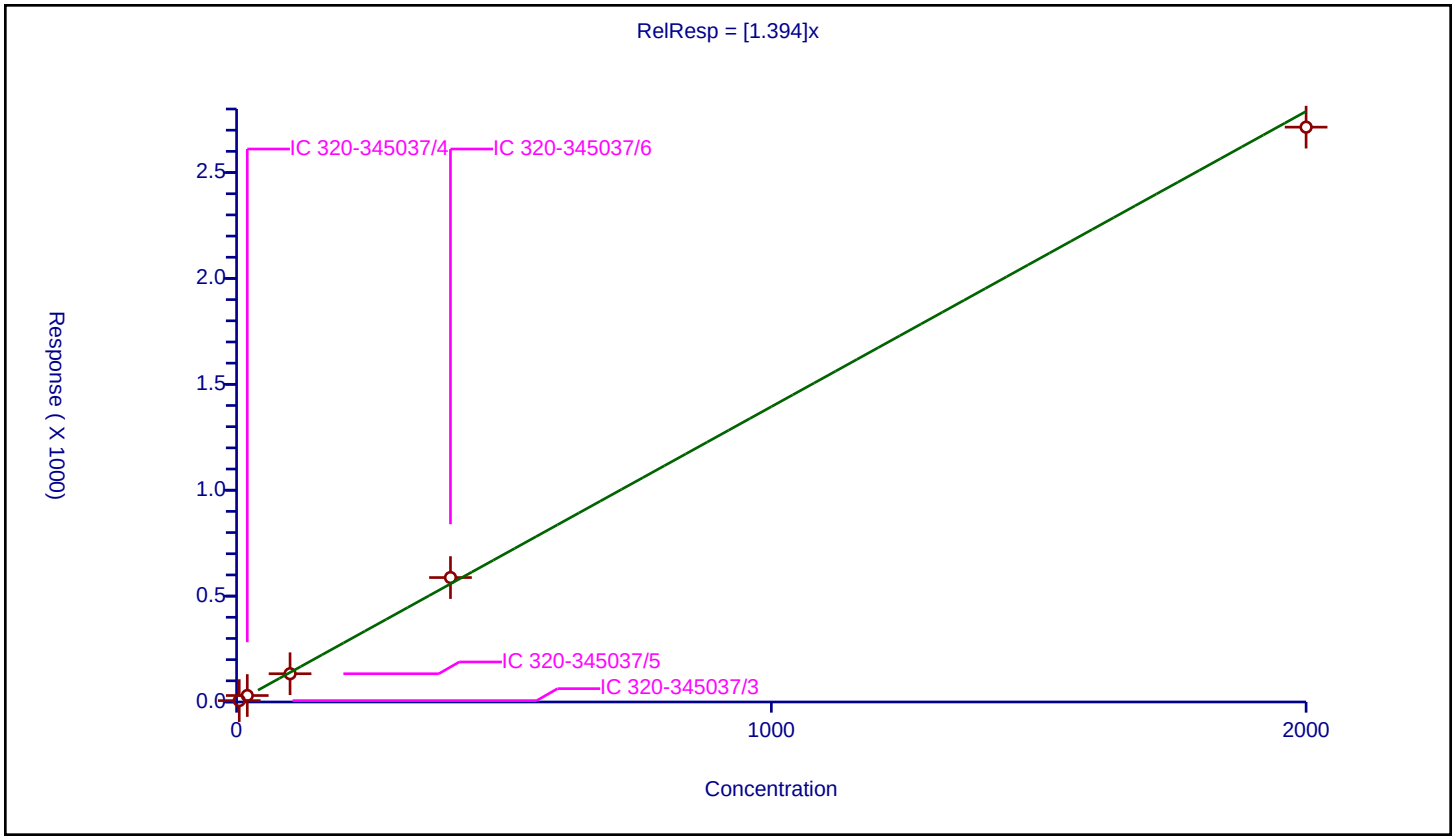

FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57717-1

SDG No.:

Lab Sample ID (1): WDM 320-345037/1 Instrument ID (1): 3D5

GC Column (1): DB-5 ID: 0.32(mm) Date Analyzed (1): 12/12/2019 09:53

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDD	17.84	20

Resolution Report

Eurofins TestAmerica, Sacramento

Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_1.d
Injection Date: 12-Dec-2019 09:53:45 Instrument ID: 3D5
Lims ID: WDM
Client ID:
Operator ID: KSS ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Column: DB-5 (0.32 mm)
Method: Dioxin_3D5 Limit Group: HR - 1613B - ICAL

2,3,7,8-TCDD

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 2438280
H (Peak Height) = 12393684

%R = 20 <= 25
Passed

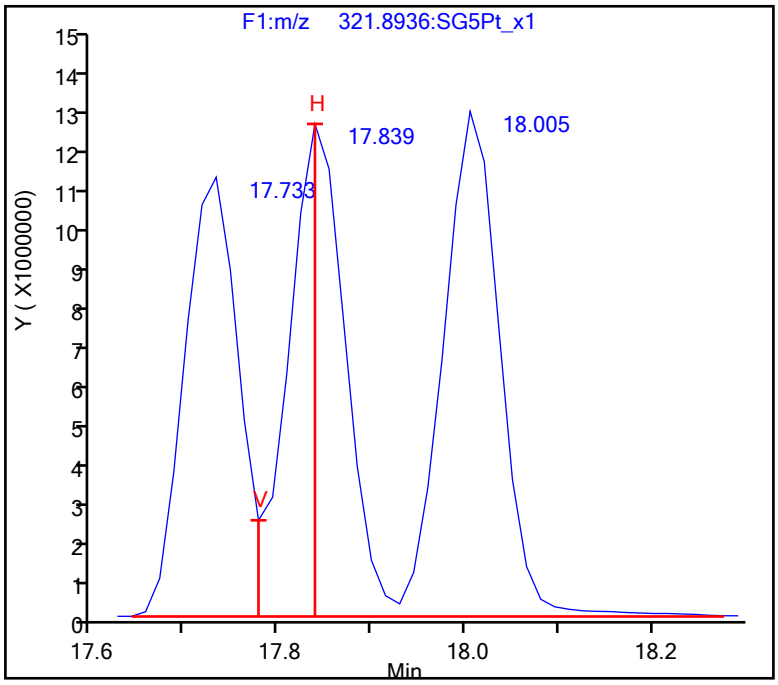

FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57717-1

SDG No.:

Lab Sample ID (1): WDM 320-351160/1 Instrument ID (1): 3D5

GC Column (1): DB-5 ID: 0.32(mm) Date Analyzed (1): 01/15/2020 19:18

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDD	17.51	18

Resolution Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_1.d				
Injection Date:	15-Jan-2020 19:18:39	Instrument ID:	3D5		
Lims ID:	WDM				
Client ID:					
Operator ID:	ALM	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	2.0 ul	Column:	DB-5 (0.32 mm)		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		

2,3,7,8-TCDD

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 2533248
H (Peak Height) = 13953601

%R = 18 <= 25
Passed

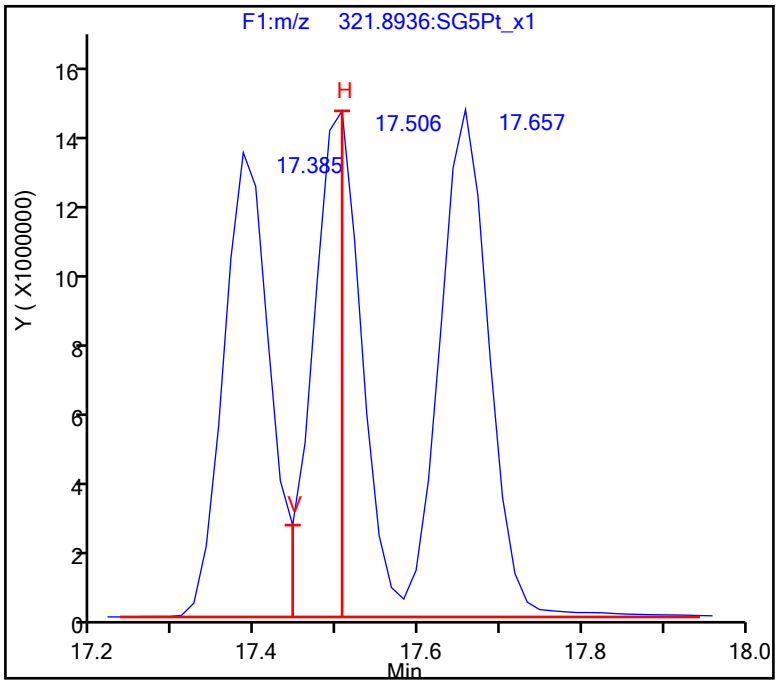

FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57717-1

SDG No.:

Lab Sample ID: ICV 320-345037/9 Calibration Date: 12/12/2019 16:24

Instrument ID: 3D5 Calib Start Date: 12/12/2019 11:28

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 12/12/2019 14:39

Lab File ID: 12DE193D5_9.d Conc. Units: pg/uL

EPA Sample No.: ICV

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
2,3,7,8-TCDF	AveID	0.9502	1.041		43.8	40.0	110	70-130
2,3,7,8-TCDD	AveID	1.048	1.179		45.0	40.0	113	70-130
1,2,3,7,8-PeCDF	AveID	1.030	1.059		206	200	103	70-130
2,3,4,7,8-PeCDF	AveID	1.041	1.179		226	200	113	70-130
1,2,3,7,8-PeCDD	AveID	1.086	1.044		192	200	96	70-130
1,2,3,4,7,8-HxCDF	AveID	1.147	1.215		212	200	106	70-130
1,2,3,6,7,8-HxCDF	AveID	1.145	1.225		214	200	107	70-130
2,3,4,6,7,8-HxCDF	AveID	1.173	1.282		219	200	109	70-130
1,2,3,4,7,8-HxCDD	AveID	1.093	1.118		204	200	102	70-130
1,2,3,6,7,8-HxCDD	AveID	1.043	1.144		219	200	110	70-130
1,2,3,7,8,9-HxCDD	AveID	1.207	1.171		194	200	97	70-130
1,2,3,7,8,9-HxCDF	AveID	1.172	1.229		210	200	105	70-130
1,2,3,4,6,7,8-HpCDF	AveID	1.480	1.572		212	200	106	70-130
1,2,3,4,6,7,8-HpCDD	AveID	1.054	1.099		209	200	104	70-130
1,2,3,4,7,8,9-HpCDF	AveID	1.293	1.366		211	200	106	70-130
OCDD	AveID	1.136	1.186		418	400	104	70-130
OCDF	AveID	1.394	1.453		417	400	104	70-130
13C-2,3,7,8-TCDF	Ave	1.416	1.376		97.2	100	97	71-140
13C-2,3,7,8-TCDD	Ave	0.9751	0.9535		97.8	100	98	82-121
13C-1,2,3,7,8-PeCDF	Ave	1.179	1.147		97.3	100	97	76-130
13C-2,3,4,7,8-PeCDF	Ave	1.131	1.134		100	100	100	77-130
13C-1,2,3,7,8-PeCDD	Ave	0.7572	0.7558		99.8	100	100	62-160
13C-1,2,3,4,7,8-HxCDF	Ave	1.104	1.115		101	100	101	76-131
13C-1,2,3,6,7,8-HxCDF	Ave	1.147	1.118		97.5	100	97	70-143
13C-2,3,4,6,7,8-HxCDF	Ave	1.077	1.051		97.6	100	98	73-137
13C-1,2,3,4,7,8-HxCDD	Ave	0.7962	0.8195		103	100	103	85-117
13C-1,2,3,6,7,8-HxCDD	Ave	0.8720	0.8702		99.8	100	100	85-118
13C-1,2,3,7,8,9-HxCDF	Ave	1.011	0.9661		95.5	100	96	74-135
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.7577	0.7715		102	100	102	78-129
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.7058	0.7545		107	100	107	72-138
13C-1,2,3,4,7,8,9-HpCDF	Ave	0.6941	0.7448		107	100	107	77-129
13C-OCDD	Ave	0.4603	0.4774		207	200	104	48-208
37Cl4-2,3,7,8-TCDD	Ave	1.348	1.357		40.3	40.0	101	79-127

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_9.d
Lims ID: ICV
Client ID: ICV
Sample Type: ICV
Inject. Date: 12-Dec-2019 16:24:09 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ICV 121219 ICV HRDXNIC_00042
Misc. Info.: 12DE193D5
Operator ID: KSS Instrument ID: 3D5
Sublist:

Method: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 13-Dec-2019 08:02:44 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0302

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.672	270085932	0.79	2.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.173	371649958	0.82	1.4157	97.2	97.2	0.1394	0.1394	97.20	
2,3,7,8-TCDF	17.188	154755506	0.77	0.9502	43.8	43.8	0.0778	0.0778	110	
A Non-2,3,7,8-sub-TCDF	16.841	1135104	0.87	0.9502	0.3214	0.3214	0.0778	0.3214		
S Total TCDF					44.1	44.1	0.0778	0.0778		
D 13C-2,3,7,8-TCDD	17.869	257527783	0.79	0.9751	97.8	97.8	0.1551	0.1551	97.79	
2,3,7,8-TCDD	17.884	121462424	0.79	1.0477	45.0	45.0	0.0527	0.0527	113	
$ 37Cl4-2,3,7,8-TCDD	17.884	146639981		1.3480	40.3	40.3	0.0787	0.0787	101	
A Non-2,3,7,8-sub-TCDD	17.294	1743442	0.77	1.0477	0.7532	0.6462	0.0527	0.6462		RQ
S Total TCDD					45.8	45.7	0.0527	0.0527		RQ
D 13C-1,2,3,7,8-PeCDF	22.114	309874781	1.58	1.1786	97.3	97.3	0.2252	0.2252	97.35	
1,2,3,7,8-PeCDF	22.141	656505253	1.57	1.0302	205.6	205.6	0.7951	0.7951	103	
D 13C-2,3,4,7,8-PeCDF	23.437	306164012	1.61	1.1308	100.2	100.2	0.2347	0.2347	100	
2,3,4,7,8-PeCDF	23.464	721626753	1.61	1.0410	226.4	226.4	0.8510	0.8510	113	
A F1 PeCDFs	19.797						0.0305	0.0305		
A Non-2,3,7,8-sub-PeCDF	22.906	15330047	1.72	1.0356	4.806	4.806	0.8219	4.806		
S Total PeCDF					436.9	436.9	0.8230	0.8230		
D 13C-1,2,3,7,8-PeCDD	24.146	204118372	1.58	0.7572	99.8	99.8	0.1420	0.1420	99.81	
1,2,3,7,8-PeCDD	24.173	426058756	1.59	1.0855	192.3	192.3	0.2704	0.2704	96.14	
A Non-2,3,7,8-sub-PeCDD	23.055						0.2704	0.2704		
S Total PeCDD					192.3	192.3	0.2704	0.2704		
D 13C-1,2,3,4,7,8-HxCDF	30.273	271260302	0.53	1.1043	100.9	100.9	0.2306	0.2306	101	
1,2,3,4,7,8-HxCDF	30.300	659203064	1.22	1.1472	211.8	211.8	0.6366	0.6366	106	
D 13C-1,2,3,6,7,8-HxCDF	30.473	272013222	0.52	1.1470	97.5	97.5	0.2220	0.2220	97.45	
1,2,3,6,7,8-HxCDF	30.499	666204959	1.26	1.1450	213.9	213.9	0.6235	0.6235	107	
D 13C-2,3,4,6,7,8-HxCDF	31.365	255749967	0.54	1.0769	97.6	97.6	0.2364	0.2364	97.59	
2,3,4,6,7,8-HxCDF	31.378	655580573	1.22	1.1726	218.6	218.6	0.4779	0.4779	109	
D 13C-1,2,3,7,8,9-HxCDF	32.204	235091692	0.52	1.0115	95.5	95.5	0.2517	0.2517	95.51	
1,2,3,7,8,9-HxCDF	32.217	577659417	1.23	1.1717	209.7	209.7	0.4861	0.4861	105	
A Non-2,3,7,8-sub-HxCDF	29.954						0.5469	0.5469		
S Total HxCDF					854.1	854.1	0.5560	0.5560		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	32.004	243345620	1.29	2.1E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.565	199415534	1.28	0.7962	102.9	102.9	0.2000	0.2000	103	
1,2,3,4,7,8-HxCDD	31.578	445827448	1.25	1.0934	204.5	204.5	0.4135	0.4135	102	
D 13C-1,2,3,6,7,8-HxCDD	31.671	211767568	1.28	0.8720	99.8	99.8	0.1826	0.1826	99.80	
1,2,3,6,7,8-HxCDD	31.684	484510720	1.27	1.0429	219.4	219.4	0.4097	0.4097	110	
1,2,3,7,8,9-HxCDD	32.017	481676148	1.25	1.2073	194.1	194.1	0.3639	0.3639	97.03	
A Non-2,3,7,8-sub-HxCDD	30.606						0.3942	0.3942		
S Total HxCDD					617.9	617.9	0.3957	0.3957		
D 13C-1,2,3,4,6,7,8-HpCDF	33.652	187732796	0.46	0.7577	101.8	101.8	1.433	1.433	102	
1,2,3,4,6,7,8-HpCDF	33.664	590414217	1.05	1.4804	212.4	212.4	1.138	1.138	106	
D 13C-1,2,3,4,7,8,9-HpCDF	34.734	181231378	0.43	0.6941	107.3	107.3	1.564	1.564	107	
1,2,3,4,7,8,9-HpCDF	34.734	495258328	1.05	1.2933	211.3	211.3	1.552	1.552	106	
A Non-2,3,7,8-sub-HpCDF	34.193						1.321	1.321		
S Total HpCDF					423.7	423.7	1.345	1.345		
D 13C-1,2,3,4,6,7,8-HpCDD	34.442	183613445	1.09	0.7058	106.9	106.9	0.4437	0.4437	107	
1,2,3,4,6,7,8-HpCDD	34.454	403758571	1.06	1.0535	208.7	208.7	0.8556	0.8556	104	
A Non-2,3,7,8-sub-HpCDD	34.169	6591915	0.95	1.0535	3.408	3.408	0.8556	3.408		
S Total HpCDD					212.1	212.1	0.8556	0.8556		
D 13C-OCDD	36.770	232322449	0.90	0.4603	207.4	207.4	0.4010	0.4010	104	
OCDF	36.866	674947816	0.91	1.3945	416.7	416.7	0.5045	0.5045	104	
OCDD	36.782	551081986	0.90	1.1362	417.6	417.6	0.5796	0.5796	104	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNIC_00042 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_9.d
Lims ID: ICV
Client ID: ICV
Sample Type: ICV
Inject. Date: 12-Dec-2019 16:24:09 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ICV 121219 ICV HRDXNIC_00042
Misc. Info.: 12DE193D5
Operator ID: KSS Instrument ID: 3D5
Sublist:

Method: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 13-Dec-2019 08:02:44 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0302

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.672	17.657	1		119112558	30773227	22008	55020	1398		
333.9339	17.672	17.657	1		150973374	38610201	19974	49935	1933	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.173	17.128	3	0.972	167566864	42270701	25199	62997	1677		
317.9389	17.173	17.128	3	0.972	204083094	50484076	29557	73892	1708	0.82(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.188	17.158	2	1.001	67498189	17335870	12820	32050	1352		
305.8987	17.188	17.158	2	1.001	87257317	22264388	14618	36545	1523	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.538	16.841	-18	0.963	529102	131768	12820	32050	10		
305.8987	16.538	16.841	-18	0.963	606002	158140	14618	36545	11	0.87(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.869	17.823	3	1.011	113833668	27054631	22008	55020	1229		
333.9339	17.869	17.823	3	1.011	143694115	34423261	19974	49935	1723	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.884	17.839	3	1.001	53786271	13427177	8291	20727	1619		
321.8936	17.884	17.839	3	1.001	67676153	16730882	5299	13247	3157	0.79(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.884	17.869	1	1.012	146639981	35503806	29430	73575	1206		
A Non-2,3,7,8-sub-TCDD											RQ
319.8965	17.778	17.294	29	0.995	1047305	302600	8291	20727	36		
	Empc Correction				758446	249995	8291	20727	30		
321.8936	17.778	17.294	29	0.995	984996	324670	5299	13247	61	1.06(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	22.114	22.100	1	1.251	189969392	34848954	42106	105265	828		
353.8970	22.114	22.100	1	1.251	119905389	21921524	31540	78850	695	1.58(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.141	22.127	1	1.001	401053631	72411616	112425	281062	644		
341.8567	22.141	22.127	1	1.001	255451622	46292478	73577	183942	629	1.57(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	23.437	23.423	1	1.326	188948891	32328162	42106	105265	768		
353.8970	23.437	23.423	1	1.326	117215121	20163286	31540	78850	639	1.61(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.464	23.450	1	1.001	444775112	75331835	112425	281062	670		
341.8567	23.464	23.450	1	1.001	276851641	46580158	73577	183942	633	1.61(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.797						2026	5065			
341.8567	19.797						4867	12167			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.659	22.906	-15	1.025	9701220	1791183	112425	281062	16		
341.8567	22.659	22.906	-15	1.025	5628827	1014945	73577	183942	14	1.72(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	24.146	24.132	1	1.366	125070440	20673410	17811	44527	1161		
369.8919	24.146	24.132	1	1.366	79047932	12976636	12029	30072	1079	1.58(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.173	24.159	1	1.001	261337003	41660287	24825	62062	1678		
357.8516	24.173	24.159	1	1.001	164721753	26234267	14680	36700	1787	1.59(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.055						24825	62062			
357.8516	23.055						14680	36700			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.273	30.273	0	0.946	94377084	16850440	24667	61667	683		
385.8610	30.273	30.273	0	0.946	176883218	32253564	43035	107587	749	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.300	30.299	0	1.001	362541027	67340226	77949	194872	864		
375.8178	30.300	30.299	0	1.001	296662037	54726850	65494	163735	836	1.22(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.473	30.473	0	0.952	93363035	17583506	24667	61667	713		
385.8610	30.473	30.473	0	0.952	178650187	32649082	43035	107587	759	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.499	30.499	0	1.001	370782818	68294614	77949	194872	876		
375.8178	30.499	30.499	0	1.001	295422141	54776049	65494	163735	836	1.26(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.365	31.351	1	0.980	89463419	22749754	24667	61667	922		
385.8610	31.365	31.351	1	0.980	166286548	41238876	43035	107587	958	0.54(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.378	31.378	0	1.000	360017692	92269270	77949	194872	1184		
375.8178	31.378	31.378	0	1.000	295562881	75646415	65494	163735	1155	1.22(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.204	32.190	1	1.006	80327273	21851193	24667	61667	886		
385.8610	32.204	32.190	1	1.006	154764419	41110712	43035	107587	955	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.217	32.204	1	1.000	318175057	87154137	77949	194872	1118		
375.8178	32.217	32.204	1	1.000	259484360	69530162	65494	163735	1062	1.23(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.954						77949	194872			
375.8178	29.954						65494	163735			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.004	32.004	0		137156162	37414623	23456	58640	1595		
403.8529	32.004	32.004	0		106189458	29059462	18880	47200	1539	1.29(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.565	31.551	1	0.986	111978645	30454874	23456	58640	1298		
403.8529	31.565	31.551	1	0.986	87436889	23239407	18880	47200	1231	1.28(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.578	31.565	1	1.000	247740093	68789569	54687	136717	1258		
391.8127	31.578	31.565	1	1.000	198087355	54337126	42423	106057	1281	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.671	31.658	1	0.990	118903305	32064033	23456	58640	1367		
403.8529	31.671	31.658	1	0.990	92864263	24757329	18880	47200	1311	1.28(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.684	31.684	0	1.000	270897778	72335351	54687	136717	1323		
391.8127	31.684	31.684	0	1.000	213612942	57126331	42423	106057	1347	1.27(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.017	32.017	0	1.014	267452966	73977779	54687	136717	1353		
391.8127	32.017	32.017	0	1.014	214223182	60689549	42423	106057	1431	1.25(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.606						54687	136717			
391.8127	30.606						42423	106057			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.652	33.640	1	1.051	58921143	21697769	90467	226167	240		
419.8220	33.652	33.640	1	1.051	128811653	47591801	198150	495375	240	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.664	33.652	1	1.000	301741769	112712483	231277	578192	487		
409.7789	33.664	33.652	1	1.000	288672448	106248548	235777	589442	451	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.734	34.721	1	1.085	54803039	17876401	90467	226167	198		
419.8220	34.734	34.721	1	1.085	126428339	40307650	198150	495375	203	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.734	34.734	0	1.000	253307591	83102110	231277	578192	359		
409.7789	34.734	34.734	0	1.000	241950737	80723141	235777	589442	342	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.193						231277	578192			
409.7789	34.193						235777	589442			

Report Date: 13-Dec-2019 08:02:46 Chrom Revision: 2.3 02-Dec-2019 08:23:04
Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_9.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.442	34.430	1	1.076	95572249	33460614	42780	106950	782		
437.8140	34.442	34.430	1	1.076	88041196	31402252	40489	101222	776	1.09(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.454	34.442	1	1.000	207482296	71879897	110330	275825	651		
425.7737	34.454	34.442	1	1.000	196276275	66647376	123534	308835	540	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.907	34.169	-16	0.984	3217726	1264627	110330	275825	11		
425.7737	33.907	34.169	-16	0.984	3374189	1232369	123534	308835	10	0.95(0.88-1.20)	
13C-OCDD											
469.7779	36.770	36.770	0	1.149	110263401	31794781	23623	59057	1346		
471.7750	36.770	36.770	0	1.149	122059048	35774867	25447	63617	1406	0.90(0.76-1.02)	
OCDF											
441.7428	36.866	36.866	0	1.003	322035229	94527211	43535	108837	2171		
443.7399	36.866	36.866	0	1.003	352912587	106059231	51530	128825	2058	0.91(0.76-1.02)	
OCDD											
457.7377	36.782	36.782	0	1.000	261007674	77122926	42299	105747	1823		
459.7348	36.782	36.782	0	1.000	290074312	85553254	46691	116727	1832	0.90(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

n - Failed Sig-To-Noise Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNIC_00042 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_9.d
Lims ID: ICV
Client ID: ICV
Inject. Date: 12-Dec-2019 16:24:09 Dil. Factor: 1.0000
Sample Type: ICV, ICal Verification
Instrument ID: 3D5 Operator: KSS
Lims Batch ID: 345037 Lims Sample ID: 9
Sublist:

Non-2,3,7,8-sub-TCDF, RT: 16.841

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	0.950	D 13C-2,3,7,8-TCDF	100.000	371649958	92754777

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.950		100.000	371649958	92754777

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
16.538	529102	131768	606002	158140	0.3214	0.87	
Signal Totals:							
	529102	131768	606002	158140			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1135104	289908				0.87	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.3214 = (1135104 * 100.000) / (371649958 * 0.950)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_9.d
Lims ID: ICV
Client ID: ICV
Inject. Date: 12-Dec-2019 16:24:09 Dil. Factor: 1.0000
Sample Type: ICV, ICal Verification
Instrument ID: 3D5 Operator: KSS
Lims Batch ID: 345037 Lims Sample ID: 9
Sublist:

Non-2,3,7,8-sub-TCDD, RT: 17.294

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.048	D 13C-2,3,7,8-TCDD	100.000	257527783	61477892

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.048		100.000	257527783	61477892

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
17.778	1047305	302600	984996	324670	0.7532	1.06	RQ
17.778	758446	249995	984996	324670	0.6462		Empc Correction
Signal Totals:							
	758446	249995	984996	324670			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2032301	627270				1.06	RQ
	1743442	574665					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.7532 = (2032301 * 100.000) / (257527783 * 1.048)
Empc Amount: 0.6462 = (1743442 * 100.000) / (257527783 * 1.048)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_9.d
Lims ID: ICV
Client ID: ICV
Inject. Date: 12-Dec-2019 16:24:09 Dil. Factor: 1.0000
Sample Type: ICV, ICal Verification
Instrument ID: 3D5 Operator: KSS
Lims Batch ID: 345037 Lims Sample ID: 9
Sublist:

Non-2,3,7,8-sub-PeCDF, RT: 22.906

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.030	D 13C-1,2,3,7,8-PeCDF	100.000	309874781	56770478
2,3,4,7,8-PeCDF	1.041	D 13C-2,3,4,7,8-PeCDF	100.000	306164012	52491448

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.036		100.000	308019396	54630963

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
22.659	9701220	1791183	5628827	1014945	4.81	1.72	
Signal Totals:							
	9701220	1791183	5628827	1014945			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	15330047	2806128				1.72	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 4.806 = (15330047 * 100.000) / (308019396 * 1.036)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_9.d
Lims ID: ICV
Client ID: ICV
Inject. Date: 12-Dec-2019 16:24:09 Dil. Factor: 1.0000
Sample Type: ICV, ICal Verification
Instrument ID: 3D5 Operator: KSS
Lims Batch ID: 345037 Lims Sample ID: 9
Sublist:

Non-2,3,7,8-sub-HpCDD, RT: 34.169

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.054	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	183613445	64862866

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.054		100.000	183613445	64862866

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
33.907	3217726	1264627	3374189	1232369	3.41	0.95	n
Signal Totals:							
	3217726	1264627	3374189	1232369			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	6591915	2496996				0.95	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 3.408 = (6591915 * 100.000) / (183613445 * 1.054)

QC Flag Legend

Processing Flags
n - Failed Sig-To-Noise Test

Report Date: 13-Dec-2019 08:02:46 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_9.d		
Injection Date:	12-Dec-2019 16:24:09	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
Worklist#:	345037	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

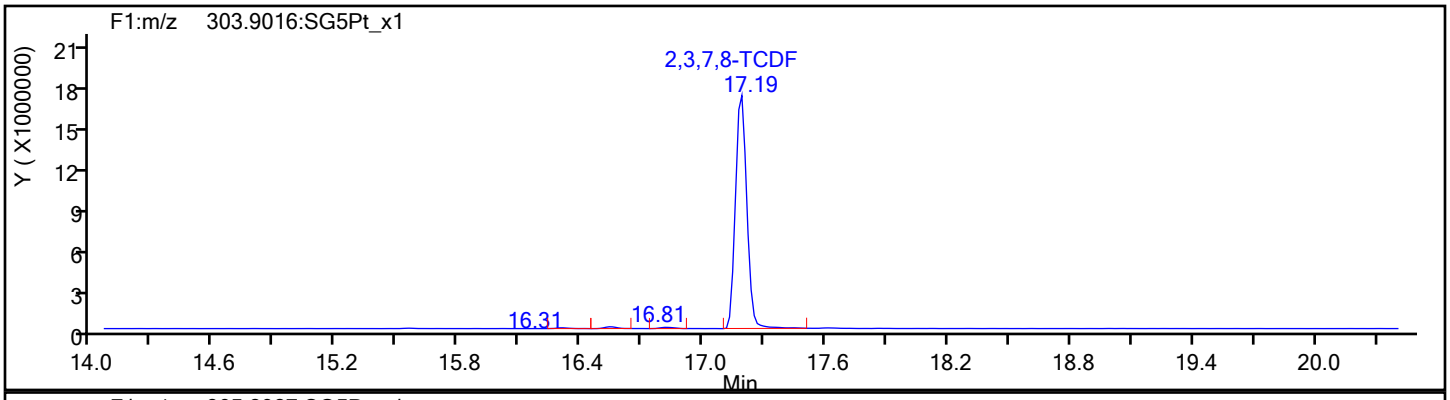

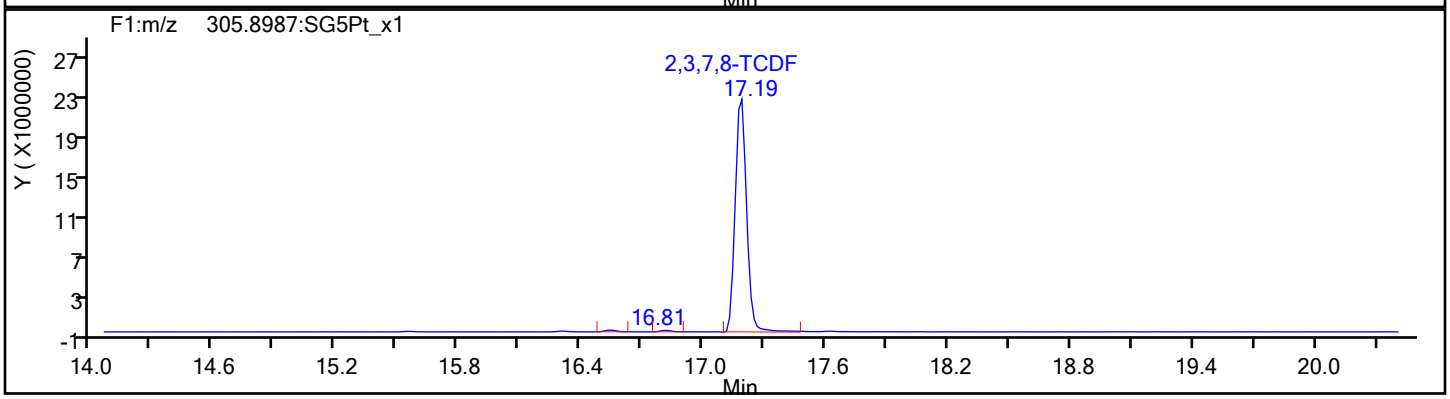

TCDF Standards

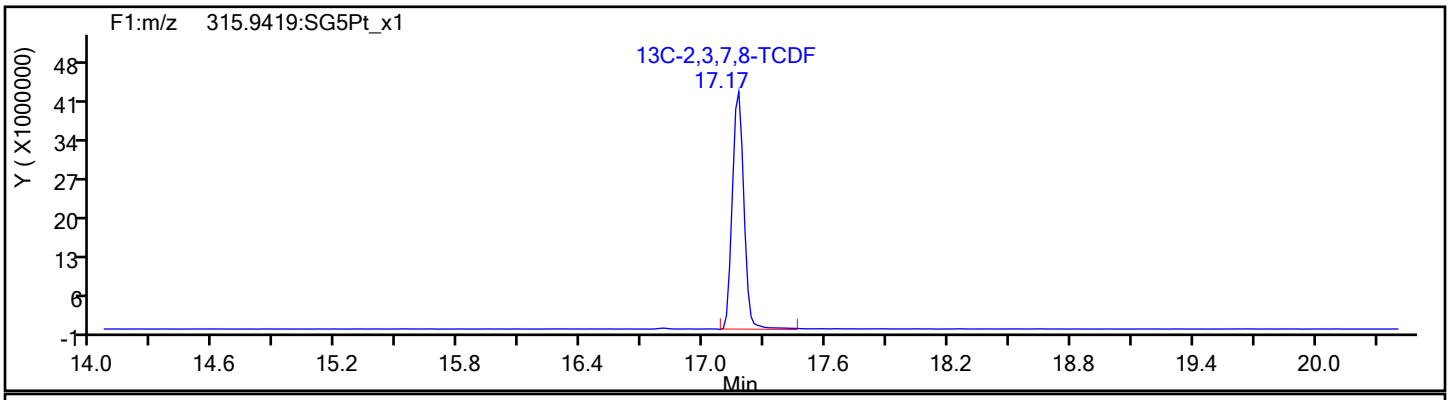

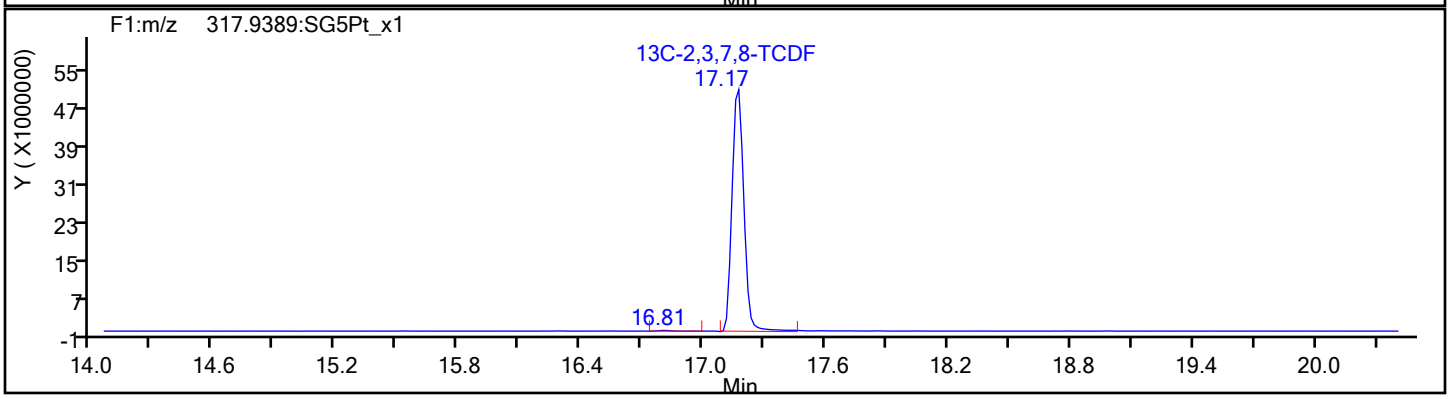

Report Date: 13-Dec-2019 08:02:46 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_9.d		
Injection Date:	12-Dec-2019 16:24:09	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
Worklist#:	345037	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

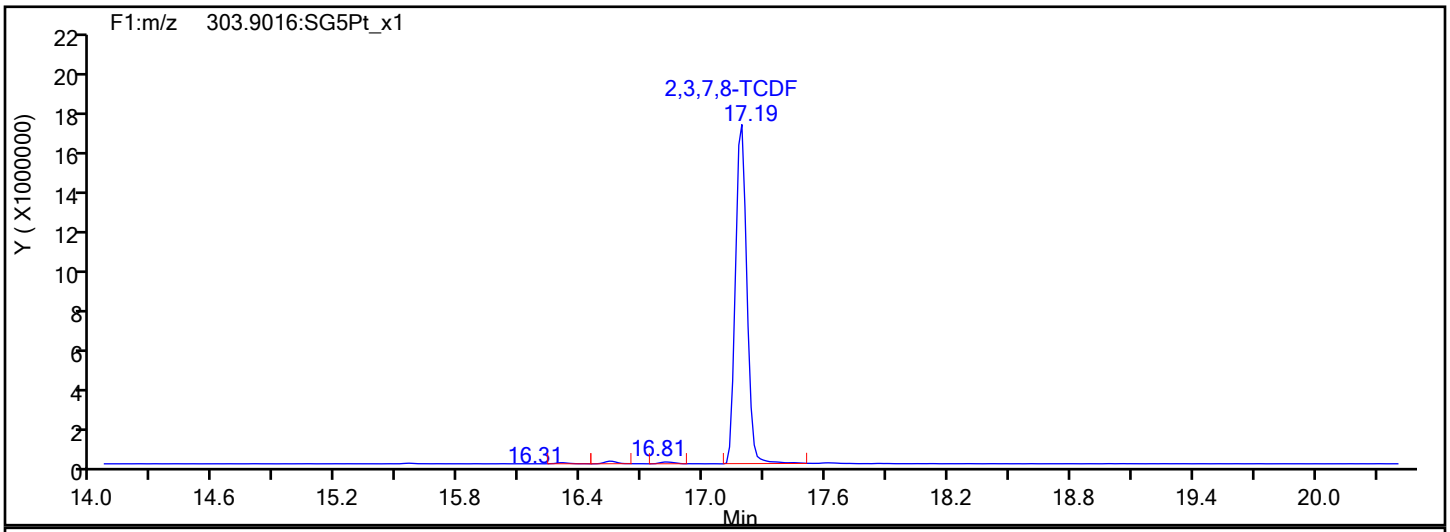

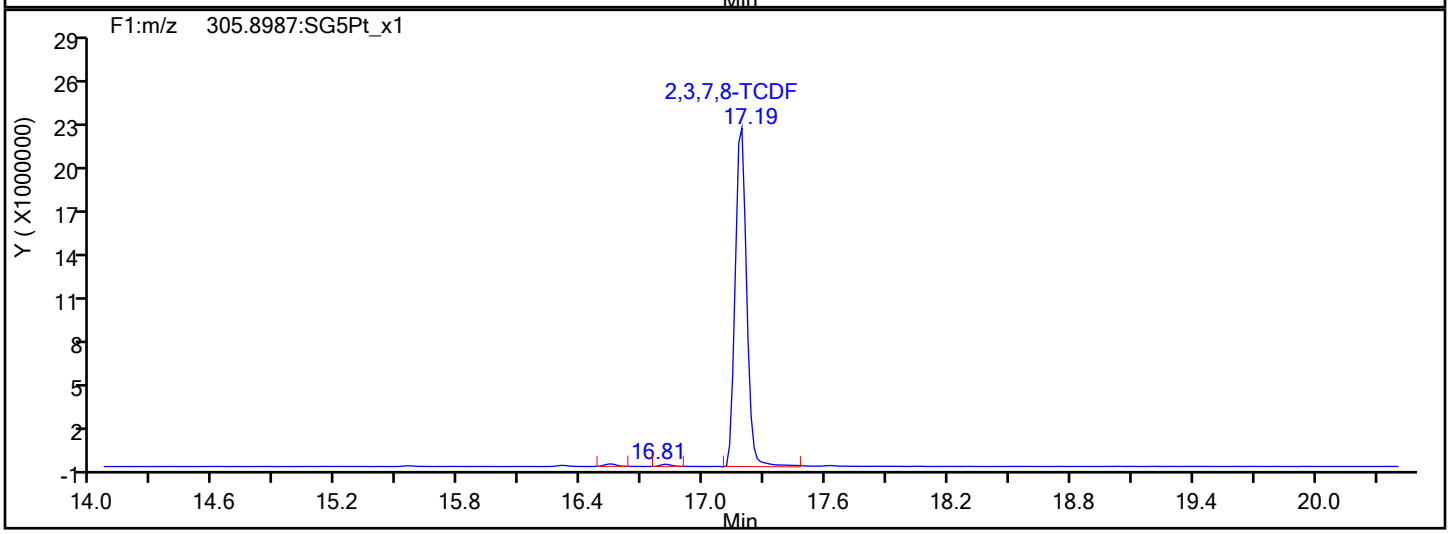

TCDF Interference Mass

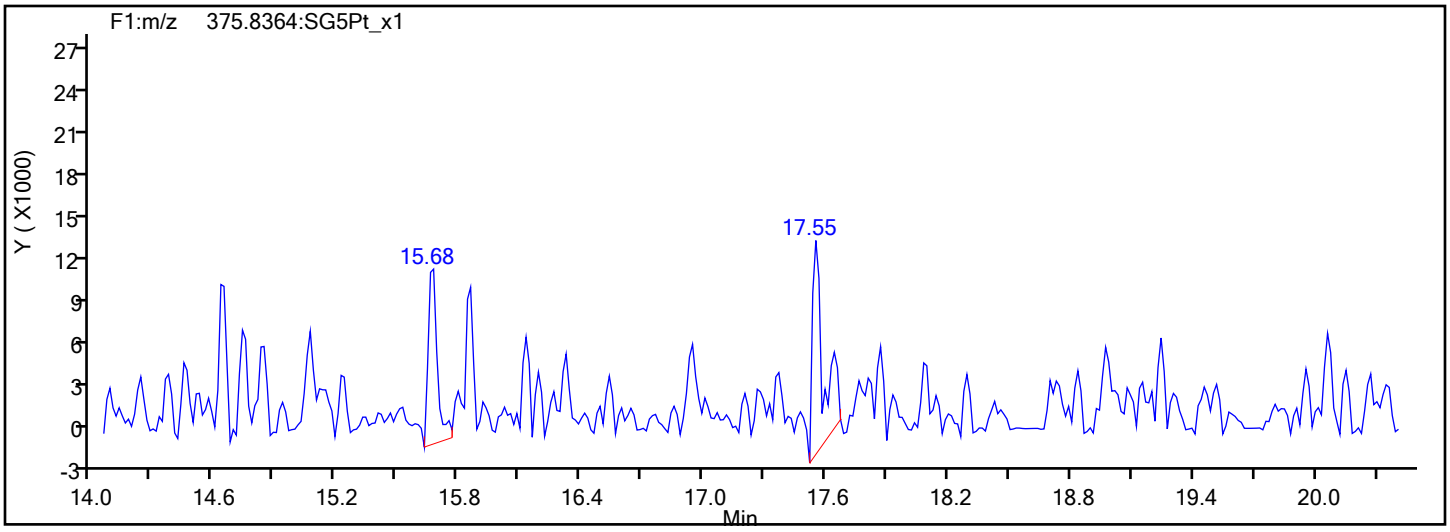

Report Date: 13-Dec-2019 08:02:46 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_9.d		
Injection Date:	12-Dec-2019 16:24:09	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
Worklist#:	345037	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

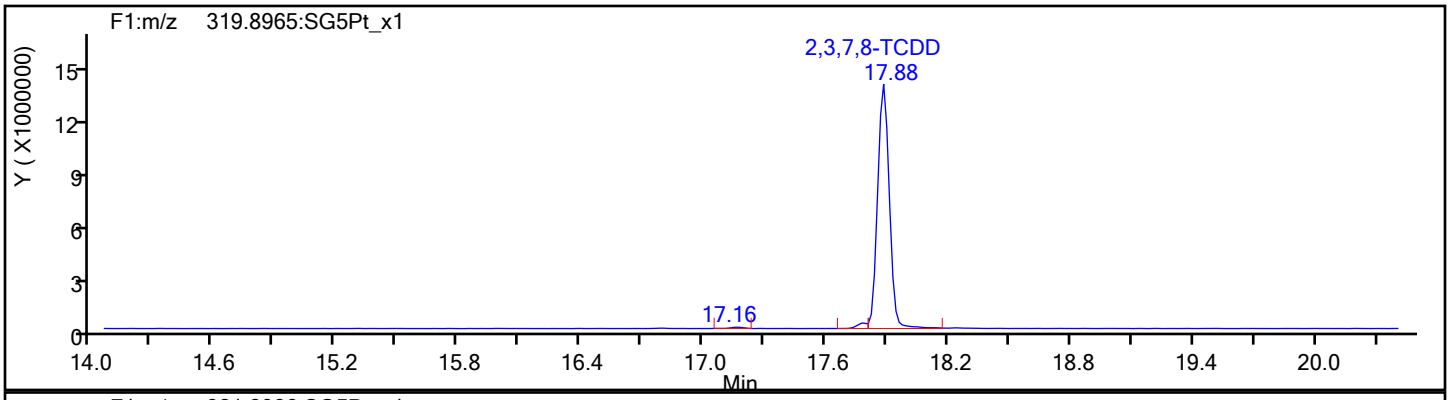

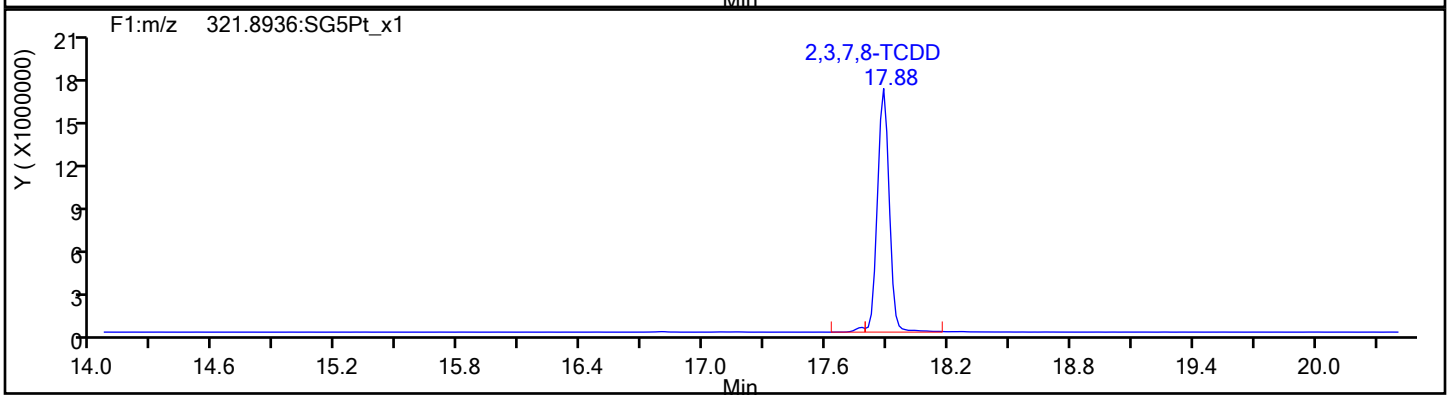

TCDD Standards

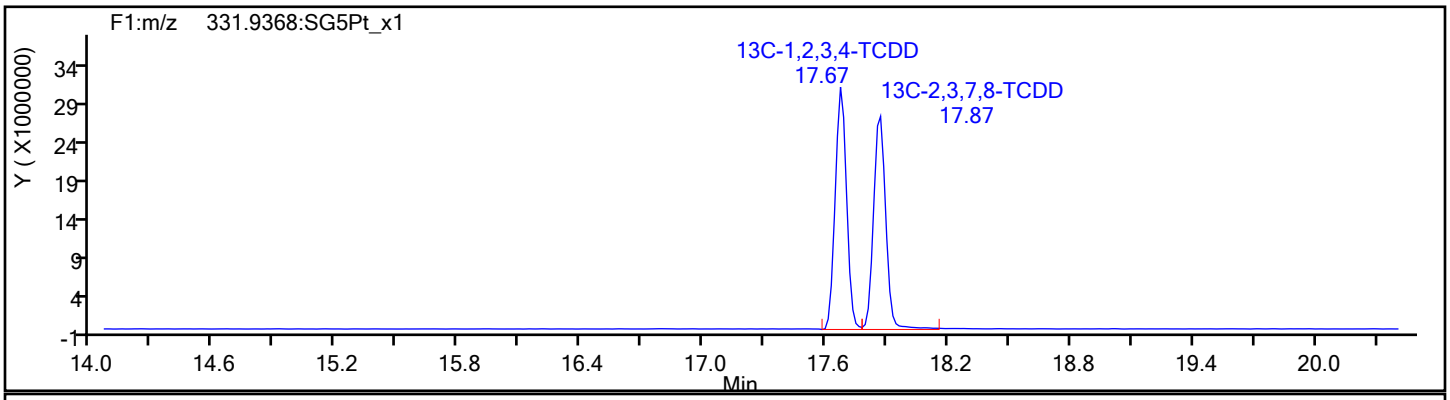

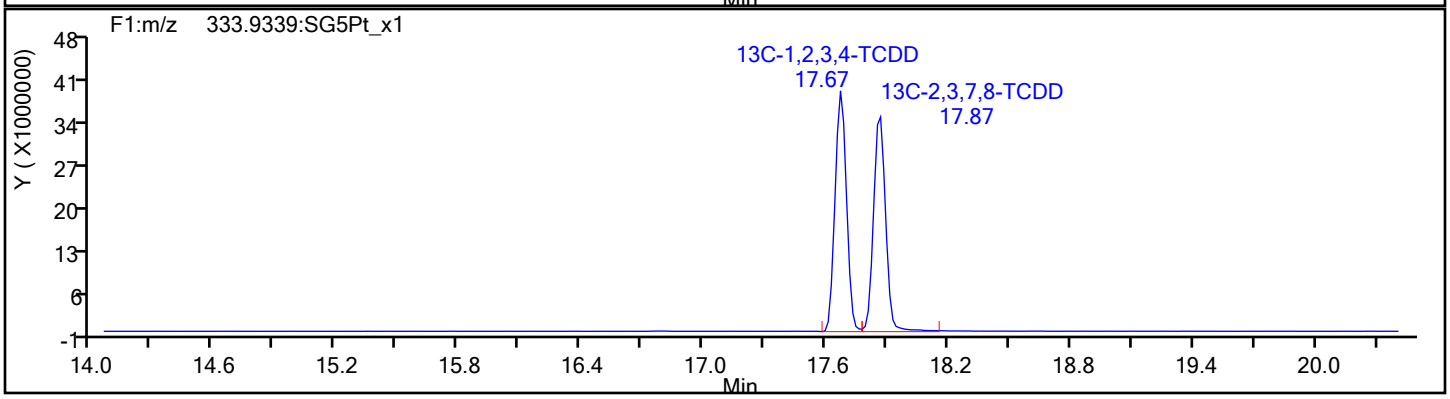

Report Date: 13-Dec-2019 08:02:46 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_9.d		
Injection Date:	12-Dec-2019 16:24:09	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
Worklist#:	345037	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

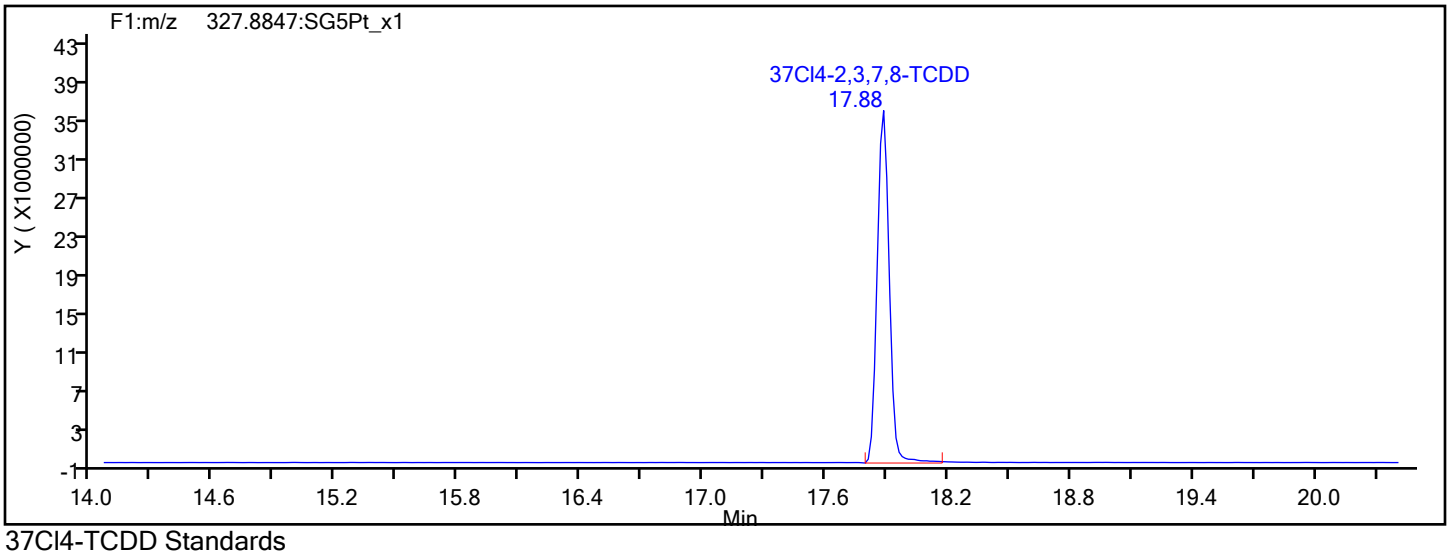

37Cl4-TCDD Standards

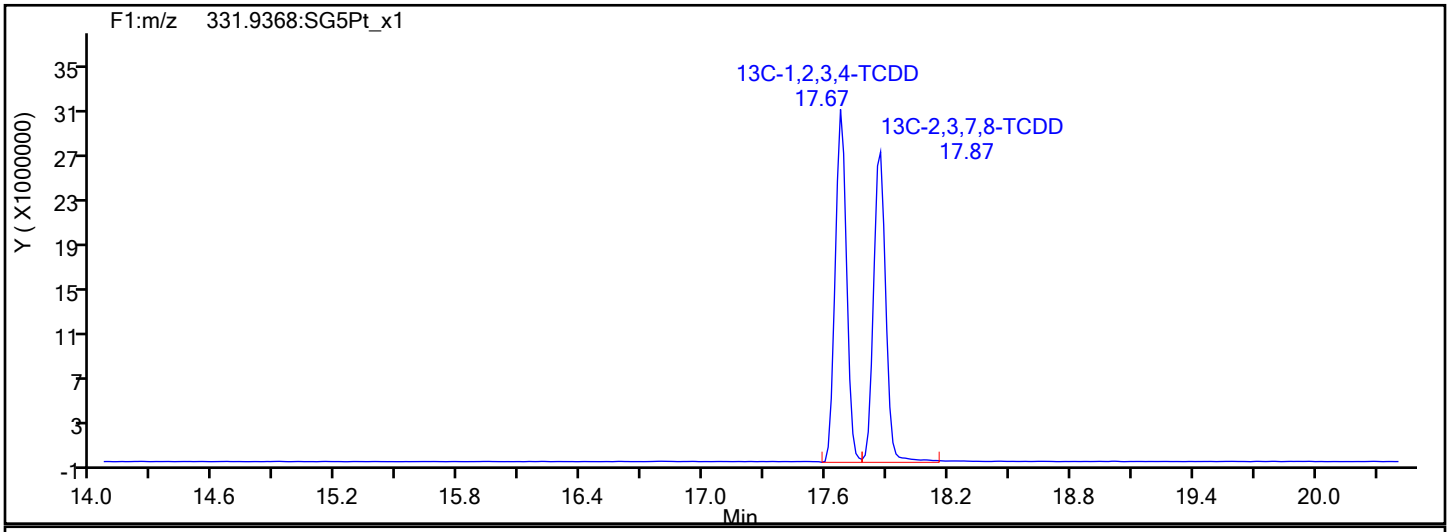

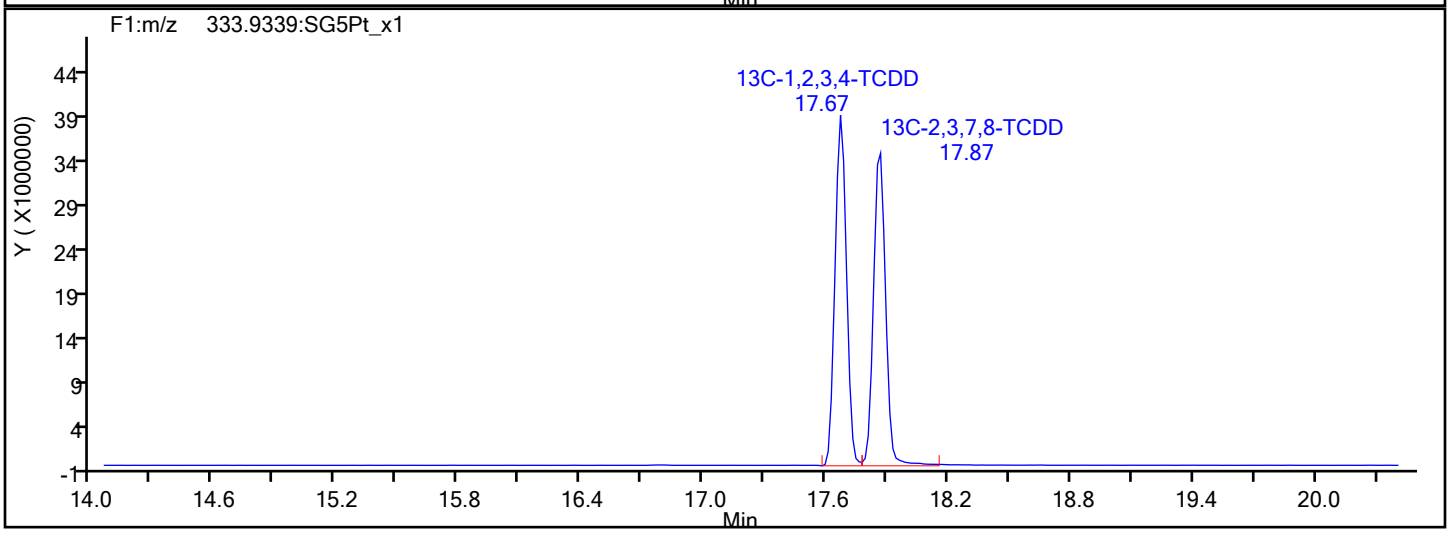

Report Date: 13-Dec-2019 08:02:47 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_9.d		
Injection Date:	12-Dec-2019 16:24:09	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
Worklist#:	345037	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

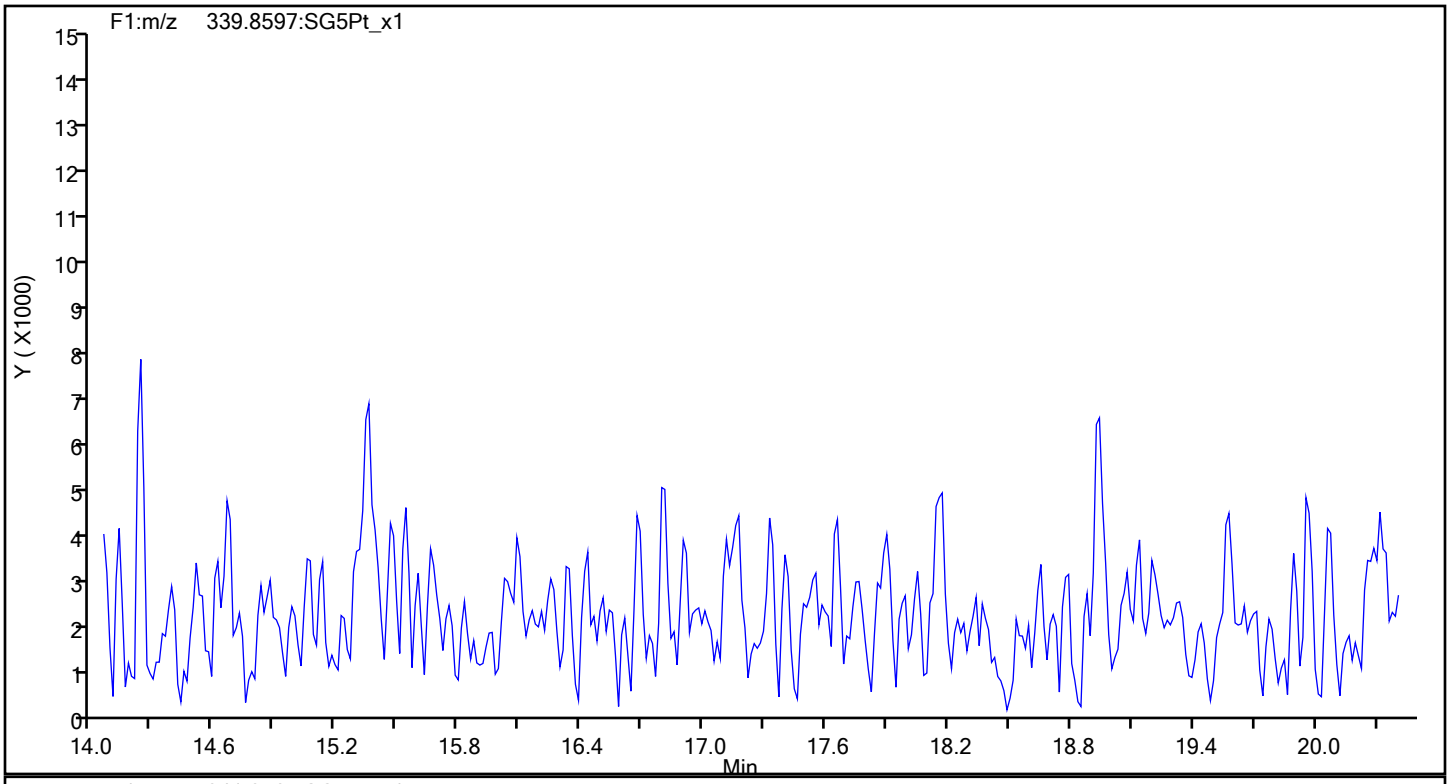

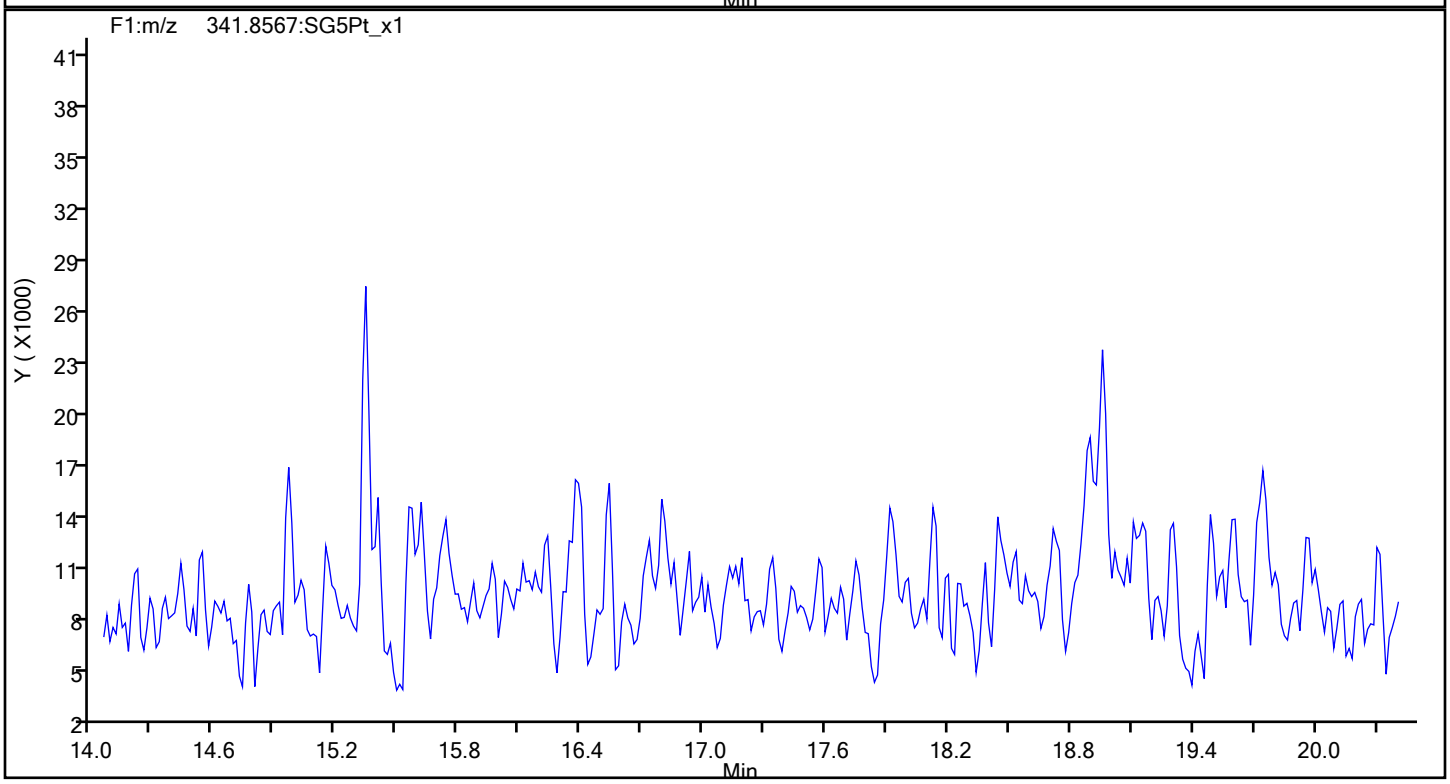

Report Date: 13-Dec-2019 08:02:47 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_9.d		
Injection Date:	12-Dec-2019 16:24:09	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
Worklist#:	345037	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

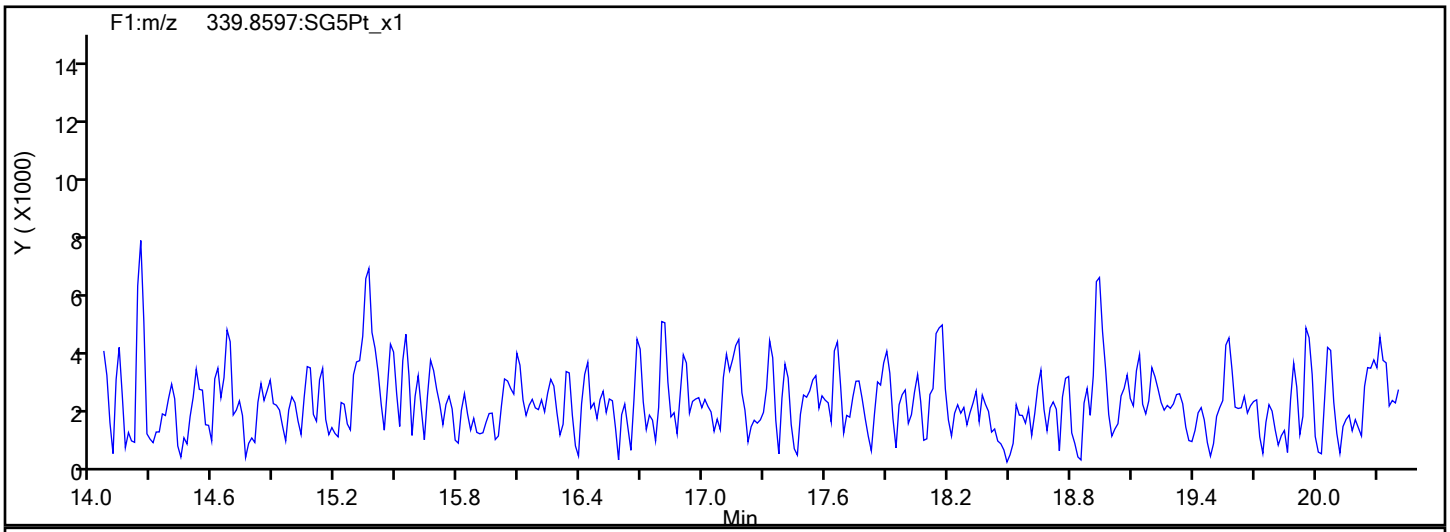

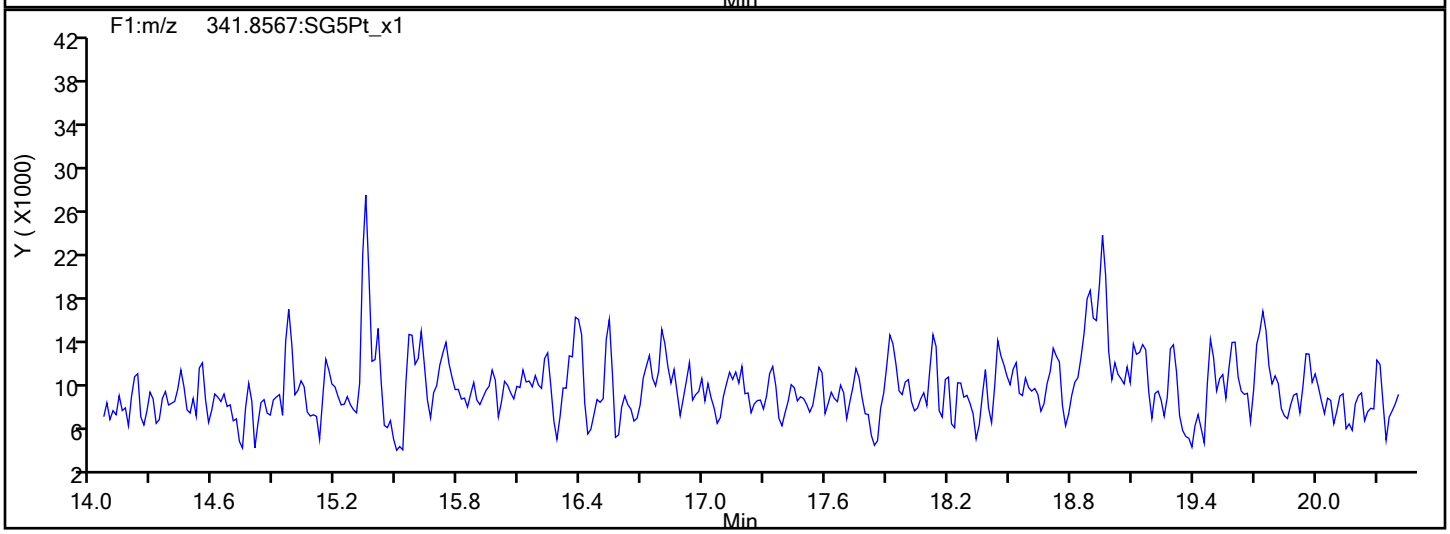

F1 PeCDFs Interference Mass

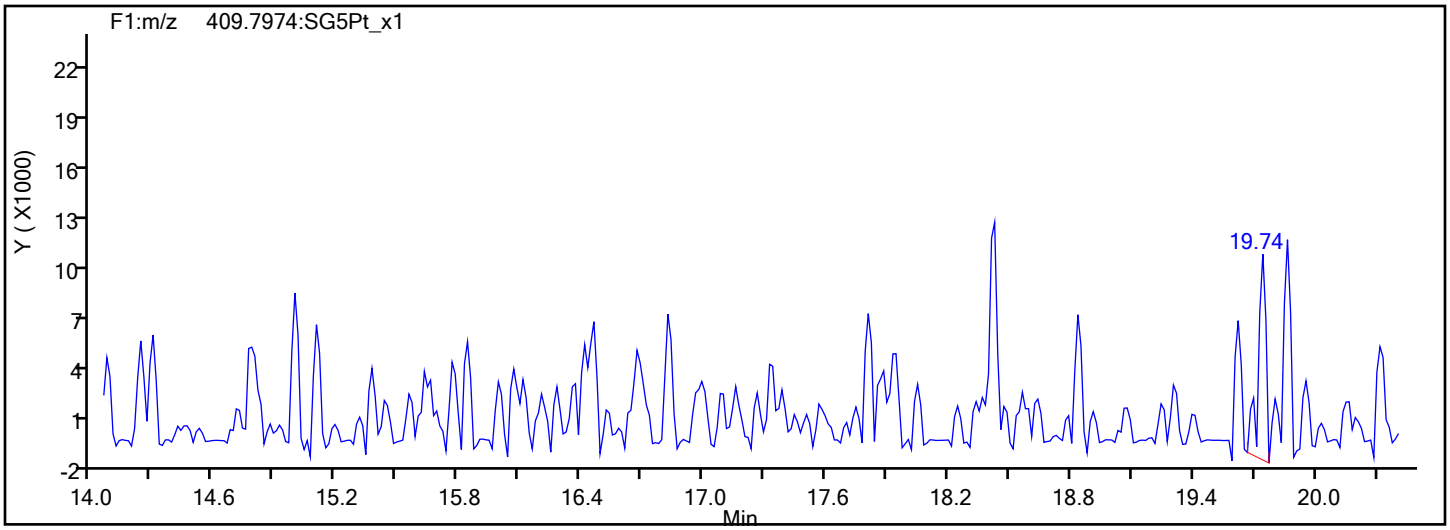

Report Date: 13-Dec-2019 08:02:47 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_9.d		
Injection Date:	12-Dec-2019 16:24:09	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
Worklist#:	345037	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

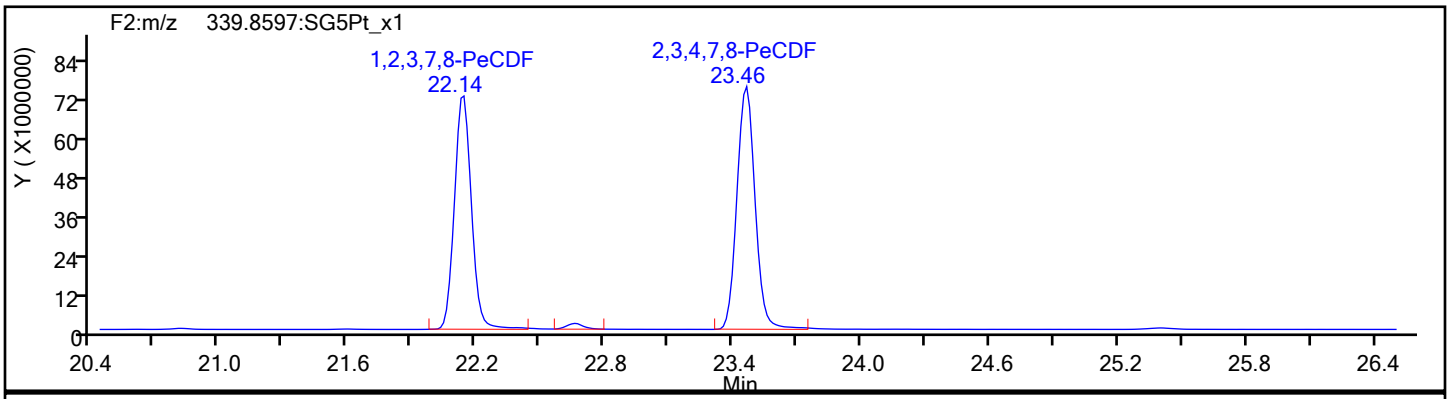

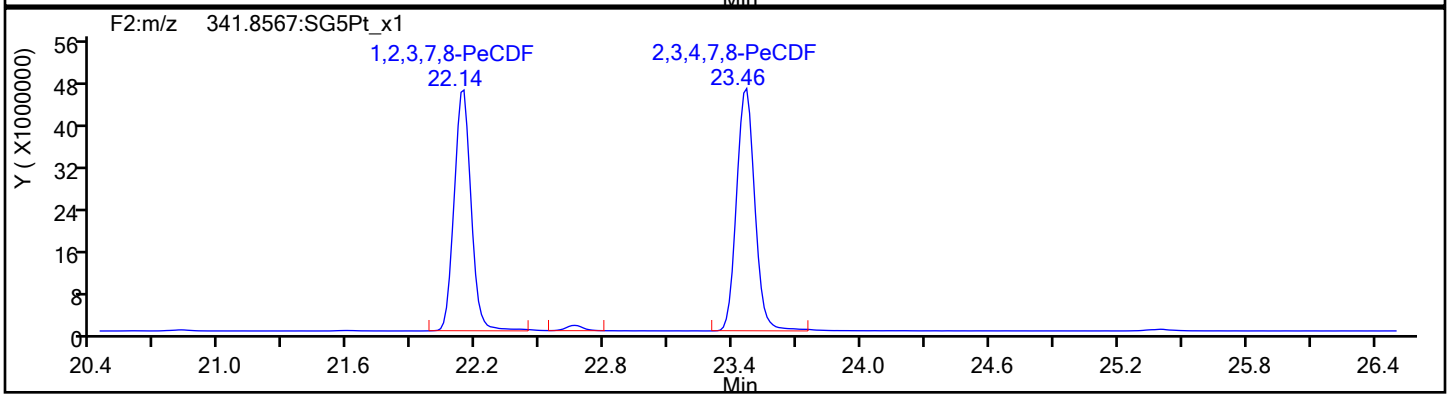

PeCDF Standards

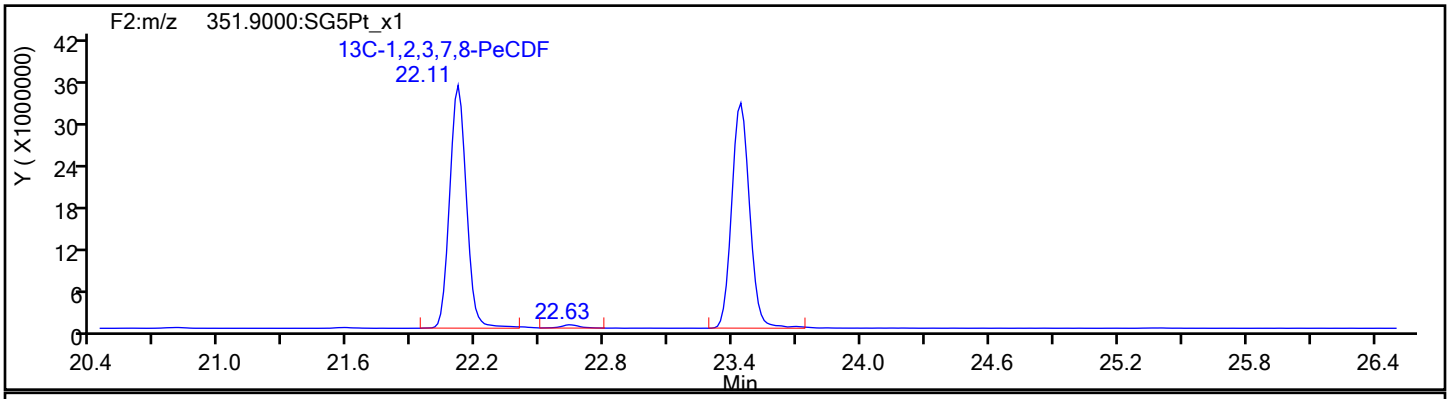

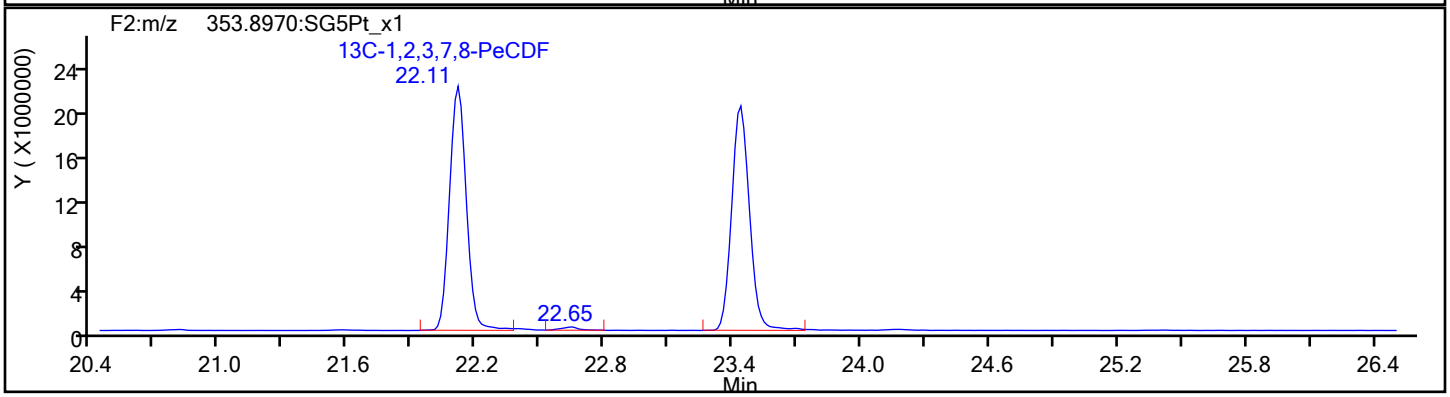

Report Date: 13-Dec-2019 08:02:47 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_9.d		
Injection Date:	12-Dec-2019 16:24:09	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
Worklist#:	345037	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

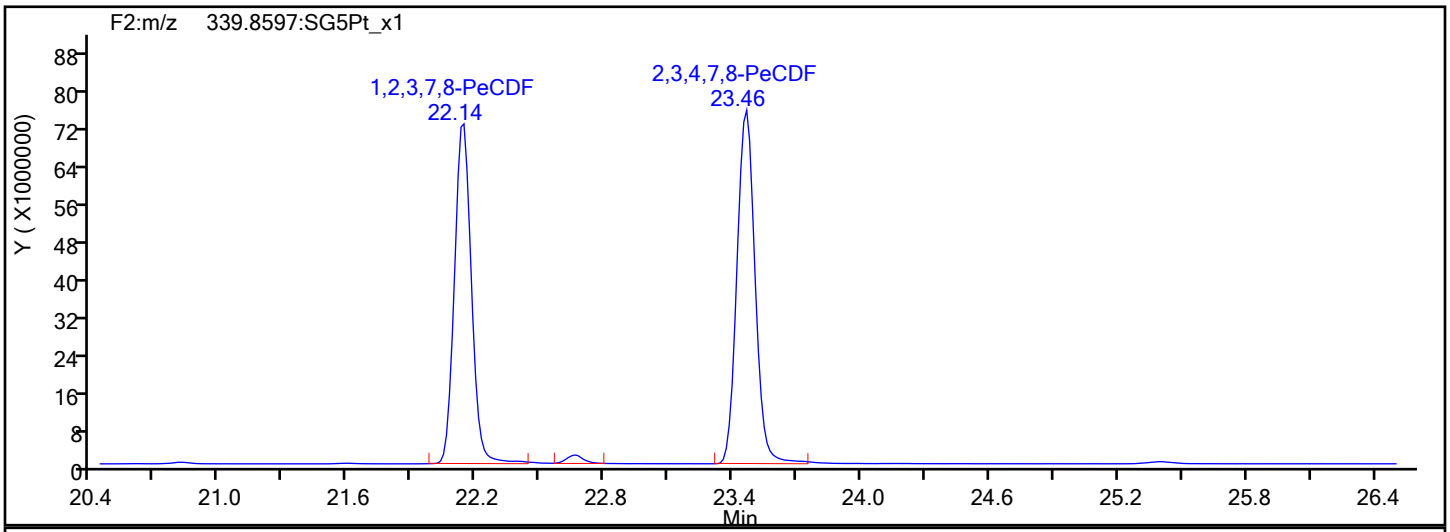

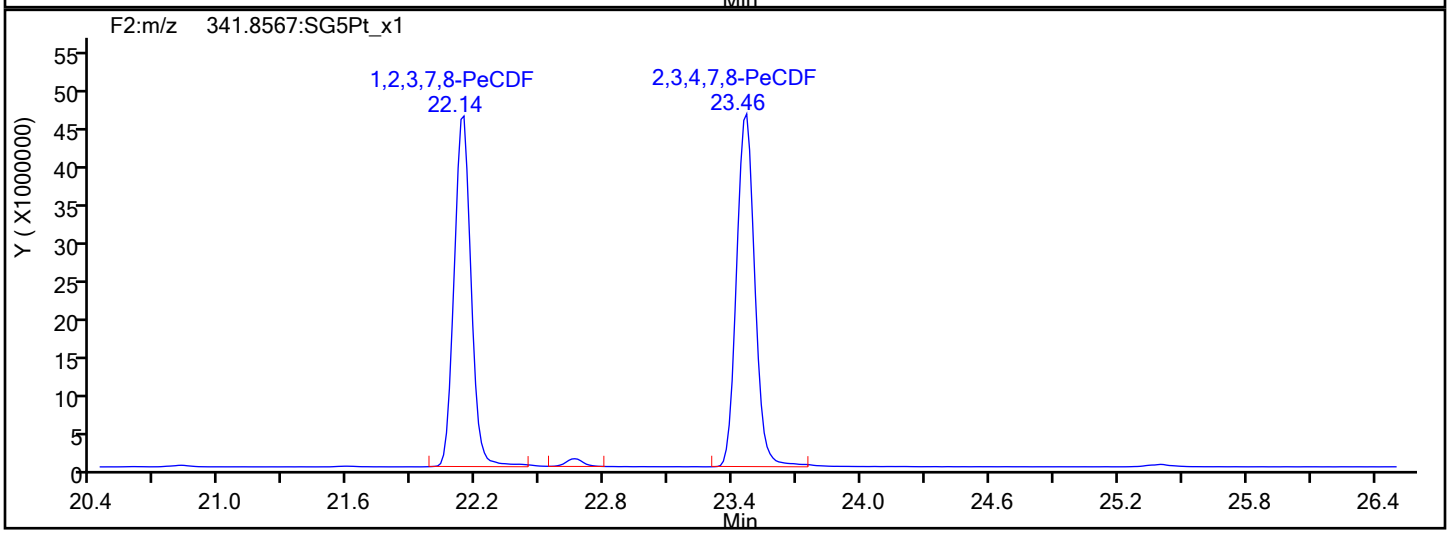

PeCDF Interference Mass

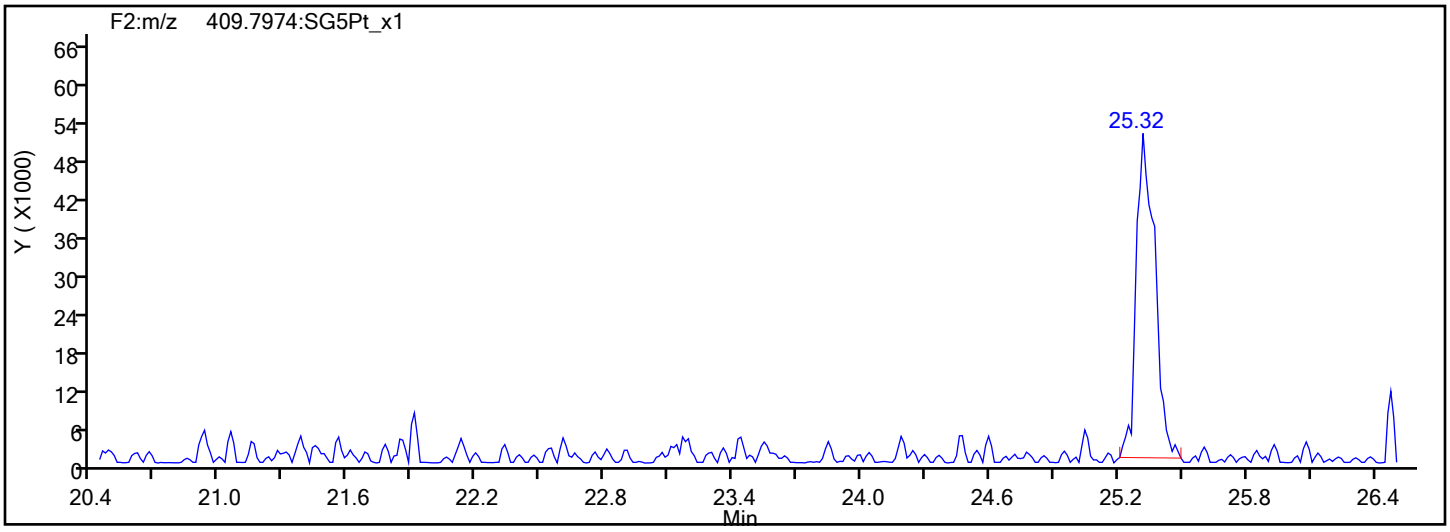

Report Date: 13-Dec-2019 08:02:47 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_9.d		
Injection Date:	12-Dec-2019 16:24:09	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
Worklist#:	345037	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

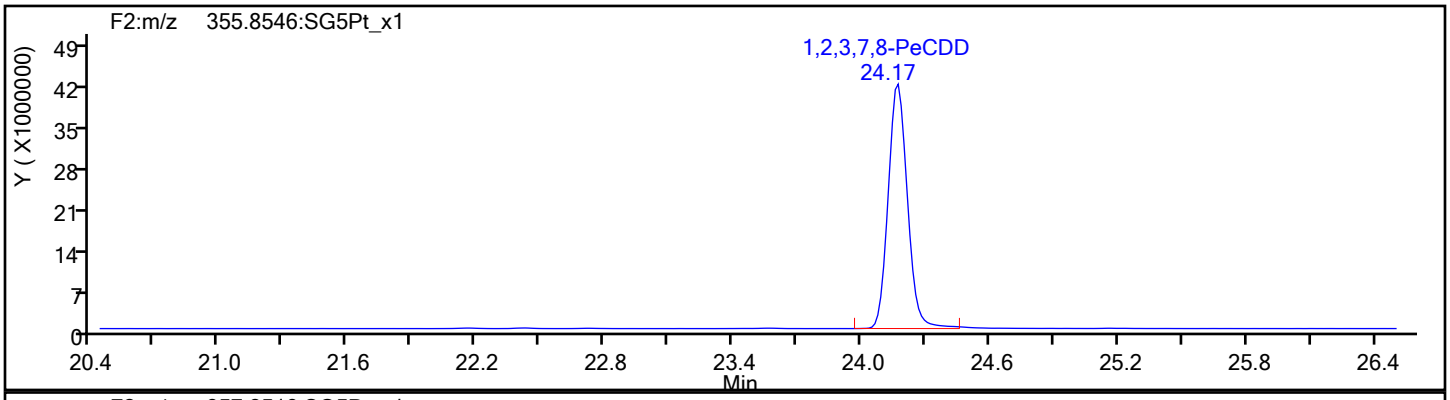

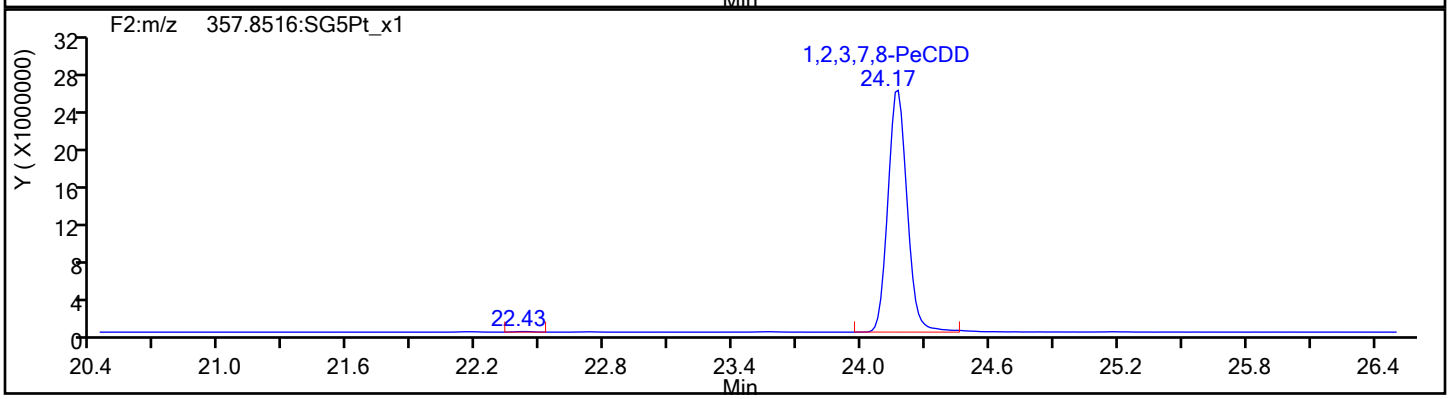

PeCDD Standards

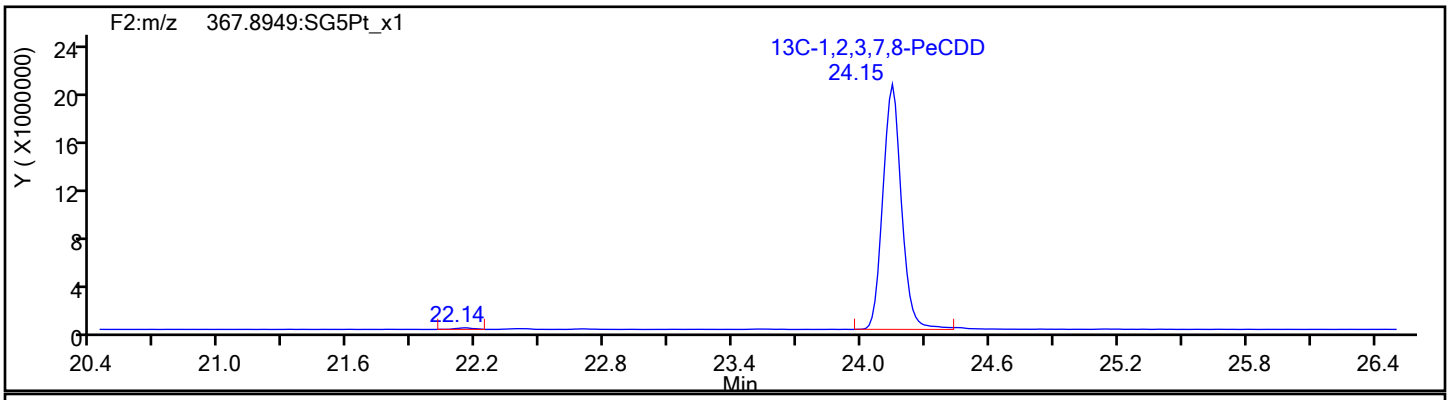

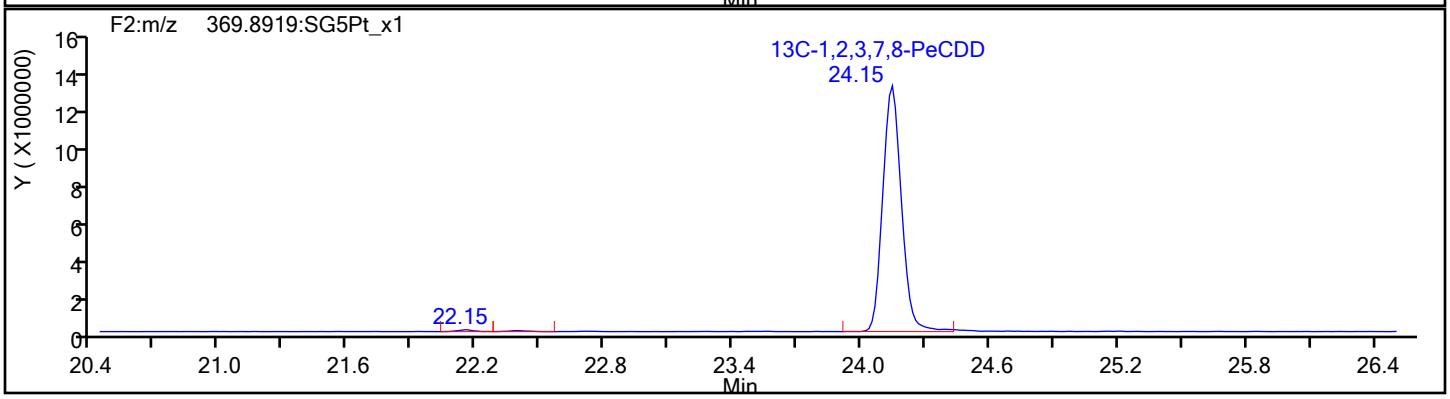

Report Date: 13-Dec-2019 08:02:47 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
Worklist#:	345037	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

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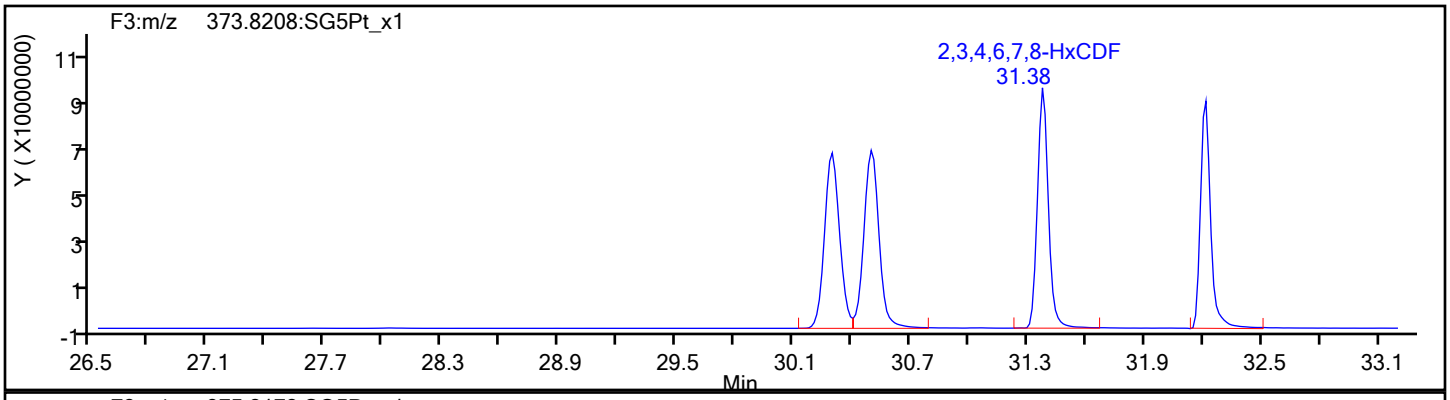

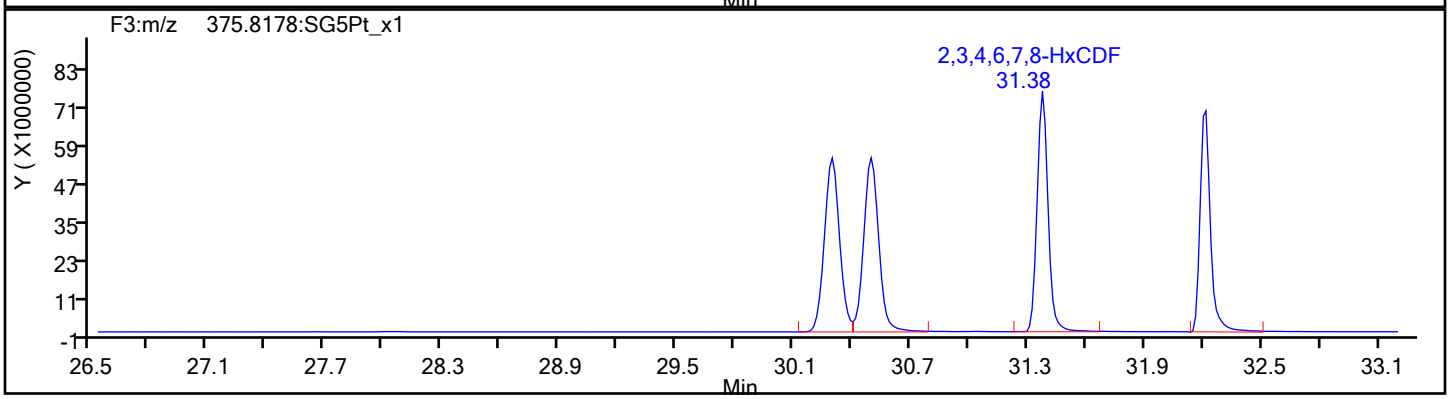

HxCDF Standards

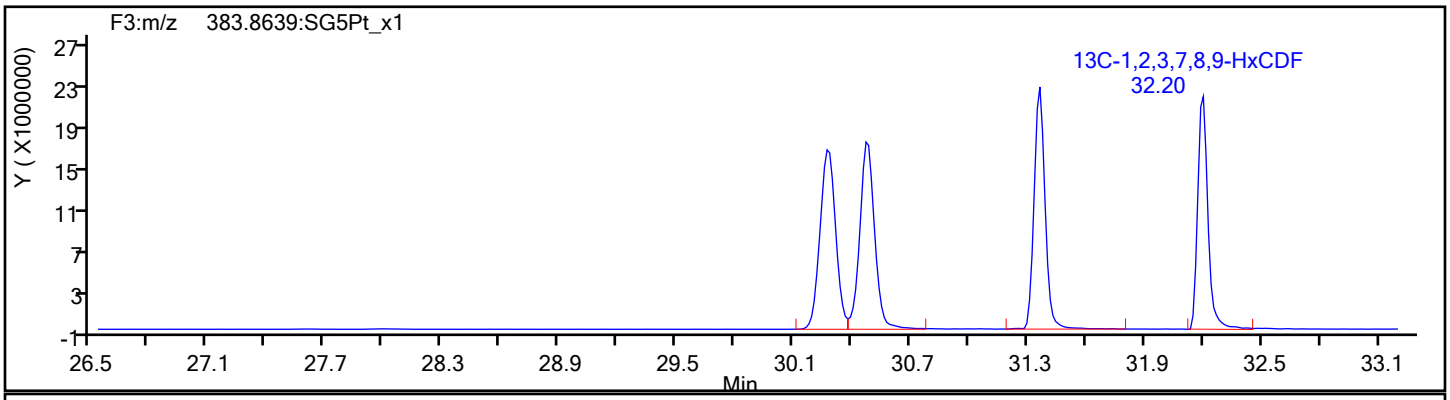

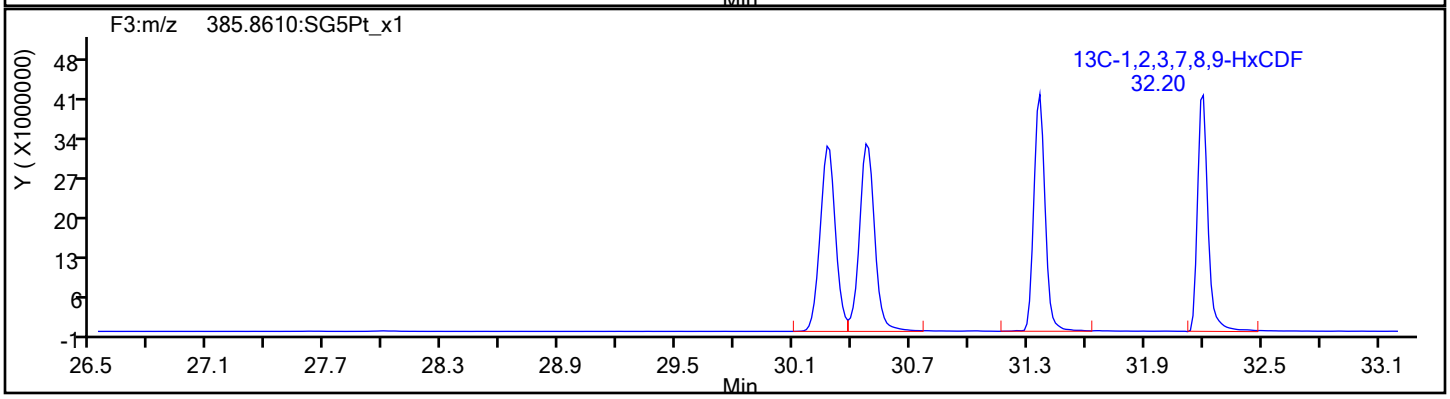

Report Date: 13-Dec-2019 08:02:47 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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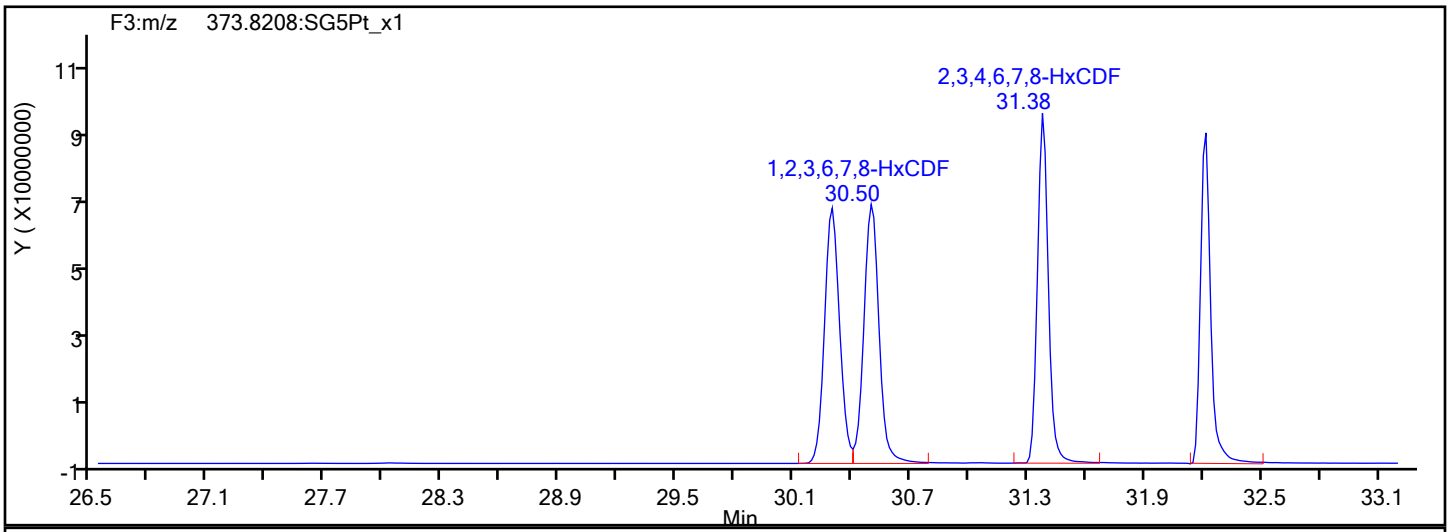

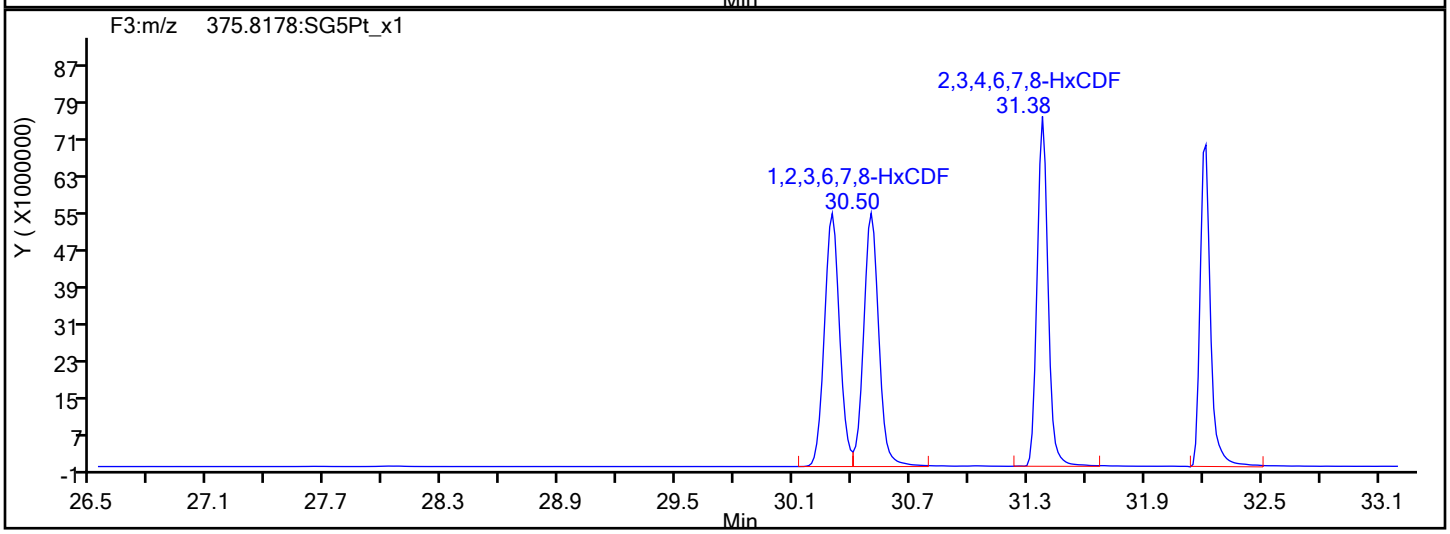

HxCDF Interference Mass

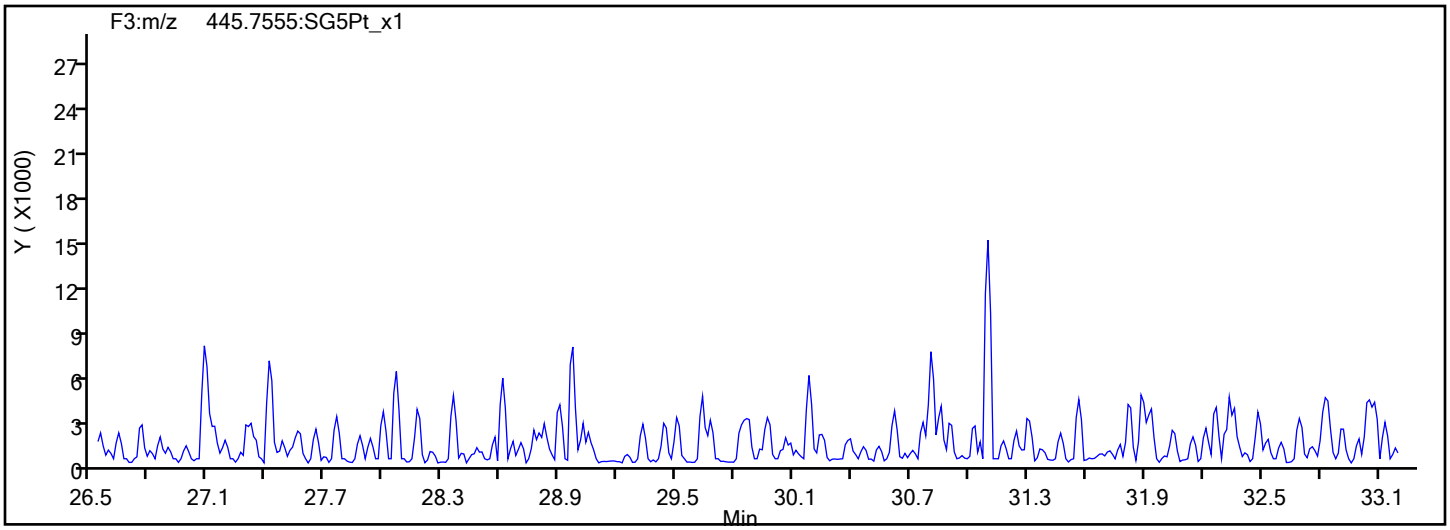

Report Date: 13-Dec-2019 08:02:47 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_9.d		
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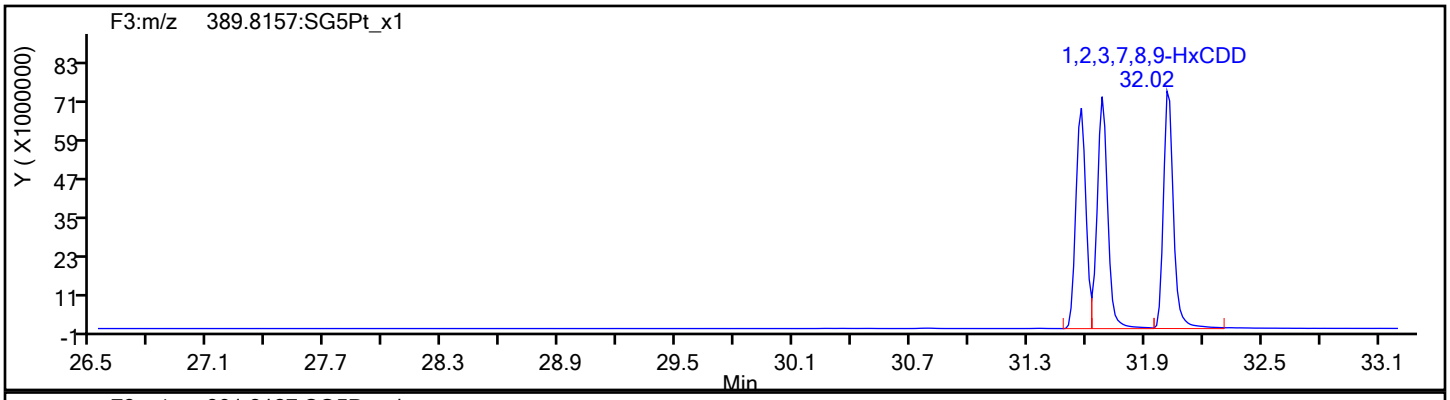

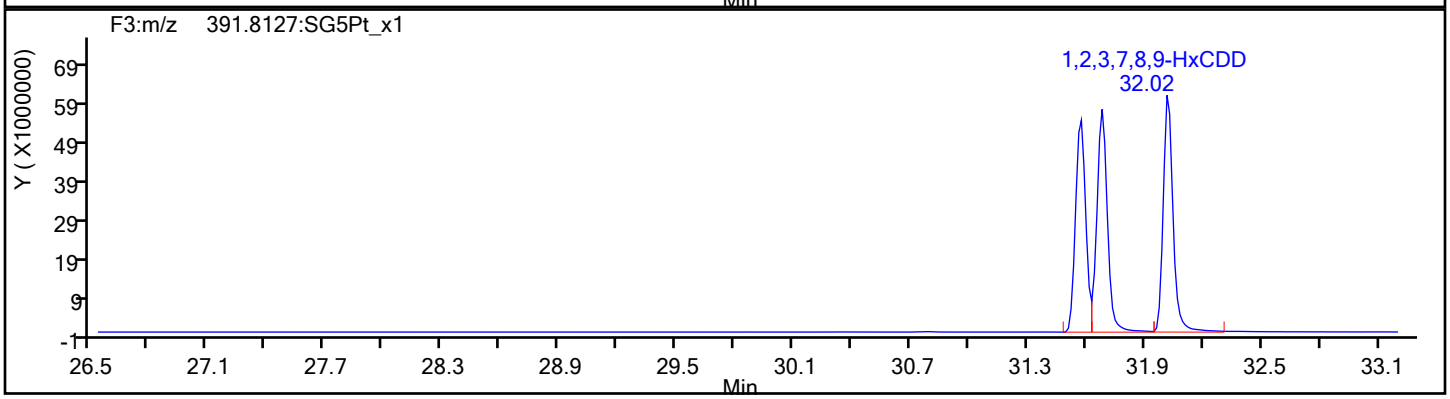

HxCDD Standards

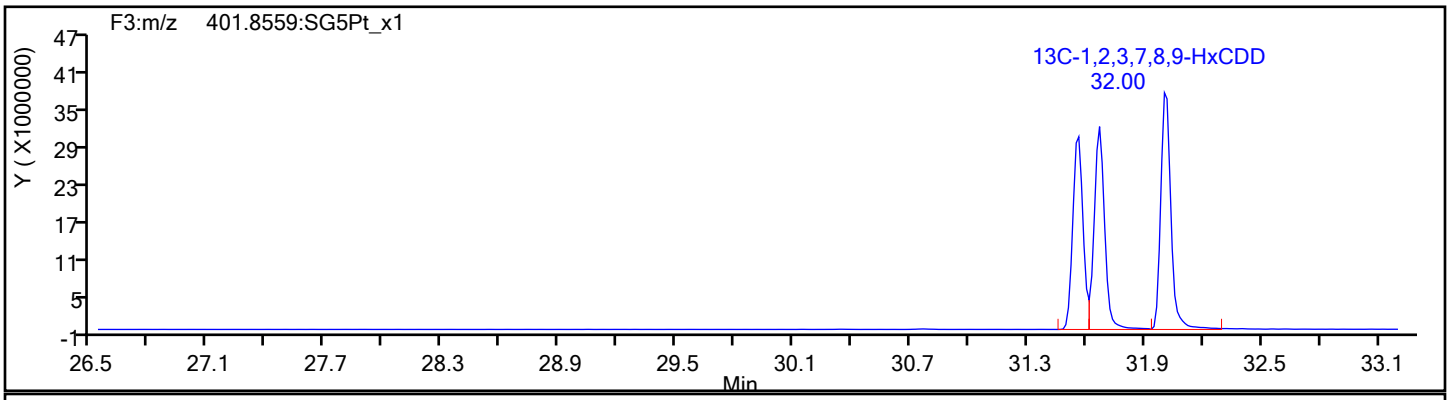

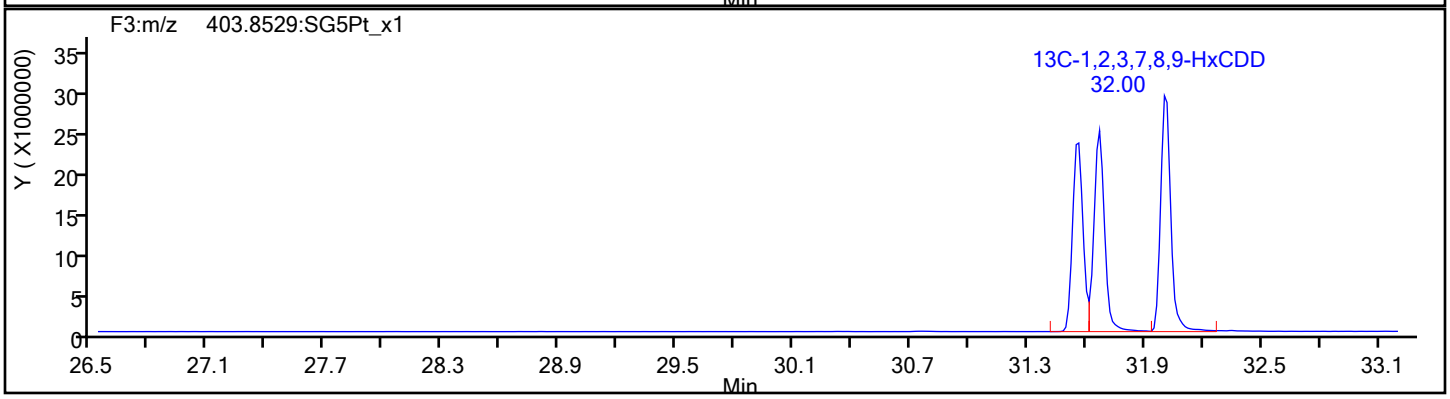

Report Date: 13-Dec-2019 08:02:47 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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HpCDF

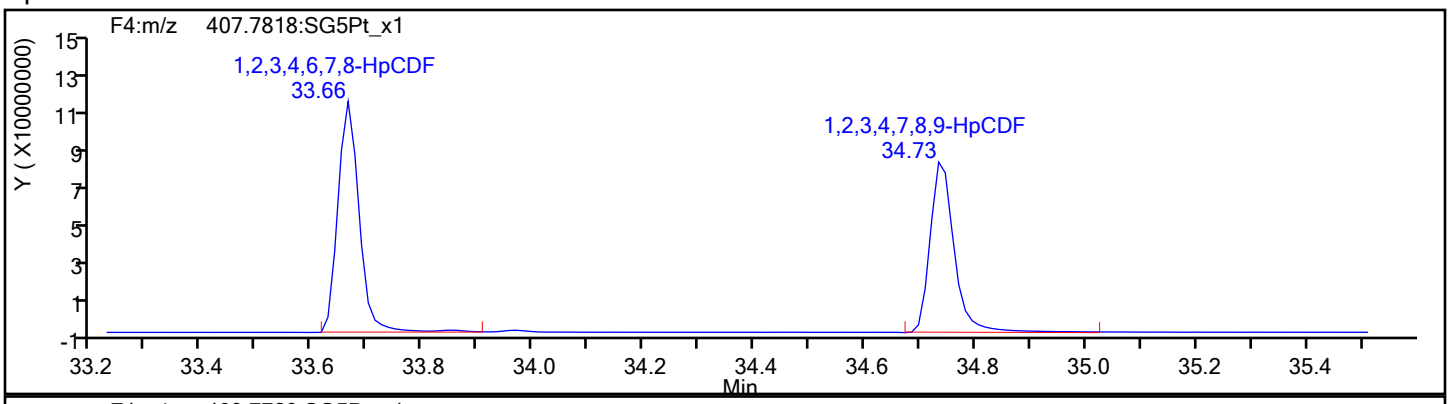

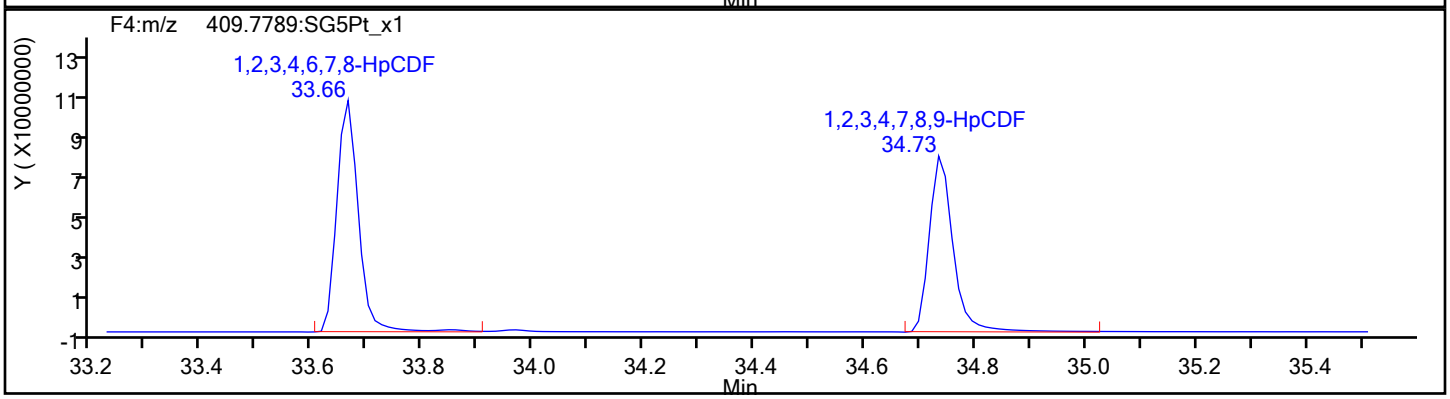

HpCDF Standards

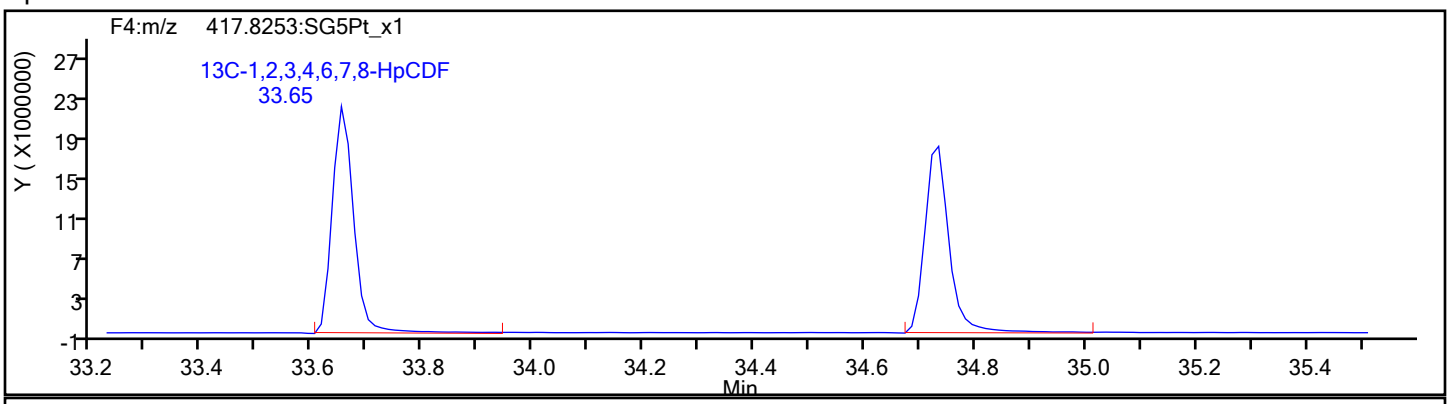

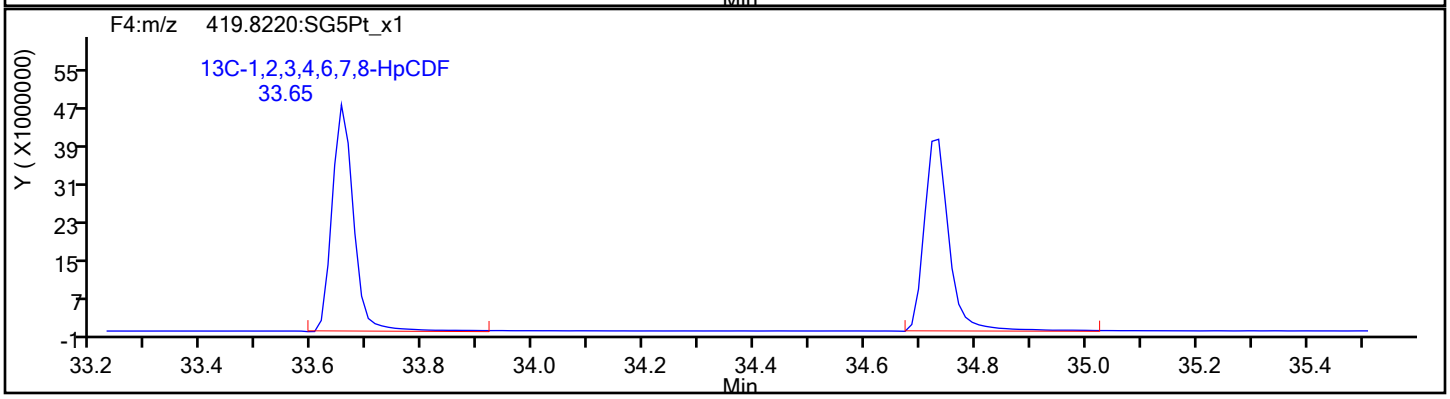

Report Date: 13-Dec-2019 08:02:47 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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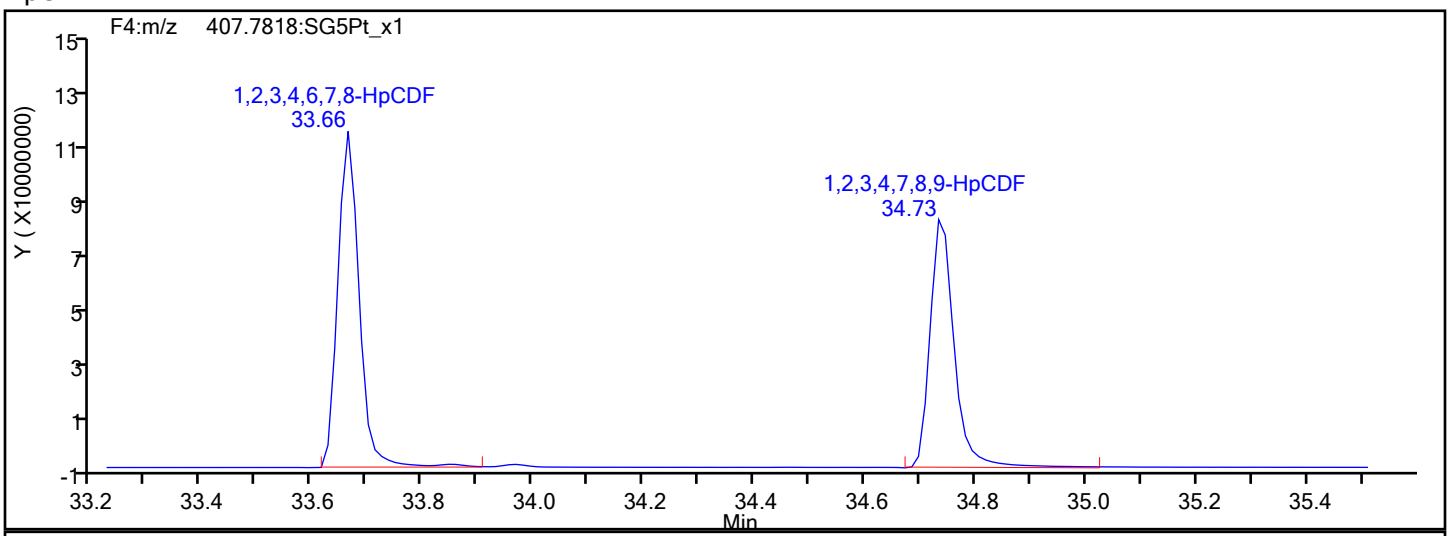

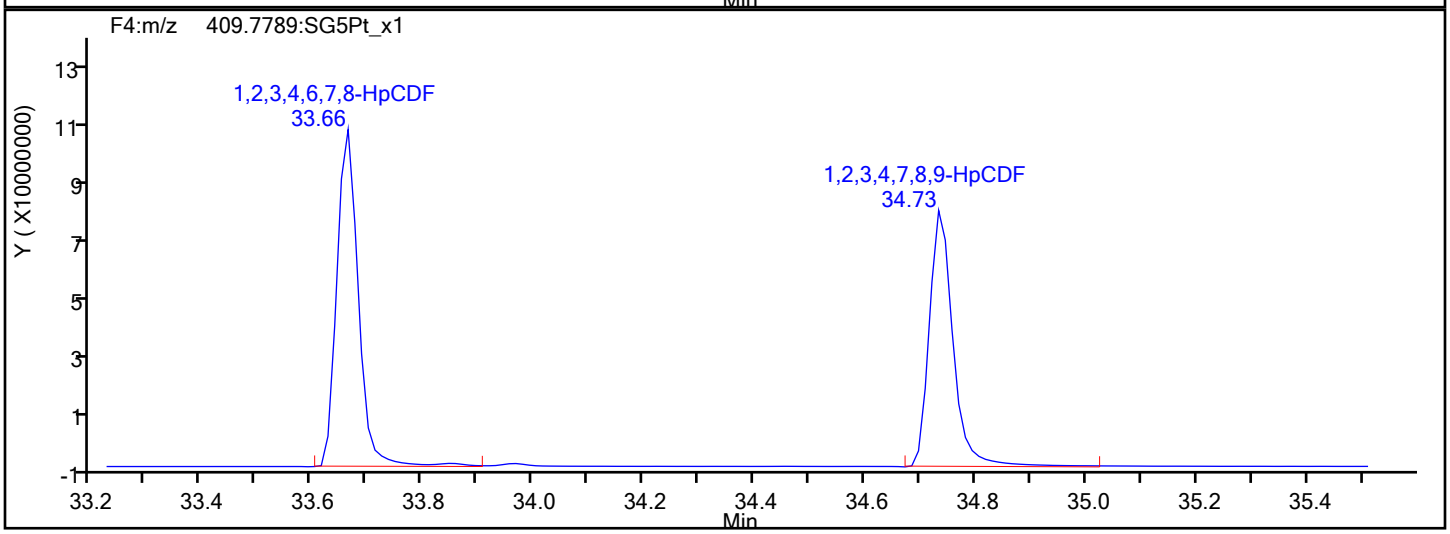

HpCDF Interference Mass

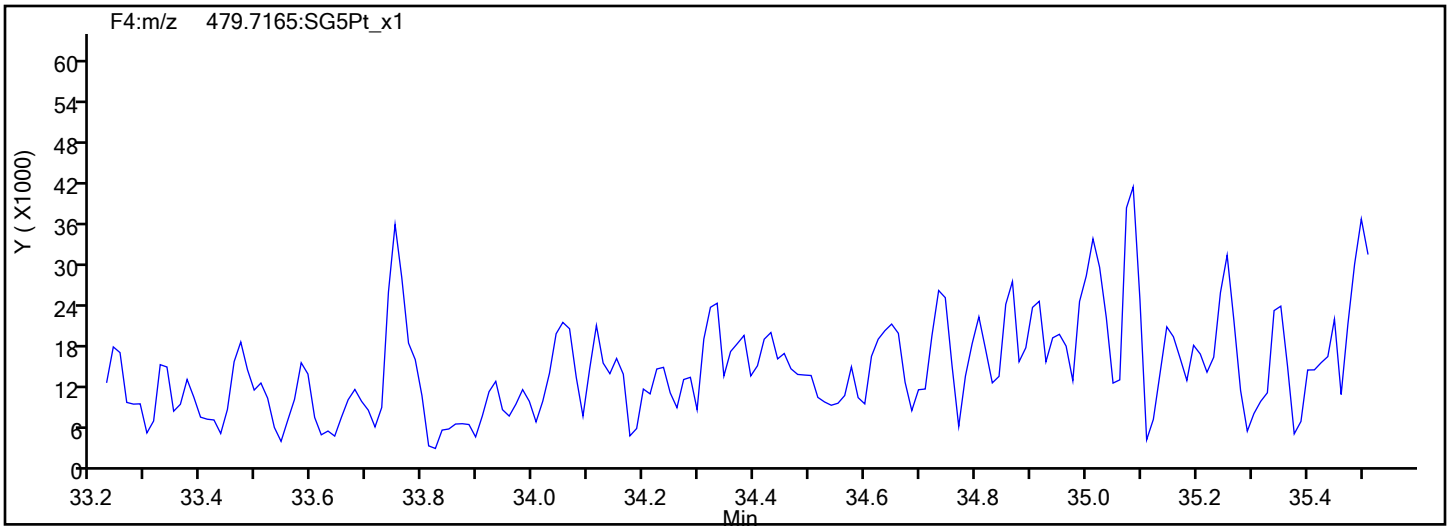

Report Date: 13-Dec-2019 08:02:47 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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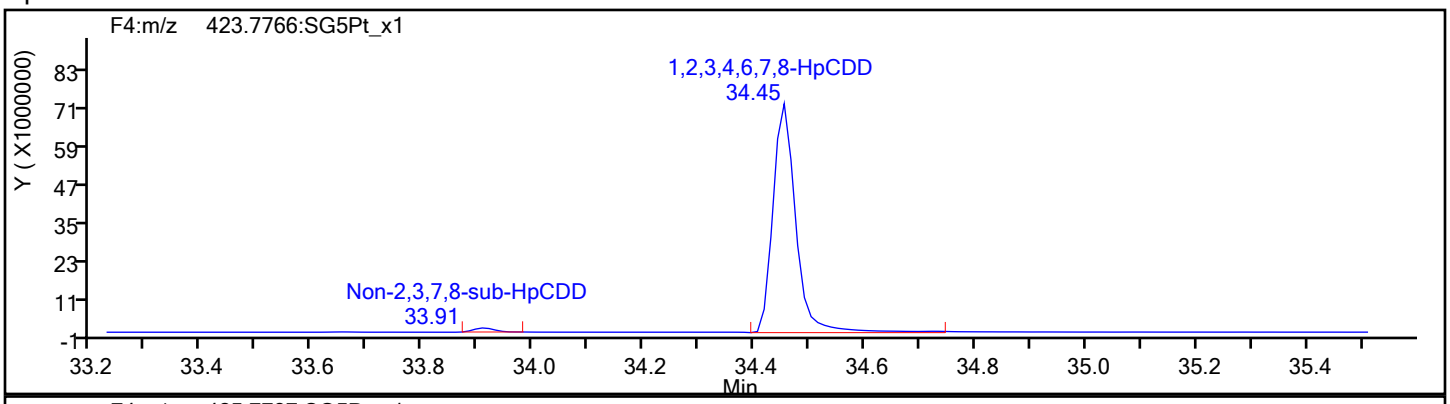

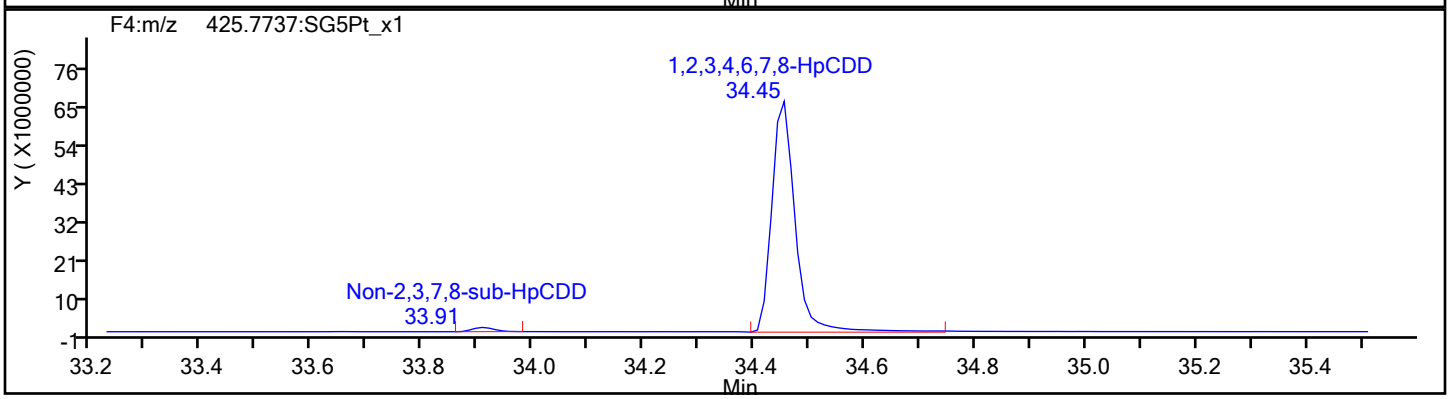

HpCDD Standards

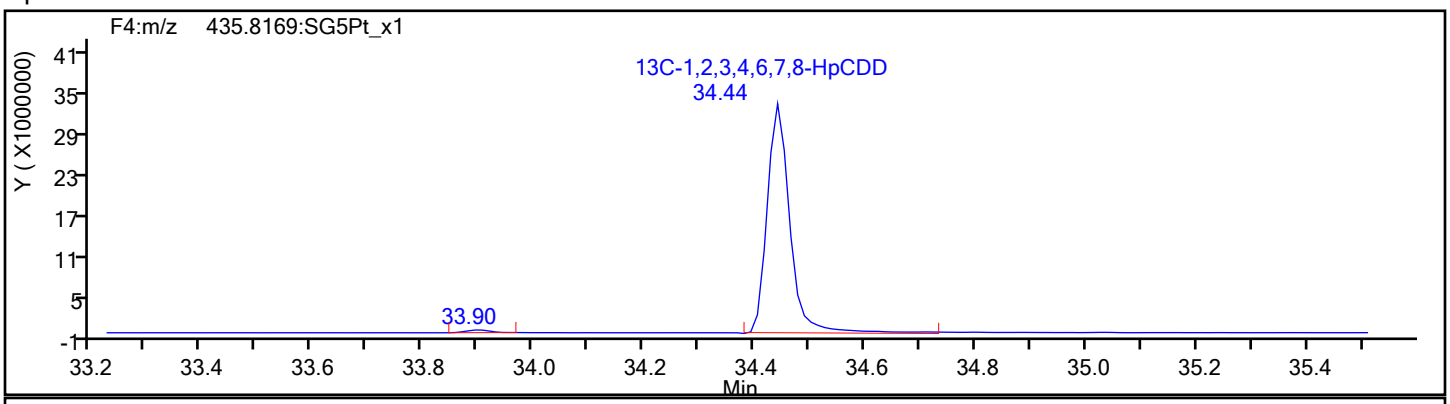

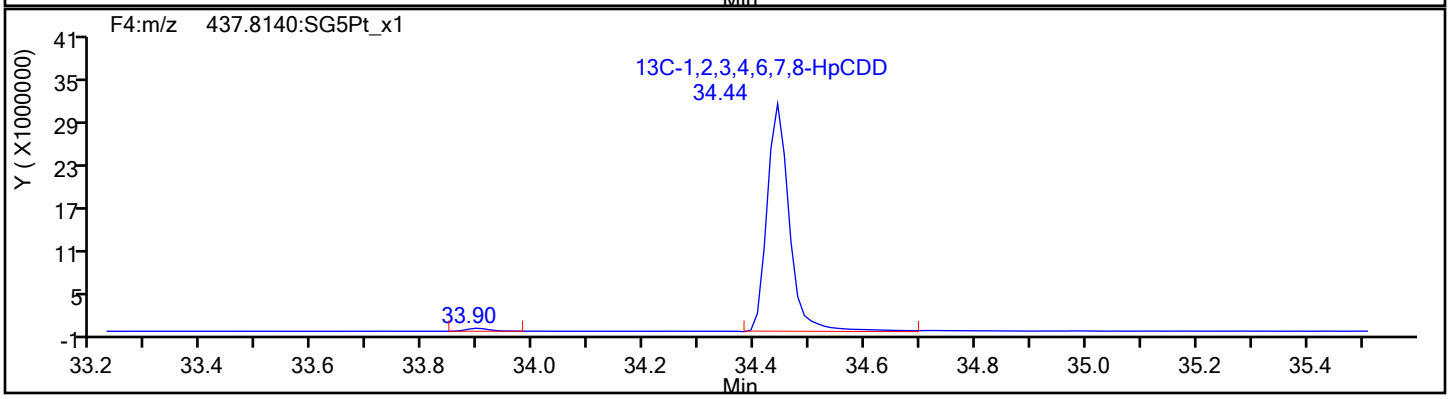

Report Date: 13-Dec-2019 08:02:47 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
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OCDF

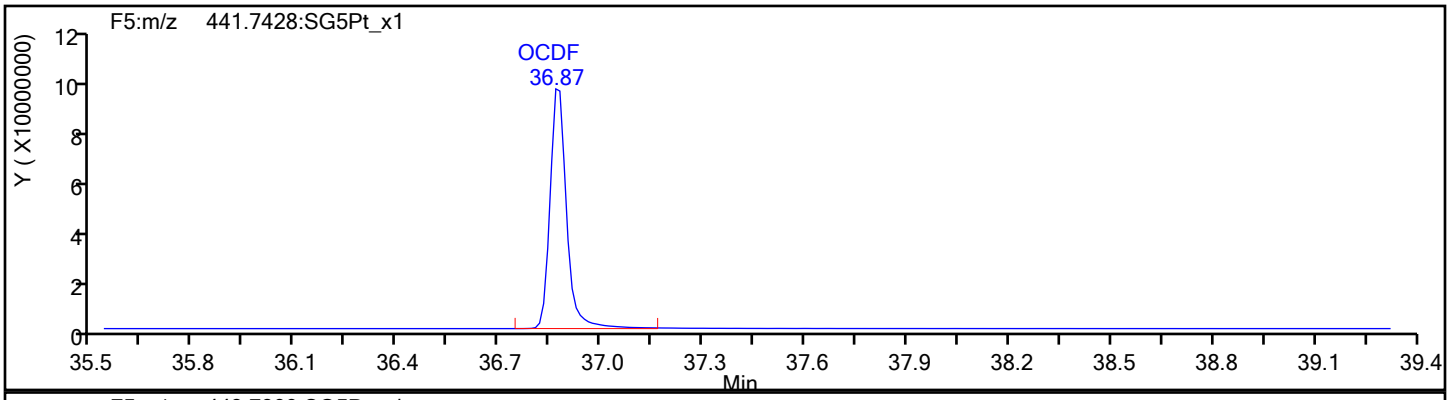

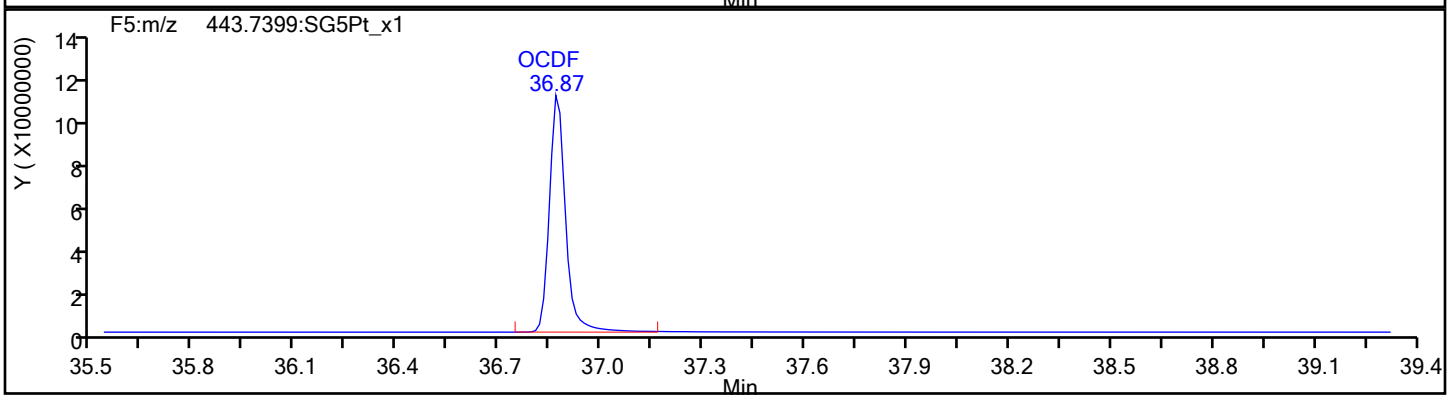

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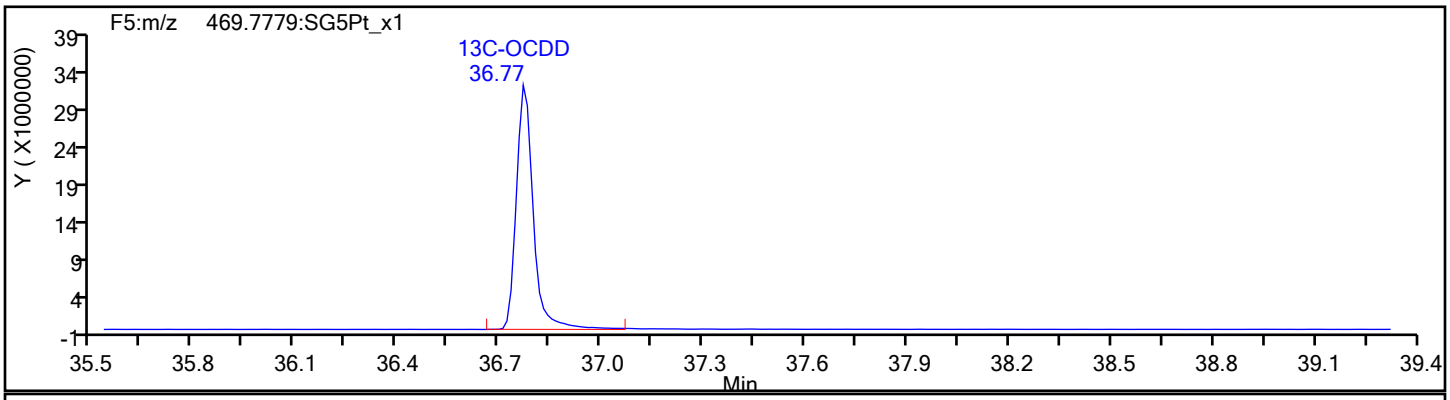

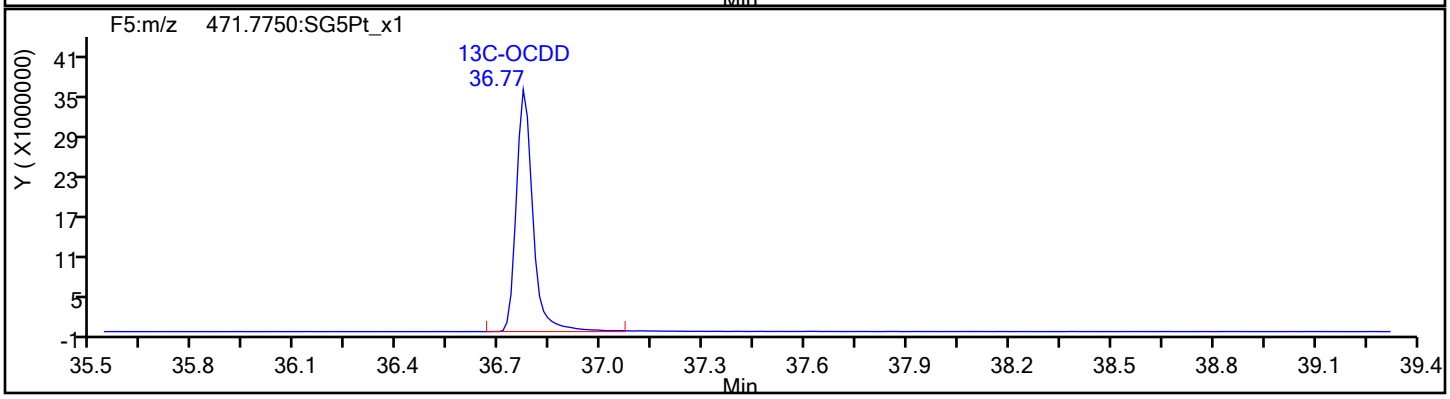

Report Date: 13-Dec-2019 08:02:47 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
Worklist#:	345037	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

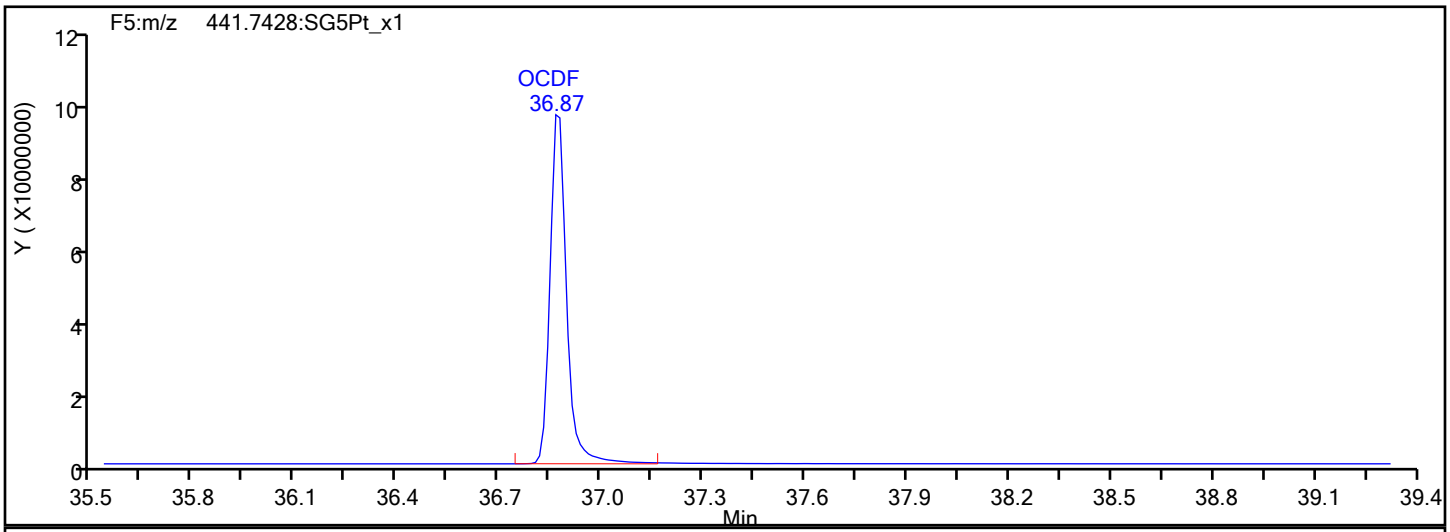

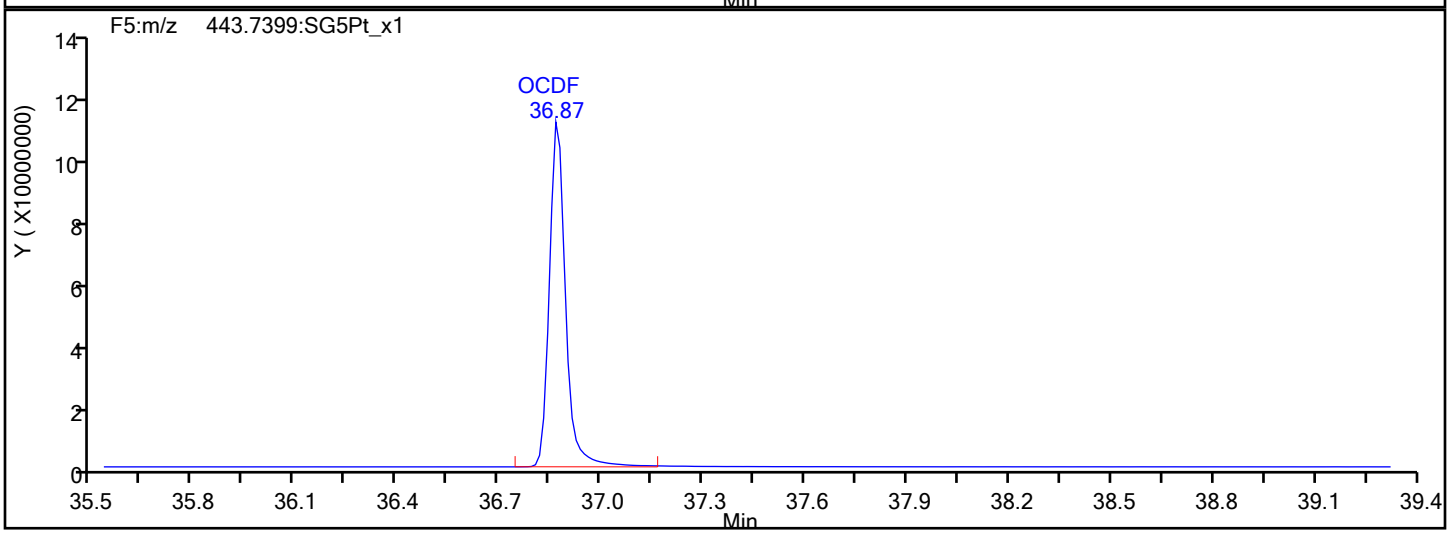

OCDF Interference Mass

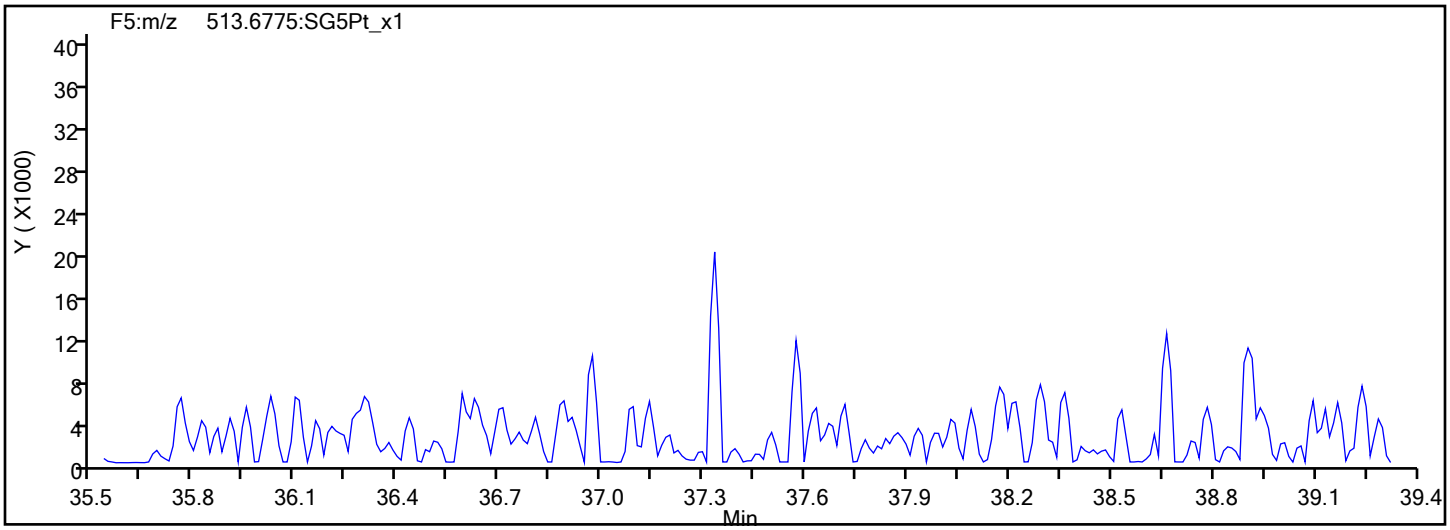

Report Date: 13-Dec-2019 08:02:48 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
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Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

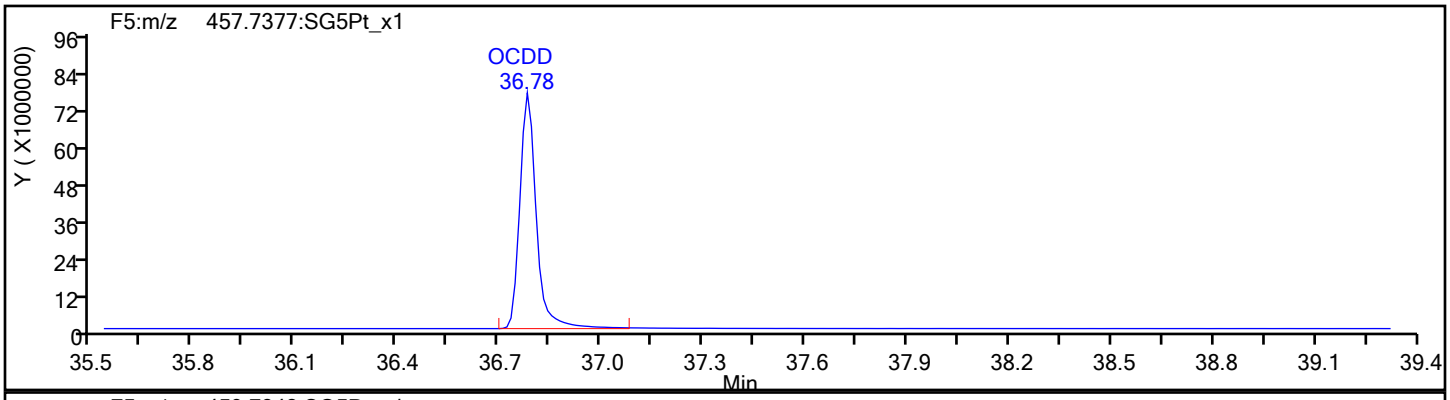

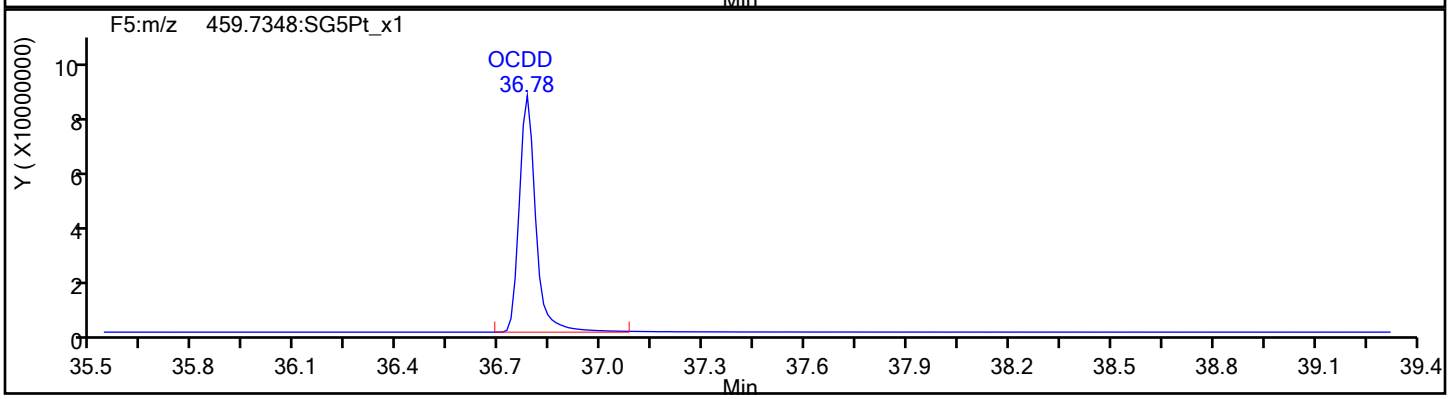

OCDD Standards

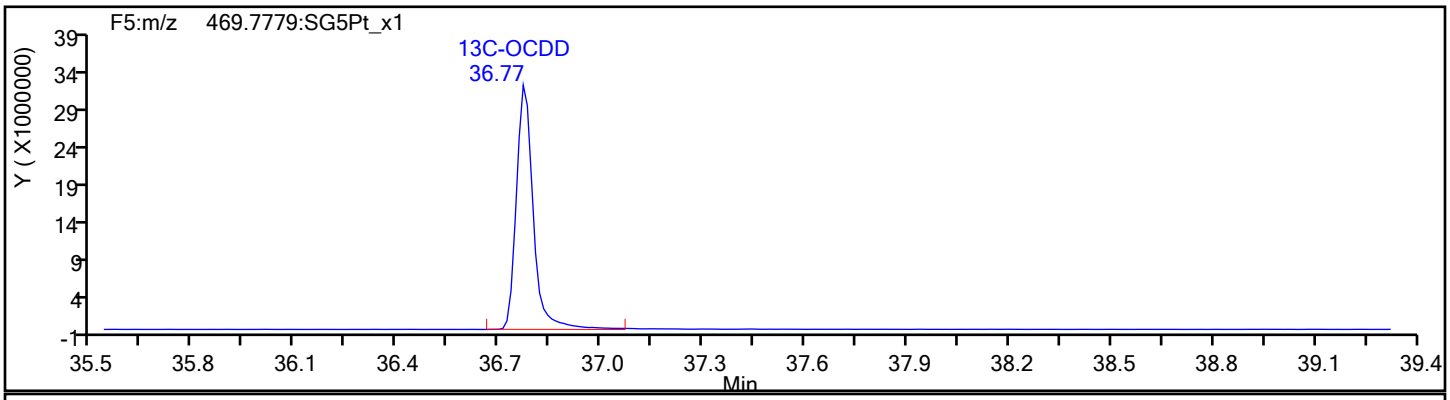

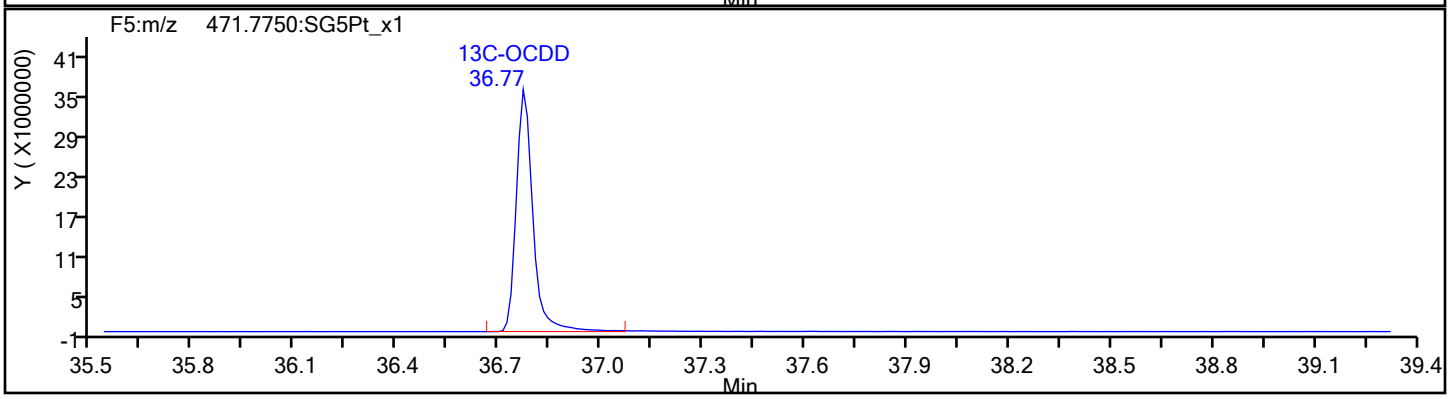

Report Date: 13-Dec-2019 08:02:48 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_9.d		
Injection Date:	12-Dec-2019 16:24:09	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
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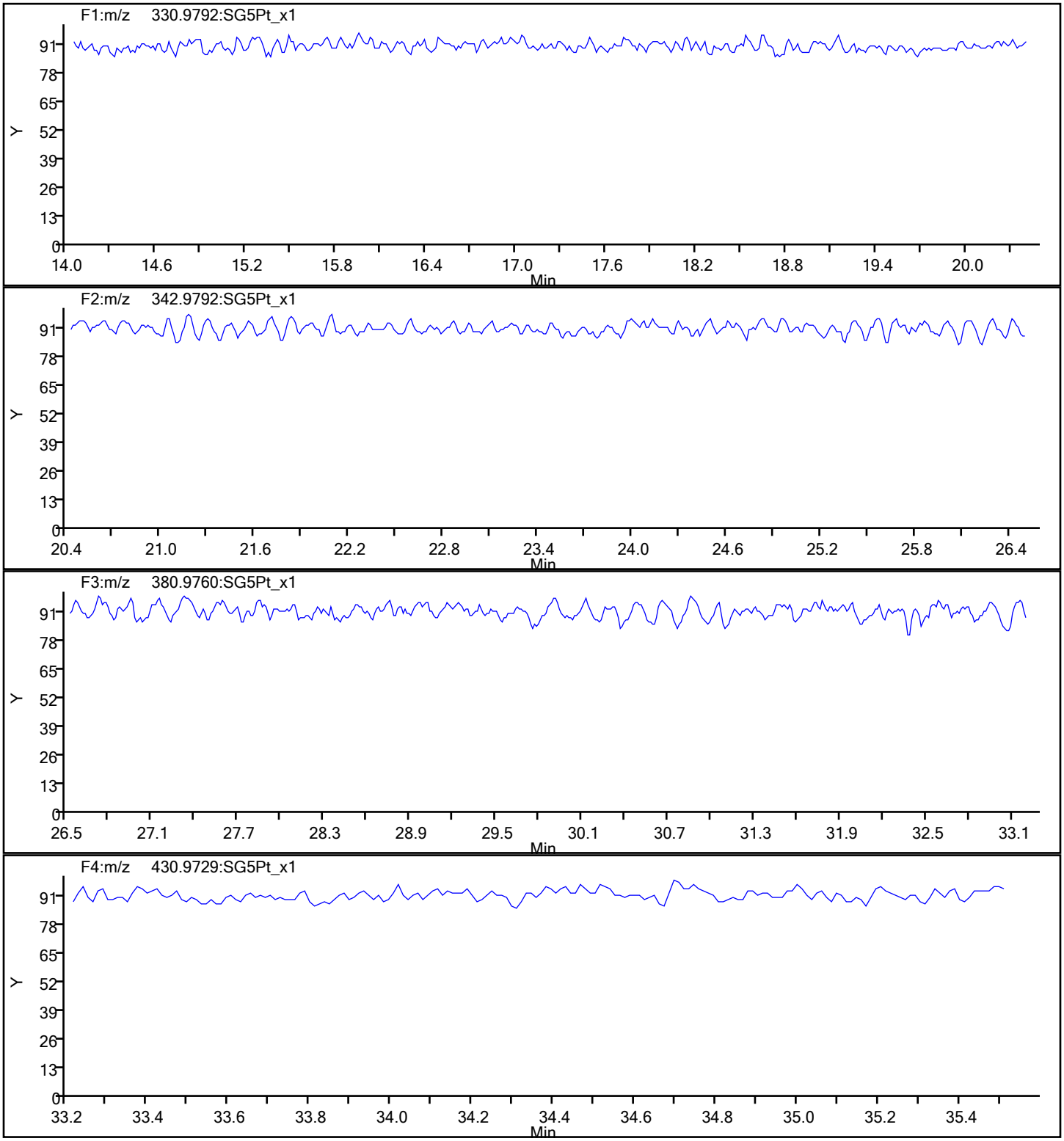

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Eurofins TestAmerica, Sacramento

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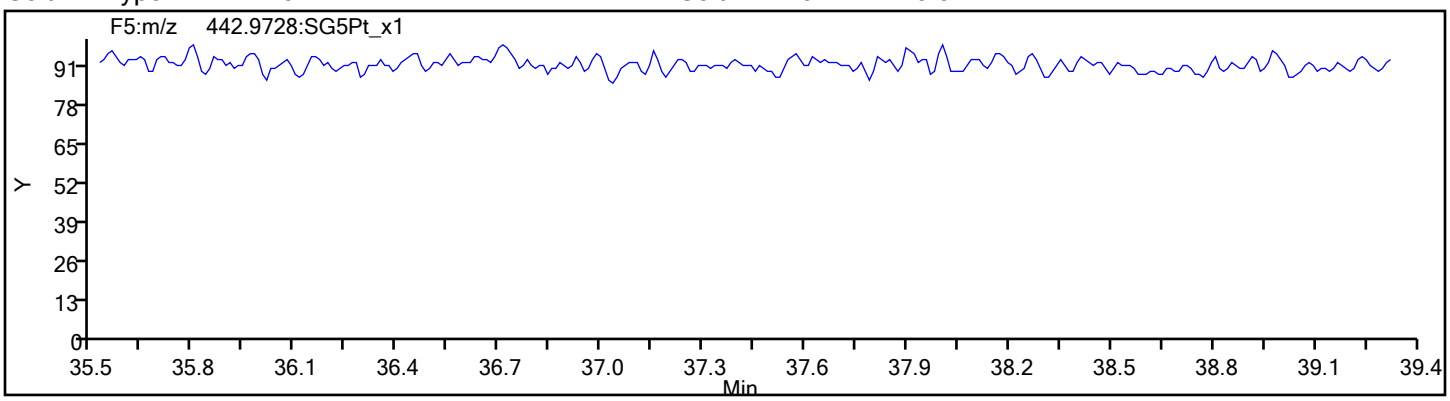

FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57717-1

SDG No.:

Lab Sample ID: CCV 320-351160/2 Calibration Date: 01/15/2020 20:06

Instrument ID: 3D5 Calib Start Date: 12/12/2019 11:28

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 12/12/2019 14:39

Lab File ID: 15JA203D5_2.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
2,3,7,8-TCDF	AveID	0.9502	0.9853		10.4	10.0	104	84-120
2,3,7,8-TCDD	AveID	1.048	1.088		10.4	10.0	104	78-129
1,2,3,7,8-PeCDF	AveID	1.030	1.059		51.4	50.0	103	82-120
2,3,4,7,8-PeCDF	AveID	1.041	1.046		50.2	50.0	100	82-122
1,2,3,7,8-PeCDD	AveID	1.086	1.119		51.6	50.0	103	78-130
1,2,3,4,7,8-HxCDF	AveID	1.147	1.164		50.7	50.0	101	90-112
1,2,3,6,7,8-HxCDF	AveID	1.145	1.178		51.4	50.0	103	88-114
2,3,4,6,7,8-HxCDF	AveID	1.173	1.206		51.4	50.0	103	88-114
1,2,3,4,7,8-HxCDD	AveID	1.093	1.033		47.2	50.0	94	78-128
1,2,3,6,7,8-HxCDD	AveID	1.043	1.023		49.1	50.0	98	78-128
1,2,3,7,8,9-HxCDD	AveID	1.207	1.124		46.6	50.0	93	82-122
1,2,3,7,8,9-HxCDF	AveID	1.172	1.243		53.0	50.0	106	90-112
1,2,3,4,6,7,8-HpCDF	AveID	1.480	1.548		52.3	50.0	105	90-110
1,2,3,4,6,7,8-HpCDD	AveID	1.054	1.080		51.2	50.0	102	86-116
1,2,3,4,7,8,9-HpCDF	AveID	1.293	1.298		50.2	50.0	100	86-116
OCDD	AveID	1.136	1.140		100	100	100	79-126
OCDF	AveID	1.394	1.449		104	100	104	63-159
13C-2,3,7,8-TCDF	Ave	1.416	1.394		98.5	100	98	71-140
13C-2,3,7,8-TCDD	Ave	0.9751	0.9370		96.1	100	96	82-121
13C-1,2,3,7,8-PeCDF	Ave	1.179	1.046		88.8	100	89	76-130
13C-2,3,4,7,8-PeCDF	Ave	1.131	1.037		91.7	100	92	77-130
13C-1,2,3,7,8-PeCDD	Ave	0.7572	0.6521		86.1	100	86	62-160
13C-1,2,3,4,7,8-HxCDF	Ave	1.104	1.131		102	100	102	76-131
13C-1,2,3,6,7,8-HxCDF	Ave	1.147	1.120		97.7	100	98	70-143
13C-2,3,4,6,7,8-HxCDF	Ave	1.077	1.055		97.9	100	98	73-137
13C-1,2,3,4,7,8-HxCDD	Ave	0.7962	0.8552		107	100	107	85-117
13C-1,2,3,6,7,8-HxCDD	Ave	0.8720	0.8567		98.2	100	98	85-118
13C-1,2,3,7,8,9-HxCDF	Ave	1.011	1.010		99.8	100	100	74-135
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.7577	0.7459		98.5	100	98	78-129
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.7058	0.7415		105	100	105	72-138
13C-1,2,3,4,7,8,9-HpCDF	Ave	0.6941	0.7673		111	100	111	77-129
13C-OCDD	Ave	0.4603	0.4860		211	200	106	48-208
37Cl4-2,3,7,8-TCDD	Ave	1.348	1.509		11.2	10.0	112	79-127

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #	User
1	15JA203D5_1	WDM HRDXNCP_00040	WDM 011520	Tray1:1	DXN		ALM
2	15JA203D5_2	CCV HRDXNL4_00086	CCV 011520	Tray1:2	DXN		ALM
3	15JA203D5_3	SB Solvent Blank C-14	SB 011520	Tray1:3			ALM
4	15JA203D5_4	MB 320-350682/1-A	MB 320-350682/1-A	Tray1:4	1613B/Water	D123	ALM
5	15JA203D5_5	LCS 320-350682/2-A	LCS 320-350682/2-A	Tray1:5	1613B/Water		ALM
6	15JA203D5_6	LCSD 320-350682/3-A	LCSD 320-350682/3-A	Tray1:6	1613B/Water		ALM
7	15JA203D5_7	320-56987-D-2-A	320-56987-D-2-A	Tray1:7	1613B/Water		ALM
8	15JA203D5_8	320-56988-D-3-A	320-56988-D-3-A	Tray1:8	1613B/Water		ALM
9	15JA203D5_9	MB 320-350857/1-A	MB 320-350857/1-A	Tray1:9	1613B/Water	D124	ALM
10	15JA203D5_10	LCS 320-350857/2-A	LCS 320-350857/2-A	Tray1:10	1613B/Water		ALM
11	15JA203D5_11	LCSD 320-350857/3-A	LCSD 320-350857/3-A	Tray1:11	1613B/Water		ALM
12	15JA203D5_12	320-57717-A-1-A	320-57717-A-1-A	Tray1:12	1613B/Water		ALM
13	15JA203D5_13	320-57717-A-2-A	320-57717-A-2-A	Tray1:13	1613B/Water		ALM
14	15JA203D5_14	SB Solvent Blank C-14	SB 011520A	Tray1:3			ALM
15	15JA203D5_15	QC HRDXNL4_00087	CS-4 L4_00087	Tray1:70	DXN		ALM
16	15JA203D5_16	CCV HRDXNL4_00086	CCV 011520A	Tray1:2	DXN		ALM
17	15JA203D5_17	WDM HRDXNCP_00040	WDM 011520A	Tray1:1	DXN		ALM
18	15JA203D5_18	SB Solvent Blank C-14	SB 011520B	Tray1:3			ALM
19	15JA203D5_19	MB 320-349805/1-A	MB 320-349805/1-A	Tray1:14	8290/Solid	64	ALM
20	15JA203D5_20	LCS 320-349805/2-A	LCS 320-349805/2-A	Tray1:15	8290/Solid		ALM
21	15JA203D5_21	LCSD 320-349805/3-A	LCSD 320-349805/3-A	Tray1:16	8290/Solid		ALM
22	15JA203D5_22	320-57473-A-1-A	320-57473-A-1-A	Tray1:17	8290/Solid		ALM
23	15JA203D5_23	320-57473-A-2-A	320-57473-A-2-A	Tray1:18	8290/Solid		ALM
24	15JA203D5_24	320-57473-A-3-A	320-57473-A-3-A	Tray1:19	8290/Solid		ALM
25	15JA203D5_25	320-57473-A-4-A	320-57473-A-4-A	Tray1:20	8290/Solid		ALM
26	15JA203D5_26	320-57473-A-5-A	320-57473-A-5-A	Tray1:21	8290/Solid		ALM
27	15JA203D5_27	SB Solvent Blank C-14	SB 011520C	Tray1:3			ALM
28	15JA203D5_28	CCV HRDXNL4_00086	CCV 011520B	Tray1:2	DXN		ALM
29	15JA203D5_29	WDM HRDXNCP_00040	WDM 011520B	Tray1:1	DXN		ALM
30	15JA203D5_30	SB Solvent Blank C-14	SB 011520D	Tray1:3			ALM

Log file checked
Ags
01-16-20

File: Experiment: Dioxin3D5.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, January 15, 2020 19:09:28 Pacific Standard Time

M 292.9824 R 14366

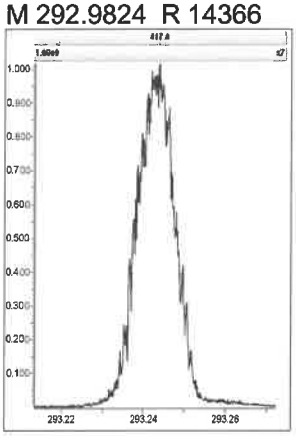

M 304.9824 R 16230

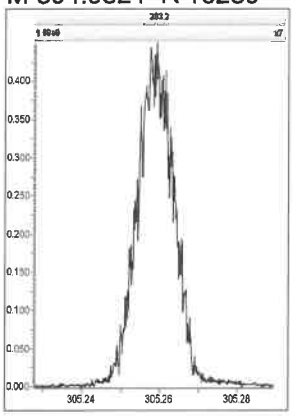

M 318.9792 R 14615

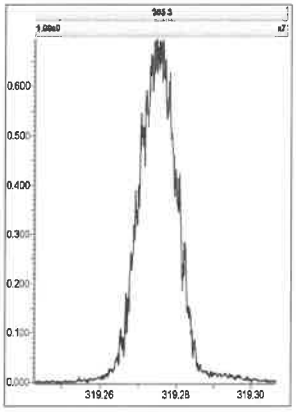

M 330.9792 R 14451

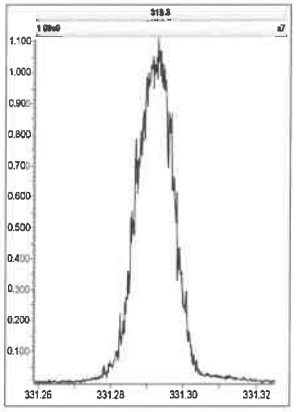

M 342.9792 R 14705

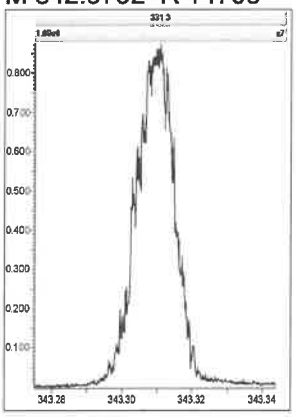

M 354.9792 R 14208

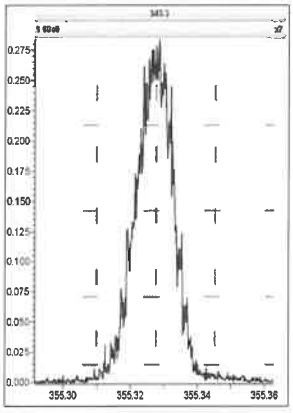

M 366.9792 R 14041

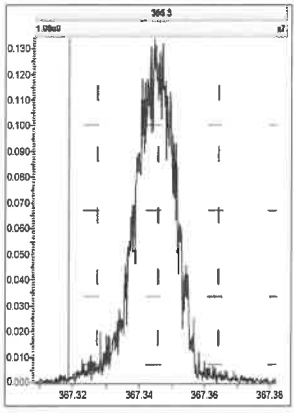

M 380.9760 R 13808

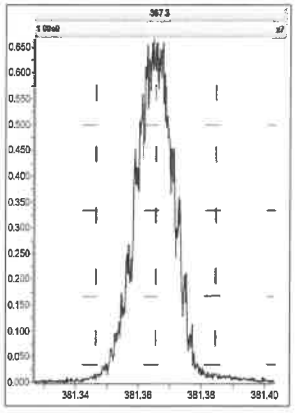

M 392.9760 R 14204

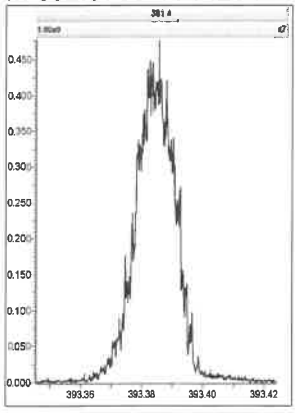

M 404.9760 R 13297

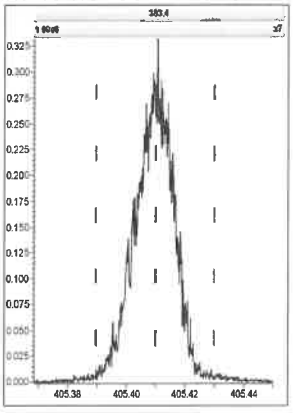

M 416.9760 R 15821

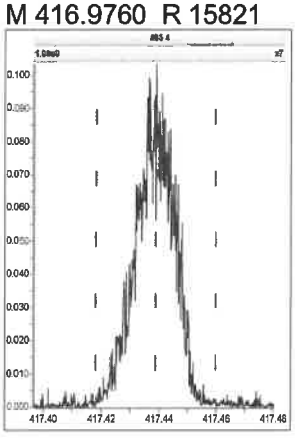

File: Experiment: Dioxin3D5.exp Reference: Pfk.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, January 15, 2020 19:11:08 Pacific Standard Time

M 318.9792 R 13961

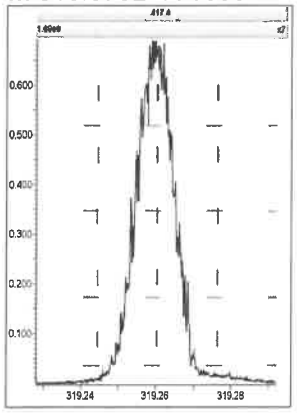

M 330.9792 R 15151

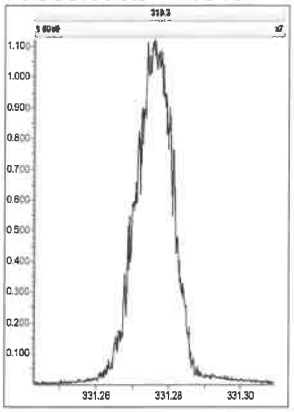

M 342.9792 R 14043

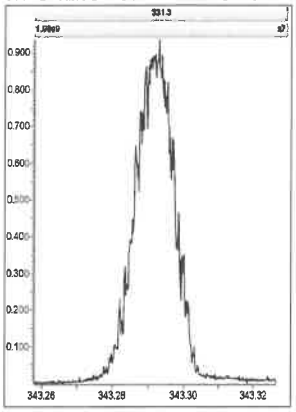

M 354.9792 R 14201

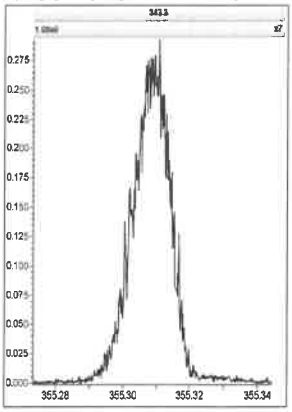

M 366.9792 R 13022

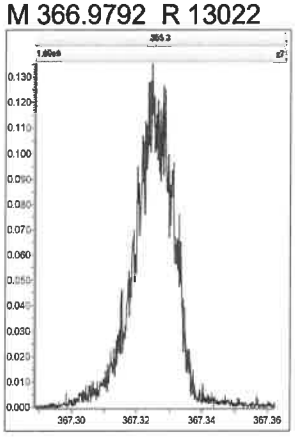

M 380.9760 R 13158

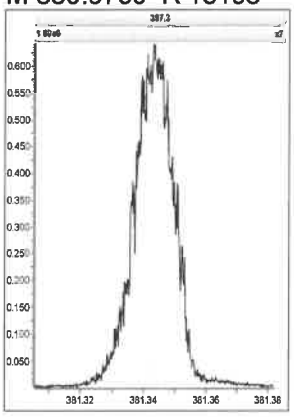

M 392.9760 R 12952

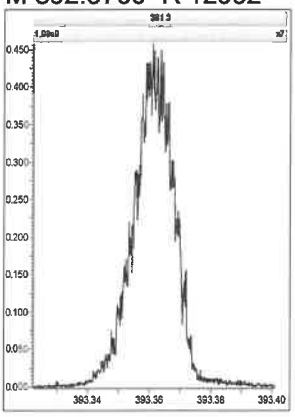

M 404.9760 R 12889

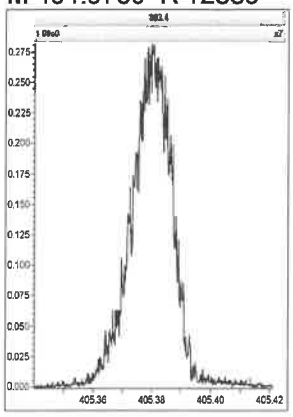

M 416.9760 R 13515

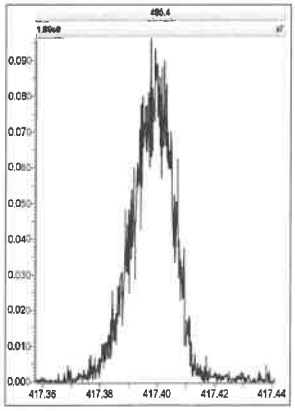

File: Experiment: Dioxin3D5.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

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M 366.9792 R 12882

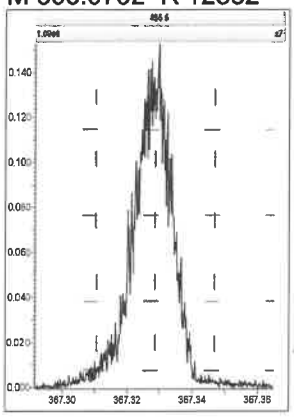

M 380.9760 R 14368

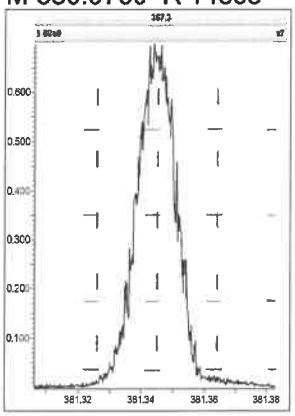

M 392.9760 R 13297

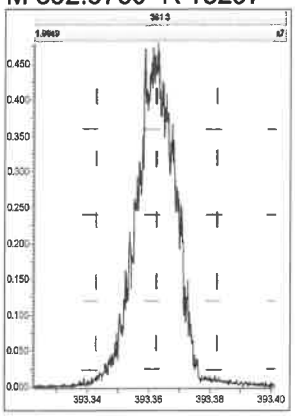

M 404.9760 R 14366

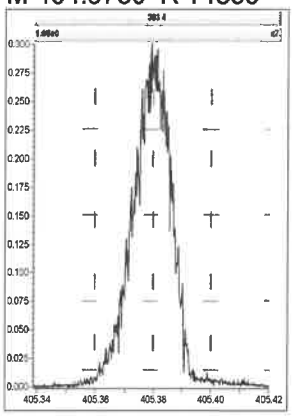

M 416.9760 R 13886

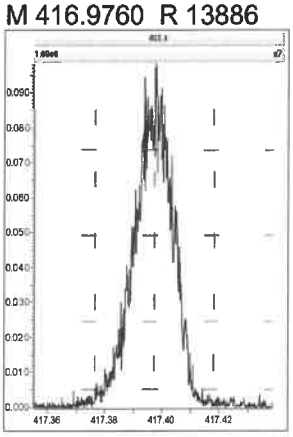

M 430.9728 R 12821

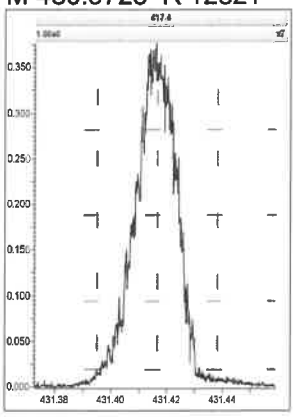

M 442.9728 R 13227

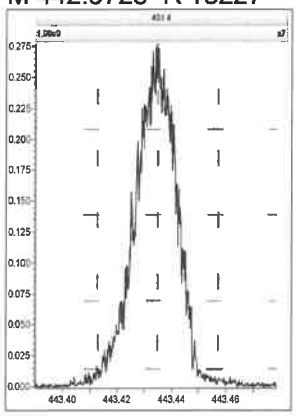

M 454.9728 R 14705

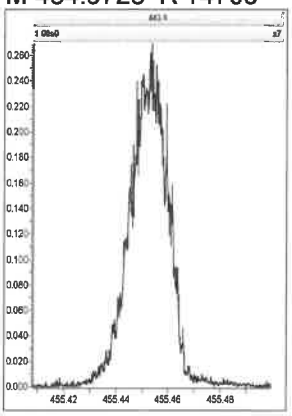

File: Experiment: Dioxin3D5.exp Reference: Pfk.ref Function: 4 @ 200 (ppm)

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M 380.9760 R 14790

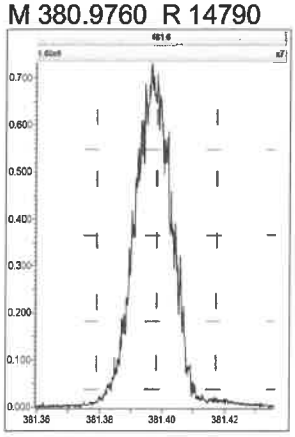

M 392.9760 R 13967

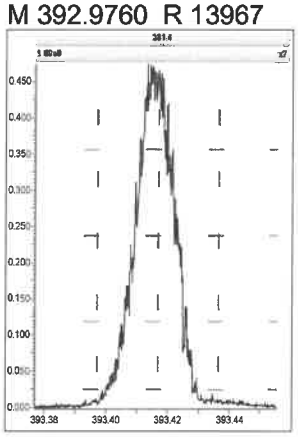

M 404.9760 R 13966

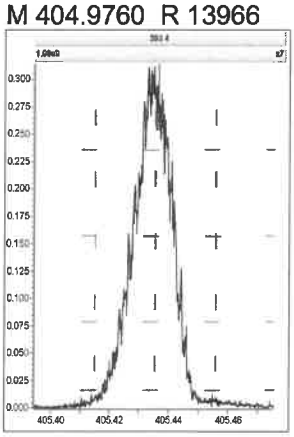

M 416.9760 R 14449

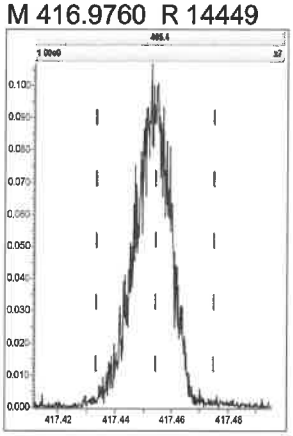

M 430.9728 R 13226

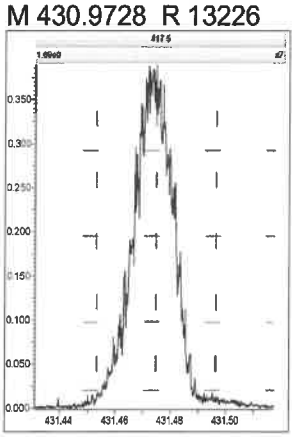

M 442.9728 R 13658

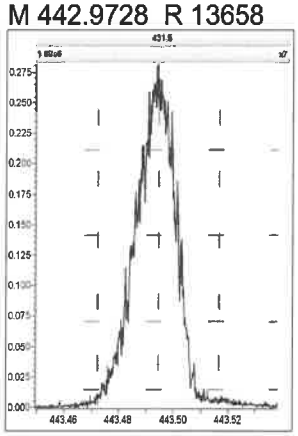

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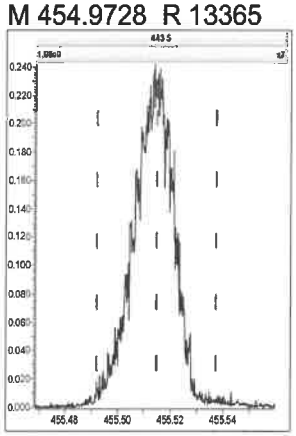

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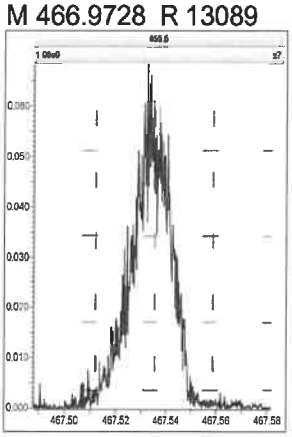

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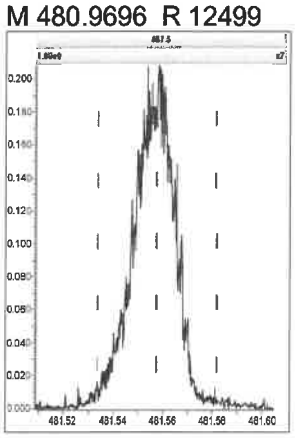

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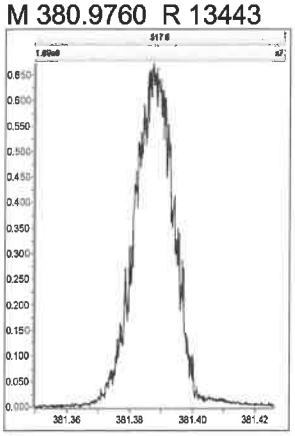

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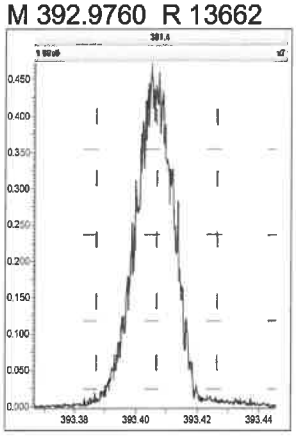

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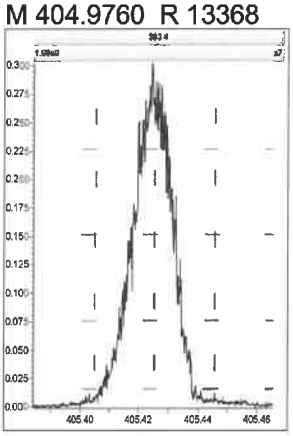

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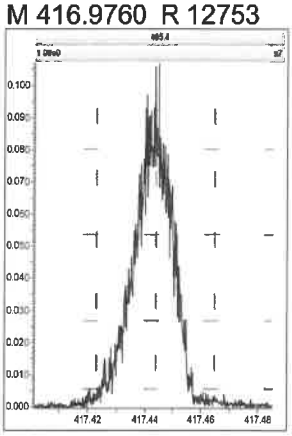

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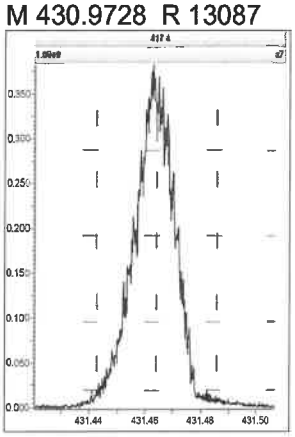

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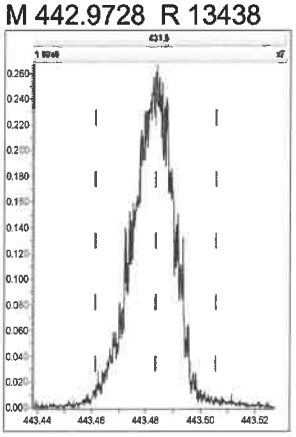

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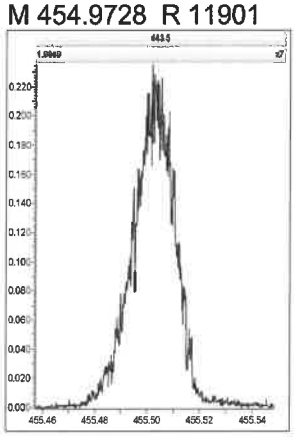

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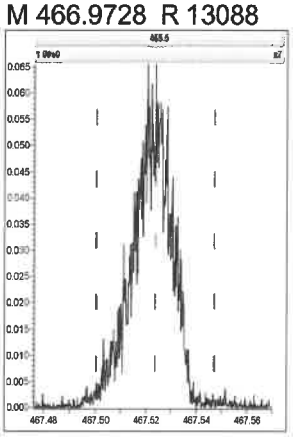

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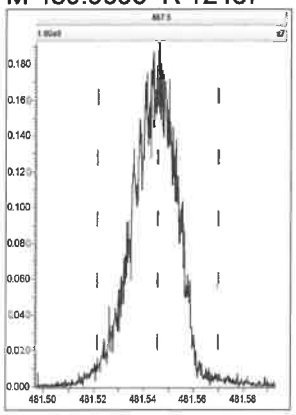

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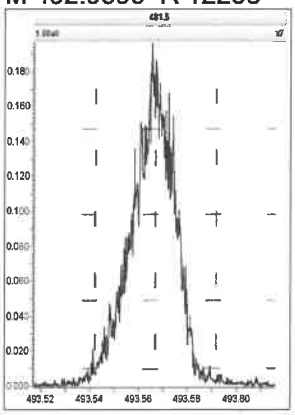

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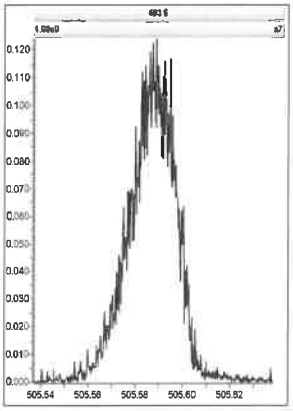

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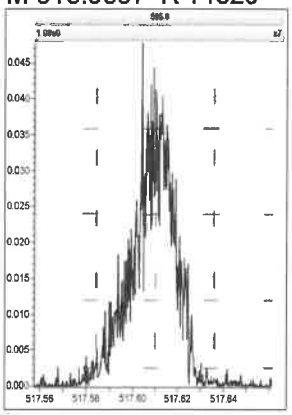

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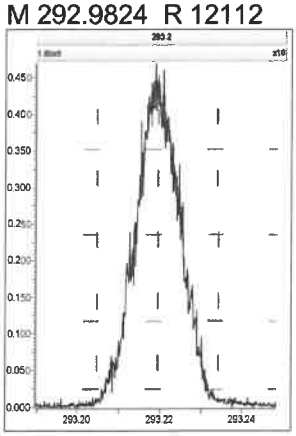

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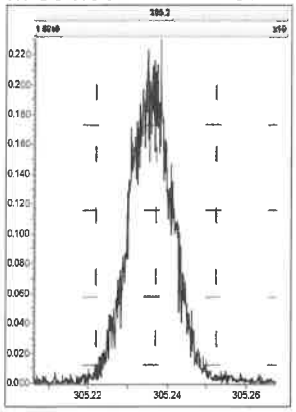

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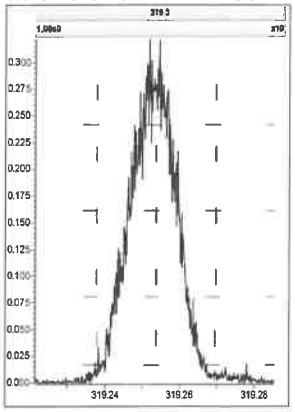

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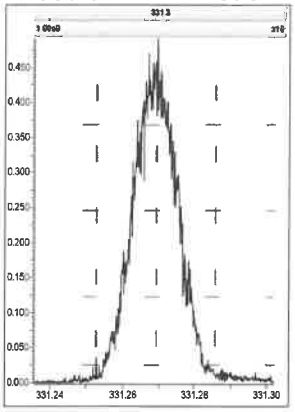

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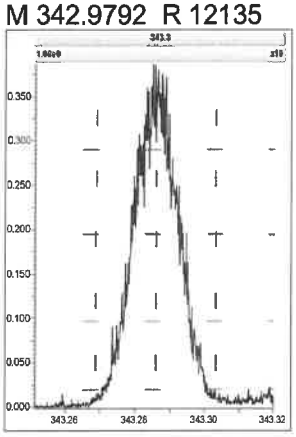

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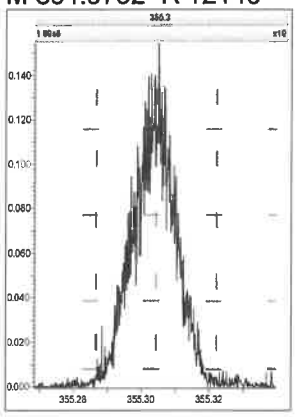

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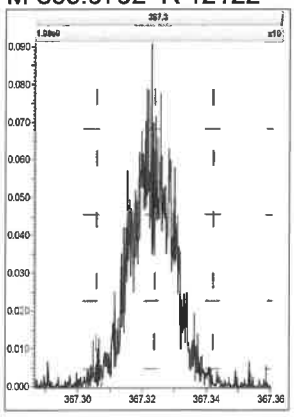

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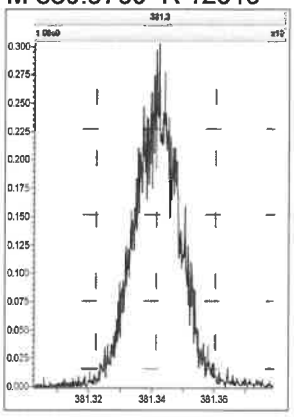

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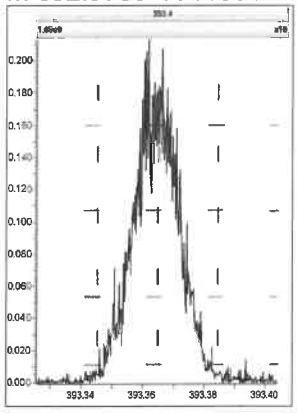

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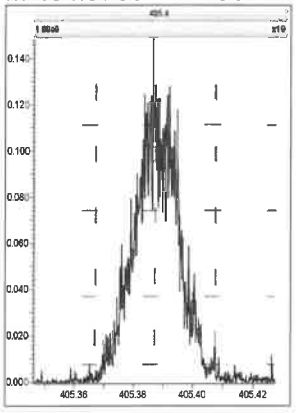

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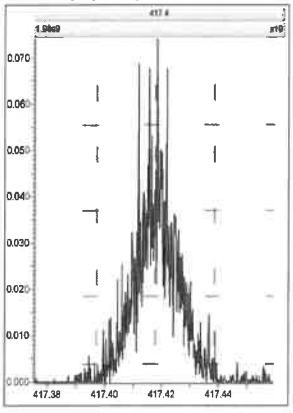

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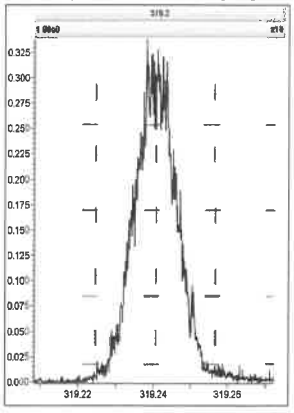

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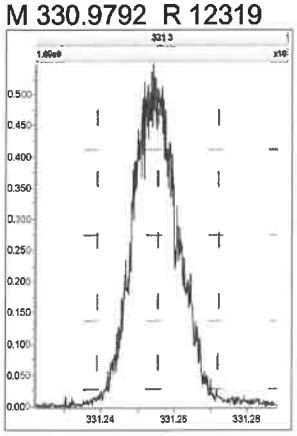

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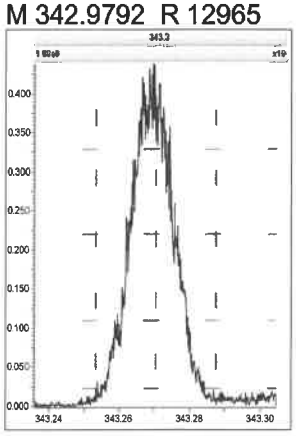

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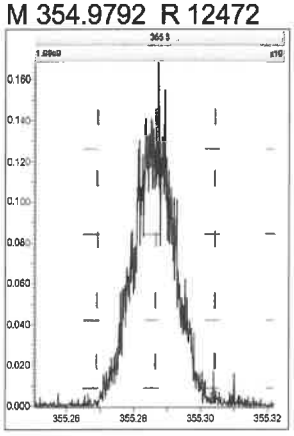

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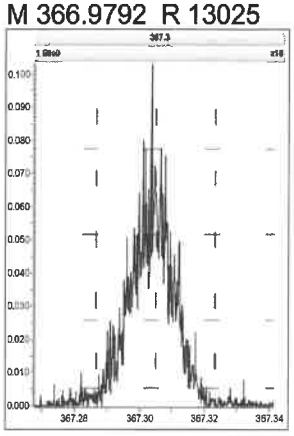

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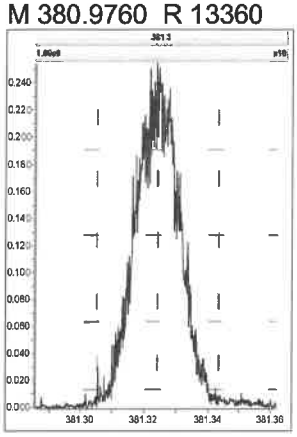

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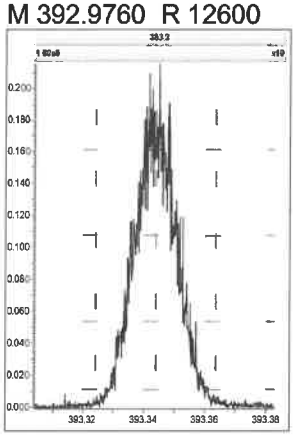

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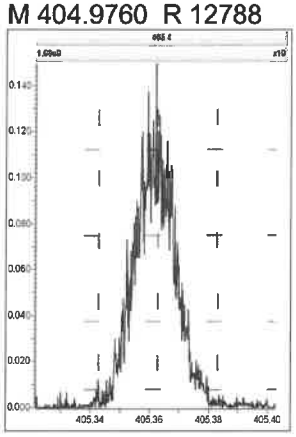

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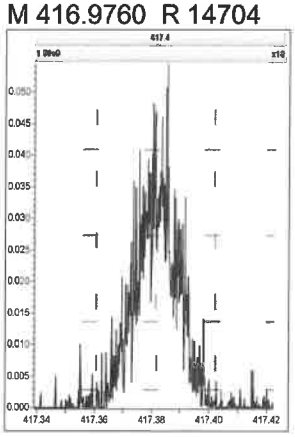

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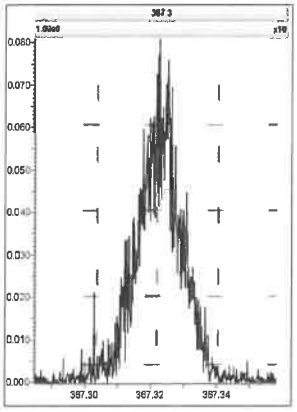

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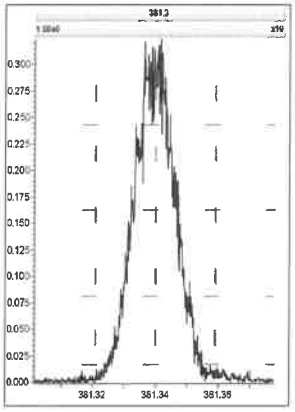

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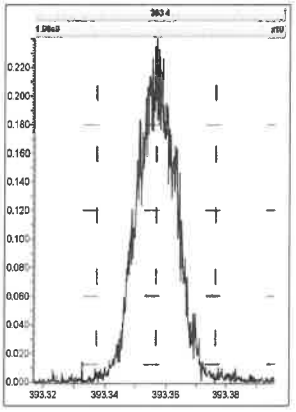

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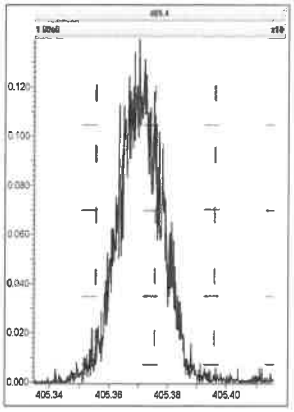

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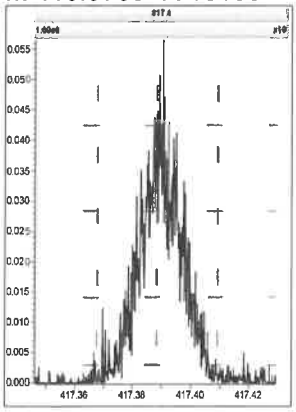

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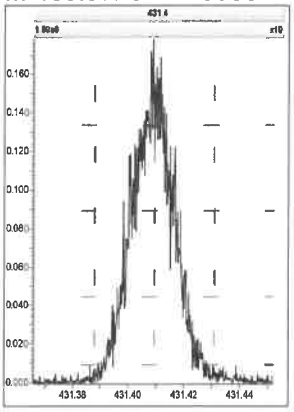

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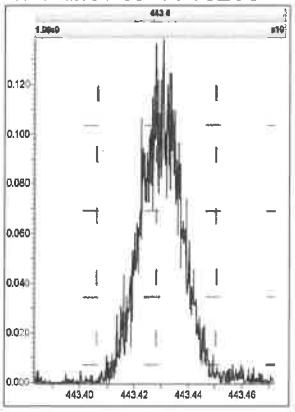

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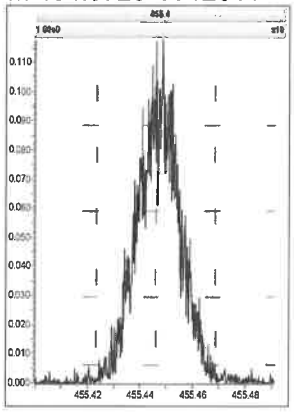

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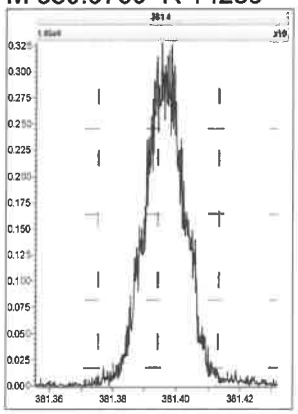

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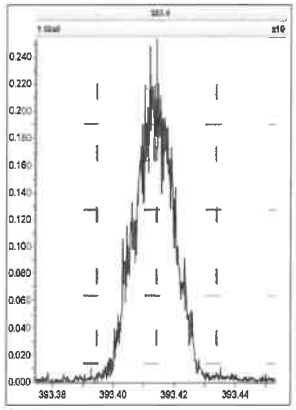

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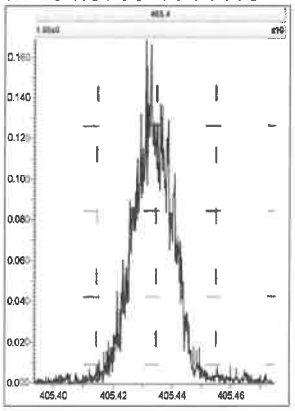

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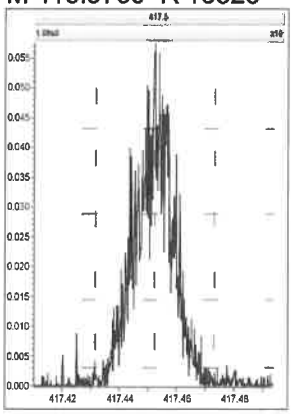

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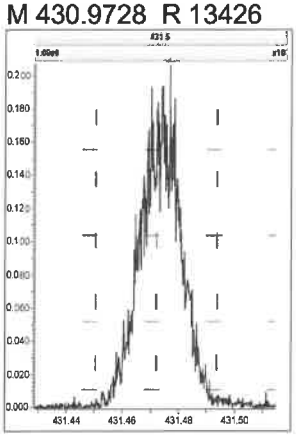

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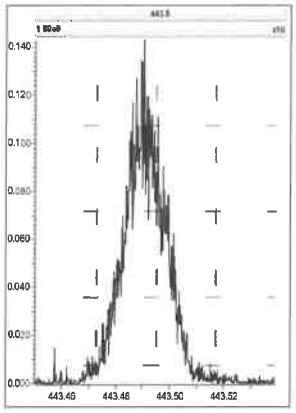

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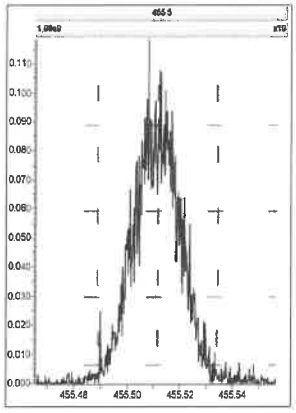

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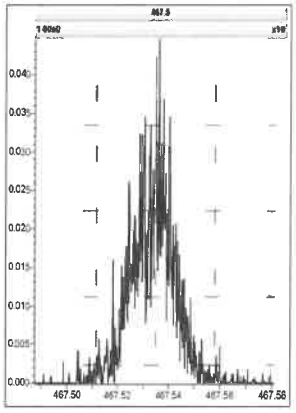

M 480.9696 R 14211

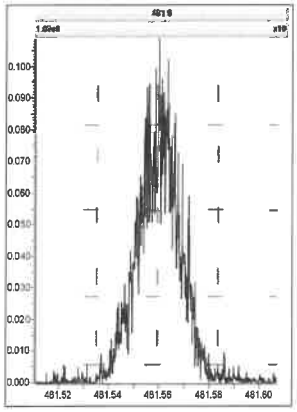

M 380.9760 R 12691

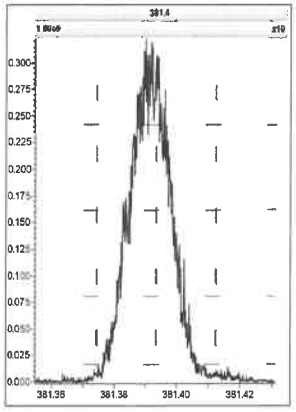

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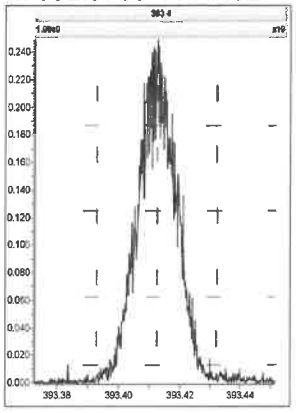

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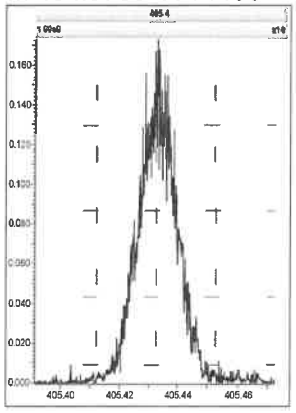

M 416.9760 R 14621

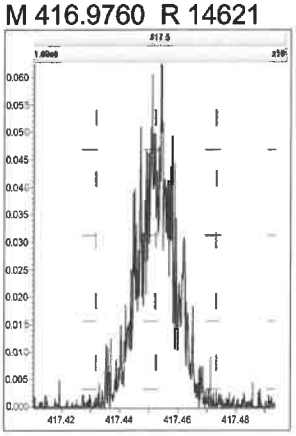

M 430.9728 R 13516

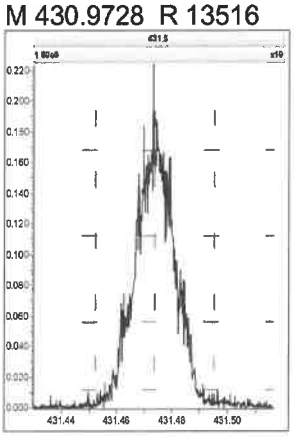

M 442.9728 R 13742

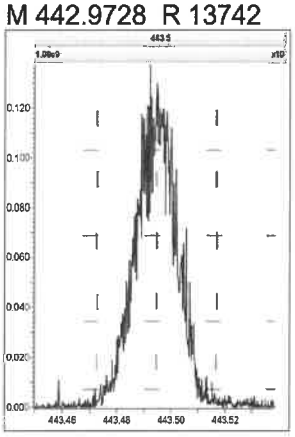

M 454.9728 R 14044

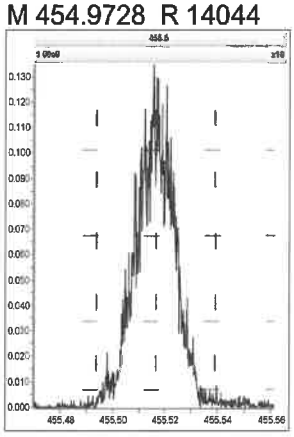

M 466.9728 R 15063

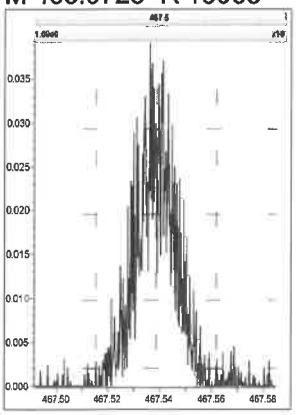

M 480.9696 R 13746

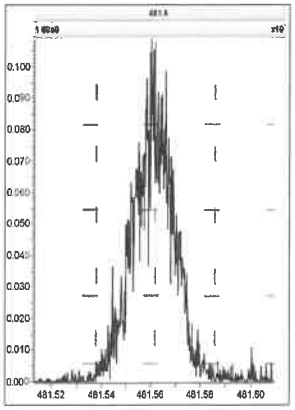

M 492.9696 R 15855

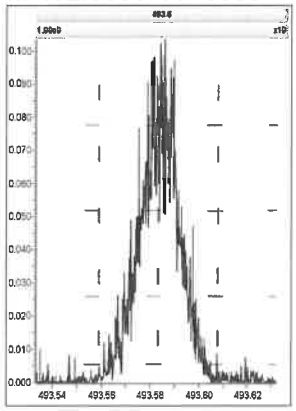

M 504.9696 R 14683

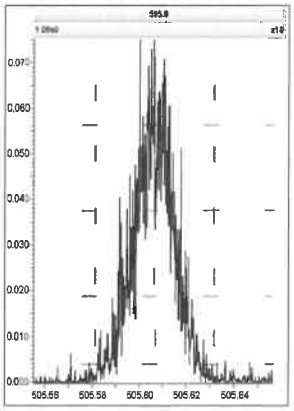

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M 516.9697 R 17804

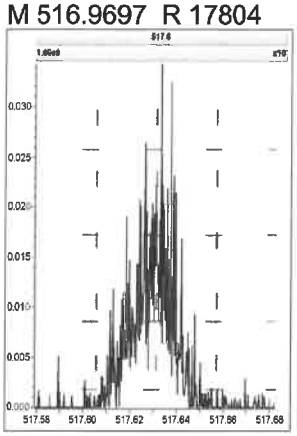

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M 292.9824 R 12106

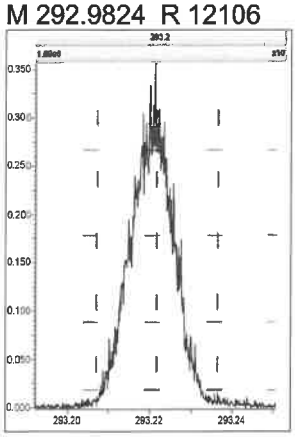

M 304.9824 R 14509

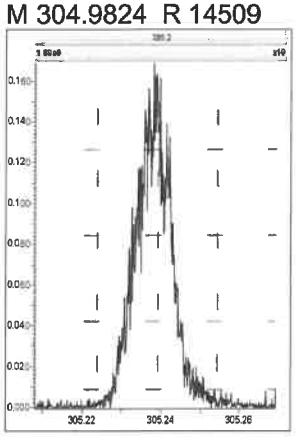

M 318.9792 R 13587

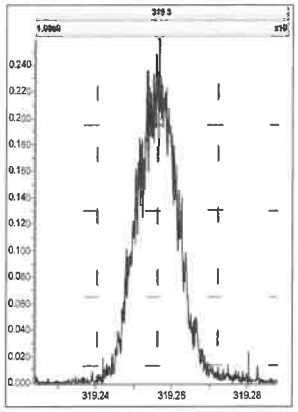

M 330.9792 R 12890

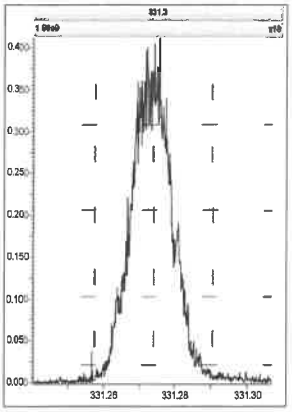

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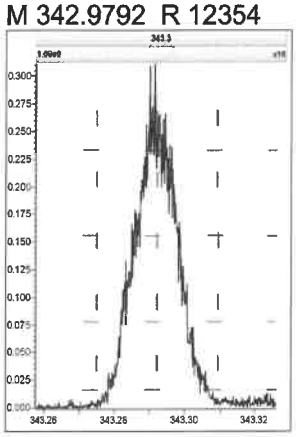

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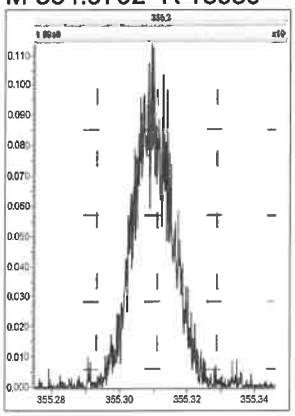

M 366.9792 R 14250

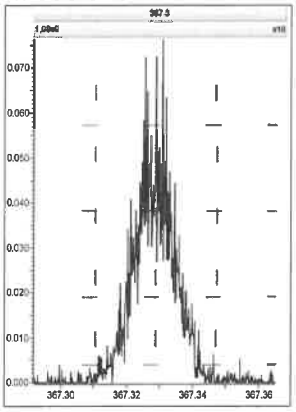

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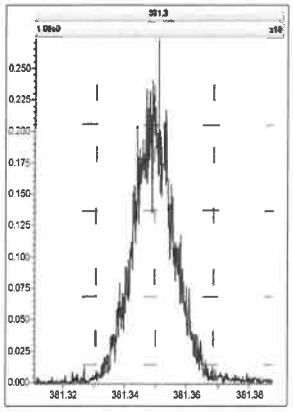

M 392.9760 R 13320

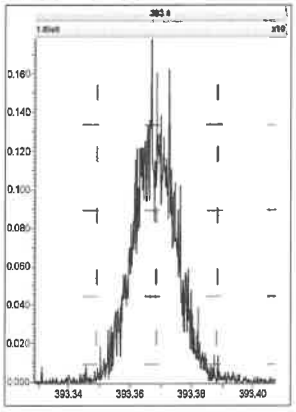

M 404.9760 R 12637

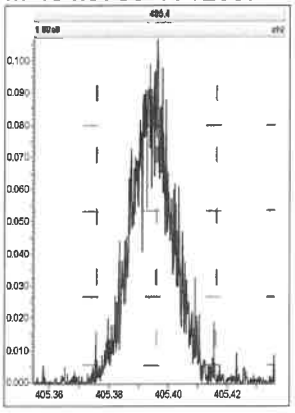

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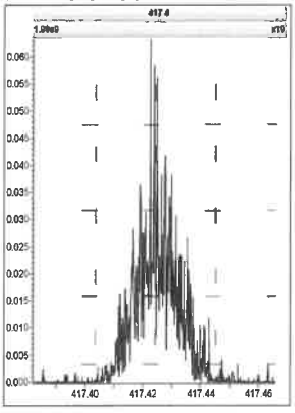

M 318.9792 R 13020

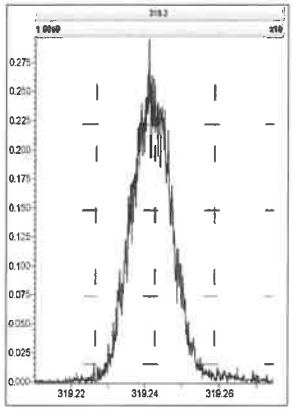

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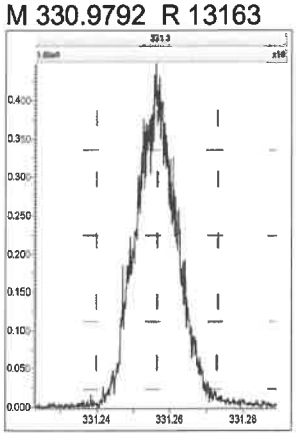

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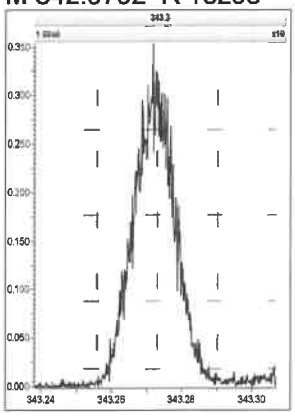

M 354.9792 R 13930

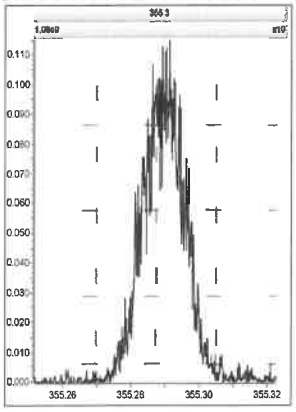

M 366.9792 R 15328

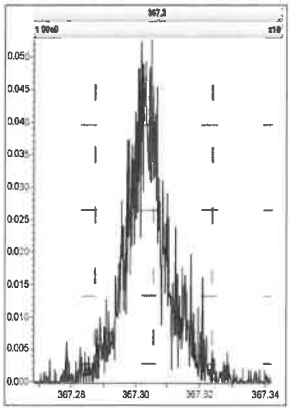

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M 380.9760 R 12961

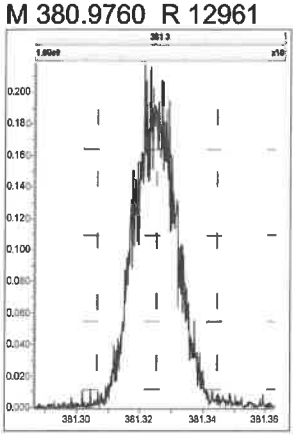

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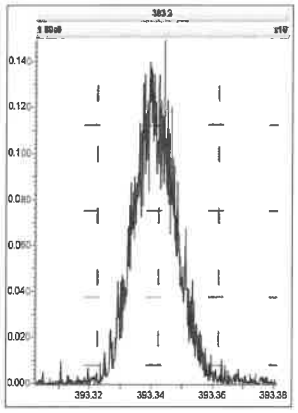

M 404.9760 R 13706

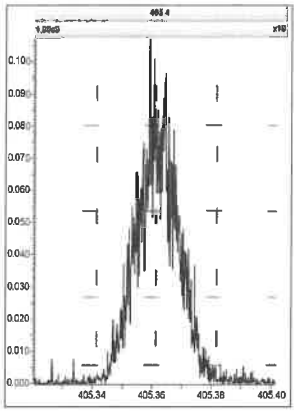

M 416.9760 R 15257

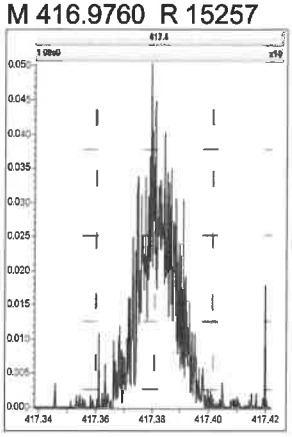

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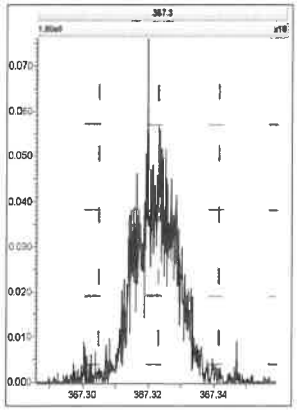

M 380.9760 R 13588

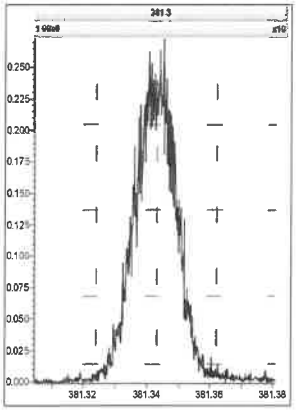

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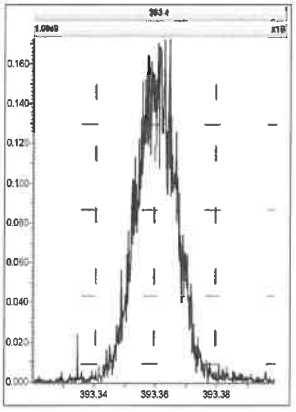

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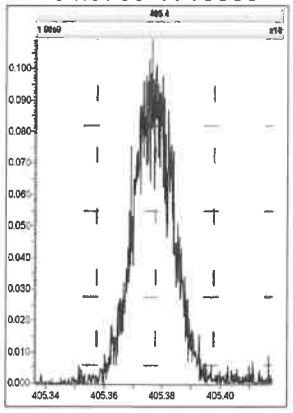

M 416.9760 R 15073

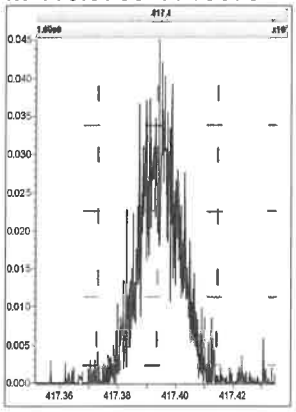

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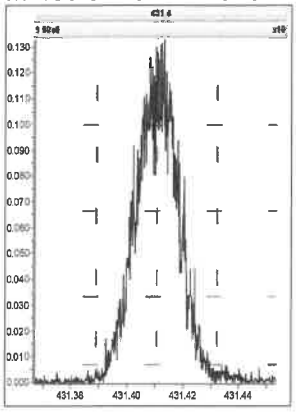

M 442.9728 R 14495

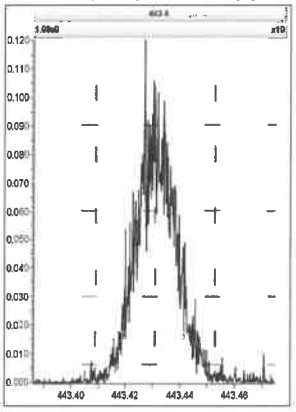

M 454.9728 R 15201

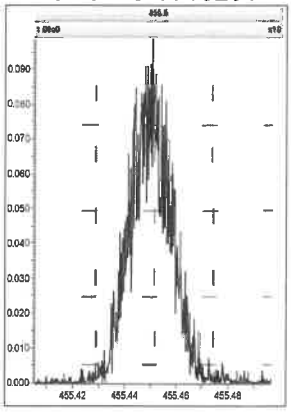

M 380.9760 R 14327

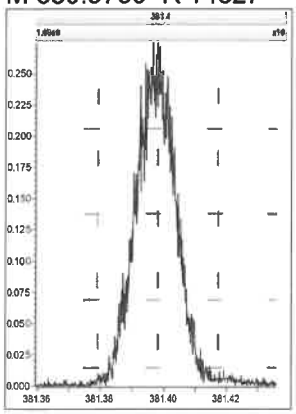

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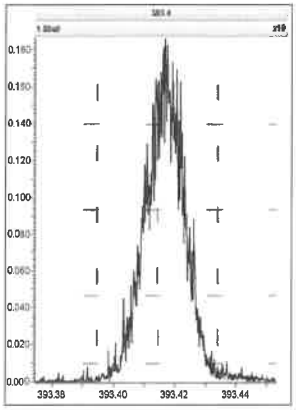

M 404.9760 R 14166

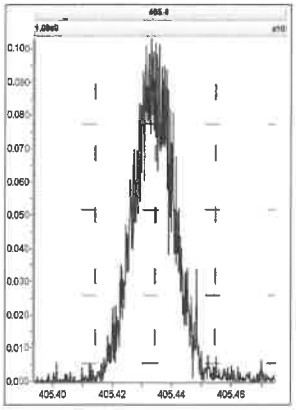

M 416.9760 R 15511

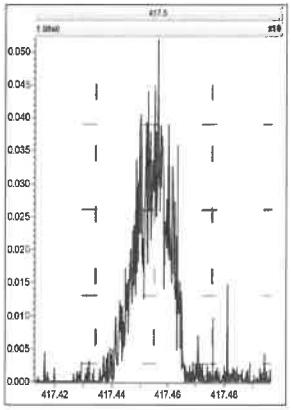

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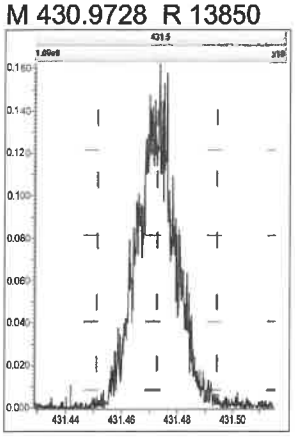

M 442.9728 R 13706

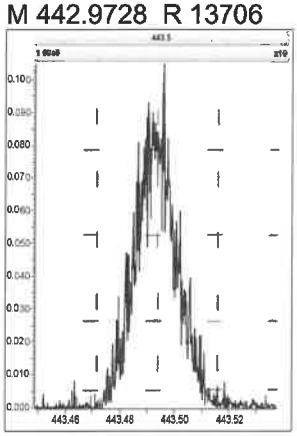

M 454.9728 R 14044

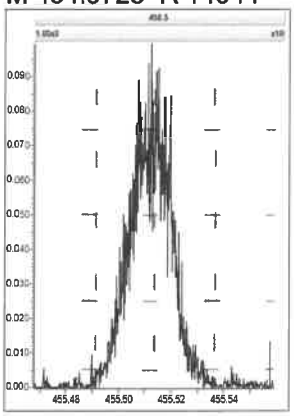

M 466.9728 R 17667

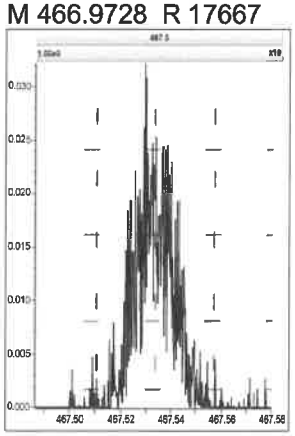

M 480.9696 R 14124

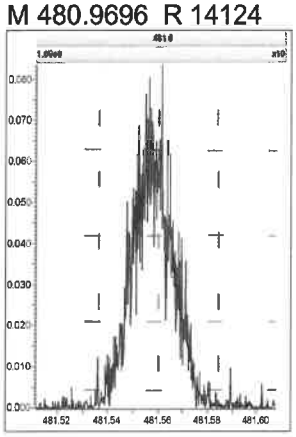

M 380.9760 R 13746

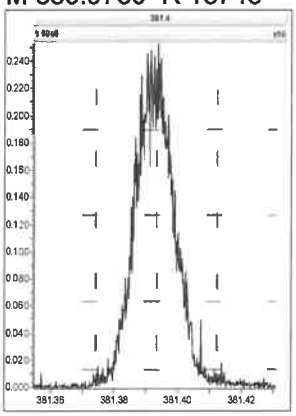

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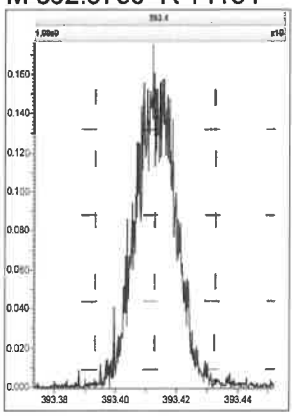

M 404.9760 R 14205

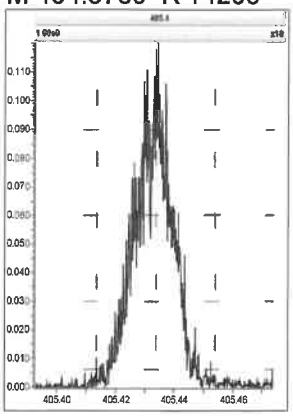

M 416.9760 R 15385

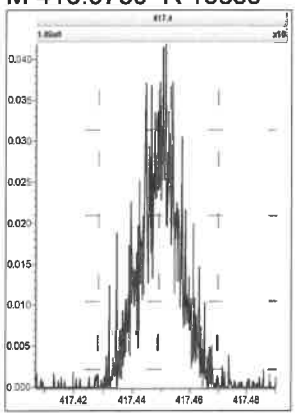

M 430.9728 R 13566

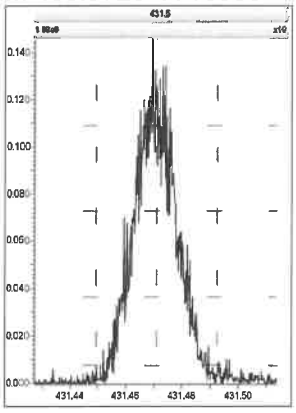

M 442.9728 R 13899

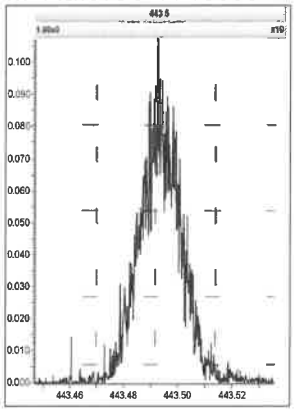

M 454.9728 R 13873

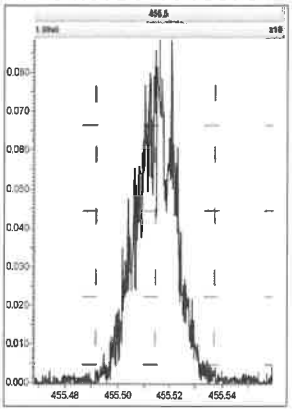

M 466.9728 R 18398

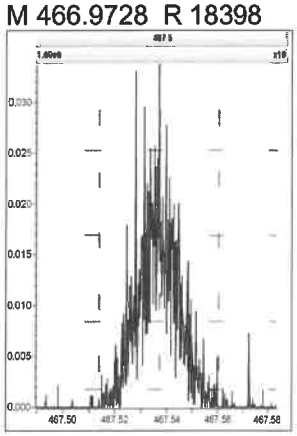

M 480.9696 R 14627

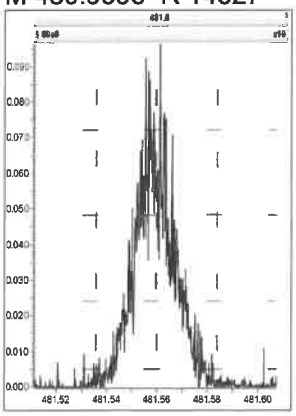

M 492.9696 R 15674

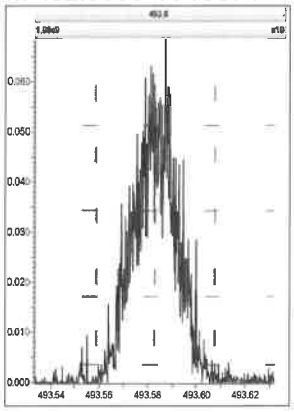

M 504.9696 R 15785

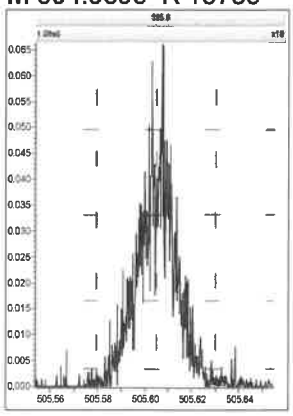

Printed: Thursday, January 16, 2020 06:23:52 Pacific Standard Time

M 516.9697 R 21753

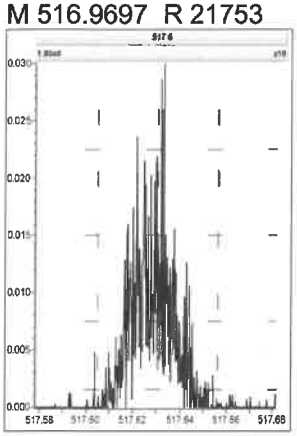

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_2.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 15-Jan-2020 20:06:19 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 011520 CCV HRDXNL4_00086
Misc. Info.: 15JA203D5
Operator ID: ALM Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20200116-89625.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 16-Jan-2020 11:42:54 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0314

First Level Reviewer: shardaa Date: 16-Jan-2020 10:53:42

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.324	176958196	0.80	2.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.826	246694795	0.82	1.4157	98.5	98.5	0.2349	0.2349	98.47	
2,3,7,8-TCDF	16.856	24307020	0.77	0.9502	10.4	10.4	0.0438	0.0438	104	
A Non-2,3,7,8-sub-TCDF	16.531						0.0438	0.0438		
S Total TCDF					10.4	10.4	0.0438	0.0438		
D 13C-2,3,7,8-TCDD	17.506	165808430	0.81	0.9751	96.1	96.1	0.1854	0.1854	96.09	
2,3,7,8-TCDD	17.521	18039008	0.86	1.0477	10.4	10.4	0.0516	0.0516	104	
$ 37Cl4-2,3,7,8-TCDD	17.521	26701060		1.3480	11.2	11.2	0.0231	0.0231	112	
A Non-2,3,7,8-sub-TCDD	16.969	91978	0.77	1.0477	0.1744	0.0529	0.0516	0.0529	0.00	RQ
S Total TCDD					10.6	10.4	0.0516	0.0516		RQ
D 13C-1,2,3,7,8-PeCDF	21.626	185164362	1.62	1.1786	88.8	88.8	0.1998	0.1998	88.78	
1,2,3,7,8-PeCDF	21.653	98032354	1.53	1.0302	51.4	51.4	0.1660	0.1660	103	
D 13C-2,3,4,7,8-PeCDF	22.908	183499497	1.61	1.1308	91.7	91.7	0.2082	0.2082	91.70	
2,3,4,7,8-PeCDF	22.935	95980477	1.55	1.0410	50.2	50.2	0.1813	0.1813	100	
A F1 PeCDFs	19.207						0.0384	0.0384		
A Non-2,3,7,8-sub-PeCDF	22.200						0.1733	0.1733		
S Total PeCDF					101.6	101.6	0.1737	0.1737		
D 13C-1,2,3,7,8-PeCDD	23.603	115389670	1.61	0.7572	86.1	86.1	0.1322	0.1322	86.12	
1,2,3,7,8-PeCDD	23.617	64580226	1.60	1.0855	51.6	51.6	0.1113	0.1113	103	
A Non-2,3,7,8-sub-PeCDD	22.533						0.1113	0.1113		
S Total PeCDD					51.6	51.6	0.1113	0.1113		
D 13C-1,2,3,4,7,8-HxCDF	29.705	154873786	0.52	1.1043	102.4	102.4	0.2214	0.2214	102	
1,2,3,4,7,8-HxCDF	29.732	90099710	1.28	1.1472	50.7	50.7	0.2179	0.2179	101	
D 13C-1,2,3,6,7,8-HxCDF	29.971	153361452	0.53	1.1470	97.7	97.7	0.2131	0.2131	97.66	
1,2,3,6,7,8-HxCDF	29.998	90292057	1.22	1.1450	51.4	51.4	0.2083	0.2083	103	
D 13C-2,3,4,6,7,8-HxCDF	31.010	144391524	0.51	1.0769	97.9	97.9	0.2270	0.2270	97.93	
2,3,4,6,7,8-HxCDF	31.037	87079281	1.20	1.1726	51.4	51.4	0.1454	0.1454	103	
D 13C-1,2,3,7,8,9-HxCDF	31.929	138252506	0.53	1.0115	99.8	99.8	0.2417	0.2417	99.83	
1,2,3,7,8,9-HxCDF	31.942	85897479	1.22	1.1717	53.0	53.0	0.1240	0.1240	106	
A Non-2,3,7,8-sub-HxCDF	29.465						0.1648	0.1648		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					206.6	206.6	0.1739	0.1739		
* 13C-1,2,3,7,8,9-HxCDD	31.729	136911046	1.28	2.1E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.236	117081850	1.37	0.7962	107.4	107.4	0.1580	0.1580	107	
1,2,3,4,7,8-HxCDD	31.250	60451769	1.26	1.0934	47.2	47.2	0.0921	0.0921	94.44	
D 13C-1,2,3,6,7,8-HxCDD	31.356	117289849	1.23	0.8720	98.2	98.2	0.1442	0.1442	98.24	
1,2,3,6,7,8-HxCDD	31.369	60007745	1.27	1.0429	49.1	49.1	0.0965	0.0965	98.11	
1,2,3,7,8,9-HxCDD	31.742	65885393	1.24	1.2073	46.6	46.6	0.0834	0.0834	93.14	
A Non-2,3,7,8-sub-HxCDD	30.164						0.0903	0.0903		
S Total HxCDD					142.8	142.8	0.0906	0.0906		
D 13C-1,2,3,4,6,7,8-HpCDF	33.464	102126558	0.46	0.7577	98.5	98.5	0.5622	0.5622	98.45	
1,2,3,4,6,7,8-HpCDF	33.476	79032850	1.04	1.4804	52.3	52.3	0.2427	0.2427	105	
D 13C-1,2,3,4,7,8,9-HpCDF	34.533	105048183	0.45	0.6941	110.5	110.5	0.6136	0.6136	111	
1,2,3,4,7,8,9-HpCDF	34.545	68153470	1.04	1.2933	50.2	50.2	0.2957	0.2957	100	
A Non-2,3,7,8-sub-HpCDF	33.992						0.2672	0.2672		
S Total HpCDF					102.4	102.4	0.2692	0.2692		
D 13C-1,2,3,4,6,7,8-HpCDD	34.254	101517925	1.08	0.7058	105.1	105.1	0.3617	0.3617	105	
1,2,3,4,6,7,8-HpCDD	34.266	54812364	1.04	1.0535	51.2	51.2	0.1357	0.1357	102	
A Non-2,3,7,8-sub-HpCDD	33.968						0.1357	0.1357		
S Total HpCDD					51.2	51.2	0.1357	0.1357		
D 13C-OCDD	36.571	133087474	0.88	0.4603	211.2	211.2	0.1499	0.1499	106	
OCDF	36.667	96402601	0.91	1.3945	103.9	103.9	0.0825	0.0825	104	
OCDD	36.583	75886178	0.89	1.1362	100.4	100.4	0.0671	0.0671	100	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNL4_00086 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_2.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 15-Jan-2020 20:06:19 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 011520 CCV HRDXNL4_00086
Misc. Info.: 15JA203D5
Operator ID: ALM Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20200116-89625.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 16-Jan-2020 11:42:54 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0314

First Level Reviewer: shardaa Date: 16-Jan-2020 10:53:42

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.324	17.324	0		78874532	20578465	20996	52490	980		
333.9339	17.324	17.324	0		98083664	25349344	12218	30545	2075	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.826	16.826	0	0.971	110823723	27437309	25878	64695	1060		
317.9389	16.841	16.826	1	0.972	135871072	33480086	35222	88055	951	0.82(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.856	16.856	0	1.002	10577782	2630459	4612	11530	570		
305.8987	16.856	16.856	0	1.002	13729238	3252780	5518	13795	589	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.531						4612	11530			
305.8987	16.531						5518	13795			
13C-2,3,7,8-TCDD											
331.9368	17.506	17.506	0	1.010	74164467	17875885	20996	52490	851		
333.9339	17.506	17.506	0	1.010	91643963	21898779	12218	30545	1792	0.81(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.521	17.521	0	1.001	8339231	2015738	5049	12622	399		
321.8936	17.521	17.521	0	1.001	9699777	2391520	3556	8890	673	0.86(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.521	17.521	0	1.011	26701060	6468441	5710	14275	1133		
A Non-2,3,7,8-sub-TCDD											RQ
319.8965	16.826	16.969	-9	0.961	250947	55007	5049	12622	11		
	Empc Correction				40013	9018	5049	12622	2		
321.8936	16.826	16.969	-9	0.961	51965	11712	3556	8890	3	4.83(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	21.626	21.626	0	1.248	114555399	21482960	25740	64350	835		
353.8970	21.626	21.626	0	1.248	70608963	13428937	17514	43785	767	1.62(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.653	21.653	0	1.001	59339989	10734209	13428	33570	799		
341.8567	21.653	21.653	0	1.001	38692365	7025051	10455	26137	672	1.53(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	22.908	22.908	0	1.322	113081144	19447918	25740	64350	756		
353.8970	22.908	22.908	0	1.322	70418353	12187120	17514	43785	696	1.61(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.935	22.935	0	1.001	58367857	9845403	13428	33570	733		
341.8567	22.935	22.935	0	1.001	37612620	6412892	10455	26137	613	1.55(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.207						1579	3947			
341.8567	19.207						3713	9282			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.200						13428	33570			
341.8567	22.200						10455	26137			
13C-1,2,3,7,8-PeCDD											
367.8949	23.603	23.603	0	1.362	71213436	11526097	10466	26165	1101		
369.8919	23.590	23.603	-1	1.362	44176234	7106468	7919	19797	897	1.61(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.617	23.617	0	1.001	39763775	6410436	5741	14352	1117		
357.8516	23.617	23.617	0	1.001	24816451	4009619	3266	8165	1228	1.60(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.533						5741	14352			
357.8516	22.533						3266	8165			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.705	29.705	0	0.936	53251690	7212833	12444	31110	580		
385.8610	29.705	29.705	0	0.936	101622096	13912232	22536	56340	617	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.732	29.732	0	1.001	50611332	6767642	11943	29857	567		
375.8178	29.732	29.732	0	1.001	39488378	5247890	9182	22955	572	1.28(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.971	29.971	0	0.945	53123062	7726832	12444	31110	621		
385.8610	29.971	29.971	0	0.945	100238390	14417944	22536	56340	640	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	29.998	29.998	0	1.001	49675374	7144901	11943	29857	598		
375.8178	29.985	29.998	-1	1.000	40616683	5899989	9182	22955	643	1.22(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.010	31.010	0	0.977	48829659	10501631	12444	31110	844		
385.8610	31.010	31.010	0	0.977	95561865	20477233	22536	56340	909	0.51(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.037	31.037	0	1.001	47514527	10219021	11943	29857	856		
375.8178	31.023	31.037	-1	1.000	39564754	8526544	9182	22955	929	1.20(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.929	31.929	0	1.006	47908094	12660886	12444	31110	1017		
385.8610	31.929	31.929	0	1.006	90344412	23685785	22536	56340	1051	0.53(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.942	31.942	0	1.000	47276939	12310623	11943	29857	1031		
375.8178	31.942	31.942	0	1.000	38620540	10010626	9182	22955	1090	1.22(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.465						11943	29857			
375.8178	29.465						9182	22955			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.729	31.729	0		76771184	19966423	9185	22962	2174		
403.8529	31.729	31.729	0		60139862	15802987	8809	22022	1794	1.28(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.236	31.236	0	0.984	67651370	15890835	9185	22962	1730		
403.8529	31.236	31.236	0	0.984	49430480	12216036	8809	22022	1387	1.37(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.250	31.250	0	1.000	33710617	8374667	6017	15042	1392		
391.8127	31.250	31.250	0	1.000	26741152	6643213	5301	13252	1253	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.356	31.356	0	0.988	64690912	15692830	9185	22962	1709		
403.8529	31.356	31.356	0	0.988	52598937	12421824	8809	22022	1410	1.23(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.369	31.369	0	1.000	33540093	8131944	6017	15042	1351		
391.8127	31.369	31.369	0	1.000	26467652	6484035	5301	13252	1223	1.27(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.742	31.742	0	1.016	36514035	9531301	6017	15042	1584		
391.8127	31.742	31.742	0	1.016	29371358	7702575	5301	13252	1453	1.24(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.164						6017	15042			
391.8127	30.164						5301	13252			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.464	33.464	0	1.055	32124408	11195826	19116	47790	586		
419.8220	33.464	33.464	0	1.055	70002150	24132581	41827	104567	577	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.476	33.476	0	1.000	40279290	13990409	33741	84352	415		
409.7789	33.476	33.476	0	1.000	38753560	13387121	17028	42570	786	1.04(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.533	34.533	0	1.088	32740808	10221006	19116	47790	535		
419.8220	34.533	34.533	0	1.088	72307375	22964862	41827	104567	549	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.545	34.545	0	1.000	34678202	10794617	33741	84352	320		
409.7789	34.545	34.545	0	1.000	33475268	10210220	17028	42570	600	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.992						33741	84352			
409.7789	33.992						17028	42570			

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Data File: \\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_2.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.254	34.254	0	1.080	52756712	17605263	18510	46275	951		
437.8140	34.254	34.254	0	1.080	48761213	16176344	18017	45042	898	1.08(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.266	34.266	0	1.000	27921927	9142847	12812	32030	714		
425.7737	34.266	34.266	0	1.000	26890437	8545547	6500	16250	1315	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.968						12812	32030			
425.7737	33.968						6500	16250			
13C-OCDD											
469.7779	36.571	36.571	0	1.153	62417675	17153807	5022	12555	3416		
471.7750	36.571	36.571	0	1.153	70669799	19308808	4847	12117	3984	0.88(0.76-1.02)	
OCDF											
441.7428	36.667	36.667	0	1.003	45954512	12107215	3544	8860	3416		
443.7399	36.654	36.667	-1	1.002	50448089	12979028	4848	12120	2677	0.91(0.76-1.02)	
OCDD											
457.7377	36.583	36.583	0	1.000	35780566	9548543	2654	6635	3598		
459.7348	36.571	36.583	-1	1.000	40105612	10865182	2907	7267	3738	0.89(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test
n - Failed Sig-To-Noise Test
Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNL4_00086 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_2.d
Lims ID: CCV
Client ID:
Inject. Date: 15-Jan-2020 20:06:19 Dil. Factor: 1.0000
Sample Type: CCV, Cal Verification
Instrument ID: 3D5 Operator: ALM
Lims Batch ID: 351160 Lims Sample ID: 2
Sublist: chrom-Dioxin_3D5*sub1

Non-2,3,7,8-sub-TCDD, RT: 16.969

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.048	D 13C-2,3,7,8-TCDD	100.000	165808430	39774664

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.048		100.000	165808430	39774664

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
16.826	250947	55007	51965	11712	0.1744	4.83	RnQ
16.826	40013	9018	51965	11712	0.0529		Empc Correction
Signal Totals:							
	40013	9018	51965	11712			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	302912	66719				4.83	RQ
	91978	20730					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.1744 = (302912 * 100.000) / (165808430 * 1.048)
Empc Amount: 0.0529 = (91978 * 100.000) / (165808430 * 1.048)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
n - Failed Sig-To-Noise Test
Q - EMPC-Estimated Max. Possible Conc.

Report Date: 16-Jan-2020 11:42:54 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_2.d		
Injection Date:	15-Jan-2020 20:06:19	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	351160	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

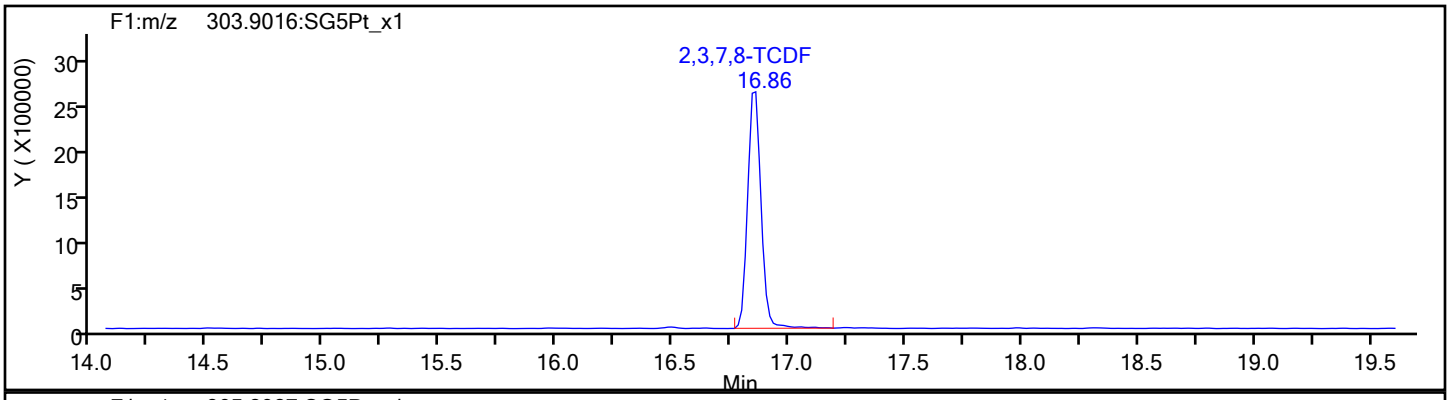

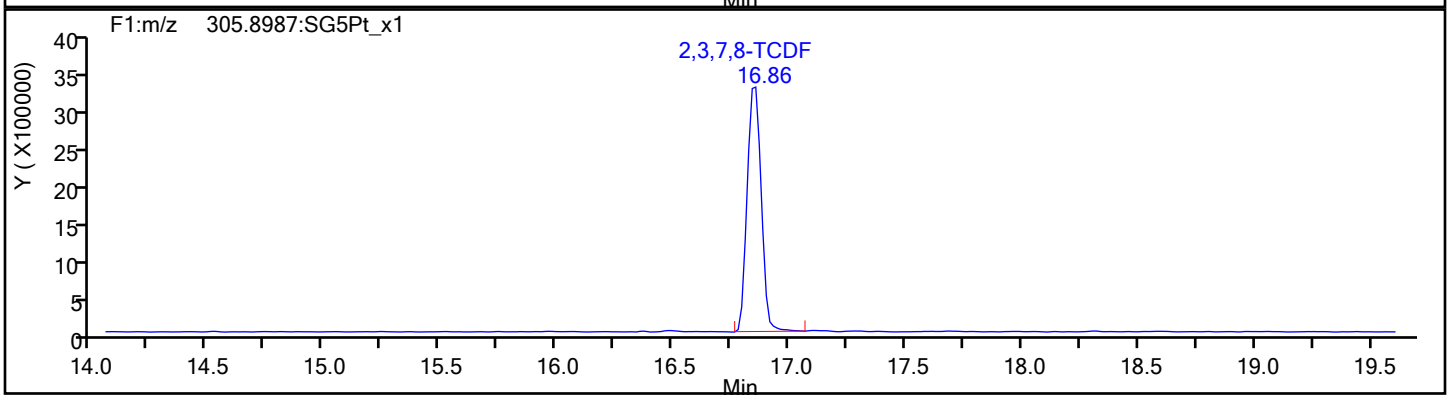

TCDF Standards

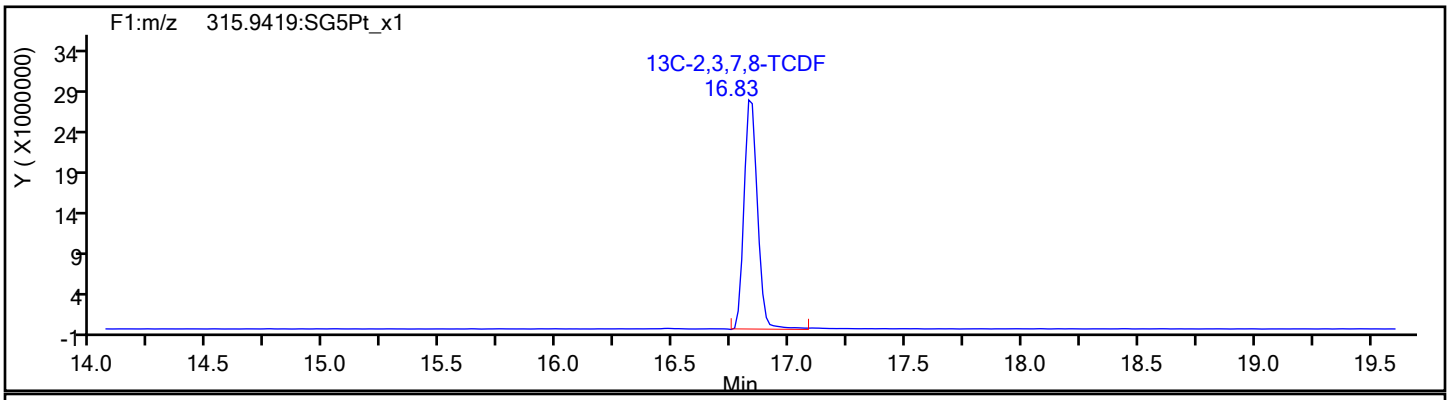

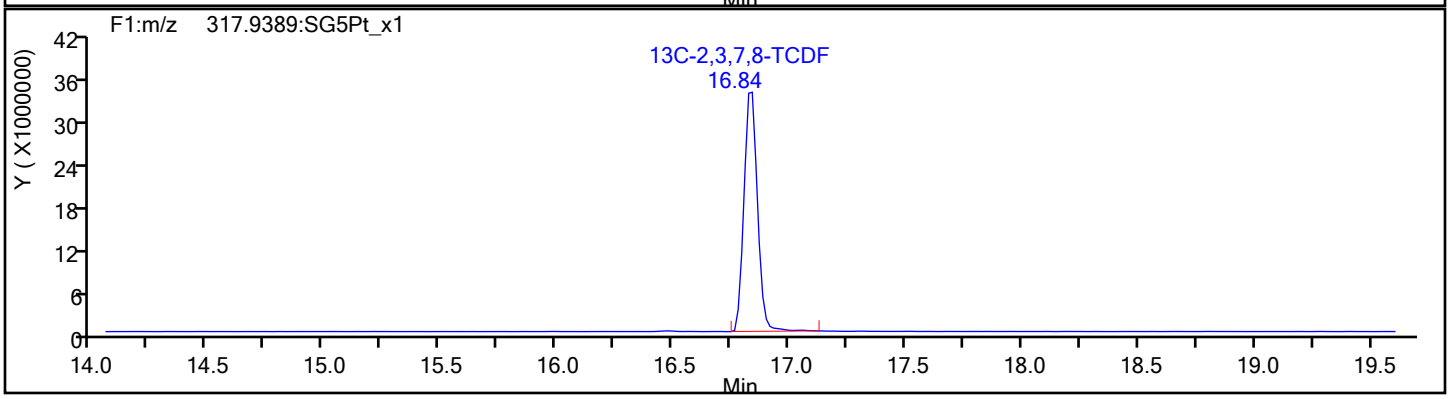

Report Date: 16-Jan-2020 11:42:54 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_2.d		
Injection Date:	15-Jan-2020 20:06:19	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	351160	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

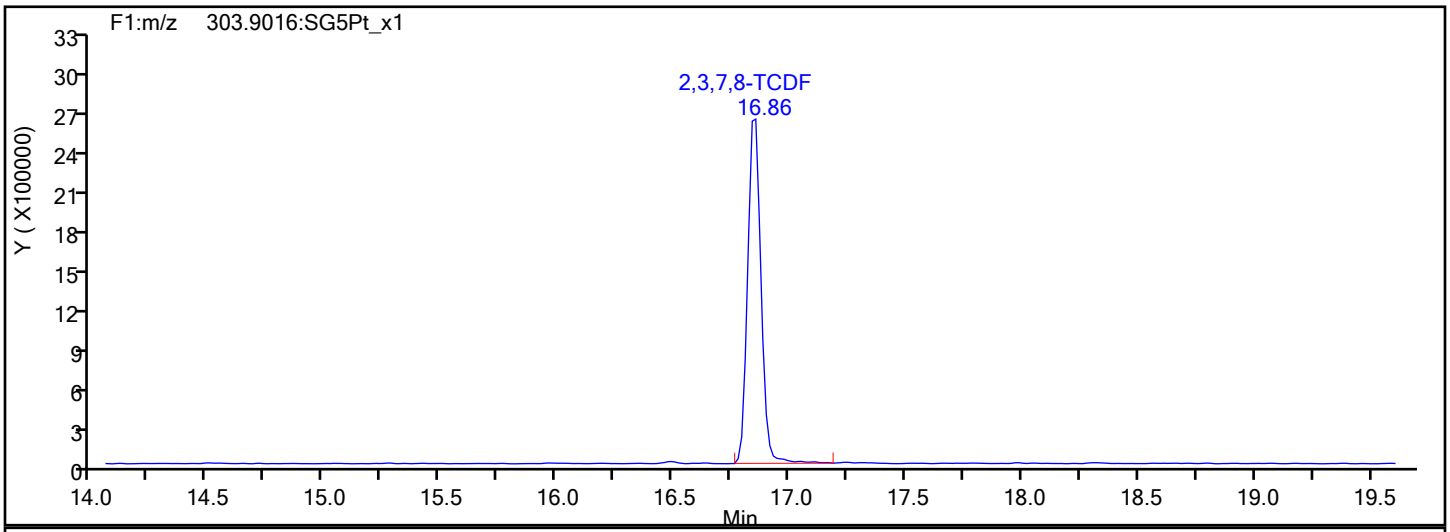

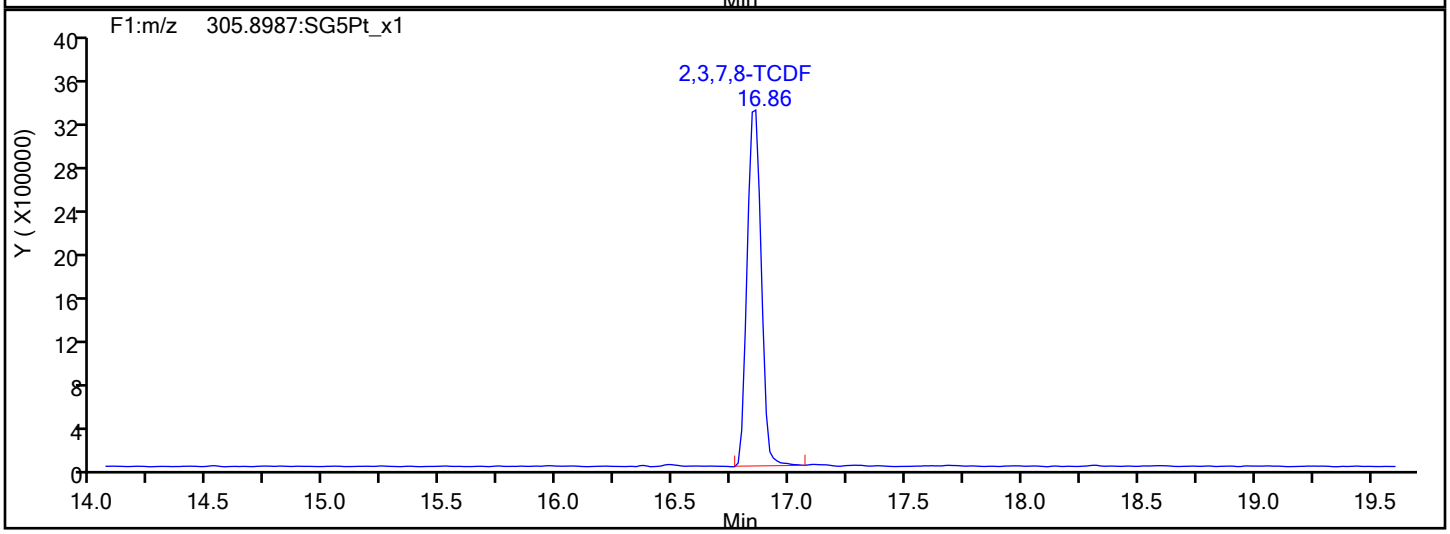

TCDF Interference Mass

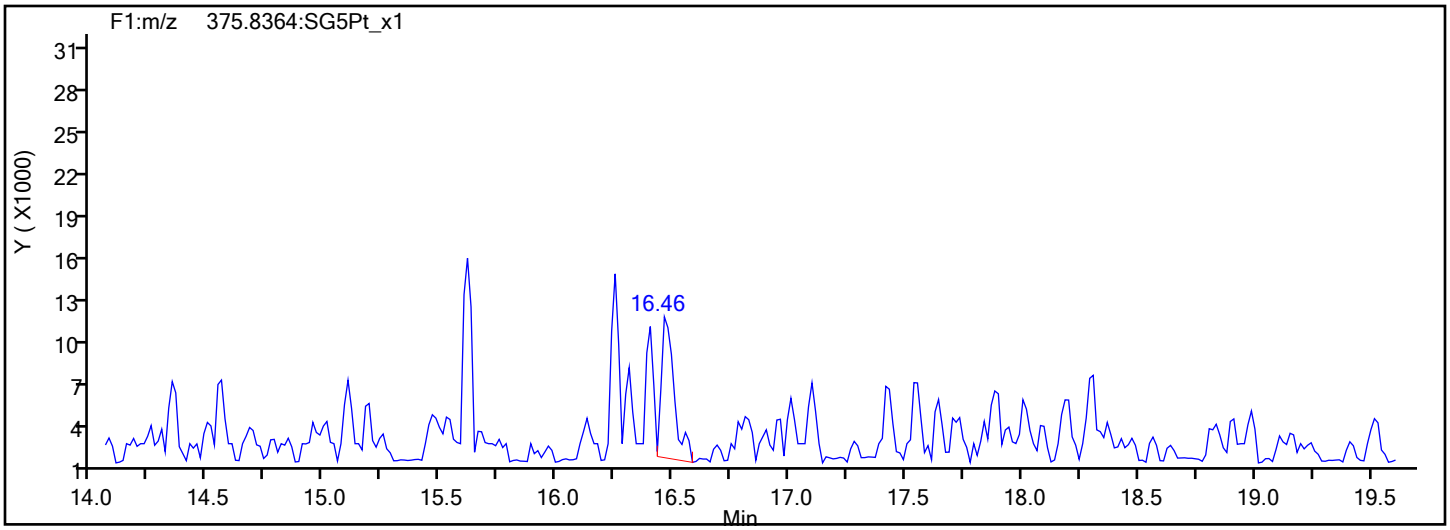

Report Date: 16-Jan-2020 11:42:55 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_2.d		
Injection Date:	15-Jan-2020 20:06:19	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	351160	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

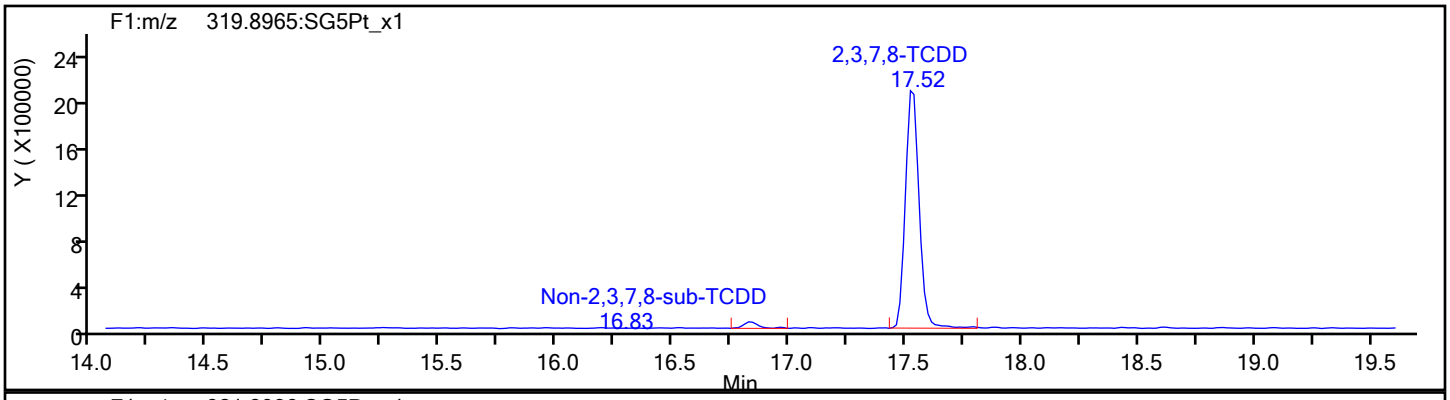

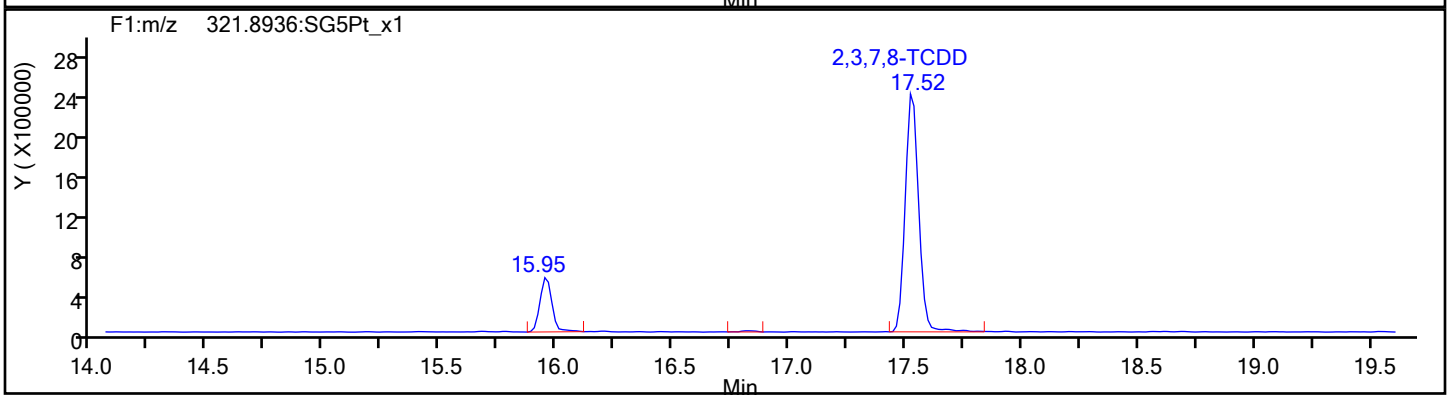

TCDD Standards

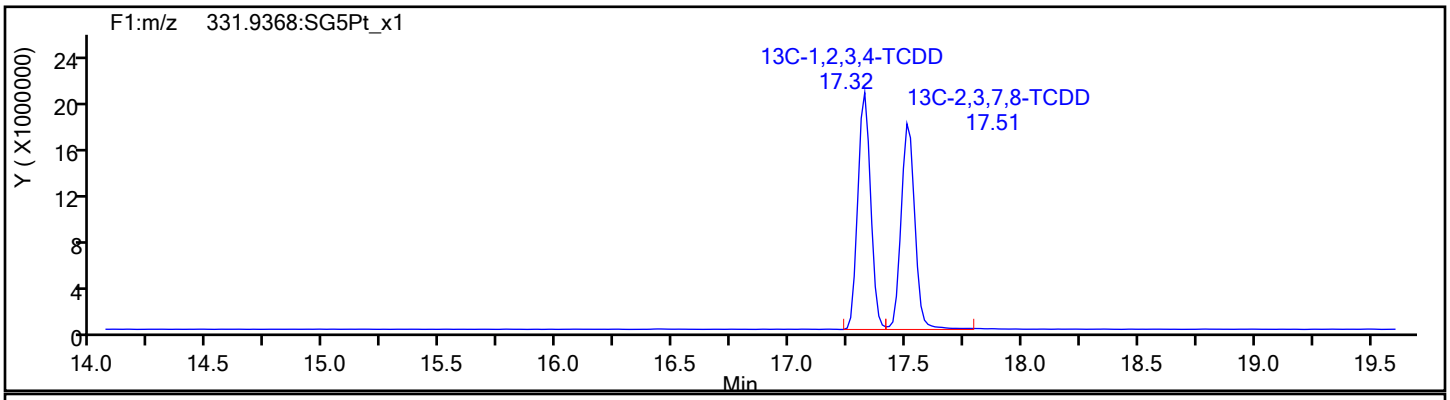

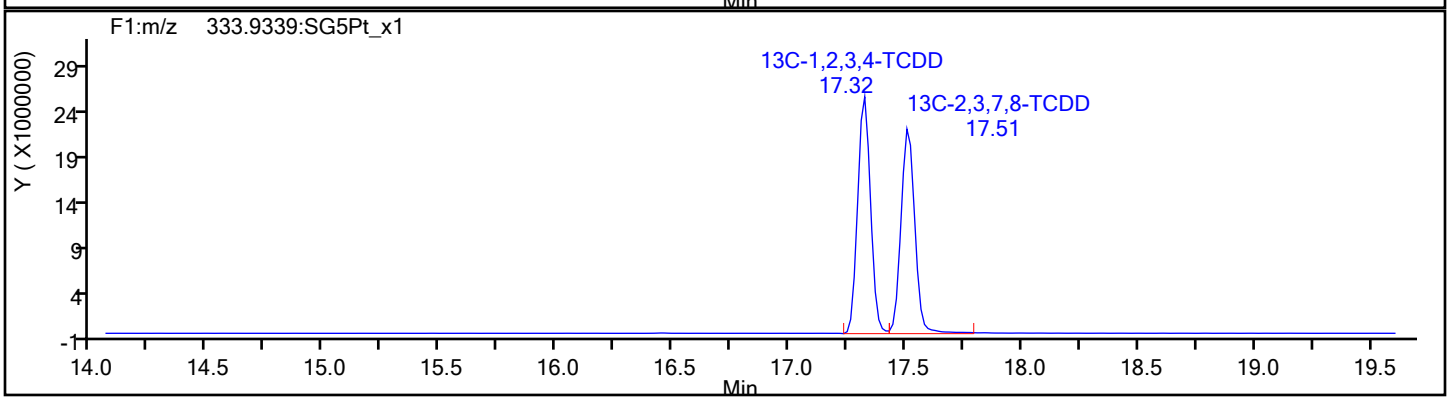

Report Date: 16-Jan-2020 11:42:55 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_2.d		
Injection Date:	15-Jan-2020 20:06:19	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	351160	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

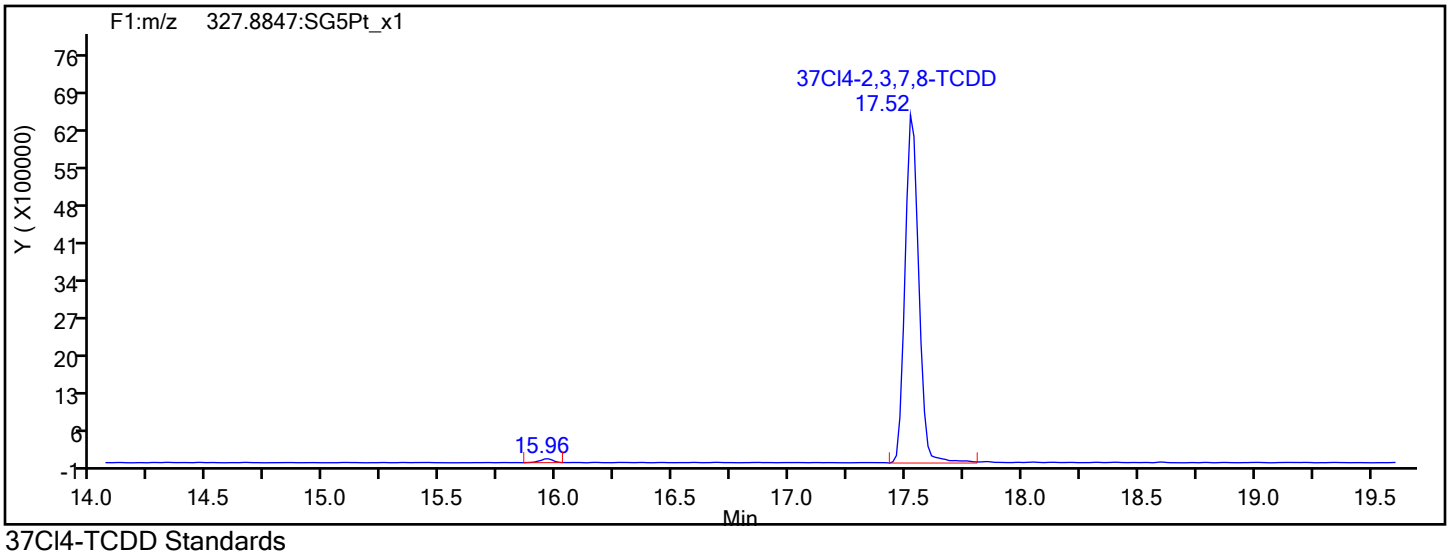

37Cl4-TCDD Standards

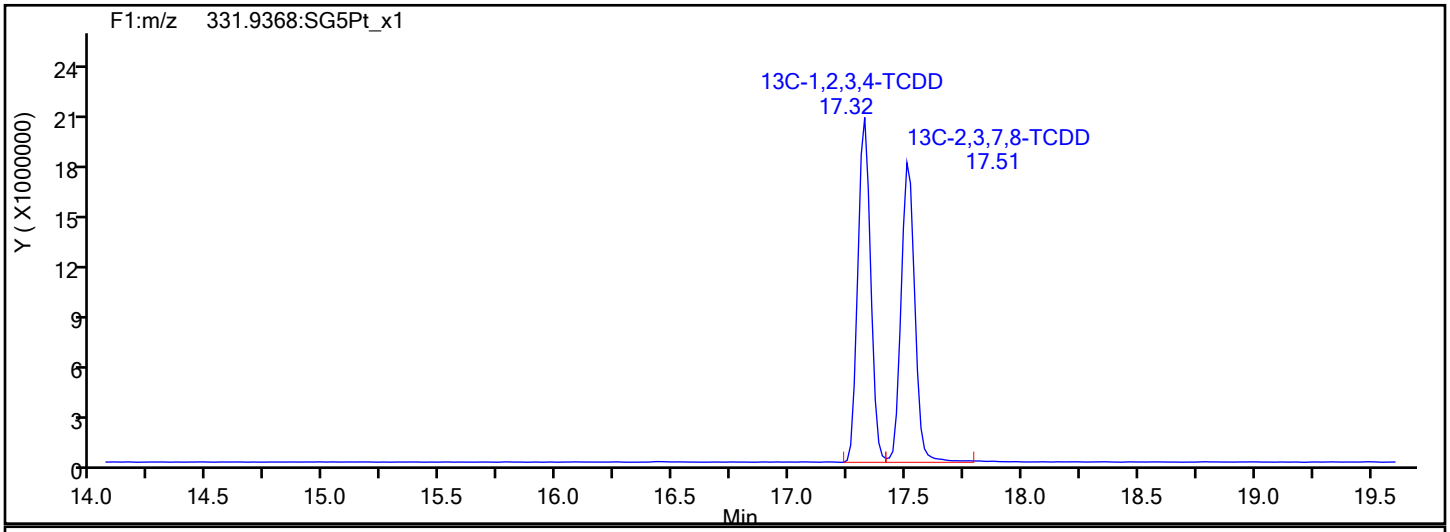

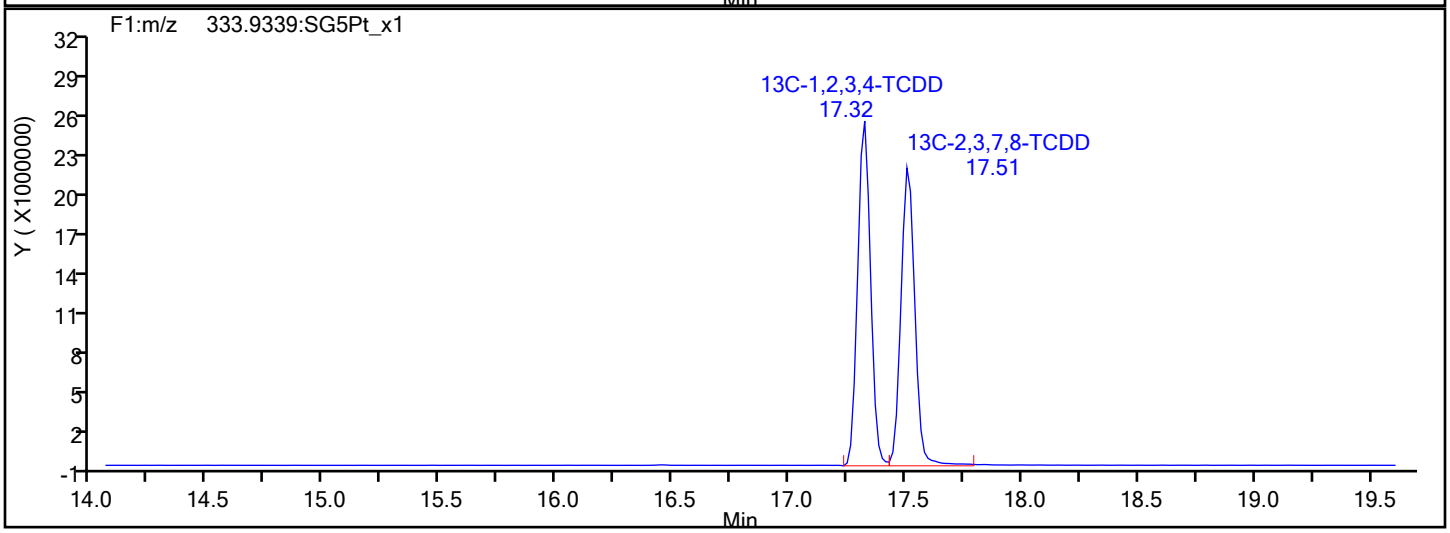

Report Date: 16-Jan-2020 11:42:55 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	351160	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

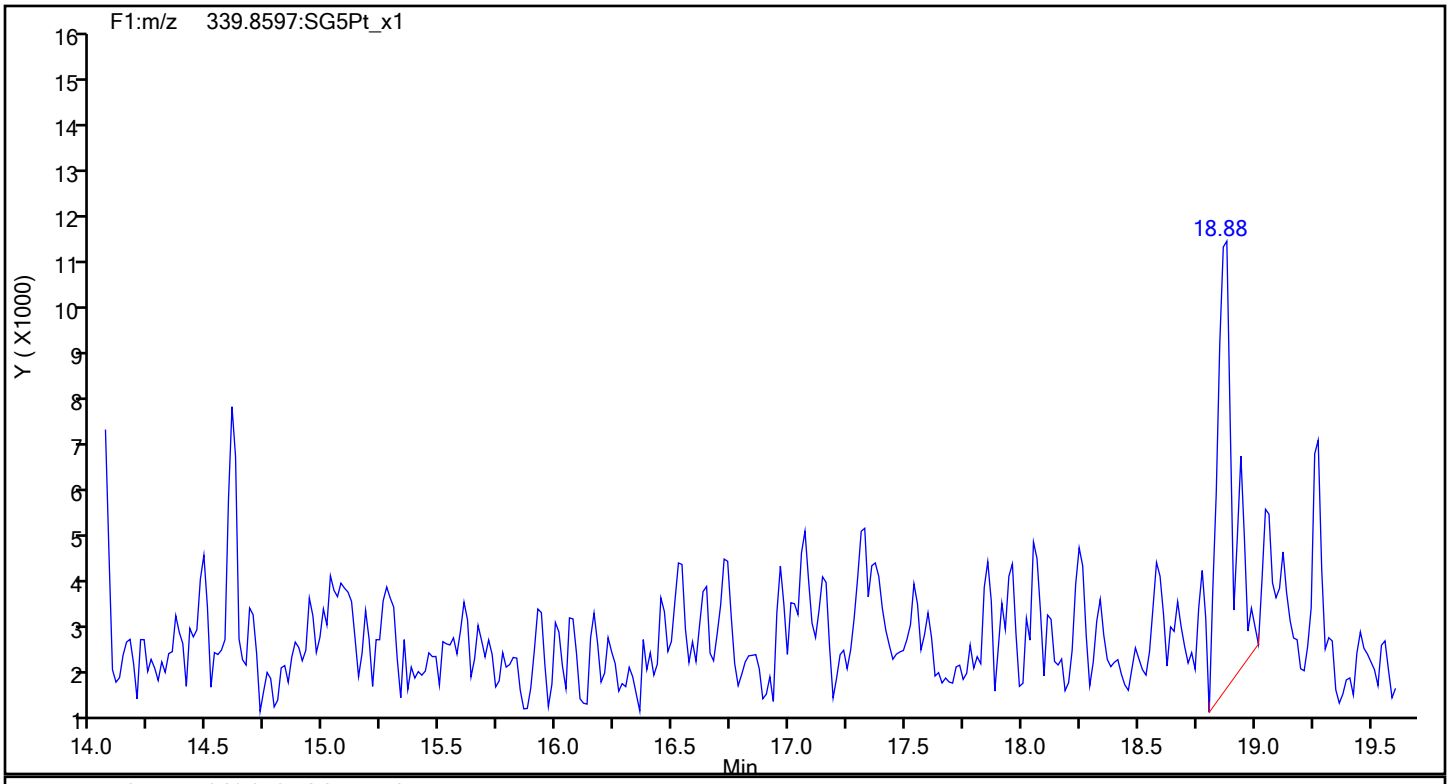

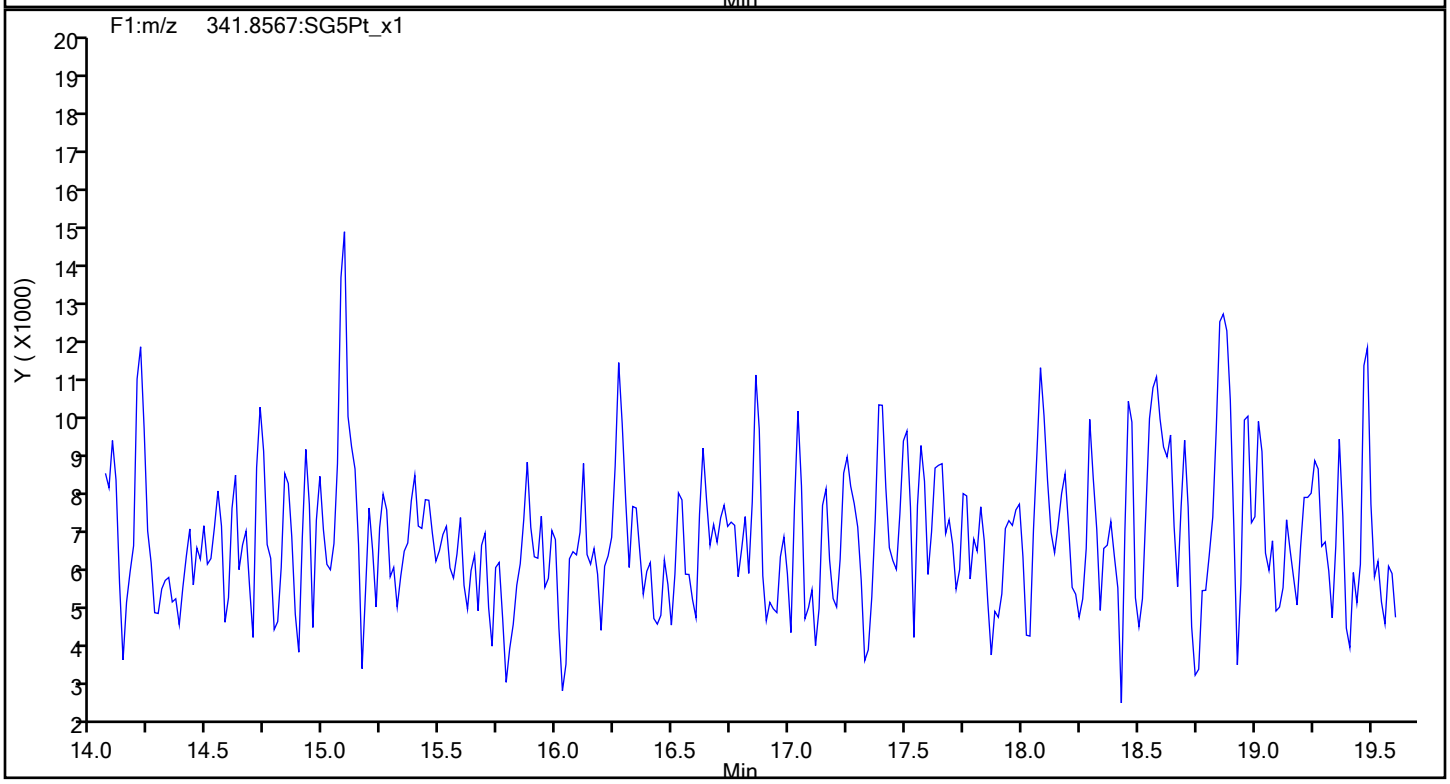

Report Date: 16-Jan-2020 11:42:55 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_2.d		
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Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	351160	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

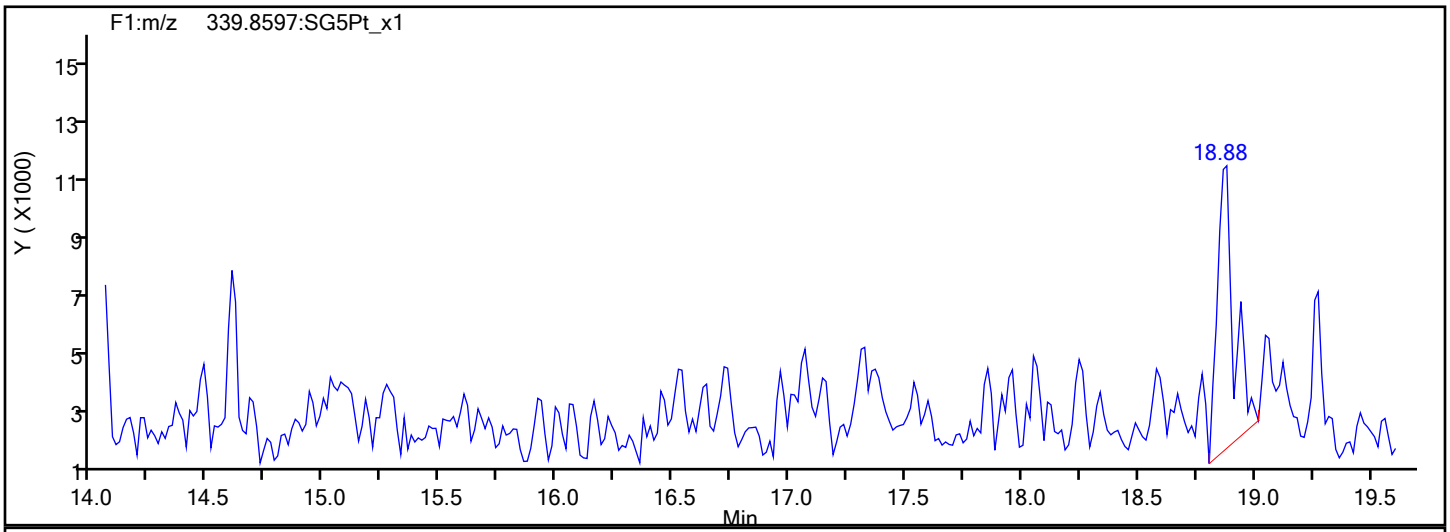

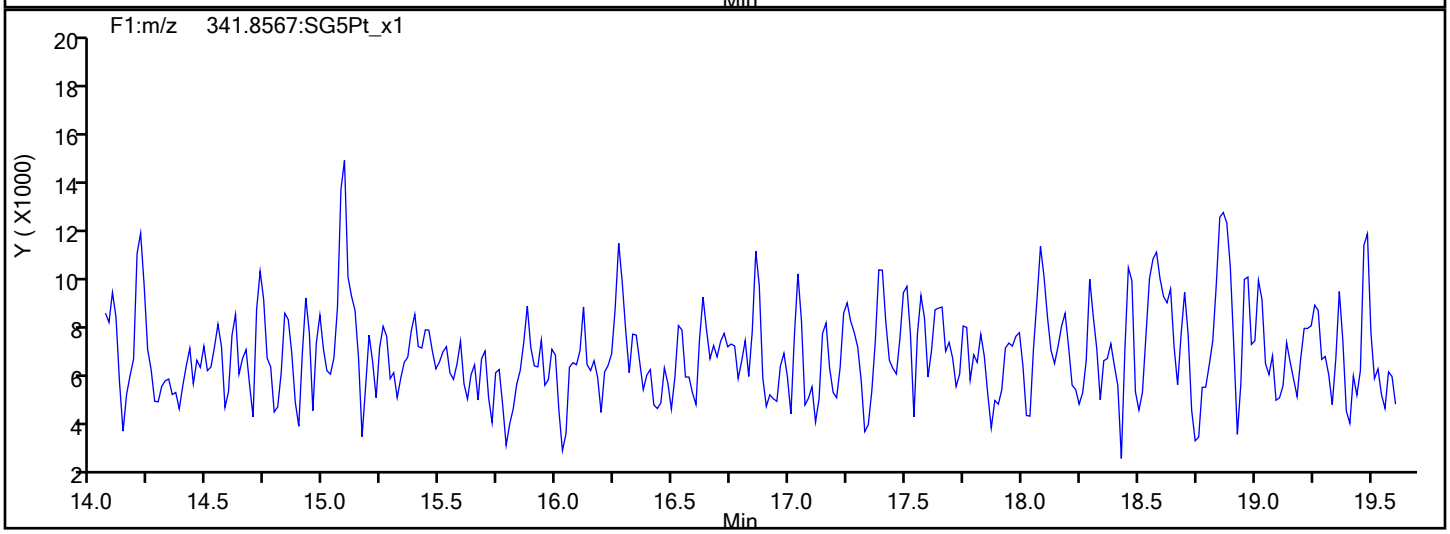

F1 PeCDFs Interference Mass

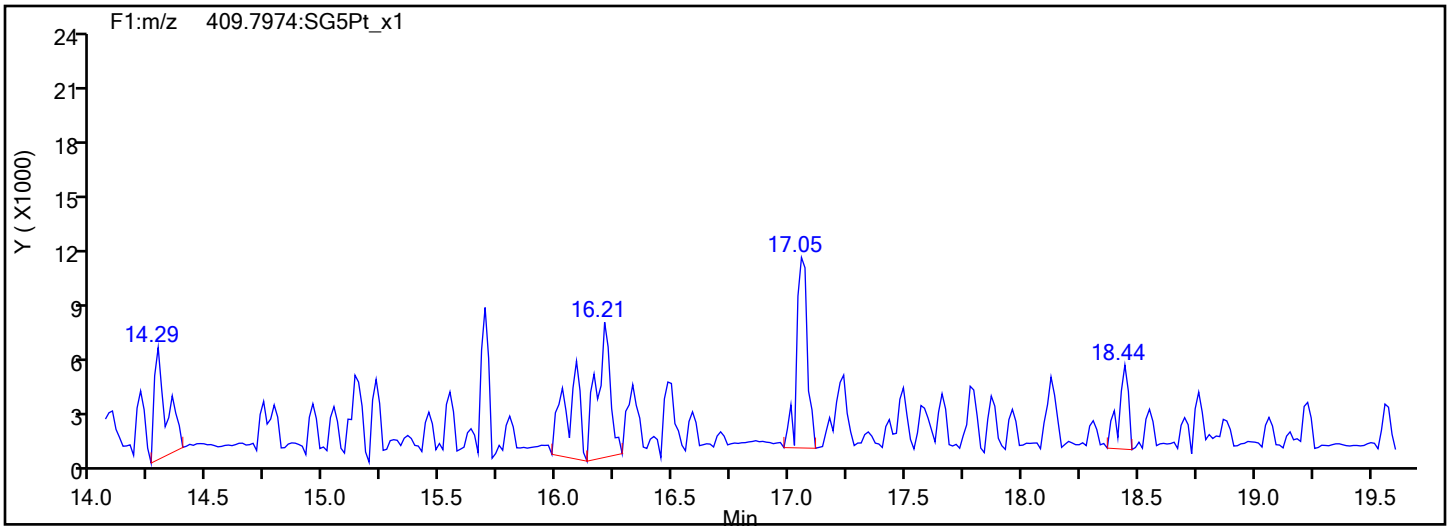

Report Date: 16-Jan-2020 11:42:55 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_2.d		
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Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

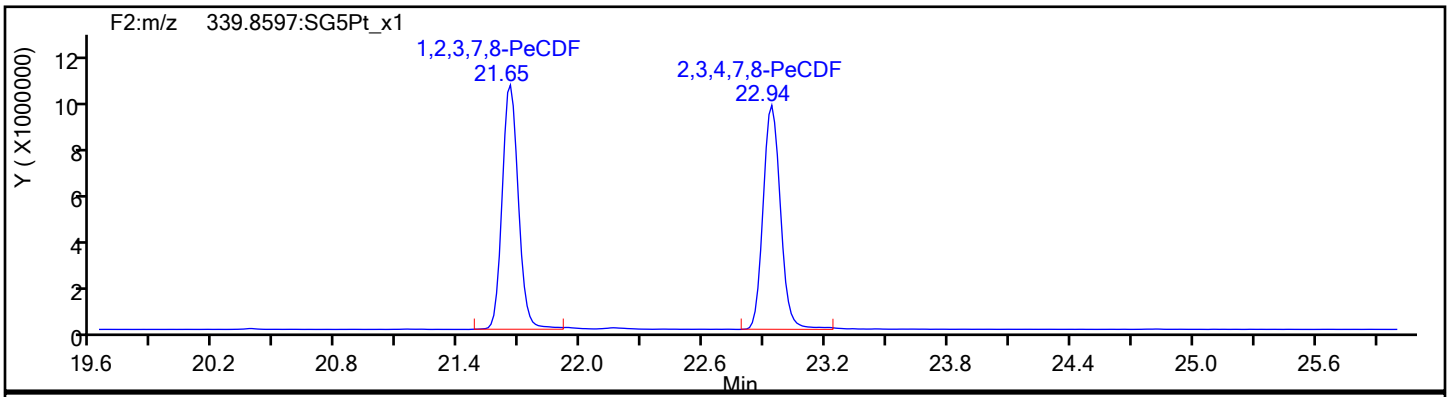

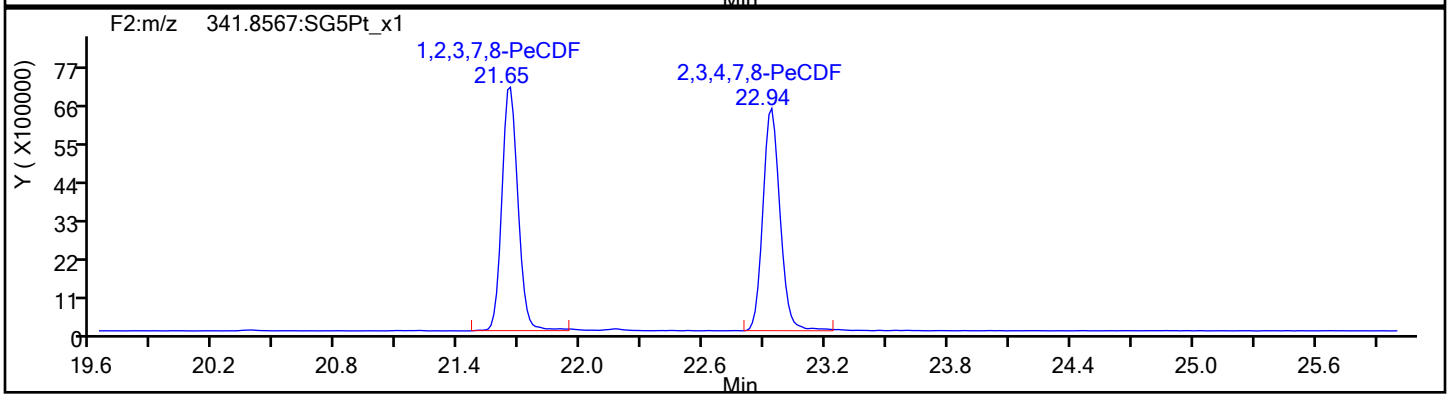

PeCDF Standards

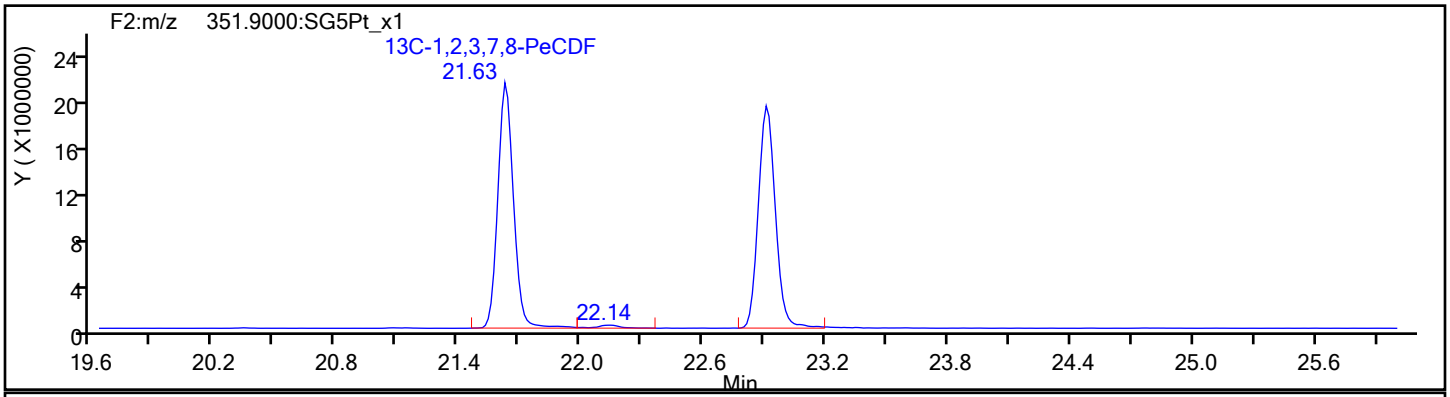

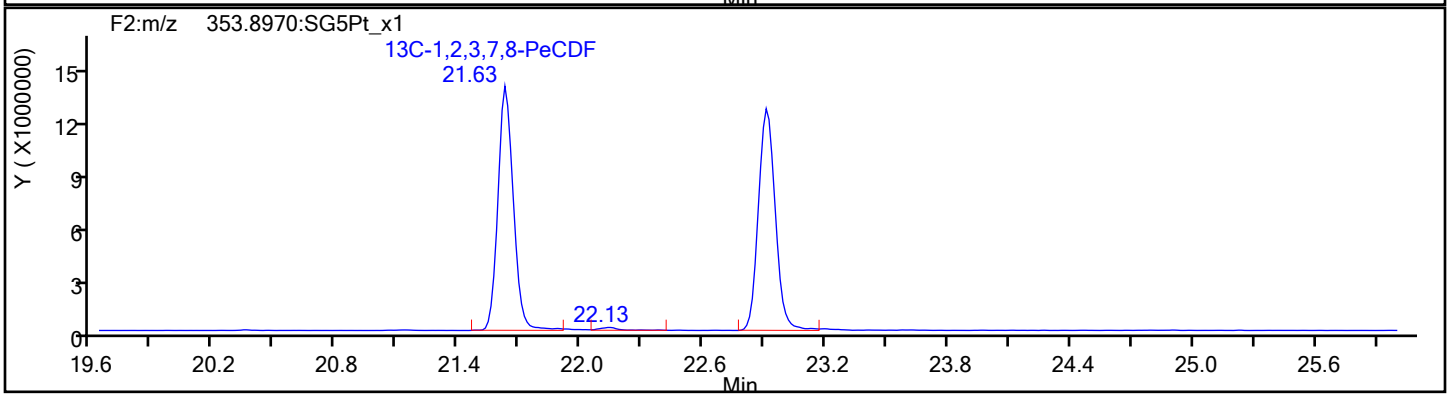

Report Date: 16-Jan-2020 11:42:55 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_2.d		
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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

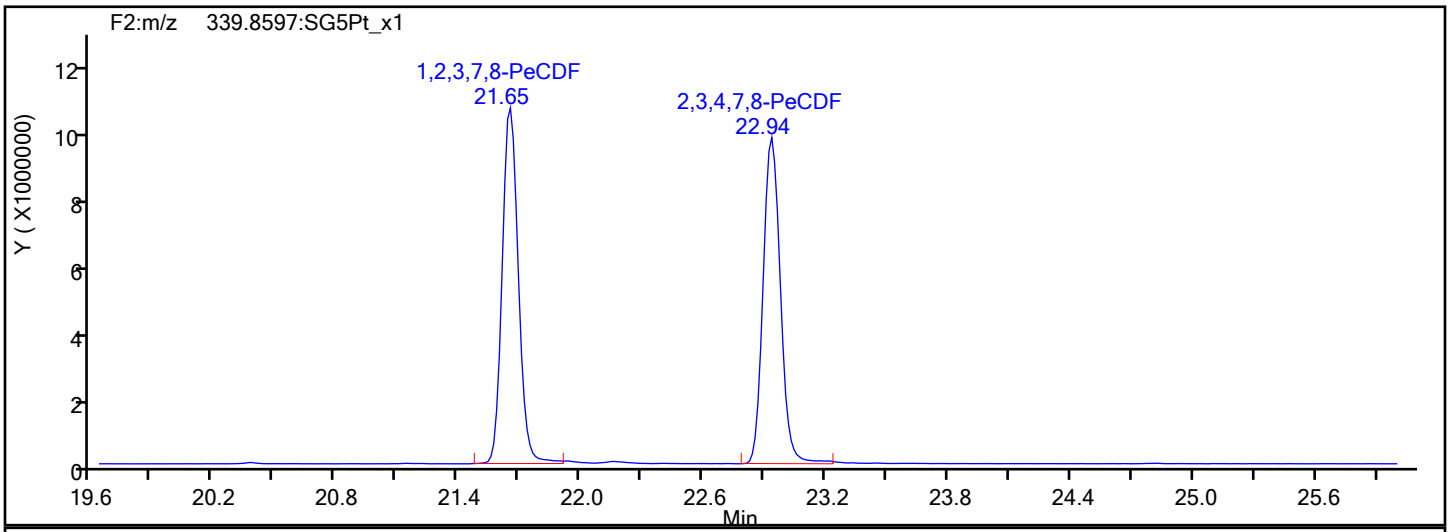

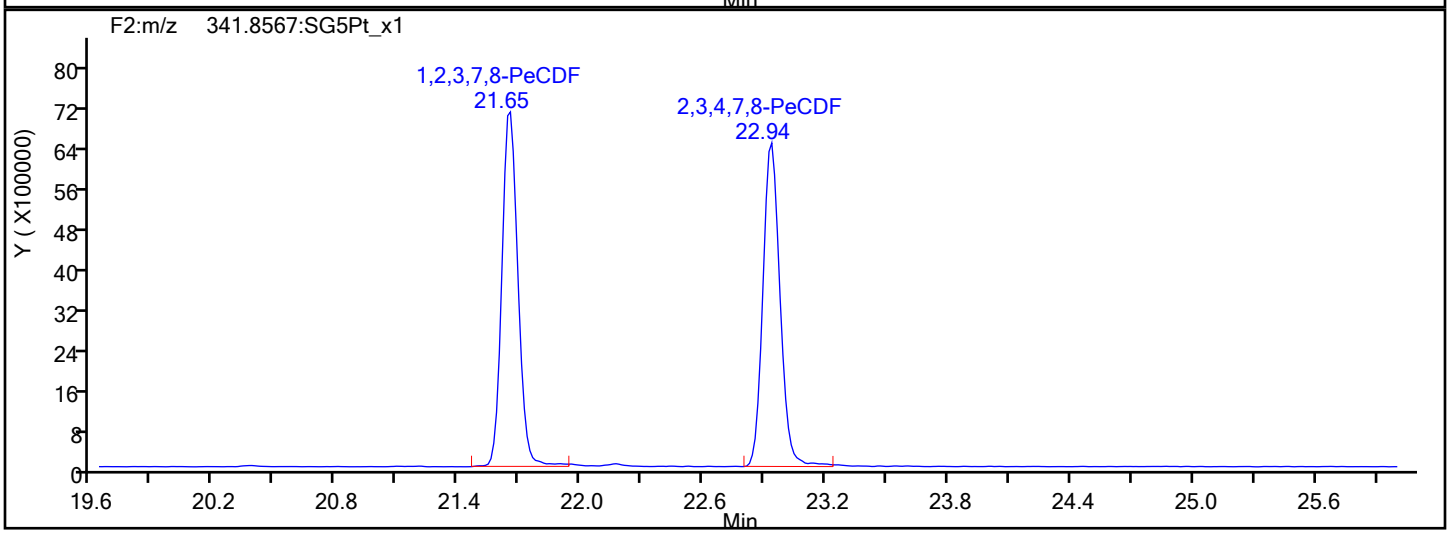

PeCDF Interference Mass

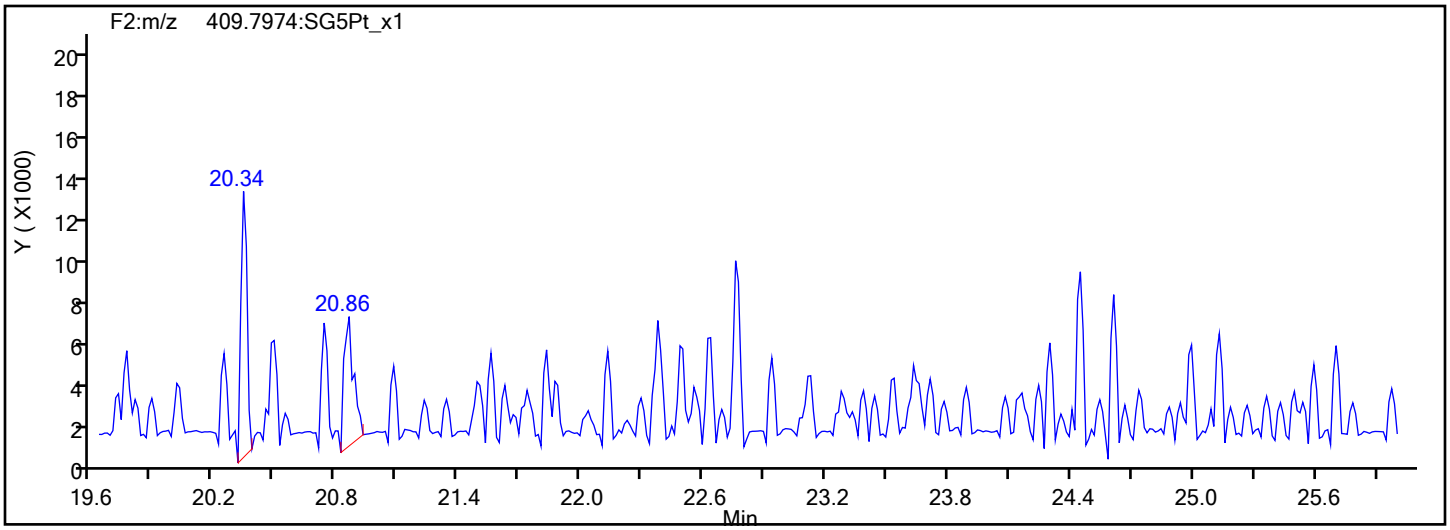

Report Date: 16-Jan-2020 11:42:55 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_2.d		
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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

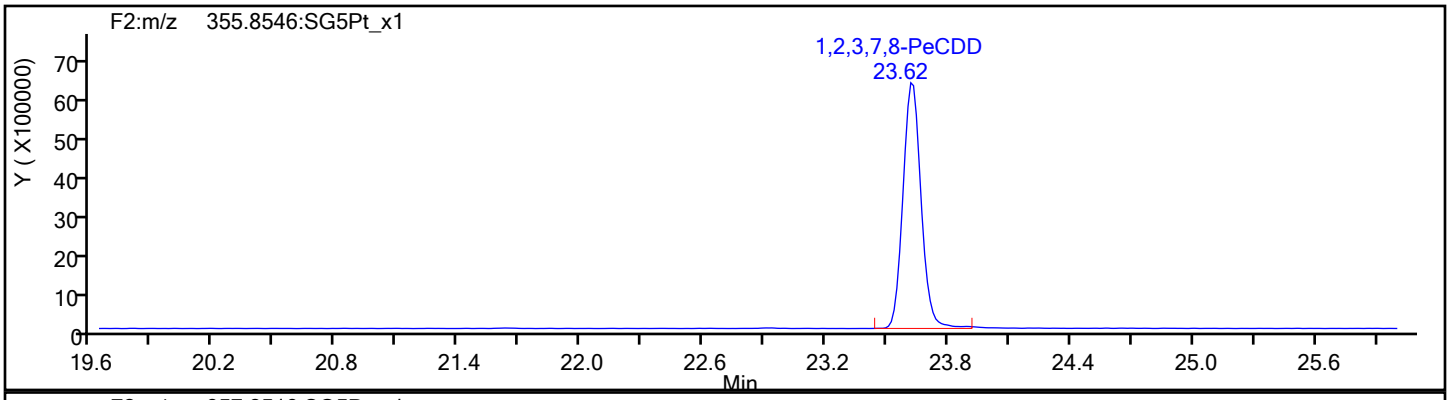

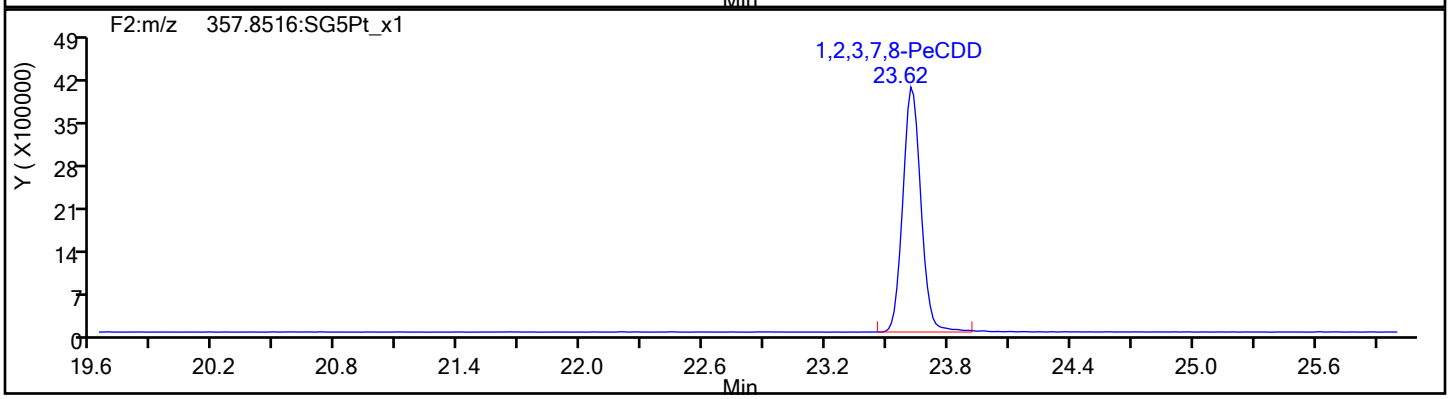

PeCDD Standards

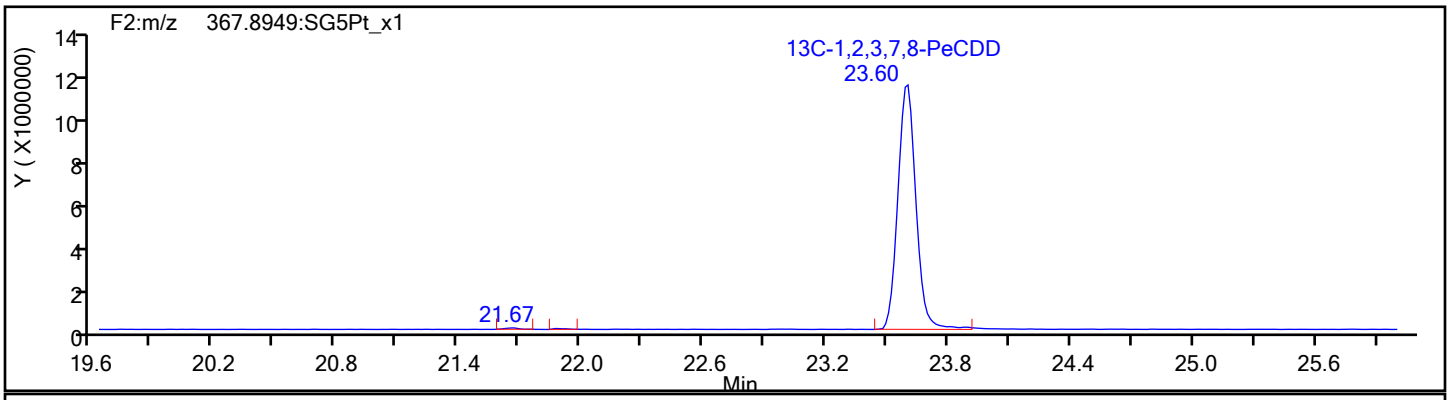

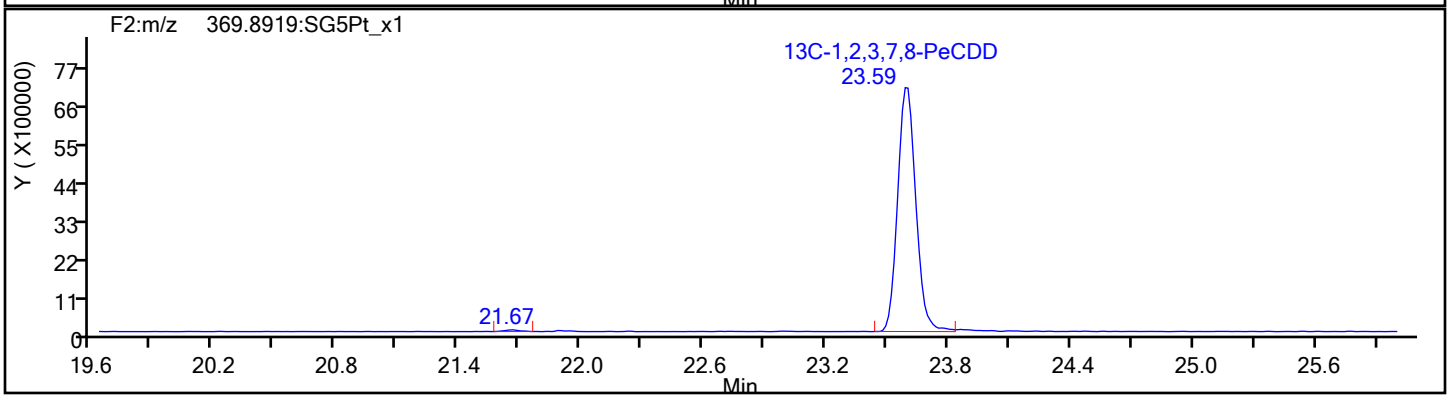

Report Date: 16-Jan-2020 11:42:55 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_2.d		
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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

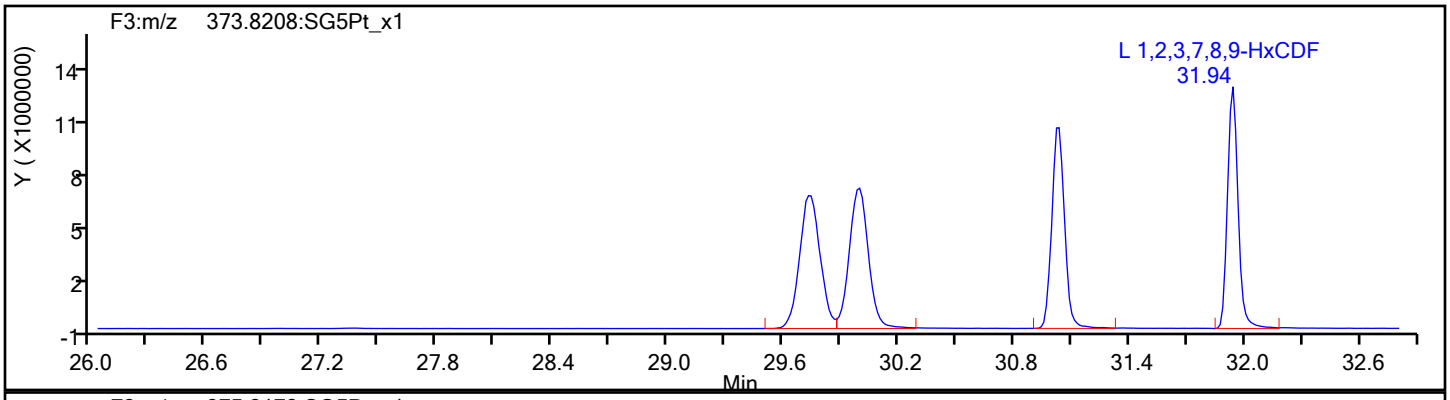

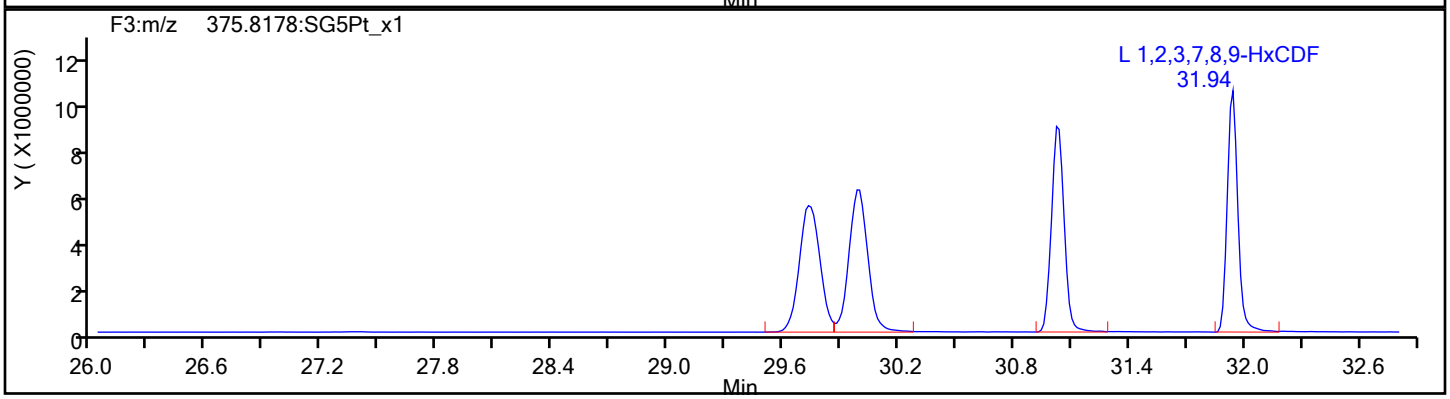

HxCDF Standards

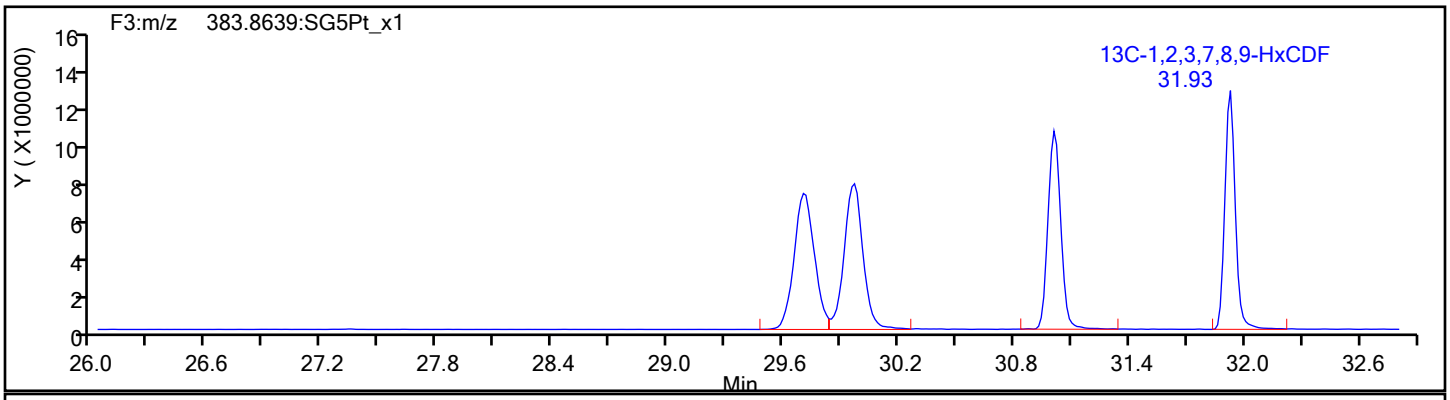

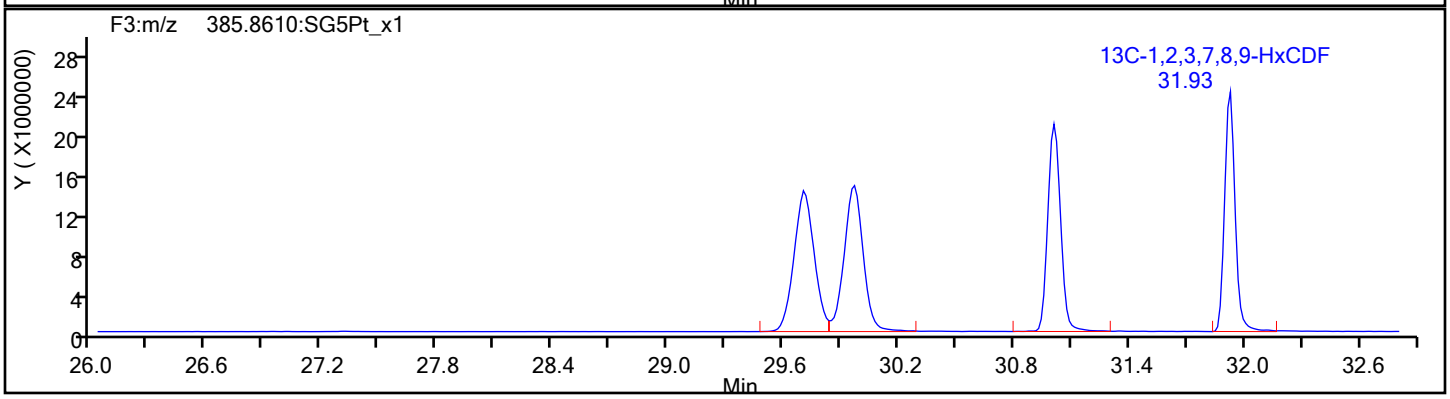

Report Date: 16-Jan-2020 11:42:55 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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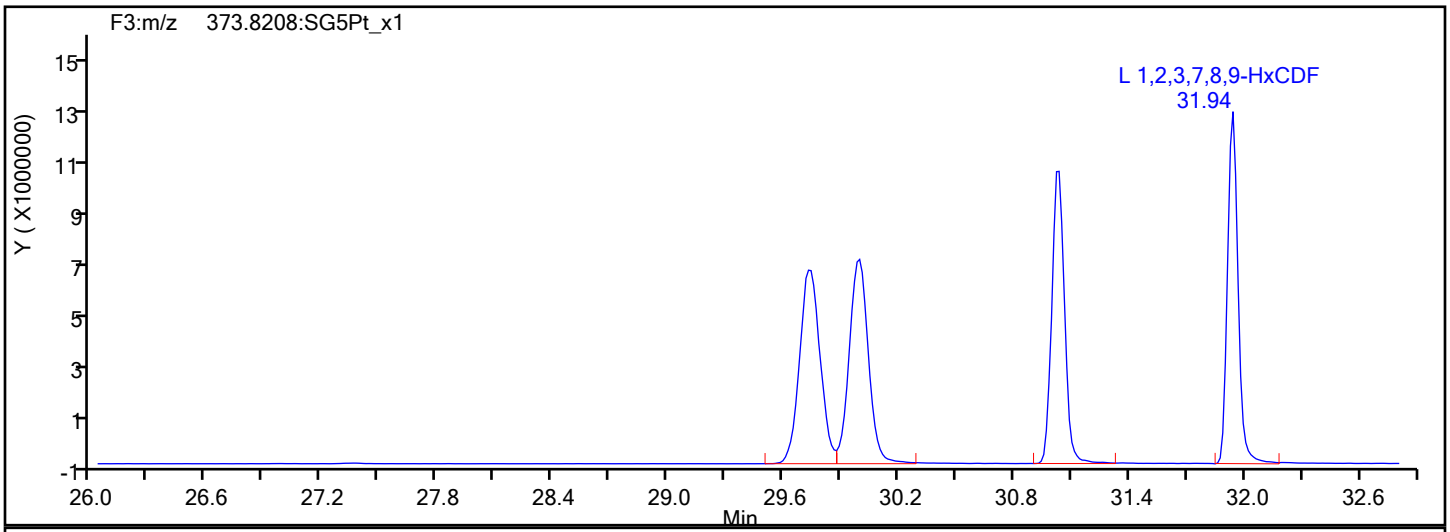

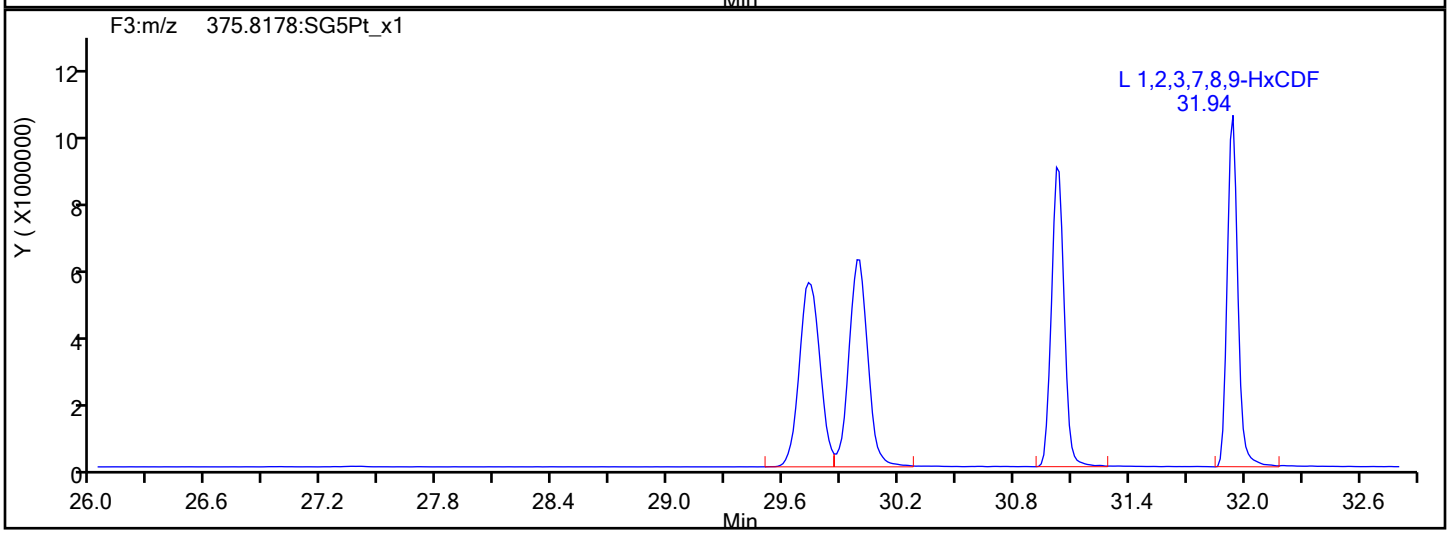

HxCDF Interference Mass

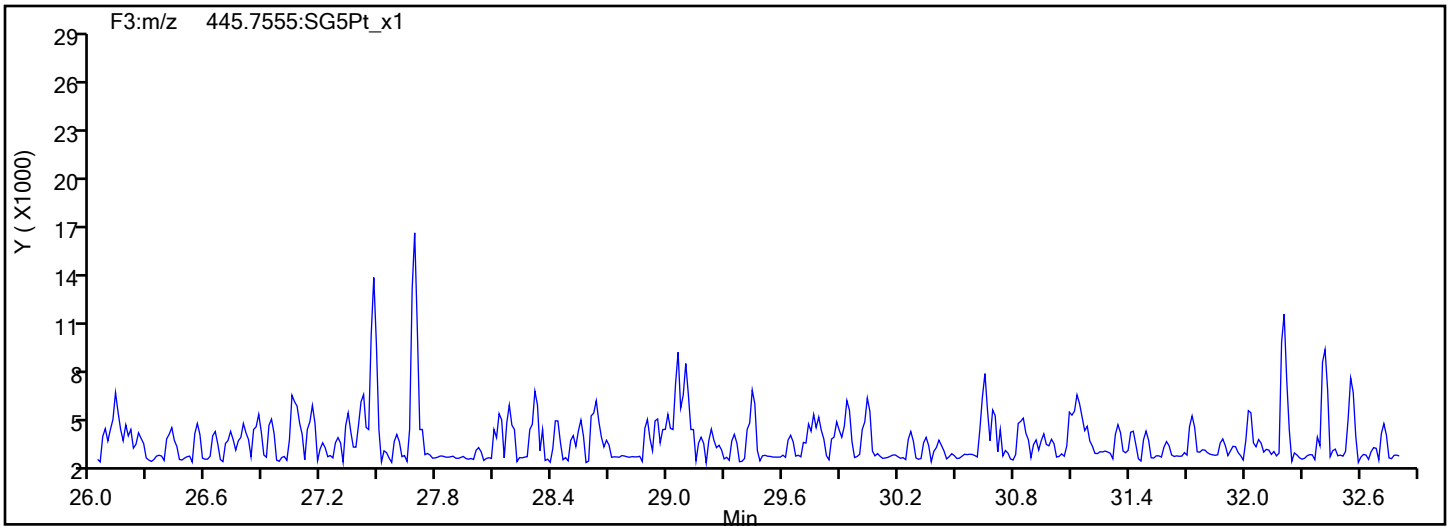

Report Date: 16-Jan-2020 11:42:55 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_2.d		
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HxCDD

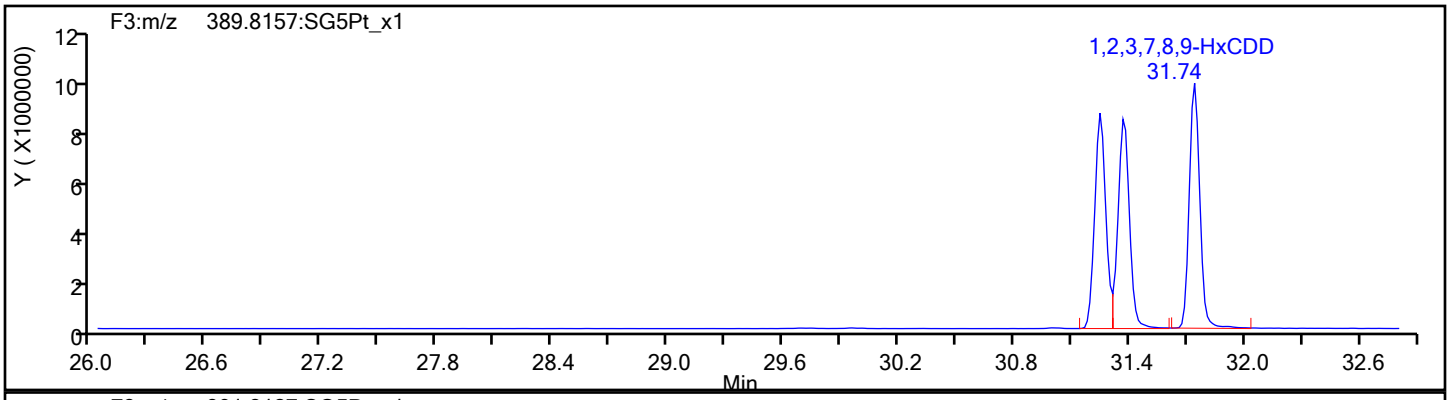

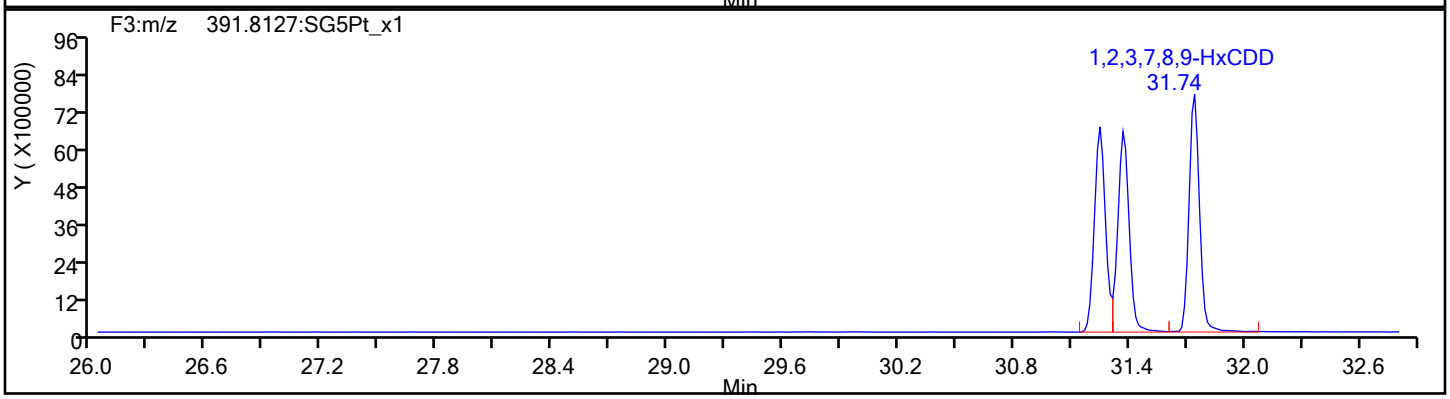

HxCDD Standards

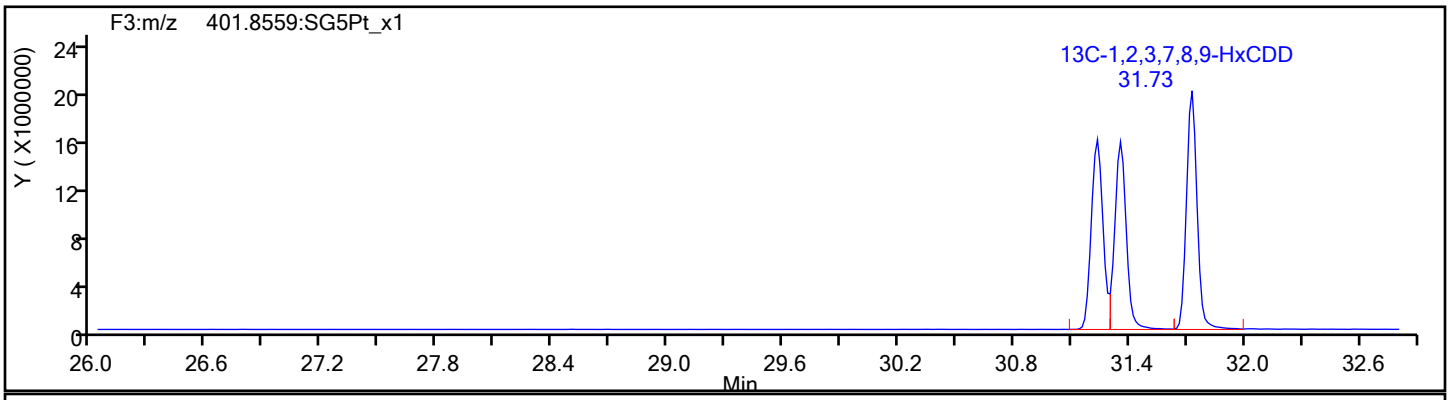

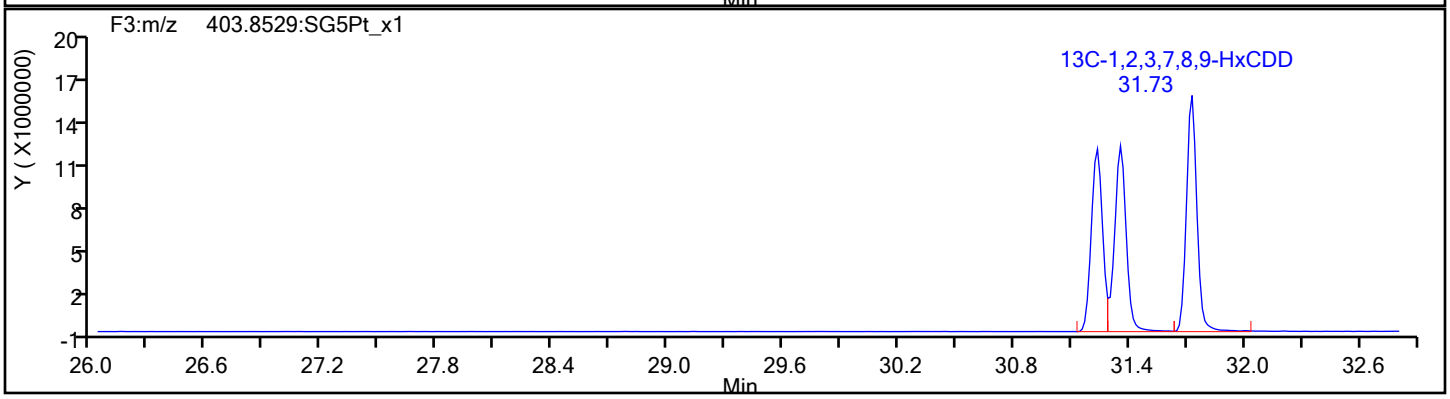

Report Date: 16-Jan-2020 11:42:55 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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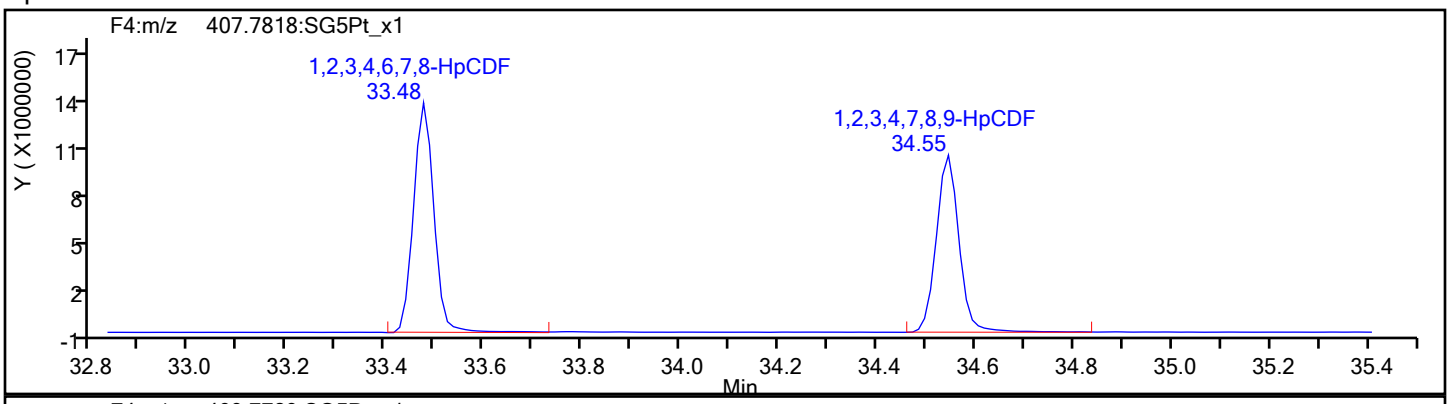

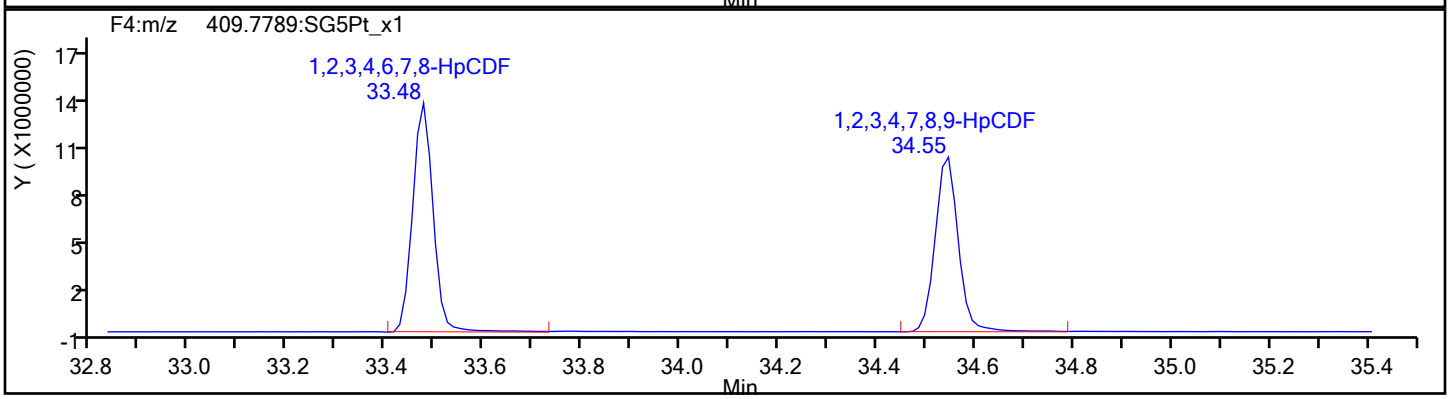

HpCDF Standards

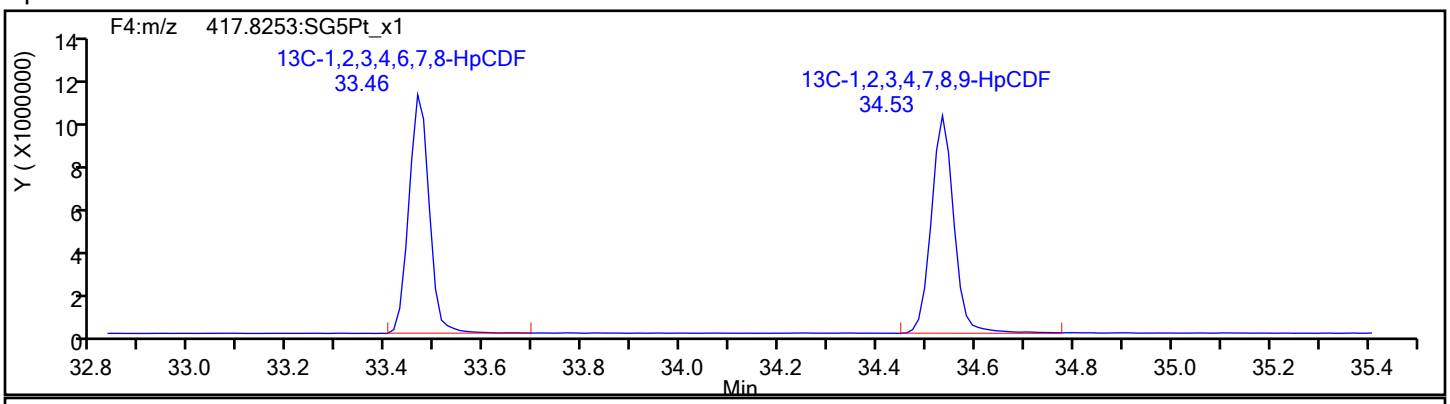

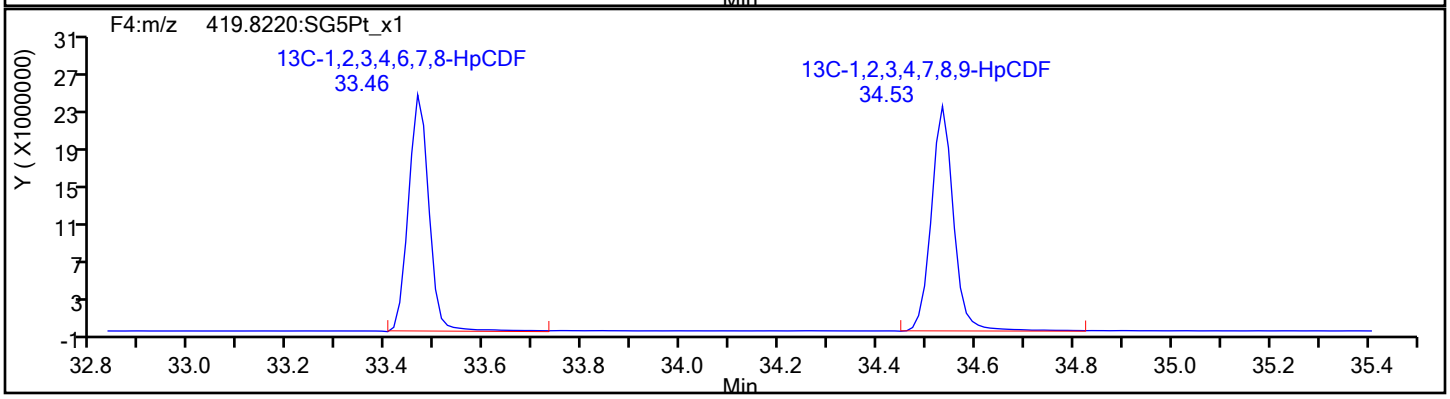

Report Date: 16-Jan-2020 11:42:55 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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HpCDF

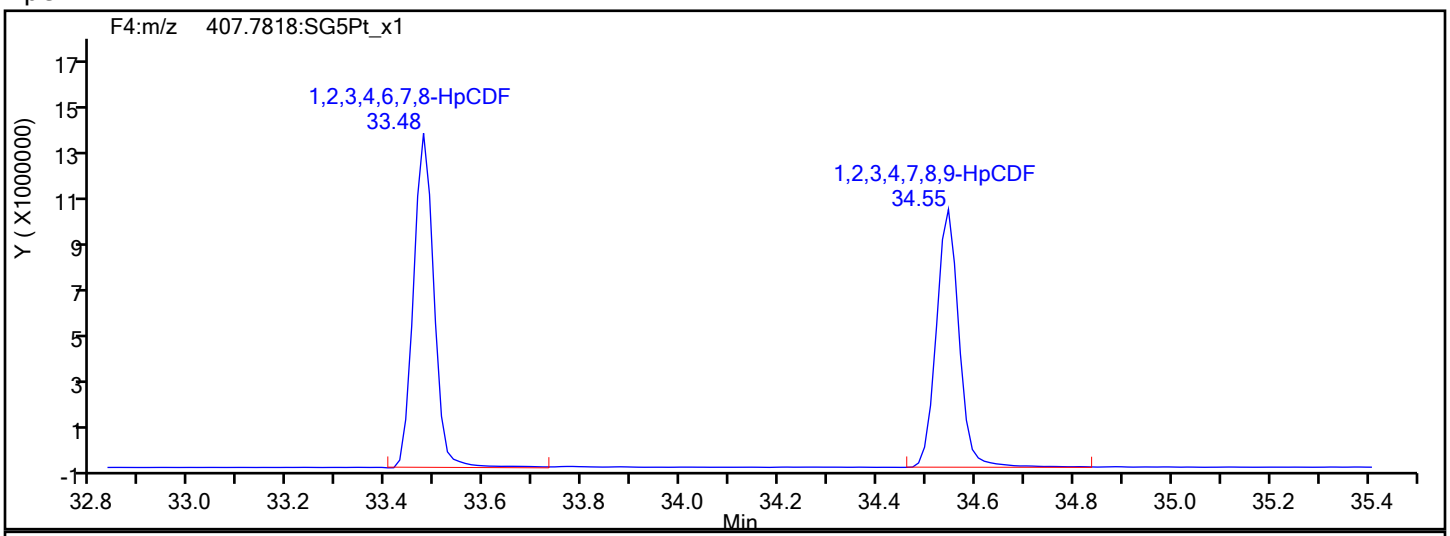

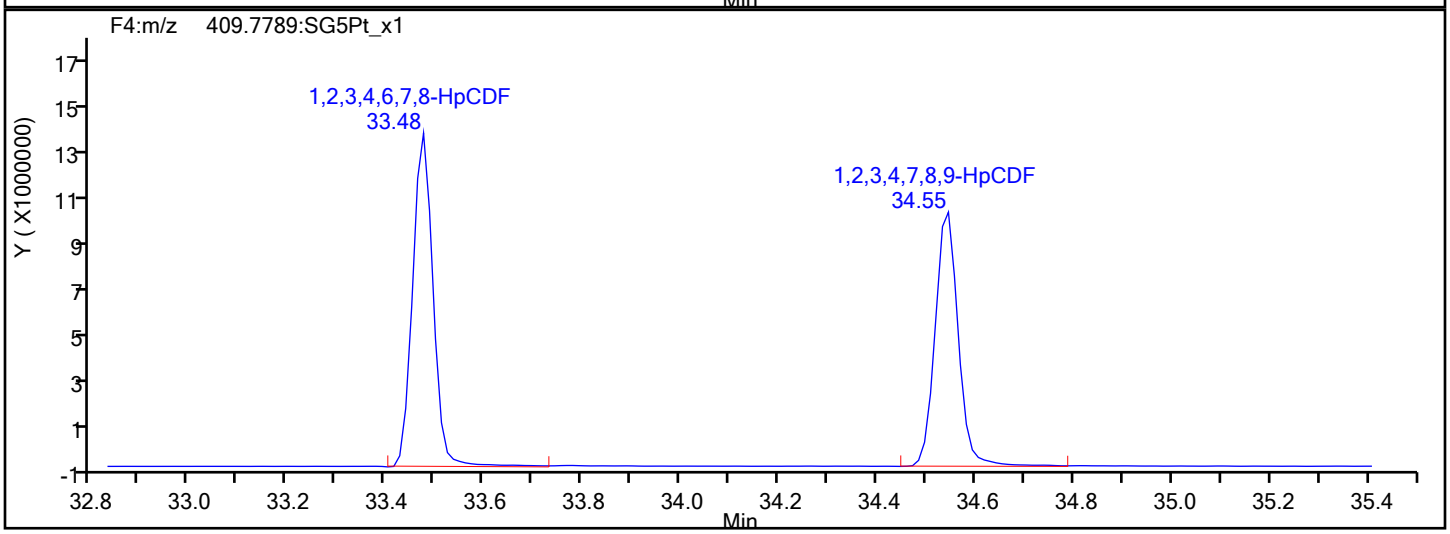

HpCDF Interference Mass

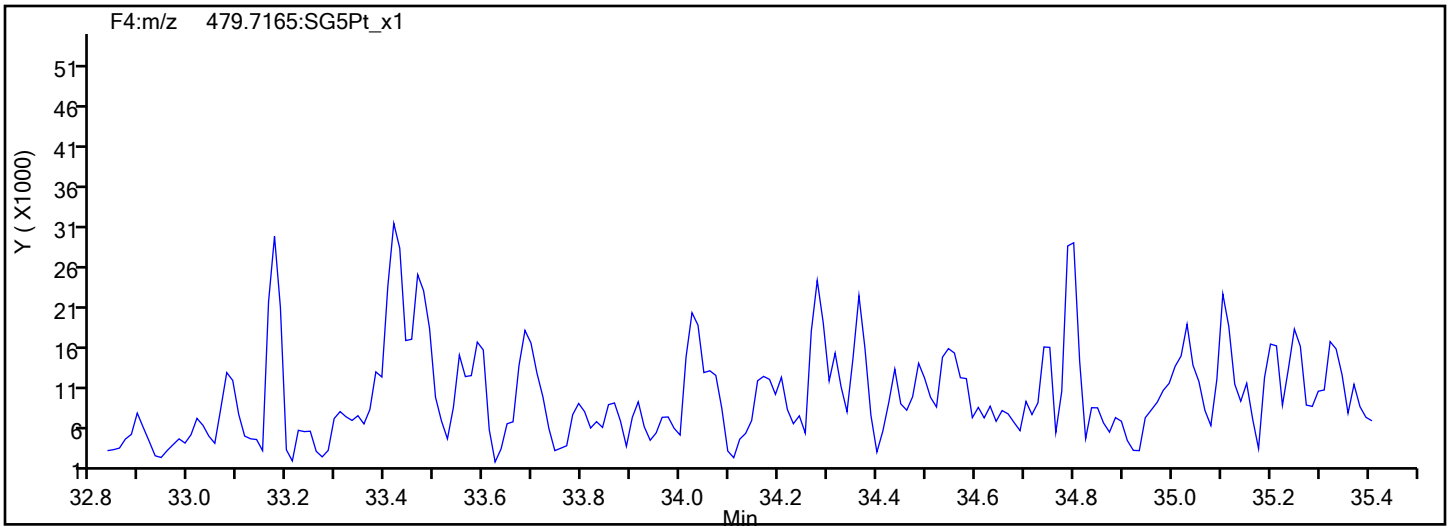

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Eurofins TestAmerica, Sacramento

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HpCDD

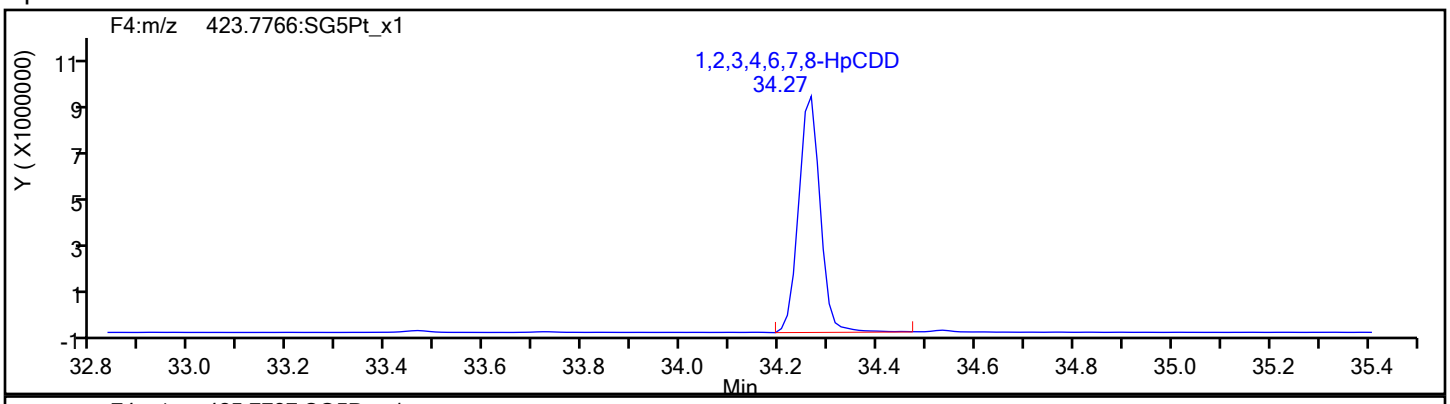

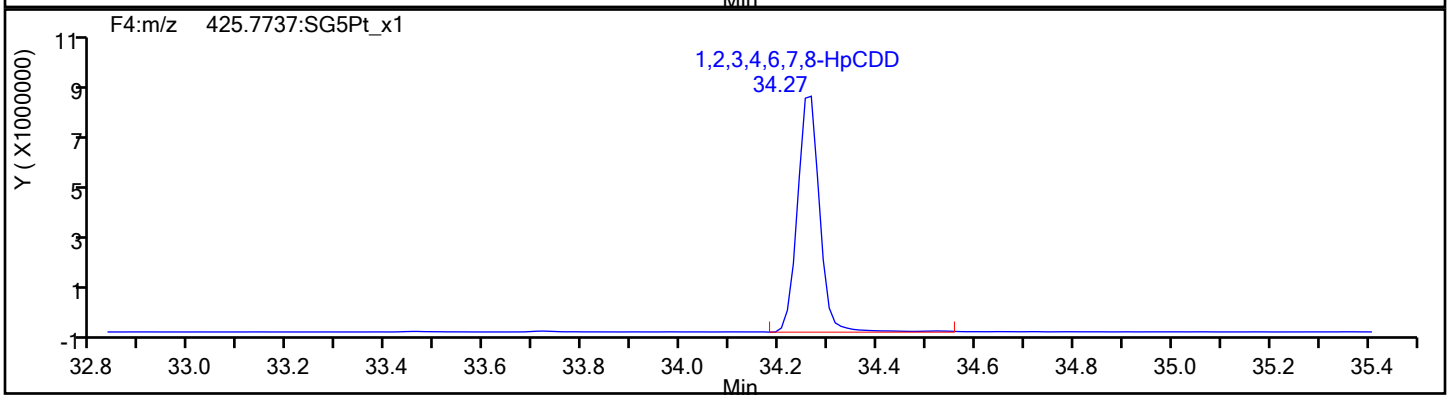

HpCDD Standards

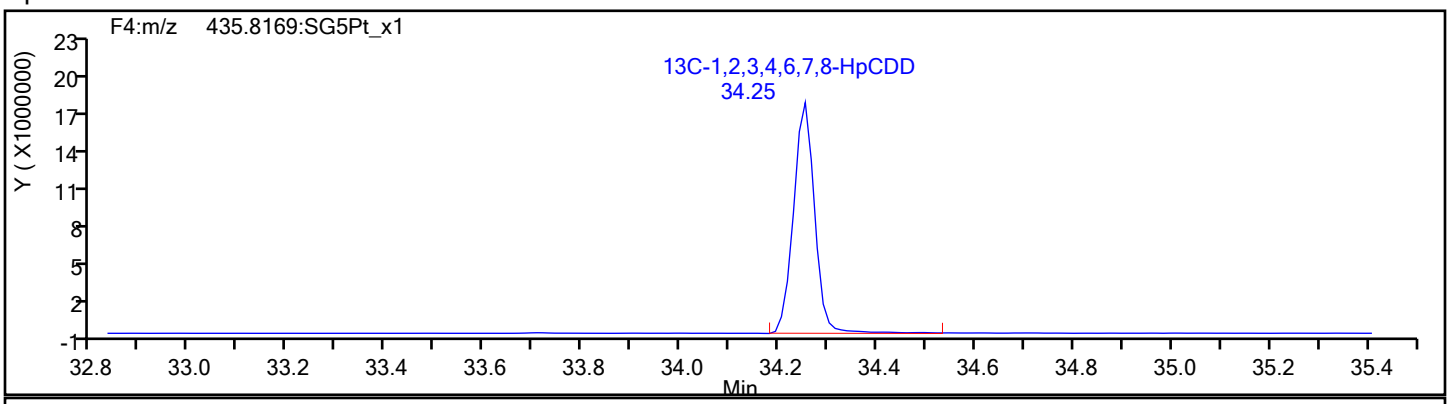

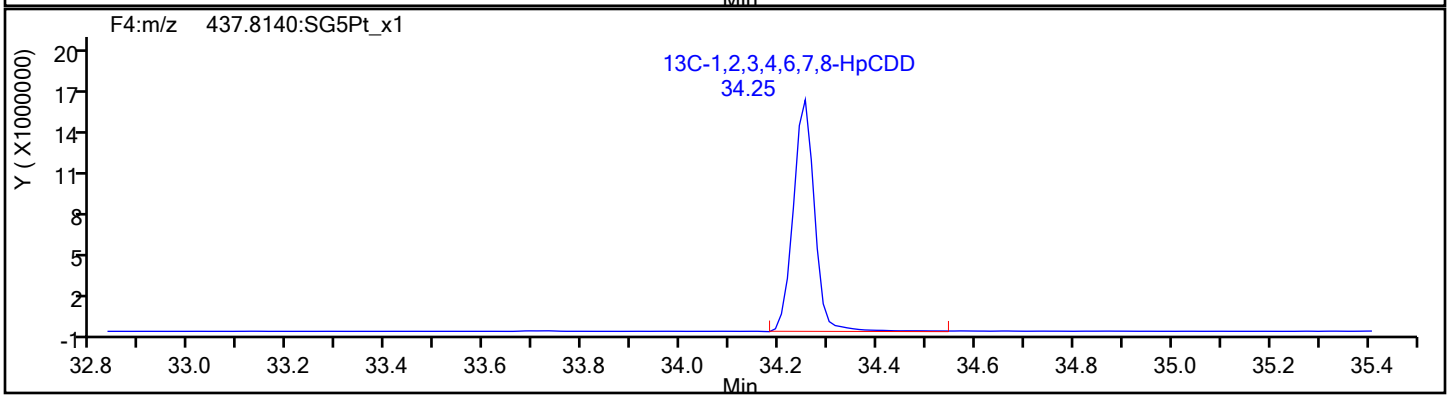

Report Date: 16-Jan-2020 11:42:55 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Instrument ID:	3D5	Operator ID:	ALM
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Client ID:			
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OCDF

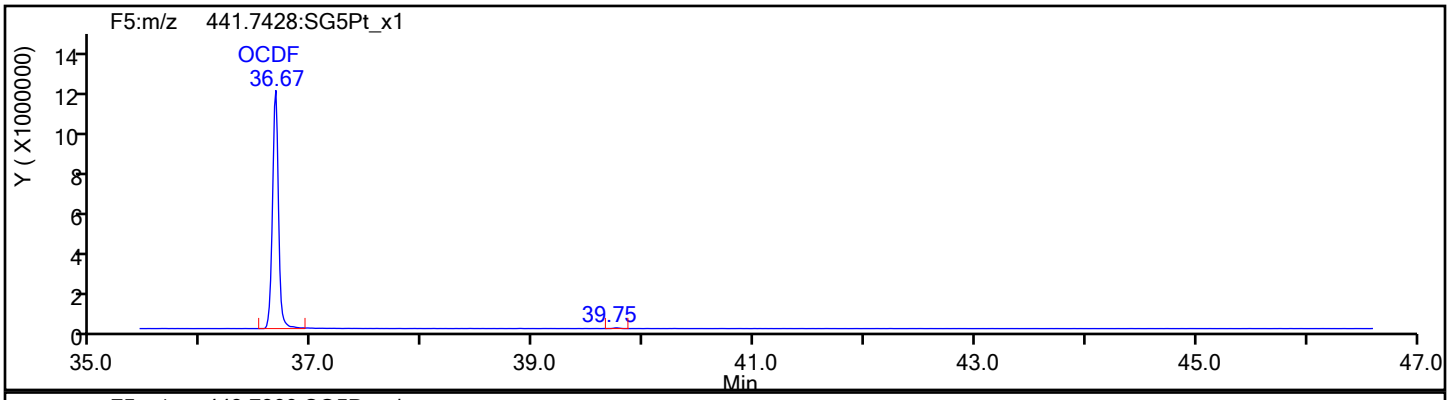

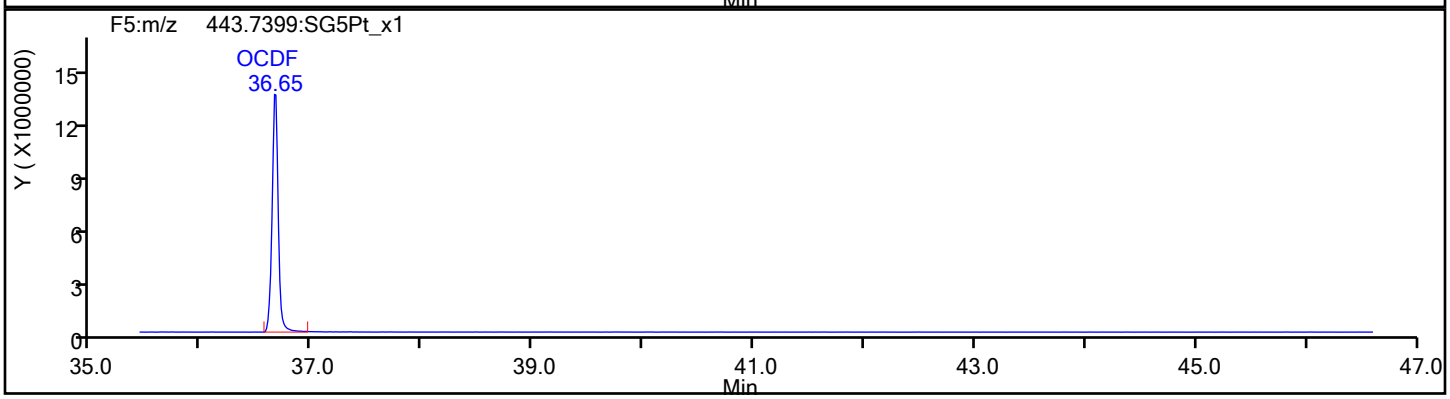

OCDF Standards

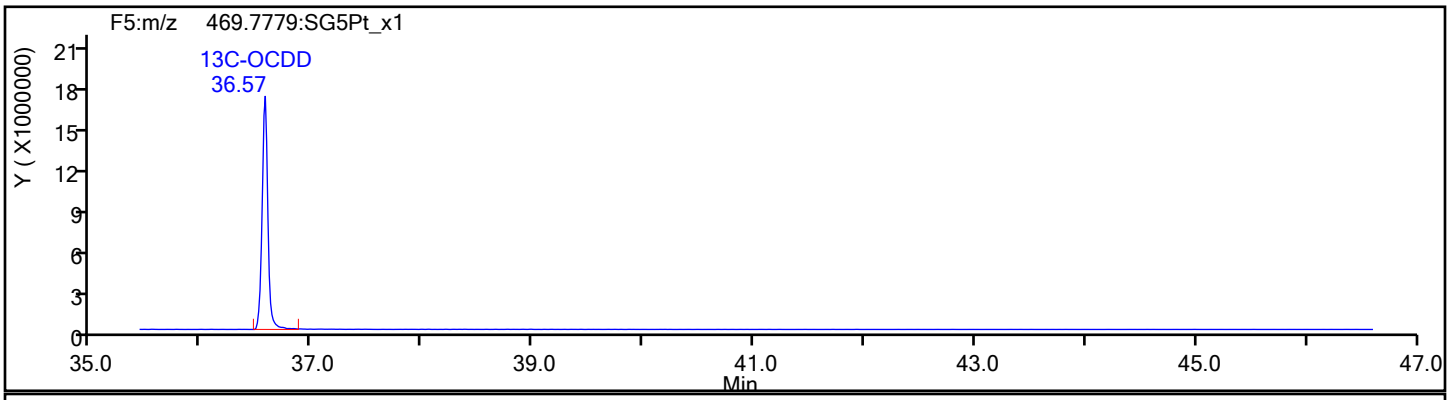

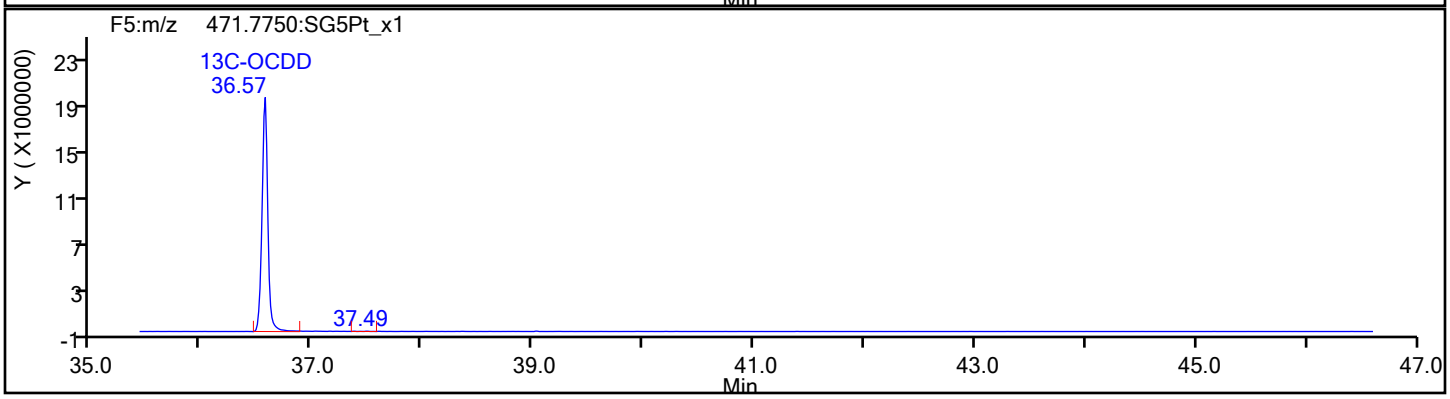

Report Date: 16-Jan-2020 11:42:55 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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OCDF

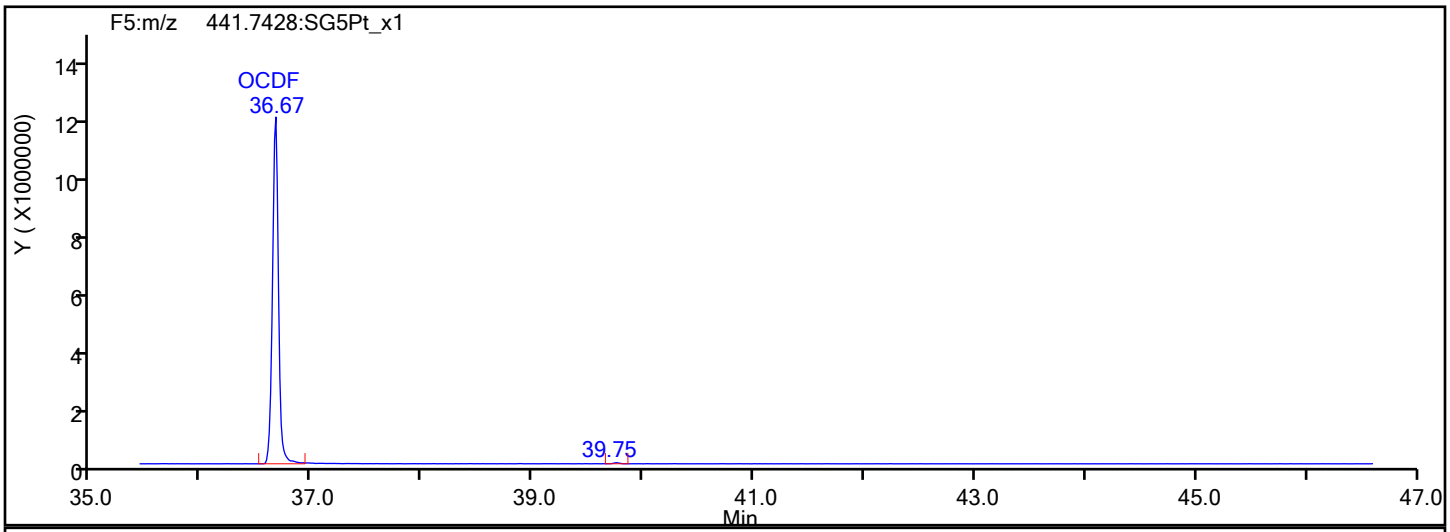

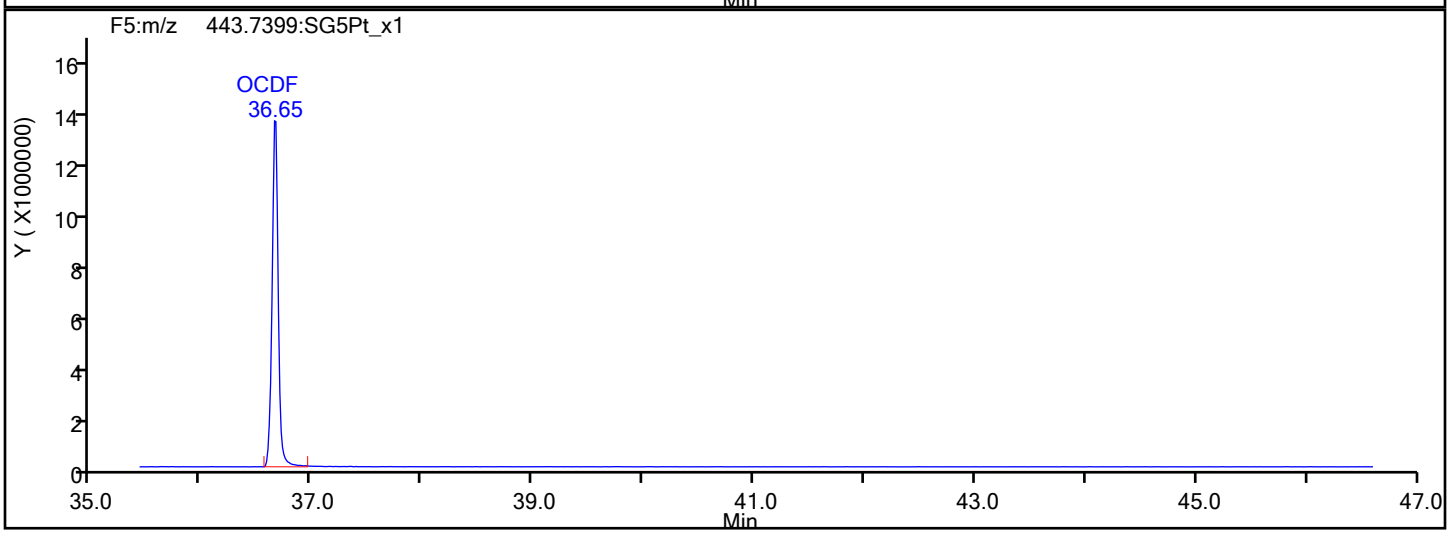

OCDF Interference Mass

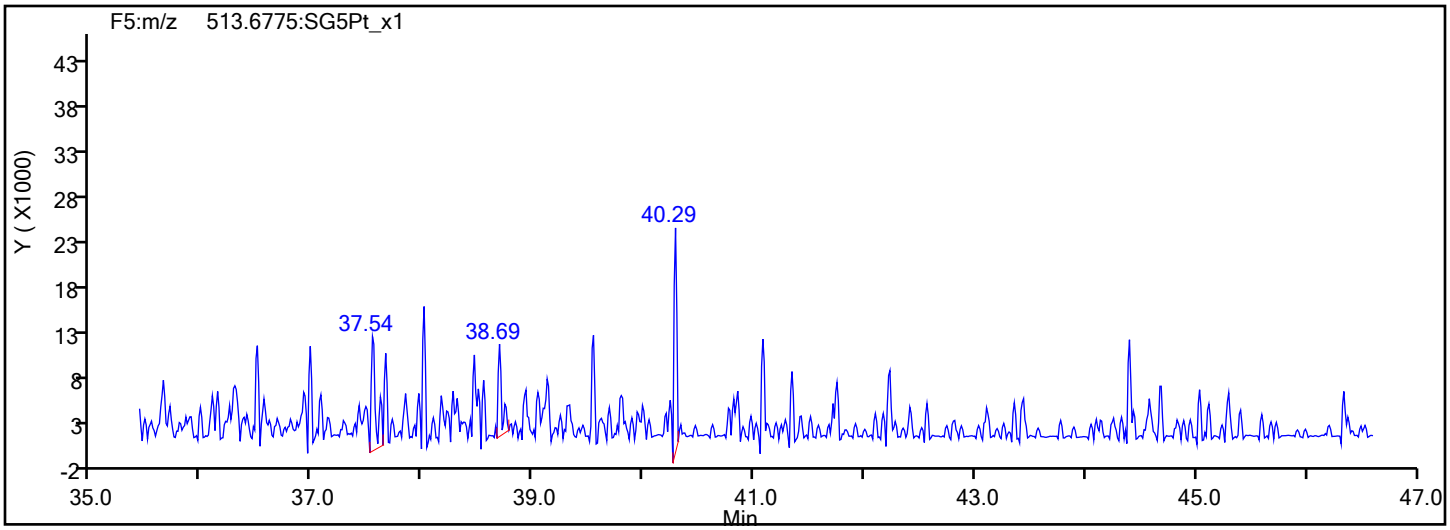

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Eurofins TestAmerica, Sacramento

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OCDD

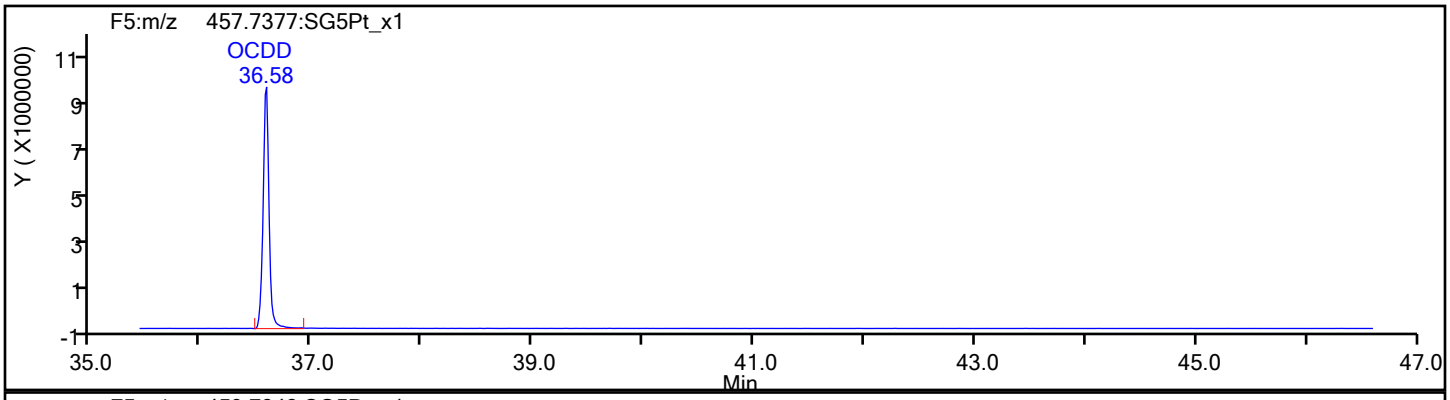

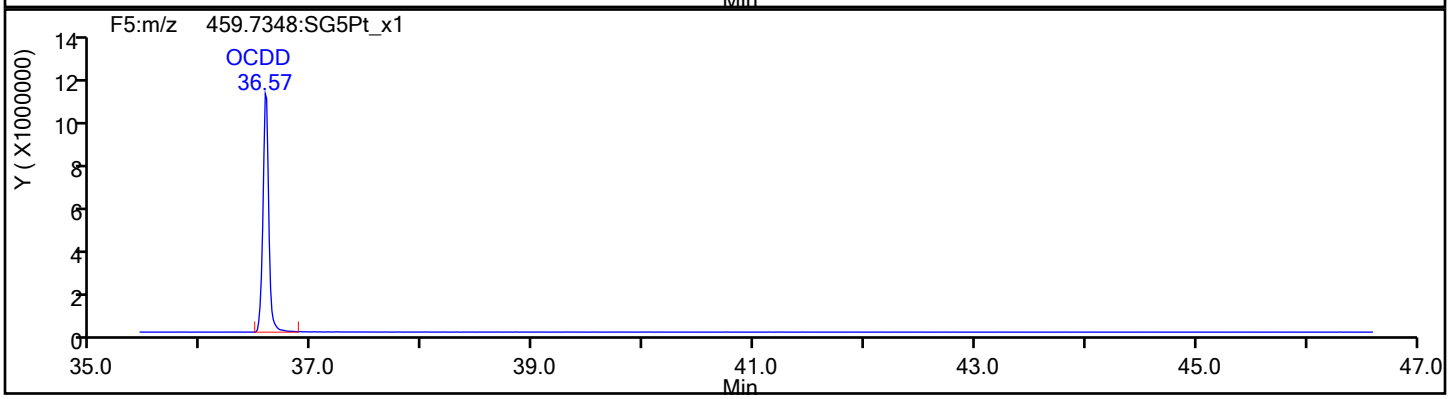

OCDD Standards

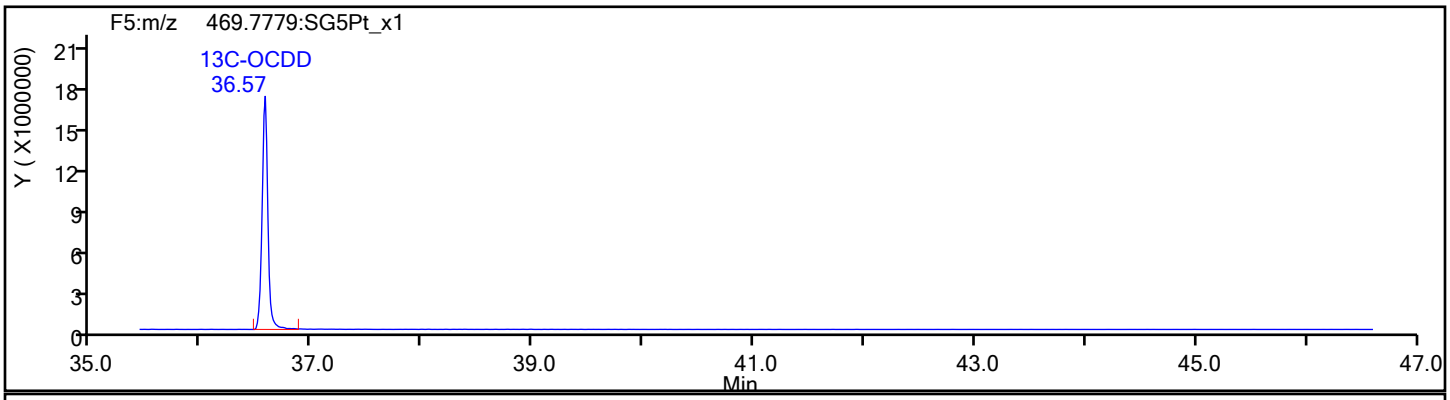

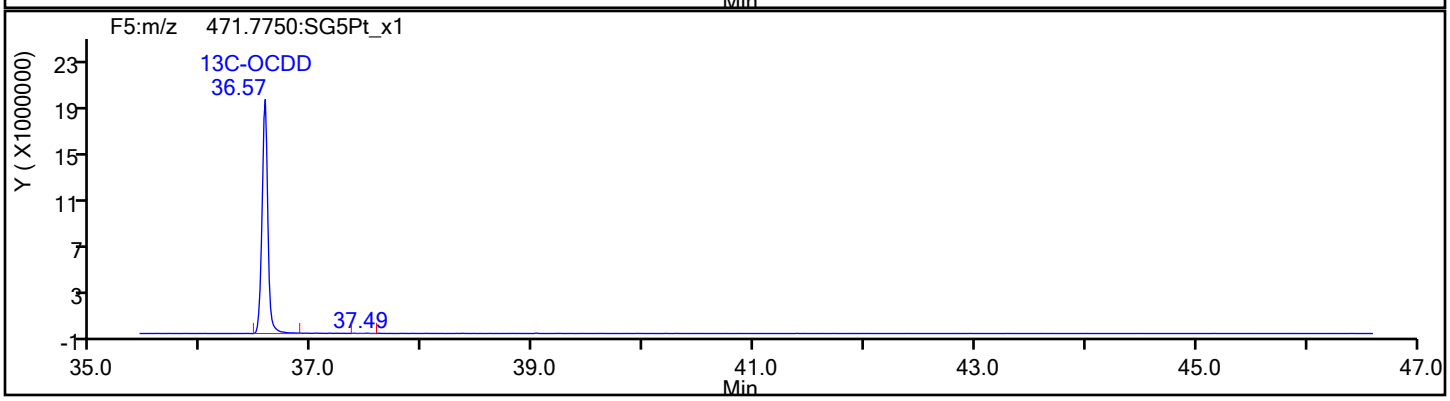

Report Date: 16-Jan-2020 11:42:55 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Injection Date:	15-Jan-2020 20:06:19	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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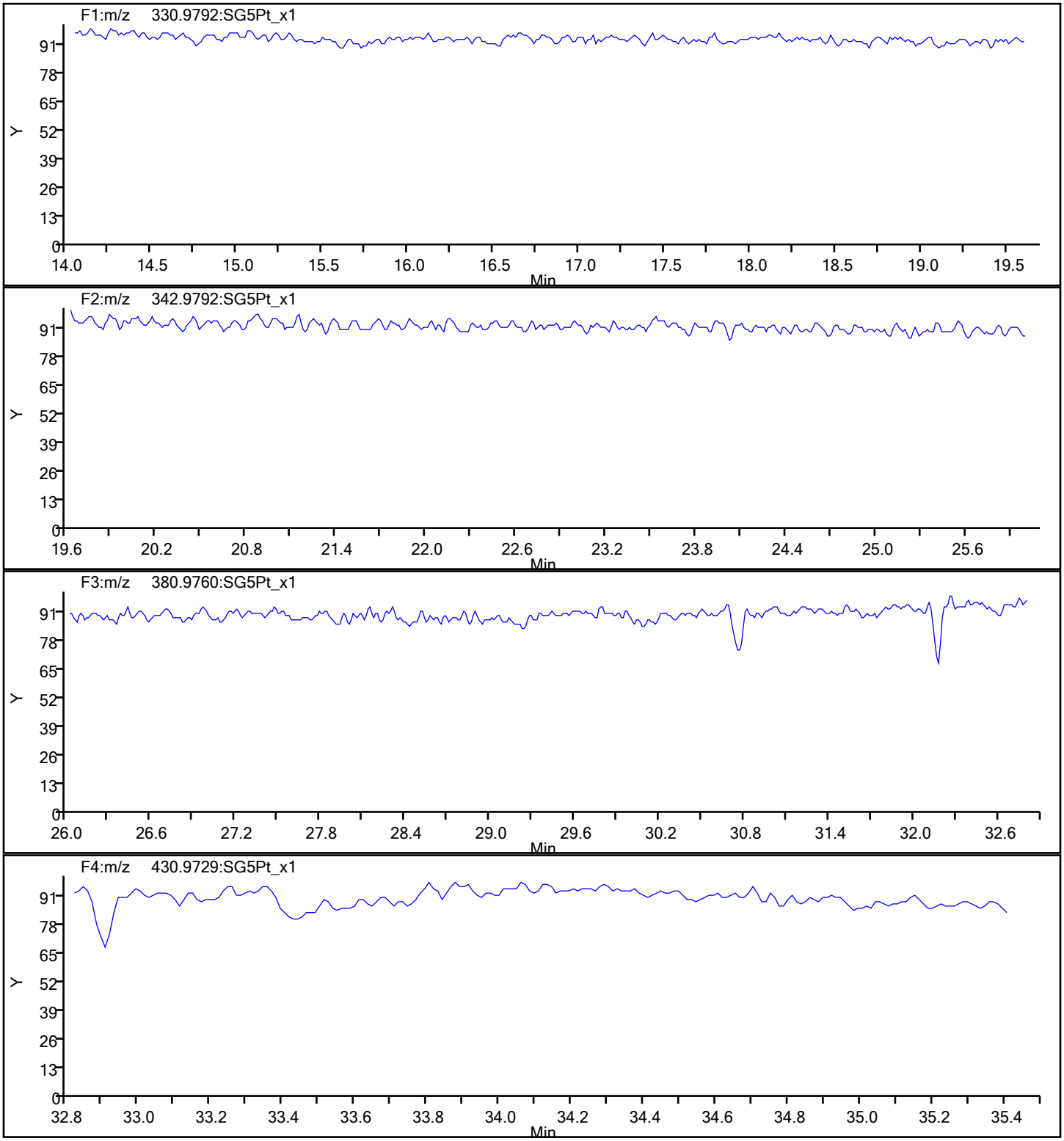

Report Date: 16-Jan-2020 11:42:55 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_2.d		
Injection Date:	15-Jan-2020 20:06:19	Injection Vol:	2.0 ul
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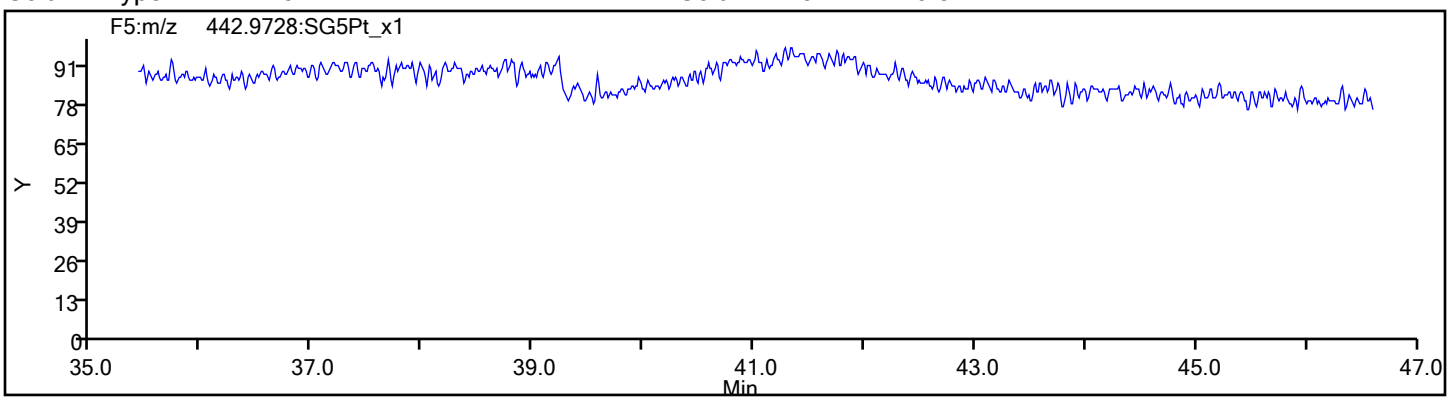

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_1.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 12-Dec-2019 09:53:45 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 121219 WDM HRDXNCP_00040
Misc. Info.: 12DE193D5
Operator ID: KSS Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 12-Dec-2019 16:14:37 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: stephensk Date: 12-Dec-2019 13:30:53

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	17.128	127262064	0.77	1.4157					0.00	
2,3,7,8-TCDF	17.158	263129063	0.79	0.9502	87.0	87.0	0.2769	0.2769		
A Non-2,3,7,8-sub-TCDF	16.841						0.2769	0.2769		
S Total TCDF					87.0	87.0	0.2769	0.2769		
D 13C-2,3,7,8-TCDD	17.823	83918301	0.81	0.9751					0.00	
2,3,7,8-TCDD	17.839	96063981	0.84	1.0477	43.7	43.7	0.1837	0.1837		
A Non-2,3,7,8-sub-TCDD	17.294						0.1837	0.1837		
S Total TCDD					43.7	43.7	0.1837	0.1837		
A F1 PeCDFs	19.797						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	22.906	699418	1.55	0.0000						RQ
S Total PeCDF										RQ
A Non-2,3,7,8-sub-PeCDD	23.055						0.0	0.0		
S Total PeCDD										
A Non-2,3,7,8-sub-HxCDF	29.954						0.0	0.0		
S Total HxCDF										
A Non-2,3,7,8-sub-HxCDD	30.606	975403	1.10	0.0000						
S Total HxCDD										
1,2,3,4,6,7,8-HpCDF	33.652	85575299	1.06	1.4804						
1,2,3,4,7,8,9-HpCDF	34.734	66049853	1.05	1.2933						
A Non-2,3,7,8-sub-HpCDF	34.193						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	34.442	56071825	1.05	1.0535						
A Non-2,3,7,8-sub-HpCDD	34.169						0.0	0.0		
S Total HpCDD										
1,3,6,8-TCDF	14.739	152729299	0.79							
1,3,6,8-TCDD	15.646	93181896	0.82							
2,3,4,7-TCDF	17.158	264257783	0.79							
1,2,3,7-TCDD	17.733	79509134	0.81							
1,2,3,9-TCDF	18.005	117218156	0.79							
1,2,3,9-TCDD	18.005	96743759	0.79							

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,8,9-TCDD	18.942	39950453								
1,2,8,9-TCDF	18.942	121282488	0.80							
1,3,4,6,8-PeCDF	19.215	113228104	1.55							
1,2,4,7,9-PeCDD	20.968	80076952	1.58							
1,2,3,8,9-PeCDD	25.141	77274517	1.55							
1,2,3,8,9-PeCDF	25.359	59233102								
1,2,3,4,6,8-HxCDF	27.610	106714677	1.23							
1,2,4,6,7,9-HxCDD	29.154	76434618	1.28							
1,2,3,4,6,7-HxCDD	31.964	74354267	1.24							
1,2,3,4,8,9-HxCDF	32.297	93711685	1.19							
1,2,3,4,6,7,9-HpCDD	33.895	64380977	1.07							

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNCP_00040 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_1.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 12-Dec-2019 09:53:45 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 121219 WDM HRDXNCP_00040
Misc. Info.: 12DE193D5
Operator ID: KSS Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 12-Dec-2019 16:14:37 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: stephensk Date: 12-Dec-2019 13:30:53

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	17.128	17.128	0	1.000	55391571	14476889	26131	65327	554		
317.9389	17.128	17.128	0	1.000	71870493	18784490	16410	41025	1145	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.158	17.176	-1	1.002	116146866	26302637	39398	98495	668		
305.8987	17.158	17.176	-1	1.002	146982197	32817476	48110	120275	682	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.841						39398	98495			
305.8987	16.841						48110	120275			
13C-2,3,7,8-TCDD											
331.9368	17.823	17.823	0	1.000	37518186	9279196	19208	48020	483		
333.9339	17.823	17.823	0	1.000	46400115	11326582	8196	20490	1382	0.81(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.839	17.872	-2	1.001	43772044	10422211	17517	43792	595		
321.8936	17.839	17.872	-2	1.001	52291937	12390443	22141	55352	560	0.84(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.294						17517	43792			
321.8936	17.294						22141	55352			
A F1 PeCDFs											
339.8597	19.797						5477	13692			
341.8567	19.797						7870	19675			
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	22.128	22.906	-47	1.000	425137	57000	8590	21475	7		
341.8567	22.114	22.906	-47	1.000	338200	46155	8489	21222	5	1.26(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.055						11276	28190			
357.8516	23.055						5626	14065			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.954						13878	34695			
375.8178	29.954						12101	30252			
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.766	30.606	10	1.000	511512	109721	13941	34852	8		
391.8127	30.766	30.606	10	1.000	463891	93172	9728	24320	10	1.10(1.05-1.43)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.652	33.659	0	1.000	44070684	15770421	35193	87982	448		
409.7789	33.652	33.659	0	1.000	41504615	14258181	29457	73642	484	1.06(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.734	34.736	0	1.000	33851090	10387359	35193	87982	295		
409.7789	34.734	34.736	0	1.000	32198763	9789877	29457	73642	332	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.193						35193	87982			
409.7789	34.193						29457	73642			
1,2,3,4,6,7,8-HpCDD											
423.7766	34.442	34.449	0	1.000	28661323	9249103	22089	55222	419		
425.7737	34.442	34.449	0	1.000	27410502	8942138	26825	67062	333	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.169						22089	55222			
425.7737	34.169						26825	67062			
1,3,6,8-TCDF											
303.9016	14.739	14.739	0		67346174	20833360	39398	98495	529		
305.8987	14.739	14.739	0		85383125	26683564	48110	120275	555	0.79(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	15.646	15.646	0		41917759	12260823	17517	43792	700		
321.8936	15.646	15.646	0		51264137	15767472	22141	55352	712	0.82(0.65-0.89)	
2,3,4,7-TCDF											
303.9016	17.158	17.158	0		116632069	26335155	39398	98495	668		
305.8987	17.158	17.158	0		147625714	32857354	48110	120275	683	0.79(0.65-0.89)	
1,2,3,7-TCDD											
319.8965	17.733	17.733	0		35468173	9106870	17517	43792	520		
321.8936	17.733	17.733	0		44040961	11053343	22141	55352	499	0.81(0.65-0.89)	
1,2,3,9-TCDF											
303.9016	18.005	18.005	0		51564633	12704415	39398	98495	322		
305.8987	18.005	18.005	0		65653523	15836881	48110	120275	329	0.79(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	18.005	18.005	0		42573078	10058662	17517	43792	574		
321.8936	18.005	18.005	0		54170681	12706888	22141	55352	574	0.79(0.65-0.89)	
1,2,8,9-TCDD											
319.8965	18.942	18.942	0		39950453	9266410	17517	43792	529		
1,2,8,9-TCDF											
303.9016	18.942	18.942	0		53748413	12558434	39398	98495	319		
305.8987	18.942	18.942	0		67534075	16014900	48110	120275	333	0.80(0.65-0.89)	
1,3,4,6,8-PeCDF											
339.8597	19.215	19.215	0		68807915	15607029	5477	13692	2850		
341.8567	19.215	19.215	0		44420189	10153978	7870	19675	1290	1.55(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,4,7,9-PeCDD											
355.8546	20.968	20.968	0		49021885	8823043	11276	28190	782		
357.8516	20.968	20.968	0		31055067	5580555	5626	14065	992	1.58(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	25.141	25.141	0		46950877	6770234	11276	28190	600		
357.8516	25.141	25.141	0		30323640	4445979	5626	14065	790	1.55(1.32-1.78)	
1,2,3,8,9-PeCDF											
339.8597	25.359	25.359	0		59233102	8224157	8590	21475	957		
1,2,3,4,6,8-HxCDF											
373.8208	27.610	27.610	0		58886748	7619812	13878	34695	549		
375.8178	27.597	27.610	-1		47827929	6267357	12101	30252	518	1.23(1.05-1.43)	
1,2,4,6,7,9-HxCDD											
389.8157	29.154	29.154	0		42845579	5122739	13941	34852	367		
391.8127	29.154	29.154	0		33589039	4084048	9728	24320	420	1.28(1.05-1.43)	
1,2,3,4,6,7-HxCDD											
389.8157	31.964	31.964	0		41163973	11069026	13941	34852	794		
391.8127	31.964	31.964	0		33190294	8796454	9728	24320	904	1.24(1.05-1.43)	
1,2,3,4,8,9-HxCDF											
373.8208	32.297	32.297	0		50881816	13799129	13878	34695	994		
375.8178	32.284	32.297	-1		42829869	11639611	12101	30252	962	1.19(1.05-1.43)	
1,2,3,4,6,7,9-HpCDD											
423.7766	33.895	33.895	0		33226407	11501978	22089	55222	521		
425.7737	33.895	33.895	0		31154570	10694340	26825	67062	399	1.07(0.88-1.20)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Reagents:

HRDXNCP_00040 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_1.d
Lims ID: WDM
Client ID:
Inject. Date: 12-Dec-2019 09:53:45 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 3D5 Operator: KSS
Lims Batch ID: 345037 Lims Sample ID: 1

Non-2,3,7,8-sub-PeCDF, RT: 22.906

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.030				
2,3,4,7,8-PeCDF	1.041				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
22.128	425137	57000	338200	46155		1.26	R
Signal Totals:							
	425137	57000	338200	46155			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	763337	103155				1.26	RQ
	699418	93774					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (763337 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (699418 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_1.d
Lims ID: WDM
Client ID:
Inject. Date: 12-Dec-2019 09:53:45 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 3D5 Operator: KSS
Lims Batch ID: 345037 Lims Sample ID: 1

Non-2,3,7,8-sub-HxCDD, RT: 30.606

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.093				
1,2,3,6,7,8-HxCDD	1.043				
1,2,3,7,8,9-HxCDD	1.207				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
30.766	511512	109721	463891	93172		1.10	
Signal Totals:							
	511512	109721	463891	93172			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	975403	202893				1.10	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (975403 * 0.0) / (0 * 0.000)

Report Date: 12-Dec-2019 16:14:38 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_1.d		
Injection Date:	12-Dec-2019 09:53:45	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	345037	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

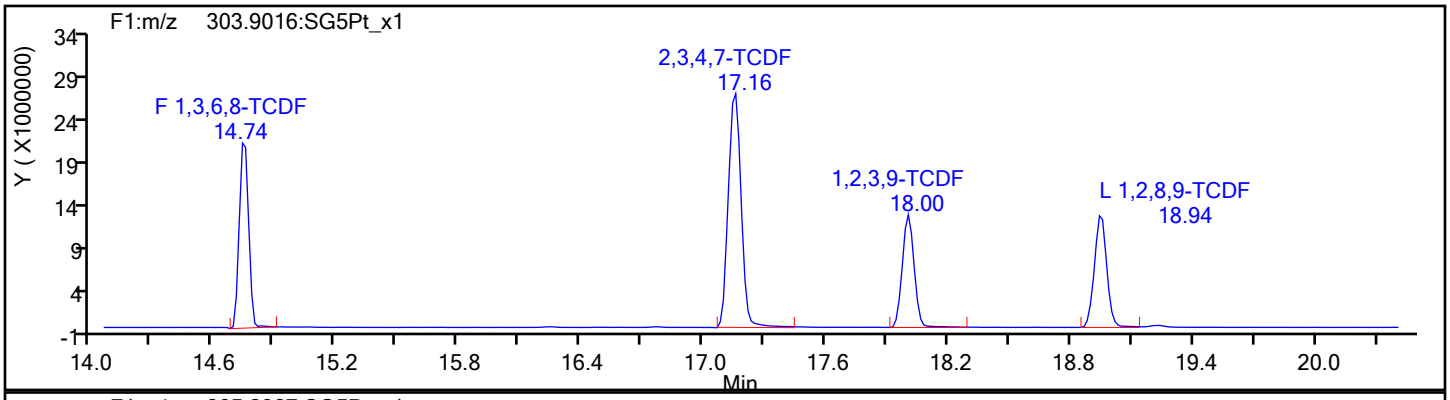

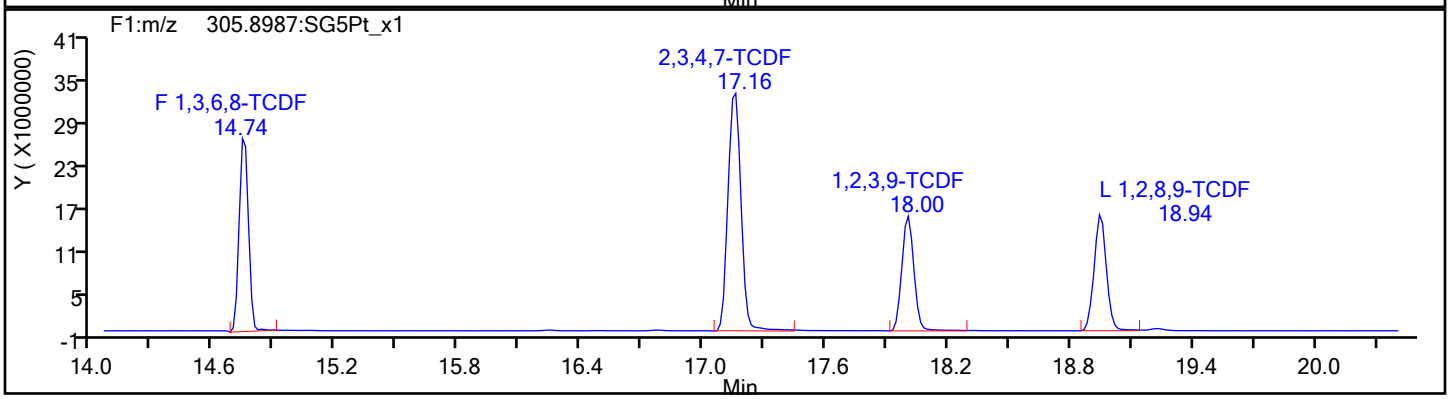

TCDF Standards

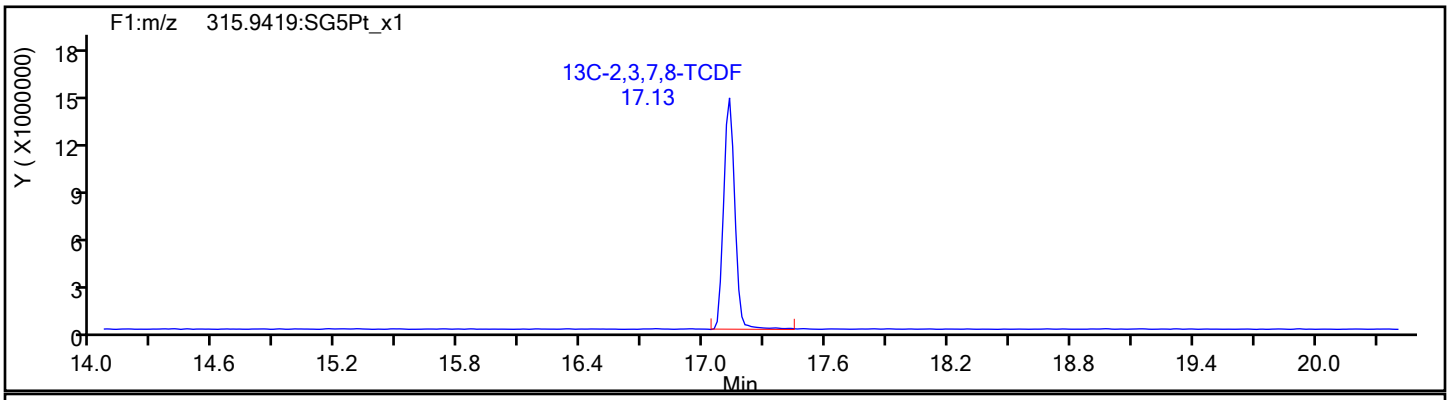

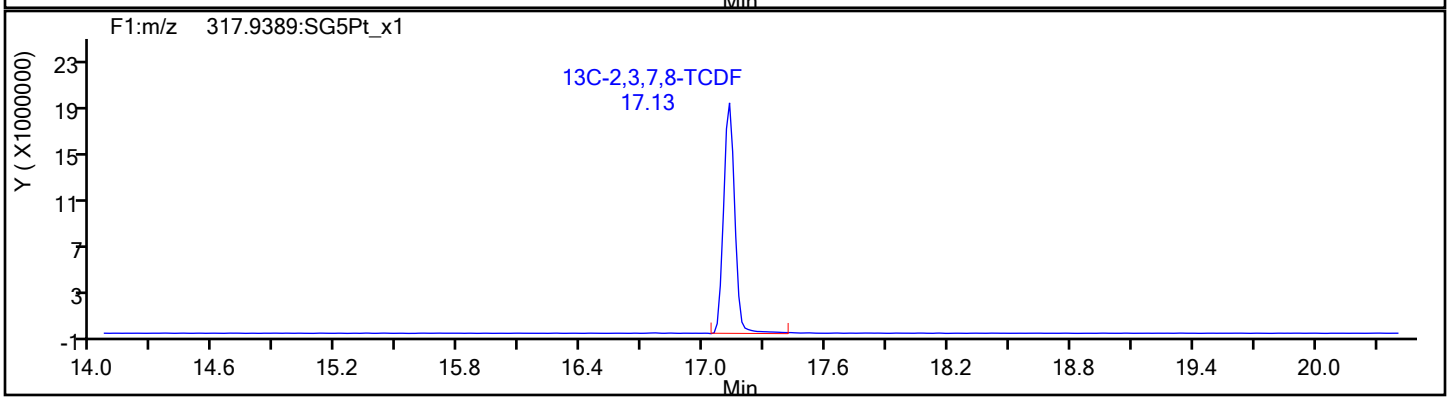

Report Date: 12-Dec-2019 16:14:38 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_1.d		
Injection Date:	12-Dec-2019 09:53:45	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	345037	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

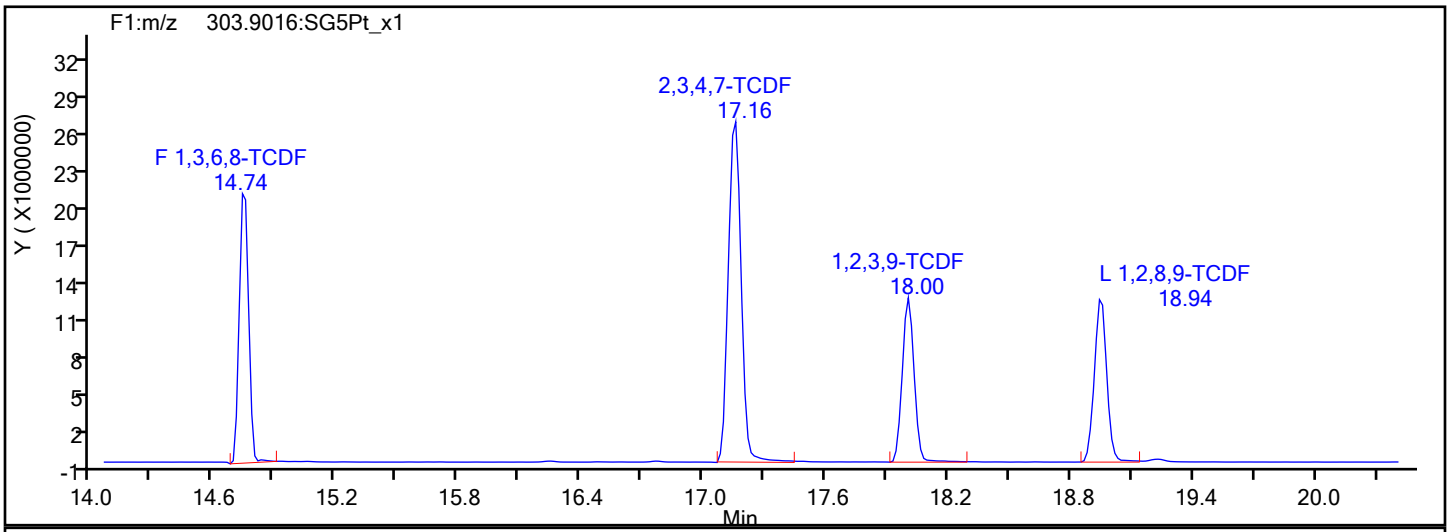

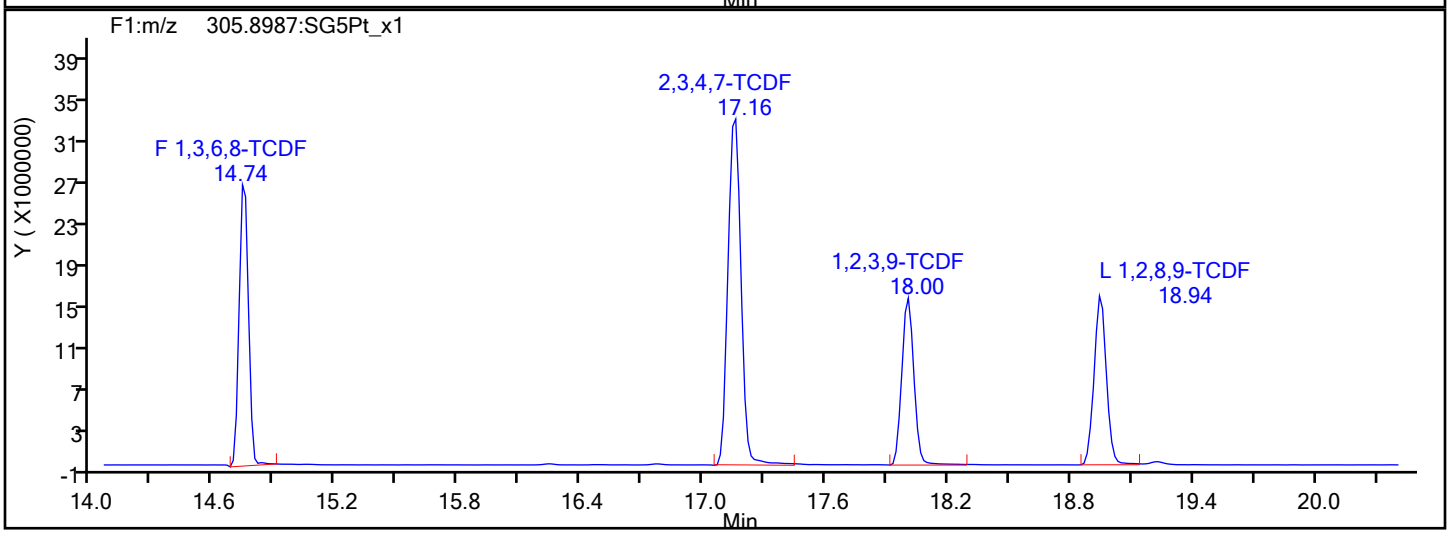

TCDF Interference Mass

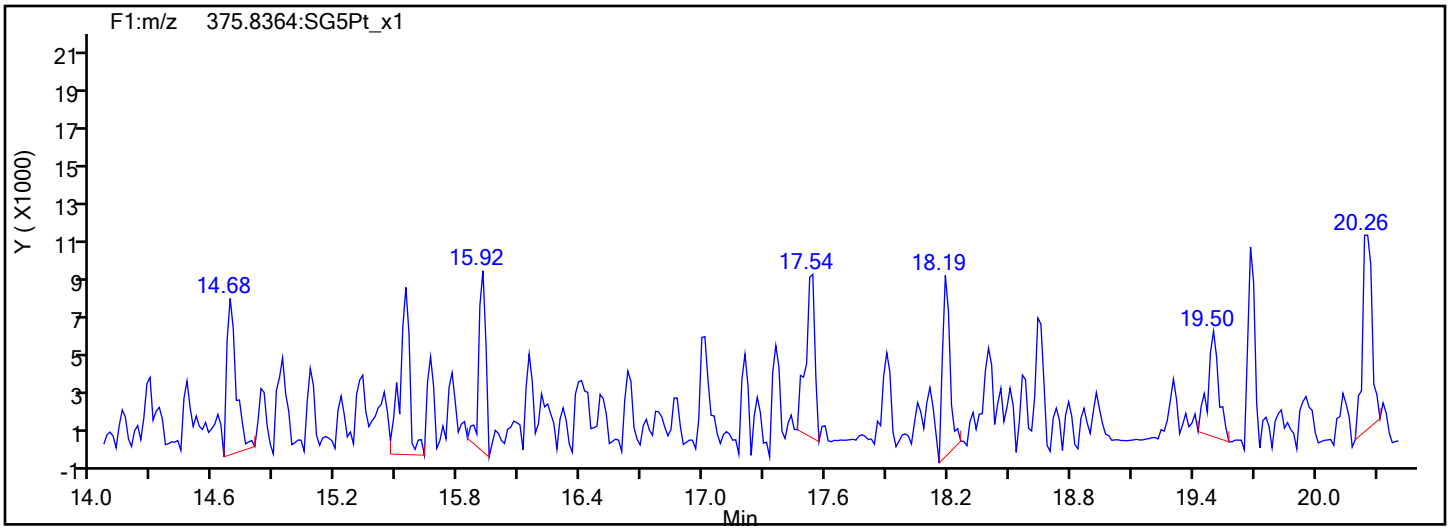

Report Date: 12-Dec-2019 16:14:38 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_1.d		
Injection Date:	12-Dec-2019 09:53:45	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	345037	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

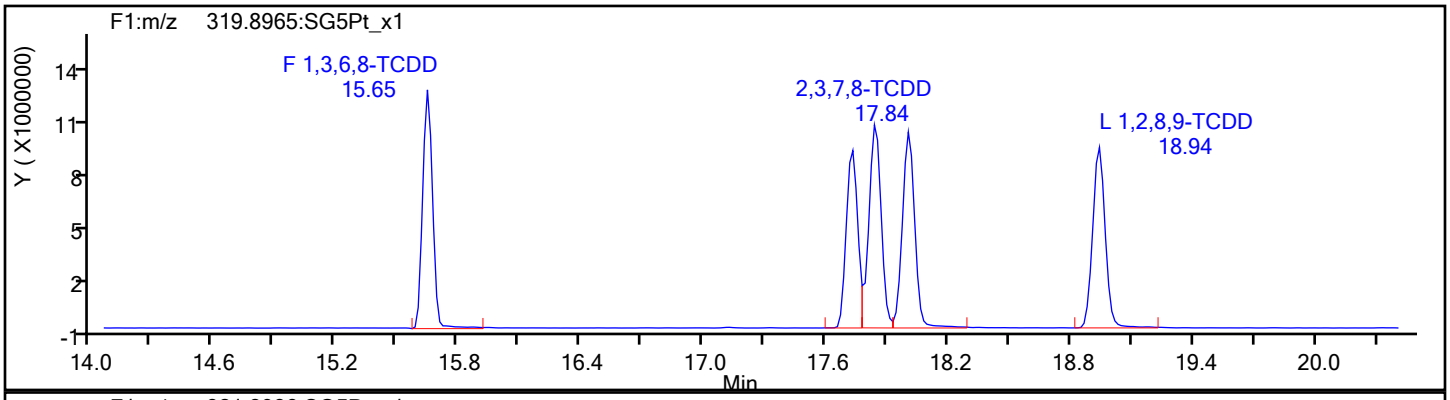

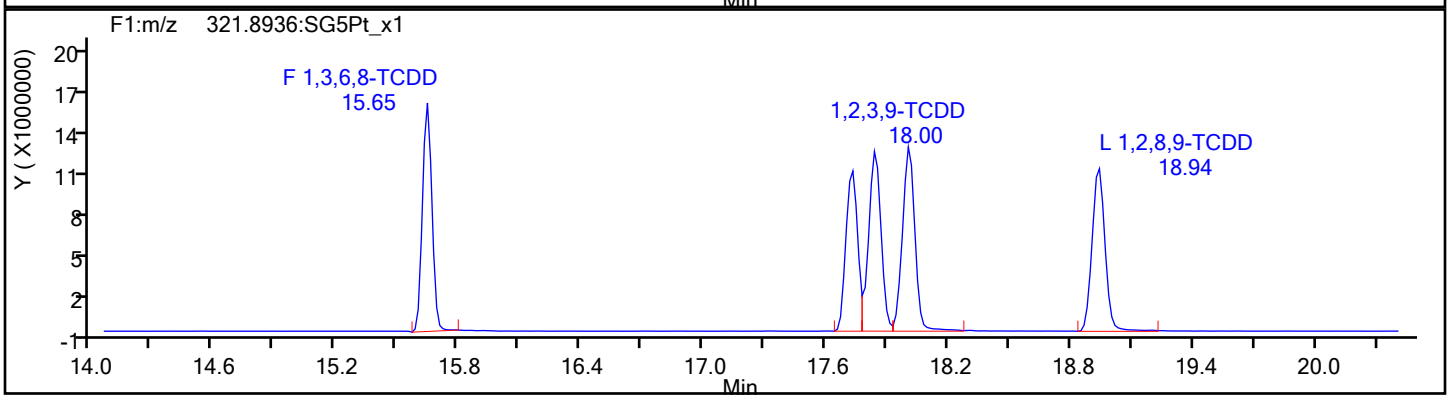

TCDD Standards

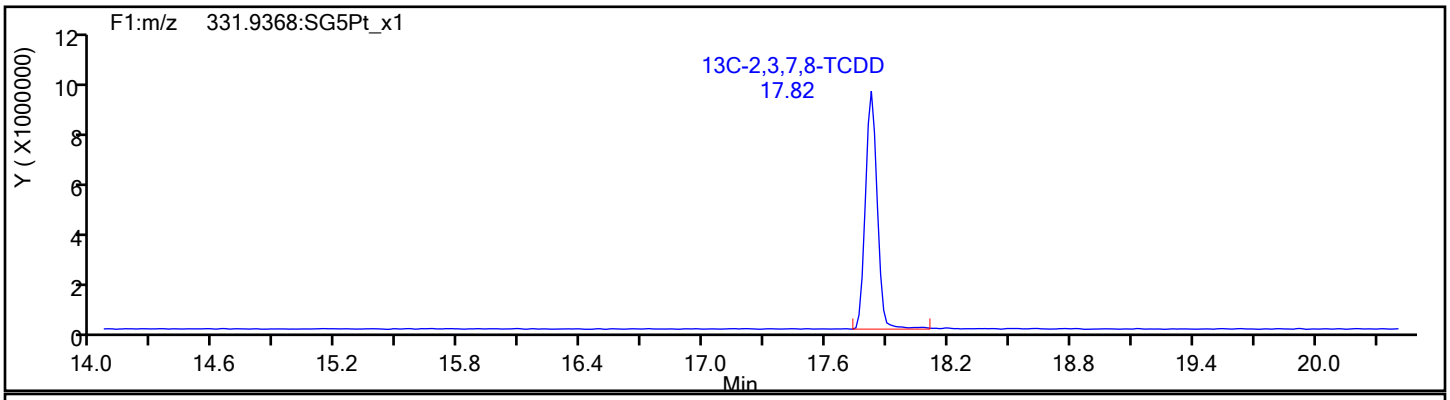

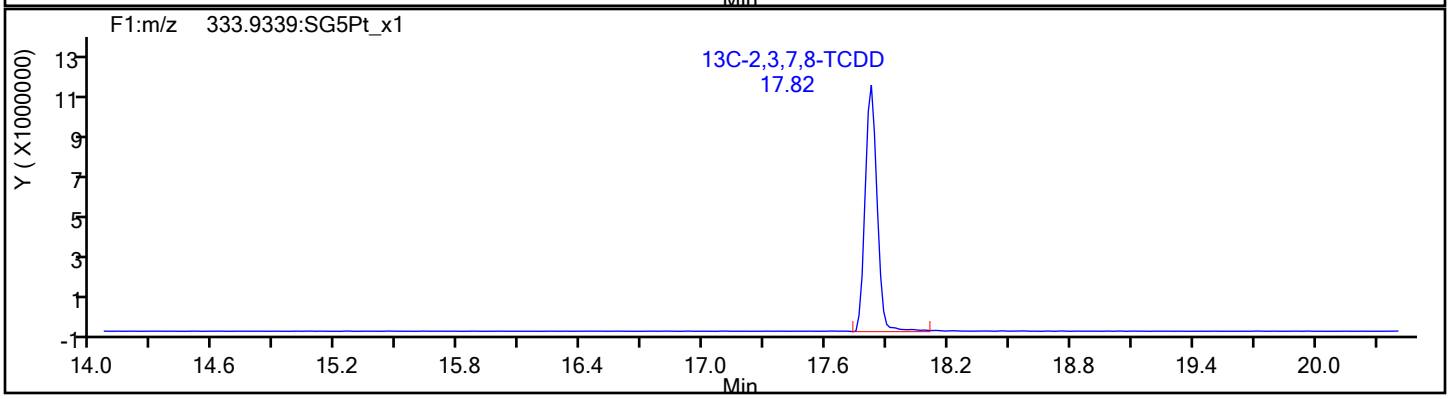

Report Date: 12-Dec-2019 16:14:38 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_1.d		
Injection Date:	12-Dec-2019 09:53:45	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	345037	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

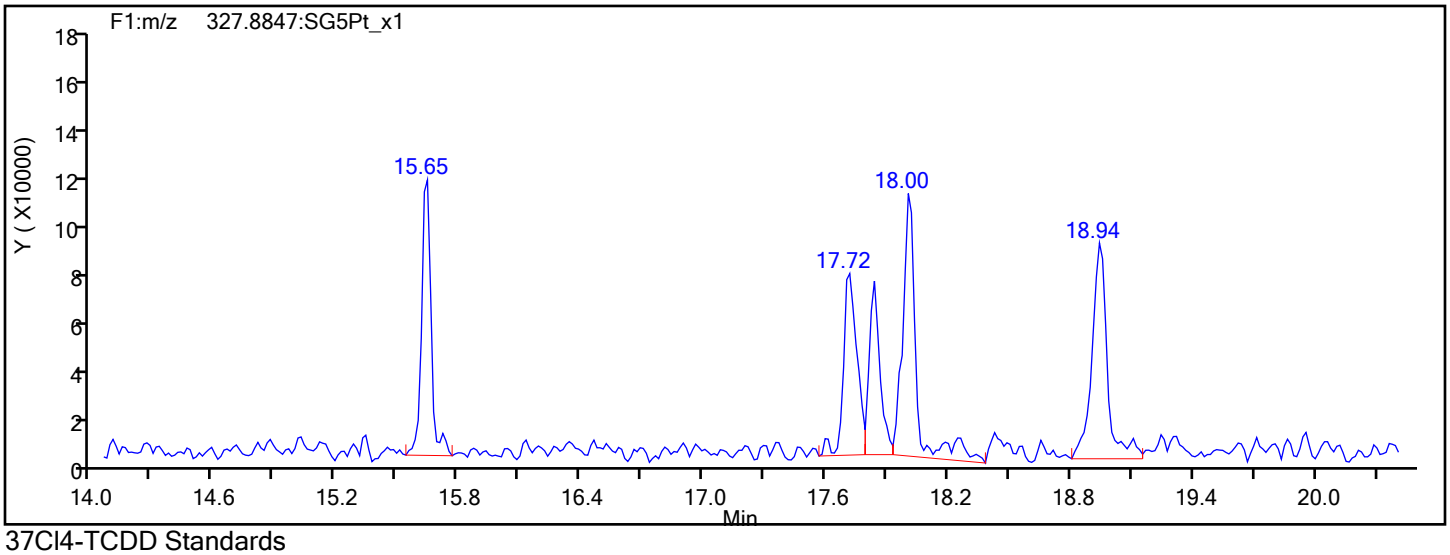

37Cl4-TCDD Standards

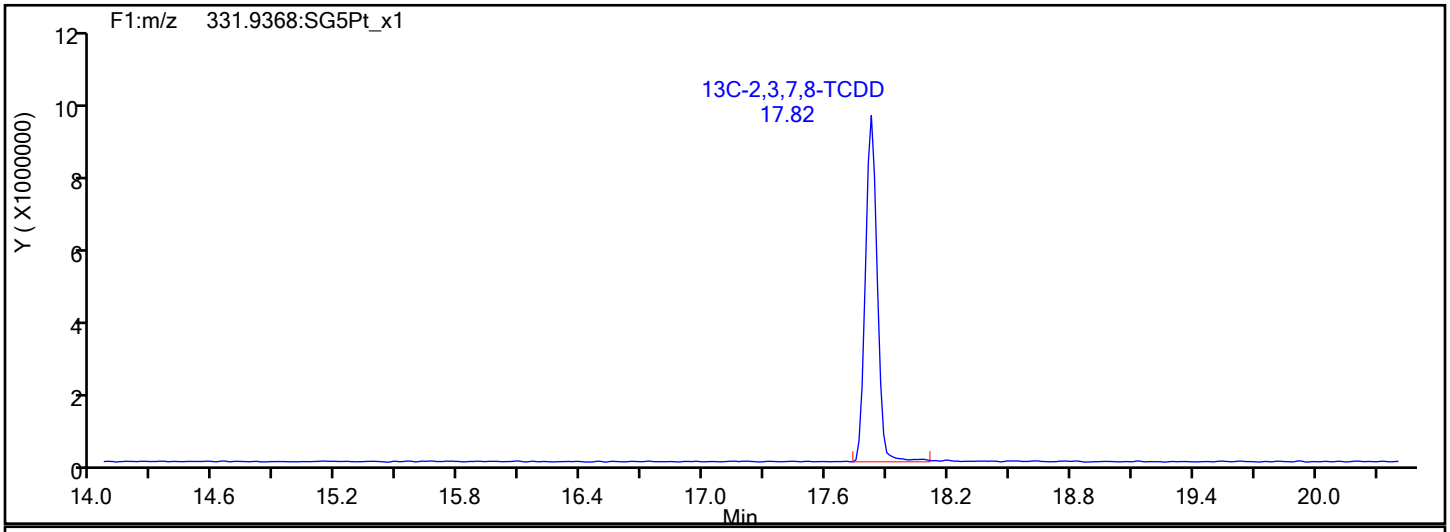

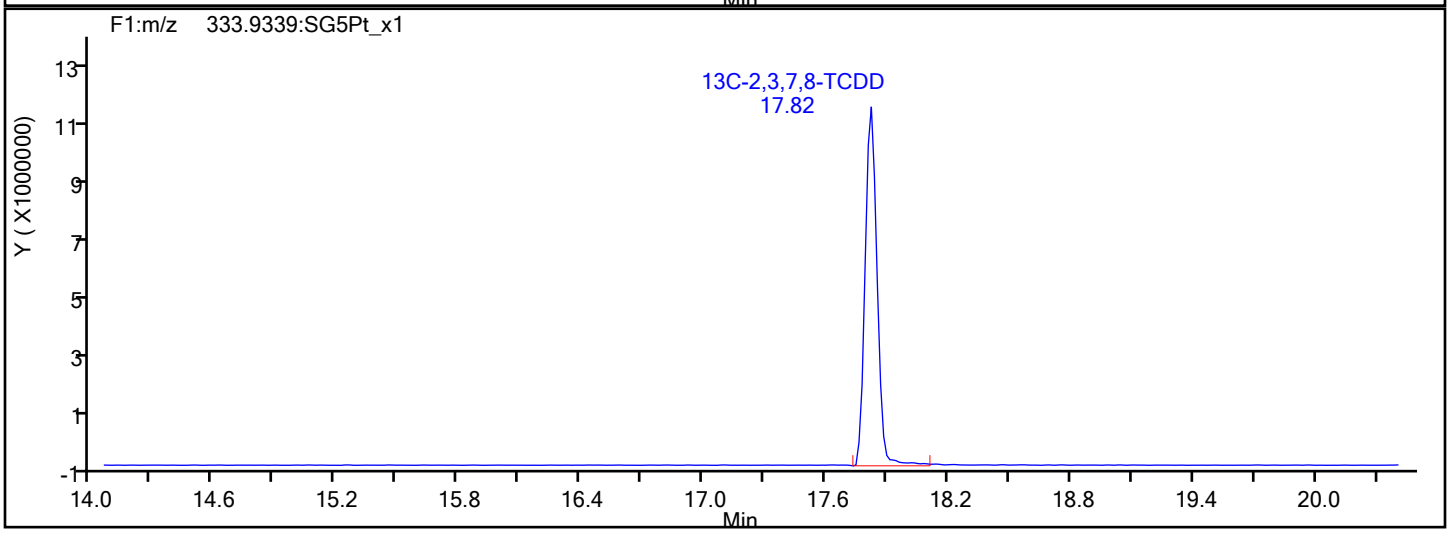

Report Date: 12-Dec-2019 16:14:38 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

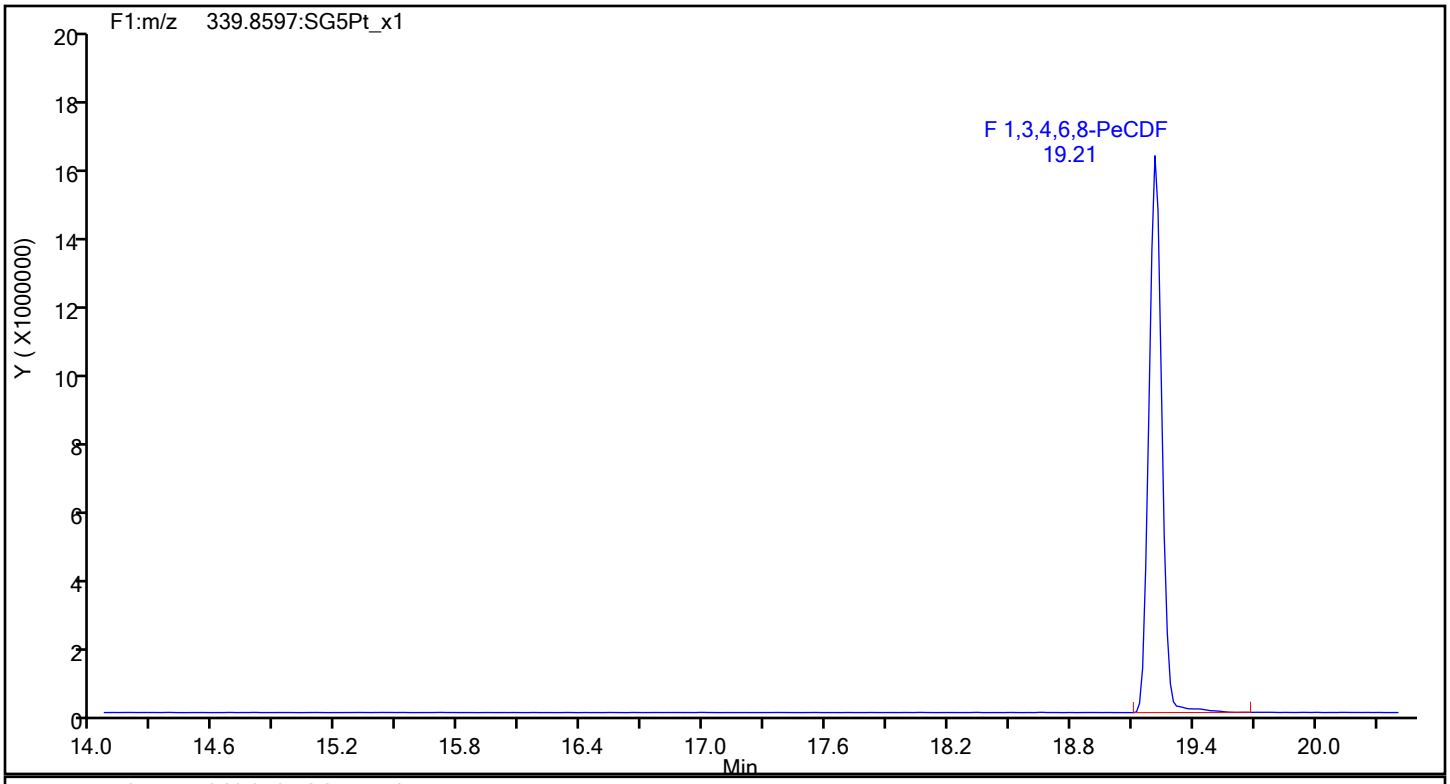

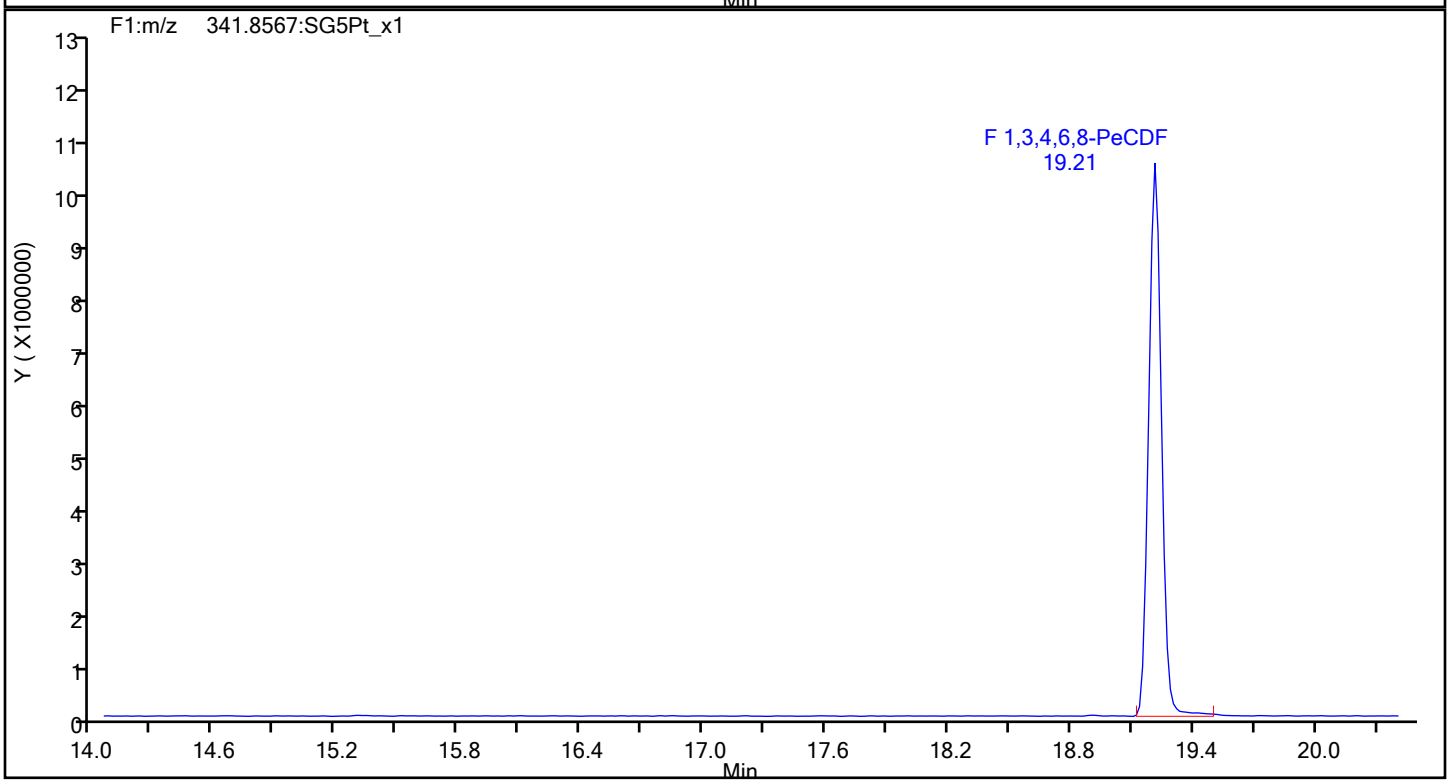

Report Date: 12-Dec-2019 16:14:38 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

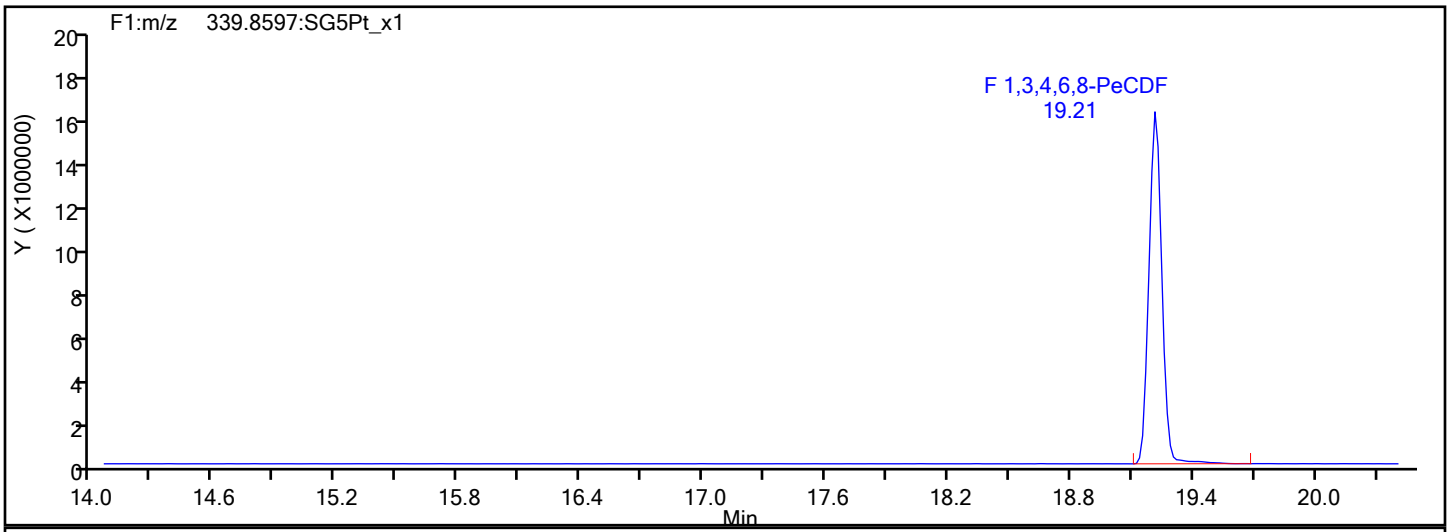

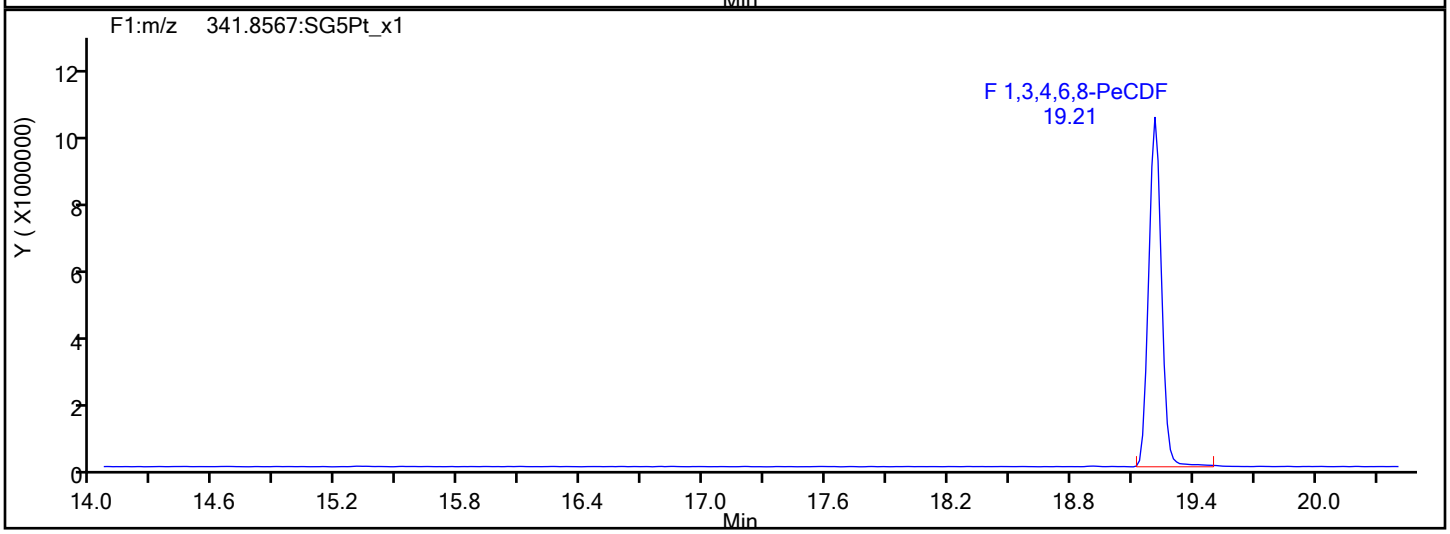

F1 PeCDFs Interference Mass

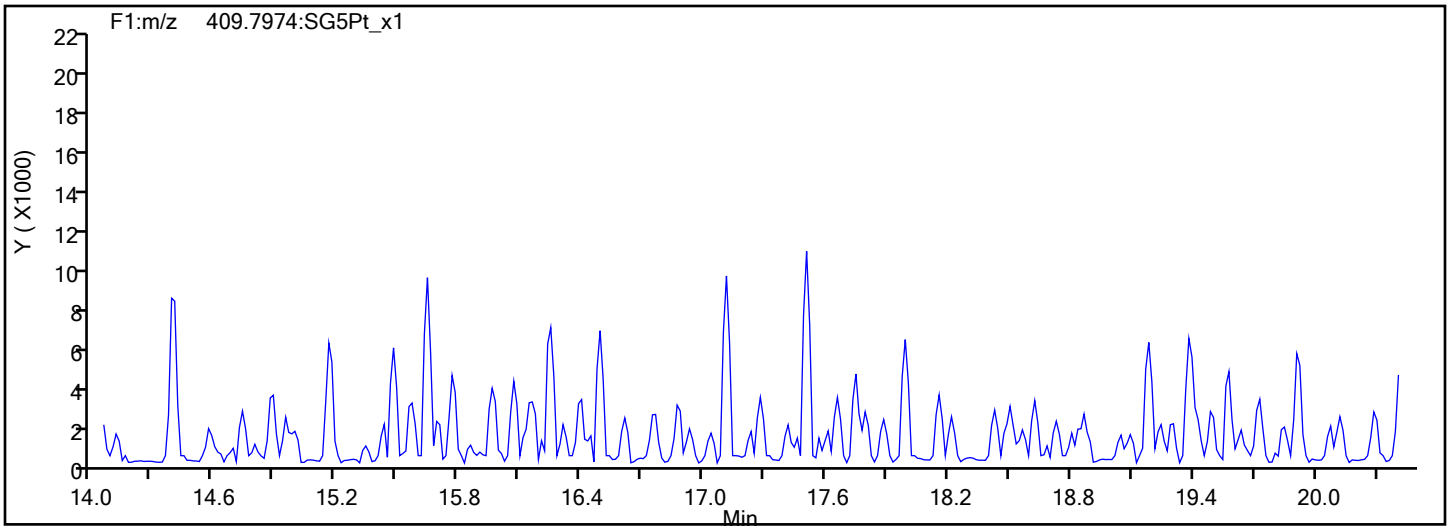

Report Date: 12-Dec-2019 16:14:38 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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PeCDF

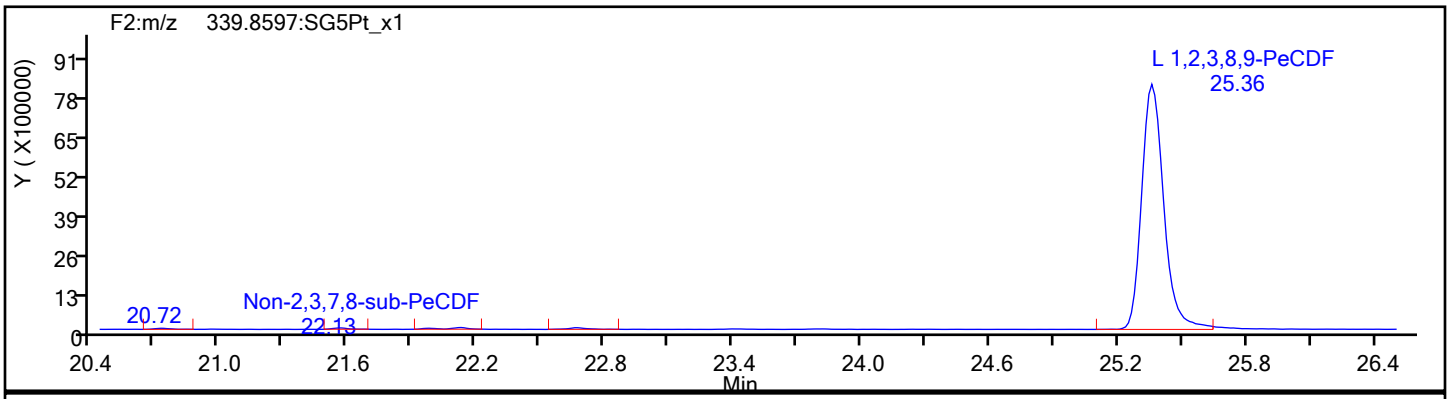

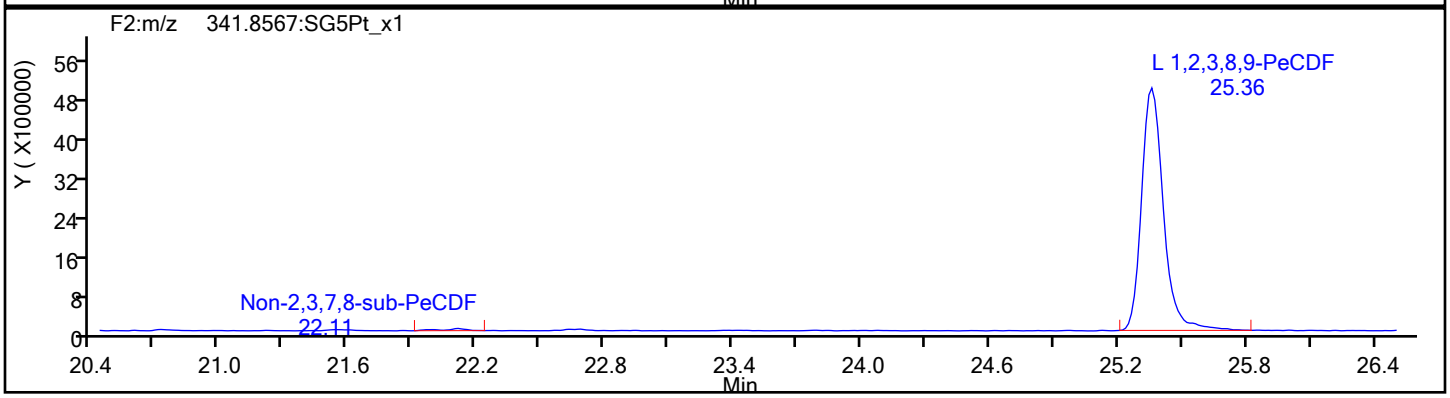

PeCDF Standards

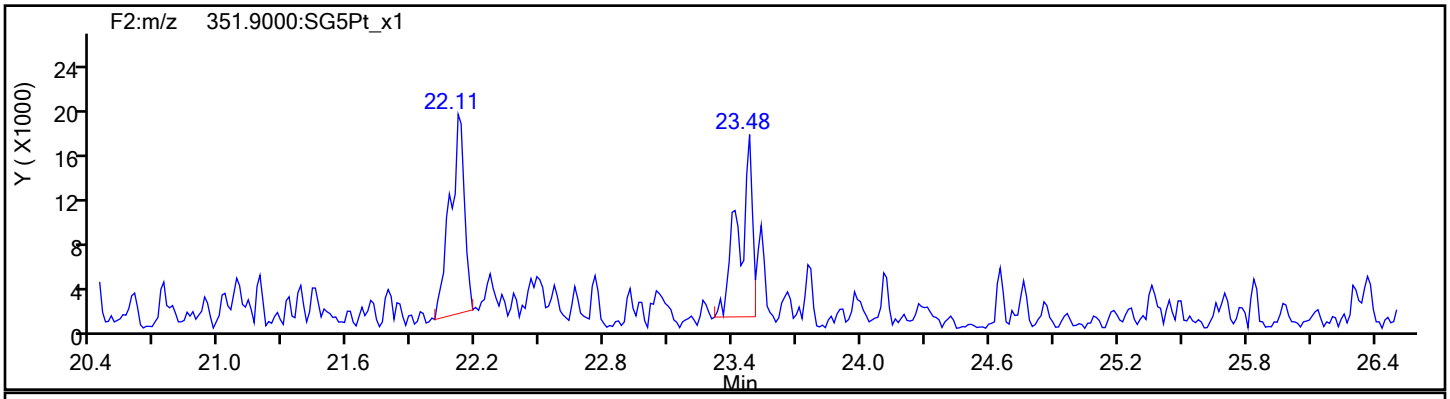

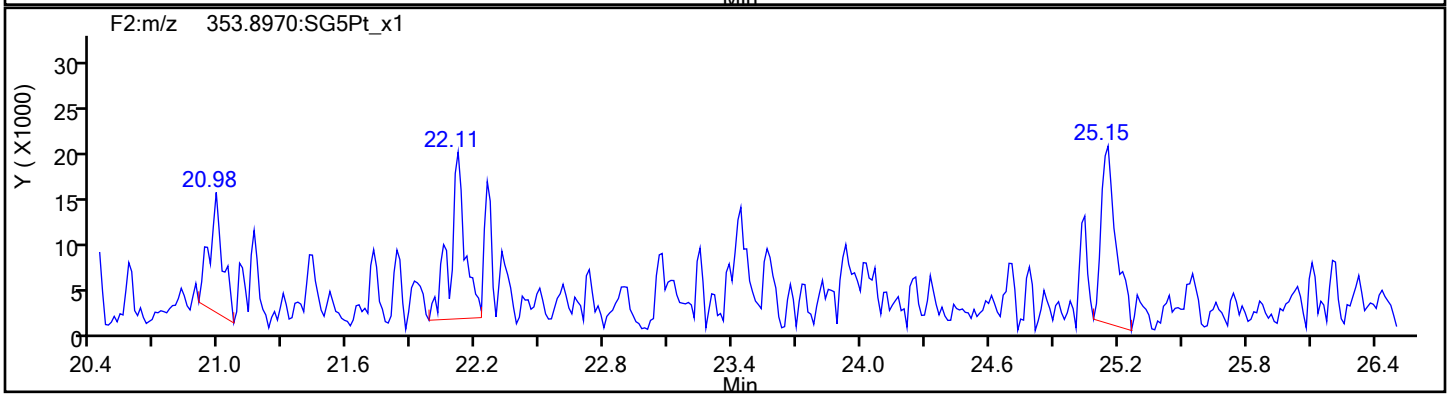

Report Date: 12-Dec-2019 16:14:38 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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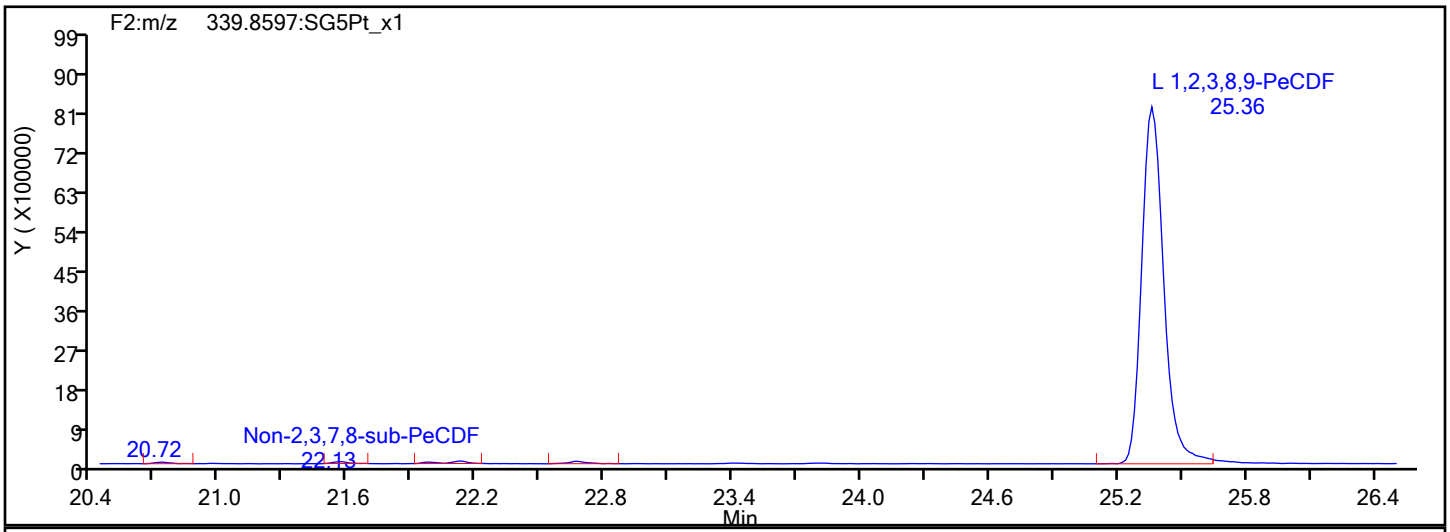

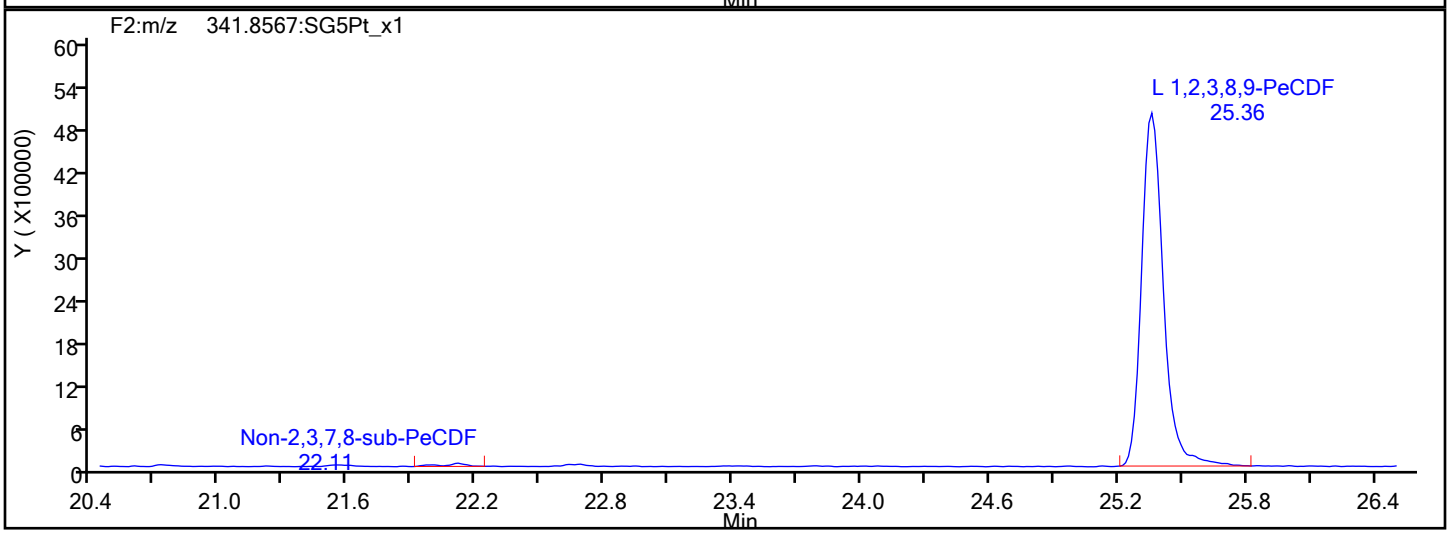

PeCDF Interference Mass

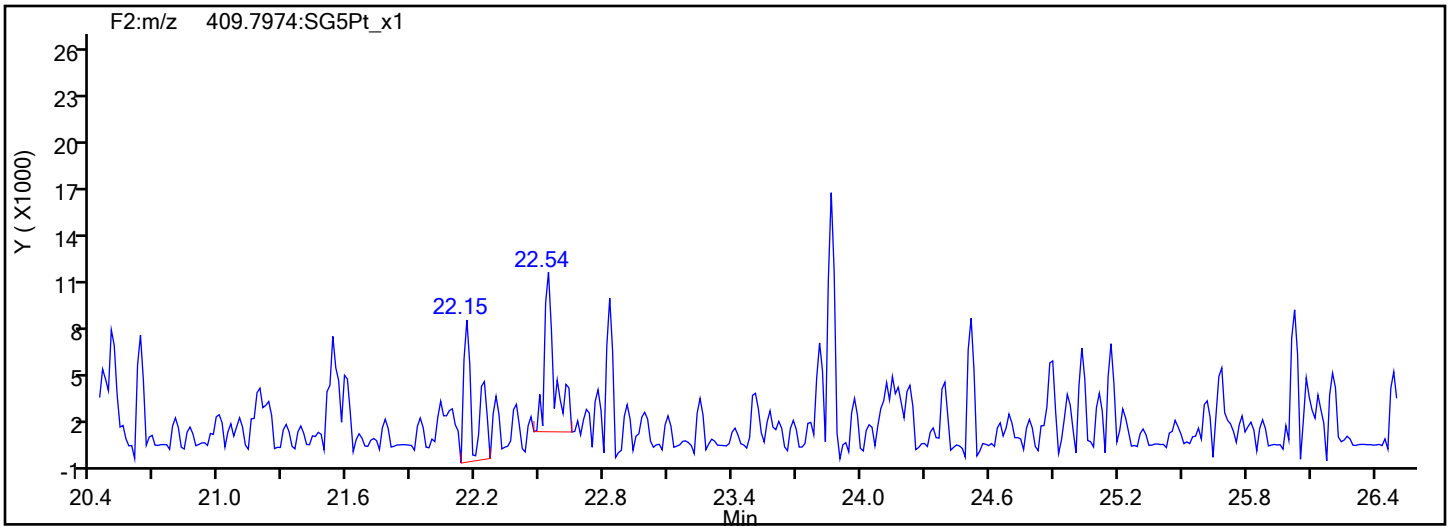

Report Date: 12-Dec-2019 16:14:38 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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PeCDD

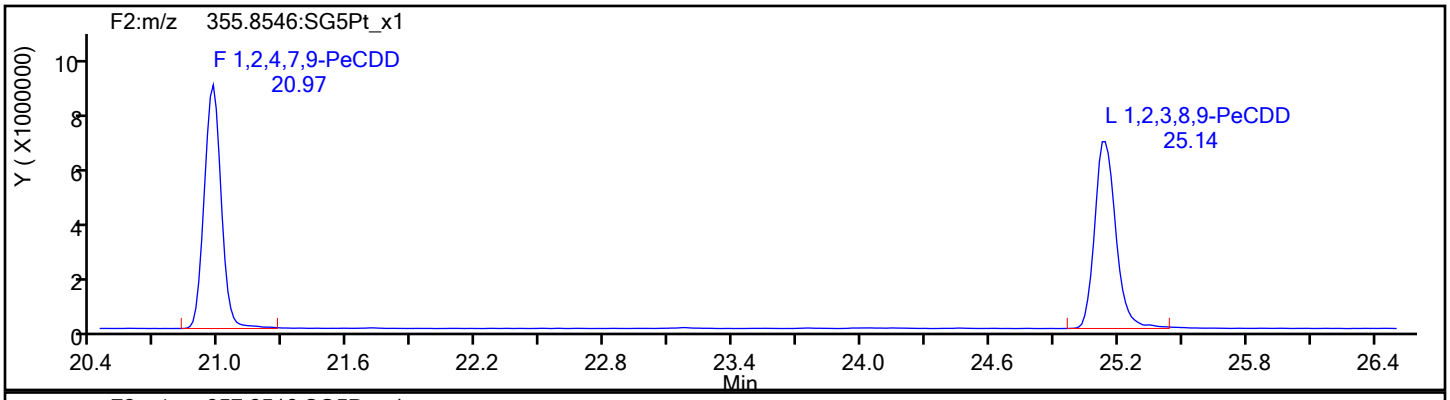

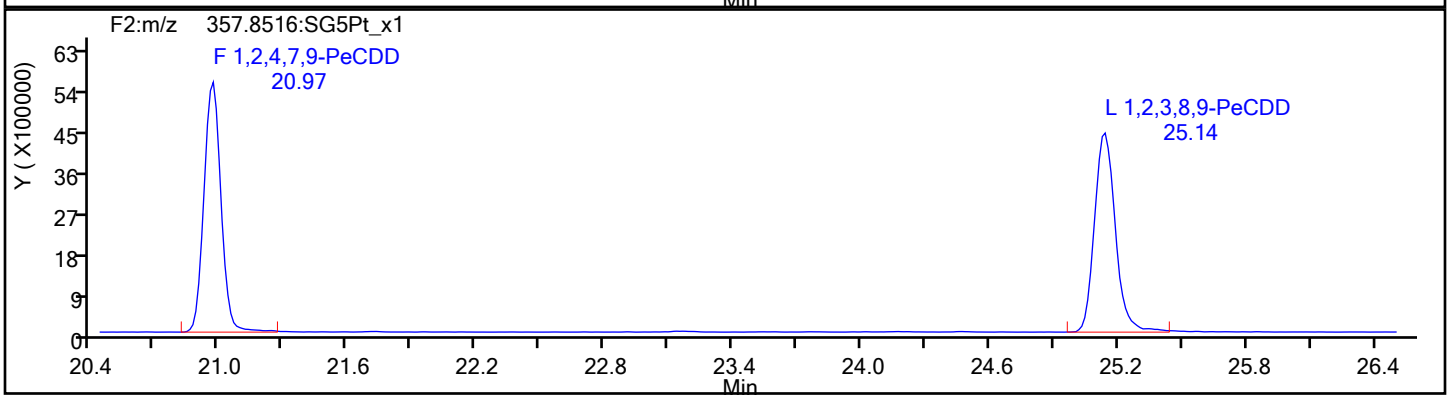

PeCDD Standards

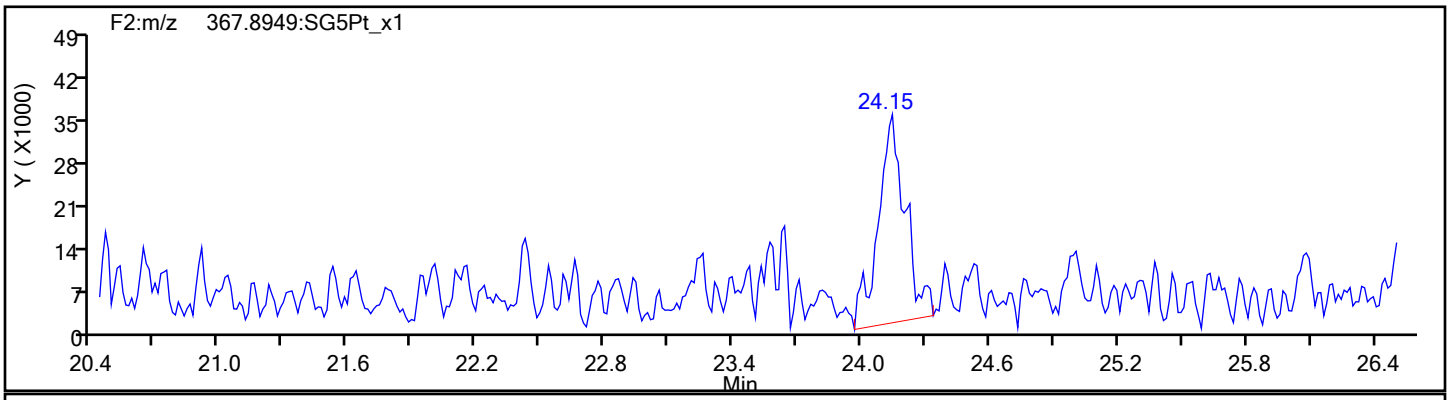

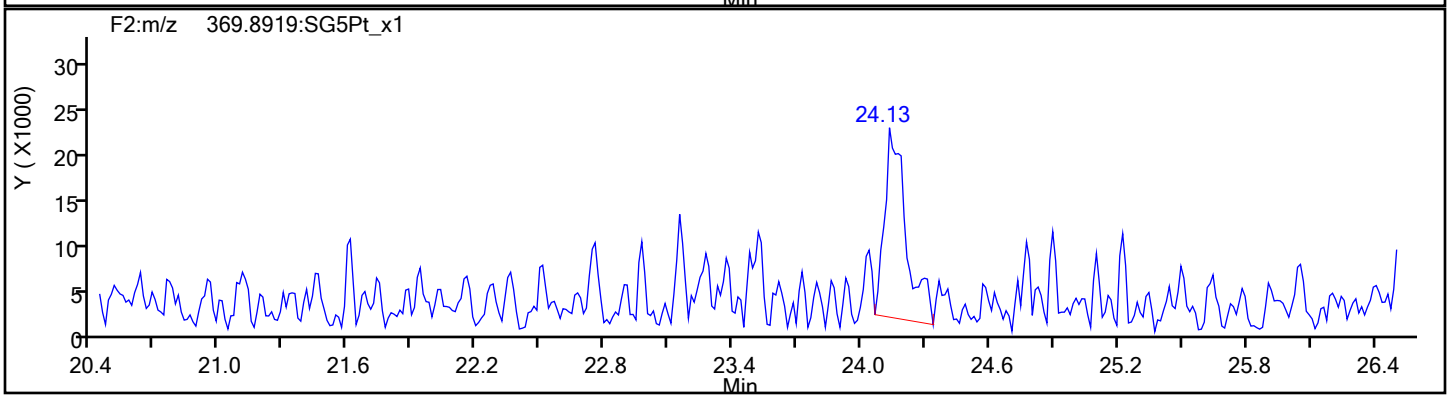

Report Date: 12-Dec-2019 16:14:39 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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HxCDF

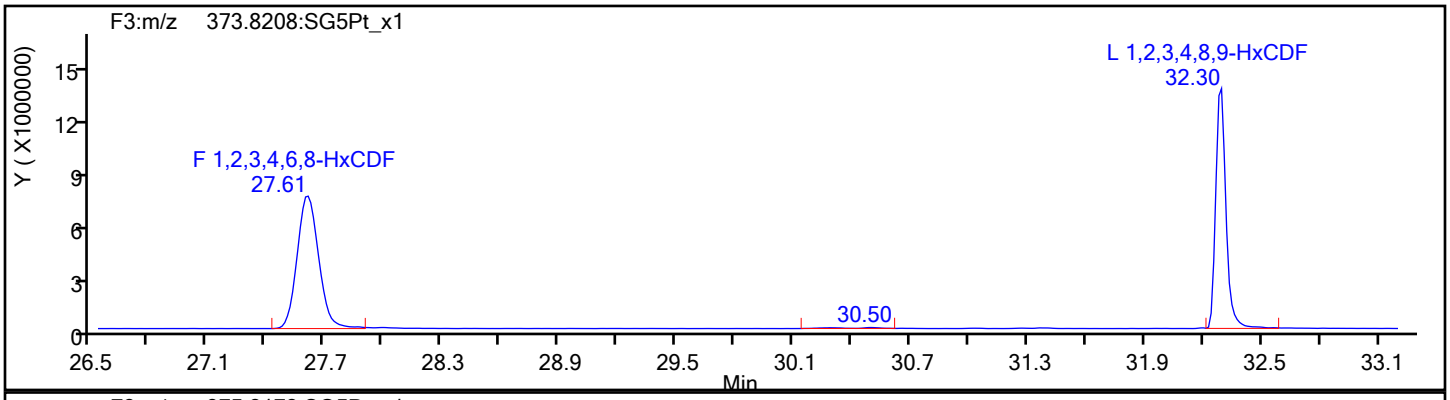

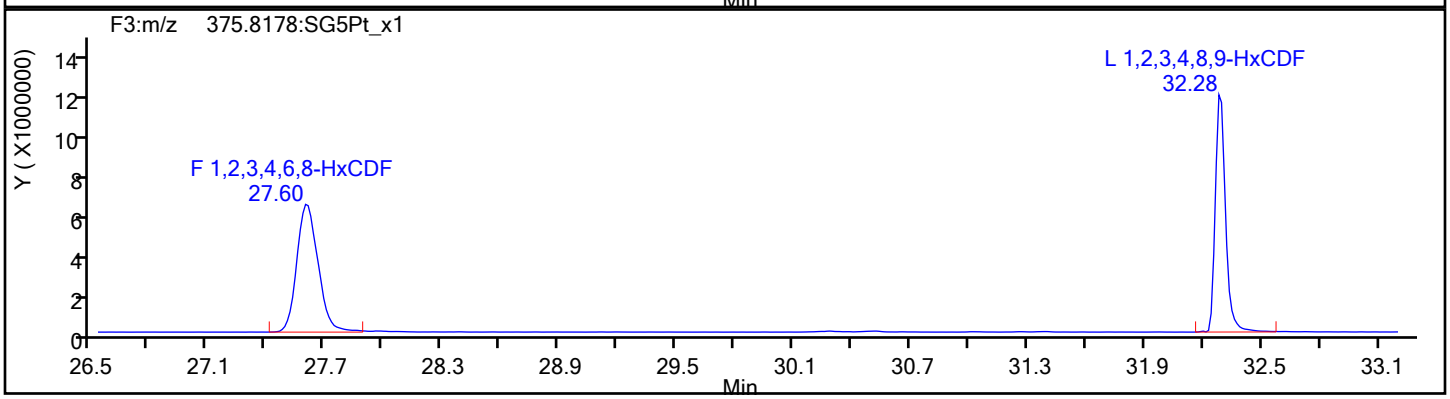

HxCDF Standards

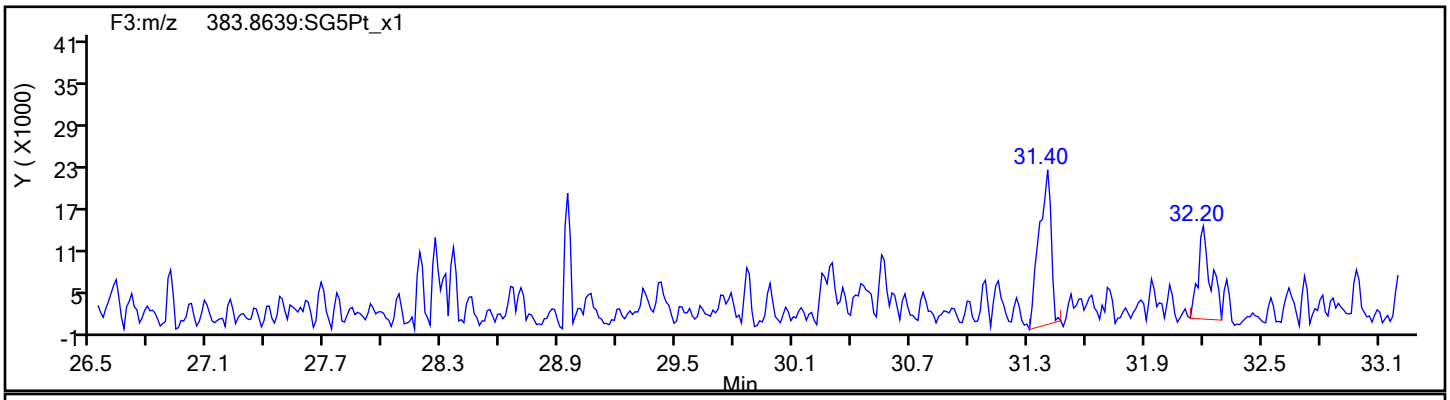

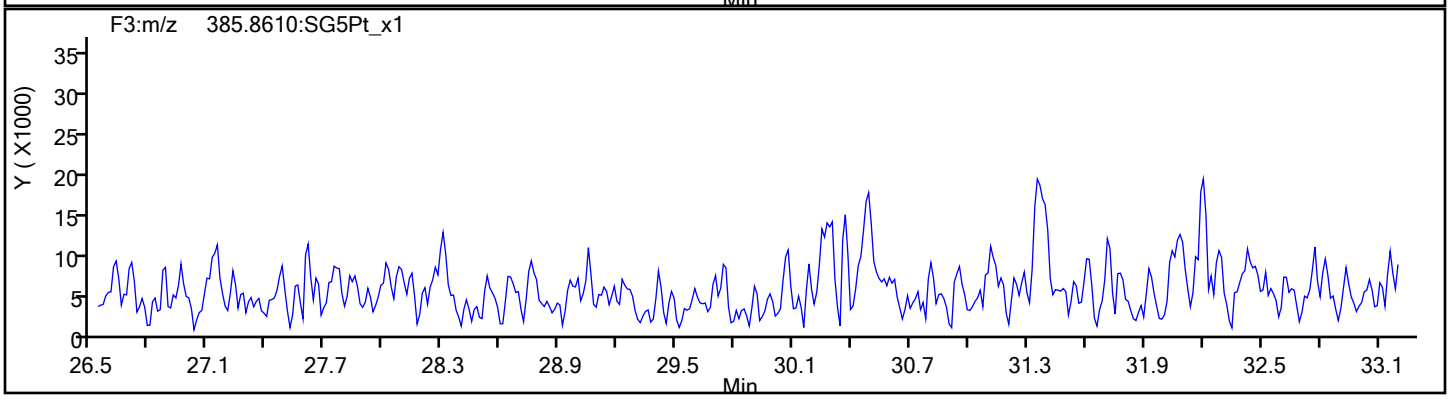

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Eurofins TestAmerica, Sacramento

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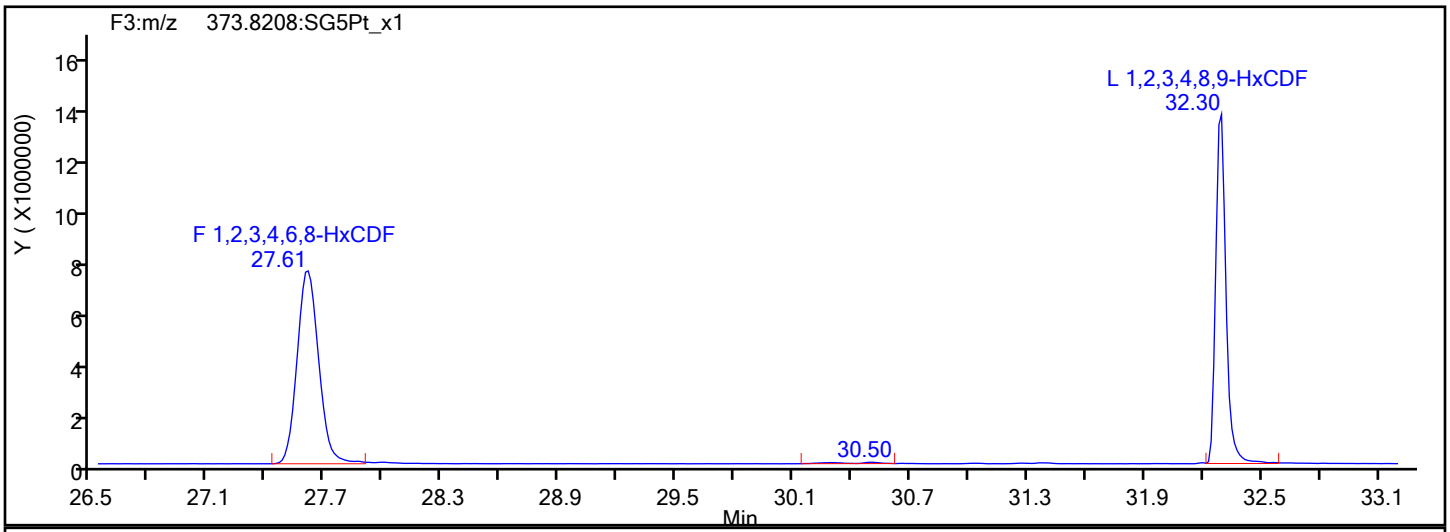

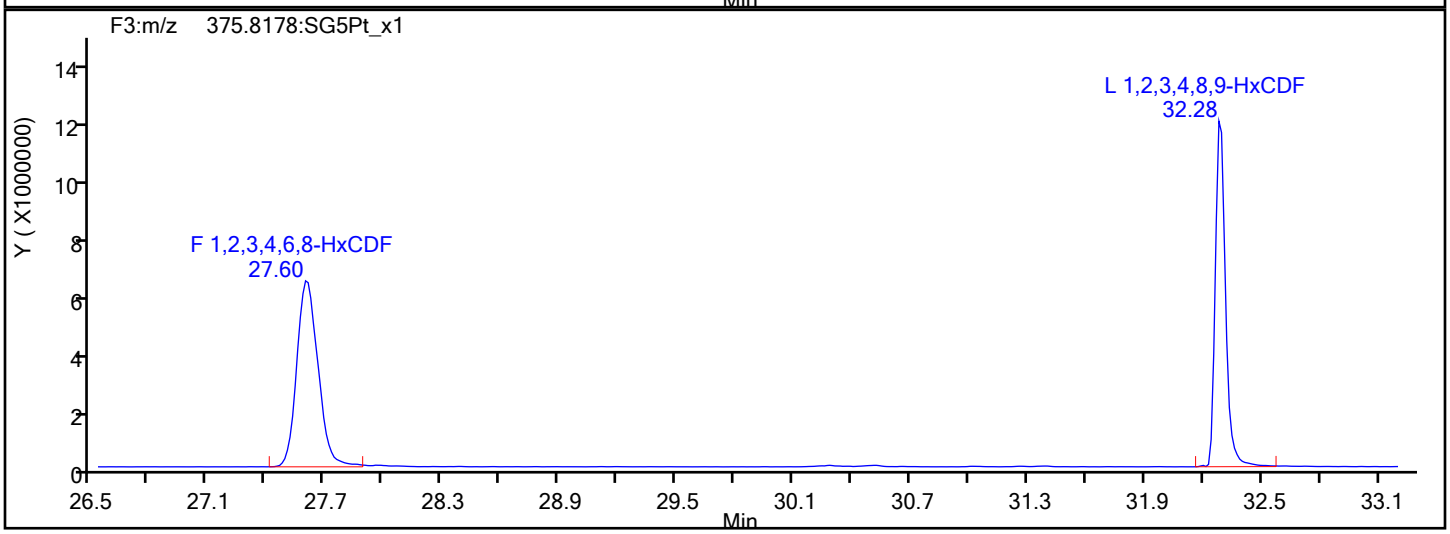

HxCDF Interference Mass

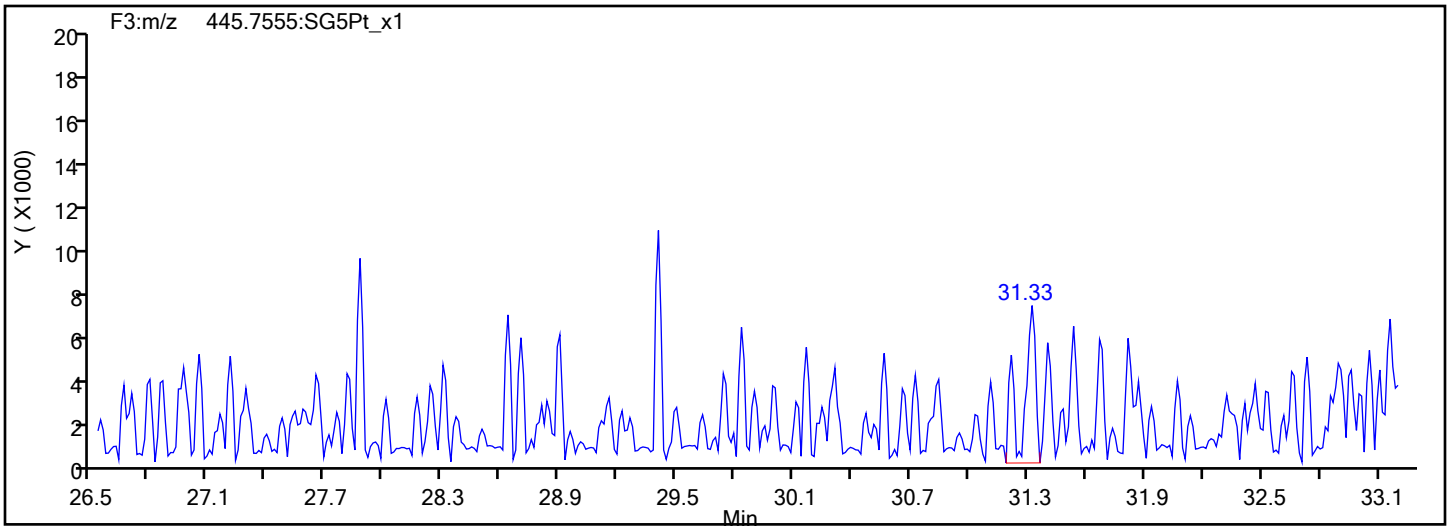

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Eurofins TestAmerica, Sacramento

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HpCDF

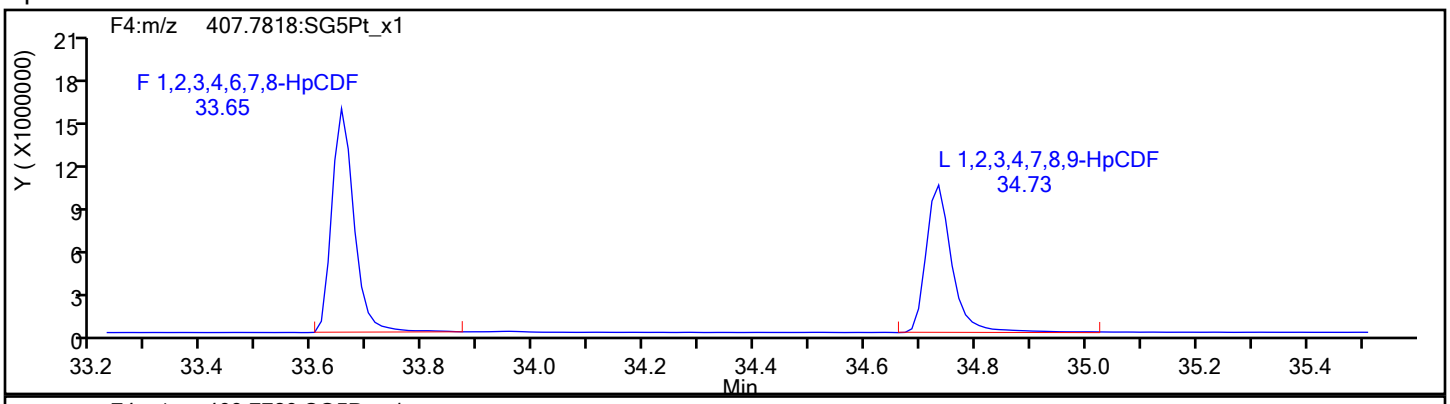

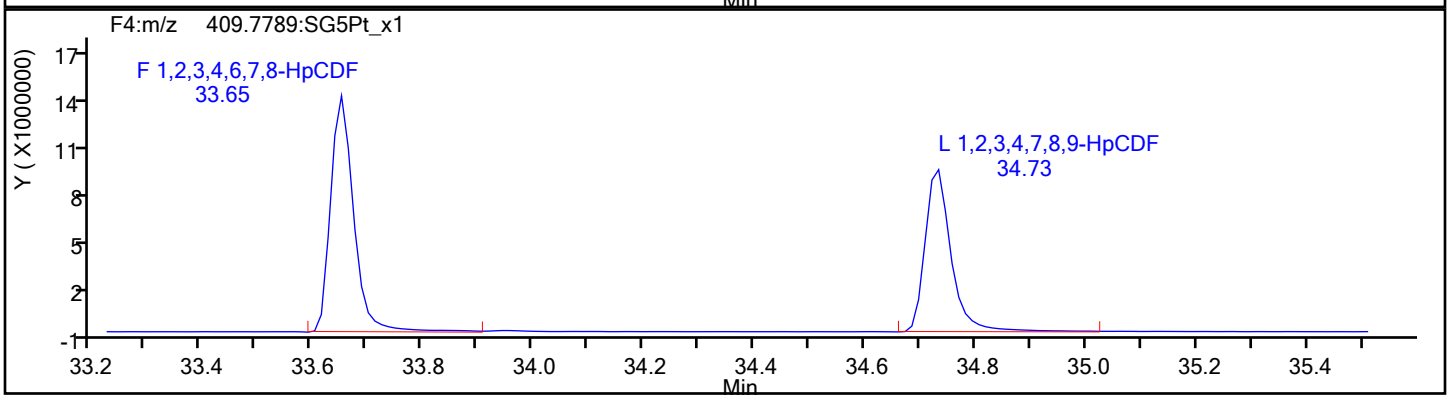

HpCDF Standards

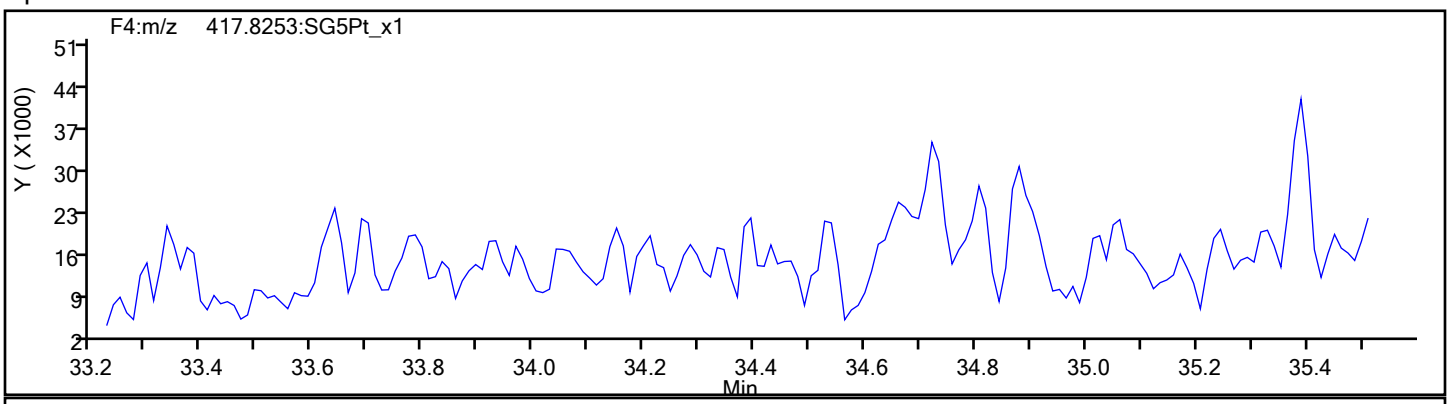

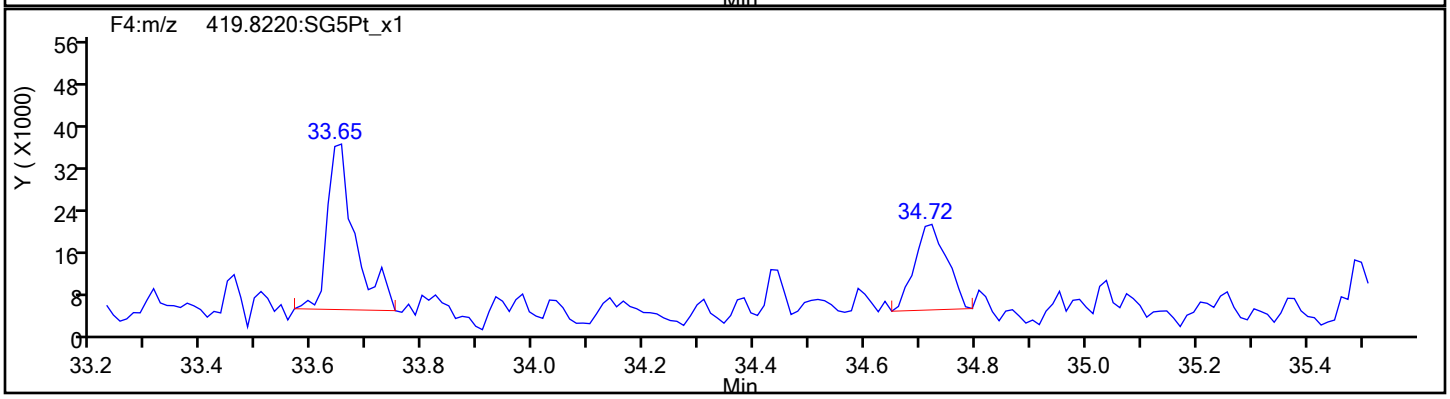

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Eurofins TestAmerica, Sacramento

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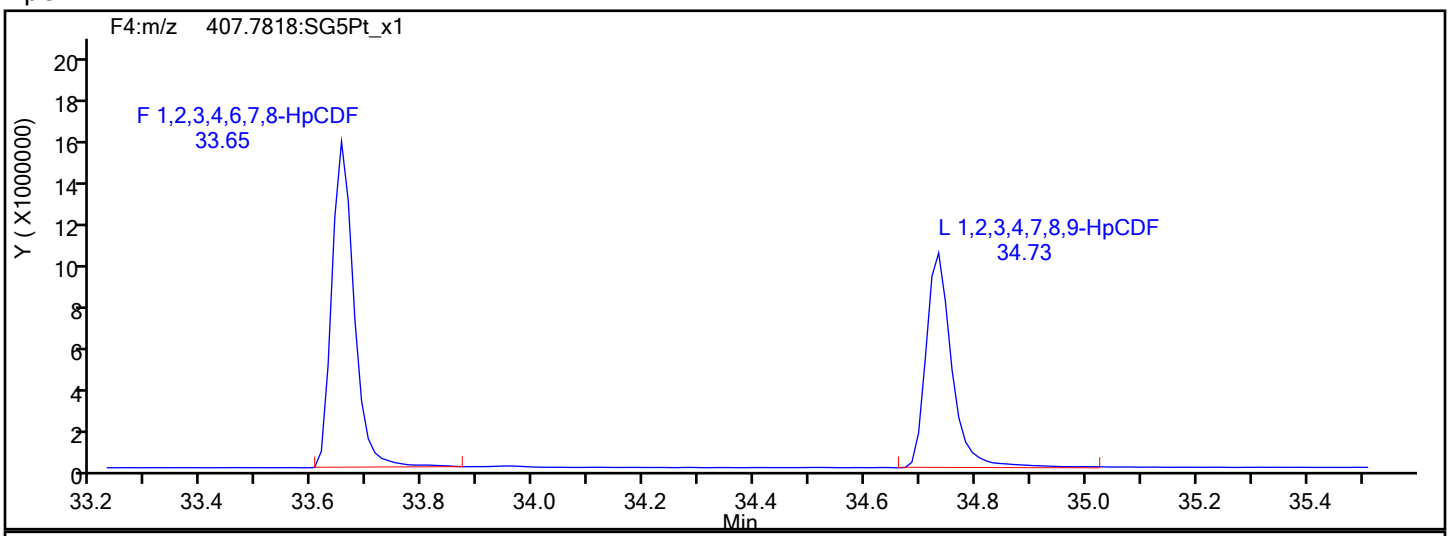

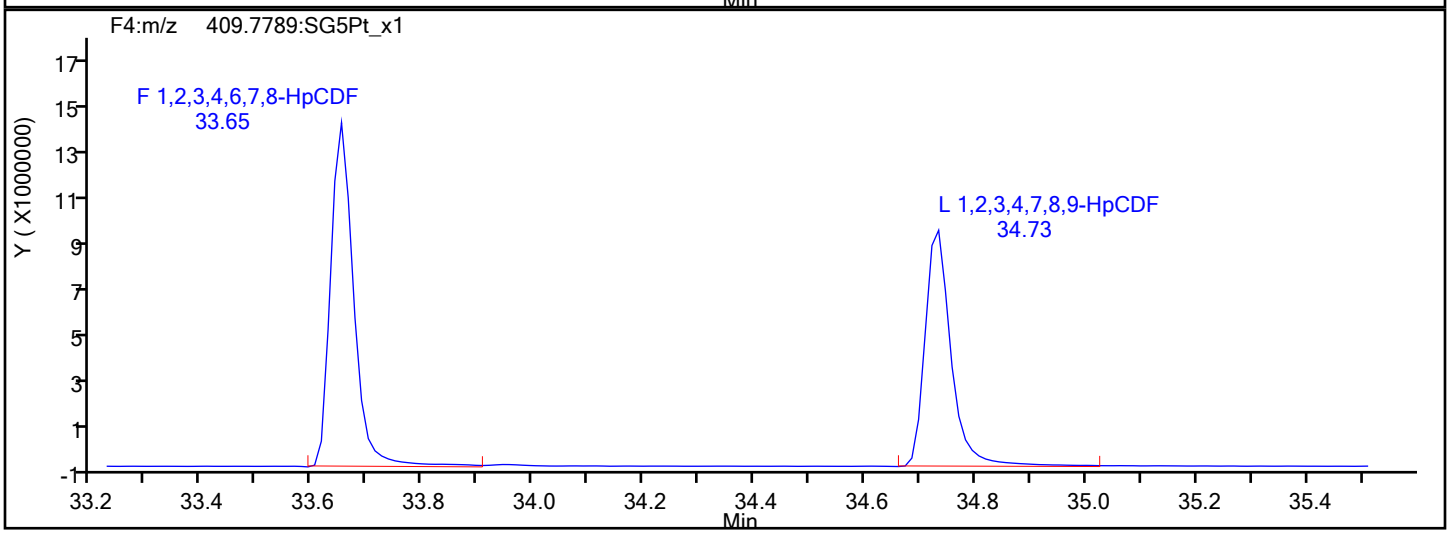

HpCDF Interference Mass

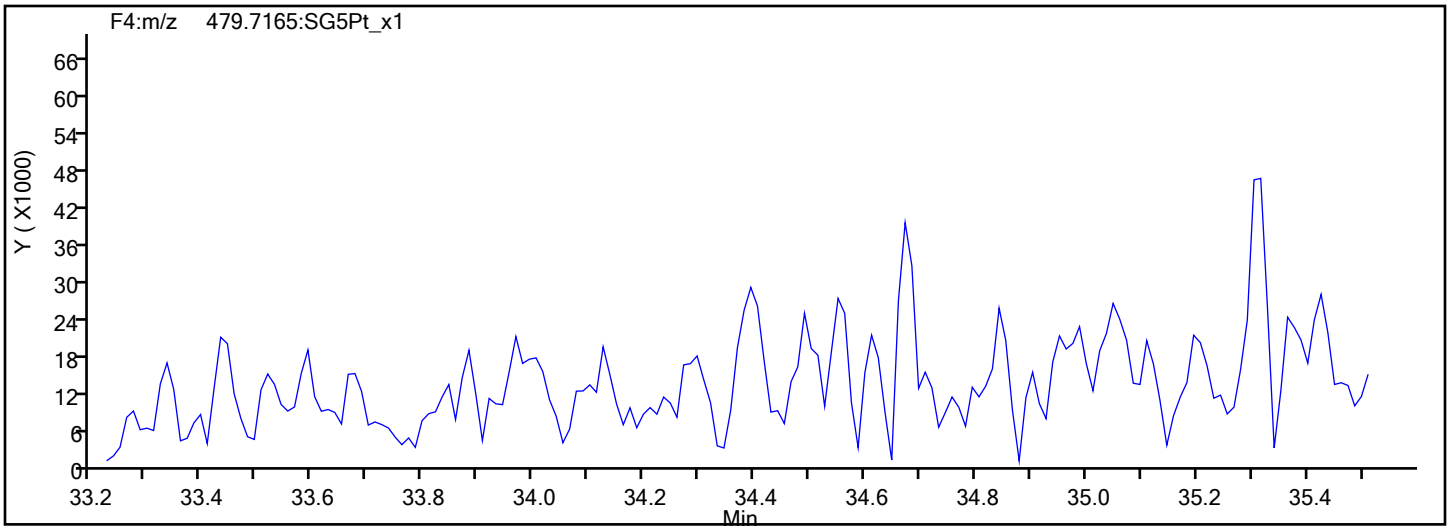

Report Date: 12-Dec-2019 16:14:39 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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HpCDD

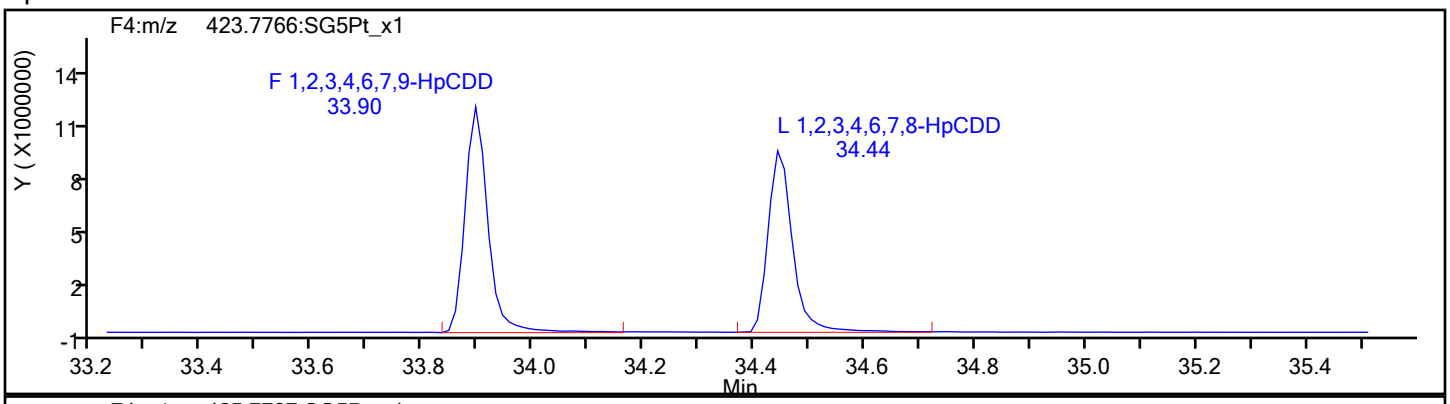

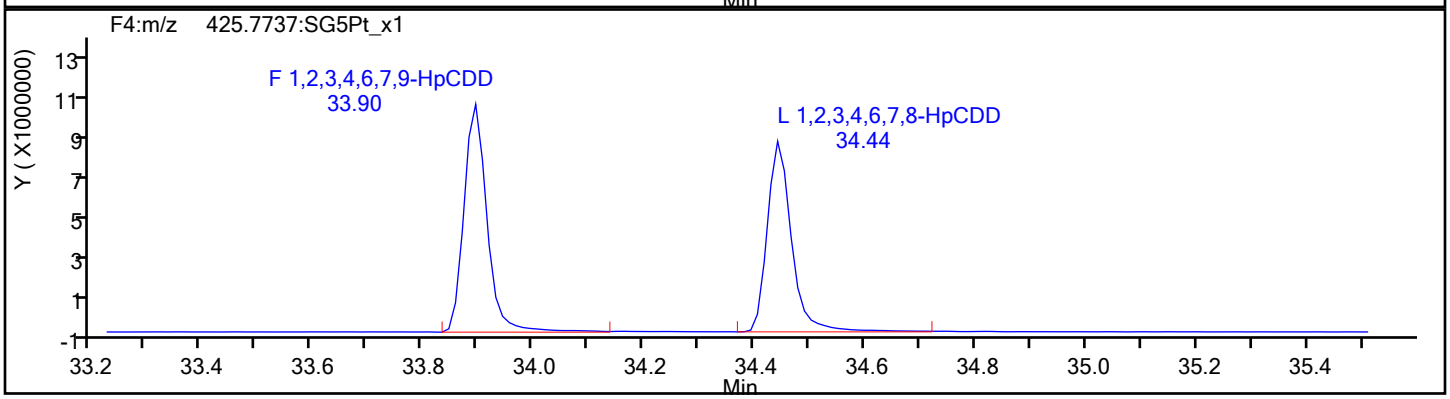

HpCDD Standards

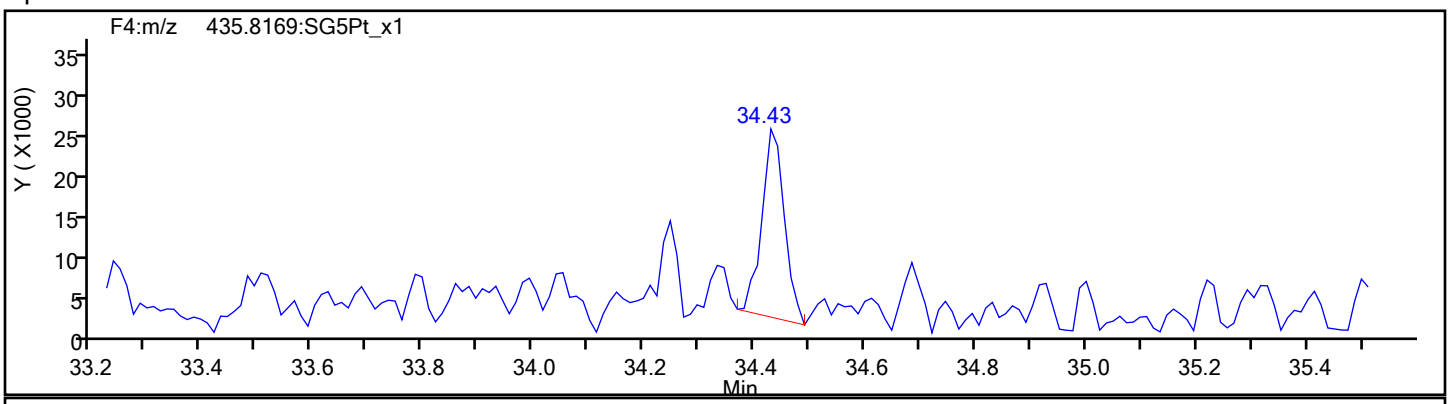

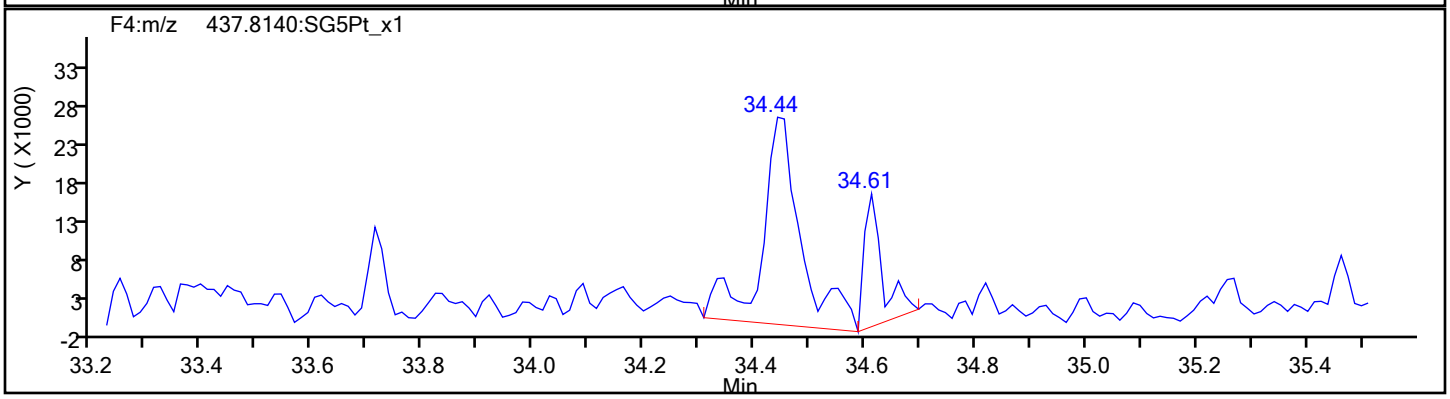

Report Date: 12-Dec-2019 16:14:39 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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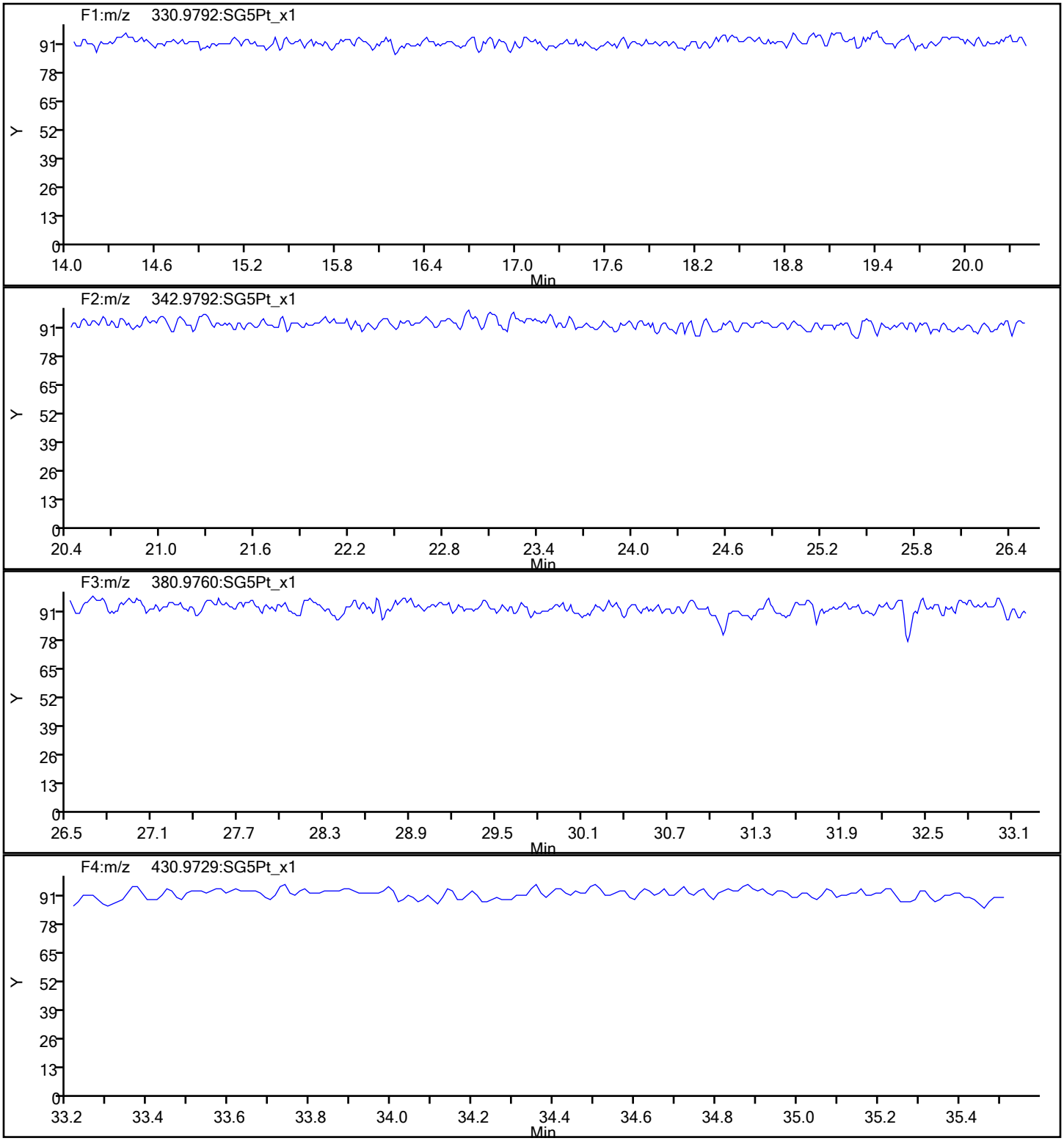

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Eurofins TestAmerica, Sacramento

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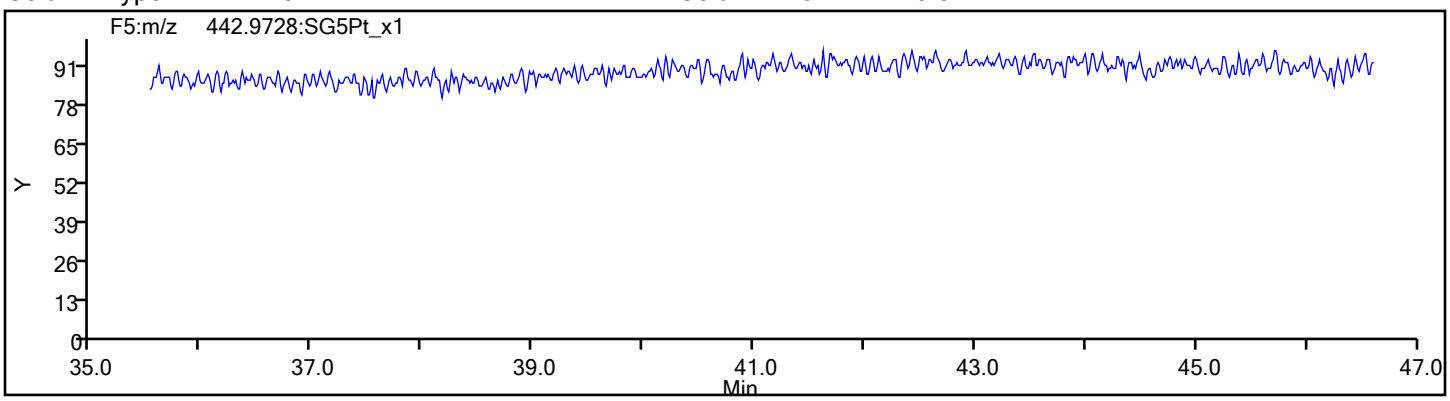

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_1.d
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Client ID:
Sample Type: WDM
Inject. Date: 15-Jan-2020 19:18:39 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 011520 WDM HRDXNCP_00040
Misc. Info.: 15JA203D5
Operator ID: ALM Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20200116-89625.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 16-Jan-2020 11:42:56 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0314

First Level Reviewer: shardaa Date: 16-Jan-2020 10:52:56

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	16.810	137323916	0.79	1.4157					0.00	
2,3,7,8-TCDF	16.826	290912875	0.80	0.9502	89.2	89.2	0.5325	0.5325		
A Non-2,3,7,8-sub-TCDF	16.531						0.5325	0.5325		
S Total TCDF					89.2	89.2	0.5325	0.5325		
D 13C-2,3,7,8-TCDD	17.476	86083663	0.78	0.9751					0.00	
2,3,7,8-TCDD	17.506	100638620	0.79	1.0477	44.6	44.6	0.1858	0.1858		
A Non-2,3,7,8-sub-TCDD	16.969						0.1858	0.1858		
S Total TCDD					44.6	44.6	0.1858	0.1858		
A F1 PeCDFs	19.207						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	22.200						0.0	0.0		
S Total PeCDF										
A Non-2,3,7,8-sub-PeCDD	22.533						0.0	0.0		
S Total PeCDD										
A Non-2,3,7,8-sub-HxCDF	29.465						0.0	0.0		
S Total HxCDF										
A Non-2,3,7,8-sub-HxCDD	30.164						0.0	0.0		
S Total HxCDD										
1,2,3,4,6,7,8-HpCDF	33.464	85443890	1.06	1.4804						
1,2,3,4,7,8,9-HpCDF	34.521	67968839	1.04	1.2933						
A Non-2,3,7,8-sub-HpCDF	33.992						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	34.242	52188927	1.05	1.0535						
A Non-2,3,7,8-sub-HpCDD	33.968						0.0	0.0		
S Total HpCDD										
1,3,6,8-TCDF	14.497	167395111	0.80							
1,3,6,8-TCDD	15.374	103941783	0.83							
2,3,4,7-TCDF	16.826	290912875	0.80							
1,2,3,7-TCDD	17.385	88438163	0.77							
1,2,3,9-TCDD	17.657	104660593	0.78							
1,2,3,9-TCDF	17.657	125991131	0.80							

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,8,9-TCDF	18.565	137464429	0.80							
1,2,8,9-TCDD	18.565	42594009								
1,3,4,6,8-PeCDF	18.837	109870602	1.58							
1,2,4,7,9-PeCDD	20.521	75590413	1.60							
1,2,3,8,9-PeCDD	24.544	74895748	1.60							
1,2,3,8,9-PeCDF	24.749	60182287								
1,2,3,4,6,8-HxCDF	26.922	97055908	1.22							
1,2,4,6,7,9-HxCDD	28.440	69856680	1.27							
1,2,3,4,6,7-HxCDD	31.676	72909429	1.26							
1,2,3,4,8,9-HxCDF	32.008	93777122	1.23							
1,2,3,4,6,7,9-HpCDD	33.694	60377619	1.02							

Reagents:

HRDXNCP_00040 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_1.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 15-Jan-2020 19:18:39 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 011520 WDM HRDXNCP_00040
Misc. Info.: 15JA203D5
Operator ID: ALM Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20200116-89625.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 16-Jan-2020 11:42:56 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0314

First Level Reviewer: shardaa Date: 16-Jan-2020 10:52:56

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	16.810	16.810	0	1.000	60748901	16074089	21237	53092	757		
317.9389	16.810	16.810	0	1.000	76575015	20111010	21469	53672	937	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.826	16.826	0	1.001	129368642	31300875	70420	176050	444		
305.8987	16.826	16.826	0	1.001	161544233	39052206	112661	281652	347	0.80(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.531						70420	176050			
305.8987	16.531						112661	281652			
13C-2,3,7,8-TCDD											
331.9368	17.476	17.476	0	1.000	37737612	9093728	14927	37317	609		
333.9339	17.476	17.476	0	1.000	48346051	11716432	6313	15782	1856	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.506	17.506	0	1.002	44348320	10964855	16856	42140	651		
321.8936	17.506	17.506	0	1.002	56290300	13945894	23651	59127	590	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	16.969						16856	42140			
321.8936	16.969						23651	59127			
A F1 PeCDFs											
339.8597	19.207						6174	15435			
341.8567	19.207						5562	13905			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.200						9123	22807			
341.8567	22.200						8377	20942			
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.533						8586	21465			
357.8516	22.533						5763	14407			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.465						9456	23640			
375.8178	29.465						7791	19477			
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.164						9083	22707			
391.8127	30.164						9551	23877			
1,2,3,4,6,7,8-HpCDF											
407.7818	33.464	33.464	0	1.000	43943676	14293927	22629	56572	632		
409.7789	33.451	33.464	-1	1.000	41500214	13766620	27333	68332	504	1.06(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.521	34.521	0	1.000	34584859	10122688	22629	56572	447		
409.7789	34.521	34.521	0	1.000	33383980	10013901	27333	68332	366	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.992						22629	56572			
409.7789	33.992						27333	68332			
1,2,3,4,6,7,8-HpCDD											
423.7766	34.242	34.242	0	1.000	26760215	8356710	12884	32210	649		
425.7737	34.242	34.242	0	1.000	25428712	7936292	12276	30690	646	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.968						12884	32210			
425.7737	33.968						12276	30690			
1,3,6,8-TCDF											
303.9016	14.497	14.497	0		74167511	23595931	70420	176050	335		
305.8987	14.497	14.497	0		93227600	30081208	112661	281652	267	0.80(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	15.374	15.374	0		47111078	14095755	16856	42140	836		
321.8936	15.374	15.374	0		56830705	17282664	23651	59127	731	0.83(0.65-0.89)	
2,3,4,7-TCDF											
303.9016	16.826	16.826	0		129368642	31300875	70420	176050	444		
305.8987	16.826	16.826	0		161544233	39052206	112661	281652	347	0.80(0.65-0.89)	
1,2,3,7-TCDD											
319.8965	17.385	17.385	0		38573553	10023960	16856	42140	595		
321.8936	17.385	17.385	0		49864610	12803530	23651	59127	541	0.77(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	17.657	17.657	0		46020781	10922644	16856	42140	648		
321.8936	17.657	17.657	0		58639812	13989821	23651	59127	592	0.78(0.65-0.89)	
1,2,3,9-TCDF											
303.9016	17.657	17.657	0		56014518	13607526	70420	176050	193		
305.8987	17.657	17.657	0		69976613	16879993	112661	281652	150	0.80(0.65-0.89)	
1,2,8,9-TCDF											
303.9016	18.565	18.565	0		60967361	14053541	70420	176050	200		
305.8987	18.565	18.565	0		76497068	17474582	112661	281652	155	0.80(0.65-0.89)	
1,2,8,9-TCDD											
319.8965	18.565	18.565	0		42594009	9596183	16856	42140	569		
1,3,4,6,8-PeCDF											
339.8597	18.837	18.837	0		67293351	14721428	6174	15435	2384		
341.8567	18.837	18.837	0		42577251	9325451	5562	13905	1677	1.58(1.32-1.78)	

Report Date: 16-Jan-2020 11:42:56 Chrom Revision: 2.3 14-Jan-2020 22:23:42
Data File: \\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_1.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,4,7,9-PeCDD											
355.8546	20.521	20.521	0		46480466	8445672	8586	21465	984		
357.8516	20.521	20.521	0		29109947	5417931	5763	14407	940	1.60(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	24.544	24.544	0		46094499	7294987	8586	21465	850		
357.8516	24.544	24.544	0		28801249	4452572	5763	14407	773	1.60(1.32-1.78)	
1,2,3,8,9-PeCDF											
339.8597	24.749	24.749	0		60182287	8966627	9123	22807	983		
1,2,3,4,6,8-HxCDF											
373.8208	26.922	26.922	0		53322635	7108451	9456	23640	752		
375.8178	26.922	26.922	0		43733273	5905516	7791	19477	758	1.22(1.05-1.43)	
1,2,4,6,7,9-HxCDD											
389.8157	28.440	28.440	0		39022996	4807713	9083	22707	529		
391.8127	28.440	28.440	0		30833684	3749105	9551	23877	393	1.27(1.05-1.43)	
1,2,3,4,6,7-HxCDD											
389.8157	31.676	31.676	0		40618687	10178899	9083	22707	1121		
391.8127	31.662	31.676	-1		32290742	8074633	9551	23877	845	1.26(1.05-1.43)	
1,2,3,4,8,9-HxCDF											
373.8208	32.008	32.008	0		51677232	13620569	9456	23640	1440		
375.8178	32.008	32.008	0		42099890	11248394	7791	19477	1444	1.23(1.05-1.43)	
1,2,3,4,6,7,9-HpCDD											
423.7766	33.694	33.694	0		30543118	10320270	12884	32210	801		
425.7737	33.694	33.694	0		29834501	10249506	12276	30690	835	1.02(0.88-1.20)	

Reagents:

HRDXNCP_00040 Amount Added: 2.00 Units: uL

Report Date: 16-Jan-2020 11:42:56 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_1.d		
Injection Date:	15-Jan-2020 19:18:39	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	351160	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

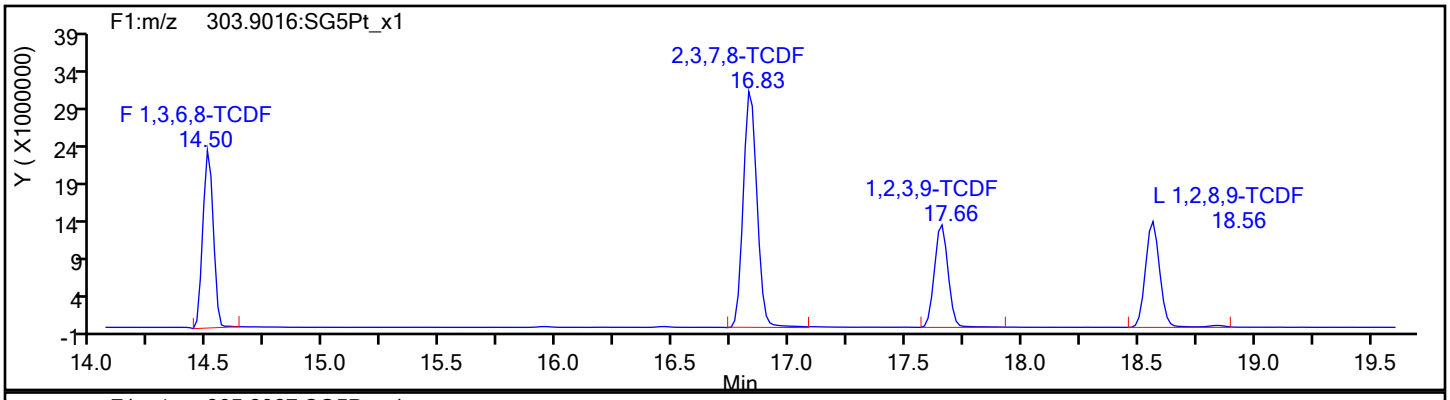

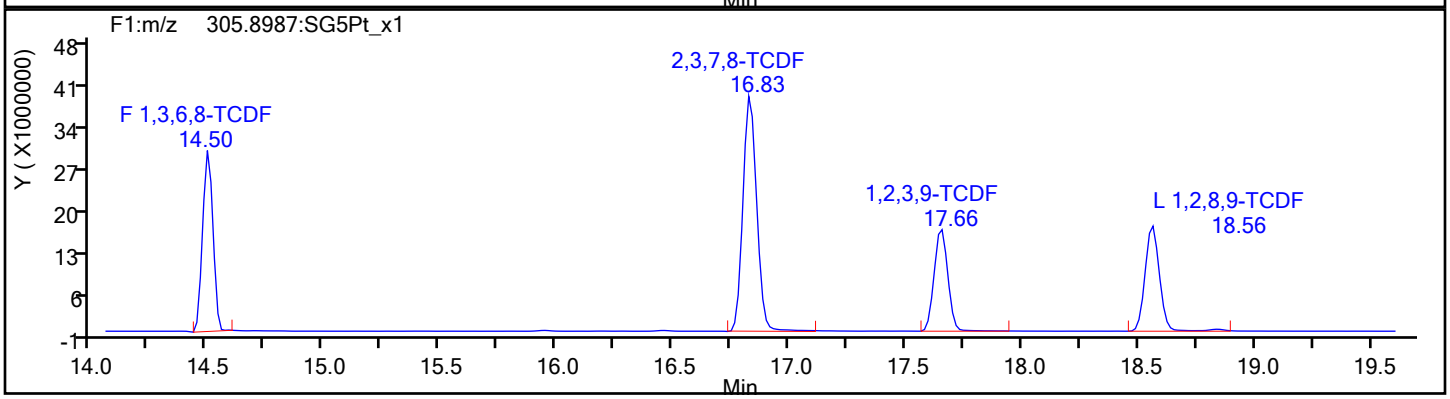

TCDF Standards

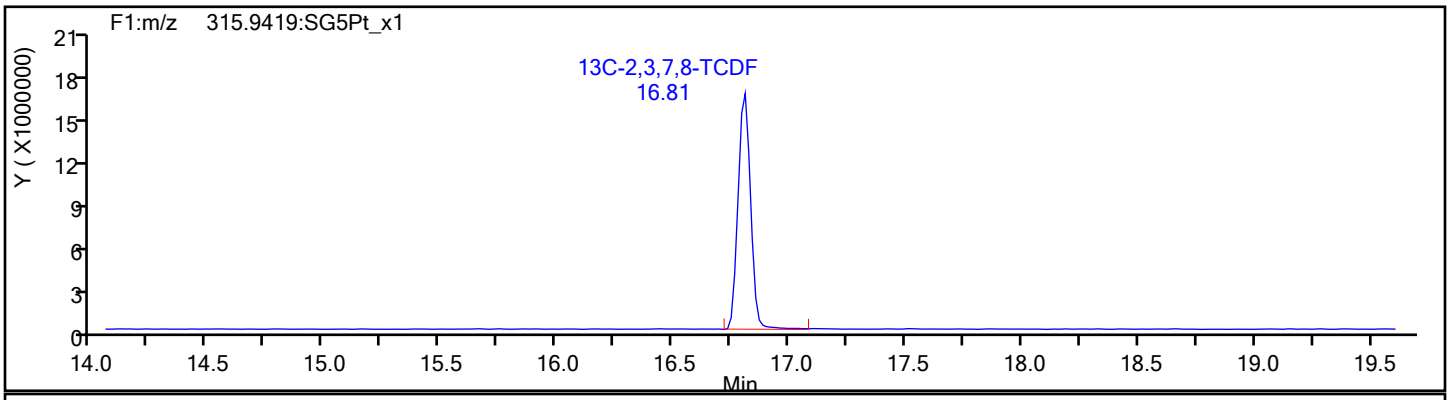

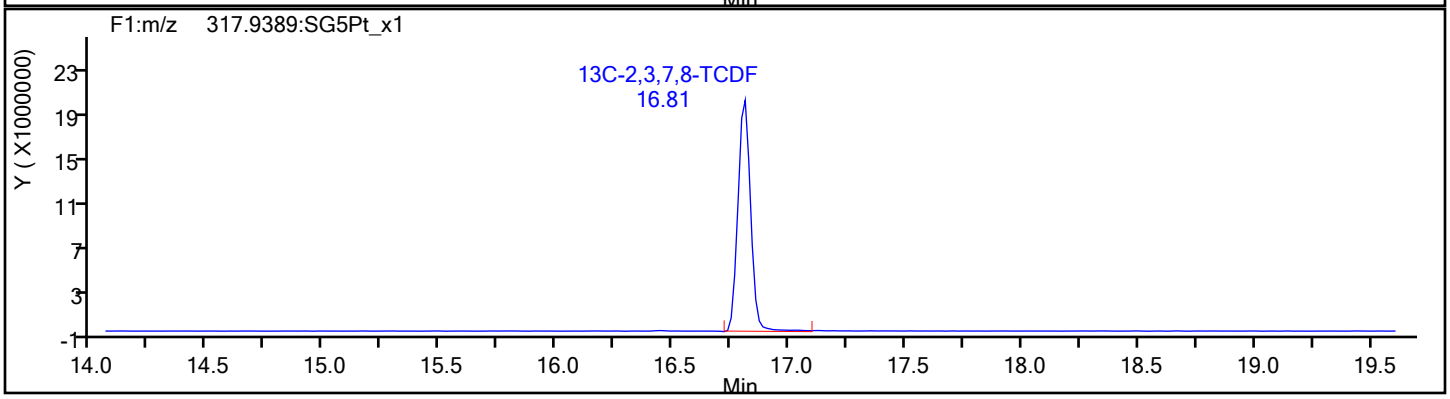

Report Date: 16-Jan-2020 11:42:56 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_1.d		
Injection Date:	15-Jan-2020 19:18:39	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	351160	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

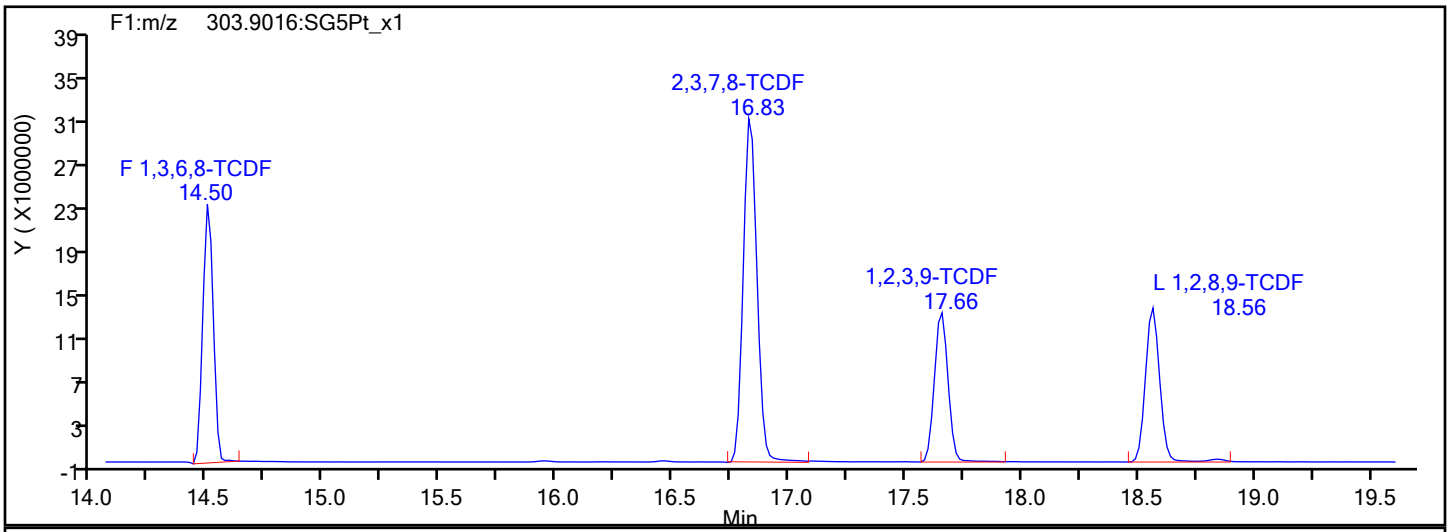

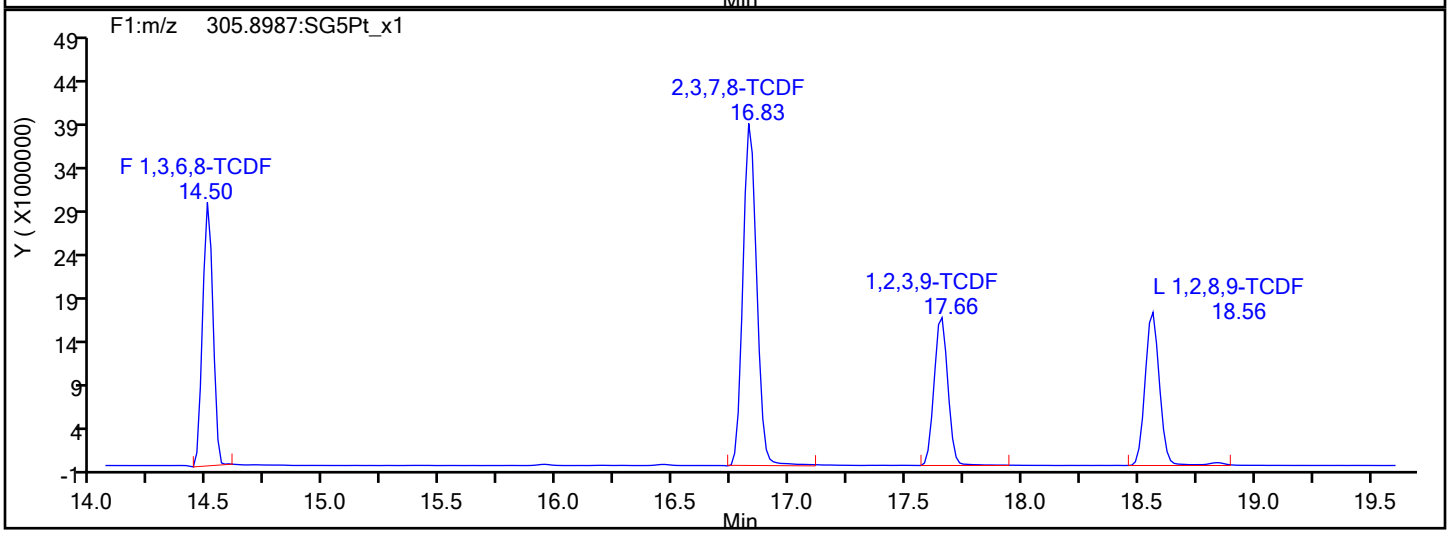

TCDF Interference Mass

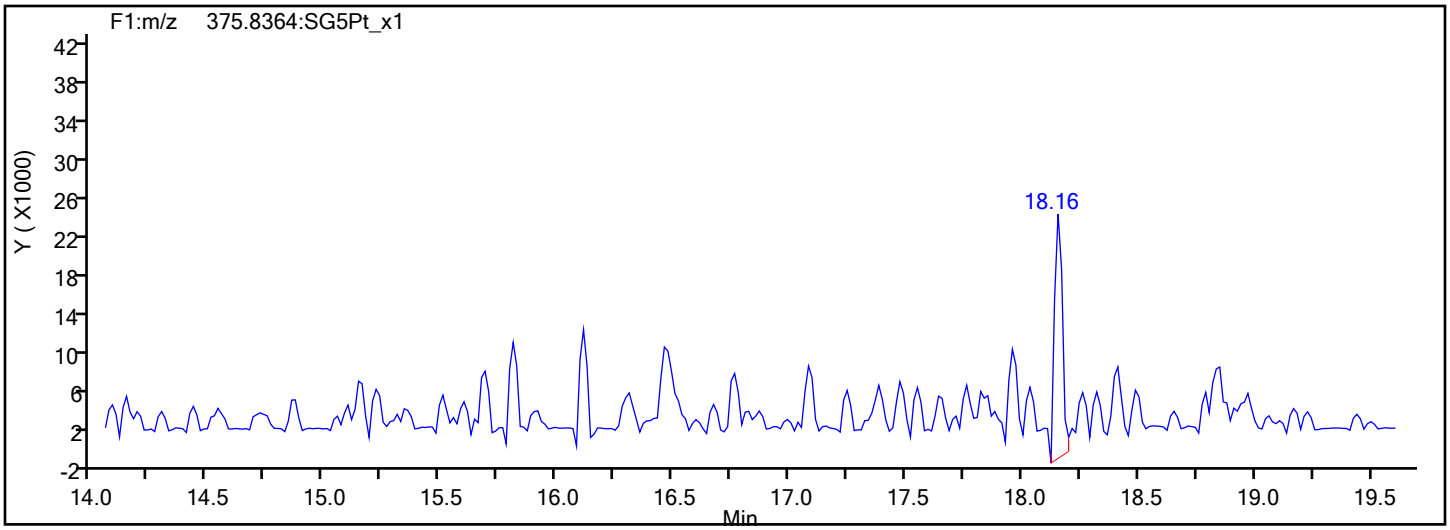

Report Date: 16-Jan-2020 11:42:56 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_1.d		
Injection Date:	15-Jan-2020 19:18:39	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	351160	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

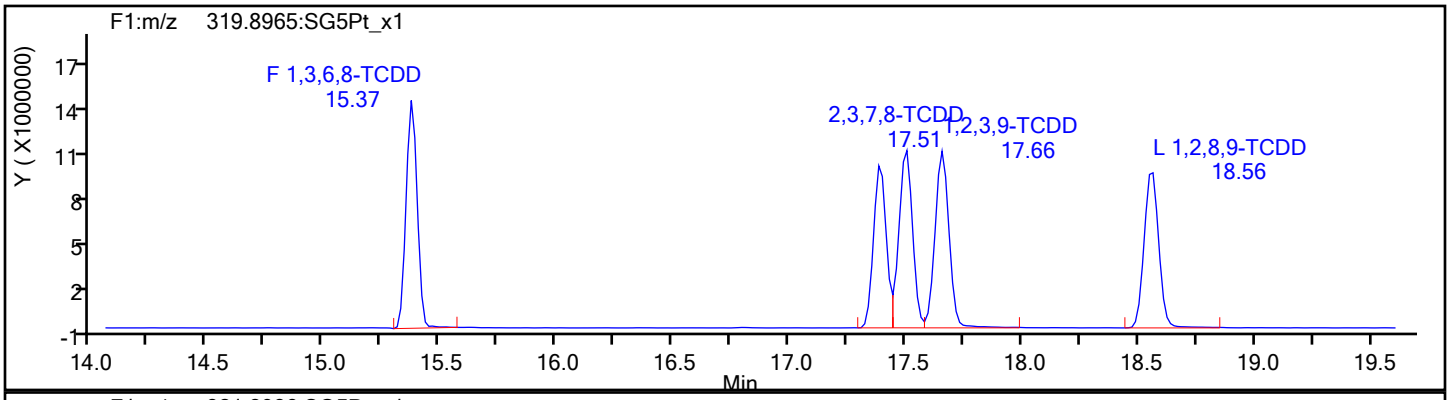

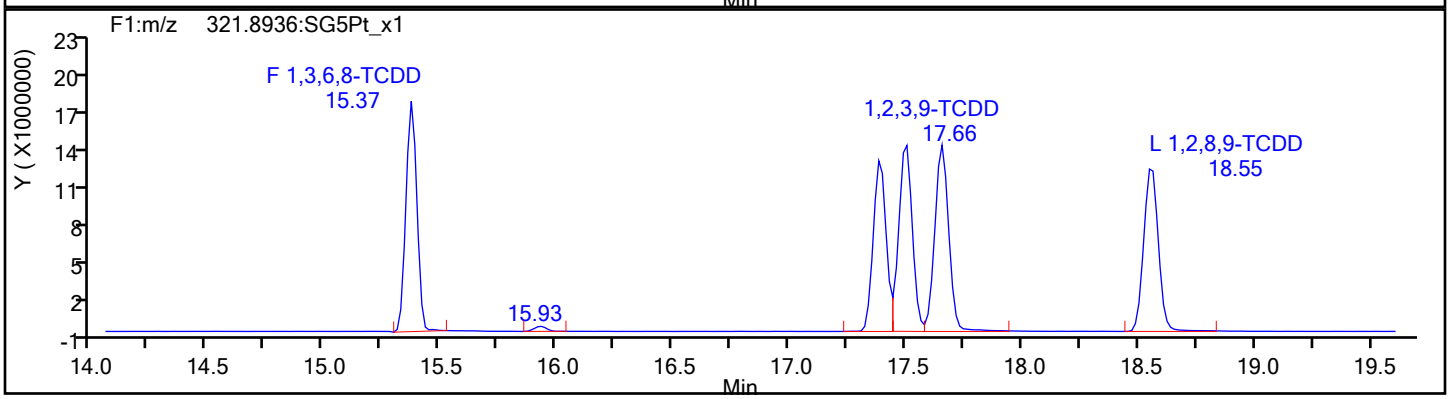

TCDD Standards

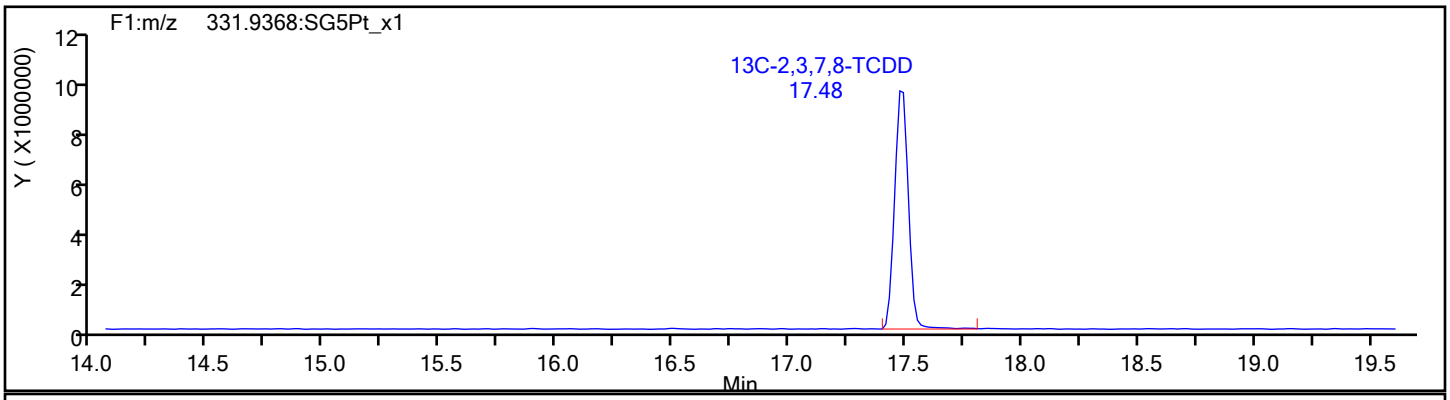

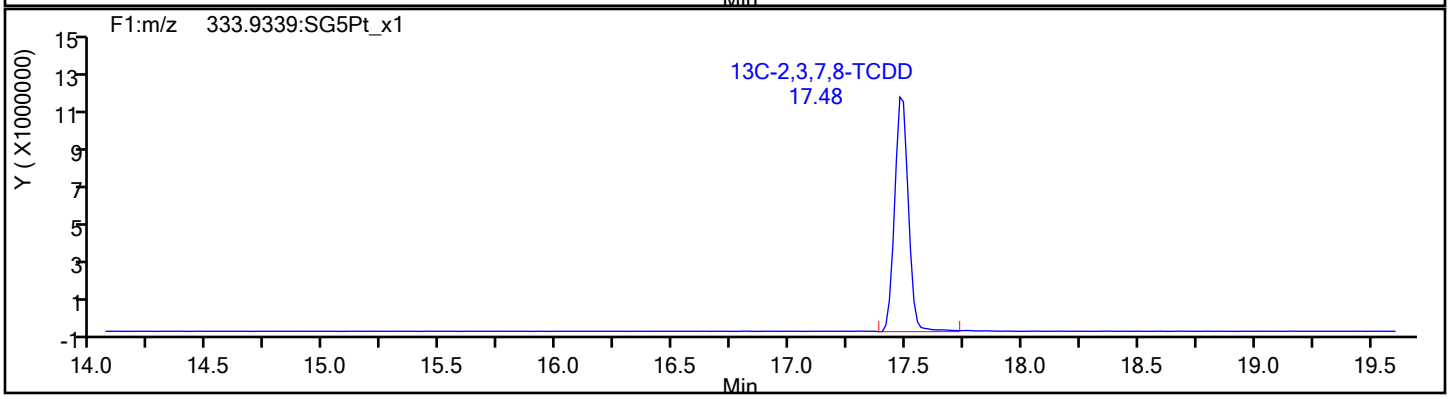

Report Date: 16-Jan-2020 11:42:57 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_1.d		
Injection Date:	15-Jan-2020 19:18:39	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	351160	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

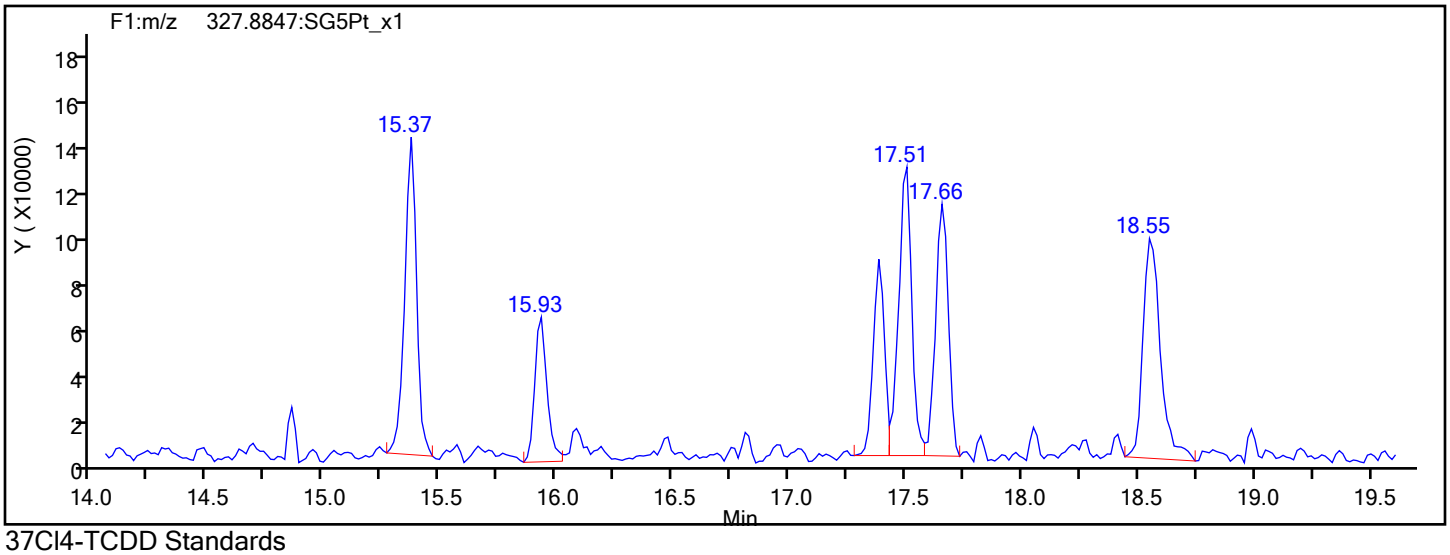

37Cl4-TCDD Standards

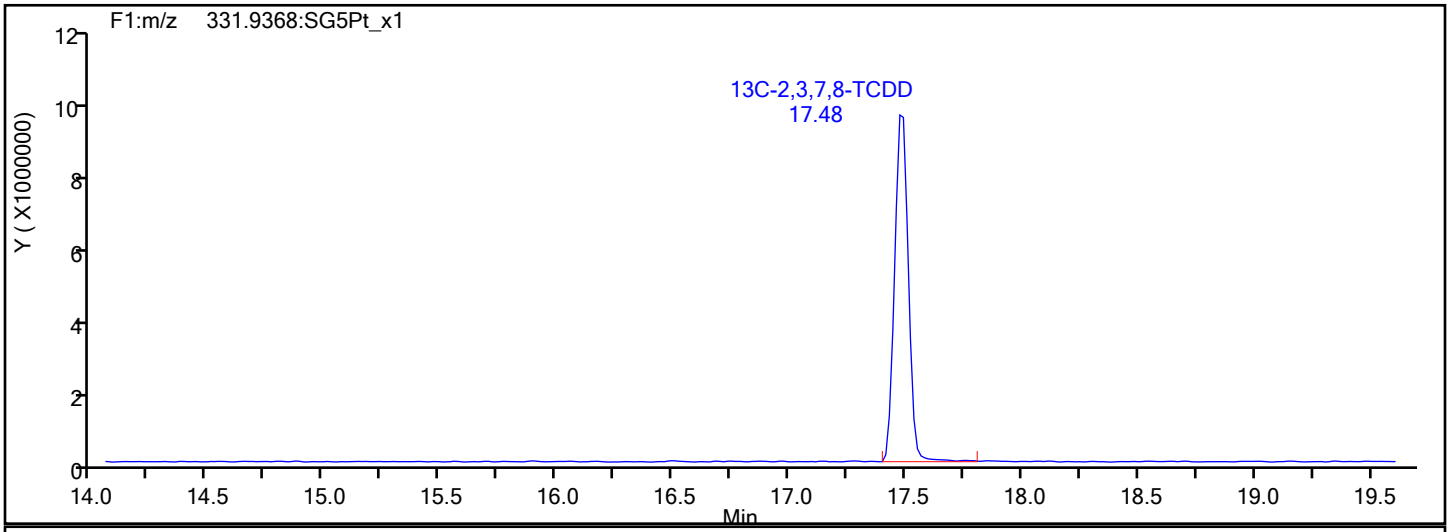

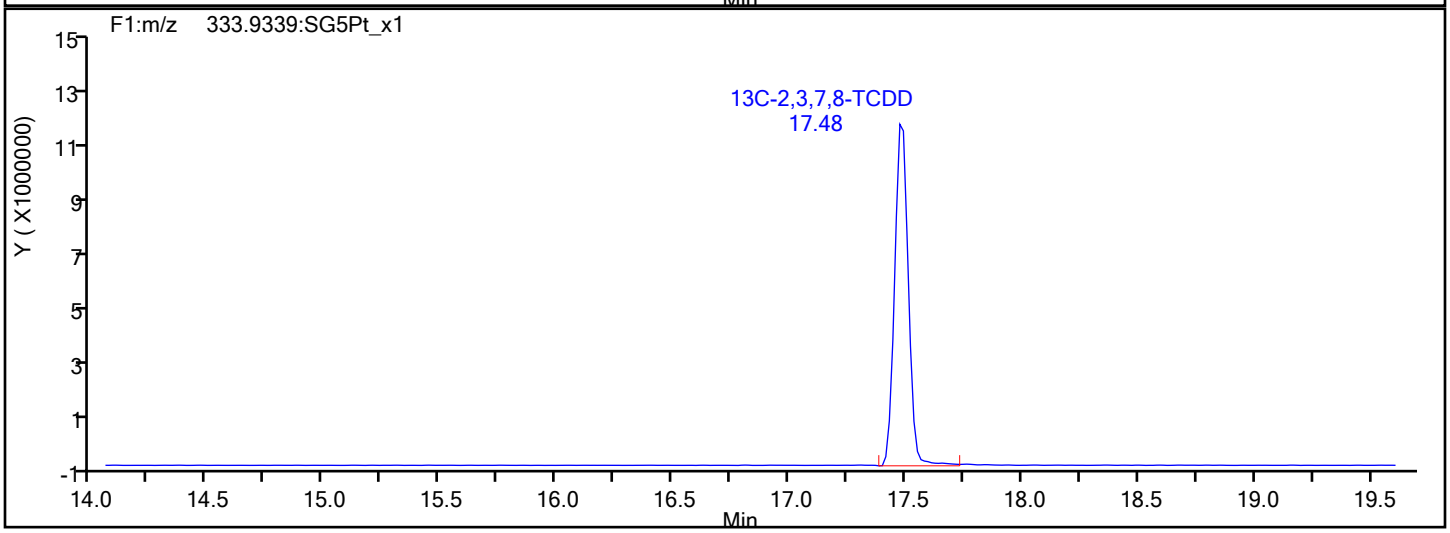

Report Date: 16-Jan-2020 11:42:57 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_1.d		
Injection Date:	15-Jan-2020 19:18:39	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	351160	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

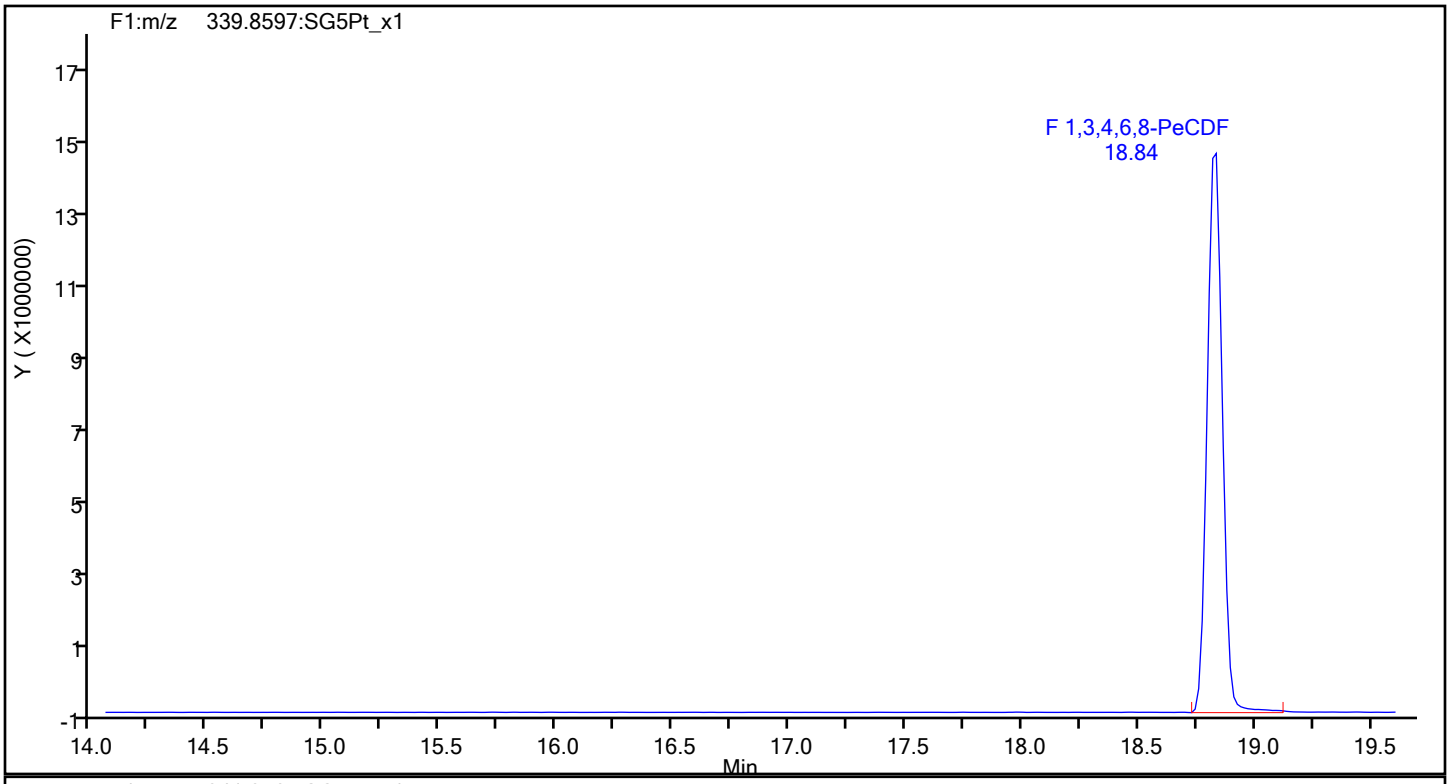

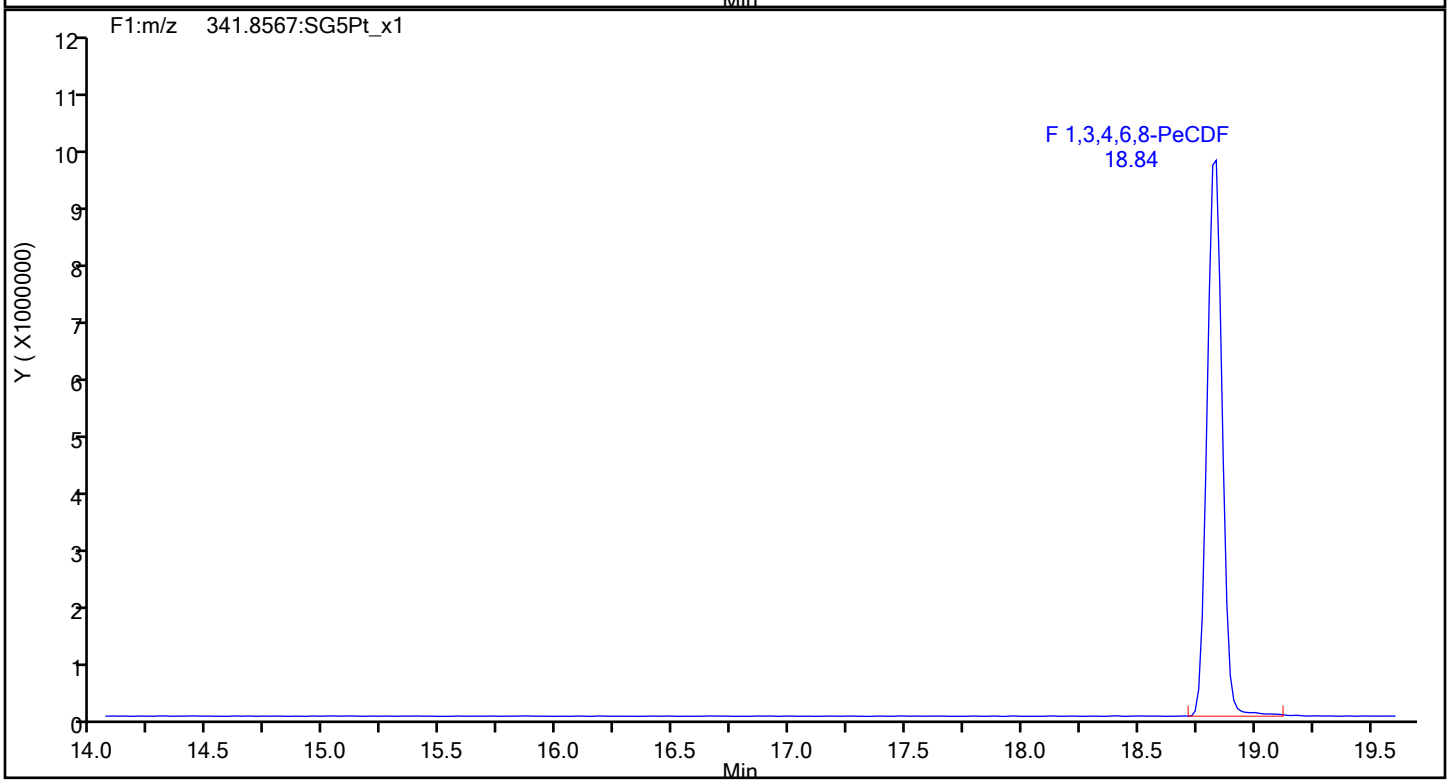

Report Date: 16-Jan-2020 11:42:57 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Client ID:			
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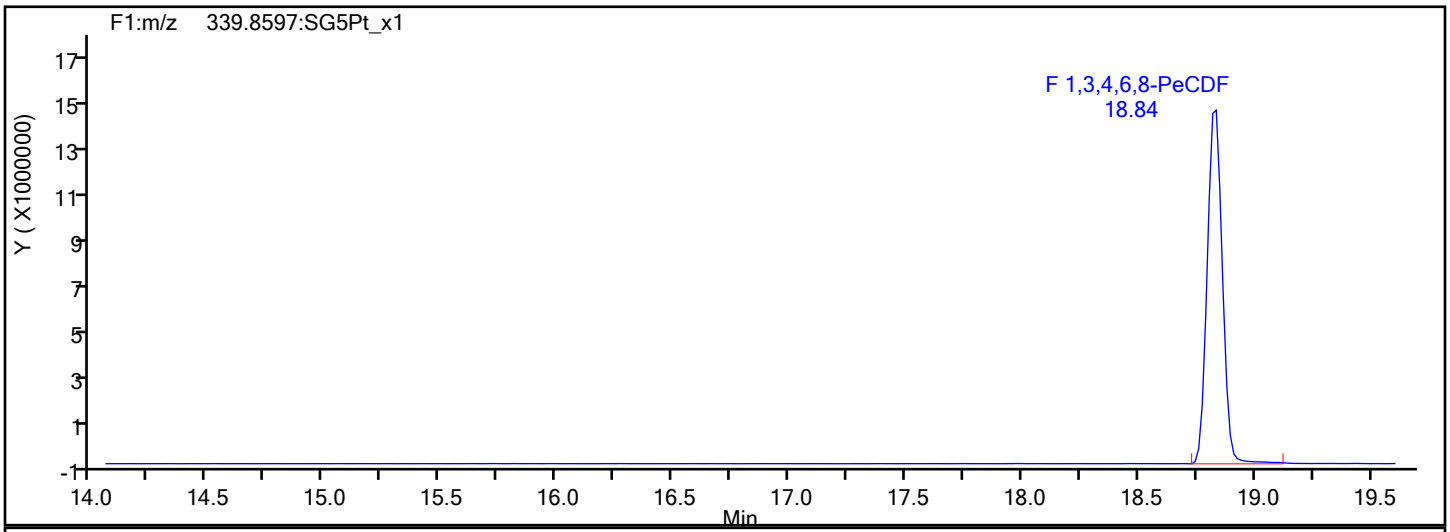

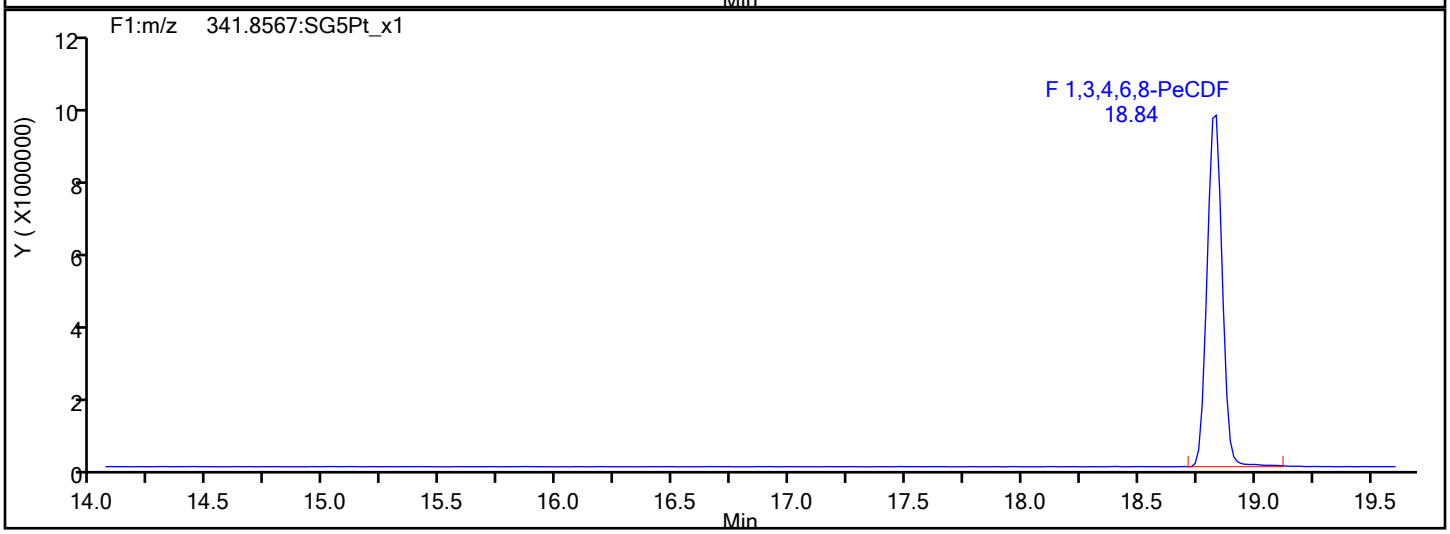

F1 PeCDFs Interference Mass

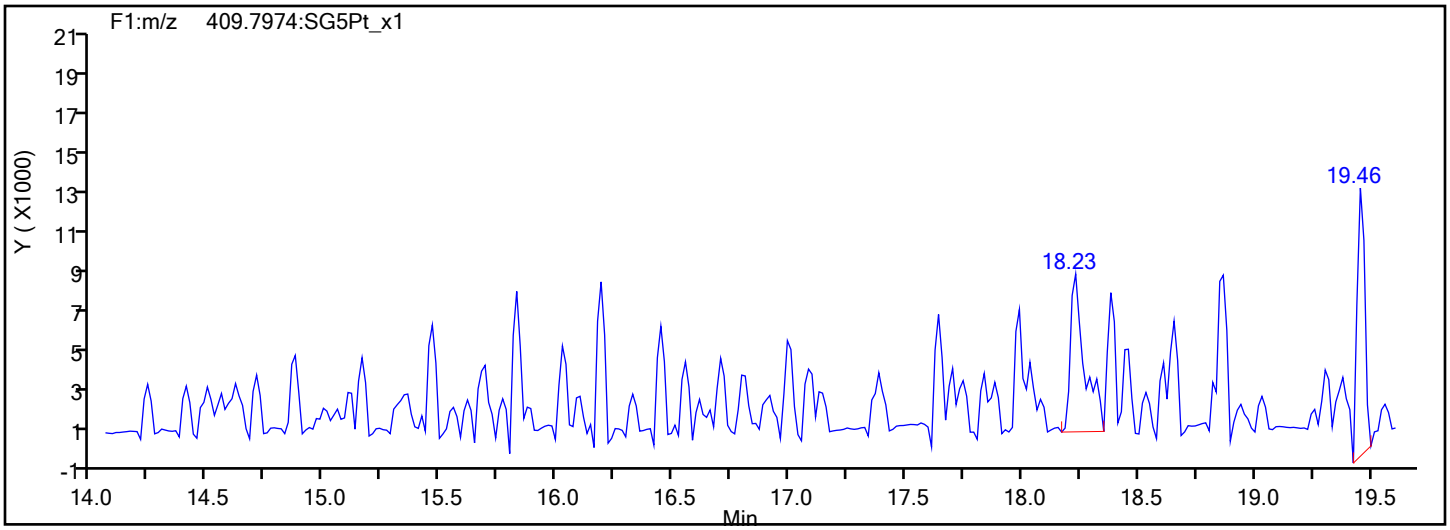

Report Date: 16-Jan-2020 11:42:57 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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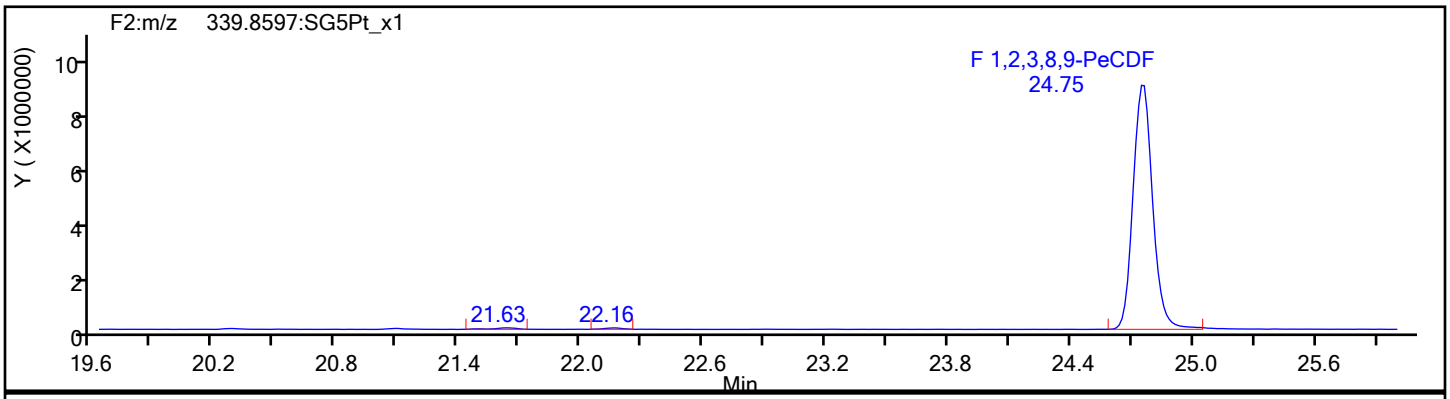

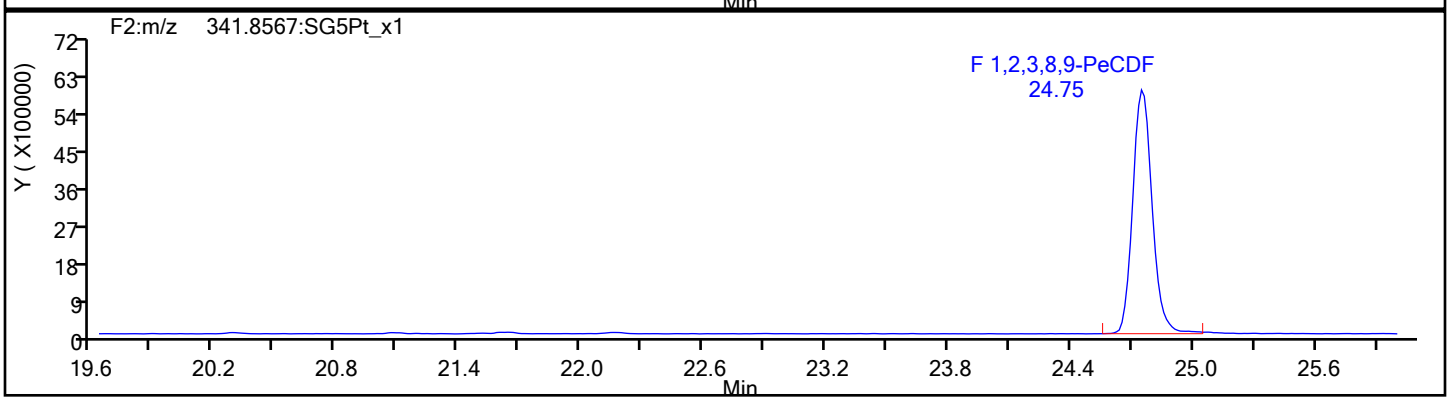

PeCDF Standards

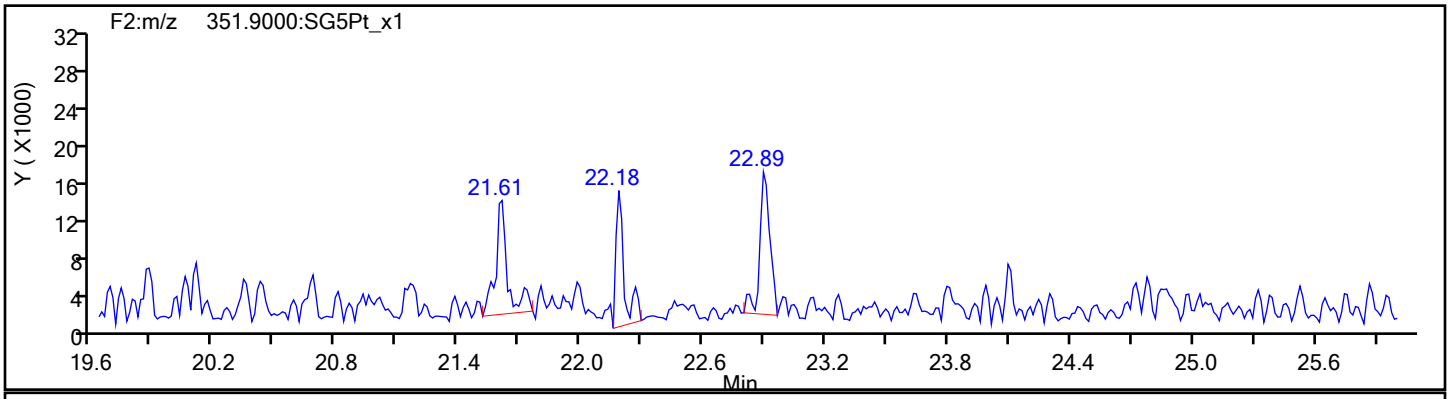

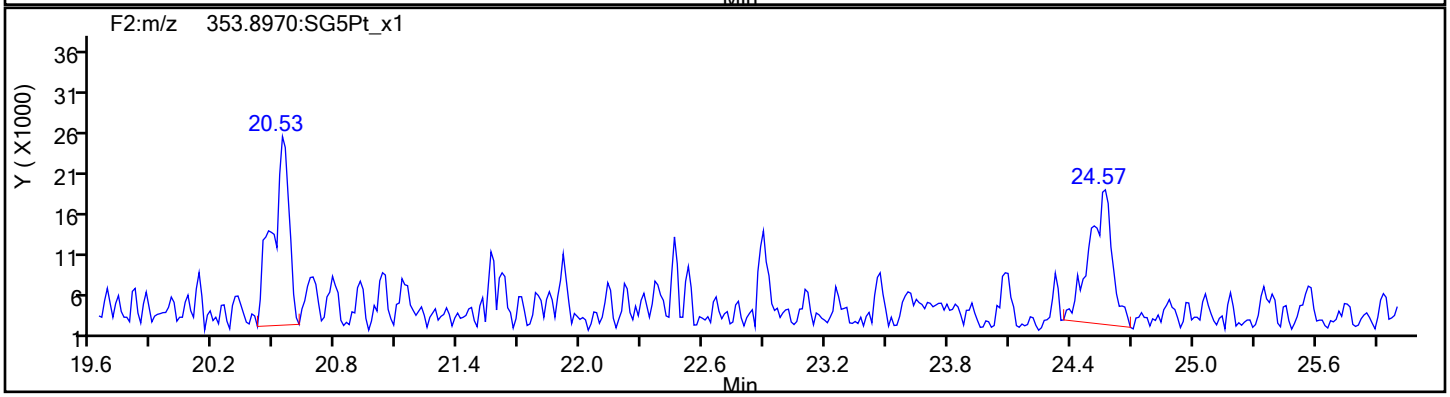

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Eurofins TestAmerica, Sacramento

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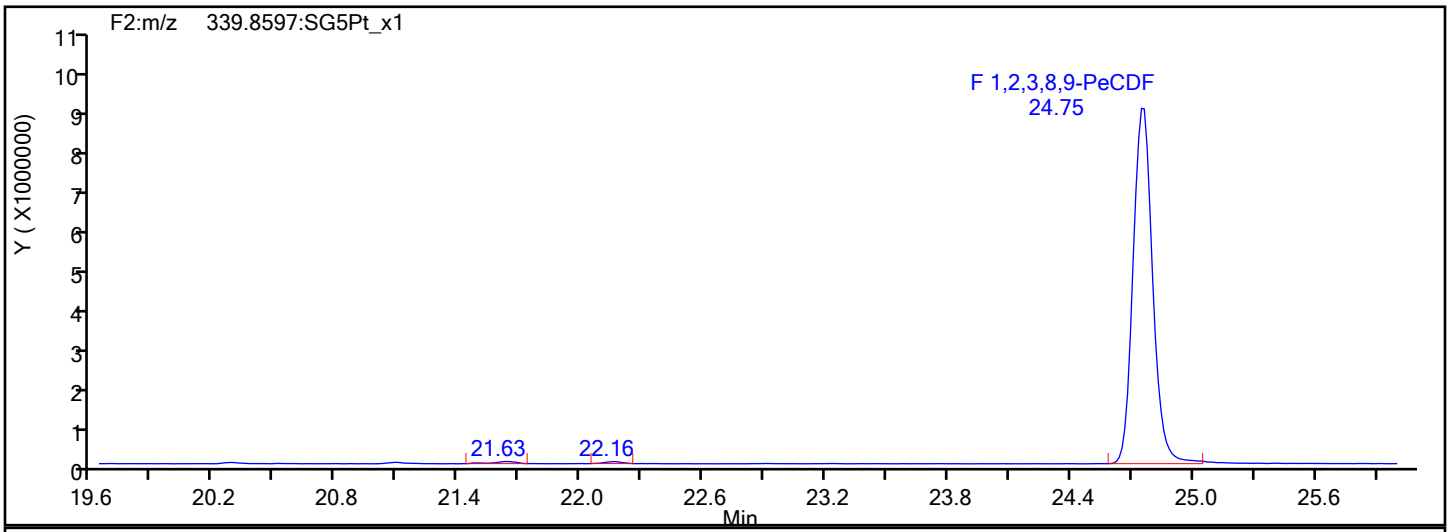

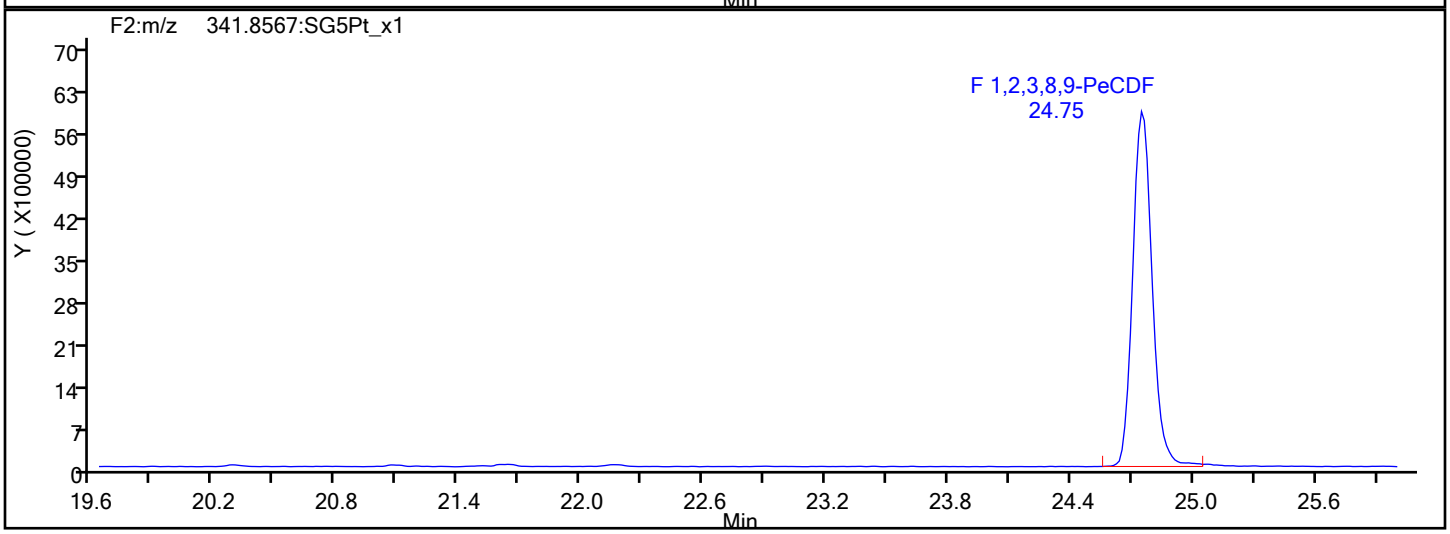

PeCDF Interference Mass

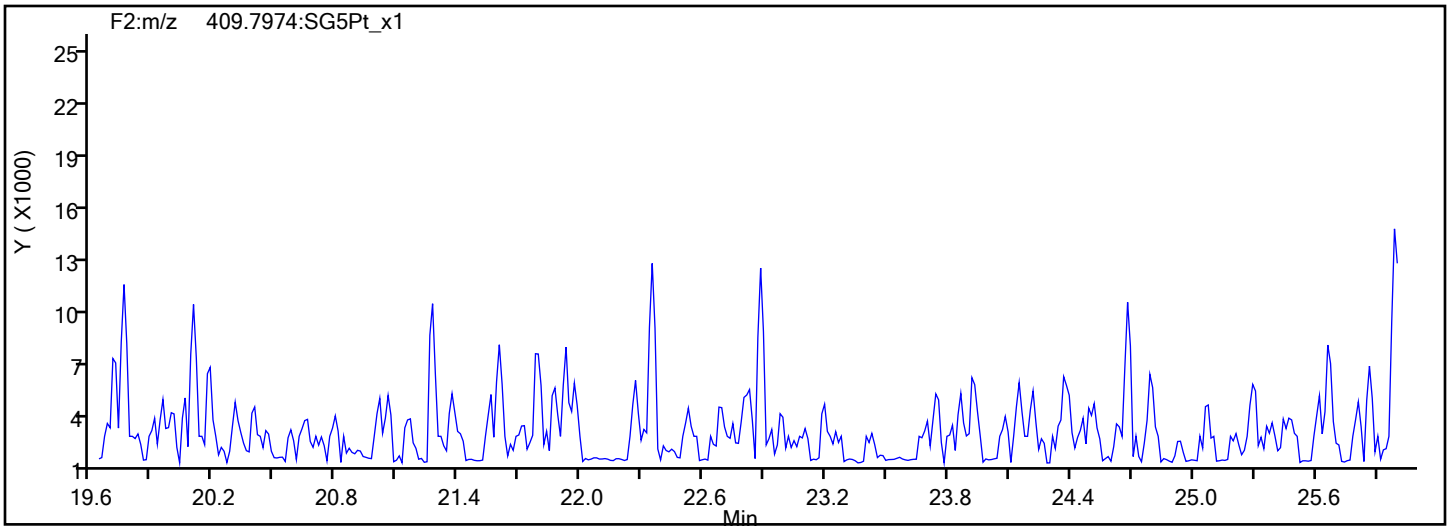

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Eurofins TestAmerica, Sacramento

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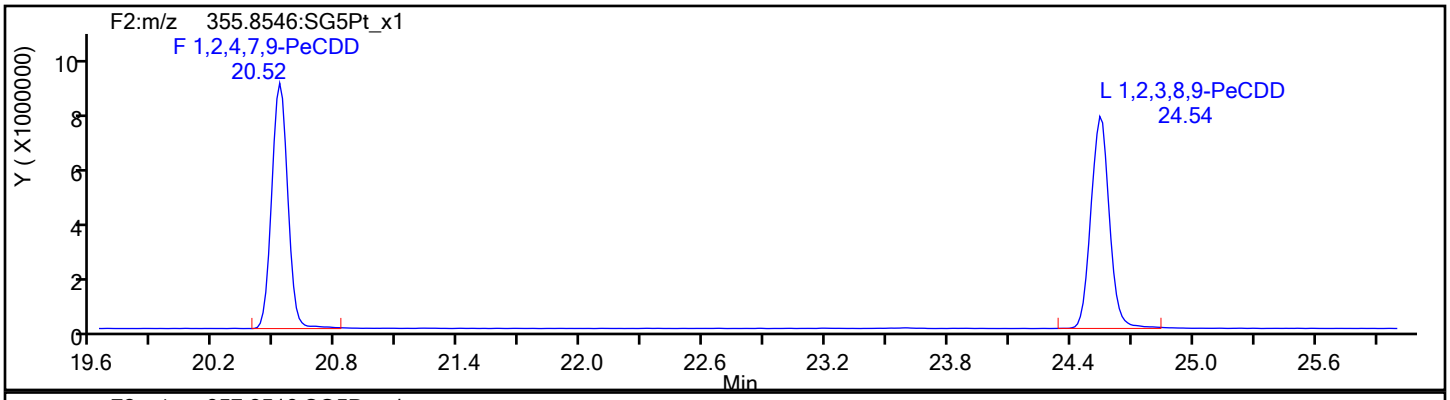

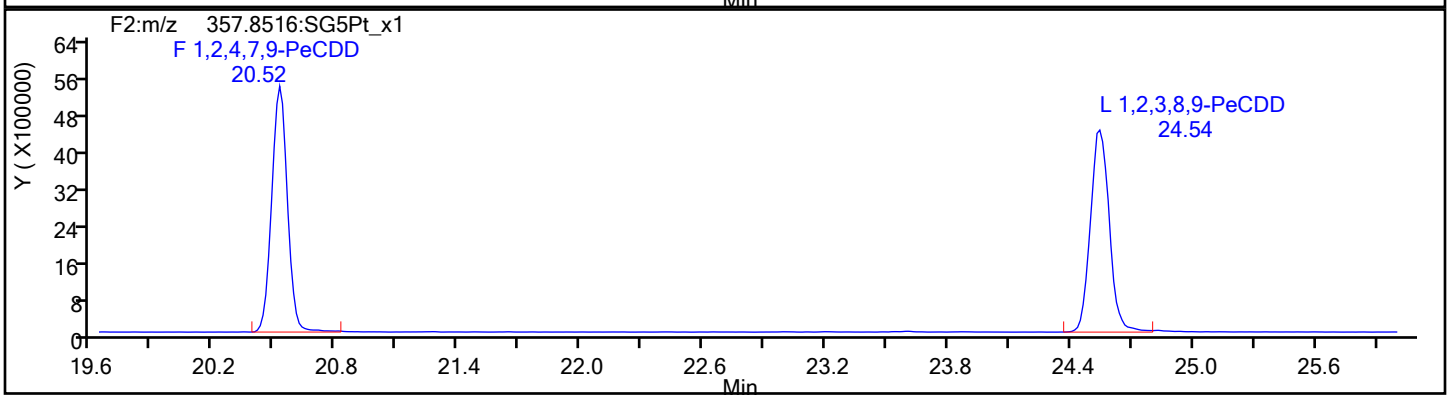

PeCDD Standards

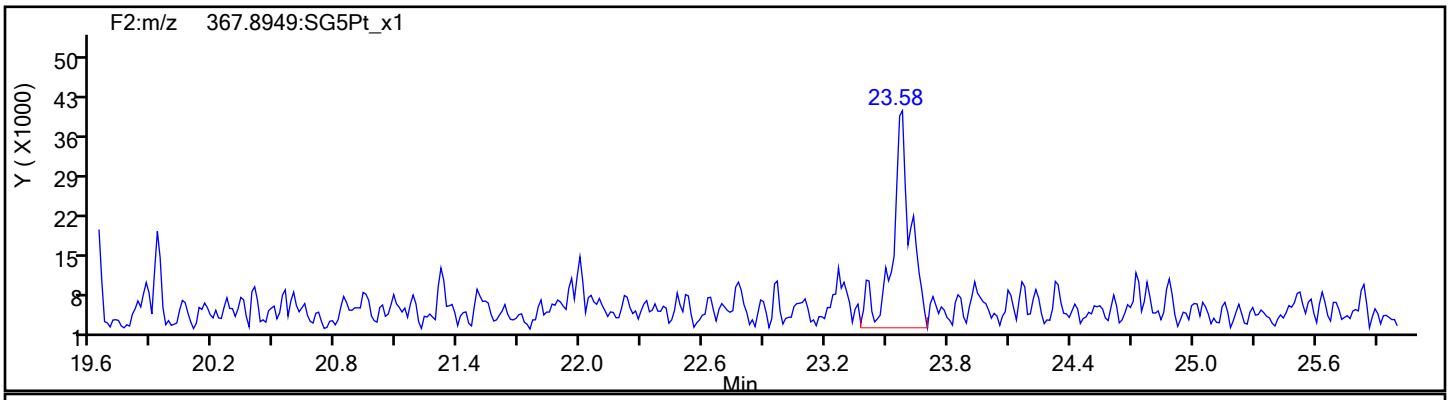

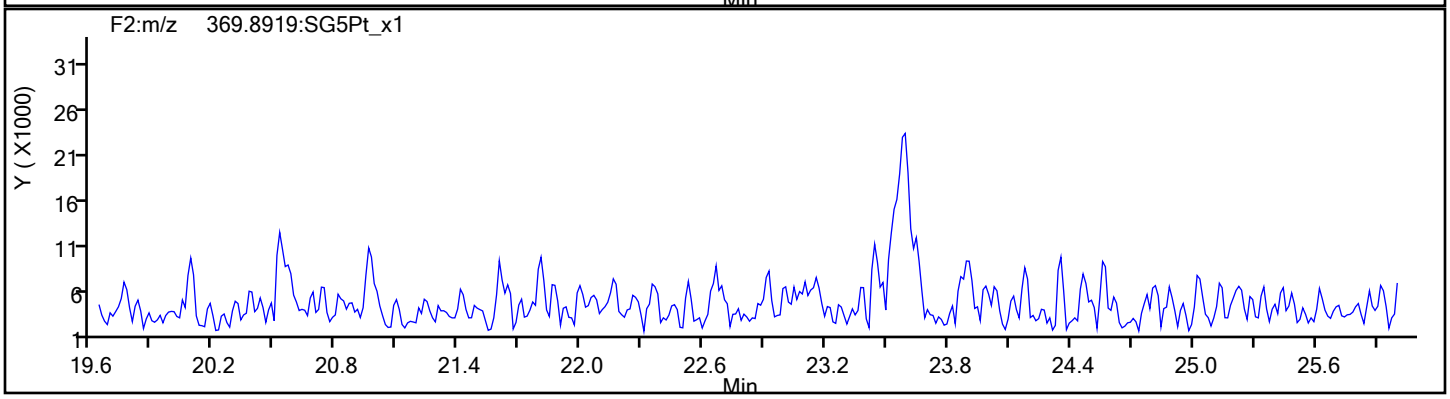

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Eurofins TestAmerica, Sacramento

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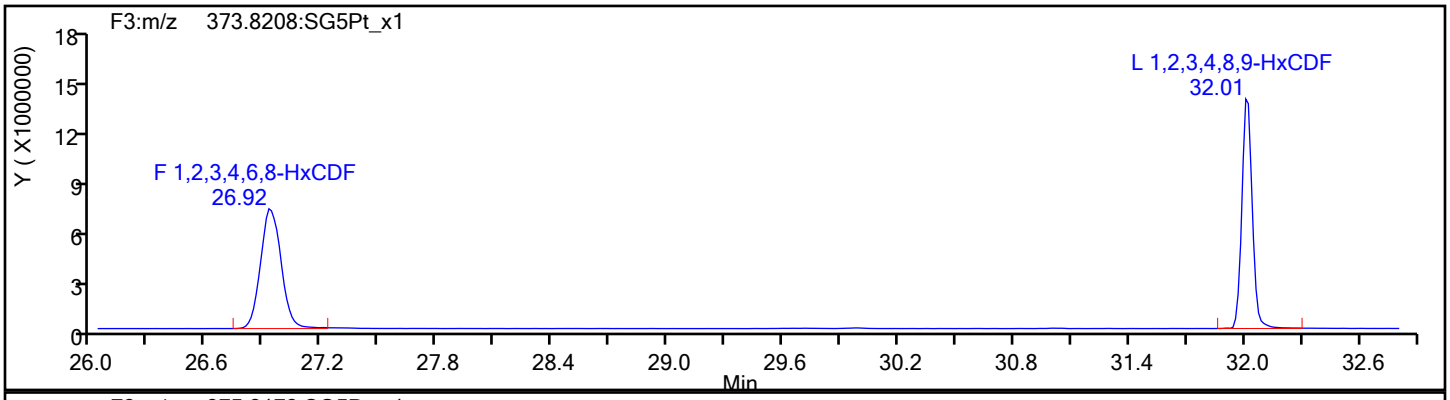

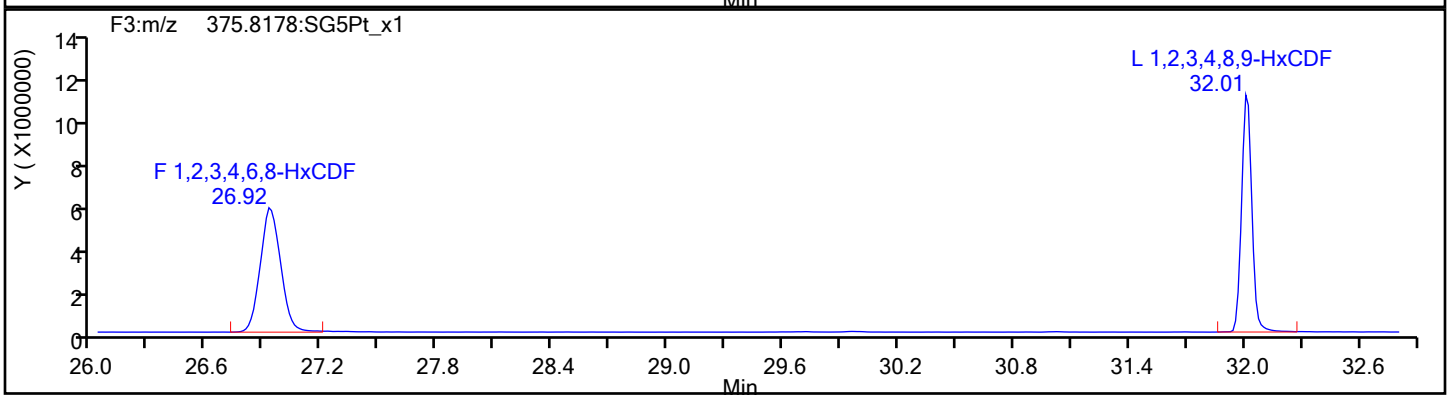

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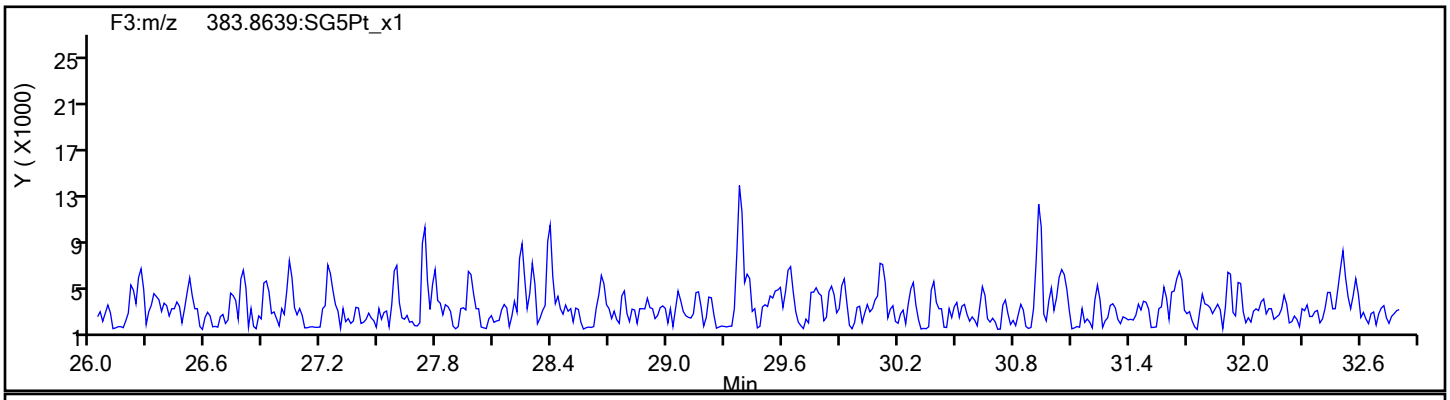

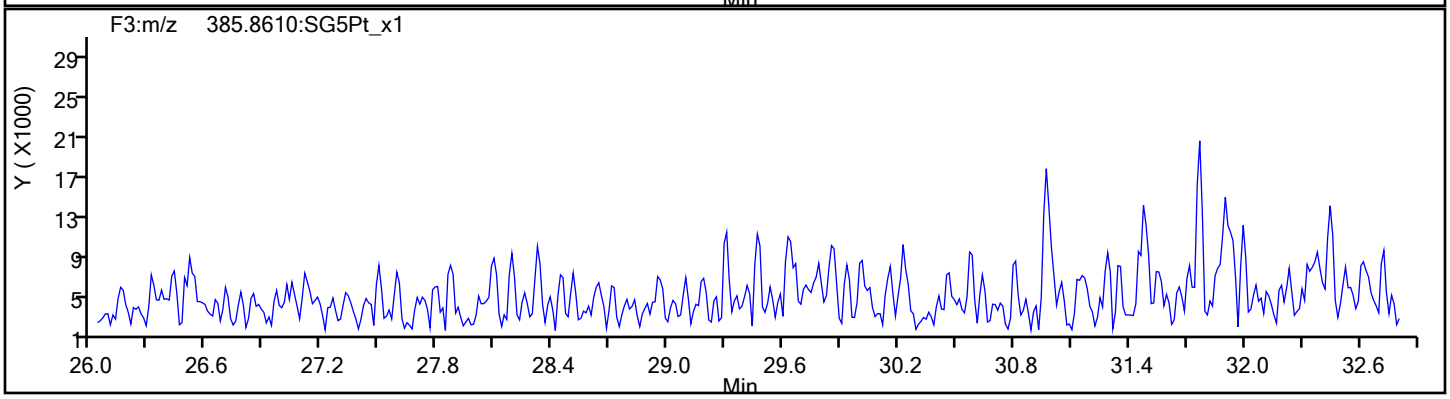

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Eurofins TestAmerica, Sacramento

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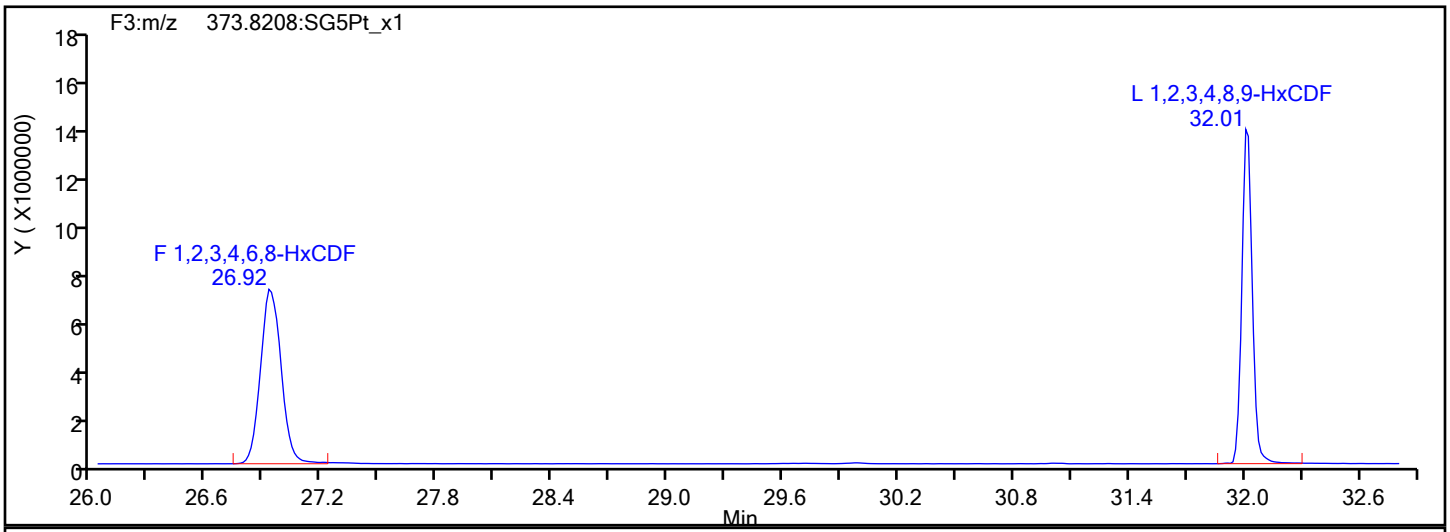

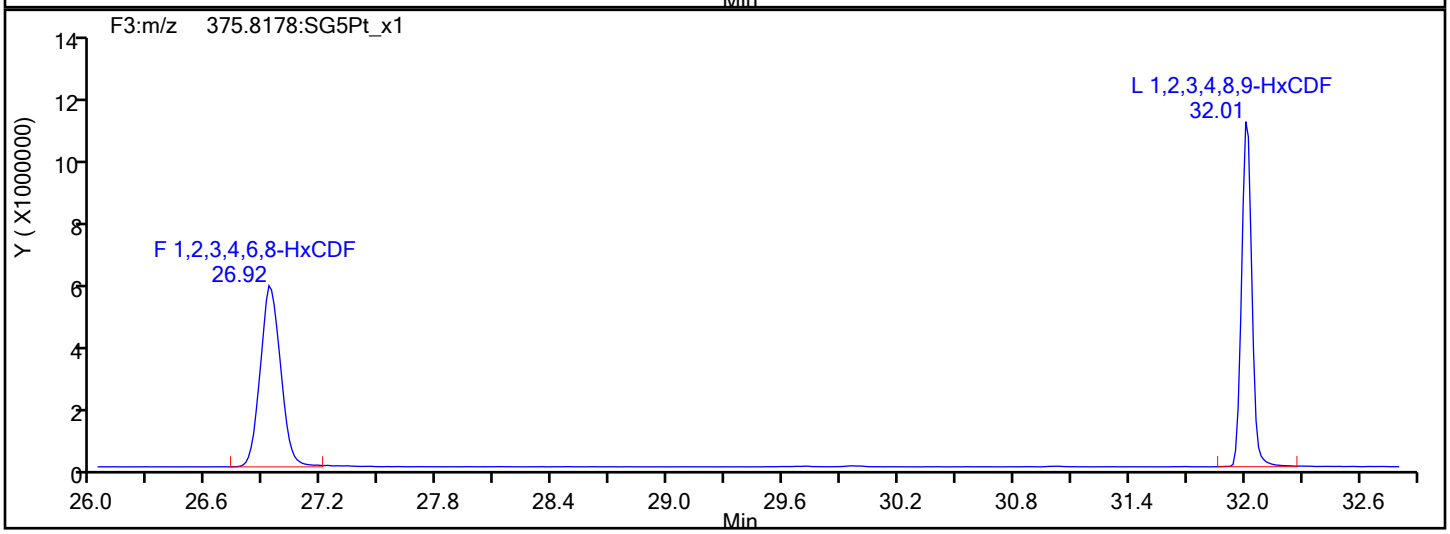

HxCDF Interference Mass

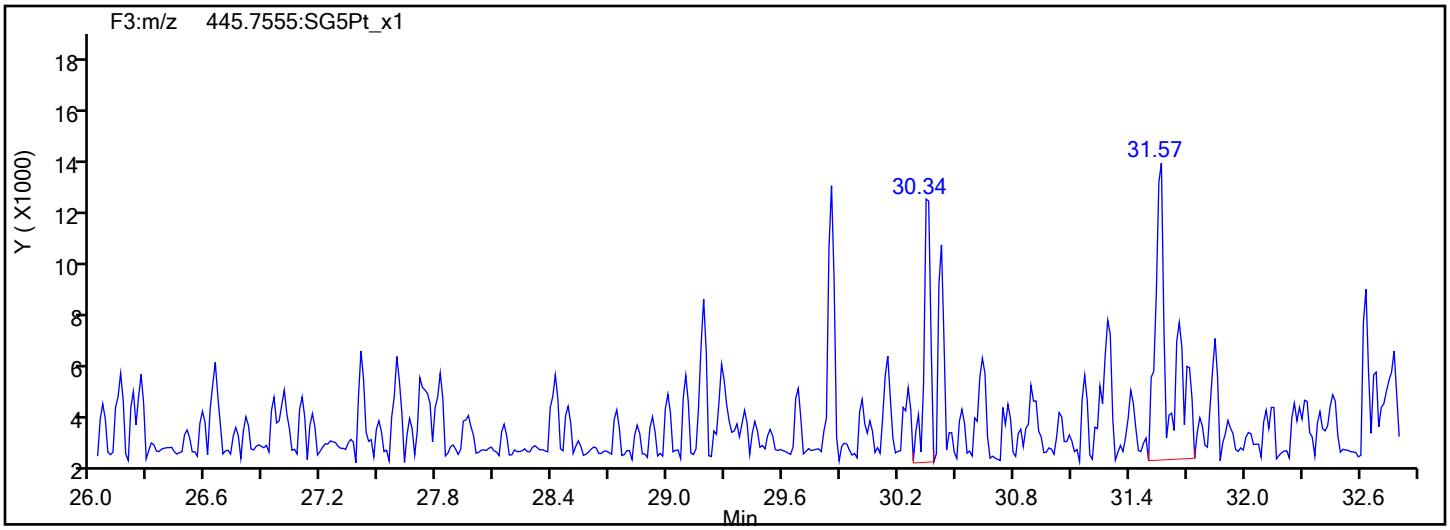

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Eurofins TestAmerica, Sacramento

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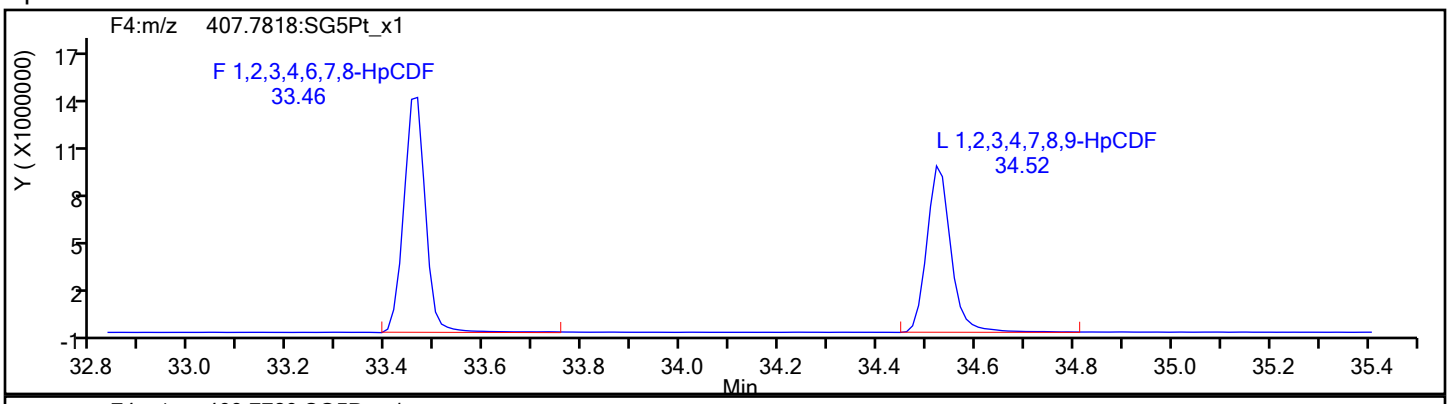

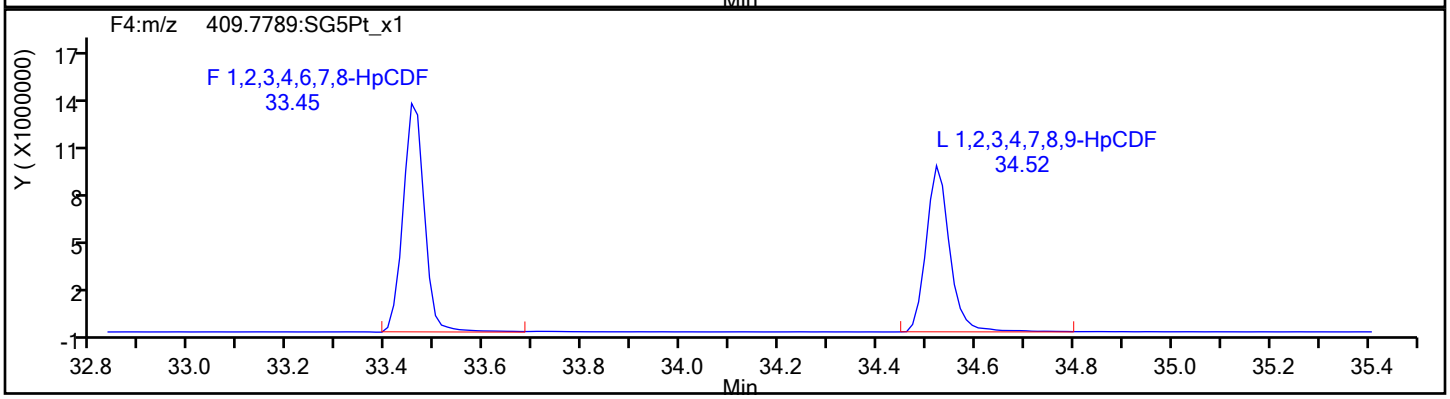

HpCDF Standards

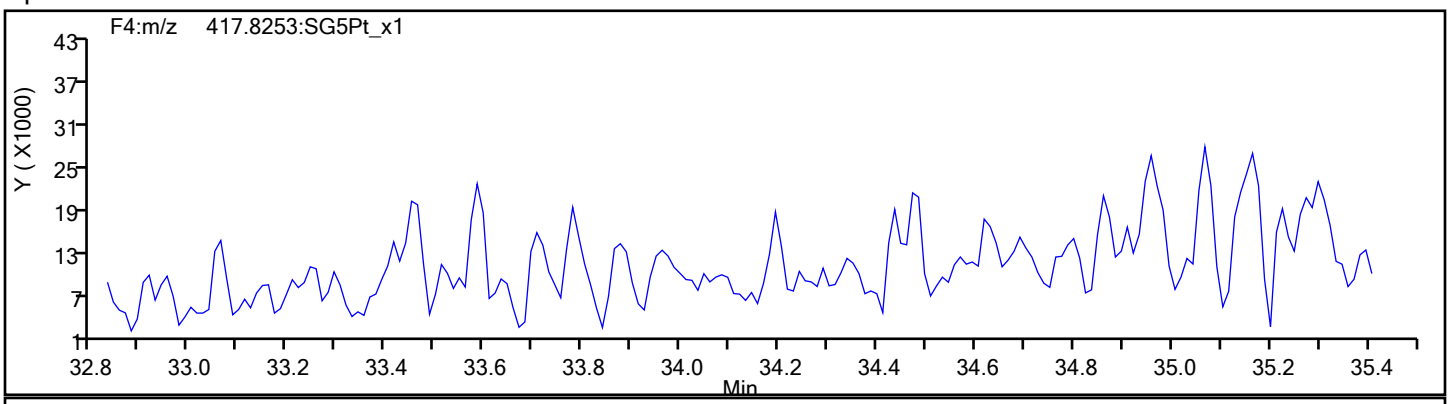

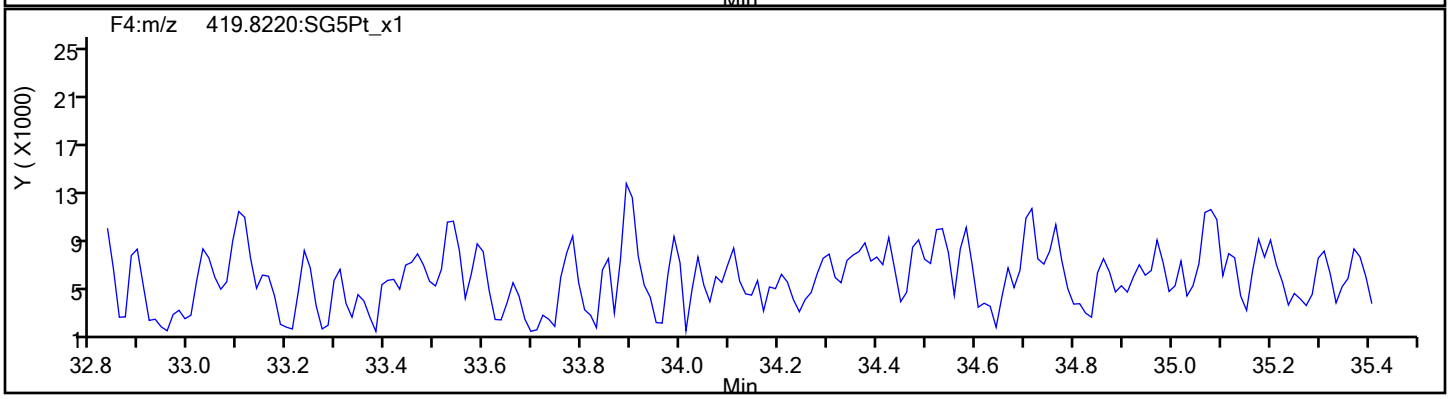

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Eurofins TestAmerica, Sacramento

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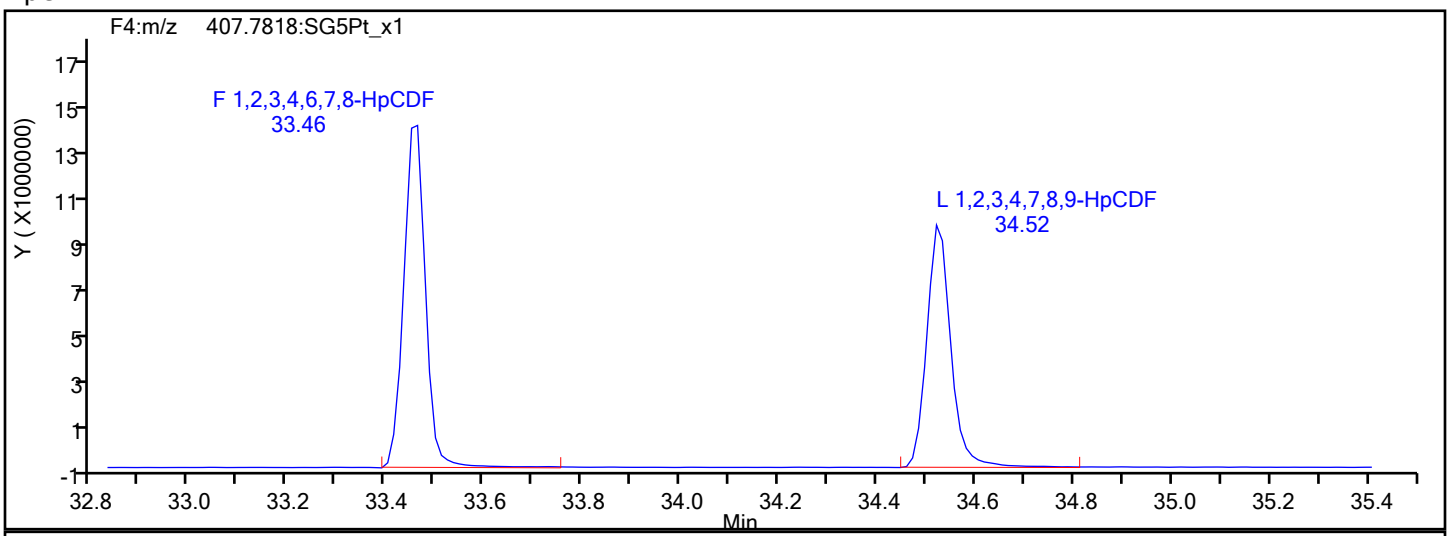

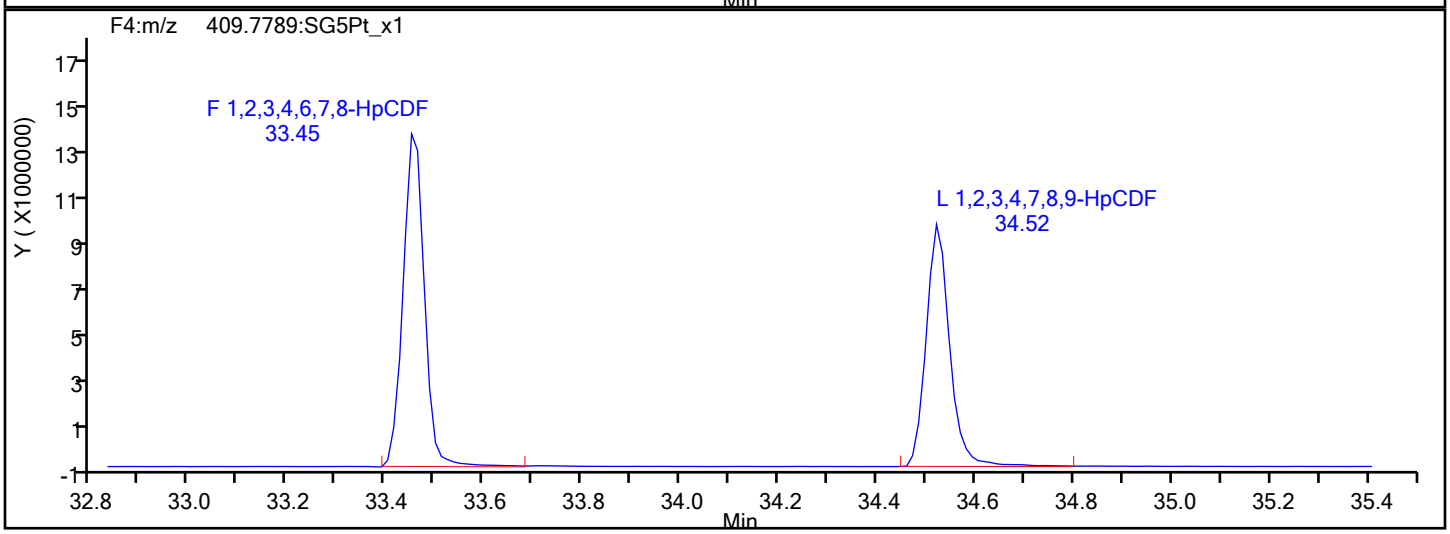

HpCDF Interference Mass

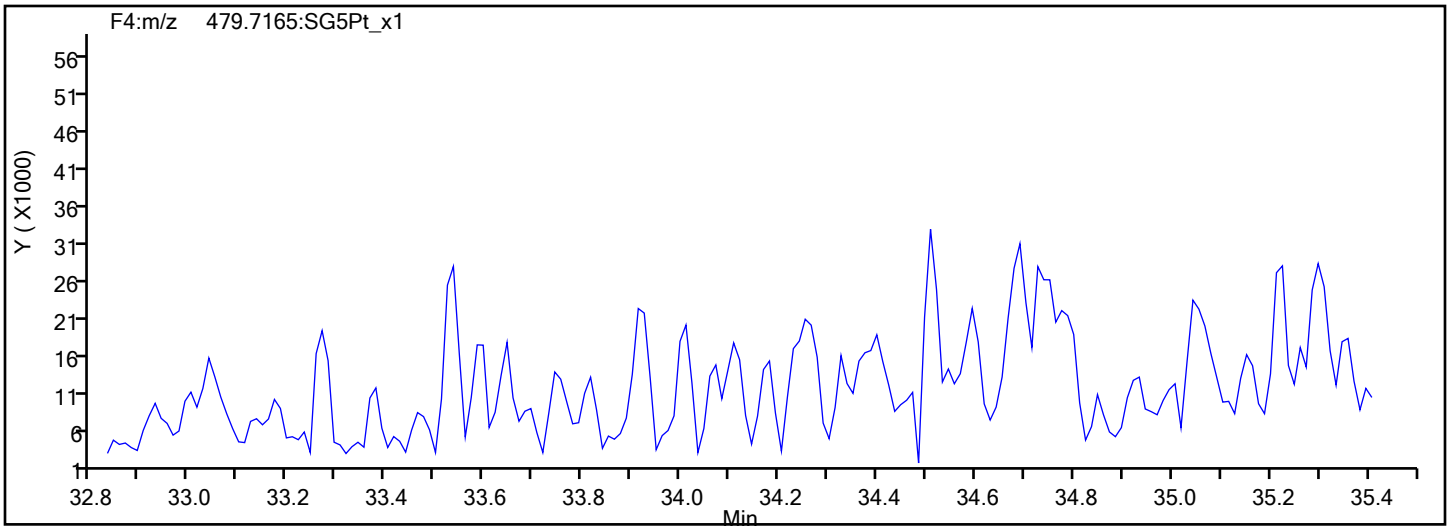

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Eurofins TestAmerica, Sacramento

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HpCDD

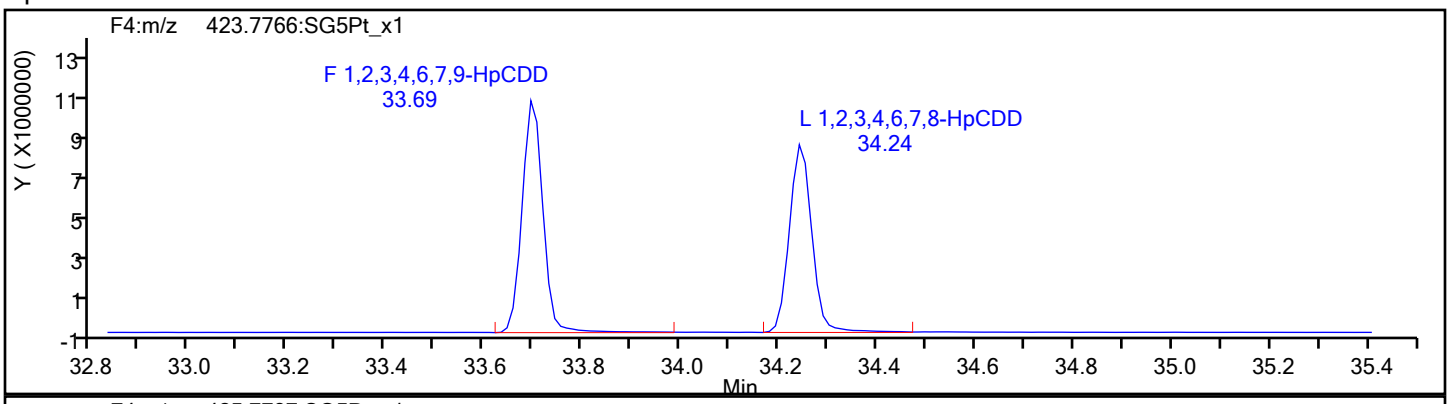

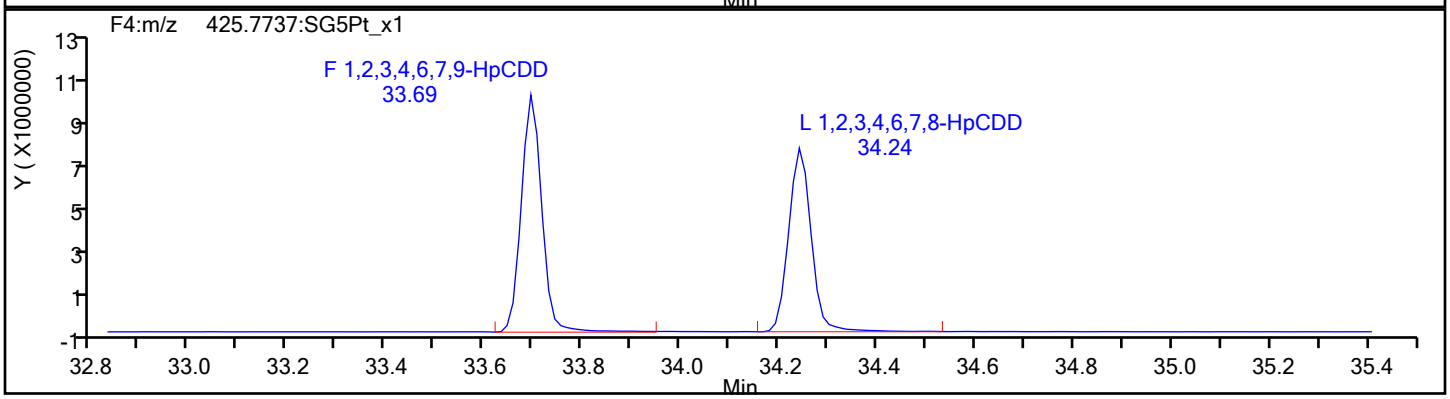

HpCDD Standards

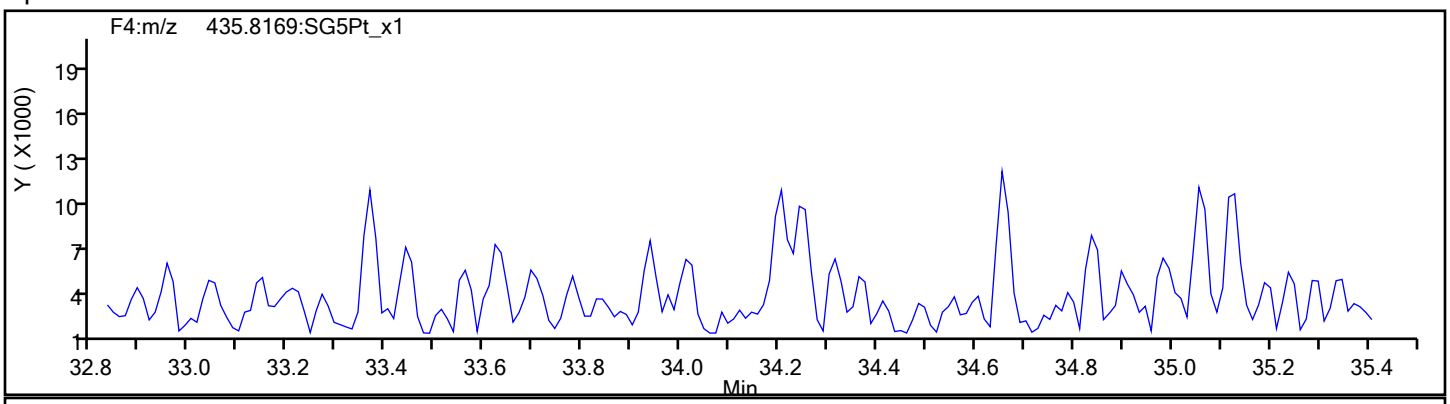

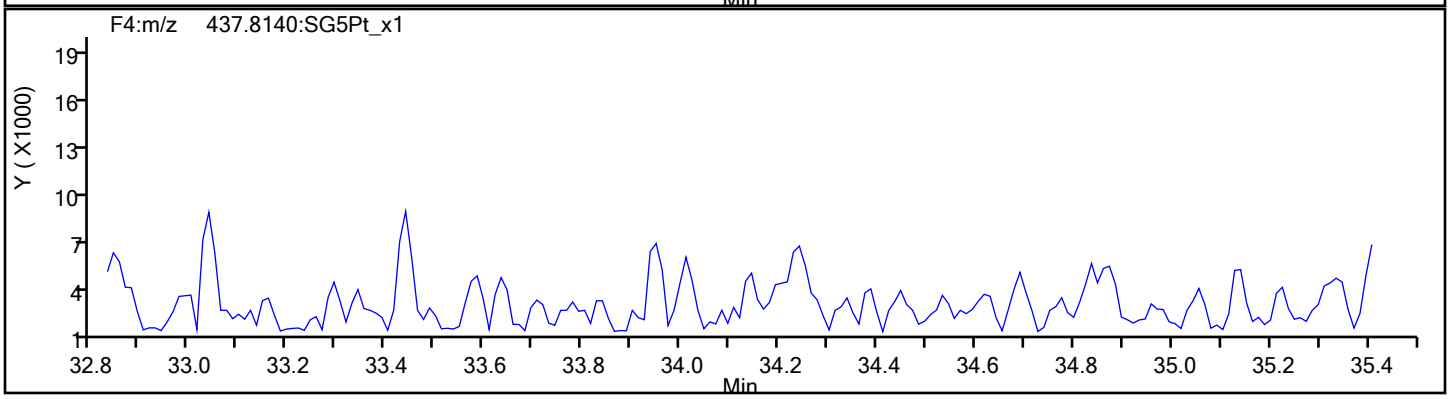

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Eurofins TestAmerica, Sacramento

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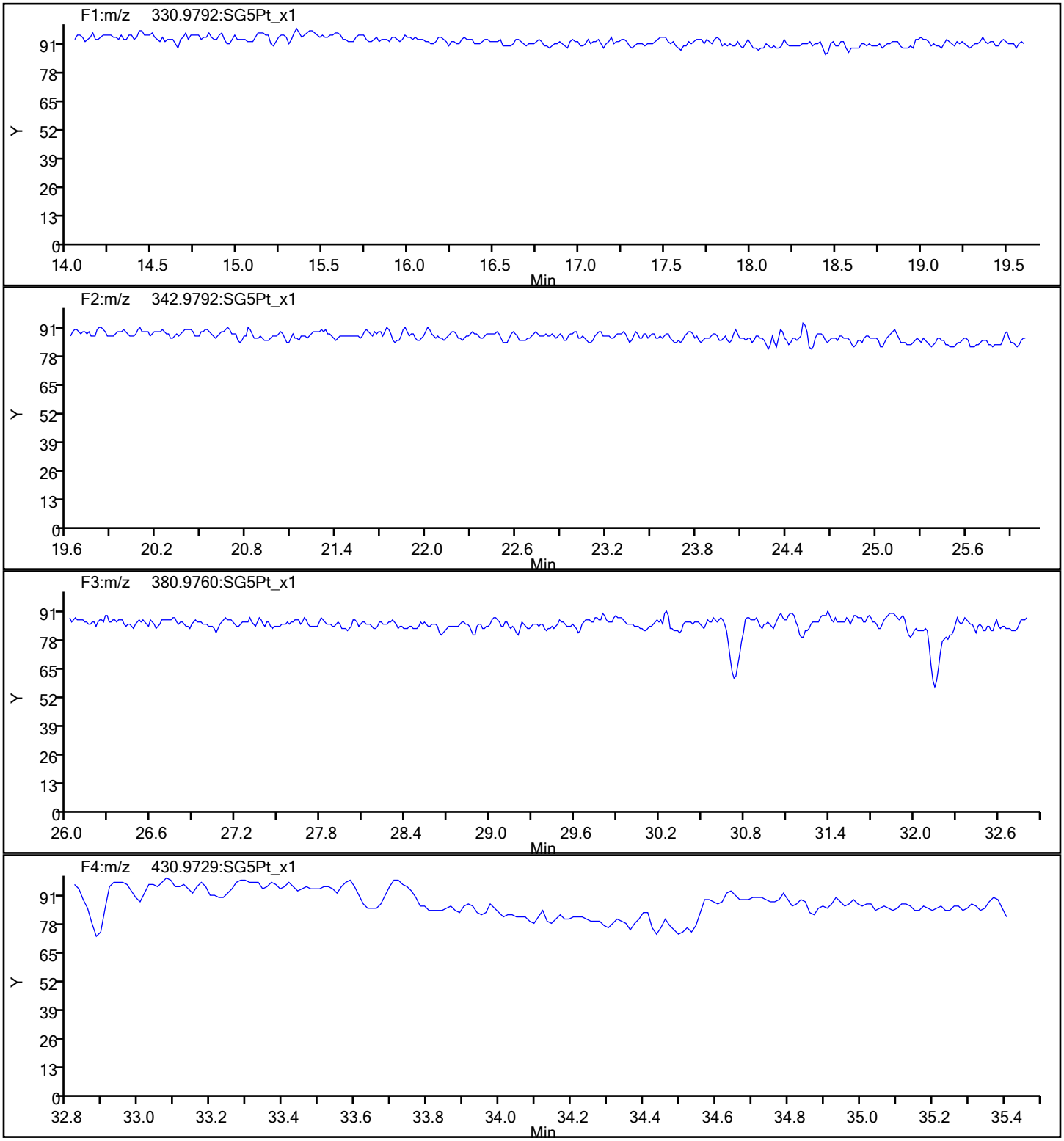

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Eurofins TestAmerica, Sacramento

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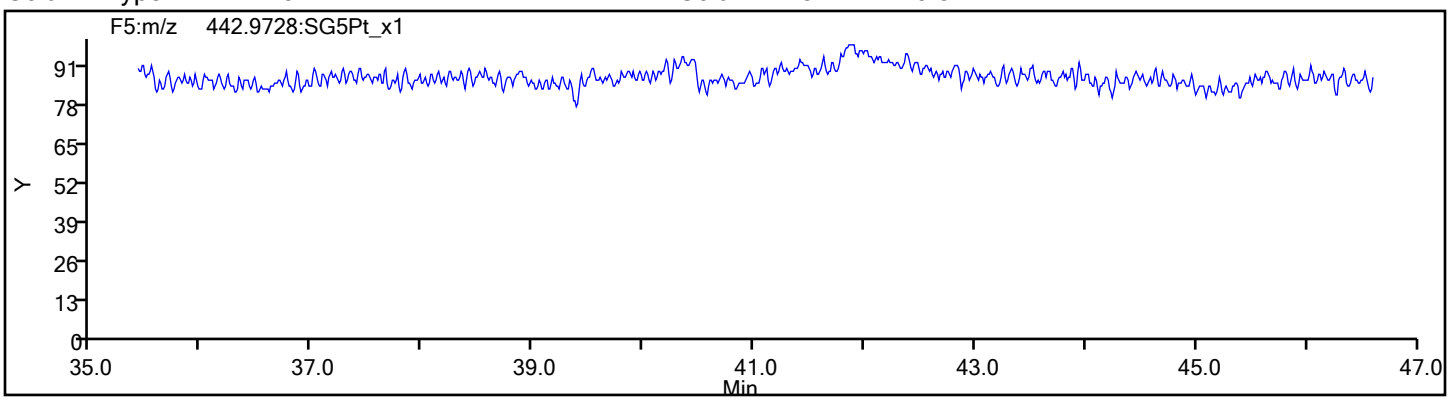

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 320-57717-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 320-350857/1-A
Matrix: Water
Lab File ID: 15JA203D5_9.d
Analysis Method: 1613B
Date Collected:
Extract. Method: 1613B
Date Extracted: 01/15/2020 07:32
Sample wt/vol: 1000(mL)
Date Analyzed: 01/16/2020 02:16
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 351160
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		10	0.78
51207-31-9	2,3,7,8-TCDF	ND		10	0.45
40321-76-4	1,2,3,7,8-PeCDD	ND		50	1.2
57117-41-6	1,2,3,7,8-PeCDF	ND		50	0.69
57117-31-4	2,3,4,7,8-PeCDF	ND		50	0.71
39227-28-6	1,2,3,4,7,8-HxCDD	ND		50	0.57
57653-85-7	1,2,3,6,7,8-HxCDD	ND		50	0.62
19408-74-3	1,2,3,7,8,9-HxCDD	ND		50	0.53
70648-26-9	1,2,3,4,7,8-HxCDF	ND		50	0.70
57117-44-9	1,2,3,6,7,8-HxCDF	ND		50	0.66
72918-21-9	1,2,3,7,8,9-HxCDF	0.657	J	50	0.36
60851-34-5	2,3,4,6,7,8-HxCDF	ND		50	0.44
35822-46-9	1,2,3,4,6,7,8-HpCDD	ND		50	0.51
67562-39-4	1,2,3,4,6,7,8-HpCDF	ND		50	0.80
55673-89-7	1,2,3,4,7,8,9-HpCDF	ND		50	0.94
3268-87-9	OCDD	4.55	J	100	0.78
39001-02-0	OCDF	ND		100	1.1
41903-57-5	Total TCDD	ND		10	0.78
30402-14-3	Total TCDF	ND		10	0.45
36088-22-9	Total PeCDD	ND		50	1.2
30402-15-4	Total PeCDF	ND		50	0.88
34465-46-8	Total HxCDD	7.14	J	50	0.57
55684-94-1	Total HxCDF	0.657	J	50	0.54
37871-00-4	Total HpCDD	ND		50	0.51
38998-75-3	Total HpCDF	ND		50	0.94

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57717-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 320-350857/1-A

Matrix: Water Lab File ID: 15JA203D5_9.d

Analysis Method: 1613B Date Collected:

Extract. Method: 1613B Date Extracted: 01/15/2020 07:32

Sample wt/vol: 1000(mL) Date Analyzed: 01/16/2020 02:16

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 351160 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	86		25-164
89059-46-1	13C-2,3,7,8-TCDF	89		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	77		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	74		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	81		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	96		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	88		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	85		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	80		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	91		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	84		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	86		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	80		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	94		26-138
114423-97-1	13C-OCDD	91		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	102		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_9.d
Lims ID: MB 320-350857/1-A
Client ID:
Sample Type: MB
Inject. Date: 16-Jan-2020 02:16:12 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: MB 320-350857/1-A MB 320-350857/1-A
Misc. Info.: 15JA203D5
Operator ID: ALM Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20200116-89625.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 17-Jan-2020 08:31:30 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0324

First Level Reviewer: shardaa Date: 16-Jan-2020 11:41:50

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.324	186241184	0.81	2.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.841	233888517	0.78	1.4157	88.7	88.7	0.2184	0.2184	88.71	
2,3,7,8-TCDF	16.856						0.0225	0.0225		
A Non-2,3,7,8-sub-TCDF	16.531						0.0225	0.0225		
S Total TCDF							0.0225	0.0225		
D 13C-2,3,7,8-TCDD	17.506	156896578	0.79	0.9751	86.4	86.4	0.1628	0.1628	86.39	
2,3,7,8-TCDD	17.521						0.0390	0.0390		
$ 37Cl4-2,3,7,8-TCDD	17.521	102387438		1.3480	40.8	40.8	0.0420	0.0420	102	
A Non-2,3,7,8-sub-TCDD	16.969						0.0390	0.0390		
S Total TCDD							0.0390	0.0390		
D 13C-1,2,3,7,8-PeCDF	21.626	162761073	1.55	1.1786	74.2	74.2	0.1864	0.1864	74.15	
1,2,3,7,8-PeCDF	21.653						0.0343	0.0343		
D 13C-2,3,4,7,8-PeCDF	22.908	171475472	1.56	1.1308	81.4	81.4	0.1943	0.1943	81.42	
2,3,4,7,8-PeCDF	22.935						0.0354	0.0354		
A F1 PeCDFs	19.207						0.0439	0.0439		
A Non-2,3,7,8-sub-PeCDF	22.200						0.0349	0.0349		
S Total PeCDF							0.0439	0.0439		
D 13C-1,2,3,7,8-PeCDD	23.603	108288173	1.59	0.7572	76.8	76.8	0.1099	0.1099	76.79	
1,2,3,7,8-PeCDD	23.617						0.0576	0.0576		
A Non-2,3,7,8-sub-PeCDD	22.533						0.0576	0.0576		
S Total PeCDD							0.0576	0.0576		
D 13C-1,2,3,4,7,8-HxCDF	29.732	157646473	0.51	1.1043	85.0	85.0	0.1885	0.1885	85.02	
1,2,3,4,7,8-HxCDF	29.732						0.0348	0.0348		
D 13C-1,2,3,6,7,8-HxCDF	29.985	153947437	0.52	1.1470	79.9	79.9	0.1815	0.1815	79.93	
1,2,3,6,7,8-HxCDF	29.998						0.0330	0.0330		
D 13C-2,3,4,6,7,8-HxCDF	31.023	151975025	0.53	1.0769	84.0	84.0	0.1933	0.1933	84.05	
2,3,4,6,7,8-HxCDF	31.037						0.0218	0.0218		
D 13C-1,2,3,7,8,9-HxCDF	31.928	154638639	0.51	1.0115	91.0	91.0	0.2058	0.2058	91.05	
1,2,3,7,8,9-HxCDF	31.928	59517	1.20	1.1717	0.0328	0.0328	0.0180	0.0180		M
A Non-2,3,7,8-sub-HxCDF	29.465						0.0250	0.0250		
S Total HxCDF					0.0328	0.0328	0.0269	0.0269		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.729	167916081	1.25	2.1E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.236	129012395	1.27	0.7962	96.5	96.5	0.1520	0.1520	96.50	
1,2,3,4,7,8-HxCDD	31.250						0.0287	0.0287		
D 13C-1,2,3,6,7,8-HxCDD	31.369	128196642	1.24	0.8720	87.6	87.6	0.1388	0.1388	87.55	
1,2,3,6,7,8-HxCDD	31.369						0.0308	0.0308		
1,2,3,7,8,9-HxCDD	31.742						0.0263	0.0263		
A Non-2,3,7,8-sub-HxCDD	30.164	512039	1.24	1.1145	0.3841	0.3572	0.0285	0.2550		RQM
S Total HxCDD					0.3841	0.3572	0.0286	0.0286		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	33.464	102369837	0.44	0.7577	80.5	80.5	0.4668	0.4668	80.46	
1,2,3,4,6,7,8-HpCDF	33.476						0.0399	0.0399		
D 13C-1,2,3,4,7,8,9-HpCDF	34.533	110096520	0.45	0.6941	94.5	94.5	0.5095	0.5095	94.46	
1,2,3,4,7,8,9-HpCDF	34.545						0.0469	0.0469		
A Non-2,3,7,8-sub-HpCDF	33.992						0.0431	0.0431		
S Total HpCDF							0.0469	0.0469		
D 13C-1,2,3,4,6,7,8-HpCDD	34.254	101401917	1.07	0.7058	85.6	85.6	0.1934	0.1934	85.56	
1,2,3,4,6,7,8-HpCDD	34.266						0.0257	0.0257		
A Non-2,3,7,8-sub-HpCDD	33.968						0.0257	0.0257		
S Total HpCDD							0.0257	0.0257		
D 13C-OCDD	36.570	141380859	0.91	0.4603	182.9	182.9	0.1242	0.1242	91.47	
OCDF	36.667						0.0525	0.0525		
OCDD	36.583	182533	1.02	1.1362	0.2273	0.2273	0.0391	0.0391		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_9.d
Lims ID: MB 320-350857/1-A
Client ID:
Sample Type: MB
Inject. Date: 16-Jan-2020 02:16:12 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: MB 320-350857/1-A MB 320-350857/1-A
Misc. Info.: 15JA203D5
Operator ID: ALM Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20200116-89625.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 17-Jan-2020 08:31:30 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0324

First Level Reviewer: shardaa Date: 16-Jan-2020 11:41:50

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.324	17.324	0		83241221	21572837	18861	47152	1144		
333.9339	17.324	17.324	0		102999963	26836928	11874	29685	2260	0.81(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.841	16.826	1	0.972	102371358	25570213	31043	77607	824		
317.9389	16.841	16.826	1	0.972	131517159	32665725	28842	72105	1133	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.856						1751	4377			
305.8987	16.856						3226	8065			
A Non-2,3,7,8-sub-TCDF											
303.9016	16.531						1751	4377			
305.8987	16.531						3226	8065			
13C-2,3,7,8-TCDD											
331.9368	17.506	17.506	0	1.010	69480055	16667869	18861	47152	884		
333.9339	17.506	17.506	0	1.010	87416523	21437250	11874	29685	1805	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.521						2820	7050			
321.8936	17.521						3404	8510			
37Cl4-2,3,7,8-TCDD											
327.8847	17.521	17.521	0	1.011	102387438	24581198	10975	27437	2240		
A Non-2,3,7,8-sub-TCDD											
319.8965	16.969						2820	7050			
321.8936	16.969						3404	8510			
13C-1,2,3,7,8-PeCDF											
351.9000	21.626	21.626	0	1.248	98927420	18155897	24767	61917	733		
353.8970	21.626	21.626	0	1.248	63833653	11452140	17768	44420	645	1.55(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	21.653						1194	2985			
341.8567	21.653						2990	7475			
13C-2,3,4,7,8-PeCDF											
351.9000	22.908	22.908	0	1.322	104584219	17134696	24767	61917	692		
353.8970	22.921	22.908	1	1.323	66891253	11220561	17768	44420	632	1.56(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.935						1194	2985			
341.8567	22.935						2990	7475			
A F1 PeCDFs											
339.8597	19.207						1491	3727			
341.8567	19.207						3783	9457			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.200						1194	2985			
341.8567	22.200						2990	7475			
13C-1,2,3,7,8-PeCDD											
367.8949	23.603	23.603	0	1.362	66496854	10640783	8536	21340	1247		
369.8919	23.603	23.603	0	1.362	41791319	6805179	7584	18960	897	1.59(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.617						2880	7200			
357.8516	23.617						1480	3700			
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.533						2880	7200			
357.8516	22.533						1480	3700			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.732	29.705	2	0.937	53403546	7182439	12026	30065	597		
385.8610	29.732	29.705	2	0.937	104242927	13734497	23849	59622	576	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.732						1650	4125			
375.8178	29.732						1688	4220			
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.985	29.971	1	0.945	52975151	7588403	12026	30065	631		
385.8610	29.985	29.971	1	0.945	100972286	14466221	23849	59622	607	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	29.998						1650	4125			
375.8178	29.998						1688	4220			
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.023	31.010	1	0.978	52622194	11425217	12026	30065	950		
385.8610	31.023	31.010	1	0.978	99352831	21230405	23849	59622	890	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.037						1650	4125			
375.8178	31.037						1688	4220			
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.928	31.929	0	1.006	52367773	13293857	12026	30065	1105		
385.8610	31.928	31.929	0	1.006	102270866	26182273	23849	59622	1098	0.51(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											M
373.8208	31.928	31.942	-1	1.000	32470	8317	1650	4125	5		M
375.8178	31.942	31.942	0	1.000	27047	7964	1688	4220	5	1.20(1.05-1.43)	M
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.465						1650	4125			
375.8178	29.465						1688	4220			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.729	31.729	0		93162726	23957806	11102	27755	2158		
403.8529	31.729	31.729	0		74753355	19127136	9759	24397	1960	1.25(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.236	31.236	0	0.984	72132931	16714962	11102	27755	1506		
403.8529	31.236	31.236	0	0.984	56879464	13134438	9759	24397	1346	1.27(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.250						1705	4262			
391.8127	31.250						2039	5097			
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.369	31.356	1	0.989	70908069	16245097	11102	27755	1463		
403.8529	31.356	31.356	0	0.988	57288573	12921423	9759	24397	1324	1.24(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.369						1705	4262			
391.8127	31.369						2039	5097			
1,2,3,7,8,9-HxCDD											
389.8157	31.742						1705	4262			
391.8127	31.742						2039	5097			
A Non-2,3,7,8-sub-HxCDD											RQM
389.8157	31.010	30.164	51	0.989	212643	22337	1705	4262	13		
391.8127	31.023	30.164	51	0.989	152836	12776	2039	5097	6	1.39(1.05-1.43)	M
389.8157	31.942	30.164	106	1.018	119696	27374	1705	4262	16		
	Empc Correction				81131	11207	1705	4262	7		
391.8127	31.915	30.164	105	1.017	65429	9038	2039	5097	4	1.83(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.464	33.464	0	1.055	31194602	10949611	21245	53112	515		
419.8220	33.464	33.464	0	1.055	71175235	24982289	39709	99272	629	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.476						6448	16120			
409.7789	33.476						2041	5102			
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.533	34.533	0	1.088	34025991	11051497	21245	53112	520		
419.8220	34.533	34.533	0	1.088	76070529	23955163	39709	99272	603	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.545						6448	16120			
409.7789	34.545						2041	5102			
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.992						6448	16120			
409.7789	33.992						2041	5102			

Report Date: 17-Jan-2020 08:31:38 Chrom Revision: 2.3 14-Jan-2020 22:23:42
Data File: \\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_9.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.254	34.254	0	1.080	52301543	17385367	12071	30177	1440		
437.8140	34.254	34.254	0	1.080	49100374	16168084	11451	28627	1412	1.07(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.266						1898	4745			
425.7737	34.266						1736	4340			
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.968						1898	4745			
425.7737	33.968						1736	4340			
13C-OCDD											
469.7779	36.570	36.571	0	1.153	67326649	18153465	5149	12872	3526		
471.7750	36.570	36.571	0	1.153	74054210	20432744	4706	11765	4342	0.91(0.76-1.02)	
OCDF											
441.7428	36.667						2274	5685			
443.7399	36.667						3378	8445			
OCDD											
457.7377	36.583	36.583	0	1.000	92071	12448	1696	4240	7		
459.7348	36.570	36.583	-1	1.000	90462	10326	1733	4332	6	1.02(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_9.d
Lims ID: MB 320-350857/1-A
Client ID:
Inject. Date: 16-Jan-2020 02:16:12 Dil. Factor: 1.0000
Sample Type: MB, Method Blank
Instrument ID: 3D5 Operator: ALM
Lims Batch ID: 351160 Lims Sample ID: 9

Non-2,3,7,8-sub-HxCDD, RT: 30.164

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.093	D 13C-1,2,3,4,7,8-HxCDD	100.000	129012395	29849400
1,2,3,6,7,8-HxCDD	1.043	D 13C-1,2,3,6,7,8-HxCDD	100.000	128196642	29166520
1,2,3,7,8,9-HxCDD	1.207				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.115		100.000	128604518	29507960

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
31.010	212643	22337	152836	12776	0.2550	1.39	M
31.942	119696	27374	65429	9038	0.1292	1.83	RQ
31.942	81131	11207	65429	9038	0.1023		Empc Correction
Signal Totals:							
	293774	33544	218265	21814			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	550604	71525				1.52	RQM
	512039	55358					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.3841 = (550604 * 100.000) / (128604518 * 1.115)
Empc Amount: 0.3572 = (512039 * 100.000) / (128604518 * 1.115)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_9.d				
Injection Date:	16-Jan-2020 02:16:12	Instrument ID:	3D5		
Lims ID:	MB 320-350857/1-A				
Client ID:					
Operator ID:	ALM	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 2

Processing Integration Results

RT: 31.94
Area: 44722
Amount: 0.042007
Amount Units: pg/ul

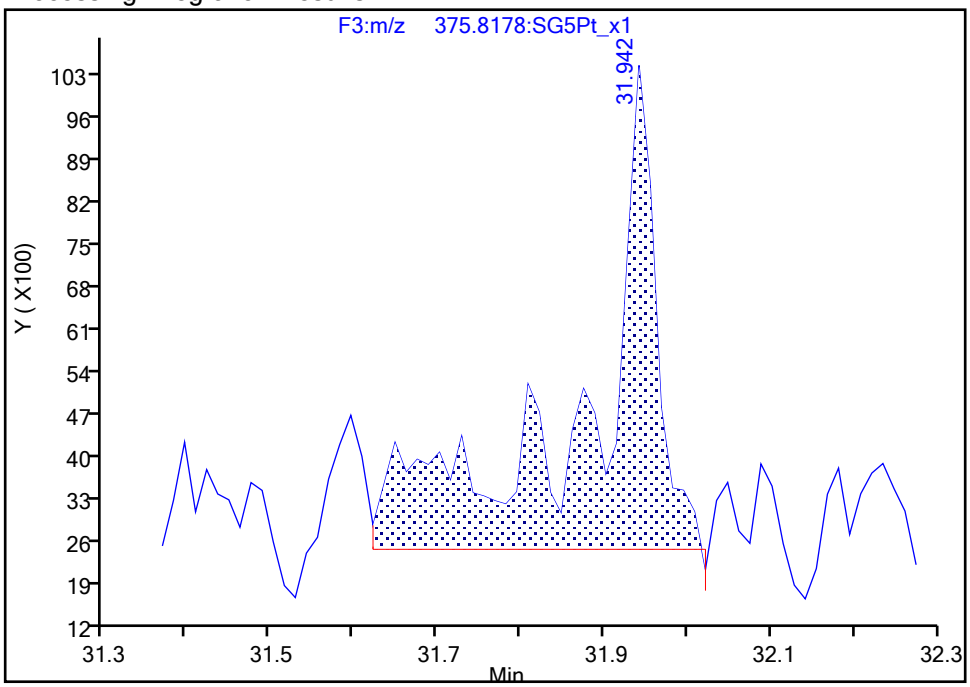

Manual Integration Results

RT: 31.94
Area: 27047
Amount: 0.032849
Amount Units: pg/ul

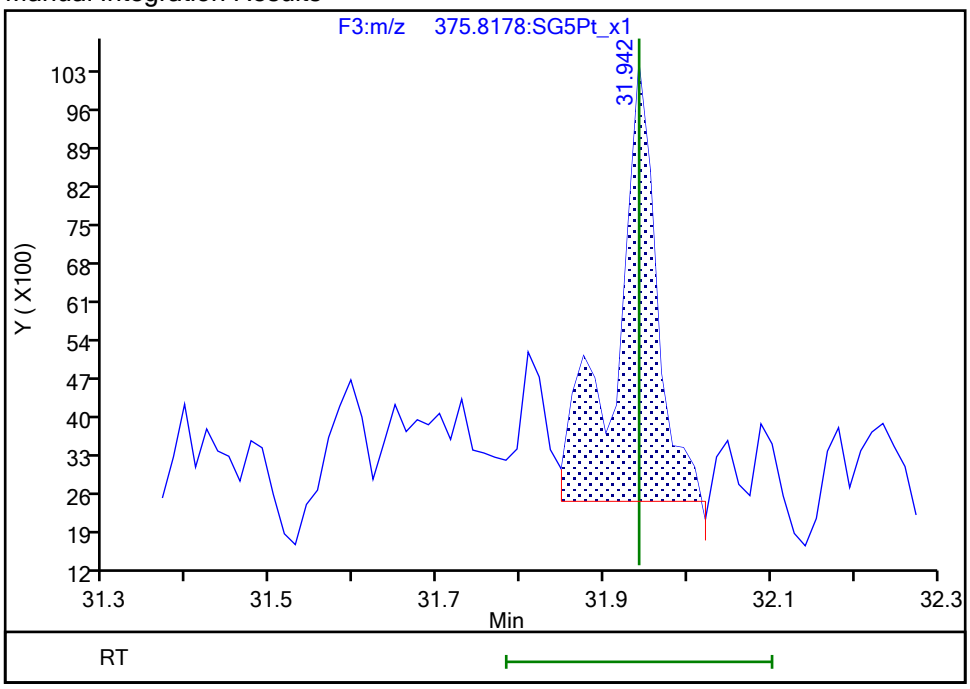

Reviewer: ruangyotsakuld, 17-Jan-2020 08:25:31
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_9.d				
Injection Date:	16-Jan-2020 02:16:12	Instrument ID:	3D5		
Lims ID:	MB 320-350857/1-A				
Client ID:					
Operator ID:	ALM	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 1

Processing Integration Results

RT: 31.93
Area: 31387
Amount: 0.042007
Amount Units: pg/ul

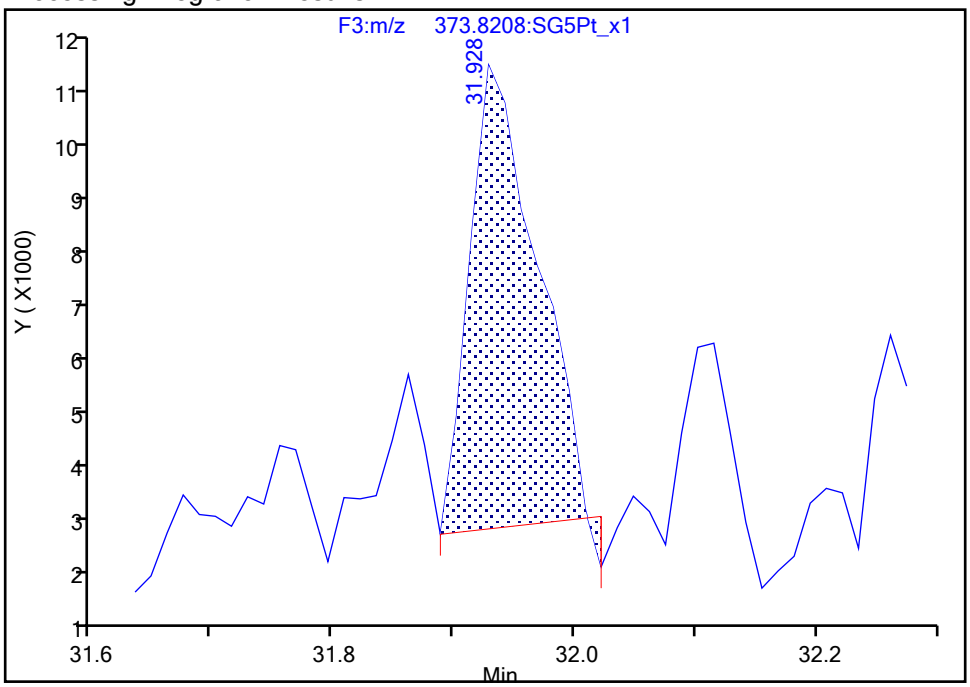

Manual Integration Results

RT: 31.93
Area: 32470
Amount: 0.032849
Amount Units: pg/ul

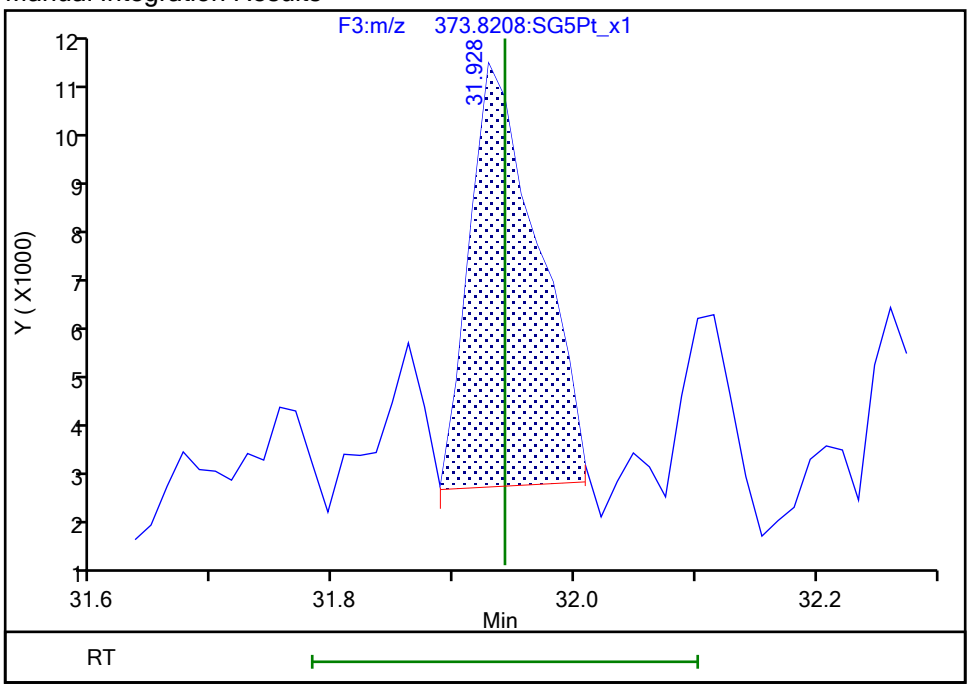

Reviewer: ruangyotsakuld, 17-Jan-2020 08:25:39

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_9.d				
Injection Date:	16-Jan-2020 02:16:12	Instrument ID:	3D5		
Lims ID:	MB 320-350857/1-A				
Client ID:					
Operator ID:	ALM	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

Non-2,3,7,8-sub-HxCDD, Signal: 2, m/z: 391.8127, RT: (28.32- 32.01)

Signal: 2

Processing Integration Results

RT = 31.023 Area = 56596

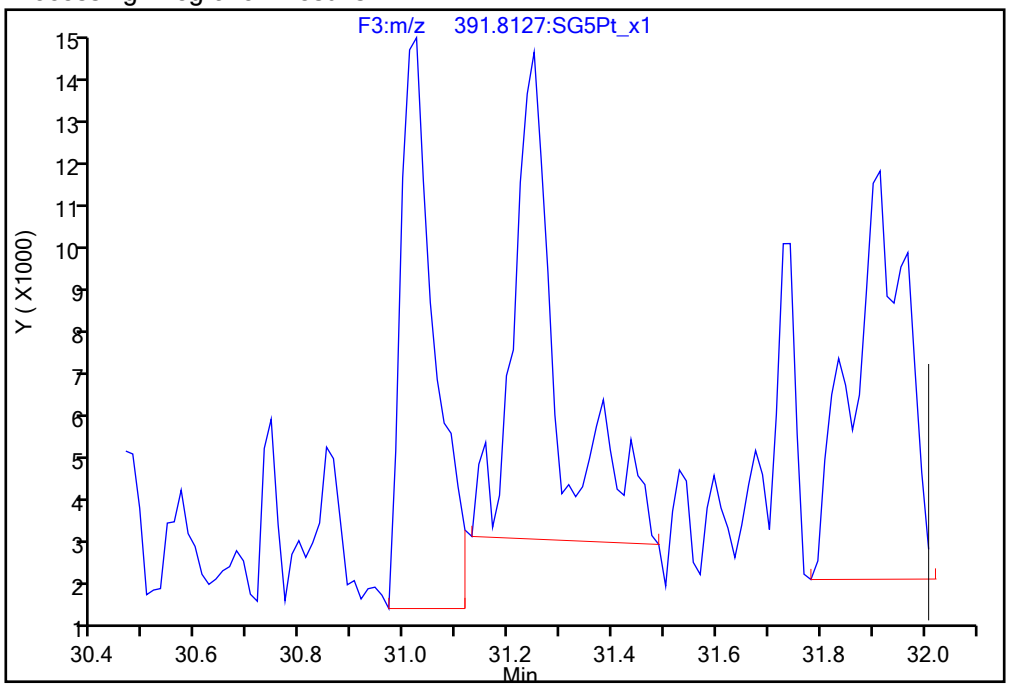

Manual Integration Results

RT = 31.023 Area = 152836 M

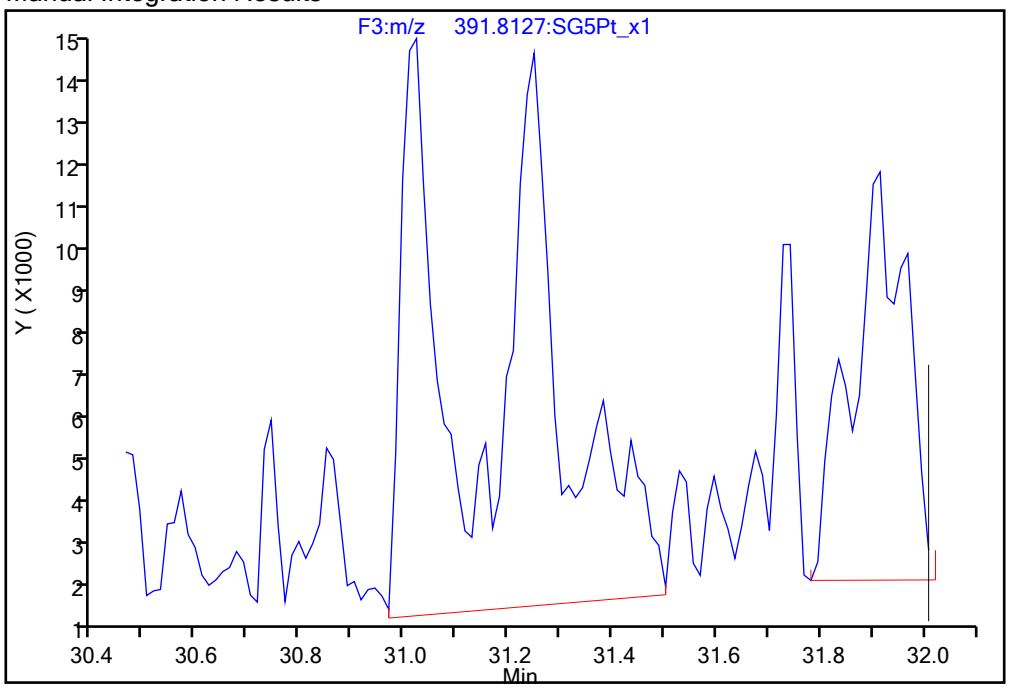

Reviewer: ruangyotsakuld, 17-Jan-2020 08:26:07

Audit Action: Manually Integrated Audit Reason: Baseline

Report Date: 17-Jan-2020 08:31:38 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_9.d		
Injection Date:	16-Jan-2020 02:16:12	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	351160	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

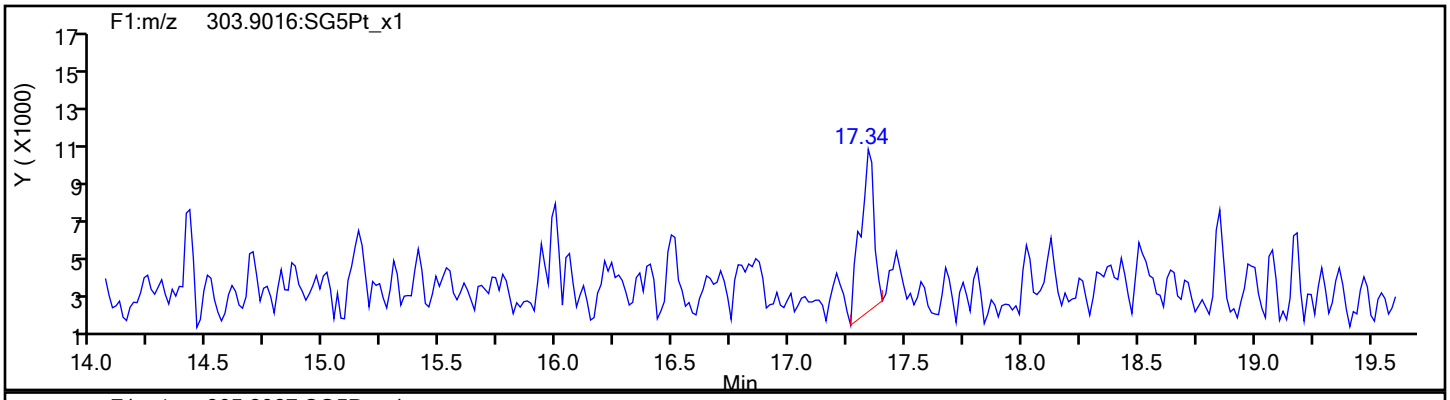

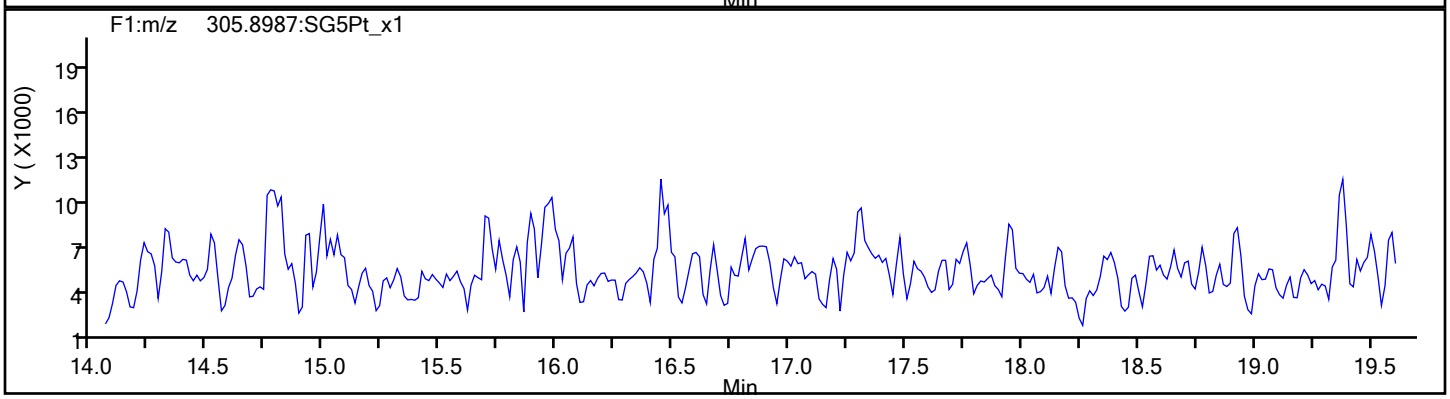

TCDF Standards

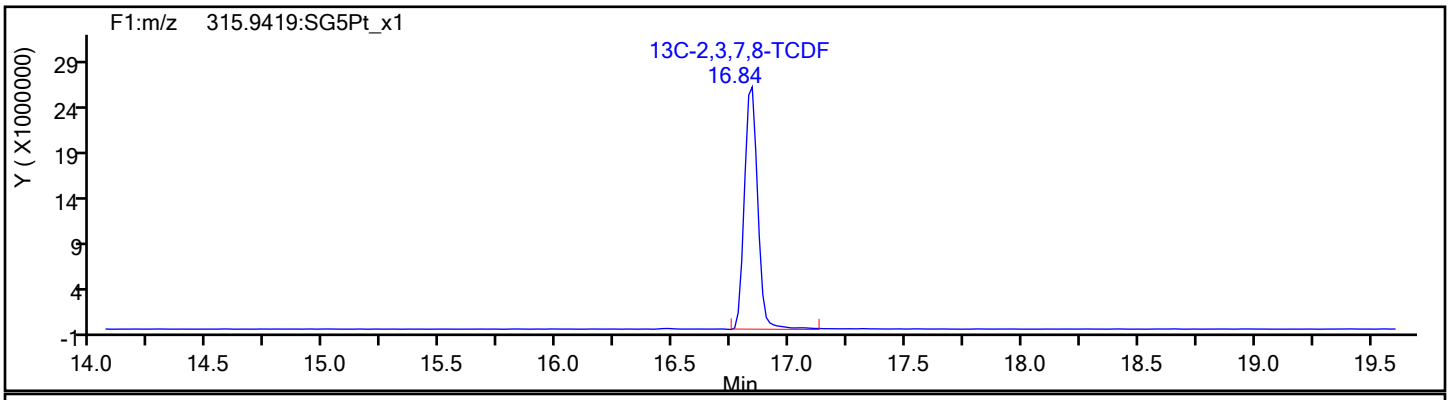

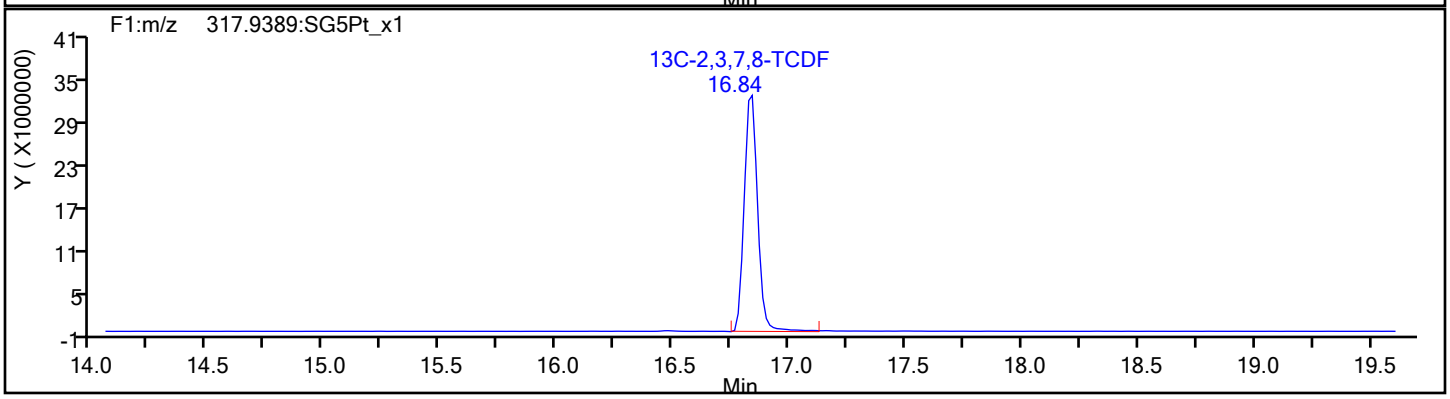

Report Date: 17-Jan-2020 08:31:38 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_9.d		
Injection Date:	16-Jan-2020 02:16:12	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	351160	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

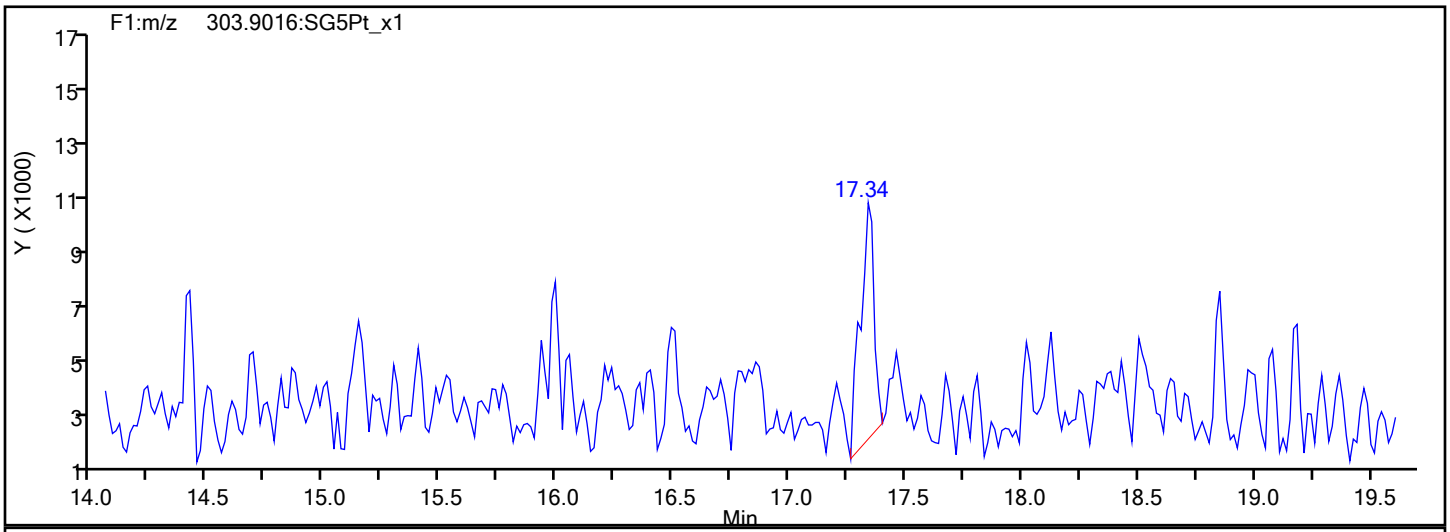

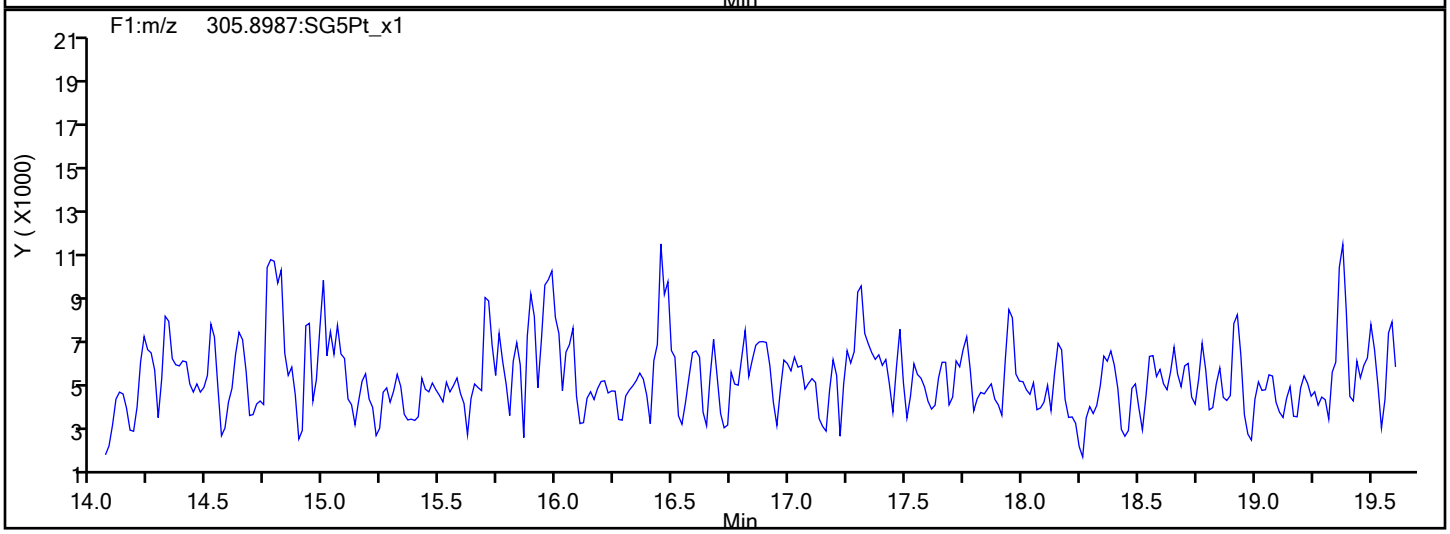

TCDF Interference Mass

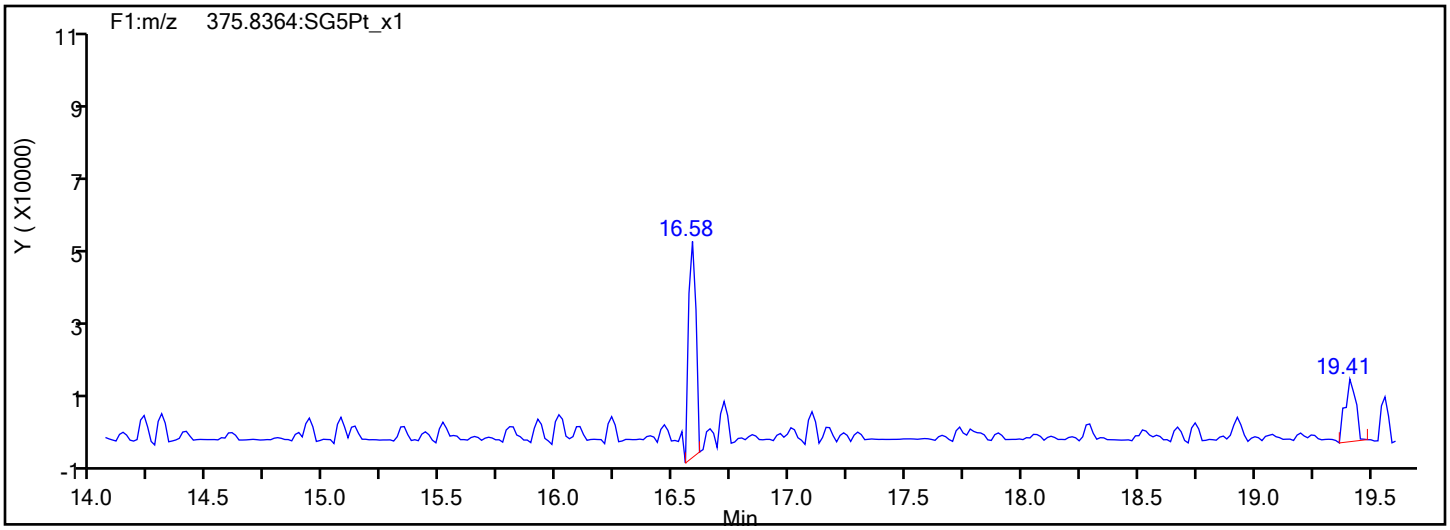

Report Date: 17-Jan-2020 08:31:38 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_9.d		
Injection Date:	16-Jan-2020 02:16:12	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	351160	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

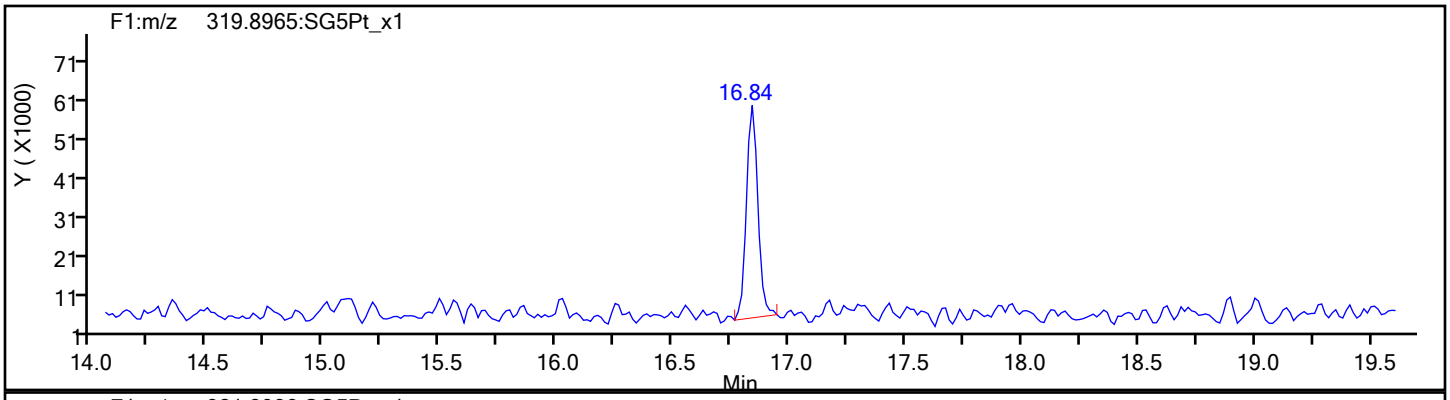

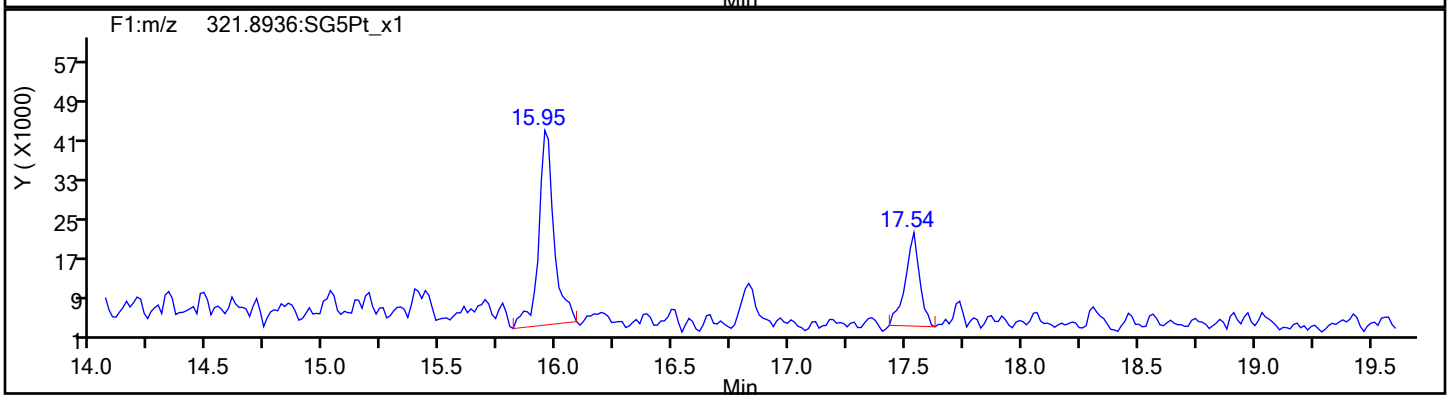

TCDD Standards

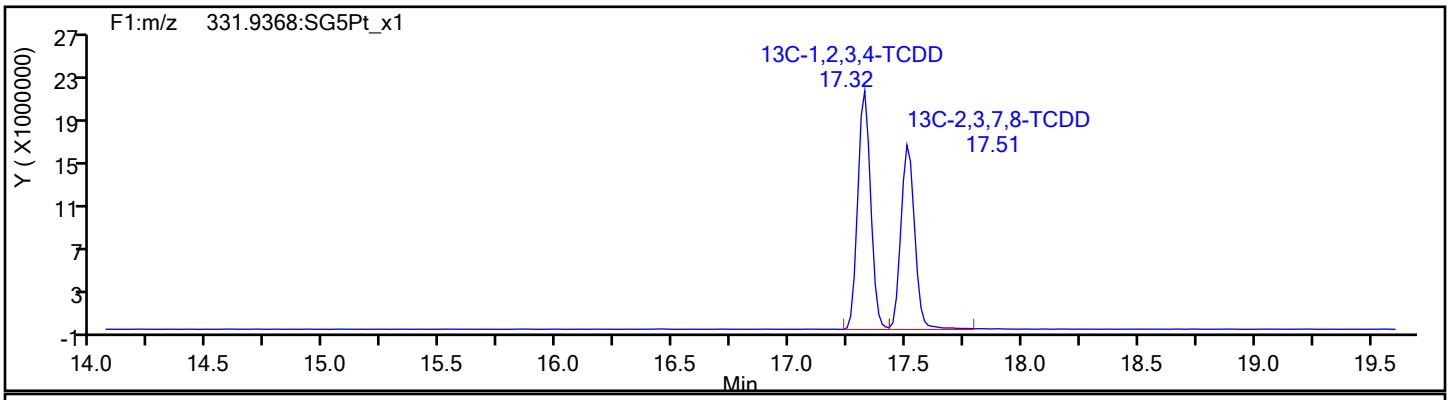

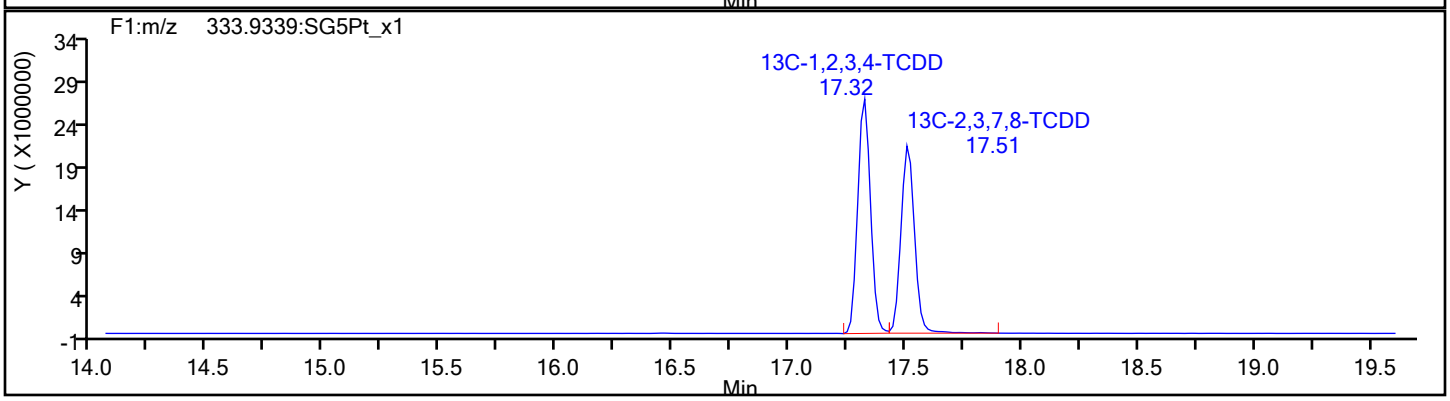

Report Date: 17-Jan-2020 08:31:38 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_9.d		
Injection Date:	16-Jan-2020 02:16:12	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	351160	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

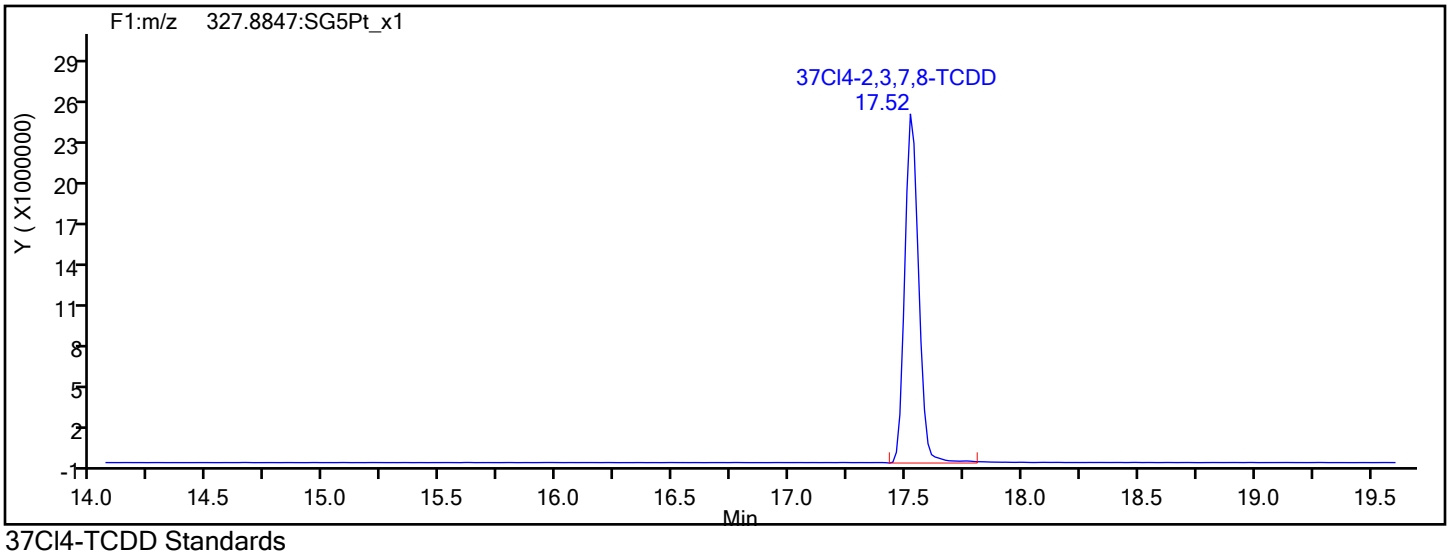

37Cl4-TCDD Standards

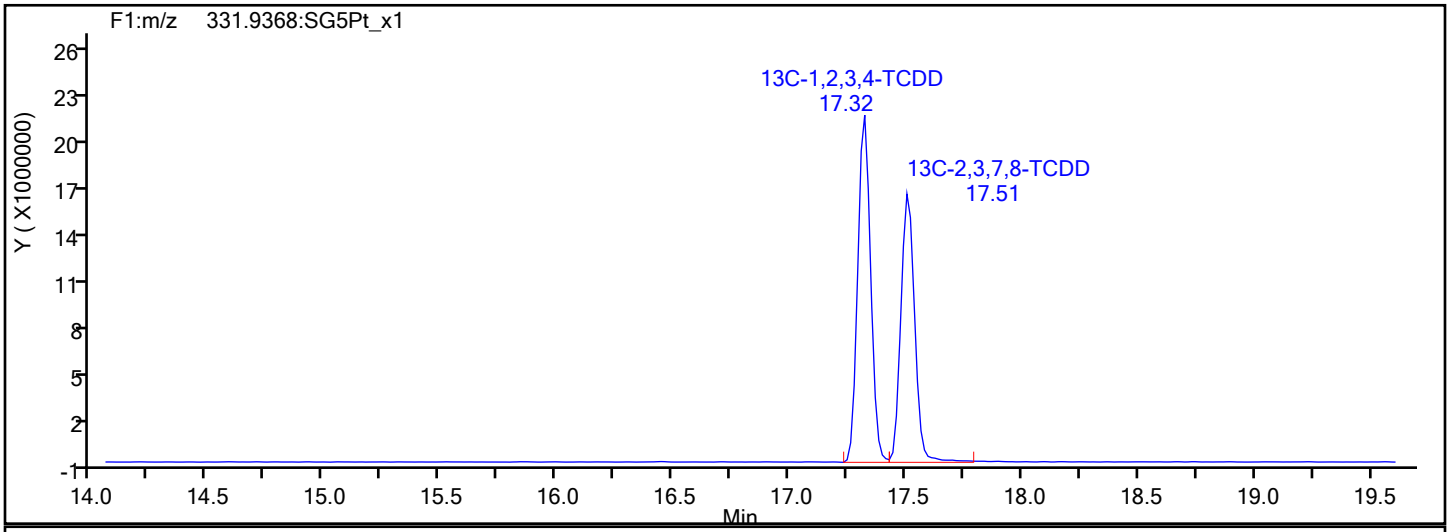

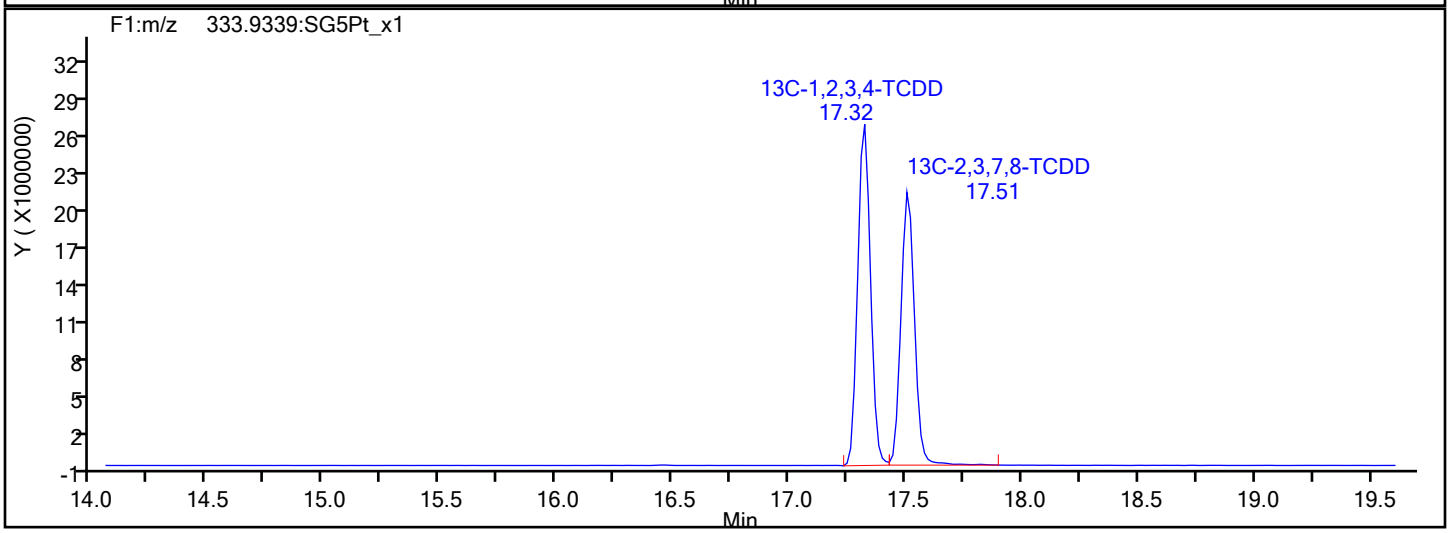

Report Date: 17-Jan-2020 08:31:41 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	351160	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

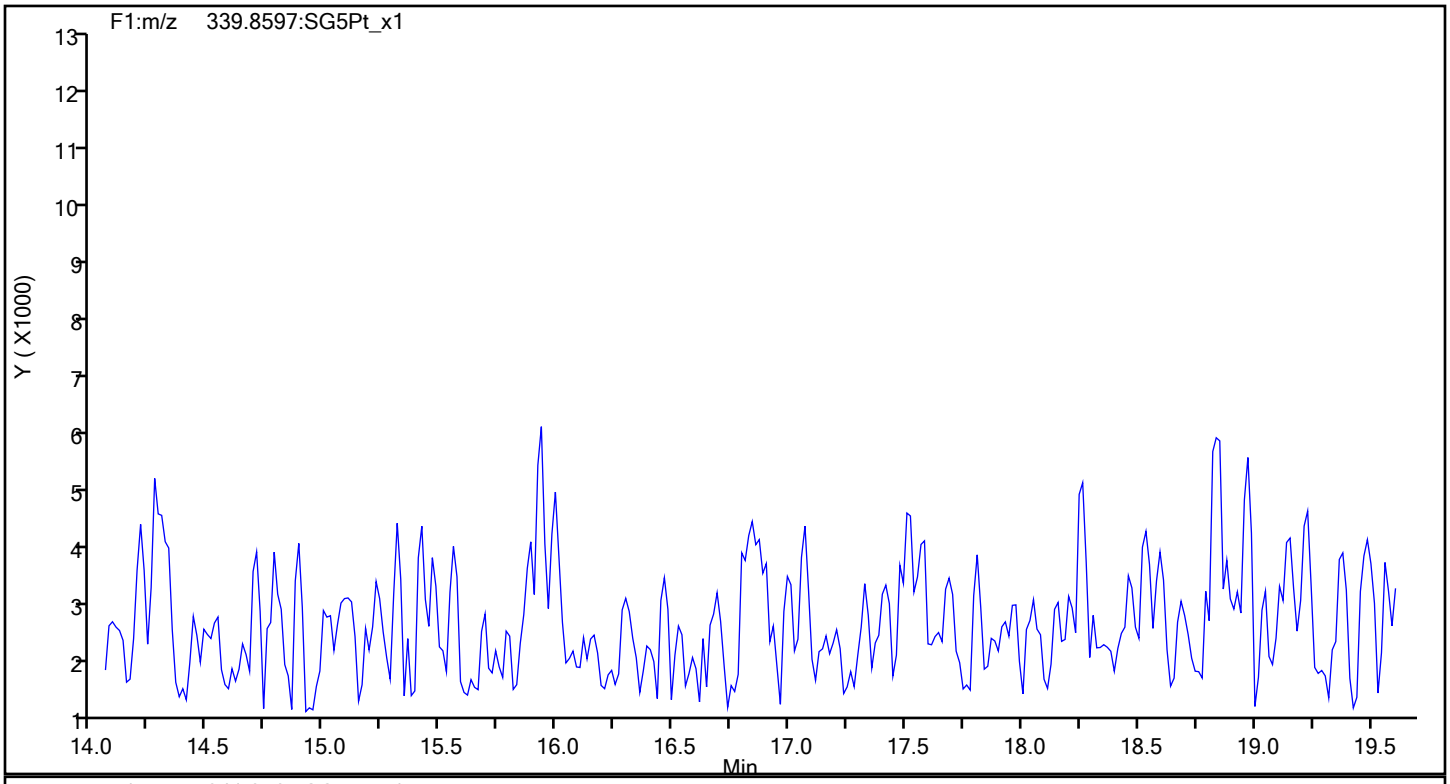

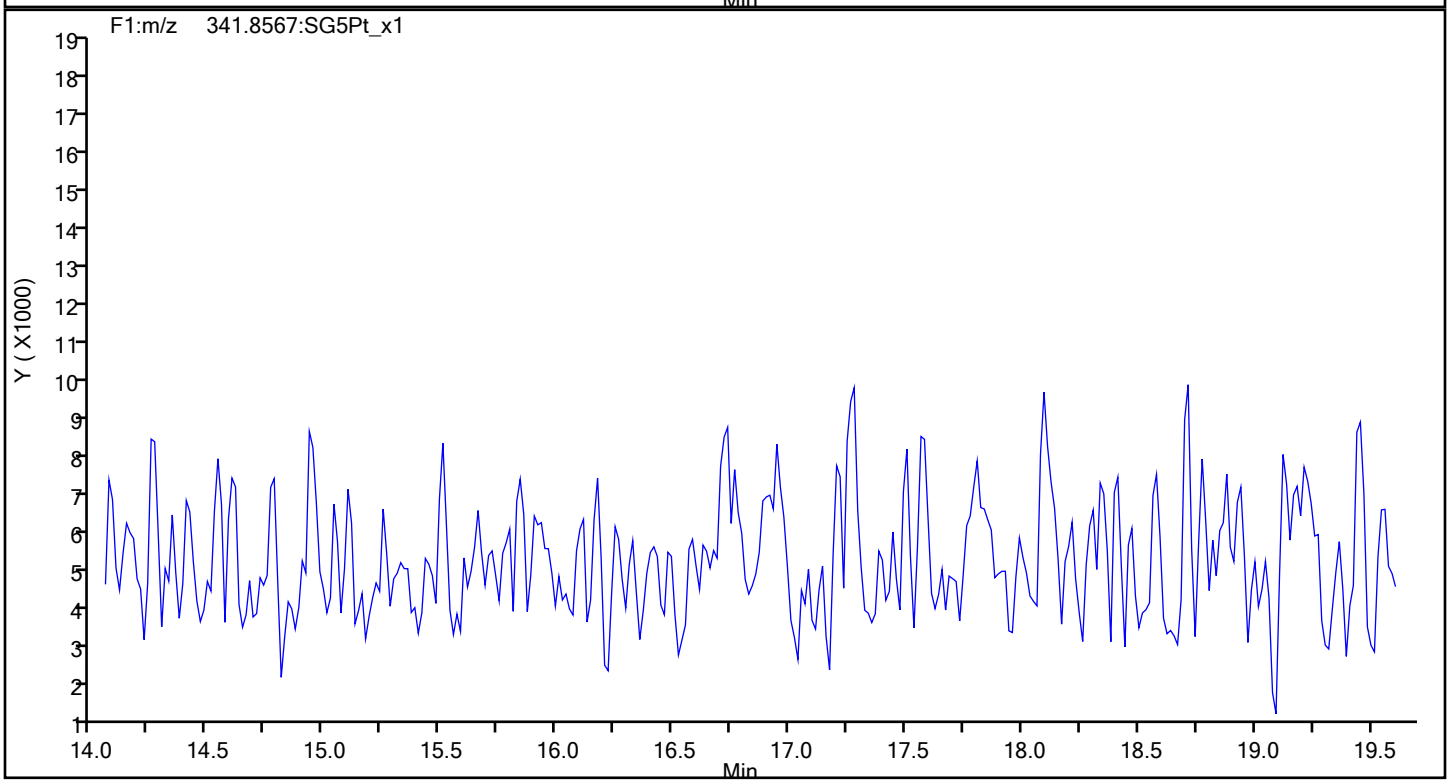

Report Date: 17-Jan-2020 08:31:41 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_9.d		
Injection Date:	16-Jan-2020 02:16:12	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	351160	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

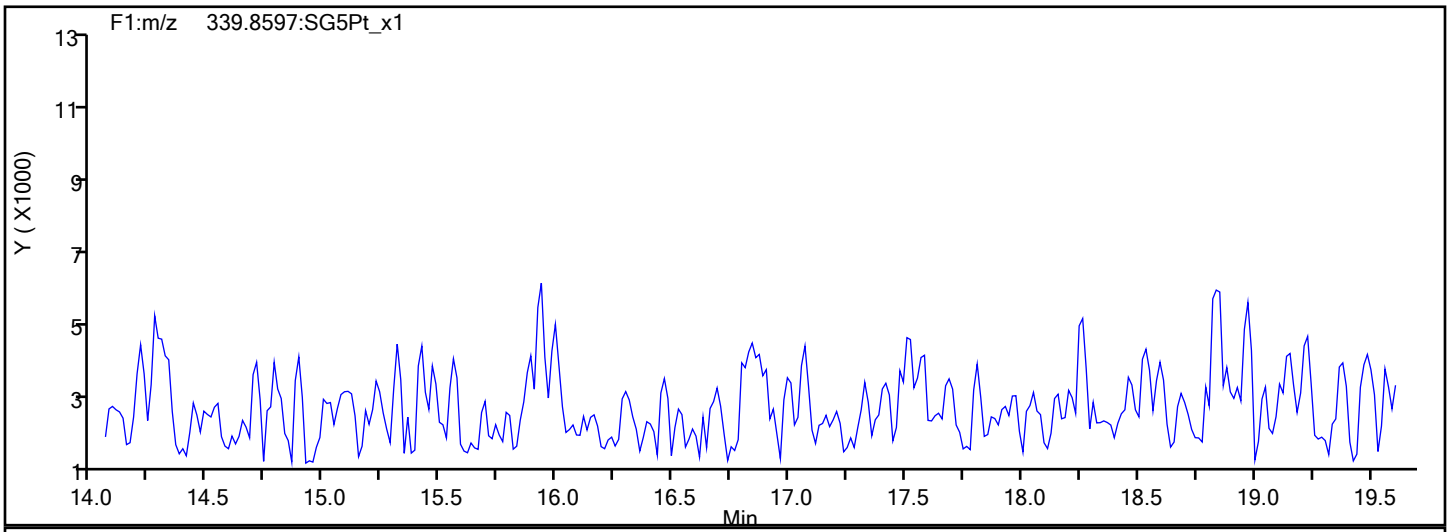

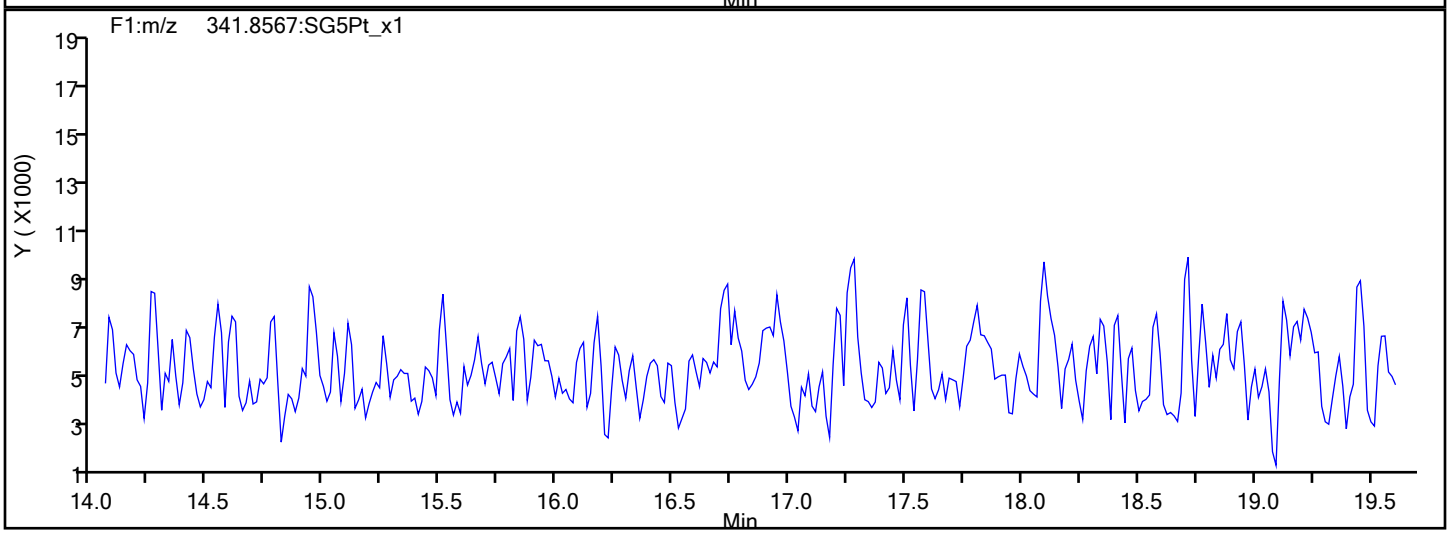

F1 PeCDFs Interference Mass

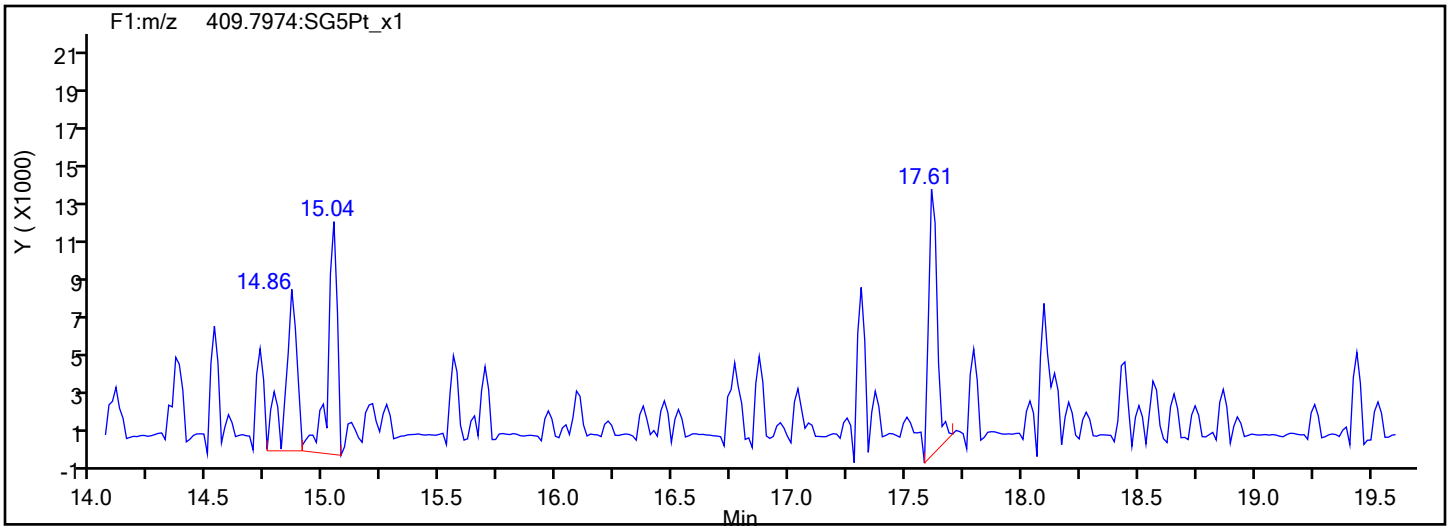

Report Date: 17-Jan-2020 08:31:41 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_9.d		
Injection Date:	16-Jan-2020 02:16:12	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	351160	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

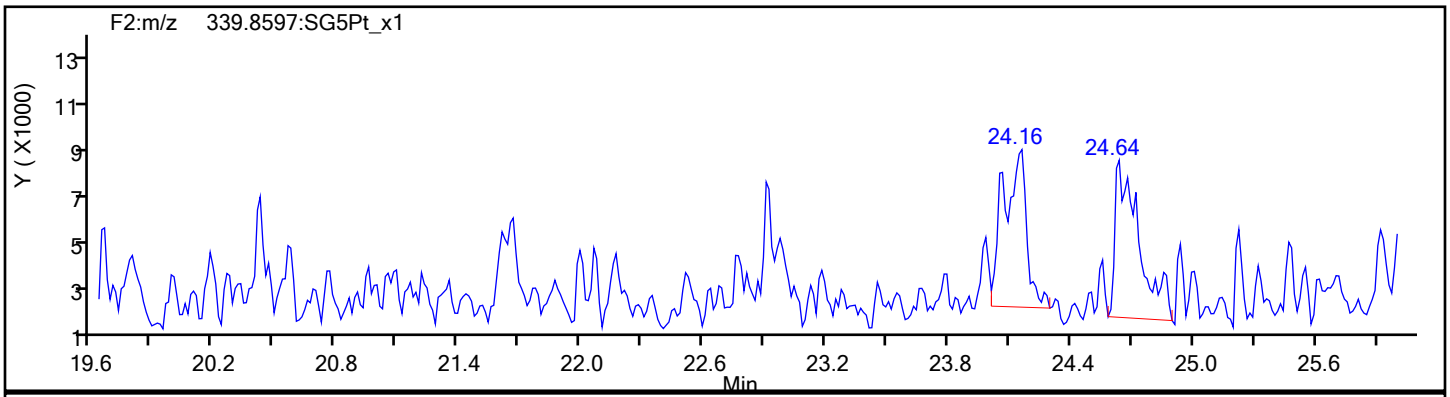

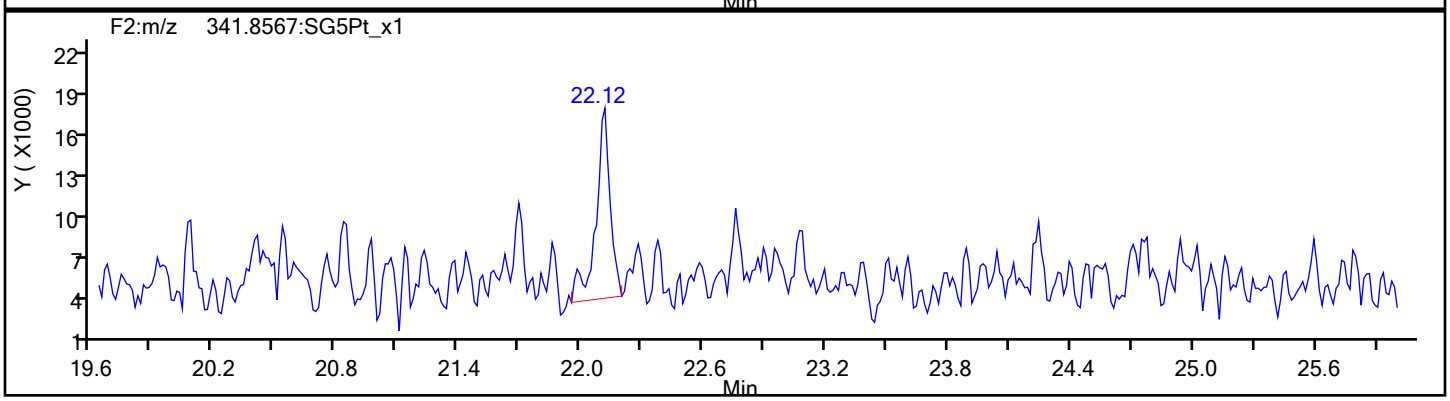

PeCDF Standards

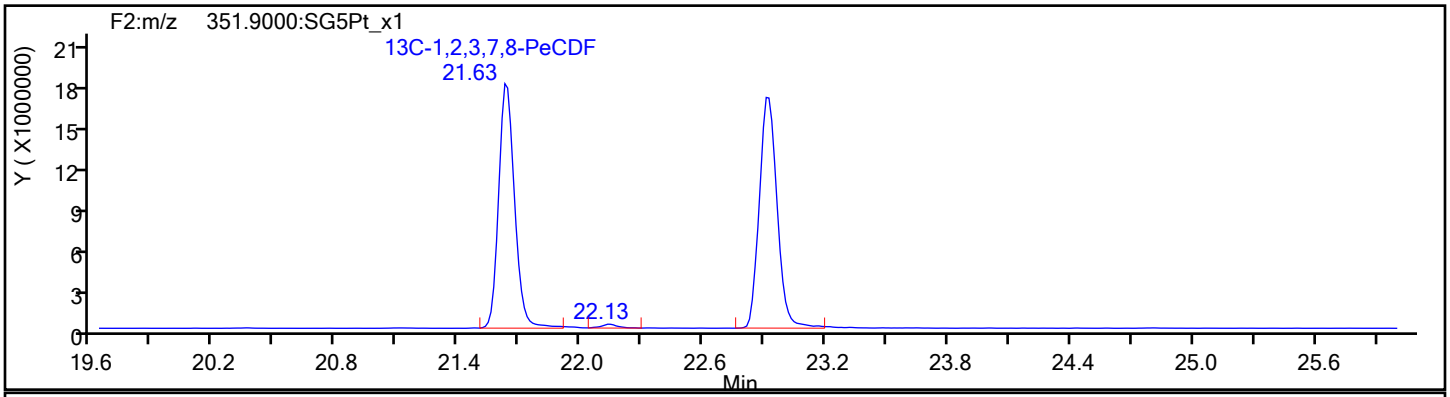

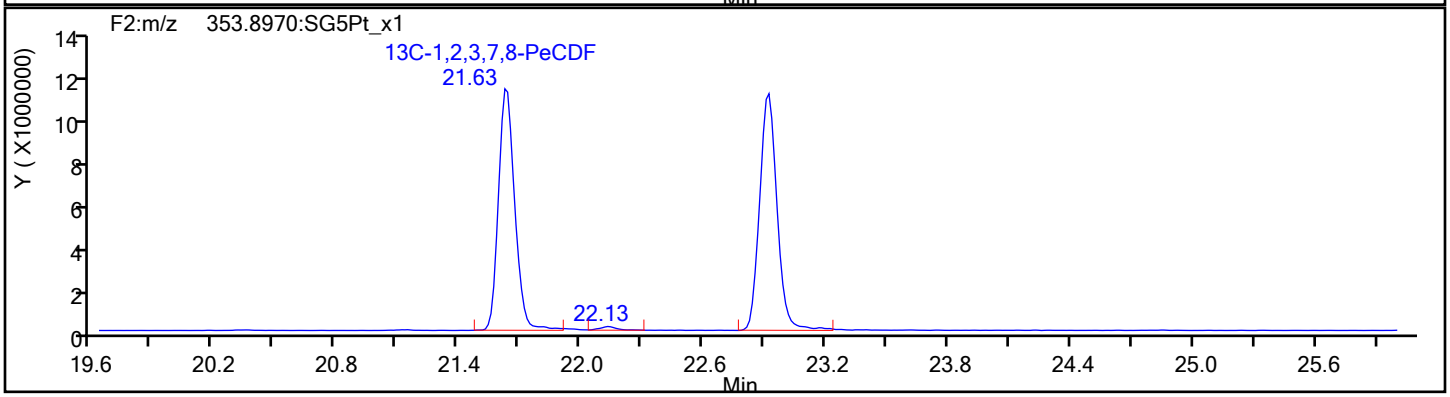

Report Date: 17-Jan-2020 08:31:41 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_9.d		
Injection Date:	16-Jan-2020 02:16:12	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

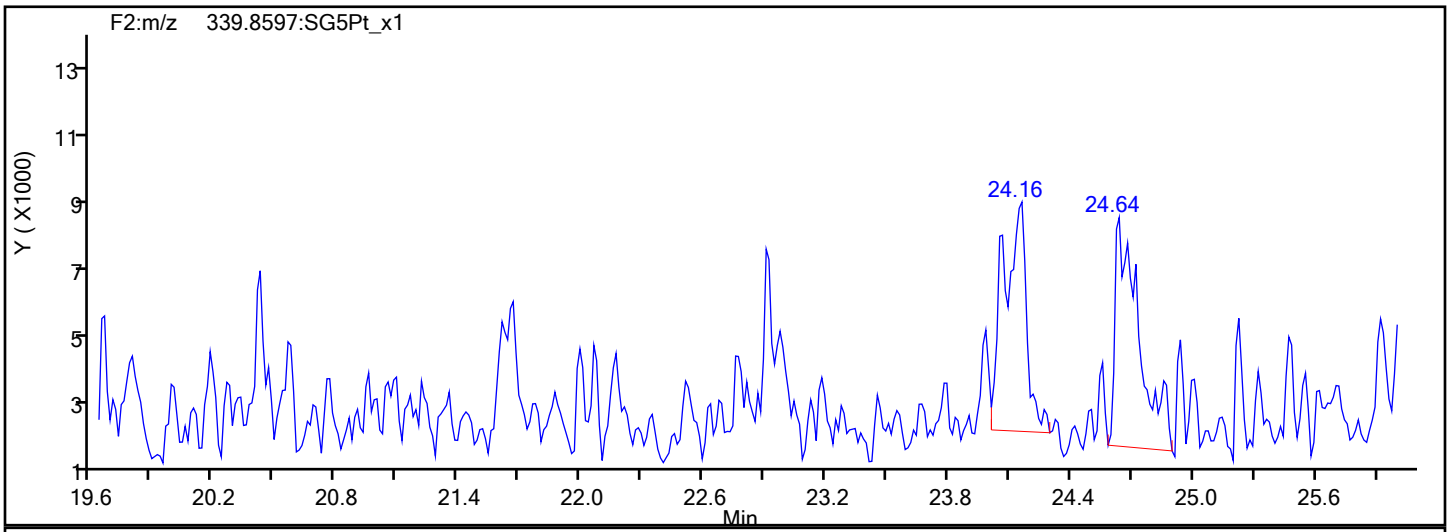

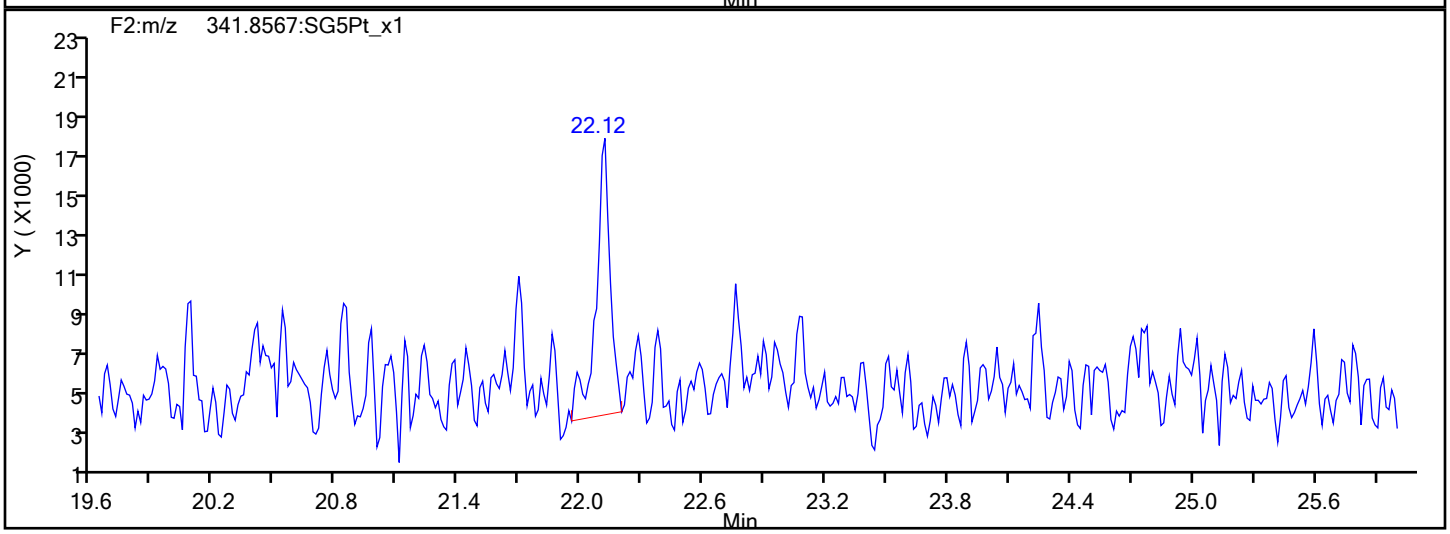

PeCDF Interference Mass

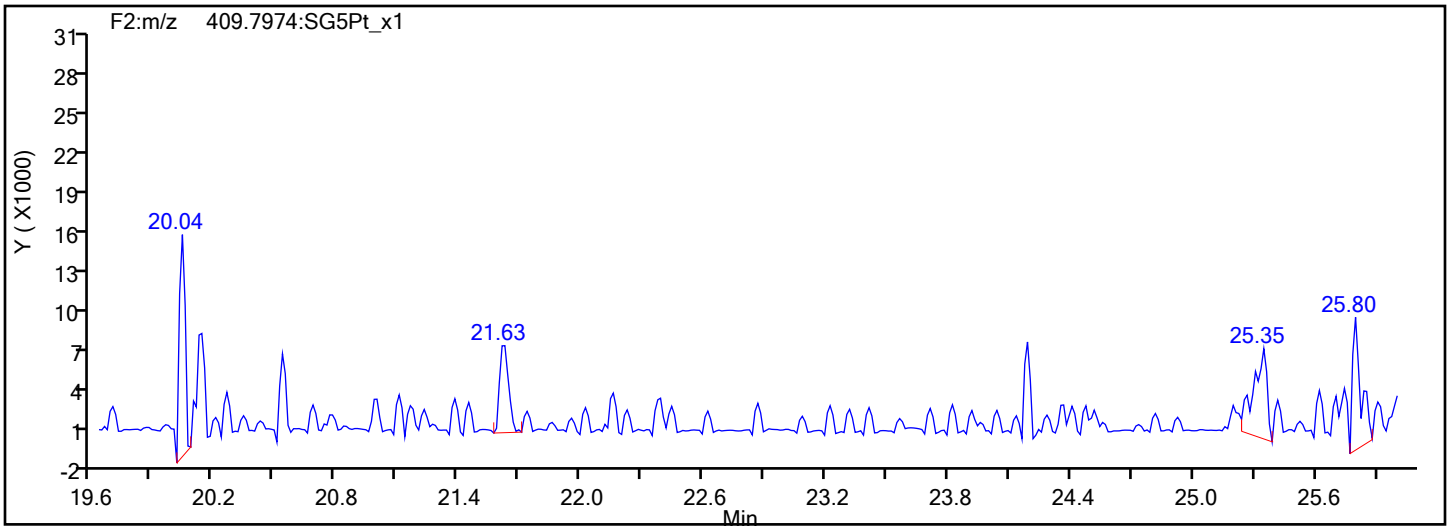

Report Date: 17-Jan-2020 08:31:41 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_9.d		
Injection Date:	16-Jan-2020 02:16:12	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	351160	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

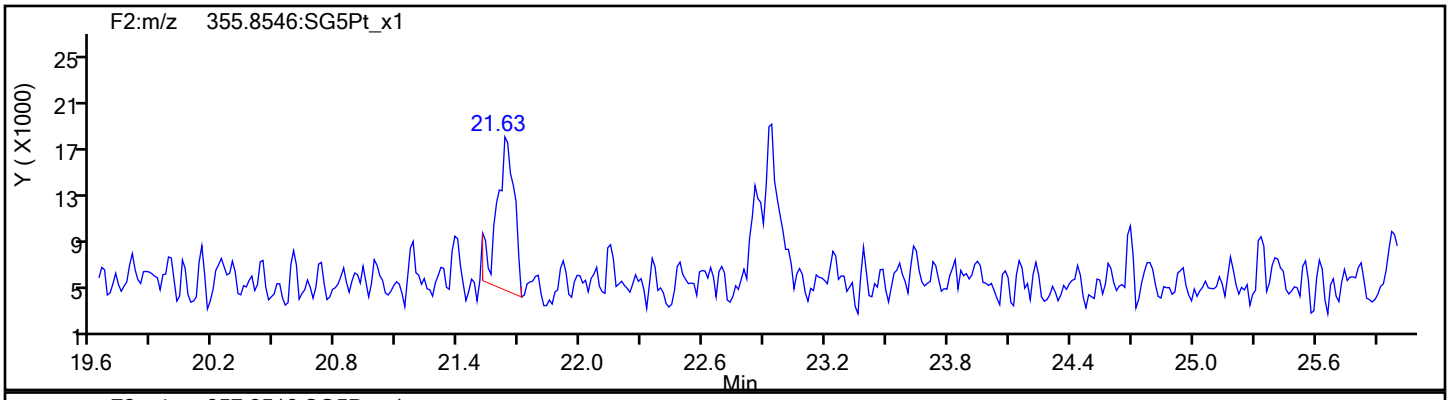

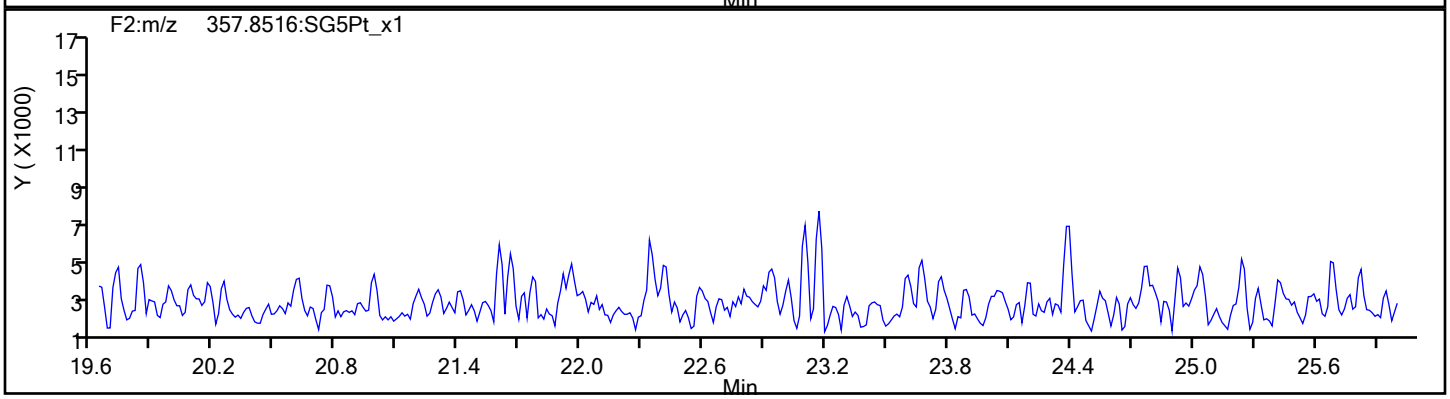

PeCDD Standards

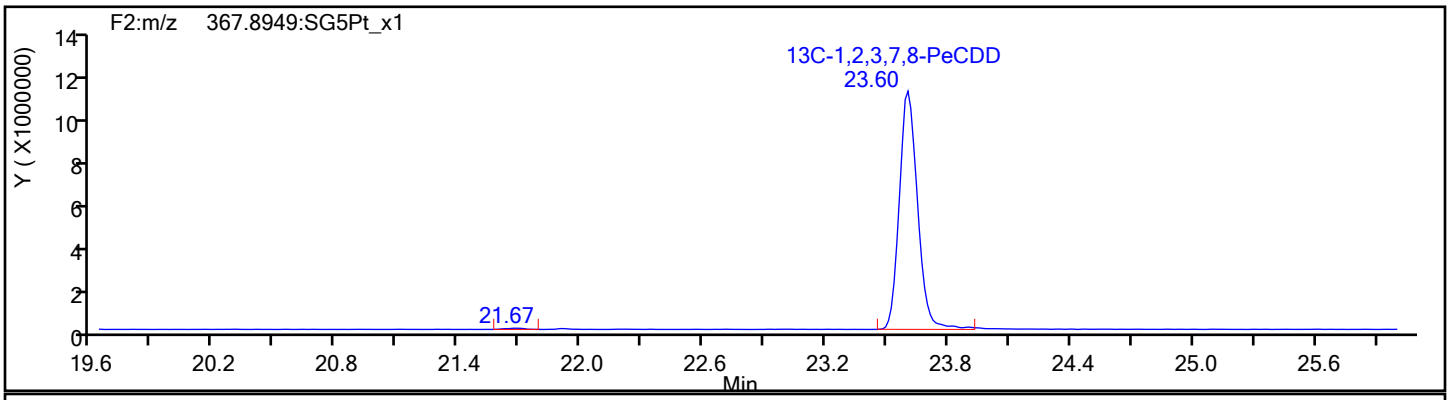

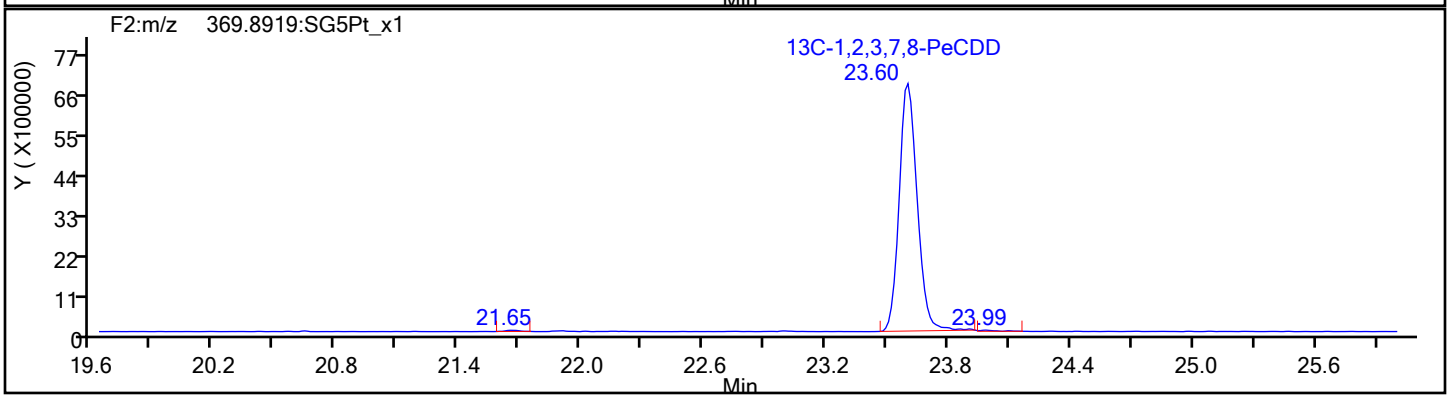

Report Date: 17-Jan-2020 08:31:41 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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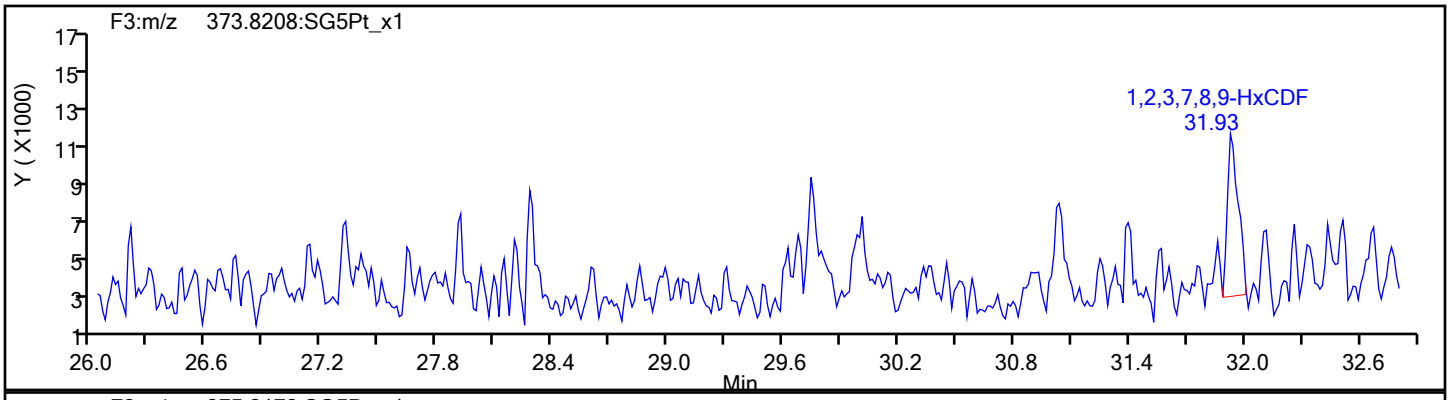

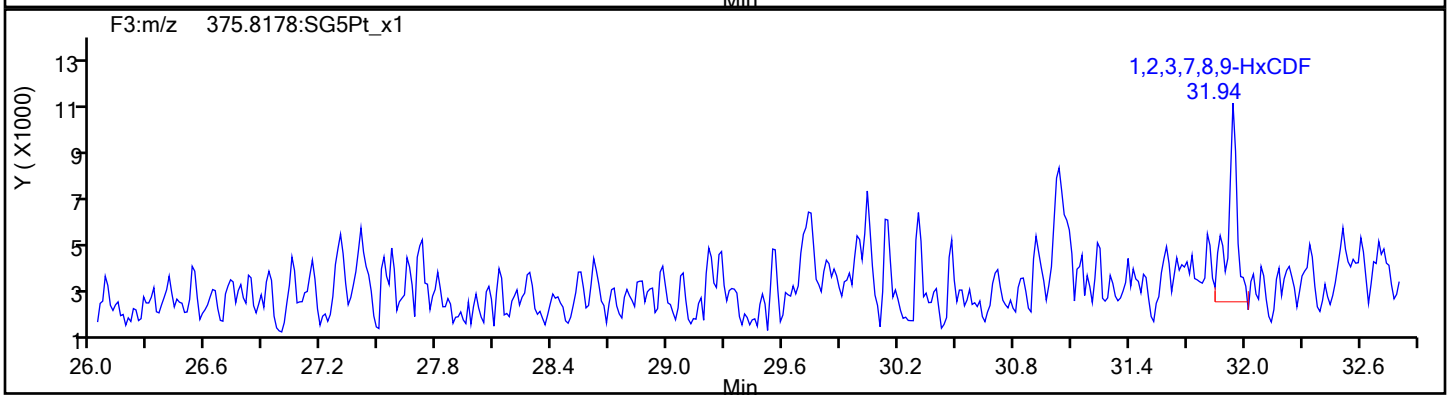

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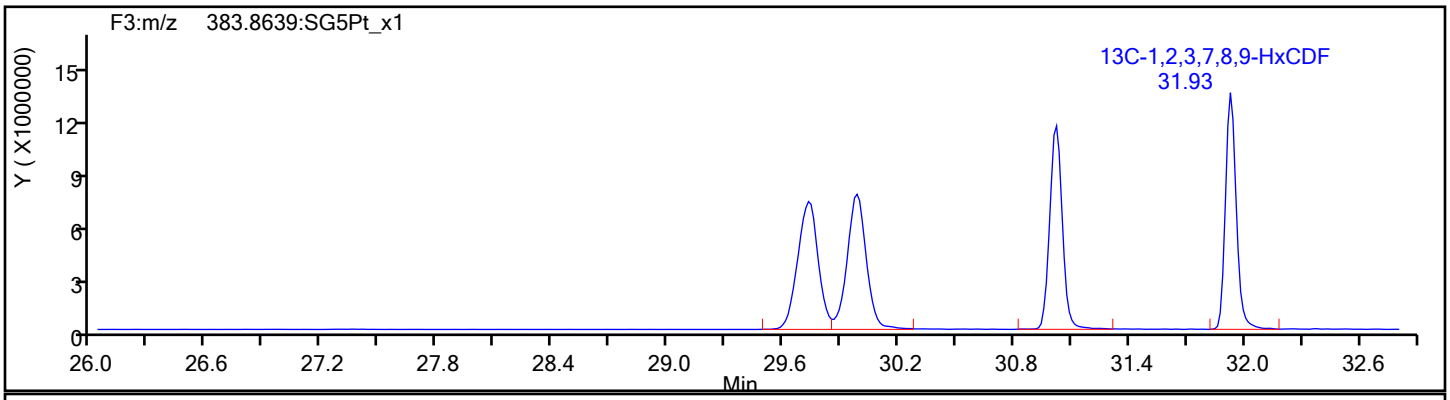

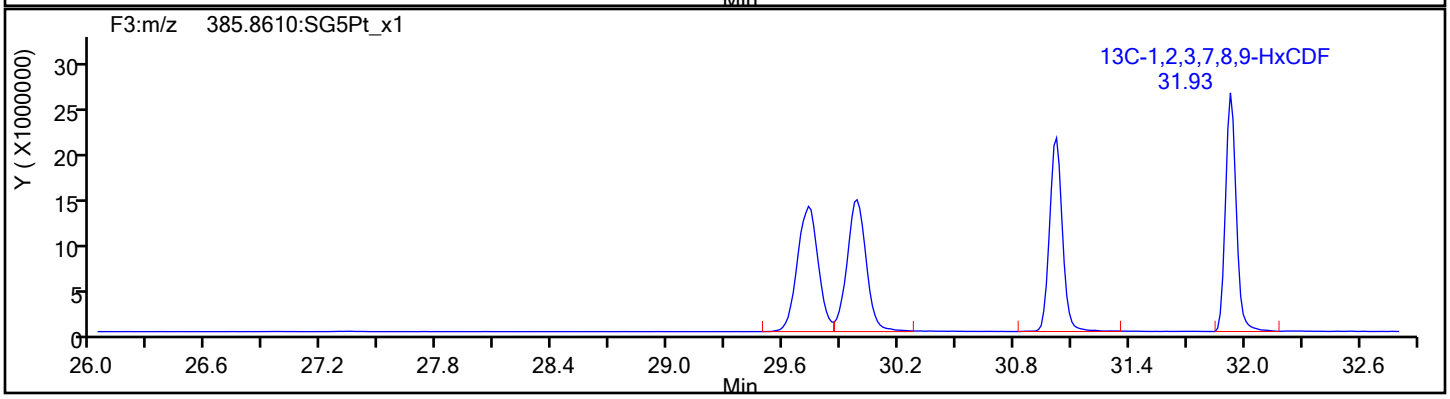

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Eurofins TestAmerica, Sacramento

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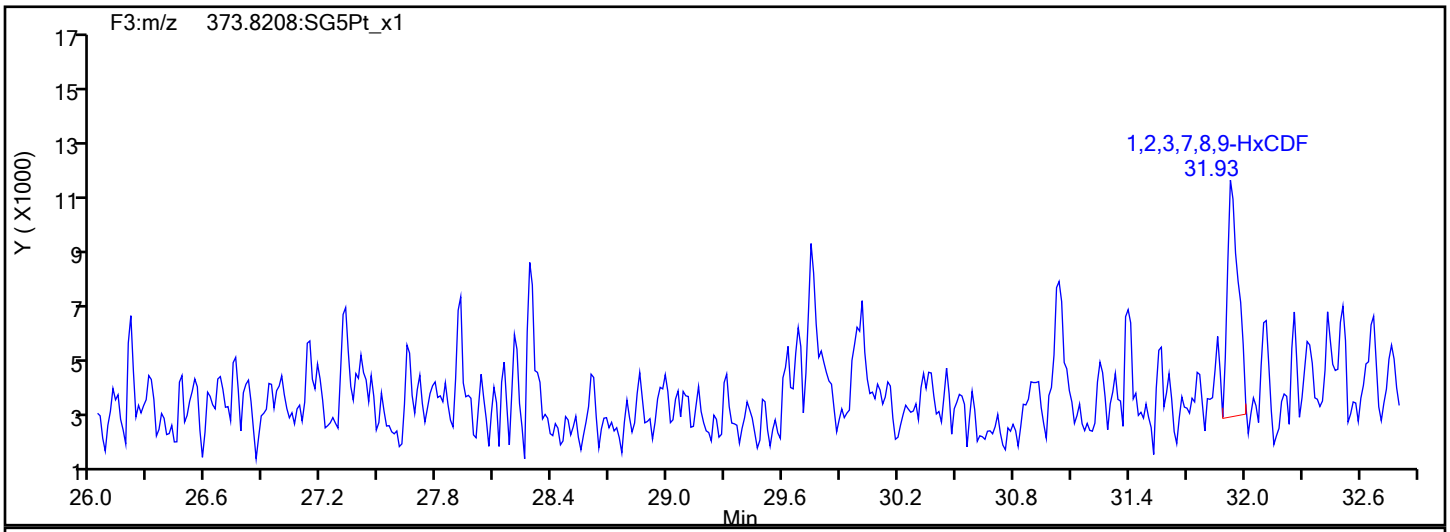

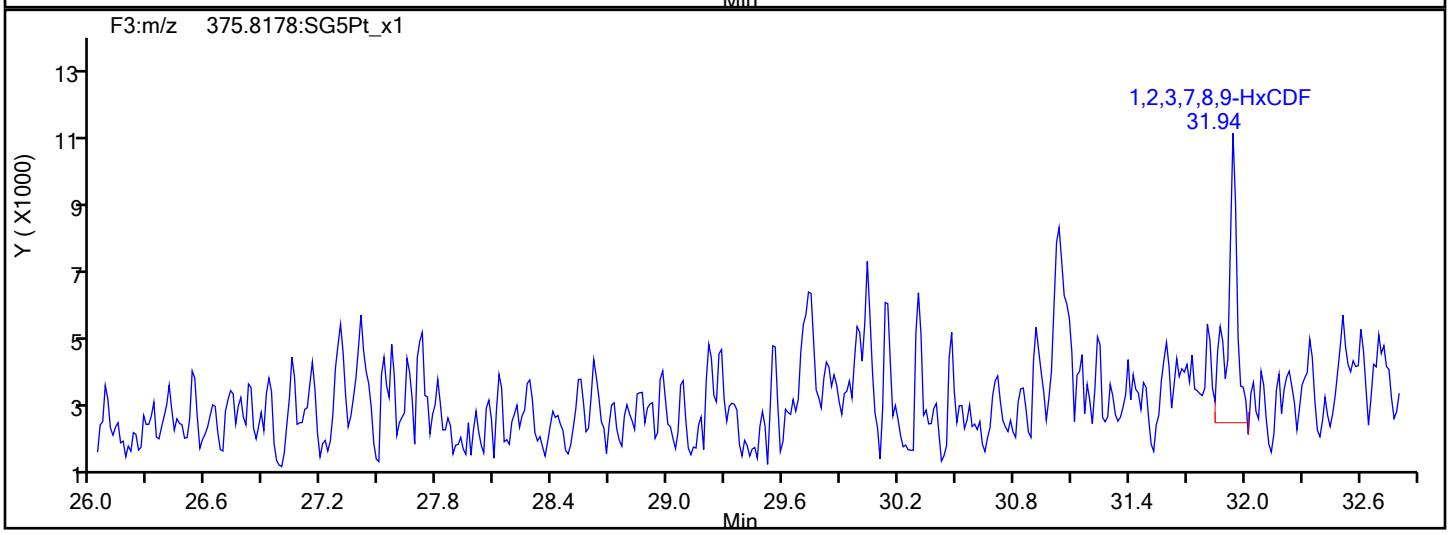

HxCDF Interference Mass

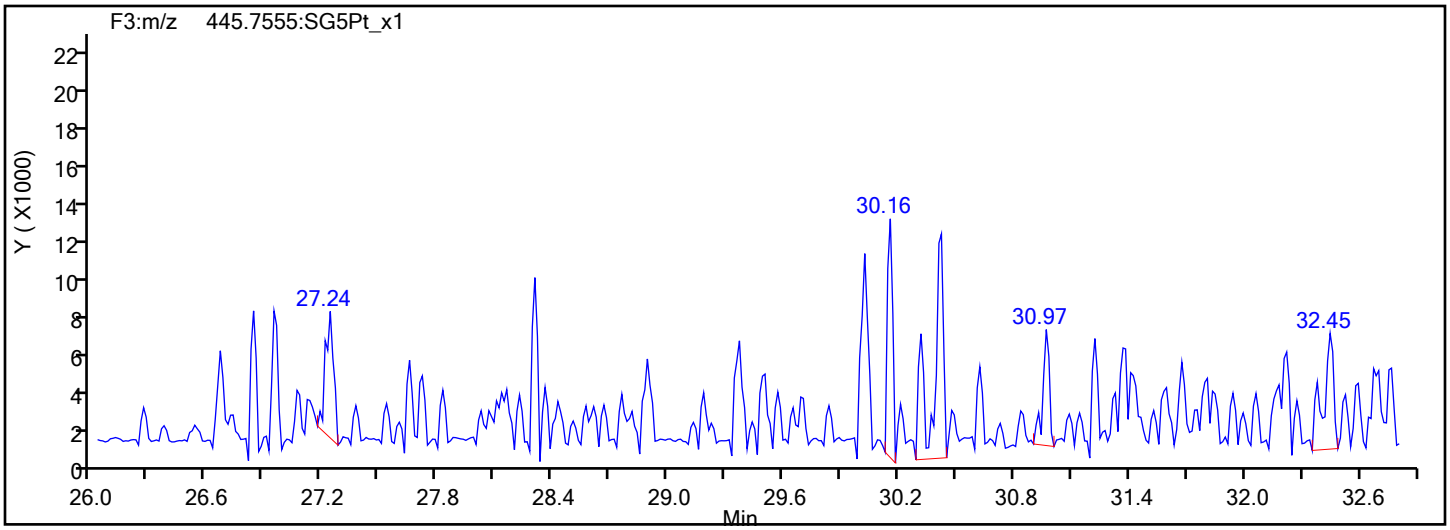

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Eurofins TestAmerica, Sacramento

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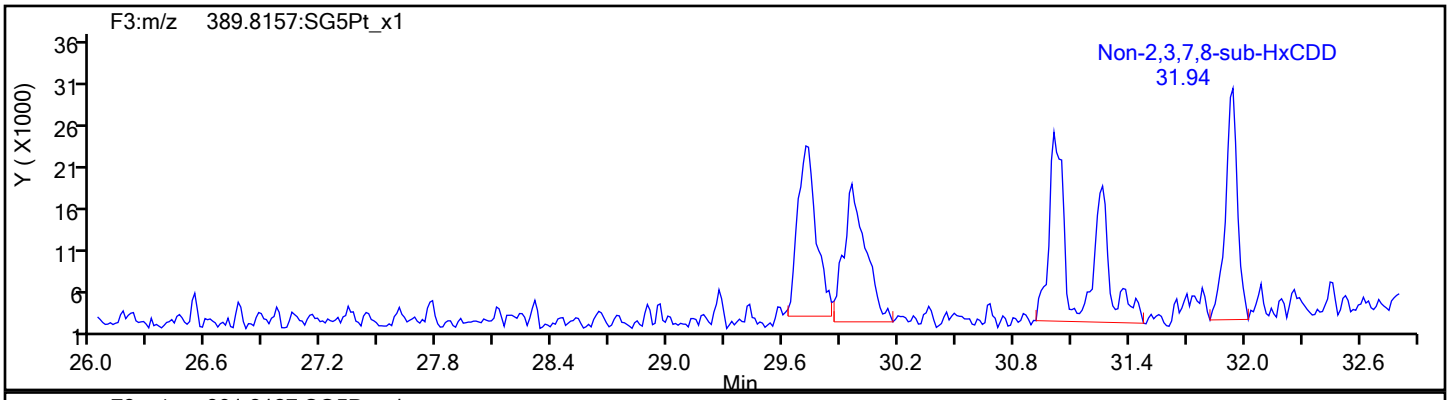

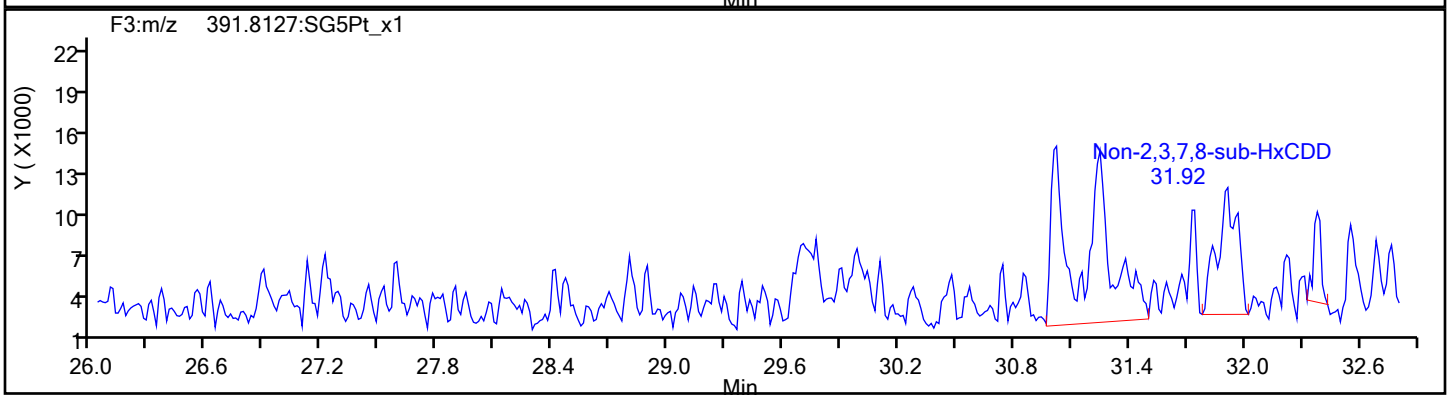

HxCDD Standards

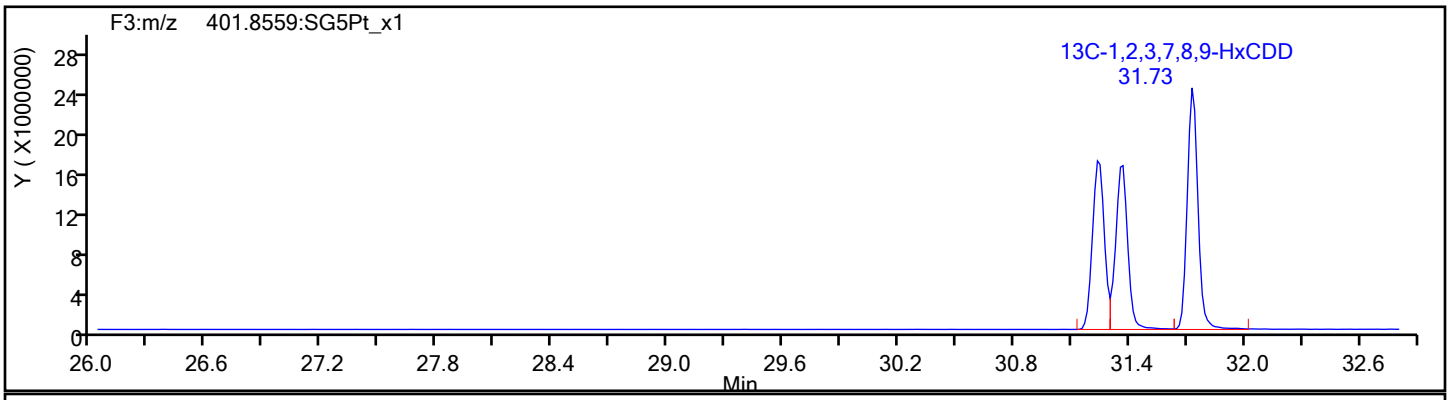

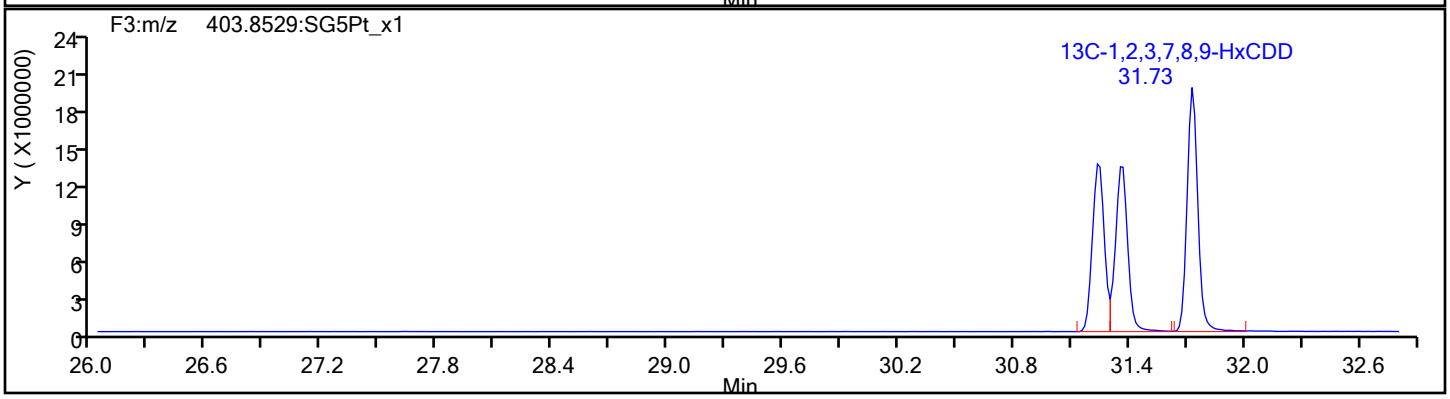

Report Date: 17-Jan-2020 08:31:41 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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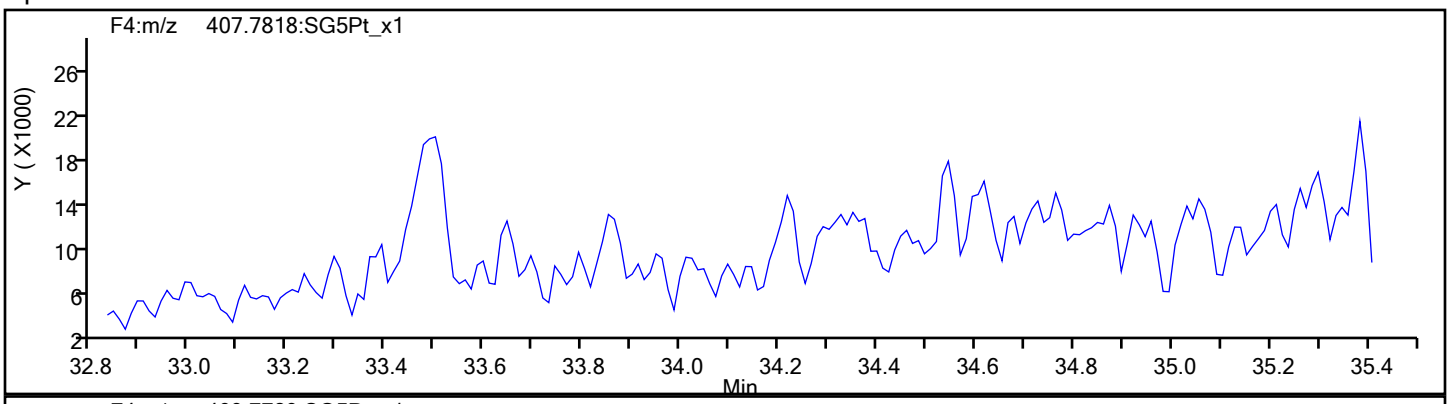

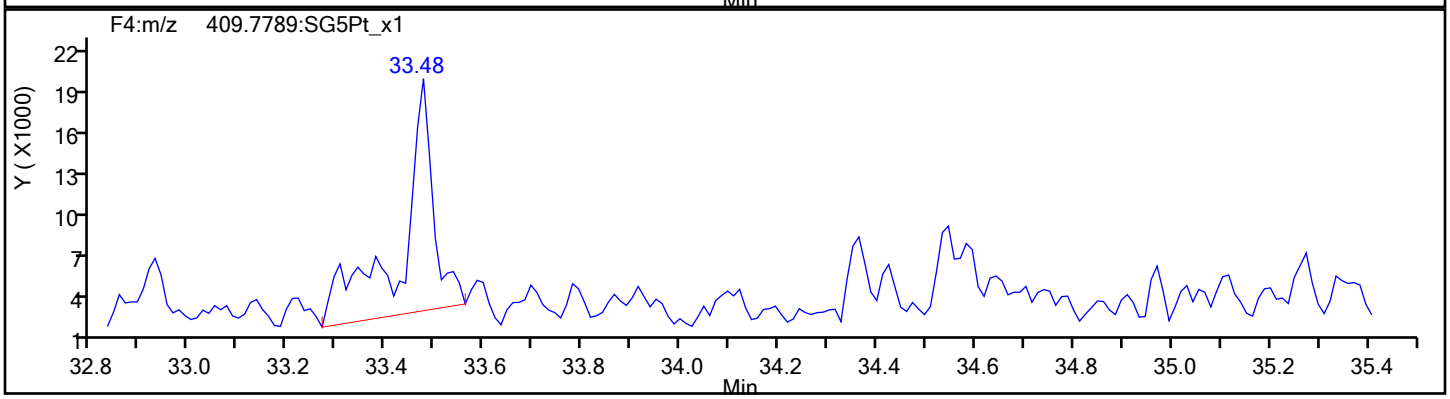

HpCDF Standards

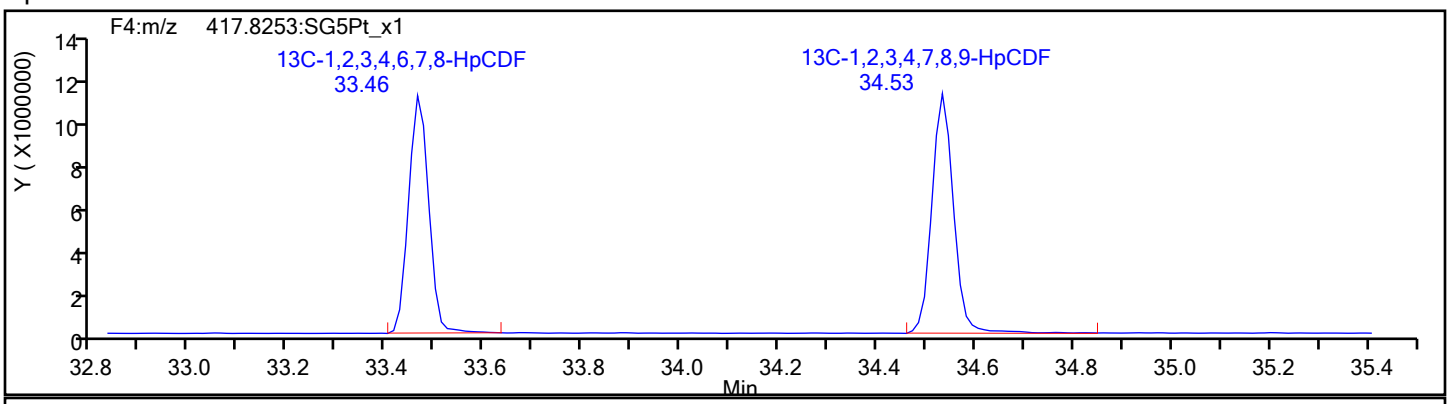

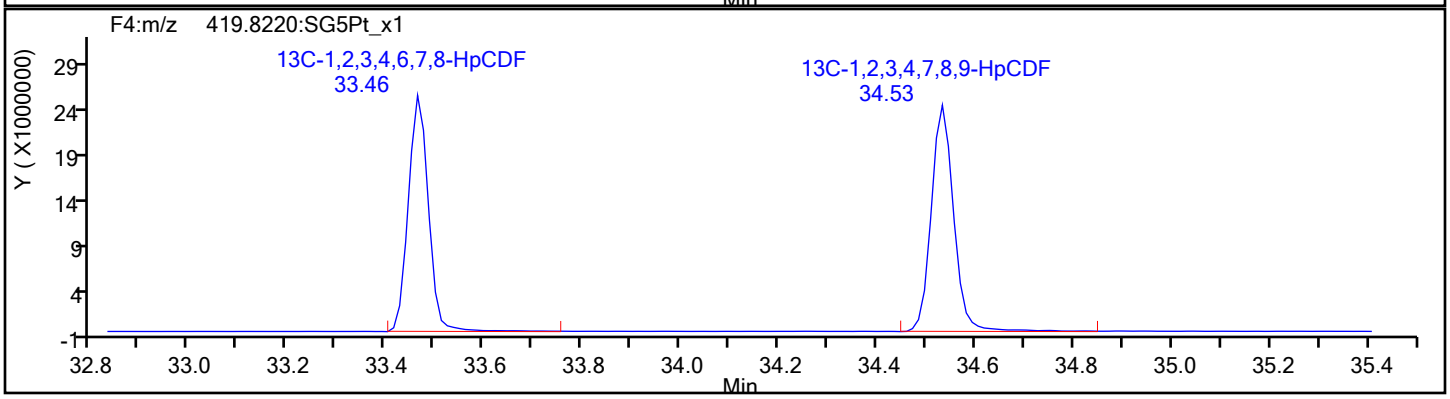

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Eurofins TestAmerica, Sacramento

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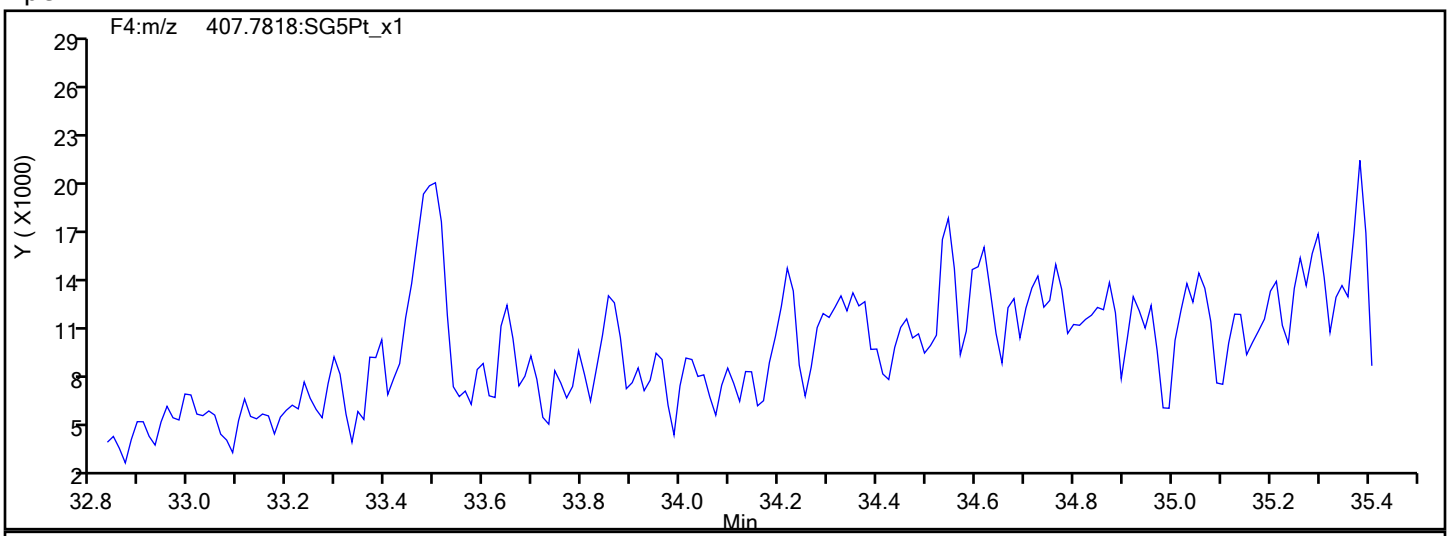

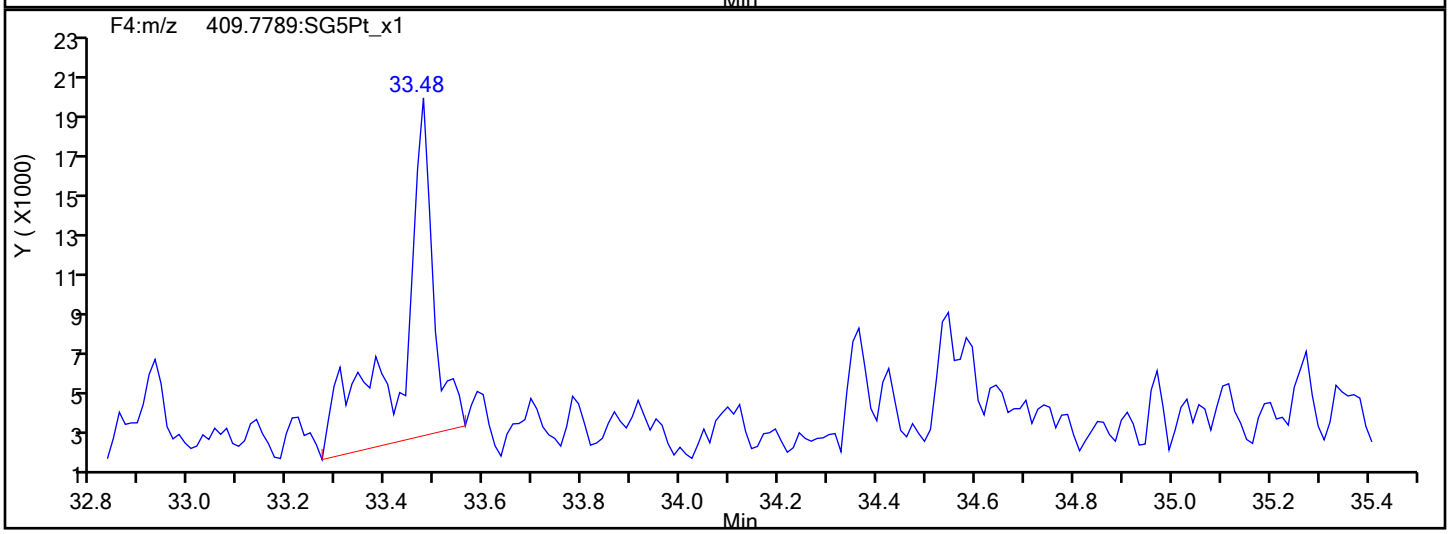

HpCDF Interference Mass

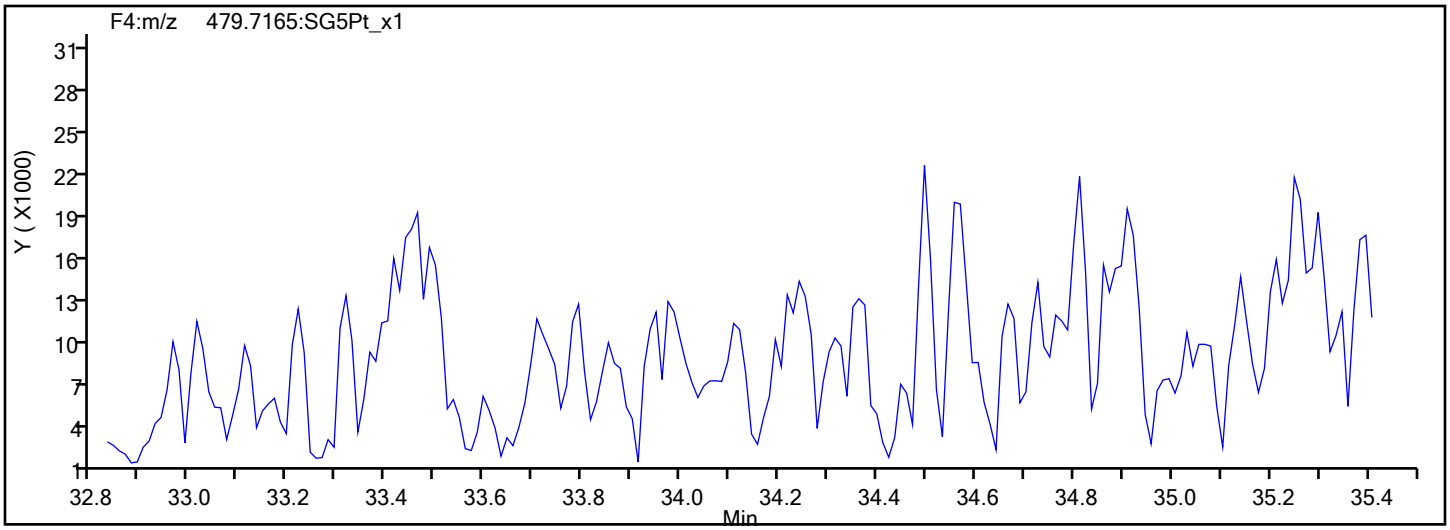

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Eurofins TestAmerica, Sacramento

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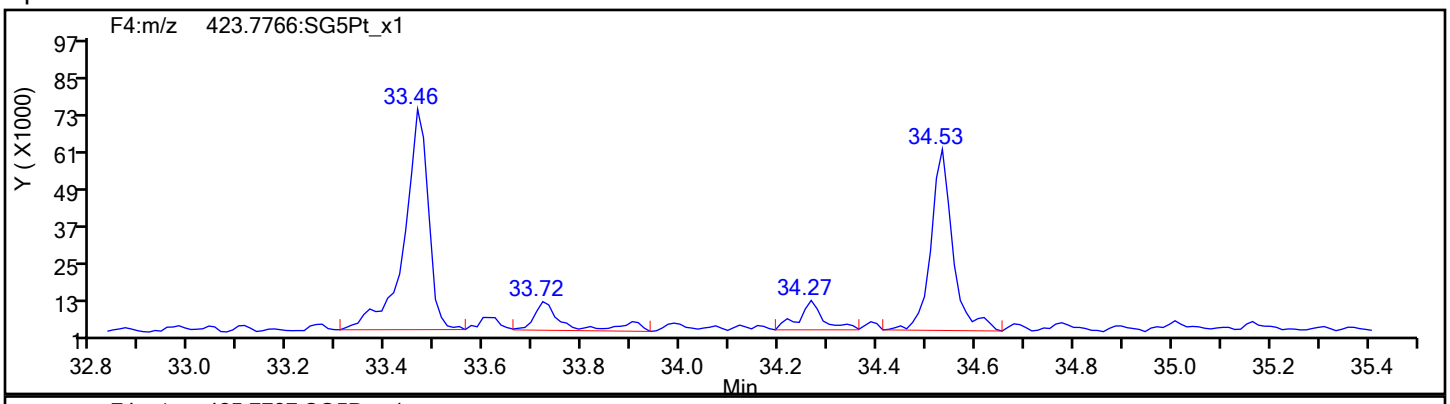

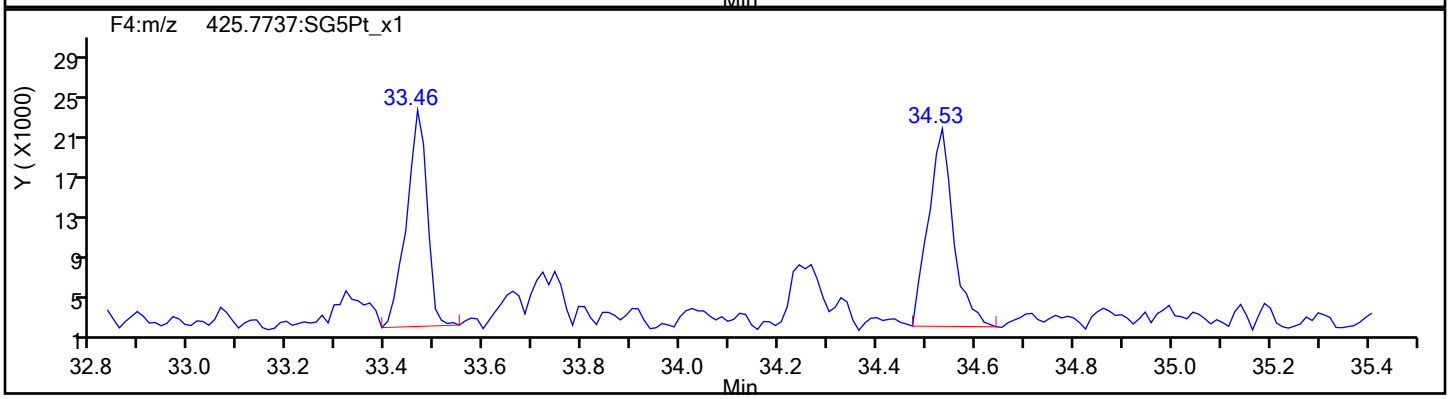

HpCDD Standards

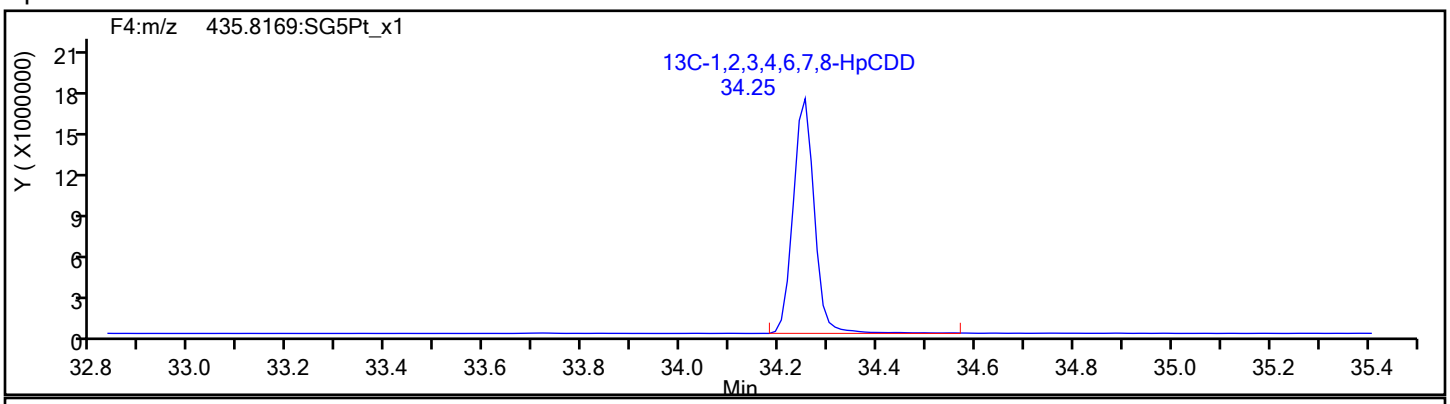

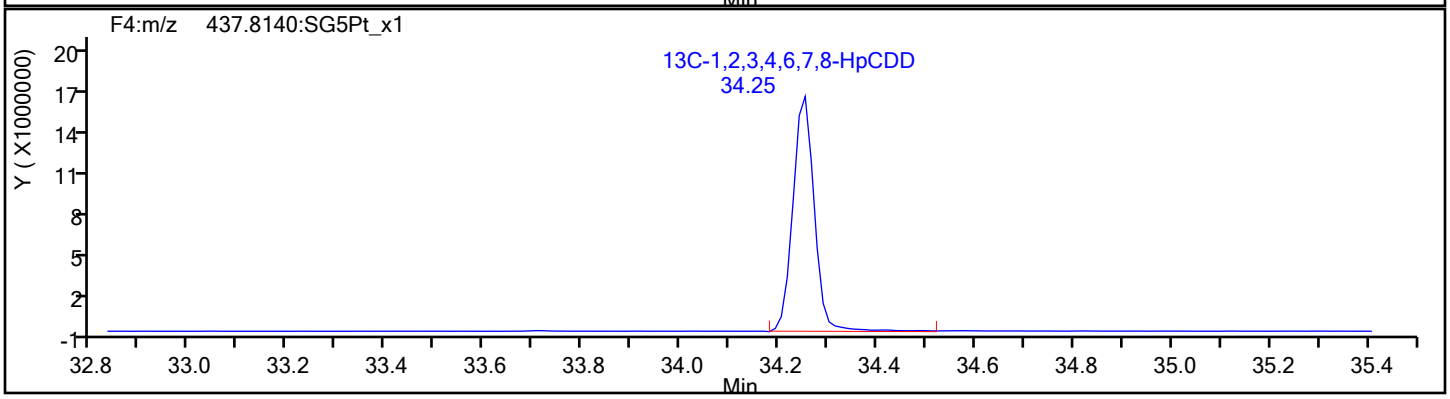

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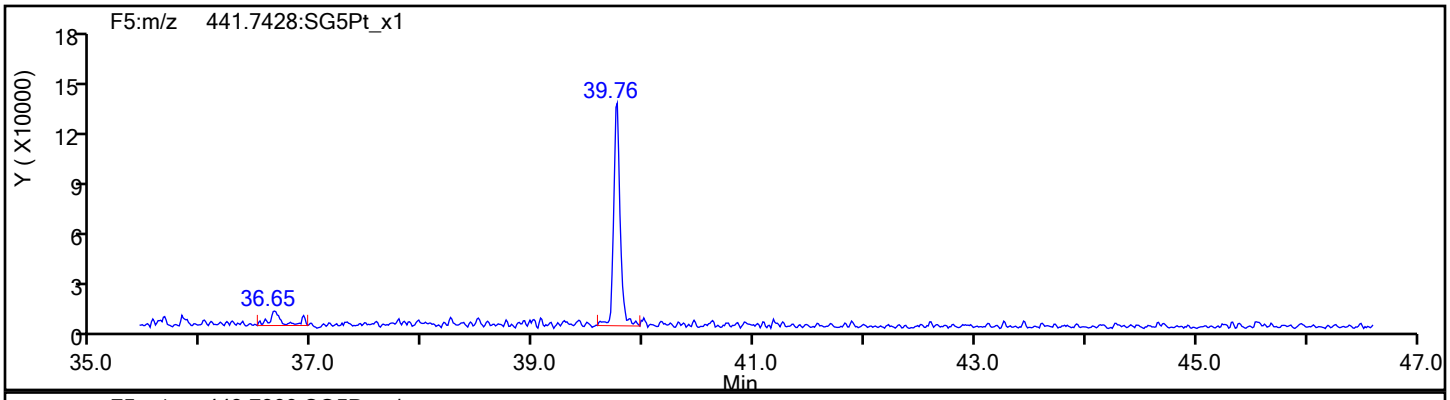

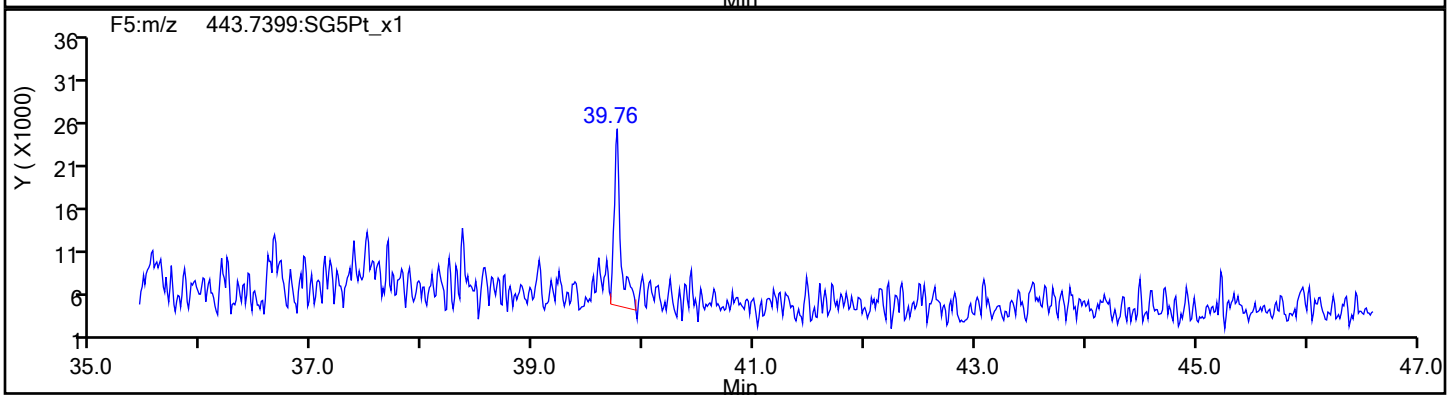

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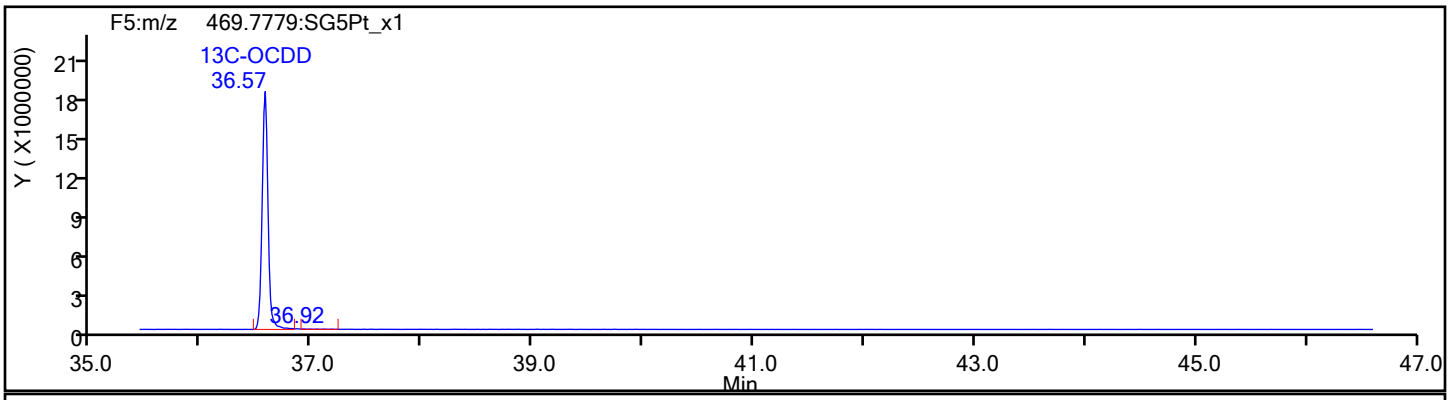

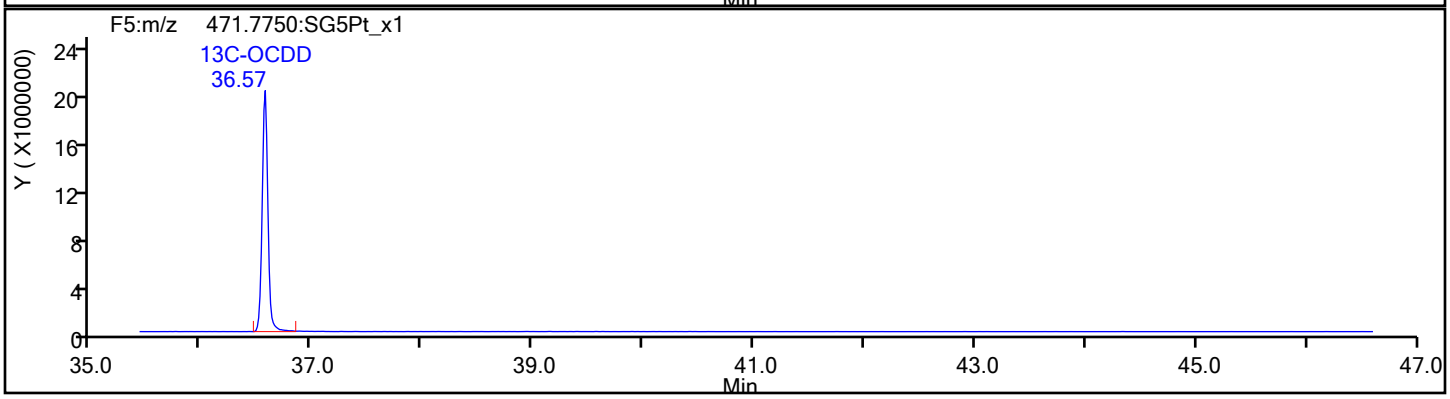

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Eurofins TestAmerica, Sacramento

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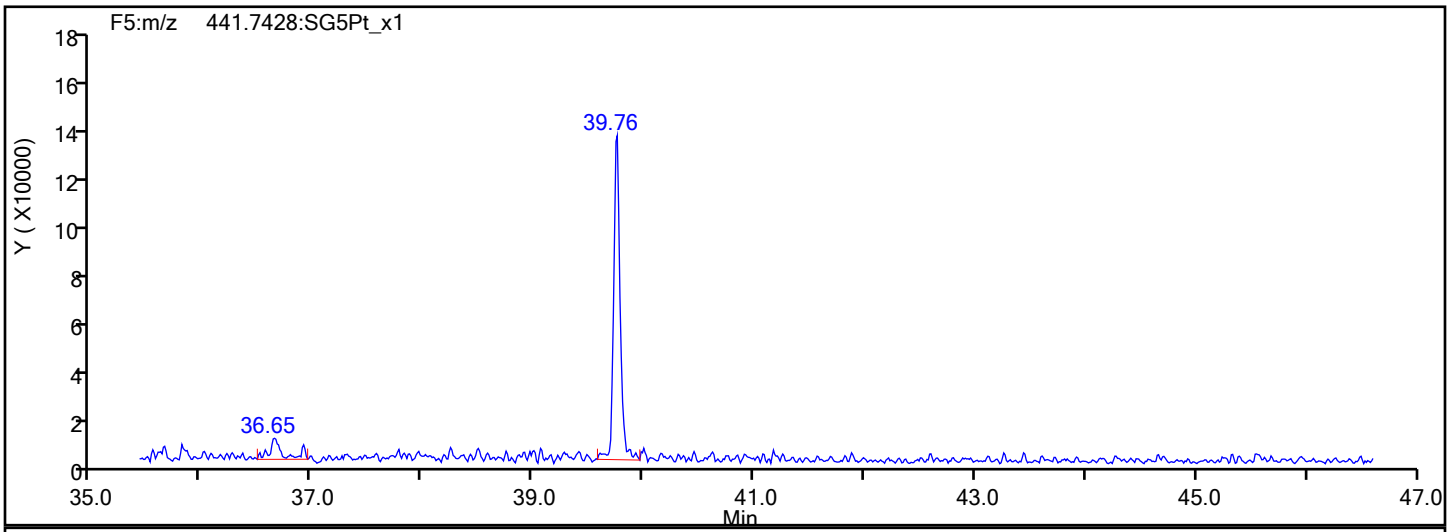

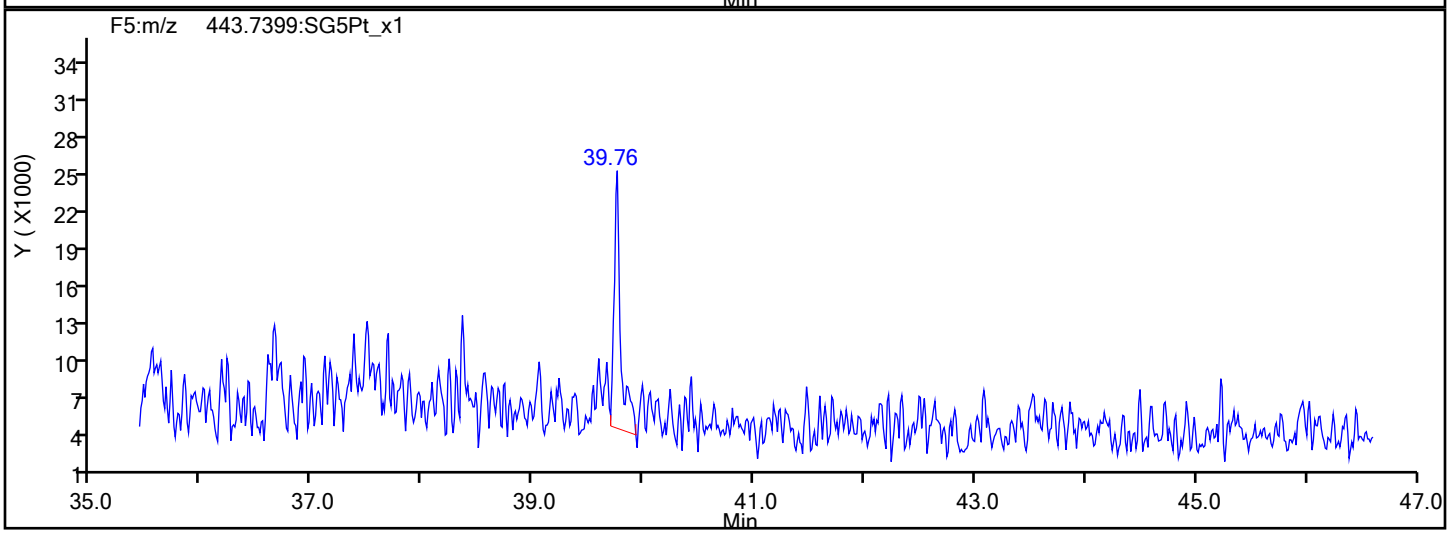

OCDF Interference Mass

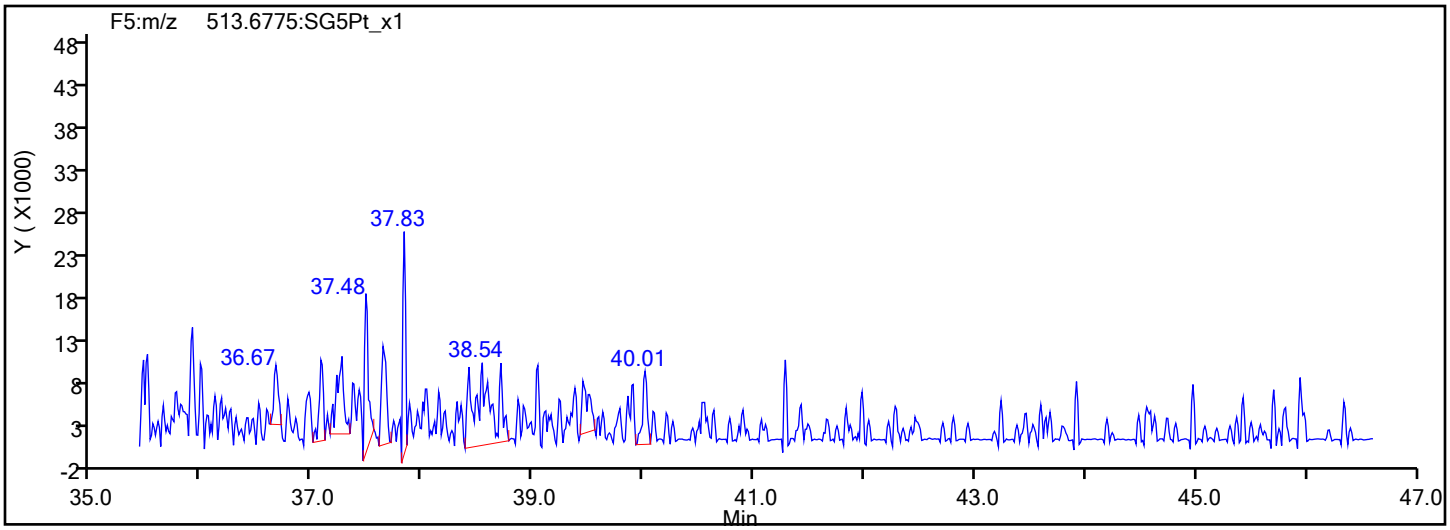

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Eurofins TestAmerica, Sacramento

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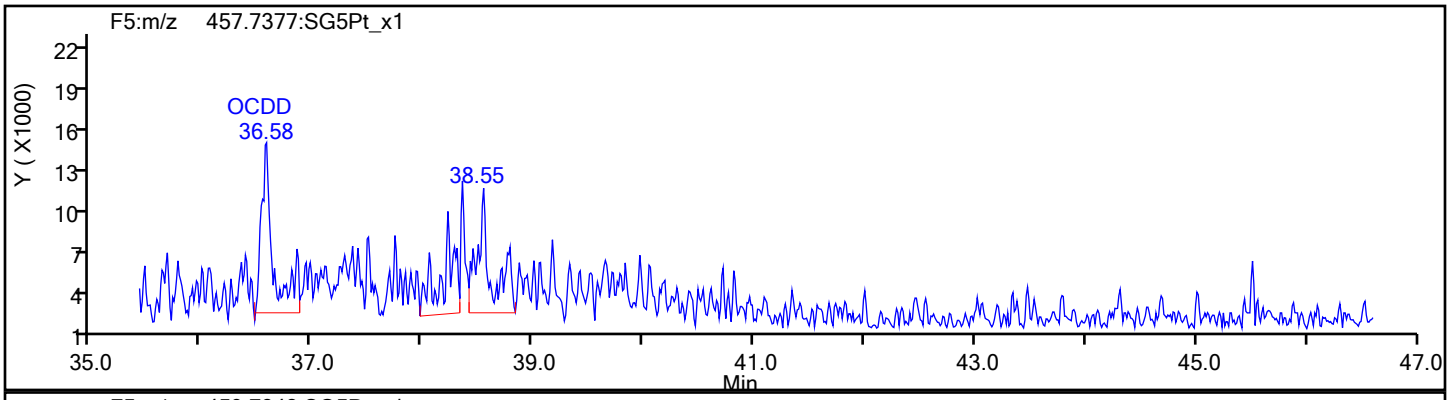

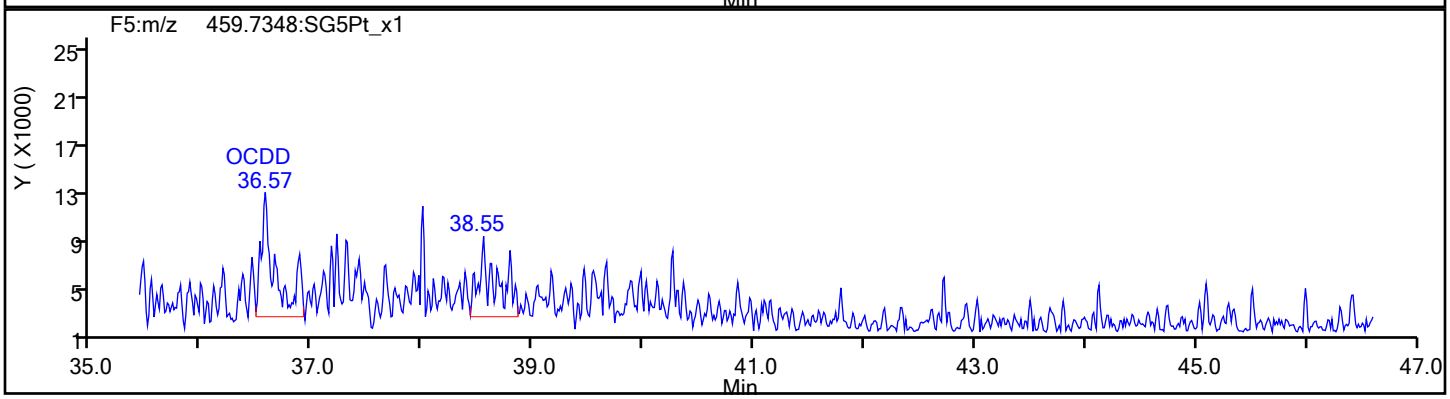

OCDD Standards

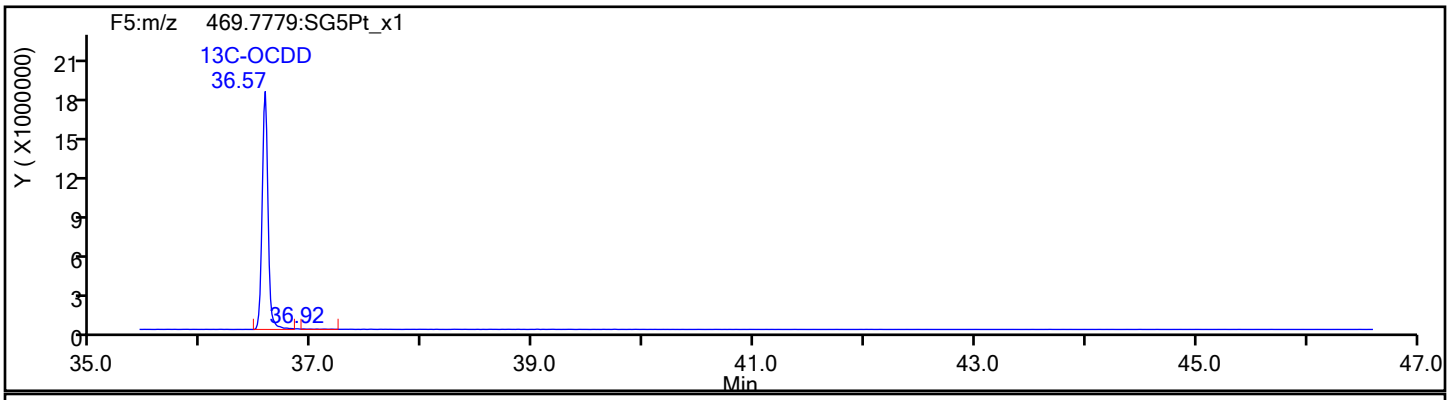

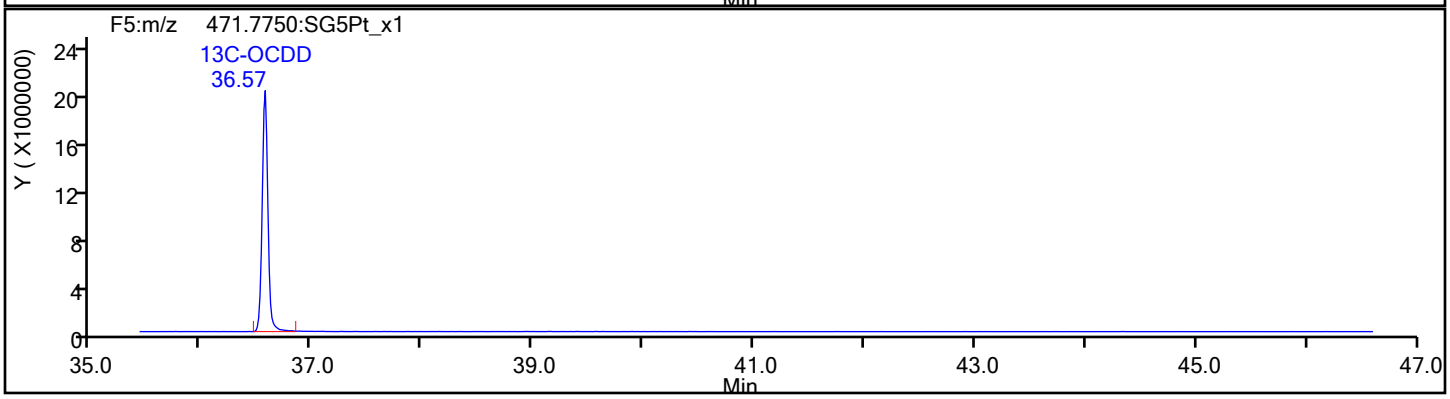

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Eurofins TestAmerica, Sacramento

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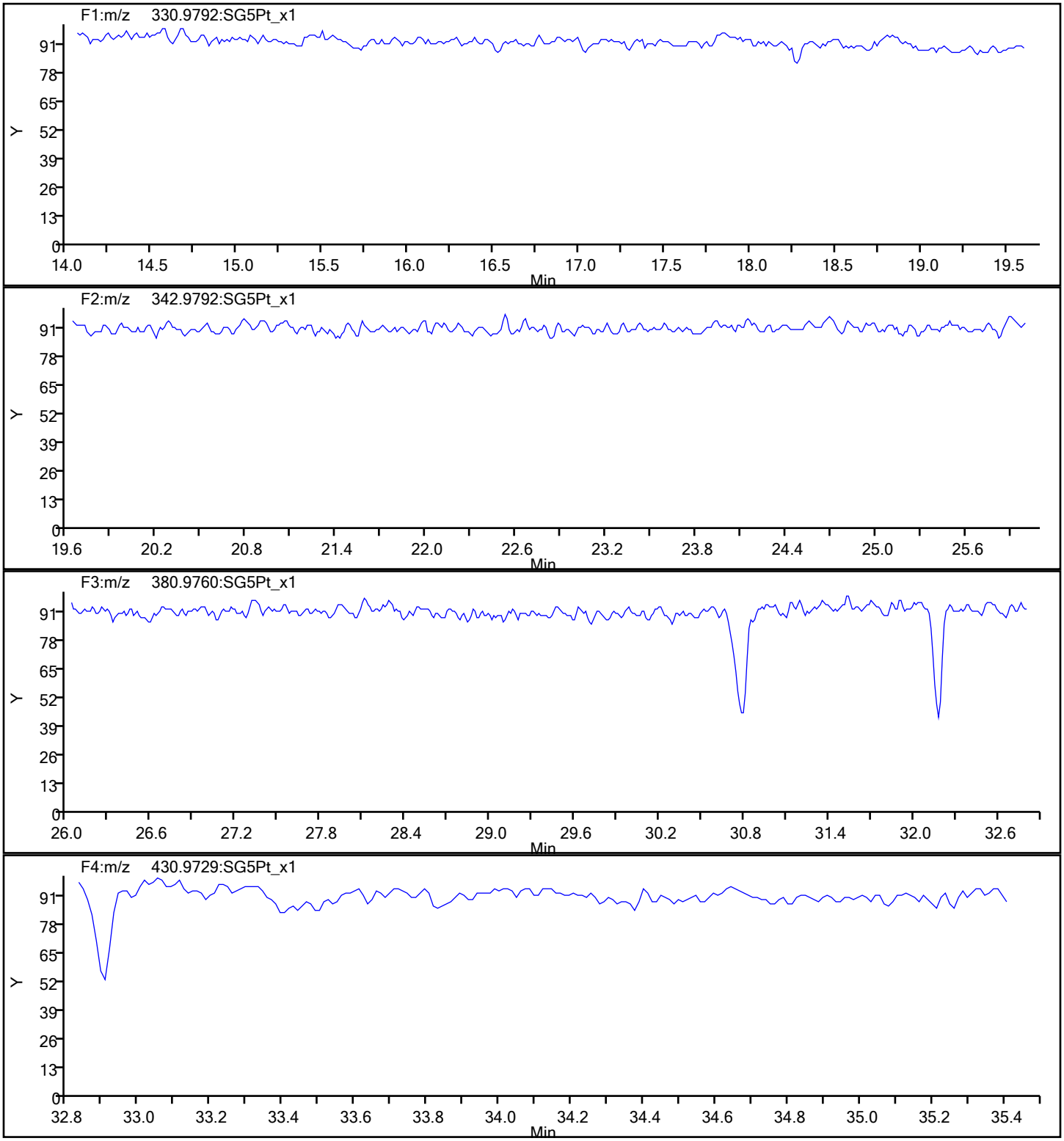

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Eurofins TestAmerica, Sacramento

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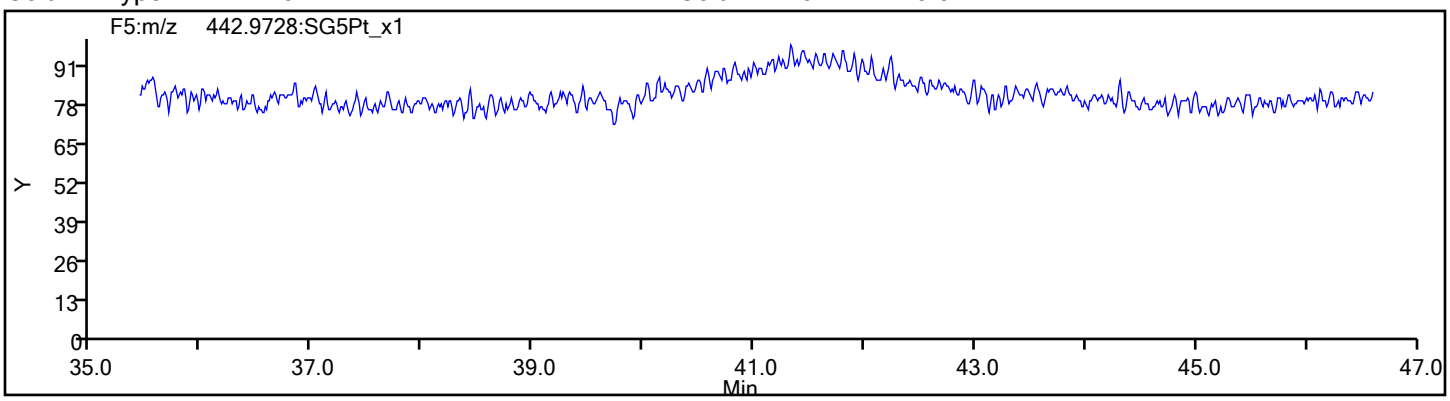

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 320-57717-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 320-350857/2-A
Matrix: Water
Lab File ID: 15JA203D5_10.d
Analysis Method: 1613B
Date Collected:
Extract. Method: 1613B
Date Extracted: 01/15/2020 07:32
Sample wt/vol: 1000(mL)
Date Analyzed: 01/16/2020 03:03
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 351160
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	206		10	1.1
51207-31-9	2,3,7,8-TCDF	213		10	0.74
40321-76-4	1,2,3,7,8-PeCDD	973		50	2.5
57117-41-6	1,2,3,7,8-PeCDF	936		50	3.4
57117-31-4	2,3,4,7,8-PeCDF	914		50	3.7
39227-28-6	1,2,3,4,7,8-HxCDD	911		50	1.8
57653-85-7	1,2,3,6,7,8-HxCDD	940		50	2.0
19408-74-3	1,2,3,7,8,9-HxCDD	907		50	1.7
70648-26-9	1,2,3,4,7,8-HxCDF	943		50	4.4
57117-44-9	1,2,3,6,7,8-HxCDF	977		50	4.2
72918-21-9	1,2,3,7,8,9-HxCDF	1020		50	2.6
60851-34-5	2,3,4,6,7,8-HxCDF	1010		50	3.1
35822-46-9	1,2,3,4,6,7,8-HpCDD	964		50	2.1
67562-39-4	1,2,3,4,6,7,8-HpCDF	995		50	3.8
55673-89-7	1,2,3,4,7,8,9-HpCDF	925		50	4.1
3268-87-9	OCDD	1870		100	1.8
39001-02-0	OCDF	2030		100	1.9
41903-57-5	Total TCDD	206		10	1.1
30402-14-3	Total TCDF	213		10	0.74
36088-22-9	Total PeCDD	973		50	2.5
30402-15-4	Total PeCDF	1850		50	3.5
34465-46-8	Total HxCDD	2760		50	1.9
55684-94-1	Total HxCDF	3950		50	3.6
37871-00-4	Total HpCDD	964		50	2.1
38998-75-3	Total HpCDF	1920		50	4.0

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57717-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 320-350857/2-A

Matrix: Water Lab File ID: 15JA203D5_10.d

Analysis Method: 1613B Date Collected:

Extract. Method: 1613B Date Extracted: 01/15/2020 07:32

Sample wt/vol: 1000(mL) Date Analyzed: 01/16/2020 03:03

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 351160 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	75		20-175
89059-46-1	13C-2,3,7,8-TCDF	75		22-152
109719-79-1	13C-1,2,3,7,8-PeCDD	68		21-227
109719-77-9	13C-1,2,3,7,8-PeCDF	67		21-192
116843-02-8	13C-2,3,4,7,8-PeCDF	71		13-328
109719-80-4	13C-1,2,3,4,7,8-HxCDD	82		21-193
109719-81-5	13C-1,2,3,6,7,8-HxCDD	76		25-163
114423-98-2	13C-1,2,3,4,7,8-HxCDF	76		19-202
116843-03-9	13C-1,2,3,6,7,8-HxCDF	73		21-159
116843-04-0	13C-1,2,3,7,8,9-HxCDF	76		17-205
116843-05-1	13C-2,3,4,6,7,8-HxCDF	73		22-176
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	86		26-166
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	70		21-158
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	91		20-186
114423-97-1	13C-OCDD	85		13-199

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	101		31-191

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_10.d
Lims ID: LCS 320-350857/2-A
Client ID:
Sample Type: LCS
Inject. Date: 16-Jan-2020 03:03:46 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCS 320-350857/2-A LCS 320-350857/2-A
Misc. Info.: 15JA203D5
Operator ID: ALM Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20200116-89625.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 17-Jan-2020 08:31:30 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0324

First Level Reviewer: ruangyotsakuld Date: 17-Jan-2020 08:32:26

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.324	176214905	0.82	2.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.841	187401009	0.77	1.4157	75.1	75.1	0.2228	0.2228	75.12	
2,3,7,8-TCDF	16.856	18985368	0.76	0.9502	10.7	10.7	0.0371	0.0371	107	
A Non-2,3,7,8-sub-TCDF	16.531						0.0371	0.0371		
S Total TCDF					10.7	10.7	0.0371	0.0371		
D 13C-2,3,7,8-TCDD	17.521	128809120	0.82	0.9751	75.0	75.0	0.1506	0.1506	74.96	
2,3,7,8-TCDD	17.536	13924348	0.78	1.0477	10.3	10.3	0.0534	0.0534	103	
$ 37Cl4-2,3,7,8-TCDD	17.536	95959718		1.3480	40.4	40.4	0.0832	0.0832	101	
A Non-2,3,7,8-sub-TCDD	16.969						0.0534	0.0534		
S Total TCDD					10.3	10.3	0.0534	0.0534		
D 13C-1,2,3,7,8-PeCDF	21.653	138455987	1.61	1.1786	66.7	66.7	0.1824	0.1824	66.67	
1,2,3,7,8-PeCDF	21.667	66757686	1.54	1.0302	46.8	46.8	0.1680	0.1680	93.60	
D 13C-2,3,4,7,8-PeCDF	22.935	141072284	1.57	1.1308	70.8	70.8	0.1901	0.1901	70.80	
2,3,4,7,8-PeCDF	22.949	67124445	1.59	1.0410	45.7	45.7	0.1851	0.1851	91.42	
A F1 PeCDFs	19.207						0.0400	0.0400		
A Non-2,3,7,8-sub-PeCDF	22.200						0.1761	0.1761		
S Total PeCDF					92.5	92.5	0.1766	0.1766		
D 13C-1,2,3,7,8-PeCDD	23.617	90064933	1.61	0.7572	67.5	67.5	0.1056	0.1056	67.50	
1,2,3,7,8-PeCDD	23.644	47577886	1.63	1.0855	48.7	48.7	0.1240	0.1240	97.33	
A Non-2,3,7,8-sub-PeCDD	22.533						0.1240	0.1240		
S Total PeCDD					48.7	48.7	0.1240	0.1240		
D 13C-1,2,3,4,7,8-HxCDF	29.745	132154387	0.53	1.1043	76.5	76.5	0.1748	0.1748	76.46	
1,2,3,4,7,8-HxCDF	29.772	71474850	1.22	1.1472	47.1	47.1	0.2209	0.2209	94.29	
D 13C-1,2,3,6,7,8-HxCDF	29.998	130913172	0.52	1.1470	72.9	72.9	0.1683	0.1683	72.92	
1,2,3,6,7,8-HxCDF	30.011	73236749	1.24	1.1450	48.9	48.9	0.2104	0.2104	97.71	
D 13C-2,3,4,6,7,8-HxCDF	31.023	122214384	0.52	1.0769	72.5	72.5	0.1792	0.1792	72.51	
2,3,4,6,7,8-HxCDF	31.050	72197971	1.27	1.1726	50.4	50.4	0.1531	0.1531	101	
D 13C-1,2,3,7,8,9-HxCDF	31.942	120141938	0.51	1.0115	75.9	75.9	0.1908	0.1908	75.88	
1,2,3,7,8,9-HxCDF	31.955	71612566	1.23	1.1717	50.9	50.9	0.1303	0.1303	102	
A Non-2,3,7,8-sub-HxCDF	29.465						0.1707	0.1707		
S Total HxCDF					197.3	197.3	0.1787	0.1787		

Report Date: 17-Jan-2020 08:32:30 Chrom Revision: 2.3 14-Jan-2020 22:23:42
Data File: \\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_10.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.742	156523644	1.27	2.1E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.250	101692587	1.30	0.7962	81.6	81.6	0.1475	0.1475	81.60	
1,2,3,4,7,8-HxCDD	31.263	50621393	1.27	1.0934	45.5	45.5	0.0906	0.0906	91.06	
D 13C-1,2,3,6,7,8-HxCDD	31.369	103808227	1.27	0.8720	76.1	76.1	0.1347	0.1347	76.06	
1,2,3,6,7,8-HxCDD	31.383	50898974	1.28	1.0429	47.0	47.0	0.1020	0.1020	94.03	
1,2,3,7,8,9-HxCDD	31.756	56244661	1.24	1.2073	45.3	45.3	0.0850	0.0850	90.68	
A Non-2,3,7,8-sub-HxCDD	30.164						0.0921	0.0921		
S Total HxCDD					137.9	137.9	0.0926	0.0926		
D 13C-1,2,3,4,6,7,8-HpCDF	33.476	82943769	0.45	0.7577	69.9	69.9	0.4086	0.4086	69.94	
1,2,3,4,6,7,8-HpCDF	33.488	61073240	1.06	1.4804	49.7	49.7	0.1920	0.1920	99.48	
D 13C-1,2,3,4,7,8,9-HpCDF	34.545	98931777	0.44	0.6941	91.1	91.1	0.4460	0.4460	91.06	
1,2,3,4,7,8,9-HpCDF	34.545	59196331	1.06	1.2933	46.3	46.3	0.2059	0.2059	92.53	
A Non-2,3,7,8-sub-HpCDF	33.992						0.1983	0.1983		
S Total HpCDF					96.0	96.0	0.1989	0.1989		
D 13C-1,2,3,4,6,7,8-HpCDD	34.254	94660780	1.04	0.7058	85.7	85.7	0.2416	0.2416	85.68	
1,2,3,4,6,7,8-HpCDD	34.266	48058263	1.03	1.0535	48.2	48.2	0.1060	0.1060	96.38	
A Non-2,3,7,8-sub-HpCDD	33.968						0.1060	0.1060		
S Total HpCDD					48.2	48.2	0.1060	0.1060		
D 13C-OCDD	36.571	123179163	0.90	0.4603	171.0	171.0	0.1543	0.1543	85.49	
OCDF	36.667	87307019	0.91	1.3945	101.7	101.7	0.0950	0.0950	102	
OCDD	36.583	65336886	0.89	1.1362	93.4	93.4	0.0876	0.0876	93.37	

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_10.d
Lims ID: LCS 320-350857/2-A
Client ID:
Sample Type: LCS
Inject. Date: 16-Jan-2020 03:03:46 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCS 320-350857/2-A LCS 320-350857/2-A
Misc. Info.: 15JA203D5
Operator ID: ALM Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20200116-89625.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 17-Jan-2020 08:31:30 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0324

First Level Reviewer: ruangyotsakuld Date: 17-Jan-2020 08:32:26

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.324	17.324	0		79269834	19273360	15285	38212	1261		
333.9339	17.324	17.324	0		96945071	23947886	10096	25240	2372	0.82(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.841	16.826	1	0.972	81293876	21178056	19179	47947	1104		
317.9389	16.841	16.826	1	0.972	106107133	27316635	35363	88407	772	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.856	16.856	0	1.001	8172924	2124534	2513	6282	845		
305.8987	16.856	16.856	0	1.001	10812444	2739757	4328	10820	633	0.76(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.531						2513	6282			
305.8987	16.531						4328	10820			
13C-2,3,7,8-TCDD											
331.9368	17.521	17.506	1	1.011	58220042	13825987	15285	38212	905		
333.9339	17.521	17.506	1	1.011	70589078	16904517	10096	25240	1674	0.82(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.536	17.521	1	1.001	6109439	1532229	3324	8310	461		
321.8936	17.536	17.521	1	1.001	7814909	1934216	3551	8877	545	0.78(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.536	17.521	1	1.012	95959718	23141509	19387	48467	1194		
A Non-2,3,7,8-sub-TCDD											
319.8965	16.969						3324	8310			
321.8936	16.969						3551	8877			
13C-1,2,3,7,8-PeCDF											
351.9000	21.653	21.626	2	1.250	85489661	16760523	21192	52980	791		
353.8970	21.653	21.626	2	1.250	52966326	10264186	15979	39947	642	1.61(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	21.667	21.653	1	1.001	40443026	8673085	10297	25742	842		
341.8567	21.667	21.653	1	1.001	26314660	5548264	8417	21042	659	1.54(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	22.935	22.908	2	1.324	86222800	14730964	21192	52980	695		
353.8970	22.921	22.908	1	1.323	54849484	9548258	15979	39947	598	1.57(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.949	22.935	1	1.001	41184470	6996745	10297	25742	679		
341.8567	22.949	22.935	1	1.001	25939975	4450995	8417	21042	529	1.59(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.207						1518	3795			
341.8567	19.207						2736	6840			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.200						10297	25742			
341.8567	22.200						8417	21042			
13C-1,2,3,7,8-PeCDD											
367.8949	23.617	23.603	1	1.363	55578349	9162464	7997	19992	1146		
369.8919	23.617	23.603	1	1.363	34486584	5690052	5832	14580	976	1.61(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.644	23.617	2	1.001	29456785	4853577	5087	12717	954		
357.8516	23.644	23.617	2	1.001	18121101	2998003	2912	7280	1030	1.63(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.533						5087	12717			
357.8516	22.533						2912	7280			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.745	29.705	2	0.937	45684895	6399851	11127	27817	575		
385.8610	29.745	29.705	2	0.937	86469492	11690571	19912	49780	587	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.772	29.732	2	1.001	39276126	5615051	10420	26050	539		
375.8178	29.758	29.732	2	1.000	32198724	4610542	7915	19787	583	1.22(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.998	29.971	2	0.945	45067321	6595156	11127	27817	593		
385.8610	29.998	29.971	2	0.945	85845851	12429630	19912	49780	624	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.011	29.998	1	1.000	40545644	5989458	10420	26050	575		
375.8178	30.011	29.998	1	1.000	32691105	4908728	7915	19787	620	1.24(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.023	31.010	1	0.977	41580915	8851043	11127	27817	795		
385.8610	31.023	31.010	1	0.977	80633469	16681147	19912	49780	838	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.050	31.037	1	1.001	40331369	8825626	10420	26050	847		
375.8178	31.050	31.037	1	1.001	31866602	6674314	7915	19787	843	1.27(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.942	31.929	1	1.006	40632914	10143135	11127	27817	912		
385.8610	31.942	31.929	1	1.006	79509024	19883607	19912	49780	999	0.51(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	31.955	31.942	1	1.000	39545116	9978631	10420	26050	958		
375.8178	31.955	31.942	1	1.000	32067450	7924388	7915	19787	1001	1.23(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.465						10420	26050			
375.8178	29.465						7915	19787			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.742	31.729	1		87426556	22435788	9684	24210	2317		
403.8529	31.742	31.729	1		69097088	17765384	9205	23012	1930	1.27(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.250	31.236	1	0.984	57453366	14103730	9684	24210	1456		
403.8529	31.250	31.236	1	0.984	44239221	10865160	9205	23012	1180	1.30(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.263	31.250	1	1.000	28301721	6819407	5428	13570	1256		
391.8127	31.263	31.250	1	1.000	22319672	5322718	4470	11175	1191	1.27(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.369	31.356	1	0.988	58005959	13092479	9684	24210	1352		
403.8529	31.369	31.356	1	0.988	45802268	10163720	9205	23012	1104	1.27(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.383	31.369	1	1.000	28560121	6487399	5428	13570	1195		
391.8127	31.383	31.369	1	1.000	22338853	5104072	4470	11175	1142	1.28(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.756	31.742	1	1.016	31167574	7898533	5428	13570	1455		
391.8127	31.756	31.742	1	1.016	25077087	6238434	4470	11175	1396	1.24(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.164						5428	13570			
391.8127	30.164						4470	11175			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.476	33.464	1	1.055	25750989	8955776	18428	46070	486		
419.8220	33.476	33.464	1	1.055	57192780	19659716	31358	78395	627	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.488	33.476	1	1.000	31468651	10637101	18619	46547	571		
409.7789	33.488	33.476	1	1.000	29604589	9930499	13908	34770	714	1.06(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.545	34.533	1	1.088	30373955	9239197	18428	46070	501		
419.8220	34.545	34.533	1	1.088	68557822	21297243	31358	78395	679	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.545	34.545	0	1.000	30425563	9016566	18619	46547	484		
409.7789	34.545	34.545	0	1.000	28770768	8889994	13908	34770	639	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.992						18619	46547			
409.7789	33.992						13908	34770			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.254	34.254	0	1.079	48286219	15945517	10449	26122	1526		
437.8140	34.254	34.254	0	1.079	46374561	15221182	16970	42425	897	1.04(0.88-1.20)	

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Data File: \\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_10.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.266	34.266	0	1.000	24341184	8297498	7935	19837	1046		
425.7737	34.266	34.266	0	1.000	23717079	8127273	5993	14982	1356	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.968						7935	19837			
425.7737	33.968						5993	14982			
13C-OCDD											
469.7779	36.571	36.571	0	1.152	58416686	15761790	5895	14737	2674		
471.7750	36.571	36.571	0	1.152	64762477	17503836	5524	13810	3169	0.90(0.76-1.02)	
OCDF											
441.7428	36.667	36.667	0	1.003	41527358	11630129	4194	10485	2773		
443.7399	36.667	36.667	0	1.003	45779661	12659627	4621	11552	2740	0.91(0.76-1.02)	
OCDD											
457.7377	36.583	36.583	0	1.000	30733955	8445561	2946	7365	2867		
459.7348	36.583	36.583	0	1.000	34602931	9618110	3678	9195	2615	0.89(0.76-1.02)	

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Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_10.d		
Injection Date:	16-Jan-2020 03:03:46	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	351160	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

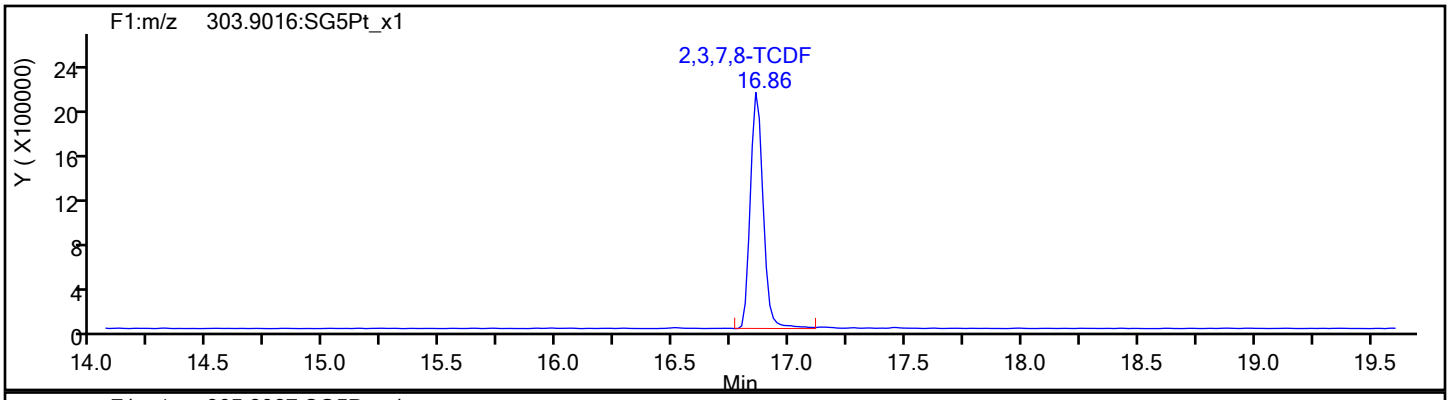

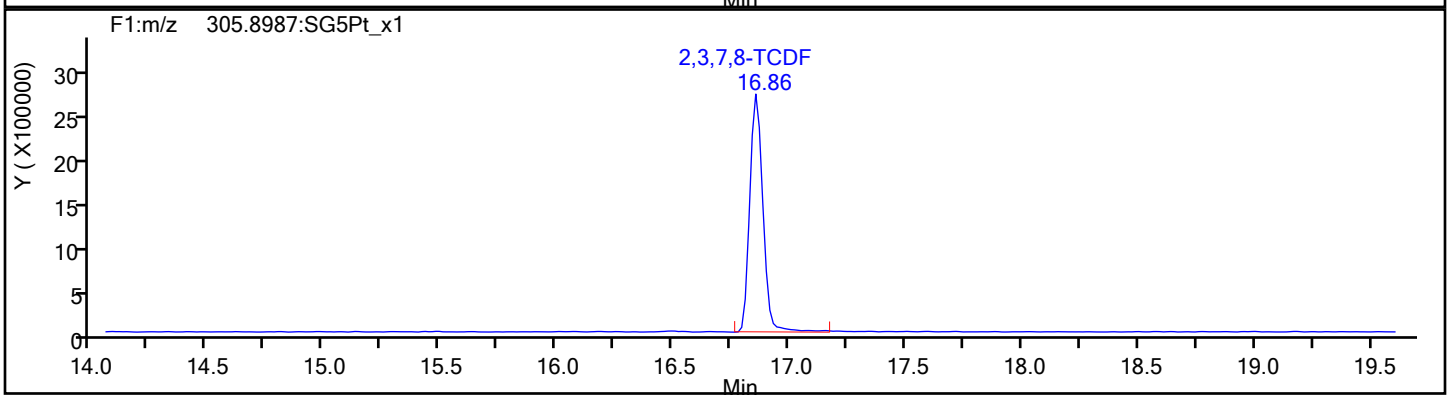

TCDF Standards

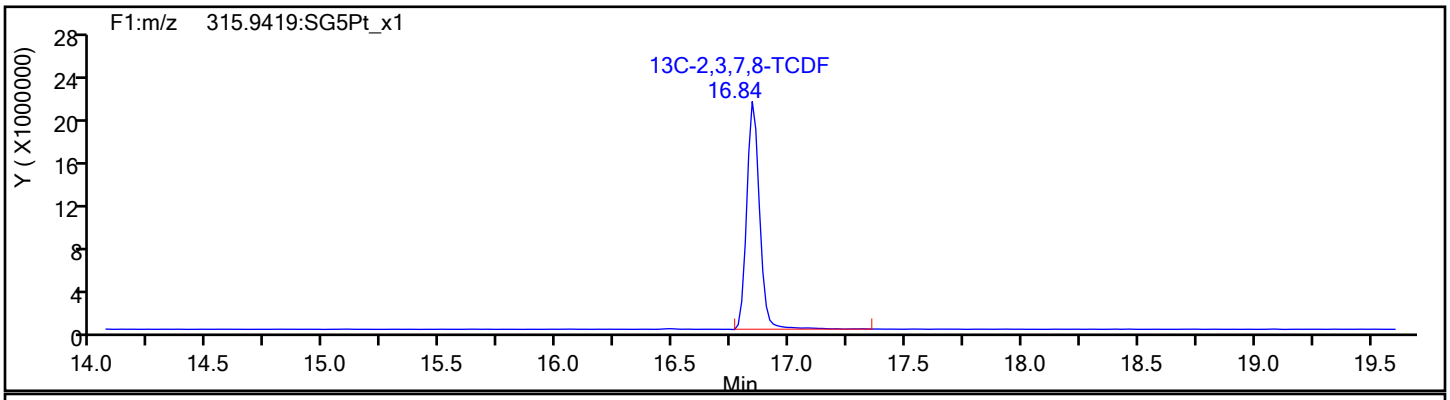

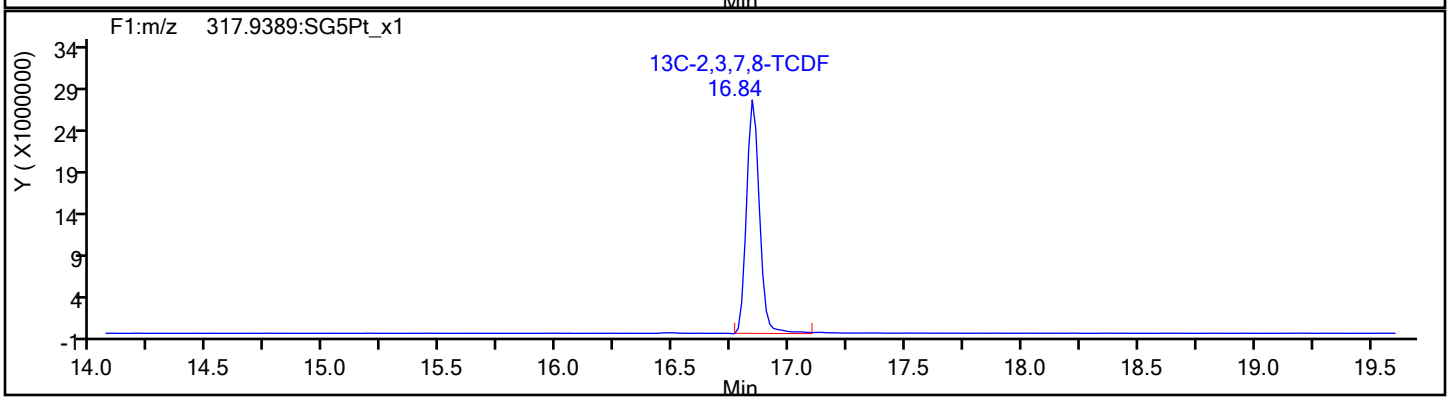

Report Date: 17-Jan-2020 08:32:30 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

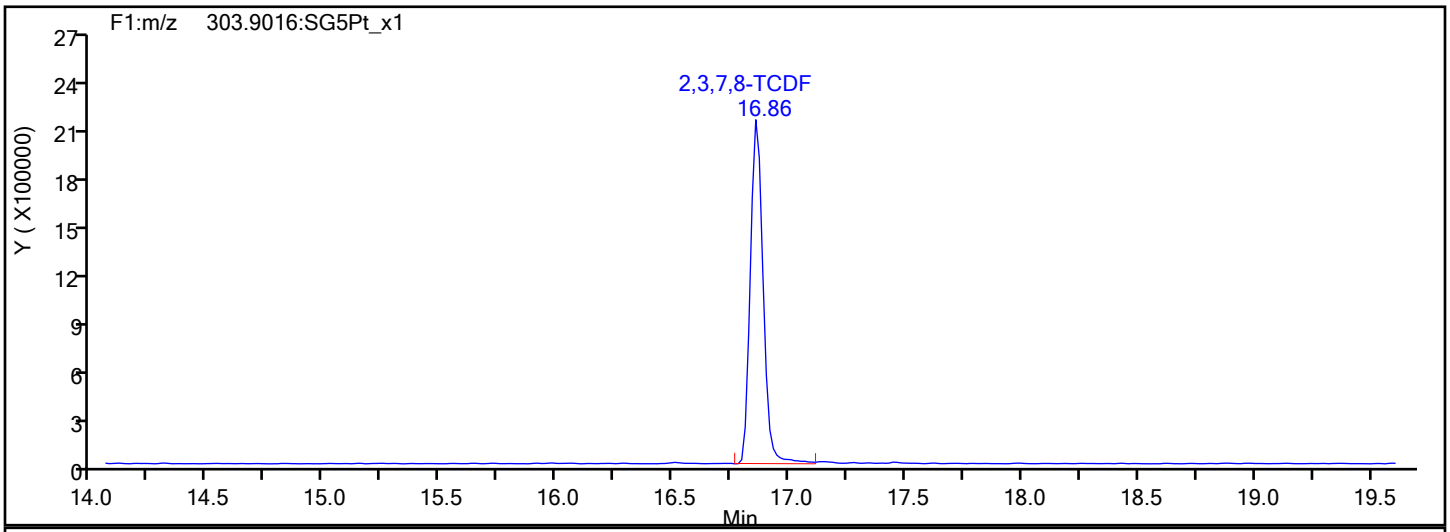

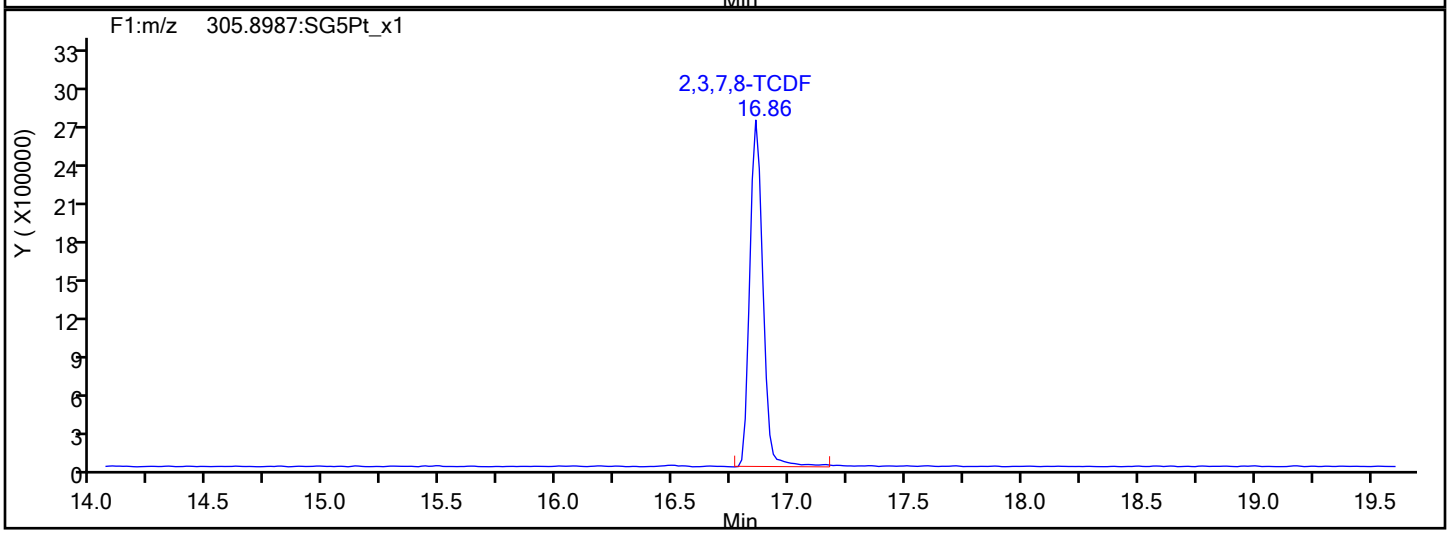

TCDF Interference Mass

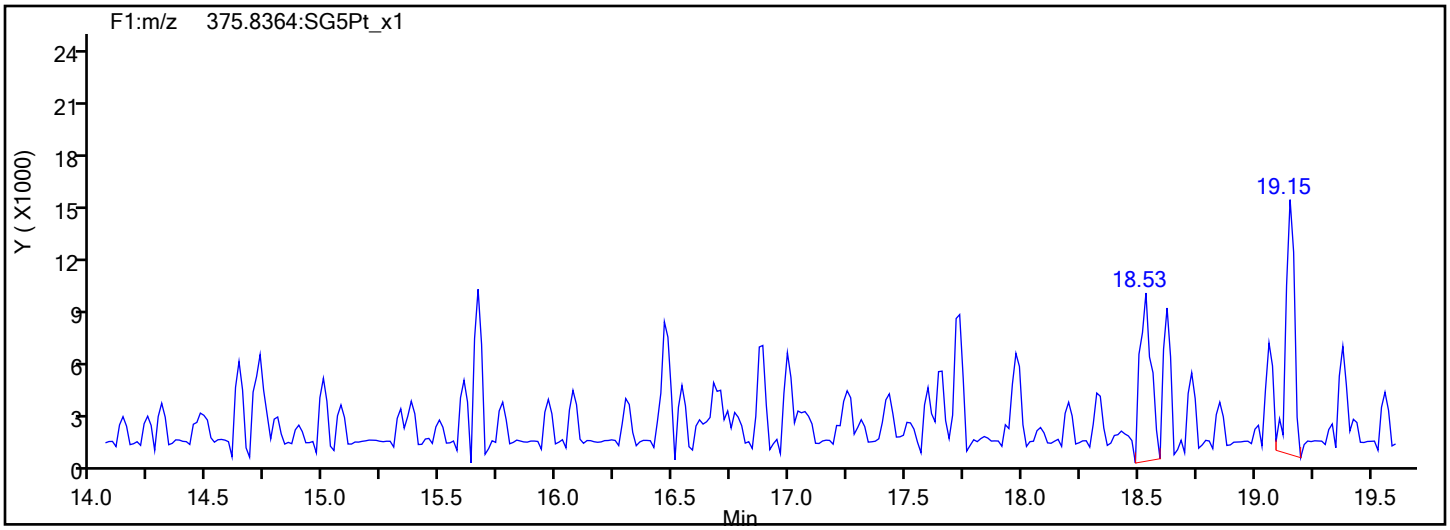

Report Date: 17-Jan-2020 08:32:30 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_10.d		
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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

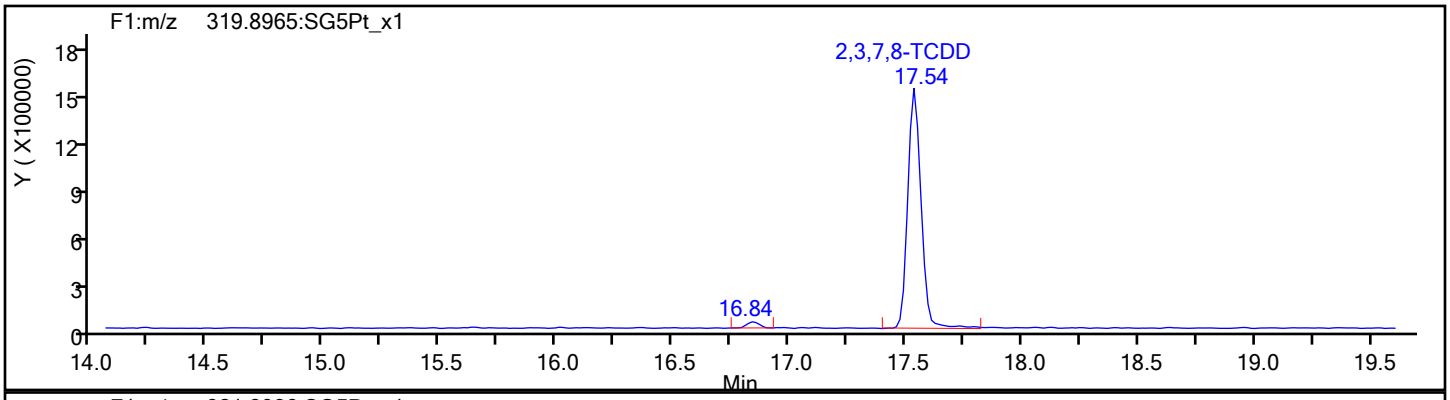

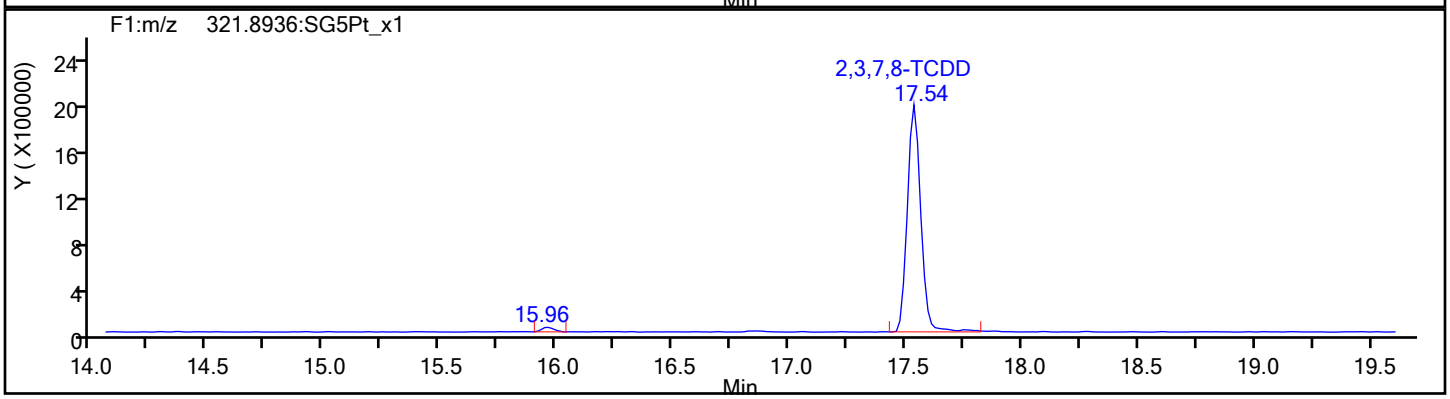

TCDD Standards

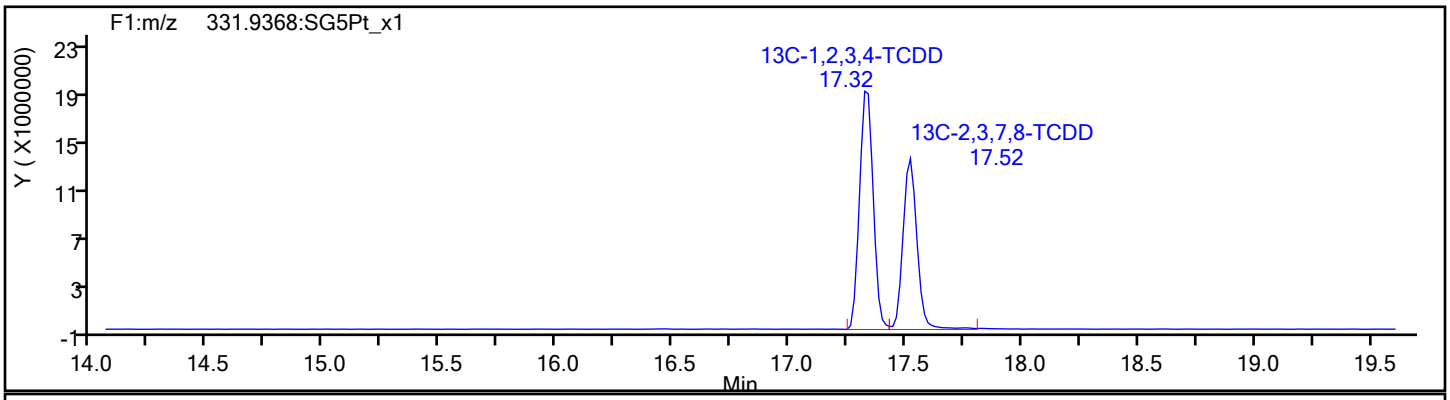

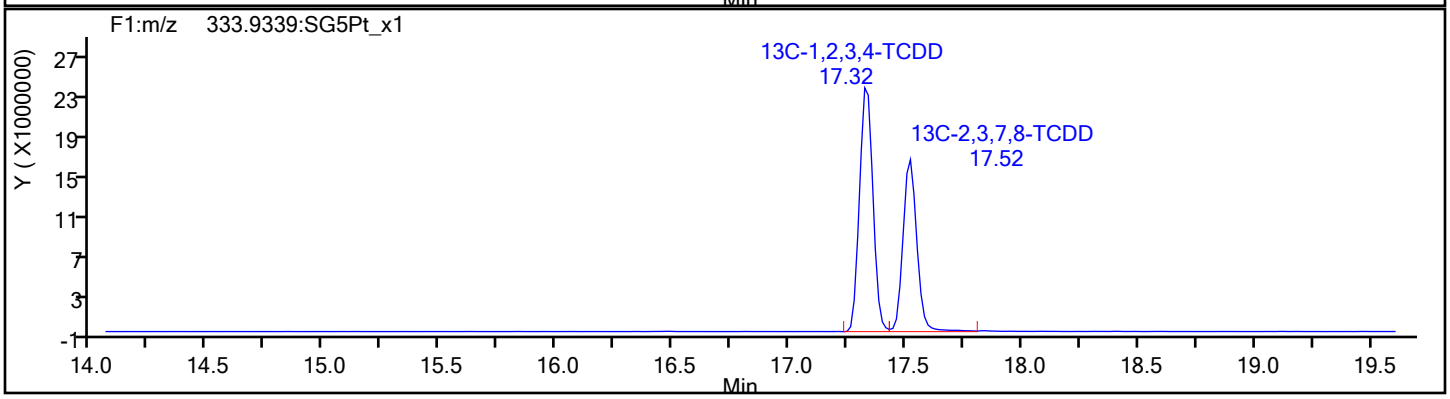

Report Date: 17-Jan-2020 08:32:30 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

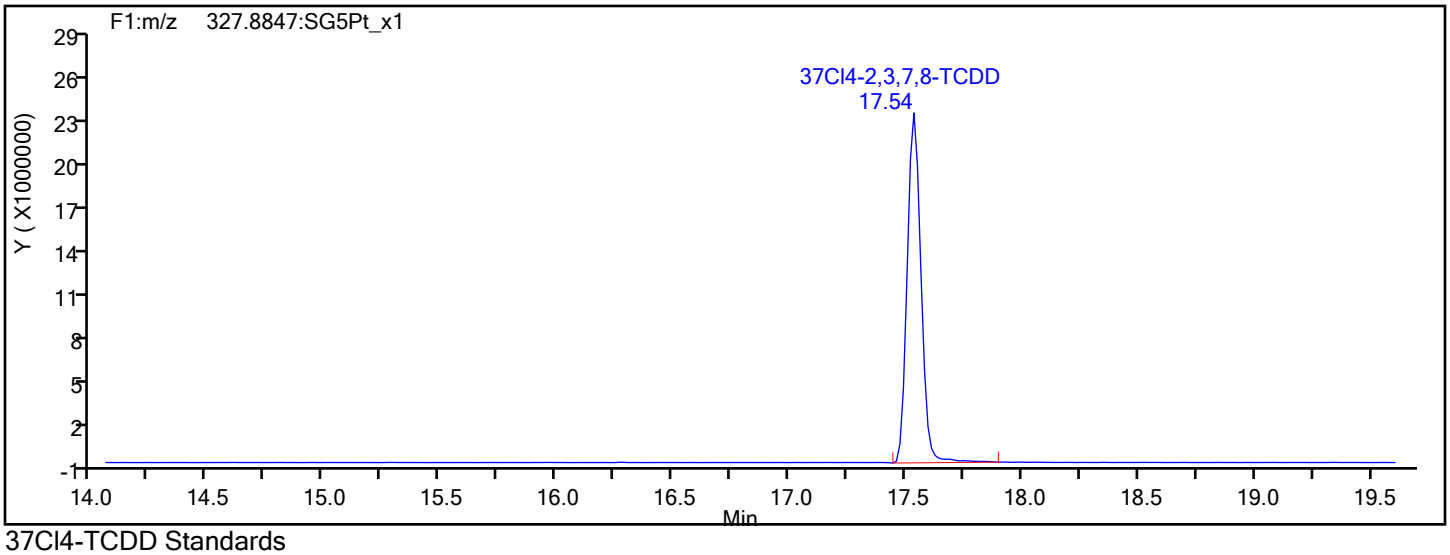

37Cl4-TCDD Standards

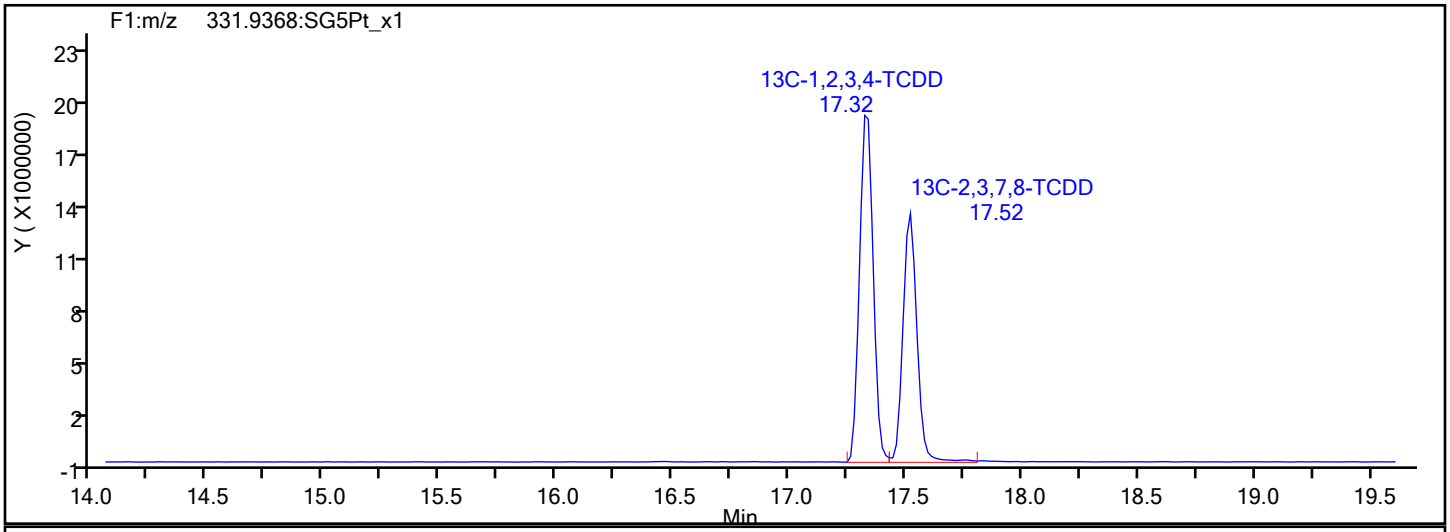

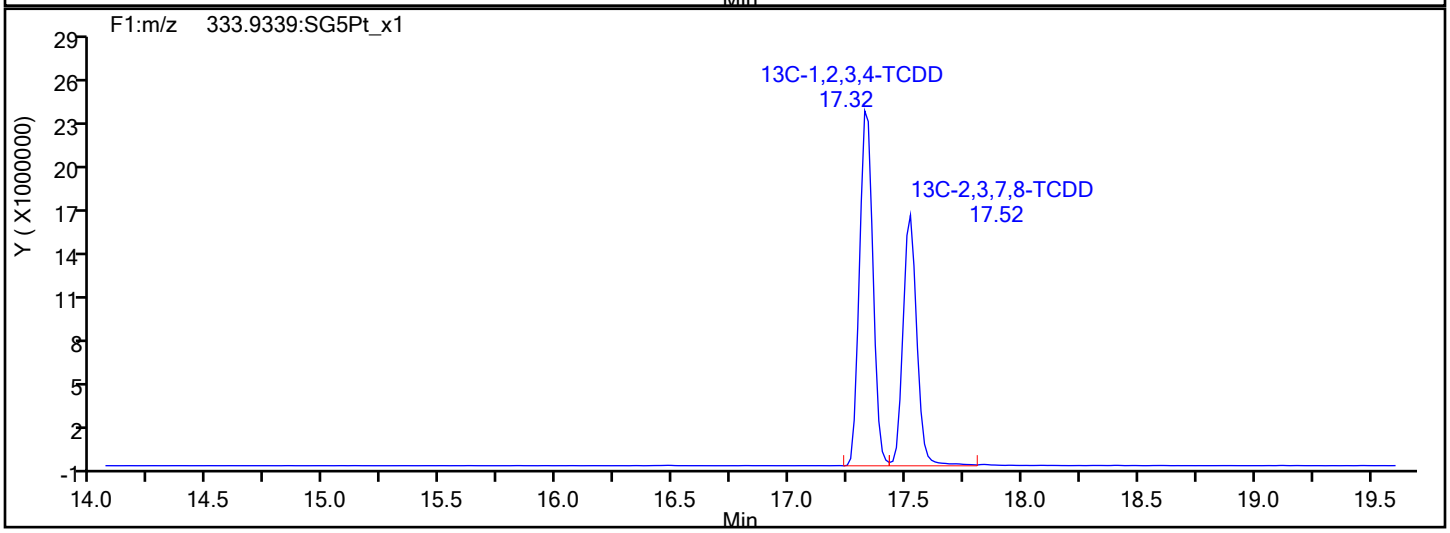

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

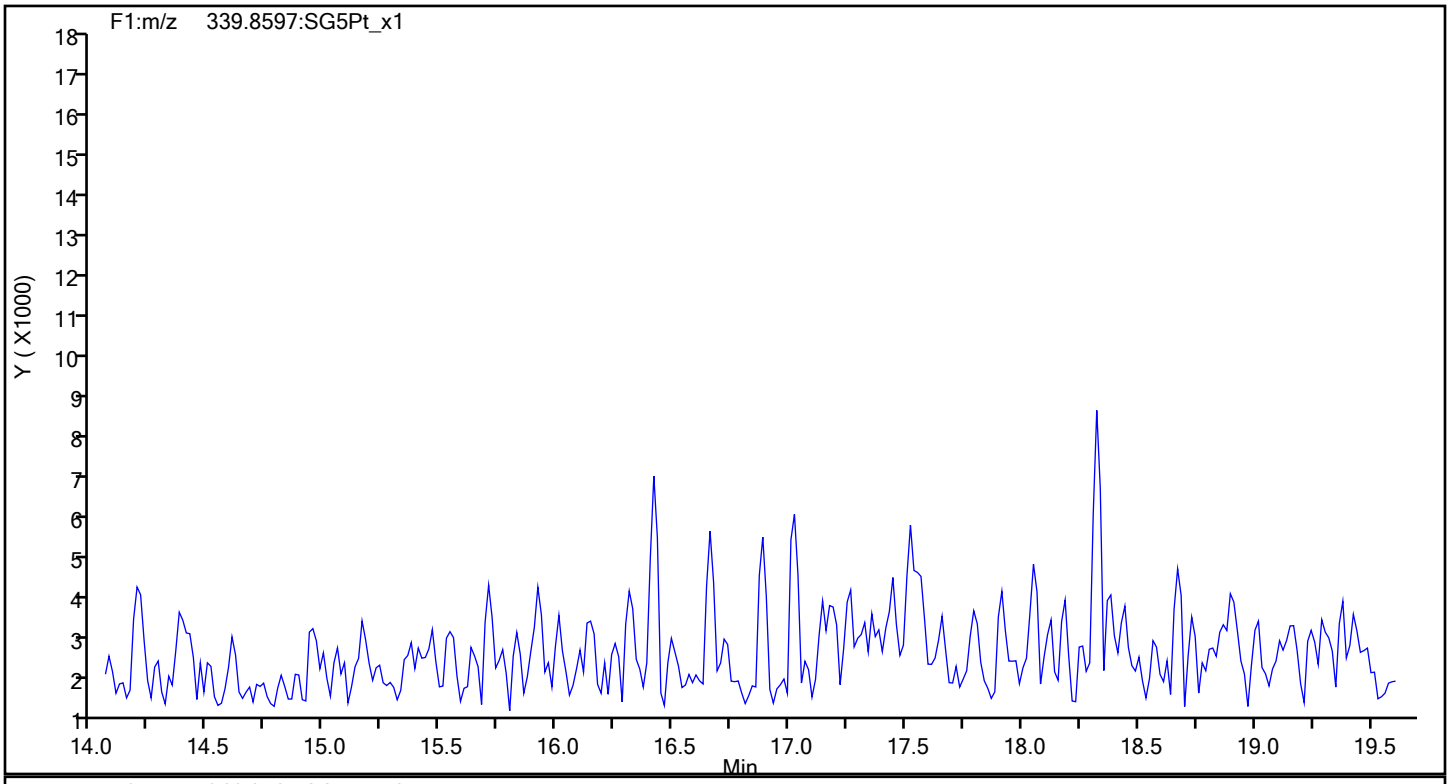

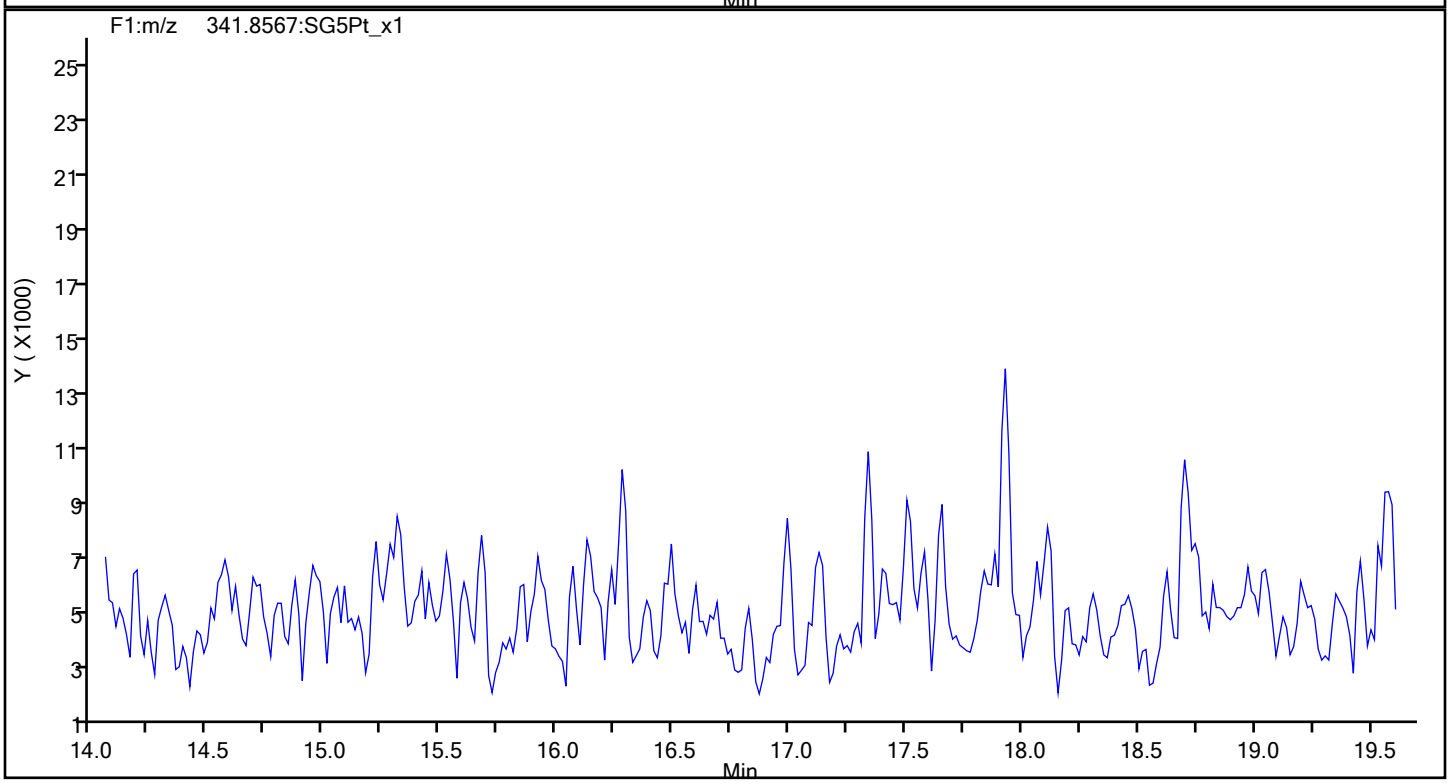

Report Date: 17-Jan-2020 08:32:30 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_10.d		
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Client ID:			
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F1 PeCDFs

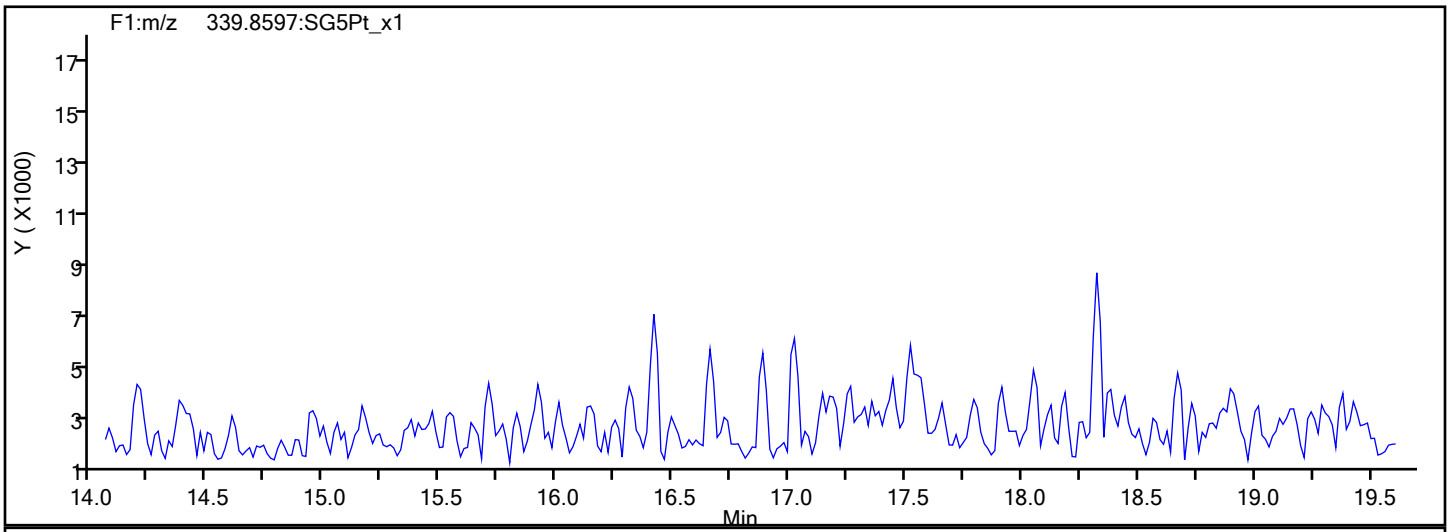

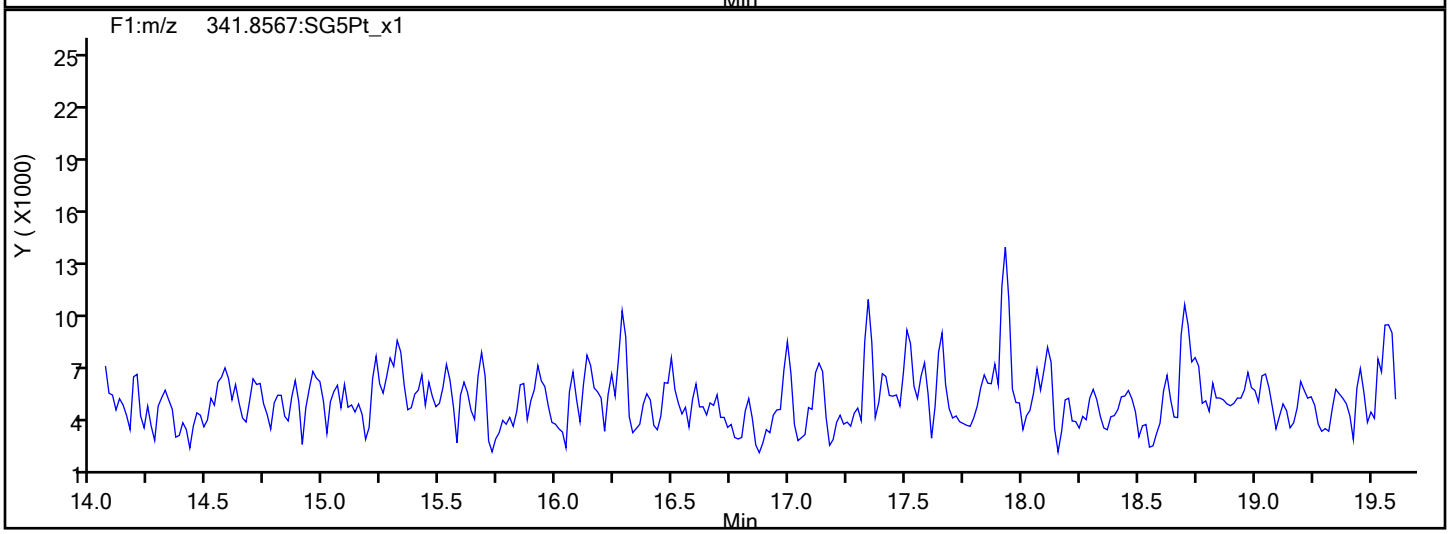

F1 PeCDFs Interference Mass

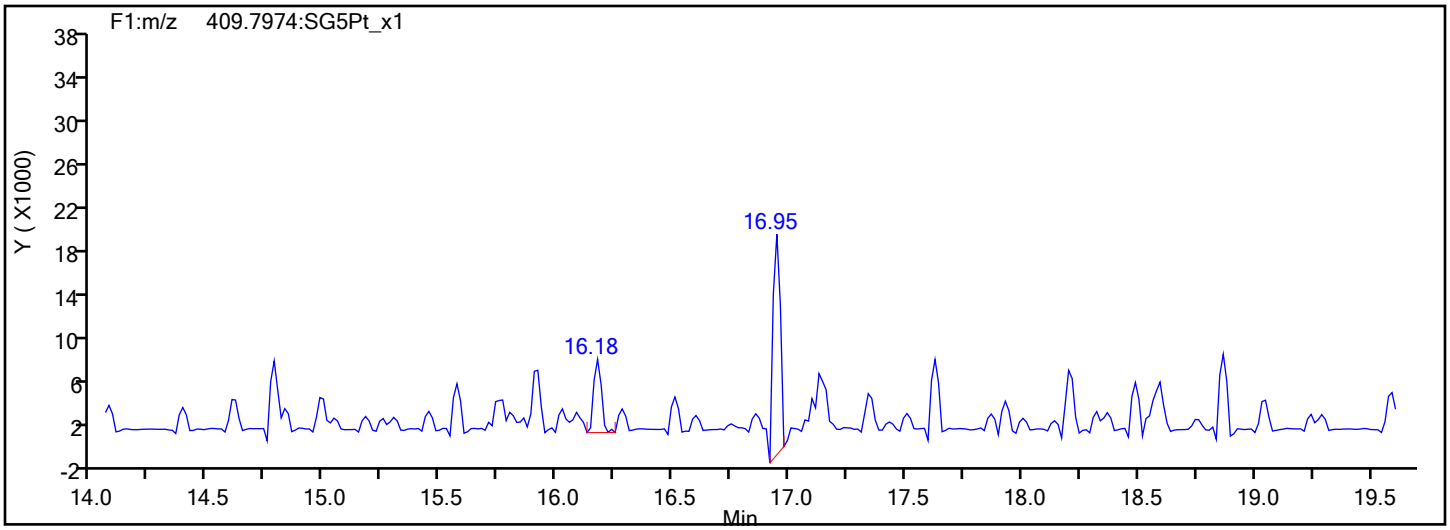

Report Date: 17-Jan-2020 08:32:30 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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PeCDF

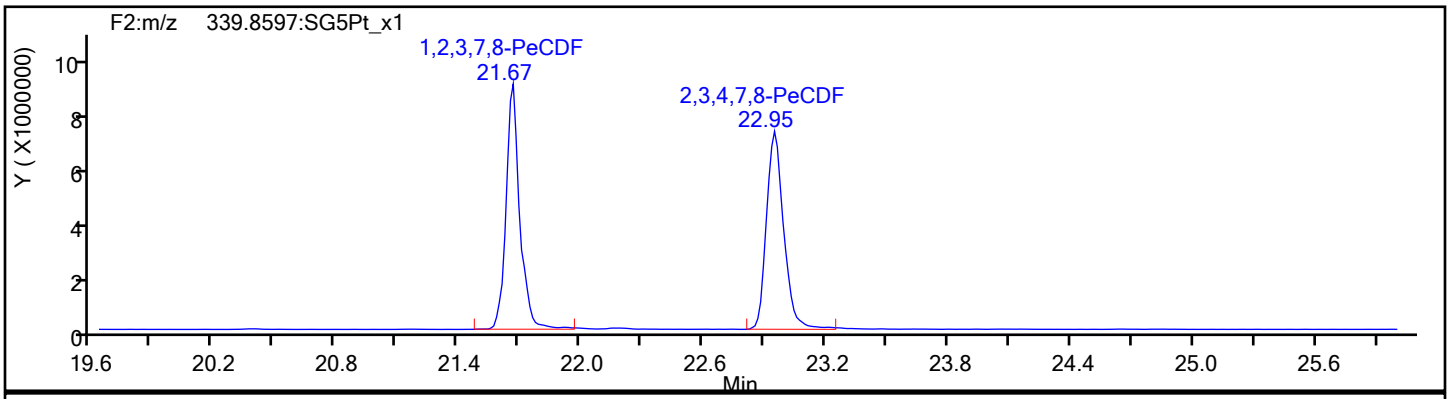

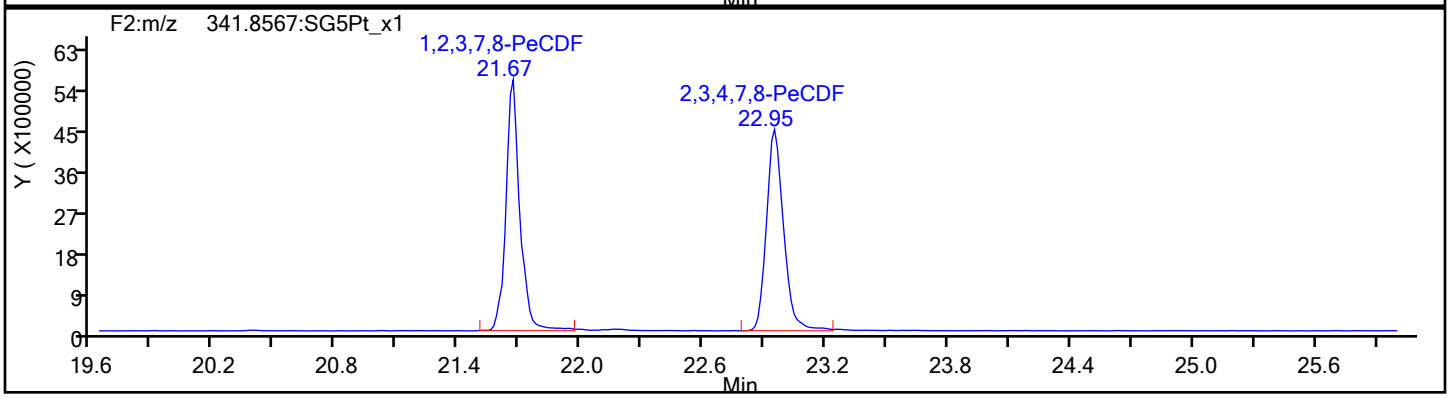

PeCDF Standards

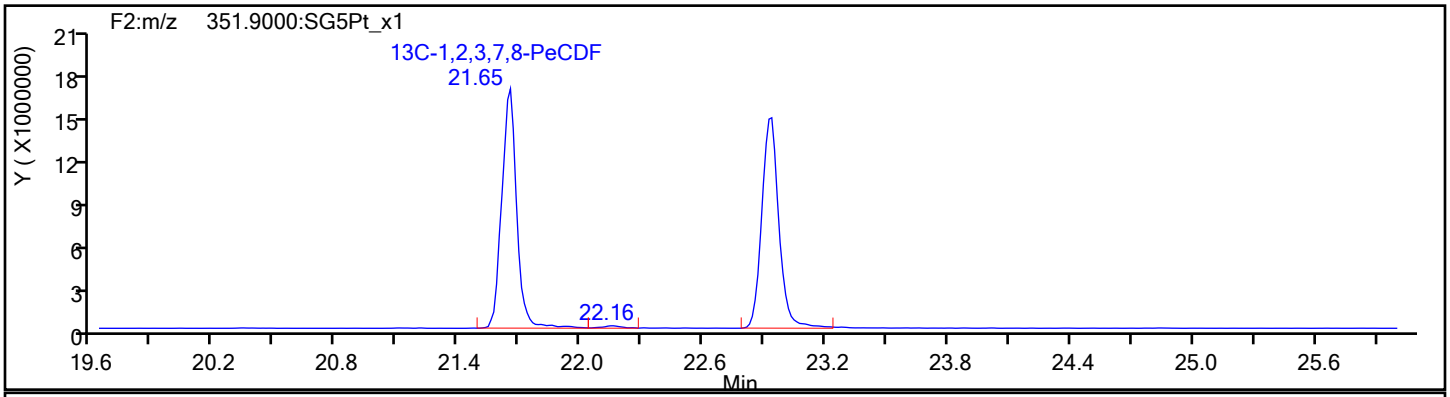

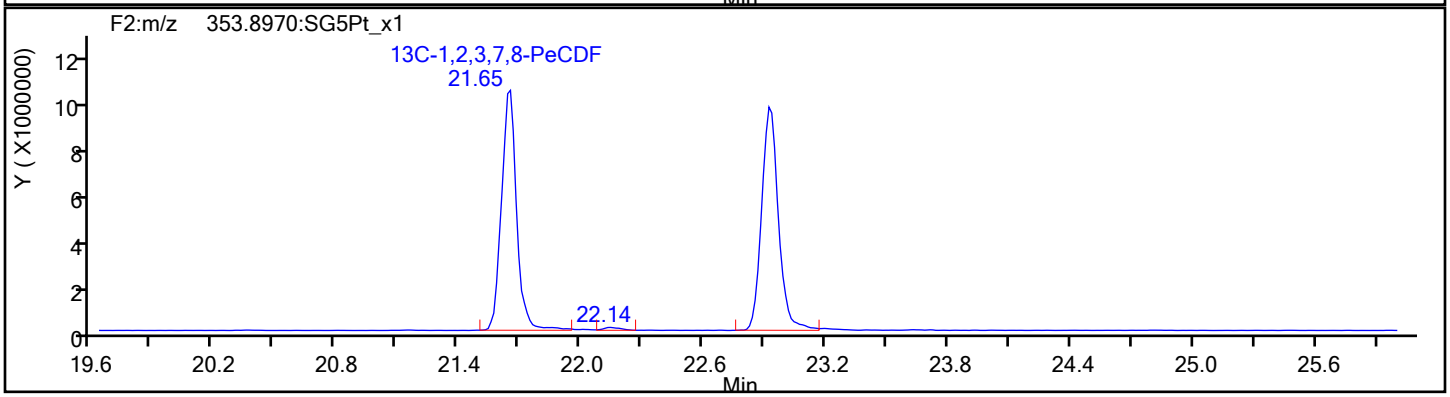

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Eurofins TestAmerica, Sacramento

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PeCDF

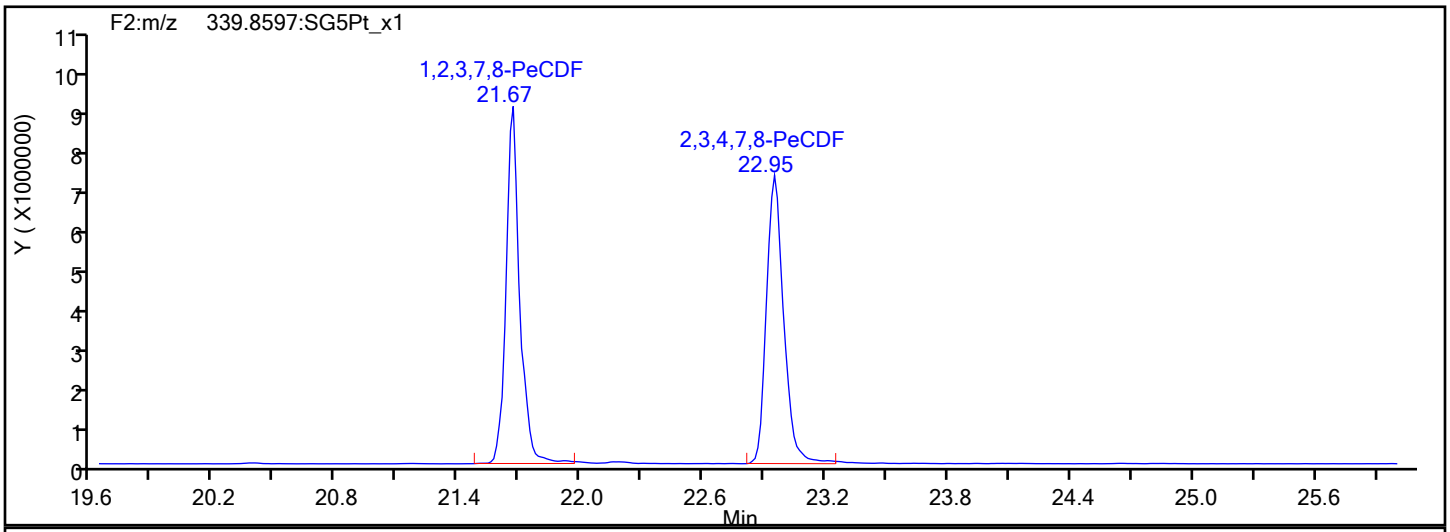

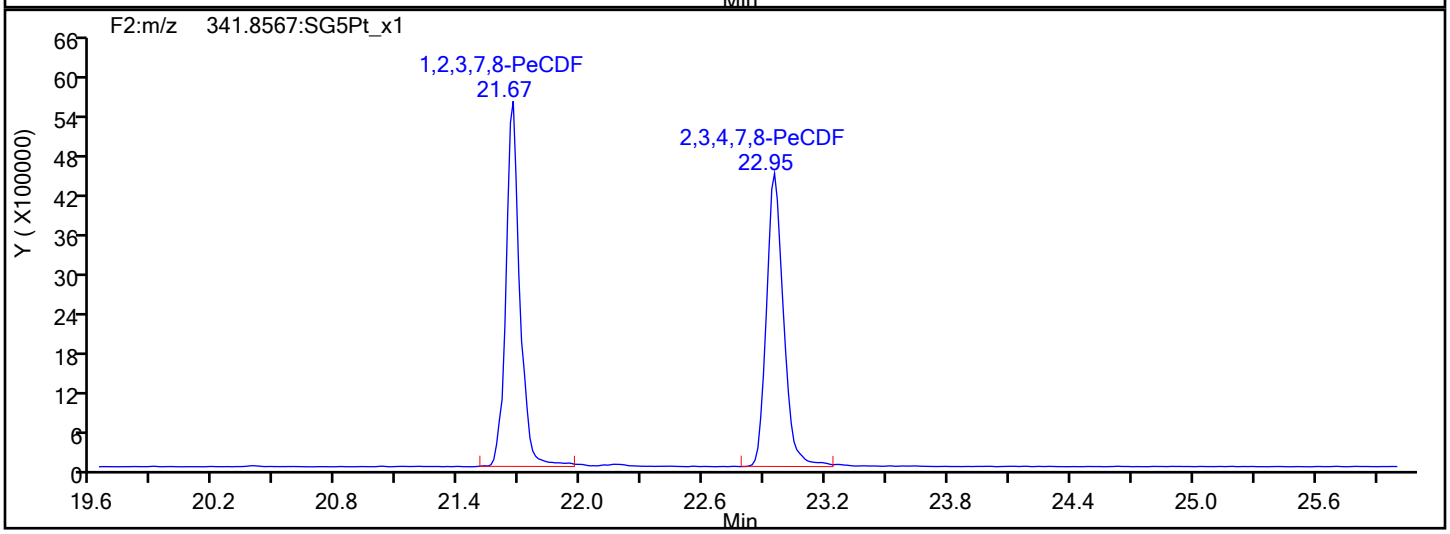

PeCDF Interference Mass

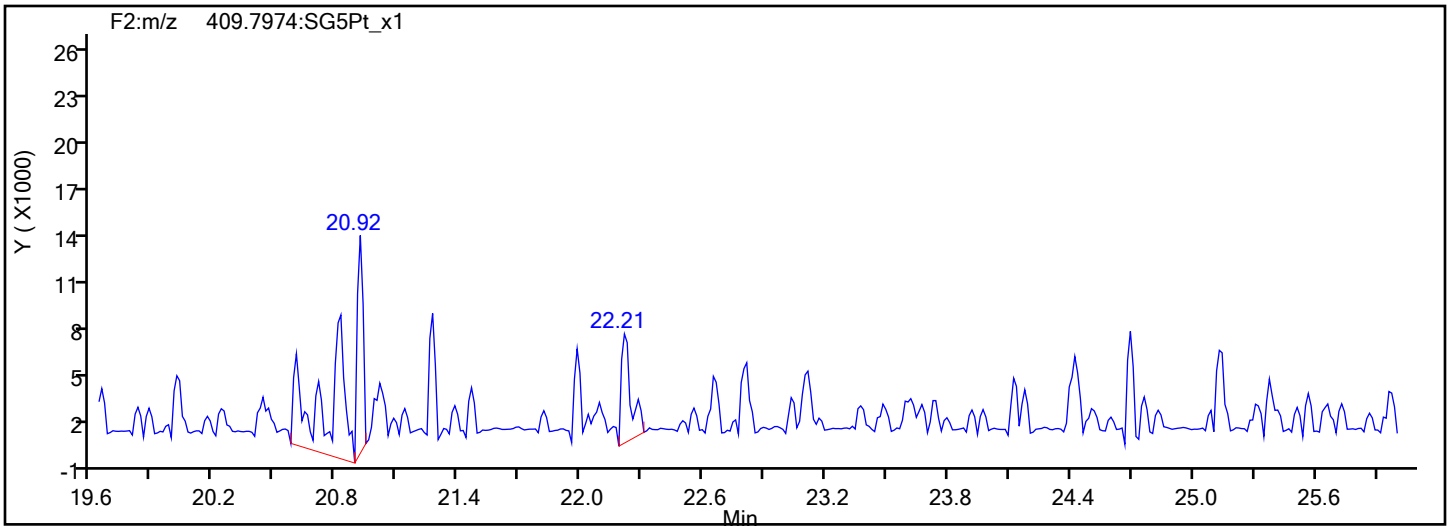

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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PeCDD

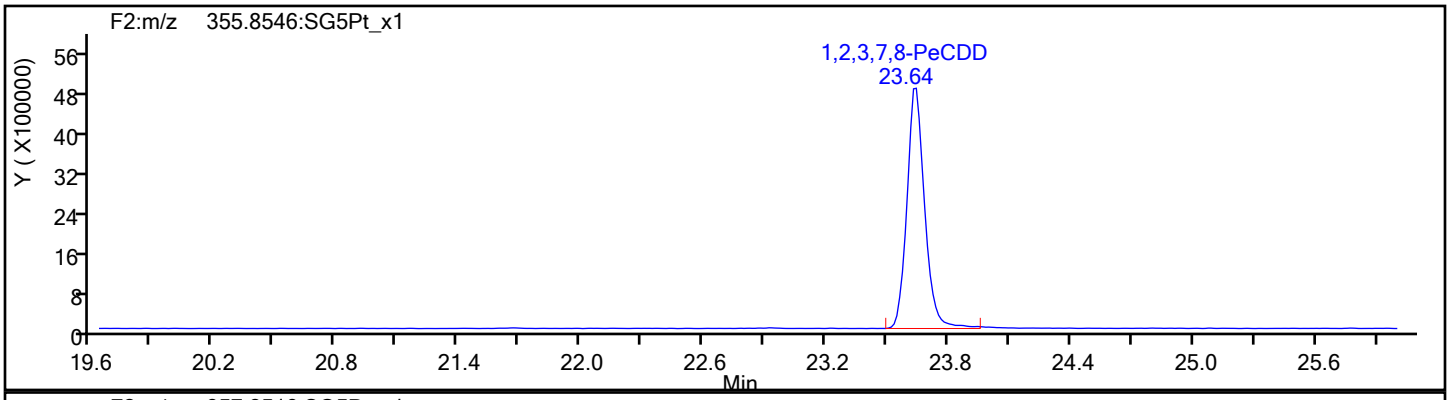

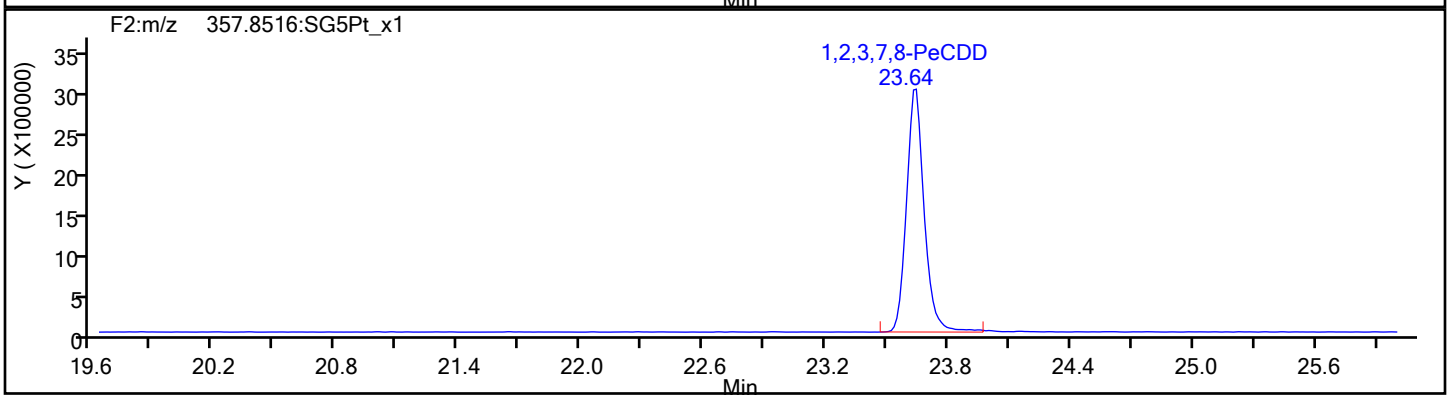

PeCDD Standards

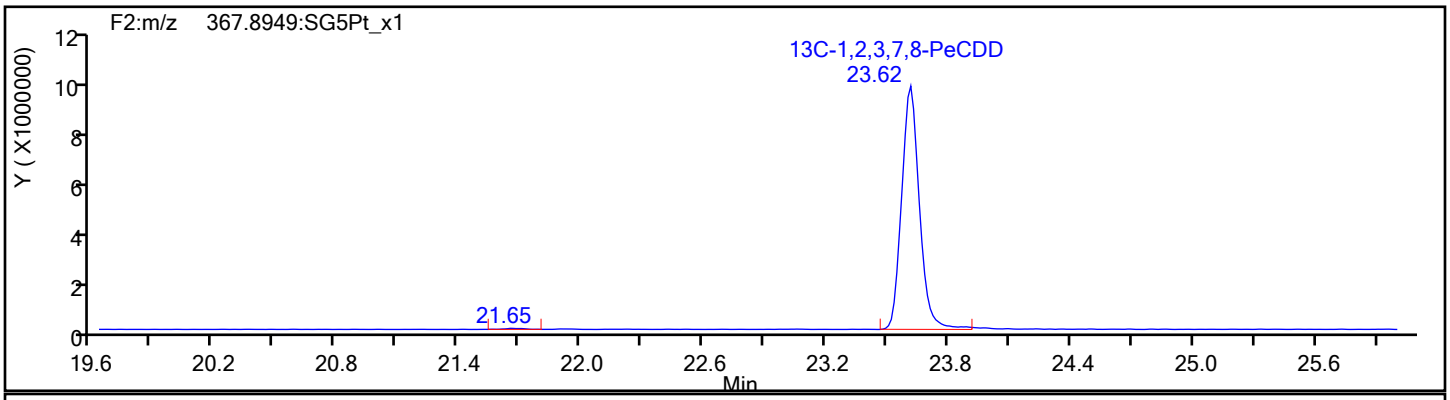

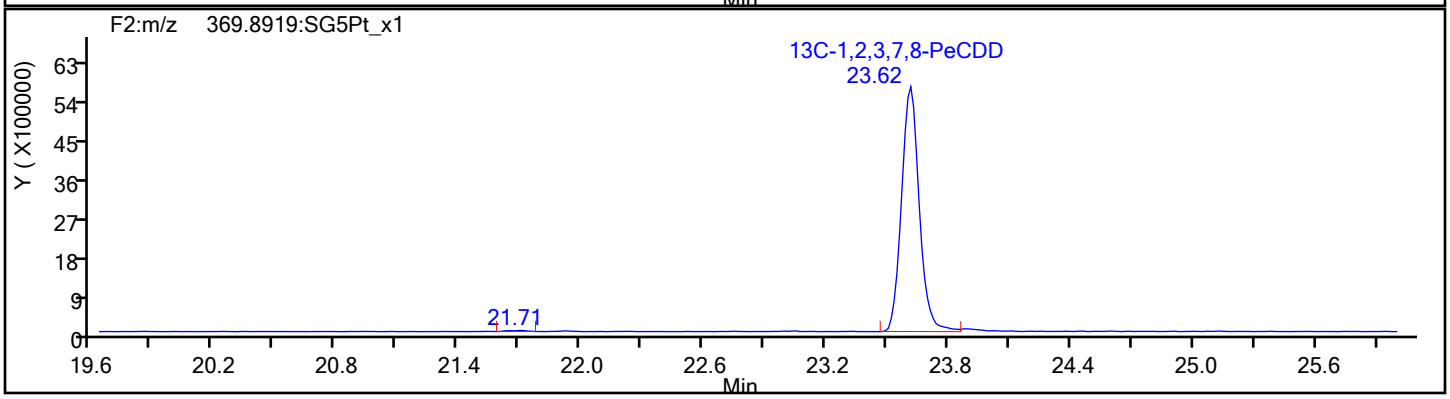

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Eurofins TestAmerica, Sacramento

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HxCDF

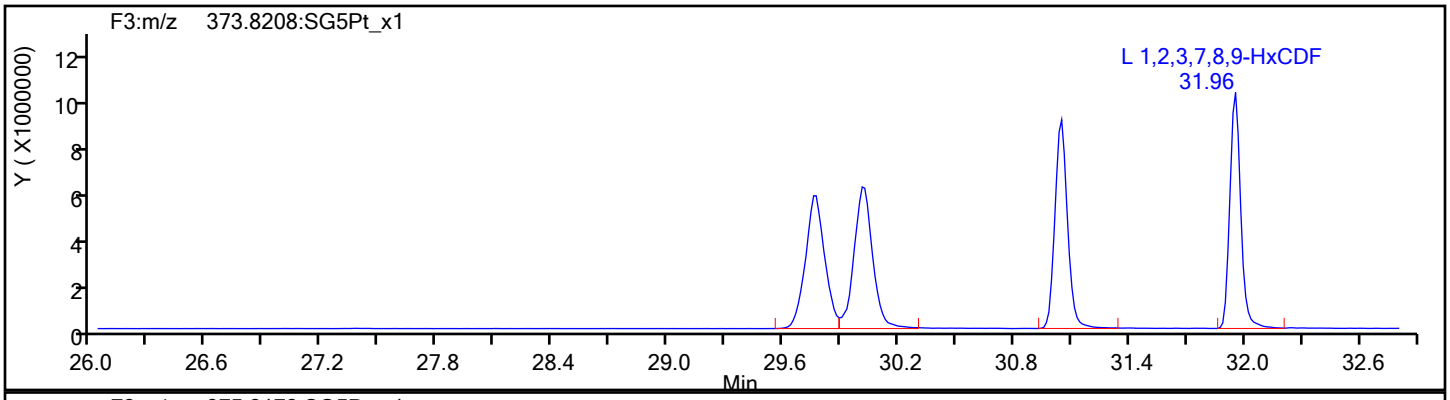

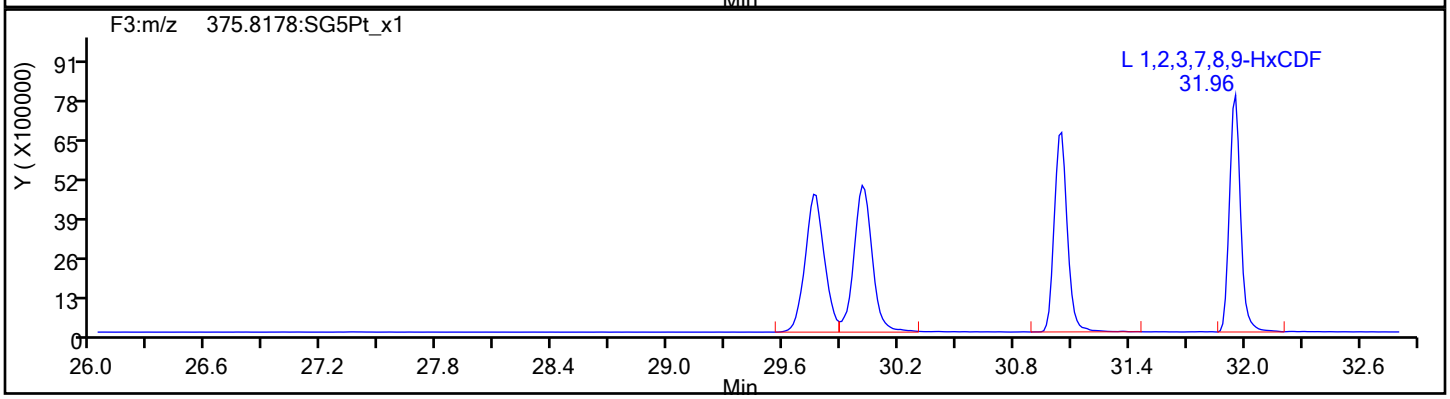

HxCDF Standards

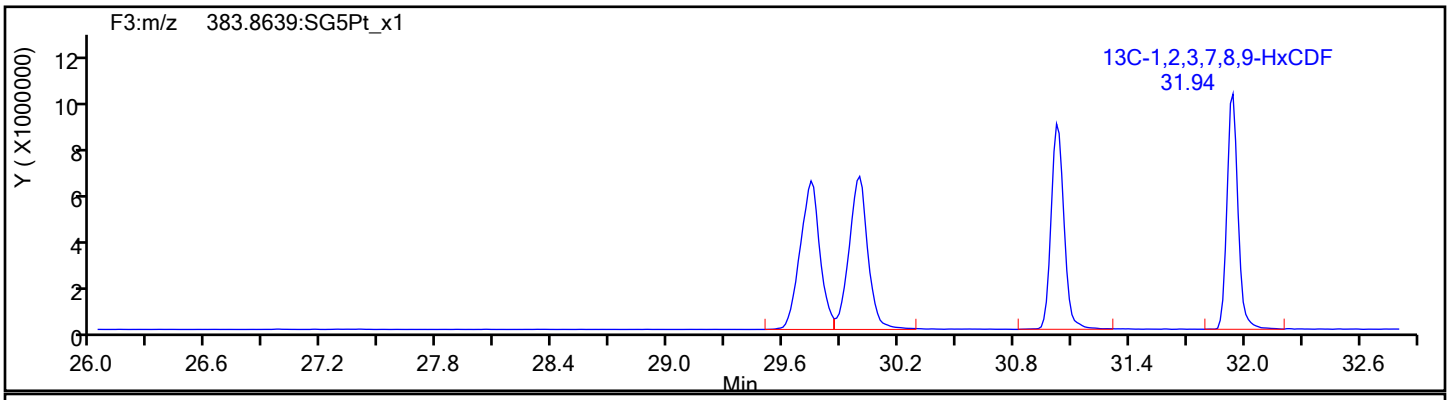

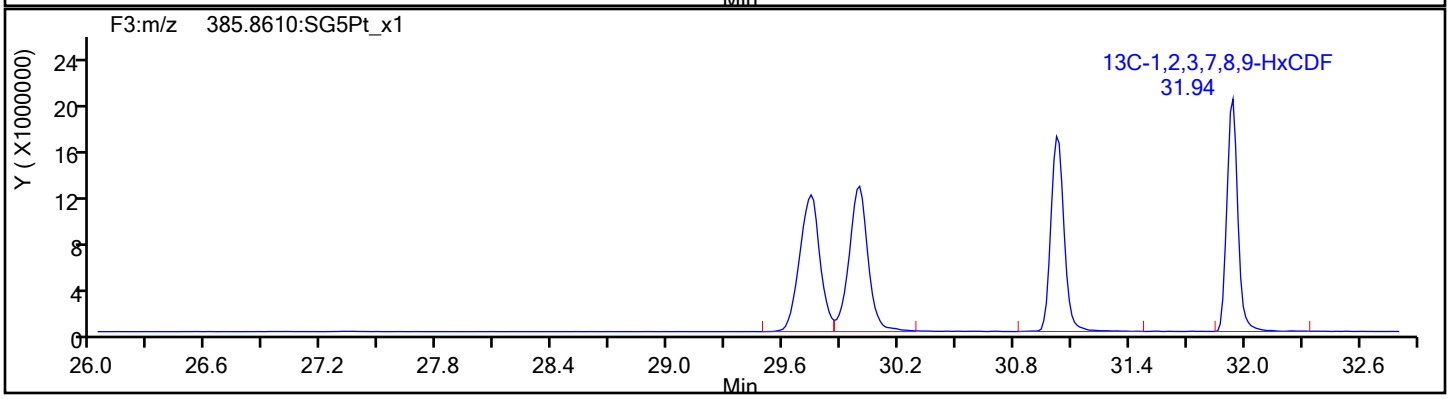

Report Date: 17-Jan-2020 08:32:31 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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HxCDF

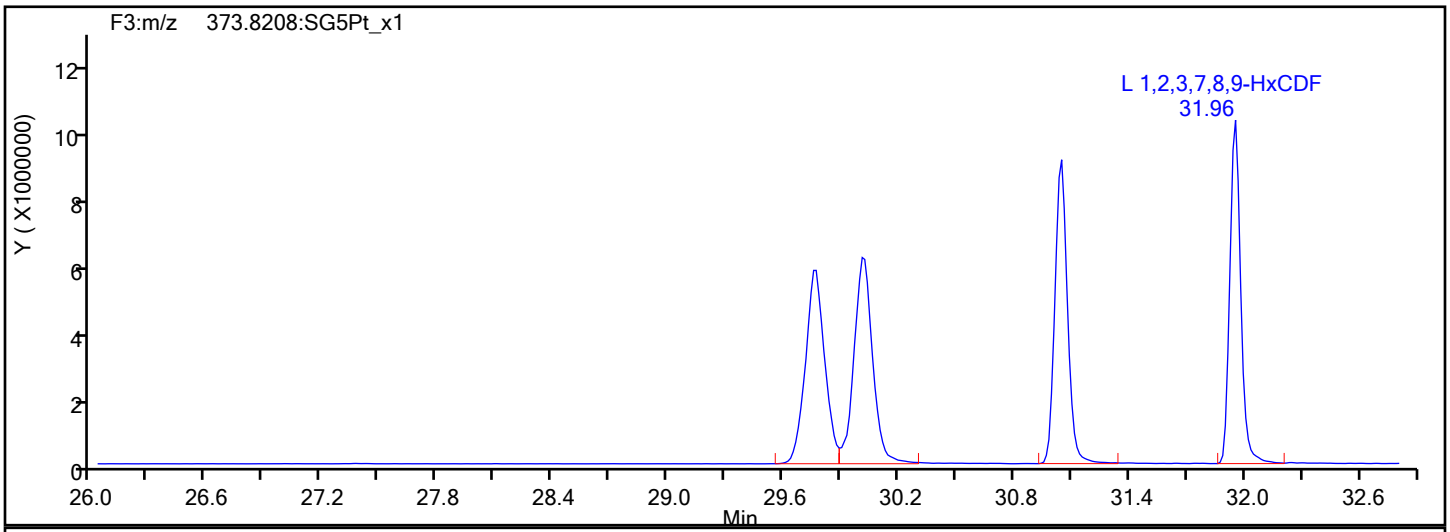

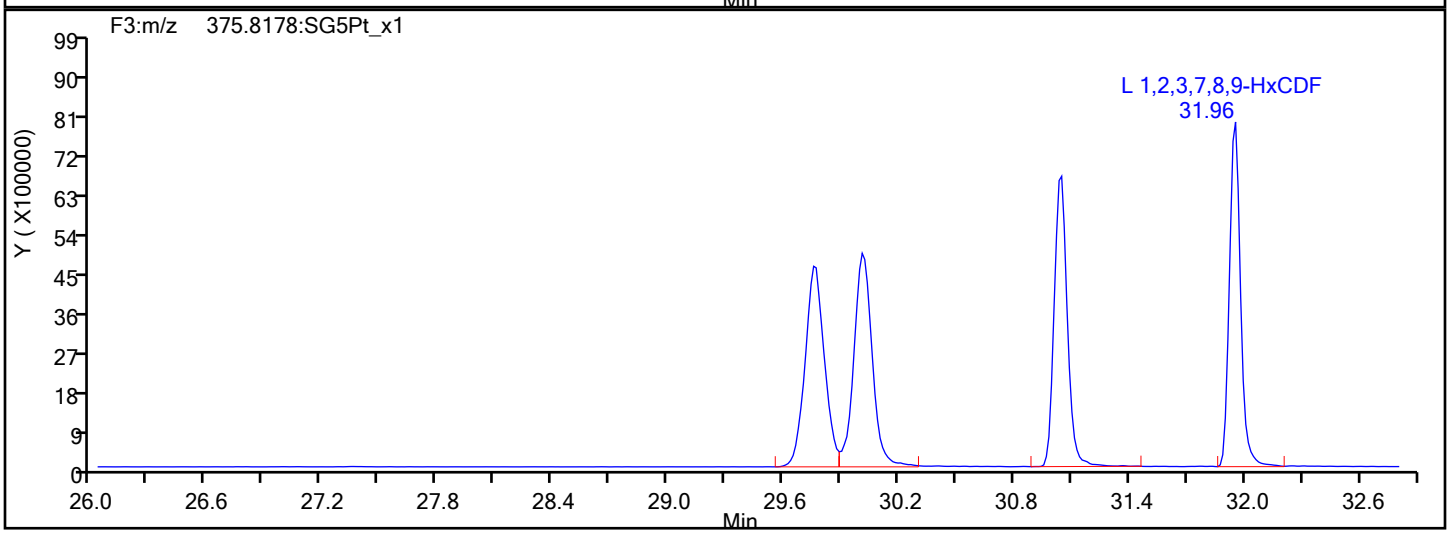

HxCDF Interference Mass

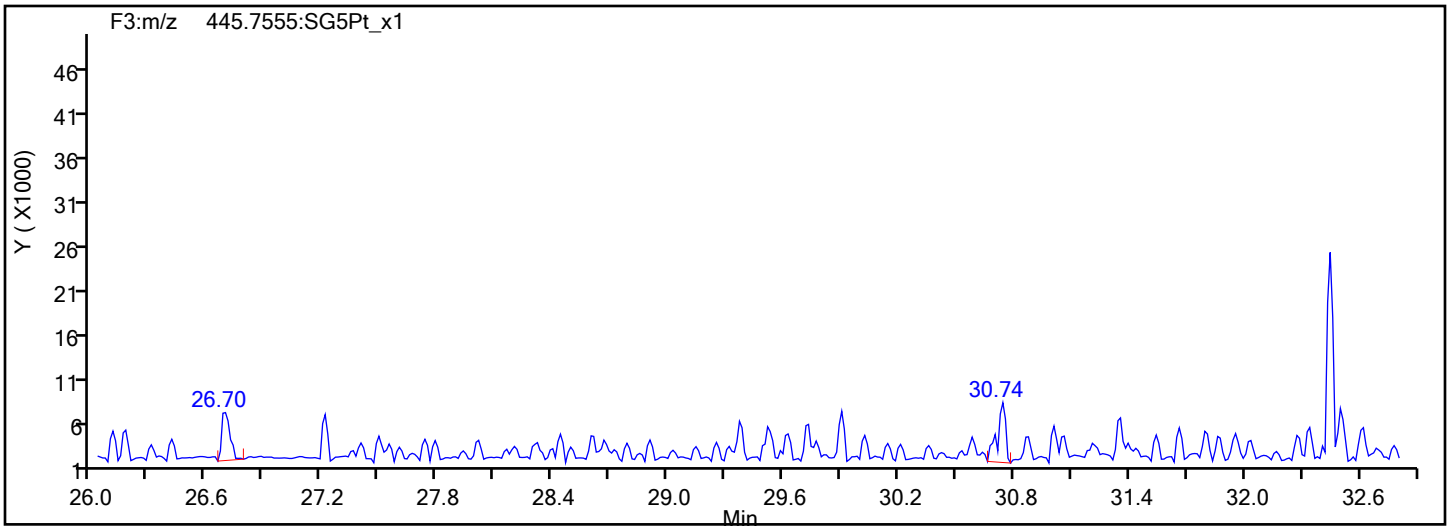

Report Date: 17-Jan-2020 08:32:31 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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HxCDD

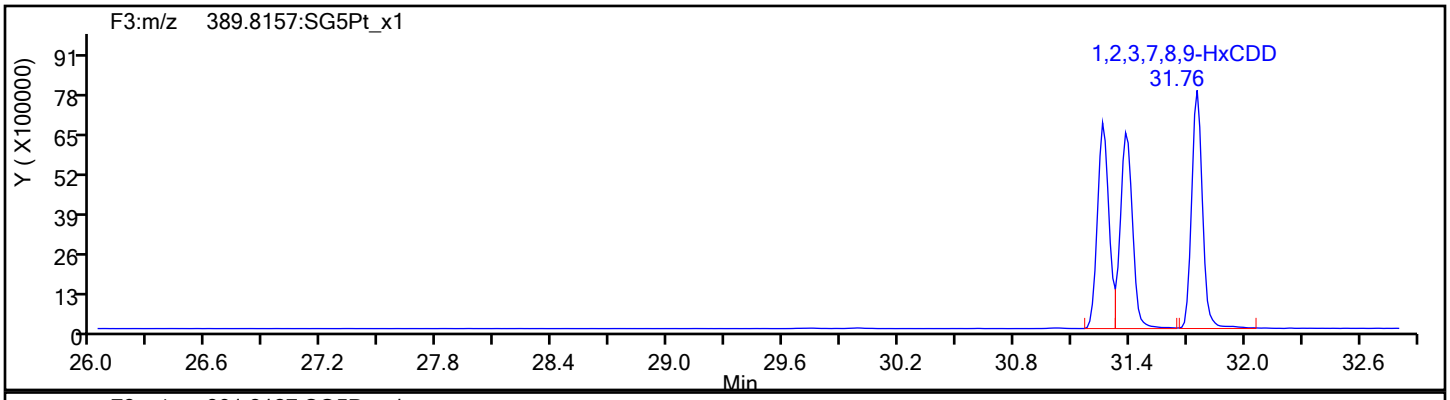

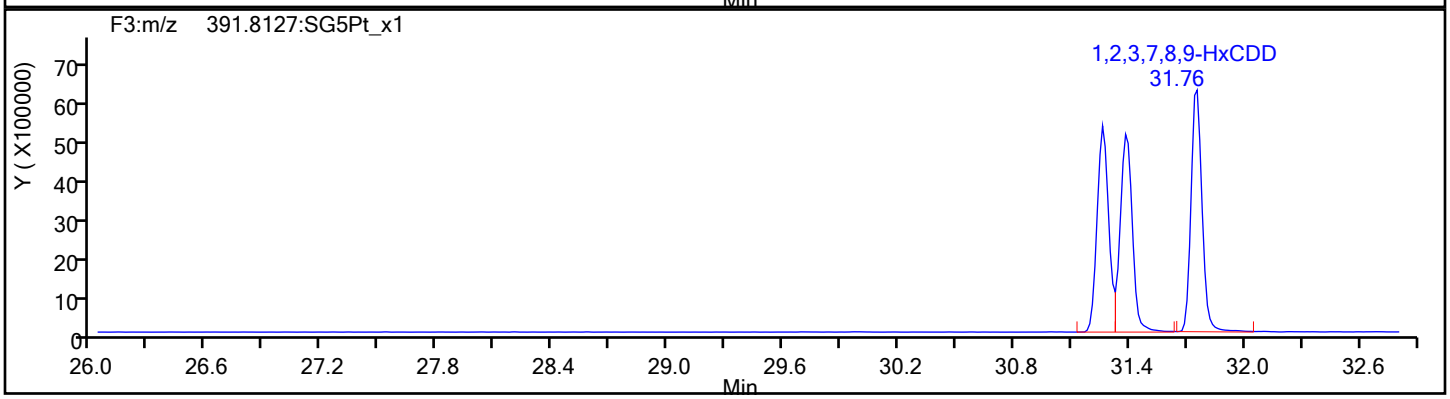

HxCDD Standards

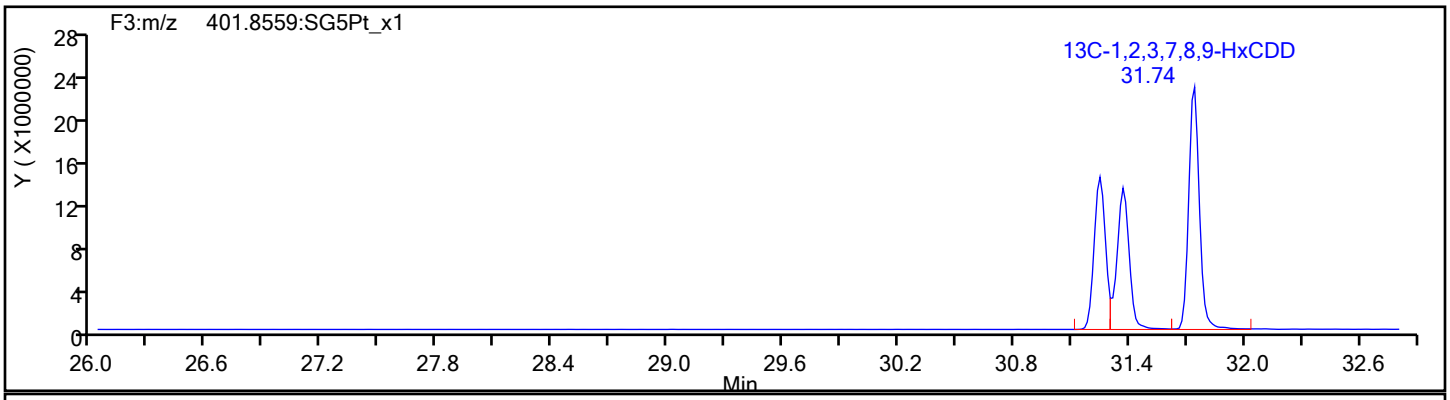

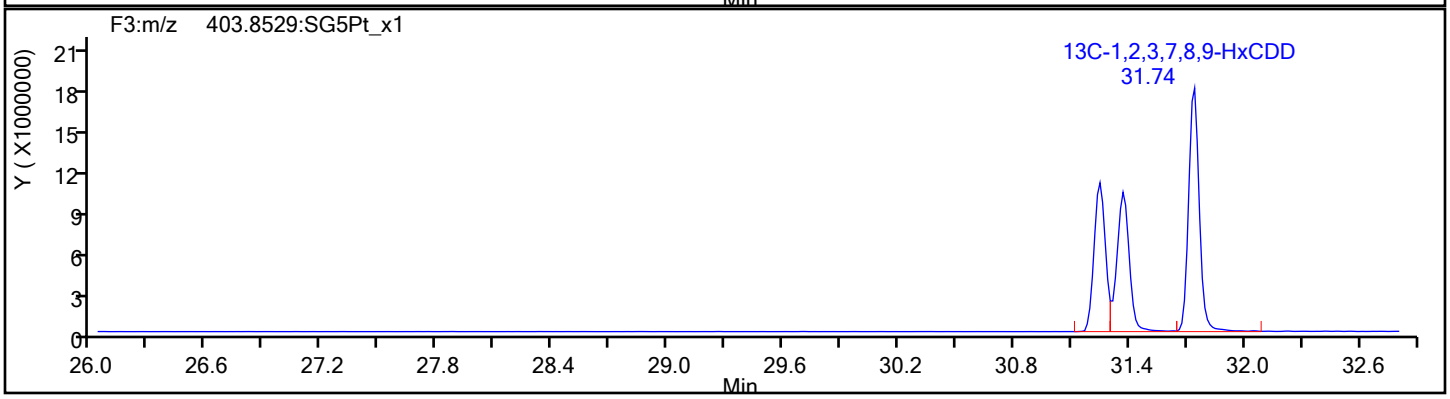

Report Date: 17-Jan-2020 08:32:31 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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HpCDF

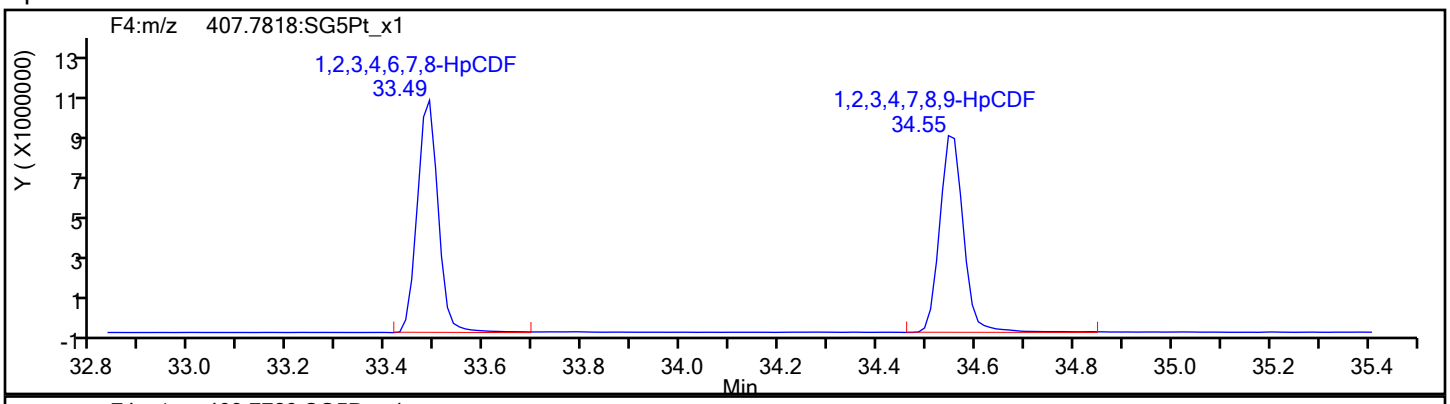

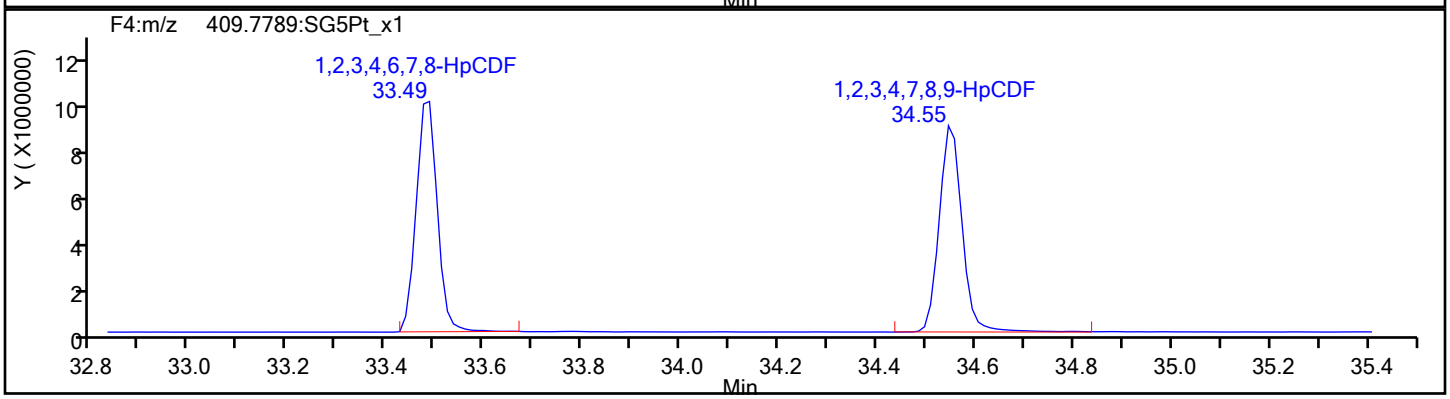

HpCDF Standards

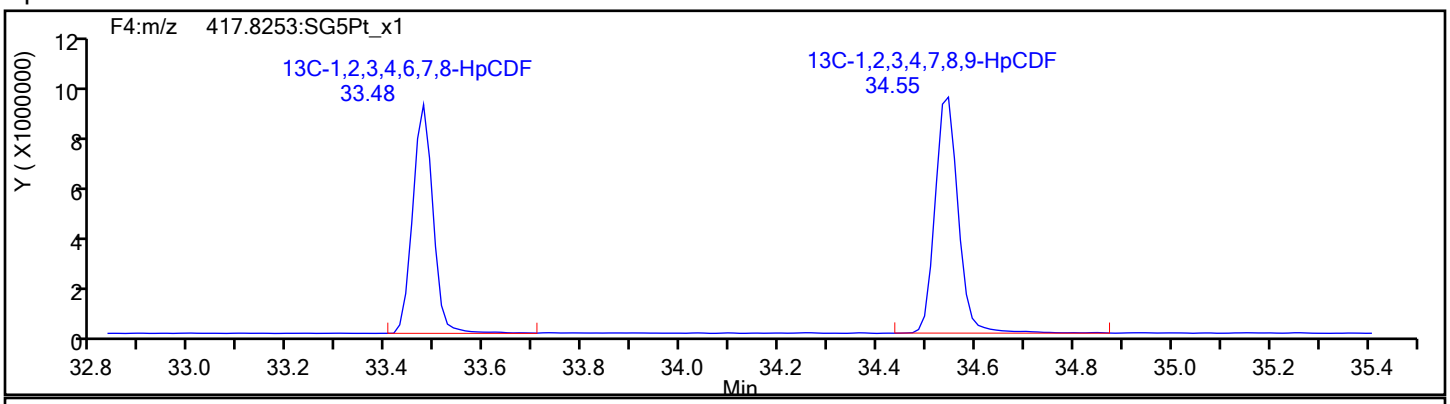

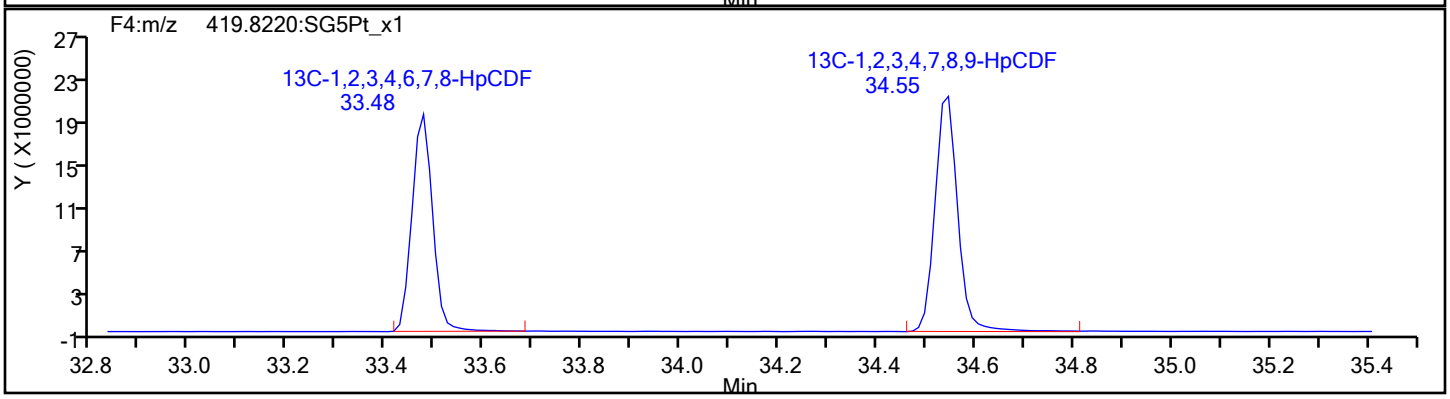

Report Date: 17-Jan-2020 08:32:31 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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HpCDF

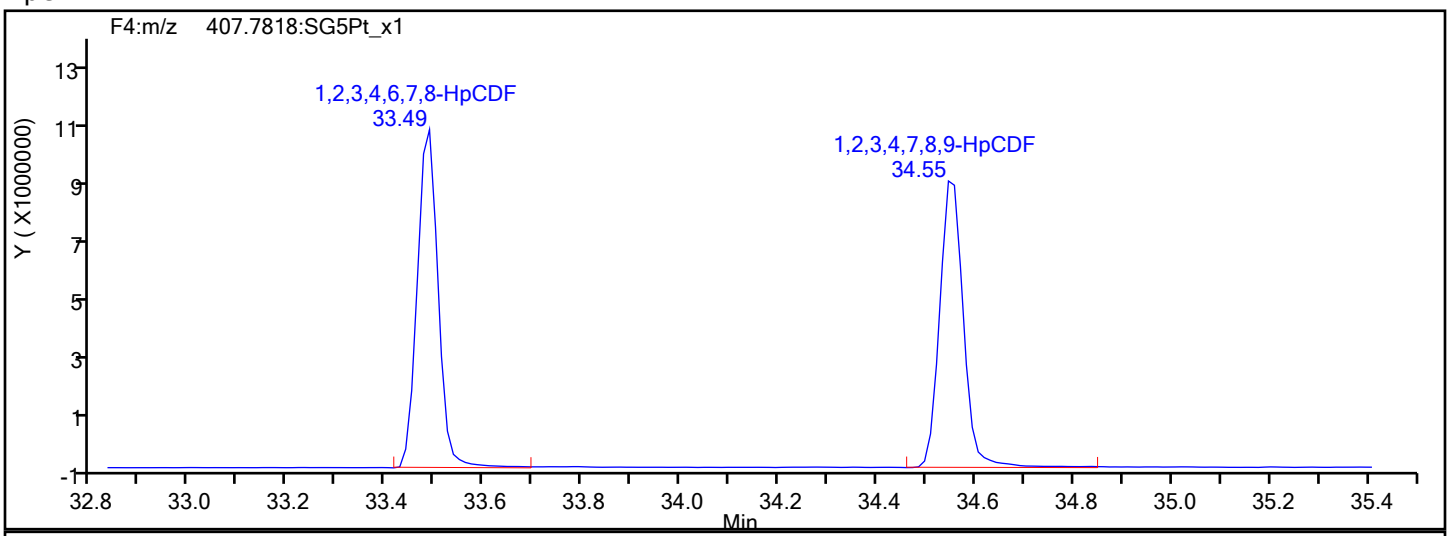

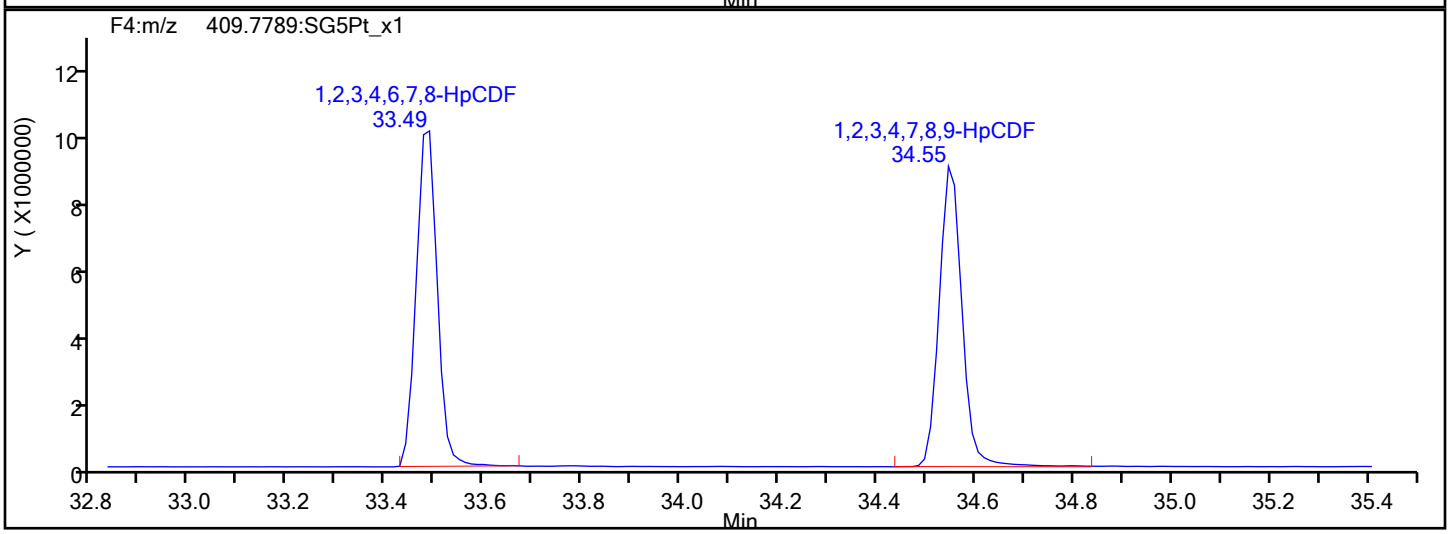

HpCDF Interference Mass

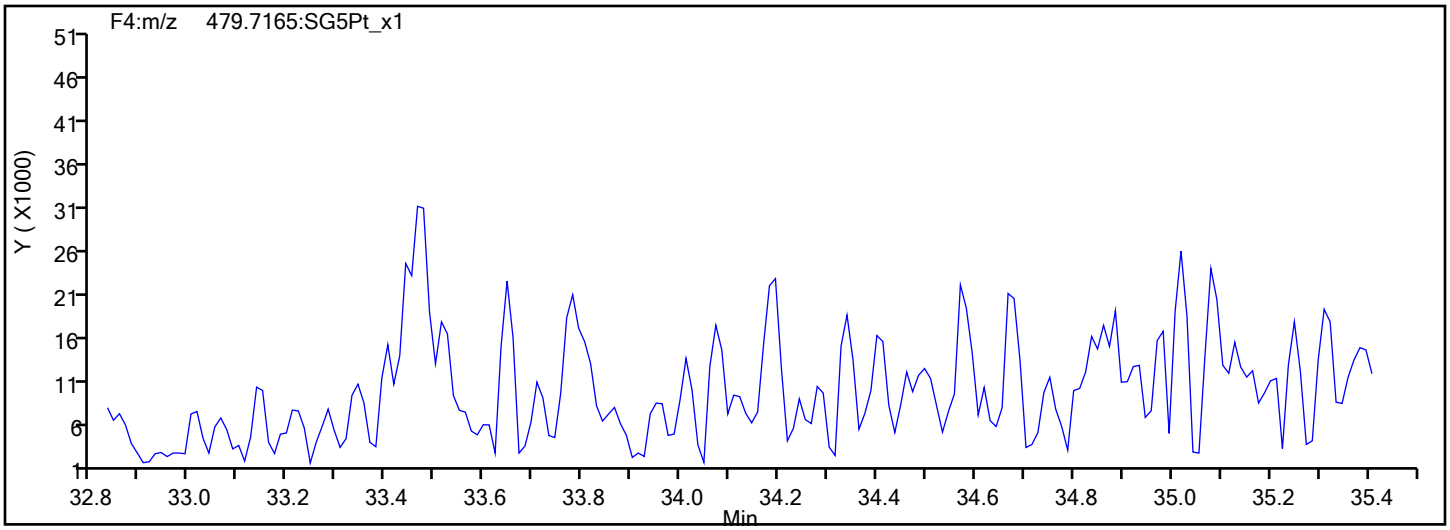

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Eurofins TestAmerica, Sacramento

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HpCDD

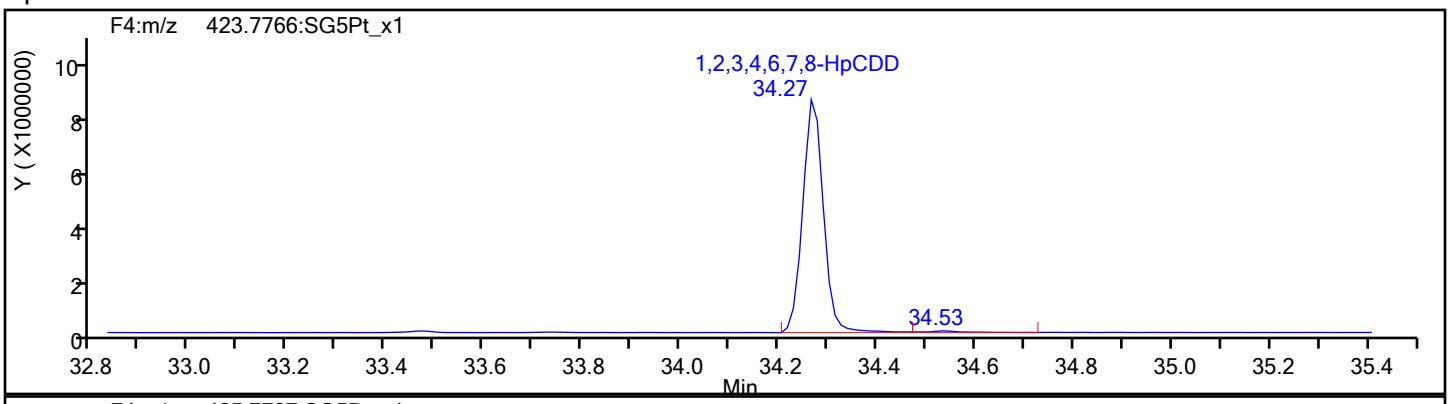

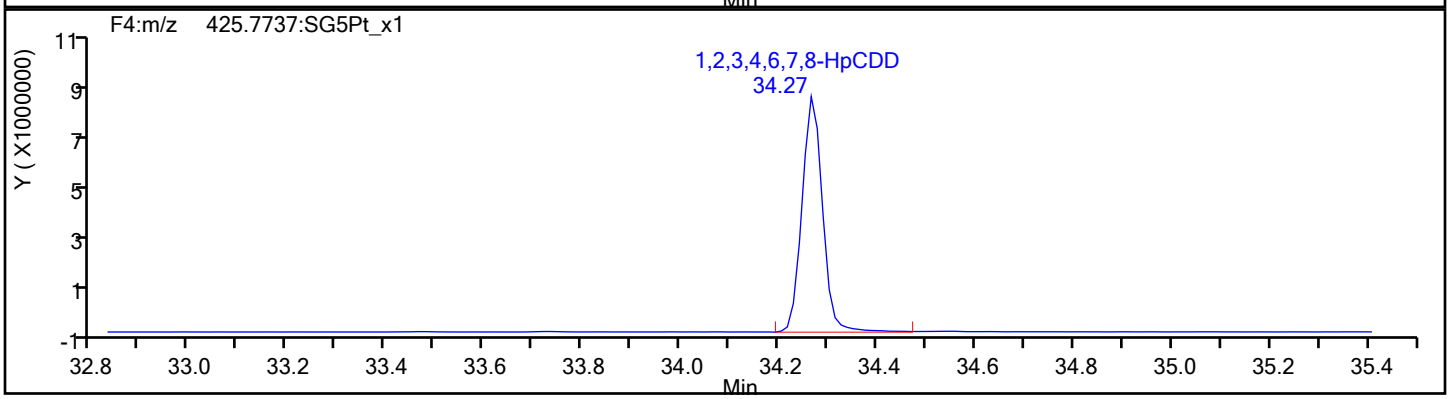

HpCDD Standards

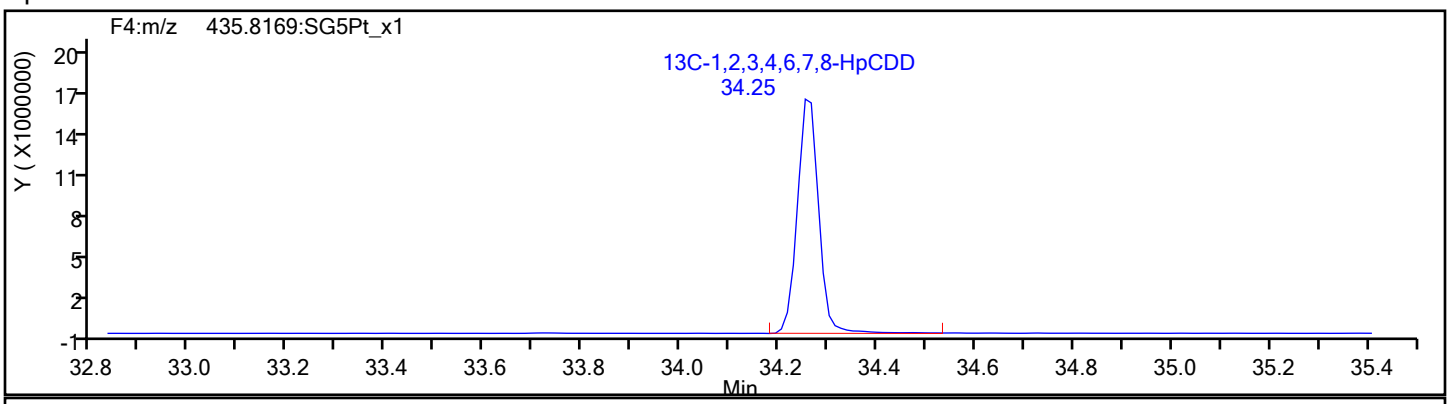

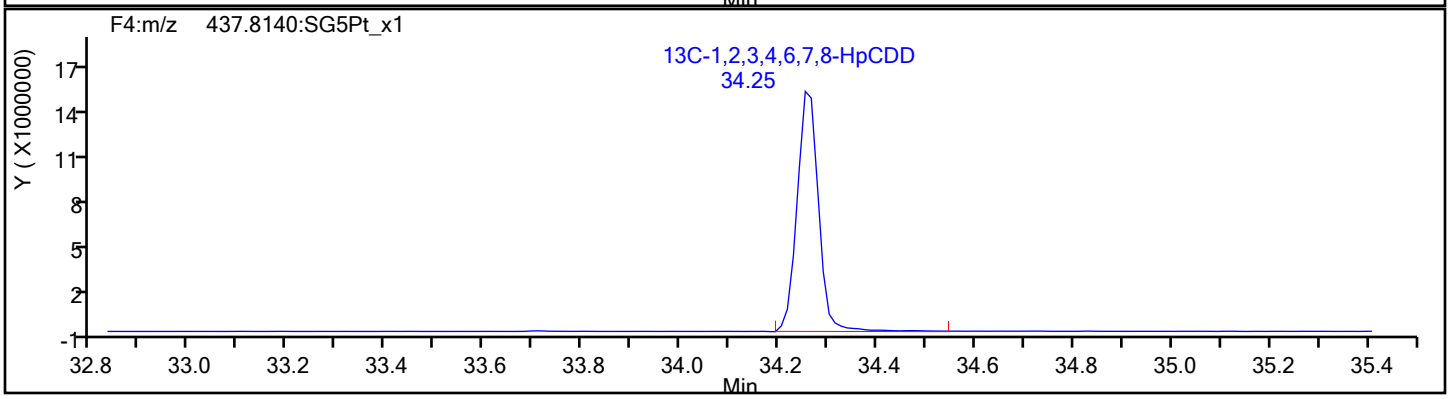

Report Date: 17-Jan-2020 08:32:31 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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OCDF

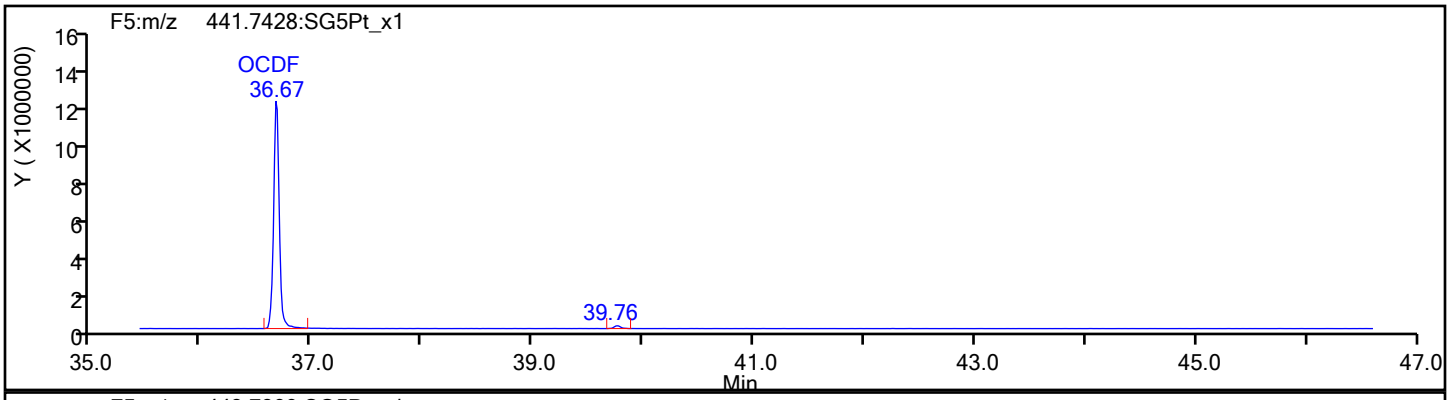

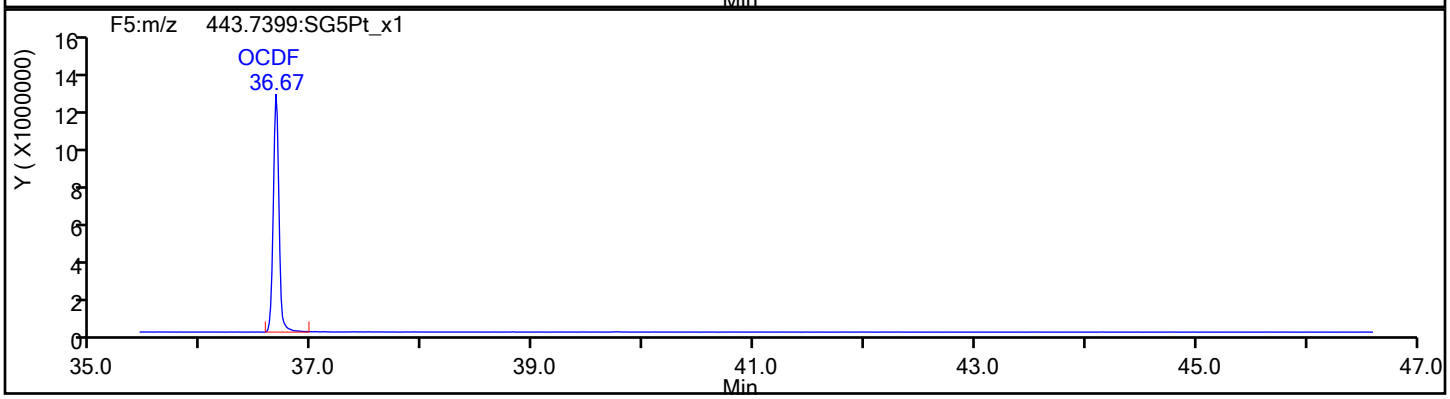

OCDF Standards

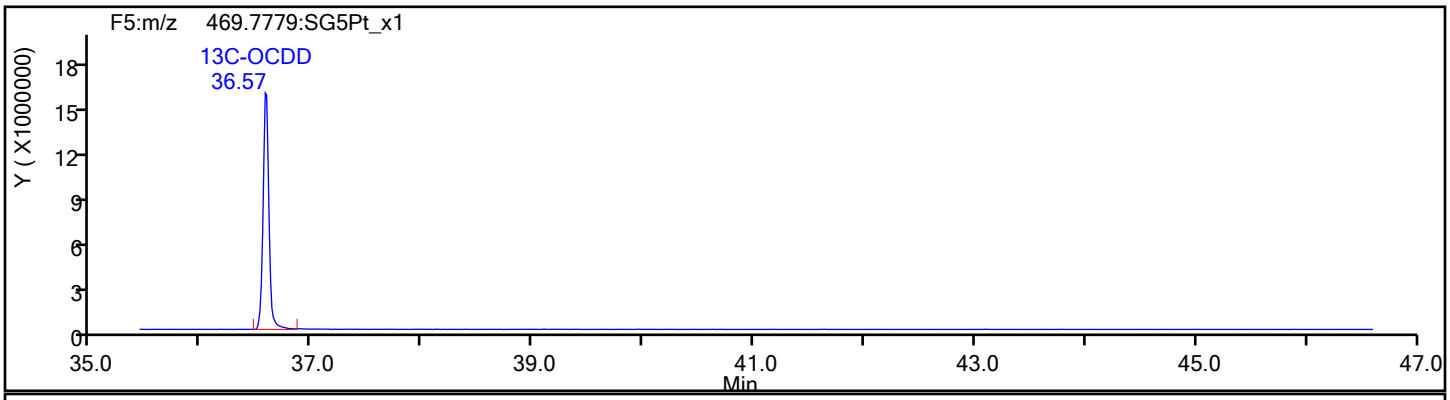

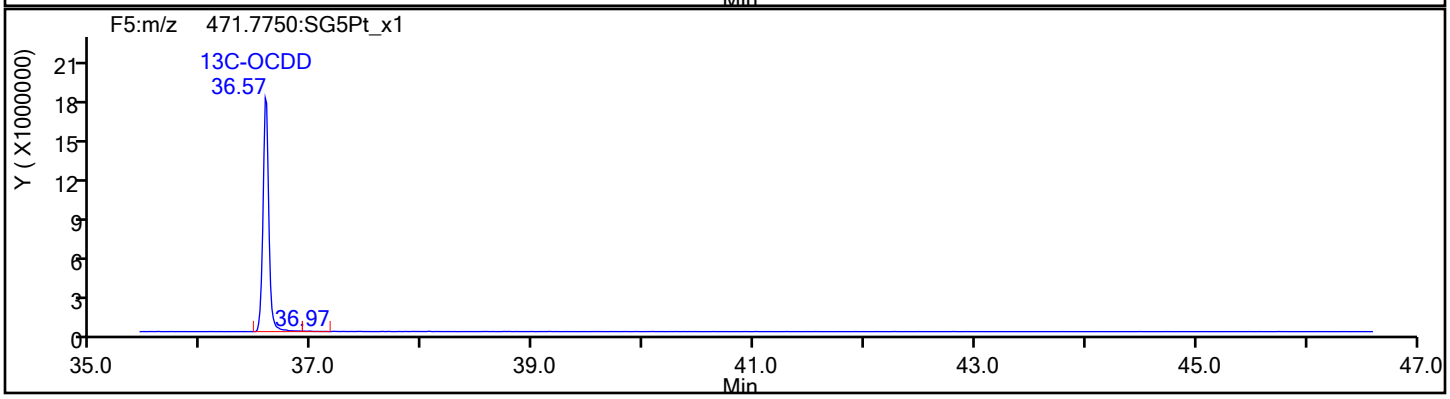

Report Date: 17-Jan-2020 08:32:31 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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OCDF

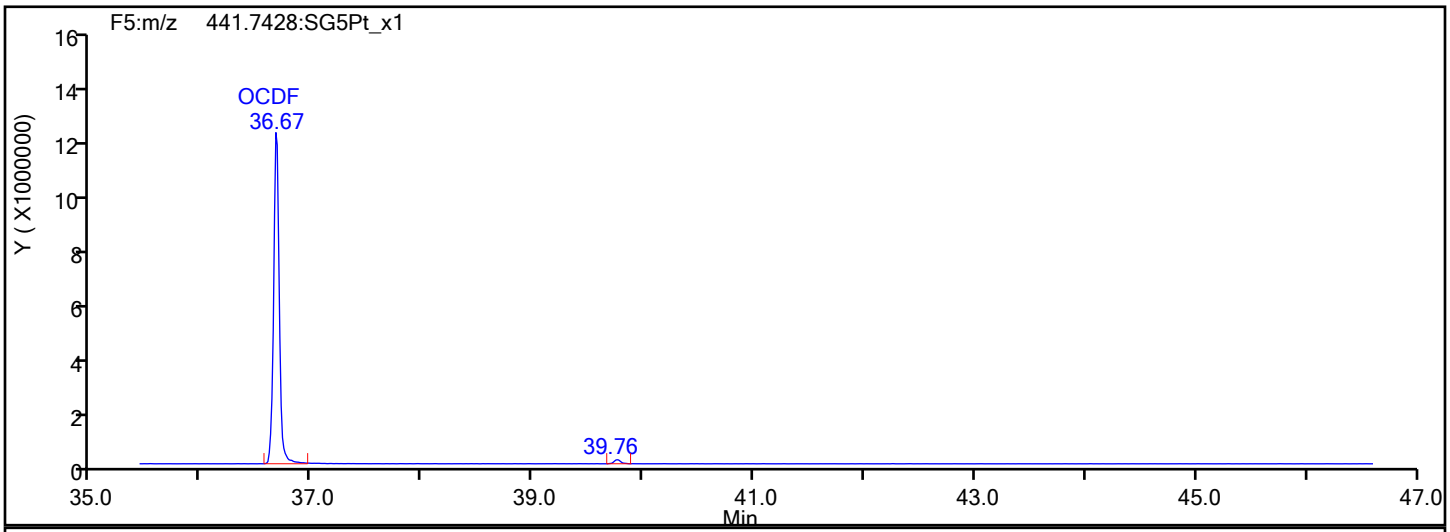

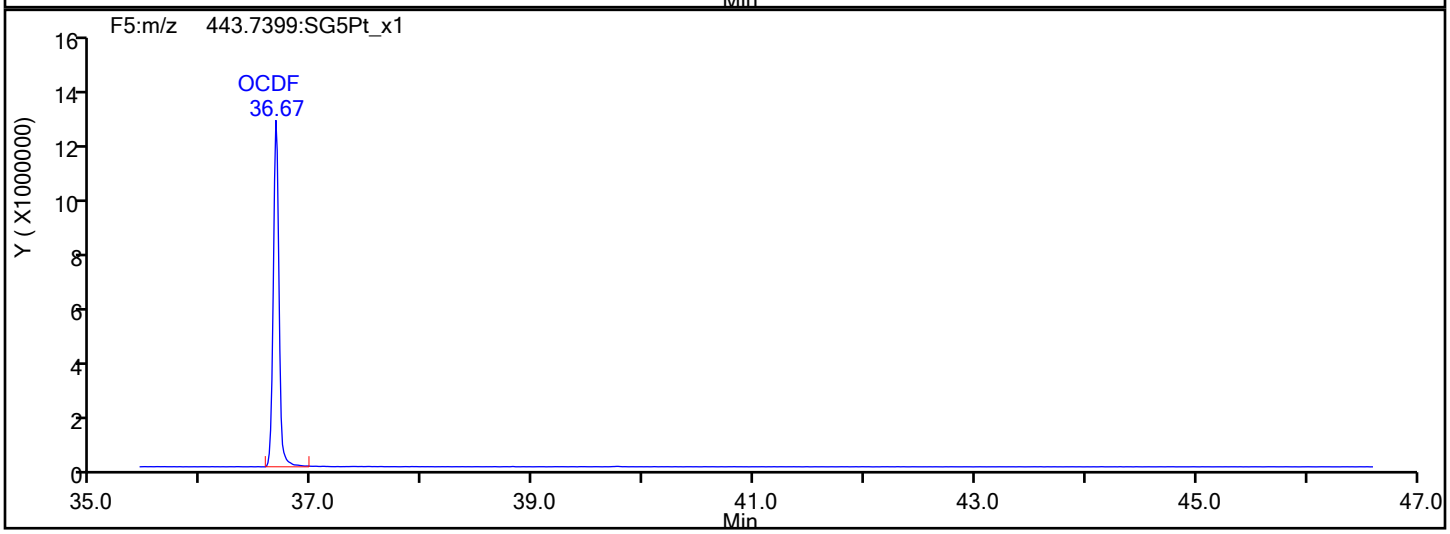

OCDF Interference Mass

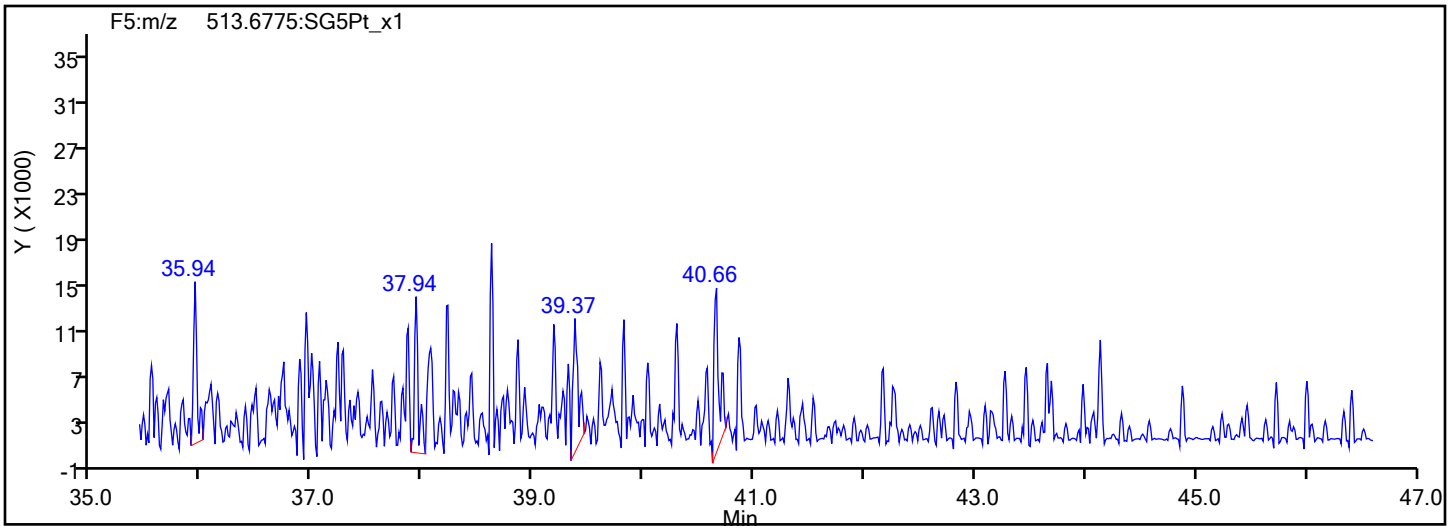

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Eurofins TestAmerica, Sacramento

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Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	351160	Sample Line#:	10
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OCDD

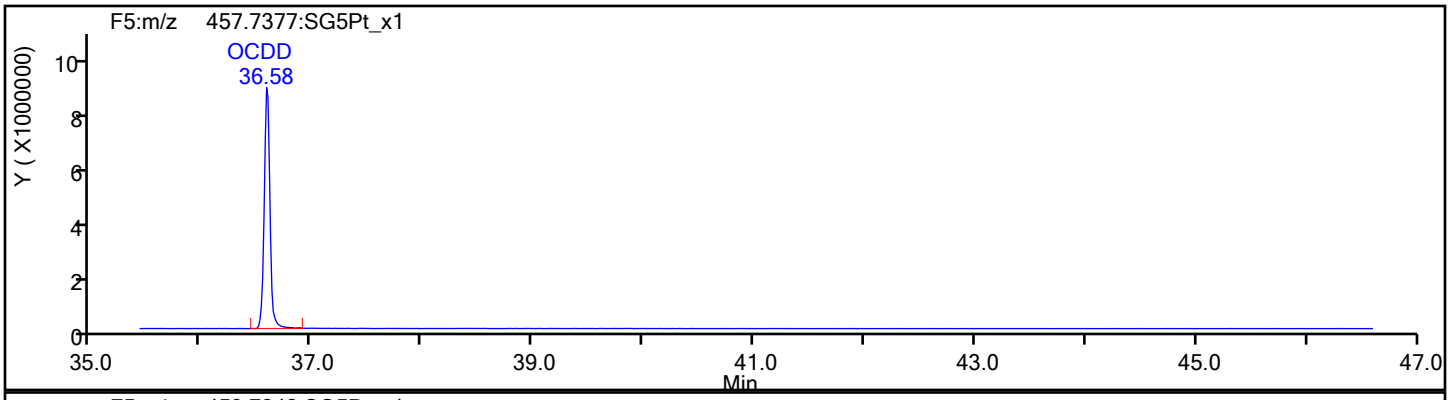

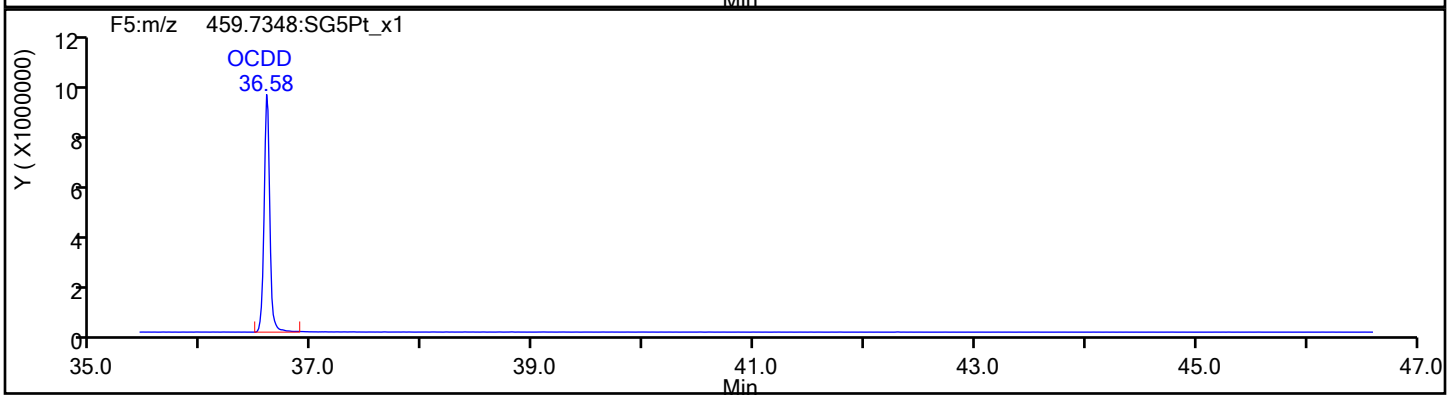

OCDD Standards

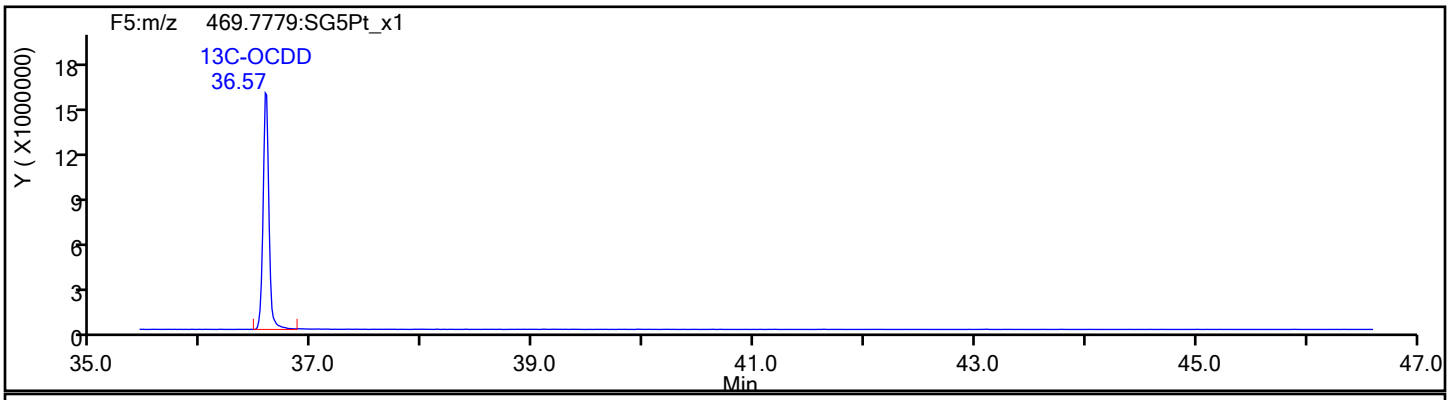

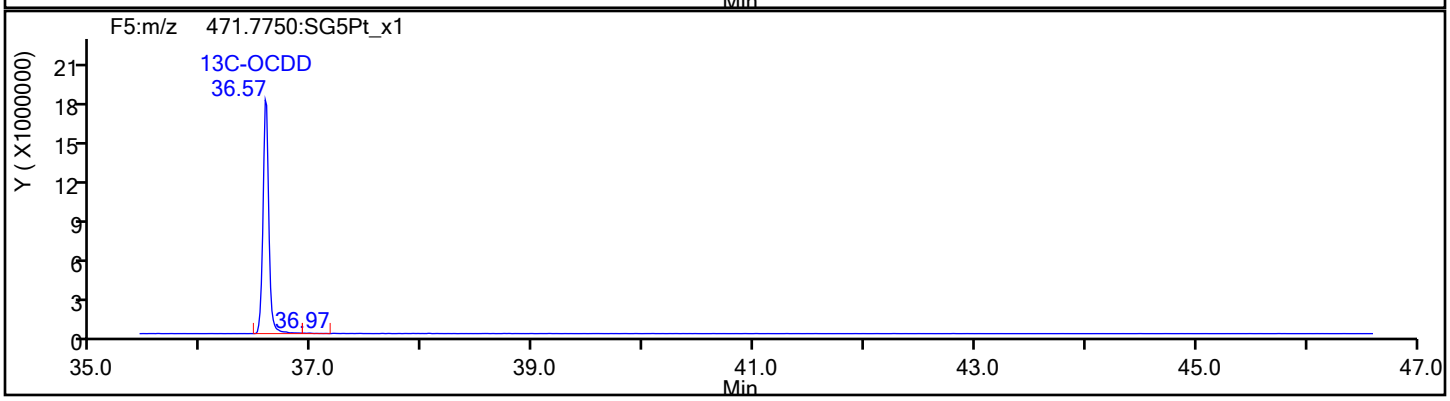

Report Date: 17-Jan-2020 08:32:31 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_10.d		
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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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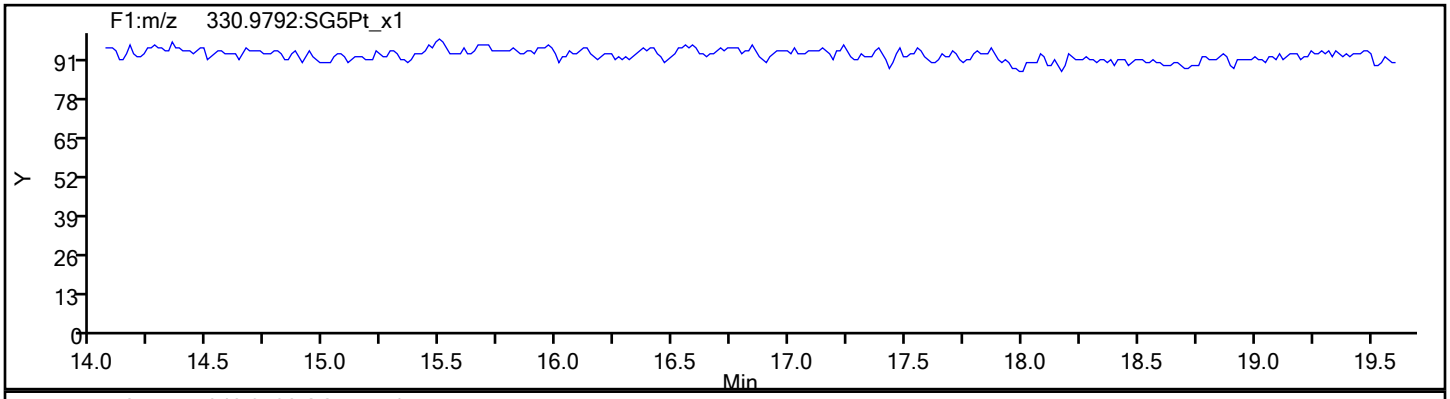

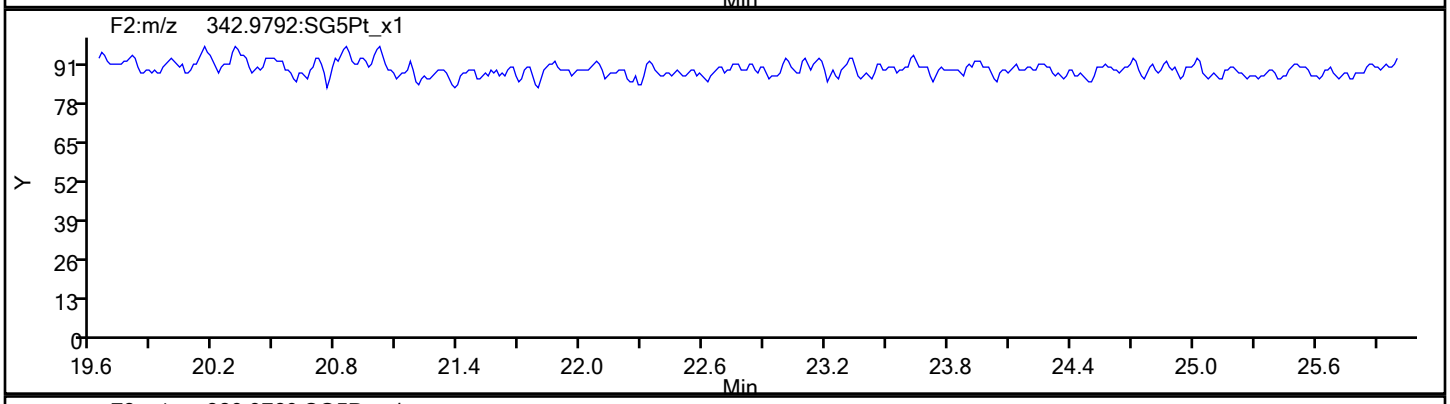

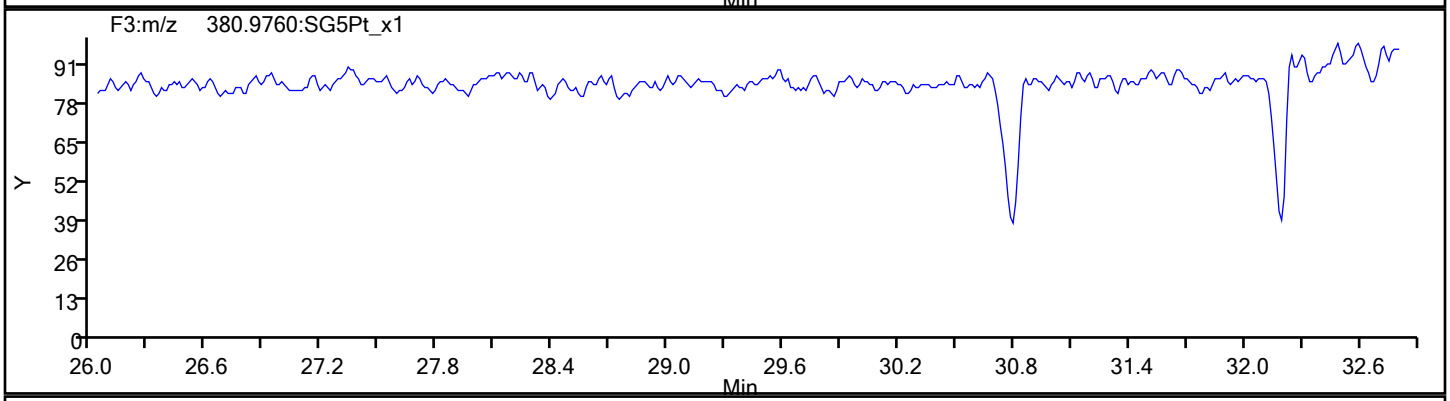

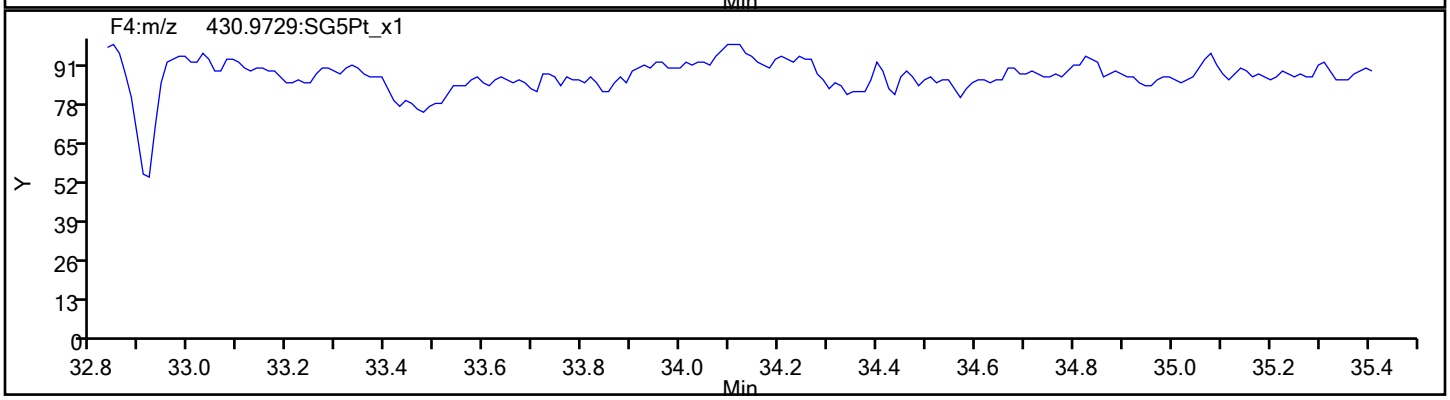

Report Date: 17-Jan-2020 08:32:31 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_10.d		
Injection Date:	16-Jan-2020 03:03:46	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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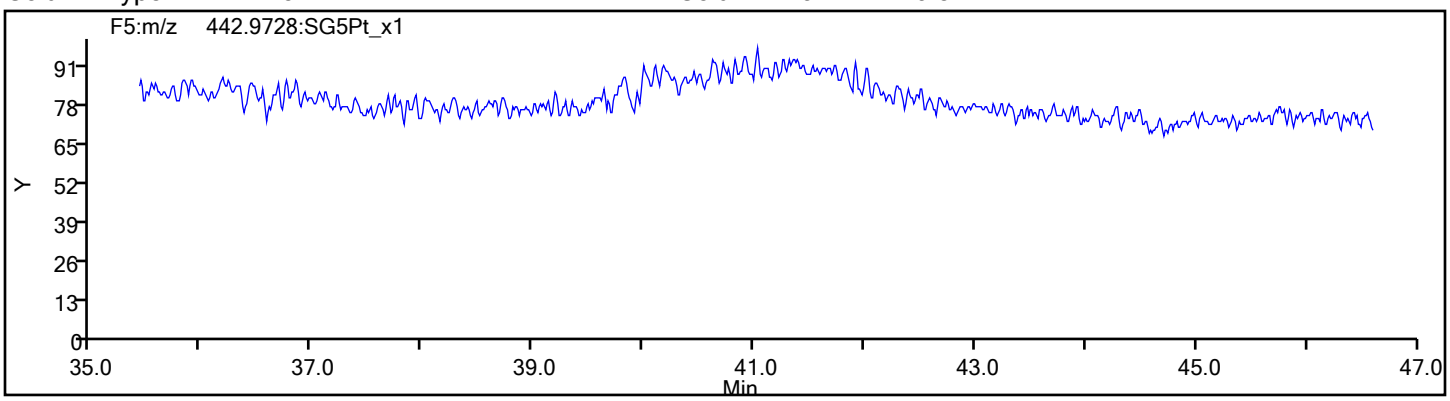

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 320-57717-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCSD 320-350857/3-A
Matrix: Water
Lab File ID: 15JA203D5_11.d
Analysis Method: 1613B
Date Collected:
Extract. Method: 1613B
Date Extracted: 01/15/2020 07:32
Sample wt/vol: 1000(mL)
Date Analyzed: 01/16/2020 03:51
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 351160
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	208		10	1.0
51207-31-9	2,3,7,8-TCDF	216		10	0.96
40321-76-4	1,2,3,7,8-PeCDD	997		50	2.1
57117-41-6	1,2,3,7,8-PeCDF	999		50	3.3
57117-31-4	2,3,4,7,8-PeCDF	937		50	3.5
39227-28-6	1,2,3,4,7,8-HxCDD	884		50	1.7
57653-85-7	1,2,3,6,7,8-HxCDD	987		50	2.0
19408-74-3	1,2,3,7,8,9-HxCDD	943		50	1.6
70648-26-9	1,2,3,4,7,8-HxCDF	968		50	4.2
57117-44-9	1,2,3,6,7,8-HxCDF	969		50	4.2
72918-21-9	1,2,3,7,8,9-HxCDF	1060		50	2.3
60851-34-5	2,3,4,6,7,8-HxCDF	1050		50	2.8
35822-46-9	1,2,3,4,6,7,8-HpCDD	1010		50	2.1
67562-39-4	1,2,3,4,6,7,8-HpCDF	991		50	4.5
55673-89-7	1,2,3,4,7,8,9-HpCDF	974		50	5.1
3268-87-9	OCDD	1880		100	1.3
39001-02-0	OCDF	1990		100	1.6
41903-57-5	Total TCDD	208		10	1.0
30402-14-3	Total TCDF	216		10	0.96
36088-22-9	Total PeCDD	997		50	2.1
30402-15-4	Total PeCDF	1940		50	3.4
34465-46-8	Total HxCDD	2810		50	1.8
55684-94-1	Total HxCDF	4040		50	3.4
37871-00-4	Total HpCDD	1010		50	2.1
38998-75-3	Total HpCDF	1970		50	4.8

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57717-1

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 320-350857/3-A

Matrix: Water Lab File ID: 15JA203D5_11.d

Analysis Method: 1613B Date Collected:

Extract. Method: 1613B Date Extracted: 01/15/2020 07:32

Sample wt/vol: 1000(mL) Date Analyzed: 01/16/2020 03:51

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 351160 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	88		20-175
89059-46-1	13C-2,3,7,8-TCDF	83		22-152
109719-79-1	13C-1,2,3,7,8-PeCDD	78		21-227
109719-77-9	13C-1,2,3,7,8-PeCDF	78		21-192
116843-02-8	13C-2,3,4,7,8-PeCDF	80		13-328
109719-80-4	13C-1,2,3,4,7,8-HxCDD	97		21-193
109719-81-5	13C-1,2,3,6,7,8-HxCDD	88		25-163
114423-98-2	13C-1,2,3,4,7,8-HxCDF	90		19-202
116843-03-9	13C-1,2,3,6,7,8-HxCDF	80		21-159
116843-04-0	13C-1,2,3,7,8,9-HxCDF	92		17-205
116843-05-1	13C-2,3,4,6,7,8-HxCDF	84		22-176
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	87		26-166
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	81		21-158
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	95		20-186
114423-97-1	13C-OCDD	96		13-199

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	105		31-191

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_11.d
Lims ID: LCSD 320-350857/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 16-Jan-2020 03:51:19 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 320-350857/3-A LCSD 320-350857/3-A
Misc. Info.: 15JA203D5
Operator ID: ALM Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20200116-89625.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 17-Jan-2020 08:33:24 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0324

First Level Reviewer: ruangyotsakuld Date: 17-Jan-2020 08:33:23

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.324	183566664	0.80	2.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.841	216457820	0.76	1.4157	83.3	83.3	0.2188	0.2188	83.29	
2,3,7,8-TCDF	16.856	22237177	0.75	0.9502	10.8	10.8	0.0479	0.0479	108	
A Non-2,3,7,8-sub-TCDF	16.531						0.0479	0.0479		
S Total TCDF					10.8	10.8	0.0479	0.0479		
D 13C-2,3,7,8-TCDD	17.521	157597072	0.82	0.9751	88.0	88.0	0.1413	0.1413	88.05	
2,3,7,8-TCDD	17.536	17209662	0.77	1.0477	10.4	10.4	0.0500	0.0500	104	
$ 37Cl4-2,3,7,8-TCDD	17.536	104207787		1.3480	42.1	42.1	0.0799	0.0799	105	
A Non-2,3,7,8-sub-TCDD	16.969						0.0500	0.0500		
S Total TCDD					10.4	10.4	0.0500	0.0500		
D 13C-1,2,3,7,8-PeCDF	21.640	169232680	1.58	1.1786	78.2	78.2	0.1821	0.1821	78.22	
1,2,3,7,8-PeCDF	21.667	87122971	1.55	1.0302	50.0	50.0	0.1667	0.1667	99.94	
D 13C-2,3,4,7,8-PeCDF	22.921	165870396	1.60	1.1308	79.9	79.9	0.1898	0.1898	79.91	
2,3,4,7,8-PeCDF	22.949	80924276	1.55	1.0410	46.9	46.9	0.1774	0.1774	93.74	
A F1 PeCDFs	19.207						0.0346	0.0346		
A Non-2,3,7,8-sub-PeCDF	22.200						0.1719	0.4678		U
S Total PeCDF					96.8	96.8	0.1721	0.1721		
D 13C-1,2,3,7,8-PeCDD	23.603	108691201	1.63	0.7572	78.2	78.2	0.1111	0.1111	78.20	
1,2,3,7,8-PeCDD	23.644	58841893	1.60	1.0855	49.9	49.9	0.1070	0.1070	99.74	
A Non-2,3,7,8-sub-PeCDD	22.533						0.1070	0.1070		
S Total PeCDD					49.9	49.9	0.1070	0.1070		
D 13C-1,2,3,4,7,8-HxCDF	29.745	157971669	0.53	1.1043	90.0	90.0	0.1931	0.1931	89.96	
1,2,3,4,7,8-HxCDF	29.771	87704657	1.28	1.1472	48.4	48.4	0.2115	0.2115	96.79	
D 13C-1,2,3,6,7,8-HxCDF	29.998	146368187	0.52	1.1470	80.2	80.2	0.1859	0.1859	80.25	
1,2,3,6,7,8-HxCDF	30.011	81186520	1.22	1.1450	48.4	48.4	0.2097	0.2097	96.88	
D 13C-2,3,4,6,7,8-HxCDF	31.023	143237531	0.52	1.0769	83.6	83.6	0.1980	0.1980	83.65	
2,3,4,6,7,8-HxCDF	31.050	88129587	1.25	1.1726	52.5	52.5	0.1415	0.1415	105	
D 13C-1,2,3,7,8,9-HxCDF	31.929	147567927	0.52	1.0115	91.7	91.7	0.2109	0.2109	91.74	
1,2,3,7,8,9-HxCDF	31.942	91274343	1.26	1.1717	52.8	52.8	0.1171	0.1171	106	
A Non-2,3,7,8-sub-HxCDF	29.465						0.1597	0.1597		
S Total HxCDF					202.1	202.1	0.1700	0.1700		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.729	159018590	1.25	2.1E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.250	122843293	1.26	0.7962	97.0	97.0	0.1594	0.1594	97.02	
1,2,3,4,7,8-HxCDD	31.263	59362417	1.28	1.0934	44.2	44.2	0.0856	0.0856	88.39	
D 13C-1,2,3,6,7,8-HxCDD	31.369	122367479	1.28	0.8720	88.2	88.2	0.1456	0.1456	88.25	
1,2,3,6,7,8-HxCDD	31.383	62949879	1.22	1.0429	49.3	49.3	0.0985	0.0985	98.65	
1,2,3,7,8,9-HxCDD	31.756	69759317	1.30	1.2073	47.1	47.1	0.0811	0.0811	94.25	
A Non-2,3,7,8-sub-HxCDD	30.164						0.0879	0.0879		
S Total HxCDD					140.7	140.7	0.0884	0.0884		
D 13C-1,2,3,4,6,7,8-HpCDF	33.464	97276833	0.43	0.7577	80.7	80.7	0.5355	0.5355	80.74	
1,2,3,4,6,7,8-HpCDF	33.476	71365821	1.04	1.4804	49.6	49.6	0.2263	0.2263	99.12	
D 13C-1,2,3,4,7,8,9-HpCDF	34.533	105040388	0.43	0.6941	95.2	95.2	0.5845	0.5845	95.16	
1,2,3,4,7,8,9-HpCDF	34.545	66188670	1.06	1.2933	48.7	48.7	0.2536	0.2536	97.45	
A Non-2,3,7,8-sub-HpCDF	33.992						0.2390	0.2390		
S Total HpCDF					98.3	98.3	0.2399	0.2399		
D 13C-1,2,3,4,6,7,8-HpCDD	34.254	97874576	1.04	0.7058	87.2	87.2	0.2095	0.2095	87.20	
1,2,3,4,6,7,8-HpCDD	34.266	52214311	1.07	1.0535	50.6	50.6	0.1064	0.1064	101	
A Non-2,3,7,8-sub-HpCDD	33.968						0.1064	0.1064		
S Total HpCDD					50.6	50.6	0.1064	0.1064		
D 13C-OCDD	36.571	140654093	0.93	0.4603	192.2	192.2	0.1529	0.1529	96.09	
OCDF	36.667	97592364	0.91	1.3945	99.5	99.5	0.0819	0.0819	99.51	
OCDD	36.583	75280965	0.89	1.1362	94.2	94.2	0.0671	0.0671	94.21	

QC Flag Legend

Review Flags

U - Marked Undetected

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_11.d
Lims ID: LCSD 320-350857/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 16-Jan-2020 03:51:19 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 320-350857/3-A LCSD 320-350857/3-A
Misc. Info.: 15JA203D5
Operator ID: ALM Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20200116-89625.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 17-Jan-2020 08:33:24 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0324

First Level Reviewer: ruangyotsakuld Date: 17-Jan-2020 08:33:23

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.324	17.324	0		81823825	20858393	15029	37572	1388		
333.9339	17.324	17.324	0		101742839	25674780	10624	26560	2417	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.841	16.826	1	0.972	93556786	23995546	41270	103175	581		
317.9389	16.841	16.826	1	0.972	122901034	31413915	16386	40965	1917	0.76(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.856	16.856	0	1.001	9515030	2441875	6408	16020	381		
305.8987	16.856	16.856	0	1.001	12722147	3166178	3686	9215	859	0.75(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.531						6408	16020			
305.8987	16.531						3686	9215			
13C-2,3,7,8-TCDD											
331.9368	17.521	17.506	1	1.011	71129217	17198802	15029	37572	1144		
333.9339	17.521	17.506	1	1.011	86467855	20388223	10624	26560	1919	0.82(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.536	17.521	1	1.001	7460443	1853721	4131	10327	449		
321.8936	17.536	17.521	1	1.001	9749219	2395754	3743	9357	640	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.536	17.521	1	1.012	104207787	25357194	20035	50087	1266		
A Non-2,3,7,8-sub-TCDD											
319.8965	16.969						4131	10327			
321.8936	16.969						3743	9357			
13C-1,2,3,7,8-PeCDF											
351.9000	21.640	21.626	1	1.249	103635741	18520479	24301	60752	762		
353.8970	21.640	21.626	1	1.249	65596939	12037626	15640	39100	770	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	21.667	21.653	1	1.001	52890733	9575186	11798	29495	812		
341.8567	21.667	21.653	1	1.001	34232238	6180423	9196	22990	672	1.55(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	22.921	22.908	1	1.323	102146950	17338735	24301	60752	713		
353.8970	22.921	22.908	1	1.323	63723446	11079528	15640	39100	708	1.60(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.949	22.935	1	1.001	49222047	8119404	11798	29495	688		
341.8567	22.949	22.935	1	1.001	31702229	5312179	9196	22990	578	1.55(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.207						1175	2937			
341.8567	19.207						3056	7640			
A Non-2,3,7,8-sub-PeCDF											U
339.8597	22.199	22.200	0	1.026	482346	64677	11798	29495	5		
341.8567	22.158	22.200	-3	1.024	329384	38953	9196	22990	4	1.46(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.603	23.603	0	1.362	67295100	10962800	9213	23032	1190		
369.8919	23.603	23.603	0	1.362	41396101	6651013	6451	16127	1031	1.63(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.644	23.617	2	1.002	36172874	5795483	5728	14320	1012		
357.8516	23.631	23.617	1	1.001	22669019	3690182	2453	6132	1504	1.60(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.533						5728	14320			
357.8516	22.533						2453	6132			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.745	29.705	2	0.937	54639660	7295118	12412	31030	588		
385.8610	29.745	29.705	2	0.937	103332009	13947584	21631	54077	645	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.771	29.732	2	1.001	49224678	6836780	11290	28225	606		
375.8178	29.771	29.732	2	1.001	38479979	5252419	9327	23317	563	1.28(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.998	29.971	2	0.945	49876440	7490984	12412	31030	604		
385.8610	29.998	29.971	2	0.945	96491747	13971412	21631	54077	646	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.011	29.998	1	1.000	44695099	6658940	11290	28225	590		
375.8178	30.011	29.998	1	1.000	36491421	5503321	9327	23317	590	1.22(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.023	31.010	1	0.978	49286418	10863492	12412	31030	875		
385.8610	31.023	31.010	1	0.978	93951113	20195412	21631	54077	934	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.050	31.037	1	1.001	49015982	10700774	11290	28225	948		
375.8178	31.050	31.037	1	1.001	39113605	8342553	9327	23317	894	1.25(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.929	31.929	0	1.006	50775966	12756462	12412	31030	1028		
385.8610	31.929	31.929	0	1.006	96791961	24822601	21631	54077	1148	0.52(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	31.942	31.942	0	1.000	50939488	12937359	11290	28225	1146		
375.8178	31.942	31.942	0	1.000	40334855	10475477	9327	23317	1123	1.26(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.465						11290	28225			
375.8178	29.465						9327	23317			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.729	31.729	0		88231686	22328956	10516	26290	2123		
403.8529	31.729	31.729	0		70786904	17576011	9744	24360	1804	1.25(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.250	31.236	1	0.985	68413793	17042375	10516	26290	1621		
403.8529	31.250	31.236	1	0.985	54429500	13163783	9744	24360	1351	1.26(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.263	31.250	1	1.000	33290905	7825147	6199	15497	1262		
391.8127	31.263	31.250	1	1.000	26071512	6363223	5114	12785	1244	1.28(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.369	31.356	1	0.989	68587010	15487798	10516	26290	1473		
403.8529	31.369	31.356	1	0.989	53780469	12054893	9744	24360	1237	1.28(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.383	31.369	1	1.000	34552285	8034169	6199	15497	1296		
391.8127	31.383	31.369	1	1.000	28397594	6350559	5114	12785	1242	1.22(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.756	31.742	1	1.016	39409486	9810095	6199	15497	1583		
391.8127	31.756	31.742	1	1.016	30349831	7571549	5114	12785	1481	1.30(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.164						6199	15497			
391.8127	30.164						5114	12785			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.464	33.464	0	1.055	29318804	9970613	20751	51877	480		
419.8220	33.464	33.464	0	1.055	67958029	22906233	44009	110022	520	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.476	33.476	0	1.000	36366664	12653395	23310	58275	543		
409.7789	33.476	33.476	0	1.000	34999157	12281575	20742	51855	592	1.04(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.533	34.533	0	1.088	31628182	9957306	20751	51877	480		
419.8220	34.533	34.533	0	1.088	73412206	23620786	44009	110022	537	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.545	34.545	0	1.000	34002856	10940751	23310	58275	469		
409.7789	34.545	34.545	0	1.000	32185814	10354811	20742	51855	499	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.992						23310	58275			
409.7789	33.992						20742	51855			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.254	34.254	0	1.080	50008070	17631156	11733	29332	1503		
437.8140	34.254	34.254	0	1.080	47866506	16652975	11865	29662	1404	1.04(0.88-1.20)	

Report Date: 17-Jan-2020 08:33:27 Chrom Revision: 2.3 14-Jan-2020 22:23:42
Data File: \\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_11.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.266	34.266	0	1.000	26930319	9338145	8841	22102	1056		
425.7737	34.266	34.266	0	1.000	25283992	8606033	6535	16337	1317	1.07(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.968						8841	22102			
425.7737	33.968						6535	16337			
13C-OCDD											
469.7779	36.571	36.571	0	1.153	67686026	20121968	5937	14842	3389		
471.7750	36.571	36.571	0	1.153	72968067	21422563	5296	13240	4045	0.93(0.76-1.02)	
OCDF											
441.7428	36.667	36.667	0	1.003	46438789	13334633	4672	11680	2854		
443.7399	36.667	36.667	0	1.003	51153575	14620556	4815	12037	3036	0.91(0.76-1.02)	
OCDD											
457.7377	36.583	36.583	0	1.000	35429466	10490084	3249	8122	3229		
459.7348	36.583	36.583	0	1.000	39851499	11692828	3083	7707	3793	0.89(0.76-1.02)	

QC Flag Legend

Review Flags

U - Marked Undetected

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_11.d
Lims ID: LCSD 320-350857/3-A
Client ID:
Inject. Date: 16-Jan-2020 03:51:19 Dil. Factor: 1.0000
Sample Type: LCSD, LCS Duplicate
Instrument ID: 3D5 Operator: ALM
Lims Batch ID: 351160 Lims Sample ID: 11

Non-2,3,7,8-sub-PeCDF, RT: 22.200

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.030	D 13C-1,2,3,7,8-PeCDF	100.000	169232680	30558105
2,3,4,7,8-PeCDF	1.041	D 13C-2,3,4,7,8-PeCDF	100.000	165870396	28418263

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.036		100.000	167551538	29488184

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
22.199	482346	64677	329384	38953	0.4678	1.46	

Compound is Marked ND

Report Date: 17-Jan-2020 08:33:27 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_11.d		
Injection Date:	16-Jan-2020 03:51:19	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	351160	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

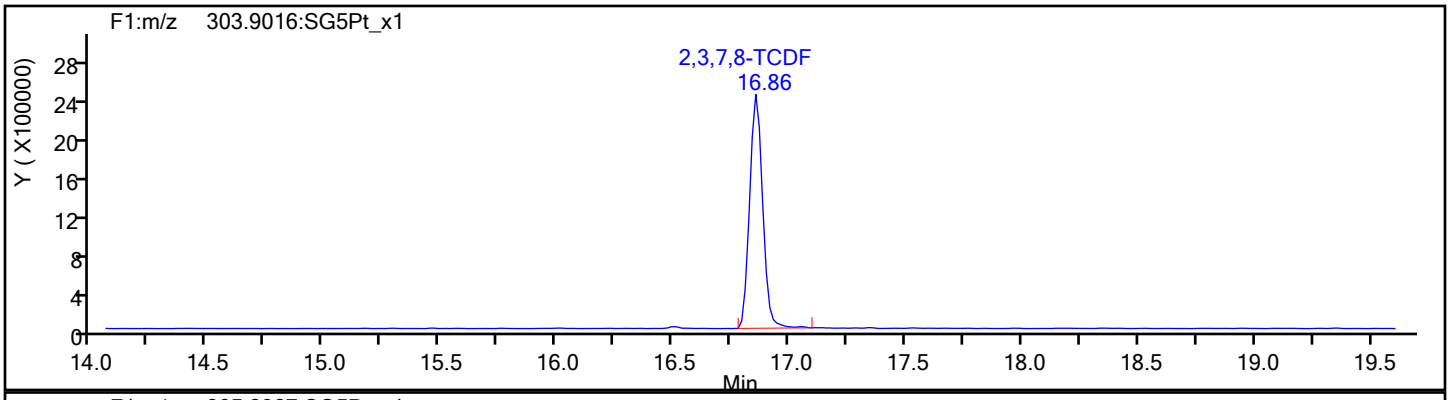

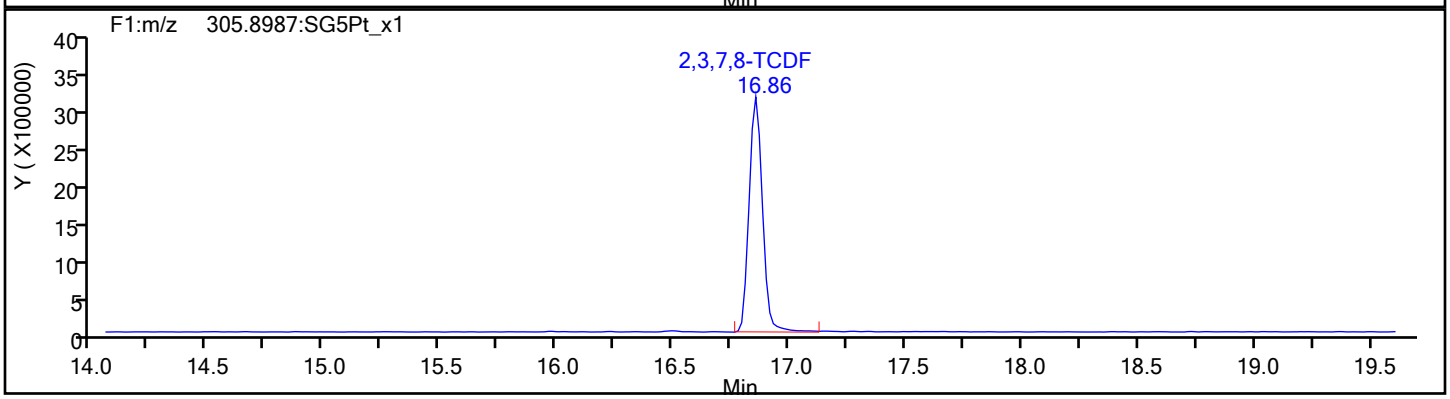

TCDF Standards

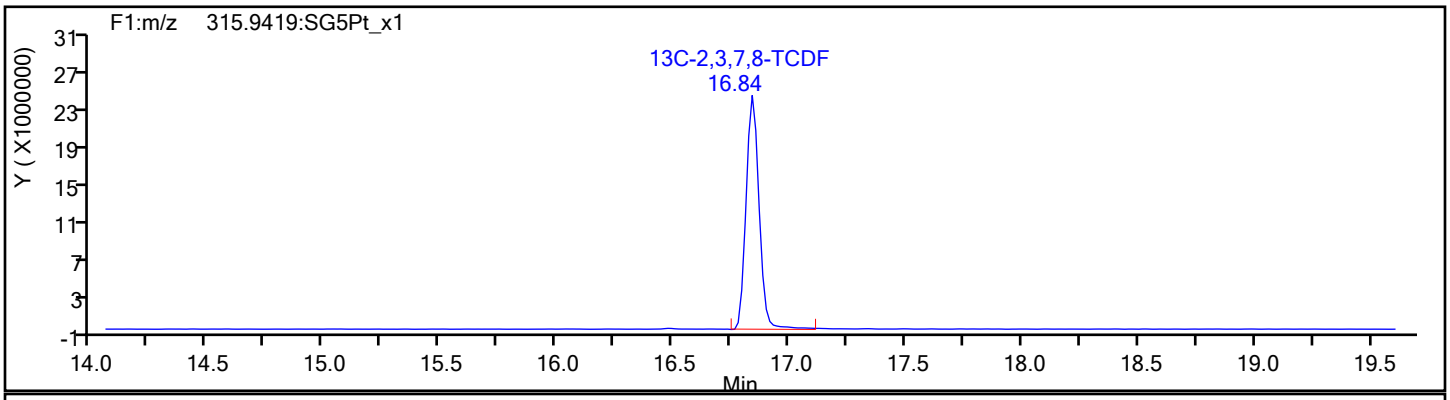

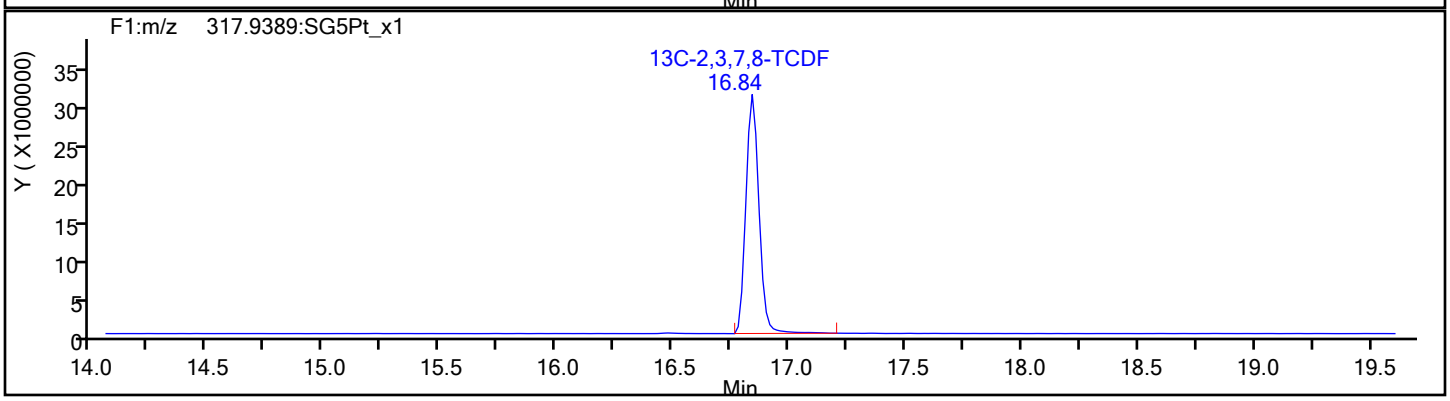

Report Date: 17-Jan-2020 08:33:27 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_11.d		
Injection Date:	16-Jan-2020 03:51:19	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	351160	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

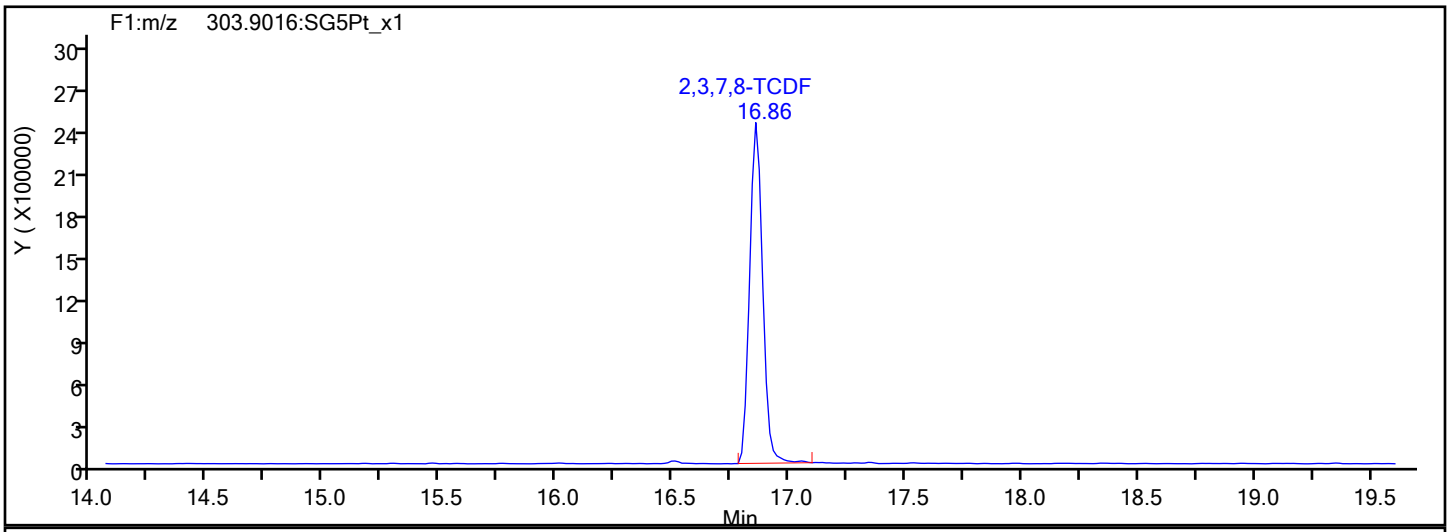

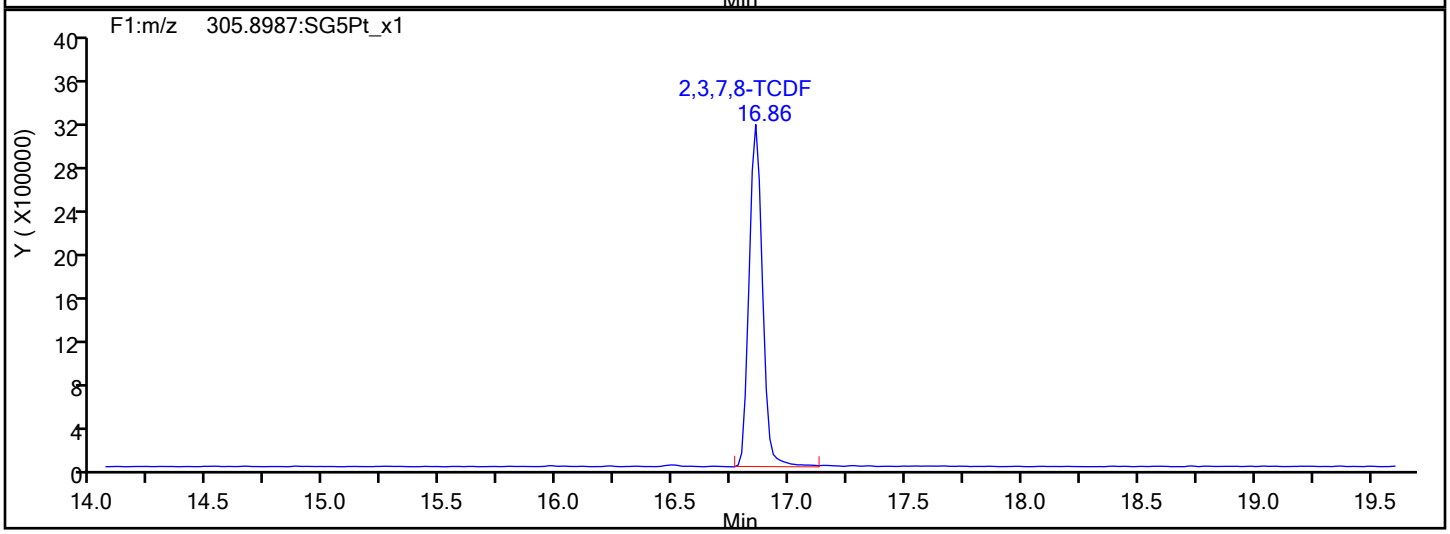

TCDF Interference Mass

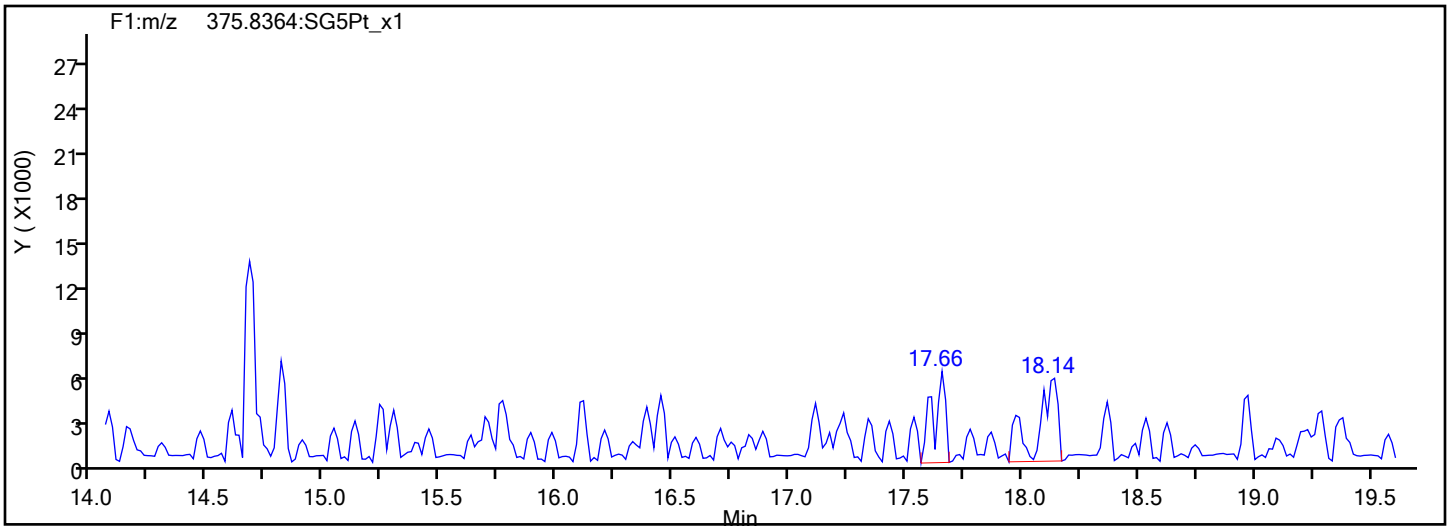

Report Date: 17-Jan-2020 08:33:27 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_11.d		
Injection Date:	16-Jan-2020 03:51:19	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	351160	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

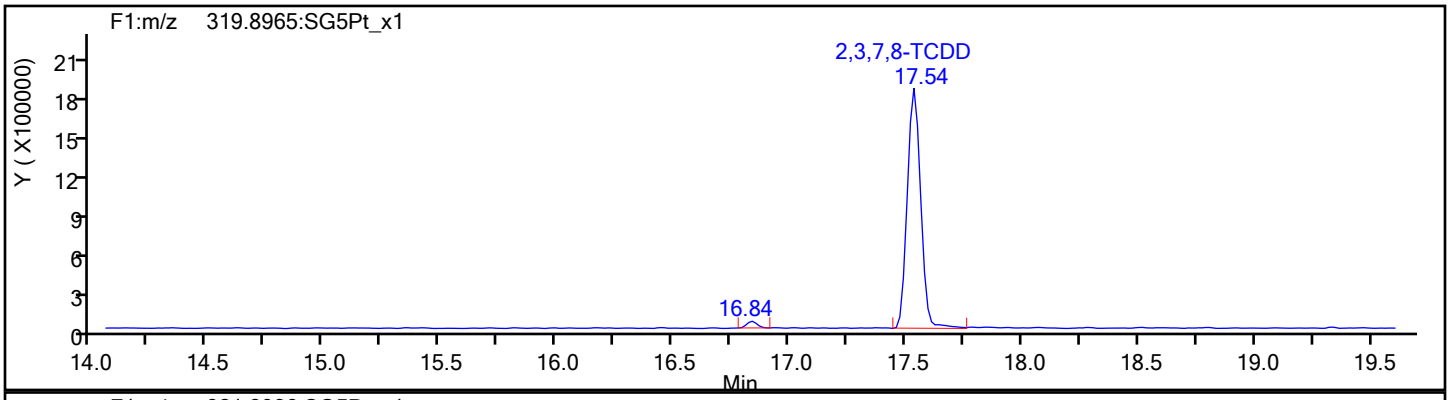

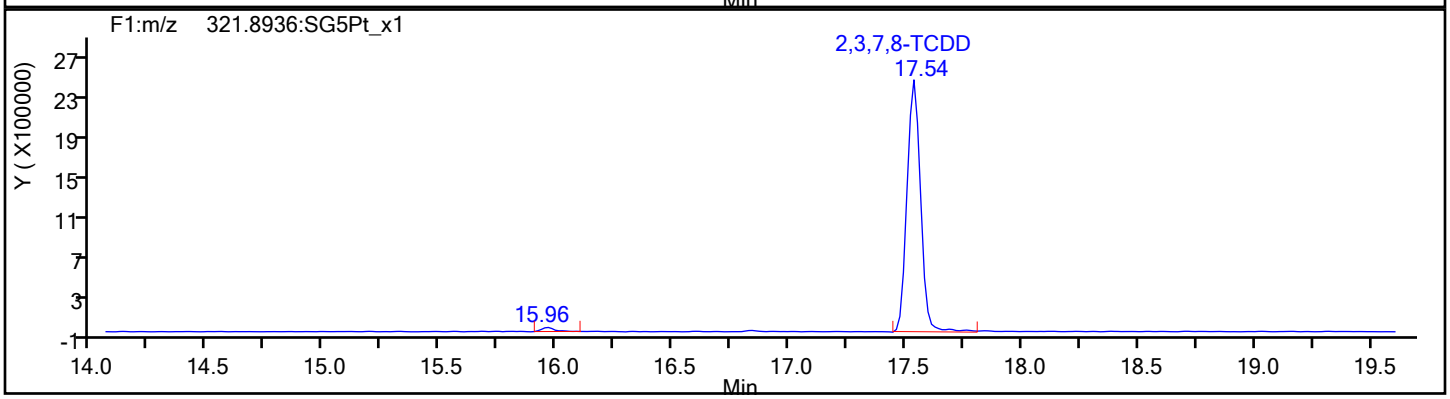

TCDD Standards

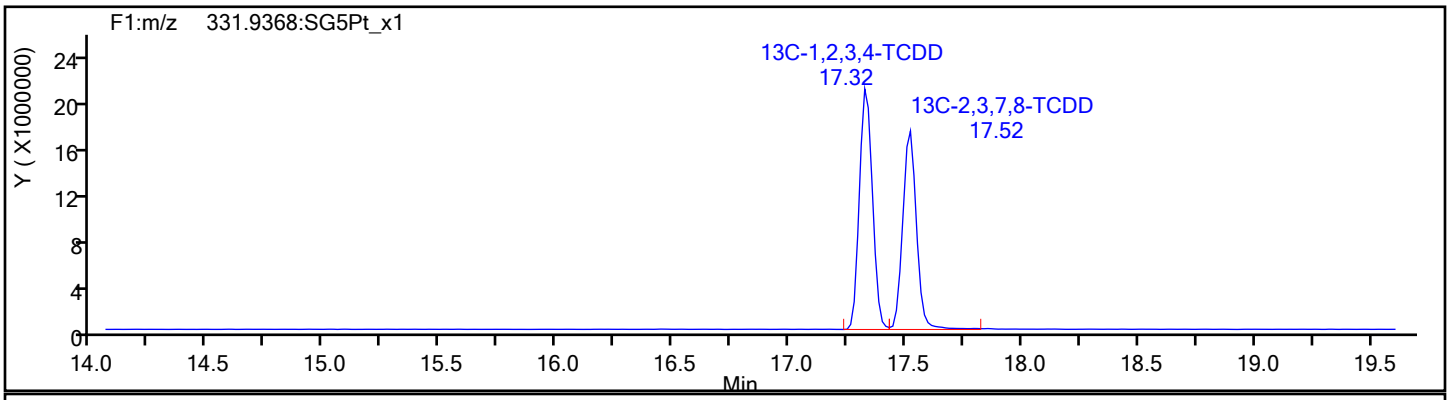

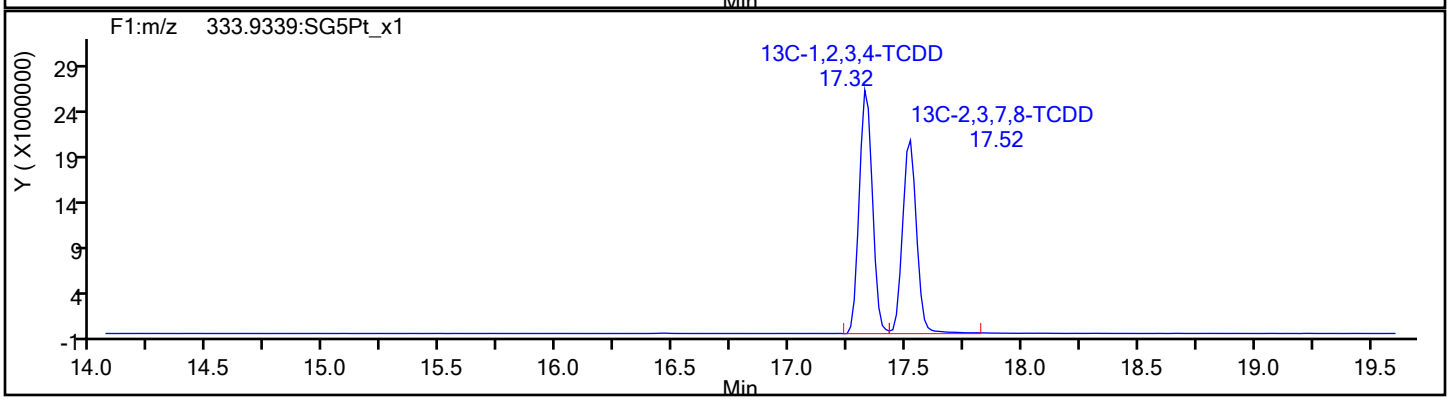

Report Date: 17-Jan-2020 08:33:27 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	351160	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

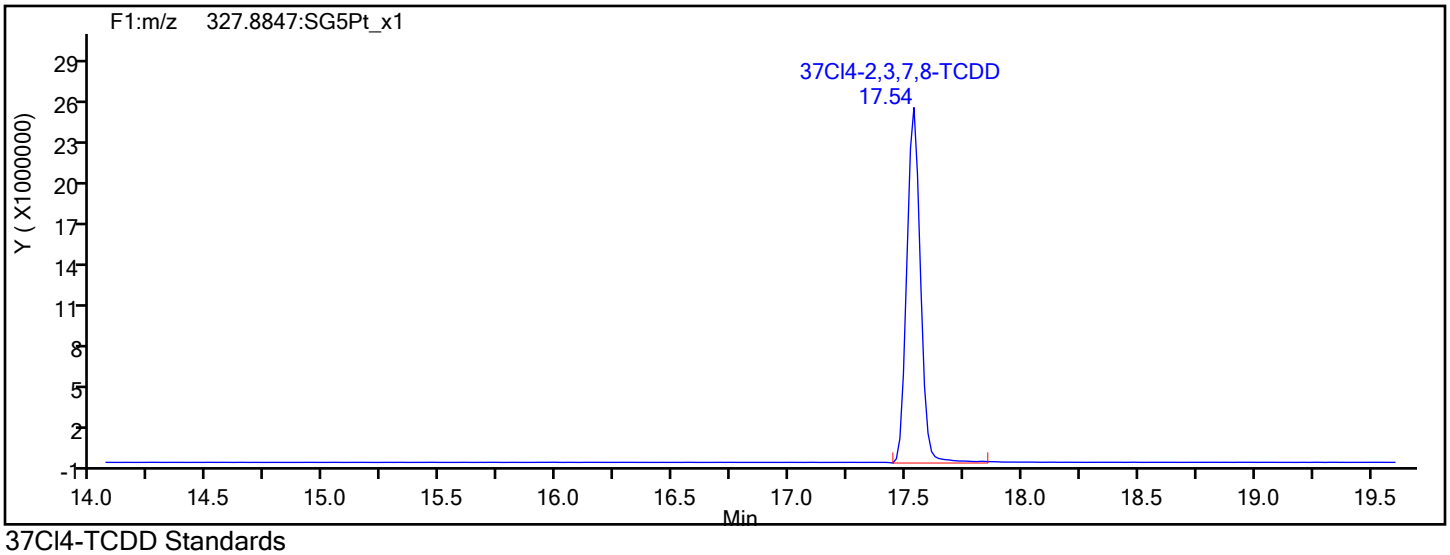

37Cl4-TCDD Standards

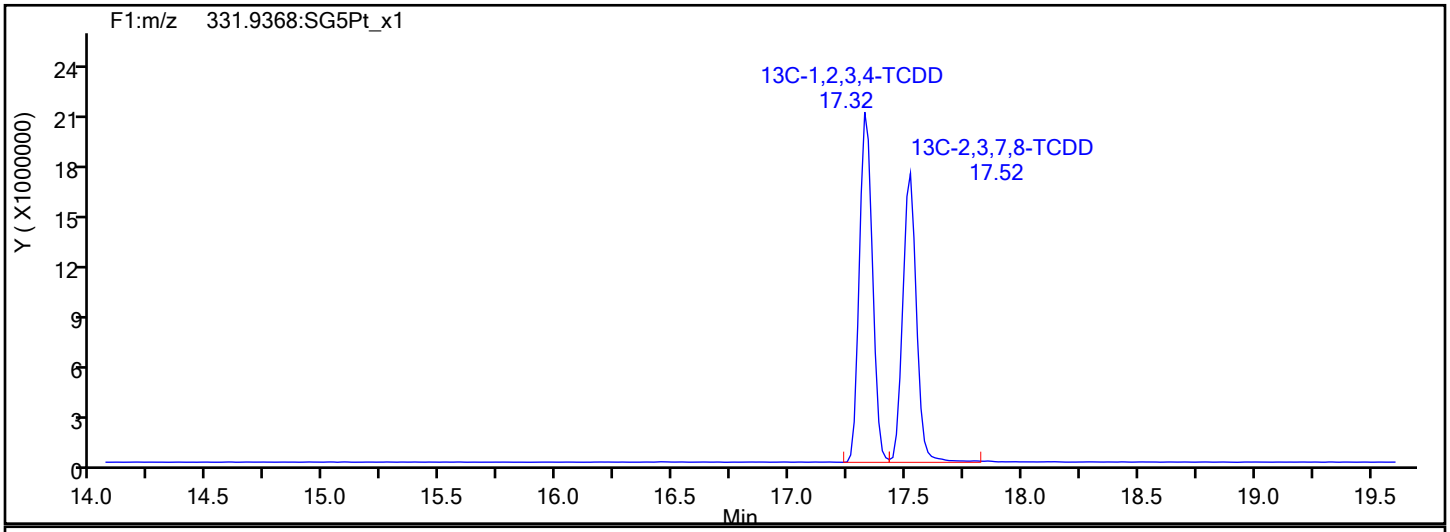

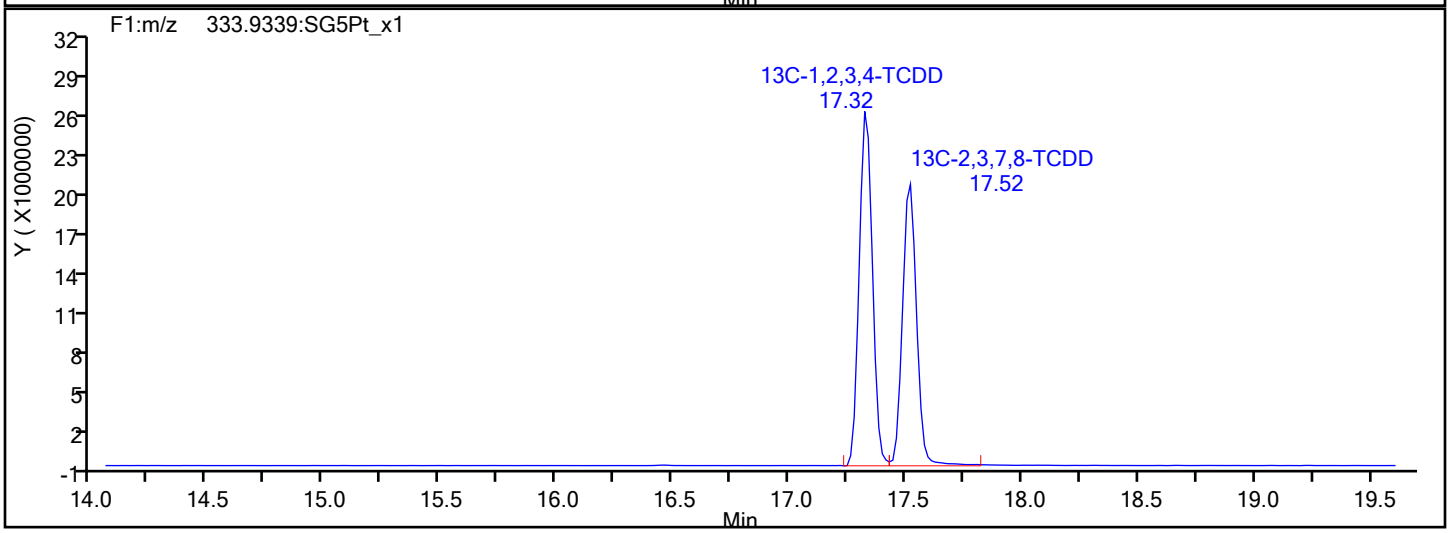

Report Date: 17-Jan-2020 08:33:27 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	351160	Sample Line#:	11
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F1 PeCDFs

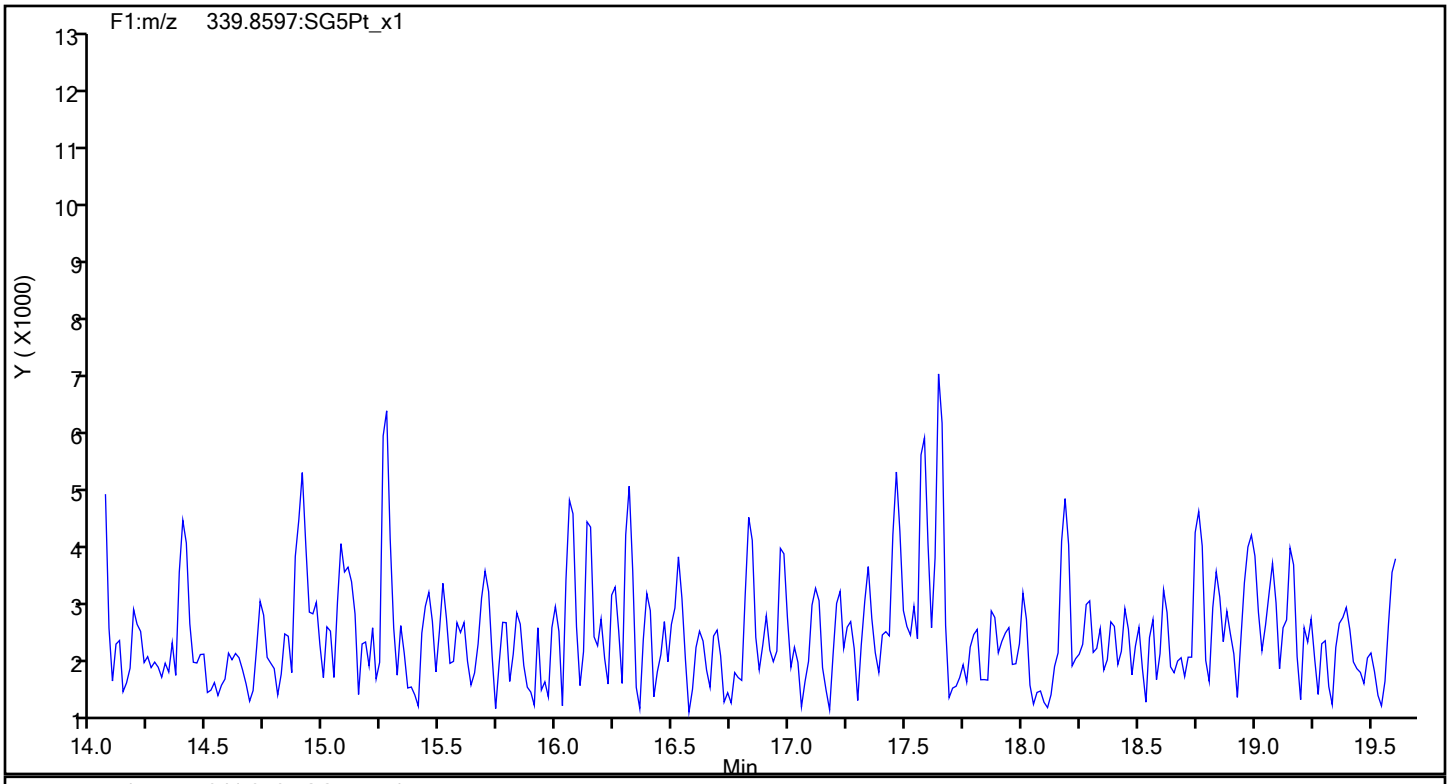

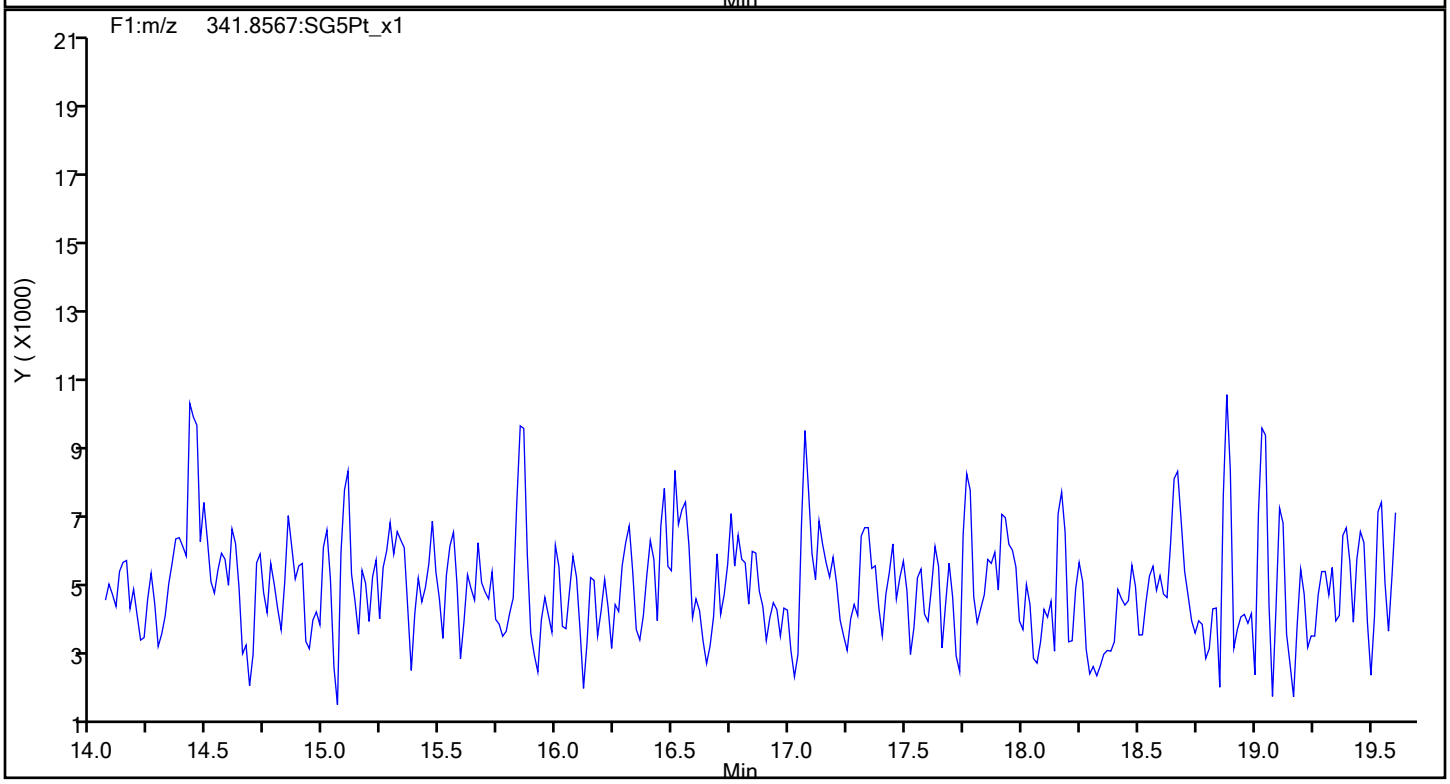

Report Date: 17-Jan-2020 08:33:27 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_11.d		
Injection Date:	16-Jan-2020 03:51:19	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

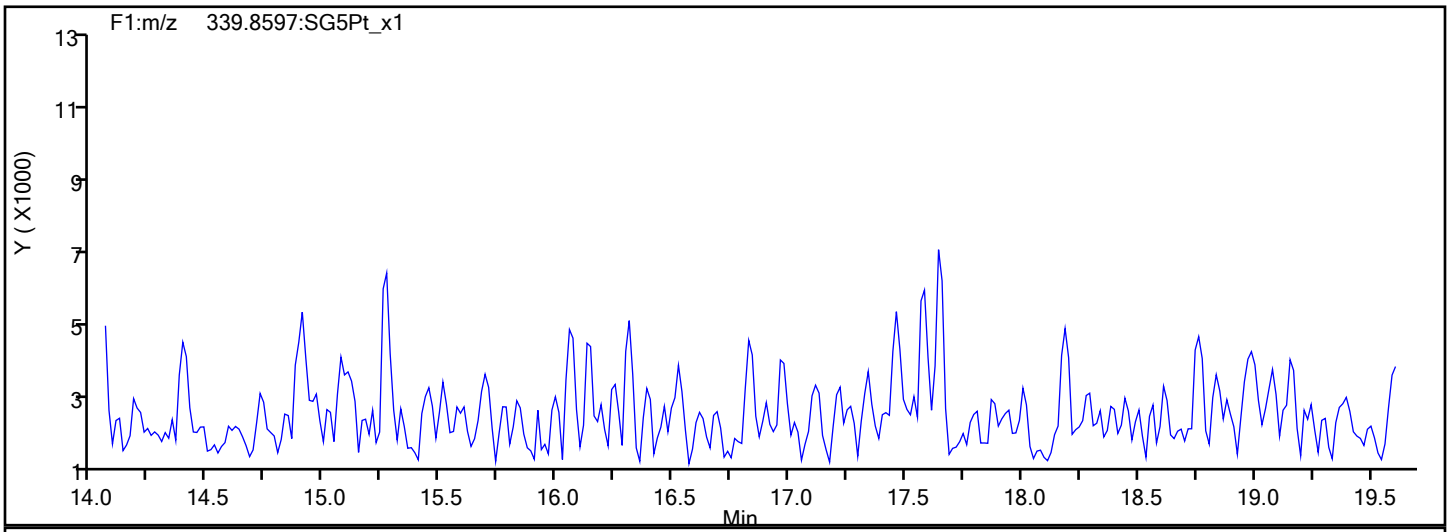

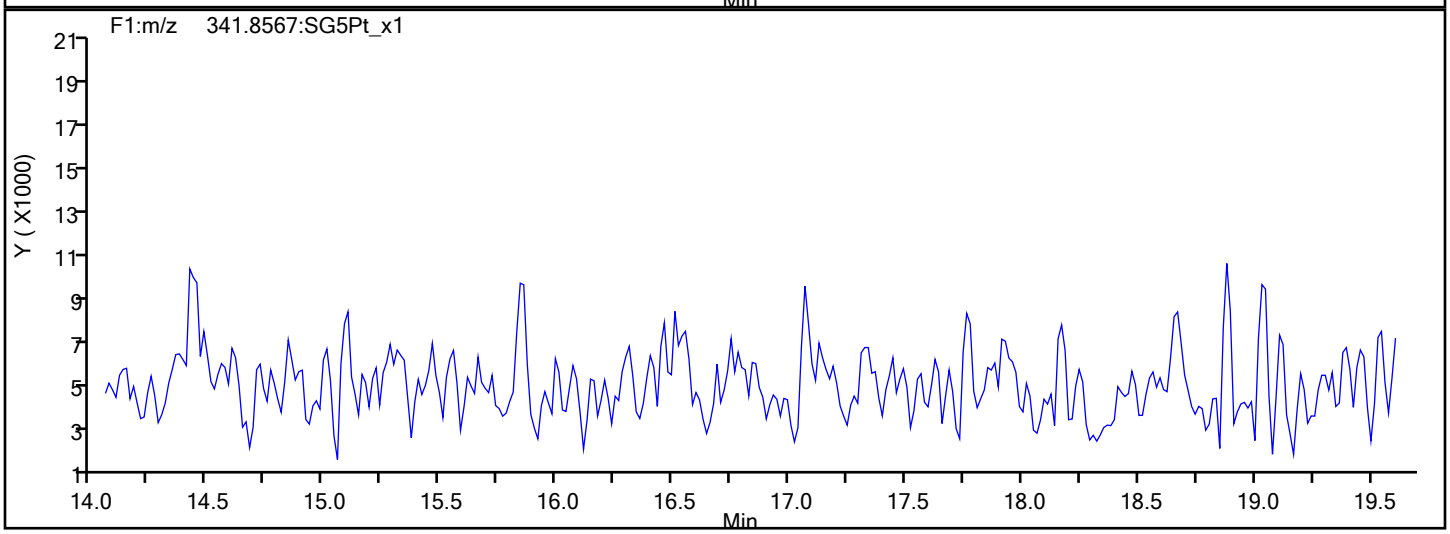

F1 PeCDFs Interference Mass

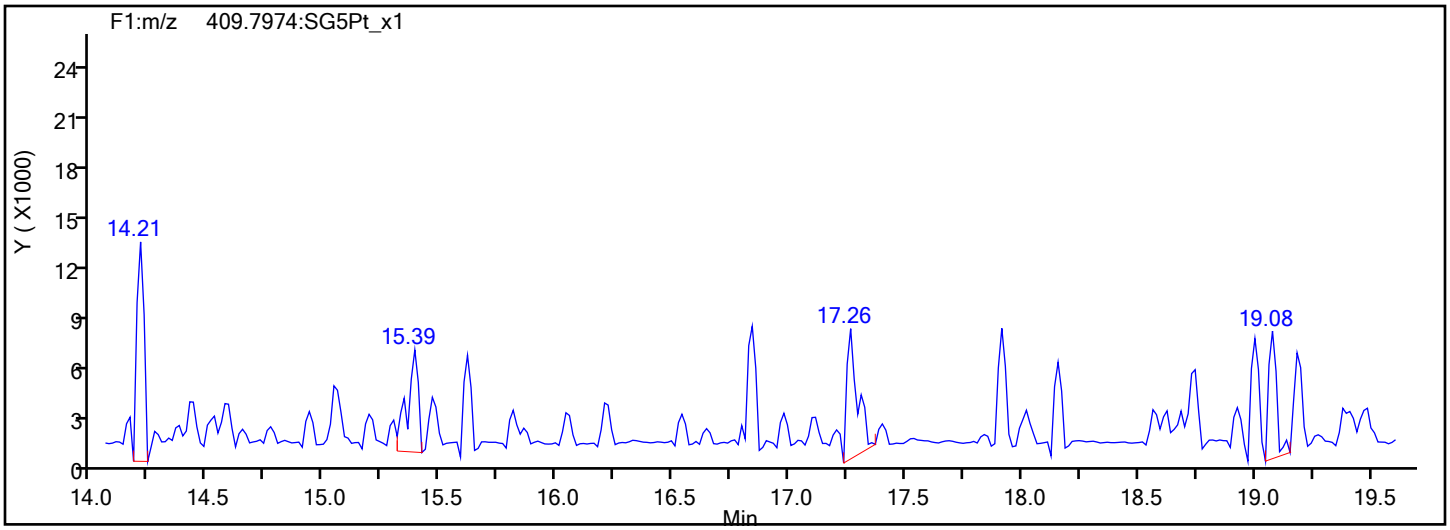

Report Date: 17-Jan-2020 08:33:27 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_11.d		
Injection Date:	16-Jan-2020 03:51:19	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	351160	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

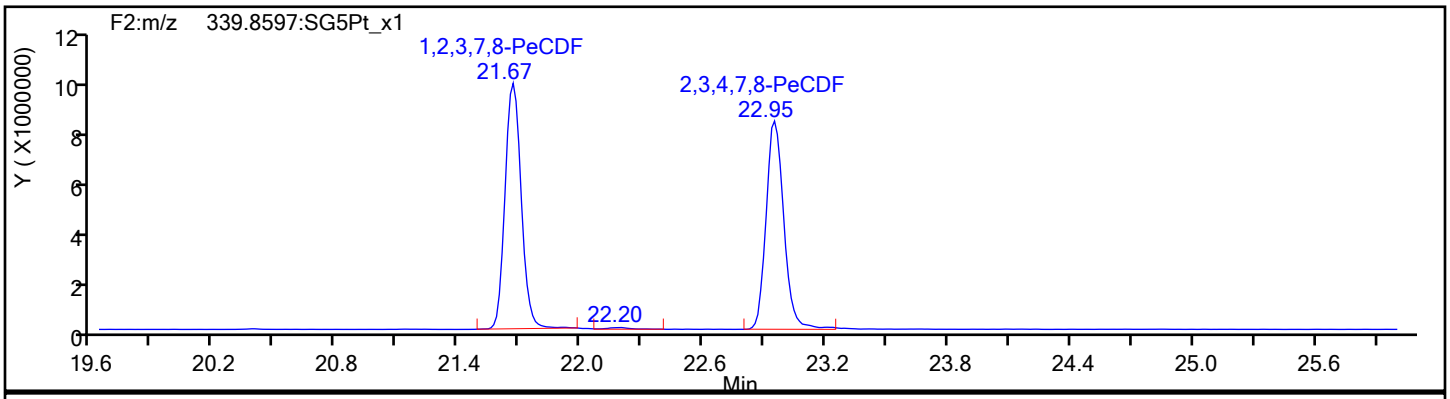

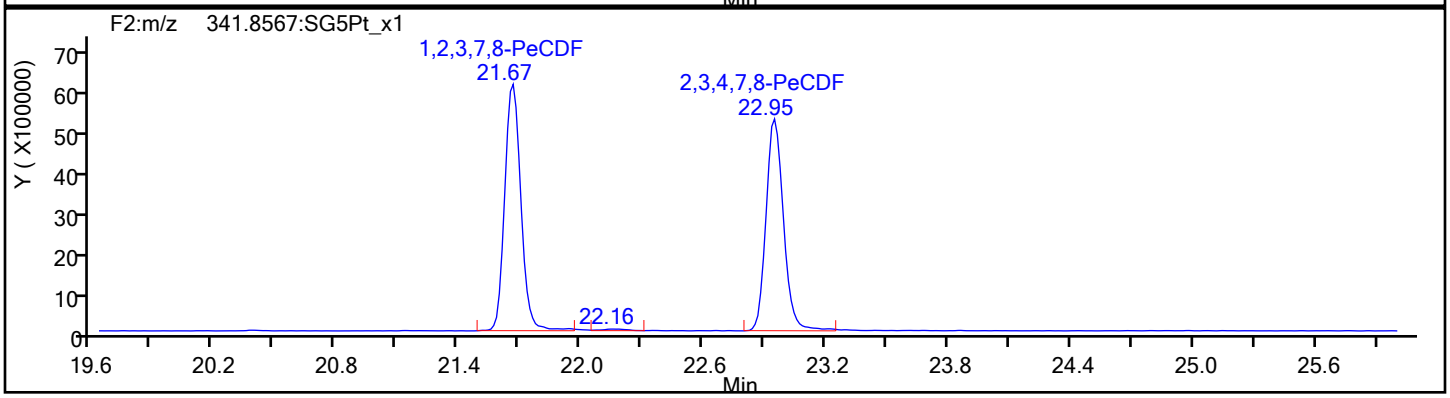

PeCDF Standards

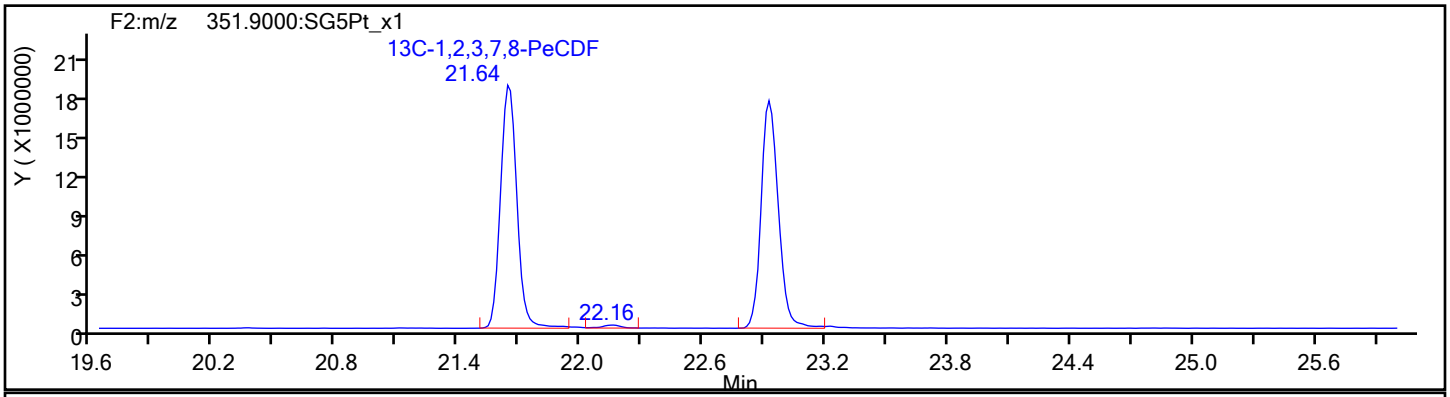

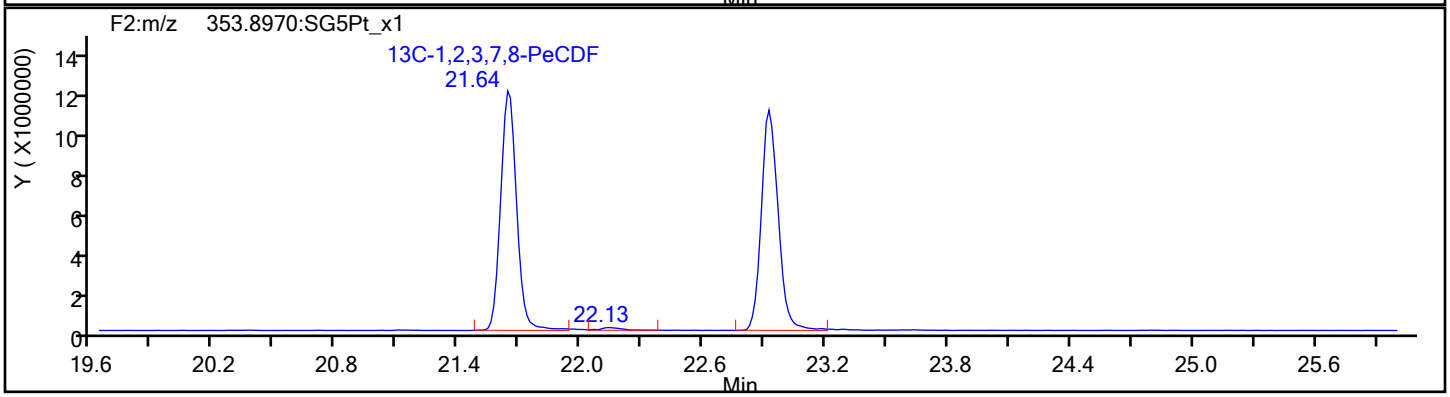

Report Date: 17-Jan-2020 08:33:27 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_11.d		
Injection Date:	16-Jan-2020 03:51:19	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

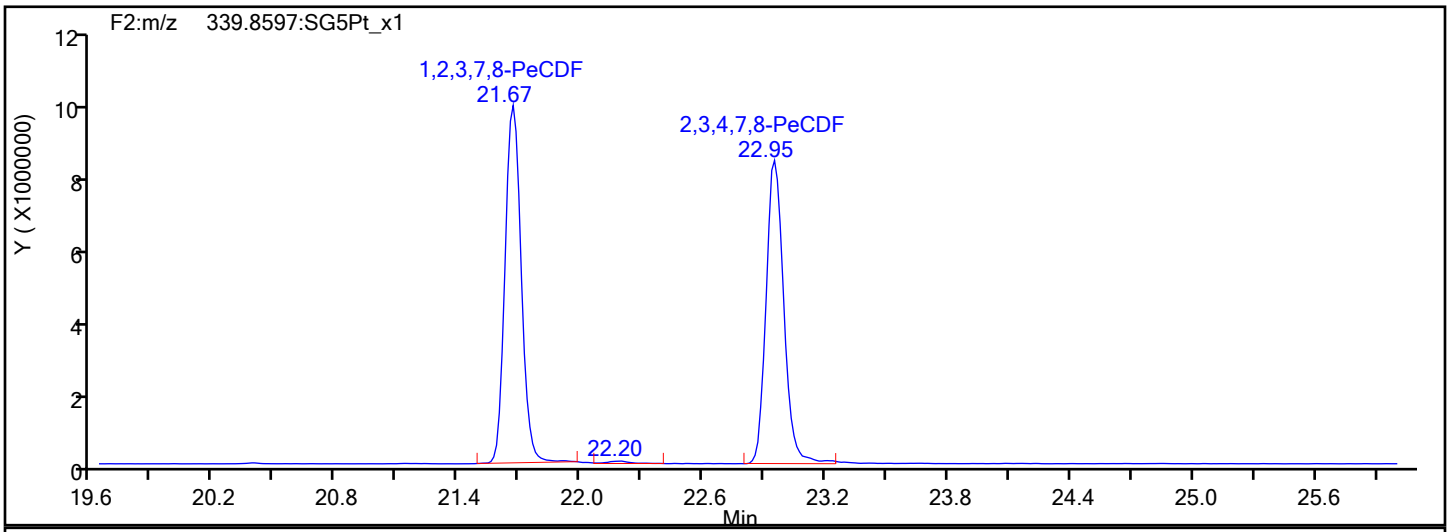

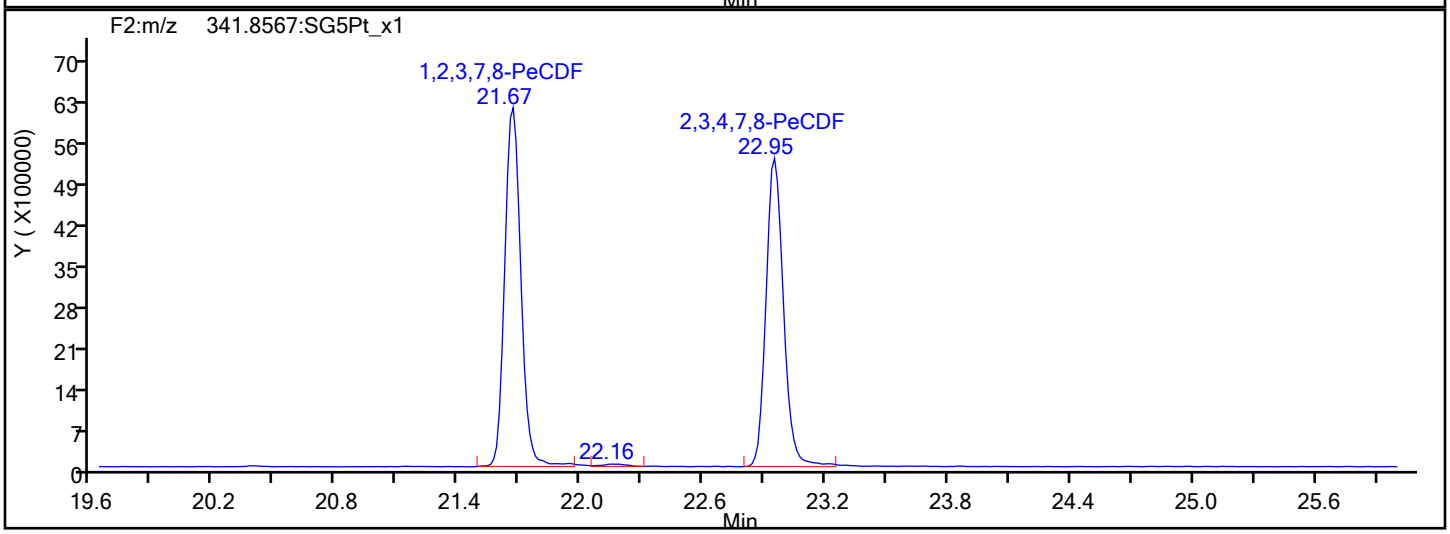

PeCDF Interference Mass

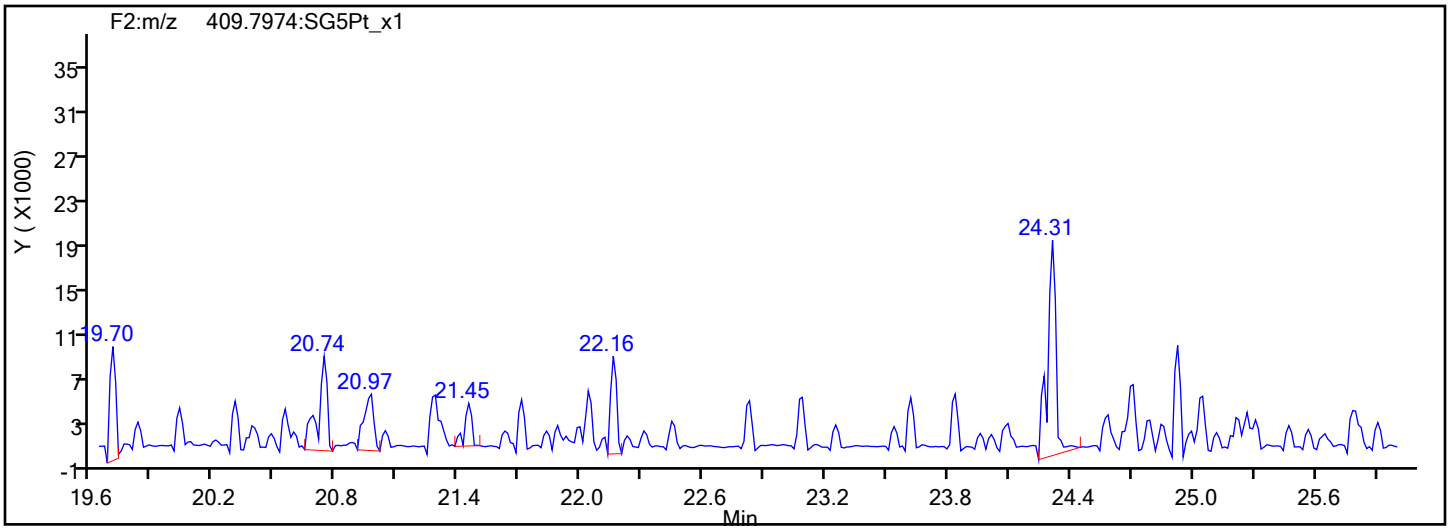

Report Date: 17-Jan-2020 08:33:27 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_11.d		
Injection Date:	16-Jan-2020 03:51:19	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

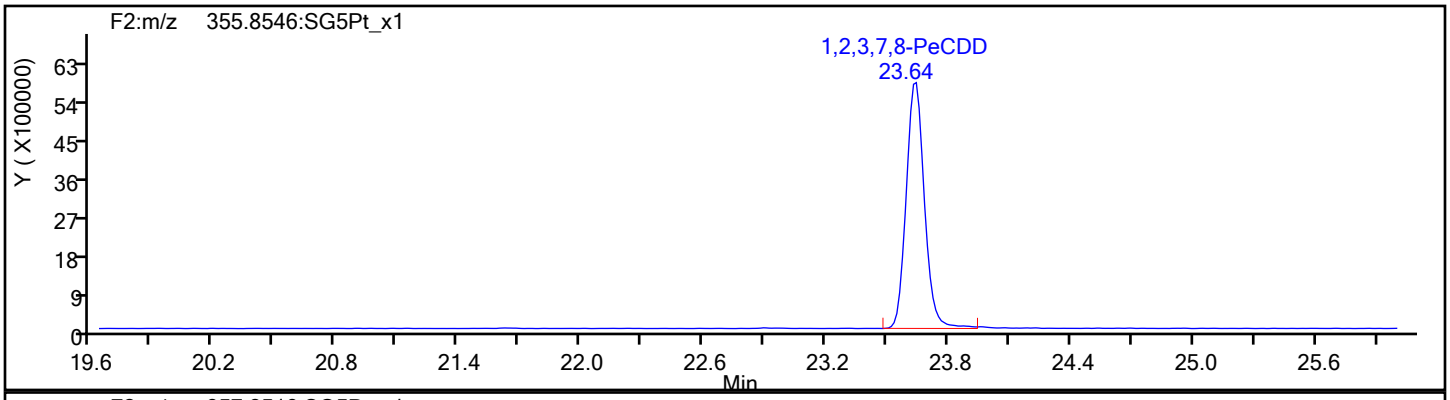

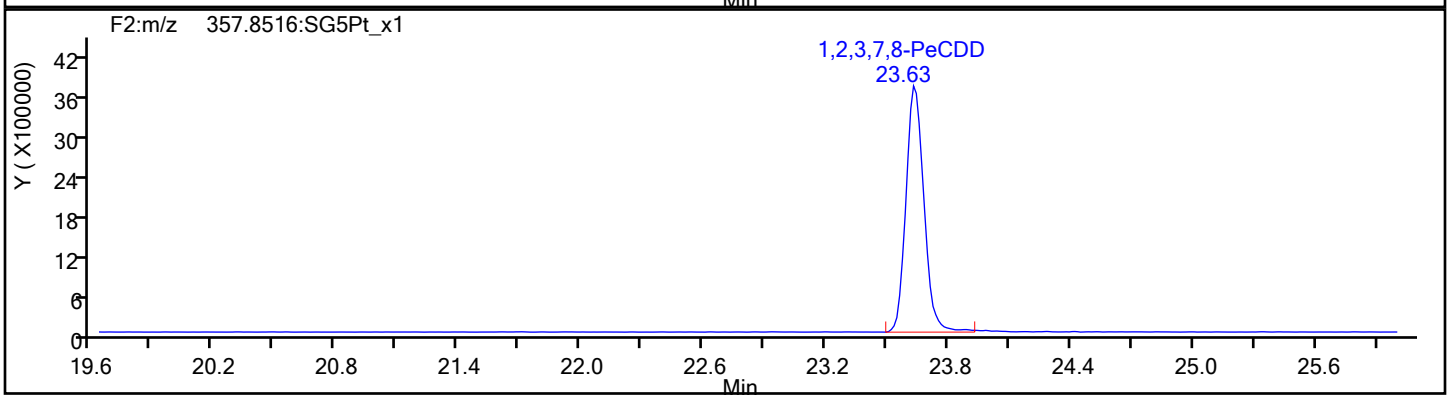

PeCDD Standards

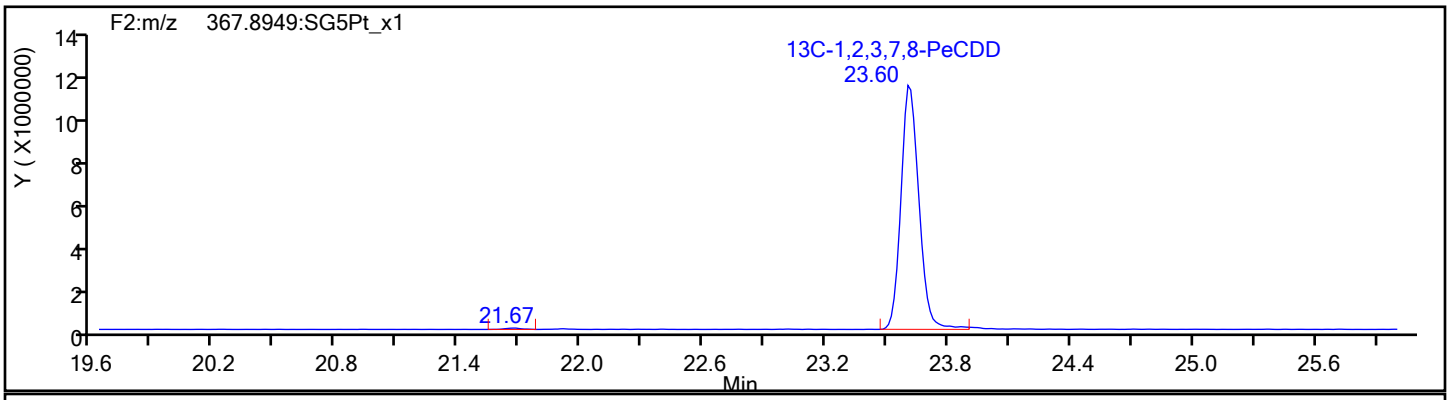

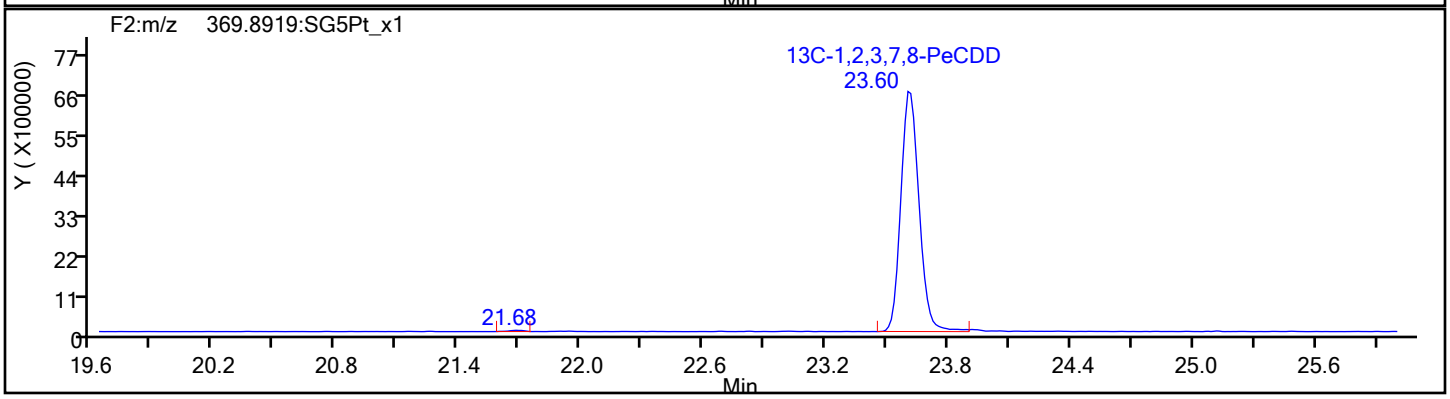

Report Date: 17-Jan-2020 08:33:27 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_11.d		
Injection Date:	16-Jan-2020 03:51:19	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

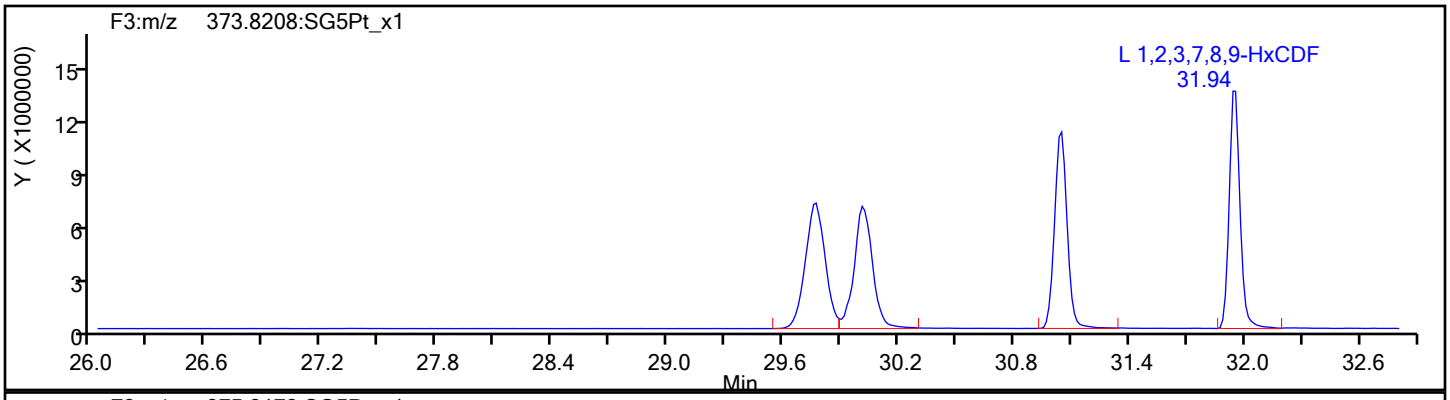

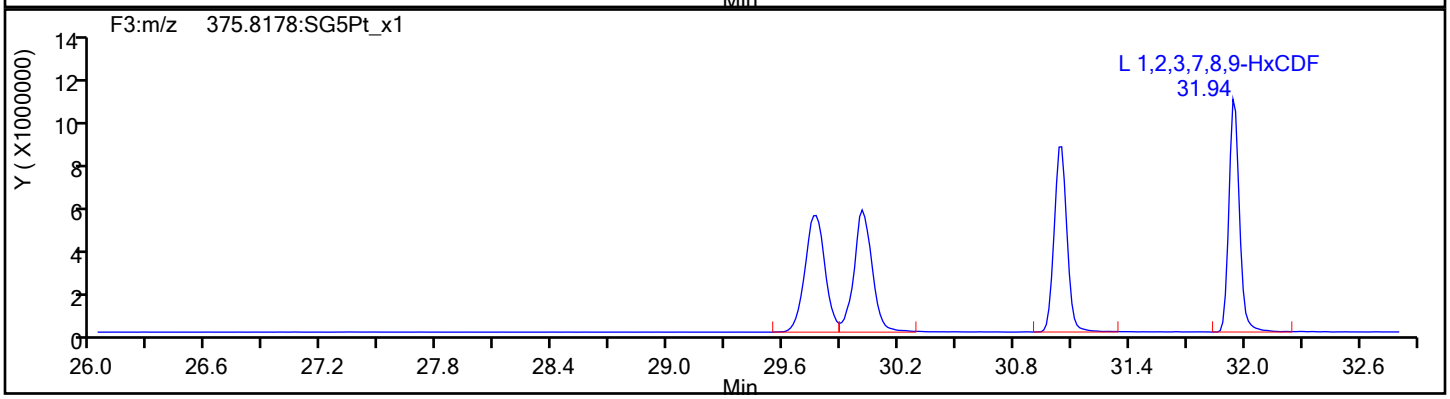

HxCDF Standards

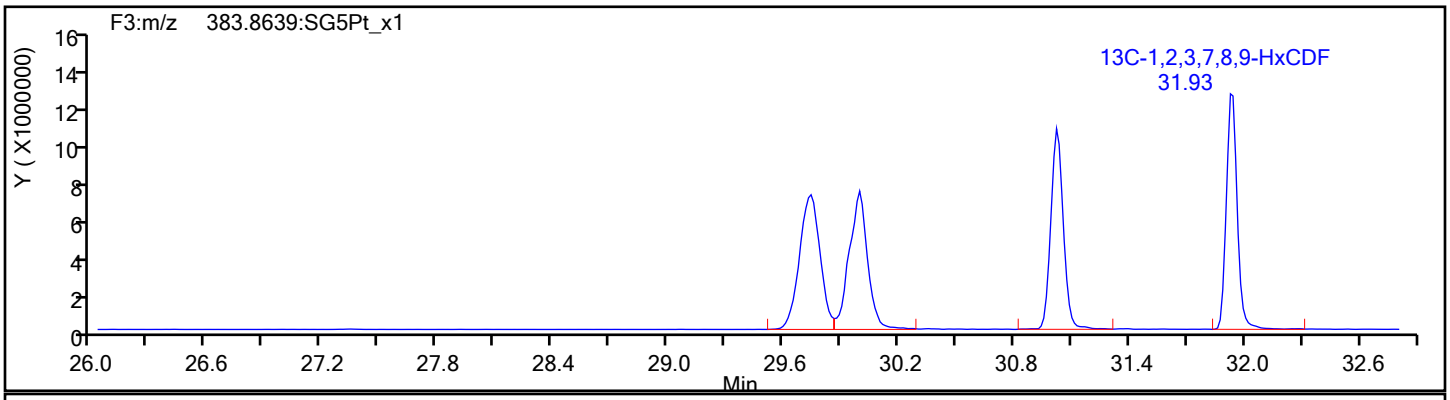

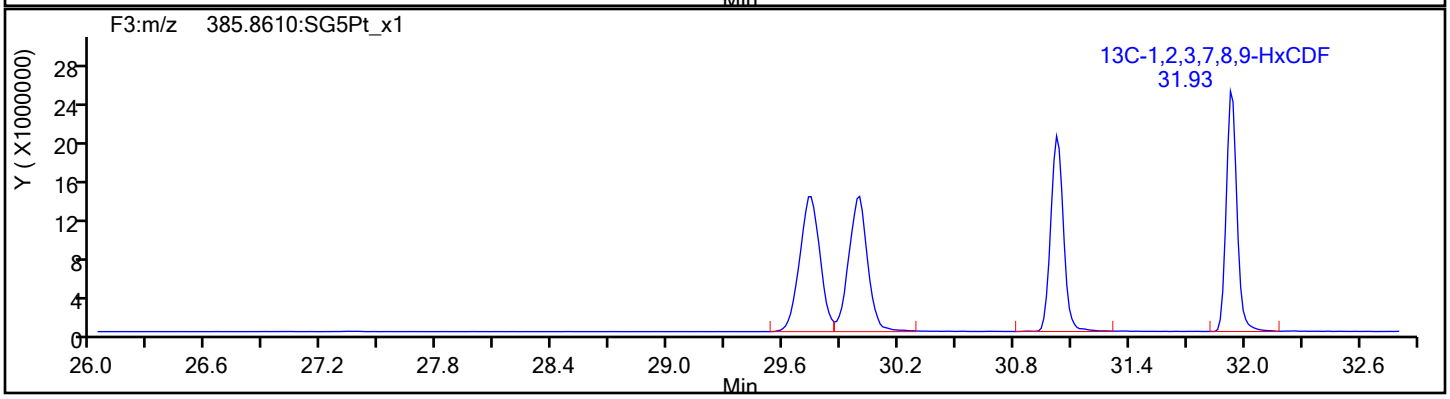

Report Date: 17-Jan-2020 08:33:28 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	351160	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

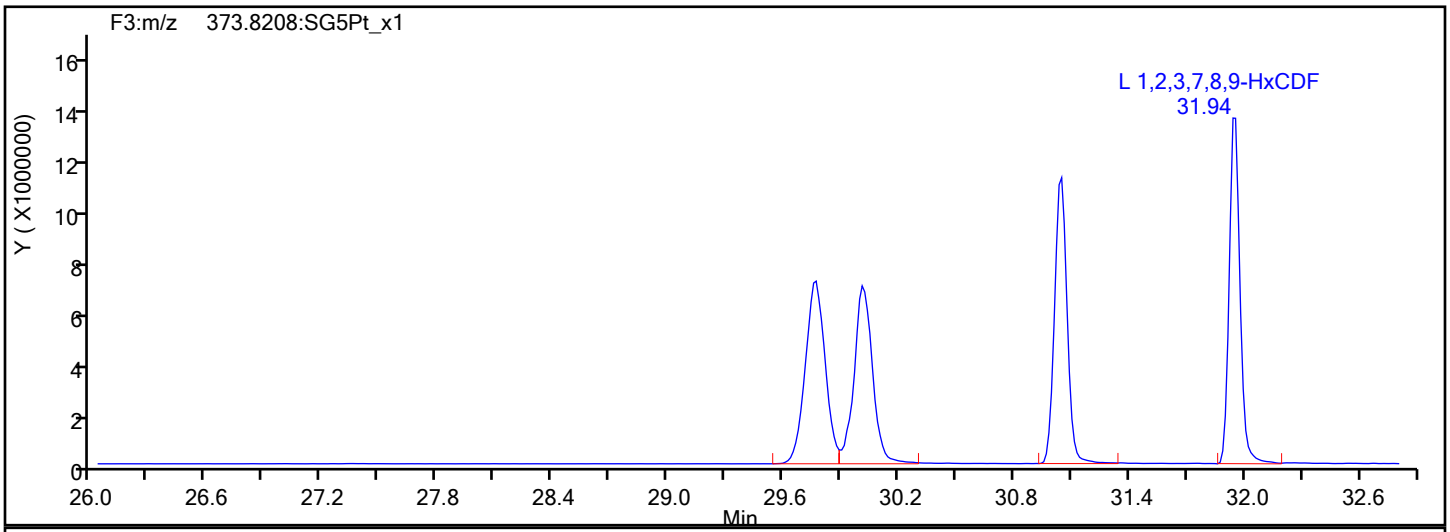

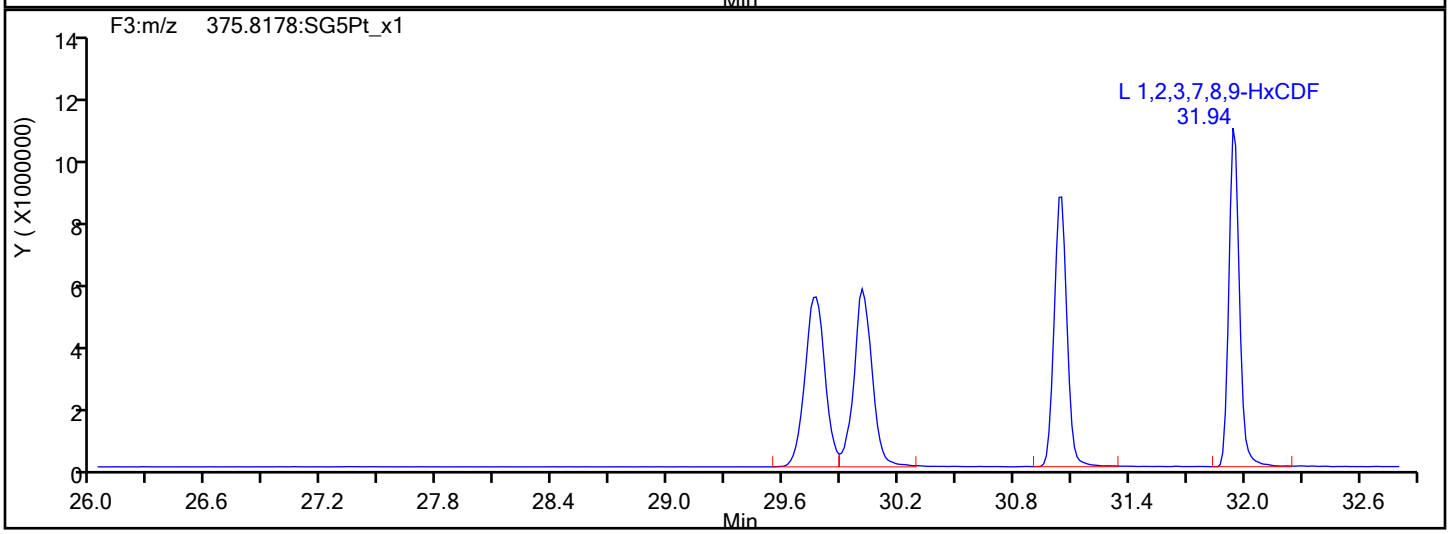

HxCDF Interference Mass

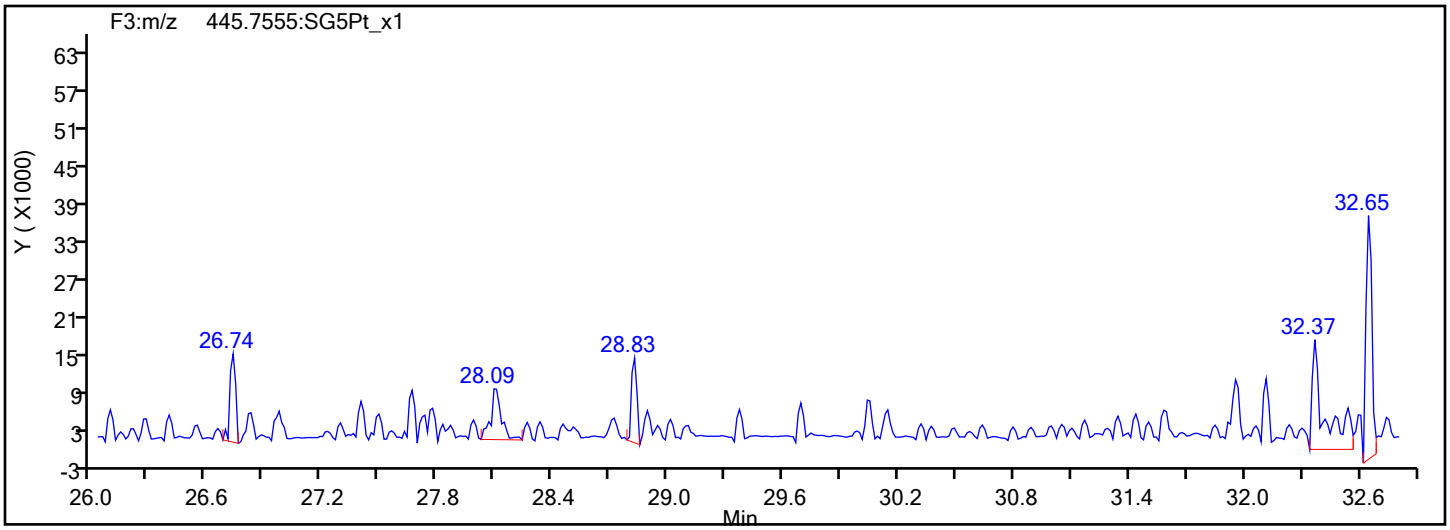

Report Date: 17-Jan-2020 08:33:28 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_11.d		
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Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	351160	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDD

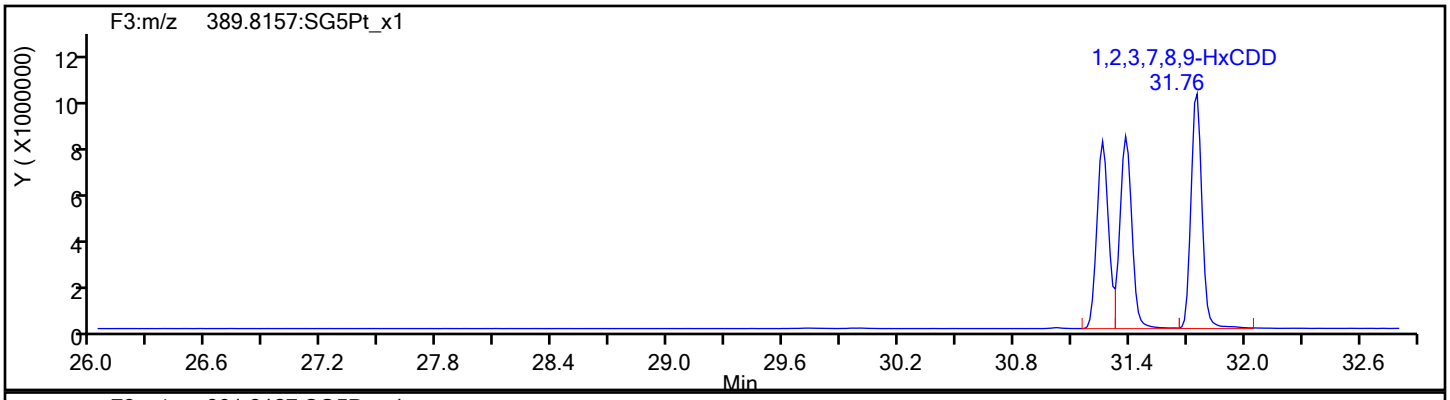

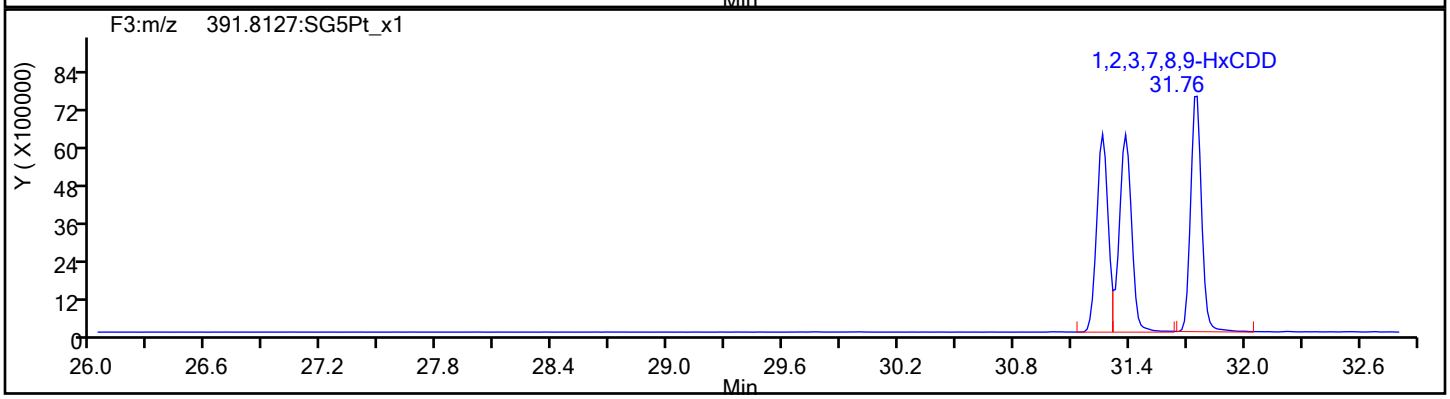

HxCDD Standards

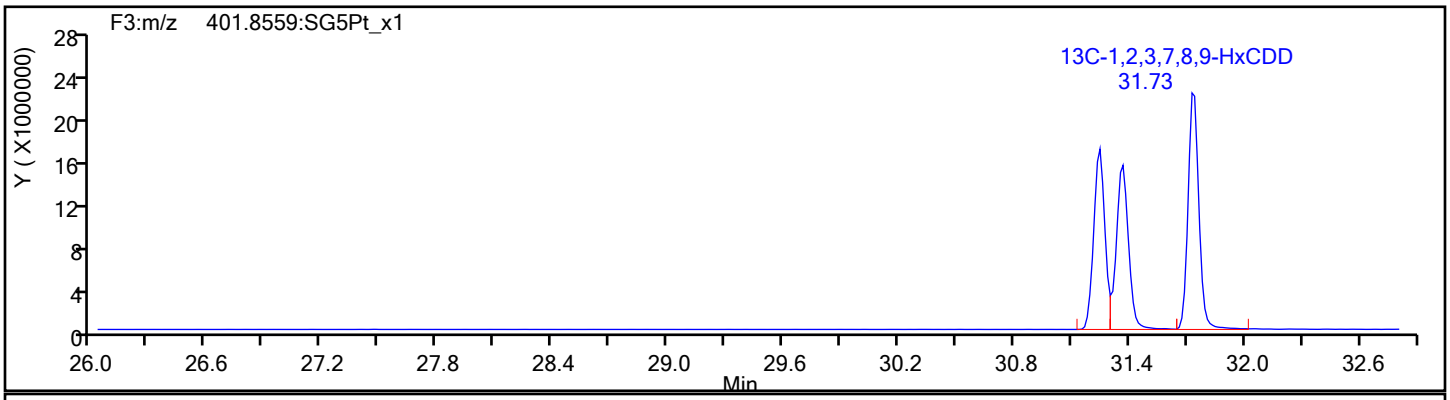

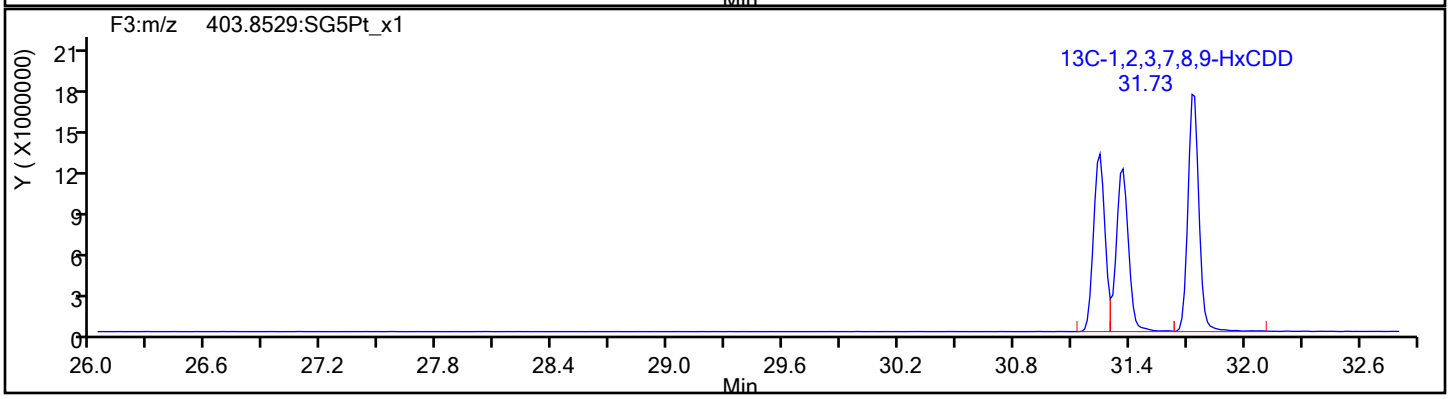

Report Date: 17-Jan-2020 08:33:28 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_11.d		
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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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HpCDF

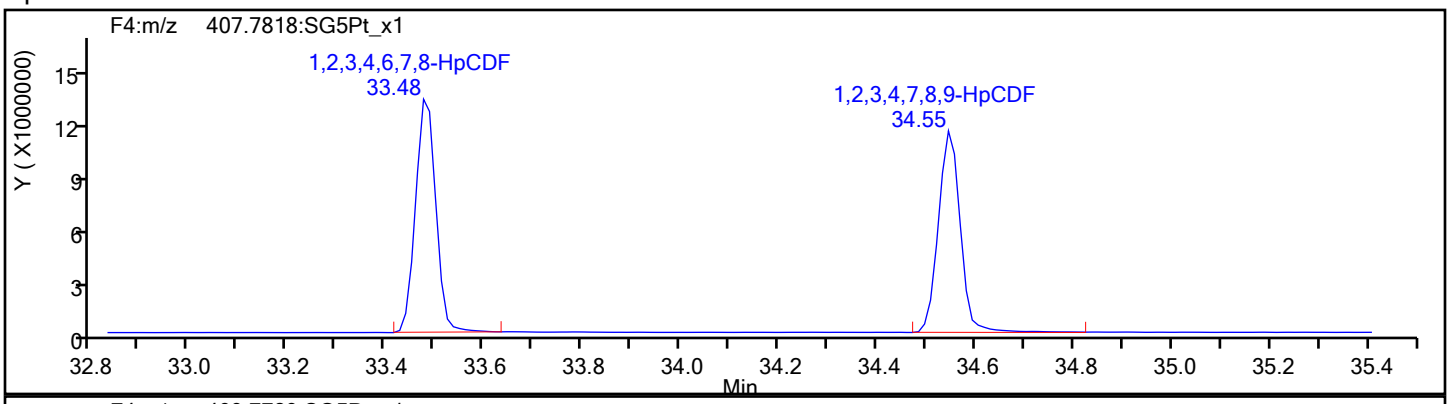

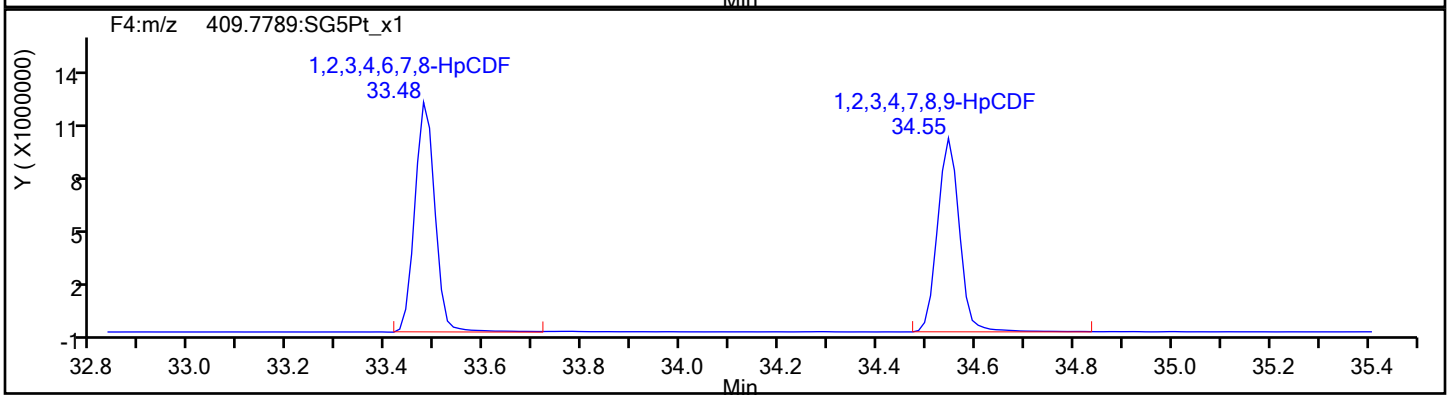

HpCDF Standards

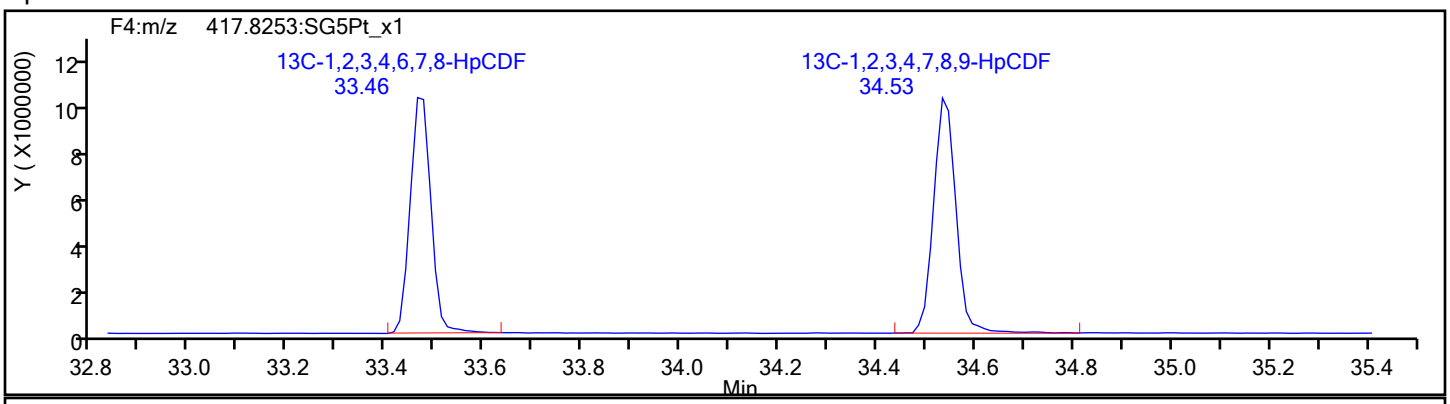

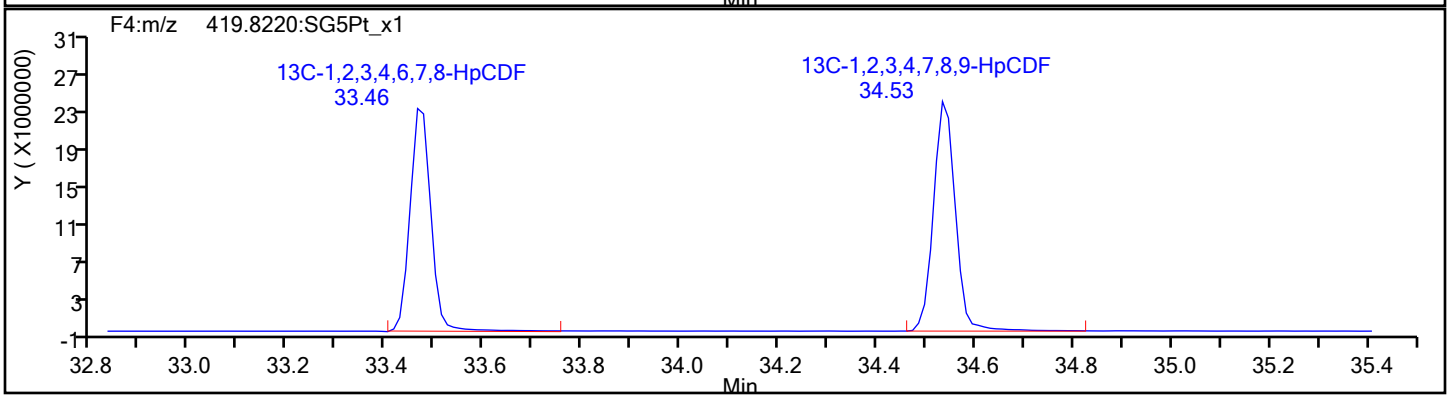

Report Date: 17-Jan-2020 08:33:28 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_11.d		
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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	351160	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

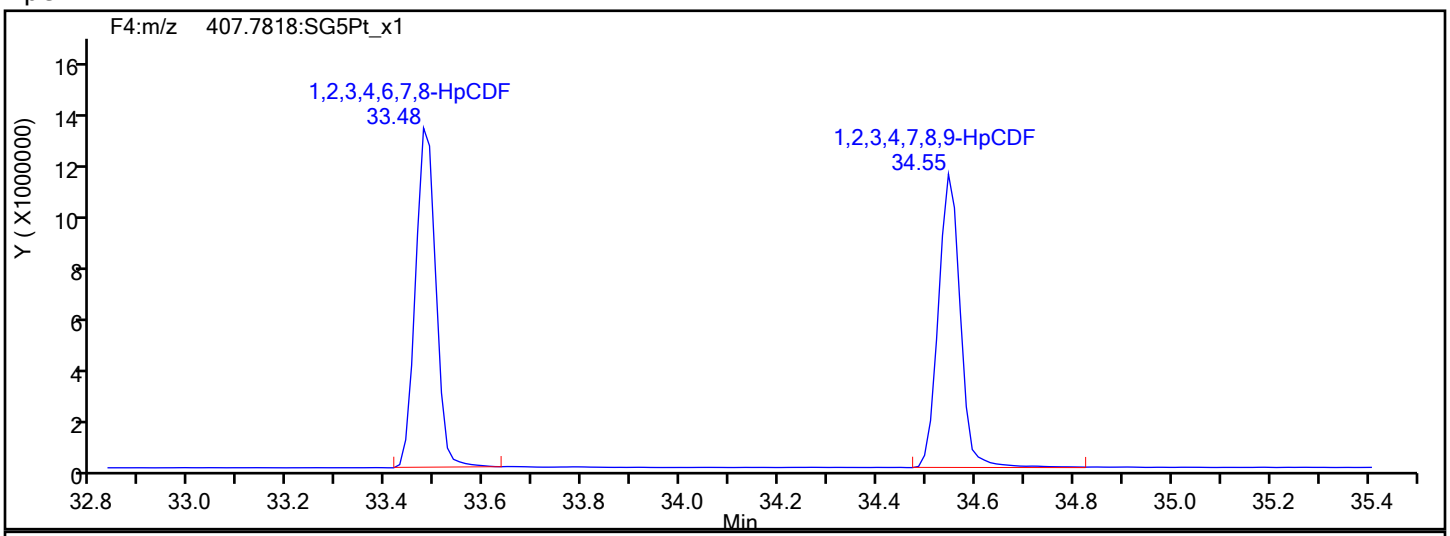

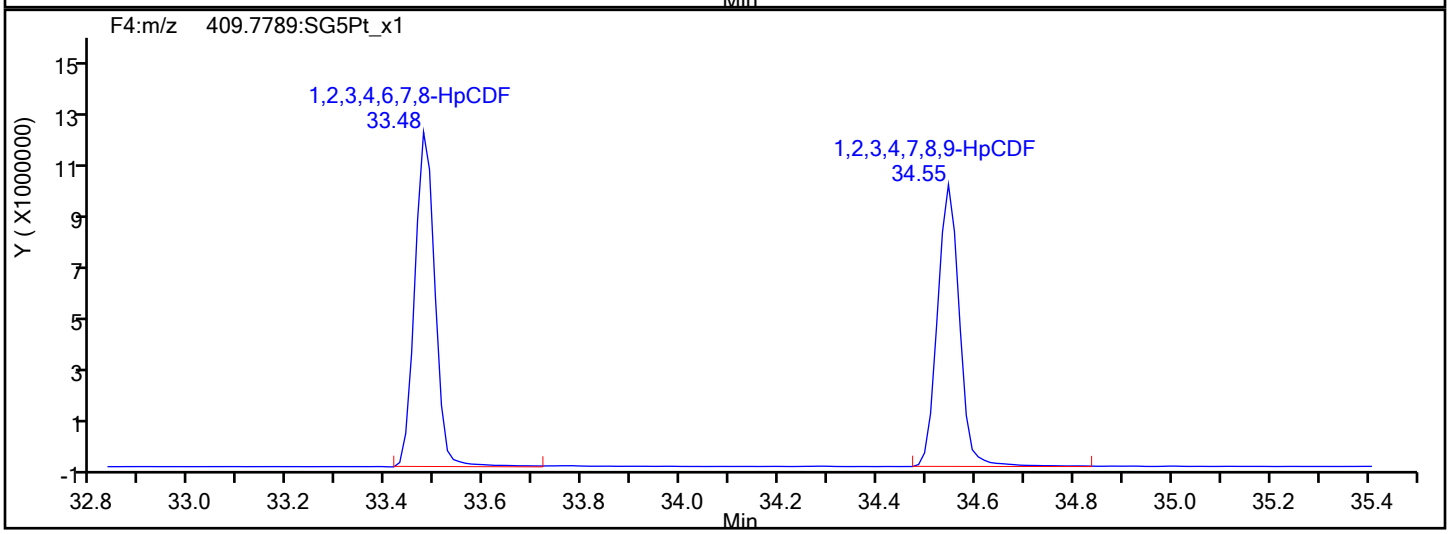

HpCDF Interference Mass

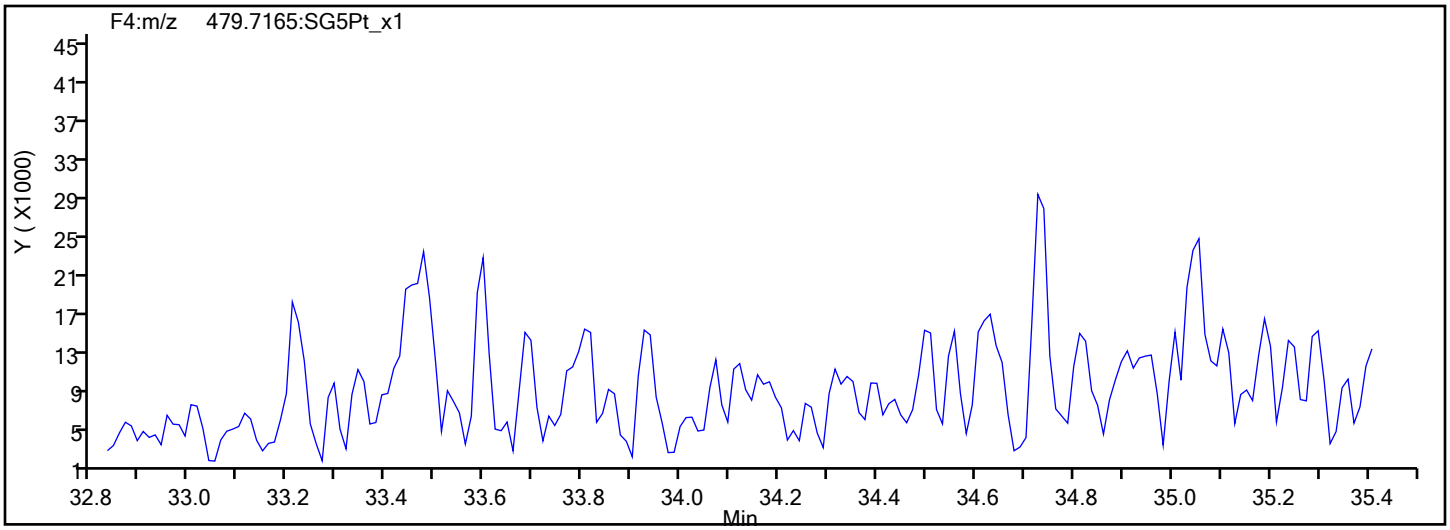

Report Date: 17-Jan-2020 08:33:28 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_11.d		
Injection Date:	16-Jan-2020 03:51:19	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

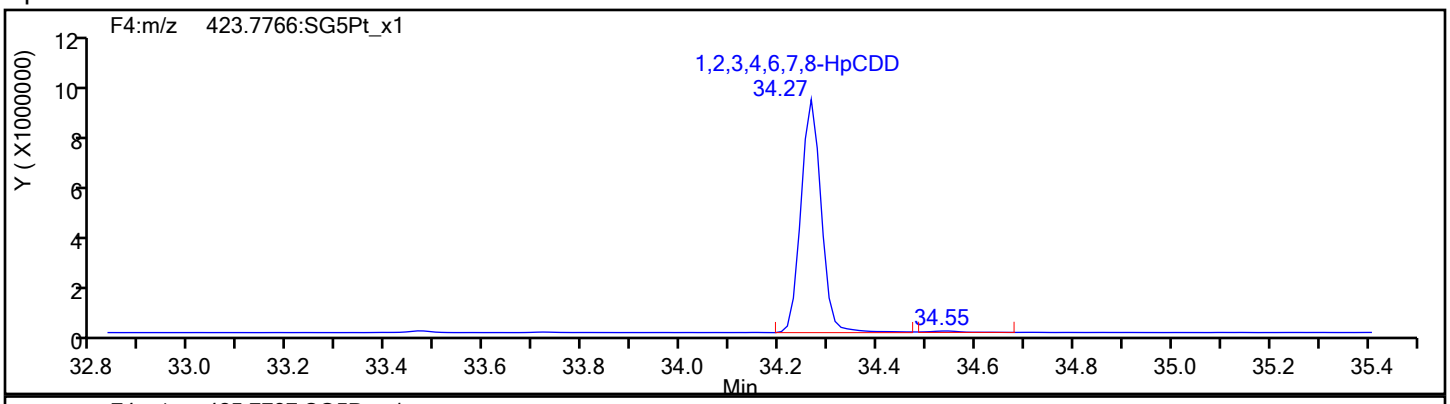

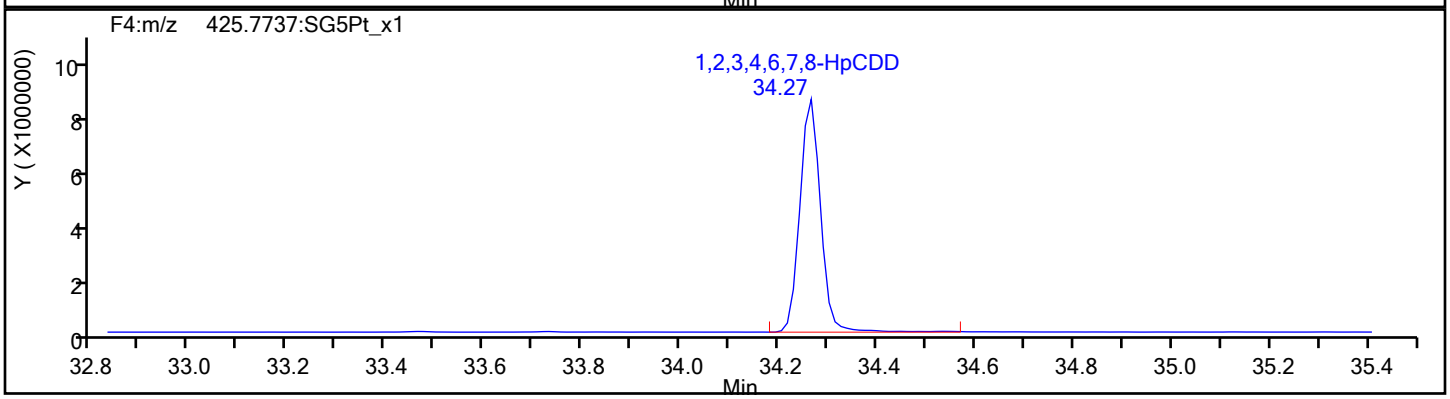

HpCDD Standards

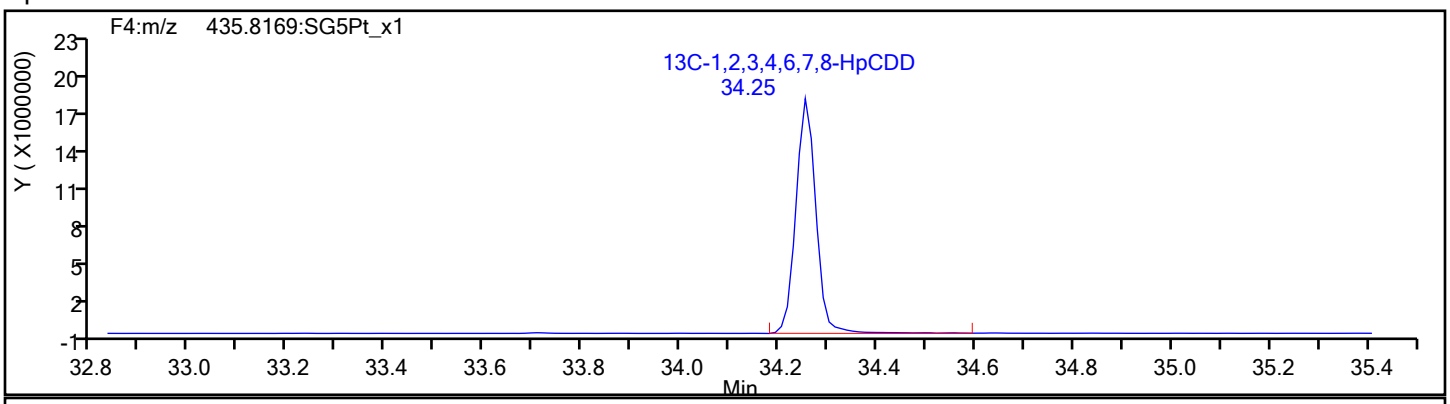

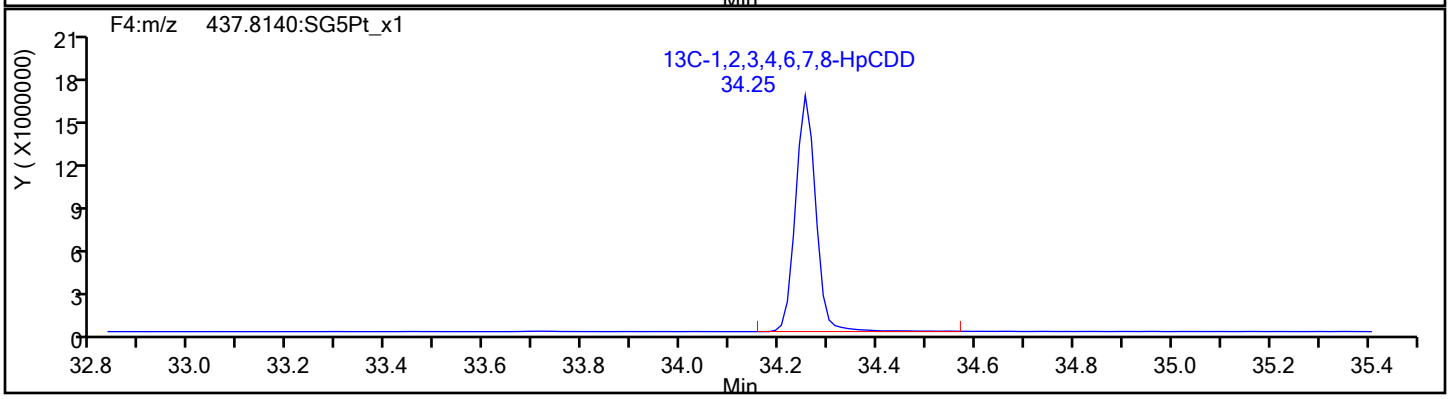

Report Date: 17-Jan-2020 08:33:28 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_11.d		
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Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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OCDF

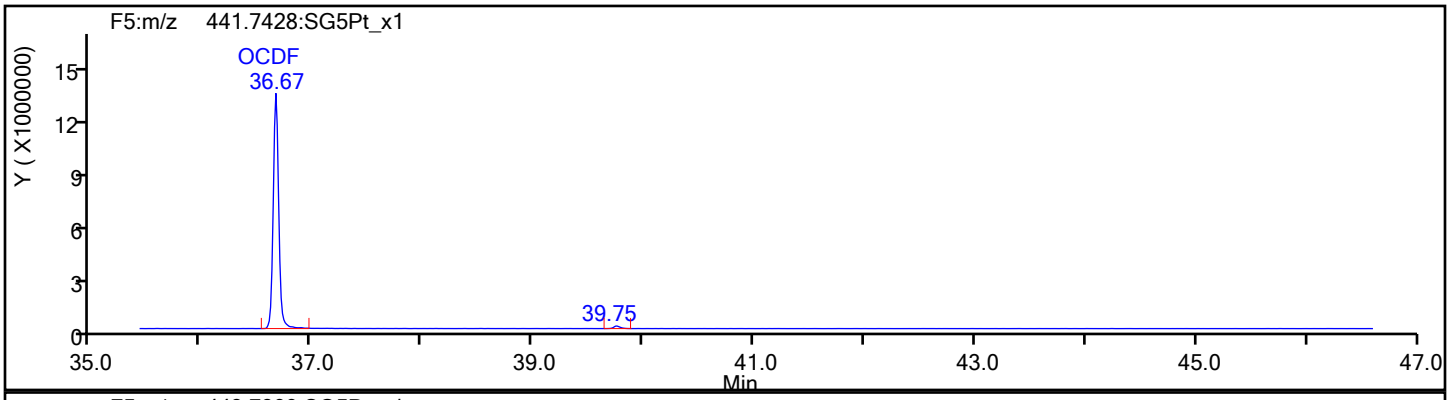

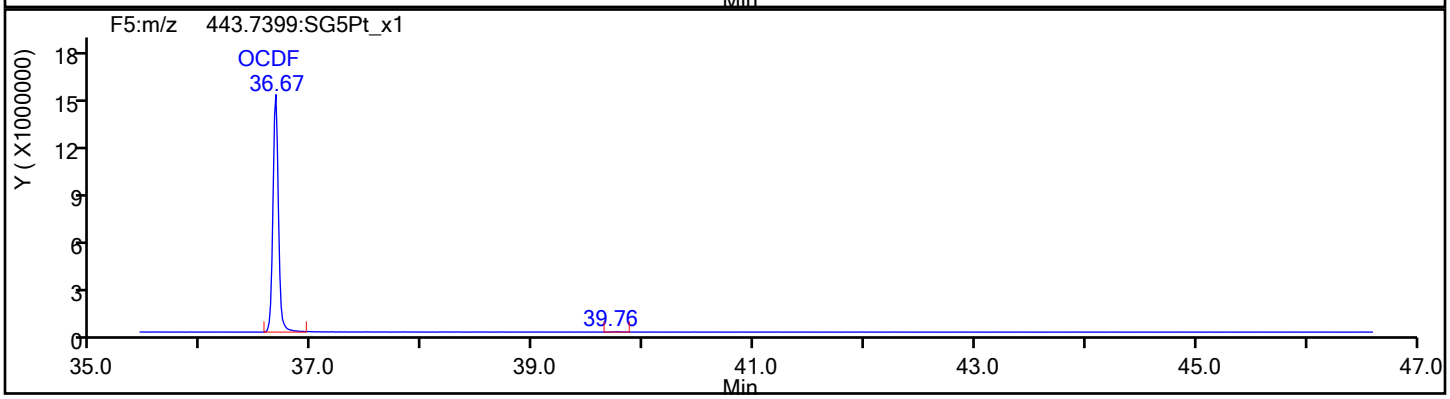

OCDF Standards

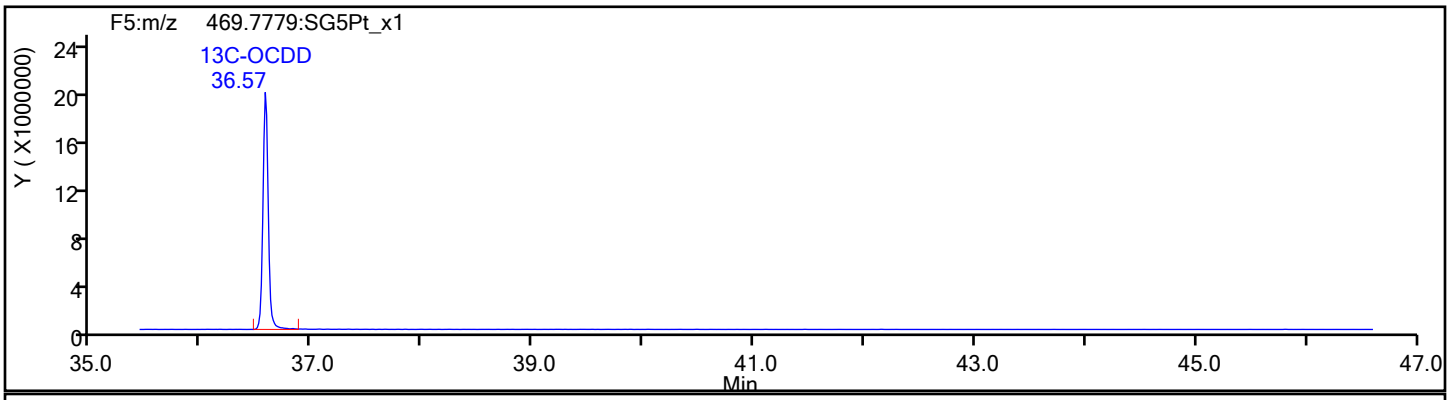

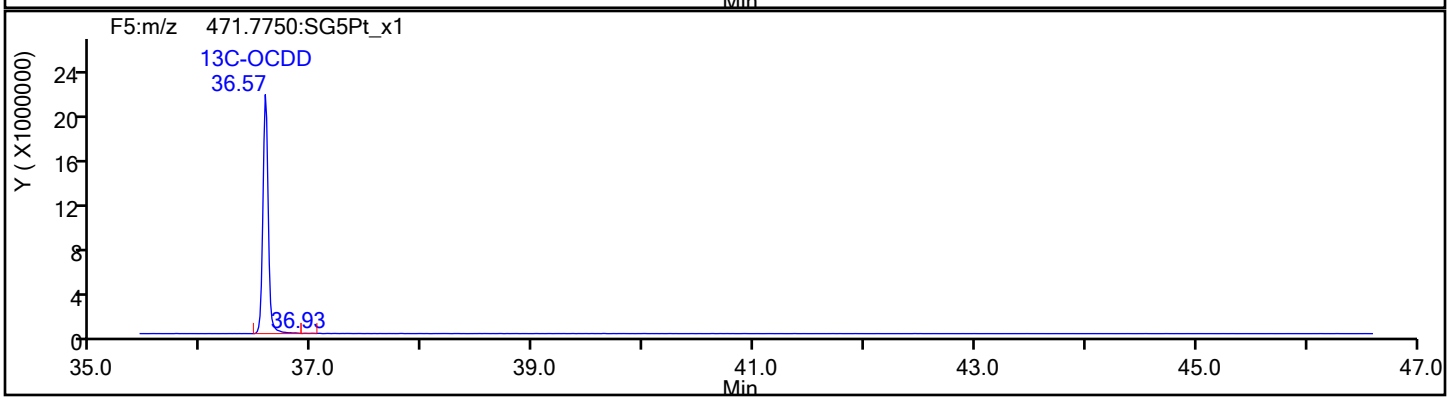

Report Date: 17-Jan-2020 08:33:28 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_11.d		
Injection Date:	16-Jan-2020 03:51:19	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

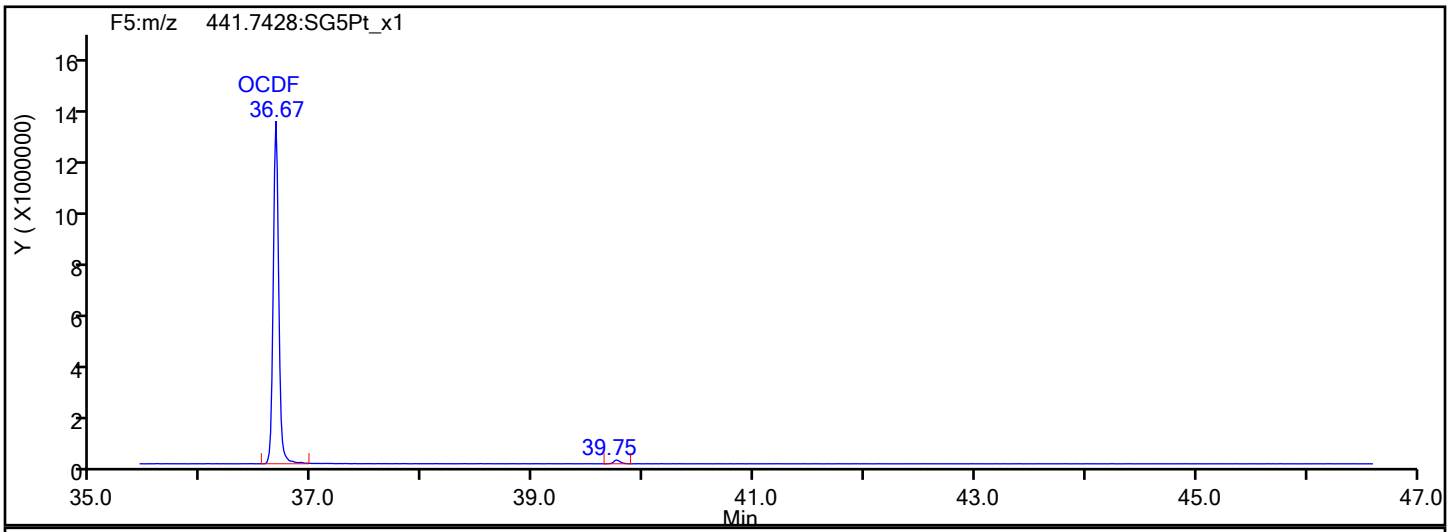

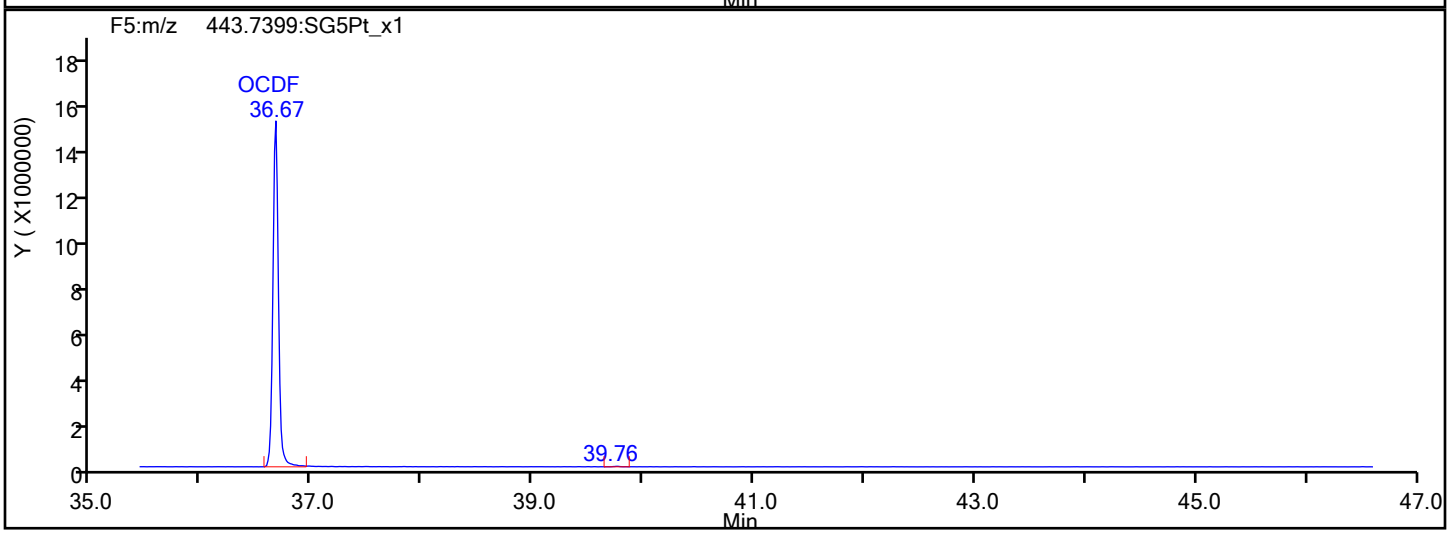

OCDF Interference Mass

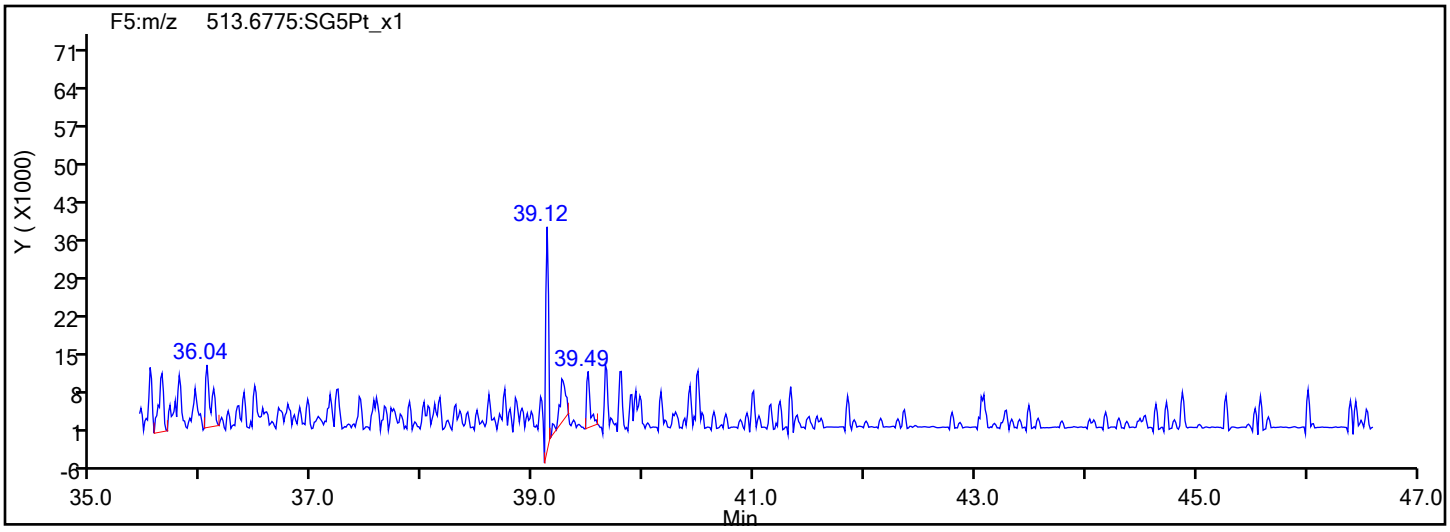

Report Date: 17-Jan-2020 08:33:28 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	351160	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

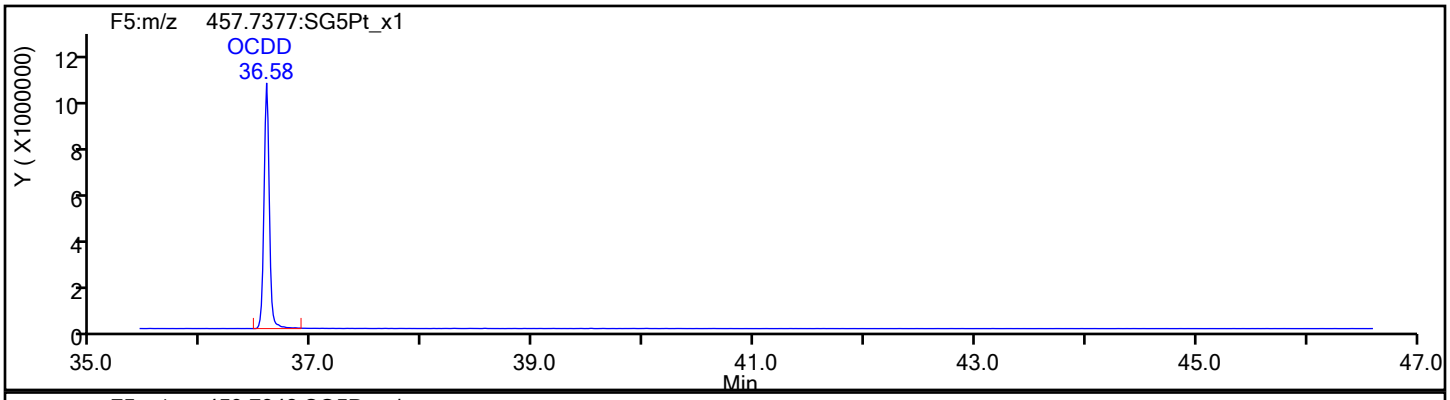

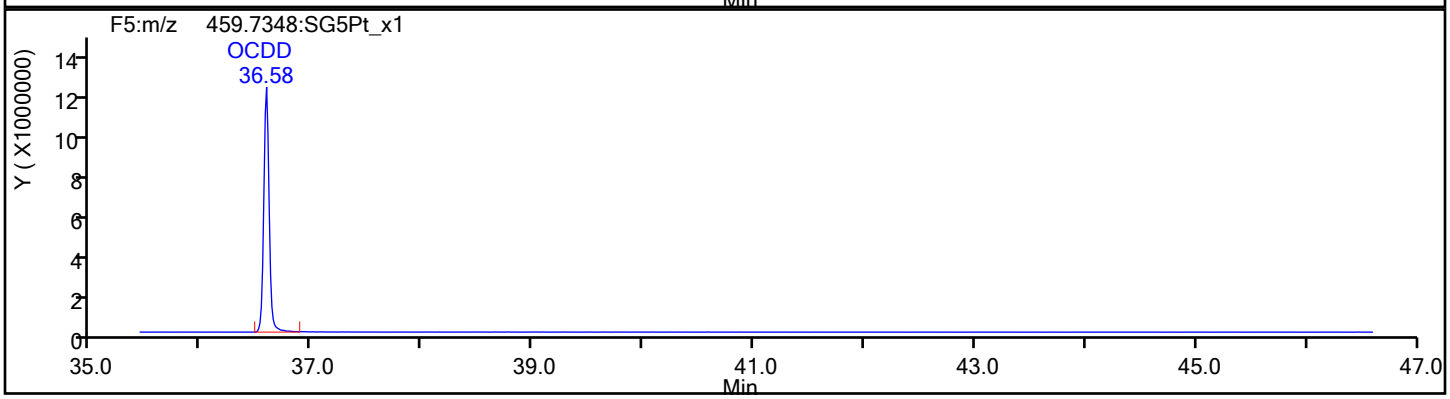

OCDD Standards

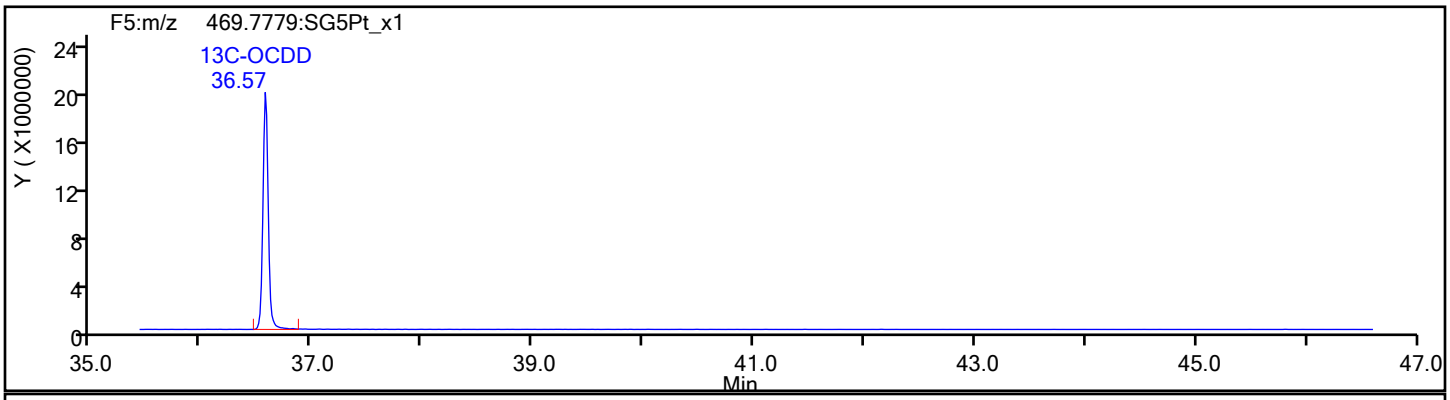

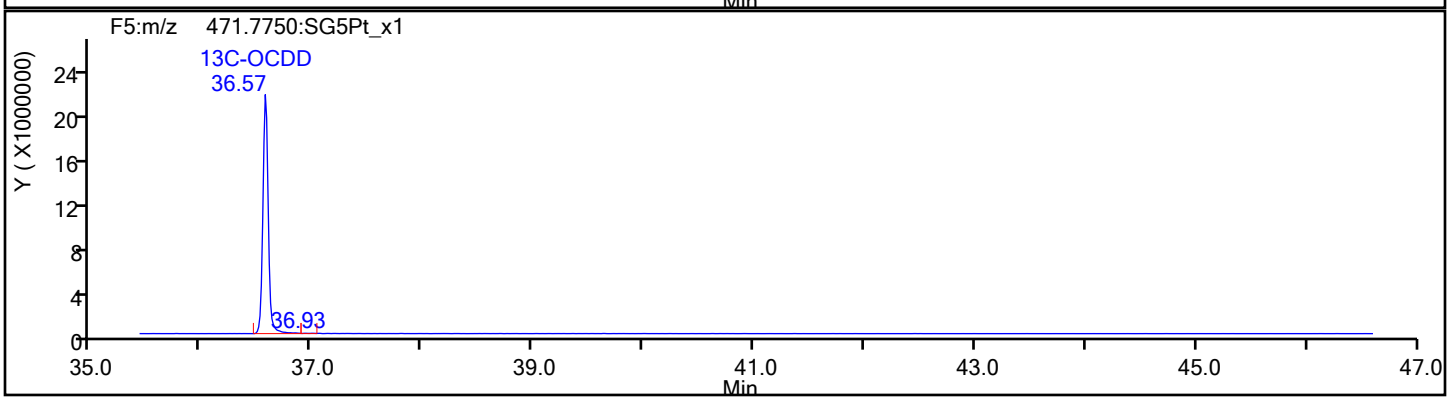

Report Date: 17-Jan-2020 08:33:28 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_11.d		
Injection Date:	16-Jan-2020 03:51:19	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

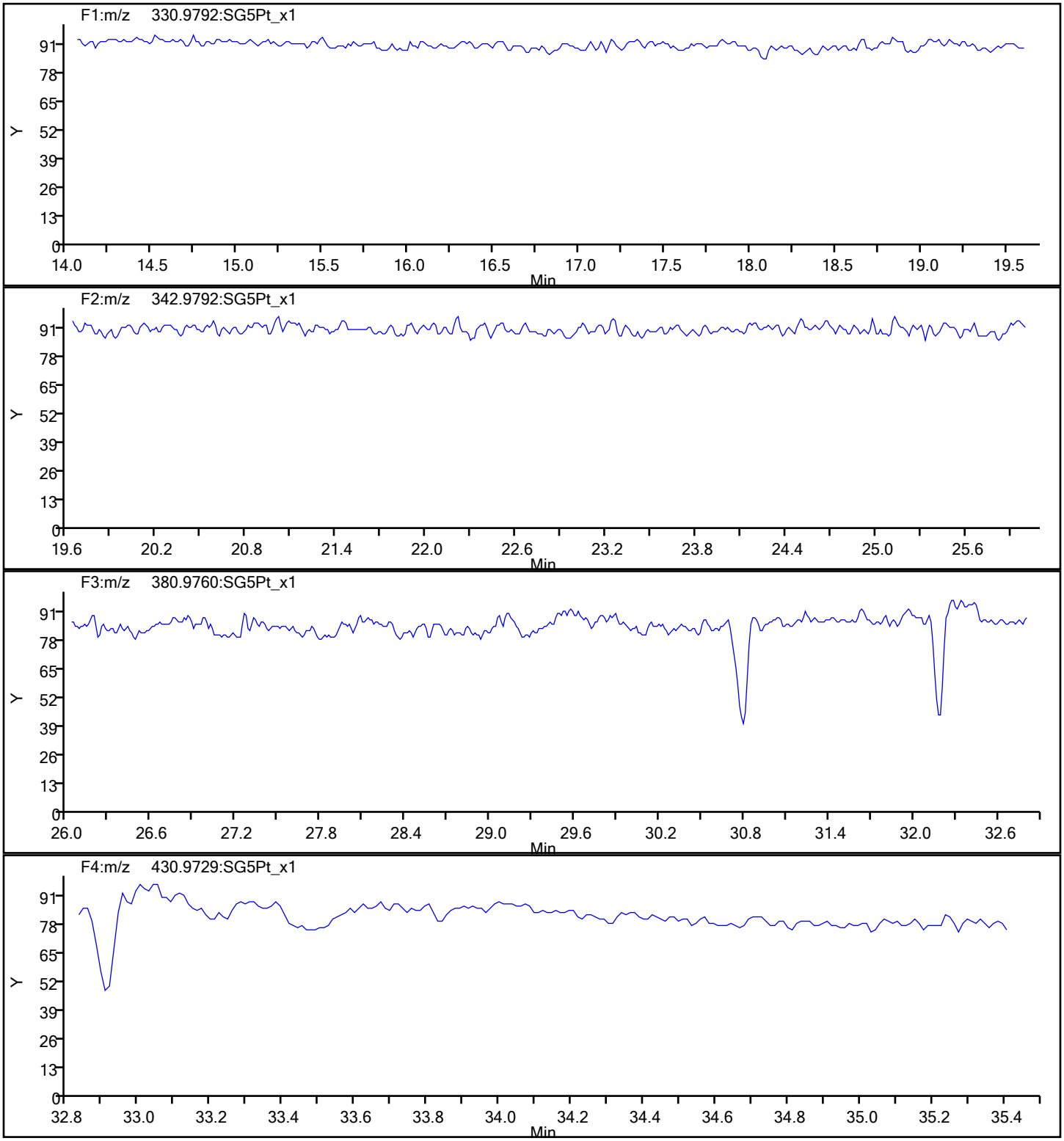

Report Date: 17-Jan-2020 08:33:28 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200116-89625.b\15JA203D5_11.d		
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Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

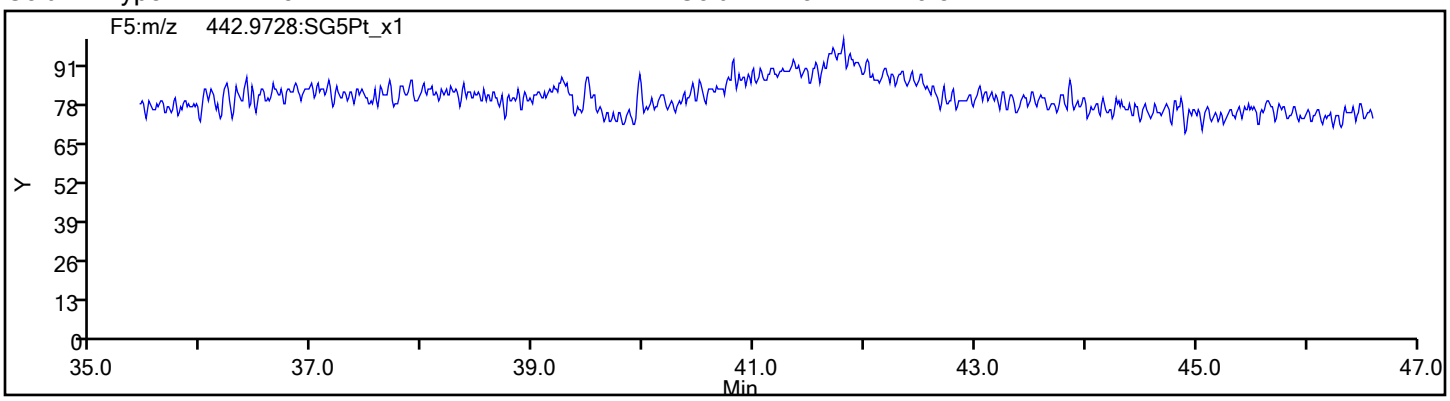

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57717-1

SDG No.:

Instrument ID: 3D5 Start Date: 12/12/2019 09:53

Analysis Batch Number: 345037 End Date: 12/12/2019 16:24

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
WDM 320-345037/1		12/12/2019 09:53	1	12DE193D5_1.d	DB-5 0.32(mm)
IC 320-345037/3		12/12/2019 11:28	1	12DE193D5_3.d	DB-5 0.32(mm)
IC 320-345037/4		12/12/2019 12:16	1	12DE193D5_4.d	DB-5 0.32(mm)
IC 320-345037/5		12/12/2019 13:04	1	12DE193D5_5.d	DB-5 0.32(mm)
IC 320-345037/6		12/12/2019 13:51	1	12DE193D5_6.d	DB-5 0.32(mm)
IC 320-345037/7		12/12/2019 14:39	1	12DE193D5_7.d	DB-5 0.32(mm)
ICV 320-345037/9		12/12/2019 16:24	1	12DE193D5_9.d	DB-5 0.32(mm)

1613B

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-57717-1

SDG No.:

Instrument ID: 3D5 Start Date: 01/15/2020 19:18

Analysis Batch Number: 351160 End Date: 01/16/2020 05:26

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
WDM 320-351160/1		01/15/2020 19:18	1	15JA203D5_1.d	DB-5 0.32(mm)
CCV 320-351160/2		01/15/2020 20:06	1	15JA203D5_2.d	DB-5 0.32(mm)
ZZZZZ		01/15/2020 22:03	1		DB-5 0.32(mm)
ZZZZZ		01/15/2020 22:56	1		DB-5 0.32(mm)
ZZZZZ		01/15/2020 23:43	1		DB-5 0.32(mm)
ZZZZZ		01/16/2020 00:31	1		DB-5 0.32(mm)
ZZZZZ		01/16/2020 01:18	1		DB-5 0.32(mm)
MB 320-350857/1-A		01/16/2020 02:16	1	15JA203D5_9.d	DB-5 0.32(mm)
LCS 320-350857/2-A		01/16/2020 03:03	1	15JA203D5_10.d	DB-5 0.32(mm)
LCSD 320-350857/3-A		01/16/2020 03:51	1	15JA203D5_11.d	DB-5 0.32(mm)
320-57717-1		01/16/2020 04:38	1	15JA203D5_12.d	DB-5 0.32(mm)
320-57717-2		01/16/2020 05:26	1	15JA203D5_13.d	DB-5 0.32(mm)

1613B

DIOXIN BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Sacramen Job No.: 320-57717-1

SDG No.:

Batch Number: 350857 Batch Start Date: 01/15/20 07:32 Batch Analyst: Royce, Robert D

Batch Method: 1613B Batch End Date: 01/15/20 15:29

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	HRDXNIDA 00411	HRDXNIS 00121
MB 320-350857/1		1613B, 1613B				1000 mL	20 uL	1 mL	20 uL
LCS 320-350857/2		1613B, 1613B				1000 mL	20 uL	1 mL	20 uL
LCSD 320-350857/3		1613B, 1613B				1000 mL	20 uL	1 mL	20 uL
320-57717-A-1	11187072-FEFF-0.025um	1613B, 1613B	T	1564.7 g	506.78 g	1057.9 mL	20 uL	1 mL	20 uL
320-57717-A-2	11187072-FEFF-0.050um	1613B, 1613B	T	1563.2 g	507.63 g	1055.6 mL	20 uL	1 mL	20 uL

Lab Sample ID	Client Sample ID	Method Chain	Basis	HRDXNSU 00230	HRDXNTA 00117				
MB 320-350857/1		1613B, 1613B		1 mL					
LCS 320-350857/2		1613B, 1613B		1 mL	50 uL				
LCSD 320-350857/3		1613B, 1613B		1 mL	50 uL				
320-57717-A-1	11187072-FEFF-0.025um	1613B, 1613B	T	1 mL					
320-57717-A-2	11187072-FEFF-0.050um	1613B, 1613B	T	1 mL					

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

DIOXIN BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Sacramen Job No.: 320-57717-1

SDG No.:

Batch Number: 350857 Batch Start Date: 01/15/20 07:32 Batch Analyst: Royce, Robert D

Batch Method: 1613B Batch End Date: 01/15/20 15:29

Batch Notes	
20% DCM:Hexane ID	DH28_00156 mL
65% DCM:Hexane ID	DH6535_00446 mL
Acid Silica Gel ID	SA5644_00593
Acid Alumina ID	28X
Balance ID	QA - 070
Batch Comment	Client filtered
C14 ID	STBJ0716
Hexane ID	Hexane_00156 mL
IFB Clean Up	RDR 01/15/20
MeCL2 ID	0000242956 mL
Na2SO4 ID	0000235304
Analyst ID - IDA Reagent Drop	RDR 01/15/20 HRDXNIDA_00411 B2/4 HD05018
Analyst ID - IDA Reagent Drop Witness	TGL 01/15/20
Analyst ID - IS Reagent Drop	RDR 01/15/20 HRDXNIS_00121 B2/4 CN15436
Analyst ID - IS Reagent Drop Witness	SR 01/15/20
Analyst ID - SU Reagent Drop	RDR 01/15/20 HRDXNSU_00230 B1/2 HD05018
Analyst ID - SU Reagent Drop Witness	FC 1/15/20
Analyst ID - TA Reagent Drop	RDR 01/15/20 HRDXNTA_00117 B10/10 DB15270
Analyst ID - TA Reagent Drop Witness	TGL 01/15/20
Silica Gel ID	SilicaGel_00306
Storage Box ID	DXN - 124

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Shipping and Receiving Documents

CHAIN OF CUSTODY RECORD

COC NO.: 59394

Address: 2055 Niagara Falls Blvd PAGE ___ OF ___

Phone: 716-297-6150 Fax:

Project No/ Phase/Task Code: 11187072	Laboratory Name: Eurofins / Test America	Lab Location: Sacremento	SSOW ID:
Project Name: San Jacinto	Lab Contact: Carrie Gamber / Beth Hitt		Cooler No:
Project Location: Texas			Carrier:
GHD Chemistry Contact: Debbie Brennan			Airbill No:
Sampler(s): Don Pope			Total # of Containers: 2

Item	Sample Identification (Containers for each sample may be combined on one line)	Date (mm/dd/yy)	Time (hh:mm)	Matrix Code (see back of COC)	Grab (G) or Comp (C)	Filtered (Y/N)	Dissolved Metals											Total Containers/sample	MS/MSD Request	Comments/ Special Instructions:
	PRESERVATION - (SEE BACK OF COC FOR ABBREVIATIONS)																			
	11187072-FEFF-0.025um	1/13/20	12:00	WG			X											1		Attn to: Carrie Gamber
	11187072-FEFF-0.050um	↓	↓	↓			X											1		
																				*5 day TAT
6																				
7																				
8																				
9																				
10																				
11																				
12																				

320-57717 Chain of Custody

TAT Required in business days (use separate COCs for different TATs):

☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 1 Week ☐ 2 Week ☐ Other:

Notes/ Special Requirements:

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1. Don Pope	GHD	1/13/20	12:30	1. [signature]	ETA - SAC	1/14/20	935 2.5°
2.				2.			
3.				3.			

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT – ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE – Fully Executed Copy (CRA) YELLOW – Receiving Laboratory Copy PINK – Shipper GOLDENROD – Sampling Crew

GHD Form: COC-10B (20110804)

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Sacramento Sample Receiving Notes

320-57717 Field Sheet

Job: _____

Tracking # : 4576 5884 8833

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSO / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations. File in the job folder with the COC.

Notes: _____

Therm. ID: AK 12 Corr. Factor: (+ / -) 0 °C

Ice ✓ Wet ____ Gel ____ Other ____

Cooler Custody Seal: —

Cooler ID: —

Temp Observed: 2.5 °C Corrected: 2.5 °C

From: Temp Blank ☐ Sample ☑

During Initial Triage	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
CoC is complete w/o discrepancies?	☑	☐	☐
Samples received within holding time?	☑	☐	☐

Initials: ~~JJ~~ PK PR 1/14/20 Date: 1/14/20

During Labeling	Yes	No	NA
Samples compromised/tampered with?	☐	☑	☐
Sample containers have legible labels?	☑	☐	☐
Sample custody seal?	☐	☐	☑
Containers are not broken or leaking?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐
NCM Filed	☐	☐	☑

Initials: SJ Date: 1/14/20

Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

ORIGIN ID:DKKA (716) 297-2160
BRITT GEBHARDT
GHD
2055 NIAGARA FALLS BLVD

NIAGARA FALLS, NY 14304
UNITED STATES US

SHIP DATE: 13JAN20
ACTWGT: 46.00 LB MAN
CAD: 68417/CAFE3211

BILL SENDER

TO **SAMPLE RECEIVING**
EUROFINS/TEST AMERICA
880 RIVERSIDE PARKWAY

W. SACRAMENTO CA 95605
(916) 373-5600
REF: 11167072 - NI0402 GEB (POPE)

362

Fe
Express

TUE - 14 JAN 10:30A
PRIORITY OVERNIGHT

TRK# 0201 **4576 5884 8833**

XH BLUA

95605
CA-US **SMF**

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 320-57717-1

Login Number: 57717
List Number: 1
Creator: Thompson, Sarah W

List Source: Eurofins TestAmerica, Sacramento

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Job Number: 320-58170-1

Job Description: San Jacinto River Waste Pits Superfund

For:
GHD Services Inc.
5551 Corporate Boulevard
Suite 200
Baton Rouge, LA 70808

Attention: Janie Smith

Approved for release.
Carrie L Gamber
Senior Project Manager
5/27/2020 11:10 AM

Carrie L Gamber, Senior Project Manager
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2428
carrie.gamber@testamericainc.com
05/27/2020
Revision: 3

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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Definitions/Glossary

Client: GHD Services Inc. Job ID: 320-58170-1
Project/Site: San Jacinto River Waste Pits Superfund

Qualifiers

Dioxin

Qualifier	Qualifier Description
*	Isotope Dilution analyte is outside acceptance limits.
B	Compound was found in the blank and sample.
G	The reported quantitation limit has been raised due to an exhibited elevated noise or matrix interference
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE

Client: GHD Services Inc.

Project: San Jacinto River Waste Pits Superfund

Report Number: 320-58170-1 REVISED 2

NOTE: Per the client's request, the TEQ summaries have been removed from this report for the water samples only.

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 01/30/2020; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 8.0 C.

The following samples were received at the laboratory outside the required temperature criteria of 0-6 C: 11187072-Berm-GW (320-58170-1), 11187072-Berm-Solids (320-58170-2), 11187072-Eastern-GW (320-58170-3), 11187072-Eastern-Solids (320-58170-4), 11187072-Western-GW (320-58170-5) and 11187072-Western-Solids (320-58170-6). The client was contacted and the analyses proceeded.

NOTE: Results for non-detect PCDD/PCDF analytes are reported using the Estimated Detection Limit (EDL) convention, which provides the lowest possible detection limits for each analyte in each sample based on the magnitude of chromatographic and detector 'noise' at the expected retention time of each analyte. EDL values are typically well below 1 pg/g, and the TEQ-weighted sum of EDL values is below the targeted action limit of 30 pg/g in each reported sample.

DIOXINS

Due to the matrix, the initial volumes used for the following samples deviated from the standard procedure: 11187072-Berm-Solids (320-58170-2), 11187072-Eastern-Solids (320-58170-4) and 11187072-Western-Solids (320-58170-6). The reporting limits (RLs) have been adjusted proportionately. Samples are associated with preparation batch 320-354207.

Several analytes were detected in method blank MB 320-354207/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Several analytes were detected in method blank MB 320-354177/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

PERCENT SOLIDS

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 320-58170-1

Client Sample ID: 11187072-Berm-GW — Lab Sample ID: 320-58170-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDD	1.1	J q B	48	0.53	pg/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	2.9	J q B	48	0.50	pg/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	2.1	J q B	48	0.44	pg/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	1.2	J B	48	0.95	pg/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	1.2	J B	48	0.80	pg/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	2.7	J B	48	0.63	pg/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	1.7	J B	48	0.58	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	8.7	J q B	48	0.82	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	7.4	J B	48	0.63	pg/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	2.6	J q B	48	1.0	pg/L	1		1613B	Total/NA
OCDD	83	J B	96	1.2	pg/L	1		1613B	Total/NA
OCDF	21	J B	96	0.99	pg/L	1		1613B	Total/NA
Total PeCDD	1.1	J q B	48	0.53	pg/L	1		1613B	Total/NA
Total HxCDD	5.0	J q B	48	0.47	pg/L	1		1613B	Total/NA
Total HxCDF	6.8	J B	48	0.74	pg/L	1		1613B	Total/NA
Total HpCDD	15	J q B	48	0.82	pg/L	1		1613B	Total/NA
Total HpCDF	13	J q B	48	0.83	pg/L	1		1613B	Total/NA

Client Sample ID: 11187072-Berm-Solids — Lab Sample ID: 320-58170-2

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	0.56	J	2.3	0.13	pg/g	1	☼	1613B	Total/NA
2,3,7,8-TCDF	0.73	J	2.3	0.099	pg/g	1	☼	1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.48	J q B	11	0.16	pg/g	1	☼	1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.86	J	11	0.15	pg/g	1	☼	1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.62	J q	11	0.14	pg/g	1	☼	1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	1.9	J q B	11	0.19	pg/g	1	☼	1613B	Total/NA
OCDD	320	B	23	0.59	pg/g	1	☼	1613B	Total/NA
OCDF	5.0	J	23	0.19	pg/g	1	☼	1613B	Total/NA
Total TCDD	0.56	J	2.3	0.13	pg/g	1	☼	1613B	Total/NA
Total TCDF	0.73	J	2.3	0.099	pg/g	1	☼	1613B	Total/NA
Total PeCDF	0.69	J	11	0.12	pg/g	1	☼	1613B	Total/NA
Total HxCDD	5.0	J q B	11	0.15	pg/g	1	☼	1613B	Total/NA
Total HxCDF	0.69	J	11	0.21	pg/g	1	☼	1613B	Total/NA
Total HpCDD	20	q B	11	0.61	pg/g	1	☼	1613B	Total/NA
Total HpCDF	3.8	J q B	11	0.24	pg/g	1	☼	1613B	Total/NA

Client Sample ID: 11187072-Eastern-GW — Lab Sample ID: 320-58170-3

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDD	0.62	J q B	48	0.48	pg/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	2.1	J B	48	0.54	pg/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	1.3	J B	48	0.48	pg/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	2.8	J B	48	0.92	pg/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	1.1	J q B	48	0.62	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	7.7	J B	48	0.67	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	6.1	J B	48	0.46	pg/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	1.2	J q B	48	0.75	pg/L	1		1613B	Total/NA
OCDD	94	J B	96	1.1	pg/L	1		1613B	Total/NA
OCDF	14	J B	96	0.86	pg/L	1		1613B	Total/NA
Total PeCDD	0.62	J q B	48	0.48	pg/L	1		1613B	Total/NA
Total HxCDD	3.4	J B	48	0.51	pg/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 320-58170-1

Client Sample ID: 11187072-Eastern-GW (Continued) — Lab Sample ID: 320-58170-3

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
Total HxCDF	3.9	J q B	48	0.72	pg/L	1		1613B	Total/NA
Total HpCDD	16	J B	48	0.67	pg/L	1		1613B	Total/NA
Total HpCDF	8.9	J q B	48	0.61	pg/L	1		1613B	Total/NA

Client Sample ID: 11187072-Eastern-Solids — Lab Sample ID: 320-58170-4

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	0.98	J q	2.1	0.12	pg/g	1	☼	1613B	Total/NA
1,2,3,7,8-PeCDF	0.12	J q	11	0.097	pg/g	1	☼	1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.46	J B	11	0.17	pg/g	1	☼	1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.38	J q	11	0.16	pg/g	1	☼	1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.48	J	11	0.15	pg/g	1	☼	1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.18	J q	11	0.17	pg/g	1	☼	1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.24	J	11	0.10	pg/g	1	☼	1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	12		11	0.57	pg/g	1	☼	1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.75	J q B	11	0.16	pg/g	1	☼	1613B	Total/NA
OCDD	280	B	21	0.39	pg/g	1	☼	1613B	Total/NA
OCDF	4.0	J	21	0.18	pg/g	1	☼	1613B	Total/NA
Total TCDD	0.98	J q	2.1	0.12	pg/g	1	☼	1613B	Total/NA
Total TCDF	3.6	q	2.1	0.13	pg/g	1	☼	1613B	Total/NA
Total PeCDF	0.12	J q	11	0.11	pg/g	1	☼	1613B	Total/NA
Total HxCDD	4.9	J q B	11	0.16	pg/g	1	☼	1613B	Total/NA
Total HxCDF	1.2	J q	11	0.13	pg/g	1	☼	1613B	Total/NA
Total HpCDD	33	B	11	0.57	pg/g	1	☼	1613B	Total/NA
Total HpCDF	2.0	J q B	11	0.20	pg/g	1	☼	1613B	Total/NA
2,3,7,8-TCDF - RA	2.2		2.1	0.14	pg/g	1	☼	1613B	Total/NA

Client Sample ID: 11187072-Western-GW — Lab Sample ID: 320-58170-5

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	3.4	J	9.6	0.46	pg/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	3.1	J B	48	0.51	pg/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	1.1	J B	48	0.45	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	3.9	J B	48	0.80	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	2.0	J B	48	0.42	pg/L	1		1613B	Total/NA
OCDD	51	J B	96	0.91	pg/L	1		1613B	Total/NA
OCDF	3.4	J B	96	0.81	pg/L	1		1613B	Total/NA
Total TCDD	3.4	J	9.6	0.46	pg/L	1		1613B	Total/NA
Total HxCDD	4.1	J B	48	0.48	pg/L	1		1613B	Total/NA
Total HpCDD	8.3	J B	48	0.80	pg/L	1		1613B	Total/NA
Total HpCDF	3.2	J q B	48	0.56	pg/L	1		1613B	Total/NA

Client Sample ID: 11187072-Western-Solids — Lab Sample ID: 320-58170-6

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	1.0	J	2.2	0.098	pg/g	1	☼	1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.69	J B	11	0.16	pg/g	1	☼	1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.67	J	11	0.14	pg/g	1	☼	1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.68	J q	11	0.14	pg/g	1	☼	1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	26		11	0.81	pg/g	1	☼	1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	3.2	J B	11	0.20	pg/g	1	☼	1613B	Total/NA
OCDD	540	B	22	0.50	pg/g	1	☼	1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: GHD Services Inc.
Job ID: 320-58170-1
Project/Site: San Jacinto River Waste Pits Superfund

Client Sample ID: 11187072-Western-Solids (Continued) — Lab Sample ID: 320-58170-6

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
OCDF	12	J	22	0.16	pg/g	1	☼	1613B	Total/NA
Total TCDD	1.0	J	2.2	0.098	pg/g	1	☼	1613B	Total/NA
Total TCDF	5.0	q	2.2	0.20	pg/g	1	☼	1613B	Total/NA
Total PeCDD	0.20	J q	11	0.17	pg/g	1	☼	1613B	Total/NA
Total PeCDF	1.4	J	11	0.15	pg/g	1	☼	1613B	Total/NA
Total HxCDD	7.9	J q B	11	0.15	pg/g	1	☼	1613B	Total/NA
Total HxCDF	1.9	J q	11	0.15	pg/g	1	☼	1613B	Total/NA
Total HpCDD	62	B	11	0.81	pg/g	1	☼	1613B	Total/NA
Total HpCDF	9.6	J B	11	0.25	pg/g	1	☼	1613B	Total/NA
2,3,7,8-TCDF - RA	2.5		2.2	0.22	pg/g	1	☼	1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 320-58170-1

Client Sample ID: 11187072-Berm-GW

Date Collected: 01/29/20 13:30
Date Received: 01/30/20 09:00

Lab Sample ID: 320-58170-1

Matrix: Water

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		9.6	0.60	pg/L		01/31/20 07:47	02/05/20 20:08	1
2,3,7,8-TCDF	ND		9.6	0.28	pg/L		01/31/20 07:47	02/05/20 20:08	1
1,2,3,7,8-PeCDD	**1.1**	**J q B**	48	0.53	pg/L		01/31/20 07:47	02/05/20 20:08	1
1,2,3,7,8-PeCDF	ND		48	0.46	pg/L		01/31/20 07:47	02/05/20 20:08	1
2,3,4,7,8-PeCDF	ND		48	0.51	pg/L		01/31/20 07:47	02/05/20 20:08	1
1,2,3,4,7,8-HxCDD	**2.9**	**J q B**	48	0.50	pg/L		01/31/20 07:47	02/05/20 20:08	1
1,2,3,6,7,8-HxCDD	ND		48	0.48	pg/L		01/31/20 07:47	02/05/20 20:08	1
1,2,3,7,8,9-HxCDD	**2.1**	**J q B**	48	0.44	pg/L		01/31/20 07:47	02/05/20 20:08	1
1,2,3,4,7,8-HxCDF	**1.2**	**J B**	48	0.95	pg/L		01/31/20 07:47	02/05/20 20:08	1
1,2,3,6,7,8-HxCDF	**1.2**	**J B**	48	0.80	pg/L		01/31/20 07:47	02/05/20 20:08	1
1,2,3,7,8,9-HxCDF	**2.7**	**J B**	48	0.63	pg/L		01/31/20 07:47	02/05/20 20:08	1
2,3,4,6,7,8-HxCDF	**1.7**	**J B**	48	0.58	pg/L		01/31/20 07:47	02/05/20 20:08	1
1,2,3,4,6,7,8-HpCDD	**8.7**	**J q B**	48	0.82	pg/L		01/31/20 07:47	02/05/20 20:08	1
1,2,3,4,6,7,8-HpCDF	**7.4**	**J B**	48	0.63	pg/L		01/31/20 07:47	02/05/20 20:08	1
1,2,3,4,7,8,9-HpCDF	**2.6**	**J q B**	48	1.0	pg/L		01/31/20 07:47	02/05/20 20:08	1
OCDD	**83**	**J B**	96	1.2	pg/L		01/31/20 07:47	02/05/20 20:08	1
OCDF	**21**	**J B**	96	0.99	pg/L		01/31/20 07:47	02/05/20 20:08	1
Total TCDD	ND		9.6	0.60	pg/L		01/31/20 07:47	02/05/20 20:08	1
Total TCDF	ND		9.6	0.28	pg/L		01/31/20 07:47	02/05/20 20:08	1
Total PeCDD	**1.1**	**J q B**	48	0.53	pg/L		01/31/20 07:47	02/05/20 20:08	1
Total PeCDF	ND		48	0.51	pg/L		01/31/20 07:47	02/05/20 20:08	1
Total HxCDD	**5.0**	**J q B**	48	0.47	pg/L		01/31/20 07:47	02/05/20 20:08	1
Total HxCDF	**6.8**	**J B**	48	0.74	pg/L		01/31/20 07:47	02/05/20 20:08	1
Total HpCDD	**15**	**J q B**	48	0.82	pg/L		01/31/20 07:47	02/05/20 20:08	1
Total HpCDF	**13**	**J q B**	48	0.83	pg/L		01/31/20 07:47	02/05/20 20:08	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*69*		*25 - 164*	*01/31/20 07:47*	*02/05/20 20:08*	*1*
13C-2,3,7,8-TCDF	*70*		*24 - 169*	*01/31/20 07:47*	*02/05/20 20:08*	*1*
13C-1,2,3,7,8-PeCDD	*65*		*25 - 181*	*01/31/20 07:47*	*02/05/20 20:08*	*1*
13C-1,2,3,7,8-PeCDF	*67*		*24 - 185*	*01/31/20 07:47*	*02/05/20 20:08*	*1*
13C-2,3,4,7,8-PeCDF	*67*		*21 - 178*	*01/31/20 07:47*	*02/05/20 20:08*	*1*
13C-1,2,3,4,7,8-HxCDD	*65*		*32 - 141*	*01/31/20 07:47*	*02/05/20 20:08*	*1*
13C-1,2,3,6,7,8-HxCDD	*80*		*28 - 130*	*01/31/20 07:47*	*02/05/20 20:08*	*1*
13C-1,2,3,4,7,8-HxCDF	*73*		*26 - 152*	*01/31/20 07:47*	*02/05/20 20:08*	*1*
13C-1,2,3,6,7,8-HxCDF	*79*		*26 - 123*	*01/31/20 07:47*	*02/05/20 20:08*	*1*
13C-1,2,3,7,8,9-HxCDF	*72*		*29 - 147*	*01/31/20 07:47*	*02/05/20 20:08*	*1*
13C-2,3,4,6,7,8-HxCDF	*76*		*28 - 136*	*01/31/20 07:47*	*02/05/20 20:08*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*65*		*23 - 140*	*01/31/20 07:47*	*02/05/20 20:08*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*67*		*28 - 143*	*01/31/20 07:47*	*02/05/20 20:08*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*64*		*26 - 138*	*01/31/20 07:47*	*02/05/20 20:08*	*1*
13C-OCDD	*53*		*17 - 157*	*01/31/20 07:47*	*02/05/20 20:08*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*87*		*35 - 197*	*01/31/20 07:47*	*02/05/20 20:08*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 320-58170-1

Client Sample ID: 11187072-Berm-Solids

Date Collected: 01/29/20 13:30
Date Received: 01/30/20 09:00

Lab Sample ID: 320-58170-2

Matrix: Sediment
Percent Solids: 99.6

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	**0.56**	**J**	2.3	0.13	pg/g	☼	01/31/20 09:04	02/06/20 19:14	1
2,3,7,8-TCDF	**0.73**	**J**	2.3	0.099	pg/g	☼	01/31/20 09:04	02/06/20 19:14	1
1,2,3,7,8-PeCDD	ND		11	0.15	pg/g	☼	01/31/20 09:04	02/06/20 19:14	1
1,2,3,7,8-PeCDF	ND		11	0.12	pg/g	☼	01/31/20 09:04	02/06/20 19:14	1
2,3,4,7,8-PeCDF	ND		11	0.13	pg/g	☼	01/31/20 09:04	02/06/20 19:14	1
1,2,3,4,7,8-HxCDD	**0.48**	**J q B**	11	0.16	pg/g	☼	01/31/20 09:04	02/06/20 19:14	1
1,2,3,6,7,8-HxCDD	**0.86**	**J**	11	0.15	pg/g	☼	01/31/20 09:04	02/06/20 19:14	1
1,2,3,7,8,9-HxCDD	**0.62**	**J q**	11	0.14	pg/g	☼	01/31/20 09:04	02/06/20 19:14	1
1,2,3,4,7,8-HxCDF	ND		11	0.27	pg/g	☼	01/31/20 09:04	02/06/20 19:14	1
1,2,3,6,7,8-HxCDF	ND		11	0.23	pg/g	☼	01/31/20 09:04	02/06/20 19:14	1
1,2,3,7,8,9-HxCDF	ND		11	0.18	pg/g	☼	01/31/20 09:04	02/06/20 19:14	1
2,3,4,6,7,8-HxCDF	ND		11	0.16	pg/g	☼	01/31/20 09:04	02/06/20 19:14	1
1,2,3,4,6,7,8-HpCDD	ND		11	0.61	pg/g	☼	01/31/20 09:04	02/06/20 19:14	1
1,2,3,4,6,7,8-HpCDF	**1.9**	**J q B**	11	0.19	pg/g	☼	01/31/20 09:04	02/06/20 19:14	1
1,2,3,4,7,8,9-HpCDF	ND		11	0.30	pg/g	☼	01/31/20 09:04	02/06/20 19:14	1
OCDD	**320**	**B**	23	0.59	pg/g	☼	01/31/20 09:04	02/06/20 19:14	1
OCDF	**5.0**	**J**	23	0.19	pg/g	☼	01/31/20 09:04	02/06/20 19:14	1
Total TCDD	**0.56**	**J**	2.3	0.13	pg/g	☼	01/31/20 09:04	02/06/20 19:14	1
Total TCDF	**0.73**	**J**	2.3	0.099	pg/g	☼	01/31/20 09:04	02/06/20 19:14	1
Total PeCDD	ND		11	0.15	pg/g	☼	01/31/20 09:04	02/06/20 19:14	1
Total PeCDF	**0.69**	**J**	11	0.12	pg/g	☼	01/31/20 09:04	02/06/20 19:14	1
Total HxCDD	**5.0**	**J q B**	11	0.15	pg/g	☼	01/31/20 09:04	02/06/20 19:14	1
Total HxCDF	**0.69**	**J**	11	0.21	pg/g	☼	01/31/20 09:04	02/06/20 19:14	1
Total HpCDD	**20**	**q B**	11	0.61	pg/g	☼	01/31/20 09:04	02/06/20 19:14	1
Total HpCDF	**3.8**	**J q B**	11	0.24	pg/g	☼	01/31/20 09:04	02/06/20 19:14	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*70*		*25 - 164*	*01/31/20 09:04*	*02/06/20 19:14*	*1*
13C-2,3,7,8-TCDF	*71*		*24 - 169*	*01/31/20 09:04*	*02/06/20 19:14*	*1*
13C-1,2,3,7,8-PeCDD	*65*		*25 - 181*	*01/31/20 09:04*	*02/06/20 19:14*	*1*
13C-1,2,3,7,8-PeCDF	*68*		*24 - 185*	*01/31/20 09:04*	*02/06/20 19:14*	*1*
13C-2,3,4,7,8-PeCDF	*67*		*21 - 178*	*01/31/20 09:04*	*02/06/20 19:14*	*1*
13C-1,2,3,4,7,8-HxCDD	*65*		*32 - 141*	*01/31/20 09:04*	*02/06/20 19:14*	*1*
13C-1,2,3,6,7,8-HxCDD	*74*		*28 - 130*	*01/31/20 09:04*	*02/06/20 19:14*	*1*
13C-1,2,3,4,7,8-HxCDF	*70*		*26 - 152*	*01/31/20 09:04*	*02/06/20 19:14*	*1*
13C-1,2,3,6,7,8-HxCDF	*79*		*26 - 123*	*01/31/20 09:04*	*02/06/20 19:14*	*1*
13C-1,2,3,7,8,9-HxCDF	*76*		*29 - 147*	*01/31/20 09:04*	*02/06/20 19:14*	*1*
13C-2,3,4,6,7,8-HxCDF	*78*		*28 - 136*	*01/31/20 09:04*	*02/06/20 19:14*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*66*		*23 - 140*	*01/31/20 09:04*	*02/06/20 19:14*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*66*		*28 - 143*	*01/31/20 09:04*	*02/06/20 19:14*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*68*		*26 - 138*	*01/31/20 09:04*	*02/06/20 19:14*	*1*
13C-OCDD	*63*		*17 - 157*	*01/31/20 09:04*	*02/06/20 19:14*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*90*		*35 - 197*	*01/31/20 09:04*	*02/06/20 19:14*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 320-58170-1

Client Sample ID: 11187072-Eastern-GW

Date Collected: 01/29/20 13:30
Date Received: 01/30/20 09:00

Lab Sample ID: 320-58170-3

Matrix: Water

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		9.6	0.44	pg/L		01/31/20 07:47	02/05/20 20:54	1
2,3,7,8-TCDF	ND		9.6	0.36	pg/L		01/31/20 07:47	02/05/20 20:54	1
1,2,3,7,8-PeCDD	**0.62**	**J q B**	48	0.48	pg/L		01/31/20 07:47	02/05/20 20:54	1
1,2,3,7,8-PeCDF	ND		48	0.48	pg/L		01/31/20 07:47	02/05/20 20:54	1
2,3,4,7,8-PeCDF	ND		48	0.55	pg/L		01/31/20 07:47	02/05/20 20:54	1
1,2,3,4,7,8-HxCDD	**2.1**	**J B**	48	0.54	pg/L		01/31/20 07:47	02/05/20 20:54	1
1,2,3,6,7,8-HxCDD	ND		48	0.52	pg/L		01/31/20 07:47	02/05/20 20:54	1
1,2,3,7,8,9-HxCDD	**1.3**	**J B**	48	0.48	pg/L		01/31/20 07:47	02/05/20 20:54	1
1,2,3,4,7,8-HxCDF	**2.8**	**J B**	48	0.92	pg/L		01/31/20 07:47	02/05/20 20:54	1
1,2,3,6,7,8-HxCDF	ND		48	0.81	pg/L		01/31/20 07:47	02/05/20 20:54	1
1,2,3,7,8,9-HxCDF	**1.1**	**J q B**	48	0.62	pg/L		01/31/20 07:47	02/05/20 20:54	1
2,3,4,6,7,8-HxCDF	ND		48	0.55	pg/L		01/31/20 07:47	02/05/20 20:54	1
1,2,3,4,6,7,8-HpCDD	**7.7**	**J B**	48	0.67	pg/L		01/31/20 07:47	02/05/20 20:54	1
1,2,3,4,6,7,8-HpCDF	**6.1**	**J B**	48	0.46	pg/L		01/31/20 07:47	02/05/20 20:54	1
1,2,3,4,7,8,9-HpCDF	**1.2**	**J q B**	48	0.75	pg/L		01/31/20 07:47	02/05/20 20:54	1
OCDD	**94**	**J B**	96	1.1	pg/L		01/31/20 07:47	02/05/20 20:54	1
OCDF	**14**	**J B**	96	0.86	pg/L		01/31/20 07:47	02/05/20 20:54	1
Total TCDD	ND		9.6	0.44	pg/L		01/31/20 07:47	02/05/20 20:54	1
Total TCDF	ND		9.6	0.36	pg/L		01/31/20 07:47	02/05/20 20:54	1
Total PeCDD	**0.62**	**J q B**	48	0.48	pg/L		01/31/20 07:47	02/05/20 20:54	1
Total PeCDF	ND		48	0.55	pg/L		01/31/20 07:47	02/05/20 20:54	1
Total HxCDD	**3.4**	**J B**	48	0.51	pg/L		01/31/20 07:47	02/05/20 20:54	1
Total HxCDF	**3.9**	**J q B**	48	0.72	pg/L		01/31/20 07:47	02/05/20 20:54	1
Total HpCDD	**16**	**J B**	48	0.67	pg/L		01/31/20 07:47	02/05/20 20:54	1
Total HpCDF	**8.9**	**J q B**	48	0.61	pg/L		01/31/20 07:47	02/05/20 20:54	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*72*		*25 - 164*	*01/31/20 07:47*	*02/05/20 20:54*	*1*
13C-2,3,7,8-TCDF	*72*		*24 - 169*	*01/31/20 07:47*	*02/05/20 20:54*	*1*
13C-1,2,3,7,8-PeCDD	*68*		*25 - 181*	*01/31/20 07:47*	*02/05/20 20:54*	*1*
13C-1,2,3,7,8-PeCDF	*71*		*24 - 185*	*01/31/20 07:47*	*02/05/20 20:54*	*1*
13C-2,3,4,7,8-PeCDF	*70*		*21 - 178*	*01/31/20 07:47*	*02/05/20 20:54*	*1*
13C-1,2,3,4,7,8-HxCDD	*71*		*32 - 141*	*01/31/20 07:47*	*02/05/20 20:54*	*1*
13C-1,2,3,6,7,8-HxCDD	*80*		*28 - 130*	*01/31/20 07:47*	*02/05/20 20:54*	*1*
13C-1,2,3,4,7,8-HxCDF	*76*		*26 - 152*	*01/31/20 07:47*	*02/05/20 20:54*	*1*
13C-1,2,3,6,7,8-HxCDF	*84*		*26 - 123*	*01/31/20 07:47*	*02/05/20 20:54*	*1*
13C-1,2,3,7,8,9-HxCDF	*76*		*29 - 147*	*01/31/20 07:47*	*02/05/20 20:54*	*1*
13C-2,3,4,6,7,8-HxCDF	*81*		*28 - 136*	*01/31/20 07:47*	*02/05/20 20:54*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*67*		*23 - 140*	*01/31/20 07:47*	*02/05/20 20:54*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*70*		*28 - 143*	*01/31/20 07:47*	*02/05/20 20:54*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*66*		*26 - 138*	*01/31/20 07:47*	*02/05/20 20:54*	*1*
13C-OCDD	*56*		*17 - 157*	*01/31/20 07:47*	*02/05/20 20:54*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*89*		*35 - 197*	*01/31/20 07:47*	*02/05/20 20:54*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 320-58170-1

Client Sample ID: 11187072-Eastern-Solids

Date Collected: 01/29/20 13:30
Date Received: 01/30/20 09:00

Lab Sample ID: 320-58170-4

Matrix: Sediment
Percent Solids: 99.6

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	**0.98**	**J q**	2.1	0.12	pg/g	☼	01/31/20 09:04	02/06/20 20:00	1
1,2,3,7,8-PeCDD	ND		11	0.18	pg/g	☼	01/31/20 09:04	02/06/20 20:00	1
1,2,3,7,8-PeCDF	**0.12**	**J q**	11	0.097	pg/g	☼	01/31/20 09:04	02/06/20 20:00	1
2,3,4,7,8-PeCDF	ND		11	0.12	pg/g	☼	01/31/20 09:04	02/06/20 20:00	1
1,2,3,4,7,8-HxCDD	**0.46**	**J B**	11	0.17	pg/g	☼	01/31/20 09:04	02/06/20 20:00	1
1,2,3,6,7,8-HxCDD	**0.38**	**J q**	11	0.16	pg/g	☼	01/31/20 09:04	02/06/20 20:00	1
1,2,3,7,8,9-HxCDD	**0.48**	**J**	11	0.15	pg/g	☼	01/31/20 09:04	02/06/20 20:00	1
1,2,3,4,7,8-HxCDF	**0.18**	**J q**	11	0.17	pg/g	☼	01/31/20 09:04	02/06/20 20:00	1
1,2,3,6,7,8-HxCDF	ND		11	0.14	pg/g	☼	01/31/20 09:04	02/06/20 20:00	1
1,2,3,7,8,9-HxCDF	**0.24**	**J**	11	0.10	pg/g	☼	01/31/20 09:04	02/06/20 20:00	1
2,3,4,6,7,8-HxCDF	ND		11	0.095	pg/g	☼	01/31/20 09:04	02/06/20 20:00	1
1,2,3,4,6,7,8-HpCDD	**12**		11	0.57	pg/g	☼	01/31/20 09:04	02/06/20 20:00	1
1,2,3,4,6,7,8-HpCDF	**0.75**	**J q B**	11	0.16	pg/g	☼	01/31/20 09:04	02/06/20 20:00	1
1,2,3,4,7,8,9-HpCDF	ND		11	0.24	pg/g	☼	01/31/20 09:04	02/06/20 20:00	1
OCDD	**280**	**B**	21	0.39	pg/g	☼	01/31/20 09:04	02/06/20 20:00	1
OCDF	**4.0**	**J**	21	0.18	pg/g	☼	01/31/20 09:04	02/06/20 20:00	1
Total TCDD	**0.98**	**J q**	2.1	0.12	pg/g	☼	01/31/20 09:04	02/06/20 20:00	1
Total TCDF	**3.6**	**q**	2.1	0.13	pg/g	☼	01/31/20 09:04	02/06/20 20:00	1
Total PeCDD	ND		11	0.18	pg/g	☼	01/31/20 09:04	02/06/20 20:00	1
Total PeCDF	**0.12**	**J q**	11	0.11	pg/g	☼	01/31/20 09:04	02/06/20 20:00	1
Total HxCDD	**4.9**	**J q B**	11	0.16	pg/g	☼	01/31/20 09:04	02/06/20 20:00	1
Total HxCDF	**1.2**	**J q**	11	0.13	pg/g	☼	01/31/20 09:04	02/06/20 20:00	1
Total HpCDD	**33**	**B**	11	0.57	pg/g	☼	01/31/20 09:04	02/06/20 20:00	1
Total HpCDF	**2.0**	**J q B**	11	0.20	pg/g	☼	01/31/20 09:04	02/06/20 20:00	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*68*		*25 - 164*	*01/31/20 09:04*	*02/06/20 20:00*	*1*
13C-2,3,7,8-TCDF	*69*		*24 - 169*	*01/31/20 09:04*	*02/06/20 20:00*	*1*
13C-1,2,3,7,8-PeCDD	*63*		*25 - 181*	*01/31/20 09:04*	*02/06/20 20:00*	*1*
13C-1,2,3,7,8-PeCDF	*67*		*24 - 185*	*01/31/20 09:04*	*02/06/20 20:00*	*1*
13C-2,3,4,7,8-PeCDF	*62*		*21 - 178*	*01/31/20 09:04*	*02/06/20 20:00*	*1*
13C-1,2,3,4,7,8-HxCDD	*61*		*32 - 141*	*01/31/20 09:04*	*02/06/20 20:00*	*1*
13C-1,2,3,6,7,8-HxCDD	*72*		*28 - 130*	*01/31/20 09:04*	*02/06/20 20:00*	*1*
13C-1,2,3,4,7,8-HxCDF	*66*		*26 - 152*	*01/31/20 09:04*	*02/06/20 20:00*	*1*
13C-1,2,3,6,7,8-HxCDF	*76*		*26 - 123*	*01/31/20 09:04*	*02/06/20 20:00*	*1*
13C-1,2,3,7,8,9-HxCDF	*75*		*29 - 147*	*01/31/20 09:04*	*02/06/20 20:00*	*1*
13C-2,3,4,6,7,8-HxCDF	*75*		*28 - 136*	*01/31/20 09:04*	*02/06/20 20:00*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*64*		*23 - 140*	*01/31/20 09:04*	*02/06/20 20:00*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*60*		*28 - 143*	*01/31/20 09:04*	*02/06/20 20:00*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*66*		*26 - 138*	*01/31/20 09:04*	*02/06/20 20:00*	*1*
13C-OCDD	*62*		*17 - 157*	*01/31/20 09:04*	*02/06/20 20:00*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*90*		*35 - 197*	*01/31/20 09:04*	*02/06/20 20:00*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	**2.2**		2.1	0.14	pg/g	☼	01/31/20 09:04	02/07/20 16:49	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*70*		*24 - 169*	*01/31/20 09:04*	*02/07/20 16:49*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 320-58170-1

Client Sample ID: 11187072-Eastern-Solids

Lab Sample ID: 320-58170-4

Date Collected: 01/29/20 13:30
Date Received: 01/30/20 09:00

Matrix: Sediment
Percent Solids: 99.6

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	88		35 - 197	01/31/20 09:04	02/07/20 16:49	1

Client Sample ID: 11187072-Western-GW

Lab Sample ID: 320-58170-5

Date Collected: 01/29/20 13:30
Date Received: 01/30/20 09:00

Matrix: Water

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	**3.4**	**J**	9.6	0.46	pg/L		01/31/20 07:47	02/05/20 21:40	1
2,3,7,8-TCDF	ND		9.6	0.35	pg/L		01/31/20 07:47	02/05/20 21:40	1
1,2,3,7,8-PeCDD	ND		48	0.47	pg/L		01/31/20 07:47	02/05/20 21:40	1
1,2,3,7,8-PeCDF	ND		48	0.42	pg/L		01/31/20 07:47	02/05/20 21:40	1
2,3,4,7,8-PeCDF	ND		48	0.46	pg/L		01/31/20 07:47	02/05/20 21:40	1
1,2,3,4,7,8-HxCDD	**3.1**	**J B**	48	0.51	pg/L		01/31/20 07:47	02/05/20 21:40	1
1,2,3,6,7,8-HxCDD	ND		48	0.48	pg/L		01/31/20 07:47	02/05/20 21:40	1
1,2,3,7,8,9-HxCDD	**1.1**	**J B**	48	0.45	pg/L		01/31/20 07:47	02/05/20 21:40	1
1,2,3,4,7,8-HxCDF	ND		48	0.79	pg/L		01/31/20 07:47	02/05/20 21:40	1
1,2,3,6,7,8-HxCDF	ND		48	0.70	pg/L		01/31/20 07:47	02/05/20 21:40	1
1,2,3,7,8,9-HxCDF	ND		48	0.53	pg/L		01/31/20 07:47	02/05/20 21:40	1
2,3,4,6,7,8-HxCDF	ND		48	0.49	pg/L		01/31/20 07:47	02/05/20 21:40	1
1,2,3,4,6,7,8-HpCDD	**3.9**	**J B**	48	0.80	pg/L		01/31/20 07:47	02/05/20 21:40	1
1,2,3,4,6,7,8-HpCDF	**2.0**	**J B**	48	0.42	pg/L		01/31/20 07:47	02/05/20 21:40	1
1,2,3,4,7,8,9-HpCDF	ND		48	0.71	pg/L		01/31/20 07:47	02/05/20 21:40	1
OCDD	**51**	**J B**	96	0.91	pg/L		01/31/20 07:47	02/05/20 21:40	1
OCDF	**3.4**	**J B**	96	0.81	pg/L		01/31/20 07:47	02/05/20 21:40	1
Total TCDD	**3.4**	**J**	9.6	0.46	pg/L		01/31/20 07:47	02/05/20 21:40	1
Total TCDF	ND		9.6	0.35	pg/L		01/31/20 07:47	02/05/20 21:40	1
Total PeCDD	ND		48	0.47	pg/L		01/31/20 07:47	02/05/20 21:40	1
Total PeCDF	ND		48	0.46	pg/L		01/31/20 07:47	02/05/20 21:40	1
Total HxCDD	**4.1**	**J B**	48	0.48	pg/L		01/31/20 07:47	02/05/20 21:40	1
Total HxCDF	ND		48	0.79	pg/L		01/31/20 07:47	02/05/20 21:40	1
Total HpCDD	**8.3**	**J B**	48	0.80	pg/L		01/31/20 07:47	02/05/20 21:40	1
Total HpCDF	**3.2**	**J q B**	48	0.56	pg/L		01/31/20 07:47	02/05/20 21:40	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	70		25 - 164	01/31/20 07:47	02/05/20 21:40	1
13C-2,3,7,8-TCDF	69		24 - 169	01/31/20 07:47	02/05/20 21:40	1
13C-1,2,3,7,8-PeCDD	63		25 - 181	01/31/20 07:47	02/05/20 21:40	1
13C-1,2,3,7,8-PeCDF	67		24 - 185	01/31/20 07:47	02/05/20 21:40	1
13C-2,3,4,7,8-PeCDF	66		21 - 178	01/31/20 07:47	02/05/20 21:40	1
13C-1,2,3,4,7,8-HxCDD	63		32 - 141	01/31/20 07:47	02/05/20 21:40	1
13C-1,2,3,6,7,8-HxCDD	77		28 - 130	01/31/20 07:47	02/05/20 21:40	1
13C-1,2,3,4,7,8-HxCDF	72		26 - 152	01/31/20 07:47	02/05/20 21:40	1
13C-1,2,3,6,7,8-HxCDF	77		26 - 123	01/31/20 07:47	02/05/20 21:40	1
13C-1,2,3,7,8,9-HxCDF	70		29 - 147	01/31/20 07:47	02/05/20 21:40	1
13C-2,3,4,6,7,8-HxCDF	74		28 - 136	01/31/20 07:47	02/05/20 21:40	1
13C-1,2,3,4,6,7,8-HpCDD	62		23 - 140	01/31/20 07:47	02/05/20 21:40	1
13C-1,2,3,4,6,7,8-HpCDF	65		28 - 143	01/31/20 07:47	02/05/20 21:40	1
13C-1,2,3,4,7,8,9-HpCDF	60		26 - 138	01/31/20 07:47	02/05/20 21:40	1
13C-OCDD	53		17 - 157	01/31/20 07:47	02/05/20 21:40	1

Client Sample ID: 11187072-Western-GW — Lab Sample ID: 320-58170-5

Date Collected: 01/29/20 13:30 **Matrix: Water**
Date Received: 01/30/20 09:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	83		35 - 197	01/31/20 07:47	02/05/20 21:40	1

Client Sample ID: 11187072-Western-Solids — Lab Sample ID: 320-58170-6

Date Collected: 01/29/20 13:30 **Matrix: Sediment**
Date Received: 01/30/20 09:00 **Percent Solids: 99.7**

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	**1.0**	**J**	2.2	0.098	pg/g	☼	01/31/20 09:04	02/06/20 20:46	1
1,2,3,7,8-PeCDD	ND		11	0.17	pg/g	☼	01/31/20 09:04	02/06/20 20:46	1
1,2,3,7,8-PeCDF	ND		11	0.13	pg/g	☼	01/31/20 09:04	02/06/20 20:46	1
2,3,4,7,8-PeCDF	ND		11	0.17	pg/g	☼	01/31/20 09:04	02/06/20 20:46	1
1,2,3,4,7,8-HxCDD	**0.69**	**J B**	11	0.16	pg/g	☼	01/31/20 09:04	02/06/20 20:46	1
1,2,3,6,7,8-HxCDD	**0.67**	**J**	11	0.14	pg/g	☼	01/31/20 09:04	02/06/20 20:46	1
1,2,3,7,8,9-HxCDD	**0.68**	**J q**	11	0.14	pg/g	☼	01/31/20 09:04	02/06/20 20:46	1
1,2,3,4,7,8-HxCDF	ND		11	0.21	pg/g	☼	01/31/20 09:04	02/06/20 20:46	1
1,2,3,6,7,8-HxCDF	ND		11	0.17	pg/g	☼	01/31/20 09:04	02/06/20 20:46	1
1,2,3,7,8,9-HxCDF	ND		11	0.11	pg/g	☼	01/31/20 09:04	02/06/20 20:46	1
2,3,4,6,7,8-HxCDF	ND		11	0.12	pg/g	☼	01/31/20 09:04	02/06/20 20:46	1
1,2,3,4,6,7,8-HpCDD	**26**		11	0.81	pg/g	☼	01/31/20 09:04	02/06/20 20:46	1
1,2,3,4,6,7,8-HpCDF	**3.2**	**J B**	11	0.20	pg/g	☼	01/31/20 09:04	02/06/20 20:46	1
1,2,3,4,7,8,9-HpCDF	ND		11	0.29	pg/g	☼	01/31/20 09:04	02/06/20 20:46	1
OCDD	**540**	**B**	22	0.50	pg/g	☼	01/31/20 09:04	02/06/20 20:46	1
OCDF	**12**	**J**	22	0.16	pg/g	☼	01/31/20 09:04	02/06/20 20:46	1
Total TCDD	**1.0**	**J**	2.2	0.098	pg/g	☼	01/31/20 09:04	02/06/20 20:46	1
Total TCDF	**5.0**	**q**	2.2	0.20	pg/g	☼	01/31/20 09:04	02/06/20 20:46	1
Total PeCDD	**0.20**	**J q**	11	0.17	pg/g	☼	01/31/20 09:04	02/06/20 20:46	1
Total PeCDF	**1.4**	**J**	11	0.15	pg/g	☼	01/31/20 09:04	02/06/20 20:46	1
Total HxCDD	**7.9**	**J q B**	11	0.15	pg/g	☼	01/31/20 09:04	02/06/20 20:46	1
Total HxCDF	**1.9**	**J q**	11	0.15	pg/g	☼	01/31/20 09:04	02/06/20 20:46	1
Total HpCDD	**62**	**B**	11	0.81	pg/g	☼	01/31/20 09:04	02/06/20 20:46	1
Total HpCDF	**9.6**	**J B**	11	0.25	pg/g	☼	01/31/20 09:04	02/06/20 20:46	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	73		25 - 164	01/31/20 09:04	02/06/20 20:46	1
13C-2,3,7,8-TCDF	74		24 - 169	01/31/20 09:04	02/06/20 20:46	1
13C-1,2,3,7,8-PeCDD	68		25 - 181	01/31/20 09:04	02/06/20 20:46	1
13C-1,2,3,7,8-PeCDF	73		24 - 185	01/31/20 09:04	02/06/20 20:46	1
13C-2,3,4,7,8-PeCDF	61		21 - 178	01/31/20 09:04	02/06/20 20:46	1
13C-1,2,3,4,7,8-HxCDD	59		32 - 141	01/31/20 09:04	02/06/20 20:46	1
13C-1,2,3,6,7,8-HxCDD	74		28 - 130	01/31/20 09:04	02/06/20 20:46	1
13C-1,2,3,4,7,8-HxCDF	70		26 - 152	01/31/20 09:04	02/06/20 20:46	1
13C-1,2,3,6,7,8-HxCDF	76		26 - 123	01/31/20 09:04	02/06/20 20:46	1
13C-1,2,3,7,8,9-HxCDF	83		29 - 147	01/31/20 09:04	02/06/20 20:46	1
13C-2,3,4,6,7,8-HxCDF	80		28 - 136	01/31/20 09:04	02/06/20 20:46	1
13C-1,2,3,4,6,7,8-HpCDD	70		23 - 140	01/31/20 09:04	02/06/20 20:46	1
13C-1,2,3,4,6,7,8-HpCDF	66		28 - 143	01/31/20 09:04	02/06/20 20:46	1
13C-1,2,3,4,7,8,9-HpCDF	73		26 - 138	01/31/20 09:04	02/06/20 20:46	1
13C-OCDD	70		17 - 157	01/31/20 09:04	02/06/20 20:46	1

Client Sample ID: 11187072-Western-Solids
Lab Sample ID: 320-58170-6

Date Collected: 01/29/20 13:30
Matrix: Sediment
Date Received: 01/30/20 09:00
Percent Solids: 99.7

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*88*		*35 - 197*	*01/31/20 09:04*	*02/06/20 20:46*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	**2.5**		2.2	0.22	pg/g	☼	01/31/20 09:04	02/07/20 17:27	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*73*		*24 - 169*	*01/31/20 09:04*	*02/07/20 17:27*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*89*		*35 - 197*	*01/31/20 09:04*	*02/07/20 17:27*	*1*

Toxicity Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 320-58170-1

Client Sample ID: 11187072-Berm-Solids — Lab Sample ID: 320-58170-2

Analyte	Result	Qualifier	RL	EDL	Unit	WHO 2005 ND = ½ EDL TEF	TEQ	Method
2,3,7,8-TCDD	**0.56**	**J**	2.3	0.13	pg/g	1	**0.56**	1613B
2,3,7,8-TCDF	**0.73**	**J**	2.3	0.099	pg/g	0.1	**0.073**	1613B
1,2,3,7,8-PeCDD	ND		11	0.15	pg/g	1	0.075	1613B
1,2,3,7,8-PeCDF	ND		11	0.12	pg/g	0.03	0.0018	1613B
2,3,4,7,8-PeCDF	ND		11	0.13	pg/g	0.3	0.020	1613B
1,2,3,4,7,8-HxCDD	**0.48**	**J q B**	11	0.16	pg/g	0.1	**0.048**	1613B
1,2,3,6,7,8-HxCDD	**0.86**	**J**	11	0.15	pg/g	0.1	**0.086**	1613B
1,2,3,7,8,9-HxCDD	**0.62**	**J q**	11	0.14	pg/g	0.1	**0.062**	1613B
1,2,3,4,7,8-HxCDF	ND		11	0.27	pg/g	0.1	0.014	1613B
1,2,3,6,7,8-HxCDF	ND		11	0.23	pg/g	0.1	0.012	1613B
1,2,3,7,8,9-HxCDF	ND		11	0.18	pg/g	0.1	0.0090	1613B
2,3,4,6,7,8-HxCDF	ND		11	0.16	pg/g	0.1	0.0080	1613B
1,2,3,4,6,7,8-HpCDD	ND		11	0.61	pg/g	0.01	0.0031	1613B
1,2,3,4,6,7,8-HpCDF	**1.9**	**J q B**	11	0.19	pg/g	0.01	**0.019**	1613B
1,2,3,4,7,8,9-HpCDF	ND		11	0.30	pg/g	0.01	0.0015	1613B
OCDD	**320**	**B**	23	0.59	pg/g	0.0003	**0.096**	1613B
OCDF	**5.0**	**J**	23	0.19	pg/g	0.0003	**0.0015**	1613B

Analyte	Result	Qualifier	NONE	NONE	Unit	WHO 2005 ND = ½ EDL TEF	TEQ	Method
Total Dioxin/Furan TEQ					pg/g		1.1	TEQ

Client Sample ID: 11187072-Eastern-Solids — Lab Sample ID: 320-58170-4

Analyte	Result	Qualifier	RL	EDL	Unit	WHO 2005 ND = ½ EDL TEF	TEQ	Method
2,3,7,8-TCDD	**0.98**	**J q**	2.1	0.12	pg/g	1	**0.98**	1613B
1,2,3,7,8-PeCDD	ND		11	0.18	pg/g	1	0.090	1613B
1,2,3,7,8-PeCDF	**0.12**	**J q**	11	0.097	pg/g	0.03	**0.0036**	1613B
2,3,4,7,8-PeCDF	ND		11	0.12	pg/g	0.3	0.018	1613B
1,2,3,4,7,8-HxCDD	**0.46**	**J B**	11	0.17	pg/g	0.1	**0.046**	1613B
1,2,3,6,7,8-HxCDD	**0.38**	**J q**	11	0.16	pg/g	0.1	**0.038**	1613B
1,2,3,7,8,9-HxCDD	**0.48**	**J**	11	0.15	pg/g	0.1	**0.048**	1613B
1,2,3,4,7,8-HxCDF	**0.18**	**J q**	11	0.17	pg/g	0.1	**0.018**	1613B
1,2,3,6,7,8-HxCDF	ND		11	0.14	pg/g	0.1	0.0070	1613B
1,2,3,7,8,9-HxCDF	**0.24**	**J**	11	0.10	pg/g	0.1	**0.024**	1613B
2,3,4,6,7,8-HxCDF	ND		11	0.095	pg/g	0.1	0.0048	1613B
1,2,3,4,6,7,8-HpCDD	**12**		11	0.57	pg/g	0.01	**0.12**	1613B
1,2,3,4,6,7,8-HpCDF	**0.75**	**J q B**	11	0.16	pg/g	0.01	**0.0075**	1613B
1,2,3,4,7,8,9-HpCDF	ND		11	0.24	pg/g	0.01	0.0012	1613B
OCDD	**280**	**B**	21	0.39	pg/g	0.0003	**0.084**	1613B
OCDF	**4.0**	**J**	21	0.18	pg/g	0.0003	**0.0012**	1613B
2,3,7,8-TCDF - RA	**2.2**		2.1	0.14	pg/g	0.1	**0.22**	1613B

TEF Reference:

WHO 2005 = World Health Organization (WHO) 2005 TEF, Dioxins, Furans and PCB Congeners

Toxicity Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 320-58170-1

Client Sample ID: 11187072-Eastern-Solids (Continued) — Lab Sample ID: 320-58170-4

Analyte	Result	Qualifier	NONE	NONE	Unit	WHO 2005 ND = ½ EDL TEF	TEQ	Method
Total Dioxin/Furan TEQ					pg/g		1.7	TEQ

Client Sample ID: 11187072-Western-Solids — Lab Sample ID: 320-58170-6

Analyte	Result	Qualifier	RL	EDL	Unit	WHO 2005 ND = ½ EDL TEF	TEQ	Method
2,3,7,8-TCDD	**1.0**	**J**	2.2	0.098	pg/g	1	**1.0**	1613B
1,2,3,7,8-PeCDD	ND		11	0.17	pg/g	1	0.085	1613B
1,2,3,7,8-PeCDF	ND		11	0.13	pg/g	0.03	0.0020	1613B
2,3,4,7,8-PeCDF	ND		11	0.17	pg/g	0.3	0.026	1613B
1,2,3,4,7,8-HxCDD	**0.69**	**J B**	11	0.16	pg/g	0.1	**0.069**	1613B
1,2,3,6,7,8-HxCDD	**0.67**	**J**	11	0.14	pg/g	0.1	**0.067**	1613B
1,2,3,7,8,9-HxCDD	**0.68**	**J q**	11	0.14	pg/g	0.1	**0.068**	1613B
1,2,3,4,7,8-HxCDF	ND		11	0.21	pg/g	0.1	0.011	1613B
1,2,3,6,7,8-HxCDF	ND		11	0.17	pg/g	0.1	0.0085	1613B
1,2,3,7,8,9-HxCDF	ND		11	0.11	pg/g	0.1	0.0055	1613B
2,3,4,6,7,8-HxCDF	ND		11	0.12	pg/g	0.1	0.0060	1613B
1,2,3,4,6,7,8-HpCDD	**26**		11	0.81	pg/g	0.01	**0.26**	1613B
1,2,3,4,6,7,8-HpCDF	**3.2**	**J B**	11	0.20	pg/g	0.01	**0.032**	1613B
1,2,3,4,7,8,9-HpCDF	ND		11	0.29	pg/g	0.01	0.0015	1613B
OCDD	**540**	**B**	22	0.50	pg/g	0.0003	**0.16**	1613B
OCDF	**12**	**J**	22	0.16	pg/g	0.0003	**0.0036**	1613B
2,3,7,8-TCDF - RA	**2.5**		2.2	0.22	pg/g	0.1	**0.25**	1613B

Analyte	Result	Qualifier	NONE	NONE	Unit	WHO 2005 ND = ½ EDL TEF	TEQ	Method
Total Dioxin/Furan TEQ					pg/g		2.1	TEQ

TEF Reference:

WHO 2005 = World Health Organization (WHO) 2005 TEF, Dioxins, Furans and PCB Congeners

Default Detection Limits

Client: GHD Services Inc.
Job ID: 320-58170-1
Project/Site: San Jacinto River Waste Pits Superfund

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Prep: 1613B

Analyte	RL		Units
1,2,3,4,6,7,8-HpCDD	50		pg/L
1,2,3,4,6,7,8-HpCDF	50		pg/L
1,2,3,4,7,8,9-HpCDF	50		pg/L
1,2,3,4,7,8-HxCDD	50		pg/L
1,2,3,4,7,8-HxCDF	50		pg/L
1,2,3,6,7,8-HxCDD	50		pg/L
1,2,3,6,7,8-HxCDF	50		pg/L
1,2,3,7,8,9-HxCDD	50		pg/L
1,2,3,7,8,9-HxCDF	50		pg/L
1,2,3,7,8-PeCDD	50		pg/L
1,2,3,7,8-PeCDF	50		pg/L
2,3,4,6,7,8-HxCDF	50		pg/L
2,3,4,7,8-PeCDF	50		pg/L
2,3,7,8-TCDD	10		pg/L
2,3,7,8-TCDF	10		pg/L
OCDD	100		pg/L
OCDF	100		pg/L
Total HpCDD	50		pg/L
Total HpCDF	50		pg/L
Total HxCDD	50		pg/L
Total HxCDF	50		pg/L
Total PeCDD	50		pg/L
Total PeCDF	50		pg/L
Total TCDD	10		pg/L
Total TCDF	10		pg/L

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Prep: HRMS-Sox

Analyte	RL		Units
1,2,3,4,6,7,8-HpCDD	5.0		pg/g
1,2,3,4,6,7,8-HpCDF	5.0		pg/g
1,2,3,4,7,8,9-HpCDF	5.0		pg/g
1,2,3,4,7,8-HxCDD	5.0		pg/g
1,2,3,4,7,8-HxCDF	5.0		pg/g
1,2,3,6,7,8-HxCDD	5.0		pg/g
1,2,3,6,7,8-HxCDF	5.0		pg/g
1,2,3,7,8,9-HxCDD	5.0		pg/g
1,2,3,7,8,9-HxCDF	5.0		pg/g
1,2,3,7,8-PeCDD	5.0		pg/g
1,2,3,7,8-PeCDF	5.0		pg/g
2,3,4,6,7,8-HxCDF	5.0		pg/g
2,3,4,7,8-PeCDF	5.0		pg/g
2,3,7,8-TCDD	1.0		pg/g
2,3,7,8-TCDF	1.0		pg/g
OCDD	10		pg/g
OCDF	10		pg/g
Total HpCDD	5.0		pg/g
Total HpCDF	5.0		pg/g
Total HxCDD	5.0		pg/g
Total HxCDF	5.0		pg/g
Total PeCDD	5.0		pg/g

Default Detection Limits

Client: GHD Services Inc.
Job ID: 320-58170-1
Project/Site: San Jacinto River Waste Pits Superfund

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Prep: HRMS-Sox

Analyte	RL		Units
Total PeCDF	5.0		pg/g
Total TCDD	1.0		pg/g
Total TCDF	1.0		pg/g

Surrogate Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 320-58170-1

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Sediment **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	**Client Sample ID**	**37TCDD (35-197)**
320-58170-2	11187072-Berm-Solids	90
320-58170-4	11187072-Eastern-Solids	90
320-58170-4 - RA	11187072-Eastern-Solids	88
320-58170-6	11187072-Western-Solids	88
320-58170-6 - RA	11187072-Western-Solids	89
MB 320-354207/1-A	Method Blank	94

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Sediment **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	**Client Sample ID**	**37TCDD (31-191)**
LCS 320-354207/2-A	Lab Control Sample	86
LCSD 320-354207/3-A	Lab Control Sample Dup	84

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	**Client Sample ID**	**37TCDD (35-197)**
320-58170-1	11187072-Berm-GW	87
320-58170-3	11187072-Eastern-GW	89
320-58170-5	11187072-Western-GW	83
MB 320-354177/1-A	Method Blank	90

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	**Client Sample ID**	**37TCDD (31-191)**
LCS 320-354177/2-A	Lab Control Sample	91
LCSD 320-354177/3-A	Lab Control Sample Dup	89

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 320-58170-1

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Sediment **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		TCDD	TCDF	PeCDD	PeCDF	PeCF	HxCDD	HxDD	HxCDF
Lab Sample ID	Client Sample ID	(25-164)	(24-169)	(25-181)	(24-185)	(21-178)	(32-141)	(28-130)	(26-152)
320-58170-2	11187072-Berm-Solids	70	71	65	68	67	65	74	70
320-58170-4	11187072-Eastern-Solids	68	69	63	67	62	61	72	66
320-58170-4 - RA	11187072-Eastern-Solids		70						
320-58170-6	11187072-Western-Solids	73	74	68	73	61	59	74	70
320-58170-6 - RA	11187072-Western-Solids		73						
MB 320-354207/1-A	Method Blank	67	69	66	68	66	62	73	70

		Percent Isotope Dilution Recovery (Acceptance Limits)						
		HxDF	HxCF	13CHxCF	HpCDD	HpCDF	HpCDF2	OCDD
Lab Sample ID	Client Sample ID	(26-123)	(29-147)	(28-136)	(23-140)	(28-143)	(26-138)	(17-157)
320-58170-2	11187072-Berm-Solids	79	76	78	66	66	68	63
320-58170-4	11187072-Eastern-Solids	76	75	75	64	60	66	62
320-58170-4 - RA	11187072-Eastern-Solids							
320-58170-6	11187072-Western-Solids	76	83	80	70	66	73	70
320-58170-6 - RA	11187072-Western-Solids							
MB 320-354207/1-A	Method Blank	77	76	75	65	65	65	62

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Sediment **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		TCDD	TCDF	PeCDD	PeCDF	PeCF	HxCDD	HxDD	HxCDF
Lab Sample ID	Client Sample ID	(20-175)	(22-152)	(21-227)	(21-192)	(13-328)	(21-193)	(25-163)	(19-202)
LCS 320-354207/2-A	Lab Control Sample	63	63	58	63	62	62	72	69
LCSD 320-354207/3-A	Lab Control Sample Dup	59	61	58	61	53	49	62	56

		Percent Isotope Dilution Recovery (Acceptance Limits)						
		HxDF	HxCF	13CHxCF	HpCDD	HpCDF	HpCDF2	OCDD
Lab Sample ID	Client Sample ID	(21-159)	(17-205)	(22-176)	(26-166)	(21-158)	(20-186)	(13-199)
LCS 320-354207/2-A	Lab Control Sample	75	71	73	62	64	65	62
LCSD 320-354207/3-A	Lab Control Sample Dup	63	68	65	57	54	58	57

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF

PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
320-58170-1	11187072-Berm-GW	69	70	65	67	67	65	80	73
320-58170-3	11187072-Eastern-GW	72	72	68	71	70	71	80	76
320-58170-5	11187072-Western-GW	70	69	63	67	66	63	77	72
MB 320-354177/1-A	Method Blank	69	68	65	66	66	68	78	75

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)
320-58170-1	11187072-Berm-GW	79	72	76	65	67	64	53
320-58170-3	11187072-Eastern-GW	84	76	81	67	70	66	56
320-58170-5	11187072-Western-GW	77	70	74	62	65	60	53
MB 320-354177/1-A	Method Blank	80	72	79	65	67	63	53

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-354177/2-A	Lab Control Sample	65	65	62	62	59	55	68	61
LCSD 320-354177/3-A	Lab Control Sample Dup	67	67	63	65	63	63	70	68

Isotope Dilution Summary

Client: GHD Services Inc. Job ID: 320-58170-1

Project/Site: San Jacinto River Waste Pits Superfund

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	**Client Sample ID**	**HxDF (21-159)**	**HxCF (17-205)**	**13CHxCF (22-176)**	**HpCDD (26-166)**	**HpCDF (21-158)**	**HpCDF2 (20-186)**	**OCDD (13-199)**
LCS 320-354177/2-A	Lab Control Sample	68	68	70	58	59	58	51
LCSD 320-354177/3-A	Lab Control Sample Dup	76	71	73	61	64	61	53

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

QC Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 320-58170-1

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-354177/1-A
Matrix: Water
Analysis Batch: 355322

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 354177

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		10	0.62	pg/L		01/31/20 07:47	02/05/20 17:50	1
2,3,7,8-TCDF	1.02	J	10	0.48	pg/L		01/31/20 07:47	02/05/20 17:50	1
1,2,3,7,8-PeCDD	6.12	J	50	0.78	pg/L		01/31/20 07:47	02/05/20 17:50	1
1,2,3,7,8-PeCDF	5.95	J	50	0.58	pg/L		01/31/20 07:47	02/05/20 17:50	1
2,3,4,7,8-PeCDF	5.51	J	50	0.63	pg/L		01/31/20 07:47	02/05/20 17:50	1
1,2,3,4,7,8-HxCDD	7.72	J	50	0.57	pg/L		01/31/20 07:47	02/05/20 17:50	1
1,2,3,6,7,8-HxCDD	6.90	J	50	0.53	pg/L		01/31/20 07:47	02/05/20 17:50	1
1,2,3,7,8,9-HxCDD	6.10	J	50	0.50	pg/L		01/31/20 07:47	02/05/20 17:50	1
1,2,3,4,7,8-HxCDF	5.92	J	50	1.1	pg/L		01/31/20 07:47	02/05/20 17:50	1
1,2,3,6,7,8-HxCDF	6.14	J	50	0.98	pg/L		01/31/20 07:47	02/05/20 17:50	1
1,2,3,7,8,9-HxCDF	6.25	J	50	0.80	pg/L		01/31/20 07:47	02/05/20 17:50	1
2,3,4,6,7,8-HxCDF	5.39	J	50	0.66	pg/L		01/31/20 07:47	02/05/20 17:50	1
1,2,3,4,6,7,8-HpCDD	9.52	J	50	0.93	pg/L		01/31/20 07:47	02/05/20 17:50	1
1,2,3,4,6,7,8-HpCDF	7.54	J	50	0.82	pg/L		01/31/20 07:47	02/05/20 17:50	1
1,2,3,4,7,8,9-HpCDF	5.85	J	50	1.4	pg/L		01/31/20 07:47	02/05/20 17:50	1
OCDD	28.2	J	100	1.1	pg/L		01/31/20 07:47	02/05/20 17:50	1
OCDF	13.8	J q	100	1.1	pg/L		01/31/20 07:47	02/05/20 17:50	1
Total TCDD	ND		10	0.62	pg/L		01/31/20 07:47	02/05/20 17:50	1
Total TCDF	1.02	J	10	0.48	pg/L		01/31/20 07:47	02/05/20 17:50	1
Total PeCDD	6.12	J	50	0.78	pg/L		01/31/20 07:47	02/05/20 17:50	1
Total PeCDF	11.5	J	50	0.61	pg/L		01/31/20 07:47	02/05/20 17:50	1
Total HxCDD	20.7	J	50	0.53	pg/L		01/31/20 07:47	02/05/20 17:50	1
Total HxCDF	23.7	J	50	0.89	pg/L		01/31/20 07:47	02/05/20 17:50	1
Total HpCDD	11.4	J	50	0.93	pg/L		01/31/20 07:47	02/05/20 17:50	1
Total HpCDF	13.4	J	50	1.1	pg/L		01/31/20 07:47	02/05/20 17:50	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*69*		*25 - 164*	*01/31/20 07:47*	*02/05/20 17:50*	*1*
13C-2,3,7,8-TCDF	*68*		*24 - 169*	*01/31/20 07:47*	*02/05/20 17:50*	*1*
13C-1,2,3,7,8-PeCDD	*65*		*25 - 181*	*01/31/20 07:47*	*02/05/20 17:50*	*1*
13C-1,2,3,7,8-PeCDF	*66*		*24 - 185*	*01/31/20 07:47*	*02/05/20 17:50*	*1*
13C-2,3,4,7,8-PeCDF	*66*		*21 - 178*	*01/31/20 07:47*	*02/05/20 17:50*	*1*
13C-1,2,3,4,7,8-HxCDD	*68*		*32 - 141*	*01/31/20 07:47*	*02/05/20 17:50*	*1*
13C-1,2,3,6,7,8-HxCDD	*78*		*28 - 130*	*01/31/20 07:47*	*02/05/20 17:50*	*1*
13C-1,2,3,4,7,8-HxCDF	*75*		*26 - 152*	*01/31/20 07:47*	*02/05/20 17:50*	*1*
13C-1,2,3,6,7,8-HxCDF	*80*		*26 - 123*	*01/31/20 07:47*	*02/05/20 17:50*	*1*
13C-1,2,3,7,8,9-HxCDF	*72*		*29 - 147*	*01/31/20 07:47*	*02/05/20 17:50*	*1*
13C-2,3,4,6,7,8-HxCDF	*79*		*28 - 136*	*01/31/20 07:47*	*02/05/20 17:50*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*65*		*23 - 140*	*01/31/20 07:47*	*02/05/20 17:50*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*67*		*28 - 143*	*01/31/20 07:47*	*02/05/20 17:50*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*63*		*26 - 138*	*01/31/20 07:47*	*02/05/20 17:50*	*1*
13C-OCDD	*53*		*17 - 157*	*01/31/20 07:47*	*02/05/20 17:50*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*90*		*35 - 197*	*01/31/20 07:47*	*02/05/20 17:50*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-354177/2-A
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 355322
Prep Batch: 354177

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	200	206		pg/L		103	67 - 158
2,3,7,8-TCDF	200	220		pg/L		110	75 - 158
1,2,3,7,8-PeCDD	1000	1060		pg/L		106	70 - 142
1,2,3,7,8-PeCDF	1000	1120		pg/L		112	80 - 134
2,3,4,7,8-PeCDF	1000	1140		pg/L		114	68 - 160
1,2,3,4,7,8-HxCDD	1000	1150		pg/L		115	70 - 164
1,2,3,6,7,8-HxCDD	1000	1060		pg/L		106	76 - 134
1,2,3,7,8,9-HxCDD	1000	1160		pg/L		116	64 - 162
1,2,3,4,7,8-HxCDF	1000	1100		pg/L		110	72 - 134
1,2,3,6,7,8-HxCDF	1000	1110		pg/L		111	84 - 130
1,2,3,7,8,9-HxCDF	1000	1110		pg/L		111	78 - 130
2,3,4,6,7,8-HxCDF	1000	1110		pg/L		111	70 - 156
1,2,3,4,6,7,8-HpCDD	1000	1070		pg/L		107	70 - 140
1,2,3,4,6,7,8-HpCDF	1000	1070		pg/L		107	82 - 122
1,2,3,4,7,8,9-HpCDF	1000	1080		pg/L		108	78 - 138
OCDD	2000	2050		pg/L		102	78 - 144
OCDF	2000	2020		pg/L		101	63 - 170

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*65*		*20 - 175*
13C-2,3,7,8-TCDF	*65*		*22 - 152*
13C-1,2,3,7,8-PeCDD	*62*		*21 - 227*
13C-1,2,3,7,8-PeCDF	*62*		*21 - 192*
13C-2,3,4,7,8-PeCDF	*59*		*13 - 328*
13C-1,2,3,4,7,8-HxCDD	*55*		*21 - 193*
13C-1,2,3,6,7,8-HxCDD	*68*		*25 - 163*
13C-1,2,3,4,7,8-HxCDF	*61*		*19 - 202*
13C-1,2,3,6,7,8-HxCDF	*68*		*21 - 159*
13C-1,2,3,7,8,9-HxCDF	*68*		*17 - 205*
13C-2,3,4,6,7,8-HxCDF	*70*		*22 - 176*
13C-1,2,3,4,6,7,8-HpCDD	*58*		*26 - 166*
13C-1,2,3,4,6,7,8-HpCDF	*59*		*21 - 158*
13C-1,2,3,4,7,8,9-HpCDF	*58*		*20 - 186*
13C-OCDD	*51*		*13 - 199*

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
37Cl4-2,3,7,8-TCDD	*91*		*31 - 191*

Lab Sample ID: LCSD 320-354177/3-A
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 355322
Prep Batch: 354177

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD	200	220		pg/L		110	67 - 158	7	50
2,3,7,8-TCDF	200	228		pg/L		114	75 - 158	4	50
1,2,3,7,8-PeCDD	1000	1110		pg/L		111	70 - 142	5	50
1,2,3,7,8-PeCDF	1000	1130		pg/L		113	80 - 134	1	50
2,3,4,7,8-PeCDF	1000	1150		pg/L		115	68 - 160	1	50

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-354177/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 355322 **Prep Batch: 354177**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3,4,7,8-HxCDD	1000	1100		pg/L		110	70 - 164	5	50
1,2,3,6,7,8-HxCDD	1000	1160		pg/L		116	76 - 134	9	50
1,2,3,7,8,9-HxCDD	1000	1140		pg/L		114	64 - 162	2	50
1,2,3,4,7,8-HxCDF	1000	1130		pg/L		113	72 - 134	2	50
1,2,3,6,7,8-HxCDF	1000	1110		pg/L		111	84 - 130	0	50
1,2,3,7,8,9-HxCDF	1000	1120		pg/L		112	78 - 130	1	50
2,3,4,6,7,8-HxCDF	1000	1120		pg/L		112	70 - 156	2	50
1,2,3,4,6,7,8-HpCDD	1000	1090		pg/L		109	70 - 140	2	50
1,2,3,4,6,7,8-HpCDF	1000	1090		pg/L		109	82 - 122	2	50
1,2,3,4,7,8,9-HpCDF	1000	1090		pg/L		109	78 - 138	1	50
OCDD	2000	2160		pg/L		108	78 - 144	5	50
OCDF	2000	2140		pg/L		107	63 - 170	5	50

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*67*		*20 - 175*
13C-2,3,7,8-TCDF	*67*		*22 - 152*
13C-1,2,3,7,8-PeCDD	*63*		*21 - 227*
13C-1,2,3,7,8-PeCDF	*65*		*21 - 192*
13C-2,3,4,7,8-PeCDF	*63*		*13 - 328*
13C-1,2,3,4,7,8-HxCDD	*63*		*21 - 193*
13C-1,2,3,6,7,8-HxCDD	*70*		*25 - 163*
13C-1,2,3,4,7,8-HxCDF	*68*		*19 - 202*
13C-1,2,3,6,7,8-HxCDF	*76*		*21 - 159*
13C-1,2,3,7,8,9-HxCDF	*71*		*17 - 205*
13C-2,3,4,6,7,8-HxCDF	*73*		*22 - 176*
13C-1,2,3,4,6,7,8-HpCDD	*61*		*26 - 166*
13C-1,2,3,4,6,7,8-HpCDF	*64*		*21 - 158*
13C-1,2,3,4,7,8,9-HpCDF	*61*		*20 - 186*
13C-OCDD	*53*		*13 - 199*

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
37Cl4-2,3,7,8-TCDD	*89*		*31 - 191*

Lab Sample ID: MB 320-354207/1-A **Client Sample ID: Method Blank**
Matrix: Sediment **Prep Type: Total/NA**
Analysis Batch: 355551 **Prep Batch: 354207**

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		1.0	0.053	pg/g		01/31/20 09:04	02/06/20 16:56	1
2,3,7,8-TCDF	ND		1.0	0.033	pg/g		01/31/20 09:04	02/06/20 16:56	1
1,2,3,7,8-PeCDD	ND		5.0	0.045	pg/g		01/31/20 09:04	02/06/20 16:56	1
1,2,3,7,8-PeCDF	ND		5.0	0.049	pg/g		01/31/20 09:04	02/06/20 16:56	1
2,3,4,7,8-PeCDF	ND		5.0	0.055	pg/g		01/31/20 09:04	02/06/20 16:56	1
1,2,3,4,7,8-HxCDD	0.173	J q	5.0	0.052	pg/g		01/31/20 09:04	02/06/20 16:56	1
1,2,3,6,7,8-HxCDD	ND		5.0	0.049	pg/g		01/31/20 09:04	02/06/20 16:56	1
1,2,3,7,8,9-HxCDD	ND		5.0	0.045	pg/g		01/31/20 09:04	02/06/20 16:56	1
1,2,3,4,7,8-HxCDF	ND		5.0	0.064	pg/g		01/31/20 09:04	02/06/20 16:56	1
1,2,3,6,7,8-HxCDF	ND		5.0	0.058	pg/g		01/31/20 09:04	02/06/20 16:56	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-354207/1-A **Client Sample ID: Method Blank**
Matrix: Sediment **Prep Type: Total/NA**
Analysis Batch: 355551 **Prep Batch: 354207**

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,7,8,9-HxCDF	ND		5.0	0.042	pg/g		01/31/20 09:04	02/06/20 16:56	1
2,3,4,6,7,8-HxCDF	ND		5.0	0.041	pg/g		01/31/20 09:04	02/06/20 16:56	1
1,2,3,4,6,7,8-HpCDD	ND		5.0	0.051	pg/g		01/31/20 09:04	02/06/20 16:56	1
1,2,3,4,6,7,8-HpCDF	0.0842	J q	5.0	0.034	pg/g		01/31/20 09:04	02/06/20 16:56	1
1,2,3,4,7,8,9-HpCDF	ND		5.0	0.053	pg/g		01/31/20 09:04	02/06/20 16:56	1
OCDD	1.19	J	10	0.089	pg/g		01/31/20 09:04	02/06/20 16:56	1
OCDF	ND		10	0.081	pg/g		01/31/20 09:04	02/06/20 16:56	1
Total TCDD	ND		1.0	0.053	pg/g		01/31/20 09:04	02/06/20 16:56	1
Total TCDF	ND		1.0	0.033	pg/g		01/31/20 09:04	02/06/20 16:56	1
Total PeCDD	ND		5.0	0.045	pg/g		01/31/20 09:04	02/06/20 16:56	1
Total PeCDF	ND		5.0	0.055	pg/g		01/31/20 09:04	02/06/20 16:56	1
Total HxCDD	0.173	J q	5.0	0.049	pg/g		01/31/20 09:04	02/06/20 16:56	1
Total HxCDF	ND		5.0	0.064	pg/g		01/31/20 09:04	02/06/20 16:56	1
Total HpCDD	0.0930	J q	5.0	0.051	pg/g		01/31/20 09:04	02/06/20 16:56	1
Total HpCDF	0.0842	J q	5.0	0.044	pg/g		01/31/20 09:04	02/06/20 16:56	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*67*		*25 - 164*	*01/31/20 09:04*	*02/06/20 16:56*	*1*
13C-2,3,7,8-TCDF	*69*		*24 - 169*	*01/31/20 09:04*	*02/06/20 16:56*	*1*
13C-1,2,3,7,8-PeCDD	*66*		*25 - 181*	*01/31/20 09:04*	*02/06/20 16:56*	*1*
13C-1,2,3,7,8-PeCDF	*68*		*24 - 185*	*01/31/20 09:04*	*02/06/20 16:56*	*1*
13C-2,3,4,7,8-PeCDF	*66*		*21 - 178*	*01/31/20 09:04*	*02/06/20 16:56*	*1*
13C-1,2,3,4,7,8-HxCDD	*62*		*32 - 141*	*01/31/20 09:04*	*02/06/20 16:56*	*1*
13C-1,2,3,6,7,8-HxCDD	*73*		*28 - 130*	*01/31/20 09:04*	*02/06/20 16:56*	*1*
13C-1,2,3,4,7,8-HxCDF	*70*		*26 - 152*	*01/31/20 09:04*	*02/06/20 16:56*	*1*
13C-1,2,3,6,7,8-HxCDF	*77*		*26 - 123*	*01/31/20 09:04*	*02/06/20 16:56*	*1*
13C-1,2,3,7,8,9-HxCDF	*76*		*29 - 147*	*01/31/20 09:04*	*02/06/20 16:56*	*1*
13C-2,3,4,6,7,8-HxCDF	*75*		*28 - 136*	*01/31/20 09:04*	*02/06/20 16:56*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*65*		*23 - 140*	*01/31/20 09:04*	*02/06/20 16:56*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*65*		*28 - 143*	*01/31/20 09:04*	*02/06/20 16:56*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*65*		*26 - 138*	*01/31/20 09:04*	*02/06/20 16:56*	*1*
13C-OCDD	*62*		*17 - 157*	*01/31/20 09:04*	*02/06/20 16:56*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*94*		*35 - 197*	*01/31/20 09:04*	*02/06/20 16:56*	*1*

Lab Sample ID: LCS 320-354207/2-A **Client Sample ID: Lab Control Sample**
Matrix: Sediment **Prep Type: Total/NA**
Analysis Batch: 355551 **Prep Batch: 354207**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	20.0	20.7		pg/g		103	67 - 158
2,3,7,8-TCDF	20.0	21.7		pg/g		109	75 - 158
1,2,3,7,8-PeCDD	100	111		pg/g		111	70 - 142
1,2,3,7,8-PeCDF	100	113		pg/g		113	80 - 134
2,3,4,7,8-PeCDF	100	114		pg/g		114	68 - 160
1,2,3,4,7,8-HxCDD	100	110		pg/g		110	70 - 164
1,2,3,6,7,8-HxCDD	100	113		pg/g		113	76 - 134

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-354207/2-A **Client Sample ID: Lab Control Sample**
Matrix: Sediment **Prep Type: Total/NA**
Analysis Batch: 355551 **Prep Batch: 354207**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3,7,8,9-HxCDD	100	109		pg/g		109	64 - 162
1,2,3,4,7,8-HxCDF	100	111		pg/g		111	72 - 134
1,2,3,6,7,8-HxCDF	100	110		pg/g		110	84 - 130
1,2,3,7,8,9-HxCDF	100	110		pg/g		110	78 - 130
2,3,4,6,7,8-HxCDF	100	109		pg/g		109	70 - 156
1,2,3,4,6,7,8-HpCDD	100	111		pg/g		111	70 - 140
1,2,3,4,6,7,8-HpCDF	100	110		pg/g		110	82 - 122
1,2,3,4,7,8,9-HpCDF	100	109		pg/g		109	78 - 138
OCDD	200	215		pg/g		107	78 - 144
OCDF	200	210		pg/g		105	63 - 170

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*63*		*20 - 175*
13C-2,3,7,8-TCDF	*63*		*22 - 152*
13C-1,2,3,7,8-PeCDD	*58*		*21 - 227*
13C-1,2,3,7,8-PeCDF	*63*		*21 - 192*
13C-2,3,4,7,8-PeCDF	*62*		*13 - 328*
13C-1,2,3,4,7,8-HxCDD	*62*		*21 - 193*
13C-1,2,3,6,7,8-HxCDD	*72*		*25 - 163*
13C-1,2,3,4,7,8-HxCDF	*69*		*19 - 202*
13C-1,2,3,6,7,8-HxCDF	*75*		*21 - 159*
13C-1,2,3,7,8,9-HxCDF	*71*		*17 - 205*
13C-2,3,4,6,7,8-HxCDF	*73*		*22 - 176*
13C-1,2,3,4,6,7,8-HpCDD	*62*		*26 - 166*
13C-1,2,3,4,6,7,8-HpCDF	*64*		*21 - 158*
13C-1,2,3,4,7,8,9-HpCDF	*65*		*20 - 186*
13C-OCDD	*62*		*13 - 199*

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
37Cl4-2,3,7,8-TCDD	*86*		*31 - 191*

Lab Sample ID: LCSD 320-354207/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Sediment **Prep Type: Total/NA**
Analysis Batch: 355551 **Prep Batch: 354207**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD	20.0	20.9		pg/g		104	67 - 158	1	50
2,3,7,8-TCDF	20.0	22.1		pg/g		110	75 - 158	2	50
1,2,3,7,8-PeCDD	100	108		pg/g		108	70 - 142	3	50
1,2,3,7,8-PeCDF	100	112		pg/g		112	80 - 134	1	50
2,3,4,7,8-PeCDF	100	114		pg/g		114	68 - 160	0	50
1,2,3,4,7,8-HxCDD	100	119		pg/g		119	70 - 164	7	50
1,2,3,6,7,8-HxCDD	100	106		pg/g		106	76 - 134	6	50
1,2,3,7,8,9-HxCDD	100	127		pg/g		127	64 - 162	15	50
1,2,3,4,7,8-HxCDF	100	107		pg/g		107	72 - 134	3	50
1,2,3,6,7,8-HxCDF	100	110		pg/g		110	84 - 130	0	50
1,2,3,7,8,9-HxCDF	100	109		pg/g		109	78 - 130	1	50
2,3,4,6,7,8-HxCDF	100	110		pg/g		110	70 - 156	1	50

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-354207/3-A
Client Sample ID: Lab Control Sample Dup
Matrix: Sediment
Prep Type: Total/NA
Analysis Batch: 355551
Prep Batch: 354207

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3,4,6,7,8-HpCDD			100	110		pg/g		110	70 - 140	1	50
1,2,3,4,6,7,8-HpCDF			100	109		pg/g		109	82 - 122	1	50
1,2,3,4,7,8,9-HpCDF			100	111		pg/g		111	78 - 138	2	50
OCDD			200	214		pg/g		107	78 - 144	1	50
OCDF			200	212		pg/g		106	63 - 170	1	50

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*59*		*20 - 175*
13C-2,3,7,8-TCDF	*61*		*22 - 152*
13C-1,2,3,7,8-PeCDD	*58*		*21 - 227*
13C-1,2,3,7,8-PeCDF	*61*		*21 - 192*
13C-2,3,4,7,8-PeCDF	*53*		*13 - 328*
13C-1,2,3,4,7,8-HxCDD	*49*		*21 - 193*
13C-1,2,3,6,7,8-HxCDD	*62*		*25 - 163*
13C-1,2,3,4,7,8-HxCDF	*56*		*19 - 202*
13C-1,2,3,6,7,8-HxCDF	*63*		*21 - 159*
13C-1,2,3,7,8,9-HxCDF	*68*		*17 - 205*
13C-2,3,4,6,7,8-HxCDF	*65*		*22 - 176*
13C-1,2,3,4,6,7,8-HpCDD	*57*		*26 - 166*
13C-1,2,3,4,6,7,8-HpCDF	*54*		*21 - 158*
13C-1,2,3,4,7,8,9-HpCDF	*58*		*20 - 186*
13C-OCDD	*57*		*13 - 199*

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
37Cl4-2,3,7,8-TCDD	*84*		*31 - 191*

QC Association Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 320-58170-1

Specialty Organics

Prep Batch: 354177

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-58170-1	11187072-Berm-GW	Total/NA	Water	1613B	
320-58170-3	11187072-Eastern-GW	Total/NA	Water	1613B	
320-58170-5	11187072-Western-GW	Total/NA	Water	1613B	
MB 320-354177/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-354177/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-354177/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Prep Batch: 354207

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-58170-2	11187072-Berm-Solids	Total/NA	Sediment	HRMS-Sox	
320-58170-4	11187072-Eastern-Solids	Total/NA	Sediment	HRMS-Sox	
320-58170-4 - RA	11187072-Eastern-Solids	Total/NA	Sediment	HRMS-Sox	
320-58170-6	11187072-Western-Solids	Total/NA	Sediment	HRMS-Sox	
320-58170-6 - RA	11187072-Western-Solids	Total/NA	Sediment	HRMS-Sox	
MB 320-354207/1-A	Method Blank	Total/NA	Sediment	HRMS-Sox	
LCS 320-354207/2-A	Lab Control Sample	Total/NA	Sediment	HRMS-Sox	
LCSD 320-354207/3-A	Lab Control Sample Dup	Total/NA	Sediment	HRMS-Sox	

Analysis Batch: 355322

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-58170-1	11187072-Berm-GW	Total/NA	Water	1613B	354177
320-58170-3	11187072-Eastern-GW	Total/NA	Water	1613B	354177
320-58170-5	11187072-Western-GW	Total/NA	Water	1613B	354177
MB 320-354177/1-A	Method Blank	Total/NA	Water	1613B	354177
LCS 320-354177/2-A	Lab Control Sample	Total/NA	Water	1613B	354177
LCSD 320-354177/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	354177

Analysis Batch: 355551

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-58170-2	11187072-Berm-Solids	Total/NA	Sediment	1613B	354207
320-58170-4	11187072-Eastern-Solids	Total/NA	Sediment	1613B	354207
320-58170-6	11187072-Western-Solids	Total/NA	Sediment	1613B	354207
MB 320-354207/1-A	Method Blank	Total/NA	Sediment	1613B	354207
LCS 320-354207/2-A	Lab Control Sample	Total/NA	Sediment	1613B	354207
LCSD 320-354207/3-A	Lab Control Sample Dup	Total/NA	Sediment	1613B	354207

Analysis Batch: 355913

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-58170-4 - RA	11187072-Eastern-Solids	Total/NA	Sediment	1613B	354207
320-58170-6 - RA	11187072-Western-Solids	Total/NA	Sediment	1613B	354207

General Chemistry

Analysis Batch: 354789

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-58170-2	11187072-Berm-Solids	Total/NA	Sediment	D 2216	
320-58170-4	11187072-Eastern-Solids	Total/NA	Sediment	D 2216	
320-58170-6	11187072-Western-Solids	Total/NA	Sediment	D 2216	

Lab Chronicle

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 320-58170-1

Client Sample ID: 11187072-Berm-GW
Lab Sample ID: 320-58170-1
Date Collected: 01/29/20 13:30
Matrix: Water
Date Received: 01/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			354177	01/31/20 07:47	RDR	TAL SAC
Total/NA	Analysis	1613B		1	355322	02/05/20 20:08	AS	TAL SAC

Client Sample ID: 11187072-Berm-Solids
Lab Sample ID: 320-58170-2
Date Collected: 01/29/20 13:30
Matrix: Sediment
Date Received: 01/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	354789	02/03/20 16:15	CFR	TAL SAC

Client Sample ID: 11187072-Berm-Solids
Lab Sample ID: 320-58170-2
Date Collected: 01/29/20 13:30
Matrix: Sediment
Date Received: 01/30/20 09:00
Percent Solids: 99.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	HRMS-Sox			354207	01/31/20 09:04	JH	TAL SAC
Total/NA	Analysis	1613B		1	355551	02/06/20 19:14	SMA	TAL SAC

Client Sample ID: 11187072-Eastern-GW
Lab Sample ID: 320-58170-3
Date Collected: 01/29/20 13:30
Matrix: Water
Date Received: 01/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			354177	01/31/20 07:47	RDR	TAL SAC
Total/NA	Analysis	1613B		1	355322	02/05/20 20:54	AS	TAL SAC

Client Sample ID: 11187072-Eastern-Solids
Lab Sample ID: 320-58170-4
Date Collected: 01/29/20 13:30
Matrix: Sediment
Date Received: 01/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	354789	02/03/20 16:15	CFR	TAL SAC

Client Sample ID: 11187072-Eastern-Solids
Lab Sample ID: 320-58170-4
Date Collected: 01/29/20 13:30
Matrix: Sediment
Date Received: 01/30/20 09:00
Percent Solids: 99.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	HRMS-Sox			354207	01/31/20 09:04	JH	TAL SAC
Total/NA	Analysis	1613B		1	355551	02/06/20 20:00	SMA	TAL SAC
Total/NA	Prep	HRMS-Sox	RA		354207	01/31/20 09:04	JH	TAL SAC
Total/NA	Analysis	1613B	RA	1	355913	02/07/20 16:49	AS	TAL SAC

Lab Chronicle

Client: GHD Services Inc.
Job ID: 320-58170-1
Project/Site: San Jacinto River Waste Pits Superfund

Client Sample ID: 11187072-Western-GW
Lab Sample ID: 320-58170-5

Date Collected: 01/29/20 13:30
Matrix: Water
Date Received: 01/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			354177	01/31/20 07:47	RDR	TAL SAC
Total/NA	Analysis	1613B		1	355322	02/05/20 21:40	AS	TAL SAC

Client Sample ID: 11187072-Western-Solids
Lab Sample ID: 320-58170-6

Date Collected: 01/29/20 13:30
Matrix: Sediment
Date Received: 01/30/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	354789	02/03/20 16:15	CFR	TAL SAC

Client Sample ID: 11187072-Western-Solids
Lab Sample ID: 320-58170-6

Date Collected: 01/29/20 13:30
Matrix: Sediment
Date Received: 01/30/20 09:00
Percent Solids: 99.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	HRMS-Sox			354207	01/31/20 09:04	JH	TAL SAC
Total/NA	Analysis	1613B		1	355551	02/06/20 20:46	SMA	TAL SAC
Total/NA	Prep	HRMS-Sox	RA		354207	01/31/20 09:04	JH	TAL SAC
Total/NA	Analysis	1613B	RA	1	355913	02/07/20 17:27	AS	TAL SAC

Laboratory References:

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GHD Services Inc. Job ID: 320-58170-1
Project/Site: San Jacinto River Waste Pits Superfund

Laboratory: Eurofins TestAmerica, Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704399-19-13	05-31-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1613B	HRMS-Sox	Sediment	1,2,3,4,6,7,8-HpCDD
1613B	HRMS-Sox	Sediment	1,2,3,4,6,7,8-HpCDF
1613B	HRMS-Sox	Sediment	1,2,3,4,7,8,9-HpCDF
1613B	HRMS-Sox	Sediment	1,2,3,4,7,8-HxCDD
1613B	HRMS-Sox	Sediment	1,2,3,4,7,8-HxCDF
1613B	HRMS-Sox	Sediment	1,2,3,6,7,8-HxCDD
1613B	HRMS-Sox	Sediment	1,2,3,6,7,8-HxCDF
1613B	HRMS-Sox	Sediment	1,2,3,7,8,9-HxCDD
1613B	HRMS-Sox	Sediment	1,2,3,7,8,9-HxCDF
1613B	HRMS-Sox	Sediment	1,2,3,7,8-PeCDD
1613B	HRMS-Sox	Sediment	1,2,3,7,8-PeCDF
1613B	HRMS-Sox	Sediment	2,3,4,6,7,8-HxCDF
1613B	HRMS-Sox	Sediment	2,3,4,7,8-PeCDF
1613B	HRMS-Sox	Sediment	2,3,7,8-TCDD
1613B	HRMS-Sox	Sediment	2,3,7,8-TCDF
1613B	HRMS-Sox	Sediment	OCDD
1613B	HRMS-Sox	Sediment	OCDF
1613B	HRMS-Sox	Sediment	Total HpCDD
1613B	HRMS-Sox	Sediment	Total HpCDF
1613B	HRMS-Sox	Sediment	Total HxCDD
1613B	HRMS-Sox	Sediment	Total HxCDF
1613B	HRMS-Sox	Sediment	Total PeCDD
1613B	HRMS-Sox	Sediment	Total PeCDF
1613B	HRMS-Sox	Sediment	Total TCDD
1613B	HRMS-Sox	Sediment	Total TCDF
D 2216		Sediment	Percent Moisture
D 2216		Sediment	Percent Solids
TEQ		Sediment	Total Dioxin/Furan TEQ

Laboratory: Eurofins TestAmerica, Pittsburgh

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704528	03-31-20

Method Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 320-58170-1

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	TAL SAC
TEQ	Total TEQ Calculation	TAL SOP	TAL SAC
D 2216	Percent Moisture	ASTM	TAL SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	TAL SAC
HRMS-Sox	Soxhlet Extraction	EPA	TAL SAC

Protocol References:

ASTM = ASTM International
EPA = US Environmental Protection Agency
TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GHD Services Inc.
Job ID: 320-58170-1
Project/Site: San Jacinto River Waste Pits Superfund

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
320-58170-1	11187072-Berm-GW	Water	01/29/20 13:30	01/30/20 09:00	
320-58170-2	11187072-Berm-Solids	Sediment	01/29/20 13:30	01/30/20 09:00	
320-58170-3	11187072-Eastern-GW	Water	01/29/20 13:30	01/30/20 09:00	
320-58170-4	11187072-Eastern-Solids	Sediment	01/29/20 13:30	01/30/20 09:00	
320-58170-5	11187072-Western-GW	Water	01/29/20 13:30	01/30/20 09:00	
320-58170-6	11187072-Western-Solids	Sediment	01/29/20 13:30	01/30/20 09:00	

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Sacram Job No.: 320-58170-1

SDG No.:

Instrument ID: 10D5 Analysis Batch Number: 353986

Lab Sample ID: IC 320-353986/5 Client Sample ID:

Date Analyzed: 01/30/20 02:35 Lab File ID: 29JA20B10D5_5.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
13C-2,3,4,7,8-PeCDF	23.04	Peak assignment corrected	arghestanis	01/30/20 08:35
13C-1,2,3,4,7,8-HxCDD	31.32	Peak assignment corrected	arghestanis	01/30/20 08:36
13C-1,2,3,4,7,8,9-HpCDF	34.57	Peak assignment corrected	arghestanis	01/30/20 08:36

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Sacram Job No.: 320-58170-1

SDG No.:

Instrument ID: 10D5 Analysis Batch Number: 355322

Lab Sample ID: MB 320-354177/1-A Client Sample ID:

Date Analyzed: 02/05/20 17:50 Lab File ID: 05FE2010D5_4.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,3,7,8-TCDF	16.86	Split Peak	dadunj	02/07/20 14:23
2,3,4,7,8-PeCDF	22.95	Split Peak	dadunj	02/07/20 14:23
1,2,3,7,8-PeCDD	23.66	Split Peak	dadunj	02/07/20 14:23
1,2,3,4,7,8-HxCDF	29.74	Split Peak	dadunj	02/07/20 14:24
13C-1,2,3,6,7,8-HxCDF	29.99	Split Peak	dadunj	02/07/20 14:24
1,2,3,6,7,8-HxCDF	30.05	Invalid Compound ID	dadunj	02/07/20 14:25
2,3,4,6,7,8-HxCDF	31.03	Baseline	dadunj	02/07/20 14:25
1,2,3,4,7,8-HxCDD	31.28	Invalid Compound ID	dadunj	02/07/20 14:25
1,2,3,6,7,8-HxCDD	31.39	Invalid Compound ID	dadunj	02/07/20 14:25
1,2,3,7,8,9-HxCDD	31.75	Split Peak	dadunj	02/07/20 14:26
1,2,3,7,8,9-HxCDF	31.96	Baseline	dadunj	02/07/20 14:25
1,2,3,4,6,7,8-HpCDF	33.47	Split Peak	dadunj	02/07/20 14:26
1,2,3,4,7,8,9-HpCDF	34.54	Split Peak	dadunj	02/07/20 14:26
OCDD	36.55	Split Peak	dadunj	02/07/20 14:26
OCDF	36.62	Split Peak	dadunj	02/07/20 14:26

Lab Sample ID: 320-58170-1 Client Sample ID: 11187072-Berm-GW

Date Analyzed: 02/05/20 20:08 Lab File ID: 05FE2010D5_7.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,6,7,8-HxCDD		Invalid Compound ID	dadunj	02/07/20 14:30
1,2,3,7,8-PeCDD	23.63	Split Peak	dadunj	02/07/20 14:29
1,2,3,4,7,8-HxCDF	29.78	Split Peak	dadunj	02/07/20 14:29
1,2,3,6,7,8-HxCDF	30.04	Invalid Compound ID	dadunj	02/07/20 14:29
1,2,3,4,7,8-HxCDD	31.28	Split Peak	dadunj	02/07/20 14:30
1,2,3,7,8,9-HxCDD	31.77	Split Peak	dadunj	02/07/20 14:30
1,2,3,4,6,7,8-HpCDF	33.47	Split Peak	dadunj	02/07/20 14:30
1,2,3,4,6,7,8-HpCDD	34.26	Split Peak	dadunj	02/07/20 14:32
1,2,3,4,7,8,9-HpCDF	34.58	Split Peak	dadunj	02/07/20 14:31

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Sacram Job No.: 320-58170-1

SDG No.:

Instrument ID: 10D5 Analysis Batch Number: 355322

Lab Sample ID: 320-58170-3 Client Sample ID: 11187072-Eastern-GW

Date Analyzed: 02/05/20 20:54 Lab File ID: 05FE2010D5_8.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,6,7,8-HxCDD		Invalid Compound ID	dadunj	02/07/20 14:34
1,2,3,4,7,8-HxCDD	31.25	Split Peak	dadunj	02/07/20 14:33
1,2,3,7,8,9-HxCDF	31.96	Split Peak	dadunj	02/07/20 14:33
1,2,3,4,6,7,8-HpCDF	33.48	Split Peak	dadunj	02/07/20 14:34
1,2,3,4,6,7,8-HpCDD	34.26	Split Peak	dadunj	02/07/20 14:34
1,2,3,4,7,8,9-HpCDF	34.55	Split Peak	dadunj	02/07/20 14:34

Lab Sample ID: 320-58170-5 Client Sample ID: 11187072-Western-GW

Date Analyzed: 02/05/20 21:40 Lab File ID: 05FE2010D5_9.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,6,7,8-HxCDD		Invalid Compound ID	dadunj	02/07/20 14:36
1,2,3,7,8,9-HxCDF		Invalid Compound ID	dadunj	02/07/20 14:36
1,2,3,4,6,7,8-HpCDF	33.48	Split Peak	dadunj	02/07/20 14:36
1,2,3,4,6,7,8-HpCDD	34.27	Split Peak	dadunj	02/07/20 14:36
OCDF	36.66	Split Peak	dadunj	02/07/20 14:36

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Sacram Job No.: 320-58170-1

SDG No.:

Instrument ID: 10D5 Analysis Batch Number: 355551

Lab Sample ID: MB 320-354207/1-A Client Sample ID:

Date Analyzed: 02/06/20 16:56 Lab File ID: 06FE2010D5_9.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,6,7,8-HxCDD		Invalid Compound ID	dadunj	02/10/20 09:20
1,2,3,4,7,8-HxCDD	31.25	Split Peak	dadunj	02/10/20 09:20
1,2,3,4,6,7,8-HpCDF	33.47	Split Peak	dadunj	02/10/20 09:20

Lab Sample ID: 320-58170-2 Client Sample ID: 11187072-Berm-Solids

Date Analyzed: 02/06/20 19:14 Lab File ID: 06FE2010D5_12.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,3,7,8-TCDD	17.54	Split Peak	dadunj	02/10/20 09:23
1,2,3,4,7,8-HxCDD	31.27	Split Peak	dadunj	02/10/20 09:25
1,2,3,6,7,8-HxCDD	31.37	Invalid Compound ID	dadunj	02/10/20 09:25
1,2,3,7,8,9-HxCDD	31.77	Split Peak	dadunj	02/10/20 09:25
1,2,3,4,6,7,8-HpCDF	33.47	Baseline	dadunj	02/10/20 09:26
1,2,3,4,6,7,8-HpCDD	34.52	Split Peak	dadunj	02/10/20 09:27

Lab Sample ID: 320-58170-4 Client Sample ID: 11187072-Eastern-Solids

Date Analyzed: 02/06/20 20:00 Lab File ID: 06FE2010D5_13.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,3,7,8-TCDD	17.51	Split Peak	dadunj	02/10/20 09:30
1,2,3,7,8-PeCDF	21.64	Baseline	dadunj	02/10/20 09:31
1,2,3,4,7,8-HxCDF	29.78	Baseline	dadunj	02/10/20 09:31
1,2,3,4,7,8-HxCDD	31.25	Invalid Compound ID	dadunj	02/10/20 09:32
1,2,3,6,7,8-HxCDD	31.37	Split Peak	dadunj	02/10/20 09:32
1,2,3,4,6,7,8-HpCDF	33.46	Split Peak	dadunj	02/10/20 09:33
1,2,3,4,6,7,8-HpCDD	34.24	Split Peak	dadunj	02/10/20 09:34

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Sacram Job No.: 320-58170-1

SDG No.:

Instrument ID: 10D5 Analysis Batch Number: 355551

Lab Sample ID: 320-58170-6 Client Sample ID: 11187072-Western-Solids

Date Analyzed: 02/06/20 20:46 Lab File ID: 06FE2010D5_14.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,3,7,8-TCDD	17.54	Split Peak	dadunj	02/10/20 09:36
1,2,3,4,7,8-HxCDD	31.25	Split Peak	dadunj	02/10/20 09:37
1,2,3,6,7,8-HxCDD	31.39	Invalid Compound ID	dadunj	02/10/20 09:38
1,2,3,7,8,9-HxCDD	31.76	Split Peak	dadunj	02/10/20 09:38
1,2,3,4,6,7,8-HpCDF	33.47	Split Peak	dadunj	02/10/20 09:38

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Sacram Job No.: 320-58170-1

SDG No.:

Instrument ID: 11D2 Analysis Batch Number: 355913

Lab Sample ID: 320-58170-4 RA Client Sample ID: 11187072-Eastern-Solids RA

Date Analyzed: 02/07/20 16:49 Lab File ID: 07FE2011D2_006.d GC Column: DB-225 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,3,7,8-TCDF	16.56	Invalid Compound ID	shardaa	02/11/20 15:16

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
HRDXNCP_00040	08/30/20	08/30/19	C14, Lot STBH7678	6 mL	HRDXNCP_00039	1.2 mL	1,2,3,4,6,7,9-HpCDD	40 pg/uL
							1,2,3,4,6,7-HxCDD	40 pg/uL
							1,2,3,4,6,8-HxCDF	40 pg/uL
							1,2,3,4,8,9-HxCDF	40 pg/uL
							1,2,3,7-TCDD	40 pg/uL
							1,2,3,8,9-PeCDD	40 pg/uL
							1,2,3,8,9-PeCDF	40 pg/uL
							1,2,3,9-TCDD	40 pg/uL
							1,2,3,9-TCDF	40 pg/uL
							1,2,4,6,7,9-HxCDD	40 pg/uL
							1,2,4,7,9-PeCDD	40 pg/uL
							1,2,8,9-TCDD	40 pg/uL
							1,2,8,9-TCDF	40 pg/uL
							1,3,4,6,8-PeCDF	40 pg/uL
							1,3,6,8-TCDD	40 pg/uL
							1,3,6,8-TCDF	40 pg/uL
							13C-2,3,7,8-TCDD	40 pg/uL
							13C-2,3,7,8-TCDF	40 pg/uL
							2,3,4,7-TCDF	40 pg/uL
							2,3,7,8-TCDD	40 pg/uL
							2,3,7,8-TCDF	40 pg/uL
.HRDXNCP_00039	03/31/25		CIL, Lot ER03111502		(Purchased Reagent)		1,2,3,4,6,7,9-HpCDD	200 ng/mL
							1,2,3,4,6,7-HxCDD	200 ng/mL
							1,2,3,4,6,8-HxCDF	200 ng/mL
							1,2,3,4,8,9-HxCDF	200 ng/mL
							1,2,3,7-TCDD	200 ng/mL
							1,2,3,8,9-PeCDD	200 ng/mL
							1,2,3,8,9-PeCDF	200 ng/mL
							1,2,3,9-TCDD	200 ng/mL
							1,2,3,9-TCDF	200 ng/mL
							1,2,4,6,7,9-HxCDD	200 ng/mL
							1,2,4,7,9-PeCDD	200 ng/mL
							1,2,8,9-TCDD	200 ng/mL
							1,2,8,9-TCDF	200 ng/mL
							1,3,4,6,8-PeCDF	200 ng/mL
							1,3,6,8-TCDD	200 ng/mL
							1,3,6,8-TCDF	200 ng/mL
							13C-2,3,7,8-TCDD	200 ng/mL
							13C-2,3,7,8-TCDF	200 ng/mL
							2,3,4,7-TCDF	200 ng/mL
							2,3,7,8-TCDD	200 ng/mL
							2,3,7,8-TCDF	200 ng/mL
HRDXNIC_00043	07/31/20	01/22/20	C14, Lot STBJ0716	0.5 mL	HRDXNIDA_00303	0.125 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.25 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNSU_00229	0.05 mL	37Cl4-2,3,7,8-TCDD	40 ng/mL
					HRDXNTA_00103	0.5 mL	1,2,3,4,6,7,8-HpCDD	200 ng/mL
							1,2,3,4,6,7,8-HpCDF	200 ng/mL
							1,2,3,4,7,8,9-HpCDF	200 ng/mL
							1,2,3,4,7,8-HxCDD	200 ng/mL
							1,2,3,4,7,8-HxCDF	200 ng/mL
							1,2,3,6,7,8-HxCDD	200 ng/mL
							1,2,3,6,7,8-HxCDF	200 ng/mL
							1,2,3,7,8,9-HxCDD	200 ng/mL
							1,2,3,7,8,9-HxCDF	200 ng/mL
							1,2,3,7,8-PeCDD	200 ng/mL
							1,2,3,7,8-PeCDF	200 ng/mL
							2,3,4,6,7,8-HxCDF	200 ng/mL
							2,3,4,7,8-PeCDF	200 ng/mL
							2,3,7,8-TCDD	40 ng/mL
							2,3,7,8-TCDF	40 ng/mL
							OCDD	400 ng/mL
							OCDF	400 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNSU_00229	07/31/25	01/08/20	Isooctane, Lot 0000221197	25 mL	HRDXNSU_00228	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00228	07/31/25	01/08/20	Isooctane, Lot 0000221197	10 mL	HRDXNSU_00211	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00211	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00103	03/01/25	Wellington Labs, Lot 13PAR0418			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	200 ng/mL
							1,2,3,4,6,7,8-HpCDF	200 ng/mL
							1,2,3,4,7,8,9-HpCDF	200 ng/mL
							1,2,3,4,7,8-HxCDD	200 ng/mL
							1,2,3,4,7,8-HxCDF	200 ng/mL
							1,2,3,6,7,8-HxCDD	200 ng/mL
							1,2,3,6,7,8-HxCDF	200 ng/mL
							1,2,3,7,8,9-HxCDD	200 ng/mL
							1,2,3,7,8,9-HxCDF	200 ng/mL
							1,2,3,7,8-PeCDD	200 ng/mL
							1,2,3,7,8-PeCDF	200 ng/mL
							2,3,4,6,7,8-HxCDF	200 ng/mL
							2,3,4,7,8-PeCDF	200 ng/mL
							2,3,7,8-TCDD	40 ng/mL
							2,3,7,8-TCDF	40 ng/mL
							OCDD	400 ng/mL
							OCDF	400 ng/mL
HRDXNIDA_00412	11/30/20	01/21/20	Acetone, Lot 0000236884	500 mL	HRDXNIDA_00364	5 mL	13C-1,2,3,4,6,7,8-HpCDD	2 pg/uL
							13C-1,2,3,4,6,7,8-HpCDF	2 pg/uL
							13C-2,3,7,8-TCDF	2 pg/uL
							13C-2,3,7,8-TCDD	2 pg/uL
							13C-1,2,3,6,7,8-HxCDF	2 pg/uL
							13C-1,2,3,7,8,9-HxCDF	2 pg/uL
							13C-2,3,4,6,7,8-HxCDF	2 pg/uL
							13C-1,2,3,7,8-PeCDD	2 pg/uL
							13C-1,2,3,7,8-PeCDF	2 pg/uL
							13C-1,2,3,6,7,8-HxCDD	2 pg/uL
							13C-OCDD	4 pg/uL
					HRDXNIDA_00379	2.5 mL	13C-1,2,3,4,7,8,9-HpCDF	2 pg/uL
							13C-2,3,4,7,8-PeCDF	2 pg/uL
							13C-1,2,3,4,7,8-HxCDD	2 pg/uL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-1,2,3,4,7,8-HxCDF	2 pg/uL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIDA_00379	04/11/26	04/11/19	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00375	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00376	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00377	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00378	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00375	05/31/26	CIL, Lot ER04251601			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00376	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00377	06/30/26	CIL, Lot ER04211601			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00378	07/31/27	CIL, Lot ER04211701			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
HRDXNIS_00121	10/09/20	10/09/19	C14, Lot STBJ0716	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
.HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
..HRDXNIS_00110	09/30/26	CIL, Lot ER08221601			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
..HRDXNIS_00111	01/31/27	CIL, Lot ER11081602			(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
HRDXNL2_00028	07/31/20	01/22/20	C14, Lot STBJ0716	1 mL	HRDXNIDA_00303	0.25 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.5 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIS_00121	1 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00232	0.625 mL	37Cl4-2,3,7,8-TCDD	0.5 ng/mL
					HRDXNTA_00118	0.125 mL	1,2,3,4,6,7,8-HpCDD	2.5 ng/mL
							1,2,3,4,6,7,8-HpCDF	2.5 ng/mL
							1,2,3,4,7,8,9-HpCDF	2.5 ng/mL
							1,2,3,4,7,8-HxCDD	2.5 ng/mL
							1,2,3,4,7,8-HxCDF	2.5 ng/mL
							1,2,3,6,7,8-HxCDD	2.5 ng/mL
							1,2,3,6,7,8-HxCDF	2.5 ng/mL
							1,2,3,7,8,9-HxCDD	2.5 ng/mL
							1,2,3,7,8,9-HxCDF	2.5 ng/mL
							1,2,3,7,8-PeCDD	2.5 ng/mL
							1,2,3,7,8-PeCDF	2.5 ng/mL
							2,3,4,6,7,8-HxCDF	2.5 ng/mL
							2,3,4,7,8-PeCDF	2.5 ng/mL
							2,3,7,8-TCDD	0.5 ng/mL
							2,3,7,8-TCDF	0.5 ng/mL
							OCDD	5 ng/mL
							OCDF	5 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00121	10/09/20	10/09/19	C14, Lot STBJ0716	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26	CIL, Lot ER08221601			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27	CIL, Lot ER11081602			(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00232	01/18/21	01/18/20	Isooctane, Lot 0000221197	500 mL	HRDXNSU_00229	1 mL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
..HRDXNSU_00229	07/31/25	01/08/20	Isooctane, Lot 0000221197	25 mL	HRDXNSU_00228	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
...HRDXNSU_00228	07/31/25	01/08/20	Isooctane, Lot 0000221197	10 mL	HRDXNSU_00211	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
....HRDXNSU_00211	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00118	01/03/21	01/03/20	Acetone, Lot 00000236884	25 mL	HRDXNTA_00110	0.25 mL	1,2,3,4,6,7,8-HpCDD	20 ng/mL
							1,2,3,4,6,7,8-HpCDF	20 ng/mL
							1,2,3,4,7,8,9-HpCDF	20 ng/mL
							1,2,3,4,7,8-HxCDD	20 ng/mL
							1,2,3,4,7,8-HxCDF	20 ng/mL
							1,2,3,6,7,8-HxCDD	20 ng/mL
							1,2,3,6,7,8-HxCDF	20 ng/mL
							1,2,3,7,8,9-HxCDD	20 ng/mL
							1,2,3,7,8,9-HxCDF	20 ng/mL
							1,2,3,7,8-PeCDD	20 ng/mL
							1,2,3,7,8-PeCDF	20 ng/mL
							2,3,4,6,7,8-HxCDF	20 ng/mL
							2,3,4,7,8-PeCDF	20 ng/mL
							2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL
							OCDD	40 ng/mL
							OCDF	40 ng/mL
..HRDXNTA_00110	04/30/26	CIL, Lot ER02241602			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL3_00026	07/31/20	01/22/20	C14, Lot STBJ0716	0.5 mL	HRDXNIDA_00303	0.125 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.25 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIS_00121	0.5 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00232	1.25 mL	37Cl4-2,3,7,8-TCDD	2 ng/mL
					HRDXNTA_00118	0.25 mL	1,2,3,4,6,7,8-HpCDD	10 ng/mL
							1,2,3,4,6,7,8-HpCDF	10 ng/mL
							1,2,3,4,7,8,9-HpCDF	10 ng/mL
							1,2,3,4,7,8-HxCDD	10 ng/mL
							1,2,3,4,7,8-HxCDF	10 ng/mL
							1,2,3,6,7,8-HxCDD	10 ng/mL
							1,2,3,6,7,8-HxCDF	10 ng/mL
							1,2,3,7,8,9-HxCDD	10 ng/mL
							1,2,3,7,8,9-HxCDF	10 ng/mL
							1,2,3,7,8-PeCDD	10 ng/mL
							1,2,3,7,8-PeCDF	10 ng/mL
							2,3,4,6,7,8-HxCDF	10 ng/mL
							2,3,4,7,8-PeCDF	10 ng/mL
							2,3,7,8-TCDD	2 ng/mL
							2,3,7,8-TCDF	2 ng/mL
							OCDD	20 ng/mL

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							OCDF	20 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00121	10/09/20	10/09/19	C14, Lot STBJ0716	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26	CIL, Lot ER08221601			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27	CIL, Lot ER11081602			(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00232	01/18/21	01/18/20	Isooctane, Lot 0000221197	500 mL	HRDXNSU_00229	1 mL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
..HRDXNSU_00229	07/31/25	01/08/20	Isooctane, Lot 0000221197	25 mL	HRDXNSU_00228	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
...HRDXNSU_00228	07/31/25	01/08/20	Isooctane, Lot 0000221197	10 mL	HRDXNSU_00211	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
....HRDXNSU_00211	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00118	01/03/21	01/03/20	Acetone, Lot 00000236884	25 mL	HRDXNTA_00110	0.25 mL	1,2,3,4,6,7,8-HpCDD	20 ng/mL

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,4,6,7,8-HpCDF	20 ng/mL
							1,2,3,4,7,8,9-HpCDF	20 ng/mL
							1,2,3,4,7,8-HxCDD	20 ng/mL
							1,2,3,4,7,8-HxCDF	20 ng/mL
							1,2,3,6,7,8-HxCDD	20 ng/mL
							1,2,3,6,7,8-HxCDF	20 ng/mL
							1,2,3,7,8,9-HxCDD	20 ng/mL
							1,2,3,7,8,9-HxCDF	20 ng/mL
							1,2,3,7,8-PeCDD	20 ng/mL
							1,2,3,7,8-PeCDF	20 ng/mL
							2,3,4,6,7,8-HxCDF	20 ng/mL
							2,3,4,7,8-PeCDF	20 ng/mL
							2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL
							OCDD	40 ng/mL
							OCDF	40 ng/mL
..HRDXNTA_00110	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL4_00091	10/09/20	01/22/20	C14, Lot STBJ0716	1 mL	HRDXNIDA_00364	0.5 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIDA_00379	0.25 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIS_00121	1 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00226	0.025 mL	37Cl4-2,3,7,8-TCDD	10 ng/mL
					HRDXNTA_00110	0.025 mL	1,2,3,4,6,7,8-HpCDD	50 ng/mL
							1,2,3,4,6,7,8-HpCDF	50 ng/mL
							1,2,3,4,7,8,9-HpCDF	50 ng/mL
							1,2,3,4,7,8-HxCDD	50 ng/mL
							1,2,3,4,7,8-HxCDF	50 ng/mL
							1,2,3,6,7,8-HxCDD	50 ng/mL
							1,2,3,6,7,8-HxCDF	50 ng/mL
							1,2,3,7,8,9-HxCDD	50 ng/mL
							1,2,3,7,8,9-HxCDF	50 ng/mL
							1,2,3,7,8-PeCDD	50 ng/mL
							1,2,3,7,8-PeCDF	50 ng/mL
							2,3,4,6,7,8-HxCDF	50 ng/mL
							2,3,4,7,8-PeCDF	50 ng/mL
							2,3,7,8-TCDD	10 ng/mL
							2,3,7,8-TCDF	10 ng/mL
							OCDD	100 ng/mL
							OCDF	100 ng/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIDA_00379	04/11/26	04/11/19	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00375	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00376	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00377	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					HRDXNIDA_00378	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00375	05/31/26		CIL, Lot ER04251601		(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00376	01/31/27		CIL, Lot ER01061701		(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00377	06/30/26		CIL, Lot ER04211601		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00378	07/31/27		CIL, Lot ER04211701		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIS_00121	10/09/20	10/09/19	C14, Lot STBJ0716	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26		CIL, Lot ER08221601		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27		CIL, Lot ER11081602		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00226	01/07/21	01/07/20	Isooctane, Lot 0000221197	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00110	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL5_00029	07/31/20	01/22/20	C14, Lot STBH7678	0.2 mL	HRDXNIDA_00303	0.05 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.1 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-OCDD	200 ng/mL
					HRDXNIS_00121	0.2 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00229	0.02 mL	37Cl4-2,3,7,8-TCDD	40 ng/mL
					HRDXNTA_00110	0.02 mL	1,2,3,4,6,7,8-HpCDD	200 ng/mL
							1,2,3,4,6,7,8-HpCDF	200 ng/mL
							1,2,3,4,7,8,9-HpCDF	200 ng/mL
							1,2,3,4,7,8-HxCDD	200 ng/mL
							1,2,3,4,7,8-HxCDF	200 ng/mL
							1,2,3,6,7,8-HxCDD	200 ng/mL
							1,2,3,6,7,8-HxCDF	200 ng/mL
							1,2,3,7,8,9-HxCDD	200 ng/mL
							1,2,3,7,8,9-HxCDF	200 ng/mL
							1,2,3,7,8-PeCDD	200 ng/mL
							1,2,3,7,8-PeCDF	200 ng/mL
							2,3,4,6,7,8-HxCDF	200 ng/mL
							2,3,4,7,8-PeCDF	200 ng/mL
							2,3,7,8-TCDD	40 ng/mL
							2,3,7,8-TCDF	40 ng/mL
							OCDD	400 ng/mL
							OCDF	400 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00121	10/09/20	10/09/19	C14, Lot STBJ0716	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26	CIL, Lot ER08221601			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27	CIL, Lot ER11081602			(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00229	07/31/25	01/08/20	Isooctane, Lot 0000221197	25 mL	HRDXNSU_00228	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00228	07/31/25	01/08/20	Isooctane, Lot 0000221197	10 mL	HRDXNSU_00211	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00211	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00110	04/30/26	CIL, Lot ER02241602			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL6_00025	07/31/20	01/22/20	C14, Lot STBJ0716	0.2 mL	HRDXNIDA_00303	0.05 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.1 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-OCDD	200 ng/mL
					HRDXNIS_00121	0.2 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00229	0.1 mL	37Cl4-2,3,7,8-TCDD	200 ng/mL
					HRDXNTA_00110	0.1 mL	1,2,3,4,6,7,8-HpCDD	1000 ng/mL
							1,2,3,4,6,7,8-HpCDF	1000 ng/mL
							1,2,3,4,7,8,9-HpCDF	1000 ng/mL
							1,2,3,4,7,8-HxCDD	1000 ng/mL
							1,2,3,4,7,8-HxCDF	1000 ng/mL
							1,2,3,6,7,8-HxCDD	1000 ng/mL
							1,2,3,6,7,8-HxCDF	1000 ng/mL
							1,2,3,7,8,9-HxCDD	1000 ng/mL
							1,2,3,7,8,9-HxCDF	1000 ng/mL
							1,2,3,7,8-PeCDD	1000 ng/mL
							1,2,3,7,8-PeCDF	1000 ng/mL
							2,3,4,6,7,8-HxCDF	1000 ng/mL
							2,3,4,7,8-PeCDF	1000 ng/mL
							2,3,7,8-TCDD	200 ng/mL
							2,3,7,8-TCDF	200 ng/mL
							OCDD	2000 ng/mL
							OCDF	2000 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNIDA_00359	12/31/20		CIL, Lot ER100610-02		(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21		CIL, Lot ER012111-01		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28		CIL, Lot ER03151801		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27		CIL, Lot ER04051701		(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00121	10/09/20	10/09/19	C14, Lot STBJ0716	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26		CIL, Lot ER08221601		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27		CIL, Lot ER11081602		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00229	07/31/25	01/08/20	Isooctane, Lot 0000221197	25 mL	HRDXNSU_00228	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00228	07/31/25	01/08/20	Isooctane, Lot 0000221197	10 mL	HRDXNSU_00211	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00211	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00110	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNSU_00232	01/18/21	01/18/20	Isooctane, Lot 0000221197	500 mL	HRDXNSU_00229	1 mL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
.HRDXNSU_00229	07/31/25	01/08/20	Isooctane, Lot 0000221197	25 mL	HRDXNSU_00228	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00228	07/31/25	01/08/20	Isooctane, Lot 0000221197	10 mL	HRDXNSU_00211	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00211	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
HRDXNTA_00118	01/03/21	01/03/20	Acetone, Lot 00000236884	25 mL	HRDXNTA_00110	0.25 mL	1,2,3,4,6,7,8-HpCDD	20 ng/mL
							1,2,3,4,6,7,8-HpCDF	20 ng/mL
							1,2,3,4,7,8,9-HpCDF	20 ng/mL
							1,2,3,4,7,8-HxCDD	20 ng/mL
							1,2,3,4,7,8-HxCDF	20 ng/mL
							1,2,3,6,7,8-HxCDD	20 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,6,7,8-HxCDF	20 ng/mL
							1,2,3,7,8,9-HxCDD	20 ng/mL
							1,2,3,7,8,9-HxCDF	20 ng/mL
							1,2,3,7,8-PeCDD	20 ng/mL
							1,2,3,7,8-PeCDF	20 ng/mL
							2,3,4,6,7,8-HxCDF	20 ng/mL
							2,3,4,7,8-PeCDF	20 ng/mL
							2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL
							OCDD	40 ng/mL
							OCDF	40 ng/mL
.HRDXNTA_00110	04/30/26	CIL, Lot ER02241602			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL

Reagent

HRDXNCP_00039

received 8/30/19 KSS

(pg 1/6)

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

PCDD/PCDF Window Defining and Isomer Specificity Mix (DB-5)

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number:	EDF-4147
Solution Lot:	ER03111502
Expiration Date:	March 2025
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/ analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies.
- Ampules are overfilled to ensure a minimum 1 2 mL volume We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

March 24, 2015
Date

Component	Chromatographic Purity	Concentration
1,3,6,8-Tetrachlorodibenzo-p-dioxin	99.9%	200.3 ± 2.0 ng/mL
1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin	99.8%	200.6 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzo-p-dioxin	99.2%	200.3 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	98.9%	200.1 ± 2.0 ng/mL
1,2,3,9-Tetrachlorodibenzo-p-dioxin	99.6%	199.9 ± 2.0 ng/mL
1,2,8,9-Tetrachlorodibenzo-p-dioxin	99.2%	200.2 ± 2.0 ng/mL
1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin	98.9%	200.6 ± 2.0 ng/mL
1,2,3,8,9-Pentachlorodibenzo-p-dioxin	99.0%	200.1 ± 2.0 ng/mL
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin	98.7%	200.2 ± 2.0 ng/mL
1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin	99.0%	200.5 ± 2.0 ng/mL
1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin	98.9%	200.1 ± 2.0 ng/mL
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	99.8%	200.3 ± 2.0 ng/mL
1,3,6,8-Tetrachlorodibenzofuran	98.5%	200.1 ± 2.0 ng/mL
1,2,3,9-Tetrachlorodibenzofuran	98.2%	200.4 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzofuran	99.4%	200.0 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	99.2%	200.5 ± 2.0 ng/mL
2,3,4,7-Tetrachlorodibenzofuran	98.7%	200.2 ± 2.0 ng/mL
1,2,8,9-Tetrachlorodibenzofuran	99.3%	199.9 ± 2.0 ng/mL
1,3,4,6,8-Pentachlorodibenzofuran	99.5%	200.6 ± 2.0 ng/mL
1,2,3,8,9-Pentachlorodibenzofuran	99.0%	200.5 ± 2.0 ng/mL
1,2,3,4,6,8-Hexachlorodibenzofuran	98.6%	200.5 ± 2.0 ng/mL
1,2,3,4,8,9-Hexachlorodibenzofuran	99.7%	200.5 ± 2.0 ng/mL
1,2,3,4,6,7,8-Heptachlorodibenzofuran	98.9%	200.6 ± 2.0 ng/mL
1,2,3,4,7,8,9-Heptachlorodibenzofuran	99.1%	200.1 ± 2.0 ng/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Stock solution concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.

Standard Solution Assay Parameters

Analysis Method:	GC/MS
Column:	DB-5ms 30 m x 0.25 mm ID, 0.25 µm film thickness
Temp Program:	140°C to 200°C at 40°C/min 200°C to 300°C at 4°C/min
Injector Temp:	Cool-on-Column
Detector Temp:	280°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	1

Solution Standard Verification and Homogeneity

Compound	Verified Concentration ng/mL	Acceptance Criteria	%RSD - Homogeneity %	Acceptance Criteria
1,3,6,8-Tetrachlorodibenzo-p-dioxin	200 4	± 10%	1 6	≤ 5%
1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin/ 2,3,7,8-Tetrachlorodibenzo-p-dioxin/ 1,2,3,9-Tetrachlorodibenzo-p-dioxin [1]	591.2	± 10%	1 6	≤ 5%
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	196 8	± 10%	2 7	≤ 5%
1,2,8,9-Tetrachlorodibenzo-p-dioxin	197 2	± 10%	2 8	≤ 5%
1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin	194 6	± 10%	2 8	≤ 5%
1,2,3,8,9-Pentachlorodibenzo-p-dioxin	194 7	± 10%	2 3	≤ 5%
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin	195 3	± 10%	1 7	≤ 5%
1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin	192.6	± 10%	2 3	≤ 5%
1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin	191.2	± 10%	2 5	≤ 5%
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	196 7	± 10%	2 1	≤ 5%
1,3,6,8-Tetrachlorodibenzofuran	202 3	± 10%	2 1	≤ 5%
1,2,3,9-Tetrachlorodibenzofuran	194 4	± 10%	2 4	≤ 5%
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	198 0	± 10%	3.3	≤ 5%
2,3,4,7-Tetrachlorodibenzofuran/ 2,3,7,8-Tetrachlorodibenzofuran [1]	399.3	± 10%	2.4	≤ 5%
1,2,8,9-Tetrachlorodibenzofuran	198 9	± 10%	2.9	≤ 5%
1,3,4,6,8-Pentachlorodibenzofuran	195 0	± 10%	2.1	≤ 5%
1,2,3,8,9-Pentachlorodibenzofuran	199.6	± 10%	2.1	≤ 5%
1,2,3,4,6,8-Hexachlorodibenzofuran	195.5	± 10%	2.4	≤ 5%
1,2,3,4,8,9-Hexachlorodibenzofuran	196.4	± 10%	1.8	≤ 5%
1,2,3,4,6,7,8-Heptachlorodibenzofuran	197.4	± 10%	2.9	≤ 5%
1,2,3,4,7,8,9-Heptachlorodibenzofuran	195.3	± 10%	2.1	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The %RSD of samples pulled from across the lot demonstrate homogeneity.
- Product is compared to prior lot and meets acceptance criteria of ± 10%.

[1] Compounds co-elute. Concentration is the sum of both or all analytes.

Neat Material Data

Compound	Lot Number	CAS Number	Chemical Formula	Molecular Weight	Chromatographic Purity
1,3,6,8-Tetrachlorodibenzo-p-dioxin	ER040811-02	33423-92-6	$C_{12}H_4Cl_4O_2$	321.97	99.9%
1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin	ER021510-01	NA	$C_{12}H_4Cl_4O_2$	321.97	99.8%
2,3,7,8-Tetrachlorodibenzo-p-dioxin	ER061009-02	1746-01-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	ER01031401	76523-40-5	$^{13}C_{12}H_4Cl_4O_2$	333.84	98.9%
1,2,3,9-Tetrachlorodibenzo-p-dioxin	ER0529401	71669-26-6	$C_{12}H_4Cl_4O_2$	321.97	99.6%
1,2,8,9-Tetrachlorodibenzo-p-dioxin	ER11201301	62470-54-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%
1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin	ER11051302	NA	$C_{12}H_3Cl_5O_2$	356.42	98.9%
1,2,3,8,9-Pentachlorodibenzo-p-dioxin	ER05161401	NA	$C_{12}H_3Cl_5O_2$	356.42	99.0%
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin	ER08101402	NA	$C_{12}H_2Cl_6O_2$	390.86	98.7%
1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin	ER030107-01	NA	$C_{12}H_2Cl_6O_2$	390.86	99.0%
1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin	ER01201502	58200-70-7	$C_{12}HCl_7O_2$	425.31	98.9%
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	ER100207-02	35822-46-9	$C_{12}HCl_7O_2$	425.31	99.8%
1,3,6,8-Tetrachlorodibenzofuran	ER021808-01	71998-72-6	$C_{12}H_4Cl_4O$	305.98	98.5%
1,2,3,9-Tetrachlorodibenzofuran	ER071107-01	NA	$C_{12}H_4Cl_4O$	305.98	98.2%
2,3,7,8-Tetrachlorodibenzofuran	ER101211-02	51207-31-9	$C_{12}H_4Cl_4O$	305.98	99.4%
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	ER12101304	89059-46-1	$^{13}C_{12}H_4Cl_4O$	317.88	99.2%
2,3,4,7-Tetrachlorodibenzofuran	ER052307-01	NA	$C_{12}H_4Cl_4O$	305.98	98.7%
1,2,8,9-Tetrachlorodibenzofuran	ER041508-03	NA	$C_{12}H_4Cl_4O$	305.98	99.3%
1,3,4,6,8-Pentachlorodibenzofuran	ER04231401	NA	$C_{12}H_3Cl_5O$	340.42	99.5%
1,2,3,8,9-Pentachlorodibenzofuran	ER12101303	NA	$C_{12}H_3Cl_5O$	340.42	99.0%
1,2,3,4,6,8-Hexachlorodibenzofuran	ER04231402	NA	$C_{12}H_2Cl_6O$	374.86	98.6%
1,2,3,4,8,9-Hexachlorodibenzofuran	ER12091401	92341-07-6	$C_{12}H_2Cl_6O$	374.86	99.7%
1,2,3,4,6,7,8-Heptachlorodibenzofuran	ER02281403	67562-39-4	$C_{12}HCl_7O$	409.31	98.9%
1,2,3,4,7,8,9-Heptachlorodibenzofuran	ER01121503	55673-89-7	$C_{12}HCl_7O$	409.31	99.1%

Product Analysis

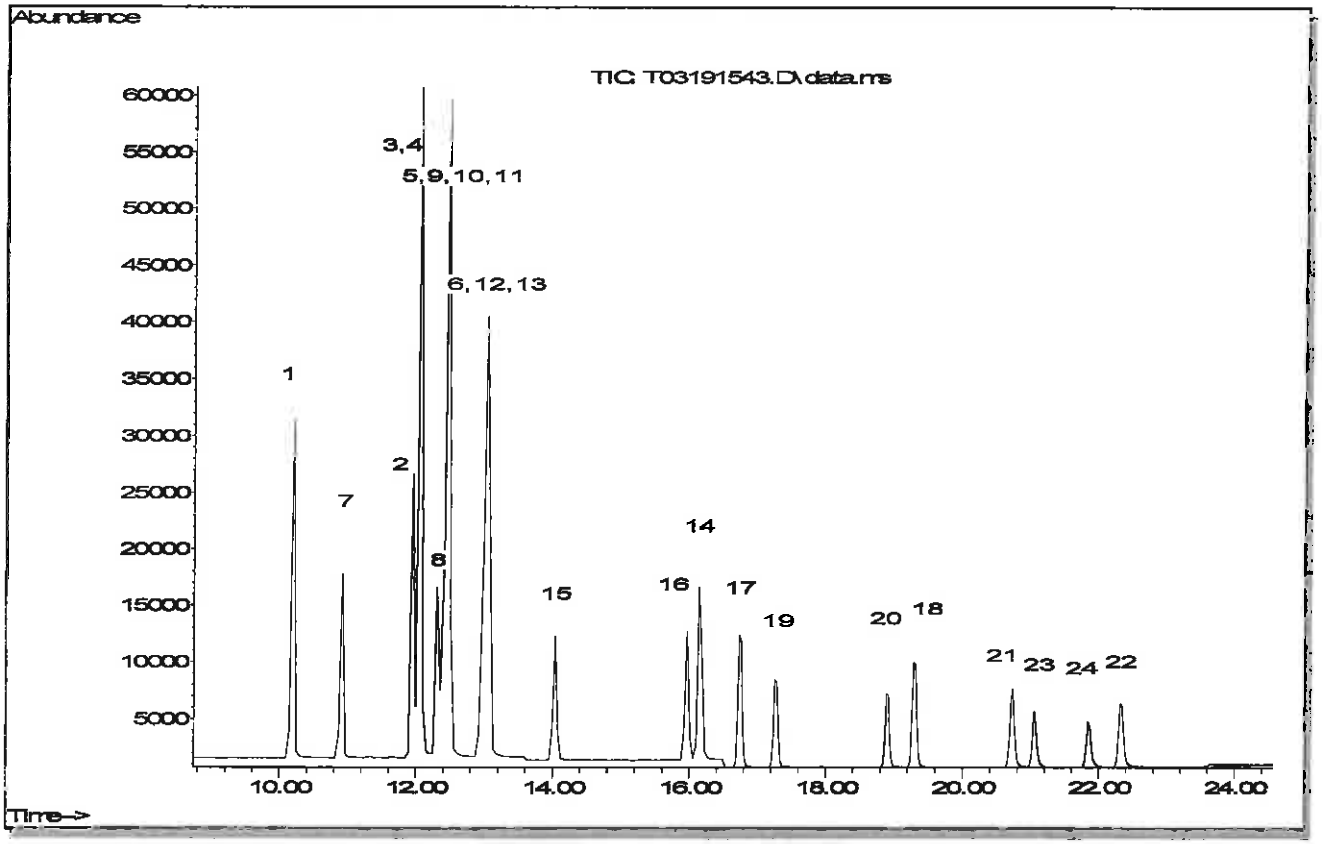

1 1,3,6,8-Tetrachlorodibenzofuran
2 2,3,4,7-Tetrachlorodibenzofuran
3 2,3,7,8-Tetrachlorodibenzofuran
4 2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$
5 1,2,3,9-Tetrachlorodibenzofuran
6 1,2,8,9-Tetrachlorodibenzofuran
7 1,3,6,8-Tetrachlorodibenzo-p-dioxin
8 1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin
9 1,2,3,9-Tetrachlorodibenzo-p-dioxin
10 2,3,7,8-Tetrachlorodibenzo-p-dioxin
11 2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$
12 1,2,8,9-Tetrachlorodibenzo-p-dioxin
13 1,3,4,6,8-Pentachlorodibenzofuran
14 1,2,3,8,9-Pentachlorodibenzofuran
15 1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin
16 1,2,3,8,9-Pentachlorodibenzo-p-dioxin
17 1,2,3,4,6,8-Hexachlorodibenzofuran
18 1,2,3,4,8,9-Hexachlorodibenzofuran
19 1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin
20 1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin
21 1,2,3,4,6,7,8-Heptachlorodibenzofuran
22 1,2,3,4,7,8,9-Heptachlorodibenzofuran
23 1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin
24 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin

COA Revision History

Revision No.	Date	Reason for Revision
00	March 24, 2015	Initial version

Reagent

HRDXNIDA_00075

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-$^{13}C_{12}$

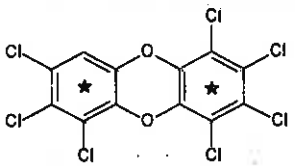

Catalog Number:	ED-972
Solution Lot:	ER111010-01
Expiration Date:	November 2020
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature Do not store cold
Intended Use:	For laboratory use only Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-$^{13}C_{12}$	98.9%	50.03 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER111010-01	50.5	± 5%	0.5	≤ 3%
Previous Lot	ER011807-01	47.4	± 5%	1.8	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

January 15, 2016
Date

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}HO_2Cl_7$
Compound Lot:	ER100110-01	**CAS Number:**	NA
		Molecular Weight:	437.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.9%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.10% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		98.91%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

Spectral and Physical Data

GC/FID

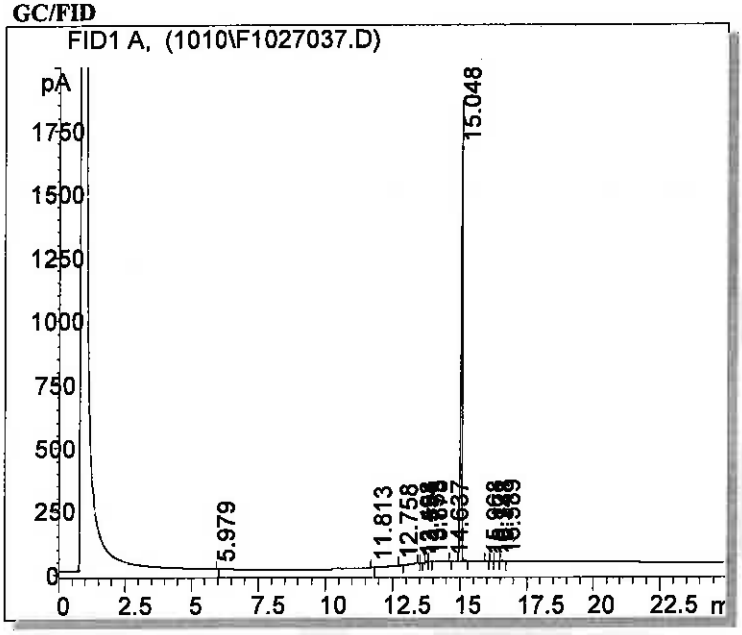

Column:	DB-5ms, 30m x 0.53mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-column
Detector Temp:	325°C
Data File Name:	S:\GC\GC6\2010\1010\F1027037.D
Instrument:	GC#6
Sample Name:	ER100110-01
Acquired:	October 28, 2010

Peak #	Ret Time	Area	Height	Area %
1	5.98	0.34	0.18	0.00
2	11.81	1.00	0.08	0.01
3	12.76	10.96	2.89	0.16
4	13.50	1.19	0.32	0.02
5	13.55	2.63	0.80	0.04
6	13.75	13.39	3.28	0.19
7	13.88	7.04	1.81	0.10
8	14.64	0.86	0.28	0.01
9	15.05	6900.70	1812.09	98.81
10	15.97	3.15	0.73	0.05
11	16.17	2.25	0.55	0.03
12	16.35	5.12	1.10	0.07
13	16.59	18.93	4.26	0.27
14	26.99	15.17	0.35	0.22
15	35.58	0.06	0.21	0.00
16	41.80	0.77	0.13	0.01

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

Spectral and Physical Data (cont.)

GC/MS

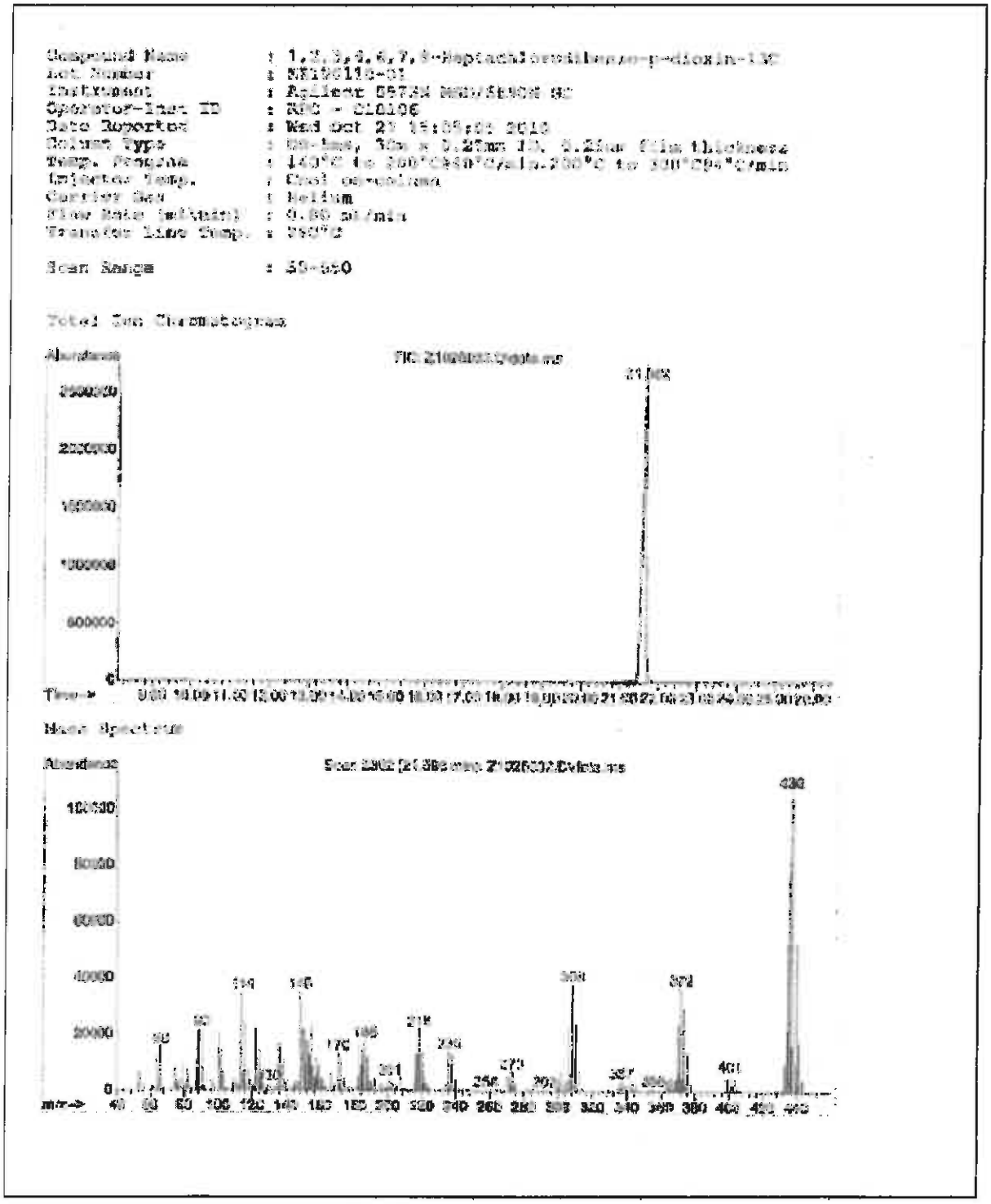

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

COA Revision History

Revision No.	Date	Reason for Revision
00	November 24, 2010	Initial version
01	January 15, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

Reagent

HRDXNIDA_00247

Recd 8-17-16

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$

HpCDF

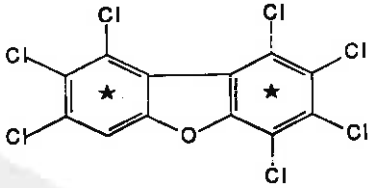

Catalog Number: EF-988
Solution Lot: ER04251601
Expiration Date: March 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	99.1%	49.99 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Acceptance Criteria	%RSD - Homogeneity Actual Results	Acceptance Criteria
New Lot	ER04251601	49.11	± 5%	0.2	≤ 3%
Previous Lot	ER053107-02	50.58	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

June 21, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}HCl_7O$
Compound Lot:	ER04041602	**CAS Number:**	109719-94-0
		Molecular Weight:	421.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.1%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS SIM	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.16% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.10%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data (cont.)

GC/FID

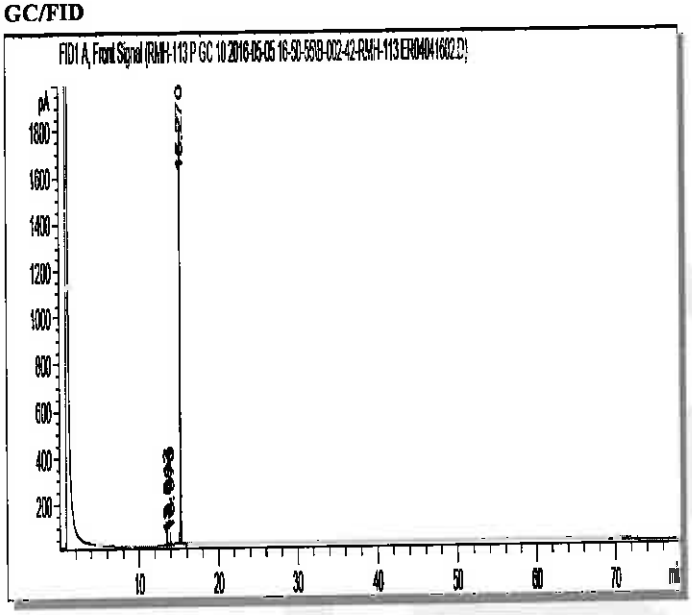

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Data File Name:	RMH-113 P GC 10 2016-05-05 16-50-55\B-002-42.D
Instrument:	GC#10
Sample Name:	ER04041602
Acquired:	May 05, 2016

Peak #	Ret Time	Area	Height	Area %
1	13.51	8.76	2.52	0.12
2	13.68	17.42	7.45	0.24
3	13.97	39.65	15.48	0.54
4	15.27	7226.95	1798.33	99.10

Spectral and Physical Data (cont.)

GC/MS

```
Compound Name          : 1,2,3,4,7,8,9-Heptachlorodibenzofuran-13C12
Lot Number             : EM04041602
Instrument             : Agilent GCMS
Operator               : ECM(SGIUFFRE)
Date Reported          : Wed May 04 15:34:28 2016
Column Type            : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program          : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.         : Cool on-column
Carrier Gas            : Helium
Flow Rate (mL\min)     : 0.80 mL/min
Transfer Line Temp.    : 280°C
Scan Range             : 50-550
```

Total Ion Chromatogram

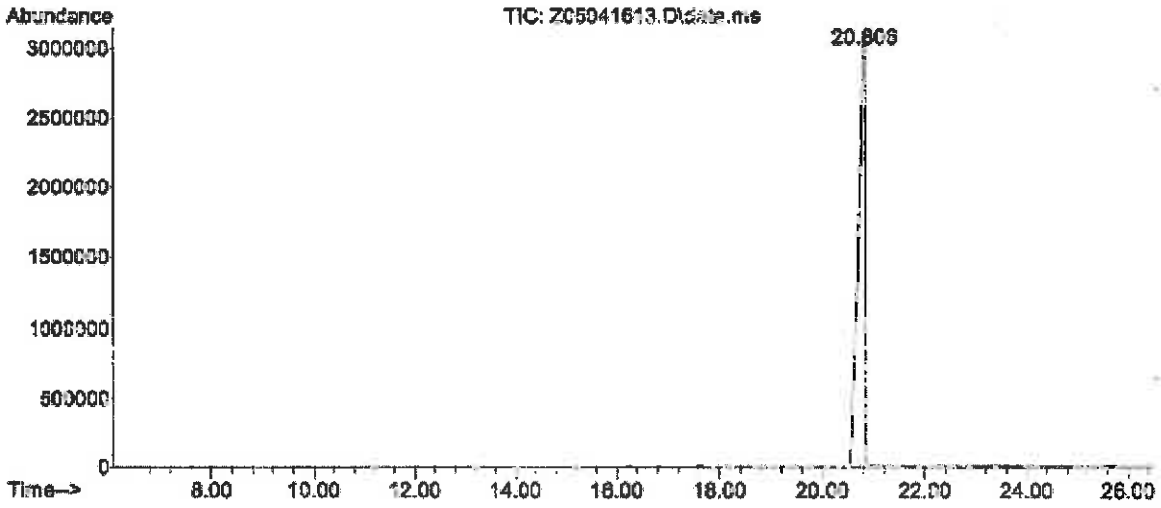

Mass Spectrum

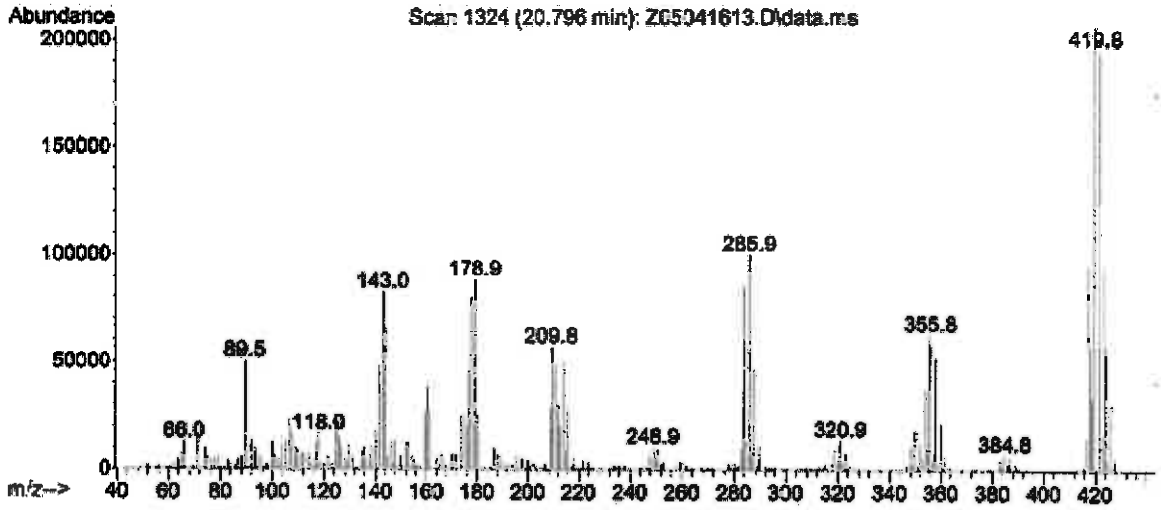

COA Revision History

Revision No.	Date	Reason for Revision
00	June 21, 2016	Initial version

Reagent

HRDXNIDA_00297

r: 9/28/17 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

1042065
ID: HRDXN:DA_00297
Exp: 01/31/27 Prpd: SKV
13C-2,3,4,7,8-PeCDF [50ug

CIL

Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$

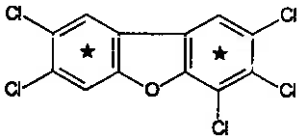

Catalog Number: EF-958
Solution Lot: ER01061701
Expiration Date: January 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	97.9%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s); measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER01061701	50.51	± 5%	0.1	≤ 3%
Previous Lot	ER11041601	49.56	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

January 27, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3Cl_5O$
Compound Lot:	ER11101601	**CAS Number:**	116843-02-8
		Molecular Weight:	352.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0102	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.02% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 0.5%
Mass Balance Purity Factor		98.33%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

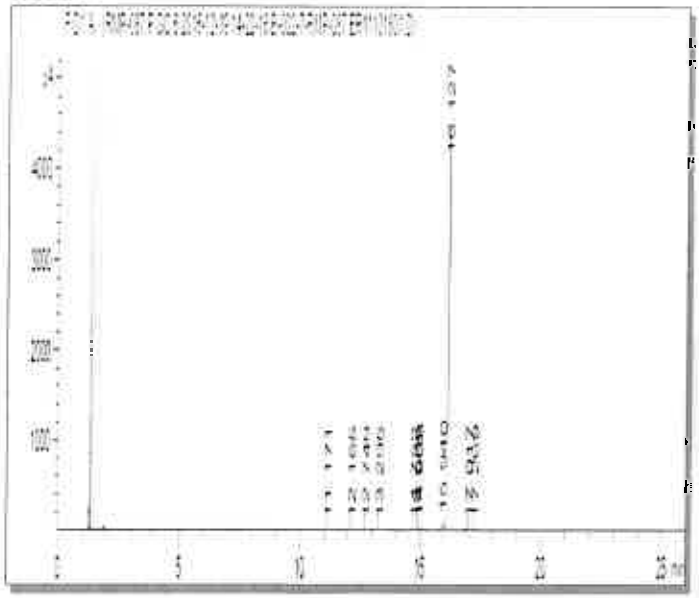

Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 100°C to 300°C at 15°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: RMP-087 P GC 6 2016-12-19 14-22-16\B-002-7.D
Instrument: GC#6
Sample Name: ER11101601
Acquired: December 19, 2016

Peak #	Ret Time	Area	Height	Area %
1	11.17	0.94	0.40	0.01
2	12.17	1.30	0.39	0.01
3	12.75	0.47	0.20	0.00
4	13.30	0.90	0.35	0.01
5	14.75	1.70	0.87	0.02
6	14.91	1.09	0.56	0.01
7	14.97	32.24	17.54	0.29
8	15.94	124.38	64.36	1.13
9	16.13	10866.60	4688.80	98.41
10	17.02	6.31	2.46	0.06
11	17.27	6.76	2.34	0.06

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 2,3,4,7,8-Pentachlorodibenzofuran-13C12
Lot Number	: ER11101601
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRS)
Date Reported	: Tue Dec 20 12:19:55 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.50 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

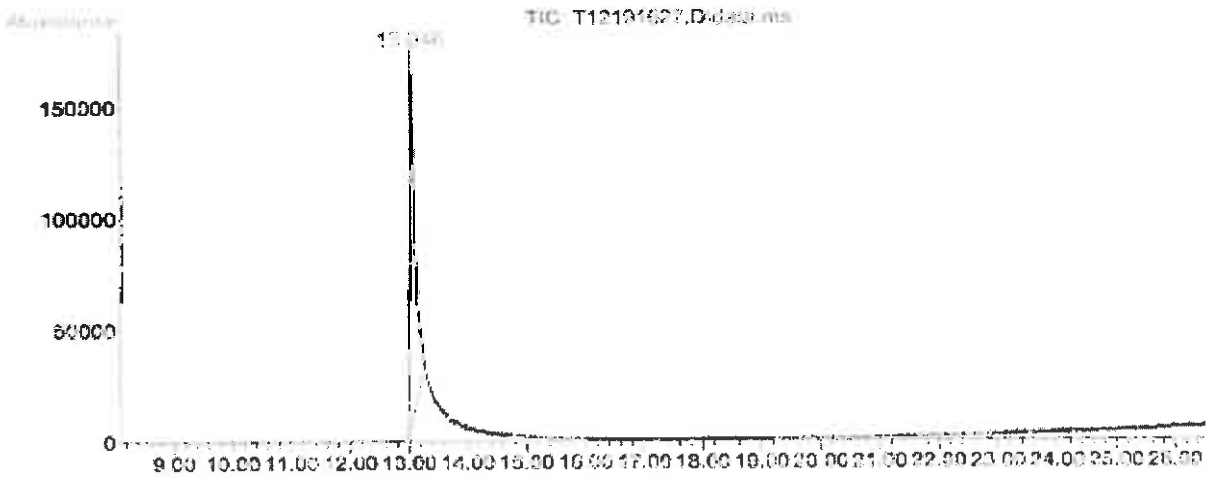

Mass Spectrum

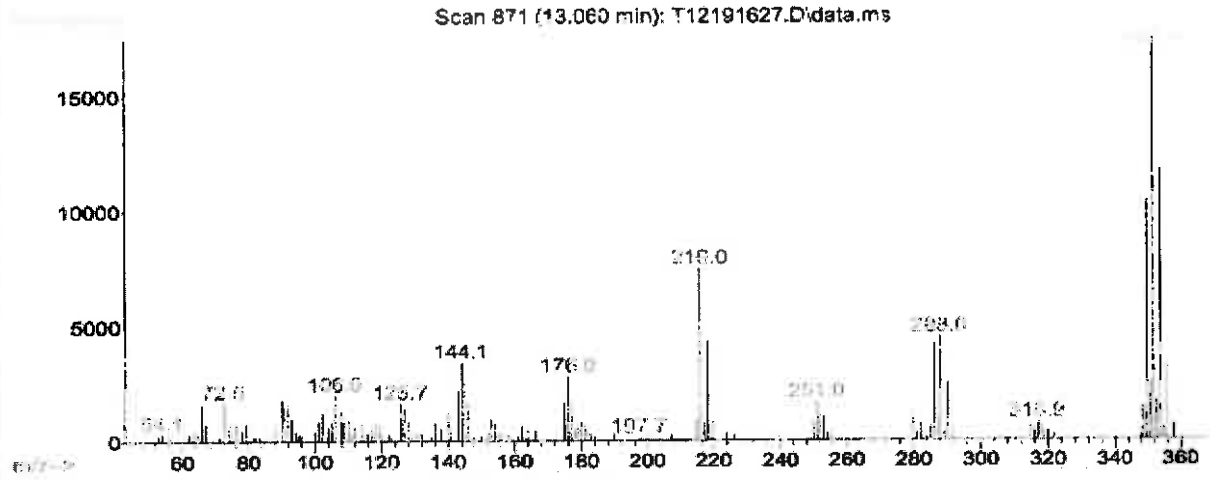

Reagent

HRDXNIDA_00301

n: 9/20/17 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

1042073
ID: HRDXNIDA_00301
Exp: 10/31/21 Prpd: SKV
13C-1,2,3,4,7,8-HxCDD [50

CIL

Certificate of Analysis

Certificate Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 9001
GMP/GLP

1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

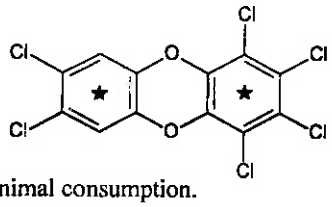

Catalog Number: ED-946
Solution Lot: ER102711-01
Expiration Date: October 2021
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.0%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER102711-01	48.2	± 5%	0.2	≤ 3%
Previous Lot	ER012208-01	49.6	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS ACCREDITED
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

September 17, 2015
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O_2$
Compound Lot:	ER011008-01	**CAS Number:**	109719-80-4
		Molecular Weight:	402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.2%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.08% $^{13}C_0$ vs $^{13}C_{12}$
		0.19% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.19%

- Chromatographic purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

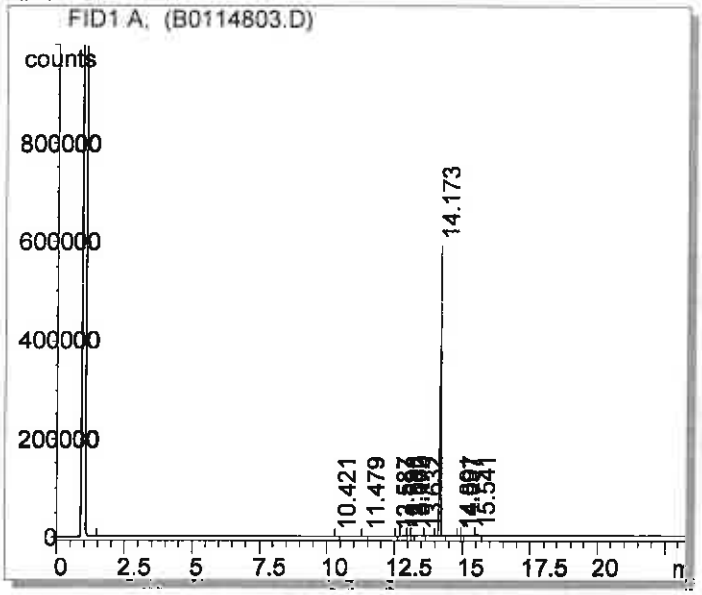

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0114803.D
Instrument:	GC#2
Sample Name:	ER011008-01
Acquired:	January 14, 2008

Peak #	Ret Time	Area	Height	Area %
1	10.42	287.44	132.33	0.02
2	11.48	242.24	92.03	0.01
3	12.59	389.12	196.33	0.02
4	12.90	3015.36	1199.07	0.17
5	13.06	2243.36	788.13	0.13
6	13.17	2243.90	754.45	0.13
7	13.63	2349.03	134.07	0.02
8	14.17	427.02	588610.00	99.20
9	14.89	1731980.00	110.79	0.03
10	15.00	512.26	86.41	0.02
11	15.54	4077.63	1008.44	0.23

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

Compound Name : 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-13C12
Lot Number : [illegible]-01
Instrument : Agilent 5973N MSD/6890N GC
Operator-Inst ID : REC - C1010E
Date Reported : Wed Jan 16 11:15:58 2008
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 300°C@6°C/min (5 min)
Injection Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 280°C

Scan Range : 50-550

Total Ion Chromatogram

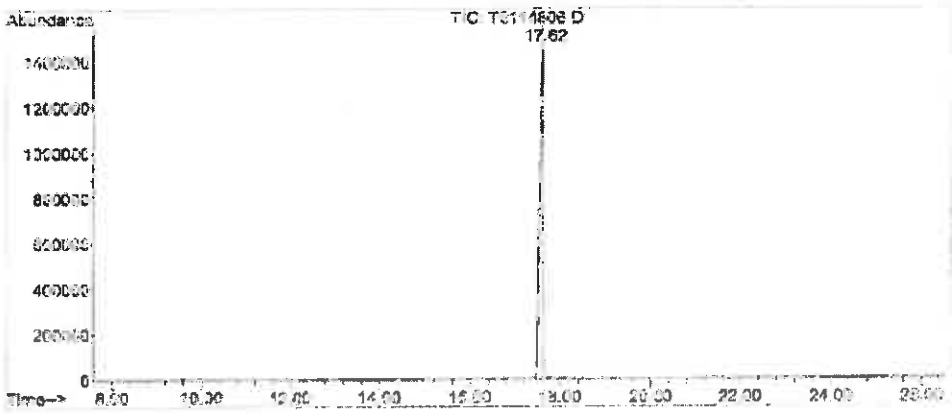

Mass Spectrum

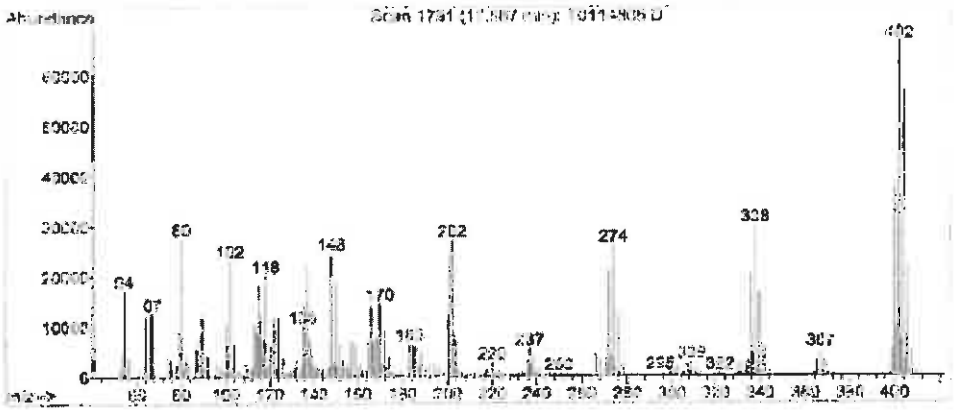

COA Revision History

Revision No.	Date	Reason for Revision
00	November 12, 2011	Initial version
01	September 17, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet"

Reagent

HRDXNIDA_00302

r: 9/20/17 SKV

1042074
ID: HRDXNIDA_00302
Exp: 07/31/20 Prpd: SKV
13C-1,2,3,4,7,8-HxCDF [50

Cerilliant
Analytical Reference Standards
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CIL

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

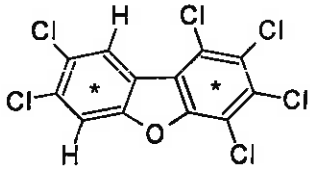

Catalog Number:	EF-963
Solution Lot:	ER072810-02
Expiration Date:	July 2020
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Protect from air and light, store at room temperature. Do not store cold.
Intended Use:	For laboratory use only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration.

Component	Chromatographic Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.6%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Acceptance Criteria	%RSD - Homogeneity Actual Results	Acceptance Criteria
New Lot	ER072810-02	47.4	± 5%	0.3	≤ 3%
Previous Lot	LR011907-01	46.6	—	1.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

November 15, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$
Compound Lot:	35135-45

Chemical Formula:	$^{13}C_{12}H_2OCl_6$
CAS Number:	114423-98-2
Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.6%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% C_0 vs C_{12}
		0.13% C_6 vs C_{12}
Purity Factor		99.57%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

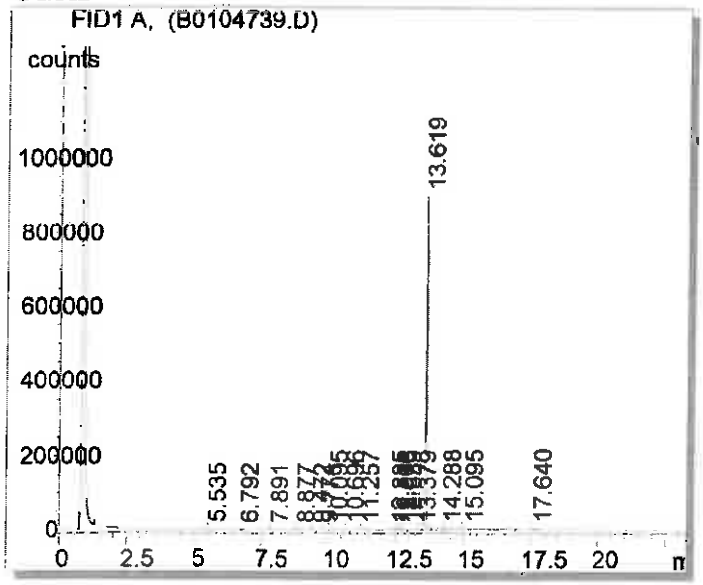

Column:	DB-5ms, 30m x 0.53mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0104739.D
Instrument:	GC#2
Sample Name:	35135-45
Acquired:	January 05, 2007

Peak #	Ret Time	Area	Height	Area %
1	4.21	615.24	161.26	0.02
2	5.21	1024.94	292.85	0.04
3	6.09	326.05	83.67	0.01
4	7.10	301.83	31.69	0.01
5	7.75	169.71	40.31	0.01
6	8.38	136.91	47.17	0.01
7	8.97	123.76	38.29	0.00
8	12.30	2684.80	1153.73	0.10
9	12.48	1162.83	467.42	0.04
10	12.56	1893.94	719.41	0.07
11	12.68	466.69	180.24	0.02
12	12.86	690.32	301.63	0.03
13	13.62	2651450.00	979725.00	99.58
14	14.34	274.11	82.01	0.01
15	15.17	1208.09	320.67	0.05
16	19.00	166.44	32.66	0.01

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

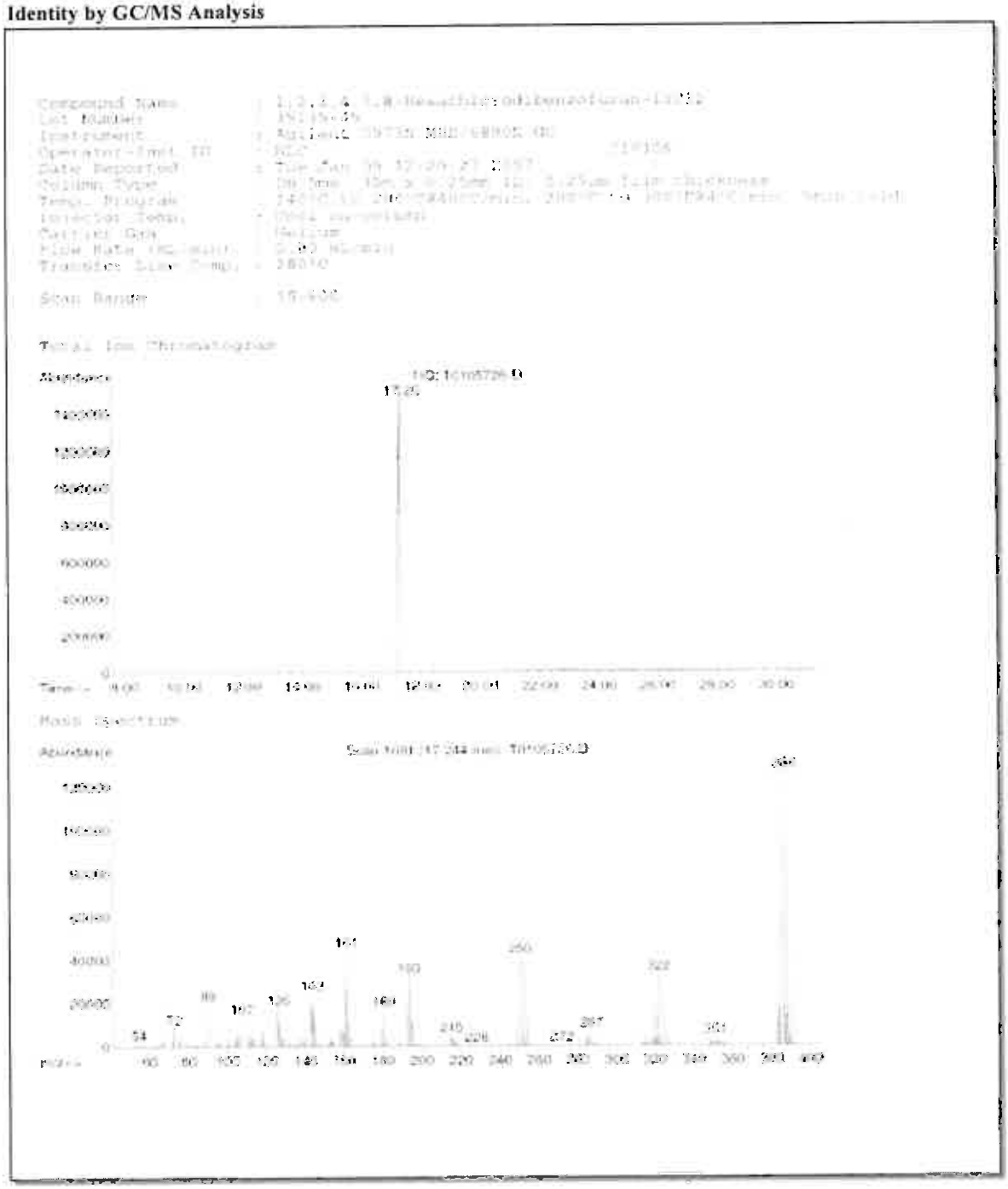

COA Revision History

Revision No.	Date	Reason for Revision
00	September 22, 2010	Initial version
01	September 22, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet"
02	November 15, 2016	Corrected Molecular Weight from 368.77 to 386.77

Reagent

HRDXNIDA_00353

r: 11/28/18 SKV

Cerilliant Analytical Reference Standards
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CIL

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Certificate of Analysis

1,2,3,4,6,7,8-Heptachlorodibenzofuran-$^{13}C_{12}$

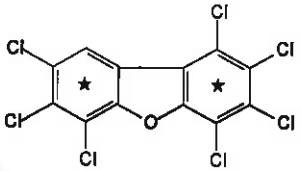

Catalog Number: EF-974
Solution Lot: ER08101404
Expiration Date: November 2024
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,6,7,8-Heptachlorodibenzofuran-$^{13}C_{12}$	98.3%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER08101404	48.75	± 5%	0.3	≤ 3%
Previous Lot	ER102711-02	51.49	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

December 03, 2015
Date

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 60°C to 300°C at 40°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 4
Linearity (r): 1.000

Neat Material Data

Compound Name: 1,2,3,4,6,7,8-Heptachlorodibenzofuran-$^{13}C_{12}$
Compound Lot: ER020507-02

Chemical Formula: $^{13}C_{12}HCl_7O$
CAS Number: 109719-84-8
Molecular Weight: 421.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	98.7%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.16% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS	SP10-0105	Pass
		no single DD/DF impurity ≥1.0%
Purity Factor		98.69%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

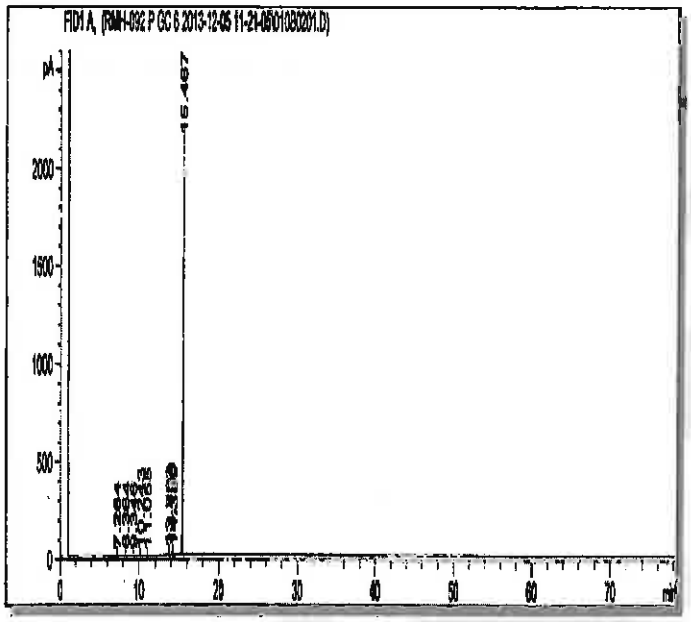

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-092 P GC 6 2013-12-05 11-21-05\010B0201.D
Instrument:	GC#6
Sample Name:	ER020507-02
Acquired:	December 05, 2013

Peak #	Ret Time	Area	Height	Area %
1	7.26	4.41	2.08	0.05
2	8.36	11 76	5.45	0.12
3	9 35	5 20	2.32	0.05
4	10 24	1 47	0.62	0.02
5	11 06	0 34	0.17	0.00
6	13 75	8 81	4.38	0.09
7	13.80	23 67	9.98	0.25
8	14.13	43 07	16.42	0.45
9	14.20	21 73	8.77	0.23
10	14.39	4 79	1.81	0.05
11	15.47	9349 36	2200.33	98.68

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 1,2,3,4,6,7,8-Heptachlorodibenzofuran-13C12
Lot Number : ER020507-02
Instrument : Agilent GCMS
Operator : ECM(BRYAN_DOCKERY)
Date Reported : Tue Dec 17 09:08:58 2013
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL\min) : 0.80 mL/min
Transfer Line Temp. : 280°C
Scan Range : 50-550

Total Ion Chromatogram

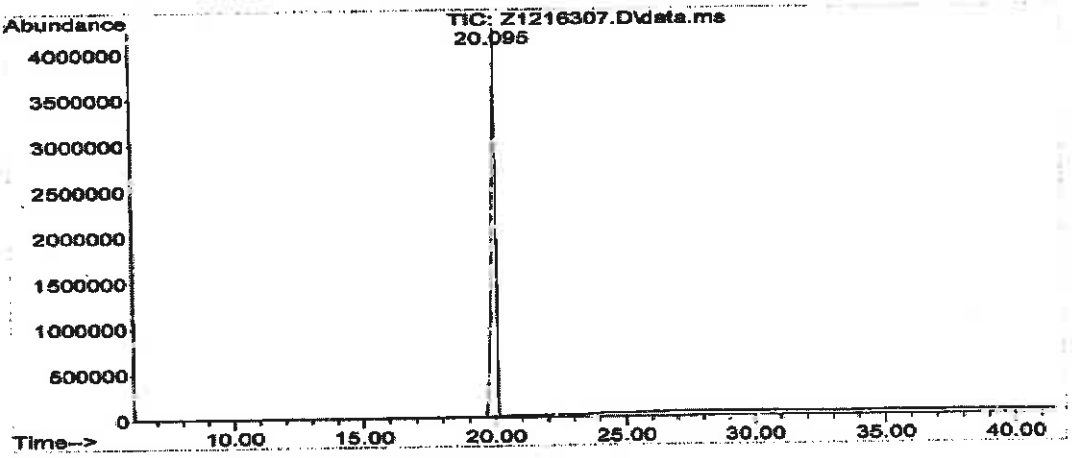

Mass Spectrum

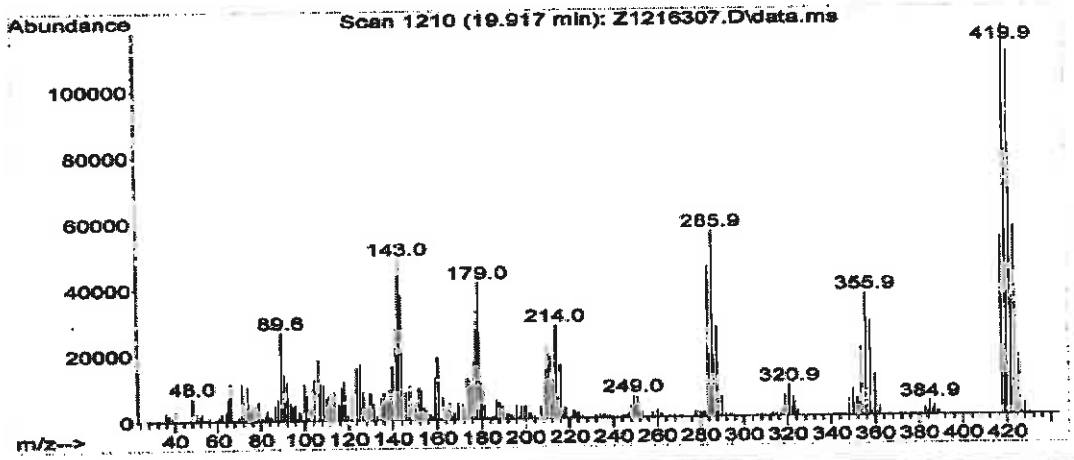

COA Revision History

Revision No.	Date	Reason for Revision
00	January 19, 2015	Initial version
01	December 04, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet"

Reagent

HRDXNIDA_00354

Rec: 11/28/18 SKV

Cerilliant Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$

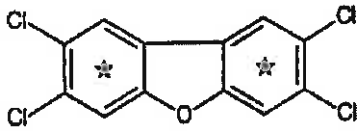

Catalog Number: EF-904
Solution Lot: ER09131601
Expiration Date: September 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	99.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER09131601	49.91	± 5%	0.2	≤ 3%
Previous Lot	ER12101304	51.13	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

November 02, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_4Cl_4O$
Compound Lot:	ER01161401	**CAS Number:**	89059-46-1
		Molecular Weight:	317.88

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.2%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS SIM	SP10-0105	No single DD/DF ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.00% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.24%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

GC/FID

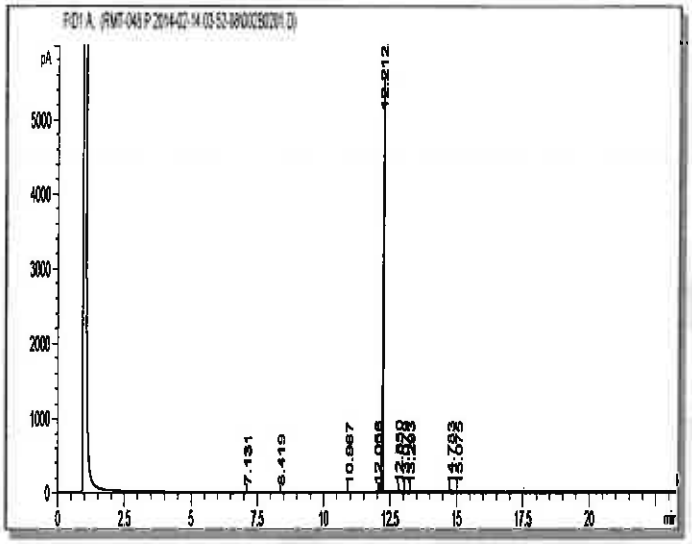

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMT-048 P 2014-02-14 03-52-08\002B0201.D
Instrument:	GC#10
Sample Name:	ER01161401
Acquired:	February 14, 2014

Peak #	Ret Time	Area	Height	Area %
1	7.13	1.19	0.61	0.01
2	8.42	3.23	1.42	0.03
3	10.97	3.57	1.04	0.03
4	12.06	20.86	12.47	0.18
5	12.21	11764.70	5466.96	99.29
6	12.85	30.72	15.48	0.26
7	13.08	7.62	4.03	0.06
8	13.29	5.47	2.91	0.05
9	14.78	7.62	2.76	0.06
10	15.08	3.87	1.33	0.03

GC/MS

Compound Name	: 2,3,7,8-Tetrachlorodibenzofuran-13C12
Lot Number	: ER01161401
Instrument	: Agilent GCMS
Operator	: ECM(SAMUEL_GIUFFRE)
Date Reported	: Thu Feb 13 11:57:07 2014
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

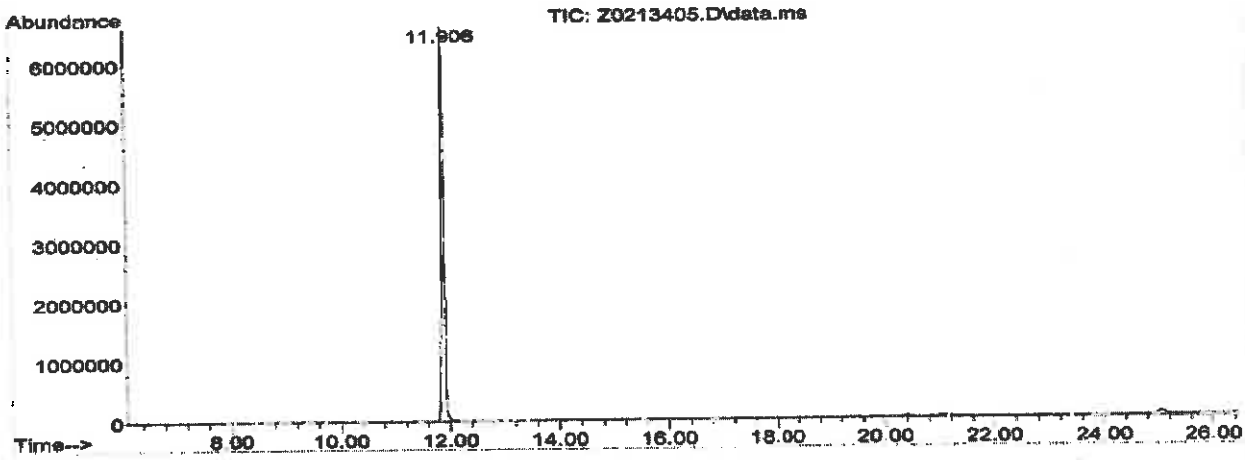

Mass Spectrum

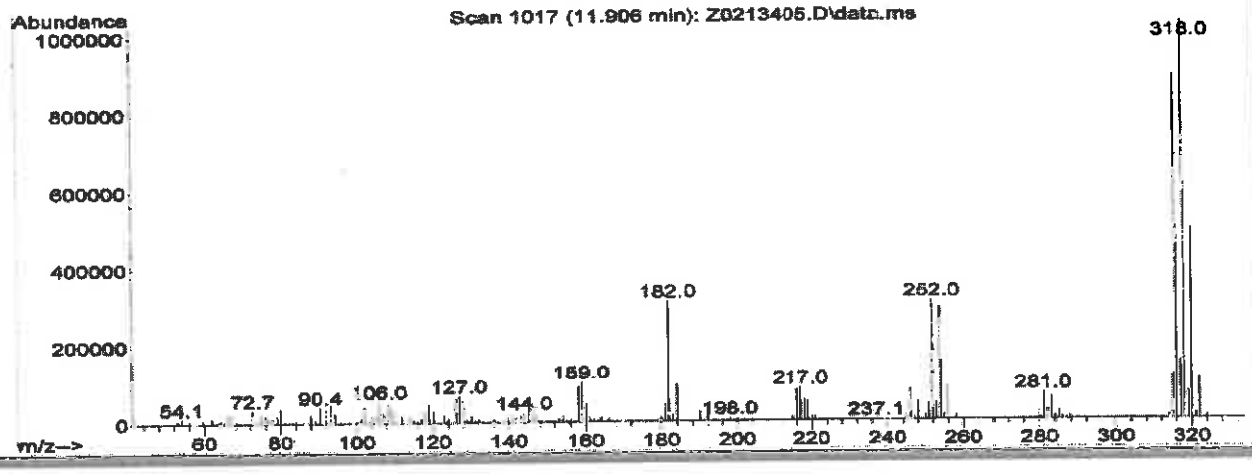

COA Revision History

Revision No.	Date	Reason for Revision
00	November 02, 2016	Initial version

Reagent

HRDXNIDA_00355

Rec: 11/28/18 SJV

Cerilliant Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$

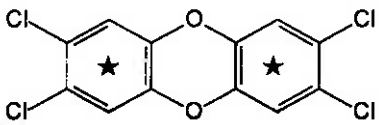

Catalog Number:	ED-900
Solution Lot:	ER03031601
Expiration Date:	March 2026
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.4%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution, and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER03031601	52.66	± 5%	0.3	≤ 3%
Previous Lot	ER01031401	49.83	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

March 24, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-35ms 30 m x 0.53 mm ID, 1.0 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_4Cl_4O_2$
Compound Lot:	ER01201405	**CAS Number:**	76523-40-5
		Molecular Weight:	333.88

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity and Distribution by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.05% $^{13}C_6$ vs $^{13}C_{12}$
Impurities by GC/MS SIM Analysis	SP10-0105	no single DD/DF impurity $\geq$0.5%
Mass Balance Purity Factor		99.34%

- The primary chromatographic purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Mass Balance Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

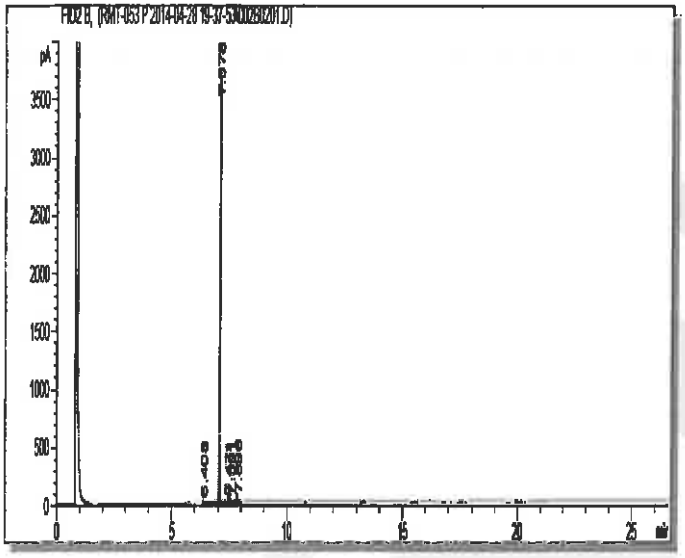

Column:	DB-35ms, 30 m x 0.53 mm ID, 1.0 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMT-053 P 2014-04-28 19-37-53\002B0201.D
Instrument:	GC#6
Sample Name:	ER01201405
Acquired:	April 28, 2014

Peak #	Ret Time	Area	Height	Area %
1	6.41	4 36	2.80	0.08
2	7 08	5225 21	3678.99	99.32
3	7 47	5 29	3.00	0.10
4	7 59	9 11	4.81	0.17
5	7.90	17 05	9.22	0.32

GC/MS

Compound Name	: 2,3,7,8-Tetrachlorodibenzo-p-dioxin-13C12
Lot Number	: ERD1201405
Instrument	: Agilent GCMS
Operator	: ECM(SAMUEL_GIUITRE)
Date Reported	: Tue May 06 09:30:26 2014
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 220°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

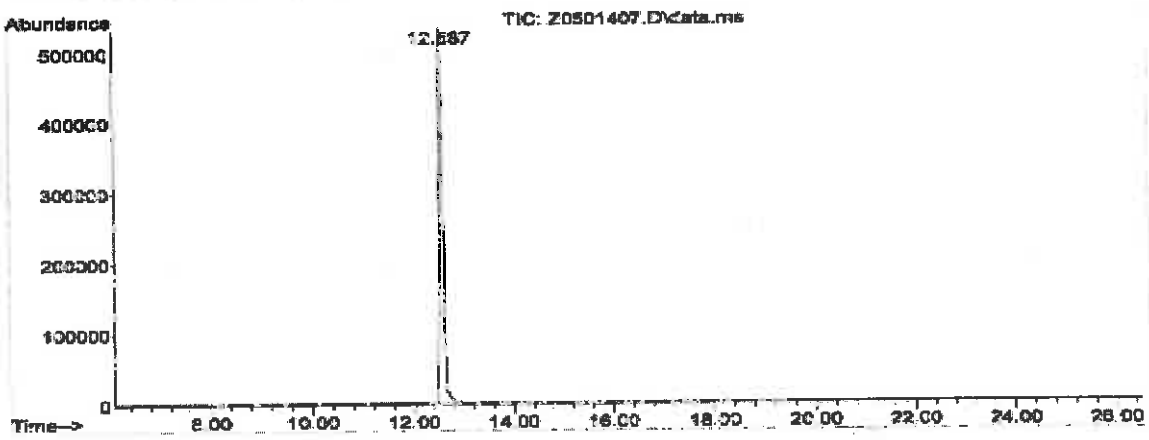

Mass Spectrum

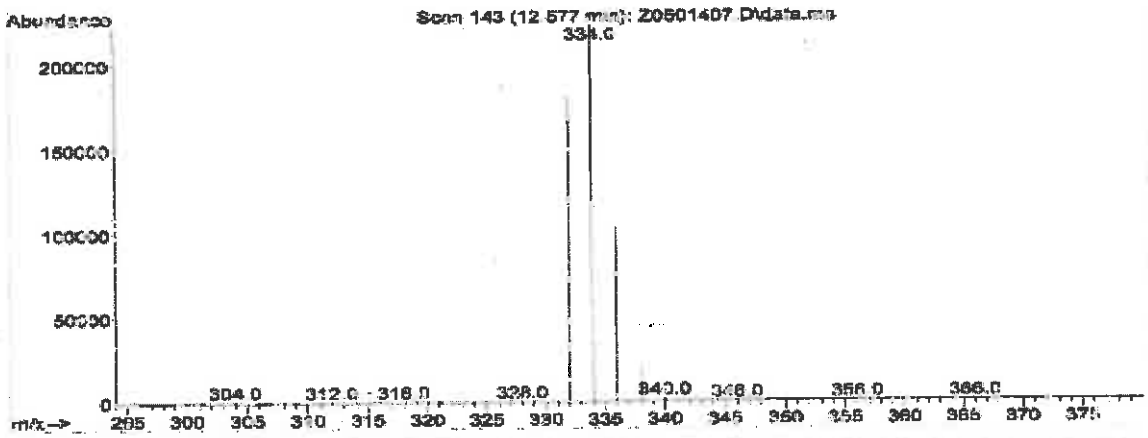

Reagent

HRDXNIDA_00357

r: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Certificate of Analysis

1,2,3,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

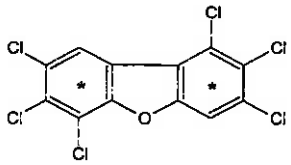

Catalog Number: EF-985
Solution Lot: ER02241603
Expiration Date: April 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.6%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER02241603	50.09	± 5%	0.4	≤ 3%
Previous Lot	ER053107-03	50.81	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

May 04, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O$
Compound Lot:	ER051607-01	**CAS Number:**	116843-03-9
		Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.06% $^{13}C_6$ vs $^{13}C_{12}$
Impurities by GC/MS SIM Analysis	SP10-0105	no single DD/DF impurity ≥ 0.5%
Mass Balance Purity Factor		99.01%

- The chromatographic purity is calculated as the average of two independently performed analyses utilizing two different methods Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Mass Balance Purity Factor
- Mass Balance Purity Factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

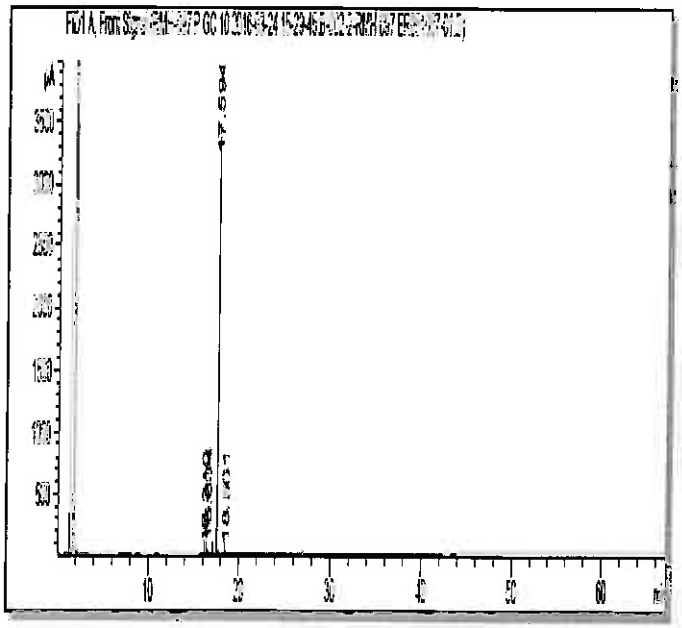

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	40°C to 300°C at 15°C/min hold 50 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-097 P GC 10 2016-03-24 15-29-45\B-002-2.D
Instrument:	GC#10
Sample Name:	ER051607-01
Acquired:	March 24, 2016

Peak #	Ret Time	Area	Height	Area %
1	16.31	6.97	3.21	0.08
2	16.60	77.08	33.51	0.83
3	17.59	9156.82	3458.38	99.00
4	18.56	8.48	2.69	0.09

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 1,2,3,6,7,8-Hexachlorodibenzofuran-13C12
Lot Number	: ER051607-01
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Fri Mar 18 07:08:54 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

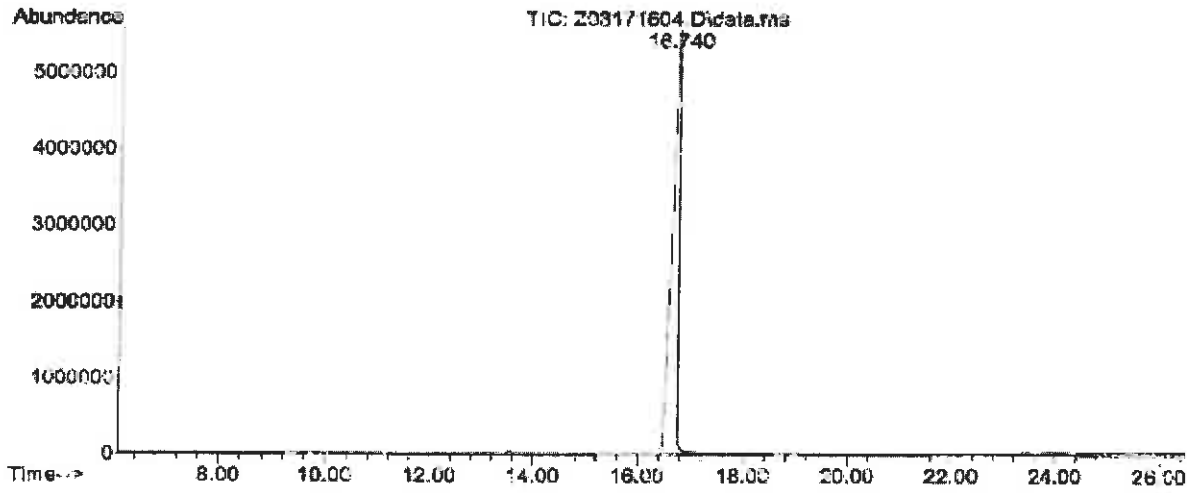

Mass Spectrum

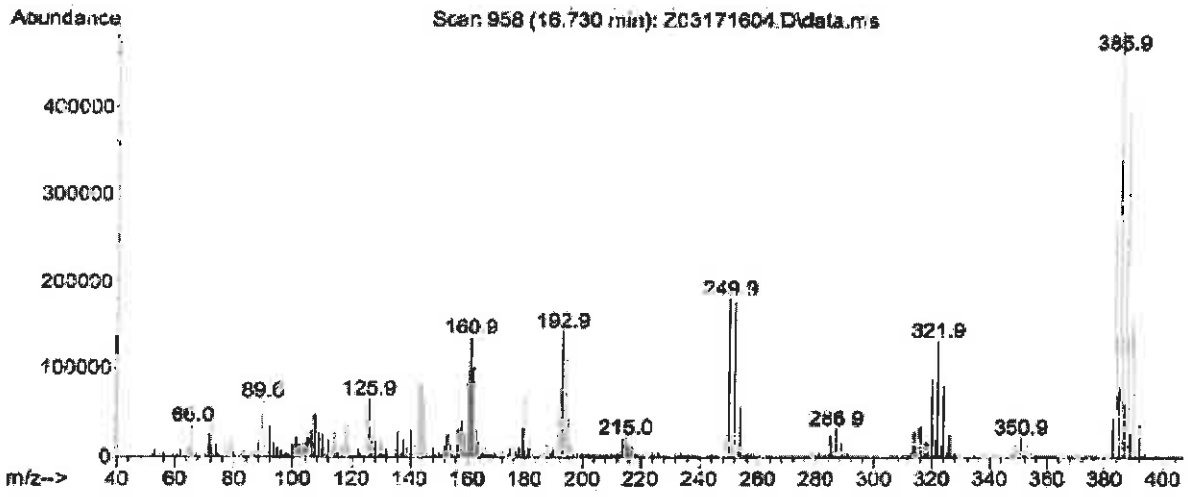

COA Revision History

Revision No.	Date	Reason for Revision
00	May 04, 2016	Initial version

Reagent

HRDXNIDA_00358

r: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,7,8,9-Hexachlorodibenzofuran-$^{13}C_{12}$

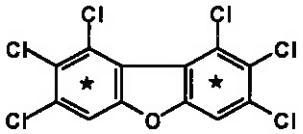

Catalog Number: EF-986
Solution Lot: ER100610-01
Expiration Date: December 2020
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For laboratory use only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
1,2,3,7,8,9-Hexachlorodibenzofuran-$^{13}C_{12}$	99.5%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER100610-01	51.2	± 5%	0.4	≤ 3%
Previous Lot	ER100107-01	49.9	± 5%	1.4	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

February 14, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2OCl_6$
Compound Lot:	ER080108-03	**CAS Number:**	116843-04-0
		Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.5%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.03% $^{13}C_0$ vs $^{13}C_{12}$
		0.09% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.49%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

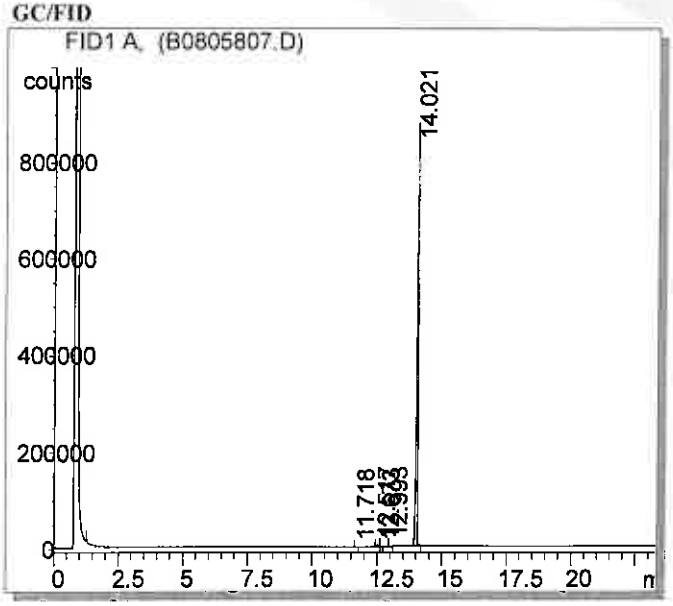

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0805807.D
Instrument:	GC#2
Sample Name:	ER080108-03
Acquired:	August 05, 2008

Peak #	Ret Time	Area	Height	Area %
1	11.72	318.47	152.10	0.01
2	12.52	8294.54	2994.64	0.30
3	12.67	155.17	67.29	0.01
4	12.99	4248.66	1646.53	0.16
5	14.02	2708910.00	880320.00	99.52

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

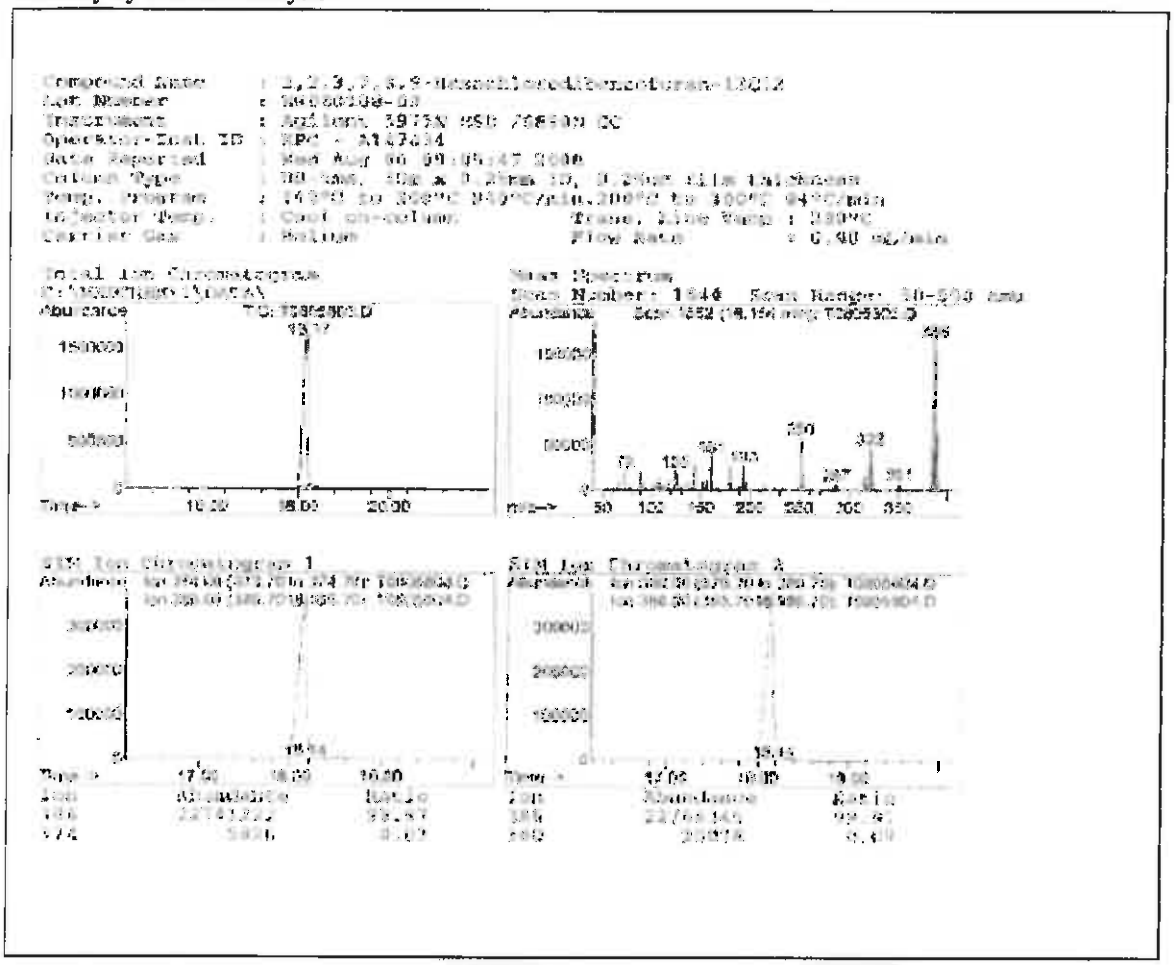

COA Revision History

Revision No.	Date	Reason for Revision
00	January 12, 2011	Initial version
01	November 05, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".
02	February 14, 2017	Corrected Isotopic Purity by GC/MS SIM from C to ^{13}C.

Reagent

HRDXNIDA_00359

r: 1/15/19 SKV

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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

2,3,4,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

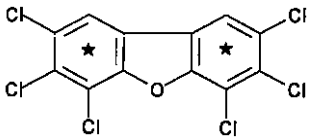

Catalog Number: EF-987
Solution Lot: ER100610-02
Expiration Date: December 2020
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For laboratory use only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
2,3,4,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.4%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER100610-02	50.9	± 5%	0.6	≤ 3%
Previous Lot	ER031507-03	50.3	± 5%	1.8	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

January 15, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,4,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O$
Compound Lot:	ER061906-02	**CAS Number:**	116843-05-1
		Molecular Weight:	386.73

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.4%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.04% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.40%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

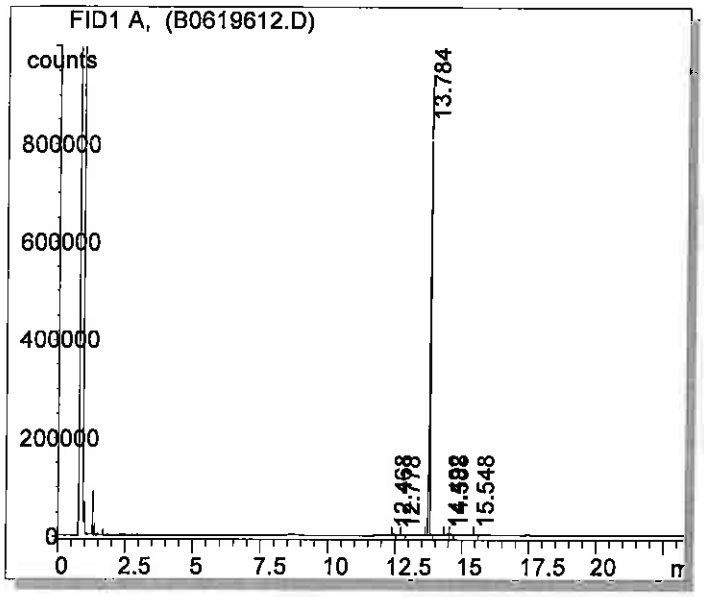

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0619612.D
Instrument:	GC#2
Sample Name:	ER061906-02
Acquired:	June 19, 2006

Peak #	Ret Time	Area	Height	Area %
1	12.47	4458	1822	0.18
2	12.78	3496	1304	0.14
3	13.78	2443150	925399	99.39
4	14.49	1528	387	0.06
5	14.59	4236	1332	0.17
6	15.55	1361	348	0.06

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 2,3,4,6,7,8-Hexachlorodibenzofuran-13C12
Lab Number : ZR061906-02
Instrument : Agilent 5975N MSD /6890N GC
Operator Inst ID : RPC - A147434
Date Reported : Tue Jun 20 08:44:12 2006
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C 8.0°C/min,200°C to 320°C @4°C/min
Injector Temp. : Cool on-column Trans. Line Temp : 280°C
Carrier Gas : Helium Flow Rate : 0.80 mL/min

Total Ion Chromatogram
C:\MSDCHEM\1\DATA\
Abundance TIC T061906 11.D

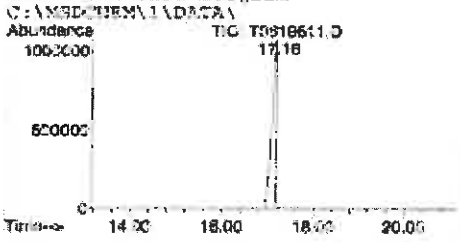

Mass Spectrum
Scan Number: 1614 Scan Range: 50-550 amu
Abundance Scan 1600 (17.157 min): T061906 11.D

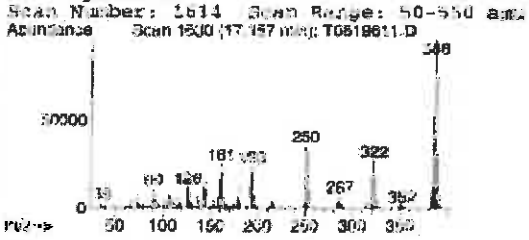

SIM Ion Chromatogram 1
Abundance Ion 374.00 (373.70 to 374.70): T061906 12.D

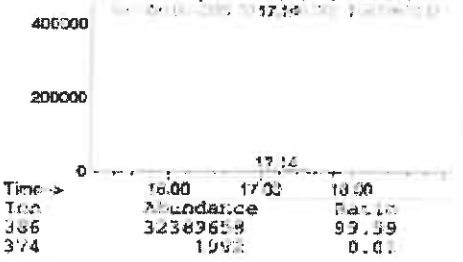

Ion	Abundance	Ratio
386	32369658	99.39
374	19938	0.61

SIM Ion Chromatogram 2
Abundance Ion 380.00 (379.70 to 380.70): T061906 12.D

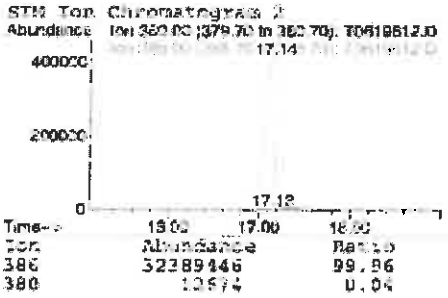

Ion	Abundance	Ratio
386	32389446	99.96
380	12974	0.04

COA Revision History

Revision No.	Date	Reason for Revision
00	January 04, 2011	Initial version
01	January 15, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Reagent

HRDXNIDA_00360

r: 1/15/19 SKV

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Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,7,8-Pentachlorodibenzo-p-dioxin-$^{13}C_{12}$

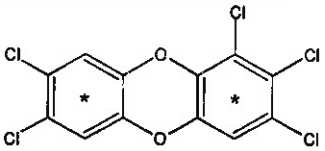

Catalog Number: ED-955
Solution Lot: ER08041401
Expiration Date: August 2024
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,7,8-Pentachlorodibenzo-p-dioxin-$^{13}C_{12}$	98.2%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER08041401	48.80	± 5%	0.3	≤ 3%
Previous Lot	ER030907-02	49.84	± 5%	0.4	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

February 10, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,7,8-Pentachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3Cl_5O_2$
Compound Lot:	ER06241403	**CAS Number:**	109719-79-1
		Molecular Weight:	368.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.9%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS-SIM Analysis	SP10-0105	0.07% $^{13}C_0$ vs $^{13}C_{12}$
		0.14% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS	SP10-0105	No single DD/DF $\geq$ 0.5%
Mass Balance Purity Factor		98.90%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

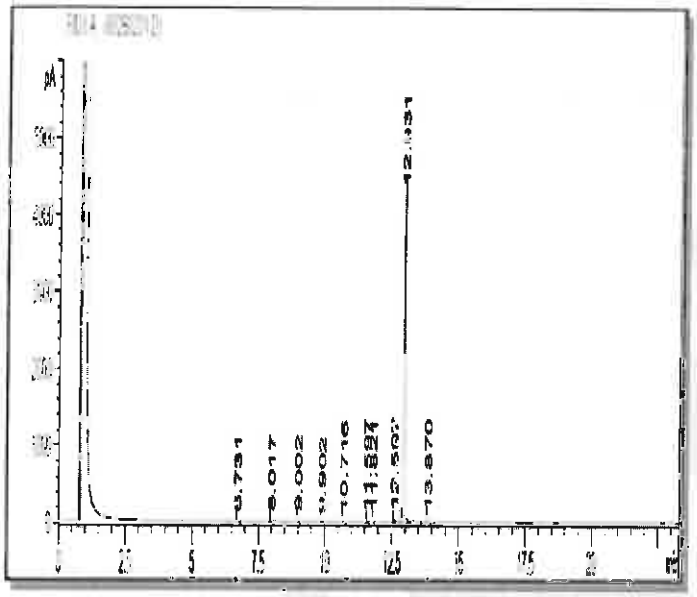

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min, hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMP-085 P GC 6 2014-07-30 18-11-11\002B0201.D
Instrument:	GC#6
Sample Name:	ER06241403
Acquired:	July 30, 2014

Peak #	Ret Time	Area	Height	Area %
1	6 73	7.32	3.42	0.07
2	8.02	3 79	1.60	0.04
3	9.00	8 74	3.64	0.08
4	9 90	3 38	1.35	0.03
5	10 72	1 31	0.45	0.01
6	11 60	14 46	6.69	0.14
7	11 82	2 21	1.11	0.02
8	12.60	68 05	28.10	0.64
9	12.93	10594 10	4235.85	98.91
10	13.87	7 09	2.57	0.07

Spectral and Physical Data (cont.)

GC/MS

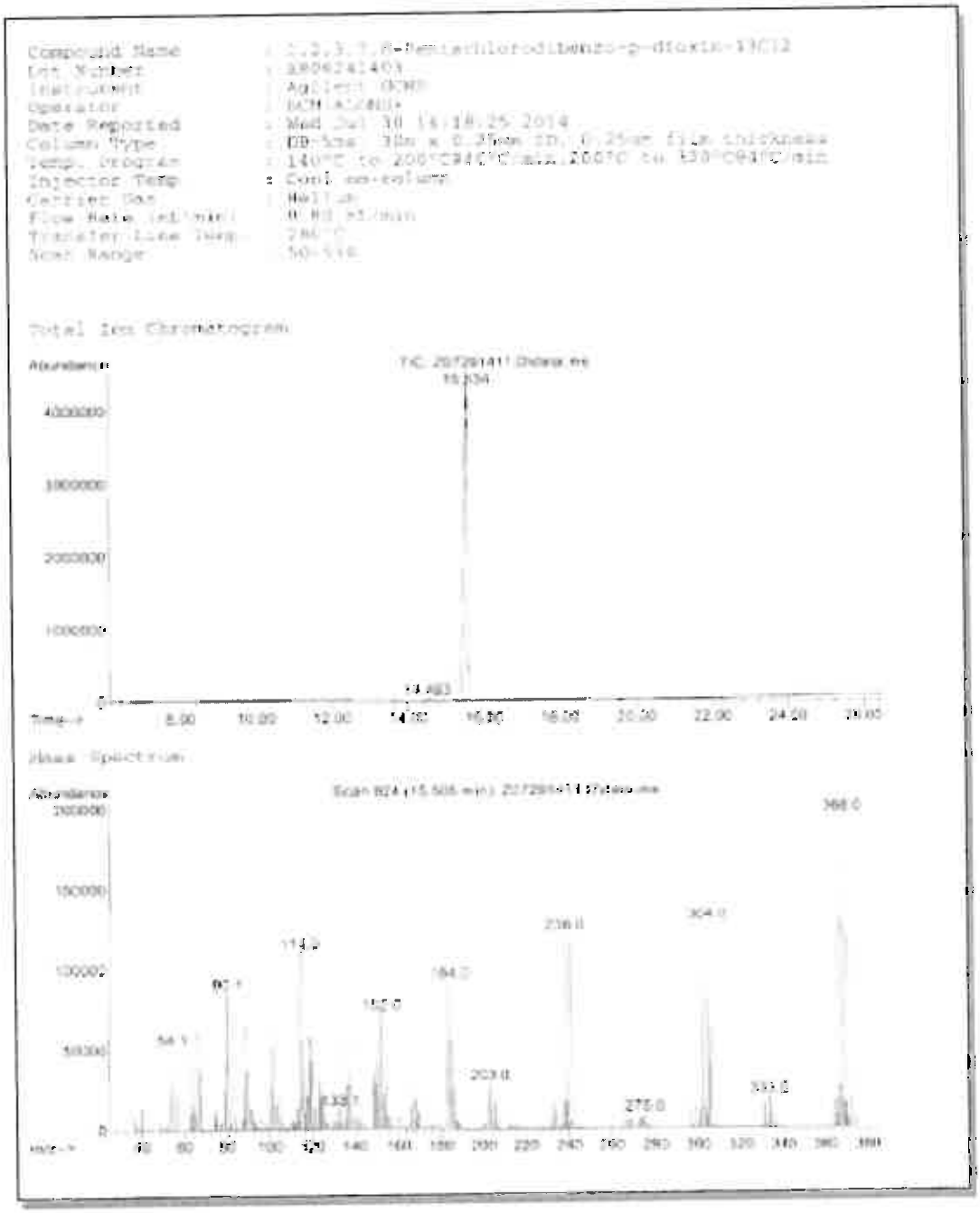

COA Revision History

Revision No.	Date	Reason for Revision
00	September 24, 2014	Initial version
01	February 10, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Reagent

HRDXNIDA_00361

r: 1/15/19 SKV

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ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

Certificate of Analysis

1,2,3,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$

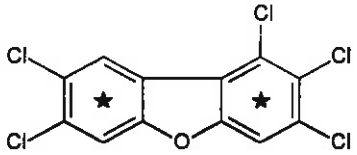

Catalog Number: EF-952
Solution Lot: ER012111-01
Expiration Date: January 2021
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For laboratory use only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
1,2,3,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	99.2%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER012111-01	50.7	± 5%	0.4	≤ 3%
Previous Lot	ER0100407-02	51.0	± 5%	0.5	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

February 15, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3OCl_5$
Compound Lot:	ER090110-01	**CAS Number:**	109719-77-9
		Molecular Weight:	352.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.2%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.03% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.17%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

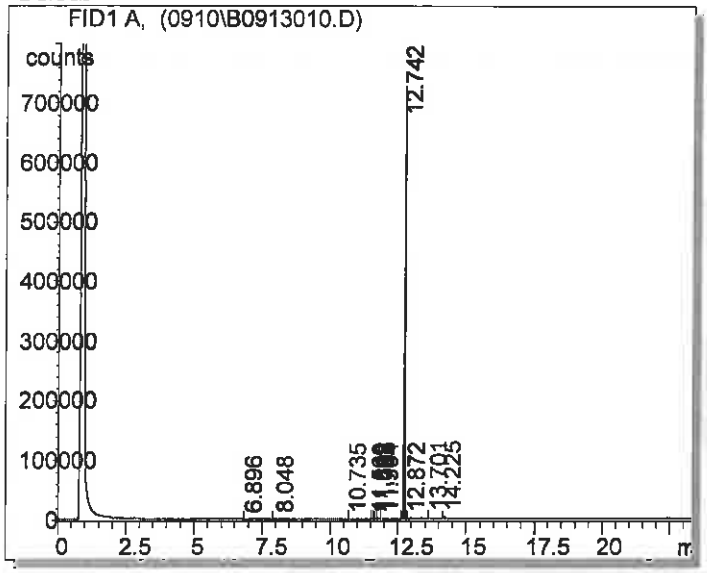

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	S:\GC\GC2\2010\0910\B0913010.D
Instrument:	GC#2
Sample Name:	ER090110-01
Acquired:	September 13, 2010

Peak #	Ret Time	Area	Height	Area %
1	6.90	618.64	296.84	0.04
2	8.05	254 50	102.70	0.01
3	10.74	162 25	70.86	0.01
4	11 57	145 03	82.11	0.01
5	11 62	468 46	216.27	0.03
6	11 69	1863 76	870.51	0.11
7	11.79	1631 76	576.35	0.10
8	11.90	421 31	184.81	0.02
9	12.74	1702290 00	729831.00	99.20
10	12.87	308 15	147.54	0.02
11	13.70	3743 55	1299.40	0.22
12	14.23	4032 24	1491.01	0.23

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

Compound Name : 1,2,3,7,8-Pentachlorodibenzofuran-13C12
Lot Number : EX090110-01
Instrument : Agilent 5973N MSD/6890N GC
Operator-Inst ID : RPC - C10106
Date Imported : Tue Sep 14 11:05:33 2010
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 280°C

Scan Range : 50-550

Total Ion Chromatogram

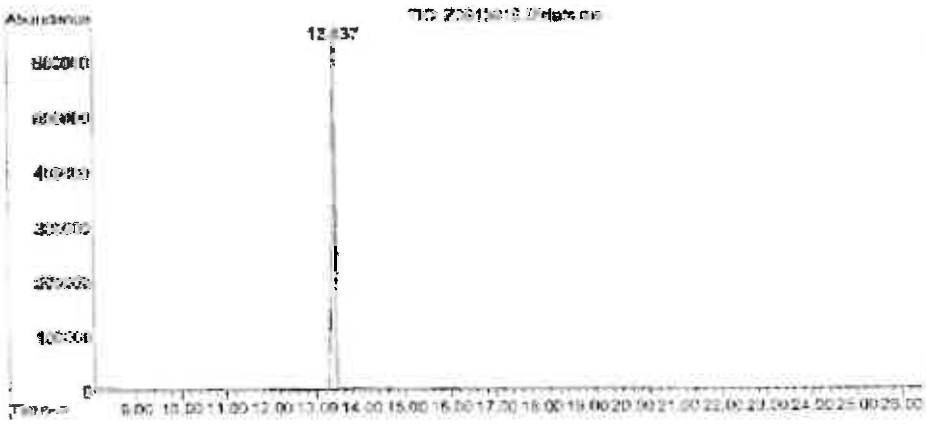

Mass Spectrum

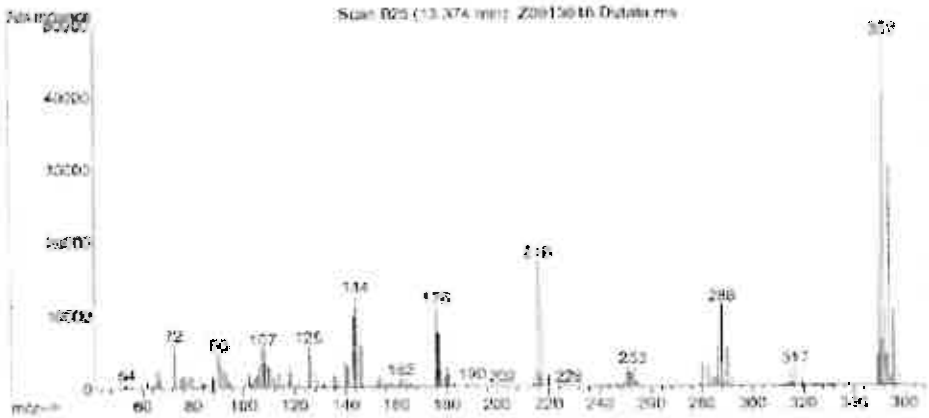

COA Revision History

Revision No.	Date	Reason for Revision
00	February 11, 2011	Initial version
01	March 01, 2011	Corrected typographical error: Chemical Structure
02	February 15, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Reagent

HRDXNIDA_00362

P: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

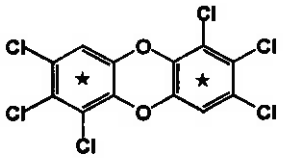

Catalog Number:	ED-966
Solution Lot:	ER03151801
Expiration Date:	March 2028
Solvent:	n-Nonane:Toluene (80:20) (v/v)
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	> 99.9%	50.03 ± 0.28 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER03151801	52.29	± 5%	0.2	≤ 3%
Previous Lot	ER010209-01	48.05	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using balances that have been qualified and calibrated to ISO 17025 requirements. All calibrations utilize NIST traceable weights which are calibrated externally by a qualified ISO 17025 accredited calibration laboratory to NIST standards. Qualification of each balance includes the assignment of a minimum weighing by a qualified and ISO 17025 accredited calibration vendor taking into consideration the balance and installed environmental conditions to ensure compliance with USP tolerances of NMT 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

April 19, 2018
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O_2$
Compound Lot:	FN01151802	**CAS Number:**	109719-81-5
		Molecular Weight:	402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.04% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 1.0%
Mass Balance Purity Factor		98.96%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

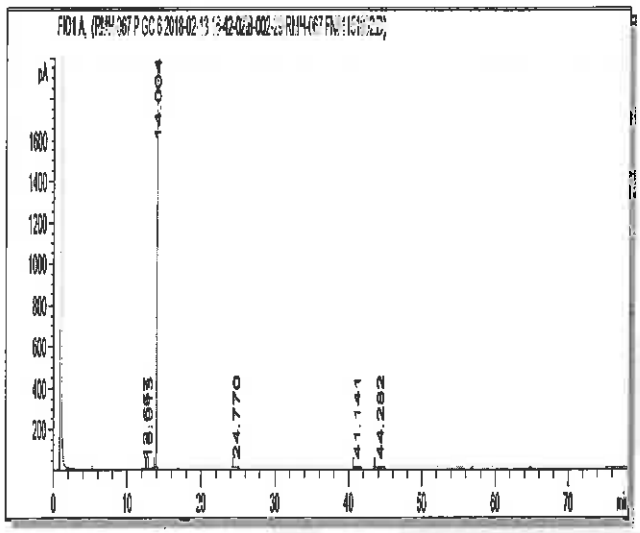

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-067 P GC 6 2018-02-13 16-42-02\B-002-29.D
Instrument:	GC#6
Sample Name:	FN01151802
Acquired:	February 13, 2018

Peak #	Ret Time	Area	Height	Area %
1	12.66	1 69	0.62	0.03
2	13.01	1 96	0.53	0.03
3	14 00	5617 62	1952.76	98.87
4	24 77	5.26	0.34	0.09
5	41 14	10.58	0.38	0.19
6	44 28	44.69	1.49	0.79

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-13C12
Lot Number	: FN01151802
Instrument	: Agilent GCMS
Operator	: FCM(SGIUFTRE)
Date Reported	: Mon Mar 05 10:17:32 2018
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

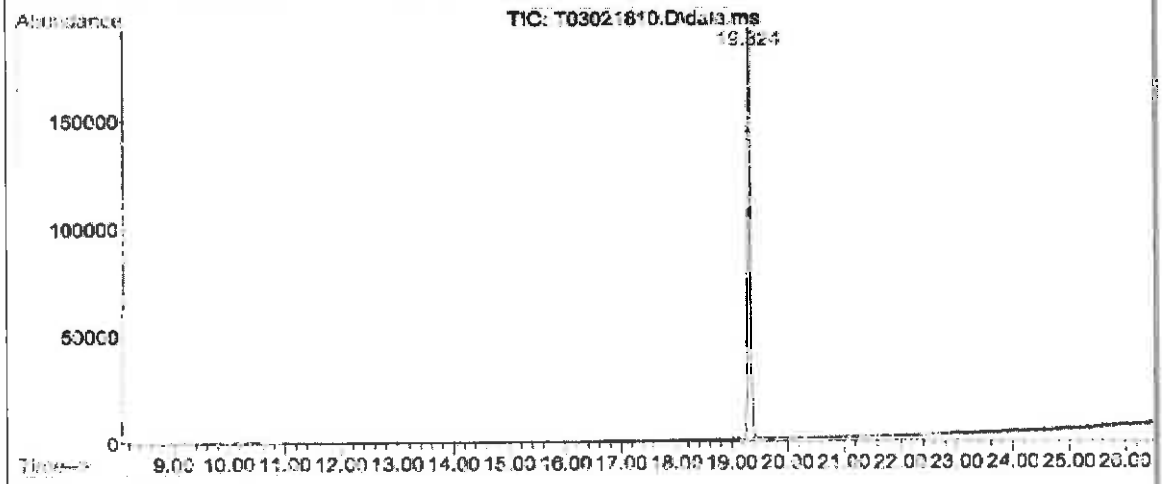

Mass Spectrum

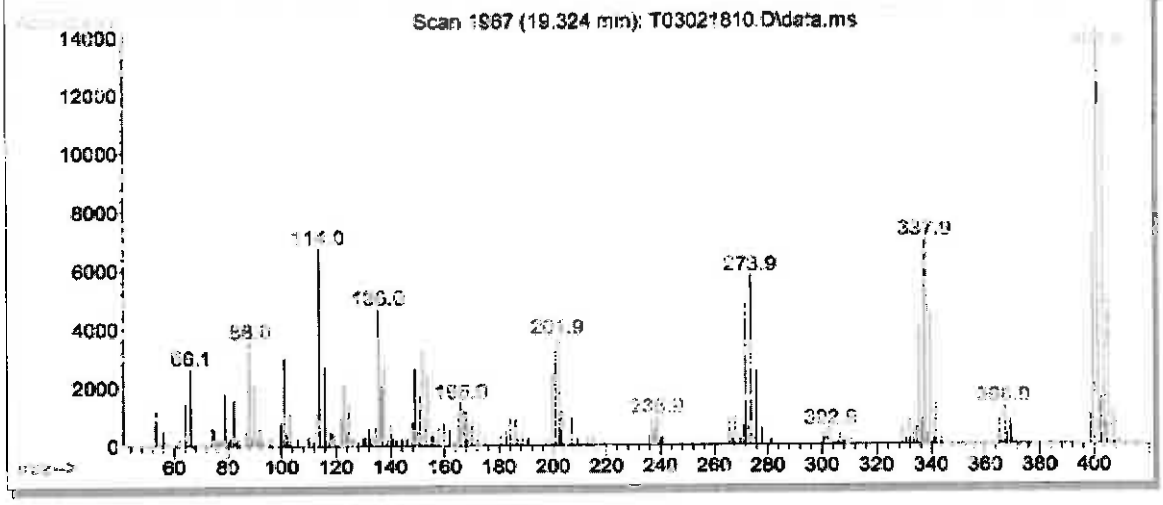

Reagent

HRDXNIDA_00365

Rec 11/28/18 SKV

1450145
ID: HRDXNIDA_00347
Exp: 04/30/27 Prpd: SKV
13C-OCDD [10 ug/mL]

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Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Octachlorodibenzo-p-dioxin-$^{13}C_{12}$

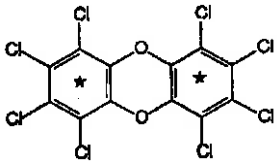

Catalog Number: ED-981-1.2
Solution Lot: ER04051701
Expiration Date: April 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
Octachlorodibenzo-p-dioxin-$^{13}C_{12}$	> 99.9%	10.00 ± 0.05 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04057101	10.22	± 5%	1.1	≤ 5%
Previous Lot	ER06061601	10.17	± 5%	0 8	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB Accredited ISO 17034 Reference Material Producer

Darron Ellsworth, Quality Assurance Manager

May 19, 2017
Date

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-5ms, 30 m x 0.25 mm ID, 0.25 µm film thickness
Temp Program: 70°C to 200°C at 40°C/min
200°C to 280°C at 10°C/min hold 15 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 3
Linearity (r): 0.997

Neat Material Data

Compound Name: Octachlorodibenzo-p-dioxin-$^{13}C_{12}$
Compound Lot: ER04041601

Chemical Formula: $^{13}C_{12}Cl_8O_2$
CAS Number: 114423-97-1
Molecular Weight: 471.66

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.1%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.07% $^{13}C_0$ vs $^{13}C_{12}$
		0.96% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.15%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

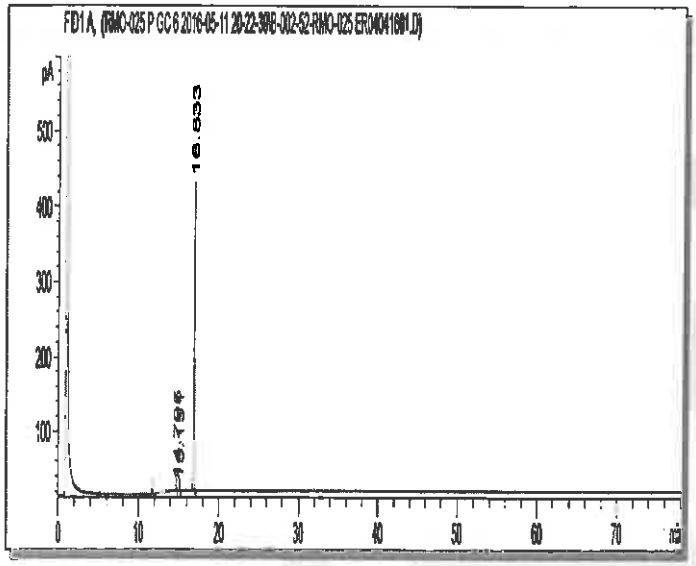

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMO-025 P GC 6 2016-05-11 20-22-39\B-002-52.D
Instrument:	GC#6
Sample Name:	ER04041601
Acquired:	May 11, 2016

Peak #	Ret Time	Area	Height	Area %
1	14.80	12.12	3.62	0.61
2	15.15	4.72	1.32	0.24
3	16.83	1980.56	409.54	99.16

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: Octachlorodibenzo-p-dioxin-13C12
Lot Number	: ERC4041601
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Wed May 04 13:45:40 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

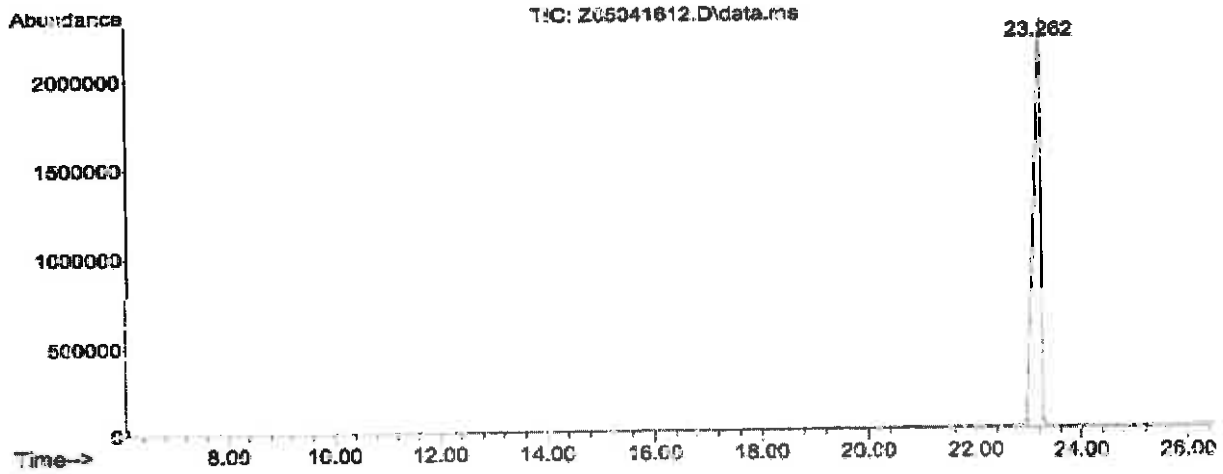

Mass Spectrum

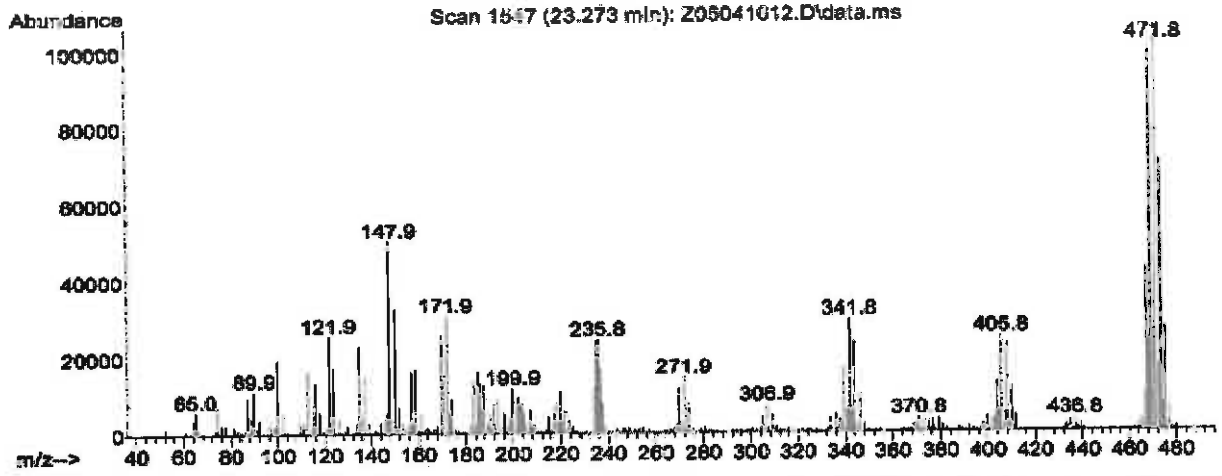

Reagent

HRDXNIDA_00375

nr: 4/8/19 BW

Cerilliant Analytical Reference Standards
a SIGMA-ALDRICH company

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Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$

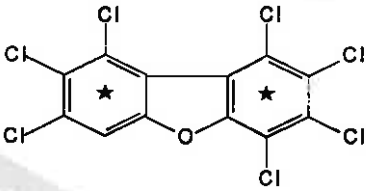

Catalog Number: EF-988
Solution Lot: ER04251601
Expiration Date: May 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	99.1%	49.99 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass, Purity Factor of the analyte(s), measured mass of the solution, and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04251601	49.11	± 5%	0.2	≤ 3%
Previous Lot	ER053107-02	50.58	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

November 09, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}HCl_7O$
Compound Lot:	ER04041602	**CAS Number:**	109719-94-0
		Molecular Weight:	421.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.1%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS SIM	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.16% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.10%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data (cont.)

GC/FID

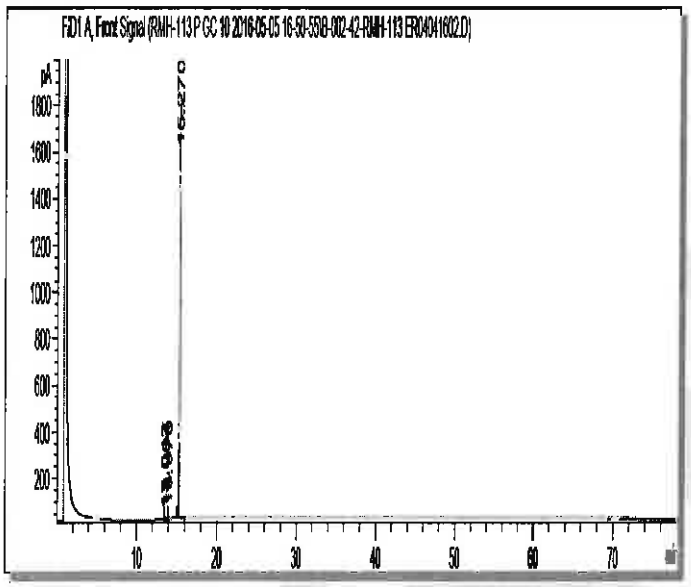

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-113 P GC 10 2016-05-05 16-50-55\B-002-42.D
Instrument:	GC#10
Sample Name:	ER04041602
Acquired:	May 05, 2016

Peak #	Ret Time	Area	Height	Area %
1	13.51	8.76	2.52	0.12
2	13.68	17.42	7.45	0.24
3	13.97	39.65	15.48	0.54
4	15.27	7226.95	1798.33	99.10

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 1,2,3,4,7,8,9-Heptachlorodibenzofuran-13C12
Lot Number	: ER04041602
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Wed May 04 15:34:28 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

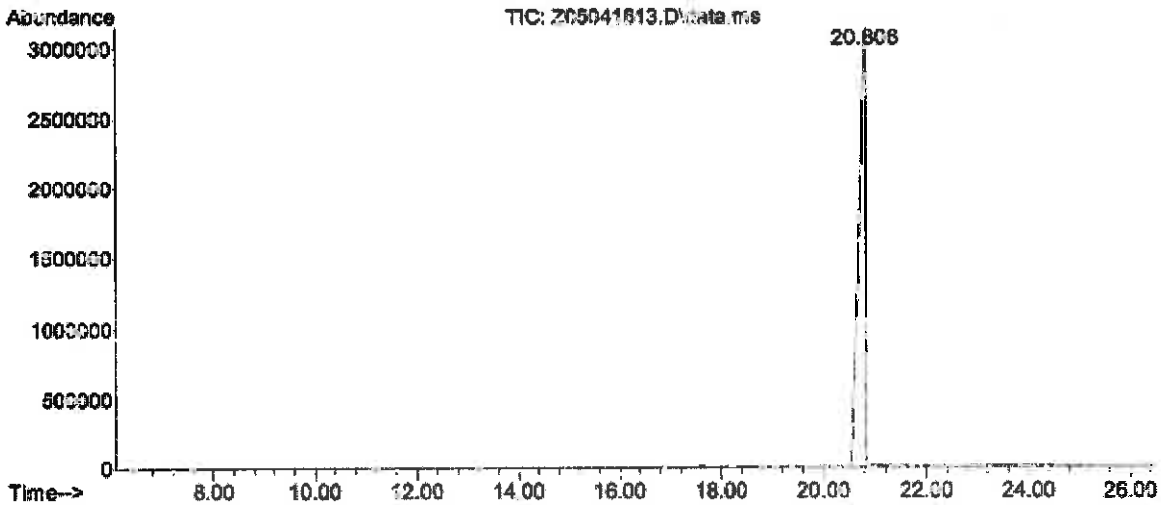

Mass Spectrum

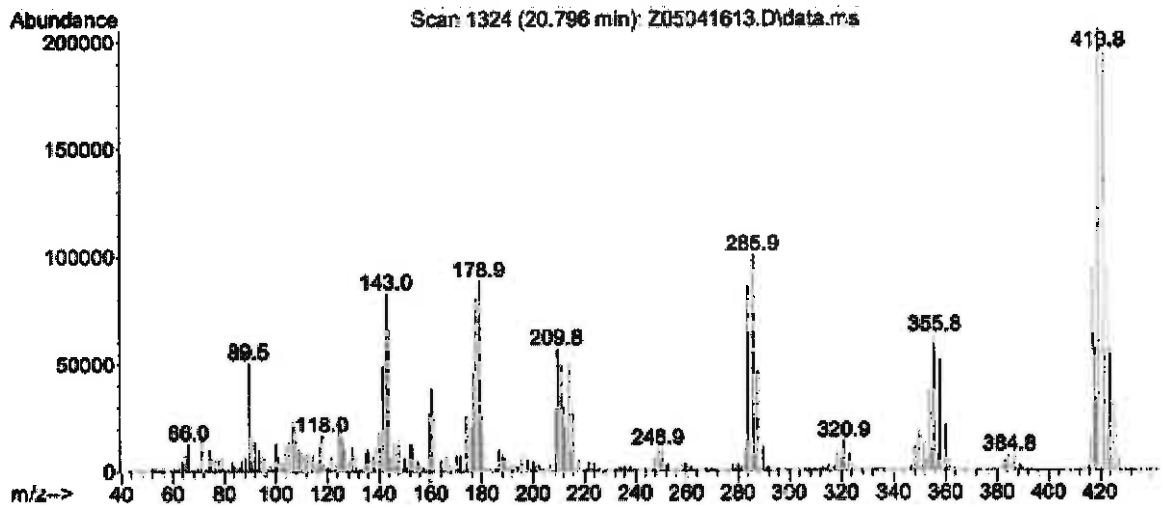

COA Revision History

Revision No.	Date	Reason for Revision
00	June 21, 2016	Initial version
01	November 09, 2016	Corrected Expiration Date from March 2026 to May 2026.

Reagent

HRDXNIDA_00376

N: 4/8/19 SW

Cerilliant
Analytical Reference Standards
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Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$

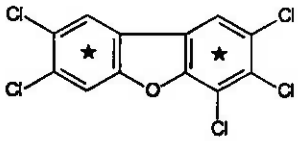

Catalog Number: EF-958
Solution Lot: ER01061701
Expiration Date: January 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	97.9%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass, Purity Factor of the analyte(s), measured mass of the solution, and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Acceptance Criteria	%RSD - Homogeneity Actual Results	Acceptance Criteria
New Lot	ER01061701	50.51	± 5%	0.1	≤ 3%
Previous Lot	ER11041601	49.56	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

January 27, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3Cl_5O$
Compound Lot:	ER11101601	**CAS Number:**	116843-02-8
		Molecular Weight:	352.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0102	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.02% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 0.5%
Mass Balance Purity Factor		**98.33%**

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

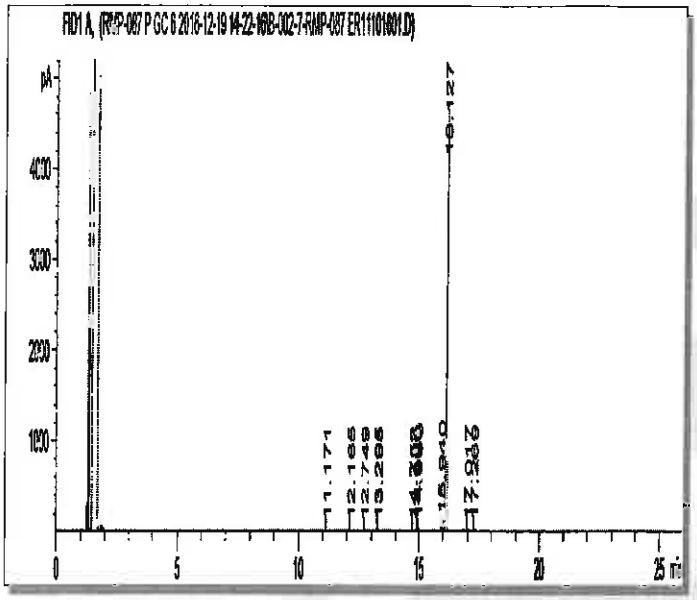

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMP-087 P GC 6 2016-12-19 14-22-16\B-002-7.D
Instrument:	GC#6
Sample Name:	ER11101601
Acquired:	December 19, 2016

Peak #	Ret Time	Area	Height	Area %
1	11.17	0.94	0.40	0.01
2	12.17	1.30	0.39	0.01
3	12.75	0.47	0.20	0.00
4	13.30	0.90	0.35	0.01
5	14.75	1.70	0.87	0.02
6	14.91	1.09	0.56	0.01
7	14.97	32.24	17.54	0.29
8	15.94	124.38	64.36	1.13
9	16.13	10866.60	4688.80	98.41
10	17.02	6.31	2.46	0.06
11	17.27	6.76	2.34	0.06

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 2,3,4,7,8-Pentachlorodibenzofuran-13C12
Lot Number	: ER11101601
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Tue Dec 20 12:19:55 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

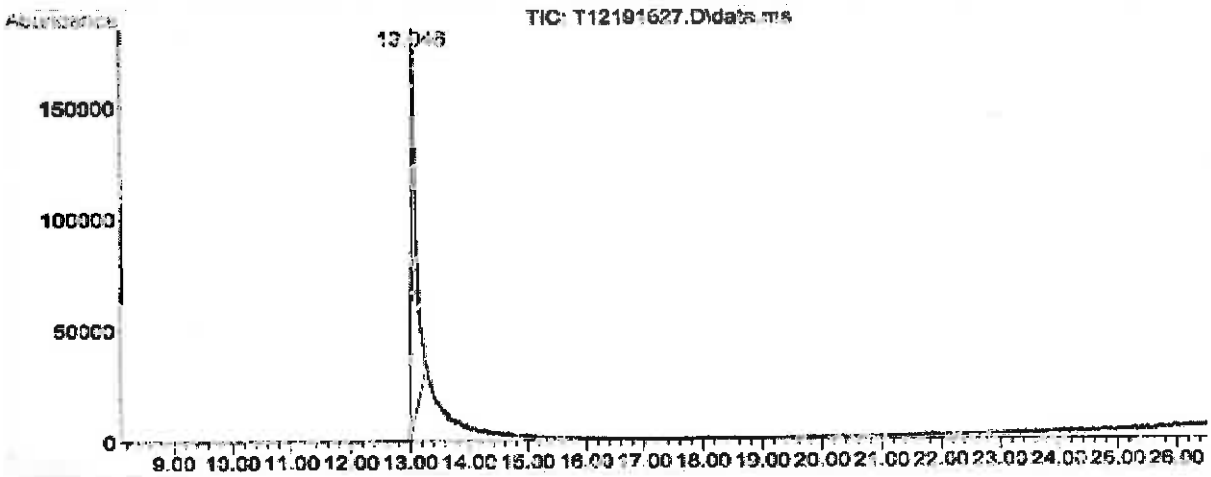

Mass Spectrum

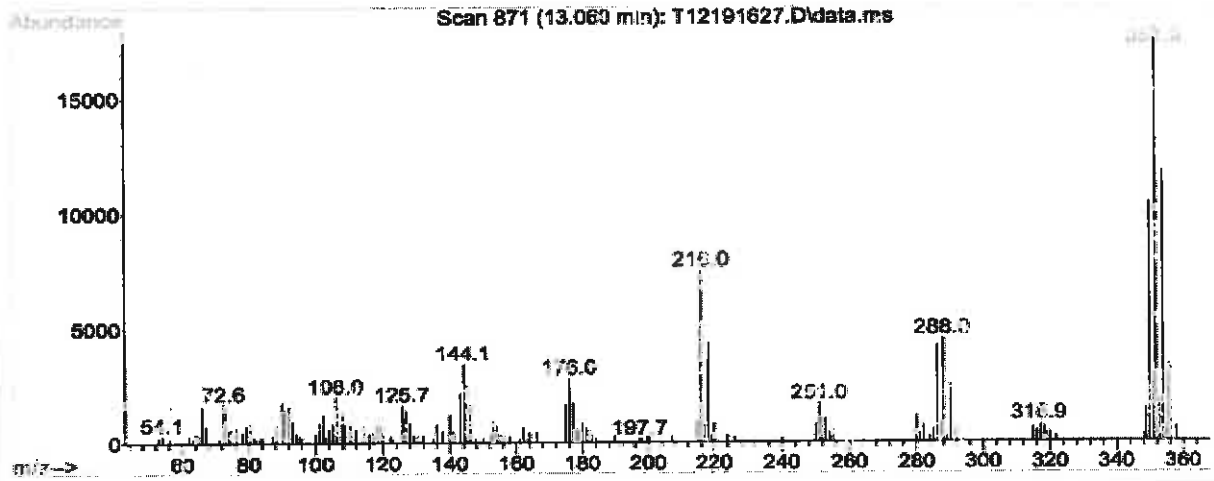

Reagent

HRDXNIDA_00377

r: 4/8/19 SKJ

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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

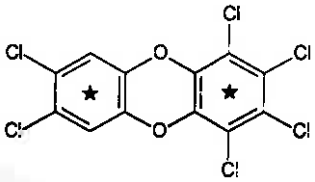

Catalog Number:	ED-946
Solution Lot:	ER04211601
Expiration Date:	June 2026
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.3%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04211601	49.24	± 5%	0.4	≤ 3%
Previous Lot	ER102711-01	49.69	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

August 11, 2016
Date

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 60°C to 300°C at 40°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 4
Linearity (r): 1.000

Neat Material Data

Compound Name: 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$
Compound Lot: ER011008-01

Chemical Formula: $^{13}C_{12}H_2Cl_6O_2$
CAS Number: 109719-80-4
Molecular Weight: 402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.08% $^{13}C_0$ vs $^{13}C_{12}$
		0.21% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.26%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

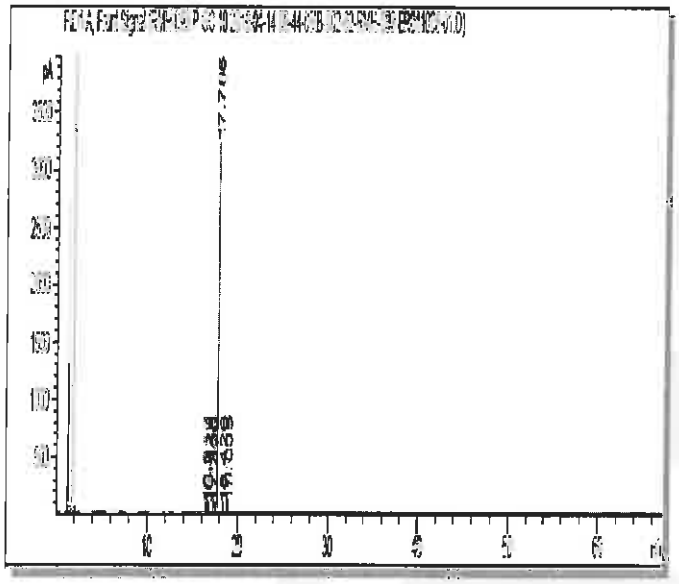

Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 40°C to 300°C at 15°C/min hold 50 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: RMH-098 P GC 10 2016-04-14 08-44-08\B-002-62.D
Instrument: GC#10
Sample Name: ER011008-01
Acquired: April 14, 2016

Peak #	Ret Time	Area	Height	Area %
1	16.56	16.58	7.74	0.19
2	16.72	11.25	5.08	0.13
3	16.83	8.45	4.05	0.10
4	17.30	1.81	0.71	0.02
5	17.48	1.07	0.50	0.01
6	17.79	8682.22	3203.58	99.29
7	18.43	1.99	0.68	0.02
8	19.01	20.62	6.08	0.24

Spectral and Physical Data (cont.)

GC/MS

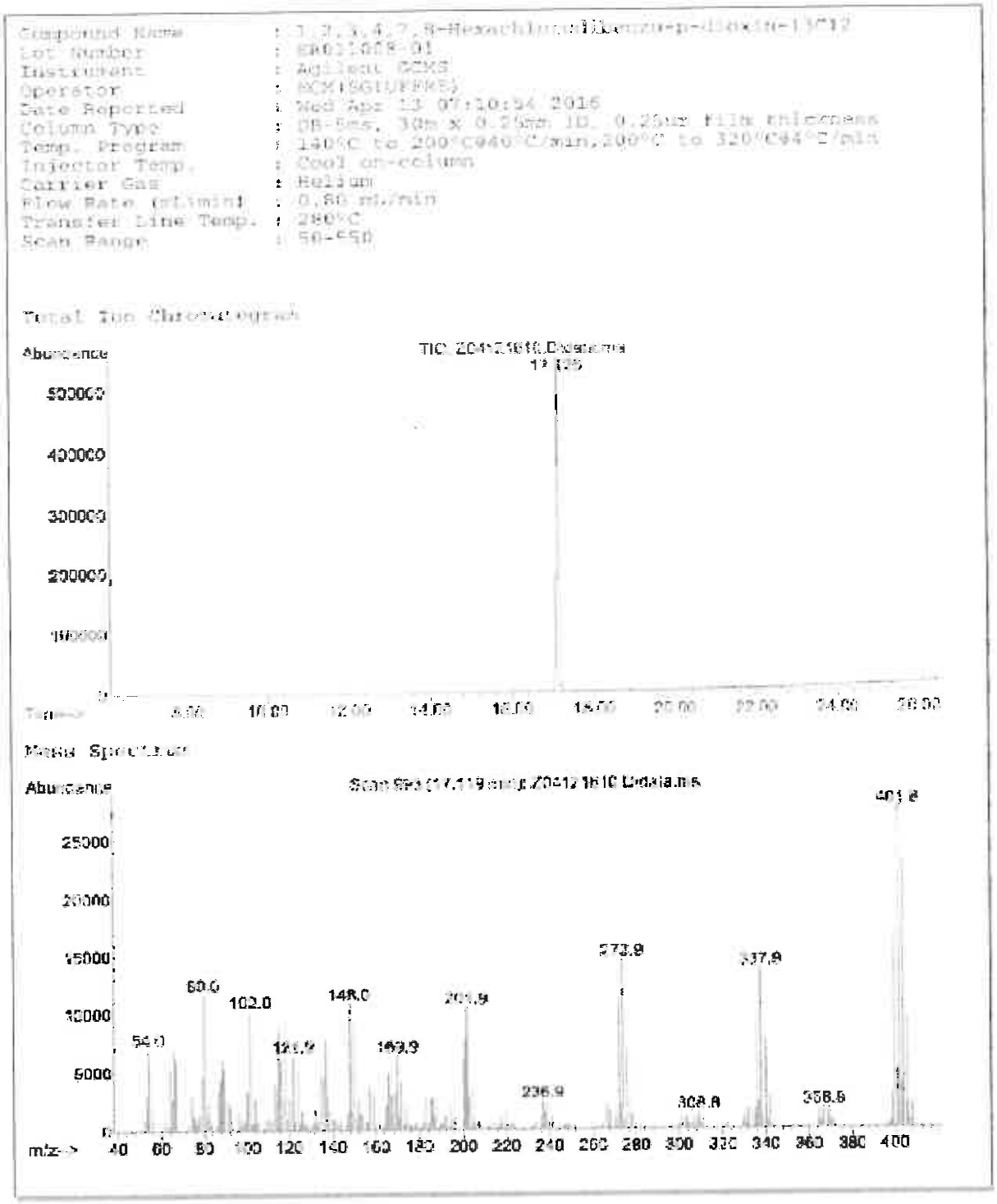

Reagent

HRDXNIDA_00378

r: 4/8/19 SKJ

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Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

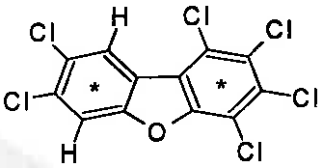

Catalog Number:	EF-963
Solution Lot:	ER04211701
Expiration Date:	July 2027
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.4%	50.00 ± 0.28 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04211701	49.47	± 5%	0.2	≤ 3%
Previous Lot	ER072810-02	45.87	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release

Traceability

- Gravemetrically prepared using balances that have been qualified and calibrated to ISO 17025 requirements. All calibrations utilize NIST traceable weights which are calibrated externally by a qualified ISO 17025 accredited calibration laboratory to NIST standards. Qualification of each balance includes the assignment of a minimum weighing by a qualified and ISO 17025 accredited calibration vendor taking into consideration the balance and installed environmental conditions to ensure compliance with USP tolerances of NMT 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

September 11, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}Cl_6H_2O$
Compound Lot:	ER11281601	**CAS Number:**	114423-98-2
		Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0102	99.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.06% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 0.5%
Mass Balance Purity Factor		99.31%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

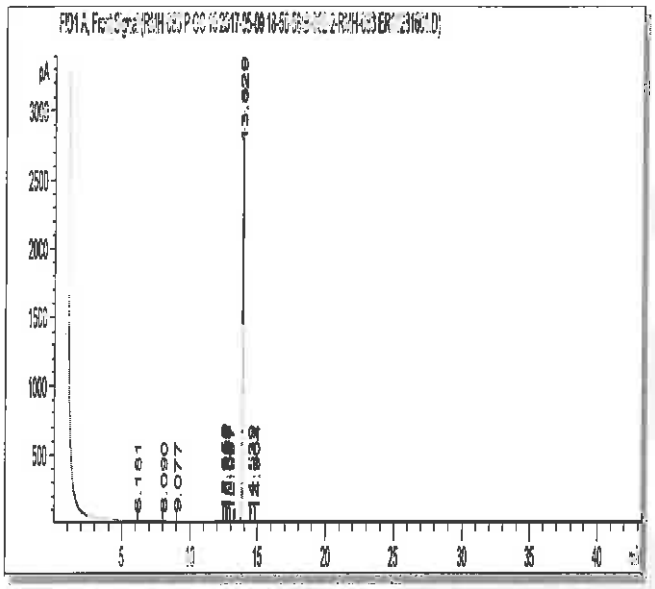

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 30 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-083 P GC 10 2017-05-09 18-50-58\B-002-2.D
Instrument:	GC#10
Sample Name:	ER11281601
Acquired:	May 09, 2017

Peak #	Ret Time	Area	Height	Area %
1	6.18	1.10	0.64	0.01
2	8.09	2.00	0.70	0.02
3	9.08	1.17	0.48	0.01
4	12.55	14.76	7.25	0.16
5	12.73	32.67	11.32	0.36
6	12.84	5.45	2.50	0.06
7	13.00	2.51	1.30	0.03
8	13.83	8993.56	3122.16	99.30
9	14.54	1.11	0.20	0.01
10	14.90	2.71	0.86	0.03

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 1,2,3,4,7,8-hexachlorodibenzofuran-13C12
Lot Number : SRI1281601
Instrument : Agilent GCMS
Operator : ECM(SGIDEFKE)
Date Reported : Mon May 08 09:30:09 2017
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@60°C/min,200°C to 320°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL\min) : 0.80 mL/min
Transfer Line Temp. : 280°C
Scan Range : 50-550

Total Ion Chromatogram

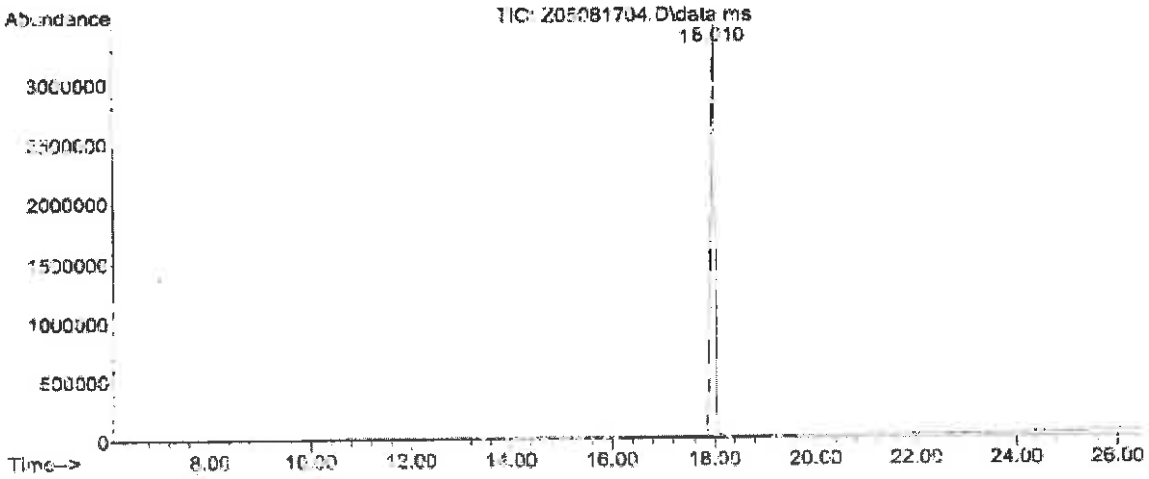

Mass Spectrum

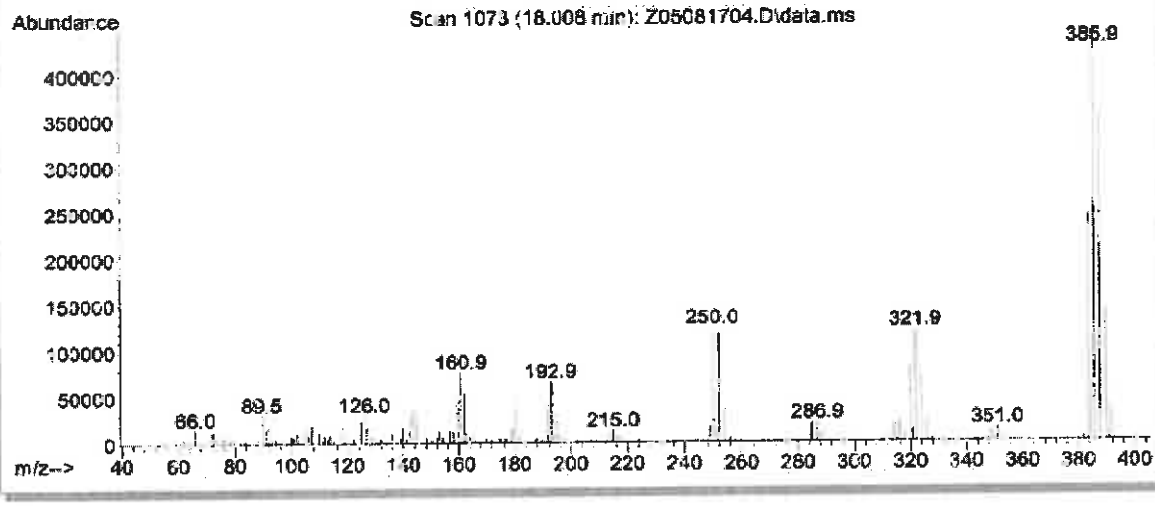

Reagent

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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

Catalog Number: ED-996
Solution Lot: ER08221601
Expiration Date: September 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER08221601	49.20	± 5%	0.3	≤ 3%
Previous Lot	ER021313-01	49.56	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

September 28, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O_2$
Compound Lot:	ER110510-01	**CAS Number:**	109719-82-6
		Molecular Weight:	402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.04% $^{13}C_0$ vs $^{13}C_{12}$
		0.27% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.02%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

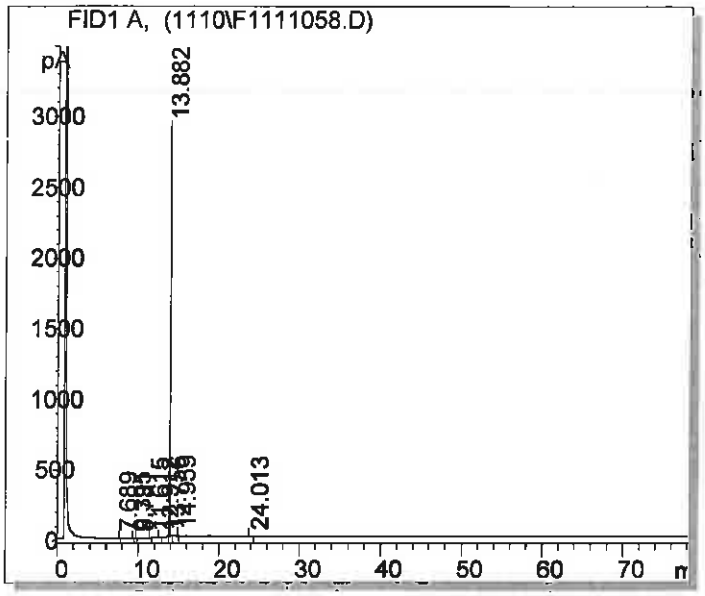

Column:	DB-5ms 30m x 0.53mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-column
Detector Temp:	325°C
Data File Name:	S:\GC\GC6\2010\1110\F1111058.D
Instrument:	GC#6
Sample Name:	ER110510-01
Acquired:	November 12, 2010

Peak #	Ret Time	Area	Height	Area %
1	4 69	0.45	0.10	0.01
2	9.40	0 72	0.14	0.01
3	9.78	0 80	0.13	0.01
4	11 62	7.34	2.54	0.09
5	12 91	2.59	0.23	0.03
6	13 76	1.91	1.00	0.02
7	13 88	8026.07	2938.74	99.11
8	14.96	36.82	11.38	0.45
9	24.01	21.08	1.62	0.26

Spectral and Physical Data (cont.)

GC/MS

```
Compound Name      : 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-13C12
Lot Number         : ER110510-01
Instrument         : Agilent 5973N MSD /6890N GC
Operator-Inst ID   : RPC - A147434
Date Reported      : Fri Nov 12 16:41:14 2010
Column Type        : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program      : 140°C to 200°C @40°C/min,200°C to 320°C @4°C/min
Injector Temp.     : Cool on-column          Trans. Line Temp : 280°C
Carrier Gas        : Helium                  Flow Rate        : 0.80 mL/min
```

Total Ion Chromatogram
S:\GCMS\GCMS2\2010\1110\

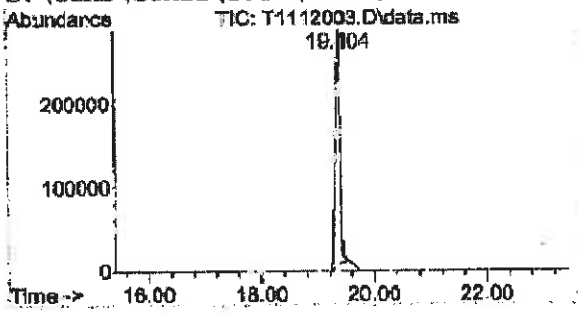

Mass Spectrum
Scan Number: 1976 Scan Range: 50-550 amu

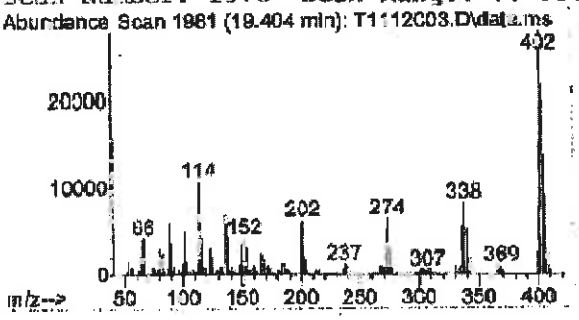

SIM Ion Chromatogram 1

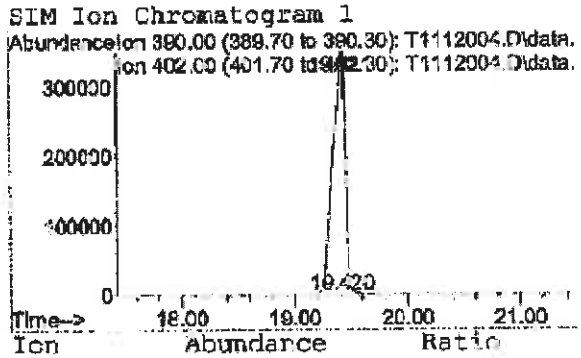

Ion	Abundance	Ratio
402	26368380	99.96
390	9776	0.04

SIM Ion Chromatogram 2

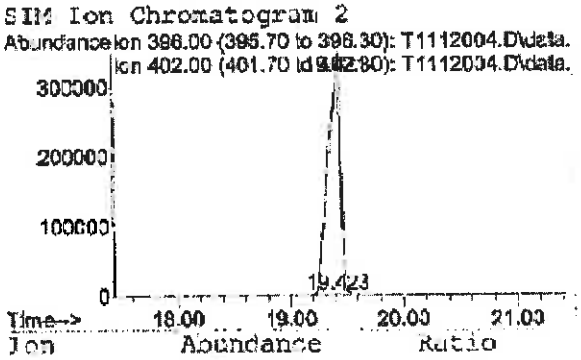

Ion	Abundance	Ratio
402	26368380	99.73
396	71626	0.27

Reagent

HRDXNIS_00111

Rec: 9/4/18 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$

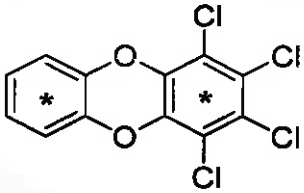

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number: ED-911
Solution Lot: ER11081602
Expiration Date: January 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.7%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER11081602	51.01	± 10%	0.1	≤ 3%
Previous Lot	ER060710-01	50.59	± 10%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

January 23, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_4Cl_4O_2$
Compound Lot:	ER02021602	**CAS Number:**	114423-99-3
		Molecular Weight:	333.88

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS	SP10-0105	no single DD/DF impurity ≥ 1.0%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.03% $^{13}C_0$ vs $^{13}C_{12}$
		0.01% $^{13}C_6$ vs $^{13}C_{12}$
Identity by ^{1}H-NMR Analysis	USP <761>, SP10-0116	Consistent with Structure
Residual Solvent by ^{1}H-NMR Analysis	USP <761>, SP10-0116	0.31% Dichloromethane
Mass Balance Purity Factor		98.71%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

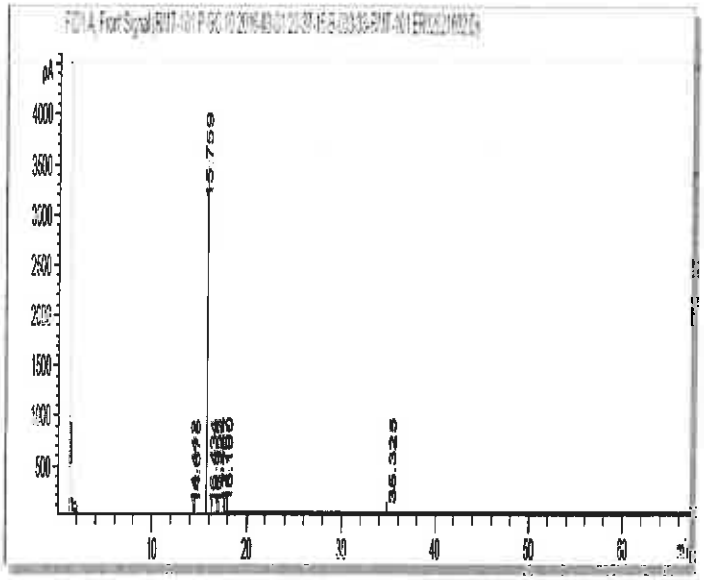

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	40°C to 300°C at 15°C/min hold 50 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMT-101 P GC 10 2016-03-01 20-37-15\B-003-33.D
Instrument:	GC#10
Sample Name:	ER02021602
Acquired:	March 01, 2016

Peak #	Ret Time	Area	Height	Area %
1	14.44	1.34	0.53	0.02
2	14.68	3.60	0.58	0.05
3	15.76	7522.29	3054.11	99.22
4	16.43	3.51	0.80	0.05
5	16.96	2.38	1.09	0.03
6	17.13	4.79	2.26	0.06
7	17.77	8.72	3.38	0.11
8	18.10	1.68	0.54	0.02
9	35.33	32.94	1.28	0.43

^{1}H NMR

Instrument:	JEOL ECS 400
Solvent:	Chloroform-D

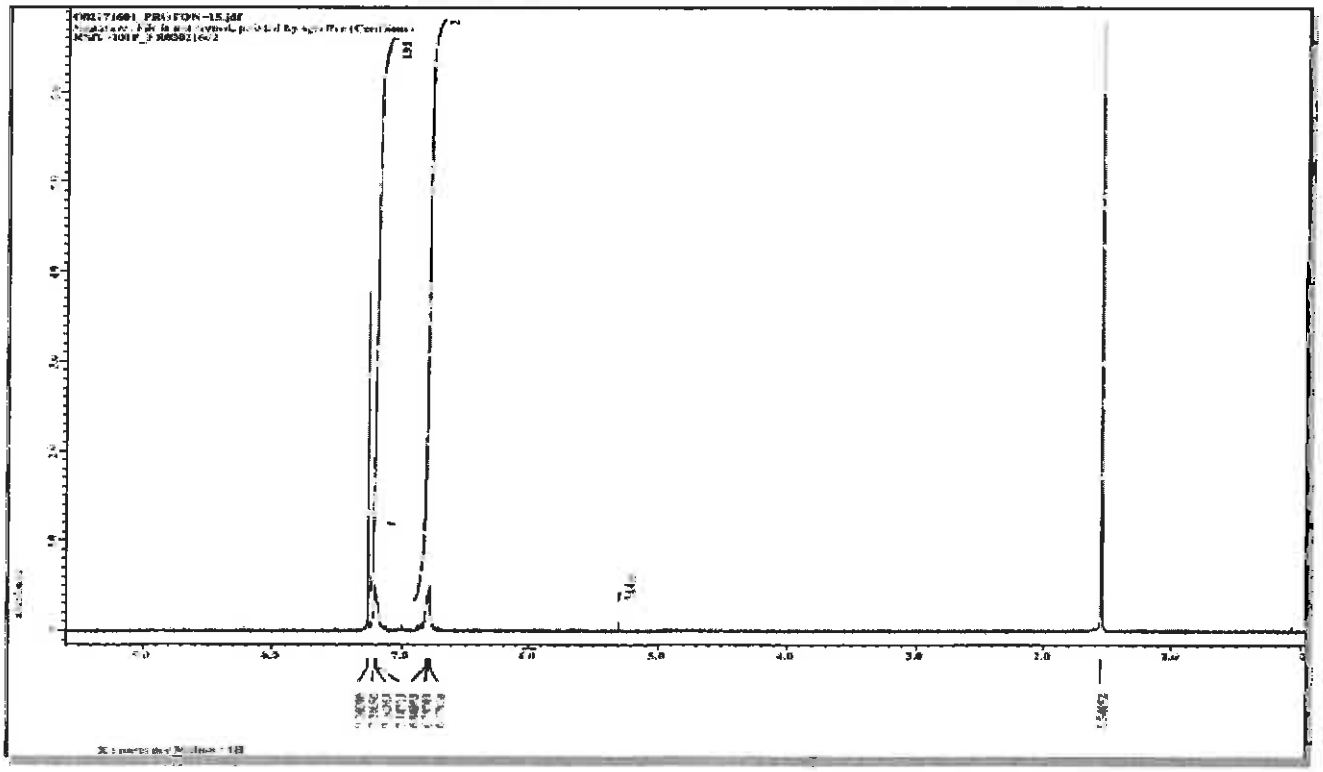

Spectral and Physical Data (cont.)

GC/MS

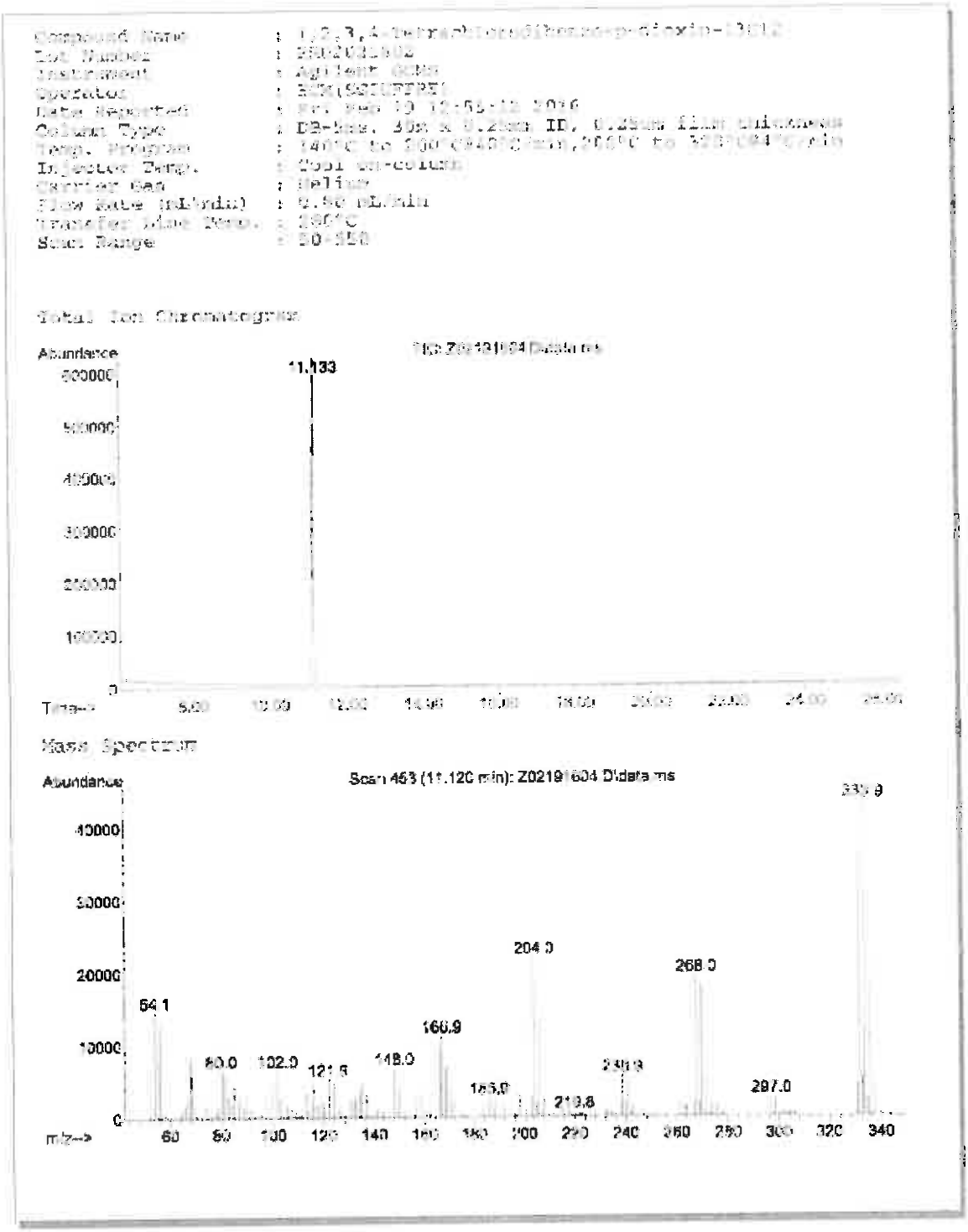

Reagent

HRDXNSU_00187

r: 7/30/18 SKN

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CIL

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$

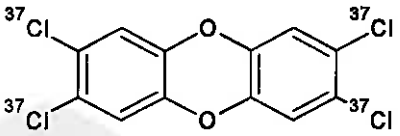

Catalog Number: ED-907
Solution Lot: ER05211501
Expiration Date: July 2025
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold
Shipping: Ambient.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Instructions for Use: Sonicate before use.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration
- For MS Applications, we advise laboratories not to mix lots during a single sequence.

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$	98.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Acceptance Criteria	%RSD - Homogeneity Actual Results	Acceptance Criteria
New Lot	ER05211501	50.60	± 10%	0.2	≤ 5%
Previous Lot	ER052010-02	49.73	± 10%	0.5	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after

ACLASS ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

August 03, 2015
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$	**Chemical Formula:**	$C_{12}H_4O_2{}^{37}Cl_4$
Compound Lot:	ER040510-01	**CAS Number**	85508-50-5
		Molecular Weight	328.02

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{37}Cl_0$ vs $^{37}Cl_4$
Identity by ^{1}H-NMR Analysis	USP <761>, SP10-0116	Consistent with Structure
Residual Solvent Analysis by ^{1}H-NMR	USP <761>, SP10-0116	1.2% Chloroform
Purity Factor		97.14%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

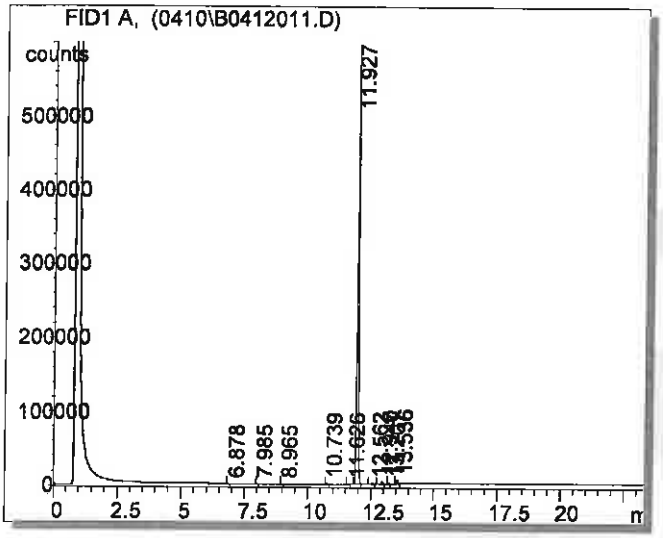

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	S:\GC\GC2\2010\0410\B0412011.D
Instrument:	GC#2
Sample Name:	ER040510-01
Acquired:	April 13, 2010

Peak #	Ret Time	Area	Height	Area %
1	6.88	245.58	89.37	0.01
2	7.99	304.03	131.27	0.01
3	8.97	233.91	72.32	0.01
4	10.74	931.14	265.29	0.04
5	11.63	127.86	46.74	0.01
6	11.93	2261830.00	580792.00	98.34
7	12.56	6435.54	1838.17	0.28
8	12.94	13336.80	4373.86	0.58
9	13.20	2178.30	729.98	0.09
10	13.54	14483.80	5038.43	0.63

^{1}H NMR

Instrument:	JEOL ECS 400
Solvent:	Toluene-D_8

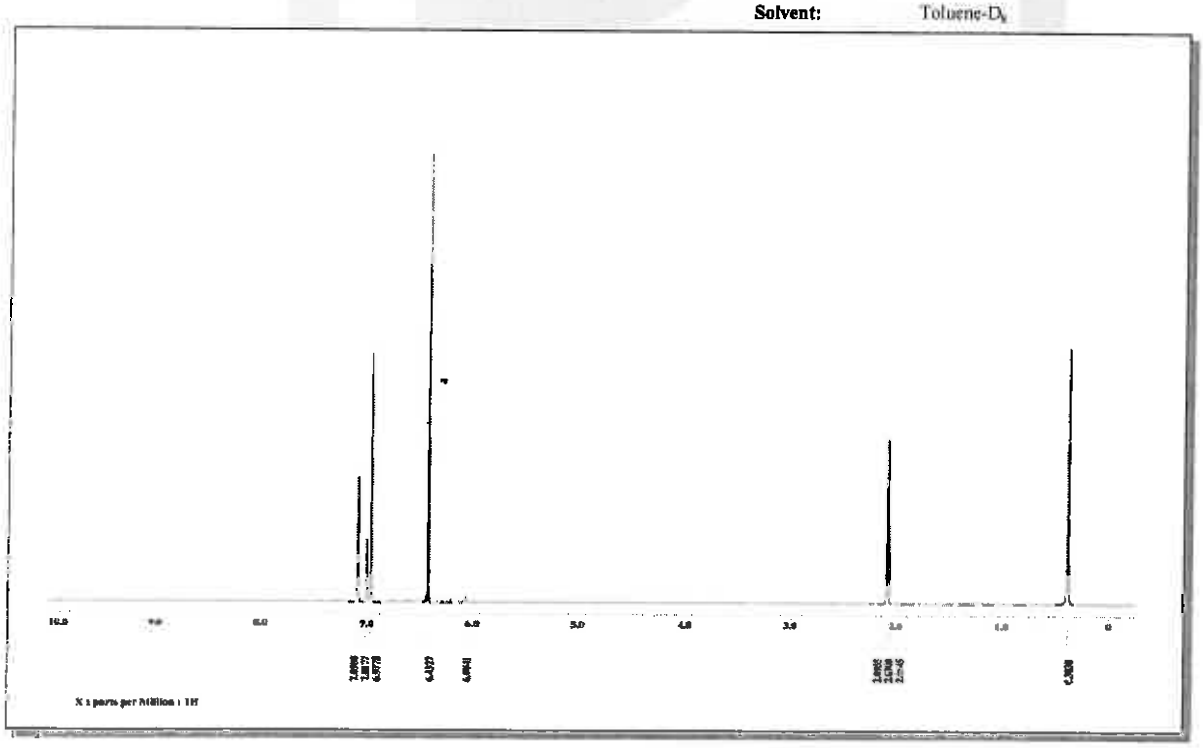

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

Compound Name : 2,3,7,8-Tetrachlorodibenzo-p-dioxin-37C14
Lot Number : KR060510-02
Instrument : Agilent 5973N MSD/6890N GC
Operator-Inst ID : RPC - C10106
Date Acquired : Mon Apr 19 23:23:00 2010
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 320°C@10°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 280°C

Scan Range : 50-550

Total Ion Chromatogram

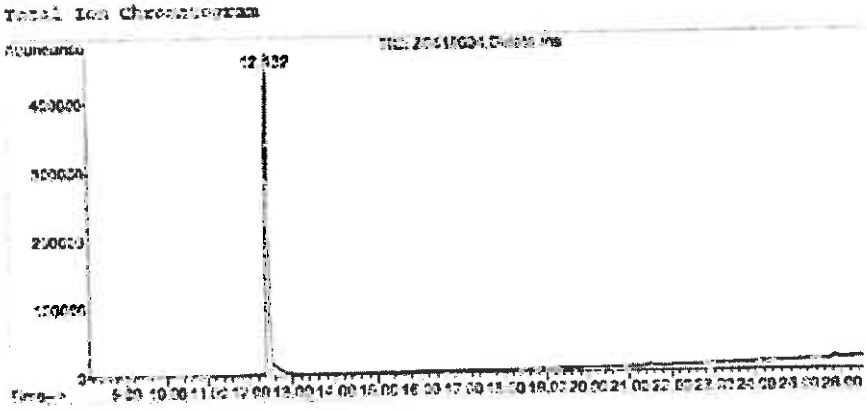

Mass Spectrum

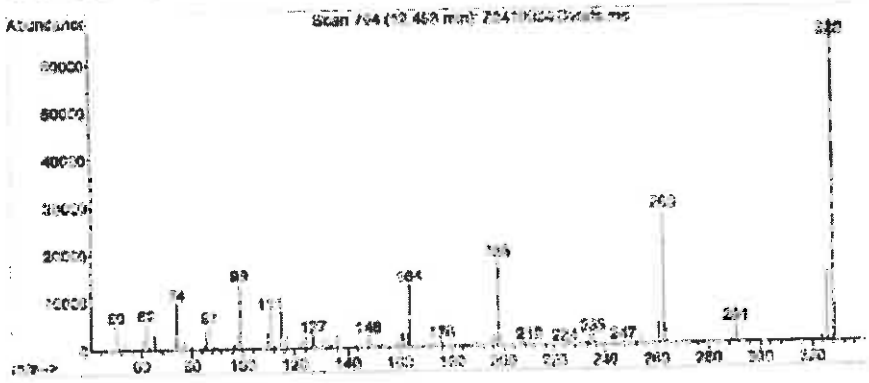

Reagent

HRDXNSU_00211

Rec 4/30/19 SW

(8)

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$

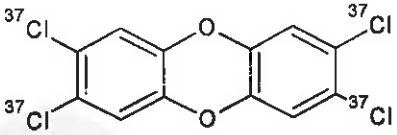

Catalog Number: ED-907
Solution Lot: ER05211501
Expiration Date: July 2025
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold
Shipping: Ambient.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Instructions for Use: Sonicate before use.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration
- For MS Applications, we advise laboratories not to mix lots during a single sequence.

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$	98.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER05211501	50.60	± 10%	0.2	≤ 5%
Previous Lot	ER052010-02	49.73	± 10%	0.5	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after

ACLASS

Darron Ellsworth, Quality Assurance Manager

August 03, 2015
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$
Compound Lot:	ER040510-01

Chemical Formula:	$C_{12}H_4O_2{}^{37}Cl_4$
CAS Number:	85508-50-5
Molecular Weight:	328.02

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{37}Cl_0$ vs $^{37}Cl_4$
Identity by ^{1}H-NMR Analysis	USP <761>, SP10-0116	Consistent with Structure
Residual Solvent Analysis by ^{1}H-NMR	USP <761>, SP10-0116	1.2% Chloroform
Purity Factor		97.14%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

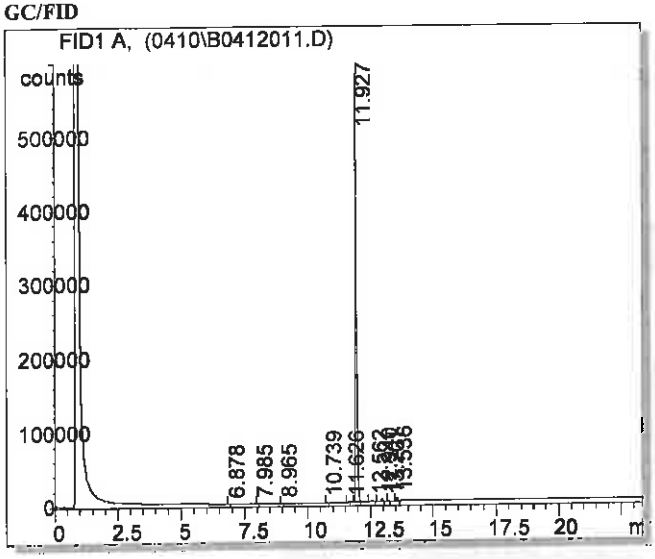

Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 100°C to 300°C at 15°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: S:\GC\GC2\2010\0410\B0412011.D
Instrument: GC#2
Sample Name: ER040510-01
Acquired: April 13, 2010

Peak #	Ret Time	Area	Height	Area %
1	6.88	245.58	89.37	0.01
2	7.99	304.03	131.27	0.01
3	8.97	233.91	72.32	0.01
4	10.74	931.14	265.29	0.04
5	11.63	127.86	46.74	0.01
6	11.93	2261830.00	580792.00	98.34
7	12.56	6435.54	1838.17	0.28
8	12.94	13336.80	4373.86	0.58
9	13.20	2178.30	729.98	0.09
10	13.54	14483.80	5038.43	0.63

^{1}H NMR

Instrument: JEOL ECS 400
Solvent: Toluene-D_8

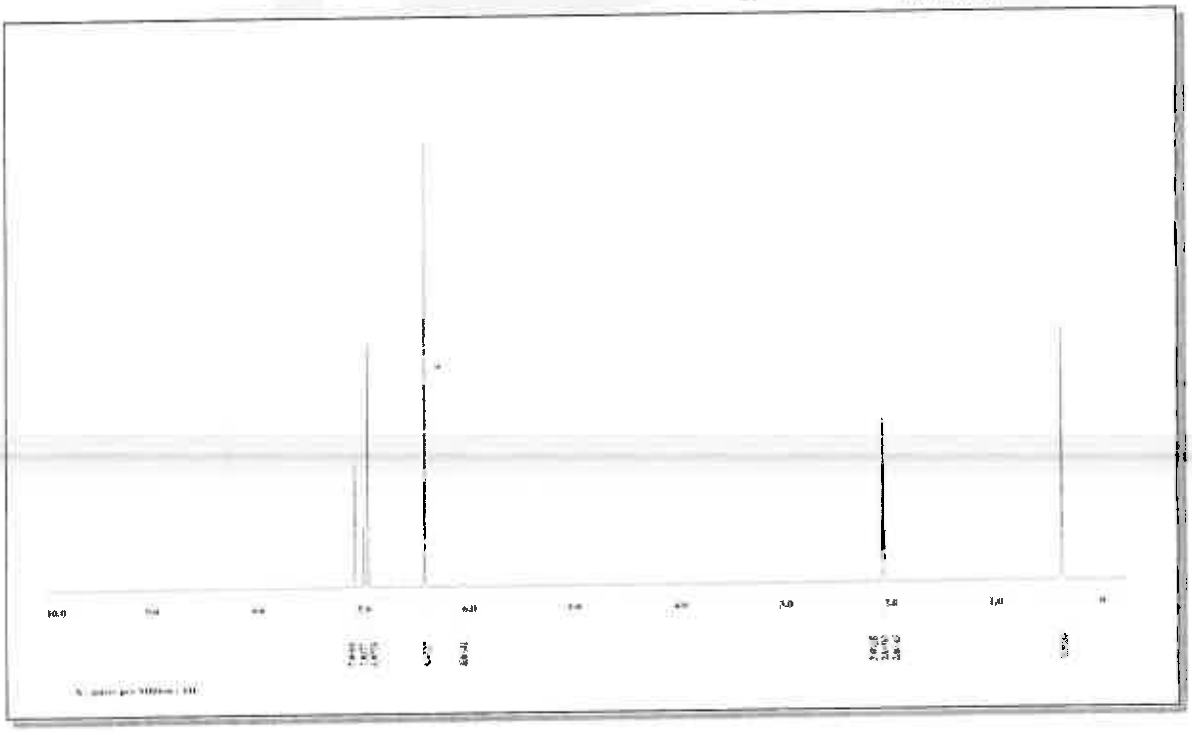

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

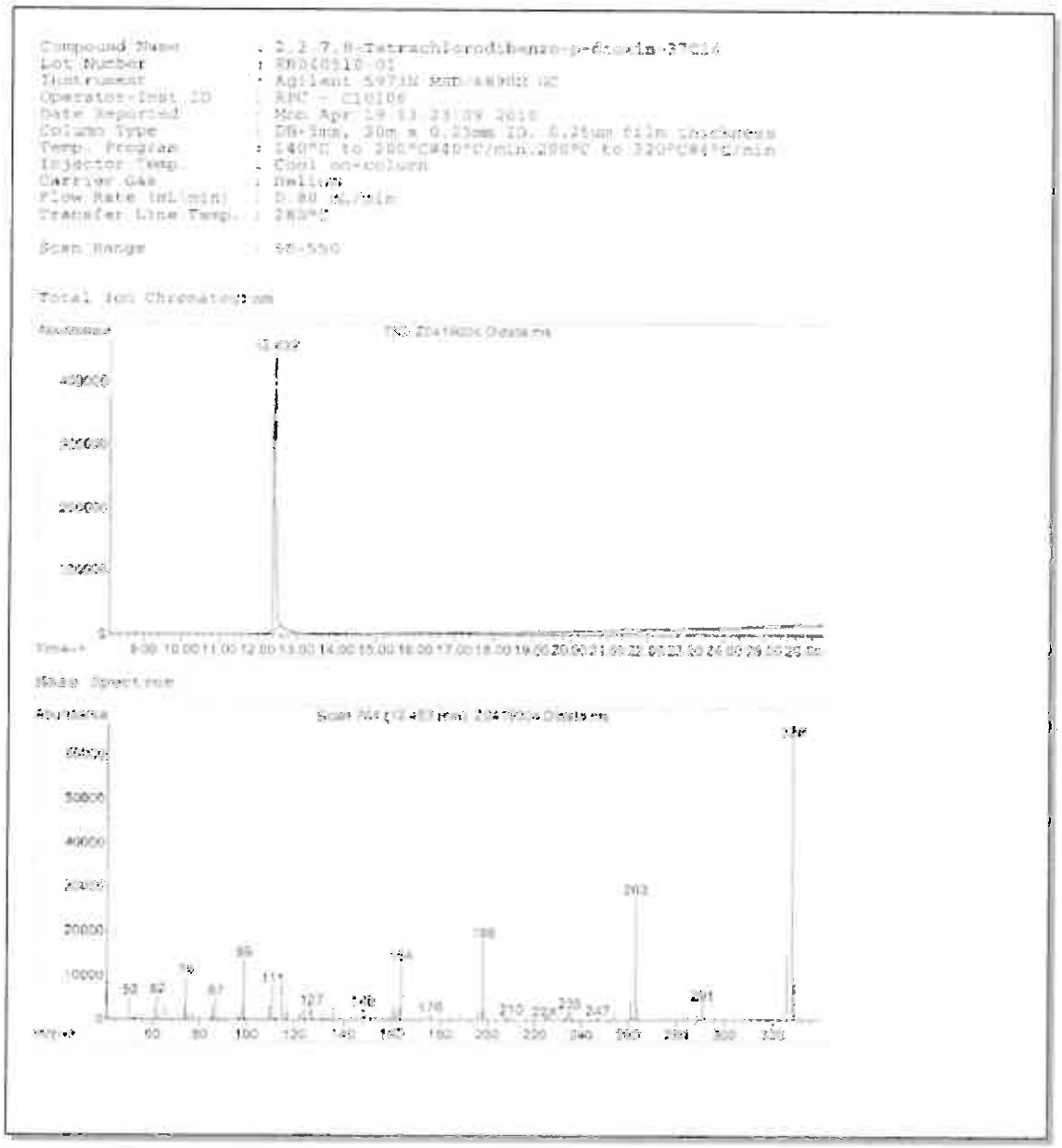

Reagent

HRDXNTA_00103

Rec: 1/31/19 SKV

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

EPA-1613PAR

U.S. EPA Method 1613 Native PCDD/PCDF
Precision and Recovery Stock Solution

PRODUCT CODE:	EPA-1613PAR
LOT NUMBER:	13PAR0418
SOLVENT(S):	Nonane/Toluene
DATE PREPARED: (mm/dd/yyyy)	04/11/2018
LAST TESTED: (mm/dd/yyyy)	04/12/2018
EXPIRY DATE: (mm/dd/yyyy)	03/01/2025
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION:

EPA-1613PAR is a solution/mixture of all the 2,3,7,8-substituted chlorinated dibenzo-p-dioxins (PCDDs) and 2,3,7,8-substituted dibenzofurans (PCDFs). The components and their concentrations are given in Table A.

EPA-1613PAR was designed for, and prepared to be used according to, U.S. EPA Method 1613 (Revision B).

The individual PCDDs and PCDFs all have chemical purities of >98%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: HRGC/HRMS Data (SIR; 10,000 mass resolving power)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Table A: **EPA-1613PAR; Components and Concentrations (ng/ml, ± 5% in nonane/ 2.4% toluene)**

	Concentration (ng/ml)
PCDDs:	
2,3,7,8-Tetrachlorodibenzo-p-dioxin	40
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	200
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	200
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	200
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	200
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	200
Octachlorodibenzo-p-dioxin	400
PCDFs:	
2,3,7,8-Tetrachlorodibenzofuran	40
1,2,3,7,8-Pentachlorodibenzofuran	200
2,3,4,7,8-Pentachlorodibenzofuran	200
1,2,3,4,7,8-Hexachlorodibenzofuran	200
1,2,3,6,7,8-Hexachlorodibenzofuran	200
1,2,3,7,8,9-Hexachlorodibenzofuran	200
2,3,4,6,7,8-Hexachlorodibenzofuran	200
1,2,3,4,6,7,8-Heptachlorodibenzofuran	200
1,2,3,4,7,8,9-Heptachlorodibenzofuran	200
Octachlorodibenzofuran	400

Certified By: _____ **Date:** 04/16/2018 (mm/dd/yyyy)

B.G. Chittim, General Manager

Figure 1: **EPA-1613PAR; HRGC/HRMS Data (60 m DB-5 Column)**

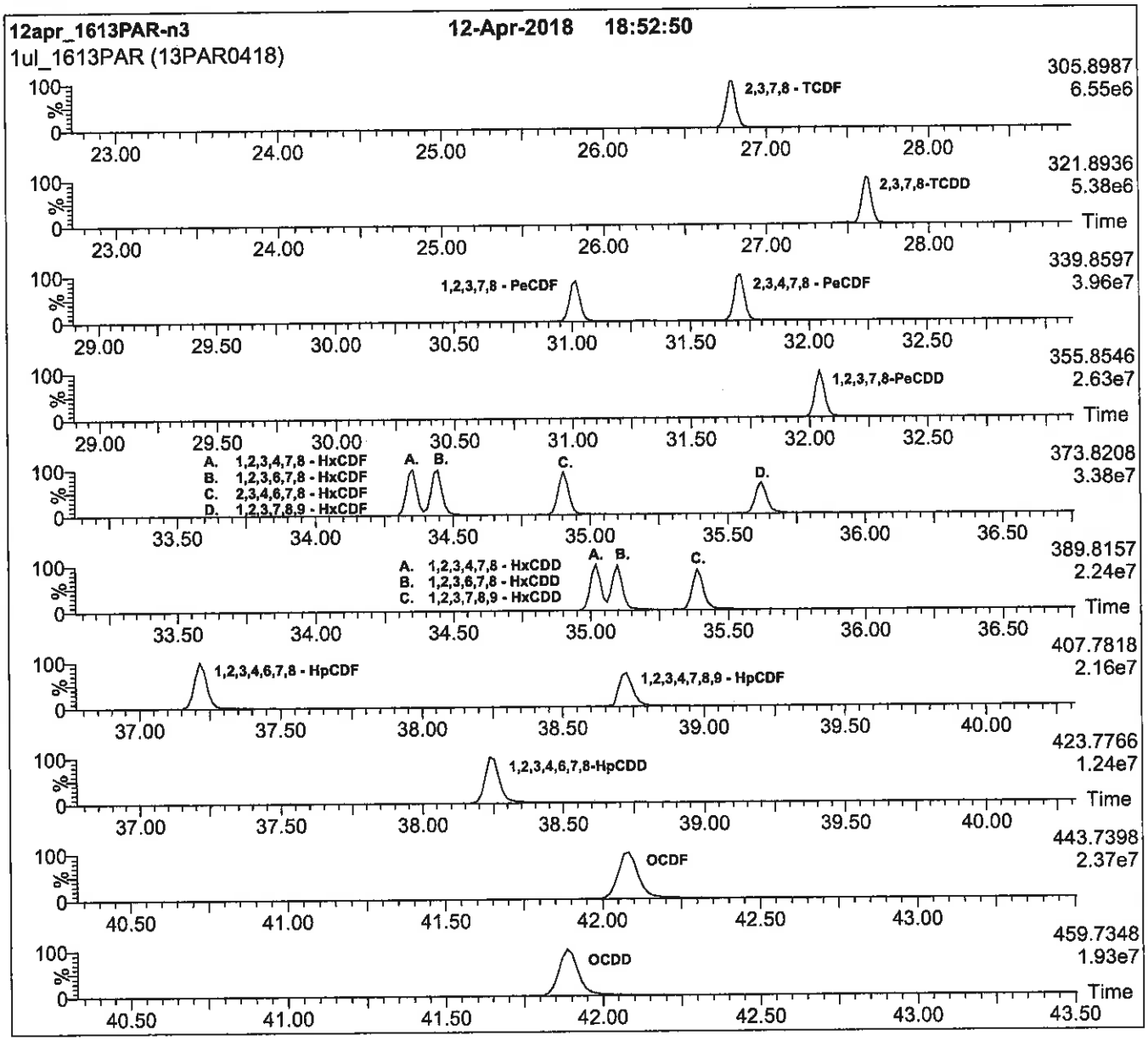

HRGC/HRMS:

Agilent 6890N (HRGC)
Autospec Ultima (HRMS)

Chromatographic Conditions:

Column: 60 m DB-5 (0.25 mm id, 0.25 µm film thickness) Agilent J&W

Flow:	Constant at 1 ml/min	Oven:	150 °C (1 min)
Injector:	280 °C (Splitless Injection)		12 °C/min to 200 °C
Ionization:	EI+		3 °C/min to 235 °C
Detector:	280 °C		235 °C (8 min)
	SIR at 10,000 mass resolving power		8 °C/min to 310 °C
			310 °C (8 min)

Reagent

HRDXNTA_00110

(3)

P: 4/30/16 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Method 1613 PAR Stock Solution

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number:	EDF-7999-10X
Solution Lot:	ER02241602
Expiration Date:	April 2026
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/ analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 volume We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration.

Component	Lot Number	CAS Number	Chemical Formula	Molecular Weight	Chromatographic Purity	Concentration
2,3,7,8-TeCDD	ER04271502	1746-01-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%	399.9 ± 4.0 ng/mL
2,3,7,8-TeCDF	ER101211-02	51207-31-9	$C_{12}H_4Cl_4O$	305.97	99.4%	399.9 ± 4.0 ng/mL
1,2,3,7,8-PeCDD	ER110909-02	40321-76-4	$C_{12}H_3Cl_5O_2$	356.42	99.2%	2000 ± 20 ng/mL
1,2,3,7,8-PeCDF	ER03121401	57117-41-6	$C_{12}H_3Cl_5O$	340.42	99.5%	1999 ± 20 ng/mL
2,3,4,7,8-PeCDF	ER070710-01	57117-31-4	$C_{12}H_3Cl_5O$	340.42	99.4%	1999 ± 20 ng/mL
1,2,3,4,7,8-HxCDD	ER080108-02	39227-28-6	$C_{12}H_2Cl_6O_2$	390.86	98.6%	2000 ± 20 ng/mL
1,2,3,6,7,8-HxCDD	ER03231501	57653-85-7	$C_{12}H_2Cl_6O_2$	390 86	99.6%	2000 ± 20 ng/mL
1,2,3,7,8,9-HxCDD	ER02041601	19408-74-3	$C_{12}H_2Cl_6O_2$	390 86	99.2%	2000 ± 20 ng/mL
1,2,3,4,7,8-HxCDF	ER021110-01	70648-26-9	$C_{12}H_2Cl_6O$	374.86	99 0%	2000 ± 20 ng/mL
1,2,3,6,7,8-HxCDF	ER04161501	57117-44-9	$C_{12}H_2Cl_6O$	374.86	99 8%	2000 ± 20 ng/mL
1,2,3,7,8,9-HxCDF	ER060107-01	72918-21-9	$C_{12}H_2Cl_6O$	374.86	97.5%	1999 ± 20 ng/mL
2,3,4,6,7,8-HxCDF	ER02041602	60851-34-5	$C_{12}H_2Cl_6O$	374 86	99.1%	2001 ± 20 ng/mL
1,2,3,4,6,7,8-HpCDD	ER01201504	35822-46-9	$C_{12}HCl_7O_2$	425.31	98.5%	1999 ± 20 ng/mL
1,2,3,4,6,7,8-HpCDF	ER02281403	67562-39-4	$C_{12}HCl_7O$	409.31	98.9%	1999 ± 20 ng/mL
1,2,3,4,7,8,9-HpCDF	ER01121503	55673-89-7	$C_{12}HCl_7O$	409.31	99.1%	1999 ± 20 ng/mL
OCDD	ER05221301	3268-87-9	$C_{12}Cl_8O_2$	459.75	99.9%	3999 ± 40 ng/mL
OCDF	ER040811-01	39001-02-0	$C_{12}Cl_8O$	443.75	98.9%	4000 ± 40 ng/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Stock solution concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

April 28, 2016
Date

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.

Standard Solution Assay Parameters

Analysis Method: GC/ECD
Column: DB-5ms, 30 m x 0.25 mm ID, 0 25 µm film thickness
Temp Program: 140°C to 200°C at 40°C/min 200°C to 300°C at 4°C/min hold 3 min
Injector Temp: Cool on-column
Detector Temp: 280°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 1

Solution Standard Verification and Homogeneity

Compound	Verified Concentration ng/mL	Acceptance Criteria	%RSD - Homogeneity %	Acceptance Criteria
2,3,7,8-TeCDD	397 1	± 10%	0.7	≤ 5%
2,3,7,8-TeCDF	386 6	± 10%	0.7	≤ 5%
1,2,3,7,8-PeCDD	1937	± 10%	0.8	≤ 5%
1,2,3,7,8-PeCDF	1919	± 10%	0.8	≤ 5%
2,3,4,7,8-PeCDF	1941	± 10%	0.8	≤ 5%
1,2,3,4,7,8-HxCDD	1932	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDD	1987	± 10%	0 8	≤ 5%
1,2,3,7,8,9-HxCDD	1943	± 10%	0 7	≤ 5%
1,2,3,4,7,8-HxCDF	1933	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDF	1909	± 10%	0.9	≤ 5%
1,2,3,7,8,9-HxCDF	1942	± 10%	0.7	≤ 5%
2,3,4,6,7,8-HxCDF	1950	± 10%	0.8	≤ 5%
1,2,3,4,6,7,8-HpCDD	1930	± 10%	0.9	≤ 5%
1,2,3,4,6,7,8-HpCDF	1919	± 10%	0.9	≤ 5%
1,2,3,4,7,8,9-HpCDF	1943	± 10%	1.0	≤ 5%
OCDD	3844	± 10%	1.0	≤ 5%
OCDF	3906	± 10%	0.9	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The %RSD of samples pulled from across the lot demonstrate homogeneity.
- Product is compared to prior lot and meets acceptance criteria of ± 10%.

Product Analysis

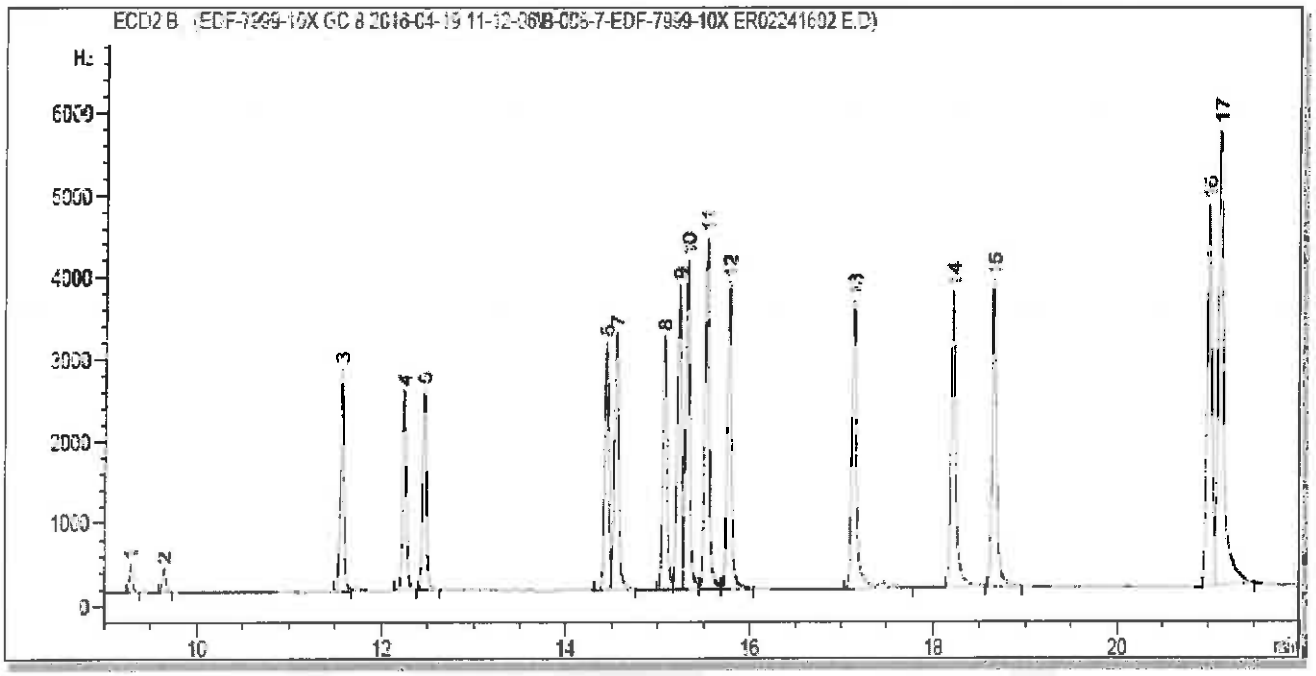

Peak:	Analyte:
1	2,3,7,8-Tetrachlorodibenzofuran
2	2,3,7,8-Tetrachloro-p-dioxin
3	1,2,3,7,8-Pentachlorodibenzofuran
4	2,3,4,7,8-Pentachlorodibenzofuran
5	1,2,3,7,8-Pentachlorodibenzo-p-dioxin
6	1,2,3,4,7,8-Hexachlorodibenzofuran
7	1,2,3,6,7,8-Hexachlorodibenzofuran
8	2,3,4,6,7,8-Hexachlorodibenzofuran
9	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin
10	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin
11	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin
12	1,2,3,7,8,9-Hexachlorodibenzofuran
13	1,2,3,4,6,7,8-Heptachlorodibenzofuran
14	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin
15	1,2,3,4,7,8,9-Heptachlorodibenzofuran
16	Octachlorodibenzo-p-dioxin
17	Octachlorodibenzofuran

COA Revision History

Revision No.	Date	Reason for Revision
00	April 28, 2016	Initial version

Method 1613B

Dioxins and Furans (HRGC/HRMS) by Method 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Matrix: Sediment Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCDF #	TCDD #	37TCDD #	PeCDF #	PeCF #	PeCDD #	HxCDF #	HxDF #
	LCS 320-354207/2-A	63	63	86	63	62	58	69	75
	LCSD 320-354207/3-A	61	59	84	61	53	58	56	63

	QC LIMITS
TCDF = 13C-2,3,7,8-TCDF	22-152
TCDD = 13C-2,3,7,8-TCDD	20-175
37TCDD = 37Cl4-2,3,7,8-TCDD	31-191
PeCDF = 13C-1,2,3,7,8-PeCDF	21-192
PeCF = 13C-2,3,4,7,8-PeCDF	13-328
PeCDD = 13C-1,2,3,7,8-PeCDD	21-227
HxCDF = 13C-1,2,3,4,7,8-HxCDF	19-202
HxDF = 13C-1,2,3,6,7,8-HxCDF	21-159

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Matrix: Sediment Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	13CHxCF #	HxCDD #	HxDD #	HxCF #	HpCDF #	HpCDD #	HpCDF2 #	OCDD #
	LCS 320-354207/2-A	73	62	72	71	64	62	65	62
	LCSD 320-354207/3-A	65	49	62	68	54	57	58	57

	QC LIMITS
13CHxCF = 13C-2,3,4,6,7,8-HxCDF	22-176
HxCDD = 13C-1,2,3,4,7,8-HxCDD	21-193
HxDD = 13C-1,2,3,6,7,8-HxCDD	25-163
HxCF = 13C-1,2,3,7,8,9-HxCDF	17-205
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF	21-158
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD	26-166
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF	20-186
OCDD = 13C-OCDD	13-199

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Matrix: Sediment Level: Low

GC Column (1): DB-225 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCDF #	37TCDD #
11187072-Eastern-Solids RA	320-58170-4 RA	70	88
11187072-Western-Solids RA	320-58170-6 RA	73	89

	QC LIMITS
TCDF = 13C-2,3,7,8-TCDF	24-169
37TCDD = 37Cl4-2,3,7,8-TCDD	35-197

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Matrix: Sediment Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCDF #	TCDD #	37TCDD #	PeCDF #	PeCF #	PeCDD #	HxCDF #	HxDF #
11187072-Berm-Solids	320-58170-2	71	70	90	68	67	65	70	79
11187072-Eastern-Solids	320-58170-4	69	68	90	67	62	63	66	76
11187072-Western-Solids	320-58170-6	74	73	88	73	61	68	70	76
	MB 320-354207/1-A	69	67	94	68	66	66	70	77

	QC LIMITS
TCDF = 13C-2,3,7,8-TCDF	24-169
TCDD = 13C-2,3,7,8-TCDD	25-164
37TCDD = 37Cl4-2,3,7,8-TCDD	35-197
PeCDF = 13C-1,2,3,7,8-PeCDF	24-185
PeCF = 13C-2,3,4,7,8-PeCDF	21-178
PeCDD = 13C-1,2,3,7,8-PeCDD	25-181
HxCDF = 13C-1,2,3,4,7,8-HxCDF	26-152
HxDF = 13C-1,2,3,6,7,8-HxCDF	26-123

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Matrix: Sediment Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	13CHxCF #	HxCDD #	HxDD #	HxCF #	HpCDF #	HpCDD #	HpCDF2 #	OCDD #
11187072-Berm-Solids	320-58170-2	78	65	74	76	66	66	68	63
11187072-Eastern-Solids	320-58170-4	75	61	72	75	60	64	66	62
11187072-Western-Solids	320-58170-6	80	59	74	83	66	70	73	70
	MB 320-354207/1-A	75	62	73	76	65	65	65	62

	QC LIMITS
13CHxCF = 13C-2,3,4,6,7,8-HxCDF	28-136
HxCDD = 13C-1,2,3,4,7,8-HxCDD	32-141
HxDD = 13C-1,2,3,6,7,8-HxCDD	28-130
HxCF = 13C-1,2,3,7,8,9-HxCDF	29-147
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF	28-143
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD	23-140
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF	26-138
OCDD = 13C-OCDD	17-157

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCDF #	TCDD #	37TCDD #	PeCDF #	PeCF #	PeCDD #	HxCDF #	HxDF #
	LCS 320-354177/2-A	65	65	91	62	59	62	61	68
	LCSD 320-354177/3-A	67	67	89	65	63	63	68	76

	QC LIMITS
TCDF = 13C-2,3,7,8-TCDF	22-152
TCDD = 13C-2,3,7,8-TCDD	20-175
37TCDD = 37Cl4-2,3,7,8-TCDD	31-191
PeCDF = 13C-1,2,3,7,8-PeCDF	21-192
PeCF = 13C-2,3,4,7,8-PeCDF	13-328
PeCDD = 13C-1,2,3,7,8-PeCDD	21-227
HxCDF = 13C-1,2,3,4,7,8-HxCDF	19-202
HxDF = 13C-1,2,3,6,7,8-HxCDF	21-159

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	13CHxCF #	HxCDD #	HxDD #	HxCF #	HpCDF #	HpCDD #	HpCDF2 #	OCDD #
	LCS 320-354177/2-A	70	55	68	68	59	58	58	51
	LCSD 320-354177/3-A	73	63	70	71	64	61	61	53

	QC LIMITS
13CHxCF = 13C-2,3,4,6,7,8-HxCDF	22-176
HxCDD = 13C-1,2,3,4,7,8-HxCDD	21-193
HxDD = 13C-1,2,3,6,7,8-HxCDD	25-163
HxCF = 13C-1,2,3,7,8,9-HxCDF	17-205
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF	21-158
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD	26-166
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF	20-186
OCDD = 13C-OCDD	13-199

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCDF #	TCDD #	37TCDD #	PeCDF #	PeCF #	PeCDD #	HxCDF #	HxDF #
11187072-Berm-GW	320-58170-1	70	69	87	67	67	65	73	79
11187072-Eastern-GW	320-58170-3	72	72	89	71	70	68	76	84
11187072-Western-GW	320-58170-5	69	70	83	67	66	63	72	77
	MB 320-354177/1-A	68	69	90	66	66	65	75	80

	QC LIMITS
TCDF = 13C-2,3,7,8-TCDF	24-169
TCDD = 13C-2,3,7,8-TCDD	25-164
37TCDD = 37Cl4-2,3,7,8-TCDD	35-197
PeCDF = 13C-1,2,3,7,8-PeCDF	24-185
PeCF = 13C-2,3,4,7,8-PeCDF	21-178
PeCDD = 13C-1,2,3,7,8-PeCDD	25-181
HxCDF = 13C-1,2,3,4,7,8-HxCDF	26-152
HxDF = 13C-1,2,3,6,7,8-HxCDF	26-123

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	13CHxCF #	HxCDD #	HxDD #	HxCF #	HpCDF #	HpCDD #	HpCDF2 #	OCDD #
11187072-Berm-GW	320-58170-1	76	65	80	72	67	65	64	53
11187072-Eastern-GW	320-58170-3	81	71	80	76	70	67	66	56
11187072-Western-GW	320-58170-5	74	63	77	70	65	62	60	53
	MB 320-354177/1-A	79	68	78	72	67	65	63	53

	QC LIMITS
13CHxCF = 13C-2,3,4,6,7,8-HxCDF	28-136
HxCDD = 13C-1,2,3,4,7,8-HxCDD	32-141
HxDD = 13C-1,2,3,6,7,8-HxCDD	28-130
HxCF = 13C-1,2,3,7,8,9-HxCDF	29-147
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF	28-143
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD	23-140
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF	26-138
OCDD = 13C-OCDD	17-157

Column to be used to flag recovery values

FORM II 1613B

FORM III
DIOXIN LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 05FE2010D5_5.d

Lab ID: LCS 320-354177/2-A Client ID:

COMPOUND	SPIKE ADDED (pg/L)	LCS CONCENTRATION (pg/L)	LCS % REC	QC LIMITS REC	#
2,3,7,8-TCDD	200	206	103	67-158	
2,3,7,8-TCDF	200	220	110	75-158	
1,2,3,7,8-PeCDD	1000	1060	106	70-142	
1,2,3,7,8-PeCDF	1000	1120	112	80-134	
2,3,4,7,8-PeCDF	1000	1140	114	68-160	
1,2,3,4,7,8-HxCDD	1000	1150	115	70-164	
1,2,3,6,7,8-HxCDD	1000	1060	106	76-134	
1,2,3,7,8,9-HxCDD	1000	1160	116	64-162	
1,2,3,4,7,8-HxCDF	1000	1100	110	72-134	
1,2,3,6,7,8-HxCDF	1000	1110	111	84-130	
1,2,3,7,8,9-HxCDF	1000	1110	111	78-130	
2,3,4,6,7,8-HxCDF	1000	1110	111	70-156	
1,2,3,4,6,7,8-HpCDD	1000	1070	107	70-140	
1,2,3,4,6,7,8-HpCDF	1000	1070	107	82-122	
1,2,3,4,7,8,9-HpCDF	1000	1080	108	78-138	
OCDD	2000	2050	102	78-144	
OCDF	2000	2020	101	63-170	
13C-2,3,7,8-TCDD	2000	1300	65	20-175	
13C-2,3,7,8-TCDF	2000	1300	65	22-152	
13C-1,2,3,7,8-PeCDD	2000	1240	62	21-227	
13C-1,2,3,7,8-PeCDF	2000	1250	62	21-192	
13C-2,3,4,7,8-PeCDF	2000	1170	59	13-328	
13C-1,2,3,4,7,8-HxCDD	2000	1110	55	21-193	
13C-1,2,3,6,7,8-HxCDD	2000	1360	68	25-163	
13C-1,2,3,4,7,8-HxCDF	2000	1220	61	19-202	
13C-1,2,3,6,7,8-HxCDF	2000	1350	68	21-159	
13C-1,2,3,7,8,9-HxCDF	2000	1350	68	17-205	
13C-2,3,4,6,7,8-HxCDF	2000	1400	70	22-176	
13C-1,2,3,4,6,7,8-HpCDD	2000	1160	58	26-166	
13C-1,2,3,4,6,7,8-HpCDF	2000	1170	59	21-158	
13C-1,2,3,4,7,8,9-HpCDF	2000	1160	58	20-186	
13C-OCDD	4000	2030	51	13-199	

Column to be used to flag recovery and RPD values

FORM III 1613B

FORM III
DIOXIN LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Matrix: Sediment Level: Low Lab File ID: 06FE2010D5_10.d

Lab ID: LCS 320-354207/2-A Client ID:

COMPOUND	SPIKE ADDED (pg/g)	LCS CONCENTRATION (pg/g)	LCS % REC	QC LIMITS REC	#
2,3,7,8-TCDD	20.0	20.7	103	67-158	
2,3,7,8-TCDF	20.0	21.7	109	75-158	
1,2,3,7,8-PeCDD	100	111	111	70-142	
1,2,3,7,8-PeCDF	100	113	113	80-134	
2,3,4,7,8-PeCDF	100	114	114	68-160	
1,2,3,4,7,8-HxCDD	100	110	110	70-164	
1,2,3,6,7,8-HxCDD	100	113	113	76-134	
1,2,3,7,8,9-HxCDD	100	109	109	64-162	
1,2,3,4,7,8-HxCDF	100	111	111	72-134	
1,2,3,6,7,8-HxCDF	100	110	110	84-130	
1,2,3,7,8,9-HxCDF	100	110	110	78-130	
2,3,4,6,7,8-HxCDF	100	109	109	70-156	
1,2,3,4,6,7,8-HpCDD	100	111	111	70-140	
1,2,3,4,6,7,8-HpCDF	100	110	110	82-122	
1,2,3,4,7,8,9-HpCDF	100	109	109	78-138	
OCDD	200	215	107	78-144	
OCDF	200	210	105	63-170	
13C-2,3,7,8-TCDD	200	127	63	20-175	
13C-2,3,7,8-TCDF	200	125	63	22-152	
13C-1,2,3,7,8-PeCDD	200	117	58	21-227	
13C-1,2,3,7,8-PeCDF	200	125	63	21-192	
13C-2,3,4,7,8-PeCDF	200	124	62	13-328	
13C-1,2,3,4,7,8-HxCDD	200	125	62	21-193	
13C-1,2,3,6,7,8-HxCDD	200	144	72	25-163	
13C-1,2,3,4,7,8-HxCDF	200	139	69	19-202	
13C-1,2,3,6,7,8-HxCDF	200	149	75	21-159	
13C-1,2,3,7,8,9-HxCDF	200	141	71	17-205	
13C-2,3,4,6,7,8-HxCDF	200	146	73	22-176	
13C-1,2,3,4,6,7,8-HpCDD	200	124	62	26-166	
13C-1,2,3,4,6,7,8-HpCDF	200	127	64	21-158	
13C-1,2,3,4,7,8,9-HpCDF	200	131	65	20-186	
13C-OCDD	400	250	62	13-199	

Column to be used to flag recovery and RPD values

FORM III 1613B

FORM III
DIOXIN LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 05FE2010D5_6.d

Lab ID: LCSD 320-354177/3-A Client ID:

COMPOUND	SPIKE ADDED (pg/L)	LCSD CONCENTRATION (pg/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
2,3,7,8-TCDD	200	220	110	7	50	67-158	
2,3,7,8-TCDF	200	228	114	4	50	75-158	
1,2,3,7,8-PeCDD	1000	1110	111	5	50	70-142	
1,2,3,7,8-PeCDF	1000	1130	113	1	50	80-134	
2,3,4,7,8-PeCDF	1000	1150	115	1	50	68-160	
1,2,3,4,7,8-HxCDD	1000	1100	110	5	50	70-164	
1,2,3,6,7,8-HxCDD	1000	1160	116	9	50	76-134	
1,2,3,7,8,9-HxCDD	1000	1140	114	2	50	64-162	
1,2,3,4,7,8-HxCDF	1000	1130	113	2	50	72-134	
1,2,3,6,7,8-HxCDF	1000	1110	111	0	50	84-130	
1,2,3,7,8,9-HxCDF	1000	1120	112	1	50	78-130	
2,3,4,6,7,8-HxCDF	1000	1120	112	2	50	70-156	
1,2,3,4,6,7,8-HpCDD	1000	1090	109	2	50	70-140	
1,2,3,4,6,7,8-HpCDF	1000	1090	109	2	50	82-122	
1,2,3,4,7,8,9-HpCDF	1000	1090	109	1	50	78-138	
OCDD	2000	2160	108	5	50	78-144	
OCDF	2000	2140	107	5	50	63-170	
13C-2,3,7,8-TCDD	2000	1330	67			20-175	
13C-2,3,7,8-TCDF	2000	1330	67			22-152	
13C-1,2,3,7,8-PeCDD	2000	1260	63			21-227	
13C-1,2,3,7,8-PeCDF	2000	1300	65			21-192	
13C-2,3,4,7,8-PeCDF	2000	1260	63			13-328	
13C-1,2,3,4,7,8-HxCDD	2000	1270	63			21-193	
13C-1,2,3,6,7,8-HxCDD	2000	1410	70			25-163	
13C-1,2,3,4,7,8-HxCDF	2000	1350	68			19-202	
13C-1,2,3,6,7,8-HxCDF	2000	1520	76			21-159	
13C-1,2,3,7,8,9-HxCDF	2000	1420	71			17-205	
13C-2,3,4,6,7,8-HxCDF	2000	1470	73			22-176	
13C-1,2,3,4,6,7,8-HpCDD	2000	1230	61			26-166	
13C-1,2,3,4,6,7,8-HpCDF	2000	1280	64			21-158	
13C-1,2,3,4,7,8,9-HpCDF	2000	1220	61			20-186	
13C-OCDD	4000	2110	53			13-199	

Column to be used to flag recovery and RPD values

FORM III 1613B

FORM III
DIOXIN LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Matrix: Sediment Level: Low Lab File ID: 06FE2010D5_11.d

Lab ID: LCSD 320-354207/3-A Client ID:

COMPOUND	SPIKE ADDED (pg/g)	LCSD CONCENTRATION (pg/g)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
2,3,7,8-TCDD	20.0	20.9	104	1	50	67-158	
2,3,7,8-TCDF	20.0	22.1	110	2	50	75-158	
1,2,3,7,8-PeCDD	100	108	108	3	50	70-142	
1,2,3,7,8-PeCDF	100	112	112	1	50	80-134	
2,3,4,7,8-PeCDF	100	114	114	0	50	68-160	
1,2,3,4,7,8-HxCDD	100	119	119	7	50	70-164	
1,2,3,6,7,8-HxCDD	100	106	106	6	50	76-134	
1,2,3,7,8,9-HxCDD	100	127	127	15	50	64-162	
1,2,3,4,7,8-HxCDF	100	107	107	3	50	72-134	
1,2,3,6,7,8-HxCDF	100	110	110	0	50	84-130	
1,2,3,7,8,9-HxCDF	100	109	109	1	50	78-130	
2,3,4,6,7,8-HxCDF	100	110	110	1	50	70-156	
1,2,3,4,6,7,8-HpCDD	100	110	110	1	50	70-140	
1,2,3,4,6,7,8-HpCDF	100	109	109	1	50	82-122	
1,2,3,4,7,8,9-HpCDF	100	111	111	2	50	78-138	
OCDD	200	214	107	1	50	78-144	
OCDF	200	212	106	1	50	63-170	
13C-2,3,7,8-TCDD	200	117	59			20-175	
13C-2,3,7,8-TCDF	200	122	61			22-152	
13C-1,2,3,7,8-PeCDD	200	115	58			21-227	
13C-1,2,3,7,8-PeCDF	200	121	61			21-192	
13C-2,3,4,7,8-PeCDF	200	106	53			13-328	
13C-1,2,3,4,7,8-HxCDD	200	97.2	49			21-193	
13C-1,2,3,6,7,8-HxCDD	200	123	62			25-163	
13C-1,2,3,4,7,8-HxCDF	200	113	56			19-202	
13C-1,2,3,6,7,8-HxCDF	200	126	63			21-159	
13C-1,2,3,7,8,9-HxCDF	200	135	68			17-205	
13C-2,3,4,6,7,8-HxCDF	200	131	65			22-176	
13C-1,2,3,4,6,7,8-HpCDD	200	114	57			26-166	
13C-1,2,3,4,6,7,8-HpCDF	200	108	54			21-158	
13C-1,2,3,4,7,8,9-HpCDF	200	117	58			20-186	
13C-OCDD	400	227	57			13-199	

Column to be used to flag recovery and RPD values

FORM III 1613B

FORM IV
DIOXIN METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Lab File ID: 05FE2010D5_4.d Lab Sample ID: MB 320-354177/1-A

Matrix: Water Date Extracted: 01/31/2020 07:47

Instrument ID: 10D5 Date Analyzed: 02/05/2020 17:50

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 320-354177/2-A	05FE2010D5_5.d	02/05/2020 18:36
	LCSD 320-354177/3-A	05FE2010D5_6.d	02/05/2020 19:22
11187072-Berm-GW	320-58170-1	05FE2010D5_7.d	02/05/2020 20:08
11187072-Eastern-GW	320-58170-3	05FE2010D5_8.d	02/05/2020 20:54
11187072-Western-GW	320-58170-5	05FE2010D5_9.d	02/05/2020 21:40

FORM IV
DIOXIN METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Lab File ID: 06FE2010D5_9.d Lab Sample ID: MB 320-354207/1-A

Matrix: Sediment Date Extracted: 01/31/2020 09:04

Instrument ID: 10D5 Date Analyzed: 02/06/2020 16:56

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 320-354207/2-A	06FE2010D5_10.d	02/06/2020 17:42
	LCSD 320-354207/3-A	06FE2010D5_11.d	02/06/2020 18:28
11187072-Berm-Solids	320-58170-2	06FE2010D5_12.d	02/06/2020 19:14
11187072-Eastern-Solids	320-58170-4	06FE2010D5_13.d	02/06/2020 20:00
11187072-Western-Solids	320-58170-6	06FE2010D5_14.d	02/06/2020 20:46
11187072-Eastern-Solids RA	320-58170-4 RA	07FE2011D2_006.d	02/07/2020 16:49
11187072-Western-Solids RA	320-58170-6 RA	07FE2011D2_007.d	02/07/2020 17:27

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Client Sample ID: 11187072-Berm-GW Lab Sample ID: 320-58170-1

Matrix: Water Lab File ID: 05FE2010D5_7.d

Analysis Method: 1613B Date Collected: 01/29/2020 13:30

Extract. Method: 1613B Date Extracted: 01/31/2020 07:47

Sample wt/vol: 1038(mL) Date Analyzed: 02/05/2020 20:08

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 355322 Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		9.6	0.60
51207-31-9	2,3,7,8-TCDF	ND		9.6	0.28
40321-76-4	1,2,3,7,8-PeCDD	1.1	J q B	48	0.53
57117-41-6	1,2,3,7,8-PeCDF	ND		48	0.46
57117-31-4	2,3,4,7,8-PeCDF	ND		48	0.51
39227-28-6	1,2,3,4,7,8-HxCDD	2.9	J q B	48	0.50
57653-85-7	1,2,3,6,7,8-HxCDD	ND		48	0.48
19408-74-3	1,2,3,7,8,9-HxCDD	2.1	J q B	48	0.44
70648-26-9	1,2,3,4,7,8-HxCDF	1.2	J B	48	0.95
57117-44-9	1,2,3,6,7,8-HxCDF	1.2	J B	48	0.80
72918-21-9	1,2,3,7,8,9-HxCDF	2.7	J B	48	0.63
60851-34-5	2,3,4,6,7,8-HxCDF	1.7	J B	48	0.58
35822-46-9	1,2,3,4,6,7,8-HpCDD	8.7	J q B	48	0.82
67562-39-4	1,2,3,4,6,7,8-HpCDF	7.4	J B	48	0.63
55673-89-7	1,2,3,4,7,8,9-HpCDF	2.6	J q B	48	1.0
3268-87-9	OCDD	83	J B	96	1.2
39001-02-0	OCDF	21	J B	96	0.99
41903-57-5	Total TCDD	ND		9.6	0.60
30402-14-3	Total TCDF	ND		9.6	0.28
36088-22-9	Total PeCDD	1.1	J q B	48	0.53
30402-15-4	Total PeCDF	ND		48	0.51
34465-46-8	Total HxCDD	5.0	J q B	48	0.47
55684-94-1	Total HxCDF	6.8	J B	48	0.74
37871-00-4	Total HpCDD	15	J q B	48	0.82
38998-75-3	Total HpCDF	13	J q B	48	0.83

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Client Sample ID: 11187072-Berm-GW Lab Sample ID: 320-58170-1

Matrix: Water Lab File ID: 05FE2010D5_7.d

Analysis Method: 1613B Date Collected: 01/29/2020 13:30

Extract. Method: 1613B Date Extracted: 01/31/2020 07:47

Sample wt/vol: 1038(mL) Date Analyzed: 02/05/2020 20:08

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 355322 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	69		25-164
89059-46-1	13C-2,3,7,8-TCDF	70		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	65		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	67		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	67		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	65		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	80		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	73		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	79		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	72		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	76		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	65		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	67		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	64		26-138
114423-97-1	13C-OCDD	53		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	87		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_7.d
Lims ID: 320-58170-A-1-A
Client ID: 11187072-Berm-GW
Sample Type: Client
Inject. Date: 05-Feb-2020 20:08:05 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-58170-A-1-A 320-58170-A-1-A
Misc. Info.: 05FE2010D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 07-Feb-2020 14:32:39 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: dadunj Date: 07-Feb-2020 14:32:39

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.333	60086130	0.80	5.4E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.849	47618530	0.74	1.1275	70.3	70.3	0.2309	0.2309	70.29	
2,3,7,8-TCDF	16.864						0.0146	0.0146		
A Non-2,3,7,8-sub-TCDF	16.569						0.0146	0.0146		
S Total TCDF							0.0146	0.0146		
D 13C-2,3,7,8-TCDD	17.529	37648189	0.80	0.9032	69.4	69.4	0.2190	0.2190	69.37	
2,3,7,8-TCDD	17.544						0.0312	0.0312		
$ 37Cl4-2,3,7,8-TCDD	17.544	20321143		0.9673	35.0	35.0	0.0596	0.0596	87.41	
A Non-2,3,7,8-sub-TCDD	17.000						0.0312	0.0312		
S Total TCDD							0.0312	0.0312		
D 13C-1,2,3,7,8-PeCDF	21.639	38913627	1.55	0.9615	67.4	67.4	0.3027	0.3027	67.36	
1,2,3,7,8-PeCDF	21.667						0.0236	0.0236		
D 13C-2,3,4,7,8-PeCDF	22.921	41885385	1.56	1.0393	67.1	67.1	0.2800	0.2800	67.07	
2,3,4,7,8-PeCDF	22.948						0.0266	0.0266		
A F1 PeCDFs	19.329						0.0242	0.0242		
A Non-2,3,7,8-sub-PeCDF	22.336						0.0250	0.0250		
S Total PeCDF							0.0266	0.0266		
D 13C-1,2,3,7,8-PeCDD	23.617	27261606	1.60	0.6938	65.4	65.4	0.1337	0.1337	65.40	
1,2,3,7,8-PeCDD	23.630	14967	1.55	0.9961	0.0601	0.0551	0.0276	0.0276		RQM
A Non-2,3,7,8-sub-PeCDD	22.580						0.0276	0.0276		
S Total PeCDD					0.0601	0.0551	0.0276	0.0276		RQ
D 13C-1,2,3,4,7,8-HxCDF	29.762	29556637	0.49	0.8543	72.8	72.8	0.5133	0.5133	72.78	
1,2,3,4,7,8-HxCDF	29.775	14989	1.05	0.7916	0.0641	0.0641	0.0491	0.0491		Ma
D 13C-1,2,3,6,7,8-HxCDF	29.988	31414496	0.49	0.8361	79.0	79.0	0.5245	0.5245	79.03	
1,2,3,6,7,8-HxCDF	30.041	17422	1.26	0.8638	0.0642	0.0642	0.0417	0.0417		Ma
D 13C-2,3,4,6,7,8-HxCDF	31.026	28107191	0.49	0.7773	76.1	76.1	0.5641	0.5641	76.06	
2,3,4,6,7,8-HxCDF	31.053	21979	1.09	0.9010	0.0868	0.0868	0.0303	0.0303		
D 13C-1,2,3,7,8,9-HxCDF	31.944	24472105	0.50	0.7167	71.8	71.8	0.6118	0.6118	71.82	
1,2,3,7,8,9-HxCDF	31.985	31294	1.16	0.9127	0.1401	0.1401	0.0329	0.0329		
A Non-2,3,7,8-sub-HxCDF	29.529						0.0374	0.0374		
S Total HxCDF					0.3552	0.3552	0.0385	0.0385		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.745	47541359	1.22	4.4E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.253	24926560	1.24	0.8050	65.1	65.1	0.3702	0.3702	65.13	
1,2,3,4,7,8-HxCDD	31.279	31305	1.24	0.8392	0.1649	0.1497	0.0259	0.0259		RQM
D 13C-1,2,3,6,7,8-HxCDD	31.372	31485678	1.25	0.8269	80.1	80.1	0.3604	0.3604	80.09	
1,2,3,6,7,8-HxCDD	31.279						0.0247	0.0247		RQMU
1,2,3,7,8,9-HxCDD	31.771	28978	1.24	0.9567	0.1185	0.1074	0.0228	0.0228		RQM
A Non-2,3,7,8-sub-HxCDD	30.108						0.0244	0.0244		U
S Total HxCDD					0.2834	0.2570	0.0245	0.0245		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	33.471	22654666	0.42	0.7080	67.3	67.3	1.464	1.464	67.30	
1,2,3,4,6,7,8-HpCDF	33.471	116440	1.05	1.3375	0.3843	0.3843	0.0324	0.0324		M
D 13C-1,2,3,4,7,8,9-HpCDF	34.540	22522365	0.43	0.7451	63.6	63.6	1.392	1.392	63.58	
1,2,3,4,7,8,9-HpCDF	34.577	33085	1.04	1.0744	0.1549	0.1367	0.0542	0.0542		RQM
A Non-2,3,7,8-sub-HpCDF	34.018	46021	1.00	1.2059	0.1689	0.1689	0.0412	0.1689		Ma
S Total HpCDF					0.7082	0.6900	0.0433	0.0433		RQ
D 13C-1,2,3,4,6,7,8-HpCDD	34.249	23142113	1.06	0.7473	65.1	65.1	0.5142	0.5142	65.13	
1,2,3,4,6,7,8-HpCDD	34.261	102160	1.04	0.9811	0.4940	0.4499	0.0427	0.0427		RQM
A Non-2,3,7,8-sub-HpCDD	33.988	71415	1.03	0.9811	0.3145	0.3145	0.0427	0.3145		M
S Total HpCDD					0.8086	0.7645	0.0427	0.0427		RQ
D 13C-OCDD	36.552	33615002	0.87	0.6622	106.8	106.8	0.1209	0.1209	53.39	
OCDF	36.648	199235	0.84	1.0659	1.112	1.112	0.0514	0.0514		
OCDD	36.564	715678	0.78	0.9937	4.285	4.285	0.0615	0.0615		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_7.d
Lims ID: 320-58170-A-1-A
Client ID: 11187072-Berm-GW
Sample Type: Client
Inject. Date: 05-Feb-2020 20:08:05 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-58170-A-1-A 320-58170-A-1-A
Misc. Info.: 05FE2010D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 07-Feb-2020 14:32:39 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: dadunj Date: 07-Feb-2020 14:32:39

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.333	17.333	0		26681671	6777500	5684	14210	1192		
333.9339	17.333	17.333	0		33404459	8317714	6258	15645	1329	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.849	16.849	0	0.972	20282321	4609467	7372	18430	625		
317.9389	16.849	16.849	0	0.972	27336209	6156081	8351	20877	737	0.74(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.864						190	475			
305.8987	16.864						294	735			
A Non-2,3,7,8-sub-TCDF											
303.9016	16.569						190	475			
305.8987	16.569						294	735			
13C-2,3,7,8-TCDD											
331.9368	17.529	17.529	0	1.011	16723217	3681276	5684	14210	648		
333.9339	17.529	17.529	0	1.011	20924972	4522529	6258	15645	723	0.80(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.544						636	1590			
321.8936	17.544						346	865			
37Cl4-2,3,7,8-TCDD											
327.8847	17.544	17.544	0	1.012	20321143	4443684	3480	8700	1277		
A Non-2,3,7,8-sub-TCDD											
319.8965	17.000						636	1590			
321.8936	17.000						346	865			
13C-1,2,3,7,8-PeCDF											
351.9000	21.639	21.639	0	1.248	23637334	3670004	10492	26230	350		
353.8970	21.639	21.639	0	1.248	15276293	2417403	7080	17700	341	1.55(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	21.667						186	465			
341.8567	21.667						331	827			
13C-2,3,4,7,8-PeCDF											
351.9000	22.921	22.921	0	1.322	25544181	3658230	10492	26230	349		
353.8970	22.921	22.921	0	1.322	16341204	2339679	7080	17700	330	1.56(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.948						186	465			
341.8567	22.948						331	827			
A F1 PeCDFs											
339.8597	19.329						183	457			
341.8567	19.329						316	790			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.336						186	465			
341.8567	22.336						331	827			
13C-1,2,3,7,8-PeCDD											
367.8949	23.617	23.617	0	1.363	16760798	2247672	3788	9470	593		
369.8919	23.617	23.617	0	1.363	10500808	1410640	1812	4530	778	1.60(1.32-1.78)	
1,2,3,7,8-PeCDD											RQM
355.8546	23.630	23.644	-1	1.001	9098	1505	262	655	6		M
357.8516	23.617	23.644	-2	1.000	7230	1422	141	352	10	1.26(1.32-1.78)	
	Empc Correction				5869	970	141	352	7		
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.580						262	655			
357.8516	22.580						141	352			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.762	29.748	1	0.938	9770355	1148477	5214	13035	220		
385.8610	29.748	29.748	0	0.937	19786282	2303429	10694	26735	215	0.49(0.43-0.59)	
1,2,3,4,7,8-HxCDF											Ma
373.8208	29.775	29.761	1	1.000	7664	1253	279	697	4		M
375.8178	29.762	29.761	0	1.000	7325	1074	258	645	4	1.05(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.988	29.988	0	0.945	10357442	1222383	5214	13035	234		
385.8610	30.001	29.988	1	0.945	21057054	2505356	10694	26735	234	0.49(0.43-0.59)	
1,2,3,6,7,8-HxCDF											Ma
373.8208	30.041	30.028	1	1.002	9728	1379	279	697	5		M
375.8178	30.015	30.028	-1	1.001	7694	1192	258	645	5	1.26(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.026	31.026	0	0.977	9194373	1622523	5214	13035	311		
385.8610	31.026	31.026	0	0.977	18912818	3301004	10694	26735	309	0.49(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.053	31.053	0	1.001	11485	1963	279	697	7		
375.8178	31.053	31.053	0	1.001	10494	1895	258	645	7	1.09(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.944	31.944	0	1.006	8124637	1499424	5214	13035	288		
385.8610	31.944	31.944	0	1.006	16347468	2966826	10694	26735	277	0.50(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	31.985	31.958	2	1.001	16778	2581	279	697	9		
375.8178	31.971	31.958	1	1.001	14516	2392	258	645	9	1.16(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.529						279	697			
375.8178	29.529						258	645			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.745	31.745	0		26174189	5036136	5791	14477	870		
403.8529	31.745	31.745	0		21367170	4033476	5022	12555	803	1.22(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.253	31.252	0	0.984	13814302	3102209	5791	14477	536		
403.8529	31.253	31.252	0	0.984	11112258	2467802	5022	12555	491	1.24(1.05-1.43)	
1,2,3,4,7,8-HxCDD											RQM
389.8157	31.279	31.265	1	1.001	17330	3388	228	570	15		M
391.8127	31.266	31.265	0	1.000	17163	3780	256	640	15	1.01(1.05-1.43)	M
	Empc Correction				13975	2732	256	640	11		
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.372	31.372	0	0.988	17479698	3093477	5791	14477	534		
403.8529	31.372	31.372	0	0.988	14005980	2431399	5022	12555	484	1.25(1.05-1.43)	
1,2,3,6,7,8-HxCDD											RQMU
389.8157	31.385						228	570			
391.8127	31.385						256	640			
1,2,3,7,8,9-HxCDD											RQM
389.8157	31.771	31.758	1	1.017	19040	3153	228	570	14		M
	Empc Correction				16041	2631	228	570	12		
391.8127	31.758	31.758	0	1.016	12937	2122	256	640	8	1.47(1.05-1.43)	M
A Non-2,3,7,8-sub-HxCDD											U
389.8157	30.108						228	570			
391.8127	30.108						256	640			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.471	33.471	0	1.054	6753725	1636660	12185	30462	134		
419.8220	33.471	33.471	0	1.054	15900941	3783556	25429	63572	149	0.42(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											M
407.7818	33.471	33.483	-1	1.000	59561	13936	581	1452	24		M
409.7789	33.483	33.483	0	1.000	56879	13342	360	900	37	1.05(0.88-1.20)	M
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.540	34.540	0	1.088	6730180	1203488	12185	30462	99		
419.8220	34.540	34.540	0	1.088	15792185	2835893	25429	63572	112	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											RQM
407.7818	34.577	34.540	2	1.001	16867	3125	581	1452	5		M
409.7789	34.553	34.540	1	1.000	20623	3695	360	900	10	0.82(0.88-1.20)	M
	Empc Correction				16218	3004	360	900	8		
A Non-2,3,7,8-sub-HpCDF											Ma
407.7818	33.775	34.018	-15	1.009	23000	5012	581	1452	9		M
409.7789	33.775	34.018	-15	1.009	23021	4654	360	900	13	1.00(0.88-1.20)	

Report Date: 07-Feb-2020 14:32:46 Chrom Revision: 2.3 14-Jan-2020 22:23:42
Data File: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_7.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.249	34.249	0	1.079	11907432	2378940	6904	17260	345		
437.8140	34.249	34.249	0	1.079	11234681	2263493	7037	17592	322	1.06(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											RQM
423.7766	34.261	34.261	0	1.000	52082	10011	366	915	27		
425.7737	34.261	34.261	0	1.000	60090	11270	413	1032	27	0.87(0.88-1.20)	M
	Empc Correction				50078	9625	413	1032	23		
A Non-2,3,7,8-sub-HpCDD											M
423.7766	33.714	33.988	-16	0.984	36188	7375	366	915	20		M
425.7737	33.726	33.988	-16	0.985	35227	7727	413	1032	19	1.03(0.88-1.20)	
13C-OCDD											
469.7779	36.552	36.540	1	1.151	15652892	2584142	1547	3867	1670		
471.7750	36.552	36.540	1	1.151	17962110	2931854	1358	3395	2159	0.87(0.76-1.02)	
OCDF											
441.7428	36.648	36.636	1	1.003	90760	11708	241	602	49		
443.7399	36.648	36.636	1	1.003	108475	15130	364	910	42	0.84(0.76-1.02)	
OCDD											
457.7377	36.564	36.552	1	1.000	314599	47600	304	760	157		
459.7348	36.552	36.552	0	1.000	401079	60584	370	925	164	0.78(0.76-1.02)	

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_7.d
Lims ID: 320-58170-A-1-A
Client ID: 11187072-Berm-GW
Inject. Date: 05-Feb-2020 20:08:05 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 355322 Lims Sample ID: 7

Non-2,3,7,8-sub-HxCDD, RT: 30.108

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.839	D 13C-1,2,3,4,7,8-HxCDD	100.000	24926560	5570011
1,2,3,6,7,8-HxCDD	0.888	D 13C-1,2,3,6,7,8-HxCDD	100.000	31485678	5524876
1,2,3,7,8,9-HxCDD	0.957				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.894		100.000	28206119	5547443

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags

Compound is Marked ND

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_7.d
Lims ID: 320-58170-A-1-A
Client ID: 11187072-Berm-GW
Inject. Date: 05-Feb-2020 20:08:05 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 355322 Lims Sample ID: 7

Non-2,3,7,8-sub-HpCDF, RT: 34.018

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.337	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	22654666	5420216
1,2,3,4,7,8,9-HpCDF	1.074	D 13C-1,2,3,4,7,8,9-HpCDF	100.000	22522365	4039381

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.206		100.000	22588515	4729798

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
33.775	23000	5012	23021	4654	0.1689	1.00	Ma
Signal Totals:							
	23000	5012	23021	4654			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	46021	9666				1.00	Ma

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.1689 = (46021 * 100.000) / (22588515 * 1.206)

QC Flag Legend

Review Flags
M - Manually Integrated
a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_7.d
Lims ID: 320-58170-A-1-A
Client ID: 11187072-Berm-GW
Inject. Date: 05-Feb-2020 20:08:05 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 355322 Lims Sample ID: 7

Non-2,3,7,8-sub-HpCDD, RT: 33.988

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.981	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	23142113	4642433

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.981		100.000	23142113	4642433

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
33.714	36188	7375	35227	7727	0.3145	1.03	M
Signal Totals:							
	36188	7375	35227	7727			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	71415	15102				1.03	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.3145 = (71415 * 100.000) / (23142113 * 0.981)

QC Flag Legend

Review Flags
M - Manually Integrated

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_7.d				
Injection Date:	05-Feb-2020 20:08:05	Instrument ID:	10D5		
Lims ID:	320-58170-A-1-A	Lab Sample ID:	320-58170-1		
Client ID:	11187072-Berm-GW				
Operator ID:	AJS	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

1,2,3,7,8-PeCDD, CAS: 40321-76-4

Signal: 1

Processing Integration Results

RT: 23.63
Area: 10566
Amount: 0.065536
Amount Units: pg/ul

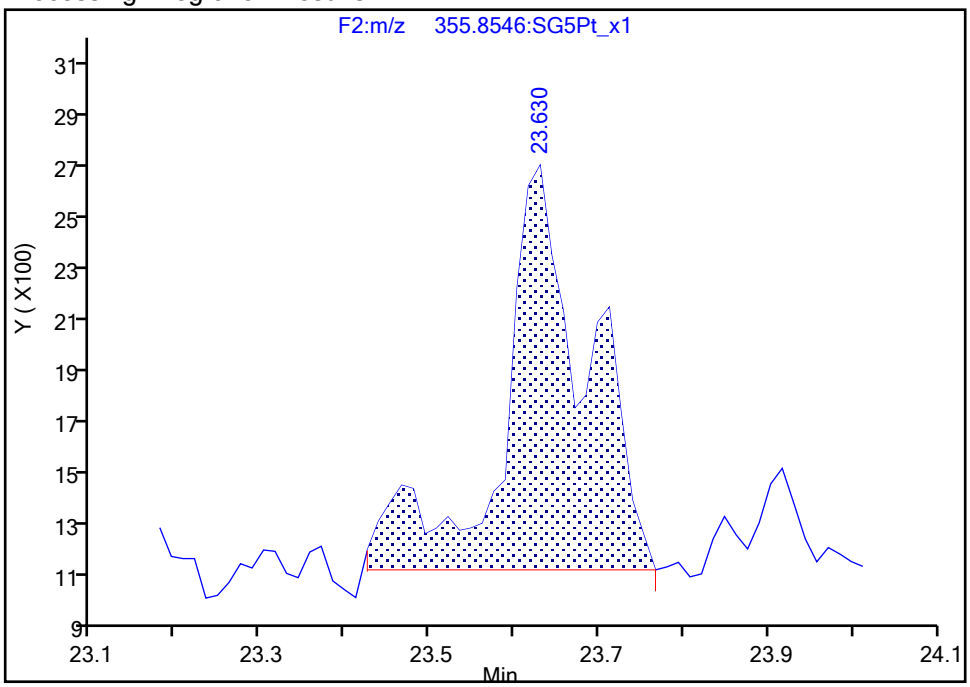

Manual Integration Results

RT: 23.63
Area: 9098
Amount: 0.060130
Amount Units: pg/ul

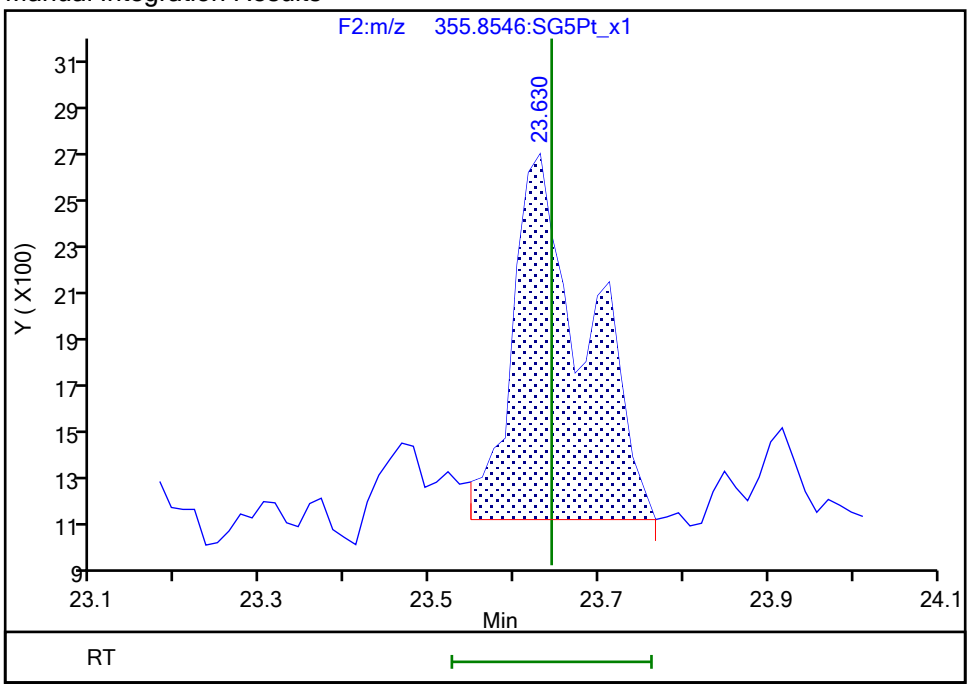

Reviewer: dadunj, 07-Feb-2020 14:29:29

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_7.d				
Injection Date:	05-Feb-2020 20:08:05	Instrument ID:	10D5		
Lims ID:	320-58170-A-1-A	Lab Sample ID:	320-58170-1		
Client ID:	11187072-Berm-GW				
Operator ID:	AJS	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDF, CAS: 70648-26-9

Signal: 1

Not Detected
Expected RT: 29.76

Processing Integration Results

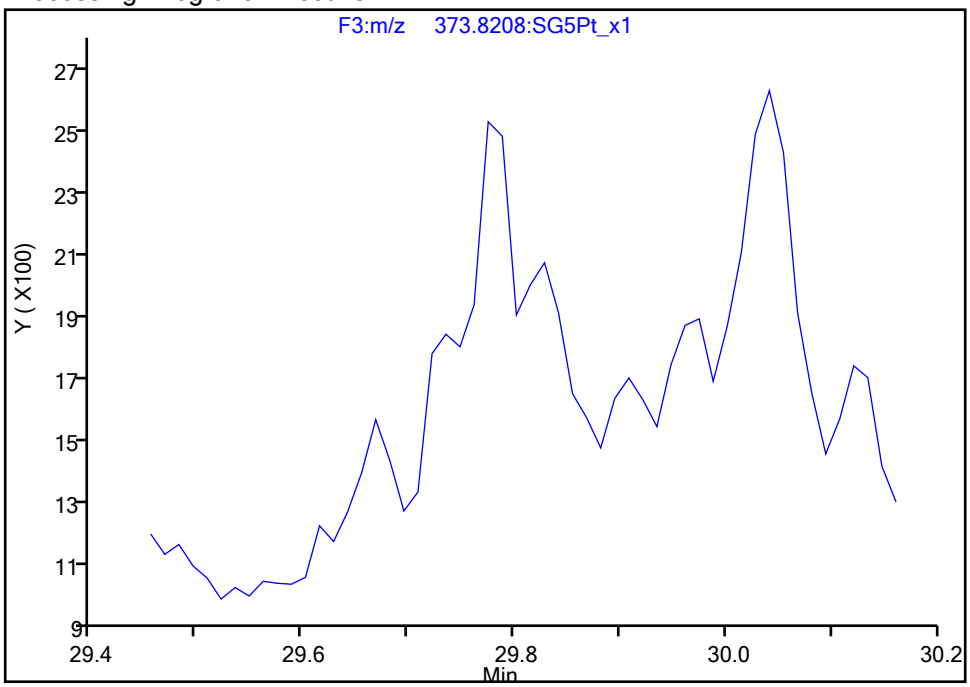

Manual Integration Results

RT: 29.77
Area: 7664
Amount: 0.064065
Amount Units: pg/ul

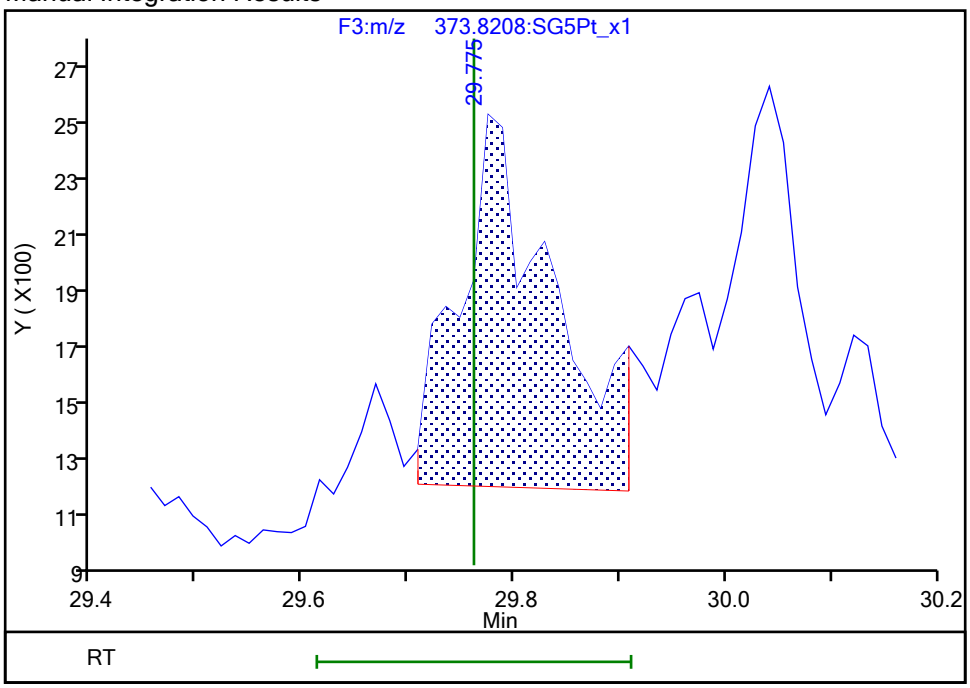

Reviewer: dadunj, 07-Feb-2020 14:29:46
Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_7.d				
Injection Date:	05-Feb-2020 20:08:05	Instrument ID:	10D5		
Lims ID:	320-58170-A-1-A	Lab Sample ID:	320-58170-1		
Client ID:	11187072-Berm-GW				
Operator ID:	AJS	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDF, CAS: 57117-44-9

Signal: 2

Processing Integration Results

RT: 30.01
Area: 15029
Amount: 0.119496
Amount Units: pg/ul

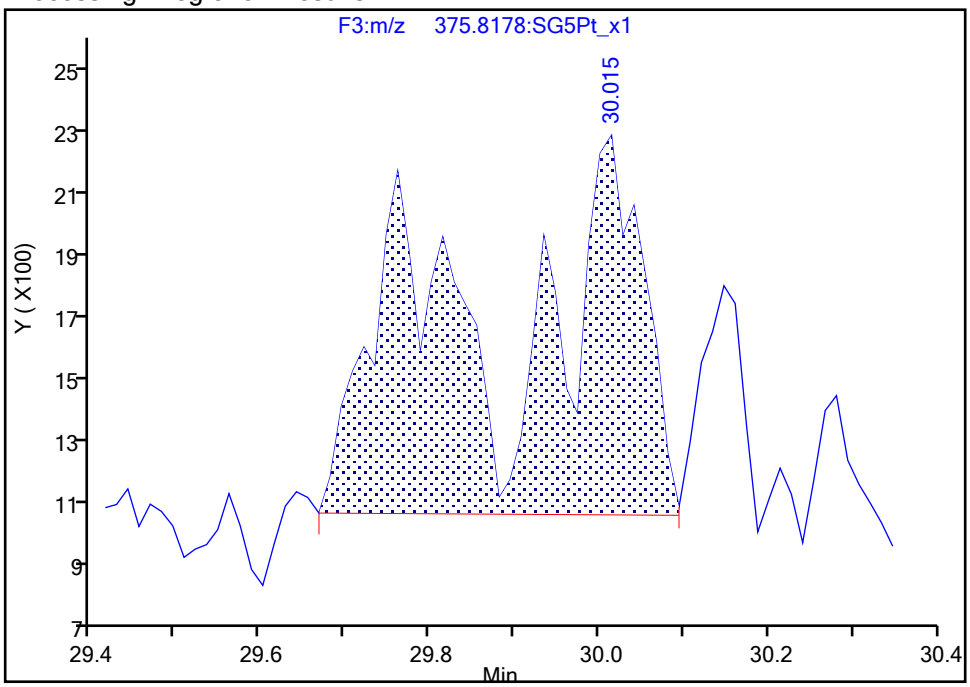

Manual Integration Results

RT: 30.01
Area: 7694
Amount: 0.064203
Amount Units: pg/ul

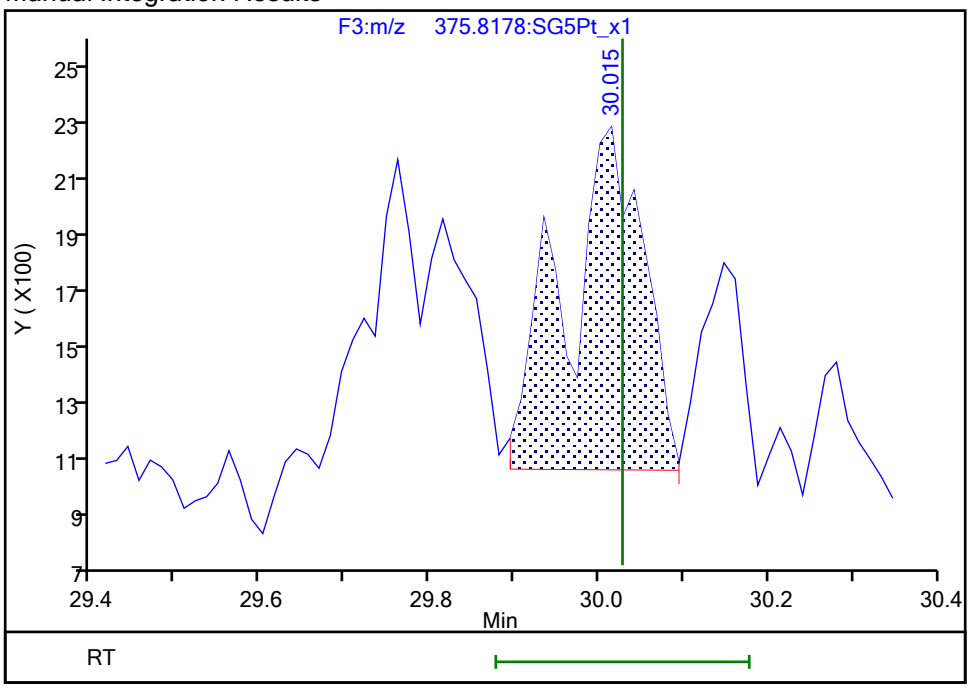

Reviewer: dadunj, 07-Feb-2020 14:29:43

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_7.d				
Injection Date:	05-Feb-2020 20:08:05	Instrument ID:	10D5		
Lims ID:	320-58170-A-1-A	Lab Sample ID:	320-58170-1		
Client ID:	11187072-Berm-GW				
Operator ID:	AJS	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDF, CAS: 57117-44-9

Signal: 3

Processing Integration Results

RT: 30.04
Area: 32426
Amount: 0.119496
Amount Units: pg/ul

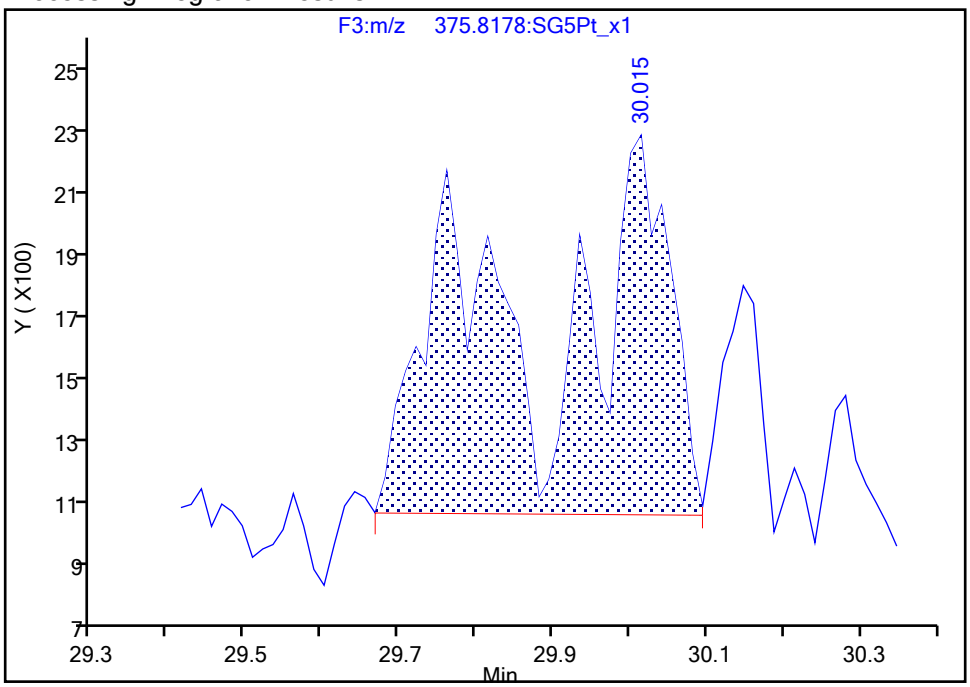

Manual Integration Results

RT: 30.04
Area: 17422
Amount: 0.064203
Amount Units: pg/ul
Reviewer: dadunj, 07-Feb-2020 14:29:43
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_7.d				
Injection Date:	05-Feb-2020 20:08:05	Instrument ID:	10D5		
Lims ID:	320-58170-A-1-A	Lab Sample ID:	320-58170-1		
Client ID:	11187072-Berm-GW				
Operator ID:	AJS	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDF, CAS: 57117-44-9

Signal: 1

Processing Integration Results

RT: 30.04
Area: 17397
Amount: 0.119496
Amount Units: pg/ul

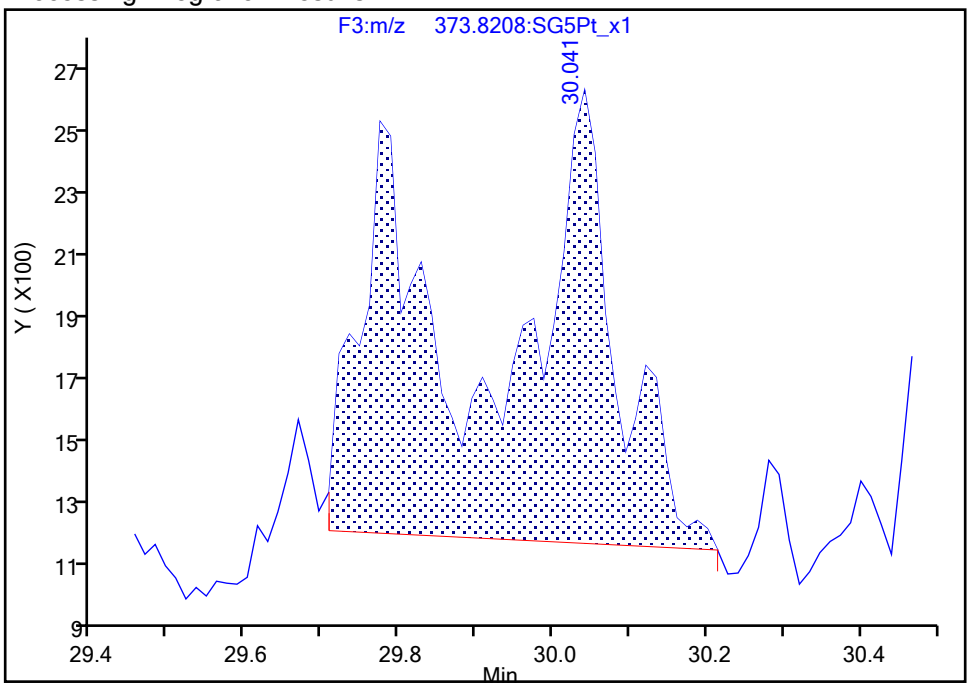

Manual Integration Results

RT: 30.04
Area: 9728
Amount: 0.064203
Amount Units: pg/ul

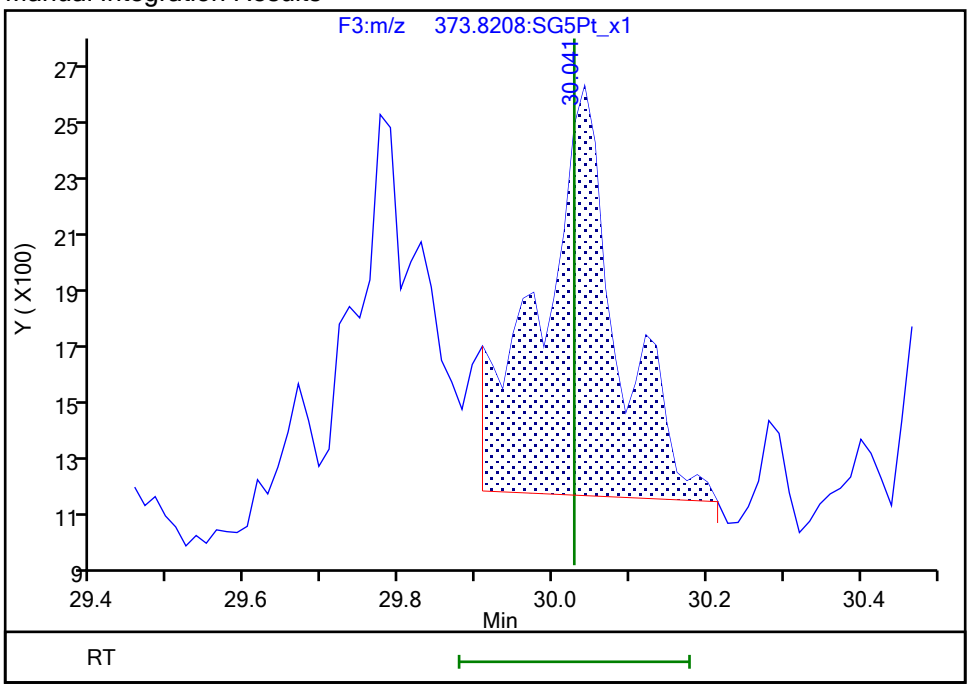

Reviewer: dadunj, 07-Feb-2020 14:29:50

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_7.d				
Injection Date:	05-Feb-2020 20:08:05	Instrument ID:	10D5		
Lims ID:	320-58170-A-1-A	Lab Sample ID:	320-58170-1		
Client ID:	11187072-Berm-GW				
Operator ID:	AJS	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 1

Processing Integration Results

RT: 31.28
Area: 35534
Amount: 0.310411
Amount Units: pg/ul

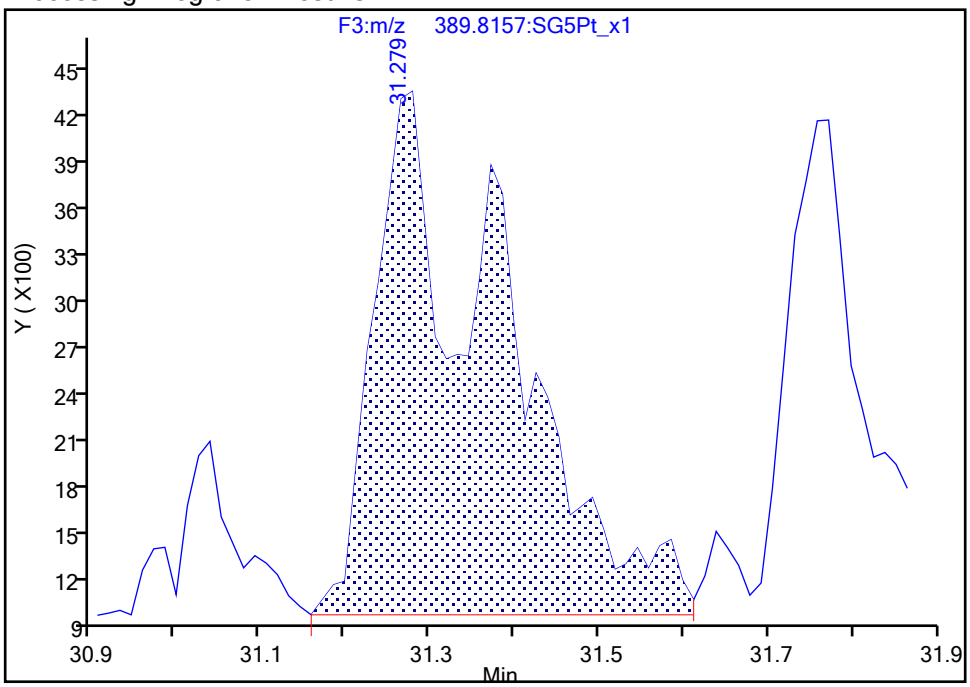

Manual Integration Results

RT: 31.28
Area: 17330
Amount: 0.164898
Amount Units: pg/ul

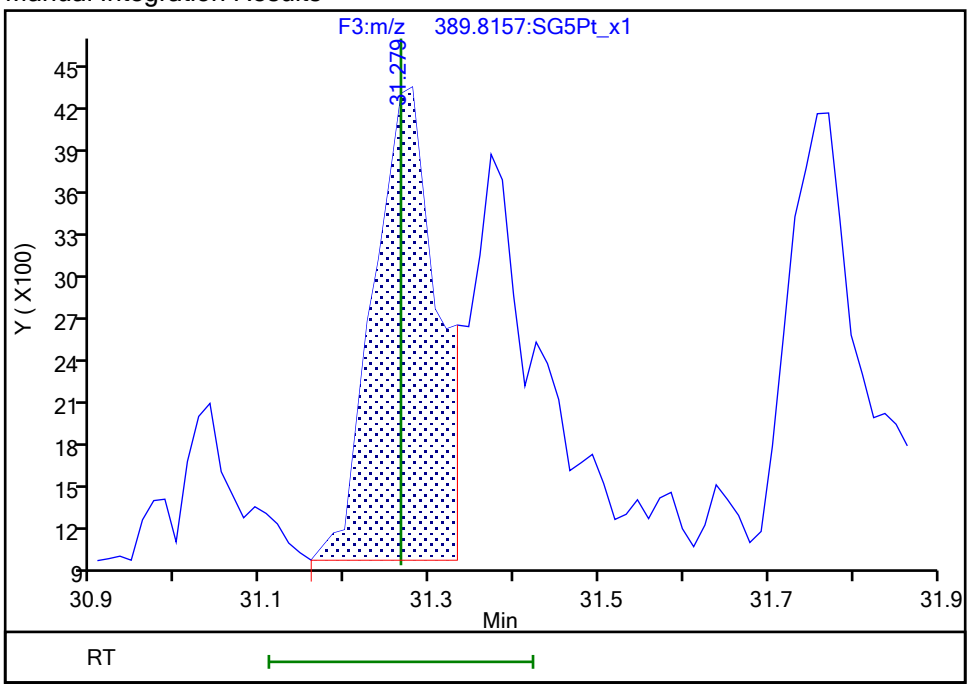

Reviewer: dadunj, 07-Feb-2020 14:30:09

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_7.d				
Injection Date:	05-Feb-2020 20:08:05	Instrument ID:	10D5		
Lims ID:	320-58170-A-1-A	Lab Sample ID:	320-58170-1		
Client ID:	11187072-Berm-GW				
Operator ID:	AJS	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 2

Processing Integration Results

RT: 31.27
Area: 29397
Amount: 0.310411
Amount Units: pg/ul

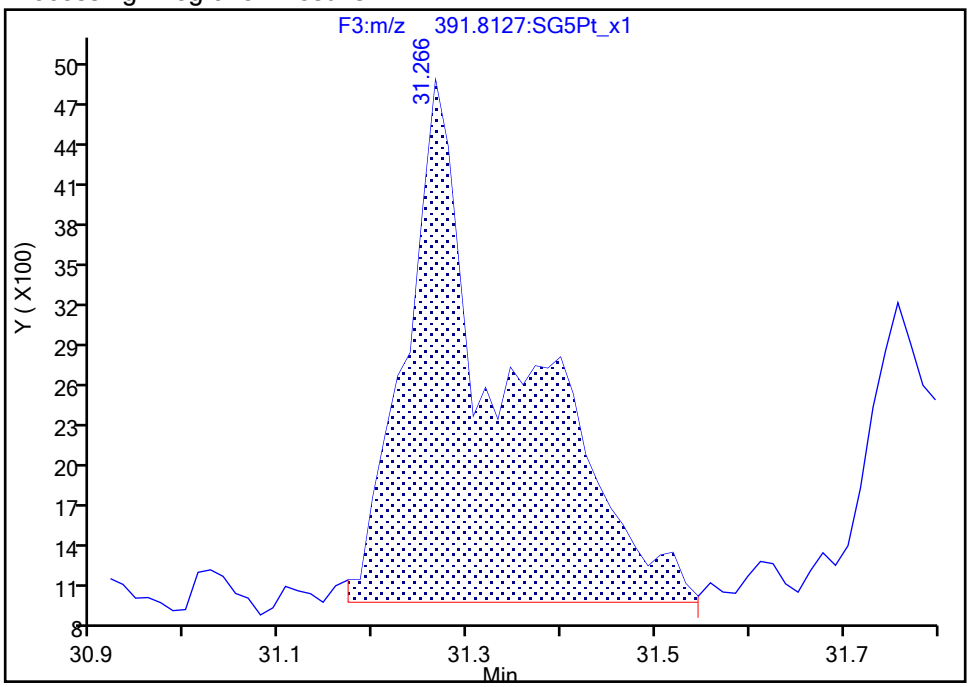

Manual Integration Results

RT: 31.27
Area: 17163
Amount: 0.164898
Amount Units: pg/ul

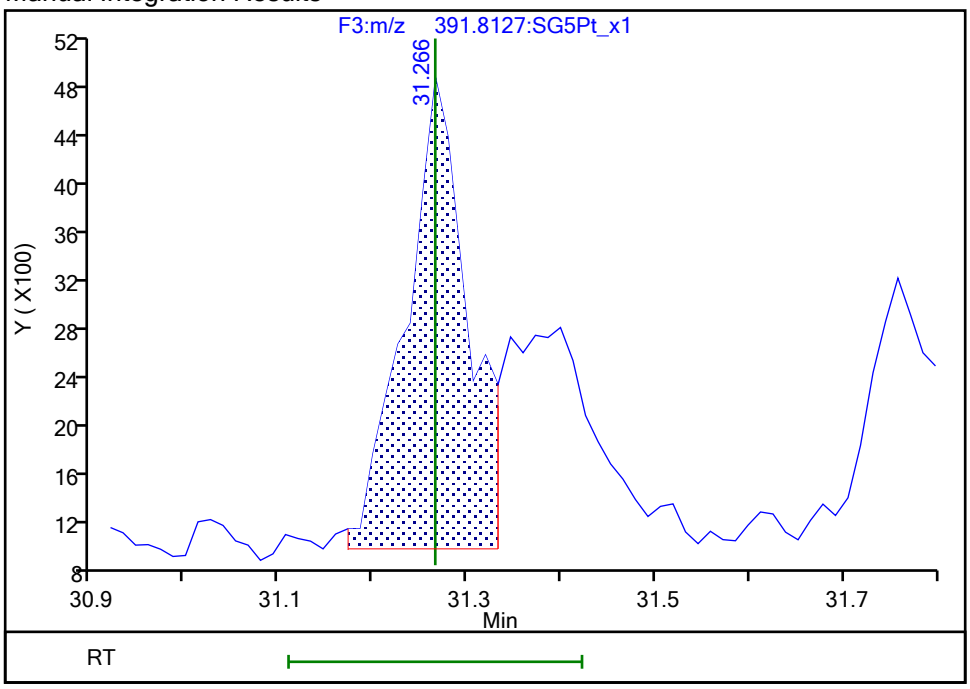

Reviewer: dadunj, 07-Feb-2020 14:30:12

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_7.d				
Injection Date:	05-Feb-2020 20:08:05	Instrument ID:	10D5		
Lims ID:	320-58170-A-1-A	Lab Sample ID:	320-58170-1		
Client ID:	11187072-Berm-GW				
Operator ID:	AJS	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 1

Processing Integration Results

RT: 31.77
Area: 24736
Amount: 0.141664
Amount Units: pg/ul

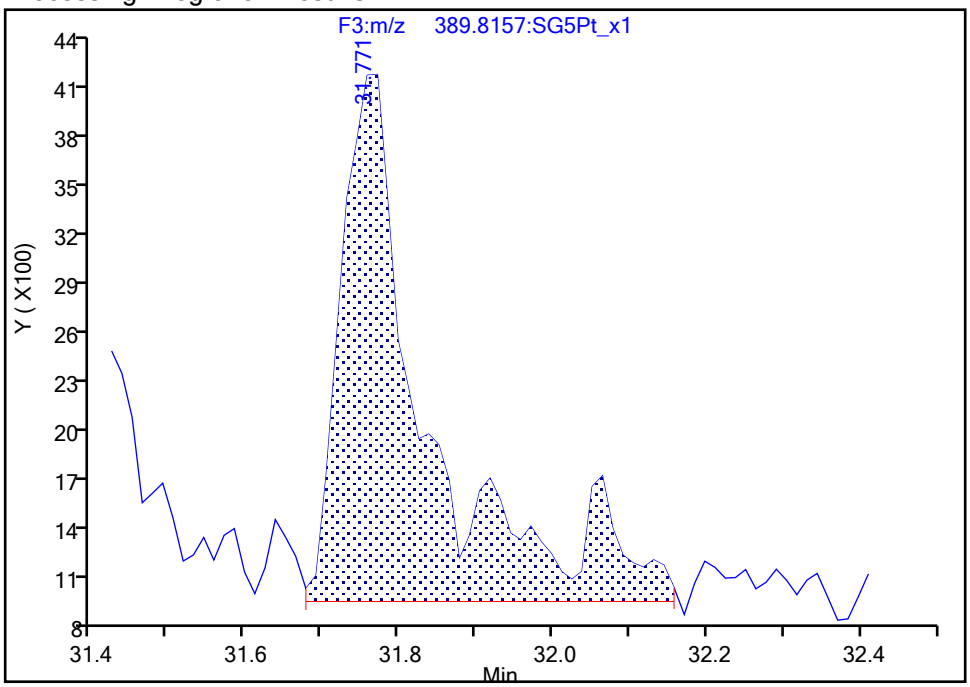

Manual Integration Results

RT: 31.77
Area: 19040
Amount: 0.118503
Amount Units: pg/ul

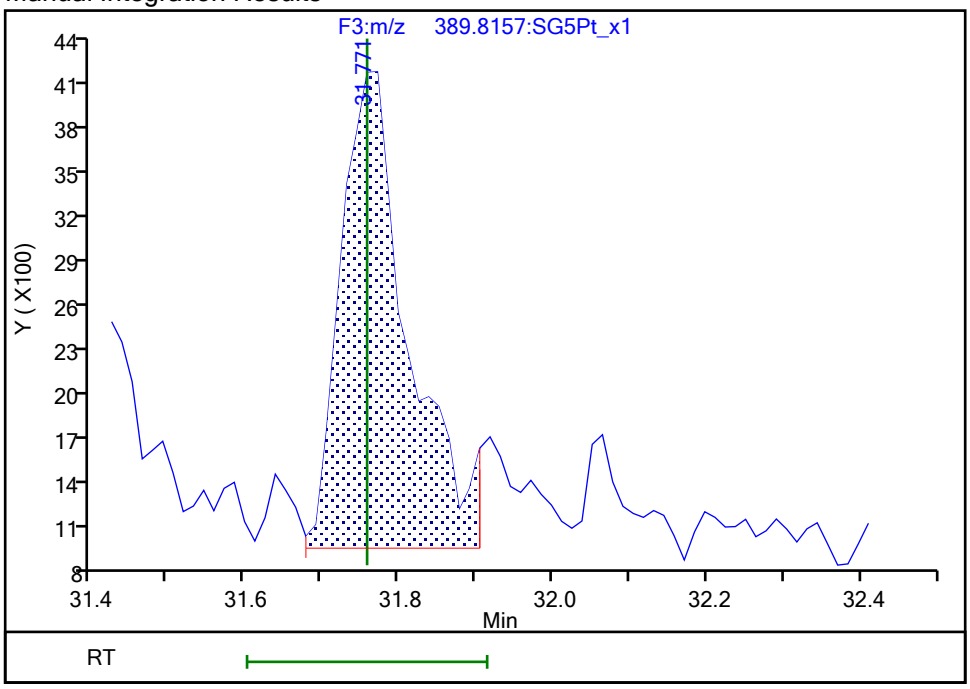

Reviewer: dadunj, 07-Feb-2020 14:30:22

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_7.d				
Injection Date:	05-Feb-2020 20:08:05	Instrument ID:	10D5		
Lims ID:	320-58170-A-1-A	Lab Sample ID:	320-58170-1		
Client ID:	11187072-Berm-GW				
Operator ID:	AJS	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 2

Processing Integration Results

RT: 31.76
Area: 13491
Amount: 0.141664
Amount Units: pg/ul

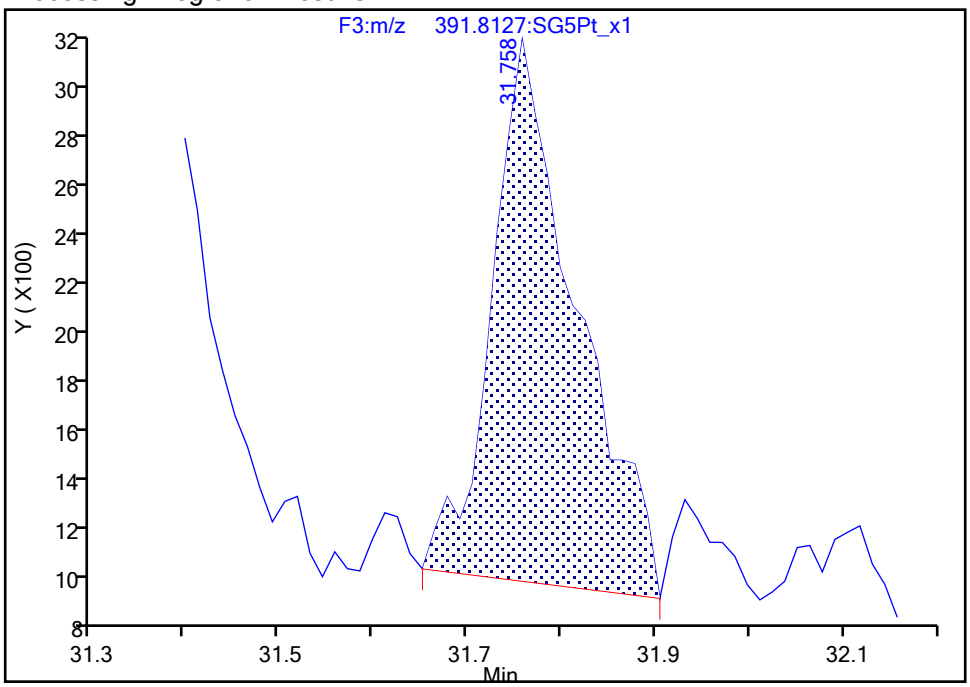

Manual Integration Results

RT: 31.76
Area: 12937
Amount: 0.118503
Amount Units: pg/ul

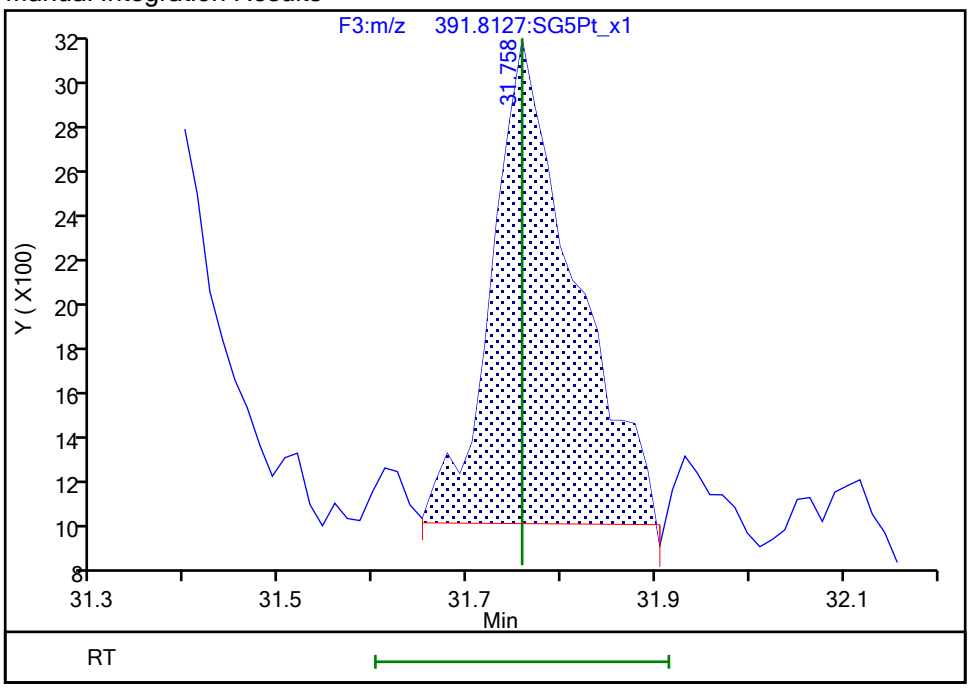

Reviewer: dadunj, 07-Feb-2020 14:30:35

Audit Action: Manually Integrated Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_7.d				
Injection Date:	05-Feb-2020 20:08:05	Instrument ID:	10D5		
Lims ID:	320-58170-A-1-A	Lab Sample ID:	320-58170-1		
Client ID:	11187072-Berm-GW				
Operator ID:	AJS	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 2

Processing Integration Results

RT: 33.48
Area: 60835
Amount: 0.412535
Amount Units: pg/ul

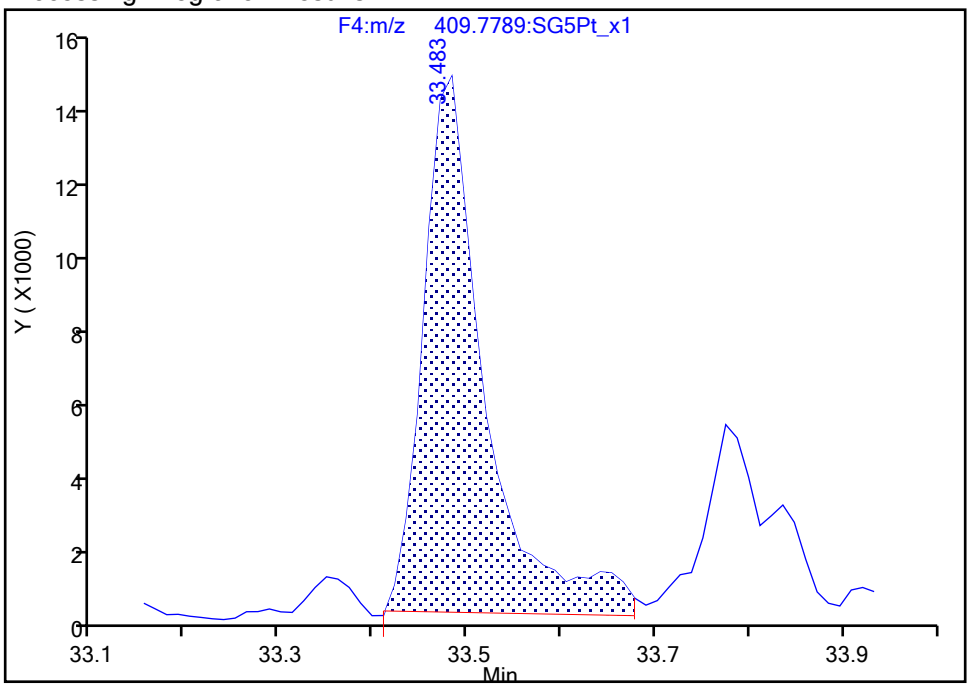

Manual Integration Results

RT: 33.48
Area: 56879
Amount: 0.384297
Amount Units: pg/ul

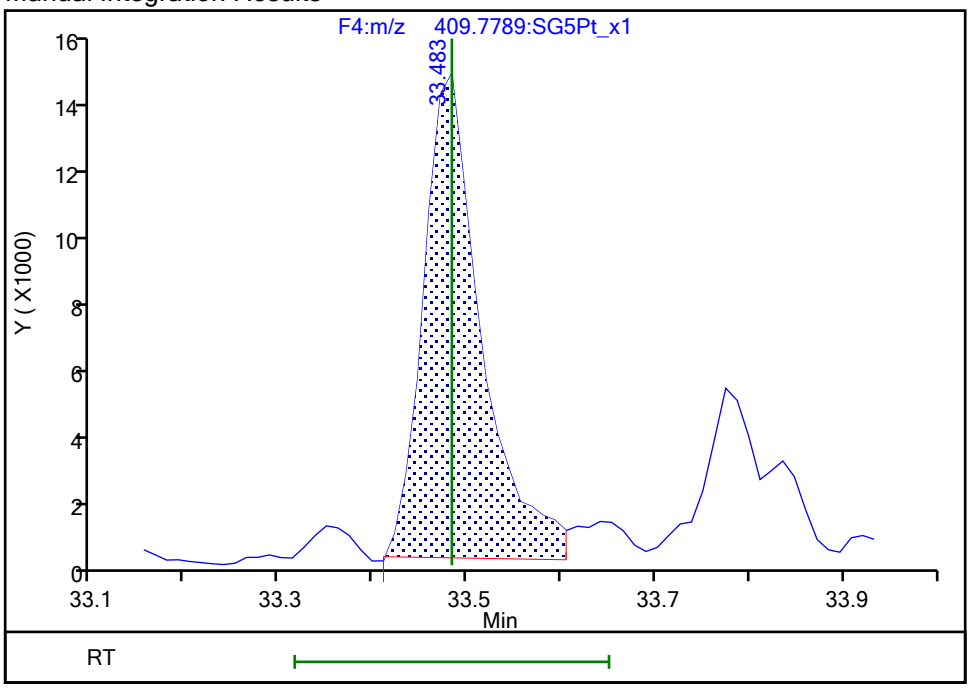

Reviewer: dadunj, 07-Feb-2020 14:30:57

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_7.d				
Injection Date:	05-Feb-2020 20:08:05	Instrument ID:	10D5		
Lims ID:	320-58170-A-1-A	Lab Sample ID:	320-58170-1		
Client ID:	11187072-Berm-GW				
Operator ID:	AJS	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 1

Processing Integration Results

RT: 33.47
Area: 64161
Amount: 0.412535
Amount Units: pg/ul

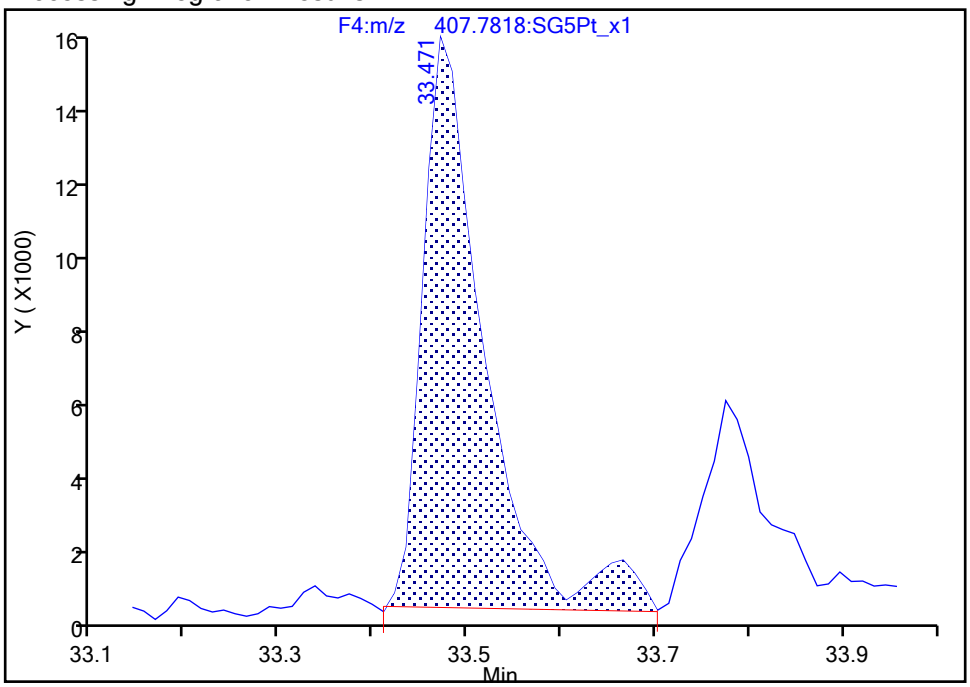

Manual Integration Results

RT: 33.47
Area: 59561
Amount: 0.384297
Amount Units: pg/ul

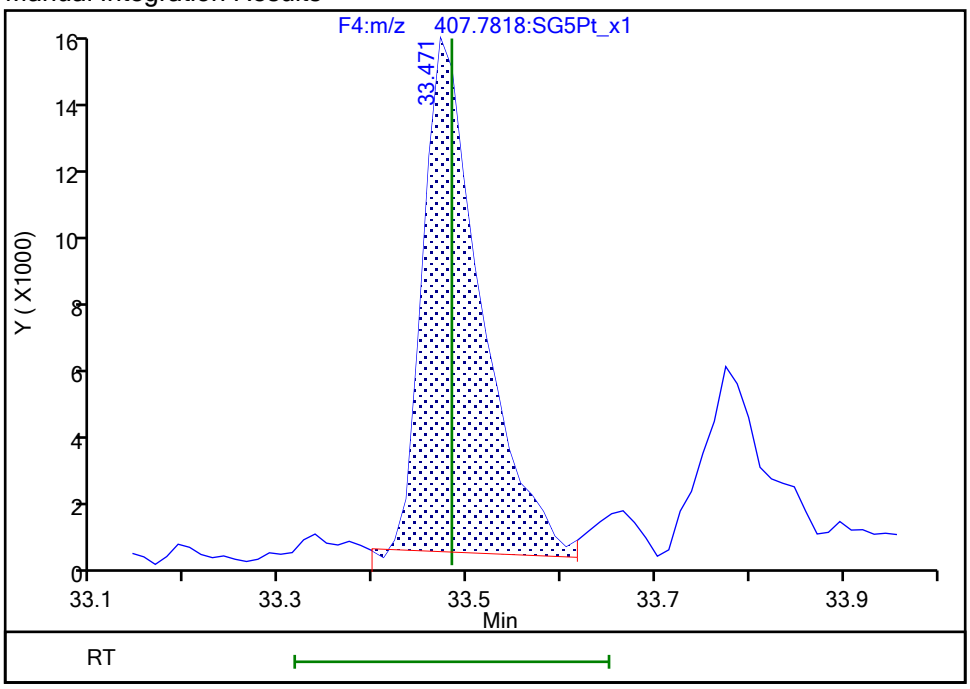

Reviewer: dadunj, 07-Feb-2020 14:31:29

Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_7.d				
Injection Date:	05-Feb-2020 20:08:05	Instrument ID:	10D5		
Lims ID:	320-58170-A-1-A	Lab Sample ID:	320-58170-1		
Client ID:	11187072-Berm-GW				
Operator ID:	AJS	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,7,8,9-HpCDF, CAS: 55673-89-7

Signal: 1

Processing Integration Results

RT: 34.58
Area: 22052
Amount: 0.194463
Amount Units: pg/ul

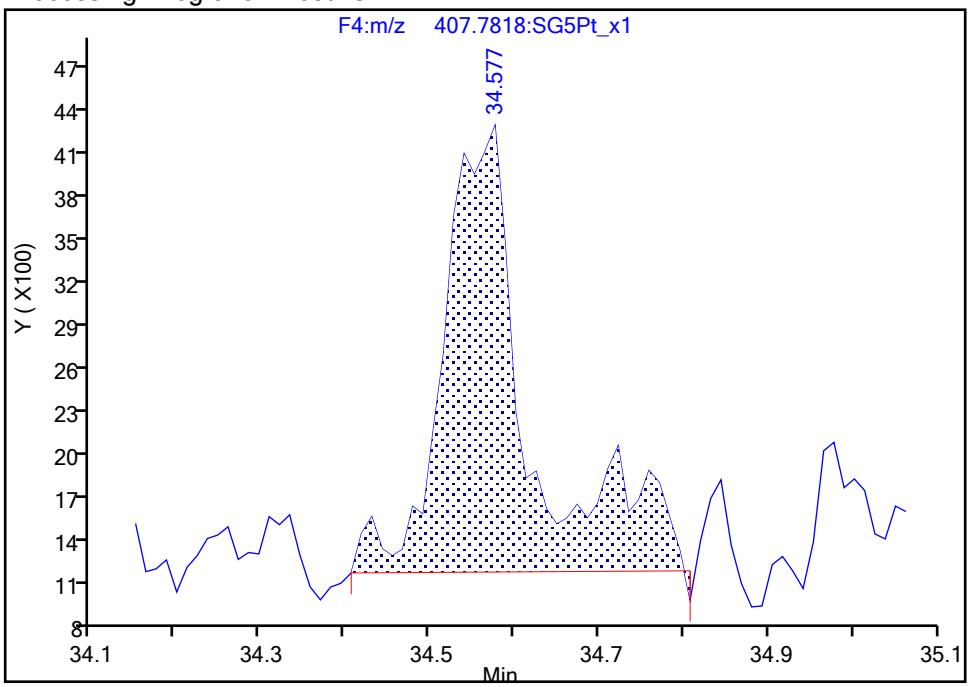

Manual Integration Results

RT: 34.58
Area: 16867
Amount: 0.154924
Amount Units: pg/ul

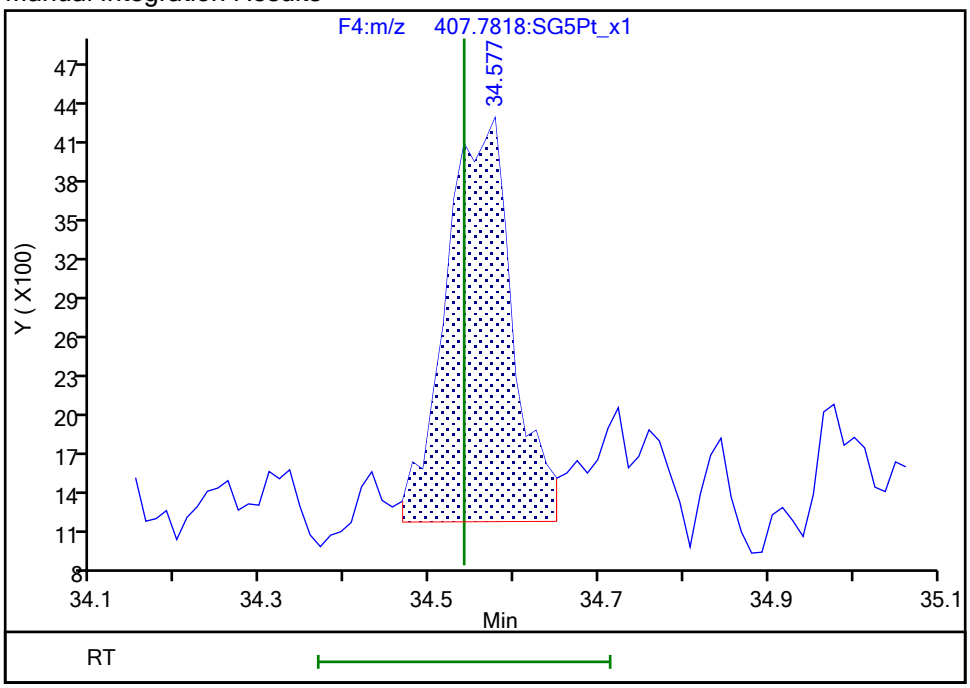

Reviewer: dadunj, 07-Feb-2020 14:31:02

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_7.d				
Injection Date:	05-Feb-2020 20:08:05	Instrument ID:	10D5		
Lims ID:	320-58170-A-1-A	Lab Sample ID:	320-58170-1		
Client ID:	11187072-Berm-GW				
Operator ID:	AJS	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,7,8,9-HpCDF, CAS: 55673-89-7

Signal: 2

Processing Integration Results

RT: 34.55
Area: 25006
Amount: 0.194463
Amount Units: pg/ul

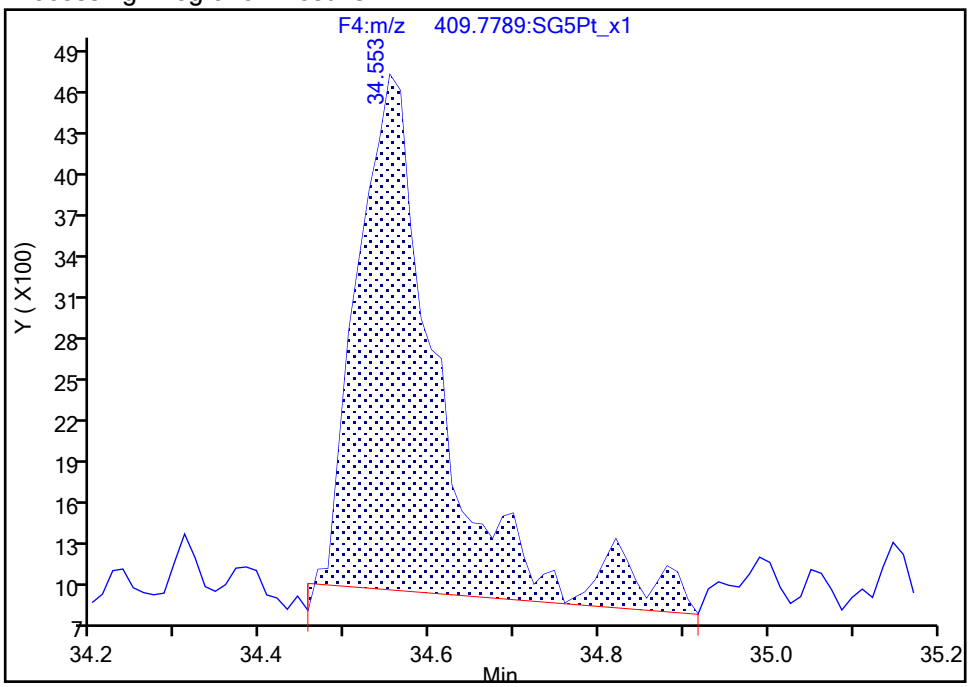

Manual Integration Results

RT: 34.55
Area: 20623
Amount: 0.154924
Amount Units: pg/ul

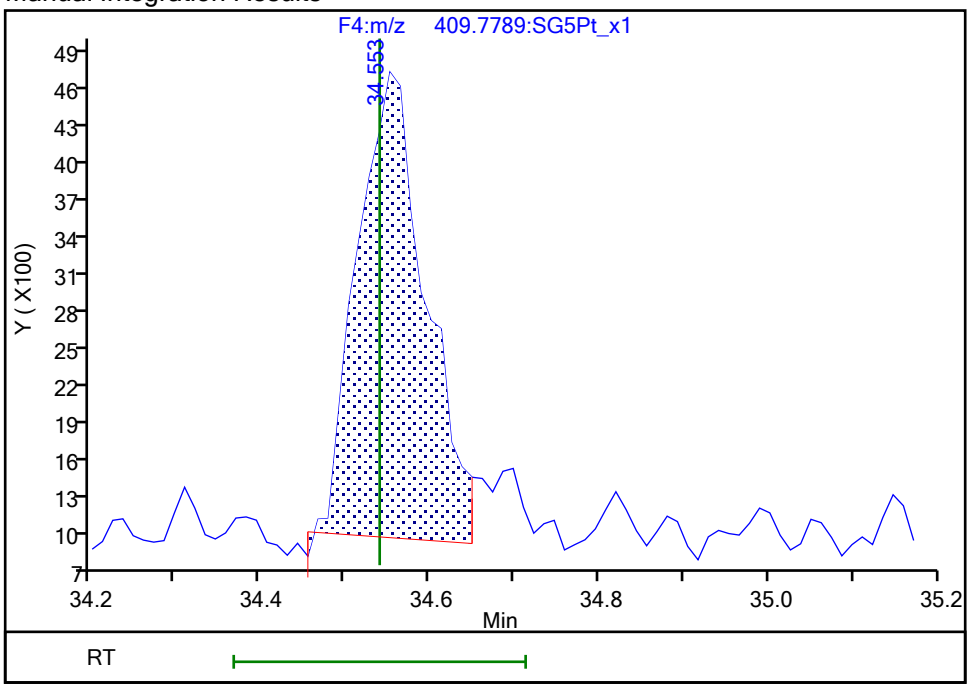

Reviewer: dadunj, 07-Feb-2020 14:31:04

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_7.d				
Injection Date:	05-Feb-2020 20:08:05	Instrument ID:	10D5		
Lims ID:	320-58170-A-1-A	Lab Sample ID:	320-58170-1		
Client ID:	11187072-Berm-GW				
Operator ID:	AJS	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

Non-2,3,7,8-sub-HpCDF, Signal: 1, m/z: 407.7818, RT: (33.45- 34.58)

Signal: 1

Processing Integration Results

RT = 33.775 Area = 30054

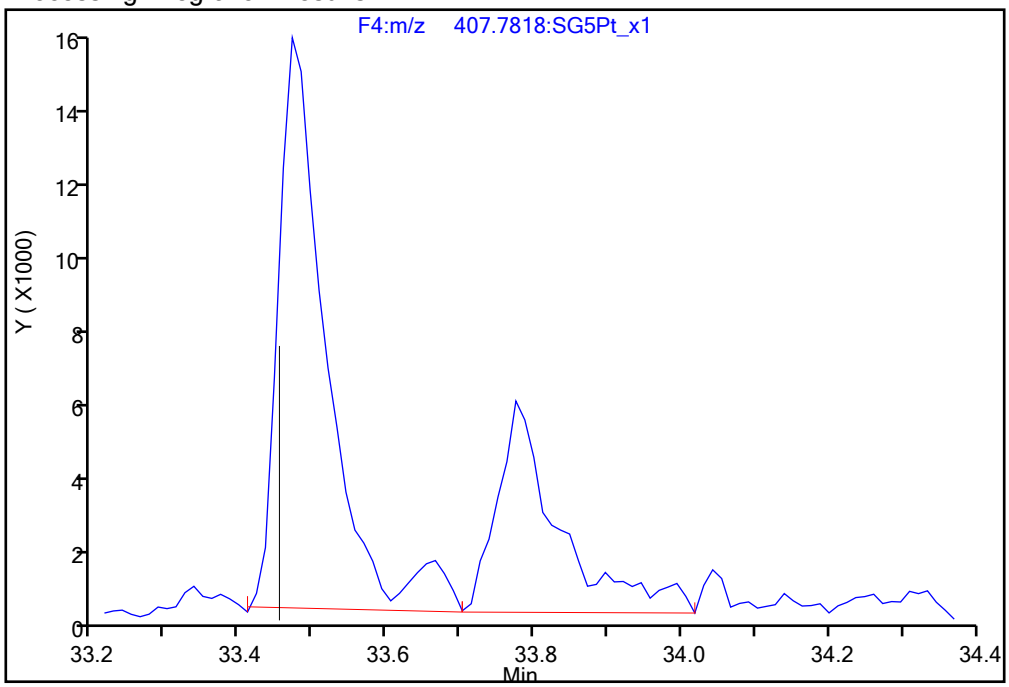

Manual Integration Results

RT = 33.775 Area = 23000 M

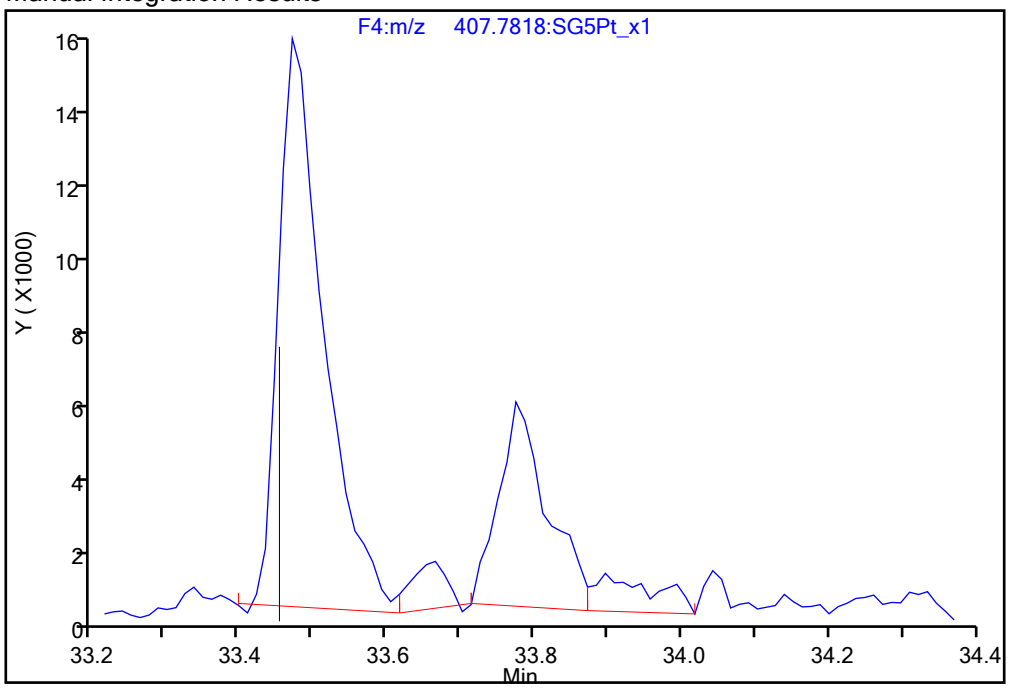

Reviewer: dadunj, 07-Feb-2020 14:31:41

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_7.d				
Injection Date:	05-Feb-2020 20:08:05	Instrument ID:	10D5		
Lims ID:	320-58170-A-1-A	Lab Sample ID:	320-58170-1		
Client ID:	11187072-Berm-GW				
Operator ID:	AJS	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 2

Processing Integration Results

RT: 34.26
Area: 62937
Amount: 0.506578
Amount Units: pg/ul

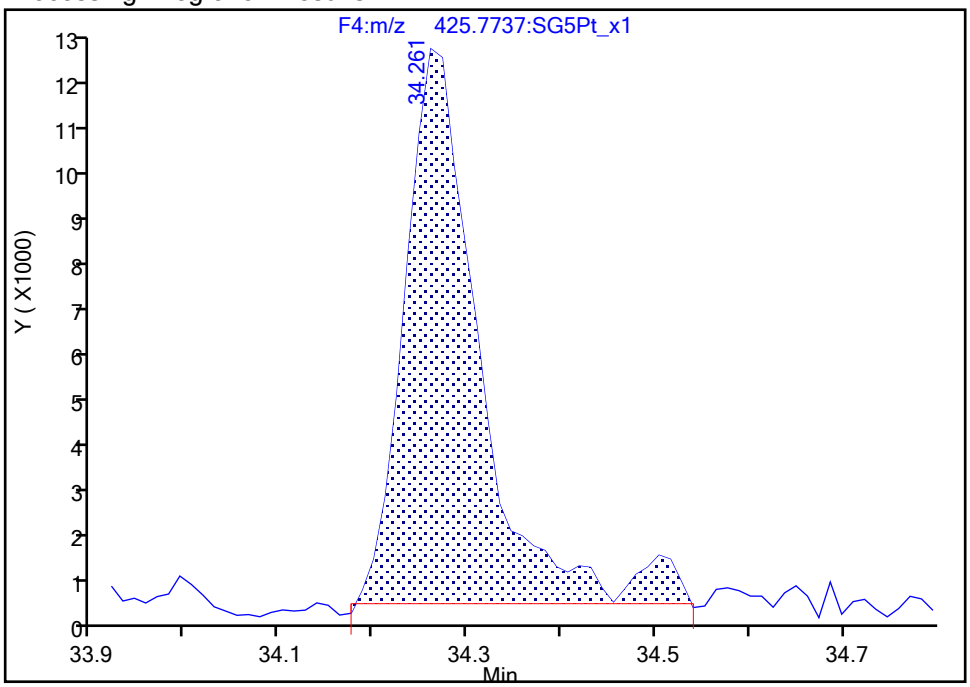

Manual Integration Results

RT: 34.26
Area: 60090
Amount: 0.494039
Amount Units: pg/ul

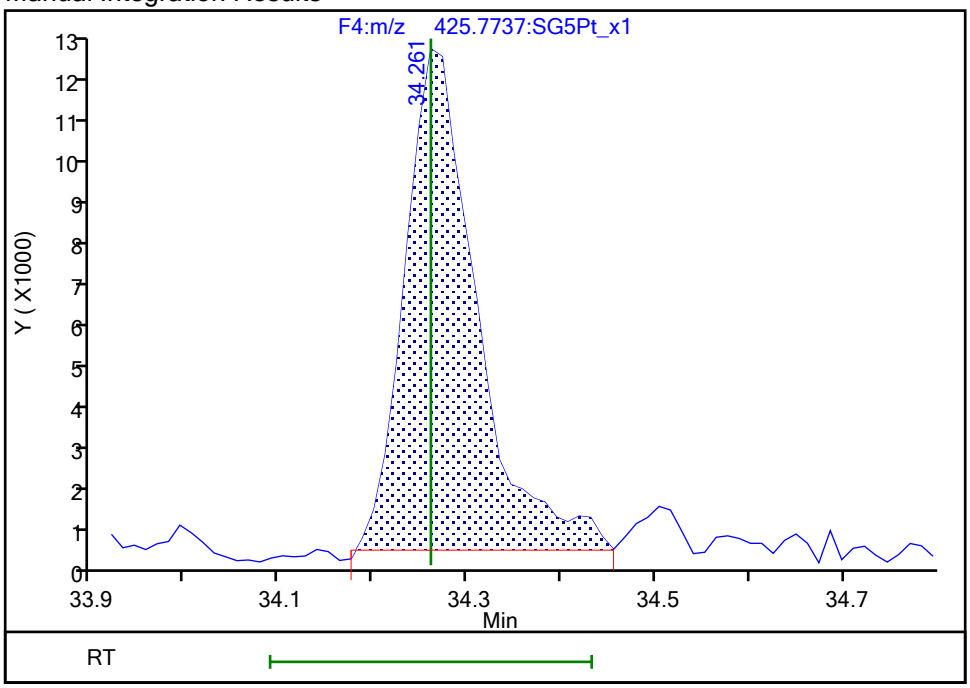

Reviewer: dadunj, 07-Feb-2020 14:32:00

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_7.d				
Injection Date:	05-Feb-2020 20:08:05	Instrument ID:	10D5		
Lims ID:	320-58170-A-1-A	Lab Sample ID:	320-58170-1		
Client ID:	11187072-Berm-GW				
Operator ID:	AJS	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

Non-2,3,7,8-sub-HpCDD, Signal: 1, m/z: 423.7766, RT: (33.68- 34.29)

Signal: 1

Processing Integration Results

RT = 33.714 Area = 39147

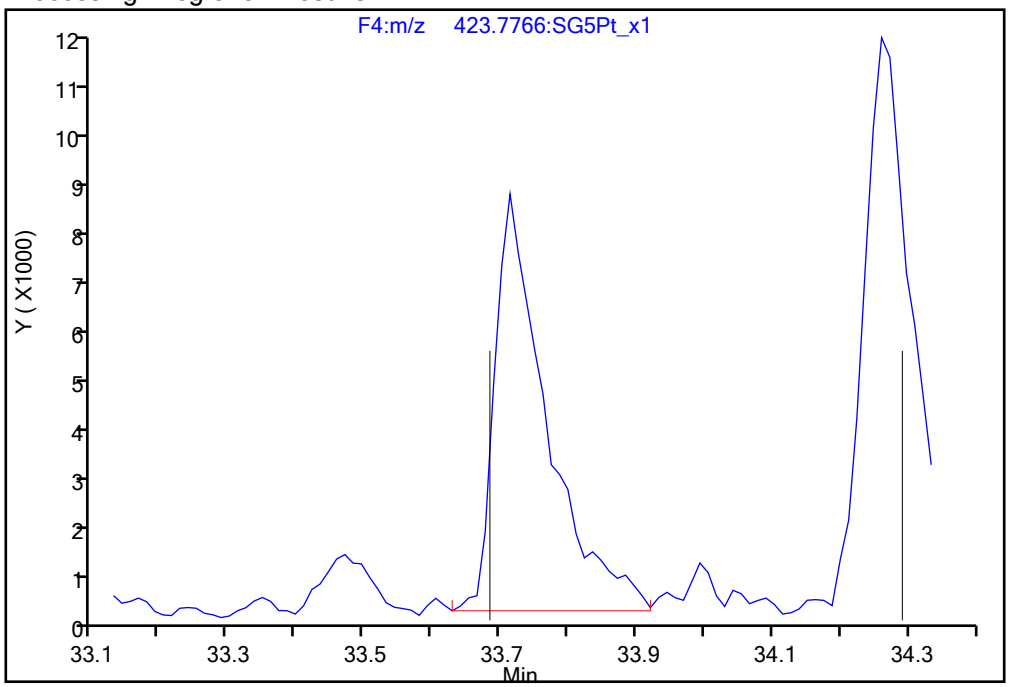

Manual Integration Results

RT = 33.714 Area = 36188 M

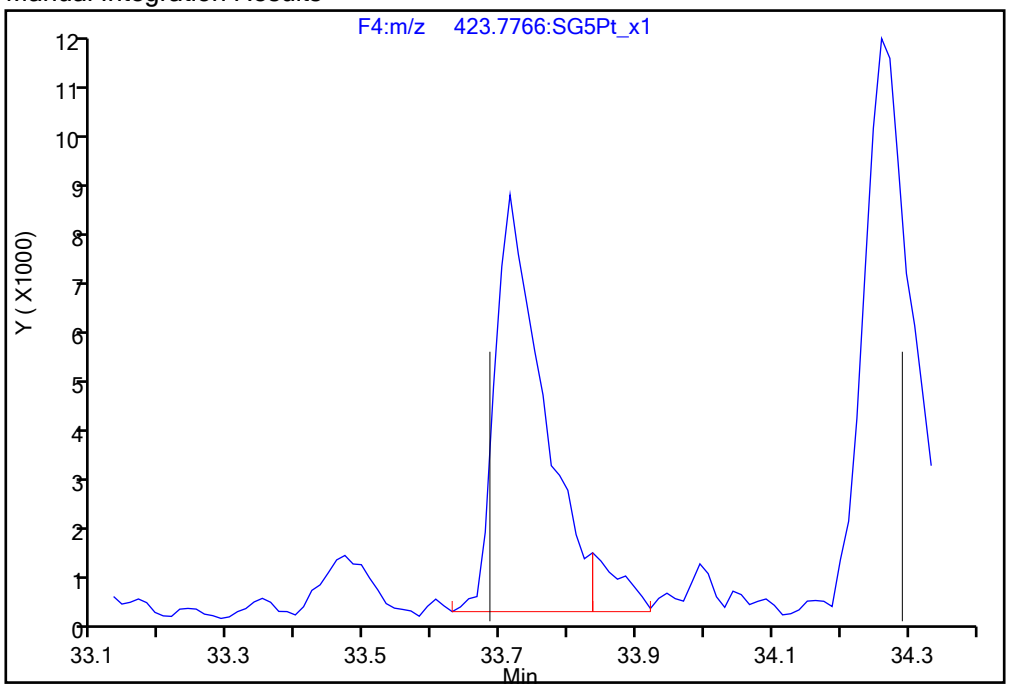

Reviewer: dadunj, 07-Feb-2020 14:32:08

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 07-Feb-2020 14:32:47 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_7.d		
Injection Date:	05-Feb-2020 20:08:05	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Berm-GW		
Worklist#:	355322	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

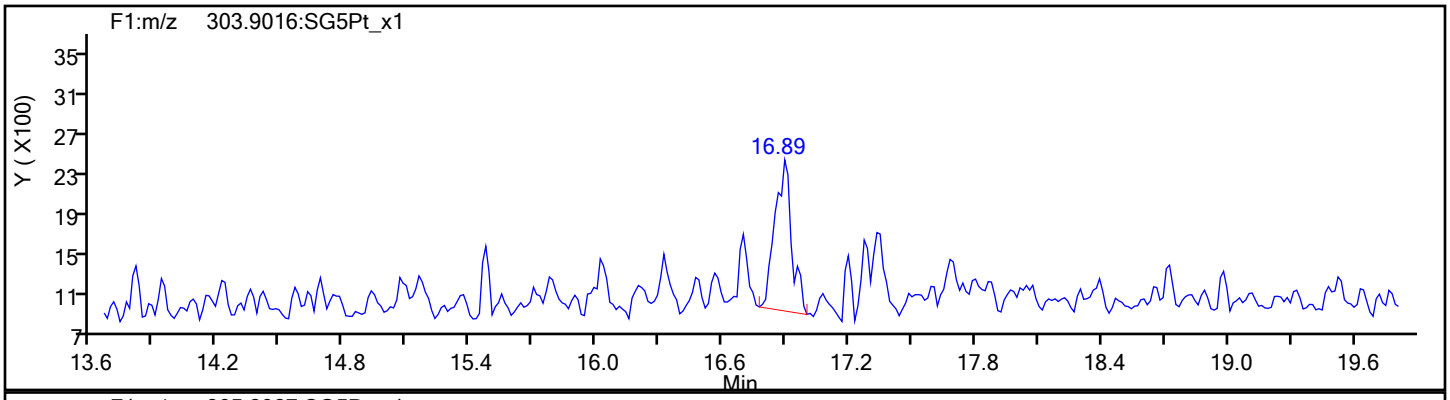

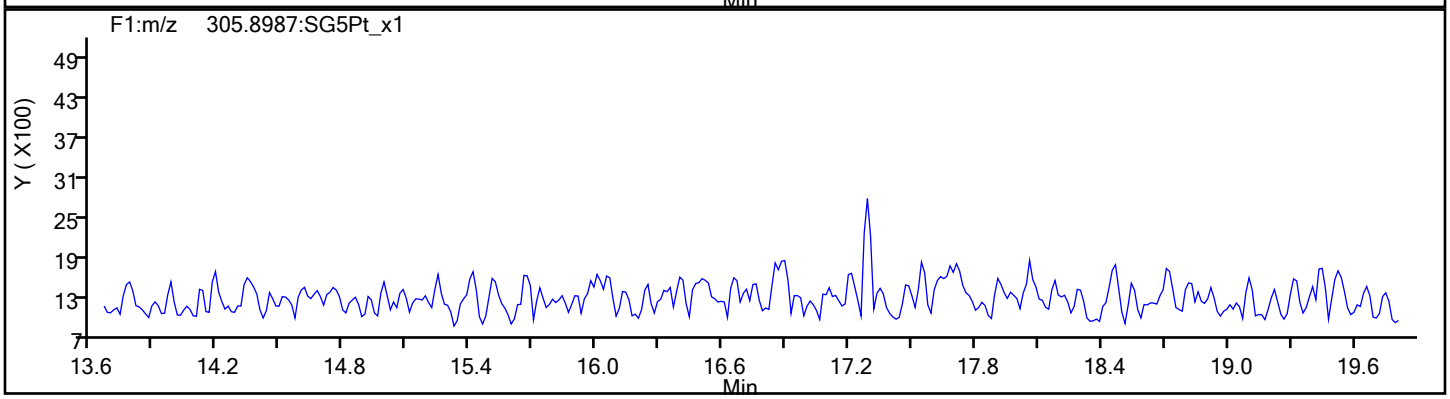

TCDF Standards

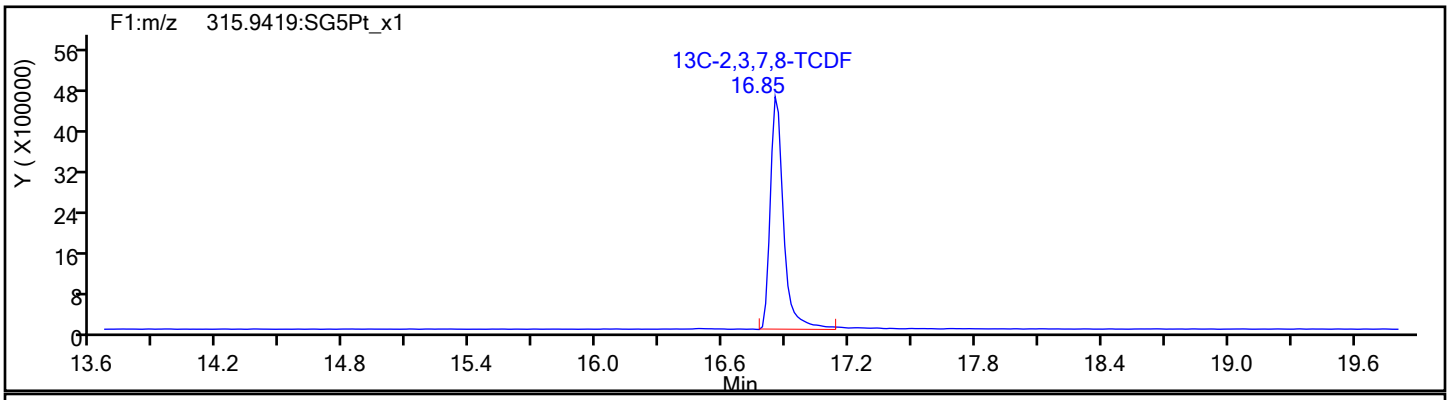

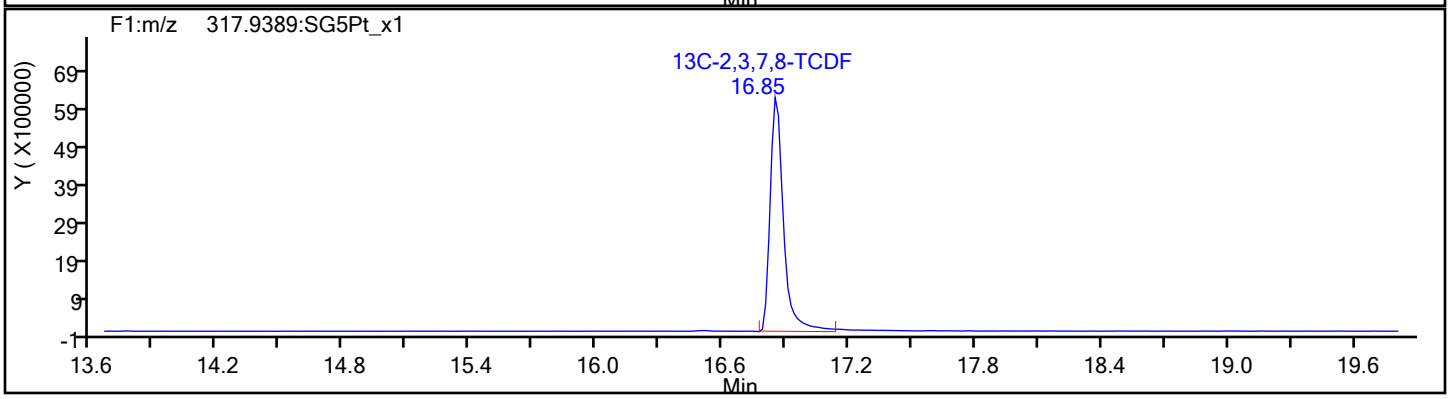

Report Date: 07-Feb-2020 14:32:47 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_7.d		
Injection Date:	05-Feb-2020 20:08:05	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Berm-GW		
Worklist#:	355322	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

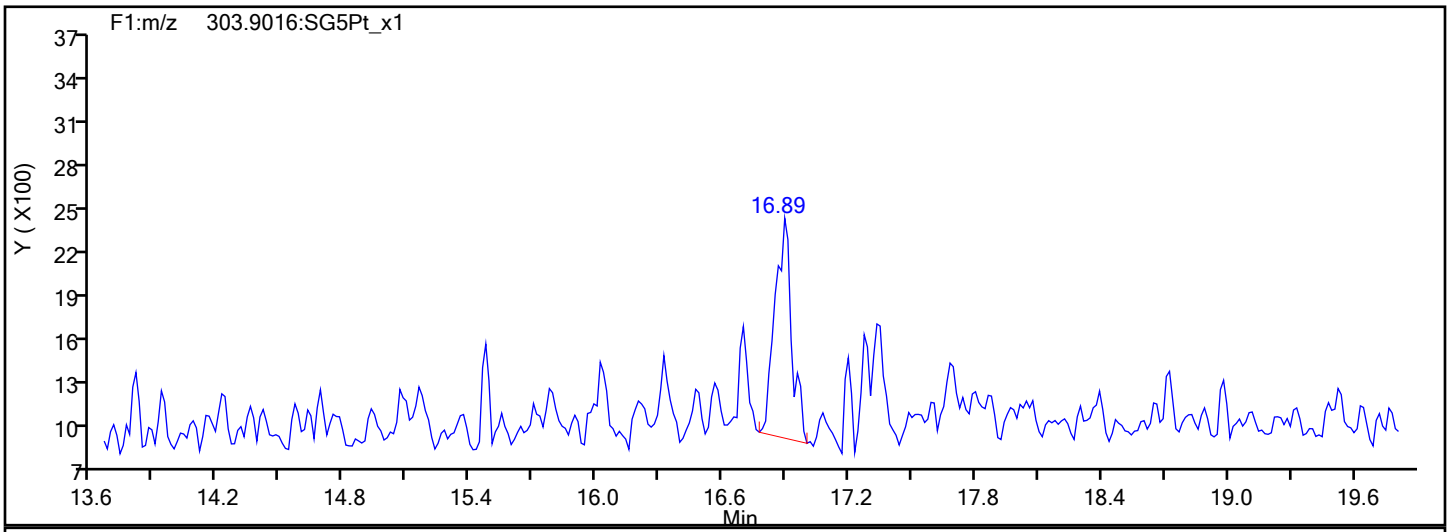

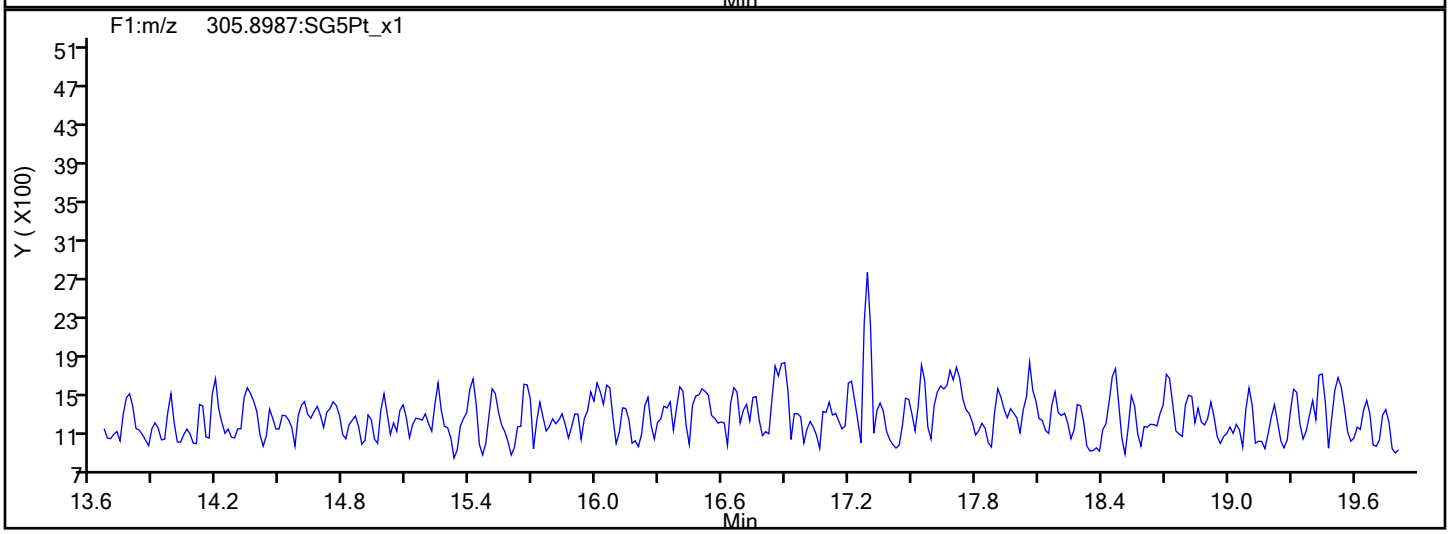

TCDF Interference Mass

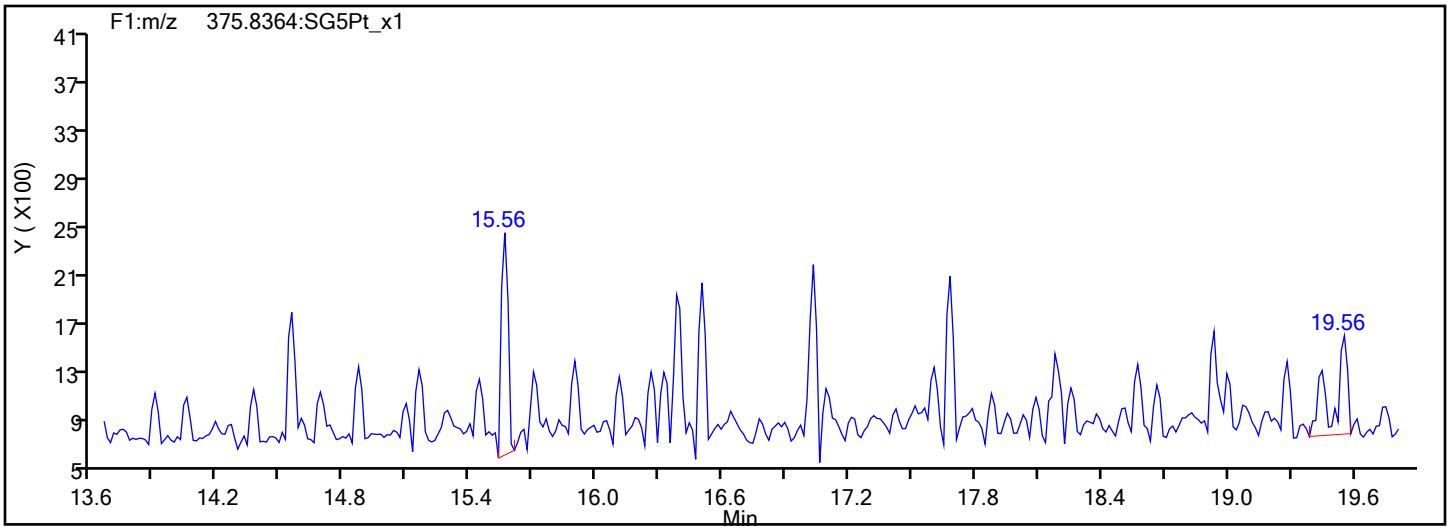

Report Date: 07-Feb-2020 14:32:47 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_7.d		
Injection Date:	05-Feb-2020 20:08:05	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Berm-GW		
Worklist#:	355322	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

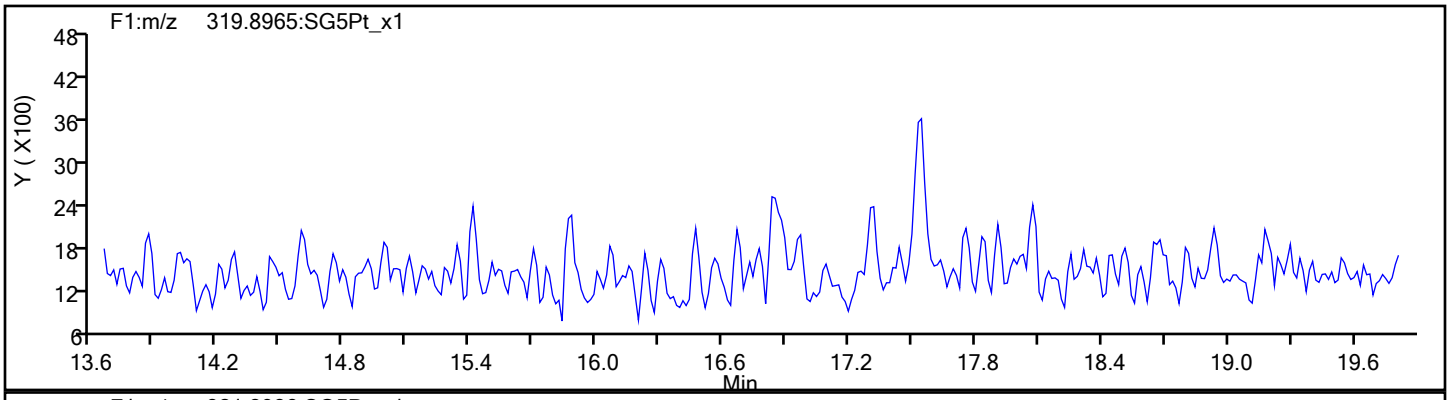

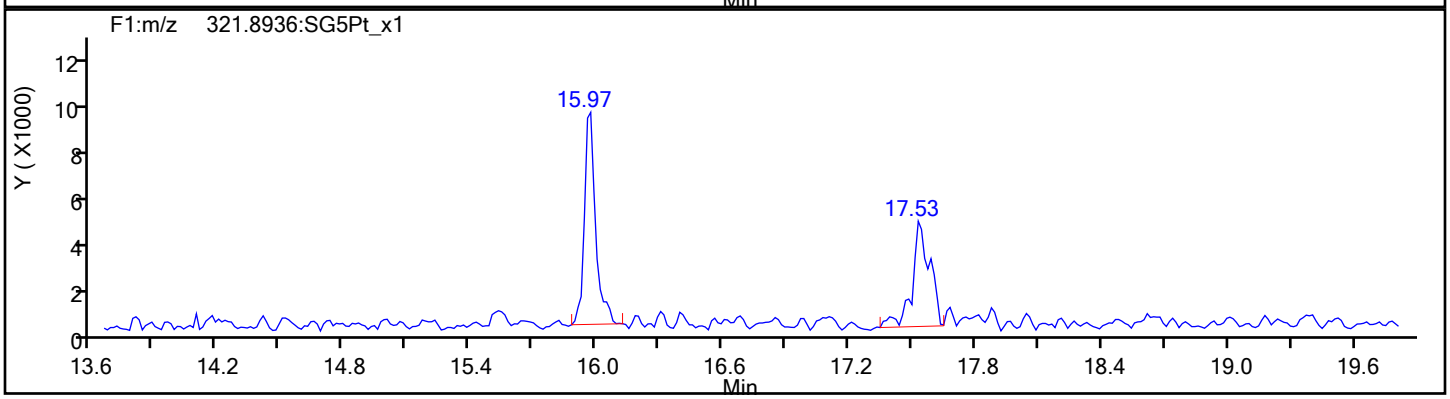

TCDD Standards

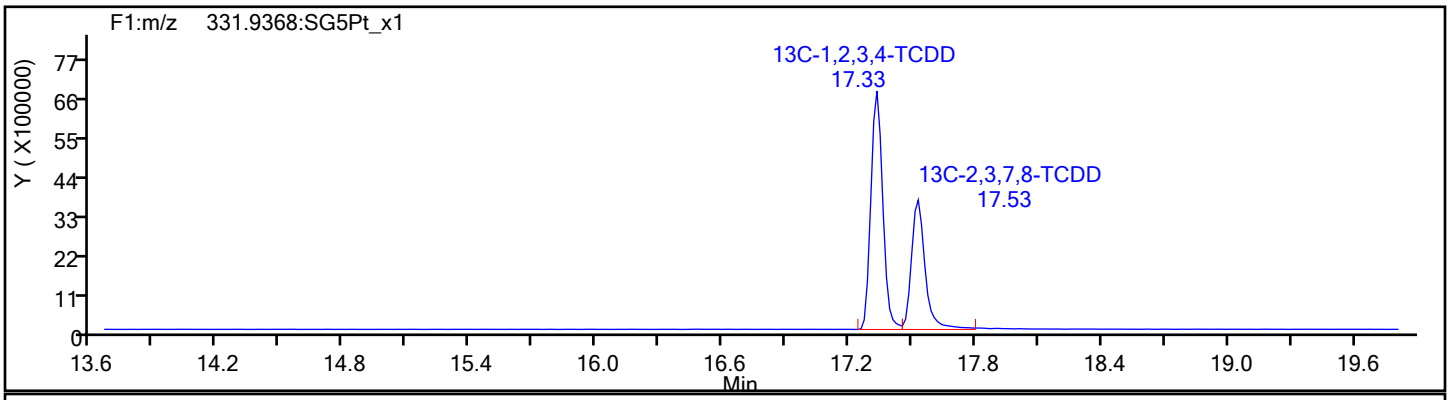

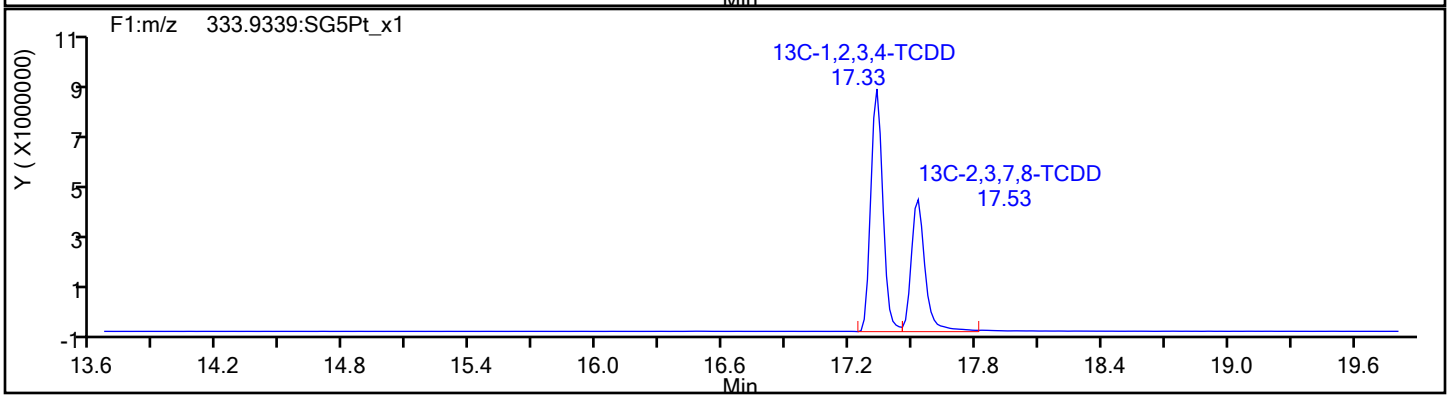

Report Date: 07-Feb-2020 14:32:47 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_7.d		
Injection Date:	05-Feb-2020 20:08:05	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Berm-GW		
Worklist#:	355322	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

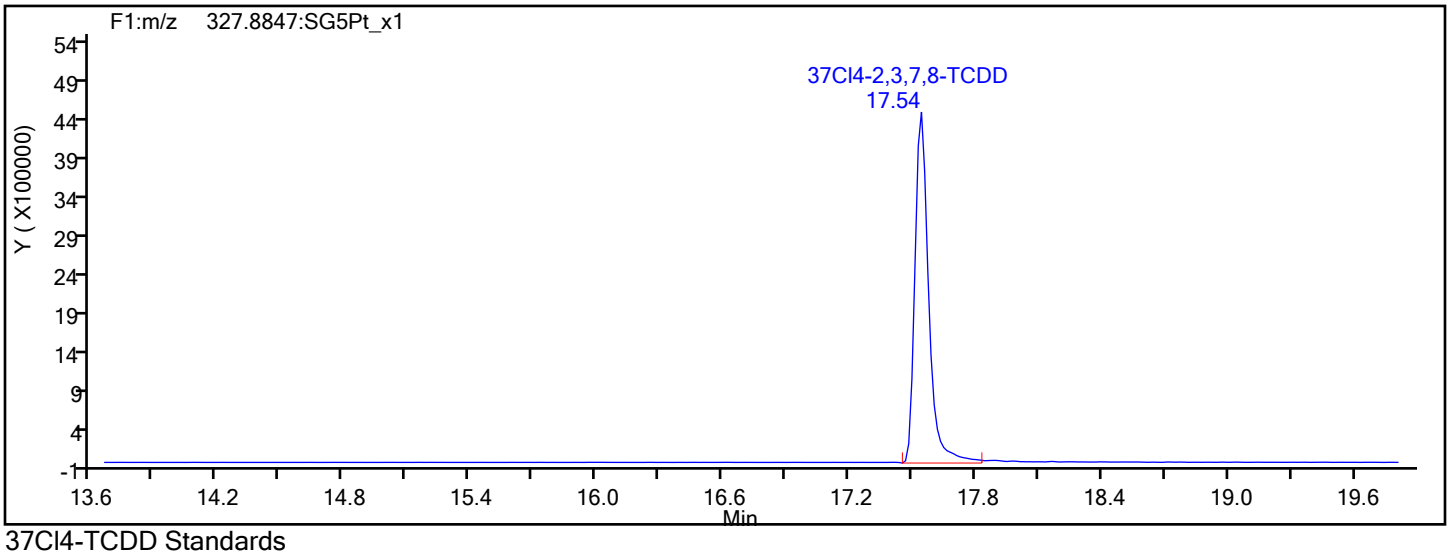

37Cl4-TCDD Standards

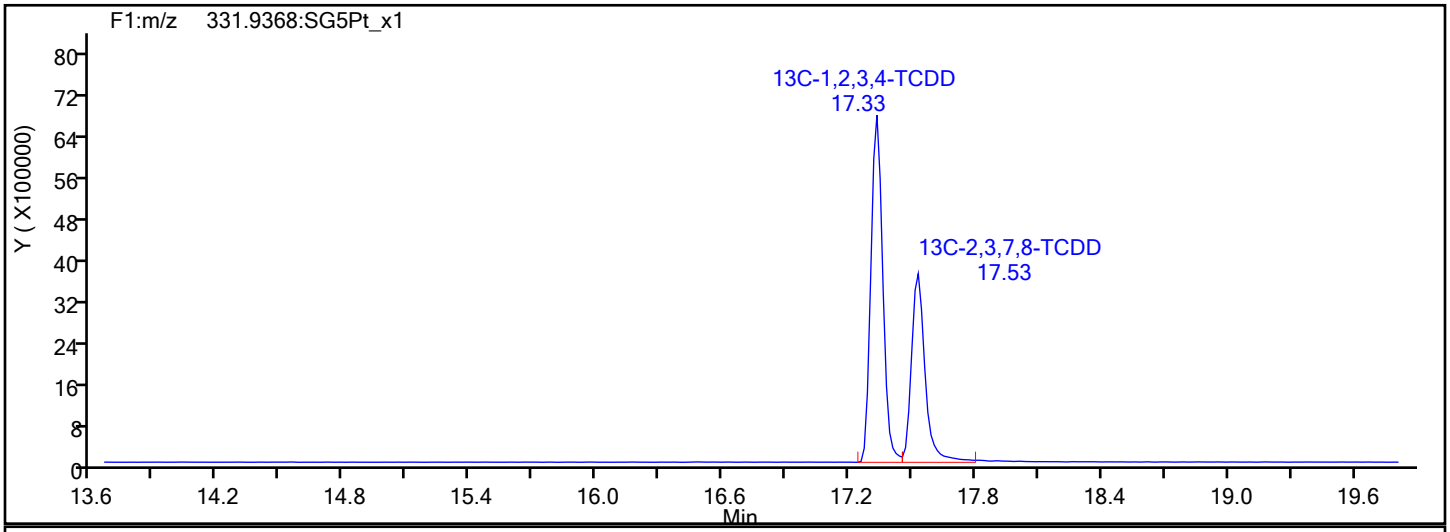

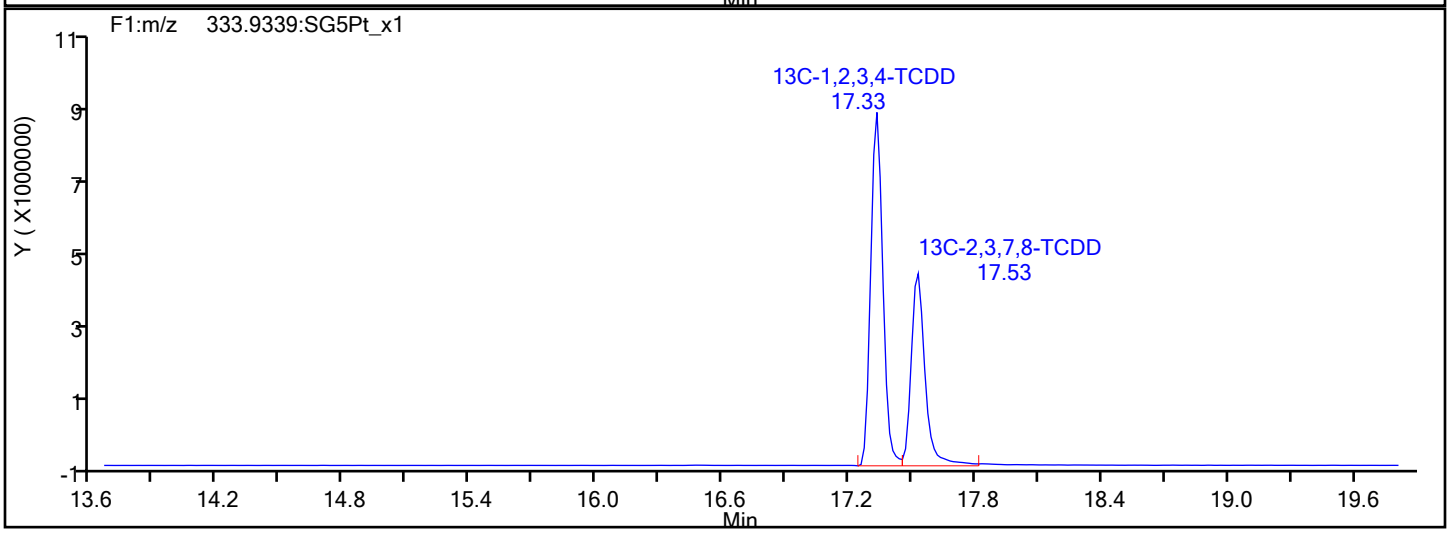

Report Date: 07-Feb-2020 14:32:47 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_7.d		
Injection Date:	05-Feb-2020 20:08:05	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Berm-GW		
Worklist#:	355322	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

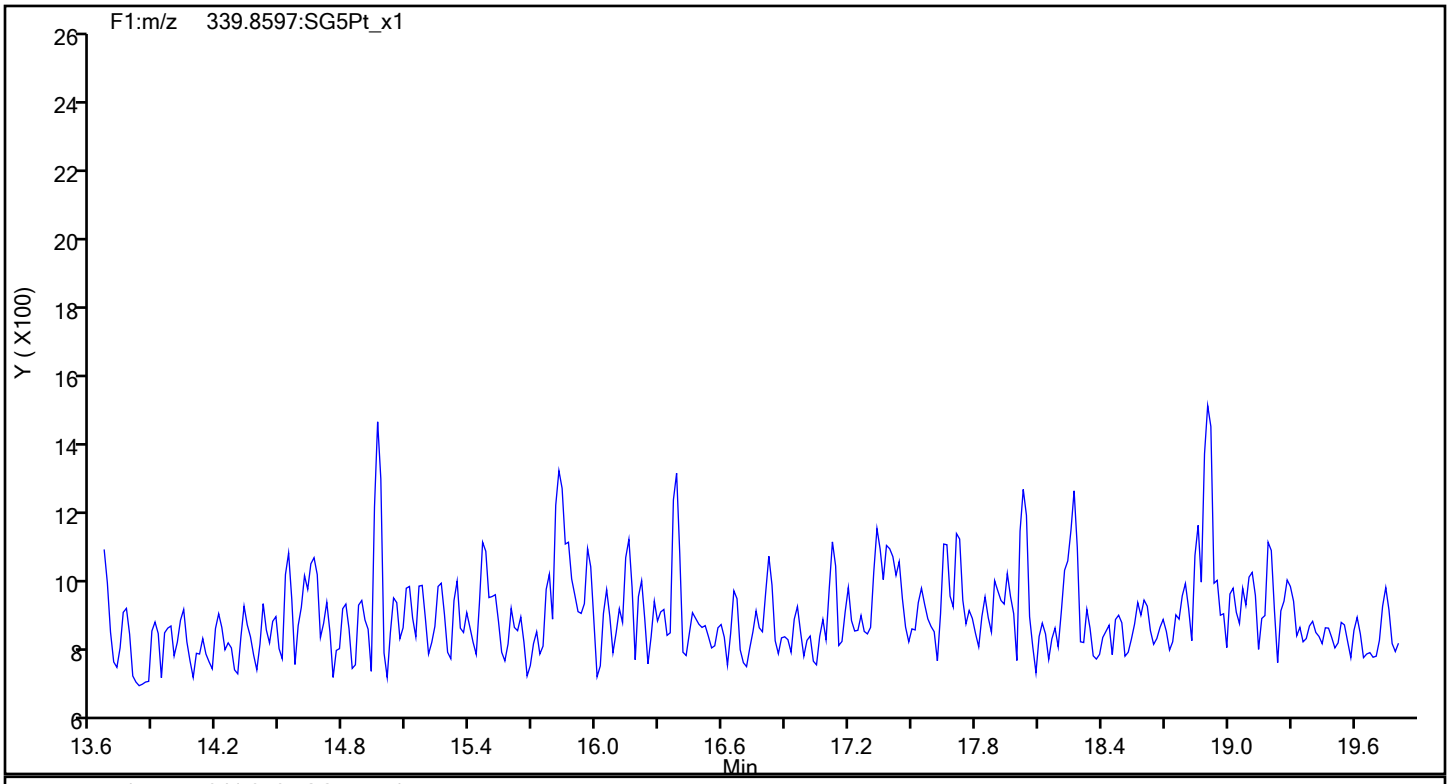

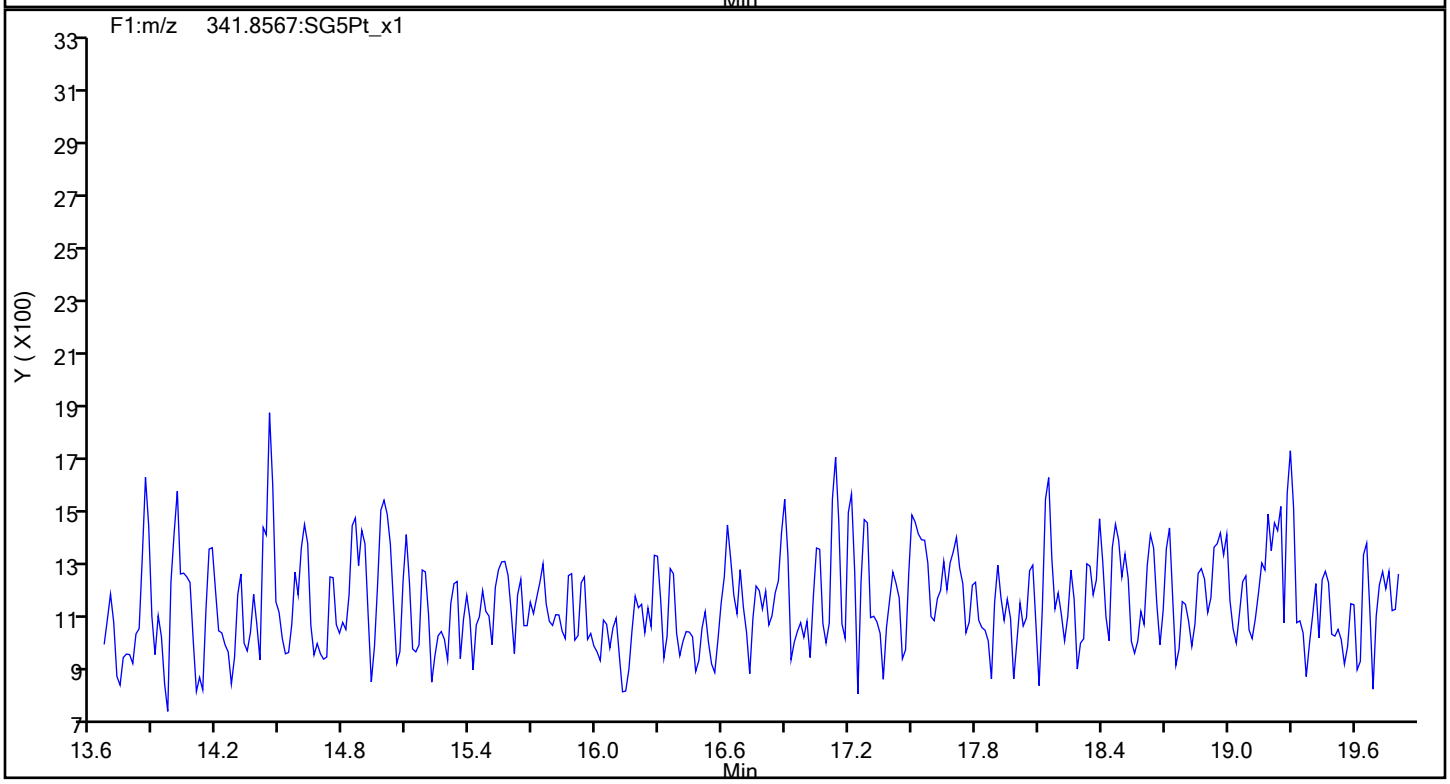

Report Date: 07-Feb-2020 14:32:47 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_7.d		
Injection Date:	05-Feb-2020 20:08:05	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Berm-GW		
Worklist#:	355322	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

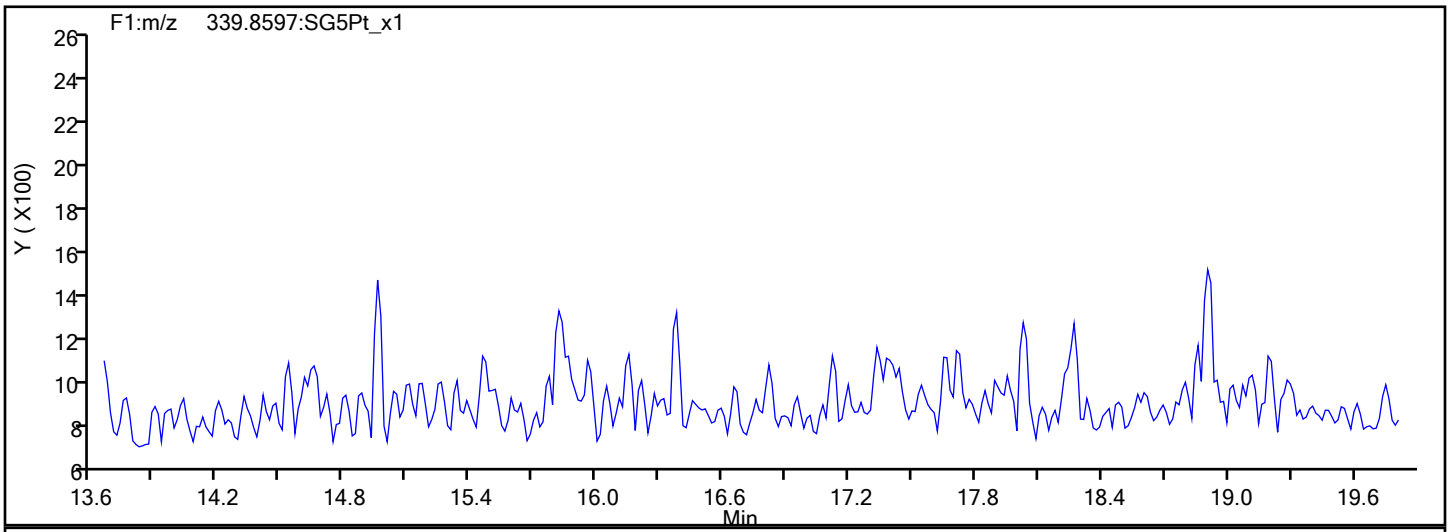

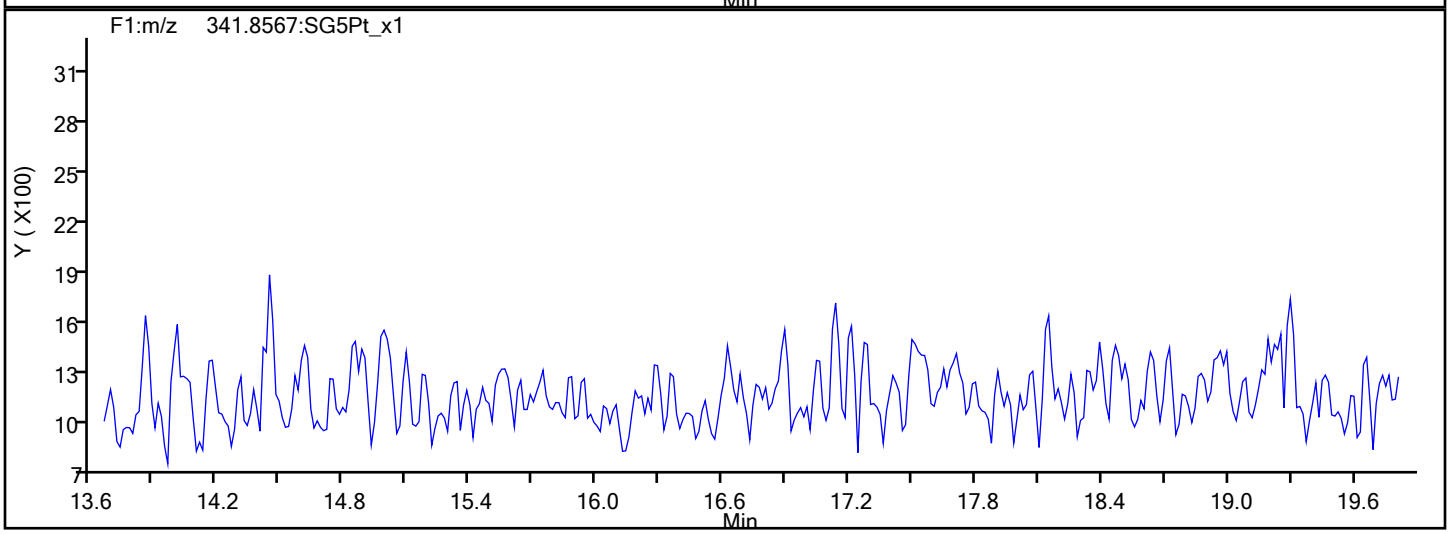

F1 PeCDFs Interference Mass

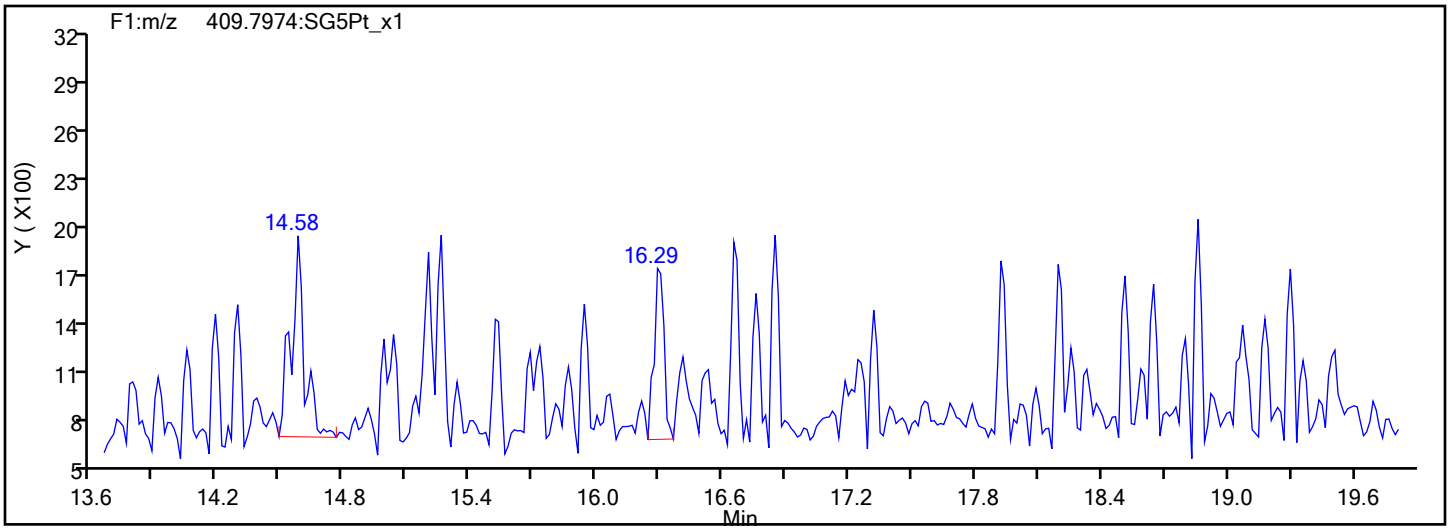

Report Date: 07-Feb-2020 14:32:47 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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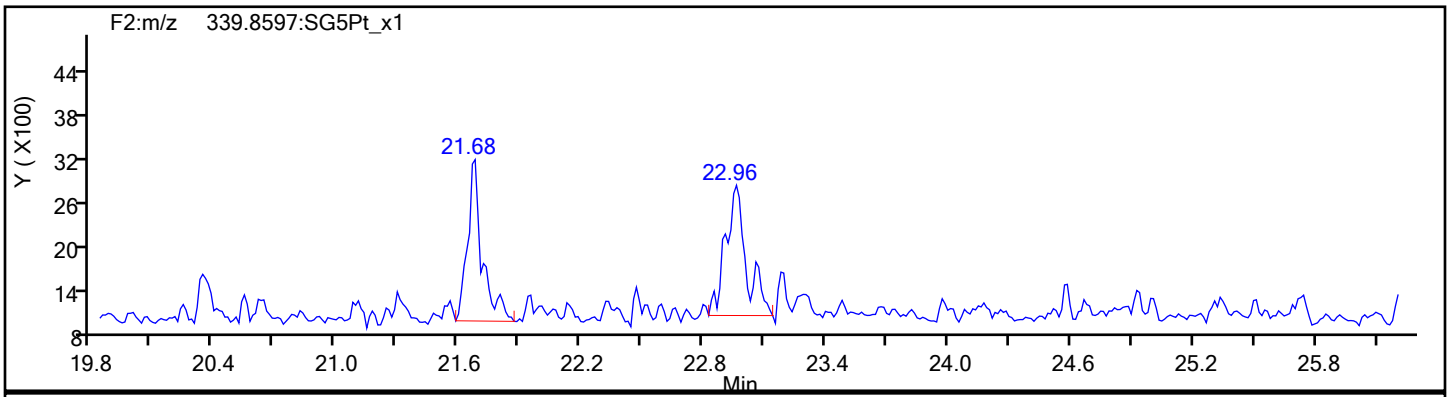

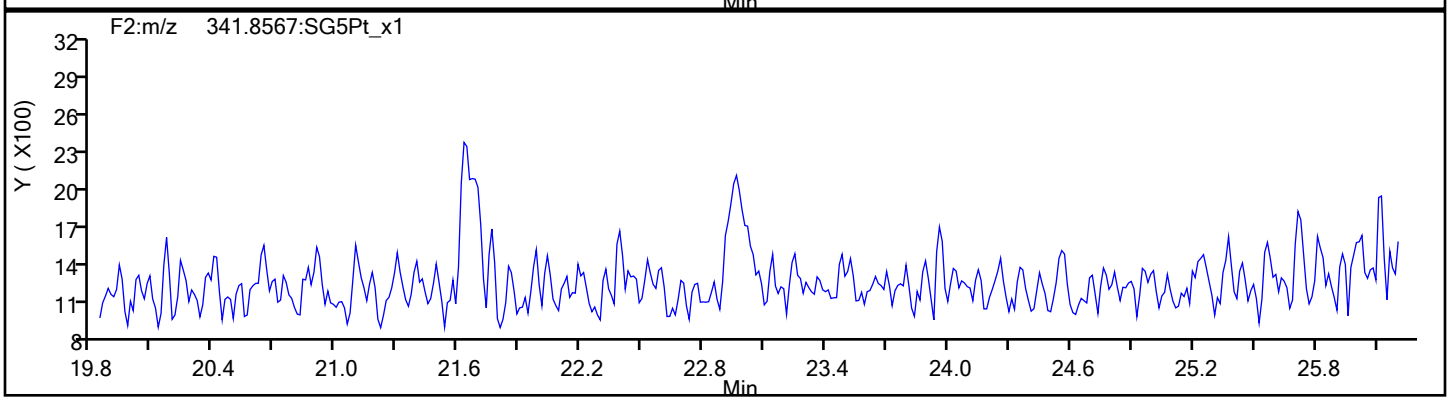

PeCDF Standards

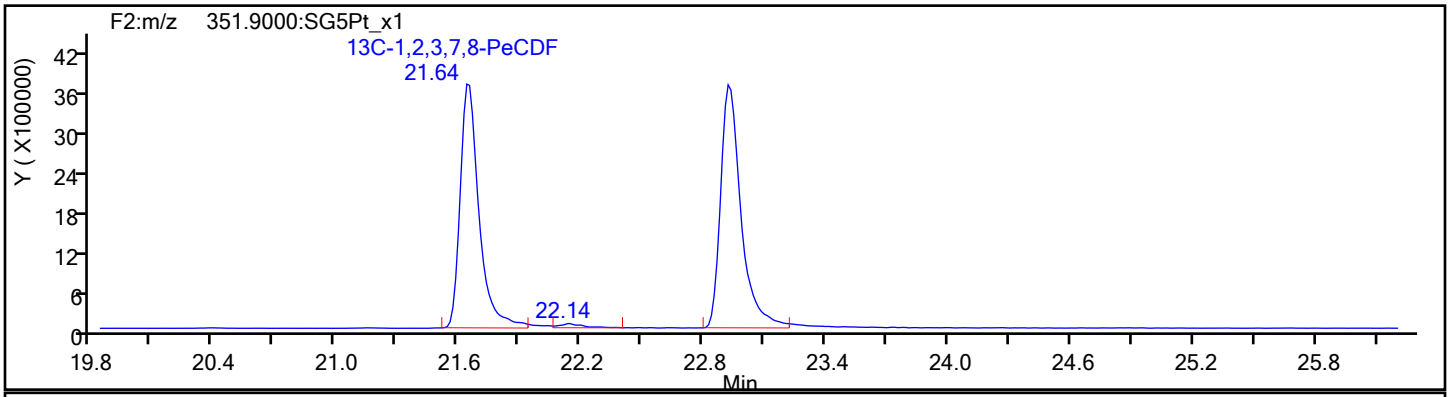

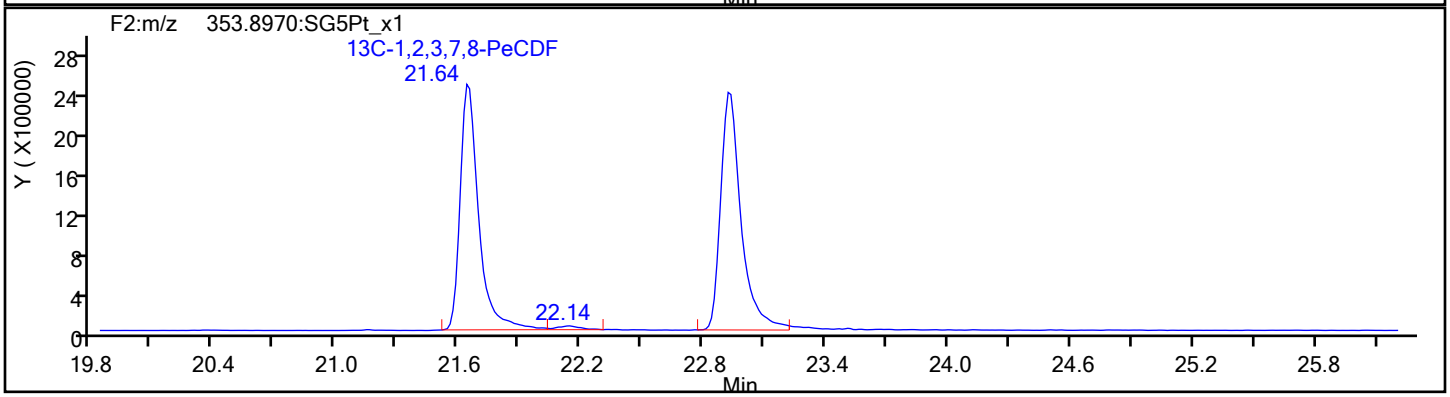

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Eurofins TestAmerica, Sacramento

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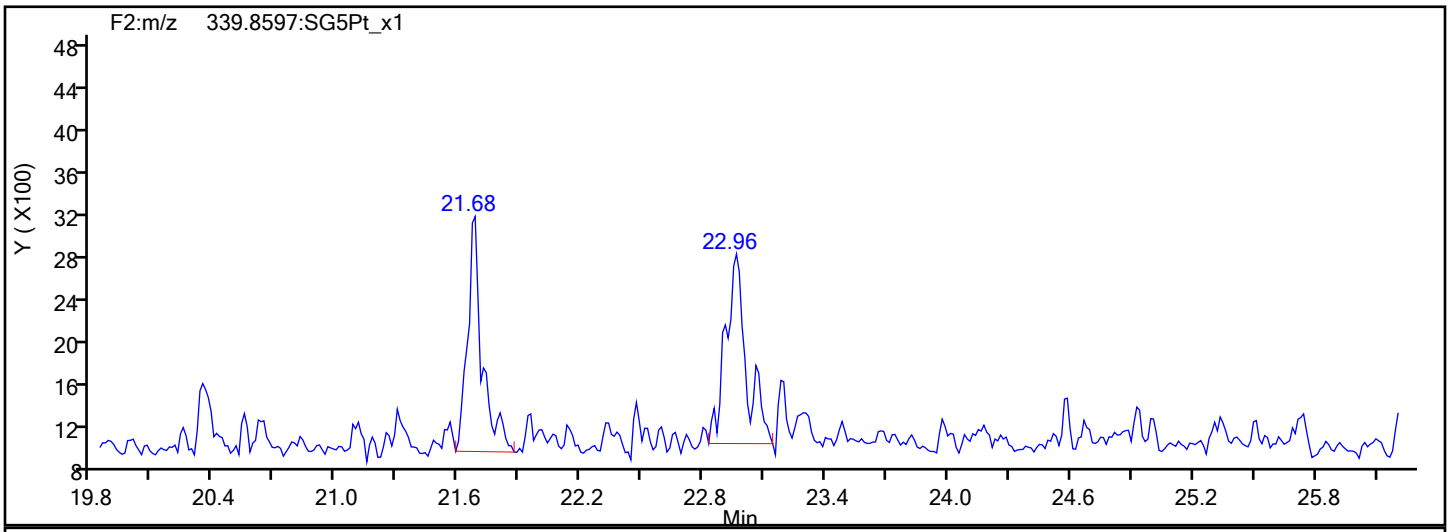

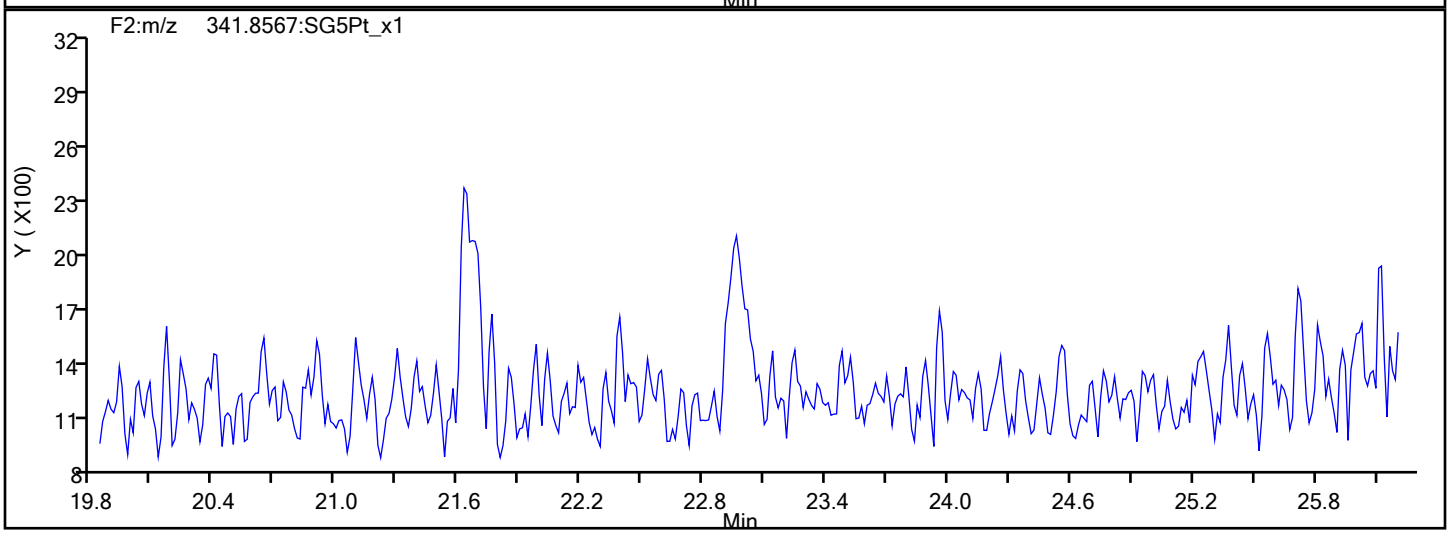

PeCDF Interference Mass

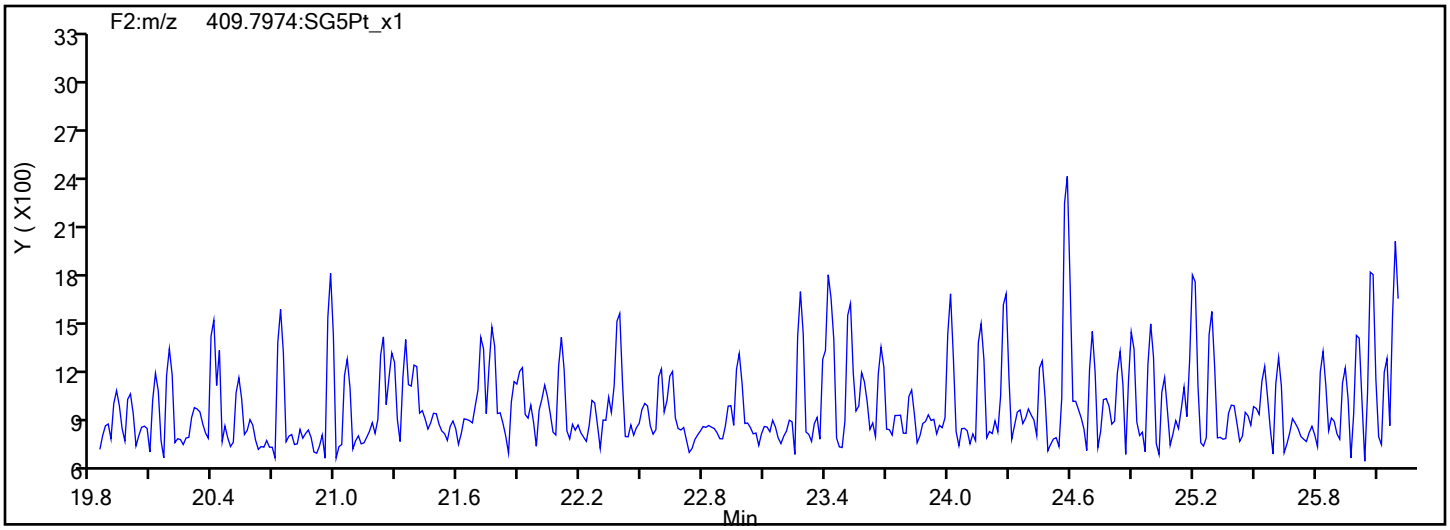

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Eurofins TestAmerica, Sacramento

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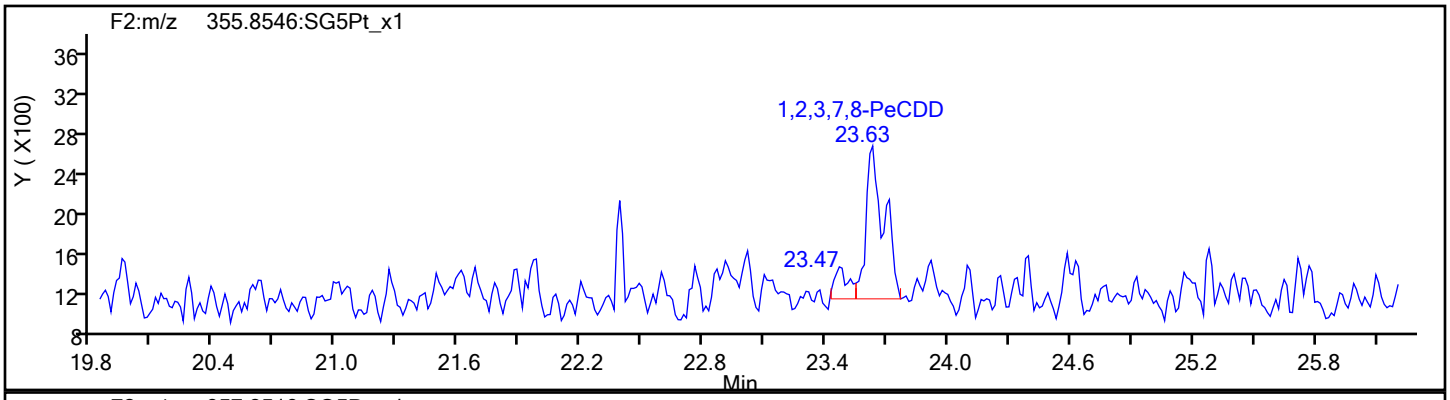

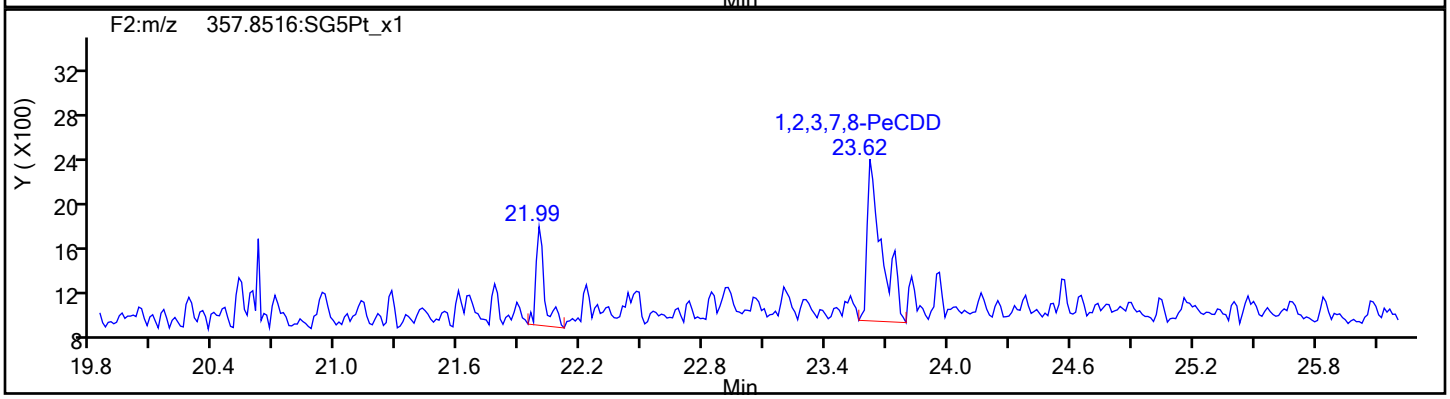

PeCDD Standards

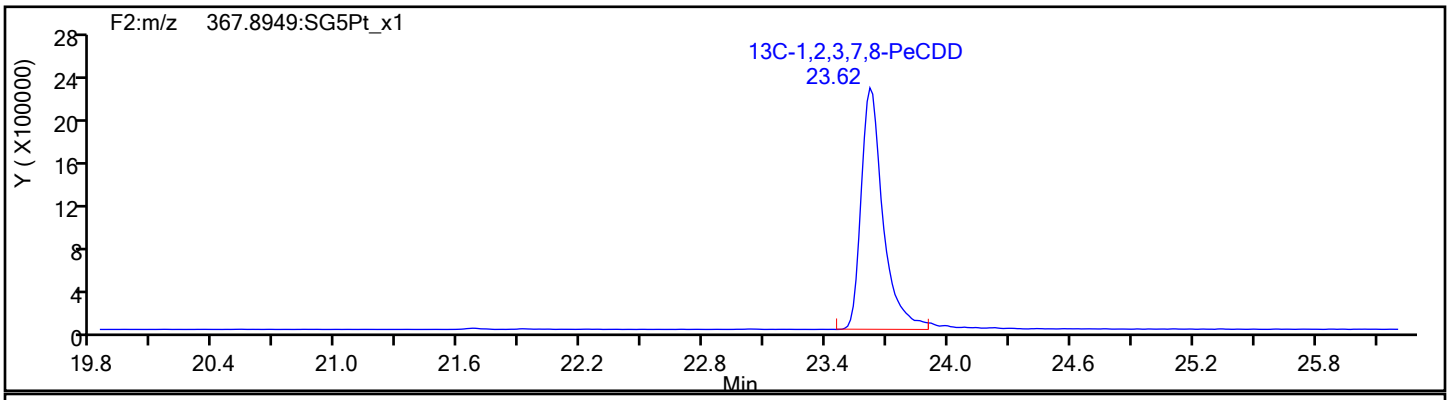

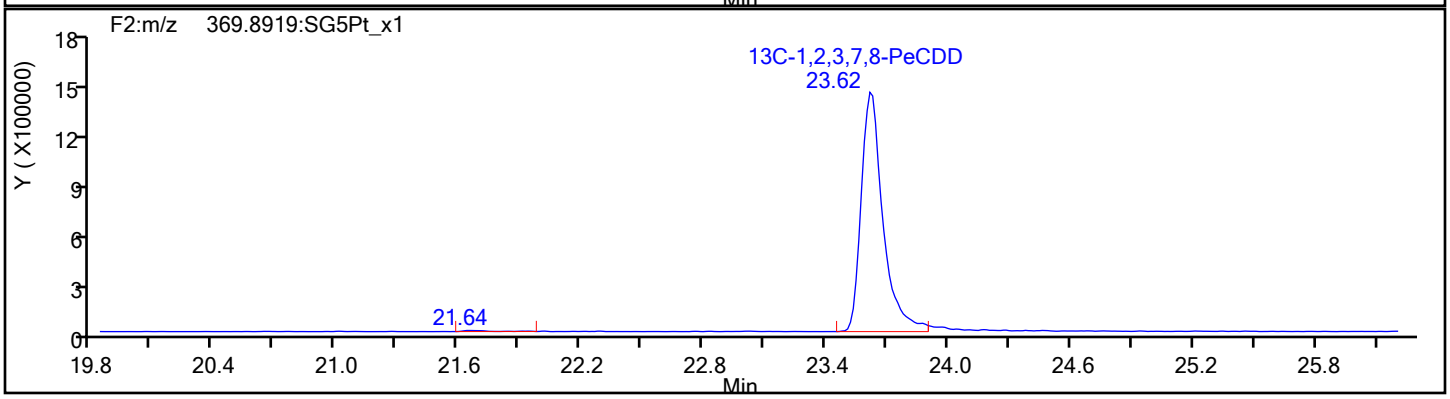

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Eurofins TestAmerica, Sacramento

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HxCDF

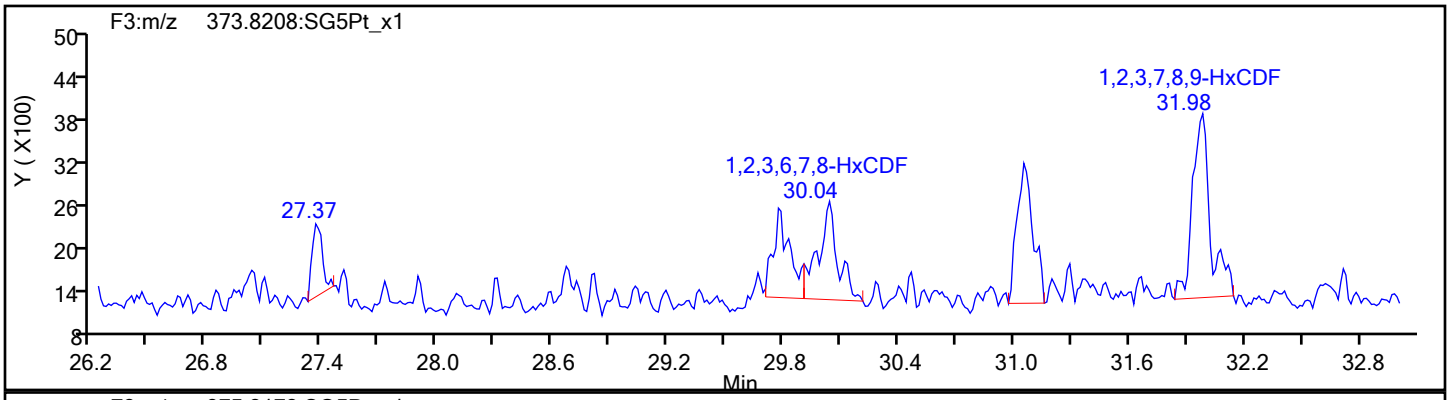

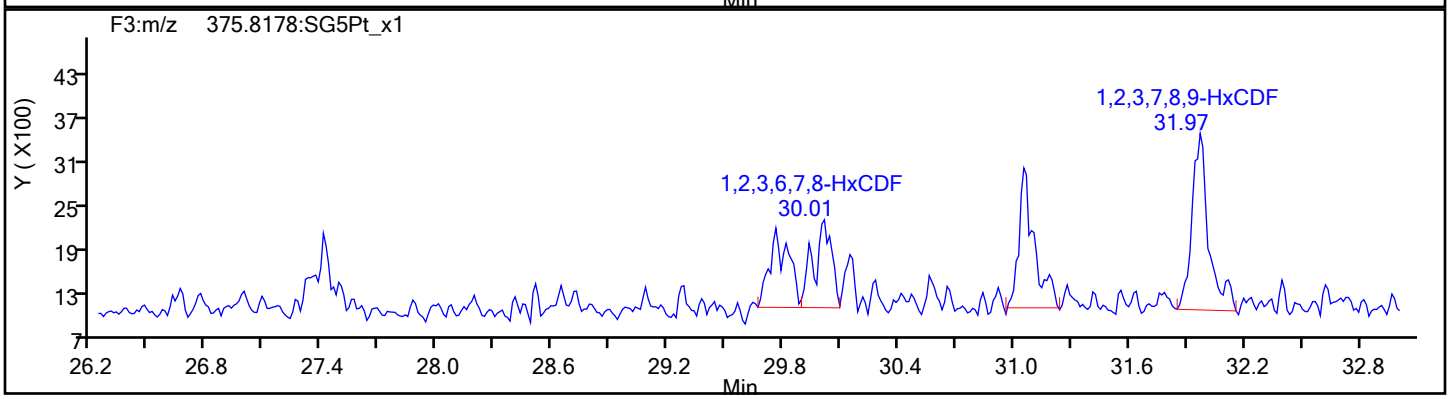

HxCDF Standards

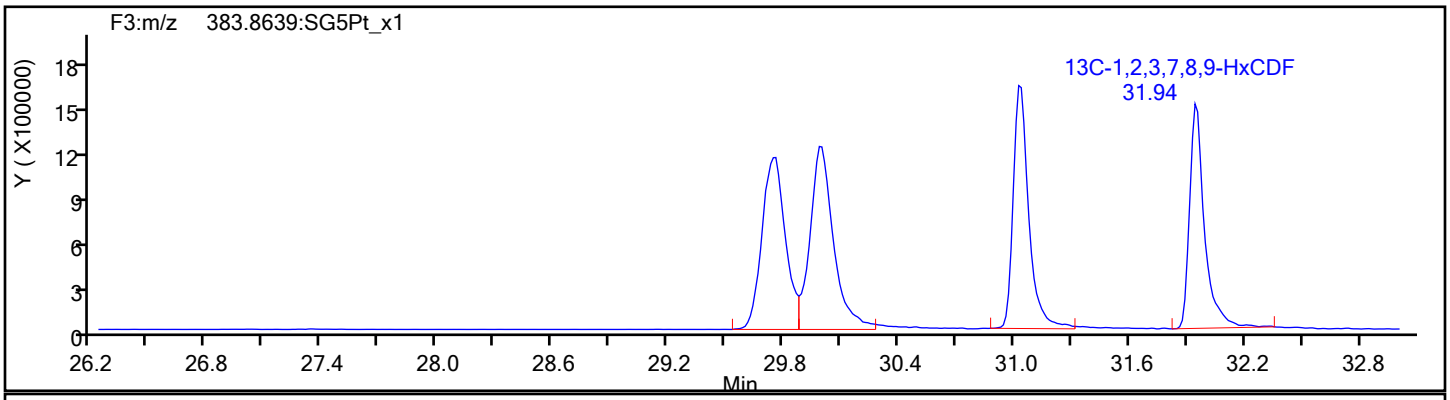

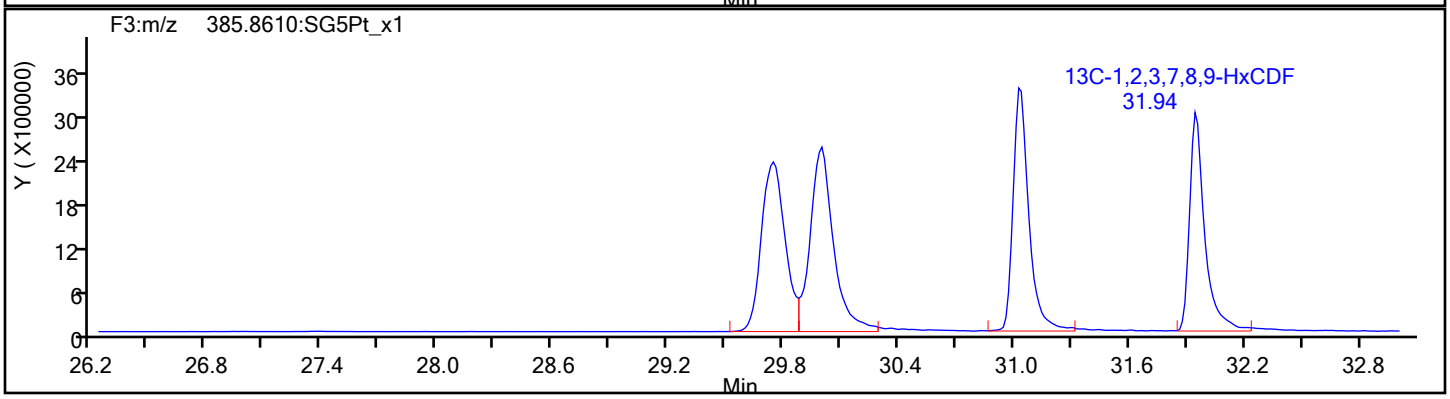

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Eurofins TestAmerica, Sacramento

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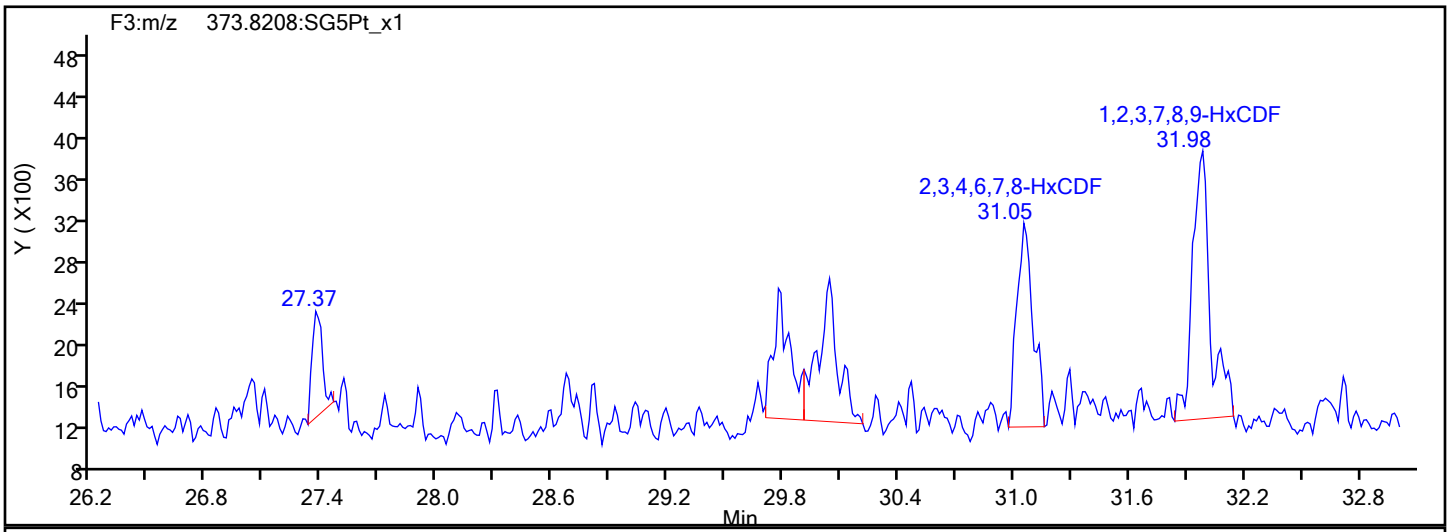

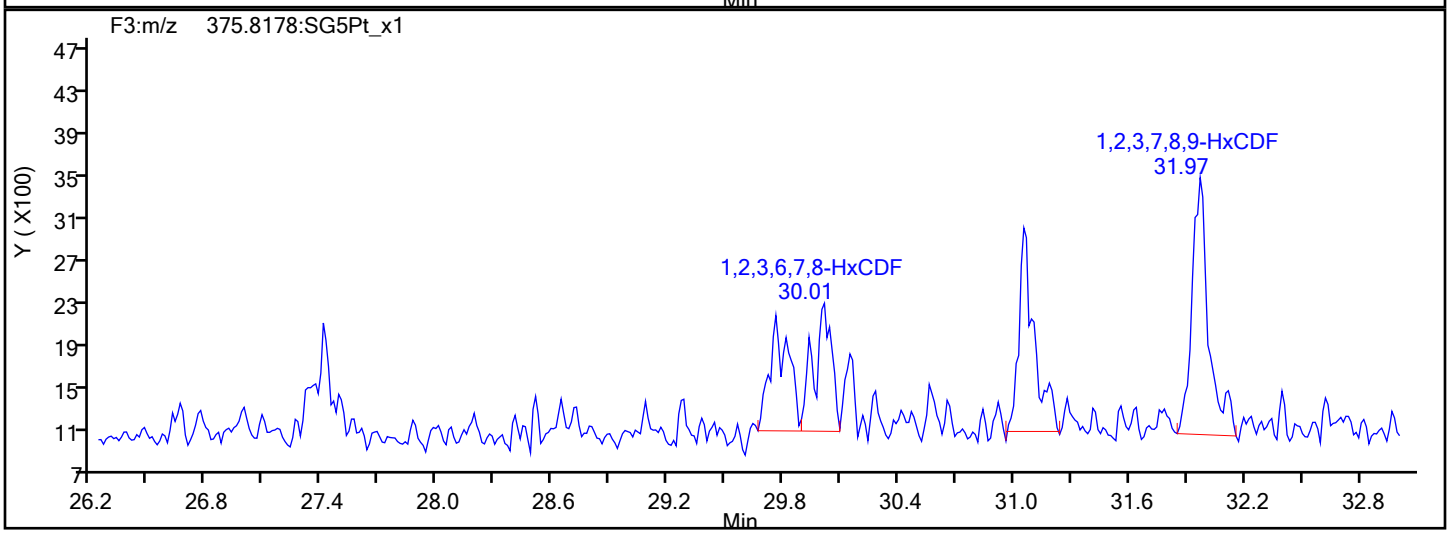

HxCDF Interference Mass

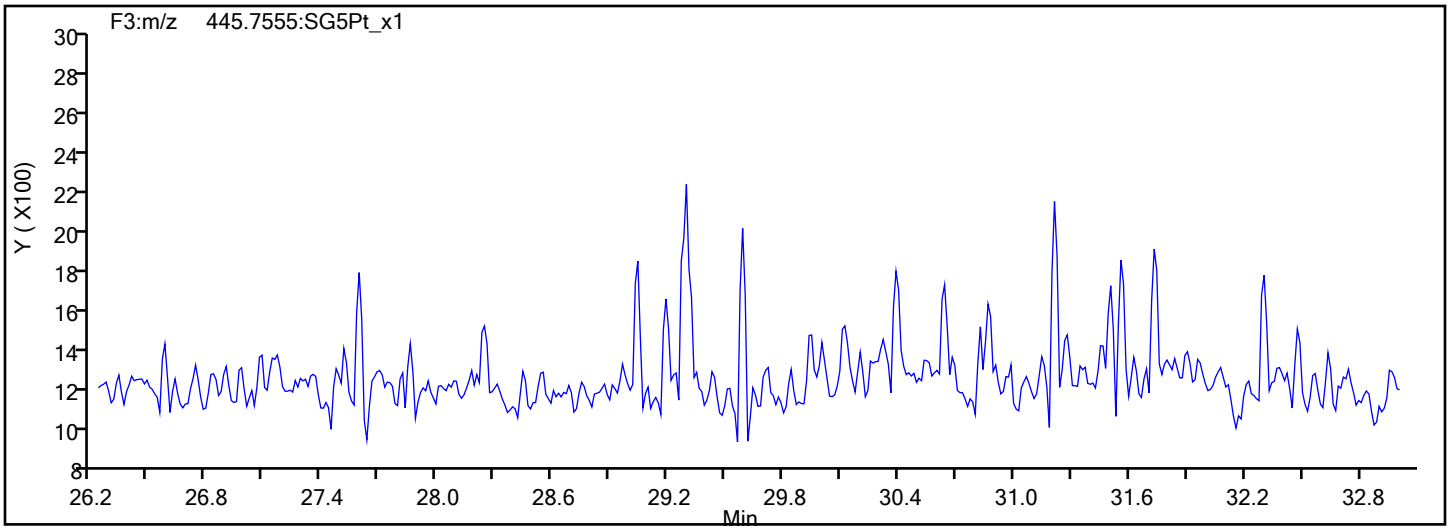

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Eurofins TestAmerica, Sacramento

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HxCDD

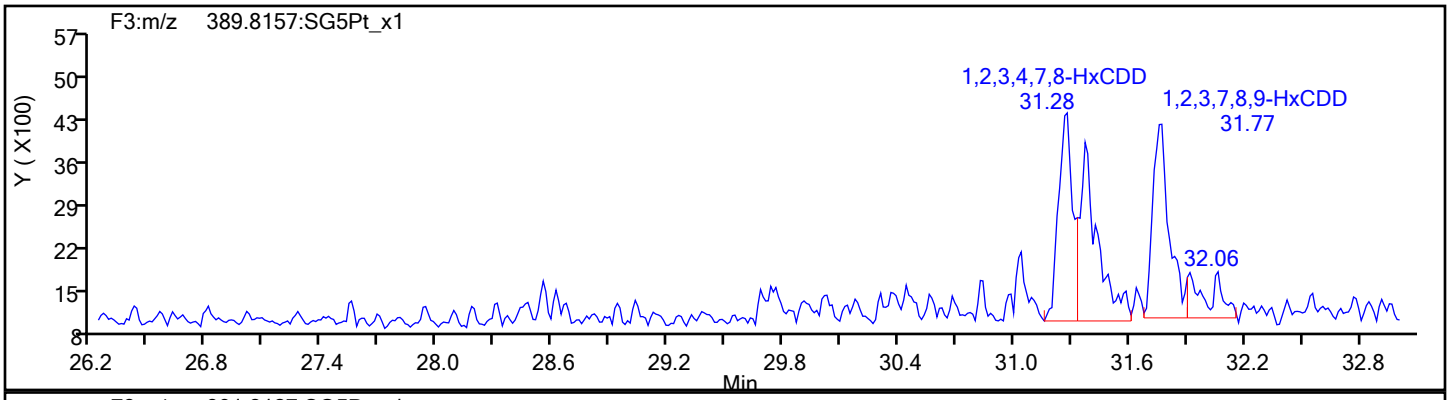

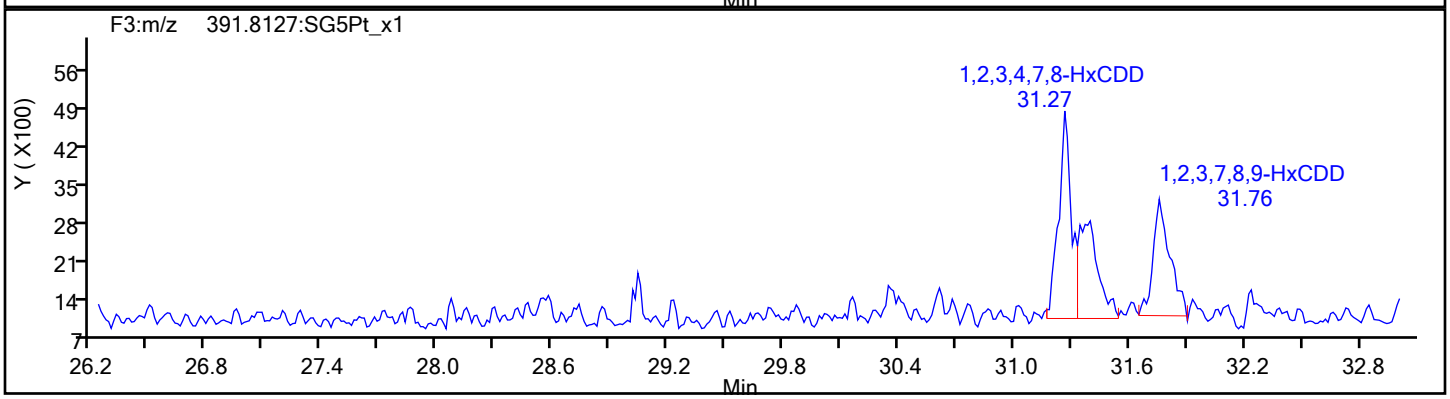

HxCDD Standards

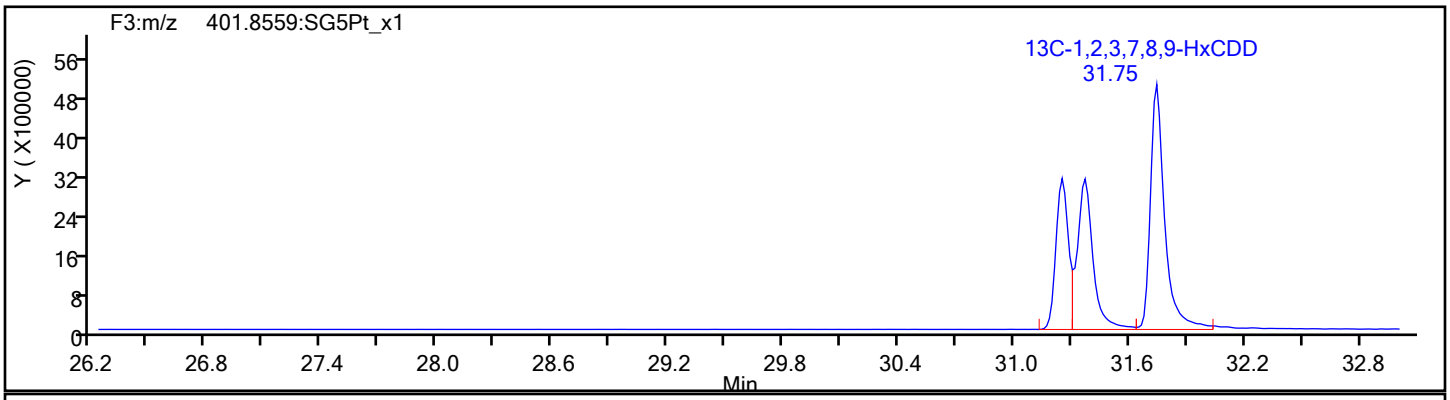

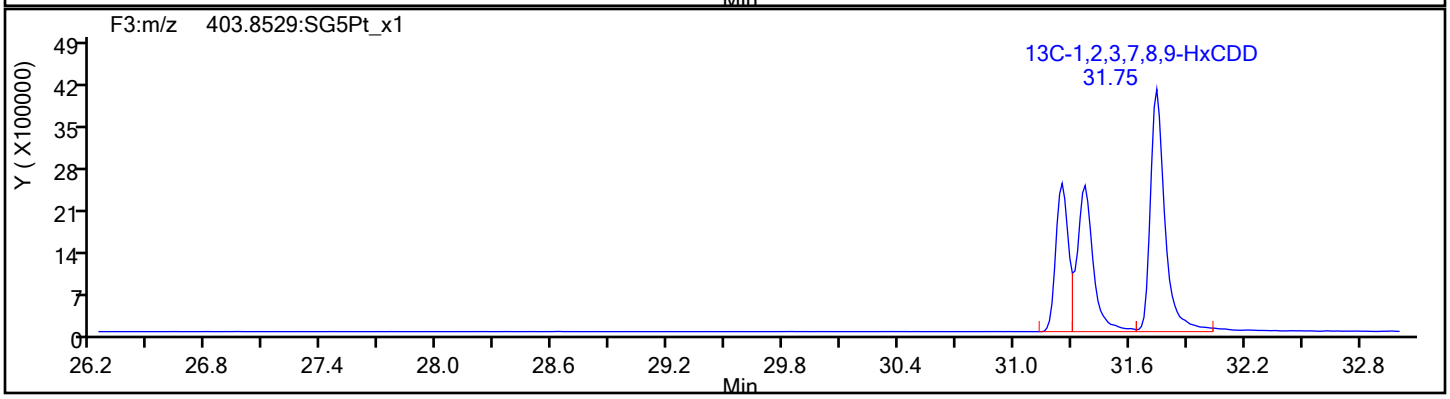

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Eurofins TestAmerica, Sacramento

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HpCDF

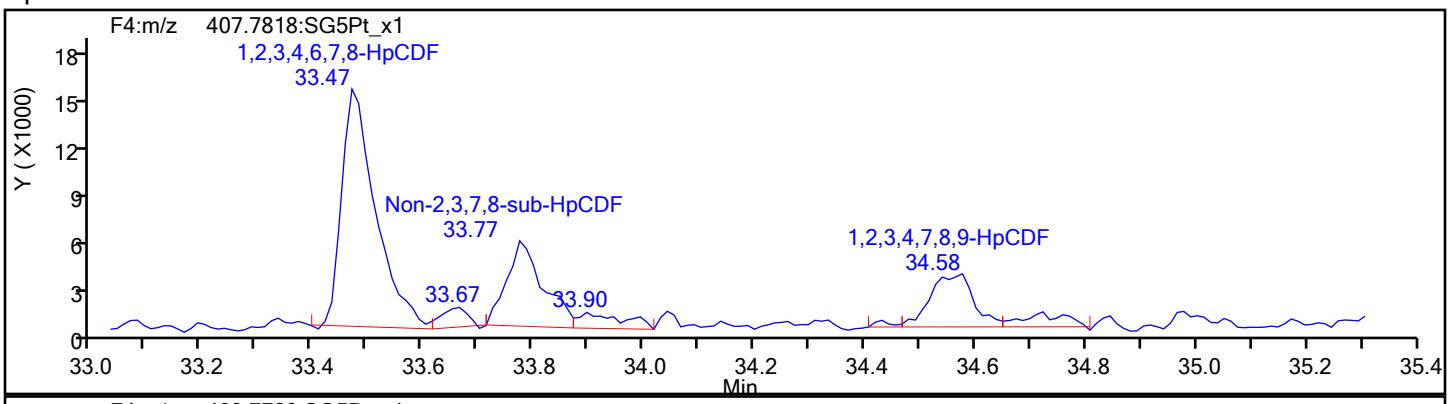

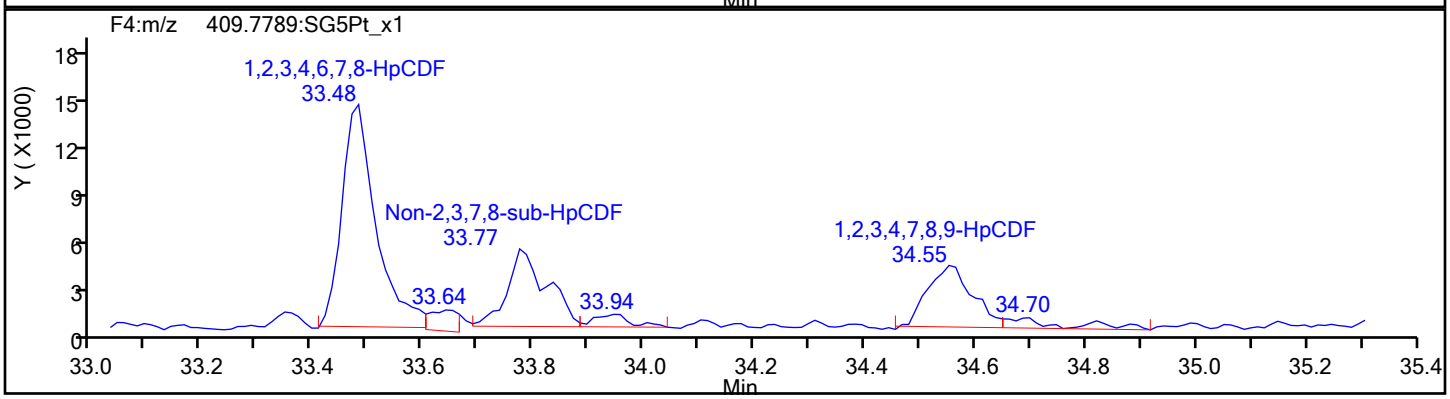

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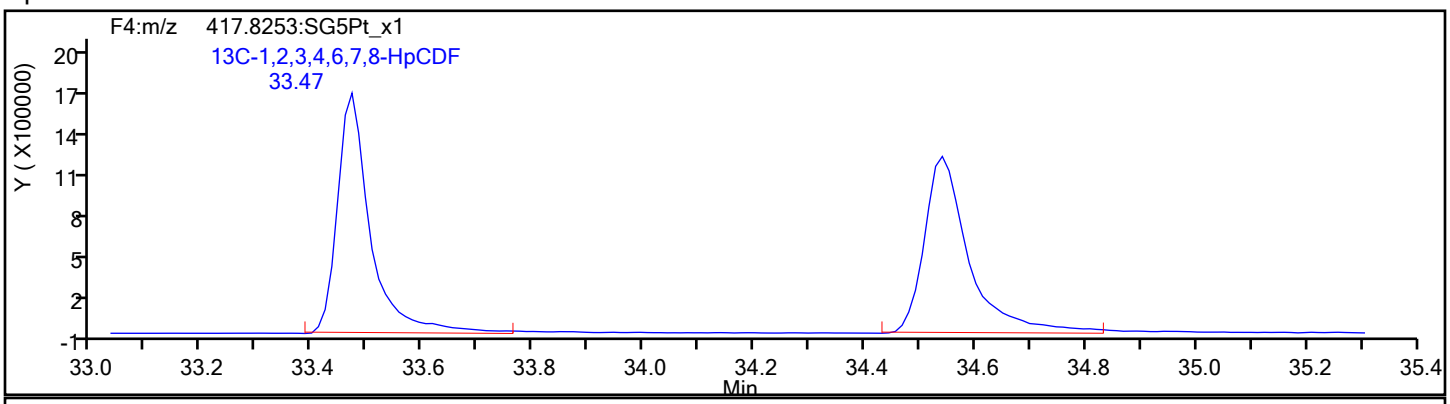

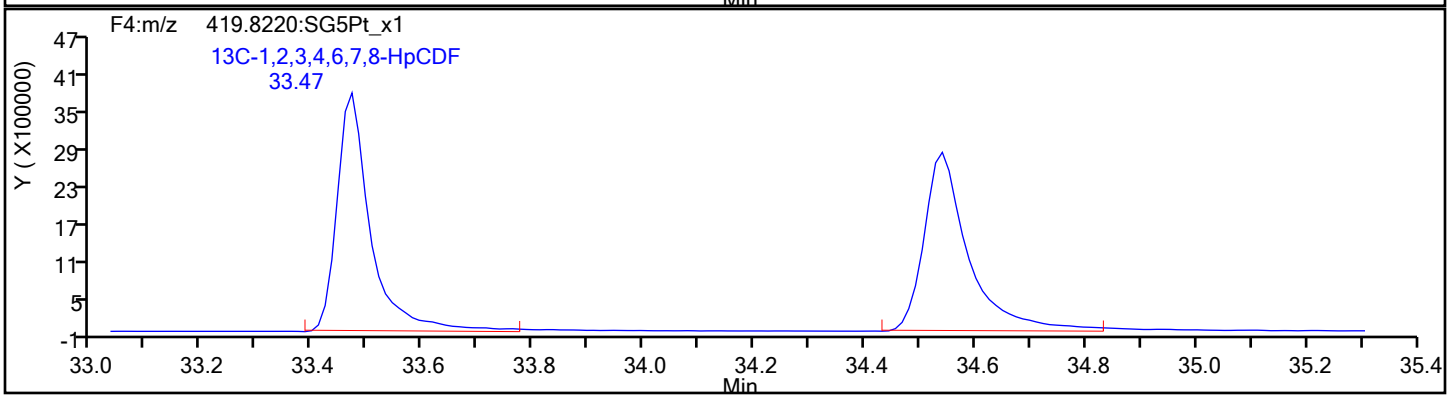

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Eurofins TestAmerica, Sacramento

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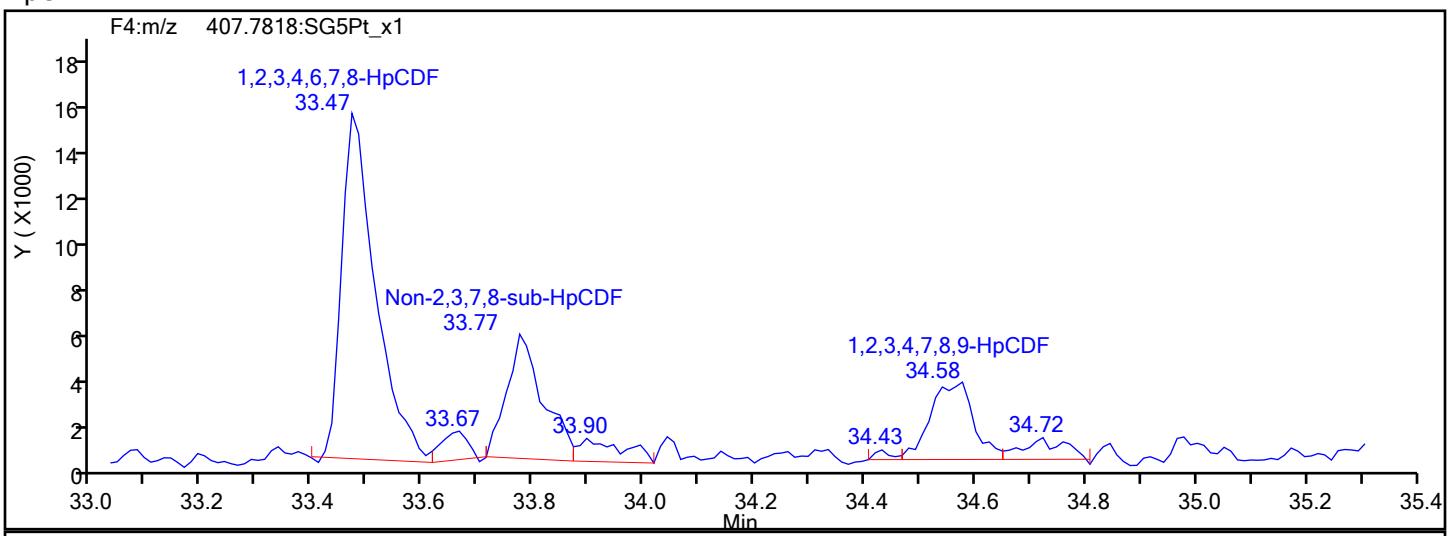

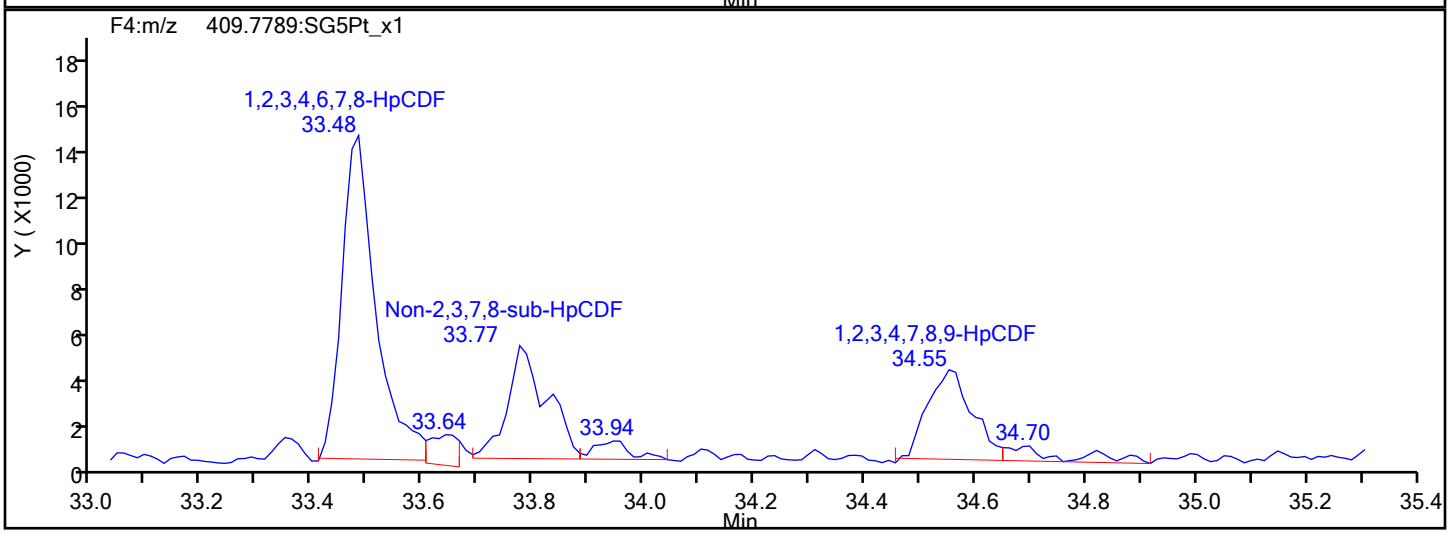

HpCDF Interference Mass

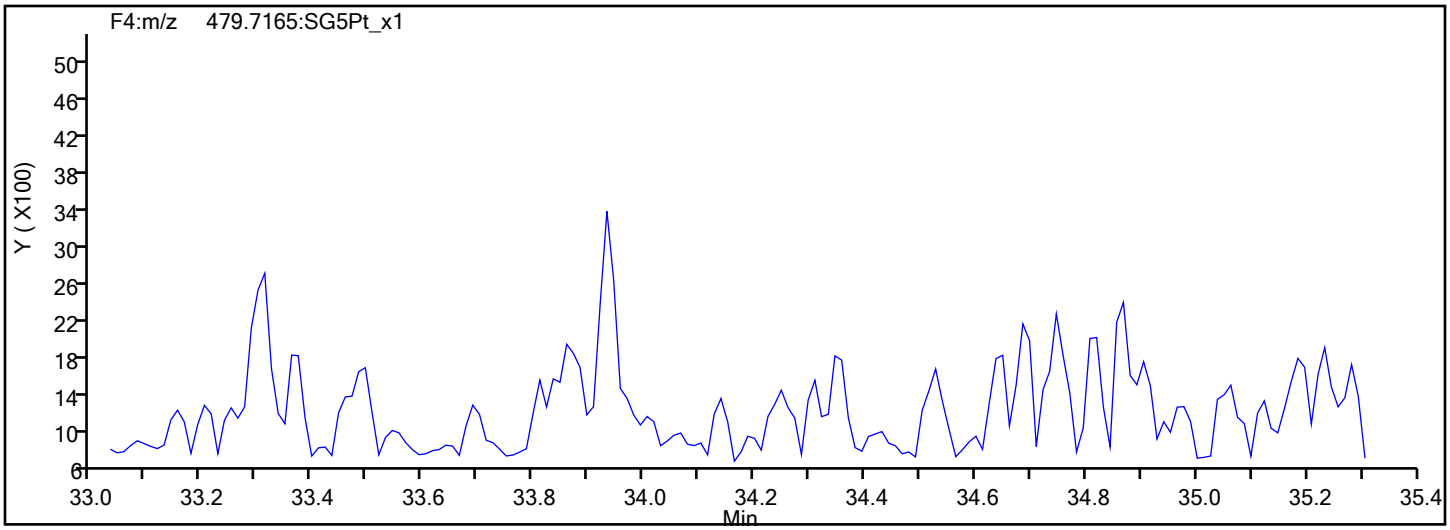

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Eurofins TestAmerica, Sacramento

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HpCDD

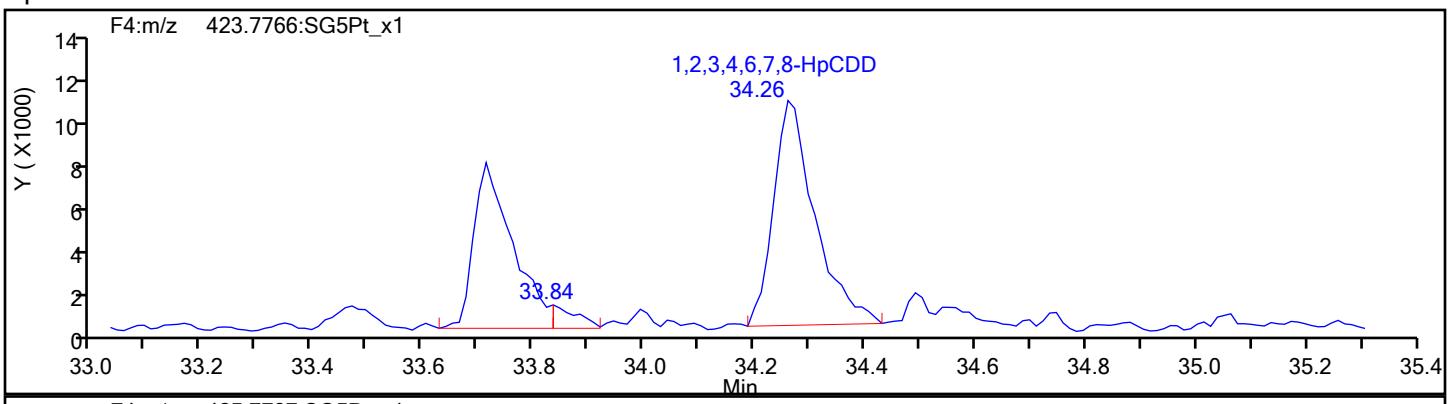

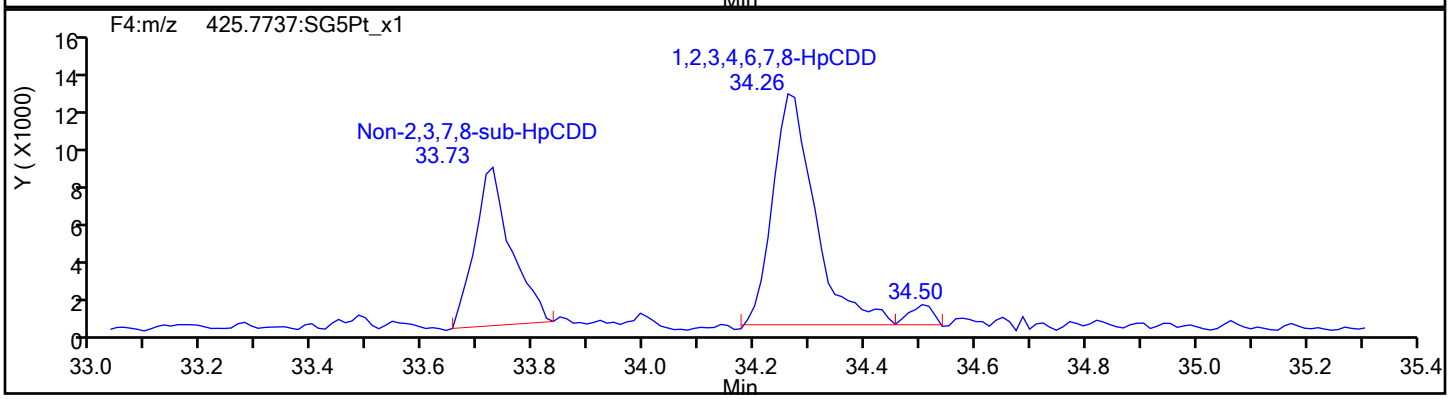

HpCDD Standards

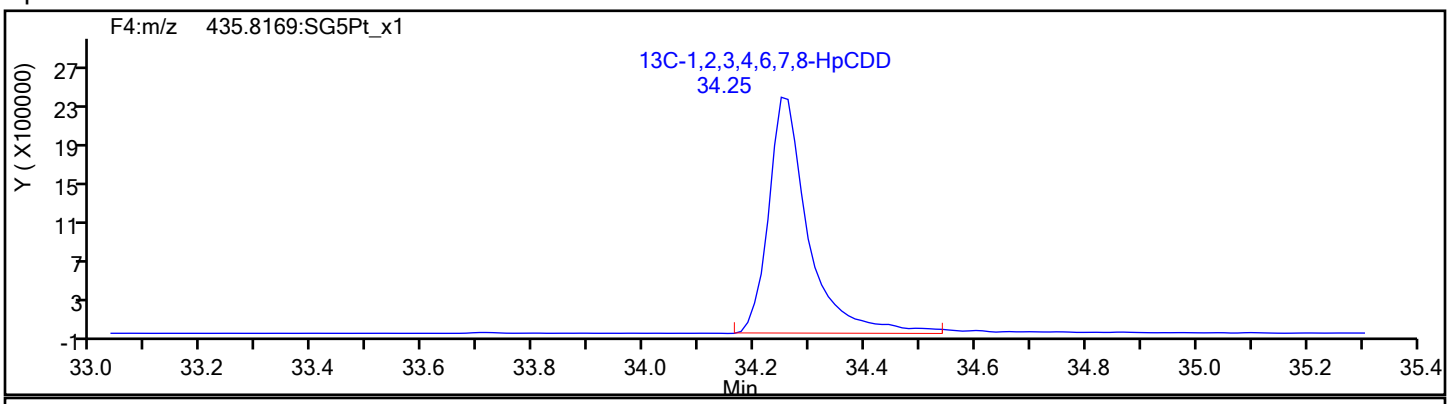

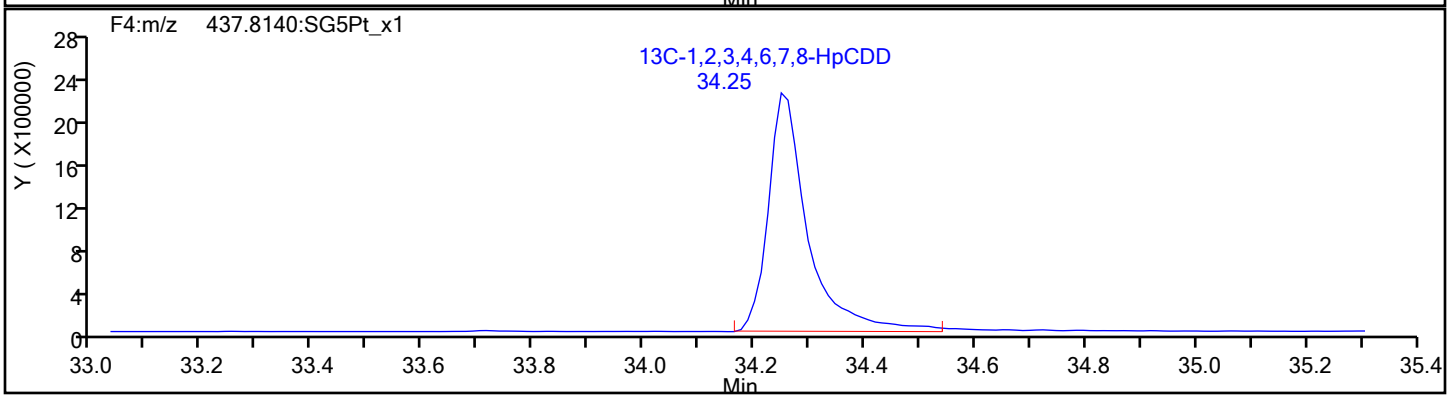

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Eurofins TestAmerica, Sacramento

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OCDF

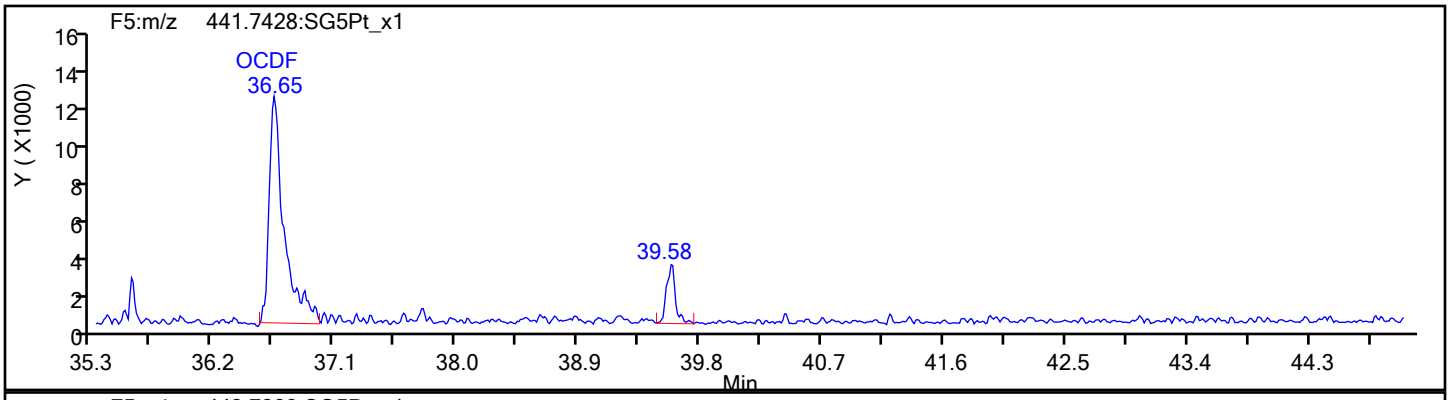

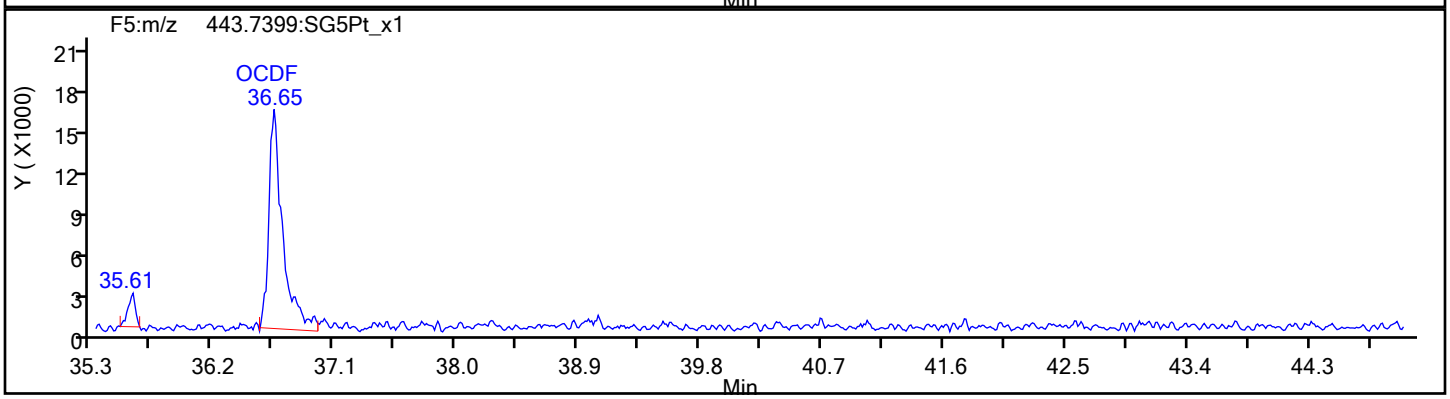

OCDF Standards

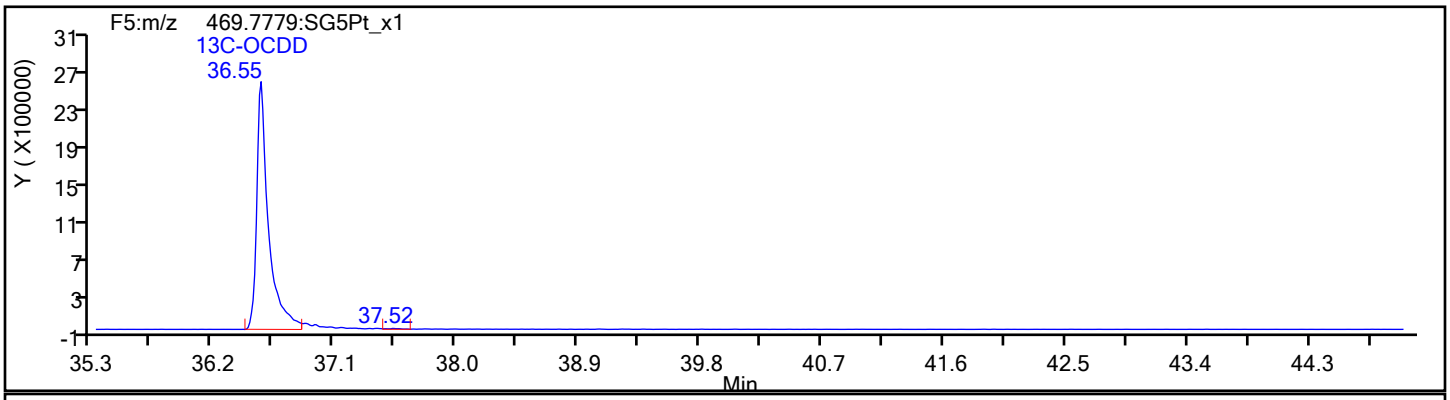

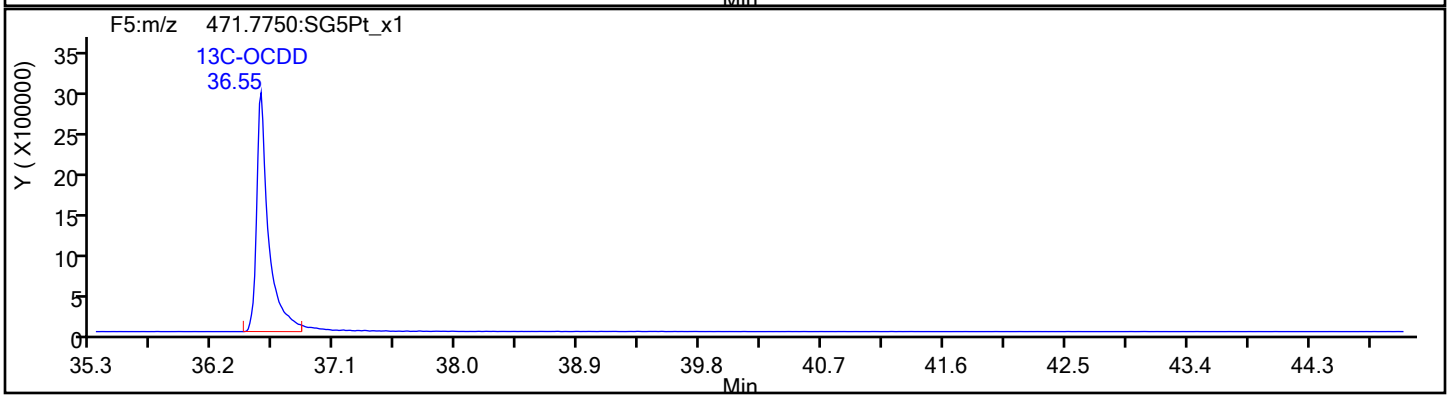

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Eurofins TestAmerica, Sacramento

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Client ID:	11187072-Berm-GW		
Worklist#:	355322	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

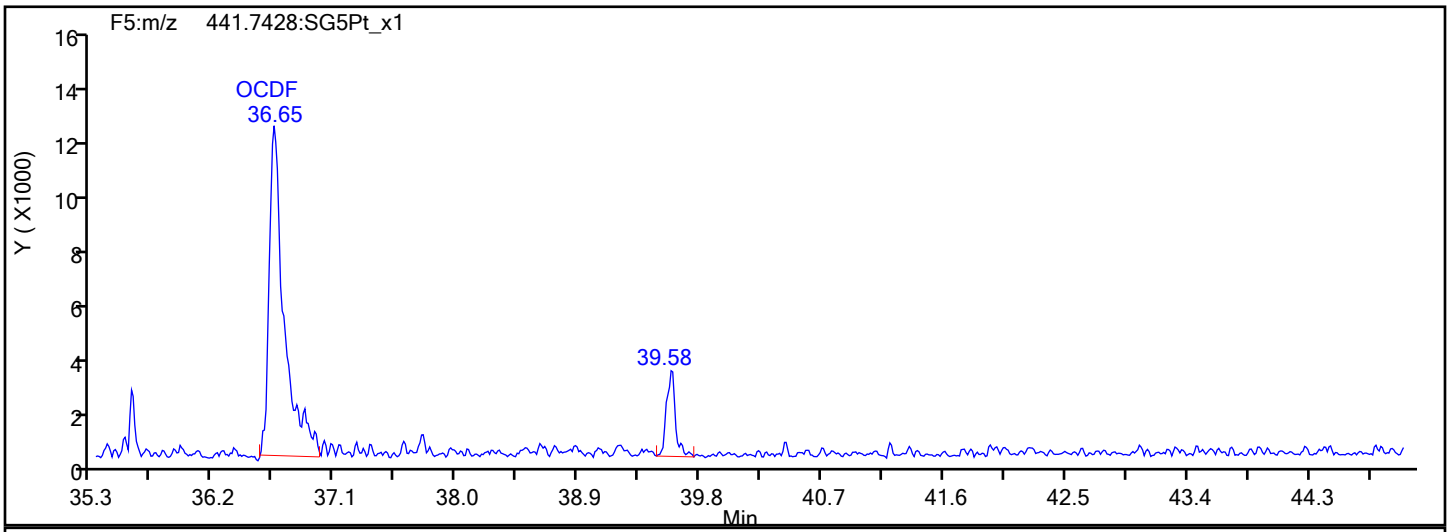

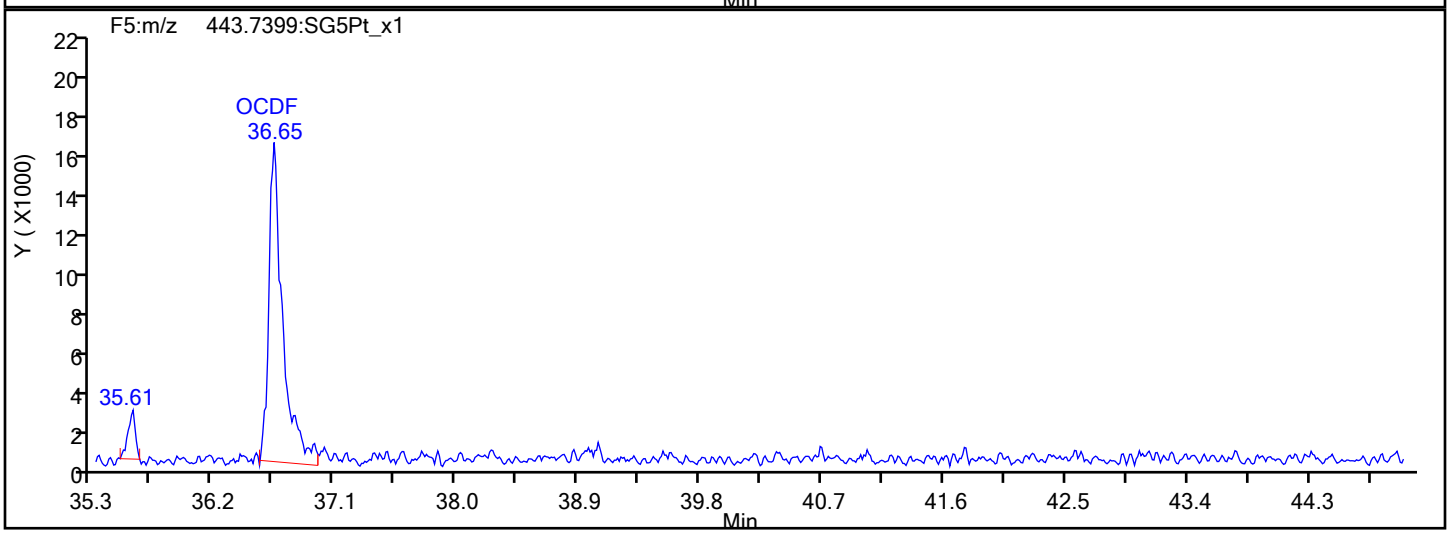

OCDF Interference Mass

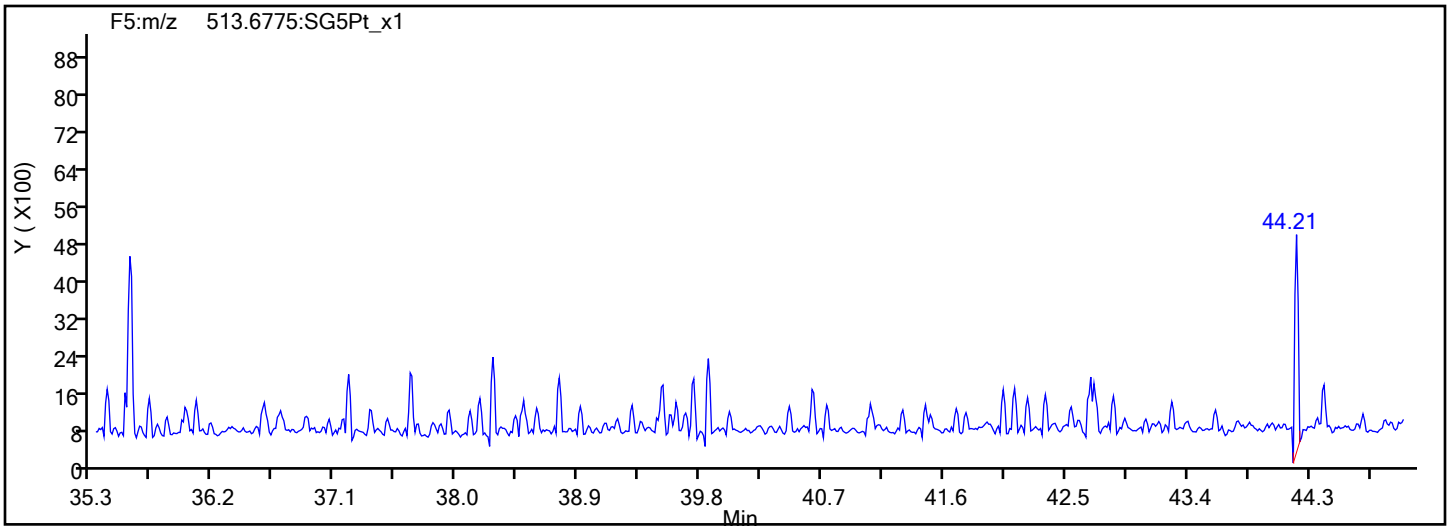

Report Date: 07-Feb-2020 14:32:48 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_7.d		
Injection Date:	05-Feb-2020 20:08:05	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Berm-GW		
Worklist#:	355322	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

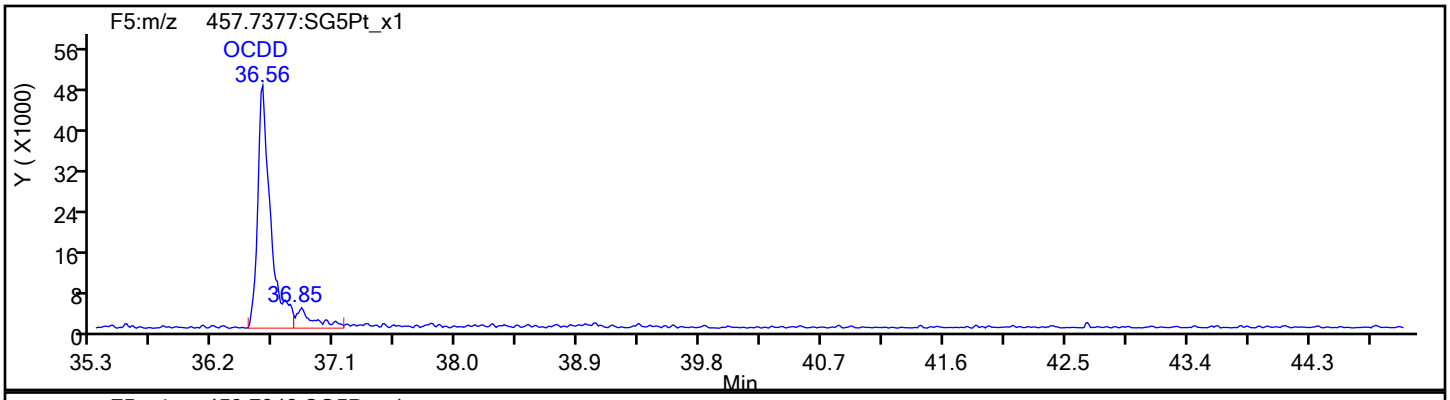

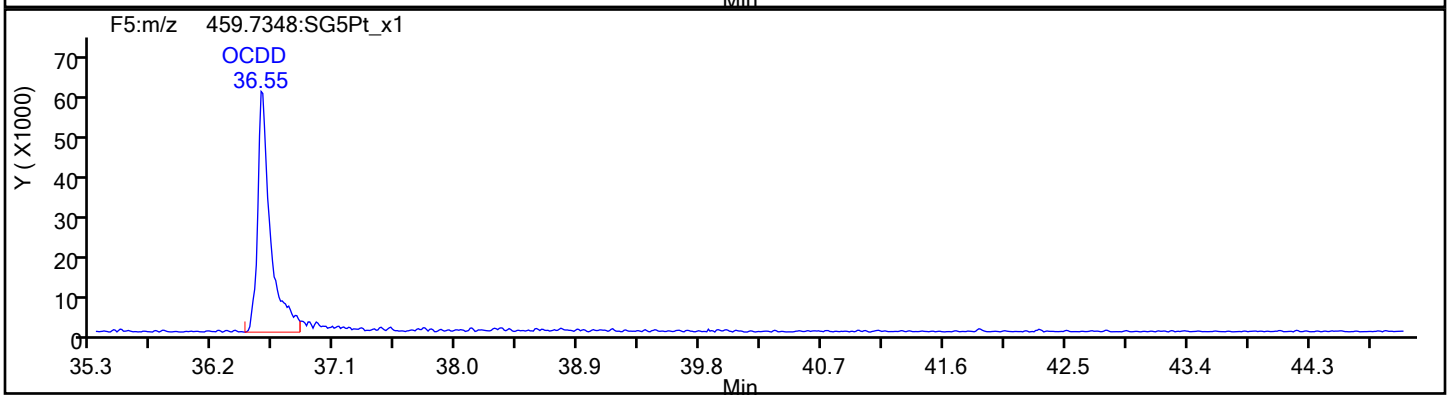

OCDD Standards

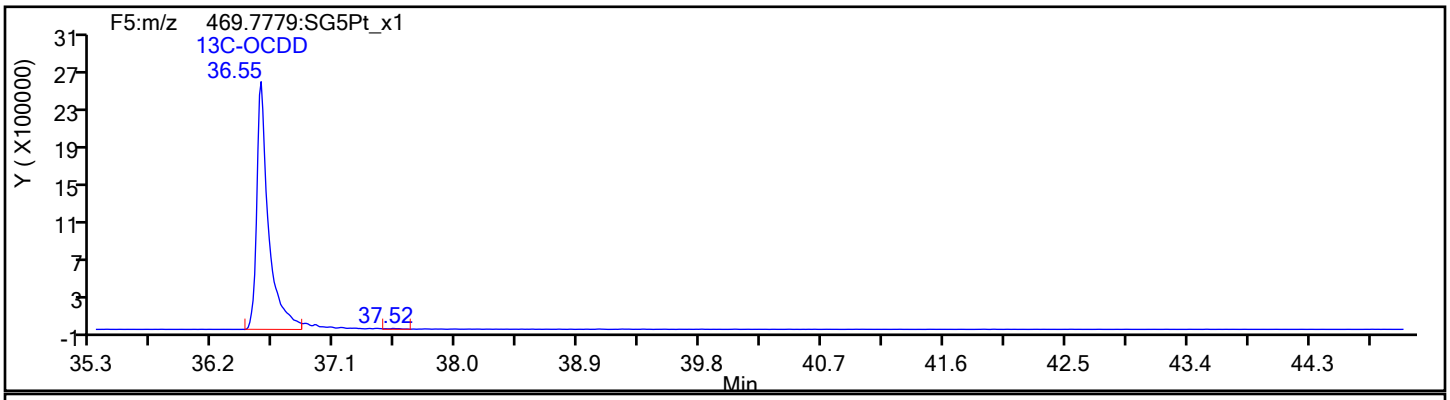

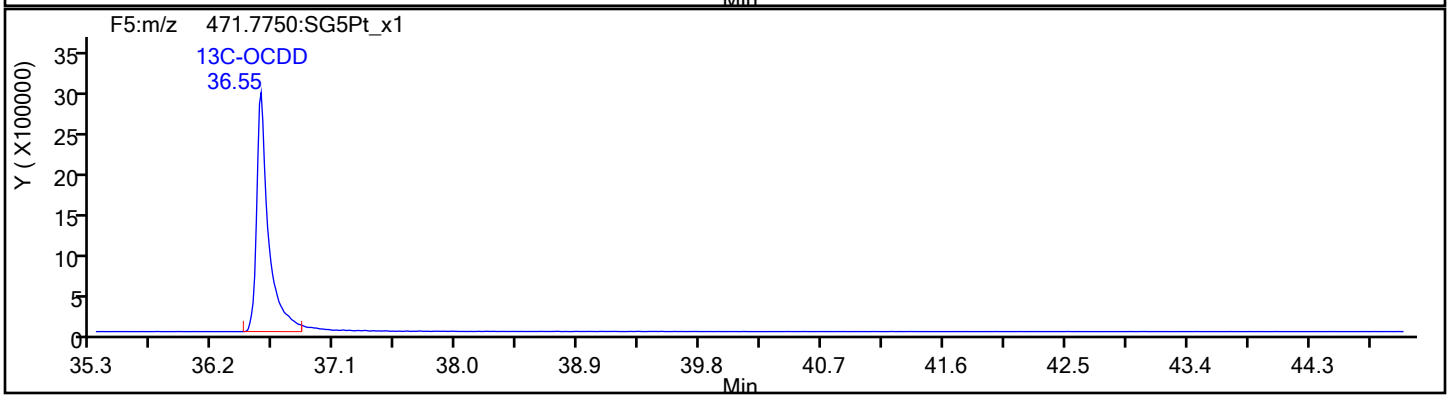

Report Date: 07-Feb-2020 14:32:48 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_7.d		
Injection Date:	05-Feb-2020 20:08:05	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Berm-GW		
Worklist#:	355322	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

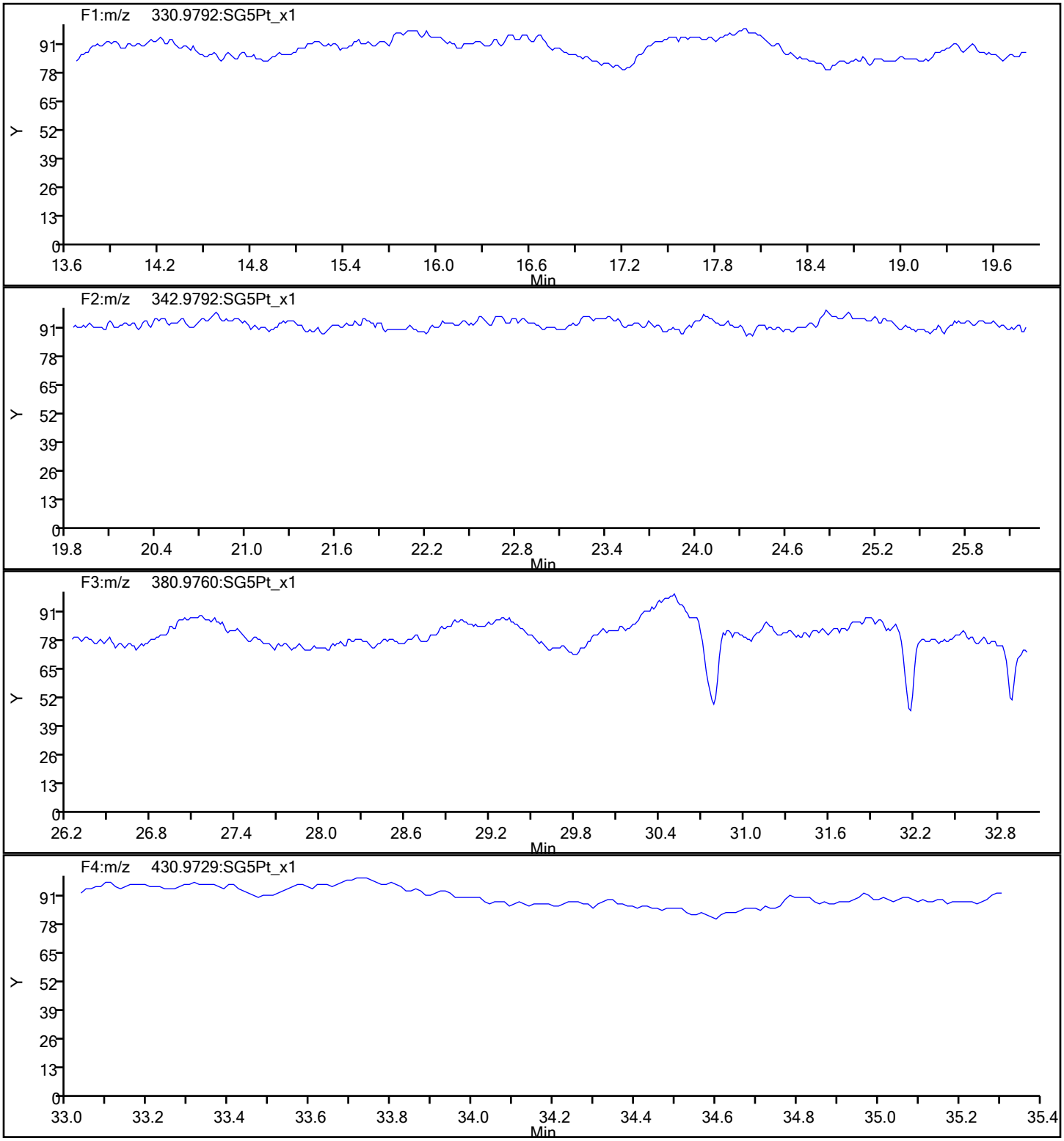

Report Date: 07-Feb-2020 14:32:48 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_7.d		
Injection Date:	05-Feb-2020 20:08:05	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Berm-GW		
Worklist#:	355322	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

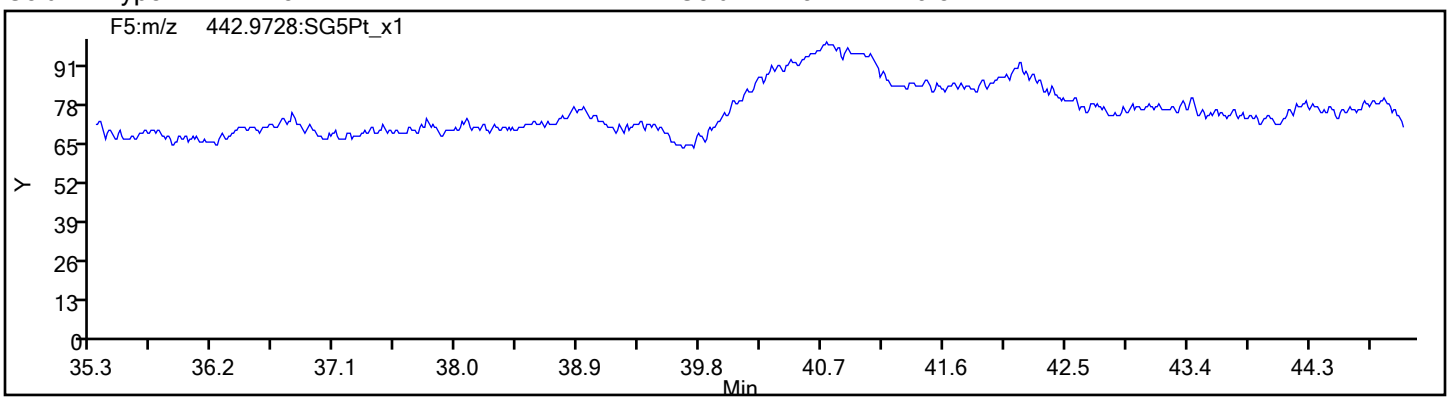

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 320-58170-1
SDG No.:
Client Sample ID: 11187072-Berm-Solids
Lab Sample ID: 320-58170-2
Matrix: Sediment
Lab File ID: 06FE2010D5_12.d
Analysis Method: 1613B
Date Collected: 01/29/2020 13:30
Extract. Method: HRMS-Sox
Date Extracted: 01/31/2020 09:04
Sample wt/vol: 4.37(g)
Date Analyzed: 02/06/2020 19:14
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture: 0.4
GPC Cleanup:(Y/N) N
Analysis Batch No.: 355551
Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	0.56	J	2.3	0.13
51207-31-9	2,3,7,8-TCDF	0.73	J	2.3	0.099
40321-76-4	1,2,3,7,8-PeCDD	ND		11	0.15
57117-41-6	1,2,3,7,8-PeCDF	ND		11	0.12
57117-31-4	2,3,4,7,8-PeCDF	ND		11	0.13
39227-28-6	1,2,3,4,7,8-HxCDD	0.48	J q B	11	0.16
57653-85-7	1,2,3,6,7,8-HxCDD	0.86	J	11	0.15
19408-74-3	1,2,3,7,8,9-HxCDD	0.62	J q	11	0.14
70648-26-9	1,2,3,4,7,8-HxCDF	ND		11	0.27
57117-44-9	1,2,3,6,7,8-HxCDF	ND		11	0.23
72918-21-9	1,2,3,7,8,9-HxCDF	ND		11	0.18
60851-34-5	2,3,4,6,7,8-HxCDF	ND		11	0.16
35822-46-9	1,2,3,4,6,7,8-HpCDD	ND		11	0.61
67562-39-4	1,2,3,4,6,7,8-HpCDF	1.9	J q B	11	0.19
55673-89-7	1,2,3,4,7,8,9-HpCDF	ND		11	0.30
3268-87-9	OCDD	320	B	23	0.59
39001-02-0	OCDF	5.0	J	23	0.19
41903-57-5	Total TCDD	0.56	J	2.3	0.13
30402-14-3	Total TCDF	0.73	J	2.3	0.099
36088-22-9	Total PeCDD	ND		11	0.15
30402-15-4	Total PeCDF	0.69	J	11	0.12
34465-46-8	Total HxCDD	5.0	J q B	11	0.15
55684-94-1	Total HxCDF	0.69	J	11	0.21
37871-00-4	Total HpCDD	20	q B	11	0.61
38998-75-3	Total HpCDF	3.8	J q B	11	0.24

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Client Sample ID: 11187072-Berm-Solids Lab Sample ID: 320-58170-2

Matrix: Sediment Lab File ID: 06FE2010D5_12.d

Analysis Method: 1613B Date Collected: 01/29/2020 13:30

Extract. Method: HRMS-Sox Date Extracted: 01/31/2020 09:04

Sample wt/vol: 4.37(g) Date Analyzed: 02/06/2020 19:14

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: 0.4 GPC Cleanup:(Y/N) N

Analysis Batch No.: 355551 Units: pg/g

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	70		25-164
89059-46-1	13C-2,3,7,8-TCDF	71		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	65		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	68		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	67		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	65		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	74		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	70		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	79		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	76		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	78		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	66		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	66		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	68		26-138
114423-97-1	13C-OCDD	63		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	90		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_12.d
Lims ID: 320-58170-A-2-A
Client ID: 11187072-Berm-Solids
Sample Type: Client
Inject. Date: 06-Feb-2020 19:14:52 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-58170-A-2-A 320-58170-A-2-A
Misc. Info.: 06FE2010D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 10-Feb-2020 09:28:17 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0306

First Level Reviewer: dadunj Date: 10-Feb-2020 09:28:17

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.333	52317761	0.83	5.4E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.849	41598671	0.76	1.1275	70.5	70.5	0.3150	0.3150	70.52	
2,3,7,8-TCDF	16.864	50873	0.76	0.7675	0.1593	0.1593	0.0216	0.0216		
A Non-2,3,7,8-sub-TCDF	16.539						0.0216	0.0216		
S Total TCDF					0.1593	0.1593	0.0216	0.0216		
D 13C-2,3,7,8-TCDD	17.514	32885929	0.81	0.9032	69.6	69.6	0.2801	0.2801	69.60	
$ 37Cl4-2,3,7,8-TCDD	17.544	18290822		0.9673	36.1	36.1	0.0930	0.0930	90.35	
2,3,7,8-TCDD	17.544	38510	0.65	0.9599	0.1220	0.1220	0.0272	0.0272		M
A Non-2,3,7,8-sub-TCDD	16.977						0.0272	0.0272		
S Total TCDD					0.1220	0.1220	0.0272	0.0272		
D 13C-1,2,3,7,8-PeCDF	21.639	34085157	1.58	0.9615	67.8	67.8	0.2923	0.2923	67.76	
1,2,3,7,8-PeCDF	21.626						0.0255	0.0255		
D 13C-2,3,4,7,8-PeCDF	22.921	36172317	1.57	1.0393	66.5	66.5	0.2704	0.2704	66.52	
2,3,4,7,8-PeCDF	22.948						0.0287	0.0287		
A F1 PeCDFs	19.306	19975	1.65	0.8541	0.0666	0.0666	0.0243	0.0666		M
A Non-2,3,7,8-sub-PeCDF	22.316	25244	1.45	0.8541	0.0841	0.0841	0.0271	0.0841		M
S Total PeCDF					0.1507	0.1507	0.0271	0.0271		
D 13C-1,2,3,7,8-PeCDD	23.617	23506454	1.66	0.6938	64.8	64.8	0.0964	0.0964	64.76	
1,2,3,7,8-PeCDD	23.630						0.0330	0.0330		
A Non-2,3,7,8-sub-PeCDD	22.546						0.0330	0.0330		
S Total PeCDD							0.0330	0.0330		
D 13C-1,2,3,4,7,8-HxCDF	29.722	25505614	0.48	0.8543	70.5	70.5	0.5451	0.5451	70.48	
1,2,3,4,7,8-HxCDF	29.708						0.0598	0.0598		
D 13C-1,2,3,6,7,8-HxCDF	29.988	28036720	0.50	0.8361	79.2	79.2	0.5570	0.5570	79.16	
1,2,3,6,7,8-HxCDF	29.975						0.0507	0.0507		
D 13C-2,3,4,6,7,8-HxCDF	31.026	25699181	0.49	0.7773	78.0	78.0	0.5991	0.5991	78.04	
2,3,4,6,7,8-HxCDF	31.013						0.0351	0.0351		
D 13C-1,2,3,7,8,9-HxCDF	31.944	23155079	0.49	0.7167	76.3	76.3	0.6498	0.6498	76.27	
1,2,3,7,8,9-HxCDF	31.931						0.0387	0.0387		
A Non-2,3,7,8-sub-HxCDF	29.476	33121	1.38	0.8673	0.1492	0.1492	0.0444	0.1492		M

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					0.1492	0.1492	0.0461	0.0461		
* 13C-1,2,3,7,8,9-HxCDD	31.732	42362951	1.22	4.4E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.239	22212404	1.24	0.8050	65.1	65.1	0.3734	0.3734	65.13	
1,2,3,4,7,8-HxCDD	31.266	19549	1.24	0.8392	0.1257	0.1049	0.0359	0.0359		RQM
D 13C-1,2,3,6,7,8-HxCDD	31.359	25959759	1.22	0.8269	74.1	74.1	0.3635	0.3635	74.10	
1,2,3,6,7,8-HxCDD	31.372	43031	1.21	0.8876	0.1867	0.1867	0.0337	0.0337		Ma
1,2,3,7,8,9-HxCDD	31.771	31312	1.24	0.9567	0.1592	0.1359	0.0314	0.0314		RQM
A Non-2,3,7,8-sub-HxCDD	30.055	142344	1.20	0.8945	0.6607	0.6607	0.0336	0.3341		M
S Total HxCDD					1.132	1.088	0.0337	0.0337		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	33.459	19813565	0.42	0.7080	66.1	66.1	1.581	1.581	66.06	
1,2,3,4,6,7,8-HpCDF	33.471	110780	1.04	1.3375	0.4711	0.4180	0.0408	0.0408		RQM
D 13C-1,2,3,4,7,8,9-HpCDF	34.528	21569441	0.42	0.7451	68.3	68.3	1.502	1.502	68.33	
1,2,3,4,7,8,9-HpCDF	34.528						0.0652	0.0652		
A Non-2,3,7,8-sub-HpCDF	33.994	104047	0.98	1.2059	0.4170	0.4170	0.0509	0.4170		M
S Total HpCDF					0.8881	0.8350	0.0530	0.0530		RQ
D 13C-1,2,3,4,6,7,8-HpCDD	34.249	20921403	1.05	0.7473	66.1	66.1	0.5350	0.5350	66.08	
1,2,3,4,6,7,8-HpCDD	34.516	25552	1.04	0.9811	1.893	0.1245	0.1338	0.1338		RnQM
A Non-2,3,7,8-sub-HpCDD	33.963	890211	1.01	0.9811	4.337	4.337	0.1338	4.337		M
S Total HpCDD					6.229	4.461	0.1338	0.1338		RQ
D 13C-OCDD	36.540	35483850	0.86	0.6622	126.5	126.5	0.1542	0.1542	63.25	
OCDF	36.636	203895	0.88	1.0659	1.078	1.078	0.0410	0.0410		
OCDD	36.552	12447211	0.87	0.9937	70.6	70.6	0.1288	0.1288		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- n - Failed Sig-To-Noise Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_12.d
Lims ID: 320-58170-A-2-A
Client ID: 11187072-Berm-Solids
Sample Type: Client
Inject. Date: 06-Feb-2020 19:14:52 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-58170-A-2-A 320-58170-A-2-A
Misc. Info.: 06FE2010D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 10-Feb-2020 09:28:17 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0306

First Level Reviewer: dadunj Date: 10-Feb-2020 09:28:17

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.333	17.302	2		23651658	5841221	5505	13762	1061		
333.9339	17.333	17.302	2		28666103	7081172	7572	18930	935	0.83(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.849	16.819	2	0.972	17995843	4091936	7796	19490	525		
317.9389	16.849	16.819	2	0.972	23602828	5459323	10565	26412	517	0.76(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.864	16.849	1	1.001	21917	4904	212	530	23		
305.8987	16.864	16.849	1	1.001	28956	6218	421	1052	15	0.76(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.539						212	530			
305.8987	16.539						421	1052			
13C-2,3,7,8-TCDD											
331.9368	17.514	17.499	1	1.010	14671879	3160271	5505	13762	574		
333.9339	17.514	17.499	1	1.010	18214050	3960139	7572	18930	523	0.81(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.544	17.514	2	1.012	18290822	3942562	4650	11625	848		
2,3,7,8-TCDD											M
319.8965	17.544	17.514	2	1.002	15164	2664	396	990	7		M
321.8936	17.544	17.514	2	1.002	23346	4851	349	872	14	0.65(0.65-0.89)	M
A Non-2,3,7,8-sub-TCDD											
319.8965	16.977						396	990			
321.8936	16.977						349	872			
13C-1,2,3,7,8-PeCDF											
351.9000	21.639	21.612	2	1.248	20863278	3362360	8941	22352	376		
353.8970	21.639	21.612	2	1.248	13221879	2130566	5586	13965	381	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	21.626						207	517			
341.8567	21.626						297	742			
13C-2,3,4,7,8-PeCDF											
351.9000	22.921	22.880	2	1.322	22121208	3320006	8941	22352	371		
353.8970	22.921	22.880	2	1.322	14051109	2091437	5586	13965	374	1.57(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.907						207	517			
341.8567	22.907						297	742			
A F1 PeCDFs											M
339.8597	18.890	19.306	-25	0.873	12436	2356	178	445	13		
341.8567	18.890	19.306	-25	0.873	7539	1808	275	687	7	1.65(1.32-1.78)	M
A Non-2,3,7,8-sub-PeCDF											M
339.8597	20.371	22.316	-116	0.941	14933	1773	207	517	9		
341.8567	20.385	22.316	-116	0.942	10311	1735	297	742	6	1.45(1.32-1.78)	M
13C-1,2,3,7,8-PeCDD											
367.8949	23.617	23.576	2	1.363	14683584	2038456	2009	5022	1015		
369.8919	23.617	23.576	2	1.363	8822870	1233740	1449	3622	851	1.66(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.603						254	635			
357.8516	23.603						177	442			
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.546						254	635			
357.8516	22.546						177	442			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.722	29.682	2	0.937	8317690	988302	5039	12597	196		
385.8610	29.722	29.682	2	0.937	17187924	2034709	9573	23932	213	0.48(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.708						302	755			
375.8178	29.708						270	675			
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.988	29.948	2	0.945	9305442	1056755	5039	12597	210		
385.8610	29.988	29.948	2	0.945	18731278	2206875	9573	23932	231	0.50(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	29.975						302	755			
375.8178	29.975						270	675			
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.026	30.999	2	0.978	8403371	1474780	5039	12597	293		
385.8610	31.026	30.999	2	0.978	17295810	3042440	9573	23932	318	0.49(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.013						302	755			
375.8178	31.013						270	675			
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.944	31.918	2	1.007	7564137	1328458	5039	12597	264		
385.8610	31.944	31.918	2	1.007	15590942	2715742	9573	23932	284	0.49(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	31.931						302	755			
375.8178	31.931						270	675			
A Non-2,3,7,8-sub-HxCDF											M
373.8208	27.366	29.476	-126	0.921	19196	2046	302	755	7		M
375.8178	27.392	29.476	-125	0.922	13925	1780	270	675	7	1.38(1.05-1.43)	M
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.732	31.718	1		23314527	4324519	5064	12660	854		
403.8529	31.732	31.718	1		19048424	3520015	4367	10917	806	1.22(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.239	31.226	1	0.984	12294689	2514062	5064	12660	496		
403.8529	31.239	31.226	1	0.984	9917715	2054092	4367	10917	470	1.24(1.05-1.43)	
1,2,3,4,7,8-HxCDD											RQM
389.8157	31.266	31.239	2	1.001	10822	2403	286	715	8		M
391.8127	31.253	31.239	1	1.000	12607	2546	264	660	10	0.86(1.05-1.43)	M
	Empc Correction				8727	1937	264	660	7		
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.359	31.332	2	0.988	14264255	2534810	5064	12660	501		
403.8529	31.359	31.332	2	0.988	11695504	2058280	4367	10917	471	1.22(1.05-1.43)	
1,2,3,6,7,8-HxCDD											Ma
389.8157	31.372	31.359	1	1.000	23553	3973	286	715	14		M
391.8127	31.372	31.359	1	1.000	19478	4279	264	660	16	1.21(1.05-1.43)	M
1,2,3,7,8,9-HxCDD											RQM
389.8157	31.771	31.731	2	1.017	22711	3568	286	715	12		M
	Empc Correction				17333	3041	286	715	11		
391.8127	31.771	31.731	2	1.017	13979	2453	264	660	9	1.62(1.05-1.43)	M
A Non-2,3,7,8-sub-HxCDD											M
389.8157	28.510	30.055	-92	0.909	39165	4710	286	715	16		M
391.8127	28.484	30.055	-94	0.908	32806	3384	264	660	13	1.19(1.05-1.43)	M
389.8157	30.347	30.055	18	0.968	38347	4572	286	715	16		
391.8127	30.361	30.055	18	0.968	32026	4368	264	660	17	1.20(1.05-1.43)	M
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.459	33.447	1	1.054	5885056	1372817	10942	27355	125		
419.8220	33.459	33.447	1	1.054	13928509	3261212	24185	60462	135	0.42(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											RQM
407.7818	33.471	33.459	1	1.000	70534	18633	604	1510	31		
	Empc Correction				56476	13808	604	1510	23		
409.7789	33.471	33.459	1	1.000	54304	13277	408	1020	33	1.30(0.88-1.20)	M
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.528	34.504	1	1.088	6374875	1065845	10942	27355	97		
419.8220	34.528	34.504	1	1.088	15194566	2545441	24185	60462	105	0.42(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.528						604	1510			
409.7789	34.528						408	1020			

Report Date: 10-Feb-2020 09:28:41 Chrom Revision: 2.3 14-Jan-2020 22:23:42
Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_12.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-HpCDF											M
407.7818	33.763	33.994	-14	1.009	51559	12583	604	1510	21		M
409.7789	33.763	33.994	-14	1.009	52488	12935	408	1020	32	0.98(0.88-1.20)	M
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.249	34.224	1	1.079	10710400	2041341	5628	14070	363		
437.8140	34.249	34.224	1	1.079	10211003	1977251	6919	17297	286	1.05(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											RnQM
423.7766	34.516	34.237	17	1.008	13027	2346	1108	2770	2		M
425.7737	34.261	34.237	1	1.000	375440	73083	1002	2505	73	0.03(0.88-1.20)	M
	Empc Correction				12525	2255	1002	2505	2		
A Non-2,3,7,8-sub-HpCDD											M
423.7766	33.714	33.963	-15	0.984	446353	95838	1108	2770	86		M
425.7737	33.714	33.963	-15	0.984	443858	89581	1002	2505	89	1.01(0.88-1.20)	M
13C-OCDD											
469.7779	36.540	36.516	1	1.152	16446532	2593767	1843	4607	1407		
471.7750	36.540	36.516	1	1.152	19037318	2916476	1362	3405	2141	0.86(0.76-1.02)	
OCDF											
441.7428	36.636	36.612	1	1.003	95565	14287	187	467	76		
443.7399	36.636	36.612	1	1.003	108330	15505	295	737	53	0.88(0.76-1.02)	
OCDD											
457.7377	36.552	36.528	1	1.000	5786866	913201	769	1922	1188		
459.7348	36.552	36.528	1	1.000	6660345	1030341	642	1605	1605	0.87(0.76-1.02)	

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- n - Failed Sig-To-Noise Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_12.d
Lims ID: 320-58170-A-2-A
Client ID: 11187072-Berm-Solids
Inject. Date: 06-Feb-2020 19:14:52 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 355551 Lims Sample ID: 12

F1 PeCDFs, RT: 19.306

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	0.898	D 13C-1,2,3,7,8-PeCDF	100.000	34085157	5492926
2,3,4,7,8-PeCDF	0.810	D 13C-2,3,4,7,8-PeCDF	100.000	36172317	5411443

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.854		100.000	35128737	5452184

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
18.890	12436	2356	7539	1808	0.0666	1.65	M
Signal Totals:							
	12436	2356	7539	1808			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	19975	4164				1.65	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0666 = (19975 * 100.000) / (35128737 * 0.854)

QC Flag Legend

Review Flags
M - Manually Integrated

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_12.d
Lims ID: 320-58170-A-2-A
Client ID: 11187072-Berm-Solids
Inject. Date: 06-Feb-2020 19:14:52 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 355551 Lims Sample ID: 12

Non-2,3,7,8-sub-PeCDF, RT: 22.316

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	0.898	D 13C-1,2,3,7,8-PeCDF	100.000	34085157	5492926
2,3,4,7,8-PeCDF	0.810	D 13C-2,3,4,7,8-PeCDF	100.000	36172317	5411443

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.854		100.000	35128737	5452184

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
20.371	14933	1773	10311	1735	0.0841	1.45	M
Signal Totals:							
	14933	1773	10311	1735			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	25244	3508				1.45	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0841 = (25244 * 100.000) / (35128737 * 0.854)

QC Flag Legend

Review Flags
M - Manually Integrated

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_12.d
Lims ID: 320-58170-A-2-A
Client ID: 11187072-Berm-Solids
Inject. Date: 06-Feb-2020 19:14:52 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 355551 Lims Sample ID: 12

Non-2,3,7,8-sub-HxCDF, RT: 29.476

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	0.792	D 13C-1,2,3,4,7,8-HxCDF	100.000	25505614	3023011
1,2,3,6,7,8-HxCDF	0.864	D 13C-1,2,3,6,7,8-HxCDF	100.000	28036720	3263630
2,3,4,6,7,8-HxCDF	0.901	D 13C-2,3,4,6,7,8-HxCDF	100.000	25699181	4517220
1,2,3,7,8,9-HxCDF	0.913	D 13C-1,2,3,7,8,9-HxCDF	100.000	23155079	4044200

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.867		100.000	25599148	3712015

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
27.366	19196	2046	13925	1780	0.1492	1.38	M
Signal Totals:							
	19196	2046	13925	1780			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	33121	3826				1.38	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.1492 = (33121 * 100.000) / (25599148 * 0.867)

QC Flag Legend

Review Flags
M - Manually Integrated

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_12.d
Lims ID: 320-58170-A-2-A
Client ID: 11187072-Berm-Solids
Inject. Date: 06-Feb-2020 19:14:52 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 355551 Lims Sample ID: 12

Non-2,3,7,8-sub-HxCDD, RT: 30.055

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.839	D 13C-1,2,3,4,7,8-HxCDD	100.000	22212404	4568154
1,2,3,6,7,8-HxCDD	0.888	D 13C-1,2,3,6,7,8-HxCDD	100.000	25959759	4593090
1,2,3,7,8,9-HxCDD	0.957				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.894		100.000	24086081	4580622

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
28.510	39165	4710	32806	3384	0.3341	1.19	M
30.347	38347	4572	32026	4368	0.3266	1.20	M
Signal Totals:							
	77512	9282	64832	7752			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	142344	17034				1.20	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.6607 = (142344 * 100.000) / (24086081 * 0.894)

QC Flag Legend

Review Flags
M - Manually Integrated

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_12.d
Lims ID: 320-58170-A-2-A
Client ID: 11187072-Berm-Solids
Inject. Date: 06-Feb-2020 19:14:52 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 355551 Lims Sample ID: 12

Non-2,3,7,8-sub-HpCDF, RT: 33.994

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.337	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	19813565	4634029
1,2,3,4,7,8,9-HpCDF	1.074	D 13C-1,2,3,4,7,8,9-HpCDF	100.000	21569441	3611286

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.206		100.000	20691503	4122657

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
33.763	51559	12583	52488	12935	0.4170	0.98	M
Signal Totals:							
	51559	12583	52488	12935			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	104047	25518				0.98	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.4170 = (104047 * 100.000) / (20691503 * 1.206)

QC Flag Legend

Review Flags
M - Manually Integrated

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_12.d
Lims ID: 320-58170-A-2-A
Client ID: 11187072-Berm-Solids
Inject. Date: 06-Feb-2020 19:14:52 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 355551 Lims Sample ID: 12

Non-2,3,7,8-sub-HpCDD, RT: 33.963

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.981	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	20921403	4018592

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.981		100.000	20921403	4018592

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
33.714	446353	95838	443858	89581	4.34	1.01	M
Signal Totals:							
	446353	95838	443858	89581			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	890211	185419				1.01	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 4.337 = (890211 * 100.000) / (20921403 * 0.981)

QC Flag Legend

Review Flags
M - Manually Integrated

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_12.d				
Injection Date:	06-Feb-2020 19:14:52	Instrument ID:	10D5		
Lims ID:	320-58170-A-2-A	Lab Sample ID:	320-58170-2		
Client ID:	11187072-Berm-Solids				
Operator ID:	AJS	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDD, CAS: 1746-01-6

Signal: 1

Processing Integration Results

RT: 17.54
Area: 19666
Amount: 0.138048
Amount Units: pg/ul

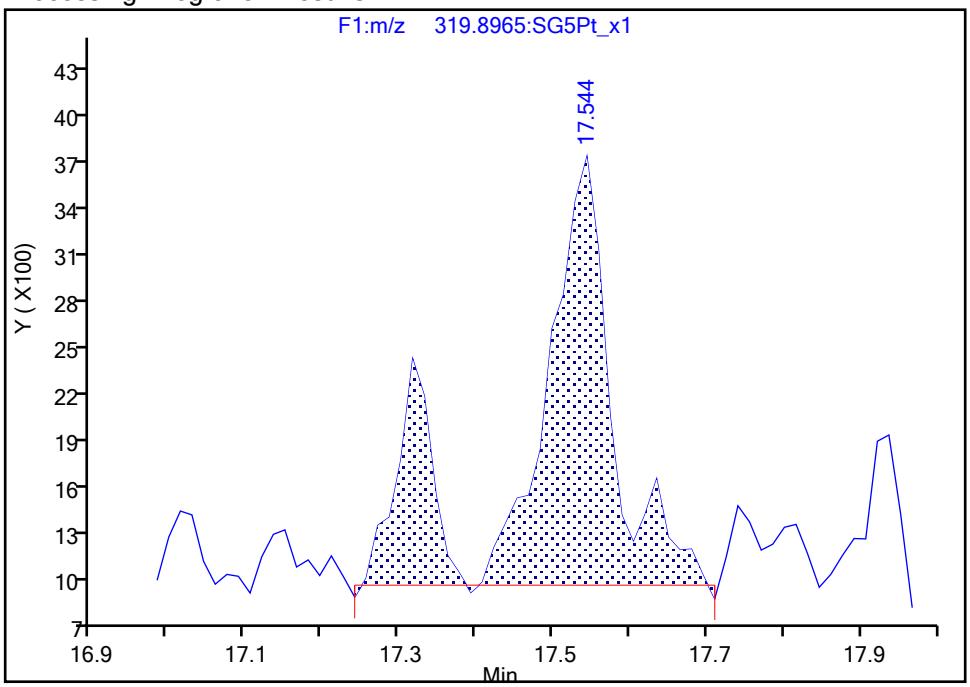

Manual Integration Results

RT: 17.54
Area: 15164
Amount: 0.121996
Amount Units: pg/ul

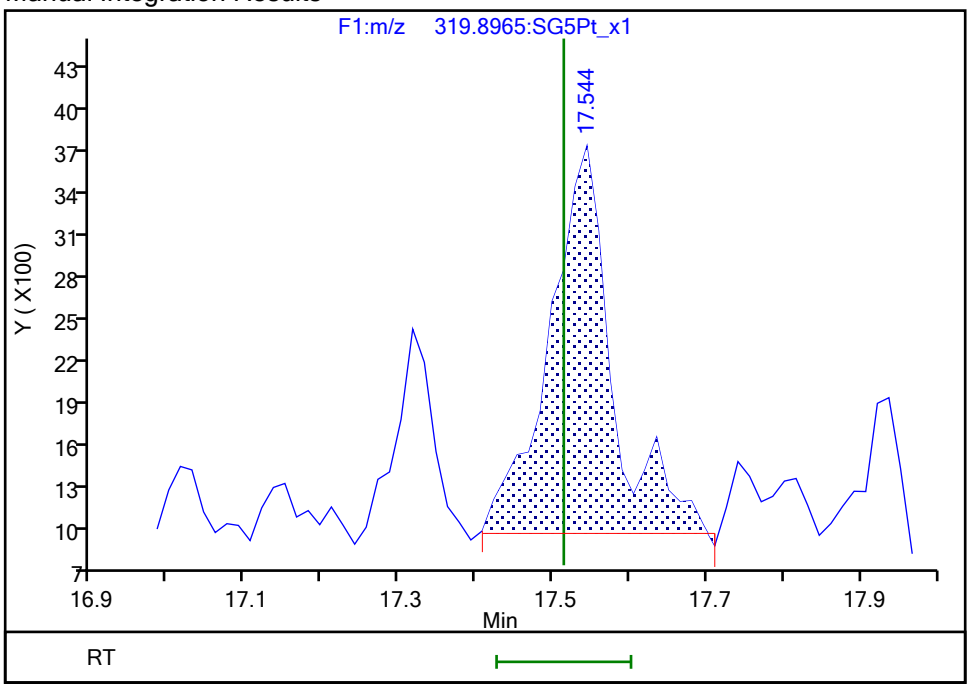

Reviewer: dadunj, 10-Feb-2020 09:23:33

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_12.d				
Injection Date:	06-Feb-2020 19:14:52	Instrument ID:	10D5		
Lims ID:	320-58170-A-2-A	Lab Sample ID:	320-58170-2		
Client ID:	11187072-Berm-Solids				
Operator ID:	AJS	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDD, CAS: 1746-01-6

Signal: 2

Processing Integration Results

RT: 17.54
Area: 23911
Amount: 0.138048
Amount Units: pg/ul

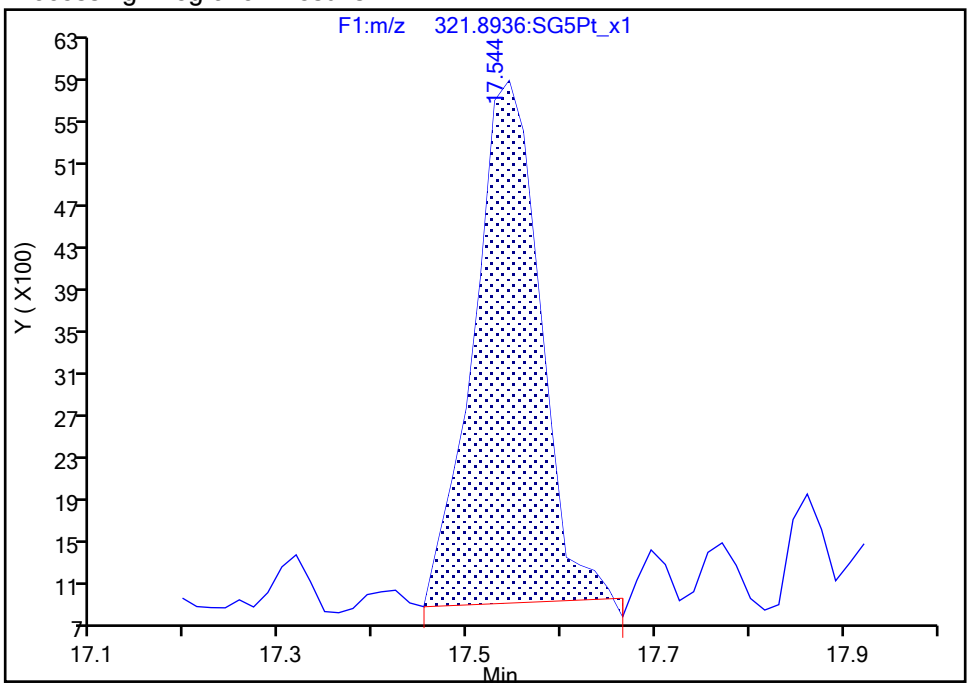

Manual Integration Results

RT: 17.54
Area: 23346
Amount: 0.121996
Amount Units: pg/ul

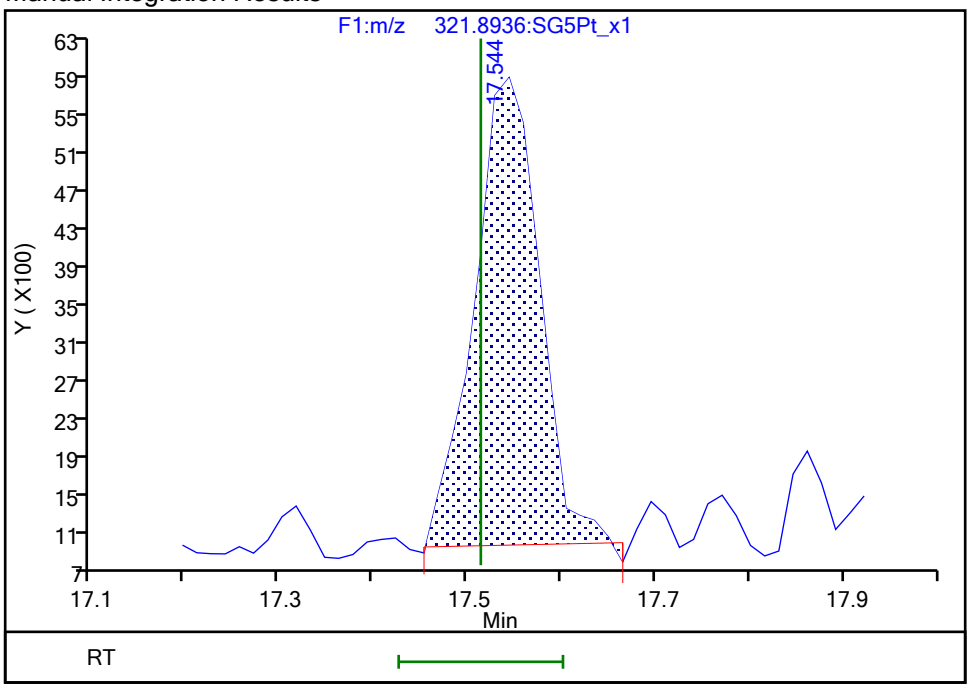

Reviewer: dadunj, 10-Feb-2020 09:23:45

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_12.d				
Injection Date:	06-Feb-2020 19:14:52	Instrument ID:	10D5		
Lims ID:	320-58170-A-2-A	Lab Sample ID:	320-58170-2		
Client ID:	11187072-Berm-Solids				
Operator ID:	AJS	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

F1 PeCDFs, Signal: 2, m/z: 341.8567, RT: (18.80- 19.81)

Signal: 2

Processing Integration Results

RT = 18.890 Area = 13590

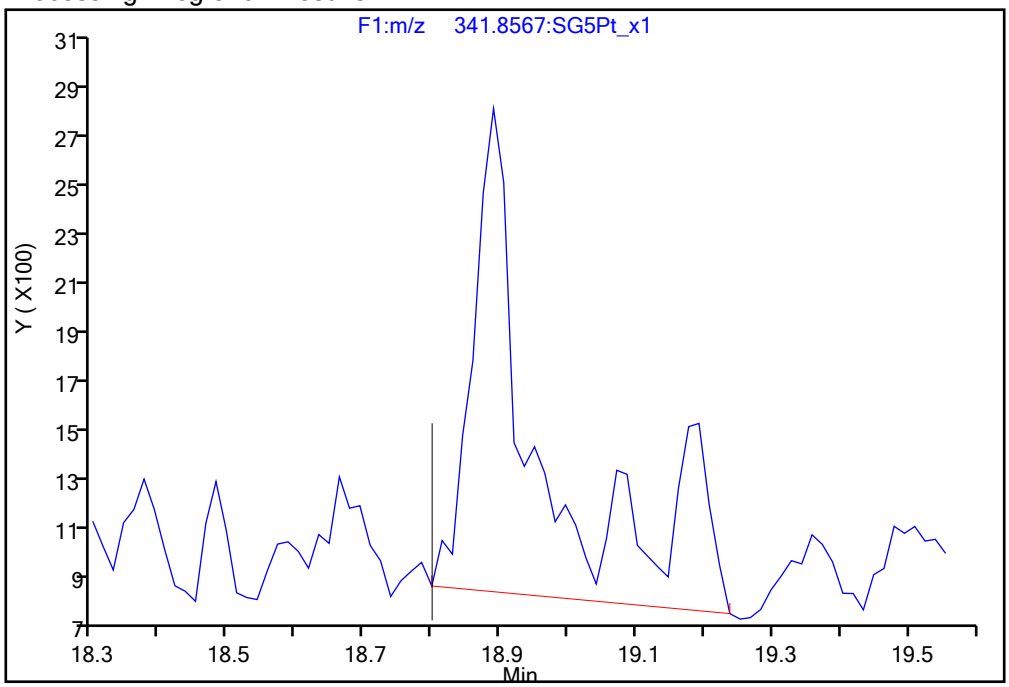

Manual Integration Results

RT = 18.890 Area = 7539 M

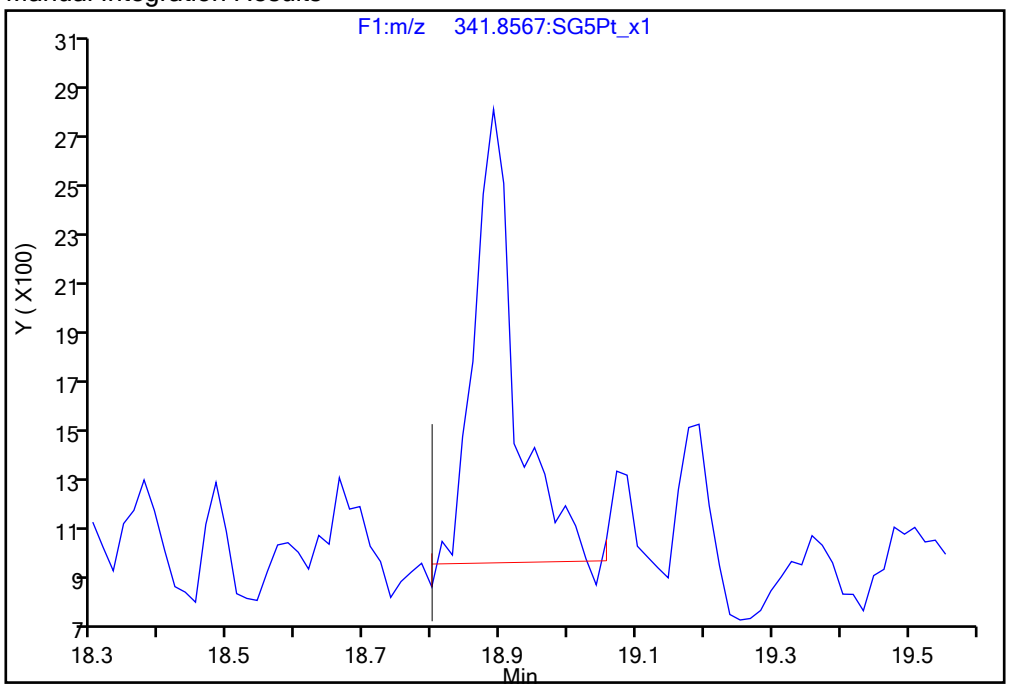

Reviewer: dadunj, 10-Feb-2020 09:24:13

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_12.d				
Injection Date:	06-Feb-2020 19:14:52	Instrument ID:	10D5		
Lims ID:	320-58170-A-2-A	Lab Sample ID:	320-58170-2		
Client ID:	11187072-Berm-Solids				
Operator ID:	AJS	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

Non-2,3,7,8-sub-PeCDF, Signal: 2, m/z: 341.8567, RT: (19.83- 24.81)

Signal: 2

Processing Integration Results

RT = 20.385 Area = 11280

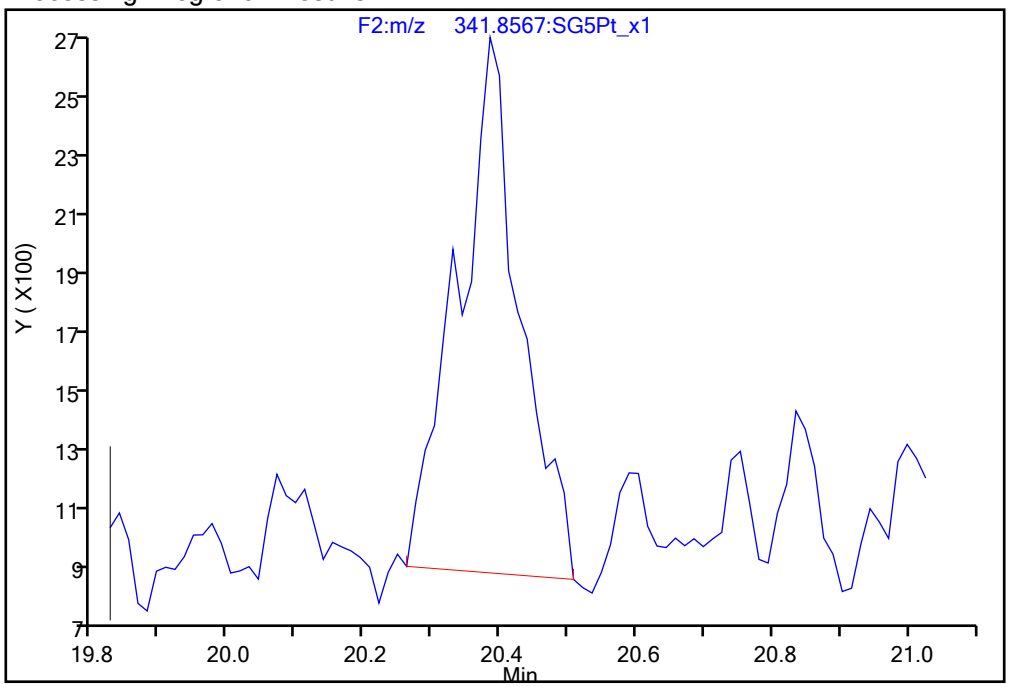

Manual Integration Results

RT = 20.385 Area = 10311 M

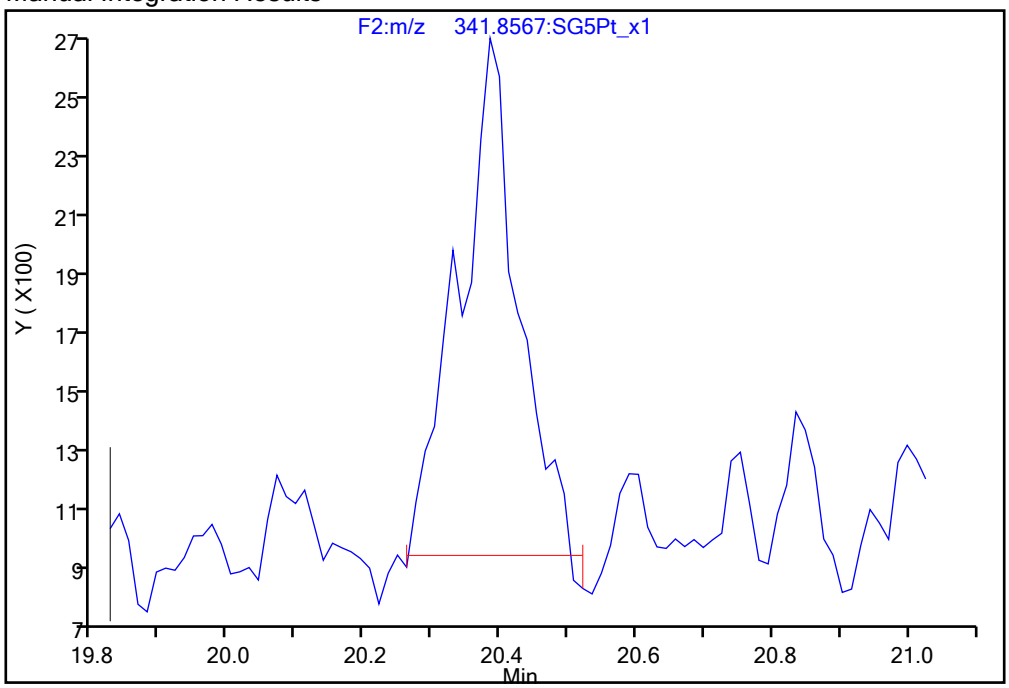

Reviewer: dadunj, 10-Feb-2020 09:24:24

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_12.d				
Injection Date:	06-Feb-2020 19:14:52	Instrument ID:	10D5		
Lims ID:	320-58170-A-2-A	Lab Sample ID:	320-58170-2		
Client ID:	11187072-Berm-Solids				
Operator ID:	AJS	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

Non-2,3,7,8-sub-HxCDF, Signal: 1, m/z: 373.8208, RT: (26.91- 32.04)

Signal: 1

Processing Integration Results

RT = 27.366 Area = 18700

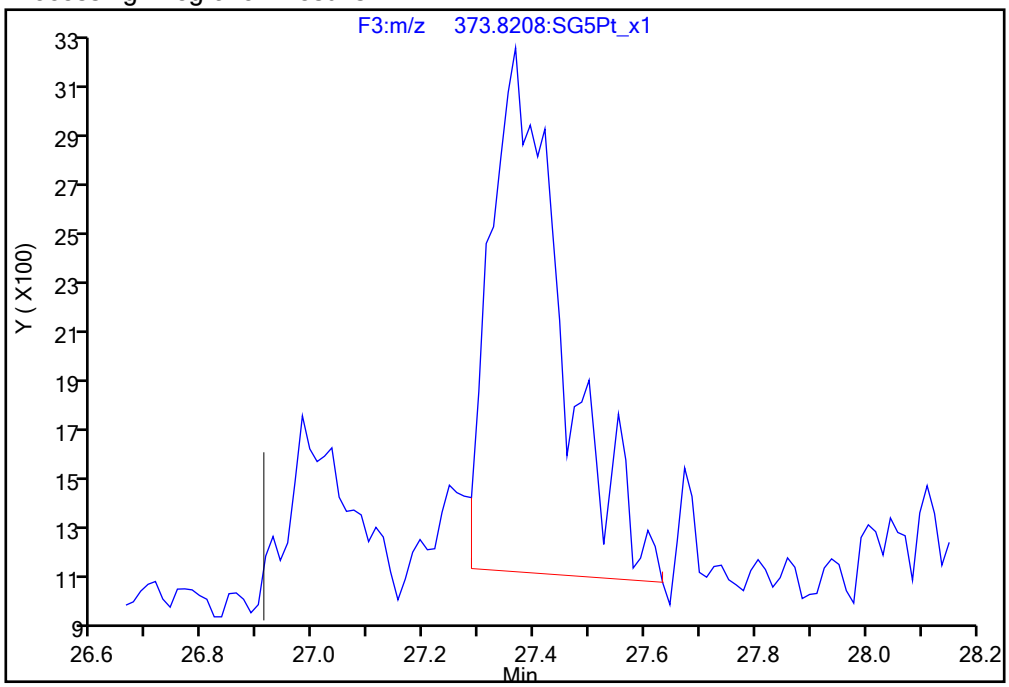

Manual Integration Results

RT = 27.366 Area = 19196 M

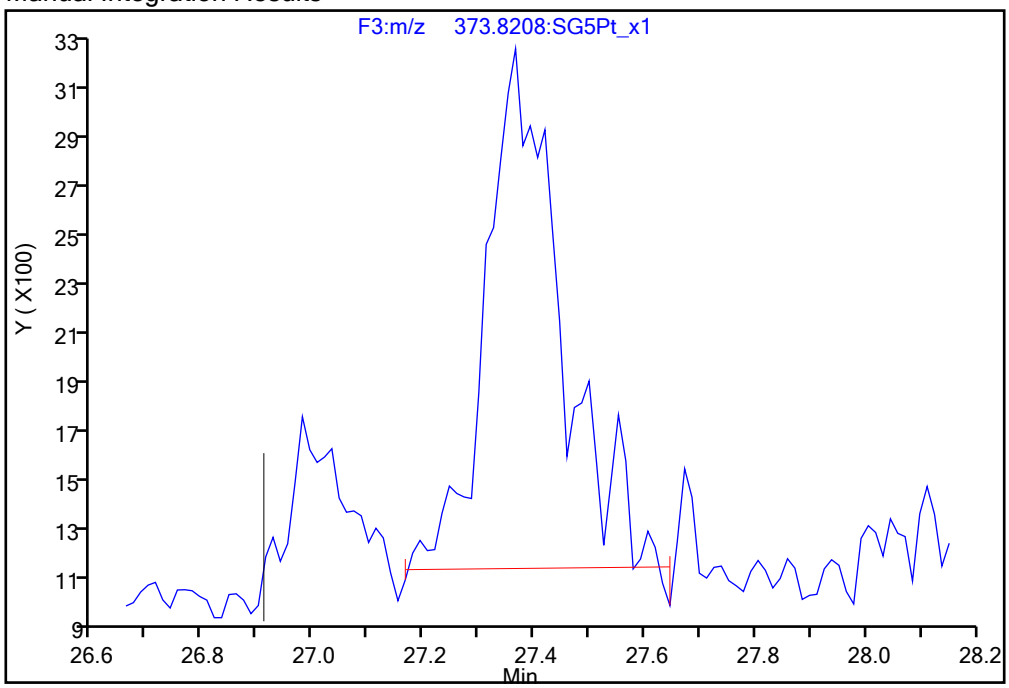

Reviewer: dadunj, 10-Feb-2020 09:24:47

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_12.d				
Injection Date:	06-Feb-2020 19:14:52	Instrument ID:	10D5		
Lims ID:	320-58170-A-2-A	Lab Sample ID:	320-58170-2		
Client ID:	11187072-Berm-Solids				
Operator ID:	AJS	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

Non-2,3,7,8-sub-HxCDF, Signal: 2, m/z: 375.8178, RT: (26.91- 32.04)

Signal: 2

Processing Integration Results

RT = 27.392 Area = 14614

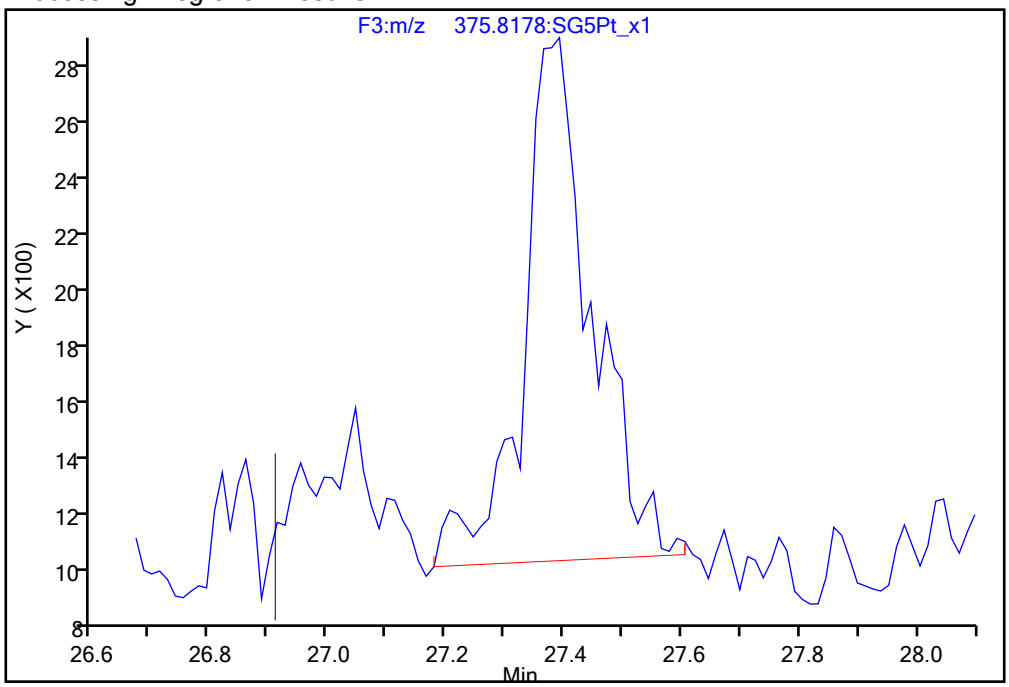

Manual Integration Results

RT = 27.392 Area = 13925 M

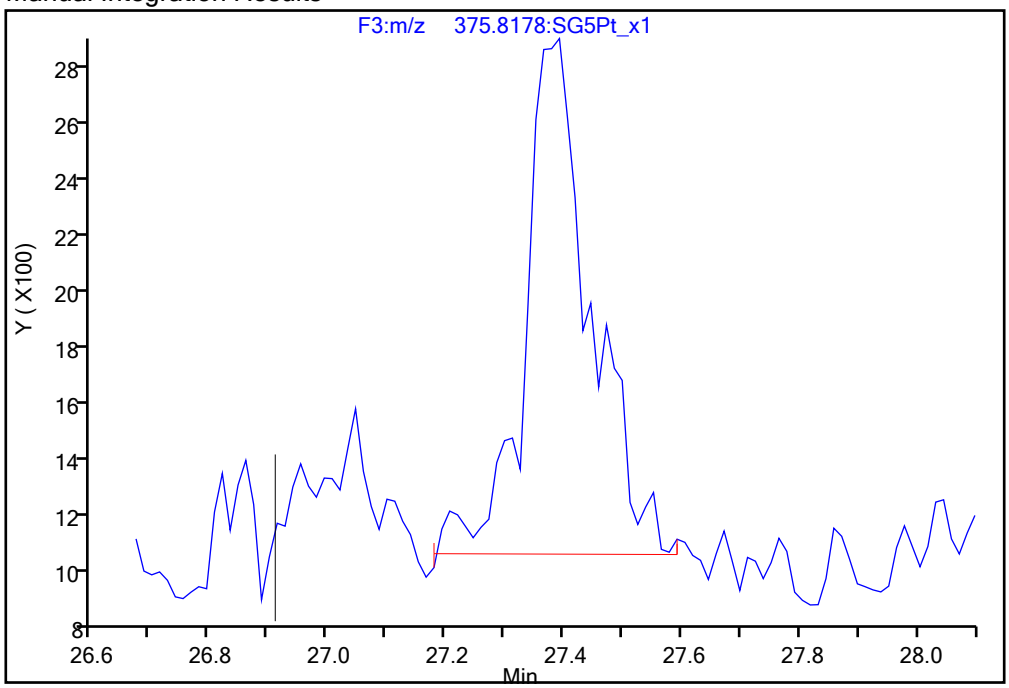

Reviewer: dadunj, 10-Feb-2020 09:24:54

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_12.d				
Injection Date:	06-Feb-2020 19:14:52	Instrument ID:	10D5		
Lims ID:	320-58170-A-2-A	Lab Sample ID:	320-58170-2		
Client ID:	11187072-Berm-Solids				
Operator ID:	AJS	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 1

Processing Integration Results

RT: 31.37
Area: 37853
Amount: 0.394203
Amount Units: pg/ul

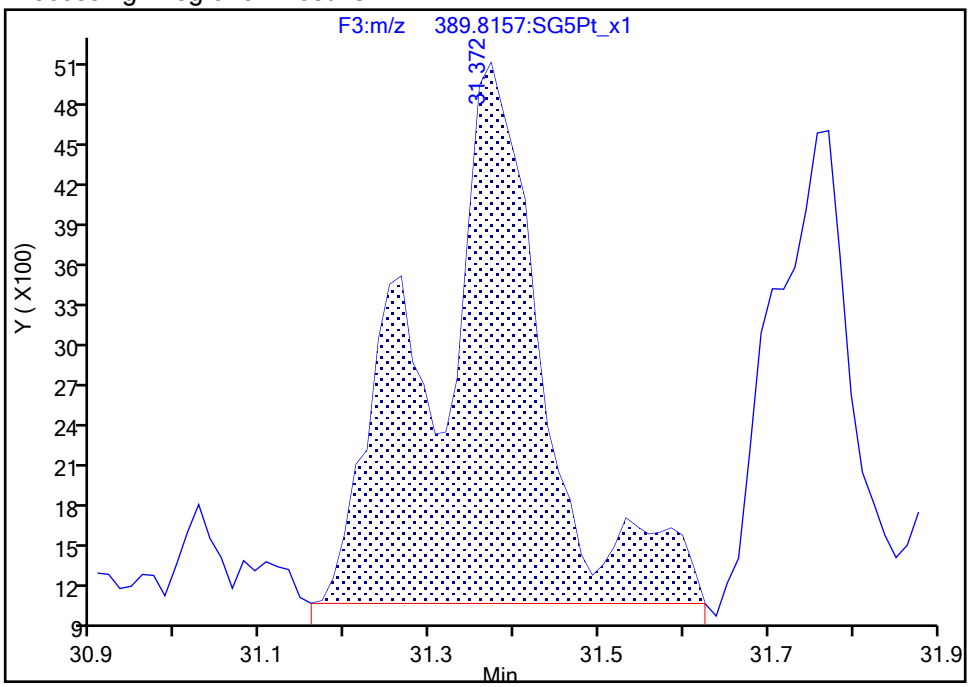

Manual Integration Results

RT: 31.27
Area: 10822
Amount: 0.125691
Amount Units: pg/ul

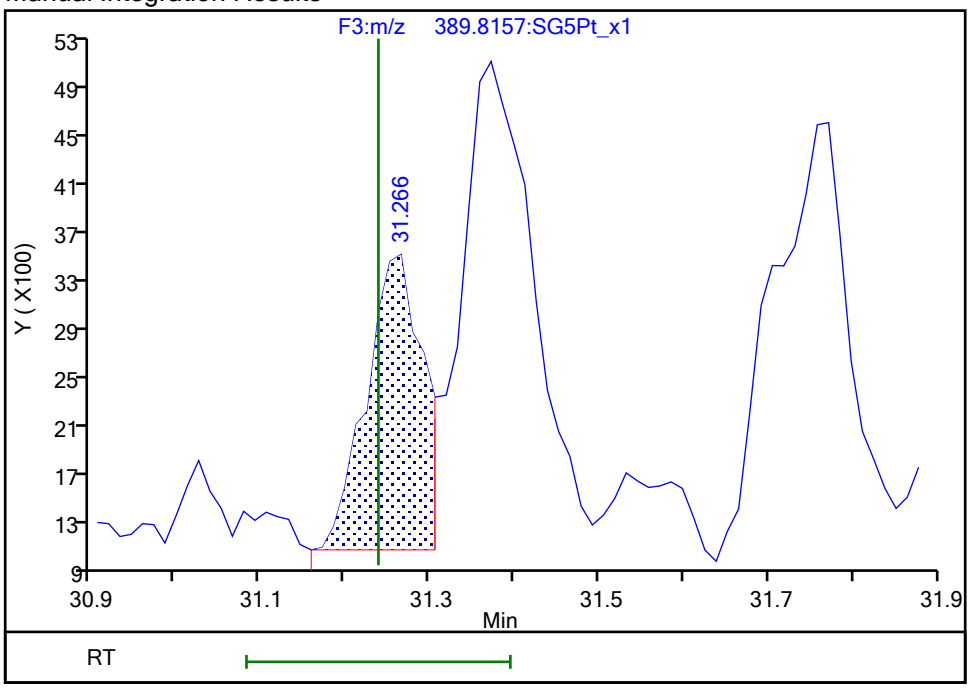

Reviewer: dadunj, 10-Feb-2020 09:25:13

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_12.d				
Injection Date:	06-Feb-2020 19:14:52	Instrument ID:	10D5		
Lims ID:	320-58170-A-2-A	Lab Sample ID:	320-58170-2		
Client ID:	11187072-Berm-Solids				
Operator ID:	AJS	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 2

Processing Integration Results

RT: 31.37
Area: 35627
Amount: 0.394203
Amount Units: pg/ul

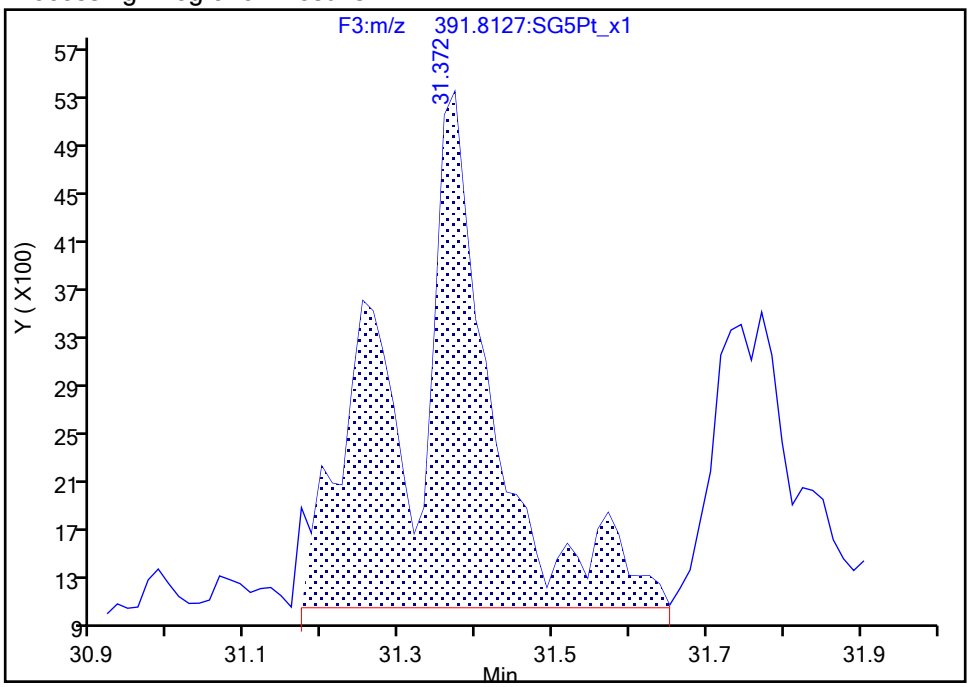

Manual Integration Results

RT: 31.25
Area: 12607
Amount: 0.125691
Amount Units: pg/ul

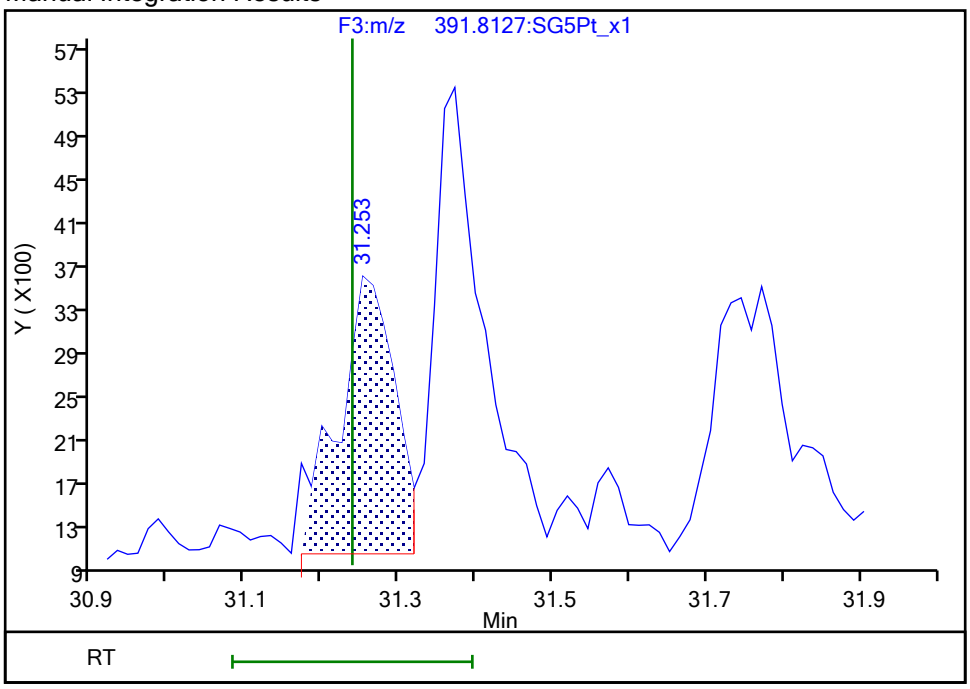

Reviewer: dadunj, 10-Feb-2020 09:25:15

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_12.d				
Injection Date:	06-Feb-2020 19:14:52	Instrument ID:	10D5		
Lims ID:	320-58170-A-2-A	Lab Sample ID:	320-58170-2		
Client ID:	11187072-Berm-Solids				
Operator ID:	AJS	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 3

Processing Integration Results

RT:	31.37
Area:	73480
Amount:	0.318895
Amount Units:	pg/ul

Manual Integration Results

RT:	31.37
Area:	43031
Amount:	0.186750
Amount Units:	pg/ul

Reviewer: dadunj, 10-Feb-2020 09:25:20

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_12.d				
Injection Date:	06-Feb-2020 19:14:52	Instrument ID:	10D5		
Lims ID:	320-58170-A-2-A	Lab Sample ID:	320-58170-2		
Client ID:	11187072-Berm-Solids				
Operator ID:	AJS	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 1

Processing Integration Results

RT: 31.37
Area: 37853
Amount: 0.318895
Amount Units: pg/ul

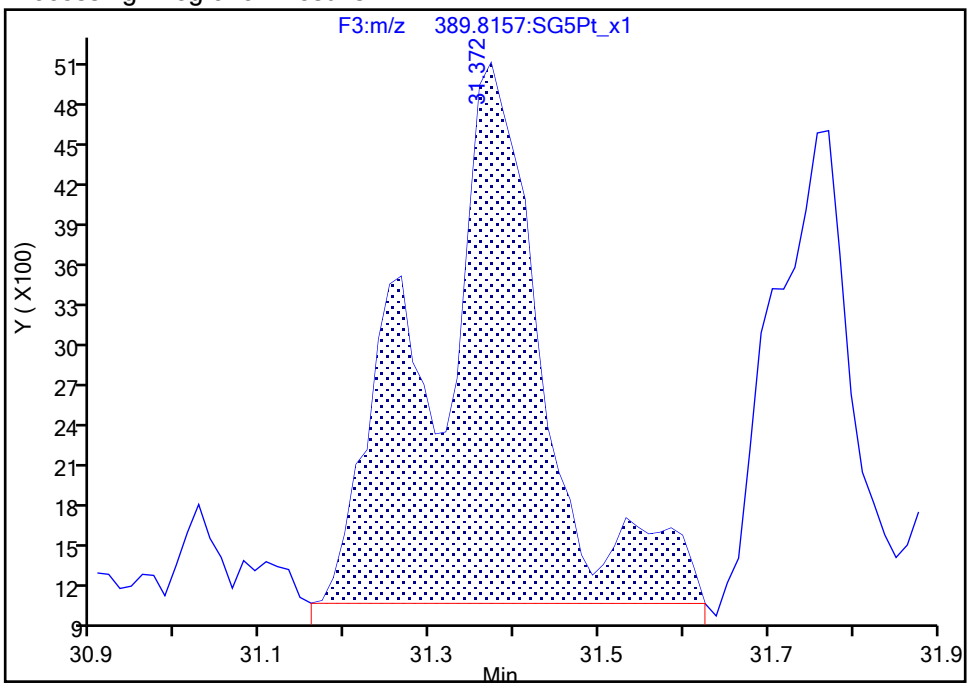

Manual Integration Results

RT: 31.37
Area: 23553
Amount: 0.186750
Amount Units: pg/ul

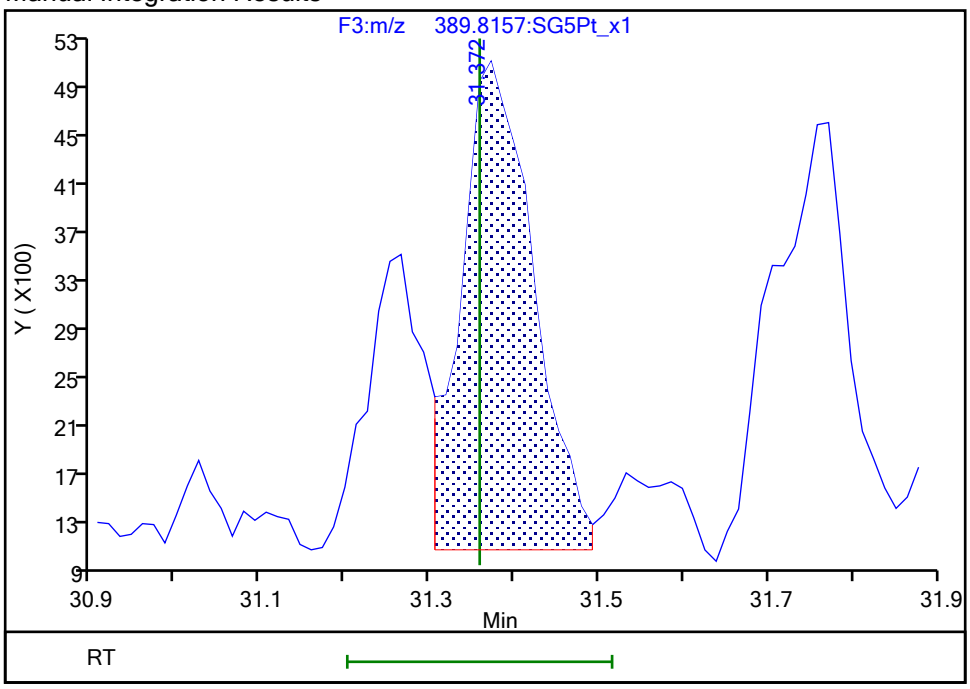

Reviewer: dadunj, 10-Feb-2020 09:25:24

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_12.d				
Injection Date:	06-Feb-2020 19:14:52	Instrument ID:	10D5		
Lims ID:	320-58170-A-2-A	Lab Sample ID:	320-58170-2		
Client ID:	11187072-Berm-Solids				
Operator ID:	AJS	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 2

Processing Integration Results

RT: 31.37
Area: 35627
Amount: 0.318895
Amount Units: pg/ul

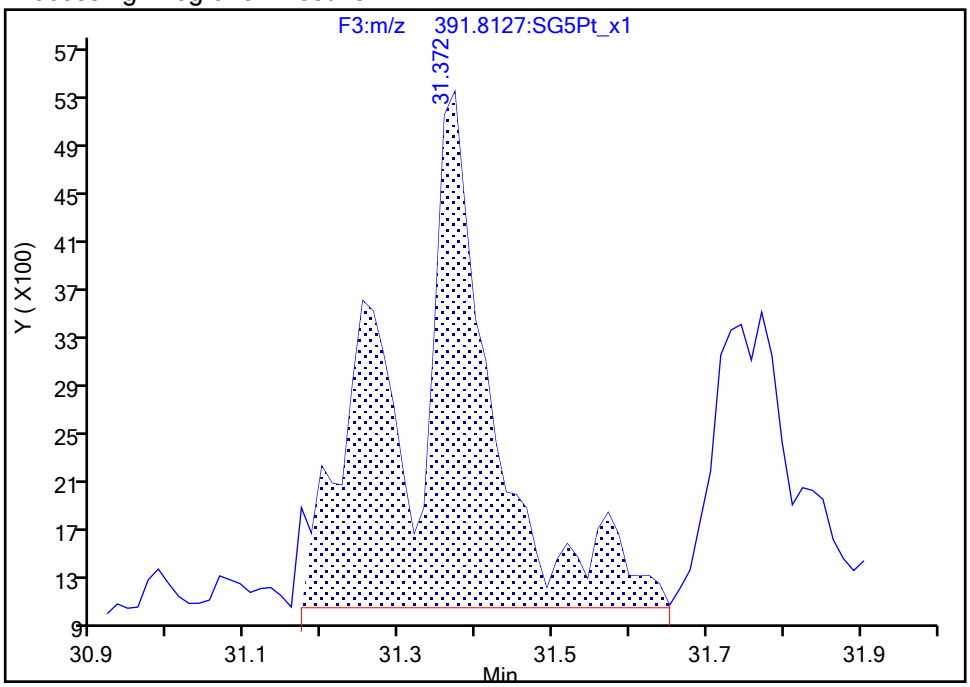

Manual Integration Results

RT: 31.37
Area: 19478
Amount: 0.186750
Amount Units: pg/ul

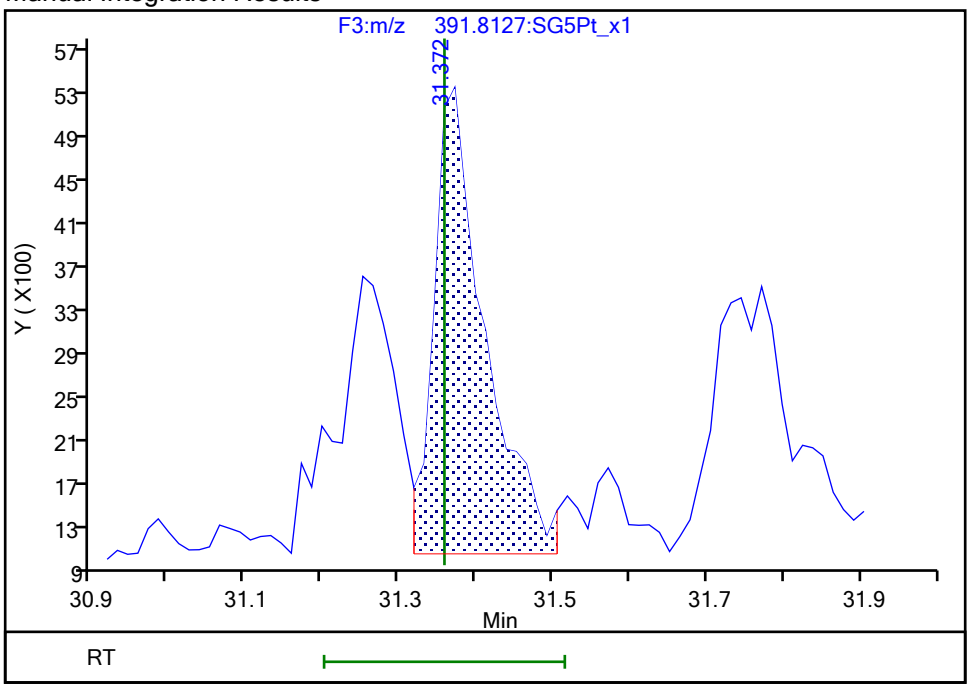

Reviewer: dadunj, 10-Feb-2020 09:25:26

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_12.d				
Injection Date:	06-Feb-2020 19:14:52	Instrument ID:	10D5		
Lims ID:	320-58170-A-2-A	Lab Sample ID:	320-58170-2		
Client ID:	11187072-Berm-Solids				
Operator ID:	AJS	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 1

Processing Integration Results

RT: 31.77
Area: 28330
Amount: 0.210036
Amount Units: pg/ul

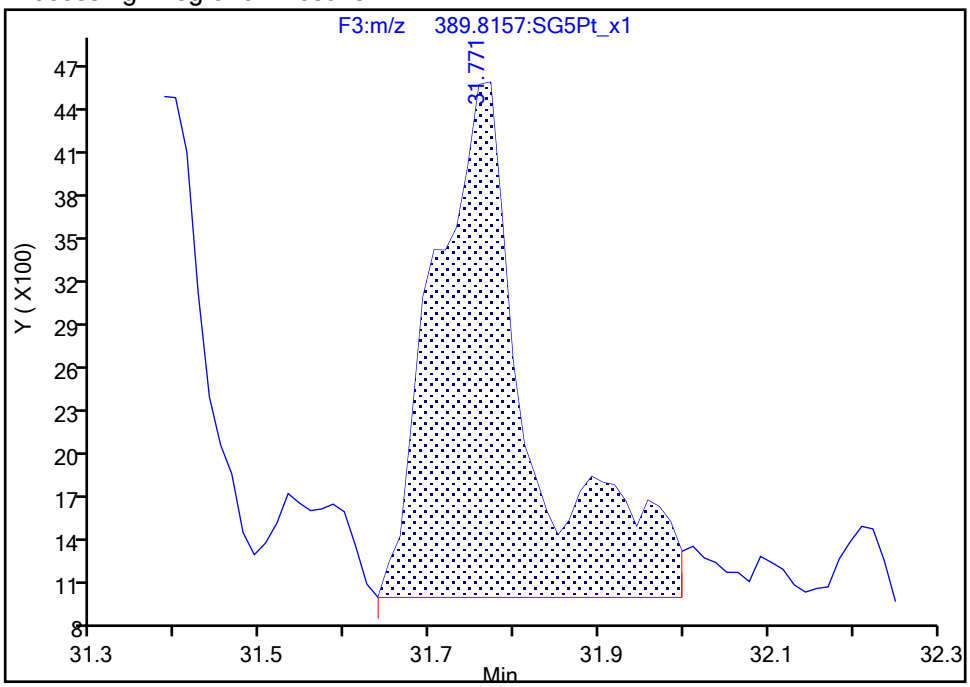

Manual Integration Results

RT: 31.77
Area: 22711
Amount: 0.159226
Amount Units: pg/ul

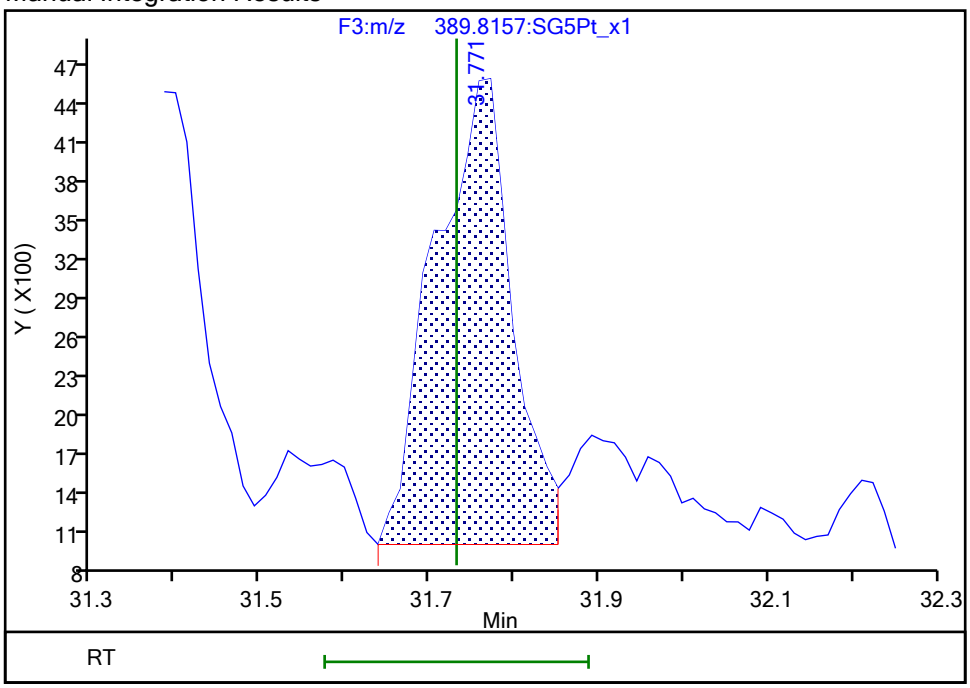

Reviewer: dadunj, 10-Feb-2020 09:25:41

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_12.d				
Injection Date:	06-Feb-2020 19:14:52	Instrument ID:	10D5		
Lims ID:	320-58170-A-2-A	Lab Sample ID:	320-58170-2		
Client ID:	11187072-Berm-Solids				
Operator ID:	AJS	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 2

Processing Integration Results

RT: 31.77
Area: 20068
Amount: 0.210036
Amount Units: pg/ul

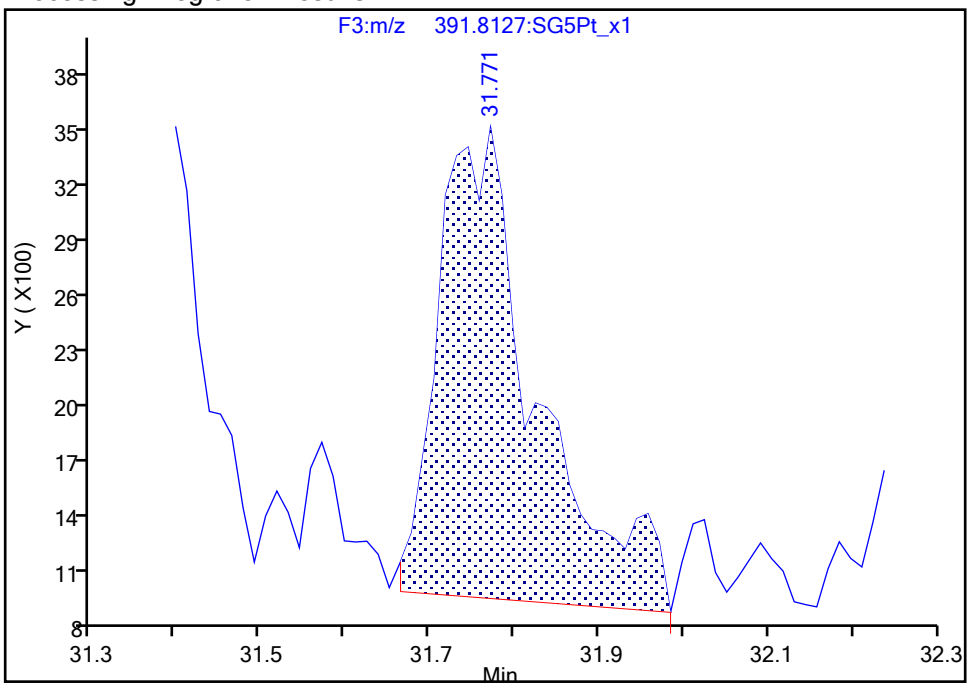

Manual Integration Results

RT: 31.77
Area: 13979
Amount: 0.159226
Amount Units: pg/ul

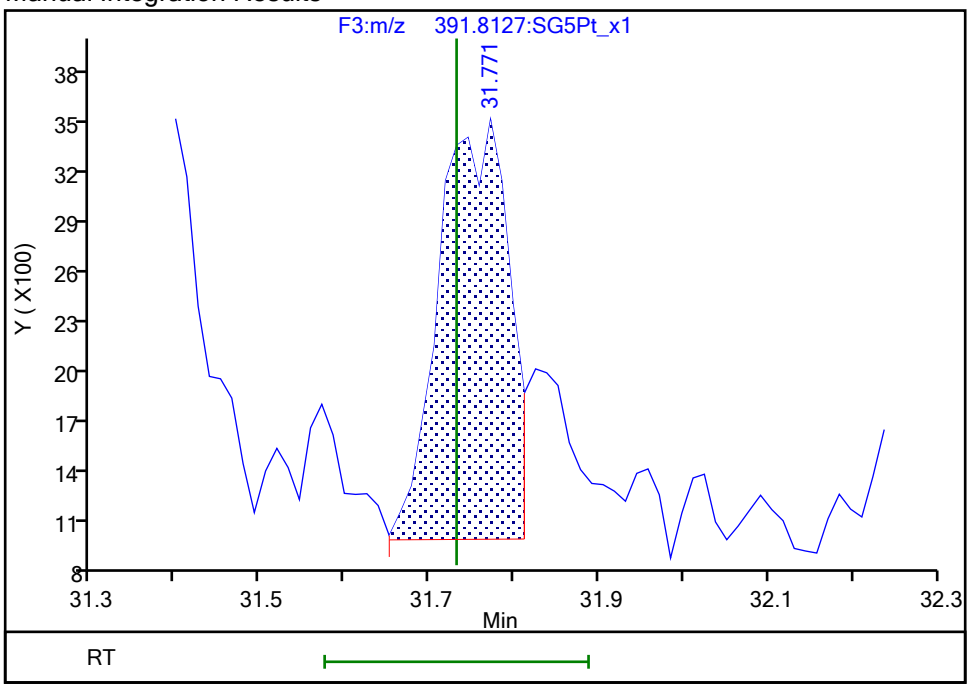

Reviewer: dadunj, 10-Feb-2020 09:25:43

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_12.d				
Injection Date:	06-Feb-2020 19:14:52	Instrument ID:	10D5		
Lims ID:	320-58170-A-2-A	Lab Sample ID:	320-58170-2		
Client ID:	11187072-Berm-Solids				
Operator ID:	AJS	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

Non-2,3,7,8-sub-HxCDD, Signal: 1, m/z: 389.8157, RT: (28.40- 31.71)

Signal: 1

Processing Integration Results

Not Detected

RT: 28.40- 31.71

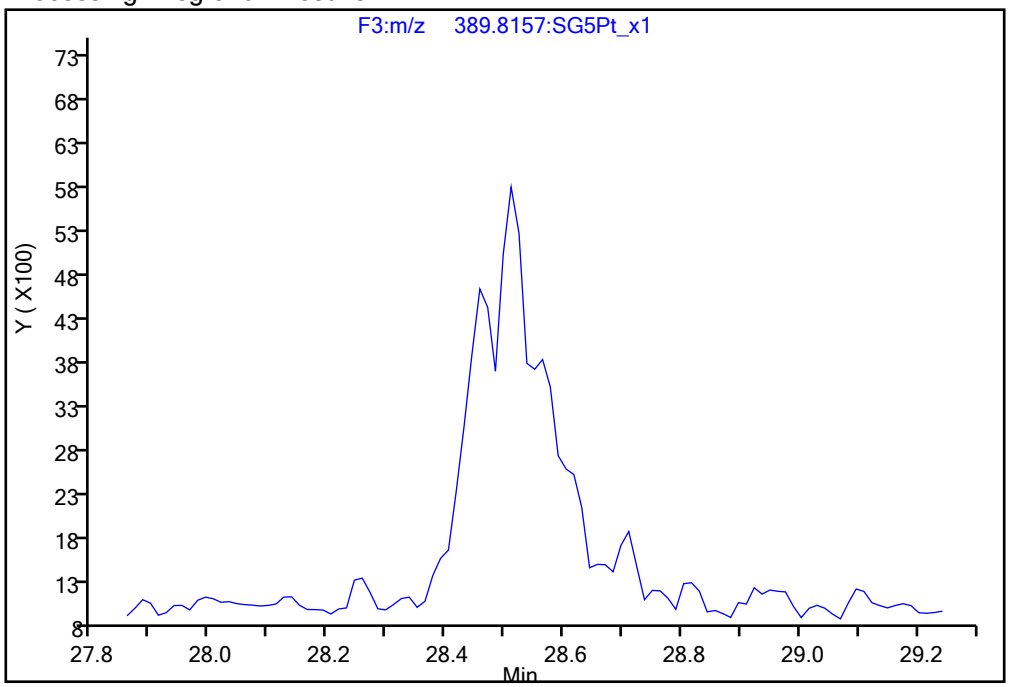

Manual Integration Results

RT = 28.510 Area = 39165 M

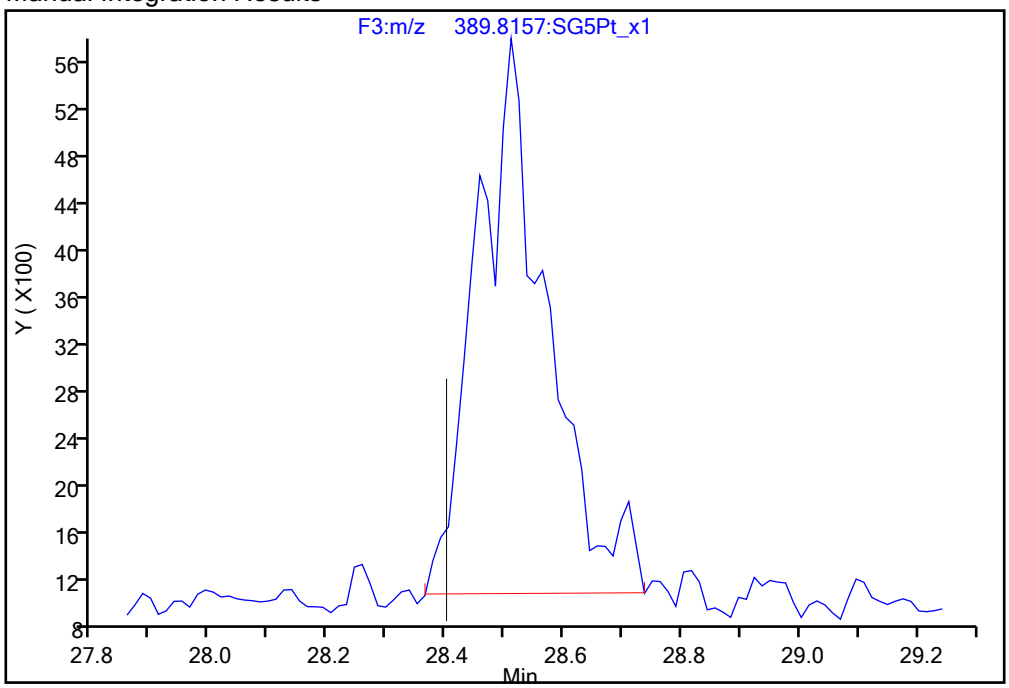

Reviewer: dadunj, 10-Feb-2020 09:26:16

Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_12.d				
Injection Date:	06-Feb-2020 19:14:52	Instrument ID:	10D5		
Lims ID:	320-58170-A-2-A	Lab Sample ID:	320-58170-2		
Client ID:	11187072-Berm-Solids				
Operator ID:	AJS	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

Non-2,3,7,8-sub-HxCDD, Signal: 2, m/z: 391.8127, RT: (28.40- 31.71)

Signal: 2

Processing Integration Results

RT = 28.484 Area = 31875

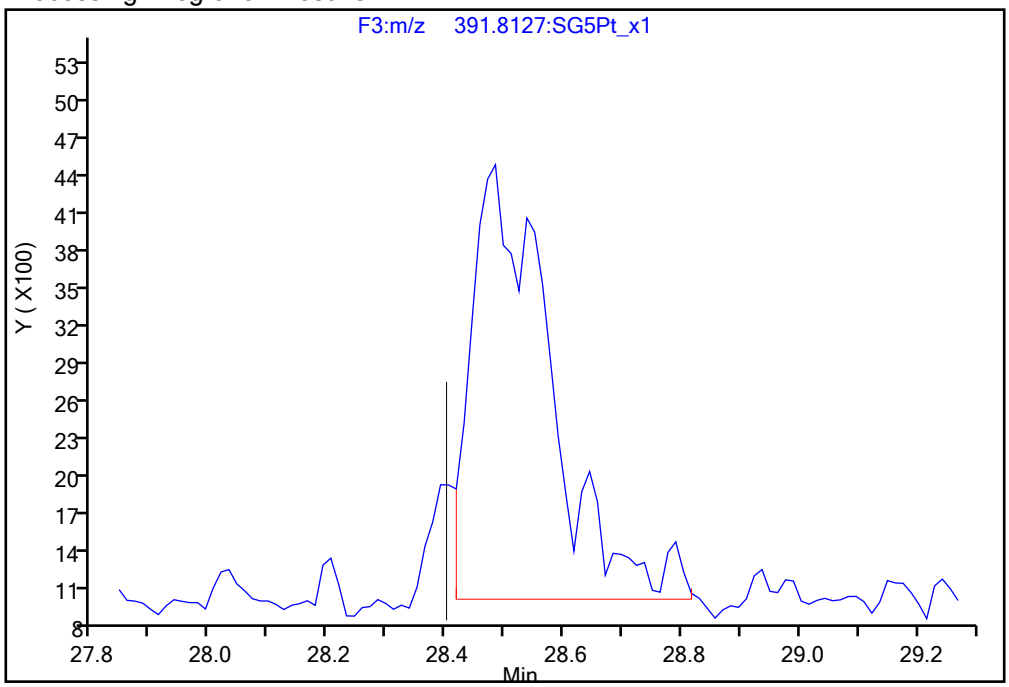

Manual Integration Results

RT = 28.484 Area = 32806 M

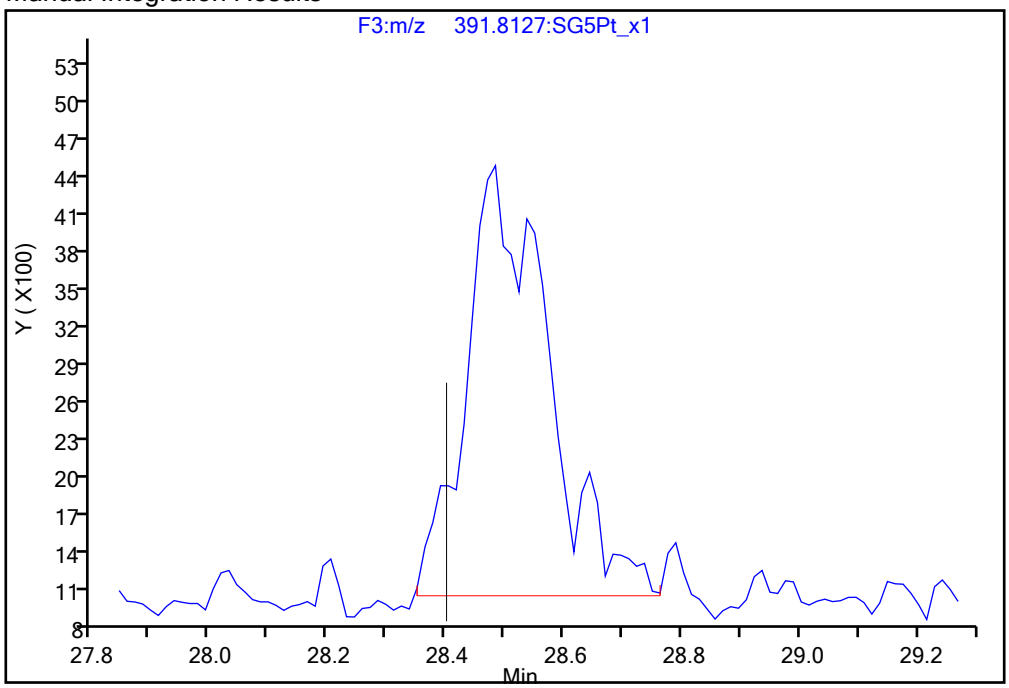

Reviewer: dadunj, 10-Feb-2020 09:26:25

Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_12.d				
Injection Date:	06-Feb-2020 19:14:52	Instrument ID:	10D5		
Lims ID:	320-58170-A-2-A	Lab Sample ID:	320-58170-2		
Client ID:	11187072-Berm-Solids				
Operator ID:	AJS	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

Non-2,3,7,8-sub-HxCDD, Signal: 2, m/z: 391.8127, RT: (28.40- 31.71)

Signal: 2

Processing Integration Results

RT = 30.361 Area = 38318

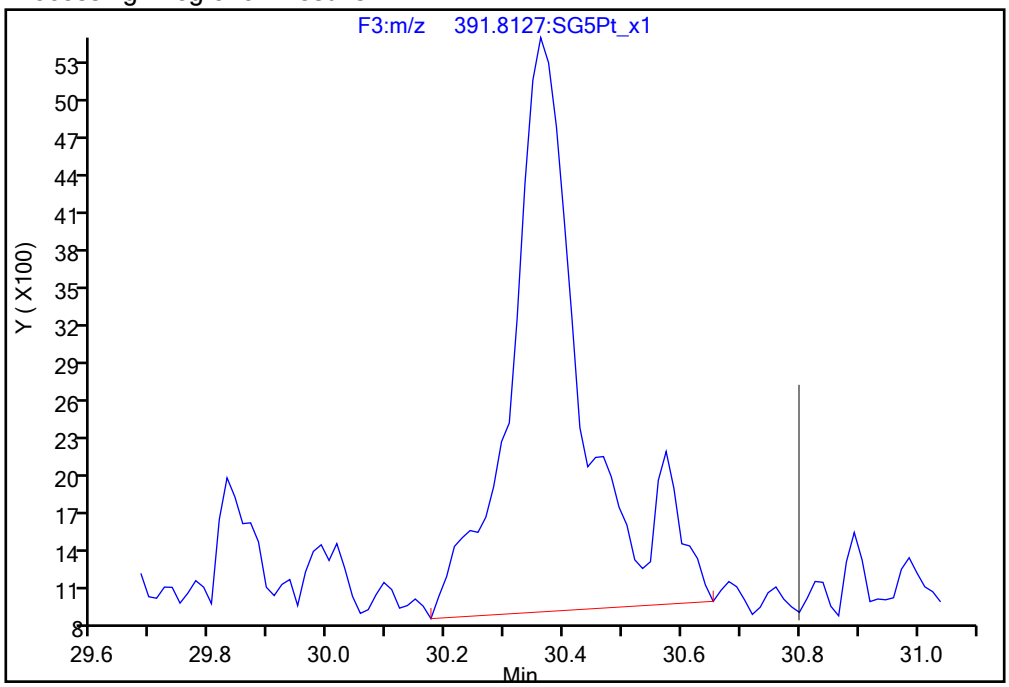

Manual Integration Results

RT = 30.361 Area = 32026 M

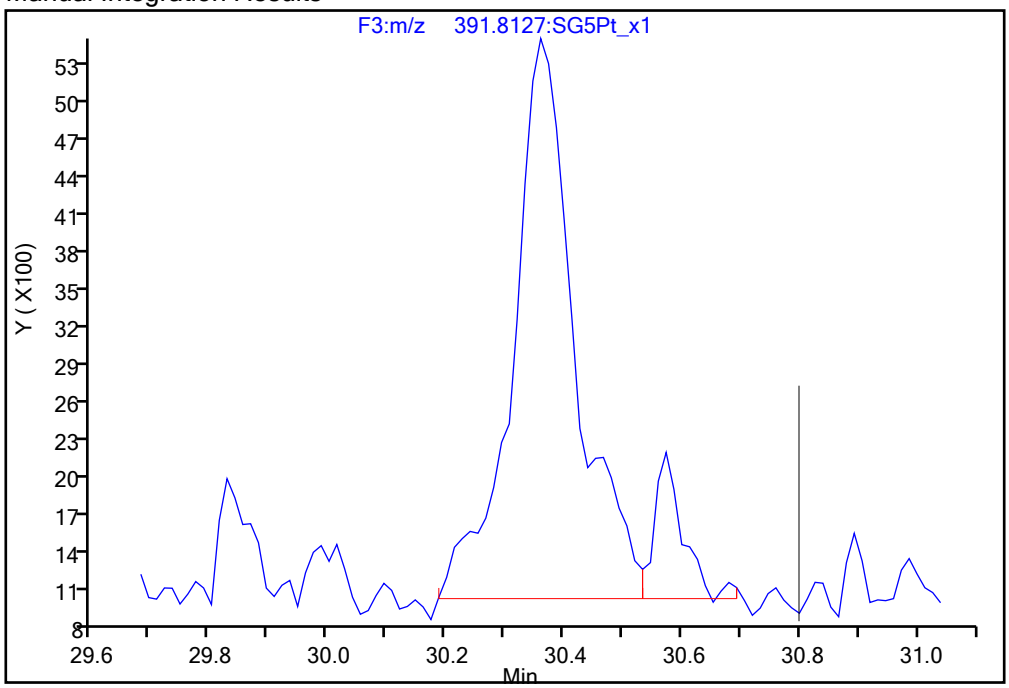

Reviewer: dadunj, 10-Feb-2020 09:26:25

Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_12.d				
Injection Date:	06-Feb-2020 19:14:52	Instrument ID:	10D5		
Lims ID:	320-58170-A-2-A	Lab Sample ID:	320-58170-2		
Client ID:	11187072-Berm-Solids				
Operator ID:	AJS	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 2

Processing Integration Results

RT: 33.47
Area: 59891
Amount: 0.492176
Amount Units: pg/ul

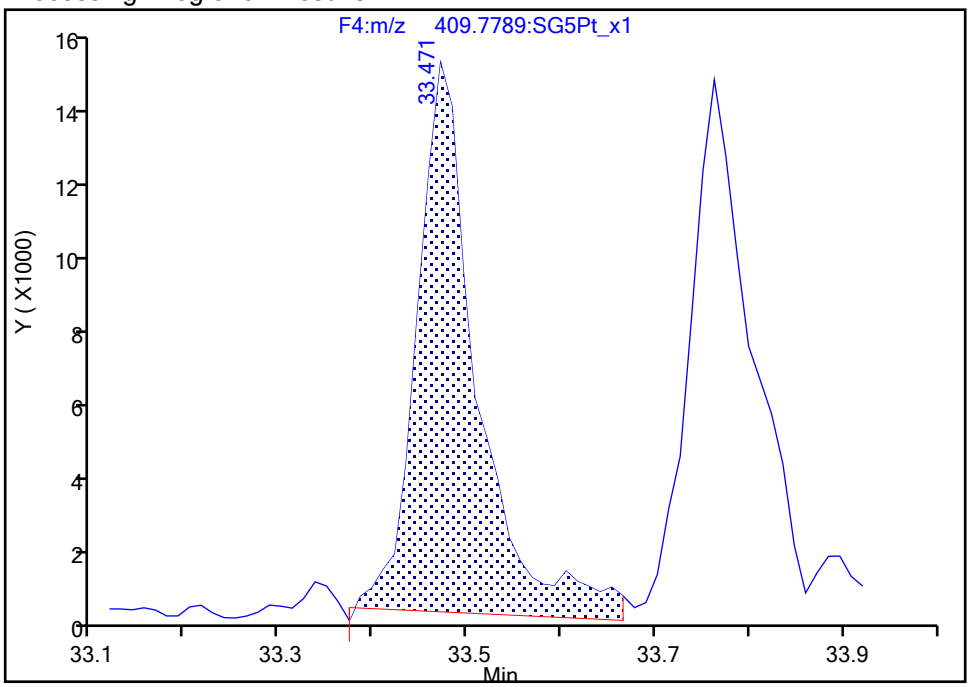

Manual Integration Results

RT: 33.47
Area: 54304
Amount: 0.471093
Amount Units: pg/ul

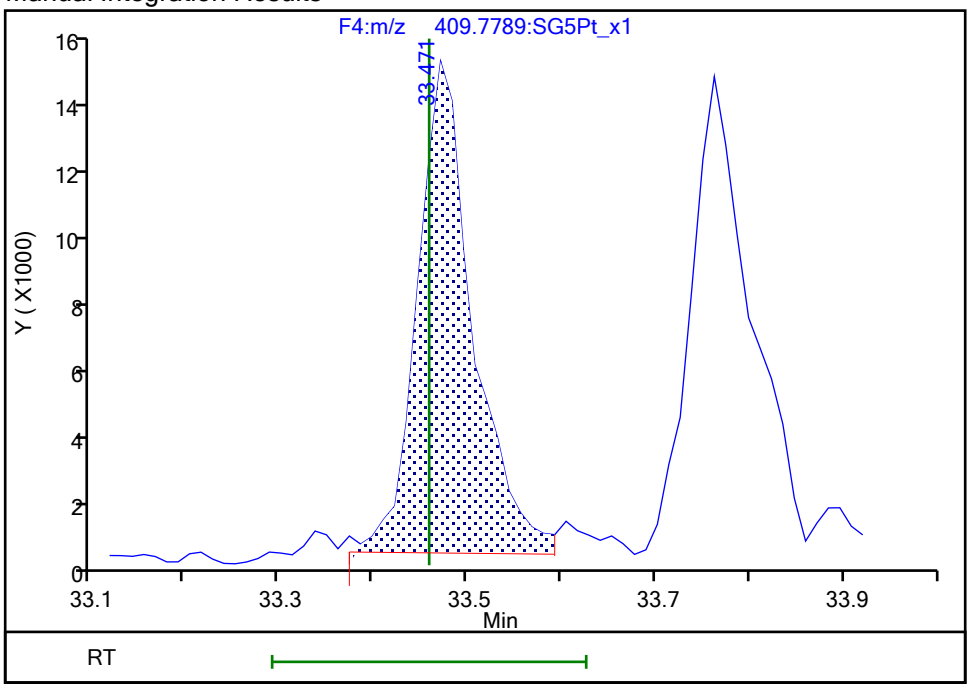

Reviewer: dadunj, 10-Feb-2020 09:26:52

Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_12.d				
Injection Date:	06-Feb-2020 19:14:52	Instrument ID:	10D5		
Lims ID:	320-58170-A-2-A	Lab Sample ID:	320-58170-2		
Client ID:	11187072-Berm-Solids				
Operator ID:	AJS	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

Non-2,3,7,8-sub-HpCDF, Signal: 1, m/z: 407.7818, RT: (33.43- 34.56)

Signal: 1

Processing Integration Results

RT = 33.763 Area = 60014

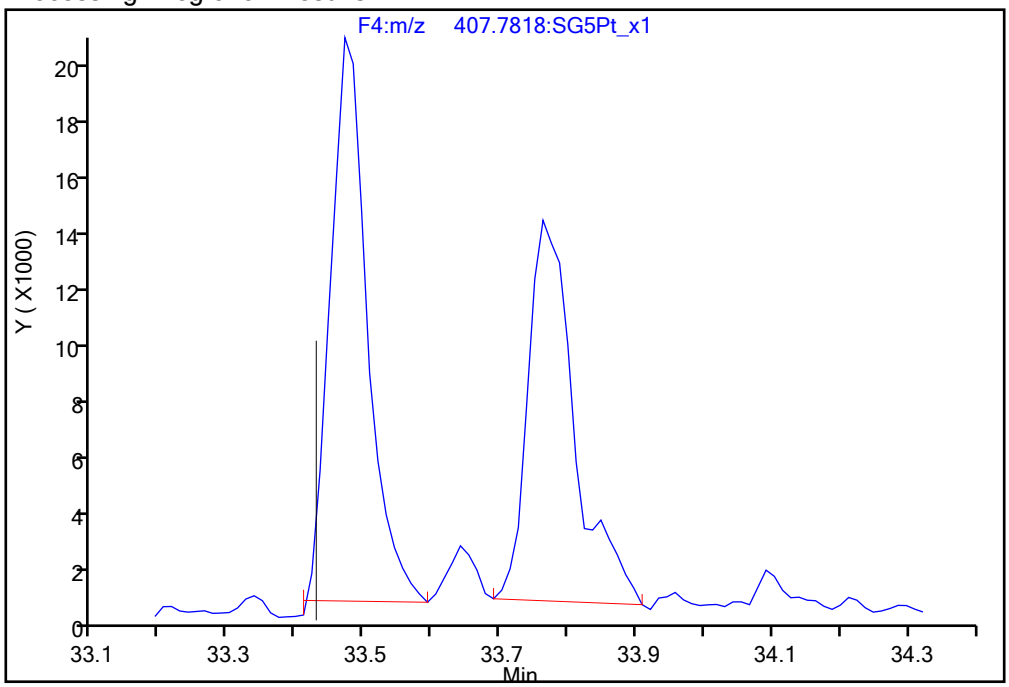

Manual Integration Results

RT = 33.763 Area = 51559 M

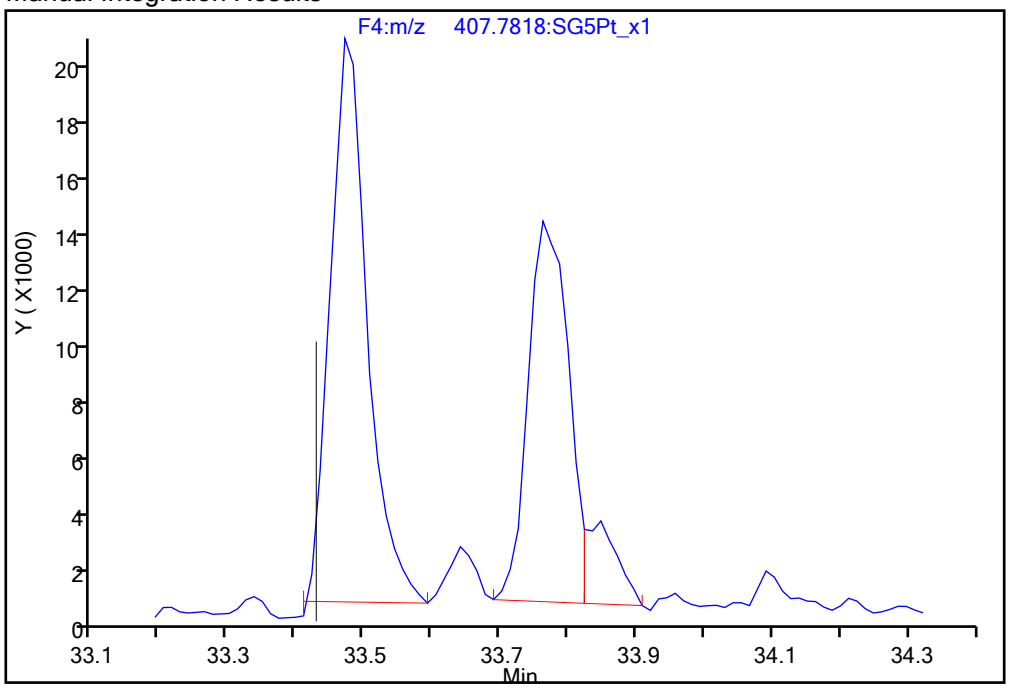

Reviewer: dadunj, 10-Feb-2020 09:27:04

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_12.d				
Injection Date:	06-Feb-2020 19:14:52	Instrument ID:	10D5		
Lims ID:	320-58170-A-2-A	Lab Sample ID:	320-58170-2		
Client ID:	11187072-Berm-Solids				
Operator ID:	AJS	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

Non-2,3,7,8-sub-HpCDF, Signal: 2, m/z: 409.7789, RT: (33.43- 34.56)

Signal: 2

Processing Integration Results

RT = 33.763 Area = 64405

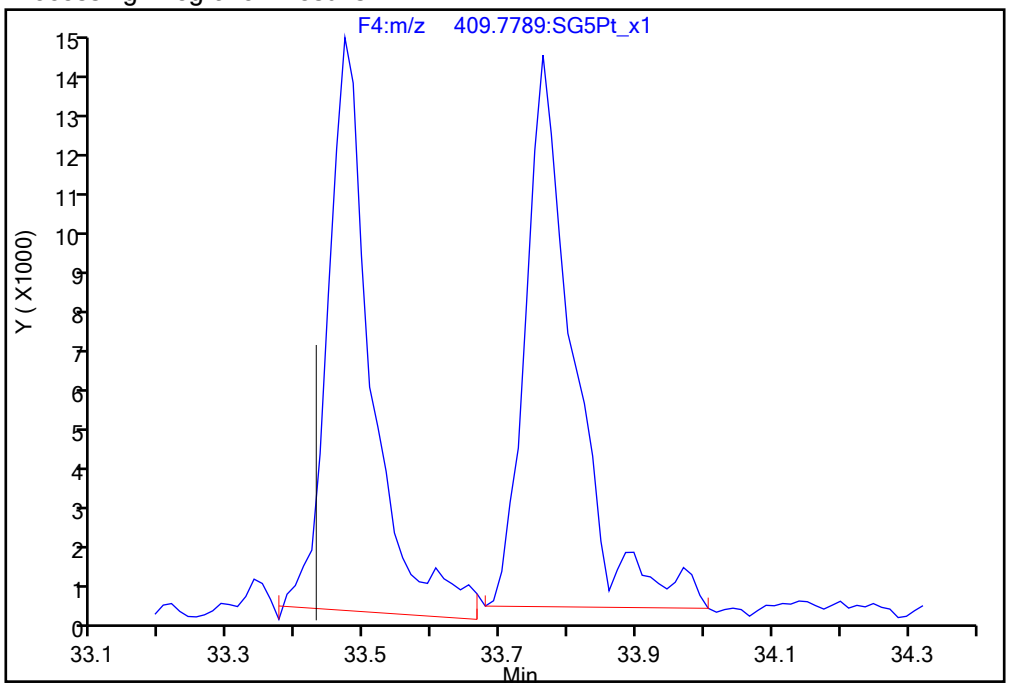

Manual Integration Results

RT = 33.763 Area = 52488 M

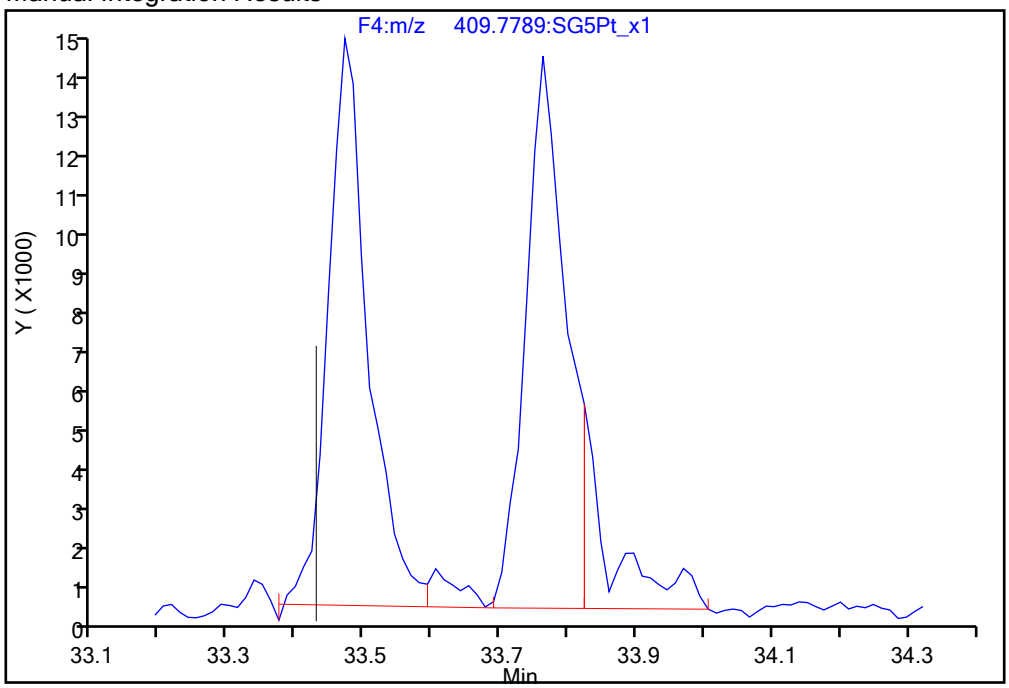

Reviewer: dadunj, 10-Feb-2020 09:27:08

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_12.d				
Injection Date:	06-Feb-2020 19:14:52	Instrument ID:	10D5		
Lims ID:	320-58170-A-2-A	Lab Sample ID:	320-58170-2		
Client ID:	11187072-Berm-Solids				
Operator ID:	AJS	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 2

Processing Integration Results

RT: 34.26
Area: 387764
Amount: 3.789013
Amount Units: pg/ul

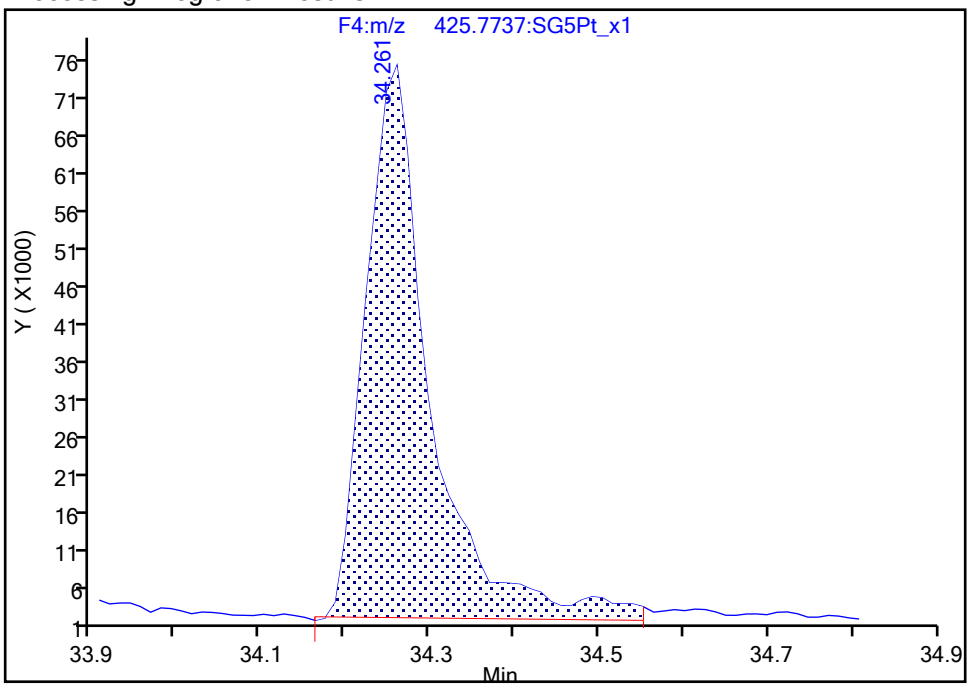

Manual Integration Results

RT: 34.26
Area: 375440
Amount: 1.892531
Amount Units: pg/ul

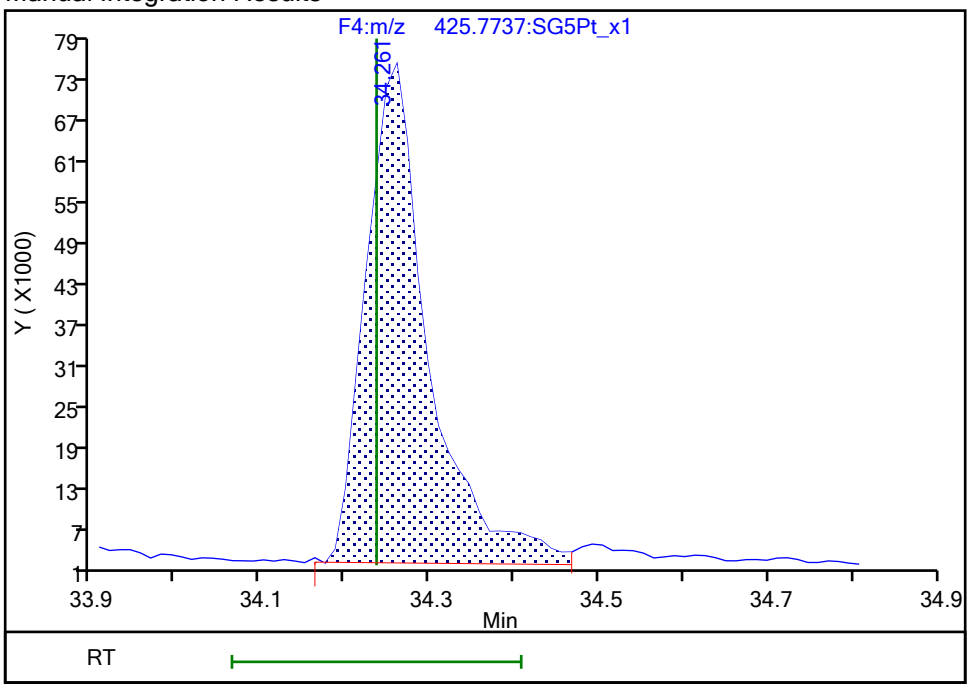

Reviewer: dadunj, 10-Feb-2020 09:27:20

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_12.d				
Injection Date:	06-Feb-2020 19:14:52	Instrument ID:	10D5		
Lims ID:	320-58170-A-2-A	Lab Sample ID:	320-58170-2		
Client ID:	11187072-Berm-Solids				
Operator ID:	AJS	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 1

Processing Integration Results

RT: 34.26
Area: 389981
Amount: 3.789013
Amount Units: pg/ul

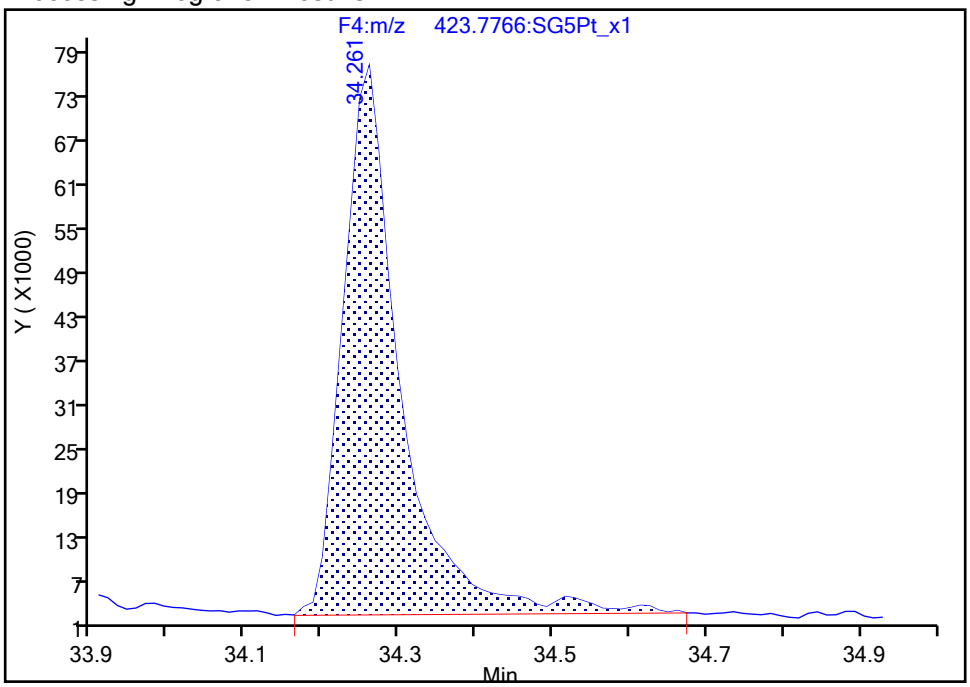

Manual Integration Results

RT: 34.52
Area: 13027
Amount: 1.892531
Amount Units: pg/ul

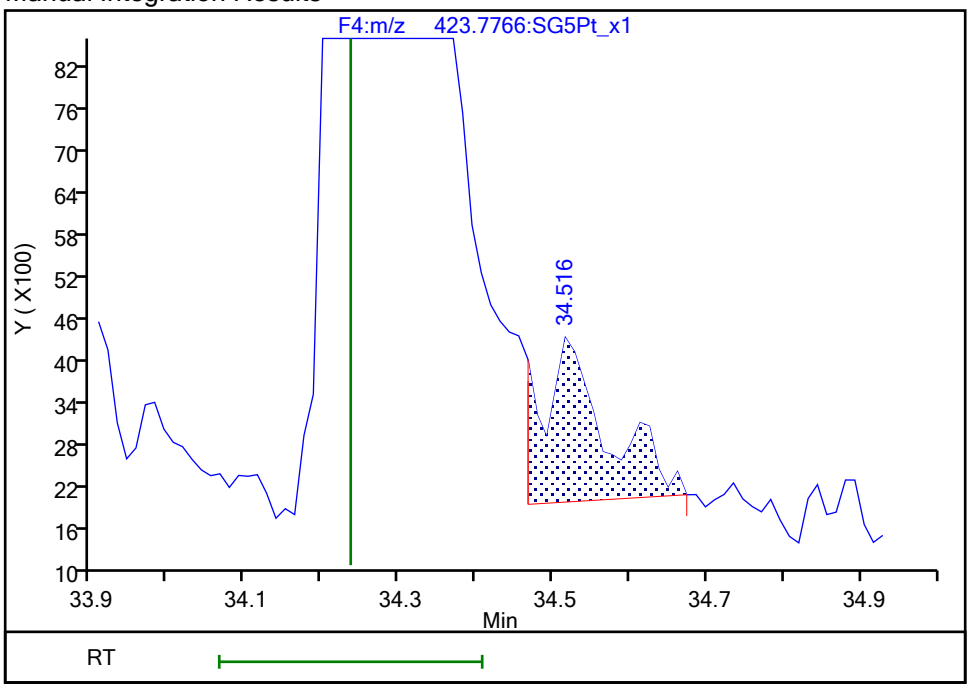

Reviewer: dadunj, 10-Feb-2020 09:27:22

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_12.d				
Injection Date:	06-Feb-2020 19:14:52	Instrument ID:	10D5		
Lims ID:	320-58170-A-2-A	Lab Sample ID:	320-58170-2		
Client ID:	11187072-Berm-Solids				
Operator ID:	AJS	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

Non-2,3,7,8-sub-HpCDD, Signal: 1, m/z: 423.7766, RT: (33.66- 34.27)

Signal: 1

Processing Integration Results

RT = 33.714 Area = 449924

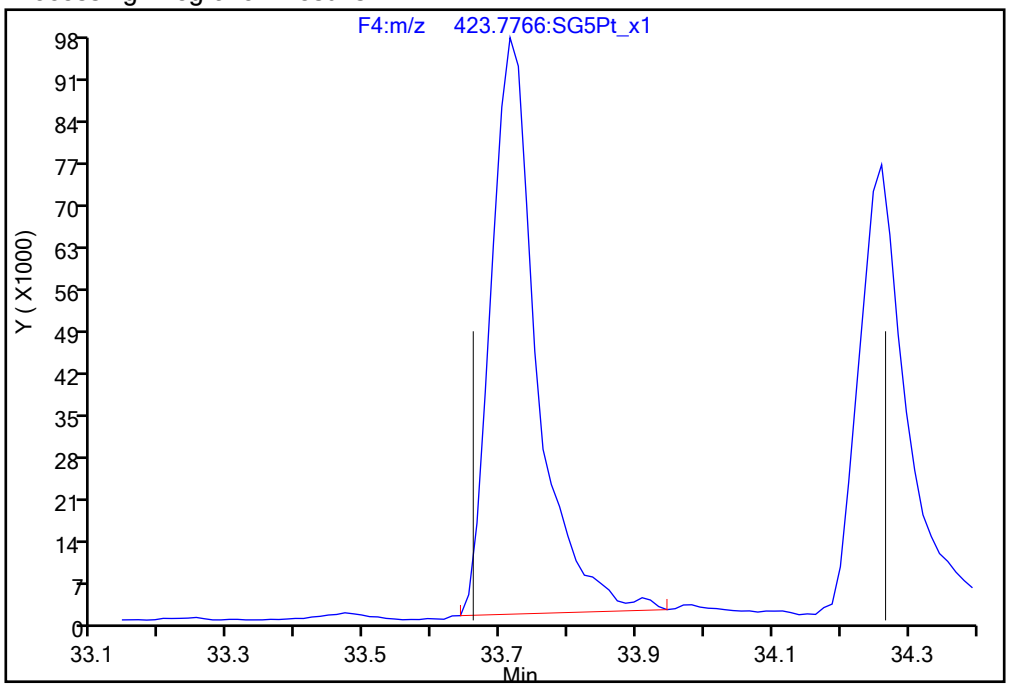

Manual Integration Results

RT = 33.714 Area = 446353 M

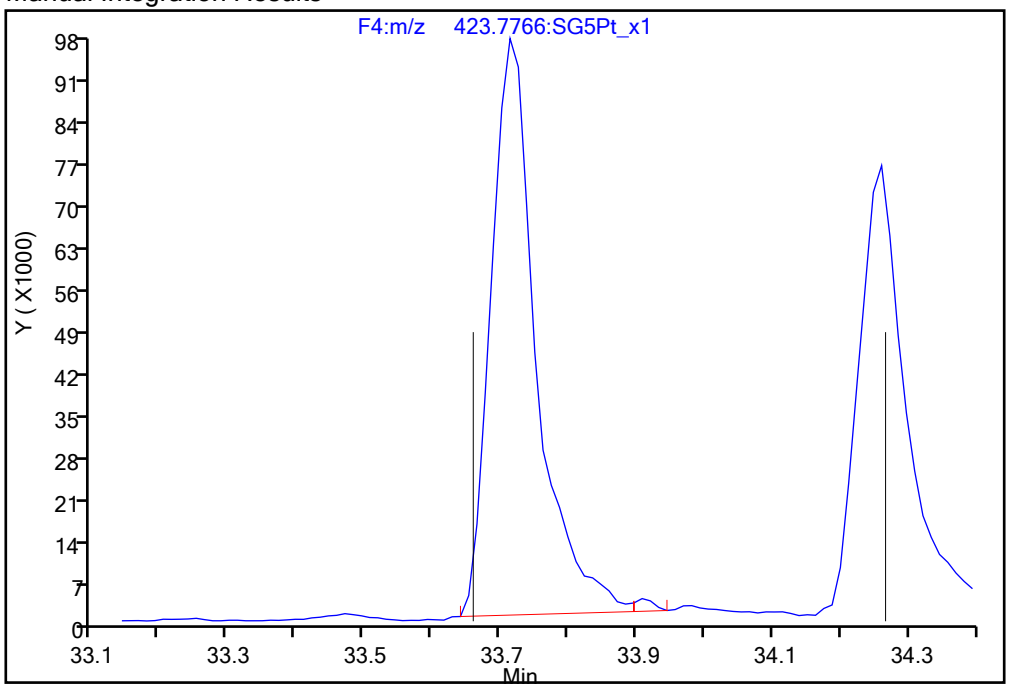

Reviewer: dadunj, 10-Feb-2020 09:27:29

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_12.d				
Injection Date:	06-Feb-2020 19:14:52	Instrument ID:	10D5		
Lims ID:	320-58170-A-2-A	Lab Sample ID:	320-58170-2		
Client ID:	11187072-Berm-Solids				
Operator ID:	AJS	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

Non-2,3,7,8-sub-HpCDD, Signal: 2, m/z: 425.7737, RT: (33.66- 34.27)

Signal: 2

Processing Integration Results

RT = 33.714 Area = 459239

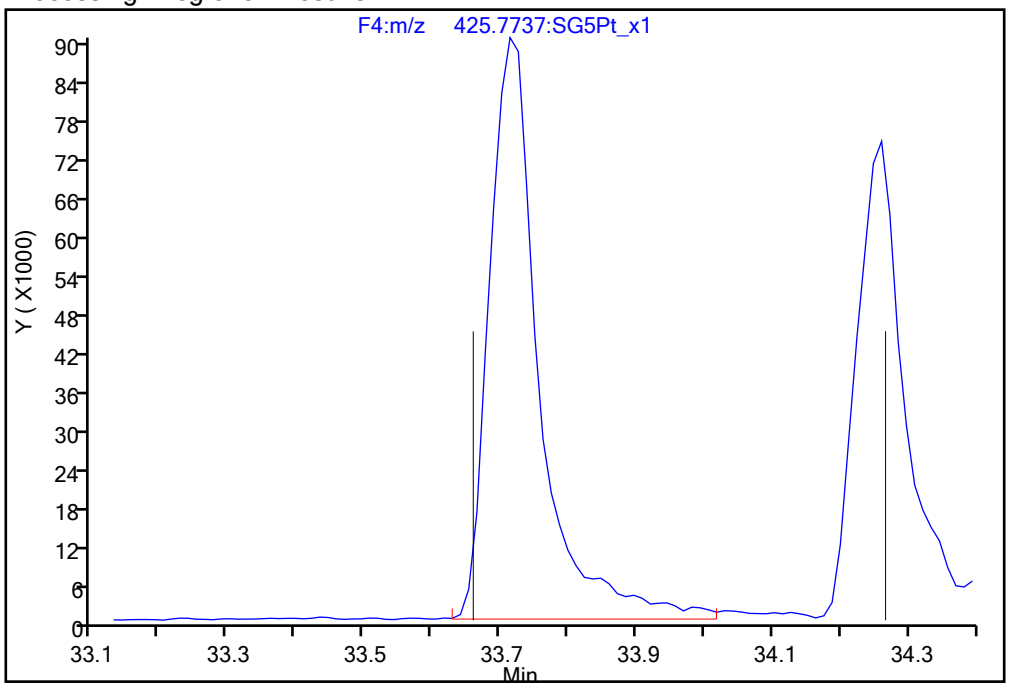

Manual Integration Results

RT = 33.714 Area = 443858 M

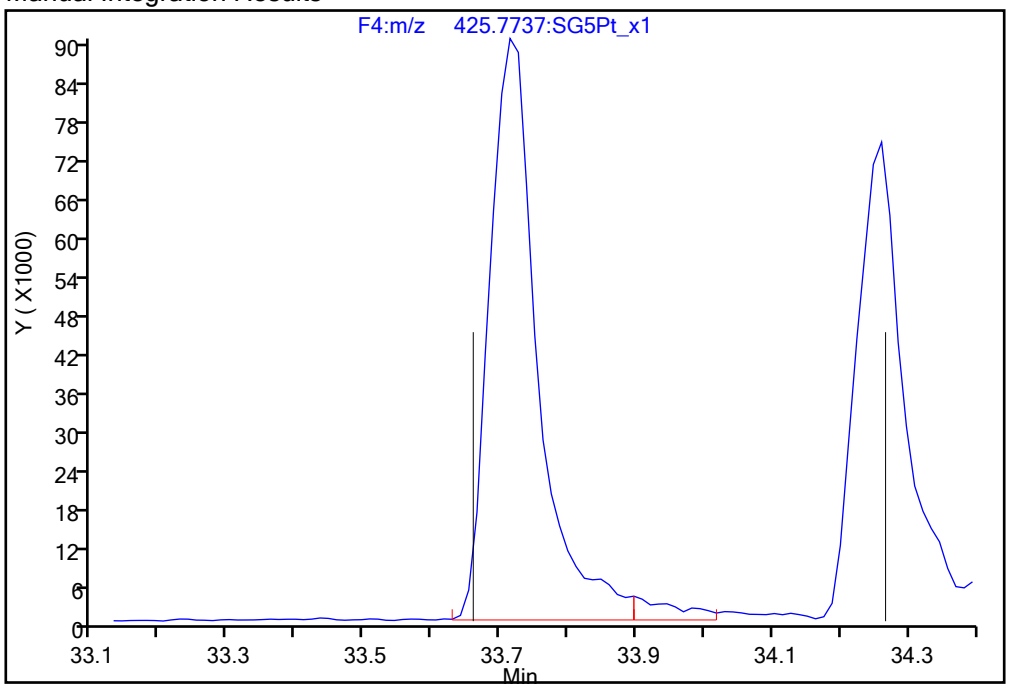

Reviewer: dadunj, 10-Feb-2020 09:27:26

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 10-Feb-2020 09:28:42 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_12.d		
Injection Date:	06-Feb-2020 19:14:52	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Berm-Solids		
Worklist#:	355551	Sample Line#:	12
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

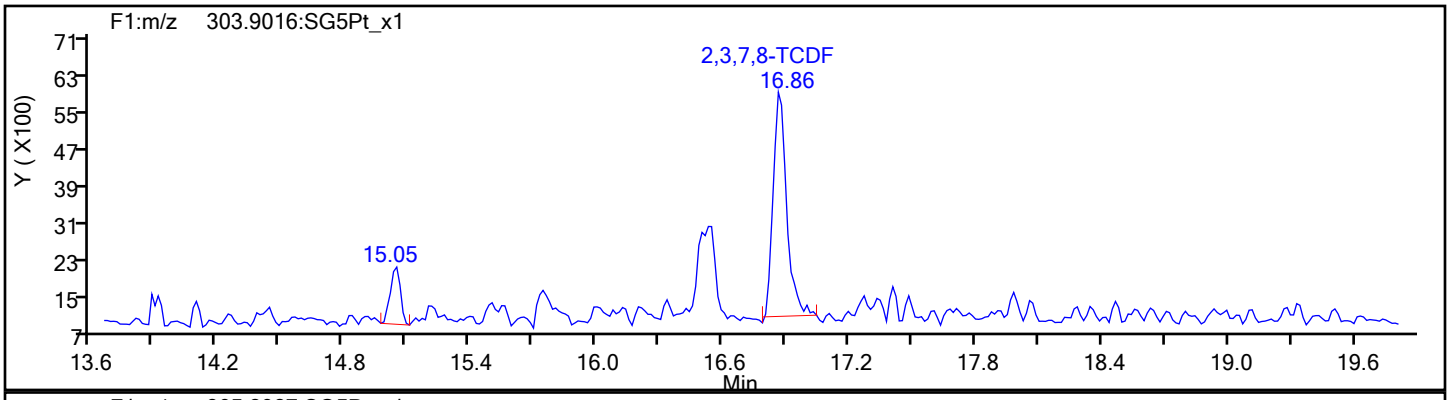

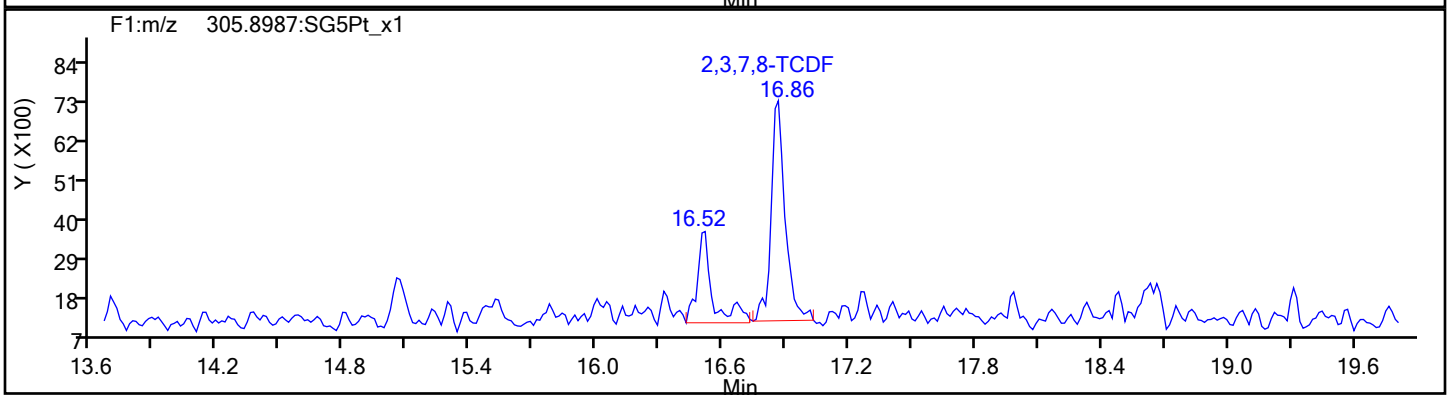

TCDF Standards

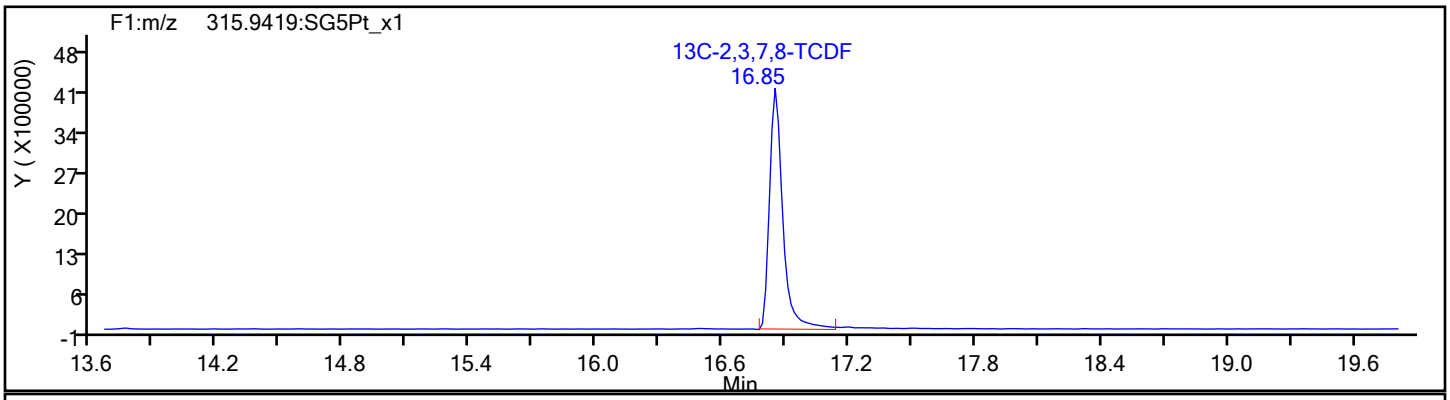

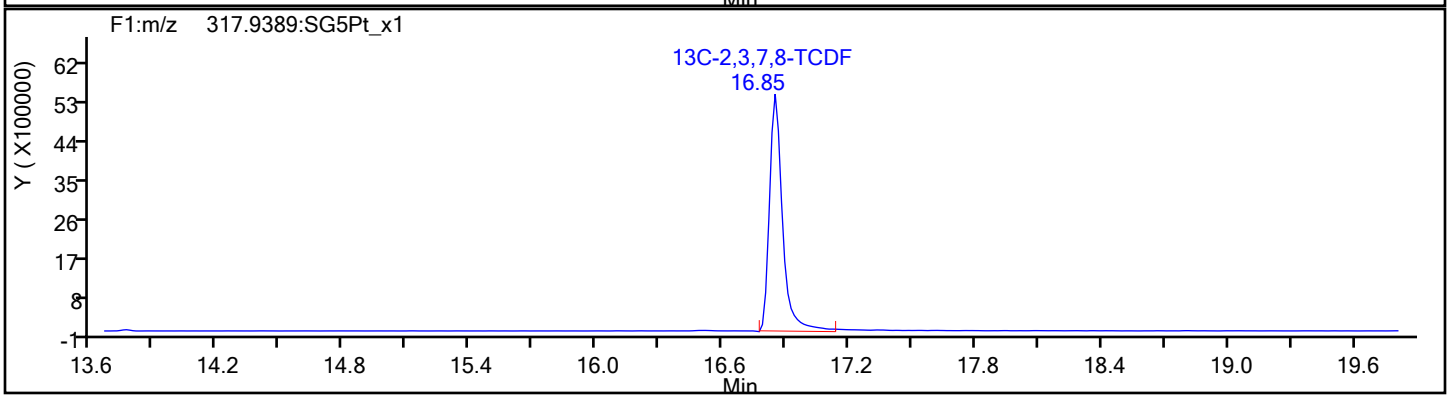

Report Date: 10-Feb-2020 09:28:42 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_12.d		
Injection Date:	06-Feb-2020 19:14:52	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Berm-Solids		
Worklist#:	355551	Sample Line#:	12
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

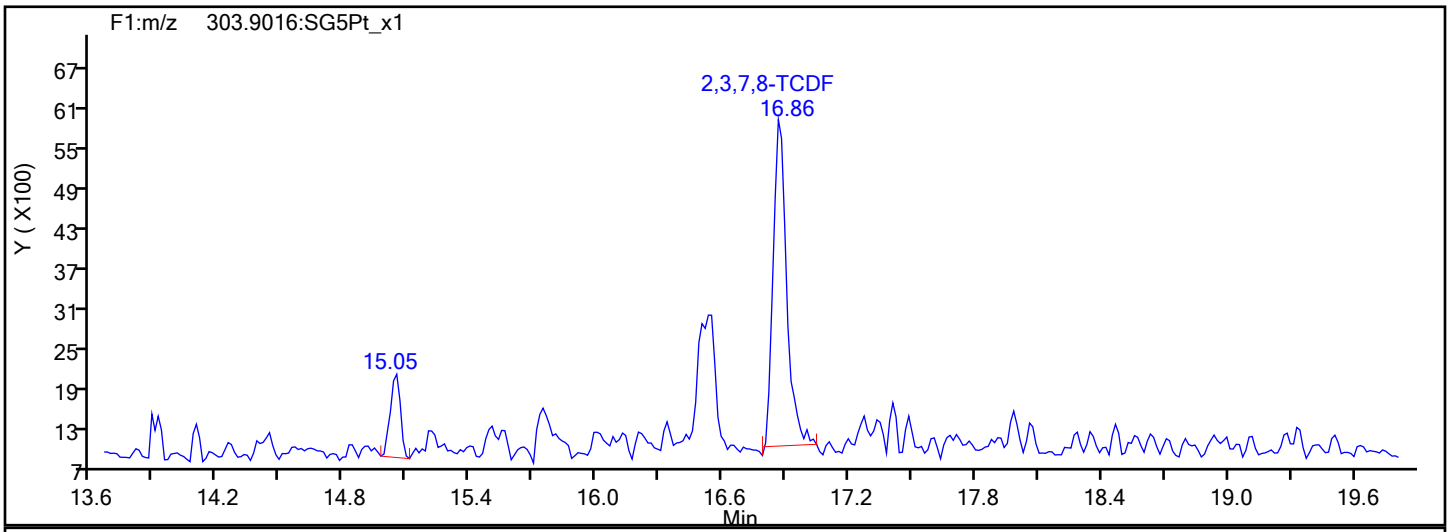

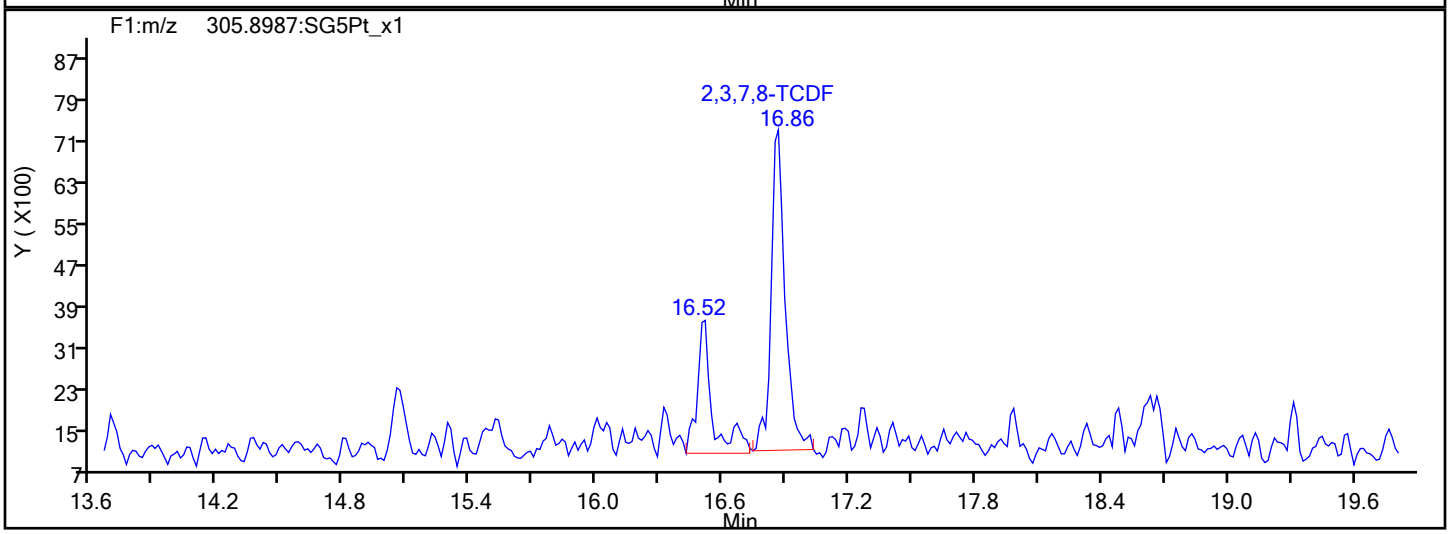

TCDF Interference Mass

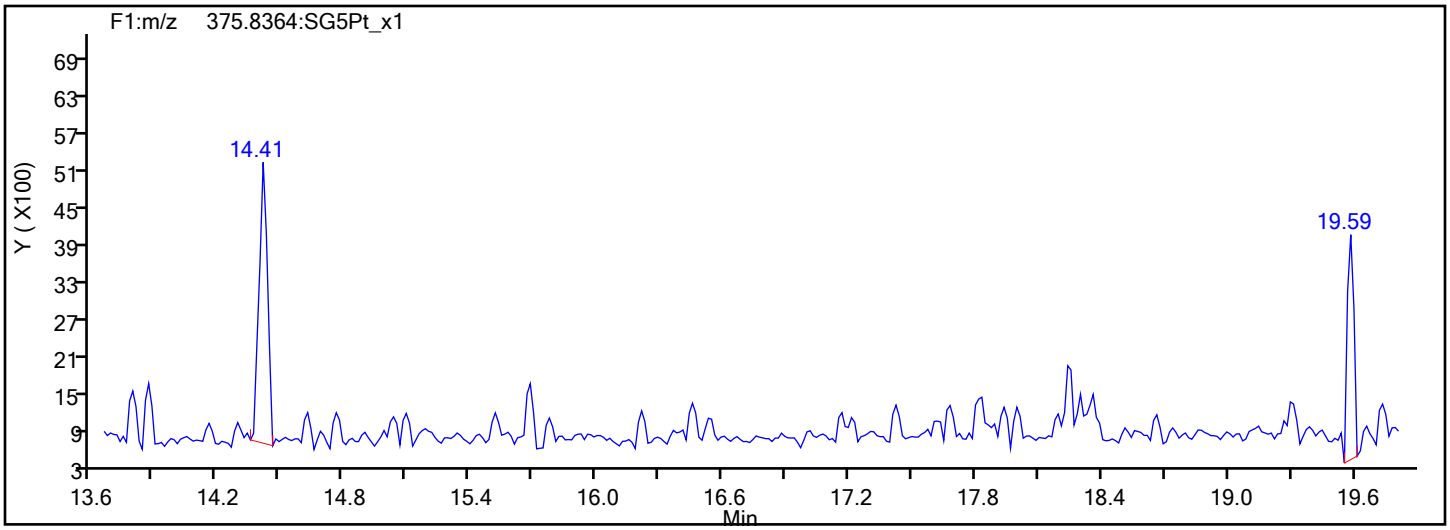

Report Date: 10-Feb-2020 09:28:42 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_12.d		
Injection Date:	06-Feb-2020 19:14:52	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Berm-Solids		
Worklist#:	355551	Sample Line#:	12
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

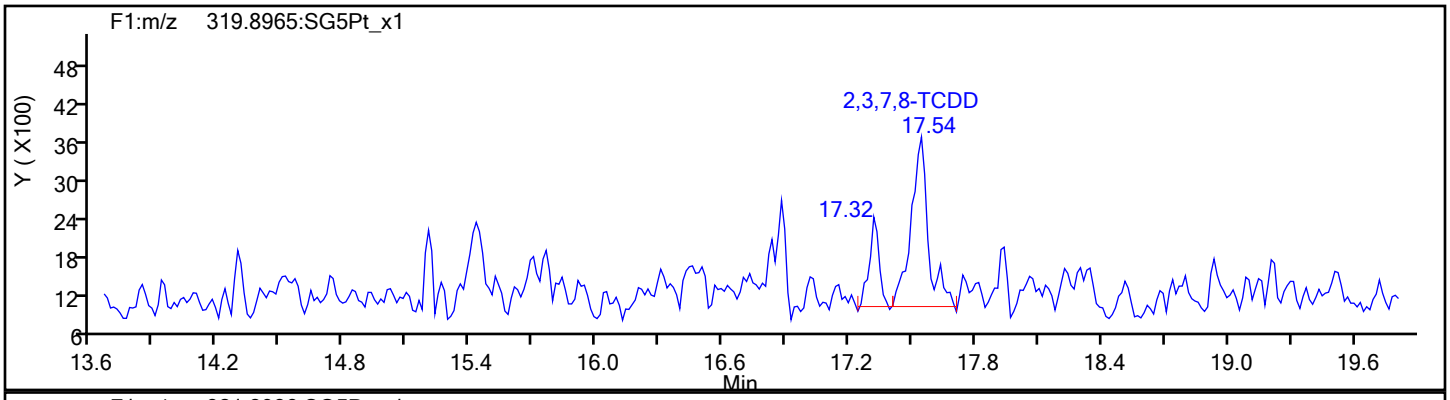

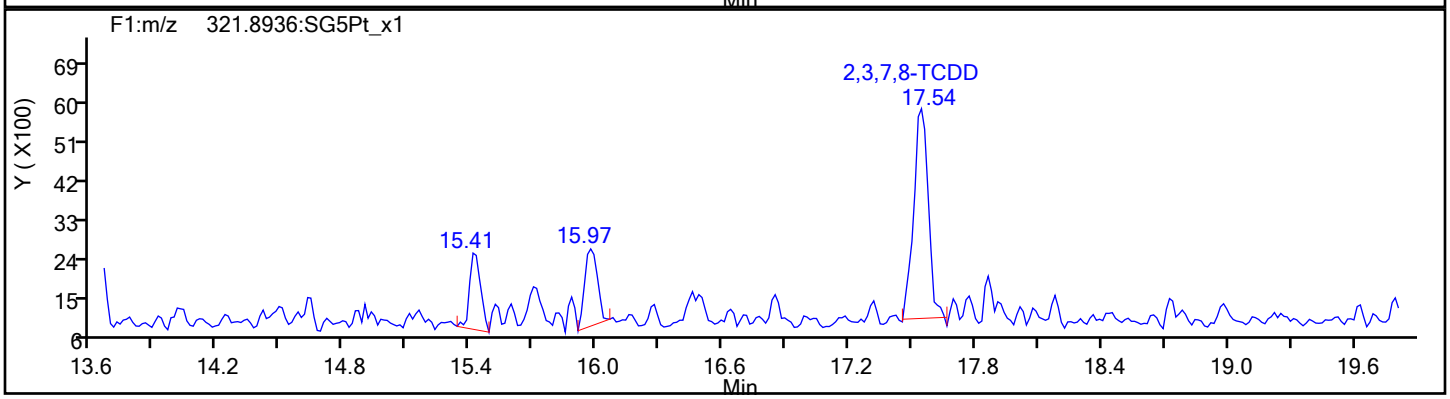

TCDD Standards

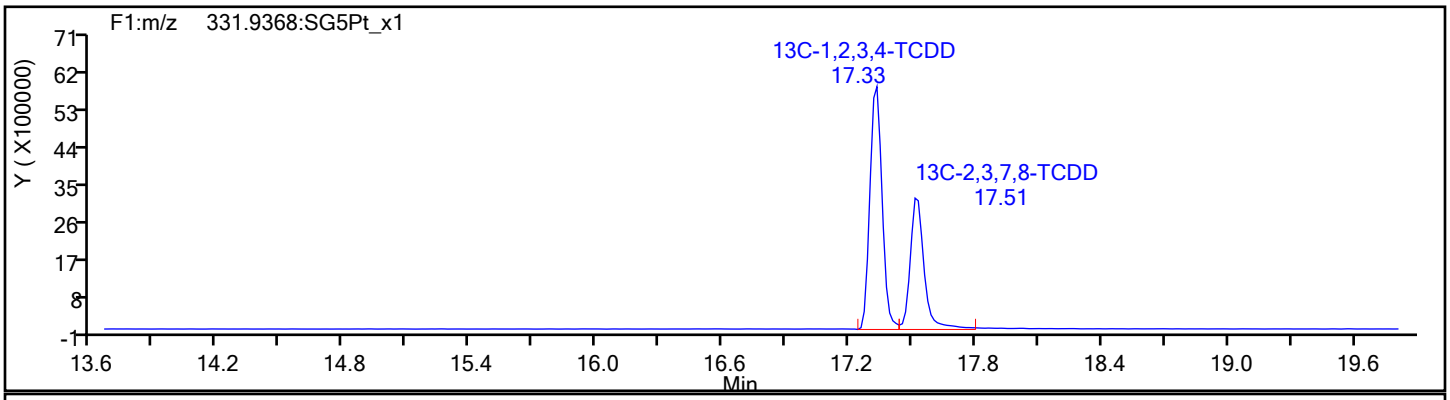

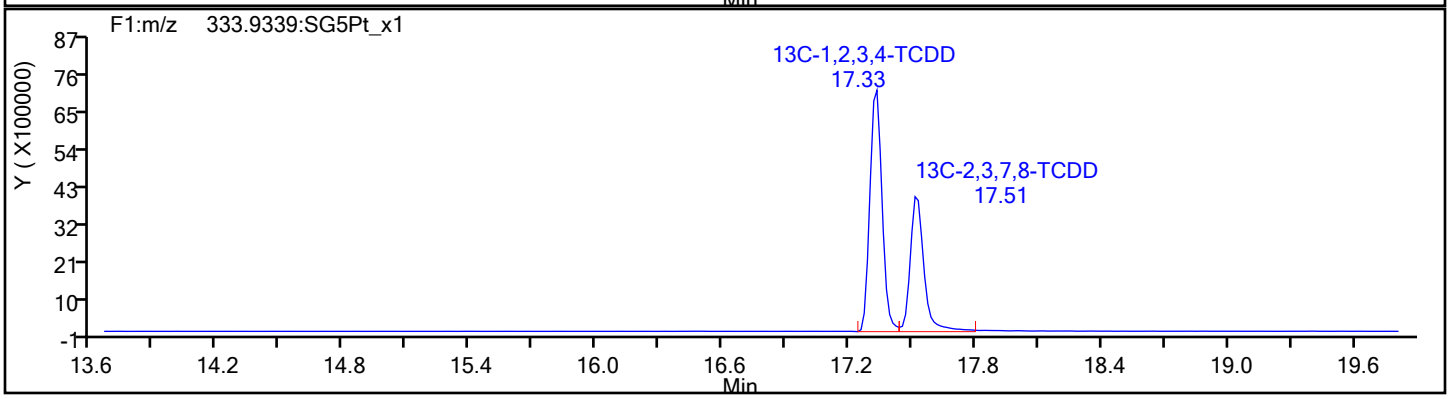

Report Date: 10-Feb-2020 09:28:42 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_12.d		
Injection Date:	06-Feb-2020 19:14:52	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Berm-Solids		
Worklist#:	355551	Sample Line#:	12
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

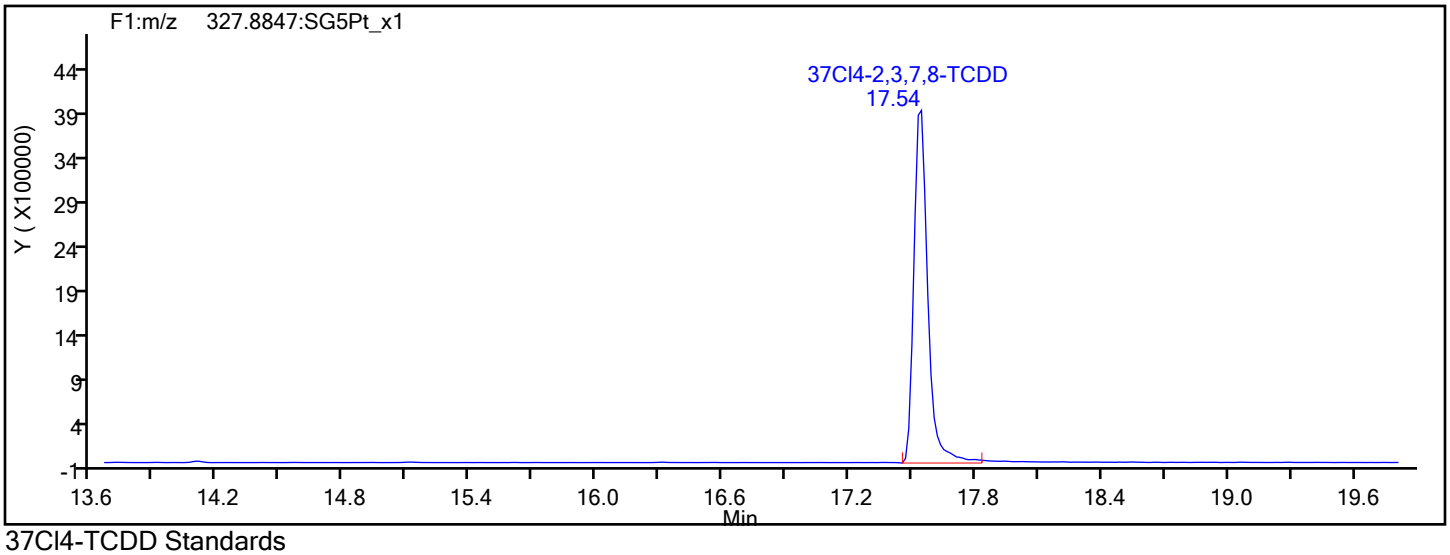

37Cl4-TCDD Standards

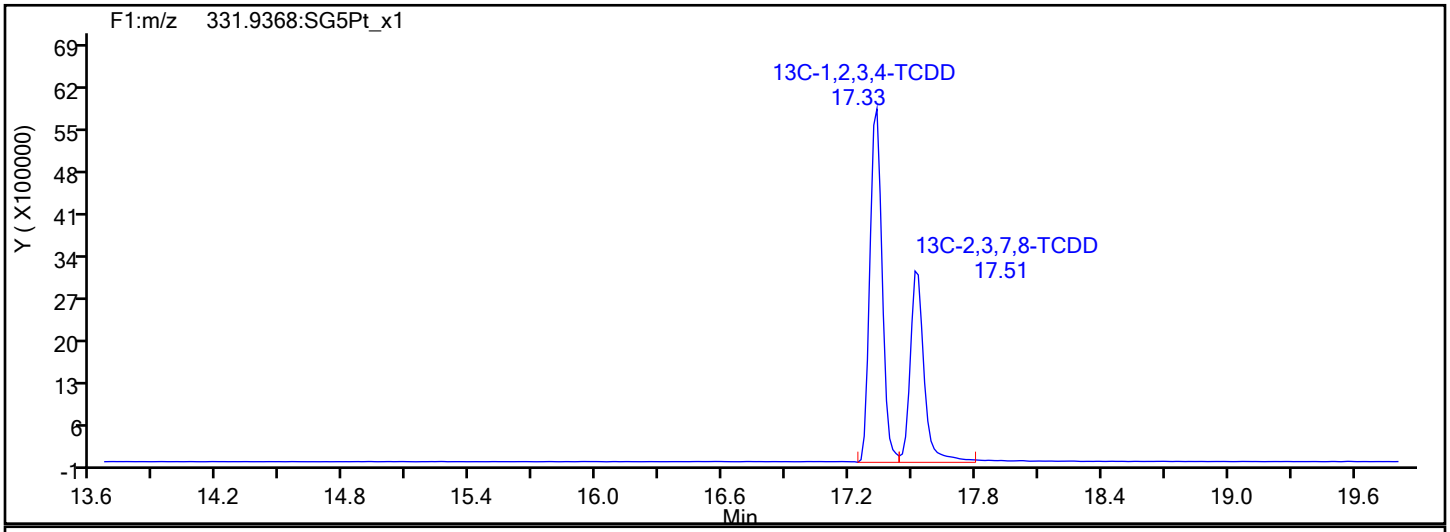

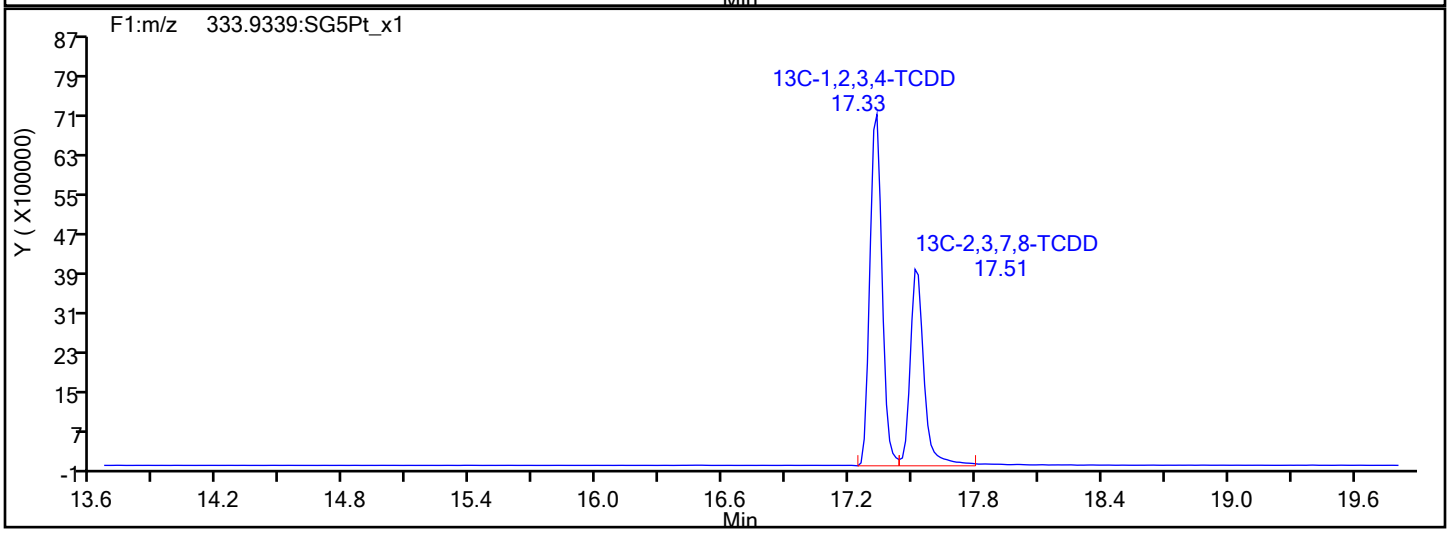

Report Date: 10-Feb-2020 09:28:42 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

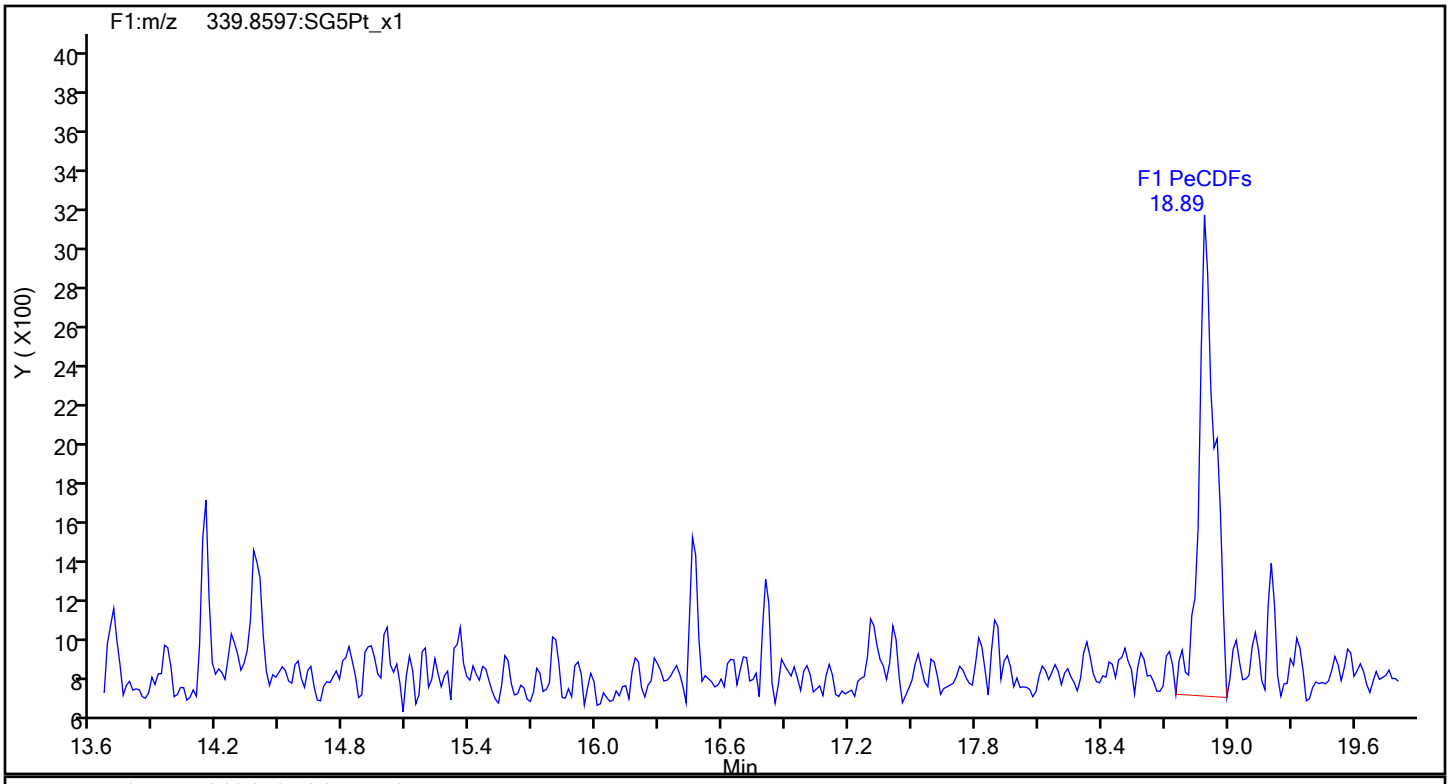

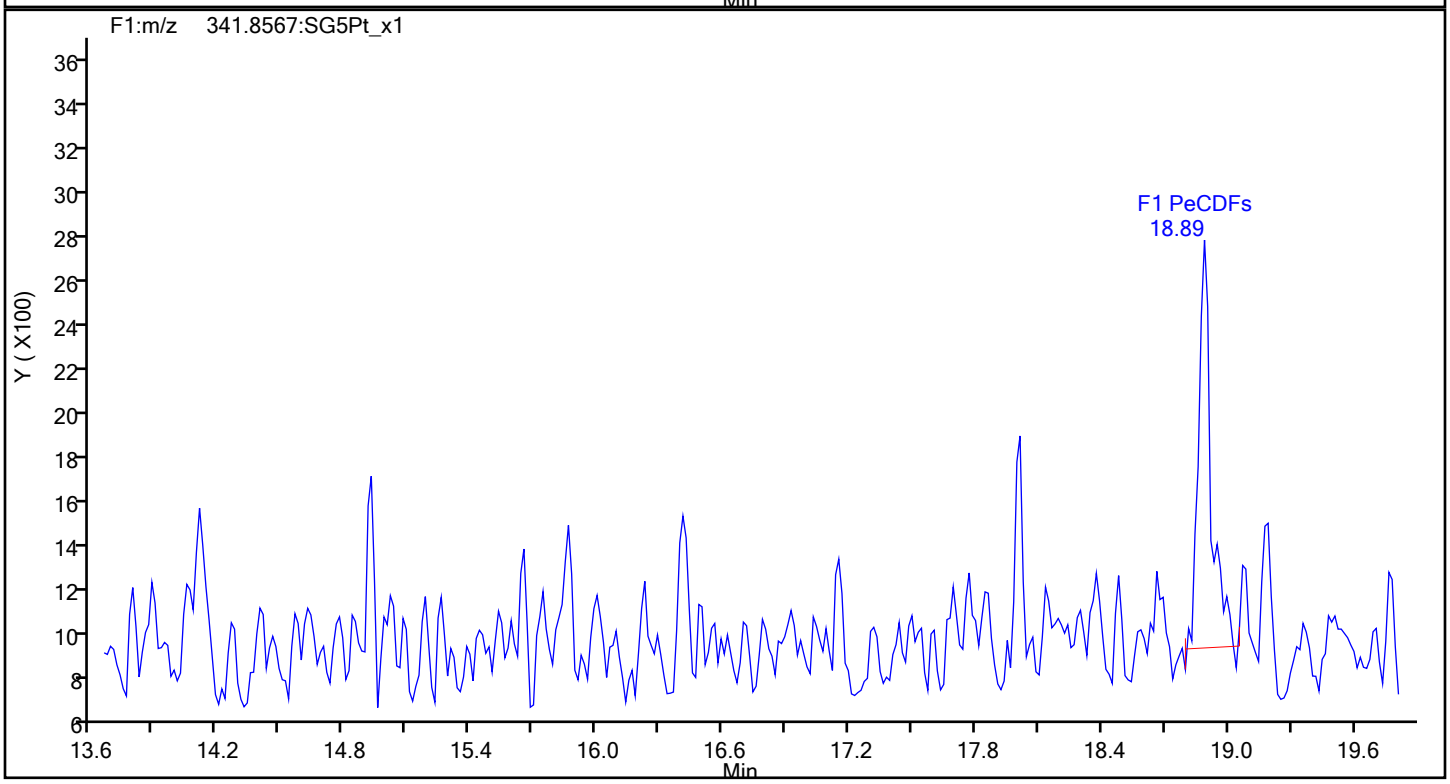

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F1 PeCDFs

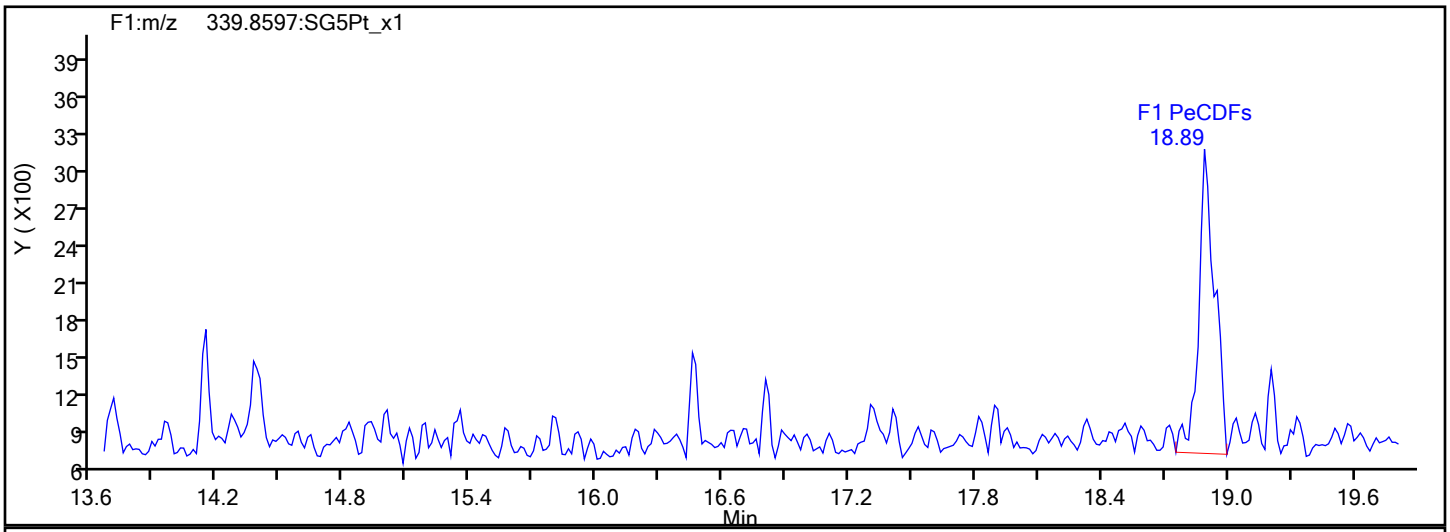

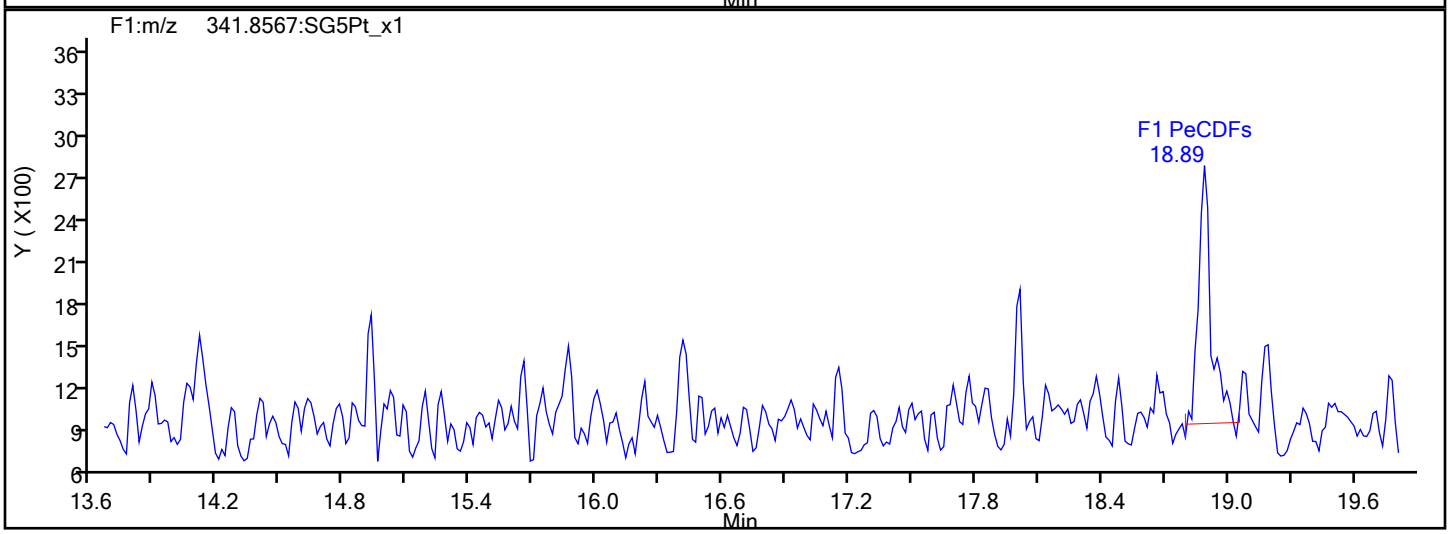

F1 PeCDFs Interference Mass

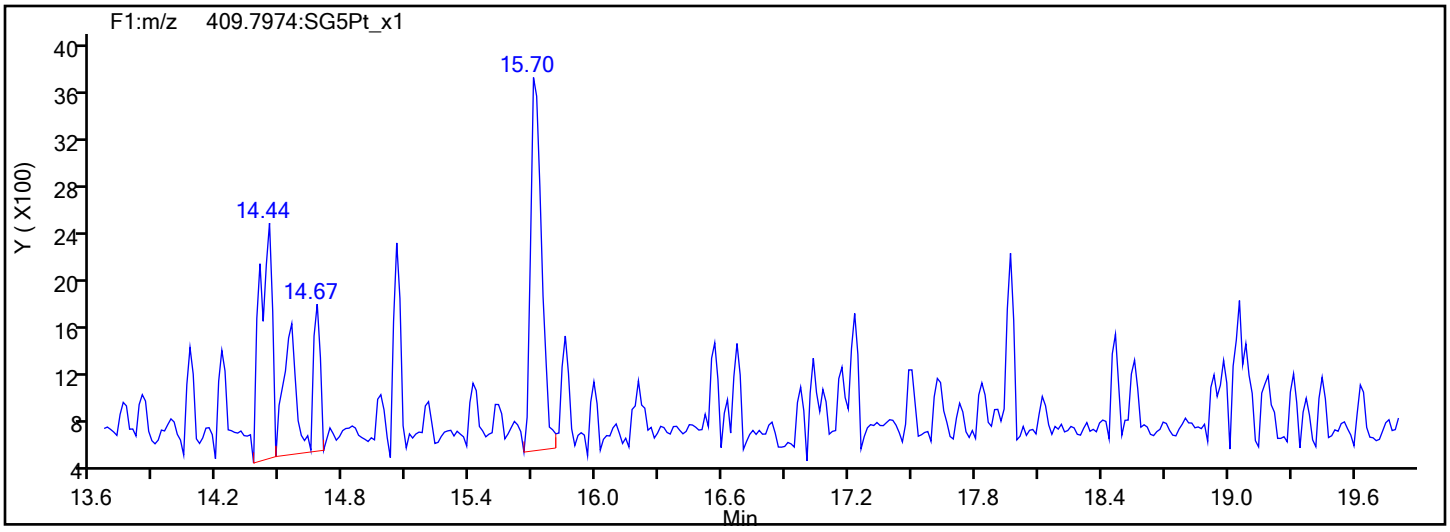

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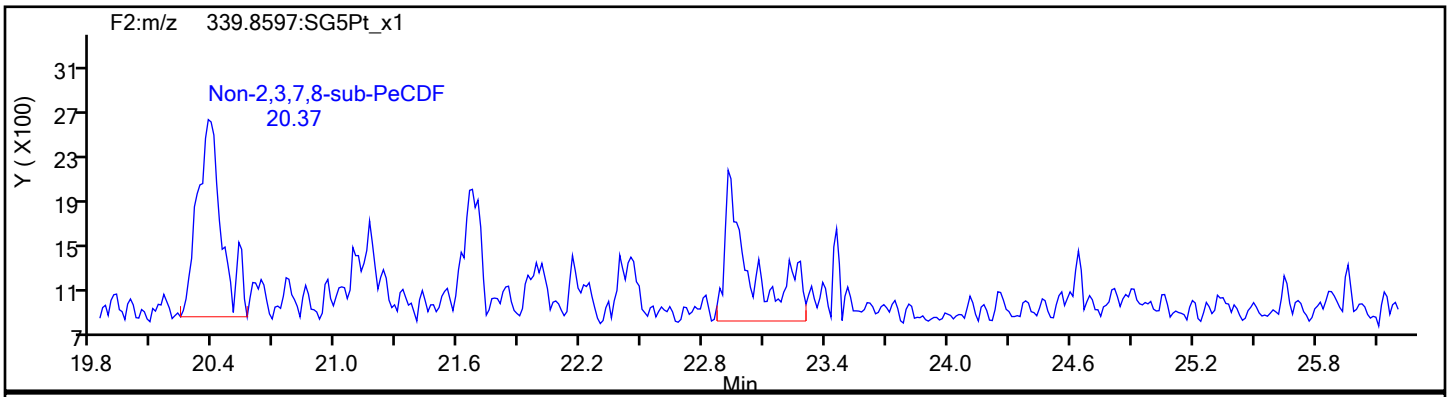

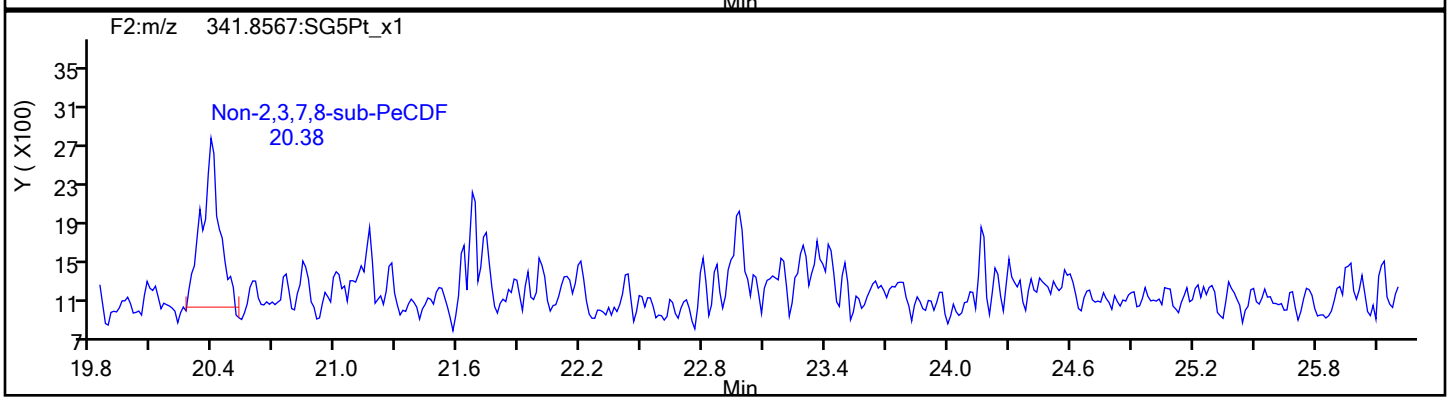

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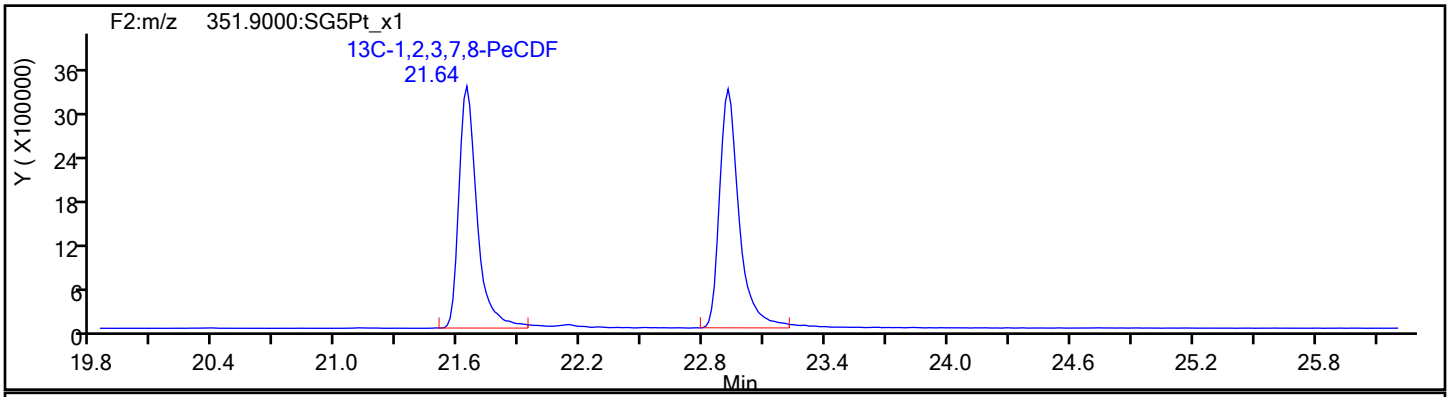

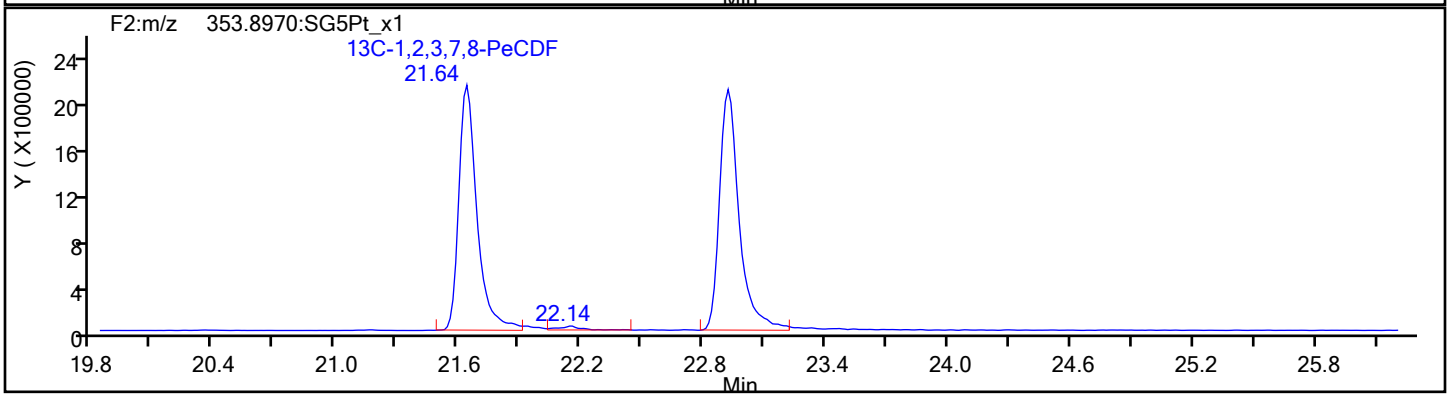

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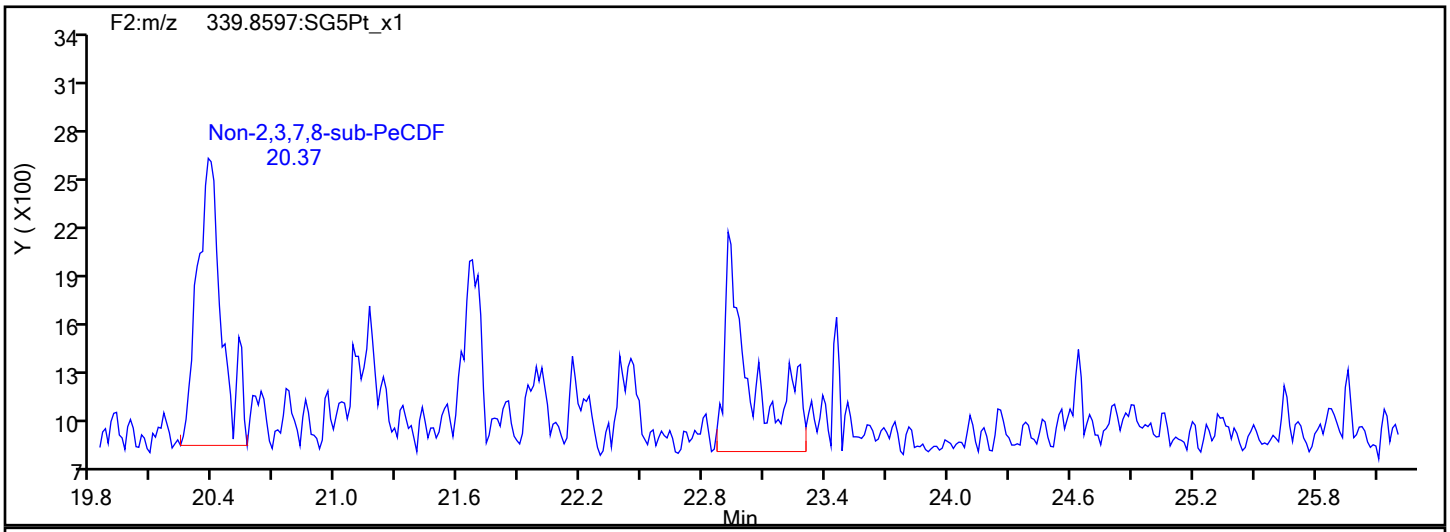

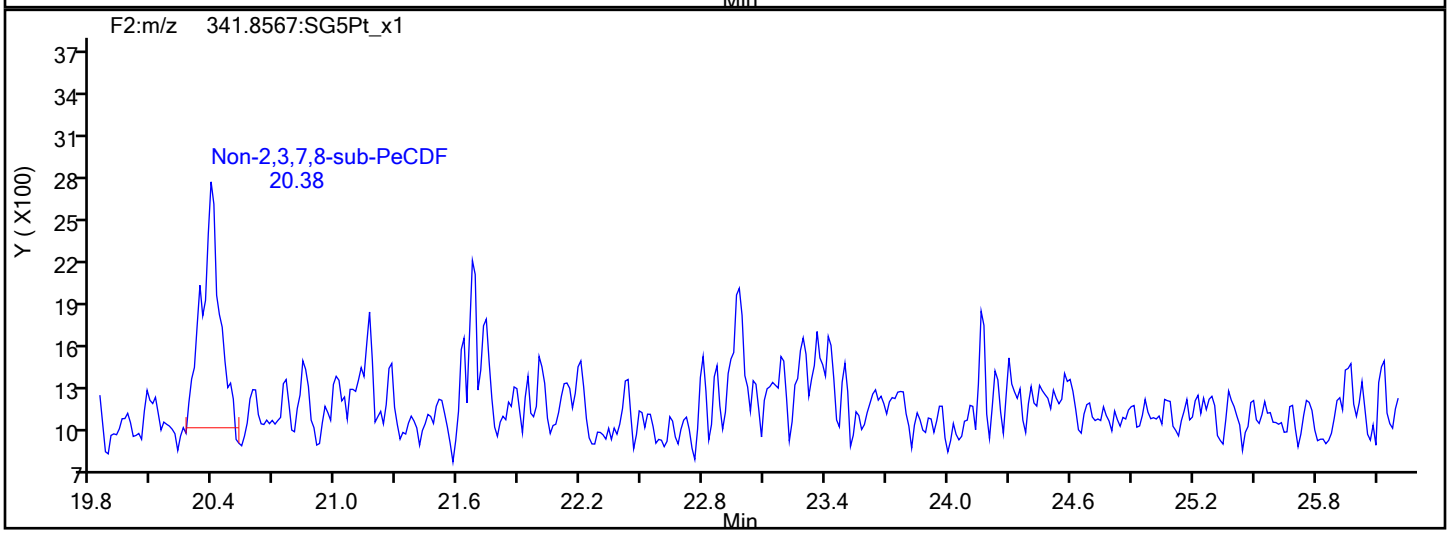

PeCDF Interference Mass

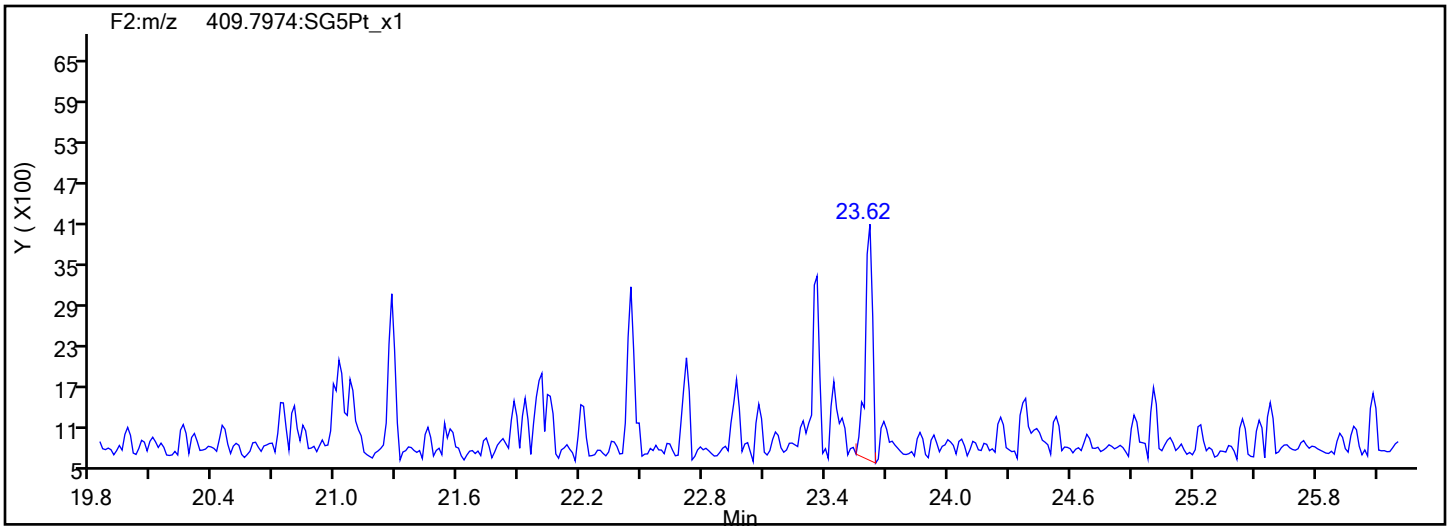

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Eurofins TestAmerica, Sacramento

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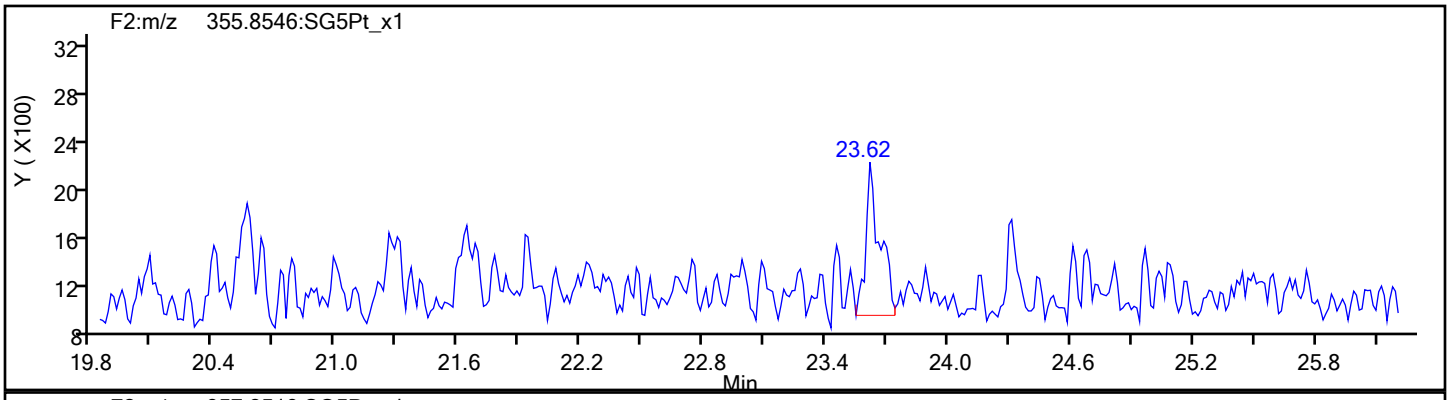

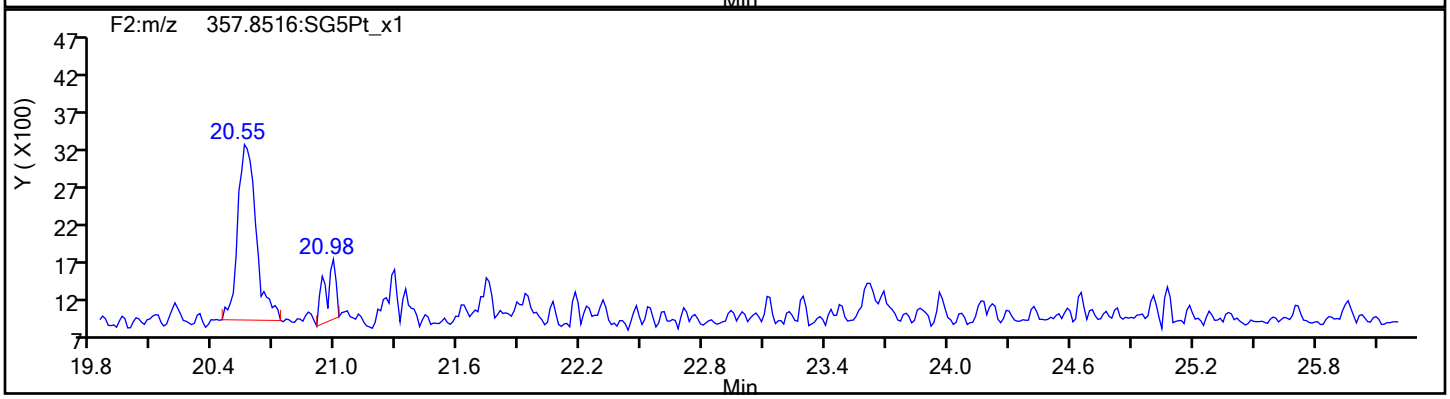

PeCDD Standards

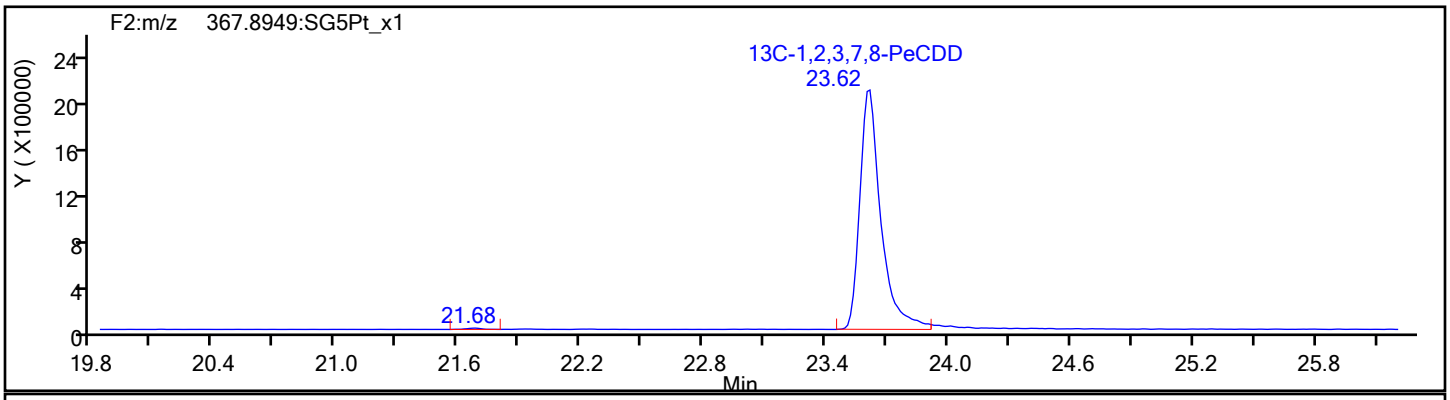

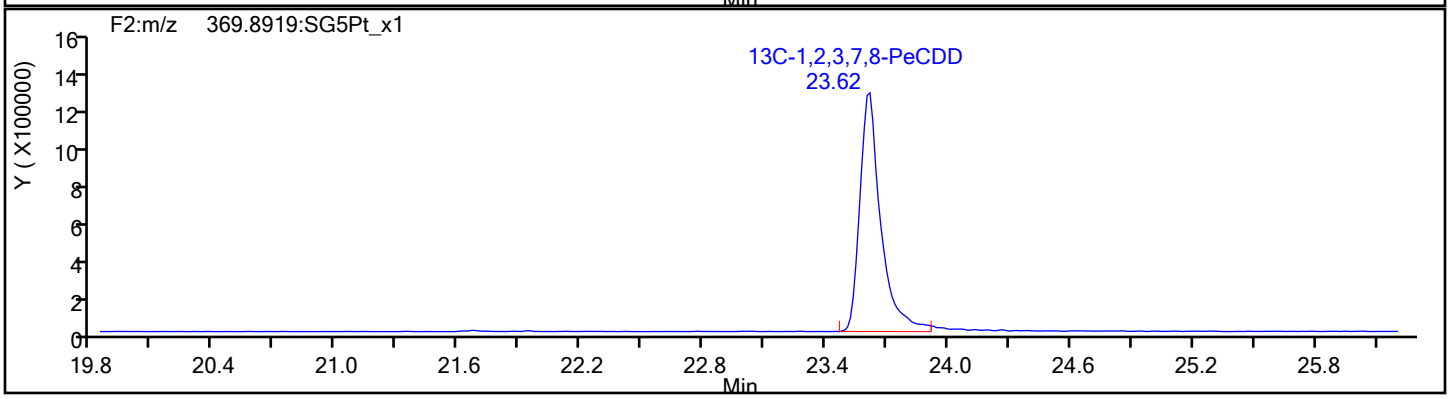

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Eurofins TestAmerica, Sacramento

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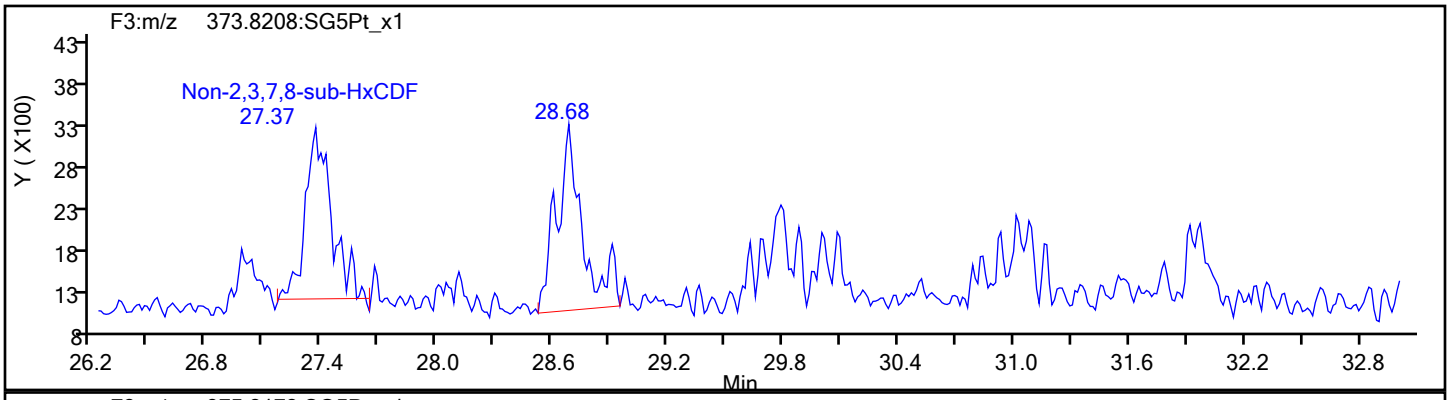

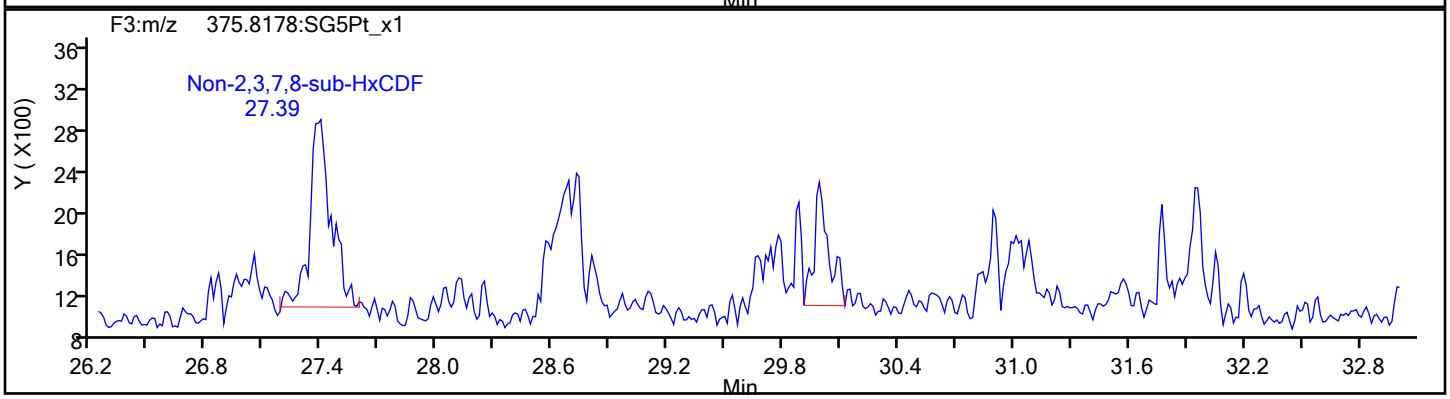

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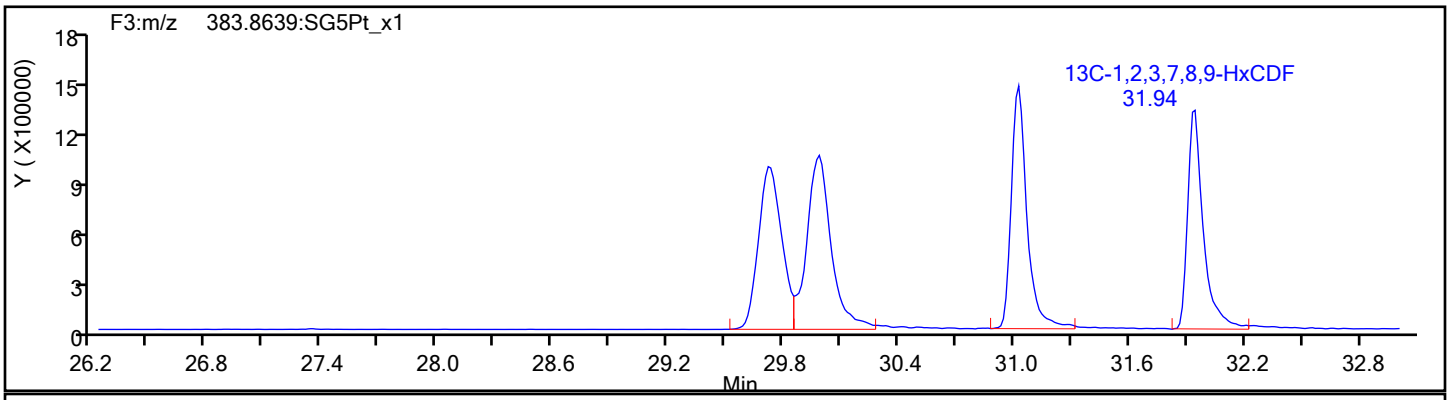

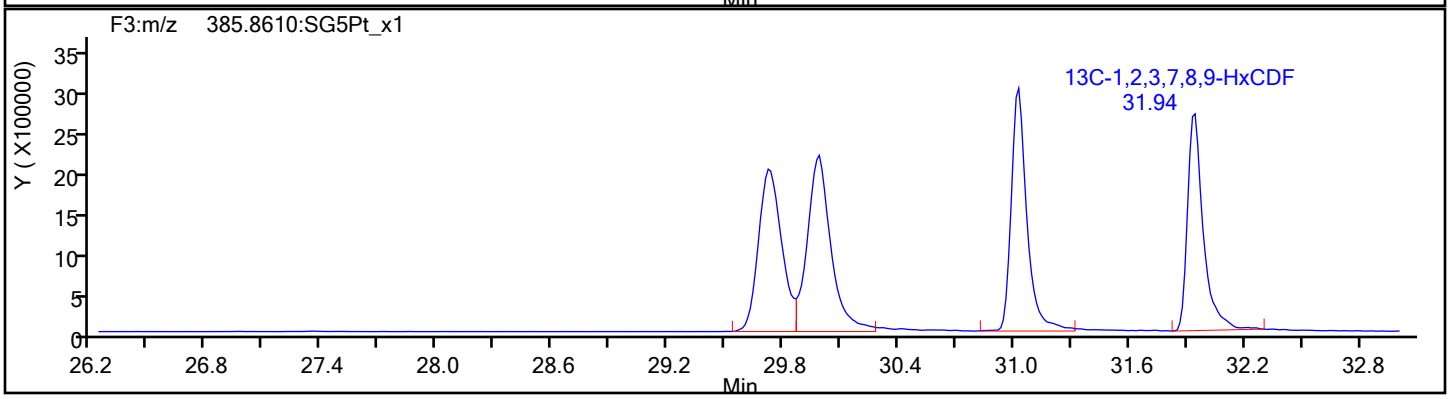

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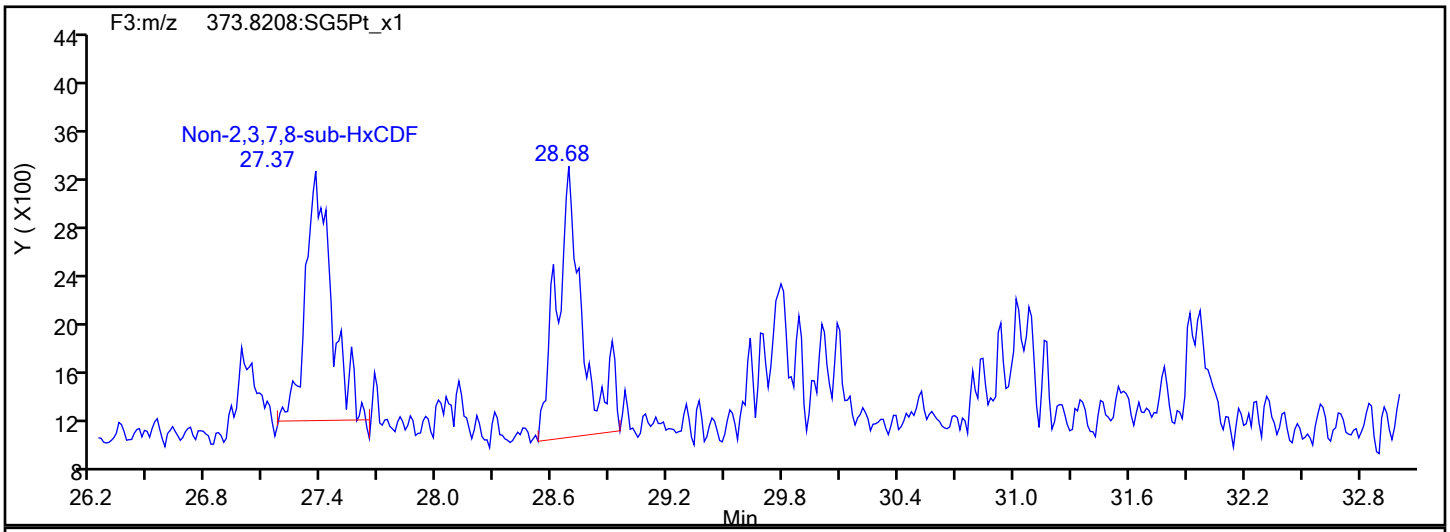

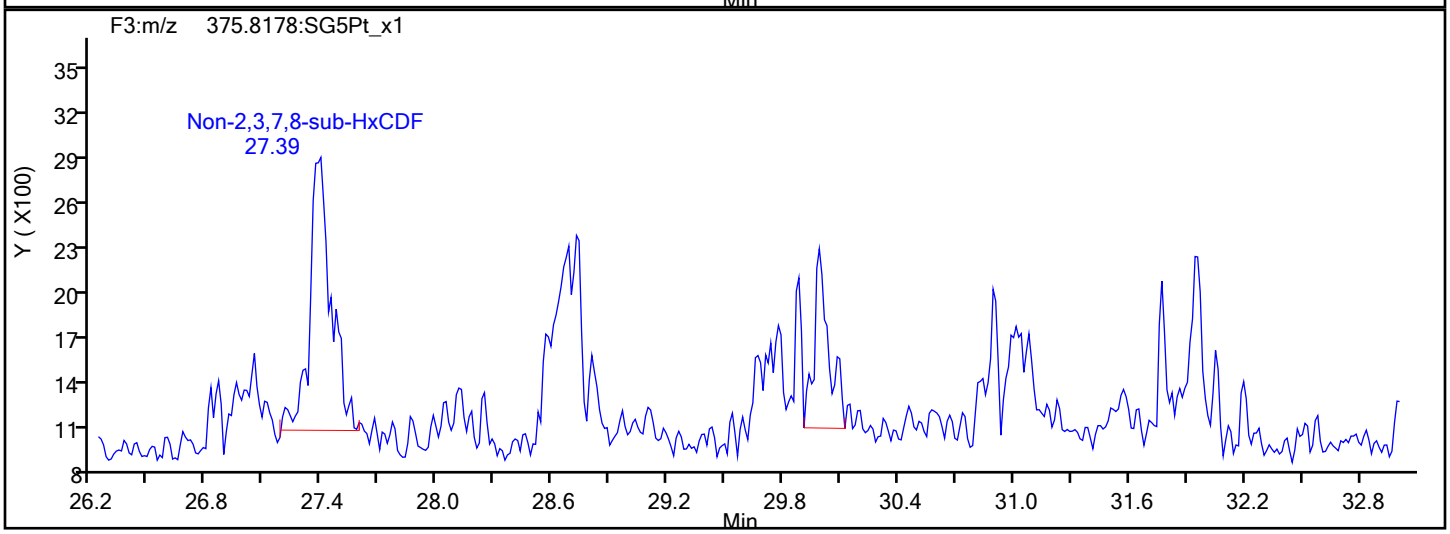

HxCDF Interference Mass

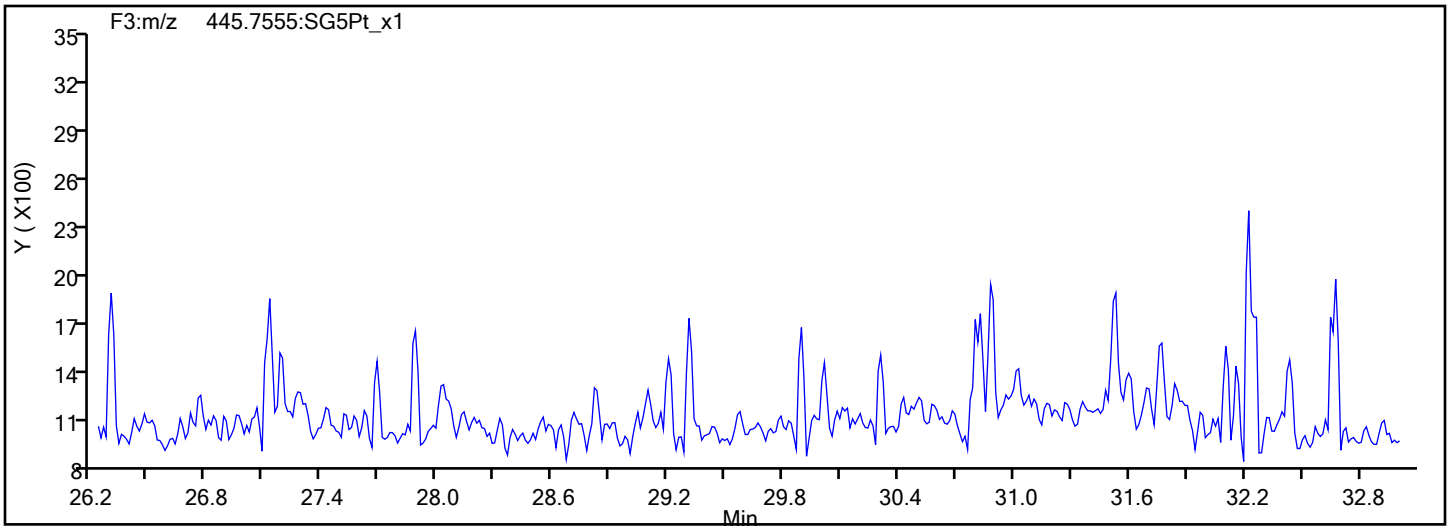

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Eurofins TestAmerica, Sacramento

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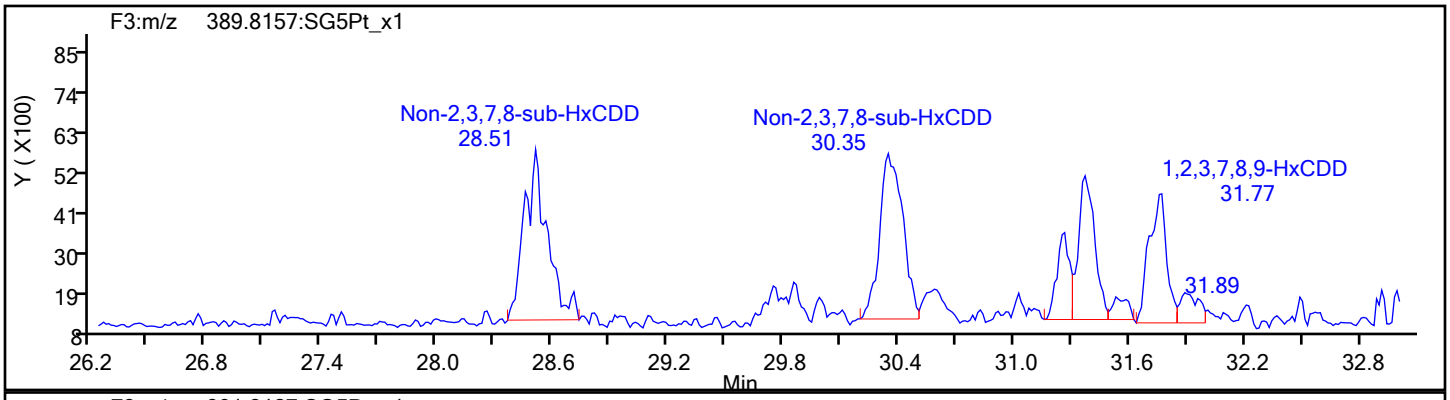

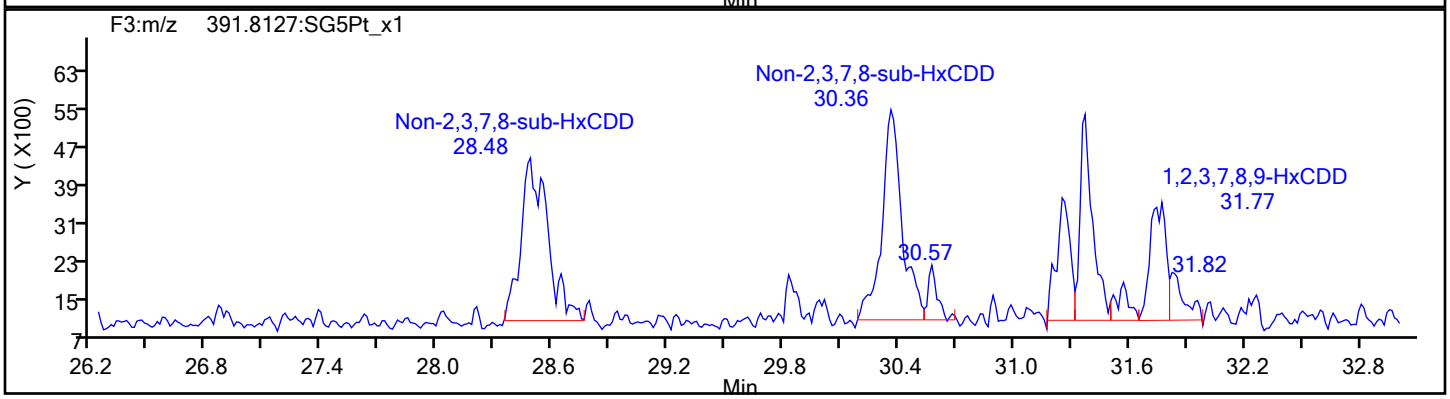

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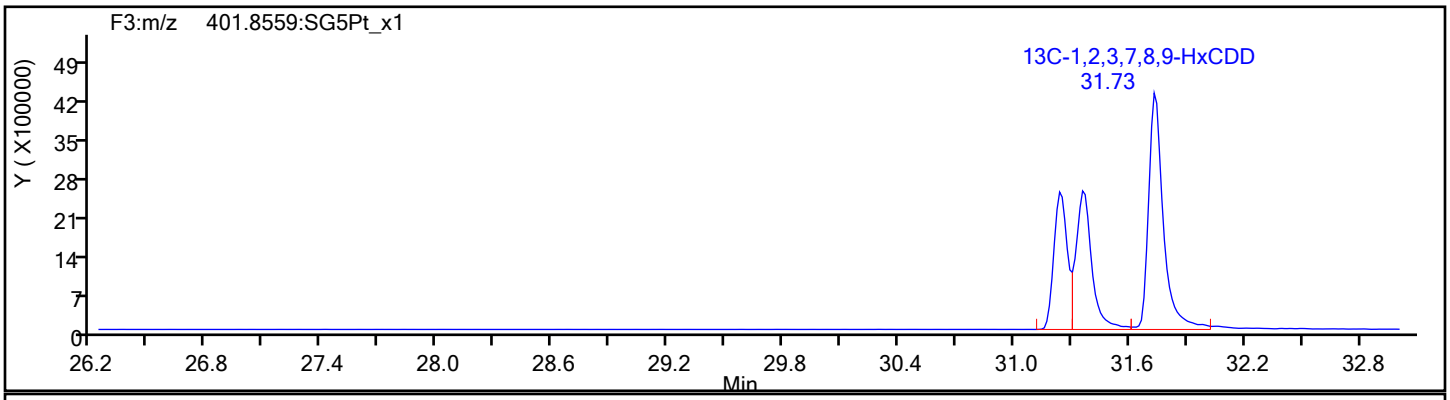

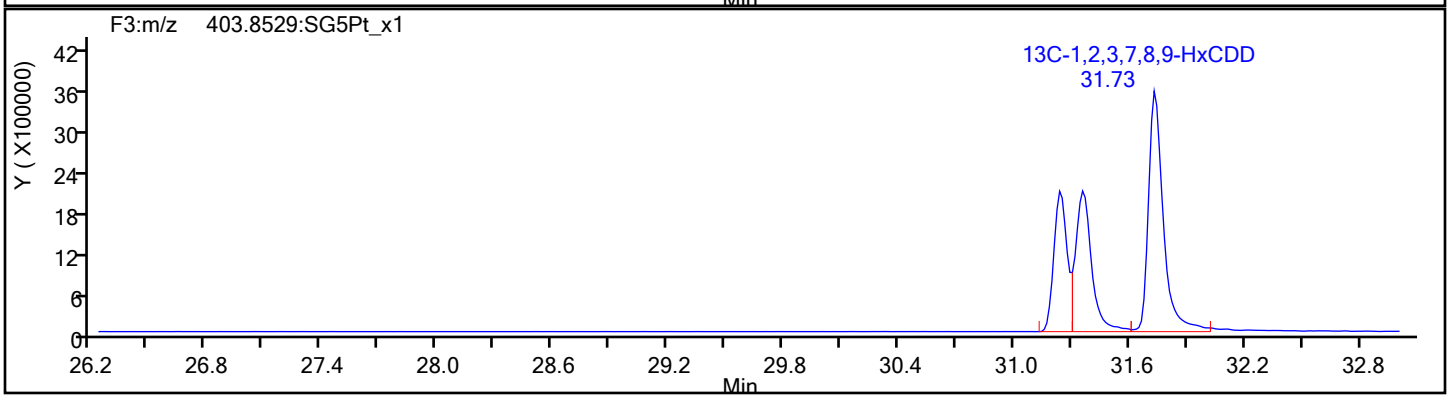

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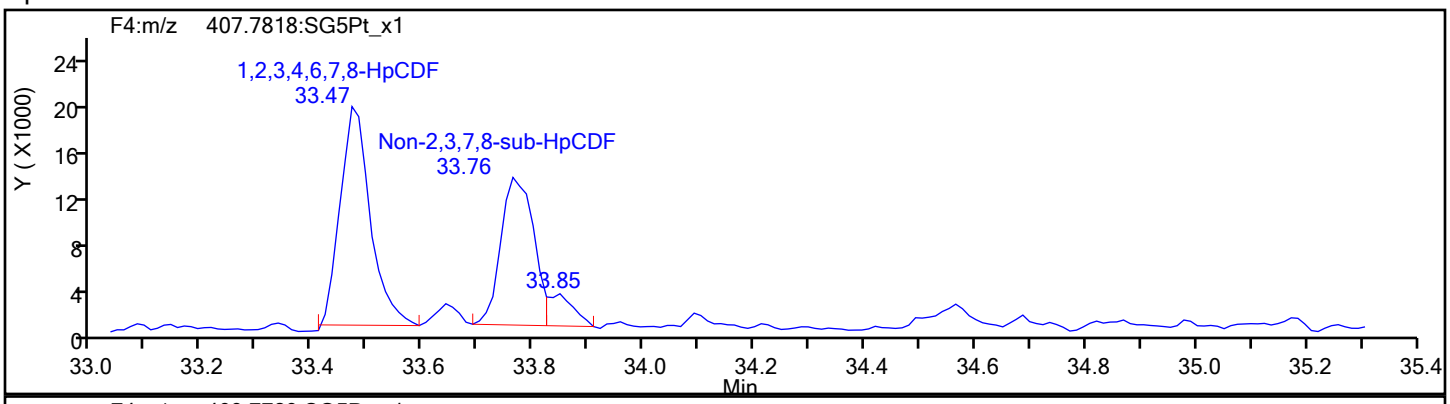

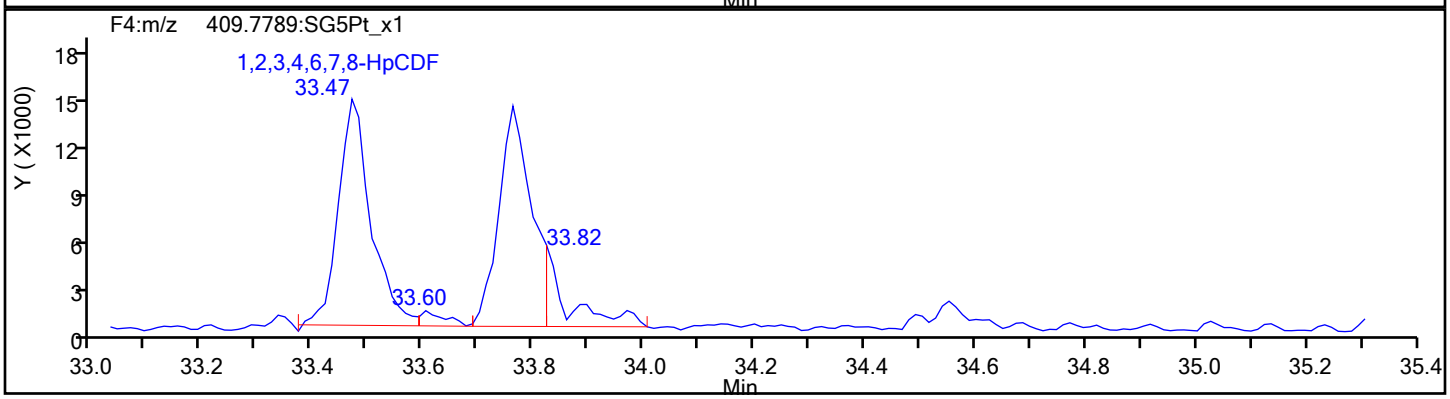

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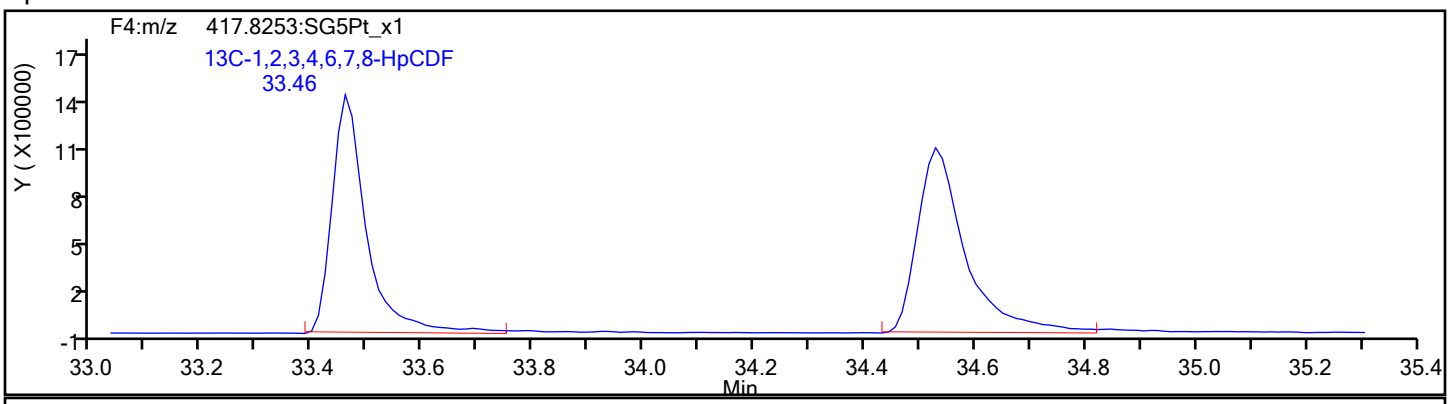

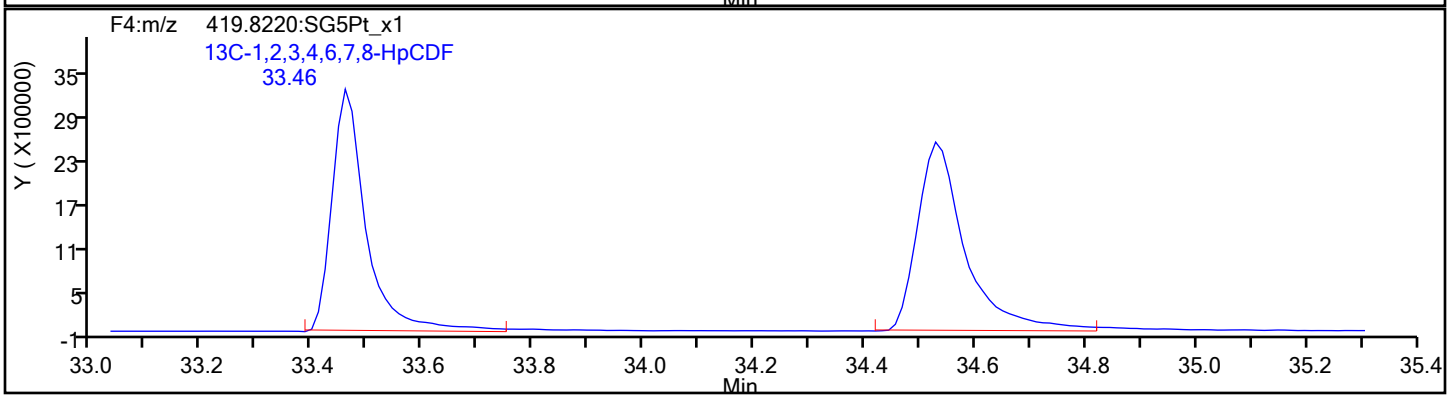

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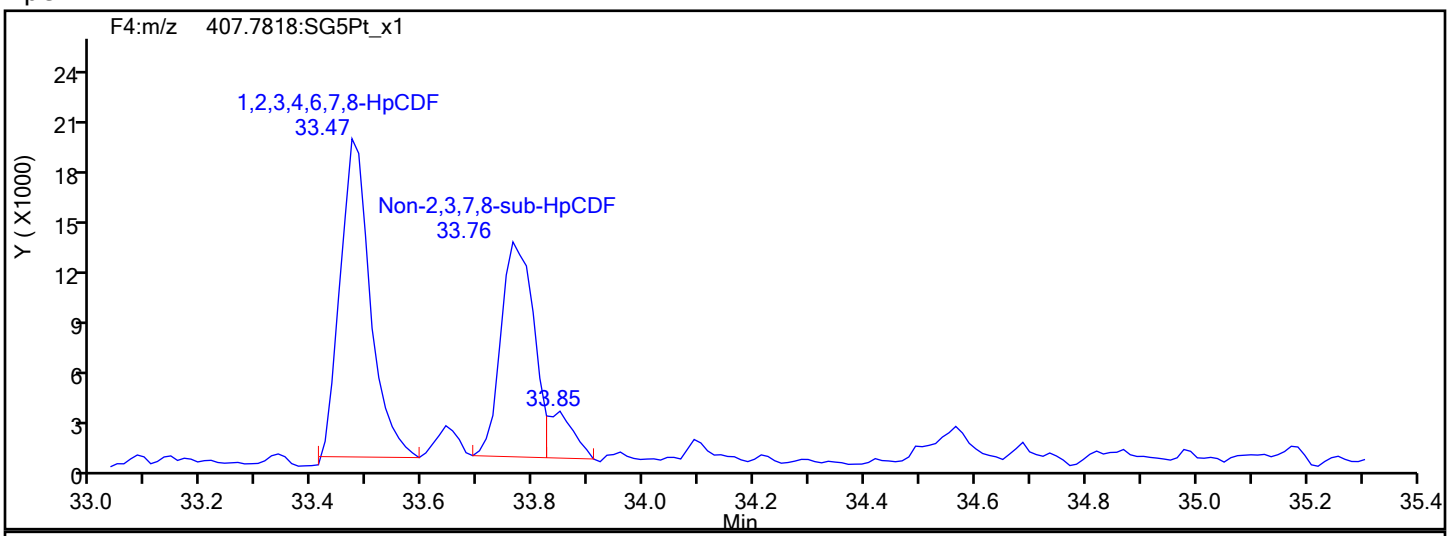

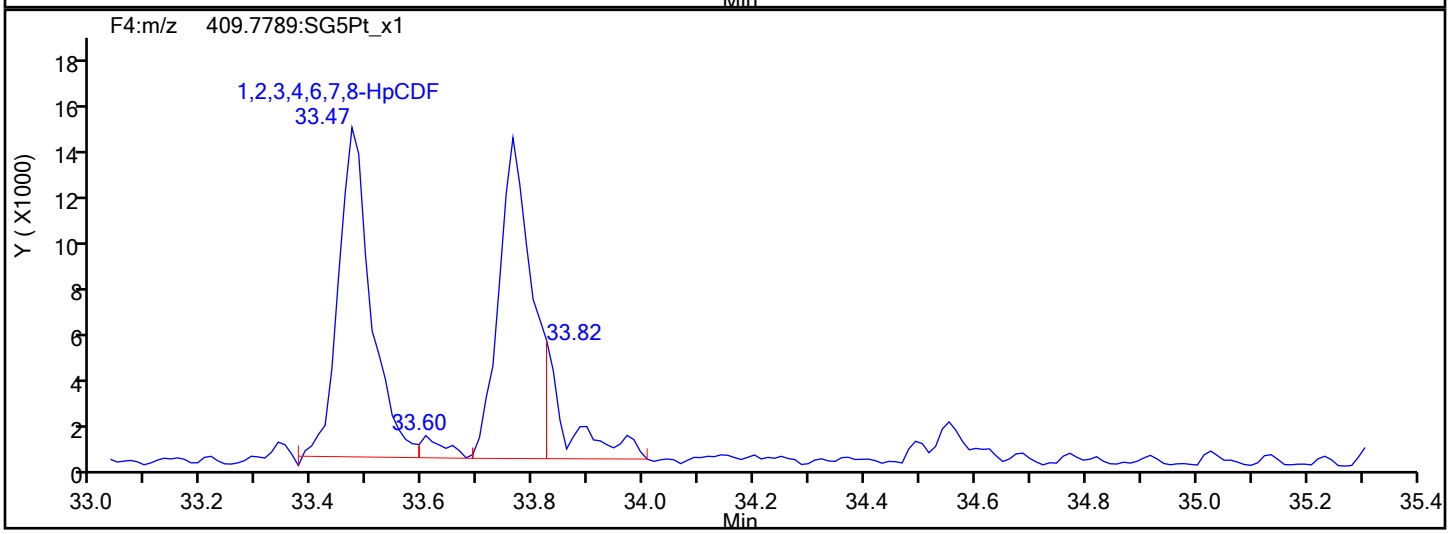

HpCDF Interference Mass

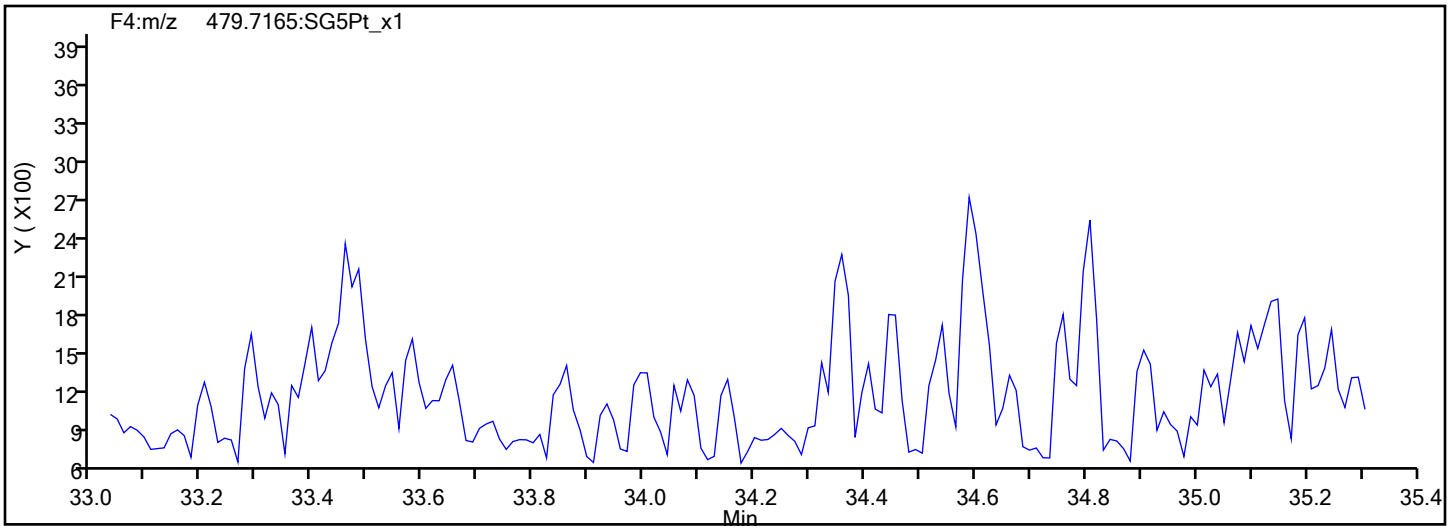

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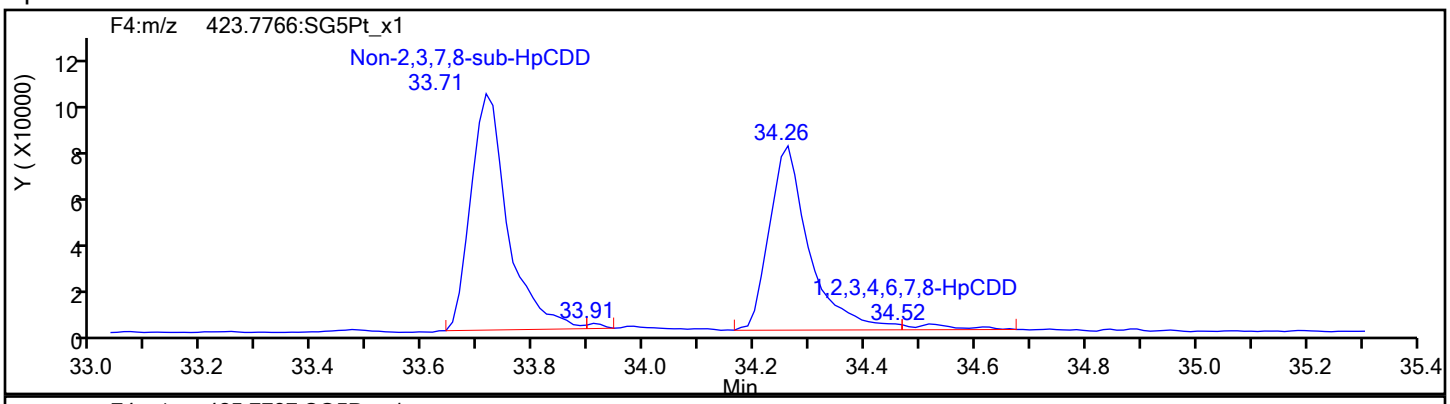

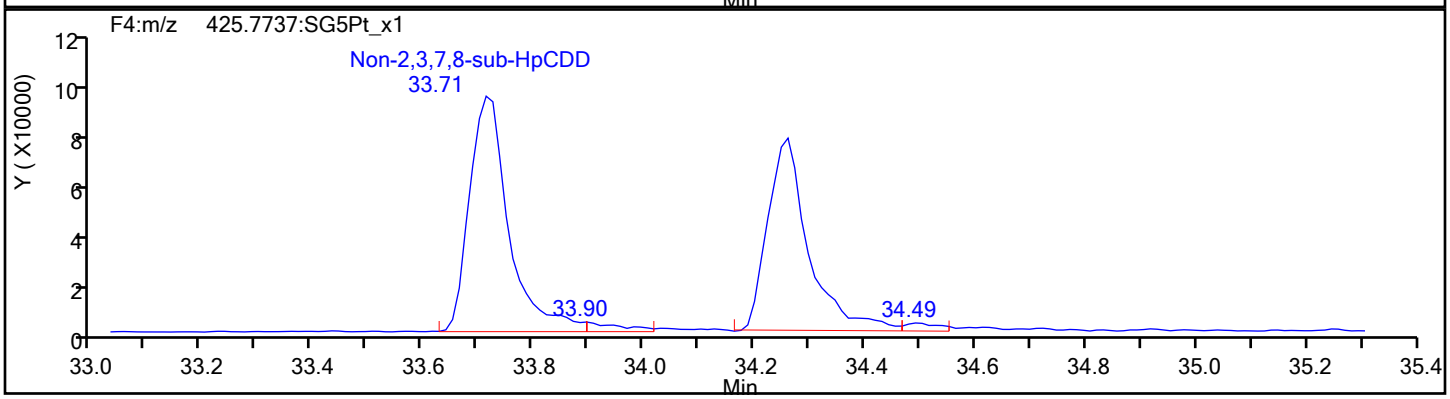

HpCDD Standards

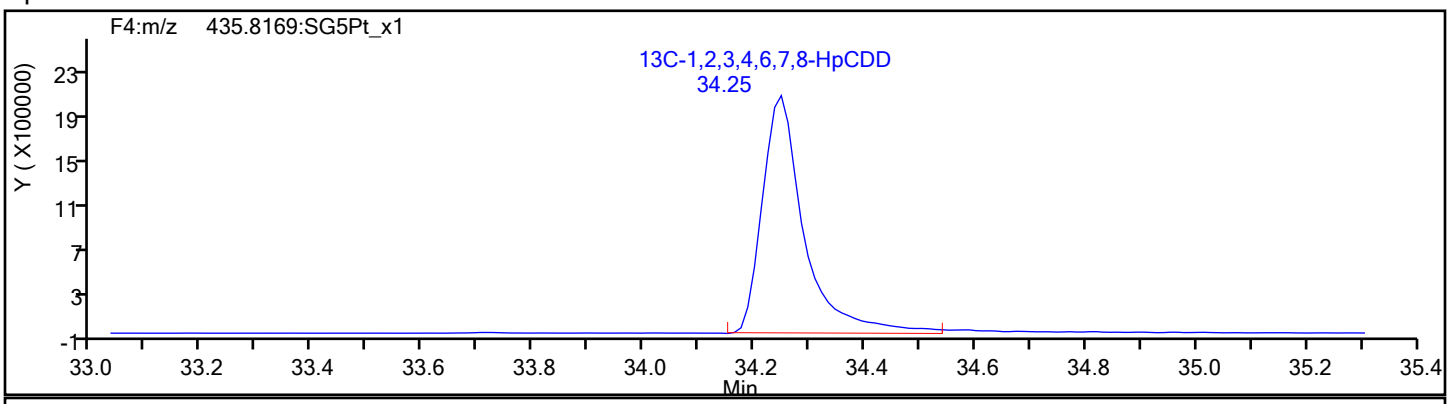

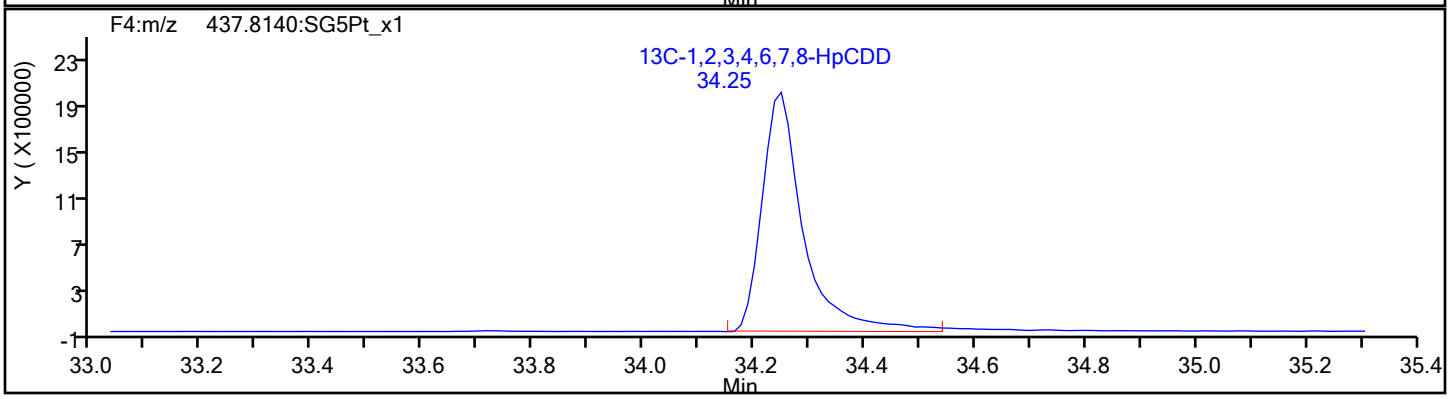

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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Berm-Solids		
Worklist#:	355551	Sample Line#:	12
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

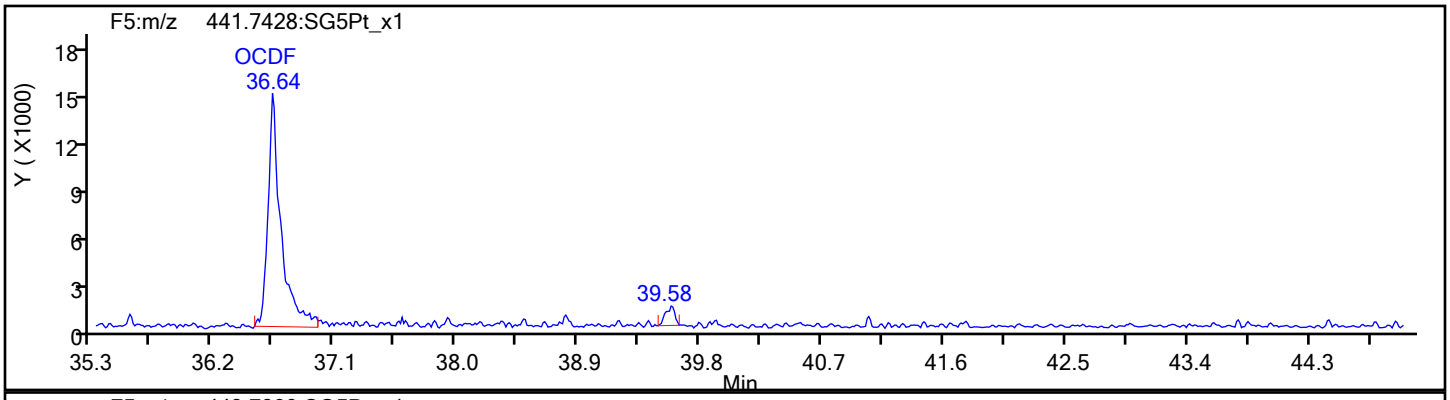

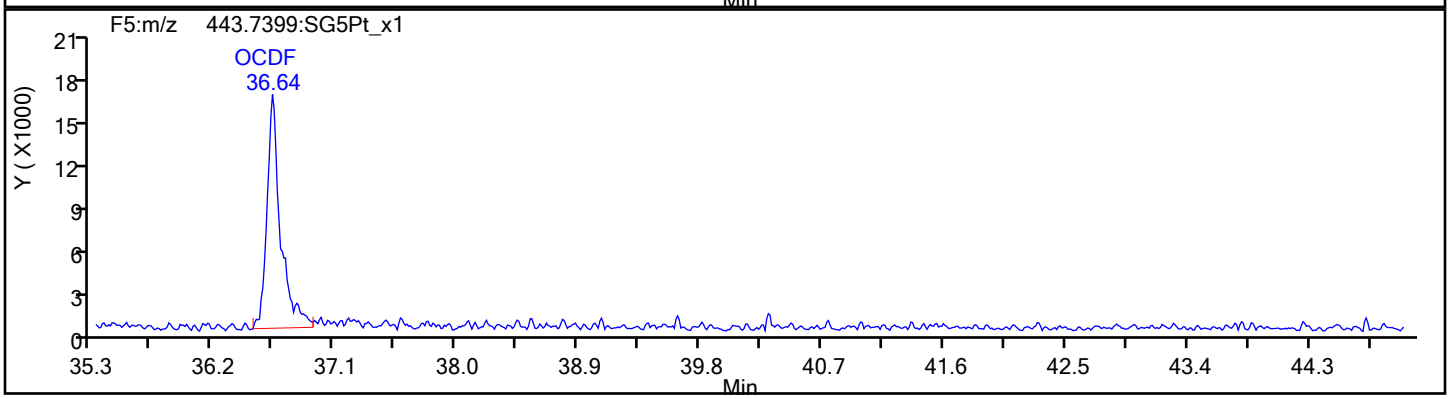

OCDF Standards

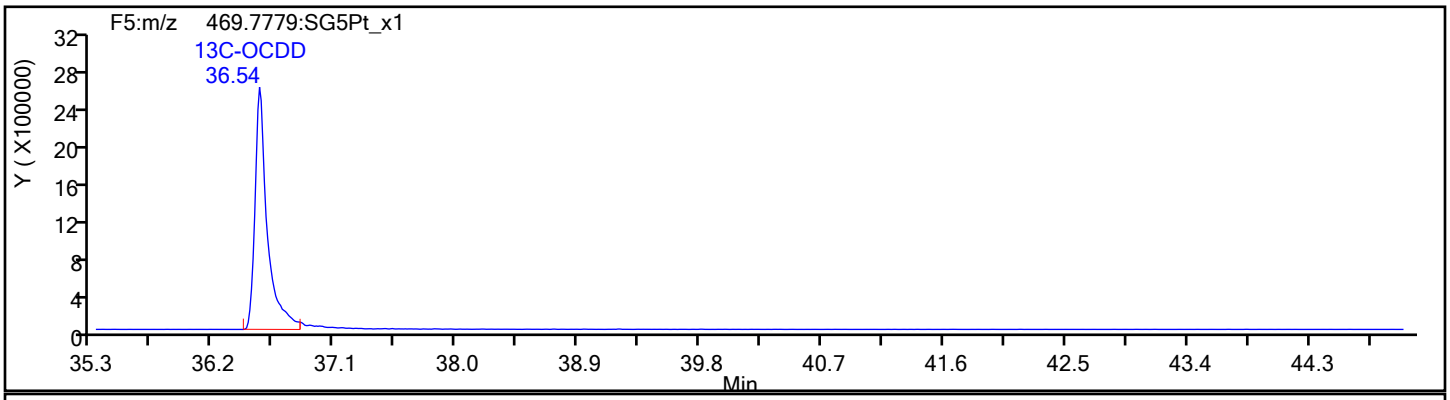

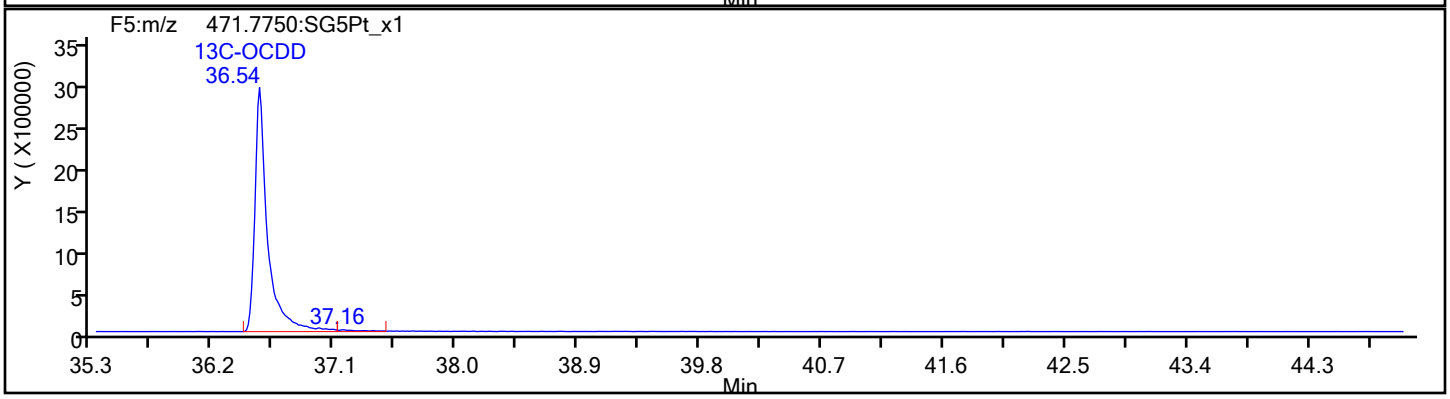

Report Date: 10-Feb-2020 09:28:42 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_12.d		
Injection Date:	06-Feb-2020 19:14:52	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Berm-Solids		
Worklist#:	355551	Sample Line#:	12
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

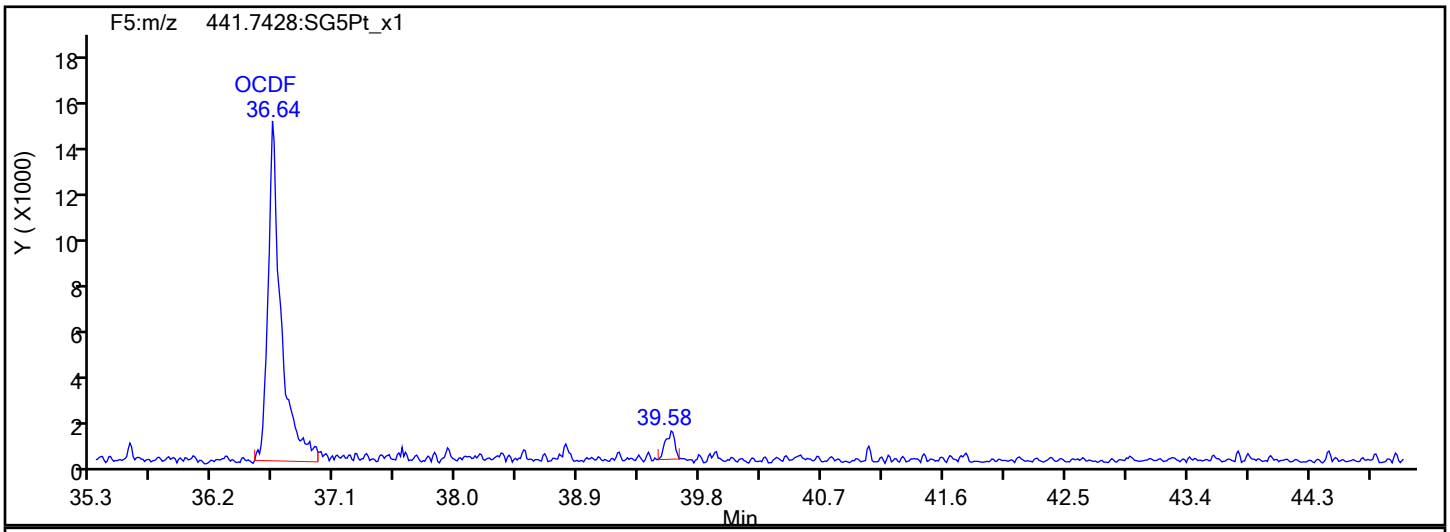

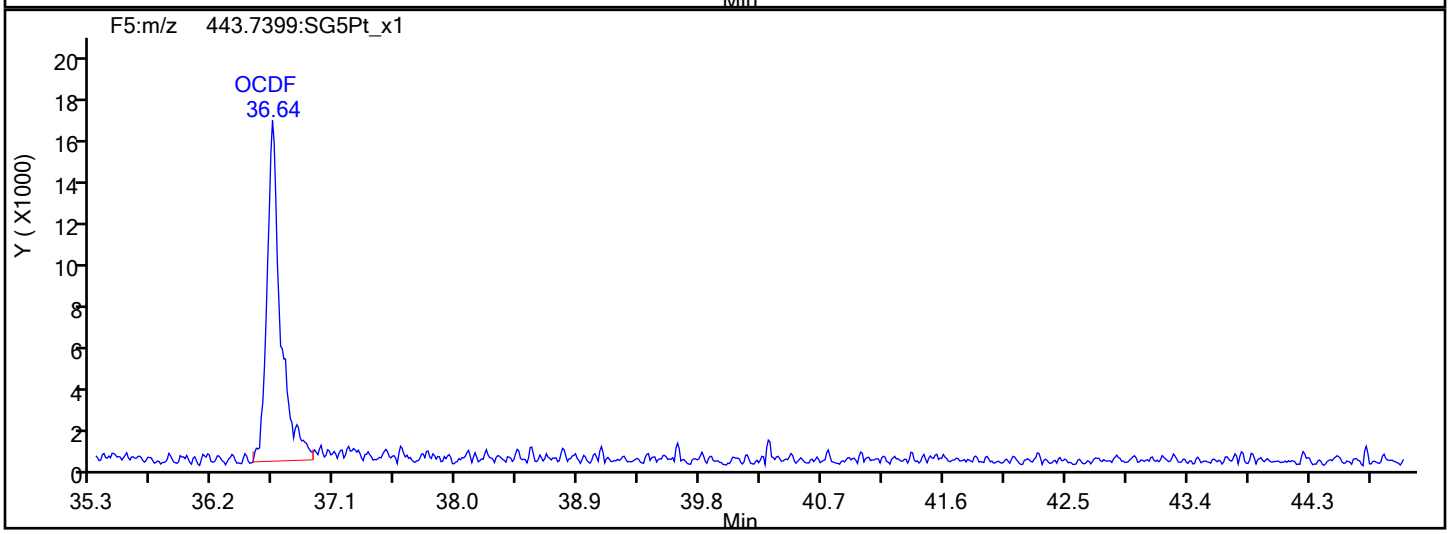

OCDF Interference Mass

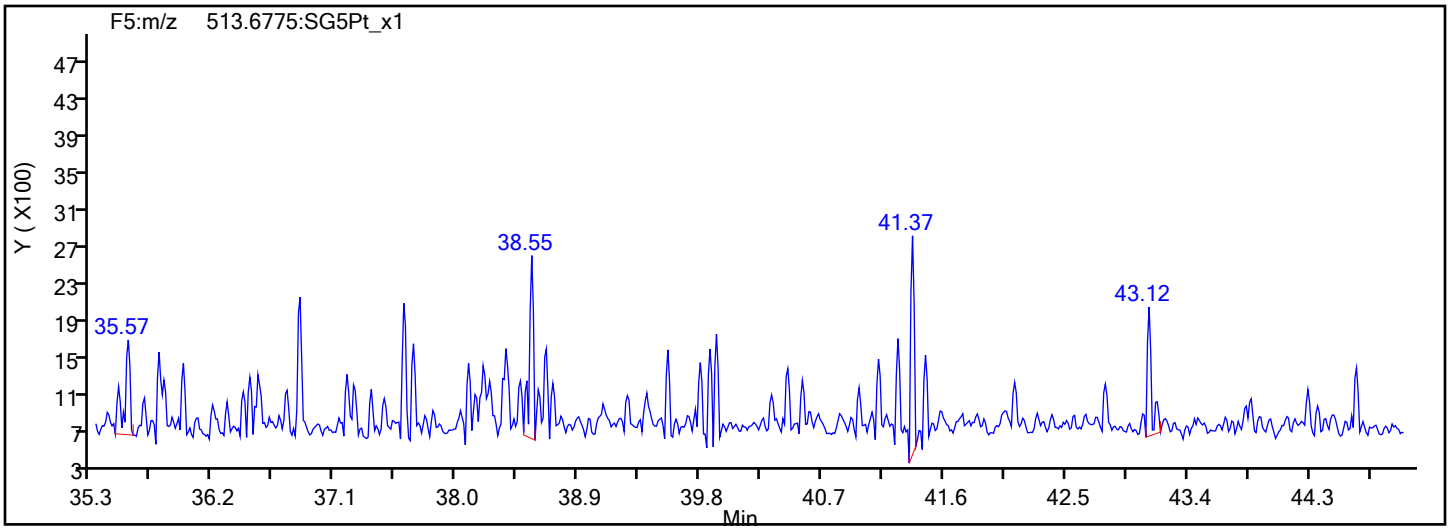

Report Date: 10-Feb-2020 09:28:42 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_12.d		
Injection Date:	06-Feb-2020 19:14:52	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Berm-Solids		
Worklist#:	355551	Sample Line#:	12
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

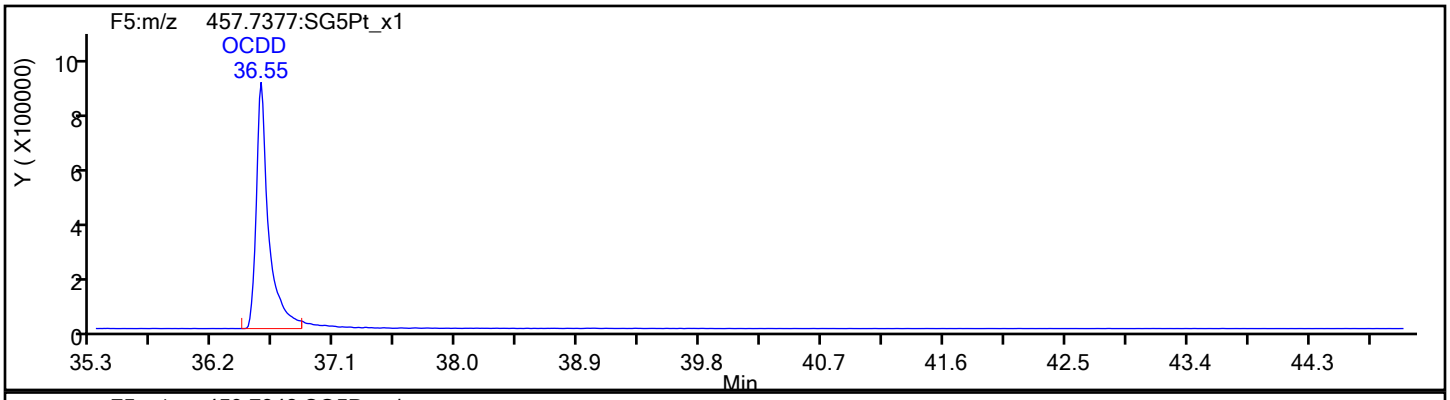

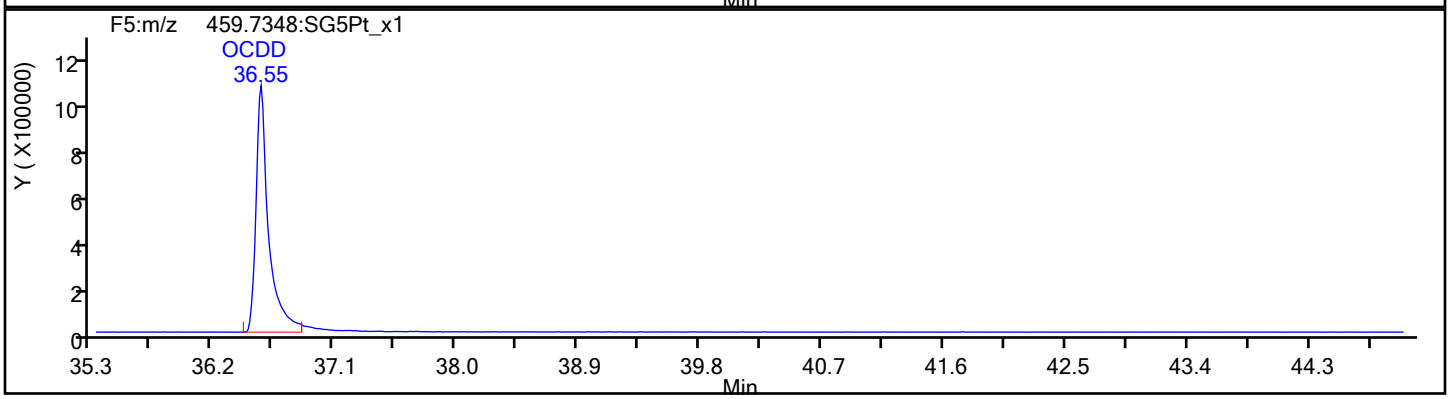

OCDD Standards

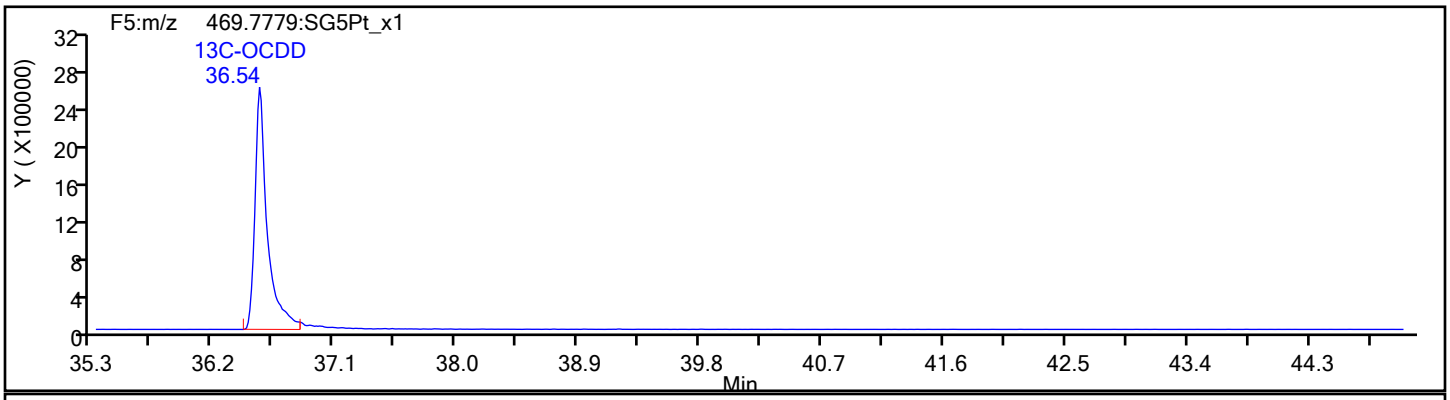

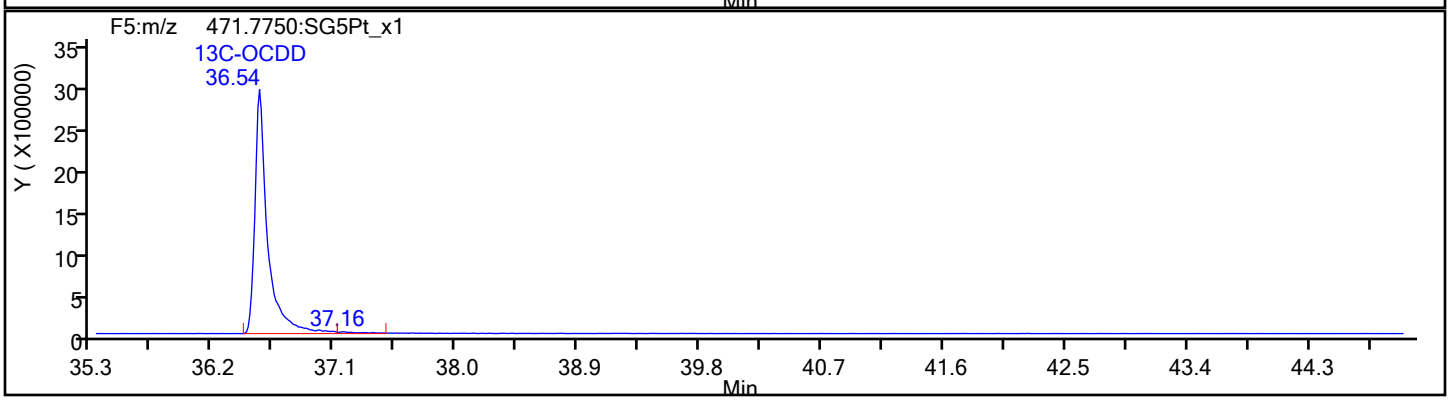

Report Date: 10-Feb-2020 09:28:42 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_12.d		
Injection Date:	06-Feb-2020 19:14:52	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Berm-Solids		
Worklist#:	355551	Sample Line#:	12
Column Type:	DB-5	Column Dia:	0.32 mm

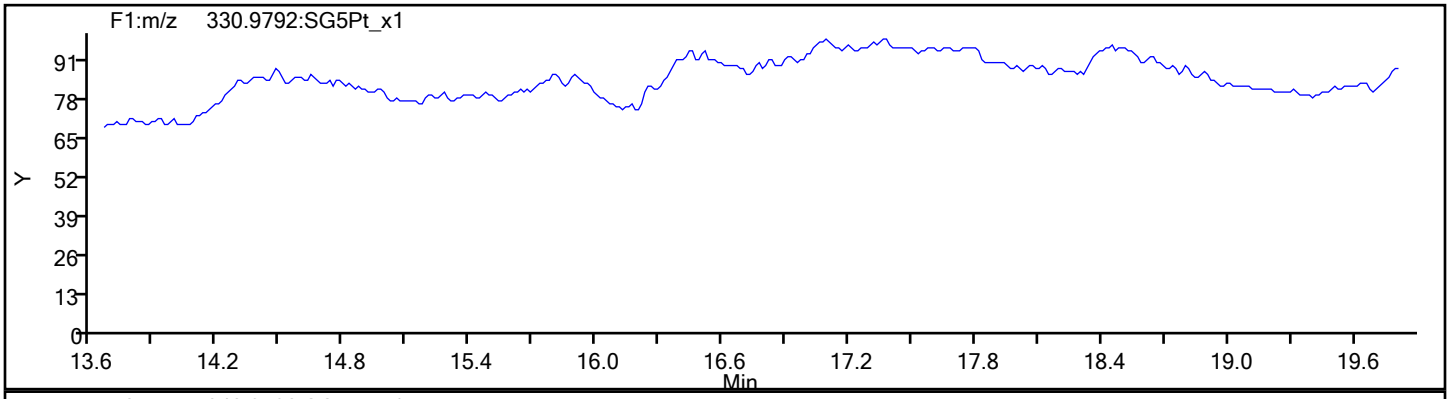

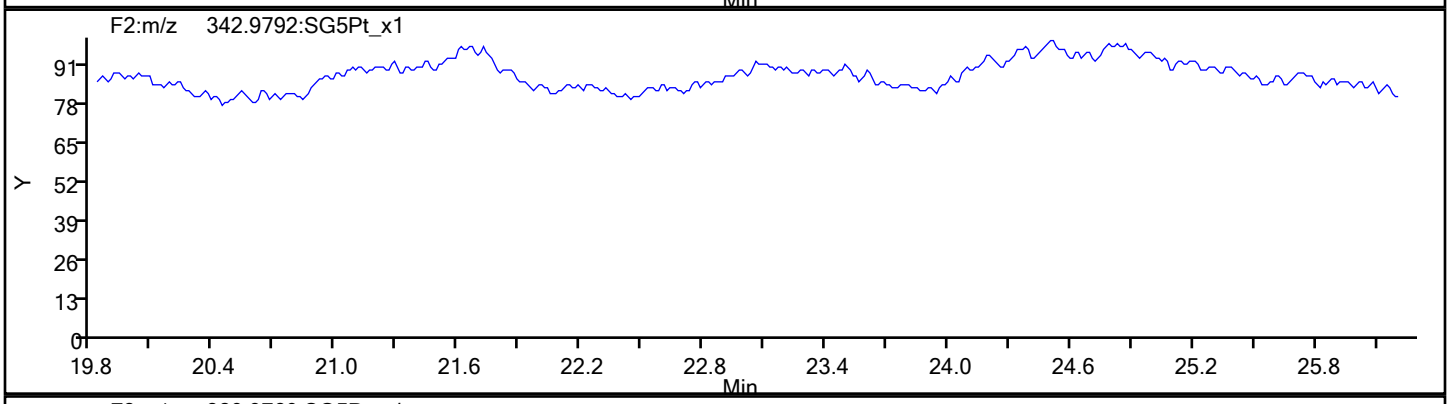

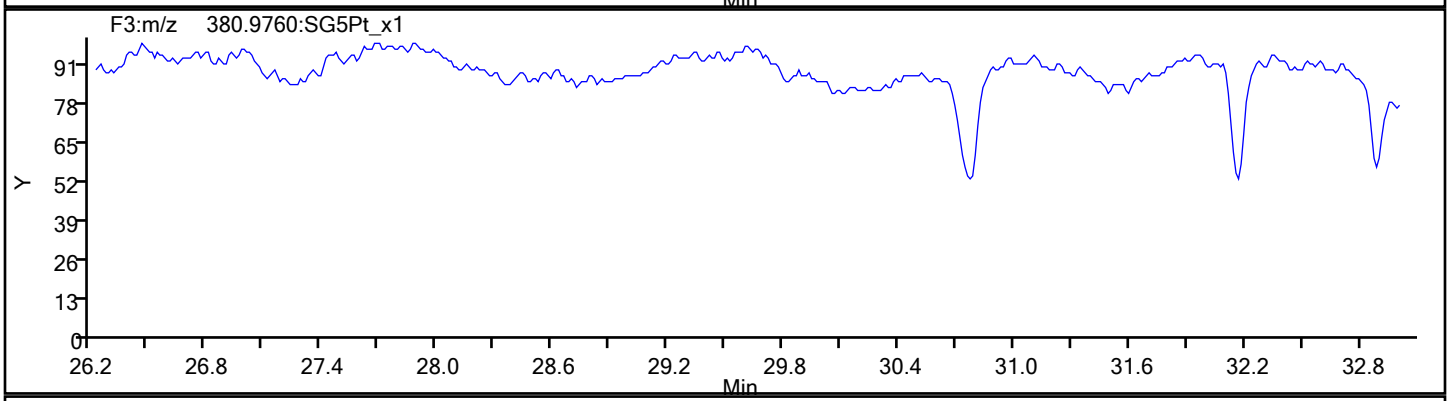

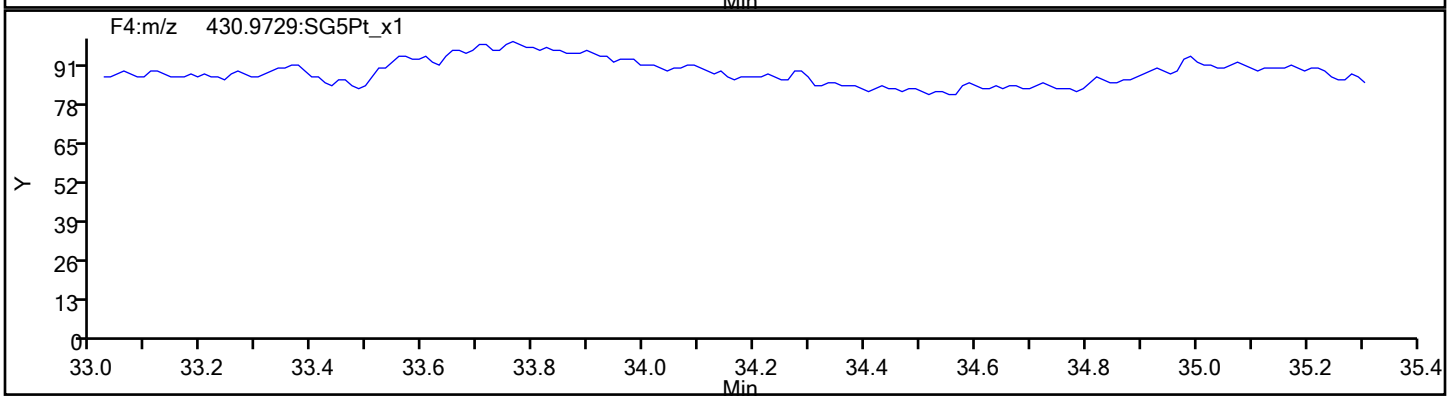

Report Date: 10-Feb-2020 09:28:42 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_12.d		
Injection Date:	06-Feb-2020 19:14:52	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Berm-Solids		
Worklist#:	355551	Sample Line#:	12
Column Type:	DB-5	Column Dia:	0.32 mm

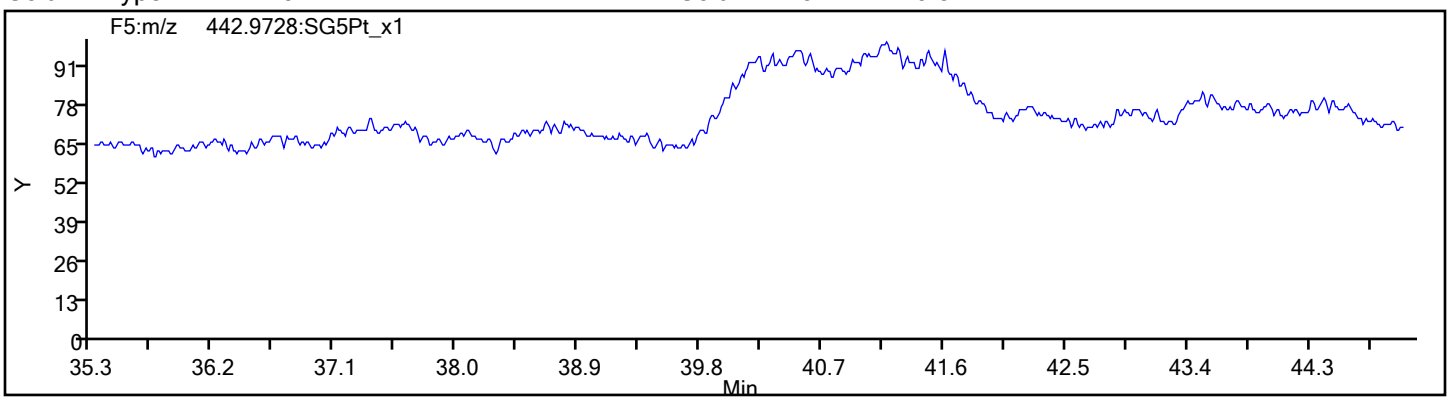

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 320-58170-1
SDG No.:
Client Sample ID: 11187072-Eastern-GW
Lab Sample ID: 320-58170-3
Matrix: Water
Lab File ID: 05FE2010D5_8.d
Analysis Method: 1613B
Date Collected: 01/29/2020 13:30
Extract. Method: 1613B
Date Extracted: 01/31/2020 07:47
Sample wt/vol: 1038.2(mL)
Date Analyzed: 02/05/2020 20:54
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 355322
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		9.6	0.44
51207-31-9	2,3,7,8-TCDF	ND		9.6	0.36
40321-76-4	1,2,3,7,8-PeCDD	0.62	J q B	48	0.48
57117-41-6	1,2,3,7,8-PeCDF	ND		48	0.48
57117-31-4	2,3,4,7,8-PeCDF	ND		48	0.55
39227-28-6	1,2,3,4,7,8-HxCDD	2.1	J B	48	0.54
57653-85-7	1,2,3,6,7,8-HxCDD	ND		48	0.52
19408-74-3	1,2,3,7,8,9-HxCDD	1.3	J B	48	0.48
70648-26-9	1,2,3,4,7,8-HxCDF	2.8	J B	48	0.92
57117-44-9	1,2,3,6,7,8-HxCDF	ND		48	0.81
72918-21-9	1,2,3,7,8,9-HxCDF	1.1	J q B	48	0.62
60851-34-5	2,3,4,6,7,8-HxCDF	ND		48	0.55
35822-46-9	1,2,3,4,6,7,8-HpCDD	7.7	J B	48	0.67
67562-39-4	1,2,3,4,6,7,8-HpCDF	6.1	J B	48	0.46
55673-89-7	1,2,3,4,7,8,9-HpCDF	1.2	J q B	48	0.75
3268-87-9	OCDD	94	J B	96	1.1
39001-02-0	OCDF	14	J B	96	0.86
41903-57-5	Total TCDD	ND		9.6	0.44
30402-14-3	Total TCDF	ND		9.6	0.36
36088-22-9	Total PeCDD	0.62	J q B	48	0.48
30402-15-4	Total PeCDF	ND		48	0.55
34465-46-8	Total HxCDD	3.4	J B	48	0.51
55684-94-1	Total HxCDF	3.9	J q B	48	0.72
37871-00-4	Total HpCDD	16	J B	48	0.67
38998-75-3	Total HpCDF	8.9	J q B	48	0.61

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Client Sample ID: 11187072-Eastern-GW Lab Sample ID: 320-58170-3

Matrix: Water Lab File ID: 05FE2010D5_8.d

Analysis Method: 1613B Date Collected: 01/29/2020 13:30

Extract. Method: 1613B Date Extracted: 01/31/2020 07:47

Sample wt/vol: 1038.2(mL) Date Analyzed: 02/05/2020 20:54

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 355322 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	72		25-164
89059-46-1	13C-2,3,7,8-TCDF	72		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	68		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	71		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	70		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	71		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	80		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	76		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	84		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	76		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	81		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	67		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	70		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	66		26-138
114423-97-1	13C-OCDD	56		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	89		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_8.d
Lims ID: 320-58170-A-3-A
Client ID: 11187072-Eastern-GW
Sample Type: Client
Inject. Date: 05-Feb-2020 20:54:04 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-58170-A-3-A 320-58170-A-3-A
Misc. Info.: 05FE2010D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 07-Feb-2020 14:35:07 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: dadunj Date: 07-Feb-2020 14:35:06

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.317	61838412	0.79	5.4E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.849	50342112	0.77	1.1275	72.2	72.2	0.3717	0.3717	72.20	
2,3,7,8-TCDF	16.864						0.0188	0.0188		
A Non-2,3,7,8-sub-TCDF	16.569						0.0188	0.0188		
S Total TCDF							0.0188	0.0188		
D 13C-2,3,7,8-TCDD	17.514	40232646	0.79	0.9032	72.0	72.0	0.3460	0.3460	72.04	
2,3,7,8-TCDD	17.544						0.0227	0.0227		
$ 37Cl4-2,3,7,8-TCDD	17.529	21242513		0.9673	35.5	35.5	0.0915	0.0915	88.78	
A Non-2,3,7,8-sub-TCDD	17.000						0.0227	0.0227		
S Total TCDD							0.0227	0.0227		
D 13C-1,2,3,7,8-PeCDF	21.639	42237335	1.59	0.9615	71.0	71.0	0.3061	0.3061	71.04	
1,2,3,7,8-PeCDF	21.667						0.0251	0.0251		
D 13C-2,3,4,7,8-PeCDF	22.921	45053438	1.56	1.0393	70.1	70.1	0.2832	0.2832	70.10	
2,3,4,7,8-PeCDF	22.948						0.0287	0.0287		
A F1 PeCDFs	19.329						0.0209	0.0209		
A Non-2,3,7,8-sub-PeCDF	22.336						0.0268	0.0268		
S Total PeCDF							0.0287	0.0287		
D 13C-1,2,3,7,8-PeCDD	23.603	29291267	1.64	0.6938	68.3	68.3	0.1048	0.1048	68.27	
1,2,3,7,8-PeCDD	23.671	9395	1.55	0.9961	0.0398	0.0322	0.0247	0.0247		RQ
A Non-2,3,7,8-sub-PeCDD	22.580						0.0247	0.0247		
S Total PeCDD					0.0398	0.0322	0.0247	0.0247		RQ
D 13C-1,2,3,4,7,8-HxCDF	29.735	31191637	0.49	0.8543	75.6	75.6	0.5631	0.5631	75.58	
1,2,3,4,7,8-HxCDF	29.775	36210	1.09	0.7916	0.1467	0.1467	0.0478	0.0478		
D 13C-1,2,3,6,7,8-HxCDF	29.988	33920970	0.49	0.8361	84.0	84.0	0.5754	0.5754	83.99	
1,2,3,6,7,8-HxCDF	30.028						0.0419	0.0419		
D 13C-2,3,4,6,7,8-HxCDF	31.026	30344150	0.50	0.7773	80.8	80.8	0.6189	0.6189	80.81	
2,3,4,6,7,8-HxCDF	31.053						0.0283	0.0283		
D 13C-1,2,3,7,8,9-HxCDF	31.944	26361725	0.50	0.7167	76.1	76.1	0.6712	0.6712	76.14	
1,2,3,7,8,9-HxCDF	31.958	13966	1.24	0.9127	0.0688	0.0580	0.0324	0.0324		RQM
A Non-2,3,7,8-sub-HxCDF	29.529						0.0363	0.0363		U
S Total HxCDF					0.2154	0.2047	0.0376	0.0376		RQ

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.732	48307259	1.23	4.4E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.239	27575395	1.25	0.8050	70.9	70.9	0.3742	0.3742	70.91	
1,2,3,4,7,8-HxCDD	31.252	25177	1.05	0.8392	0.1088	0.1088	0.0278	0.0278		M
D 13C-1,2,3,6,7,8-HxCDD	31.359	31779273	1.23	0.8269	79.6	79.6	0.3643	0.3643	79.55	
1,2,3,6,7,8-HxCDD	31.252						0.0271	0.0271		MU
1,2,3,7,8,9-HxCDD	31.758	18685	1.18	0.9567	0.0658	0.0658	0.0248	0.0248		
A Non-2,3,7,8-sub-HxCDD	30.108						0.0265	0.0265		U
S Total HxCDD					0.1746	0.1746	0.0266	0.0266		
D 13C-1,2,3,4,6,7,8-HpCDF	33.459	23800161	0.43	0.7080	69.6	69.6	1.534	1.534	69.59	
1,2,3,4,6,7,8-HpCDF	33.483	100888	1.13	1.3375	0.3169	0.3169	0.0239	0.0239		M
D 13C-1,2,3,4,7,8,9-HpCDF	34.528	23895263	0.42	0.7451	66.4	66.4	1.457	1.457	66.39	
1,2,3,4,7,8,9-HpCDF	34.552	16214	1.04	1.0744	0.0752	0.0632	0.0391	0.0391		RQM
A Non-2,3,7,8-sub-HpCDF	34.018	23247	1.04	1.2059	0.1006	0.0808	0.0301	0.0808		RQM
S Total HpCDF					0.4928	0.4609	0.0315	0.0315		RQ
D 13C-1,2,3,4,6,7,8-HpCDD	34.249	24333086	1.06	0.7473	67.4	67.4	0.4789	0.4789	67.40	
1,2,3,4,6,7,8-HpCDD	34.261	95982	1.00	0.9811	0.4020	0.4020	0.0348	0.0348		M
A Non-2,3,7,8-sub-HpCDD	33.988	102437	0.98	0.9811	0.4291	0.4291	0.0348	0.4291		
S Total HpCDD					0.8311	0.8311	0.0348	0.0348		
D 13C-OCDD	36.540	35803894	0.90	0.6622	111.9	111.9	0.1149	0.1149	55.96	
OCDF	36.636	141026	0.86	1.0659	0.7390	0.7390	0.0446	0.0446		
OCDD	36.552	866609	0.89	0.9937	4.871	4.871	0.0585	0.0585		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_8.d
Lims ID: 320-58170-A-3-A
Client ID: 11187072-Eastern-GW
Sample Type: Client
Inject. Date: 05-Feb-2020 20:54:04 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-58170-A-3-A 320-58170-A-3-A
Misc. Info.: 05FE2010D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 07-Feb-2020 14:35:07 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: dadunj Date: 07-Feb-2020 14:35:06

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.317	17.333	-1		27338820	6758077	5972	14930	1132		
333.9339	17.317	17.333	-1		34499592	8514450	13118	32795	649	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.849	16.849	0	0.973	21829534	5044820	10831	27077	466		
317.9389	16.849	16.849	0	0.973	28512578	6481376	14771	36927	439	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.864						236	590			
305.8987	16.864						429	1072			
A Non-2,3,7,8-sub-TCDF											
303.9016	16.569						236	590			
305.8987	16.569						429	1072			
13C-2,3,7,8-TCDD											
331.9368	17.514	17.529	-1	1.011	17714232	3866783	5972	14930	647		
333.9339	17.514	17.529	-1	1.011	22518414	4955659	13118	32795	378	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.544						484	1210			
321.8936	17.544						284	710			
37Cl4-2,3,7,8-TCDD											
327.8847	17.529	17.544	-1	1.012	21242513	4619146	5409	13522	854		
A Non-2,3,7,8-sub-TCDD											
319.8965	17.000						484	1210			
321.8936	17.000						284	710			
13C-1,2,3,7,8-PeCDF											
351.9000	21.639	21.639	0	1.250	25939499	4067910	11016	27540	369		
353.8970	21.639	21.639	0	1.250	16297836	2607274	6963	17407	374	1.59(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	21.667						238	595			
341.8567	21.667						363	907			
13C-2,3,4,7,8-PeCDF											
351.9000	22.921	22.921	0	1.324	27434848	3926852	11016	27540	356		
353.8970	22.921	22.921	0	1.324	17618590	2543269	6963	17407	365	1.56(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.948						238	595			
341.8567	22.948						363	907			
A F1 PeCDFs											
339.8597	19.329						168	420			
341.8567	19.329						301	752			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.336						238	595			
341.8567	22.336						363	907			
13C-1,2,3,7,8-PeCDD											
367.8949	23.603	23.617	-1	1.363	18195265	2434953	2739	6847	889		
369.8919	23.603	23.617	-1	1.363	11096002	1500029	1702	4255	881	1.64(1.32-1.78)	
1,2,3,7,8-PeCDD											RQ
355.8546	23.671	23.644	2	1.003	5711	1230	231	577	5		
357.8516	23.603	23.644	-2	1.000	5889	982	157	392	6	0.97(1.32-1.78)	
	Empc Correction				3684	793	157	392	5		
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.580						231	577			
357.8516	22.580						157	392			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.735	29.748	-1	0.937	10298889	1252593	5865	14662	214		
385.8610	29.735	29.748	-1	0.937	20892748	2507876	11559	28897	217	0.49(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.775	29.761	1	1.001	18861	2687	314	785	9		
375.8178	29.708	29.761	-3	0.999	17349	2035	255	637	8	1.09(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.988	29.988	0	0.945	11209610	1311110	5865	14662	224		
385.8610	29.988	29.988	0	0.945	22711360	2621819	11559	28897	227	0.49(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.028						314	785			
375.8178	30.028						255	637			
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.026	31.026	0	0.978	10051164	1884683	5865	14662	321		
385.8610	31.026	31.026	0	0.978	20292986	3684466	11559	28897	319	0.50(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.053						314	785			
375.8178	31.053						255	637			
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.944	31.944	0	1.007	8739111	1594294	5865	14662	272		
385.8610	31.944	31.944	0	1.007	17622614	3209509	11559	28897	278	0.50(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											RQM
373.8208	31.958	31.958	0	1.000	10313	2514	314	785	8		M
	Empc Correction				7731	1954	314	785	6		
375.8178	31.971	31.958	1	1.001	6235	1576	255	637	6	1.65(1.05-1.43)	M
A Non-2,3,7,8-sub-HxCDF											U
373.8208	29.529						314	785			
375.8178	29.529						255	637			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.732	31.745	-1		26666997	4974265	5887	14717	845		
403.8529	31.732	31.745	-1		21640262	4080561	5024	12560	812	1.23(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.239	31.252	-1	0.984	15310048	3292960	5887	14717	559		
403.8529	31.239	31.252	-1	0.984	12265347	2637846	5024	12560	525	1.25(1.05-1.43)	
1,2,3,4,7,8-HxCDD											M
389.8157	31.252	31.265	-1	1.000	12893	2781	248	620	11		M
391.8127	31.265	31.265	0	1.001	12284	2569	306	765	8	1.05(1.05-1.43)	M
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.359	31.372	-1	0.988	17528904	3162205	5887	14717	537		
403.8529	31.359	31.372	-1	0.988	14250369	2585757	5024	12560	515	1.23(1.05-1.43)	
1,2,3,6,7,8-HxCDD											MU
389.8157	31.385						248	620			
391.8127	31.385						306	765			
1,2,3,7,8,9-HxCDD											
389.8157	31.758	31.758	0	1.017	10116	1805	248	620	7		
391.8127	31.771	31.758	1	1.017	8569	1854	306	765	6	1.18(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											U
389.8157	30.108						248	620			
391.8127	30.108						306	765			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.459	33.471	-1	1.054	7203304	1741851	12300	30750	142		
419.8220	33.459	33.471	-1	1.054	16596857	3967204	27026	67565	147	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											M
407.7818	33.483	33.483	0	1.001	53603	12398	396	990	31		
409.7789	33.471	33.483	-1	1.000	47285	11926	335	837	36	1.13(0.88-1.20)	M
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.528	34.540	-1	1.088	7037071	1285515	12300	30750	105		
419.8220	34.528	34.540	-1	1.088	16858192	3060533	27026	67565	113	0.42(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											RQM
407.7818	34.552	34.540	1	1.001	8266	2679	396	990	7		M
409.7789	34.540	34.540	0	1.000	11044	2732	335	837	8	0.75(0.88-1.20)	M
	Empc Correction				7948	2575	335	837	8		
A Non-2,3,7,8-sub-HpCDF											RQM
407.7818	33.763	34.018	-15	1.009	17541	3595	396	990	9		M
	Empc Correction				11851	2595	396	990	7		
409.7789	33.775	34.018	-15	1.009	11396	2496	335	837	7	1.54(0.88-1.20)	M

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.249	34.249	0	1.079	12539916	2616943	7263	18157	360		
437.8140	34.249	34.249	0	1.079	11793170	2451764	5700	14250	430	1.06(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											M
423.7766	34.261	34.261	0	1.000	48074	9880	363	907	27		M
425.7737	34.249	34.261	-1	1.000	47908	10551	330	825	32	1.00(0.88-1.20)	M
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.714	33.988	-16	0.984	50615	9409	363	907	26		
425.7737	33.714	33.988	-16	0.984	51822	10821	330	825	33	0.98(0.88-1.20)	
13C-OCDD											
469.7779	36.540	36.540	0	1.152	16925960	2763888	1513	3782	1827		
471.7750	36.540	36.540	0	1.152	18877934	3112155	1243	3107	2504	0.90(0.76-1.02)	
OCDF											
441.7428	36.636	36.636	0	1.003	65072	10688	231	577	46		
443.7399	36.636	36.636	0	1.003	75954	11548	328	820	35	0.86(0.76-1.02)	
OCDD											
457.7377	36.552	36.552	0	1.000	409271	61161	353	882	173		
459.7348	36.552	36.552	0	1.000	457338	68419	330	825	207	0.89(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

U - Marked Undetected

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_8.d
Lims ID: 320-58170-A-3-A
Client ID: 11187072-Eastern-GW
Inject. Date: 05-Feb-2020 20:54:04 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 355322 Lims Sample ID: 8

Non-2,3,7,8-sub-HxCDF, RT: 29.529

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	0.792	D 13C-1,2,3,4,7,8-HxCDF	100.000	31191637	3760469
1,2,3,6,7,8-HxCDF	0.864	D 13C-1,2,3,6,7,8-HxCDF	100.000	33920970	3932929
2,3,4,6,7,8-HxCDF	0.901	D 13C-2,3,4,6,7,8-HxCDF	100.000	30344150	5569149
1,2,3,7,8,9-HxCDF	0.913	D 13C-1,2,3,7,8,9-HxCDF	100.000	26361725	4803803

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.867		100.000	30454620	4516587

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags

Compound is Marked ND

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_8.d
Lims ID: 320-58170-A-3-A
Client ID: 11187072-Eastern-GW
Inject. Date: 05-Feb-2020 20:54:04 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 355322 Lims Sample ID: 8

Non-2,3,7,8-sub-HxCDD, RT: 30.108

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.839	D 13C-1,2,3,4,7,8-HxCDD	100.000	27575395	5930806
1,2,3,6,7,8-HxCDD	0.888	D 13C-1,2,3,6,7,8-HxCDD	100.000	31779273	5747962
1,2,3,7,8,9-HxCDD	0.957				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.894		100.000	29677334	5839384

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags

Compound is Marked ND

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_8.d
Lims ID: 320-58170-A-3-A
Client ID: 11187072-Eastern-GW
Inject. Date: 05-Feb-2020 20:54:04 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 355322 Lims Sample ID: 8

Non-2,3,7,8-sub-HpCDF, RT: 34.018

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.337	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	23800161	5709055
1,2,3,4,7,8,9-HpCDF	1.074	D 13C-1,2,3,4,7,8,9-HpCDF	100.000	23895263	4346048

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.206		100.000	23847712	5027551

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
33.763	17541	3595	11396	2496	0.1006	1.54	RQM
33.763	11851	2595	11396	2496	0.0808		Empc Correction
Signal Totals:							
	11851	2595	11396	2496			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	28937	6091				1.54	RQM
	23247	5091					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.1006 = (28937 * 100.000) / (23847712 * 1.206)
Empc Amount: 0.0808 = (23247 * 100.000) / (23847712 * 1.206)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_8.d
Lims ID: 320-58170-A-3-A
Client ID: 11187072-Eastern-GW
Inject. Date: 05-Feb-2020 20:54:04 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 355322 Lims Sample ID: 8

Non-2,3,7,8-sub-HpCDD, RT: 33.988

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.981	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	24333086	5068707

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.981		100.000	24333086	5068707

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
33.714	50615	9409	51822	10821	0.4291	0.98	
Signal Totals:							
	50615	9409	51822	10821			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	102437	20230				0.98	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.4291 = (102437 * 100.000) / (24333086 * 0.981)

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_8.d				
Injection Date:	05-Feb-2020 20:54:04	Instrument ID:	10D5		
Lims ID:	320-58170-A-3-A	Lab Sample ID:	320-58170-3		
Client ID:	11187072-Eastern-GW				
Operator ID:	AJS	ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 2

Processing Integration Results

RT: 31.97
Area: 11675
Amount: 0.098153
Amount Units: pg/ul

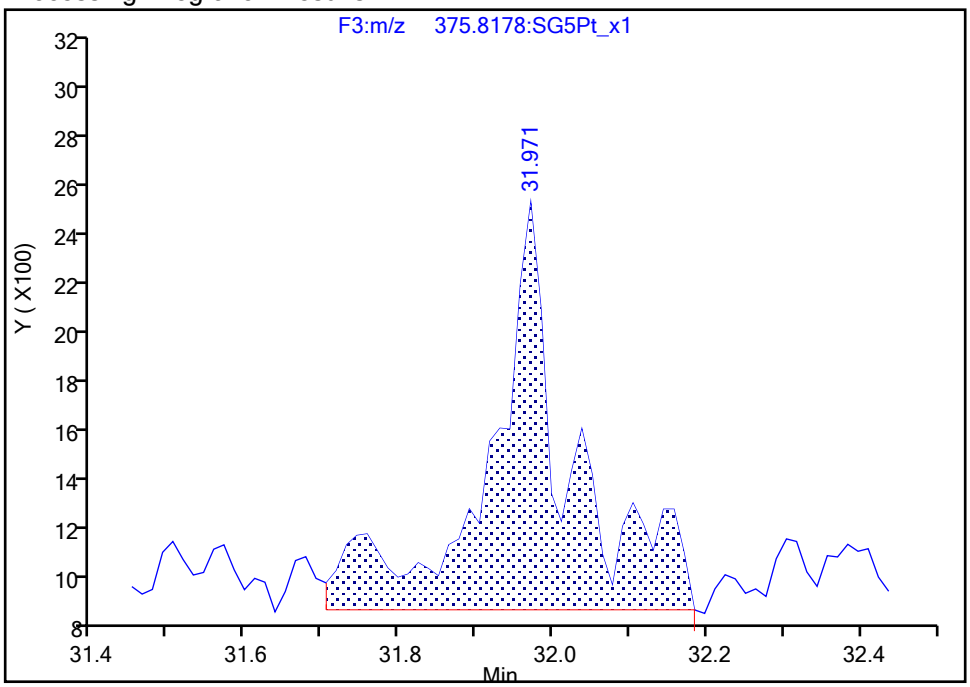

Manual Integration Results

RT: 31.97
Area: 6235
Amount: 0.068780
Amount Units: pg/ul

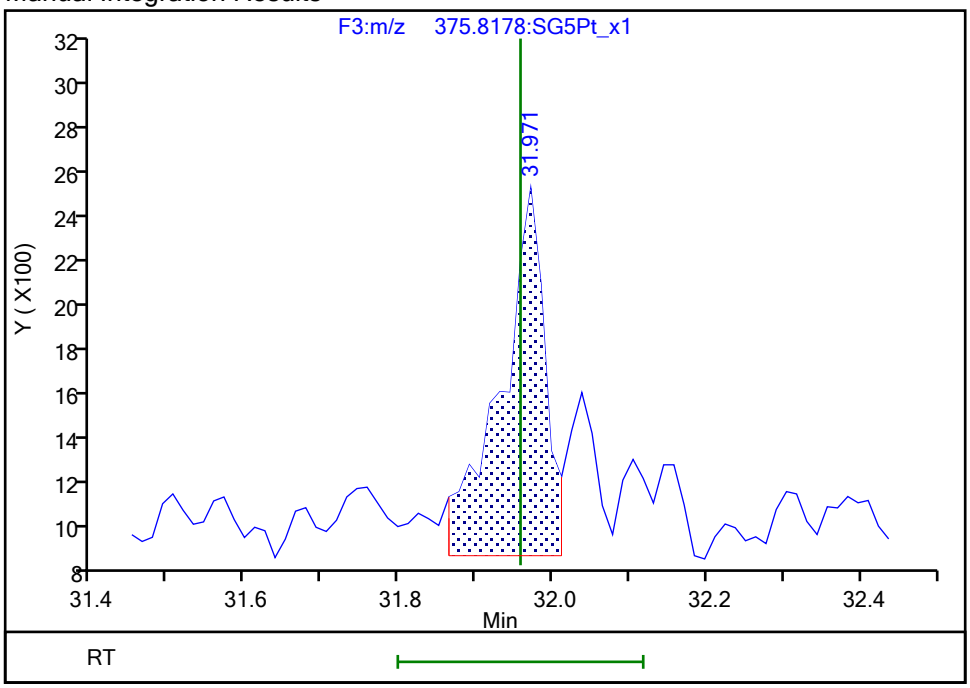

Reviewer: dadunj, 07-Feb-2020 14:33:43

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_8.d				
Injection Date:	05-Feb-2020 20:54:04	Instrument ID:	10D5		
Lims ID:	320-58170-A-3-A	Lab Sample ID:	320-58170-3		
Client ID:	11187072-Eastern-GW				
Operator ID:	AJS	ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 1

Processing Integration Results

RT: 31.96
Area: 11940
Amount: 0.098153
Amount Units: pg/ul

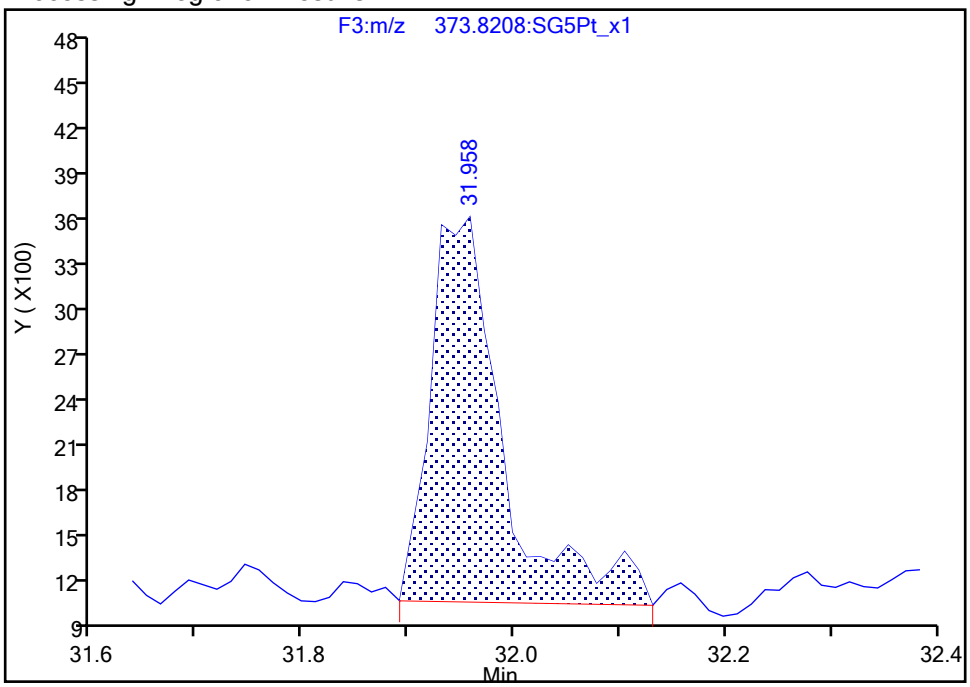

Manual Integration Results

RT: 31.96
Area: 10313
Amount: 0.068780
Amount Units: pg/ul

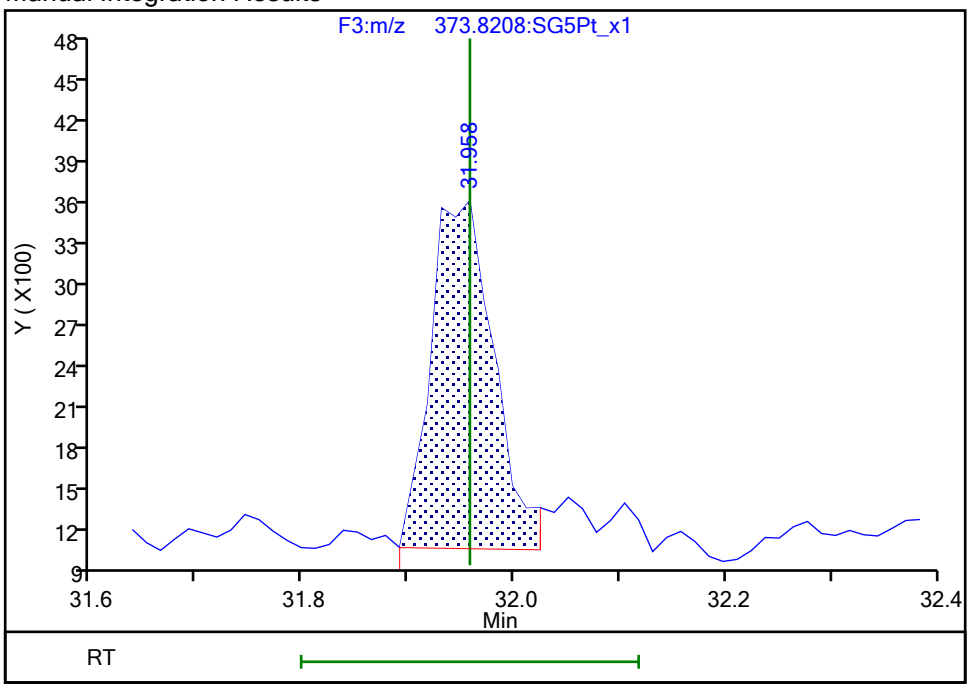

Reviewer: dadunj, 07-Feb-2020 14:33:45

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_8.d				
Injection Date:	05-Feb-2020 20:54:04	Instrument ID:	10D5		
Lims ID:	320-58170-A-3-A	Lab Sample ID:	320-58170-3		
Client ID:	11187072-Eastern-GW				
Operator ID:	AJS	ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 1

Processing Integration Results

RT: 31.25
Area: 25843
Amount: 0.194161
Amount Units: pg/ul

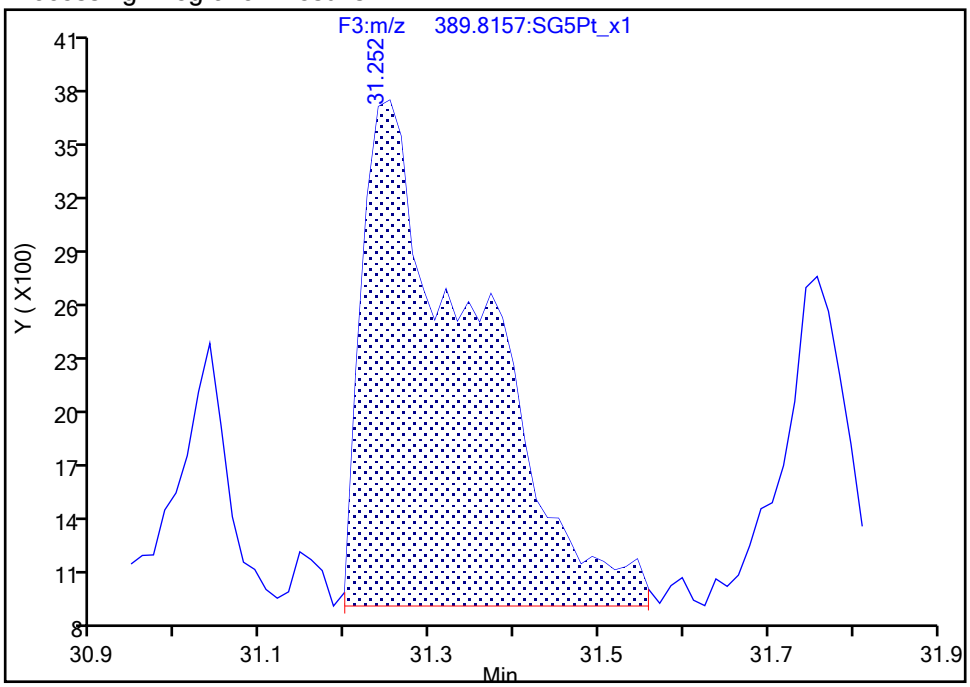

Manual Integration Results

RT: 31.25
Area: 12893
Amount: 0.108800
Amount Units: pg/ul

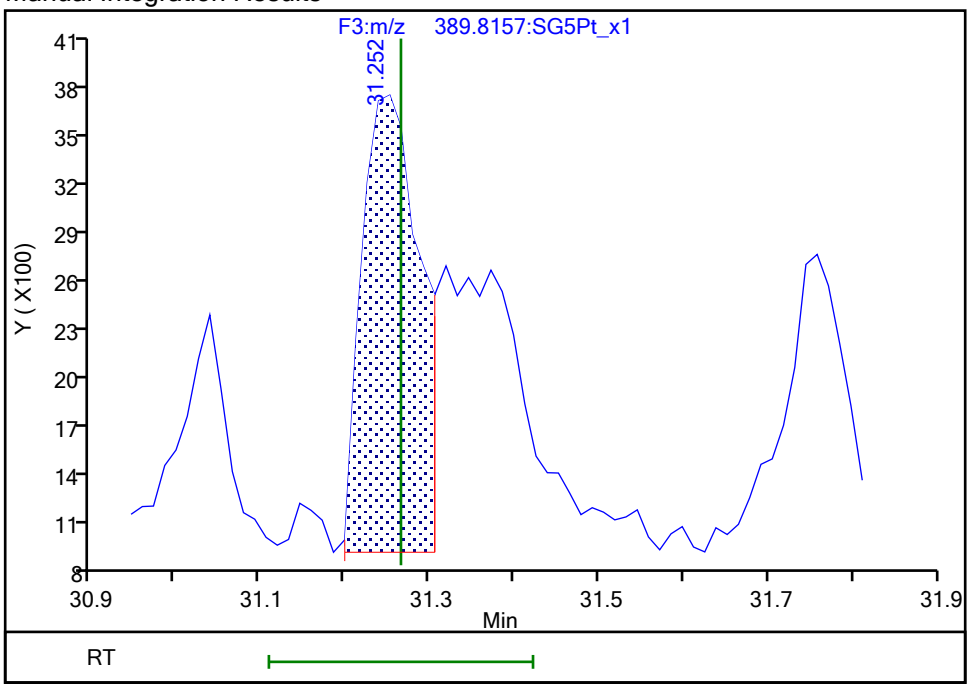

Reviewer: dadunj, 07-Feb-2020 14:33:53

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_8.d				
Injection Date:	05-Feb-2020 20:54:04	Instrument ID:	10D5		
Lims ID:	320-58170-A-3-A	Lab Sample ID:	320-58170-3		
Client ID:	11187072-Eastern-GW				
Operator ID:	AJS	ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 2

Processing Integration Results

RT: 31.27
Area: 19087
Amount: 0.194161
Amount Units: pg/ul

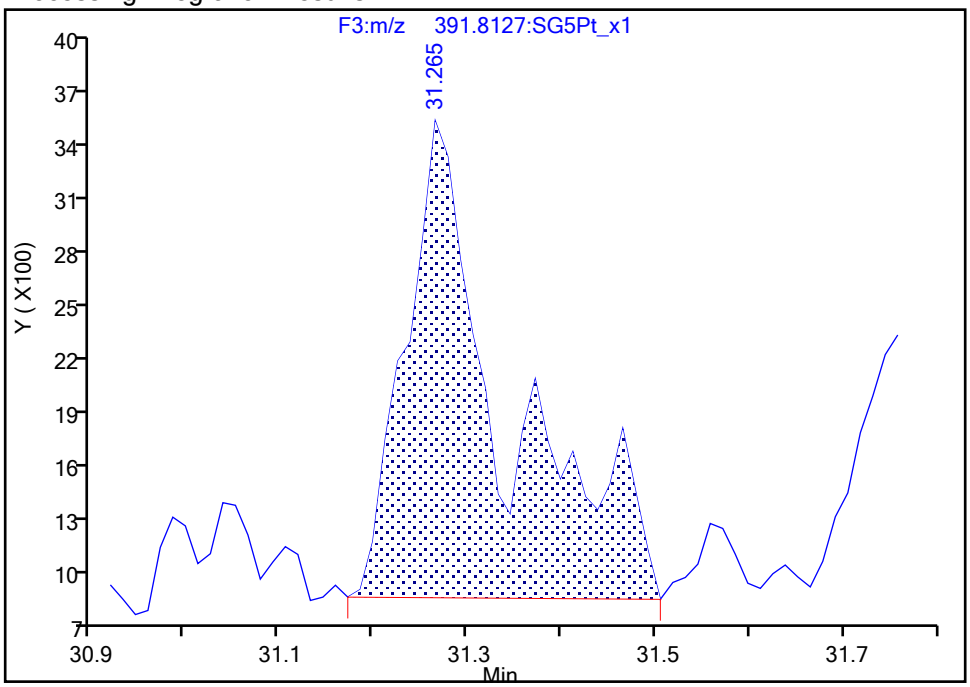

Manual Integration Results

RT: 31.27
Area: 12284
Amount: 0.108800
Amount Units: pg/ul

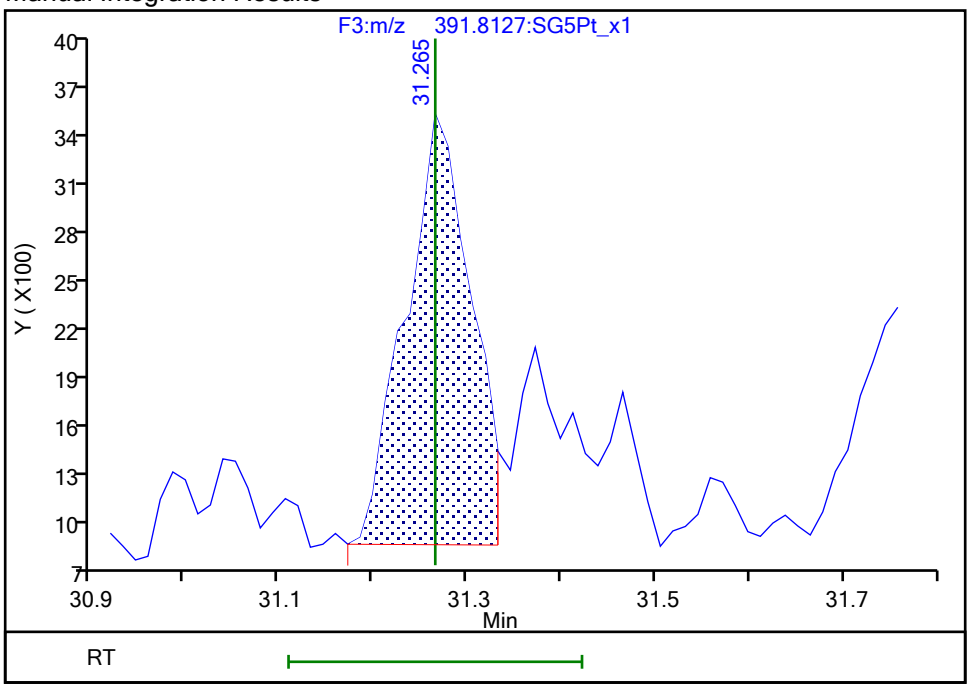

Reviewer: dadunj, 07-Feb-2020 14:33:57

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_8.d				
Injection Date:	05-Feb-2020 20:54:04	Instrument ID:	10D5		
Lims ID:	320-58170-A-3-A	Lab Sample ID:	320-58170-3		
Client ID:	11187072-Eastern-GW				
Operator ID:	AJS	ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 2

Processing Integration Results

RT: 33.47
Area: 53797
Amount: 0.337401
Amount Units: pg/ul

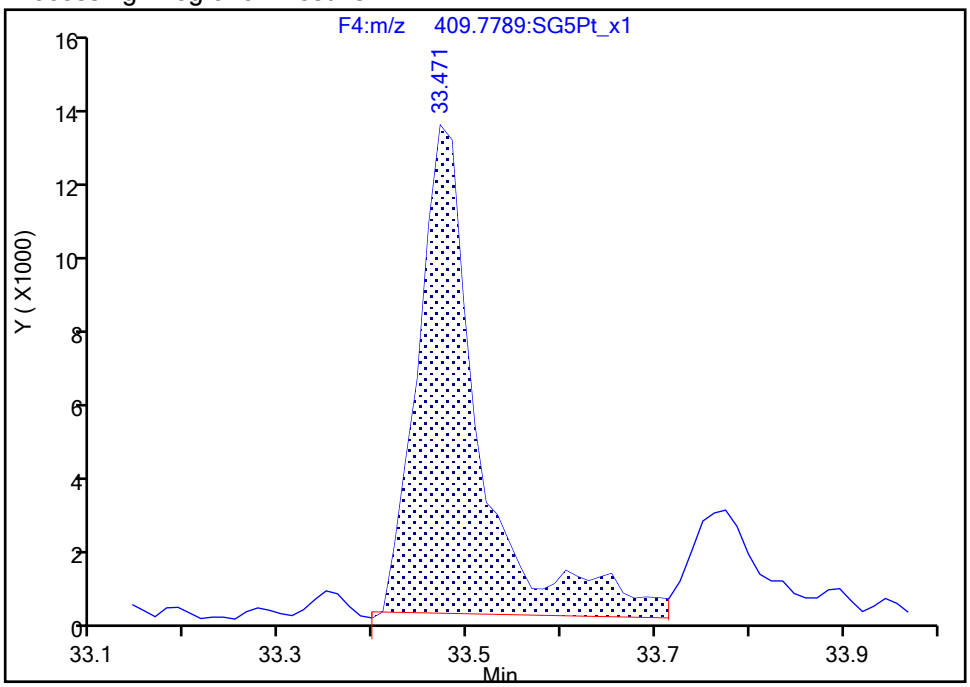

Manual Integration Results

RT: 33.47
Area: 47285
Amount: 0.316943
Amount Units: pg/ul

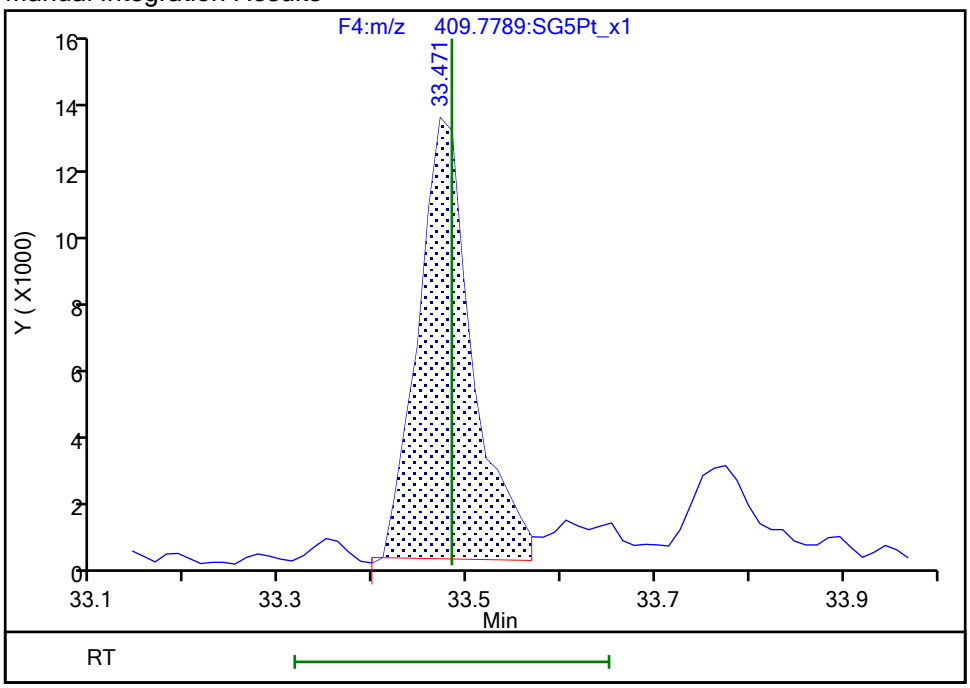

Reviewer: dadunj, 07-Feb-2020 14:34:10

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_8.d				
Injection Date:	05-Feb-2020 20:54:04	Instrument ID:	10D5		
Lims ID:	320-58170-A-3-A	Lab Sample ID:	320-58170-3		
Client ID:	11187072-Eastern-GW				
Operator ID:	AJS	ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,7,8,9-HpCDF, CAS: 55673-89-7

Signal: 1

Processing Integration Results

RT: 34.55
Area: 11934
Amount: 0.109169
Amount Units: pg/ul

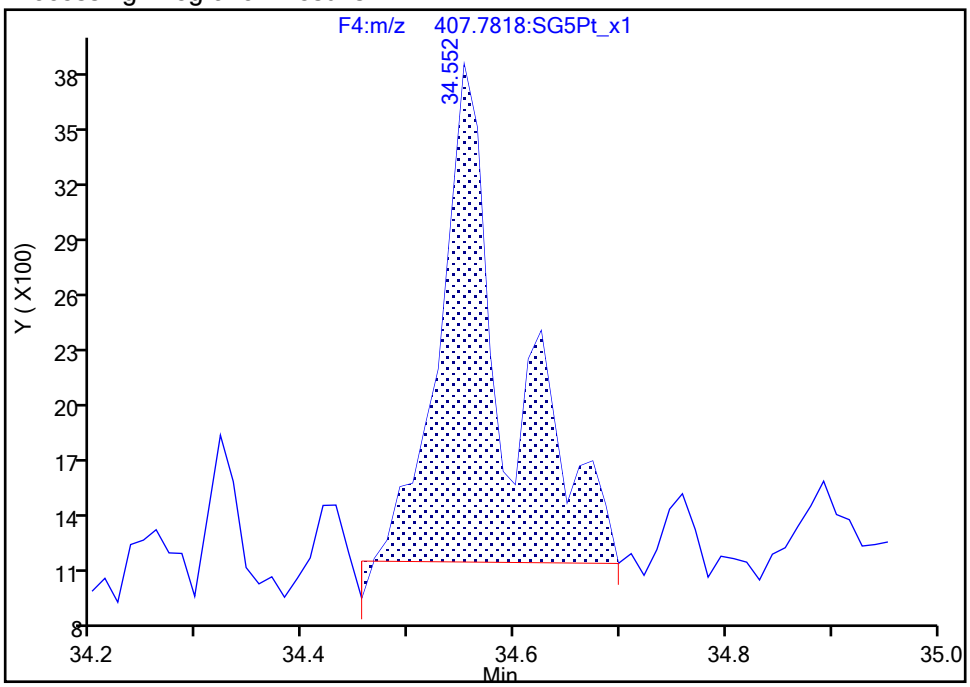

Manual Integration Results

RT: 34.55
Area: 8266
Amount: 0.075212
Amount Units: pg/ul

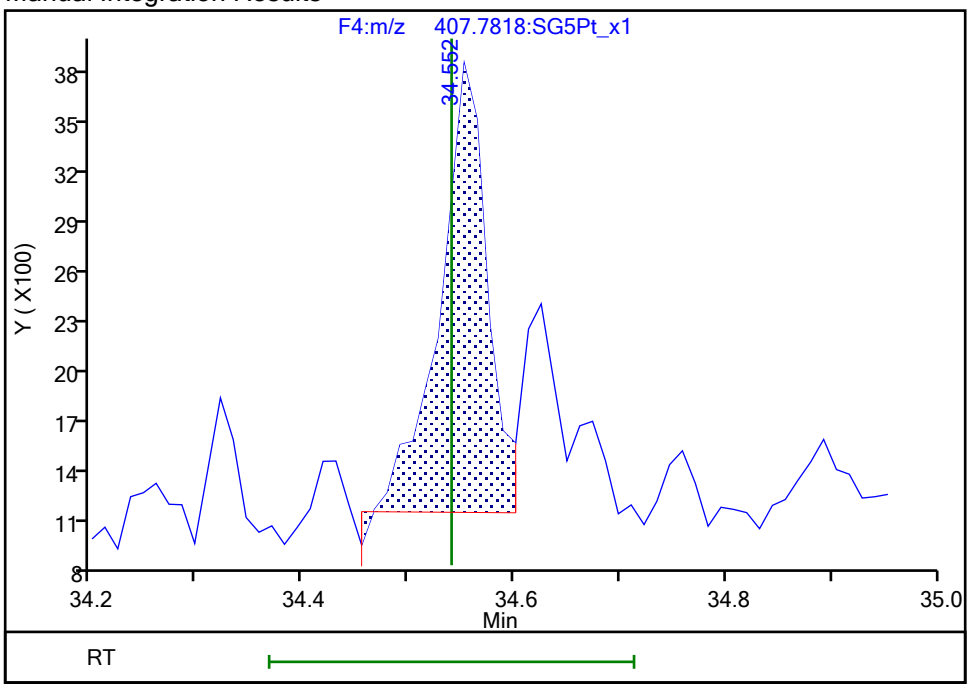

Reviewer: dadunj, 07-Feb-2020 14:34:14

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_8.d				
Injection Date:	05-Feb-2020 20:54:04	Instrument ID:	10D5		
Lims ID:	320-58170-A-3-A	Lab Sample ID:	320-58170-3		
Client ID:	11187072-Eastern-GW				
Operator ID:	AJS	ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,7,8,9-HpCDF, CAS: 55673-89-7

Signal: 2

Processing Integration Results

RT: 34.54
Area: 16094
Amount: 0.109169
Amount Units: pg/ul

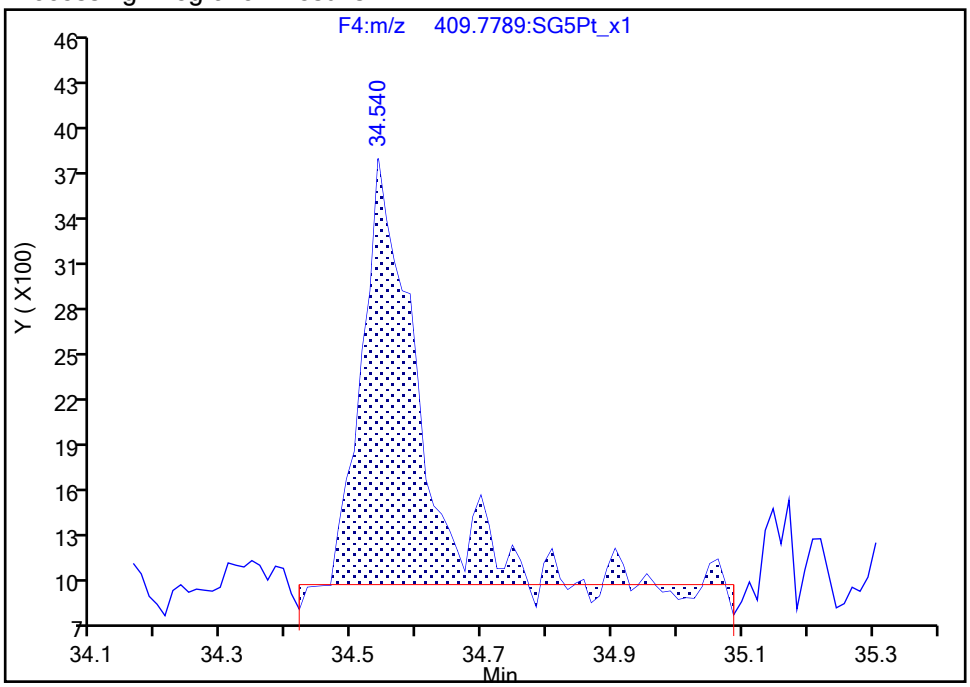

Manual Integration Results

RT: 34.54
Area: 11044
Amount: 0.075212
Amount Units: pg/ul

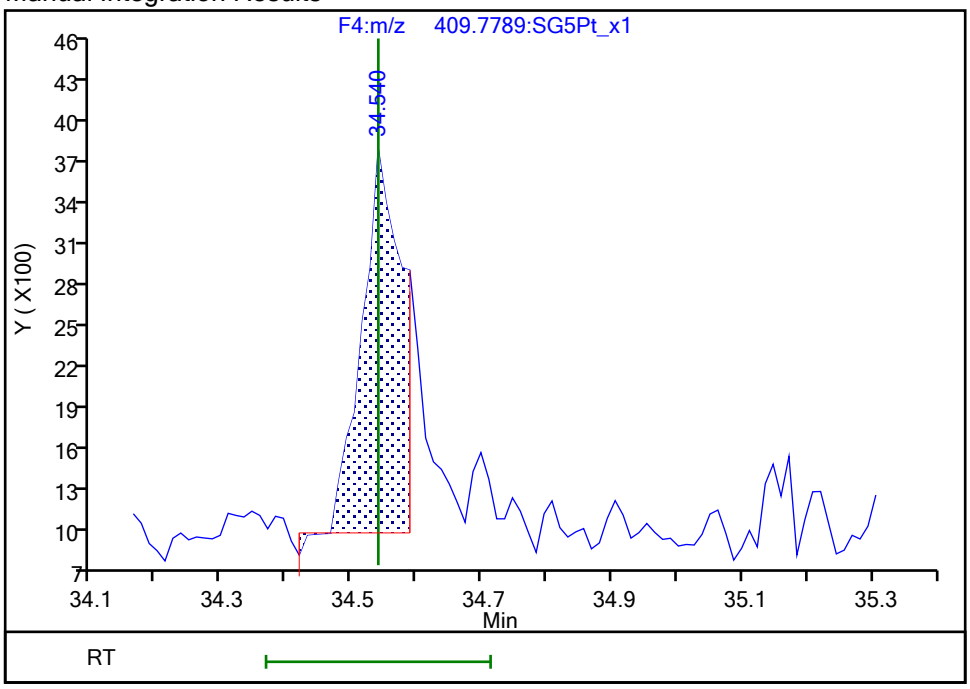

Reviewer: dadunj, 07-Feb-2020 14:34:15

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_8.d				
Injection Date:	05-Feb-2020 20:54:04	Instrument ID:	10D5		
Lims ID:	320-58170-A-3-A	Lab Sample ID:	320-58170-3		
Client ID:	11187072-Eastern-GW				
Operator ID:	AJS	ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

Non-2,3,7,8-sub-HpCDF, Signal: 1, m/z: 407.7818, RT: (33.45- 34.58)

Signal: 1

Processing Integration Results

RT = 33.763 Area = 19261

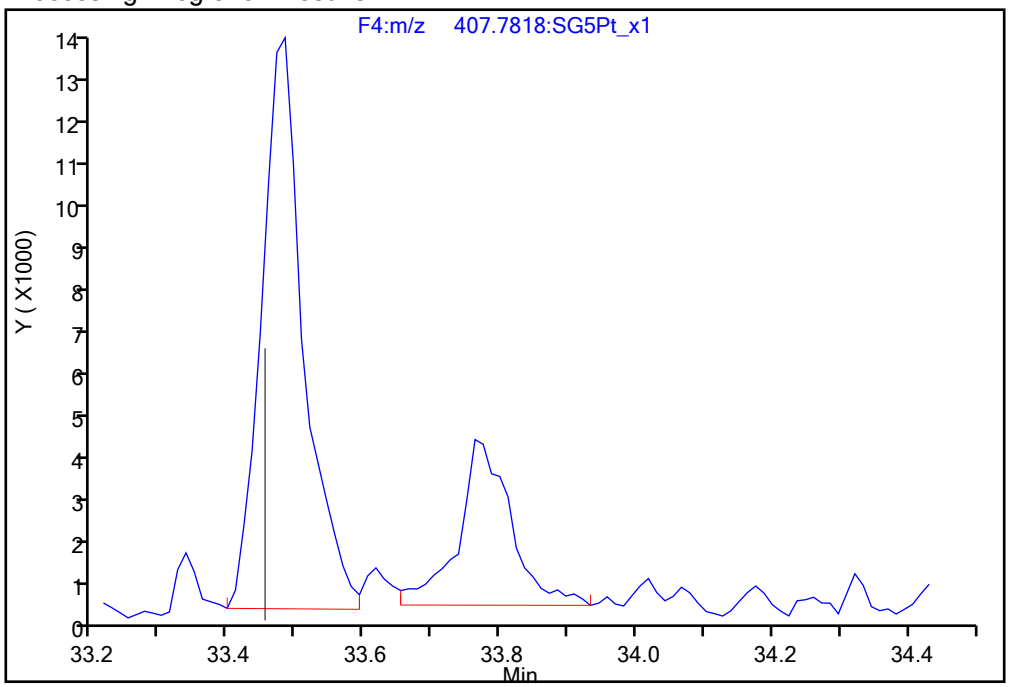

Manual Integration Results

RT = 33.763 Area = 17541 M

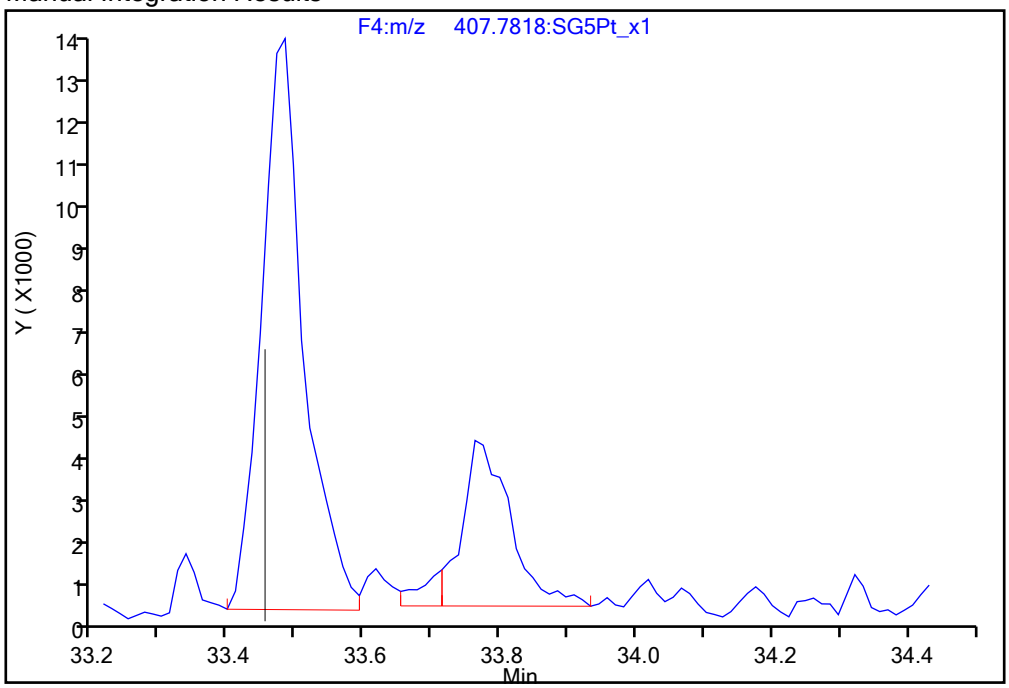

Reviewer: dadunj, 07-Feb-2020 14:34:22

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_8.d				
Injection Date:	05-Feb-2020 20:54:04	Instrument ID:	10D5		
Lims ID:	320-58170-A-3-A	Lab Sample ID:	320-58170-3		
Client ID:	11187072-Eastern-GW				
Operator ID:	AJS	ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

Non-2,3,7,8-sub-HpCDF, Signal: 2, m/z: 409.7789, RT: (33.45- 34.58)

Signal: 2

Processing Integration Results

RT = 33.775 Area = 15103

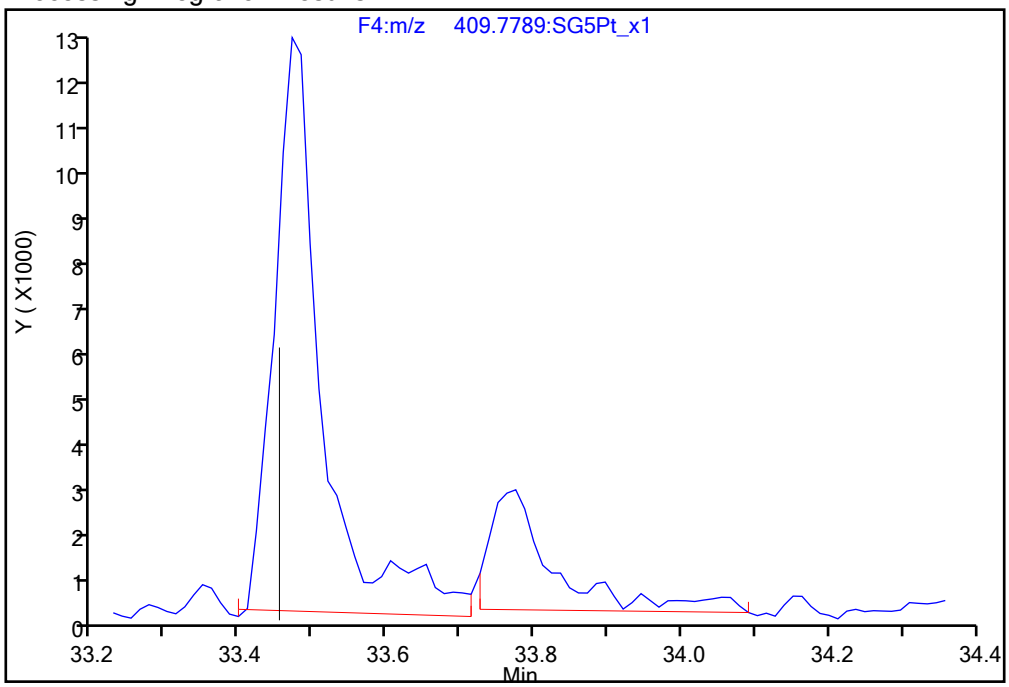

Manual Integration Results

RT = 33.775 Area = 11396 M

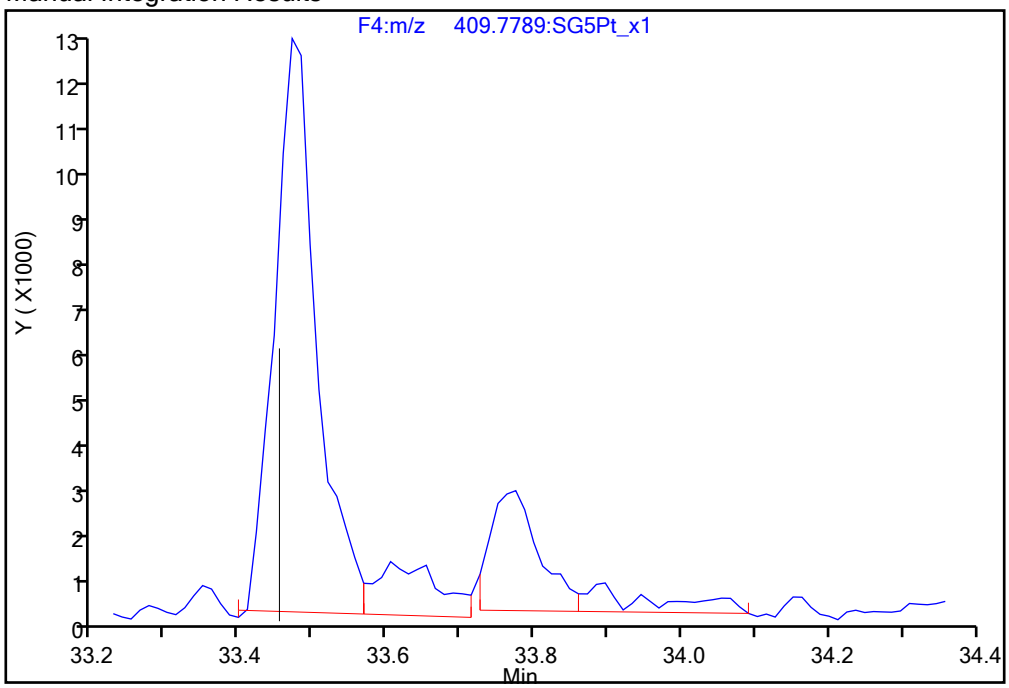

Reviewer: dadunj, 07-Feb-2020 14:34:19

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_8.d				
Injection Date:	05-Feb-2020 20:54:04	Instrument ID:	10D5		
Lims ID:	320-58170-A-3-A	Lab Sample ID:	320-58170-3		
Client ID:	11187072-Eastern-GW				
Operator ID:	AJS	ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 1

Processing Integration Results

RT: 34.26
Area: 59811
Amount: 0.496633
Amount Units: pg/ul

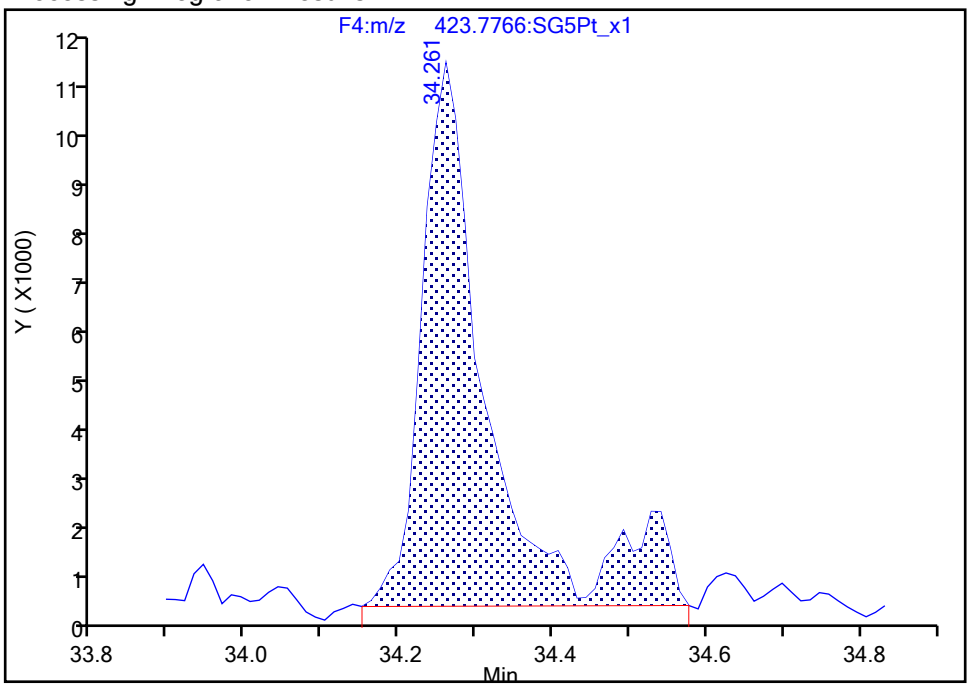

Manual Integration Results

RT: 34.26
Area: 48074
Amount: 0.402043
Amount Units: pg/ul

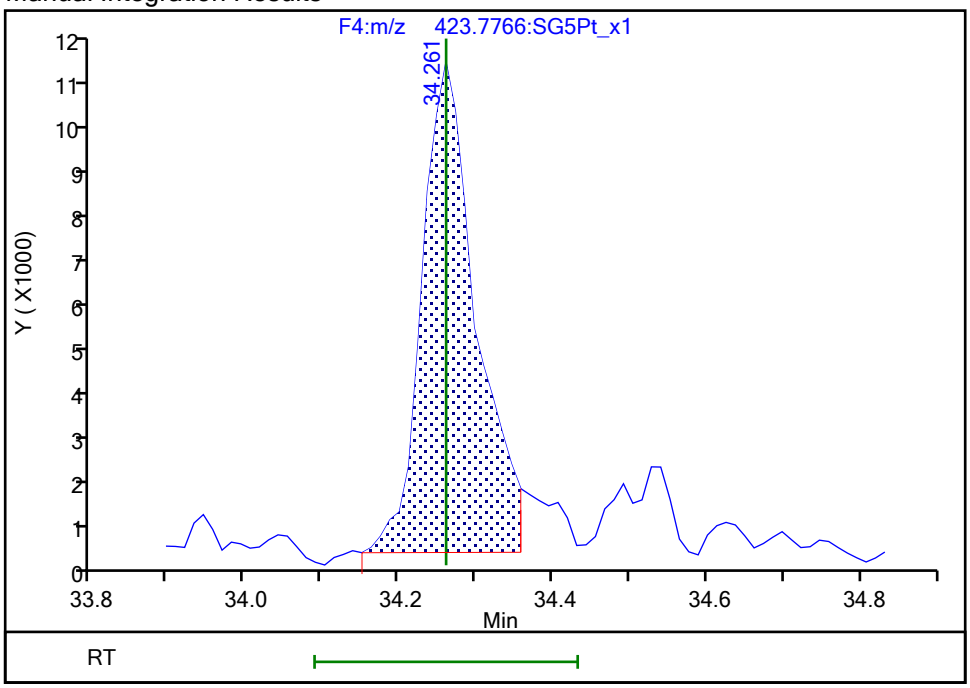

Reviewer: dadunj, 07-Feb-2020 14:34:28

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_8.d				
Injection Date:	05-Feb-2020 20:54:04	Instrument ID:	10D5		
Lims ID:	320-58170-A-3-A	Lab Sample ID:	320-58170-3		
Client ID:	11187072-Eastern-GW				
Operator ID:	AJS	ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 2

Processing Integration Results

RT: 34.25
Area: 58753
Amount: 0.496633
Amount Units: pg/ul

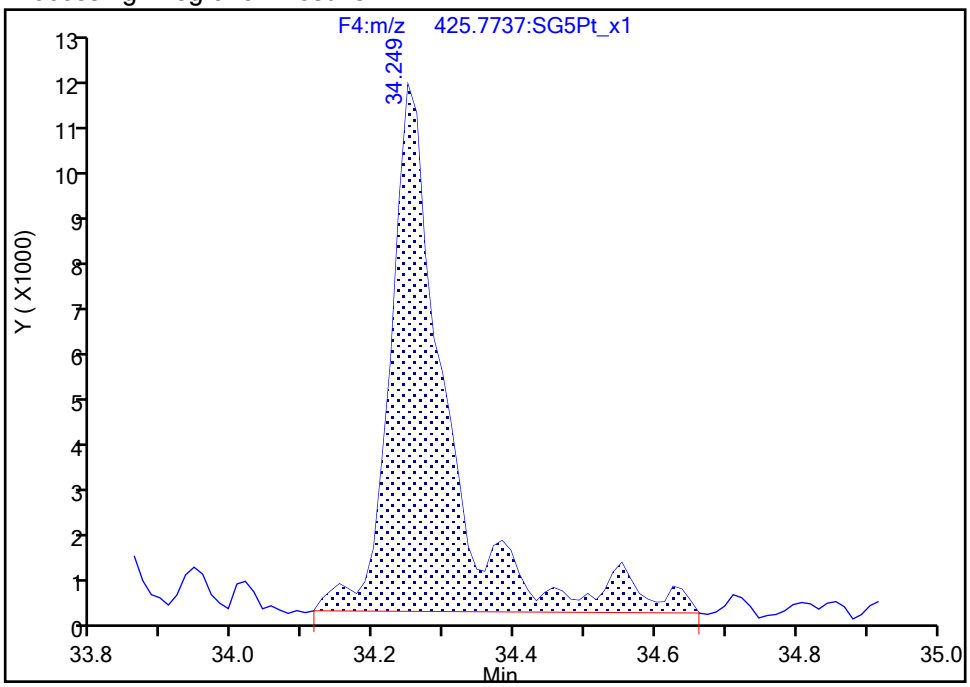

Manual Integration Results

RT: 34.25
Area: 47908
Amount: 0.402043
Amount Units: pg/ul

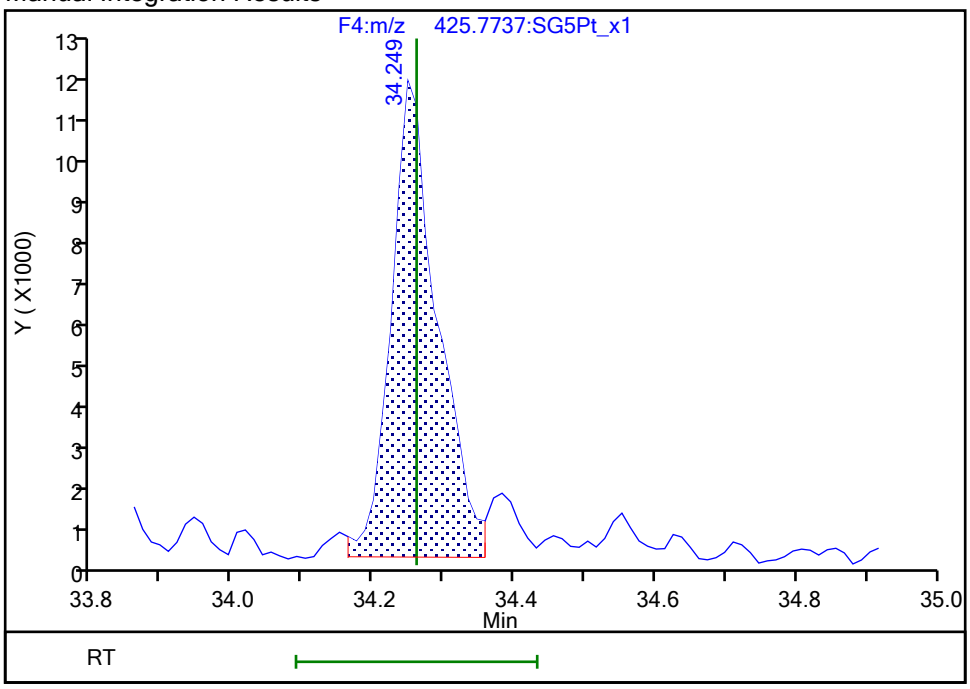

Reviewer: dadunj, 07-Feb-2020 14:34:30

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 07-Feb-2020 14:35:12 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_8.d		
Injection Date:	05-Feb-2020 20:54:04	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Eastern-GW		
Worklist#:	355322	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

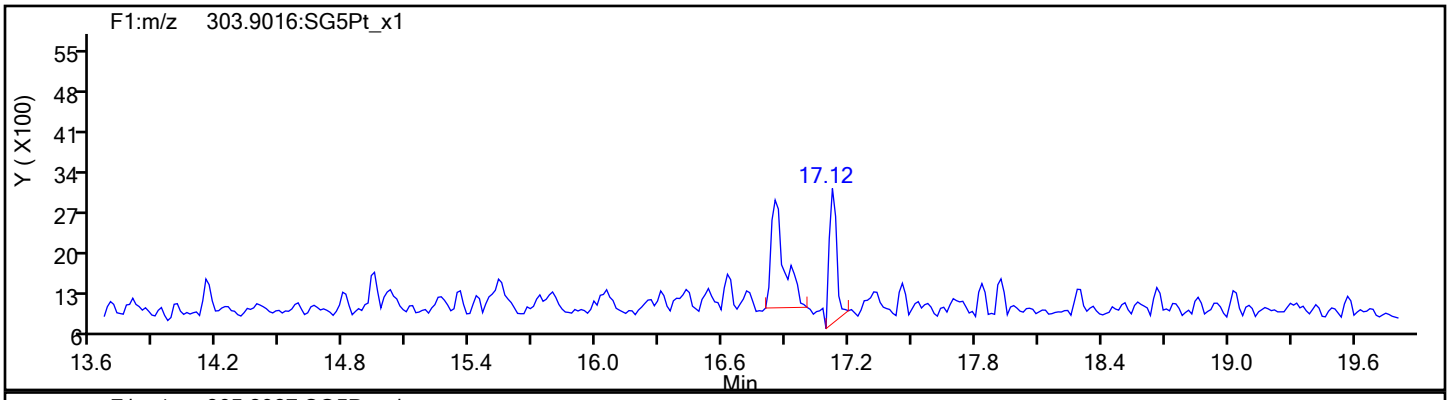

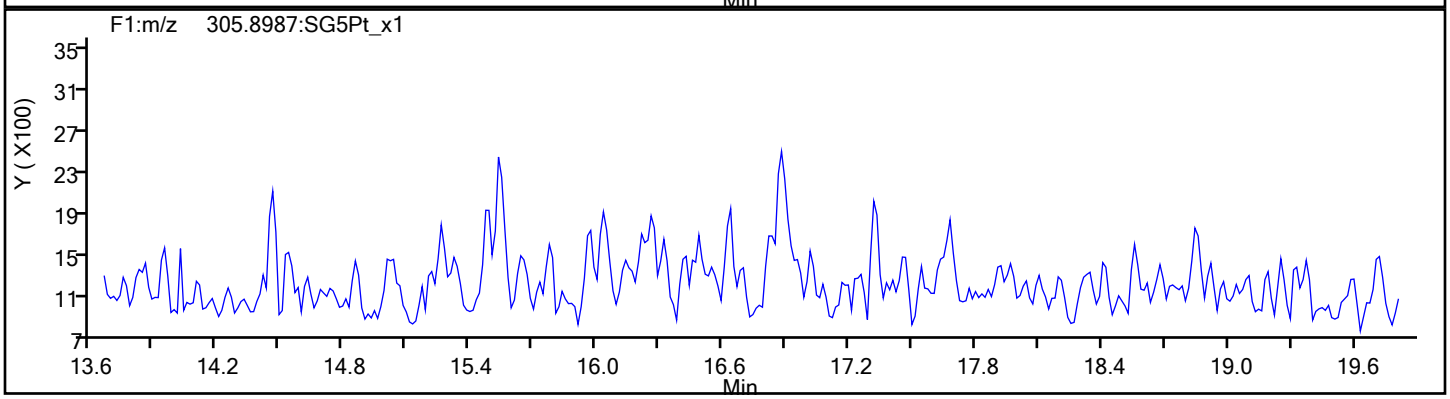

TCDF Standards

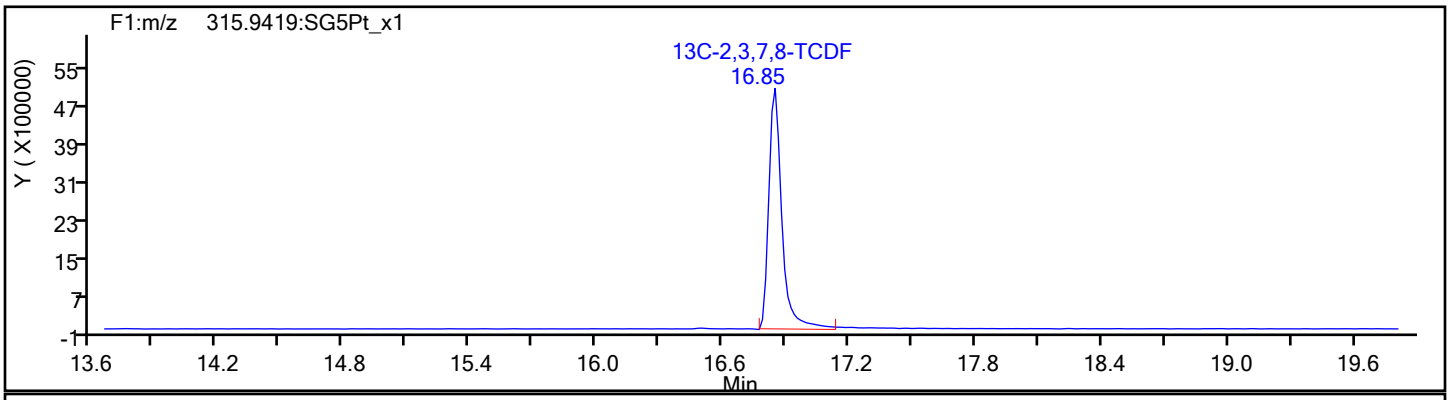

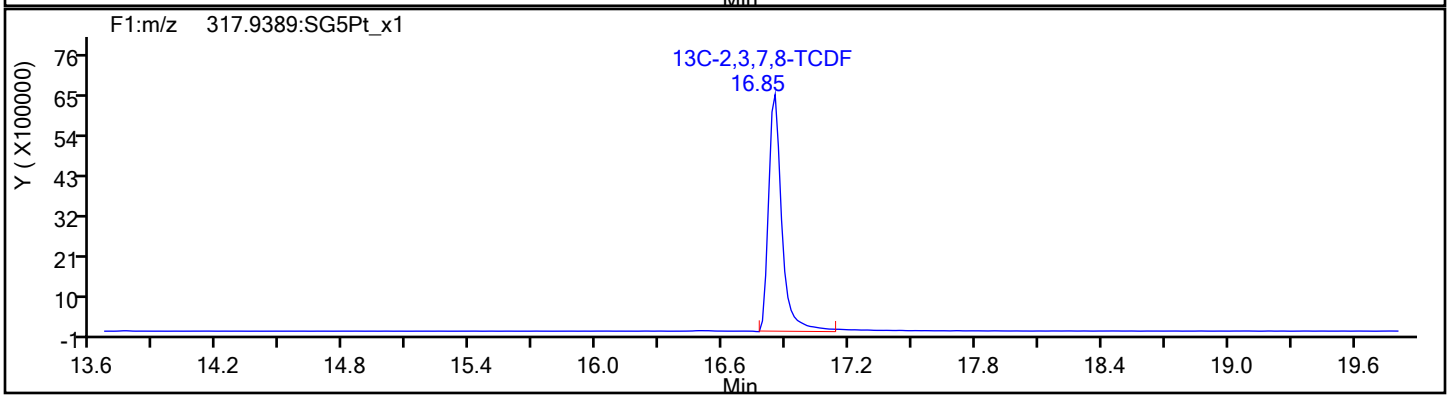

Report Date: 07-Feb-2020 14:35:12 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_8.d		
Injection Date:	05-Feb-2020 20:54:04	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Eastern-GW		
Worklist#:	355322	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

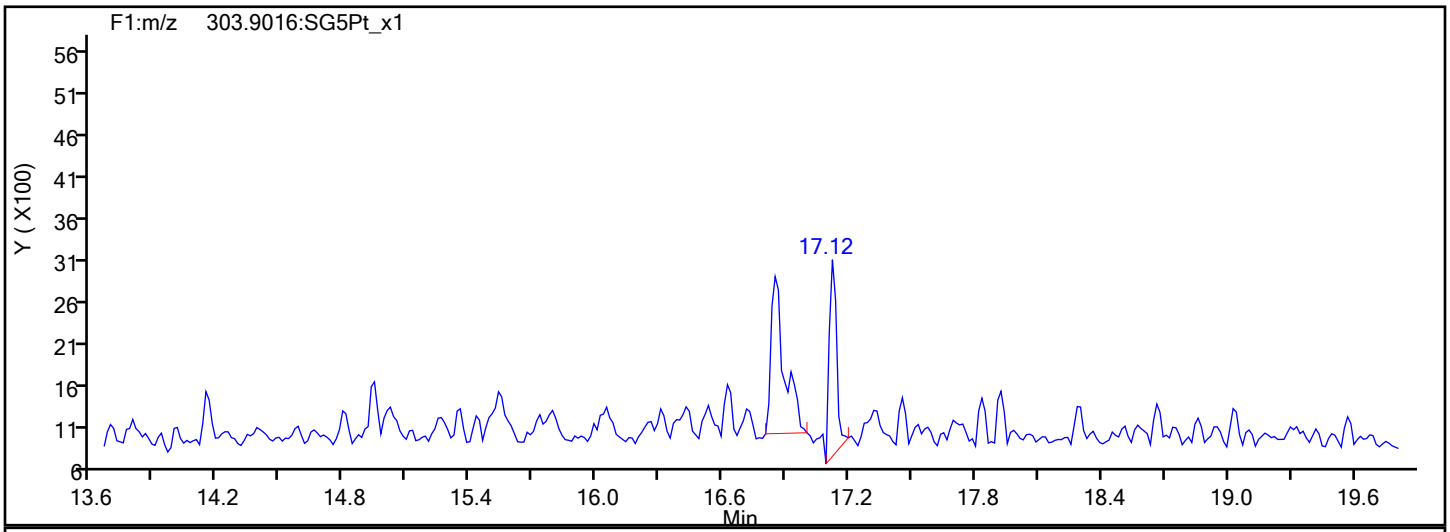

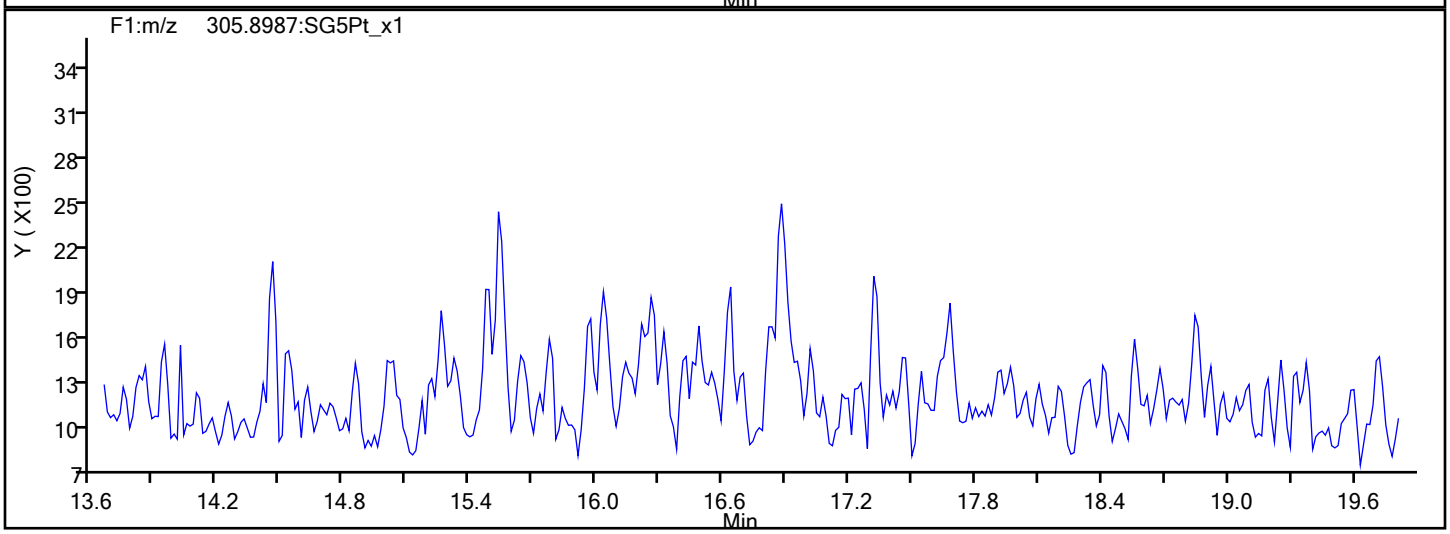

TCDF Interference Mass

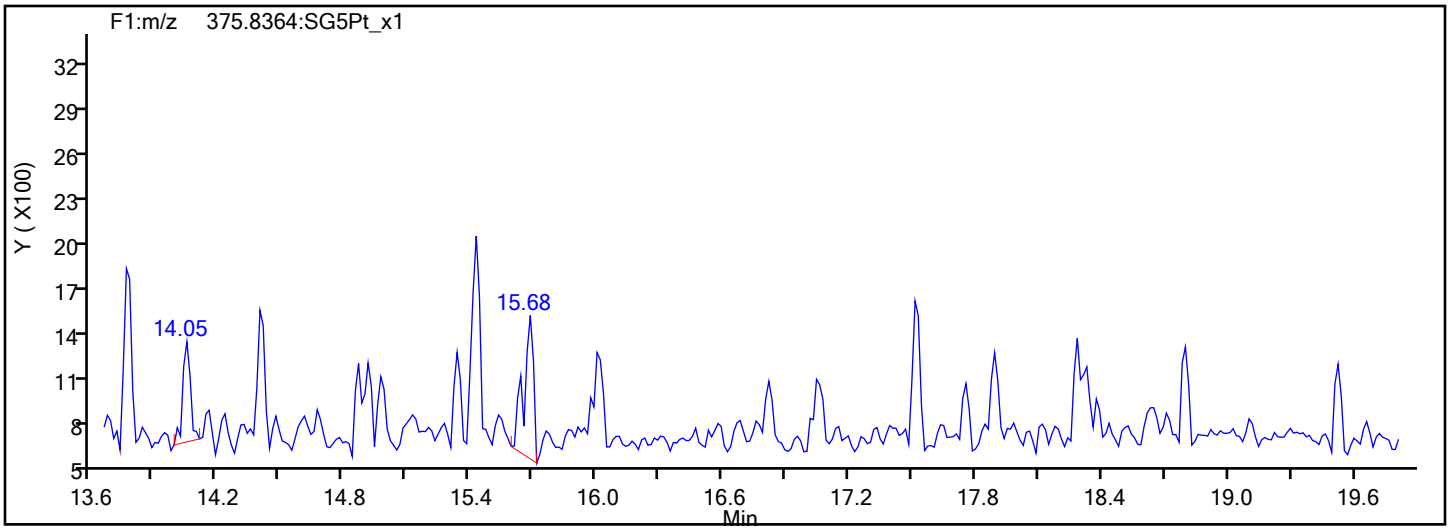

Report Date: 07-Feb-2020 14:35:12 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_8.d		
Injection Date:	05-Feb-2020 20:54:04	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Eastern-GW		
Worklist#:	355322	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

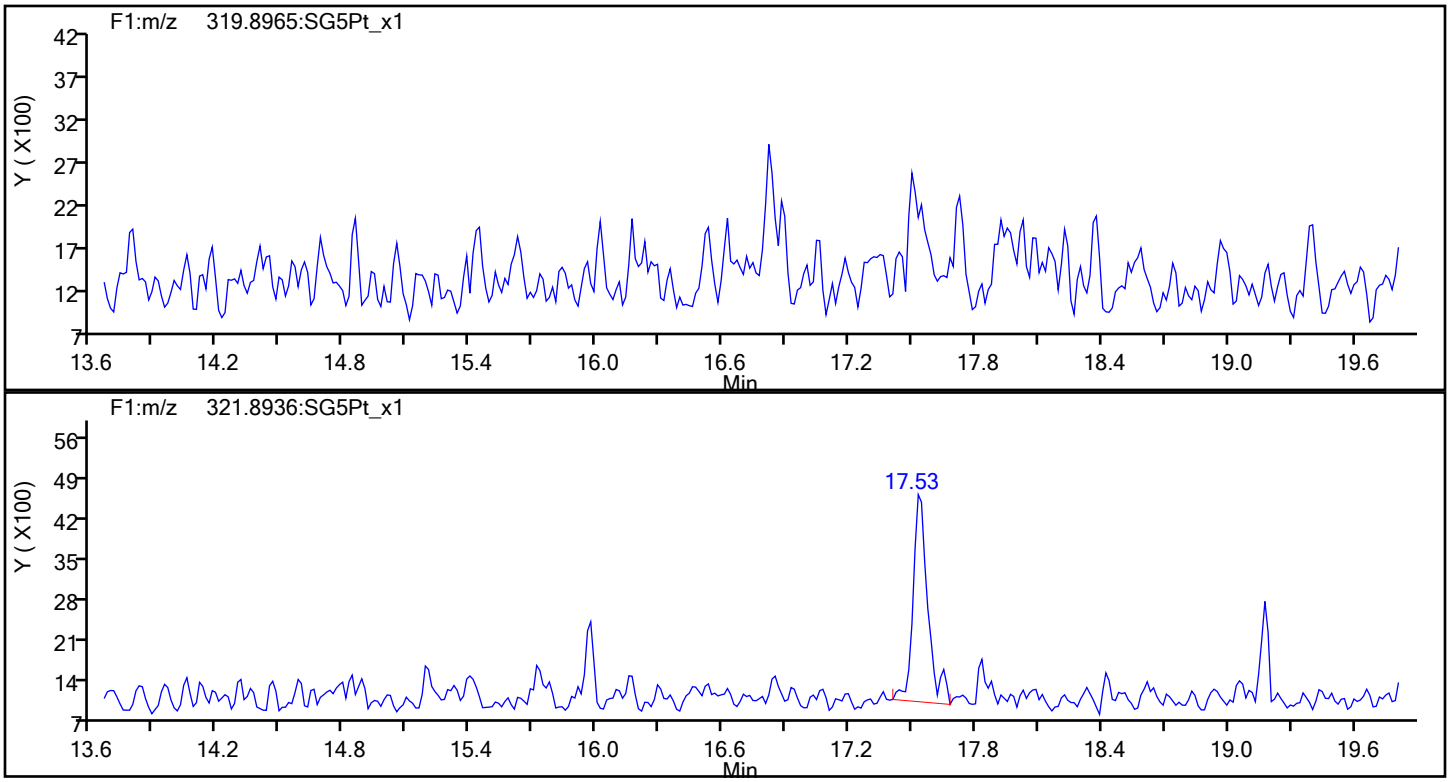

TCDD Standards

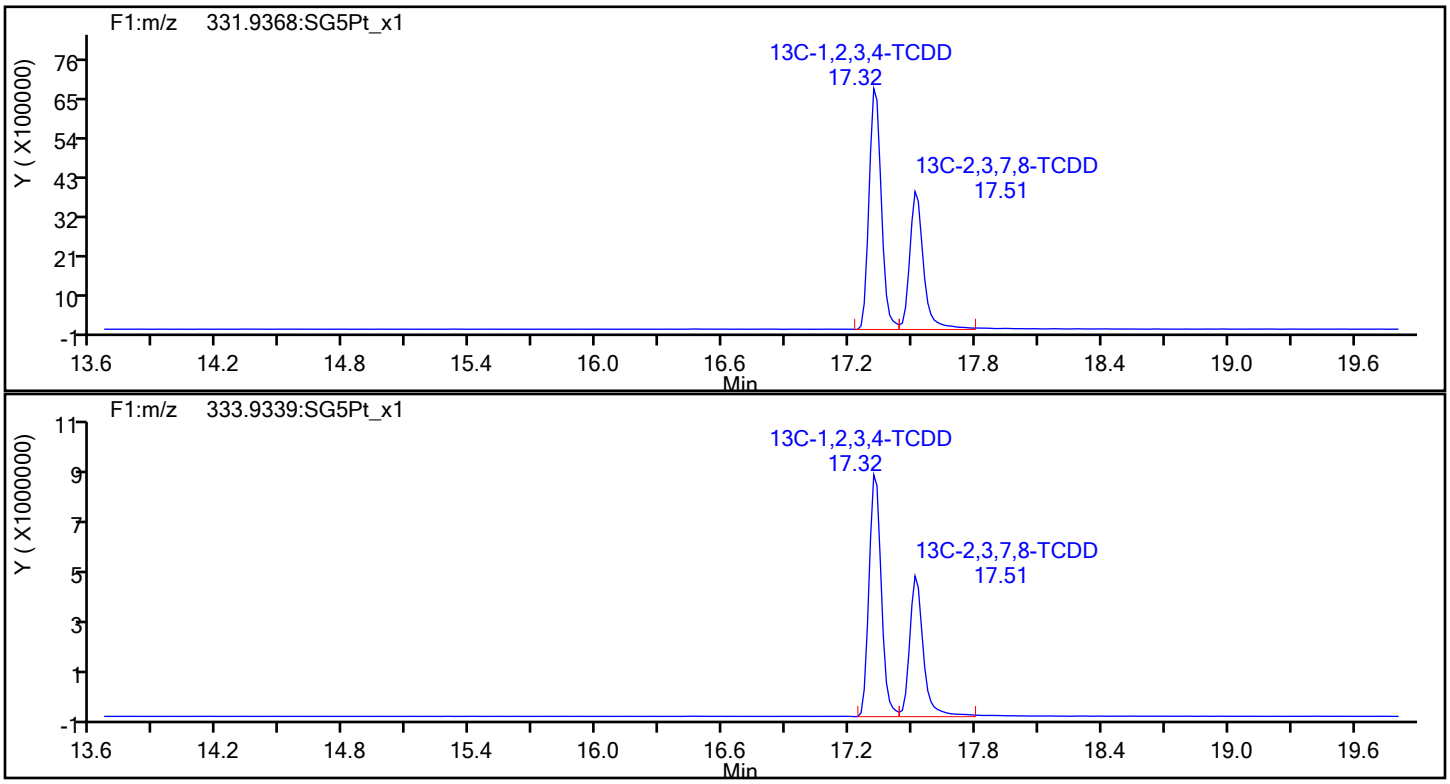

Report Date: 07-Feb-2020 14:35:12 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_8.d		
Injection Date:	05-Feb-2020 20:54:04	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Eastern-GW		
Worklist#:	355322	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

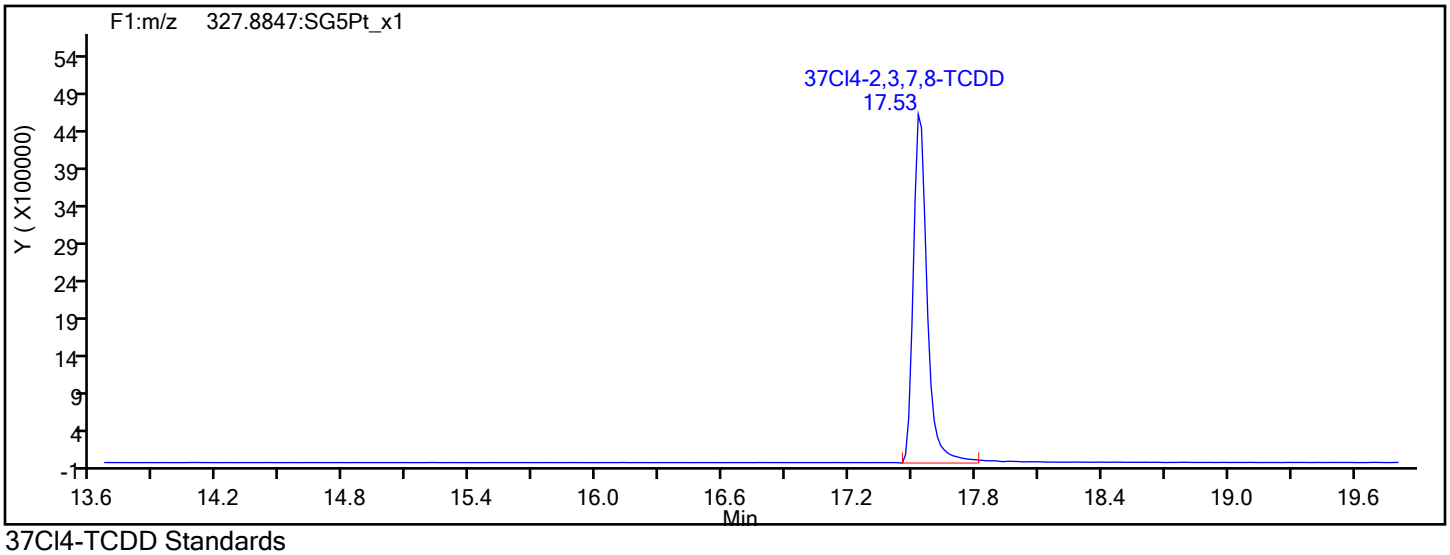

37Cl4-TCDD Standards

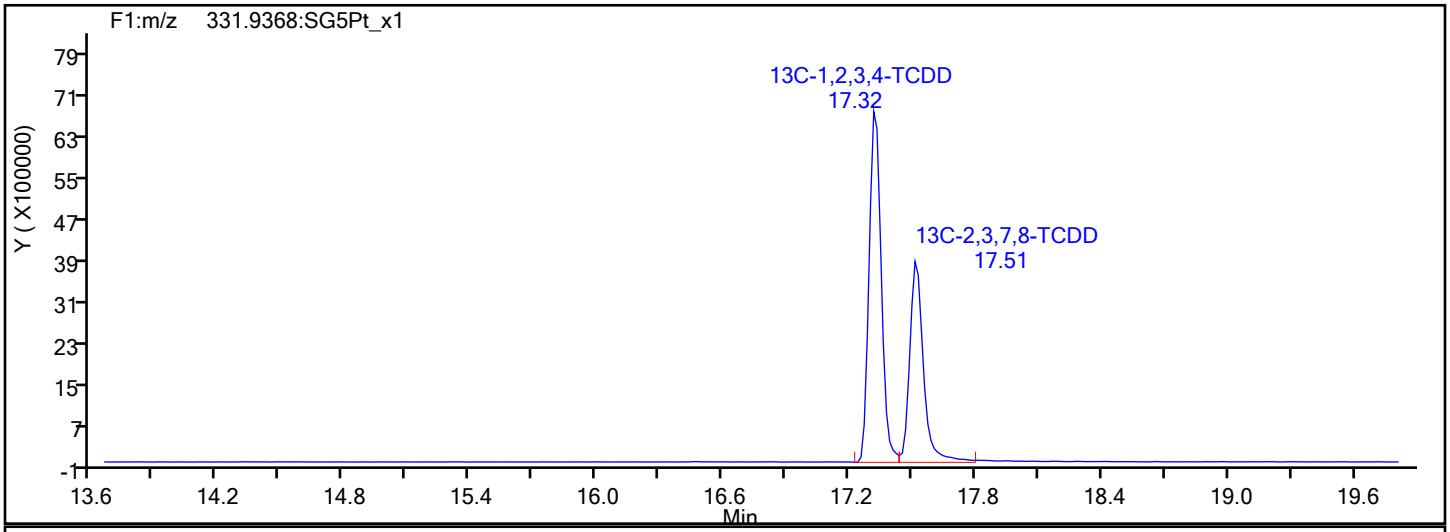

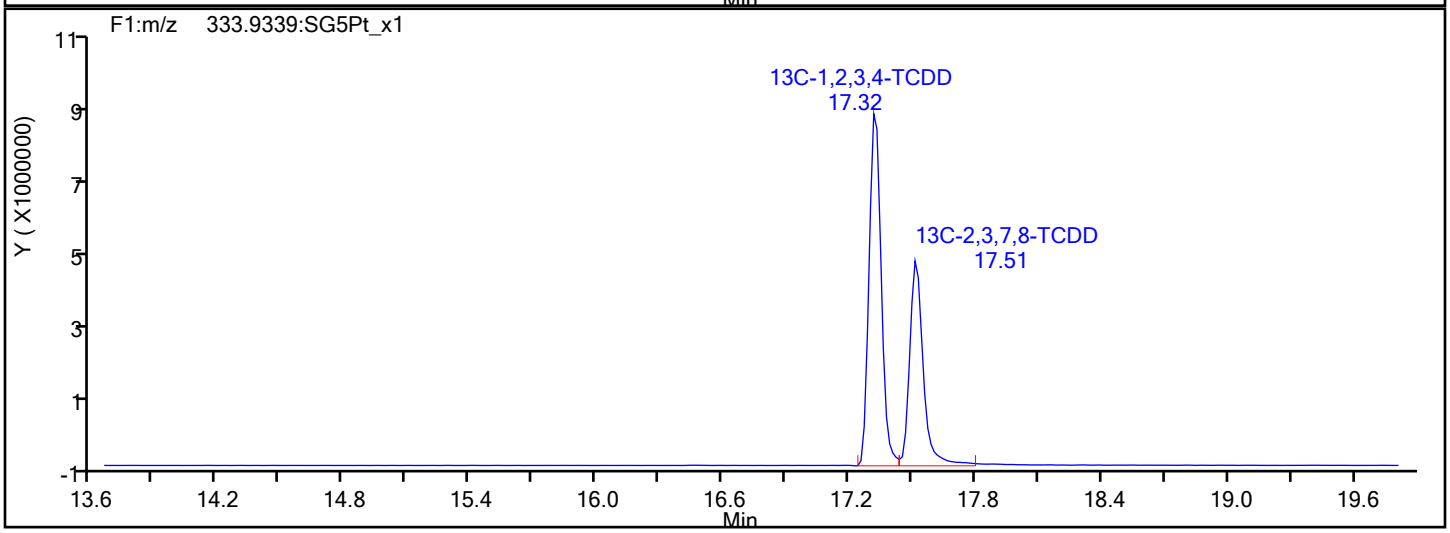

Report Date: 07-Feb-2020 14:35:12 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_8.d		
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Client ID:	11187072-Eastern-GW		
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

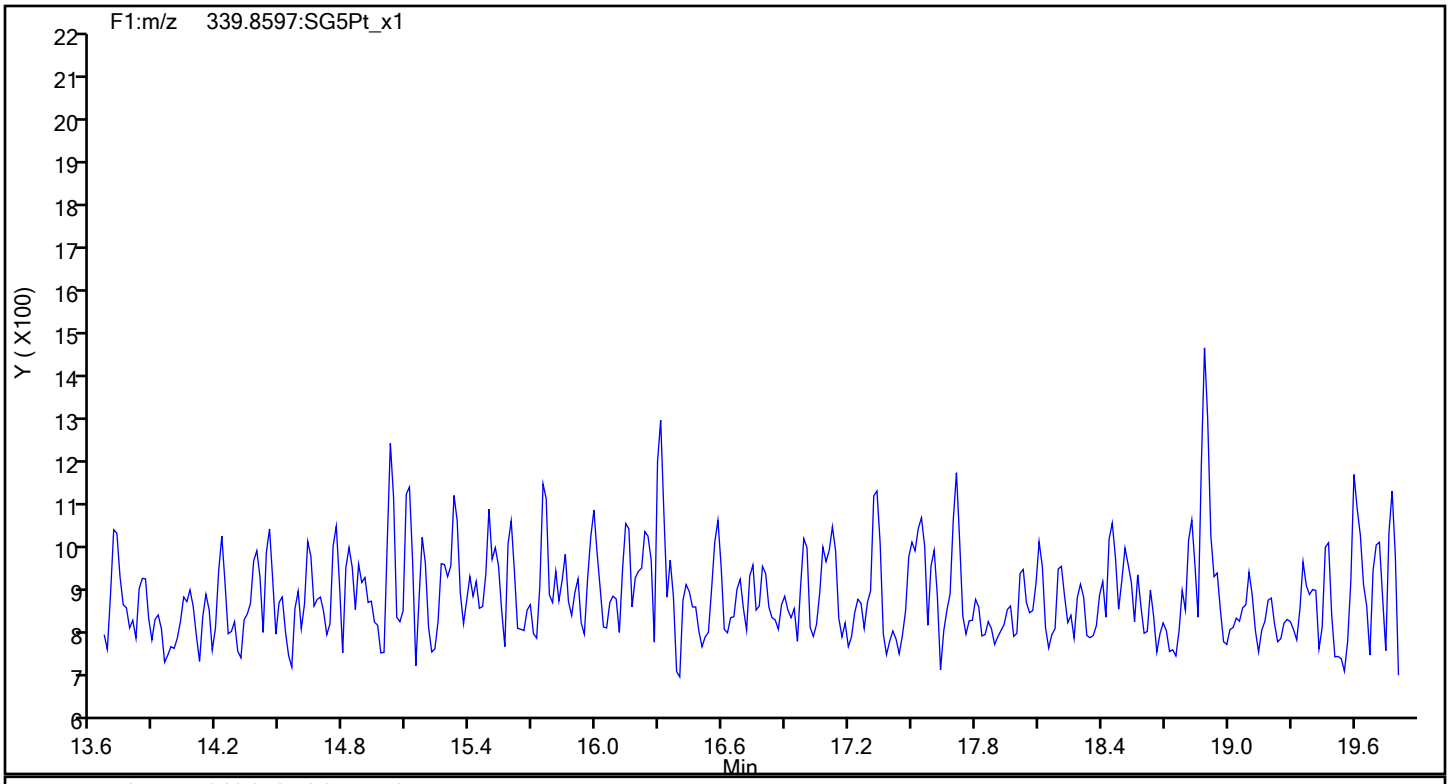

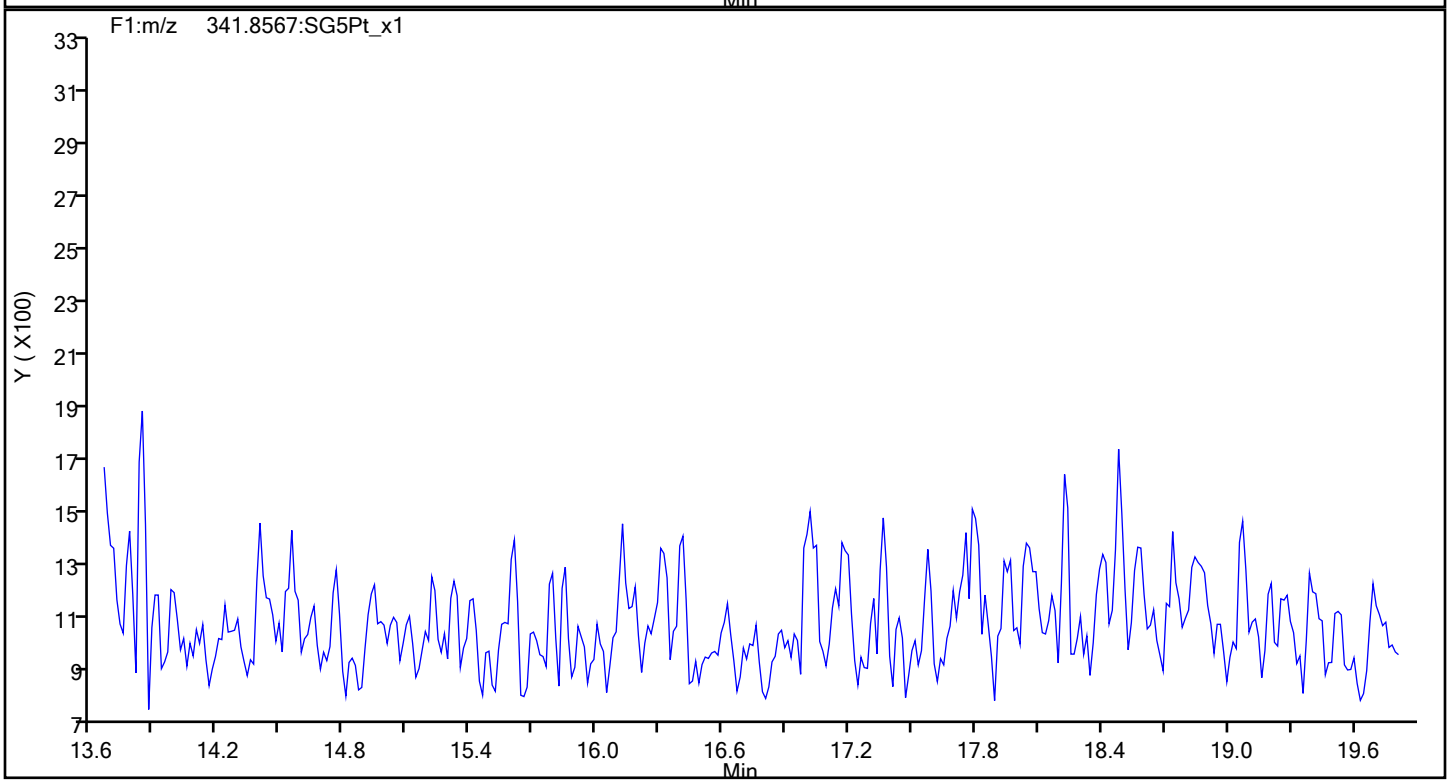

Report Date: 07-Feb-2020 14:35:12 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

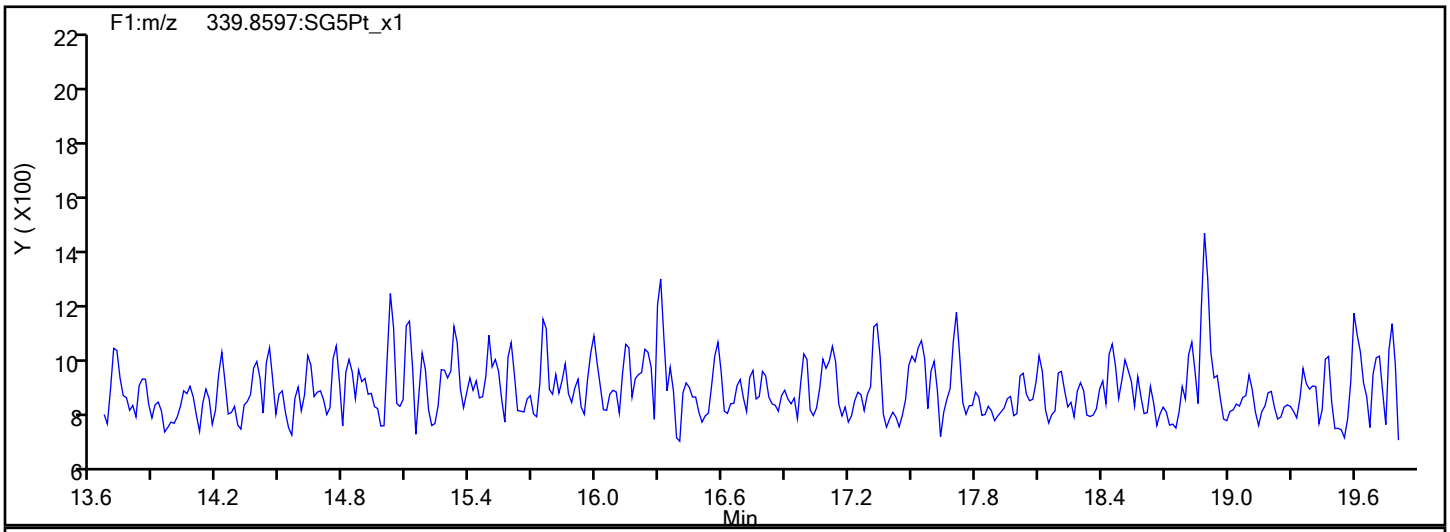

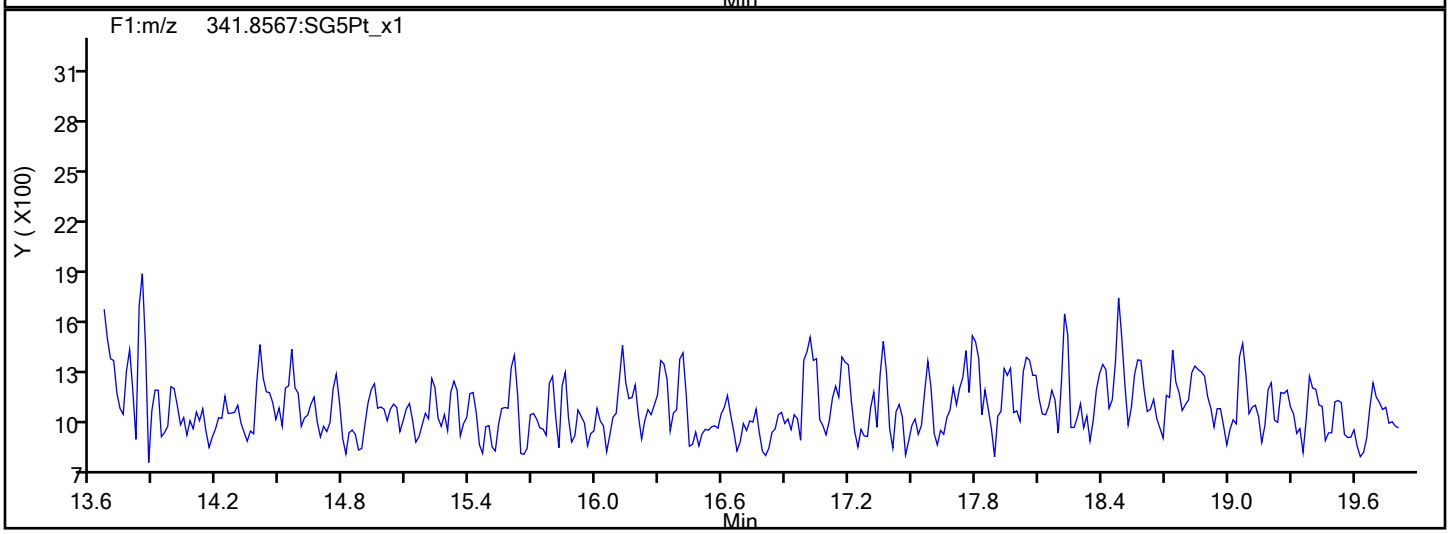

F1 PeCDFs Interference Mass

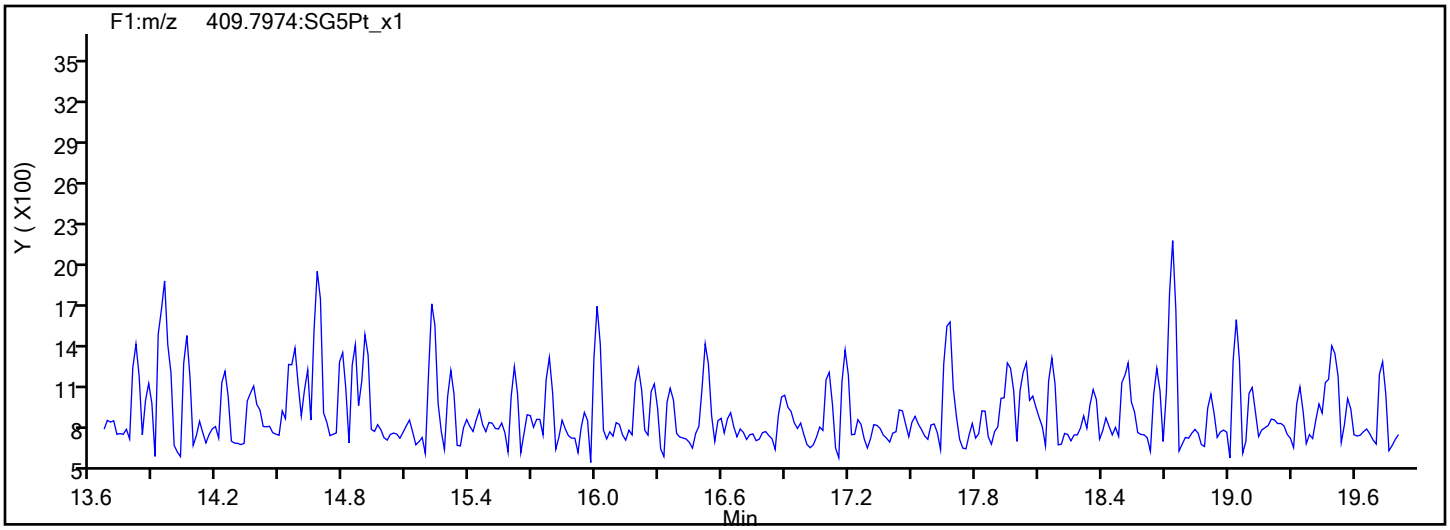

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Eurofins TestAmerica, Sacramento

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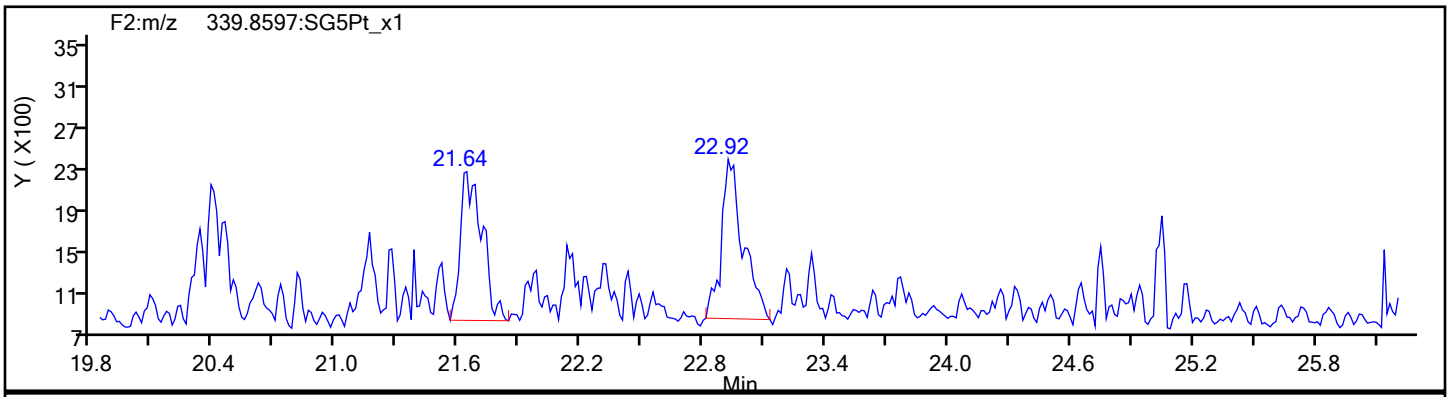

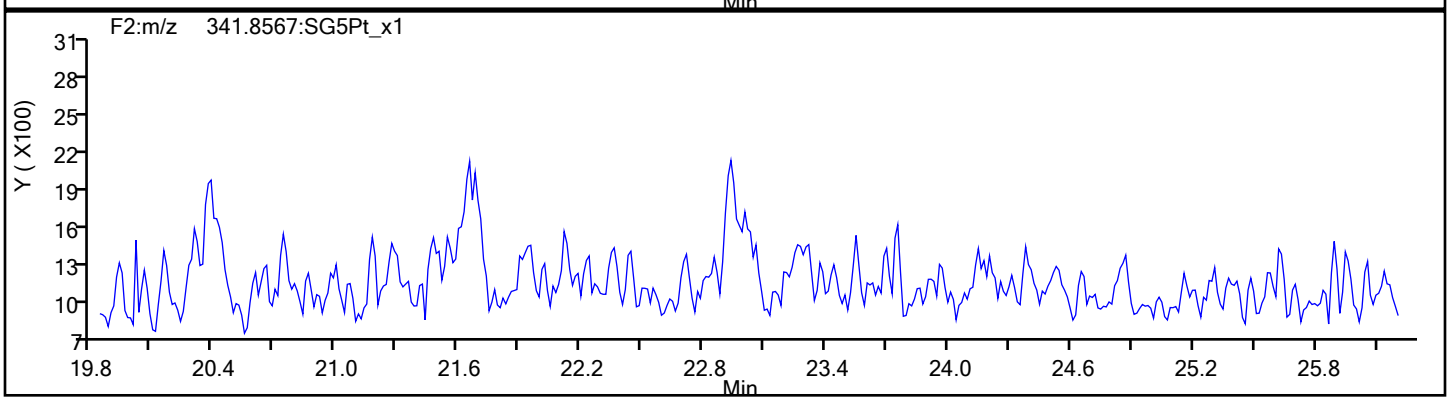

PeCDF Standards

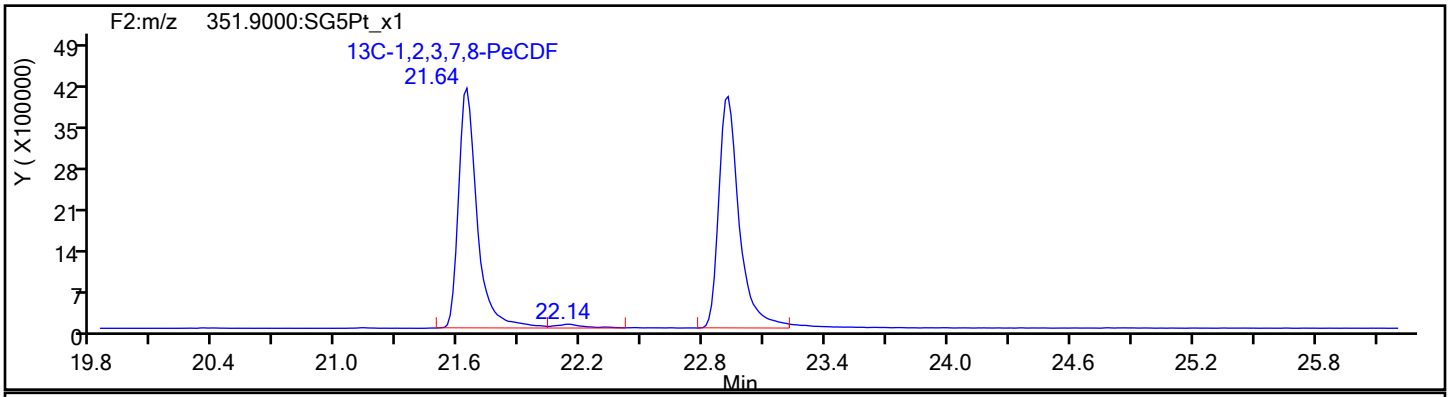

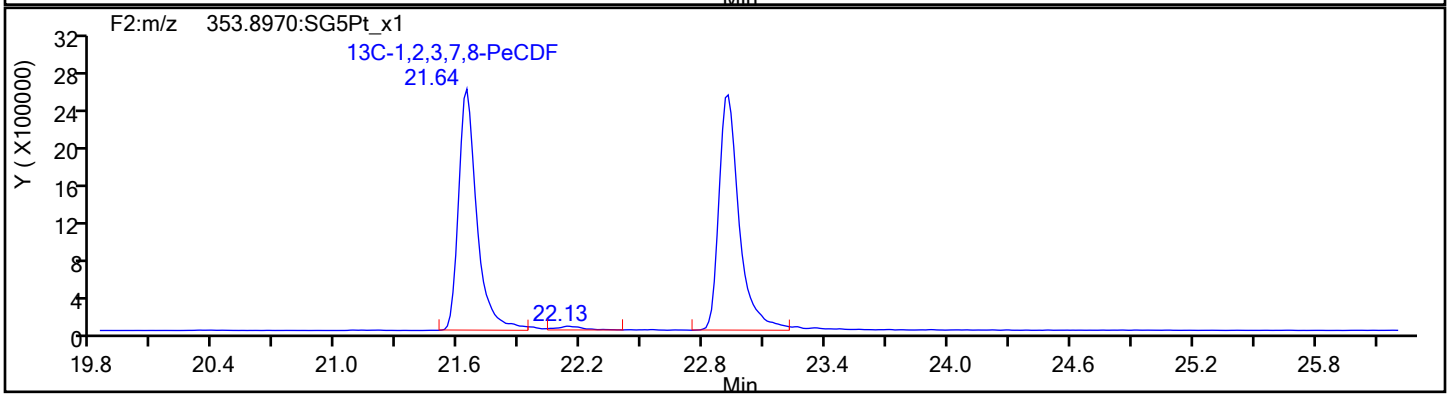

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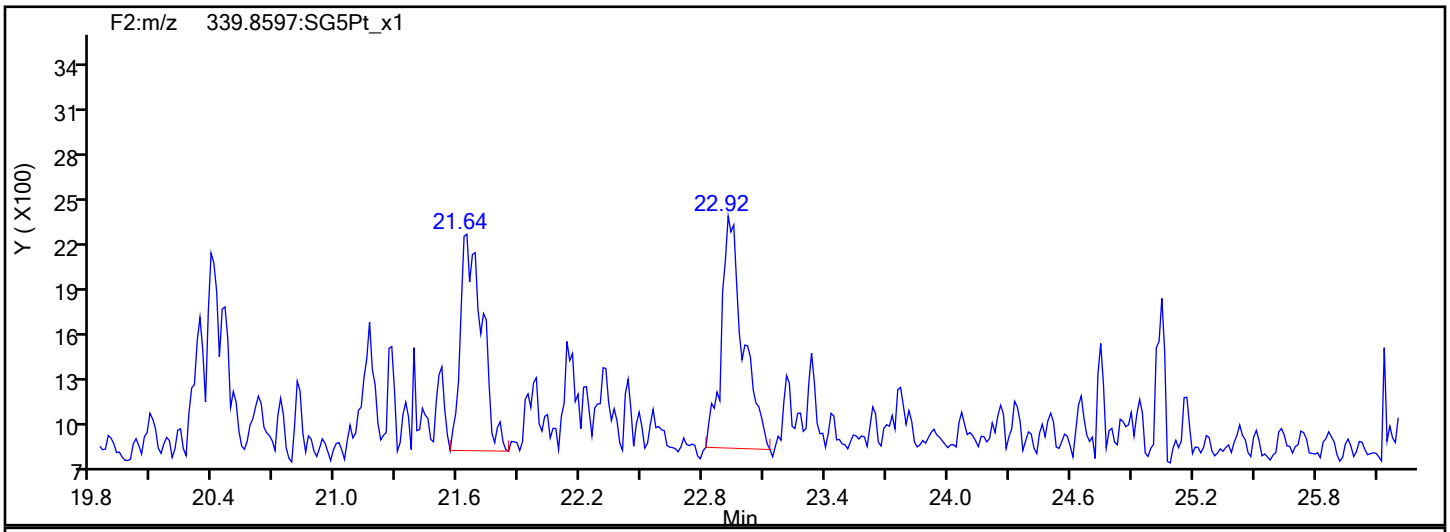

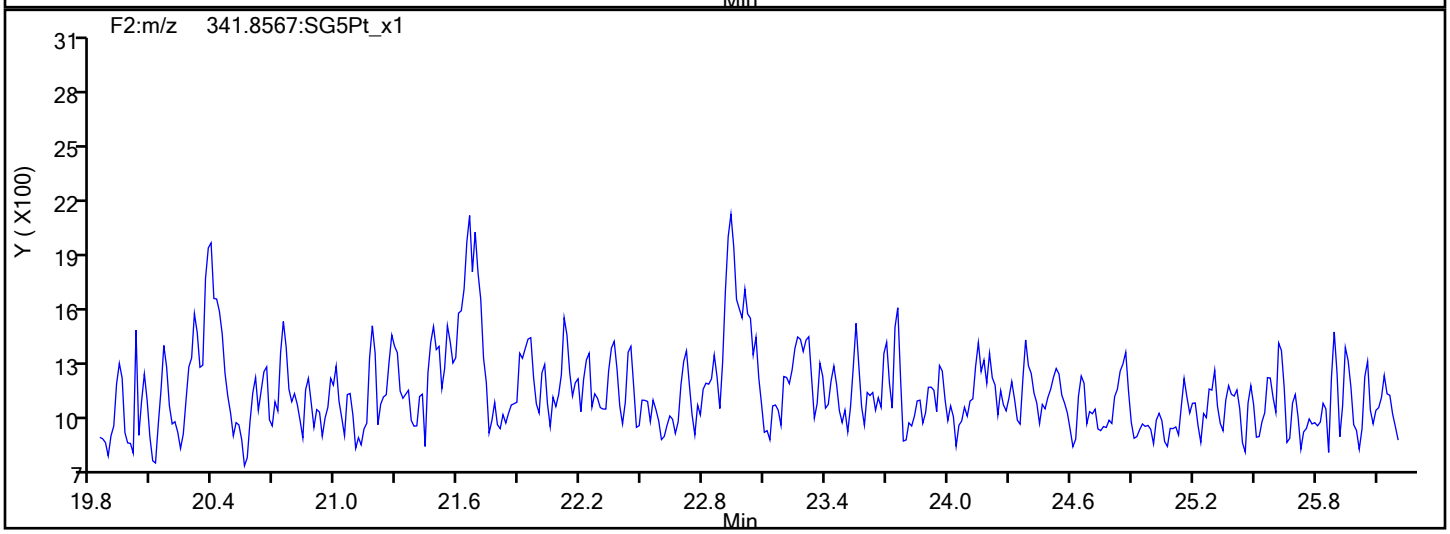

PeCDF Interference Mass

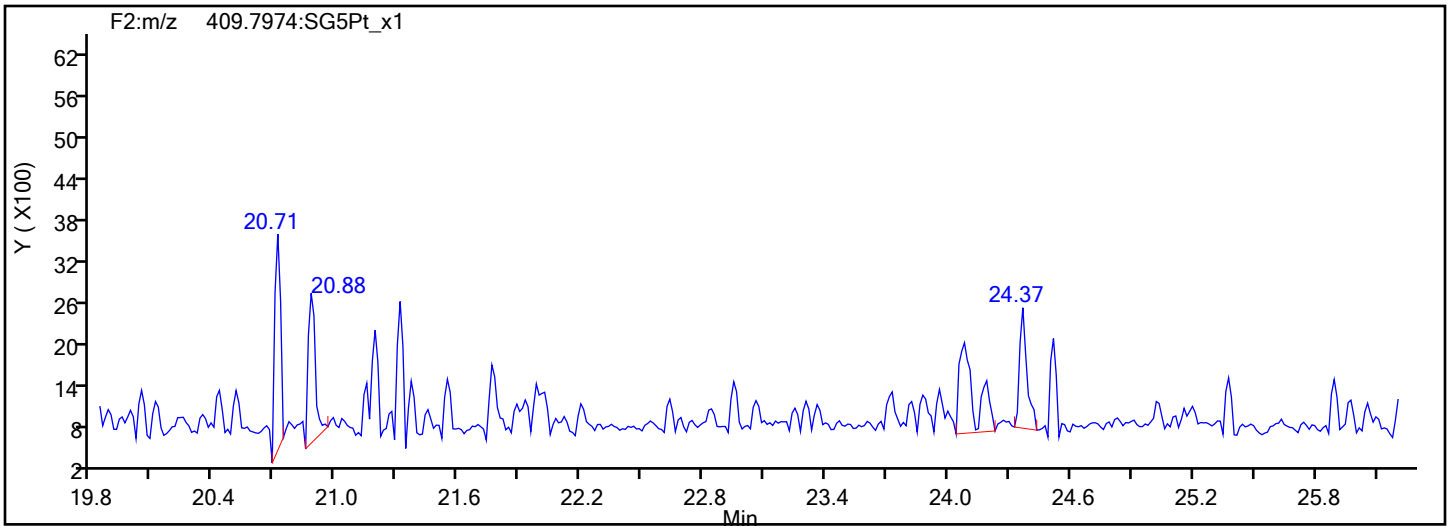

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Eurofins TestAmerica, Sacramento

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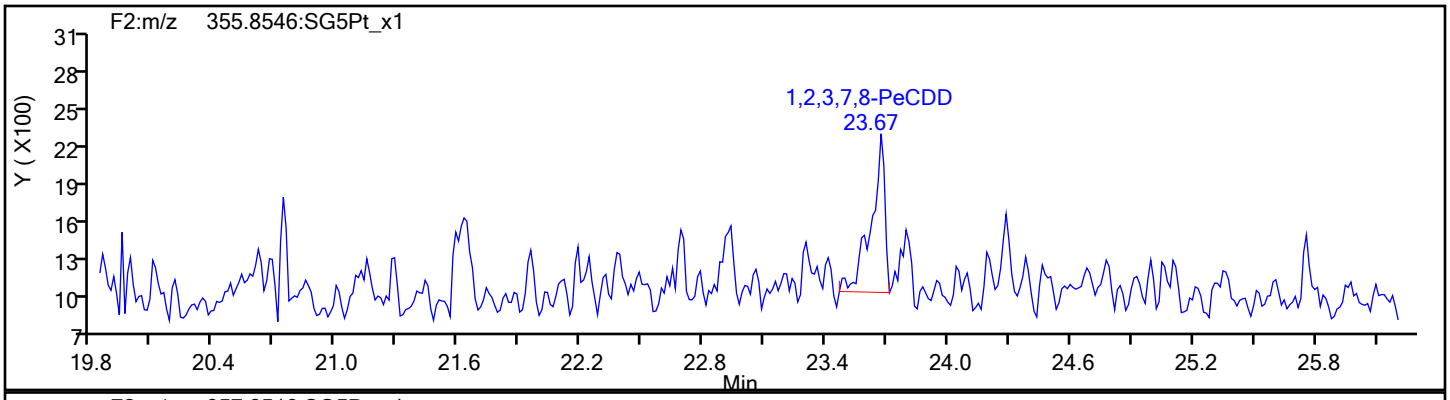

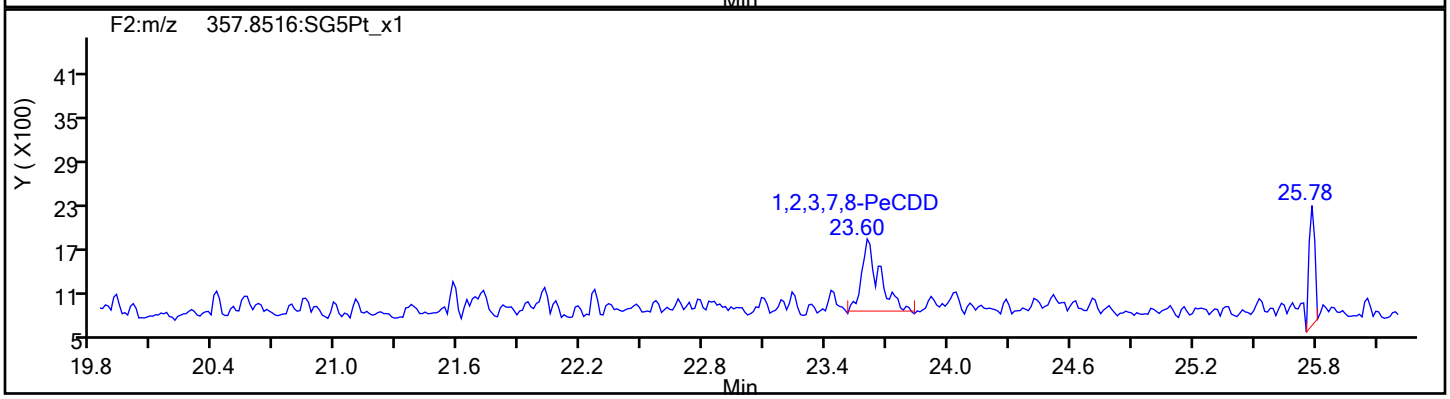

PeCDD Standards

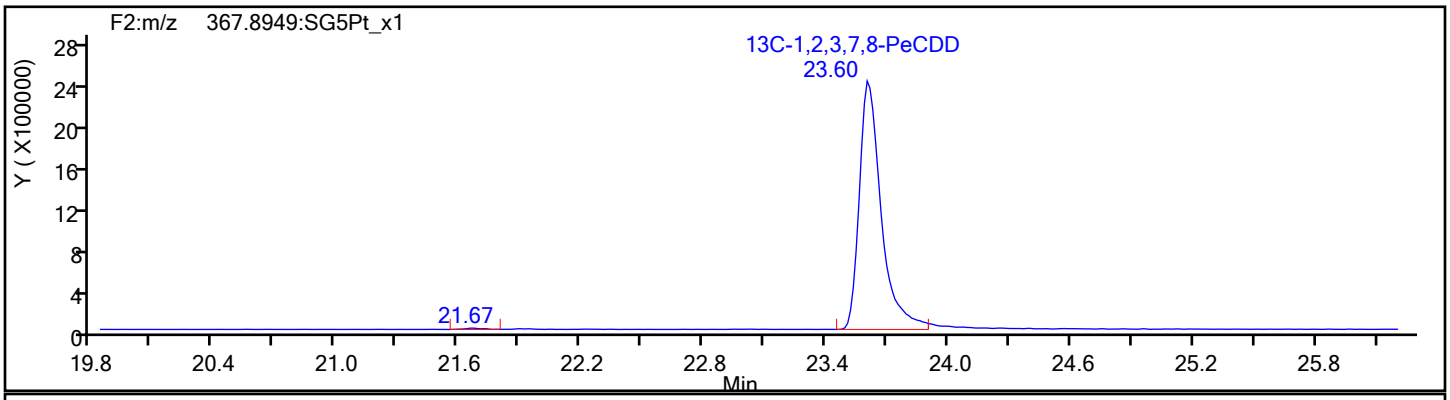

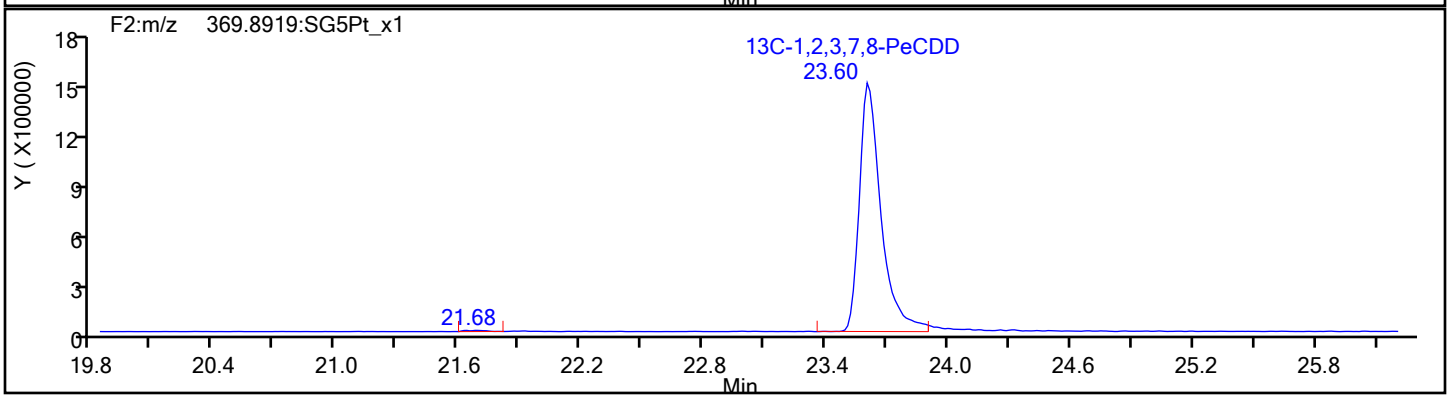

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Eurofins TestAmerica, Sacramento

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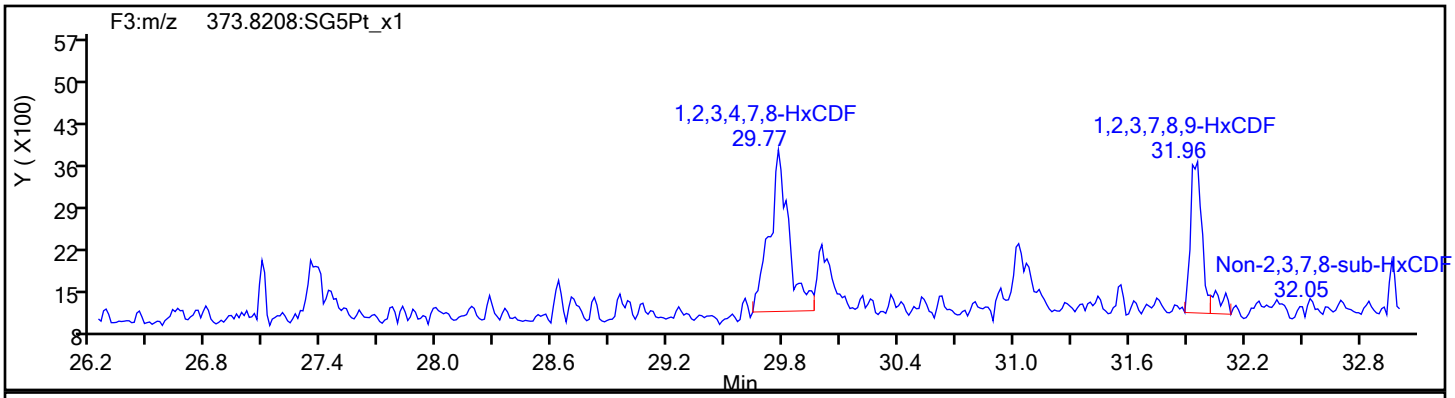

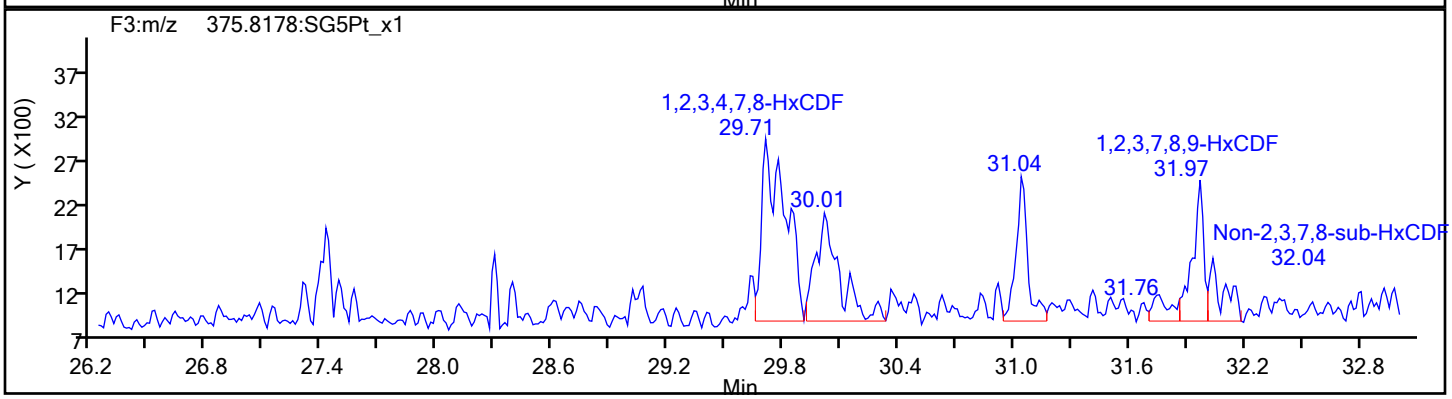

HxCDF Standards

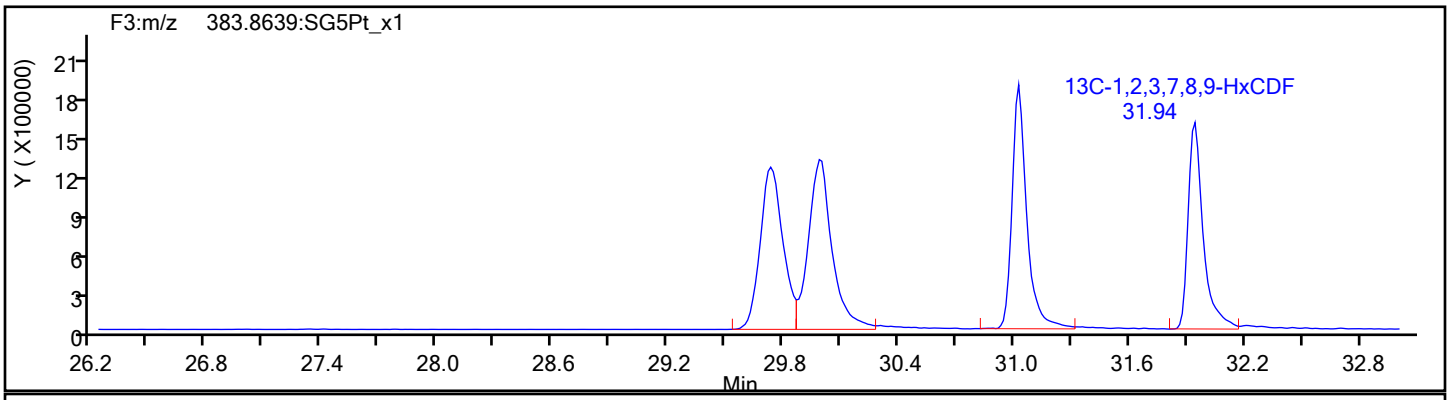

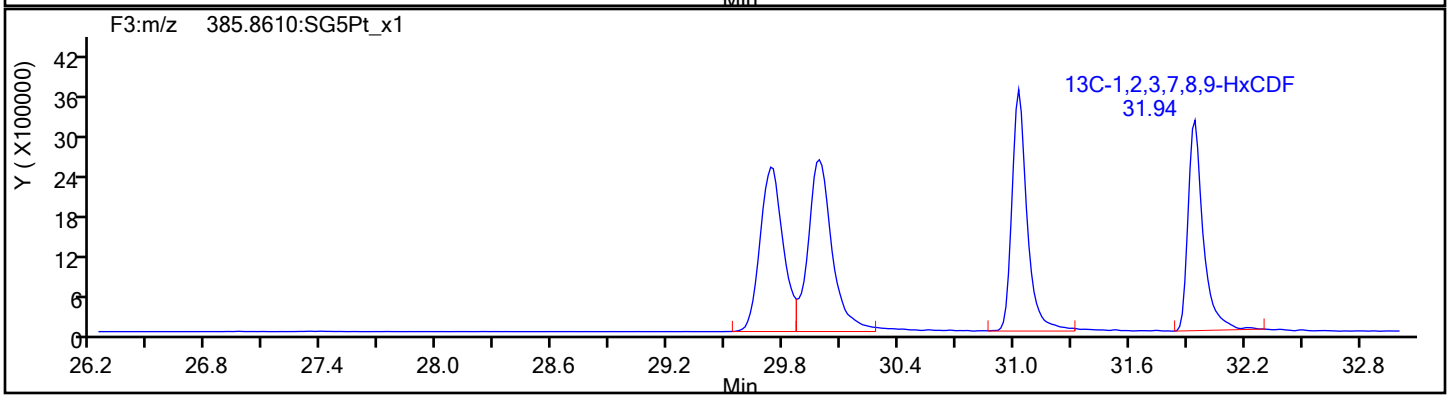

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Eurofins TestAmerica, Sacramento

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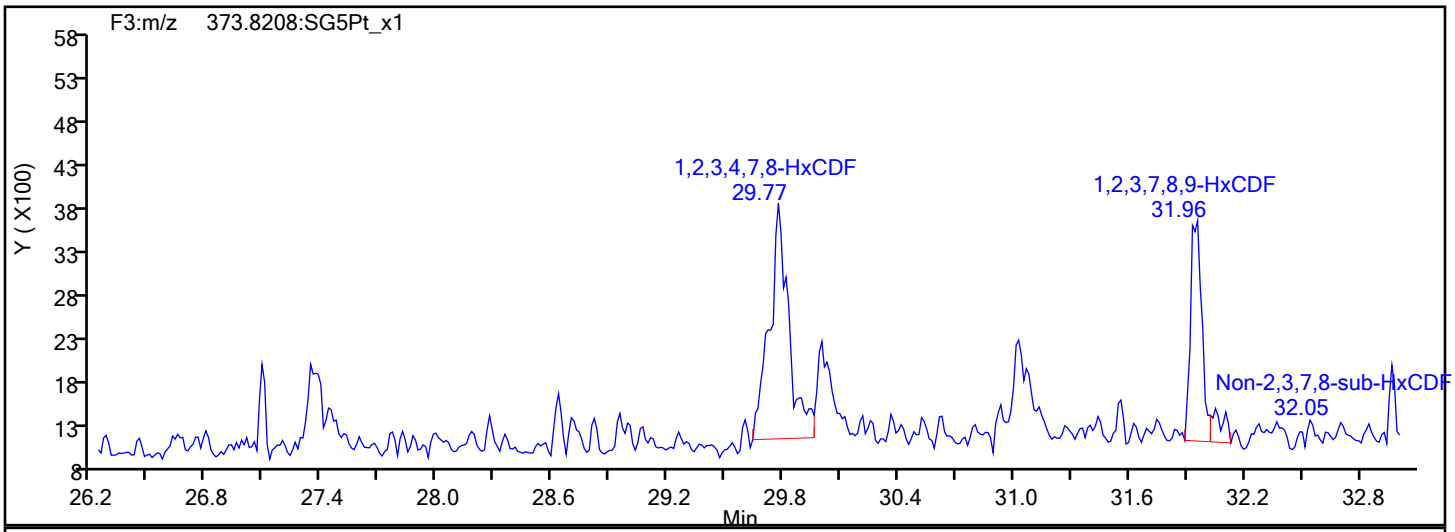

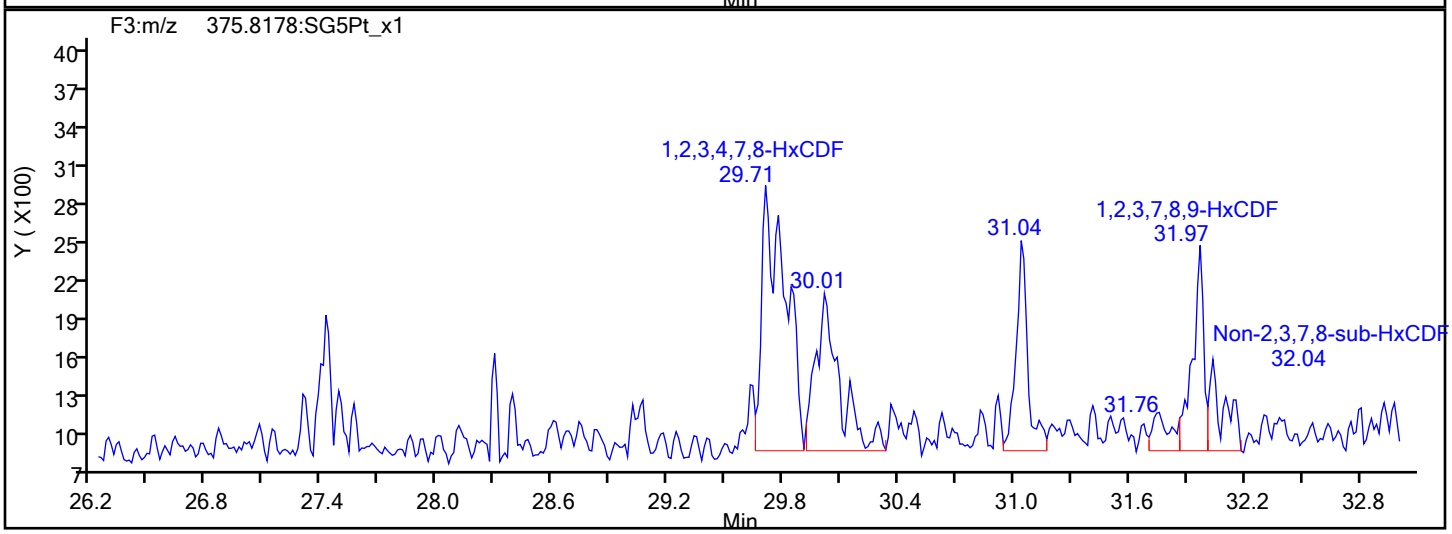

HxCDF Interference Mass

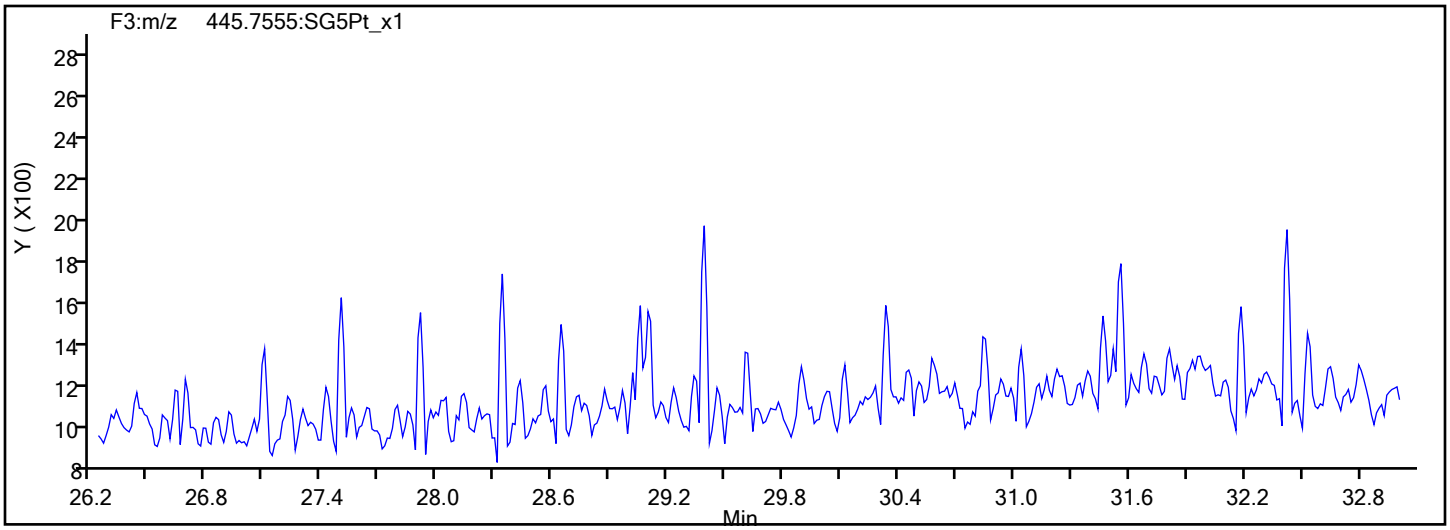

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Eurofins TestAmerica, Sacramento

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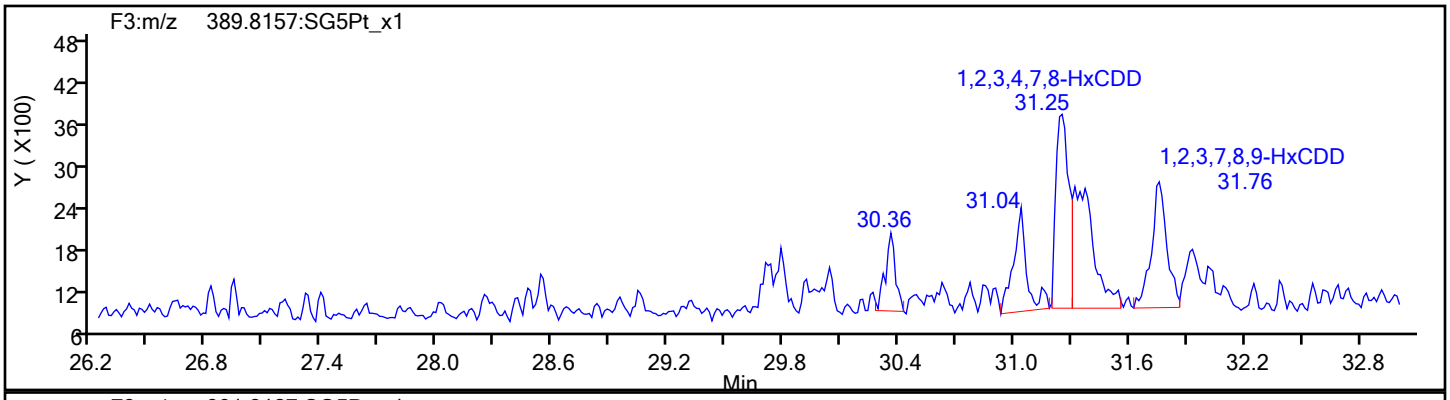

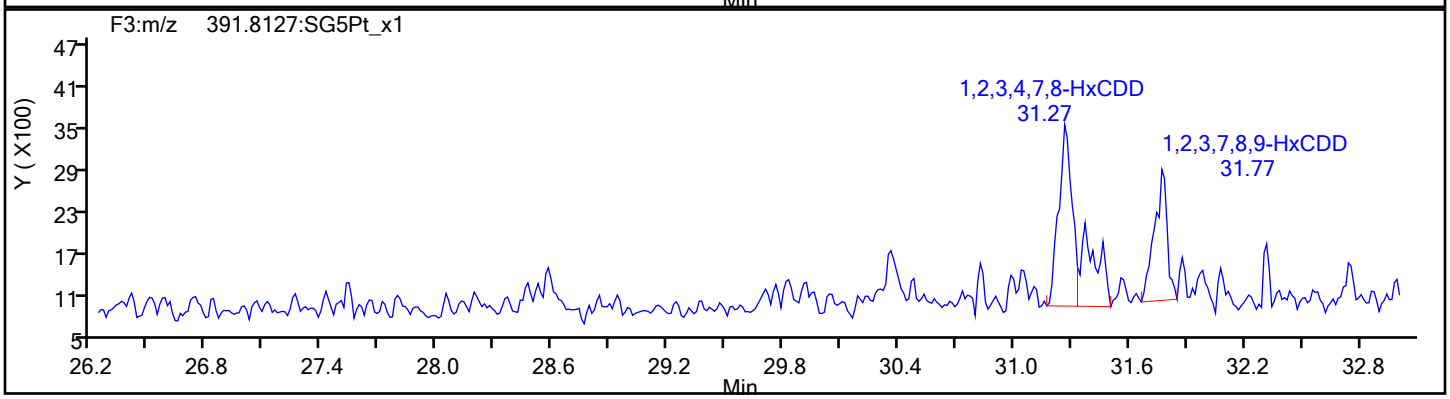

HxCDD Standards

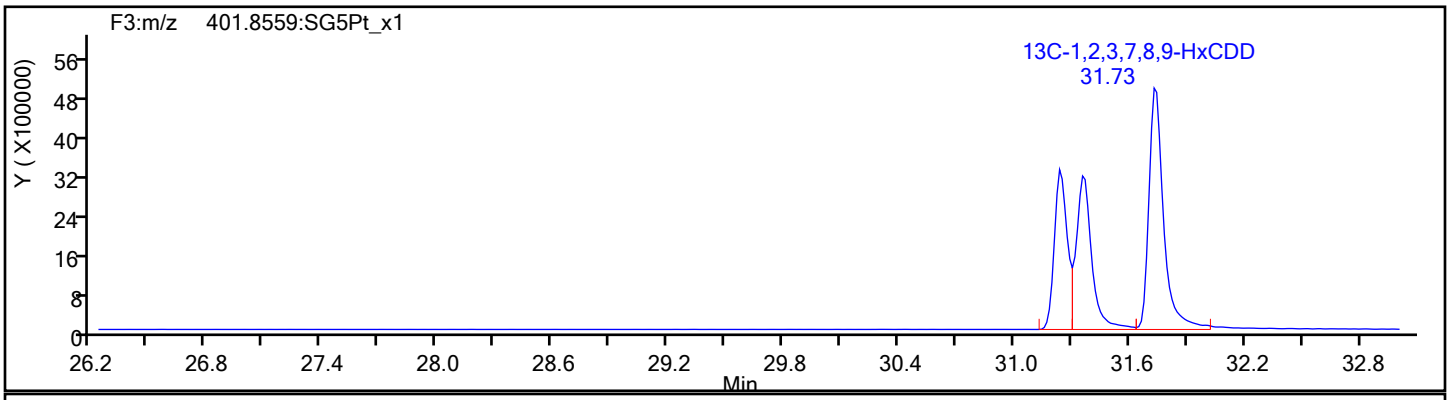

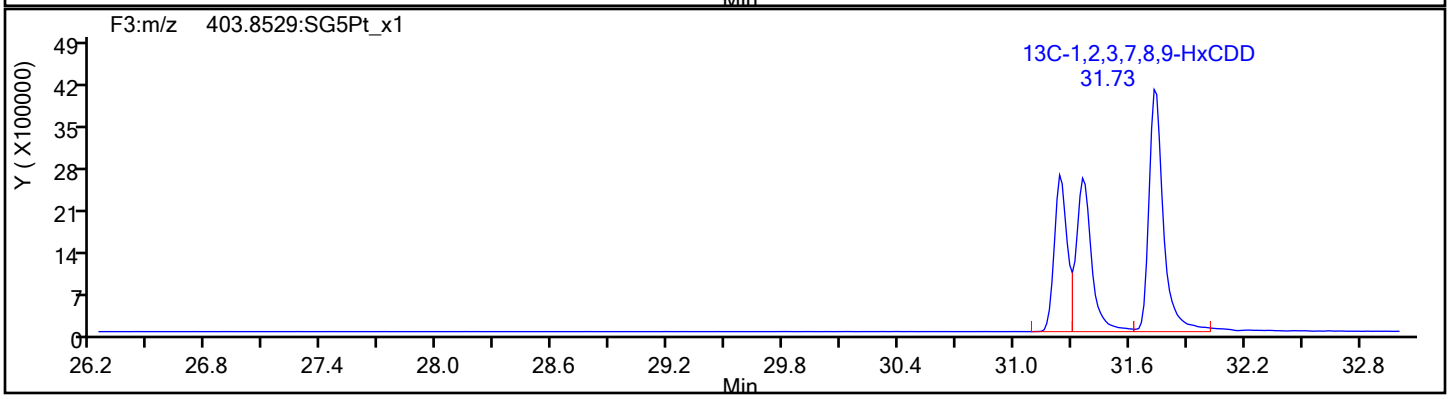

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Eurofins TestAmerica, Sacramento

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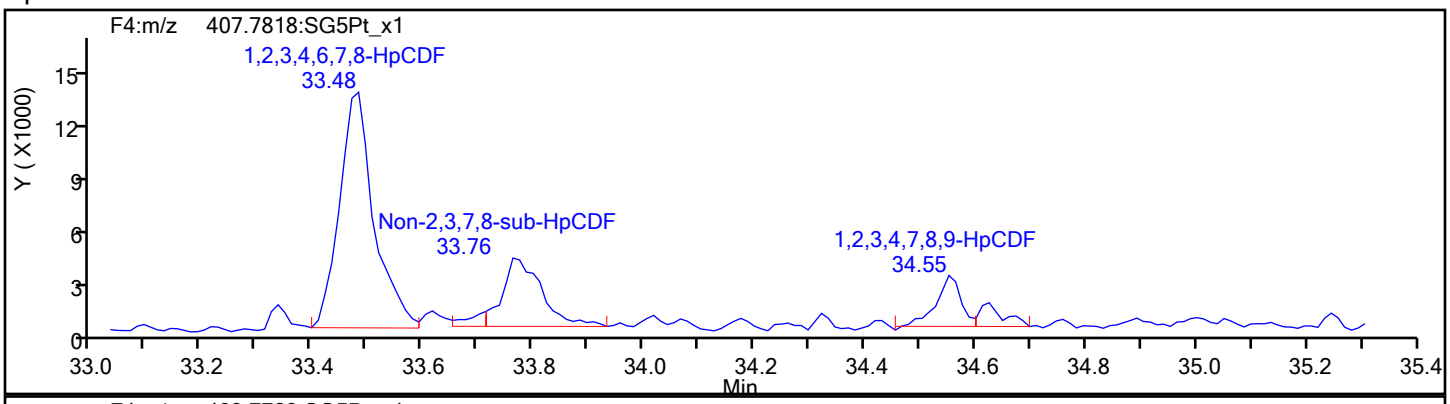

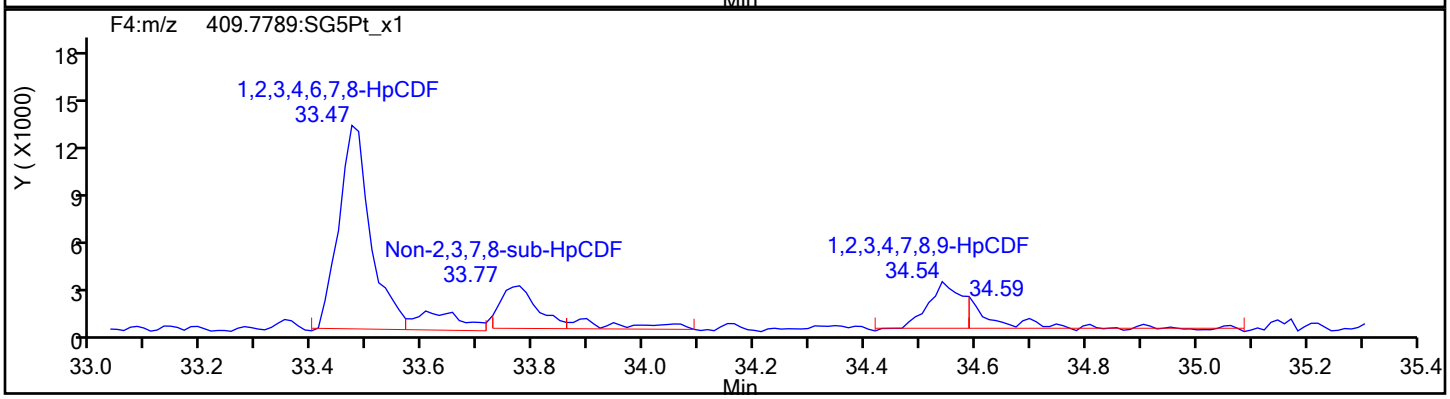

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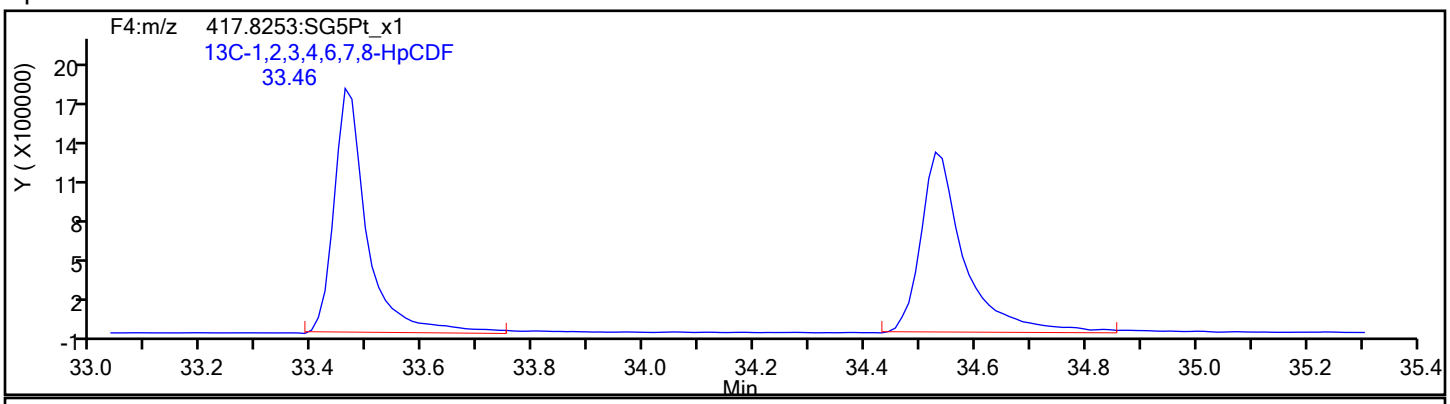

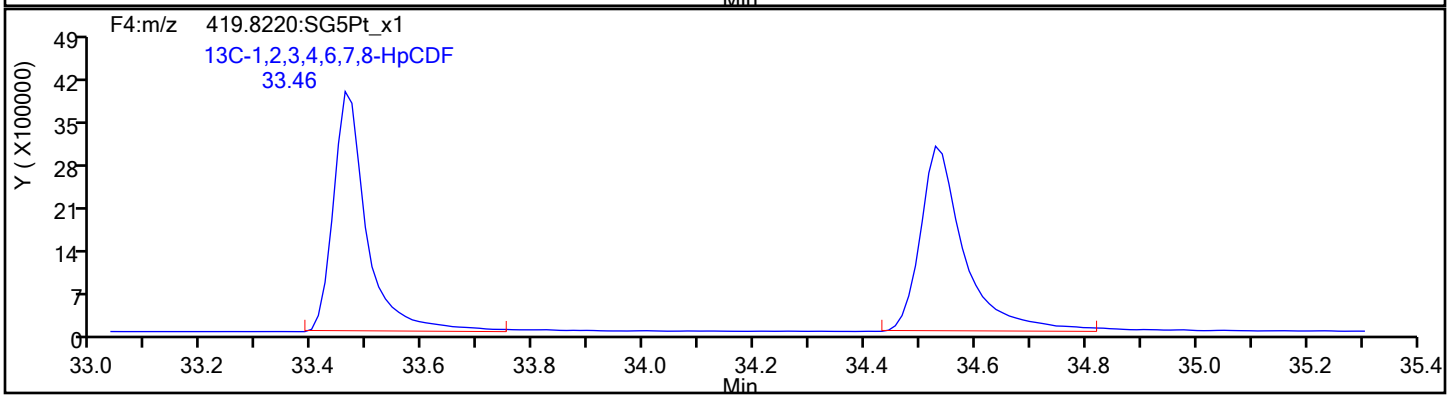

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Eurofins TestAmerica, Sacramento

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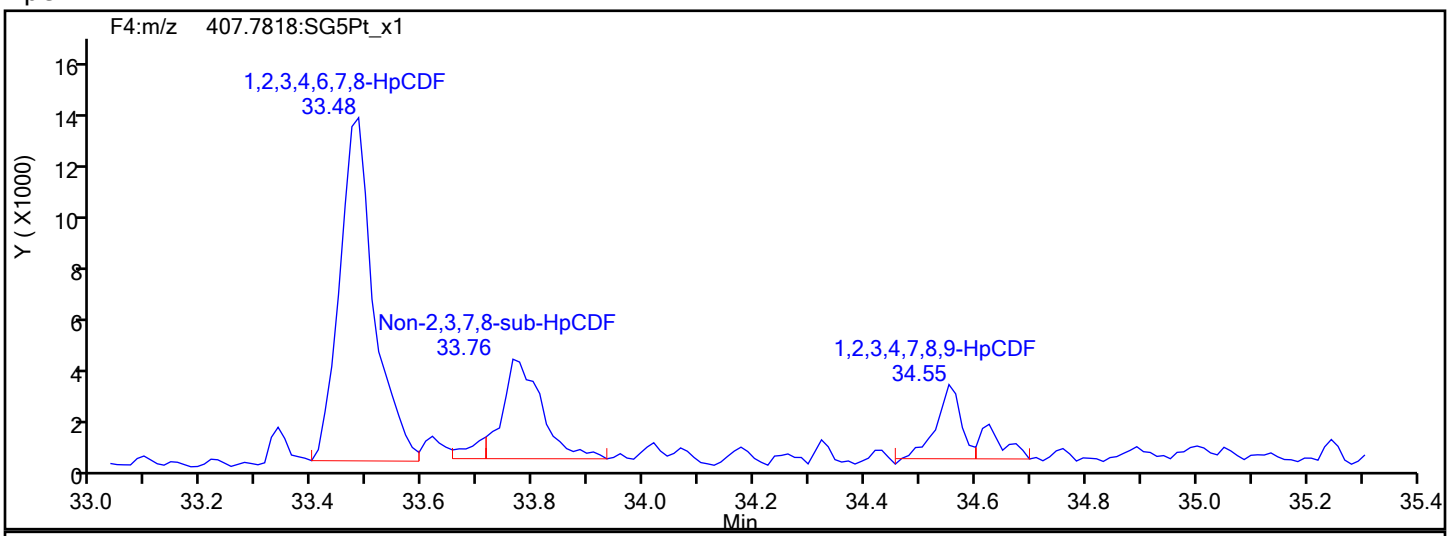

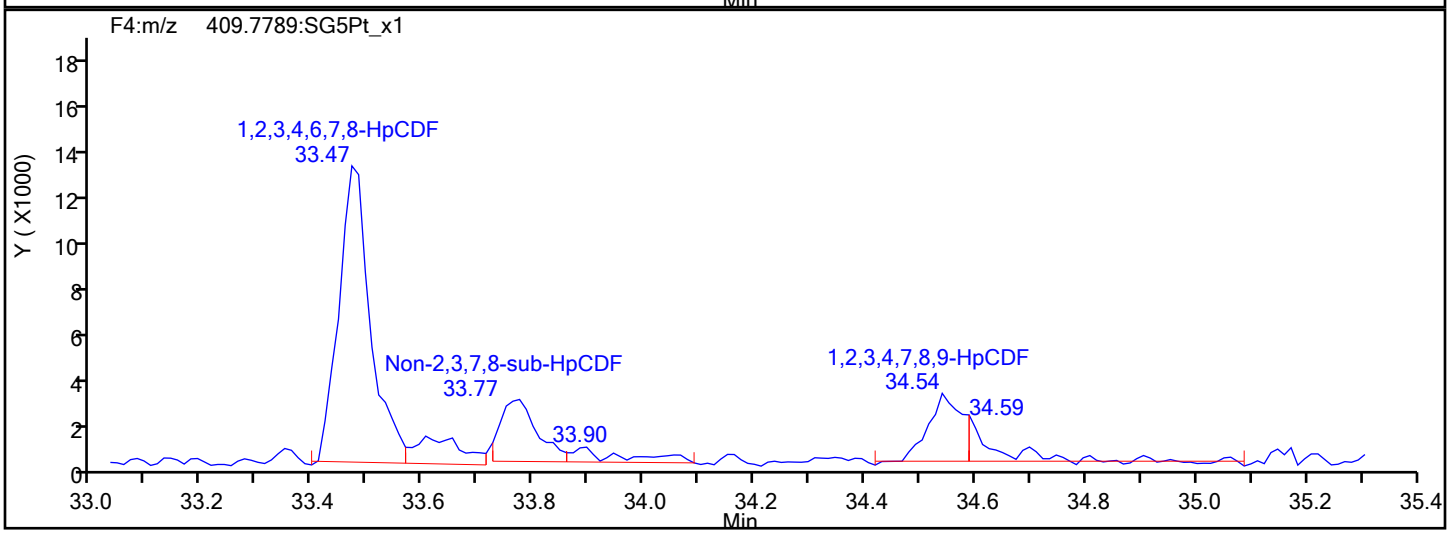

HpCDF Interference Mass

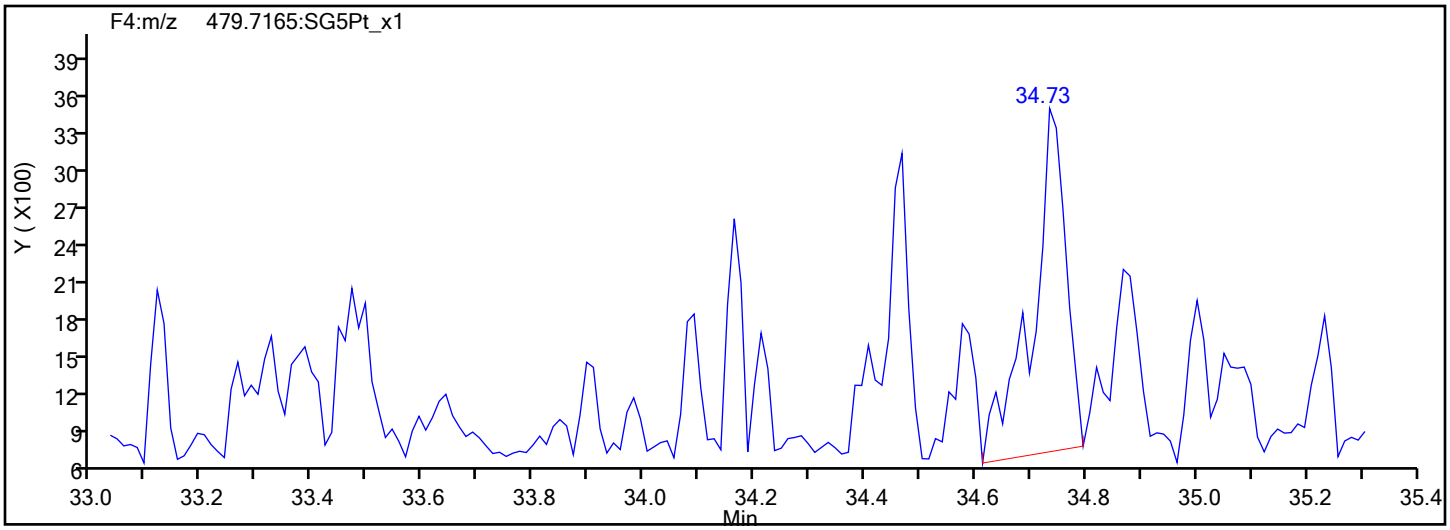

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Eurofins TestAmerica, Sacramento

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HpCDD

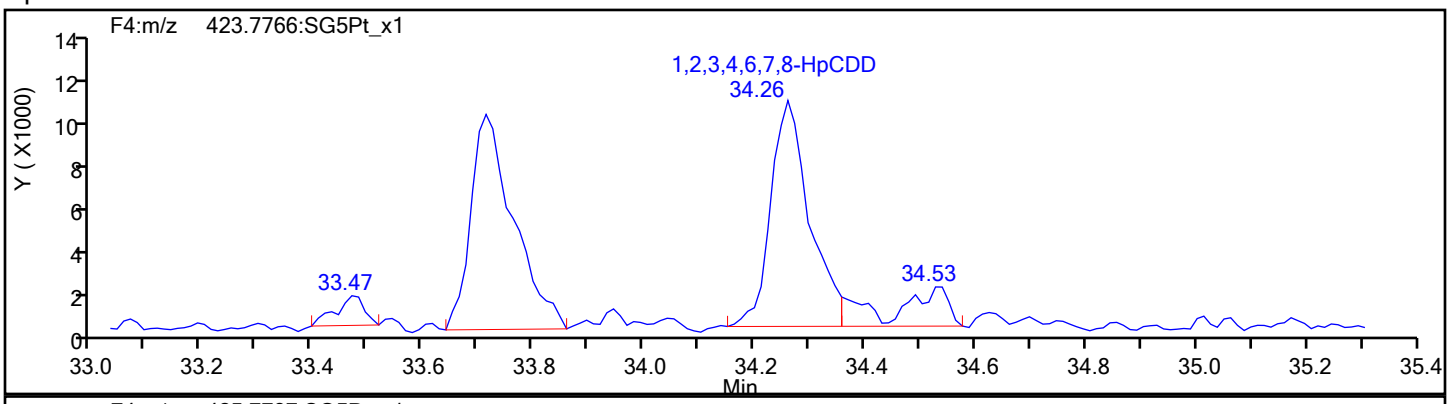

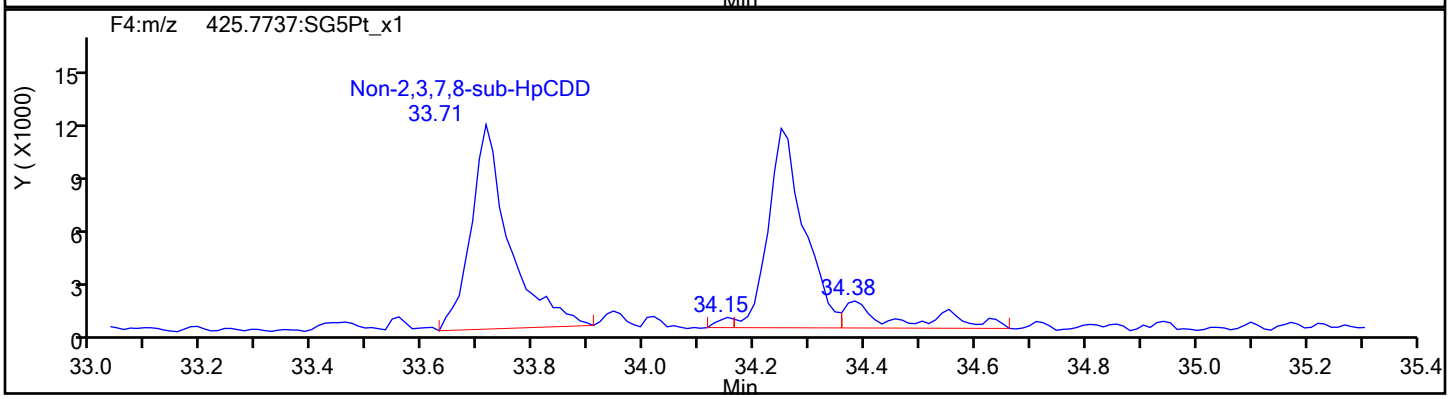

HpCDD Standards

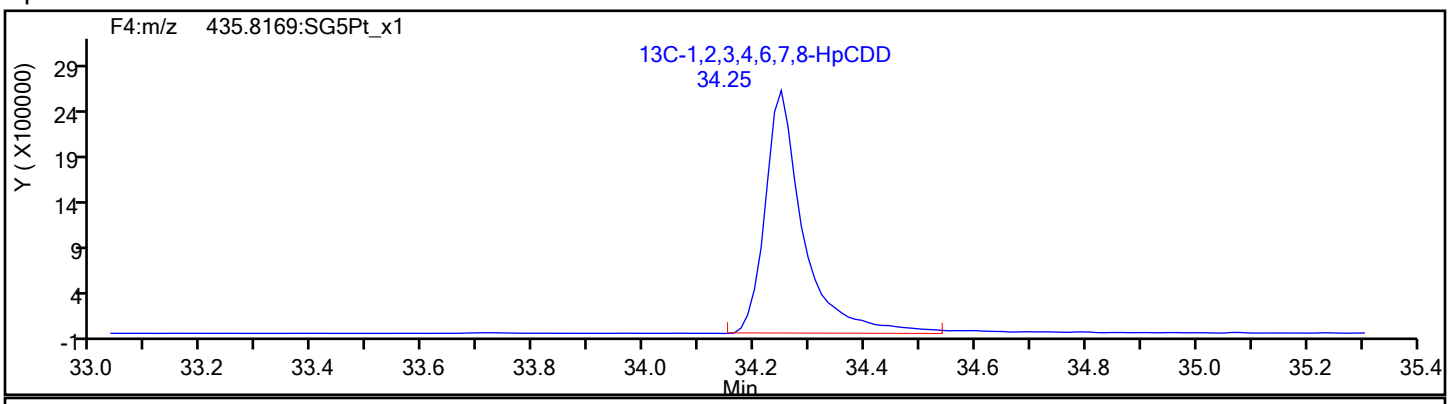

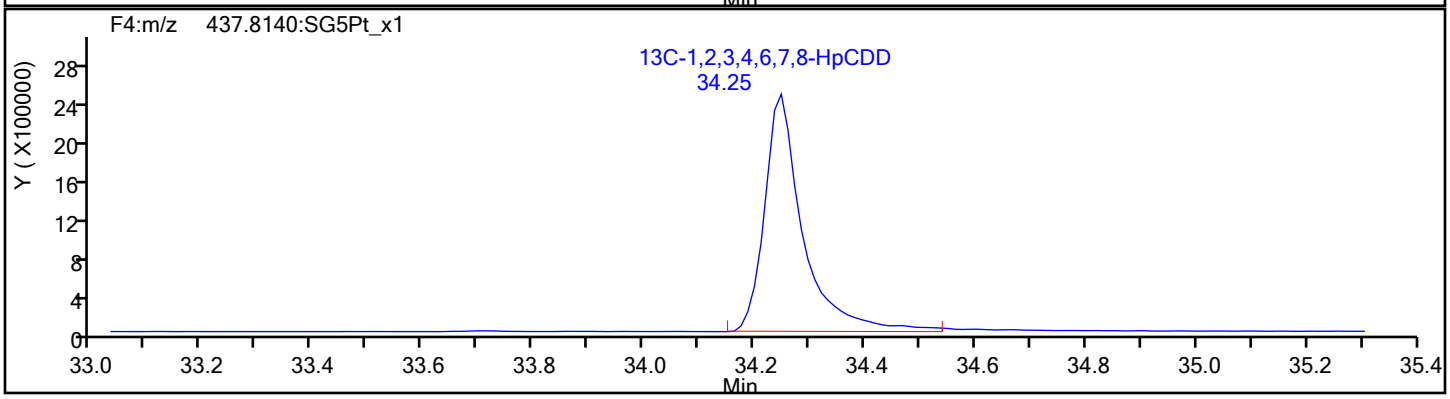

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Eurofins TestAmerica, Sacramento

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OCDF

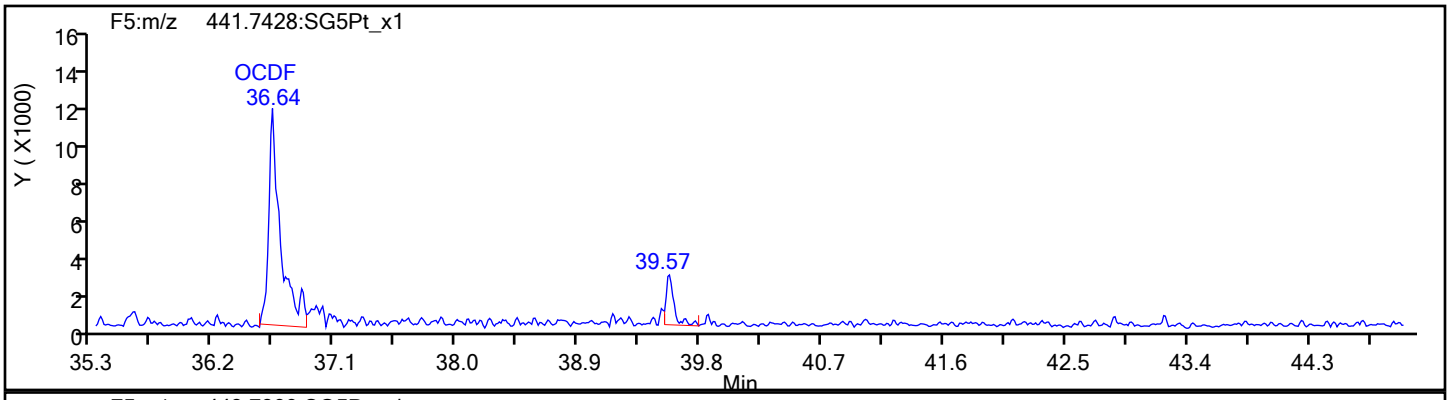

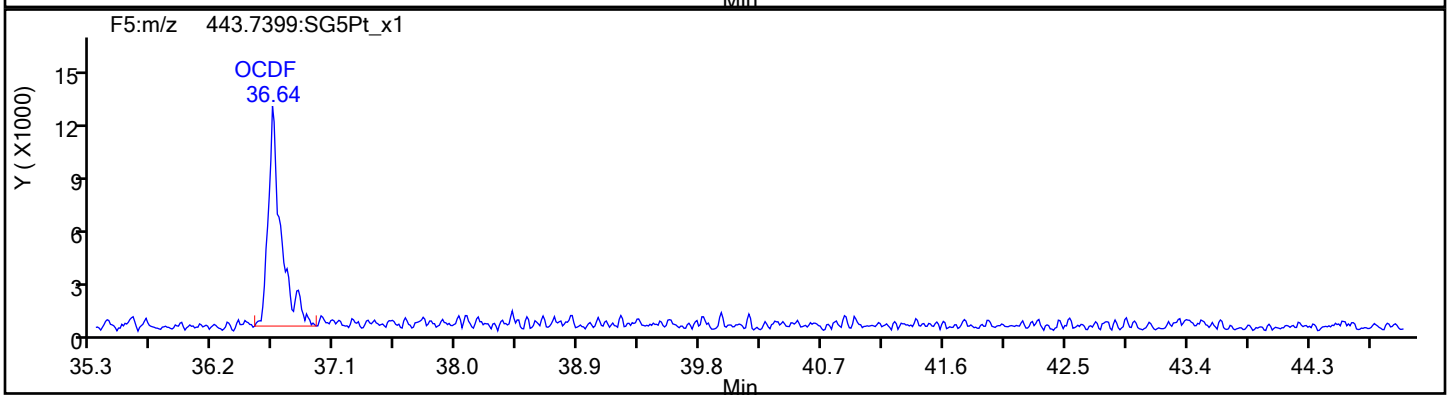

OCDF Standards

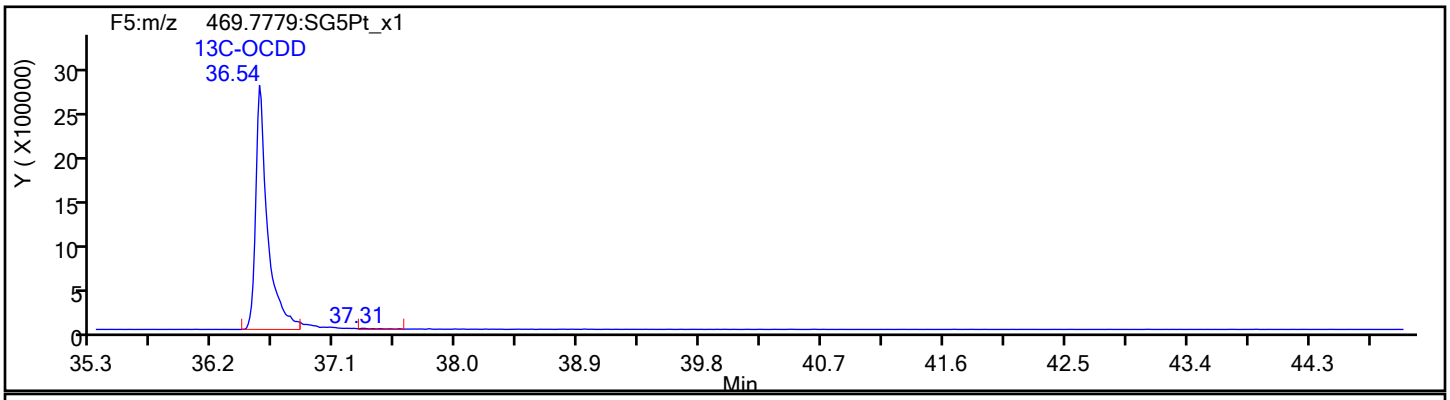

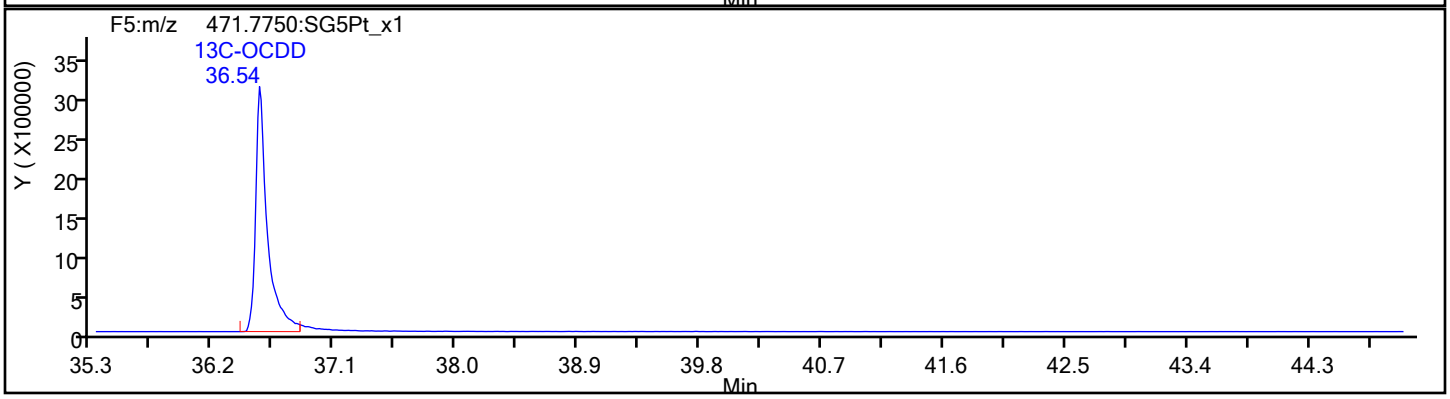

Report Date: 07-Feb-2020 14:35:13 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_8.d		
Injection Date:	05-Feb-2020 20:54:04	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Eastern-GW		
Worklist#:	355322	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

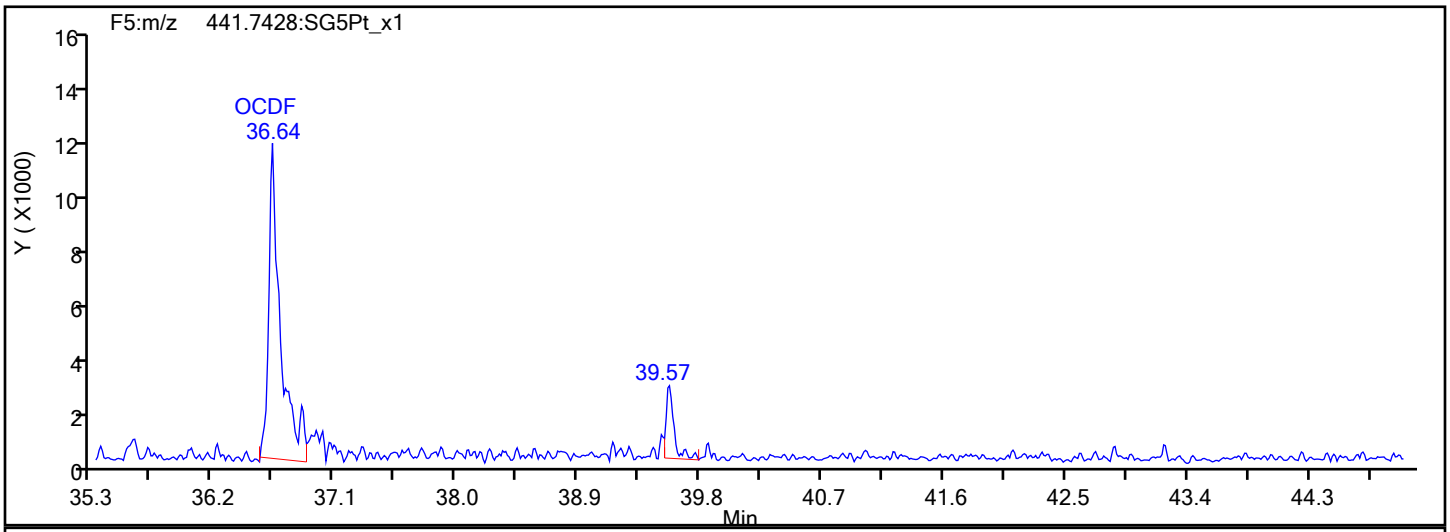

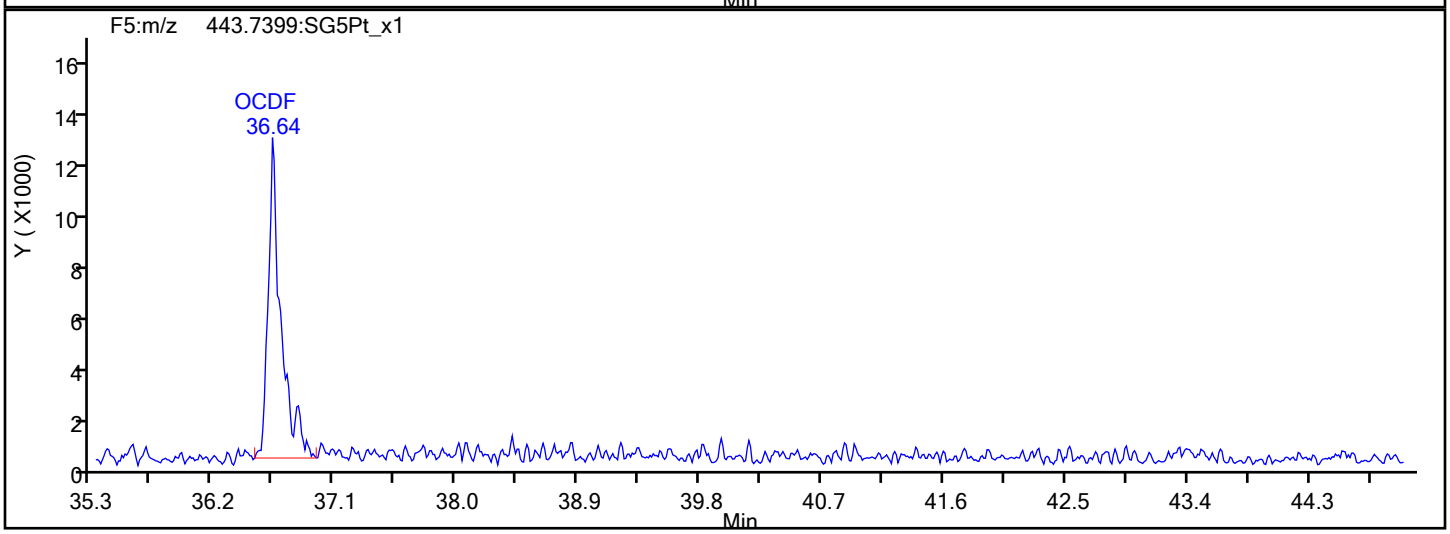

OCDF Interference Mass

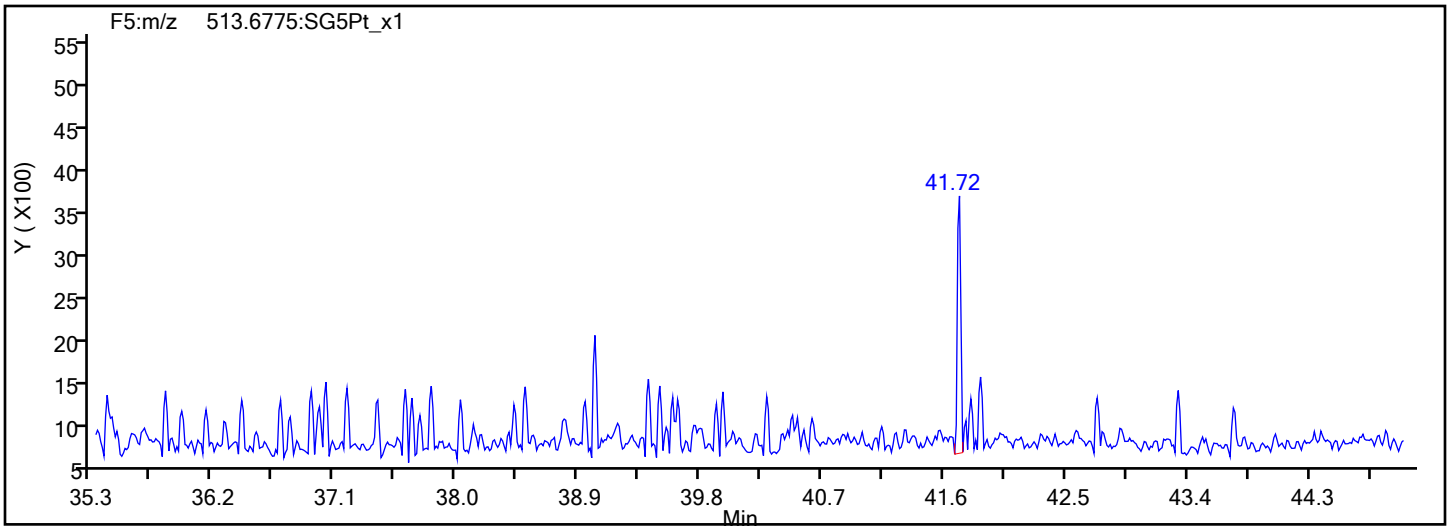

Report Date: 07-Feb-2020 14:35:13 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_8.d		
Injection Date:	05-Feb-2020 20:54:04	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Eastern-GW		
Worklist#:	355322	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

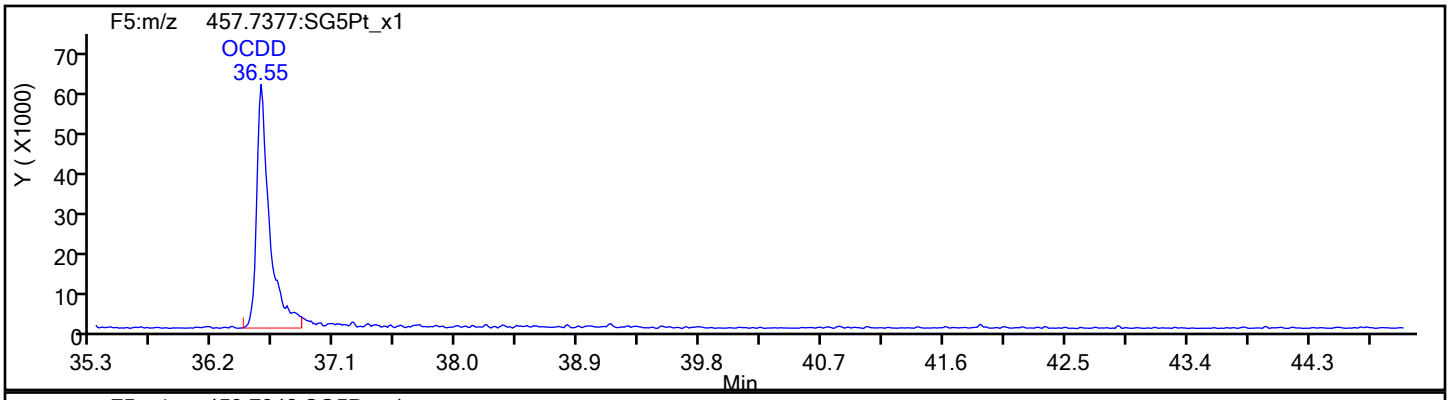

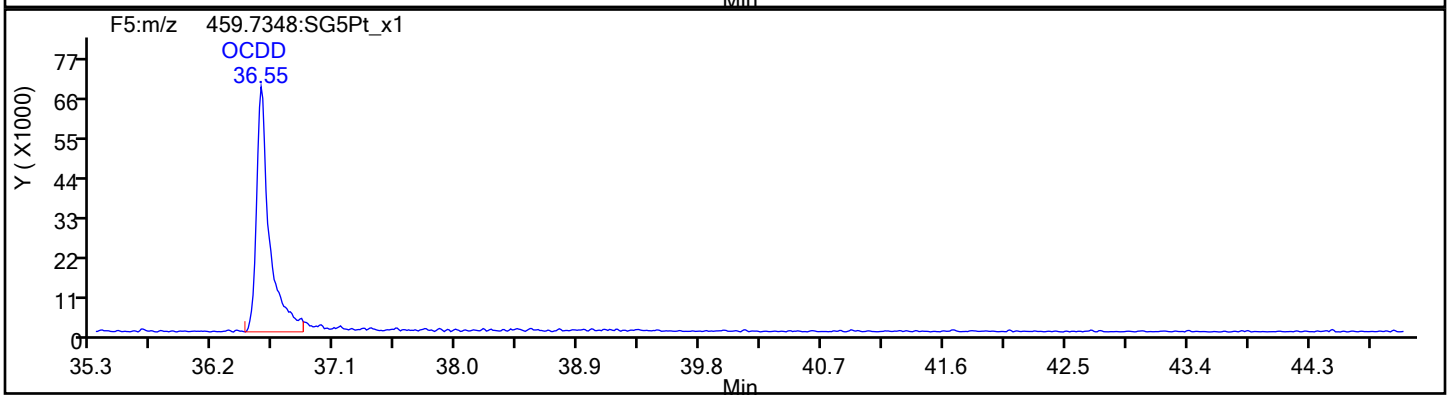

OCDD Standards

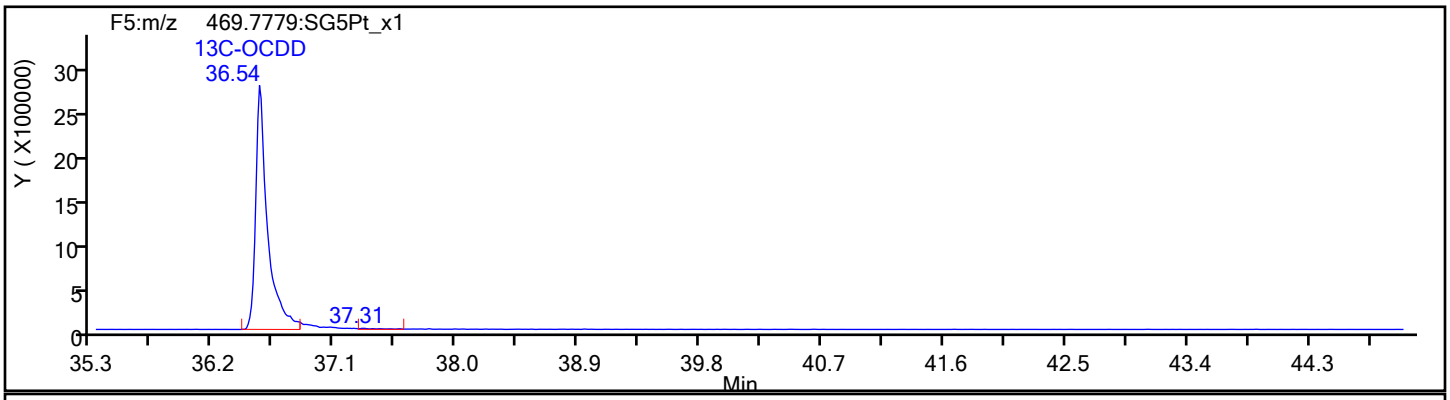

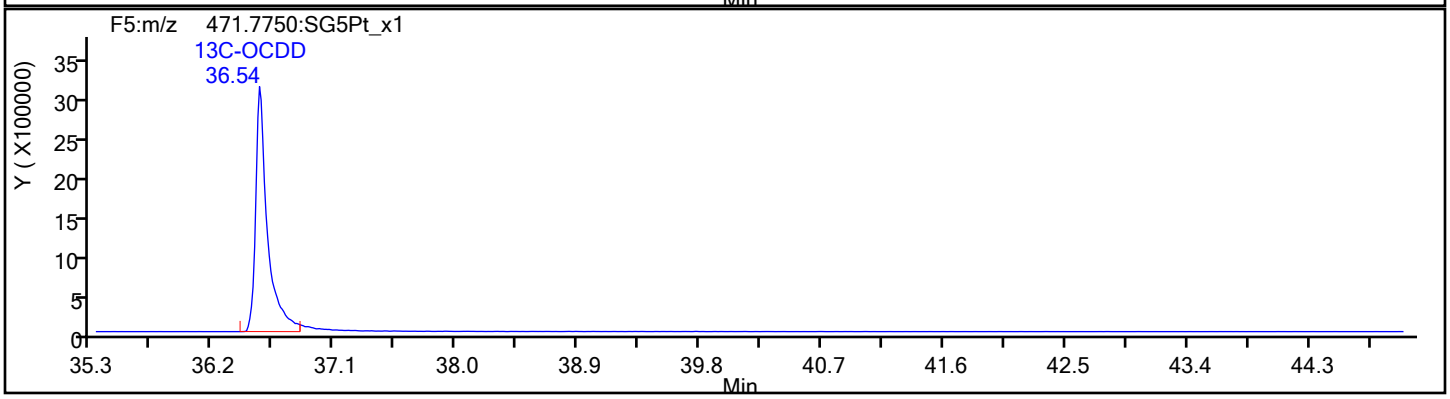

Report Date: 07-Feb-2020 14:35:13 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_8.d		
Injection Date:	05-Feb-2020 20:54:04	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Eastern-GW		
Worklist#:	355322	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

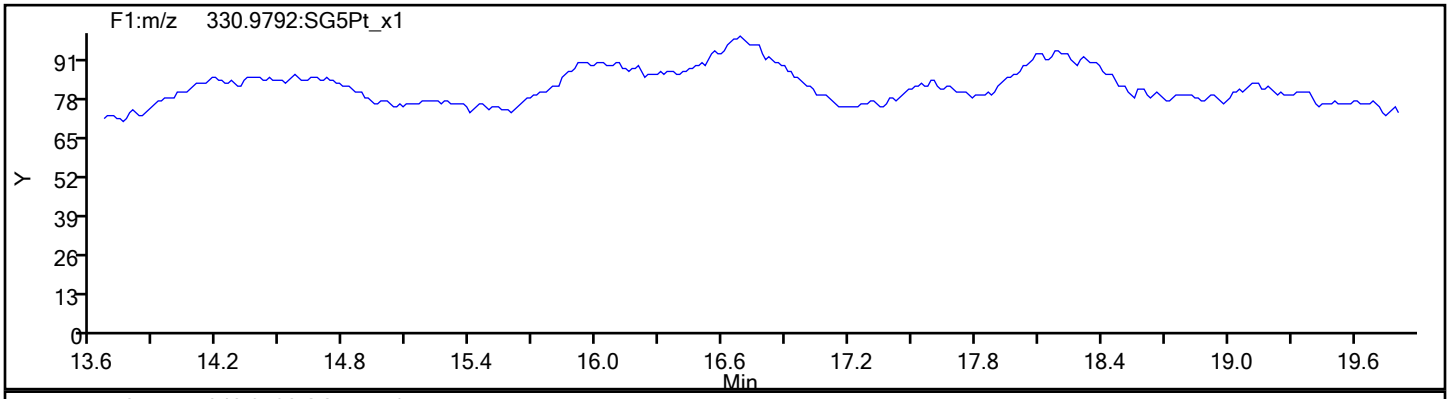

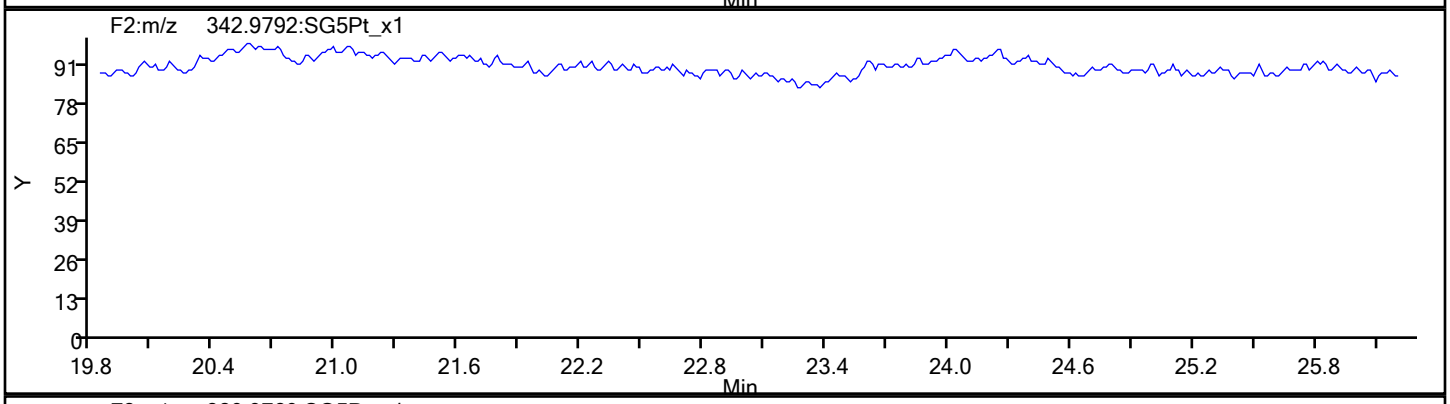

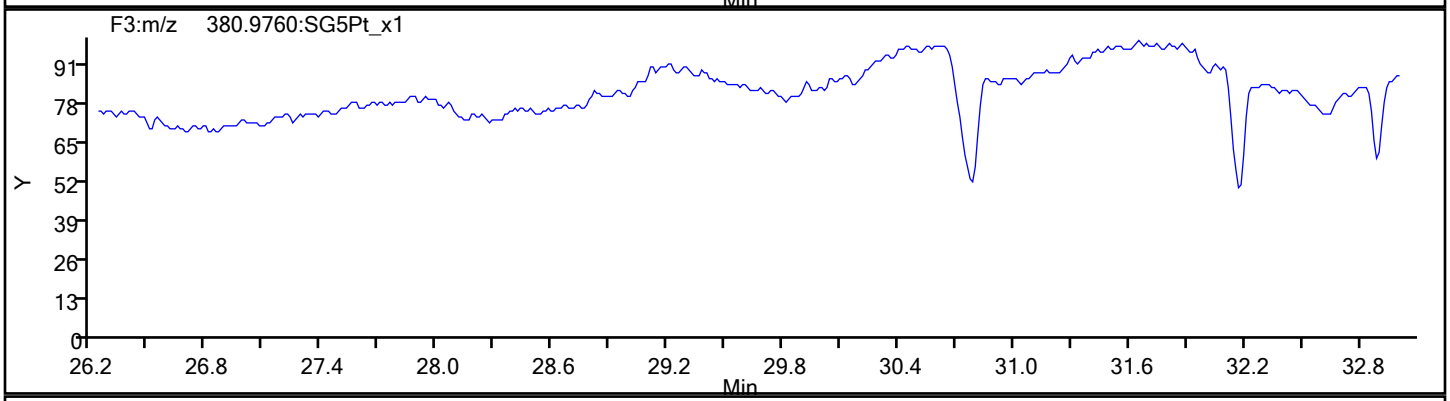

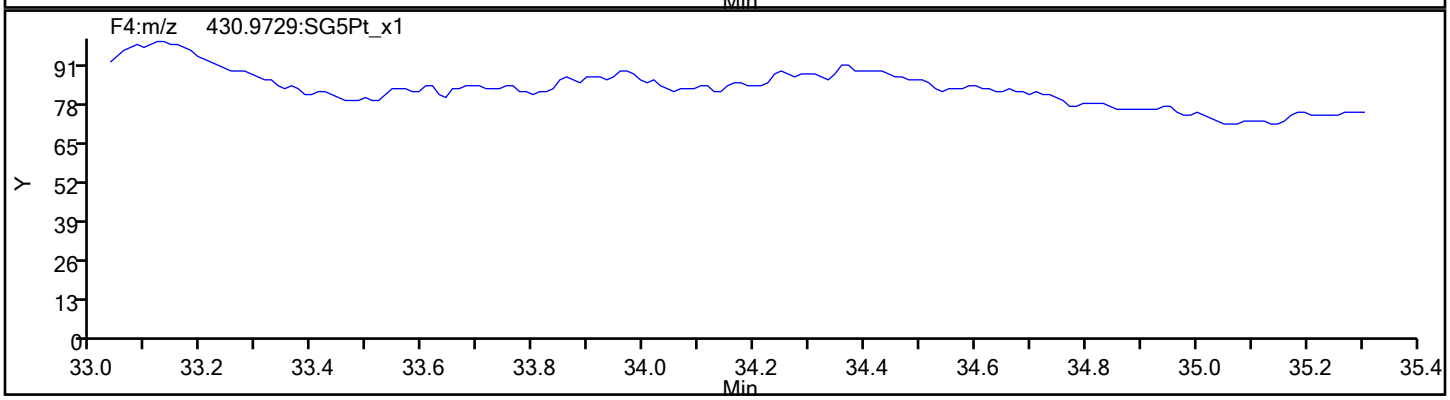

Report Date: 07-Feb-2020 14:35:13 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_8.d		
Injection Date:	05-Feb-2020 20:54:04	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Eastern-GW		
Worklist#:	355322	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

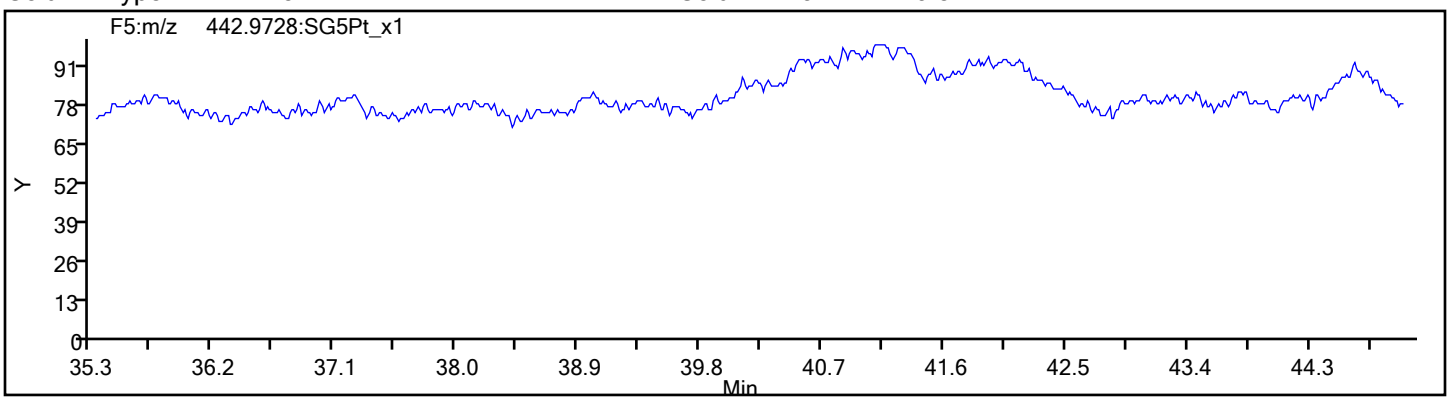

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Client Sample ID: 11187072-Eastern-Solids Lab Sample ID: 320-58170-4

Matrix: Sediment Lab File ID: 06FE2010D5_13.d

Analysis Method: 1613B Date Collected: 01/29/2020 13:30

Extract. Method: HRMS-Sox Date Extracted: 01/31/2020 09:04

Sample wt/vol: 4.78(g) Date Analyzed: 02/06/2020 20:00

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: 0.4 GPC Cleanup:(Y/N) N

Analysis Batch No.: 355551 Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	0.98	J q	2.1	0.12
40321-76-4	1,2,3,7,8-PeCDD	ND		11	0.18
57117-41-6	1,2,3,7,8-PeCDF	0.12	J q	11	0.097
57117-31-4	2,3,4,7,8-PeCDF	ND		11	0.12
39227-28-6	1,2,3,4,7,8-HxCDD	0.46	J B	11	0.17
57653-85-7	1,2,3,6,7,8-HxCDD	0.38	J q	11	0.16
19408-74-3	1,2,3,7,8,9-HxCDD	0.48	J	11	0.15
70648-26-9	1,2,3,4,7,8-HxCDF	0.18	J q	11	0.17
57117-44-9	1,2,3,6,7,8-HxCDF	ND		11	0.14
72918-21-9	1,2,3,7,8,9-HxCDF	0.24	J	11	0.10
60851-34-5	2,3,4,6,7,8-HxCDF	ND		11	0.095
35822-46-9	1,2,3,4,6,7,8-HpCDD	12		11	0.57
67562-39-4	1,2,3,4,6,7,8-HpCDF	0.75	J q B	11	0.16
55673-89-7	1,2,3,4,7,8,9-HpCDF	ND		11	0.24
3268-87-9	OCDD	280	B	21	0.39
39001-02-0	OCDF	4.0	J	21	0.18
41903-57-5	Total TCDD	0.98	J q	2.1	0.12
30402-14-3	Total TCDF	3.6	q	2.1	0.13
36088-22-9	Total PeCDD	ND		11	0.18
30402-15-4	Total PeCDF	0.12	J q	11	0.11
34465-46-8	Total HxCDD	4.9	J q B	11	0.16
55684-94-1	Total HxCDF	1.2	J q	11	0.13
37871-00-4	Total HpCDD	33	B	11	0.57
38998-75-3	Total HpCDF	2.0	J q B	11	0.20

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Client Sample ID: 11187072-Eastern-Solids Lab Sample ID: 320-58170-4

Matrix: Sediment Lab File ID: 06FE2010D5_13.d

Analysis Method: 1613B Date Collected: 01/29/2020 13:30

Extract. Method: HRMS-Sox Date Extracted: 01/31/2020 09:04

Sample wt/vol: 4.78(g) Date Analyzed: 02/06/2020 20:00

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: 0.4 GPC Cleanup:(Y/N) N

Analysis Batch No.: 355551 Units: pg/g

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	68		25-164
89059-46-1	13C-2,3,7,8-TCDF	69		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	63		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	67		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	62		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	61		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	72		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	66		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	76		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	75		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	75		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	64		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	60		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	66		26-138
114423-97-1	13C-OCDD	62		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	90		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_13.d
Lims ID: 320-58170-A-4-A
Client ID: 11187072-Eastern-Solids
Sample Type: Client
Inject. Date: 06-Feb-2020 20:00:51 ALS Bottle#: 15 Worklist Smp#: 13
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-58170-A-4-A 320-58170-A-4-A
Misc. Info.: 06FE2010D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 10-Feb-2020 09:34:48 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0306

First Level Reviewer: dadunj Date: 10-Feb-2020 09:28:33

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.317	48954904	0.81	5.4E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.833	38349193	0.75	1.1275	69.5	69.5	0.2650	0.2650	69.48	
2,3,7,8-TCDF	16.849	169777	0.70	0.7675	0.5768	0.5768	0.0303	0.0303		
A Non-2,3,7,8-sub-TCDF	16.539	84177	0.77	0.7675	0.3032	0.2860	0.0303	0.2460		RQ
S Total TCDF					0.8800	0.8628	0.0303	0.0303		RQ
D 13C-2,3,7,8-TCDD	17.514	30161317	0.80	0.9032	68.2	68.2	0.2551	0.2551	68.21	
$ 37Cl4-2,3,7,8-TCDD	17.529	17054875		0.9673	36.0	36.0	0.0780	0.0780	90.04	
2,3,7,8-TCDD	17.514	67639	0.77	0.9599	0.2743	0.2336	0.0293	0.0293		RQM
A Non-2,3,7,8-sub-TCDD	16.977						0.0293	0.0293		
S Total TCDD					0.2743	0.2336	0.0293	0.0293		RQ
D 13C-1,2,3,7,8-PeCDF	21.626	31650858	1.55	0.9615	67.2	67.2	0.2988	0.2988	67.24	
1,2,3,7,8-PeCDF	21.639	8438	1.55	0.8982	0.0350	0.0297	0.0232	0.0232		RQM
D 13C-2,3,4,7,8-PeCDF	22.908	31548262	1.59	1.0393	62.0	62.0	0.2765	0.2765	62.01	
2,3,4,7,8-PeCDF	22.948						0.0281	0.0281		
A F1 PeCDFs	19.306						0.0261	0.0261		
A Non-2,3,7,8-sub-PeCDF	22.316						0.0255	0.0255		
S Total PeCDF					0.0350	0.0297	0.0256	0.0256		RQ
D 13C-1,2,3,7,8-PeCDD	23.603	21497771	1.64	0.6938	63.3	63.3	0.1014	0.1014	63.29	
1,2,3,7,8-PeCDD	23.603						0.0438	0.0438		
A Non-2,3,7,8-sub-PeCDD	22.546						0.0438	0.0438		
S Total PeCDD							0.0438	0.0438		
D 13C-1,2,3,4,7,8-HxCDF	29.722	22044505	0.48	0.8543	66.5	66.5	0.5870	0.5870	66.47	
1,2,3,4,7,8-HxCDF	29.775	7493	1.24	0.7916	0.0536	0.0429	0.0393	0.0393		RQM
D 13C-1,2,3,6,7,8-HxCDF	29.975	24783735	0.50	0.8361	76.4	76.4	0.5997	0.5997	76.36	
1,2,3,6,7,8-HxCDF	30.041	6160	1.24	0.8638	0.0348	0.0288	0.0326	0.0326		RQ
D 13C-2,3,4,6,7,8-HxCDF	31.013	22529326	0.49	0.7773	74.7	74.7	0.6450	0.6450	74.66	
2,3,4,6,7,8-HxCDF	31.013						0.0227	0.0227		
D 13C-1,2,3,7,8,9-HxCDF	31.931	20815292	0.50	0.7167	74.8	74.8	0.6996	0.6996	74.81	
1,2,3,7,8,9-HxCDF	31.931	10736	1.06	0.9127	0.0565	0.0565	0.0245	0.0245		
A Non-2,3,7,8-sub-HxCDF	29.476	30129	1.24	0.8673	0.1646	0.1541	0.0286	0.0929		RQ
S Total HxCDF					0.3095	0.2823	0.0298	0.0298		RQ

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.718	38821126	1.24	4.4E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.226	19067271	1.24	0.8050	61.0	61.0	0.3807	0.3807	61.01	
1,2,3,4,7,8-HxCDD	31.252	17706	1.17	0.8392	0.1107	0.1107	0.0406	0.0406		Ma
D 13C-1,2,3,6,7,8-HxCDD	31.346	23076232	1.22	0.8269	71.9	71.9	0.3706	0.3706	71.88	
1,2,3,6,7,8-HxCDD	31.372	18313	1.24	0.8876	0.1042	0.0894	0.0374	0.0374		RQMa
1,2,3,7,8,9-HxCDD	31.732	22929	1.13	0.9567	0.1137	0.1137	0.0352	0.0352		
A Non-2,3,7,8-sub-HxCDD	30.055	161862	1.09	0.8945	0.8588	0.8588	0.0376	0.5358		M
S Total HxCDD					1.187	1.173	0.0377	0.0377		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	33.447	16598538	0.42	0.7080	60.4	60.4	1.550	1.550	60.39	
1,2,3,4,6,7,8-HpCDF	33.459	39608	1.04	1.3375	0.2124	0.1784	0.0390	0.0390		RQM
D 13C-1,2,3,4,7,8,9-HpCDF	34.516	19039215	0.42	0.7451	65.8	65.8	1.473	1.473	65.82	
1,2,3,4,7,8,9-HpCDF	34.528						0.0563	0.0563		
A Non-2,3,7,8-sub-HpCDF	33.994	62614	0.89	1.2059	0.2914	0.2914	0.0465	0.2914		M
S Total HpCDF					0.5038	0.4698	0.0477	0.0477		RQ
D 13C-1,2,3,4,6,7,8-HpCDD	34.236	18706538	1.06	0.7473	64.5	64.5	0.5306	0.5306	64.48	
1,2,3,4,6,7,8-HpCDD	34.236	520800	1.01	0.9811	2.838	2.838	0.1348	0.1348		M
A Non-2,3,7,8-sub-HpCDD	33.963	935301	1.06	0.9811	5.096	5.096	0.1348	5.096		M
S Total HpCDD					7.934	7.934	0.1348	0.1348		
D 13C-OCDD	36.528	31917674	0.88	0.6622	124.2	124.2	0.1585	0.1585	62.08	
OCDF	36.624	162447	0.95	1.0659	0.9550	0.9550	0.0434	0.0434		
OCDD	36.540	10557042	0.88	0.9937	66.6	66.6	0.0934	0.0934		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_13.d
Lims ID: 320-58170-A-4-A
Client ID: 11187072-Eastern-Solids
Sample Type: Client
Inject. Date: 06-Feb-2020 20:00:51 ALS Bottle#: 15 Worklist Smp#: 13
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-58170-A-4-A 320-58170-A-4-A
Misc. Info.: 06FE2010D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 10-Feb-2020 09:34:48 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0306

First Level Reviewer: dadunj Date: 10-Feb-2020 09:28:33

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.317	17.302	1		21868772	5505112	4658	11645	1182		
333.9339	17.317	17.302	1		27086132	6855511	6734	16835	1018	0.81(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.833	16.819	1	0.972	16497441	3693978	6933	17332	533		
317.9389	16.833	16.819	1	0.972	21851752	4820352	7840	19600	615	0.75(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.849	16.849	0	1.001	70039	14446	286	715	51		
305.8987	16.849	16.849	0	1.001	99738	19971	505	1262	40	0.70(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											RQ
303.9016	16.516	16.539	-1	0.981	33517	6768	286	715	24		
305.8987	16.501	16.539	-2	0.980	38884	7164	505	1262	14	0.86(0.65-0.89)	
303.9016	17.272	16.539	44	1.026	5123	1327	286	715	5		
305.8987	17.272	16.539	44	1.026	11731	2077	505	1262	4	0.44(0.65-0.89)	
	Empc Correction				6653	1723	505	1262	3		
13C-2,3,7,8-TCDD											
331.9368	17.514	17.499	1	1.011	13377131	2955914	4658	11645	635		
333.9339	17.514	17.499	1	1.011	16784186	3662353	6734	16835	544	0.80(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.529	17.514	1	1.012	17054875	3687078	3733	9332	988		
2,3,7,8-TCDD											RQM
319.8965	17.514	17.514	0	1.000	29425	7732	482	1205	16		M
321.8936	17.514	17.514	0	1.000	49982	10536	263	657	40	0.59(0.65-0.89)	
	Empc Correction				38214	10041	263	657	38		

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-TCDD											
319.8965	16.977						482	1205			
321.8936	16.977						263	657			
13C-1,2,3,7,8-PeCDF											
351.9000	21.626	21.612	1	1.249	19253284	3052331	8633	21582	354		
353.8970	21.626	21.612	1	1.249	12397574	1975853	5574	13935	354	1.55(1.32-1.78)	
1,2,3,7,8-PeCDF											RQM
339.8597	21.639	21.626	1	1.001	5129	1177	163	407	7		M
341.8567	21.639	21.626	1	1.001	4818	1432	256	640	6	1.06(1.32-1.78)	
	Empc Correction				3309	759	256	640	3		
13C-2,3,4,7,8-PeCDF											
351.9000	22.908	22.880	2	1.323	19358430	2811850	8633	21582	326		
353.8970	22.908	22.880	2	1.323	12189832	1786871	5574	13935	321	1.59(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.907						163	407			
341.8567	22.907						256	640			
A F1 PeCDFs											
339.8597	19.306						132	330			
341.8567	19.306						298	745			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.316						163	407			
341.8567	22.316						256	640			
13C-1,2,3,7,8-PeCDD											
367.8949	23.603	23.576	2	1.363	13356521	1818619	1954	4885	931		
369.8919	23.603	23.576	2	1.363	8141250	1129650	1526	3815	740	1.64(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.603						338	845			
357.8516	23.603						176	440			
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.546						338	845			
357.8516	22.546						176	440			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.722	29.682	2	0.937	7122325	860632	4626	11565	186		
385.8610	29.722	29.682	2	0.937	14922180	1773638	9563	23907	185	0.48(0.43-0.59)	
1,2,3,4,7,8-HxCDF											RQM
373.8208	29.775	29.708	4	1.002	4148	924	192	480	5		M
375.8178	29.775	29.708	4	1.002	5207	941	136	340	7	0.80(1.05-1.43)	
	Empc Correction				3345	745	136	340	5		
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.975	29.948	2	0.945	8225873	955601	4626	11565	207		
385.8610	29.975	29.948	2	0.945	16557862	1955200	9563	23907	204	0.50(0.43-0.59)	
1,2,3,6,7,8-HxCDF											RQ
373.8208	30.041	29.975	4	1.002	4691	685	192	480	4		
	Empc Correction				3410	677	192	480	4		
375.8178	29.975	29.975	0	1.000	2750	546	136	340	4	1.71(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.013	30.999	1	0.978	7452354	1341947	4626	11565	290		
385.8610	31.013	30.999	1	0.978	15076972	2670953	9563	23907	279	0.49(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.013						192	480			
375.8178	31.013						136	340			
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.931	31.918	1	1.007	6909757	1231543	4626	11565	266		
385.8610	31.931	31.918	1	1.007	13905535	2432136	9563	23907	254	0.50(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.931	31.931	0	1.000	5512	986	192	480	5		
375.8178	31.944	31.931	1	1.000	5224	807	136	340	6	1.06(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											RQ
373.8208	27.352	29.476	-127	0.920	9399	1349	192	480	7		
375.8178	27.352	29.476	-127	0.920	8760	944	136	340	7	1.07(1.05-1.43)	
373.8208	28.643	29.476	-50	0.964	8677	1413	192	480	7		
	Empc Correction				6626	910	192	480	5		
375.8178	28.670	29.476	-48	0.965	5344	734	136	340	5	1.62(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.718	31.718	0		21512413	3930801	4953	12382	794		
403.8529	31.718	31.718	0		17308713	3143509	3719	9297	845	1.24(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.226	31.226	0	0.984	10560393	2166522	4953	12382	437		
403.8529	31.226	31.226	0	0.984	8506878	1754972	3719	9297	472	1.24(1.05-1.43)	
1,2,3,4,7,8-HxCDD											Ma
389.8157	31.252	31.239	1	1.001	9541	2067	255	637	8		M
391.8127	31.239	31.239	0	1.000	8165	2183	279	697	8	1.17(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.346	31.332	1	0.988	12700085	2198804	4953	12382	444		
403.8529	31.346	31.332	1	0.988	10376147	1818599	3719	9297	489	1.22(1.05-1.43)	
1,2,3,6,7,8-HxCDD											RQMa
389.8157	31.372	31.359	1	1.001	10138	2136	255	637	8		M
391.8127	31.346	31.359	-1	1.000	11195	1875	279	697	7	0.91(1.05-1.43)	
	Empc Correction				8175	1722	279	697	6		
1,2,3,7,8,9-HxCDD											
389.8157	31.732	31.731	0	1.016	12188	2195	255	637	9		
391.8127	31.745	31.731	1	1.017	10741	2010	279	697	7	1.13(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											M
389.8157	28.484	30.055	-94	0.909	53052	5342	255	637	21		M
391.8127	28.537	30.055	-91	0.910	47929	4376	279	697	16	1.11(1.05-1.43)	
389.8157	30.334	30.055	17	0.968	31398	4304	255	637	17		
391.8127	30.361	30.055	18	0.969	29483	4630	279	697	17	1.06(1.05-1.43)	M
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.447	33.447	0	1.054	4901097	1154390	9709	24272	119		
419.8220	33.447	33.447	0	1.054	11697441	2758885	21351	53377	129	0.42(0.37-0.51)	

Report Date: 10-Feb-2020 09:34:50 Chrom Revision: 2.3 14-Jan-2020 22:23:42
Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_13.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDF											RQM
407.7818	33.459	33.459	0	1.000	27730	6632	523	1307	13		M
	Empc Correction				20192	5452	523	1307	10		
409.7789	33.459	33.459	0	1.000	19416	5243	294	735	18	1.43(0.88-1.20)	M
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.516	34.504	1	1.088	5626333	993270	9709	24272	102		
419.8220	34.516	34.504	1	1.088	13412882	2381214	21351	53377	112	0.42(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.528						523	1307			
409.7789	34.528						294	735			
A Non-2,3,7,8-sub-HpCDF											M
407.7818	33.763	33.994	-14	1.009	29473	6158	523	1307	12		M
409.7789	33.750	33.994	-15	1.009	33141	6667	294	735	23	0.89(0.88-1.20)	M
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.236	34.224	1	1.079	9643335	1949826	6368	15920	306		
437.8140	34.236	34.224	1	1.079	9063203	1829688	4853	12132	377	1.06(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											M
423.7766	34.236	34.237	0	1.000	262282	50711	1030	2575	49		M
425.7737	34.236	34.237	0	1.000	258518	51512	970	2425	53	1.01(0.88-1.20)	M
A Non-2,3,7,8-sub-HpCDD											M
423.7766	33.702	33.963	-16	0.984	481693	106632	1030	2575	104		M
425.7737	33.702	33.963	-16	0.984	453608	98426	970	2425	101	1.06(0.88-1.20)	
13C-OCDD											
469.7779	36.528	36.516	1	1.152	14908476	2486307	1683	4207	1477		
471.7750	36.528	36.516	1	1.152	17009198	2815499	1287	3217	2188	0.88(0.76-1.02)	
OCDF											
441.7428	36.624	36.612	1	1.003	79229	12649	225	562	56		
443.7399	36.612	36.612	0	1.002	83218	12964	266	665	49	0.95(0.76-1.02)	
OCDD											
457.7377	36.540	36.528	1	1.000	4928597	814090	462	1155	1762		
459.7348	36.540	36.528	1	1.000	5628445	923726	522	1305	1770	0.88(0.76-1.02)	

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_13.d
Lims ID: 320-58170-A-4-A
Client ID: 11187072-Eastern-Solids
Inject. Date: 06-Feb-2020 20:00:51 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 355551 Lims Sample ID: 13

Non-2,3,7,8-sub-TCDF, RT: 16.539

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	0.768	D 13C-2,3,7,8-TCDF	100.000	38349193	8514330

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.768		100.000	38349193	8514330

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
16.516	33517	6768	38884	7164	0.2460	0.86	
17.272	5123	1327	11731	2077	0.0573	0.44	RQ
17.272	5123	1327	6653	1723	0.0400		Empc Correction
Signal Totals:							
	38640	8095	45537	8887			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	89255	17336				0.76	RQ
	84177	16982					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.3032 = (89255 * 100.000) / (38349193 * 0.768)
Empc Amount: 0.2860 = (84177 * 100.000) / (38349193 * 0.768)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_13.d
Lims ID: 320-58170-A-4-A
Client ID: 11187072-Eastern-Solids
Inject. Date: 06-Feb-2020 20:00:51 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 355551 Lims Sample ID: 13

Non-2,3,7,8-sub-HxCDF, RT: 29.476

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	0.792	D 13C-1,2,3,4,7,8-HxCDF	100.000	22044505	2634270
1,2,3,6,7,8-HxCDF	0.864	D 13C-1,2,3,6,7,8-HxCDF	100.000	24783735	2910801
2,3,4,6,7,8-HxCDF	0.901	D 13C-2,3,4,6,7,8-HxCDF	100.000	22529326	4012900
1,2,3,7,8,9-HxCDF	0.913	D 13C-1,2,3,7,8,9-HxCDF	100.000	20815292	3663679

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.867		100.000	22543214	3305412

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
27.352	9399	1349	8760	944	0.0929	1.07	
28.643	8677	1413	5344	734	0.0717	1.62	RQ
28.643	6626	910	5344	734	0.0612		Empc Correction
Signal Totals:							
	16025	2259	14104	1678			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	32180	4440				1.28	RQ
	30129	3937					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.1646 = (32180 * 100.000) / (22543214 * 0.867)
Empc Amount: 0.1541 = (30129 * 100.000) / (22543214 * 0.867)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_13.d
Lims ID: 320-58170-A-4-A
Client ID: 11187072-Eastern-Solids
Inject. Date: 06-Feb-2020 20:00:51 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 355551 Lims Sample ID: 13

Non-2,3,7,8-sub-HxCDD, RT: 30.055

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.839	D 13C-1,2,3,4,7,8-HxCDD	100.000	19067271	3921494
1,2,3,6,7,8-HxCDD	0.888	D 13C-1,2,3,6,7,8-HxCDD	100.000	23076232	4017403
1,2,3,7,8,9-HxCDD	0.957				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.894		100.000	21071751	3969448

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
28.484	53052	5342	47929	4376	0.5358	1.11	M
30.334	31398	4304	29483	4630	0.3230	1.06	M
Signal Totals:							
	84450	9646	77412	9006			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	161862	18652				1.09	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.8588 = (161862 * 100.000) / (21071751 * 0.894)

QC Flag Legend

Review Flags
M - Manually Integrated

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_13.d
Lims ID: 320-58170-A-4-A
Client ID: 11187072-Eastern-Solids
Inject. Date: 06-Feb-2020 20:00:51 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 355551 Lims Sample ID: 13

Non-2,3,7,8-sub-HpCDF, RT: 33.994

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.337	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	16598538	3913275
1,2,3,4,7,8,9-HpCDF	1.074	D 13C-1,2,3,4,7,8,9-HpCDF	100.000	19039215	3374484

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.206		100.000	17818876	3643879

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
33.763	29473	6158	33141	6667	0.2914	0.89	M
Signal Totals:							
	29473	6158	33141	6667			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	62614	12825				0.89	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.2914 = (62614 * 100.000) / (17818876 * 1.206)

QC Flag Legend

Review Flags
M - Manually Integrated

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_13.d
Lims ID: 320-58170-A-4-A
Client ID: 11187072-Eastern-Solids
Inject. Date: 06-Feb-2020 20:00:51 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 355551 Lims Sample ID: 13

Non-2,3,7,8-sub-HpCDD, RT: 33.963

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.981	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	18706538	3779514

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.981		100.000	18706538	3779514

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
33.702	481693	106632	453608	98426	5.10	1.06	M
Signal Totals:							
	481693	106632	453608	98426			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	935301	205058				1.06	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 5.096 = (935301 * 100.000) / (18706538 * 0.981)

QC Flag Legend

Review Flags
M - Manually Integrated

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_13.d				
Injection Date:	06-Feb-2020 20:00:51	Instrument ID:	10D5		
Lims ID:	320-58170-A-4-A	Lab Sample ID:	320-58170-4		
Client ID:	11187072-Eastern-Solids				
Operator ID:	AJS	ALS Bottle#:	15	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDD, CAS: 1746-01-6

Signal: 1

Processing Integration Results

RT: 17.51
Area: 31389
Amount: 0.281062
Amount Units: pg/ul

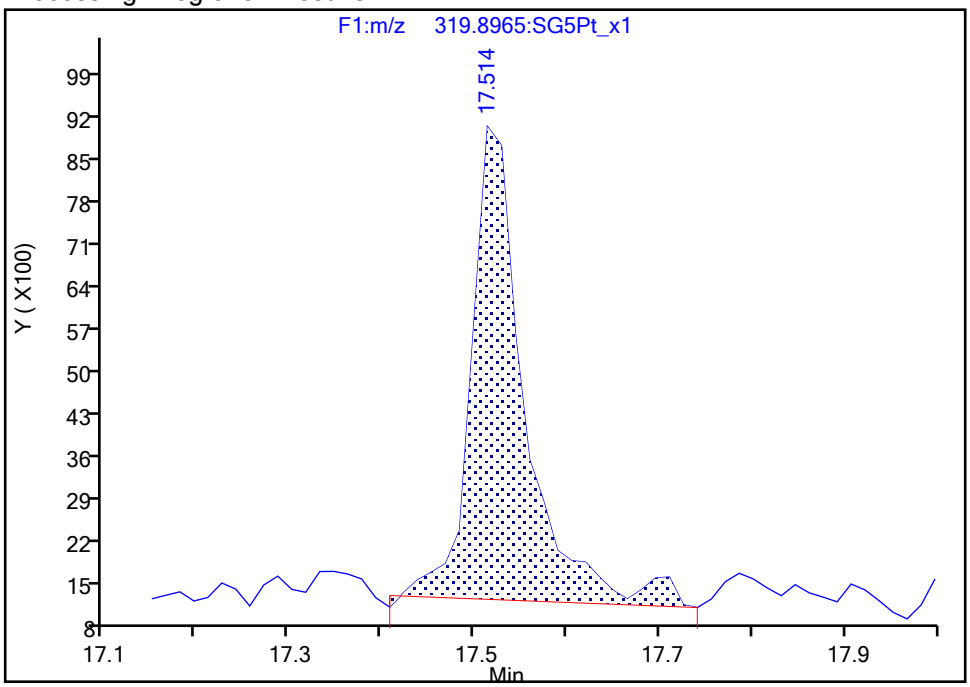

Manual Integration Results

RT: 17.51
Area: 29425
Amount: 0.274278
Amount Units: pg/ul

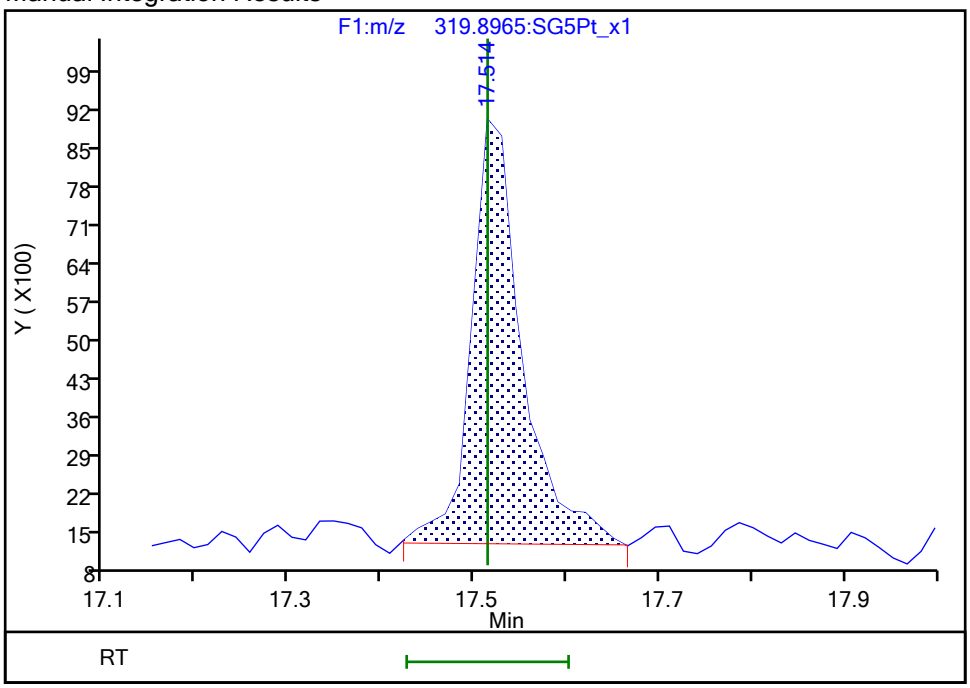

Reviewer: dadunj, 10-Feb-2020 09:30:45

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_13.d				
Injection Date:	06-Feb-2020 20:00:51	Instrument ID:	10D5		
Lims ID:	320-58170-A-4-A	Lab Sample ID:	320-58170-4		
Client ID:	11187072-Eastern-Solids				
Operator ID:	AJS	ALS Bottle#:	15	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

1,2,3,7,8-PeCDF, CAS: 57117-41-6

Signal: 1

Processing Integration Results

RT: 21.64
Area: 5027
Amount: 0.034632
Amount Units: pg/ul

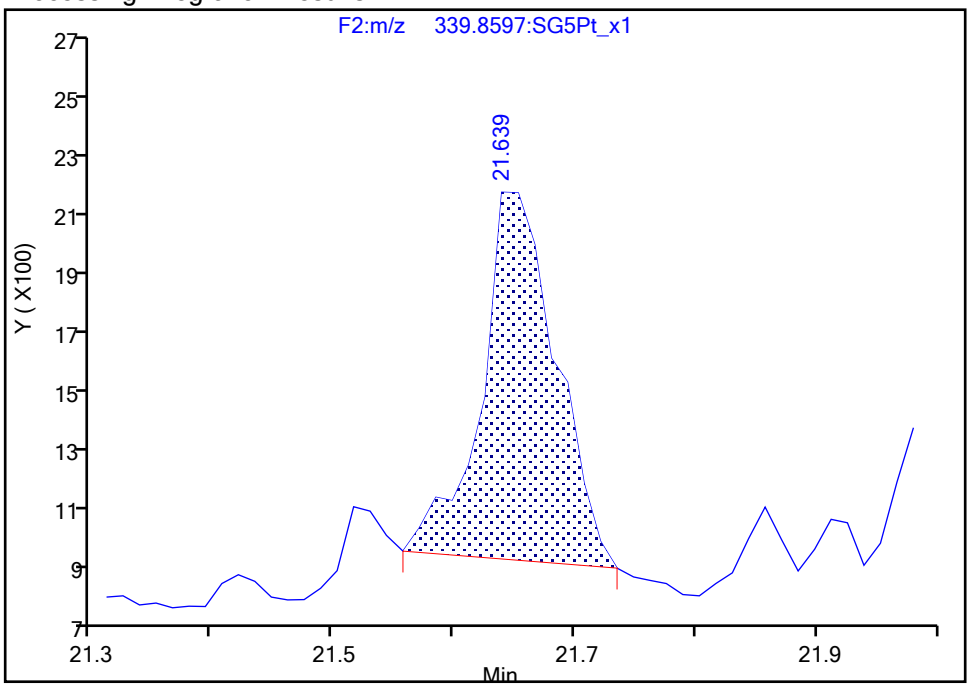

Manual Integration Results

RT: 21.64
Area: 5129
Amount: 0.034991
Amount Units: pg/ul

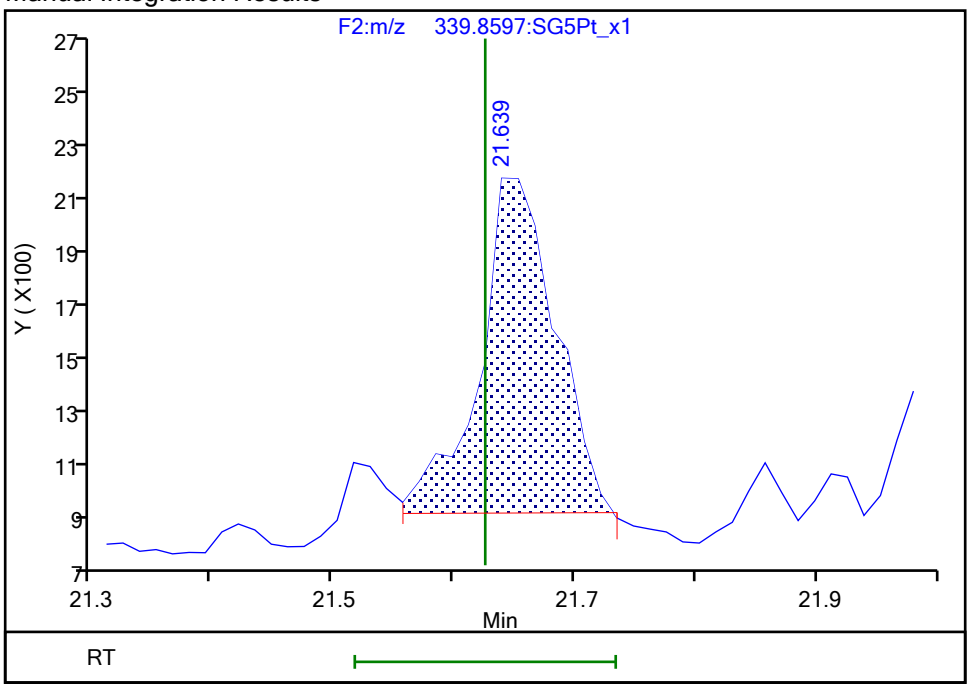

Reviewer: dadunj, 10-Feb-2020 09:31:05

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_13.d				
Injection Date:	06-Feb-2020 20:00:51	Instrument ID:	10D5		
Lims ID:	320-58170-A-4-A	Lab Sample ID:	320-58170-4		
Client ID:	11187072-Eastern-Solids				
Operator ID:	AJS	ALS Bottle#:	15	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDF, CAS: 70648-26-9

Signal: 1

Processing Integration Results

RT: 29.77
Area: 4372
Amount: 0.054894
Amount Units: pg/ul

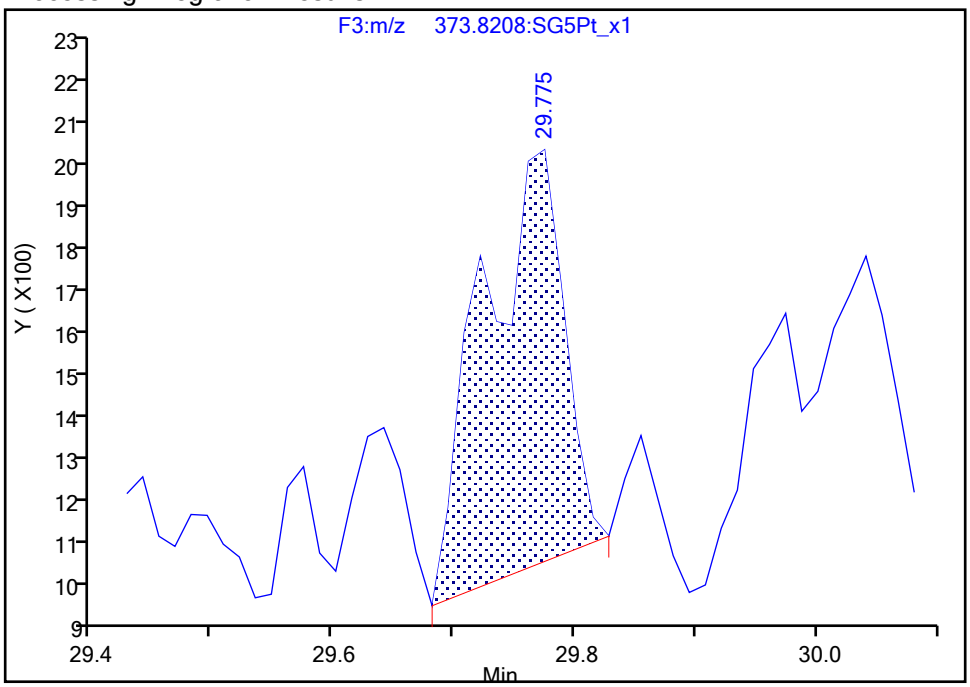

Manual Integration Results

RT: 29.77
Area: 4148
Amount: 0.053610
Amount Units: pg/ul

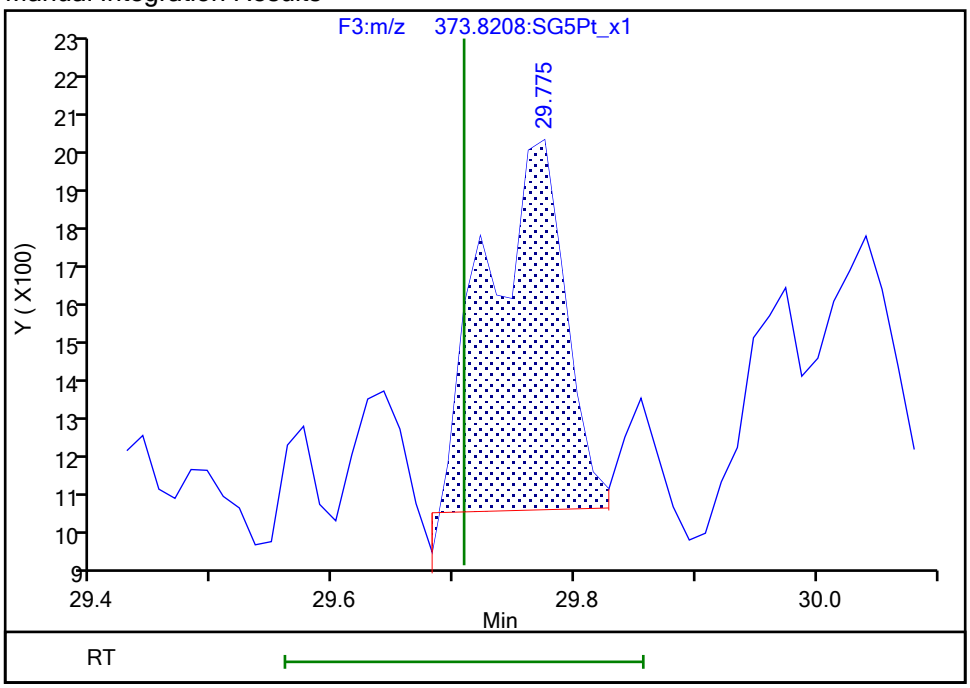

Reviewer: dadunj, 10-Feb-2020 09:31:34

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_13.d				
Injection Date:	06-Feb-2020 20:00:51	Instrument ID:	10D5		
Lims ID:	320-58170-A-4-A	Lab Sample ID:	320-58170-4		
Client ID:	11187072-Eastern-Solids				
Operator ID:	AJS	ALS Bottle#:	15	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 2

Processing Integration Results

RT: 31.24
Area: 19361
Amount: 0.254481
Amount Units: pg/ul

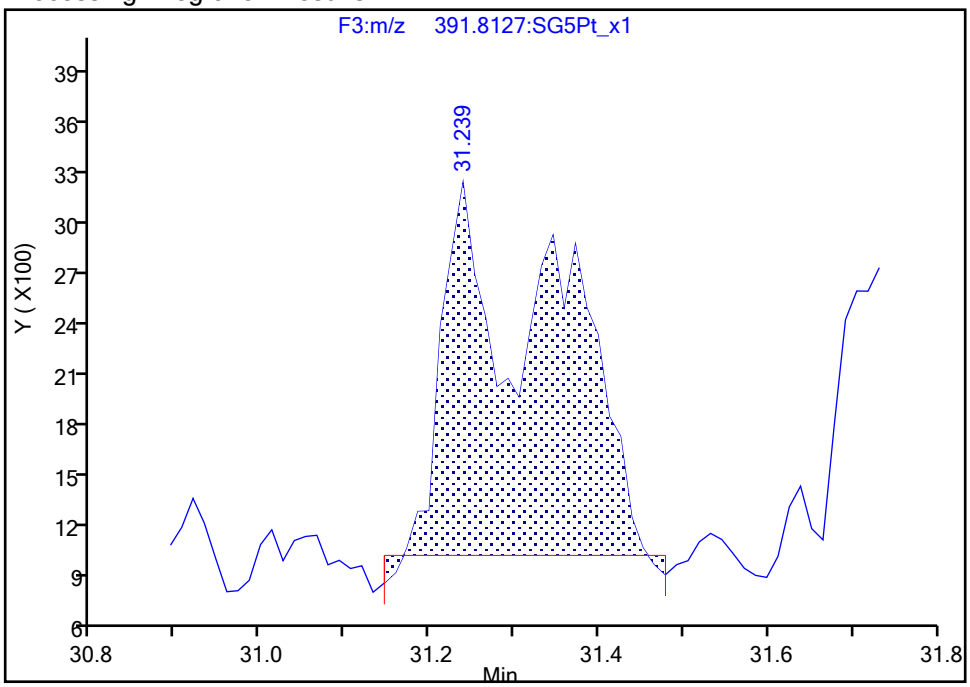

Manual Integration Results

RT: 31.24
Area: 8165
Amount: 0.110657
Amount Units: pg/ul

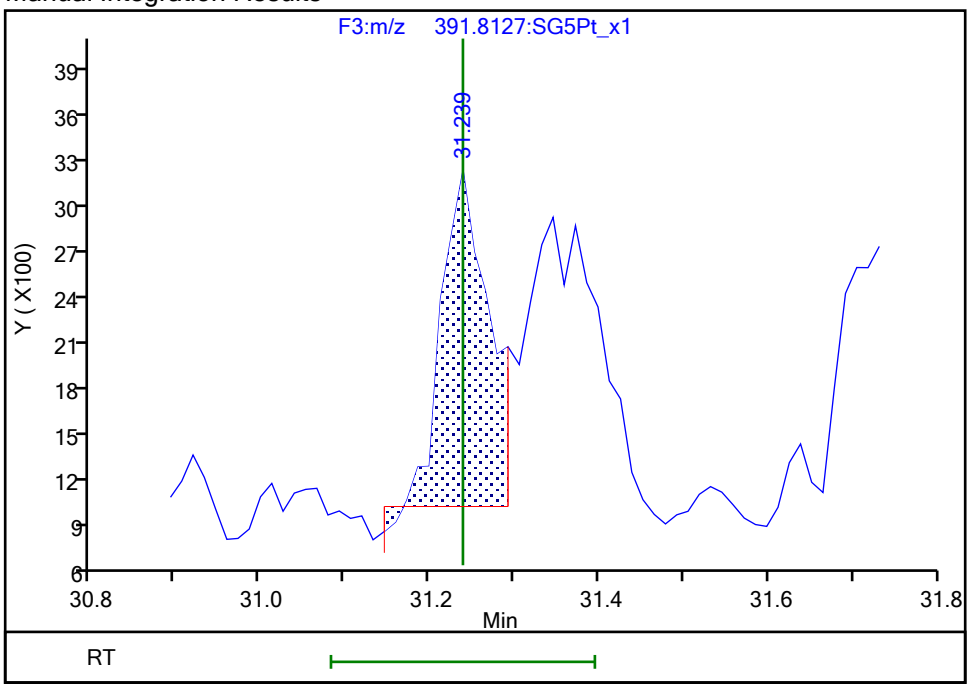

Reviewer: dadunj, 10-Feb-2020 09:32:12

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_13.d				
Injection Date:	06-Feb-2020 20:00:51	Instrument ID:	10D5		
Lims ID:	320-58170-A-4-A	Lab Sample ID:	320-58170-4		
Client ID:	11187072-Eastern-Solids				
Operator ID:	AJS	ALS Bottle#:	15	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 3

Processing Integration Results

RT: 31.37
Area: 40719
Amount: 0.254481
Amount Units: pg/ul

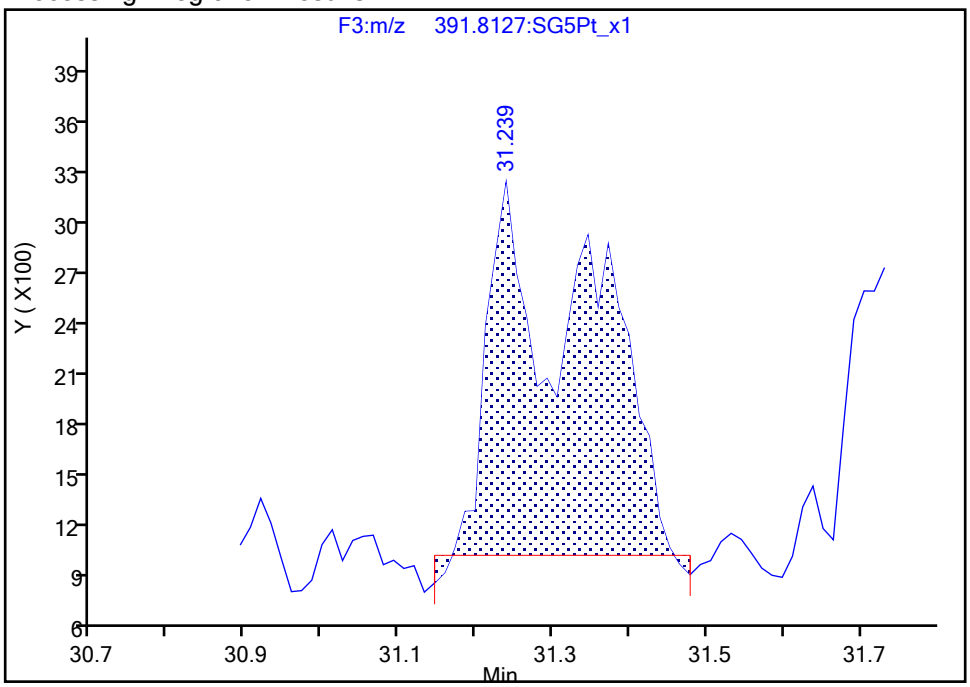

Manual Integration Results

RT: 31.25
Area: 17706
Amount: 0.110657
Amount Units: pg/ul
Reviewer: dadunj, 10-Feb-2020 09:32:12
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_13.d				
Injection Date:	06-Feb-2020 20:00:51	Instrument ID:	10D5		
Lims ID:	320-58170-A-4-A	Lab Sample ID:	320-58170-4		
Client ID:	11187072-Eastern-Solids				
Operator ID:	AJS	ALS Bottle#:	15	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 1

Processing Integration Results

RT: 31.37
Area: 21358
Amount: 0.254481
Amount Units: pg/ul

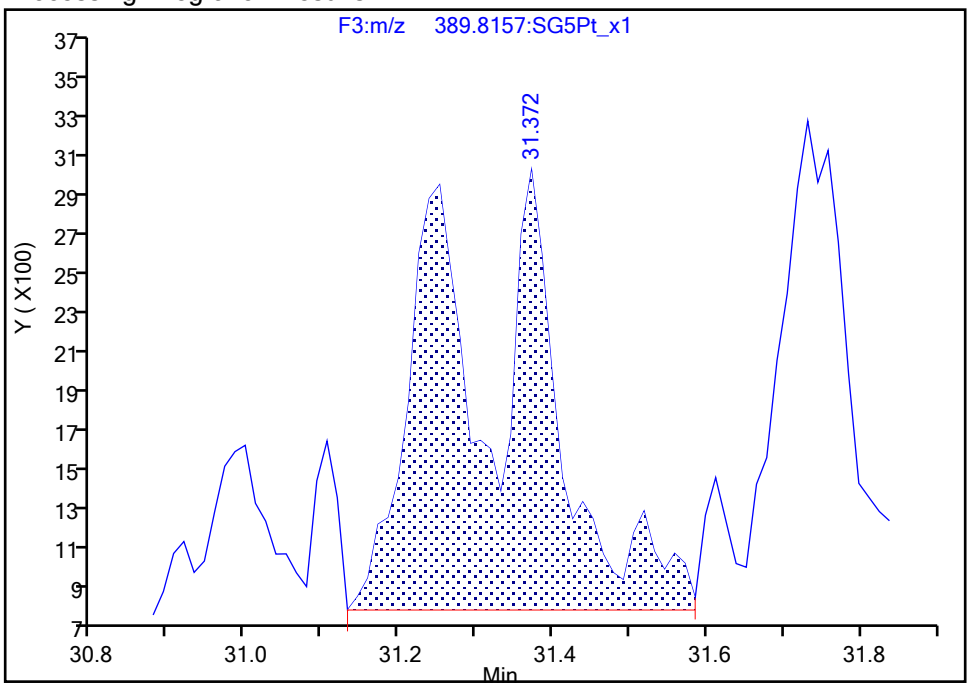

Manual Integration Results

RT: 31.25
Area: 9541
Amount: 0.110657
Amount Units: pg/ul

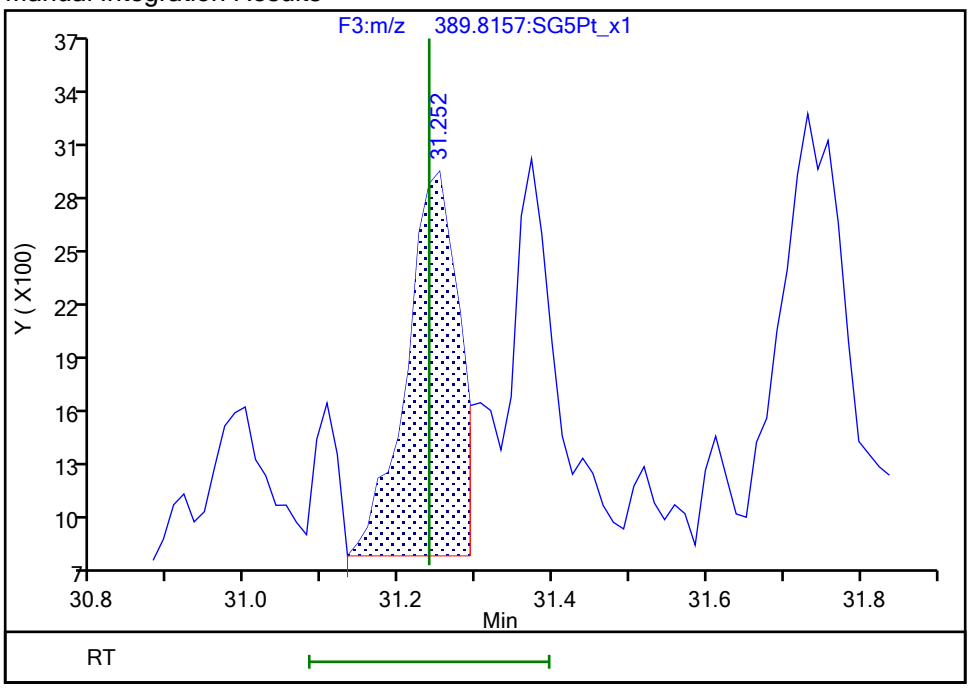

Reviewer: dadunj, 10-Feb-2020 09:32:14

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_13.d				
Injection Date:	06-Feb-2020 20:00:51	Instrument ID:	10D5		
Lims ID:	320-58170-A-4-A	Lab Sample ID:	320-58170-4		
Client ID:	11187072-Eastern-Solids				
Operator ID:	AJS	ALS Bottle#:	15	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 2

Processing Integration Results

RT: 31.24
Area: 19361
Amount: 0.198798
Amount Units: pg/ul

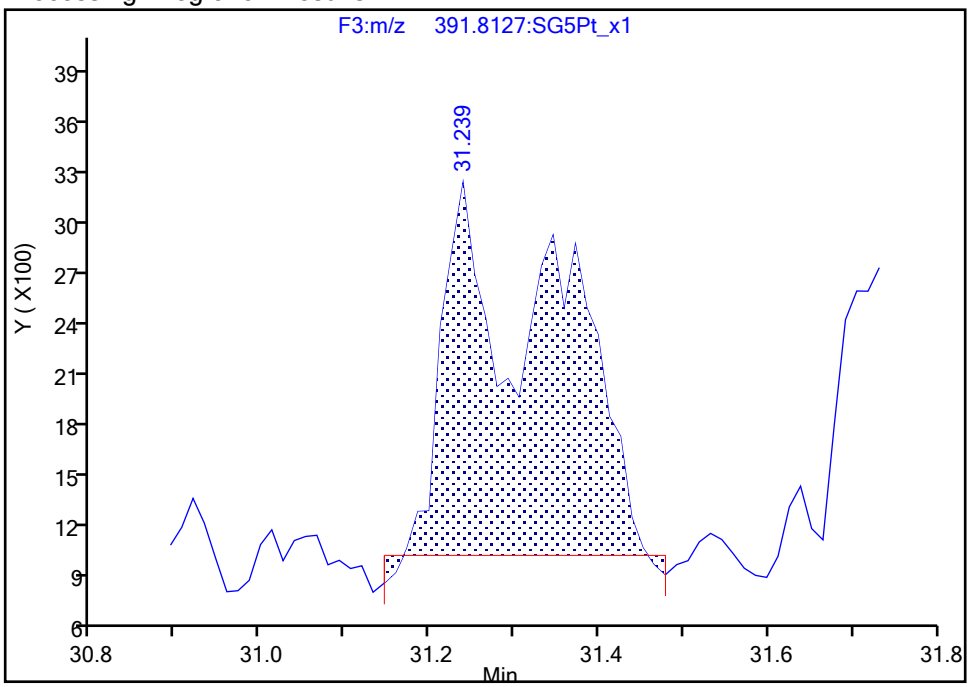

Manual Integration Results

RT: 31.35
Area: 11195
Amount: 0.104152
Amount Units: pg/ul

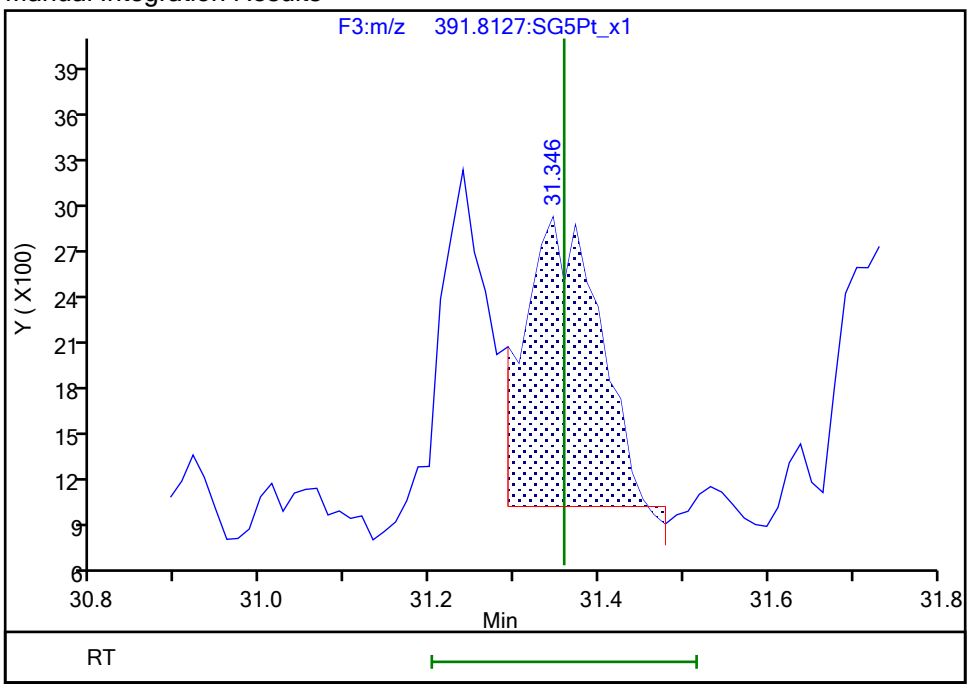

Reviewer: dadunj, 10-Feb-2020 09:32:09

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_13.d				
Injection Date:	06-Feb-2020 20:00:51	Instrument ID:	10D5		
Lims ID:	320-58170-A-4-A	Lab Sample ID:	320-58170-4		
Client ID:	11187072-Eastern-Solids				
Operator ID:	AJS	ALS Bottle#:	15	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 1

Processing Integration Results

RT: 31.37
Area: 21358
Amount: 0.198798
Amount Units: pg/ul

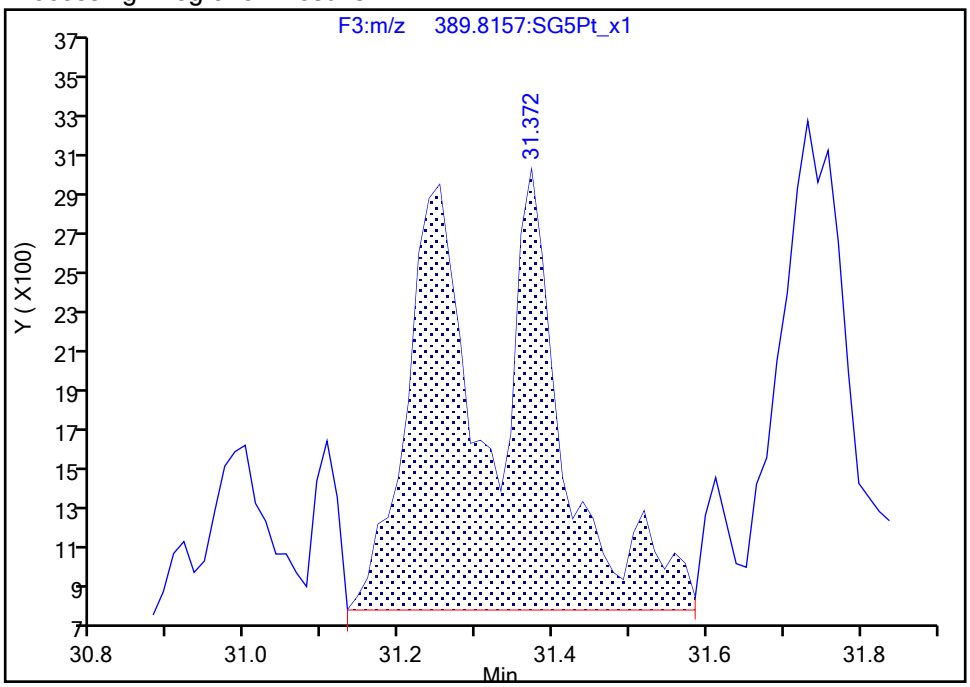

Manual Integration Results

RT: 31.37
Area: 10138
Amount: 0.104152
Amount Units: pg/ul

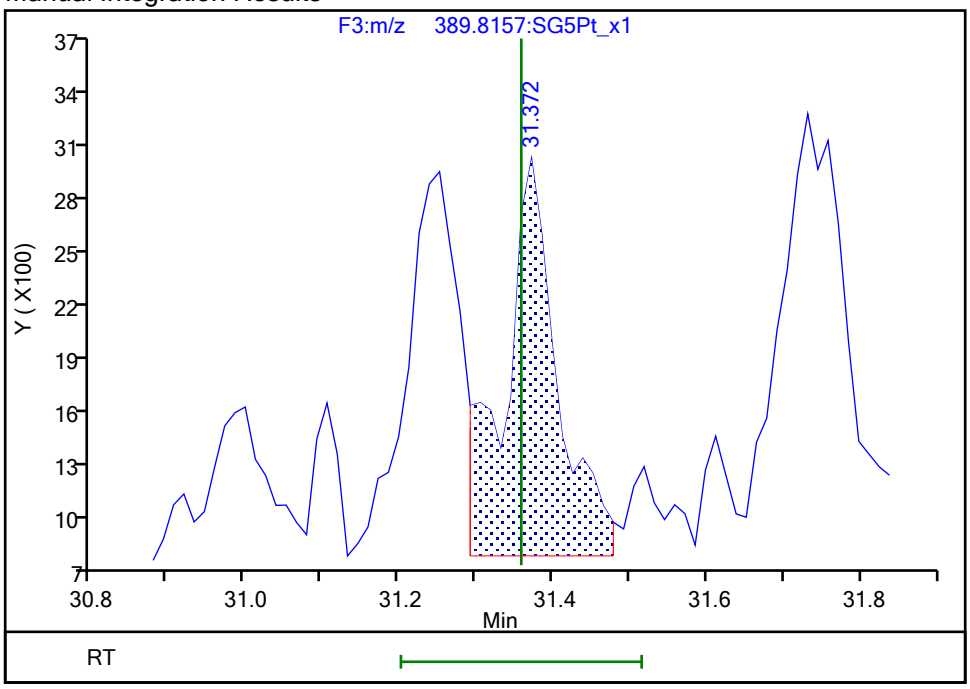

Reviewer: dadunj, 10-Feb-2020 09:32:27

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_13.d				
Injection Date:	06-Feb-2020 20:00:51	Instrument ID:	10D5		
Lims ID:	320-58170-A-4-A	Lab Sample ID:	320-58170-4		
Client ID:	11187072-Eastern-Solids				
Operator ID:	AJS	ALS Bottle#:	15	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

Non-2,3,7,8-sub-HxCDD, Signal: 1, m/z: 389.8157, RT: (28.40- 31.71)

Signal: 1

Processing Integration Results

RT = 28.484 Area = 53330

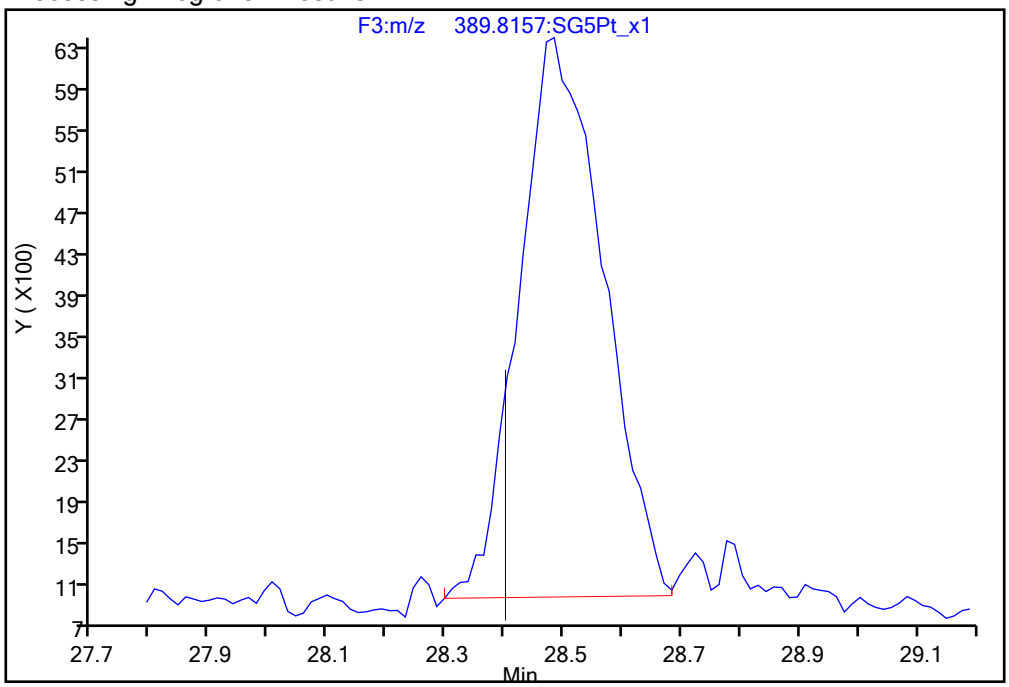

Manual Integration Results

RT = 28.484 Area = 53052 M

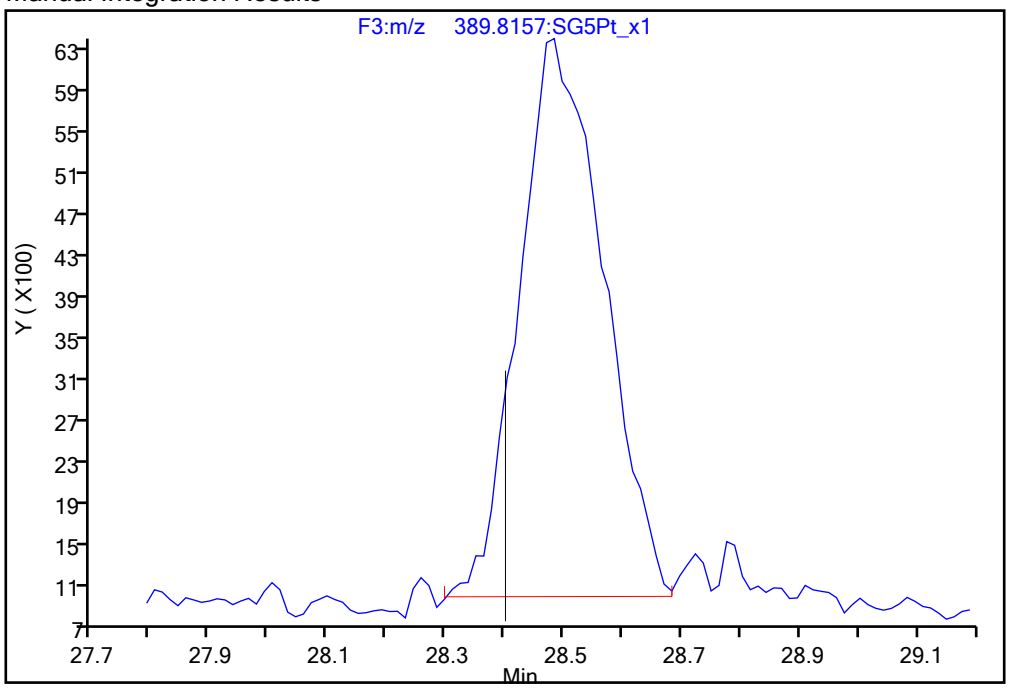

Reviewer: dadunj, 10-Feb-2020 09:32:45

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_13.d				
Injection Date:	06-Feb-2020 20:00:51	Instrument ID:	10D5		
Lims ID:	320-58170-A-4-A	Lab Sample ID:	320-58170-4		
Client ID:	11187072-Eastern-Solids				
Operator ID:	AJS	ALS Bottle#:	15	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

Non-2,3,7,8-sub-HxCDD, Signal: 2, m/z: 391.8127, RT: (28.40- 31.71)

Signal: 2

Processing Integration Results

RT = 30.361 Area = 33932

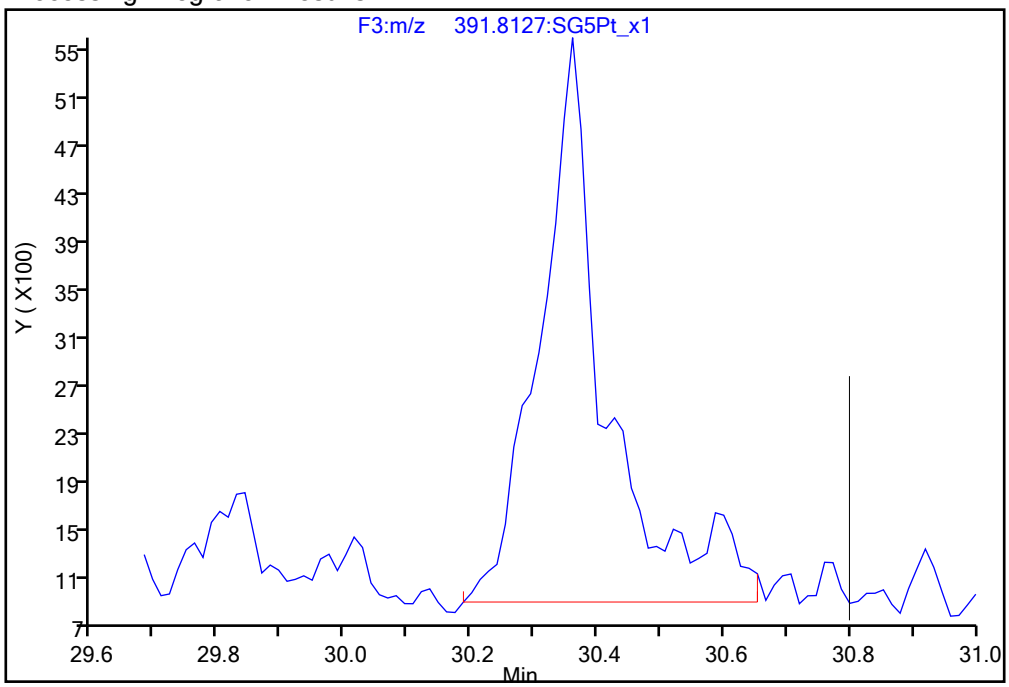

Manual Integration Results

RT = 30.361 Area = 29483 M

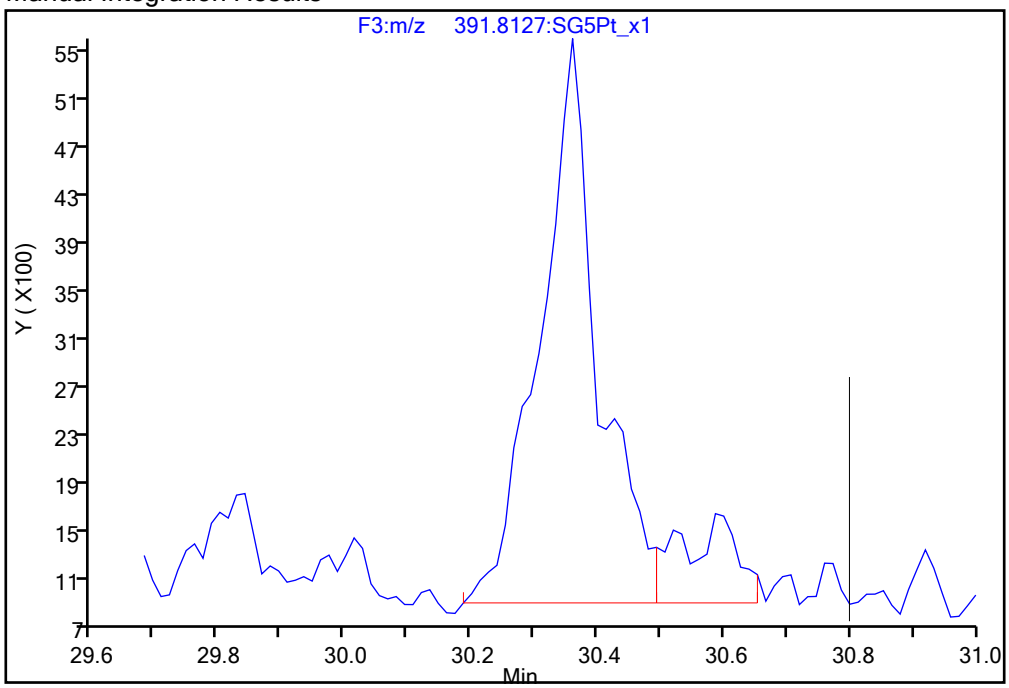

Reviewer: dadunj, 10-Feb-2020 09:32:32

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_13.d				
Injection Date:	06-Feb-2020 20:00:51	Instrument ID:	10D5		
Lims ID:	320-58170-A-4-A	Lab Sample ID:	320-58170-4		
Client ID:	11187072-Eastern-Solids				
Operator ID:	AJS	ALS Bottle#:	15	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 2

Processing Integration Results

RT: 33.46
Area: 26638
Amount: 0.248706
Amount Units: pg/ul

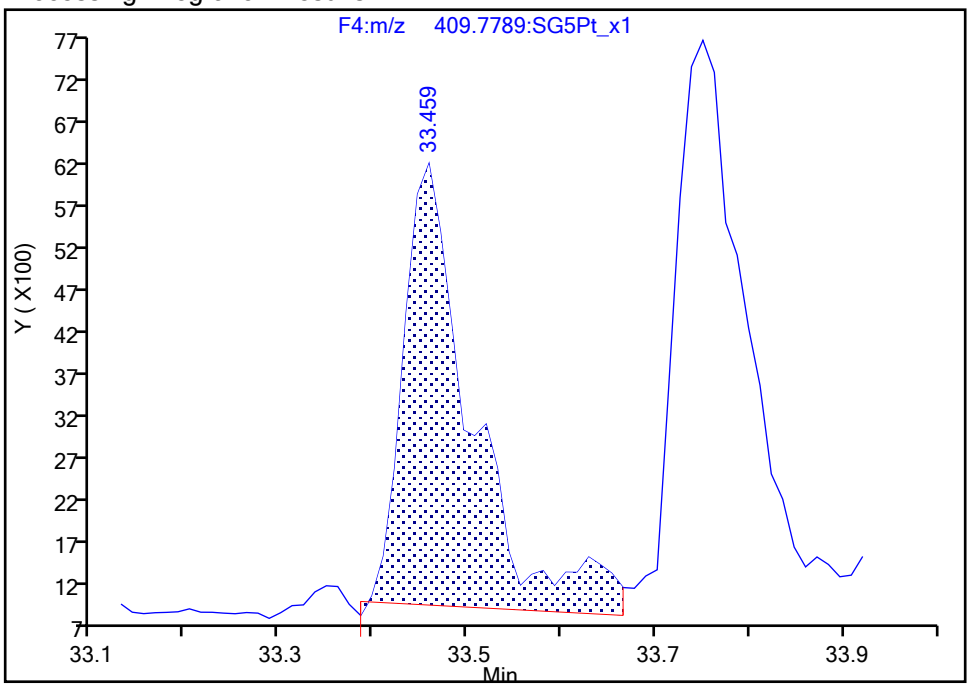

Manual Integration Results

RT: 33.46
Area: 19416
Amount: 0.212372
Amount Units: pg/ul

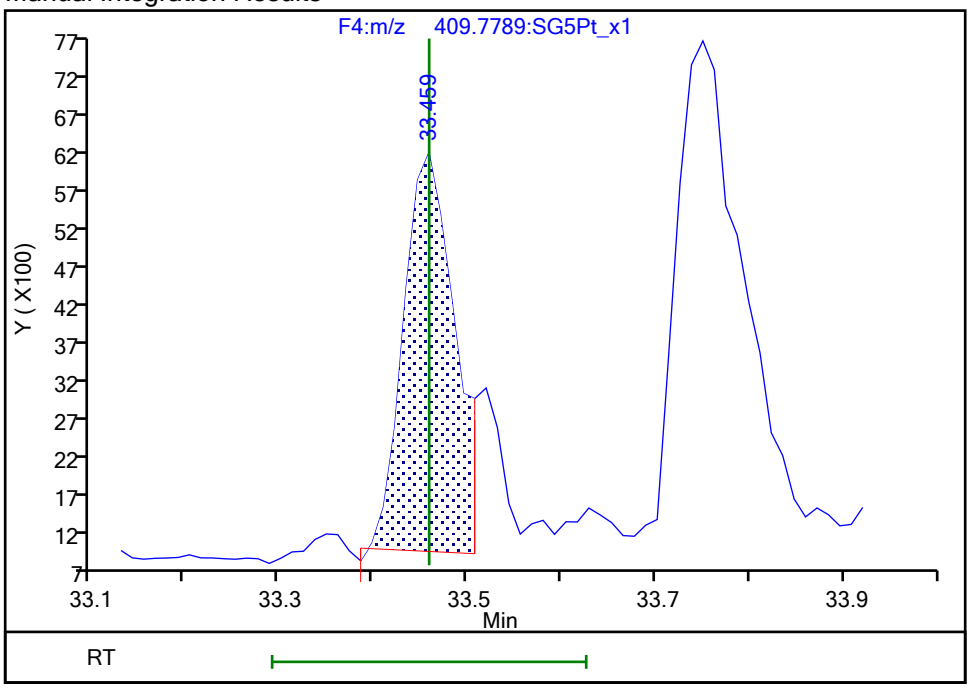

Reviewer: dadunj, 10-Feb-2020 09:33:39

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_13.d				
Injection Date:	06-Feb-2020 20:00:51	Instrument ID:	10D5		
Lims ID:	320-58170-A-4-A	Lab Sample ID:	320-58170-4		
Client ID:	11187072-Eastern-Solids				
Operator ID:	AJS	ALS Bottle#:	15	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 1

Processing Integration Results

RT: 33.46
Area: 28574
Amount: 0.248706
Amount Units: pg/ul

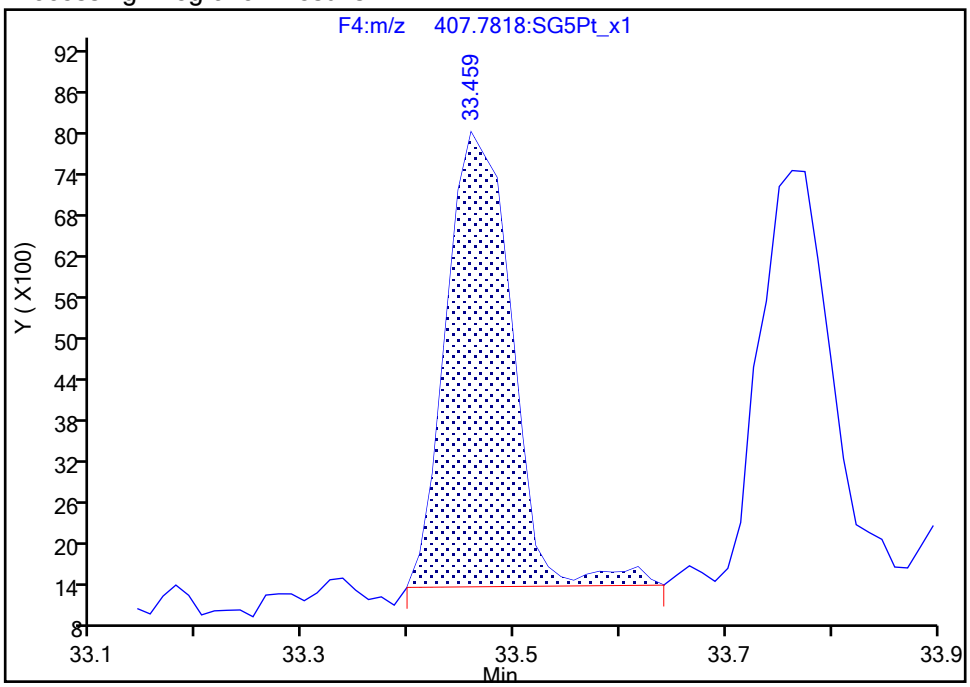

Manual Integration Results

RT: 33.46
Area: 27730
Amount: 0.212372
Amount Units: pg/ul

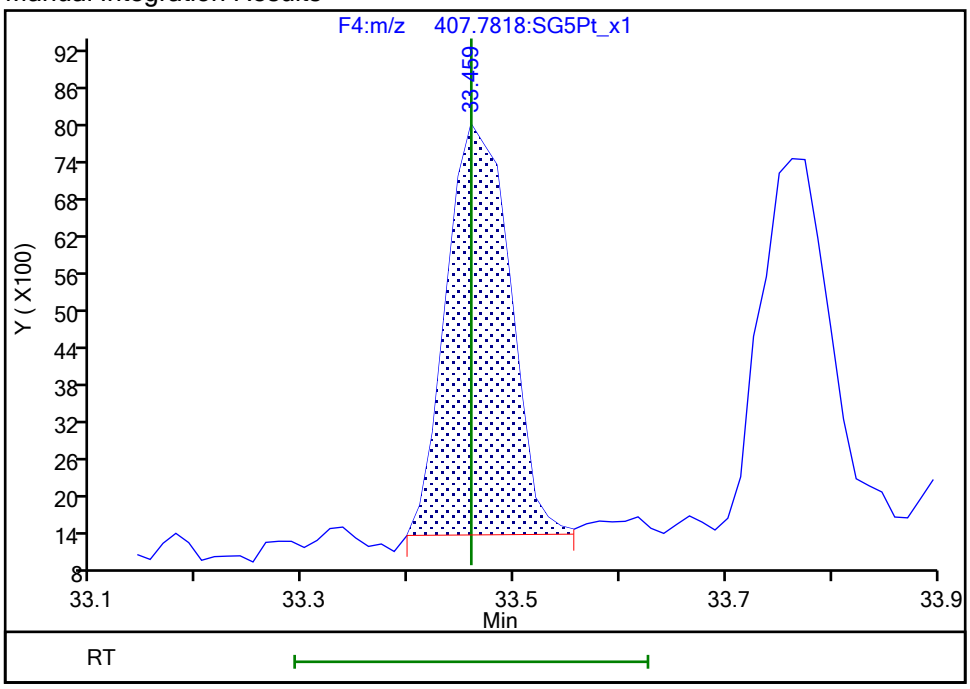

Reviewer: dadunj, 10-Feb-2020 09:33:40

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_13.d				
Injection Date:	06-Feb-2020 20:00:51	Instrument ID:	10D5		
Lims ID:	320-58170-A-4-A	Lab Sample ID:	320-58170-4		
Client ID:	11187072-Eastern-Solids				
Operator ID:	AJS	ALS Bottle#:	15	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

Non-2,3,7,8-sub-HpCDF, Signal: 1, m/z: 407.7818, RT: (33.43- 34.56)

Signal: 1

Processing Integration Results

RT = 33.763 Area = 32782

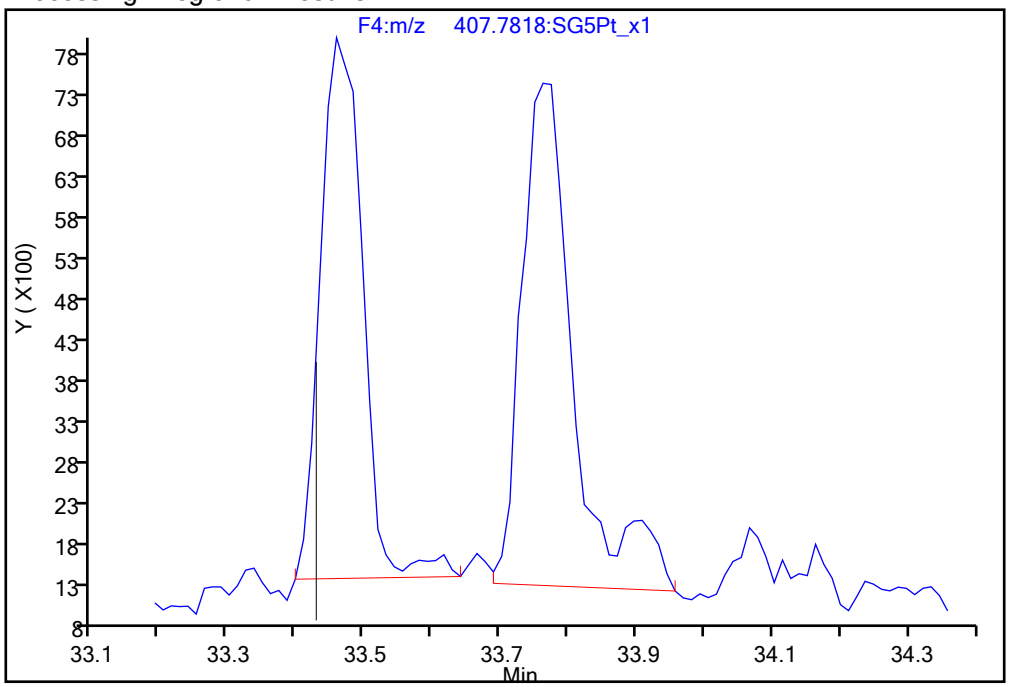

Manual Integration Results

RT = 33.763 Area = 29473 M

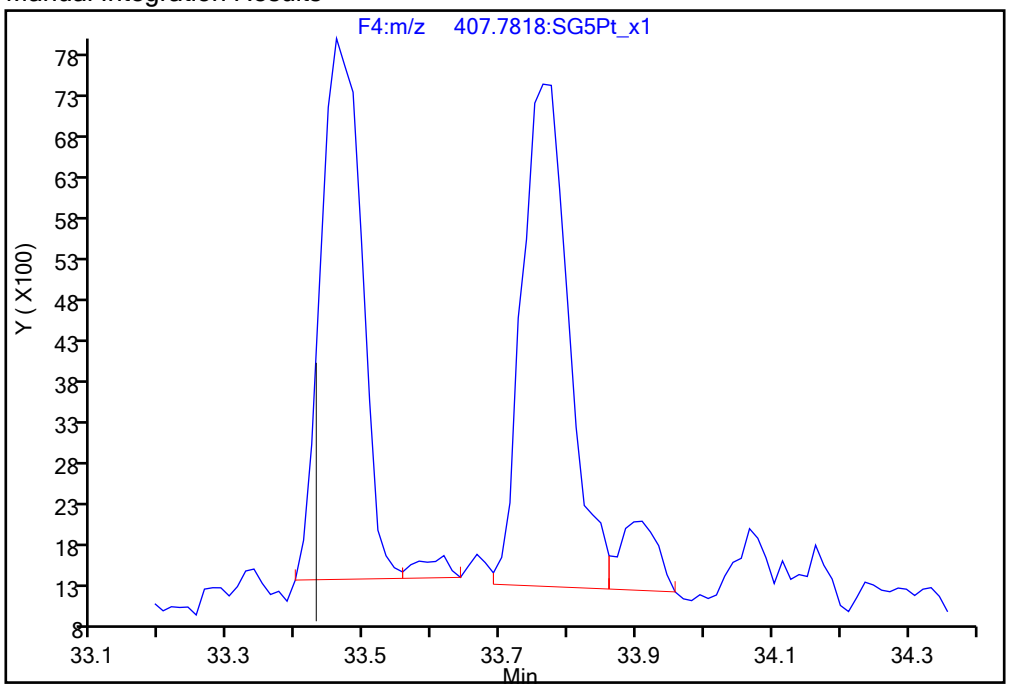

Reviewer: dadunj, 10-Feb-2020 09:33:45

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_13.d				
Injection Date:	06-Feb-2020 20:00:51	Instrument ID:	10D5		
Lims ID:	320-58170-A-4-A	Lab Sample ID:	320-58170-4		
Client ID:	11187072-Eastern-Solids				
Operator ID:	AJS	ALS Bottle#:	15	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

Non-2,3,7,8-sub-HpCDF, Signal: 2, m/z: 409.7789, RT: (33.43- 34.56)

Signal: 2

Processing Integration Results

RT = 33.750 Area = 35008

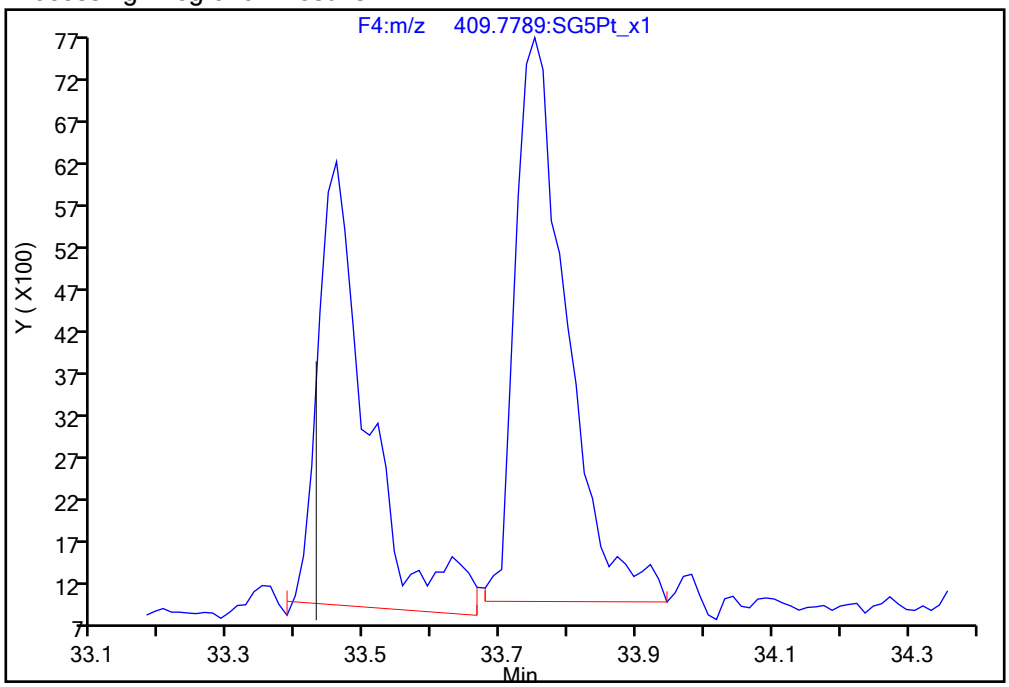

Manual Integration Results

RT = 33.750 Area = 33141 M

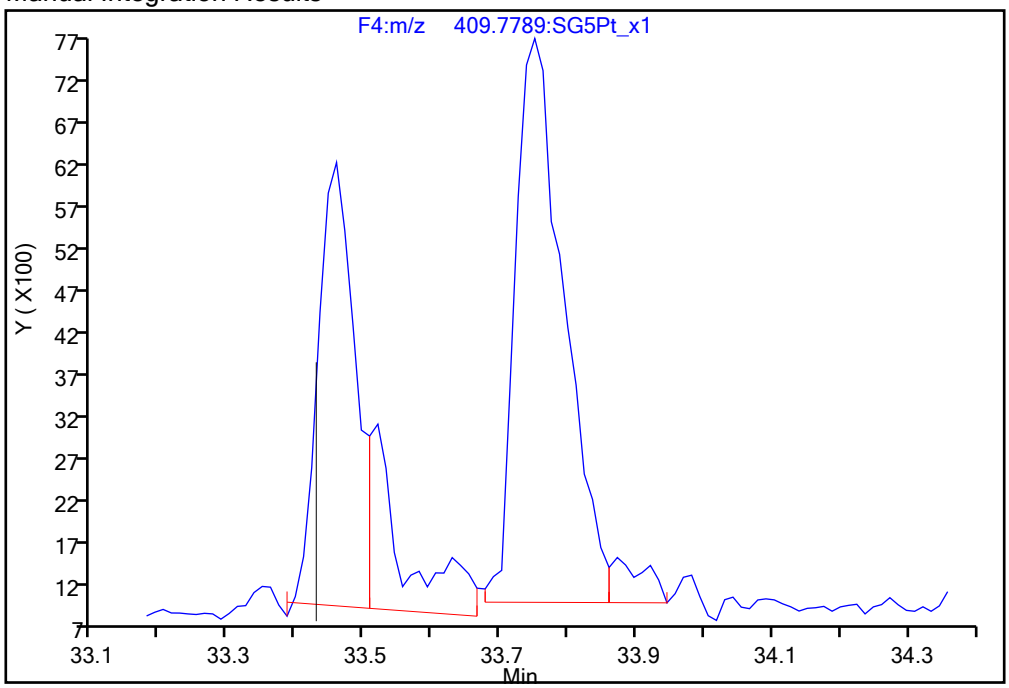

Reviewer: dadunj, 10-Feb-2020 09:33:47

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_13.d				
Injection Date:	06-Feb-2020 20:00:51	Instrument ID:	10D5		
Lims ID:	320-58170-A-4-A	Lab Sample ID:	320-58170-4		
Client ID:	11187072-Eastern-Solids				
Operator ID:	AJS	ALS Bottle#:	15	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 1

Processing Integration Results

RT: 34.24
Area: 274372
Amount: 2.944547
Amount Units: pg/ul

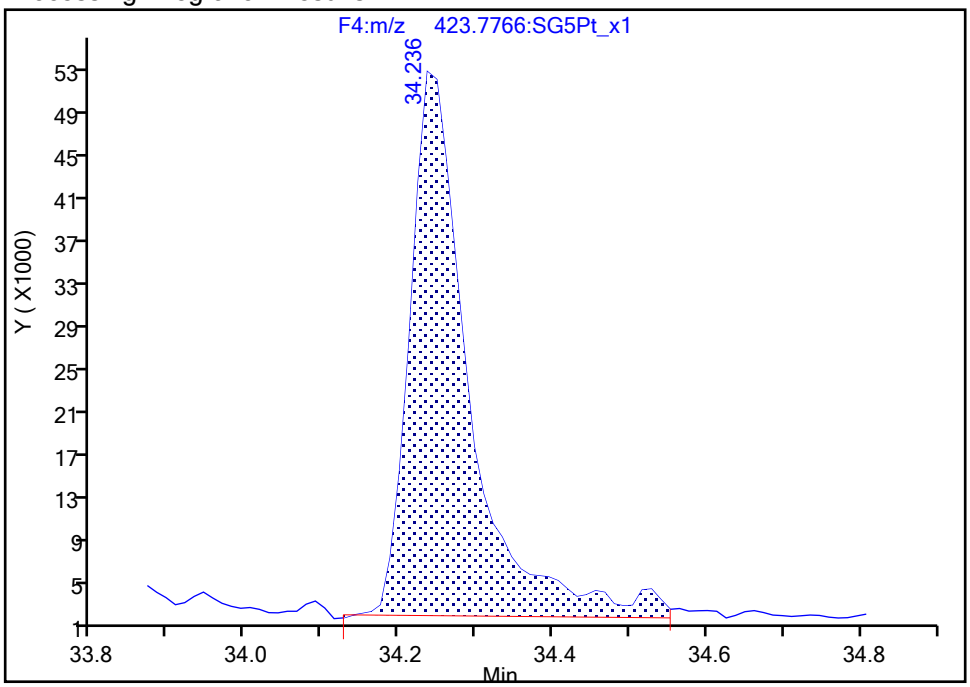

Manual Integration Results

RT: 34.24
Area: 262282
Amount: 2.837640
Amount Units: pg/ul

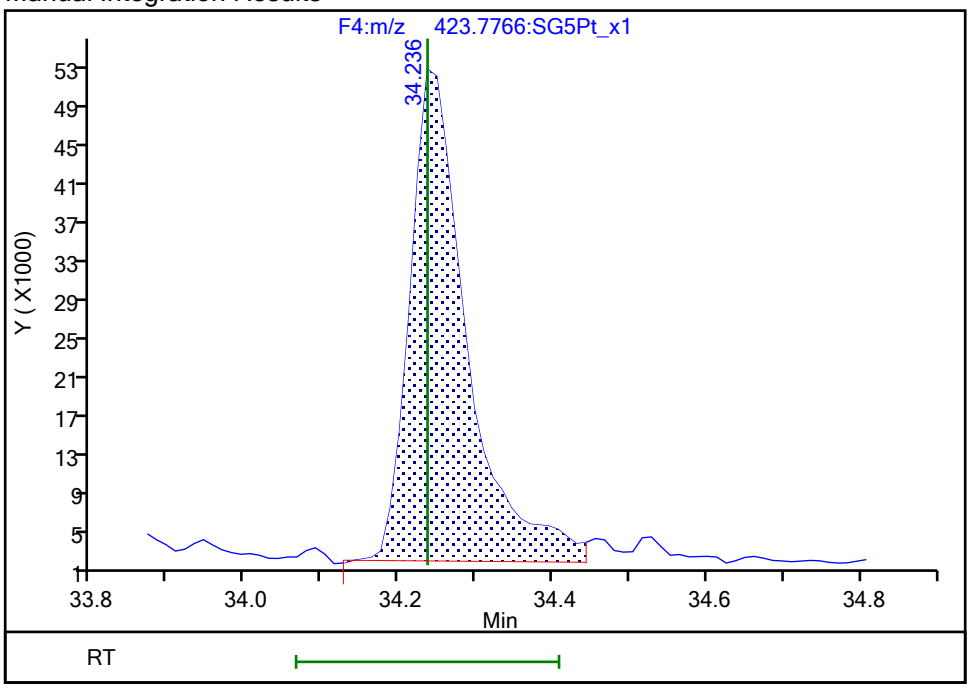

Reviewer: dadunj, 10-Feb-2020 09:34:01

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_13.d				
Injection Date:	06-Feb-2020 20:00:51	Instrument ID:	10D5		
Lims ID:	320-58170-A-4-A	Lab Sample ID:	320-58170-4		
Client ID:	11187072-Eastern-Solids				
Operator ID:	AJS	ALS Bottle#:	15	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 2

Processing Integration Results

RT: 34.24
Area: 266049
Amount: 2.944547
Amount Units: pg/ul

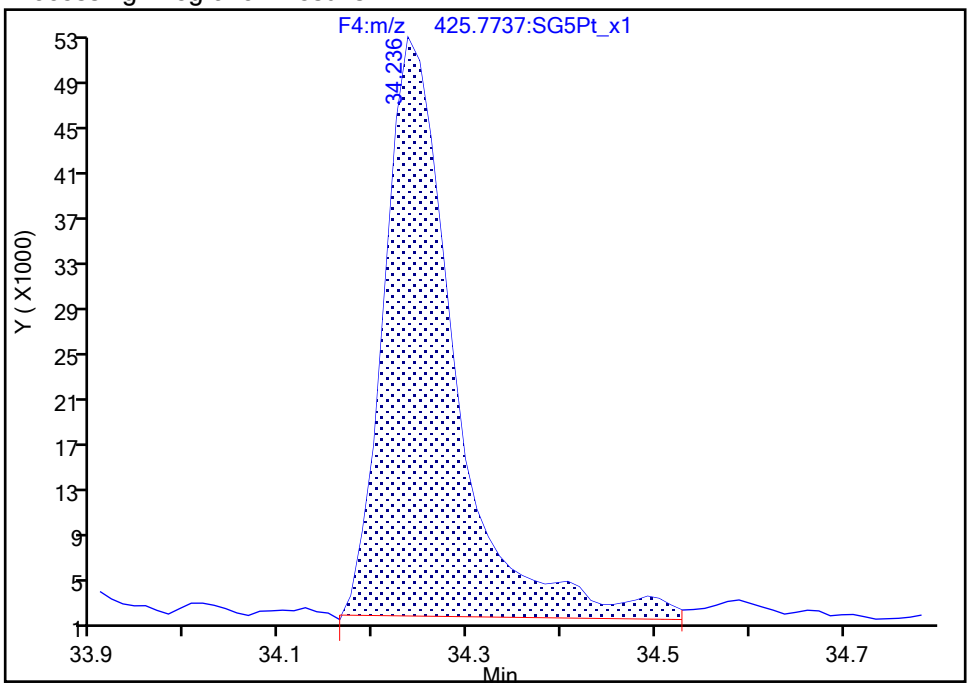

Manual Integration Results

RT: 34.24
Area: 258518
Amount: 2.837640
Amount Units: pg/ul

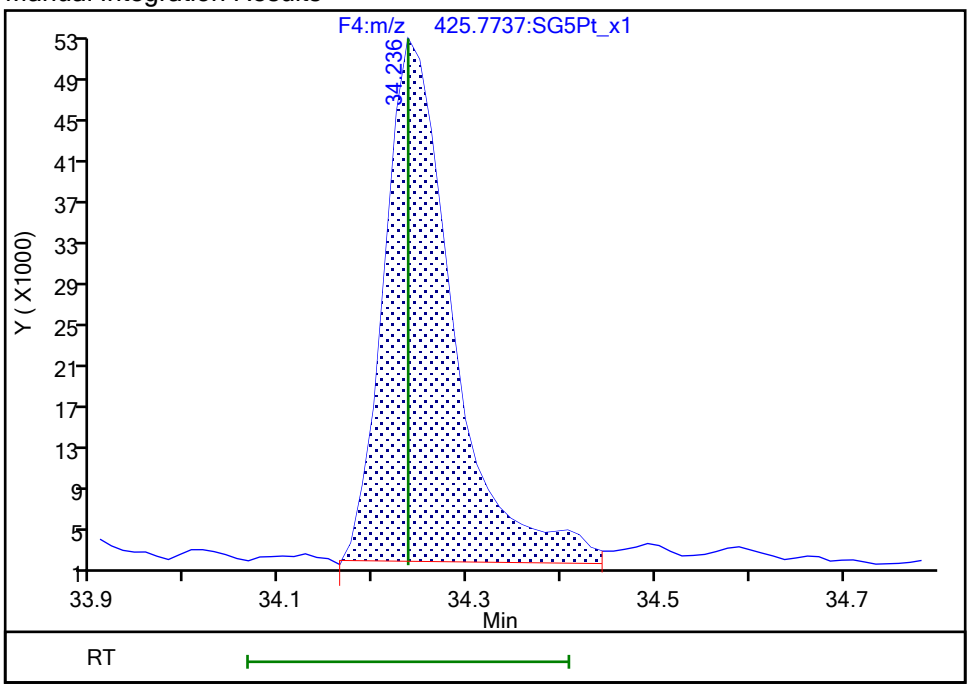

Reviewer: dadunj, 10-Feb-2020 09:34:03

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_13.d				
Injection Date:	06-Feb-2020 20:00:51	Instrument ID:	10D5		
Lims ID:	320-58170-A-4-A	Lab Sample ID:	320-58170-4		
Client ID:	11187072-Eastern-Solids				
Operator ID:	AJS	ALS Bottle#:	15	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

Non-2,3,7,8-sub-HpCDD, Signal: 1, m/z: 423.7766, RT: (33.66- 34.27)

Signal: 1

Processing Integration Results

RT = 33.702 Area = 485375

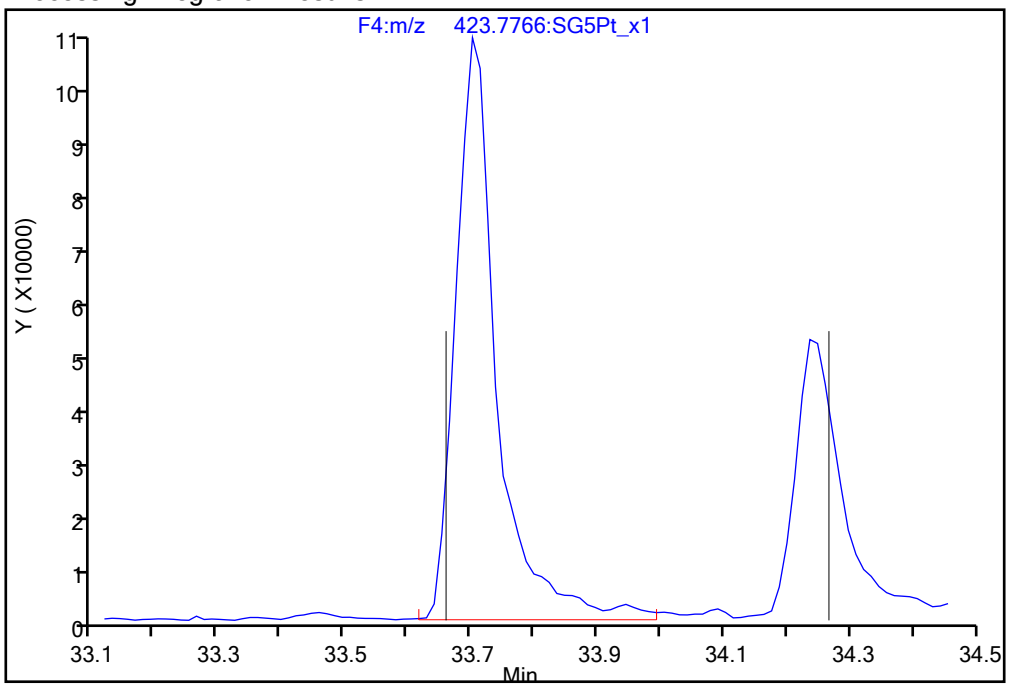

Manual Integration Results

RT = 33.702 Area = 481693 M

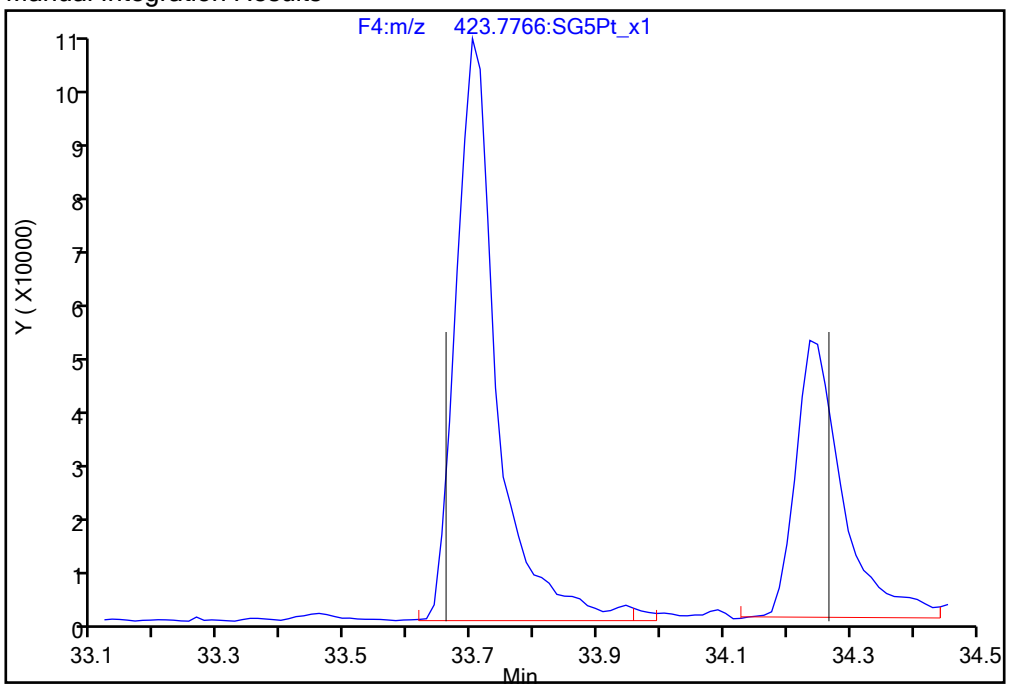

Reviewer: dadunj, 10-Feb-2020 09:34:07

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 10-Feb-2020 09:34:51 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_13.d		
Injection Date:	06-Feb-2020 20:00:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Eastern-Solids		
Worklist#:	355551	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

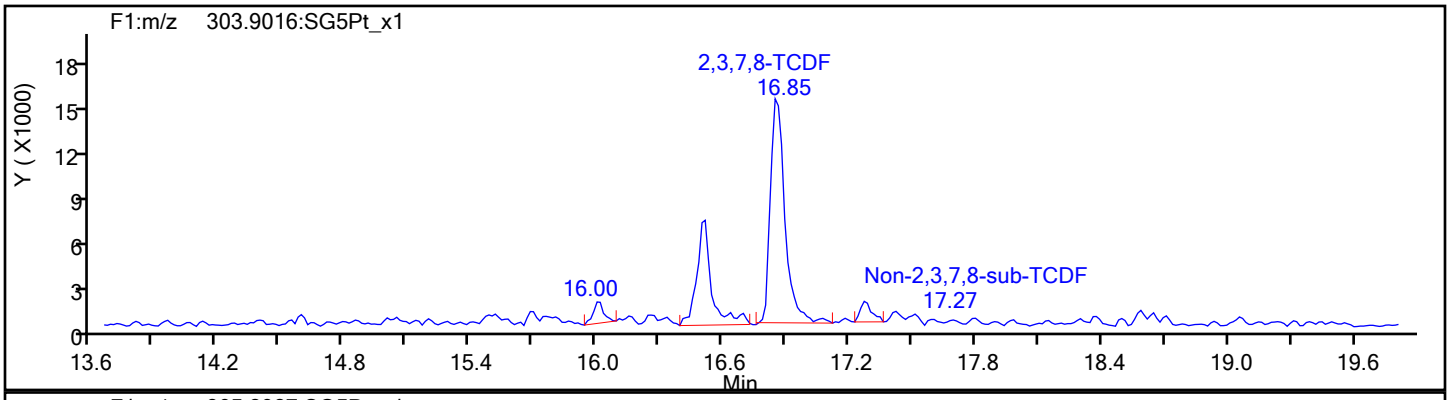

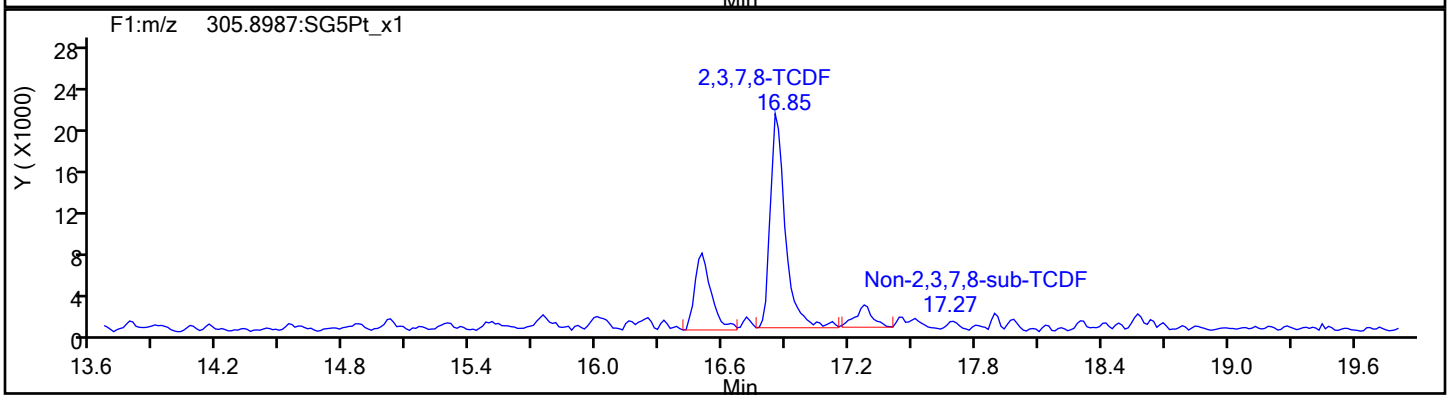

TCDF Standards

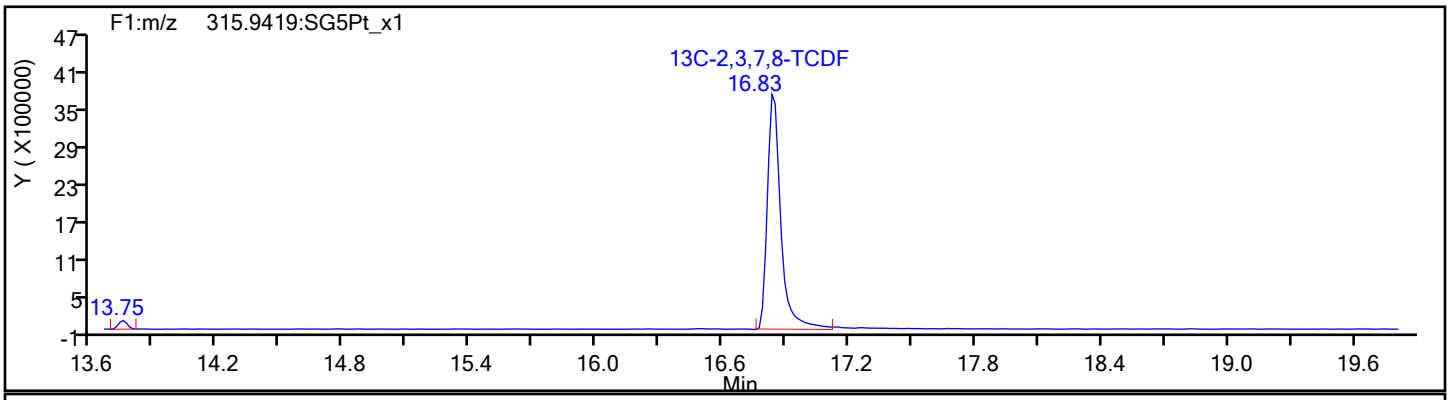

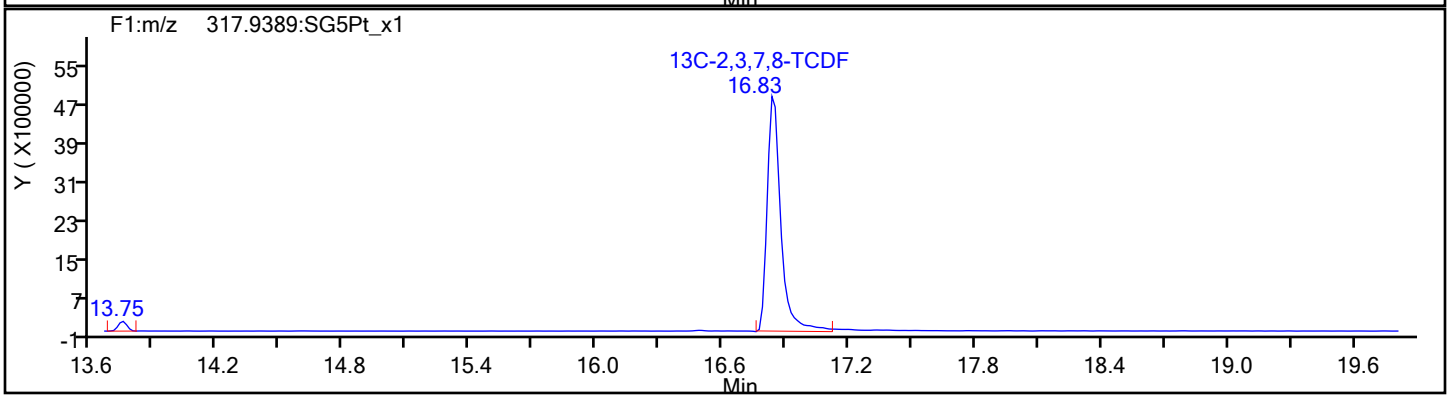

Report Date: 10-Feb-2020 09:34:51 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_13.d		
Injection Date:	06-Feb-2020 20:00:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Eastern-Solids		
Worklist#:	355551	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

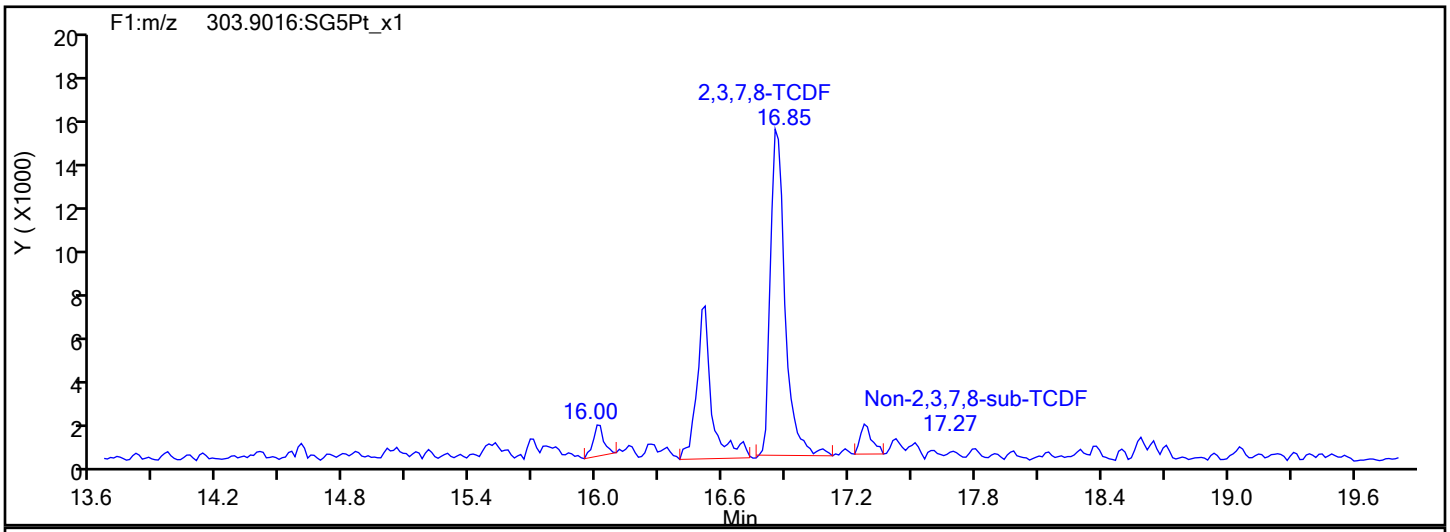

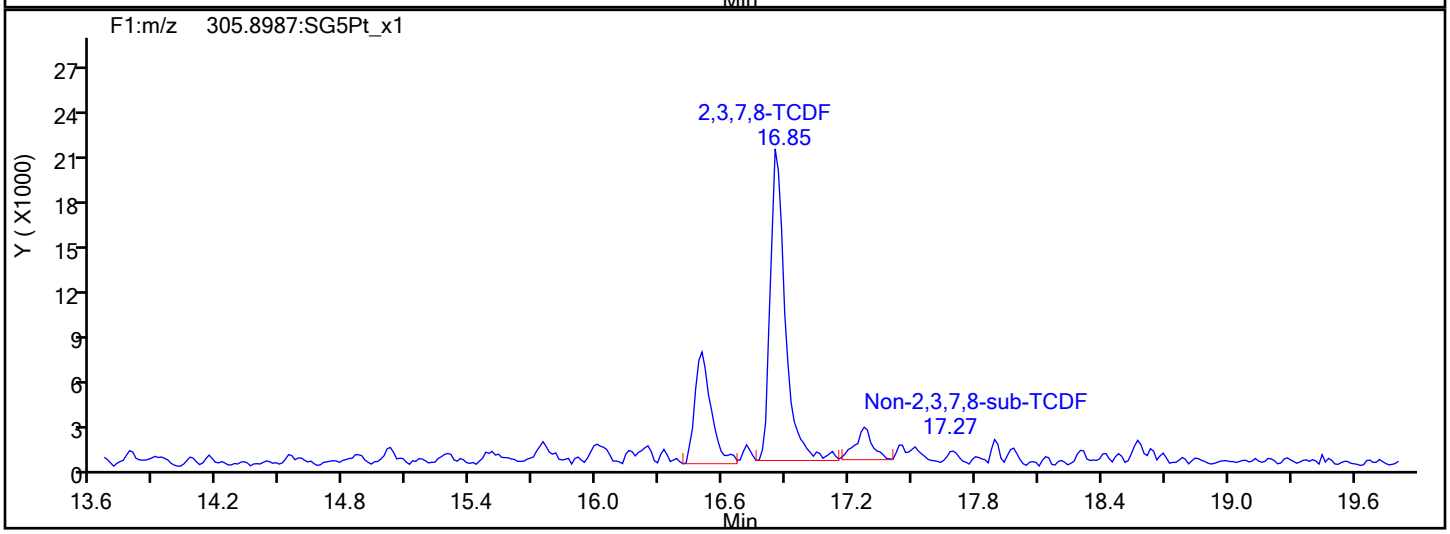

TCDF Interference Mass

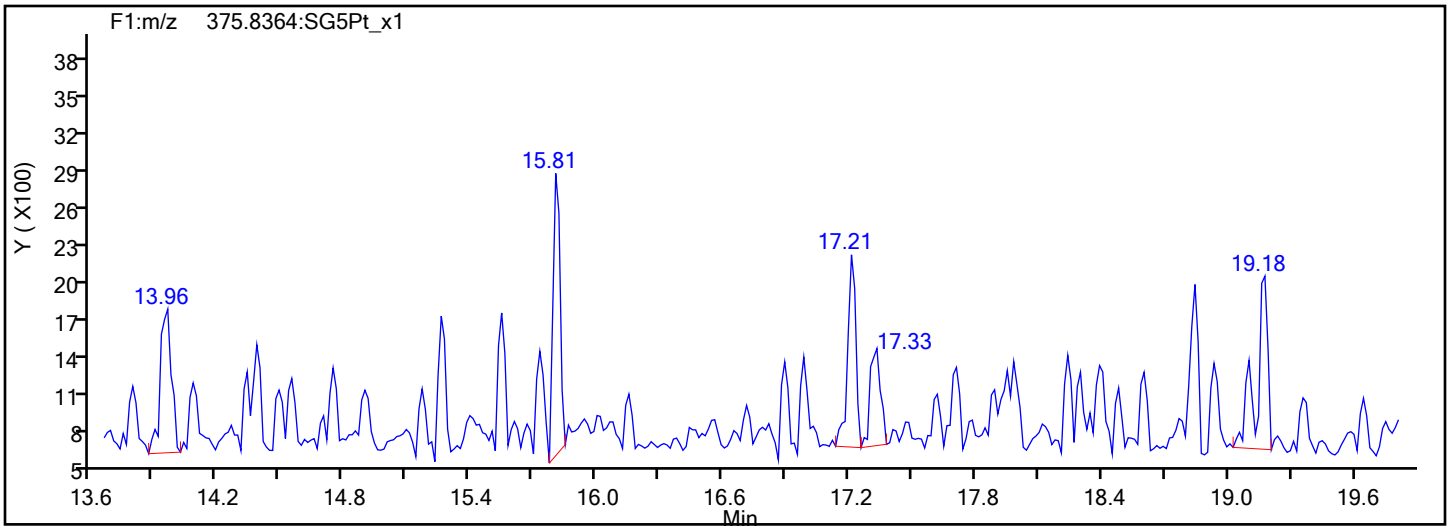

Report Date: 10-Feb-2020 09:34:51 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_13.d		
Injection Date:	06-Feb-2020 20:00:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Eastern-Solids		
Worklist#:	355551	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

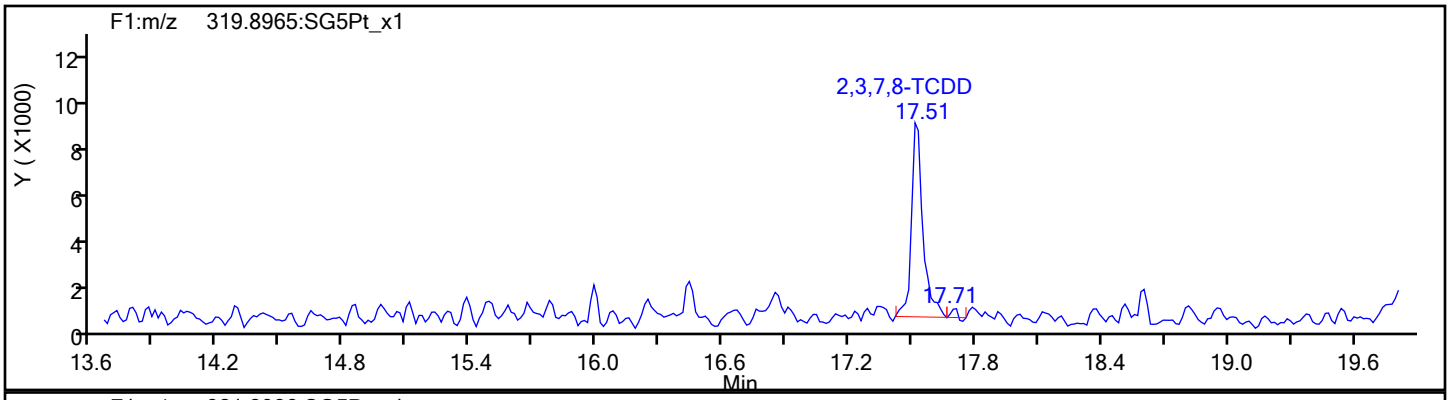

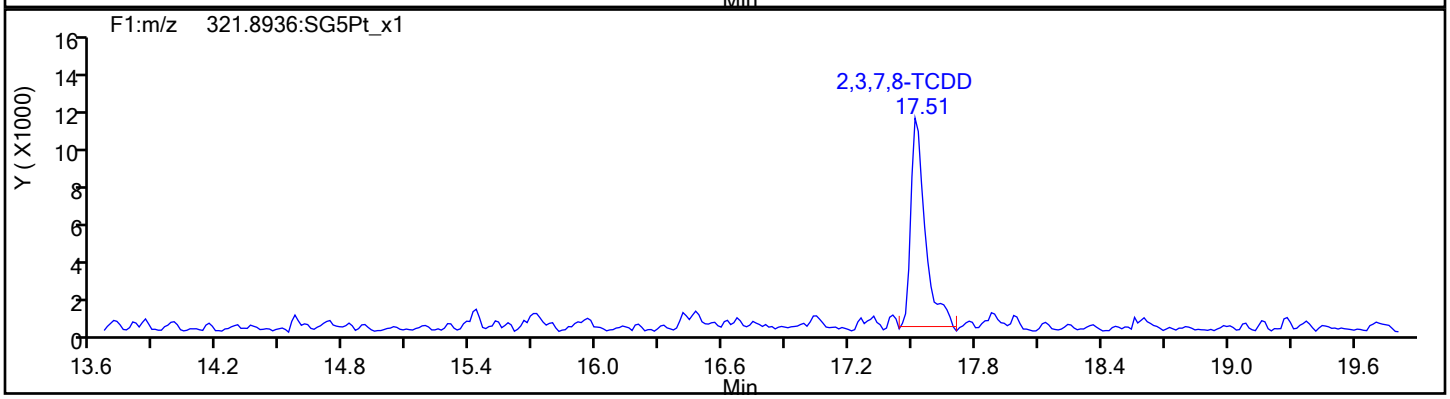

TCDD Standards

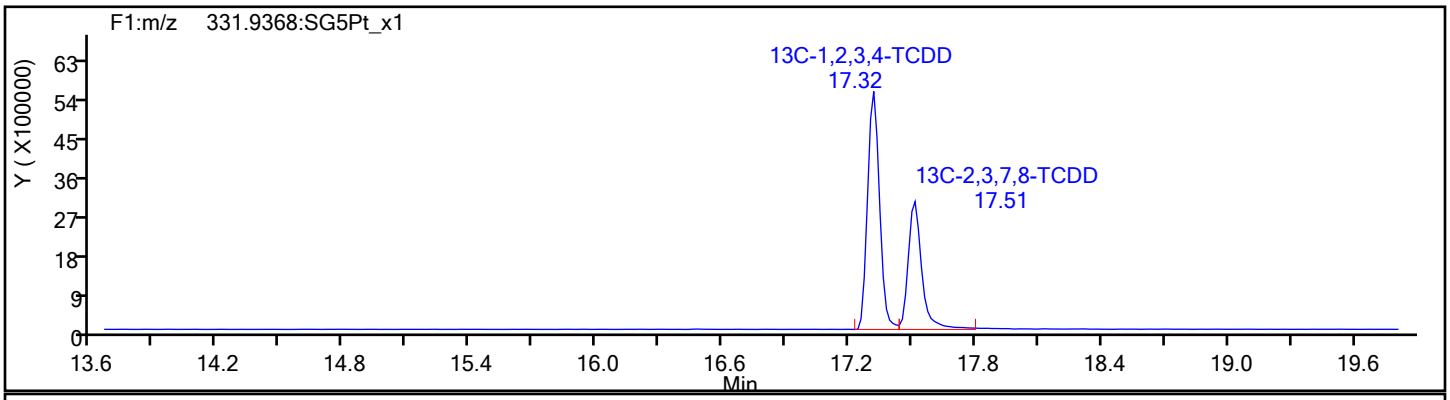

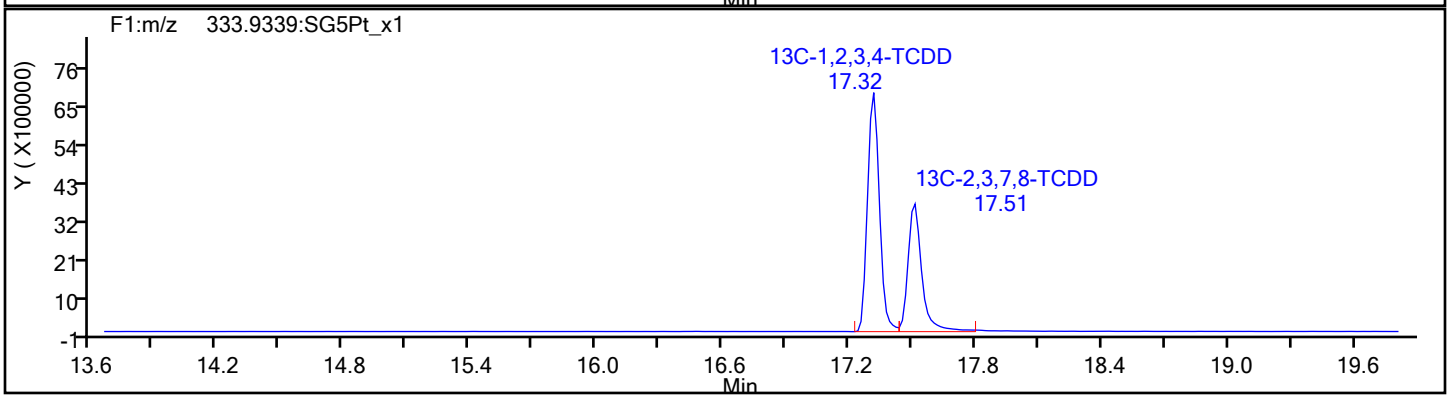

Report Date: 10-Feb-2020 09:34:51 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_13.d		
Injection Date:	06-Feb-2020 20:00:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Eastern-Solids		
Worklist#:	355551	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

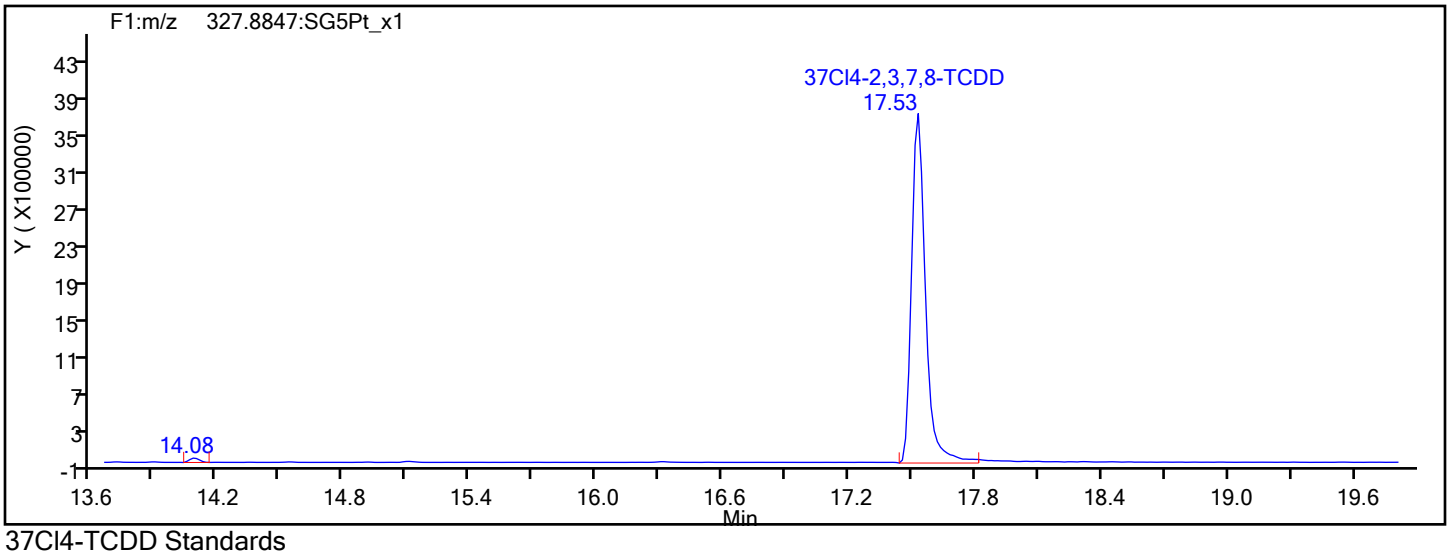

37Cl4-TCDD Standards

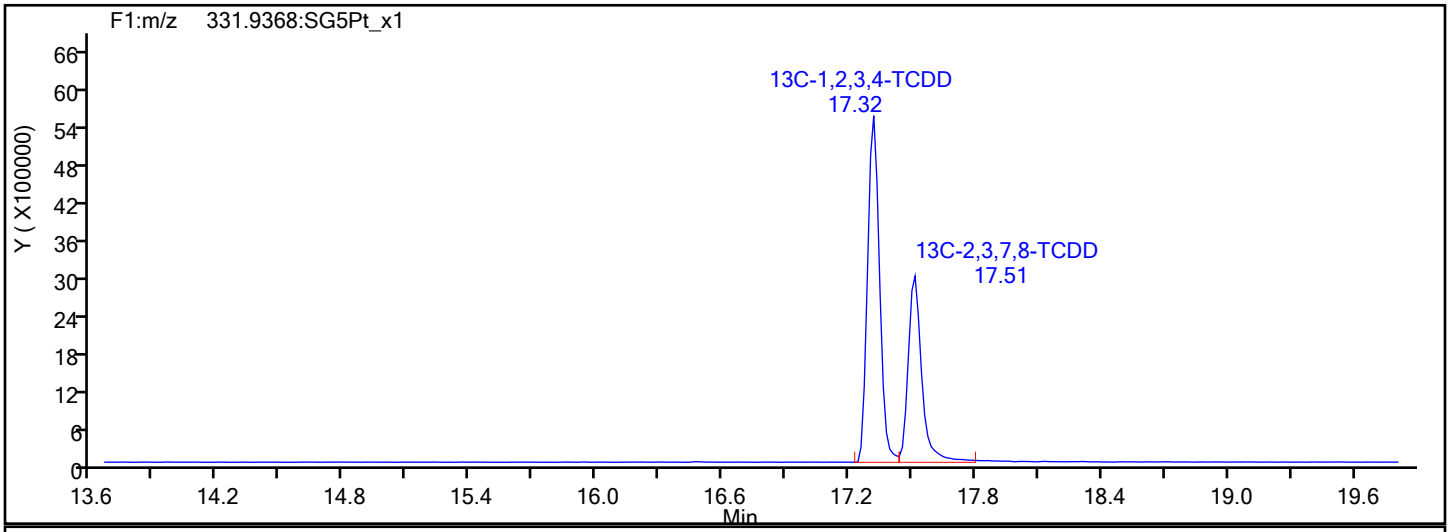

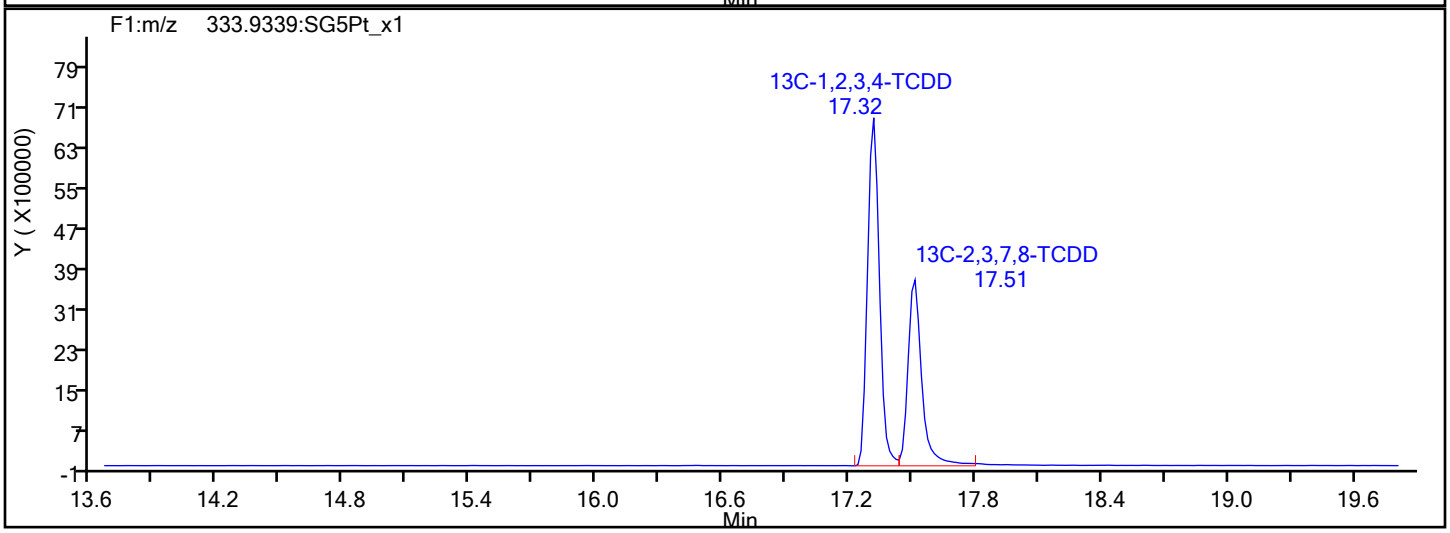

Report Date: 10-Feb-2020 09:34:52 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_13.d		
Injection Date:	06-Feb-2020 20:00:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Eastern-Solids		
Worklist#:	355551	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

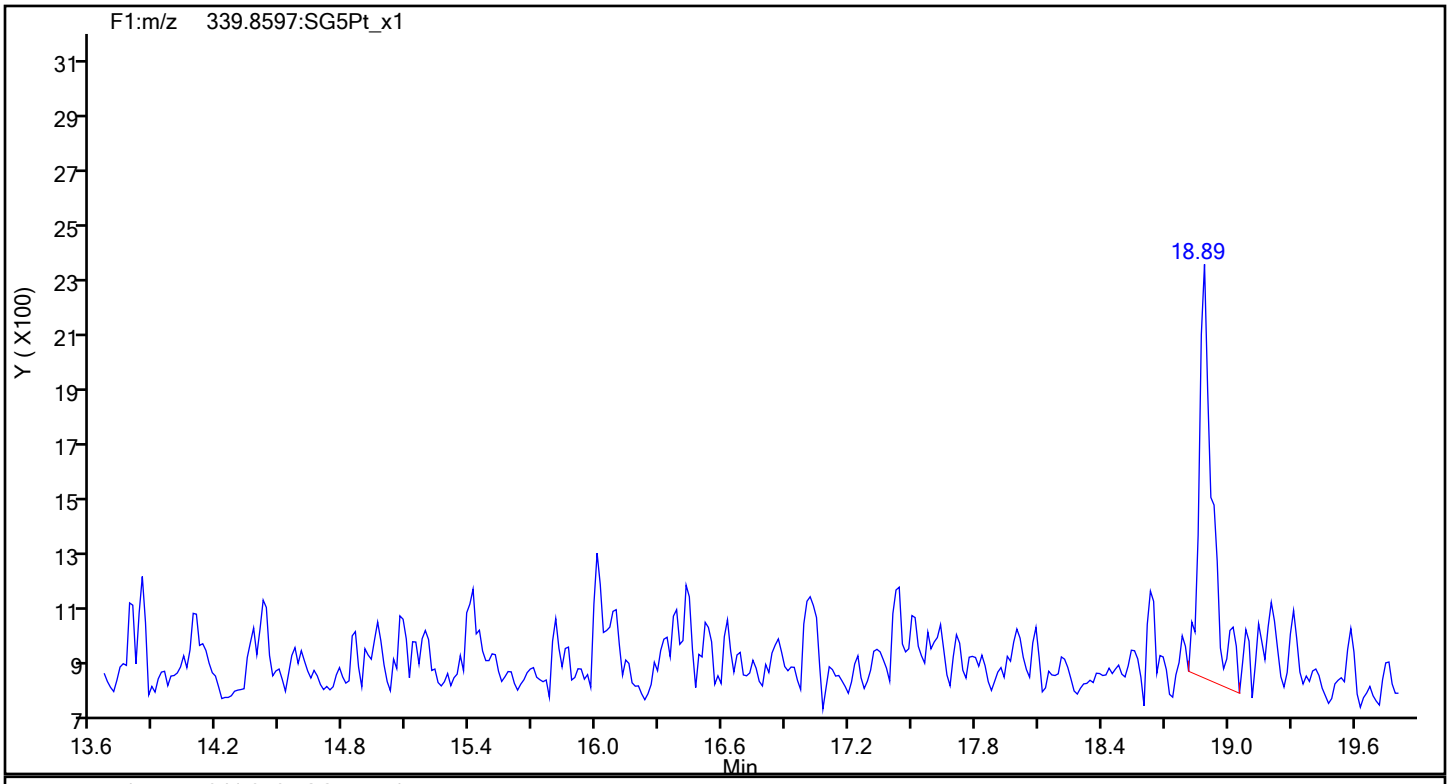

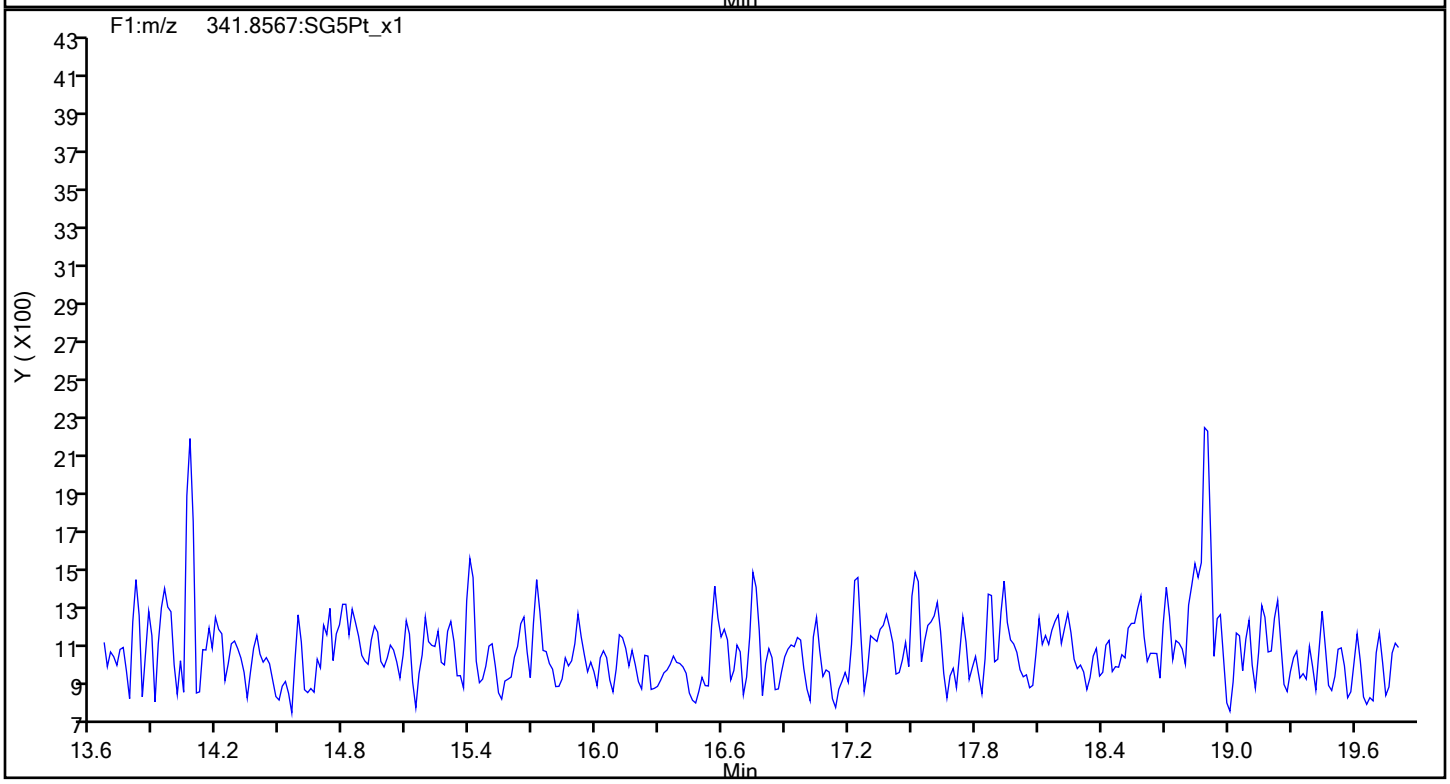

Report Date: 10-Feb-2020 09:34:52 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_13.d		
Injection Date:	06-Feb-2020 20:00:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Eastern-Solids		
Worklist#:	355551	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

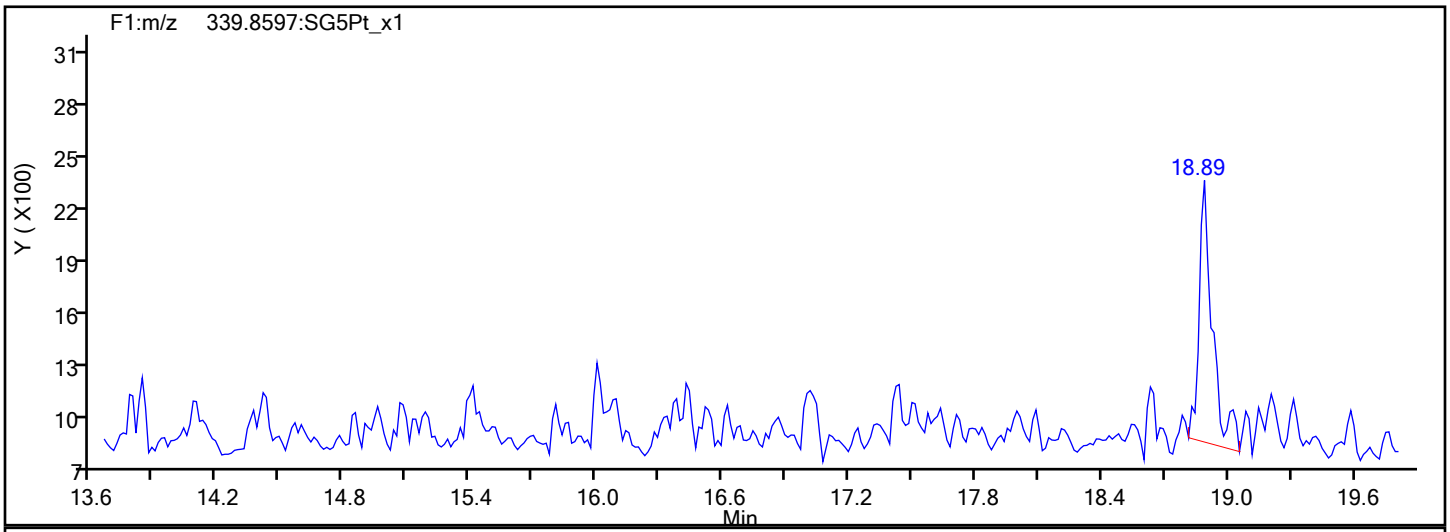

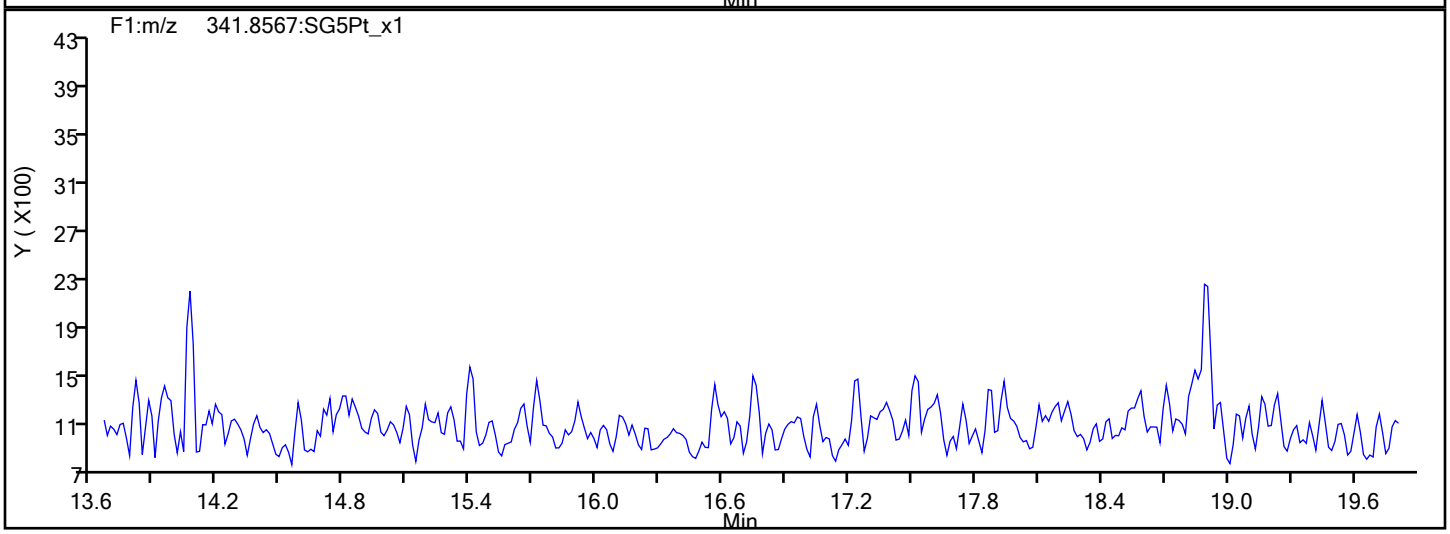

F1 PeCDFs Interference Mass

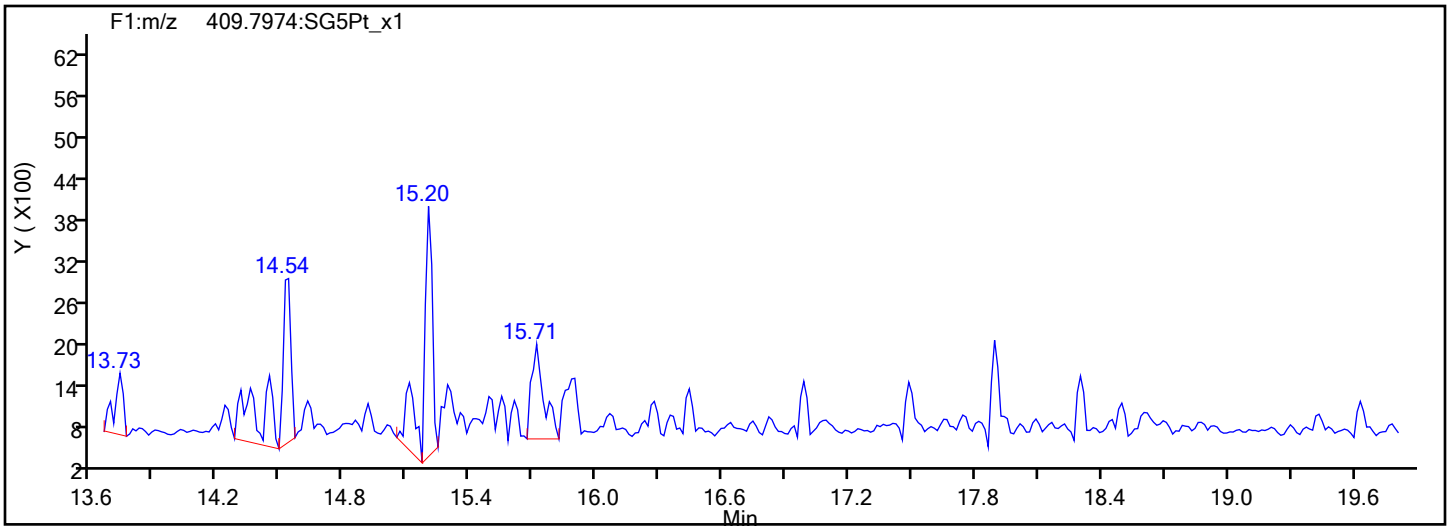

Report Date: 10-Feb-2020 09:34:52 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_13.d		
Injection Date:	06-Feb-2020 20:00:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Eastern-Solids		
Worklist#:	355551	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

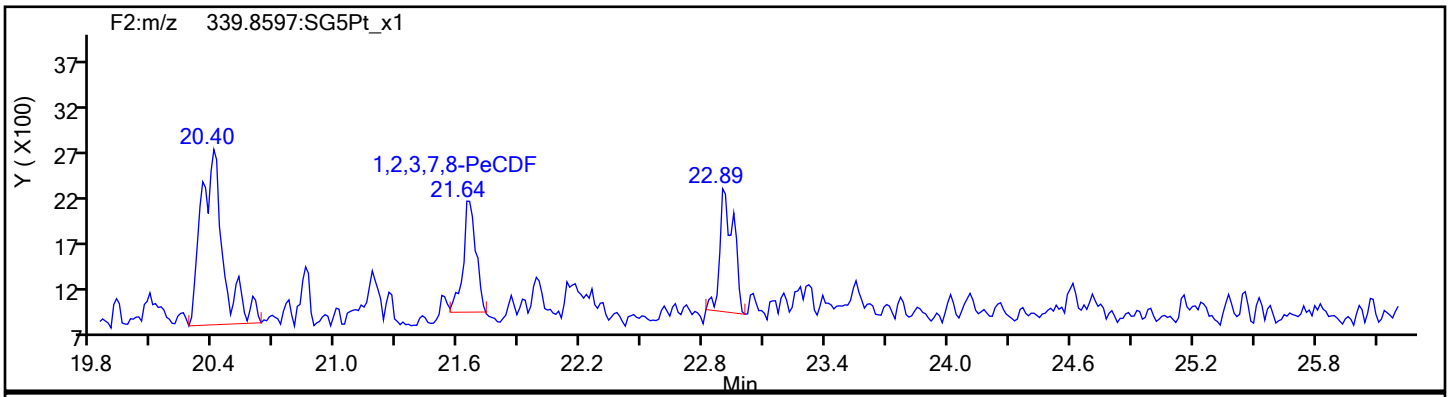

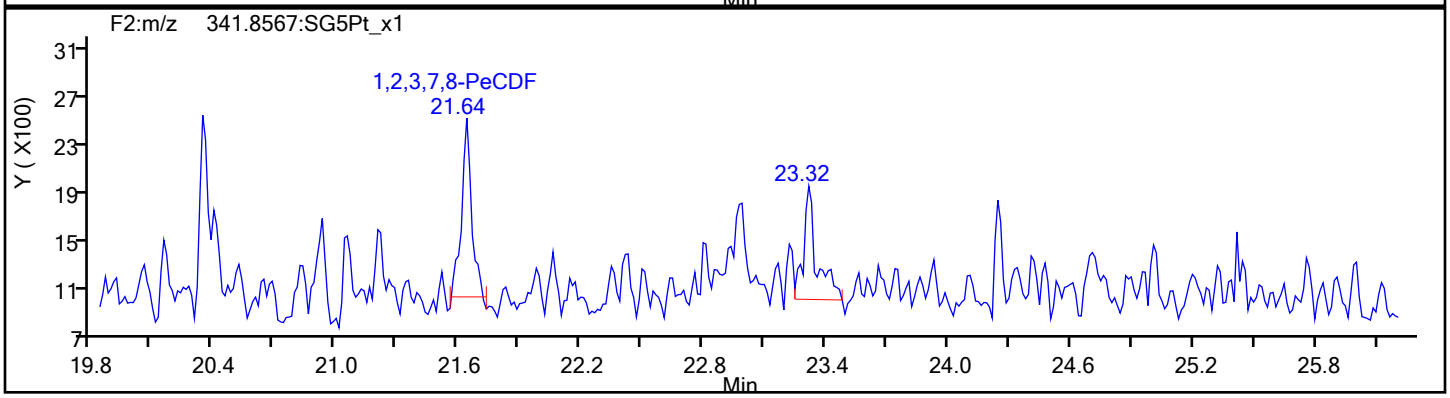

PeCDF Standards

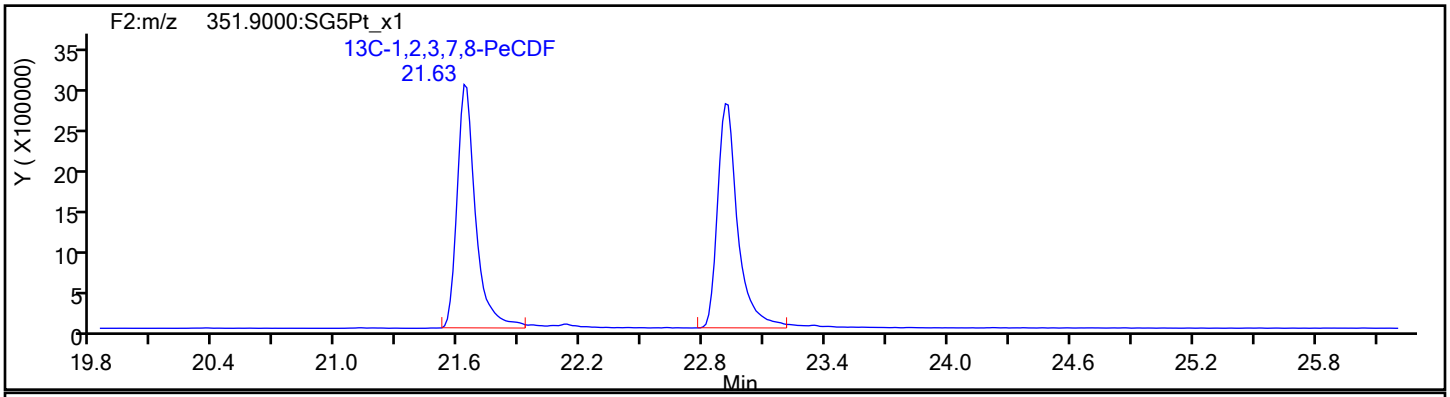

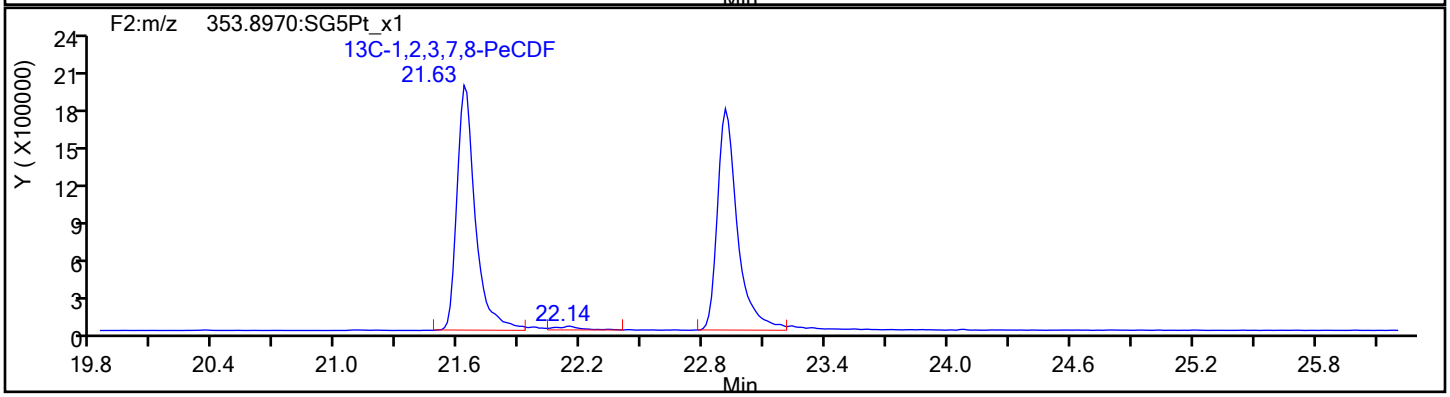

Report Date: 10-Feb-2020 09:34:52 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_13.d		
Injection Date:	06-Feb-2020 20:00:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Eastern-Solids		
Worklist#:	355551	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

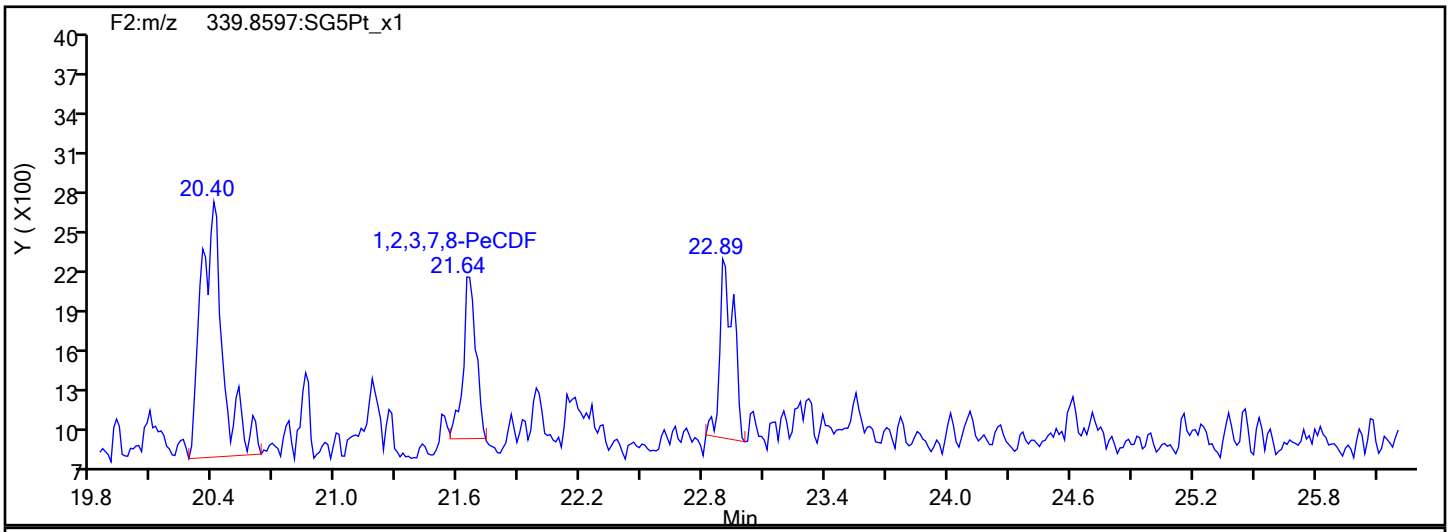

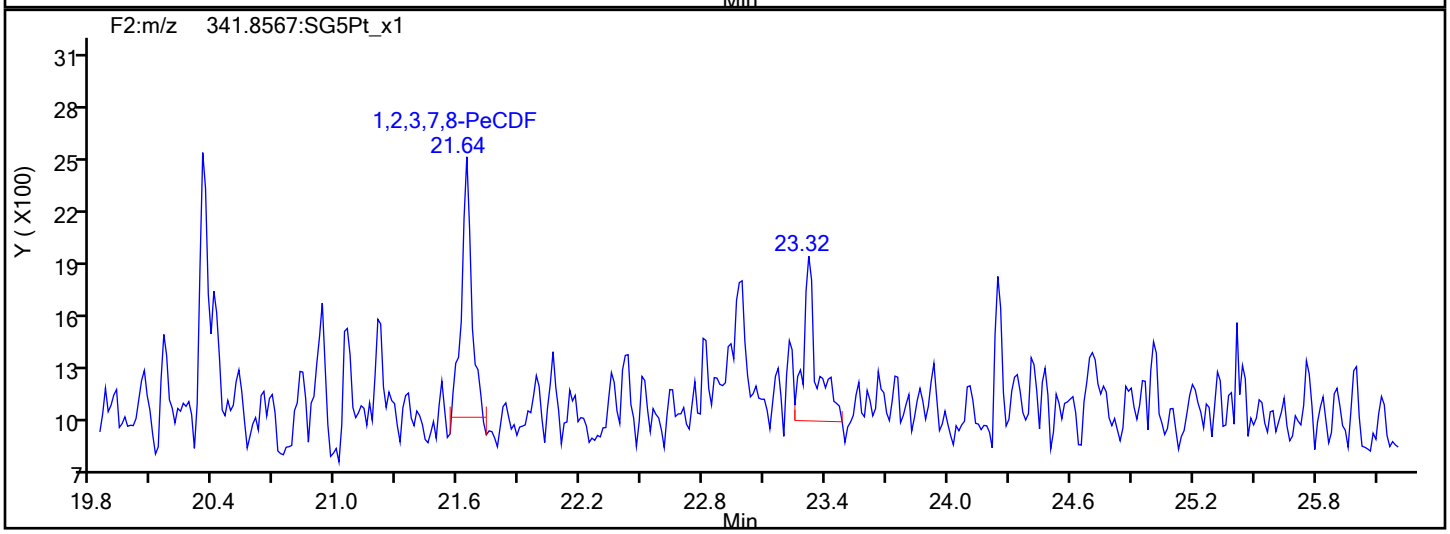

PeCDF Interference Mass

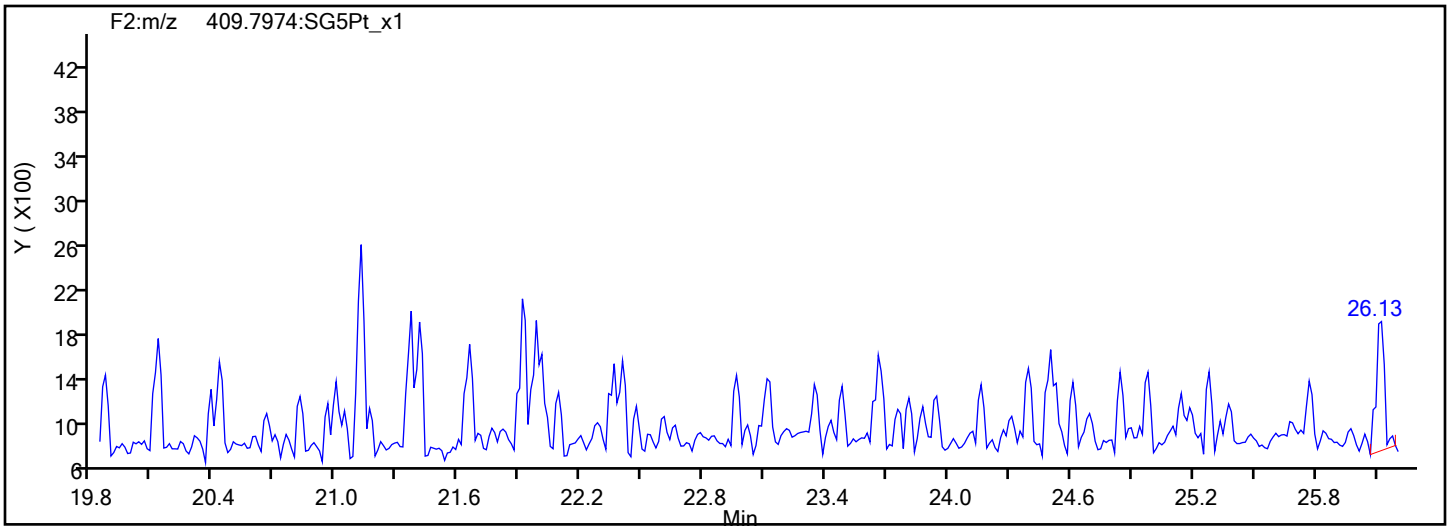

Report Date: 10-Feb-2020 09:34:52 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

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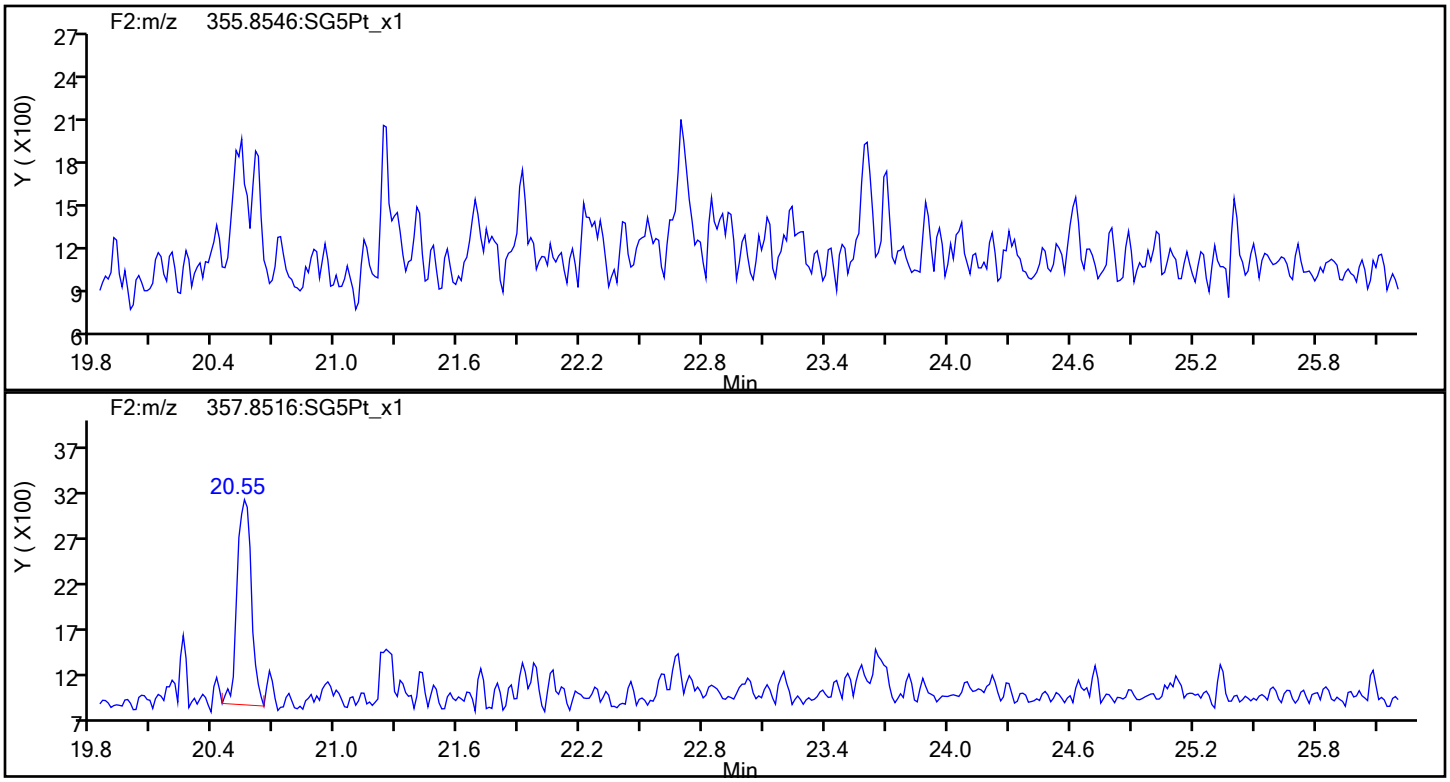

PeCDD Standards

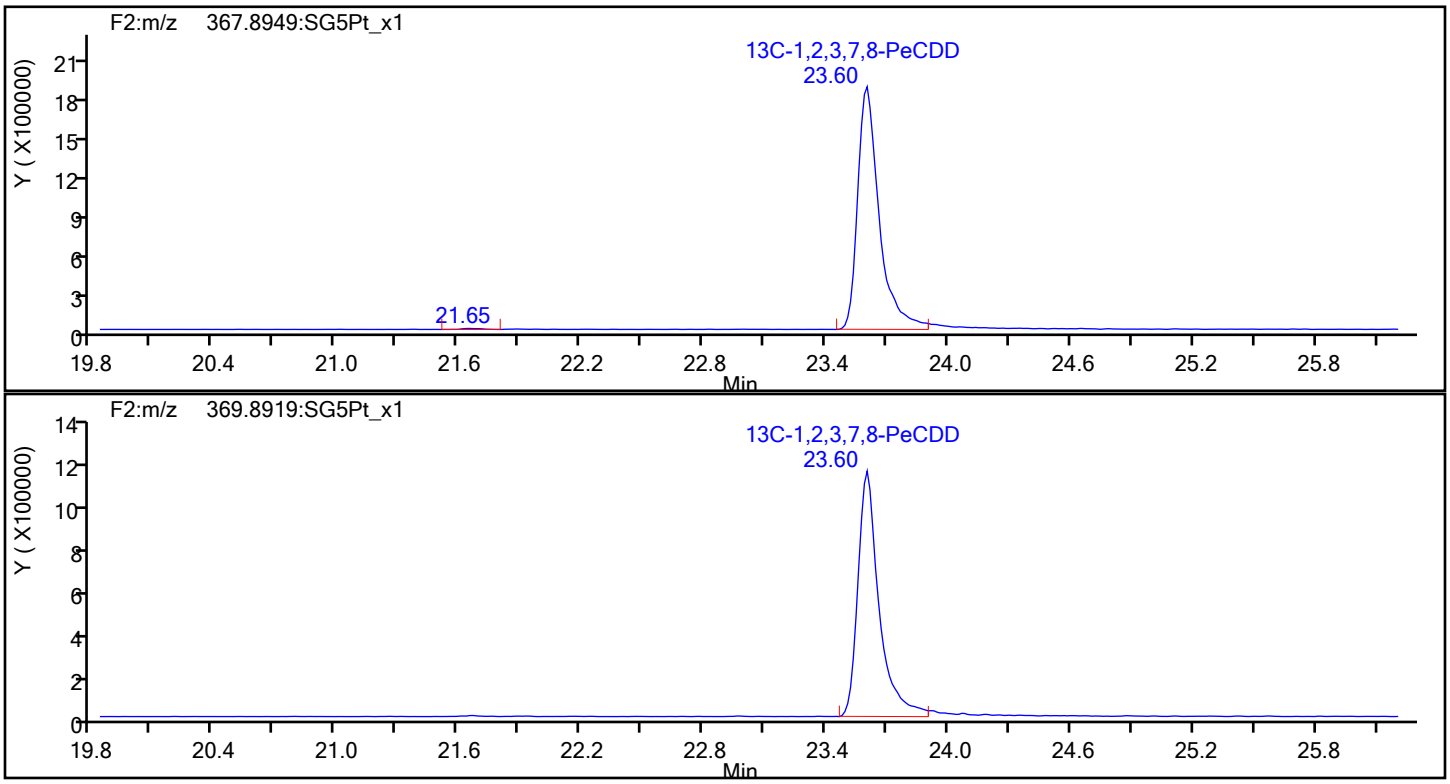

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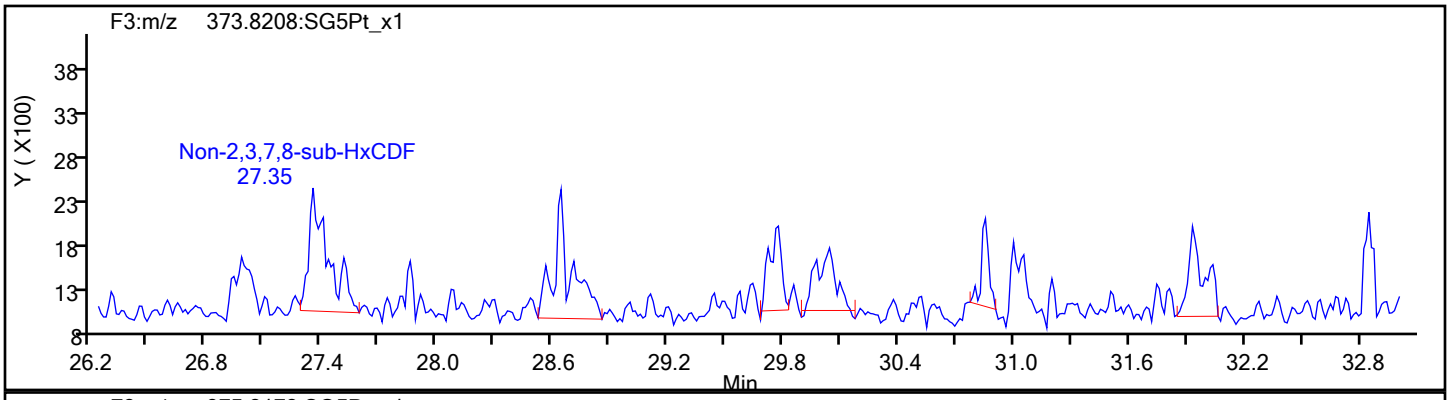

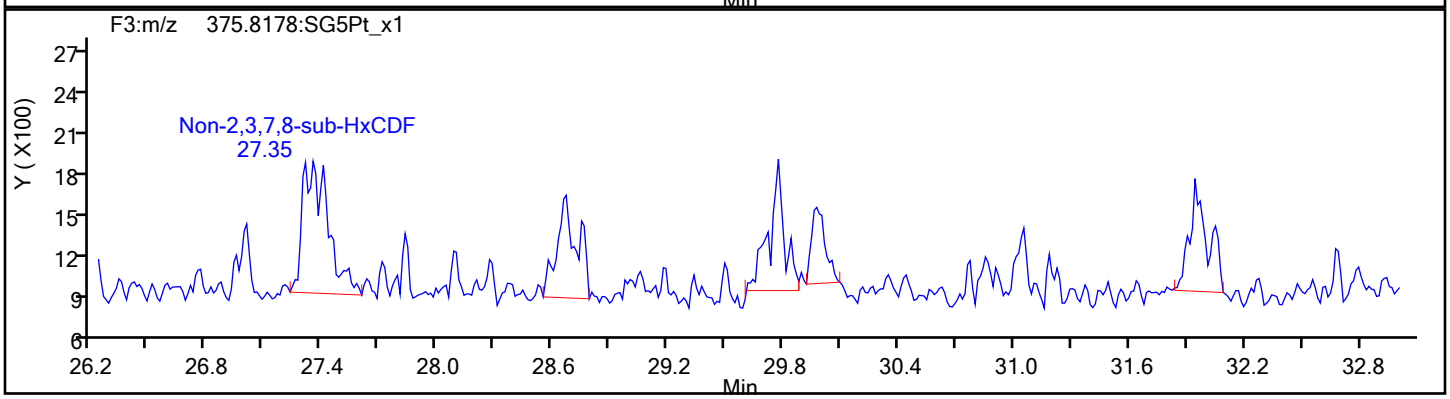

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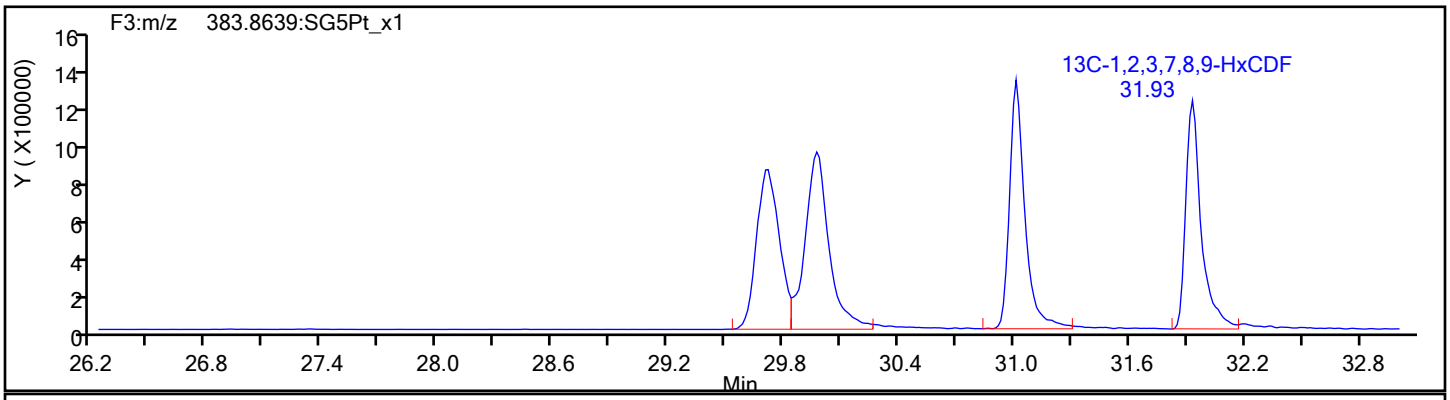

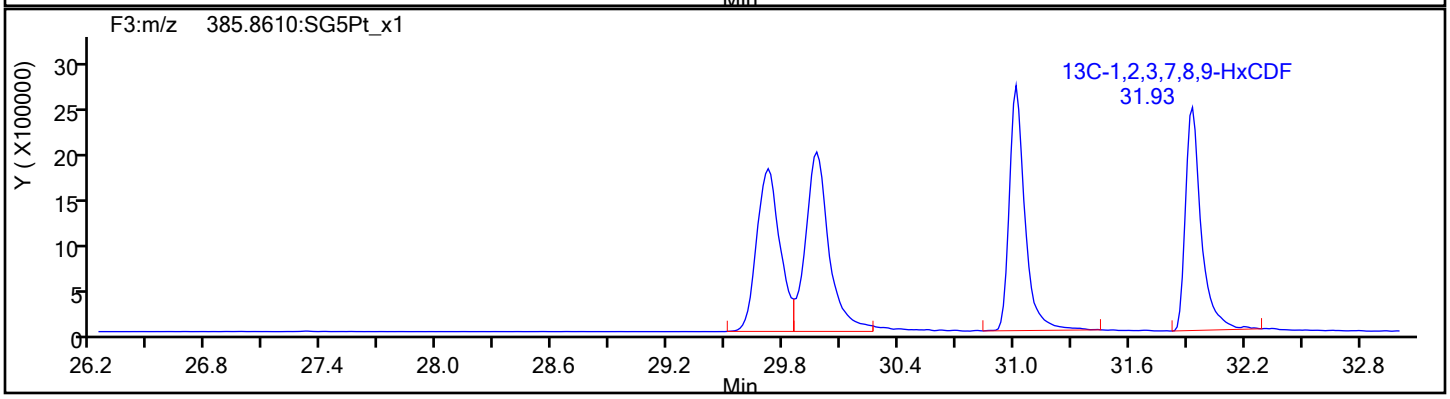

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Eurofins TestAmerica, Sacramento

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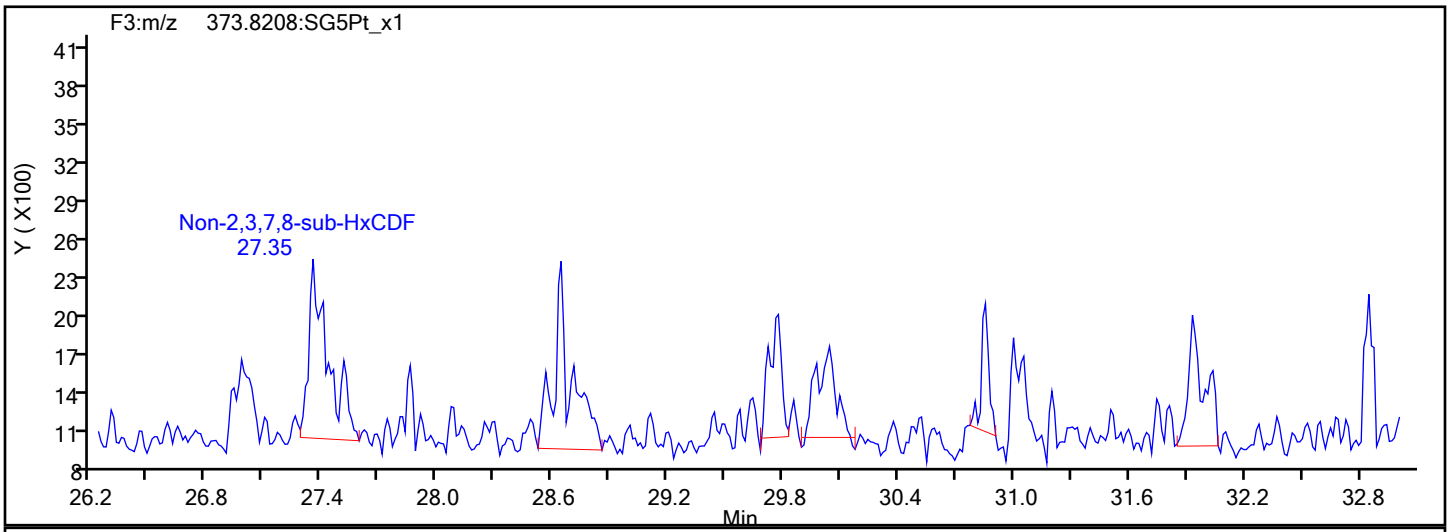

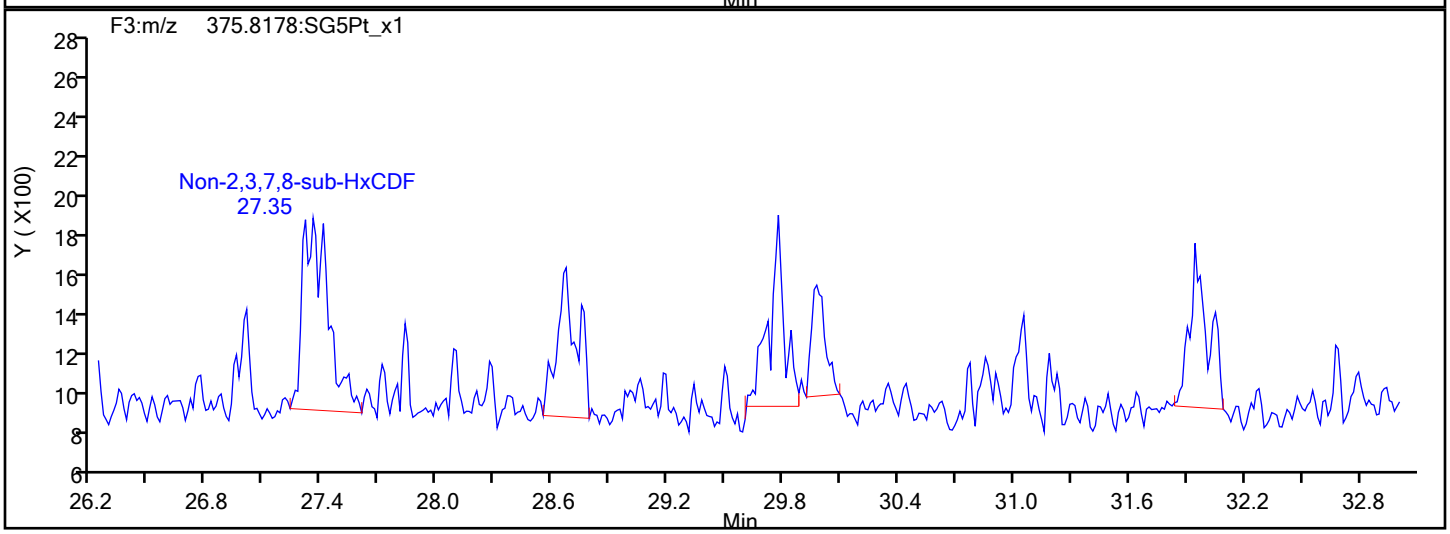

HxCDF Interference Mass

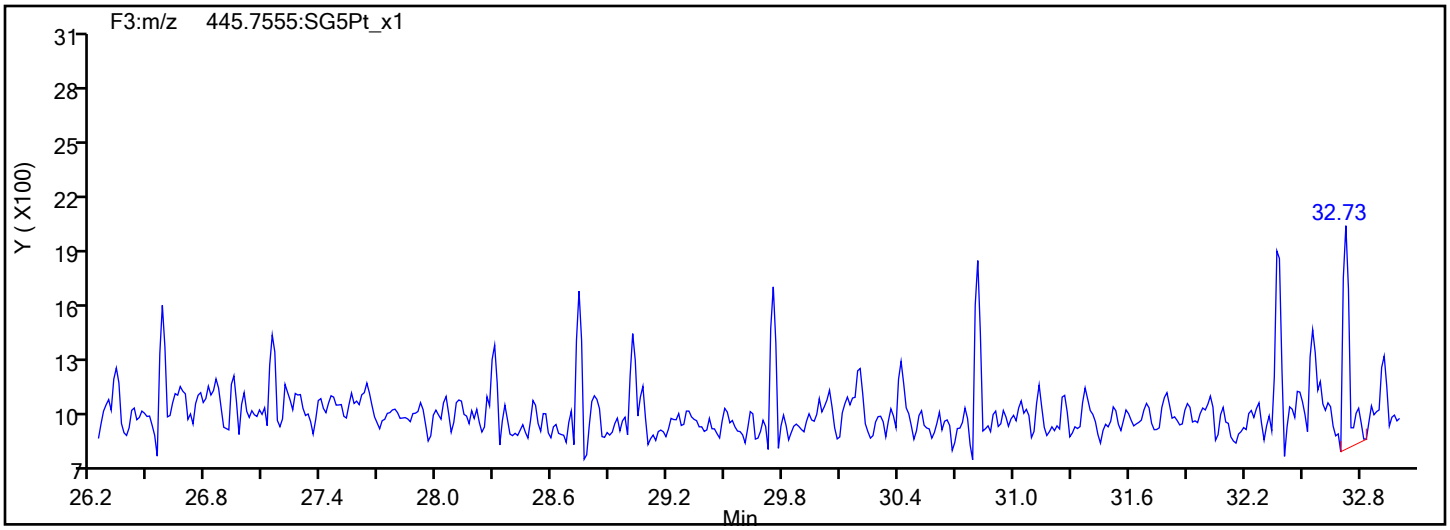

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Eurofins TestAmerica, Sacramento

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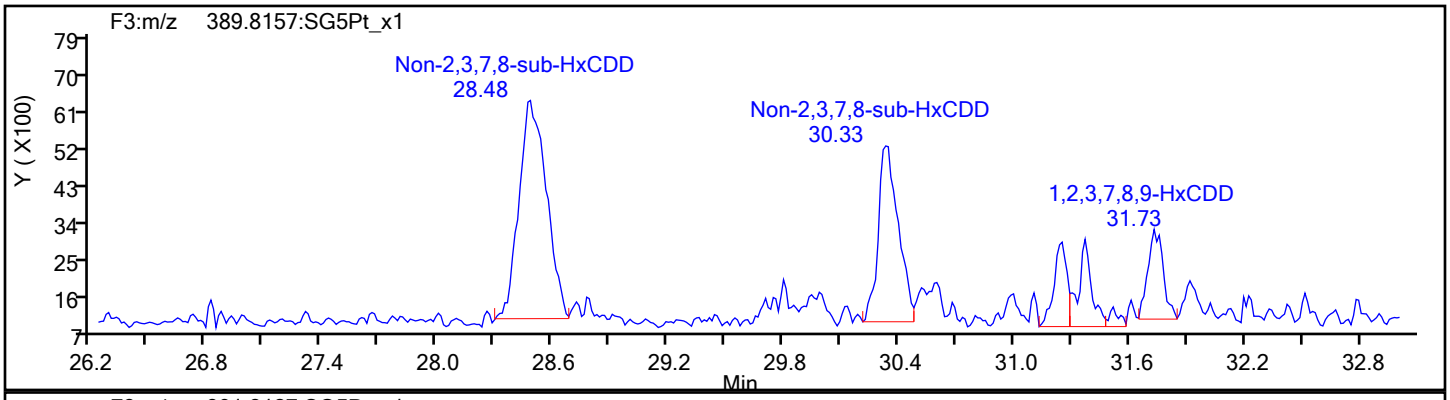

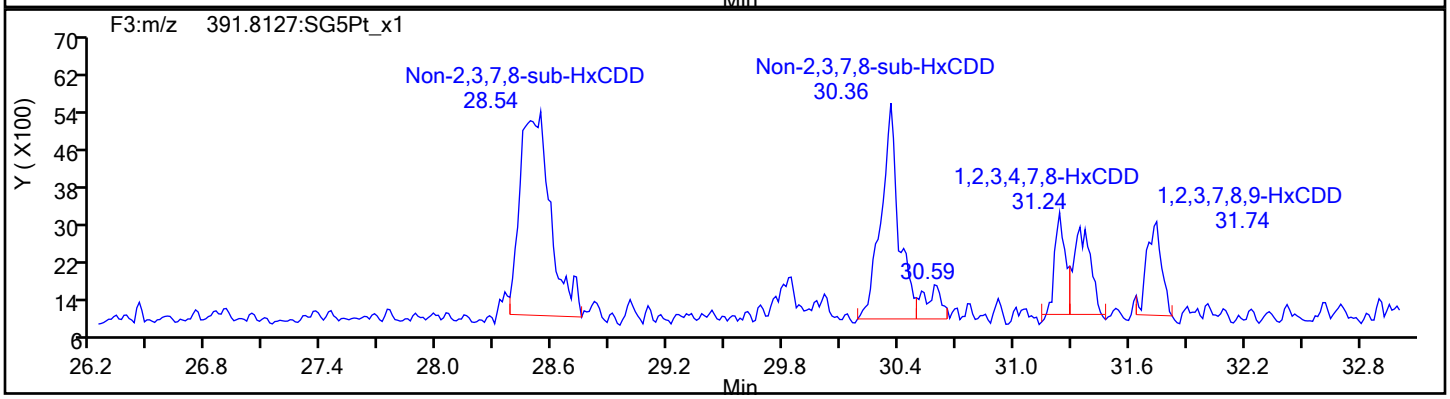

HxCDD Standards

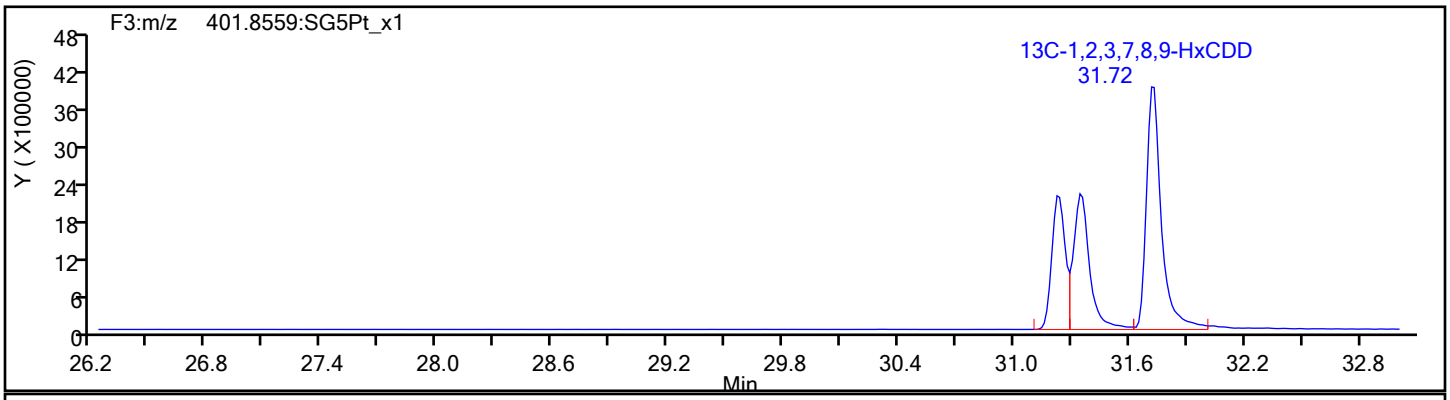

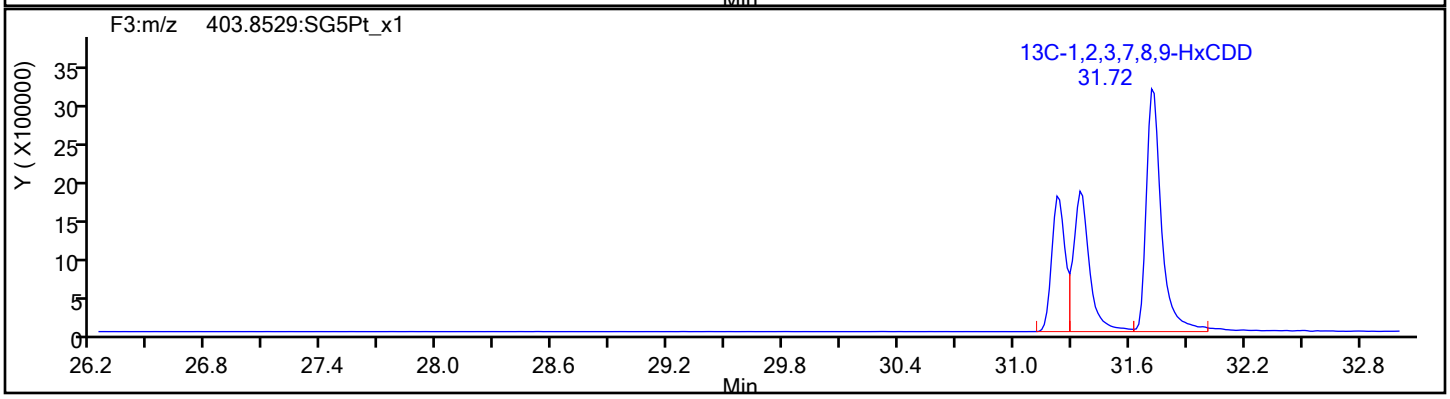

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Eurofins TestAmerica, Sacramento

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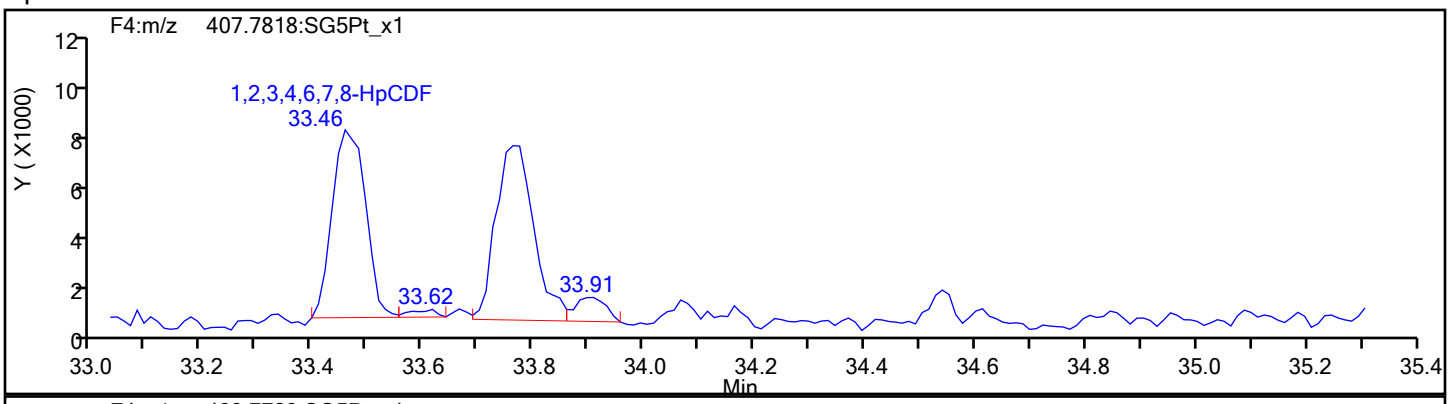

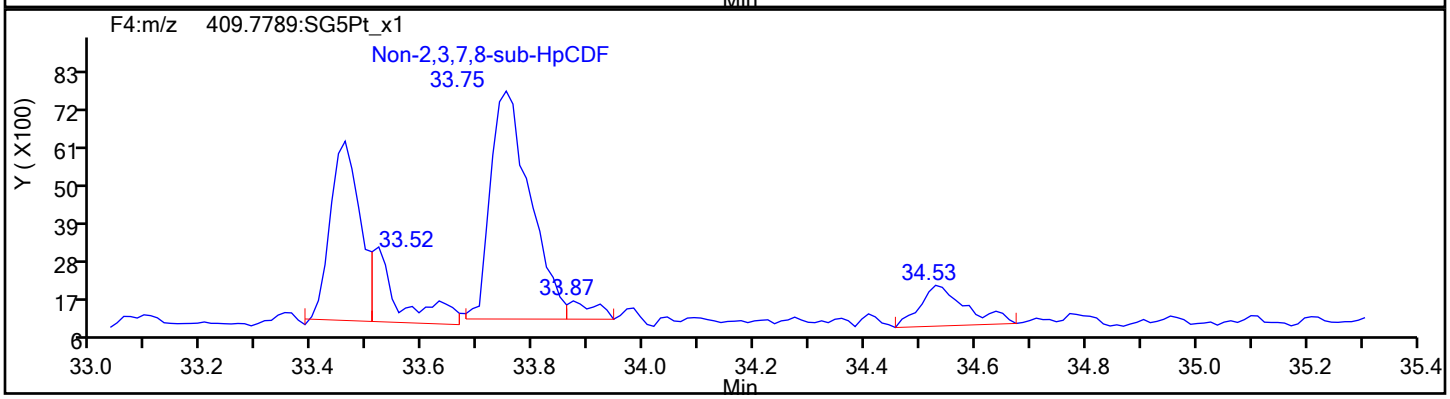

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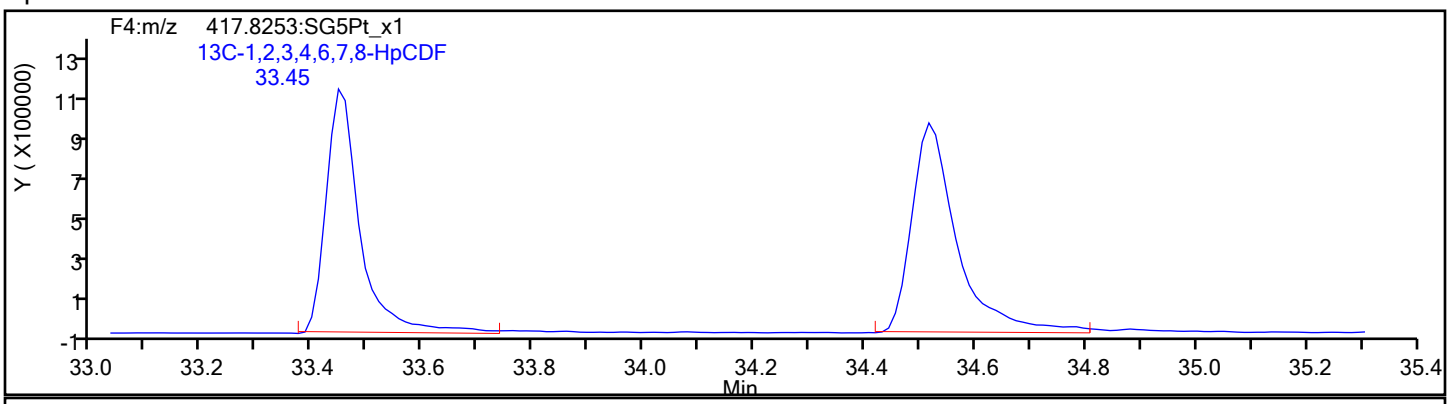

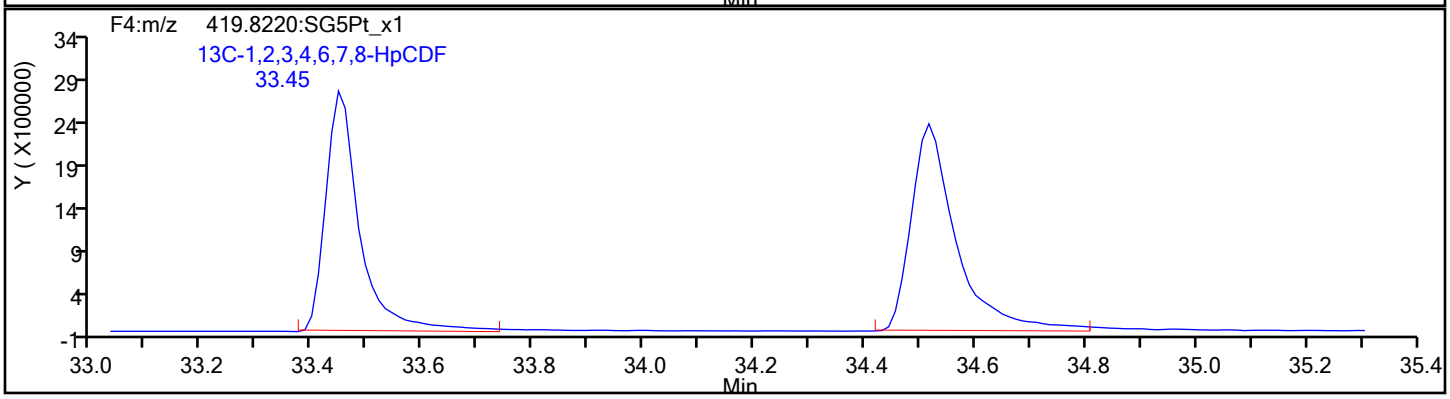

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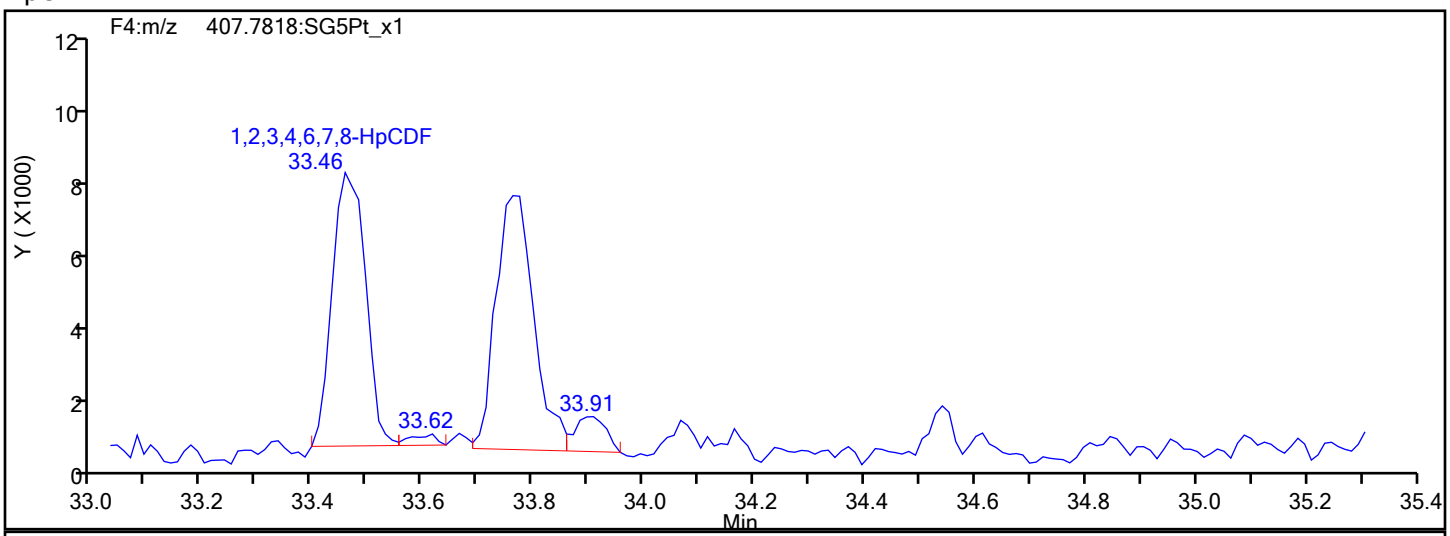

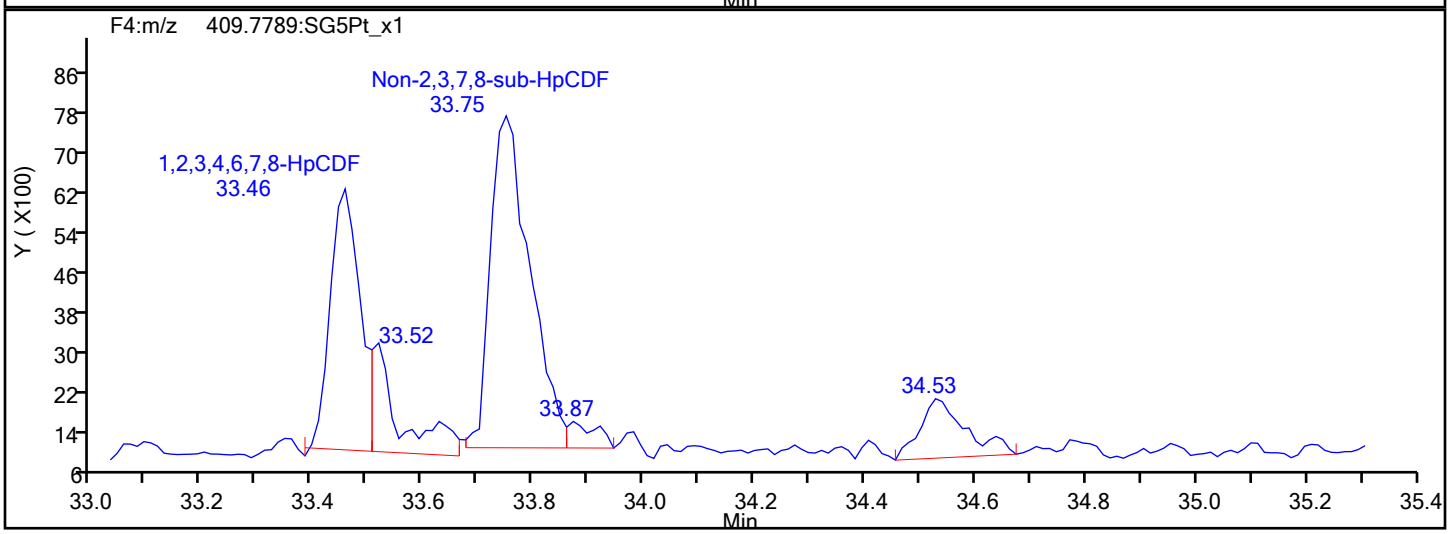

HpCDF Interference Mass

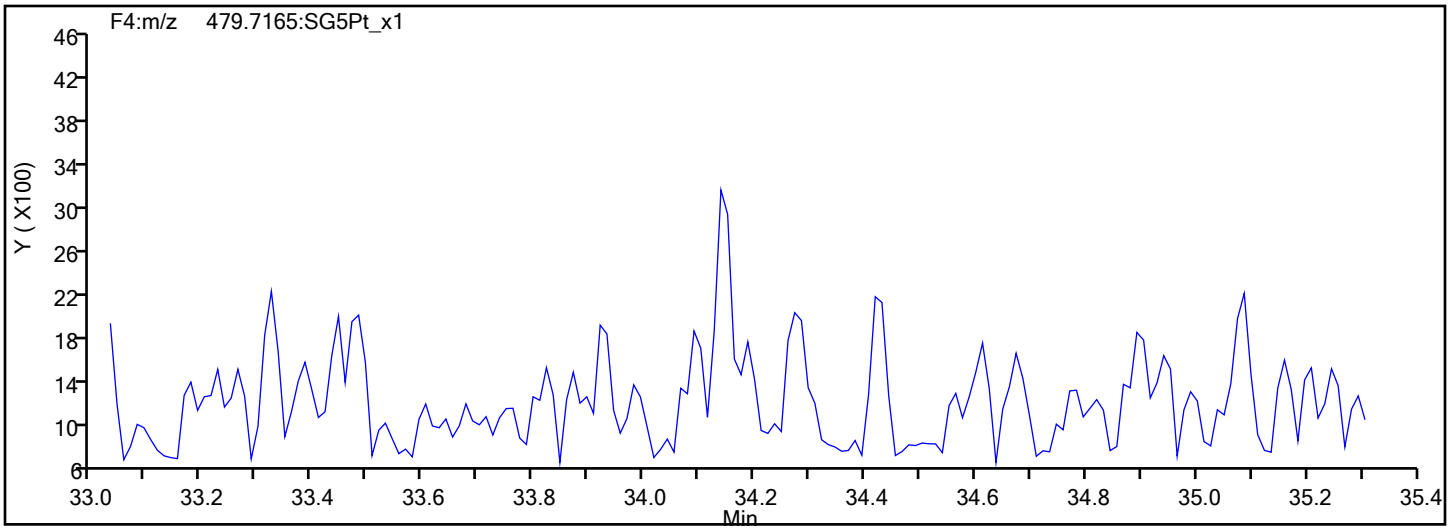

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Eurofins TestAmerica, Sacramento

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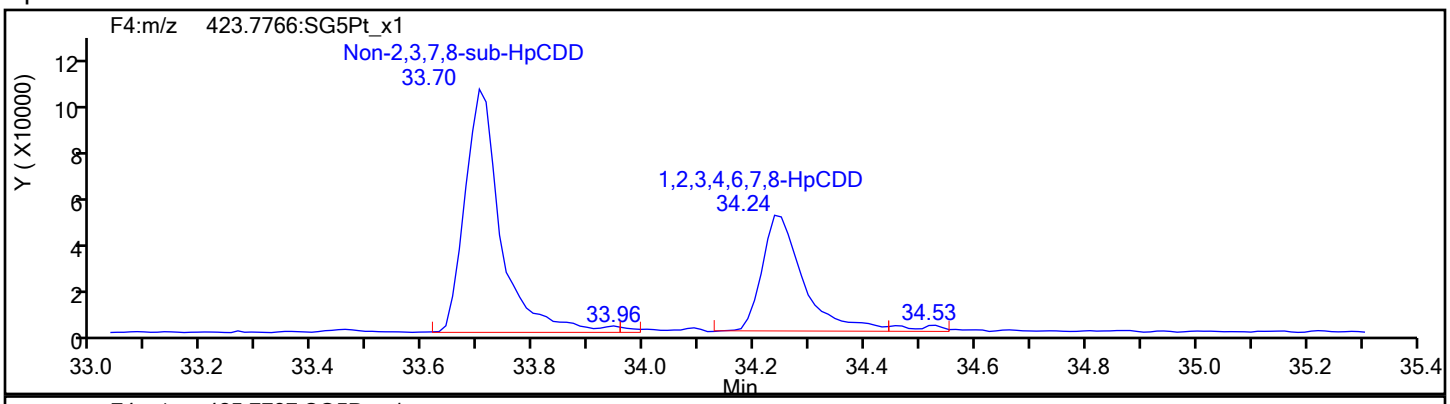

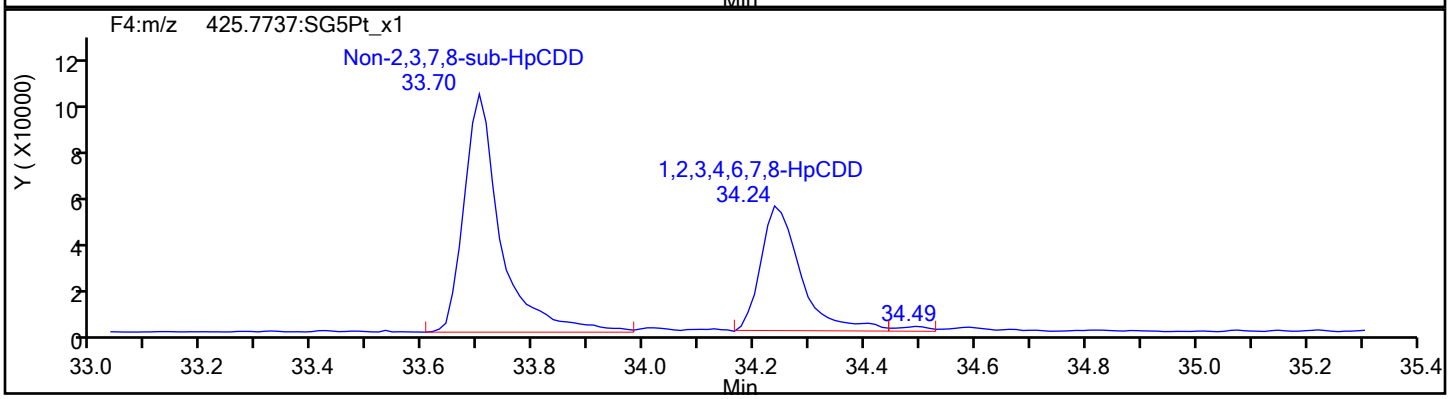

HpCDD Standards

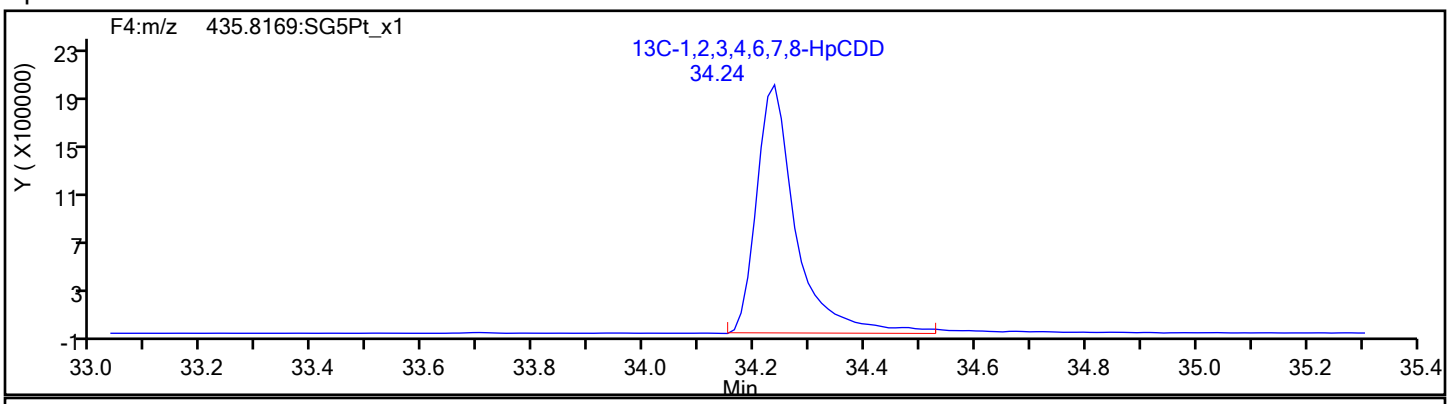

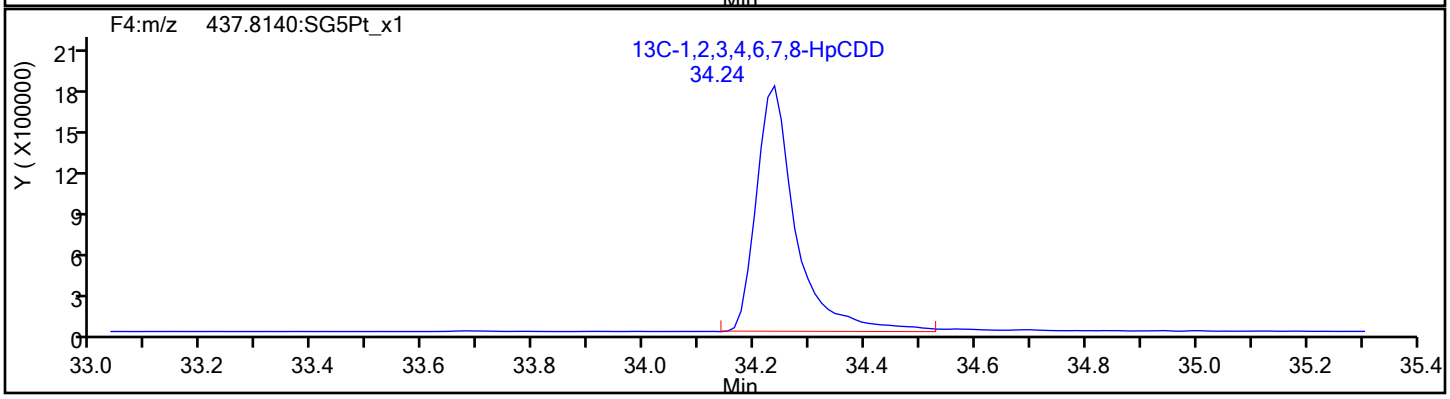

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OCDF

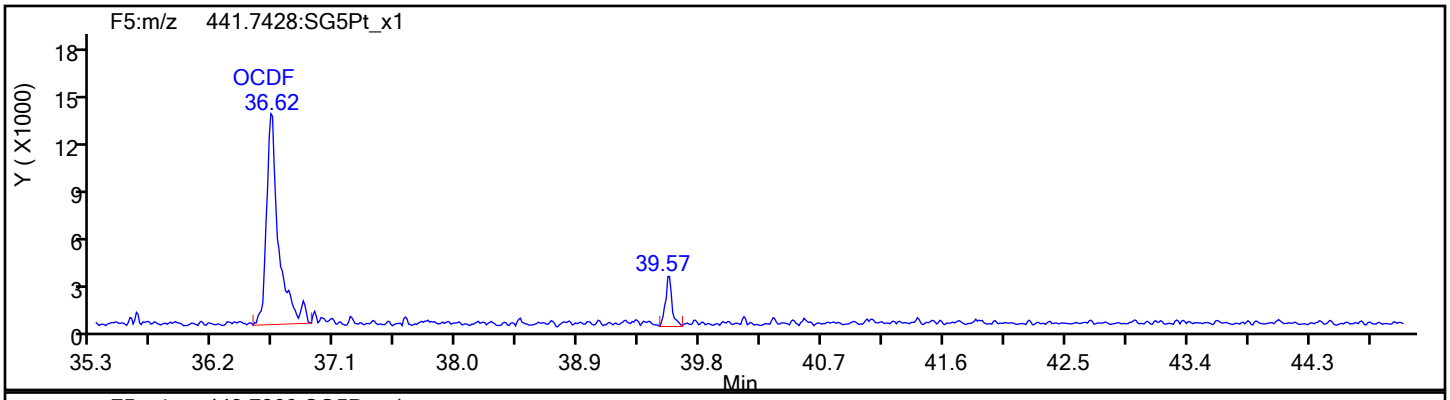

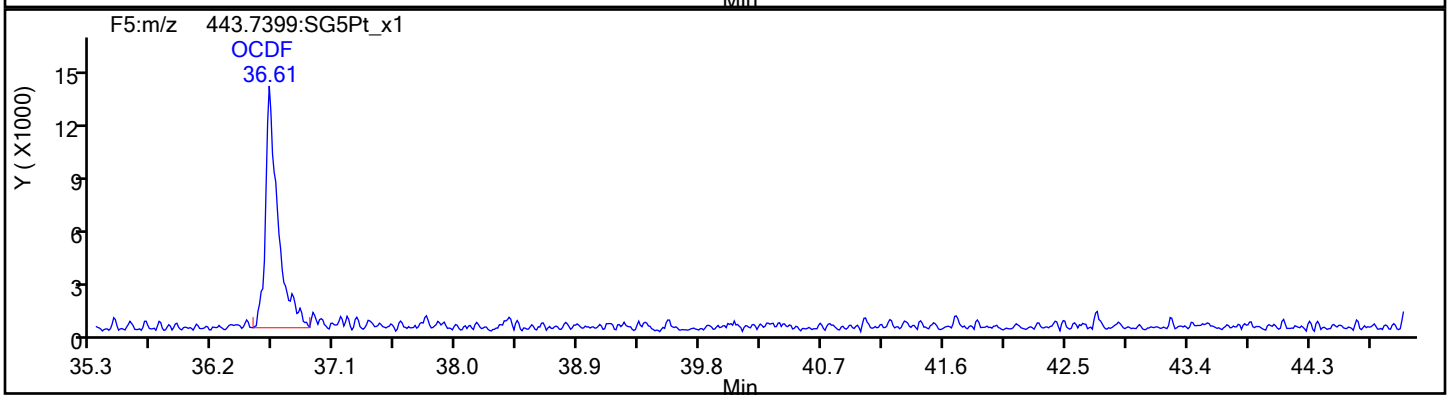

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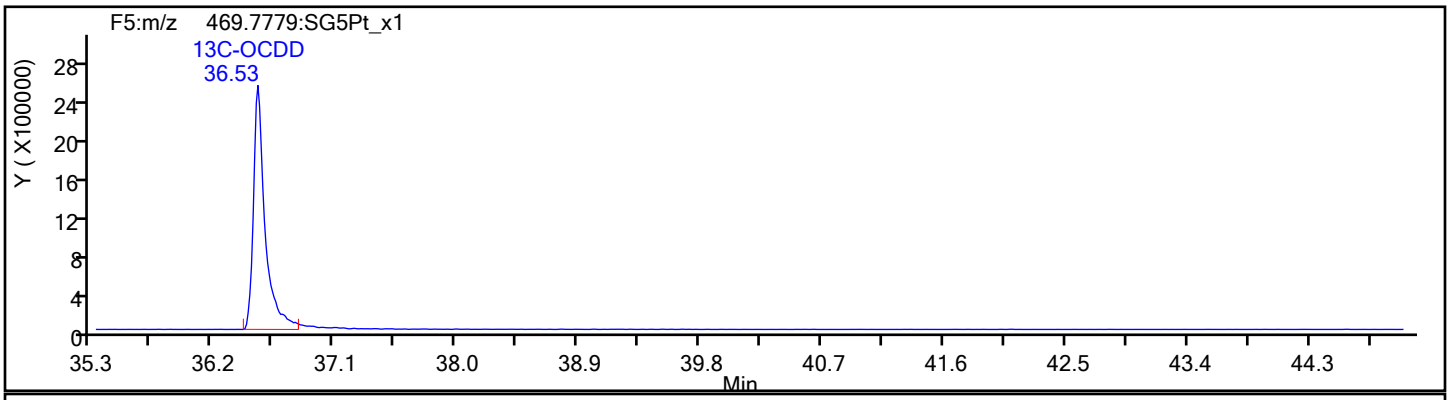

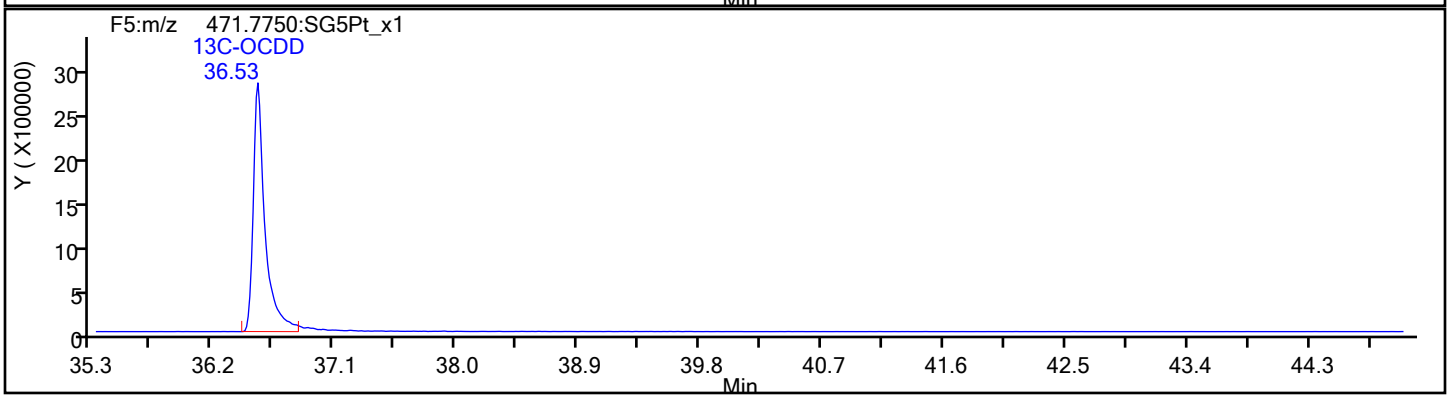

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Eurofins TestAmerica, Sacramento

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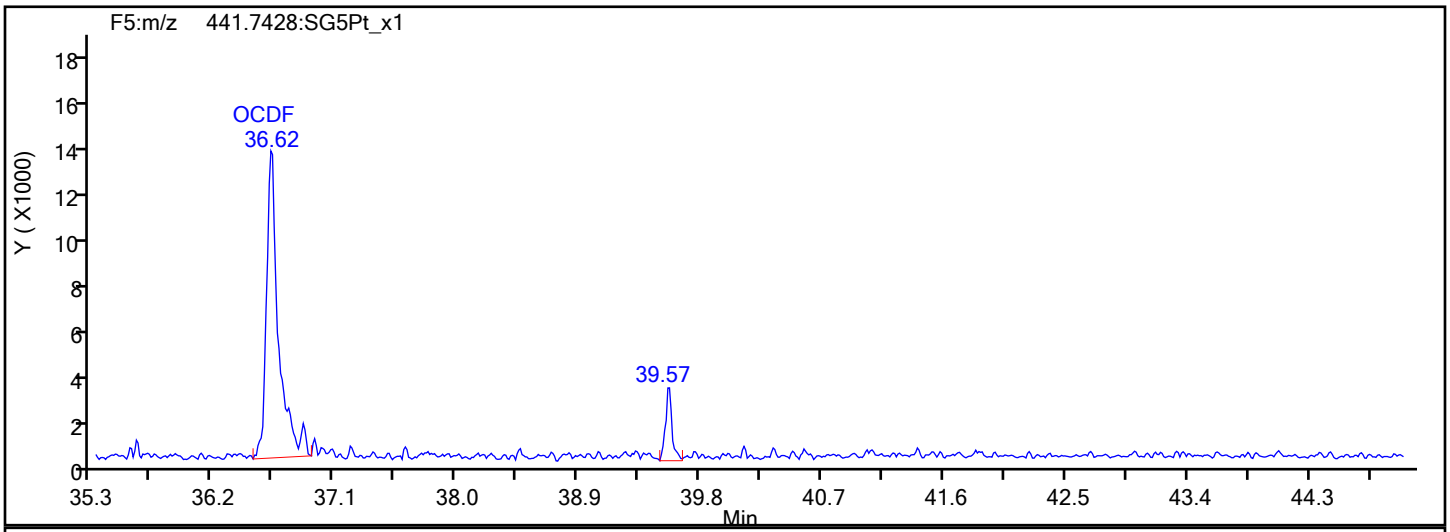

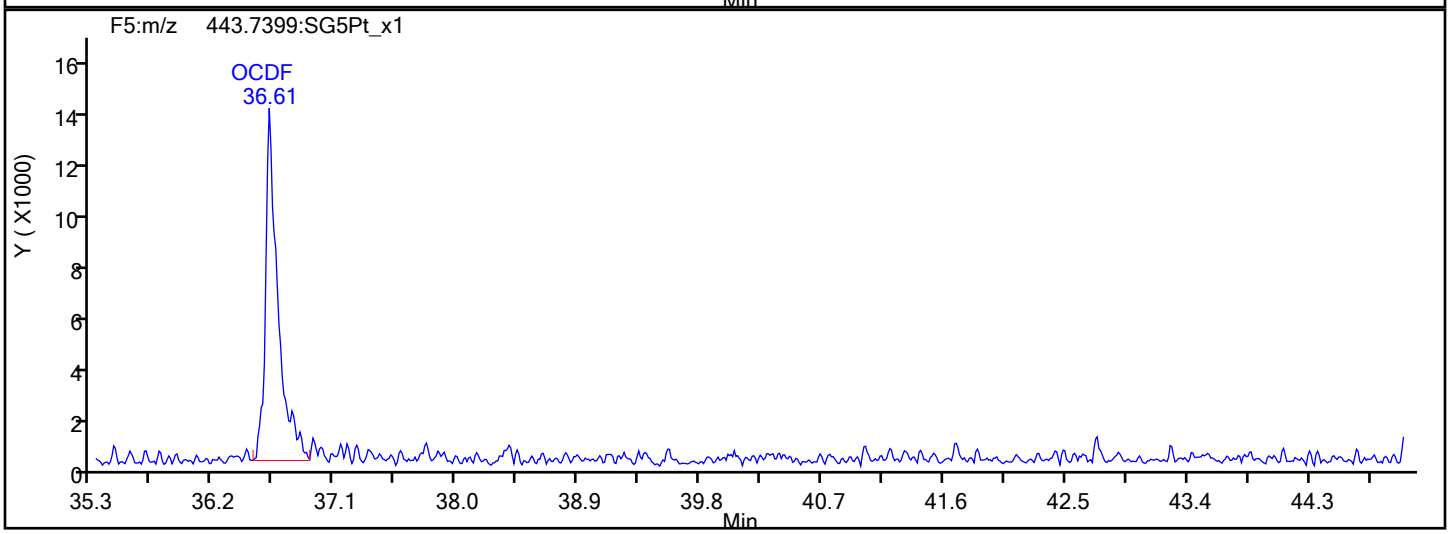

OCDF Interference Mass

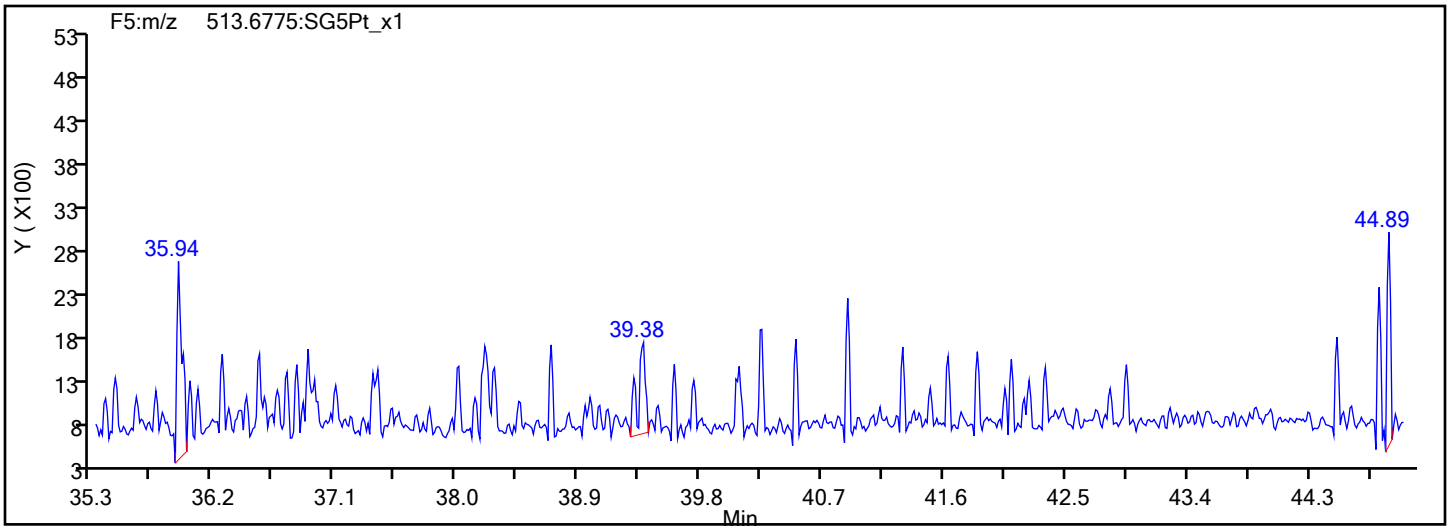

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Eurofins TestAmerica, Sacramento

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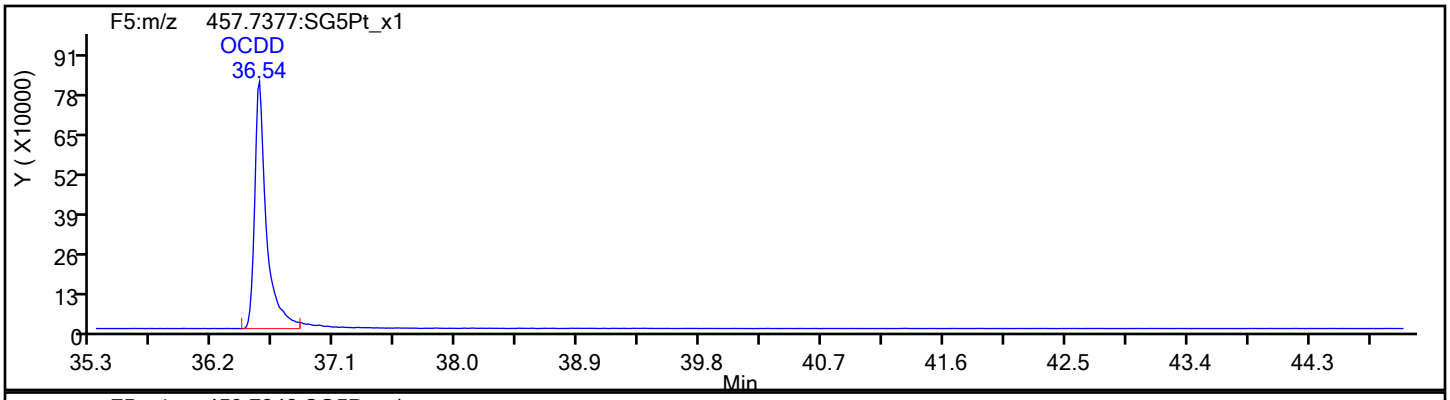

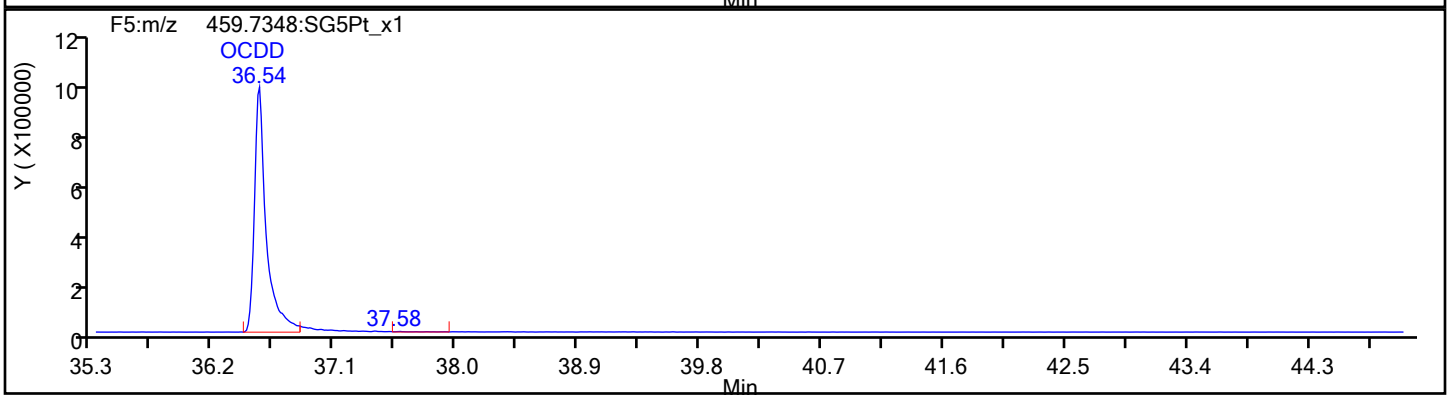

OCDD Standards

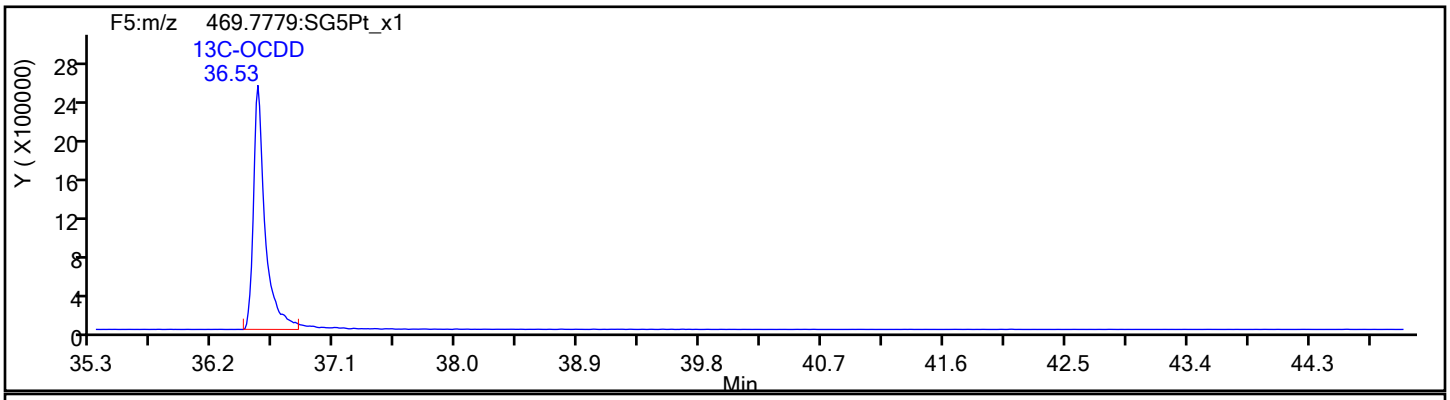

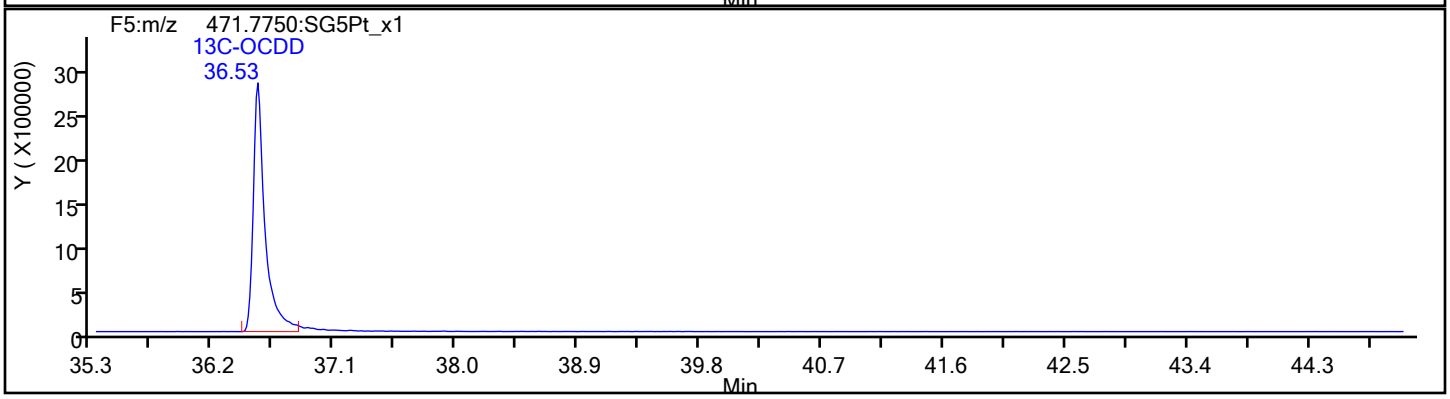

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Eurofins TestAmerica, Sacramento

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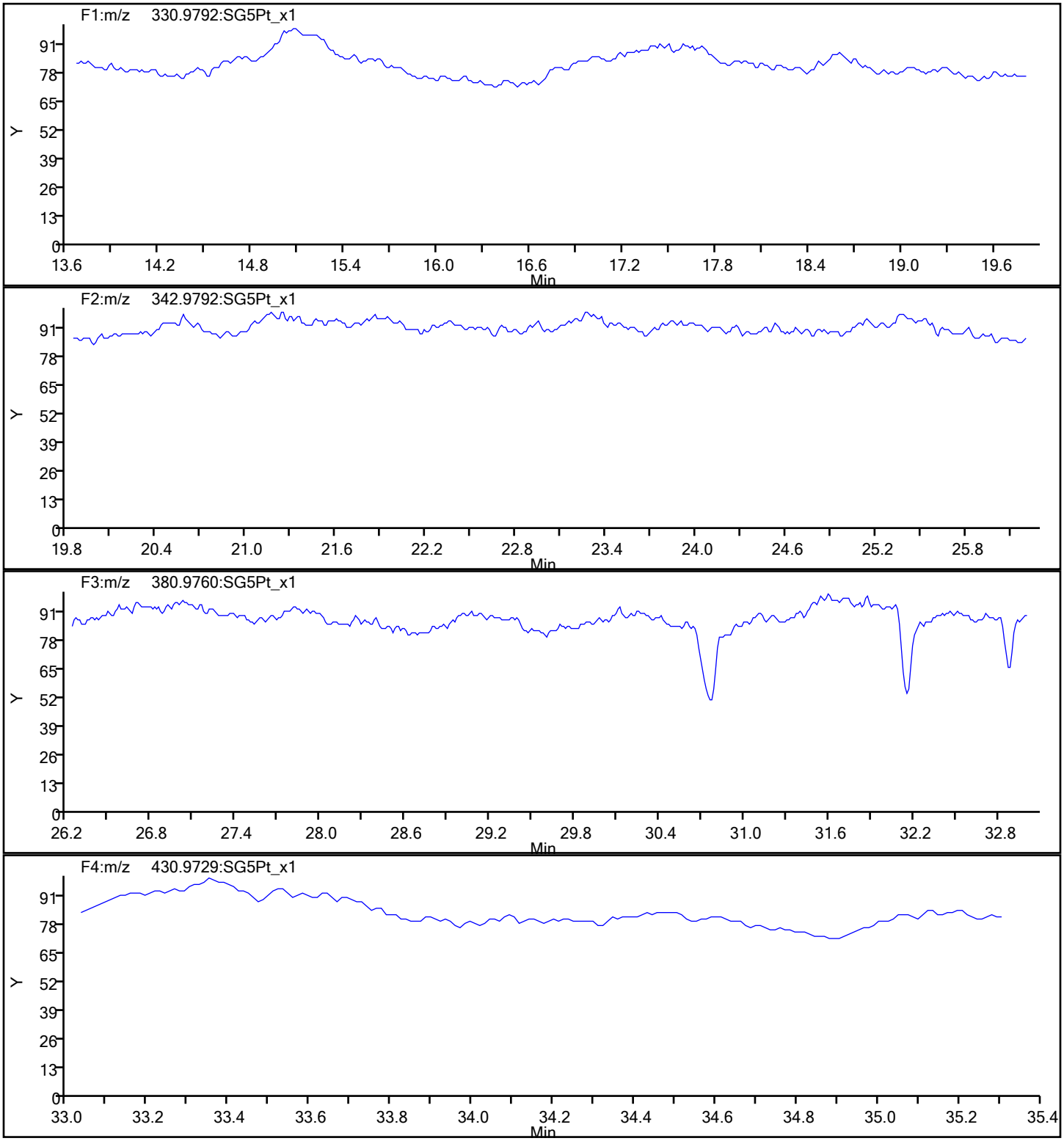

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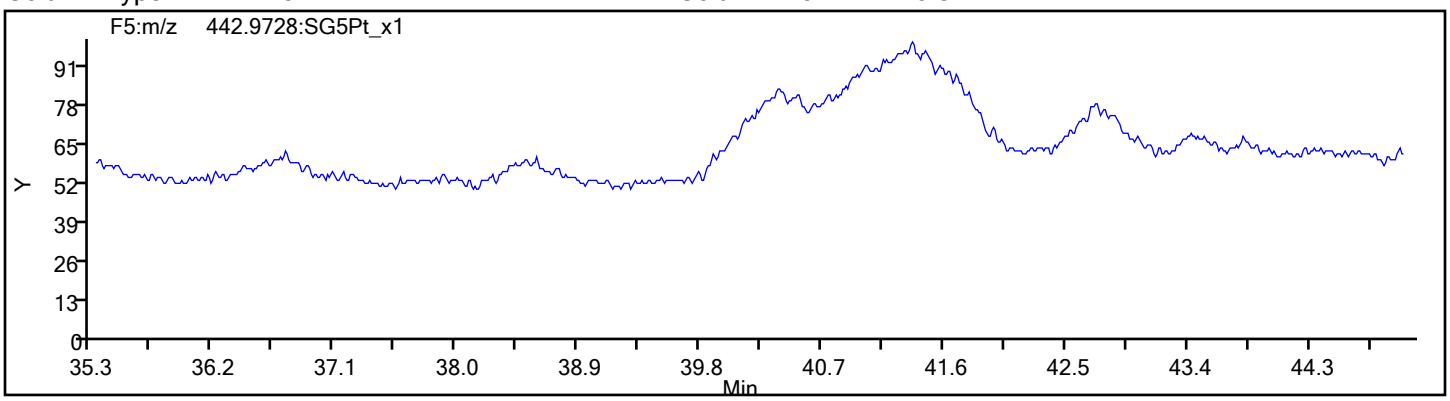

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 320-58170-1
SDG No.:
Client Sample ID: 11187072-Eastern-Solids RA
Lab Sample ID: 320-58170-4 RA
Matrix: Sediment
Lab File ID: 07FE2011D2_006.d
Analysis Method: 1613B
Date Collected: 01/29/2020 13:30
Extract. Method: HRMS-Sox
Date Extracted: 01/31/2020 09:04
Sample wt/vol: 4.78(g)
Date Analyzed: 02/07/2020 16:49
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture: 0.4
GPC Cleanup:(Y/N) N
Analysis Batch No.: 355913
Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
51207-31-9	2,3,7,8-TCDF	2.2		2.1	0.14

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
89059-46-1	13C-2,3,7,8-TCDF	70		24-169

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	88		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20200207-90742.b\07FE2011D2_006.d
Lims ID: 320-58170-A-4-A
Client ID: 11187072-Eastern-Solids
Sample Type: Client
Inject. Date: 07-Feb-2020 16:49:05 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-58170-A-4-A
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20200207-90742.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 11-Feb-2020 15:20:10 Calib Date: 04-Feb-2020 13:02:26
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0316

First Level Reviewer: shardaa Date: 11-Feb-2020 15:17:07

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.365	149858525	0.77	2.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.545	147532848	0.79	1.4045	70.1	70.1	0.2171	0.2171	70.09	
2,3,7,8-TCDF	16.559	746328	0.83	0.9831	0.5146	0.5146	0.0322	0.0322		Ma
D 13C-2,3,7,8-TCDD	15.118	90060522	0.75	0.8544	70.3	70.3	0.2332	0.2332	70.34	
2,3,7,8-TCDD	15.159	475265	0.77	1.2044	0.5047	0.4382	0.0598	0.0598		RQ
$ 37Cl4-2,3,7,8-TCDD	15.146	47492682		0.8972	35.3	35.3	0.0587	0.0587	88.31	
S Total 2378-Chlorinated							0.000100	0.000100		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20200207-90742.b\07FE2011D2_006.d
Lims ID: 320-58170-A-4-A
Client ID: 11187072-Eastern-Solids
Sample Type: Client
Inject. Date: 07-Feb-2020 16:49:05 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-58170-A-4-A
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20200207-90742.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 11-Feb-2020 15:20:10 Calib Date: 04-Feb-2020 13:02:26
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0316

First Level Reviewer: shardaa Date: 11-Feb-2020 15:17:07

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.365	15.366	0		65084758	14178810	17425	43562	814		
333.9339	15.365	15.366	0		84773767	19044626	9049	22622	2105	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.545	16.546	0	1.077	64983908	12781765	24711	61777	517		
317.9389	16.545	16.546	0	1.077	82548940	16319087	15811	39527	1032	0.79(0.65-0.89)	
2,3,7,8-TCDF											Ma
303.9016	16.559	16.560	0	1.001	339504	62749	1221	3052	51		M
305.8987	16.559	16.560	0	1.001	406824	67709	2461	6152	28	0.83(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.118	15.119	0	0.984	38529355	8600683	17425	43562	494		
333.9339	15.132	15.119	1	0.985	51531167	11089632	9049	22622	1226	0.75(0.65-0.89)	
2,3,7,8-TCDD											RQ
319.8965	15.159	15.147	1	1.003	206754	41897	3618	9045	12		
321.8936	15.146	15.147	0	1.002	340683	90061	2055	5137	44	0.61(0.65-0.89)	
	Empc Correction				268511	54411	2055	5137	26		
37Cl4-2,3,7,8-TCDD											
327.8840	15.146	15.147	0	0.986	47492682	10638994	6998	17495	1520		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- a - User Assigned ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200207-90742.b\07FE2011D2_006.d				
Injection Date:	07-Feb-2020 16:49:05	Instrument ID:	11D2		
Lims ID:	320-58170-A-4-A	Lab Sample ID:	320-58170-4		
Client ID:	11187072-Eastern-Solids				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL		
Column:	DB-225 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDF, CAS: 51207-31-9

Signal: 2

Processing Integration Results

RT: 16.56
Area: 467042
Amount: 0.581050
Amount Units: pg/ul

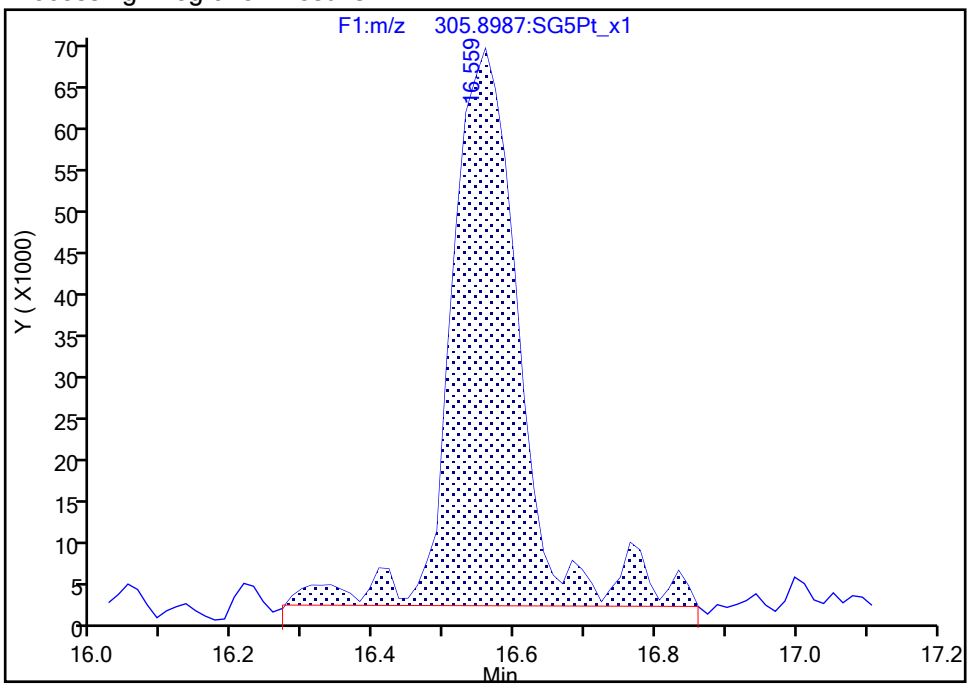

Manual Integration Results

RT: 16.56
Area: 406824
Amount: 0.514594
Amount Units: pg/ul

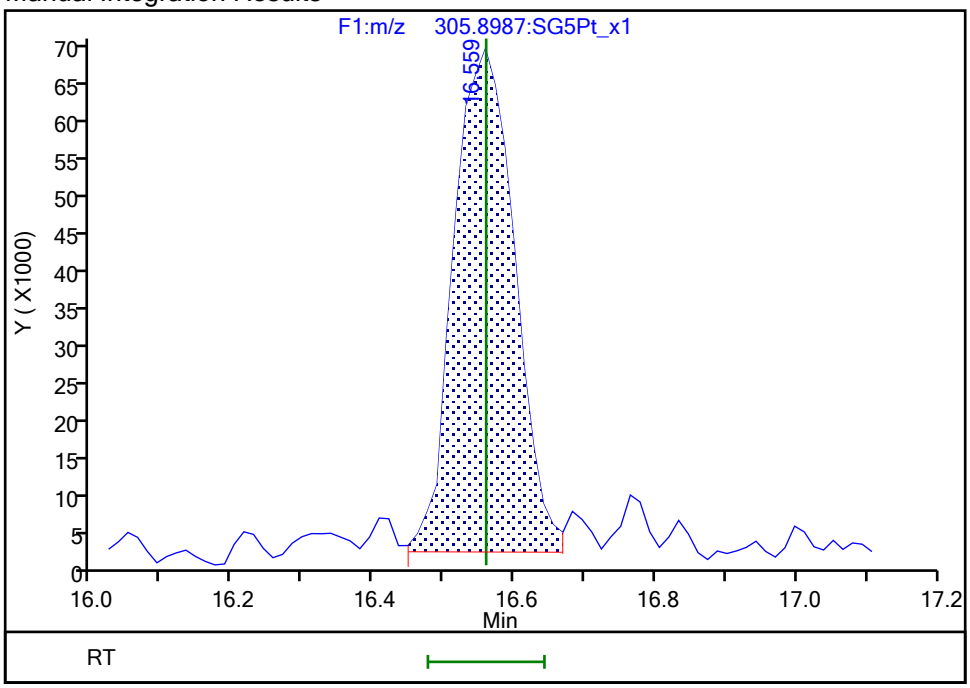

Reviewer: shardaa, 11-Feb-2020 15:16:55

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200207-90742.b\07FE2011D2_006.d				
Injection Date:	07-Feb-2020 16:49:05	Instrument ID:	11D2		
Lims ID:	320-58170-A-4-A	Lab Sample ID:	320-58170-4		
Client ID:	11187072-Eastern-Solids				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL		
Column:	DB-225 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDF, CAS: 51207-31-9

Signal: 3

Processing Integration Results

RT: 16.56
Area: 842711
Amount: 0.581050
Amount Units: pg/ul

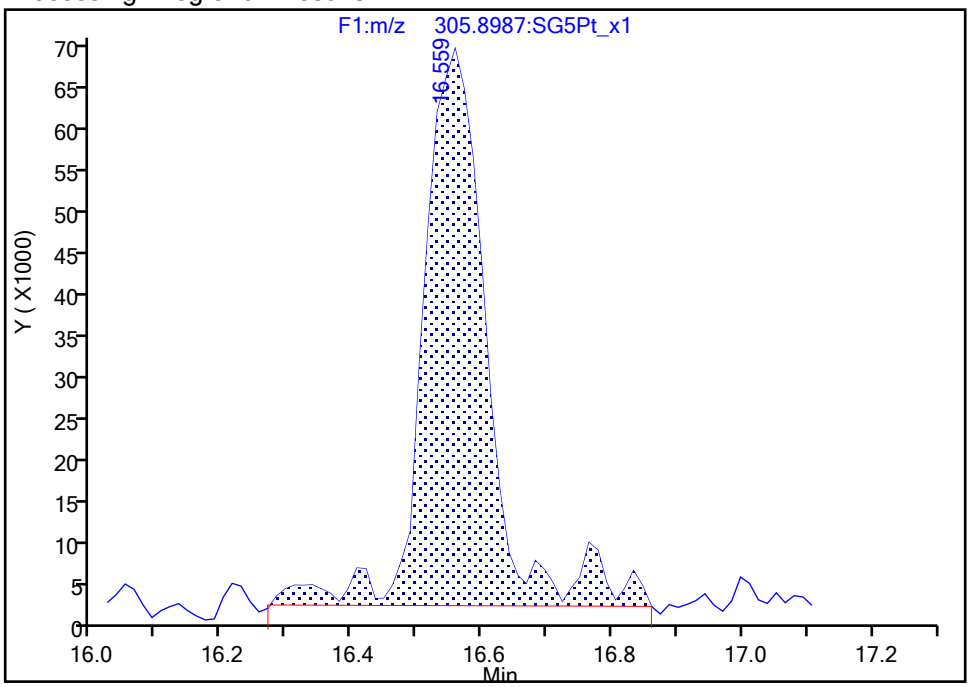

Manual Integration Results

RT: 16.56
Area: 746328
Amount: 0.514594
Amount Units: pg/ul
Reviewer: shardaa, 11-Feb-2020 15:16:55
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200207-90742.b\07FE2011D2_006.d				
Injection Date:	07-Feb-2020 16:49:05	Instrument ID:	11D2		
Lims ID:	320-58170-A-4-A	Lab Sample ID:	320-58170-4		
Client ID:	11187072-Eastern-Solids				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL		
Column:	DB-225 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDF, CAS: 51207-31-9

Signal: 1

Processing Integration Results

RT: 16.56
Area: 375669
Amount: 0.581050
Amount Units: pg/ul

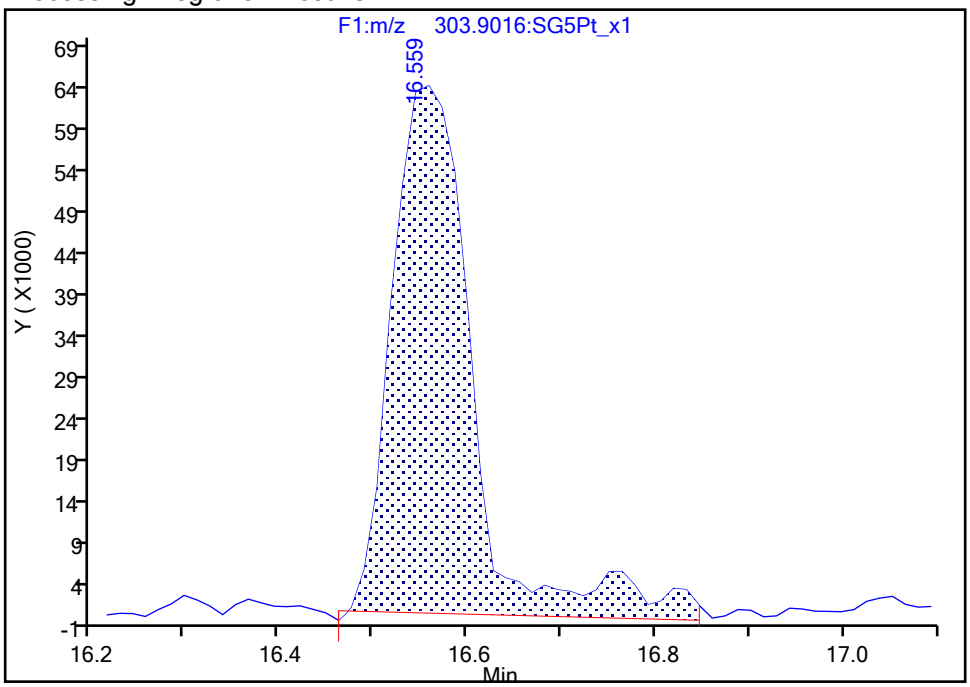

Manual Integration Results

RT: 16.56
Area: 339504
Amount: 0.514594
Amount Units: pg/ul

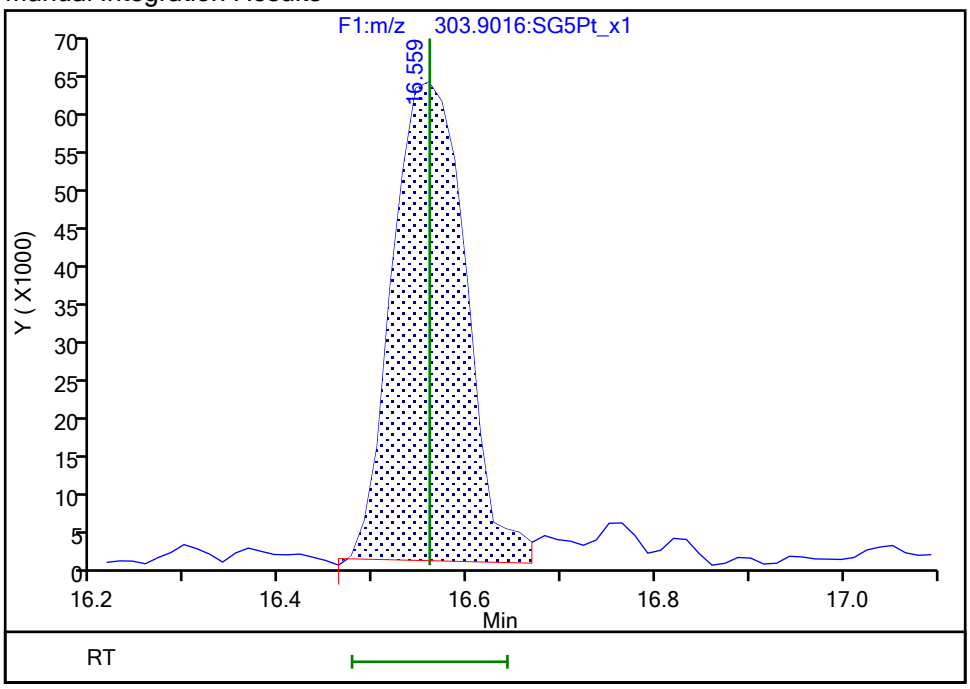

Reviewer: shardaa, 11-Feb-2020 15:16:57

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Poor chromatography

Report Date: 11-Feb-2020 15:20:35 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200207-90742.b\07FE2011D2_006.d		
Injection Date:	07-Feb-2020 16:49:05	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Eastern-Solids		
Worklist#:	355913	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

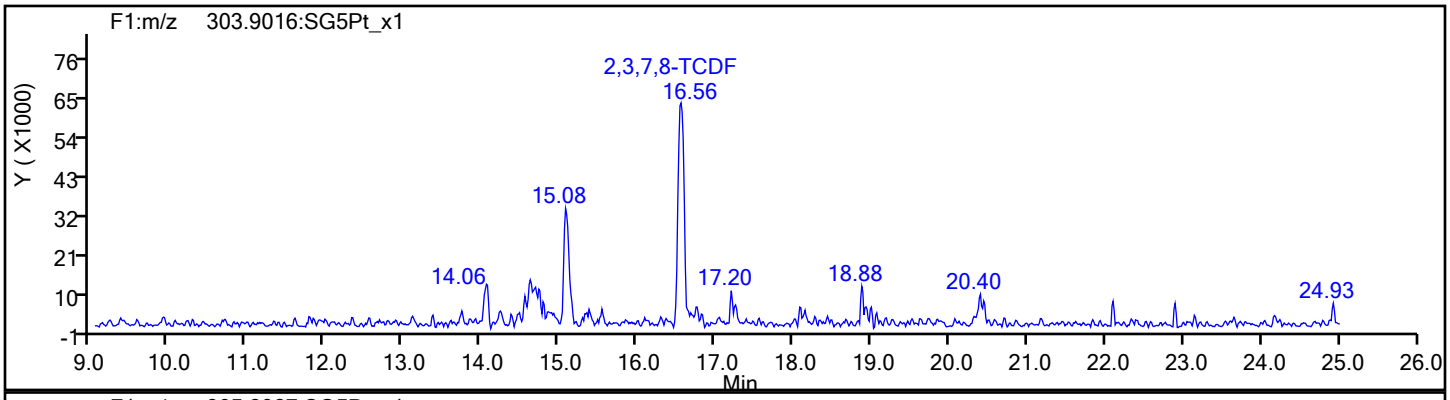

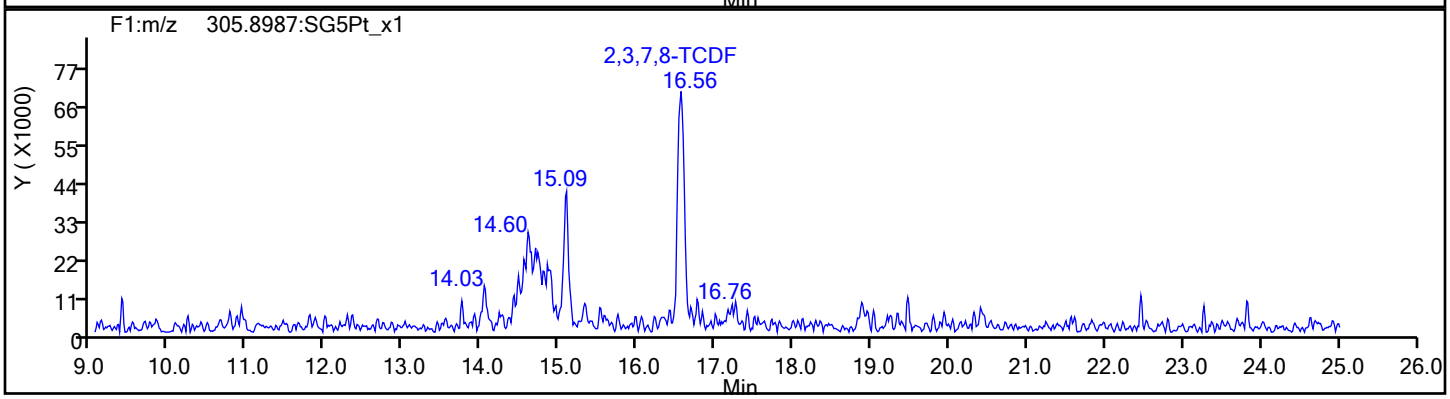

TCDF Standards

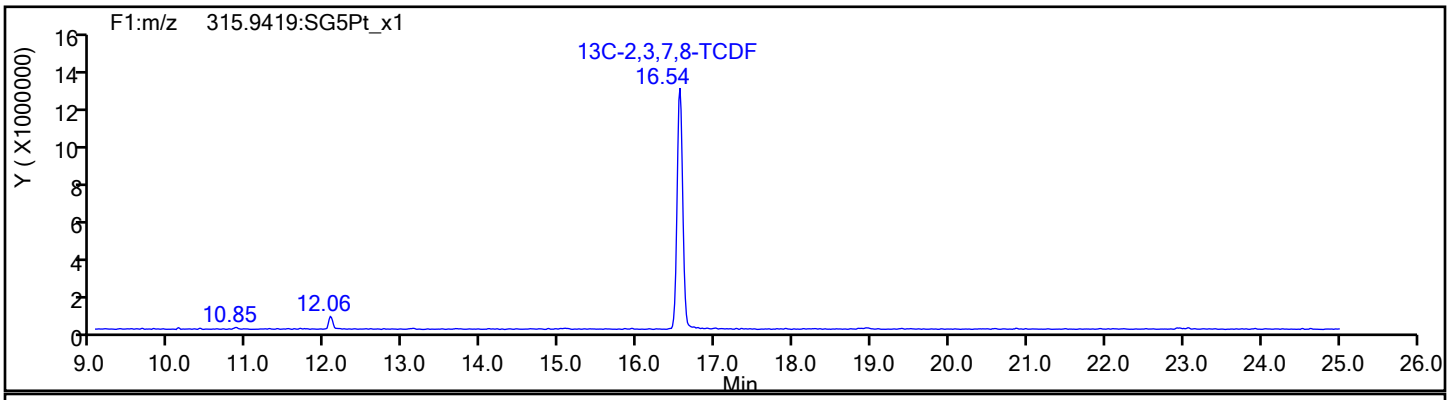

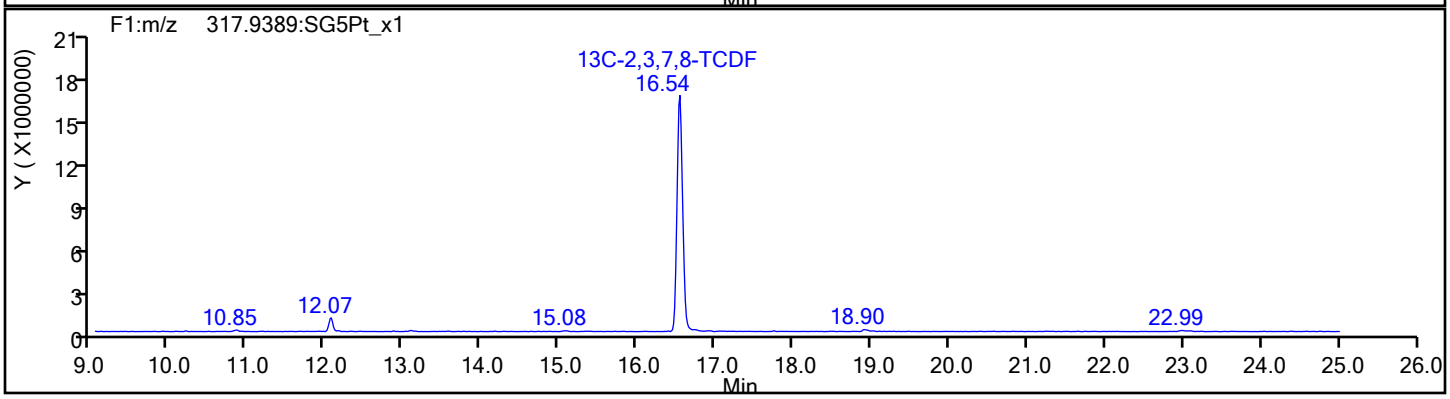

Report Date: 11-Feb-2020 15:20:35 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200207-90742.b\07FE2011D2_006.d		
Injection Date:	07-Feb-2020 16:49:05	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Eastern-Solids		
Worklist#:	355913	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

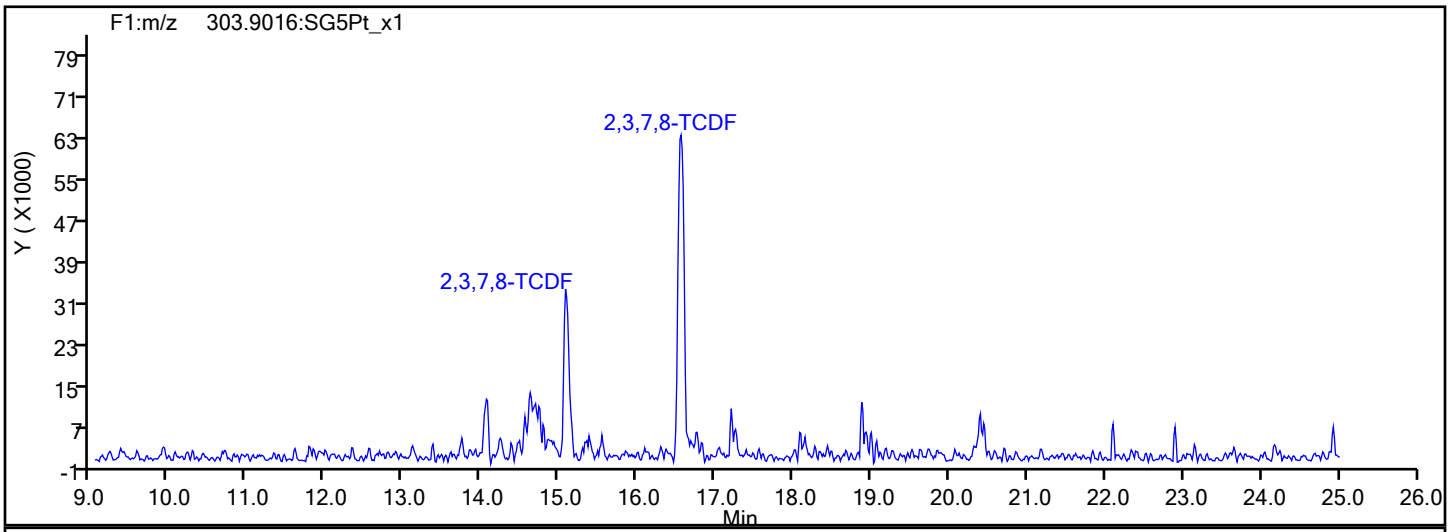

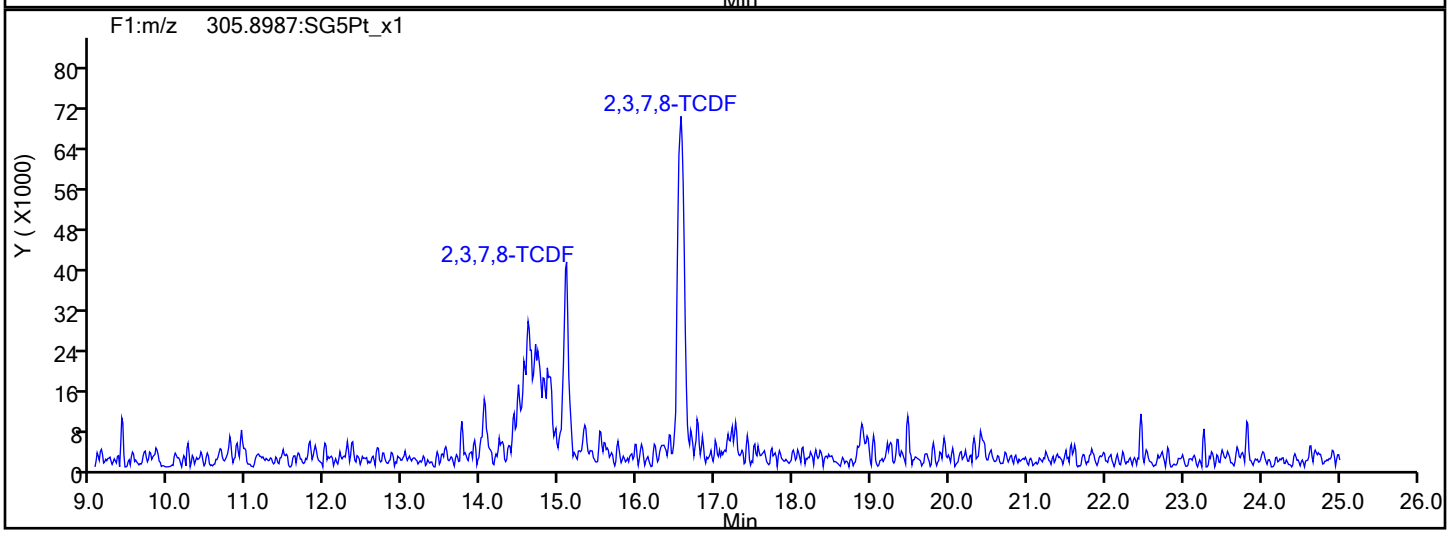

TCDF Interference Mass

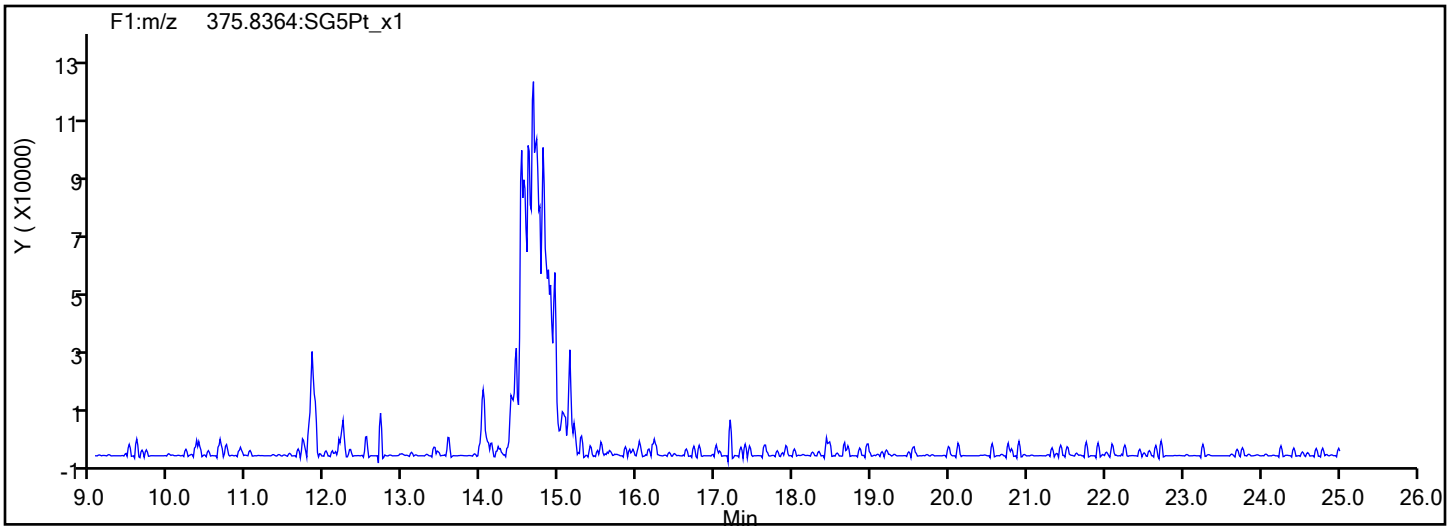

Report Date: 11-Feb-2020 15:20:35 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200207-90742.b\07FE2011D2_006.d		
Injection Date:	07-Feb-2020 16:49:05	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Eastern-Solids		
Worklist#:	355913	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

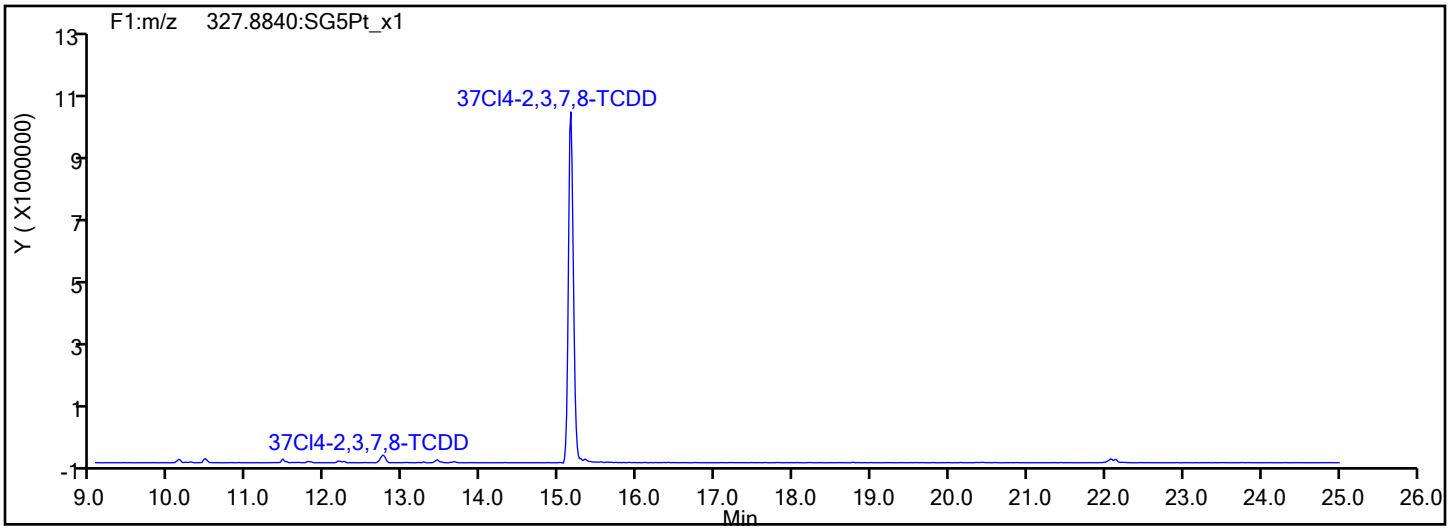

37Cl4-TCDD Standards

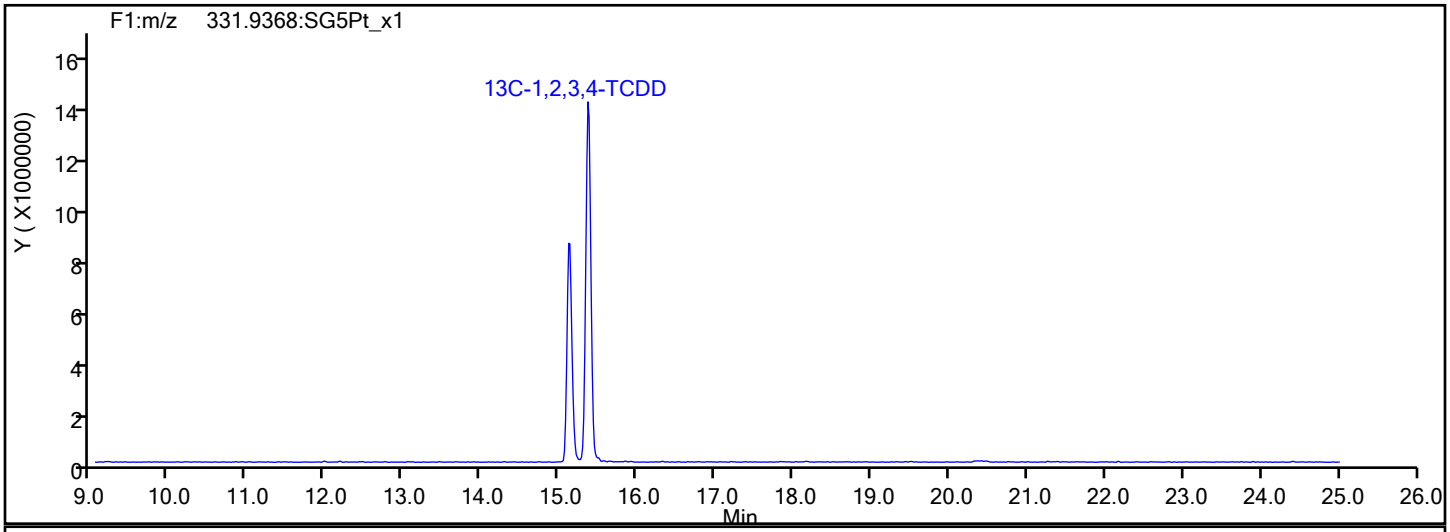

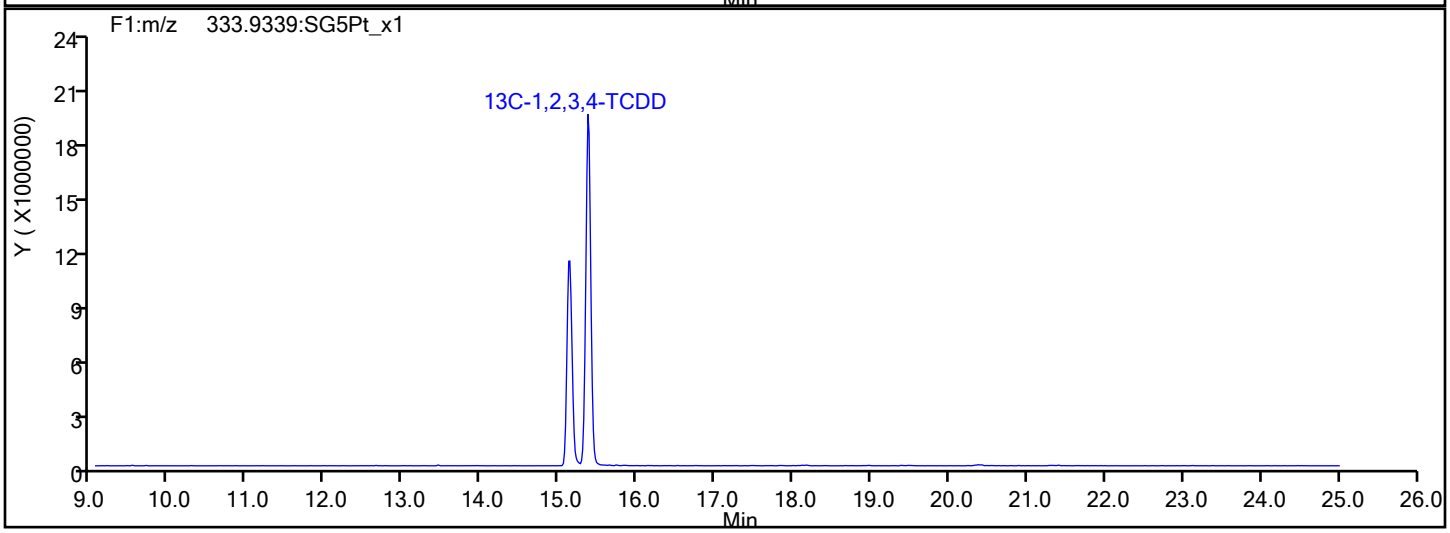

Report Date: 11-Feb-2020 15:20:35 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200207-90742.b\07FE2011D2_006.d		
Injection Date:	07-Feb-2020 16:49:05	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Eastern-Solids		
Worklist#:	355913	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

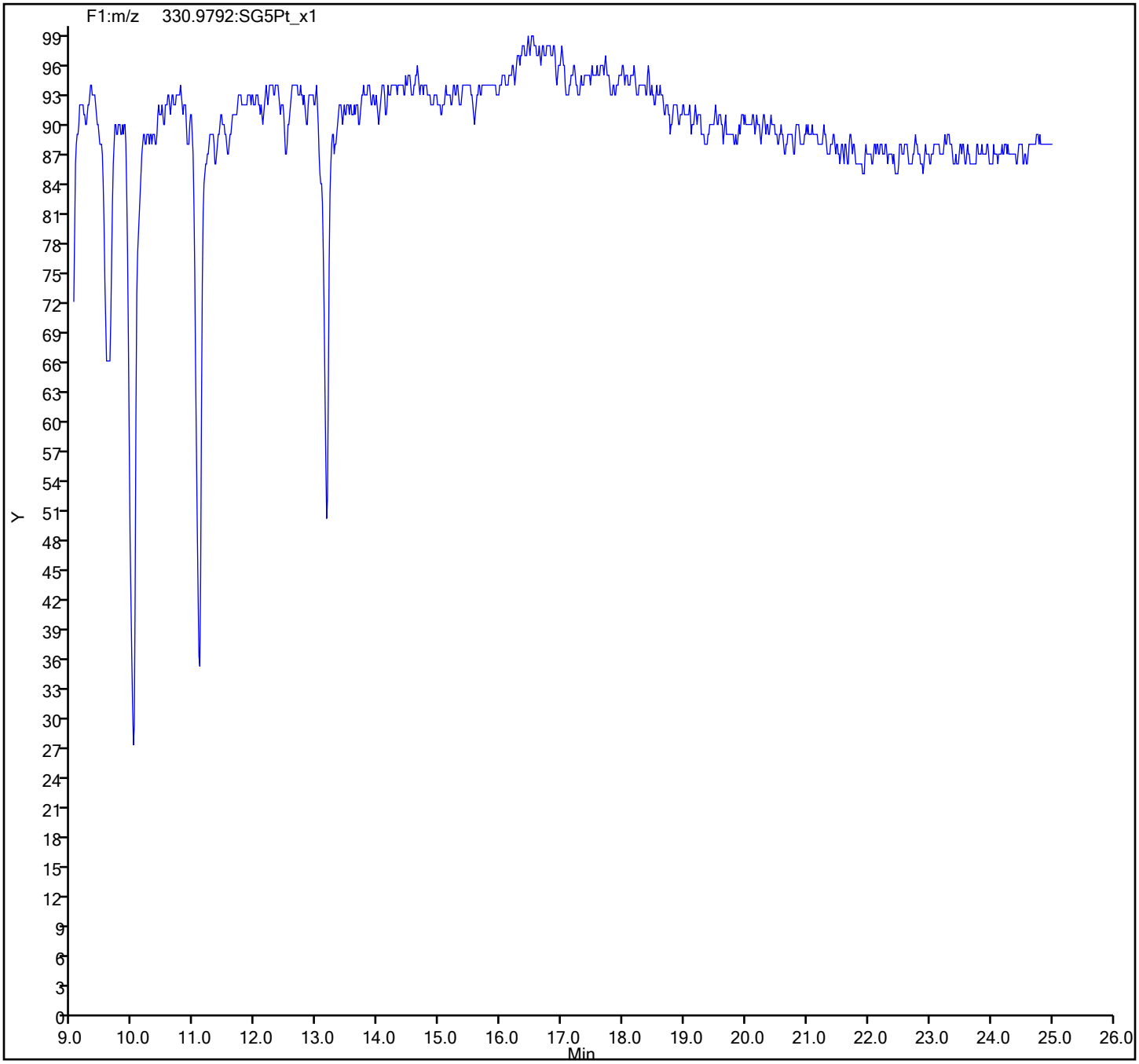

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Client Sample ID: 11187072-Western-GW Lab Sample ID: 320-58170-5

Matrix: Water Lab File ID: 05FE2010D5_9.d

Analysis Method: 1613B Date Collected: 01/29/2020 13:30

Extract. Method: 1613B Date Extracted: 01/31/2020 07:47

Sample wt/vol: 1040.5(mL) Date Analyzed: 02/05/2020 21:40

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 355322 Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	3.4	J	9.6	0.46
51207-31-9	2,3,7,8-TCDF	ND		9.6	0.35
40321-76-4	1,2,3,7,8-PeCDD	ND		48	0.47
57117-41-6	1,2,3,7,8-PeCDF	ND		48	0.42
57117-31-4	2,3,4,7,8-PeCDF	ND		48	0.46
39227-28-6	1,2,3,4,7,8-HxCDD	3.1	J B	48	0.51
57653-85-7	1,2,3,6,7,8-HxCDD	ND		48	0.48
19408-74-3	1,2,3,7,8,9-HxCDD	1.1	J B	48	0.45
70648-26-9	1,2,3,4,7,8-HxCDF	ND		48	0.79
57117-44-9	1,2,3,6,7,8-HxCDF	ND		48	0.70
72918-21-9	1,2,3,7,8,9-HxCDF	ND		48	0.53
60851-34-5	2,3,4,6,7,8-HxCDF	ND		48	0.49
35822-46-9	1,2,3,4,6,7,8-HpCDD	3.9	J B	48	0.80
67562-39-4	1,2,3,4,6,7,8-HpCDF	2.0	J B	48	0.42
55673-89-7	1,2,3,4,7,8,9-HpCDF	ND		48	0.71
3268-87-9	OCDD	51	J B	96	0.91
39001-02-0	OCDF	3.4	J B	96	0.81
41903-57-5	Total TCDD	3.4	J	9.6	0.46
30402-14-3	Total TCDF	ND		9.6	0.35
36088-22-9	Total PeCDD	ND		48	0.47
30402-15-4	Total PeCDF	ND		48	0.46
34465-46-8	Total HxCDD	4.1	J B	48	0.48
55684-94-1	Total HxCDF	ND		48	0.79
37871-00-4	Total HpCDD	8.3	J B	48	0.80
38998-75-3	Total HpCDF	3.2	J q B	48	0.56

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Client Sample ID: 11187072-Western-GW Lab Sample ID: 320-58170-5

Matrix: Water Lab File ID: 05FE2010D5_9.d

Analysis Method: 1613B Date Collected: 01/29/2020 13:30

Extract. Method: 1613B Date Extracted: 01/31/2020 07:47

Sample wt/vol: 1040.5(mL) Date Analyzed: 02/05/2020 21:40

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 355322 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	70		25-164
89059-46-1	13C-2,3,7,8-TCDF	69		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	63		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	67		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	66		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	63		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	77		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	72		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	77		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	70		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	74		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	62		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	65		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	60		26-138
114423-97-1	13C-OCDD	53		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	83		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_9.d
Lims ID: 320-58170-A-5-A
Client ID: 11187072-Western-GW
Sample Type: Client
Inject. Date: 05-Feb-2020 21:40:03 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-58170-A-5-A 320-58170-A-5-A
Misc. Info.: 05FE2010D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 07-Feb-2020 14:37:41 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: dadunj Date: 07-Feb-2020 14:37:41

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.333	62235255	0.81	5.4E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.849	48282549	0.76	1.1275	68.8	68.8	0.2325	0.2325	68.81	
2,3,7,8-TCDF	16.864						0.0180	0.0180		
A Non-2,3,7,8-sub-TCDF	16.569						0.0180	0.0180		
S Total TCDF							0.0180	0.0180		
D 13C-2,3,7,8-TCDD	17.529	39505155	0.78	0.9032	70.3	70.3	0.2205	0.2205	70.28	
2,3,7,8-TCDD	17.544	67255	0.66	0.9599	0.1774	0.1774	0.0240	0.0240		
$ 37Cl4-2,3,7,8-TCDD	17.544	19994947		0.9673	33.2	33.2	0.0783	0.0783	83.03	
A Non-2,3,7,8-sub-TCDD	17.000						0.0240	0.0240		
S Total TCDD					0.1774	0.1774	0.0240	0.0240		
D 13C-1,2,3,7,8-PeCDF	21.639	40222885	1.57	0.9615	67.2	67.2	0.2917	0.2917	67.22	
1,2,3,7,8-PeCDF	21.667						0.0216	0.0216		
D 13C-2,3,4,7,8-PeCDF	22.921	42958117	1.54	1.0393	66.4	66.4	0.2699	0.2699	66.41	
2,3,4,7,8-PeCDF	22.948						0.0239	0.0239		
A F1 PeCDFs	19.329						0.0201	0.0201		
A Non-2,3,7,8-sub-PeCDF	22.336						0.0227	0.0227		
S Total PeCDF							0.0239	0.0239		
D 13C-1,2,3,7,8-PeCDD	23.617	27260041	1.60	0.6938	63.1	63.1	0.0960	0.0960	63.13	
1,2,3,7,8-PeCDD	23.644						0.0244	0.0244		
A Non-2,3,7,8-sub-PeCDD	22.580						0.0244	0.0244		
S Total PeCDD							0.0244	0.0244		
D 13C-1,2,3,4,7,8-HxCDF	29.735	30332518	0.49	0.8543	71.8	71.8	0.5131	0.5131	71.80	
1,2,3,4,7,8-HxCDF	29.761						0.0413	0.0413		
D 13C-1,2,3,6,7,8-HxCDF	30.001	31986087	0.50	0.8361	77.4	77.4	0.5243	0.5243	77.36	
1,2,3,6,7,8-HxCDF	30.028						0.0362	0.0362		
D 13C-2,3,4,6,7,8-HxCDF	31.026	28368152	0.49	0.7773	73.8	73.8	0.5639	0.5639	73.80	
2,3,4,6,7,8-HxCDF	31.053						0.0257	0.0257		
D 13C-1,2,3,7,8,9-HxCDF	31.944	24857311	0.49	0.7167	70.1	70.1	0.6116	0.6116	70.14	
1,2,3,7,8,9-HxCDF	31.958						0.0276	0.0276		RQU
A Non-2,3,7,8-sub-HxCDF	29.529						0.0317	0.0317		U
S Total HxCDF							0.0413	0.0413		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.745	49450372	1.24	4.4E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.252	25245450	1.26	0.8050	63.4	63.4	0.3561	0.3561	63.42	
1,2,3,4,7,8-HxCDD	31.266	33737	1.42	0.8392	0.1592	0.1592	0.0265	0.0265		
D 13C-1,2,3,6,7,8-HxCDD	31.372	31360009	1.24	0.8269	76.7	76.7	0.3467	0.3467	76.69	
1,2,3,6,7,8-HxCDD	31.266						0.0250	0.0250		U
1,2,3,7,8,9-HxCDD	31.785	15003	1.30	0.9567	0.0554	0.0554	0.0232	0.0232		
A Non-2,3,7,8-sub-HxCDD	30.108						0.0248	0.0248		
S Total HxCDD					0.2147	0.2147	0.0249	0.0249		
D 13C-1,2,3,4,6,7,8-HpCDF	33.471	22897827	0.43	0.7080	65.4	65.4	1.486	1.486	65.40	
1,2,3,4,6,7,8-HpCDF	33.483	31738	1.08	1.3375	0.1036	0.1036	0.0218	0.0218		M
D 13C-1,2,3,4,7,8,9-HpCDF	34.540	21987565	0.42	0.7451	59.7	59.7	1.412	1.412	59.67	
1,2,3,4,7,8,9-HpCDF	34.540						0.0367	0.0367		
A Non-2,3,7,8-sub-HpCDF	34.018	16332	1.04	1.2059	0.0695	0.0603	0.0278	0.0603		RQM
S Total HpCDF					0.1731	0.1640	0.0293	0.0293		RQ
D 13C-1,2,3,4,6,7,8-HpCDD	34.249	22962299	1.05	0.7473	62.1	62.1	0.4757	0.4757	62.13	
1,2,3,4,6,7,8-HpCDD	34.273	45163	0.99	0.9811	0.2005	0.2005	0.0415	0.0415		M
A Non-2,3,7,8-sub-HpCDD	33.988	52561	0.98	0.9811	0.2333	0.2333	0.0415	0.2333		M
S Total HpCDD					0.4338	0.4338	0.0415	0.0415		
D 13C-OCDD	36.552	34660085	0.85	0.6622	105.8	105.8	0.1178	0.1178	52.92	
OCDF	36.660	32326	1.01	1.0659	0.1750	0.1750	0.0419	0.0419		M
OCDD	36.564	457287	0.83	0.9937	2.655	2.655	0.0474	0.0474		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_9.d
Lims ID: 320-58170-A-5-A
Client ID: 11187072-Western-GW
Sample Type: Client
Inject. Date: 05-Feb-2020 21:40:03 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-58170-A-5-A 320-58170-A-5-A
Misc. Info.: 05FE2010D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 07-Feb-2020 14:37:41 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: dadunj Date: 07-Feb-2020 14:37:41

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.333	17.333	0		27918498	6969619	5318	13295	1311		
333.9339	17.333	17.333	0		34316757	8495026	7000	17500	1214	0.81(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.849	16.849	0	0.972	20773576	4788109	6376	15940	751		
317.9389	16.849	16.849	0	0.972	27508973	6198474	9840	24600	630	0.76(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.864						235	587			
305.8987	16.864						372	930			
A Non-2,3,7,8-sub-TCDF											
303.9016	16.569						235	587			
305.8987	16.569						372	930			
13C-2,3,7,8-TCDD											
331.9368	17.529	17.529	0	1.011	17262786	3785330	5318	13295	712		
333.9339	17.529	17.529	0	1.011	22242369	4782782	7000	17500	683	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.544	17.544	0	1.001	26769	4631	464	1160	10		
321.8936	17.544	17.544	0	1.001	40486	8526	325	812	26	0.66(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.544	17.544	0	1.012	19994947	4469049	4683	11707	954		
A Non-2,3,7,8-sub-TCDD											
319.8965	17.000						464	1160			
321.8936	17.000						325	812			
13C-1,2,3,7,8-PeCDF											
351.9000	21.639	21.639	0	1.248	24545109	3854661	10636	26590	362		
353.8970	21.639	21.639	0	1.248	15677776	2457353	6713	16782	366	1.57(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	21.667						199	497			
341.8567	21.667						292	730			
13C-2,3,4,7,8-PeCDF											
351.9000	22.921	22.921	0	1.322	26061788	3840425	10636	26590	361		
353.8970	22.921	22.921	0	1.322	16896329	2488507	6713	16782	371	1.54(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.948						199	497			
341.8567	22.948						292	730			
A F1 PeCDFs											
339.8597	19.329						153	382			
341.8567	19.329						282	705			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.336						199	497			
341.8567	22.336						292	730			
13C-1,2,3,7,8-PeCDD											
367.8949	23.617	23.617	0	1.363	16757513	2302100	2314	5785	995		
369.8919	23.617	23.617	0	1.363	10502528	1440604	1807	4517	797	1.60(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.644						242	605			
357.8516	23.644						122	305			
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.580						242	605			
357.8516	22.580						122	305			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.735	29.748	-1	0.937	9948277	1165773	5456	13640	214		
385.8610	29.735	29.748	-1	0.937	20384241	2387565	10954	27385	218	0.49(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.761						262	655			
375.8178	29.761						203	507			
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.001	29.988	1	0.945	10659907	1266397	5456	13640	232		
385.8610	30.001	29.988	1	0.945	21326180	2447330	10954	27385	223	0.50(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.028						262	655			
375.8178	30.028						203	507			
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.026	31.026	0	0.977	9308598	1669672	5456	13640	306		
385.8610	31.026	31.026	0	0.977	19059554	3346095	10954	27385	305	0.49(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.053						262	655			
375.8178	31.053						203	507			
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.944	31.944	0	1.006	8167774	1495204	5456	13640	274		
385.8610	31.944	31.944	0	1.006	16689537	3112495	10954	27385	284	0.49(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											RQU
373.8208	31.958						262	655			
375.8178	31.958						203	507			
A Non-2,3,7,8-sub-HxCDF											U
373.8208	29.529						262	655			
375.8178	29.529						203	507			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.745	31.745	0		27364566	5183676	6021	15052	861		
403.8529	31.745	31.745	0		22085806	4175120	4711	11777	886	1.24(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.252	31.252	0	0.984	14062955	3116947	6021	15052	518		
403.8529	31.252	31.252	0	0.984	11182495	2476506	4711	11777	526	1.26(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.266	31.265	0	1.000	19820	3181	272	680	12		
391.8127	31.266	31.265	0	1.000	13917	2967	225	562	13	1.42(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.372	31.372	0	0.988	17332063	3125263	6021	15052	519		
403.8529	31.372	31.372	0	0.988	14027946	2466762	4711	11777	524	1.24(1.05-1.43)	
1,2,3,6,7,8-HxCDD											U
389.8157	31.385						272	680			
391.8127	31.385						225	562			
1,2,3,7,8,9-HxCDD											
389.8157	31.785	31.758	2	1.017	8492	1778	272	680	7		
391.8127	31.758	31.758	0	1.016	6511	946	225	562	4	1.30(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.108						272	680			
391.8127	30.108						225	562			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.471	33.471	0	1.054	6873918	1603472	11055	27637	145		
419.8220	33.471	33.471	0	1.054	16023909	3813539	28334	70835	135	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											M
407.7818	33.483	33.483	0	1.000	16469	4563	374	935	12		M
409.7789	33.471	33.483	-1	1.000	15269	4026	258	645	16	1.08(0.88-1.20)	M
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.540	34.540	0	1.088	6481221	1174991	11055	27637	106		
419.8220	34.540	34.540	0	1.088	15506344	2828266	28334	70835	100	0.42(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.540						374	935			
409.7789	34.540						258	645			
A Non-2,3,7,8-sub-HpCDF											RQM
407.7818	33.775	34.018	-15	1.009	10802	2121	374	935	6		M
	Empc Correction				8326	1865	374	935	5		
409.7789	33.787	34.018	-14	1.009	8006	1794	258	645	7	1.35(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.249	34.249	0	1.079	11739844	2326186	7712	19280	302		
437.8140	34.261	34.249	1	1.079	11222455	2239981	5596	13990	400	1.05(0.88-1.20)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											M
423.7766	34.273	34.261	1	1.001	22510	4269	427	1067	10		
425.7737	34.261	34.261	0	1.000	22653	4658	316	790	15	0.99(0.88-1.20)	M
A Non-2,3,7,8-sub-HpCDD											M
423.7766	33.726	33.988	-16	0.985	26070	5357	427	1067	13		
425.7737	33.714	33.988	-16	0.984	26491	5145	316	790	16	0.98(0.88-1.20)	M
13C-OCDD											
469.7779	36.552	36.540	1	1.151	15942151	2589800	1442	3605	1796		
471.7750	36.552	36.540	1	1.151	18717934	2900616	1479	3697	1961	0.85(0.76-1.02)	
OCDF											M
441.7428	36.660	36.636	1	1.003	16229	2295	182	455	13		M
443.7399	36.648	36.636	1	1.003	16097	2661	309	772	9	1.01(0.76-1.02)	M
OCDD											
457.7377	36.564	36.552	1	1.000	207519	29805	264	660	113		
459.7348	36.564	36.552	1	1.000	249768	35275	253	632	139	0.83(0.76-1.02)	

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_9.d
Lims ID: 320-58170-A-5-A
Client ID: 11187072-Western-GW
Inject. Date: 05-Feb-2020 21:40:03 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 355322 Lims Sample ID: 9

Non-2,3,7,8-sub-HxCDF, RT: 29.529

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	0.792	D 13C-1,2,3,4,7,8-HxCDF	100.000	30332518	3553338
1,2,3,6,7,8-HxCDF	0.864	D 13C-1,2,3,6,7,8-HxCDF	100.000	31986087	3713727
2,3,4,6,7,8-HxCDF	0.901	D 13C-2,3,4,6,7,8-HxCDF	100.000	28368152	5015767
1,2,3,7,8,9-HxCDF	0.913	D 13C-1,2,3,7,8,9-HxCDF	100.000	24857311	4607699

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.867		100.000	28886017	4222632

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags

Compound is Marked ND

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_9.d
Lims ID: 320-58170-A-5-A
Client ID: 11187072-Western-GW
Inject. Date: 05-Feb-2020 21:40:03 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 355322 Lims Sample ID: 9

Non-2,3,7,8-sub-HpCDF, RT: 34.018

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.337	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	22897827	5417011
1,2,3,4,7,8,9-HpCDF	1.074	D 13C-1,2,3,4,7,8,9-HpCDF	100.000	21987565	4003257

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.206		100.000	22442696	4710134

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
33.775	10802	2121	8006	1794	0.0695	1.35	RQM
33.775	8326	1865	8006	1794	0.0603		Empc Correction
Signal Totals:							
	8326	1865	8006	1794			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	18808	3915				1.35	RQM
	16332	3659					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0695 = (18808 * 100.000) / (22442696 * 1.206)
Empc Amount: 0.0603 = (16332 * 100.000) / (22442696 * 1.206)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_9.d
Lims ID: 320-58170-A-5-A
Client ID: 11187072-Western-GW
Inject. Date: 05-Feb-2020 21:40:03 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 355322 Lims Sample ID: 9

Non-2,3,7,8-sub-HpCDD, RT: 33.988

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.981	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	22962299	4566167

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.981		100.000	22962299	4566167

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
33.726	26070	5357	26491	5145	0.2333	0.98	M
Signal Totals:							
	26070	5357	26491	5145			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	52561	10502				0.98	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.2333 = (52561 * 100.000) / (22962299 * 0.981)

QC Flag Legend

Review Flags
M - Manually Integrated

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_9.d				
Injection Date:	05-Feb-2020 21:40:03	Instrument ID:	10D5		
Lims ID:	320-58170-A-5-A	Lab Sample ID:	320-58170-5		
Client ID:	11187072-Western-GW				
Operator ID:	AJS	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 1

Processing Integration Results

RT: 33.48
Area: 20535
Amount: 0.131920
Amount Units: pg/ul

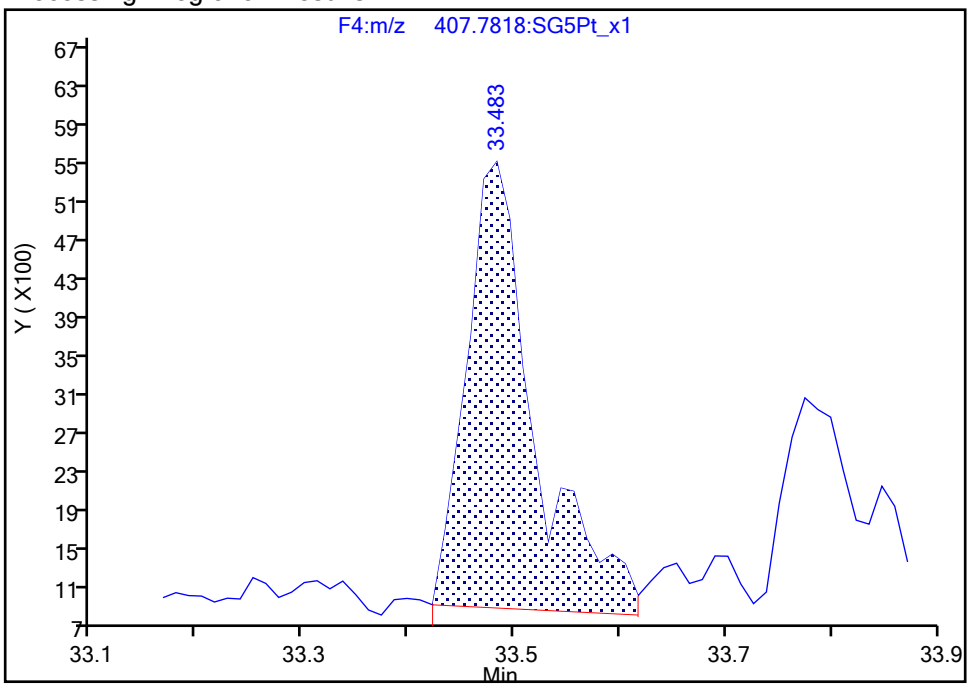

Manual Integration Results

RT: 33.48
Area: 16469
Amount: 0.103635
Amount Units: pg/ul

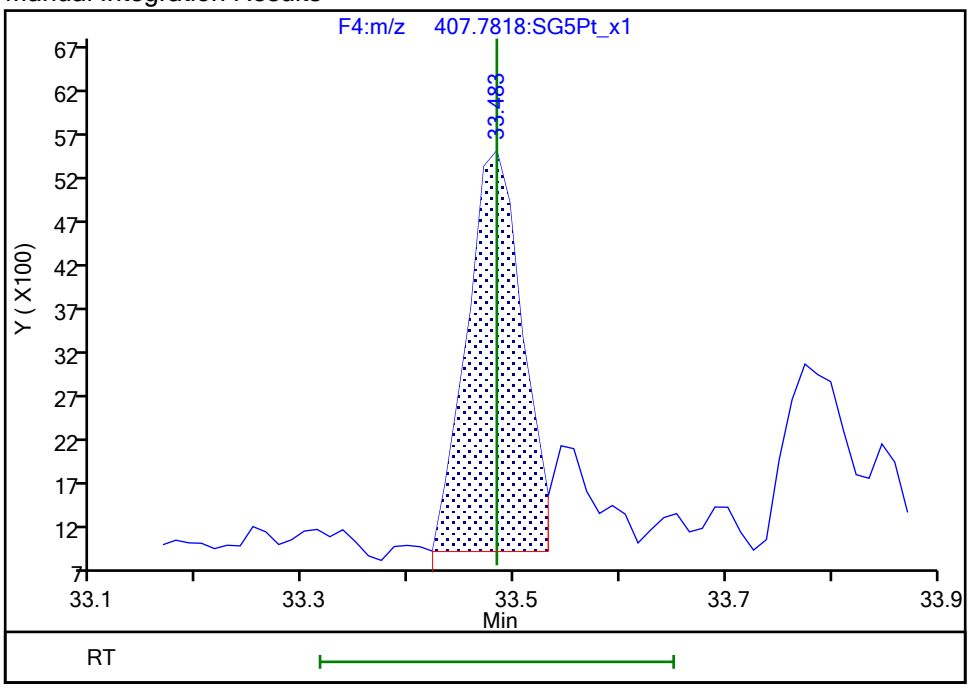

Reviewer: dadunj, 07-Feb-2020 14:36:35

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_9.d				
Injection Date:	05-Feb-2020 21:40:03	Instrument ID:	10D5		
Lims ID:	320-58170-A-5-A	Lab Sample ID:	320-58170-5		
Client ID:	11187072-Western-GW				
Operator ID:	AJS	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 2

Processing Integration Results

RT: 33.47
Area: 19865
Amount: 0.131920
Amount Units: pg/ul

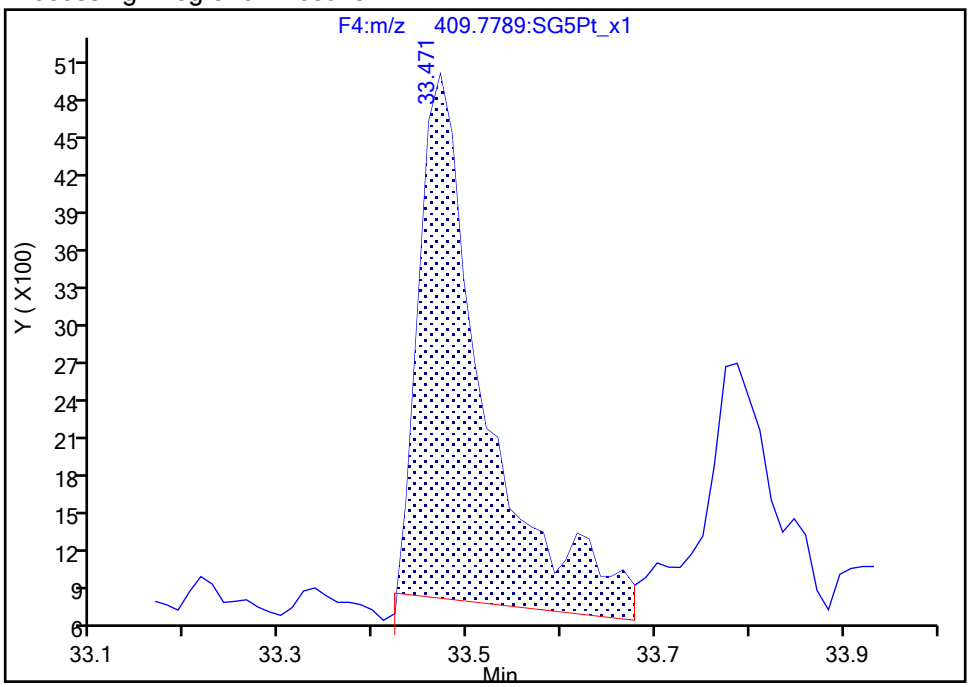

Manual Integration Results

RT: 33.47
Area: 15269
Amount: 0.103635
Amount Units: pg/ul

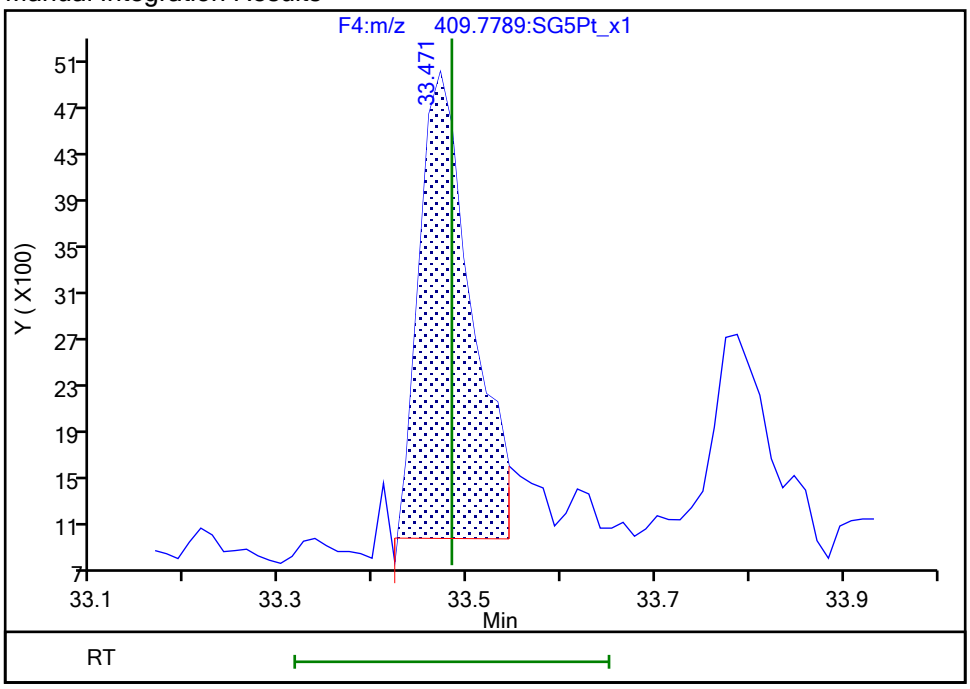

Reviewer: dadunj, 07-Feb-2020 14:36:36

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_9.d				
Injection Date:	05-Feb-2020 21:40:03	Instrument ID:	10D5		
Lims ID:	320-58170-A-5-A	Lab Sample ID:	320-58170-5		
Client ID:	11187072-Western-GW				
Operator ID:	AJS	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

Non-2,3,7,8-sub-HpCDF, Signal: 1, m/z: 407.7818, RT: (33.45- 34.58)

Signal: 1

Processing Integration Results

RT = 33.775 Area = 15660

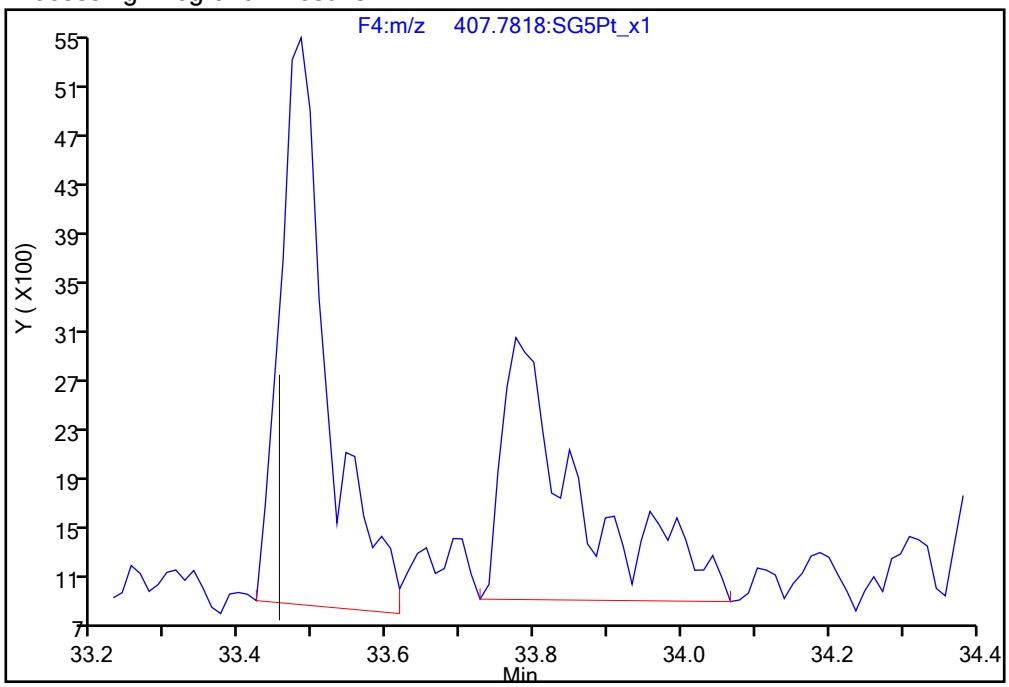

Manual Integration Results

RT = 33.775 Area = 10802 M

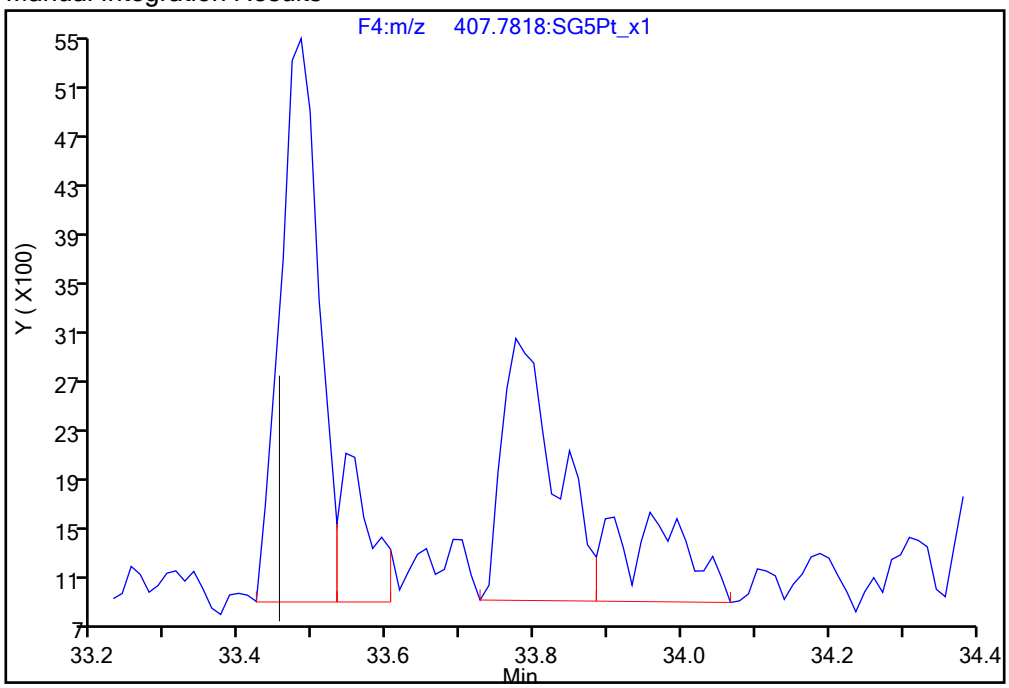

Reviewer: dadunj, 07-Feb-2020 14:36:43

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_9.d				
Injection Date:	05-Feb-2020 21:40:03	Instrument ID:	10D5		
Lims ID:	320-58170-A-5-A	Lab Sample ID:	320-58170-5		
Client ID:	11187072-Western-GW				
Operator ID:	AJS	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 2

Processing Integration Results

RT: 34.26
Area: 24707
Amount: 0.209586
Amount Units: pg/ul

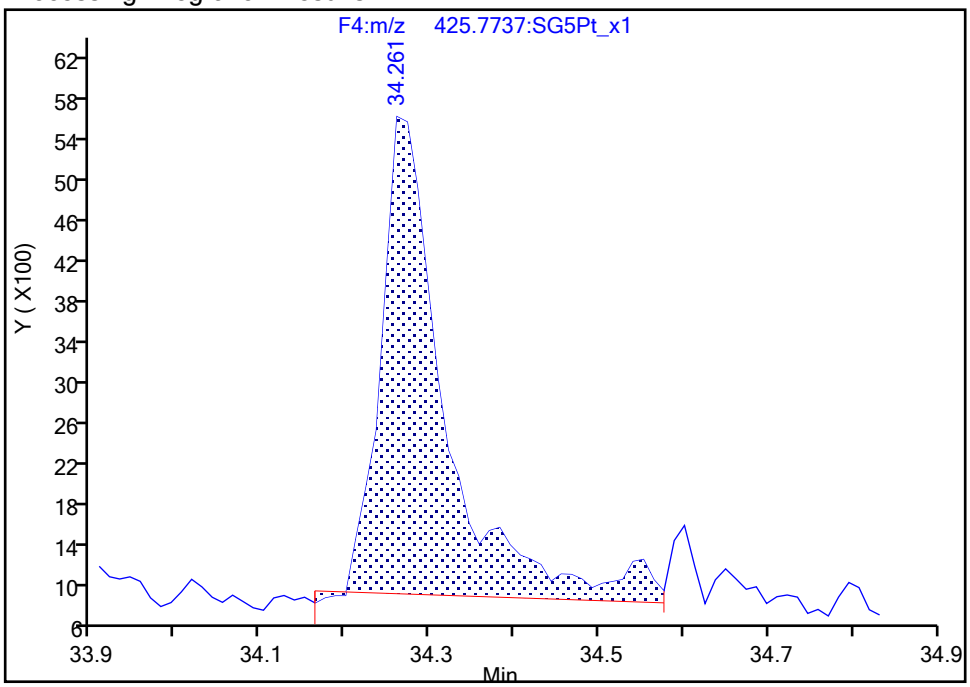

Manual Integration Results

RT: 34.26
Area: 22653
Amount: 0.200469
Amount Units: pg/ul

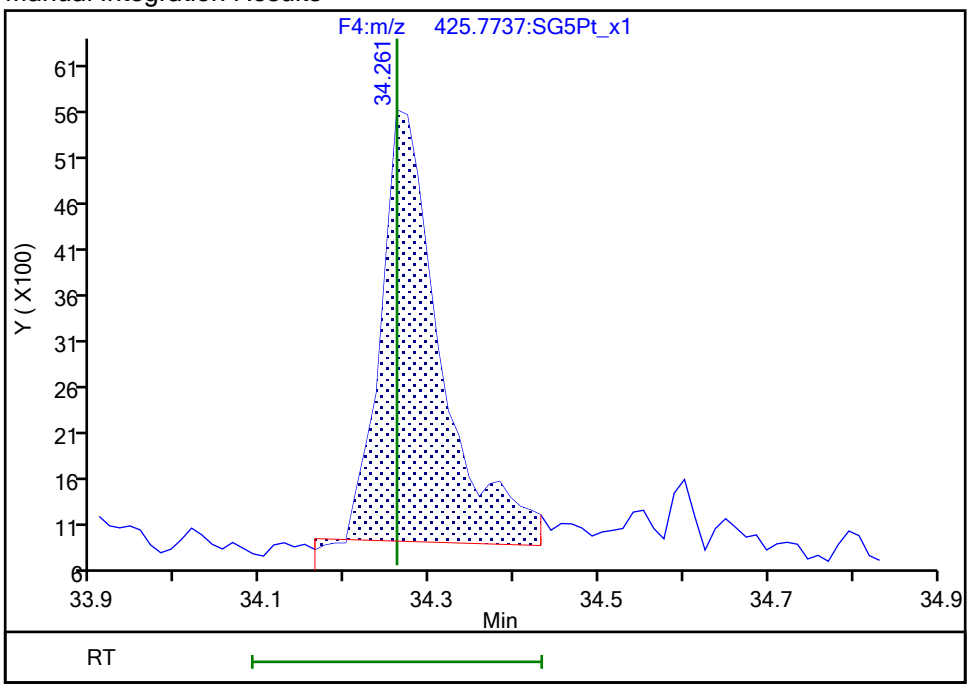

Reviewer: dadunj, 07-Feb-2020 14:36:48

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_9.d				
Injection Date:	05-Feb-2020 21:40:03	Instrument ID:	10D5		
Lims ID:	320-58170-A-5-A	Lab Sample ID:	320-58170-5		
Client ID:	11187072-Western-GW				
Operator ID:	AJS	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

Non-2,3,7,8-sub-HpCDD, Signal: 2, m/z: 425.7737, RT: (33.68- 34.29)

Signal: 2

Processing Integration Results

RT = 33.714 Area = 30935

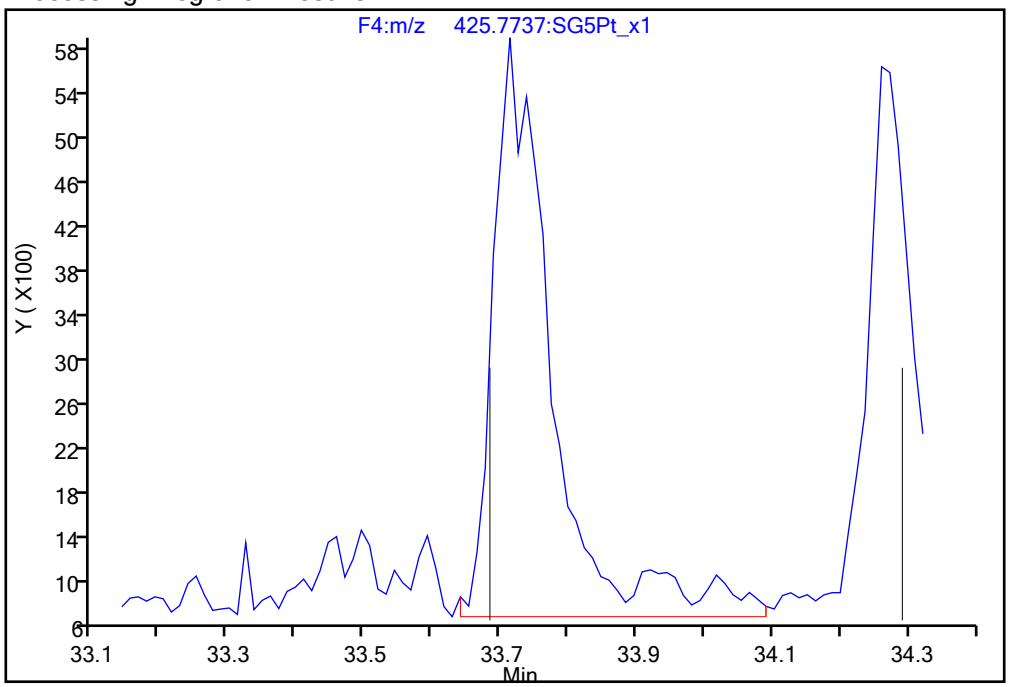

Manual Integration Results

RT = 33.714 Area = 26491 M

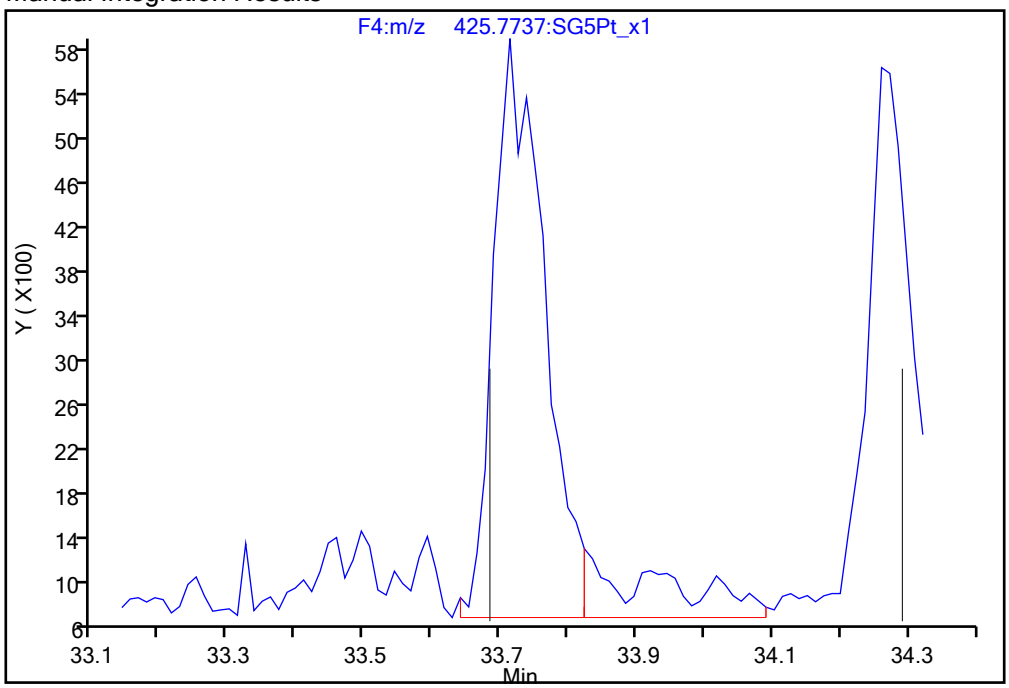

Reviewer: dadunj, 07-Feb-2020 14:36:51

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_9.d				
Injection Date:	05-Feb-2020 21:40:03	Instrument ID:	10D5		
Lims ID:	320-58170-A-5-A	Lab Sample ID:	320-58170-5		
Client ID:	11187072-Western-GW				
Operator ID:	AJS	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5:HRSIR		

OCDF, CAS: 39001-02-0

Signal: 1

Processing Integration Results

RT: 36.66
Area: 23061
Amount: 0.249138
Amount Units: pg/ul

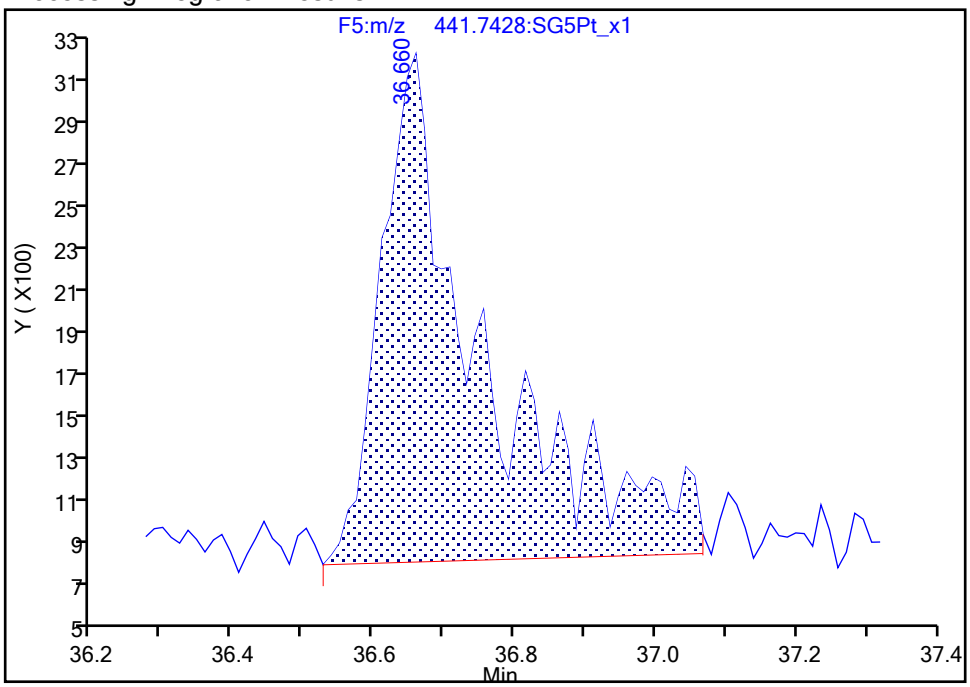

Manual Integration Results

RT: 36.66
Area: 16229
Amount: 0.174995
Amount Units: pg/ul

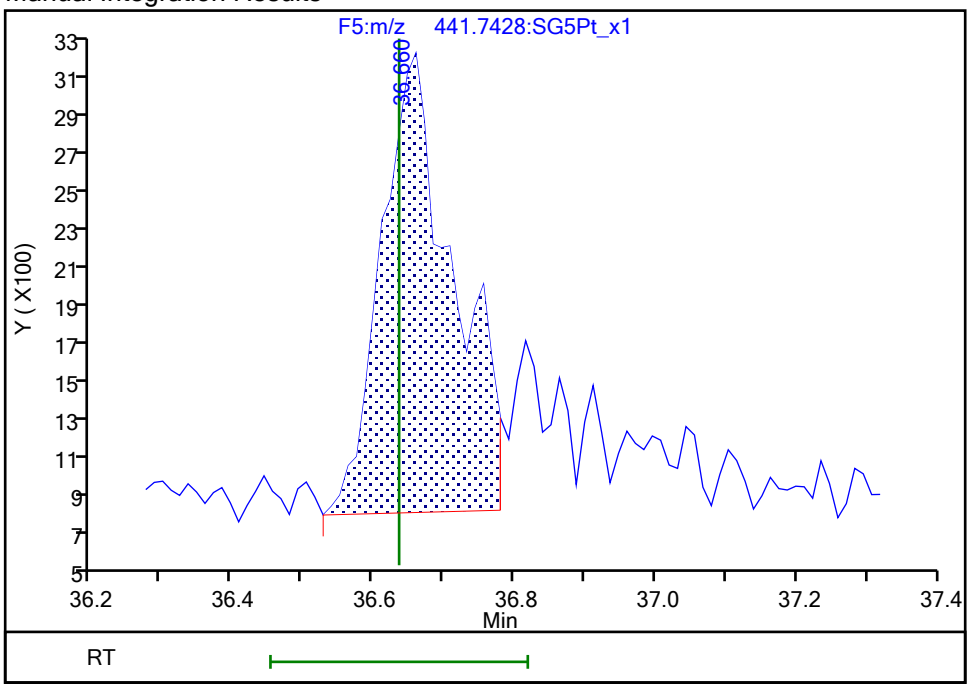

Reviewer: dadunj, 07-Feb-2020 14:36:57

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_9.d				
Injection Date:	05-Feb-2020 21:40:03	Instrument ID:	10D5		
Lims ID:	320-58170-A-5-A	Lab Sample ID:	320-58170-5		
Client ID:	11187072-Western-GW				
Operator ID:	AJS	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5:HRSIR		

OCDF, CAS: 39001-02-0

Signal: 2

Processing Integration Results

RT: 36.65
Area: 22961
Amount: 0.249138
Amount Units: pg/ul

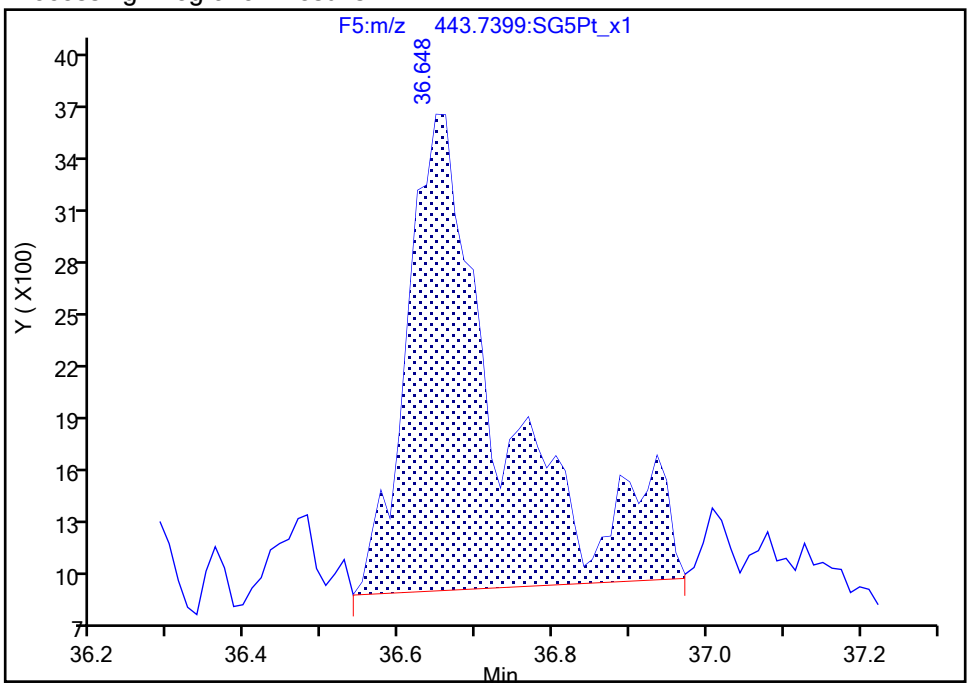

Manual Integration Results

RT: 36.65
Area: 16097
Amount: 0.174995
Amount Units: pg/ul

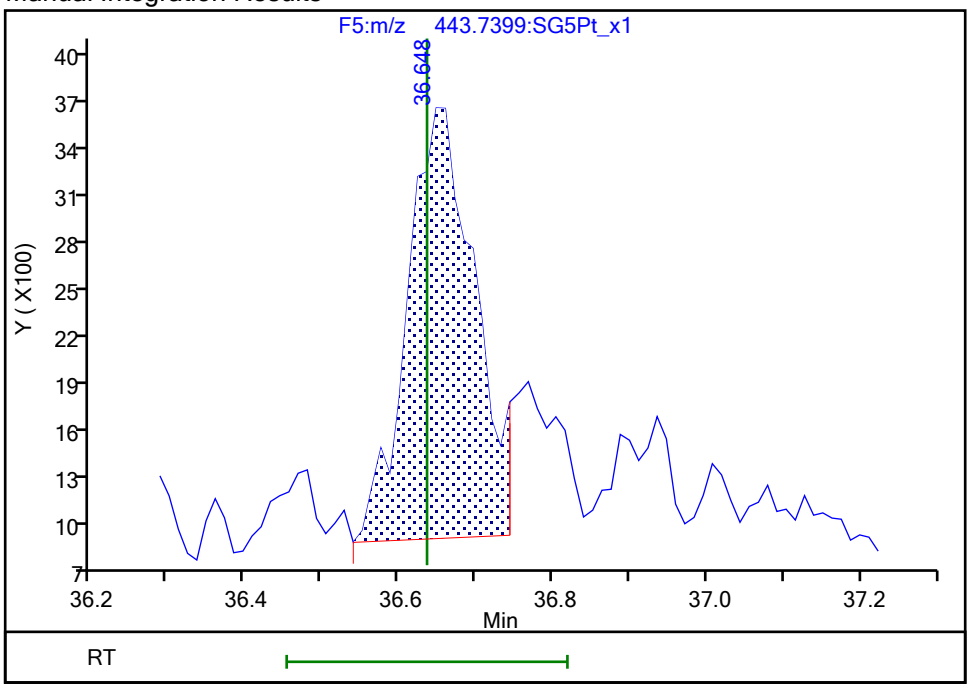

Reviewer: dadunj, 07-Feb-2020 14:36:58

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 07-Feb-2020 14:37:46 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_9.d		
Injection Date:	05-Feb-2020 21:40:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Western-GW		
Worklist#:	355322	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

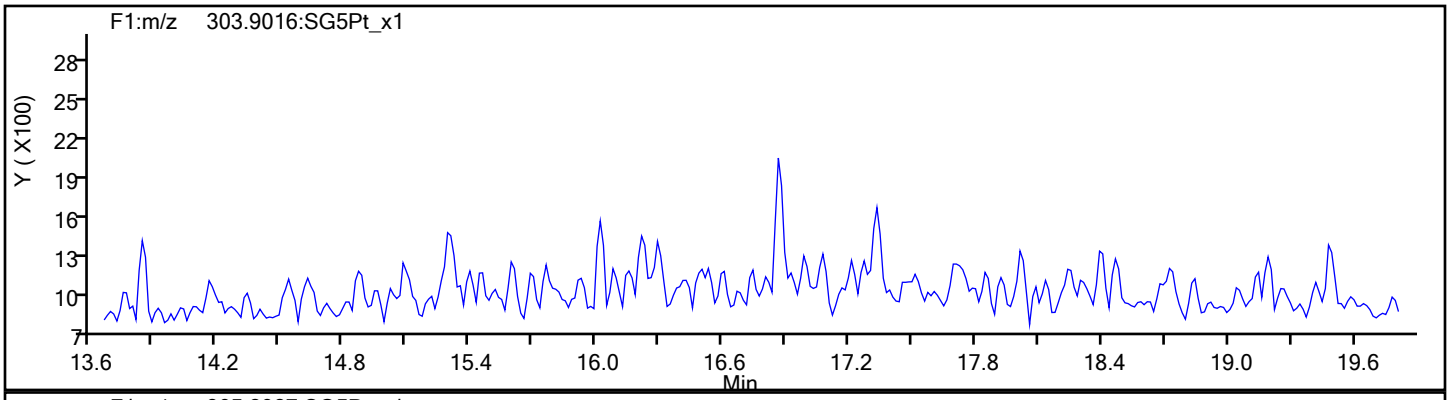

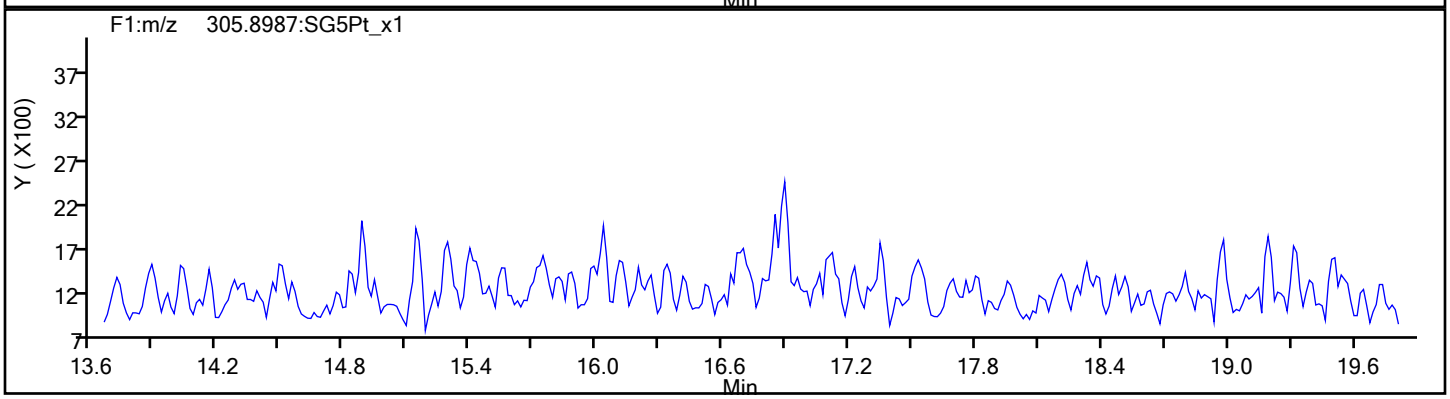

TCDF Standards

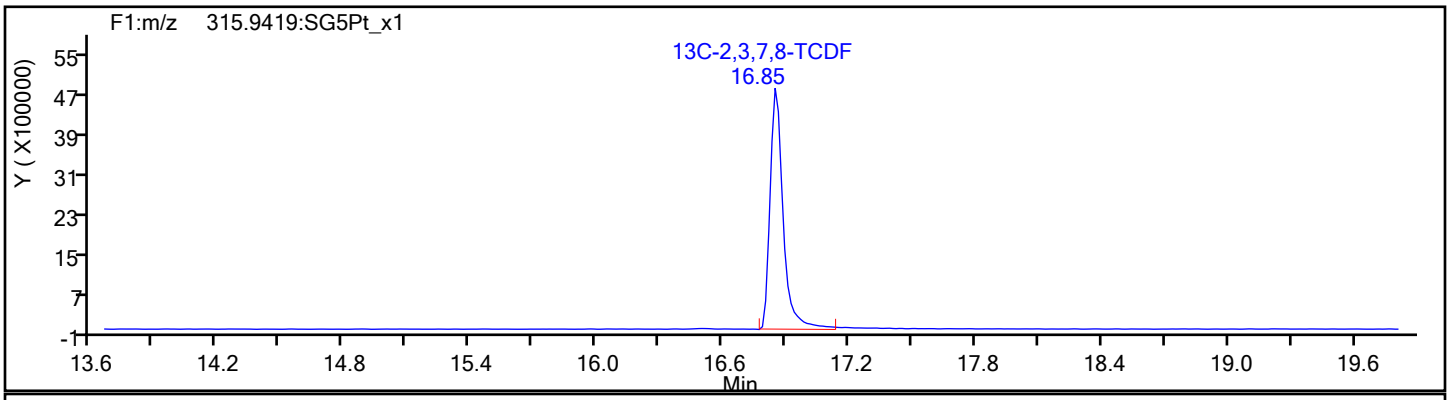

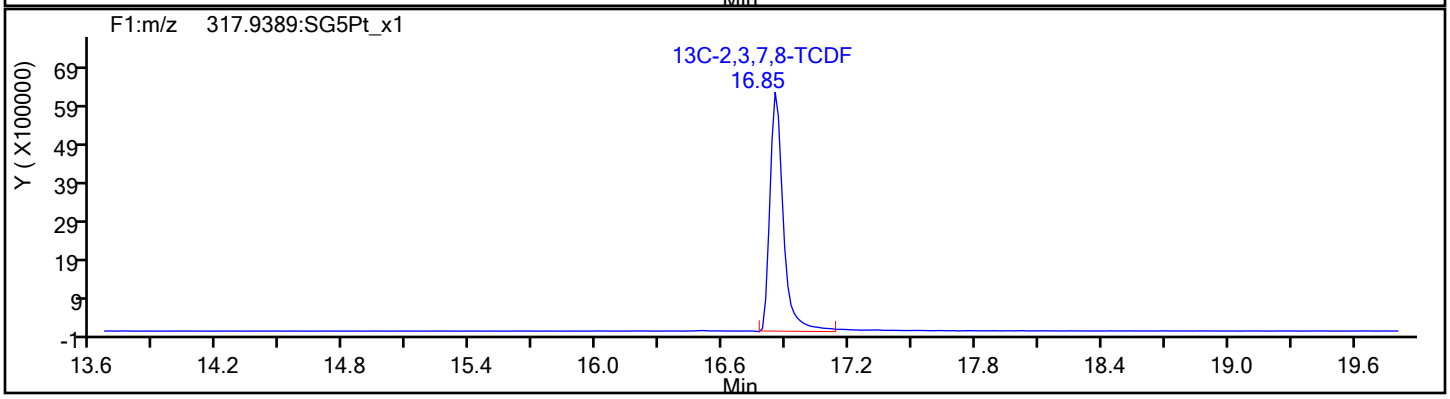

Report Date: 07-Feb-2020 14:37:46 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_9.d		
Injection Date:	05-Feb-2020 21:40:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Western-GW		
Worklist#:	355322	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

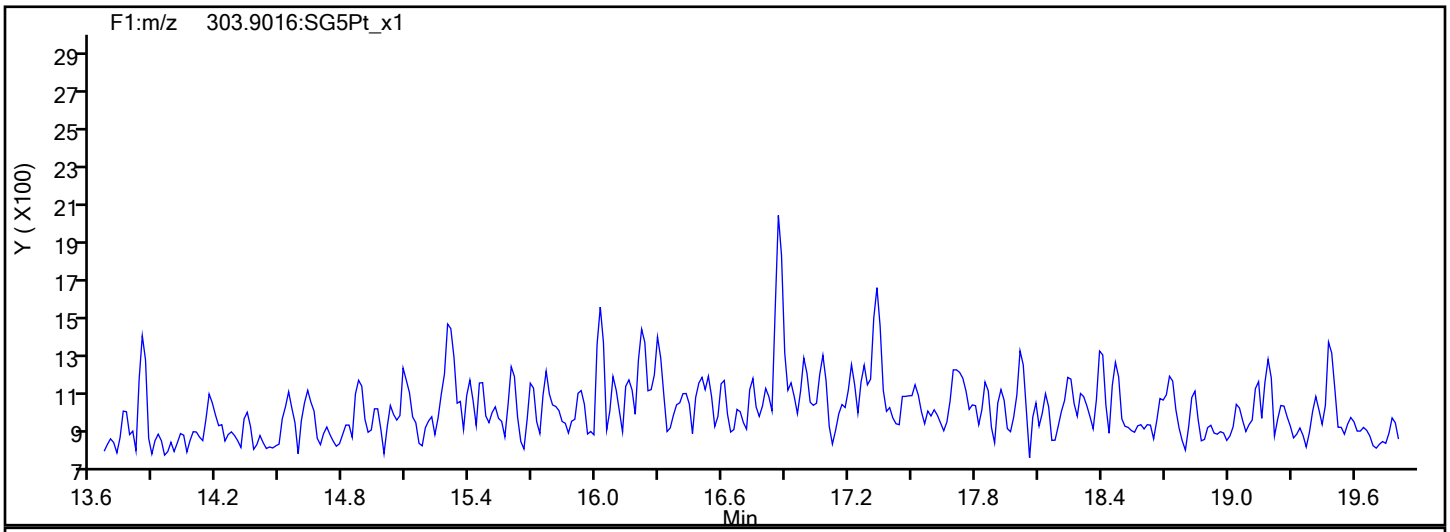

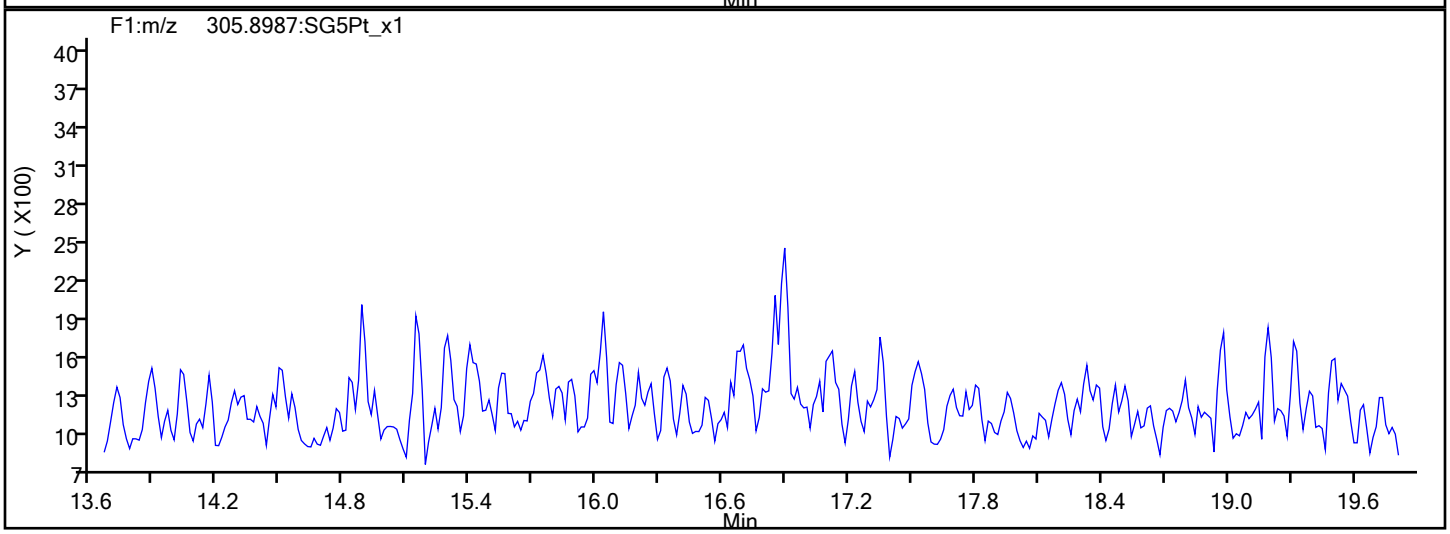

TCDF Interference Mass

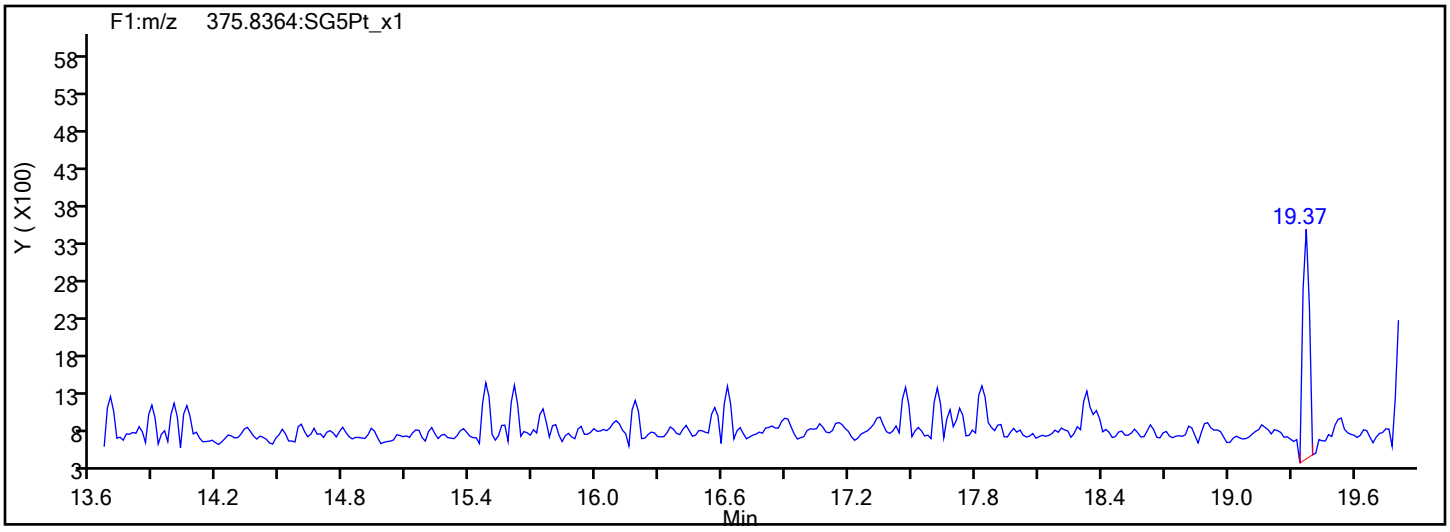

Report Date: 07-Feb-2020 14:37:46 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_9.d		
Injection Date:	05-Feb-2020 21:40:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Western-GW		
Worklist#:	355322	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

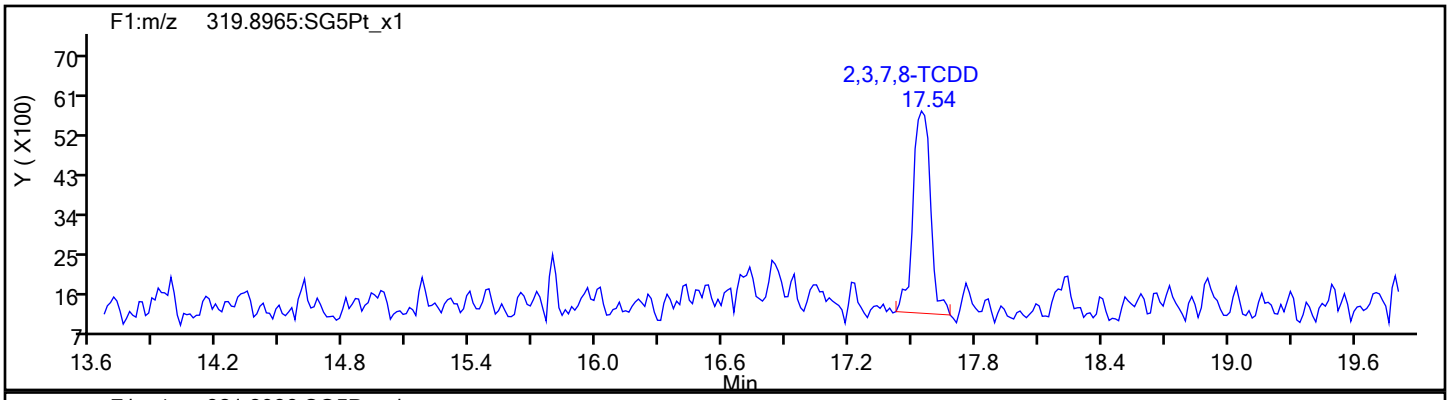

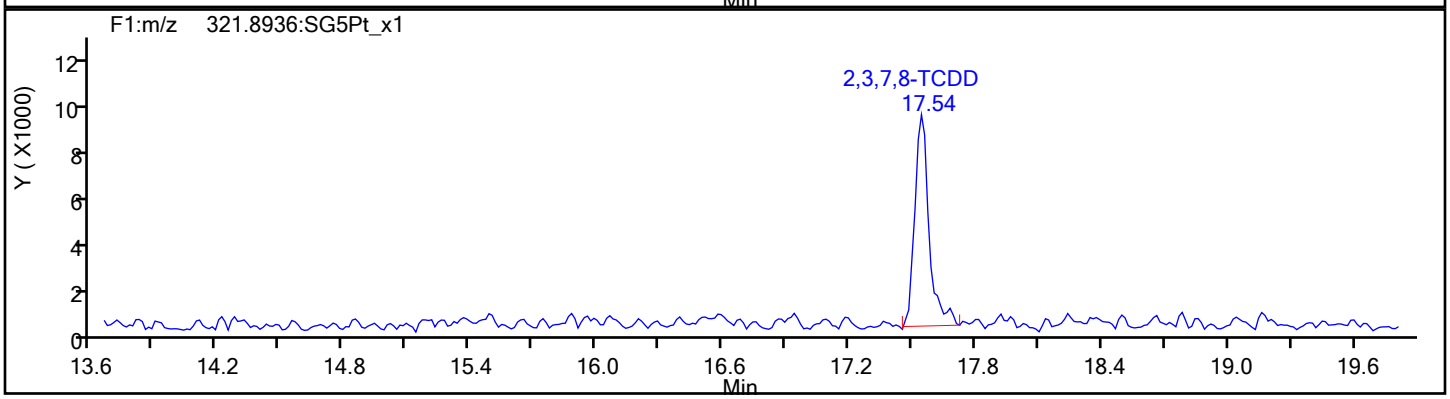

TCDD Standards

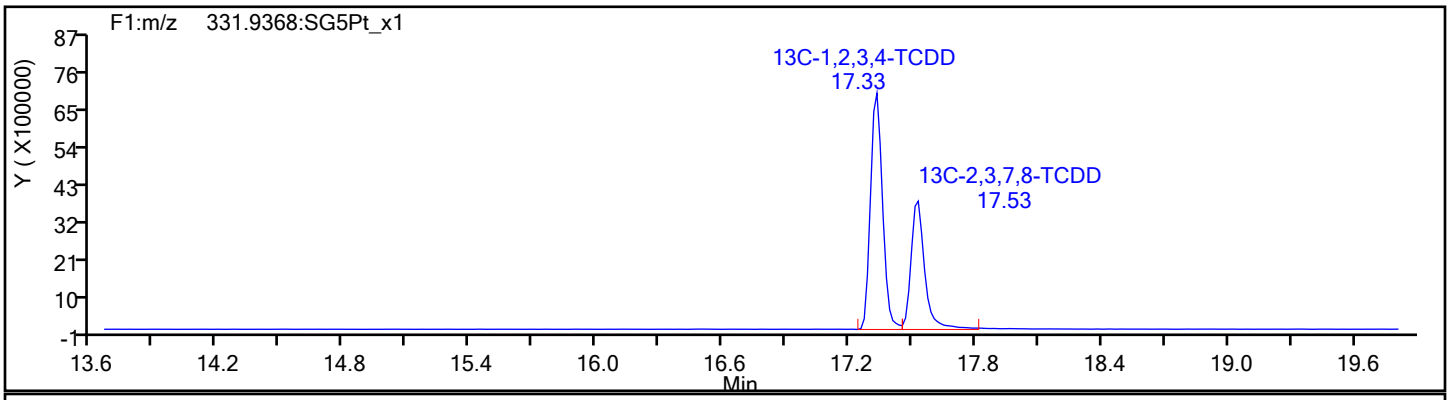

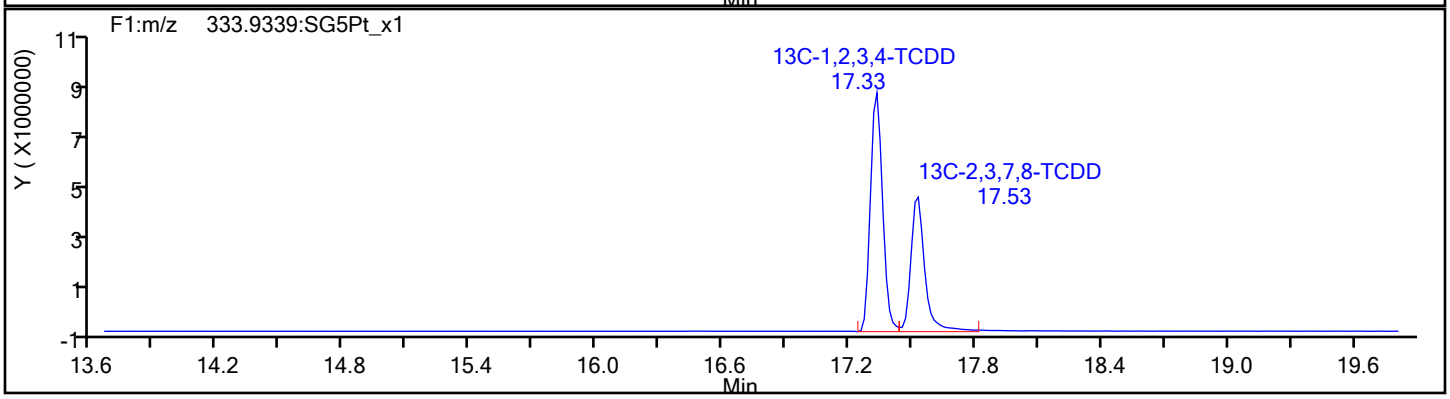

Report Date: 07-Feb-2020 14:37:47 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_9.d		
Injection Date:	05-Feb-2020 21:40:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Western-GW		
Worklist#:	355322	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

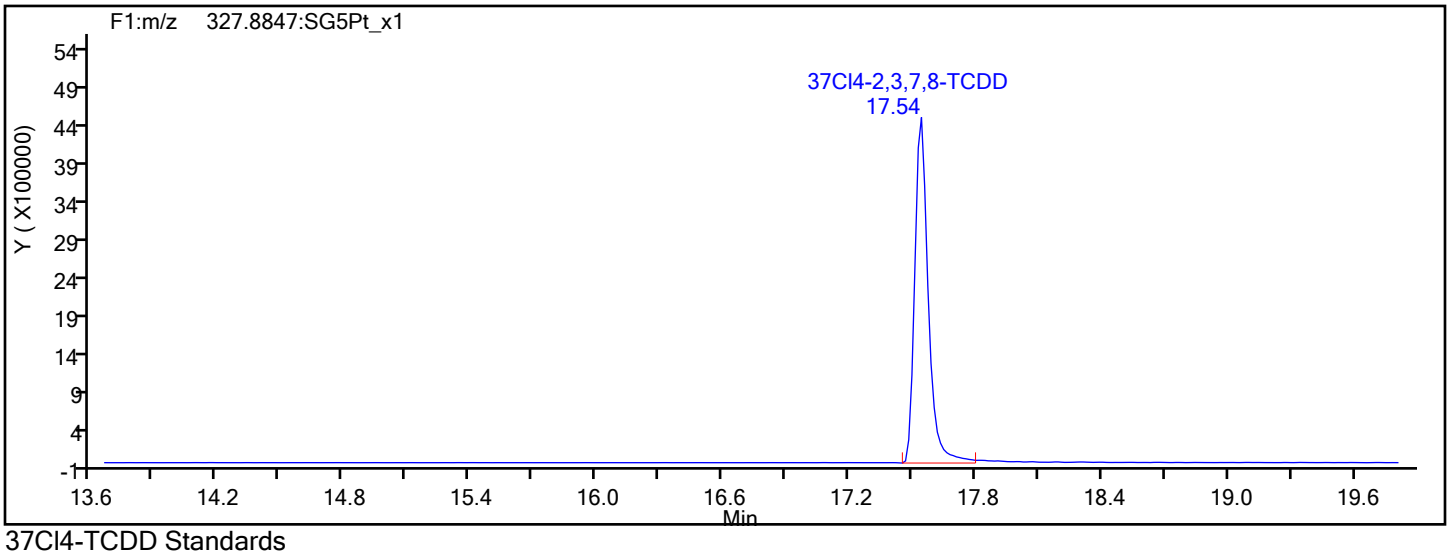

37Cl4-TCDD Standards

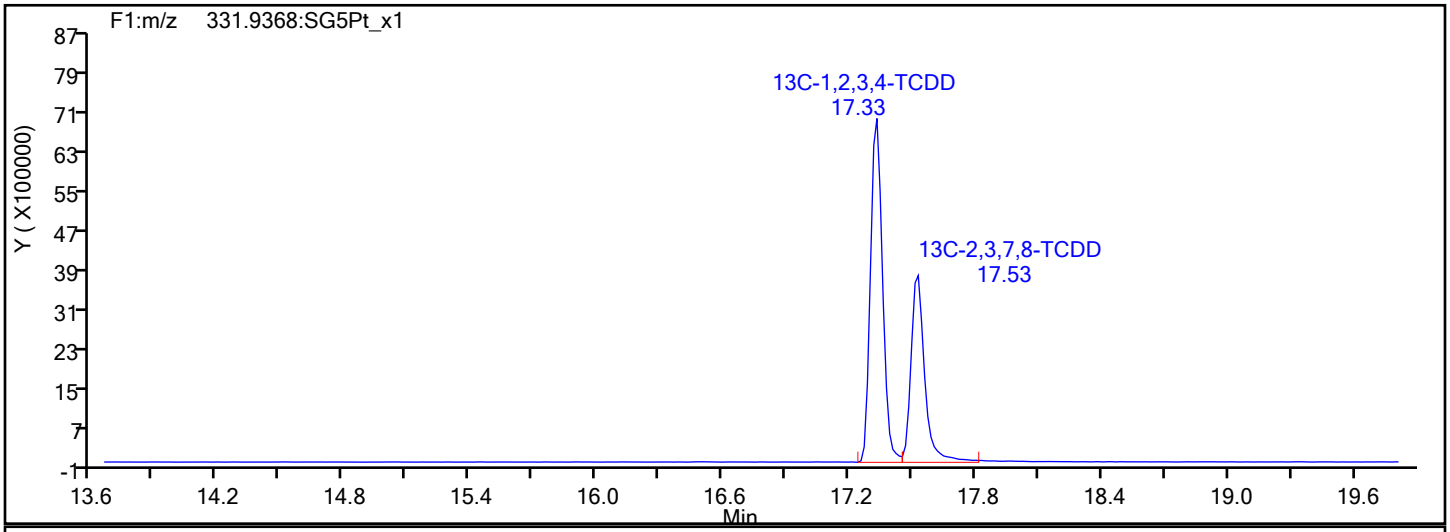

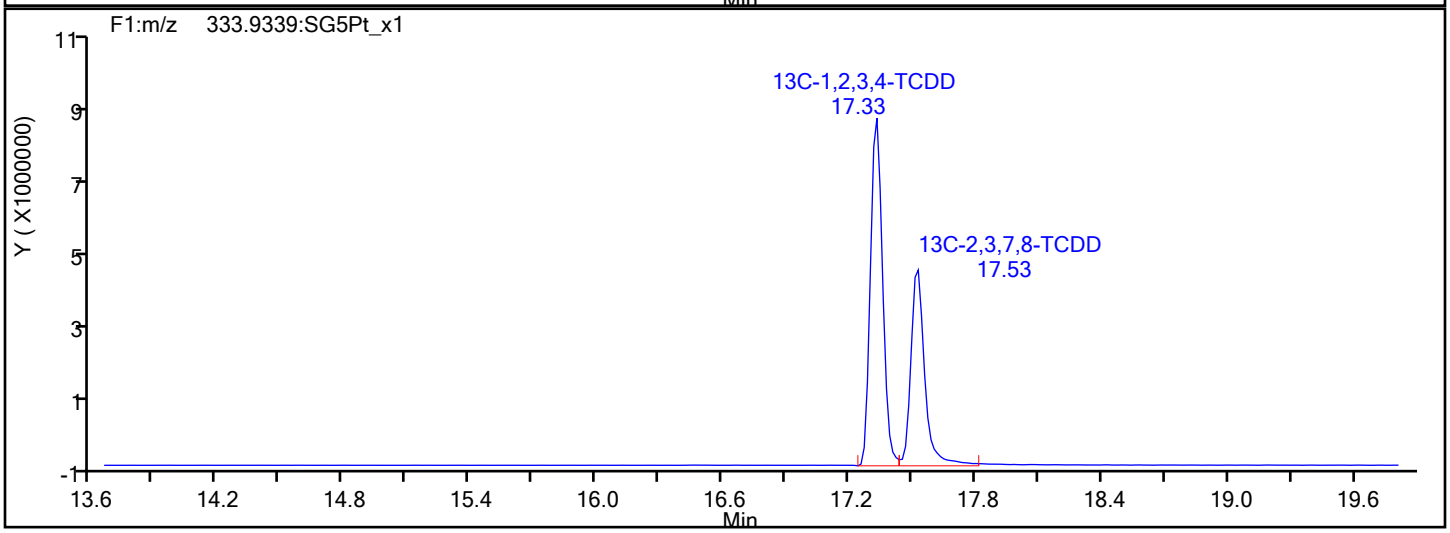

Report Date: 07-Feb-2020 14:37:47 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

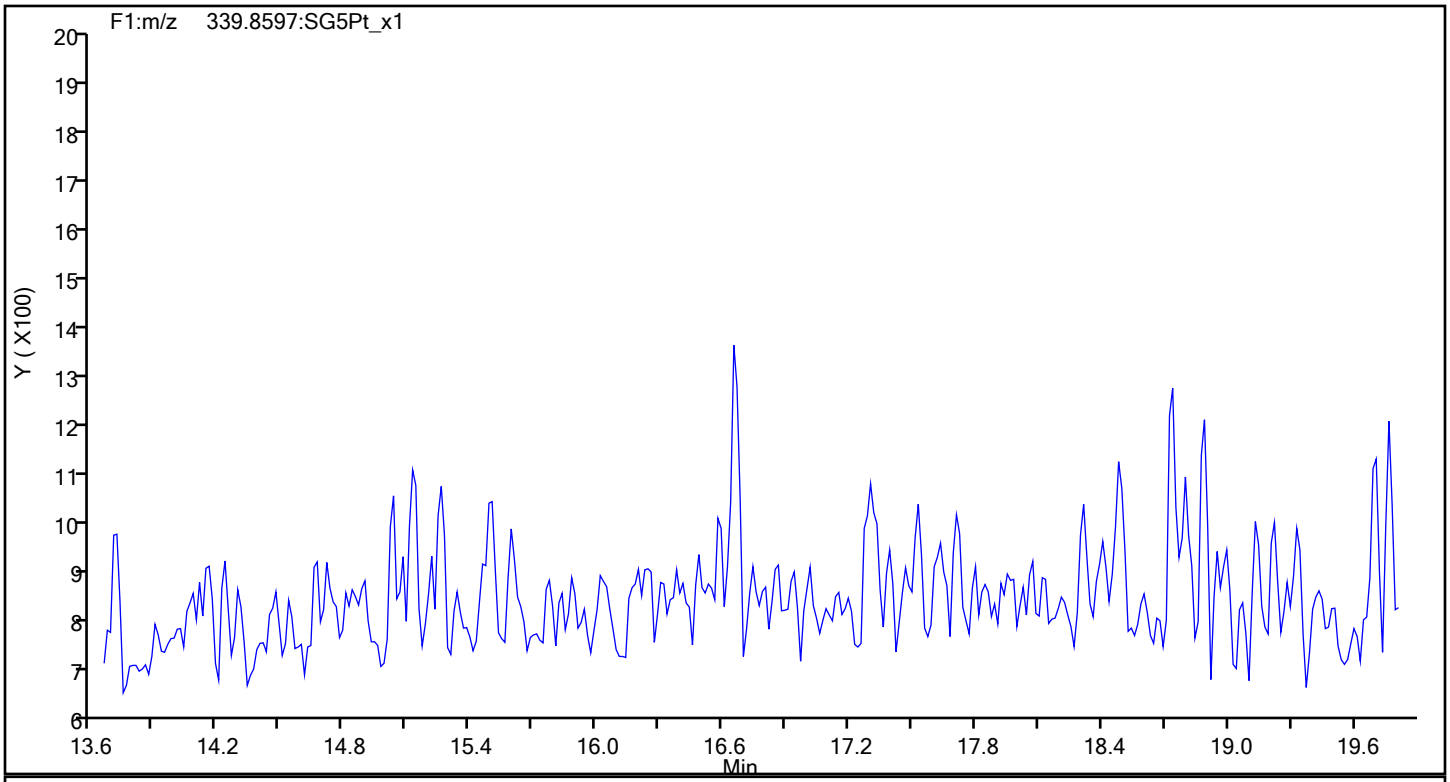

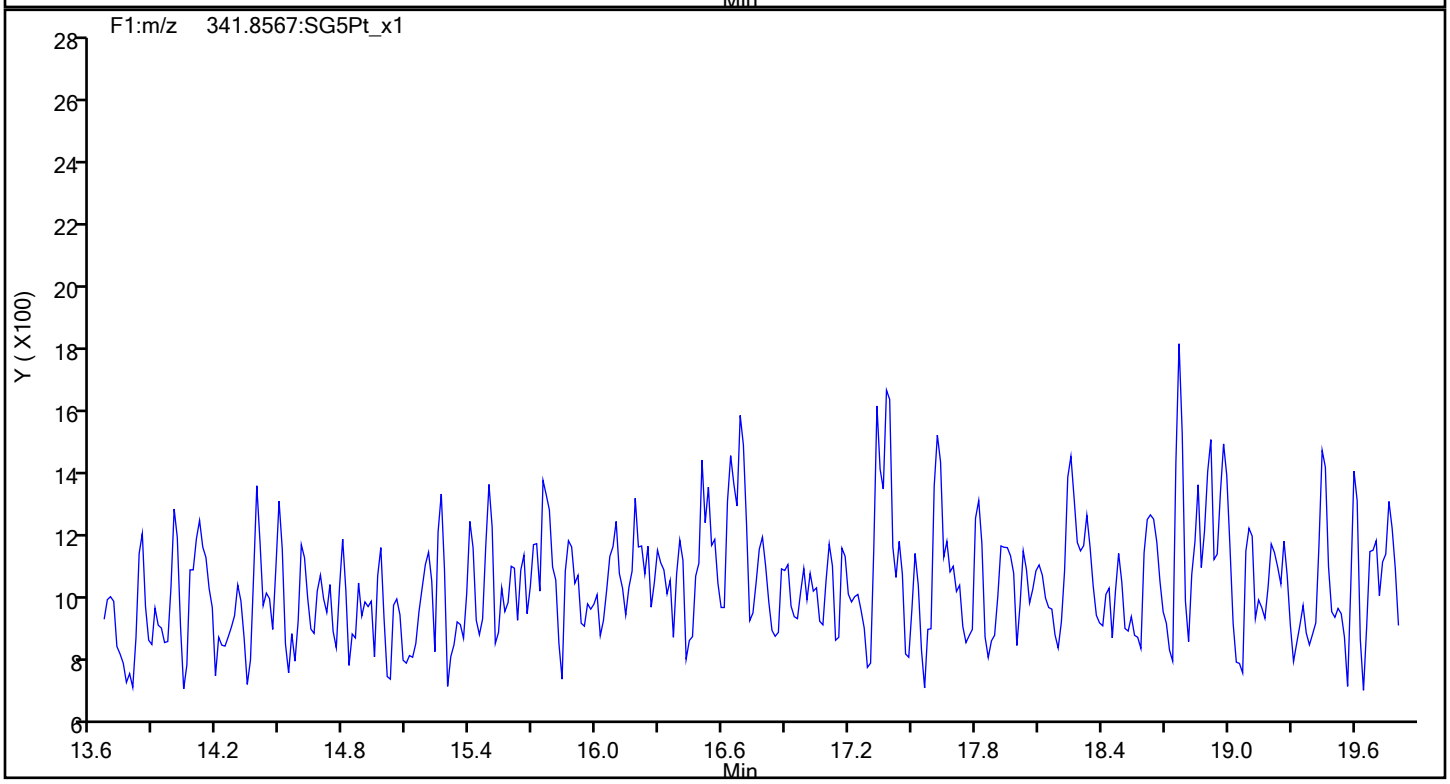

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F1 PeCDFs

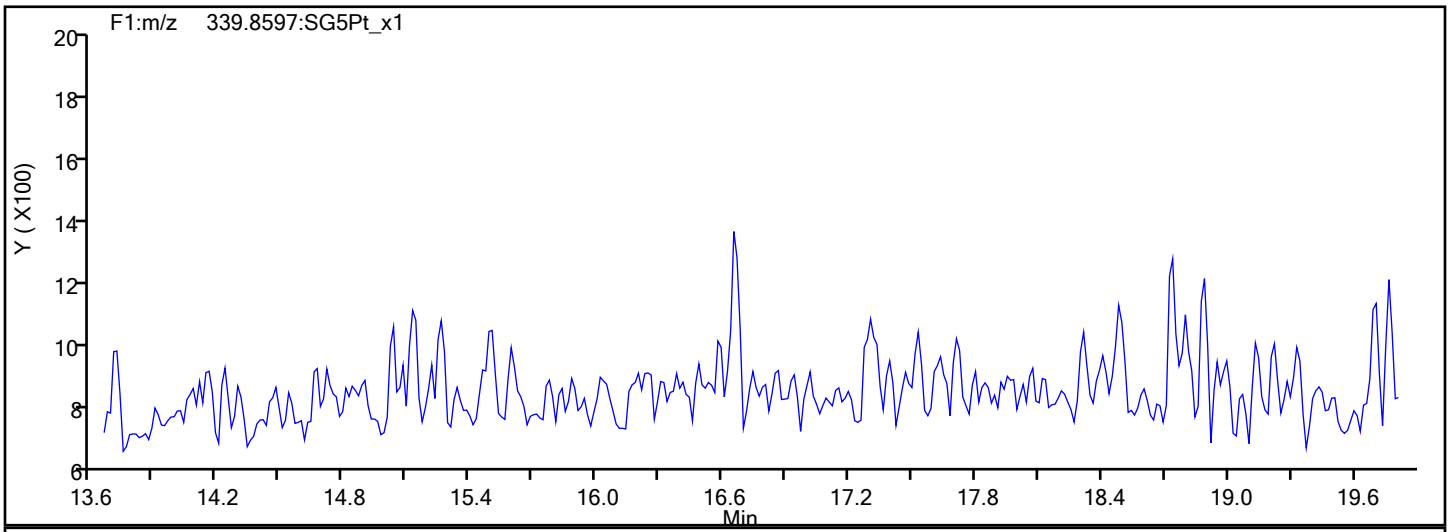

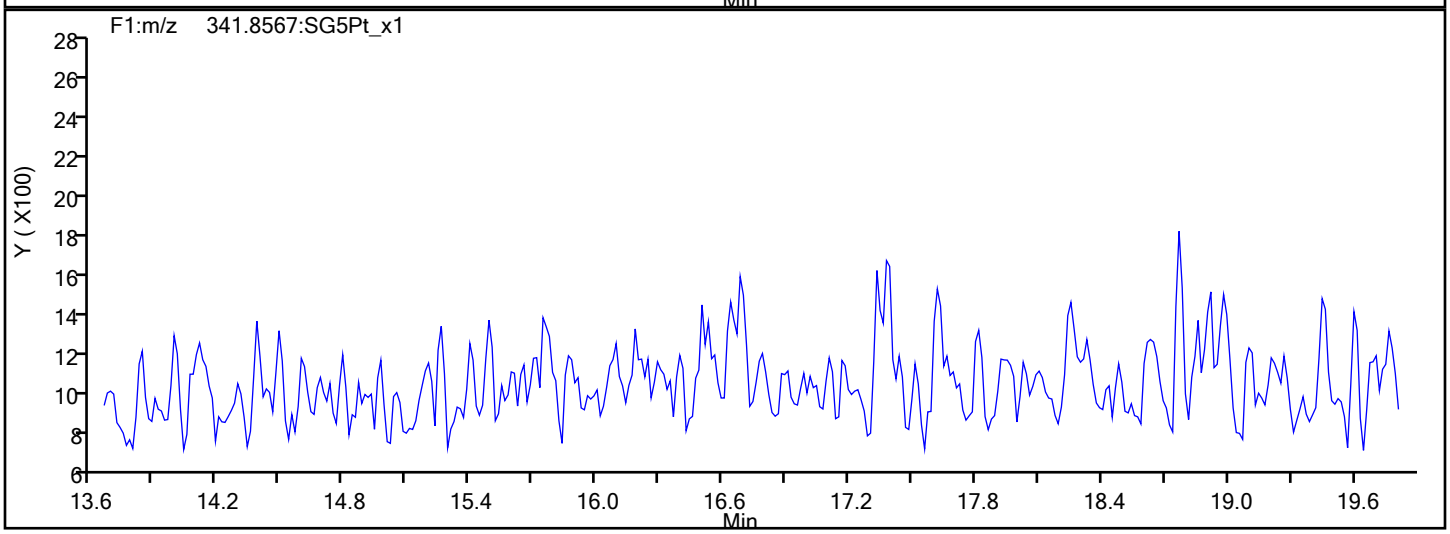

F1 PeCDFs Interference Mass

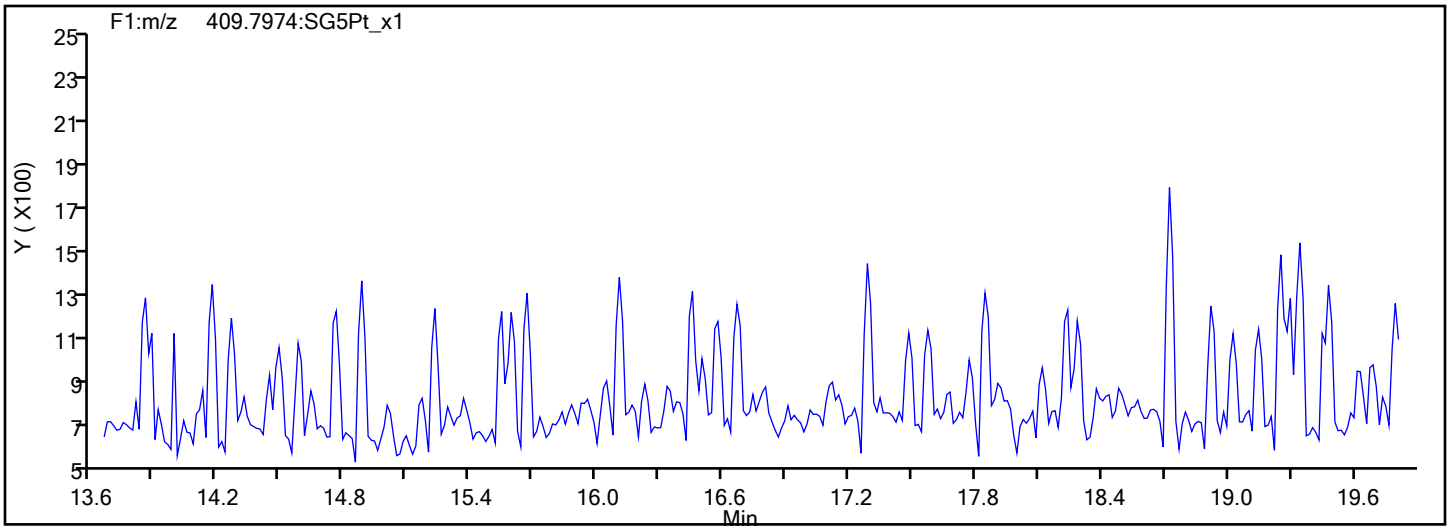

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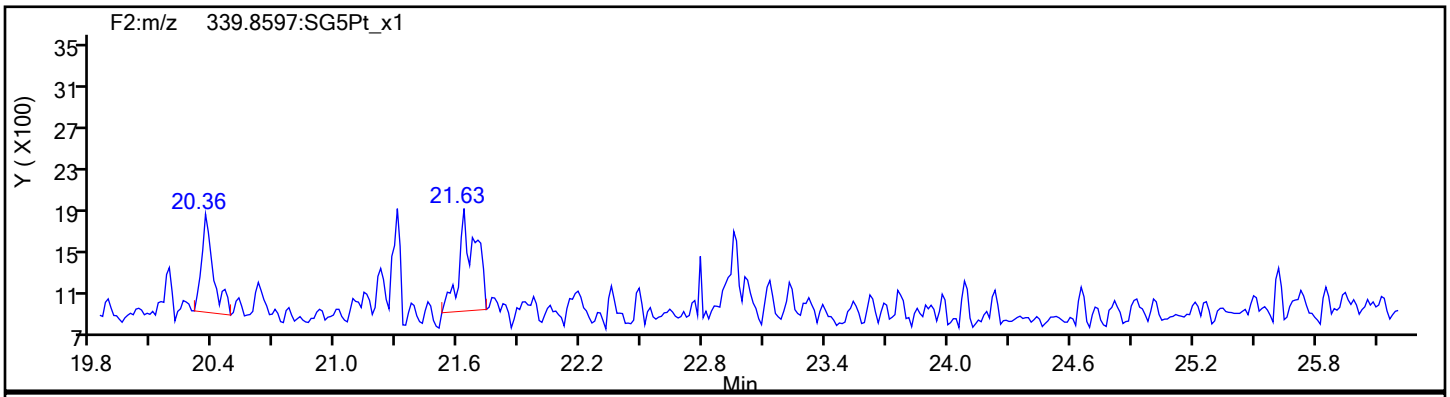

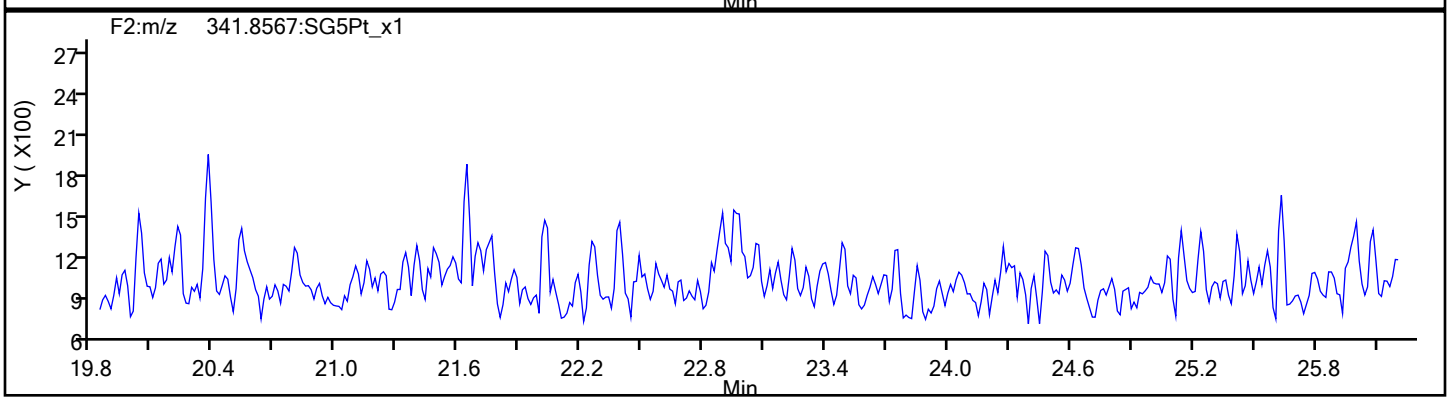

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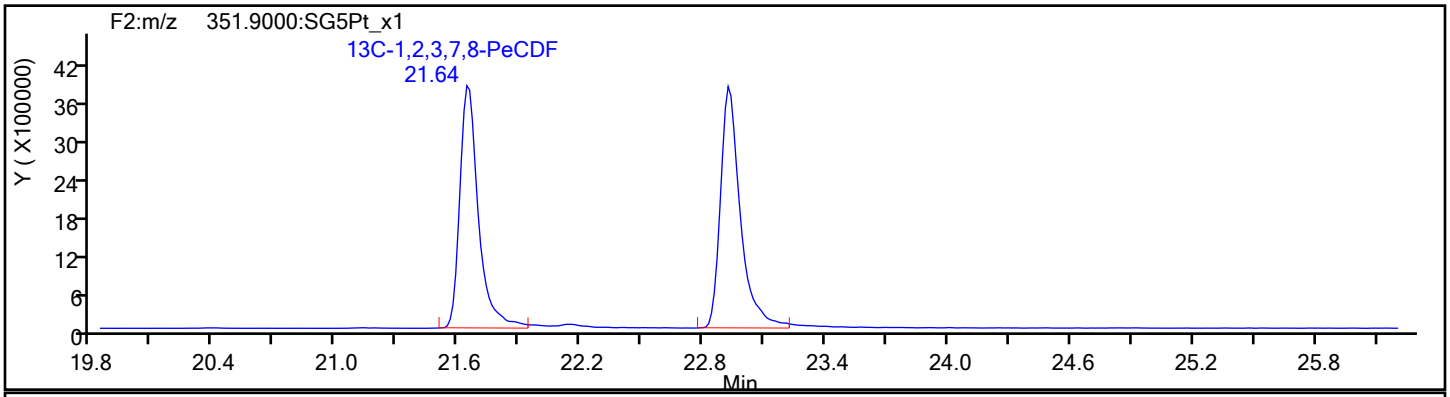

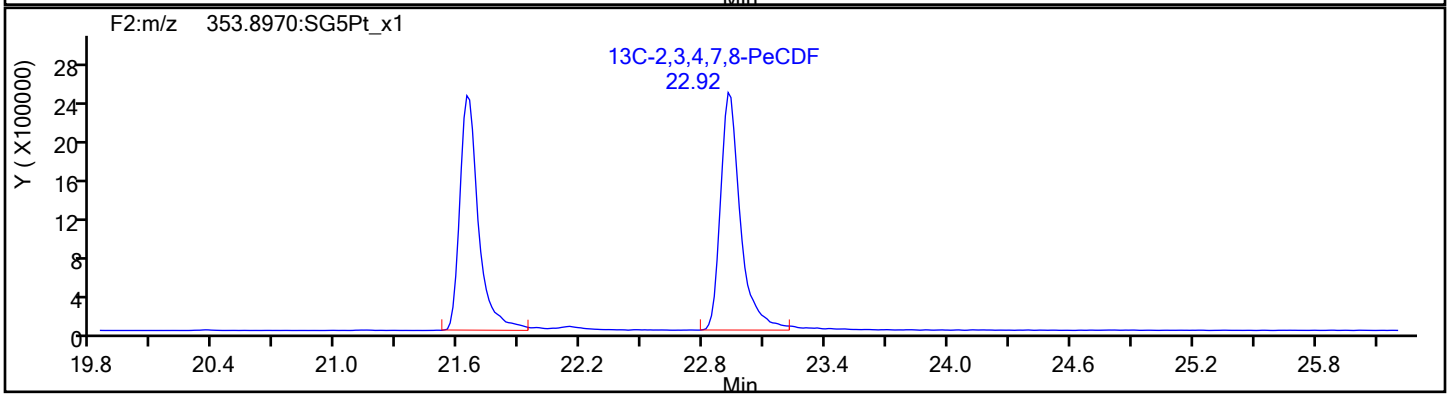

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Eurofins TestAmerica, Sacramento

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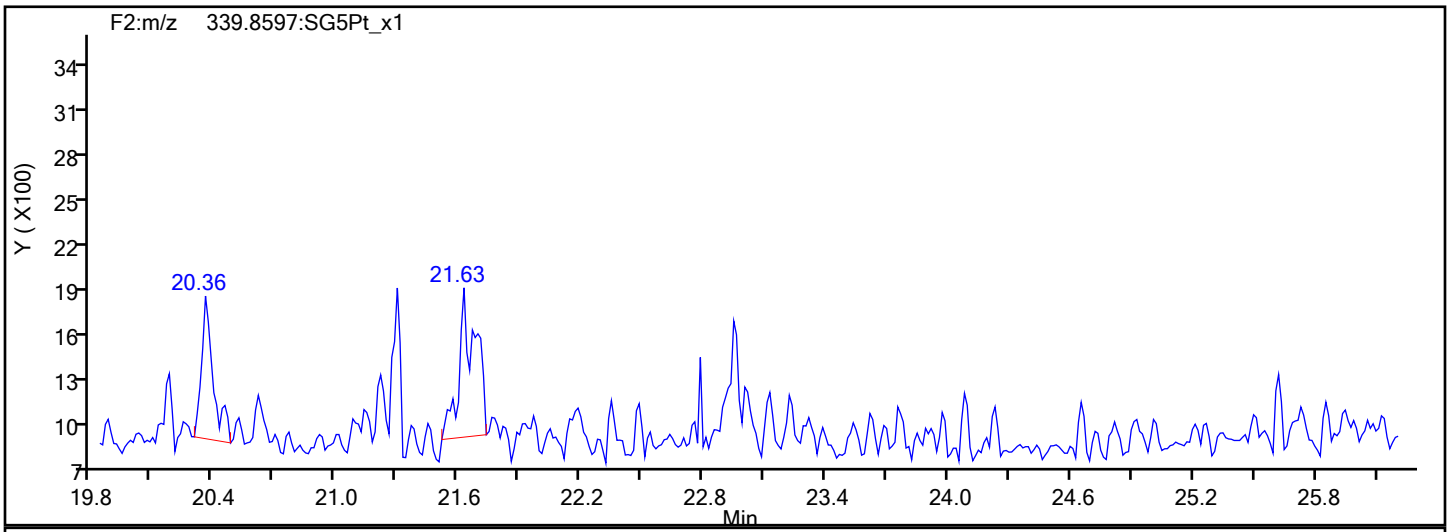

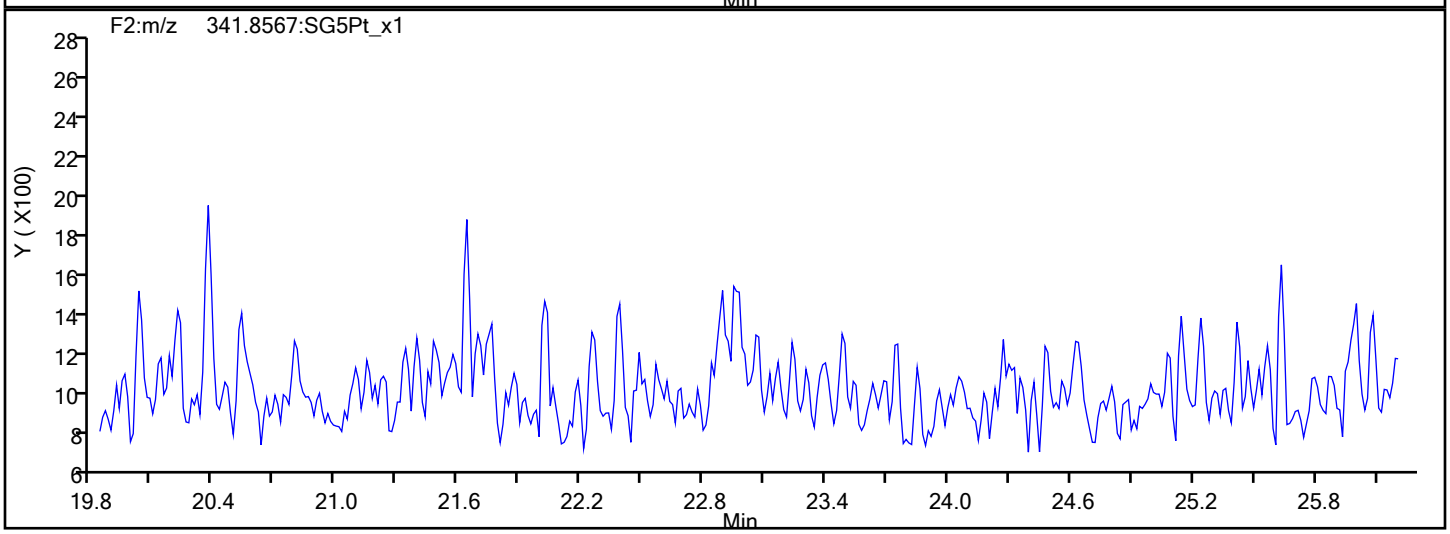

PeCDF Interference Mass

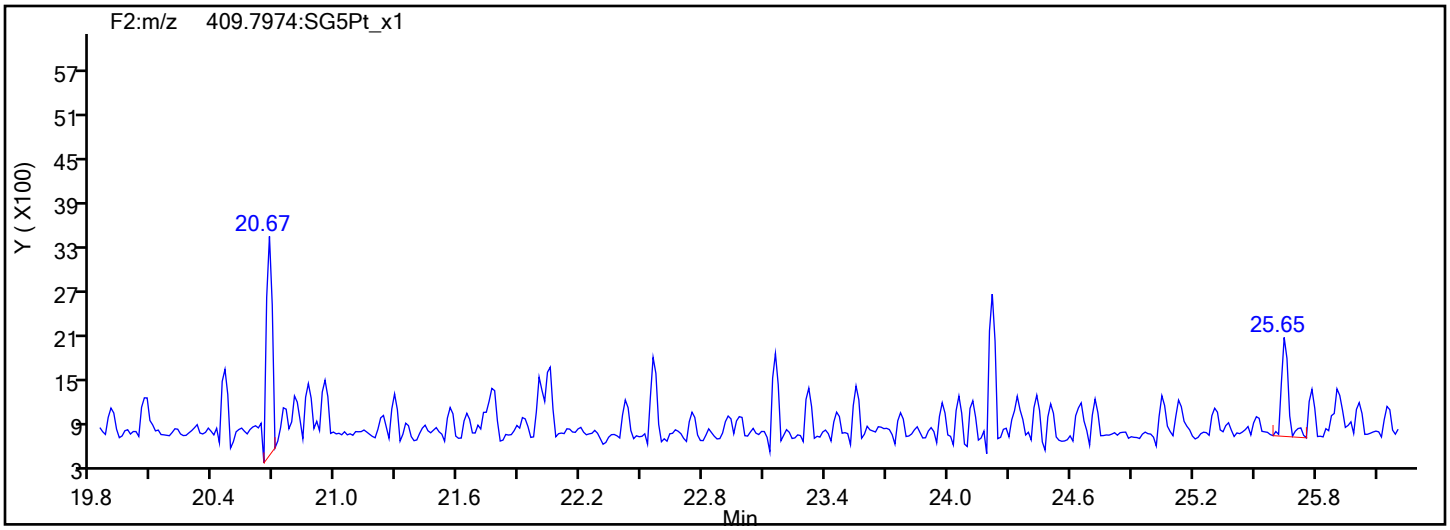

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Eurofins TestAmerica, Sacramento

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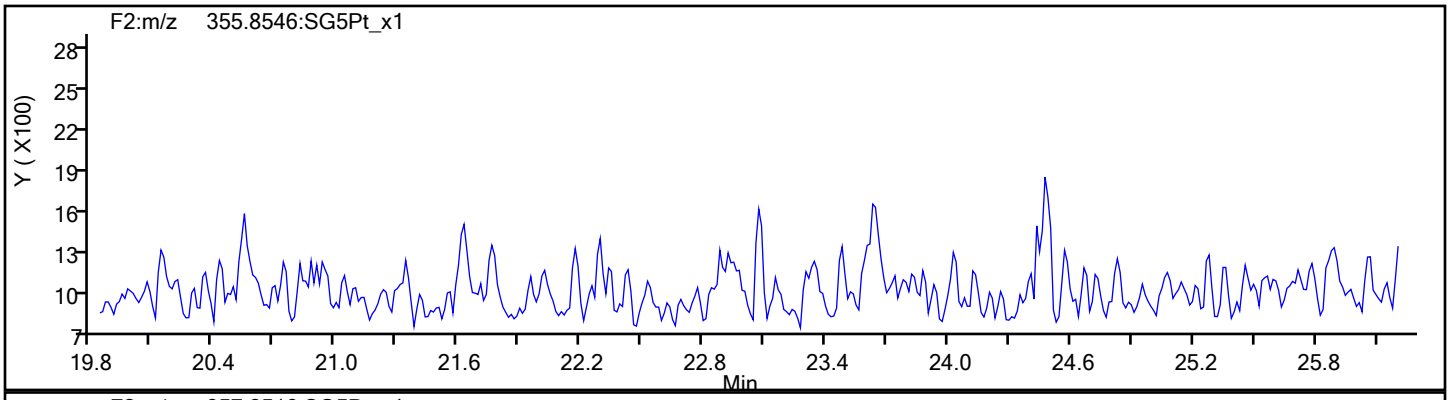

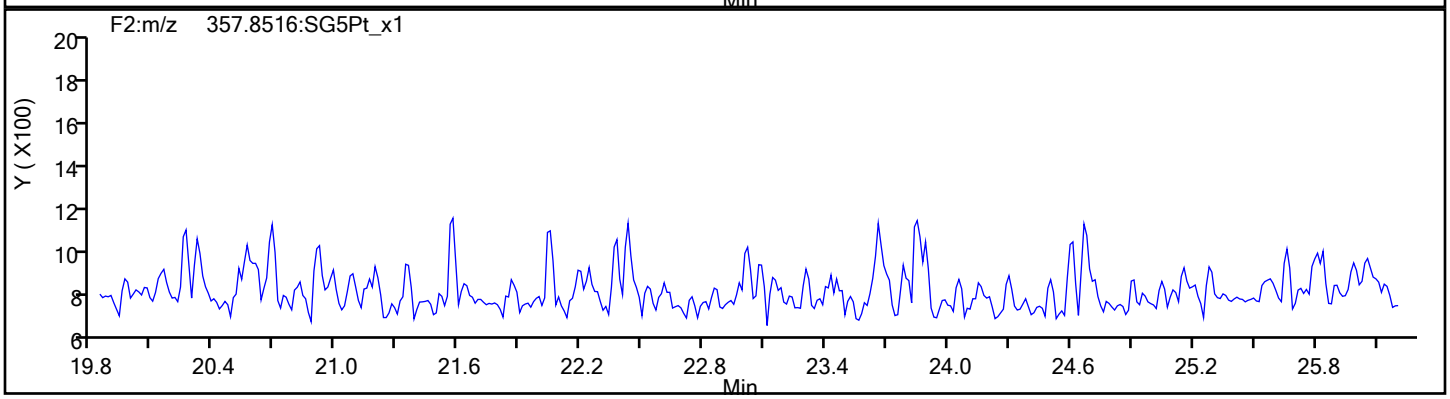

PeCDD Standards

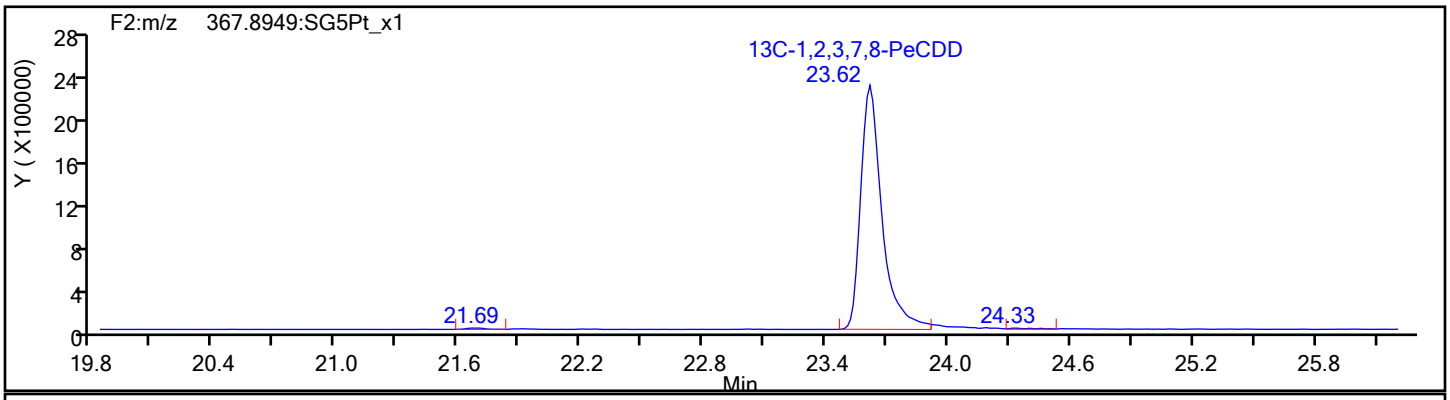

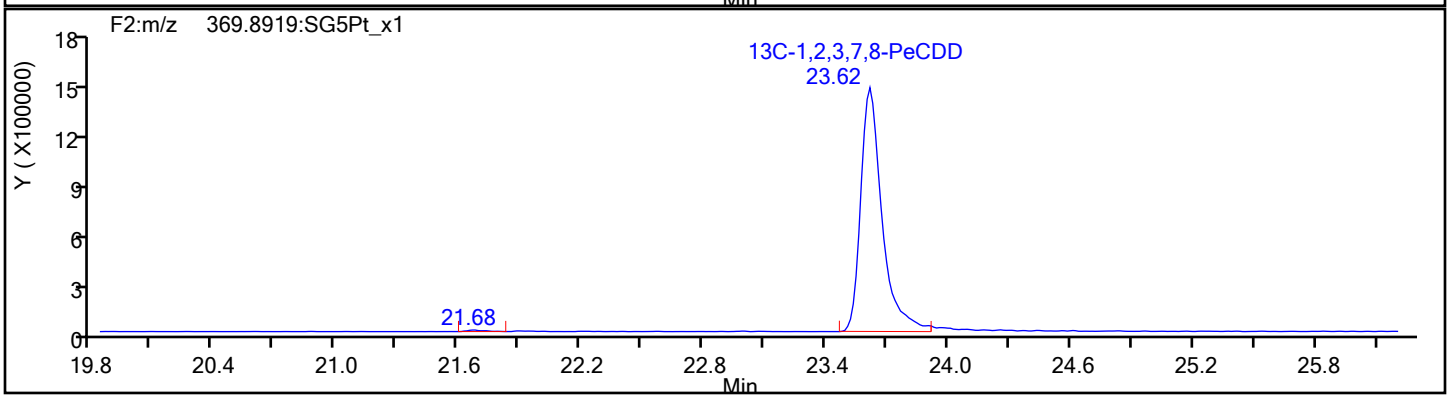

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Eurofins TestAmerica, Sacramento

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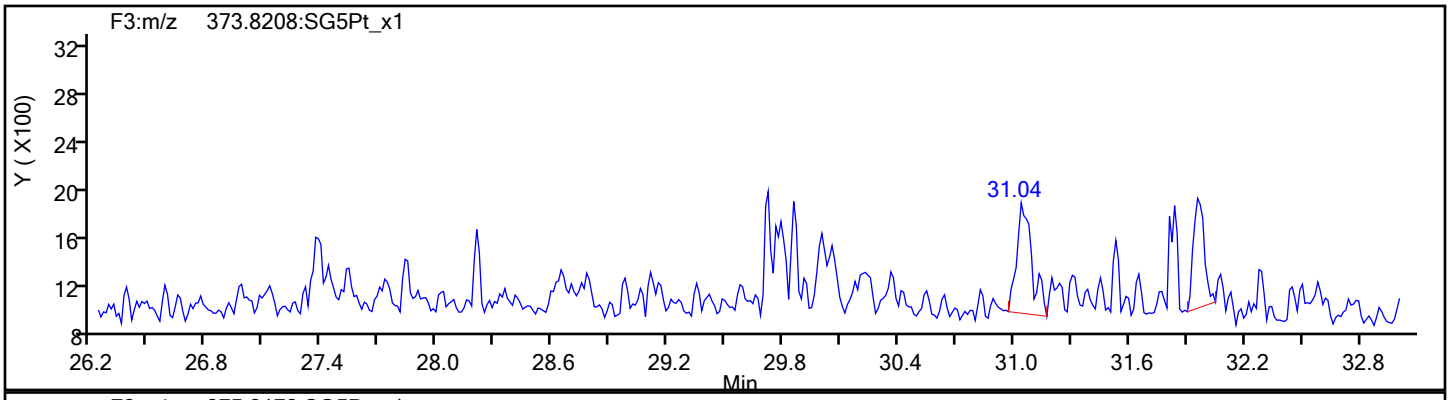

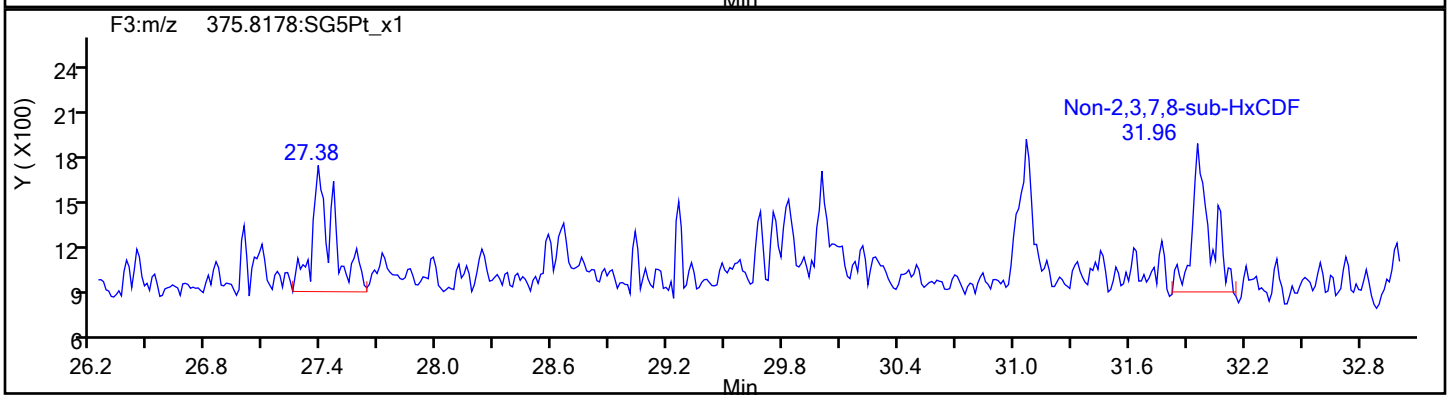

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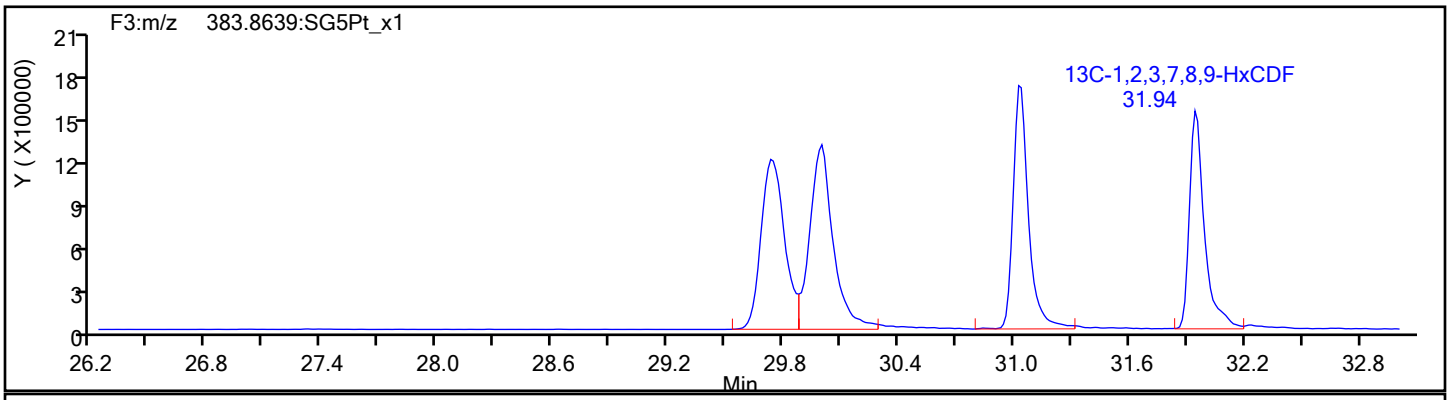

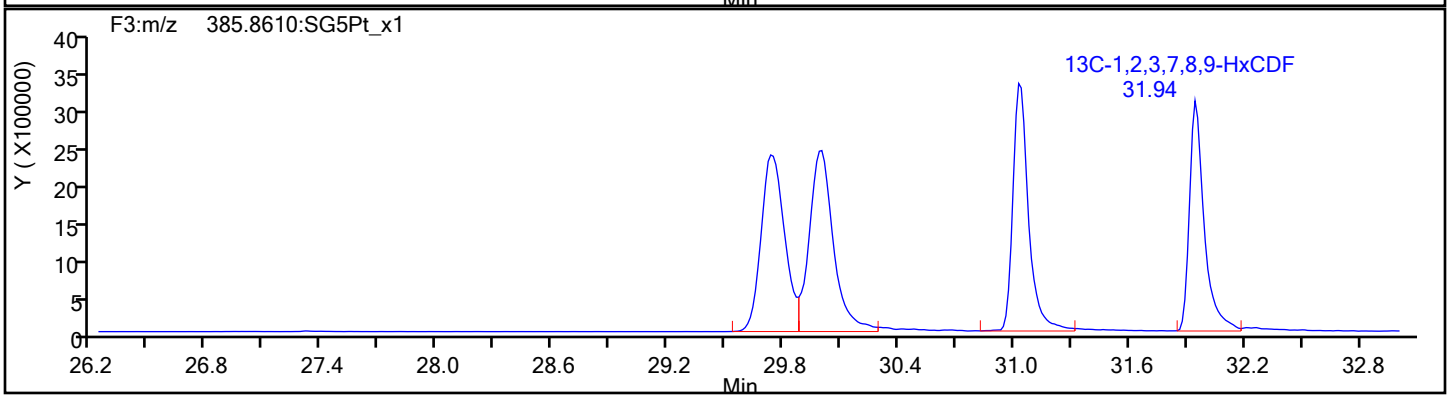

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Eurofins TestAmerica, Sacramento

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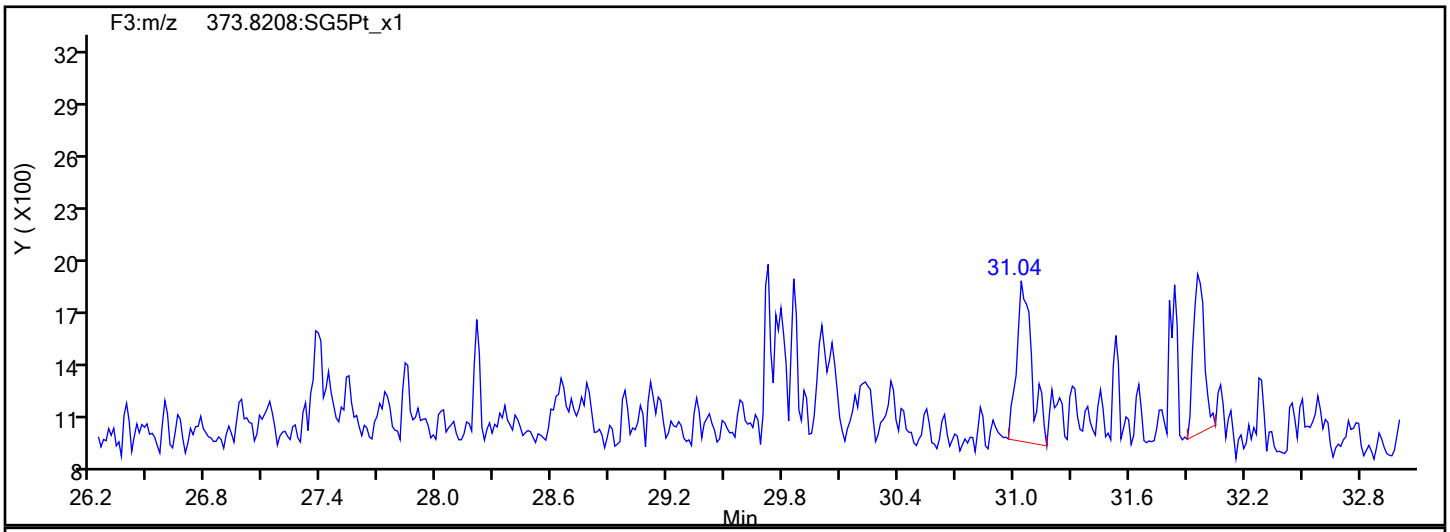

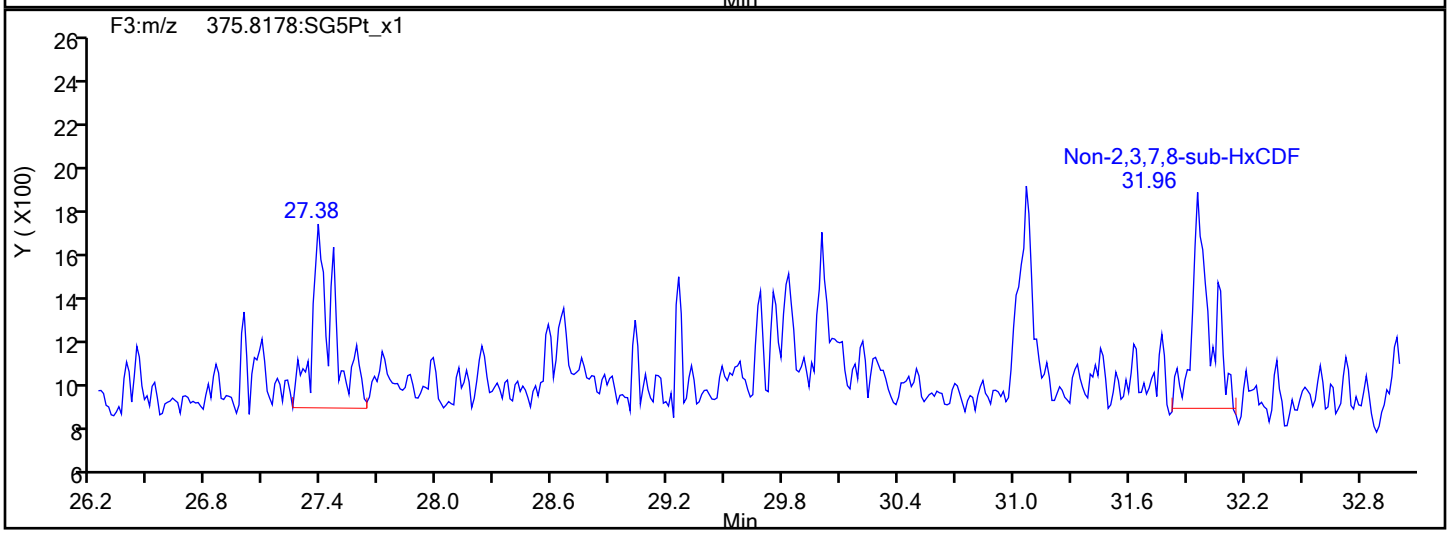

HxCDF Interference Mass

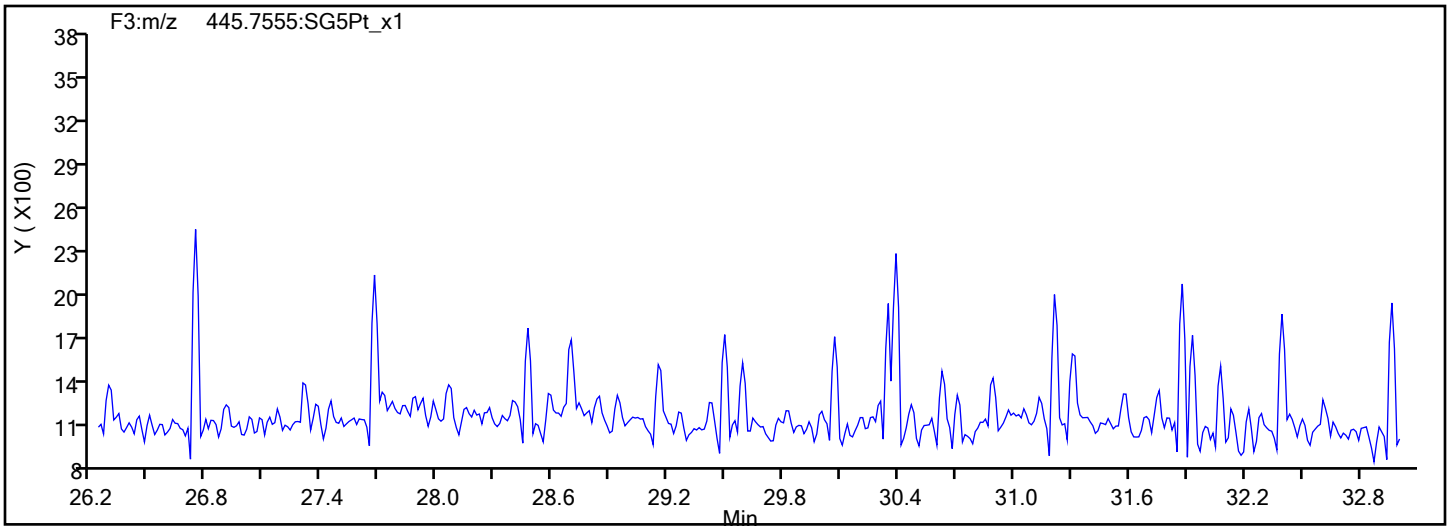

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Eurofins TestAmerica, Sacramento

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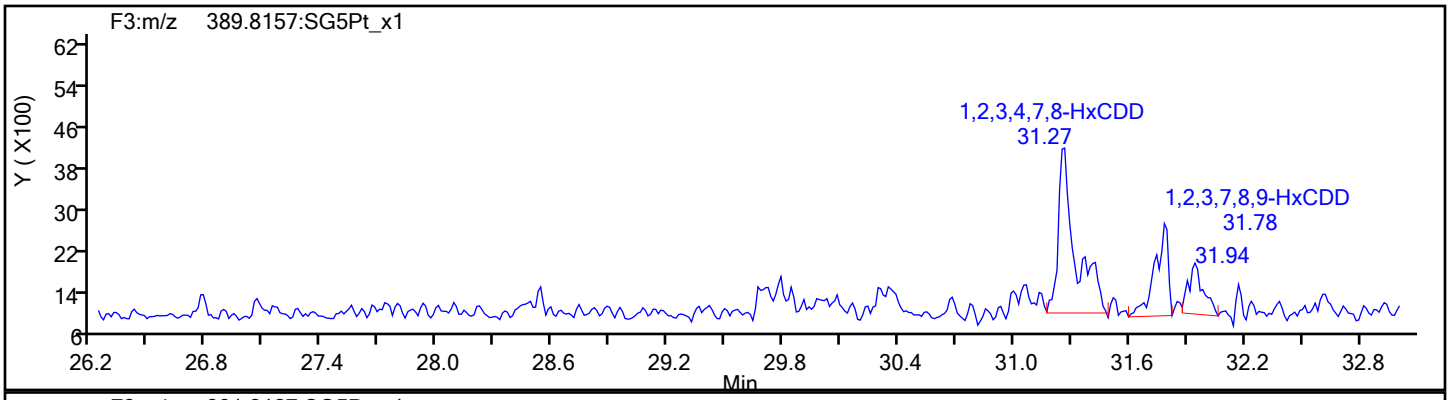

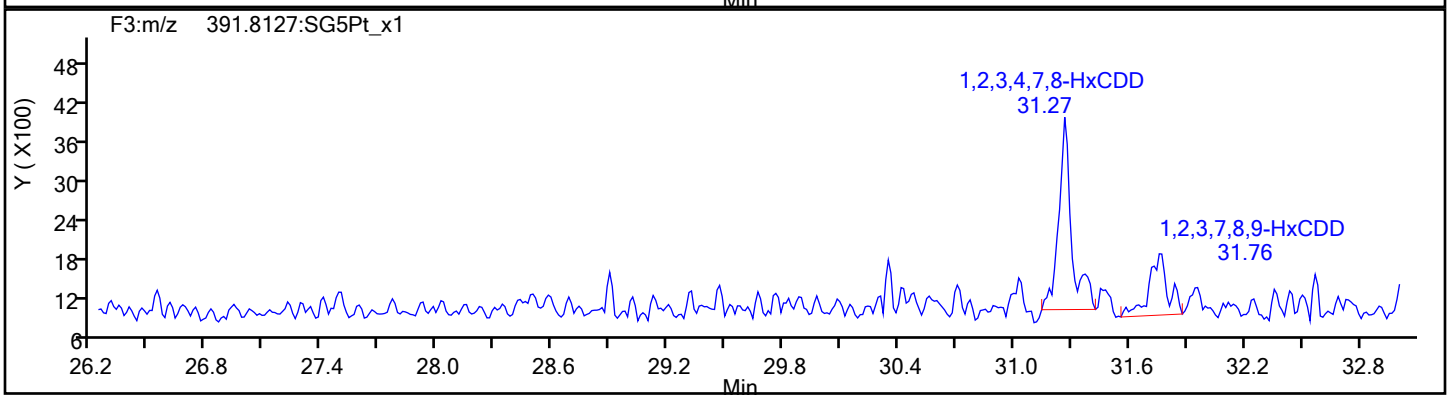

HxCDD Standards

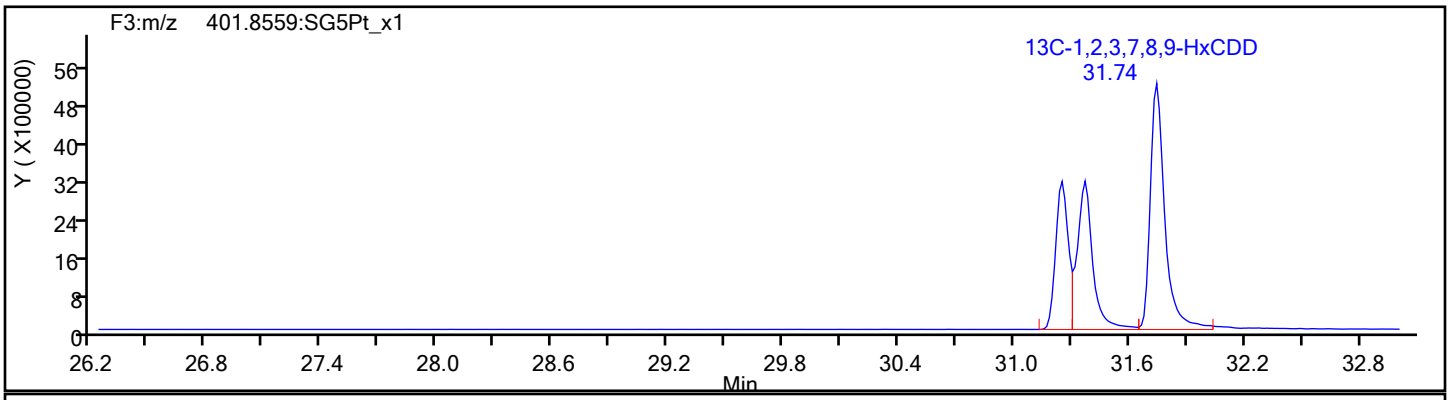

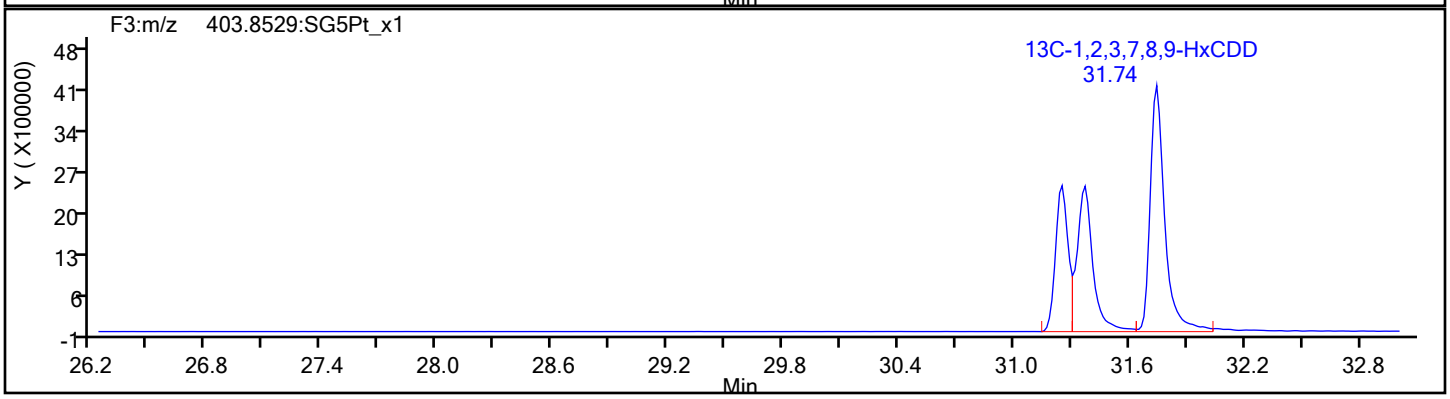

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Eurofins TestAmerica, Sacramento

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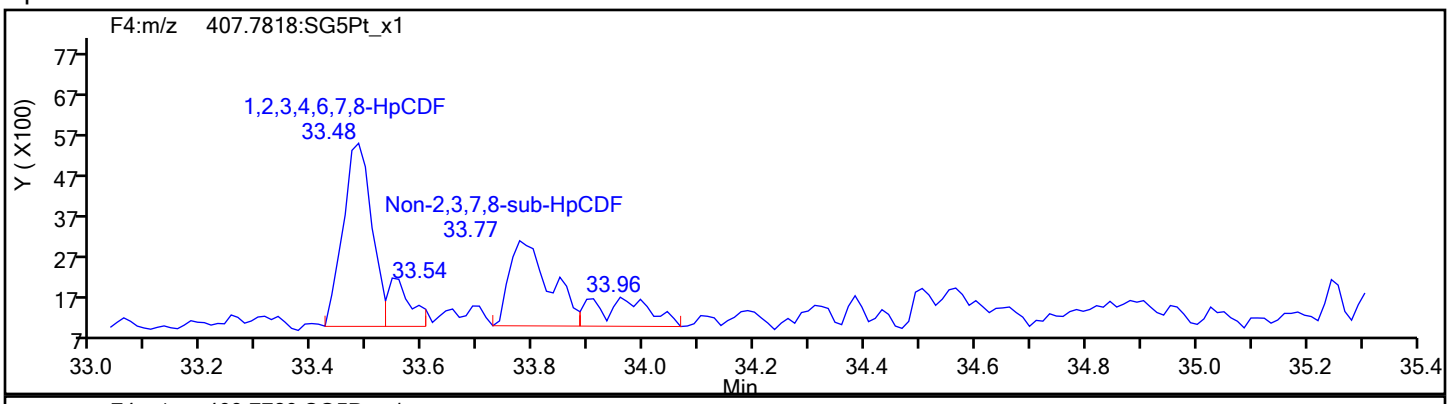

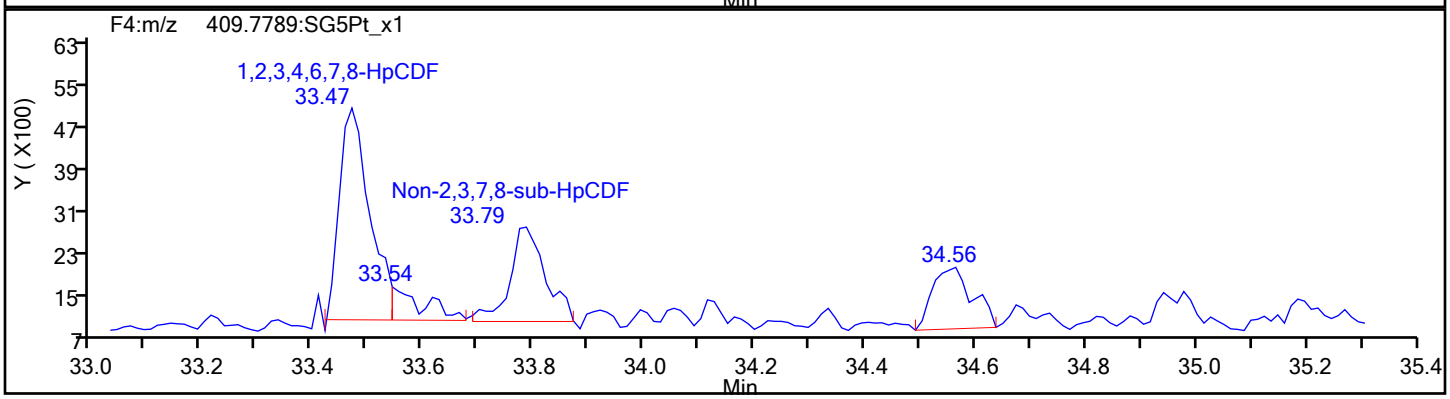

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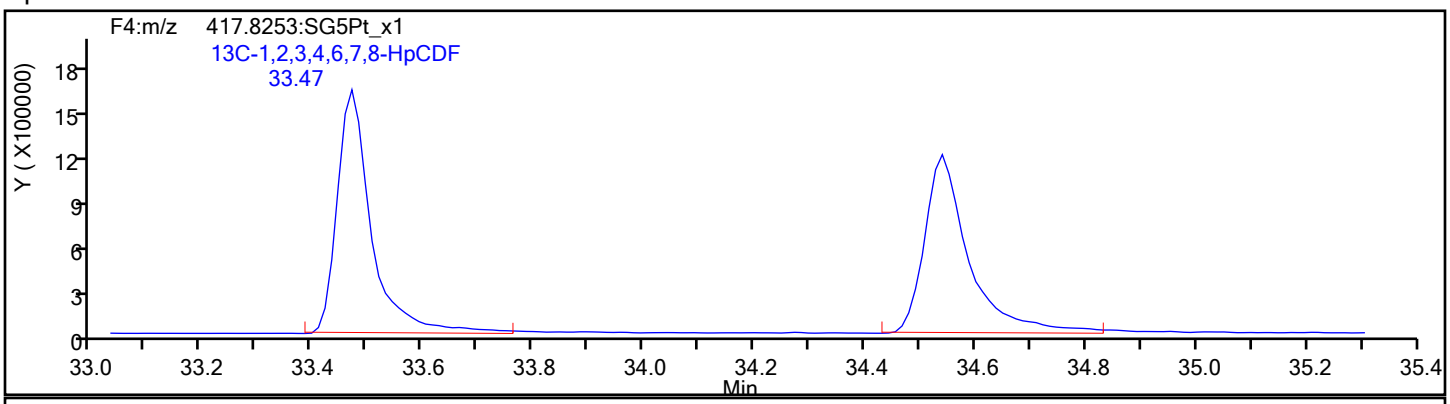

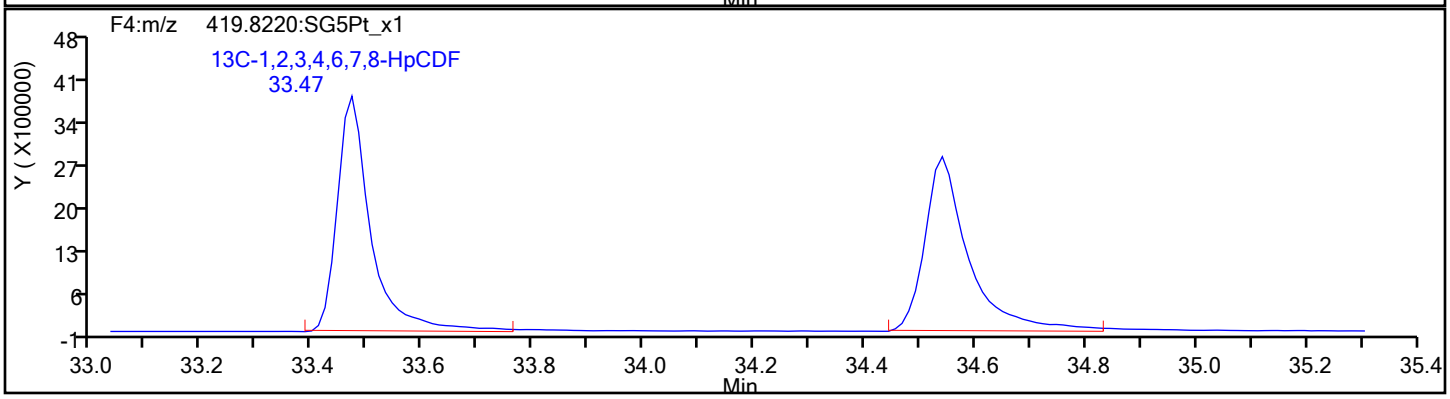

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Eurofins TestAmerica, Sacramento

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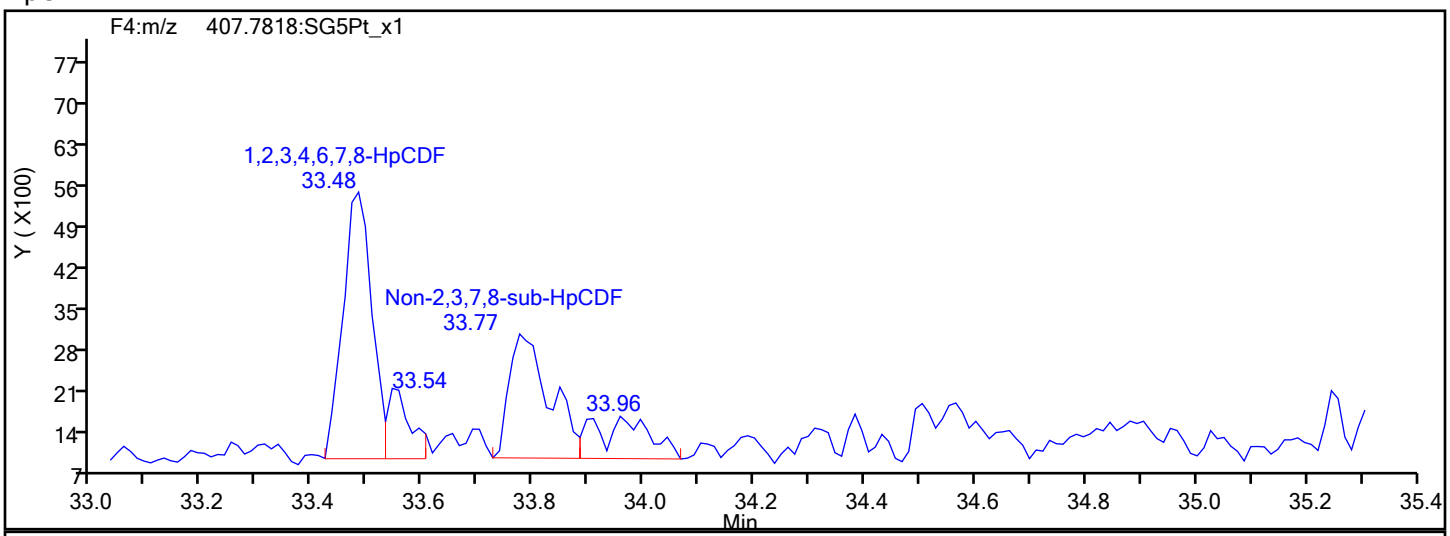

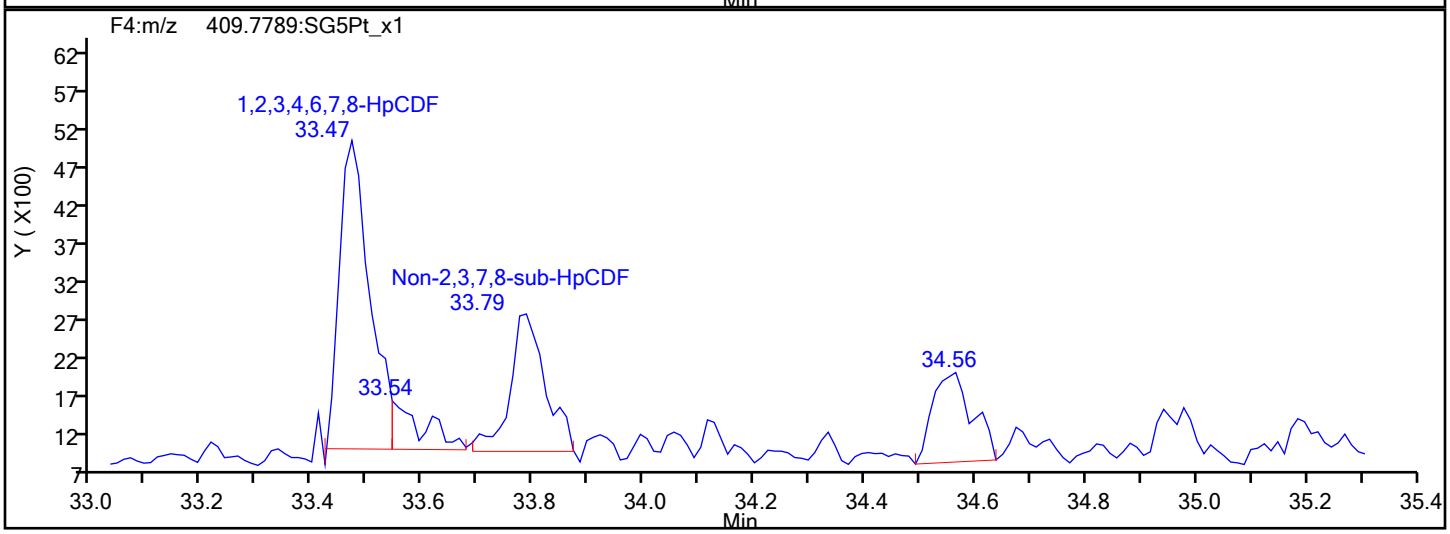

HpCDF Interference Mass

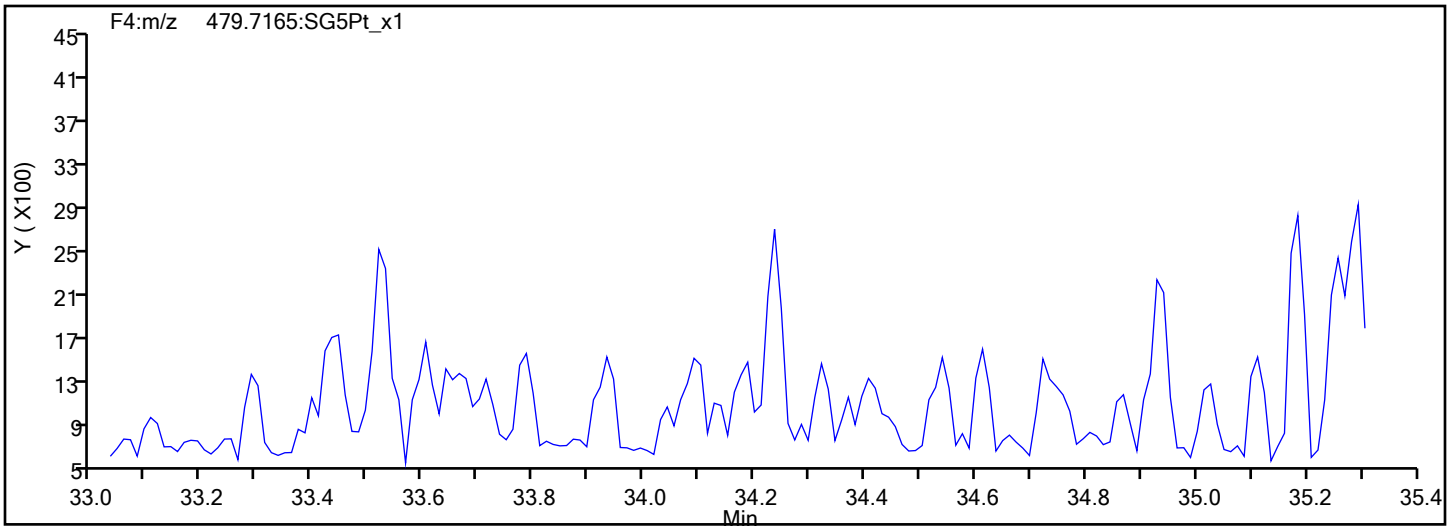

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Eurofins TestAmerica, Sacramento

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HpCDD

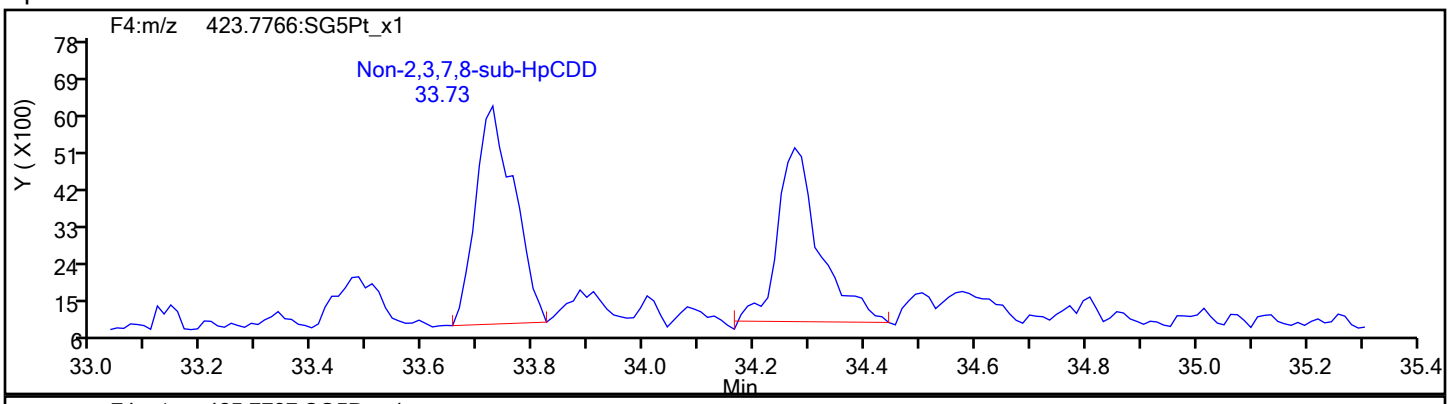

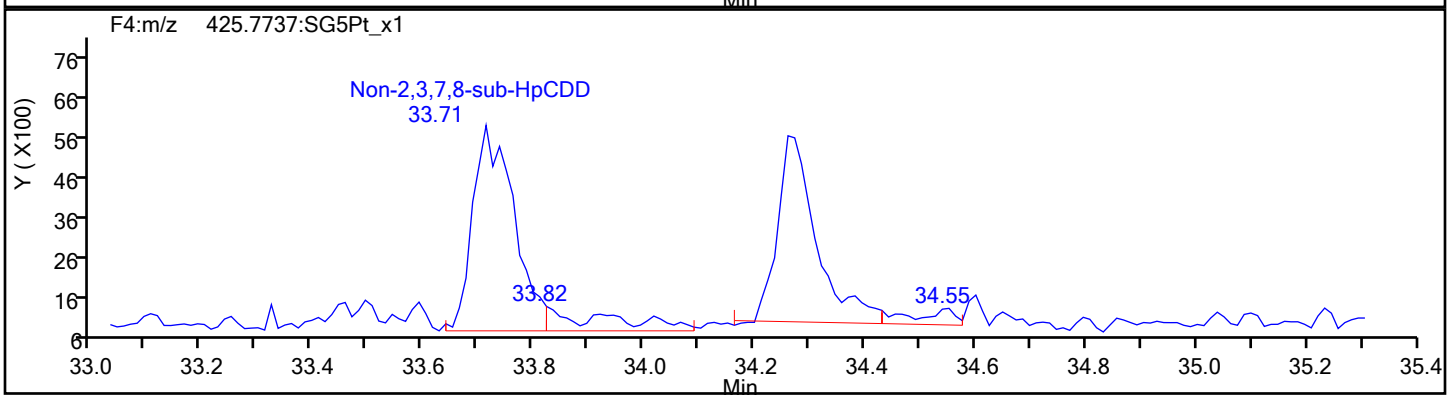

HpCDD Standards

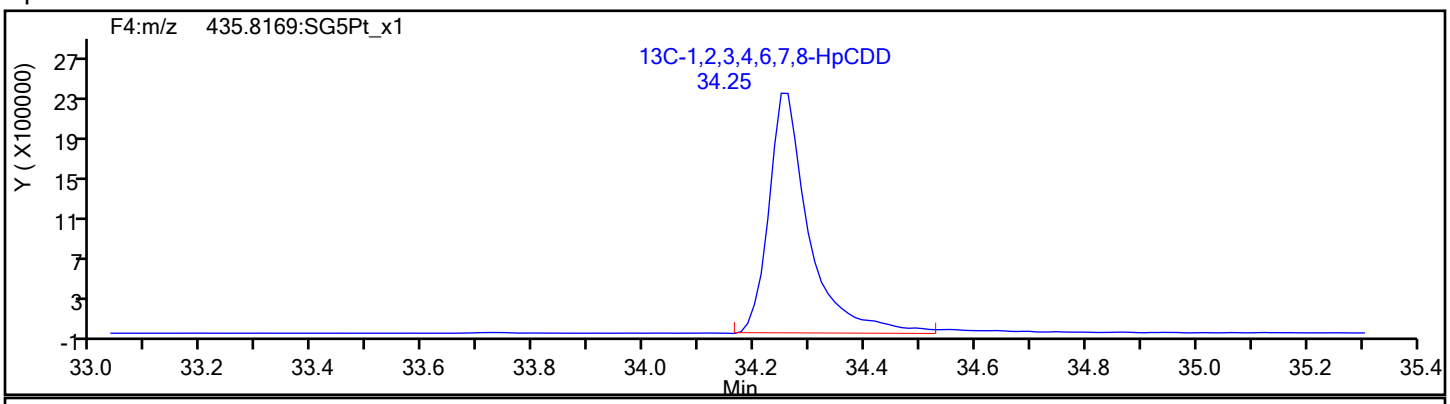

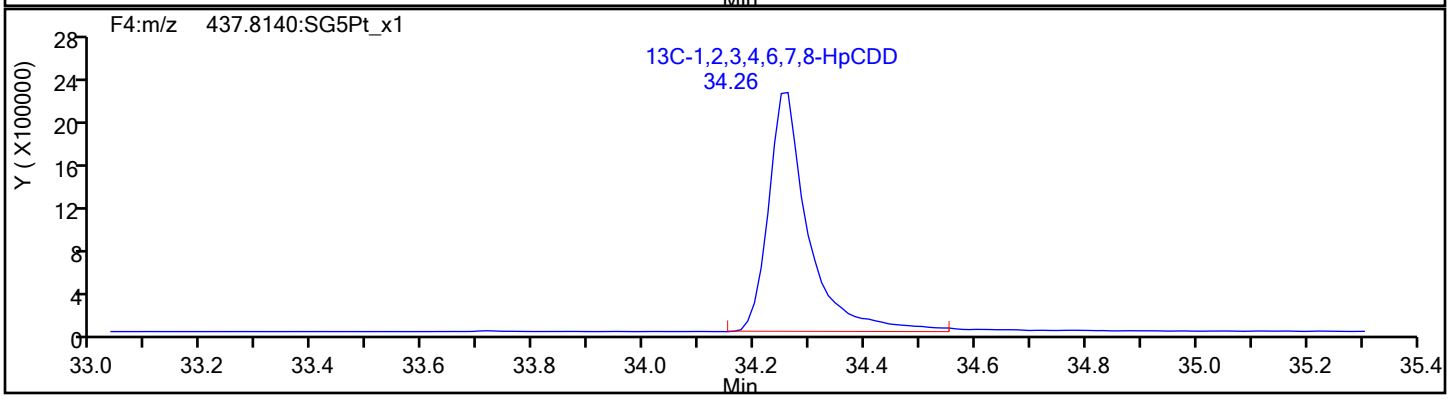

Report Date: 07-Feb-2020 14:37:47 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_9.d		
Injection Date:	05-Feb-2020 21:40:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Western-GW		
Worklist#:	355322	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

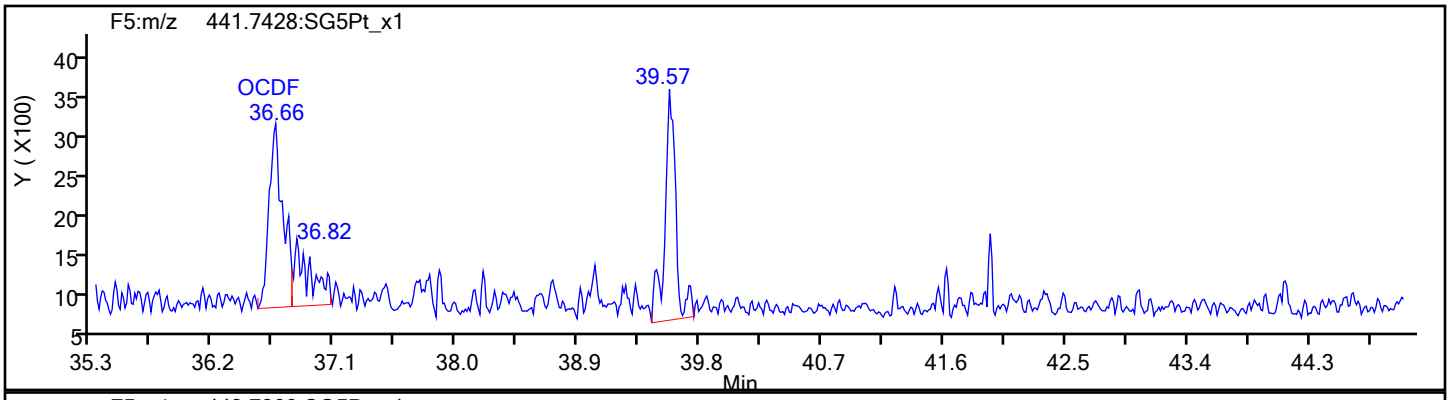

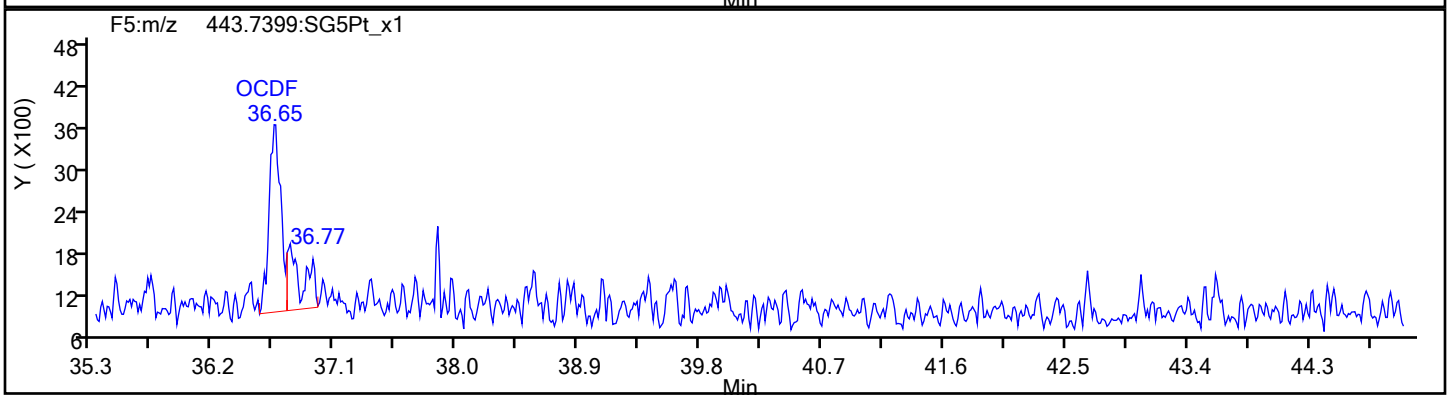

OCDF Standards

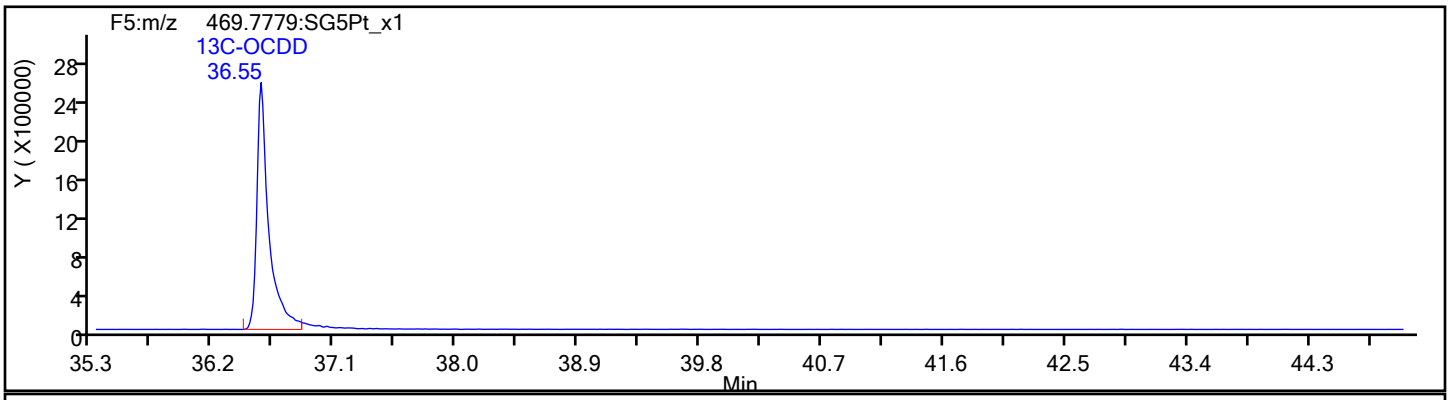

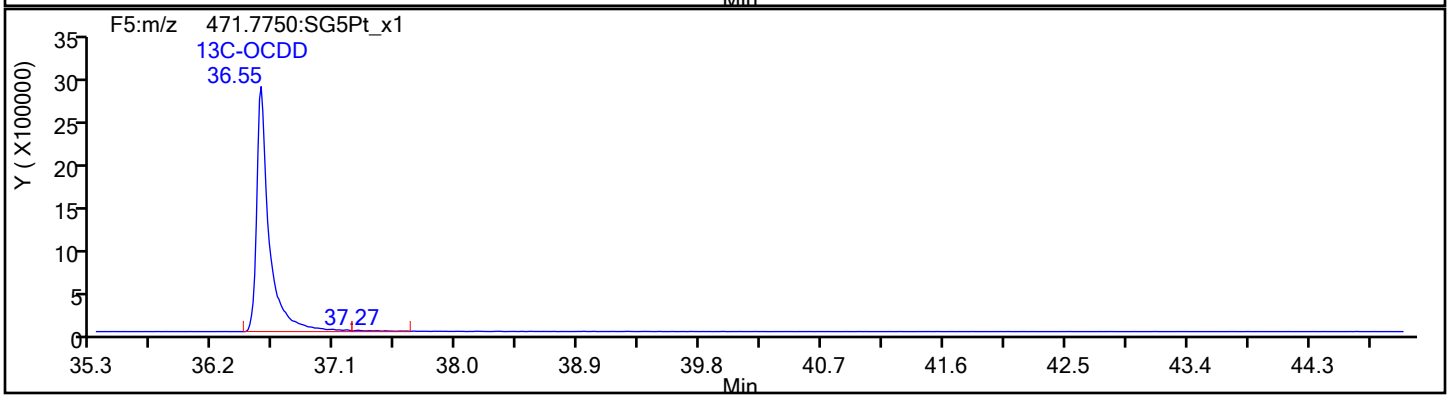

Report Date: 07-Feb-2020 14:37:47 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_9.d		
Injection Date:	05-Feb-2020 21:40:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Western-GW		
Worklist#:	355322	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

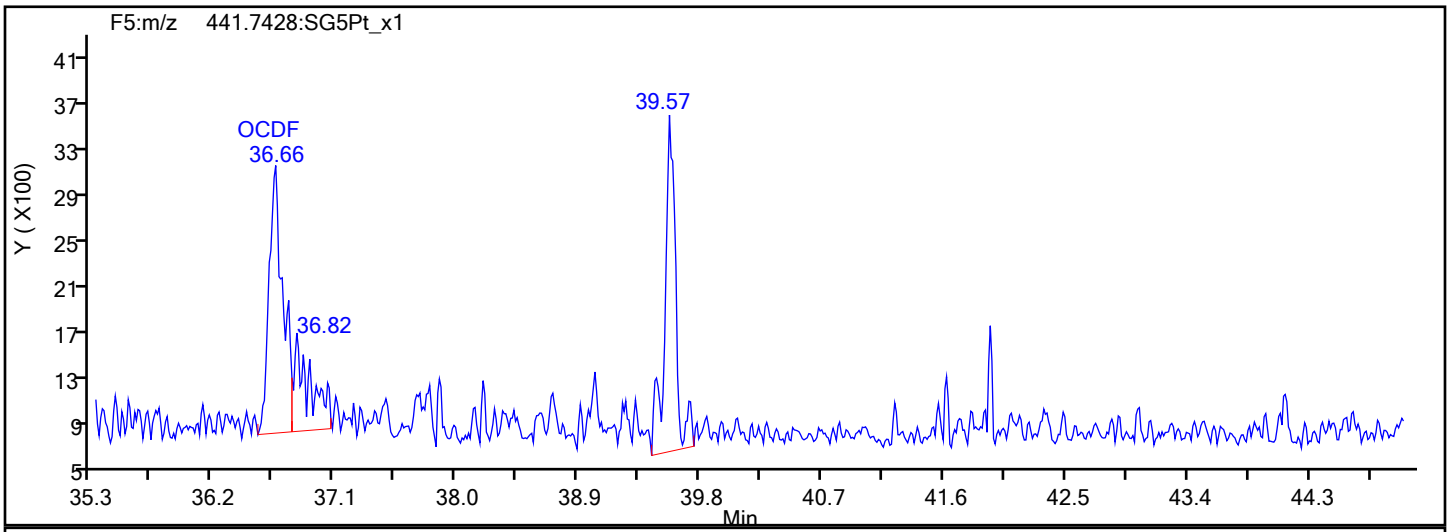

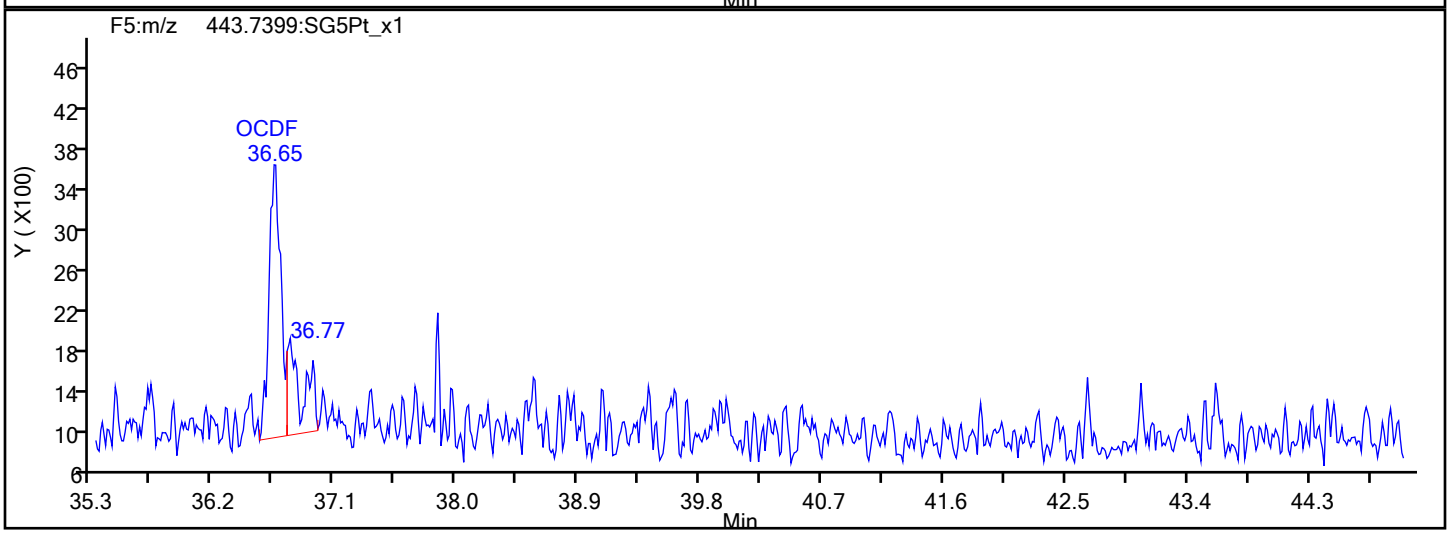

OCDF Interference Mass

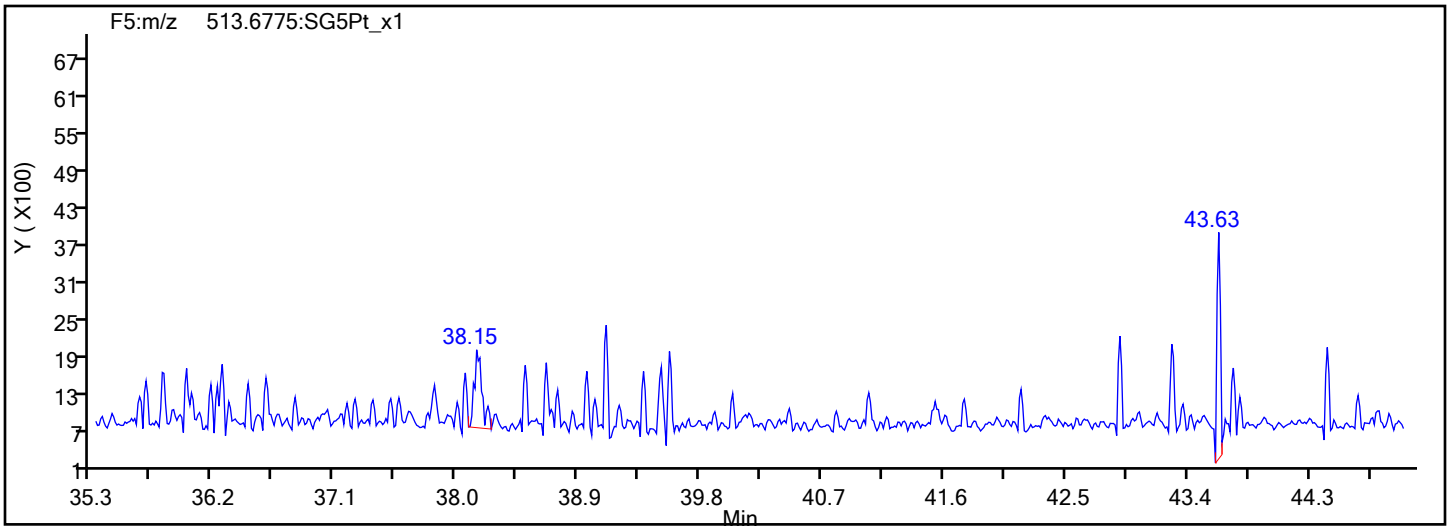

Report Date: 07-Feb-2020 14:37:47 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_9.d		
Injection Date:	05-Feb-2020 21:40:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Western-GW		
Worklist#:	355322	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

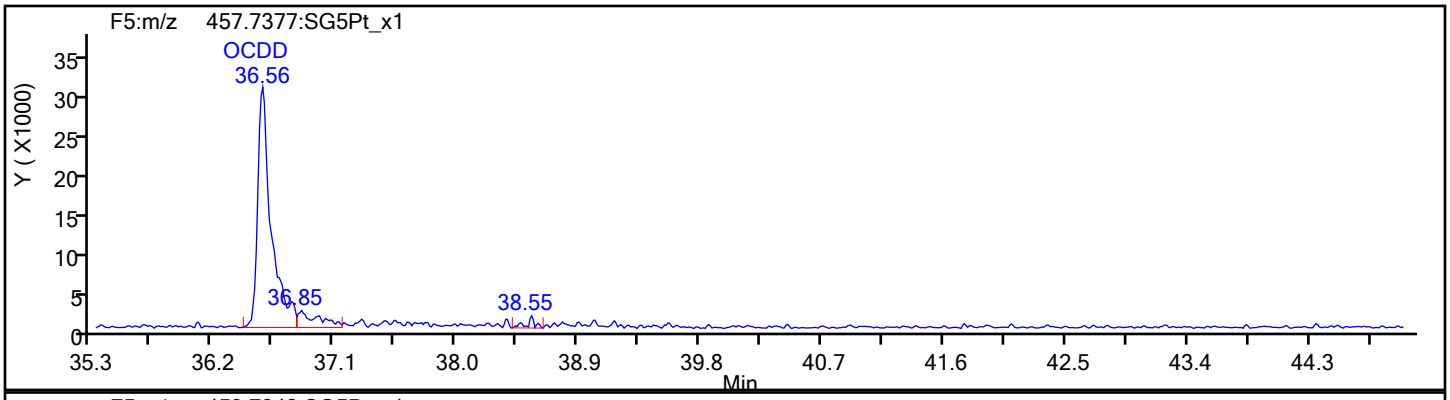

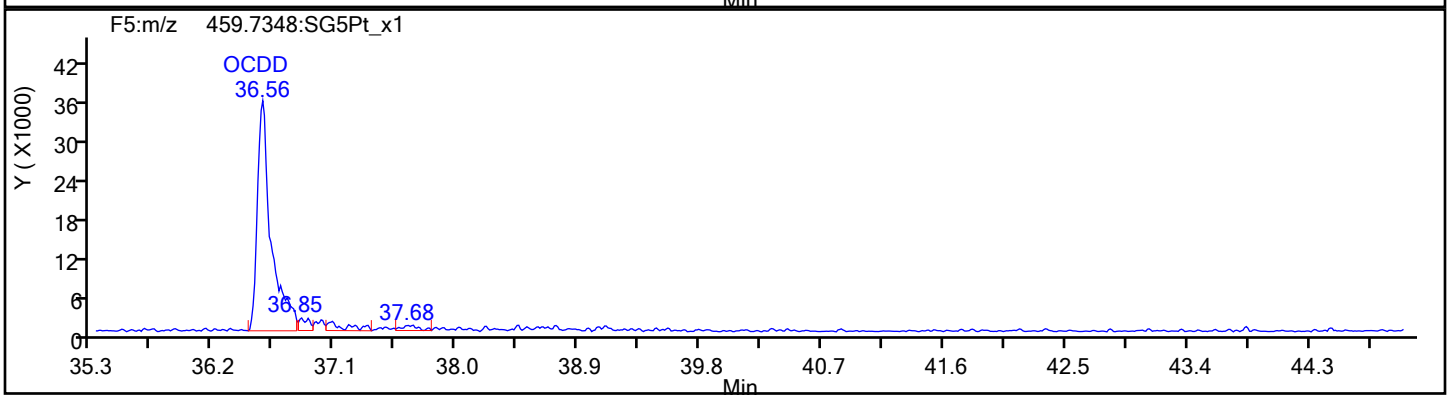

OCDD Standards

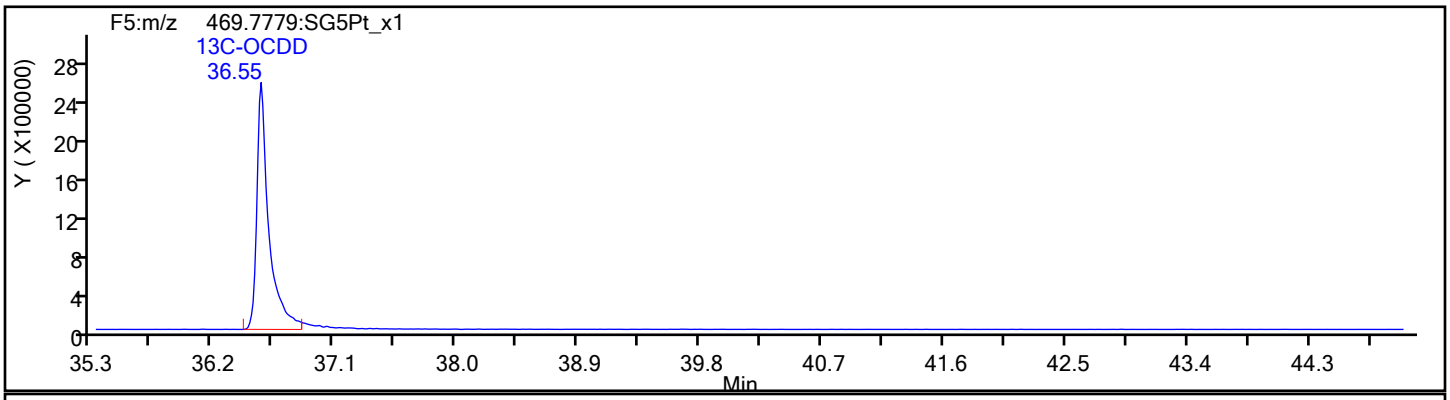

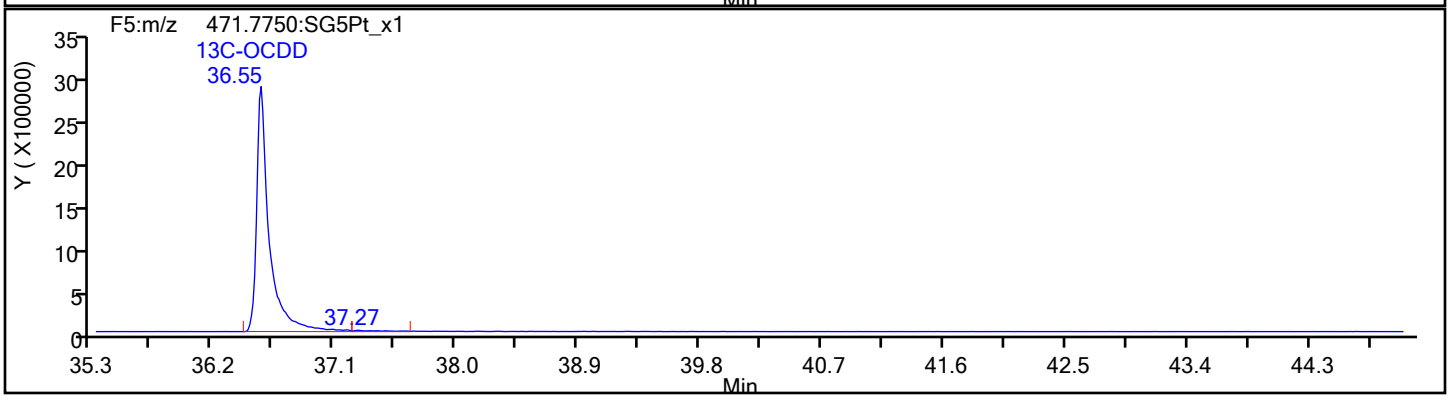

Report Date: 07-Feb-2020 14:37:47 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_9.d		
Injection Date:	05-Feb-2020 21:40:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Western-GW		
Worklist#:	355322	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

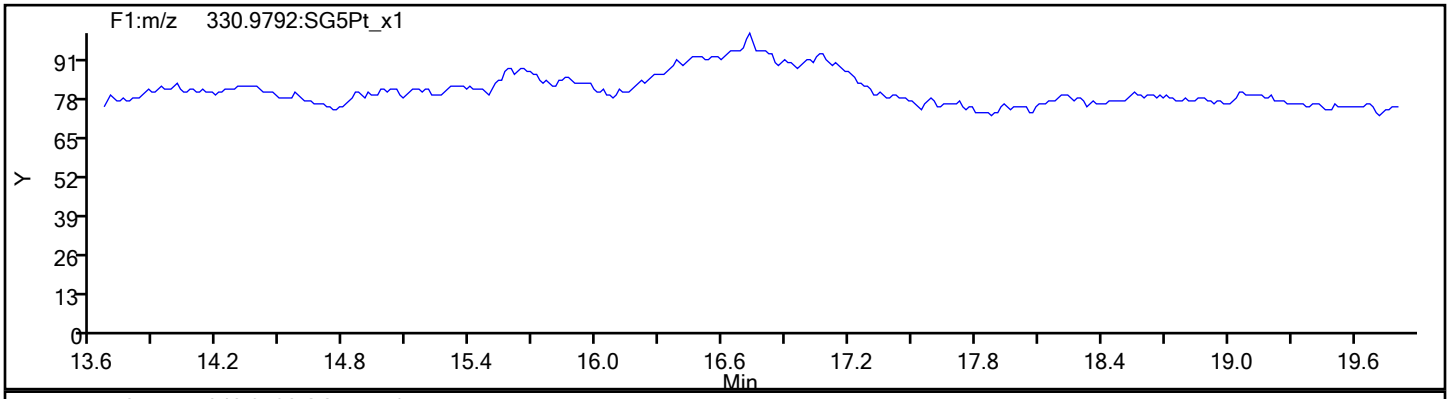

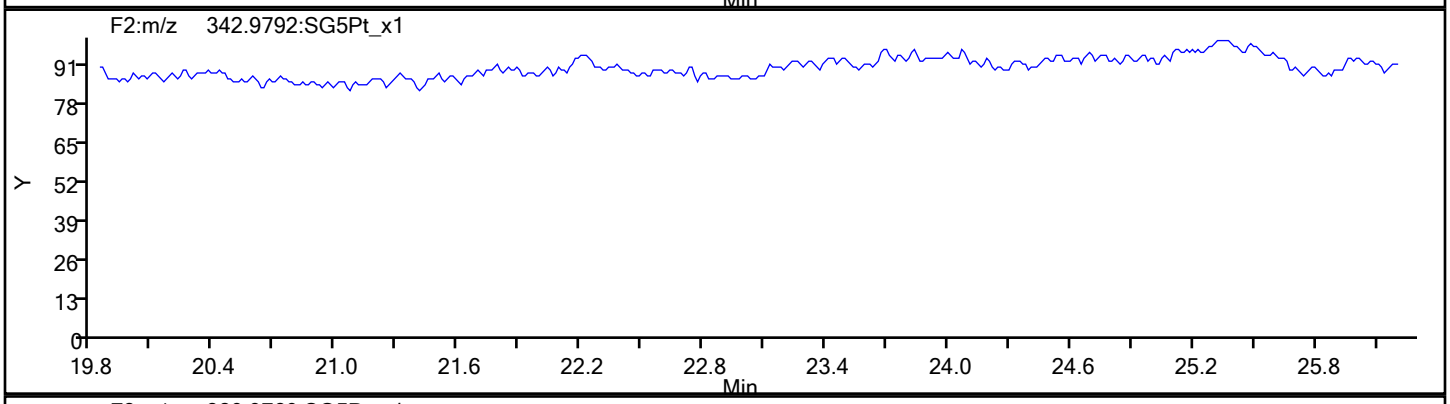

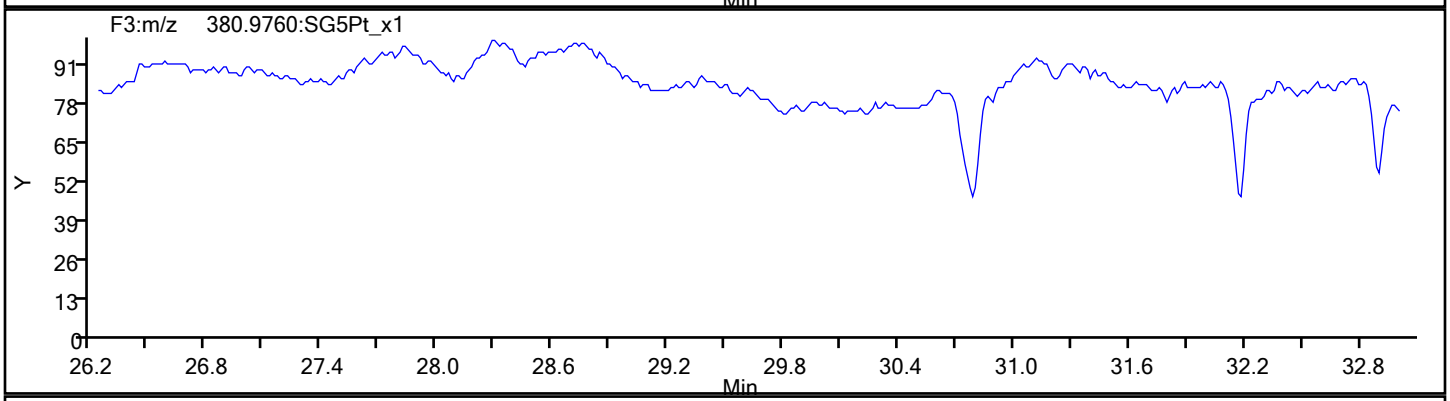

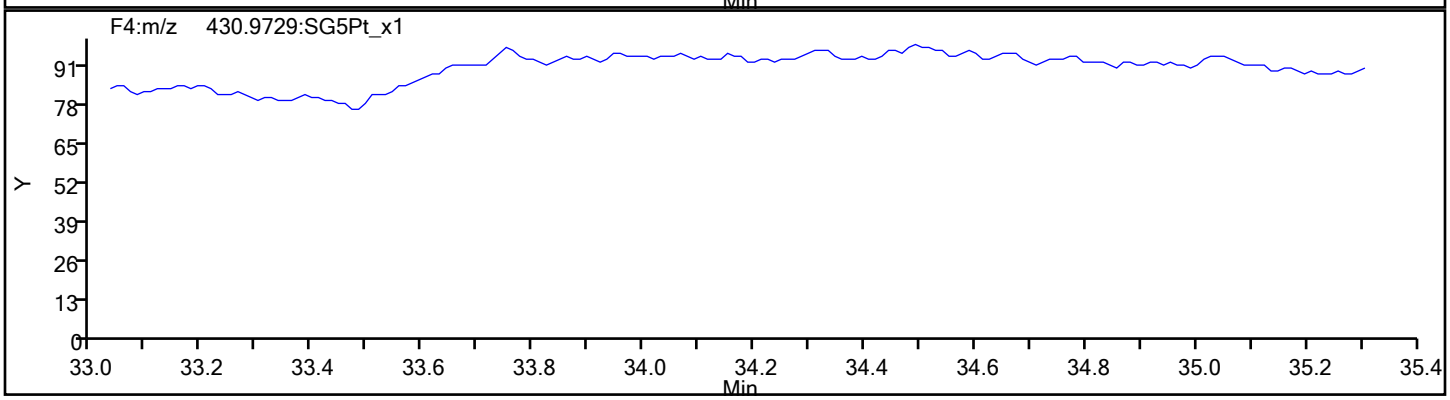

Report Date: 07-Feb-2020 14:37:47 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_9.d		
Injection Date:	05-Feb-2020 21:40:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Western-GW		
Worklist#:	355322	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

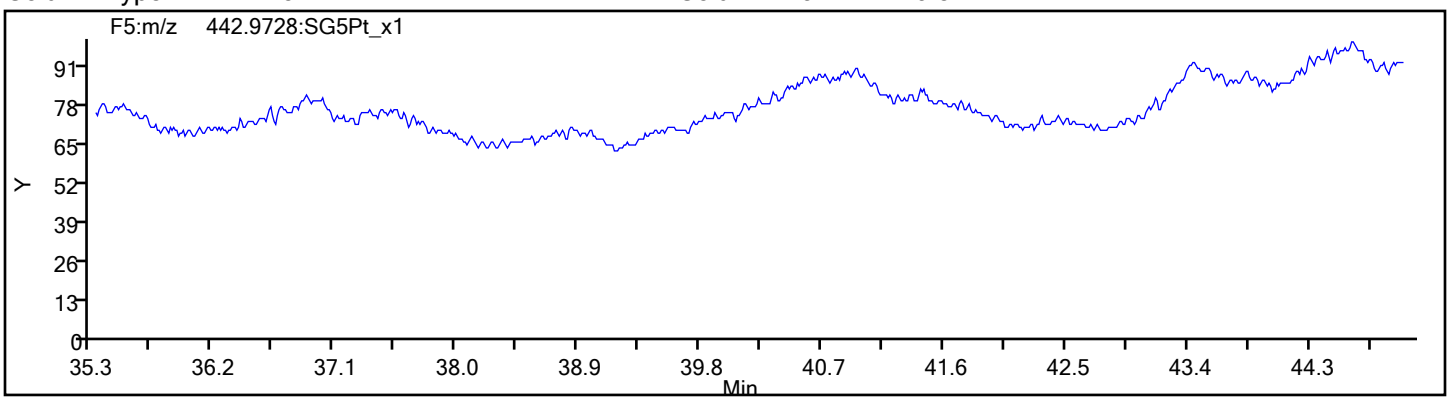

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Client Sample ID: 11187072-Western-Solids Lab Sample ID: 320-58170-6

Matrix: Sediment Lab File ID: 06FE2010D5_14.d

Analysis Method: 1613B Date Collected: 01/29/2020 13:30

Extract. Method: HRMS-Sox Date Extracted: 01/31/2020 09:04

Sample wt/vol: 4.46(g) Date Analyzed: 02/06/2020 20:46

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: 0.3 GPC Cleanup:(Y/N) N

Analysis Batch No.: 355551 Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	1.0	J	2.2	0.098
40321-76-4	1,2,3,7,8-PeCDD	ND		11	0.17
57117-41-6	1,2,3,7,8-PeCDF	ND		11	0.13
57117-31-4	2,3,4,7,8-PeCDF	ND		11	0.17
39227-28-6	1,2,3,4,7,8-HxCDD	0.69	J B	11	0.16
57653-85-7	1,2,3,6,7,8-HxCDD	0.67	J	11	0.14
19408-74-3	1,2,3,7,8,9-HxCDD	0.68	J q	11	0.14
70648-26-9	1,2,3,4,7,8-HxCDF	ND		11	0.21
57117-44-9	1,2,3,6,7,8-HxCDF	ND		11	0.17
72918-21-9	1,2,3,7,8,9-HxCDF	ND		11	0.11
60851-34-5	2,3,4,6,7,8-HxCDF	ND		11	0.12
35822-46-9	1,2,3,4,6,7,8-HpCDD	26		11	0.81
67562-39-4	1,2,3,4,6,7,8-HpCDF	3.2	J B	11	0.20
55673-89-7	1,2,3,4,7,8,9-HpCDF	ND		11	0.29
3268-87-9	OCDD	540	B	22	0.50
39001-02-0	OCDF	12	J	22	0.16
41903-57-5	Total TCDD	1.0	J	2.2	0.098
30402-14-3	Total TCDF	5.0	q	2.2	0.20
36088-22-9	Total PeCDD	0.20	J q	11	0.17
30402-15-4	Total PeCDF	1.4	J	11	0.15
34465-46-8	Total HxCDD	7.9	J q B	11	0.15
55684-94-1	Total HxCDF	1.9	J q	11	0.15
37871-00-4	Total HpCDD	62	B	11	0.81
38998-75-3	Total HpCDF	9.6	J B	11	0.25

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Client Sample ID: 11187072-Western-Solids Lab Sample ID: 320-58170-6

Matrix: Sediment Lab File ID: 06FE2010D5_14.d

Analysis Method: 1613B Date Collected: 01/29/2020 13:30

Extract. Method: HRMS-Sox Date Extracted: 01/31/2020 09:04

Sample wt/vol: 4.46(g) Date Analyzed: 02/06/2020 20:46

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: 0.3 GPC Cleanup:(Y/N) N

Analysis Batch No.: 355551 Units: pg/g

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	73		25-164
89059-46-1	13C-2,3,7,8-TCDF	74		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	68		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	73		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	61		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	59		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	74		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	70		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	76		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	83		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	80		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	70		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	66		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	73		26-138
114423-97-1	13C-OCDD	70		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	88		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d
Lims ID: 320-58170-A-6-A
Client ID: 11187072-Western-Solids
Sample Type: Client
Inject. Date: 06-Feb-2020 20:46:50 ALS Bottle#: 16 Worklist Smp#: 14
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-58170-A-6-A 320-58170-A-6-A
Misc. Info.: 06FE2010D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 10-Feb-2020 09:40:15 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0306

First Level Reviewer: dadunj Date: 10-Feb-2020 09:40:15

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.333	56518720	0.80	5.4E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.849	47212015	0.74	1.1275	74.1	74.1	0.3293	0.3293	74.09	
2,3,7,8-TCDF	16.864	222983	0.77	0.7675	0.6153	0.6153	0.0448	0.0448		
A Non-2,3,7,8-sub-TCDF	16.539	183239	0.77	0.7675	0.5664	0.5057	0.0448	0.2079		RQM
S Total TCDF					1.182	1.121	0.0448	0.0448		RQ
D 13C-2,3,7,8-TCDD	17.514	37400907	0.78	0.9032	73.3	73.3	0.2852	0.2852	73.27	
$ 37Cl4-2,3,7,8-TCDD	17.544	19338739		0.9673	35.4	35.4	0.1296	0.1296	88.43	
2,3,7,8-TCDD	17.544	81842	0.75	0.9599	0.2280	0.2280	0.0217	0.0217		M
A Non-2,3,7,8-sub-TCDD	16.977						0.0217	0.0217		
S Total TCDD					0.2280	0.2280	0.0217	0.0217		
D 13C-1,2,3,7,8-PeCDF	21.639	39410023	1.59	0.9615	72.5	72.5	0.2721	0.2721	72.52	
1,2,3,7,8-PeCDF	21.667						0.0285	0.0285		
D 13C-2,3,4,7,8-PeCDF	22.921	36110888	1.60	1.0393	61.5	61.5	0.2517	0.2517	61.48	
2,3,4,7,8-PeCDF	22.948						0.0387	0.0387		
A F1 PeCDFs	19.306	30569	1.52	0.8541	0.0948	0.0948	0.0381	0.0948		M
A Non-2,3,7,8-sub-PeCDF	22.316	71474	1.47	0.8541	0.2216	0.2216	0.0330	0.1499		M
S Total PeCDF					0.3164	0.3164	0.0336	0.0336		
D 13C-1,2,3,7,8-PeCDD	23.603	26533231	1.64	0.6938	67.7	67.7	0.0876	0.0876	67.67	
1,2,3,7,8-PeCDD	23.603						0.0384	0.0384		
A Non-2,3,7,8-sub-PeCDD	22.546	11456	1.55	0.9961	0.8472	0.0433	0.0384	0.0433		RQM
S Total PeCDD					0.8472	0.0433	0.0384	0.0384		RQ
D 13C-1,2,3,4,7,8-HxCDF	29.722	26307310	0.48	0.8543	69.6	69.6	0.5392	0.5392	69.60	
1,2,3,4,7,8-HxCDF	29.708						0.0466	0.0466		
D 13C-1,2,3,6,7,8-HxCDF	29.975	27990308	0.50	0.8361	75.7	75.7	0.5509	0.5509	75.66	
1,2,3,6,7,8-HxCDF	29.975						0.0386	0.0386		
D 13C-2,3,4,6,7,8-HxCDF	31.013	27529261	0.49	0.7773	80.0	80.0	0.5926	0.5926	80.04	
2,3,4,6,7,8-HxCDF	31.013						0.0256	0.0256		
D 13C-1,2,3,7,8,9-HxCDF	31.931	26262477	0.50	0.7167	82.8	82.8	0.6427	0.6427	82.81	
1,2,3,7,8,9-HxCDF	31.931						0.0252	0.0252		
A Non-2,3,7,8-sub-HxCDF	29.476	101233	1.24	0.8673	0.4466	0.4320	0.0320	0.2656		RQM

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					0.4466	0.4320	0.0340	0.0340		RQ
* 13C-1,2,3,7,8,9-HxCDD	31.732	44248223	1.23	4.4E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.239	21012396	1.24	0.8050	59.0	59.0	0.3567	0.3567	58.99	
1,2,3,4,7,8-HxCDD	31.252	26858	1.14	0.8392	0.1523	0.1523	0.0349	0.0349		M
D 13C-1,2,3,6,7,8-HxCDD	31.359	27207873	1.24	0.8269	74.4	74.4	0.3472	0.3472	74.36	
1,2,3,6,7,8-HxCDD	31.385	36033	1.25	0.8876	0.1492	0.1492	0.0322	0.0322		Ma
1,2,3,7,8,9-HxCDD	31.758	35068	1.24	0.9567	0.1650	0.1520	0.0302	0.0302		RQM
A Non-2,3,7,8-sub-HxCDD	30.055	281681	1.24	0.8945	1.320	1.306	0.0323	0.7179		RQM
S Total HxCDD					1.787	1.760	0.0324	0.0324		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	33.459	20778960	0.43	0.7080	66.3	66.3	1.339	1.339	66.33	
1,2,3,4,6,7,8-HpCDF	33.471	197618	1.18	1.3375	0.7111	0.7111	0.0448	0.0448		M
D 13C-1,2,3,4,7,8,9-HpCDF	34.528	24090569	0.42	0.7451	73.1	73.1	1.272	1.272	73.07	
1,2,3,4,7,8,9-HpCDF	34.528						0.0647	0.0647		
A Non-2,3,7,8-sub-HpCDF	33.994	386079	0.99	1.2059	1.427	1.427	0.0534	1.427		M
S Total HpCDF					2.138	2.138	0.0548	0.0548		
D 13C-1,2,3,4,6,7,8-HpCDD	34.236	23005376	1.06	0.7473	69.6	69.6	0.5429	0.5429	69.57	
1,2,3,4,6,7,8-HpCDD	34.249	1288321	1.05	0.9811	5.708	5.708	0.1801	0.1801		
A Non-2,3,7,8-sub-HpCDD	33.963	1828731	1.09	0.9811	8.102	8.102	0.1801	8.102		M
S Total HpCDD					13.8	13.8	0.1801	0.1801		
D 13C-OCDD	36.528	40932709	0.88	0.6622	139.7	139.7	0.1387	0.1387	69.85	
OCDF	36.624	580366	0.92	1.0659	2.660	2.660	0.0348	0.0348		
OCDD	36.540	24229149	0.88	0.9937	119.1	119.1	0.1105	0.1105		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d
Lims ID: 320-58170-A-6-A
Client ID: 11187072-Western-Solids
Sample Type: Client
Inject. Date: 06-Feb-2020 20:46:50 ALS Bottle#: 16 Worklist Smp#: 14
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-58170-A-6-A 320-58170-A-6-A
Misc. Info.: 06FE2010D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 10-Feb-2020 09:40:15 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0306

First Level Reviewer: dadunj Date: 10-Feb-2020 09:40:15

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.333	17.302	2		25179461	6218702	7769	19422	800		
333.9339	17.333	17.302	2		31339259	7725491	6598	16495	1171	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.849	16.819	2	0.972	20135429	4722779	8553	21382	552		
317.9389	16.849	16.819	2	0.972	27076586	6280876	12156	30390	517	0.74(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.864	16.849	1	1.001	96851	21963	602	1505	36		
305.8987	16.864	16.849	1	1.001	126132	28683	912	2280	31	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											RQM
303.9016	15.050	16.539	-89	0.893	16176	3673	602	1505	6		
305.8987	15.034	16.539	-90	0.892	20181	4851	912	2280	5	0.80(0.65-0.89)	
303.9016	17.272	16.539	44	1.025	27668	5196	602	1505	9		
	Empc Correction				22259	5209	602	1505	9		
305.8987	17.287	16.539	45	1.026	28908	6766	912	2280	7	0.96(0.65-0.89)	
303.9016	17.438	16.539	54	1.035	32776	6753	602	1505	11		
305.8987	17.438	16.539	54	1.035	59166	10546	912	2280	12	0.55(0.65-0.89)	
	Empc Correction				42566	8770	912	2280	10		
303.9016	17.877	16.539	80	1.061	8914	1993	602	1505	3		M
305.8987	17.862	16.539	79	1.060	11459	3243	912	2280	4	0.78(0.65-0.89)	M
13C-2,3,7,8-TCDD											
331.9368	17.514	17.499	1	1.010	16421323	3547731	7769	19422	457		
333.9339	17.514	17.499	1	1.010	20979584	4595149	6598	16495	696	0.78(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.544	17.514	2	1.012	19338739	4238159	6990	17475	606		

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,7,8-TCDD											M
319.8965	17.544	17.514	2	1.002	34985	7304	433	1082	17		M
321.8936	17.544	17.514	2	1.002	46857	10404	246	615	42	0.75(0.65-0.89)	M
A Non-2,3,7,8-sub-TCDD											
319.8965	16.977						433	1082			
321.8936	16.977						246	615			
13C-1,2,3,7,8-PeCDF											
351.9000	21.639	21.612	2	1.248	24178787	4009702	8712	21780	460		
353.8970	21.639	21.612	2	1.248	15231236	2556393	5880	14700	435	1.59(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.626						255	637			
341.8567	21.626						417	1042			
13C-2,3,4,7,8-PeCDF											
351.9000	22.921	22.880	2	1.322	22202669	3314322	8712	21780	380		
353.8970	22.907	22.880	2	1.322	13908219	2050239	5880	14700	349	1.60(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.907						255	637			
341.8567	22.907						417	1042			
A F1 PeCDFs											M
339.8597	18.890	19.306	-25	0.873	18445	3688	361	902	10		M
341.8567	18.905	19.306	-24	0.874	12124	3094	416	1040	7	1.52(1.32-1.78)	M
A Non-2,3,7,8-sub-PeCDF											M
339.8597	20.344	22.316	-118	0.940	28015	3955	255	637	16		
341.8567	20.371	22.316	-116	0.941	20324	3344	417	1042	8	1.38(1.32-1.78)	
339.8597	23.426	22.316	66	1.083	14552	1967	255	637	8		M
341.8567	23.371	22.316	63	1.080	8583	1607	417	1042	4	1.70(1.32-1.78)	M
13C-1,2,3,7,8-PeCDD											
367.8949	23.603	23.576	2	1.362	16498910	2398456	1954	4885	1227		
369.8919	23.603	23.576	2	1.362	10034321	1464958	1436	3590	1020	1.64(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.603						288	720			
357.8516	23.603						303	757			
A Non-2,3,7,8-sub-PeCDD											RQM
355.8546	20.521	22.546	-121	0.869	6964	1100	288	720	4		M
357.8516	20.562	22.546	-119	0.871	216933	47303	303	757	156	0.03(1.32-1.78)	
	Empc Correction				4492	709	303	757	2		
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.722	29.682	2	0.937	8498605	1005229	5502	13755	183		
385.8610	29.722	29.682	2	0.937	17808705	2021629	10012	25030	202	0.48(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.708						237	592			
375.8178	29.708						210	525			
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.975	29.948	2	0.945	9328492	1117367	5502	13755	203		
385.8610	29.975	29.948	2	0.945	18661816	2235193	10012	25030	223	0.50(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,6,7,8-HxCDF											
373.8208	29.975						237	592			
375.8178	29.975						210	525			
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.013	30.999	1	0.977	9044534	1612235	5502	13755	293		
385.8610	31.013	30.999	1	0.977	18484727	3223754	10012	25030	322	0.49(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.013						237	592			
375.8178	31.013						210	525			
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.931	31.918	1	1.006	8704056	1635509	5502	13755	297		
385.8610	31.931	31.918	1	1.006	17558421	3228547	10012	25030	322	0.50(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.931						237	592			
375.8178	31.931						210	525			
A Non-2,3,7,8-sub-HxCDF											RQM
373.8208	27.366	29.476	-126	0.921	21583	2696	237	592	11		
375.8178	27.352	29.476	-127	0.920	20832	2286	210	525	11	1.04(1.05-1.43)	
	Empc Correction				17405	2174	210	525	10		
373.8208	28.670	29.476	-48	0.965	36142	4049	237	592	17		M
375.8178	28.630	29.476	-51	0.963	26103	3065	210	525	15	1.38(1.05-1.43)	M
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.732	31.718	1		24395691	4630960	5205	13012	890		
403.8529	31.732	31.718	1		19852532	3788925	4466	11165	848	1.23(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.239	31.226	1	0.984	11613923	2567628	5205	13012	493		
403.8529	31.239	31.226	1	0.984	9398473	2093415	4466	11165	469	1.24(1.05-1.43)	
1,2,3,4,7,8-HxCDD											M
389.8157	31.252	31.239	1	1.000	14317	3623	283	707	13		M
391.8127	31.252	31.239	1	1.000	12541	2558	263	657	10	1.14(1.05-1.43)	M
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.359	31.332	2	0.988	15080729	2654884	5205	13012	510		
403.8529	31.359	31.332	2	0.988	12127144	2124871	4466	11165	476	1.24(1.05-1.43)	
1,2,3,6,7,8-HxCDD											Ma
389.8157	31.385	31.359	2	1.001	20044	3778	283	707	13		M
391.8127	31.372	31.359	1	1.000	15989	2928	263	657	11	1.25(1.05-1.43)	M
1,2,3,7,8,9-HxCDD											RQM
389.8157	31.758	31.731	2	1.017	19413	2862	283	707	10		M
391.8127	31.718	31.731	-1	1.015	18638	2630	263	657	10	1.04(1.05-1.43)	M
	Empc Correction				15655	2308	263	657	9		
A Non-2,3,7,8-sub-HxCDD											RQM
389.8157	28.510	30.055	-92	0.909	79462	8856	283	707	31		M
391.8127	28.471	30.055	-95	0.908	75364	8656	263	657	33	1.05(1.05-1.43)	
389.8157	30.361	30.055	18	0.968	61066	8475	283	707	30		
391.8127	30.347	30.055	18	0.968	46786	7184	263	657	27	1.31(1.05-1.43)	

Report Date: 10-Feb-2020 09:40:16 Chrom Revision: 2.3 14-Jan-2020 22:23:42
Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
389.8157	30.587	30.055	32	0.975	10520	1496	283	707	5		
391.8127	30.573	30.055	31	0.975	11498	1830	263	657	7	0.91(1.05-1.43)	
	Empc Correction				8483	1206	263	657	5		
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.459	33.447	1	1.054	6293524	1610492	9011	22527	179		
419.8220	33.459	33.447	1	1.054	14485436	3763496	22922	57305	164	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											M
407.7818	33.471	33.459	1	1.000	106771	28326	802	2005	35		M
409.7789	33.471	33.459	1	1.000	90847	24501	487	1217	50	1.18(0.88-1.20)	M
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.528	34.504	1	1.088	7075555	1356836	9011	22527	151		
419.8220	34.528	34.504	1	1.088	17015014	3278307	22922	57305	143	0.42(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.528						802	2005			
409.7789	34.528						487	1217			
A Non-2,3,7,8-sub-HpCDF											M
407.7818	33.763	33.994	-14	1.009	192072	43616	802	2005	54		M
409.7789	33.763	33.994	-14	1.009	194007	45420	487	1217	93	0.99(0.88-1.20)	M
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.236	34.224	1	1.079	11831846	2495975	5870	14675	425		
437.8140	34.236	34.224	1	1.079	11173530	2398052	7795	19487	308	1.06(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.249	34.237	1	1.000	659460	144776	1775	4437	82		
425.7737	34.249	34.237	1	1.000	628861	131439	1684	4210	78	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											M
423.7766	33.714	33.963	-15	0.985	954515	231331	1775	4437	130		M
425.7737	33.714	33.963	-15	0.985	874216	209534	1684	4210	124	1.09(0.88-1.20)	
13C-OCDD											
469.7779	36.528	36.516	1	1.151	19176485	3523826	1265	3162	2786		
471.7750	36.540	36.516	1	1.152	21756224	3949772	1828	4570	2161	0.88(0.76-1.02)	
OCDF											
441.7428	36.624	36.612	1	1.003	278406	47495	234	585	203		
443.7399	36.624	36.612	1	1.003	301960	51436	321	802	160	0.92(0.76-1.02)	
OCDD											
457.7377	36.540	36.528	1	1.000	11315567	2064892	809	2022	2552		
459.7348	36.540	36.528	1	1.000	12913582	2397747	833	2082	2878	0.88(0.76-1.02)	

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- a - User Assigned ID

Report Date: 10-Feb-2020 09:40:16 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d
Lims ID: 320-58170-A-6-A
Client ID: 11187072-Western-Solids
Inject. Date: 06-Feb-2020 20:46:50 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 355551 Lims Sample ID: 14

Non-2,3,7,8-sub-TCDF, RT: 16.539

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	0.768	D 13C-2,3,7,8-TCDF	100.000	47212015	11003655

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.768		100.000	47212015	11003655

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
15.050	16176	3673	20181	4851	0.1003	0.80	
17.272	27668	5196	28908	6766	0.1561	0.96	RQ
17.272	22259	5209	28908	6766	0.1412		Empc Correction
17.438	32776	6753	59166	10546	0.2537	0.55	RQ
17.438	32776	6753	42566	8770	0.2079		Empc Correction
17.877	8914	1993	11459	3243	0.0562	0.78	M
Signal Totals:							
	80125	17628	103114	23630			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	205248	43021				0.71	RQM
	183239	41258					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.5664 = (205248 * 100.000) / (47212015 * 0.768)
Empc Amount: 0.5057 = (183239 * 100.000) / (47212015 * 0.768)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d
Lims ID: 320-58170-A-6-A
Client ID: 11187072-Western-Solids
Inject. Date: 06-Feb-2020 20:46:50 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 355551 Lims Sample ID: 14

F1 PeCDFs, RT: 19.306

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	0.898	D 13C-1,2,3,7,8-PeCDF	100.000	39410023	6566095
2,3,4,7,8-PeCDF	0.810	D 13C-2,3,4,7,8-PeCDF	100.000	36110888	5364561

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.854		100.000	37760455	5965328

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
18.890	18445	3688	12124	3094	0.0948	1.52	M
Signal Totals:							
	18445	3688	12124	3094			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	30569	6782				1.52	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0948 = (30569 * 100.000) / (37760455 * 0.854)

QC Flag Legend

Review Flags
M - Manually Integrated

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d
Lims ID: 320-58170-A-6-A
Client ID: 11187072-Western-Solids
Inject. Date: 06-Feb-2020 20:46:50 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 355551 Lims Sample ID: 14

Non-2,3,7,8-sub-PeCDF, RT: 22.316

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	0.898	D 13C-1,2,3,7,8-PeCDF	100.000	39410023	6566095
2,3,4,7,8-PeCDF	0.810	D 13C-2,3,4,7,8-PeCDF	100.000	36110888	5364561

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.854		100.000	37760455	5965328

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
20.344	28015	3955	20324	3344	0.1499	1.38	
23.426	14552	1967	8583	1607	0.0717	1.70	M
Signal Totals:							
	42567	5922	28907	4951			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	71474	10873				1.47	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.2216 = (71474 * 100.000) / (37760455 * 0.854)

QC Flag Legend

Review Flags
M - Manually Integrated

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d
Lims ID: 320-58170-A-6-A
Client ID: 11187072-Western-Solids
Inject. Date: 06-Feb-2020 20:46:50 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 355551 Lims Sample ID: 14

Non-2,3,7,8-sub-PeCDD, RT: 22.546

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDD	0.996	D 13C-1,2,3,7,8-PeCDD	100.000	26533231	3863414

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.996		100.000	26533231	3863414

Sum the Uncalibrated Results

RT	355.8546 Area	355.8546 Height	357.8516 Area	357.8516 Height	Amount	Ratio	Flags
20.521	6964	1100	216933	47303	0.8472	0.03	RQM
20.521	6964	1100	4492	709	0.0433		Empc Correction
Signal Totals:							
	6964	1100	4492	709			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	223897	48403				0.03	RQM
	11456	1809					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.8472 = (223897 * 100.000) / (26533231 * 0.996)
Empc Amount: 0.0433 = (11456 * 100.000) / (26533231 * 0.996)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d
Lims ID: 320-58170-A-6-A
Client ID: 11187072-Western-Solids
Inject. Date: 06-Feb-2020 20:46:50 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 355551 Lims Sample ID: 14

Non-2,3,7,8-sub-HxCDF, RT: 29.476

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	0.792	D 13C-1,2,3,4,7,8-HxCDF	100.000	26307310	3026858
1,2,3,6,7,8-HxCDF	0.864	D 13C-1,2,3,6,7,8-HxCDF	100.000	27990308	3352560
2,3,4,6,7,8-HxCDF	0.901	D 13C-2,3,4,6,7,8-HxCDF	100.000	27529261	4835989
1,2,3,7,8,9-HxCDF	0.913	D 13C-1,2,3,7,8,9-HxCDF	100.000	26262477	4864056

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.867		100.000	27022339	4019865

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
27.366	21583	2696	20832	2286	0.1810	1.04	RQ
27.366	21583	2696	17405	2174	0.1664		Empc Correction
28.670	36142	4049	26103	3065	0.2656	1.38	M
Signal Totals:							
	57725	6745	43508	5239			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	104660	12096				1.23	RQM
	101233	11984					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.4466 = (104660 * 100.000) / (27022339 * 0.867)
Empc Amount: 0.4320 = (101233 * 100.000) / (27022339 * 0.867)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d
Lims ID: 320-58170-A-6-A
Client ID: 11187072-Western-Solids
Inject. Date: 06-Feb-2020 20:46:50 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 355551 Lims Sample ID: 14

Non-2,3,7,8-sub-HxCDD, RT: 30.055

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.839	D 13C-1,2,3,4,7,8-HxCDD	100.000	21012396	4661043
1,2,3,6,7,8-HxCDD	0.888	D 13C-1,2,3,6,7,8-HxCDD	100.000	27207873	4779755
1,2,3,7,8,9-HxCDD	0.957				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.894		100.000	24110134	4720399

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
28.510	79462	8856	75364	8656	0.7179	1.05	M
30.361	61066	8475	46786	7184	0.5001	1.31	
30.587	10520	1496	11498	1830	0.1021	0.91	RQ
30.587	10520	1496	8483	1206	0.0881		Empc Correction
Signal Totals:							
	151048	18827	130633	17046			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	284696	36497				1.13	RQM
	281681	35873					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.320 = (284696 * 100.000) / (24110134 * 0.894)
Empc Amount: 1.306 = (281681 * 100.000) / (24110134 * 0.894)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d
Lims ID: 320-58170-A-6-A
Client ID: 11187072-Western-Solids
Inject. Date: 06-Feb-2020 20:46:50 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 355551 Lims Sample ID: 14

Non-2,3,7,8-sub-HpCDF, RT: 33.994

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.337	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	20778960	5373988
1,2,3,4,7,8,9-HpCDF	1.074	D 13C-1,2,3,4,7,8,9-HpCDF	100.000	24090569	4635143

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.206		100.000	22434764	5004565

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
33.763	192072	43616	194007	45420	1.43	0.99	M
Signal Totals:							
	192072	43616	194007	45420			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	386079	89036				0.99	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.427 = (386079 * 100.000) / (22434764 * 1.206)

QC Flag Legend

Review Flags
M - Manually Integrated

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d
Lims ID: 320-58170-A-6-A
Client ID: 11187072-Western-Solids
Inject. Date: 06-Feb-2020 20:46:50 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 355551 Lims Sample ID: 14

Non-2,3,7,8-sub-HpCDD, RT: 33.963

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.981	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	23005376	4894027

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.981		100.000	23005376	4894027

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
33.714	954515	231331	874216	209534	8.10	1.09	M
Signal Totals:							
	954515	231331	874216	209534			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1828731	440865				1.09	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 8.102 = (1828731 * 100.000) / (23005376 * 0.981)

QC Flag Legend

Review Flags
M - Manually Integrated

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d				
Injection Date:	06-Feb-2020 20:46:50	Instrument ID:	10D5		
Lims ID:	320-58170-A-6-A	Lab Sample ID:	320-58170-6		
Client ID:	11187072-Western-Solids				
Operator ID:	AJS	ALS Bottle#:	16	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

Non-2,3,7,8-sub-TCDF, Signal: 1, m/z: 303.9016, RT: (14.49- 18.59)

Signal: 1

Processing Integration Results

Not Detected

RT: 14.49- 18.59

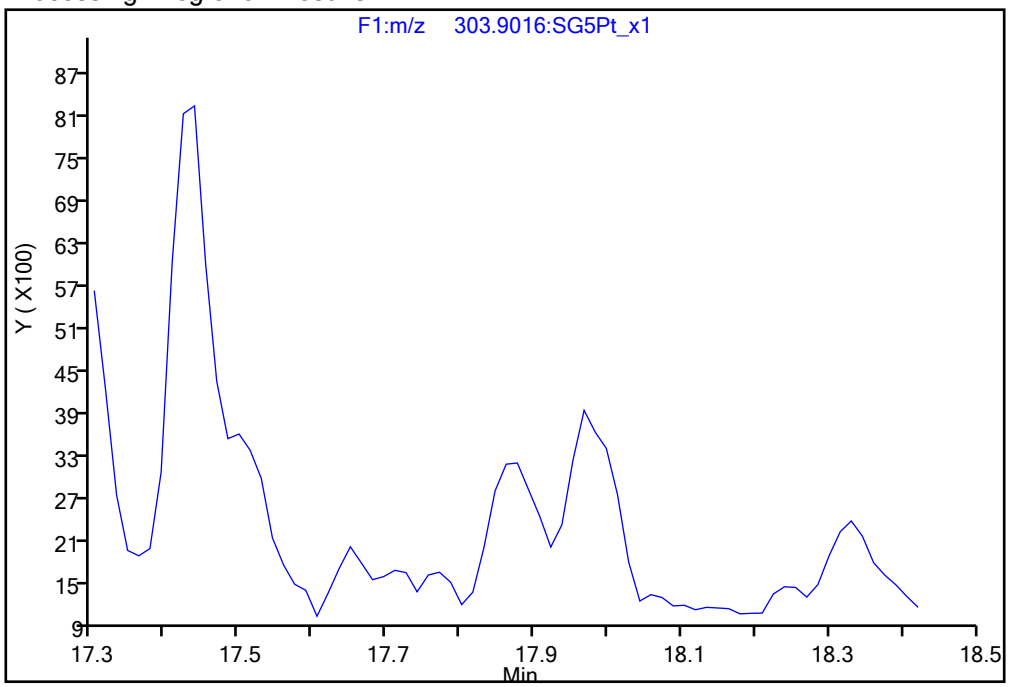

Manual Integration Results

RT = 17.877 Area = 8914 M

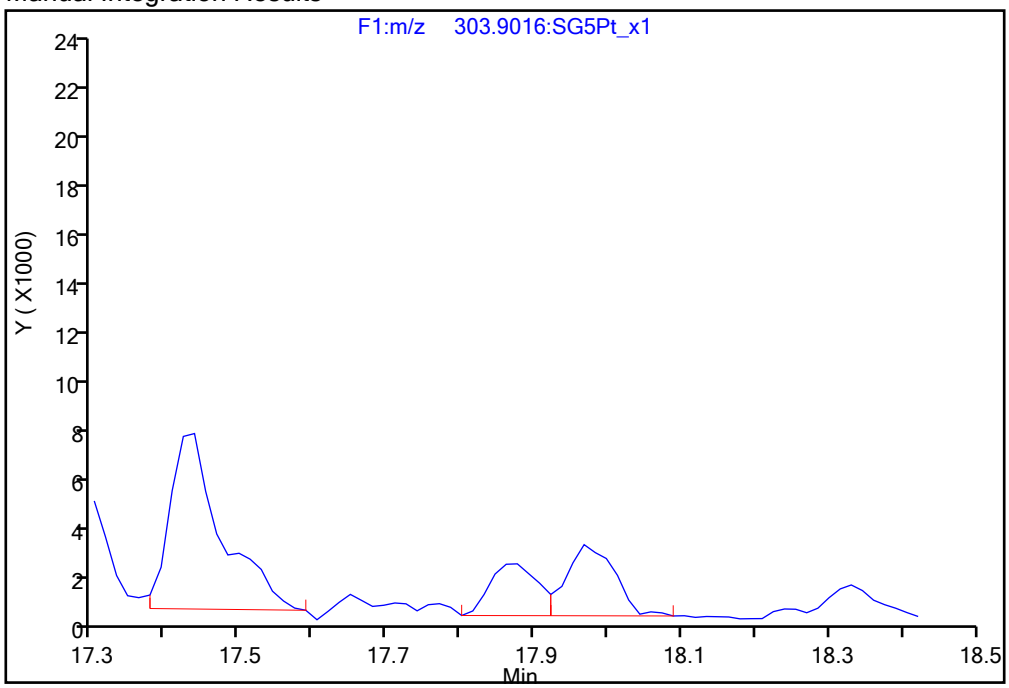

Reviewer: dadunj, 10-Feb-2020 09:35:32

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d				
Injection Date:	06-Feb-2020 20:46:50	Instrument ID:	10D5		
Lims ID:	320-58170-A-6-A	Lab Sample ID:	320-58170-6		
Client ID:	11187072-Western-Solids				
Operator ID:	AJS	ALS Bottle#:	16	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

Non-2,3,7,8-sub-TCDF, Signal: 2, m/z: 305.8987, RT: (14.49- 18.59)

Signal: 2

Processing Integration Results

Not Detected
RT: 14.49- 18.59

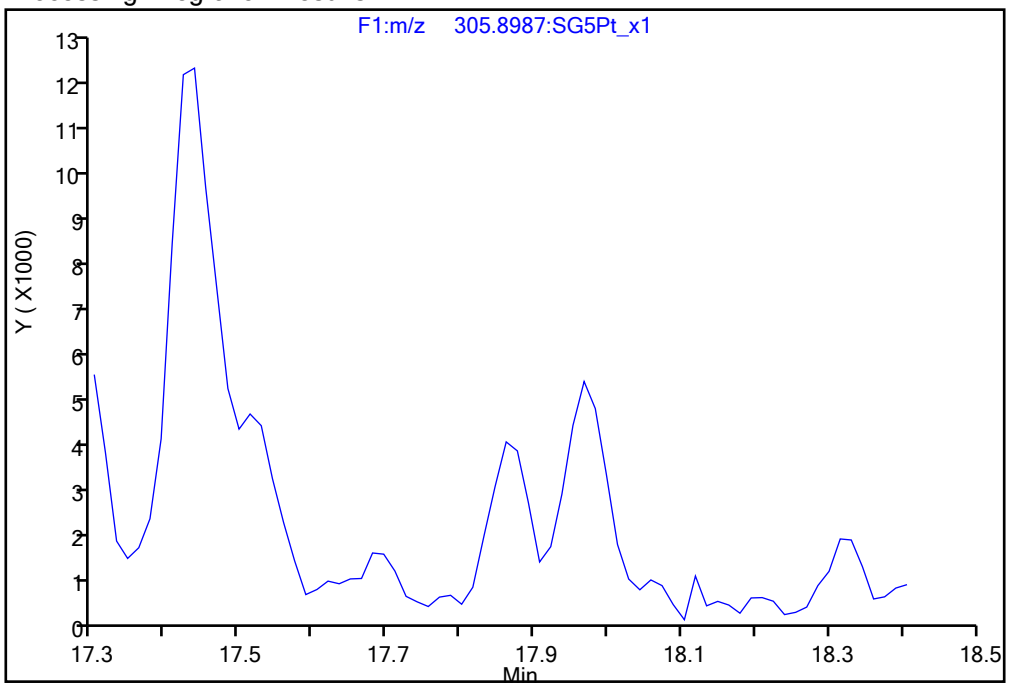

Manual Integration Results

RT = 17.862 Area = 11459 M

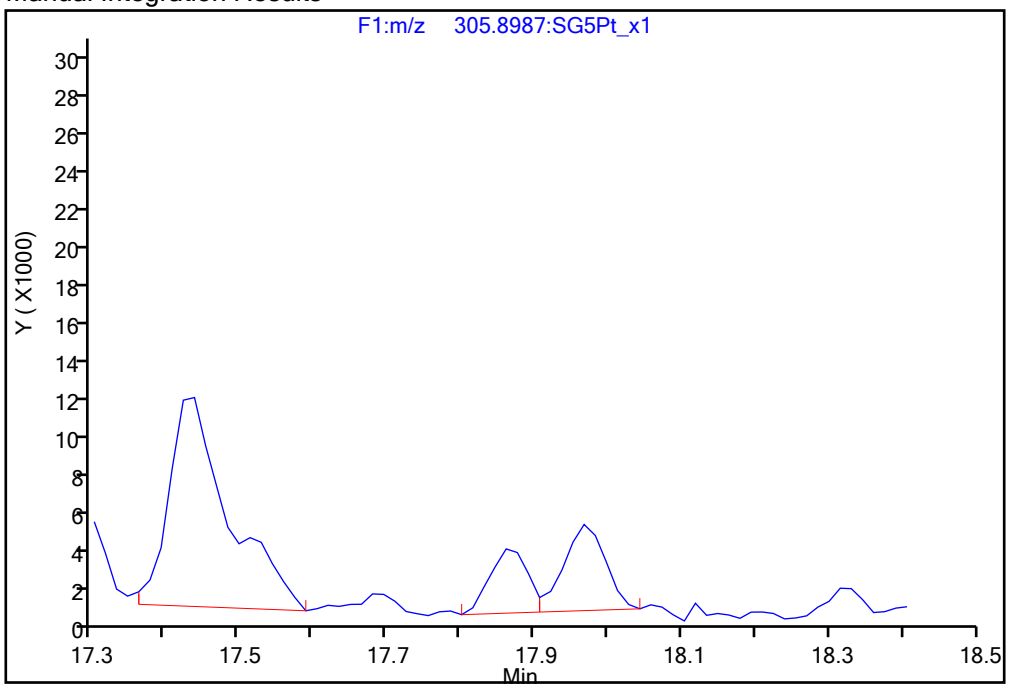

Reviewer: dadunj, 10-Feb-2020 09:35:40
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d				
Injection Date:	06-Feb-2020 20:46:50	Instrument ID:	10D5		
Lims ID:	320-58170-A-6-A	Lab Sample ID:	320-58170-6		
Client ID:	11187072-Western-Solids				
Operator ID:	AJS	ALS Bottle#:	16	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDD, CAS: 1746-01-6

Signal: 2

Processing Integration Results

RT: 17.54
Area: 48326
Amount: 0.230986
Amount Units: pg/ul

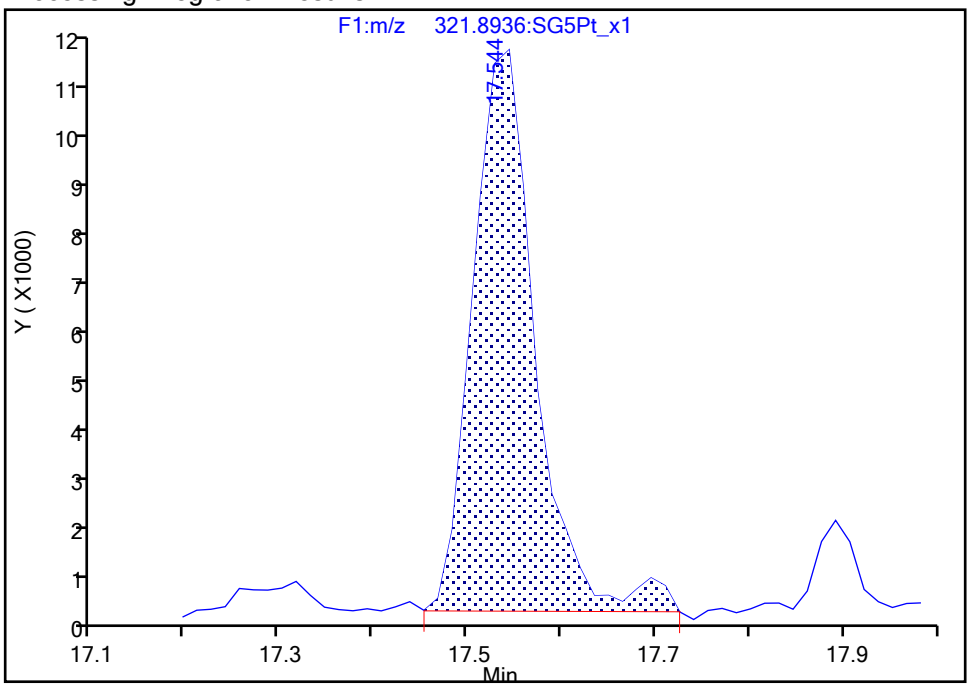

Manual Integration Results

RT: 17.54
Area: 46857
Amount: 0.227970
Amount Units: pg/ul

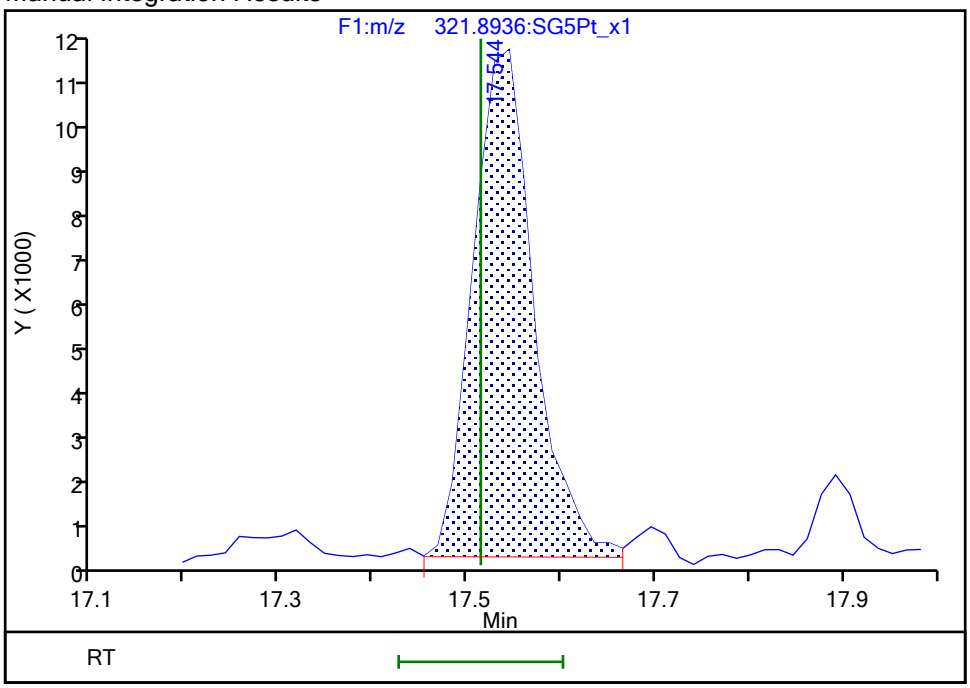

Reviewer: dadunj, 10-Feb-2020 09:36:05

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d				
Injection Date:	06-Feb-2020 20:46:50	Instrument ID:	10D5		
Lims ID:	320-58170-A-6-A	Lab Sample ID:	320-58170-6		
Client ID:	11187072-Western-Solids				
Operator ID:	AJS	ALS Bottle#:	16	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDD, CAS: 1746-01-6

Signal: 1

Processing Integration Results

RT: 17.54
Area: 34599
Amount: 0.230986
Amount Units: pg/ul

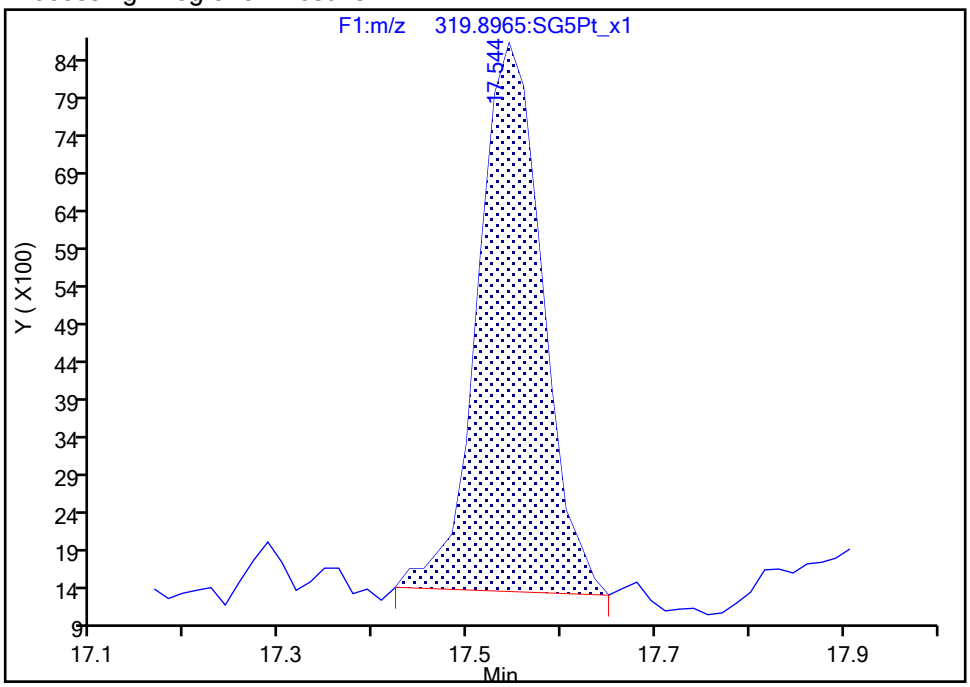

Manual Integration Results

RT: 17.54
Area: 34985
Amount: 0.227970
Amount Units: pg/ul

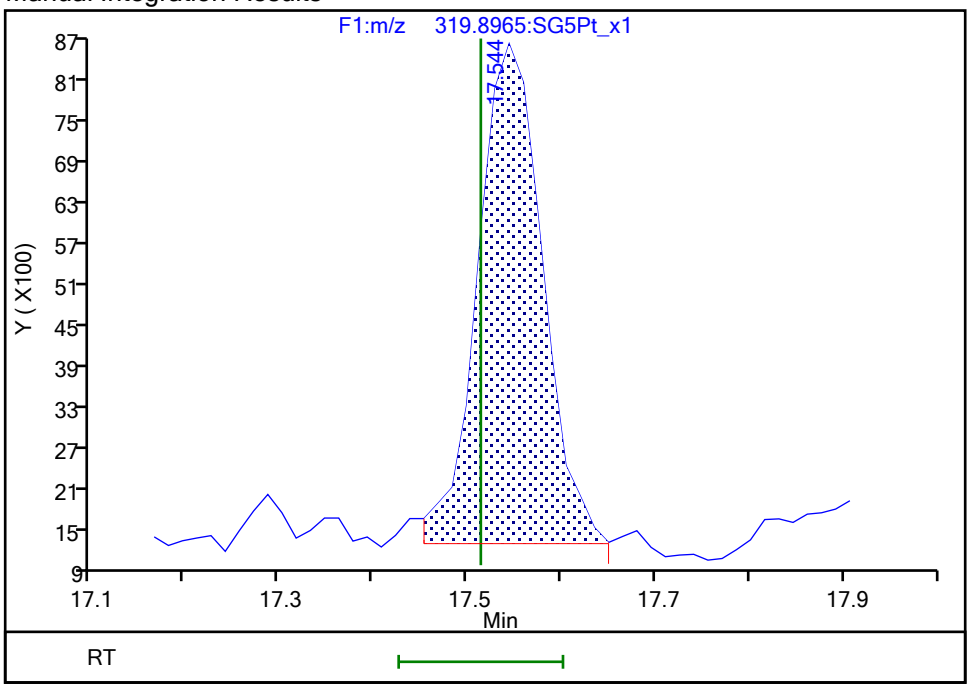

Reviewer: dadunj, 10-Feb-2020 09:36:18

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d				
Injection Date:	06-Feb-2020 20:46:50	Instrument ID:	10D5		
Lims ID:	320-58170-A-6-A	Lab Sample ID:	320-58170-6		
Client ID:	11187072-Western-Solids				
Operator ID:	AJS	ALS Bottle#:	16	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

F1 PeCDFs, Signal: 1, m/z: 339.8597, RT: (18.80- 19.81)

Signal: 1

Processing Integration Results

RT = 18.890 Area = 19338

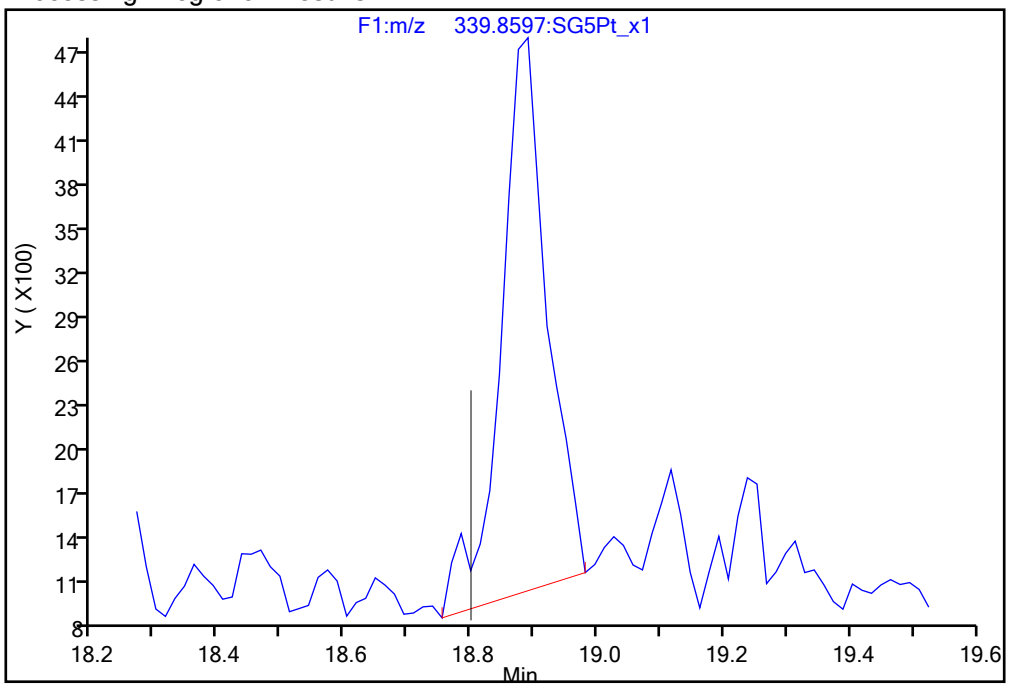

Manual Integration Results

RT = 18.890 Area = 18445 M

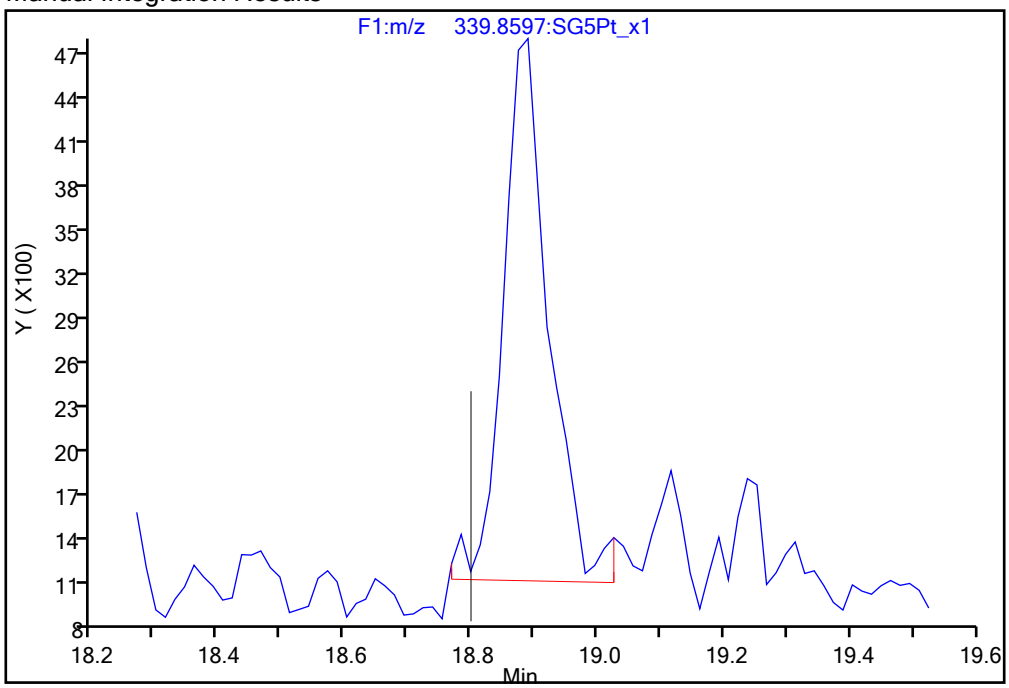

Reviewer: dadunj, 10-Feb-2020 09:36:34

Audit Action: Manually Integrated Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d				
Injection Date:	06-Feb-2020 20:46:50	Instrument ID:	10D5		
Lims ID:	320-58170-A-6-A	Lab Sample ID:	320-58170-6		
Client ID:	11187072-Western-Solids				
Operator ID:	AJS	ALS Bottle#:	16	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

F1 PeCDFs, Signal: 2, m/z: 341.8567, RT: (18.80- 19.81)

Signal: 2

Processing Integration Results

RT = 18.905 Area = 14005

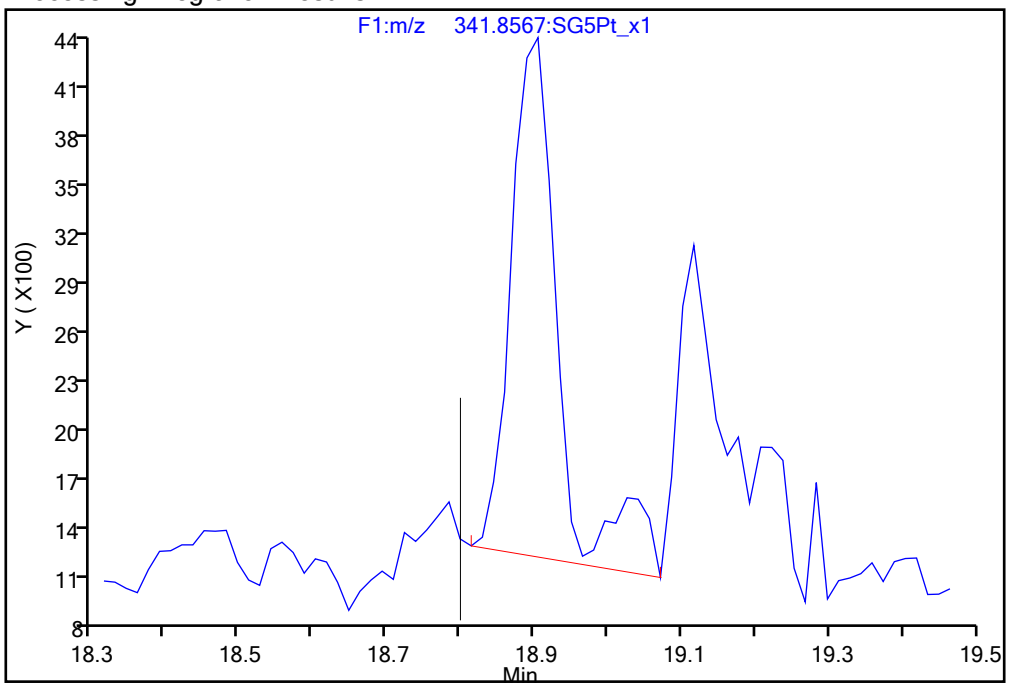

Manual Integration Results

RT = 18.905 Area = 12124 M

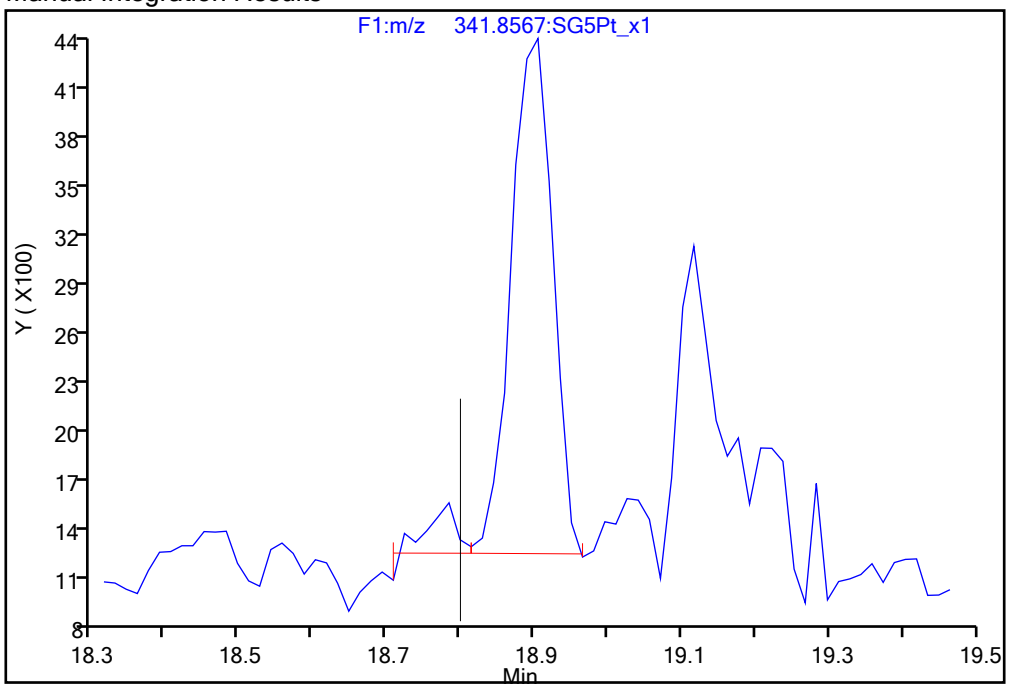

Reviewer: dadunj, 10-Feb-2020 09:36:51

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d				
Injection Date:	06-Feb-2020 20:46:50	Instrument ID:	10D5		
Lims ID:	320-58170-A-6-A	Lab Sample ID:	320-58170-6		
Client ID:	11187072-Western-Solids				
Operator ID:	AJS	ALS Bottle#:	16	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

Non-2,3,7,8-sub-PeCDF, Signal: 1, m/z: 339.8597, RT: (19.83- 24.81)

Signal: 1

Processing Integration Results

RT = 23.426 Area = 22247

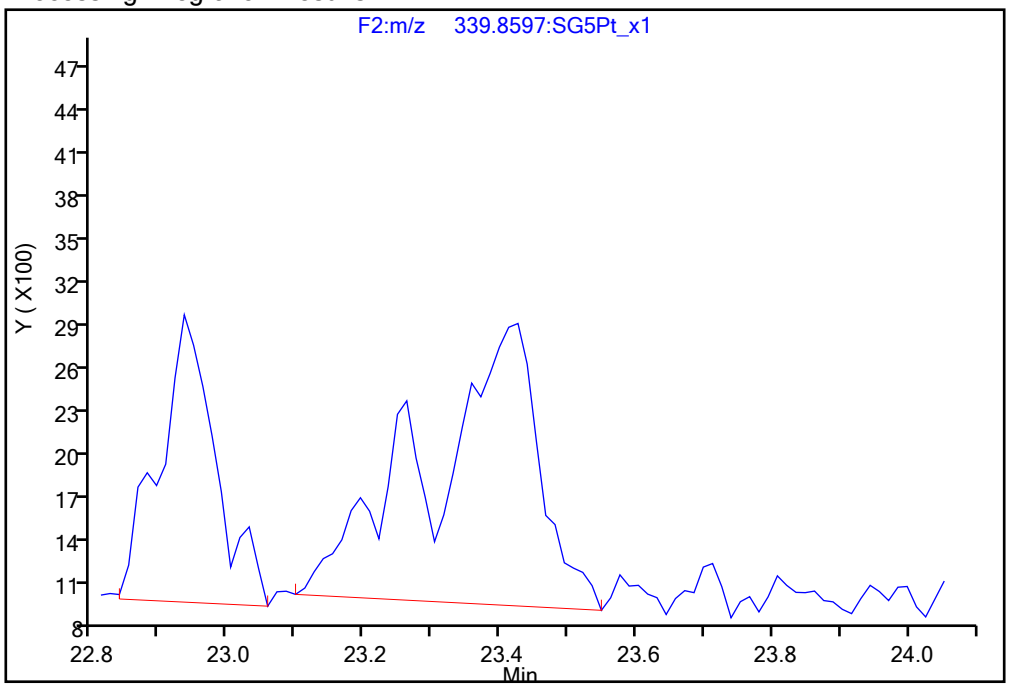

Manual Integration Results

RT = 23.426 Area = 14552 M

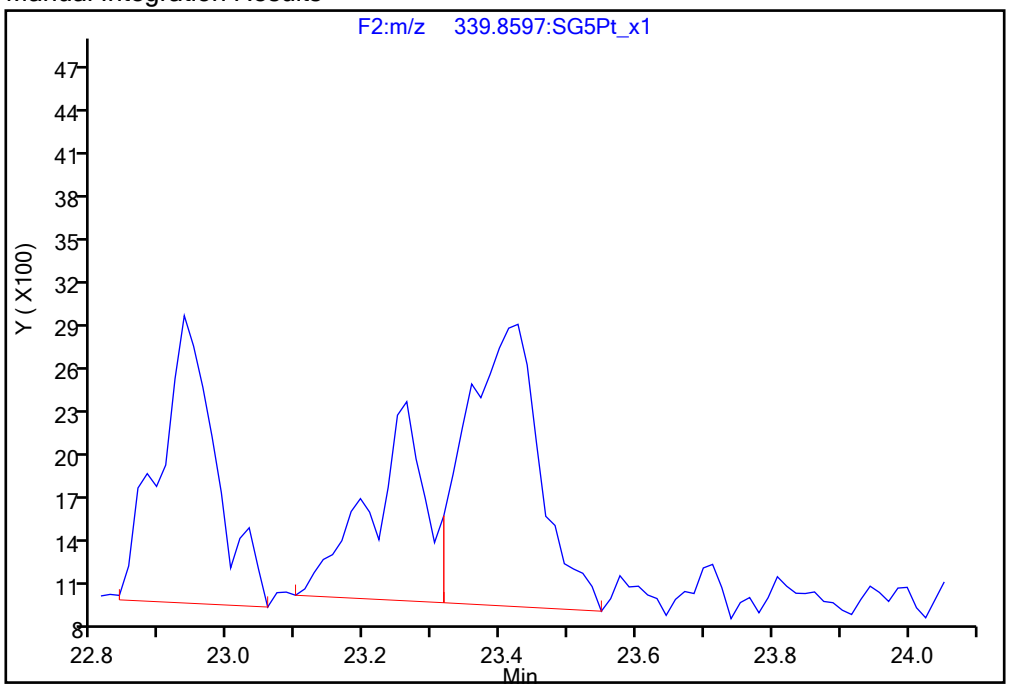

Reviewer: dadunj, 10-Feb-2020 09:36:55

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d				
Injection Date:	06-Feb-2020 20:46:50	Instrument ID:	10D5		
Lims ID:	320-58170-A-6-A	Lab Sample ID:	320-58170-6		
Client ID:	11187072-Western-Solids				
Operator ID:	AJS	ALS Bottle#:	16	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

Non-2,3,7,8-sub-PeCDF, Signal: 2, m/z: 341.8567, RT: (19.83- 24.81)

Signal: 2

Processing Integration Results

RT = 23.371 Area = 13700

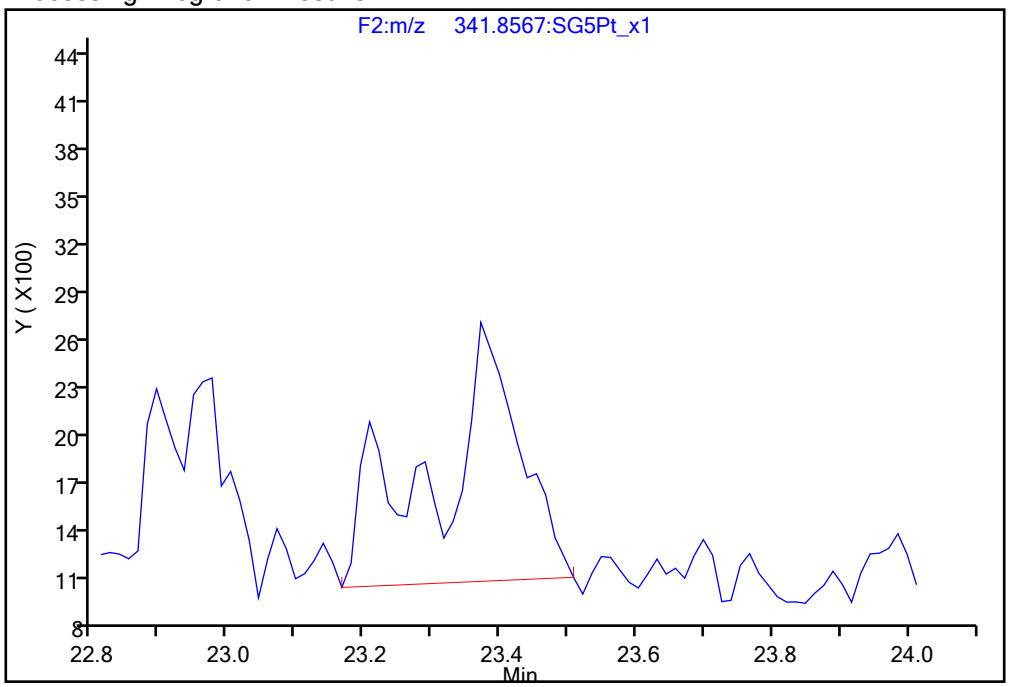

Manual Integration Results

RT = 23.371 Area = 8583 M

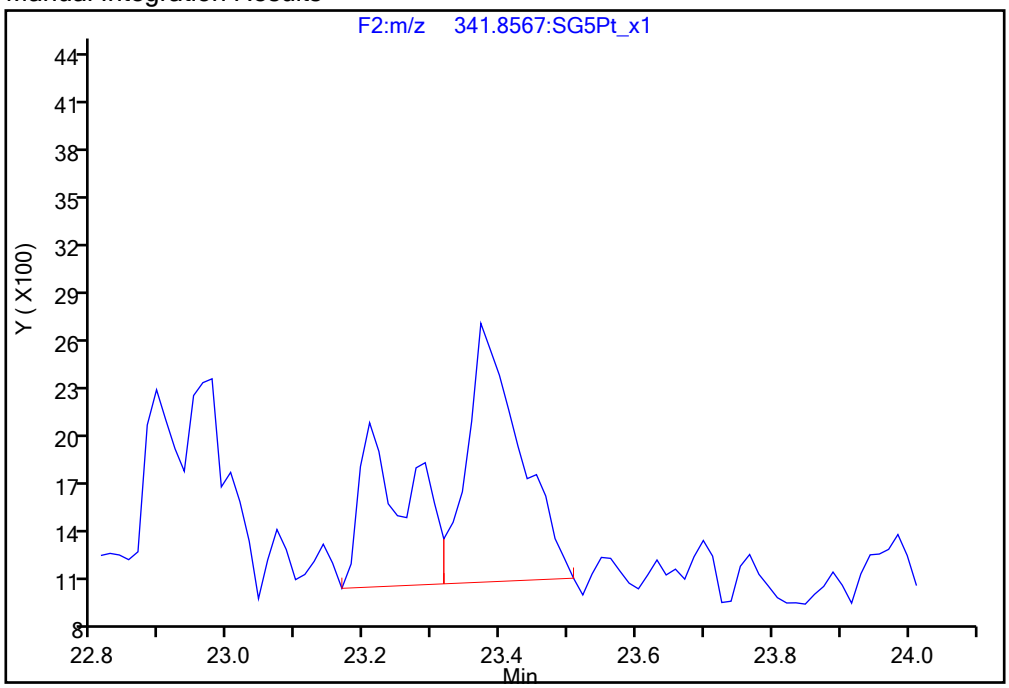

Reviewer: dadunj, 10-Feb-2020 09:36:58

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d				
Injection Date:	06-Feb-2020 20:46:50	Instrument ID:	10D5		
Lims ID:	320-58170-A-6-A	Lab Sample ID:	320-58170-6		
Client ID:	11187072-Western-Solids				
Operator ID:	AJS	ALS Bottle#:	16	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

Non-2,3,7,8-sub-PeCDD, Signal: 1, m/z: 355.8546, RT: (20.50- 24.59)

Signal: 1

Processing Integration Results

RT = 20.521 Area = 6625

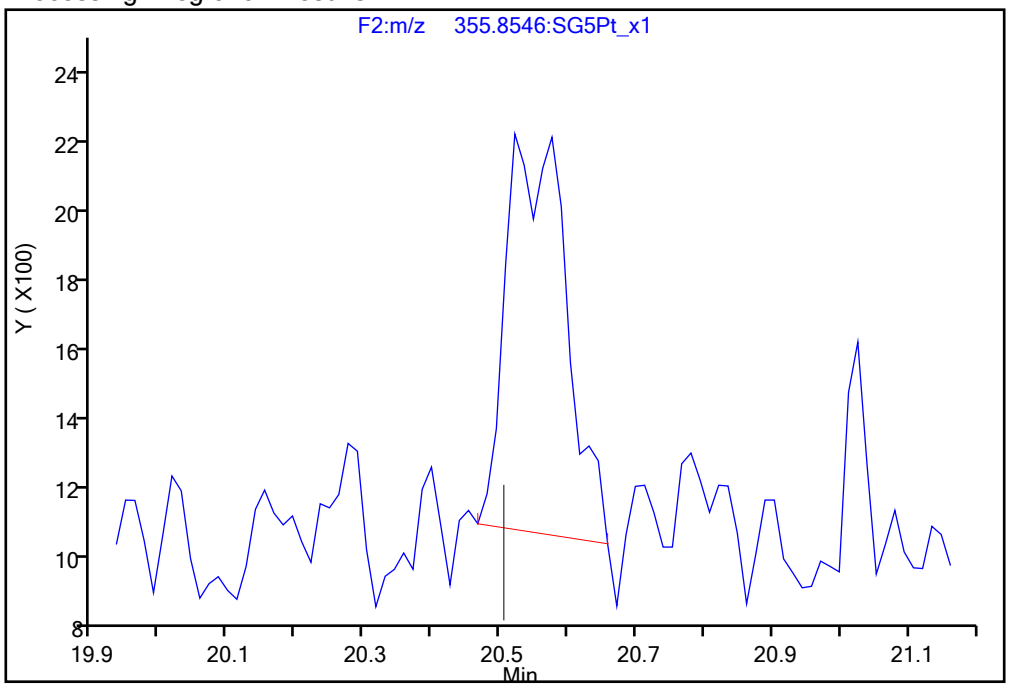

Manual Integration Results

RT = 20.521 Area = 6964 M

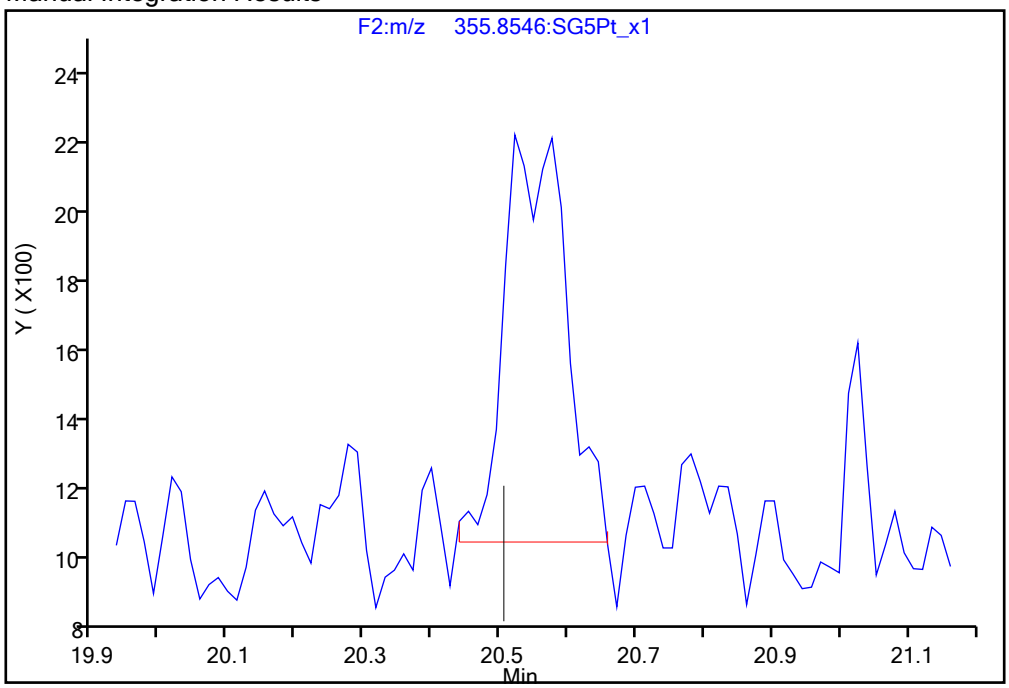

Reviewer: dadunj, 10-Feb-2020 09:37:17

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d				
Injection Date:	06-Feb-2020 20:46:50	Instrument ID:	10D5		
Lims ID:	320-58170-A-6-A	Lab Sample ID:	320-58170-6		
Client ID:	11187072-Western-Solids				
Operator ID:	AJS	ALS Bottle#:	16	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

Non-2,3,7,8-sub-HxCDF, Signal: 1, m/z: 373.8208, RT: (26.91- 32.04)

Signal: 1

Processing Integration Results

RT = 28.670 Area = 38829

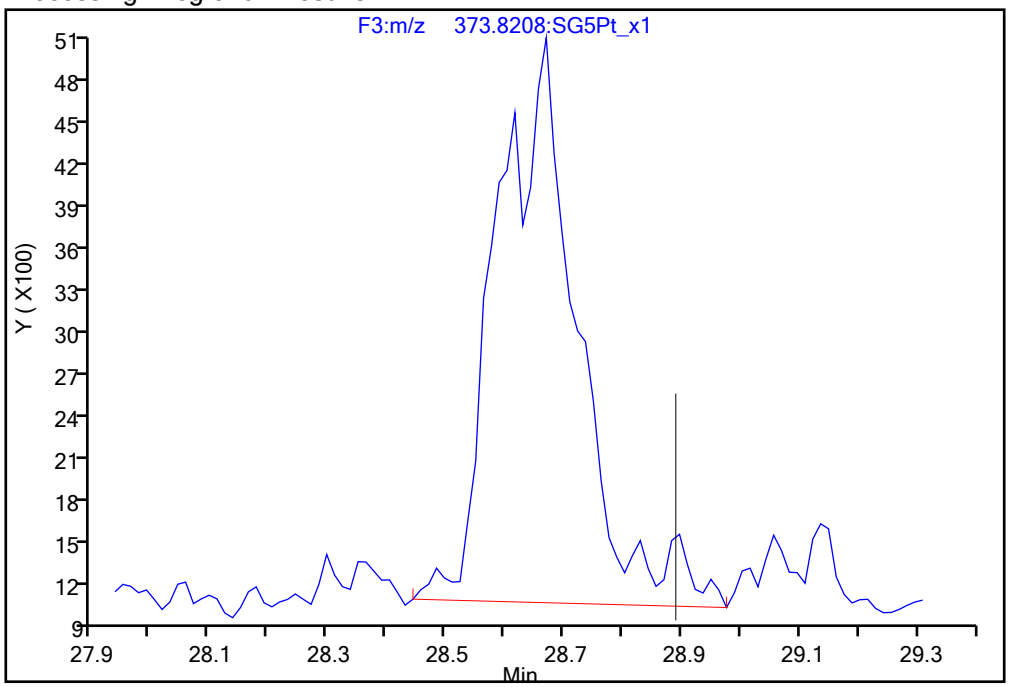

Manual Integration Results

RT = 28.670 Area = 36142 M

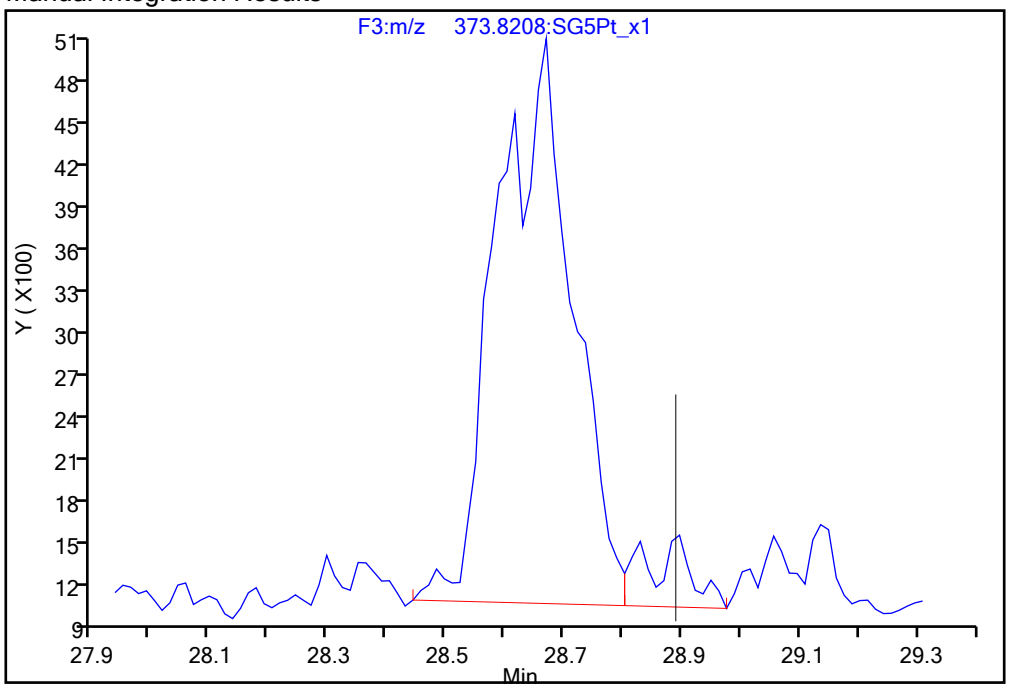

Reviewer: dadunj, 10-Feb-2020 09:39:46

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d				
Injection Date:	06-Feb-2020 20:46:50	Instrument ID:	10D5		
Lims ID:	320-58170-A-6-A	Lab Sample ID:	320-58170-6		
Client ID:	11187072-Western-Solids				
Operator ID:	AJS	ALS Bottle#:	16	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

Non-2,3,7,8-sub-HxCDF, Signal: 2, m/z: 375.8178, RT: (26.91- 32.04)

Signal: 2

Processing Integration Results

RT = 28.630 Area = 30009

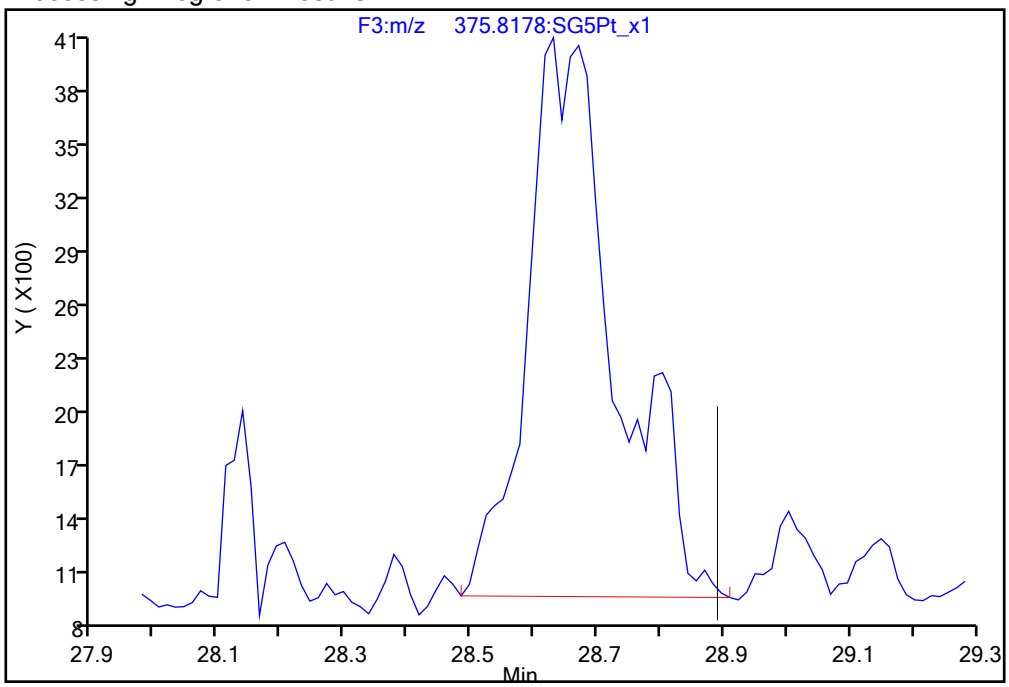

Manual Integration Results

RT = 28.630 Area = 26103 M

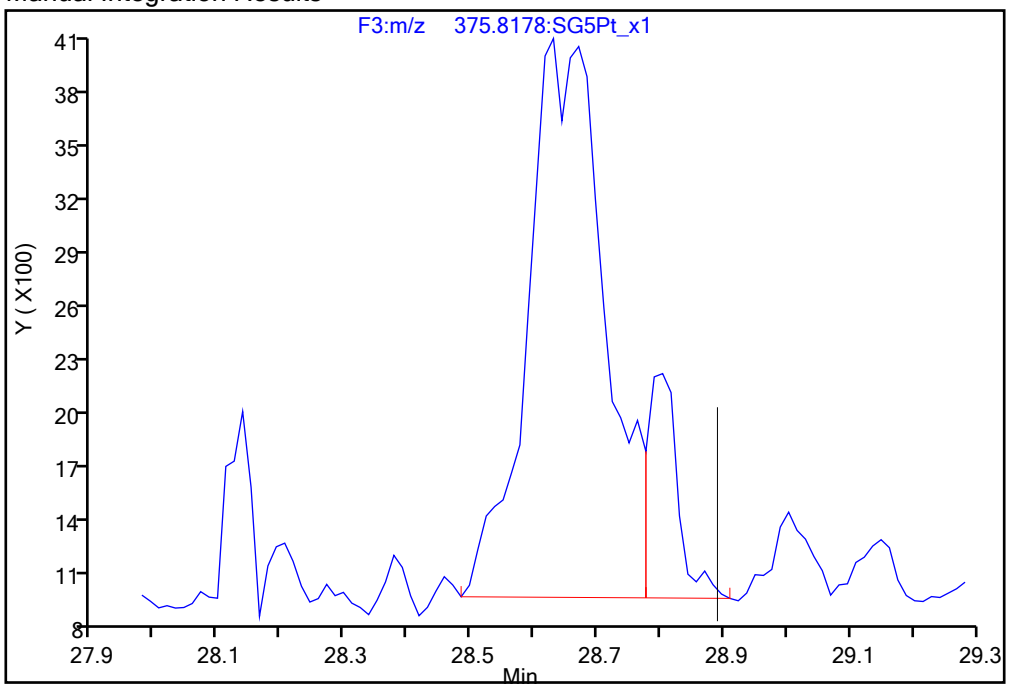

Reviewer: dadunj, 10-Feb-2020 09:39:49

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d				
Injection Date:	06-Feb-2020 20:46:50	Instrument ID:	10D5		
Lims ID:	320-58170-A-6-A	Lab Sample ID:	320-58170-6		
Client ID:	11187072-Western-Solids				
Operator ID:	AJS	ALS Bottle#:	16	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 1

Processing Integration Results

RT: 31.39
Area: 35771
Amount: 0.370111
Amount Units: pg/ul

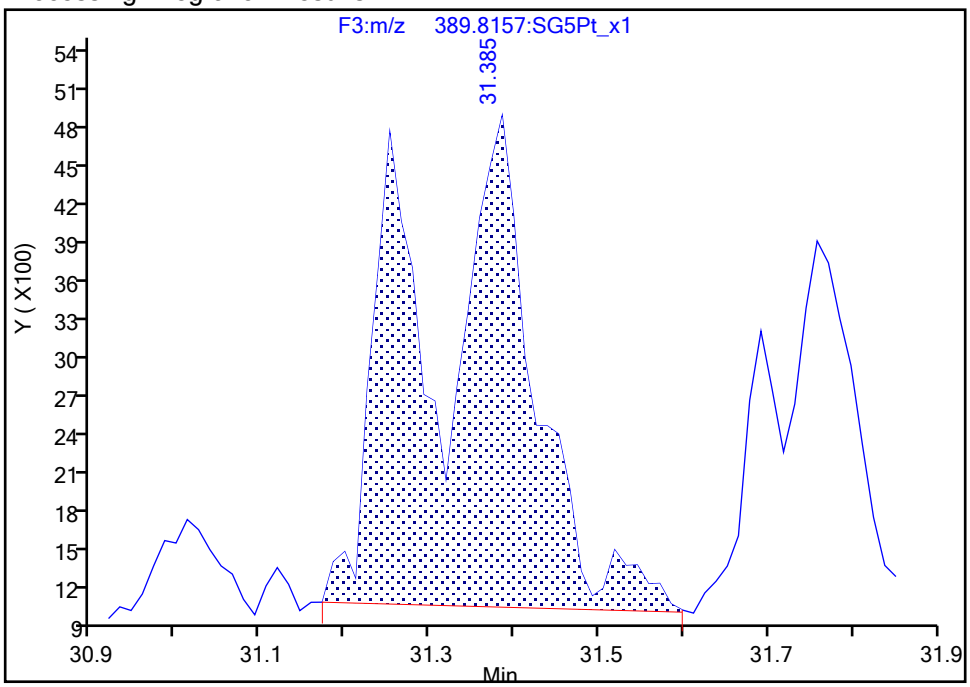

Manual Integration Results

RT: 31.25
Area: 14317
Amount: 0.152316
Amount Units: pg/ul

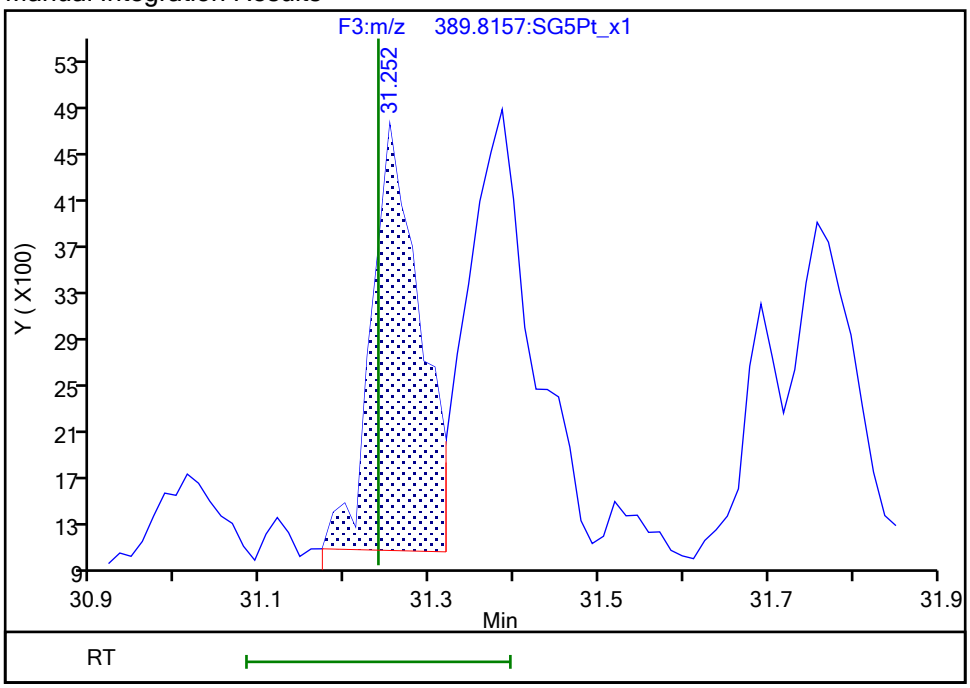

Reviewer: dadunj, 10-Feb-2020 09:37:55

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d				
Injection Date:	06-Feb-2020 20:46:50	Instrument ID:	10D5		
Lims ID:	320-58170-A-6-A	Lab Sample ID:	320-58170-6		
Client ID:	11187072-Western-Solids				
Operator ID:	AJS	ALS Bottle#:	16	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 2

Processing Integration Results

RT: 31.37
Area: 29491
Amount: 0.370111
Amount Units: pg/ul

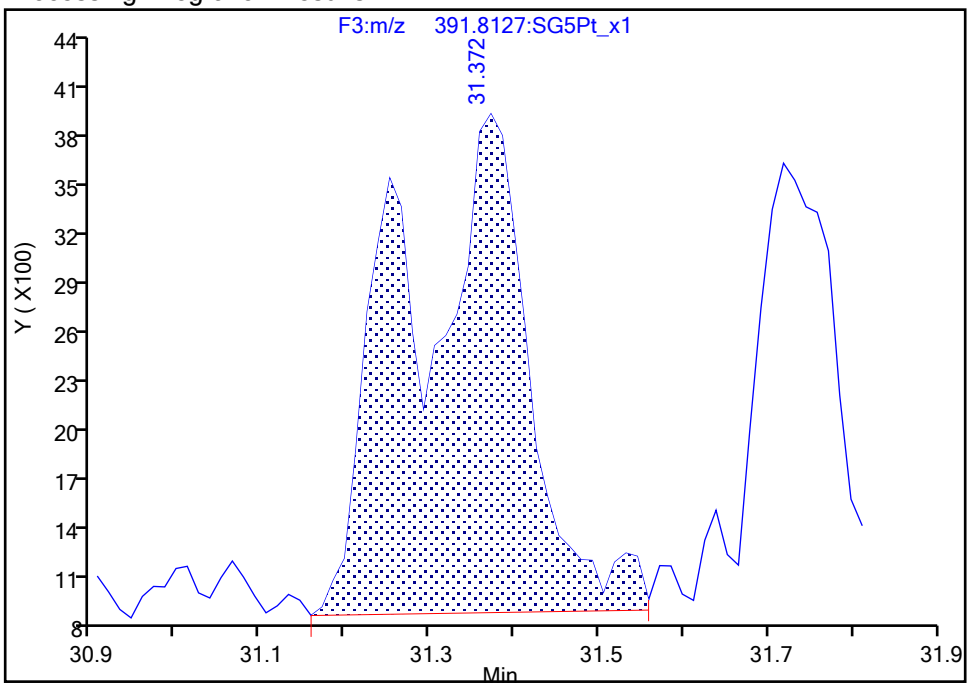

Manual Integration Results

RT: 31.25
Area: 12541
Amount: 0.152316
Amount Units: pg/ul

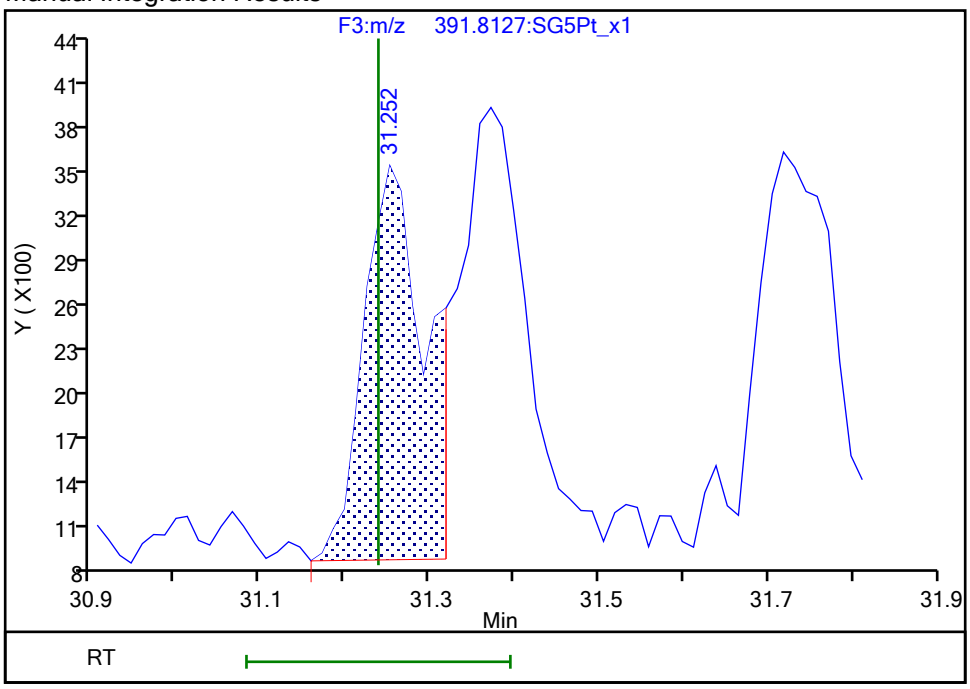

Reviewer: dadunj, 10-Feb-2020 09:37:58

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d				
Injection Date:	06-Feb-2020 20:46:50	Instrument ID:	10D5		
Lims ID:	320-58170-A-6-A	Lab Sample ID:	320-58170-6		
Client ID:	11187072-Western-Solids				
Operator ID:	AJS	ALS Bottle#:	16	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 3

Processing Integration Results

RT:	31.39
Area:	65262
Amount:	0.270237
Amount Units:	pg/ul

Manual Integration Results

RT:	31.39
Area:	36033
Amount:	0.149206
Amount Units:	pg/ul

Reviewer: dadunj, 10-Feb-2020 09:38:05

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d				
Injection Date:	06-Feb-2020 20:46:50	Instrument ID:	10D5		
Lims ID:	320-58170-A-6-A	Lab Sample ID:	320-58170-6		
Client ID:	11187072-Western-Solids				
Operator ID:	AJS	ALS Bottle#:	16	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 1

Processing Integration Results

RT: 31.39
Area: 35771
Amount: 0.270237
Amount Units: pg/ul

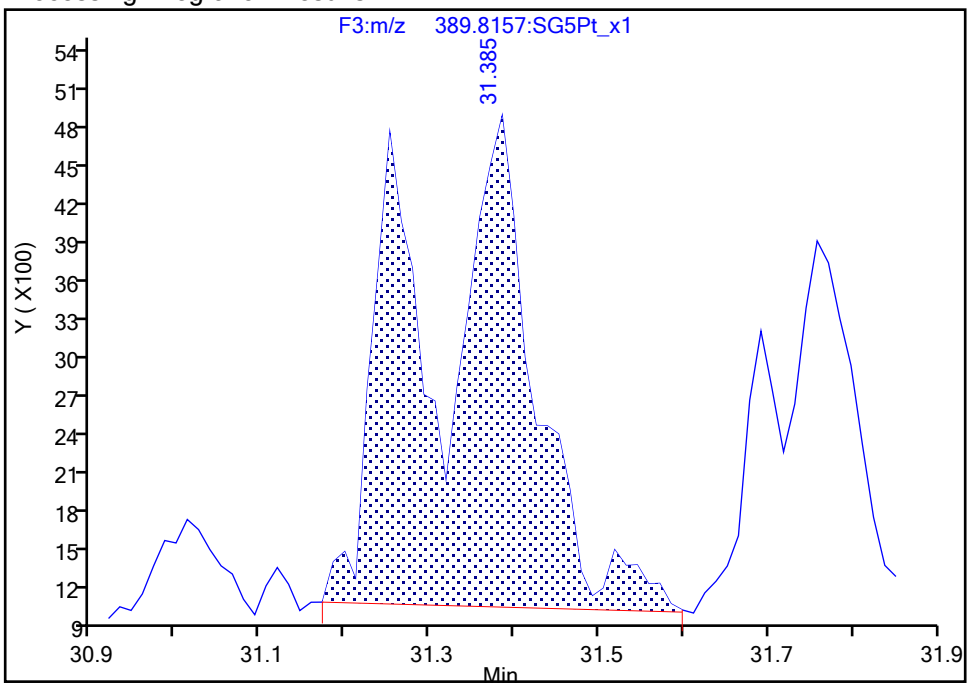

Manual Integration Results

RT: 31.39
Area: 20044
Amount: 0.149206
Amount Units: pg/ul

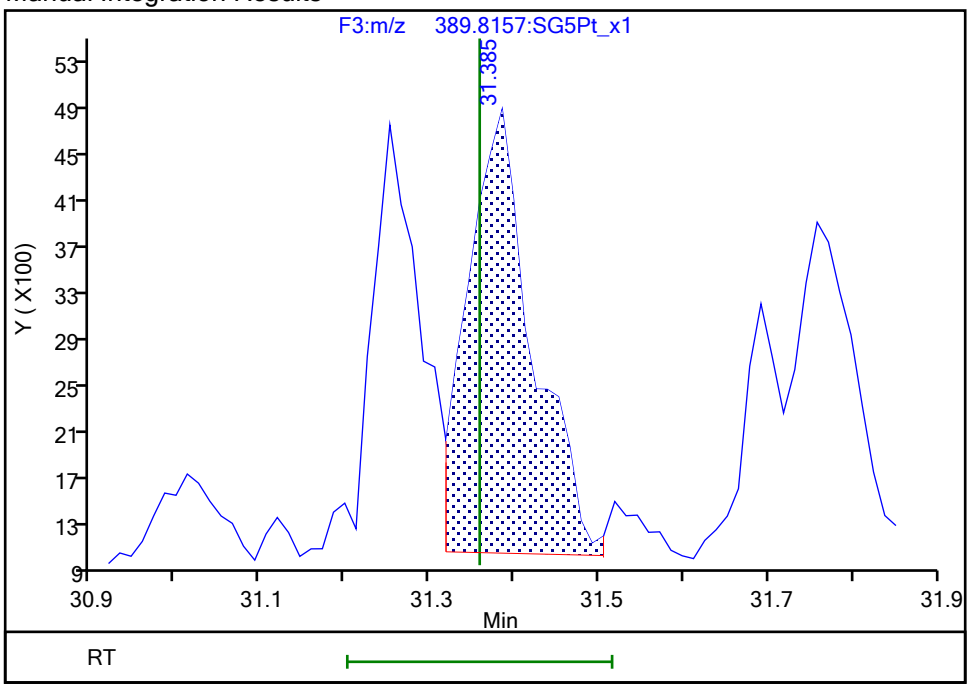

Reviewer: dadunj, 10-Feb-2020 09:39:55

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d				
Injection Date:	06-Feb-2020 20:46:50	Instrument ID:	10D5		
Lims ID:	320-58170-A-6-A	Lab Sample ID:	320-58170-6		
Client ID:	11187072-Western-Solids				
Operator ID:	AJS	ALS Bottle#:	16	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 2

Processing Integration Results

RT: 31.37
Area: 29491
Amount: 0.270237
Amount Units: pg/ul

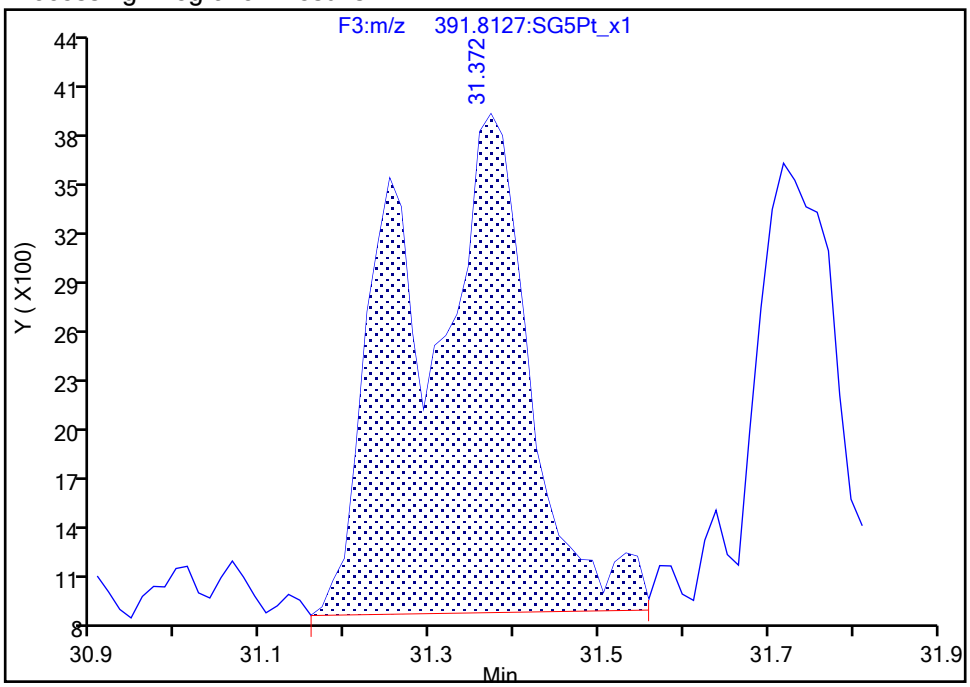

Manual Integration Results

RT: 31.37
Area: 15989
Amount: 0.149206
Amount Units: pg/ul

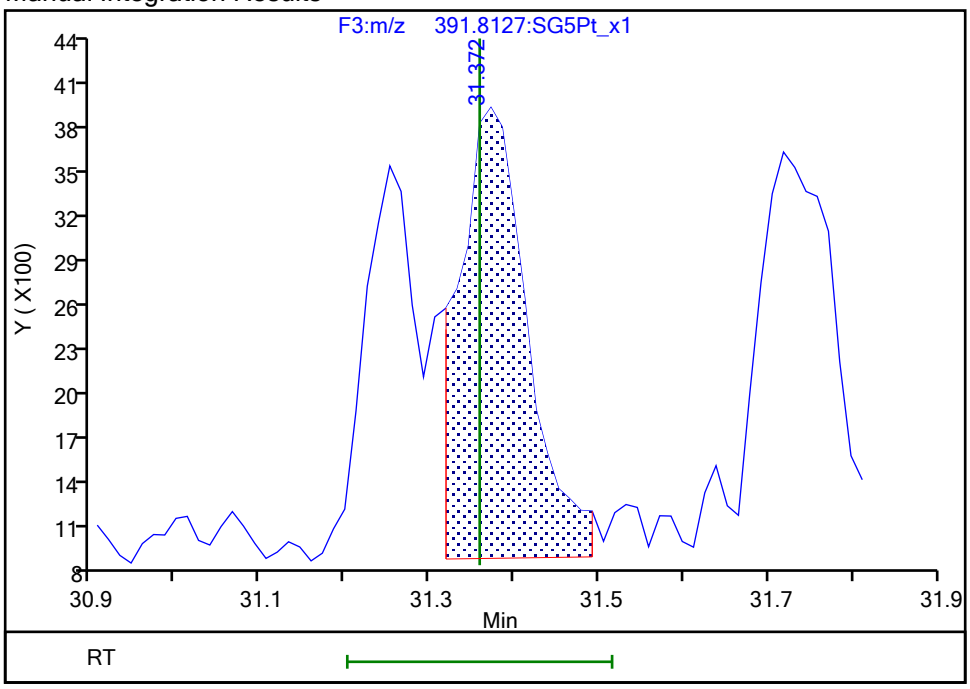

Reviewer: dadunj, 10-Feb-2020 09:39:57

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d				
Injection Date:	06-Feb-2020 20:46:50	Instrument ID:	10D5		
Lims ID:	320-58170-A-6-A	Lab Sample ID:	320-58170-6		
Client ID:	11187072-Western-Solids				
Operator ID:	AJS	ALS Bottle#:	16	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 1

Processing Integration Results

RT: 31.76
Area: 24214
Amount: 0.202799
Amount Units: pg/ul

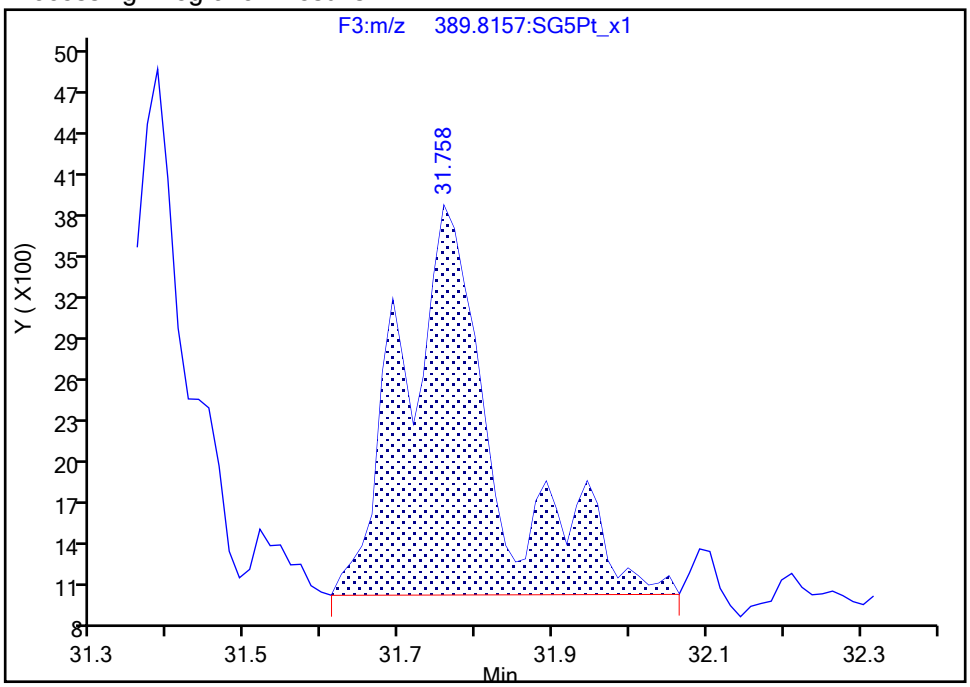

Manual Integration Results

RT: 31.76
Area: 19413
Amount: 0.164968
Amount Units: pg/ul

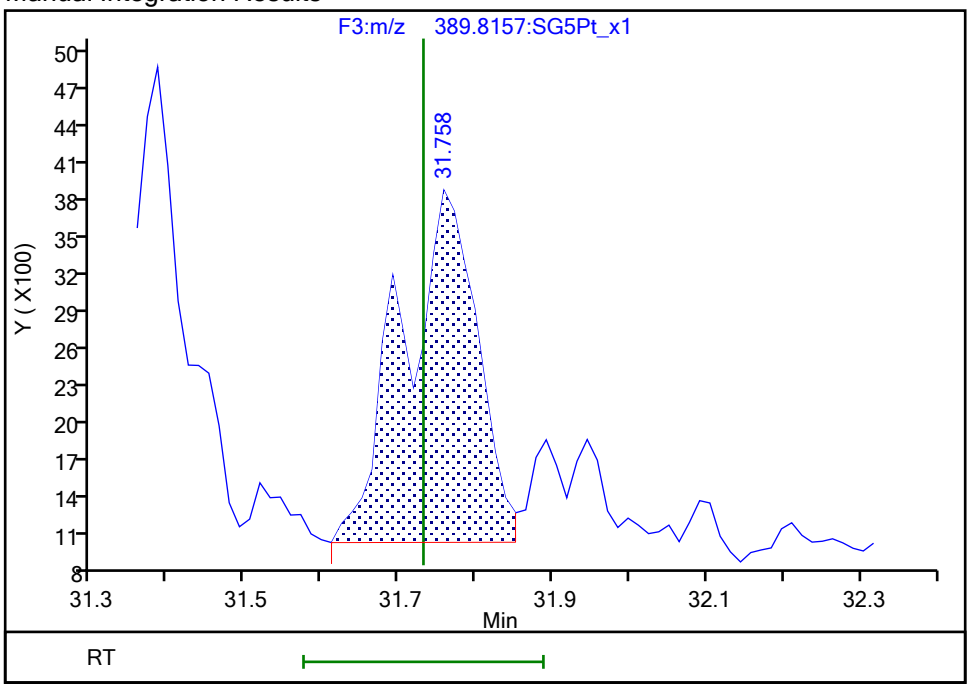

Reviewer: dadunj, 10-Feb-2020 09:38:10

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d				
Injection Date:	06-Feb-2020 20:46:50	Instrument ID:	10D5		
Lims ID:	320-58170-A-6-A	Lab Sample ID:	320-58170-6		
Client ID:	11187072-Western-Solids				
Operator ID:	AJS	ALS Bottle#:	16	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 2

Processing Integration Results

RT: 31.72
Area: 22563
Amount: 0.202799
Amount Units: pg/ul

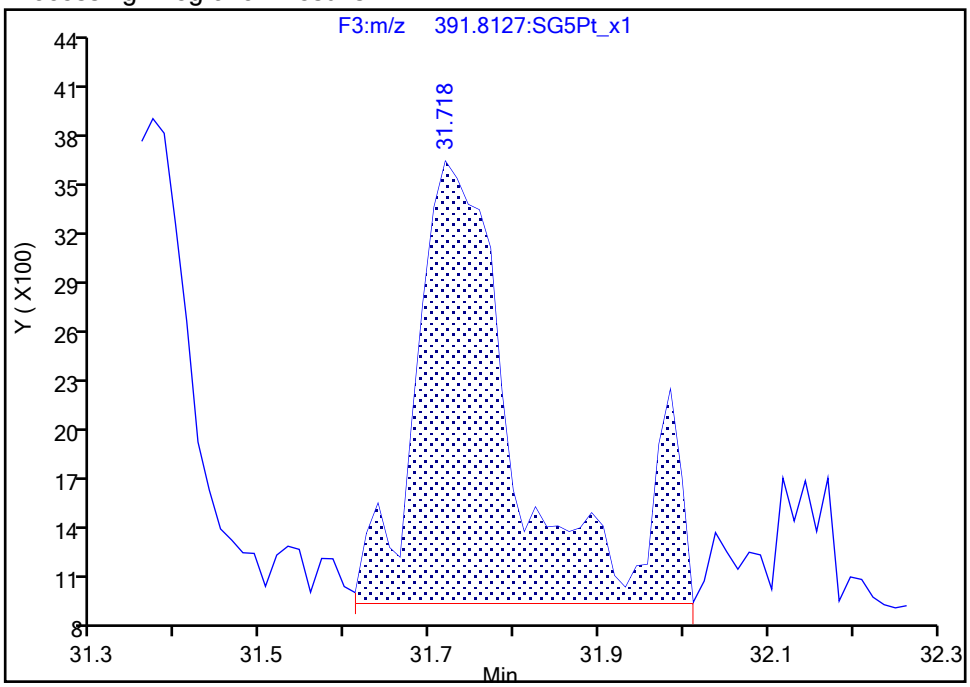

Manual Integration Results

RT: 31.72
Area: 18638
Amount: 0.164968
Amount Units: pg/ul

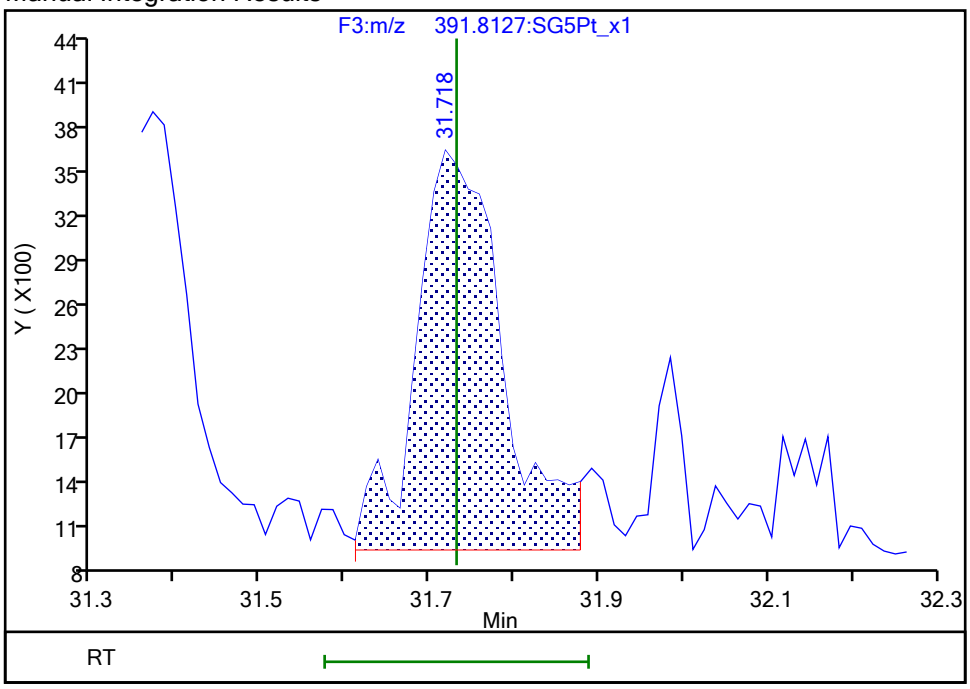

Reviewer: dadunj, 10-Feb-2020 09:38:13

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d				
Injection Date:	06-Feb-2020 20:46:50	Instrument ID:	10D5		
Lims ID:	320-58170-A-6-A	Lab Sample ID:	320-58170-6		
Client ID:	11187072-Western-Solids				
Operator ID:	AJS	ALS Bottle#:	16	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

Non-2,3,7,8-sub-HxCDD, Signal: 1, m/z: 389.8157, RT: (28.40- 31.71)

Signal: 1

Processing Integration Results

RT = 28.510 Area = 81542

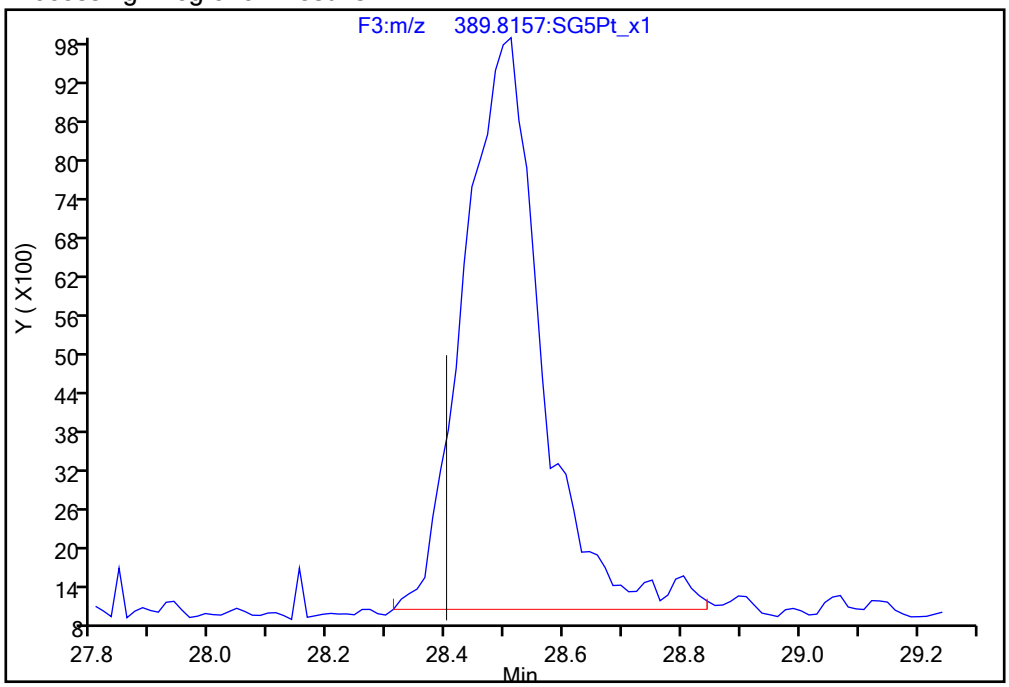

Manual Integration Results

RT = 28.510 Area = 79462 M

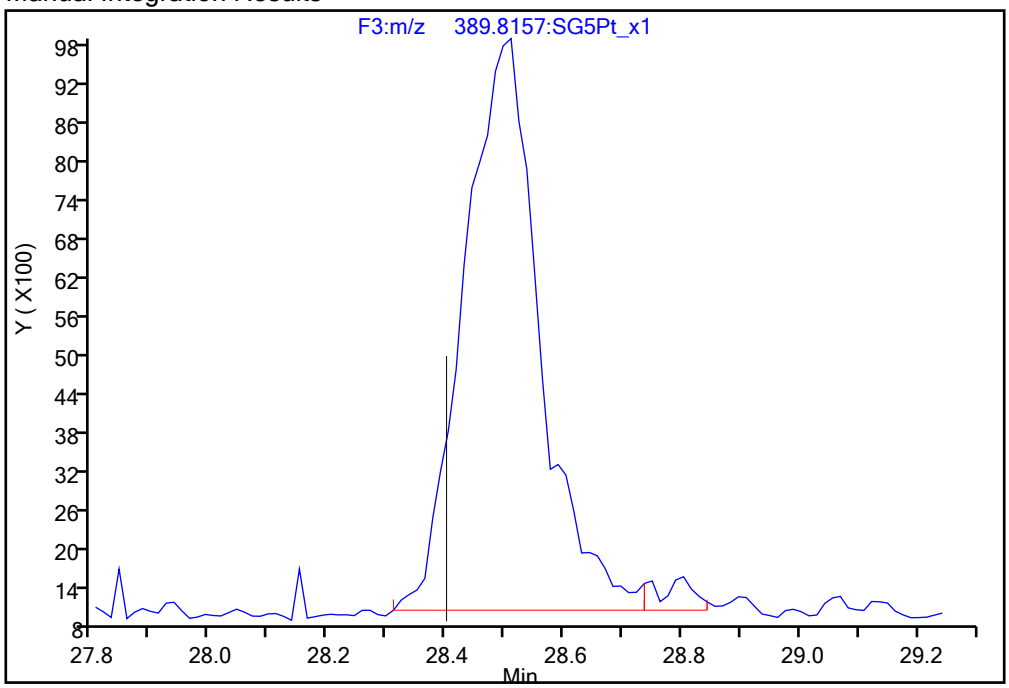

Reviewer: dadunj, 10-Feb-2020 09:38:17

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d				
Injection Date:	06-Feb-2020 20:46:50	Instrument ID:	10D5		
Lims ID:	320-58170-A-6-A	Lab Sample ID:	320-58170-6		
Client ID:	11187072-Western-Solids				
Operator ID:	AJS	ALS Bottle#:	16	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 1

Processing Integration Results

RT: 33.47
Area: 108772
Amount: 0.725225
Amount Units: pg/ul

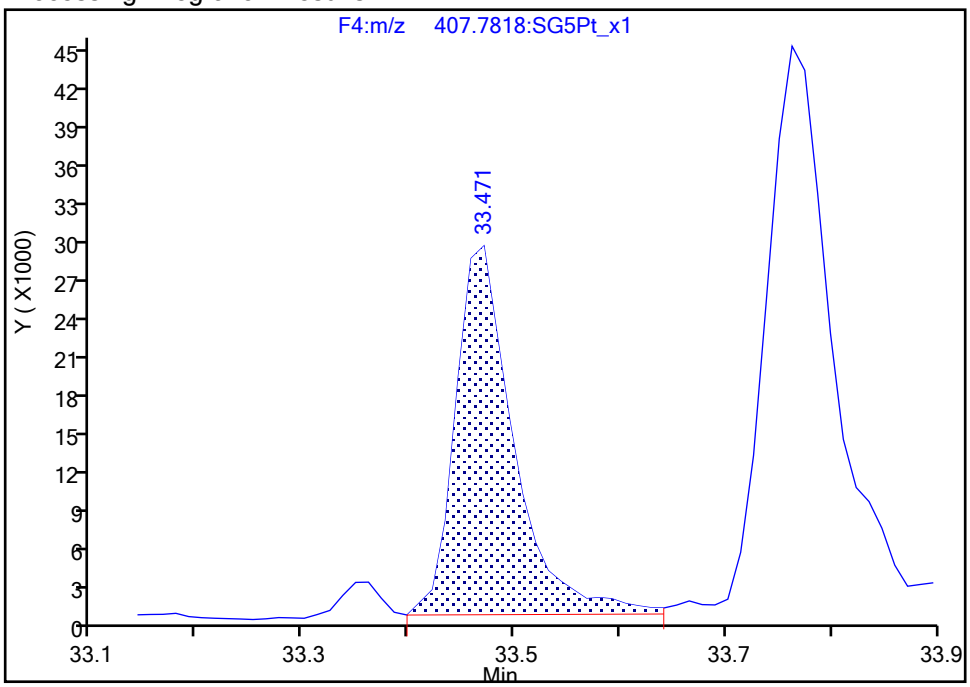

Manual Integration Results

RT: 33.47
Area: 106771
Amount: 0.711090
Amount Units: pg/ul

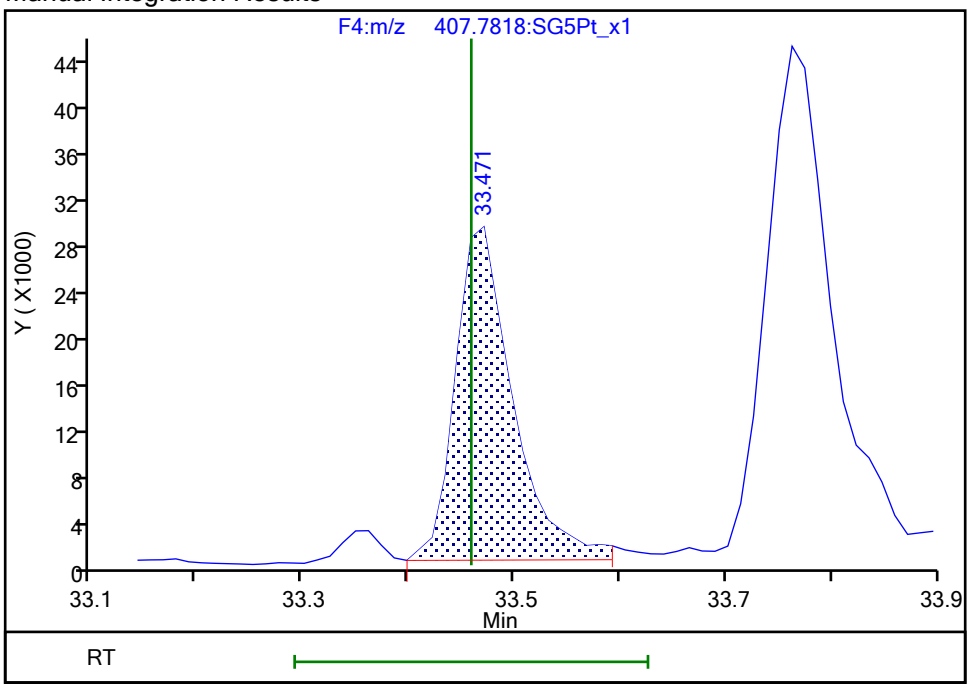

Reviewer: dadunj, 10-Feb-2020 09:38:37

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d				
Injection Date:	06-Feb-2020 20:46:50	Instrument ID:	10D5		
Lims ID:	320-58170-A-6-A	Lab Sample ID:	320-58170-6		
Client ID:	11187072-Western-Solids				
Operator ID:	AJS	ALS Bottle#:	16	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 2

Processing Integration Results

RT: 33.47
Area: 92774
Amount: 0.725225
Amount Units: pg/ul

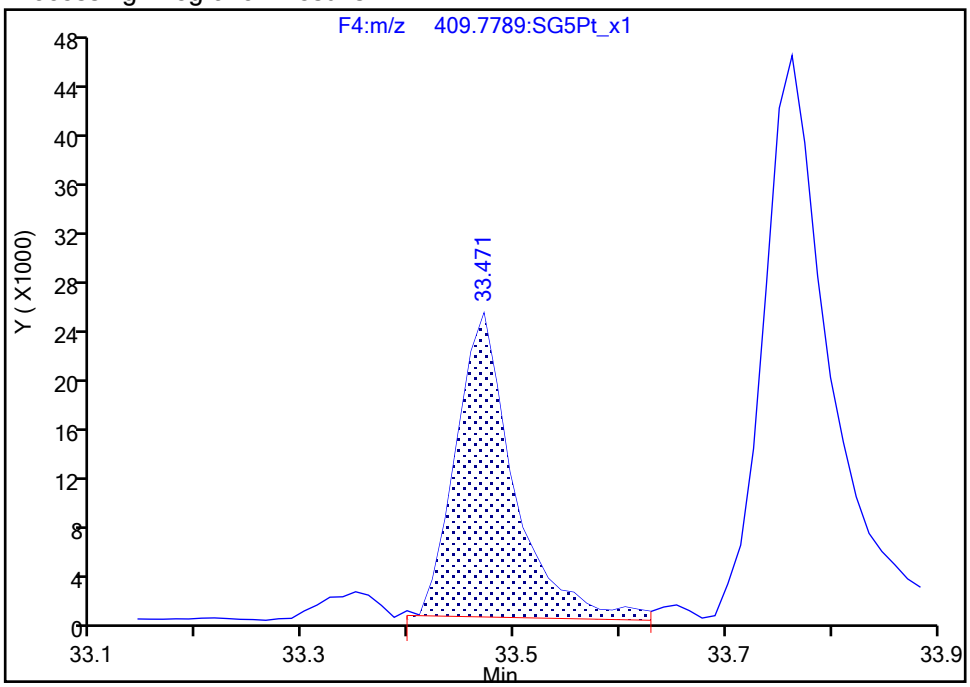

Manual Integration Results

RT: 33.47
Area: 90847
Amount: 0.711090
Amount Units: pg/ul

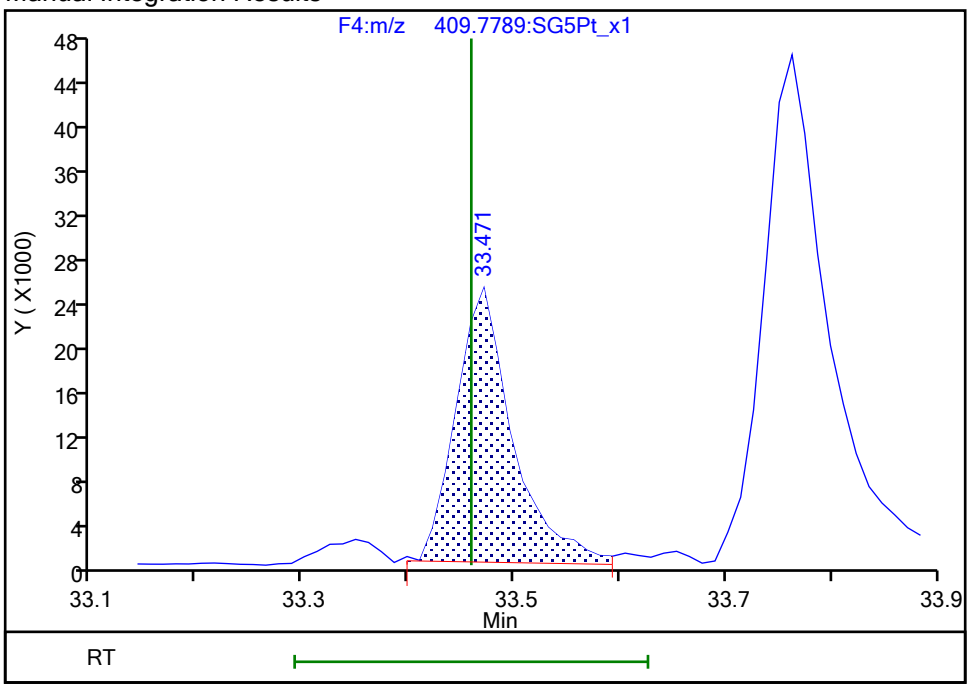

Reviewer: dadunj, 10-Feb-2020 09:38:39

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d				
Injection Date:	06-Feb-2020 20:46:50	Instrument ID:	10D5		
Lims ID:	320-58170-A-6-A	Lab Sample ID:	320-58170-6		
Client ID:	11187072-Western-Solids				
Operator ID:	AJS	ALS Bottle#:	16	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

Non-2,3,7,8-sub-HpCDF, Signal: 1, m/z: 407.7818, RT: (33.43- 34.56)

Signal: 1

Processing Integration Results

RT = 33.763 Area = 204588

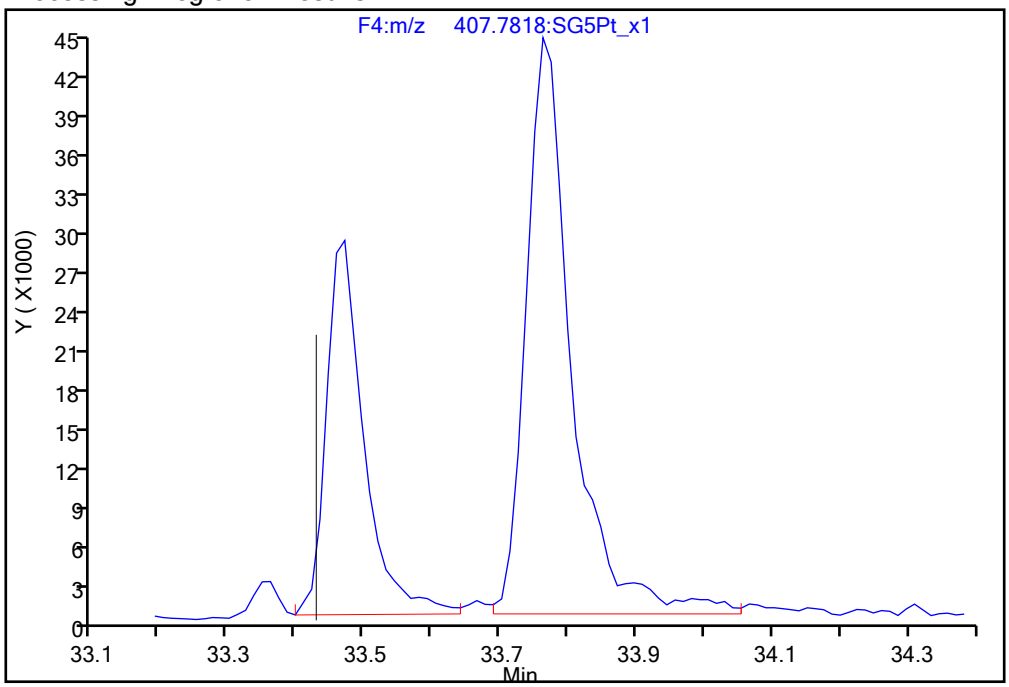

Manual Integration Results

RT = 33.763 Area = 192072 M

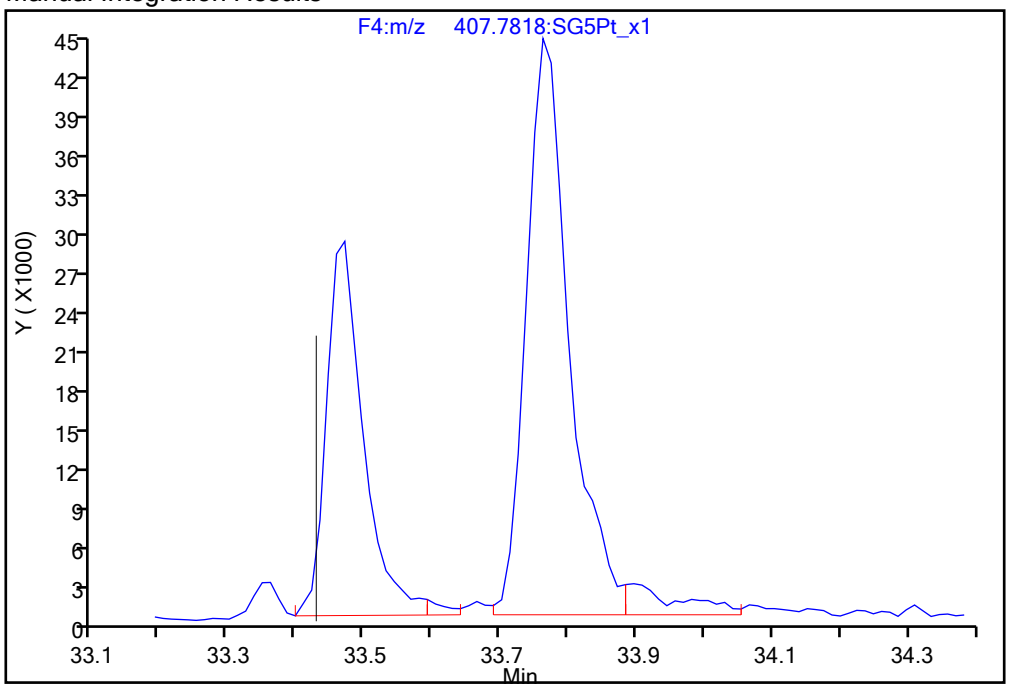

Reviewer: dadunj, 10-Feb-2020 09:38:45

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d				
Injection Date:	06-Feb-2020 20:46:50	Instrument ID:	10D5		
Lims ID:	320-58170-A-6-A	Lab Sample ID:	320-58170-6		
Client ID:	11187072-Western-Solids				
Operator ID:	AJS	ALS Bottle#:	16	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

Non-2,3,7,8-sub-HpCDF, Signal: 2, m/z: 409.7789, RT: (33.43- 34.56)

Signal: 2

Processing Integration Results

RT = 33.763 Area = 205629

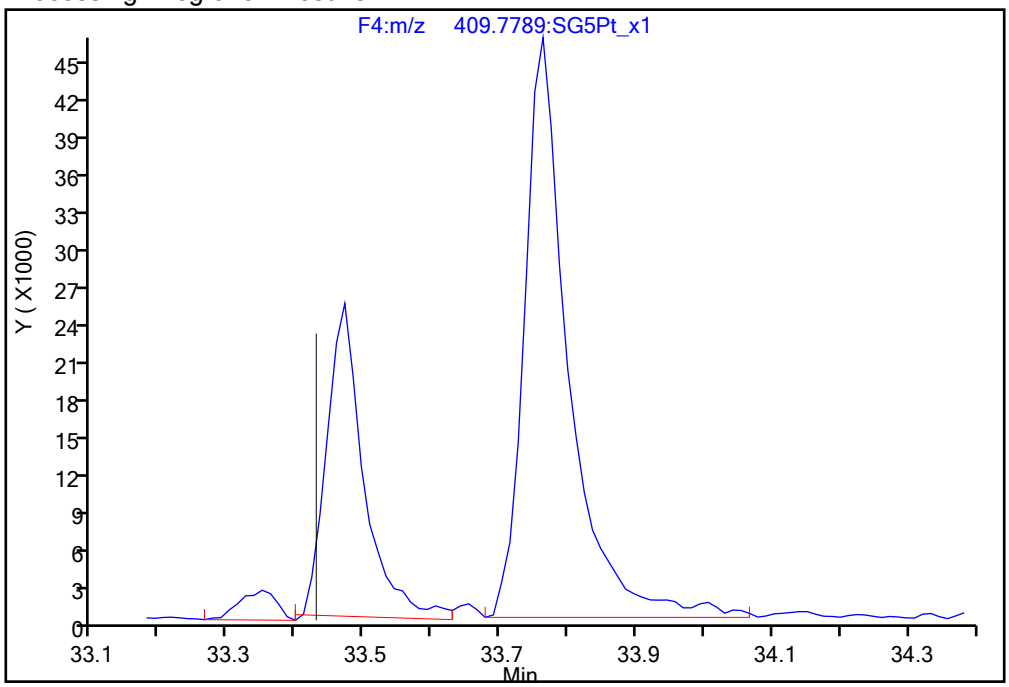

Manual Integration Results

RT = 33.763 Area = 194007 M

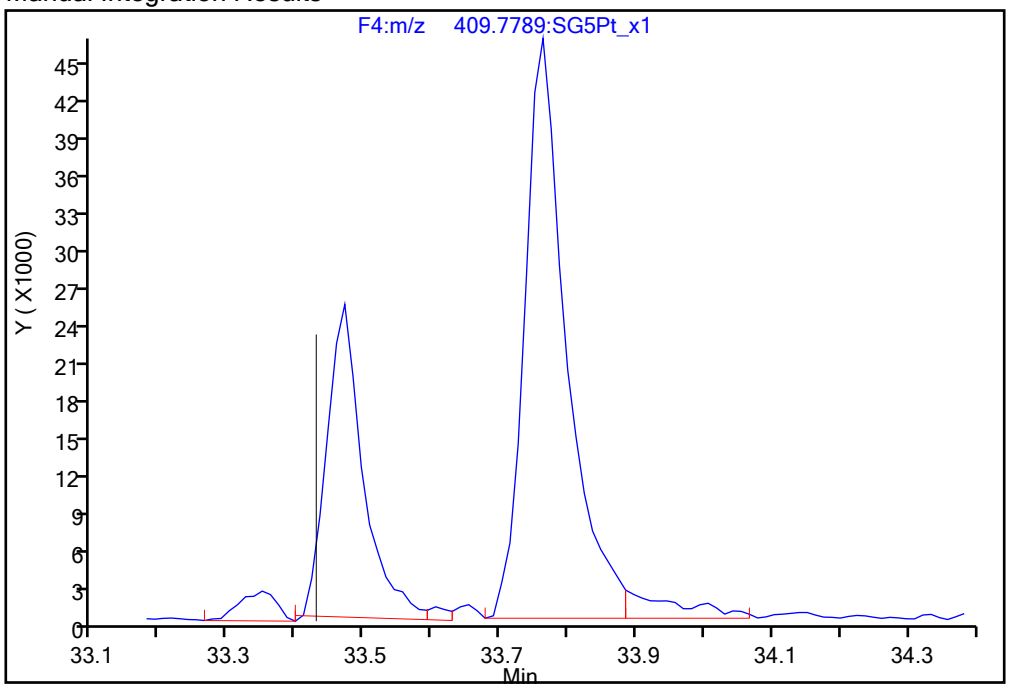

Reviewer: dadunj, 10-Feb-2020 09:38:49

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d				
Injection Date:	06-Feb-2020 20:46:50	Instrument ID:	10D5		
Lims ID:	320-58170-A-6-A	Lab Sample ID:	320-58170-6		
Client ID:	11187072-Western-Solids				
Operator ID:	AJS	ALS Bottle#:	16	Worklist Smp#:	14
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

Non-2,3,7,8-sub-HpCDD, Signal: 1, m/z: 423.7766, RT: (33.66- 34.27)

Signal: 1

Processing Integration Results

RT = 33.714 Area = 964422

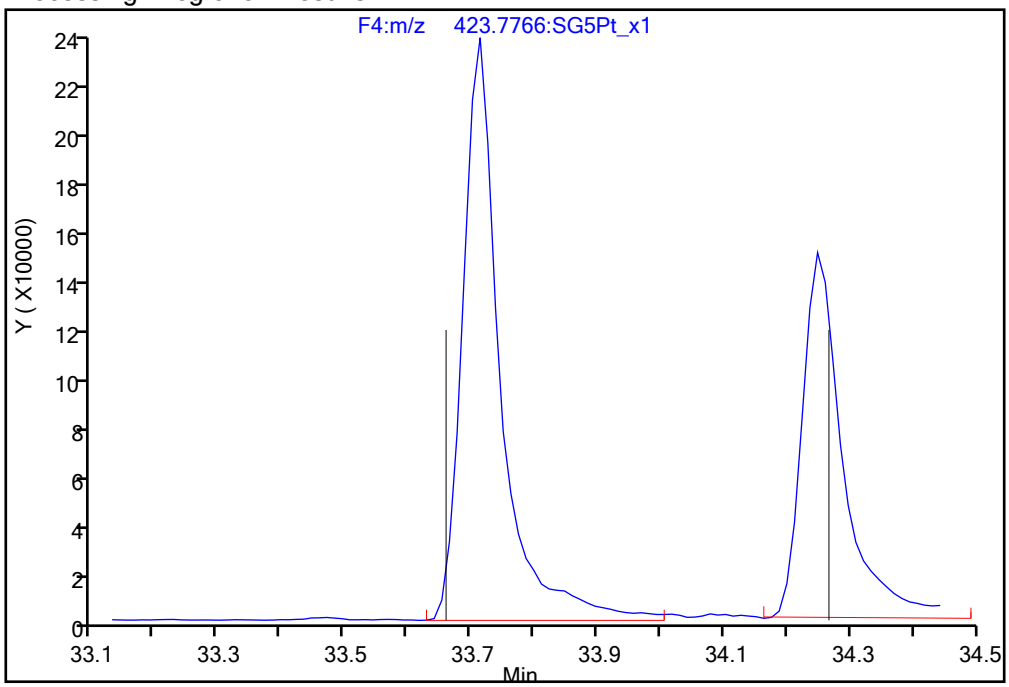

Manual Integration Results

RT = 33.714 Area = 954515 M

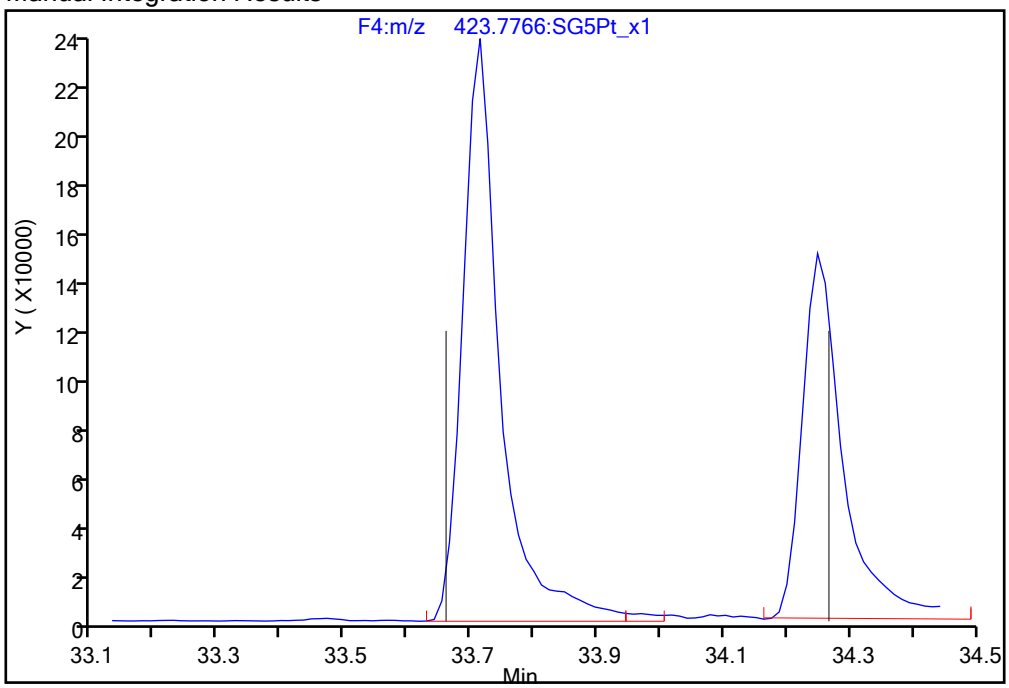

Reviewer: dadunj, 10-Feb-2020 09:38:56

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 10-Feb-2020 09:40:16 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d		
Injection Date:	06-Feb-2020 20:46:50	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Western-Solids		
Worklist#:	355551	Sample Line#:	14
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

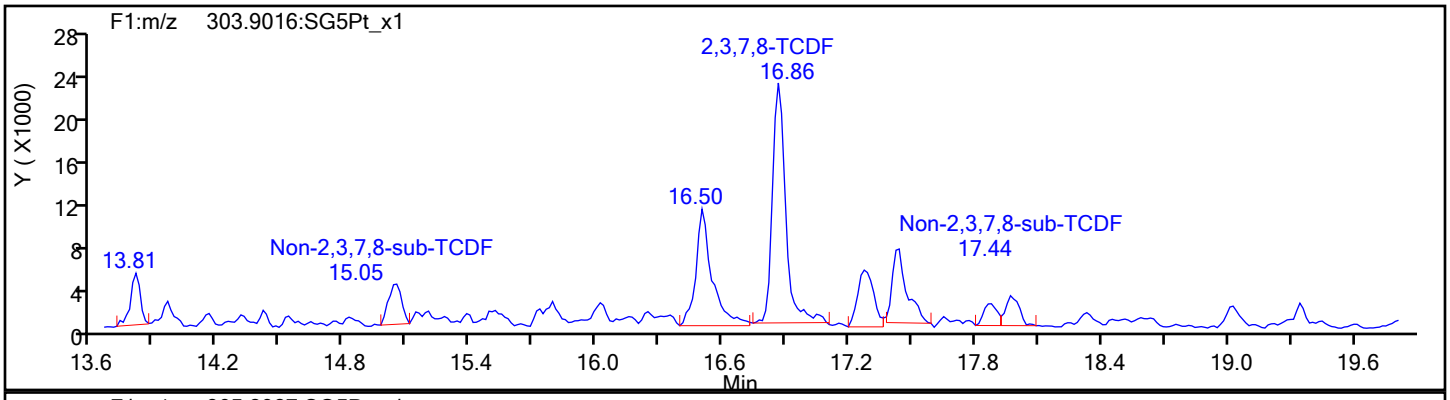

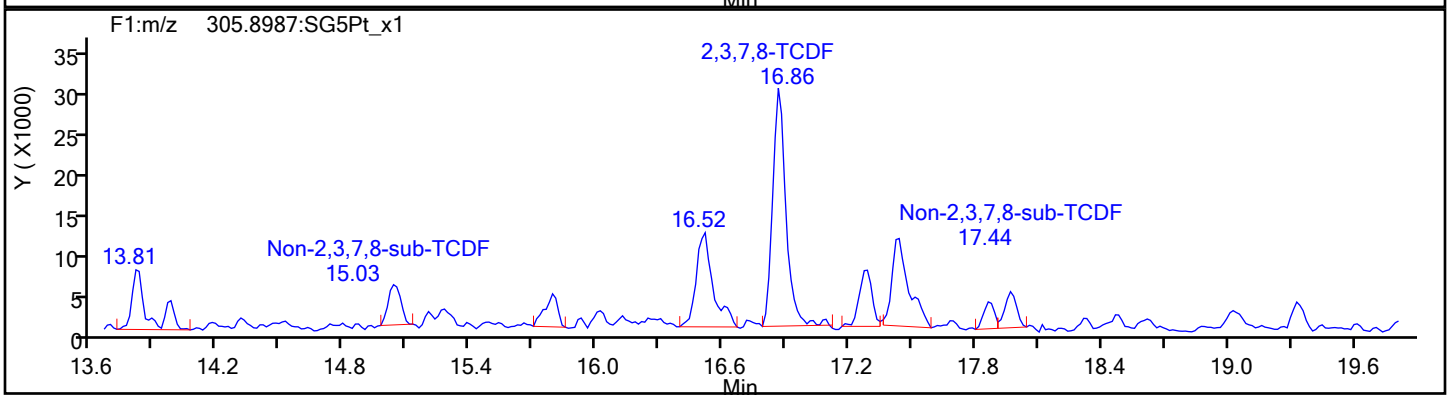

TCDF Standards

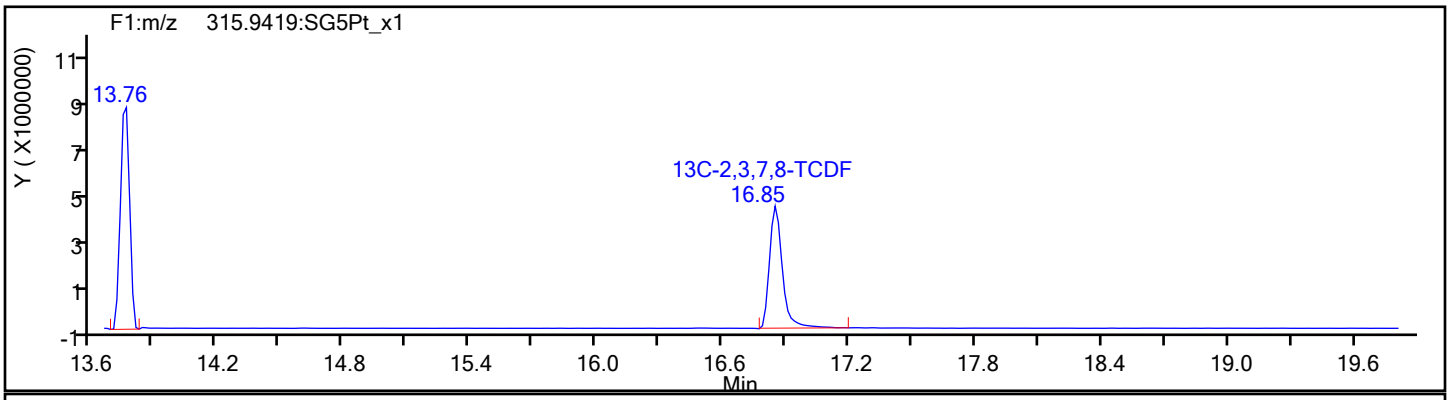

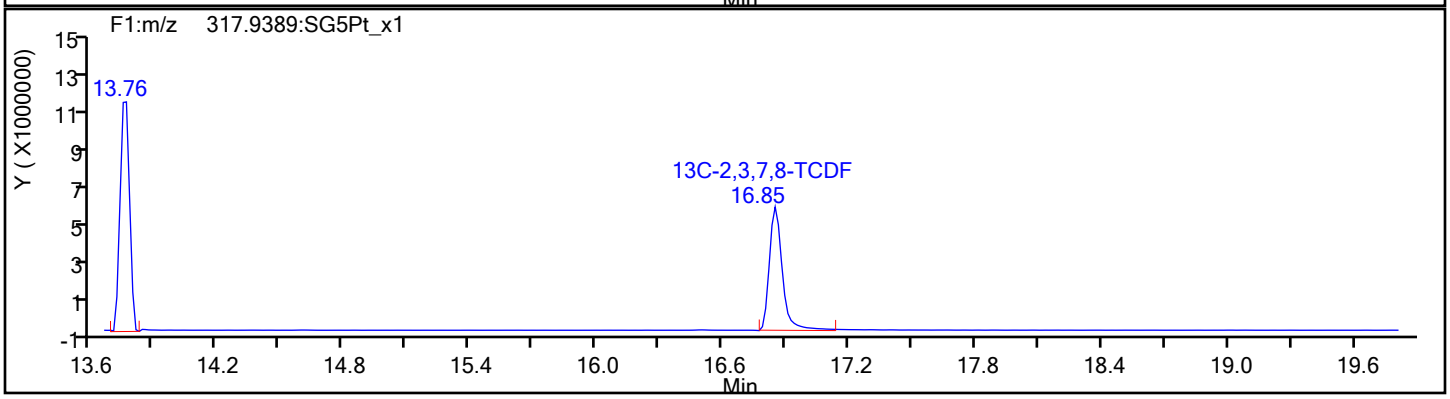

Report Date: 10-Feb-2020 09:40:16 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d		
Injection Date:	06-Feb-2020 20:46:50	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Western-Solids		
Worklist#:	355551	Sample Line#:	14
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

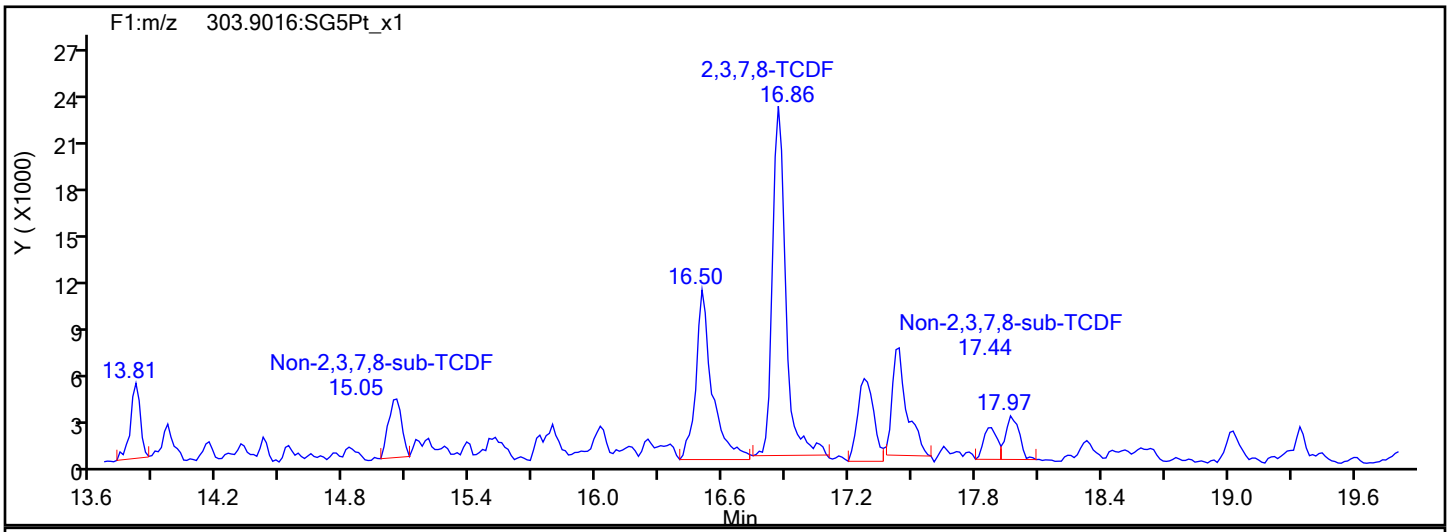

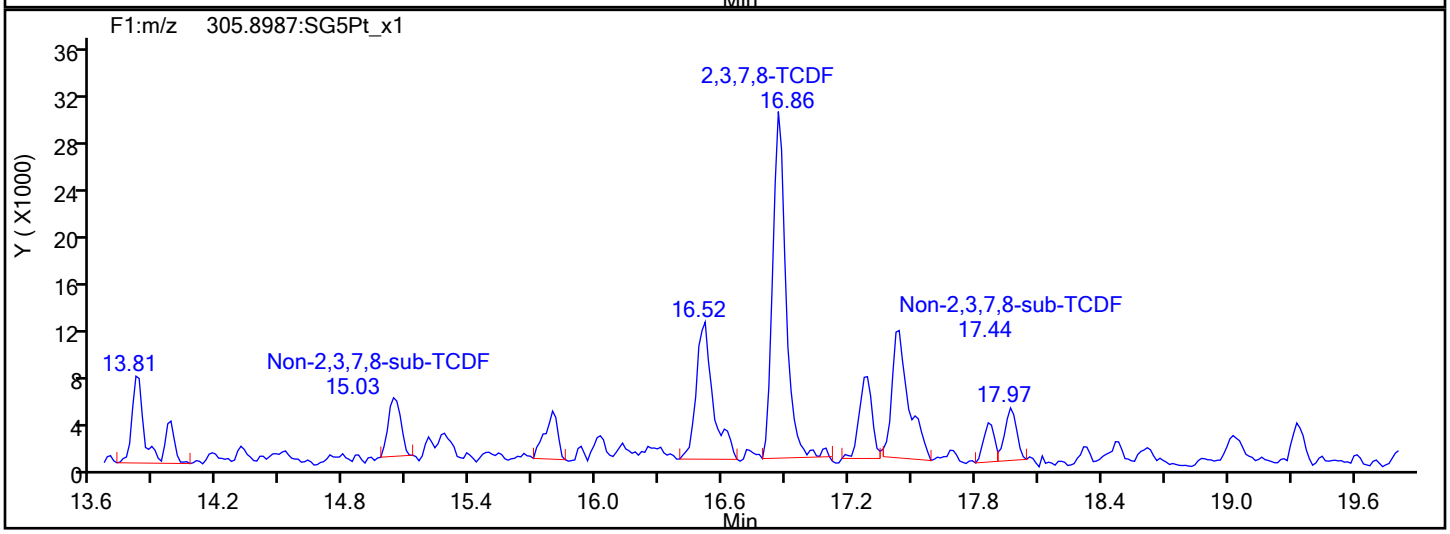

TCDF Interference Mass

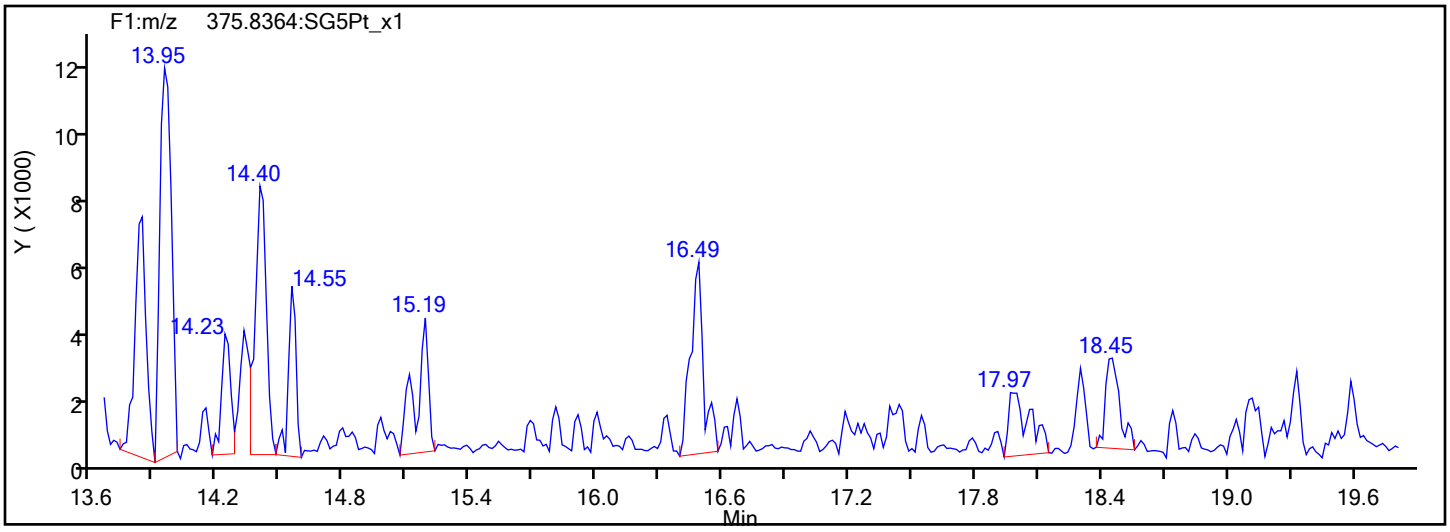

Report Date: 10-Feb-2020 09:40:16 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d		
Injection Date:	06-Feb-2020 20:46:50	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Western-Solids		
Worklist#:	355551	Sample Line#:	14
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

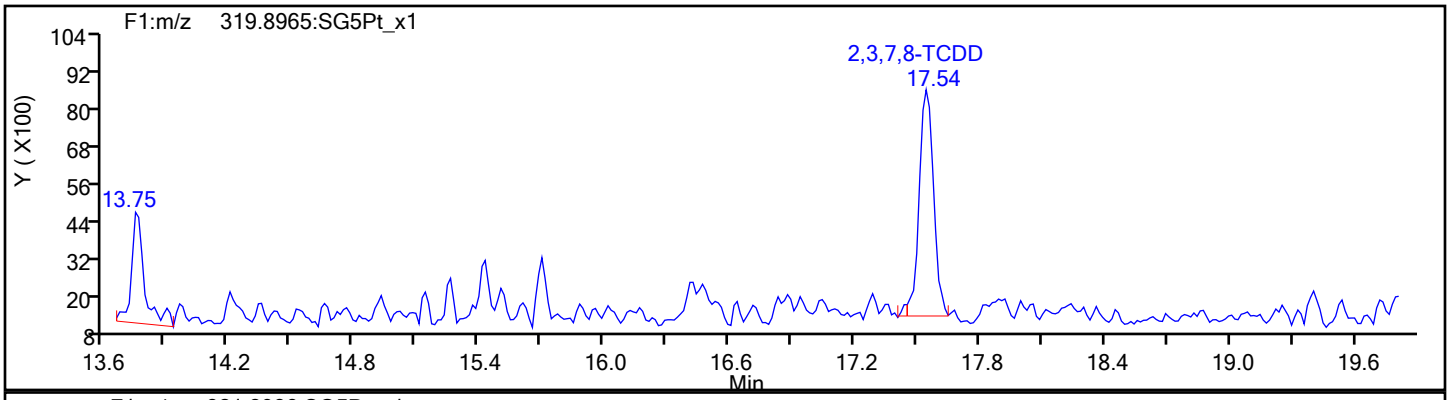

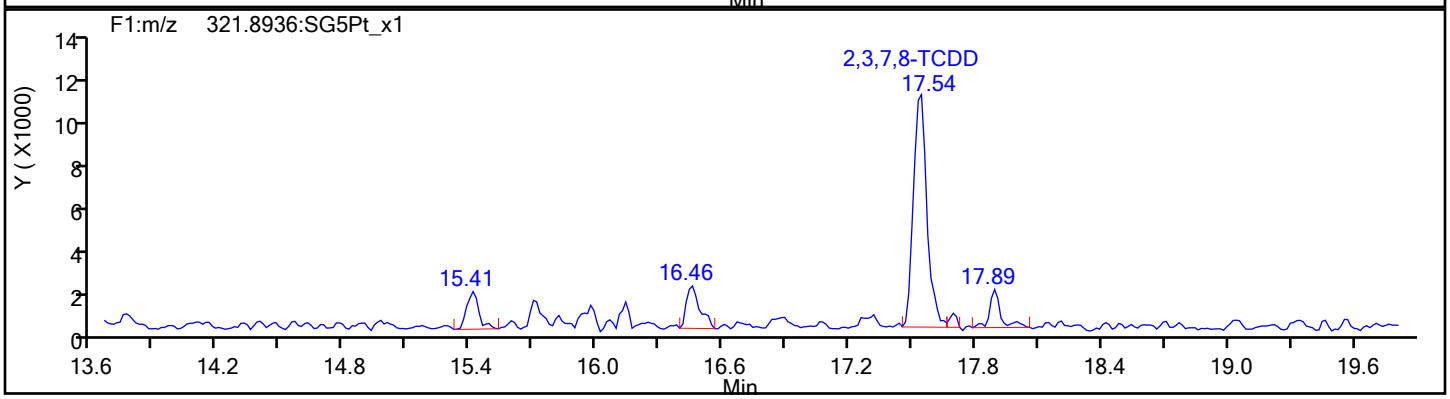

TCDD Standards

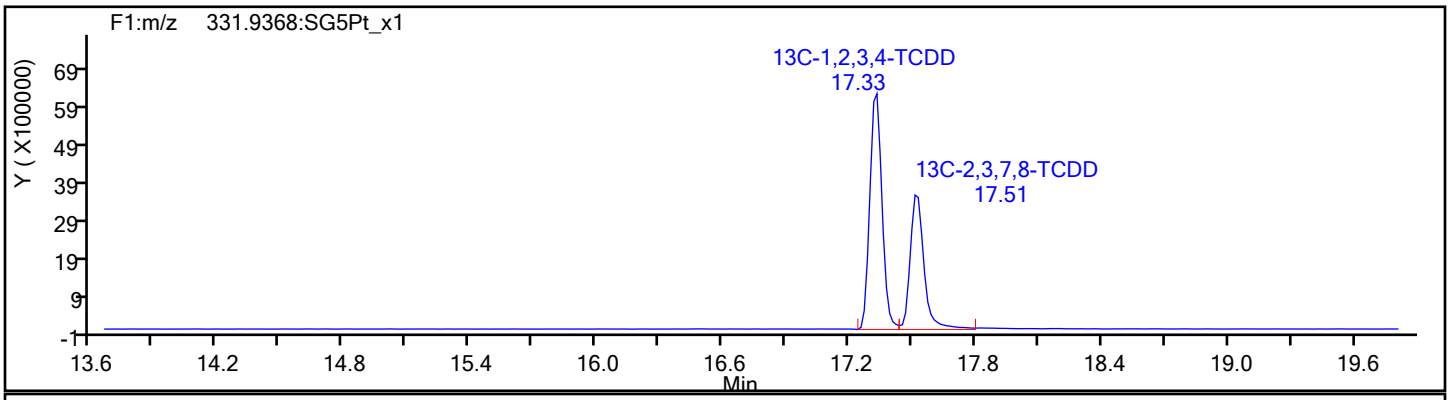

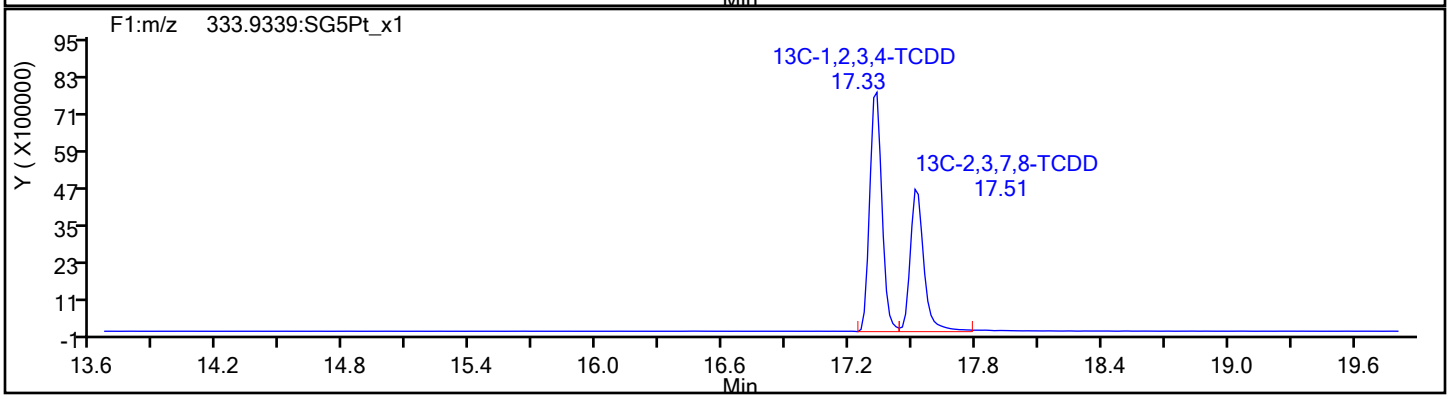

Report Date: 10-Feb-2020 09:40:16 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d		
Injection Date:	06-Feb-2020 20:46:50	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Western-Solids		
Worklist#:	355551	Sample Line#:	14
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

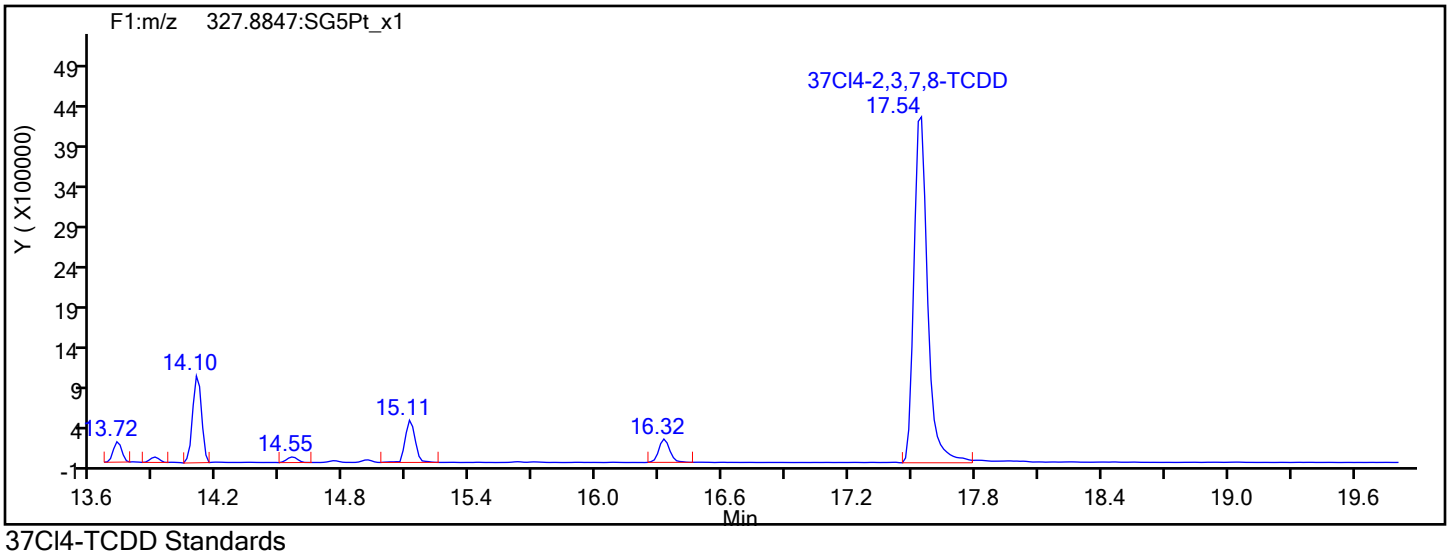

37Cl4-TCDD Standards

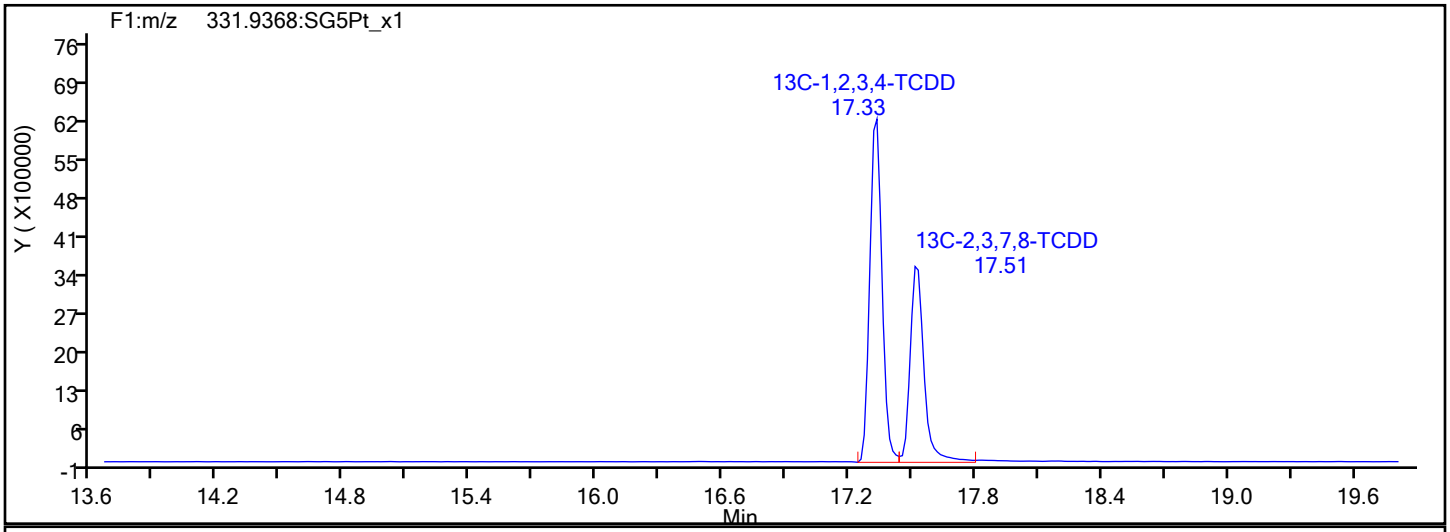

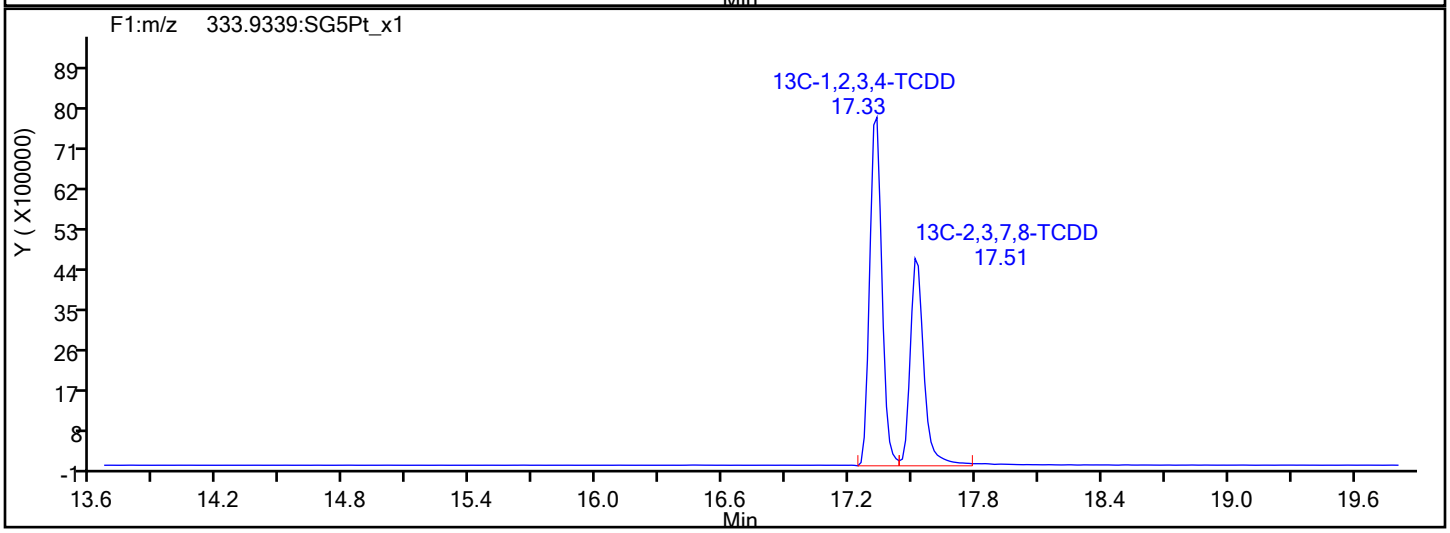

Report Date: 10-Feb-2020 09:40:16 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d		
Injection Date:	06-Feb-2020 20:46:50	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Western-Solids		
Worklist#:	355551	Sample Line#:	14
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

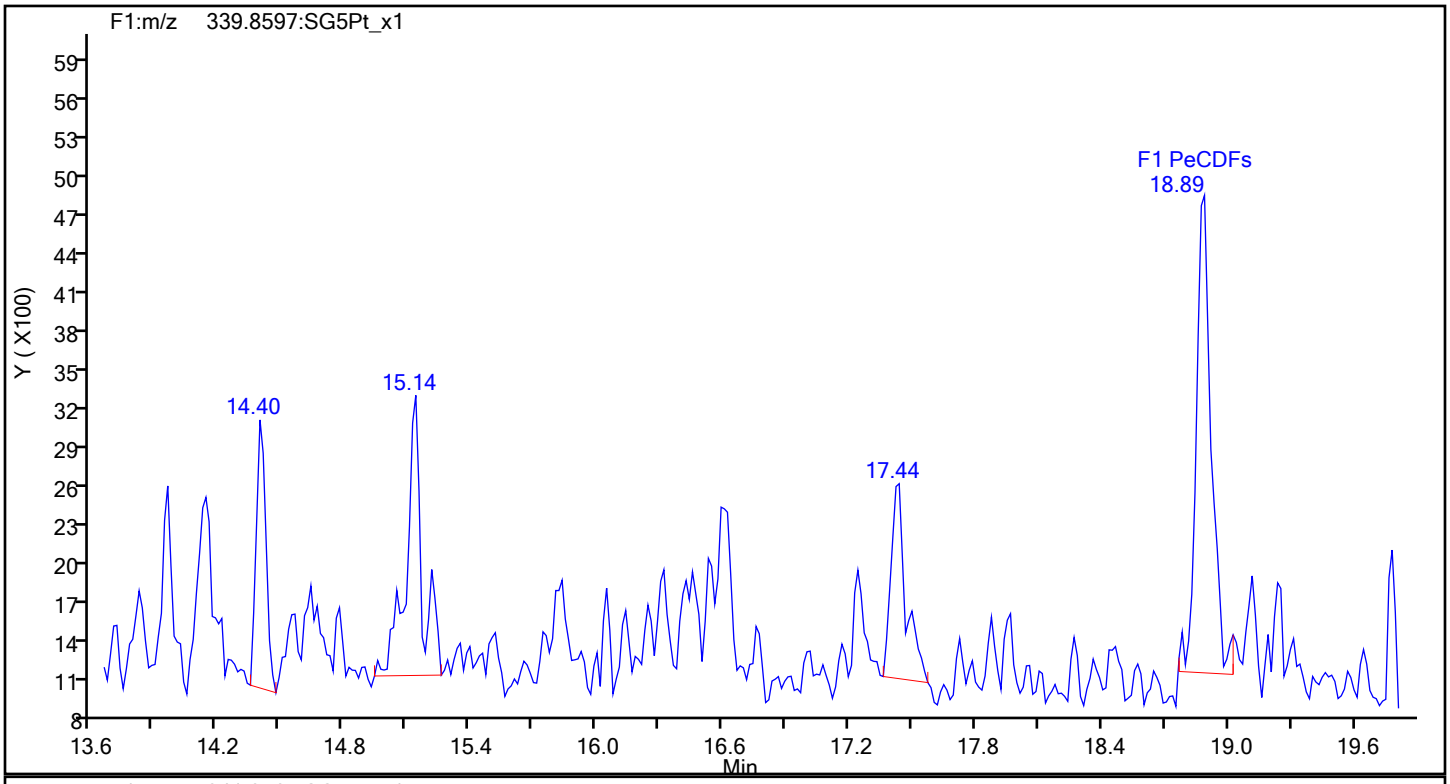

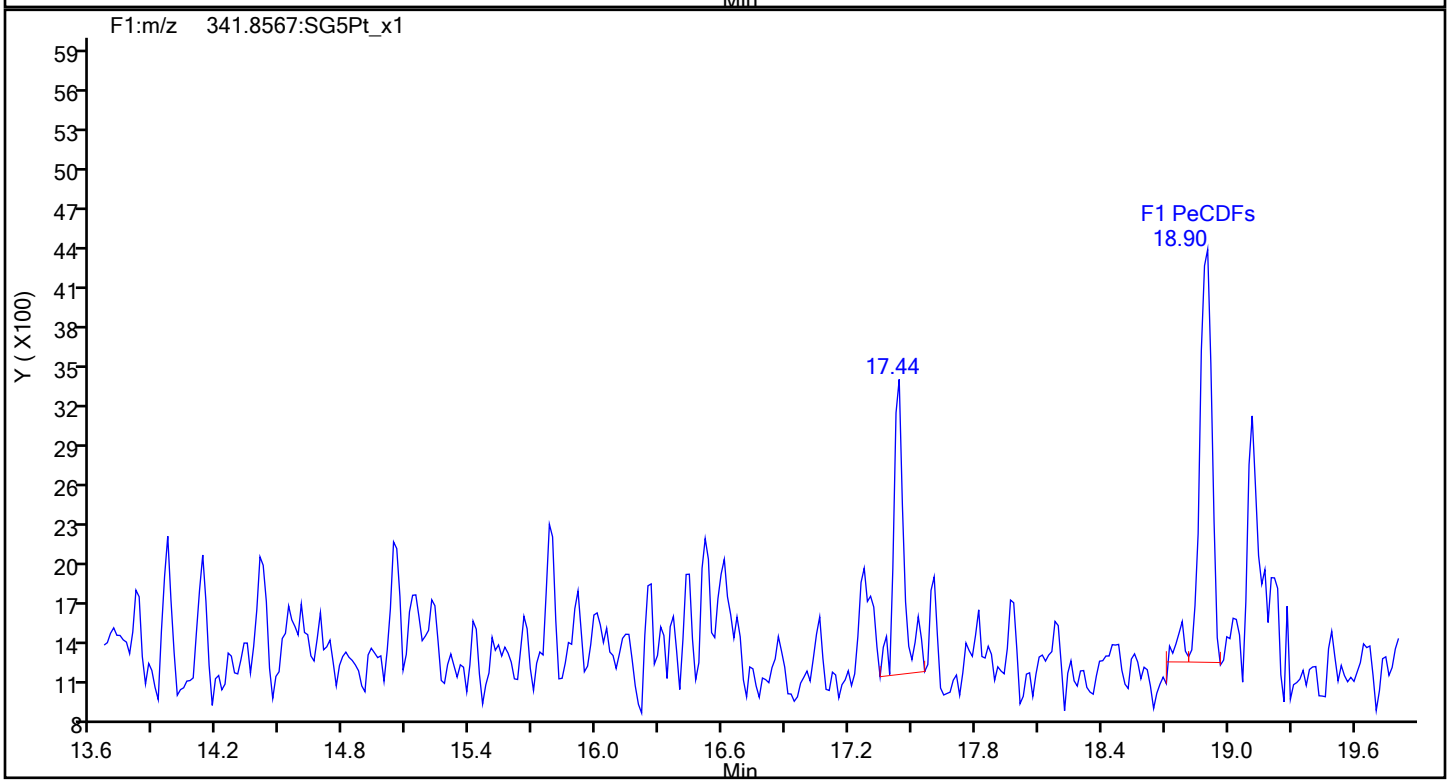

Report Date: 10-Feb-2020 09:40:16 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d		
Injection Date:	06-Feb-2020 20:46:50	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Western-Solids		
Worklist#:	355551	Sample Line#:	14
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

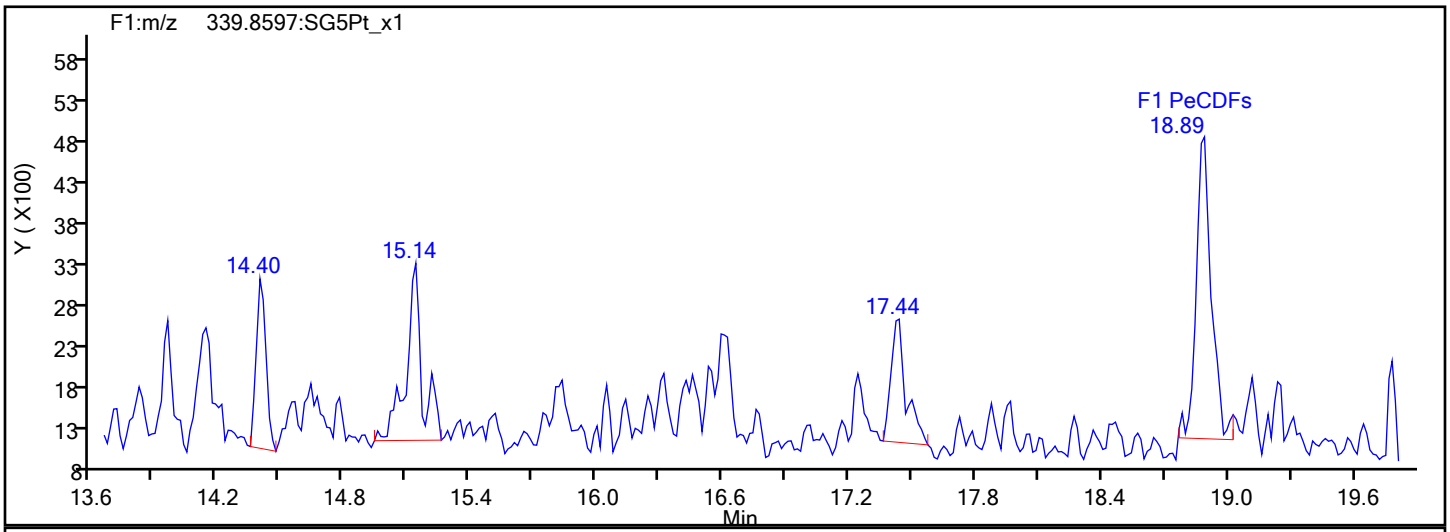

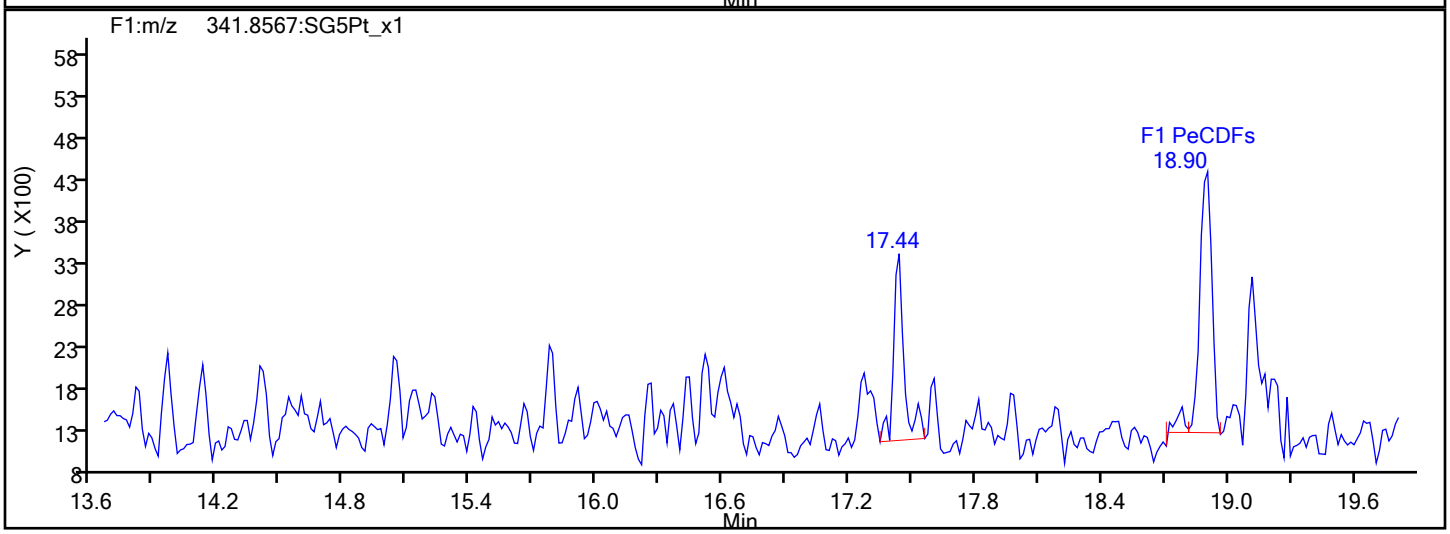

F1 PeCDFs Interference Mass

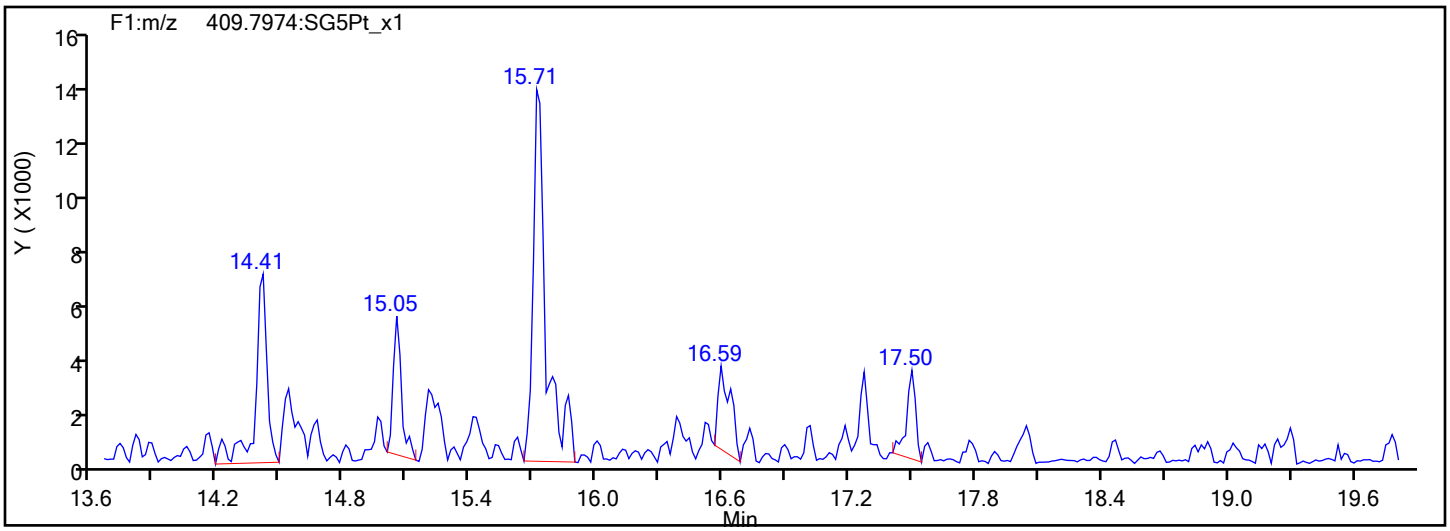

Report Date: 10-Feb-2020 09:40:16 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d		
Injection Date:	06-Feb-2020 20:46:50	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Western-Solids		
Worklist#:	355551	Sample Line#:	14
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

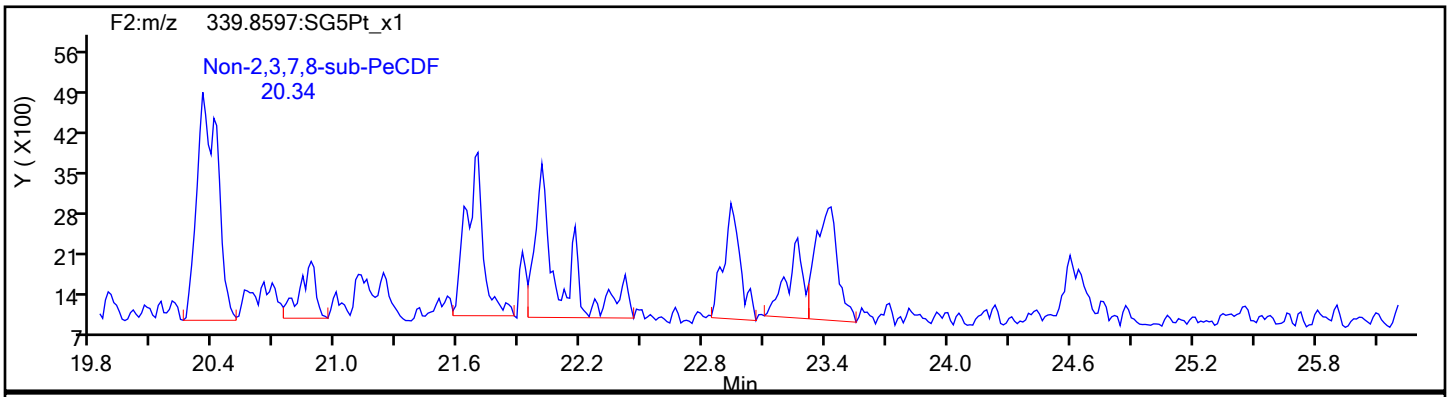

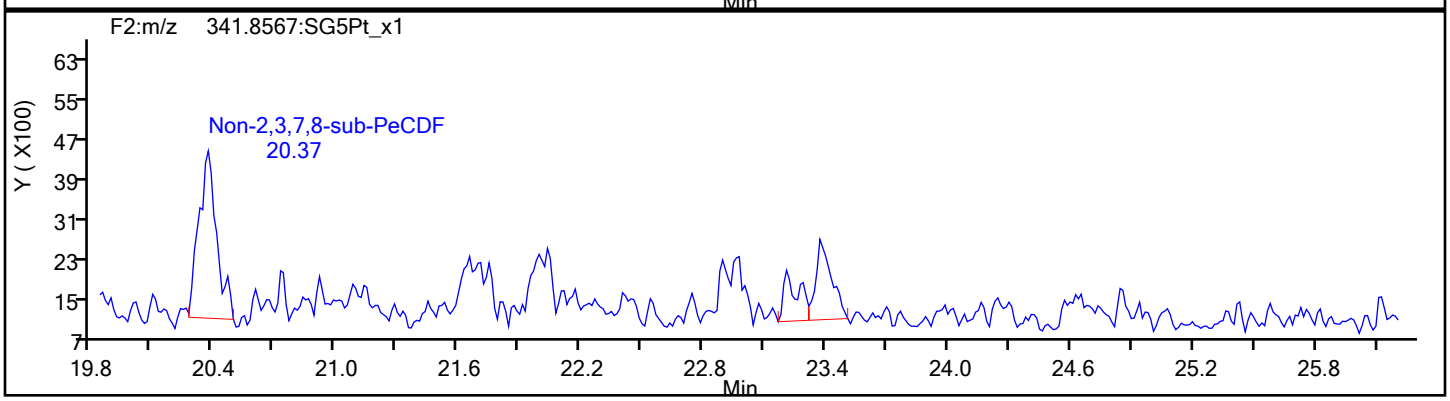

PeCDF Standards

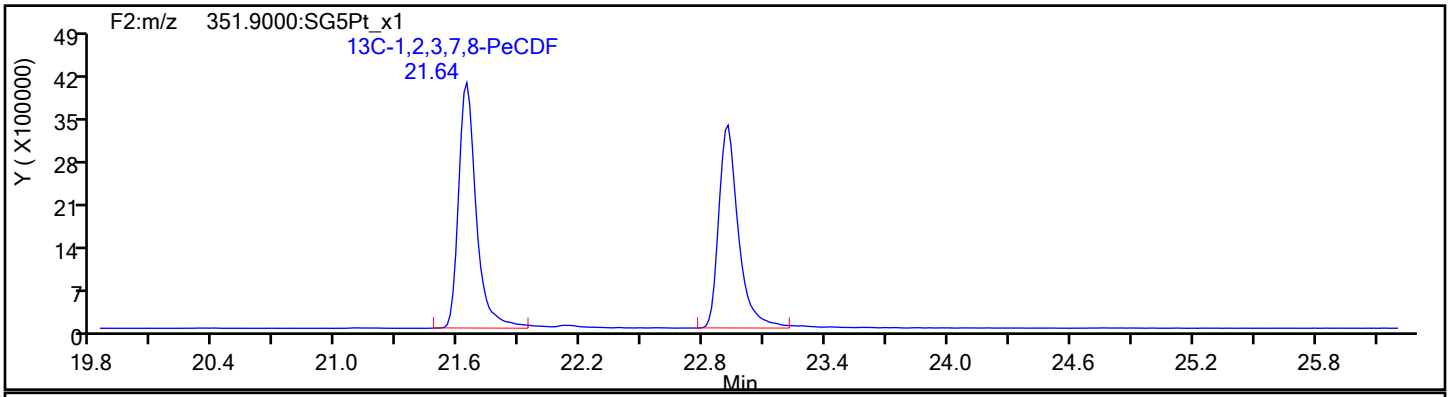

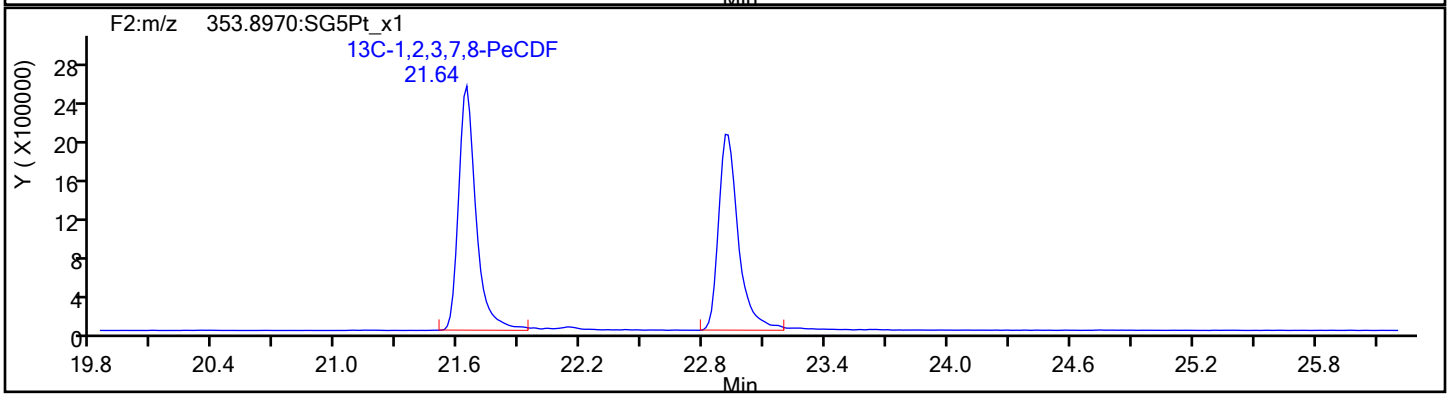

Report Date: 10-Feb-2020 09:40:16 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d		
Injection Date:	06-Feb-2020 20:46:50	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Worklist#:	355551	Sample Line#:	14
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

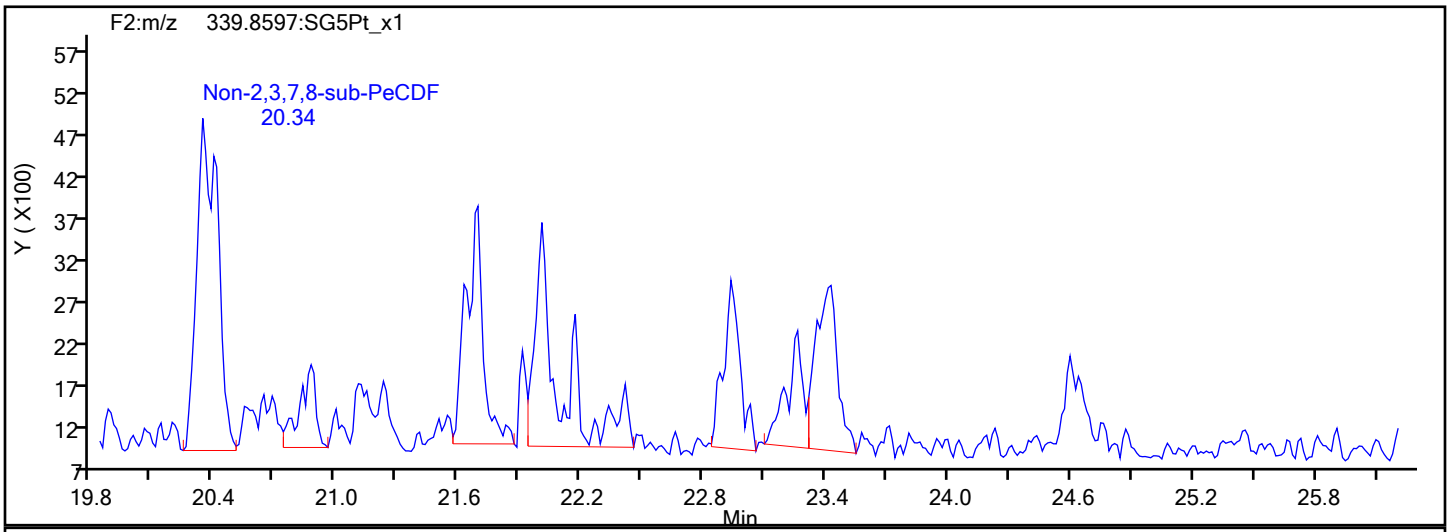

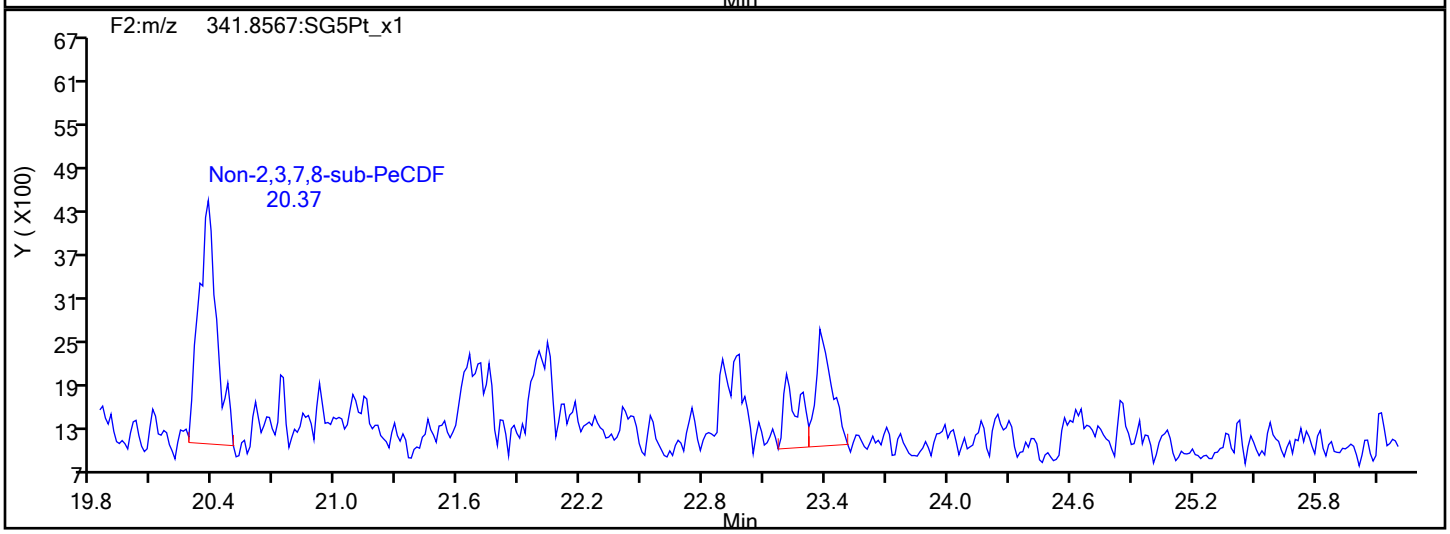

PeCDF Interference Mass

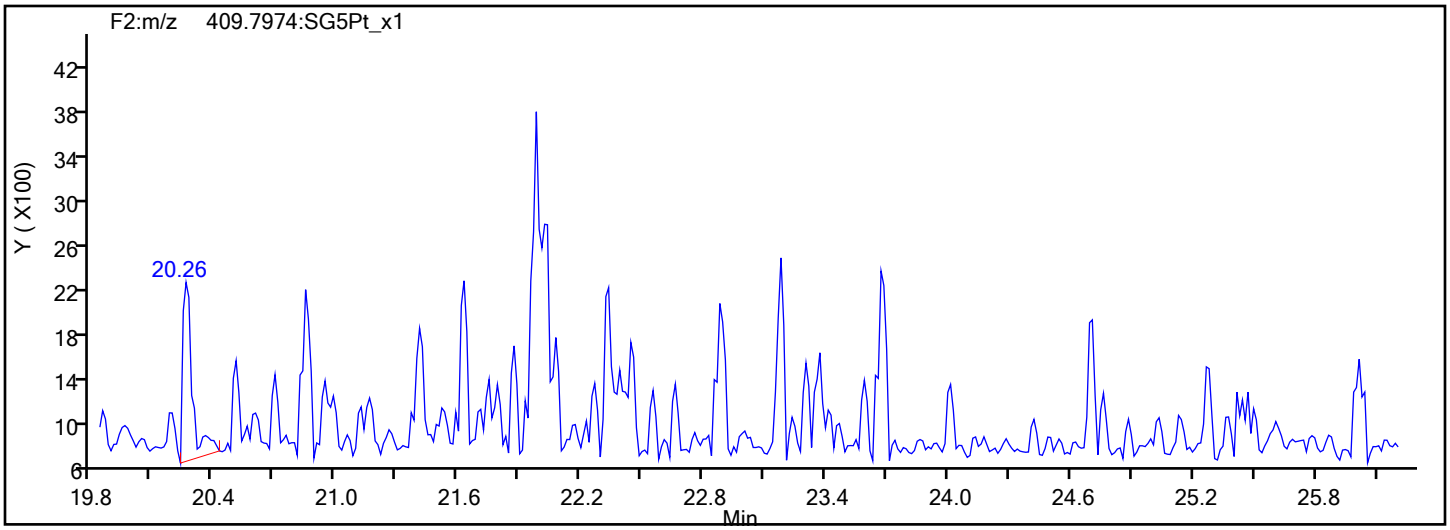

Report Date: 10-Feb-2020 09:40:17 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d		
Injection Date:	06-Feb-2020 20:46:50	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Western-Solids		
Worklist#:	355551	Sample Line#:	14
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

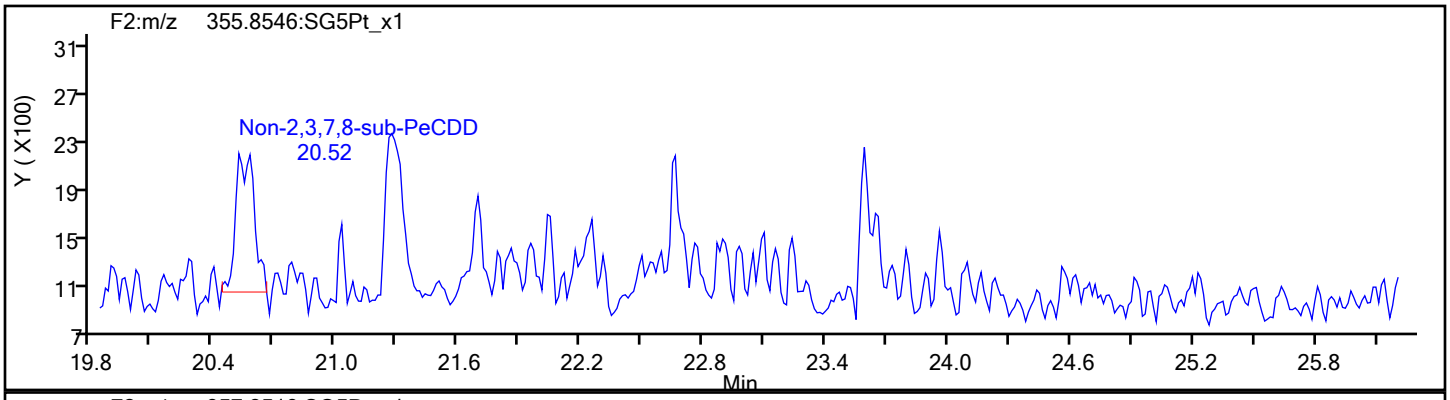

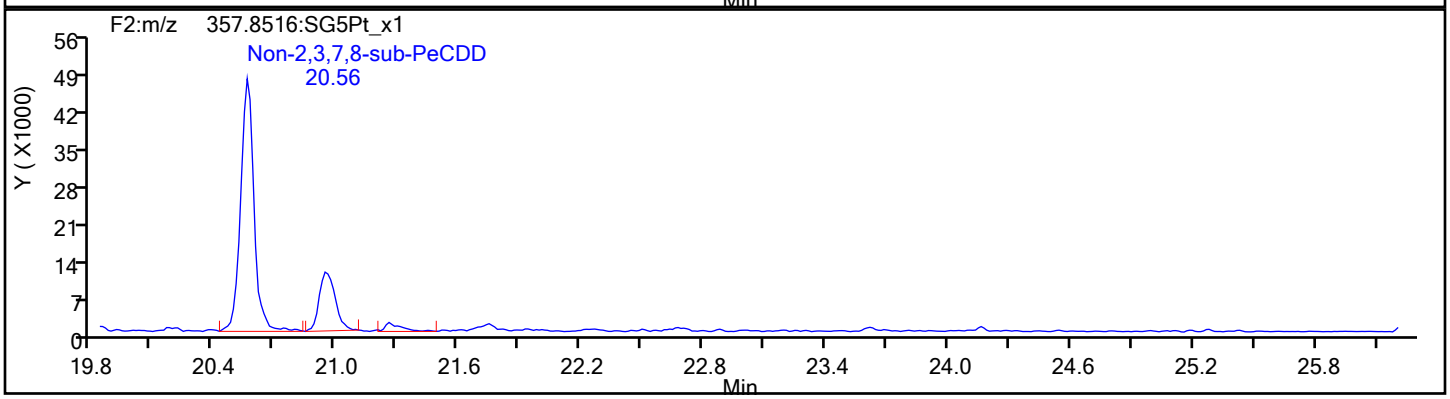

PeCDD Standards

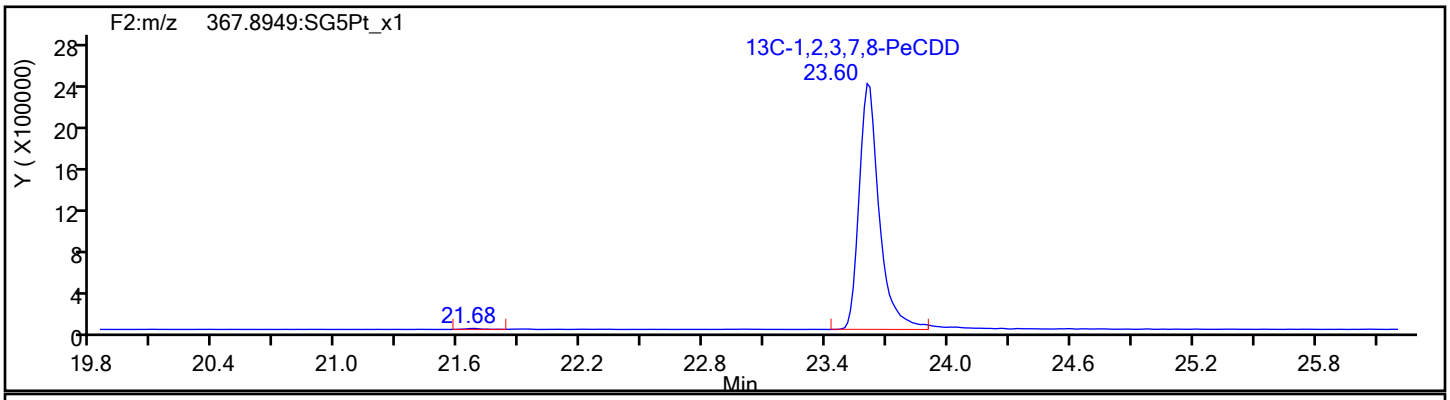

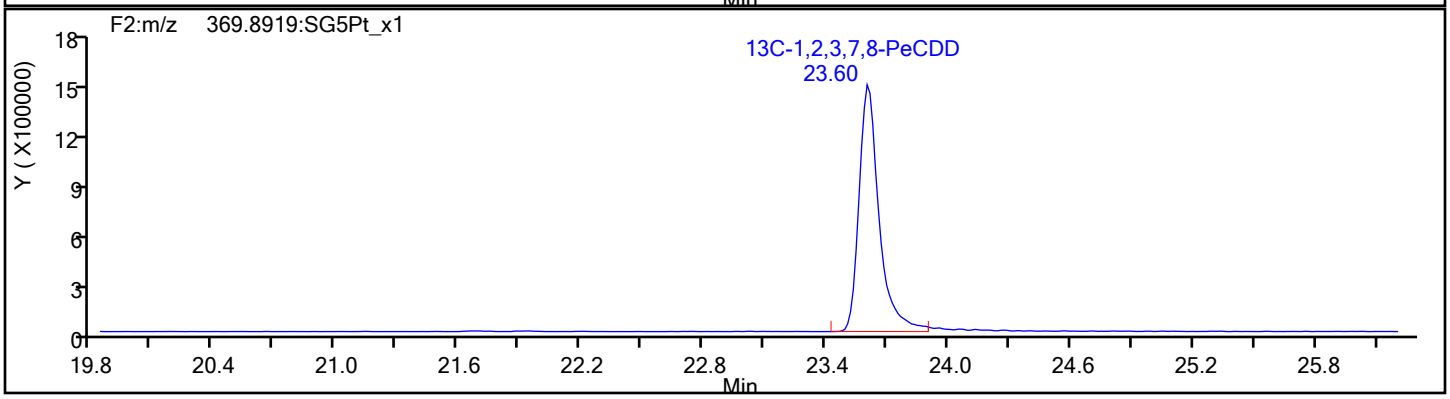

Report Date: 10-Feb-2020 09:40:17 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d		
Injection Date:	06-Feb-2020 20:46:50	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Western-Solids		
Worklist#:	355551	Sample Line#:	14
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

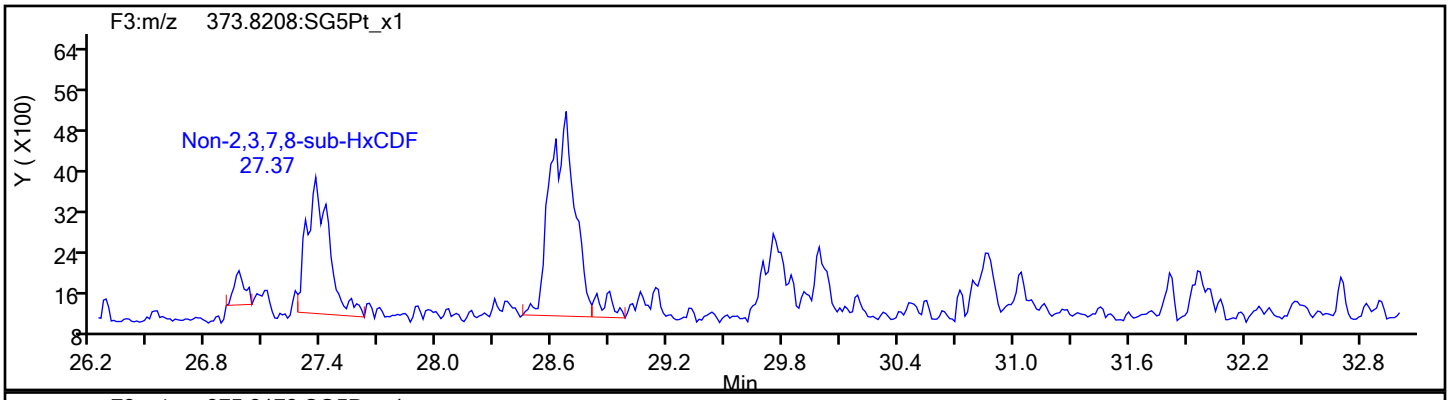

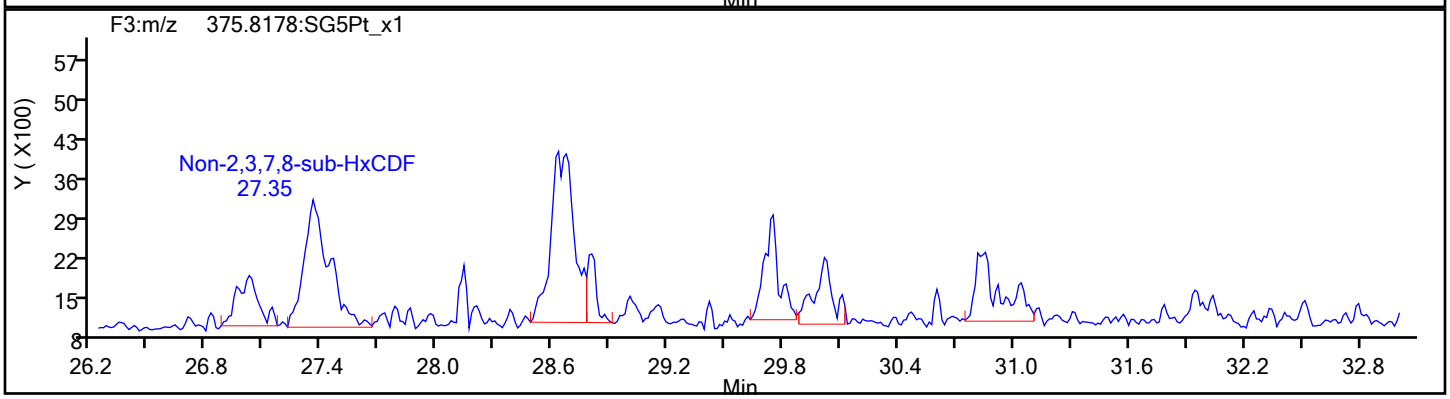

HxCDF Standards

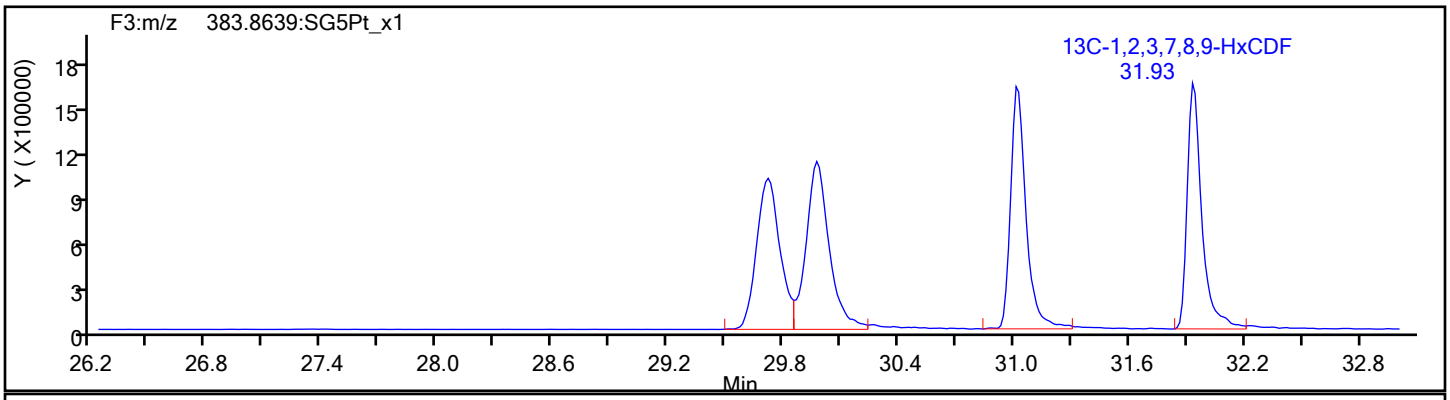

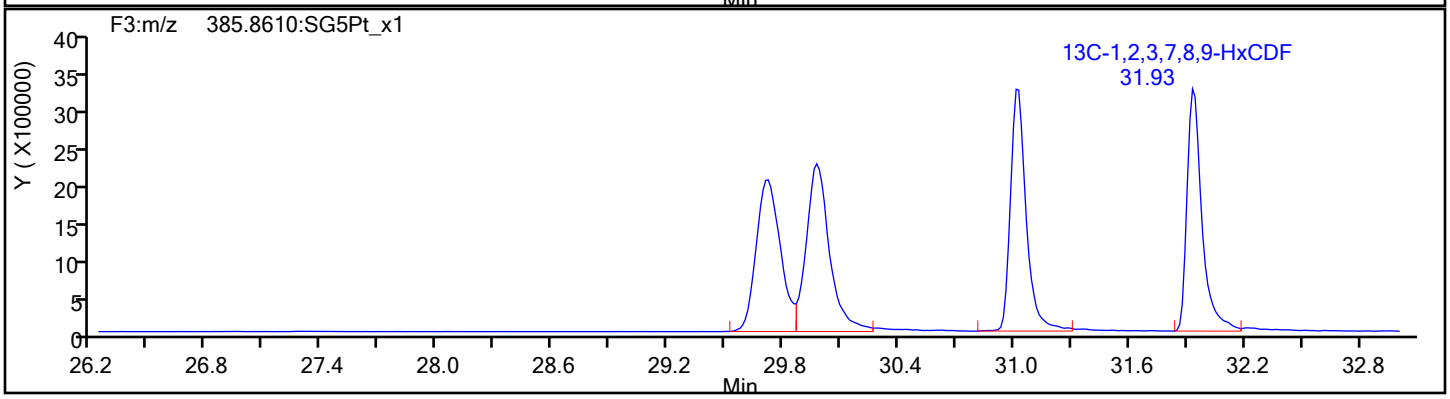

Report Date: 10-Feb-2020 09:40:17 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Western-Solids		
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Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

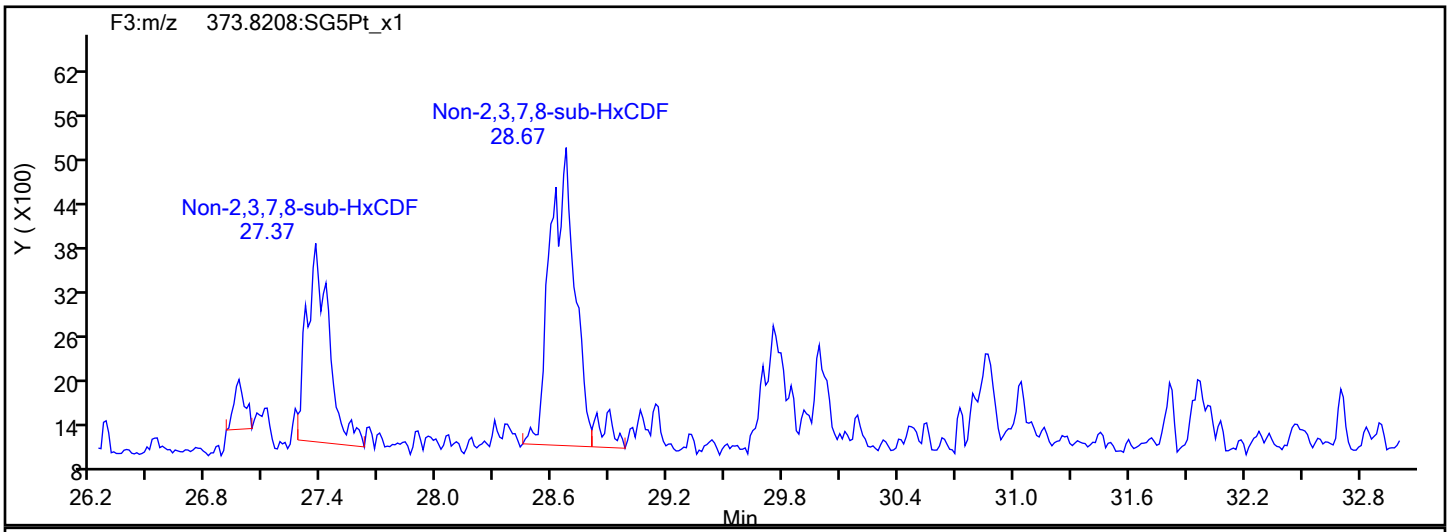

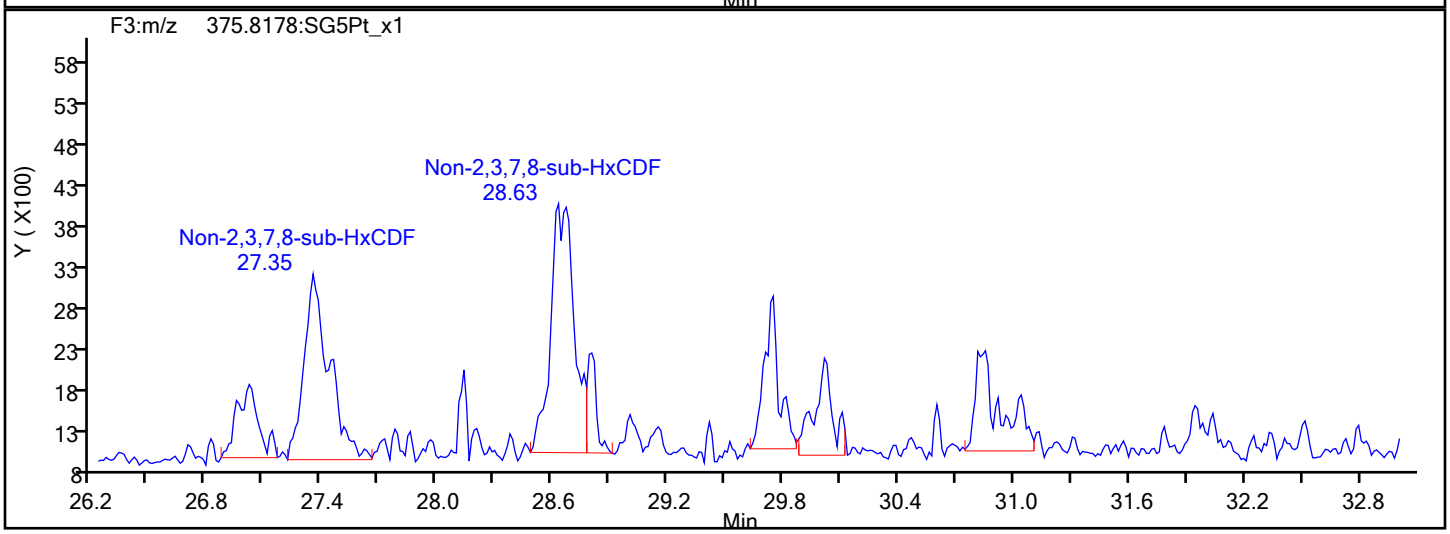

HxCDF Interference Mass

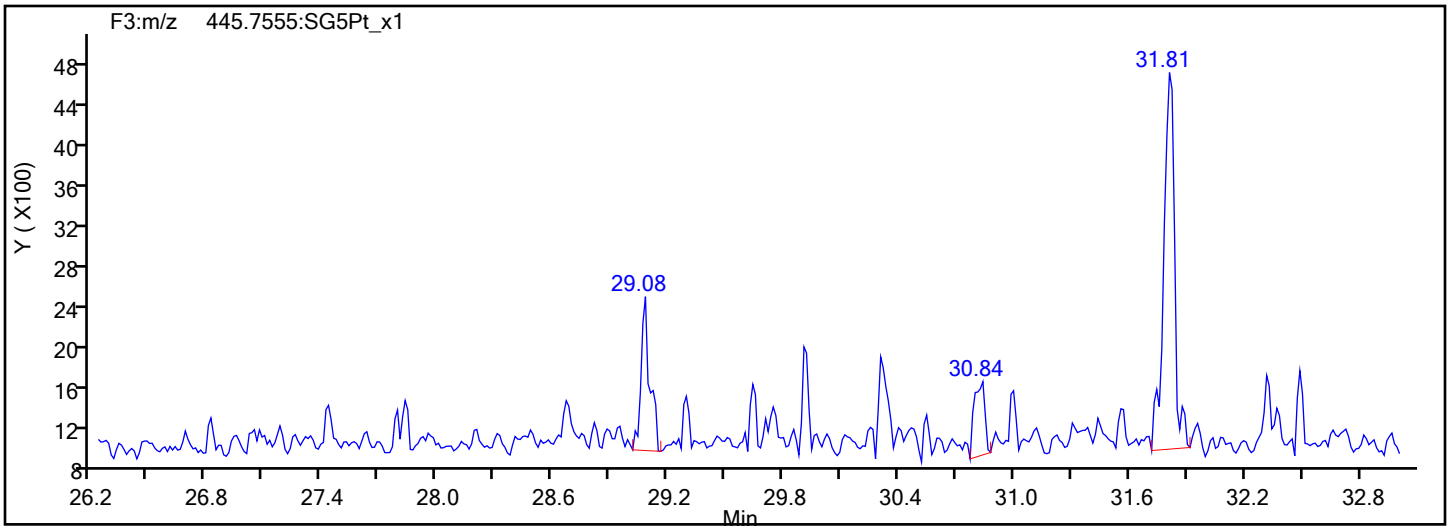

Report Date: 10-Feb-2020 09:40:17 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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HxCDD

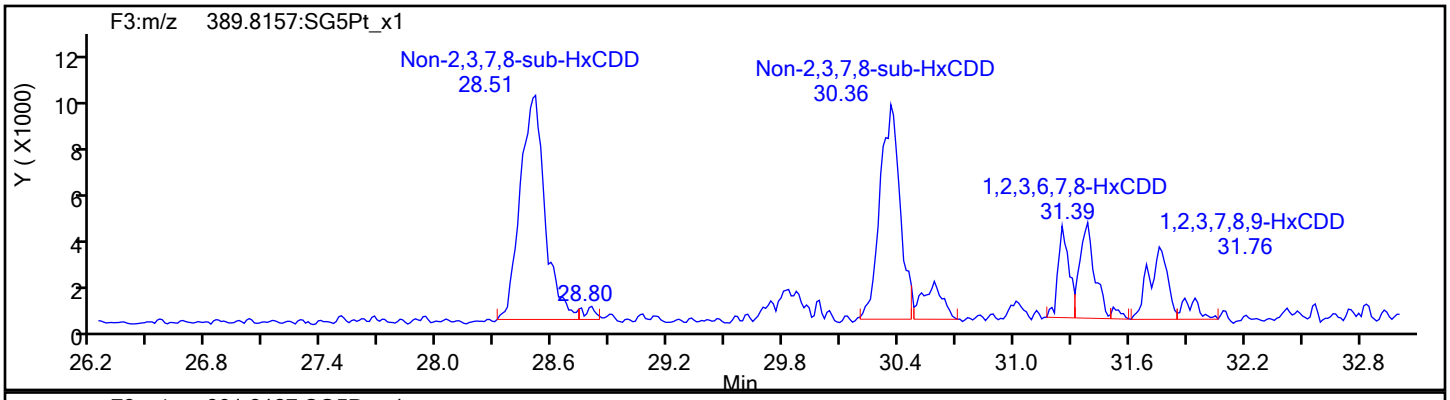

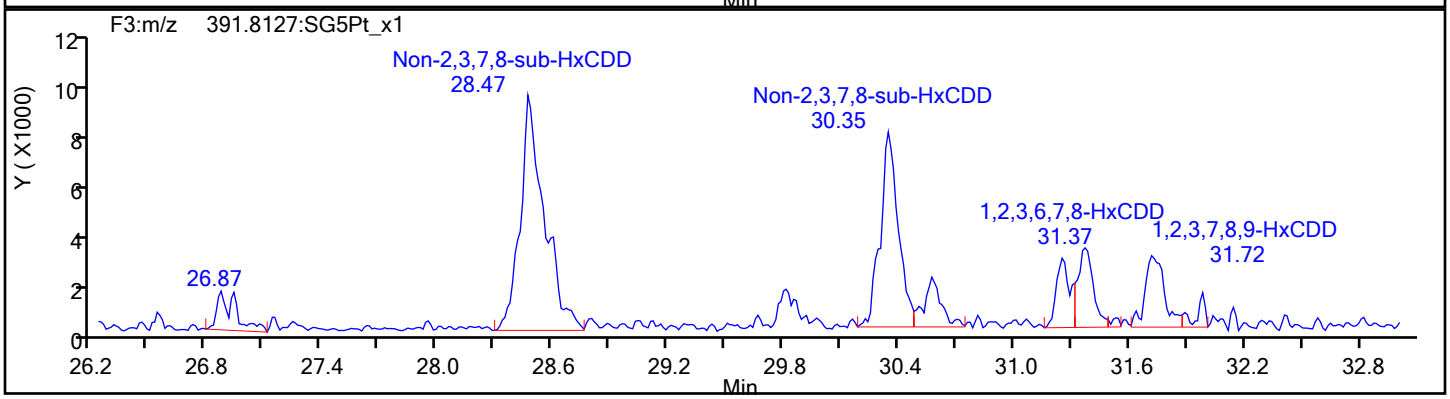

HxCDD Standards

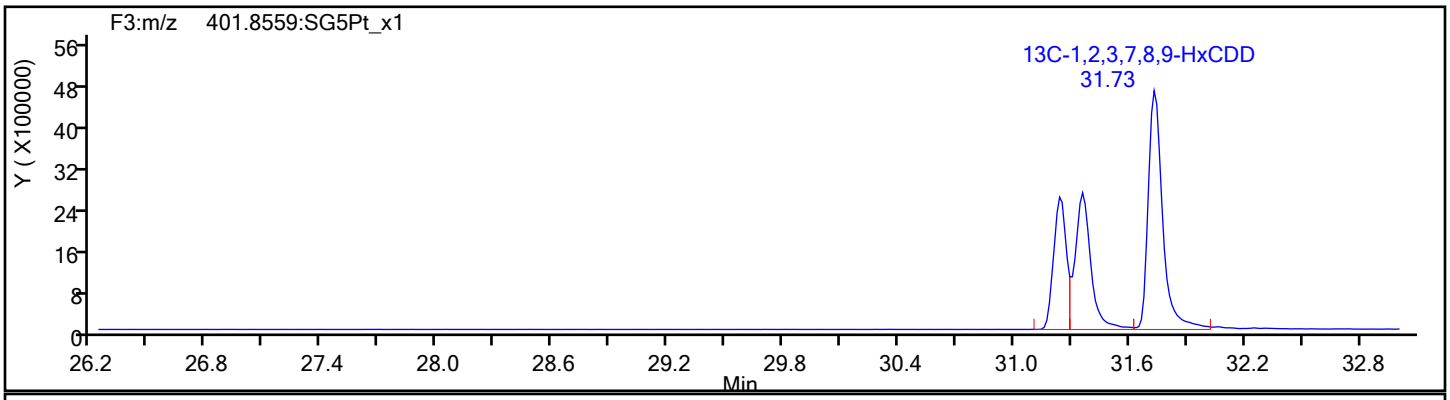

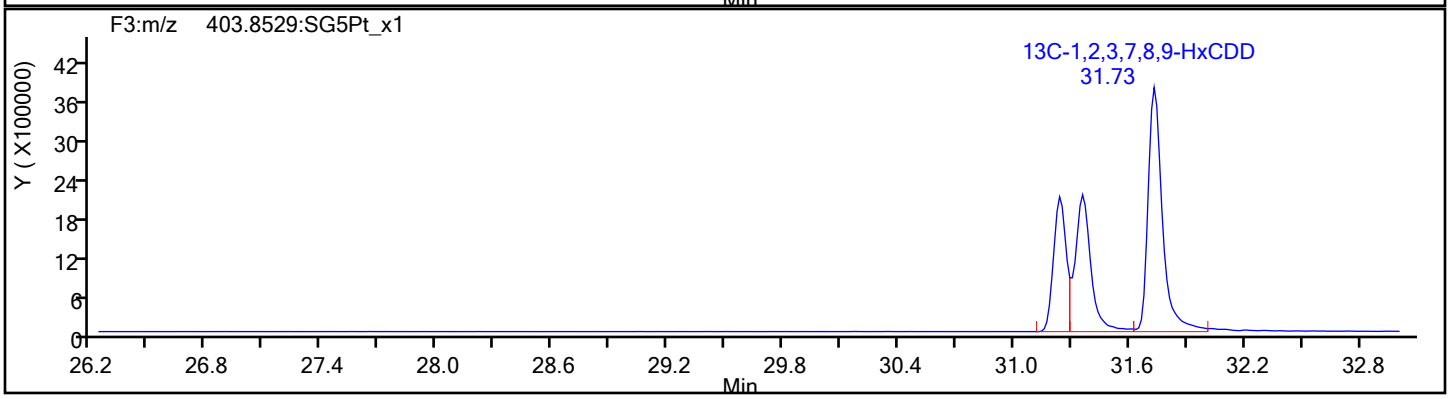

Report Date: 10-Feb-2020 09:40:17 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

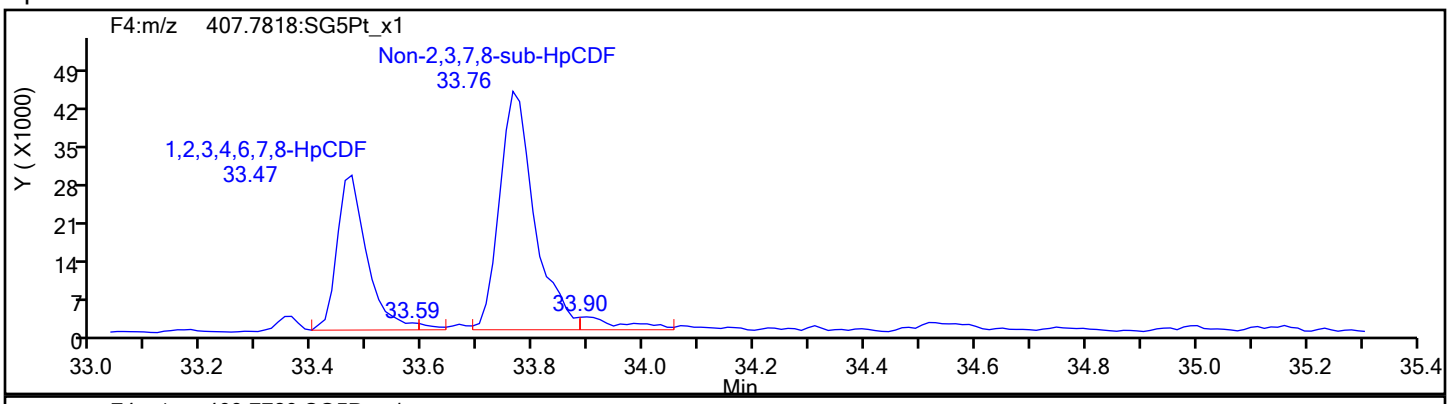

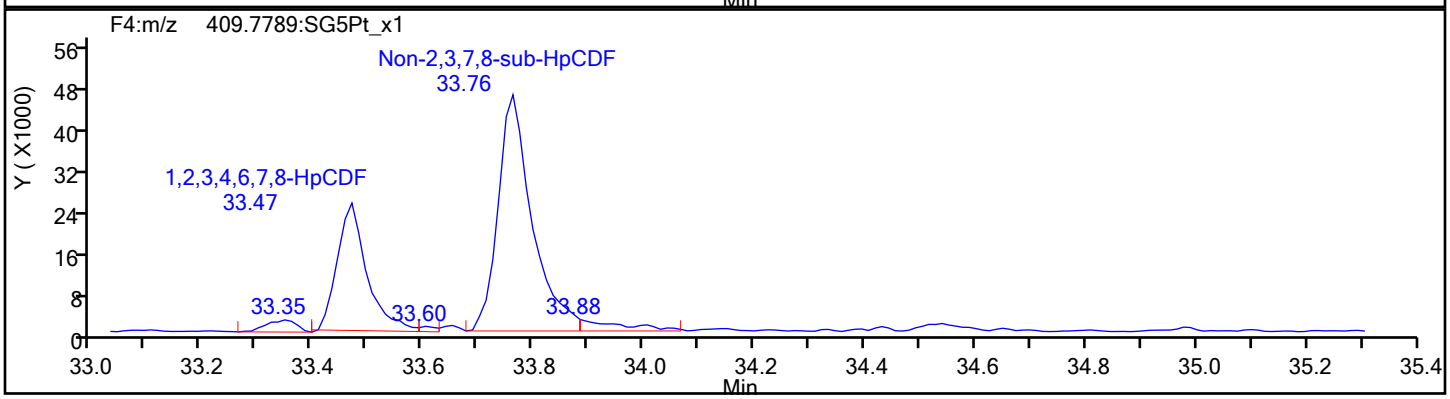

HpCDF Standards

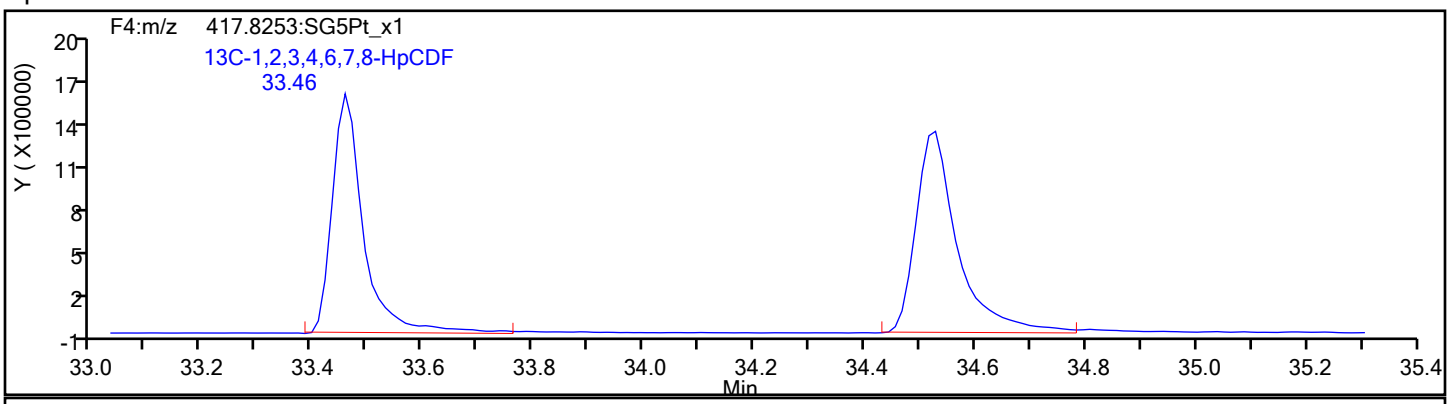

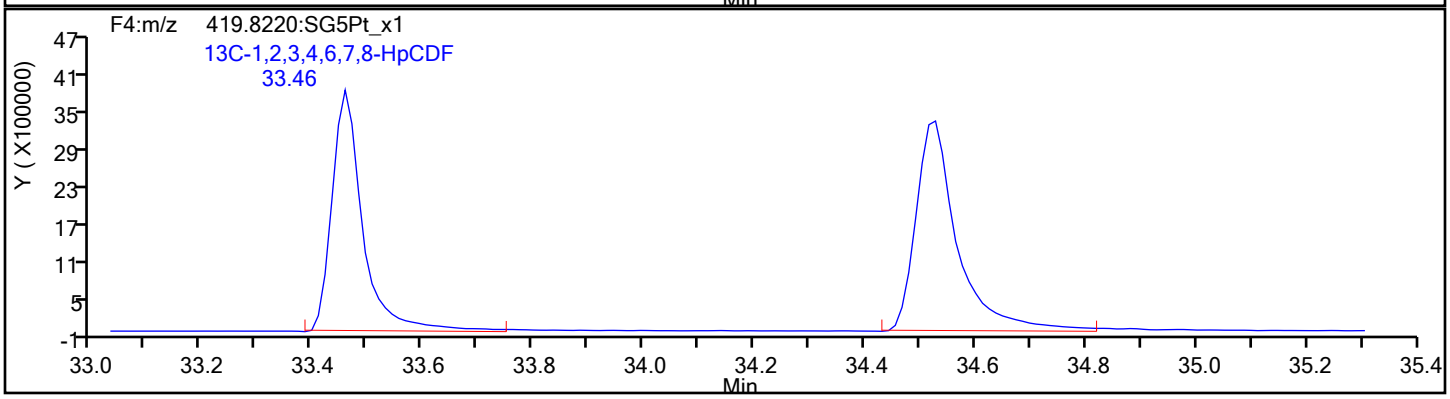

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Eurofins TestAmerica, Sacramento

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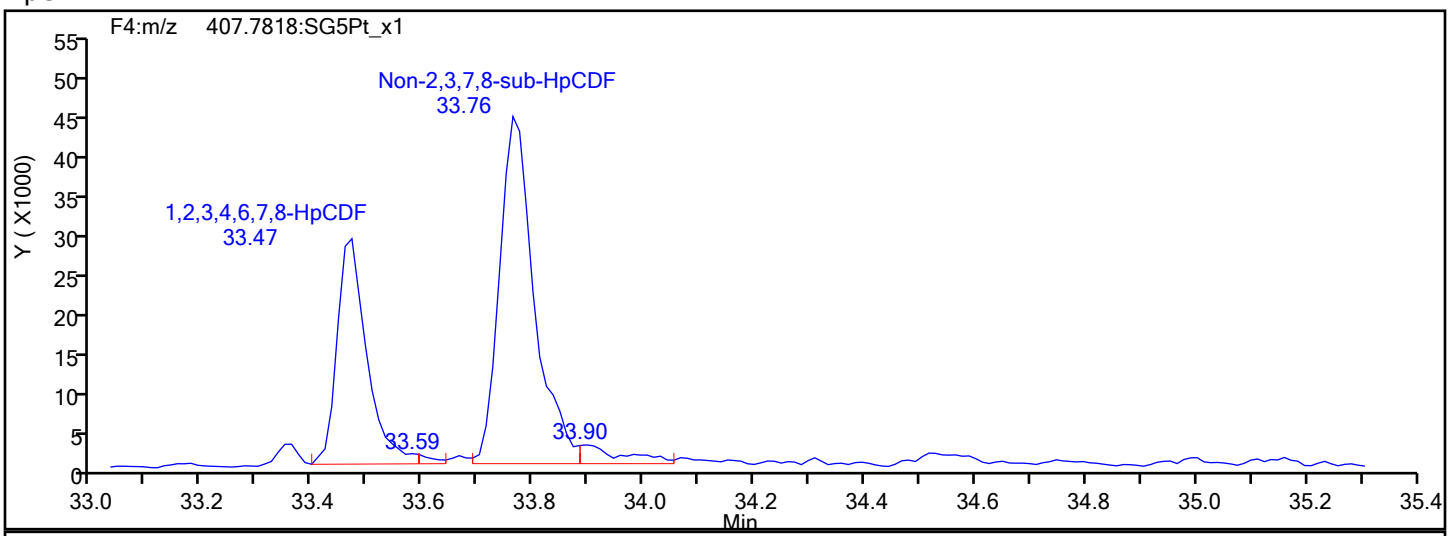

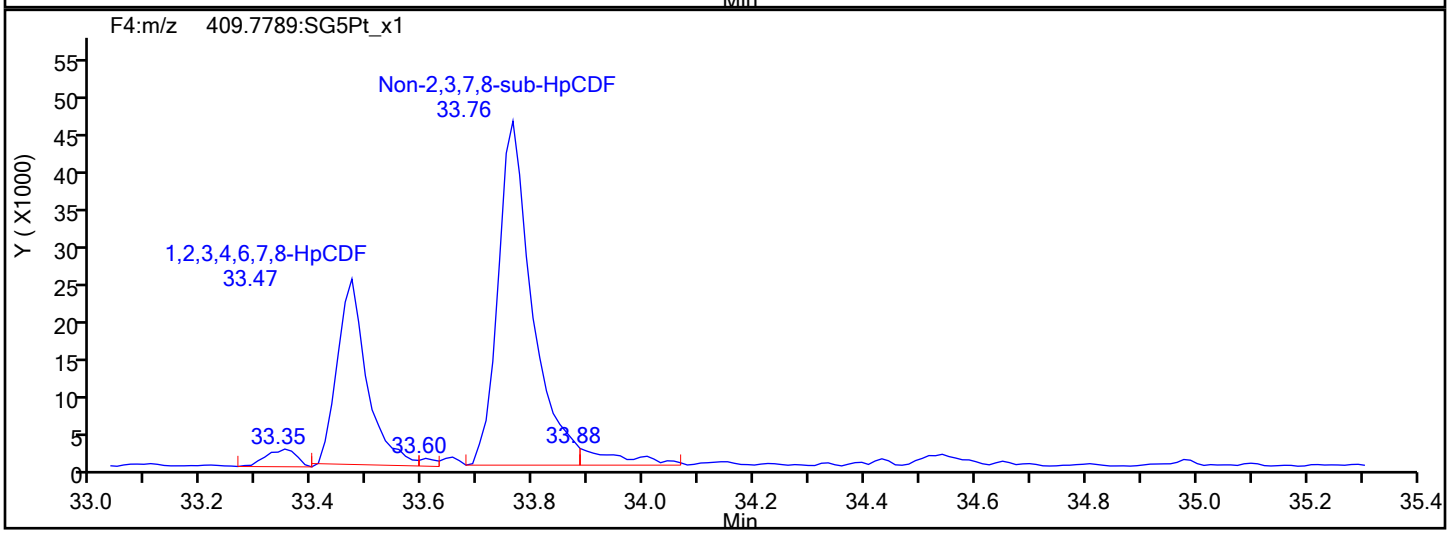

HpCDF Interference Mass

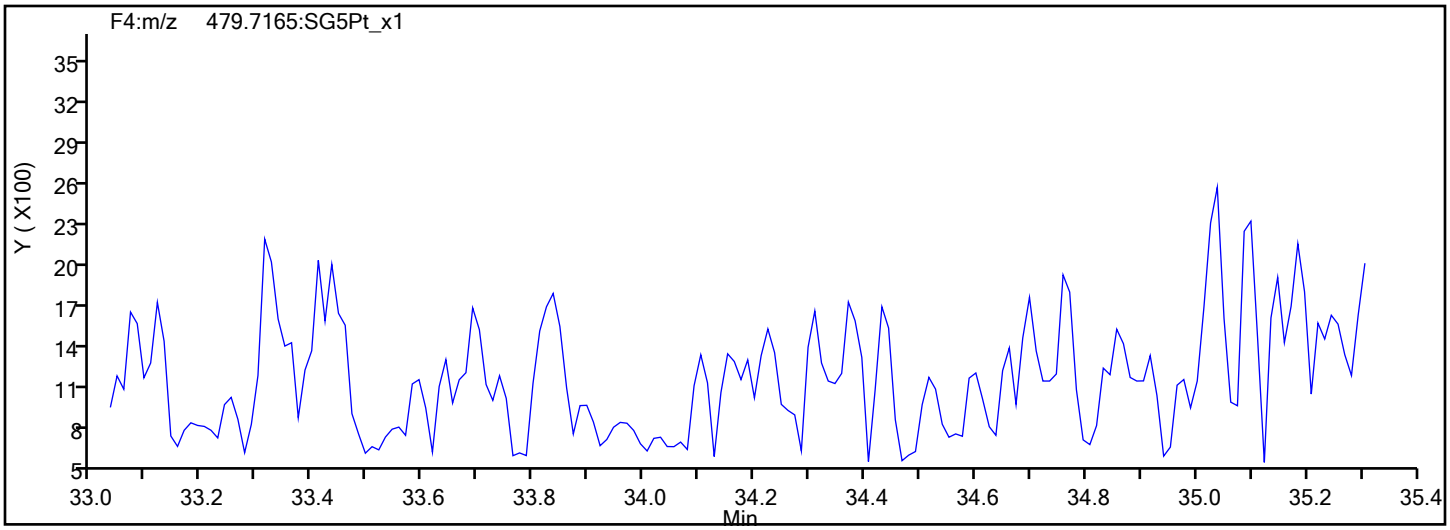

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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HpCDD

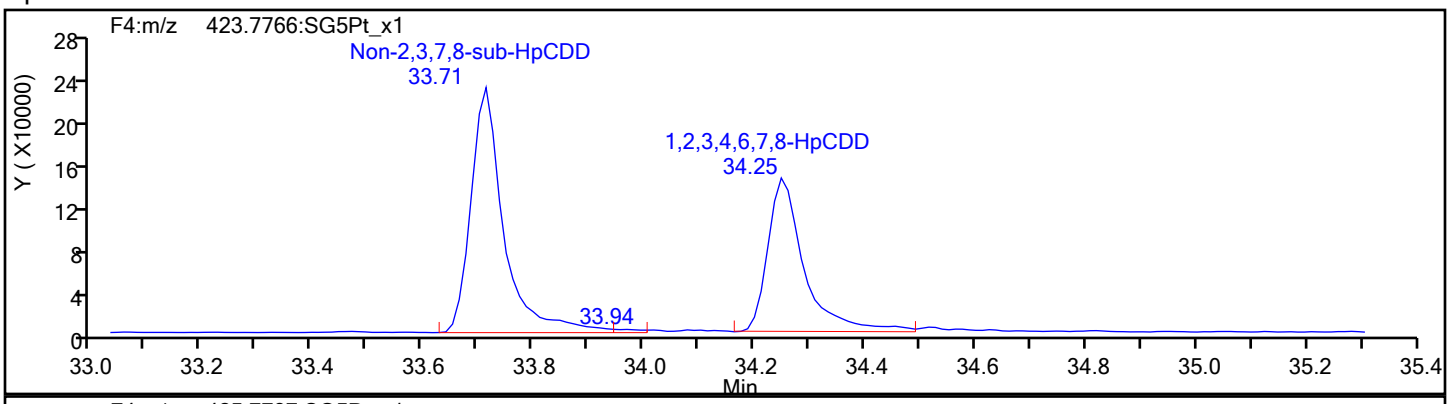

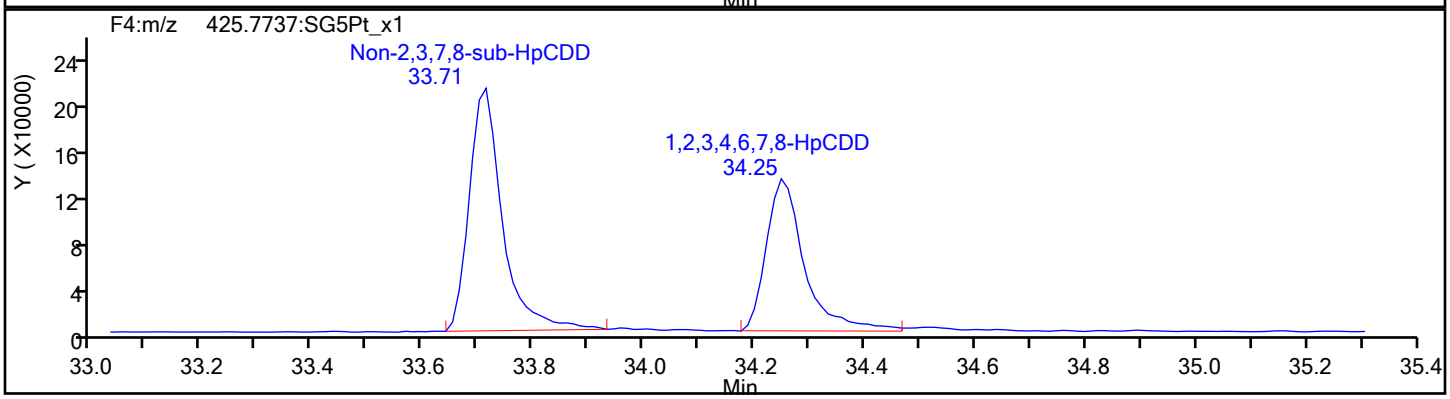

HpCDD Standards

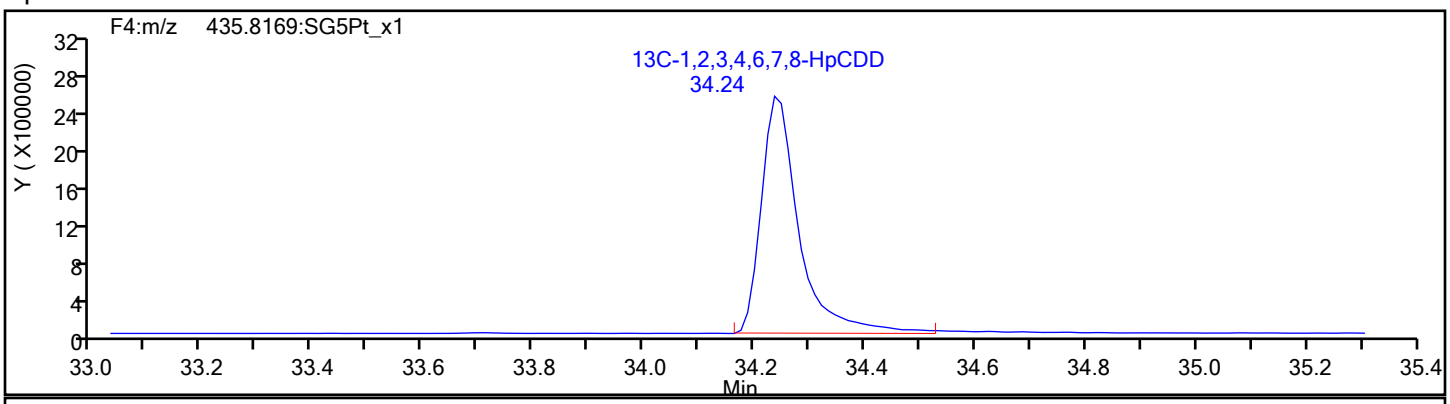

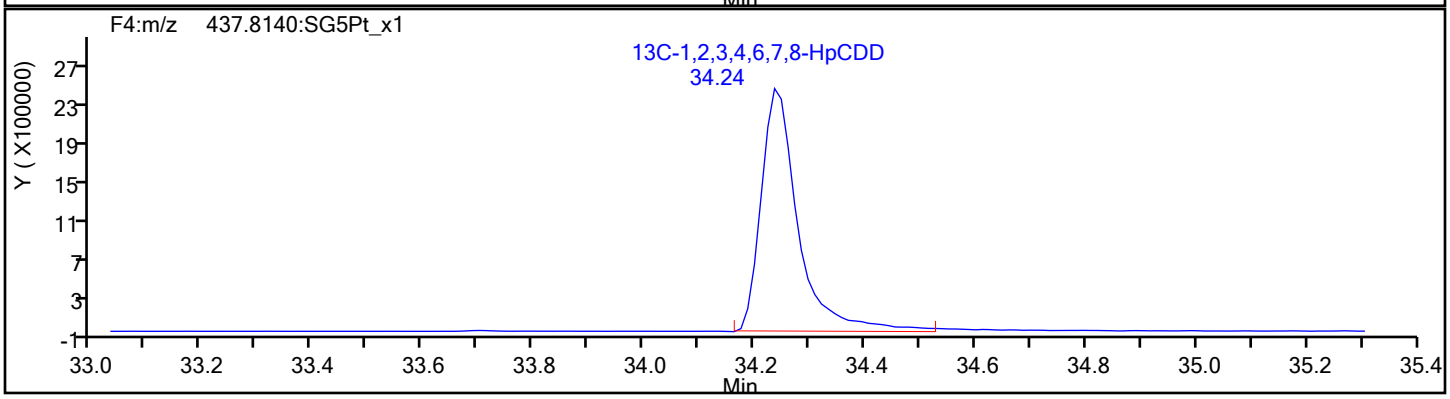

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Eurofins TestAmerica, Sacramento

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OCDF

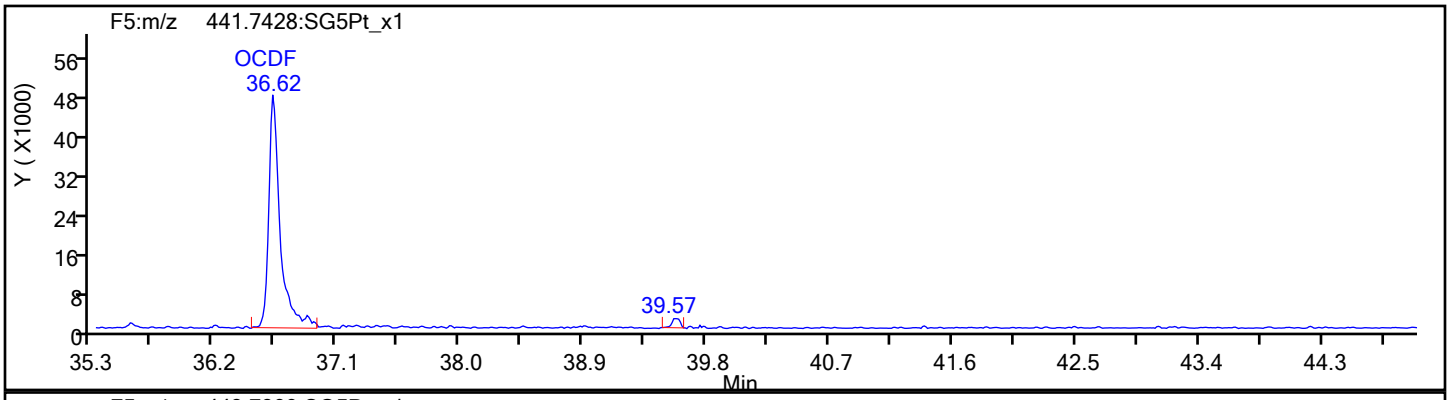

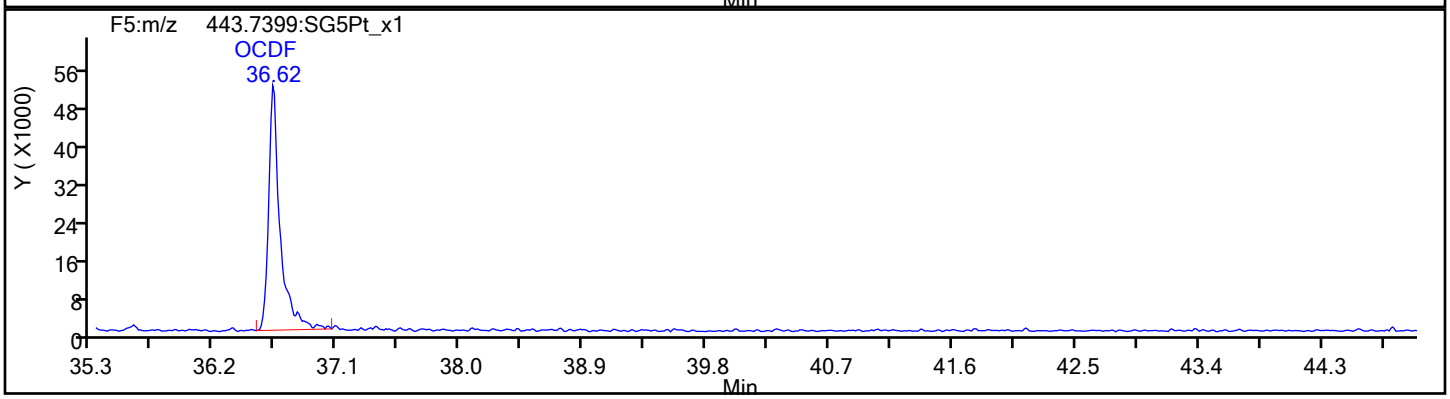

OCDF Standards

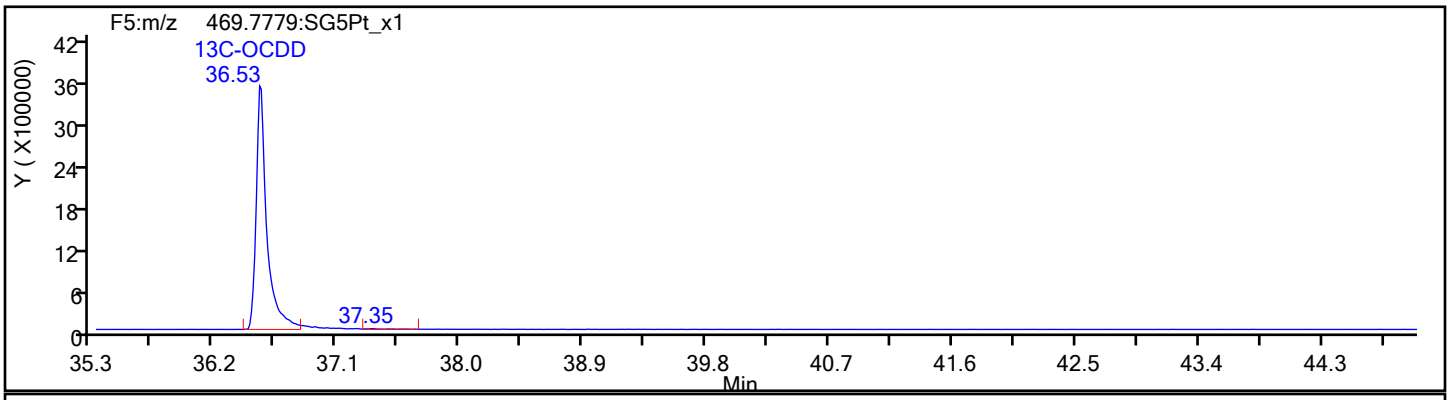

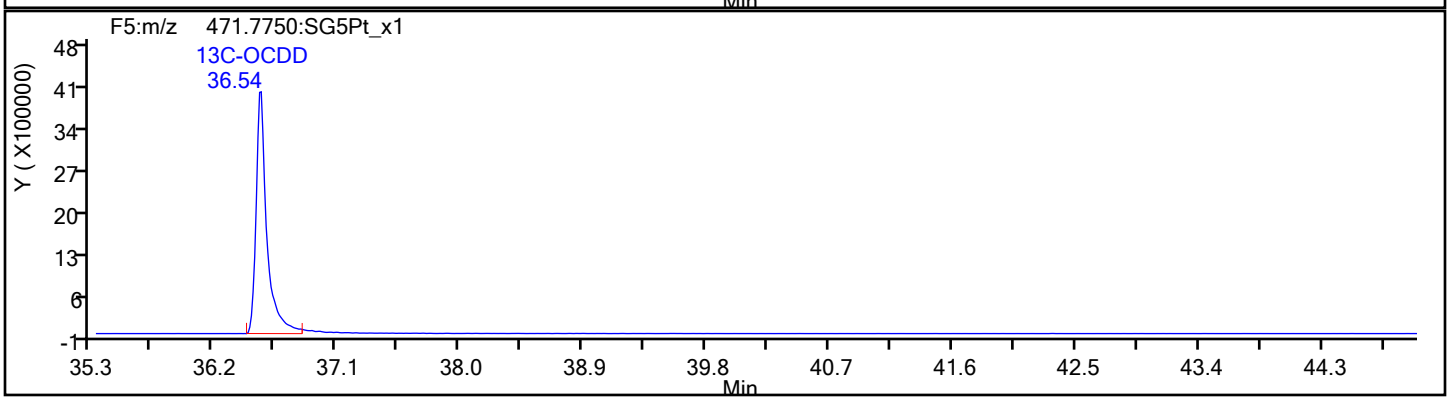

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Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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OCDF

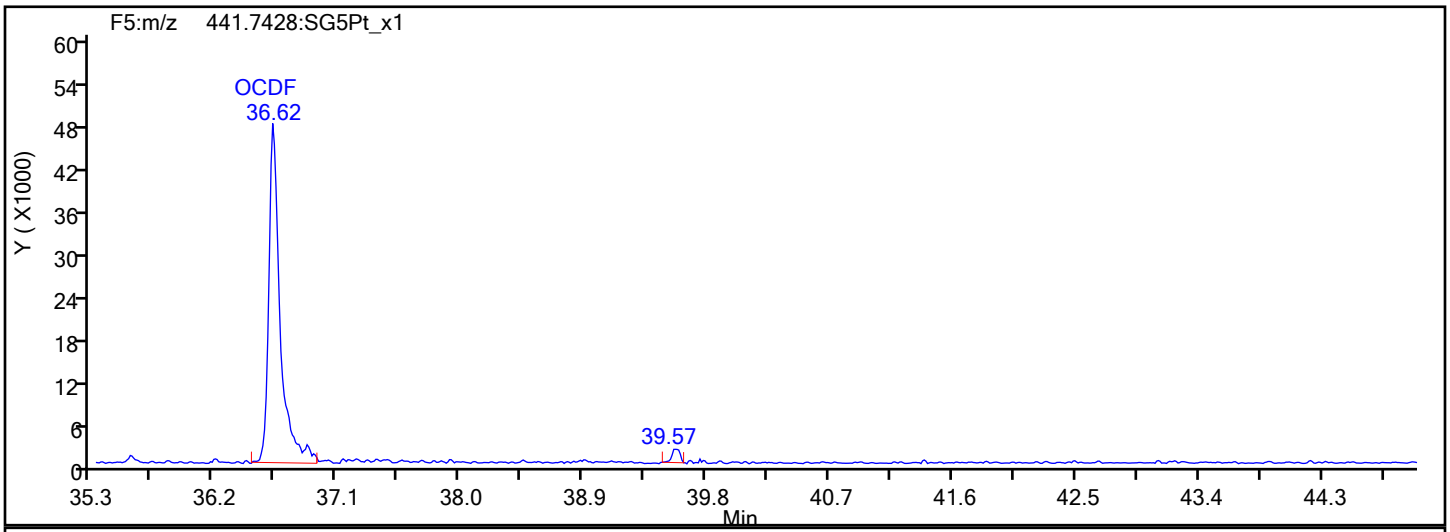

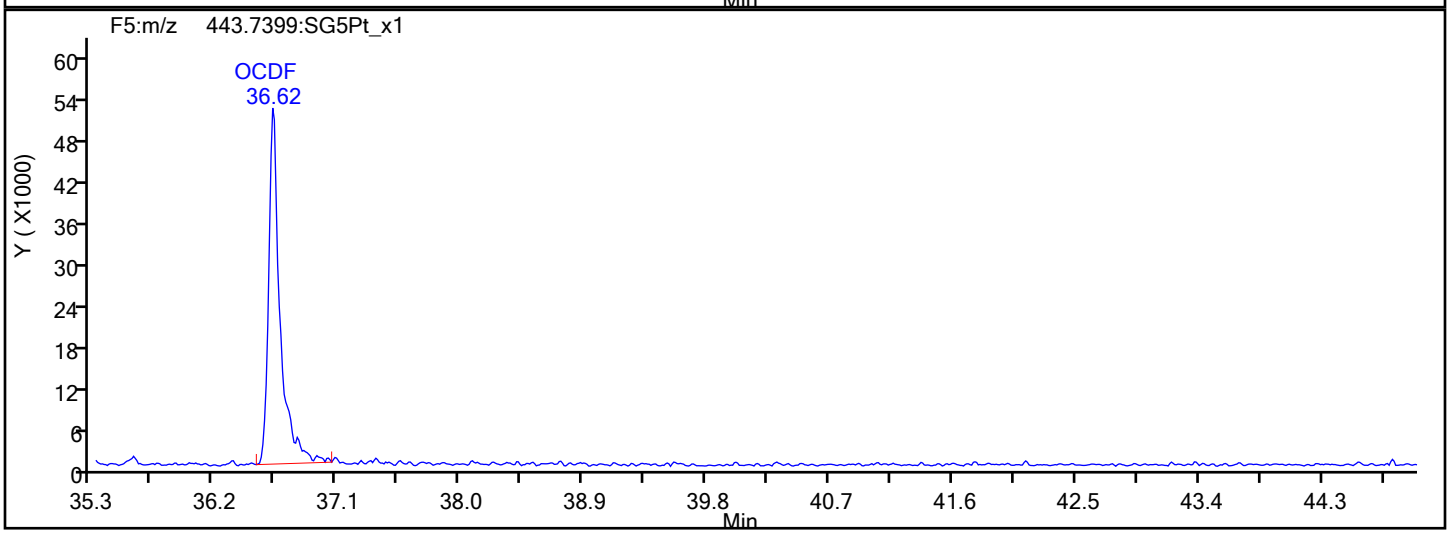

OCDF Interference Mass

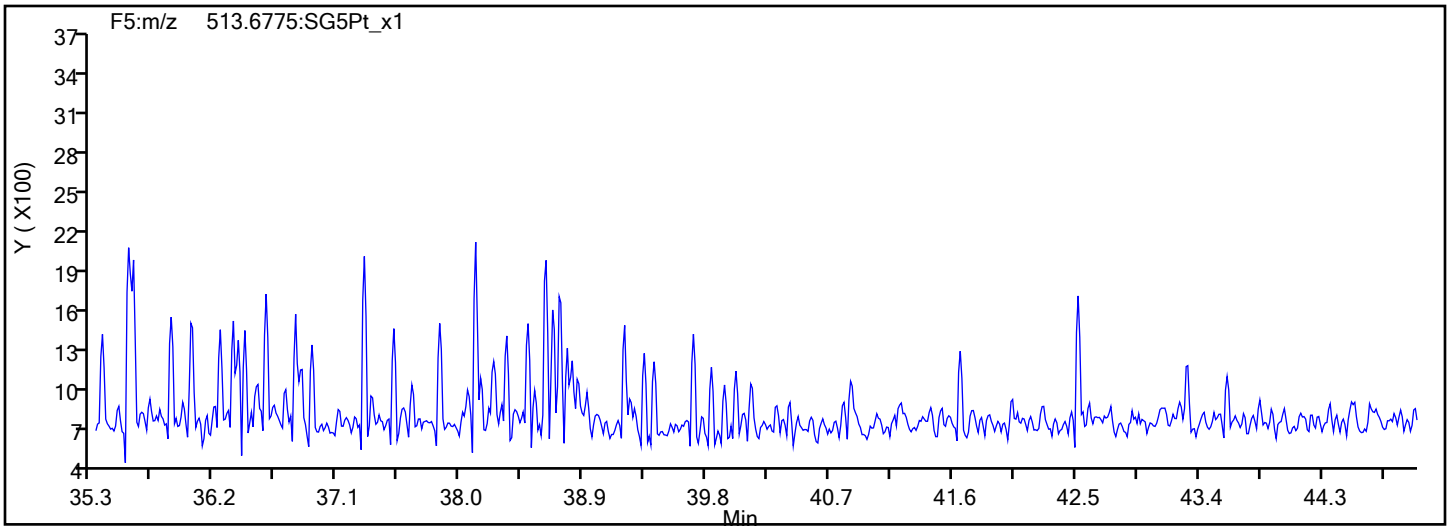

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Western-Solids		
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Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

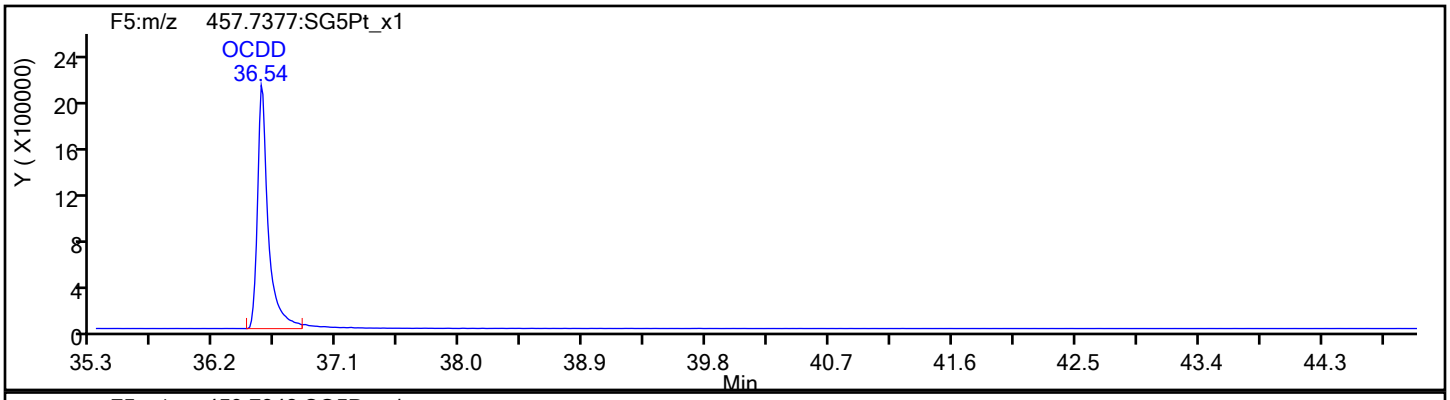

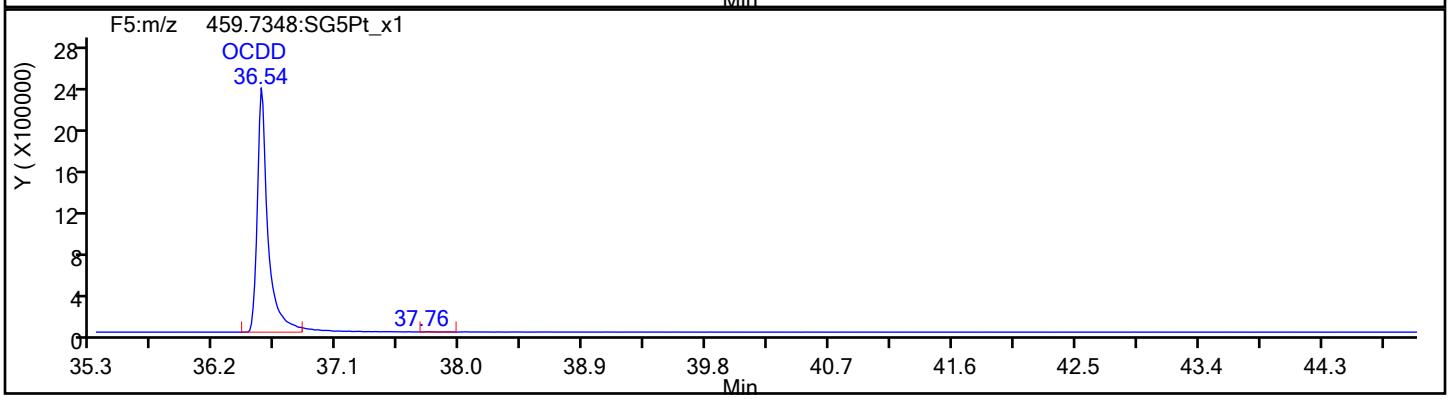

OCDD Standards

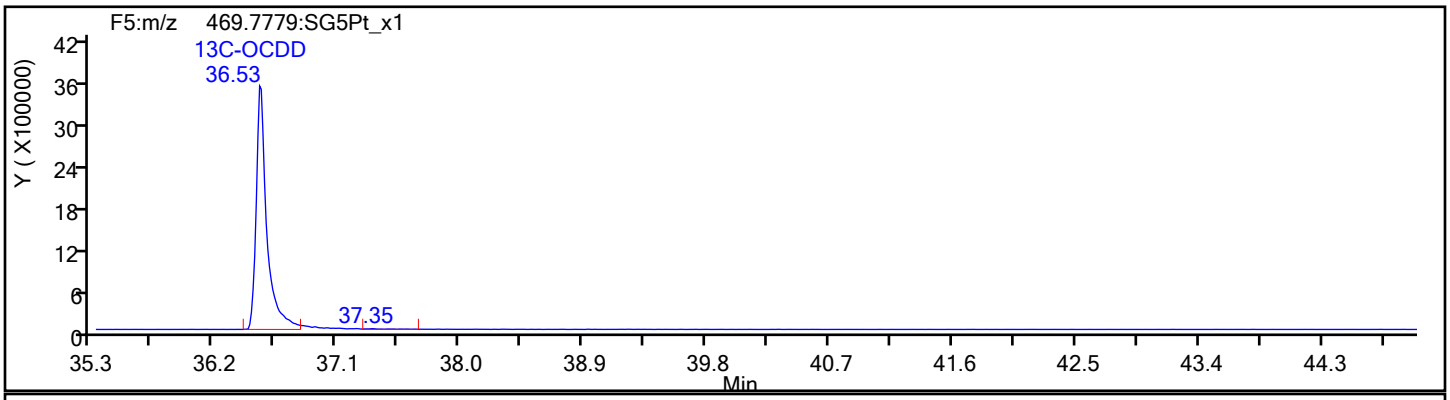

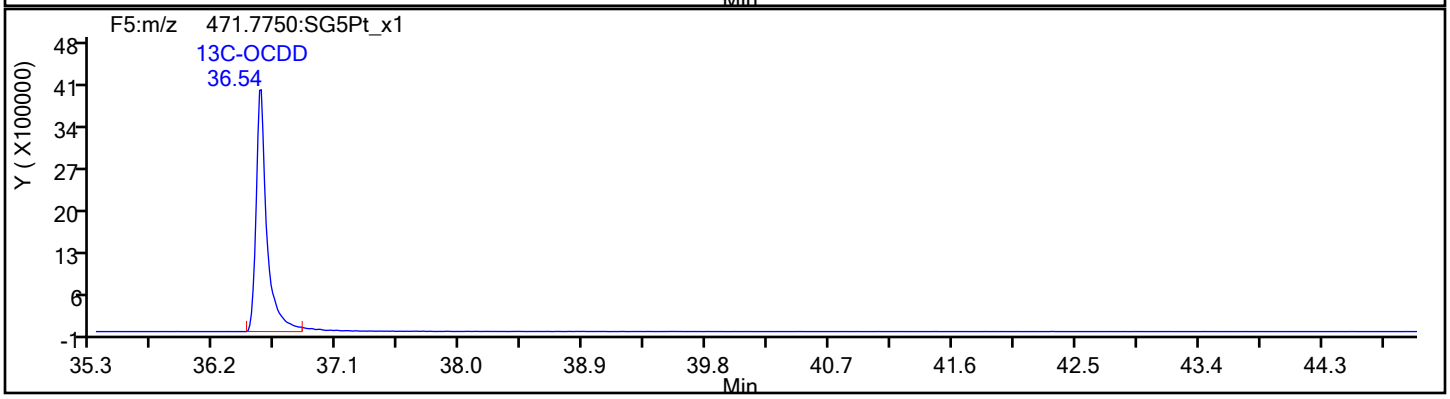

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Western-Solids		
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Column Type:	DB-5	Column Dia:	0.32 mm

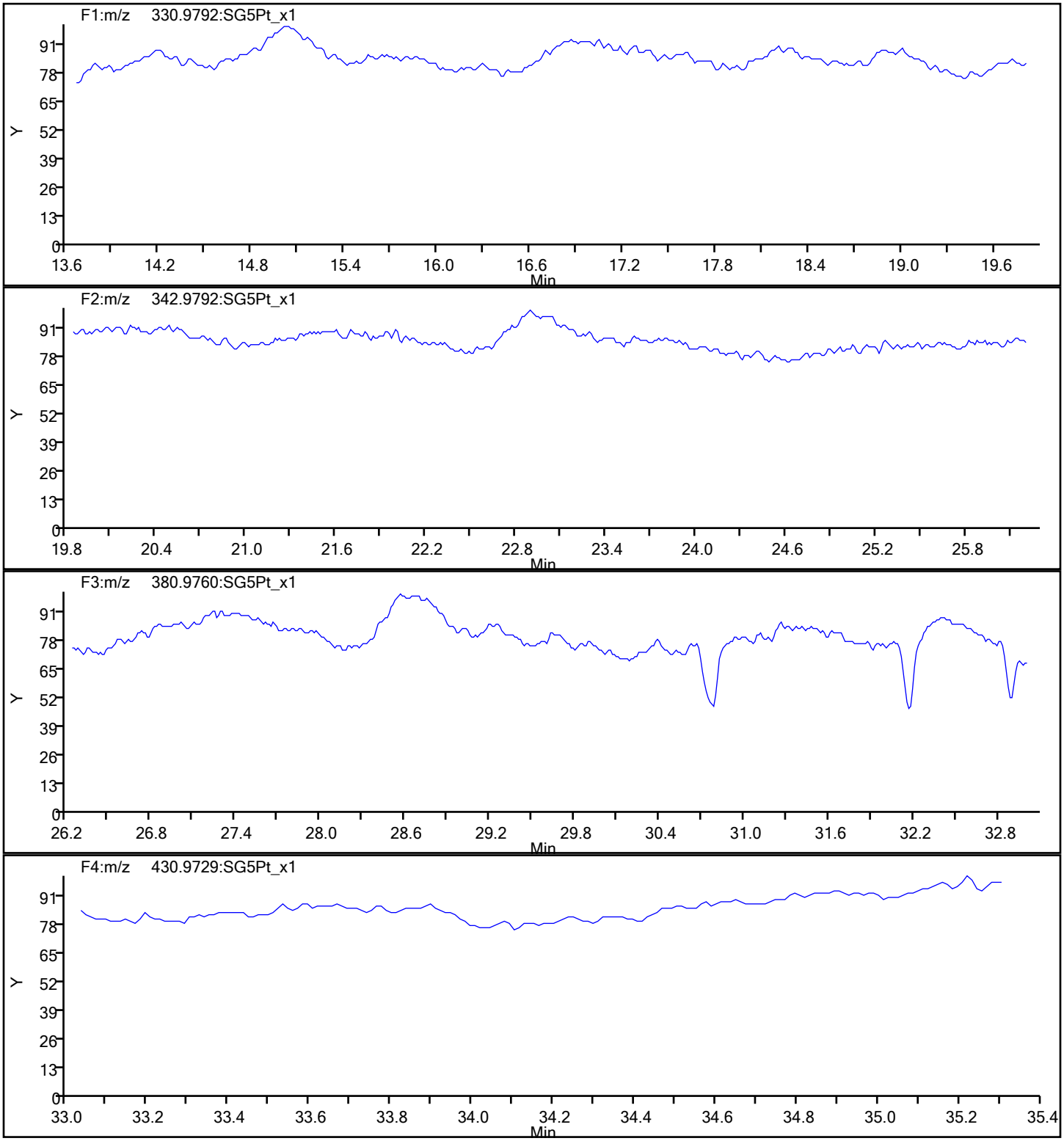

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Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_14.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Western-Solids		
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Column Type:	DB-5	Column Dia:	0.32 mm

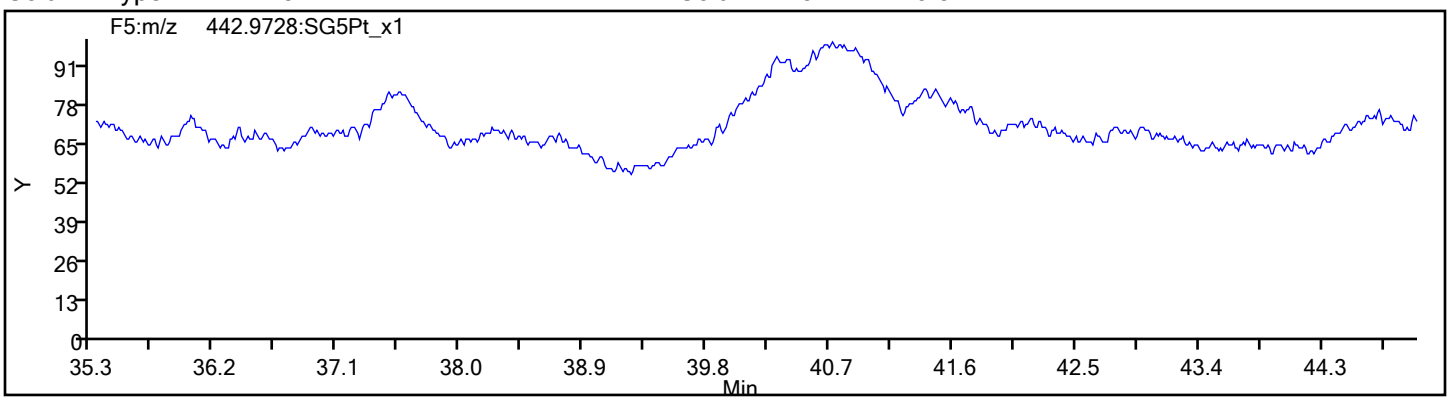

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 320-58170-1
SDG No.:
Client Sample ID: 11187072-Western-Solids RA
Lab Sample ID: 320-58170-6 RA
Matrix: Sediment
Lab File ID: 07FE2011D2_007.d
Analysis Method: 1613B
Date Collected: 01/29/2020 13:30
Extract. Method: HRMS-Sox
Date Extracted: 01/31/2020 09:04
Sample wt/vol: 4.46(g)
Date Analyzed: 02/07/2020 17:27
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture: 0.3
GPC Cleanup:(Y/N) N
Analysis Batch No.: 355913
Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
51207-31-9	2,3,7,8-TCDF	2.5		2.2	0.22

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
89059-46-1	13C-2,3,7,8-TCDF	73		24-169

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	89		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20200207-90742.b\07FE2011D2_007.d
Lims ID: 320-58170-A-6-A
Client ID: 11187072-Western-Solids
Sample Type: Client
Inject. Date: 07-Feb-2020 17:27:27 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-58170-A-6-A
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20200207-90742.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 11-Feb-2020 15:20:10 Calib Date: 04-Feb-2020 13:02:26
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0316

First Level Reviewer: shardaa Date: 11-Feb-2020 15:17:23

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.366	174853827	0.78	2.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.533	180059574	0.81	1.4045	73.3	73.3	0.2590	0.2590	73.32	
2,3,7,8-TCDF	16.546	983830	0.81	0.9831	0.5558	0.5558	0.0482	0.0482		
D 13C-2,3,7,8-TCDD	15.119	111759074	0.78	0.8544	74.8	74.8	0.1787	0.1787	74.81	
2,3,7,8-TCDD	15.147	539795	0.65	1.2044	0.4010	0.4010	0.0499	0.0499		
$ 37Cl4-2,3,7,8-TCDD	15.147	56053576		0.8972	35.7	35.7	0.0889	0.0889	89.33	
S Total 2378-Chlorinated							0.000100	0.000100		

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20200207-90742.b\07FE2011D2_007.d
Lims ID: 320-58170-A-6-A
Client ID: 11187072-Western-Solids
Sample Type: Client
Inject. Date: 07-Feb-2020 17:27:27 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-58170-A-6-A
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20200207-90742.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 11-Feb-2020 15:20:10 Calib Date: 04-Feb-2020 13:02:26
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0316

First Level Reviewer: shardaa Date: 11-Feb-2020 15:17:23

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.366	15.366	0		76716959	17284764	15733	39332	1099		
333.9339	15.366	15.366	0		98136868	22130960	8342	20855	2653	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.533	16.546	-1	1.076	80738026	16195692	31453	78632	515		
317.9389	16.533	16.546	-1	1.076	99321548	19174344	25908	64770	740	0.81(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.546	16.560	-1	1.001	438863	91232	3007	7517	30		
305.8987	16.560	16.560	0	1.002	544967	95611	3698	9245	26	0.81(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.119	15.119	0	0.984	48998173	10759343	15733	39332	684		
333.9339	15.119	15.119	0	0.984	62760901	13998491	8342	20855	1678	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.147	15.147	0	1.002	212151	47369	3726	9315	13		
321.8936	15.133	15.147	-1	1.001	327644	69841	2227	5567	31	0.65(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.147	15.147	0	0.986	56053576	12114227	12578	31445	963		

Report Date: 11-Feb-2020 15:20:38 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200207-90742.b\07FE2011D2_007.d		
Injection Date:	07-Feb-2020 17:27:27	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Western-Solids		
Worklist#:	355913	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

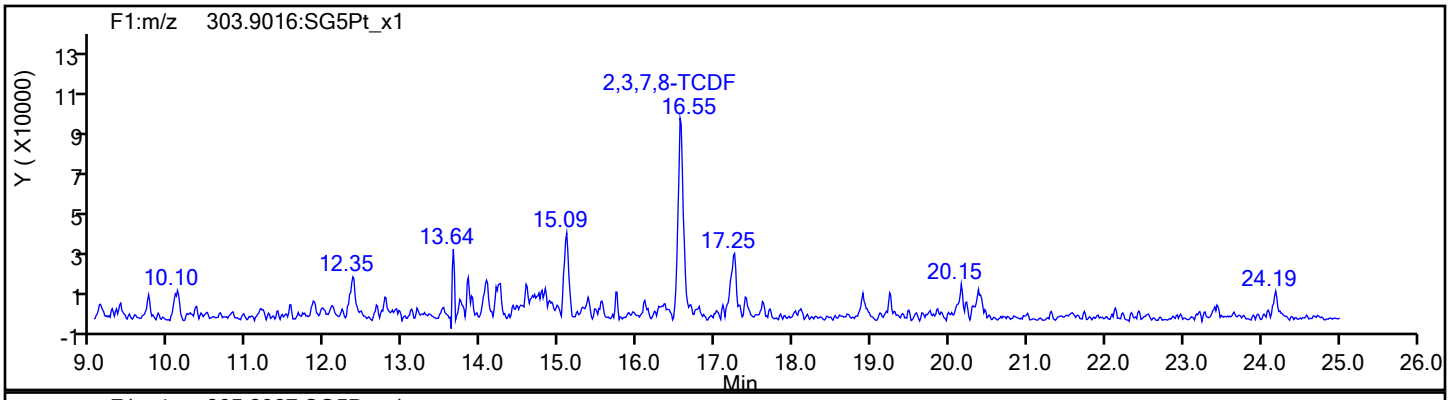

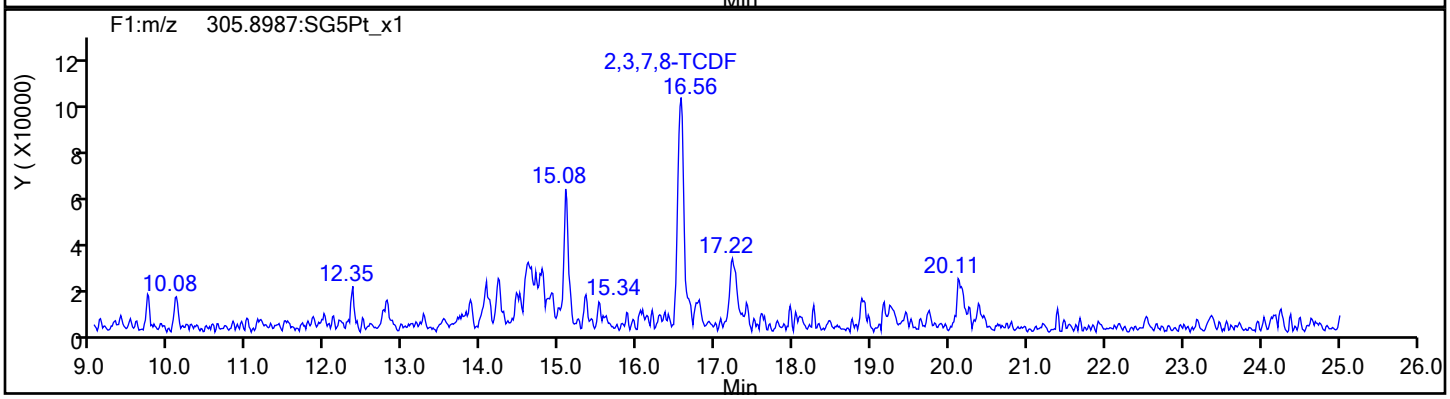

TCDF Standards

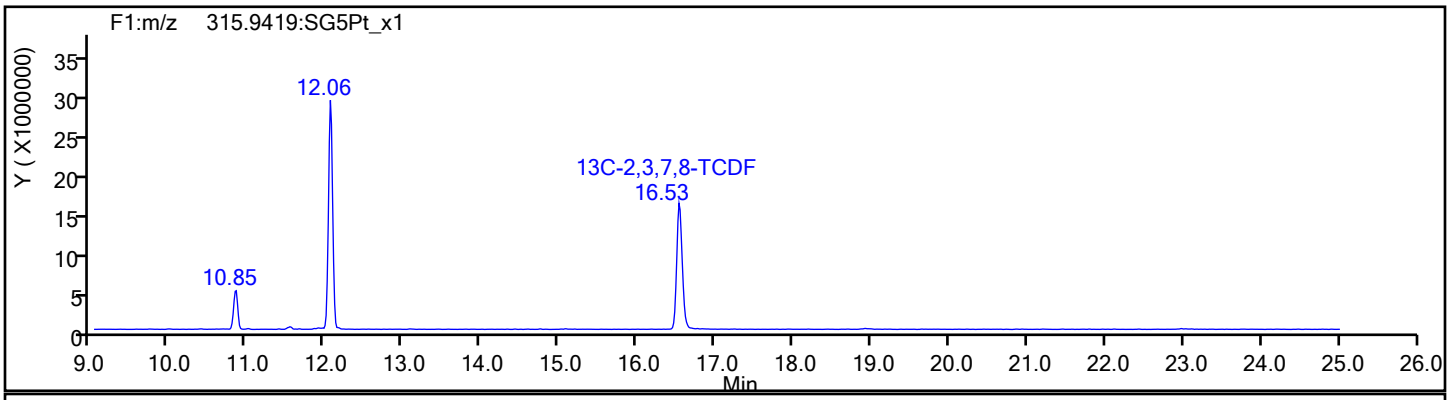

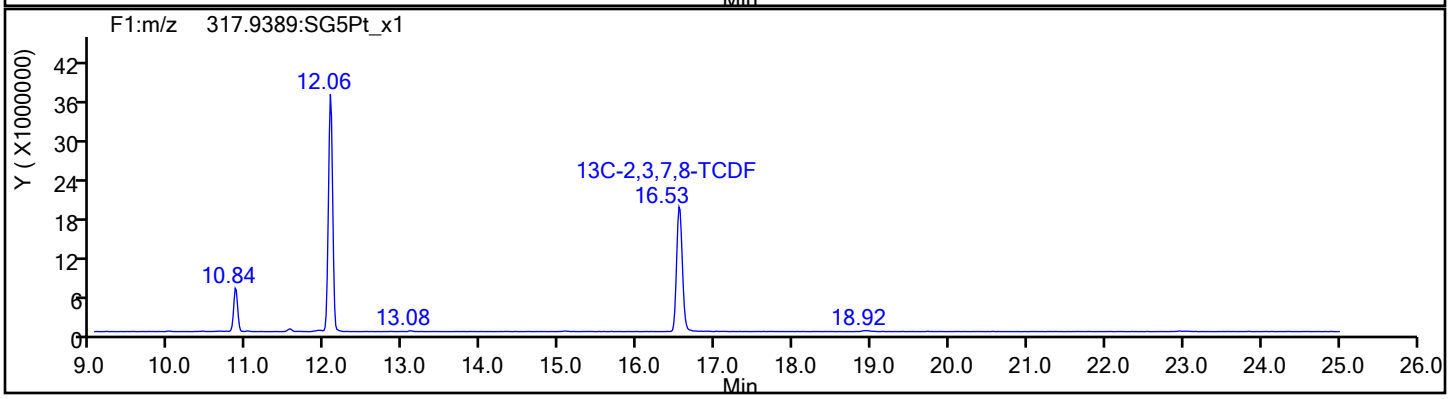

Report Date: 11-Feb-2020 15:20:38 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200207-90742.b\07FE2011D2_007.d		
Injection Date:	07-Feb-2020 17:27:27	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Western-Solids		
Worklist#:	355913	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

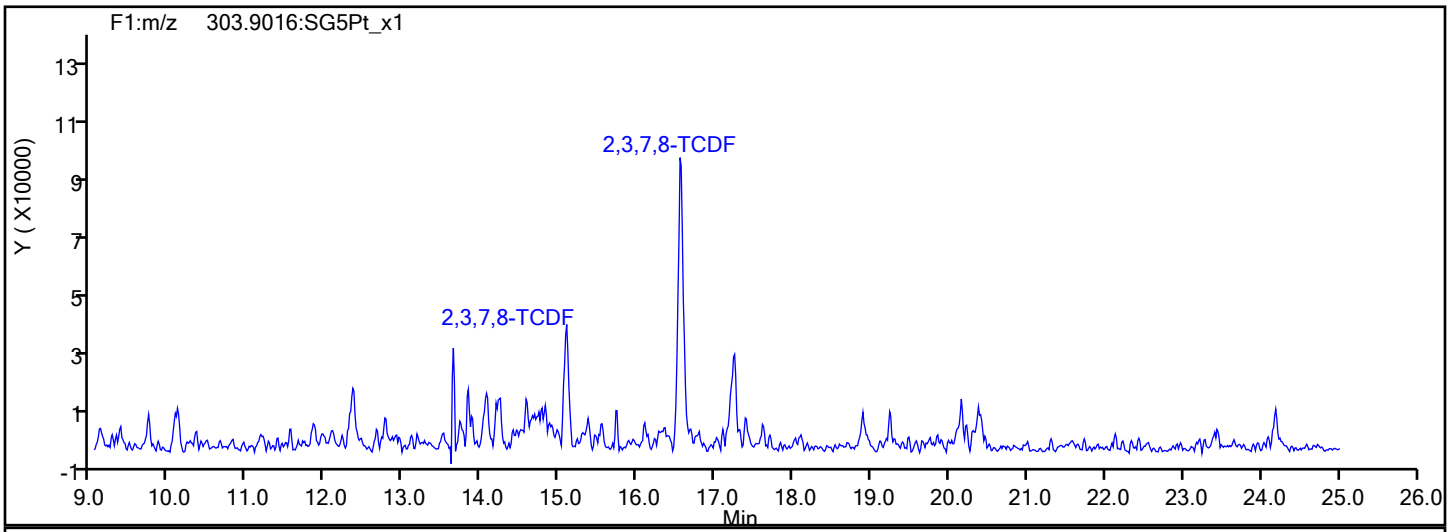

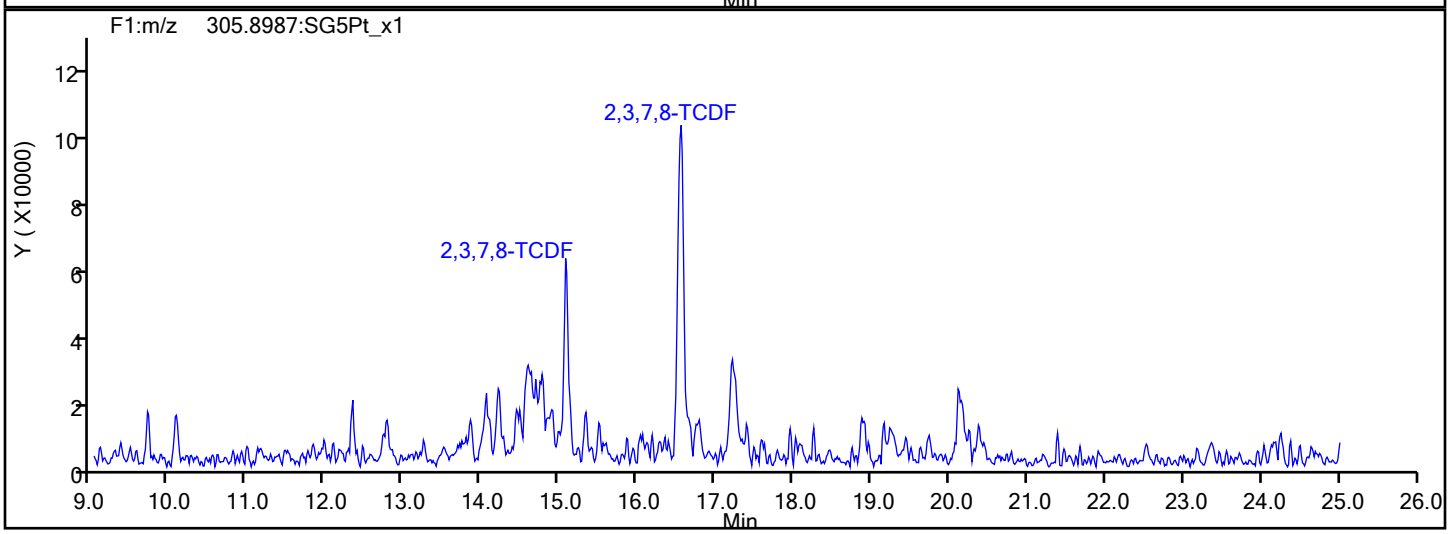

TCDF Interference Mass

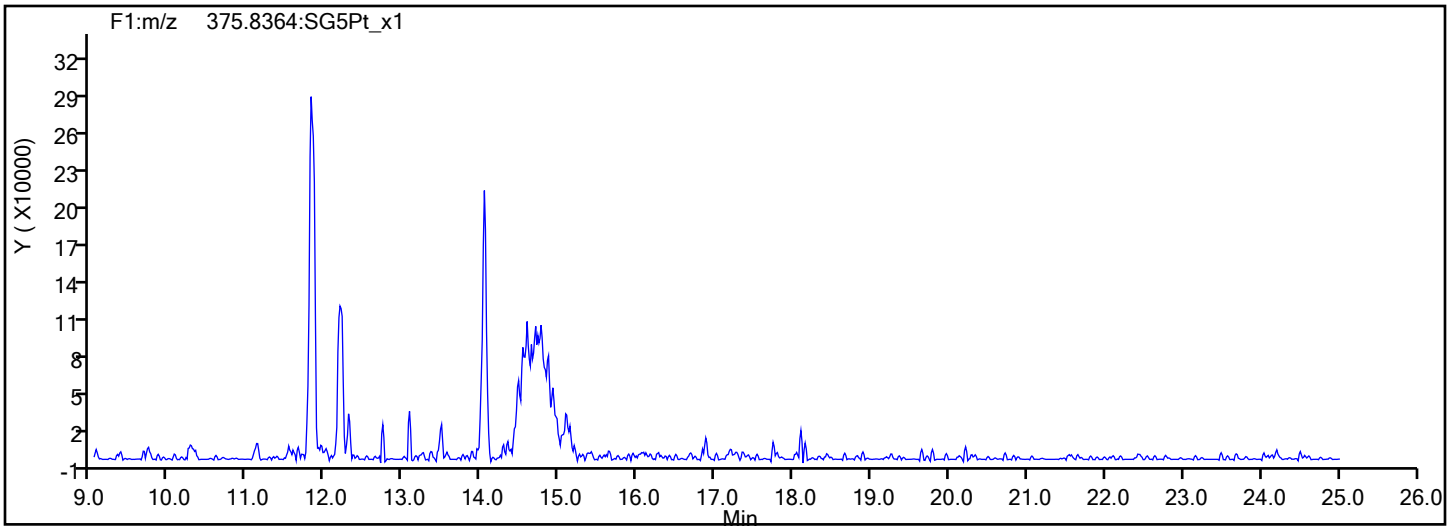

Report Date: 11-Feb-2020 15:20:39 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200207-90742.b\07FE2011D2_007.d		
Injection Date:	07-Feb-2020 17:27:27	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Western-Solids		
Worklist#:	355913	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

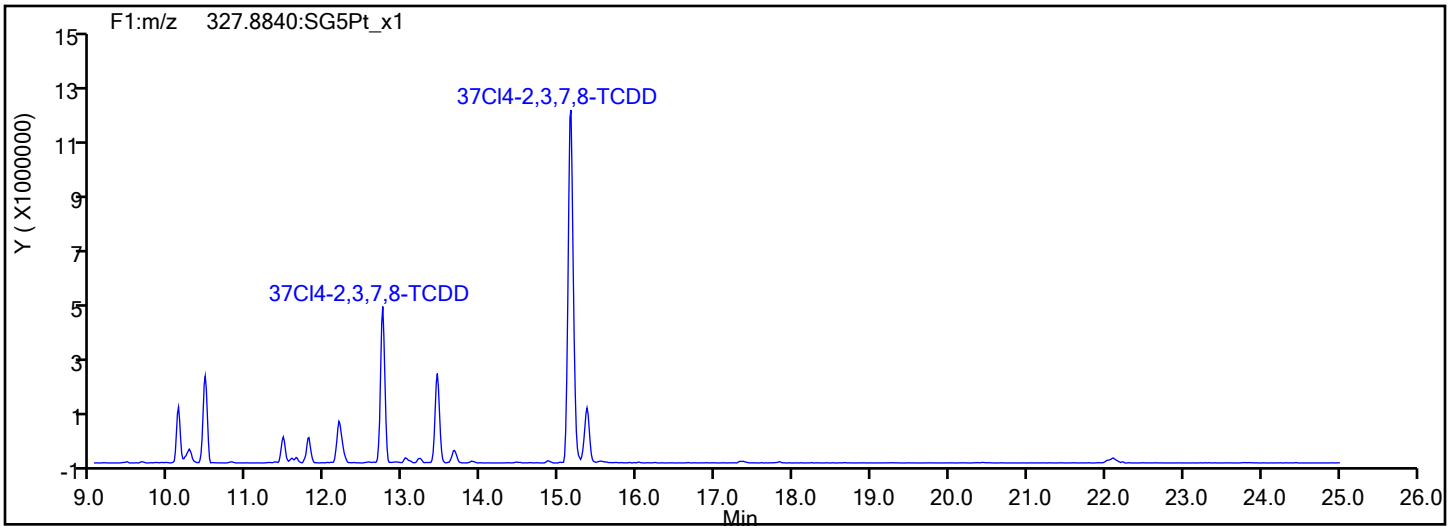

37Cl4-TCDD Standards

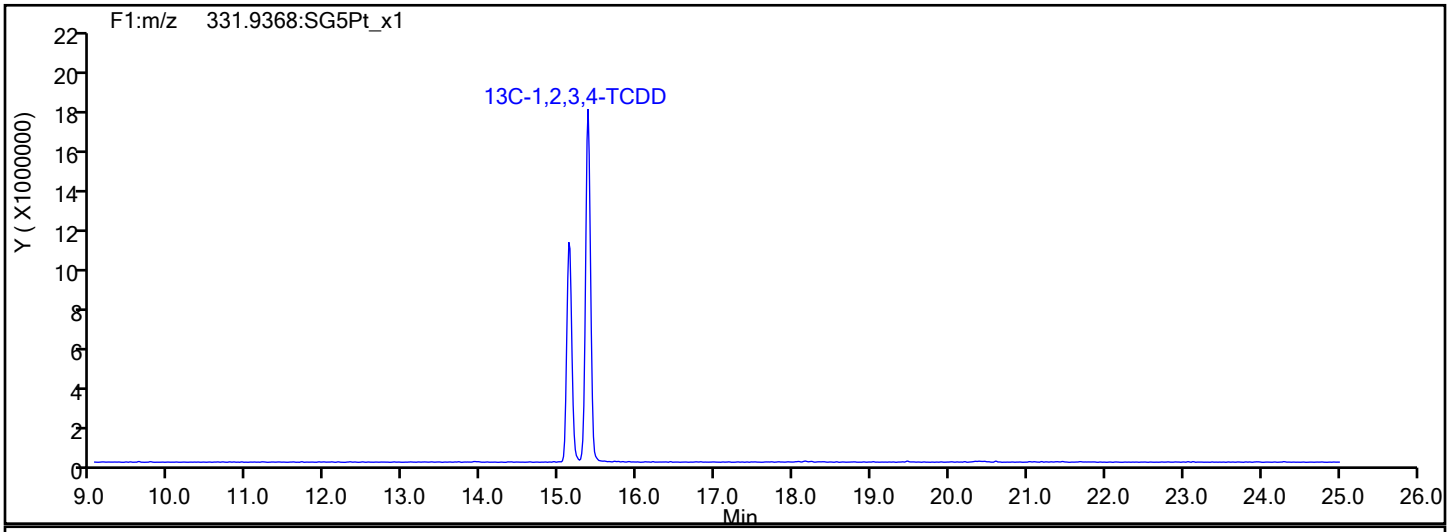

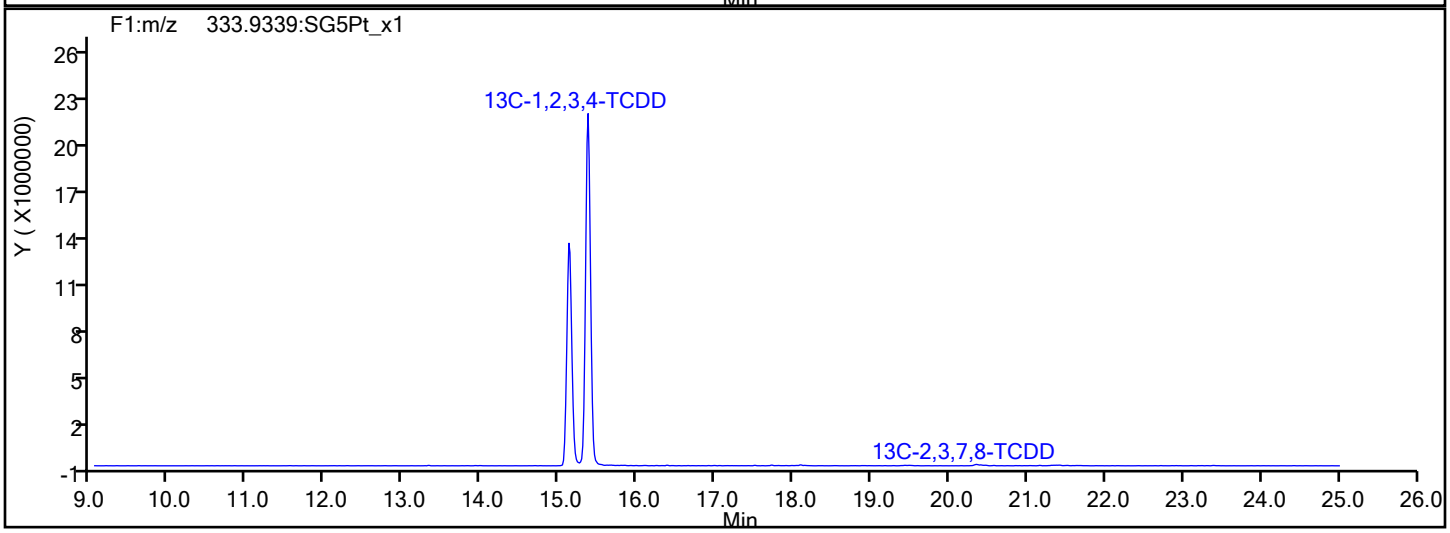

Report Date: 11-Feb-2020 15:20:39 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200207-90742.b\07FE2011D2_007.d		
Injection Date:	07-Feb-2020 17:27:27	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Western-Solids		
Worklist#:	355913	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

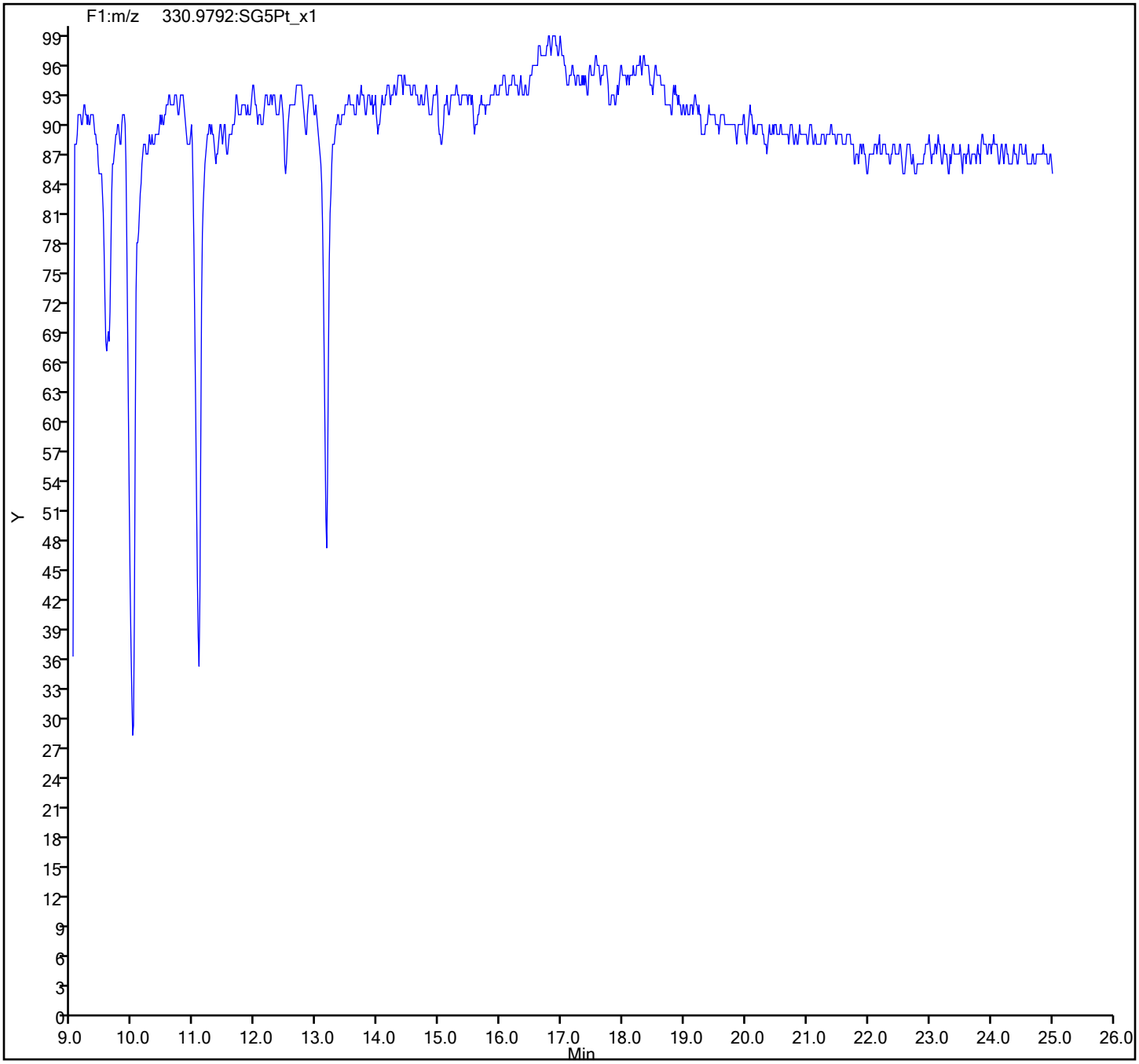

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1 Analy Batch No.: 353986

SDG No.:

Instrument ID: 10D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/30/2020 01:49 Calibration End Date: 01/30/2020 04:53 Calibration ID: 48923

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-353986/4	29JA20B10D5_4.d
Level 2	IC 320-353986/5	29JA20B10D5_5.d
Level 3	IC 320-353986/6	29JA20B10D5_6.d
Level 4	IC 320-353986/7	29JA20B10D5_7.d
Level 5	IC 320-353986/8	29JA20B10D5_8.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
2,3,7,8-TCDF	0.7352	0.7325	0.7409	0.7985	0.8305	AveID		0.7675				5.8		20.0			
2,3,7,8-TCDD	0.9720	0.9426	0.8920	0.9822	1.0106	AveID		0.9599				4.7		20.0			
1,2,3,7,8-PeCDF	0.8708	0.8546	0.8888	0.9342	0.9424	AveID		0.8982				4.3		20.0			
2,3,4,7,8-PeCDF	0.7429	0.8034	0.8126	0.8454	0.8462	AveID		0.8101				5.2		20.0			
1,2,3,7,8-PeCDD	0.9839	0.9482	0.9774	1.0357	1.0351	AveID		0.9961				3.8		20.0			
1,2,3,4,7,8-HxCDF	0.7369	0.7455	0.7898	0.8349	0.8508	AveID		0.7916				6.5		20.0			
1,2,3,6,7,8-HxCDF	0.7909	0.8203	0.8655	0.9148	0.9275	AveID		0.8638				6.8		20.0			
2,3,4,6,7,8-HxCDF	0.8562	0.8368	0.9154	0.9466	0.9501	AveID		0.9010				5.8		20.0			
1,2,3,4,7,8-HxCDD	0.8272	0.8169	0.8477	0.8510	0.8531	AveID		0.8392				1.9		20.0			
1,2,3,6,7,8-HxCDD	0.8213	0.8743	0.8619	0.9374	0.9431	AveID		0.8876				5.8		20.0			
1,2,3,7,8,9-HxCDD	0.9072	0.9601	0.9461	0.9780	0.9921	AveID		0.9567				3.4		20.0			
1,2,3,7,8,9-HxCDF	0.8436	0.8732	0.9121	0.9616	0.9728	AveID		0.9127				6.1		20.0			
1,2,3,4,6,7,8-HpCDF	1.2837	1.3047	1.3387	1.3784	1.3819	AveID		1.3375				3.3		20.0			
1,2,3,4,6,7,8-HpCDD	0.9476	0.9680	0.9658	1.0076	1.0166	AveID		0.9811				3.0		20.0			
1,2,3,4,7,8,9-HpCDF	1.0143	1.0627	1.0685	1.1097	1.1169	AveID		1.0744				3.8		20.0			
OCDD	0.9844	0.9916	0.9761	1.0129	1.0037	AveID		0.9937				1.5		20.0			
OCDF	1.0113	1.0322	1.0479	1.1179	1.1203	AveID		1.0659				4.7		20.0			
13C-2,3,7,8-TCDF	1.1168	1.1418	1.1163	1.1353	1.1274	Ave		1.1275				1.0		35.0			
13C-2,3,7,8-TCDD	0.8906	0.8986	0.9083	0.9077	0.9107	Ave		0.9032				0.9		35.0			
13C-1,2,3,7,8-PeCDF	0.9188	0.9461	0.9761	0.9533	1.0132	Ave		0.9615				3.7		35.0			
13C-2,3,4,7,8-PeCDF	1.0128	0.9791	1.0438	1.0447	1.1162	Ave		1.0393				4.9		35.0			
13C-1,2,3,7,8-PeCDD	0.6826	0.6783	0.6855	0.6876	0.7349	Ave		0.6938				3.4		35.0			
13C-1,2,3,4,7,8-HxCDF	0.8285	0.8283	0.8786	0.8847	0.8512	Ave		0.8543				3.1		35.0			
13C-1,2,3,6,7,8-HxCDF	0.8345	0.8188	0.8561	0.8529	0.8181	Ave		0.8361				2.2		35.0			
13C-2,3,4,6,7,8-HxCDF	0.7624	0.7678	0.7863	0.7900	0.7801	Ave		0.7773				1.5		35.0			
13C-1,2,3,4,7,8-HxCDD	0.7702	0.7684	0.7979	0.8534	0.8352	Ave		0.8050				4.8		35.0			
13C-1,2,3,6,7,8-HxCDD	0.8282	0.8202	0.8633	0.8151	0.8079	Ave		0.8269				2.6		35.0			
13C-1,2,3,7,8,9-HxCDF	0.6995	0.7107	0.7205	0.7199	0.7328	Ave		0.7167				1.7		35.0			
13C-1,2,3,4,6,7,8-HpCDF	0.6955	0.7057	0.7174	0.7244	0.6972	Ave		0.7080				1.8		35.0			
13C-1,2,3,4,6,7,8-HpCDD	0.7230	0.7161	0.7651	0.7713	0.7612	Ave		0.7473				3.4		35.0			
13C-1,2,3,4,7,8,9-HpCDF	0.7143	0.7033	0.7491	0.7790	0.7798	Ave		0.7451				4.8		35.0			
13C-OCDD	0.6184	0.6296	0.6687	0.6865	0.7079	Ave		0.6622				5.7		35.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1 Analy Batch No.: 353986

SDG No.:

Instrument ID: 10D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/30/2020 01:49 Calibration End Date: 01/30/2020 04:53 Calibration ID: 48923

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
37Cl4-2,3,7,8-TCDD	0.8798	0.8879	0.9749	1.0364	1.0576	Ave		0.9673				8.5					

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1 Analy Batch No.: 353986

SDG No.:

Instrument ID: 10D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/30/2020 01:49 Calibration End Date: 01/30/2020 04:53 Calibration ID: 48923

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-353986/4	29JA20B10D5_4.d
Level 2	IC 320-353986/5	29JA20B10D5_5.d
Level 3	IC 320-353986/6	29JA20B10D5_6.d
Level 4	IC 320-353986/7	29JA20B10D5_7.d
Level 5	IC 320-353986/8	29JA20B10D5_8.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (PG/UL)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
2,3,7,8-TCDF		AveID	219558	888805	4412445	20431926	96105391	0.500	2.00	10.0	40.0	200
2,3,7,8-TCDD		AveID	231458	900188	4322280	20094350	94468546	0.500	2.00	10.0	40.0	200
1,2,3,7,8-PeCDF		AveID	1069618	4296187	23142756	100354025	490023644	2.50	10.0	50.0	200	1000
2,3,4,7,8-PeCDF		AveID	1005906	4180023	22625132	99521759	484741081	2.50	10.0	50.0	200	1000
1,2,3,7,8-PeCDD		AveID	897948	3417776	17873504	80246961	390429195	2.50	10.0	50.0	200	1000
1,2,3,4,7,8-HxCDF		AveID	671274	2676952	14859982	66495631	318854007	2.50	10.0	50.0	200	1000
1,2,3,6,7,8-HxCDF		AveID	725683	2911436	15865629	70250838	334084350	2.50	10.0	50.0	200	1000
2,3,4,6,7,8-HxCDF		AveID	717749	2785285	15413461	67331592	326355344	2.50	10.0	50.0	200	1000
1,2,3,4,7,8-HxCDD		AveID	700430	2720931	14484522	65382847	313711466	2.50	10.0	50.0	200	1000
1,2,3,6,7,8-HxCDD		AveID	747945	3108758	15933295	68785725	335470802	2.50	10.0	50.0	200	1000
1,2,3,7,8,9-HxCDD		AveID	797129	3305951	16827816	73450360	358844536	2.50	10.0	50.0	200	1000
1,2,3,7,8,9-HxCDF		AveID	648863	2690293	14071460	62323134	313903764	2.50	10.0	50.0	200	1000
1,2,3,4,6,7,8-HpCDF		AveID	981605	3991295	20564477	89887019	424195277	2.50	10.0	50.0	200	1000
1,2,3,4,6,7,8-HpCDD		AveID	753253	3005109	15823457	69966787	340721421	2.50	10.0	50.0	200	1000
1,2,3,4,7,8,9-HpCDF		AveID	796576	3240232	17140374	77825210	383499474	2.50	10.0	50.0	200	1000
OCDD		AveID	1338518	5412172	27951151	125200375	625662105	5.00	20.0	100	400	2000
OCDF		AveID	1375101	5634081	30007451	138188549	698349608	5.00	20.0	100	400	2000
13C-2,3,7,8-TCDF	13CTC	Ave	59724134	60669870	59557613	63967417	57856976	100	100	100	100	100
13C-2,3,7,8-TCDD	13CTC	Ave	47625866	47750377	48457404	51144205	46738785	100	100	100	100	100
13C-1,2,3,7,8-PeCDF	13CTC	Ave	49135392	50271745	52074542	53714045	51996022	100	100	100	100	100
13C-2,3,4,7,8-PeCDF	13CTC	Ave	54159362	52028379	55687826	58863166	57282367	100	100	100	100	100
13C-1,2,3,7,8-PeCDD	13CTC	Ave	36505473	36044037	36572632	38740832	37717891	100	100	100	100	100
13C-1,2,3,4,7,8-HxCDF	13CHx	Ave	36437504	35906017	37628448	39824520	37478371	100	100	100	100	100
13C-1,2,3,6,7,8-HxCDF	13CHx	Ave	36702281	35494068	36663775	38395283	36019385	100	100	100	100	100
13C-2,3,4,6,7,8-HxCDF	13CHx	Ave	33531834	33284581	33675050	35563872	34348713	100	100	100	100	100
13C-1,2,3,4,7,8-HxCDD	13CHx	Ave	33871376	33308651	34173011	38415840	36771940	100	100	100	100	100
13C-1,2,3,6,7,8-HxCDD	13CHx	Ave	36425321	35558088	36971045	36689566	35572032	100	100	100	100	100
13C-1,2,3,7,8,9-HxCDF	13CHx	Ave	30765834	30809360	30855181	32406883	32266559	100	100	100	100	100
13C-1,2,3,4,6,7,8-HpCDF	13CHx	Ave	30587884	30592525	30722755	32606646	30697152	100	100	100	100	100
13C-1,2,3,4,6,7,8-HpCDD	13CHx	Ave	31797466	31043218	32767179	34719607	33516886	100	100	100	100	100
13C-1,2,3,4,7,8,9-HpCDF	13CHx	Ave	31413014	30489328	32082286	35066339	34335333	100	100	100	100	100
13C-OCDD	13CHx	Ave	54390196	54582619	57273958	61805942	62333978	200	200	200	200	200
37Cl4-2,3,7,8-TCDD	13CTC	Ave	235238	943575	5201454	23359364	108553063	0.500	2.00	10.0	40.0	200

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1 Analy Batch No.: 353986

SDG No.:

Instrument ID: 10D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/30/2020 01:49 Calibration End Date: 01/30/2020 04:53 Calibration ID: 48923

Curve Type Legend:

Ave = Average ISTD
AveID = Average isotope dilution

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #	User
1	29JA20B10D5_1	CS-4 HRDXNL4_00091	CCV 012920C	Tray01:2	Dioxin		ALM
2	29JA20B10D5_2	WDM HRDXNCP_00040	WDM 012920B	Tray01:1	Dioxin		ALM
3	29JA20B10D5_3	Solvent Blank C-14	SB 012920	Tray01:3	---		ALM
4	29JA20B10D5_4	CS-2 HRDXNL2_00028	IC 012920	Tray01:4	Dioxin		ALM
5	29JA20B10D5_5	CS-3 HRDXNL3_00026	IC 012920A	Tray01:5	Dioxin		ALM
6	29JA20B10D5_6	CS-4 HRDXNL4_00091	IC 012920B	Tray01:2	Dioxin		ALM
7	29JA20B10D5_7	CS-5 HRDXNL5_00029	IC 012920C	Tray01:6	Dioxin		ALM
8	29JA20B10D5_8	CS-6 HRDXNL6_00025	IC 012920D	Tray01:7	Dioxin		ALM
9	29JA20B10D5_9	Solvent Blank C-14	SB 012920A	Tray01:3	---		ALM
10	29JA20B10D5_10	ICV HRDXNIC_00043	ICV 012920	Tray01:8	Dioxin		ALM
11	29JA20B10D5_11	WDM HRDXNCP_00040	WDM 012920C	Tray01:1	Dioxin		ALM
12	29JA20B10D5_12	CS-4 HRDXNL4_00091	CCV 012920D	Tray01:2	Dioxin		ALM
13	29JA20B10D5_13	Solvent Blank C-14	SB 012920B	Tray01:3	---		ALM
14	29JA20B10D5_14	MB 320-351768/1-A	MB 320-351768/1-A	Tray01:15	1613B/Water	D126	ALM
15	29JA20B10D5_15	LCS 320-351768/2-A	LCS 320-351768/2-A	Tray01:16	1613B/Water		ALM
16	29JA20B10D5_16	LCSD 320-351768/3-A	LCSD 320-351768/3-A	Tray01:17	1613B/Water	---	ALM
17	29JA20B10D5_17	320-57793-C-1-A	320-57793-C-1-A	Tray01:18	1613B/Water	---	ALM
18	29JA20B10D5_18	320-57795-B-1-A	320-57795-B-1-A	Tray01:19	1613B/Water		ALM
19	29JA20B10D5_19	320-57795-C-2-A	320-57795-C-2-A	Tray01:20	1613B/Water		ALM
20	29JA20B10D5_20	320-57834-A-1-A	320-57834-A-1-A	Tray01:21	1613B/Water		ALM
21	29JA20B10D5_21	320-57834-A-2-A	320-57834-A-2-A	Tray01:22	1613B/Water		ALM
22	29JA20B10D5_22	480-164848--C-1-A RI	480-164848--C-1-A RI	Tray01:23	1613B_T/Water	D124	ALM
23	29JA20B10D5_23	550-136286-H-1-A	550-136286-H-1-A	Tray01:24	1613B_T/Water	D126	ALM
24	29JA20B10D5_24	Solvent Blank C-14	SB 012920C	Tray01:3	---		ALM
25	29JA20B10D5_25	CS-4 HRDXNL4_00091	CCV 012920E	Tray01:2	Dioxin		ALM
26	29JA20B10D5_26	WDM HRDXNCP_00040	WDM 012920D	Tray01:1	Dioxin		ALM
27	29JA20B10D5_27	Solvent Blank C-14	SB 012920D	Tray01:3	---		ALM

Log file checked
01/30/20 SMA

Sample Size	Units	MS File	Inlet File	Inject Volume	Process
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover

Process Options	Action On Error	s5
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
C:\Masslynx\Autospec\dioxinrescheck.dat	Ignore Error	---
---	---	C:\CHROM
C:\Masslynx\Autospec\dioxinrescheck.dat	Ignore Error	---
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
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---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	---
---	---	C:\CHROM
C:\Masslynx\Autospec\dioxinrescheck.dat	Ignore Error	---
C:\Masslynx\Autospec\dioxinrescheck.dat	Ignore Error	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, January 29, 2020 23:08:06 Pacific Standard Time

M 292.9824 R 11851

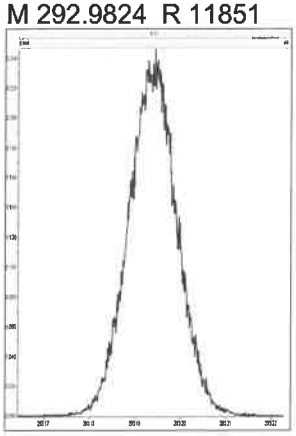

M 304.9824 R 12563

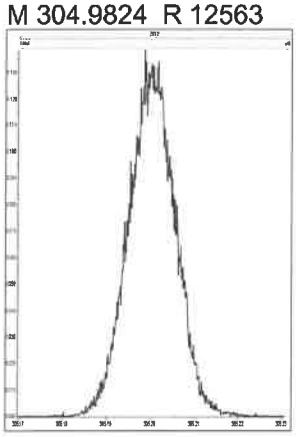

M 318.9792 R 12820

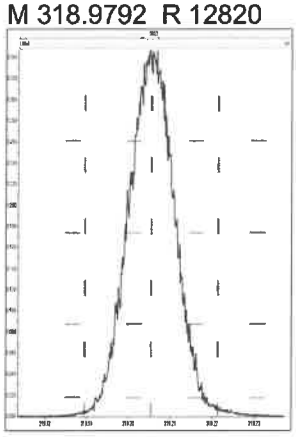

M 330.9792 R 13024

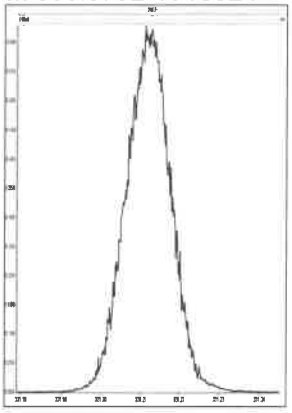

M 342.9792 R 12439

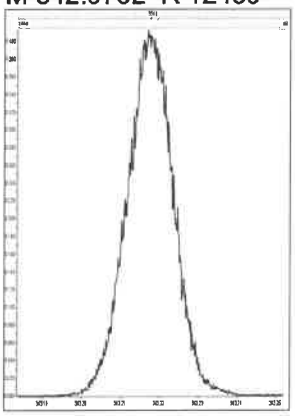

M 354.9792 R 12254

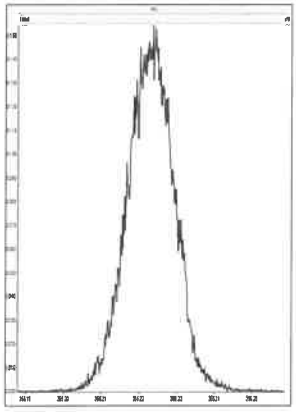

M 366.9792 R 11572

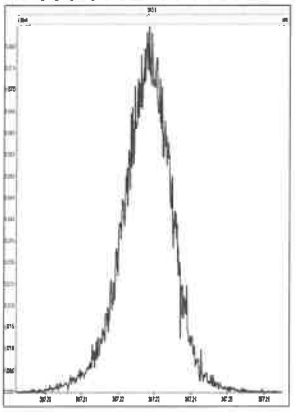

M 380.9760 R 11845

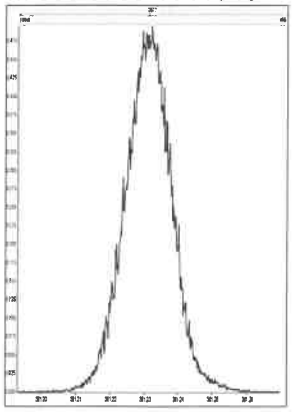

M 392.9760 R 11468

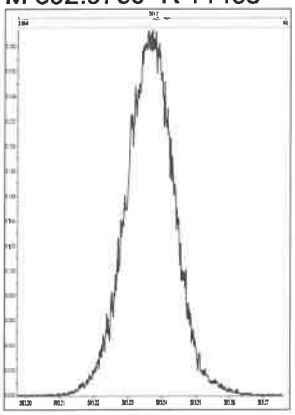

M 404.9760 R 11681

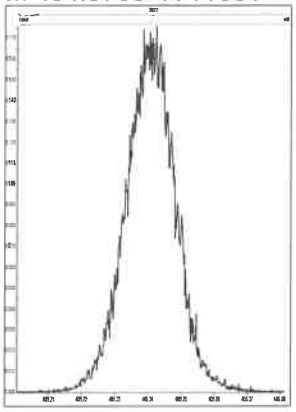

M 416.9760 R 11790

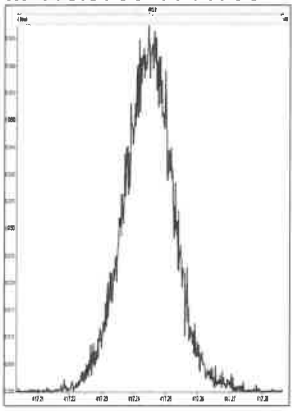

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 2 @ 200 (ppm)

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M 318.9792 R 11683

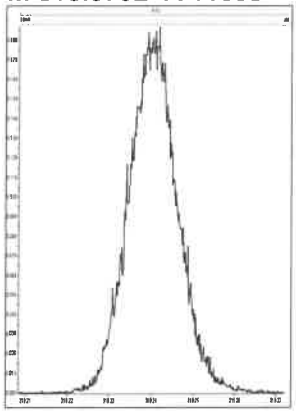

M 330.9792 R 12135

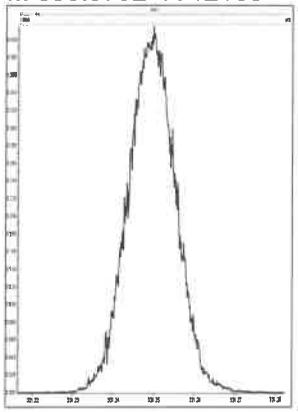

M 342.9792 R 12623

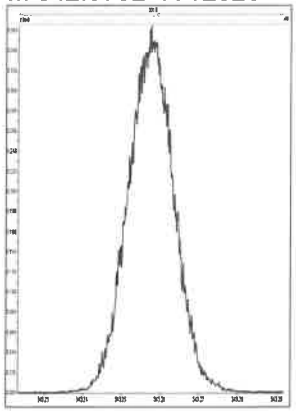

M 354.9792 R 13229

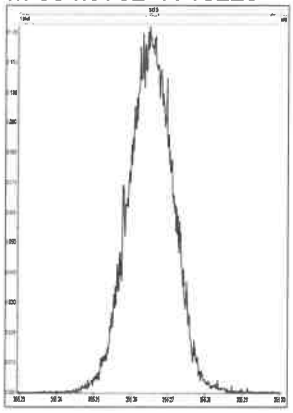

M 366.9792 R 12375

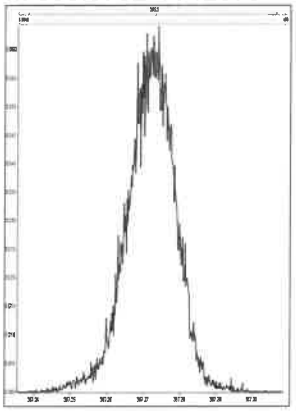

M 380.9760 R 12624

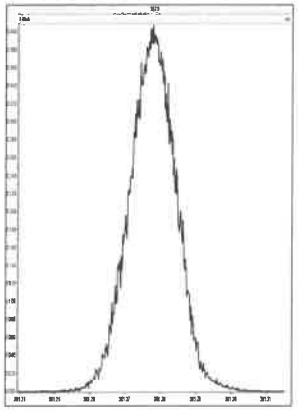

M 392.9760 R 12623

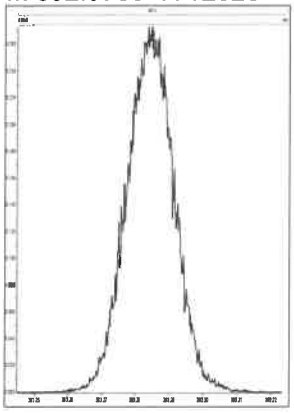

M 404.9760 R 11962

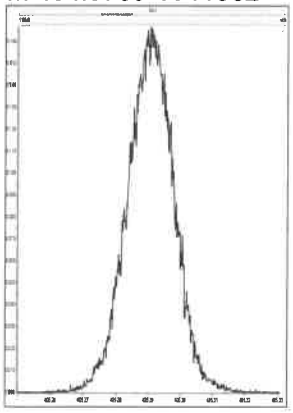

M 416.9760 R 12198

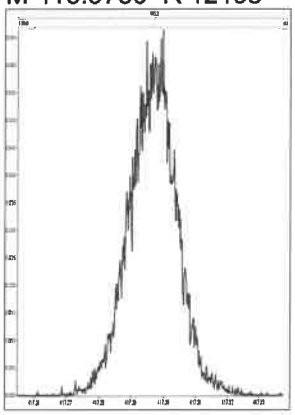

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, January 29, 2020 23:13:01 Pacific Standard Time

M 366.9792 R 11792

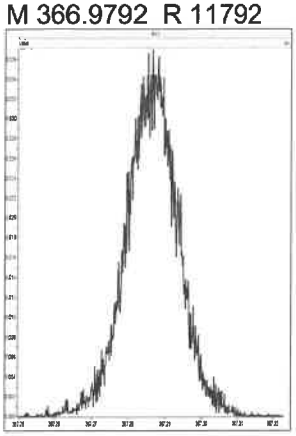

M 380.9760 R 12499

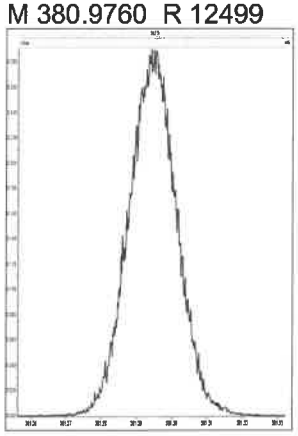

M 392.9760 R 12628

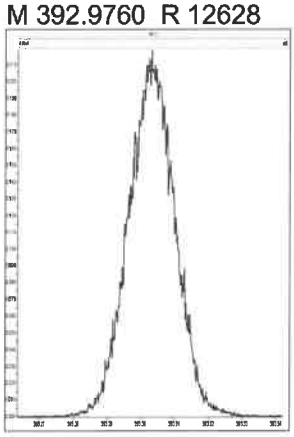

M 404.9760 R 12496

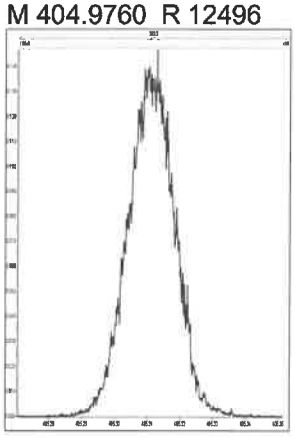

M 416.9760 R 12820

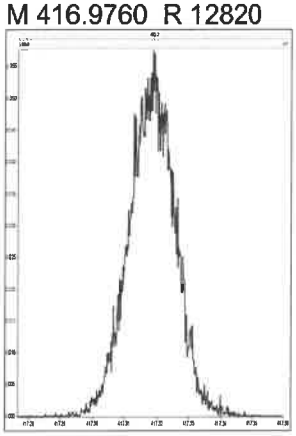

M 430.9728 R 12566

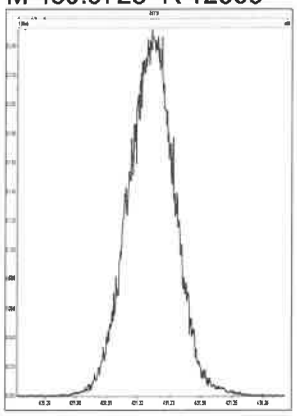

M 442.9728 R 12439

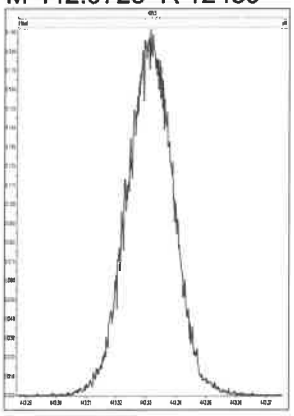

M 454.9728 R 12077

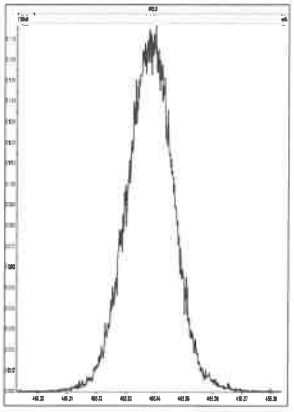

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, January 29, 2020 23:14:49 Pacific Standard Time

M 380.9760 R 11468

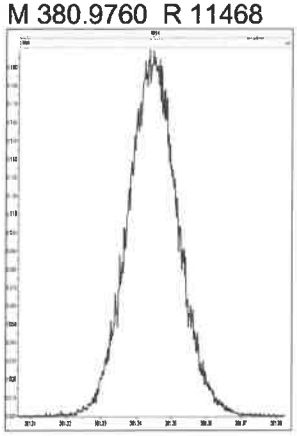

M 392.9760 R 12562

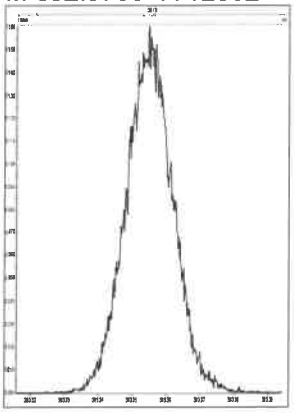

M 404.9760 R 12138

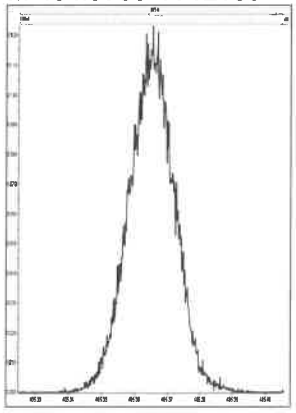

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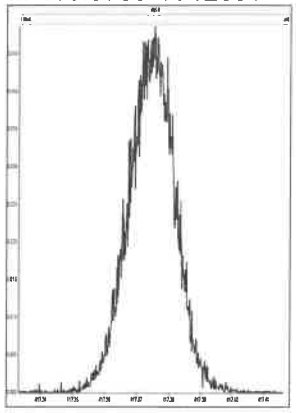

M 430.9728 R 12251

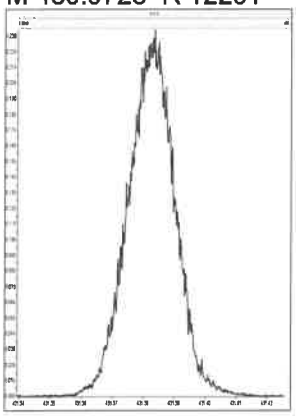

M 442.9728 R 12375

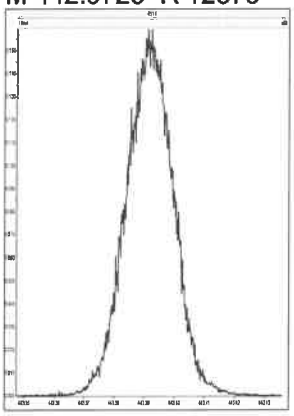

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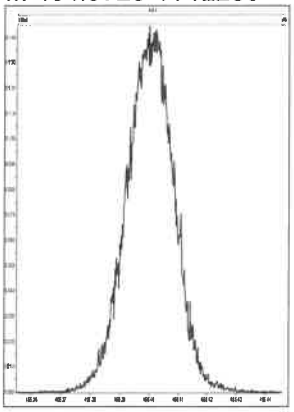

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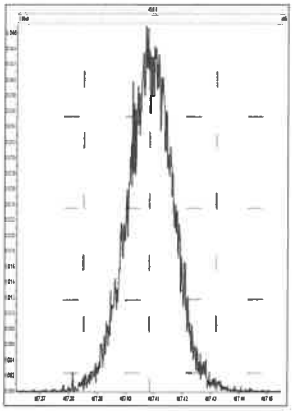

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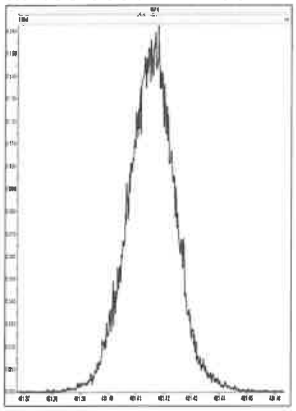

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M 380.9760 R 12020

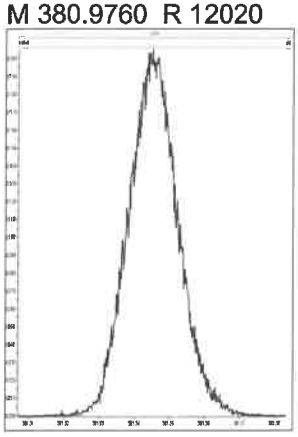

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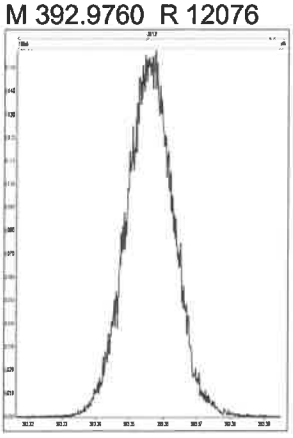

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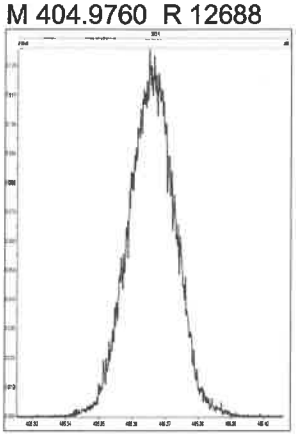

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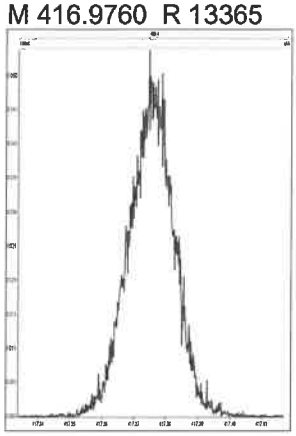

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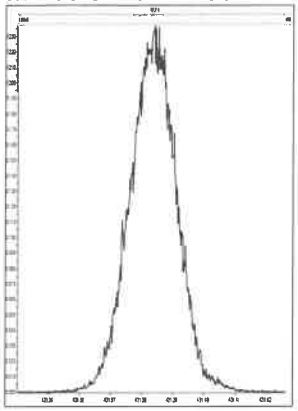

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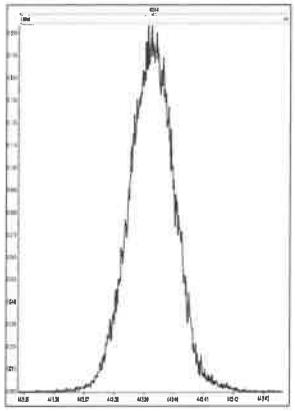

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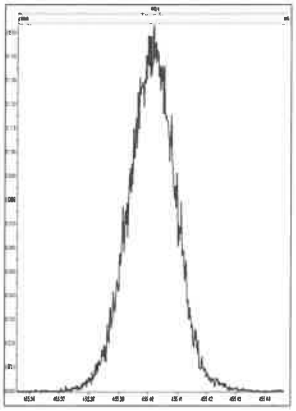

M 466.9728 R 12255

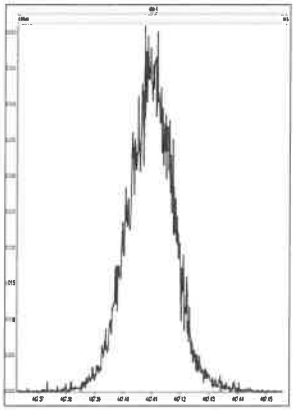

M 480.9696 R 11737

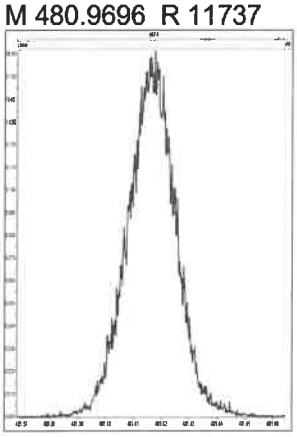

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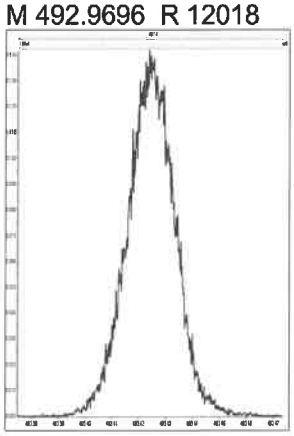

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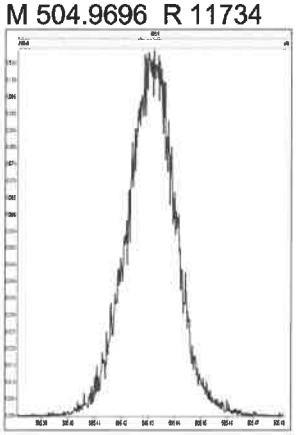

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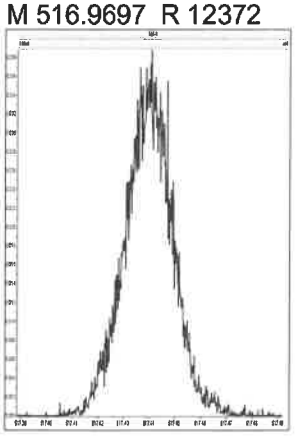

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M 292.9824 R 12170

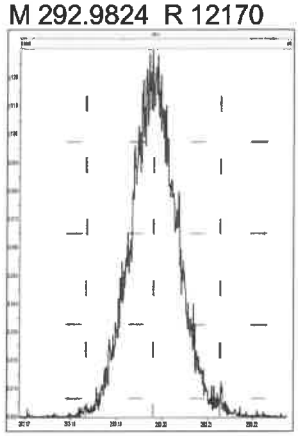

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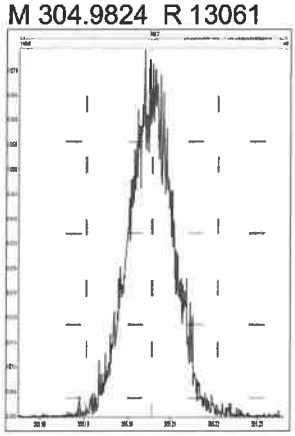

M 318.9792 R 13297

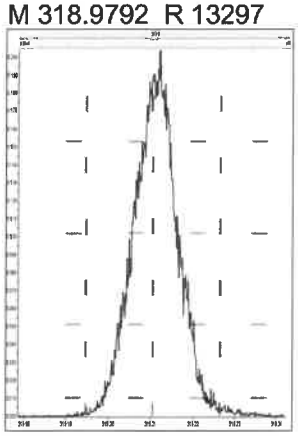

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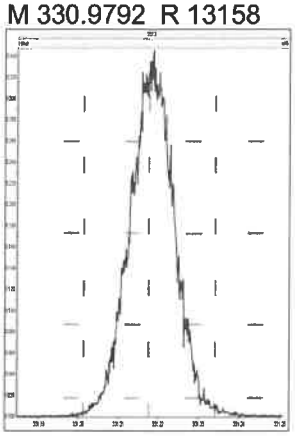

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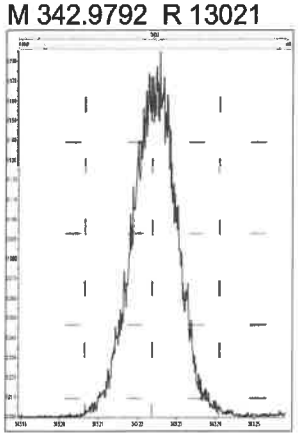

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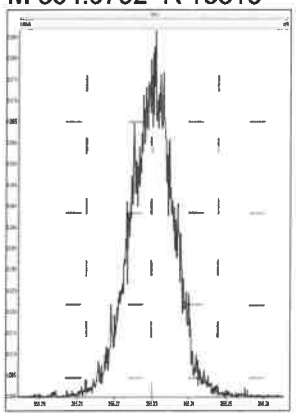

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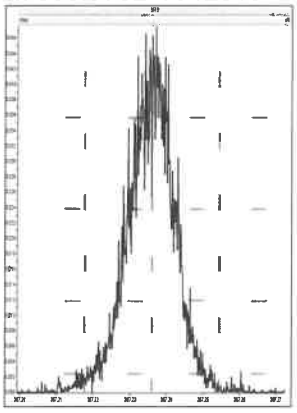

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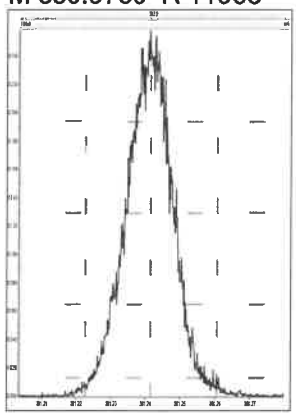

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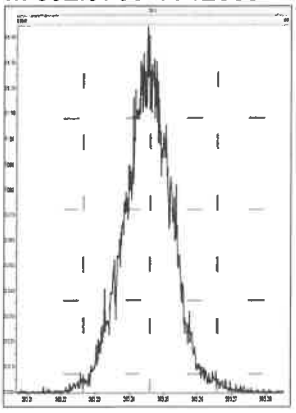

M 404.9760 R 12199

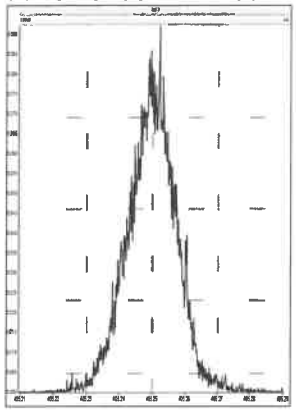

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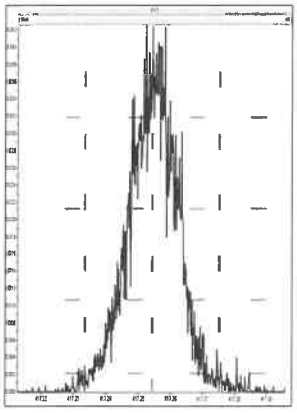

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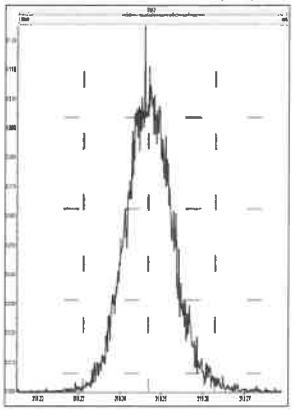

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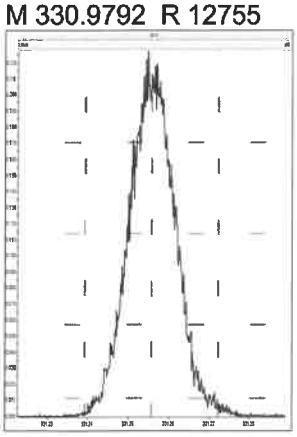

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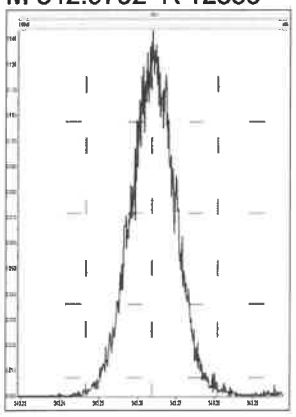

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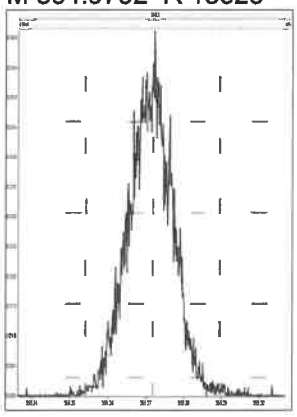

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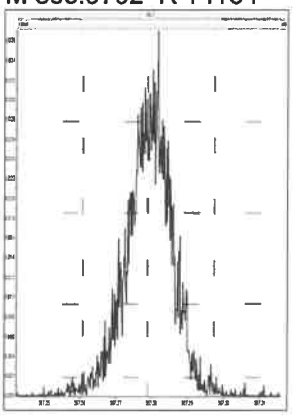

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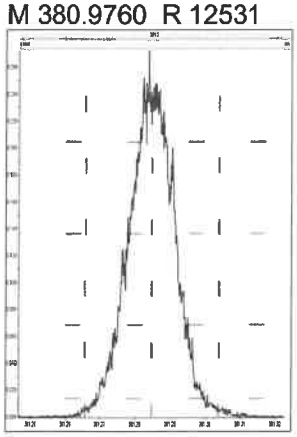

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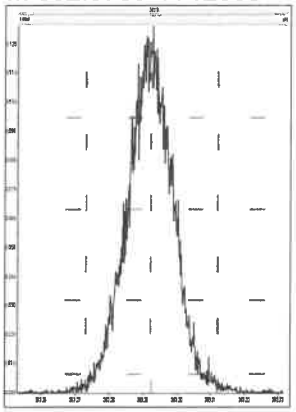

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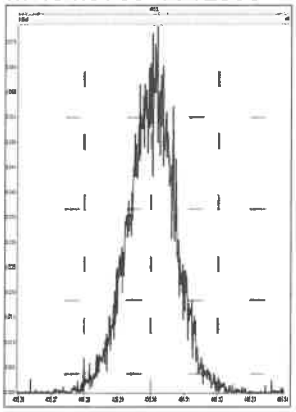

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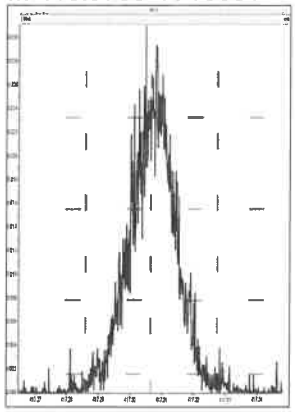

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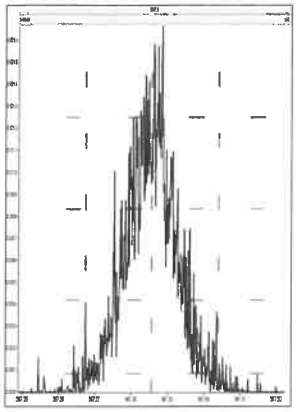

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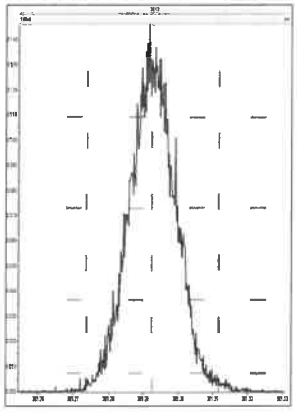

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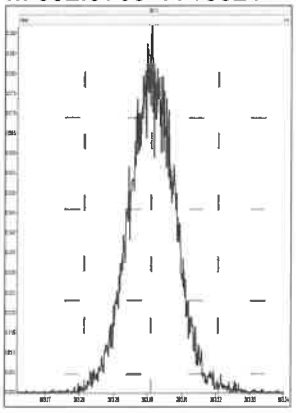

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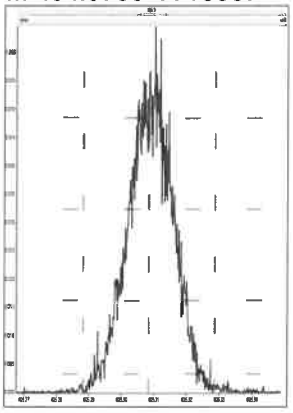

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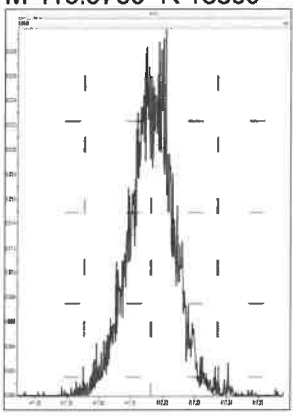

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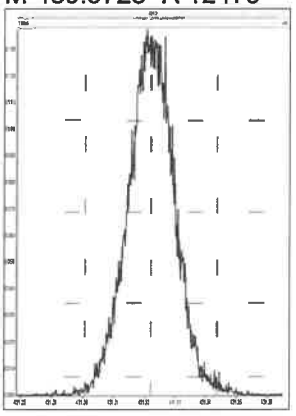

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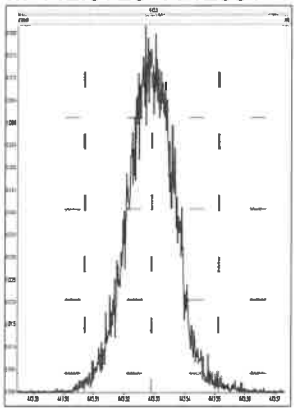

M 454.9728 R 12801

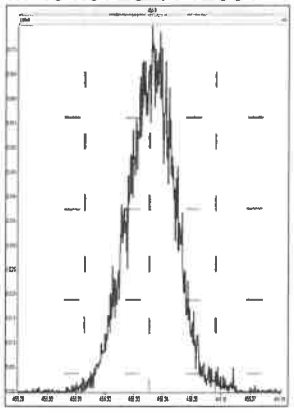

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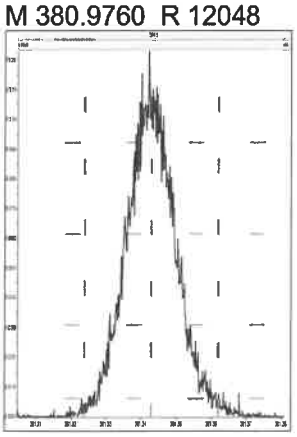

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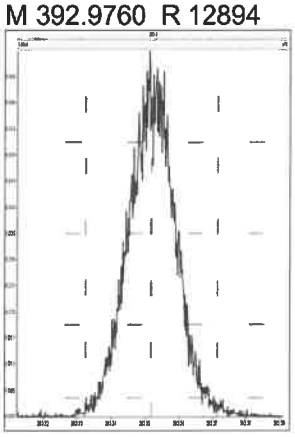

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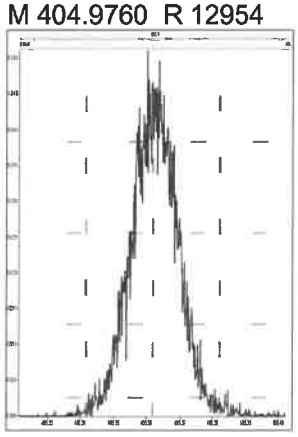

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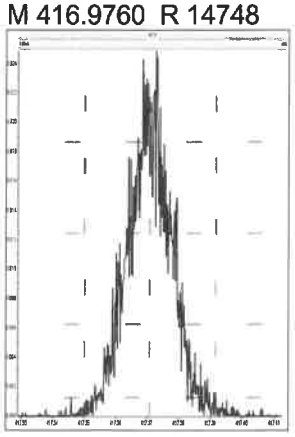

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M 430.9728 R 12958

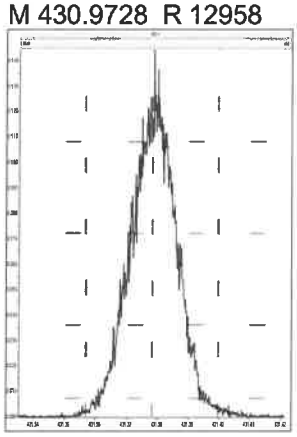

M 442.9728 R 13130

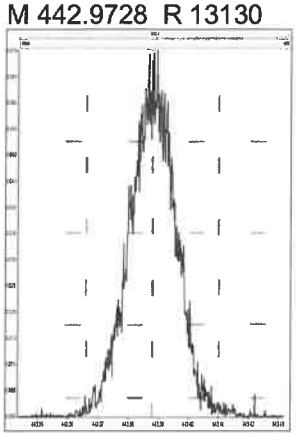

M 454.9728 R 13257

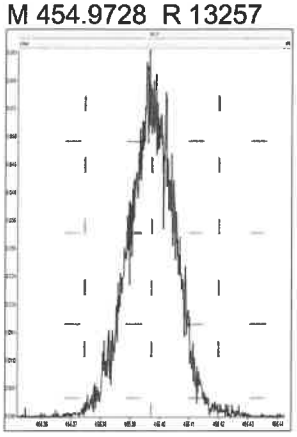

M 466.9728 R 14643

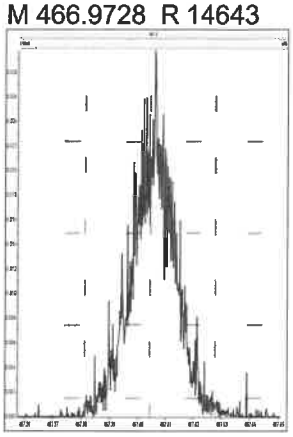

M 480.9696 R 12535

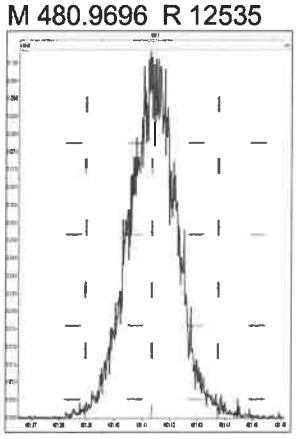

M 380.9760 R 11415

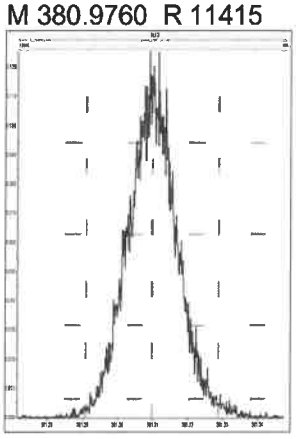

M 392.9760 R 12724

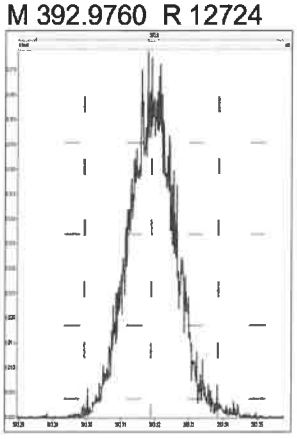

M 404.9760 R 12991

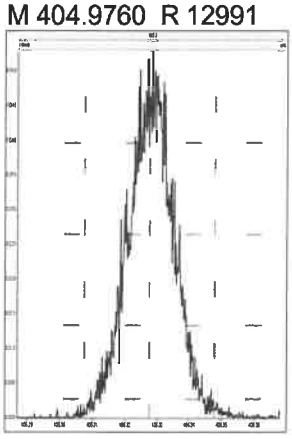

M 416.9760 R 14692

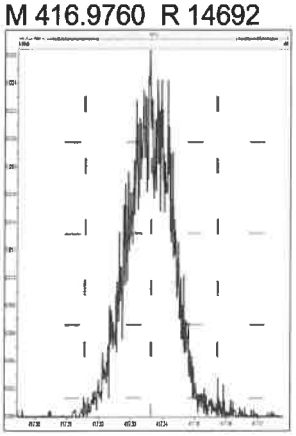

M 430.9728 R 12793

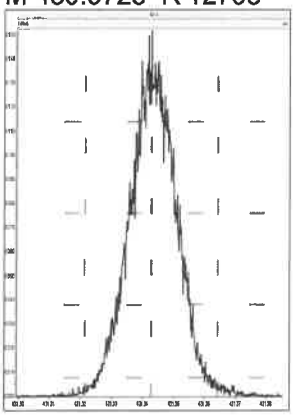

M 442.9728 R 12853

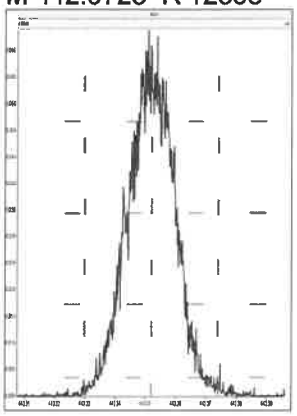

M 454.9728 R 13527

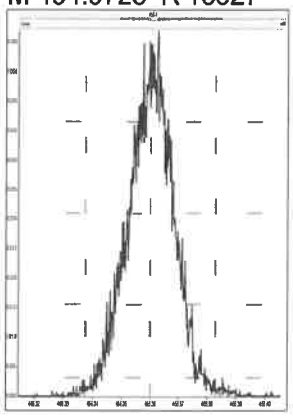

M 466.9728 R 13782

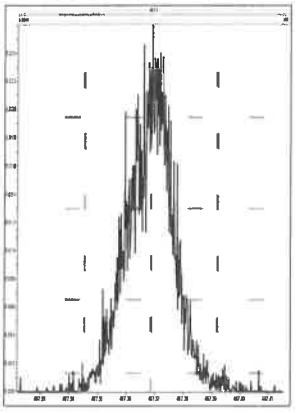

M 480.9696 R 11957

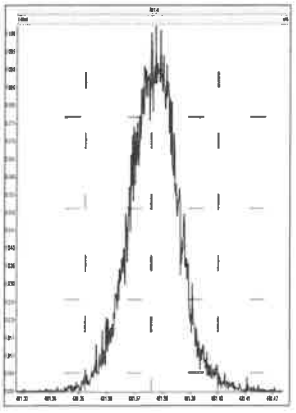

M 492.9696 R 12953

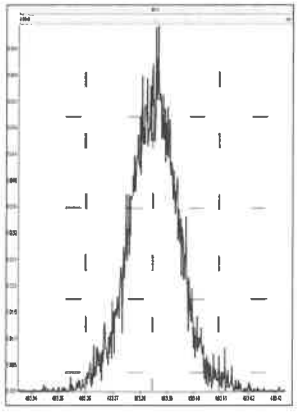

M 504.9696 R 13026

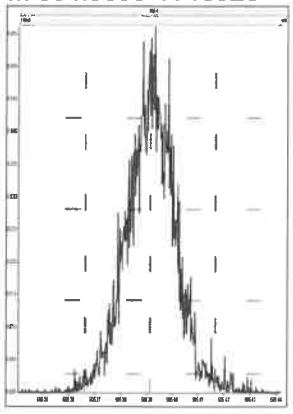

Printed: Thursday, January 30, 2020 07:31:06 Pacific Standard Time

M 516.9697 R 13280

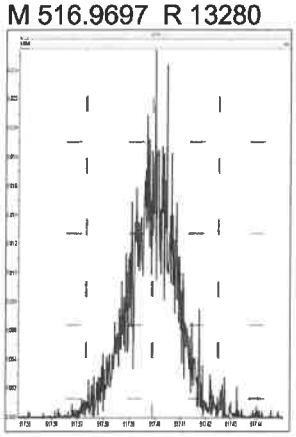

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_4.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 30-Jan-2020 01:49:10 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 012920 CS-2 HRDXNL2_00028
Misc. Info.: 29JA20B10D5
Operator ID: ALM Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 30-Jan-2020 09:31:26 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0321

First Level Reviewer: arghestanis Date: 30-Jan-2020 08:30:25

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.408	53476232	0.81	5.4E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.924	59724134	0.75	1.1275	99.1	99.1	0.2237	0.2237	99.05	
2,3,7,8-TCDF	16.939	219558	0.73	0.7675	0.4790	0.4790	0.0164	0.0164	95.79	
S Total TCDF					0.4790	0.4790	0.0164	0.0164		
D 13C-2,3,7,8-TCDD	17.604	47625866	0.79	0.9032	98.6	98.6	0.2244	0.2244	98.61	
2,3,7,8-TCDD	17.620	231458	0.88	0.9599	0.5063	0.5063	0.0249	0.0249	101	
$ 37Cl4-2,3,7,8-TCDD	17.620	235238		0.9673	0.4548	0.4548	0.007705	0.007705	90.95	
S Total TCDD					0.5063	0.5063	0.0249	0.0249		
D 13C-1,2,3,7,8-PeCDF	21.746	49135392	1.54	0.9615	95.6	95.6	0.2996	0.2996	95.56	
1,2,3,7,8-PeCDF	21.773	1069618	1.49	0.8982	2.424	2.424	0.0257	0.0257	96.95	
D 13C-2,3,4,7,8-PeCDF	23.041	54159362	1.55	1.0393	97.4	97.4	0.2771	0.2771	97.45	
2,3,4,7,8-PeCDF	23.055	1005906	1.49	0.8101	2.293	2.293	0.0270	0.0270	91.71	
S Total PeCDF					4.716	4.716	0.0263	0.0263		
D 13C-1,2,3,7,8-PeCDD	23.737	36505473	1.64	0.6938	98.4	98.4	0.1249	0.1249	98.39	
1,2,3,7,8-PeCDD	23.750	897948	1.52	0.9961	2.469	2.469	0.0273	0.0273	98.78	
S Total PeCDD					2.469	2.469	0.0273	0.0273		
D 13C-1,2,3,4,7,8-HxCDF	29.873	36437504	0.49	0.8543	97.0	97.0	0.4269	0.4269	96.98	
1,2,3,4,7,8-HxCDF	29.899	671274	1.21	0.7916	2.327	2.327	0.0441	0.0441	93.09	
D 13C-1,2,3,6,7,8-HxCDF	30.112	36702281	0.50	0.8361	99.8	99.8	0.4362	0.4362	99.81	
1,2,3,6,7,8-HxCDF	30.139	725683	1.18	0.8638	2.289	2.289	0.0393	0.0393	91.56	
D 13C-2,3,4,6,7,8-HxCDF	31.111	33531834	0.49	0.7773	98.1	98.1	0.4691	0.4691	98.08	
2,3,4,6,7,8-HxCDF	31.124	717749	1.17	0.9010	2.376	2.376	0.0285	0.0285	95.02	
D 13C-1,2,3,7,8,9-HxCDF	31.989	30765834	0.49	0.7167	97.6	97.6	0.5088	0.5088	97.61	
1,2,3,7,8,9-HxCDF	32.002	648863	1.27	0.9127	2.311	2.311	0.0287	0.0287	92.43	
S Total HxCDF					9.303	9.303	0.0351	0.0351		
* 13C-1,2,3,7,8,9-HxCDD	31.803	43980096	1.23	4.4E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.324	33871376	1.22	0.8050	95.7	95.7	0.3041	0.3041	95.67	
1,2,3,4,7,8-HxCDD	31.337	700430	1.36	0.8392	2.464	2.464	0.0207	0.0207	98.57	
D 13C-1,2,3,6,7,8-HxCDD	31.444	36425321	1.22	0.8269	100.2	100.2	0.2960	0.2960	100	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.457	747945	1.13	0.8876	2.313	2.313	0.0204	0.0204	92.53	
1,2,3,7,8,9-HxCDD	31.816	797129	1.20	0.9567	2.371	2.371	0.0185	0.0185	94.82	
S Total HxCDD					7.148	7.148	0.0199	0.0199		
D 13C-1,2,3,4,6,7,8-HpCDF	33.496	30587884	0.41	0.7080	98.2	98.2	1.150	1.150	98.23	
1,2,3,4,6,7,8-HpCDF	33.508	981605	1.00	1.3375	2.399	2.399	0.0298	0.0298	95.98	
D 13C-1,2,3,4,7,8,9-HpCDF	34.565	31413014	0.42	0.7451	95.9	95.9	1.093	1.093	95.86	
1,2,3,4,7,8,9-HpCDF	34.565	796576	1.03	1.0744	2.360	2.360	0.0454	0.0454	94.41	
S Total HpCDF					4.760	4.760	0.0376	0.0376		
D 13C-1,2,3,4,6,7,8-HpCDD	34.274	31797466	1.07	0.7473	96.7	96.7	0.5196	0.5196	96.74	
1,2,3,4,6,7,8-HpCDD	34.286	753253	1.06	0.9811	2.415	2.415	0.0315	0.0315	96.58	
S Total HpCDD					2.415	2.415	0.0315	0.0315		
D 13C-OCDD	36.578	54390196	0.88	0.6622	186.8	186.8	0.1251	0.1251	93.38	
OCDF	36.674	1375101	0.90	1.0659	4.744	4.744	0.0333	0.0333	94.87	
OCDD	36.590	1338518	0.89	0.9937	4.953	4.953	0.0227	0.0227	99.06	

Reagents:

HRDXNL2_00028 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_4.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 30-Jan-2020 01:49:10 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 012920 CS-2 HRDXNL2_00028
Misc. Info.: 29JA20B10D5
Operator ID: ALM Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 30-Jan-2020 09:31:26 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0321

First Level Reviewer: arghestanis Date: 30-Jan-2020 08:30:25

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.408	17.411	0		23905141	6156127	4848	12120	1270		
333.9339	17.408	17.411	0		29571091	7622583	6320	15800	1206	0.81(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.924	16.924	0	0.972	25612724	6223050	8687	21717	716		
317.9389	16.924	16.924	0	0.972	34111410	8168667	5213	13032	1567	0.75(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.939	16.939	0	1.001	92675	20327	225	562	90		
305.8987	16.924	16.939	-1	1.000	126883	30676	500	1250	61	0.73(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.604	17.605	0	1.011	21064766	4807939	4848	12120	992		
333.9339	17.604	17.605	0	1.011	26561100	6173359	6320	15800	977	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.620	17.623	0	1.001	108607	22734	681	1702	33		
321.8936	17.604	17.623	-1	1.000	122851	25793	368	920	70	0.88(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.620	17.623	0	1.012	235238	57501	411	1027	140		
13C-1,2,3,7,8-PeCDF											
351.9000	21.746	21.749	0	1.249	29757623	5244012	9464	23660	554		
353.8970	21.746	21.749	0	1.249	19377769	3384685	6410	16025	528	1.54(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.773	21.773	0	1.001	640056	110728	337	842	329		
341.8567	21.773	21.773	0	1.001	429562	73520	459	1147	160	1.49(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	23.041	23.042	0	1.324	32931911	5529176	9464	23660	584		
353.8970	23.041	23.042	0	1.324	21227451	3565169	6410	16025	556	1.55(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.055	23.066	-1	1.001	601457	94175	337	842	279		
341.8567	23.069	23.066	0	1.001	404449	65430	459	1147	143	1.49(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.737	23.737	0	1.364	22674278	3481441	2768	6920	1258		
369.8919	23.737	23.737	0	1.364	13831195	2191952	2009	5022	1091	1.64(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.750	23.761	-1	1.001	541678	78980	348	870	227		
357.8516	23.764	23.761	0	1.001	356270	53137	270	675	197	1.52(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.873	29.878	0	0.939	11946532	1644115	4849	12122	339		
385.8610	29.873	29.878	0	0.939	24490972	3342342	9300	23250	359	0.49(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.899	29.905	0	1.001	367030	48351	406	1015	119		
375.8178	29.899	29.905	0	1.001	304244	40246	291	727	138	1.21(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.112	30.118	0	0.947	12166823	1709379	4849	12122	353		
385.8610	30.112	30.118	0	0.947	24535458	3426532	9300	23250	368	0.50(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.139	30.142	0	1.001	392622	54919	406	1015	135		
375.8178	30.139	30.142	0	1.001	333061	47085	291	727	162	1.18(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.111	31.108	0	0.978	11027467	2256231	4849	12122	465		
385.8610	31.111	31.108	0	0.978	22504367	4527167	9300	23250	487	0.49(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.124	31.124	0	1.000	386734	76368	406	1015	188		
375.8178	31.124	31.124	0	1.000	331015	71138	291	727	244	1.17(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.989	31.992	0	1.006	10049343	2185361	4849	12122	451		
385.8610	31.989	31.992	0	1.006	20716491	4470913	9300	23250	481	0.49(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.002	32.008	0	1.000	363283	77343	406	1015	191		
375.8178	32.016	32.008	0	1.001	285580	61935	291	727	213	1.27(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.803	31.803	0		24292234	5370583	4815	12037	1115		
403.8529	31.803	31.803	0		19687862	4329208	4683	11707	924	1.23(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.324	31.324	0	0.985	18628883	4367675	4815	12037	907		
403.8529	31.324	31.324	0	0.985	15242493	3525940	4683	11707	753	1.22(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.337	31.337	0	1.000	403511	90997	306	765	297		
391.8127	31.337	31.337	0	1.000	296919	65608	242	605	271	1.36(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.444	31.441	0	0.989	20030018	4171191	4815	12037	866		
403.8529	31.444	31.441	0	0.989	16395303	3401917	4683	11707	726	1.22(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.457	31.457	0	1.000	396754	87728	306	765	287		
391.8127	31.457	31.457	0	1.000	351191	69622	242	605	288	1.13(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.816	31.816	0	1.016	435492	92820	306	765	303		
391.8127	31.816	31.816	0	1.016	361637	78142	242	605	323	1.20(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.496	33.499	0	1.053	8961405	2633609	10409	26022	253		
419.8220	33.496	33.499	0	1.053	21626479	6371060	21177	52942	301	0.41(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.508	33.511	0	1.000	489745	138754	718	1795	193		
409.7789	33.508	33.511	0	1.000	491860	148967	717	1792	208	1.00(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.565	34.563	0	1.087	9240436	2161533	10409	26022	208		
419.8220	34.565	34.563	0	1.087	22172578	5198188	21177	52942	245	0.42(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.565	34.570	0	1.000	404418	92745	718	1795	129		
409.7789	34.565	34.570	0	1.000	392158	85886	717	1792	120	1.03(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.274	34.279	0	1.078	16465685	4265340	8470	21175	504		
437.8140	34.274	34.279	0	1.078	15331781	3977548	6597	16492	603	1.07(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.286	34.288	0	1.000	387937	99769	554	1385	180		
425.7737	34.286	34.288	0	1.000	365316	91348	465	1162	196	1.06(0.88-1.20)	
13C-OCDD											
469.7779	36.578	36.578	0	1.150	25487113	5493119	1713	4282	3207		
471.7750	36.578	36.578	0	1.150	28903083	6218346	1501	3752	4143	0.88(0.76-1.02)	
OCDF											
441.7428	36.674	36.674	0	1.003	651124	132250	323	807	409		
443.7399	36.674	36.674	0	1.003	723977	151095	508	1270	297	0.90(0.76-1.02)	
OCDD											
457.7377	36.590	36.590	0	1.000	628807	135645	275	687	493		
459.7348	36.590	36.590	0	1.000	709711	149567	253	632	591	0.89(0.76-1.02)	

Reagents:

HRDXNL2_00028 Amount Added: 2.00 Units: uL

Report Date: 30-Jan-2020 09:31:50 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_4.d		
Injection Date:	30-Jan-2020 01:49:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

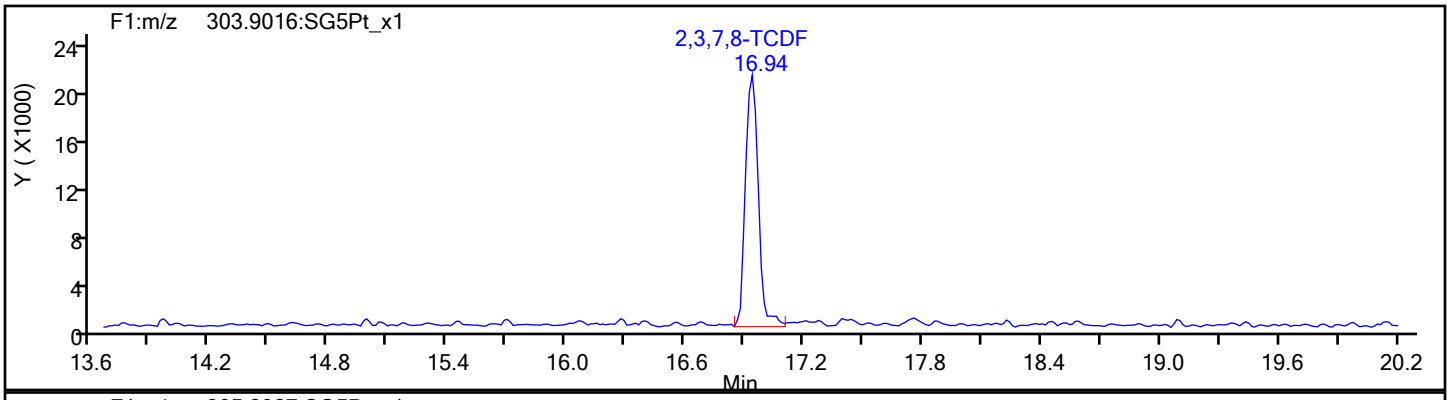

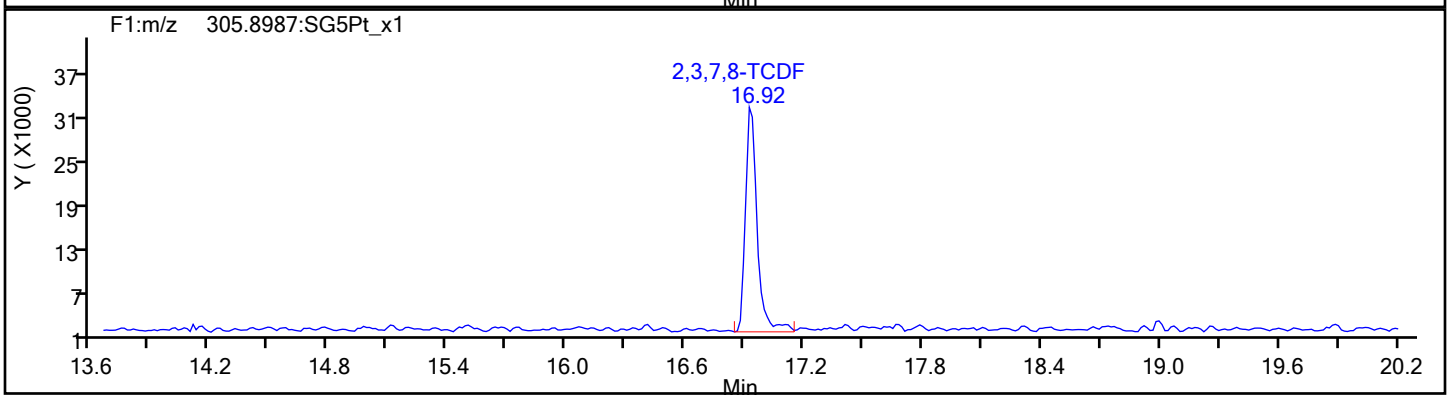

TCDF Standards

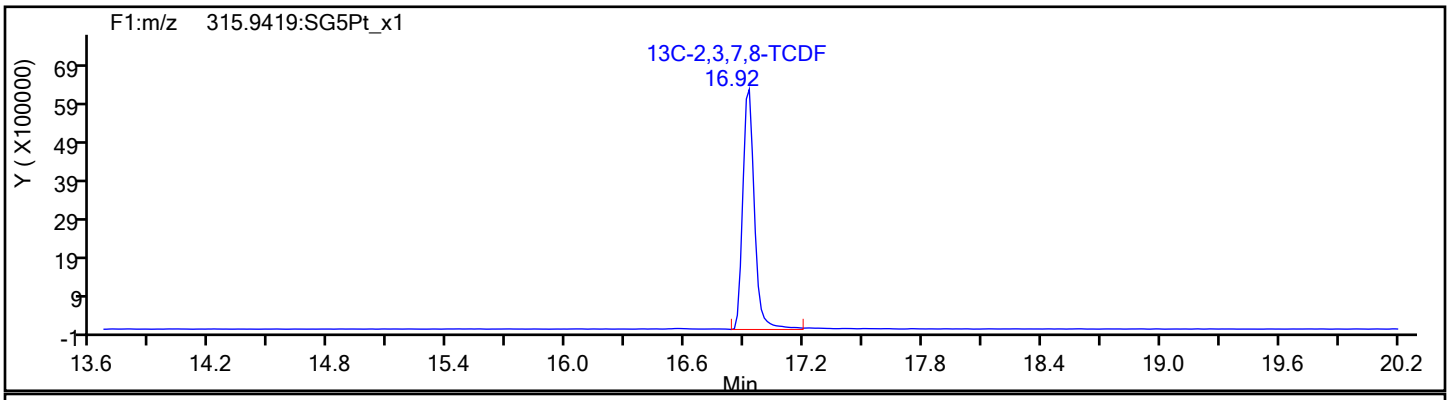

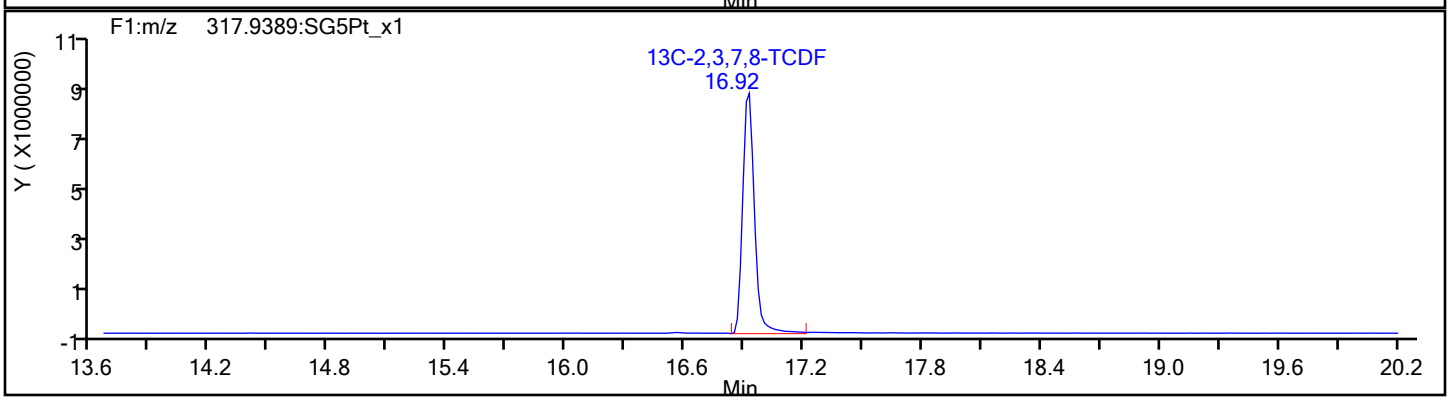

Report Date: 30-Jan-2020 09:31:50 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

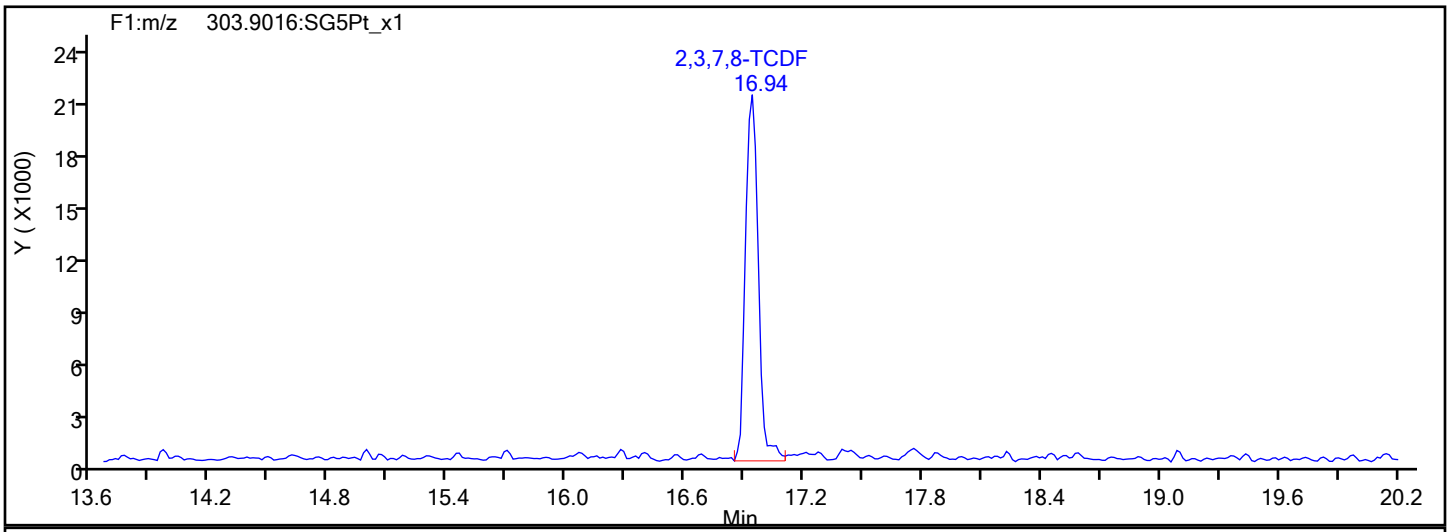

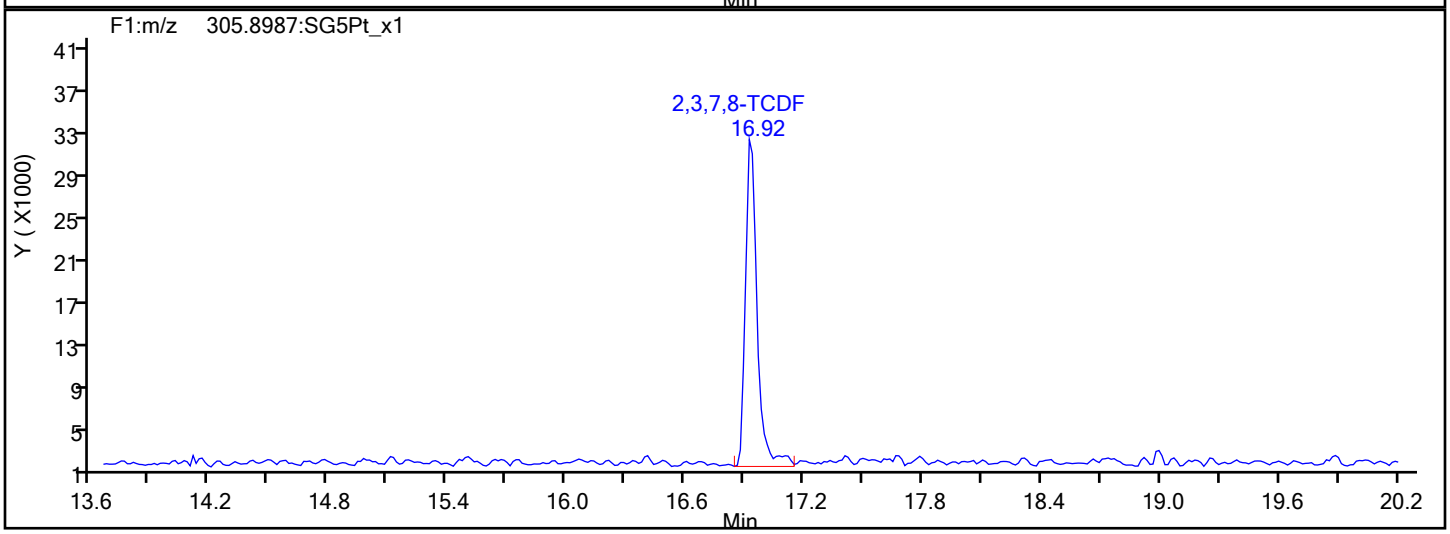

TCDF Interference Mass

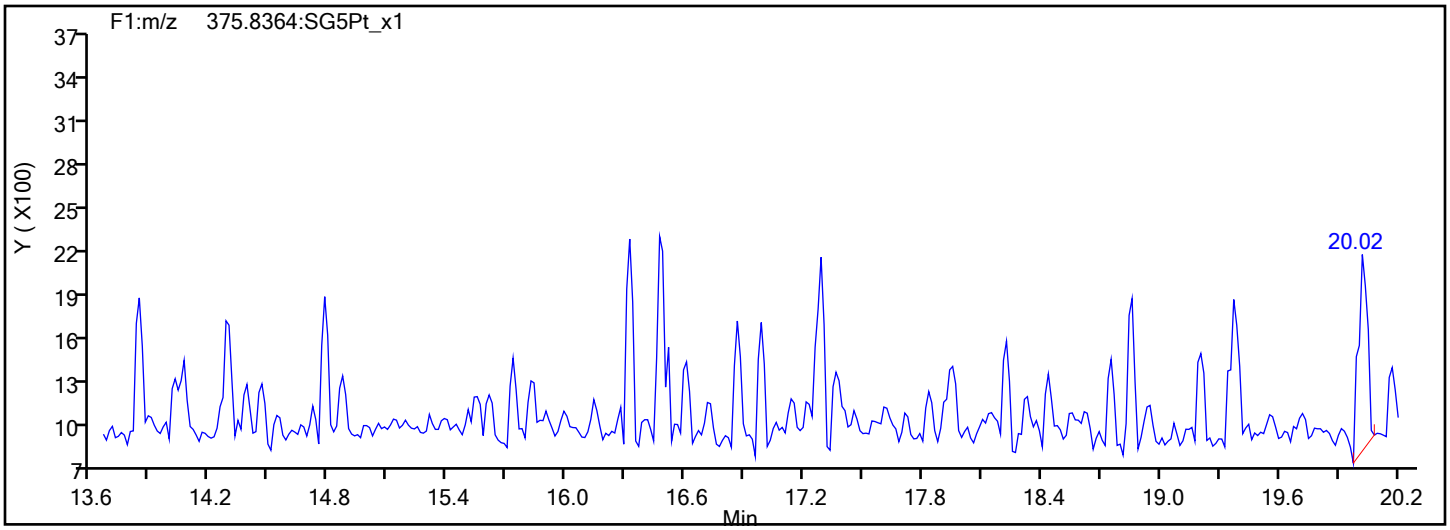

Report Date: 30-Jan-2020 09:31:50 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

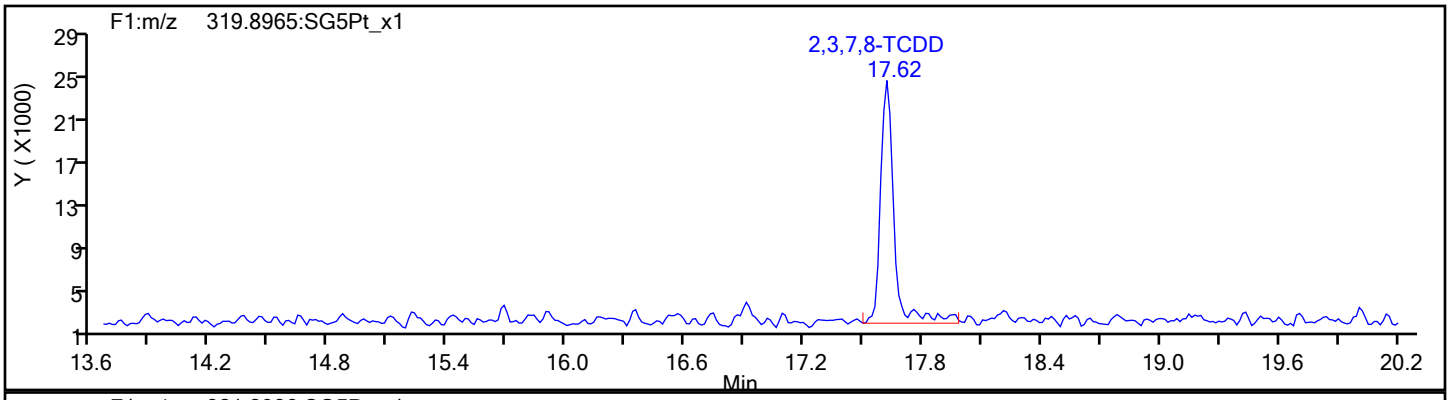

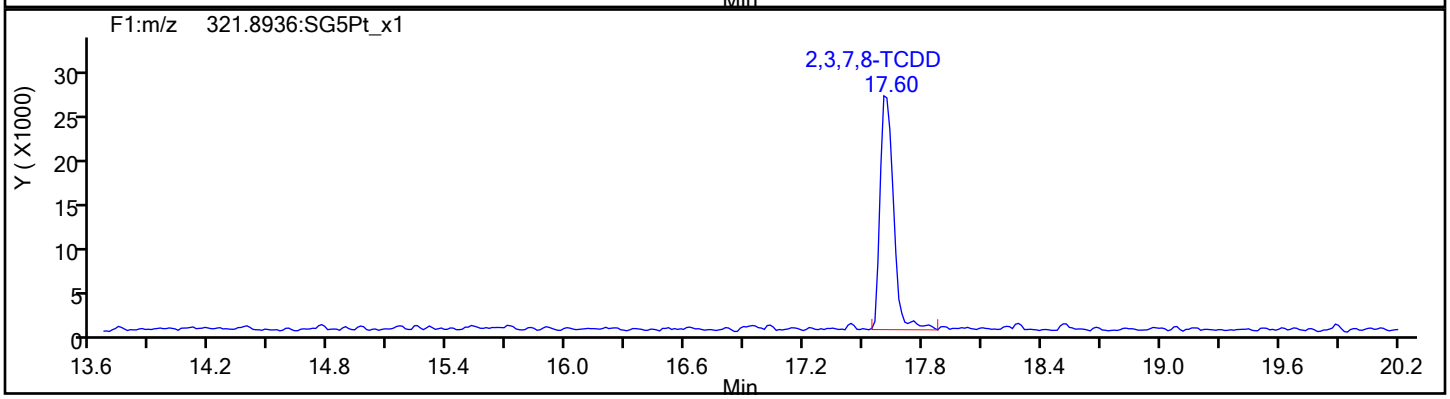

TCDD Standards

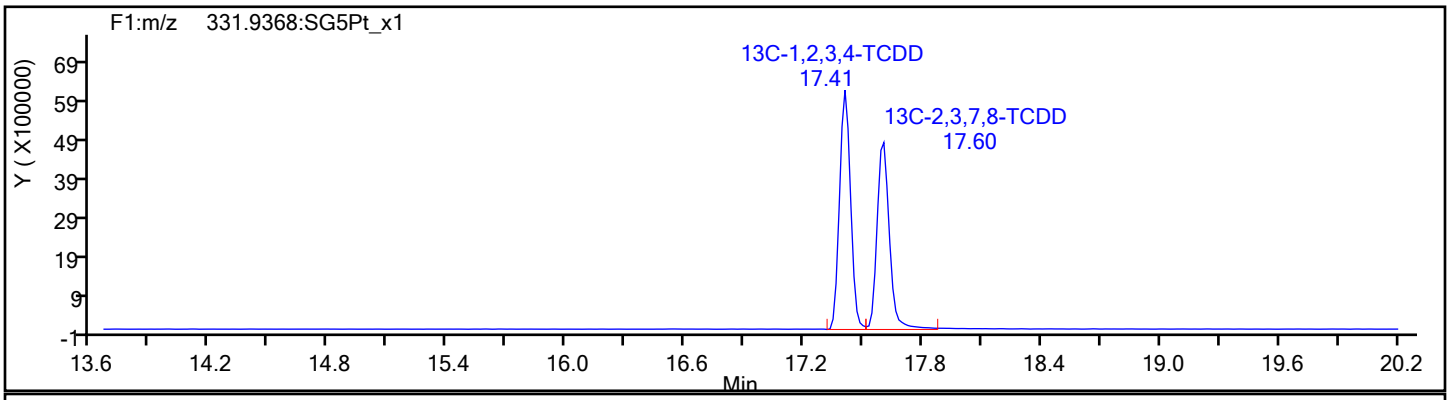

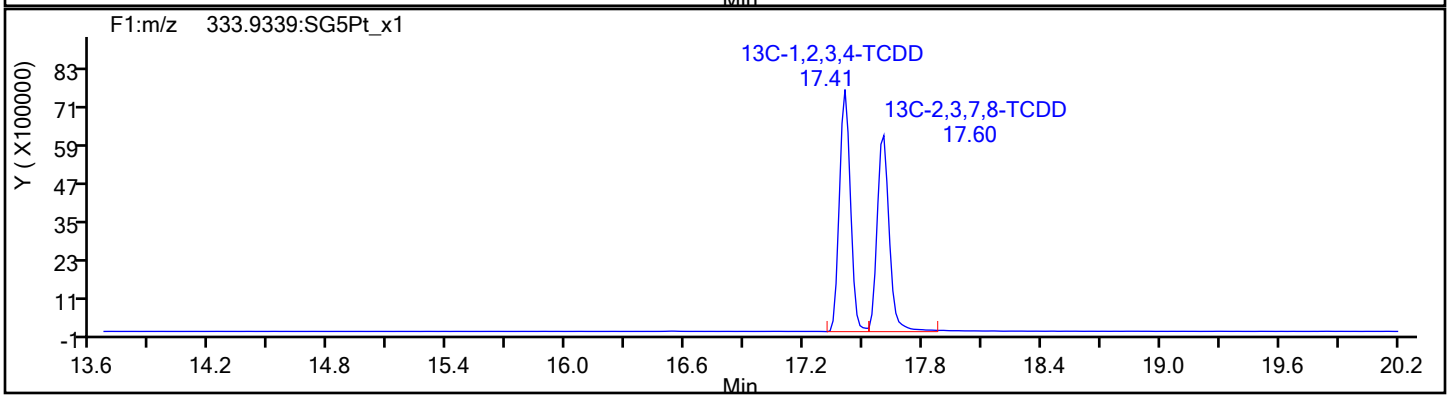

Report Date: 30-Jan-2020 09:31:50 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

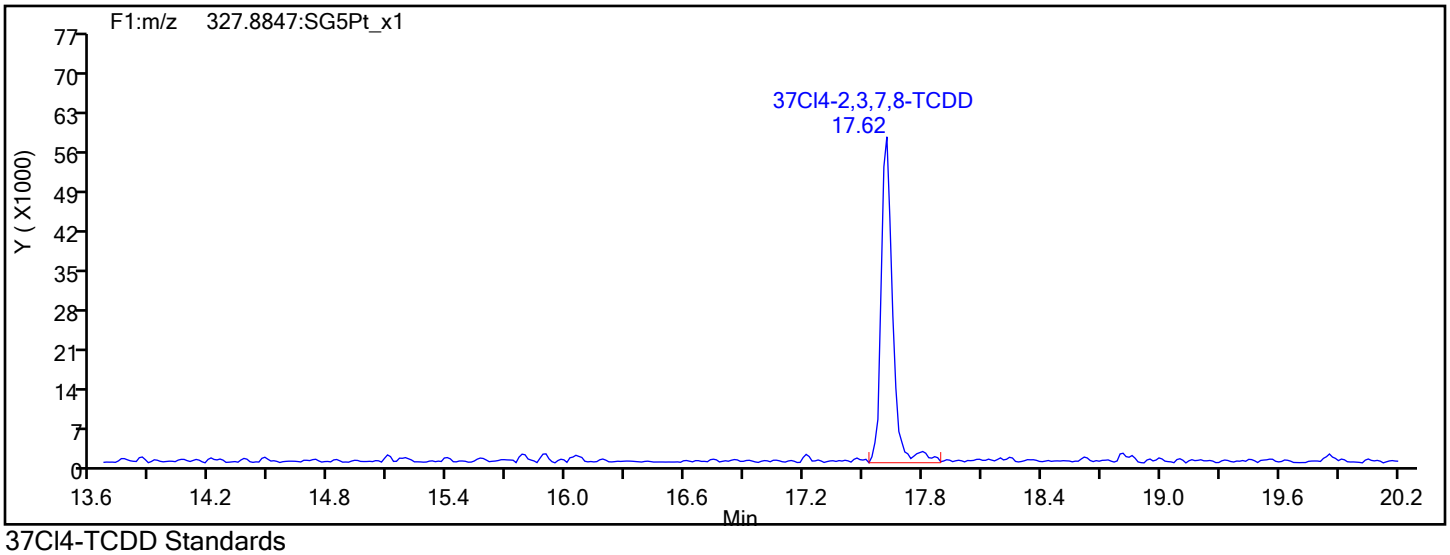

37Cl4-TCDD Standards

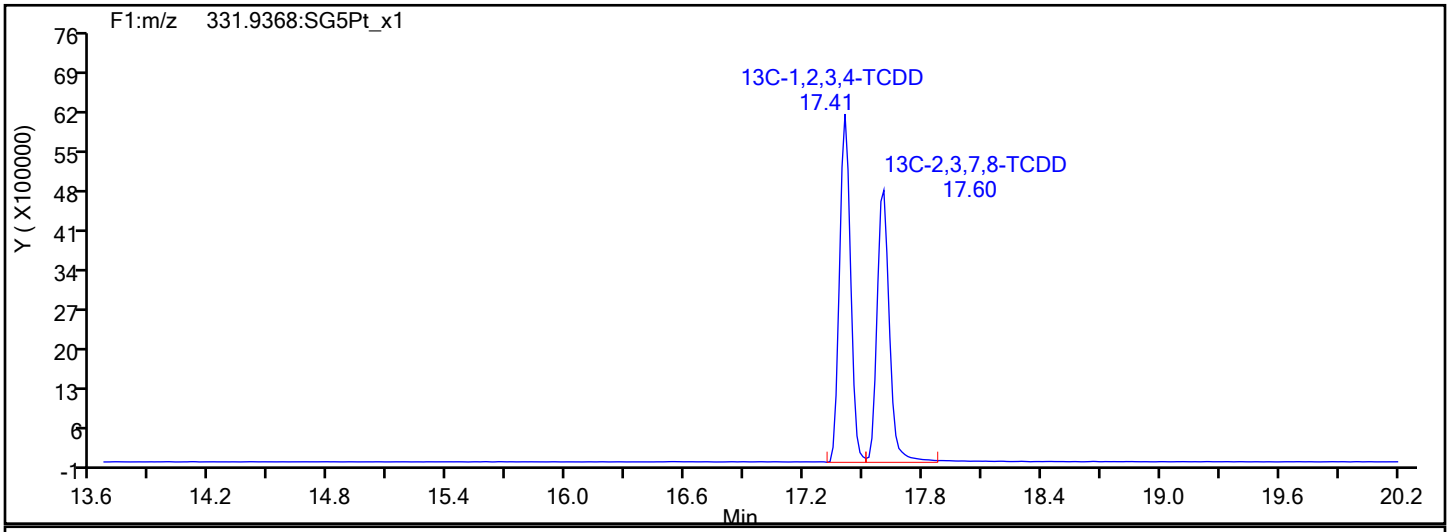

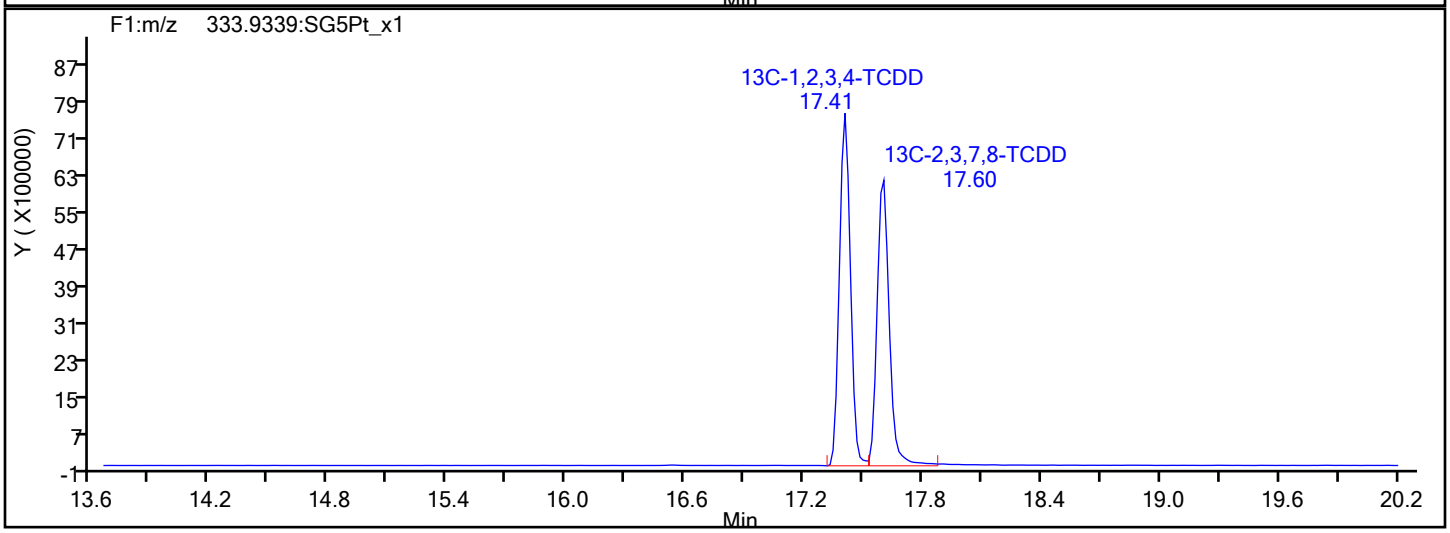

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

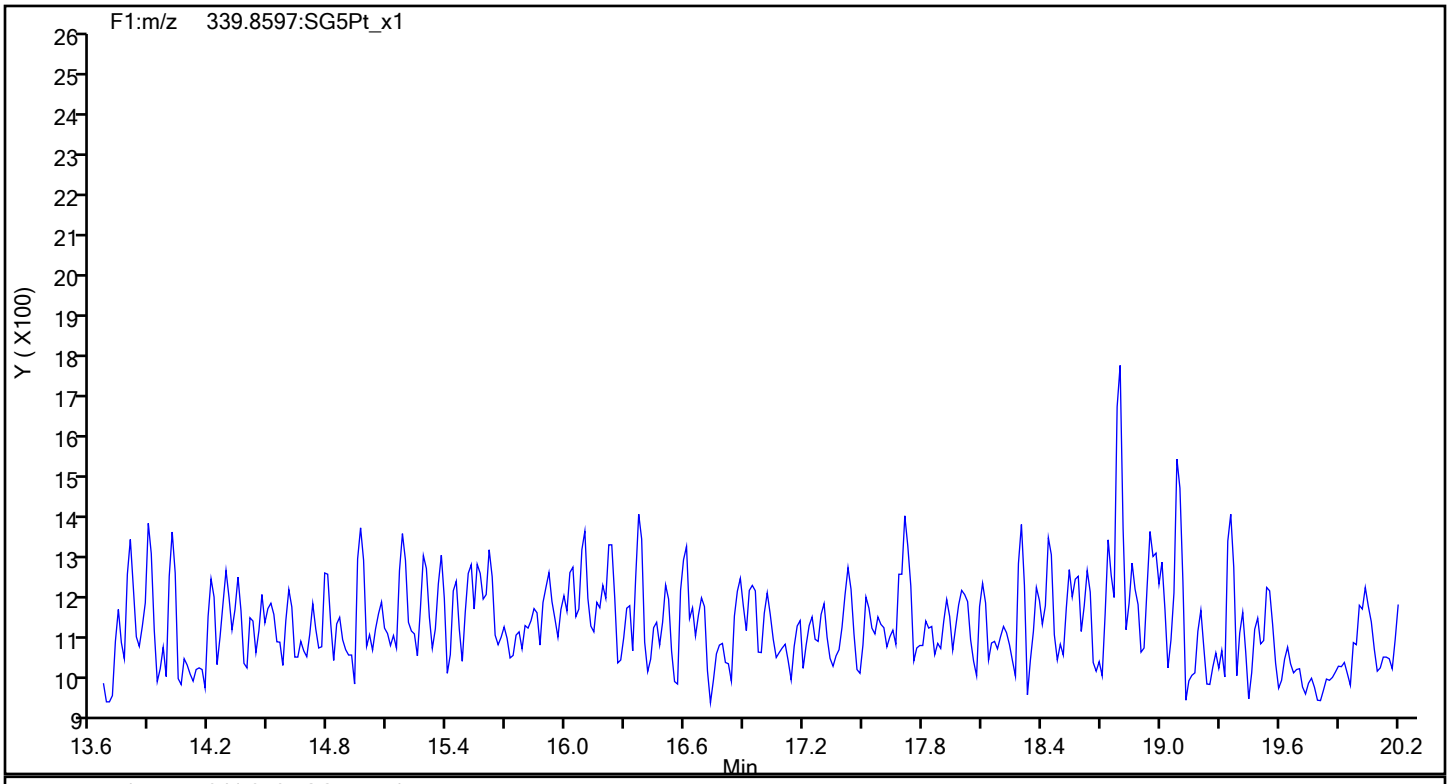

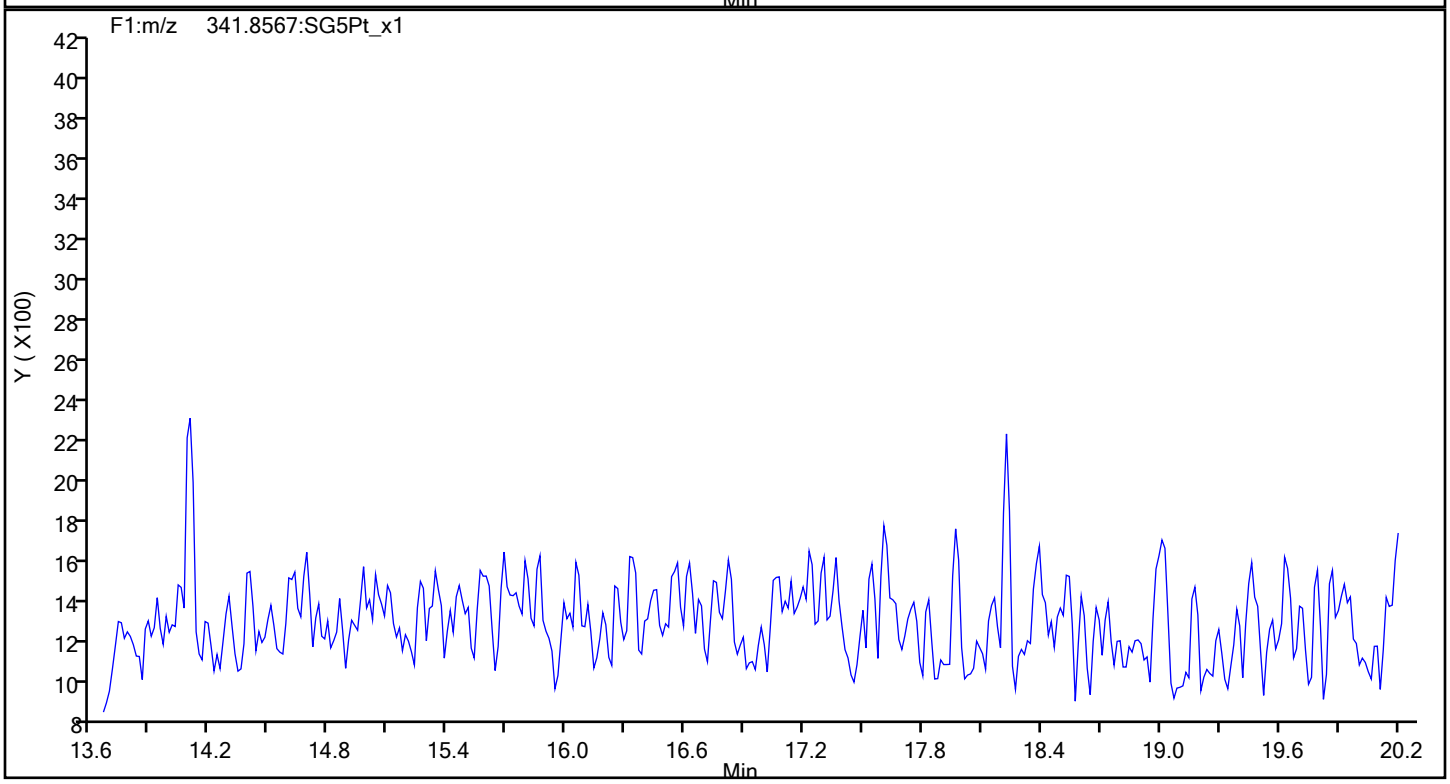

Report Date: 30-Jan-2020 09:31:50 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

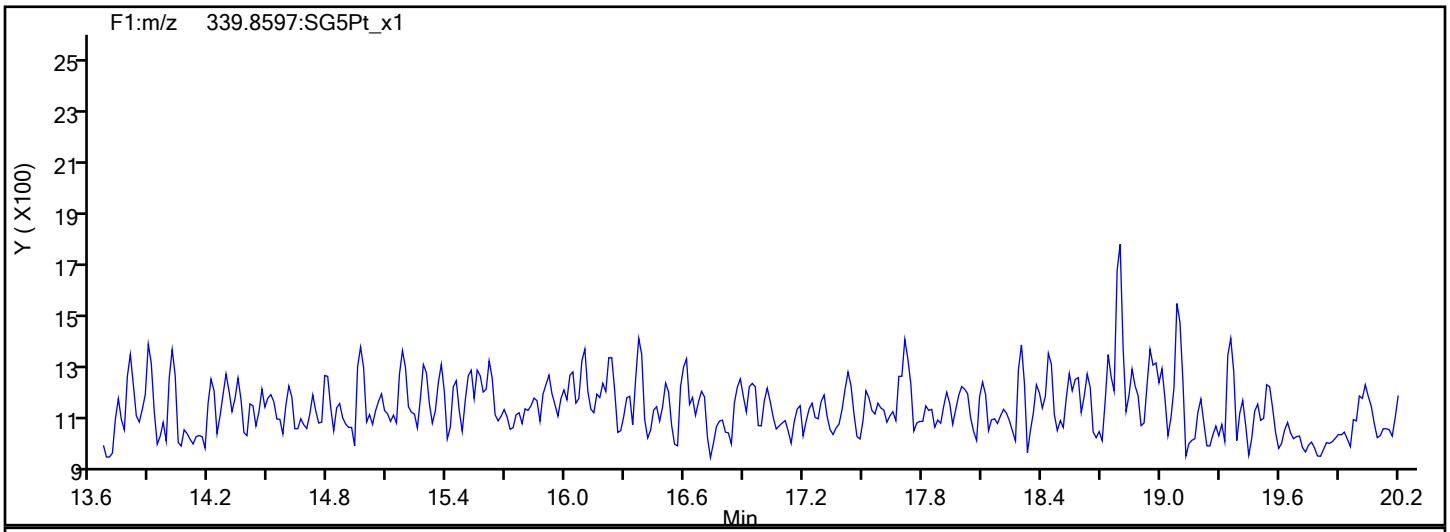

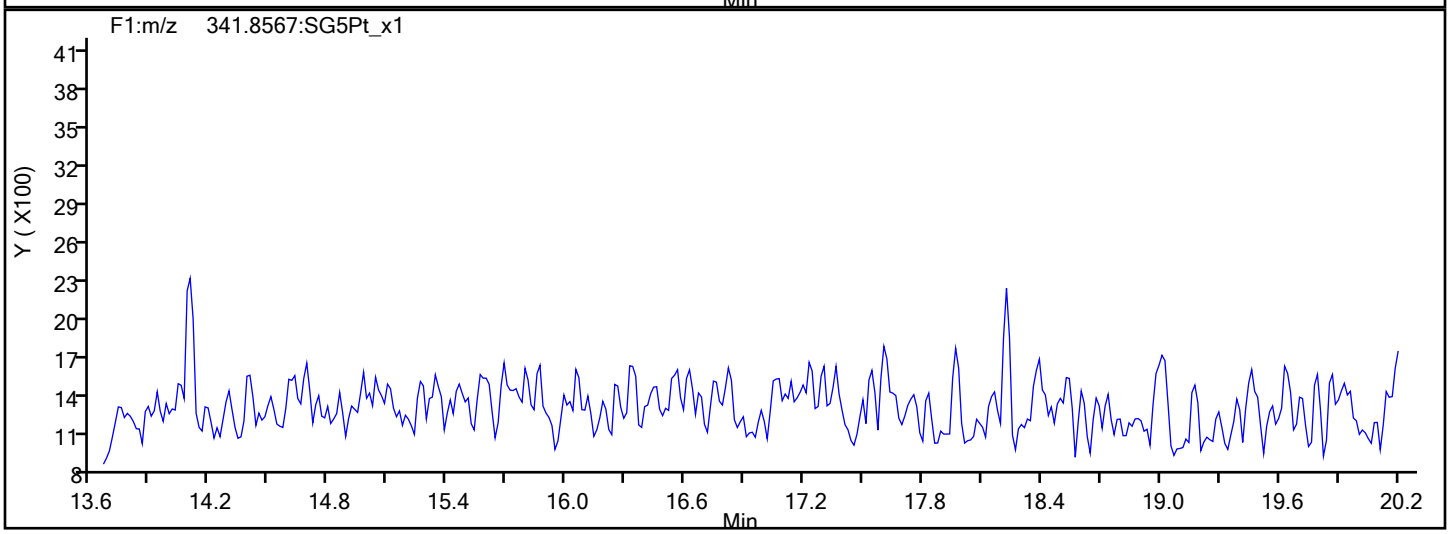

F1 PeCDFs Interference Mass

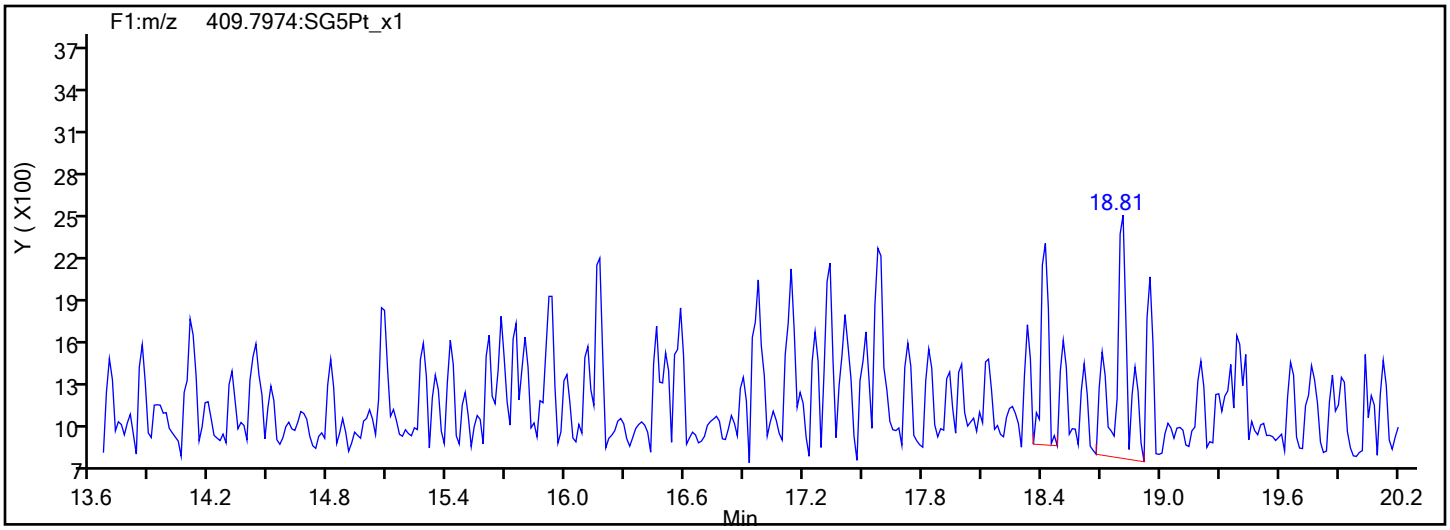

Report Date: 30-Jan-2020 09:31:50 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

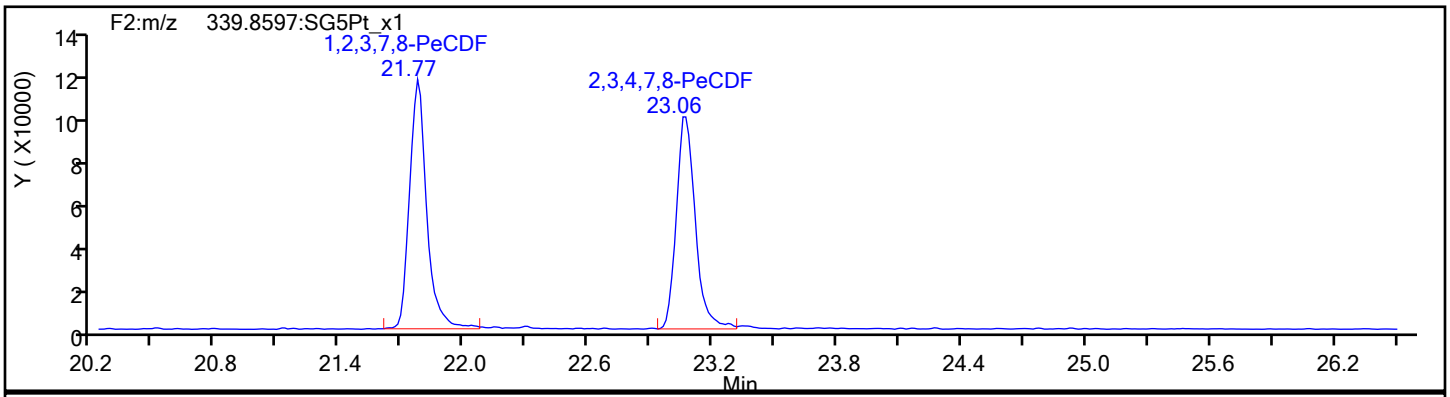

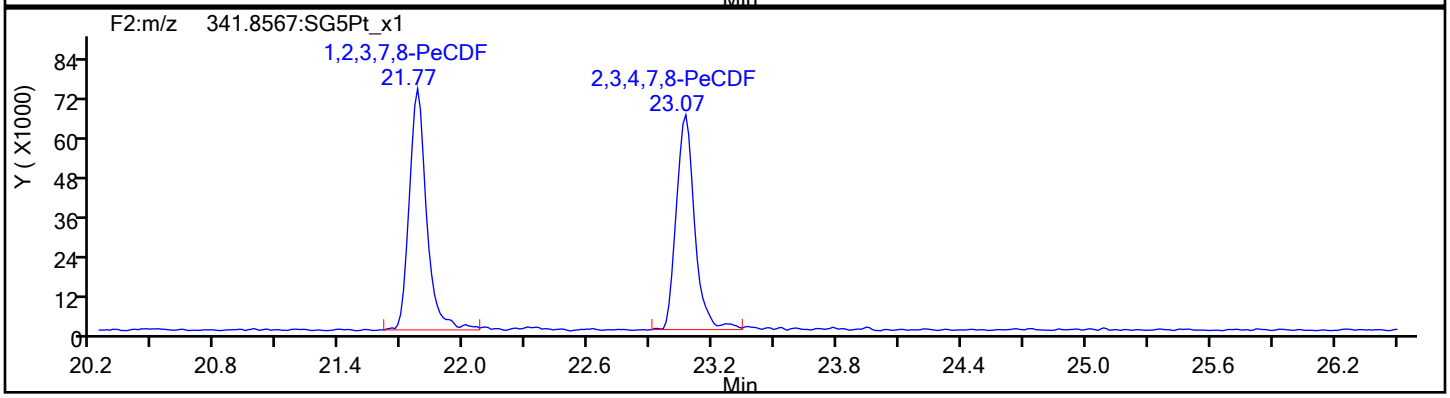

PeCDF Standards

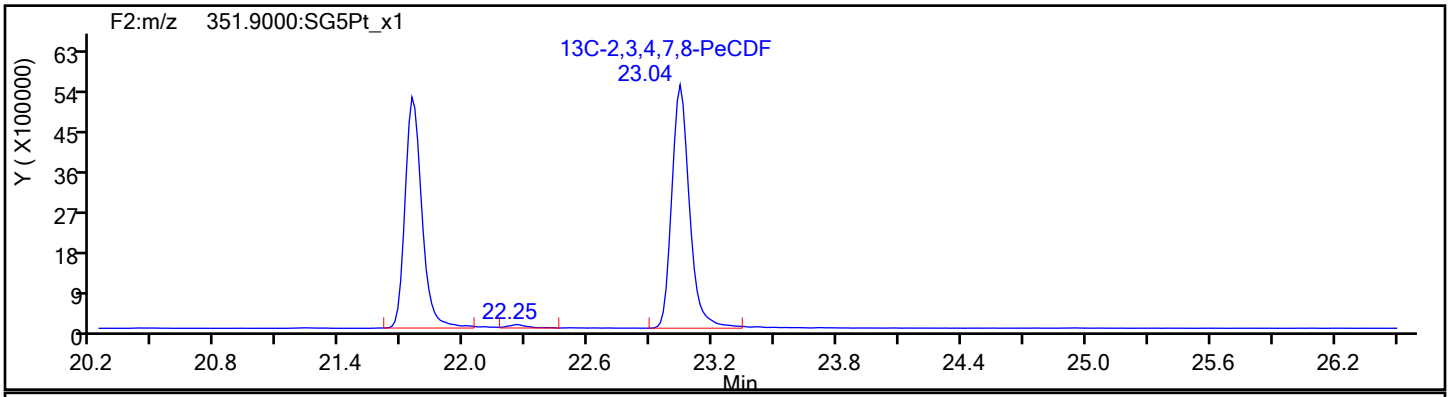

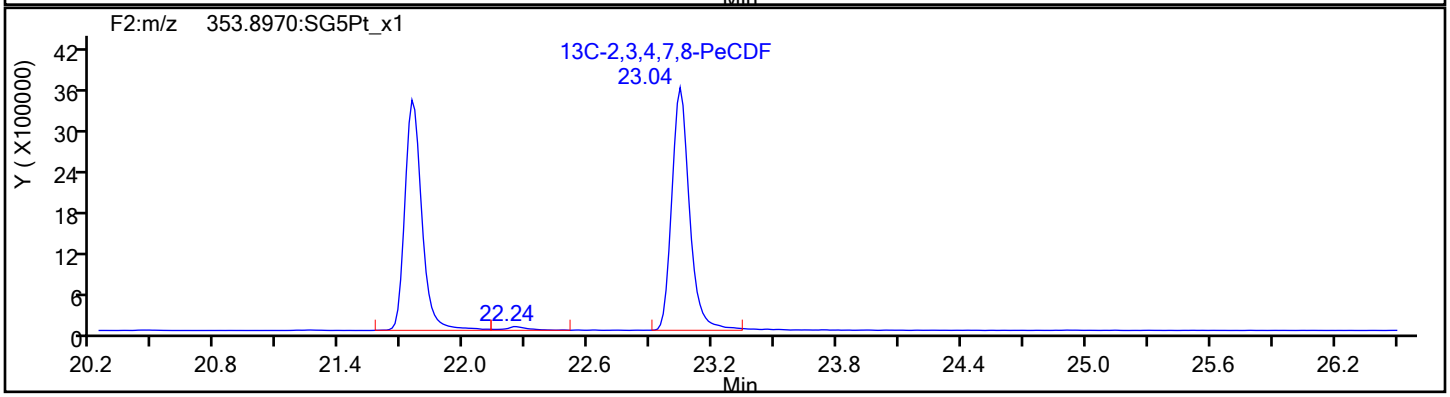

Report Date: 30-Jan-2020 09:31:50 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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PeCDF

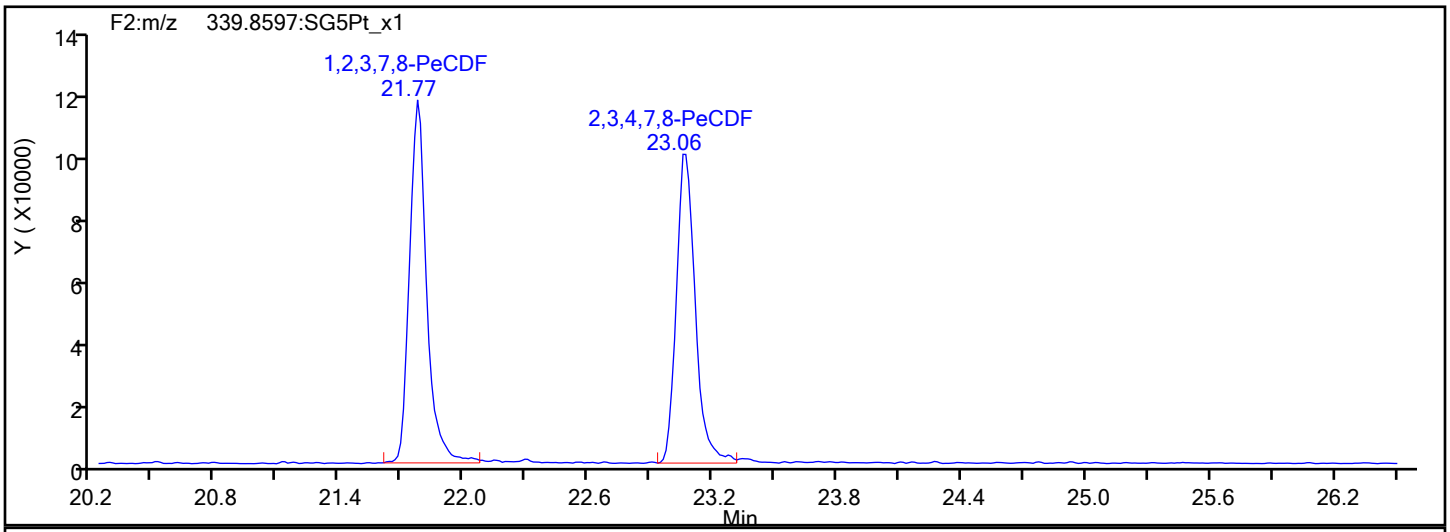

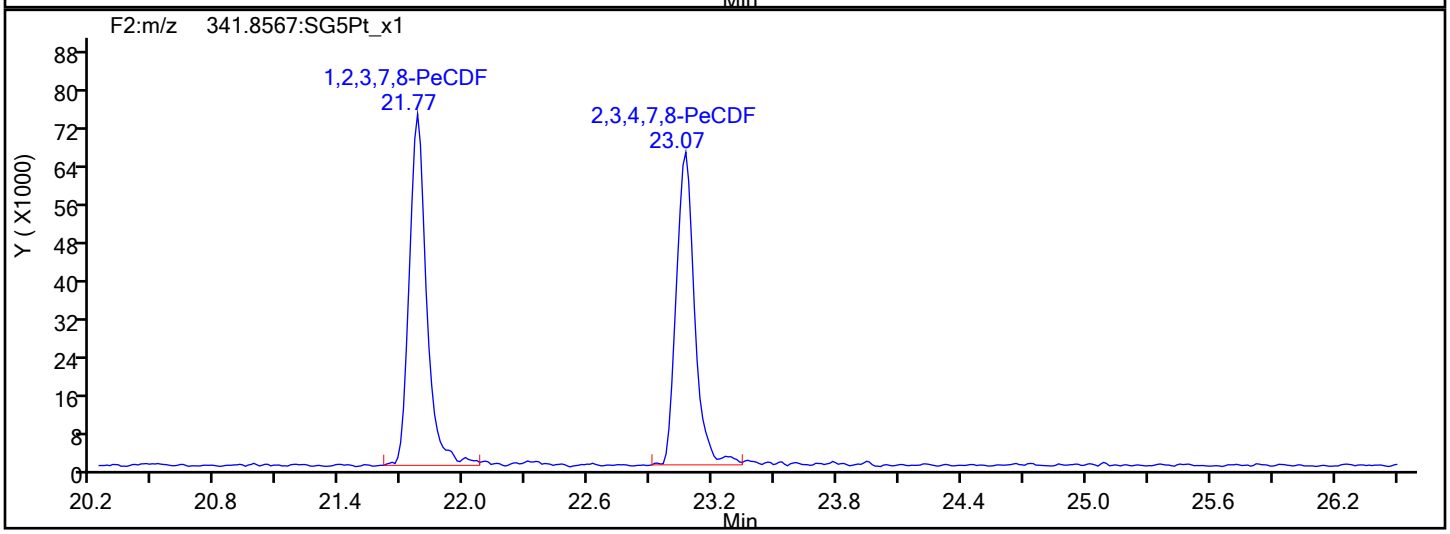

PeCDF Interference Mass

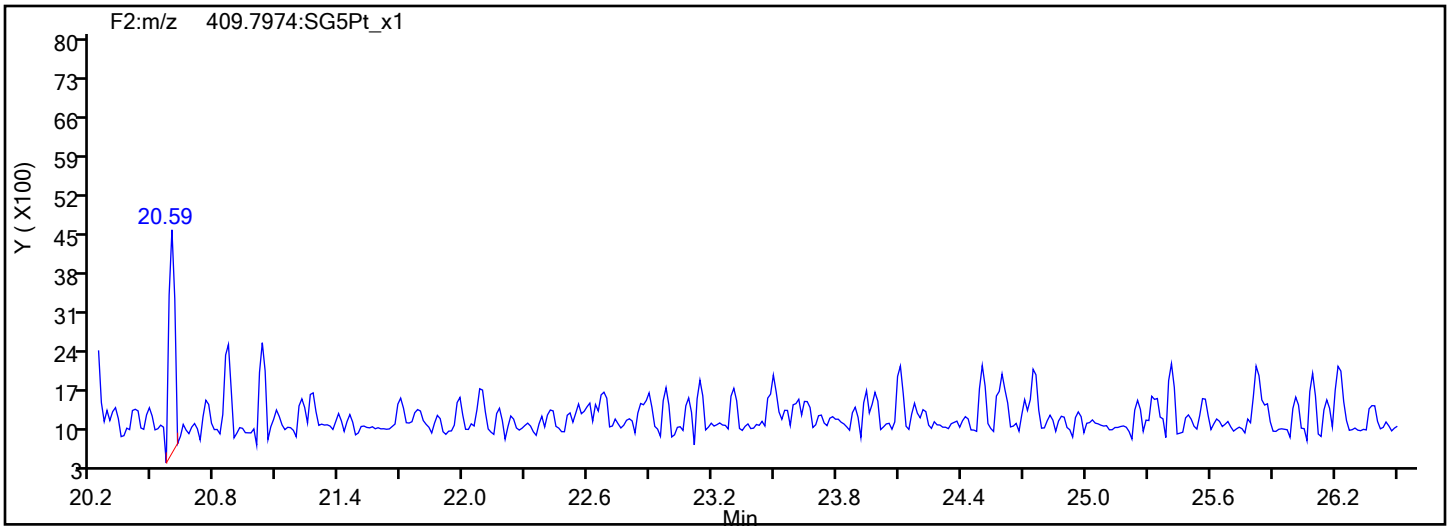

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Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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PeCDD

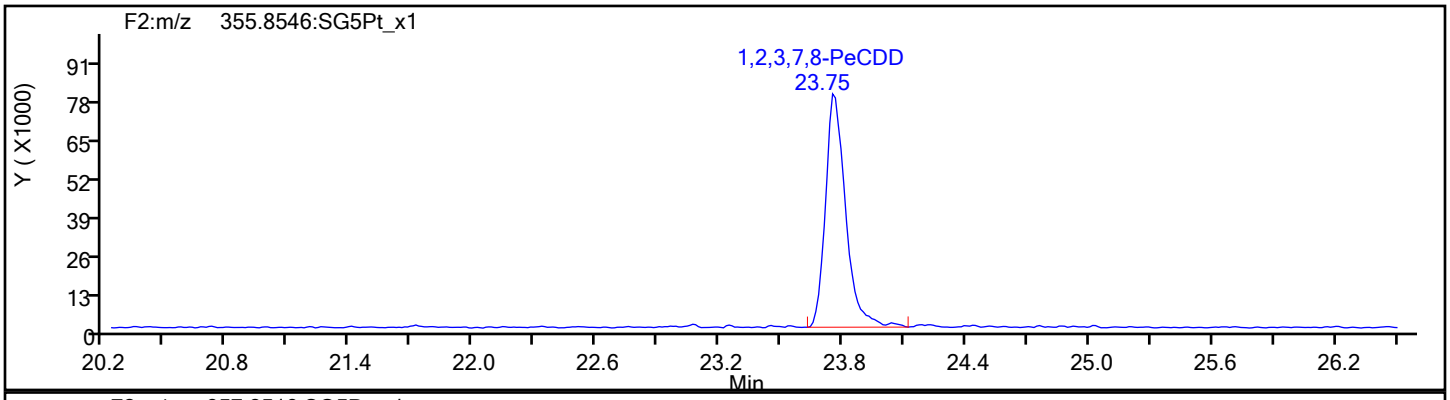

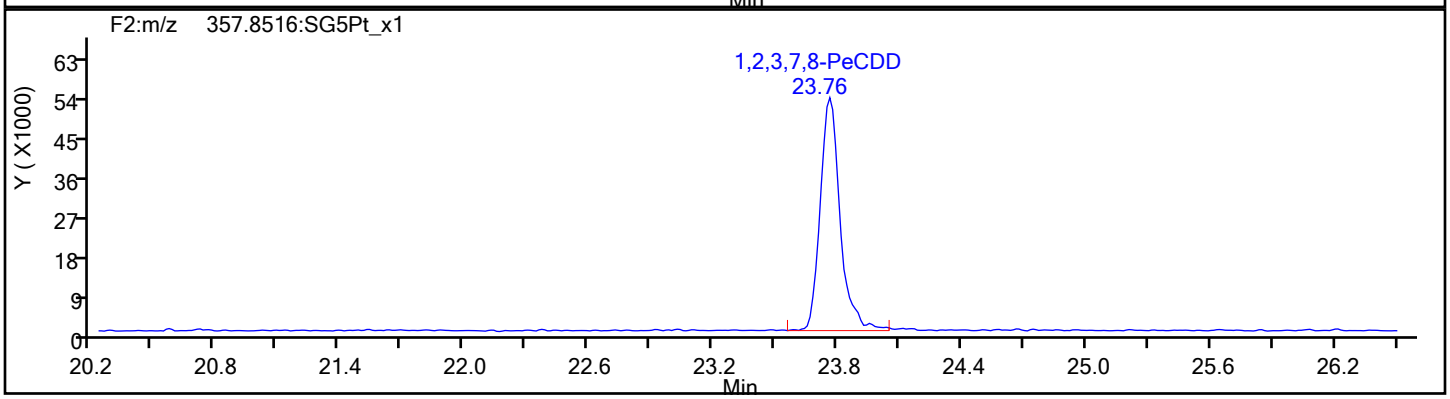

PeCDD Standards

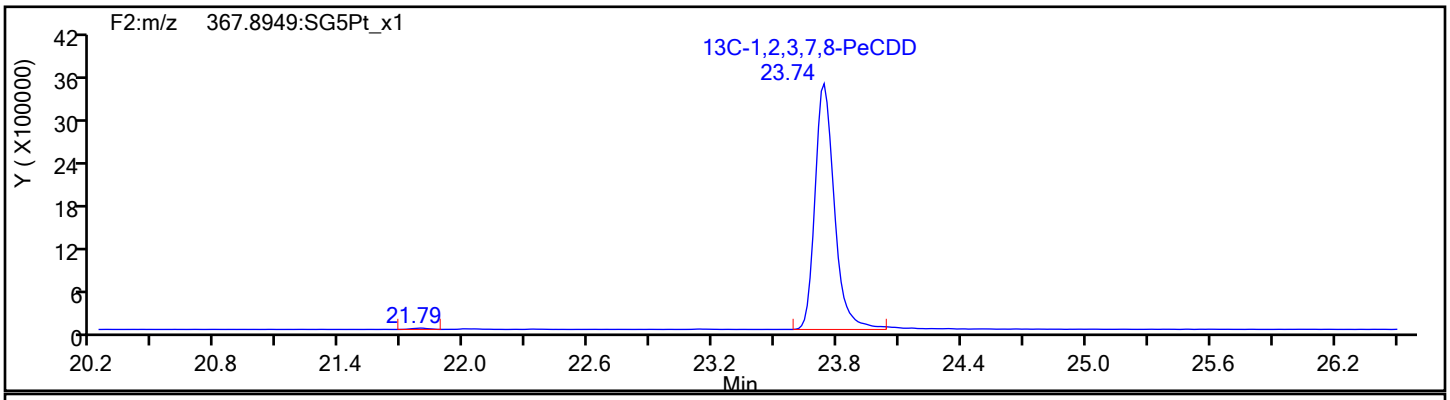

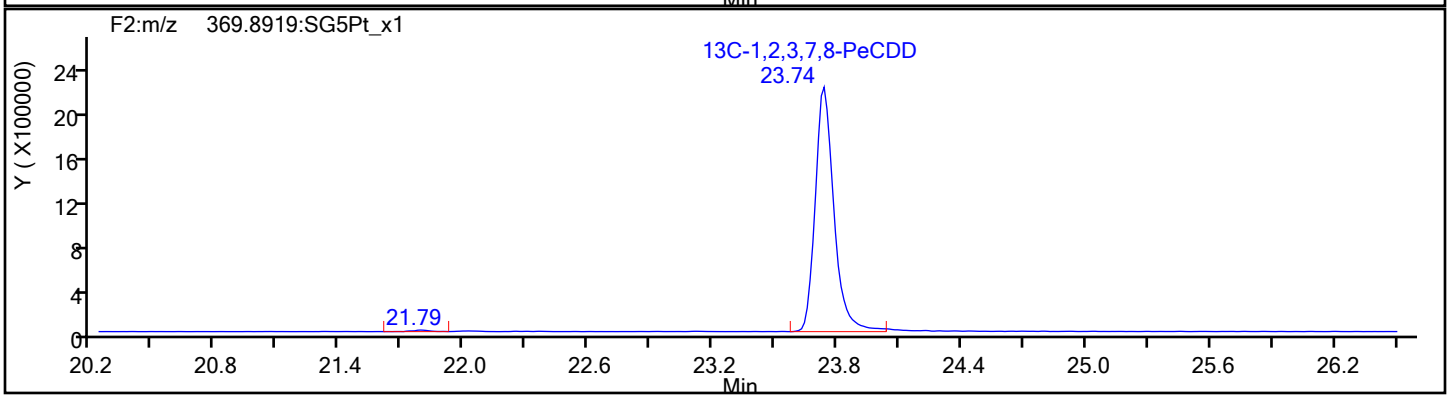

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

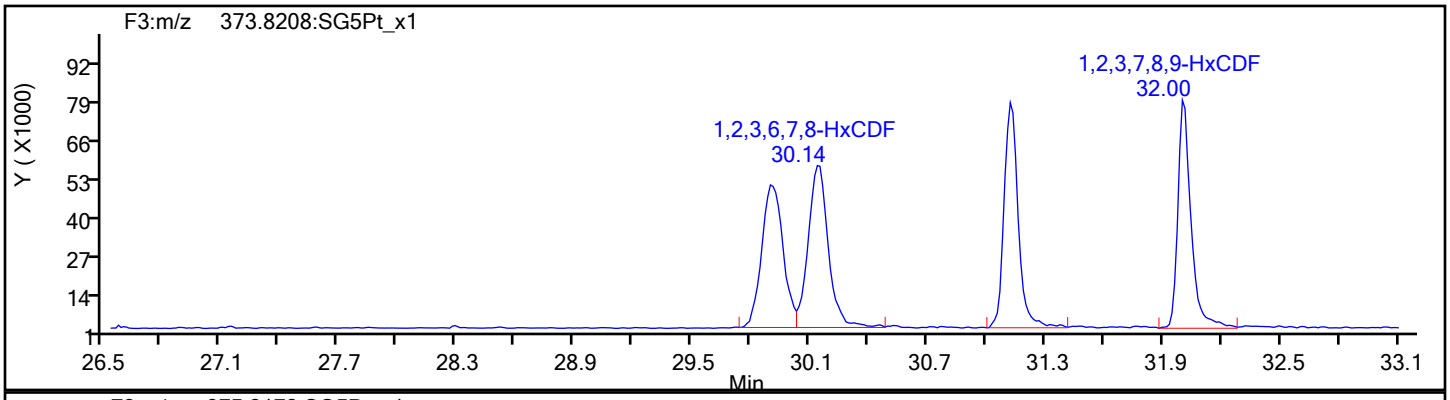

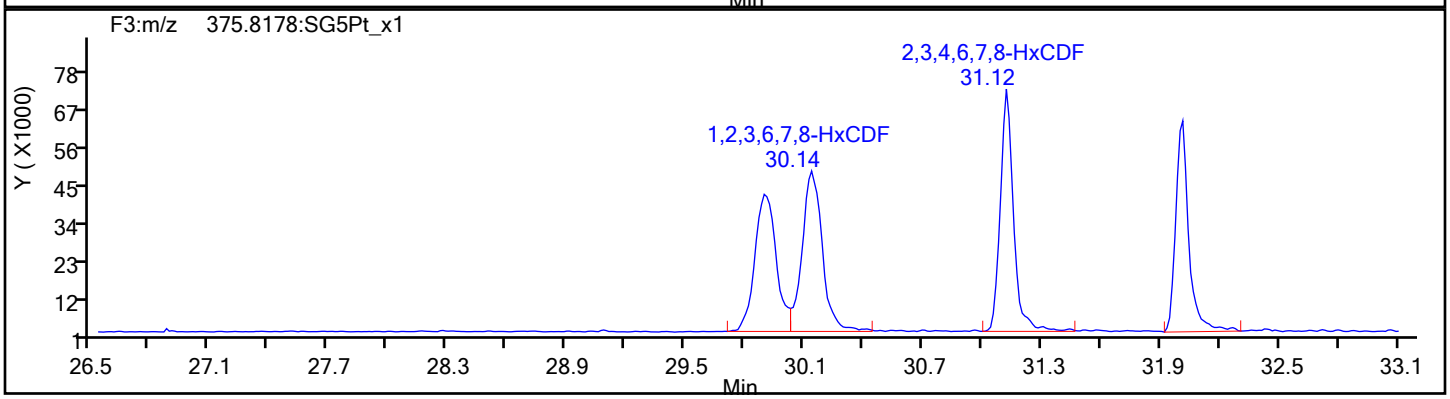

HxCDF Standards

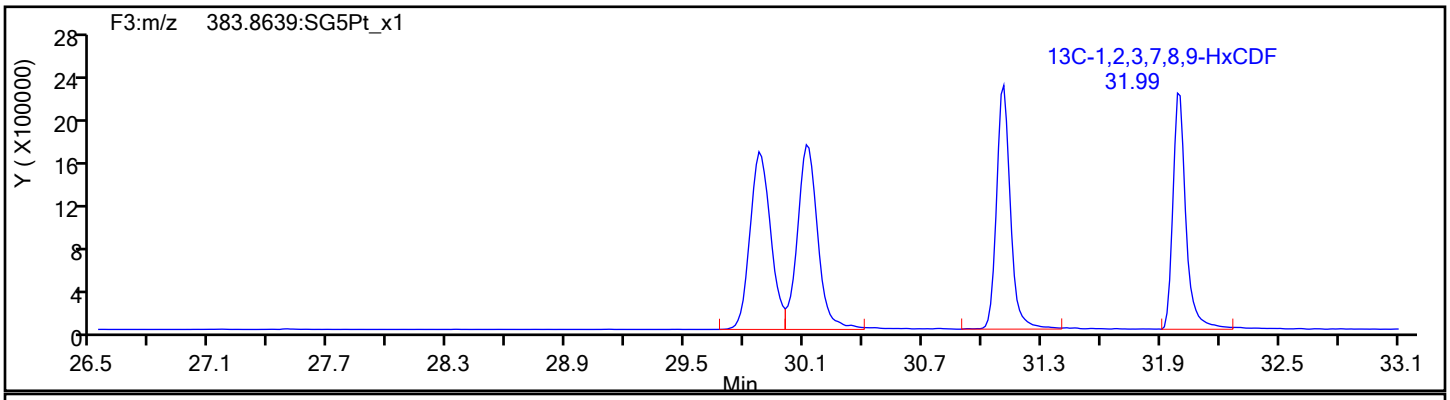

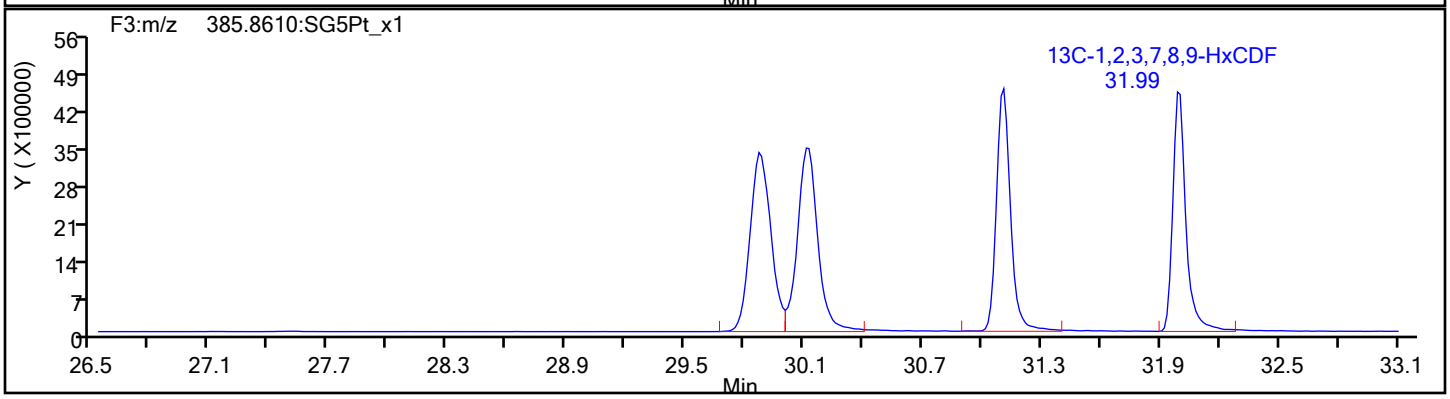

Report Date: 30-Jan-2020 09:31:50 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_4.d		
Injection Date:	30-Jan-2020 01:49:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

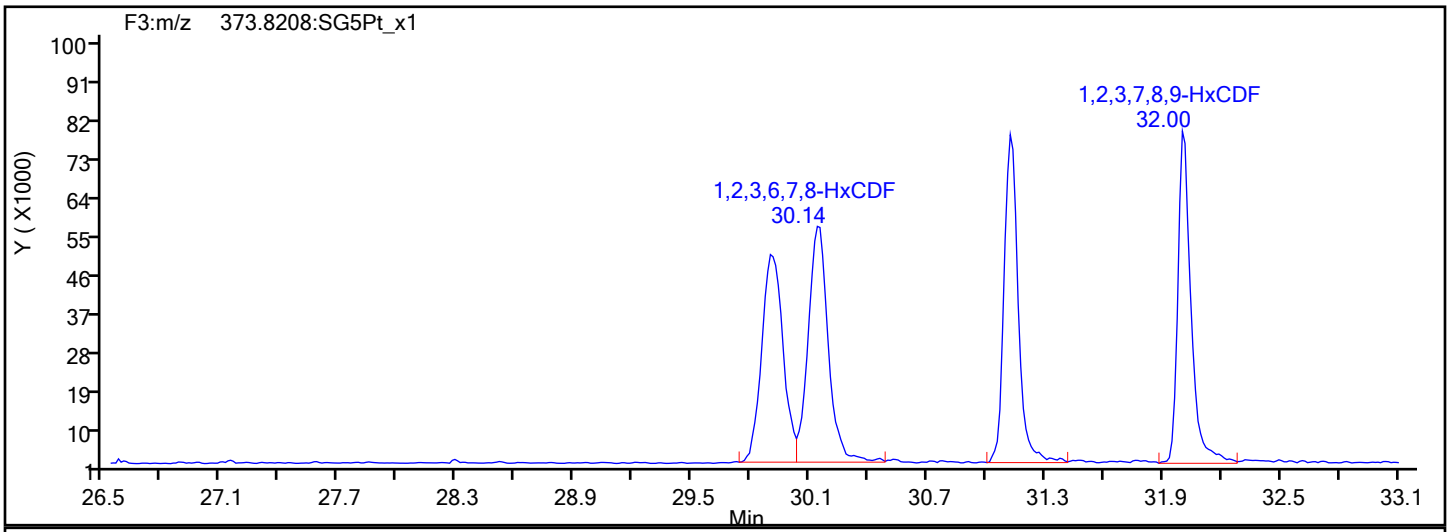

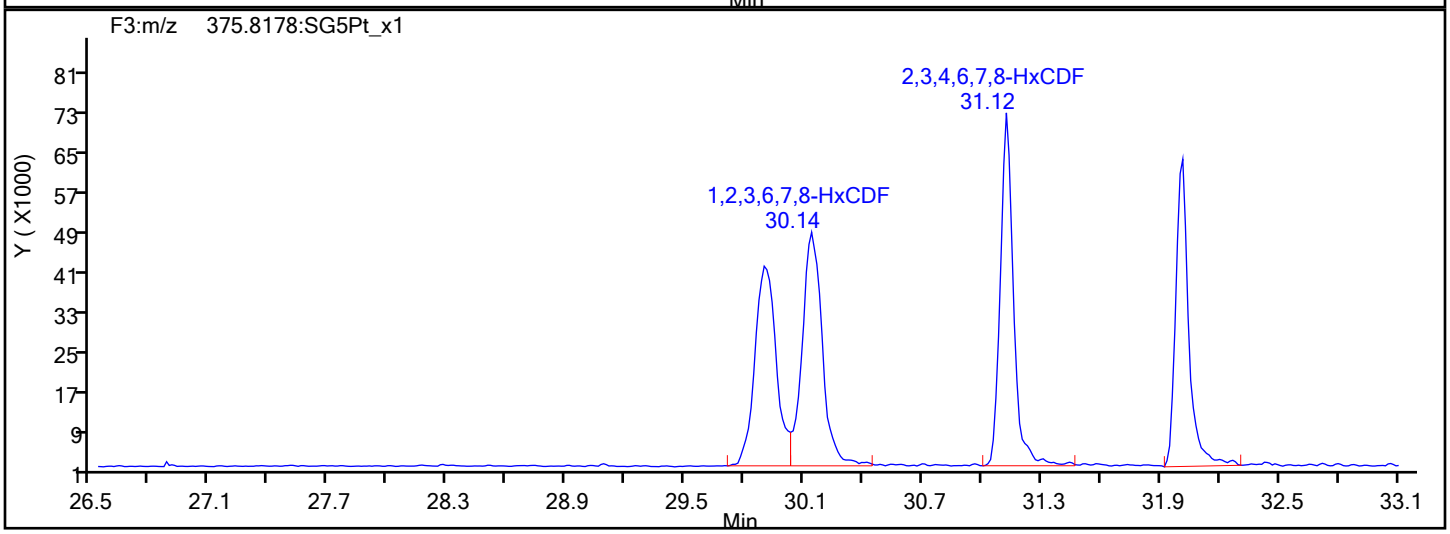

HxCDF Interference Mass

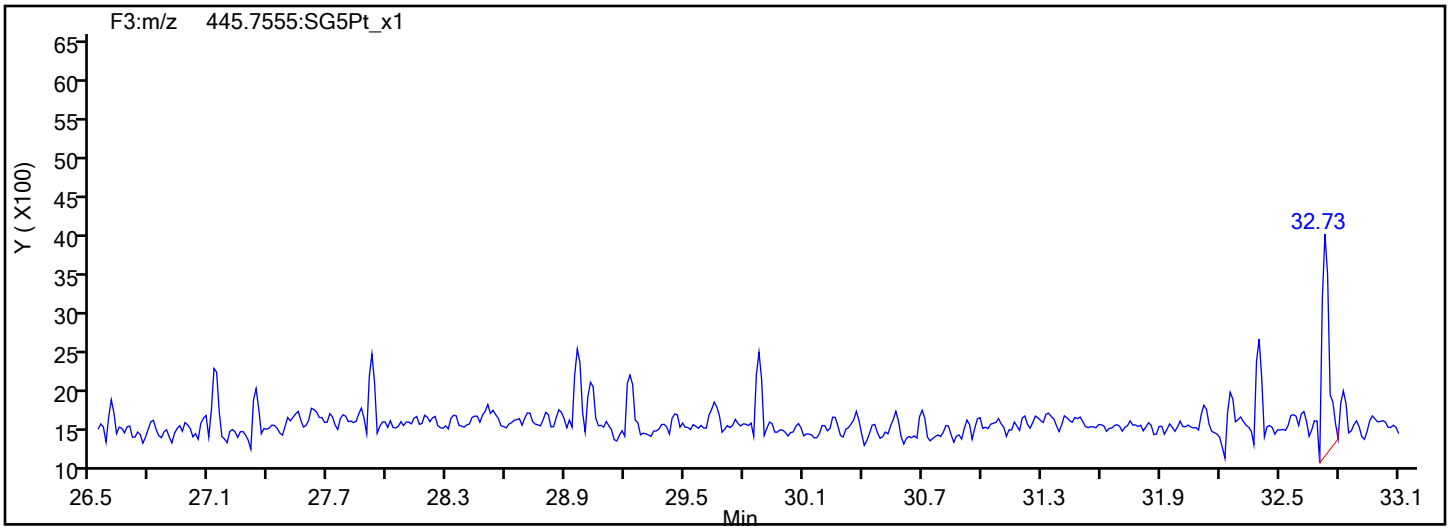

Report Date: 30-Jan-2020 09:31:50 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Injection Date:	30-Jan-2020 01:49:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HxCDD

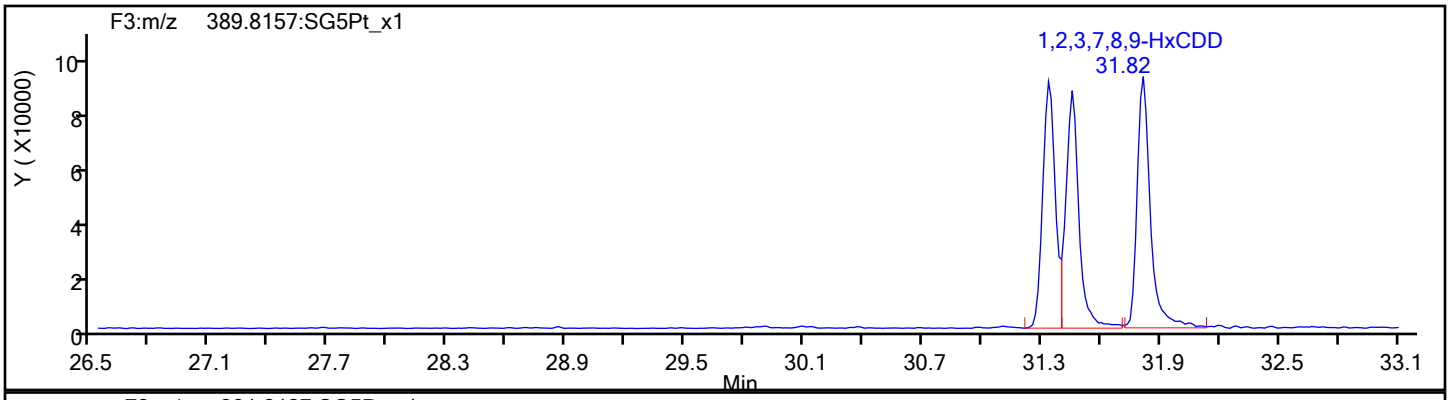

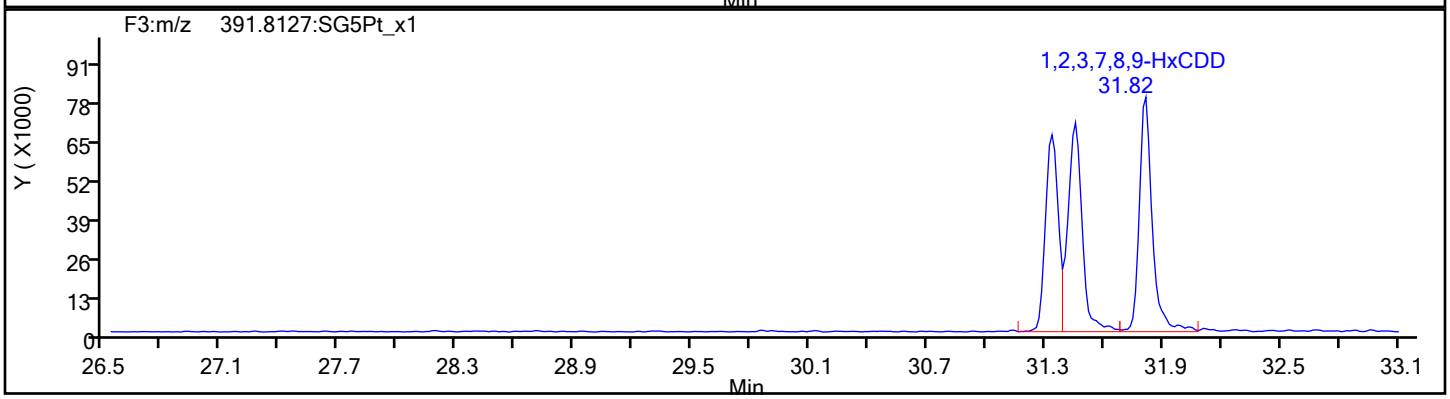

HxCDD Standards

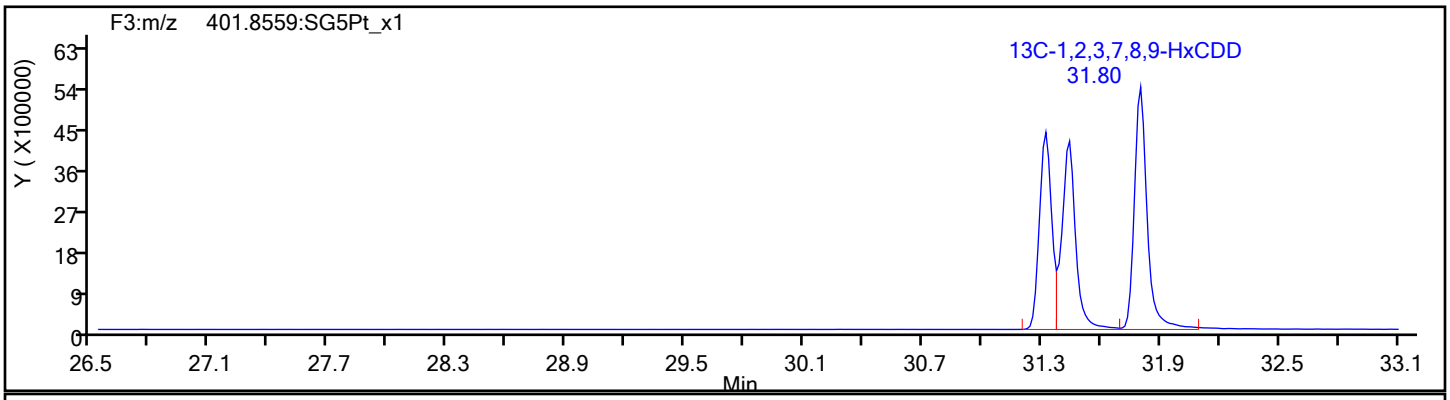

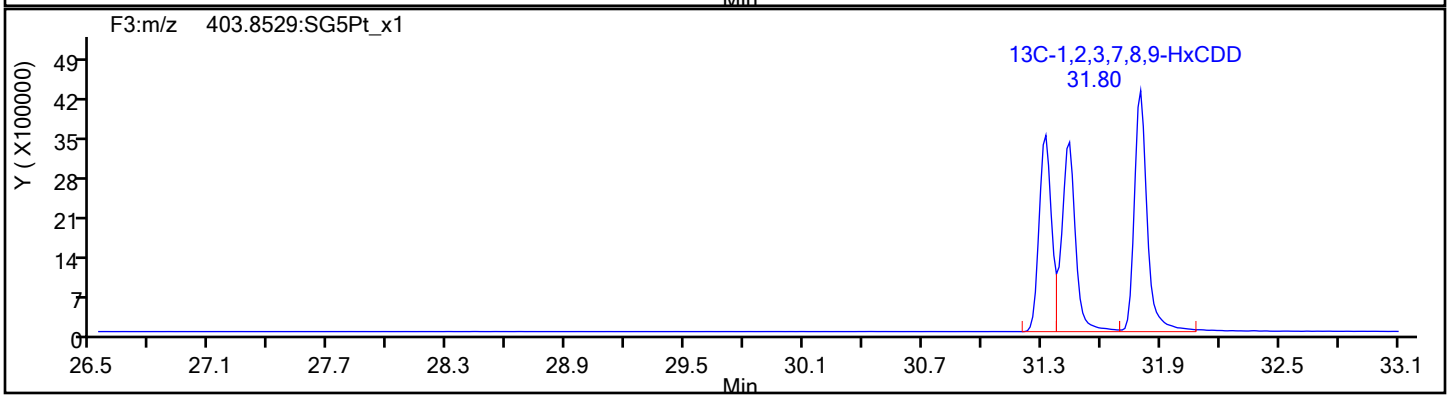

Report Date: 30-Jan-2020 09:31:51 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_4.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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HpCDF

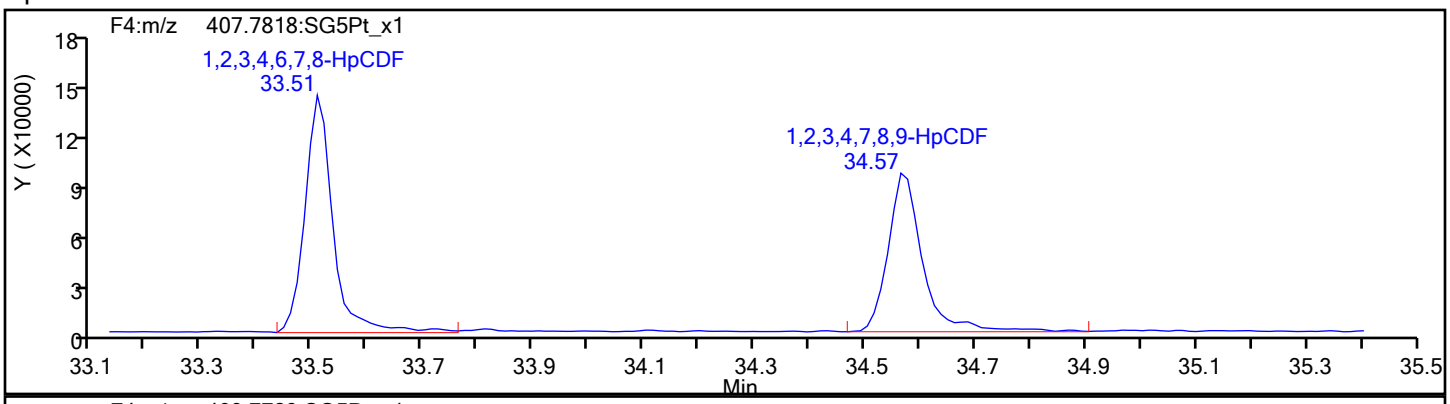

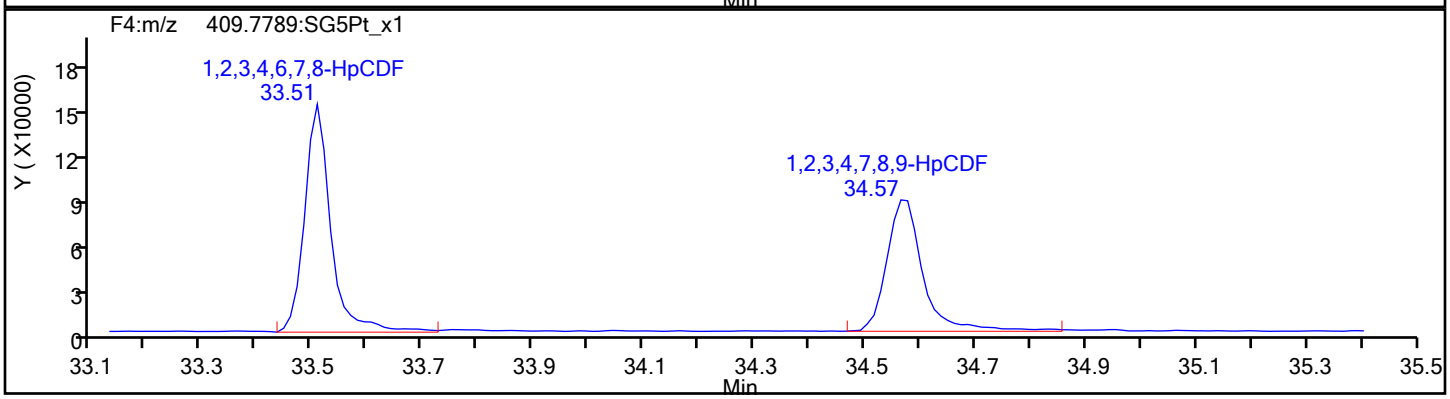

HpCDF Standards

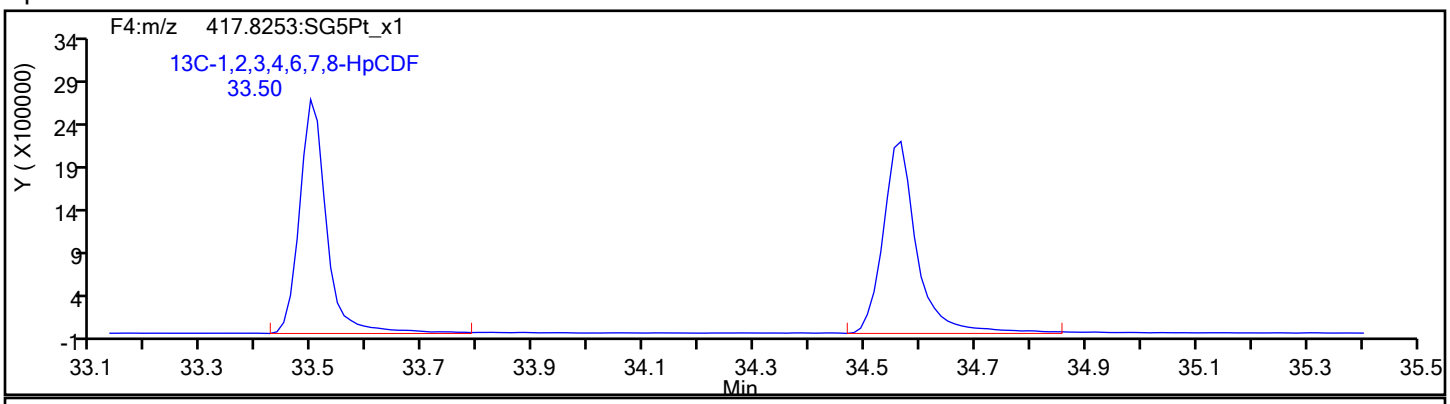

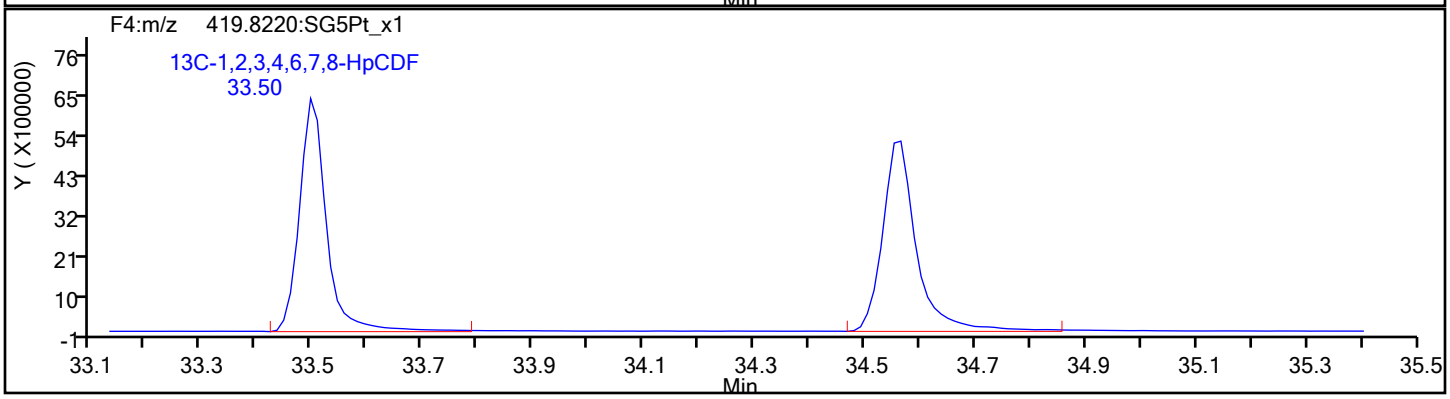

Report Date: 30-Jan-2020 09:31:51 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_4.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

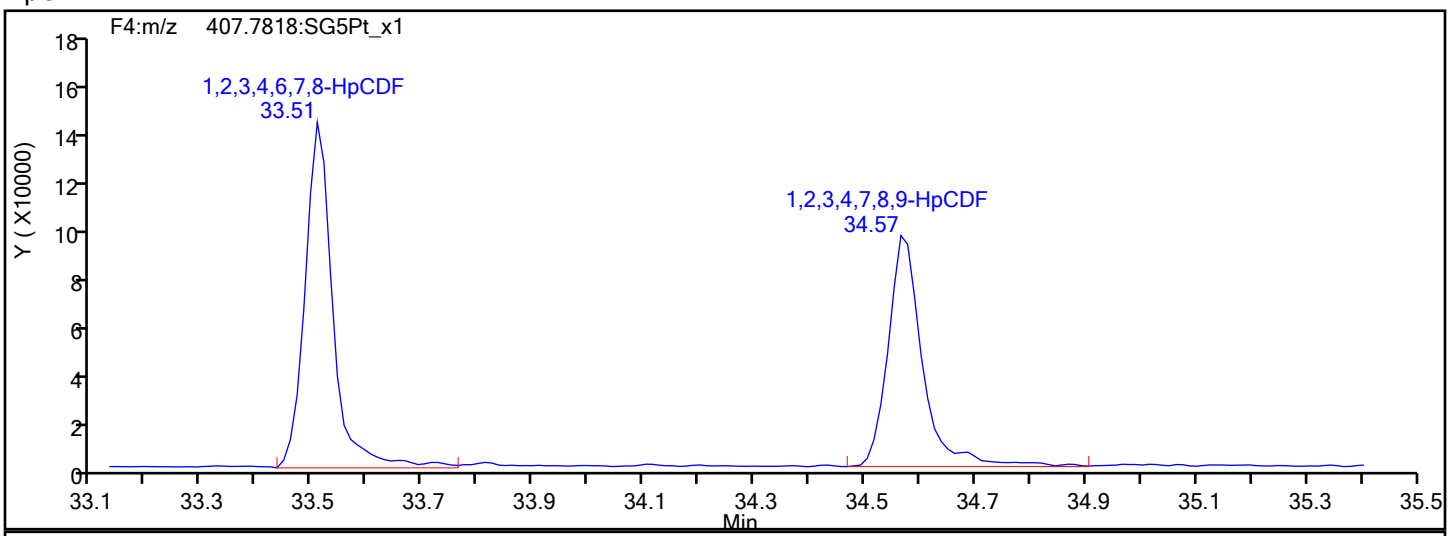

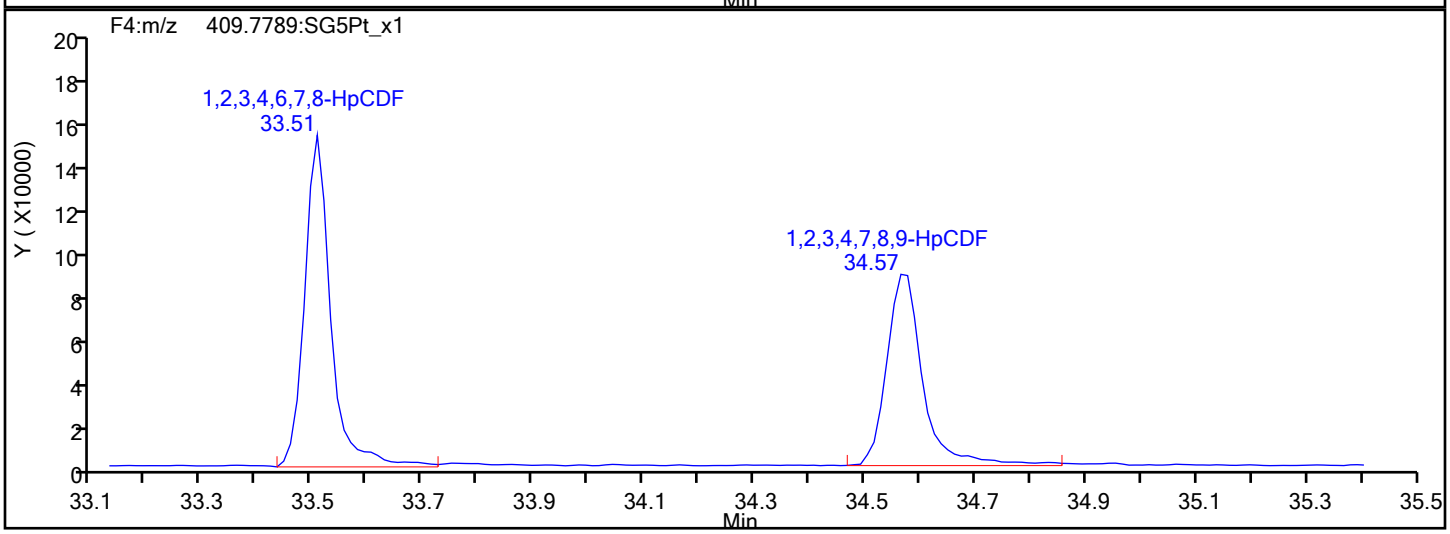

HpCDF Interference Mass

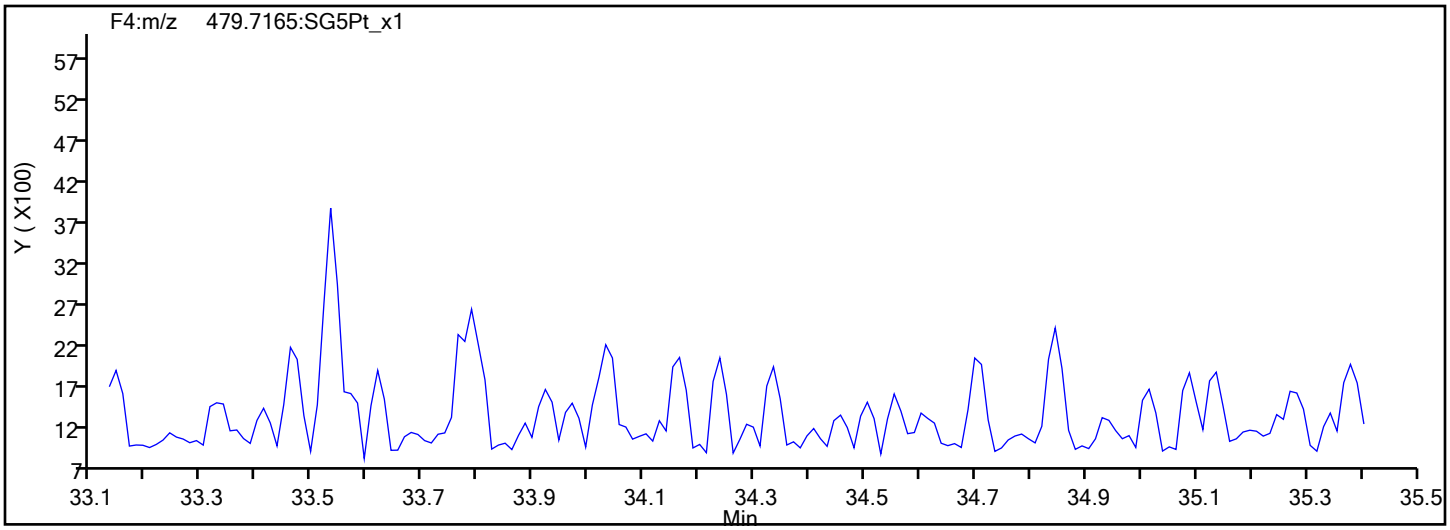

Report Date: 30-Jan-2020 09:31:51 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_4.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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HpCDD

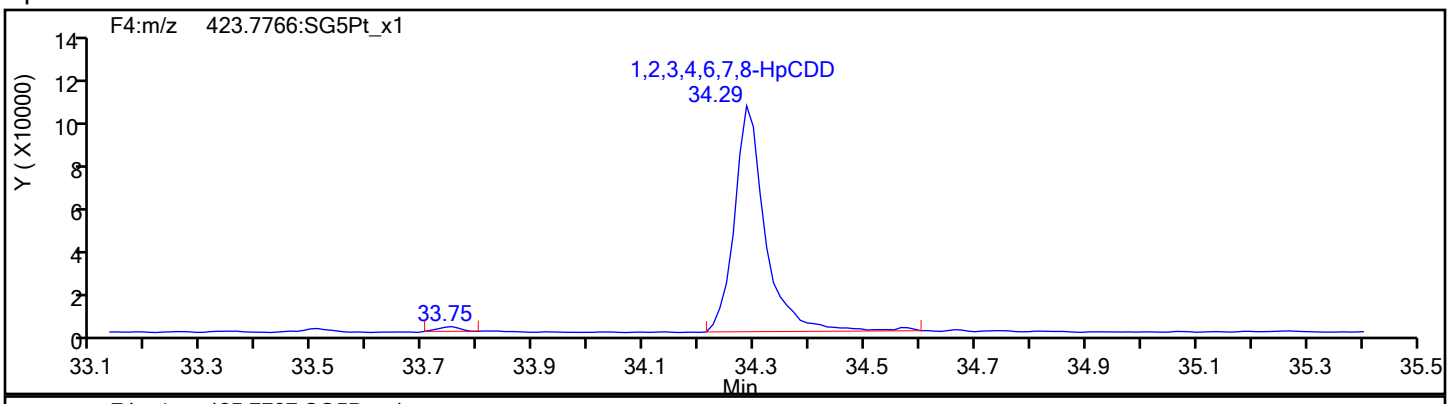

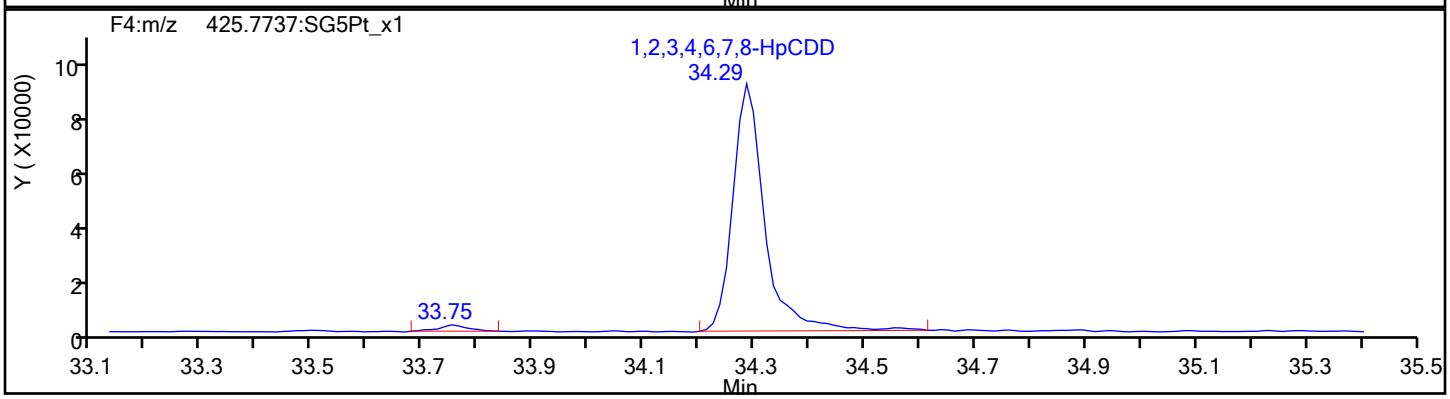

HpCDD Standards

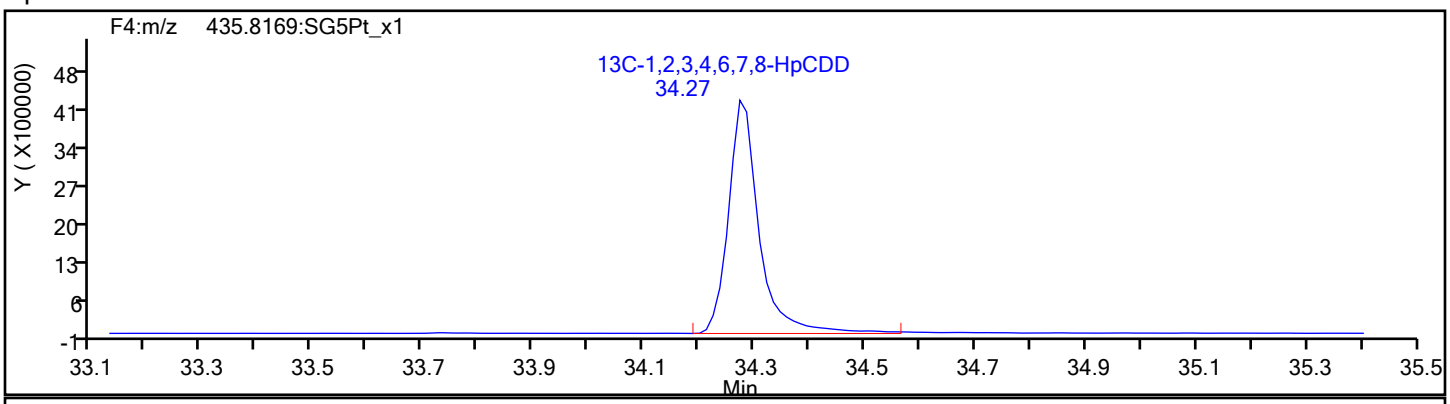

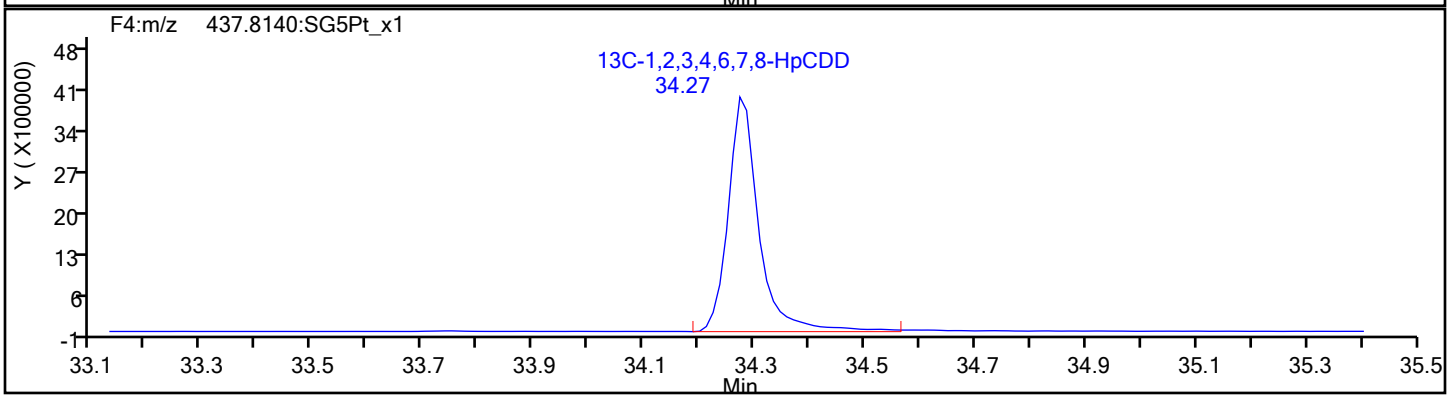

Report Date: 30-Jan-2020 09:31:51 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_4.d		
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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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OCDF

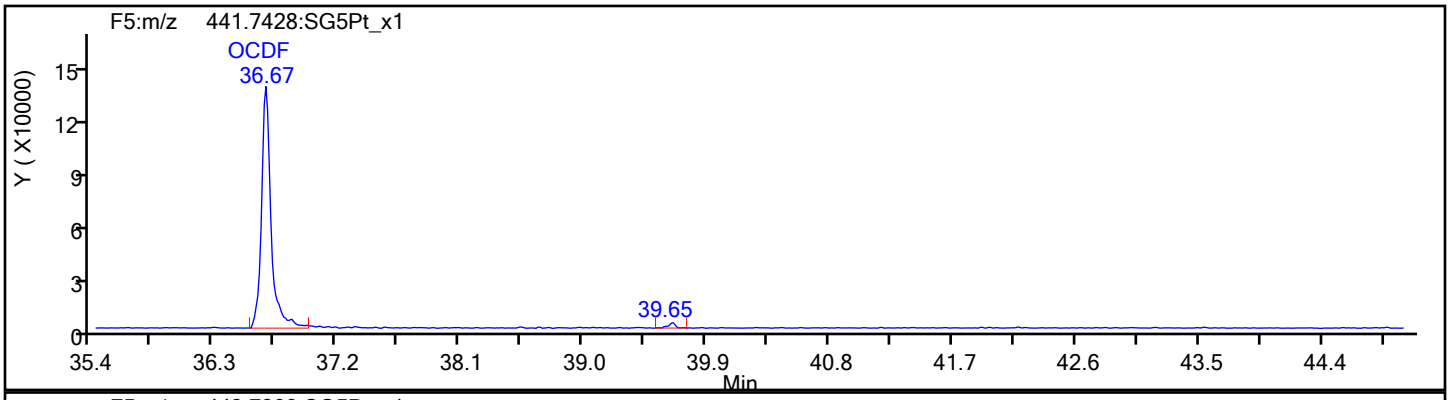

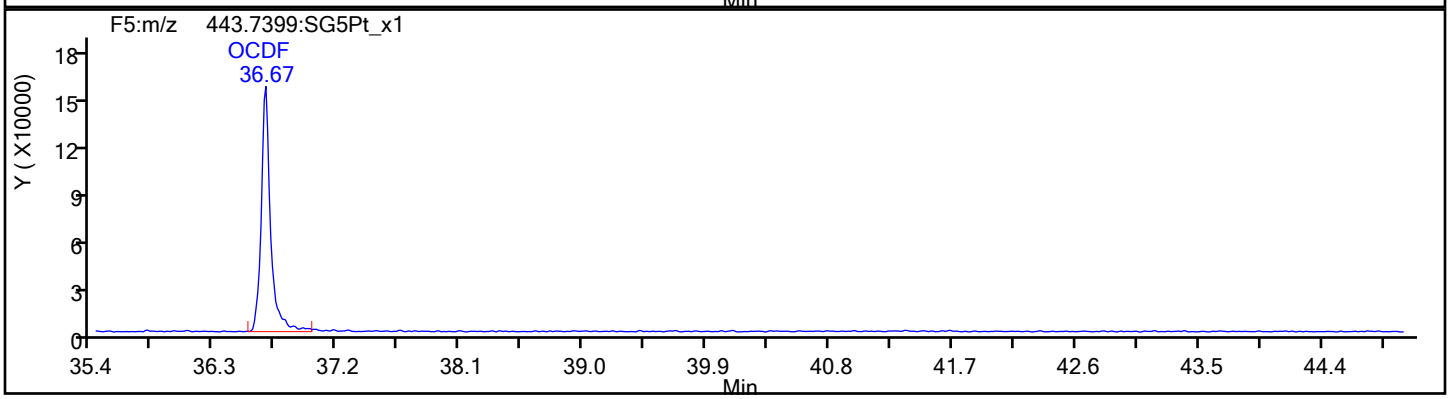

OCDF Standards

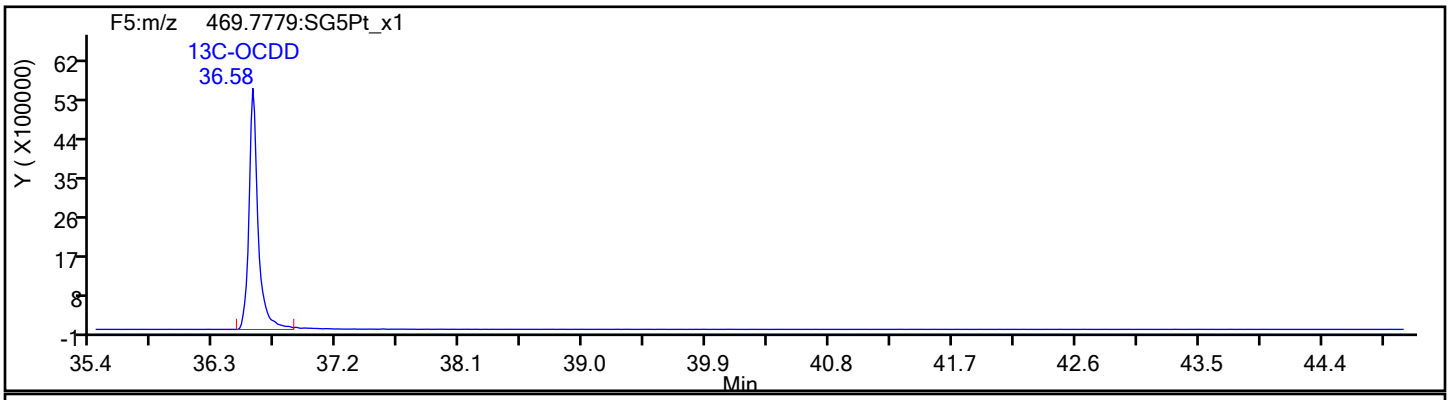

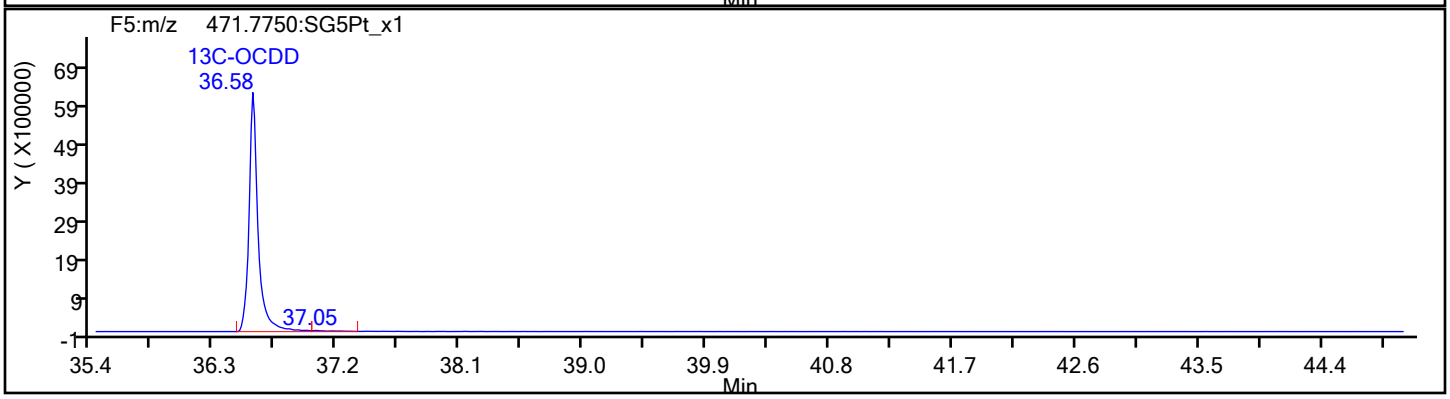

Report Date: 30-Jan-2020 09:31:52 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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OCDF

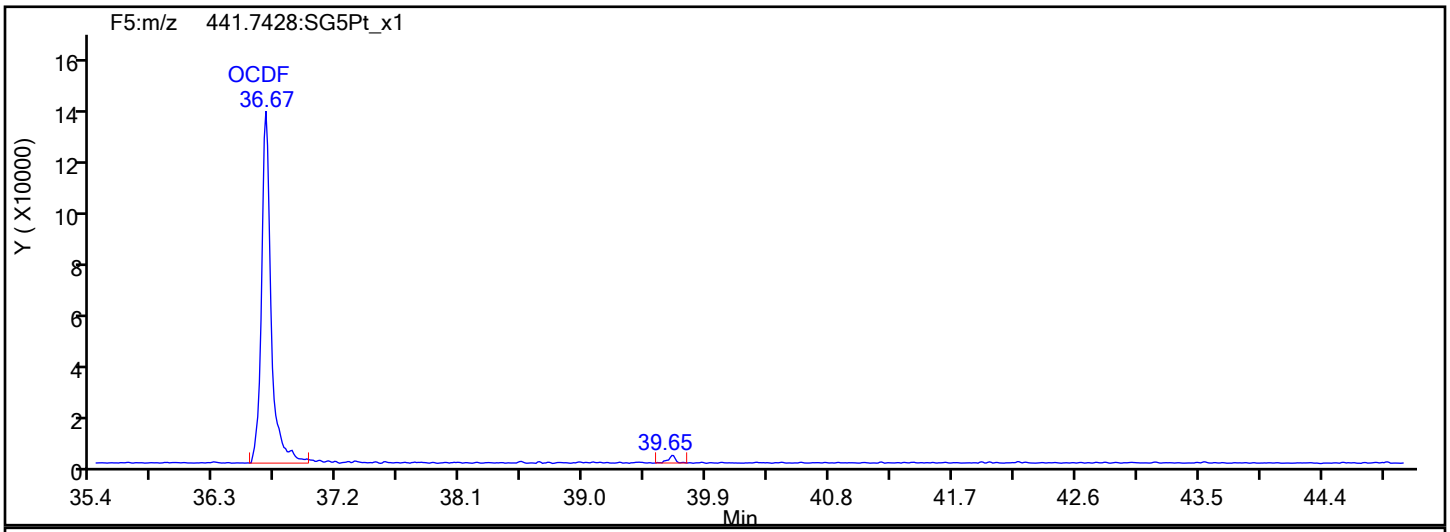

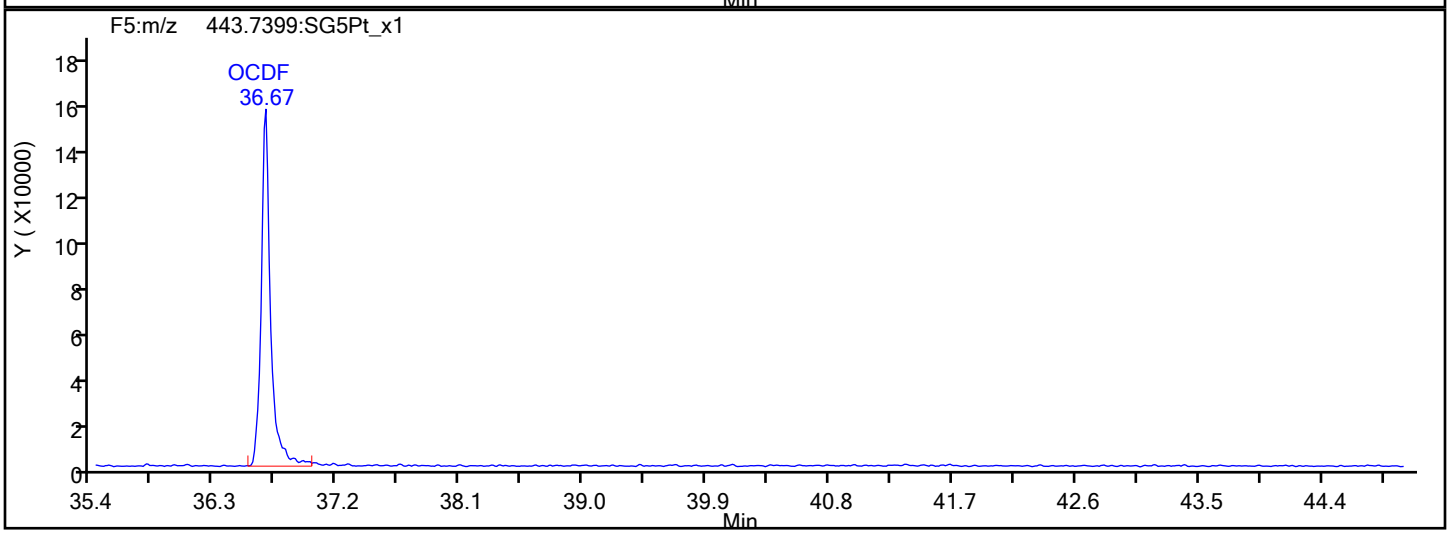

OCDF Interference Mass

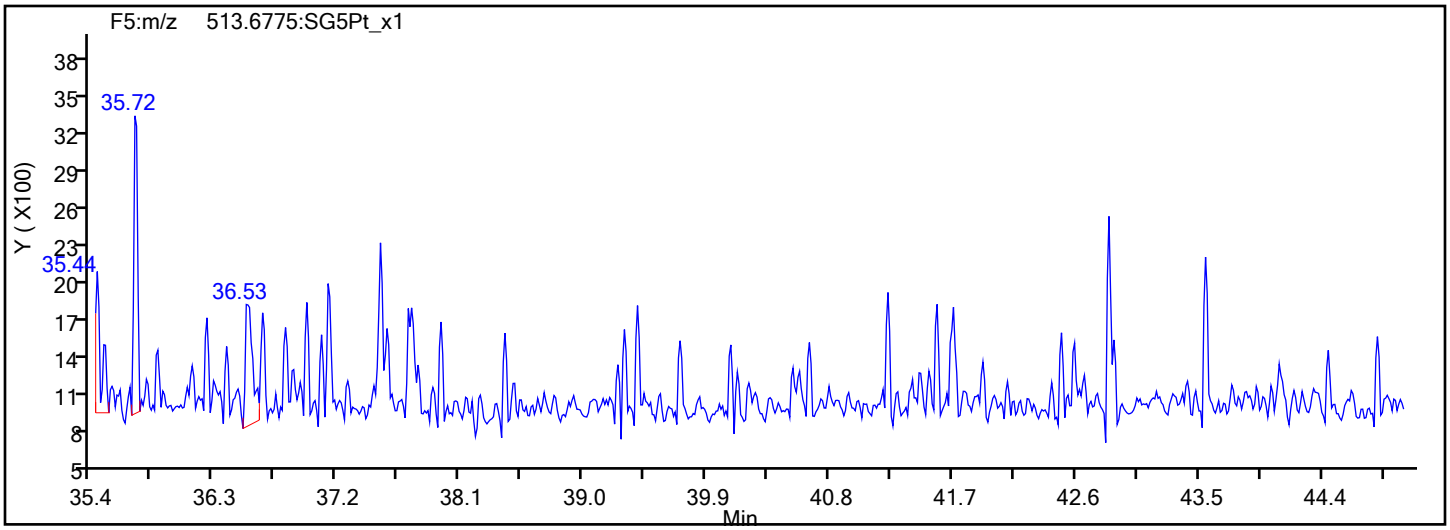

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Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

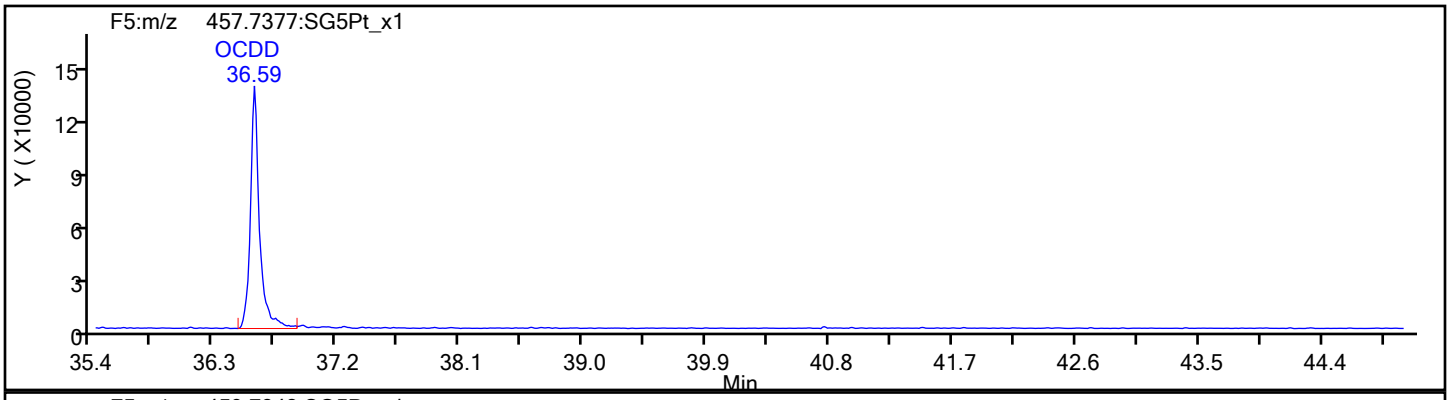

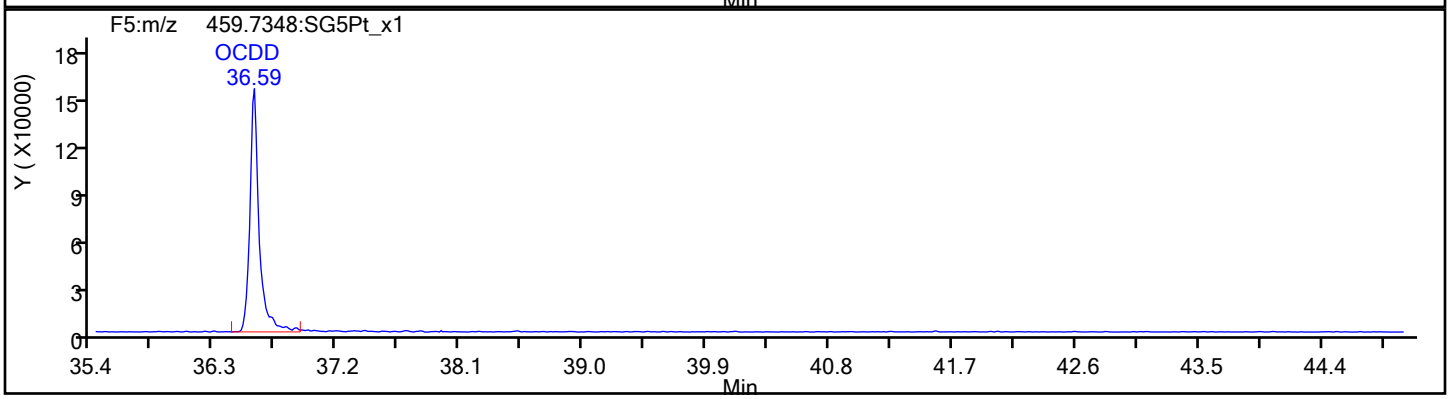

OCDD Standards

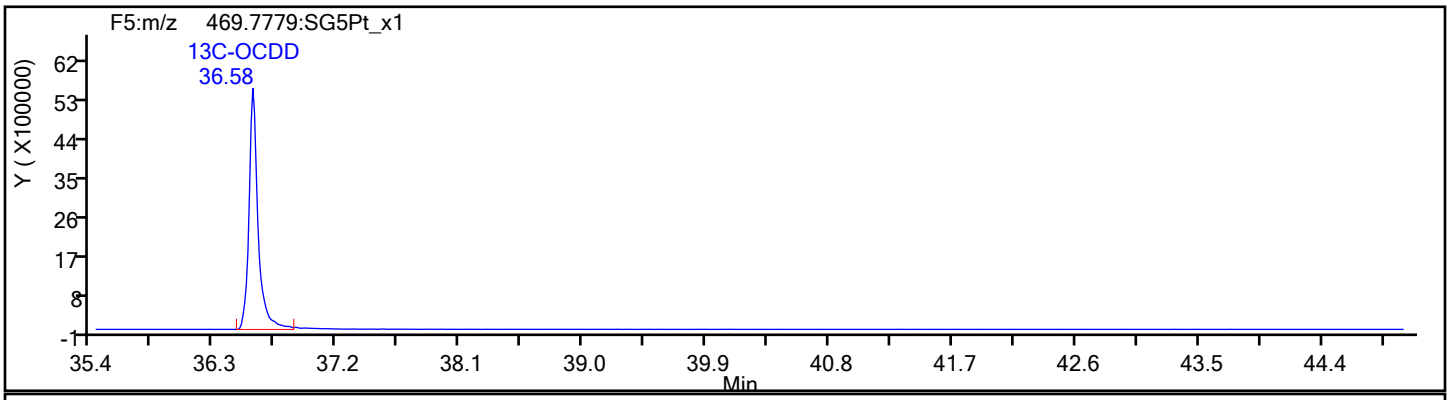

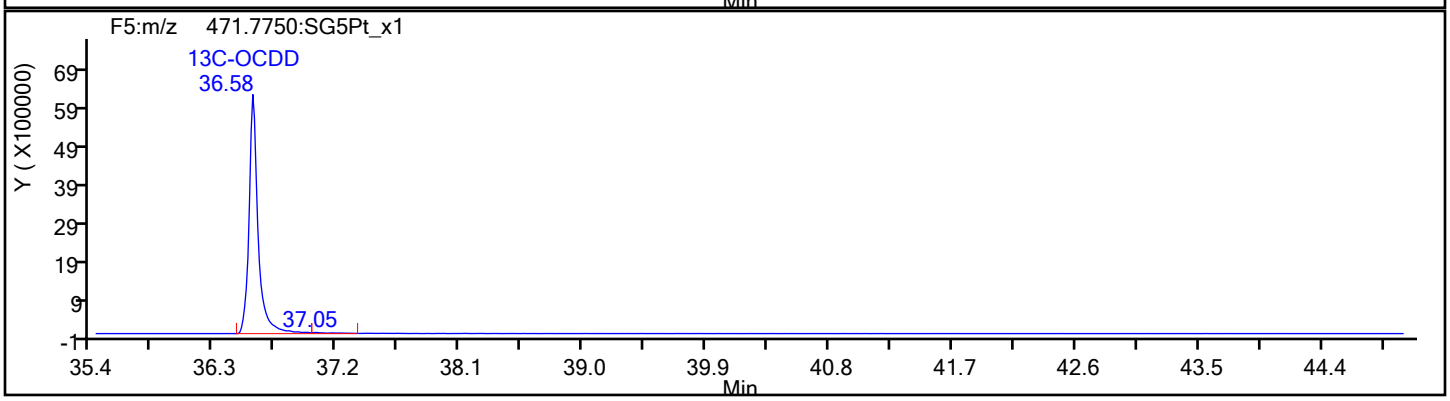

Report Date: 30-Jan-2020 09:31:52 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_4.d		
Injection Date:	30-Jan-2020 01:49:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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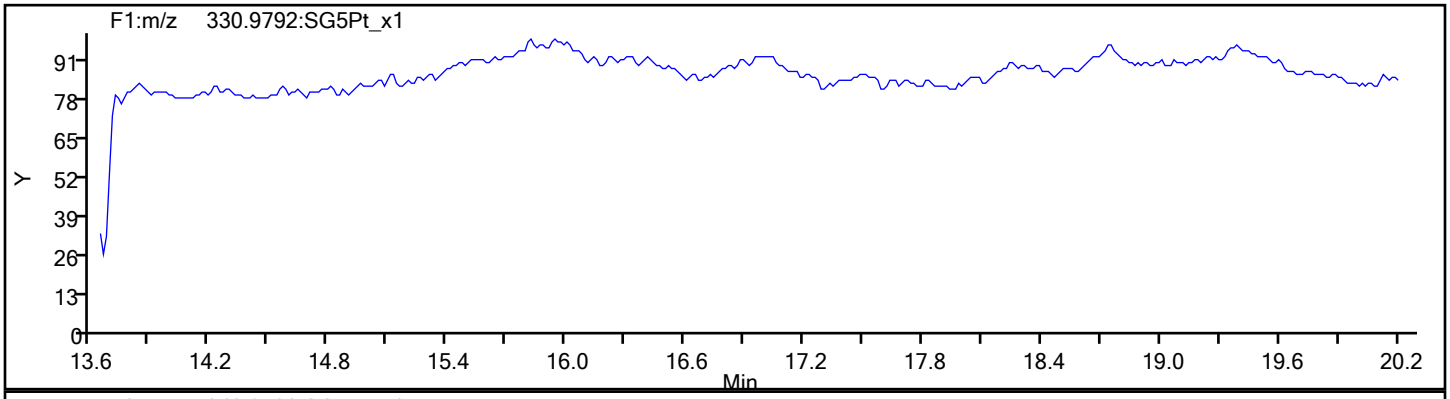

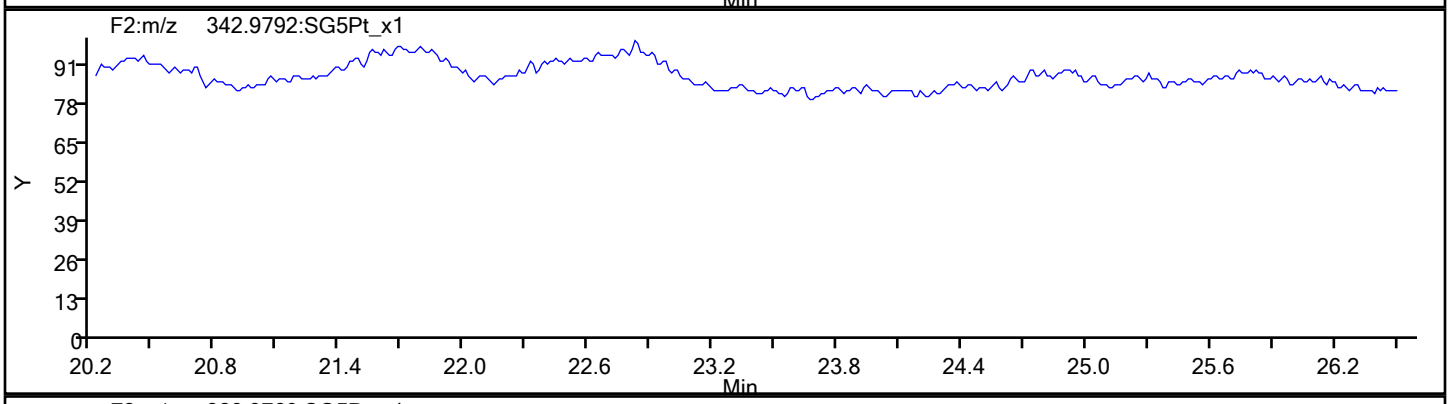

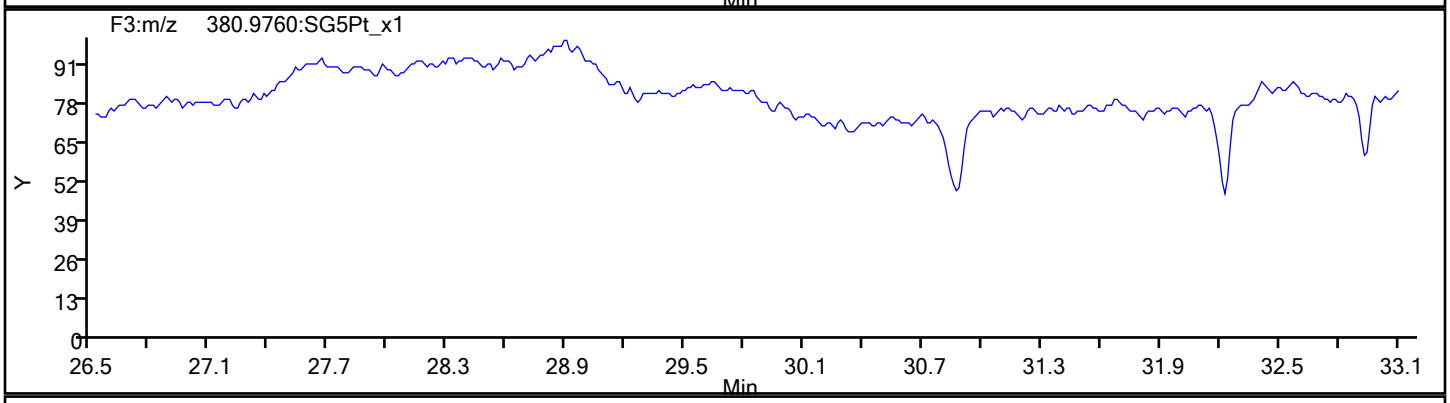

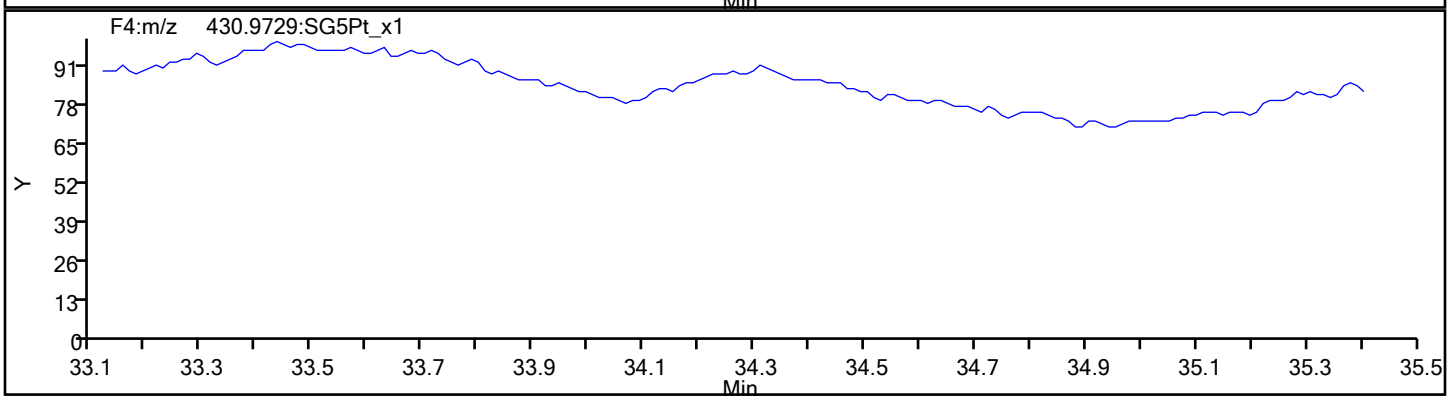

Report Date: 30-Jan-2020 09:31:52 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_4.d		
Injection Date:	30-Jan-2020 01:49:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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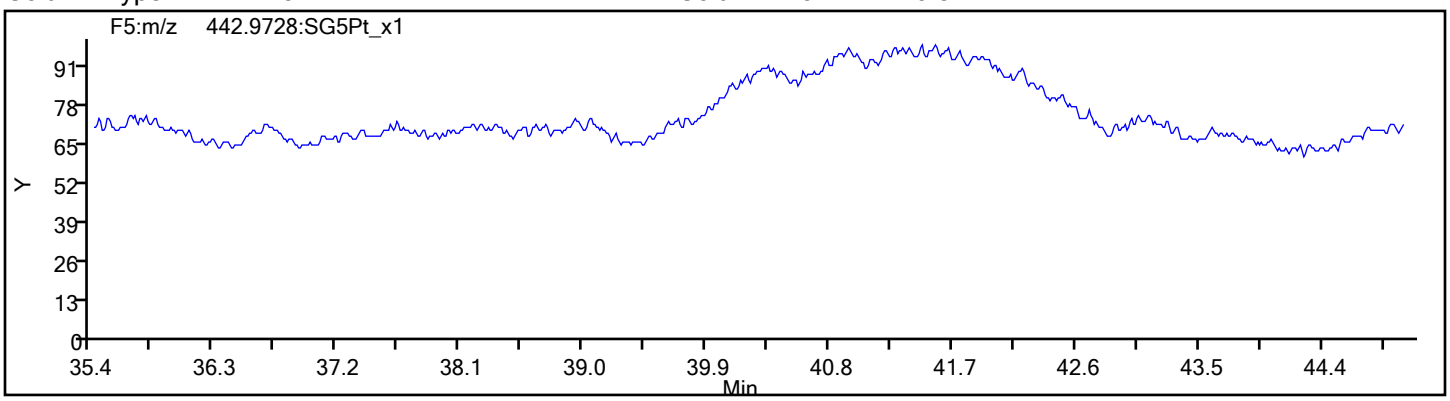

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_5.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 30-Jan-2020 02:35:10 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 012920A CS-3 HRDXNL3_00026
Misc. Info.: 29JA20B10D5
Operator ID: ALM Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 30-Jan-2020 09:32:29 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0321

First Level Reviewer: arghestanis Date: 30-Jan-2020 08:36:28

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.408	53137406	0.80	5.4E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.924	60669870	0.76	1.1275	101.3	101.3	0.2218	0.2218	101	
2,3,7,8-TCDF	16.939	888805	0.70	0.7675	1.909	1.909	0.0145	0.0145	95.43	
S Total TCDF					1.909	1.909	0.0145	0.0145		
D 13C-2,3,7,8-TCDD	17.605	47750377	0.78	0.9032	99.5	99.5	0.2168	0.2168	99.50	
2,3,7,8-TCDD	17.620	900188	0.81	0.9599	1.964	1.964	0.0287	0.0287	98.20	
$ 37Cl4-2,3,7,8-TCDD	17.620	943575		0.9673	1.836	1.836	0.008946	0.008946	91.79	
S Total TCDD					1.964	1.964	0.0287	0.0287		
D 13C-1,2,3,7,8-PeCDF	21.746	50271745	1.56	0.9615	98.4	98.4	0.2934	0.2934	98.40	
1,2,3,7,8-PeCDF	21.773	4296187	1.53	0.8982	9.515	9.515	0.0530	0.0530	95.15	
D 13C-2,3,4,7,8-PeCDF	23.042	52028379	1.53	1.0393	94.2	94.2	0.2714	0.2714	94.21	a
2,3,4,7,8-PeCDF	23.069	4180023	1.56	0.8101	9.917	9.917	0.0606	0.0606	99.17	
S Total PeCDF					19.4	19.4	0.0568	0.0568		
D 13C-1,2,3,7,8-PeCDD	23.737	36044037	1.62	0.6938	97.8	97.8	0.1309	0.1309	97.77	
1,2,3,7,8-PeCDD	23.764	3417776	1.56	0.9961	9.520	9.520	0.0370	0.0370	95.20	
S Total PeCDD					9.520	9.520	0.0370	0.0370		
D 13C-1,2,3,4,7,8-HxCDF	29.873	35906017	0.49	0.8543	97.0	97.0	0.4087	0.4087	96.96	
1,2,3,4,7,8-HxCDF	29.899	2676952	1.24	0.7916	9.418	9.418	0.1013	0.1013	94.18	
D 13C-1,2,3,6,7,8-HxCDF	30.112	35494068	0.49	0.8361	97.9	97.9	0.4175	0.4175	97.93	
1,2,3,6,7,8-HxCDF	30.139	2911436	1.21	0.8638	9.496	9.496	0.0908	0.0908	94.96	
D 13C-2,3,4,6,7,8-HxCDF	31.111	33284581	0.49	0.7773	98.8	98.8	0.4491	0.4491	98.77	
2,3,4,6,7,8-HxCDF	31.124	2785285	1.23	0.9010	9.287	9.287	0.0652	0.0652	92.87	
D 13C-1,2,3,7,8,9-HxCDF	31.989	30809360	0.49	0.7167	99.2	99.2	0.4871	0.4871	99.16	
1,2,3,7,8,9-HxCDF	32.002	2690293	1.21	0.9127	9.568	9.568	0.0644	0.0644	95.68	
S Total HxCDF					37.8	37.8	0.0804	0.0804		
* 13C-1,2,3,7,8,9-HxCDD	31.803	43350314	1.22	4.4E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.324	33308651	1.23	0.8050	95.4	95.4	0.2646	0.2646	95.45	a
1,2,3,4,7,8-HxCDD	31.337	2720931	1.22	0.8392	9.734	9.734	0.0448	0.0448	97.34	
D 13C-1,2,3,6,7,8-HxCDD	31.430	35558088	1.22	0.8269	99.2	99.2	0.2576	0.2576	99.19	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.457	3108758	1.22	0.8876	9.850	9.850	0.0459	0.0459	98.50	
1,2,3,7,8,9-HxCDD	31.816	3305951	1.22	0.9567	10.0	10.0	0.0409	0.0409	100	
S Total HxCDD					29.6	29.6	0.0439	0.0439		
D 13C-1,2,3,4,6,7,8-HpCDF	33.496	30592525	0.42	0.7080	99.7	99.7	1.142	1.142	99.67	
1,2,3,4,6,7,8-HpCDF	33.508	3991295	1.00	1.3375	9.755	9.755	0.0967	0.0967	97.55	
D 13C-1,2,3,4,7,8,9-HpCDF	34.565	30489328	0.42	0.7451	94.4	94.4	1.085	1.085	94.39	a
1,2,3,4,7,8,9-HpCDF	34.565	3240232	1.01	1.0744	9.891	9.891	0.1567	0.1567	98.91	
S Total HpCDF					19.6	19.6	0.1267	0.1267		
D 13C-1,2,3,4,6,7,8-HpCDD	34.274	31043218	1.05	0.7473	95.8	95.8	0.4757	0.4757	95.82	
1,2,3,4,6,7,8-HpCDD	34.286	3005109	1.03	0.9811	9.867	9.867	0.0544	0.0544	98.67	
S Total HpCDD					9.867	9.867	0.0544	0.0544		
D 13C-OCDD	36.578	54582619	0.89	0.6622	190.1	190.1	0.1612	0.1612	95.07	
OCDF	36.674	5634081	0.87	1.0659	19.4	19.4	0.0469	0.0469	96.84	
OCDD	36.590	5412172	0.87	0.9937	20.0	20.0	0.0288	0.0288	99.78	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

HRDXNL3_00026 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_5.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 30-Jan-2020 02:35:10 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 012920A CS-3 HRDXNL3_00026
Misc. Info.: 29JA20B10D5
Operator ID: ALM Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 30-Jan-2020 09:32:29 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0321

First Level Reviewer: arghestanis Date: 30-Jan-2020 08:36:28

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.408	17.411	0		23671607	6119246	5480	13700	1117		
333.9339	17.408	17.411	0		29465799	7574391	5245	13112	1444	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.924	16.924	0	0.972	26151477	6326112	6961	17402	909		
317.9389	16.924	16.924	0	0.972	34518393	8235984	6737	16842	1223	0.76(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.939	16.939	0	1.001	365354	90065	236	590	382		
305.8987	16.939	16.939	0	1.001	523451	124522	412	1030	302	0.70(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.605	17.605	0	1.011	20918606	4921628	5480	13700	898		
333.9339	17.605	17.605	0	1.011	26831771	6232839	5245	13112	1188	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.620	17.623	0	1.001	402421	91484	863	2157	106		
321.8936	17.620	17.623	0	1.001	497767	115296	366	915	315	0.81(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.620	17.623	0	1.012	943575	222938	474	1185	470		
13C-1,2,3,7,8-PeCDF											
351.9000	21.746	21.749	0	1.249	30599897	5476886	9316	23290	588		
353.8970	21.746	21.749	0	1.249	19671848	3488958	6137	15342	569	1.56(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.773	21.773	0	1.001	2599800	470731	880	2200	535		
341.8567	21.773	21.773	0	1.001	1696387	288161	826	2065	349	1.53(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											a
351.9000	23.042	23.042	0	1.324	31448606	5257220	9316	23290	564		a
353.8970	23.042	23.042	0	1.324	20579773	3436721	6137	15342	560	1.53(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.069	23.066	0	1.001	2549086	428309	880	2200	487		
341.8567	23.055	23.066	-1	1.001	1630937	262743	826	2065	318	1.56(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.737	23.737	0	1.364	22277847	3510581	3265	8162	1075		
369.8919	23.737	23.737	0	1.364	13766190	2164428	1711	4277	1265	1.62(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.764	23.761	0	1.001	2083701	317002	495	1237	640		
357.8516	23.764	23.761	0	1.001	1334075	197118	342	855	576	1.56(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.873	29.878	0	0.939	11864741	1631853	4166	10415	392		
385.8610	29.873	29.878	0	0.939	24041276	3313324	9000	22500	368	0.49(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.899	29.905	0	1.001	1484207	201319	881	2202	229		
375.8178	29.899	29.905	0	1.001	1192745	169860	705	1762	241	1.24(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.112	30.118	0	0.947	11615191	1652891	4166	10415	397		
385.8610	30.112	30.118	0	0.947	23878877	3399915	9000	22500	378	0.49(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.139	30.142	0	1.001	1592245	227802	881	2202	259		
375.8178	30.139	30.142	0	1.001	1319191	186088	705	1762	264	1.21(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.111	31.108	0	0.978	10938523	2222933	4166	10415	534		
385.8610	31.111	31.108	0	0.978	22346058	4528212	9000	22500	503	0.49(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.124	31.124	0	1.000	1536582	314663	881	2202	357		
375.8178	31.124	31.124	0	1.000	1248703	253835	705	1762	360	1.23(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.989	31.992	0	1.006	10132503	2202779	4166	10415	529		
385.8610	31.989	31.992	0	1.006	20676857	4543484	9000	22500	505	0.49(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.002	32.008	0	1.000	1472330	325653	881	2202	370		
375.8178	32.002	32.008	0	1.000	1217963	265979	705	1762	377	1.21(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.803	31.803	0		23852838	5195112	4454	11135	1166		
403.8529	31.803	31.803	0		19497476	4233453	3579	8947	1183	1.22(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											a
401.8559	31.324	31.324	0	0.985	18398781	4344196	4454	11135	975		a
403.8529	31.324	31.324	0	0.985	14909870	3475623	3579	8947	971	1.23(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.337	31.337	0	1.000	1493351	349801	598	1495	585		
391.8127	31.337	31.337	0	1.000	1227580	290068	578	1445	502	1.22(1.05-1.43)	

Report Date: 30-Jan-2020 09:32:51 Chrom Revision: 2.3 14-Jan-2020 22:23:42
Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_5.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.430	31.441	-1	0.988	19546955	3960741	4454	11135	889		
403.8529	31.444	31.441	0	0.989	16011133	3256019	3579	8947	910	1.22(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.457	31.457	0	1.001	1710933	352620	598	1495	590		
391.8127	31.457	31.457	0	1.001	1397825	297232	578	1445	514	1.22(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.816	31.816	0	1.016	1814701	395701	598	1495	662		
391.8127	31.816	31.816	0	1.016	1491250	326591	578	1445	565	1.22(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.496	33.499	0	1.053	9069003	2778353	9169	22922	303		
419.8220	33.496	33.499	0	1.053	21523522	6417386	21321	53302	301	0.42(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.508	33.511	0	1.000	1998461	604192	2484	6210	243		
409.7789	33.508	33.511	0	1.000	1992834	604074	2272	5680	266	1.00(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											a
417.8253	34.565	34.563	0	1.087	8992703	2126472	9169	22922	232		a
419.8220	34.553	34.563	-1	1.086	21496625	4935849	21321	53302	232	0.42(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.565	34.570	0	1.000	1628735	376223	2484	6210	151		
409.7789	34.565	34.570	0	1.000	1611497	378517	2272	5680	167	1.01(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.274	34.279	0	1.078	15933217	4018890	7231	18077	556		
437.8140	34.274	34.279	0	1.078	15110001	3829515	6177	15442	620	1.05(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.286	34.288	0	1.000	1524844	391120	988	2470	396		
425.7737	34.286	34.288	0	1.000	1480265	370216	687	1717	539	1.03(0.88-1.20)	
13C-OCDD											
469.7779	36.578	36.578	0	1.150	25757630	5530737	2038	5095	2714		
471.7750	36.578	36.578	0	1.150	28824989	6094111	1989	4972	3064	0.89(0.76-1.02)	
OCDF											
441.7428	36.674	36.674	0	1.003	2616321	544571	536	1340	1016		
443.7399	36.674	36.674	0	1.003	3017760	633234	626	1565	1012	0.87(0.76-1.02)	
OCDD											
457.7377	36.590	36.590	0	1.000	2513412	531017	293	732	1812		
459.7348	36.590	36.590	0	1.000	2898760	604354	372	930	1625	0.87(0.76-1.02)	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

HRDXNL3_00026 Amount Added: 2.00 Units: uL

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_5.d				
Injection Date:	30-Jan-2020 02:35:10	Instrument ID:	10D5		
Lims ID:	IC				
Client ID:					
Operator ID:	ALM	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

13C-2,3,4,7,8-PeCDF, CAS: 116843-02-8

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 23.04

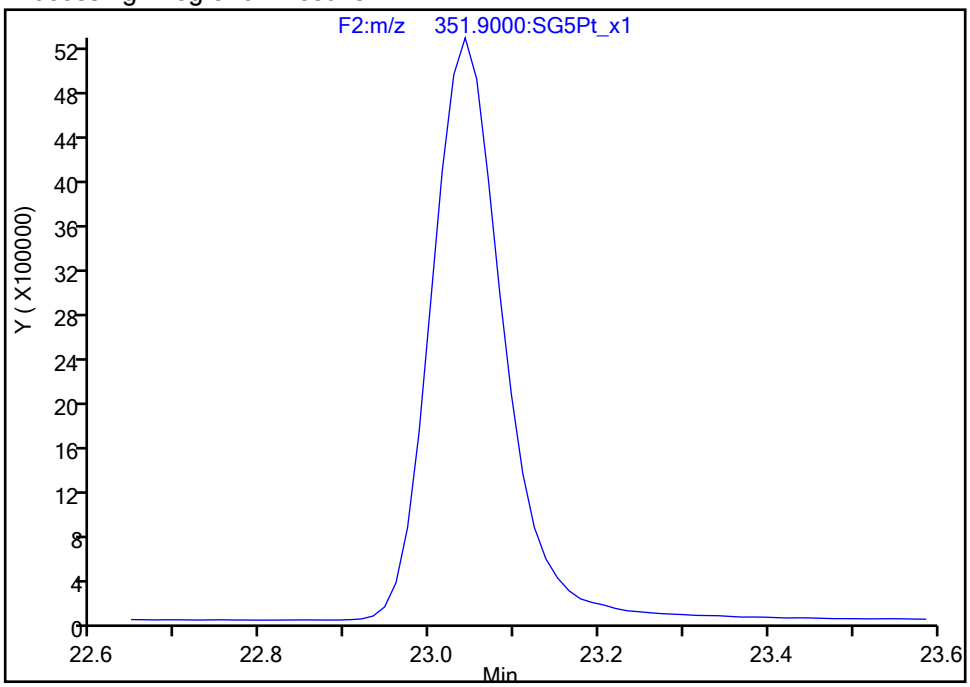

Manual Integration Results

RT: 23.04
Area: 31448606
Amount: 94.209415
Amount Units: pg/ul

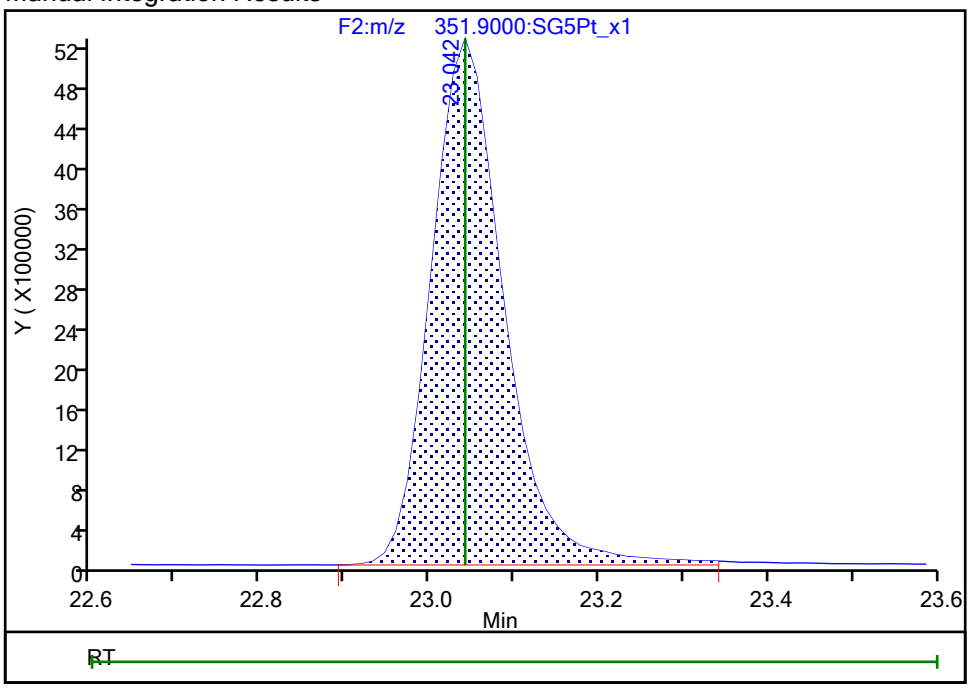

Reviewer: arghestanis, 30-Jan-2020 08:35:47
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_5.d				
Injection Date:	30-Jan-2020 02:35:10	Instrument ID:	10D5		
Lims ID:	IC				
Client ID:					
Operator ID:	ALM	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

13C-1,2,3,4,7,8-HxCDD, CAS: 109719-80-4

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 31.32

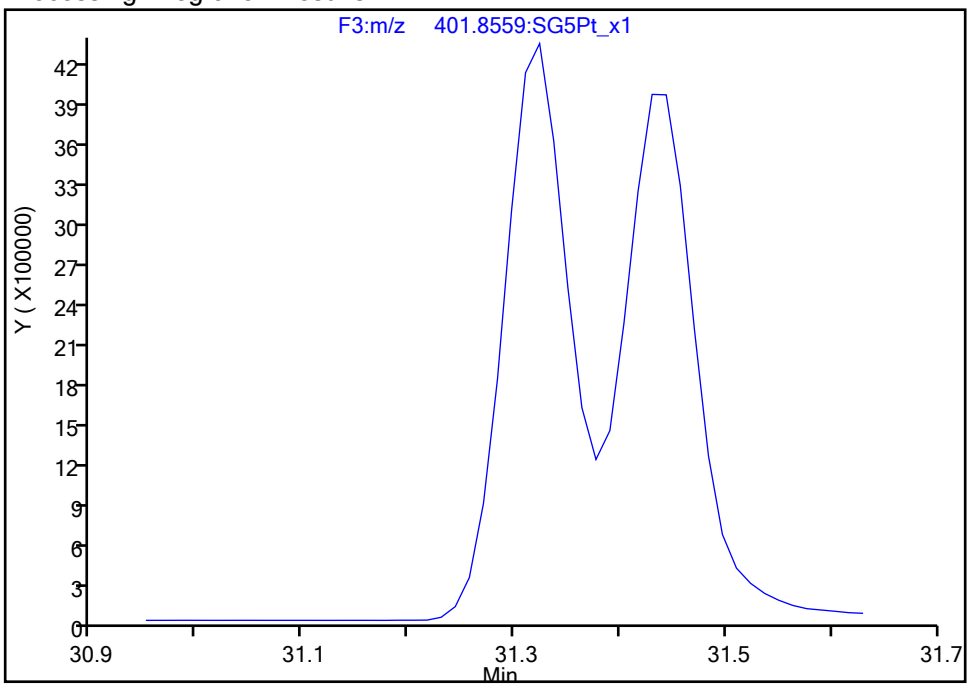

Manual Integration Results

RT: 31.32
Area: 18398781
Amount: 95.447935
Amount Units: pg/ul

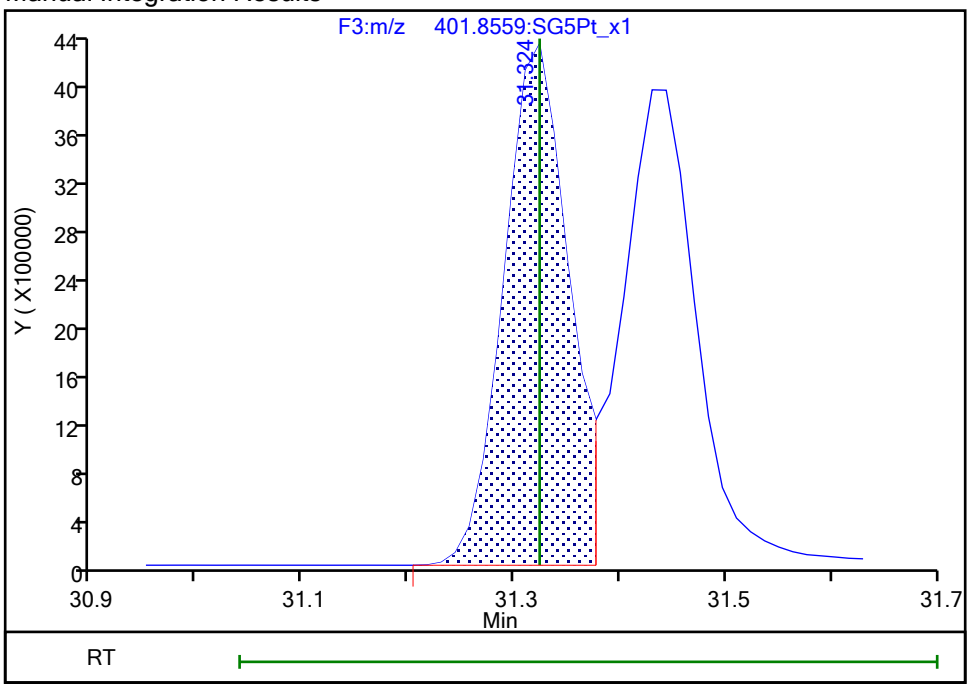

Reviewer: arghestanis, 30-Jan-2020 08:36:02
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_5.d				
Injection Date:	30-Jan-2020 02:35:10	Instrument ID:	10D5		
Lims ID:	IC				
Client ID:					
Operator ID:	ALM	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

13C-1,2,3,4,7,8,9-HpCDF, CAS: 109719-94-0

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 34.56

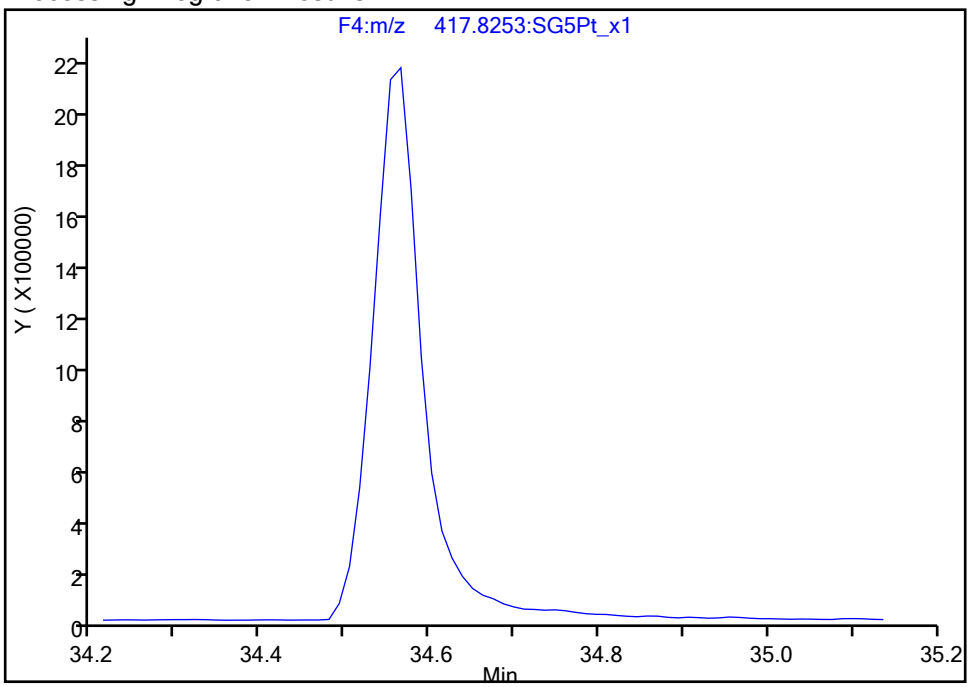

Manual Integration Results

RT: 34.57
Area: 8992703
Amount: 94.392726
Amount Units: pg/ul

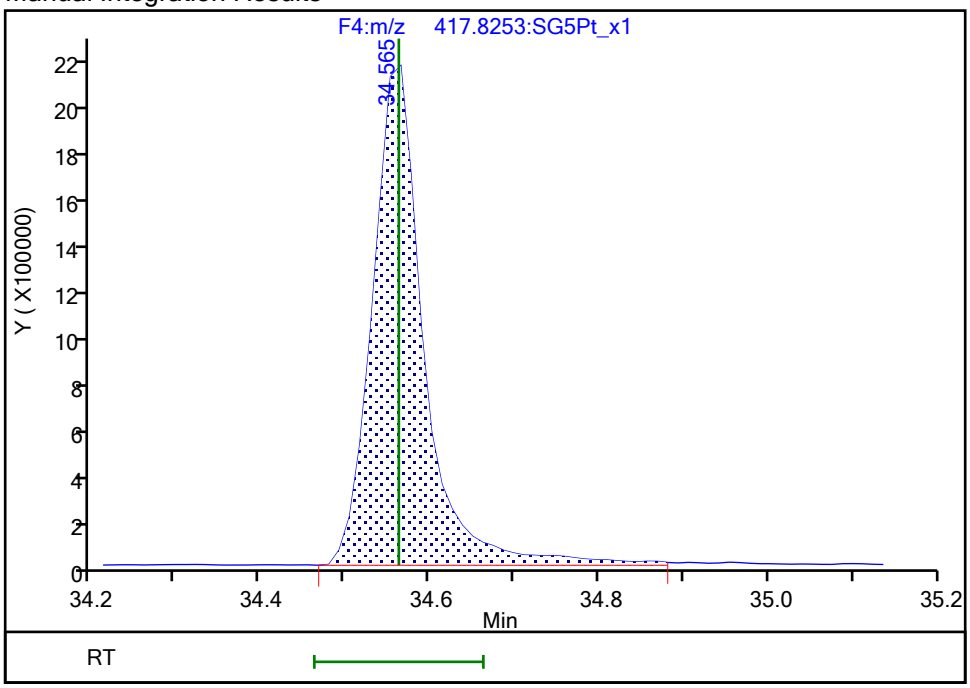

Reviewer: arghestanis, 30-Jan-2020 08:36:13
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Report Date: 30-Jan-2020 09:32:51 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_5.d		
Injection Date:	30-Jan-2020 02:35:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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TCDF

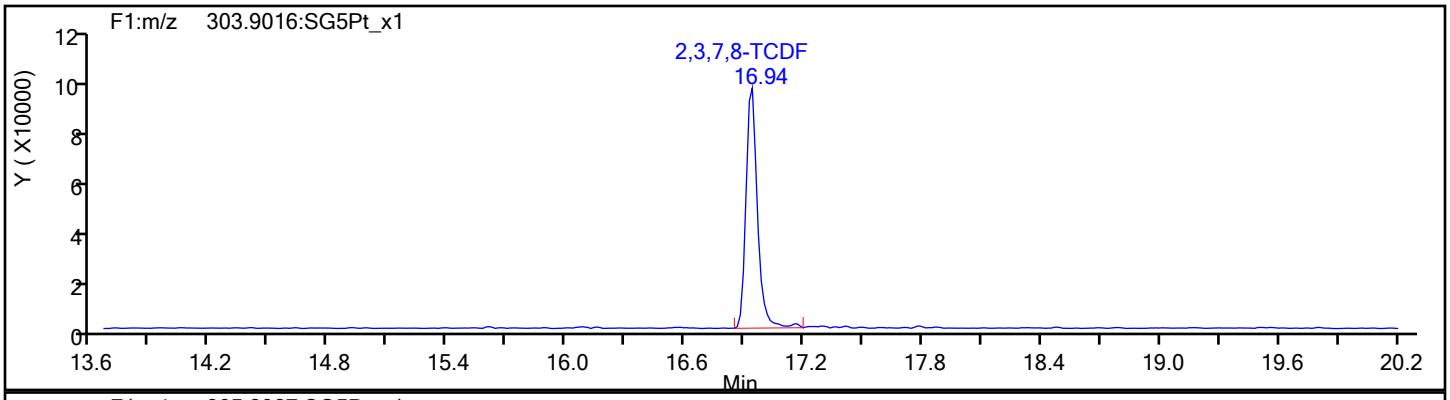

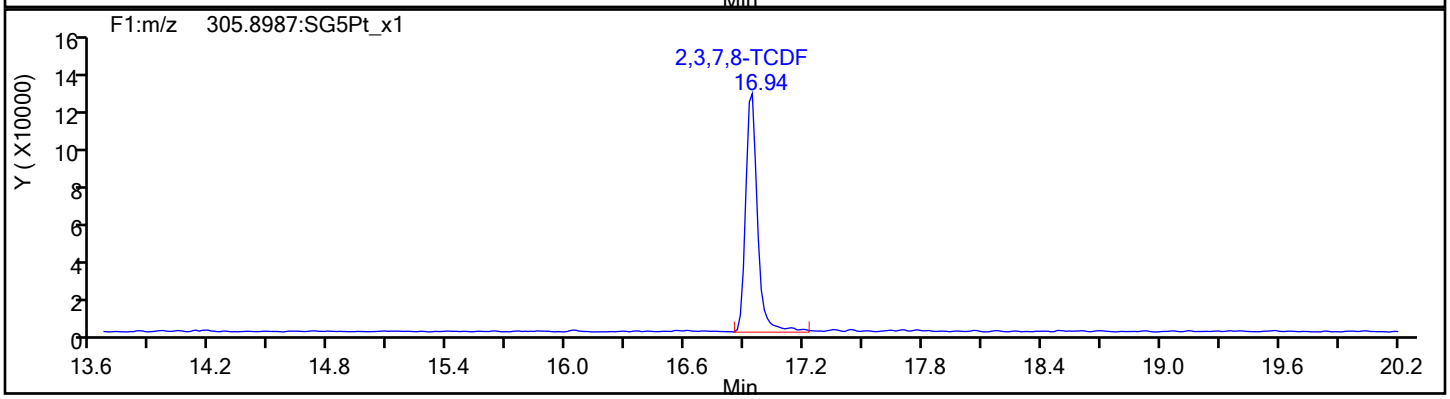

TCDF Standards

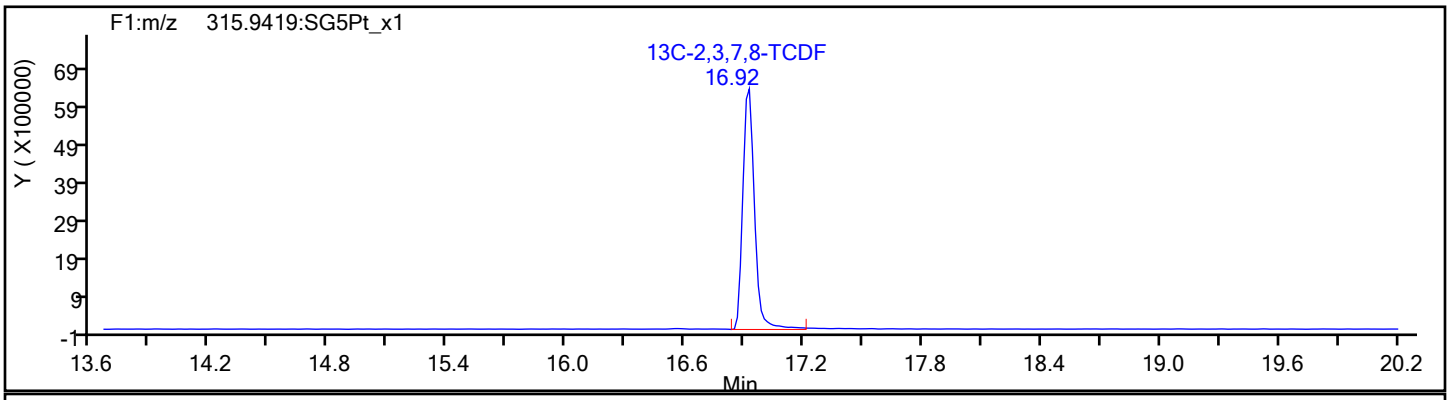

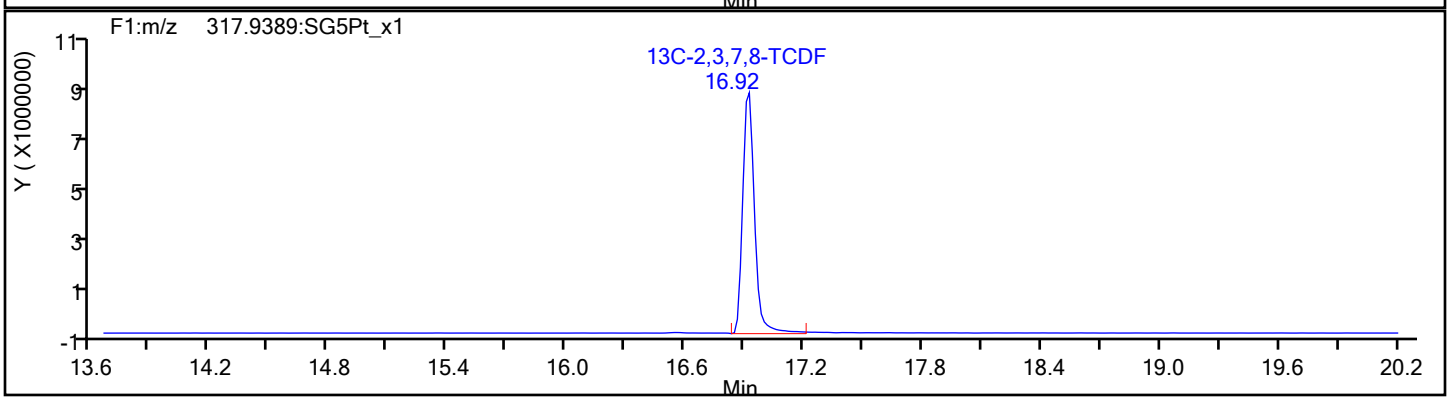

Report Date: 30-Jan-2020 09:32:51 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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TCDF

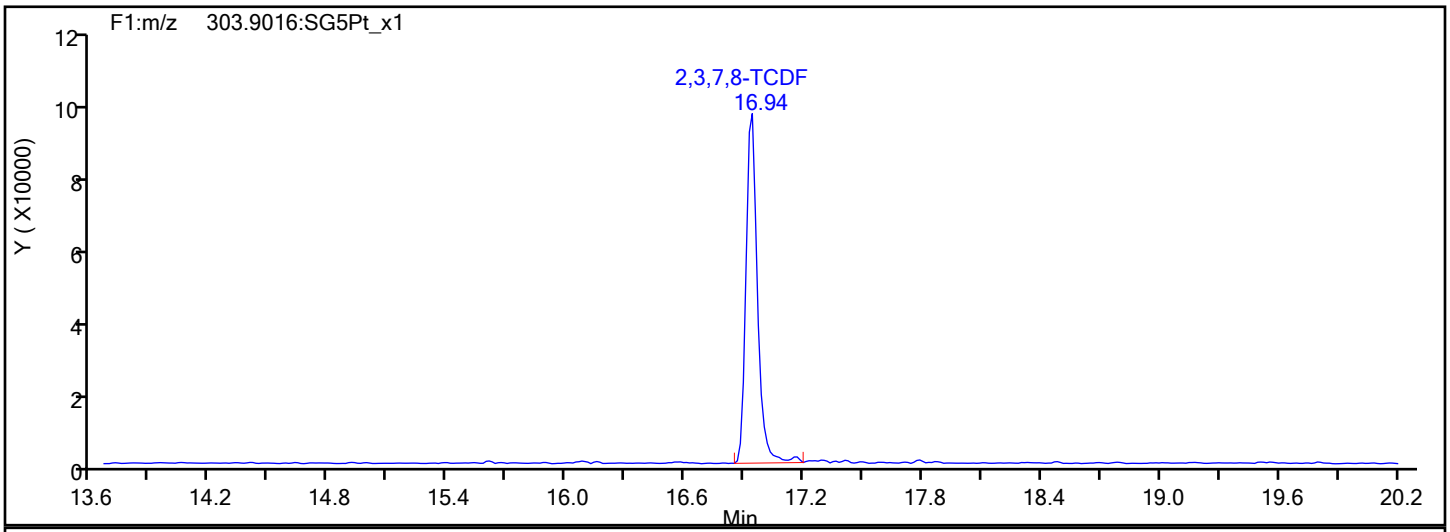

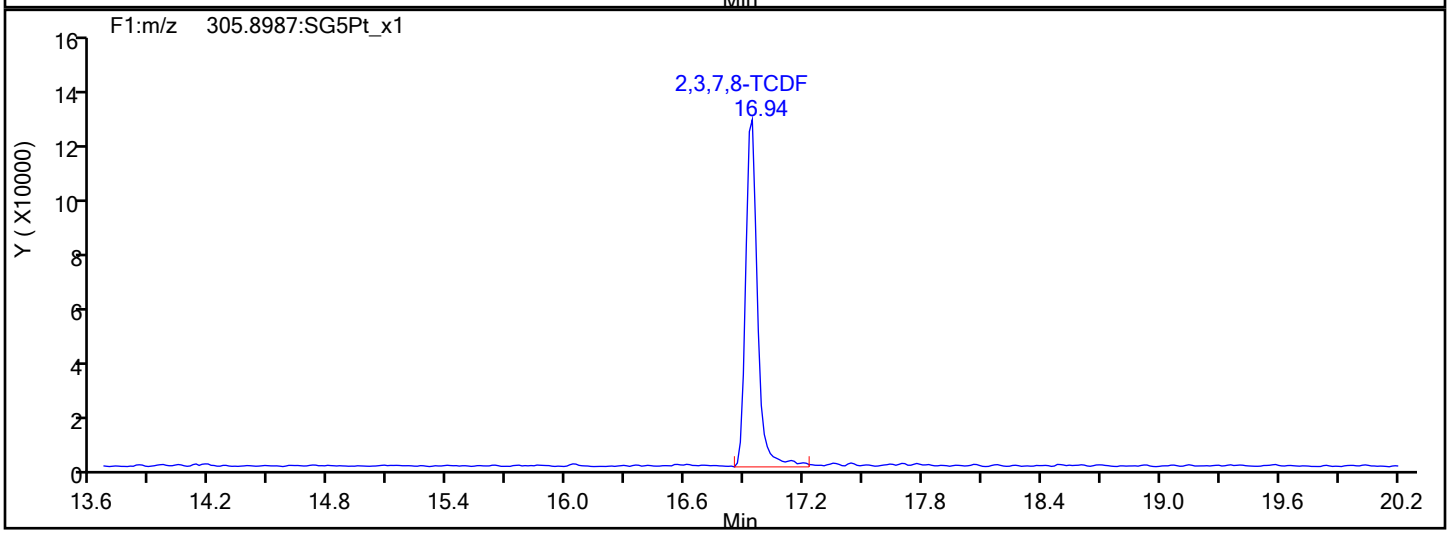

TCDF Interference Mass

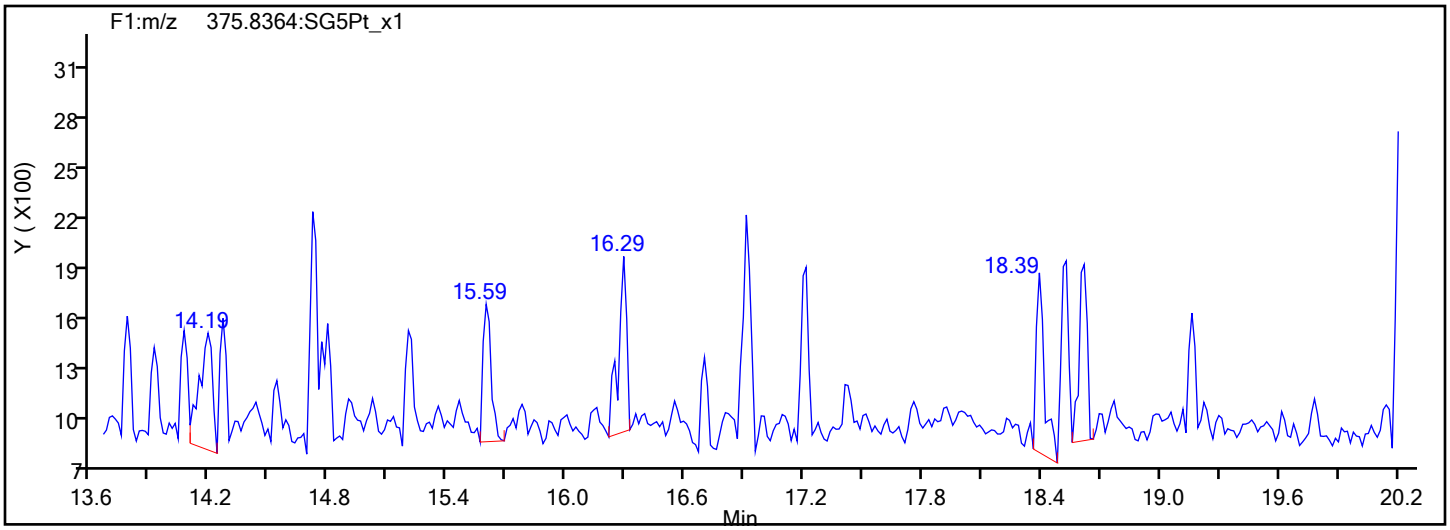

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Eurofins TestAmerica, Sacramento

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TCDD

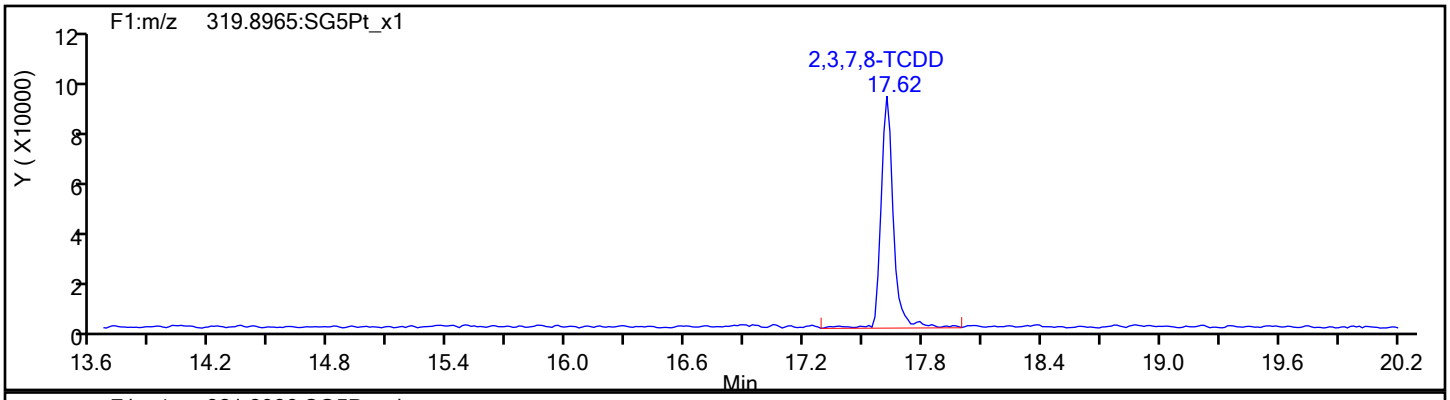

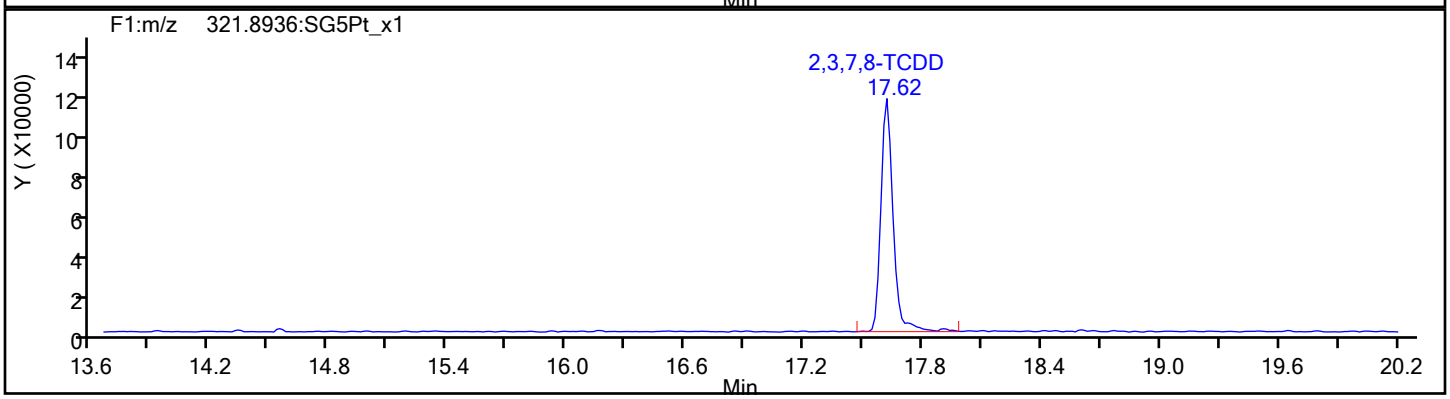

TCDD Standards

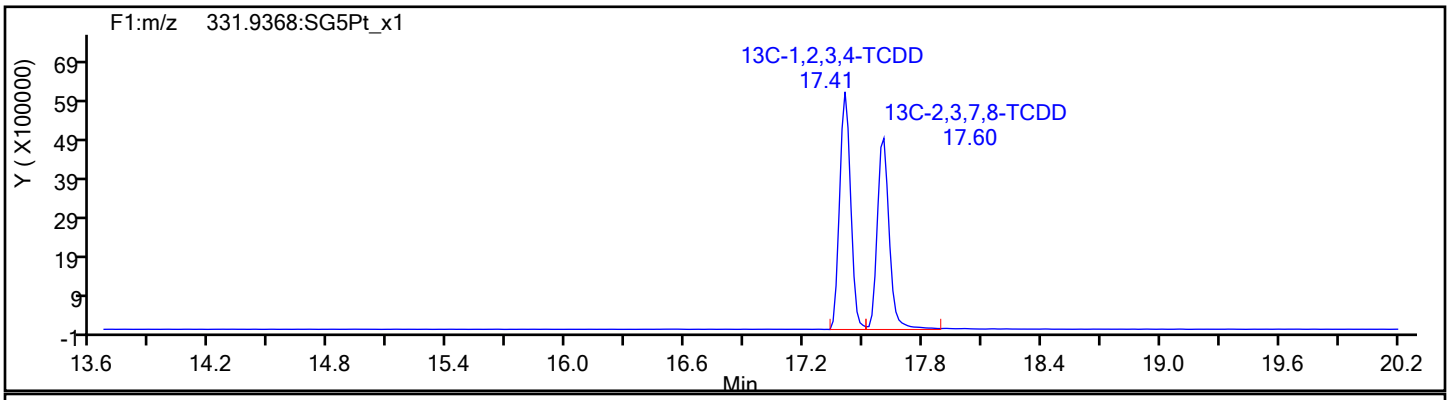

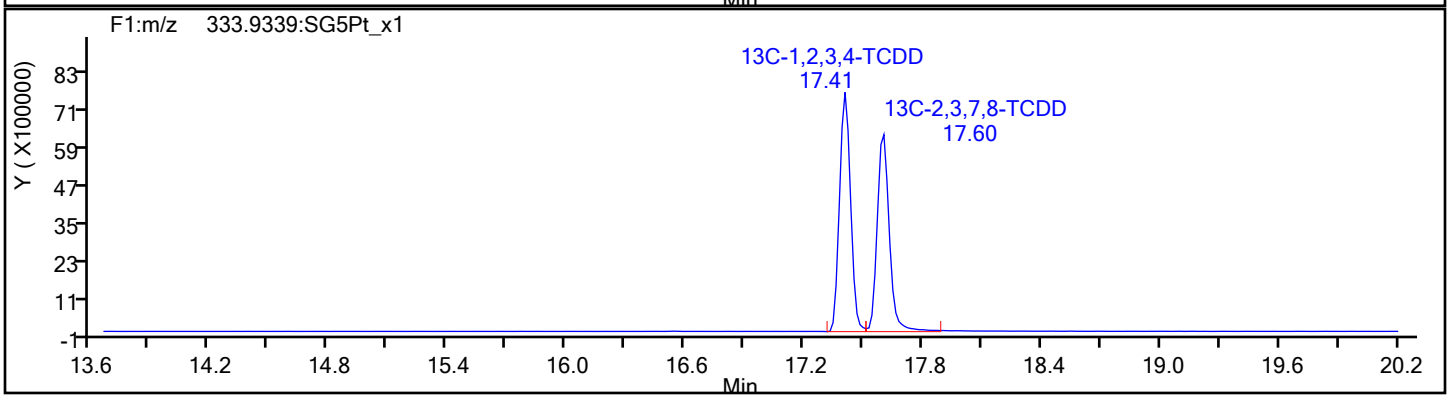

Report Date: 30-Jan-2020 09:32:52 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

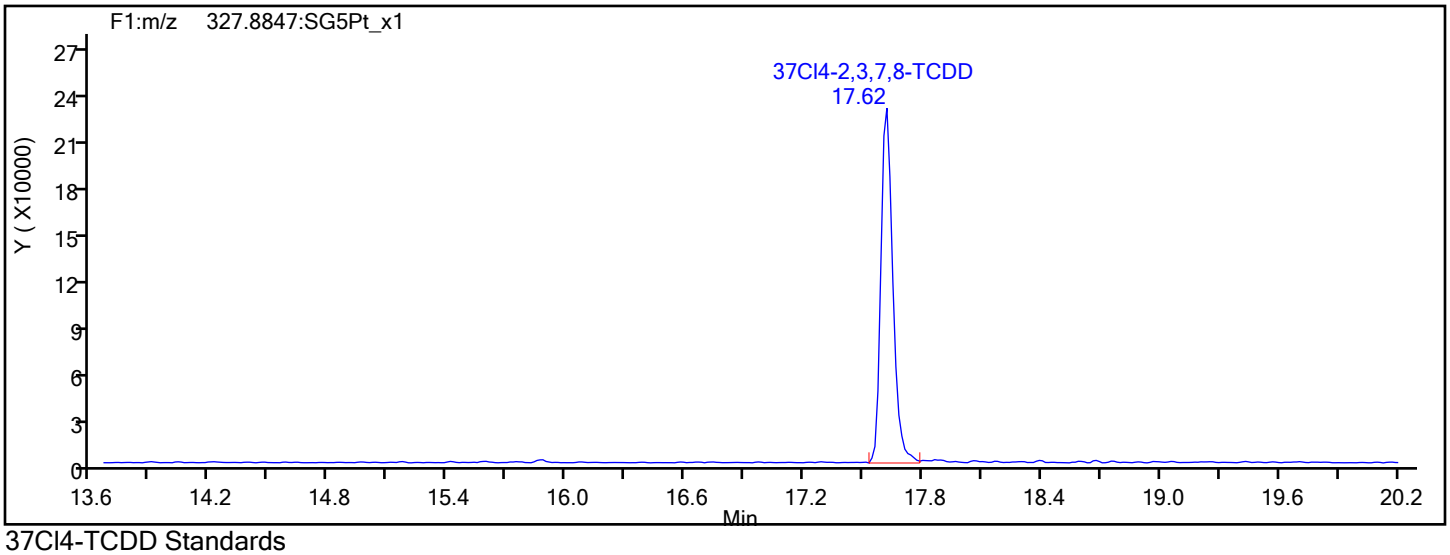

37Cl4-TCDD Standards

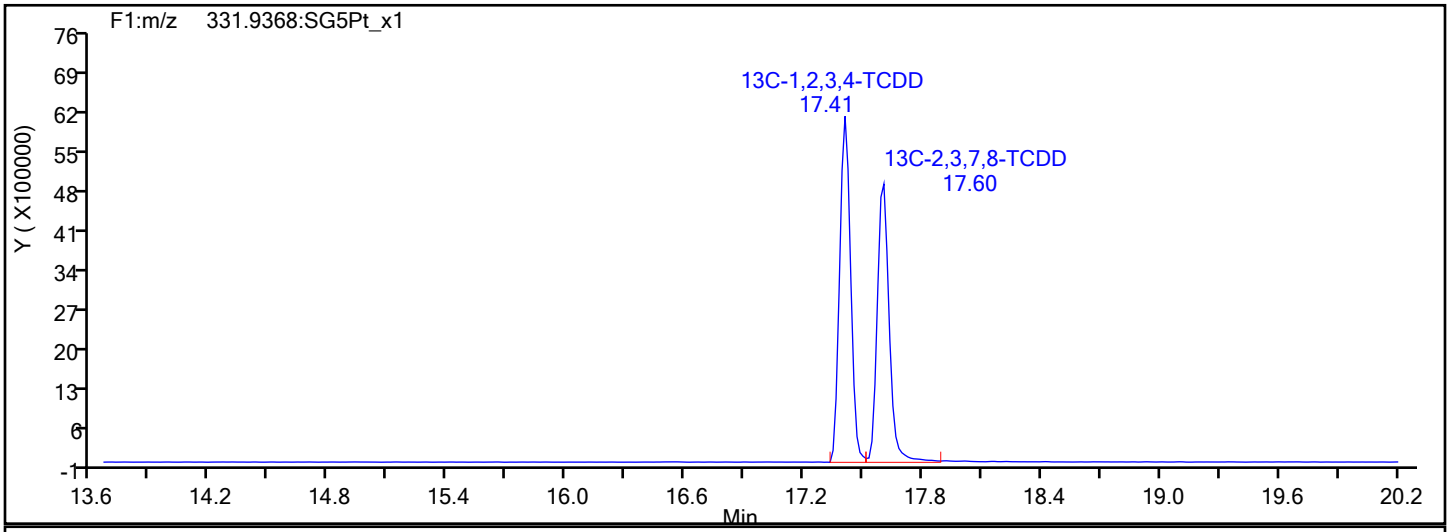

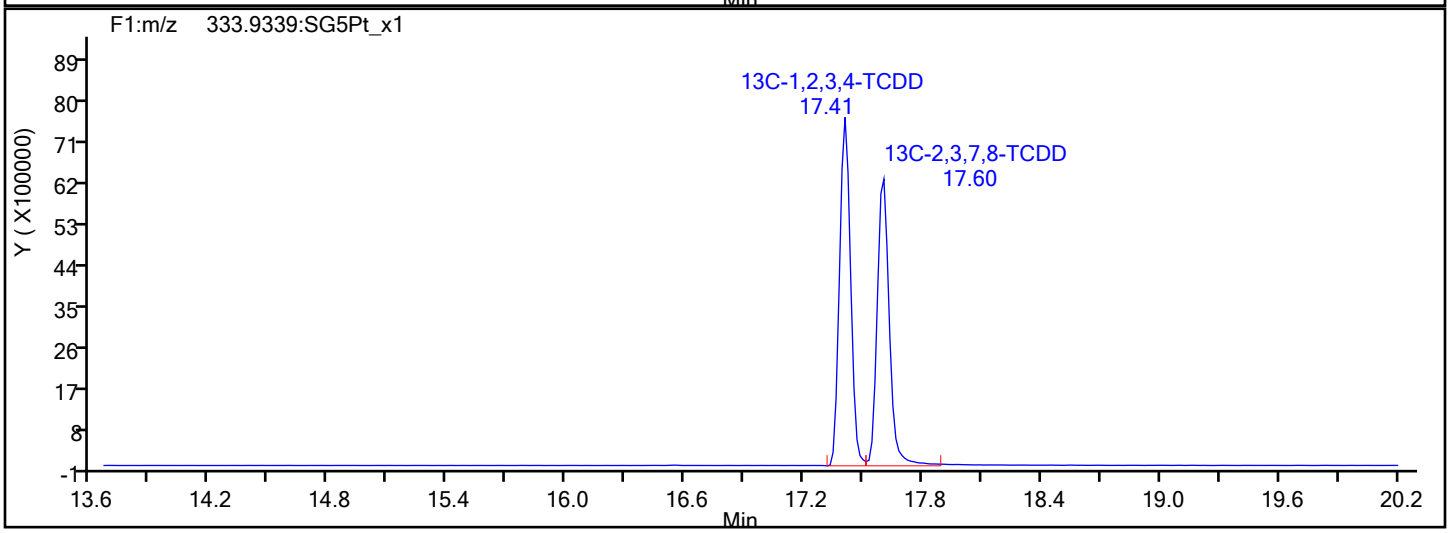

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

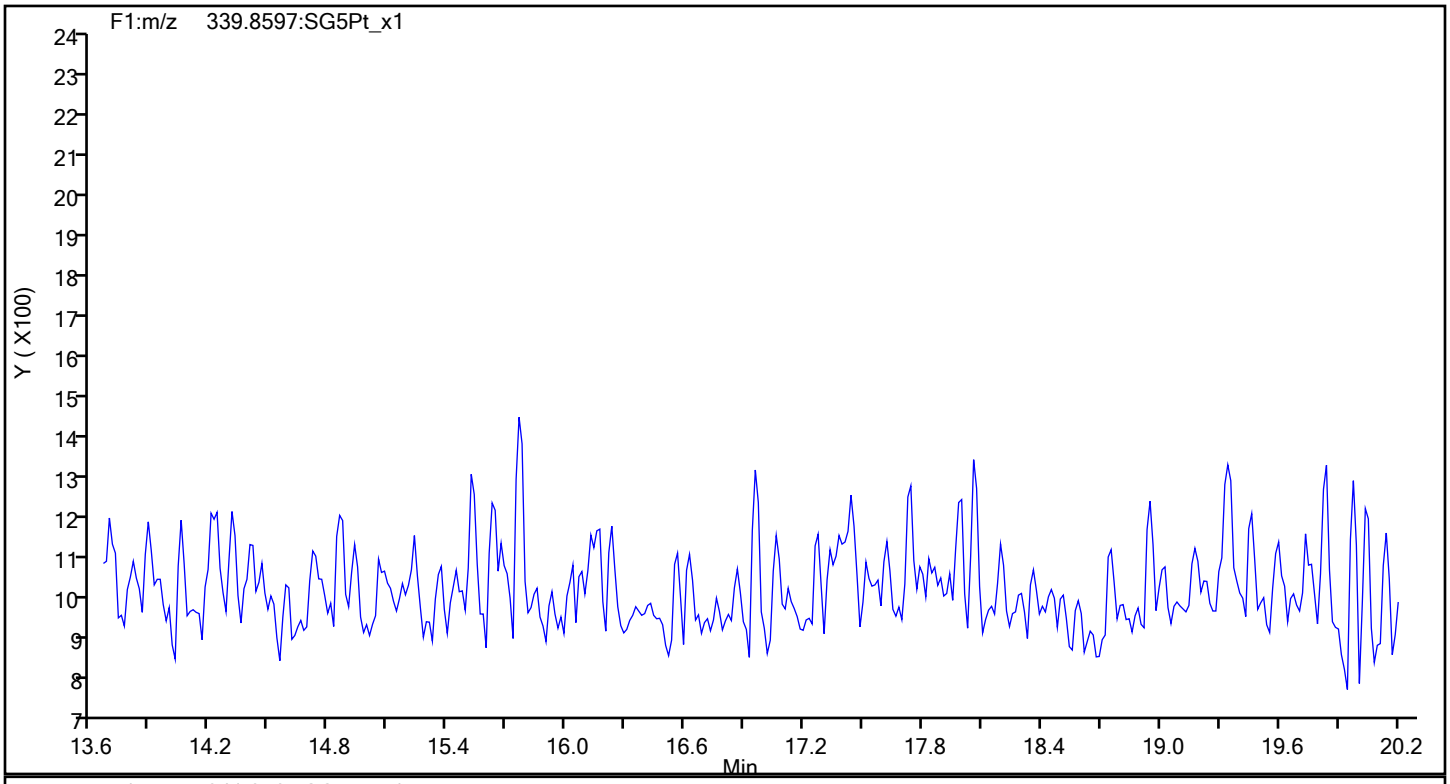

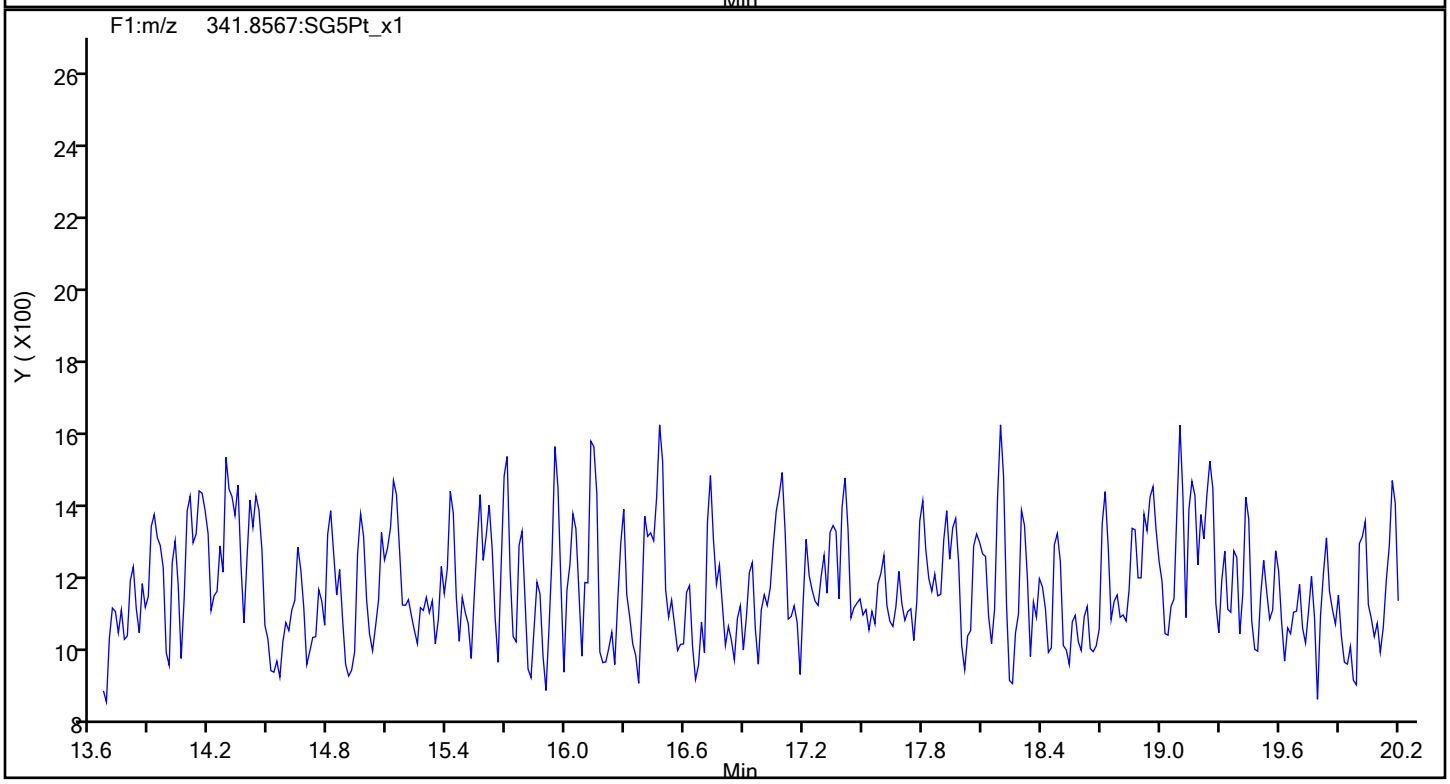

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

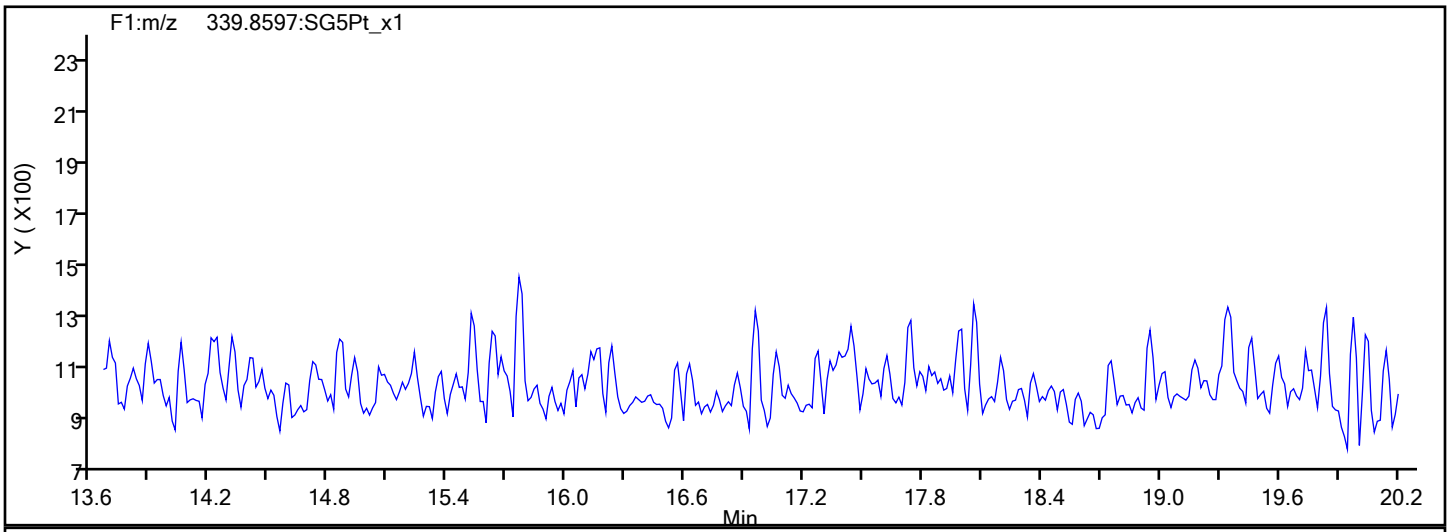

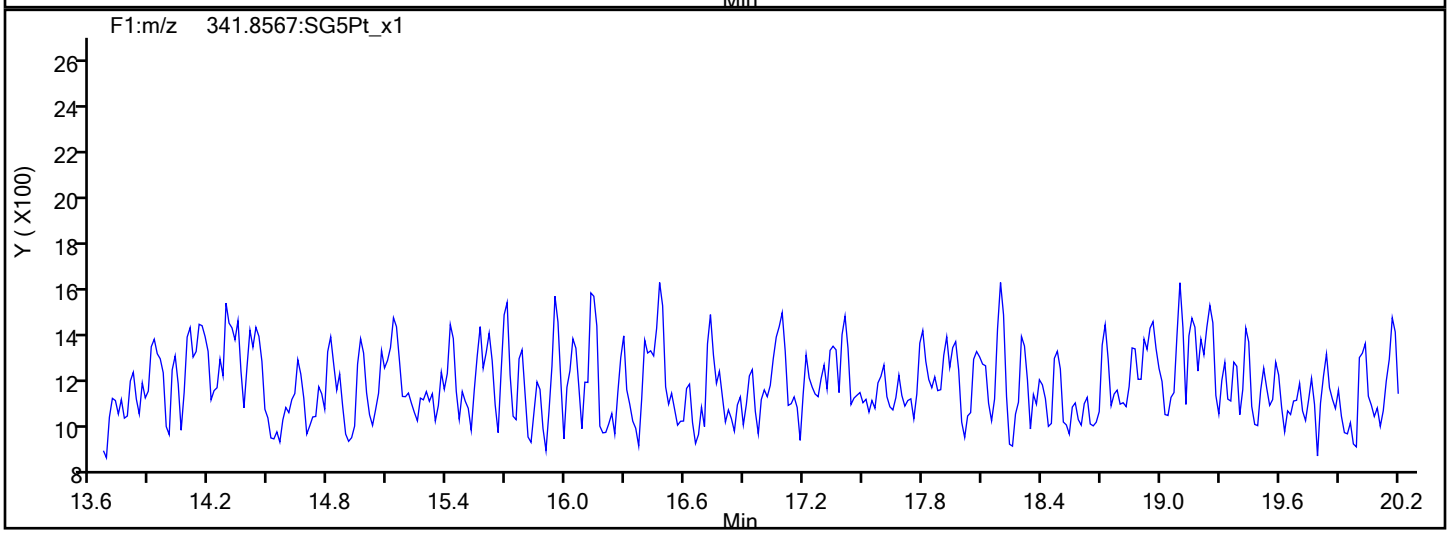

F1 PeCDFs Interference Mass

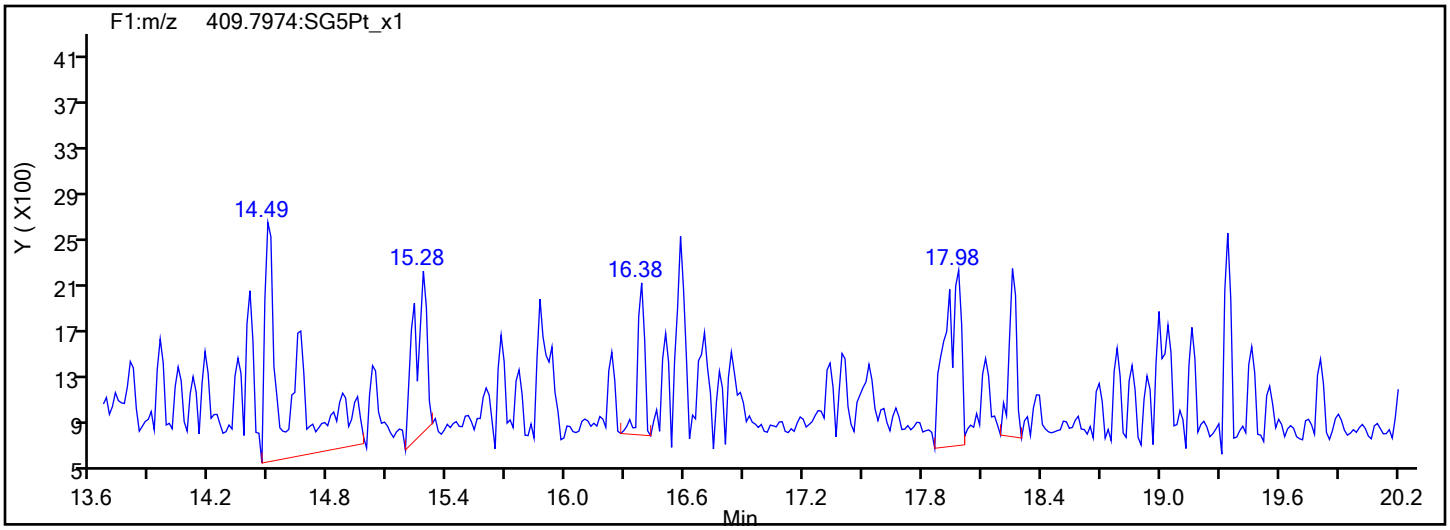

Report Date: 30-Jan-2020 09:32:52 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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PeCDF

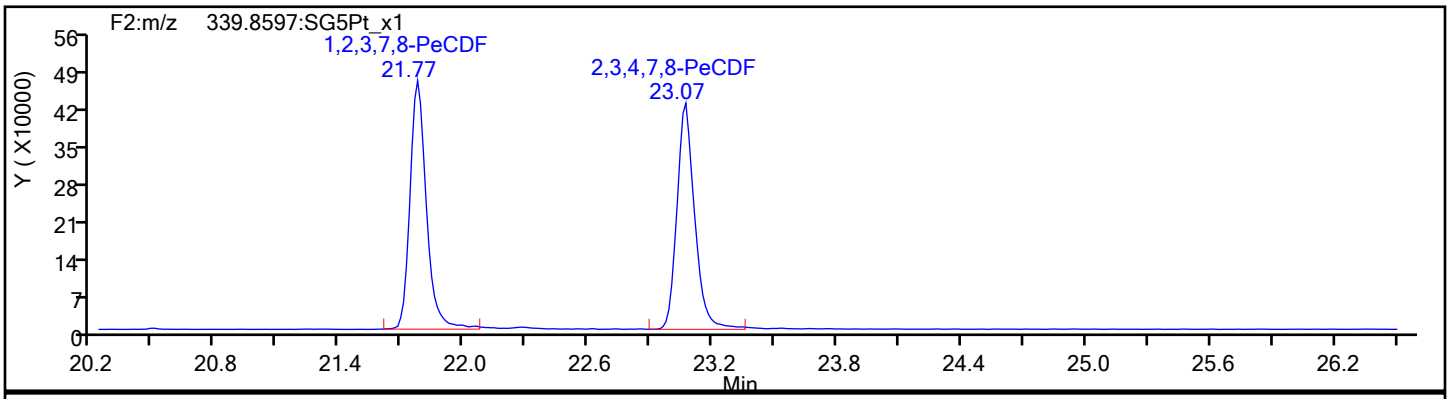

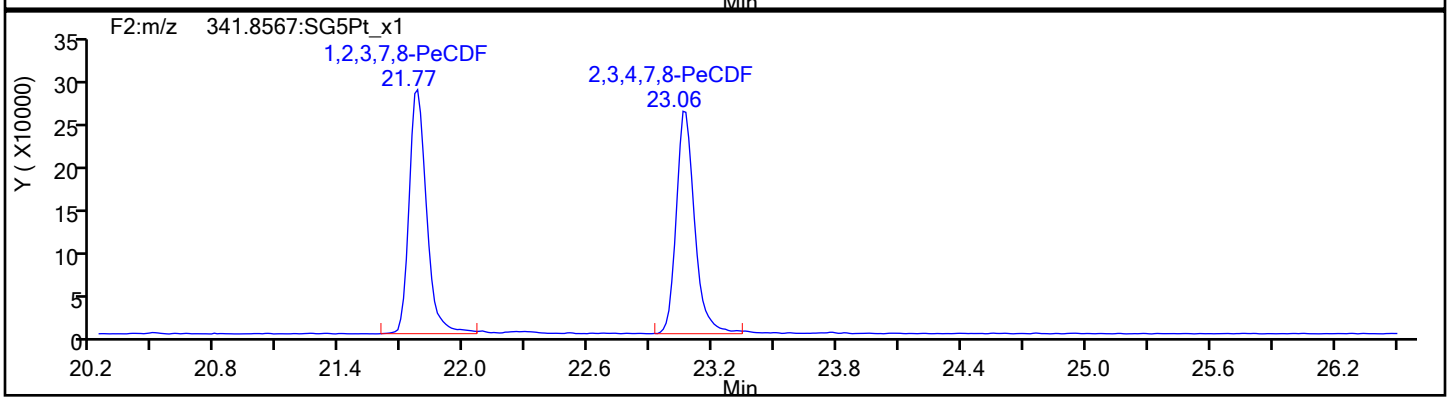

PeCDF Standards

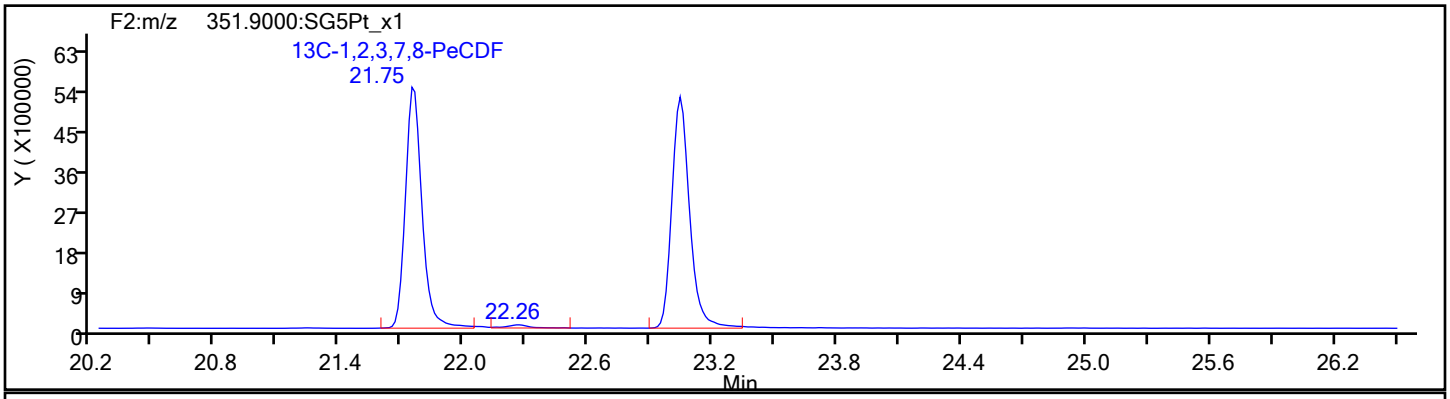

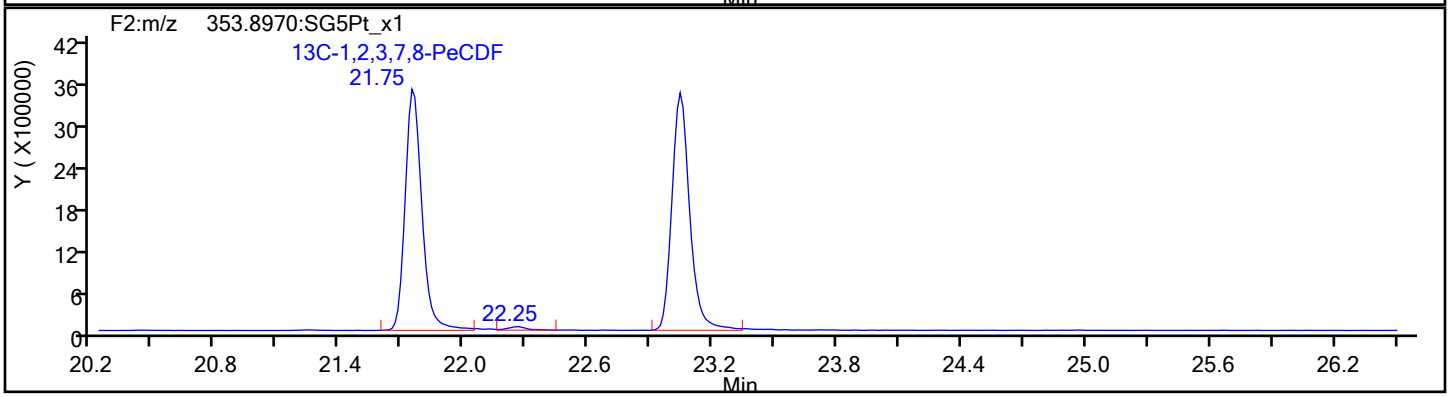

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Eurofins TestAmerica, Sacramento

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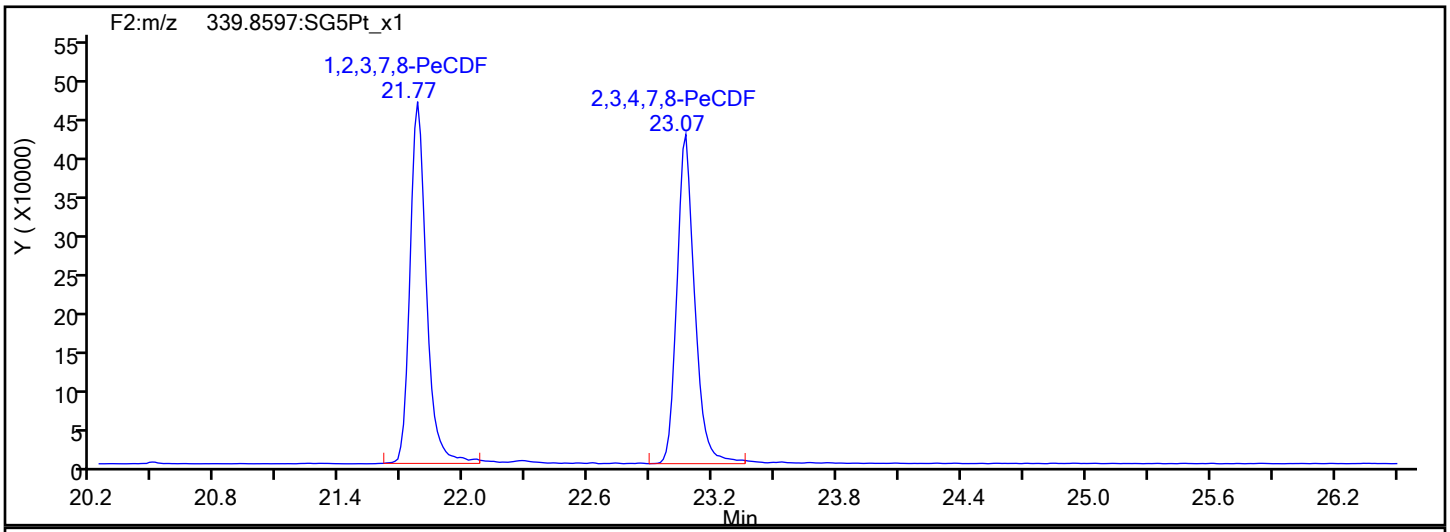

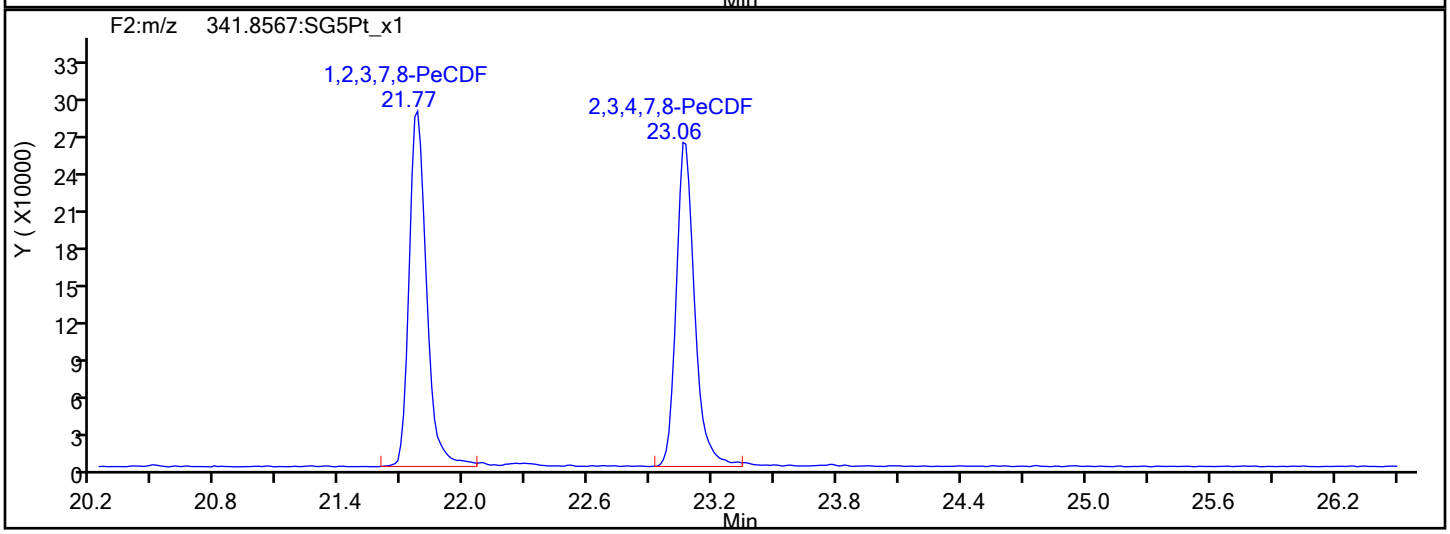

PeCDF Interference Mass

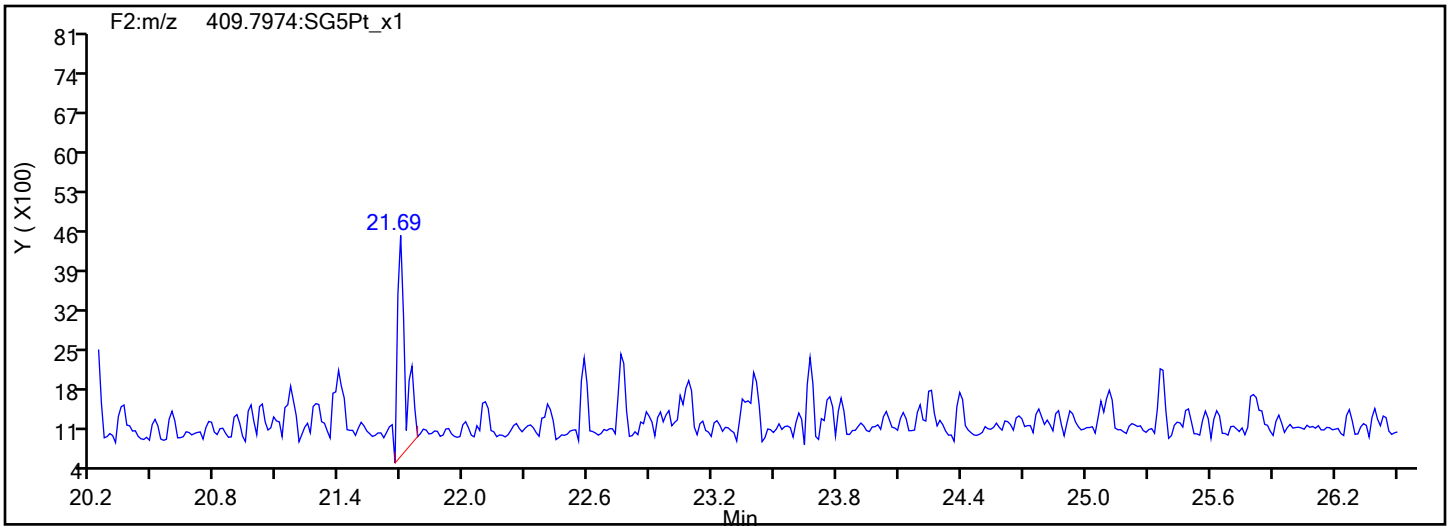

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Eurofins TestAmerica, Sacramento

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PeCDD

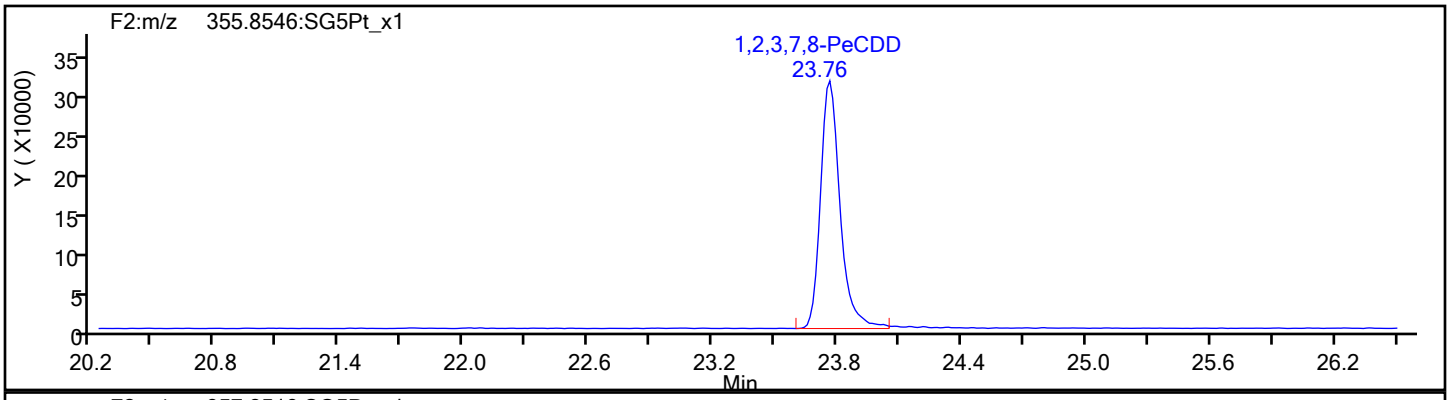

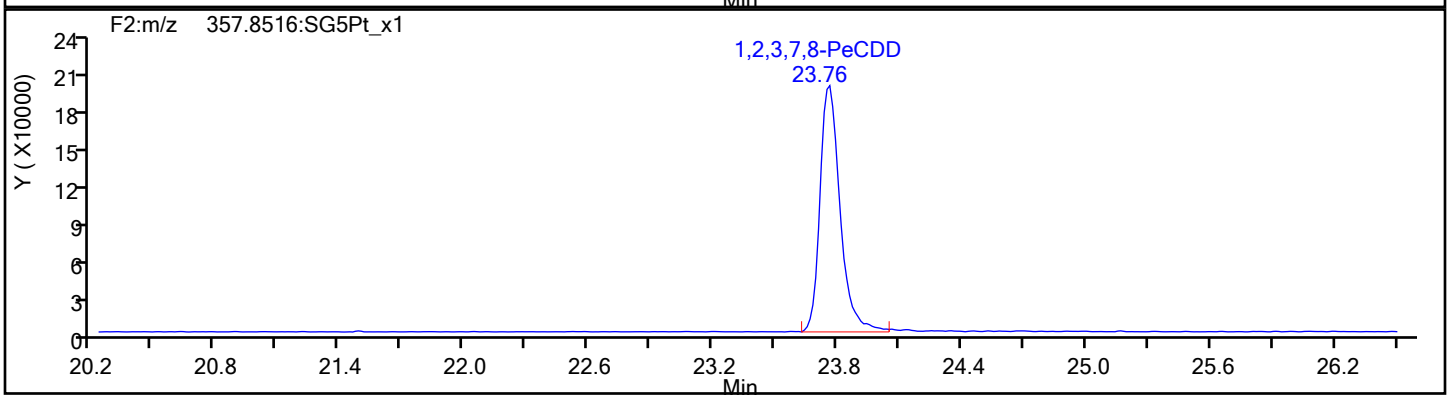

PeCDD Standards

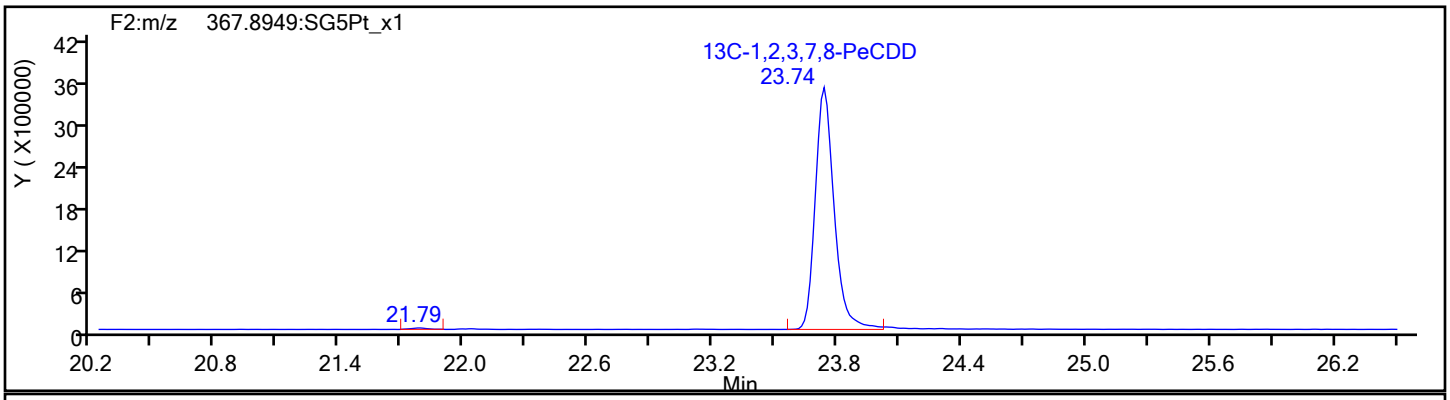

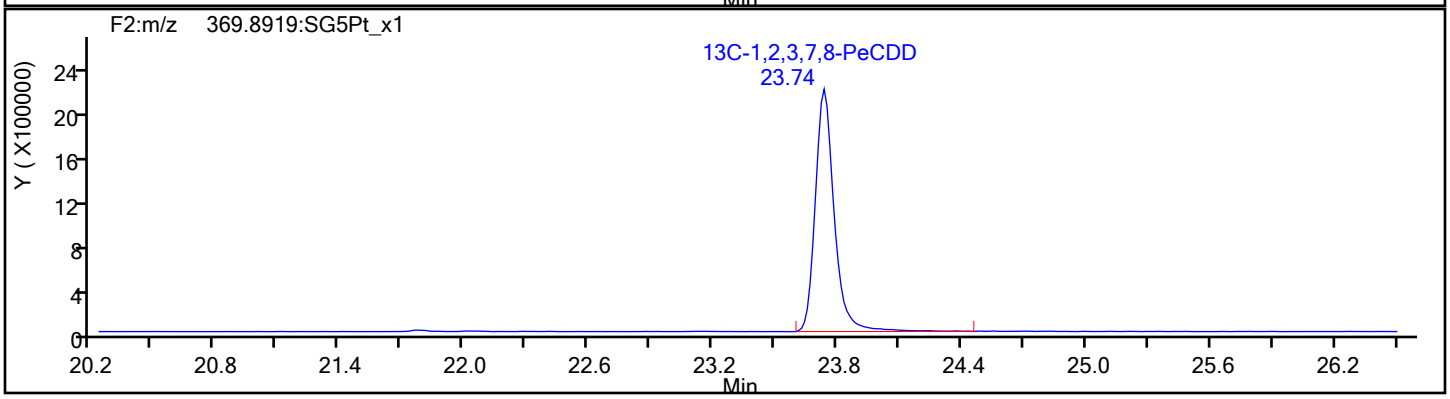

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Eurofins TestAmerica, Sacramento

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HxCDF

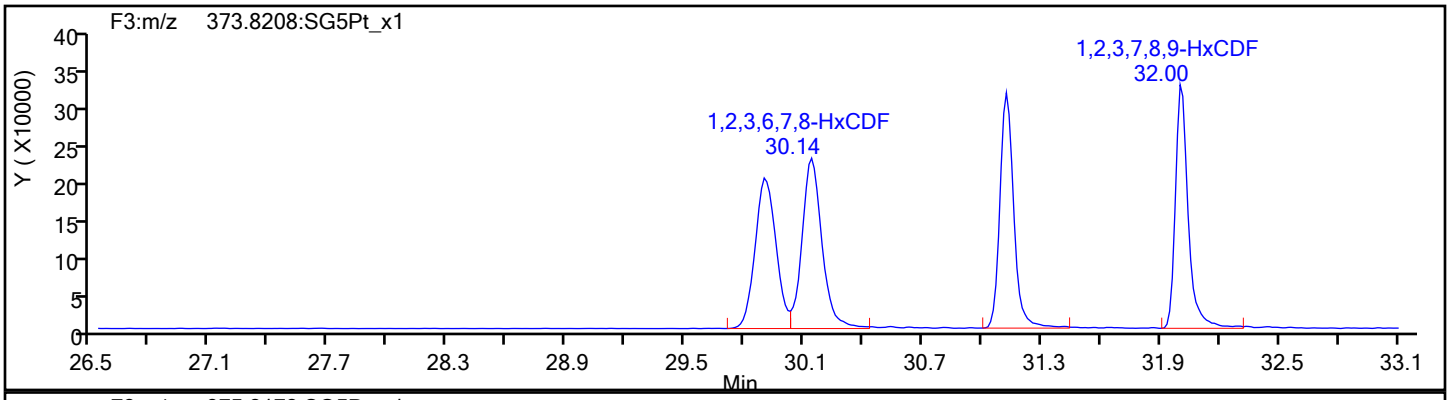

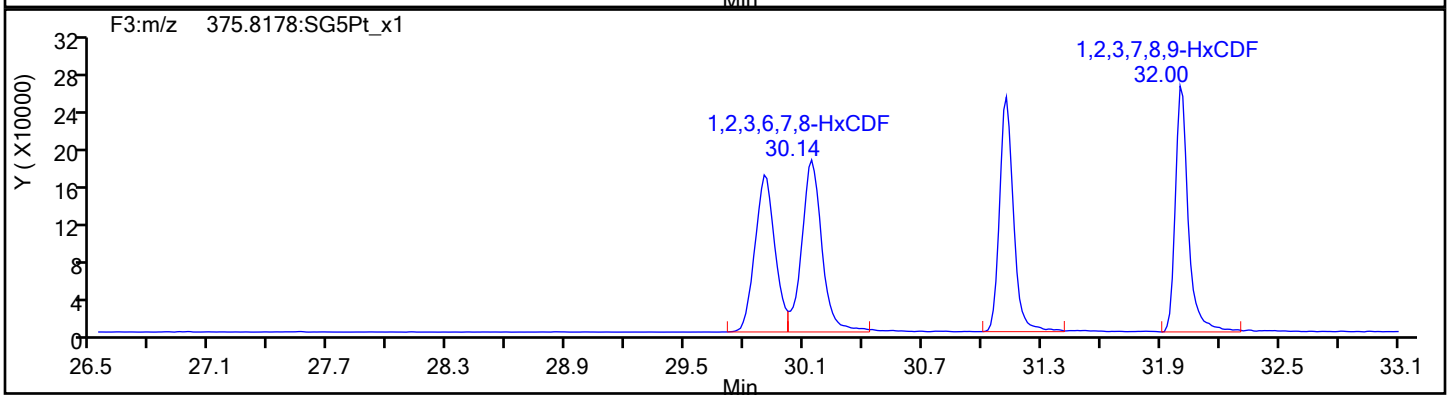

HxCDF Standards

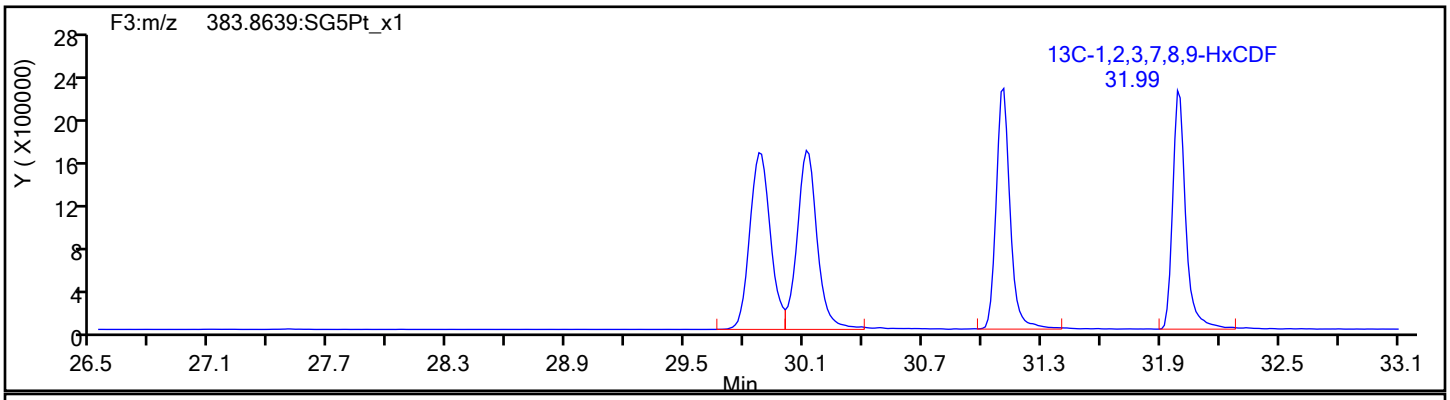

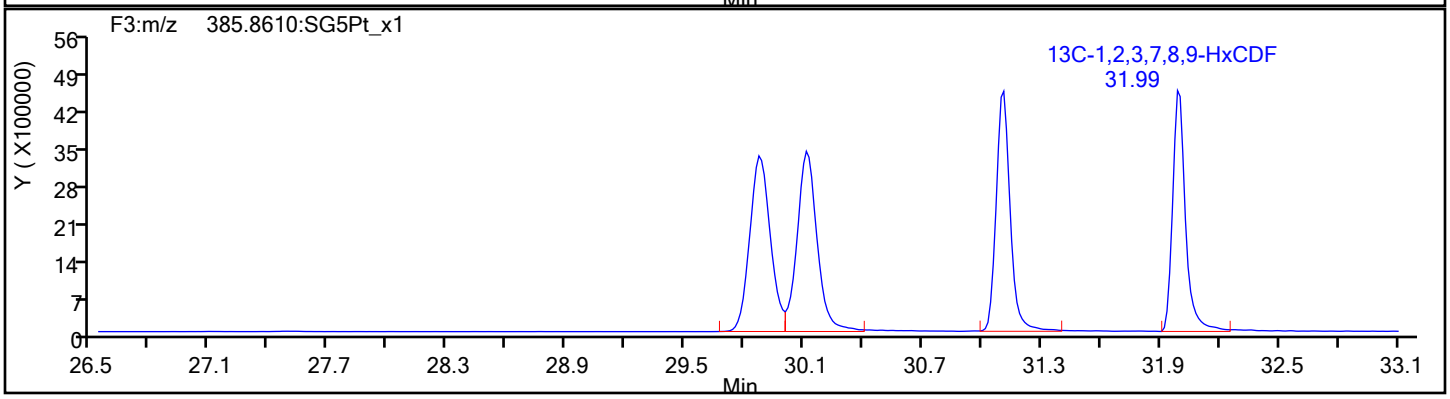

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Eurofins TestAmerica, Sacramento

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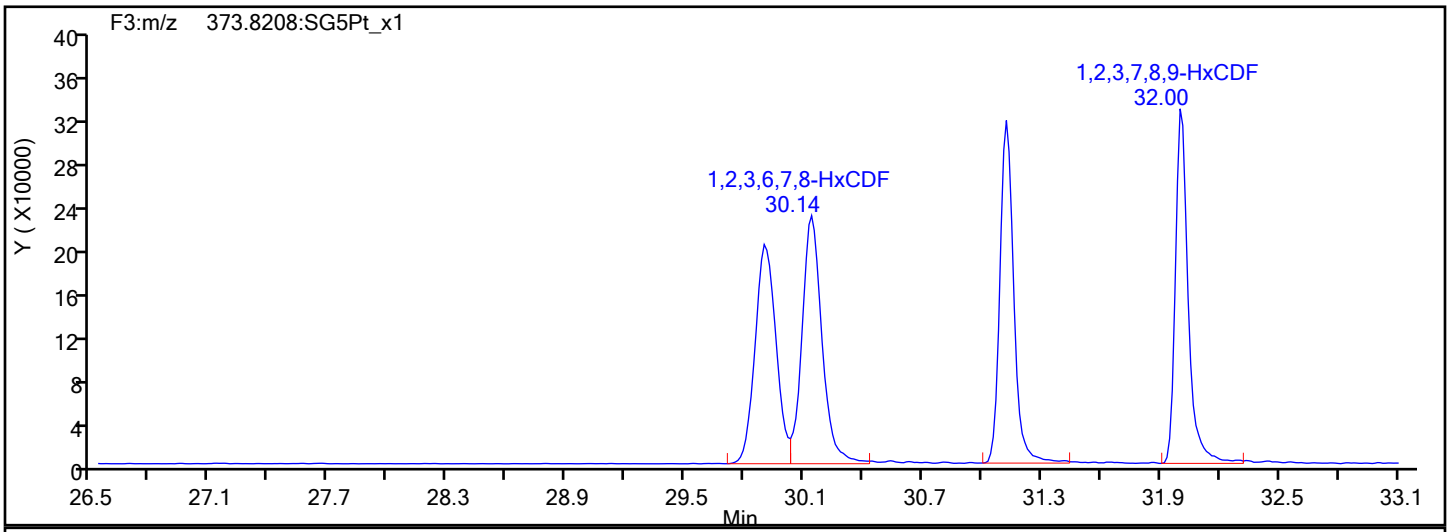

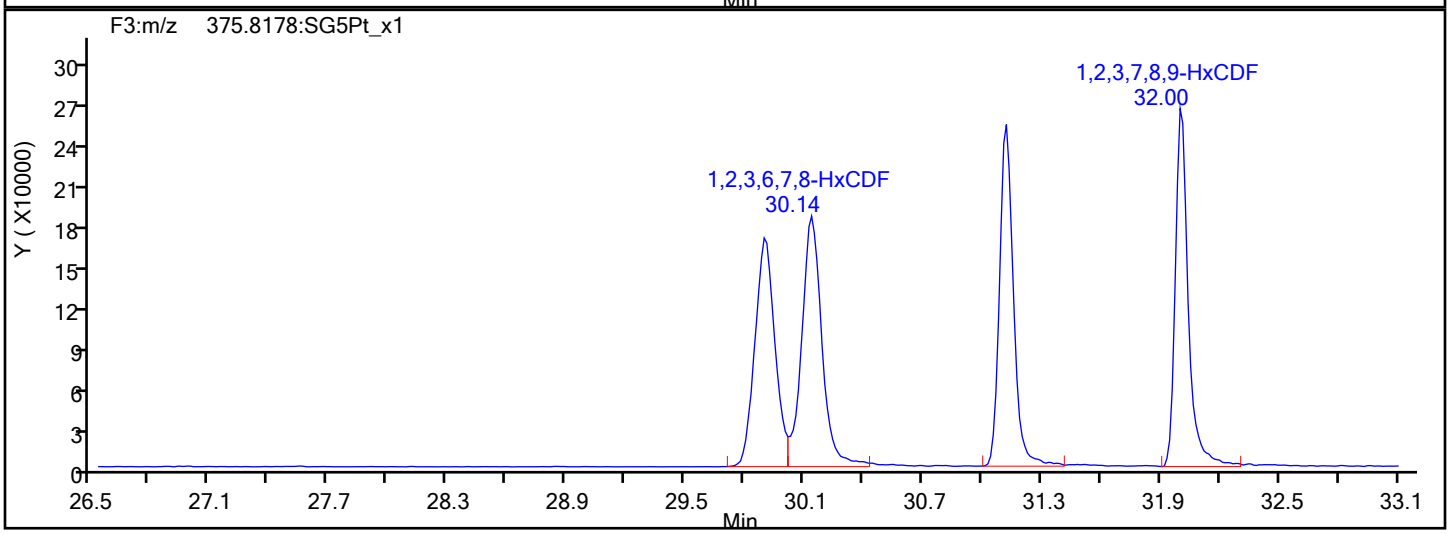

HxCDF Interference Mass

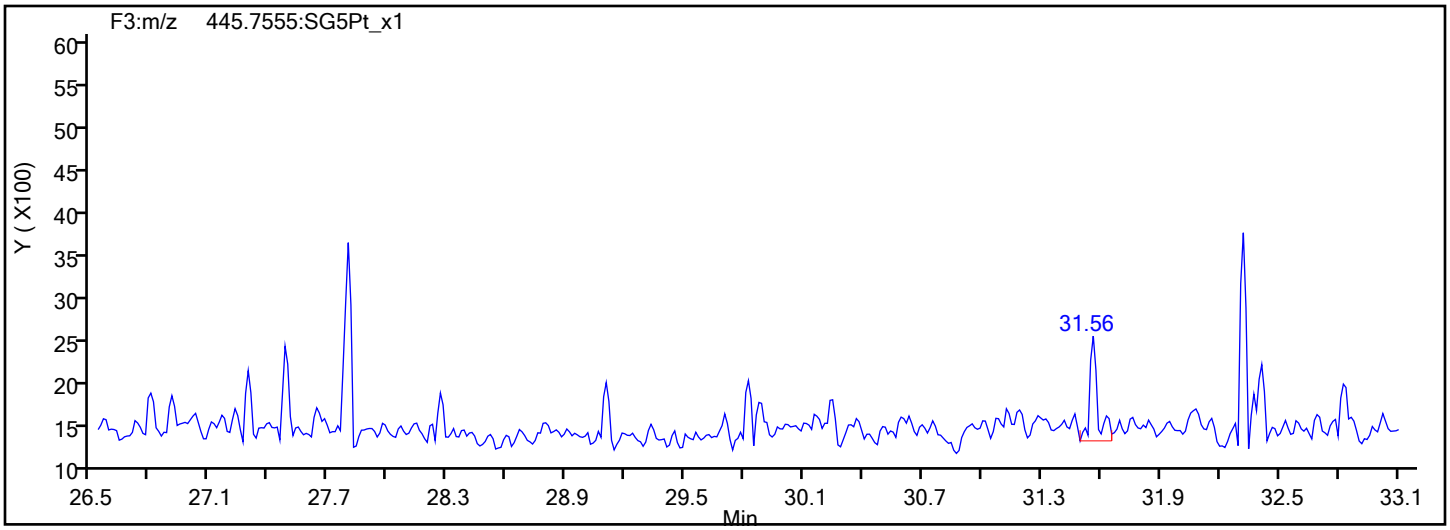

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Eurofins TestAmerica, Sacramento

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HxCDD

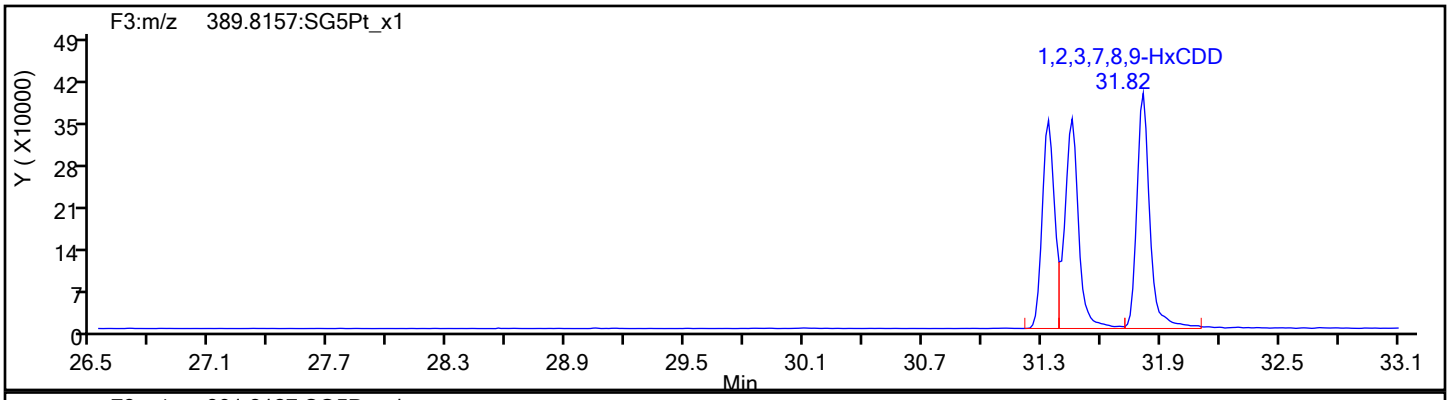

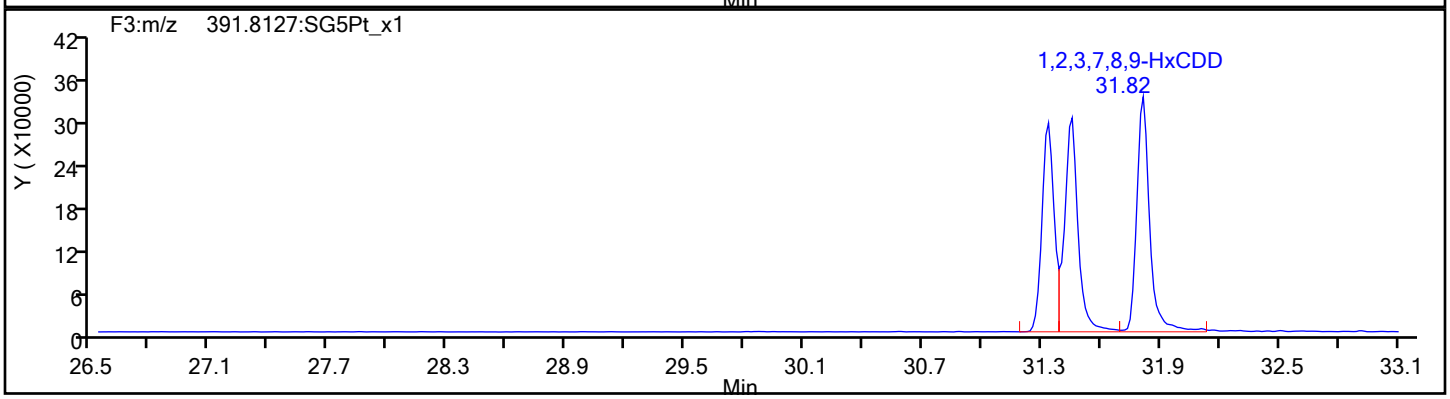

HxCDD Standards

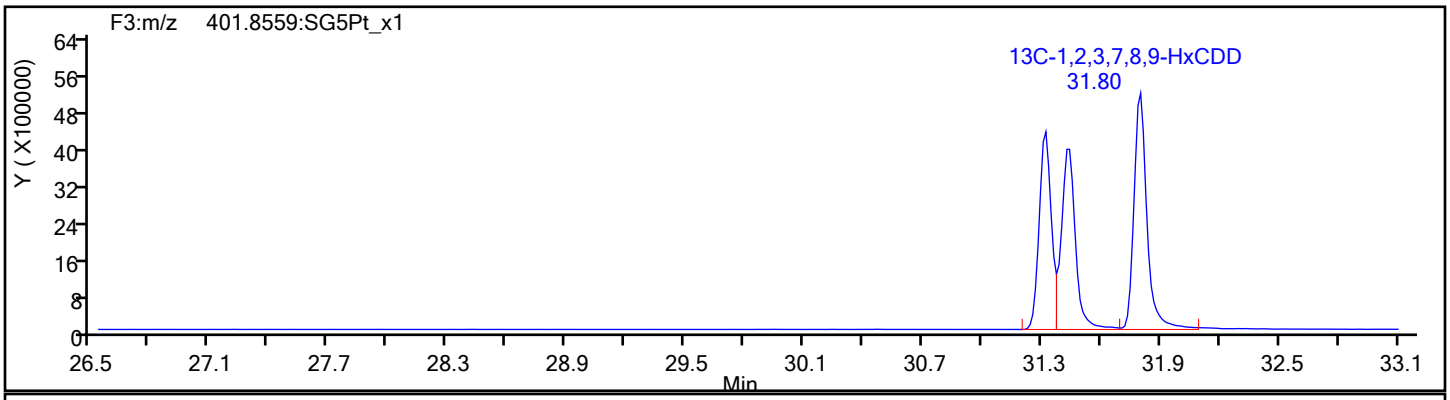

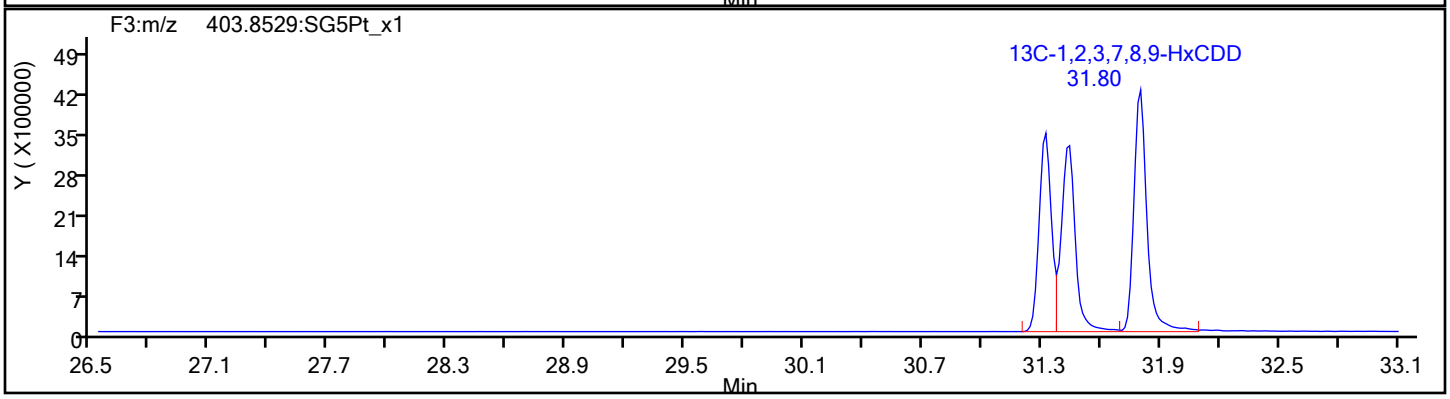

Report Date: 30-Jan-2020 09:32:52 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_5.d		
Injection Date:	30-Jan-2020 02:35:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

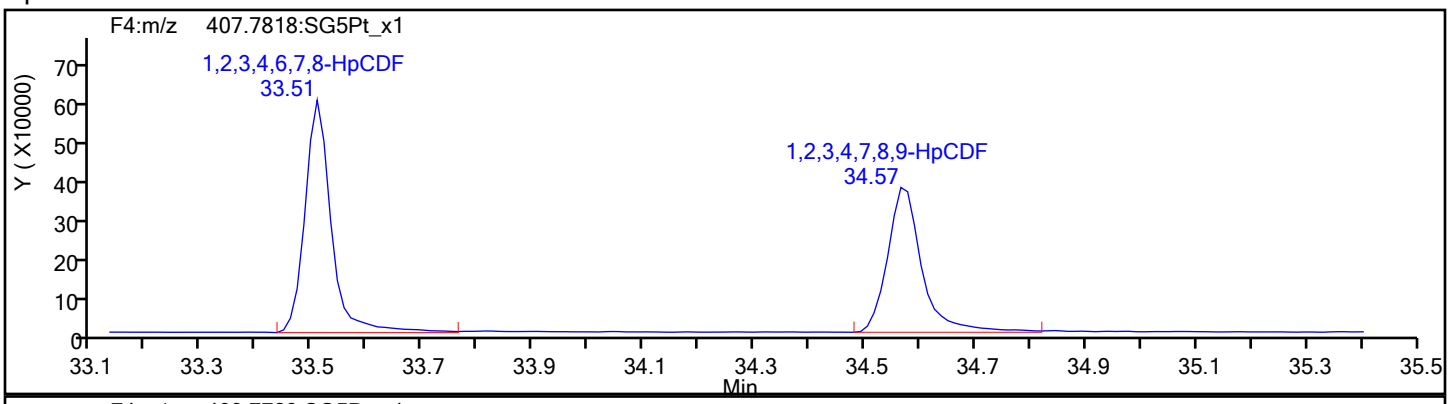

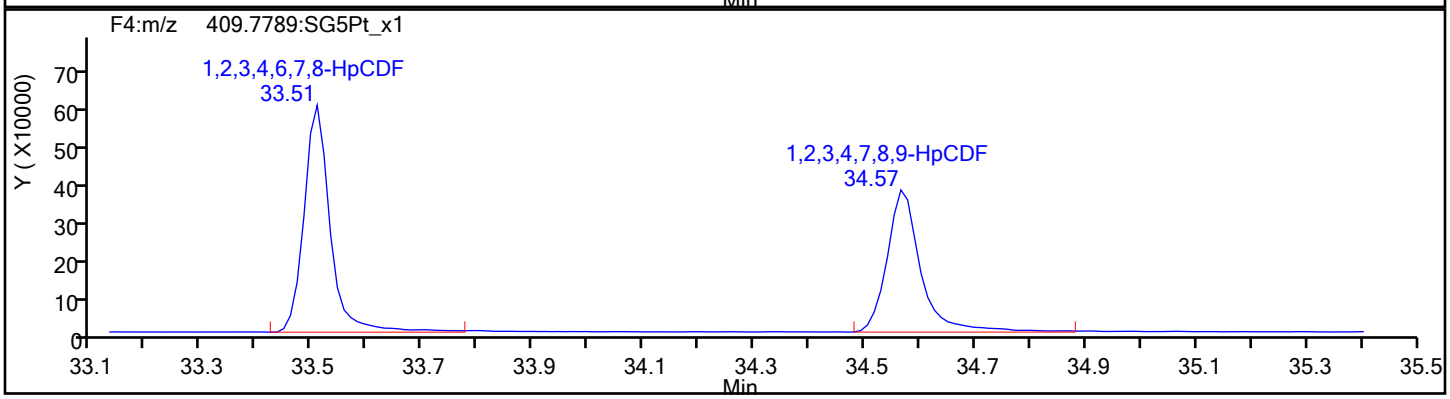

HpCDF Standards

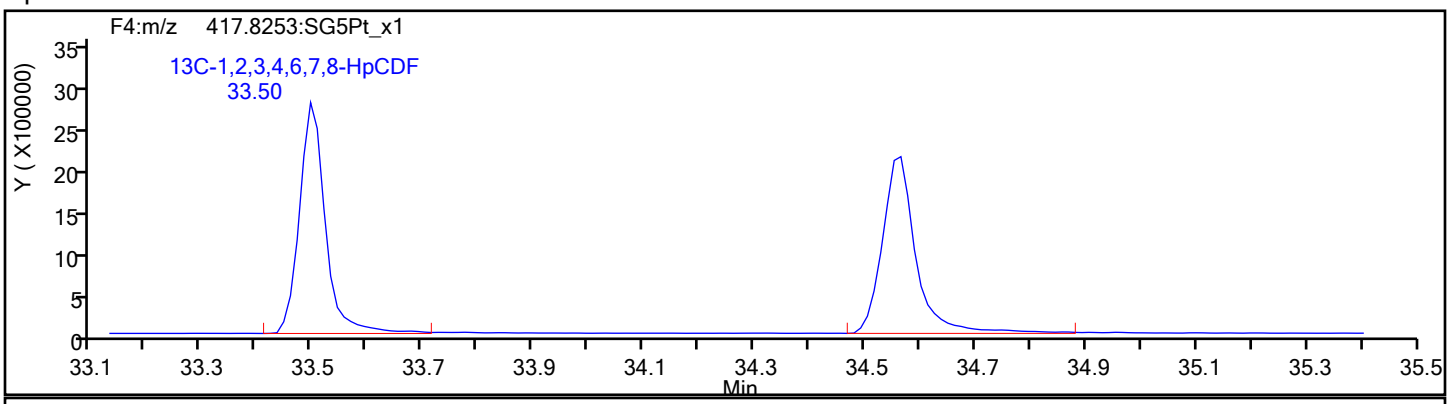

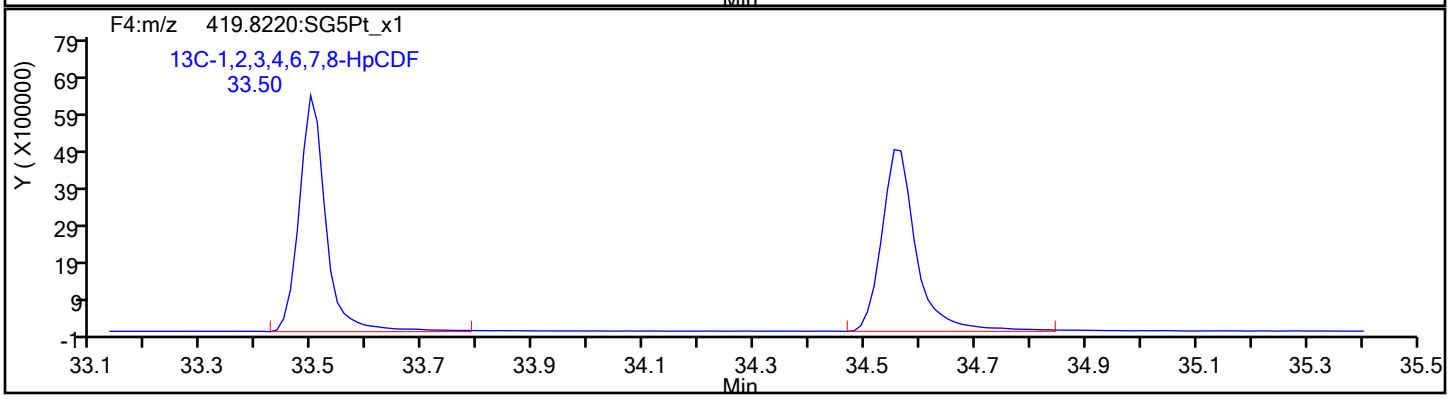

Report Date: 30-Jan-2020 09:32:52 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_5.d		
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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

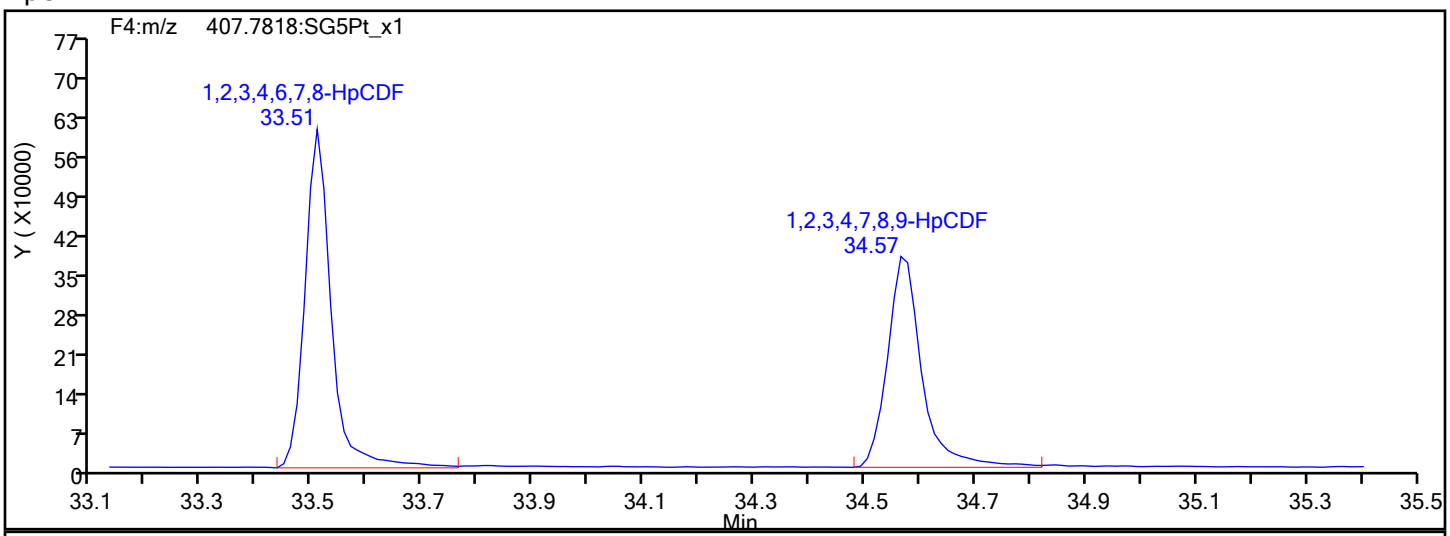

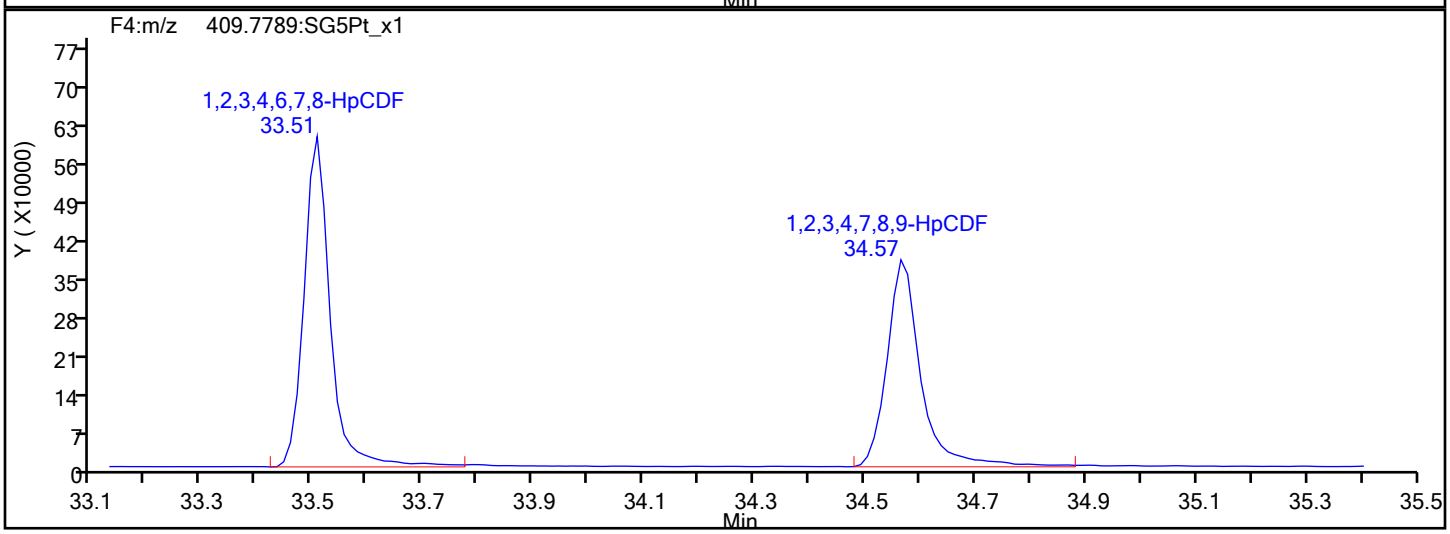

HpCDF Interference Mass

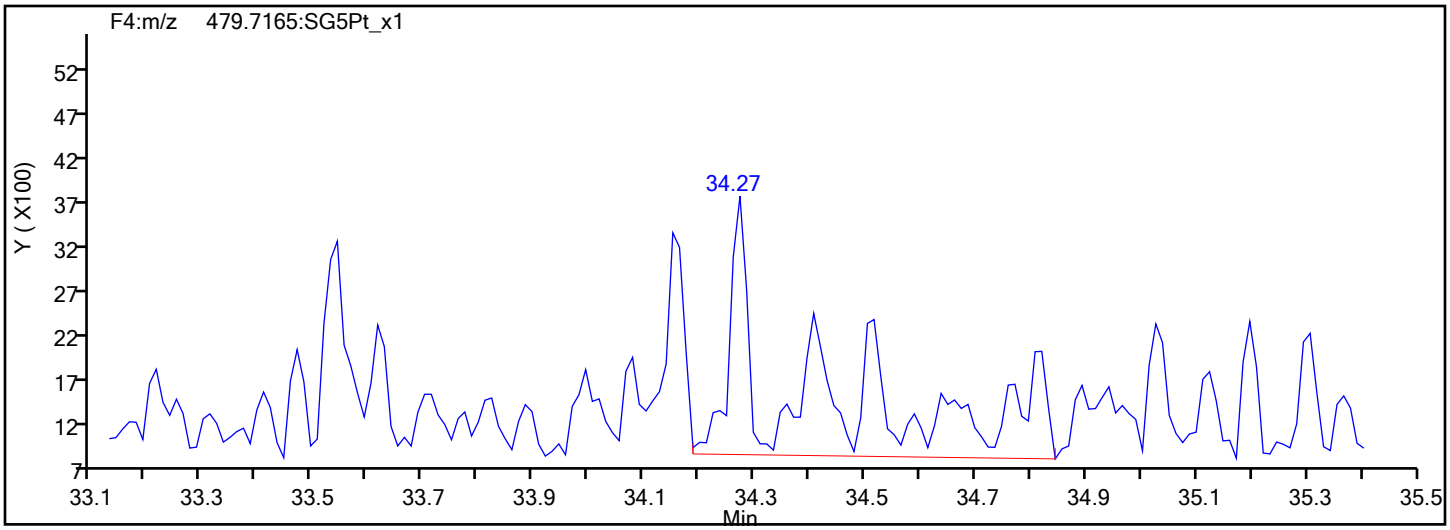

Report Date: 30-Jan-2020 09:32:52 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_5.d		
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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

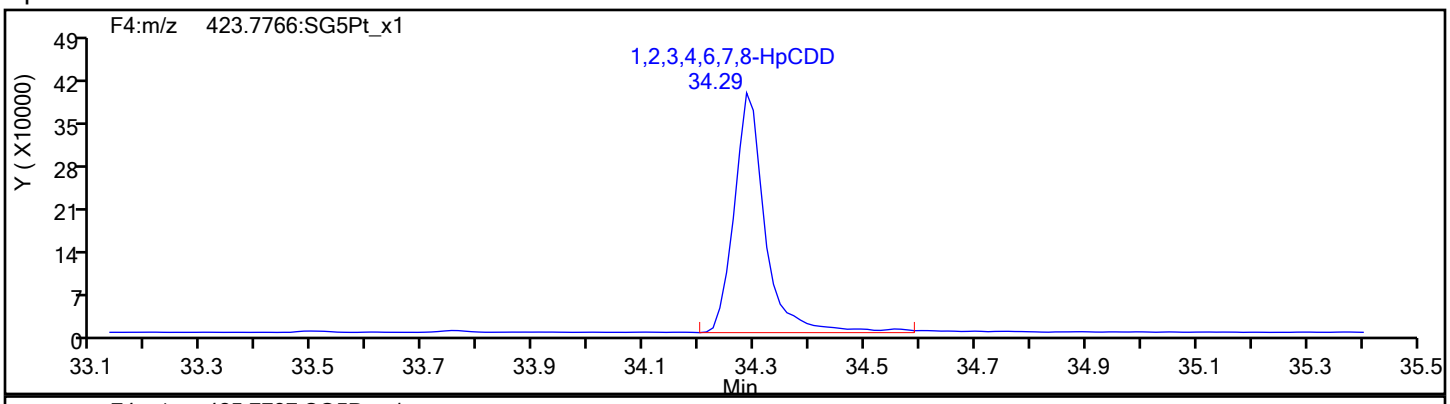

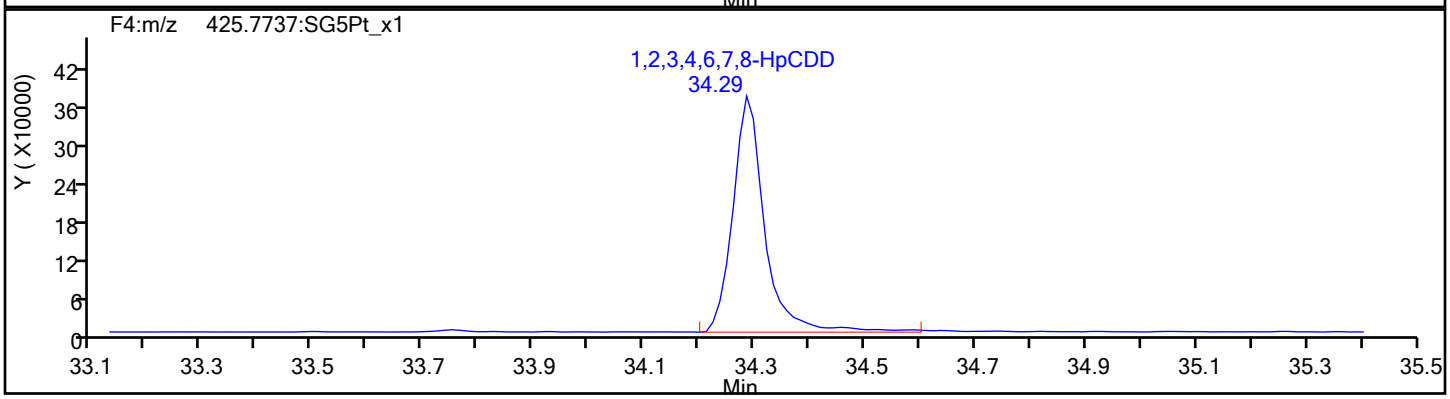

HpCDD Standards

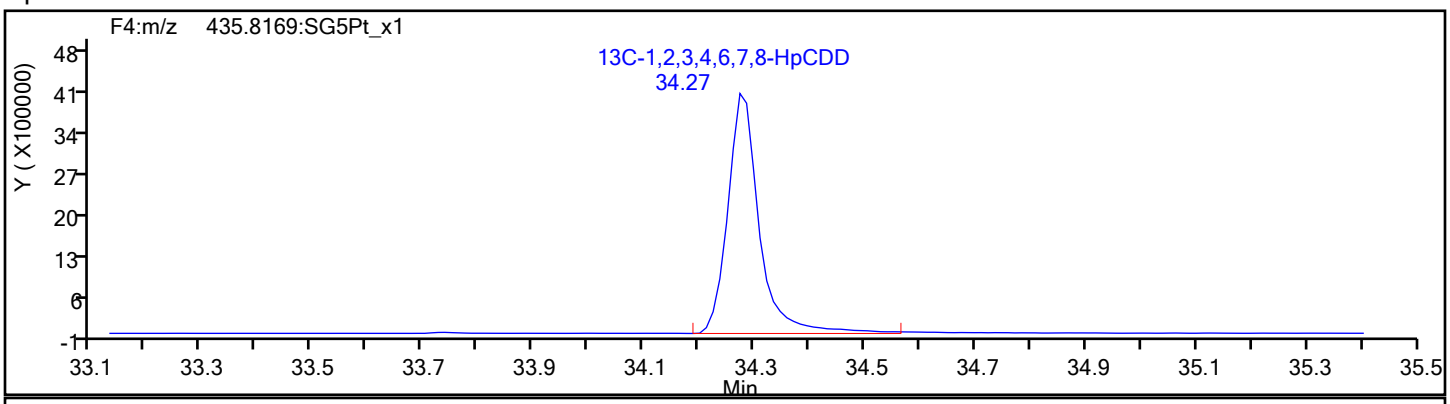

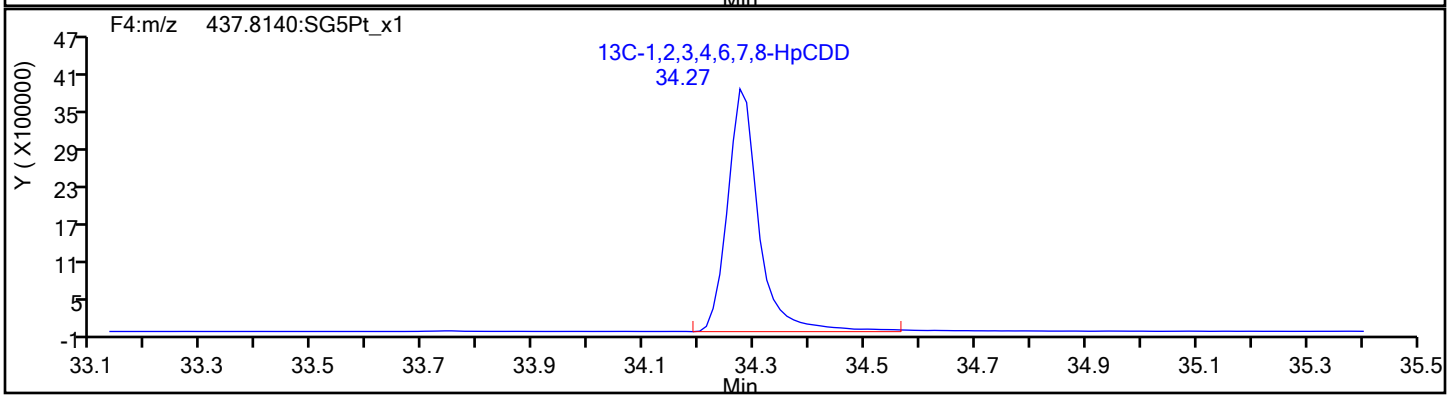

Report Date: 30-Jan-2020 09:32:52 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_5.d		
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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

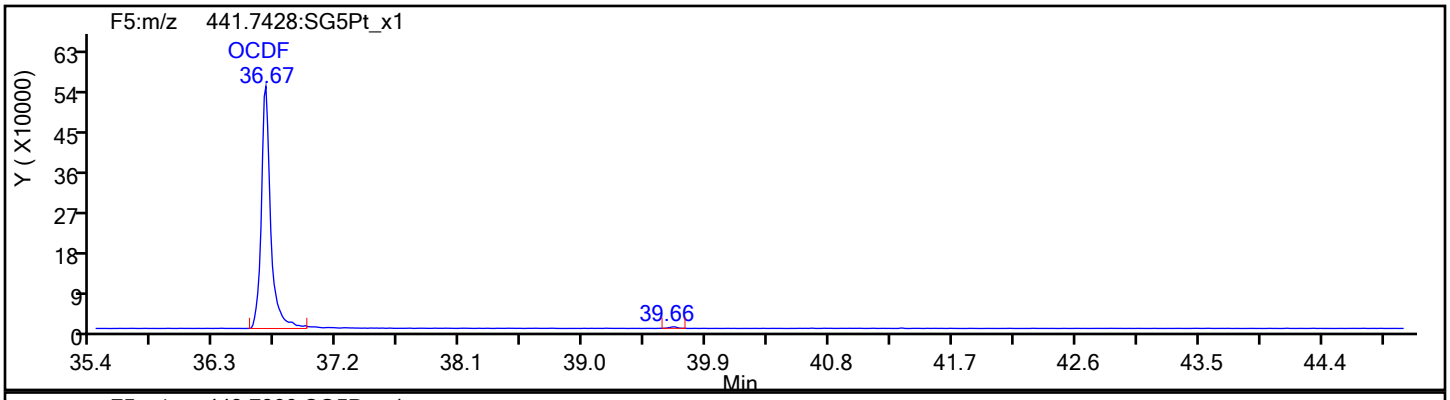

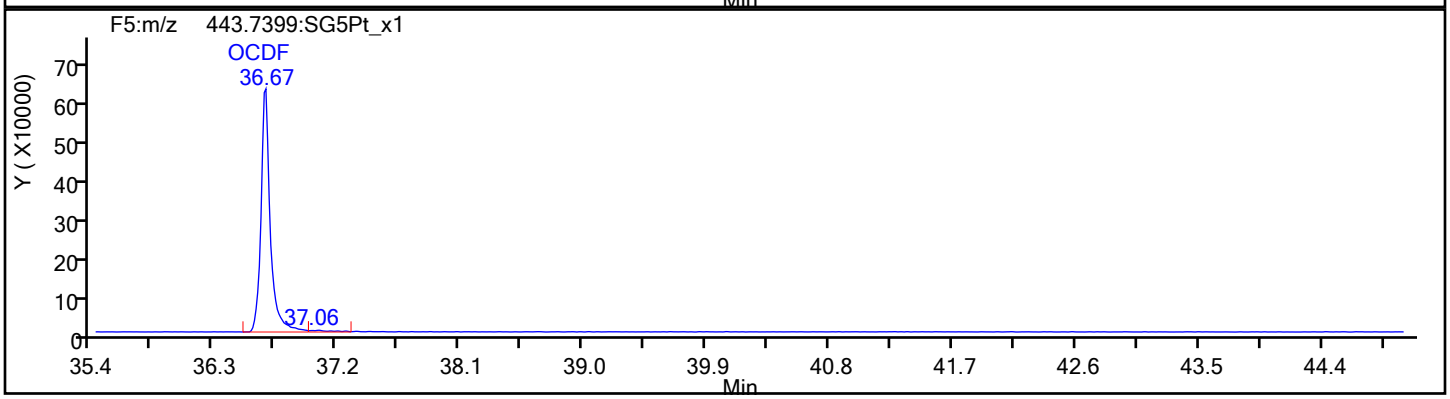

OCDF Standards

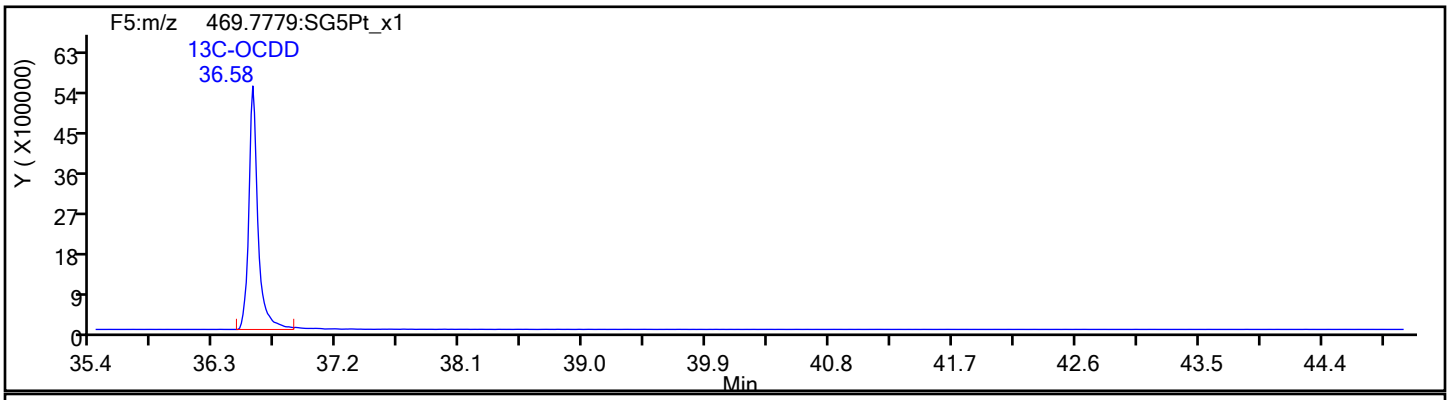

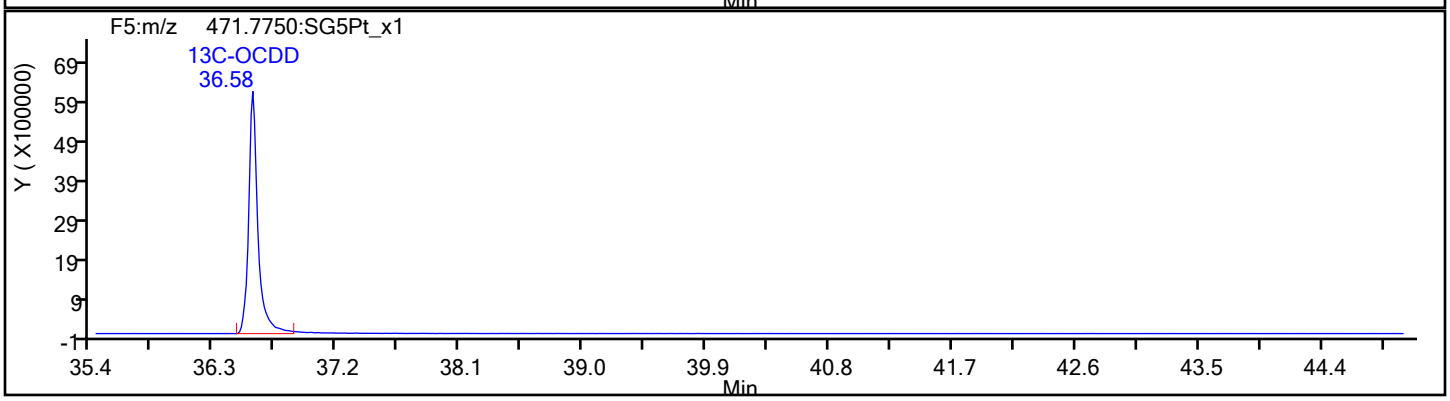

Report Date: 30-Jan-2020 09:32:52 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_5.d		
Injection Date:	30-Jan-2020 02:35:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

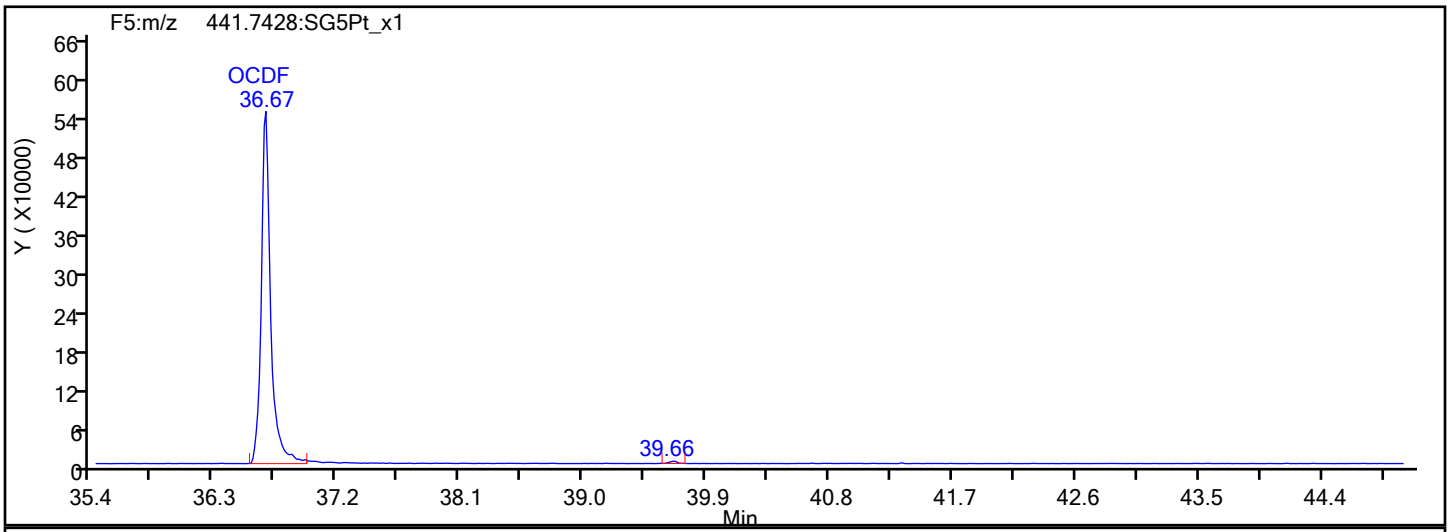

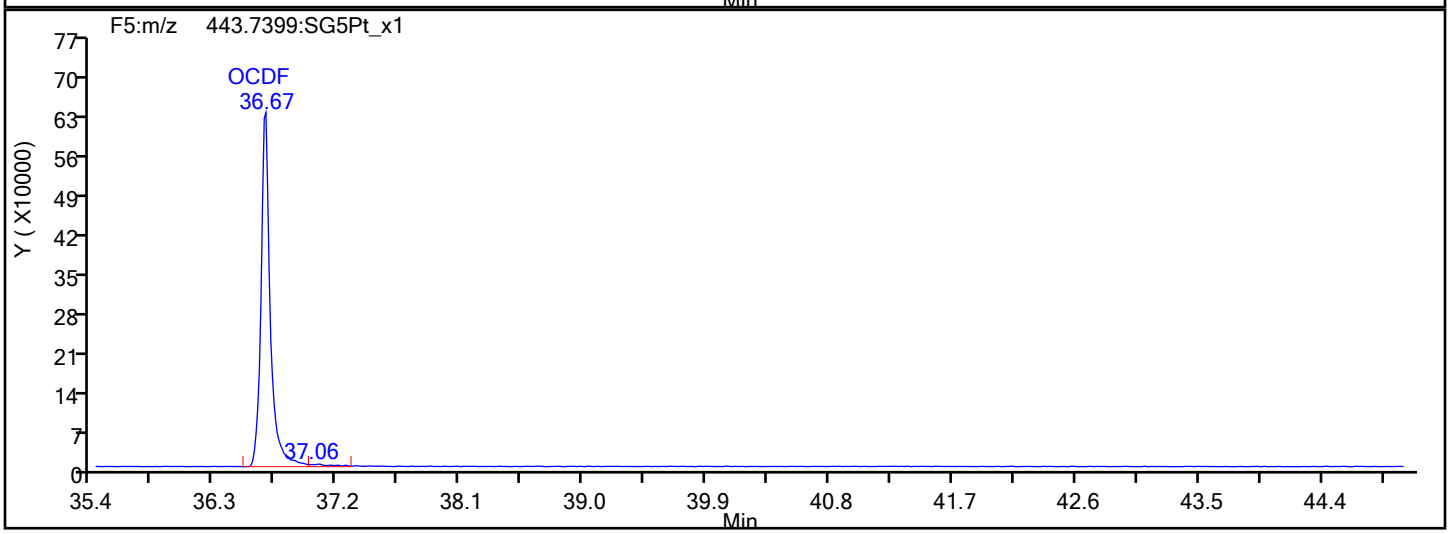

OCDF Interference Mass

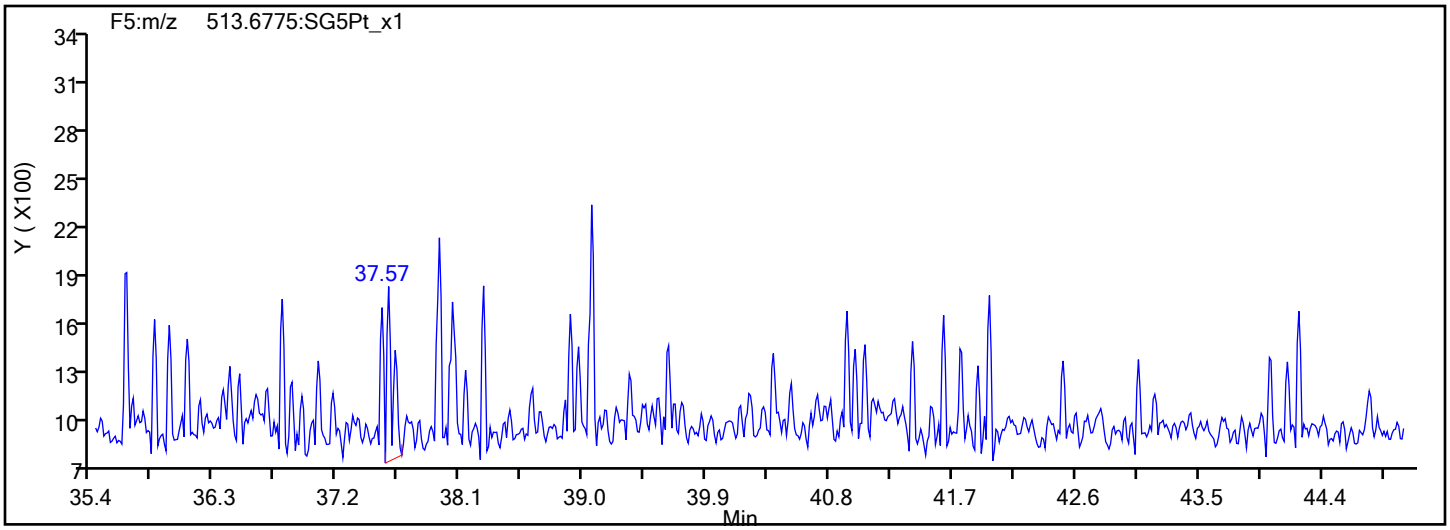

Report Date: 30-Jan-2020 09:32:52 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_5.d		
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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

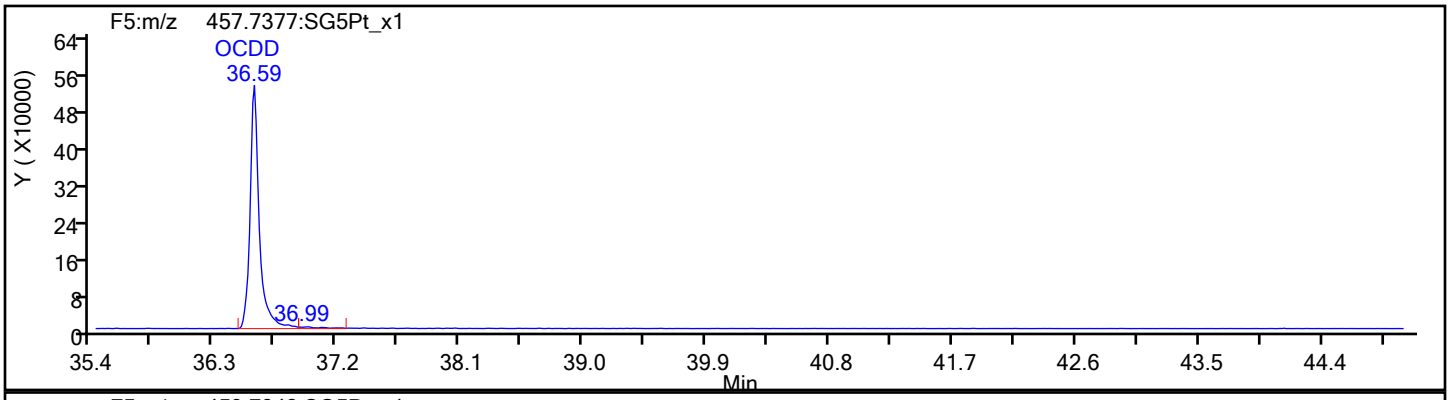

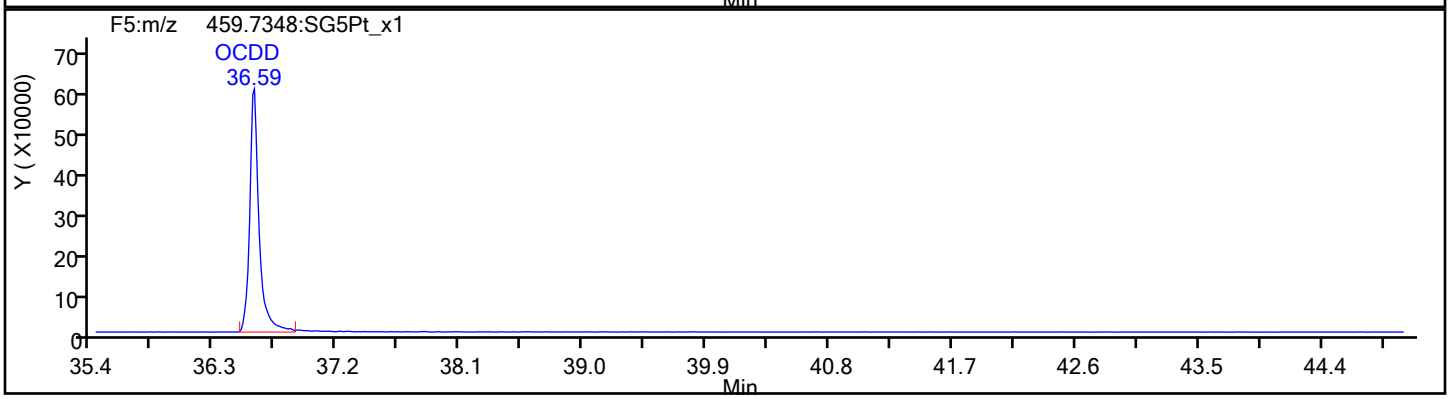

OCDD Standards

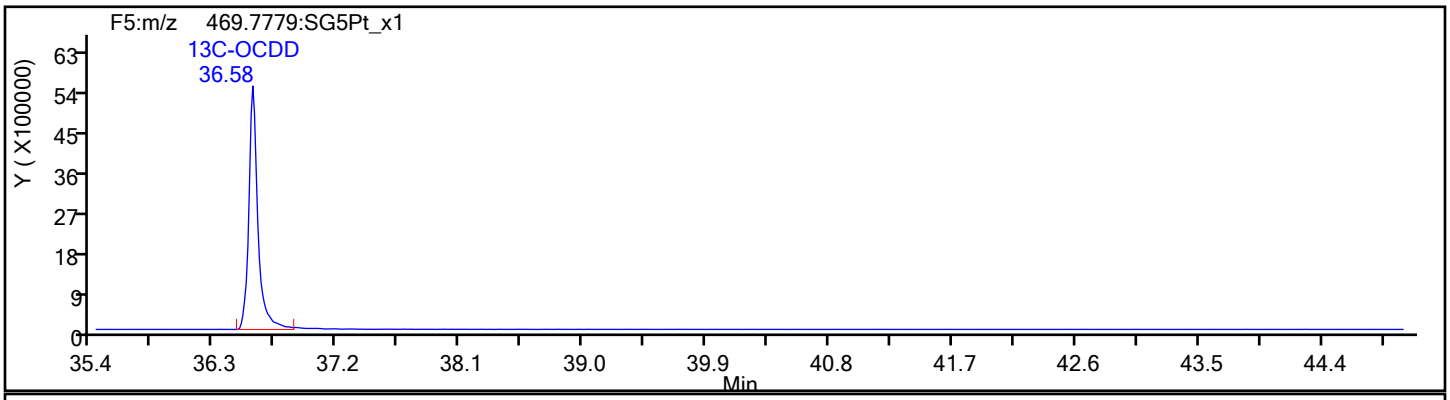

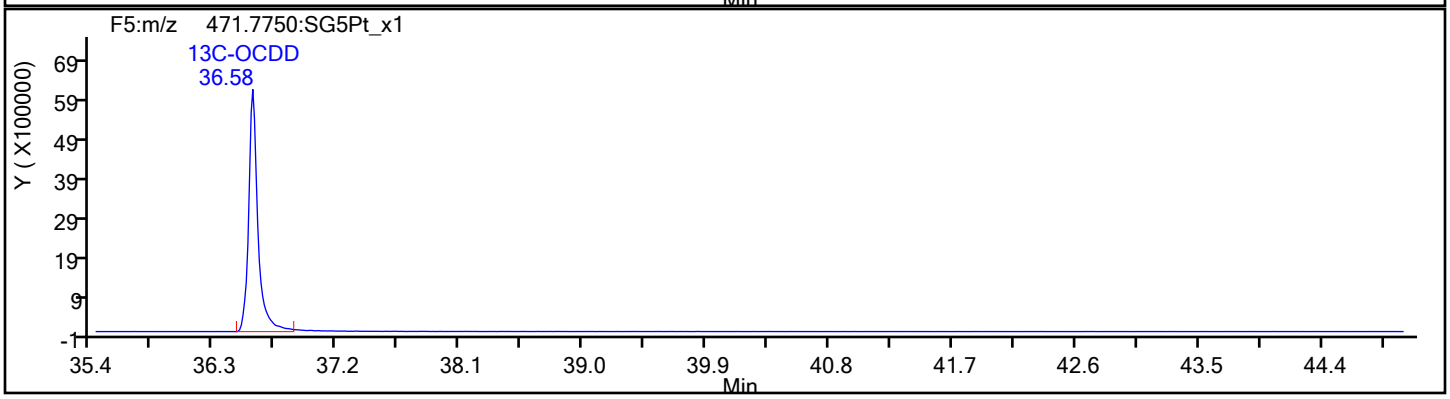

Report Date: 30-Jan-2020 09:32:52 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_5.d		
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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

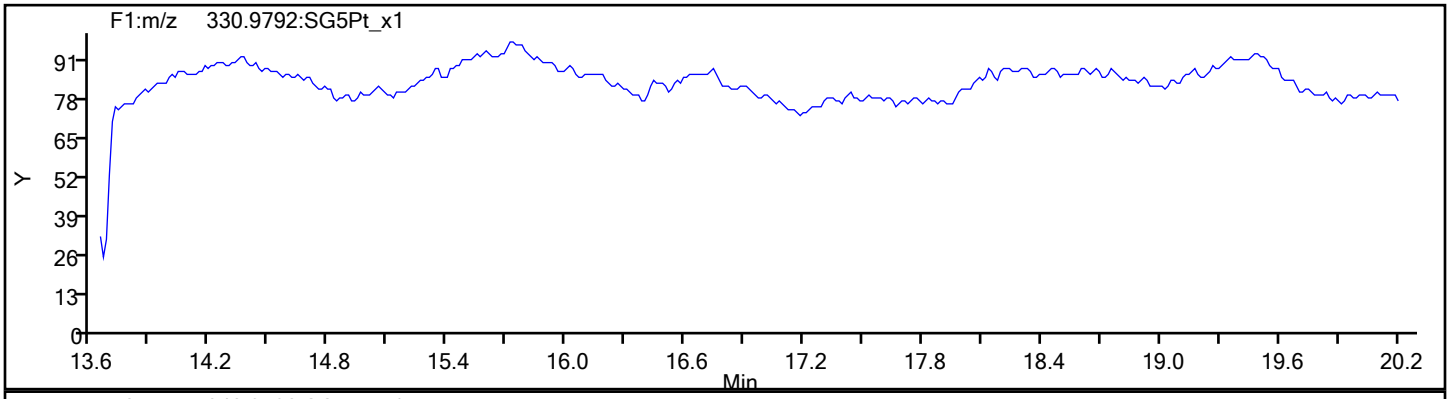

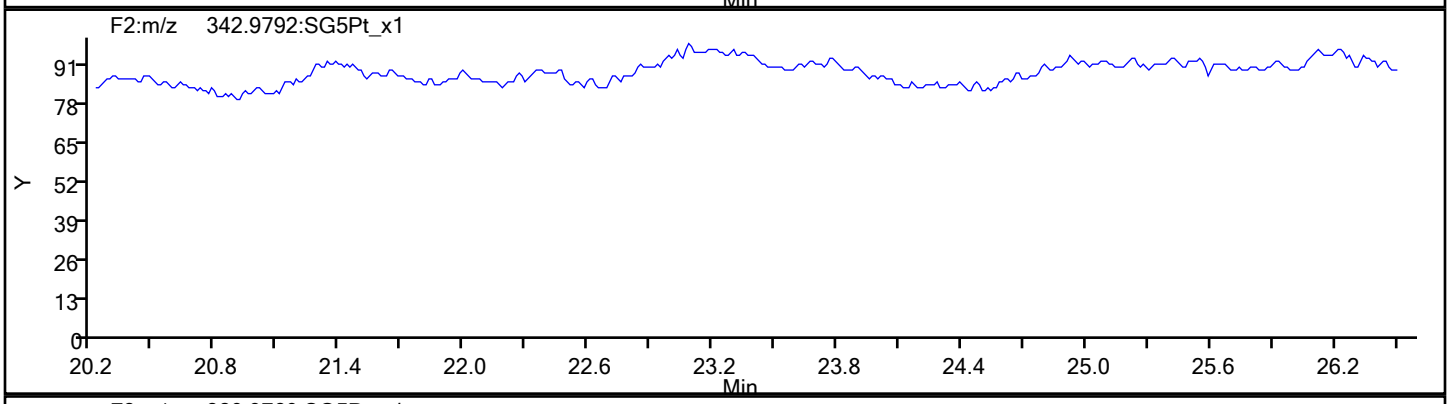

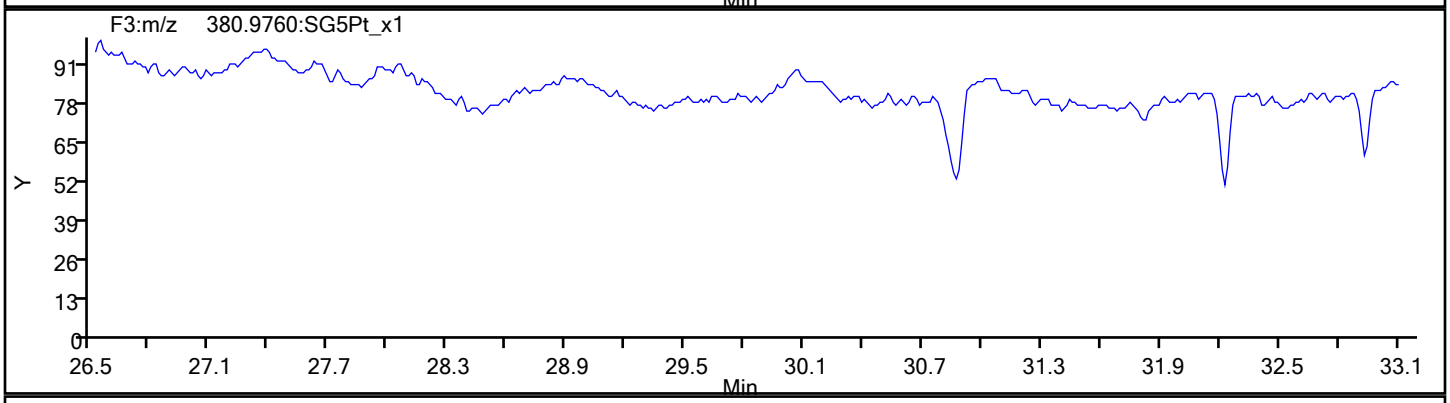

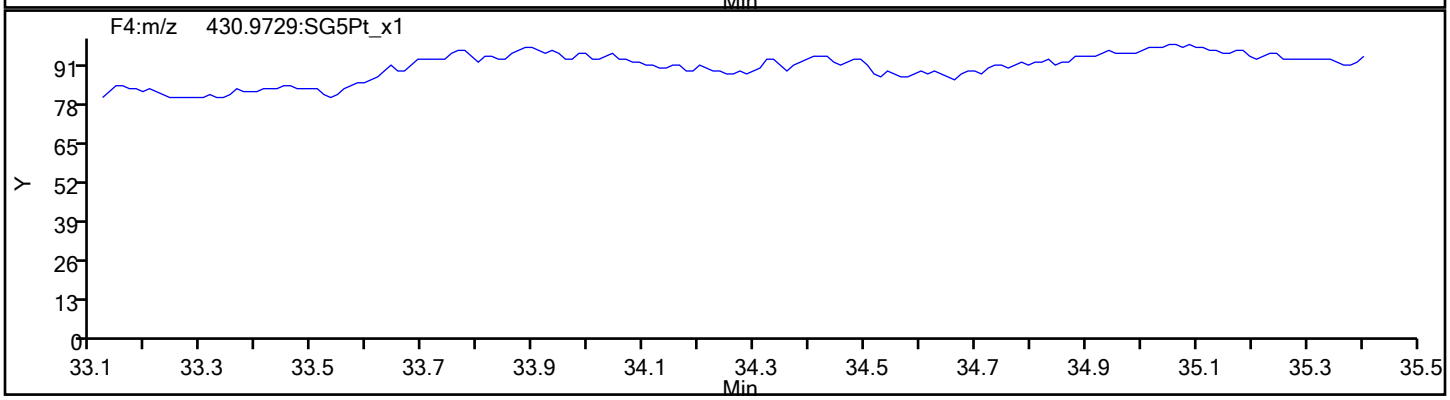

Report Date: 30-Jan-2020 09:32:52 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_5.d		
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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

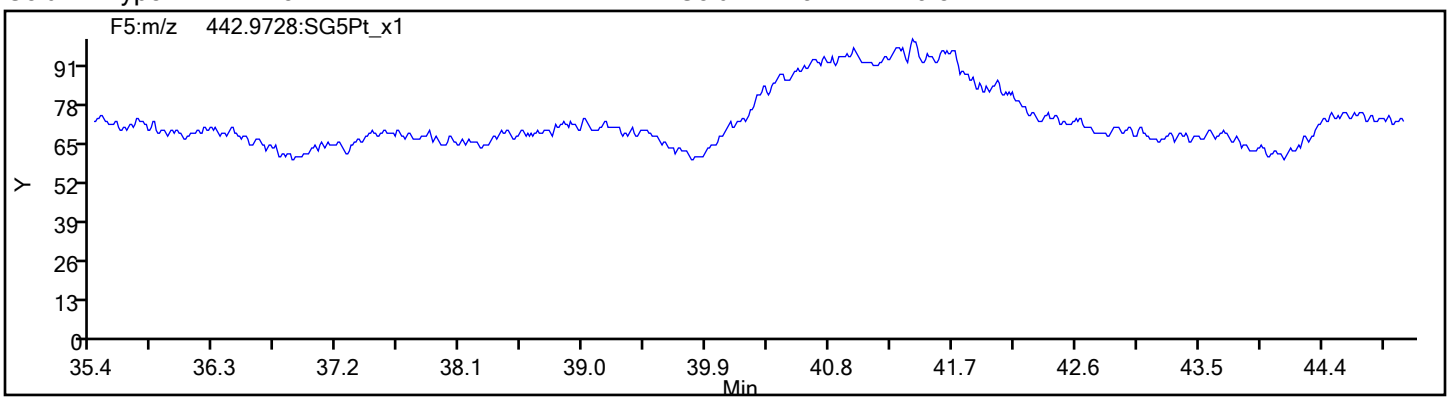

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_6.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 30-Jan-2020 03:21:09 ALS Bottle#: 2 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 012920B CS-4 HRDXNL4_00091
Misc. Info.: 29JA20B10D5
Operator ID: ALM Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 30-Jan-2020 09:33:22 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0321

First Level Reviewer: arghestanis Date: 30-Jan-2020 08:34:55

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.408	53351234	0.79	5.4E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.924	59557613	0.75	1.1275	99.0	99.0	0.2103	0.2103	99.01	
2,3,7,8-TCDF	16.939	4412445	0.74	0.7675	9.653	9.653	0.0236	0.0236	96.53	
S Total TCDF					9.653	9.653	0.0236	0.0236		
D 13C-2,3,7,8-TCDD	17.605	48457404	0.80	0.9032	100.6	100.6	0.1869	0.1869	101	
2,3,7,8-TCDD	17.620	4322280	0.75	0.9599	9.293	9.293	0.0293	0.0293	92.93	
$ 37Cl4-2,3,7,8-TCDD	17.620	5201454		0.9673	10.1	10.1	0.0177	0.0177	101	
S Total TCDD					9.293	9.293	0.0293	0.0293		
D 13C-1,2,3,7,8-PeCDF	21.746	52074542	1.54	0.9615	101.5	101.5	0.2797	0.2797	102	
1,2,3,7,8-PeCDF	21.773	23142756	1.57	0.8982	49.5	49.5	0.1852	0.1852	98.96	
D 13C-2,3,4,7,8-PeCDF	23.042	55687826	1.55	1.0393	100.4	100.4	0.2588	0.2588	100	
2,3,4,7,8-PeCDF	23.069	22625132	1.54	0.8101	50.2	50.2	0.2066	0.2066	100	
S Total PeCDF					99.6	99.6	0.1959	0.1959		
D 13C-1,2,3,7,8-PeCDD	23.737	36572632	1.63	0.6938	98.8	98.8	0.1189	0.1189	98.81	
1,2,3,7,8-PeCDD	23.764	17873504	1.58	0.9961	49.1	49.1	0.0612	0.0612	98.13	
S Total PeCDD					49.1	49.1	0.0612	0.0612		
D 13C-1,2,3,4,7,8-HxCDF	29.886	37628448	0.49	0.8543	102.9	102.9	0.3994	0.3994	103	
1,2,3,4,7,8-HxCDF	29.913	14859982	1.23	0.7916	49.9	49.9	0.3310	0.3310	99.78	
D 13C-1,2,3,6,7,8-HxCDF	30.126	36663775	0.49	0.8361	102.4	102.4	0.4081	0.4081	102	
1,2,3,6,7,8-HxCDF	30.139	15865629	1.22	0.8638	50.1	50.1	0.3102	0.3102	100	
D 13C-2,3,4,6,7,8-HxCDF	31.111	33675050	0.50	0.7773	101.2	101.2	0.4389	0.4389	101	
2,3,4,6,7,8-HxCDF	31.124	15413461	1.21	0.9010	50.8	50.8	0.2202	0.2202	102	
D 13C-1,2,3,7,8,9-HxCDF	31.989	30855181	0.49	0.7167	100.5	100.5	0.4760	0.4760	101	
1,2,3,7,8,9-HxCDF	32.016	14071460	1.23	0.9127	50.0	50.0	0.2195	0.2195	99.94	
S Total HxCDF					200.8	200.8	0.2702	0.2702		
* 13C-1,2,3,7,8,9-HxCDD	31.803	42826940	1.23	4.4E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.323	34173011	1.23	0.8050	99.1	99.1	0.2518	0.2518	99.12	
1,2,3,4,7,8-HxCDD	31.337	14484522	1.30	0.8392	50.5	50.5	0.1238	0.1238	101	
D 13C-1,2,3,6,7,8-HxCDD	31.443	36971045	1.23	0.8269	104.4	104.4	0.2451	0.2451	104	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.457	15933295	1.16	0.8876	48.6	48.6	0.1236	0.1236	97.11	
1,2,3,7,8,9-HxCDD	31.816	16827816	1.23	0.9567	49.4	49.4	0.1115	0.1115	98.90	
S Total HxCDD					148.5	148.5	0.1196	0.1196		
D 13C-1,2,3,4,6,7,8-HpCDF	33.496	30722755	0.41	0.7080	101.3	101.3	1.073	1.073	101	
1,2,3,4,6,7,8-HpCDF	33.508	20564477	1.02	1.3375	50.0	50.0	0.3849	0.3849	100	
D 13C-1,2,3,4,7,8,9-HpCDF	34.565	32082286	0.42	0.7451	100.5	100.5	1.019	1.019	101	
1,2,3,4,7,8,9-HpCDF	34.577	17140374	1.01	1.0744	49.7	49.7	0.5511	0.5511	99.45	
S Total HpCDF					99.8	99.8	0.4680	0.4680		
D 13C-1,2,3,4,6,7,8-HpCDD	34.286	32767179	1.04	0.7473	102.4	102.4	0.5519	0.5519	102	
1,2,3,4,6,7,8-HpCDD	34.286	15823457	1.05	0.9811	49.2	49.2	0.1978	0.1978	98.44	
S Total HpCDD					49.2	49.2	0.1978	0.1978		
D 13C-OCDD	36.578	57273958	0.90	0.6622	202.0	202.0	0.1386	0.1386	101	
OCDF	36.674	30007451	0.91	1.0659	98.3	98.3	0.0653	0.0653	98.31	
OCDD	36.590	27951151	0.87	0.9937	98.2	98.2	0.0660	0.0660	98.22	

Reagents:

HRDXNL4_00091 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_6.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 30-Jan-2020 03:21:09 ALS Bottle#: 2 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 012920B CS-4 HRDXNL4_00091
Misc. Info.: 29JA20B10D5
Operator ID: ALM Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 30-Jan-2020 09:33:22 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0321

First Level Reviewer: arghestanis Date: 30-Jan-2020 08:34:55

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.408	17.411	0		23599069	6122390	4806	12015	1274		
333.9339	17.408	17.411	0		29752165	7689677	4522	11305	1701	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.924	16.924	0	0.972	25571283	6324987	7769	19422	814		
317.9389	16.924	16.924	0	0.972	33986330	8351786	5334	13335	1566	0.75(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.939	16.939	0	1.001	1877075	462049	427	1067	1082		
305.8987	16.939	16.939	0	1.001	2535370	633100	637	1592	994	0.74(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.605	17.605	0	1.011	21480126	5116000	4806	12015	1065		
333.9339	17.605	17.605	0	1.011	26977278	6408114	4522	11305	1417	0.80(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.620	17.623	0	1.001	1859069	444264	795	1987	559		
321.8936	17.620	17.623	0	1.001	2463211	595779	502	1255	1187	0.75(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.620	17.623	0	1.012	5201454	1274725	947	2367	1346		
13C-1,2,3,7,8-PeCDF											
351.9000	21.746	21.749	0	1.249	31537475	5677588	8884	22210	639		
353.8970	21.746	21.749	0	1.249	20537067	3631933	5976	14940	608	1.54(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.773	21.773	0	1.001	14128784	2546210	3664	9160	695		
341.8567	21.773	21.773	0	1.001	9013972	1632968	2529	6322	646	1.57(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	23.042	23.042	0	1.324	33838704	5678255	8884	22210	639		
353.8970	23.042	23.042	0	1.324	21849122	3571610	5976	14940	598	1.55(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.069	23.066	0	1.001	13708955	2273470	3664	9160	620		
341.8567	23.069	23.066	0	1.001	8916177	1482970	2529	6322	586	1.54(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.737	23.737	0	1.364	22654391	3585856	2439	6097	1470		
369.8919	23.737	23.737	0	1.364	13918241	2179104	2119	5297	1028	1.63(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.764	23.761	0	1.001	10957619	1707867	855	2137	1998		
357.8516	23.764	23.761	0	1.001	6915885	1091327	552	1380	1977	1.58(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.886	29.878	0	0.940	12398537	1747914	4365	10912	400		
385.8610	29.886	29.878	0	0.940	25229911	3590998	8979	22447	400	0.49(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.913	29.905	0	1.001	8186127	1166750	3042	7605	384		
375.8178	29.899	29.905	0	1.000	6673855	947407	2553	6382	371	1.23(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.126	30.118	0	0.947	12129406	1733164	4365	10912	397		
385.8610	30.112	30.118	0	0.947	24534369	3486443	8979	22447	388	0.49(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.139	30.142	0	1.000	8708420	1261383	3042	7605	415		
375.8178	30.139	30.142	0	1.000	7157209	1061549	2553	6382	416	1.22(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.111	31.108	0	0.978	11167338	2335692	4365	10912	535		
385.8610	31.111	31.108	0	0.978	22507712	4713102	8979	22447	525	0.50(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.124	31.124	0	1.000	8449652	1799415	3042	7605	592		
375.8178	31.124	31.124	0	1.000	6963809	1479143	2553	6382	579	1.21(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.989	31.992	0	1.006	10099908	2315583	4365	10912	530		
385.8610	31.989	31.992	0	1.006	20755273	4666258	8979	22447	520	0.49(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.016	32.008	0	1.001	7752780	1759788	3042	7605	578		
375.8178	32.016	32.008	0	1.001	6318680	1431477	2553	6382	561	1.23(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.803	31.803	0		23597519	5387630	4148	10370	1299		
403.8529	31.803	31.803	0		19229421	4390432	3779	9447	1162	1.23(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.323	31.324	0	0.985	18845567	4572137	4148	10370	1102		
403.8529	31.323	31.324	0	0.985	15327444	3704938	3779	9447	980	1.23(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.337	31.337	0	1.000	8180505	1843343	1769	4422	1042		
391.8127	31.337	31.337	0	1.000	6304017	1519960	1670	4175	910	1.30(1.05-1.43)	

Report Date: 30-Jan-2020 09:33:45 Chrom Revision: 2.3 14-Jan-2020 22:23:42
Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_6.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.443	31.441	0	0.989	20421208	4338217	4148	10370	1046		
403.8529	31.443	31.441	0	0.989	16549837	3498619	3779	9447	926	1.23(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.457	31.457	0	1.000	8559564	1906237	1769	4422	1078		
391.8127	31.457	31.457	0	1.000	7373731	1566300	1670	4175	938	1.16(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.816	31.816	0	1.016	9269945	2124161	1769	4422	1201		
391.8127	31.816	31.816	0	1.016	7557871	1734061	1670	4175	1038	1.23(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.496	33.499	0	1.053	8989535	2753088	8364	20910	329		
419.8220	33.496	33.499	0	1.053	21733220	6537495	21342	53355	306	0.41(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.508	33.511	0	1.000	10407210	3147831	9353	23382	337		
409.7789	33.508	33.511	0	1.000	10157267	3108108	9779	24447	318	1.02(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.565	34.563	0	1.087	9504578	2429323	8364	20910	290		
419.8220	34.565	34.563	0	1.087	22577708	5648629	21342	53355	265	0.42(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.577	34.570	0	1.000	8619804	2130515	9353	23382	228		
409.7789	34.565	34.570	0	1.000	8520570	2126779	9779	24447	217	1.01(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.286	34.279	0	1.078	16715196	4383034	7981	19952	549		
437.8140	34.274	34.279	0	1.078	16051983	4186723	8152	20380	514	1.04(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.286	34.288	0	1.000	8116406	2152424	3896	9740	552		
425.7737	34.286	34.288	0	1.000	7707051	2091728	2757	6892	759	1.05(0.88-1.20)	
13C-OCDD											
469.7779	36.578	36.578	0	1.150	27092275	6064466	2106	5265	2880		
471.7750	36.578	36.578	0	1.150	30181683	6783939	1485	3712	4568	0.90(0.76-1.02)	
OCDF											
441.7428	36.674	36.674	0	1.003	14280892	3278788	860	2150	3813		
443.7399	36.674	36.674	0	1.003	15726559	3569375	928	2320	3846	0.91(0.76-1.02)	
OCDD											
457.7377	36.590	36.590	0	1.000	13022455	2936296	800	2000	3670		
459.7348	36.590	36.590	0	1.000	14928696	3334403	886	2215	3763	0.87(0.76-1.02)	

Reagents:

HRDXNL4_00091 Amount Added: 2.00 Units: uL

Report Date: 30-Jan-2020 09:33:45 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_6.d		
Injection Date:	30-Jan-2020 03:21:09	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

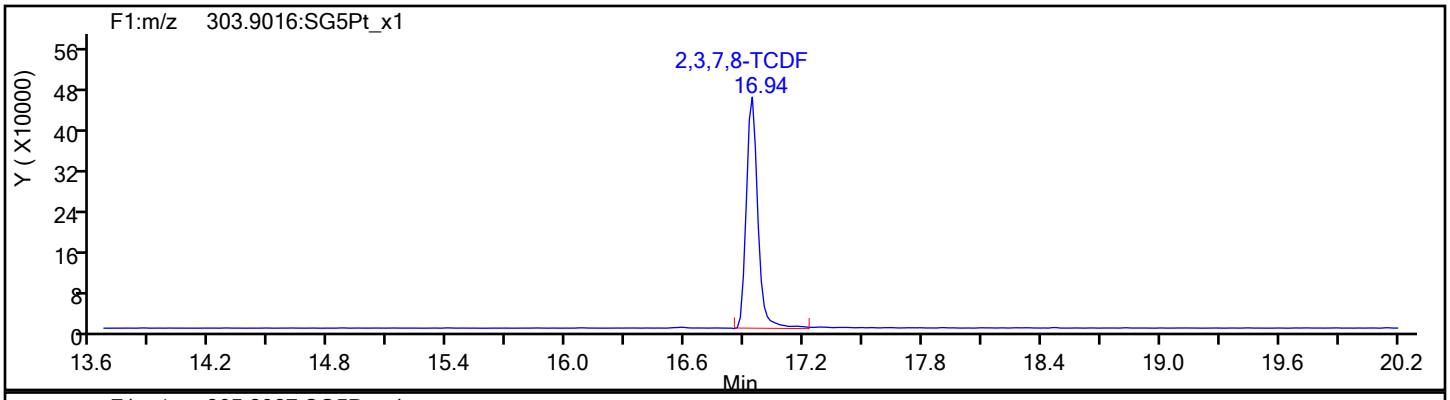

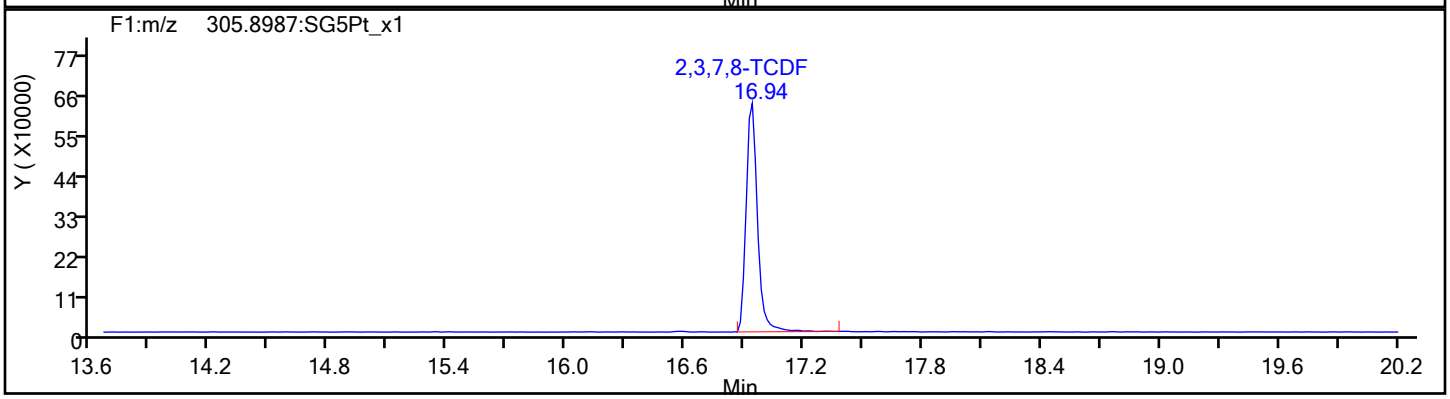

TCDF Standards

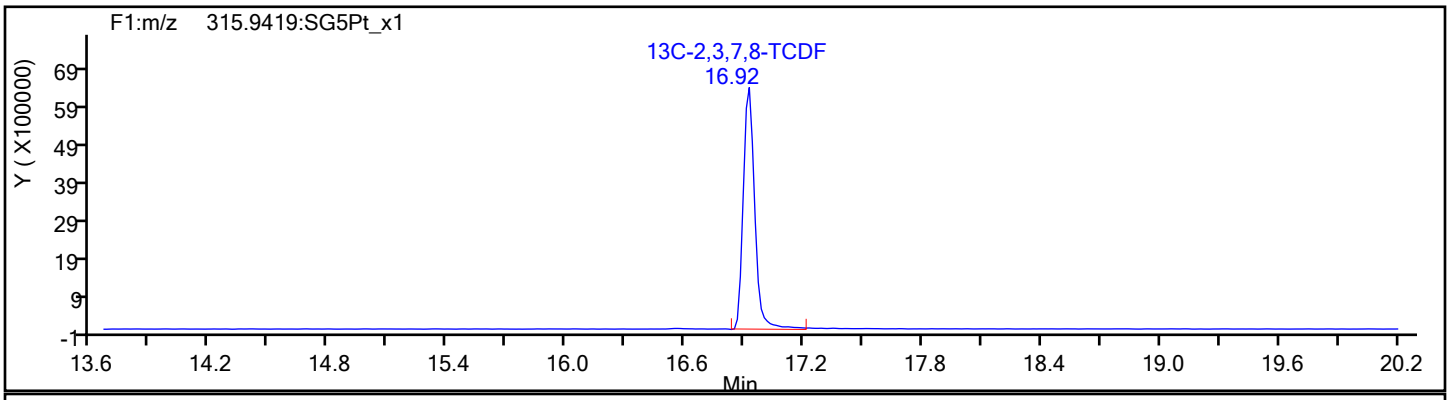

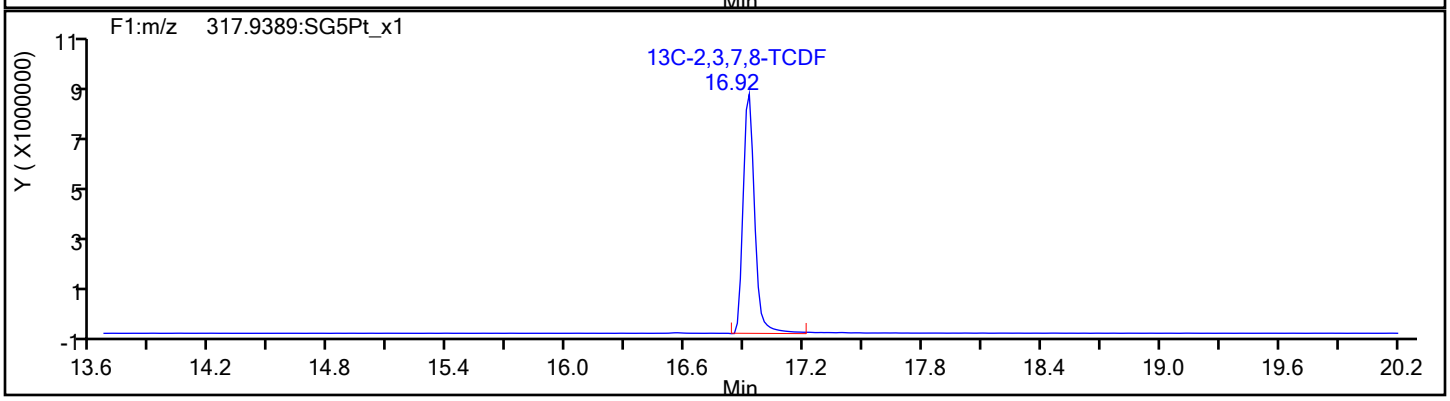

Report Date: 30-Jan-2020 09:33:45 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Injection Date:	30-Jan-2020 03:21:09	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

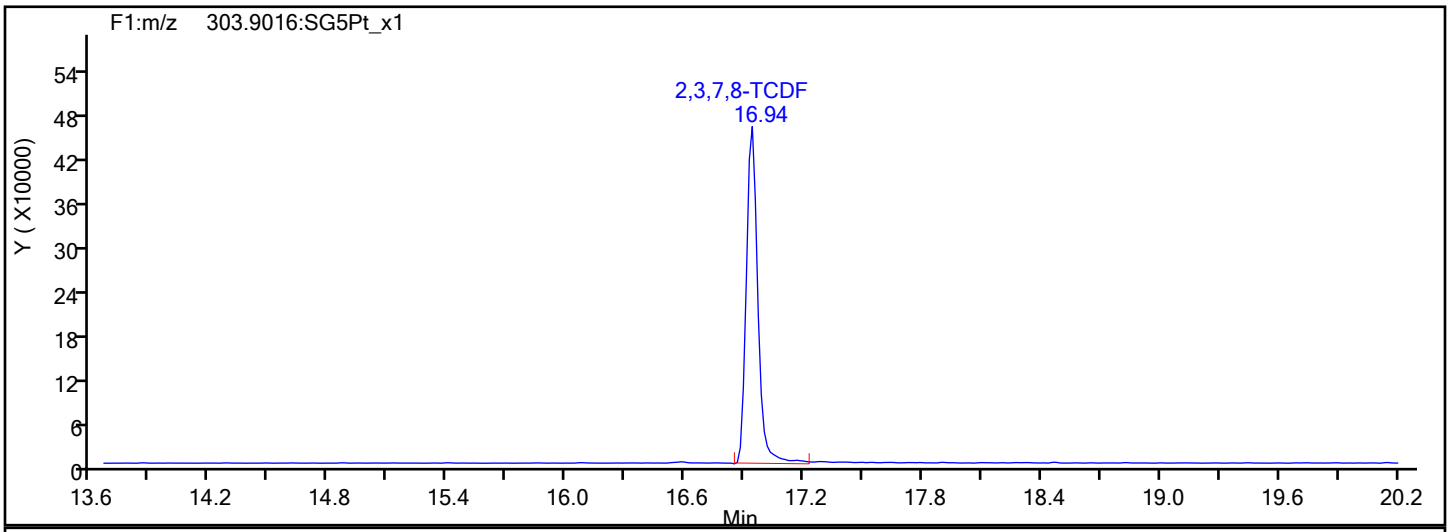

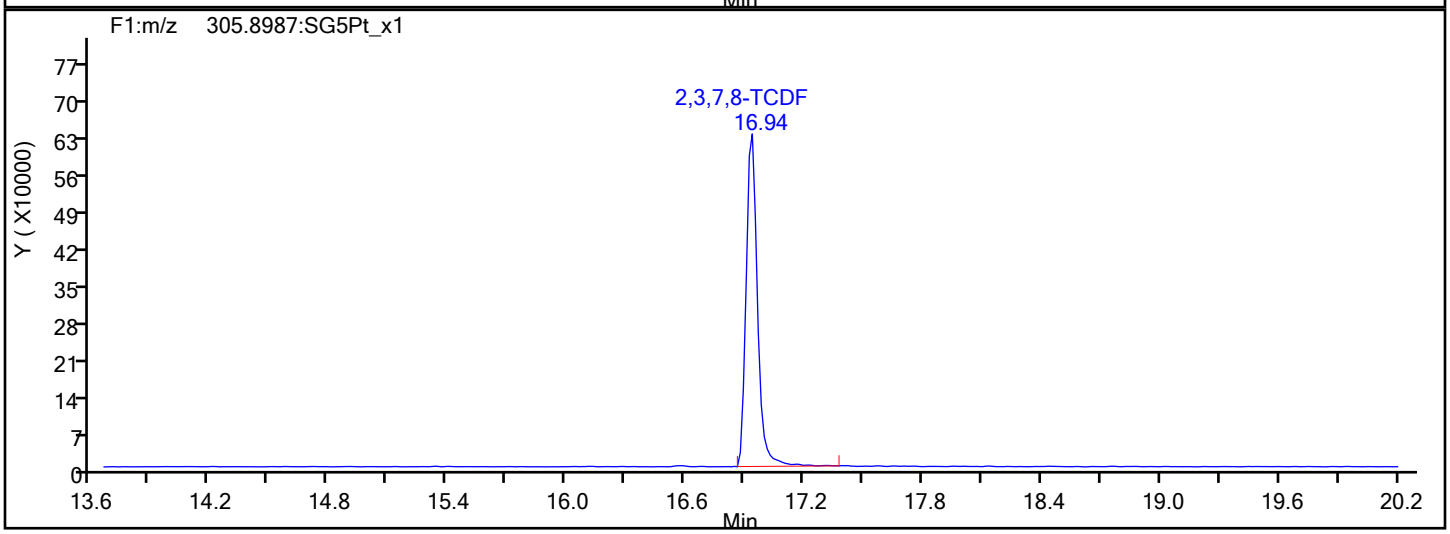

TCDF Interference Mass

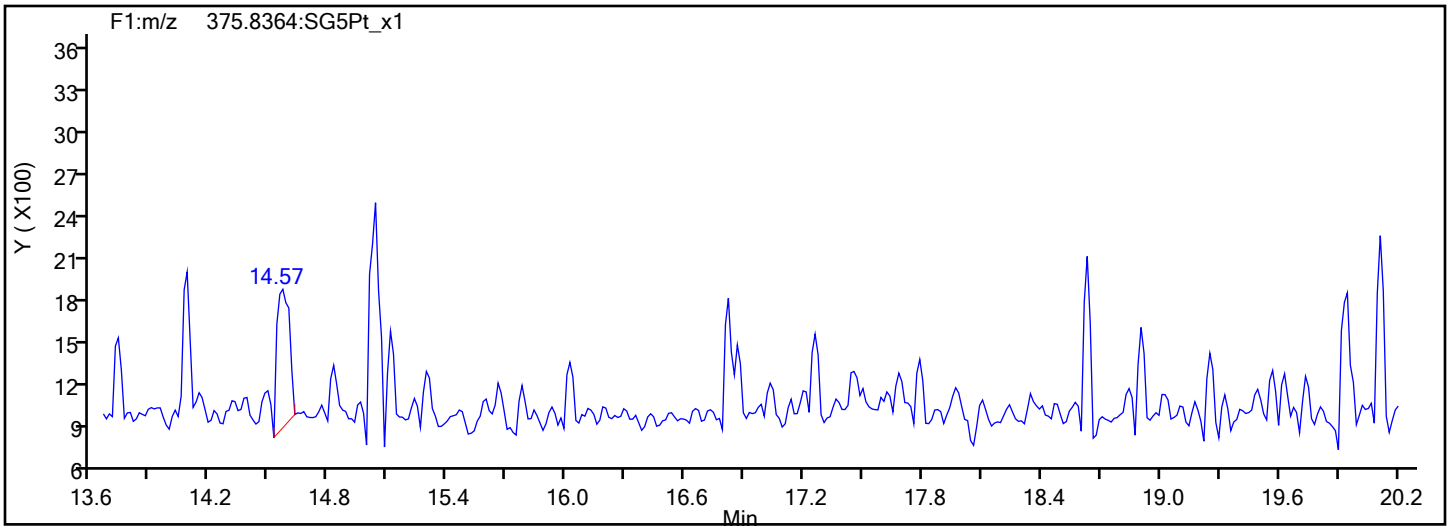

Report Date: 30-Jan-2020 09:33:45 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_6.d		
Injection Date:	30-Jan-2020 03:21:09	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

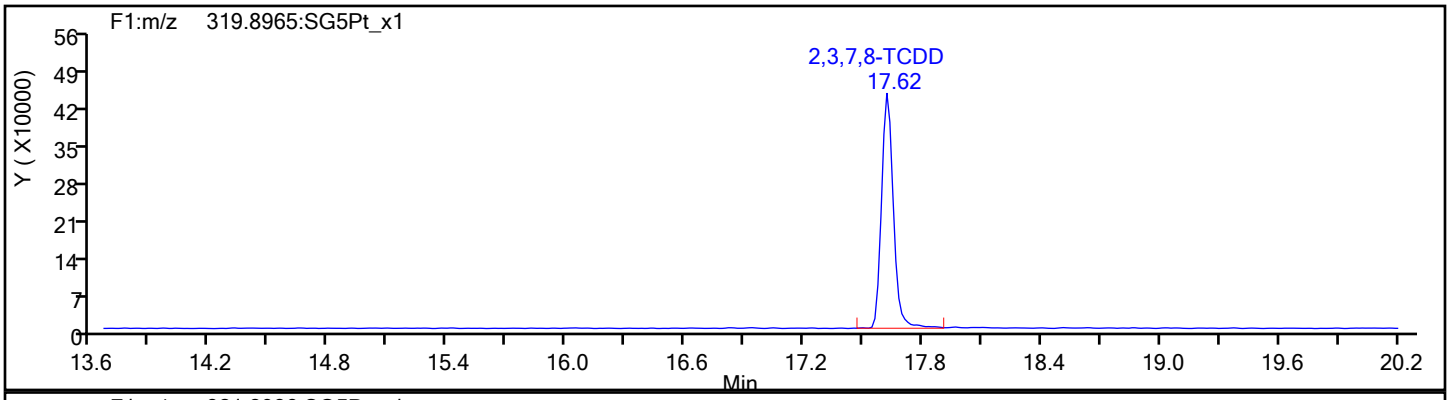

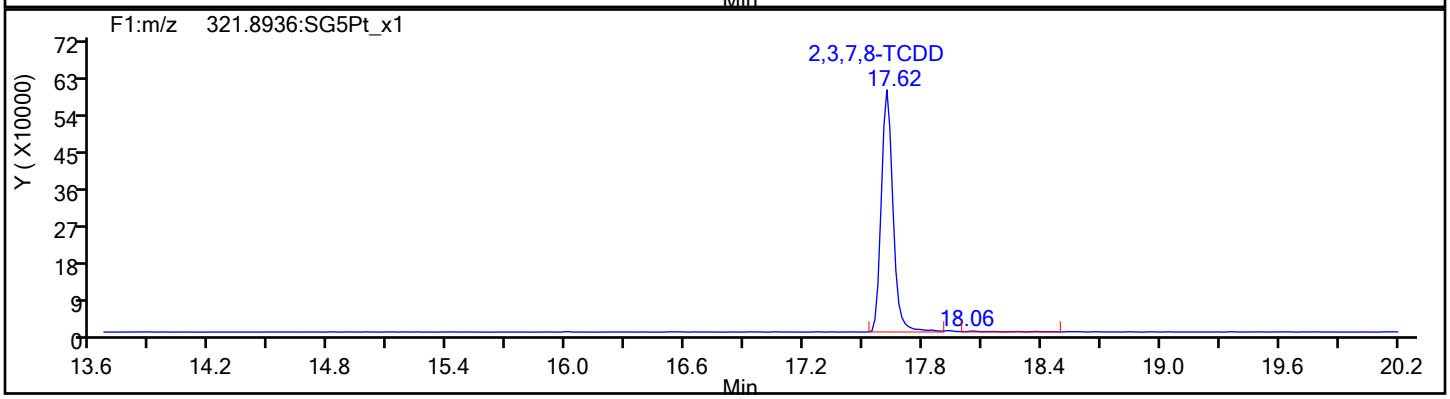

TCDD Standards

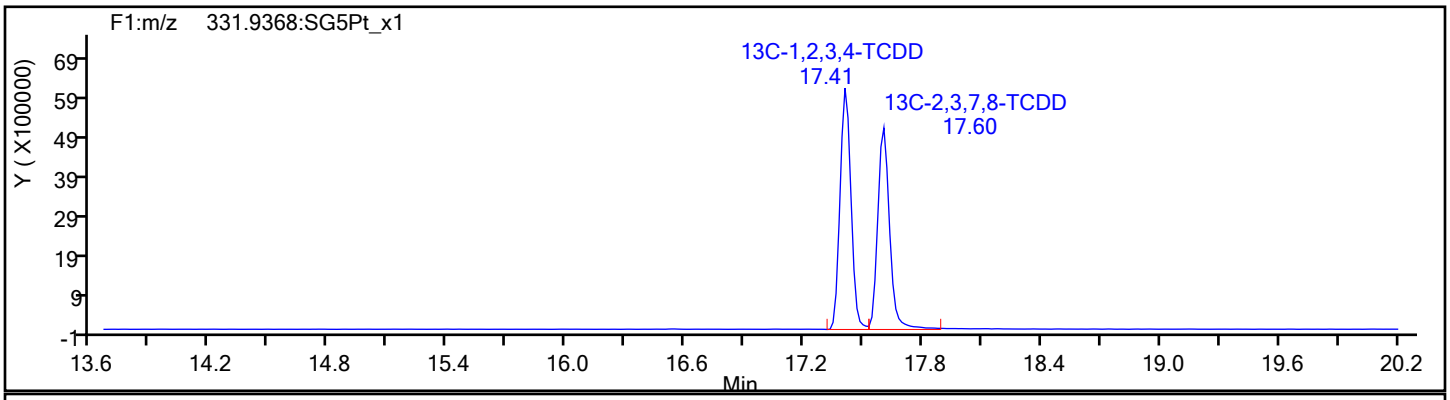

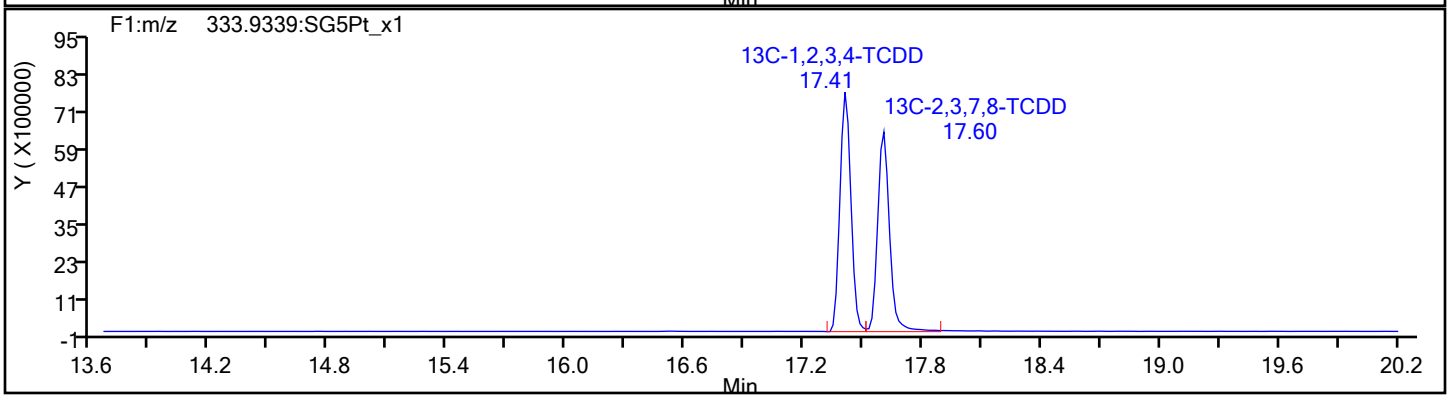

Report Date: 30-Jan-2020 09:33:45 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_6.d		
Injection Date:	30-Jan-2020 03:21:09	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

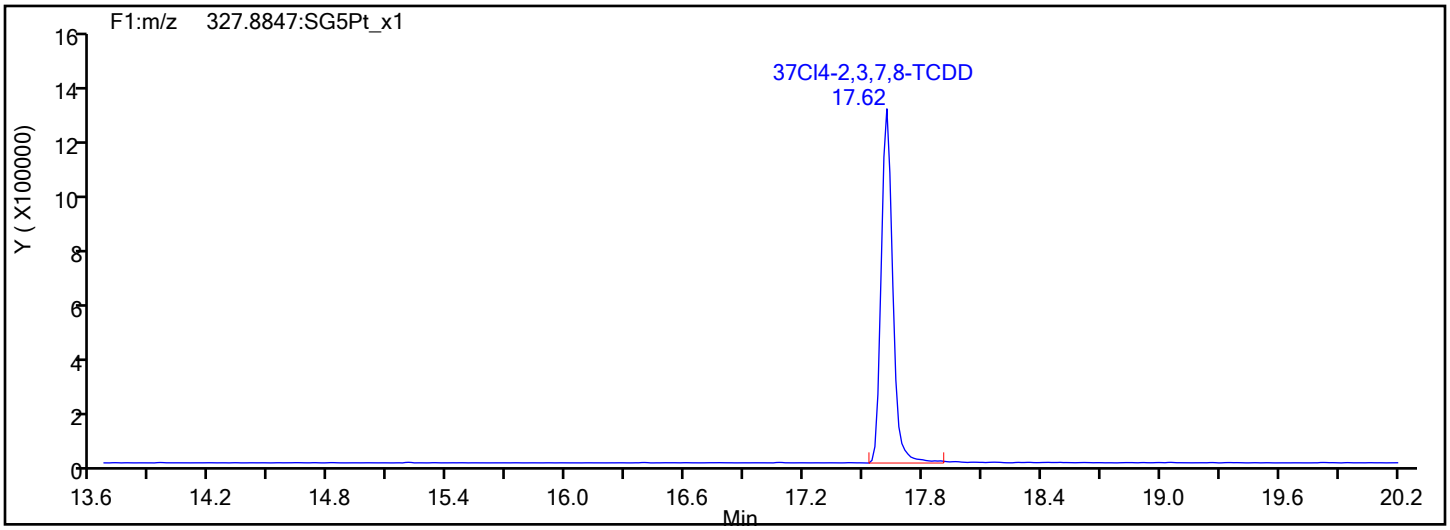

37Cl4-TCDD Standards

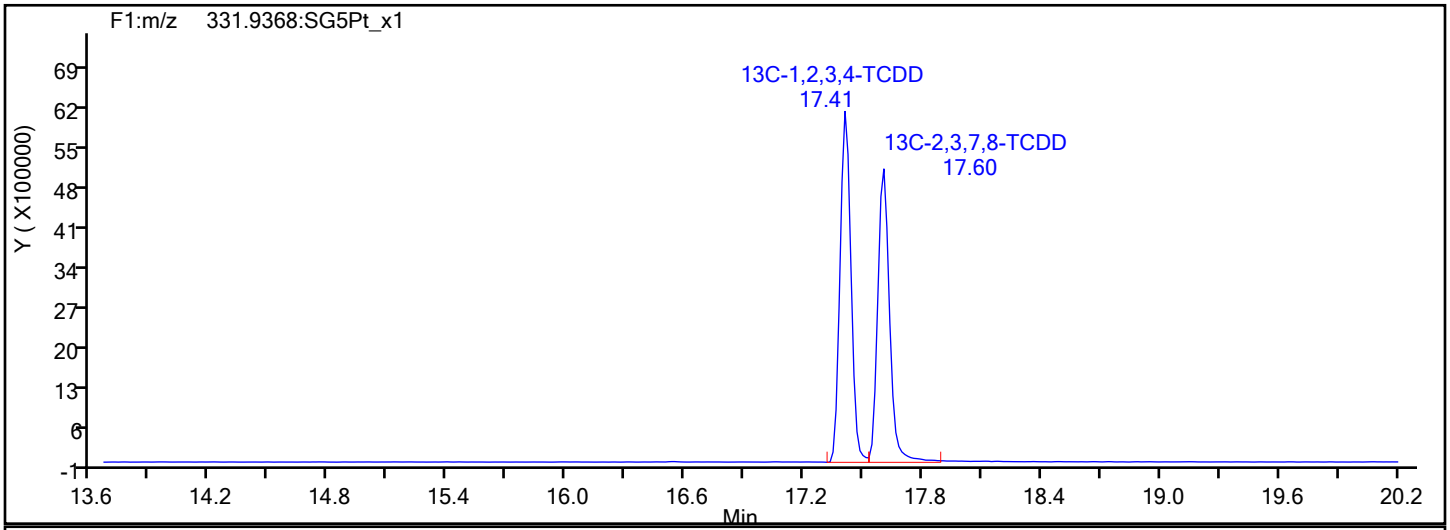

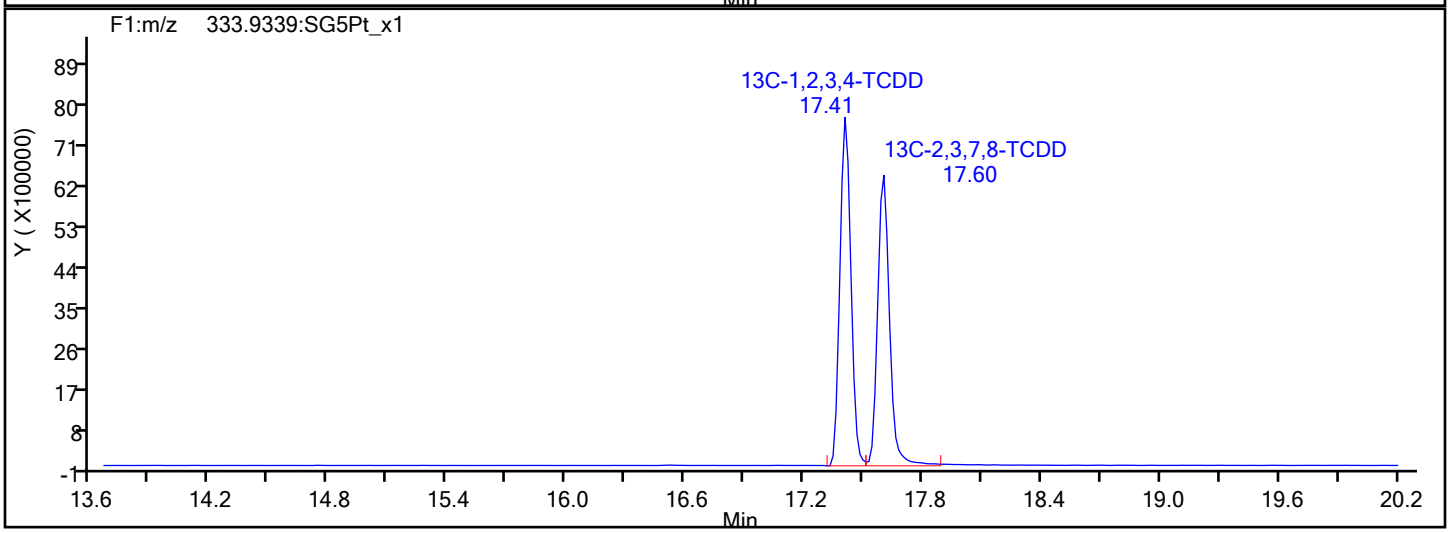

Report Date: 30-Jan-2020 09:33:46 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_6.d		
Injection Date:	30-Jan-2020 03:21:09	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

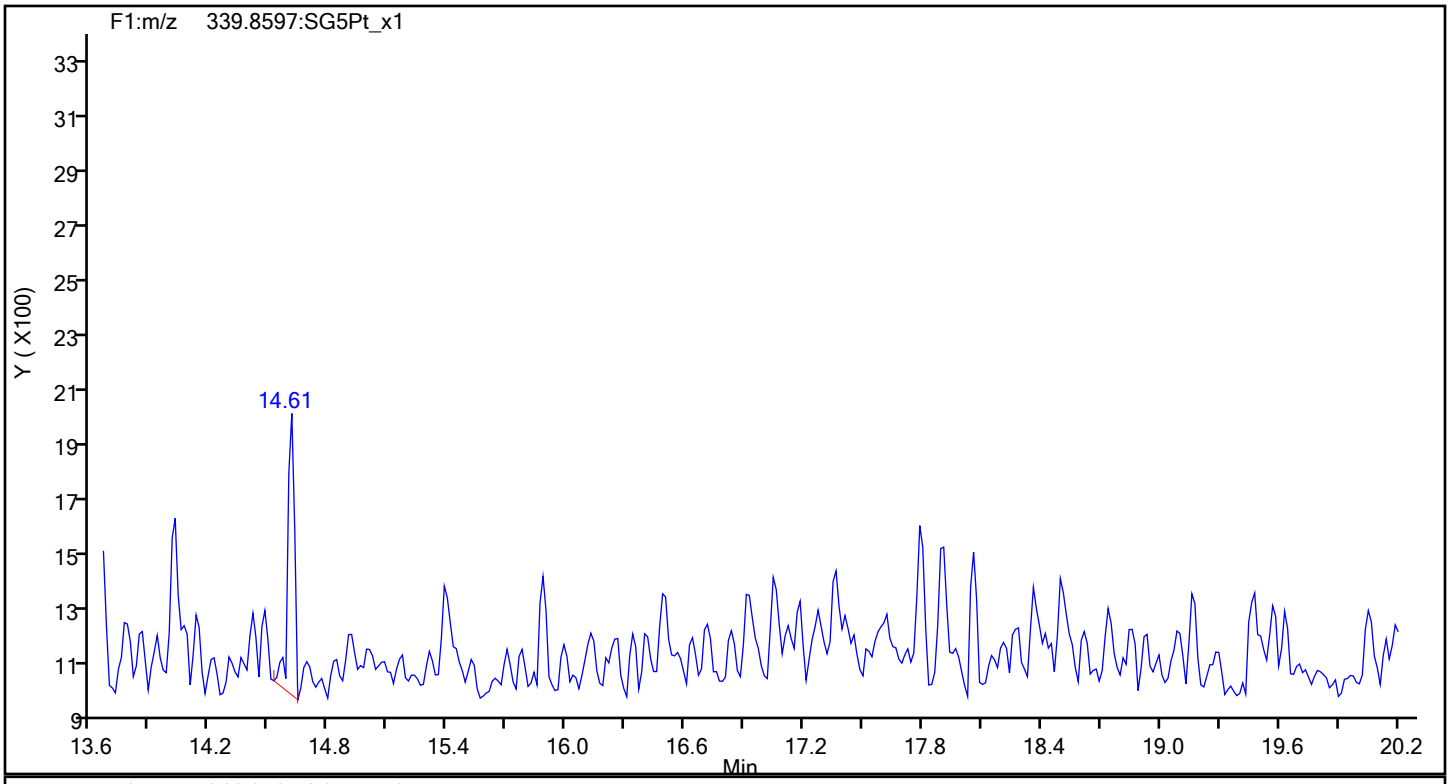

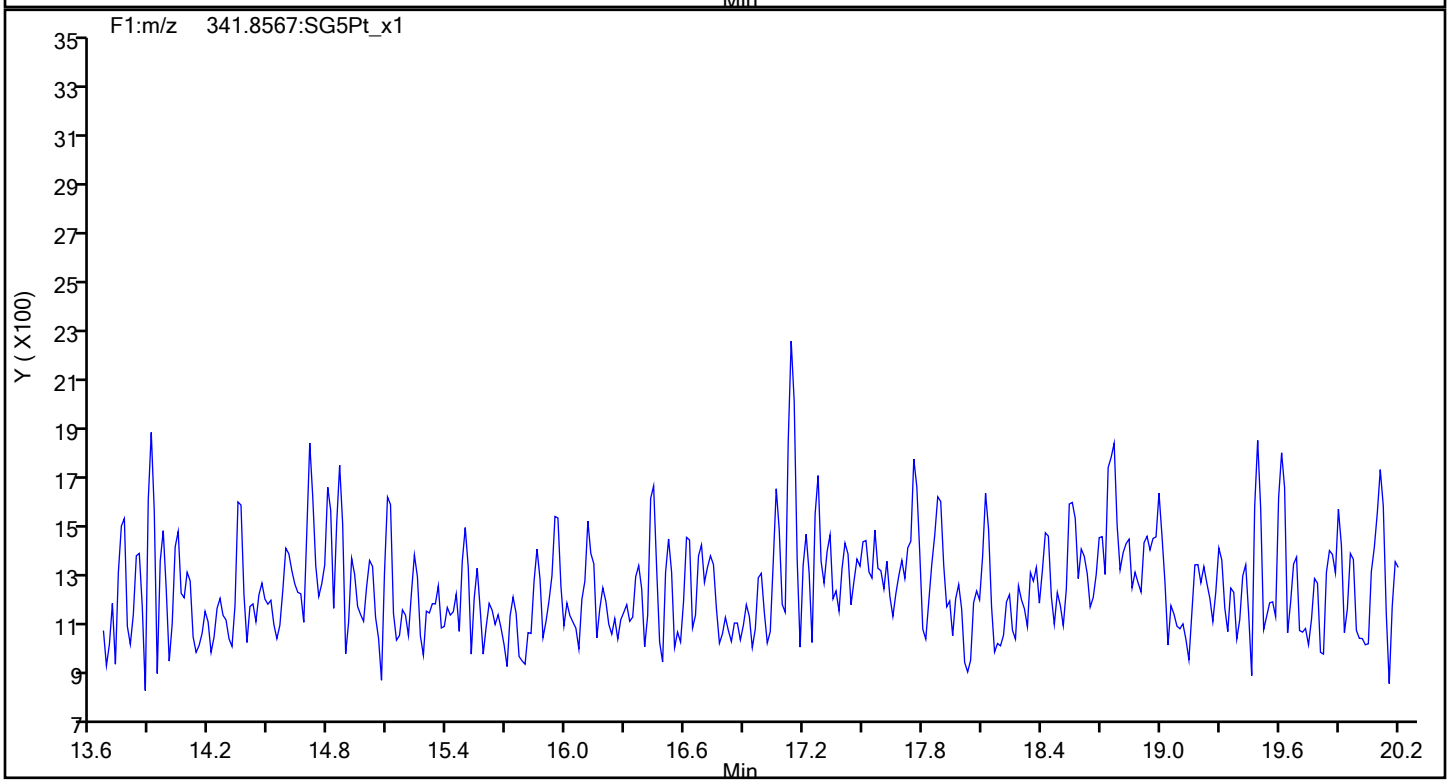

Report Date: 30-Jan-2020 09:33:46 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_6.d		
Injection Date:	30-Jan-2020 03:21:09	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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F1 PeCDFs

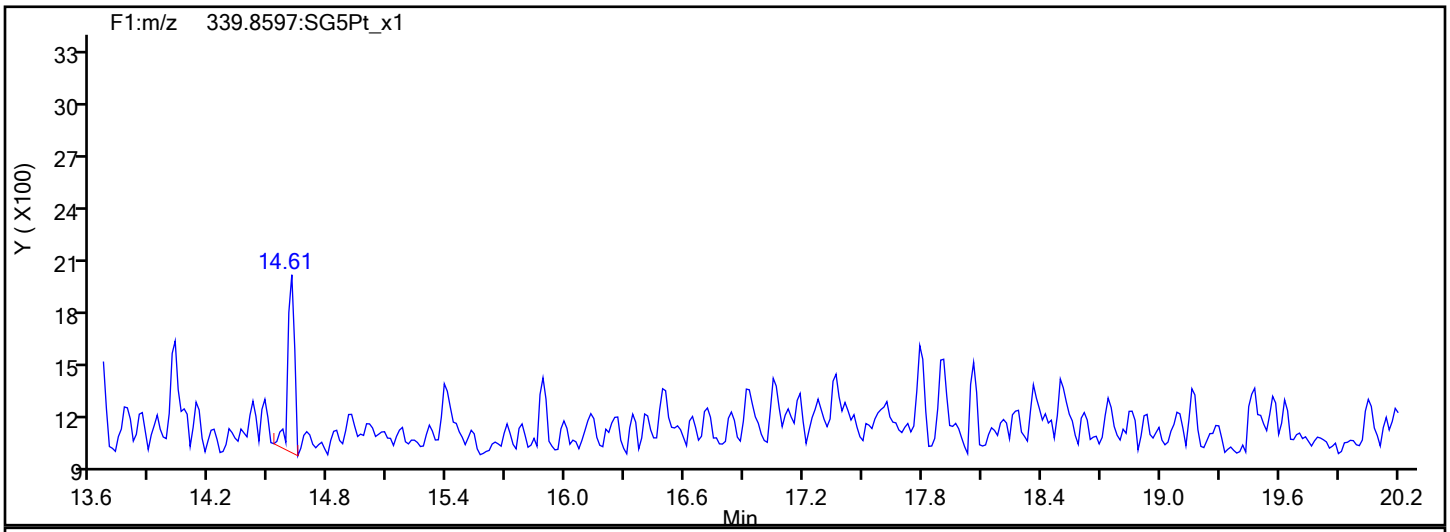

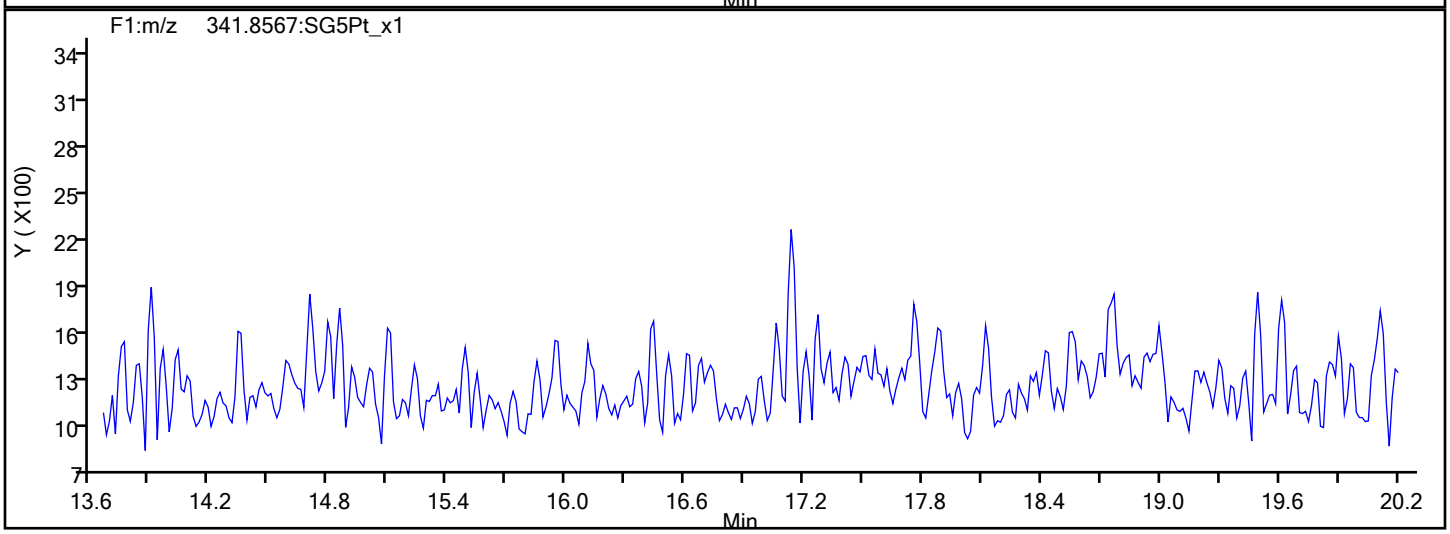

F1 PeCDFs Interference Mass

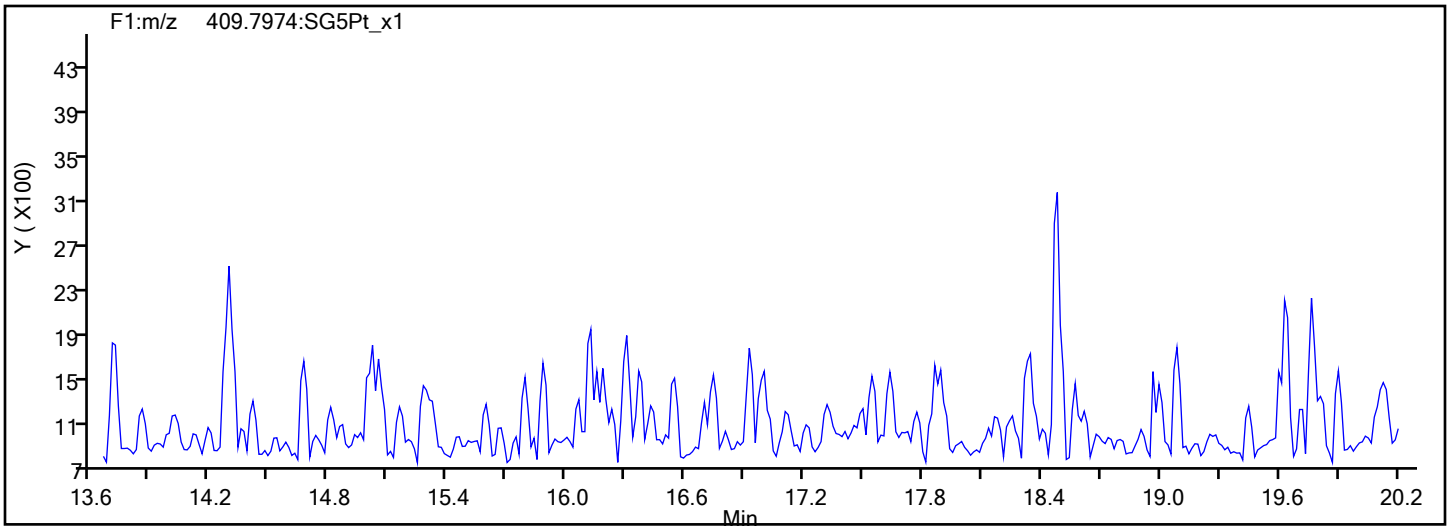

Report Date: 30-Jan-2020 09:33:46 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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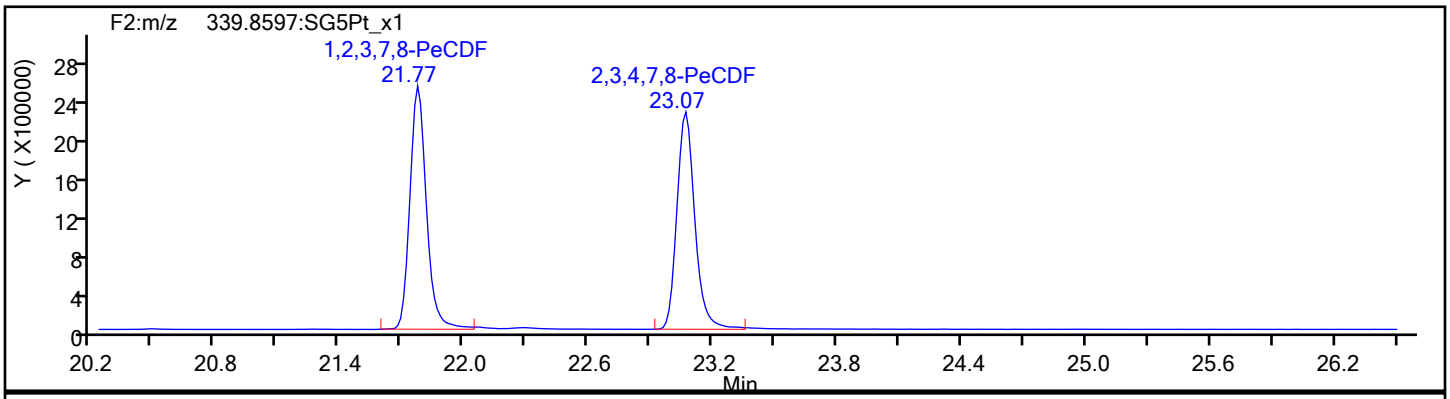

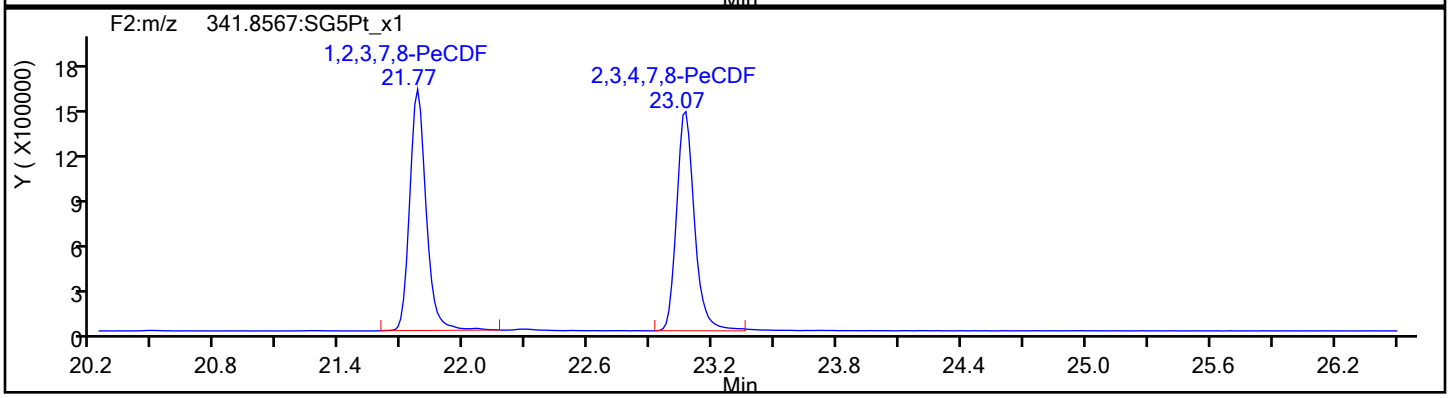

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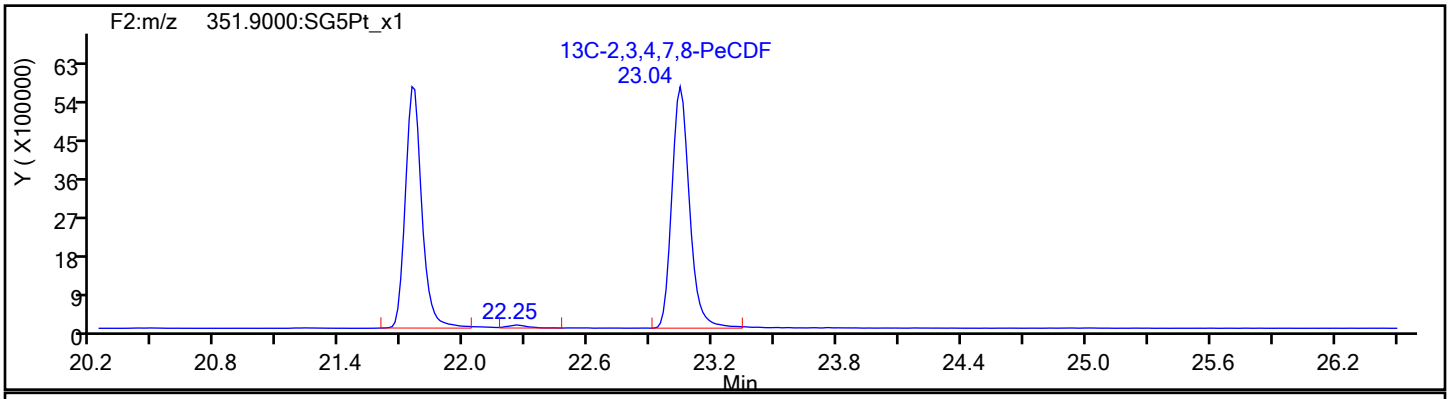

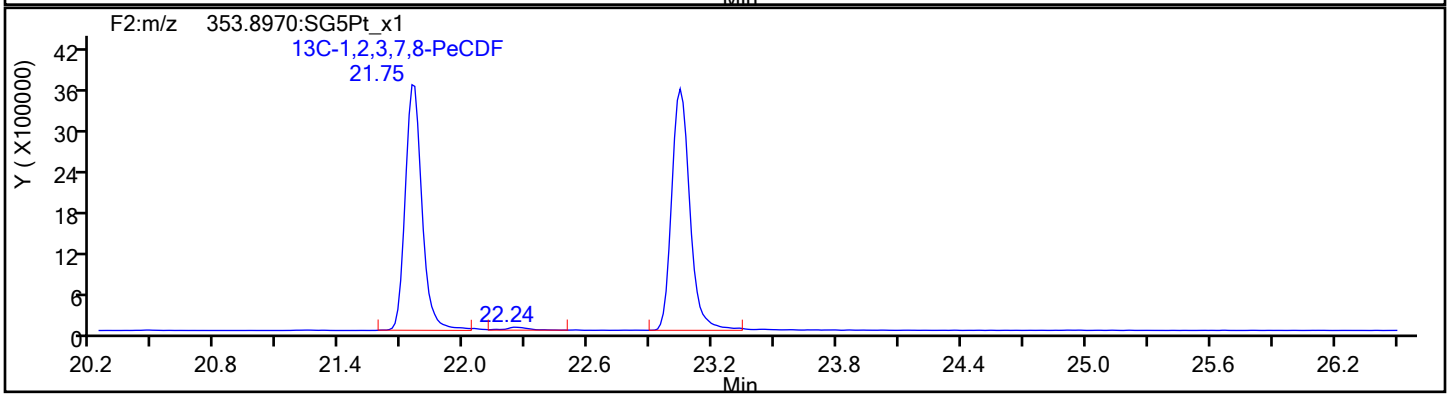

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Eurofins TestAmerica, Sacramento

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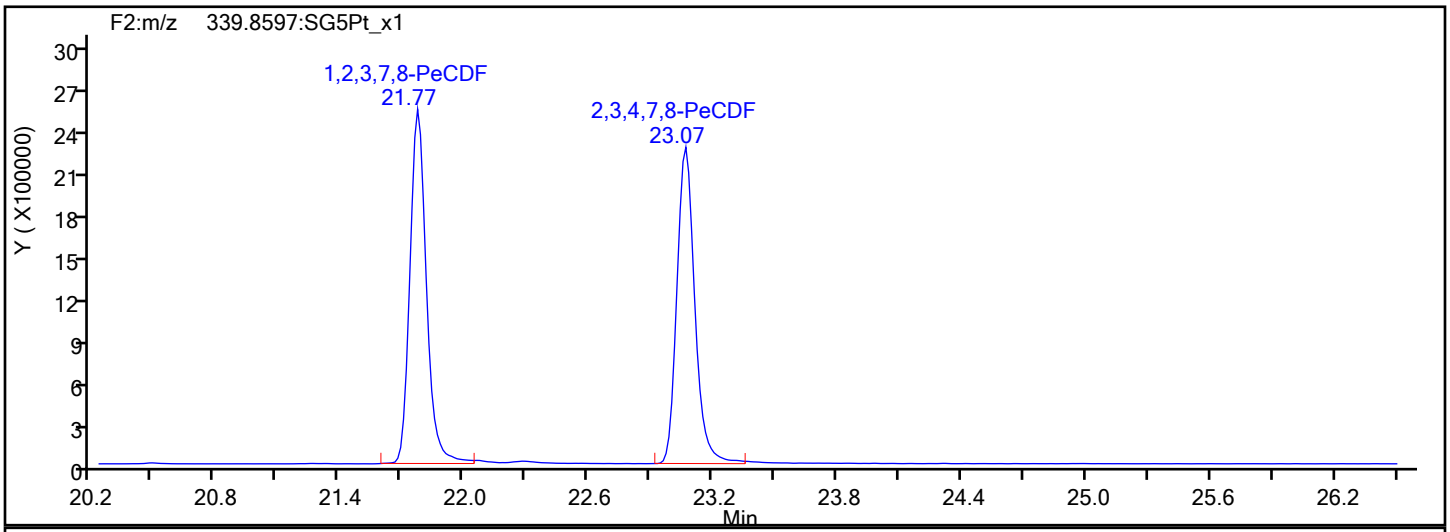

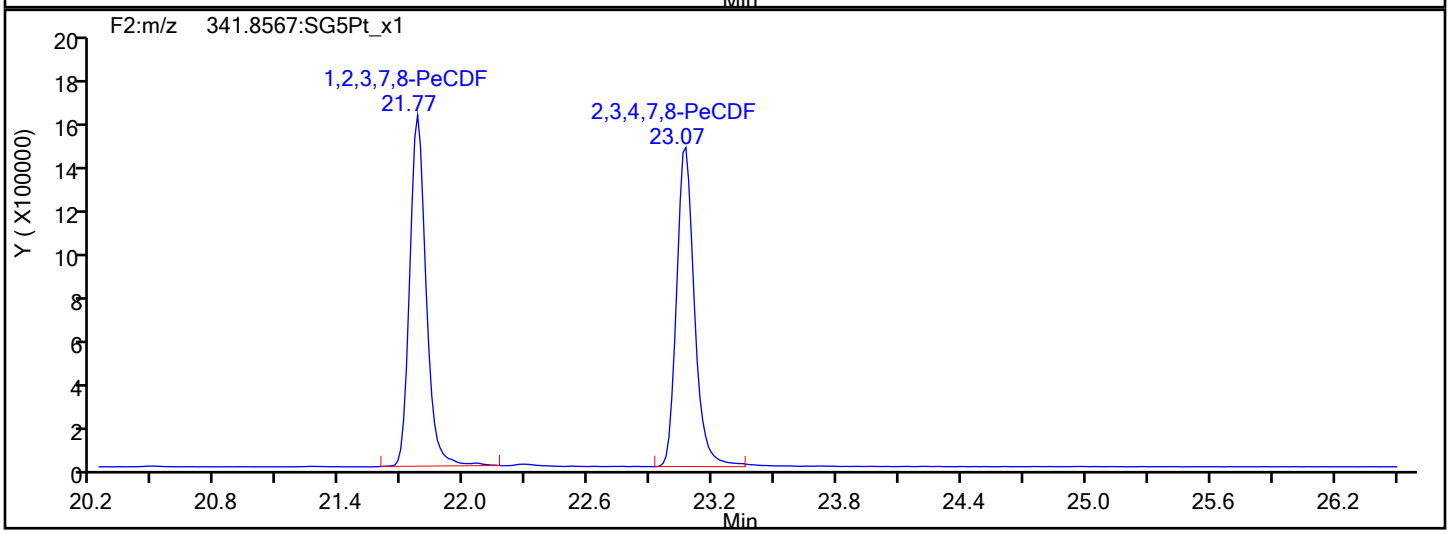

PeCDF Interference Mass

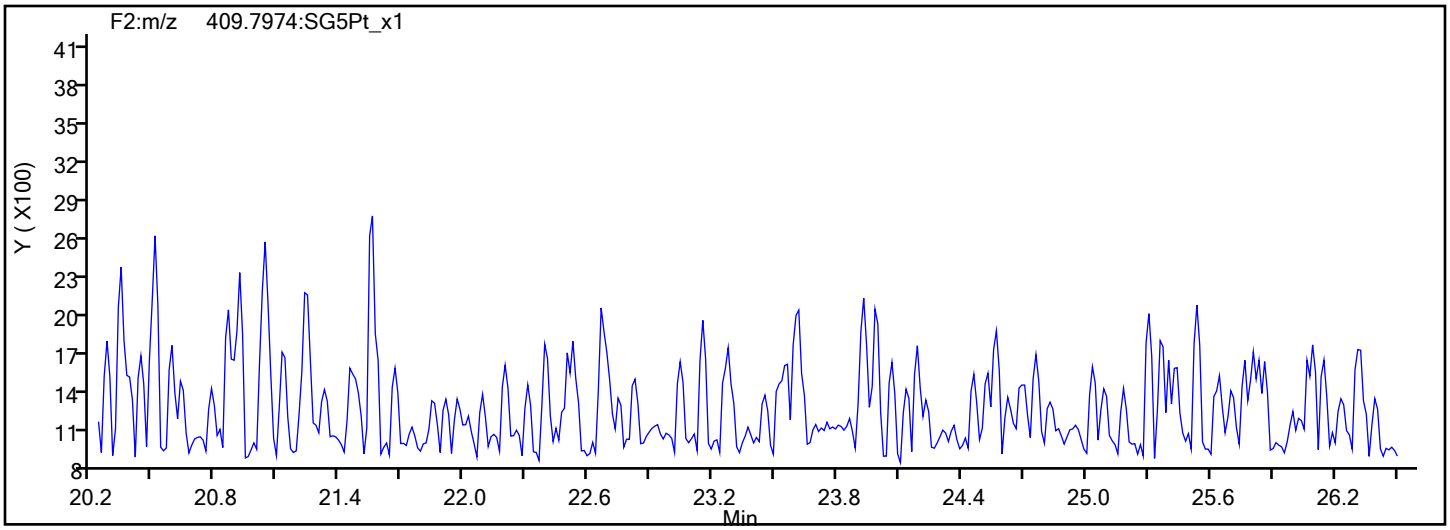

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Eurofins TestAmerica, Sacramento

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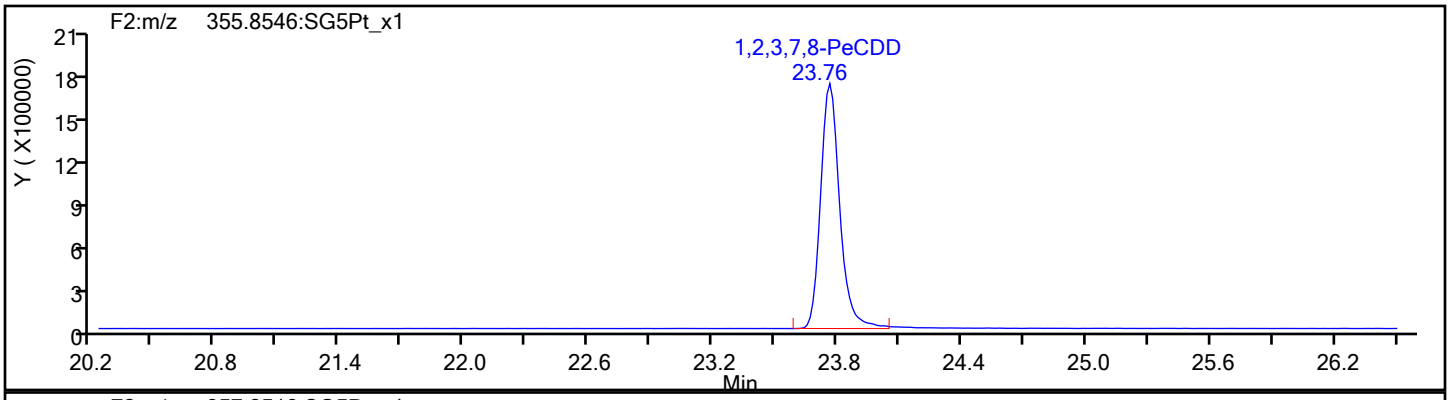

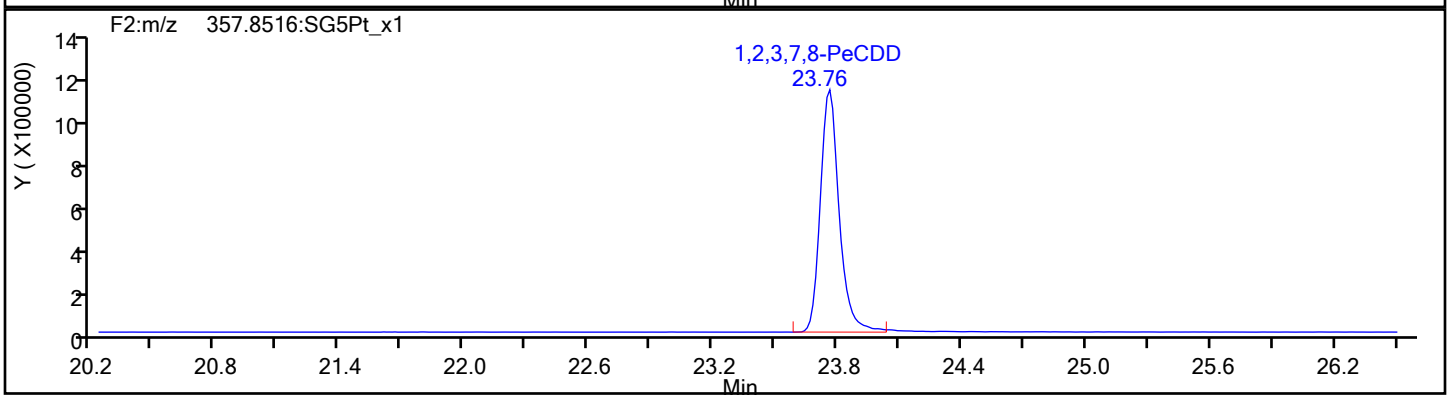

PeCDD Standards

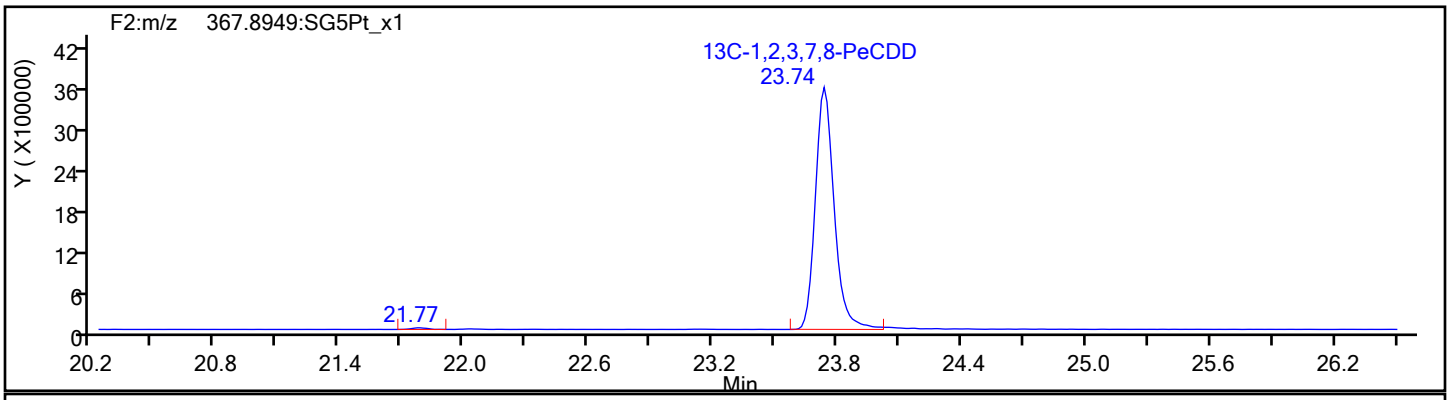

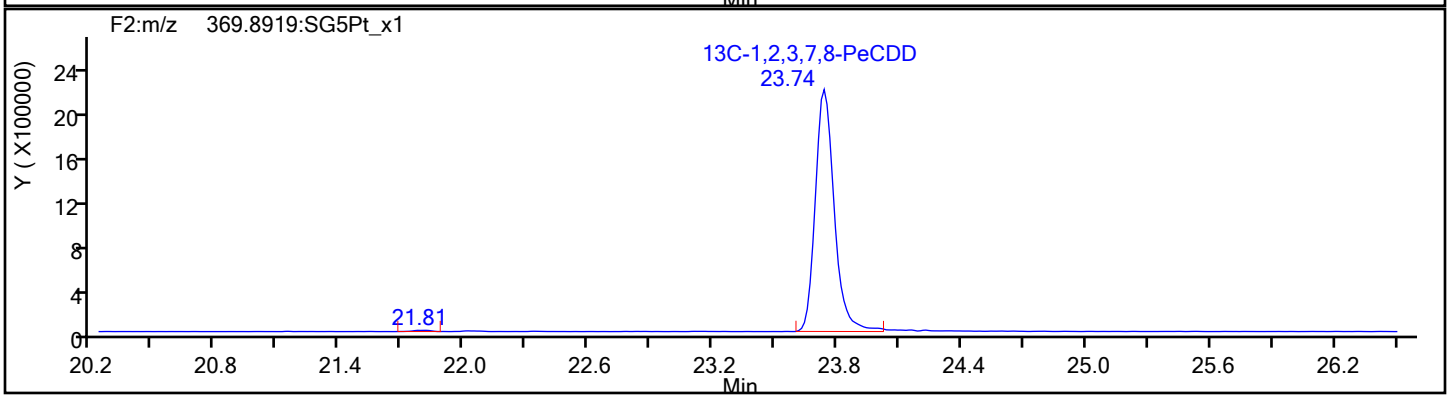

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Eurofins TestAmerica, Sacramento

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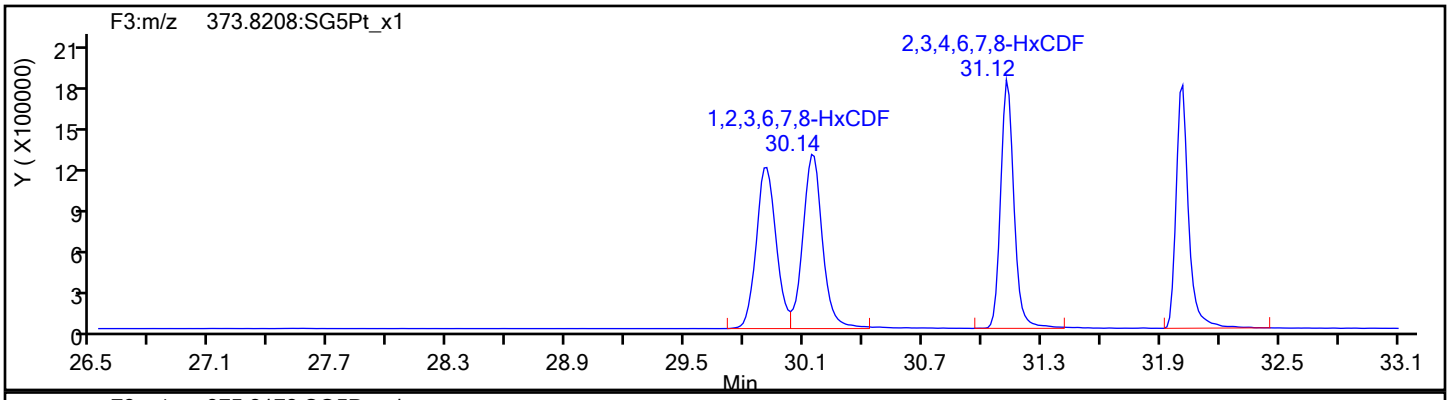

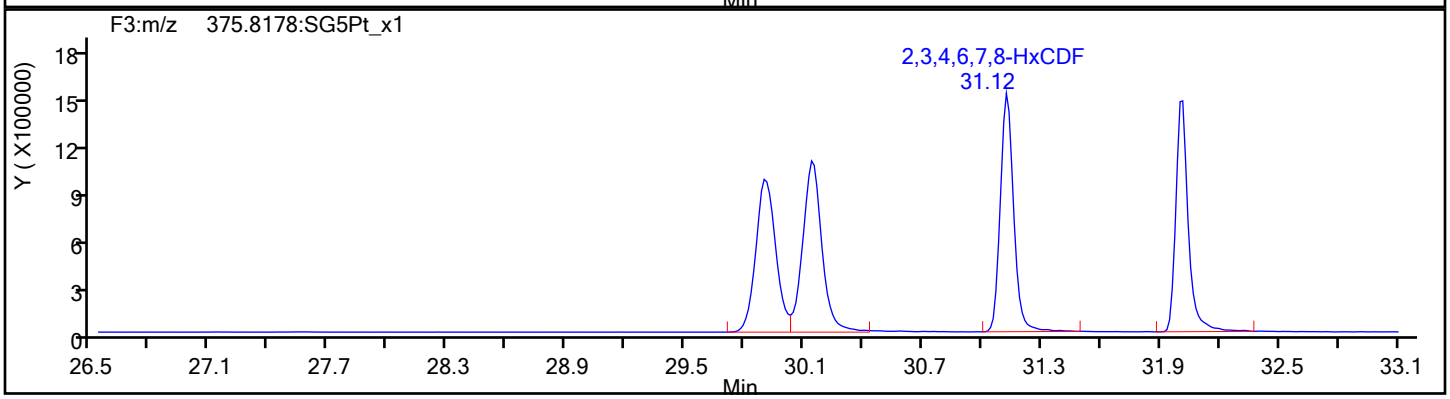

HxCDF Standards

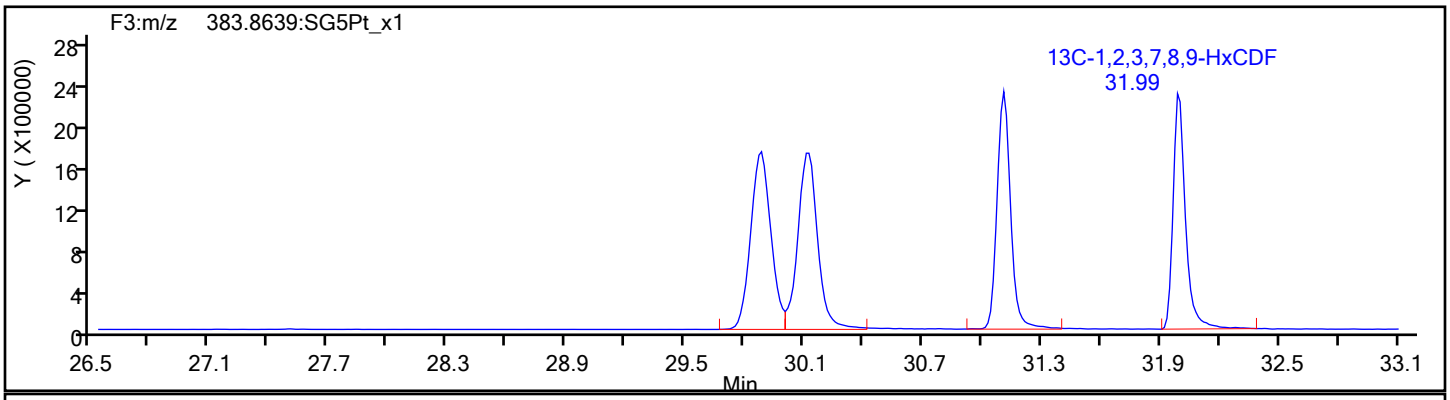

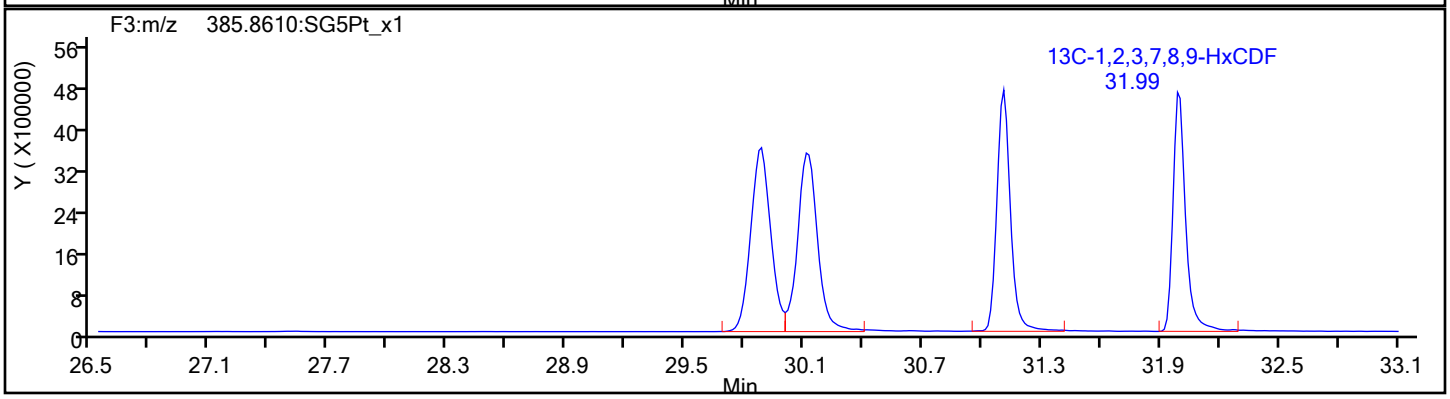

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Eurofins TestAmerica, Sacramento

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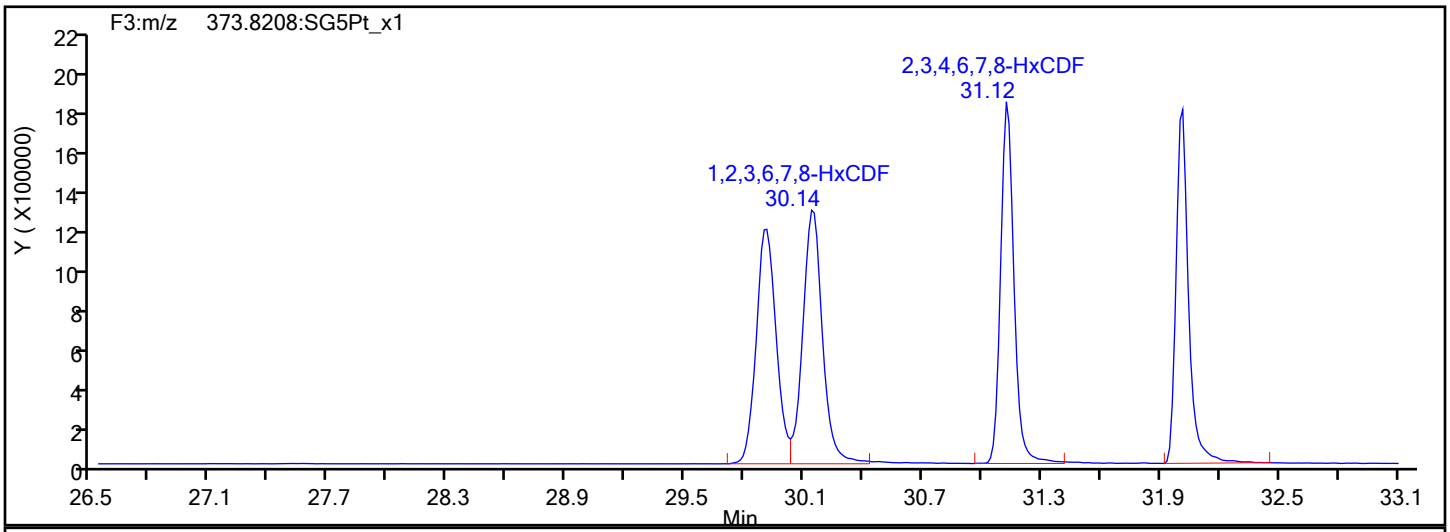

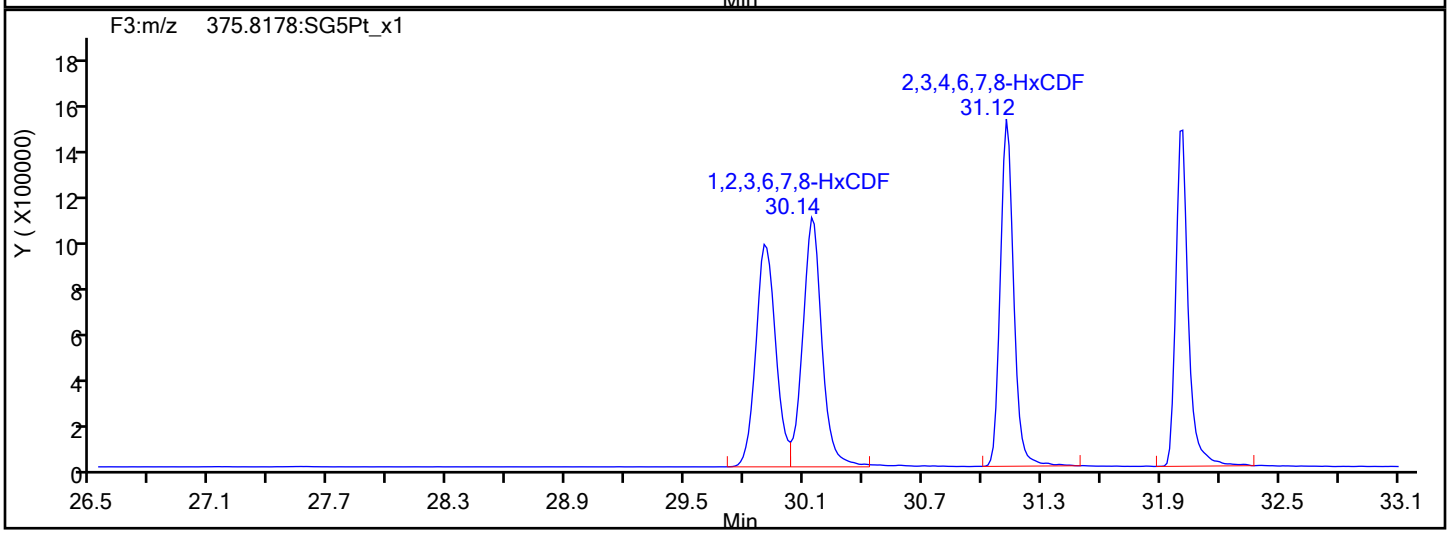

HxCDF Interference Mass

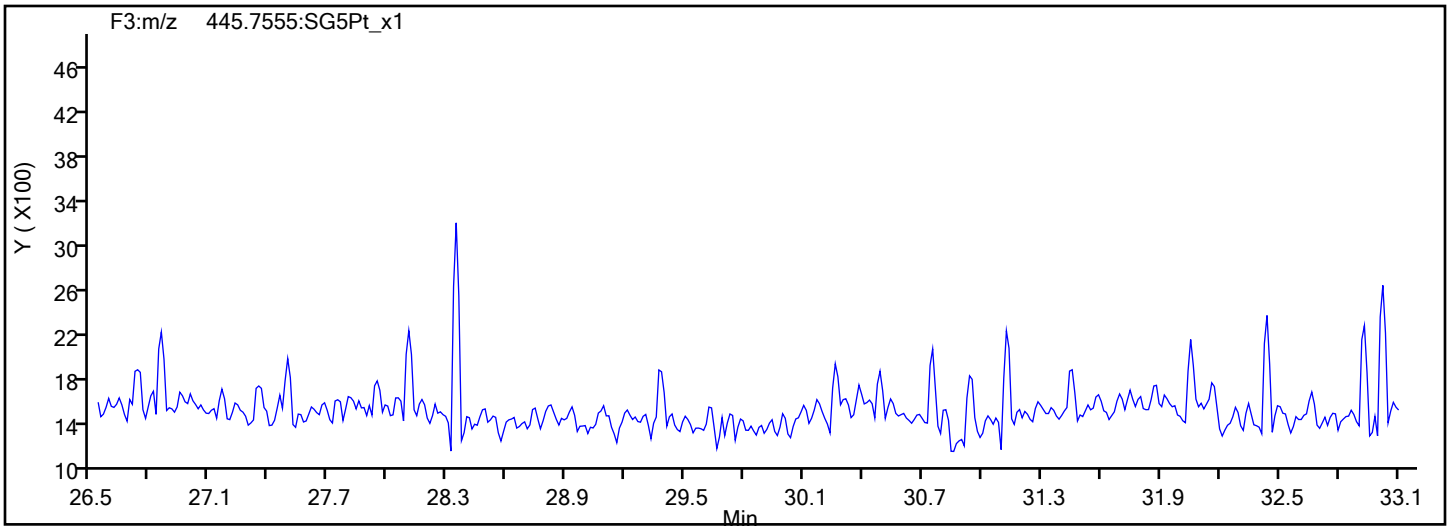

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Eurofins TestAmerica, Sacramento

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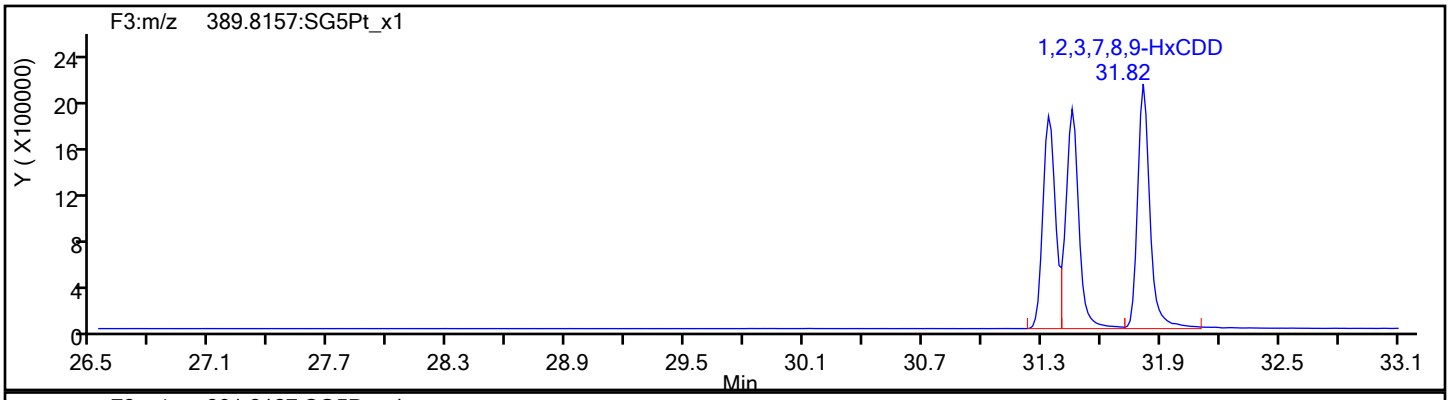

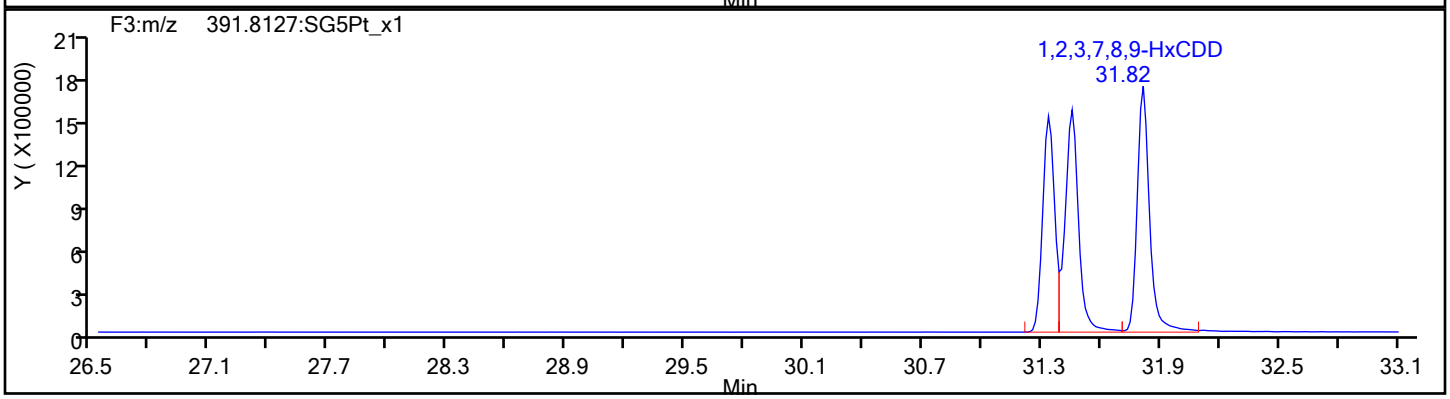

HxCDD Standards

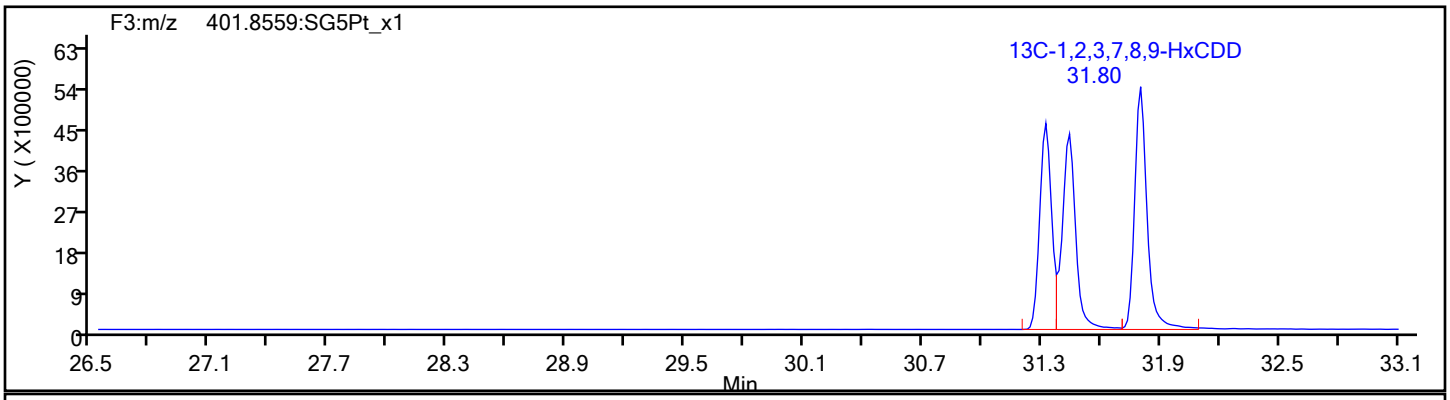

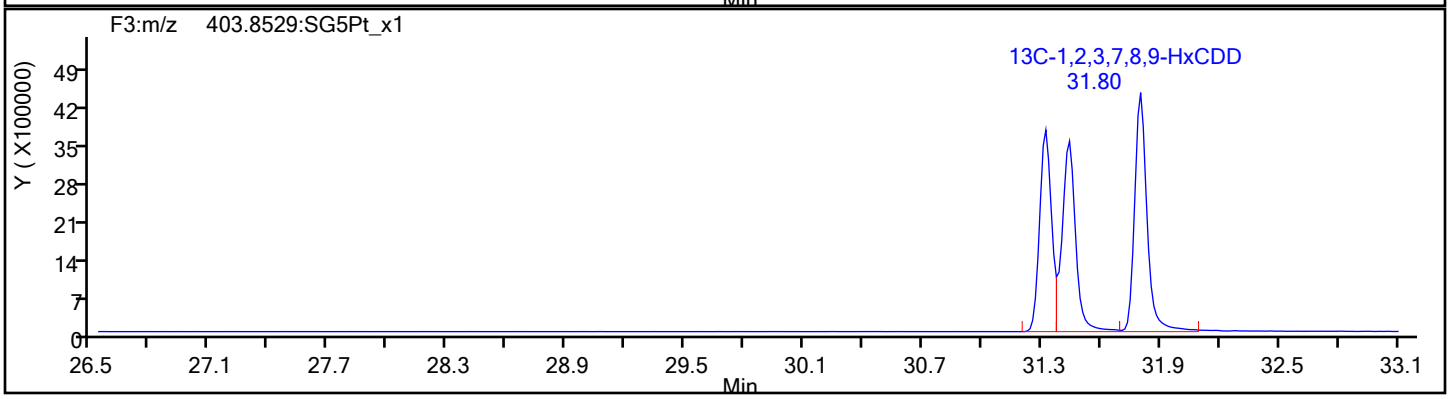

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Eurofins TestAmerica, Sacramento

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HpCDF

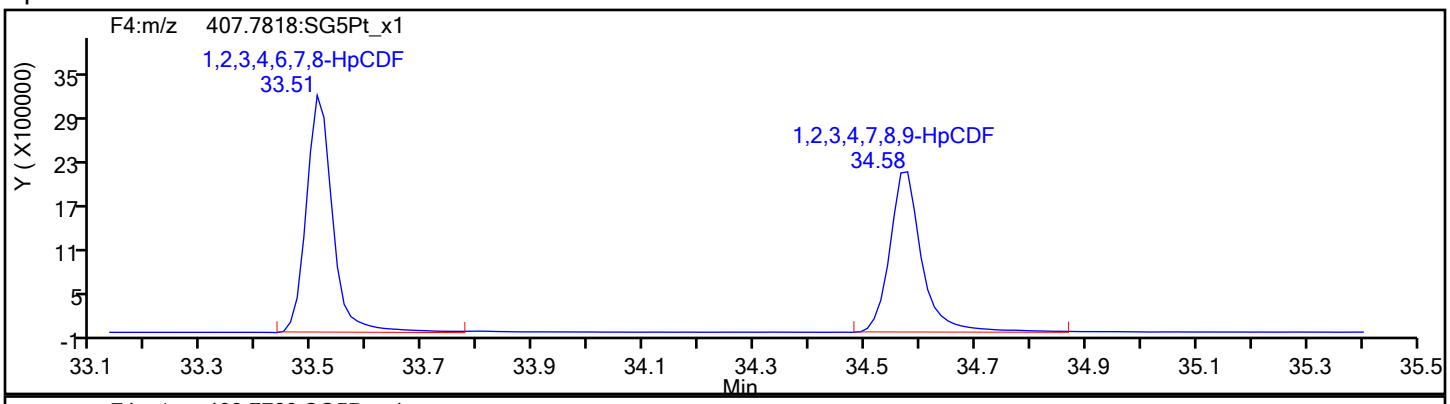

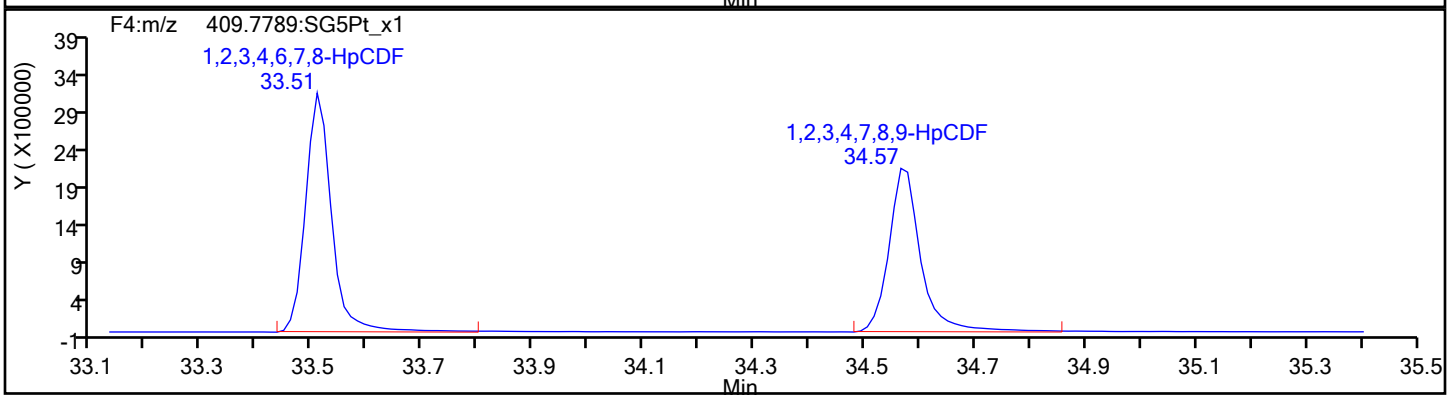

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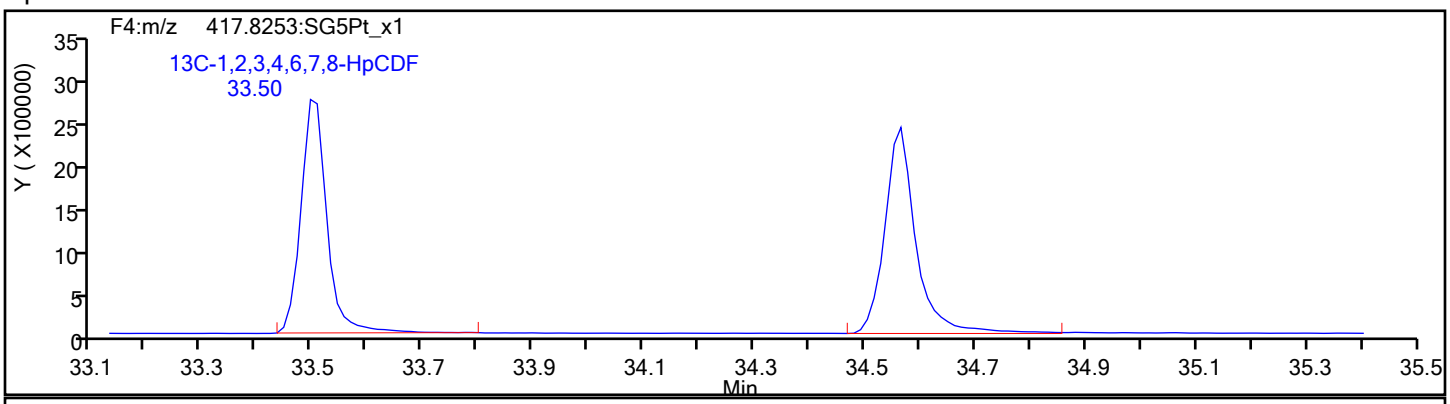

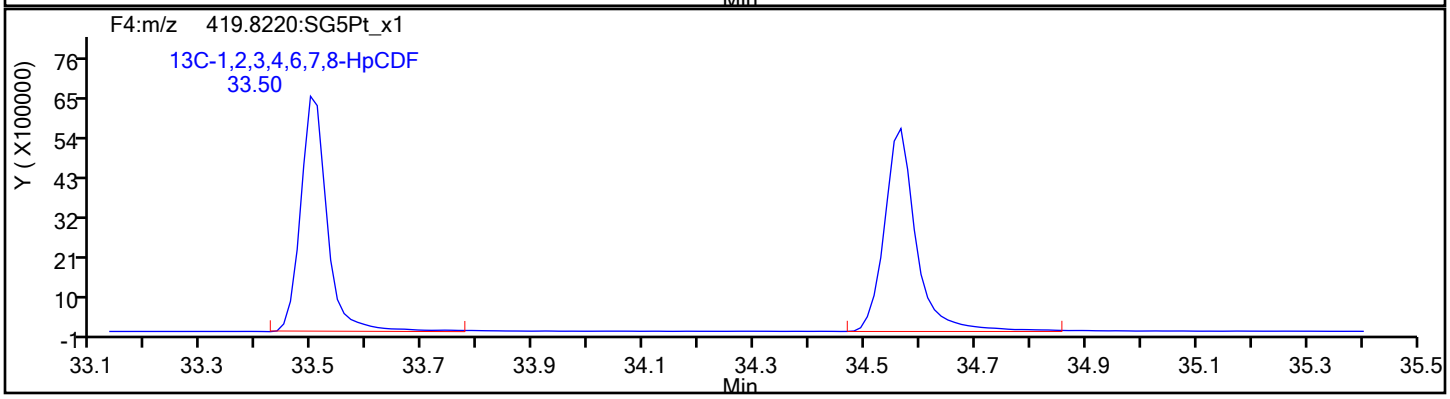

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Eurofins TestAmerica, Sacramento

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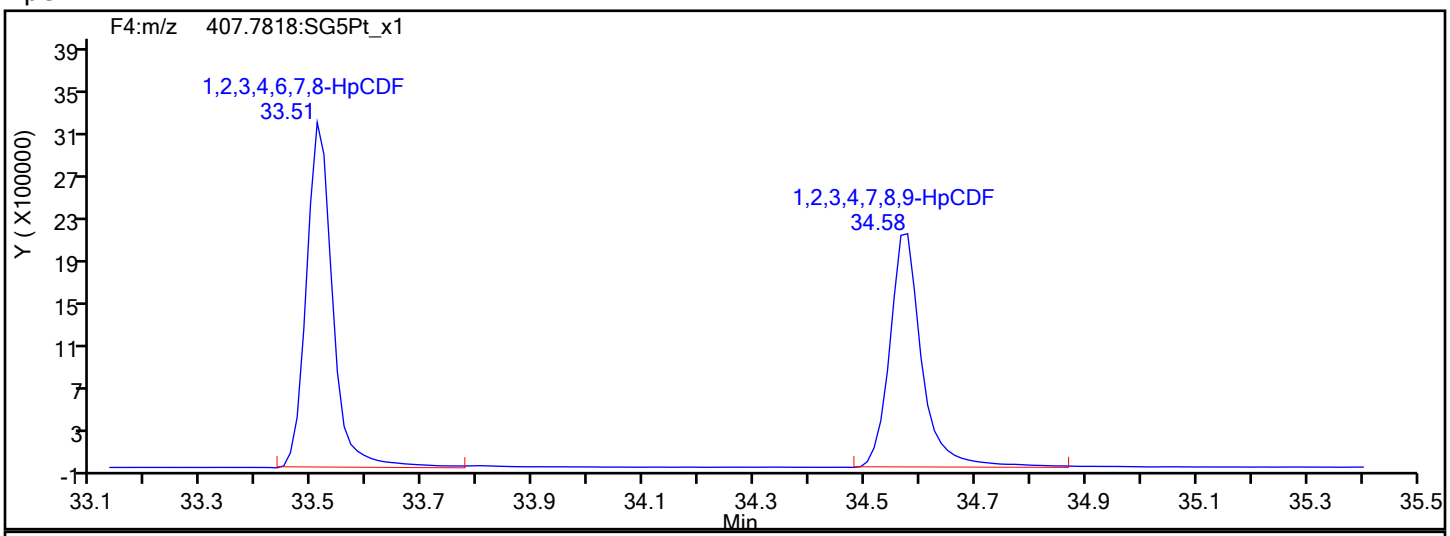

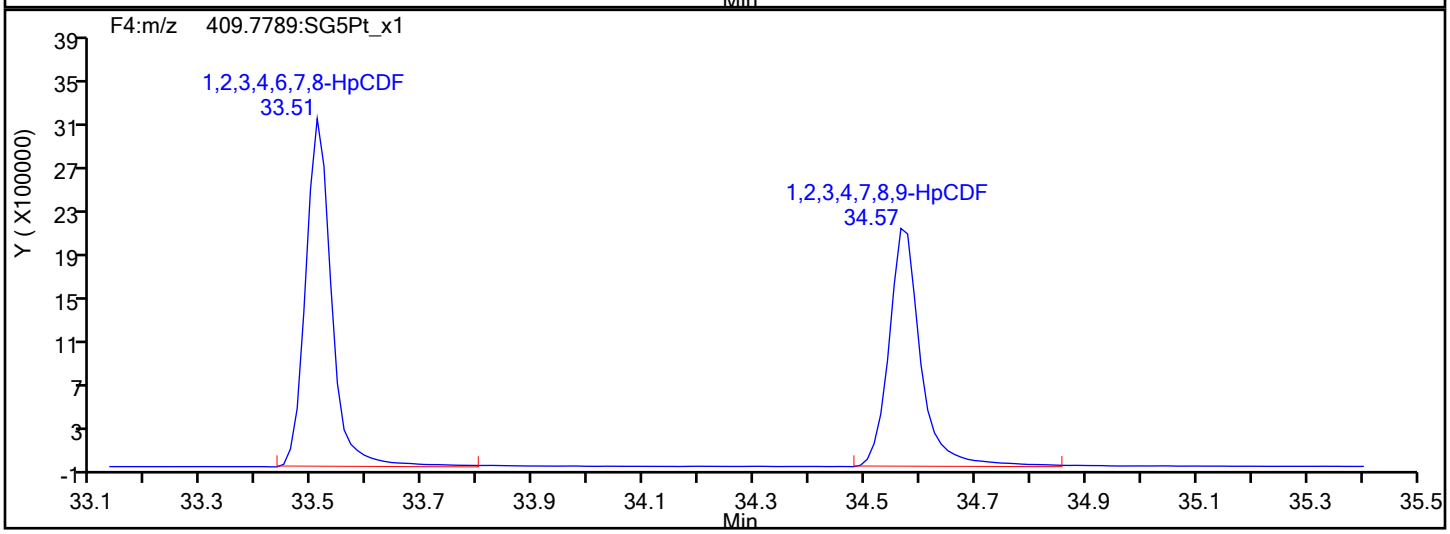

HpCDF Interference Mass

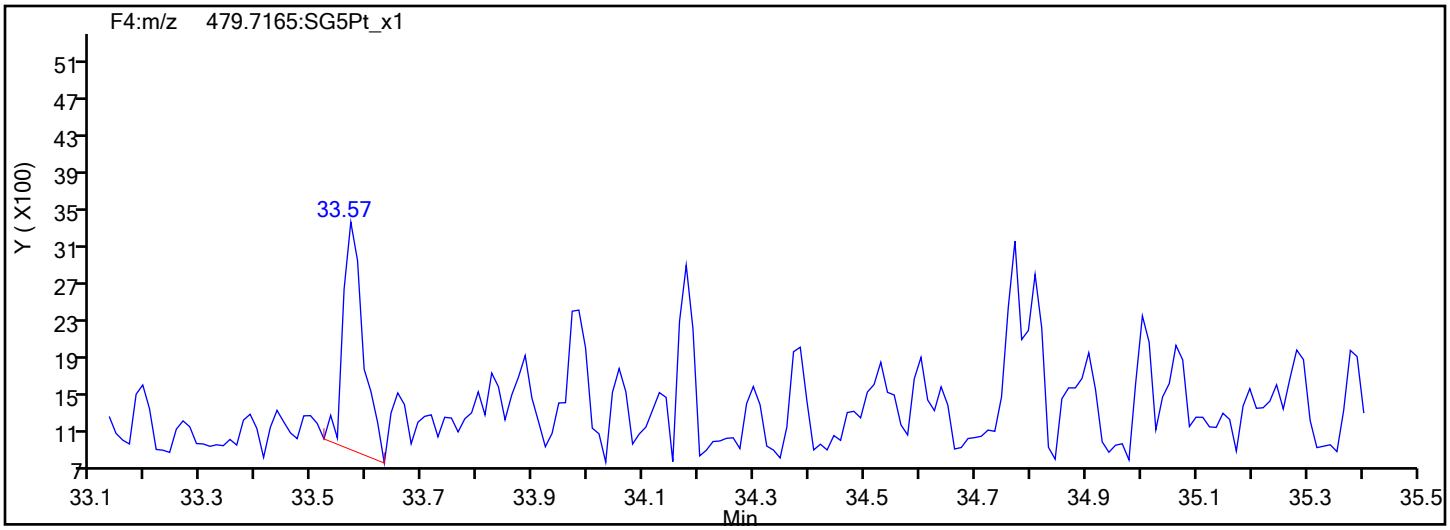

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Eurofins TestAmerica, Sacramento

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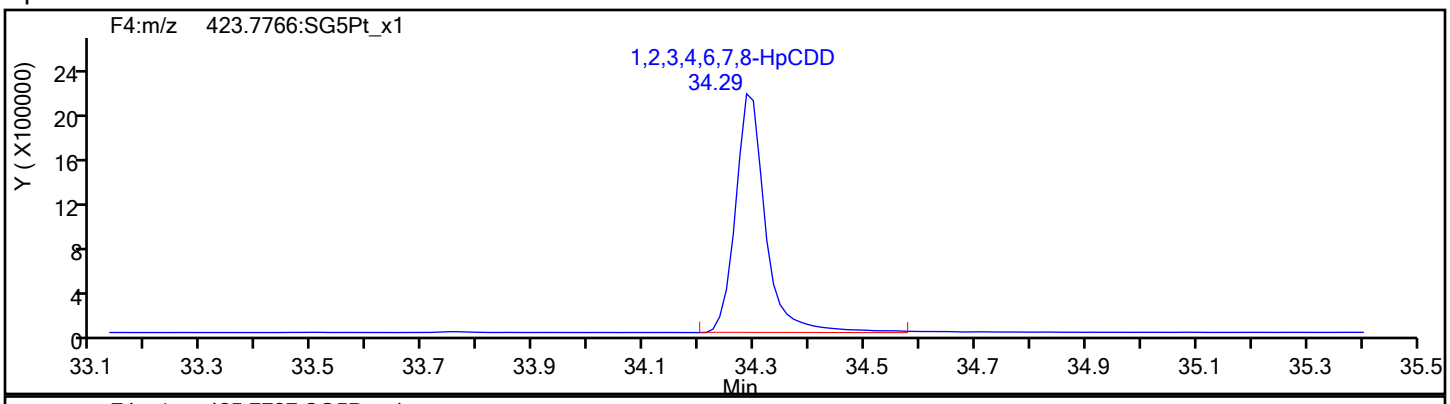

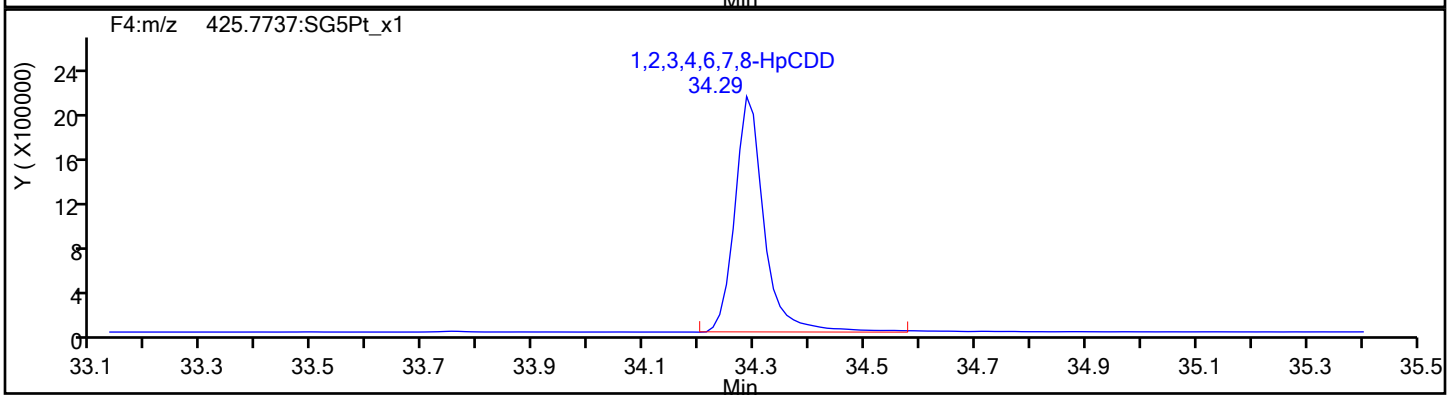

HpCDD Standards

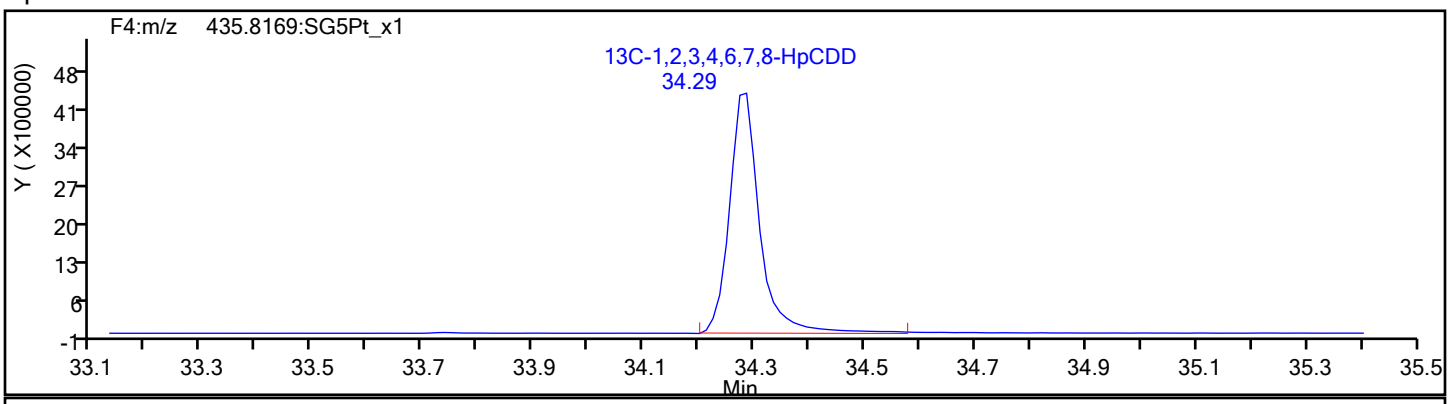

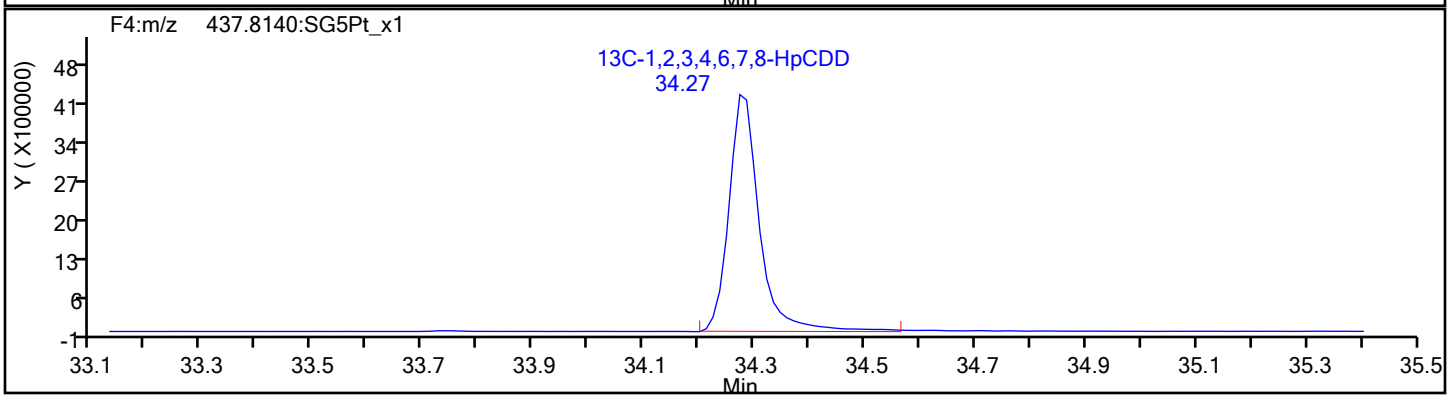

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Eurofins TestAmerica, Sacramento

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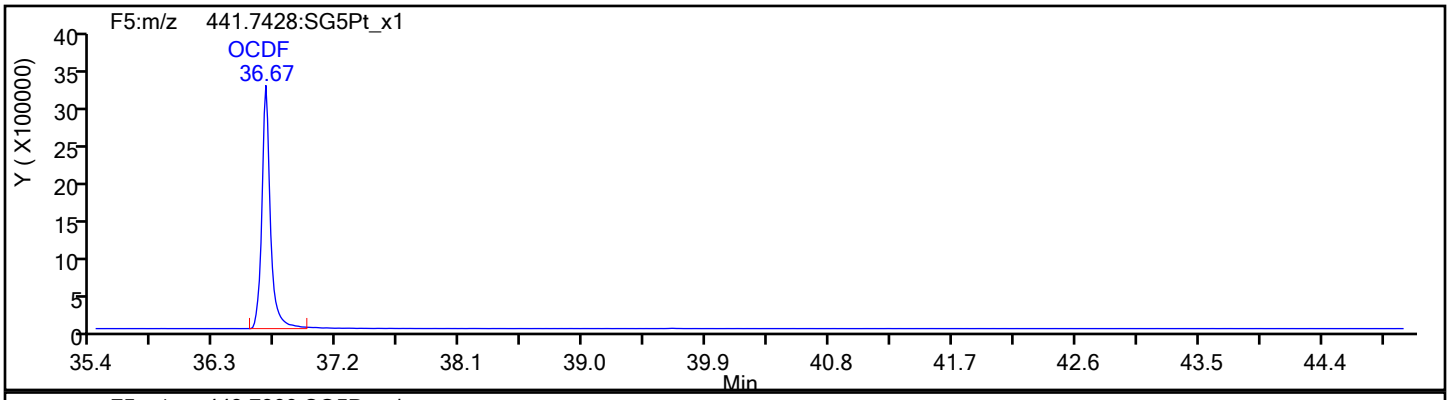

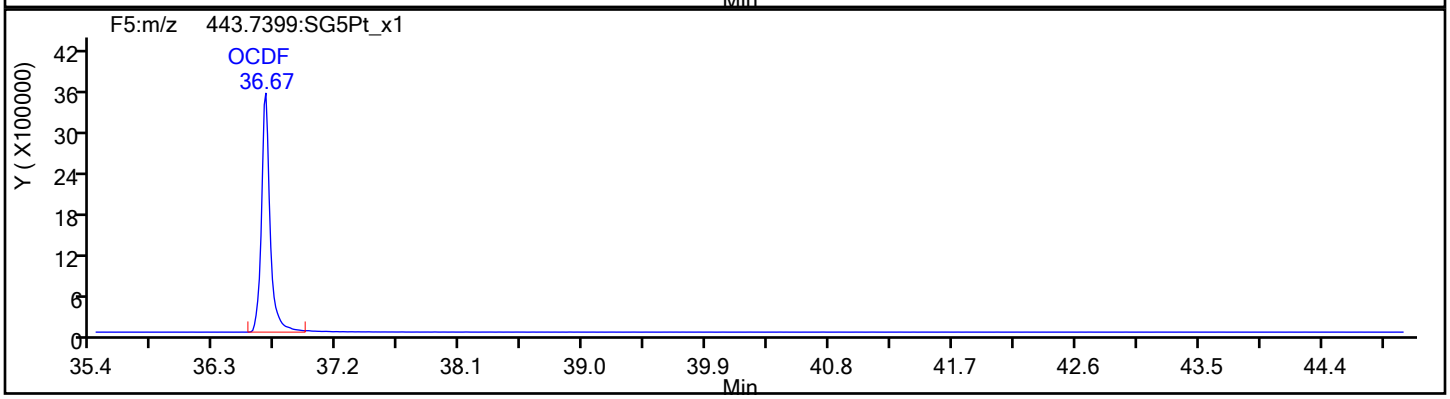

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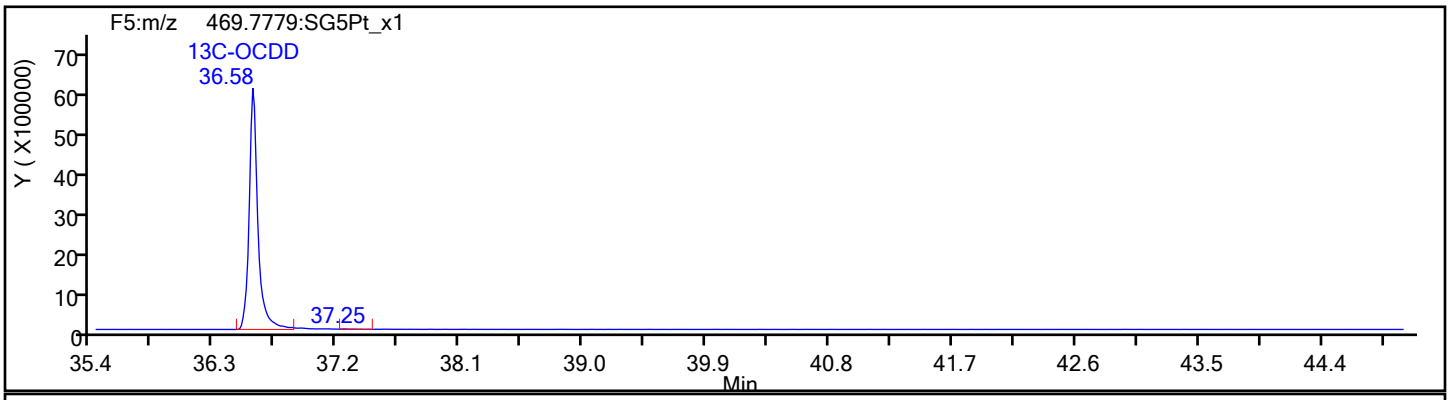

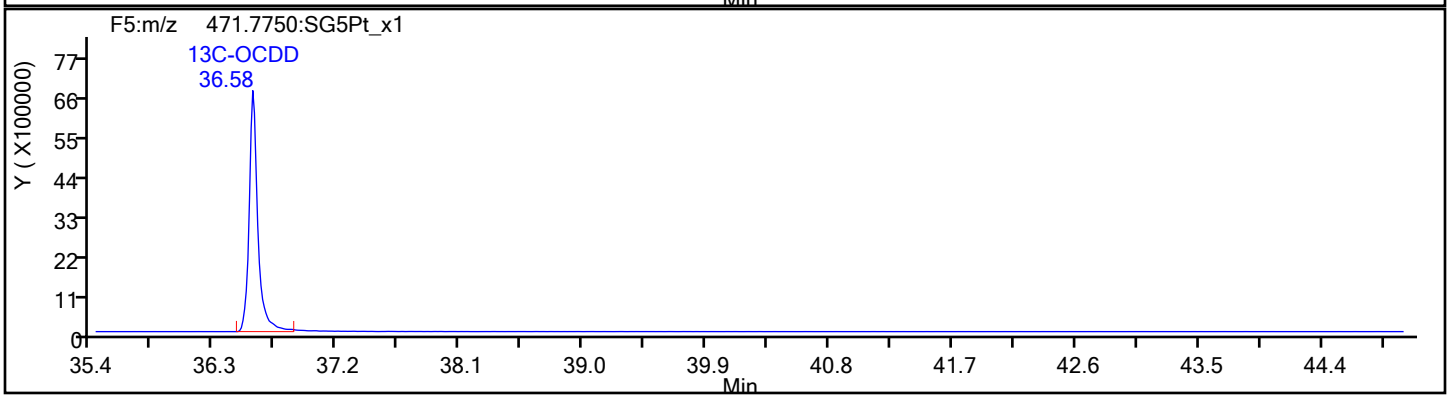

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Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

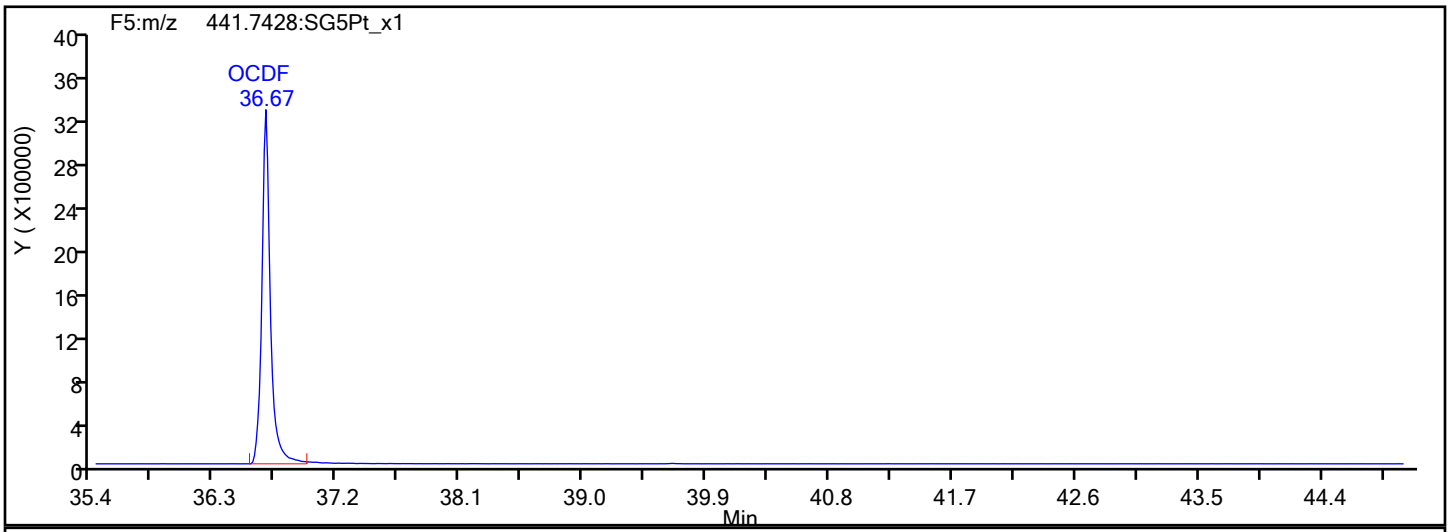

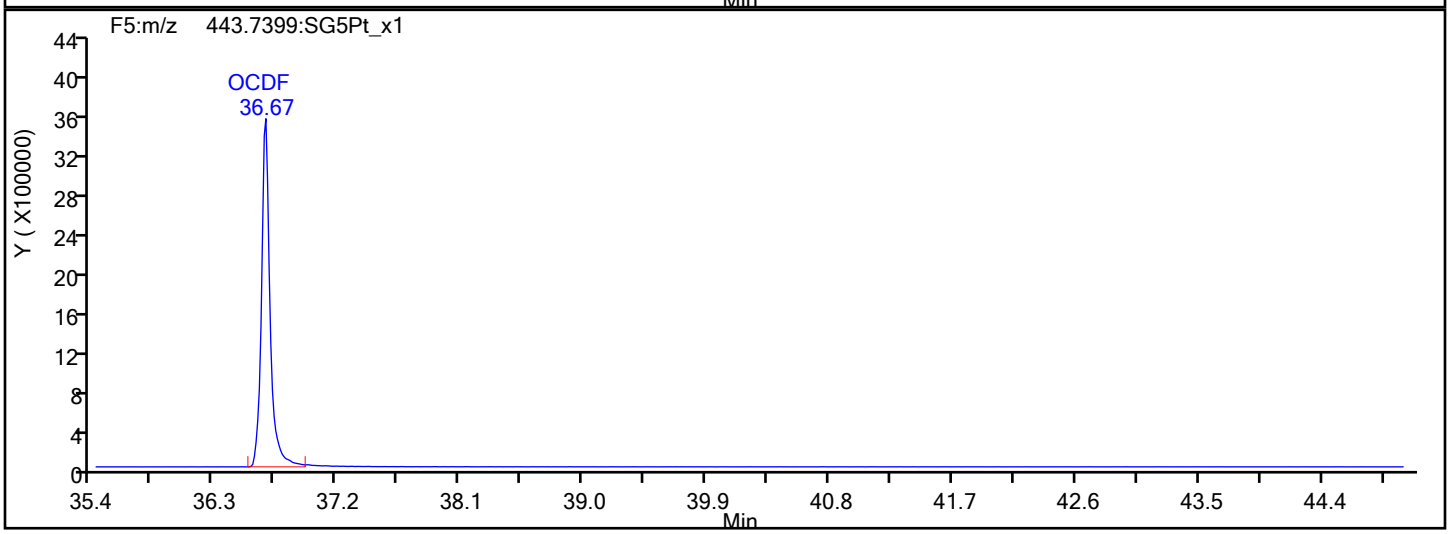

OCDF Interference Mass

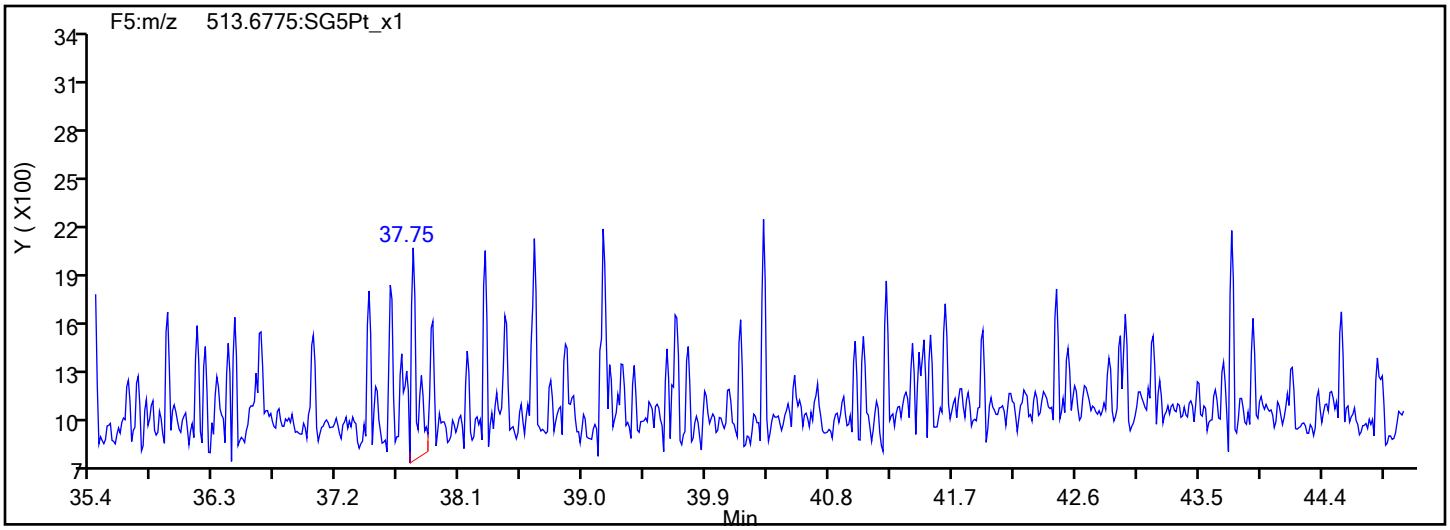

Report Date: 30-Jan-2020 09:33:46 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_6.d		
Injection Date:	30-Jan-2020 03:21:09	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

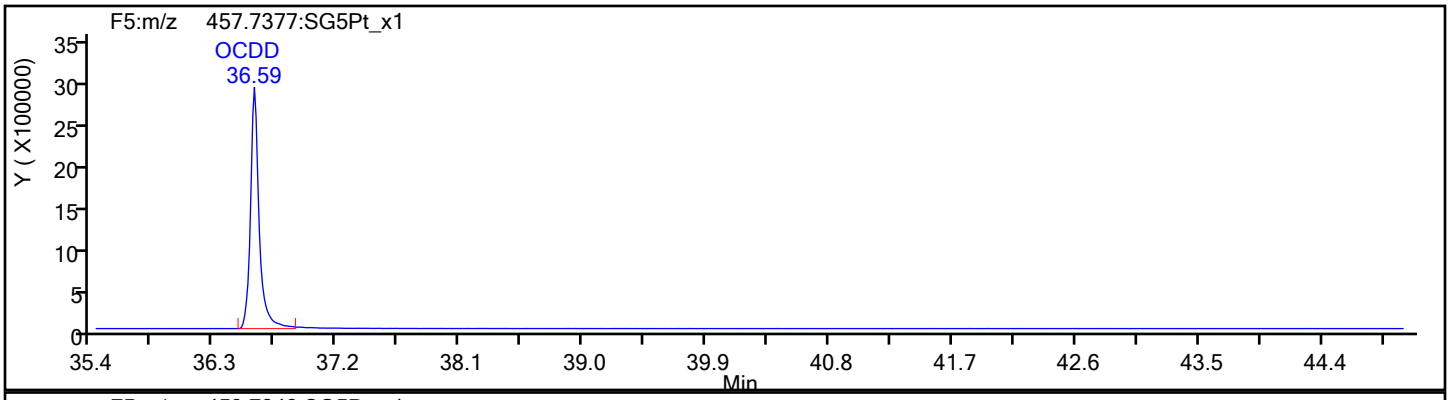

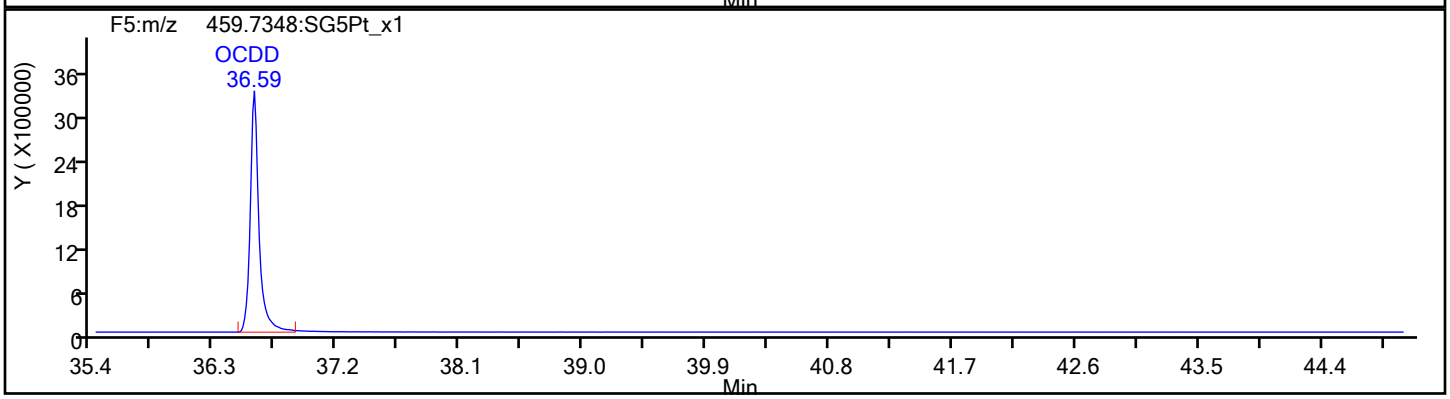

OCDD Standards

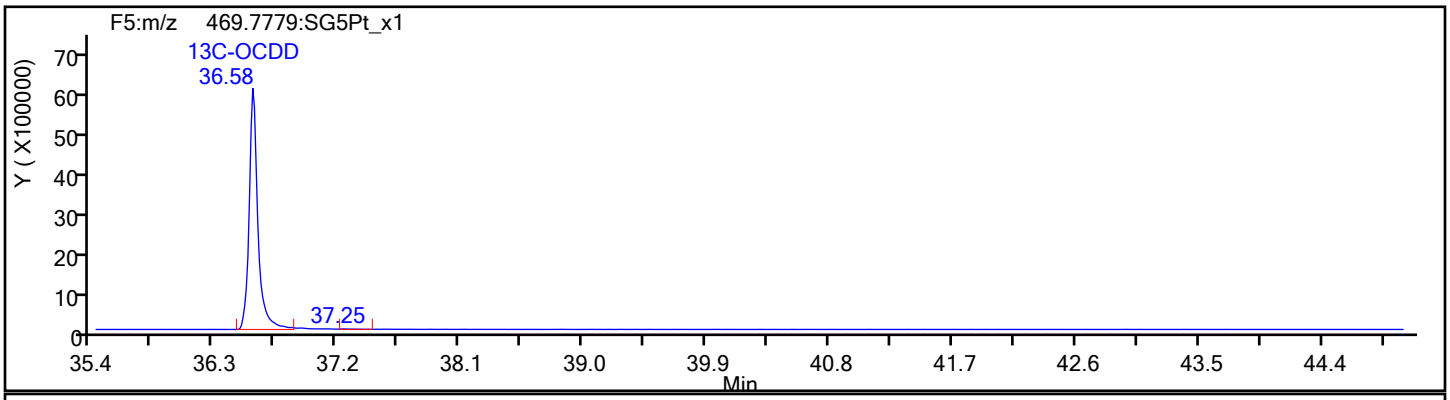

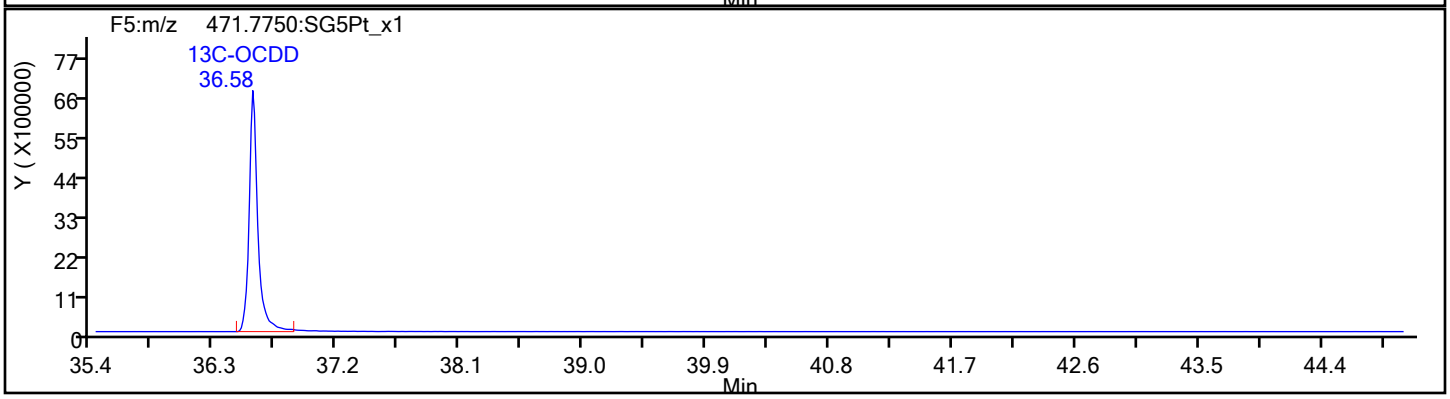

Report Date: 30-Jan-2020 09:33:46 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_6.d		
Injection Date:	30-Jan-2020 03:21:09	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

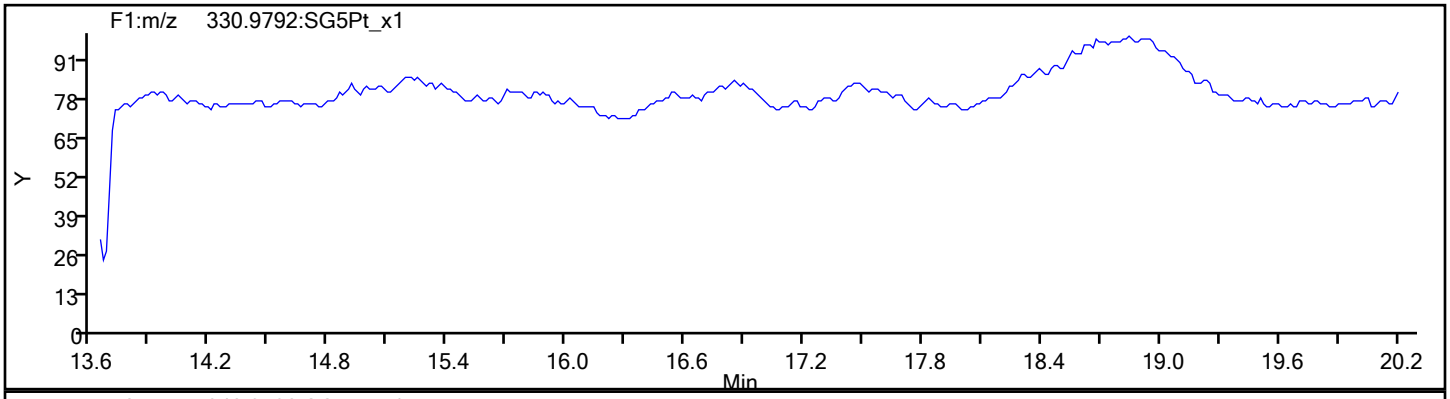

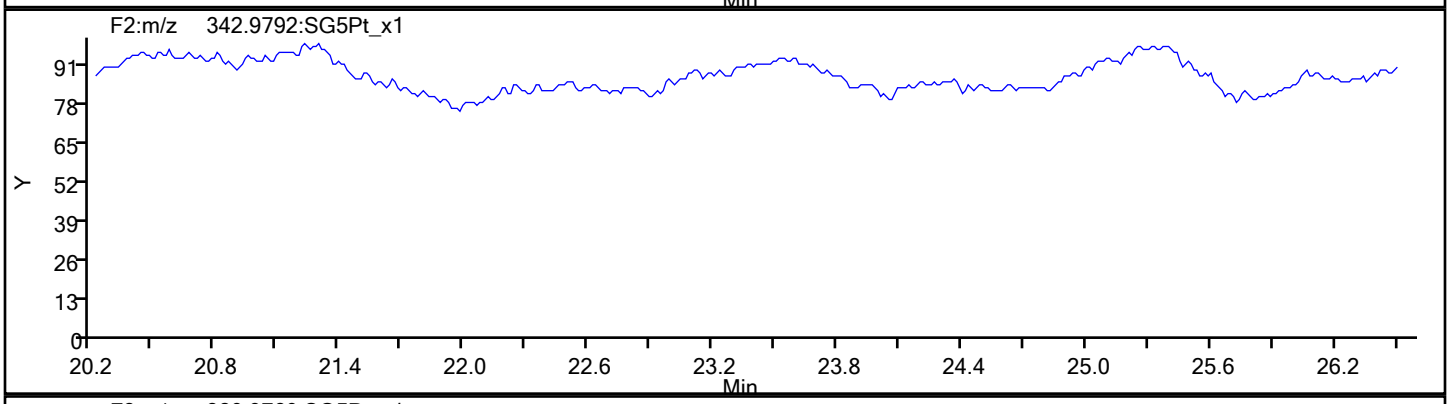

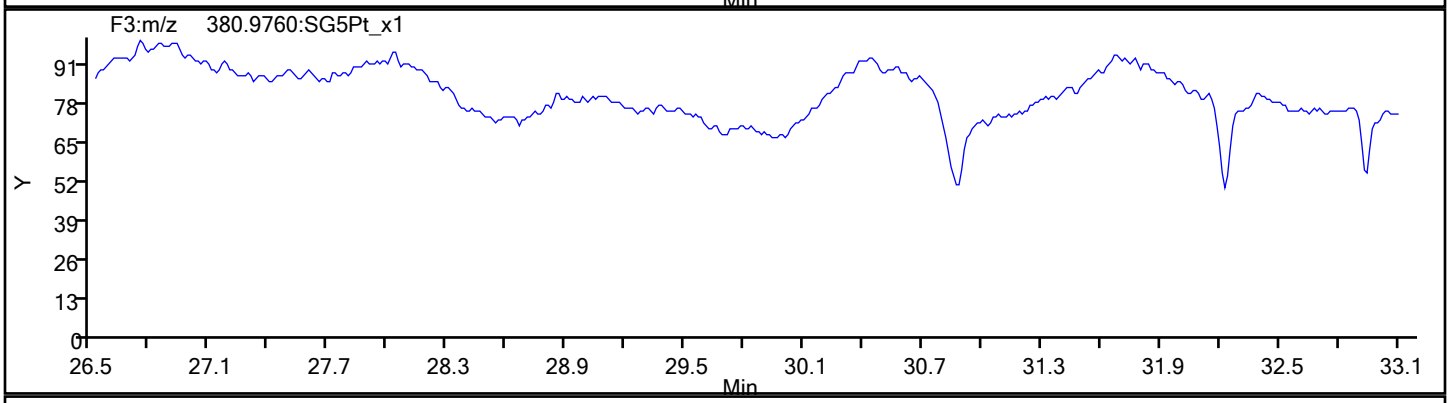

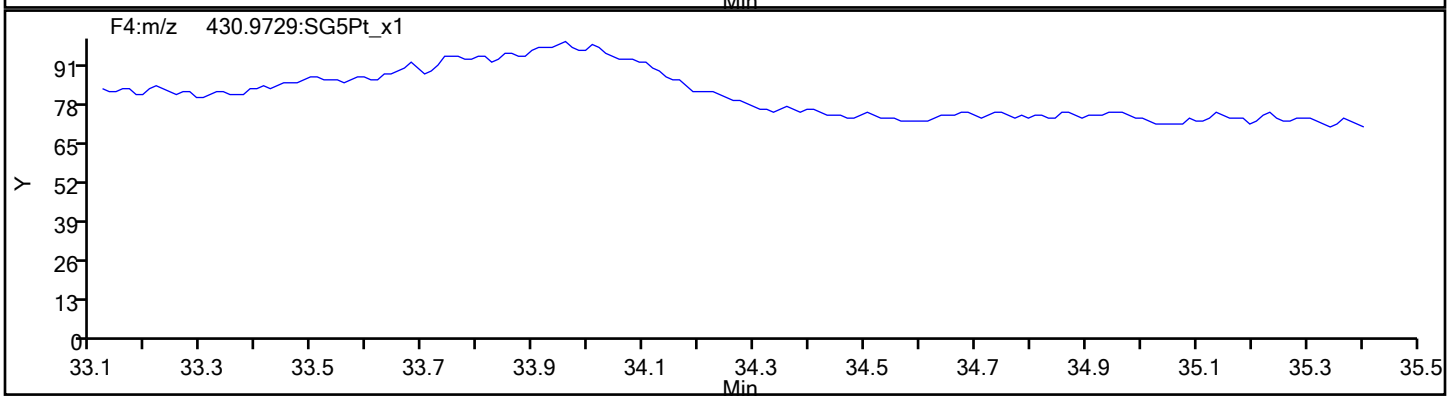

Report Date: 30-Jan-2020 09:33:46 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_6.d		
Injection Date:	30-Jan-2020 03:21:09	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

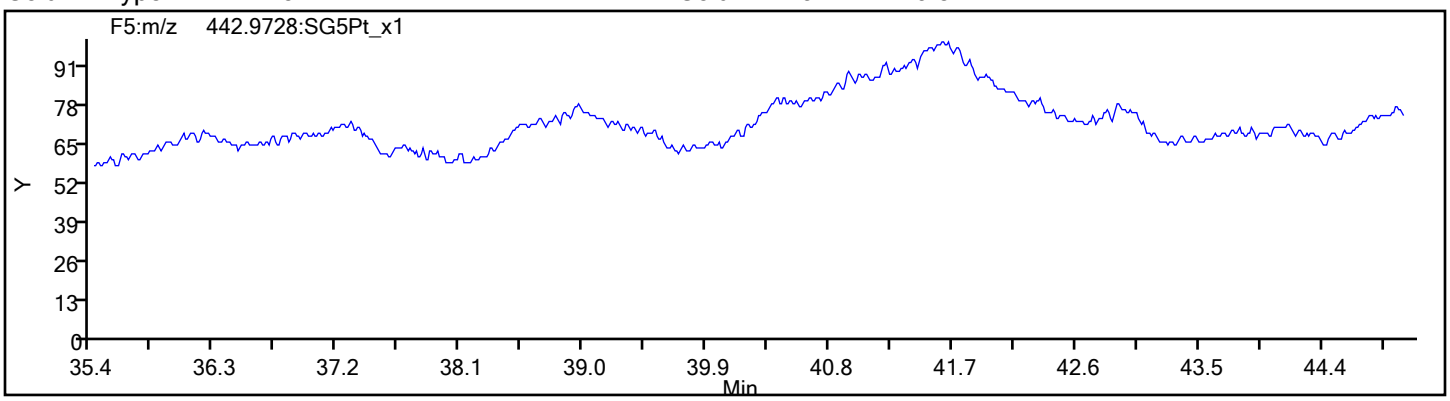

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_7.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 30-Jan-2020 04:07:08 ALS Bottle#: 6 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 012920C CS-5 HRDXNL5_00029
Misc. Info.: 29JA20B10D5
Operator ID: ALM Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 30-Jan-2020 09:34:13 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0321

First Level Reviewer: arghestanis Date: 30-Jan-2020 08:37:49

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.423	56344688	0.79	5.4E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.924	63967417	0.74	1.1275	100.7	100.7	0.2726	0.2726	101	
2,3,7,8-TCDF	16.939	20431926	0.73	0.7675	41.6	41.6	0.1036	0.1036	104	
S Total TCDF					41.6	41.6	0.1036	0.1036		
D 13C-2,3,7,8-TCDD	17.605	51144205	0.79	0.9032	100.5	100.5	0.1831	0.1831	101	
2,3,7,8-TCDD	17.635	20094350	0.76	0.9599	40.9	40.9	0.0570	0.0570	102	
$ 37Cl4-2,3,7,8-TCDD	17.635	23359364		0.9673	42.9	42.9	0.0821	0.0821	107	
S Total TCDD					40.9	40.9	0.0570	0.0570		
D 13C-1,2,3,7,8-PeCDF	21.760	53714045	1.54	0.9615	99.1	99.1	0.2392	0.2392	99.15	
1,2,3,7,8-PeCDF	21.774	100354025	1.53	0.8982	208.0	208.0	0.5914	0.5914	104	
D 13C-2,3,4,7,8-PeCDF	23.042	58863166	1.56	1.0393	100.5	100.5	0.2213	0.2213	101	
2,3,4,7,8-PeCDF	23.069	99521759	1.52	0.8101	208.7	208.7	0.6469	0.6469	104	
S Total PeCDF					416.7	416.7	0.6192	0.6192		
D 13C-1,2,3,7,8-PeCDD	23.737	38740832	1.62	0.6938	99.1	99.1	0.1198	0.1198	99.10	
1,2,3,7,8-PeCDD	23.764	80246961	1.56	0.9961	208.0	208.0	0.2208	0.2208	104	
S Total PeCDD					208.0	208.0	0.2208	0.2208		
D 13C-1,2,3,4,7,8-HxCDF	29.886	39824520	0.49	0.8543	103.6	103.6	0.3161	0.3161	104	
1,2,3,4,7,8-HxCDF	29.913	66495631	1.20	0.7916	210.9	210.9	1.011	1.011	105	
D 13C-1,2,3,6,7,8-HxCDF	30.126	38395283	0.49	0.8361	102.0	102.0	0.3230	0.3230	102	
1,2,3,6,7,8-HxCDF	30.152	70250838	1.21	0.8638	211.8	211.8	0.9255	0.9255	106	
D 13C-2,3,4,6,7,8-HxCDF	31.111	35563872	0.49	0.7773	101.6	101.6	0.3474	0.3474	102	
2,3,4,6,7,8-HxCDF	31.124	67331592	1.19	0.9010	210.1	210.1	0.6417	0.6417	105	
D 13C-1,2,3,7,8,9-HxCDF	32.003	32406883	0.50	0.7167	100.4	100.4	0.3768	0.3768	100	
1,2,3,7,8,9-HxCDF	32.016	62323134	1.21	0.9127	210.7	210.7	0.6418	0.6418	105	
S Total HxCDF					843.6	843.6	0.8049	0.8049		
* 13C-1,2,3,7,8,9-HxCDD	31.803	45014984	1.23	4.4E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.324	38415840	1.22	0.8050	106.0	106.0	0.2144	0.2144	106	
1,2,3,4,7,8-HxCDD	31.337	65382847	1.22	0.8392	202.8	202.8	0.4242	0.4242	101	
D 13C-1,2,3,6,7,8-HxCDD	31.444	36689566	1.22	0.8269	98.6	98.6	0.2087	0.2087	98.56	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.457	68785725	1.23	0.8876	211.2	211.2	0.4274	0.4274	106	
1,2,3,7,8,9-HxCDD	31.817	73450360	1.22	0.9567	204.4	204.4	0.3839	0.3839	102	
S Total HxCDD					618.5	618.5	0.4118	0.4118		
D 13C-1,2,3,4,6,7,8-HpCDF	33.509	32606646	0.42	0.7080	102.3	102.3	1.111	1.111	102	
1,2,3,4,6,7,8-HpCDF	33.521	89887019	1.02	1.3375	206.1	206.1	1.416	1.416	103	
D 13C-1,2,3,4,7,8,9-HpCDF	34.566	35066339	0.42	0.7451	104.5	104.5	1.056	1.056	105	
1,2,3,4,7,8,9-HpCDF	34.578	77825210	1.02	1.0744	206.6	206.6	1.948	1.948	103	
S Total HpCDF					412.7	412.7	1.682	1.682		
D 13C-1,2,3,4,6,7,8-HpCDD	34.286	34719607	1.05	0.7473	103.2	103.2	0.4051	0.4051	103	
1,2,3,4,6,7,8-HpCDD	34.299	69966787	1.03	0.9811	205.4	205.4	0.7472	0.7472	103	
S Total HpCDD					205.4	205.4	0.7472	0.7472		
D 13C-OCDD	36.578	61805942	0.90	0.6622	207.3	207.3	0.0999	0.0999	104	
OCDF	36.674	138188549	0.91	1.0659	419.5	419.5	0.1625	0.1625	105	
OCDD	36.590	125200375	0.87	0.9937	407.7	407.7	0.1948	0.1948	102	

Reagents:

HRDXNL5_00029 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_7.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 30-Jan-2020 04:07:08 ALS Bottle#: 6 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 012920C CS-5 HRDXNL5_00029
Misc. Info.: 29JA20B10D5
Operator ID: ALM Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 30-Jan-2020 09:34:13 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0321

First Level Reviewer: arghestanis Date: 30-Jan-2020 08:37:49

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.423	17.411	1		24918895	6413165	5319	13297	1206		
333.9339	17.423	17.411	1		31425793	8083203	4268	10670	1894	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.924	16.924	0	0.971	27263402	6775254	6447	16117	1051		
317.9389	16.924	16.924	0	0.971	36704015	9026637	11378	28445	793	0.74(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.939	16.939	0	1.001	8611489	2112775	2168	5420	975		
305.8987	16.939	16.939	0	1.001	11820437	2935795	2856	7140	1028	0.73(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.605	17.605	0	1.010	22629417	5403614	5319	13297	1016		
333.9339	17.605	17.605	0	1.010	28514788	6811236	4268	10670	1596	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.635	17.623	1	1.002	8683678	2076733	1645	4112	1262		
321.8936	17.635	17.623	1	1.002	11410672	2699534	1029	2572	2623	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.635	17.623	1	1.012	23359364	5439606	4606	11515	1181		
13C-1,2,3,7,8-PeCDF											
351.9000	21.760	21.749	1	1.249	32602148	6023144	7875	19687	765		
353.8970	21.760	21.749	1	1.249	21111897	3901668	5459	13647	715	1.54(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.774	21.773	0	1.001	60664487	10898088	12725	31812	856		
341.8567	21.774	21.773	0	1.001	39689538	7217860	8362	20905	863	1.53(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	23.042	23.042	0	1.322	35889193	6093734	7875	19687	774		
353.8970	23.042	23.042	0	1.322	22973973	3965669	5459	13647	726	1.56(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.069	23.066	0	1.001	59996164	10201913	12725	31812	802		
341.8567	23.069	23.066	0	1.001	39525595	6752605	8362	20905	808	1.52(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.737	23.737	0	1.362	23942832	3982779	2717	6792	1466		
369.8919	23.737	23.737	0	1.362	14798000	2431501	2101	5252	1157	1.62(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.764	23.761	0	1.001	48865636	7729681	3471	8677	2227		
357.8516	23.764	23.761	0	1.001	31381325	5028052	2171	5427	2316	1.56(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.886	29.878	0	0.940	13053823	1848733	3940	9850	469		
385.8610	29.886	29.878	0	0.940	26770697	3796485	7582	18955	501	0.49(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.913	29.905	0	1.001	36317735	5169258	9859	24647	524		
375.8178	29.913	29.905	0	1.001	30177896	4295382	8206	20515	523	1.20(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.126	30.118	0	0.947	12615779	1867897	3940	9850	474		
385.8610	30.126	30.118	0	0.947	25779504	3781007	7582	18955	499	0.49(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.152	30.142	1	1.001	38440373	5585107	9859	24647	566		
375.8178	30.139	30.142	0	1.000	31810465	4655149	8206	20515	567	1.21(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.111	31.108	0	0.978	11658043	2581420	3940	9850	655		
385.8610	31.111	31.108	0	0.978	23905829	5229343	7582	18955	690	0.49(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.124	31.124	0	1.000	36627754	7795490	9859	24647	791		
375.8178	31.124	31.124	0	1.000	30703838	6624620	8206	20515	807	1.19(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.003	31.992	1	1.006	10815262	2569798	3940	9850	652		
385.8610	32.003	31.992	1	1.006	21591621	5140179	7582	18955	678	0.50(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.016	32.008	1	1.000	34091638	8022160	9859	24647	814		
375.8178	32.016	32.008	1	1.000	28231496	6621511	8206	20515	807	1.21(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.803	31.803	0		24849989	5909668	4012	10030	1473		
403.8529	31.803	31.803	0		20164995	4757026	3351	8377	1420	1.23(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.324	31.324	0	0.985	21127959	4897526	4012	10030	1221		
403.8529	31.324	31.324	0	0.985	17287881	4043040	3351	8377	1207	1.22(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.337	31.337	0	1.000	35925775	8301817	7193	17982	1154		
391.8127	31.337	31.337	0	1.000	29457072	6813746	5537	13842	1231	1.22(1.05-1.43)	

Report Date: 30-Jan-2020 09:34:39 Chrom Revision: 2.3 14-Jan-2020 22:23:42
Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_7.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.444	31.441	0	0.989	20195378	4604820	4012	10030	1148		
403.8529	31.444	31.441	0	0.989	16494188	3783906	3351	8377	1129	1.22(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.457	31.457	0	1.000	37874484	8431654	7193	17982	1172		
391.8127	31.457	31.457	0	1.000	30911241	6995578	5537	13842	1263	1.23(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.817	31.816	0	1.016	40428679	9548794	7193	17982	1328		
391.8127	31.817	31.816	0	1.016	33021681	7860633	5537	13842	1420	1.22(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.509	33.499	1	1.054	9717611	3128467	10512	26280	298		
419.8220	33.509	33.499	1	1.054	22889035	7189827	23056	57640	312	0.42(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.521	33.511	1	1.000	45385713	13954433	45607	114017	306		
409.7789	33.509	33.511	0	1.000	44501306	13711212	32566	81415	421	1.02(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.566	34.563	0	1.087	10385879	2793020	10512	26280	266		
419.8220	34.566	34.563	0	1.087	24680460	6542143	23056	57640	284	0.42(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.578	34.570	0	1.000	39321691	10252695	45607	114017	225		
409.7789	34.578	34.570	0	1.000	38503519	9874404	32566	81415	303	1.02(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.286	34.279	0	1.078	17764191	4998249	5856	14640	854		
437.8140	34.286	34.279	0	1.078	16955416	4736589	7061	17652	671	1.05(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.299	34.288	1	1.000	35555988	9644694	13910	34775	693		
425.7737	34.286	34.288	0	1.000	34410799	9229955	14636	36590	631	1.03(0.88-1.20)	
13C-OCDD											
469.7779	36.578	36.578	0	1.150	29252794	6867044	1371	3427	5009		
471.7750	36.578	36.578	0	1.150	32553148	7810240	1451	3627	5383	0.90(0.76-1.02)	
OCDF											
441.7428	36.674	36.674	0	1.003	65700450	16019534	2770	6925	5783		
443.7399	36.674	36.674	0	1.003	72488099	17584795	2315	5787	7596	0.91(0.76-1.02)	
OCDD											
457.7377	36.590	36.590	0	1.000	58268003	13871924	2665	6662	5205		
459.7348	36.590	36.590	0	1.000	66932372	15818464	3018	7545	5241	0.87(0.76-1.02)	

Reagents:

HRDXNL5_00029 Amount Added: 2.00 Units: uL

Report Date: 30-Jan-2020 09:34:39 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Injection Date:	30-Jan-2020 04:07:08	Injection Vol:	2.0 ul
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

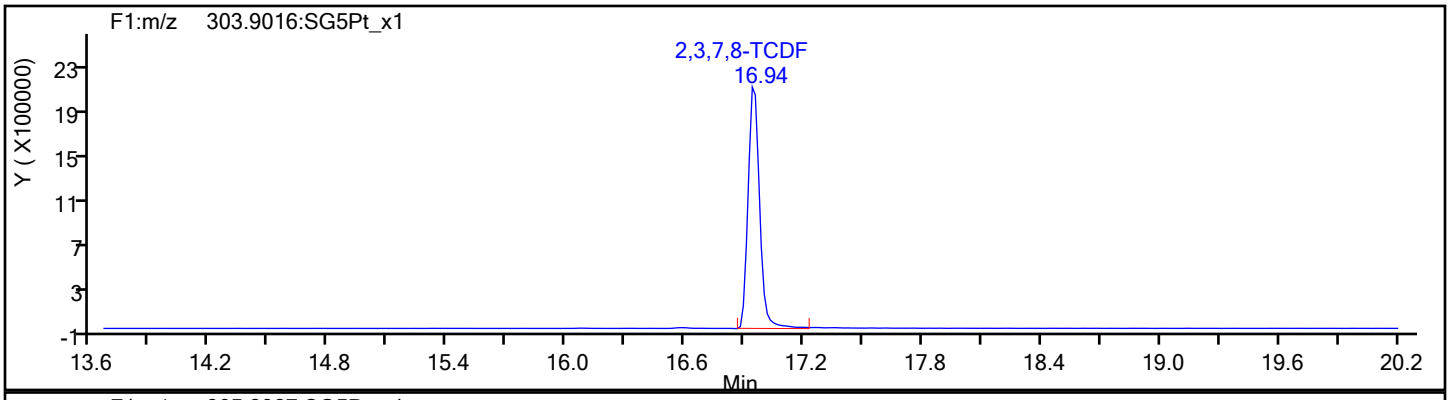

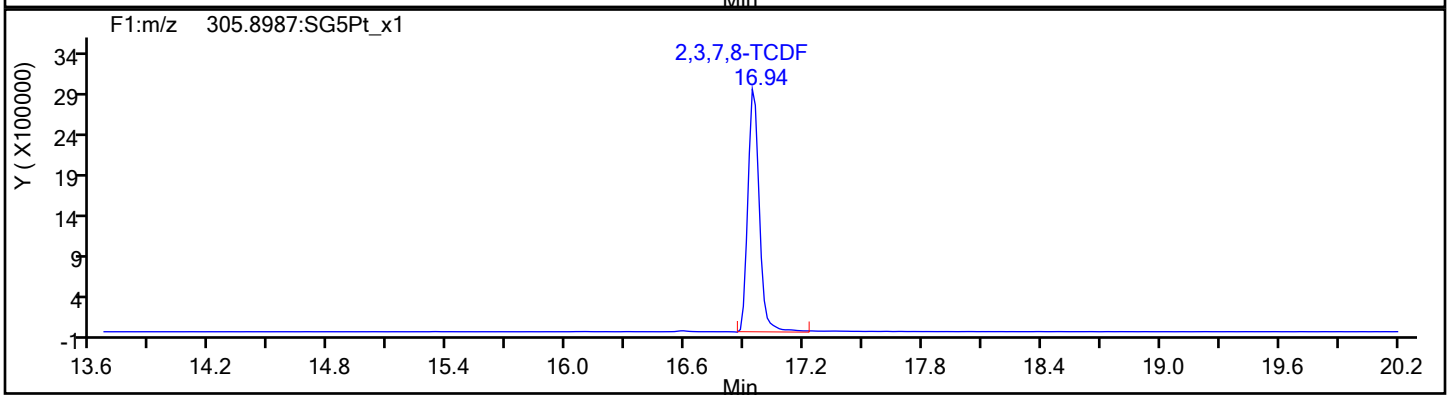

TCDF Standards

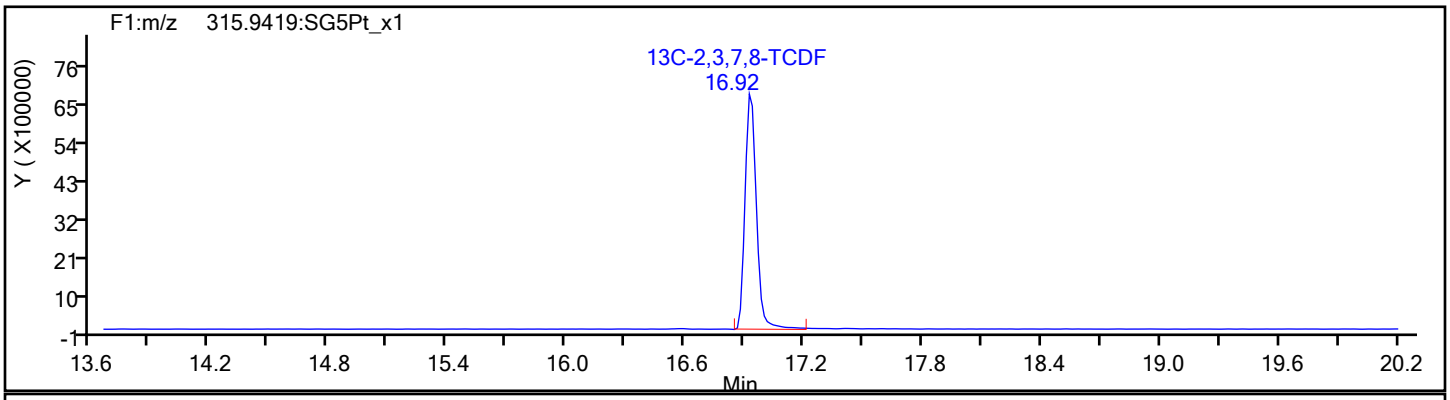

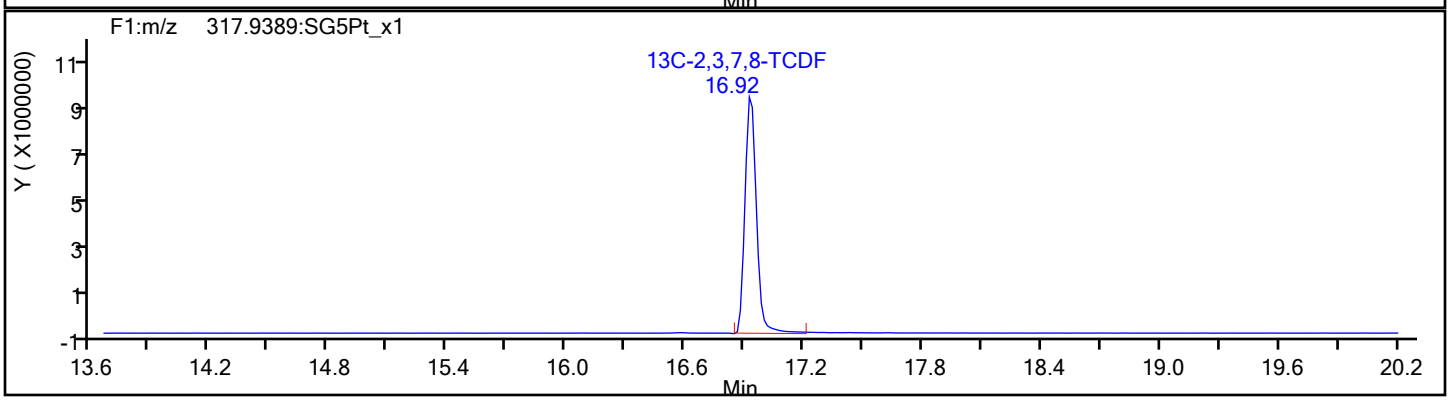

Report Date: 30-Jan-2020 09:34:39 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Client ID:			
Worklist#:	353986	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

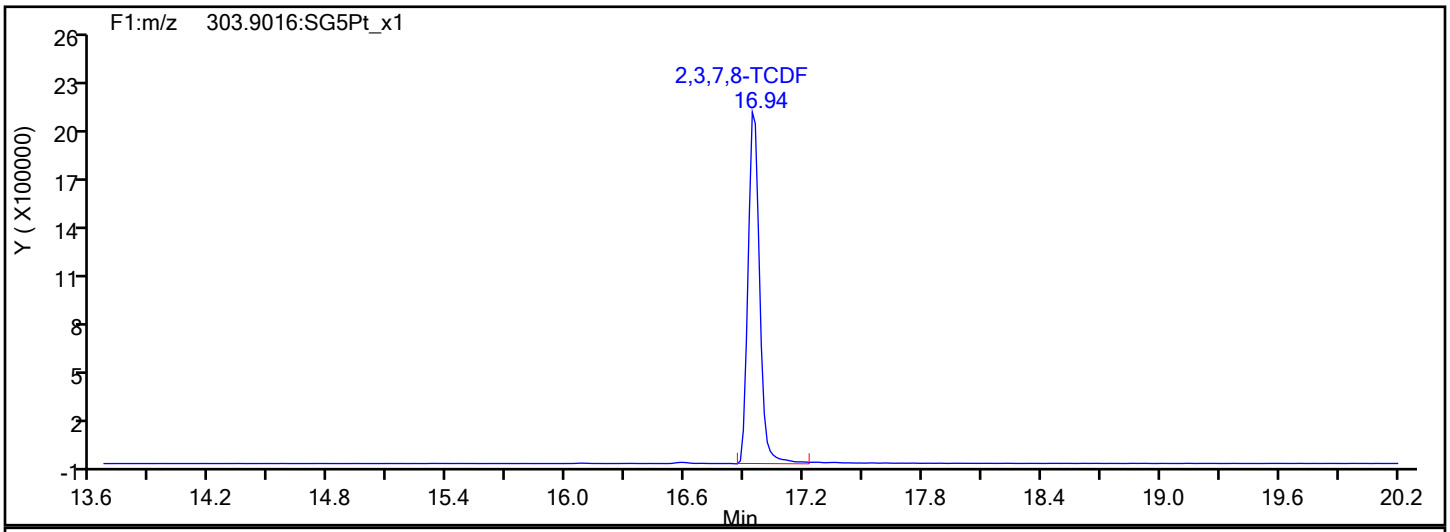

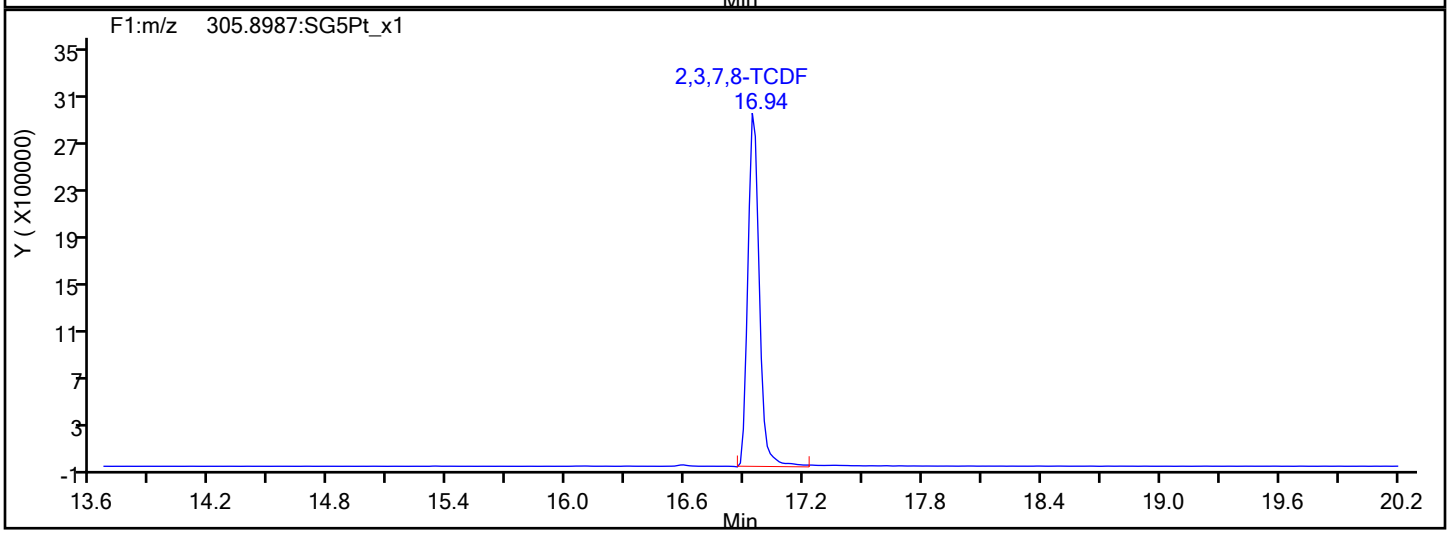

TCDF Interference Mass

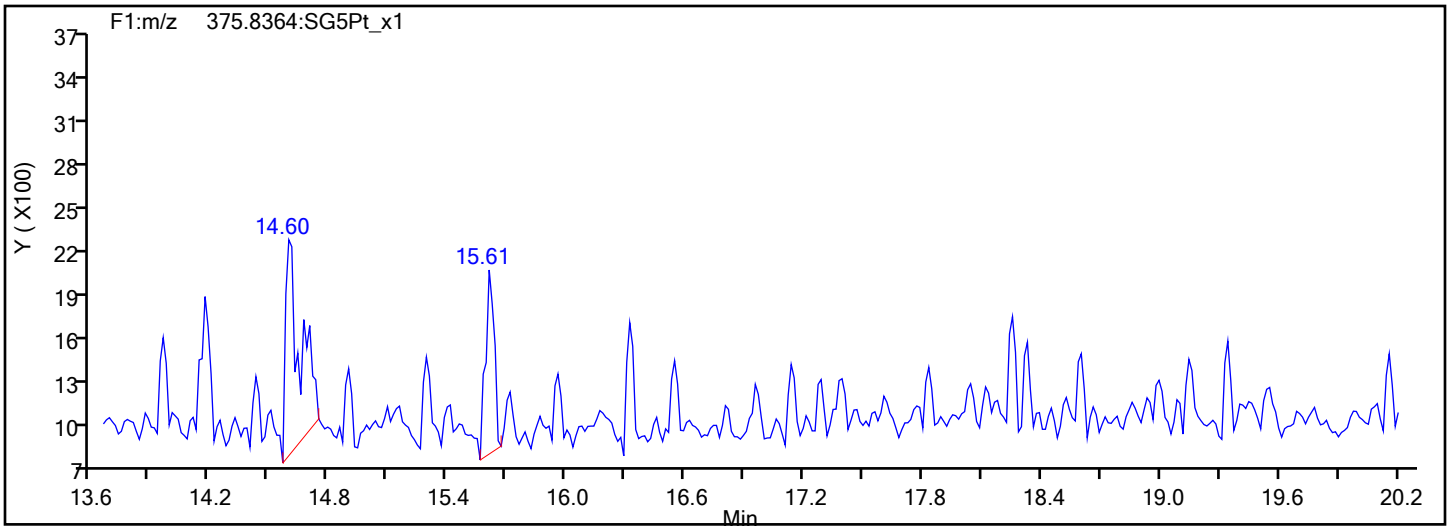

Report Date: 30-Jan-2020 09:34:39 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

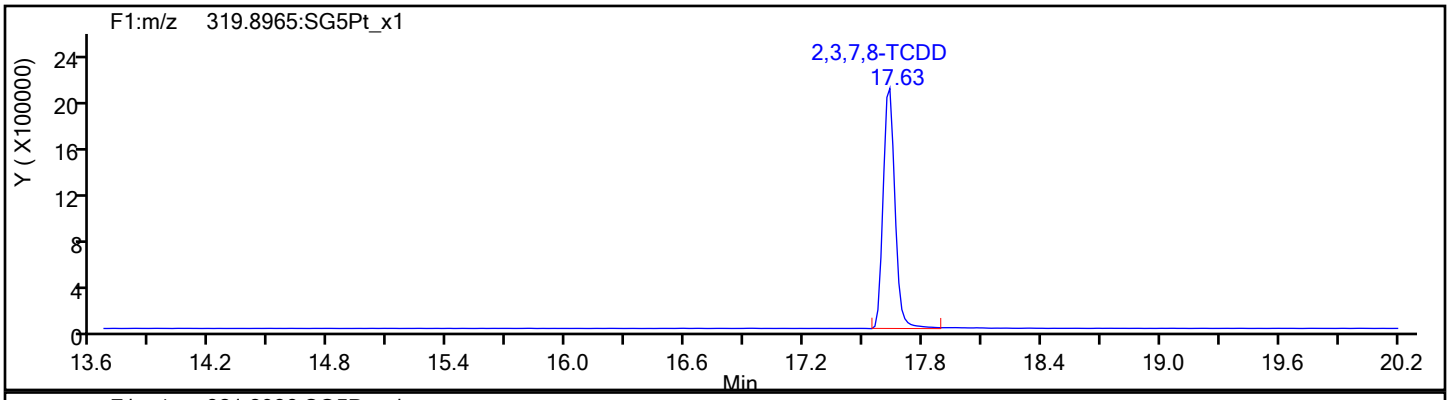

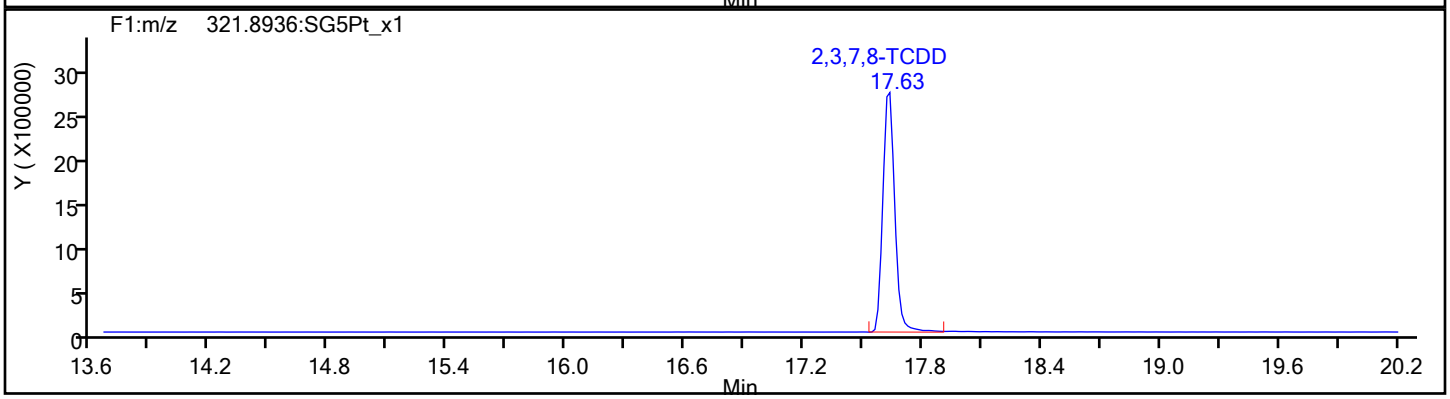

TCDD Standards

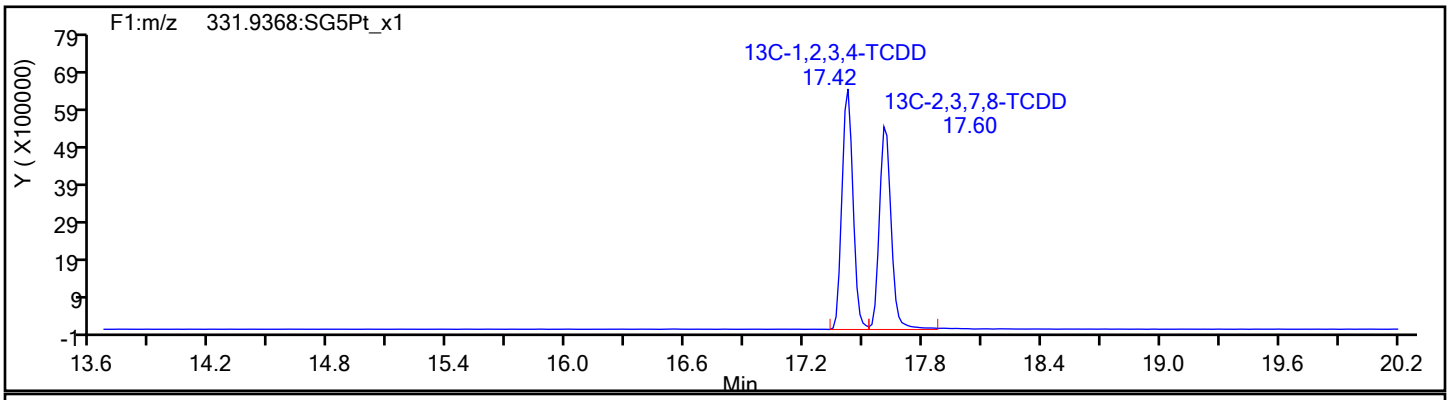

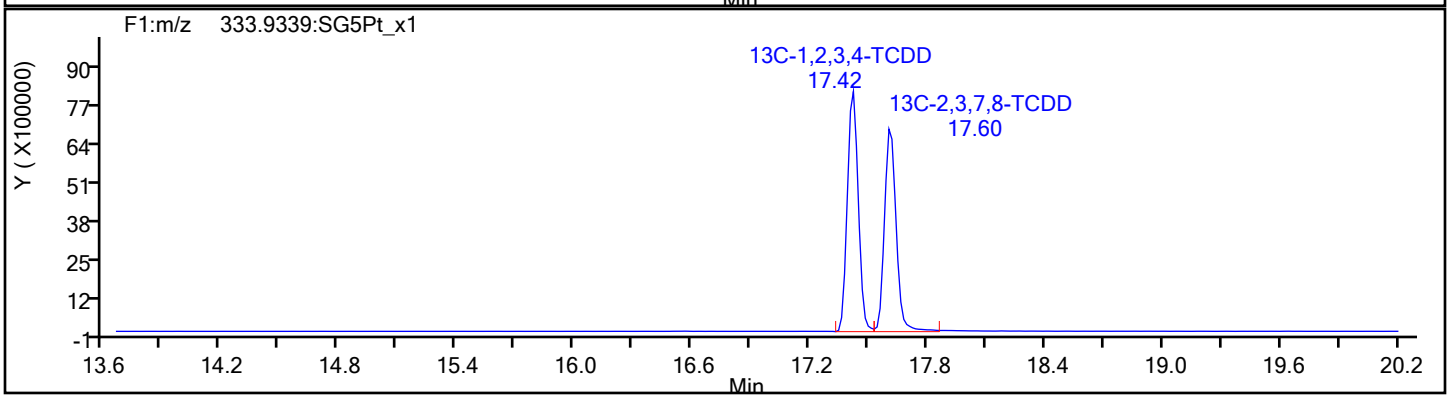

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Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

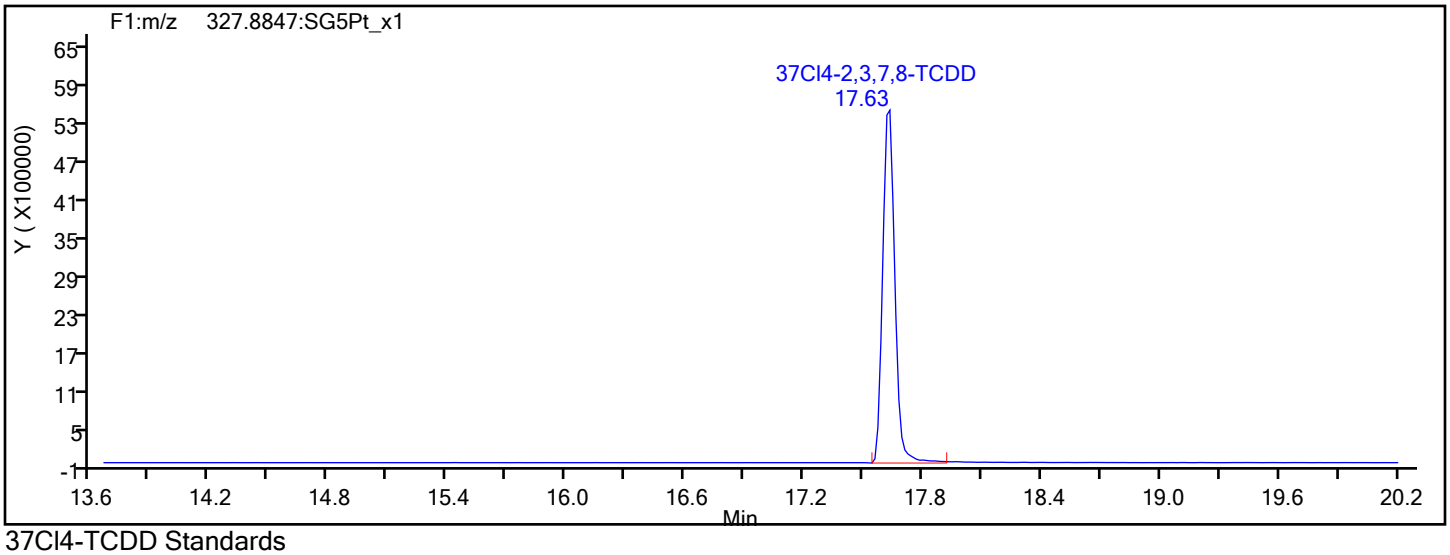

37Cl4-TCDD Standards

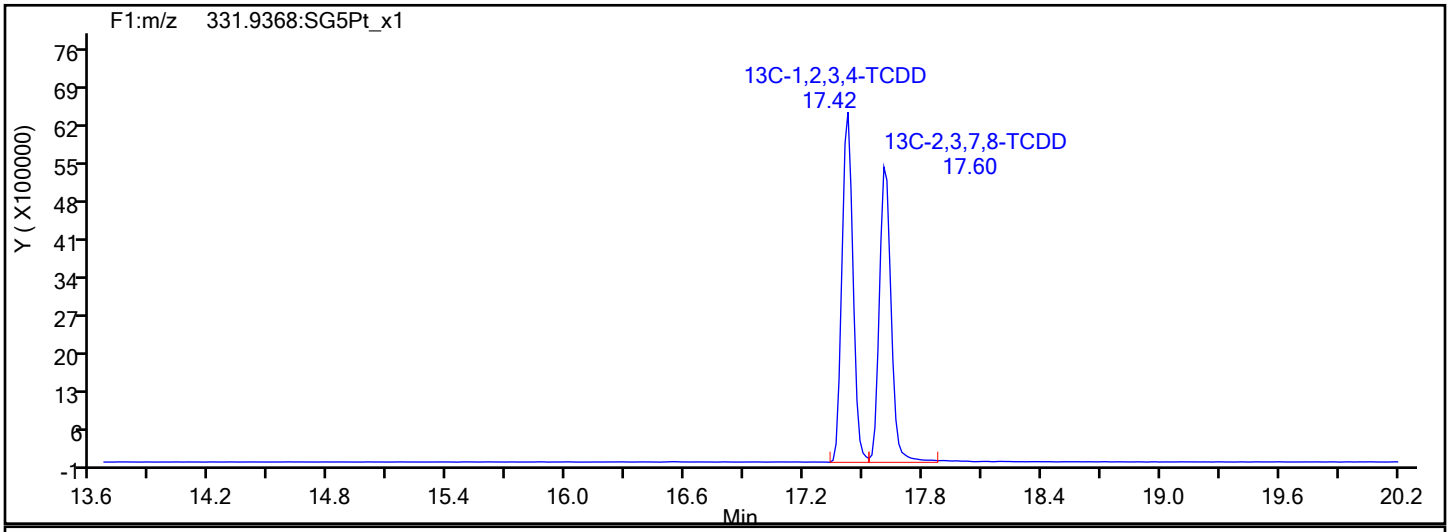

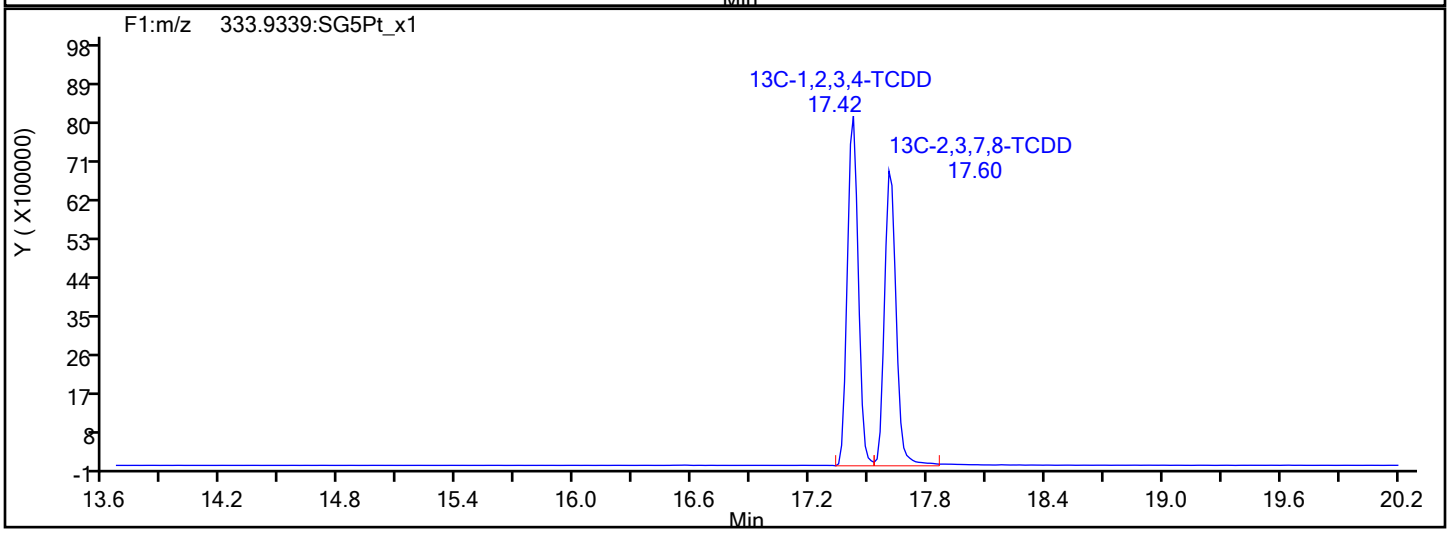

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

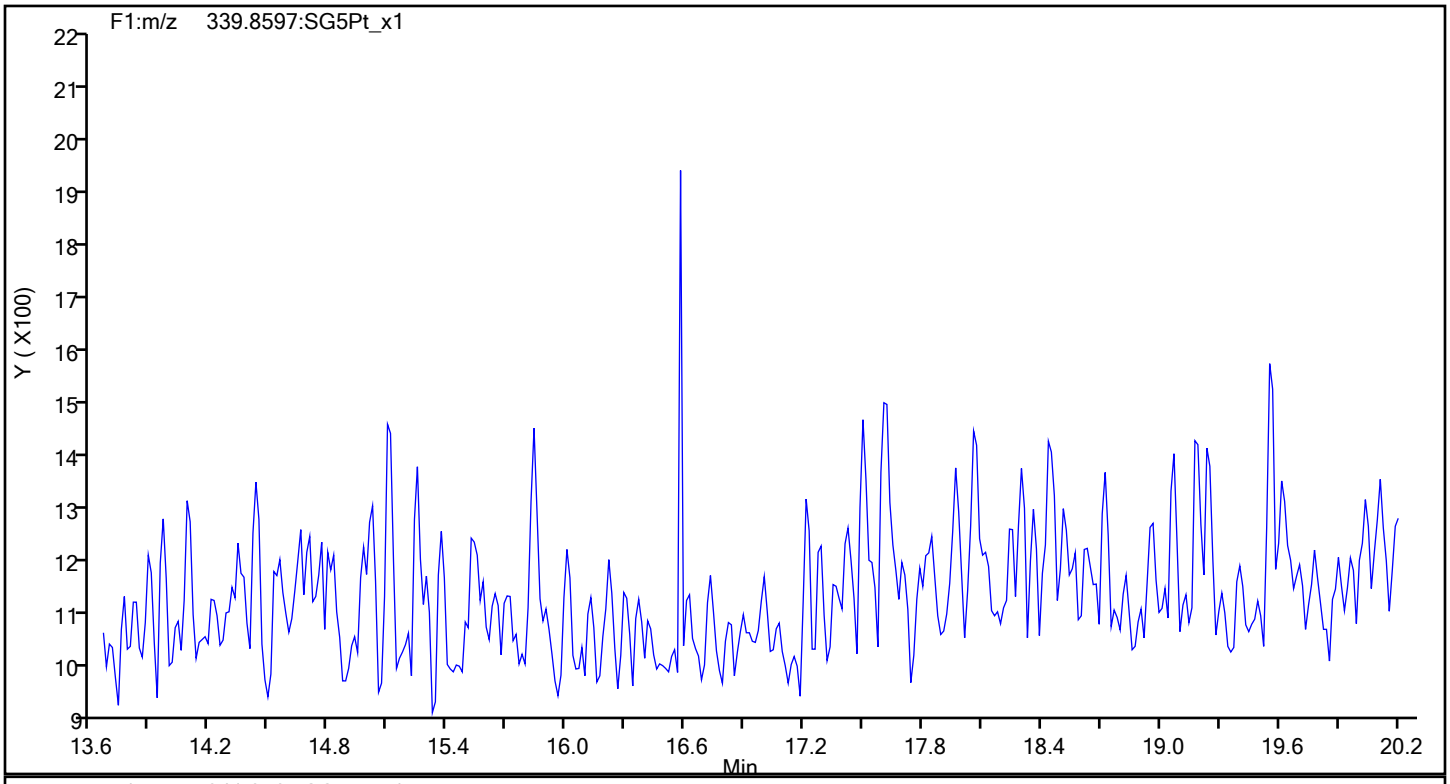

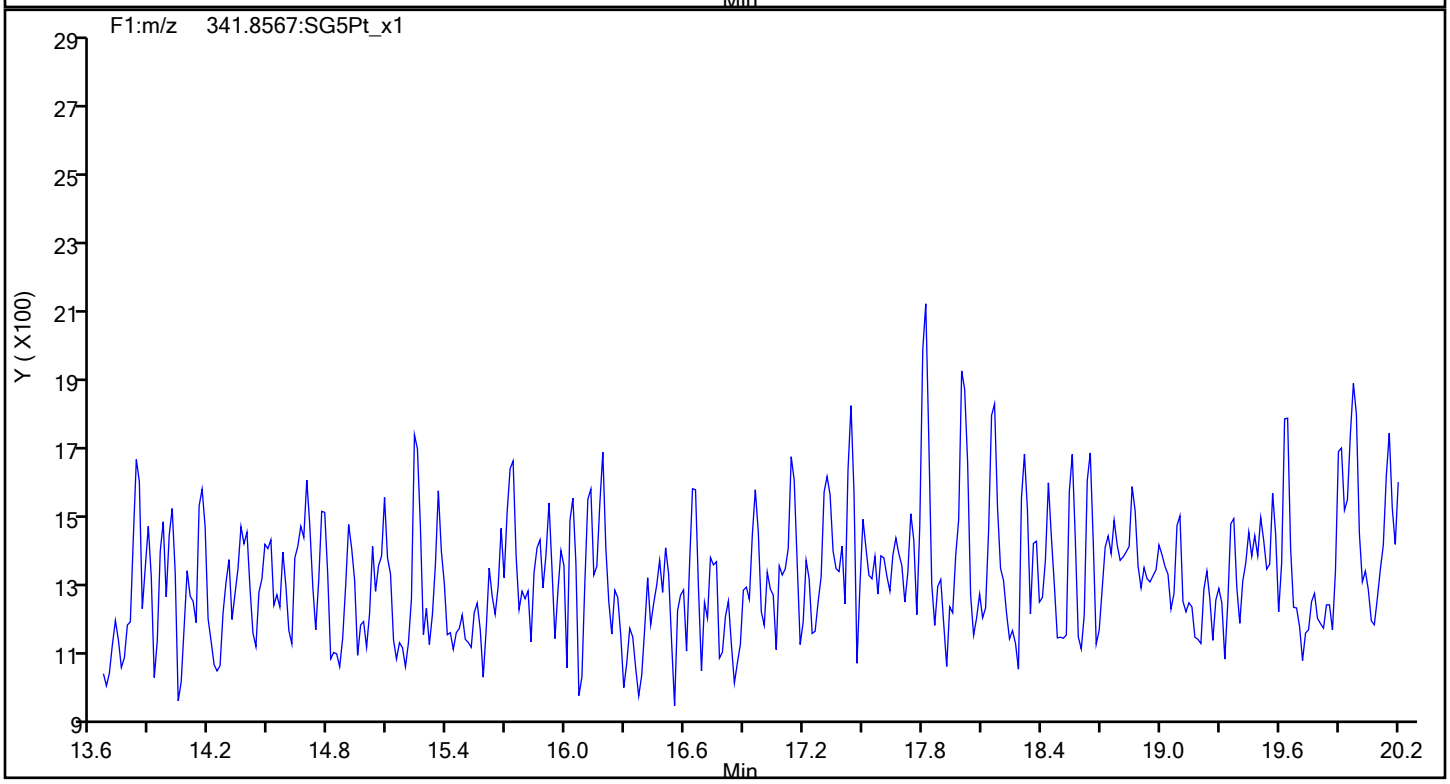

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

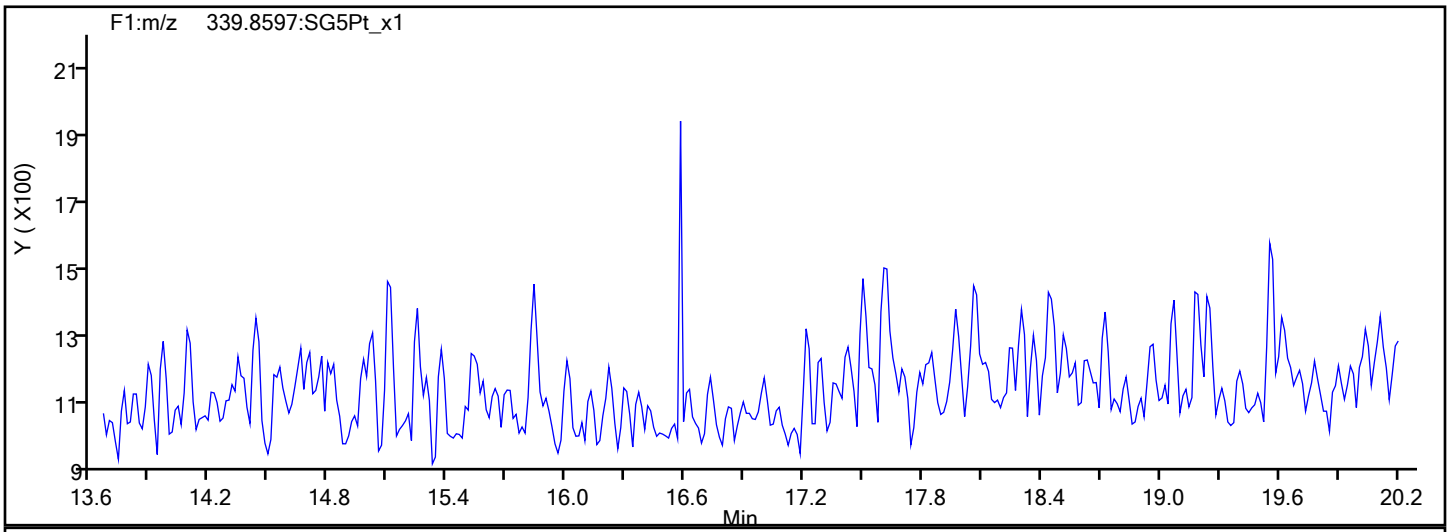

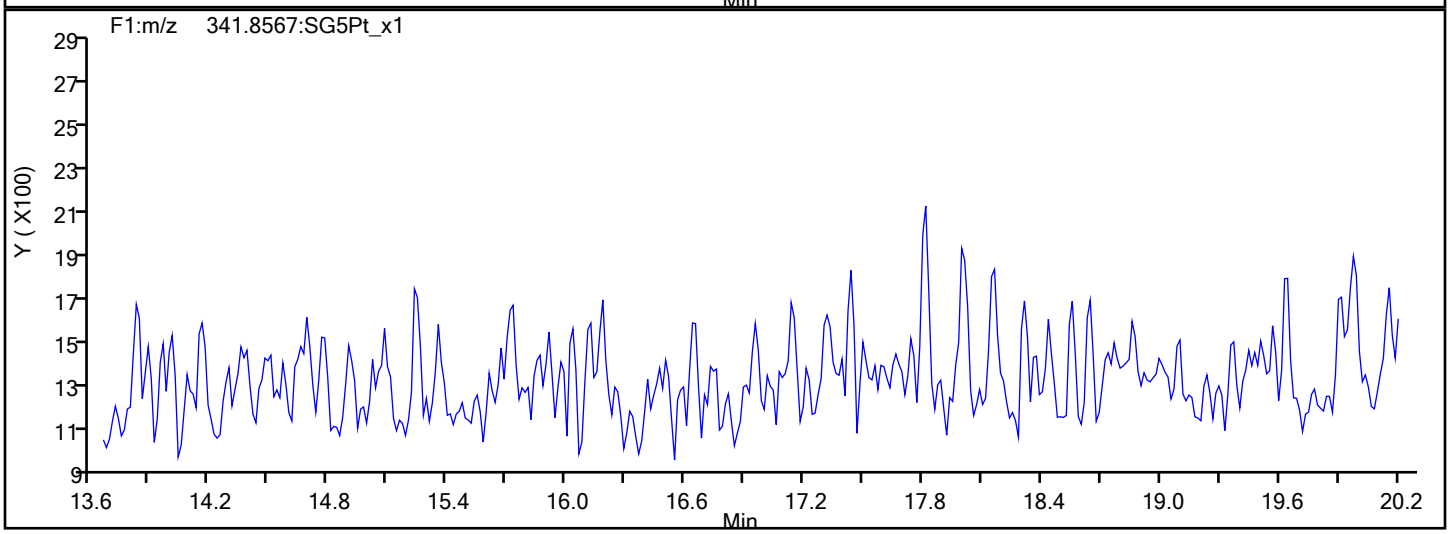

F1 PeCDFs Interference Mass

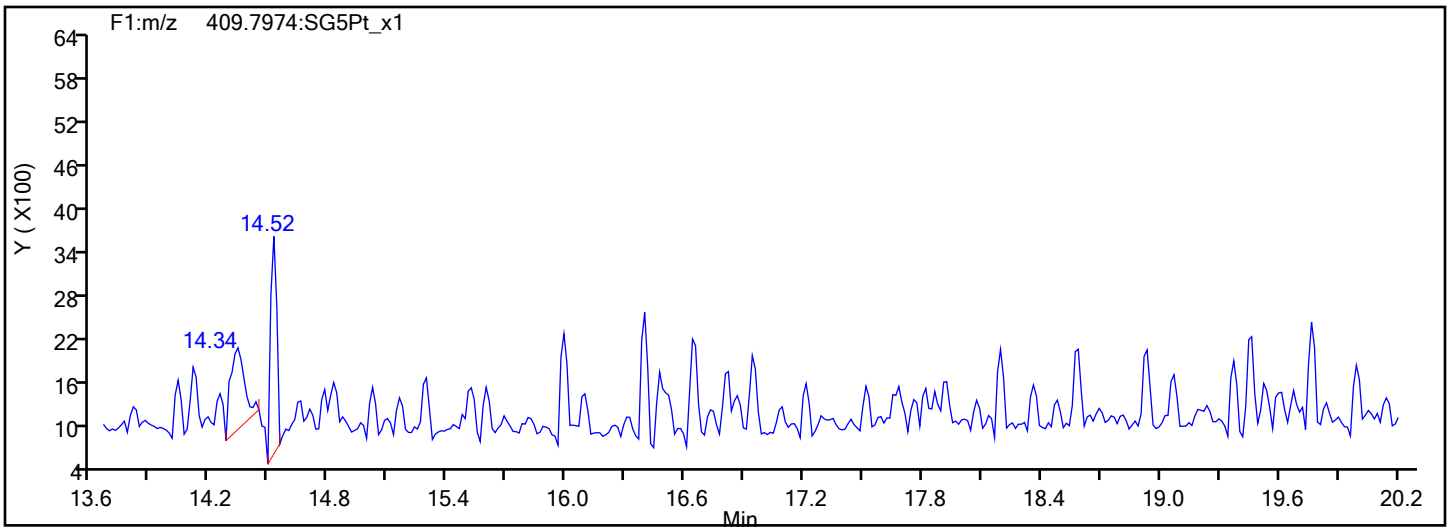

Report Date: 30-Jan-2020 09:34:39 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

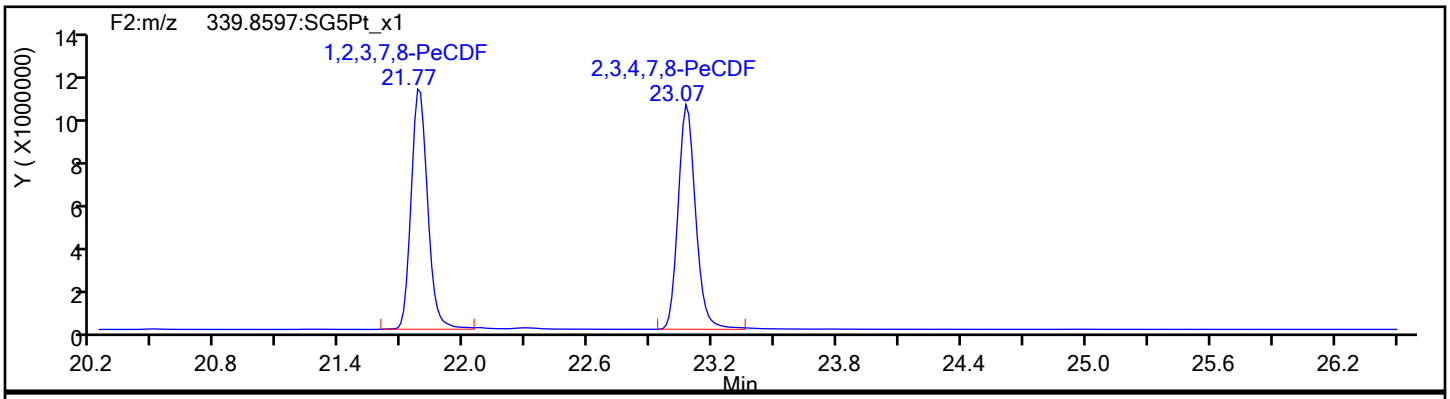

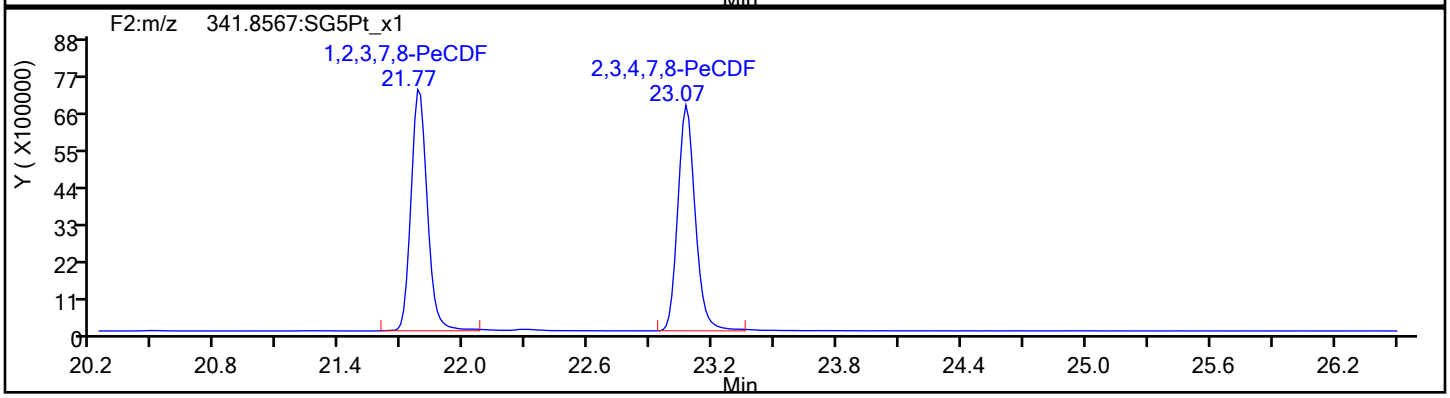

PeCDF Standards

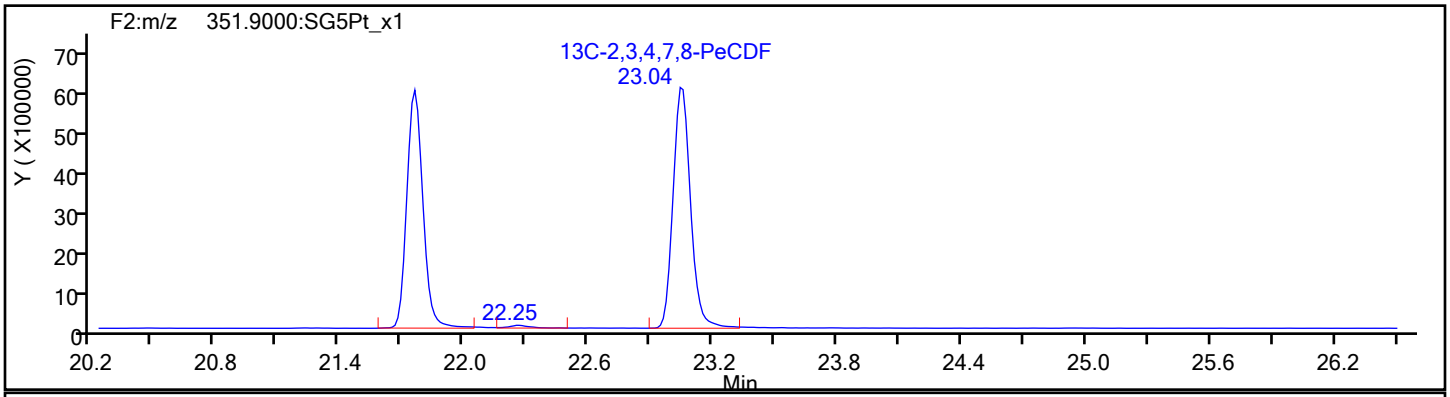

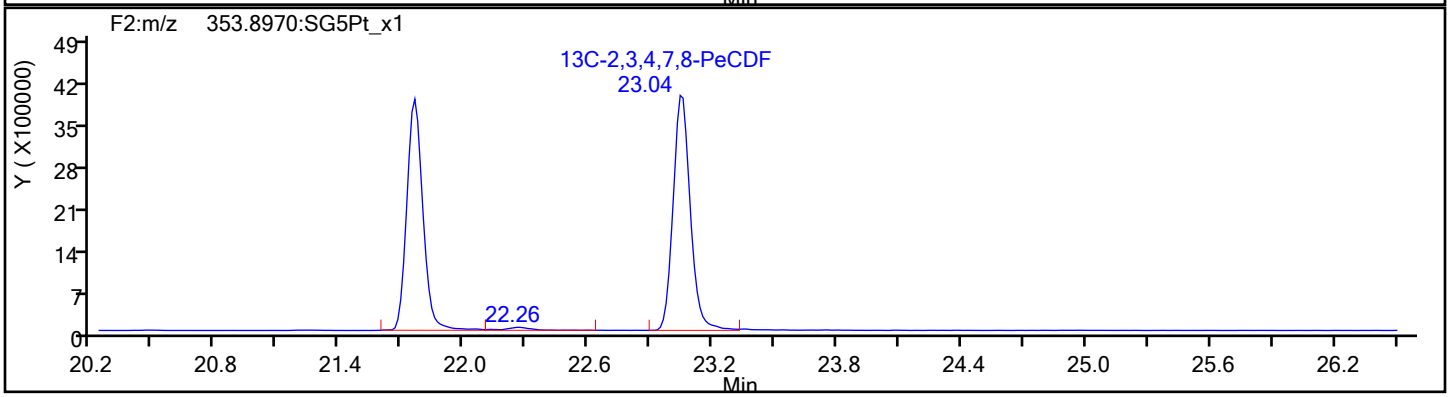

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Eurofins TestAmerica, Sacramento

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PeCDF

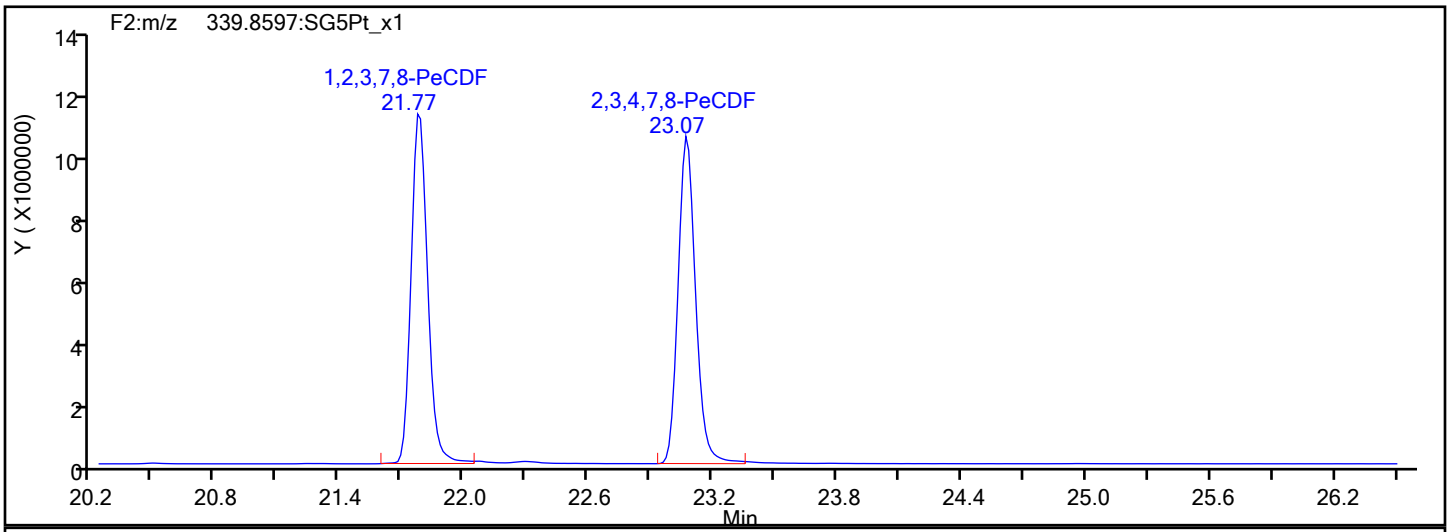

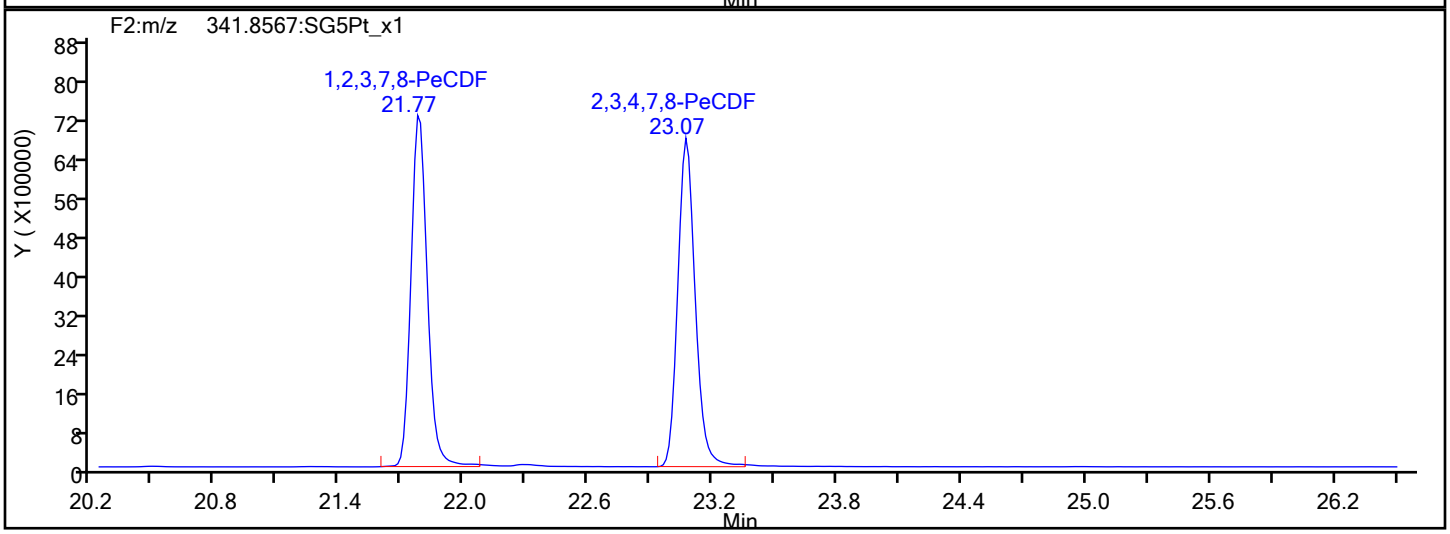

PeCDF Interference Mass

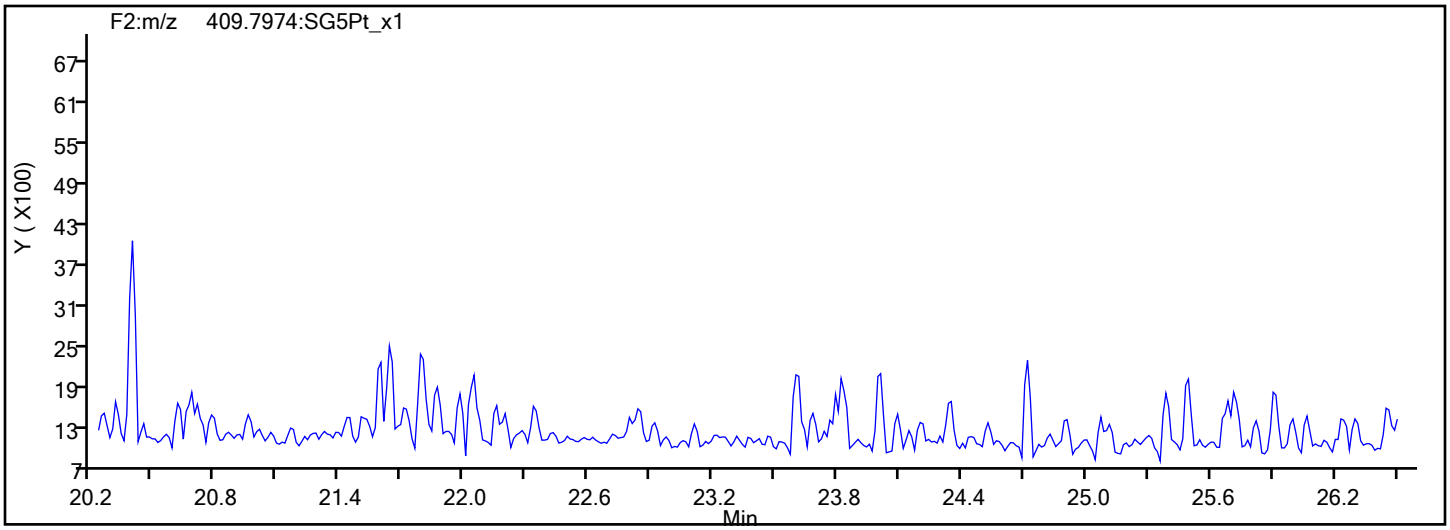

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

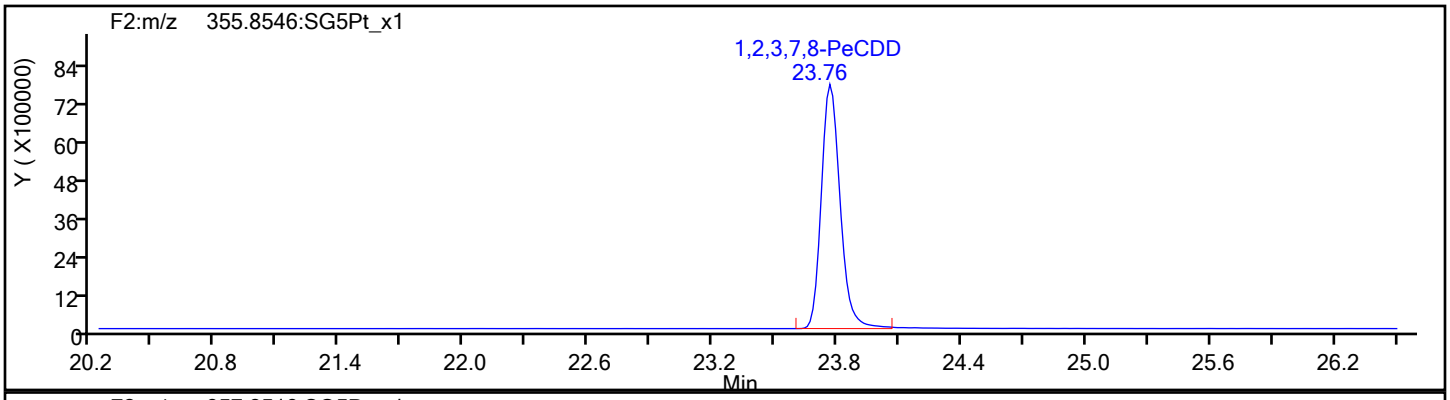

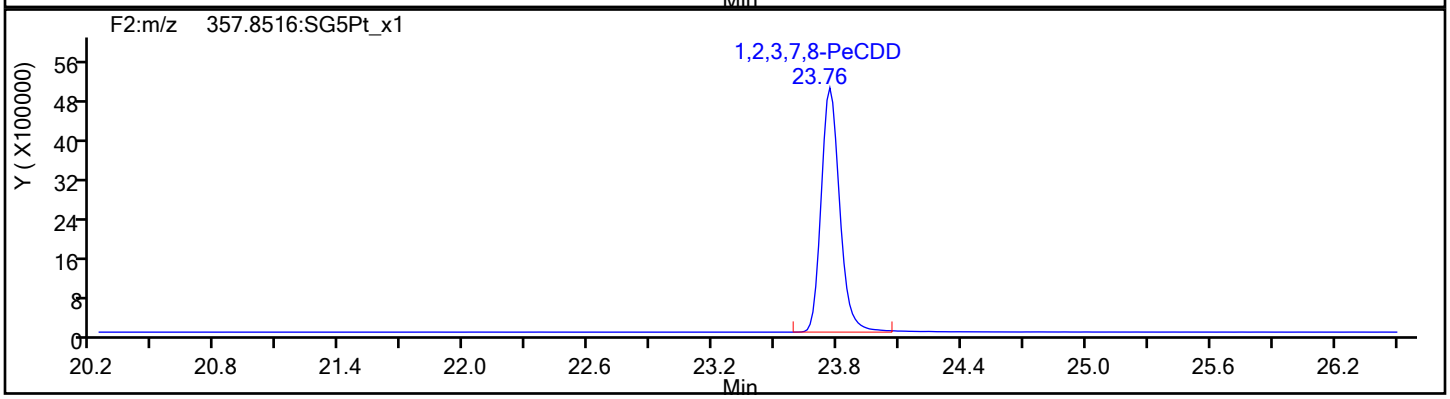

PeCDD Standards

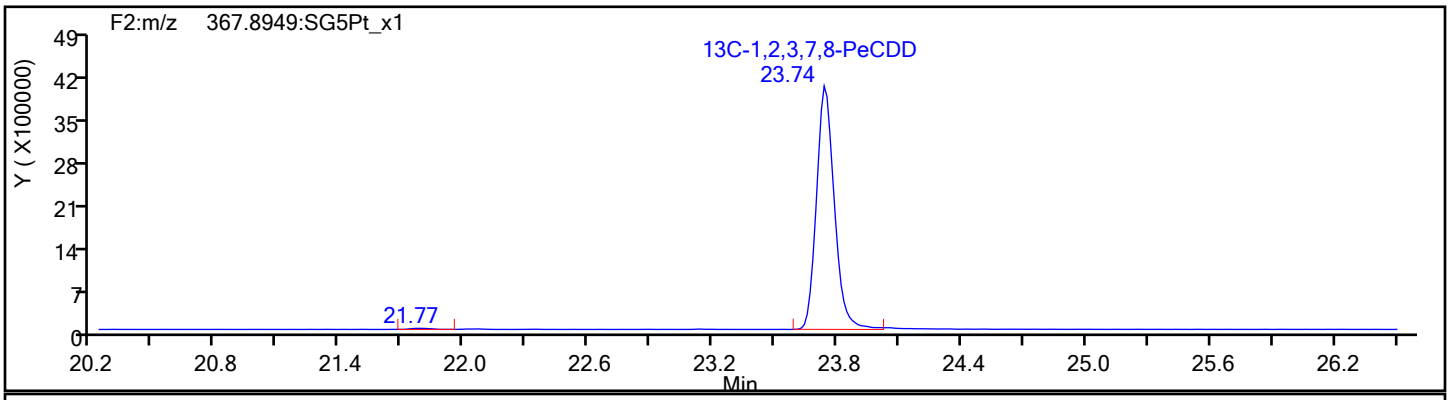

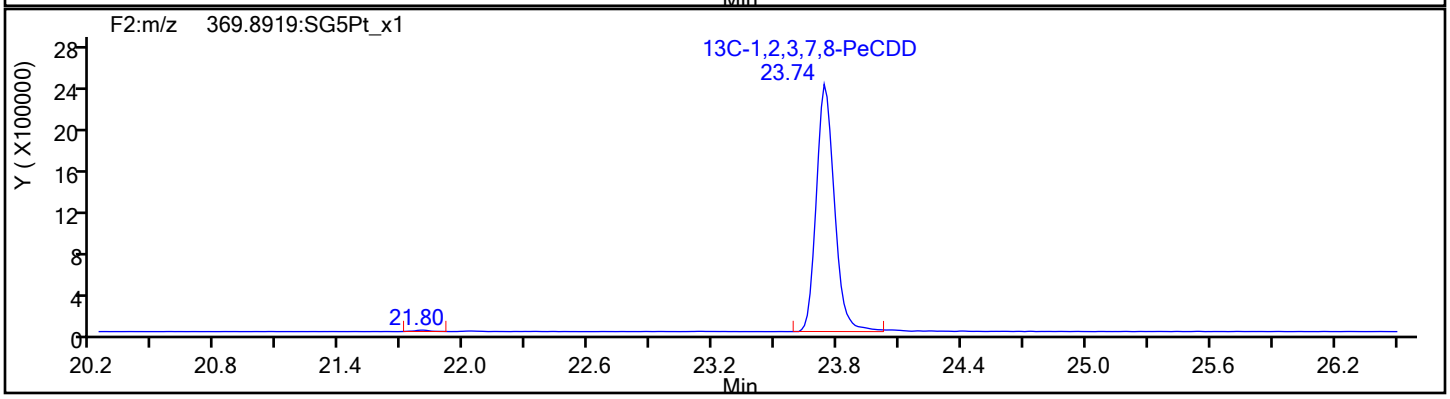

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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HxCDF

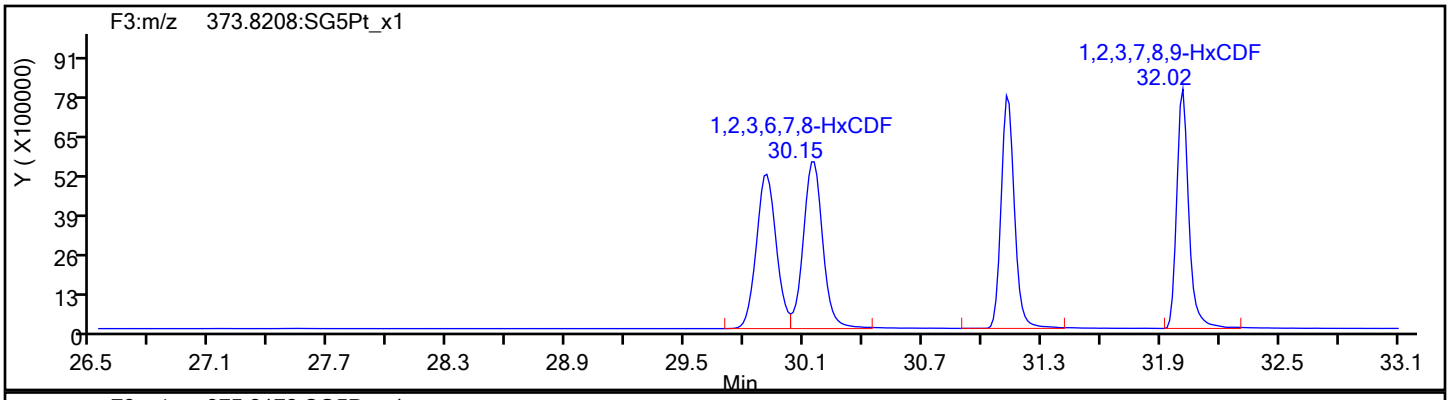

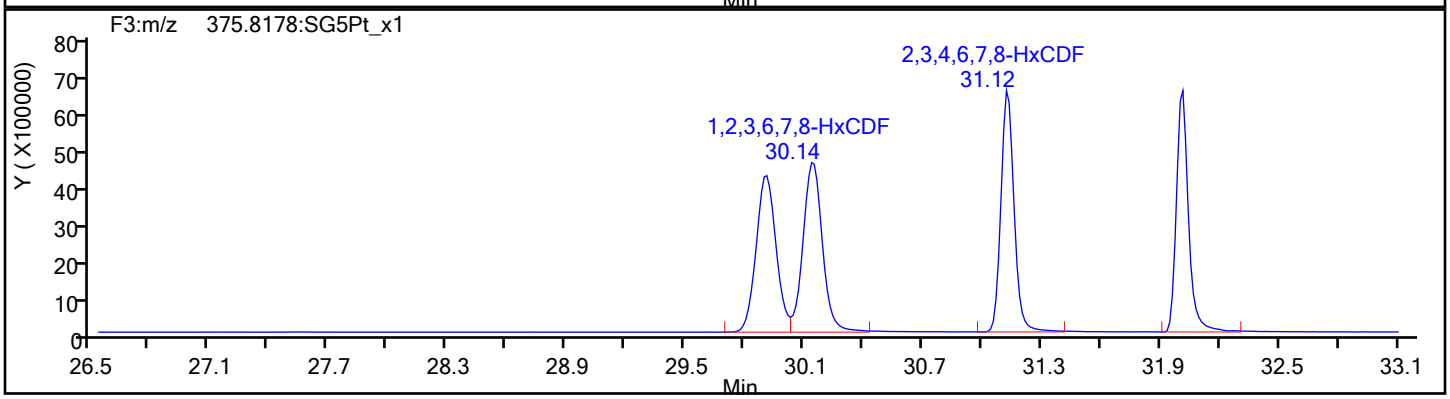

HxCDF Standards

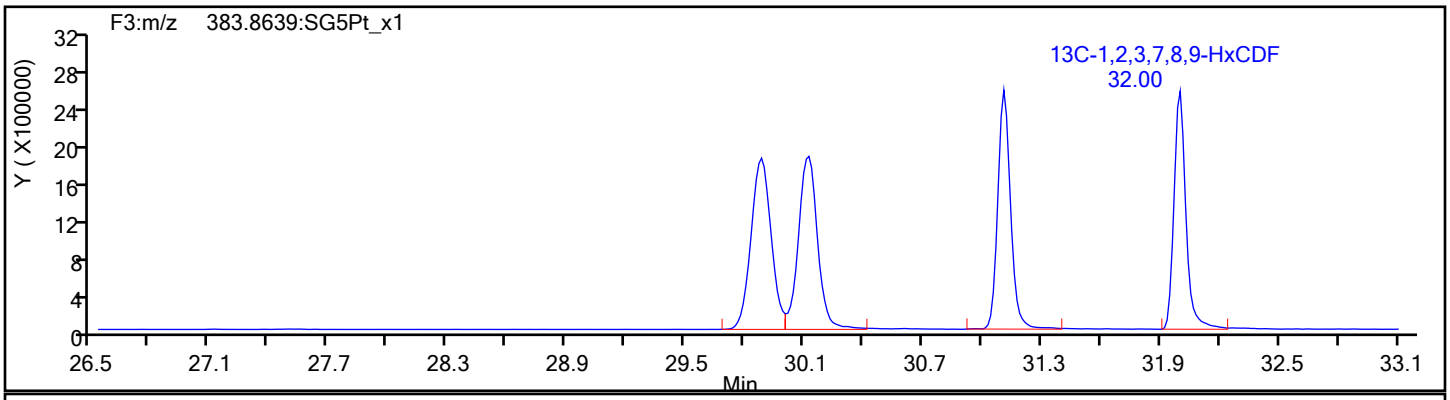

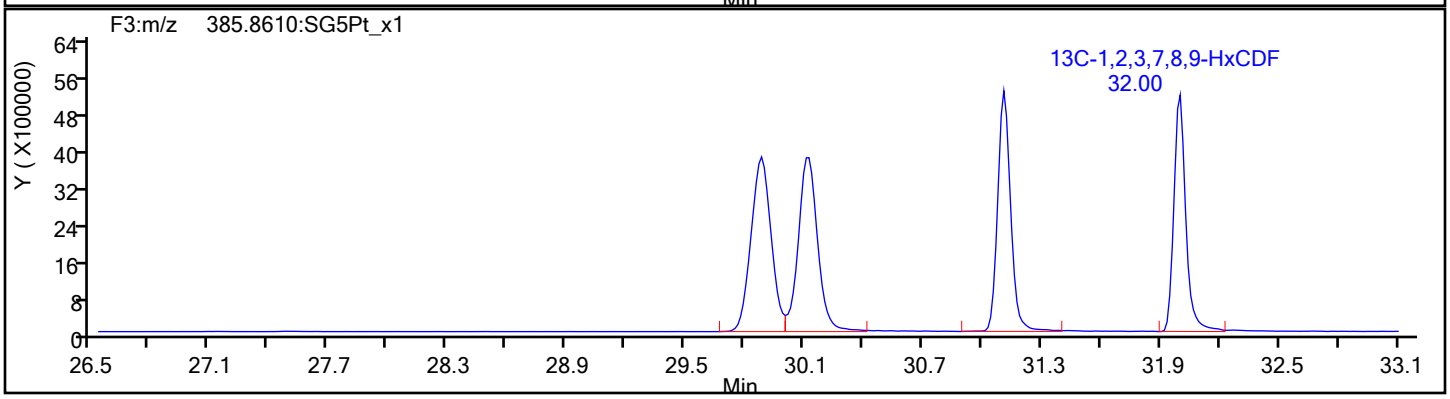

Report Date: 30-Jan-2020 09:34:40 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_7.d		
Injection Date:	30-Jan-2020 04:07:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

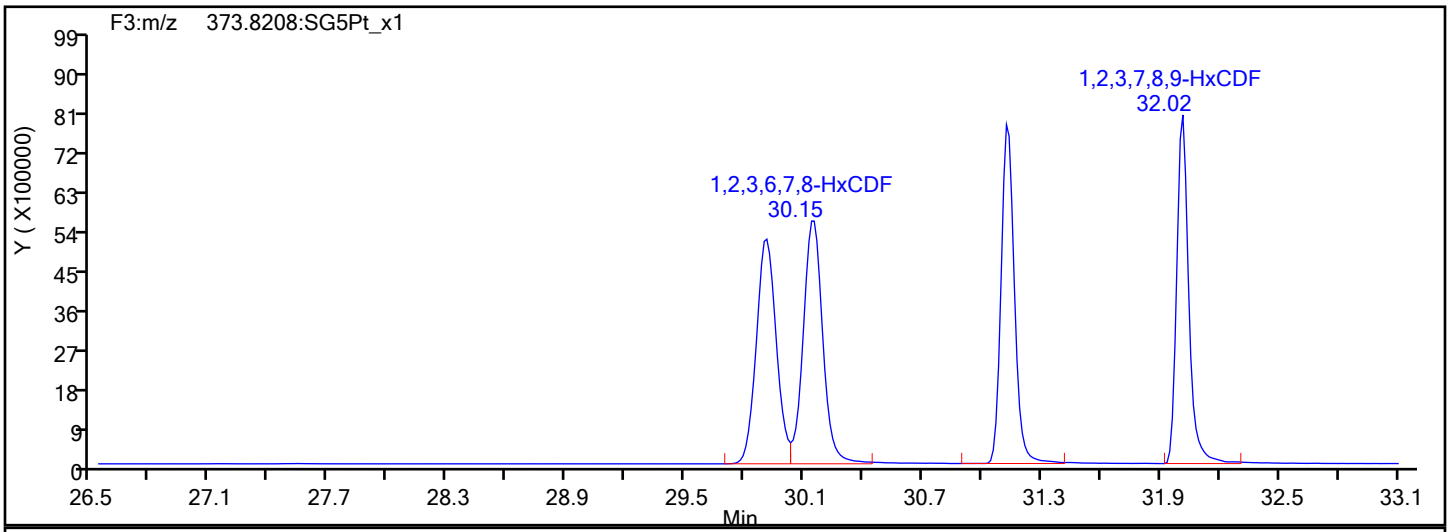

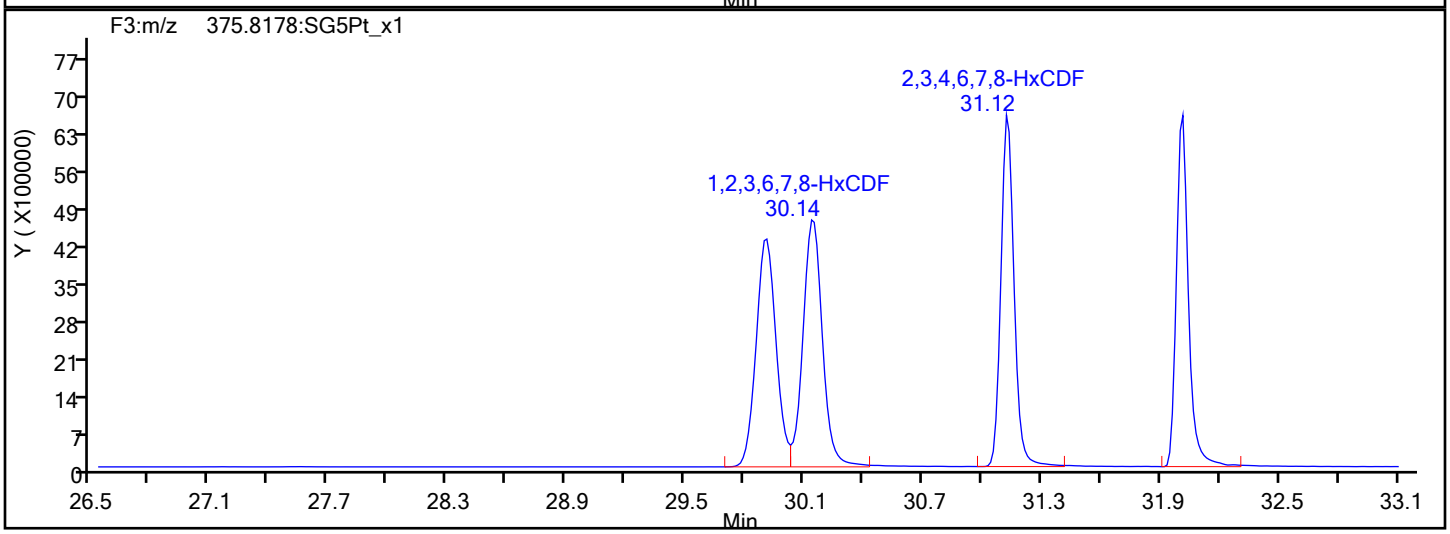

HxCDF Interference Mass

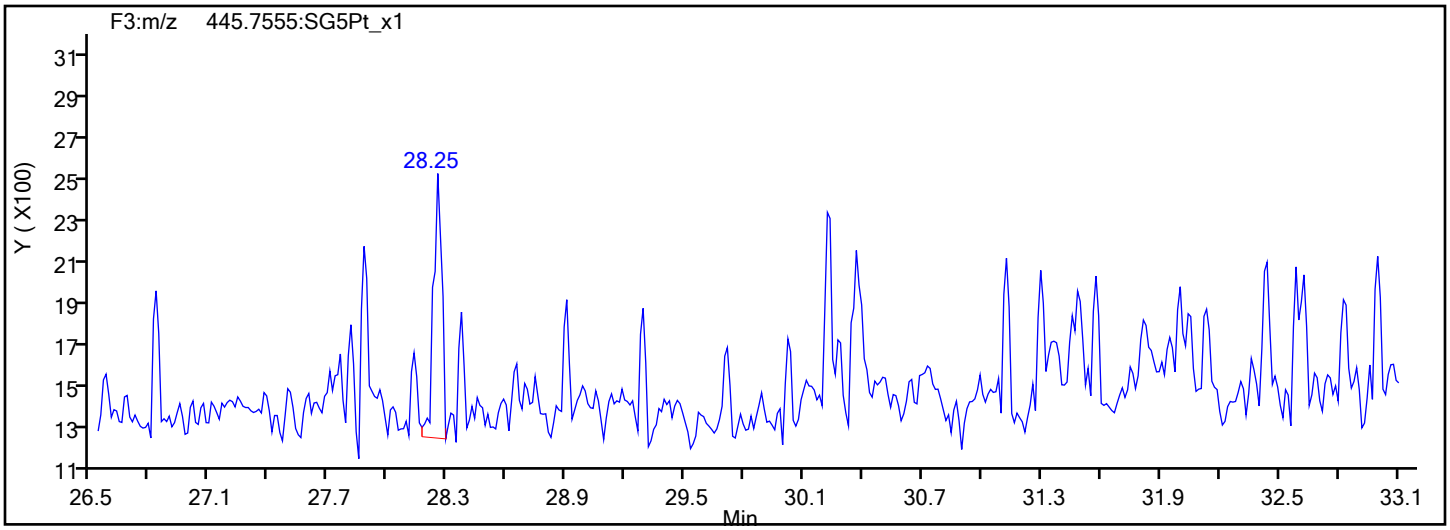

Report Date: 30-Jan-2020 09:34:40 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HxCDD

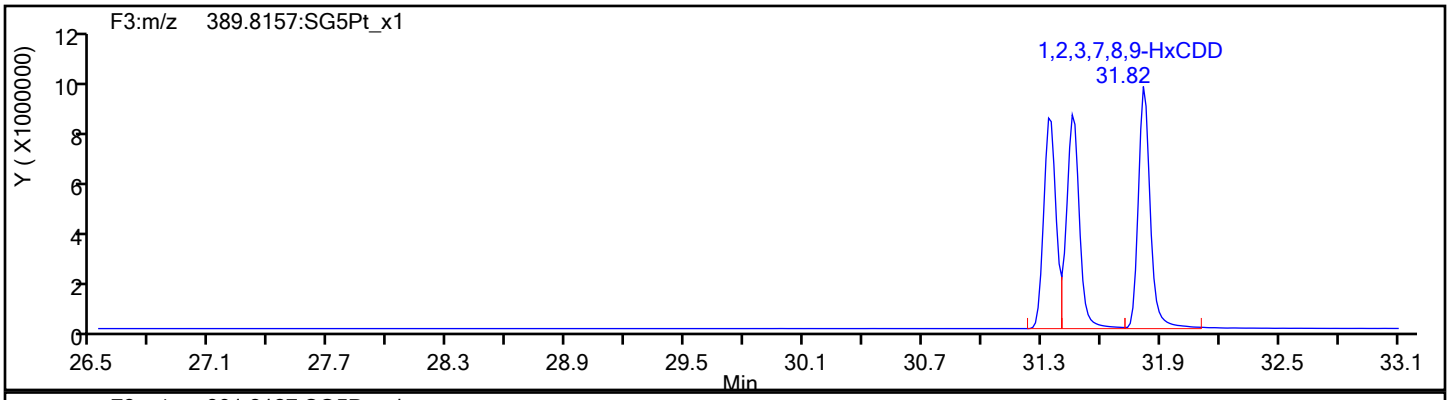

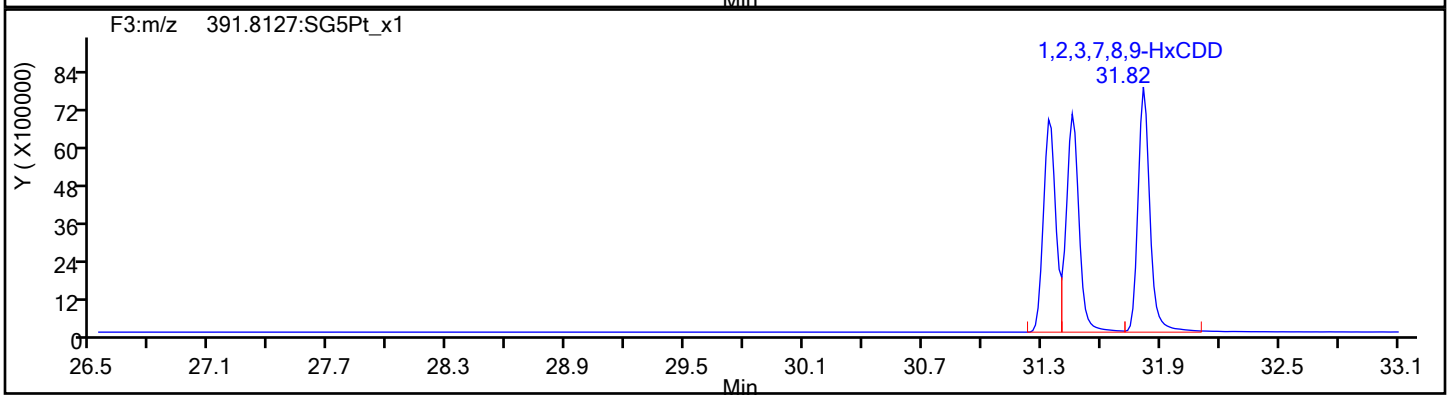

HxCDD Standards

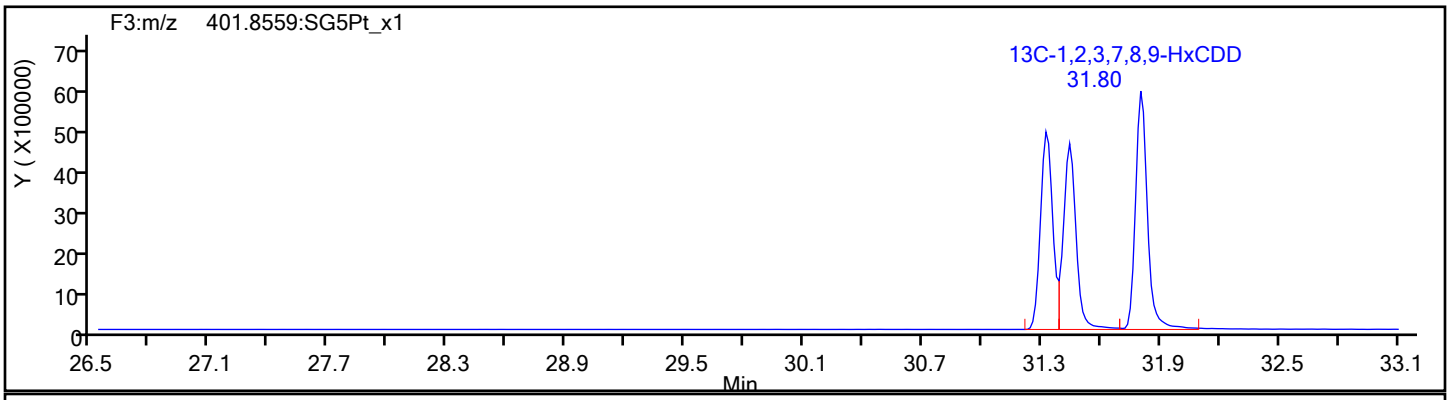

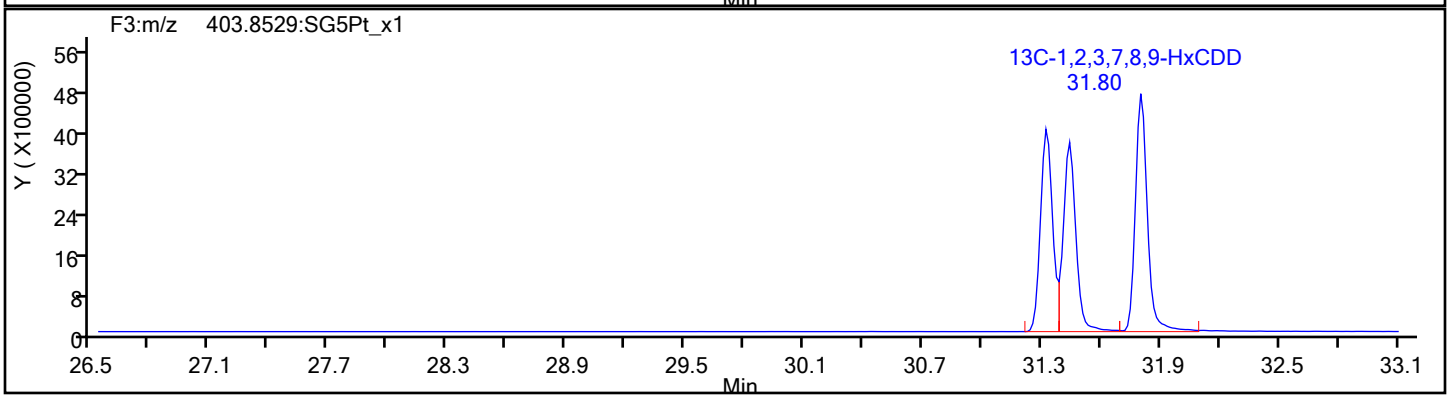

Report Date: 30-Jan-2020 09:34:40 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_7.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

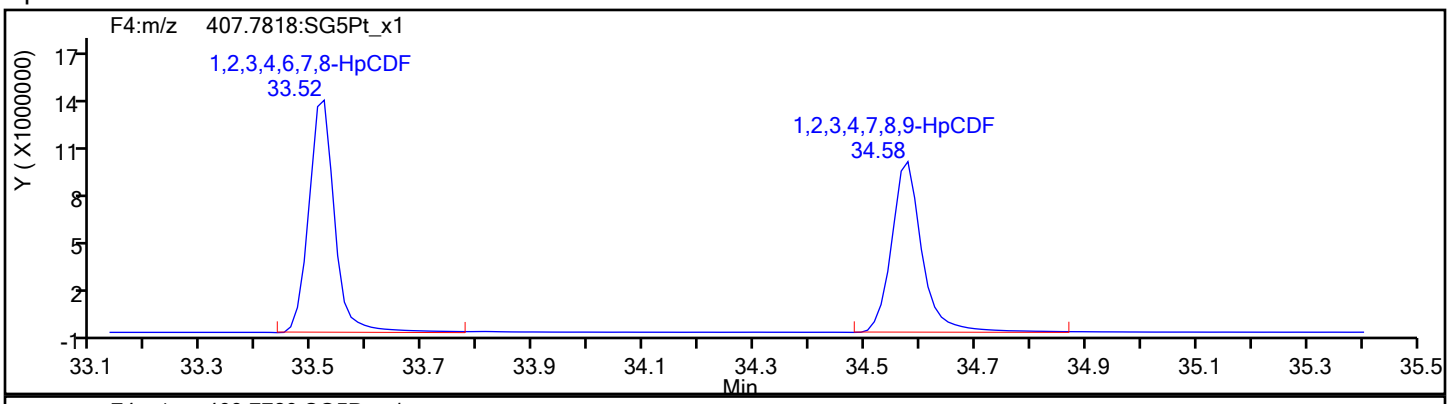

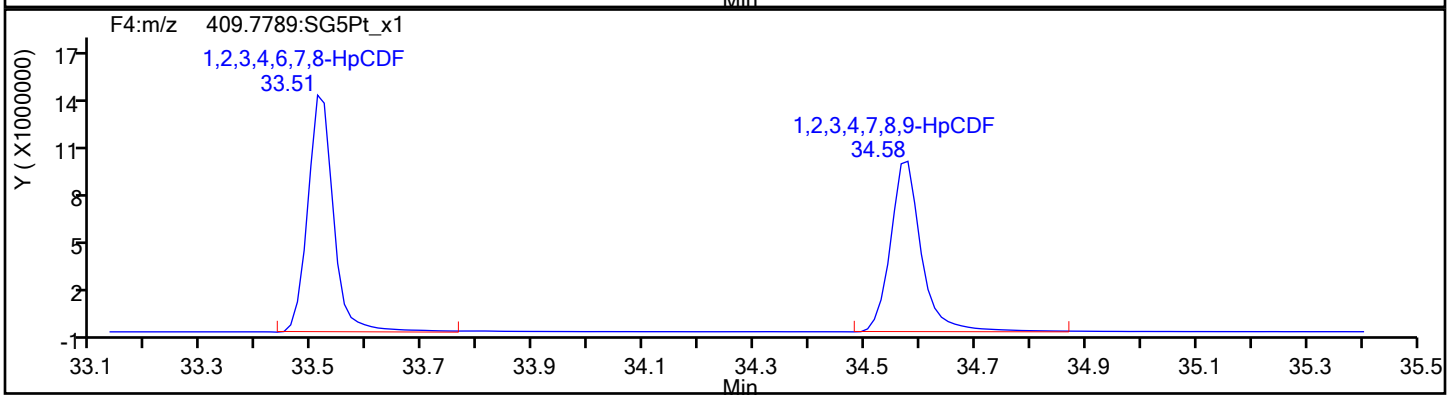

HpCDF Standards

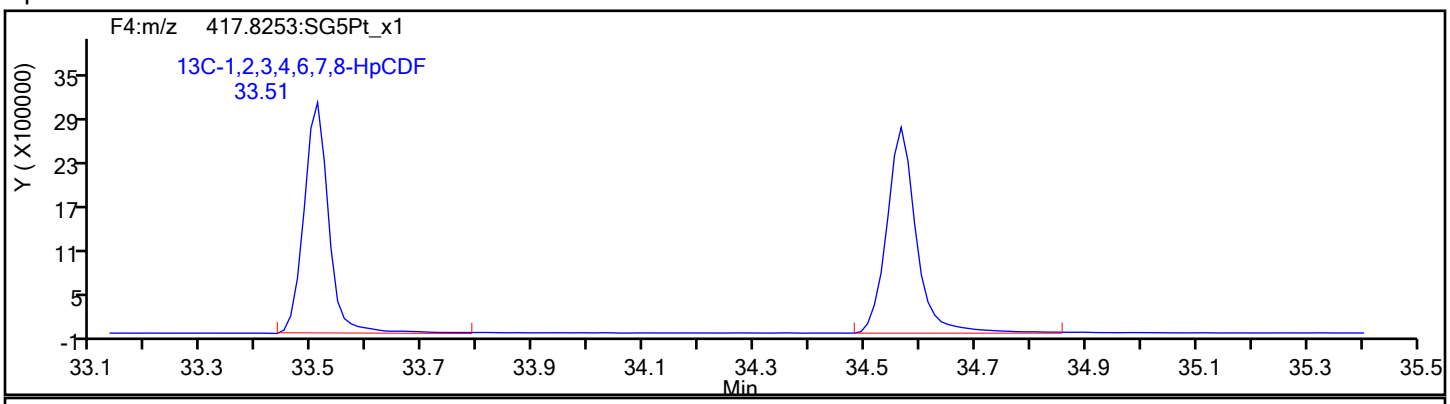

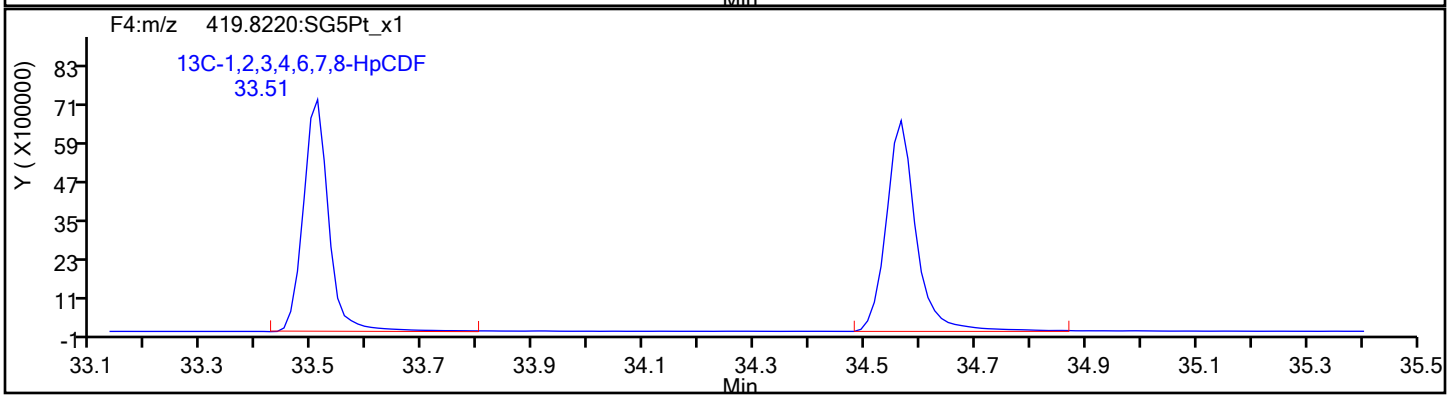

Report Date: 30-Jan-2020 09:34:40 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

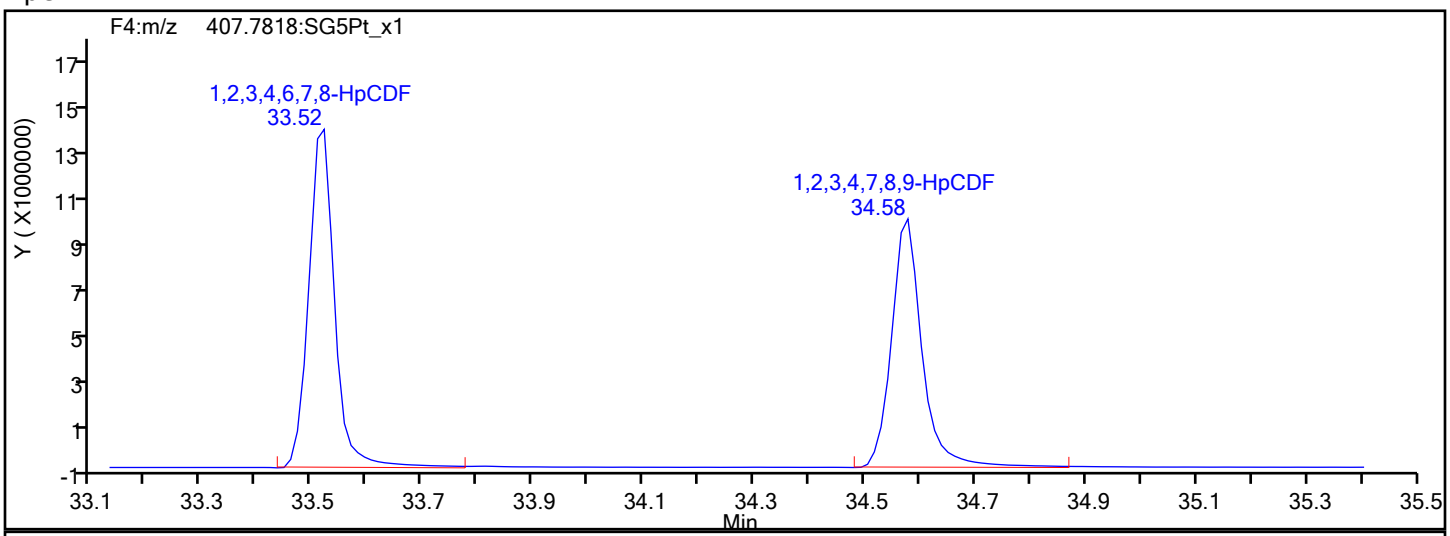

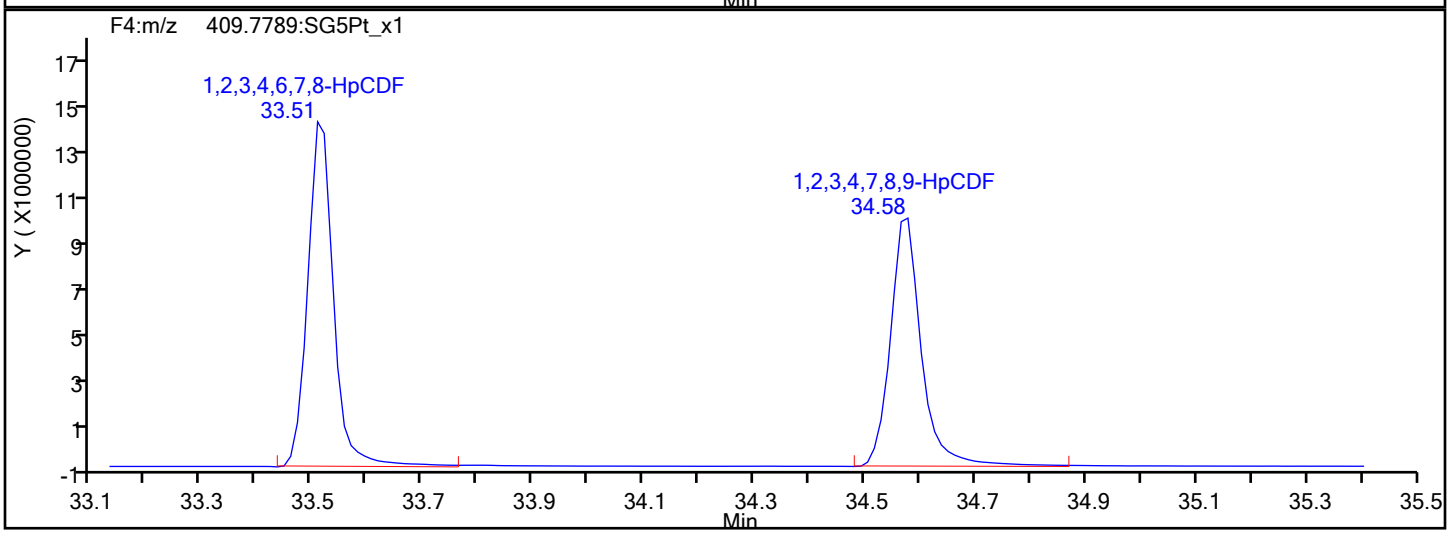

HpCDF Interference Mass

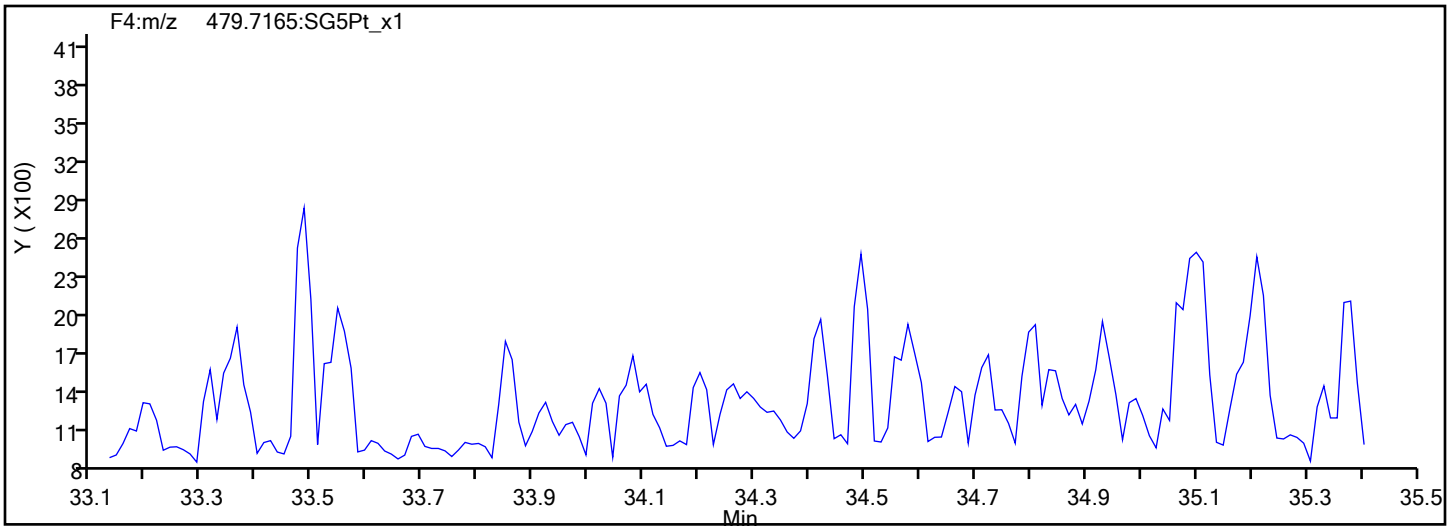

Report Date: 30-Jan-2020 09:34:40 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_7.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

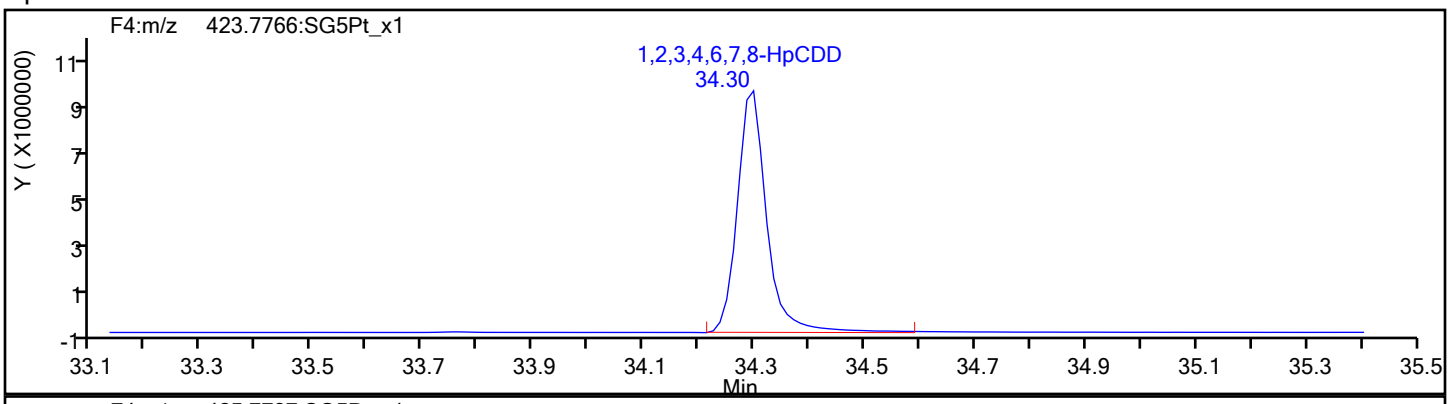

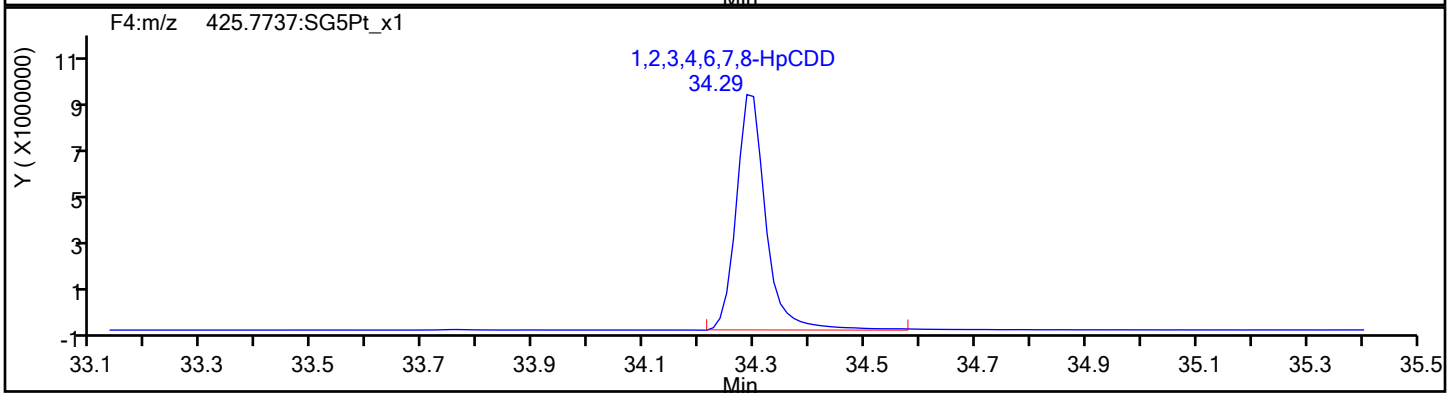

HpCDD Standards

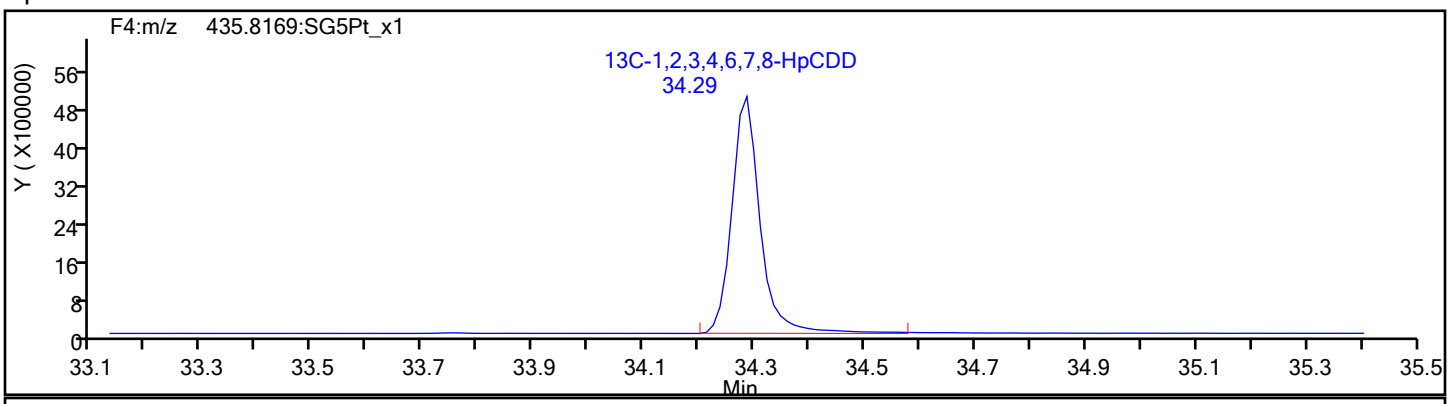

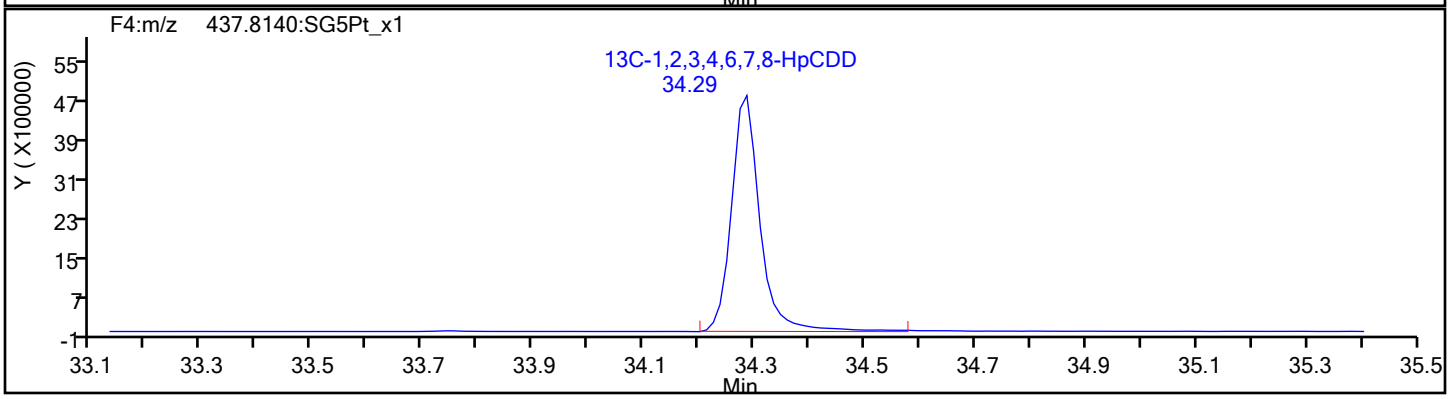

Report Date: 30-Jan-2020 09:34:40 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_7.d		
Injection Date:	30-Jan-2020 04:07:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

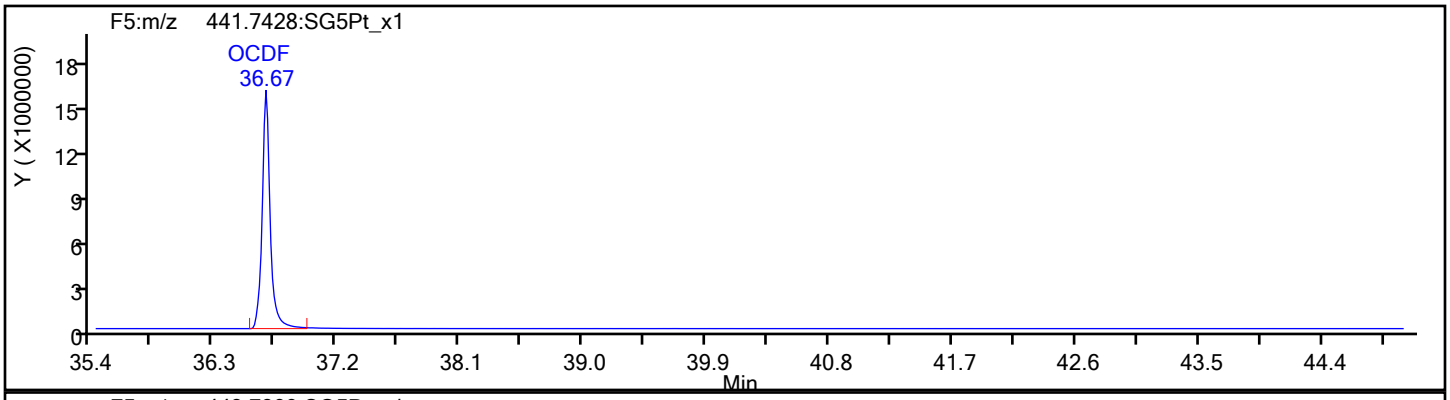

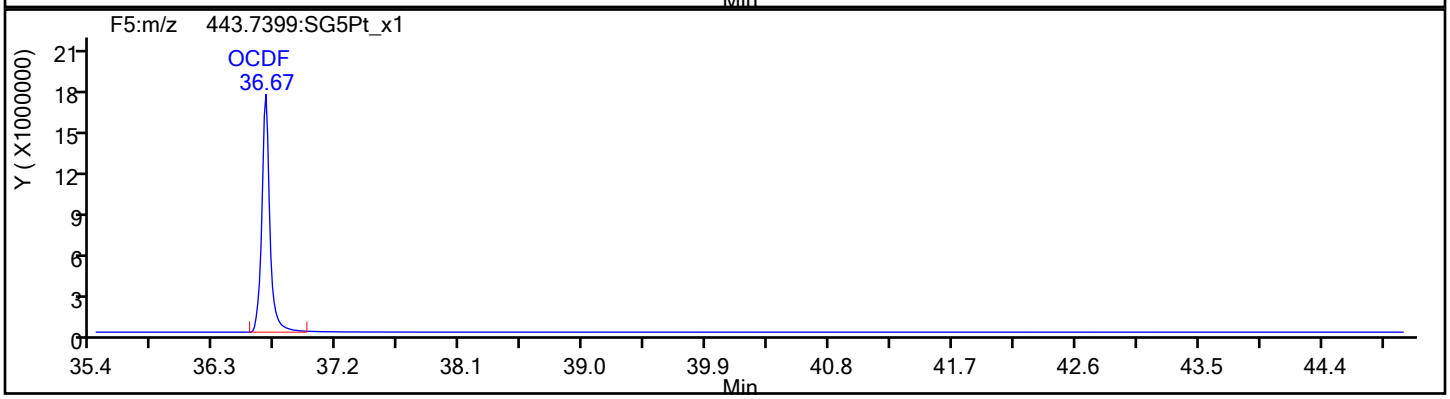

OCDF Standards

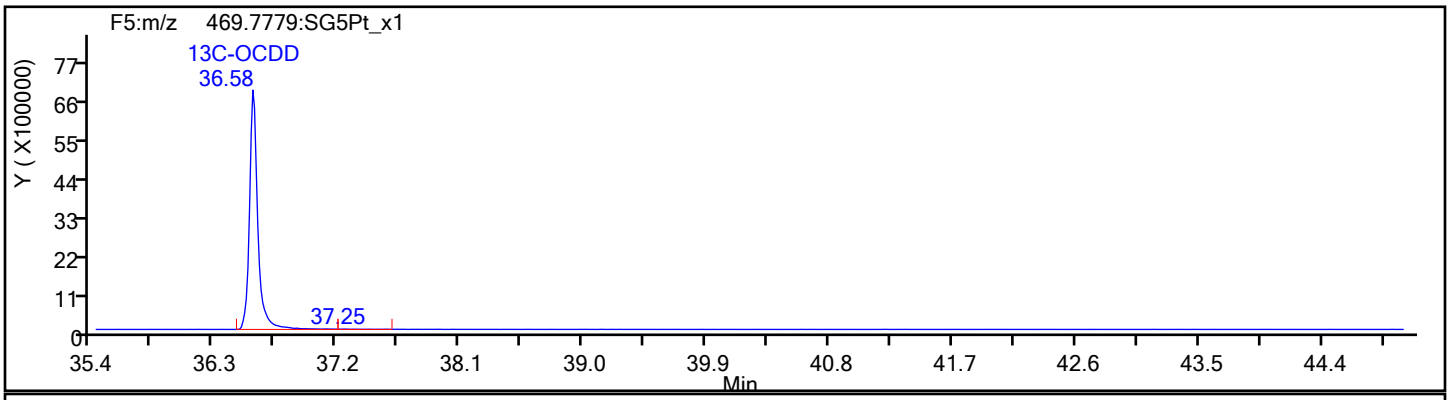

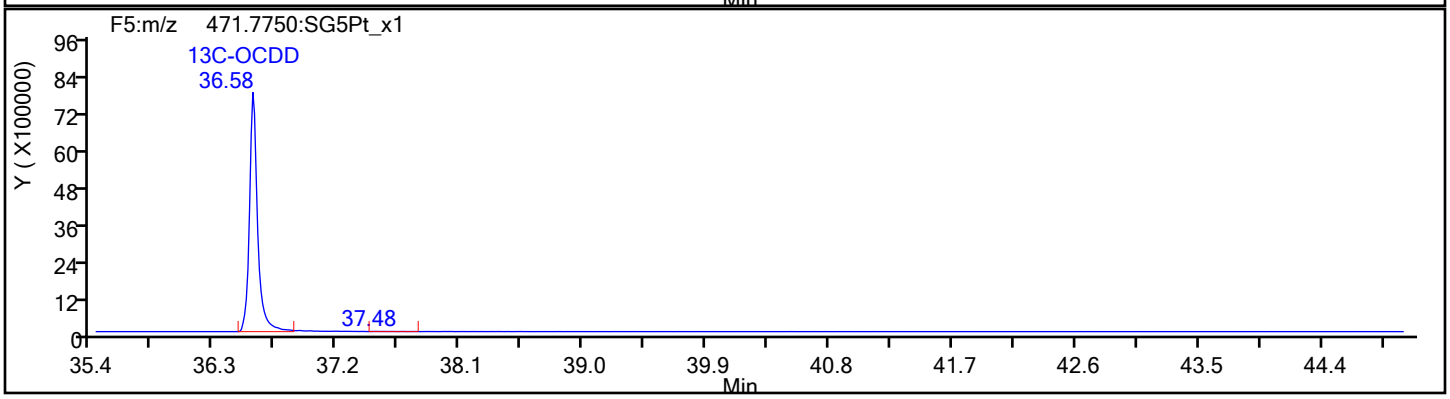

Report Date: 30-Jan-2020 09:34:40 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_7.d		
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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

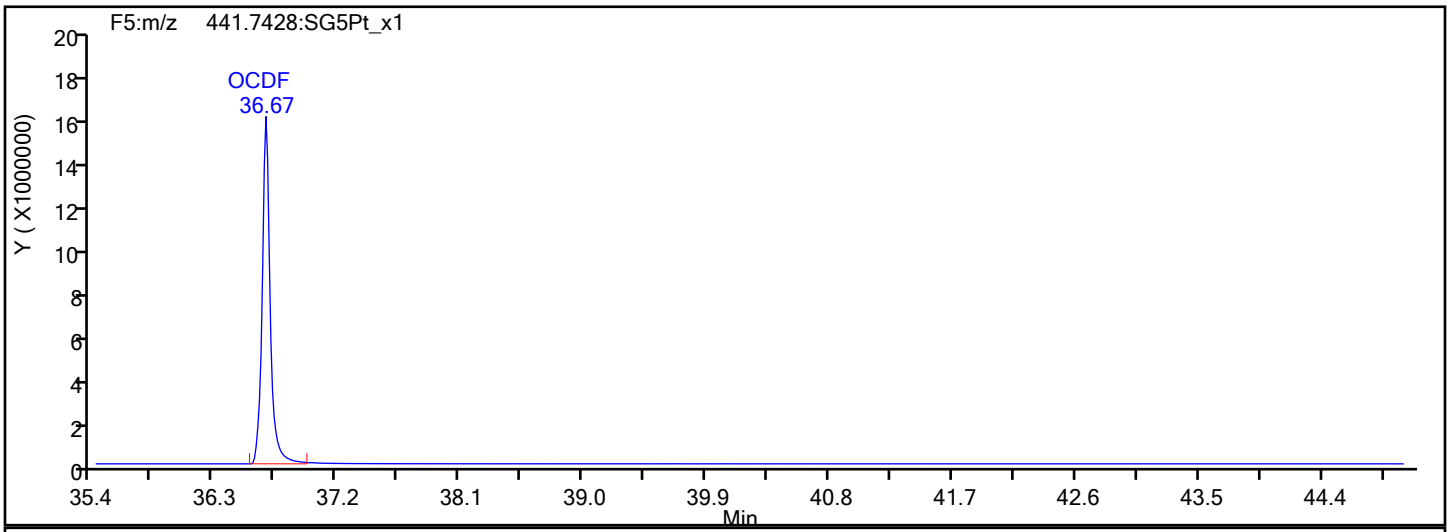

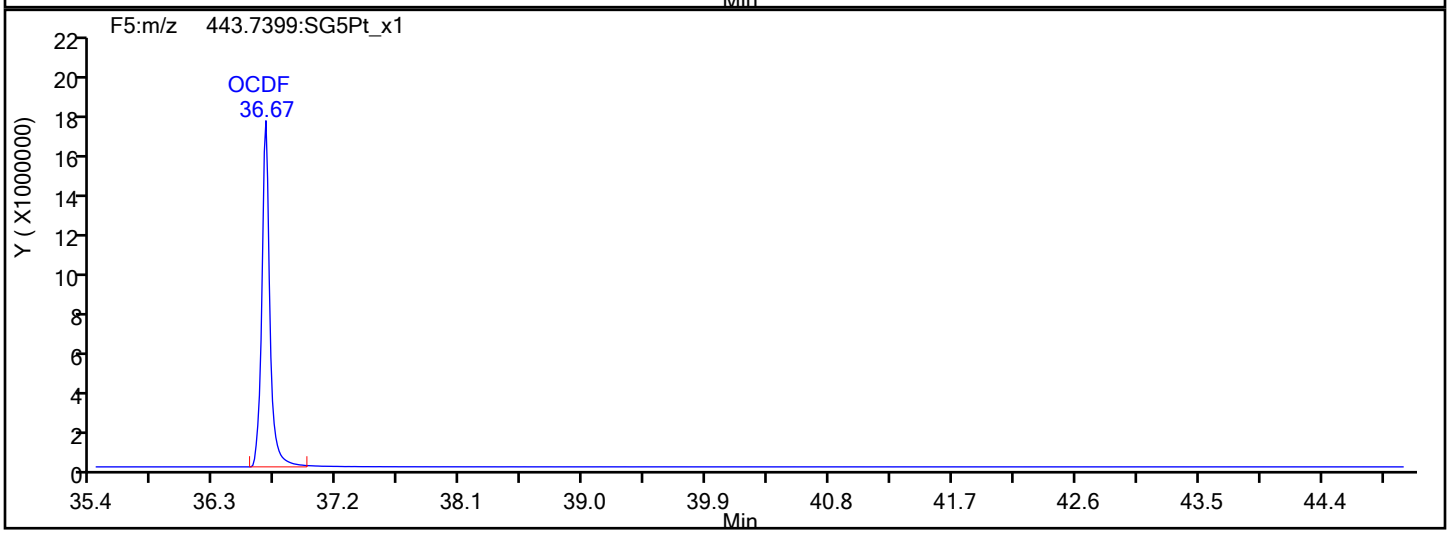

OCDF Interference Mass

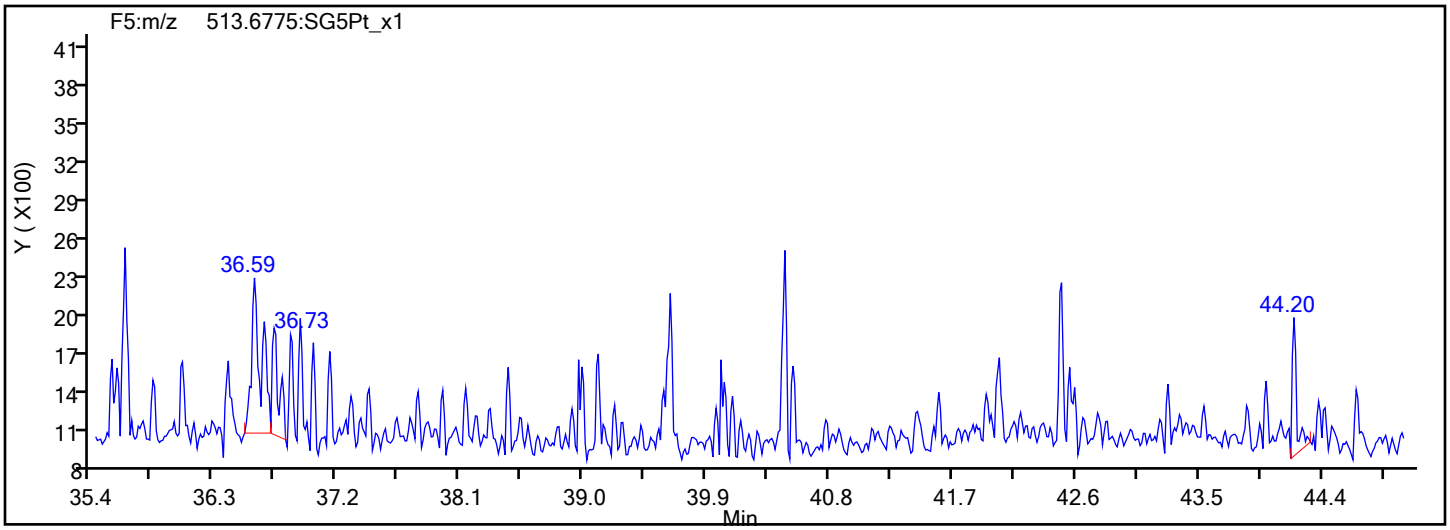

Report Date: 30-Jan-2020 09:34:40 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

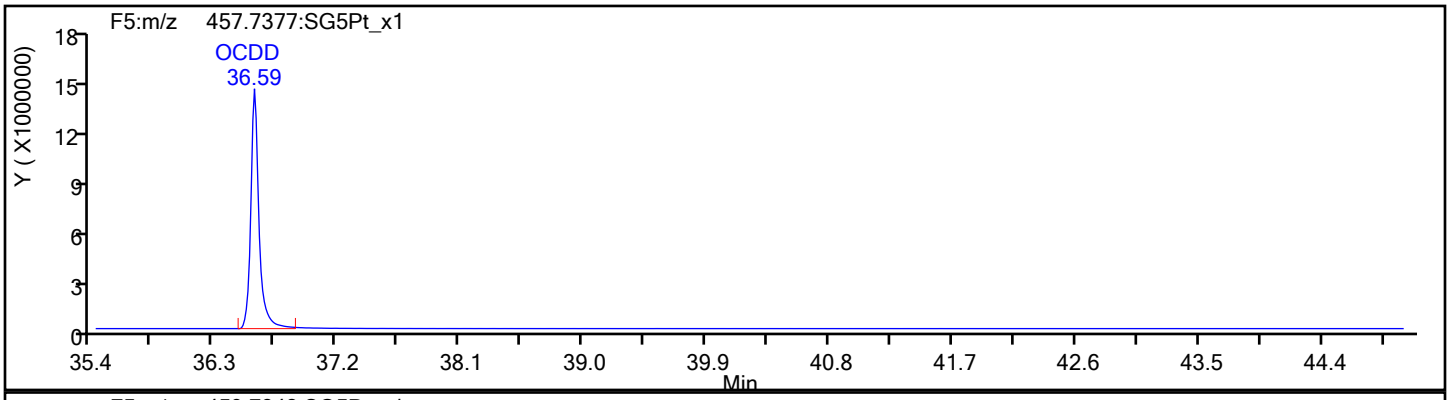

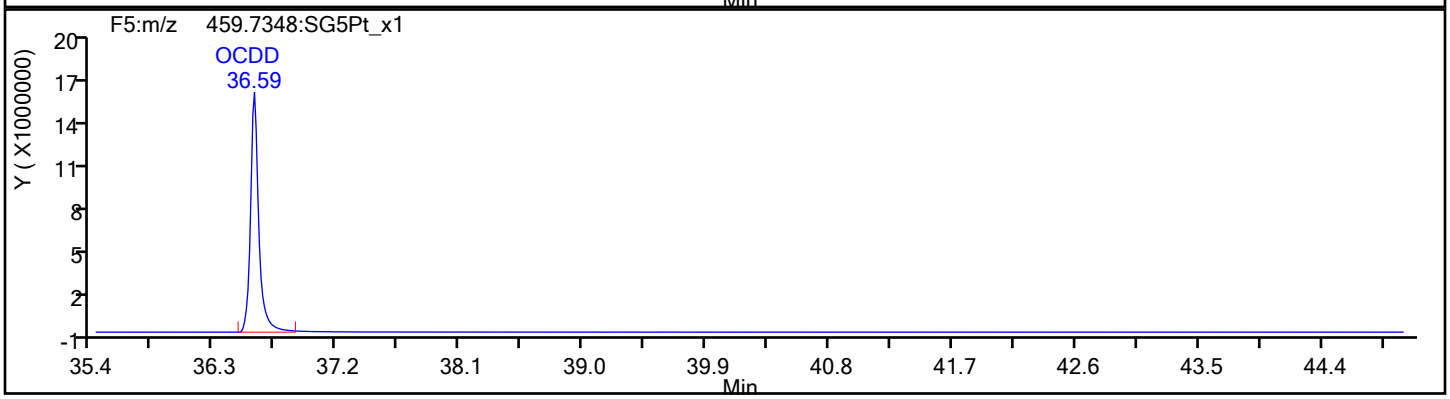

OCDD Standards

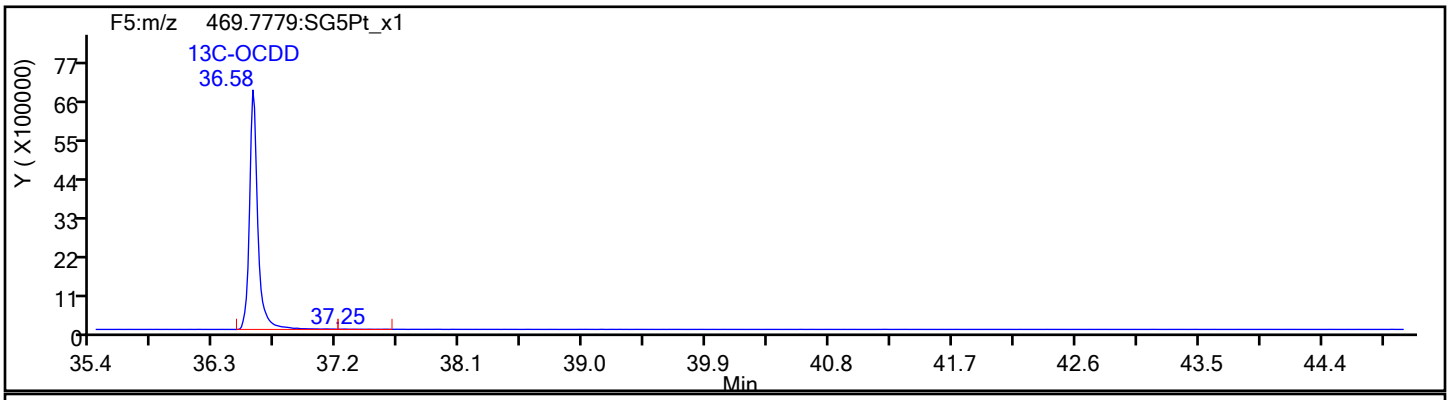

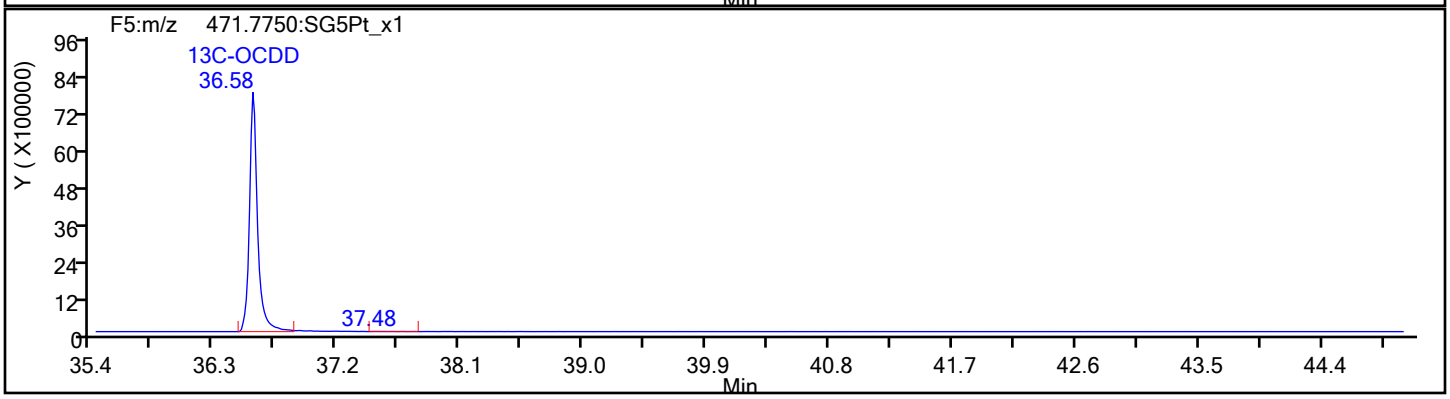

Report Date: 30-Jan-2020 09:34:40 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

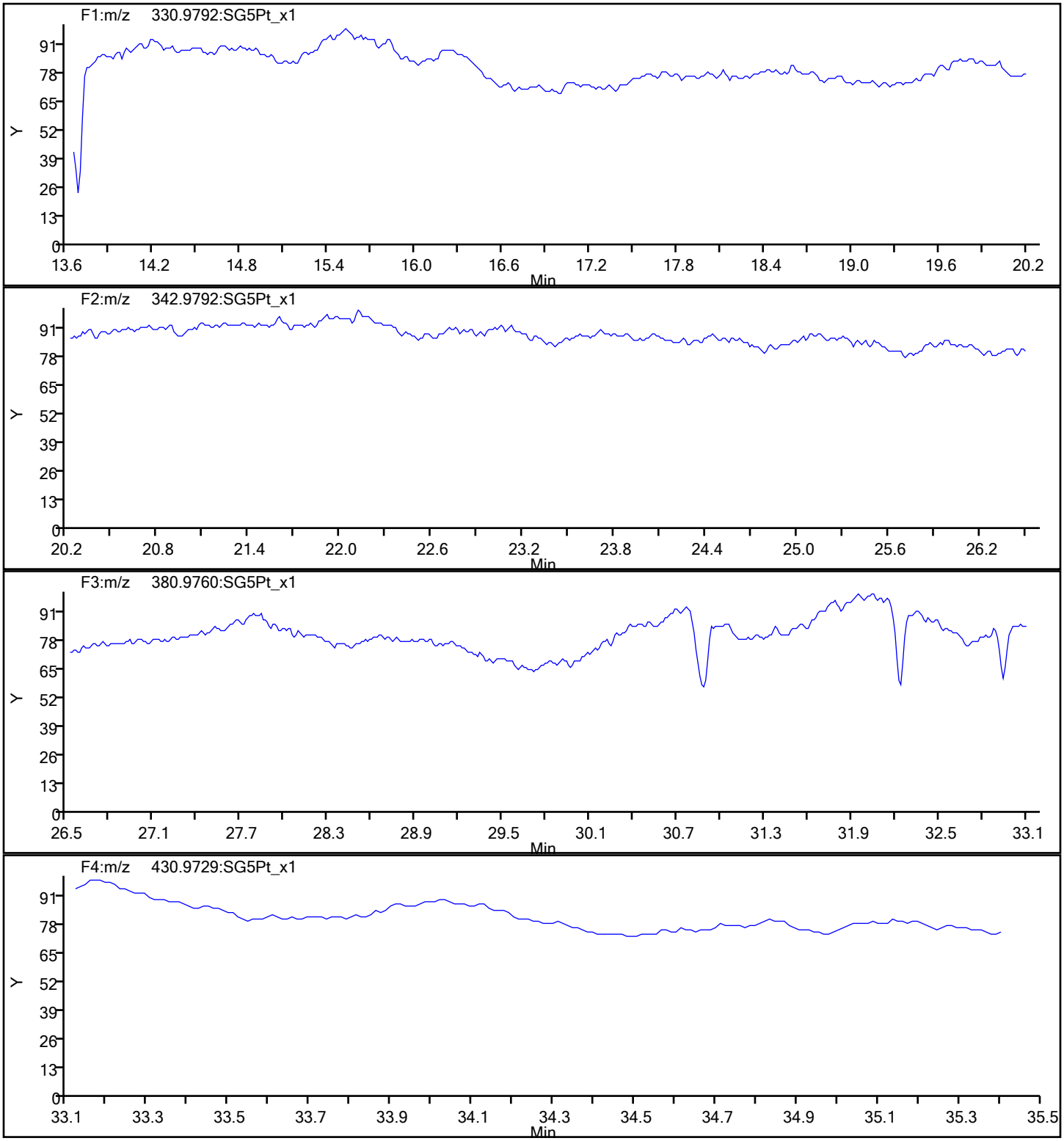

Report Date: 30-Jan-2020 09:34:40 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_7.d		
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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

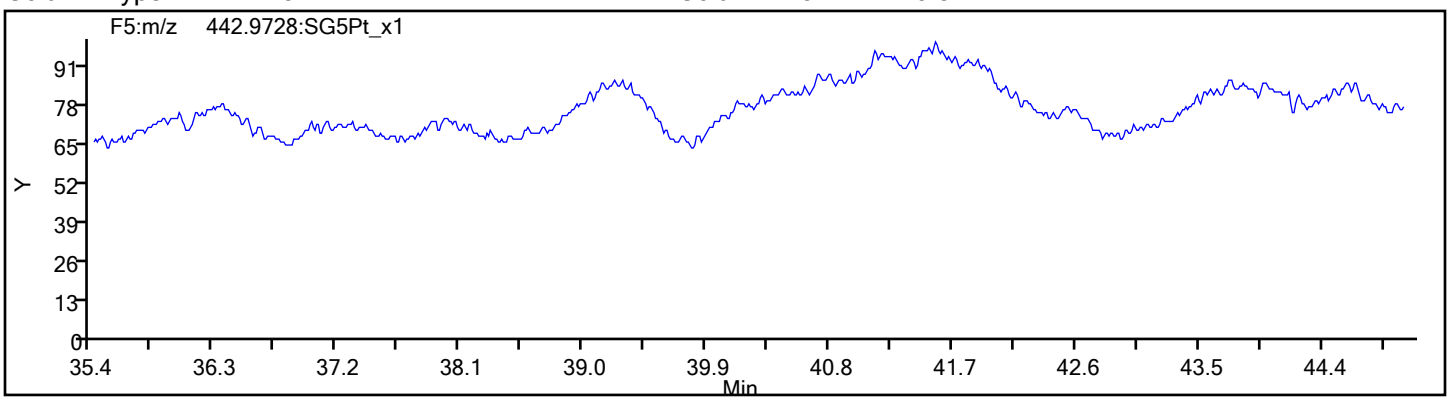

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 30-Jan-2020 04:53:08 ALS Bottle#: 7 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 012920D CS-6 HRDXNL6_00025
Misc. Info.: 29JA20B10D5
Operator ID: ALM Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 30-Jan-2020 09:35:11 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0321

First Level Reviewer: arghestanis Date: 30-Jan-2020 08:42:07

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.408	51320987	0.80	5.4E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.924	57856976	0.73	1.1275	100.0	100.0	0.3677	0.3677	99.99	
2,3,7,8-TCDF	16.939	96105391	0.74	0.7675	216.4	216.4	0.9277	0.9277	108	
S Total TCDF					216.4	216.4	0.9277	0.9277		
D 13C-2,3,7,8-TCDD	17.605	46738785	0.81	0.9032	100.8	100.8	0.2053	0.2053	101	
2,3,7,8-TCDD	17.620	94468546	0.77	0.9599	210.6	210.6	0.3213	0.3213	105	
$ 37Cl4-2,3,7,8-TCDD	17.620	108553063		0.9673	218.7	218.7	0.2010	0.2010	109	
S Total TCDD					210.6	210.6	0.3213	0.3213		
D 13C-1,2,3,7,8-PeCDF	21.746	51996022	1.56	0.9615	105.4	105.4	0.1985	0.1985	105	
1,2,3,7,8-PeCDF	21.774	490023644	1.53	0.8982	1049.3	1049.3	2.117	2.117	105	
D 13C-2,3,4,7,8-PeCDF	23.042	57282367	1.56	1.0393	107.4	107.4	0.1836	0.1836	107	
2,3,4,7,8-PeCDF	23.069	484741081	1.52	0.8101	1044.6	1044.6	2.295	2.295	104	
S Total PeCDF					2093.9	2093.9	2.206	2.206		
D 13C-1,2,3,7,8-PeCDD	23.737	37717891	1.63	0.6938	105.9	105.9	0.1028	0.1028	106	
1,2,3,7,8-PeCDD	23.764	390429195	1.55	0.9961	1039.2	1039.2	0.6615	0.6615	104	
S Total PeCDD					1039.2	1039.2	0.6615	0.6615		
D 13C-1,2,3,4,7,8-HxCDF	29.873	37478371	0.49	0.8543	99.6	99.6	0.2233	0.2233	99.64	
1,2,3,4,7,8-HxCDF	29.899	318854007	1.20	0.7916	1074.8	1074.8	3.726	3.726	107	
D 13C-1,2,3,6,7,8-HxCDF	30.112	36019385	0.48	0.8361	97.8	97.8	0.2282	0.2282	97.85	
1,2,3,6,7,8-HxCDF	30.139	334084350	1.20	0.8638	1073.8	1073.8	3.320	3.320	107	
D 13C-2,3,4,6,7,8-HxCDF	31.097	34348713	0.50	0.7773	100.4	100.4	0.2454	0.2454	100	
2,3,4,6,7,8-HxCDF	31.124	326355344	1.19	0.9010	1054.5	1054.5	2.331	2.331	105	
D 13C-1,2,3,7,8,9-HxCDF	31.989	32266559	0.48	0.7167	102.3	102.3	0.2662	0.2662	102	
1,2,3,7,8,9-HxCDF	32.002	313903764	1.20	0.9127	1065.9	1065.9	2.101	2.101	107	
S Total HxCDF					4269.0	4269.0	2.869	2.869		
* 13C-1,2,3,7,8,9-HxCDD	31.803	44028980	1.23	4.4E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.324	36771940	1.25	0.8050	103.7	103.7	0.1654	0.1654	104	
1,2,3,4,7,8-HxCDD	31.337	313711466	1.21	0.8392	1016.6	1016.6	1.498	1.498	102	
D 13C-1,2,3,6,7,8-HxCDD	31.444	35572032	1.25	0.8269	97.7	97.7	0.1610	0.1610	97.70	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.457	335470802	1.22	0.8876	1062.5	1062.5	1.549	1.549	106	
1,2,3,7,8,9-HxCDD	31.816	358844536	1.23	0.9567	1037.0	1037.0	1.373	1.373	104	
S Total HxCDD					3116.1	3116.1	1.473	1.473		
D 13C-1,2,3,4,6,7,8-HpCDF	33.496	30697152	0.42	0.7080	98.5	98.5	0.6246	0.6246	98.47	
1,2,3,4,6,7,8-HpCDF	33.508	424195277	1.03	1.3375	1033.2	1033.2	5.086	5.086	103	
D 13C-1,2,3,4,7,8,9-HpCDF	34.553	34335333	0.42	0.7451	104.7	104.7	0.5935	0.5935	105	
1,2,3,4,7,8,9-HpCDF	34.565	383499474	1.02	1.0744	1039.5	1039.5	6.426	6.426	104	
S Total HpCDF					2072.8	2072.8	5.756	5.756		
D 13C-1,2,3,4,6,7,8-HpCDD	34.274	33516886	1.04	0.7473	101.9	101.9	0.3610	0.3610	102	
1,2,3,4,6,7,8-HpCDD	34.286	340721421	1.04	0.9811	1036.1	1036.1	3.042	3.042	104	
S Total HpCDD					1036.1	1036.1	3.042	3.042		
D 13C-OCDD	36.578	62333978	0.88	0.6622	213.8	213.8	0.1058	0.1058	107	
OCDF	36.674	698349608	0.90	1.0659	2102.1	2102.1	0.7207	0.7207	105	
OCDD	36.590	625662105	0.87	0.9937	2020.2	2020.2	0.8363	0.8363	101	

Reagents:

HRDXNL6_00025 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 30-Jan-2020 04:53:08 ALS Bottle#: 7 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 012920D CS-6 HRDXNL6_00025
Misc. Info.: 29JA20B10D5
Operator ID: ALM Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 30-Jan-2020 09:35:11 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0321

First Level Reviewer: arghestanis Date: 30-Jan-2020 08:42:07

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.408	17.411	0		22834110	5713769	3984	9960	1434		
333.9339	17.408	17.411	0		28486877	7219723	5611	14027	1287	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.924	16.924	0	0.972	24366651	6490434	9644	24110	673		
317.9389	16.924	16.924	0	0.972	33490325	8690919	11803	29507	736	0.73(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.939	16.939	0	1.001	40773034	10432488	14658	36645	712		
305.8987	16.939	16.939	0	1.001	55332357	14170541	28582	71455	496	0.74(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.605	17.605	0	1.011	20855838	5269644	3984	9960	1323		
333.9339	17.605	17.605	0	1.011	25882947	6576631	5611	14027	1172	0.81(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.620	17.623	0	1.001	41101570	10325651	9921	24802	1041		
321.8936	17.620	17.623	0	1.001	53366976	13301231	4694	11735	2834	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.620	17.623	0	1.012	108553063	27428537	10059	25147	2727		
13C-1,2,3,7,8-PeCDF											
351.9000	21.746	21.749	0	1.249	31692426	6002618	5785	14462	1038		
353.8970	21.746	21.749	0	1.249	20303596	3863655	4088	10220	945	1.56(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.774	21.773	0	1.001	296040812	55912952	45645	114112	1225		
341.8567	21.774	21.773	0	1.001	193982832	36648403	29387	73467	1247	1.53(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	23.042	23.042	0	1.324	34896712	6119475	5785	14462	1058		
353.8970	23.042	23.042	0	1.324	22385655	3972030	4088	10220	972	1.56(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.069	23.066	0	1.001	292493649	51013132	45645	114112	1118		
341.8567	23.069	23.066	0	1.001	192247432	33528658	29387	73467	1141	1.52(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.737	23.737	0	1.364	23371482	3863035	2058	5145	1877		
369.8919	23.737	23.737	0	1.364	14346409	2403086	1630	4075	1474	1.63(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.764	23.761	0	1.001	237431357	38830857	10052	25130	3863		
357.8516	23.764	23.761	0	1.001	152997838	25005194	6463	16157	3869	1.55(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.873	29.878	0	0.939	12403506	1795878	2891	7227	621		
385.8610	29.873	29.878	0	0.939	25074865	3627189	5472	13680	663	0.49(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.899	29.905	0	1.001	173747931	25005453	34621	86552	722		
375.8178	29.899	29.905	0	1.001	145106076	20936289	29351	73377	713	1.20(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.112	30.118	0	0.947	11760169	1798733	2891	7227	622		
385.8610	30.112	30.118	0	0.947	24259216	3777504	5472	13680	690	0.48(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.139	30.142	0	1.001	182304438	28346994	34621	86552	819		
375.8178	30.139	30.142	0	1.001	151779912	23647633	29351	73377	806	1.20(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.097	31.108	-1	0.978	11480406	2557310	2891	7227	885		
385.8610	31.097	31.108	-1	0.978	22868307	5058525	5472	13680	924	0.50(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.124	31.124	0	1.001	177318633	38467618	34621	86552	1111		
375.8178	31.124	31.124	0	1.001	149036711	32292802	29351	73377	1100	1.19(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.989	31.992	0	1.006	10531704	2706390	2891	7227	936		
385.8610	31.989	31.992	0	1.006	21734855	5633633	5472	13680	1030	0.48(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.002	32.008	0	1.000	171328861	43332873	34621	86552	1252		
375.8178	32.002	32.008	0	1.000	142574903	36468389	29351	73377	1242	1.20(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.803	31.803	0		24243548	6037019	2890	7225	2089		
403.8529	31.803	31.803	0		19785432	4921830	2946	7365	1671	1.23(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.324	31.324	0	0.985	20425612	5043811	2890	7225	1745		
403.8529	31.324	31.324	0	0.985	16346328	3926023	2946	7365	1333	1.25(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.337	31.337	0	1.000	171565910	42077459	25236	63090	1667		
391.8127	31.337	31.337	0	1.000	142145556	34682699	19868	49670	1746	1.21(1.05-1.43)	

Report Date: 30-Jan-2020 09:35:39 Chrom Revision: 2.3 14-Jan-2020 22:23:42
Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.444	31.441	0	0.989	19781298	4570494	2890	7225	1581		
403.8529	31.444	31.441	0	0.989	15790734	3631501	2946	7365	1233	1.25(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.457	31.457	0	1.000	184396009	43013088	25236	63090	1704		
391.8127	31.457	31.457	0	1.000	151074793	35105800	19868	49670	1767	1.22(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.816	31.816	0	1.016	197663195	48210938	25236	63090	1910		
391.8127	31.816	31.816	0	1.016	161181341	38988834	19868	49670	1962	1.23(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.496	33.499	0	1.053	9116173	3024430	5919	14797	511		
419.8220	33.496	33.499	0	1.053	21580979	7072161	13466	33665	525	0.42(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.508	33.511	0	1.000	215055497	71413249	136061	340152	525		
409.7789	33.508	33.511	0	1.000	209139780	69718132	138669	346672	503	1.03(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.553	34.563	-1	1.086	10076247	2939042	5919	14797	497		
419.8220	34.553	34.563	-1	1.086	24259086	7008054	13466	33665	520	0.42(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.565	34.570	0	1.000	193827280	55492478	136061	340152	408		
409.7789	34.565	34.570	0	1.000	189672194	54168574	138669	346672	391	1.02(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.274	34.279	0	1.078	17114846	5253670	6008	15020	874		
437.8140	34.274	34.279	0	1.078	16402040	5087936	5819	14547	874	1.04(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.286	34.288	0	1.000	173402269	53443503	77828	194570	687		
425.7737	34.286	34.288	0	1.000	167319152	51405685	45652	114130	1126	1.04(0.88-1.20)	
13C-OCDD											
469.7779	36.578	36.578	0	1.150	29179334	7606610	1443	3607	5271		
471.7750	36.578	36.578	0	1.150	33154644	8664968	1627	4067	5326	0.88(0.76-1.02)	
OCDF											
441.7428	36.674	36.674	0	1.003	330505991	83589425	10569	26422	7909		
443.7399	36.662	36.674	-1	1.002	367843617	95596274	14431	36077	6624	0.90(0.76-1.02)	
OCDD											
457.7377	36.590	36.590	0	1.000	291390681	74721193	12248	30620	6101		
459.7348	36.578	36.590	-1	1.000	334271424	84071757	14797	36992	5682	0.87(0.76-1.02)	

Reagents:

HRDXNL6_00025 Amount Added: 2.00 Units: uL

Report Date: 30-Jan-2020 09:35:39 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d		
Injection Date:	30-Jan-2020 04:53:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

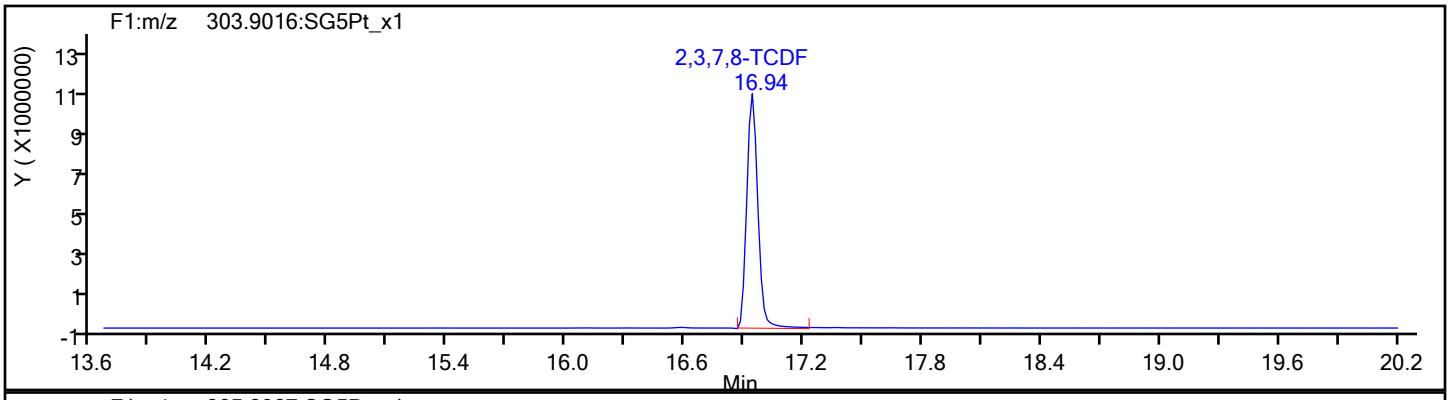

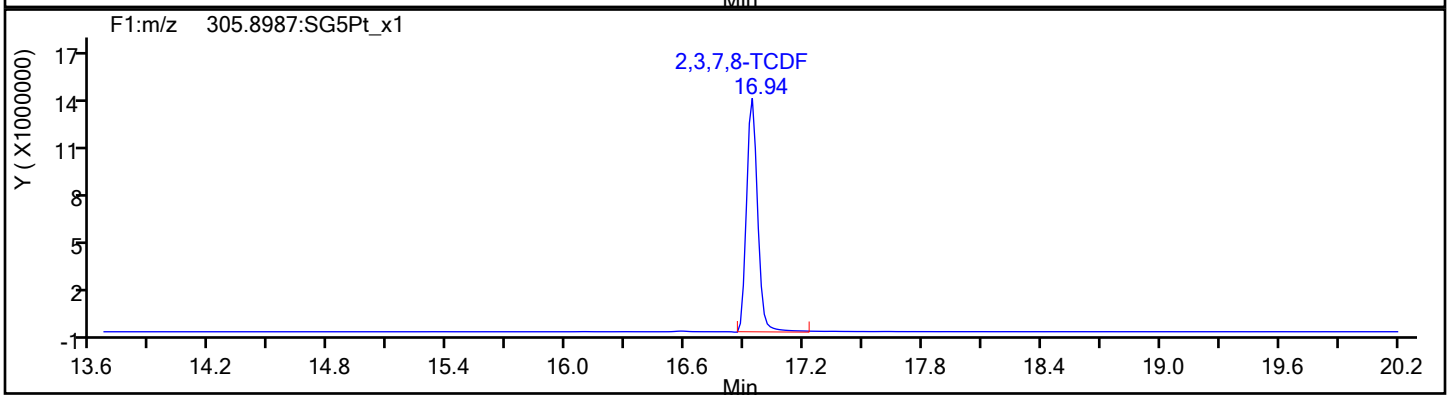

TCDF Standards

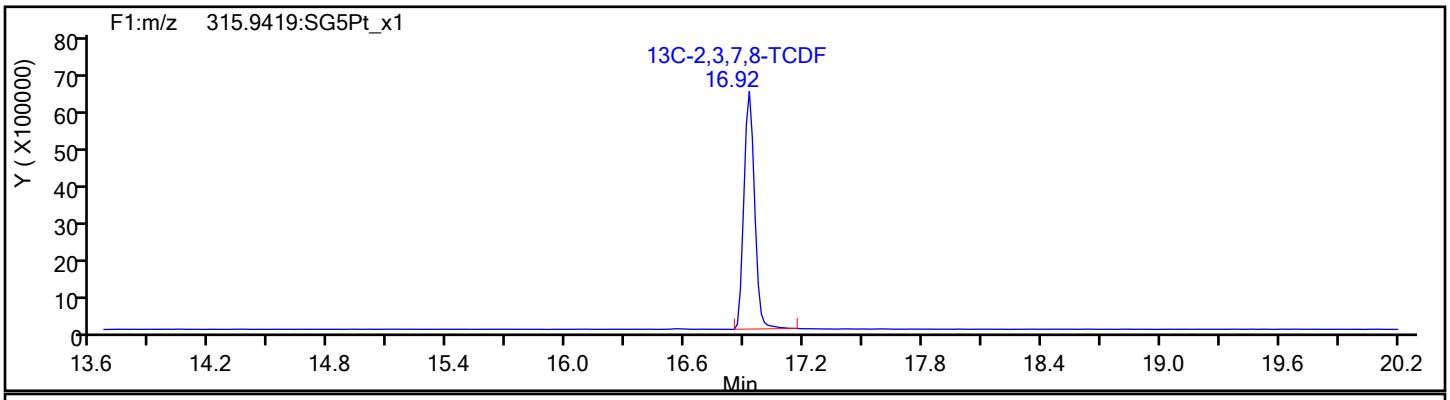

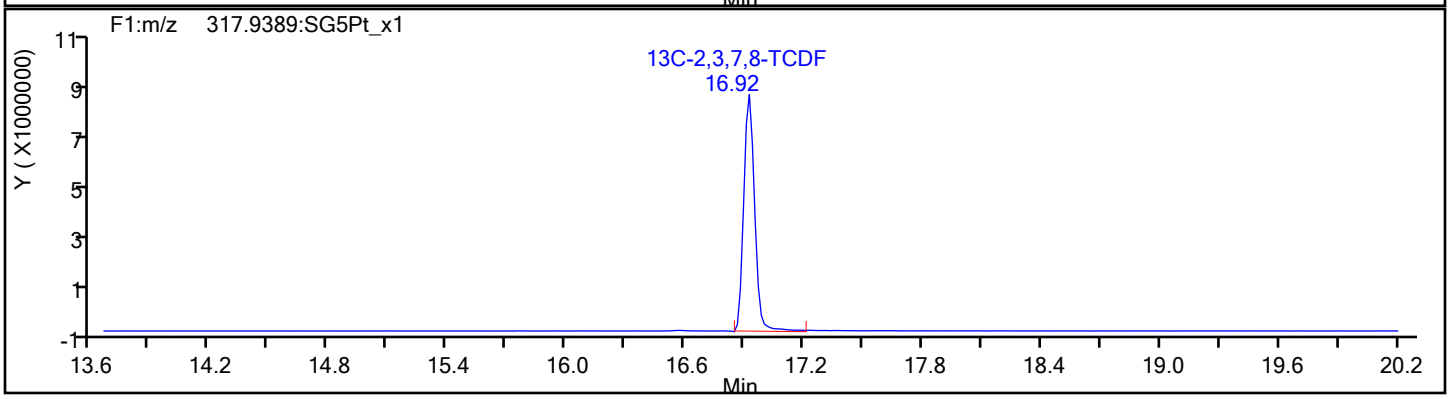

Report Date: 30-Jan-2020 09:35:39 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d		
Injection Date:	30-Jan-2020 04:53:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

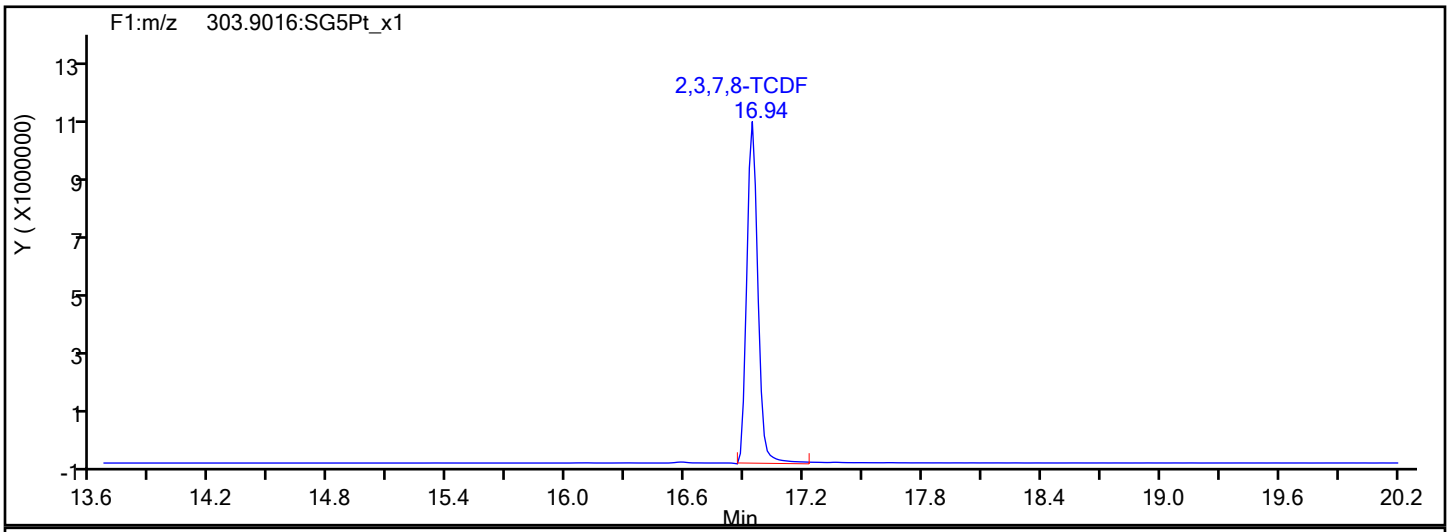

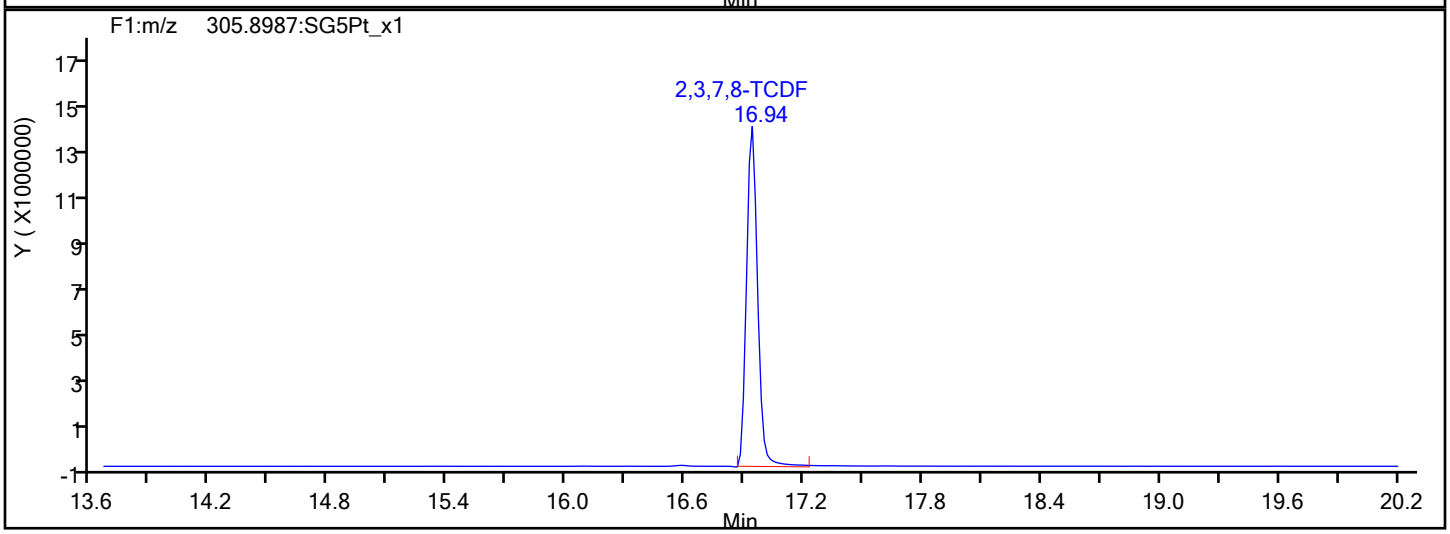

TCDF Interference Mass

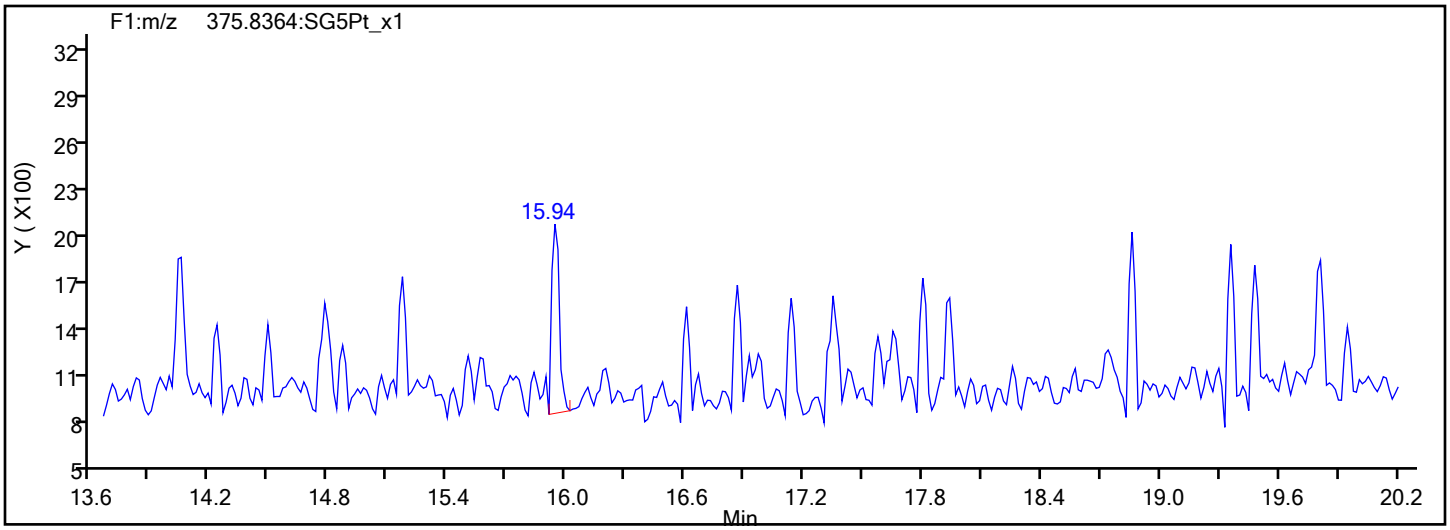

Report Date: 30-Jan-2020 09:35:39 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d		
Injection Date:	30-Jan-2020 04:53:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

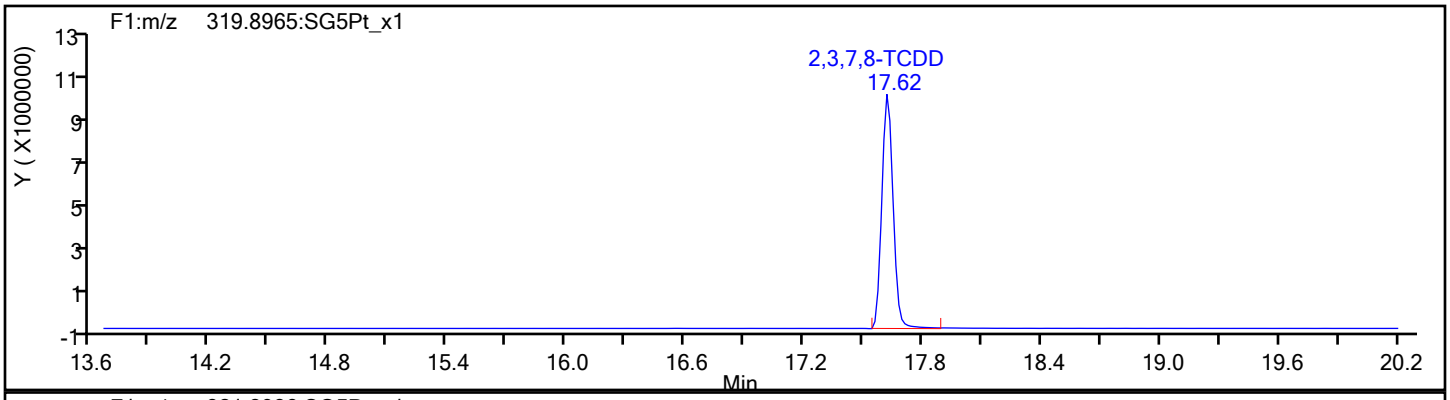

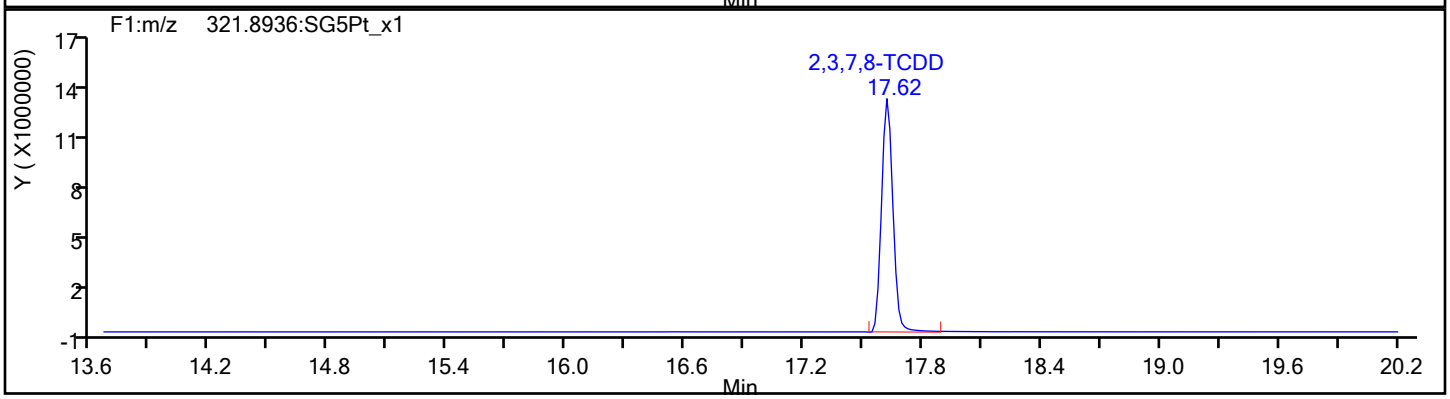

TCDD Standards

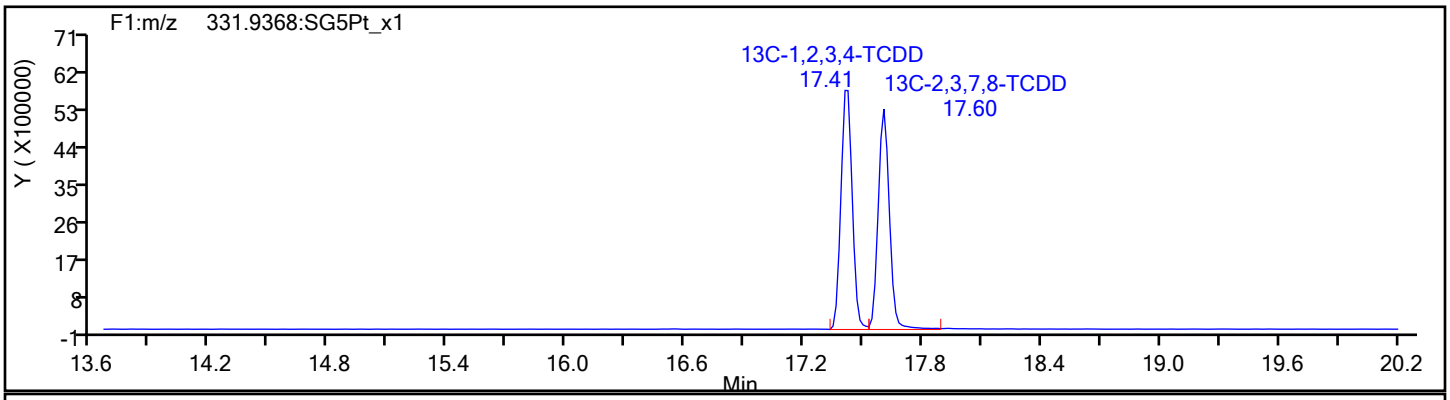

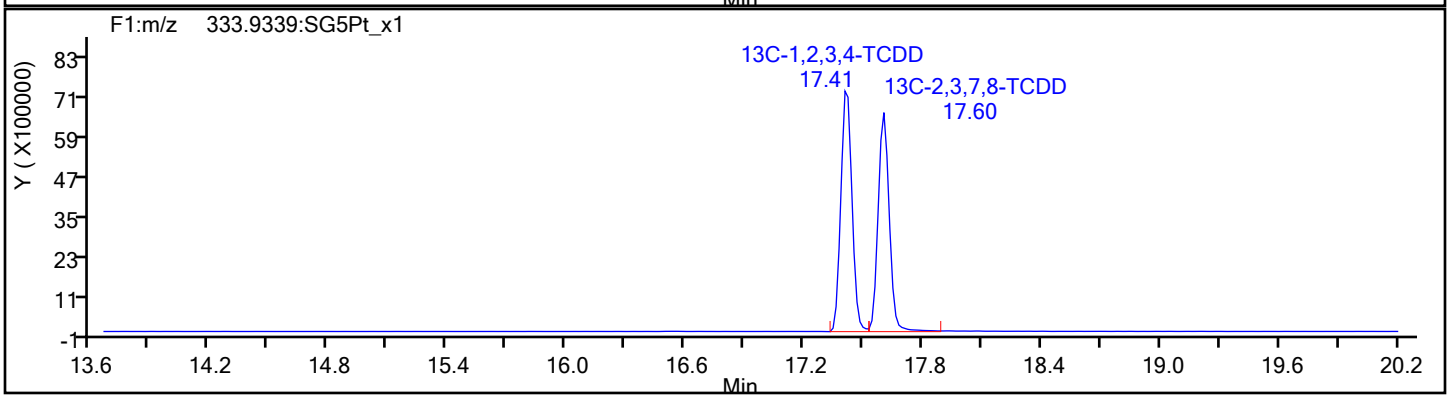

Report Date: 30-Jan-2020 09:35:39 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d		
Injection Date:	30-Jan-2020 04:53:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

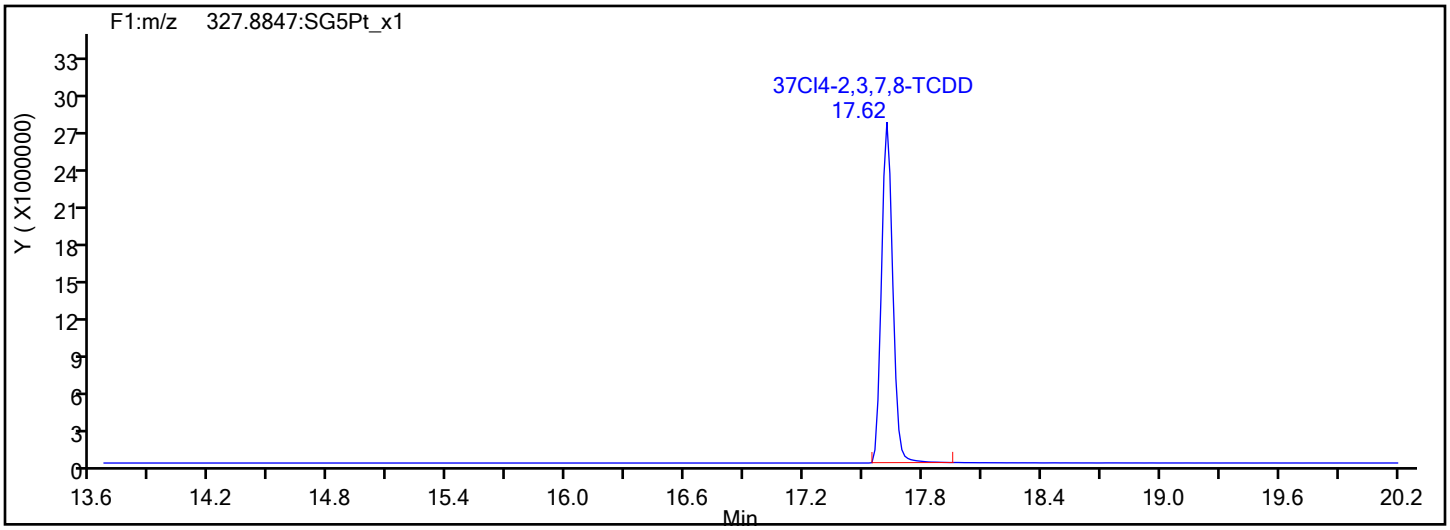

37Cl4-TCDD Standards

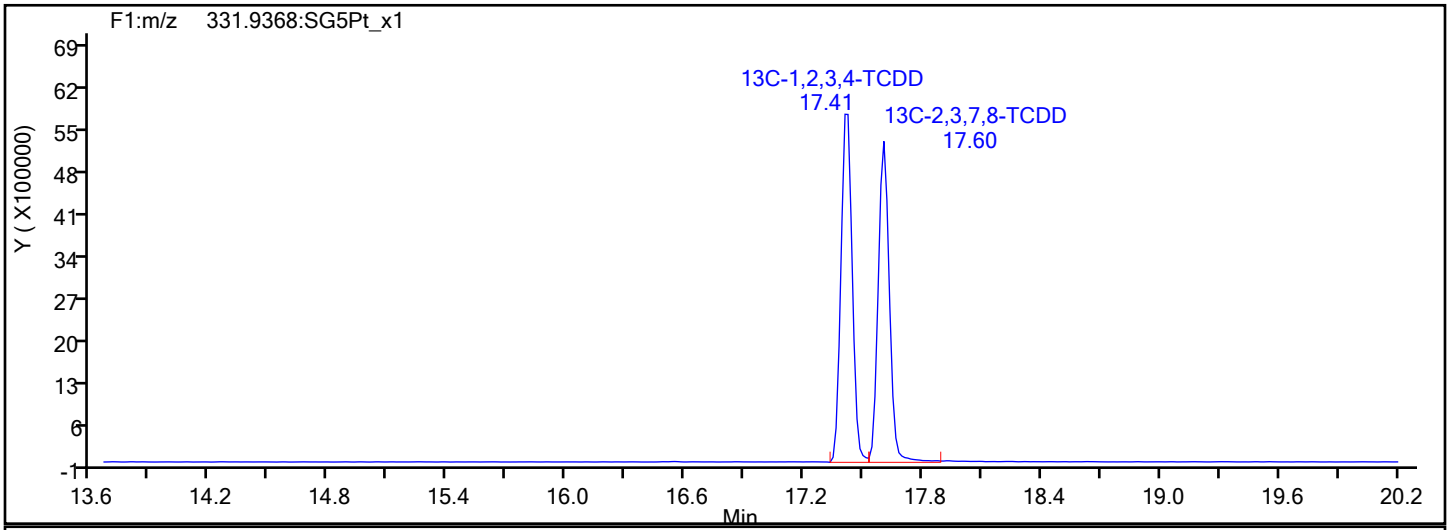

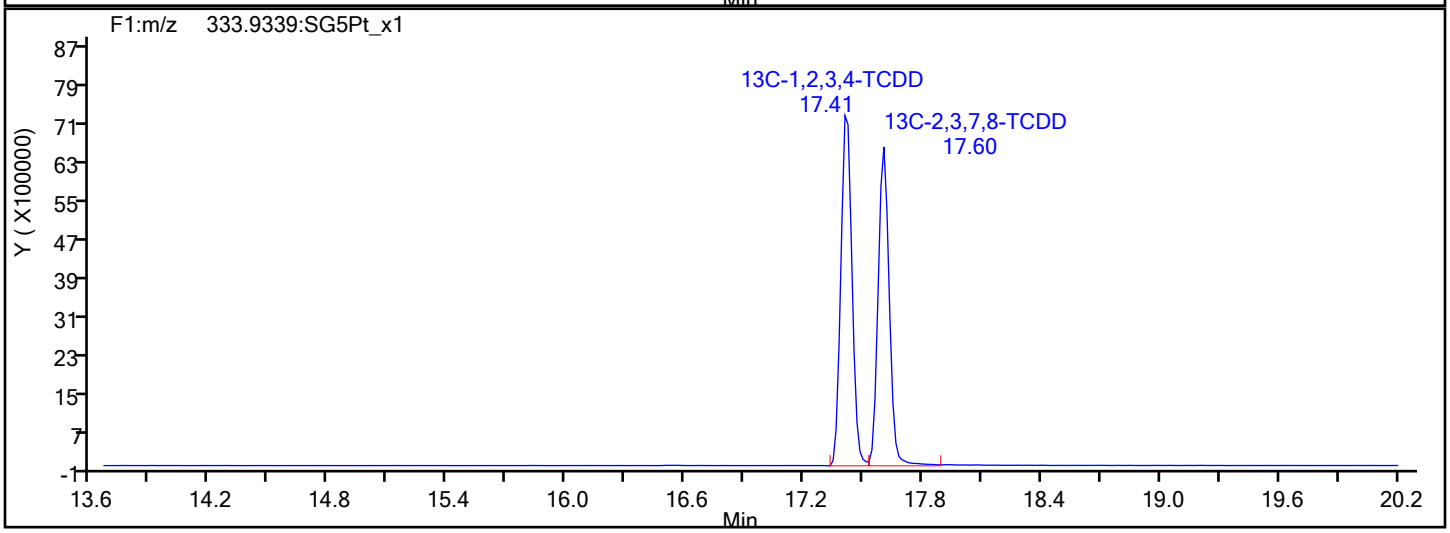

Report Date: 30-Jan-2020 09:35:39 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

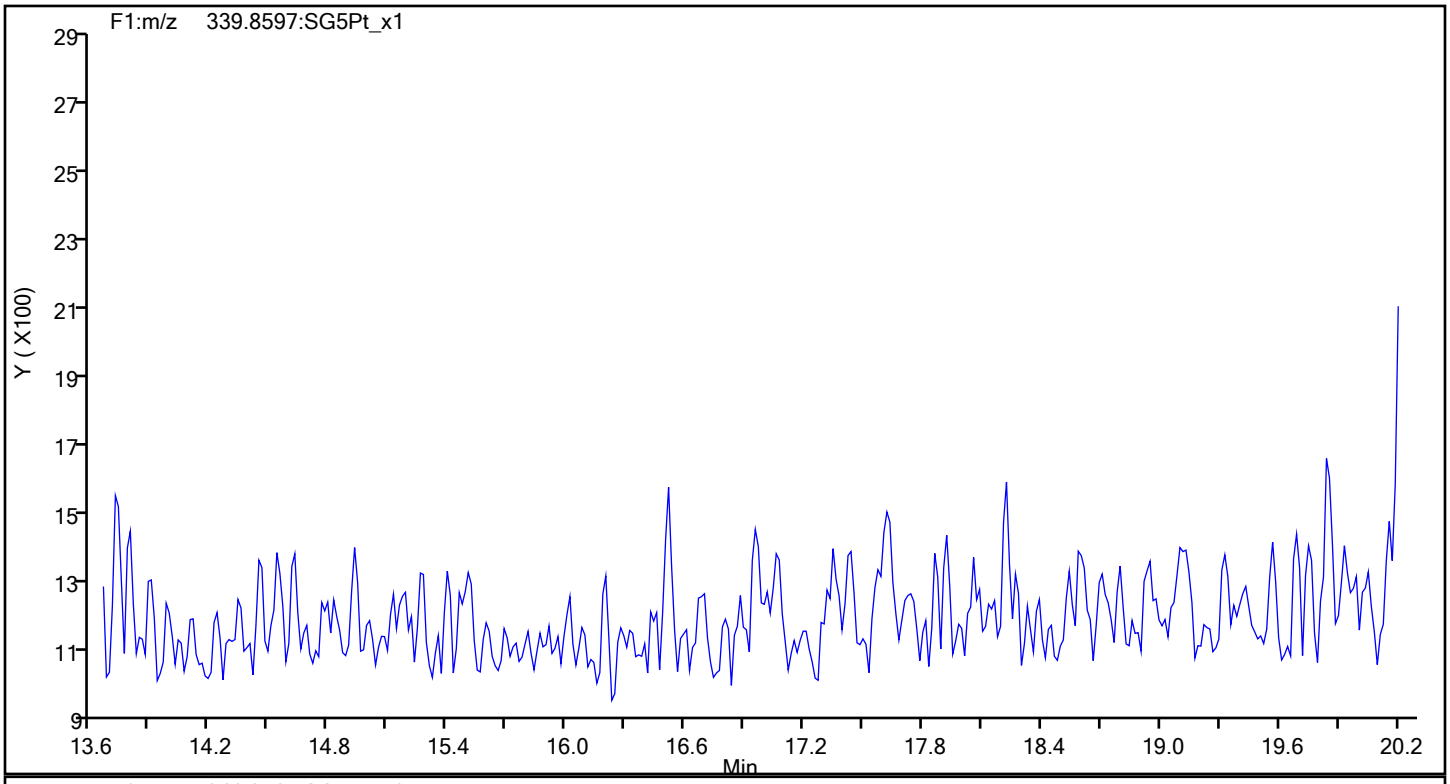

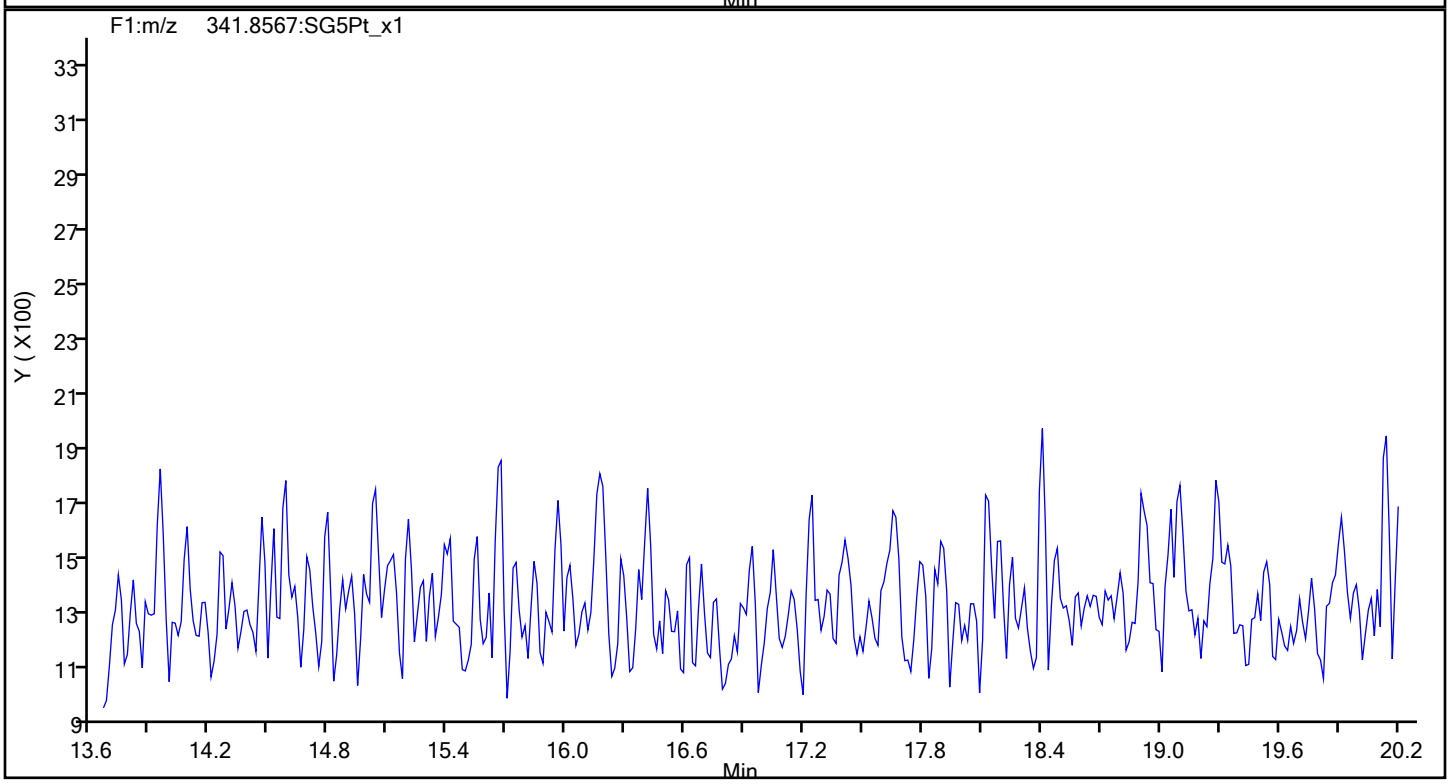

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F1 PeCDFs

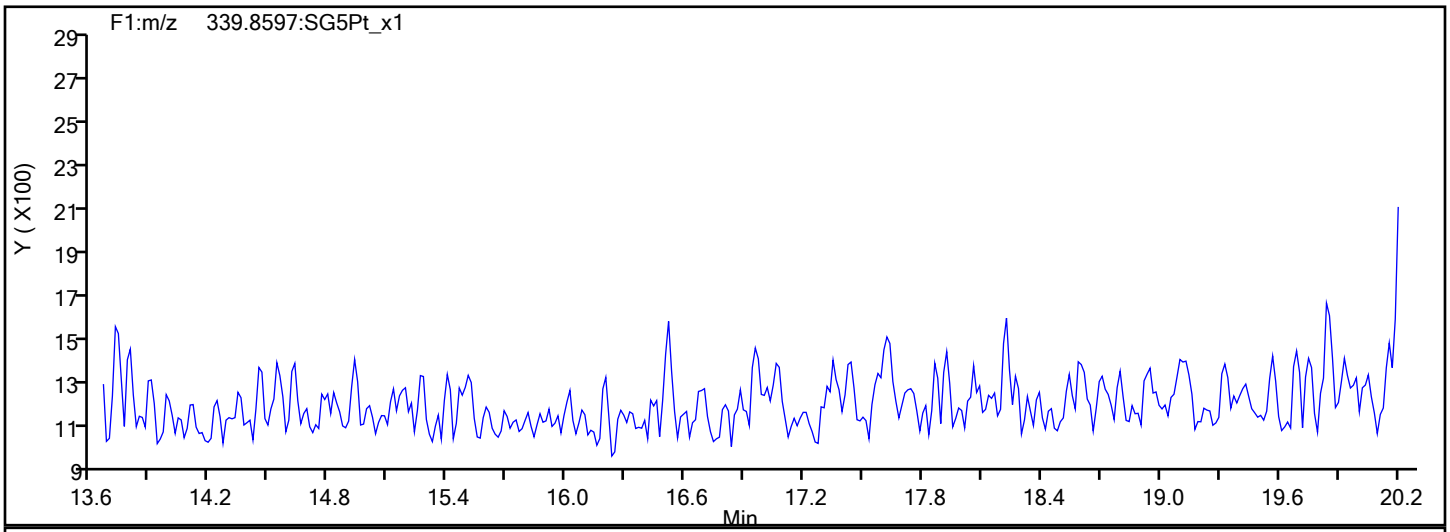

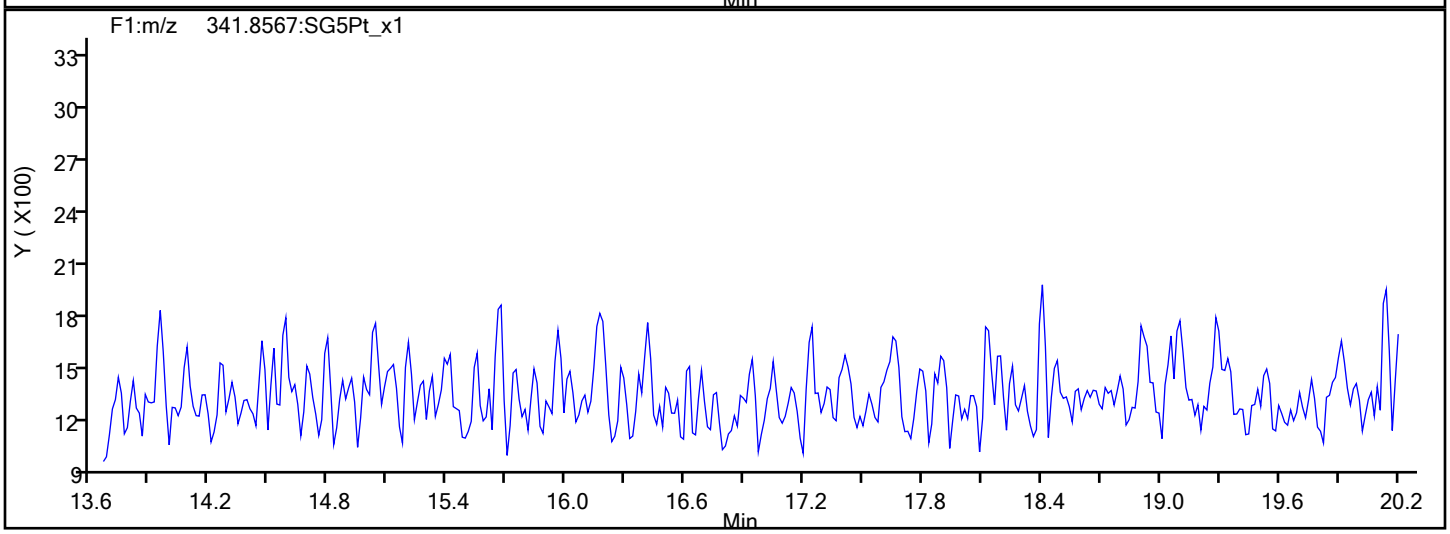

F1 PeCDFs Interference Mass

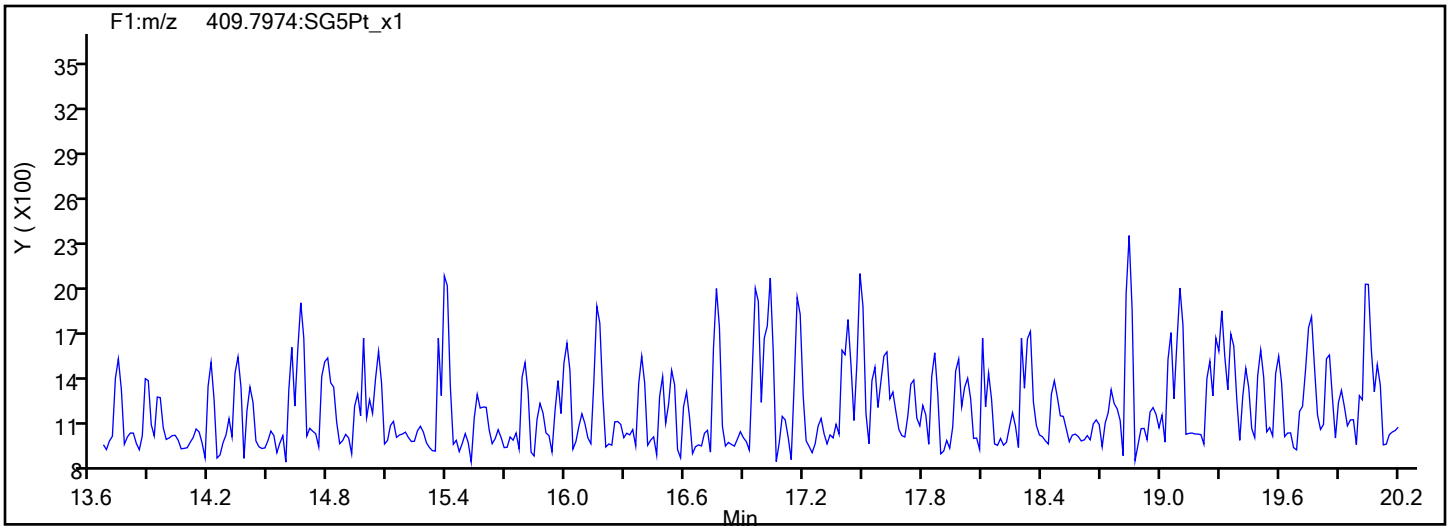

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Eurofins TestAmerica, Sacramento

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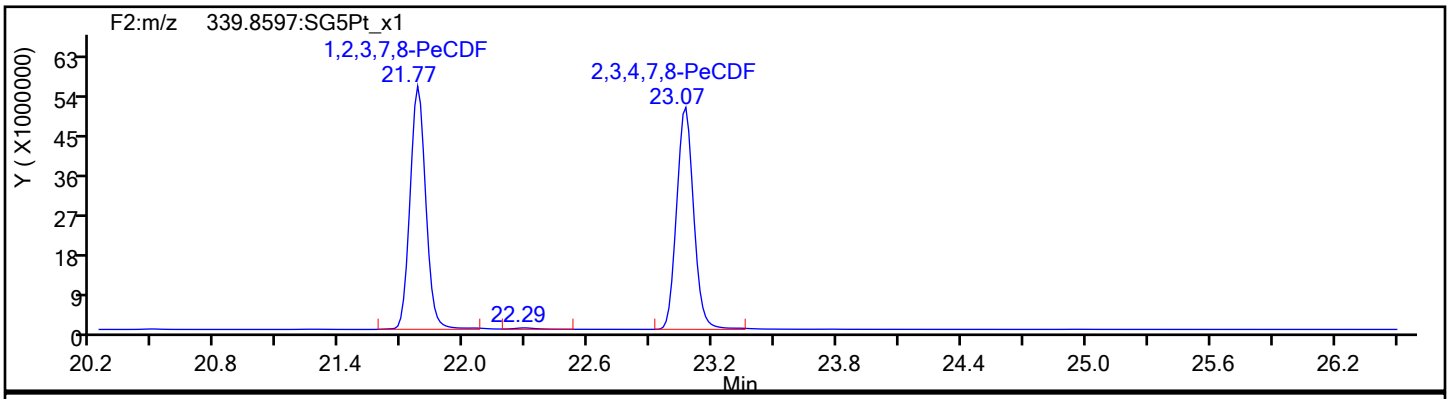

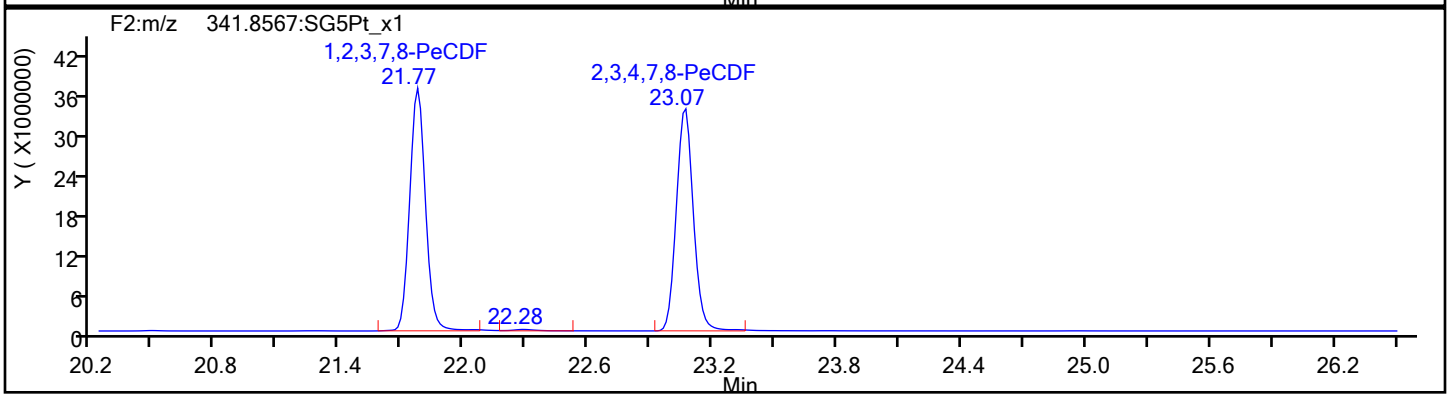

PeCDF Standards

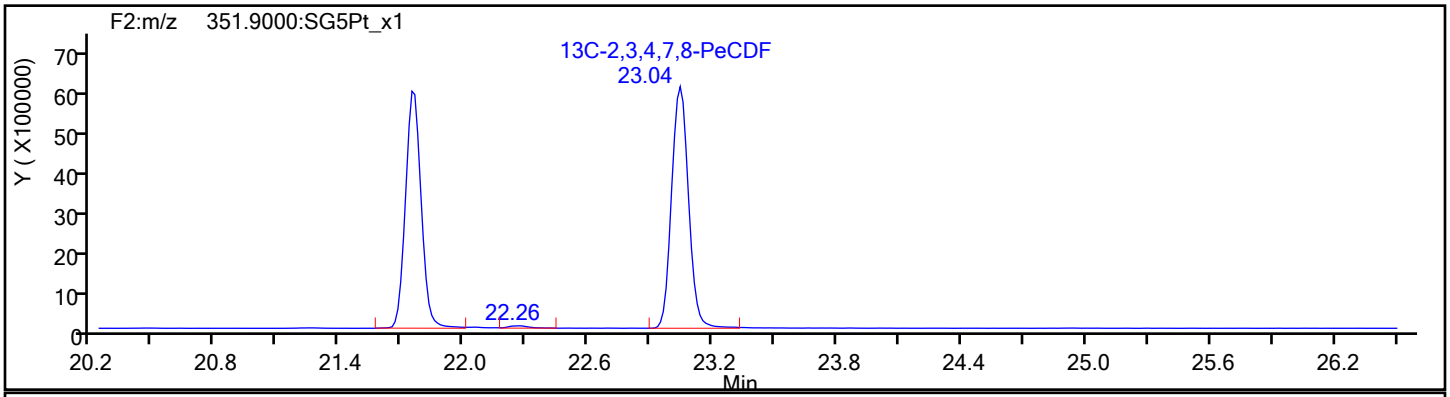

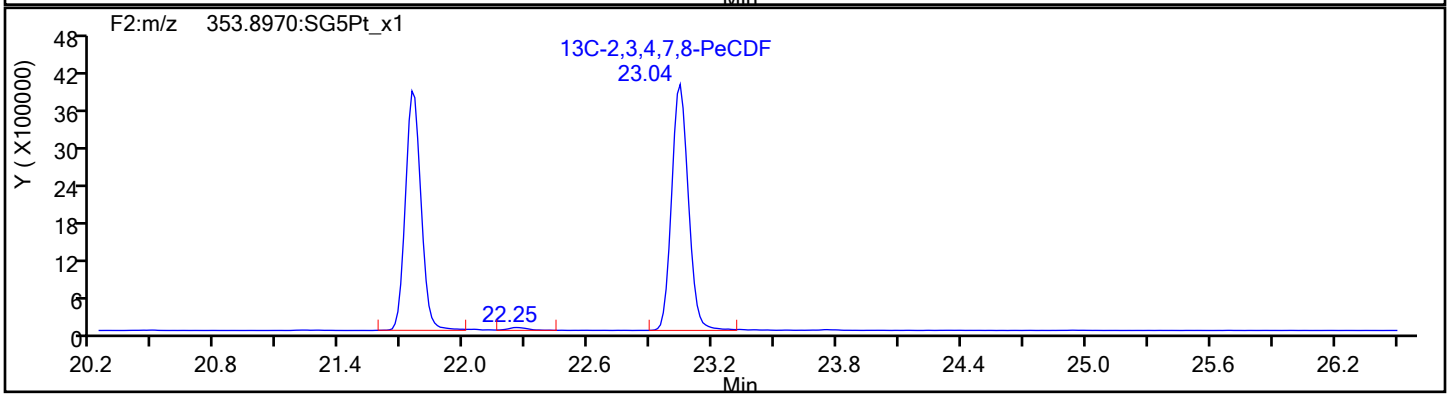

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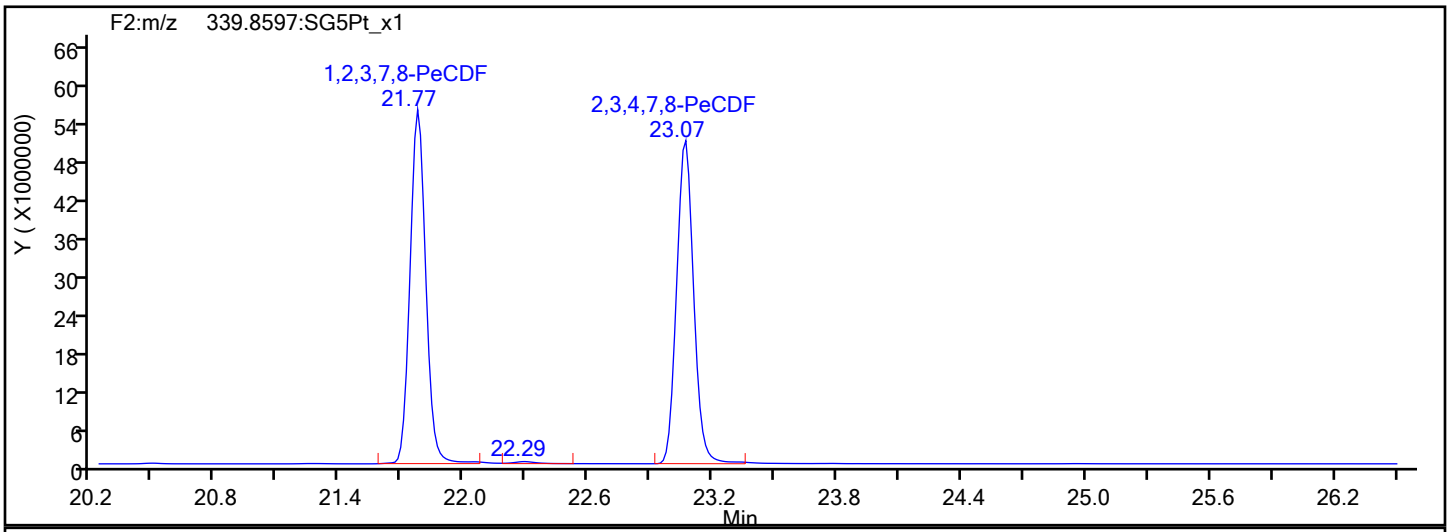

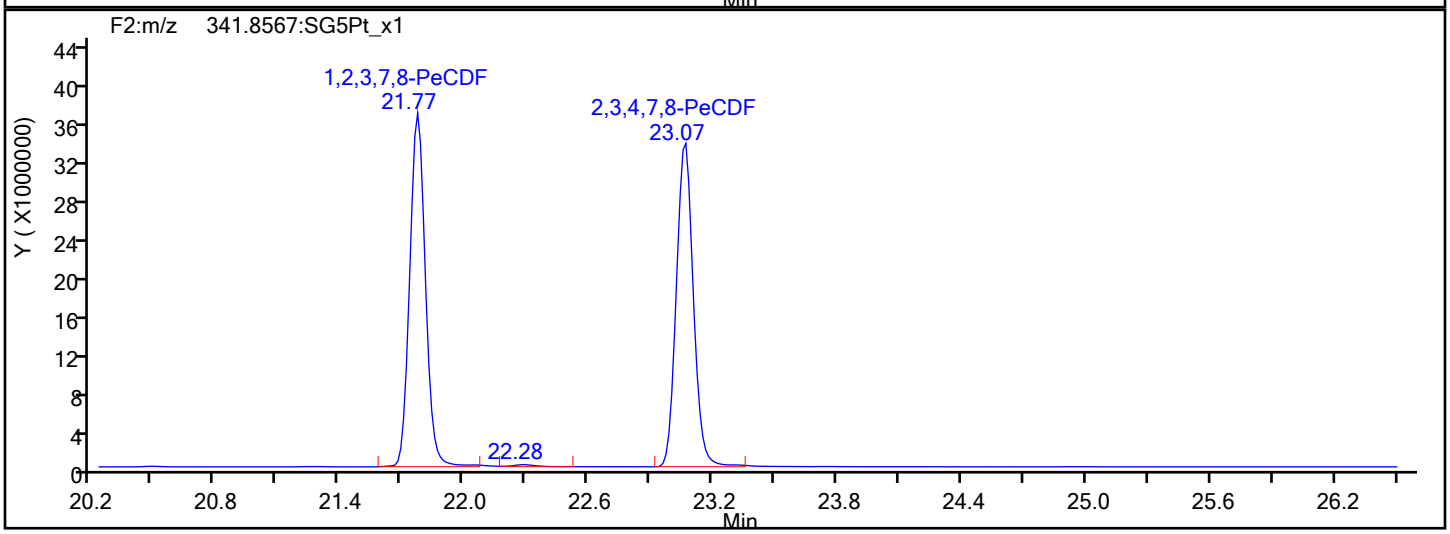

PeCDF Interference Mass

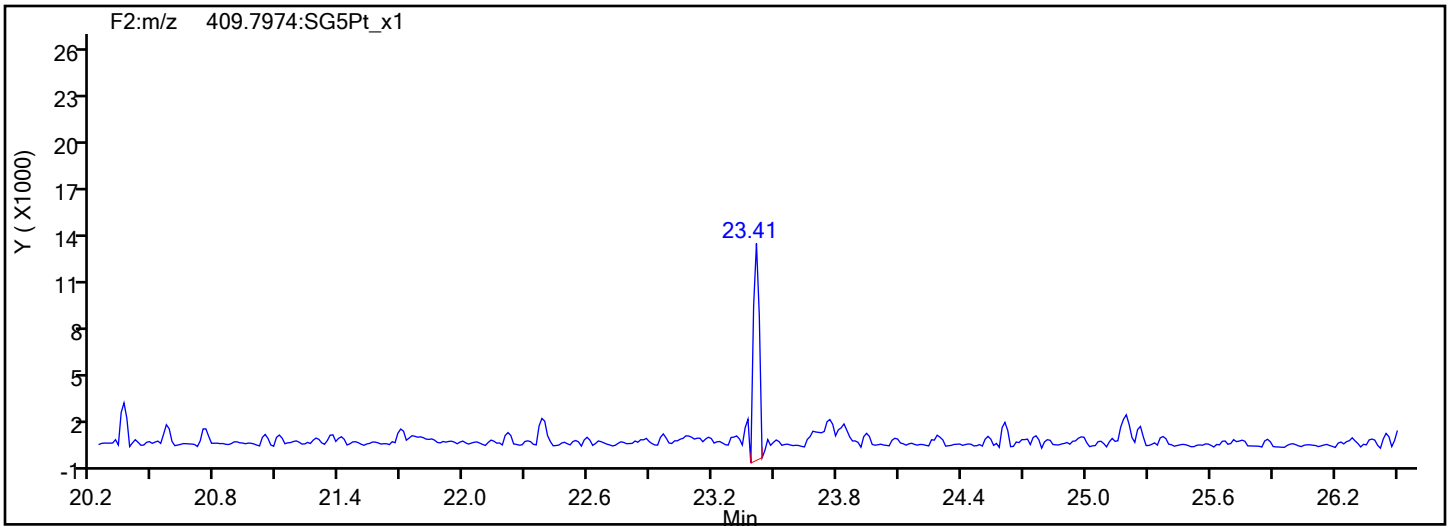

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Eurofins TestAmerica, Sacramento

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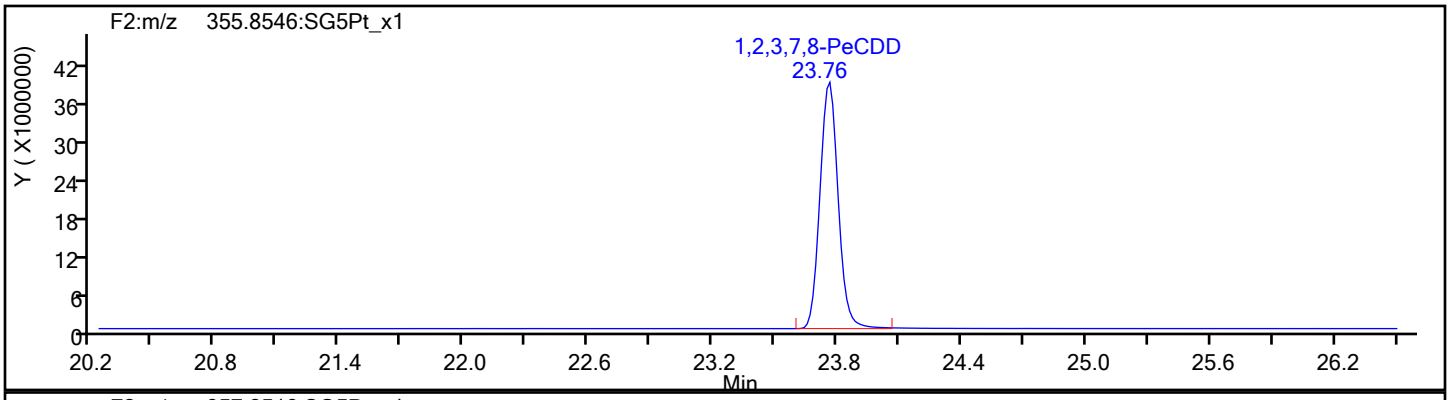

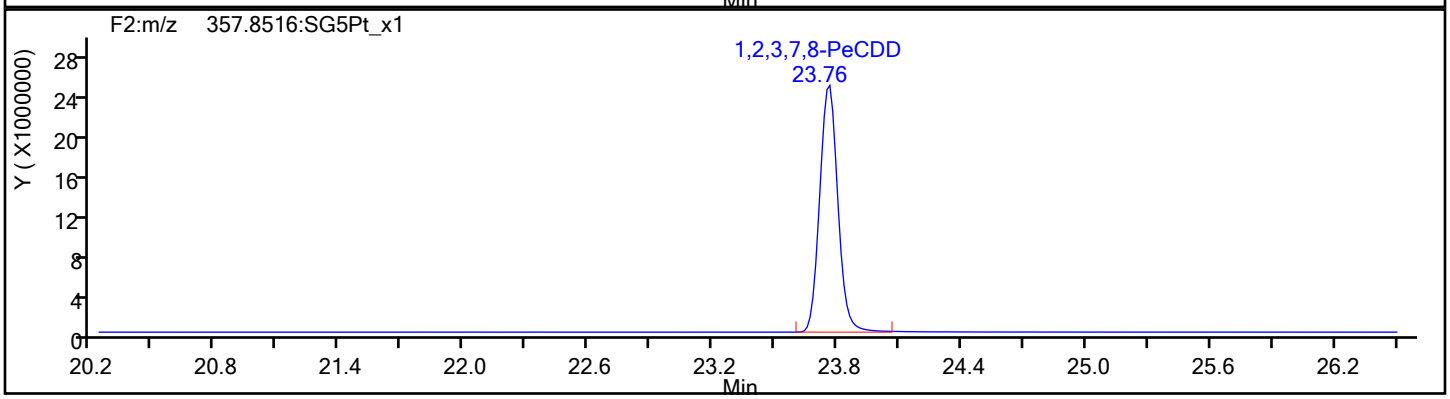

PeCDD Standards

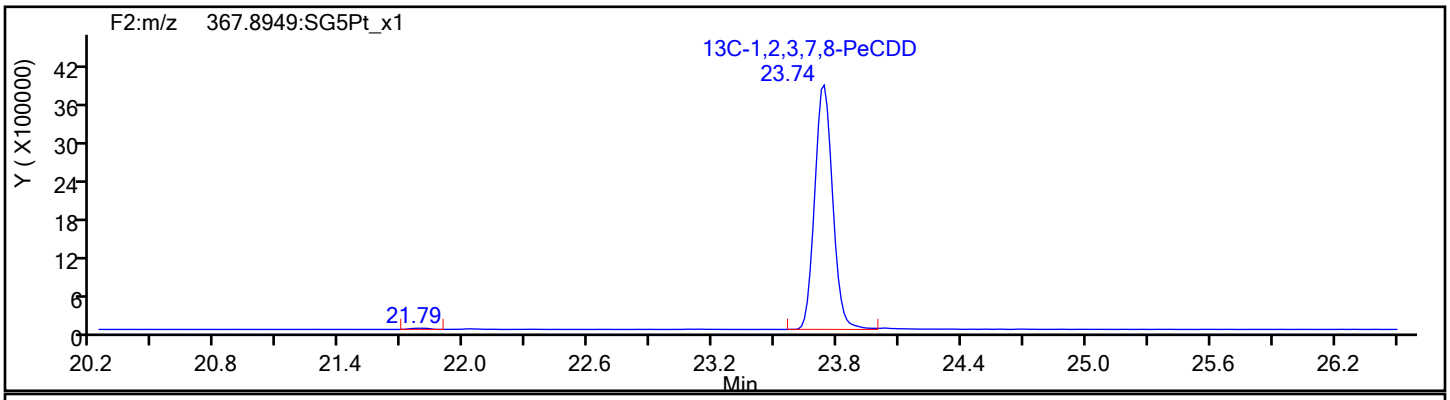

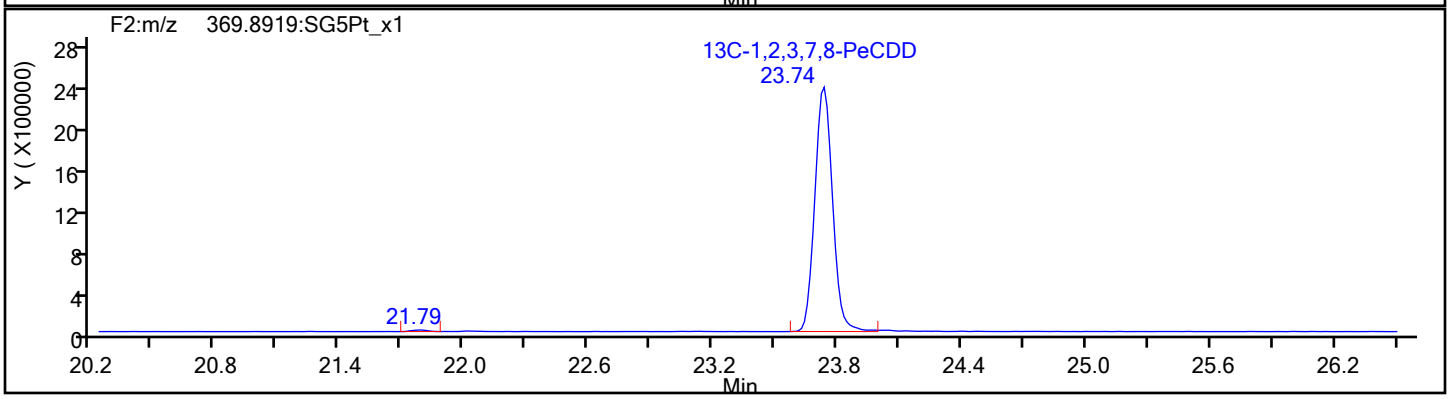

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Eurofins TestAmerica, Sacramento

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HxCDF

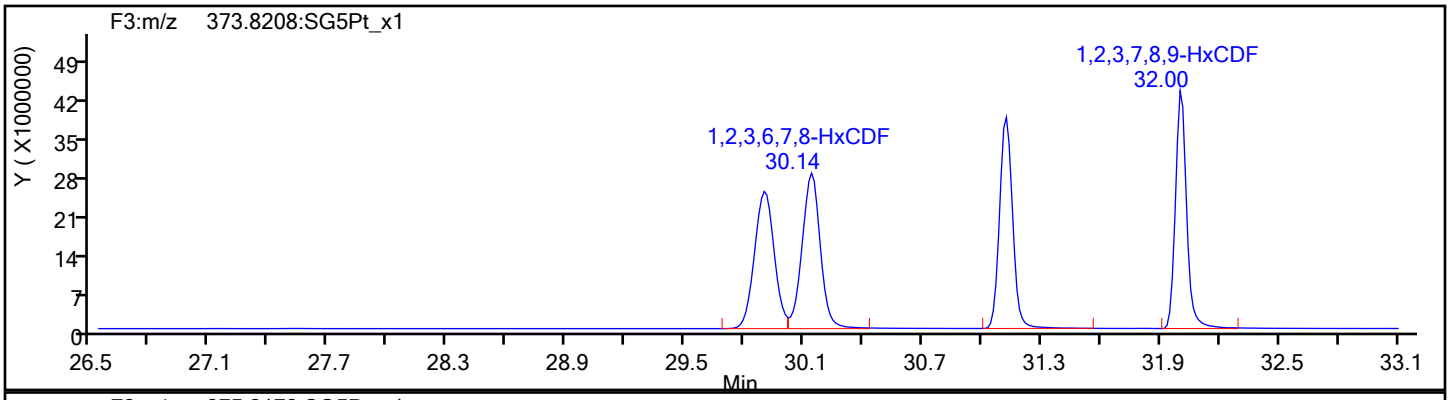

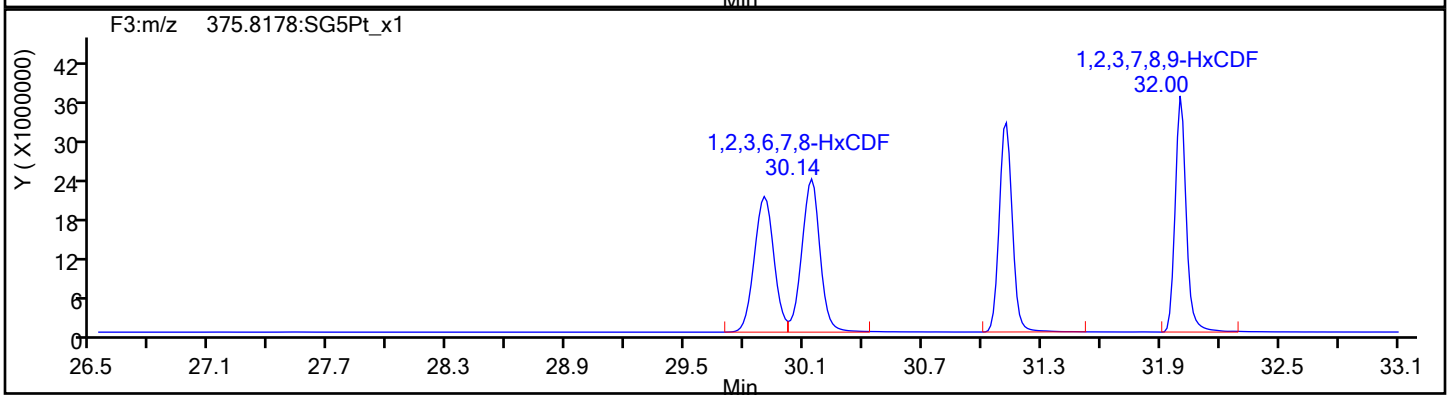

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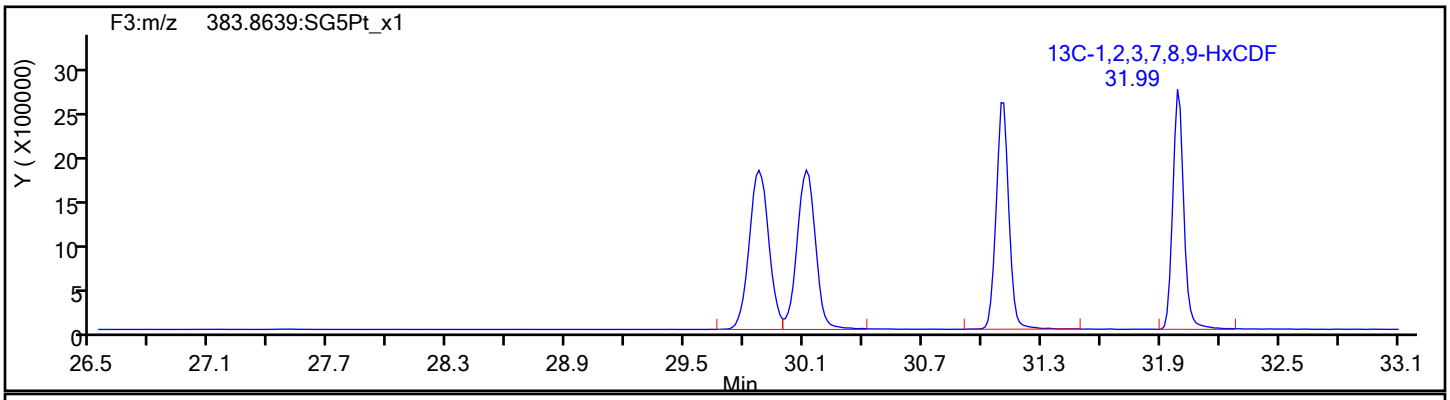

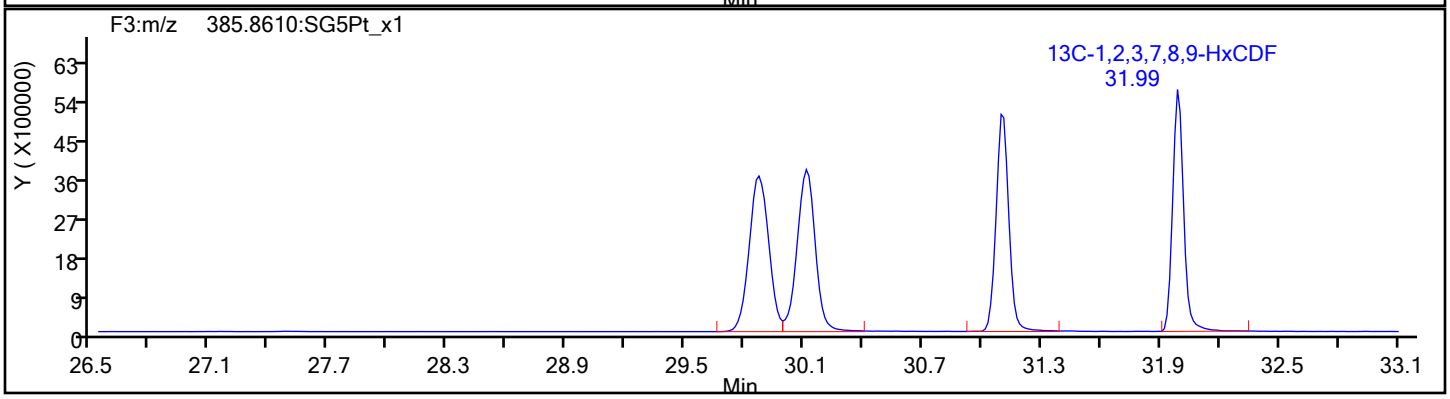

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Eurofins TestAmerica, Sacramento

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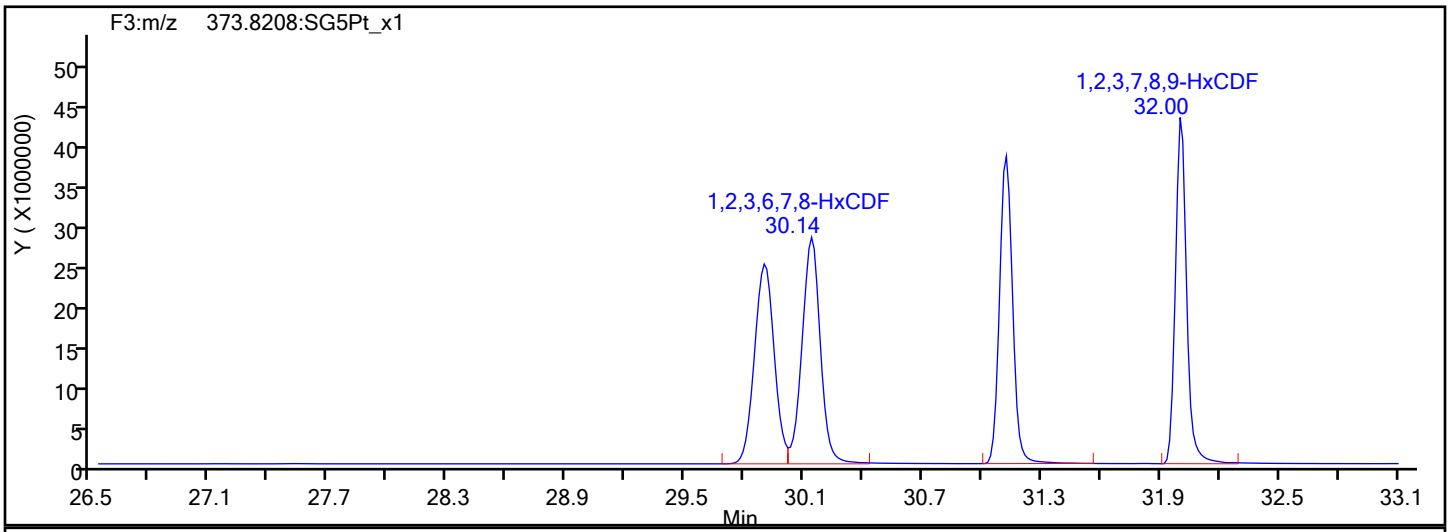

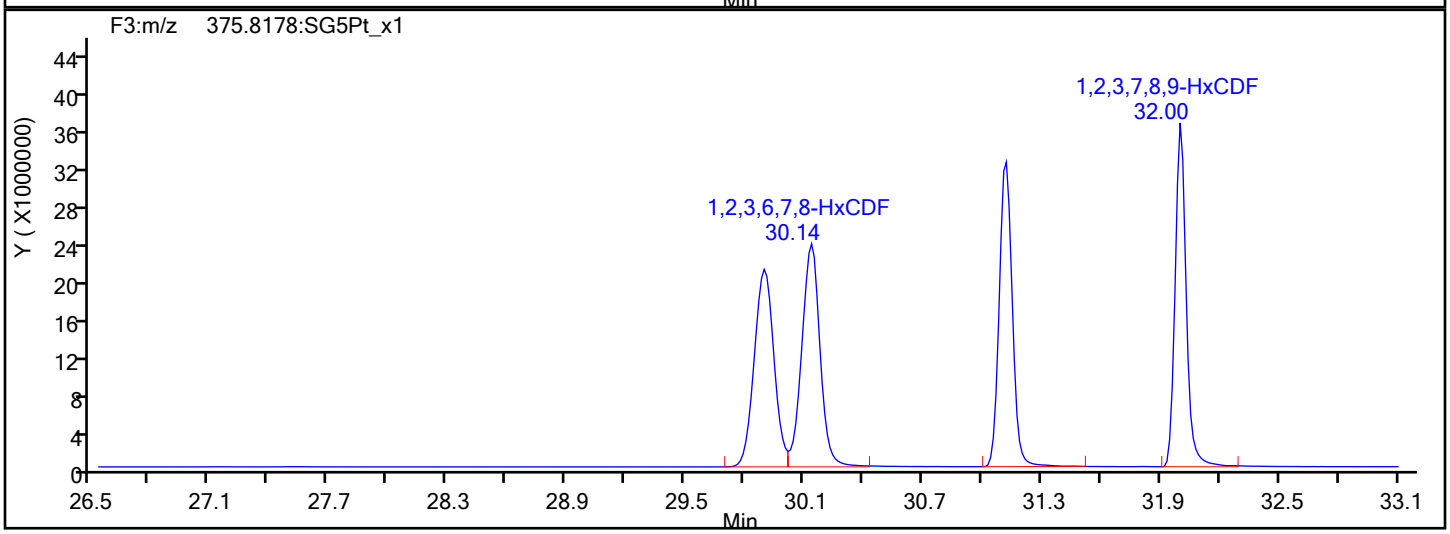

HxCDF Interference Mass

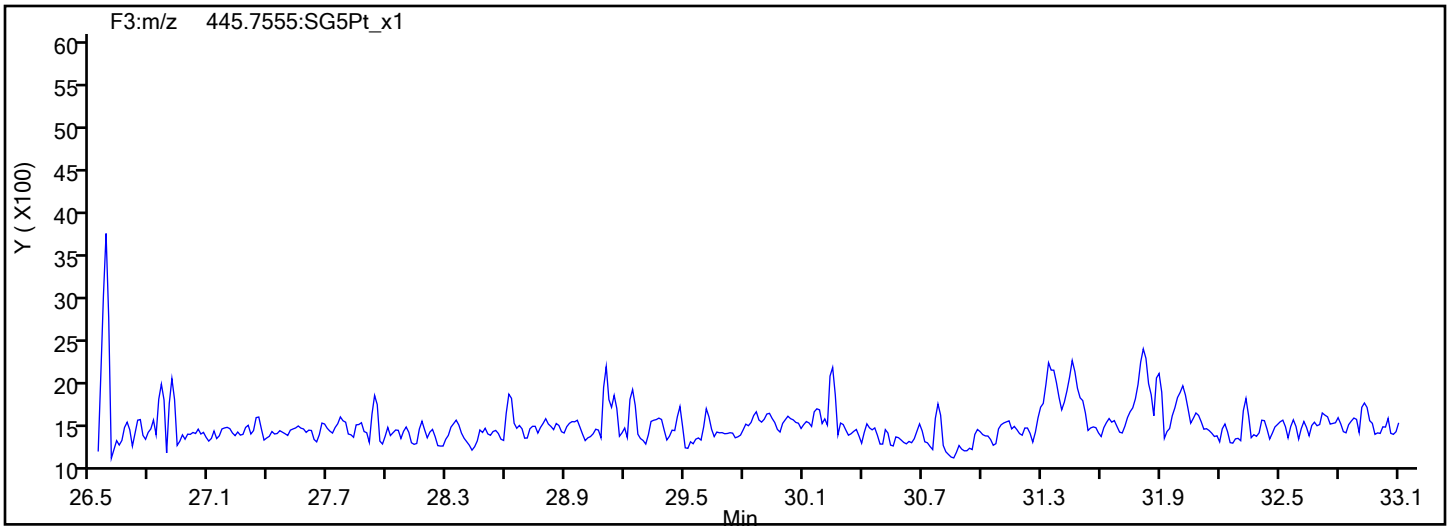

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Eurofins TestAmerica, Sacramento

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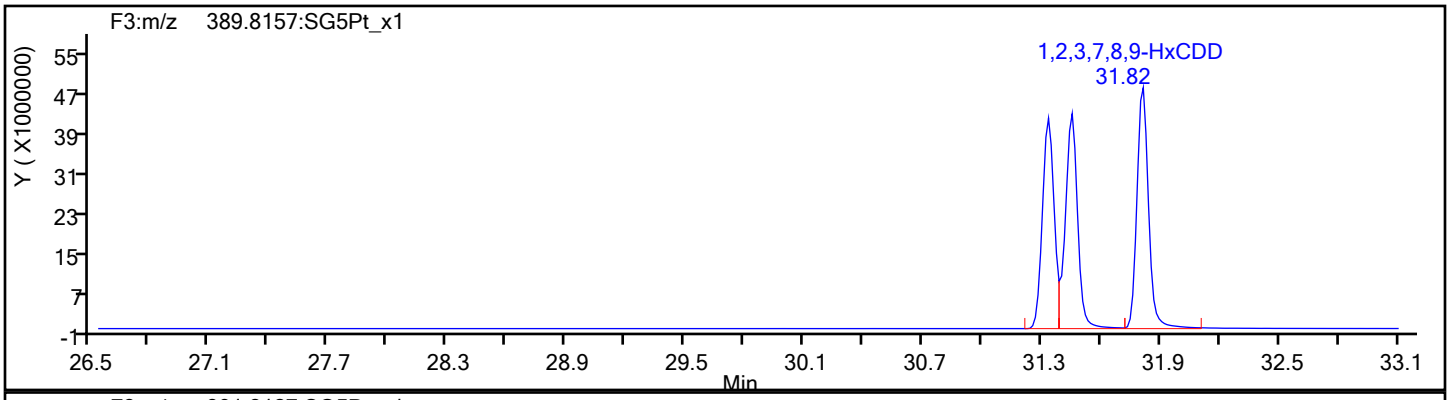

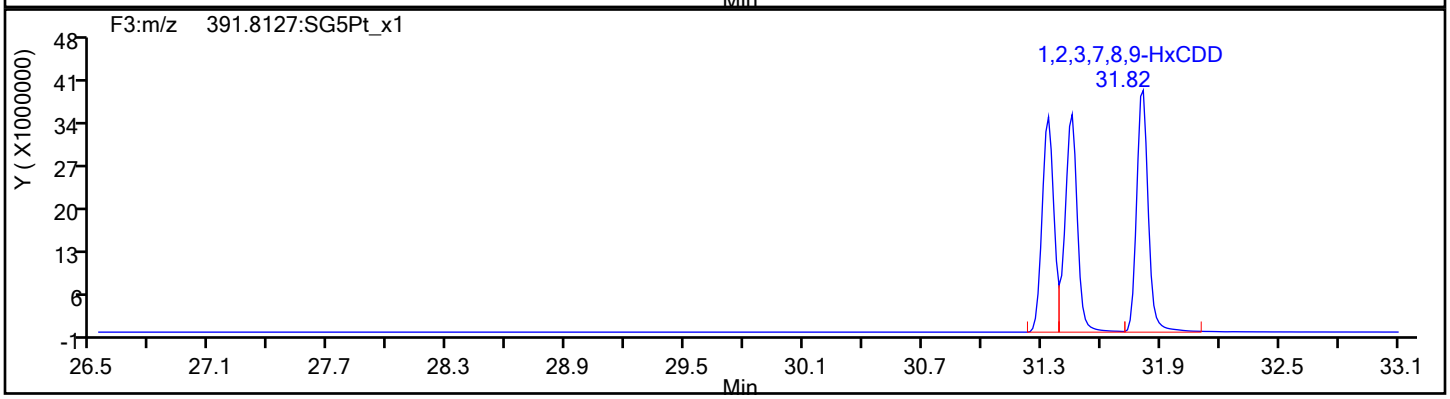

HxCDD Standards

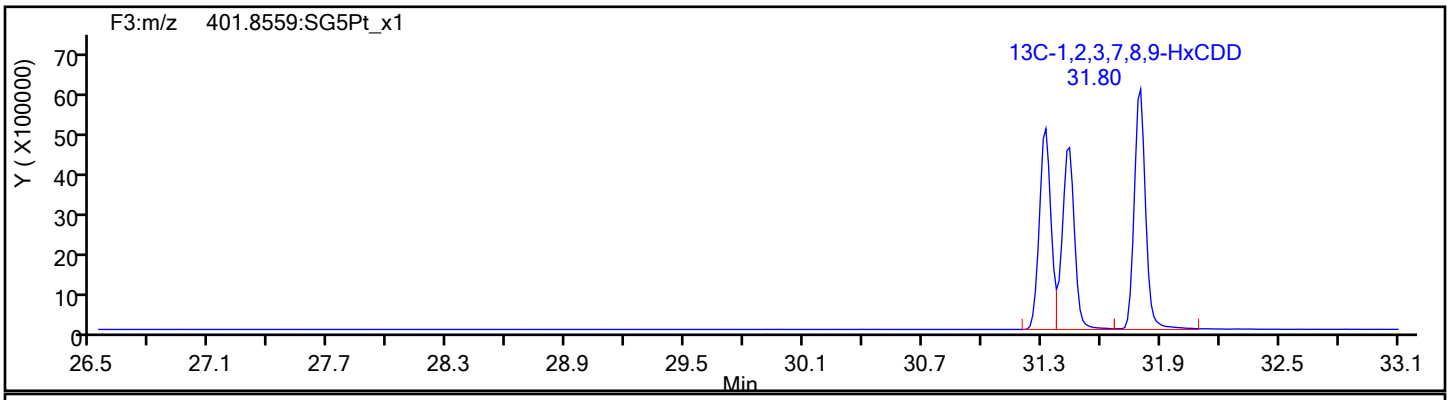

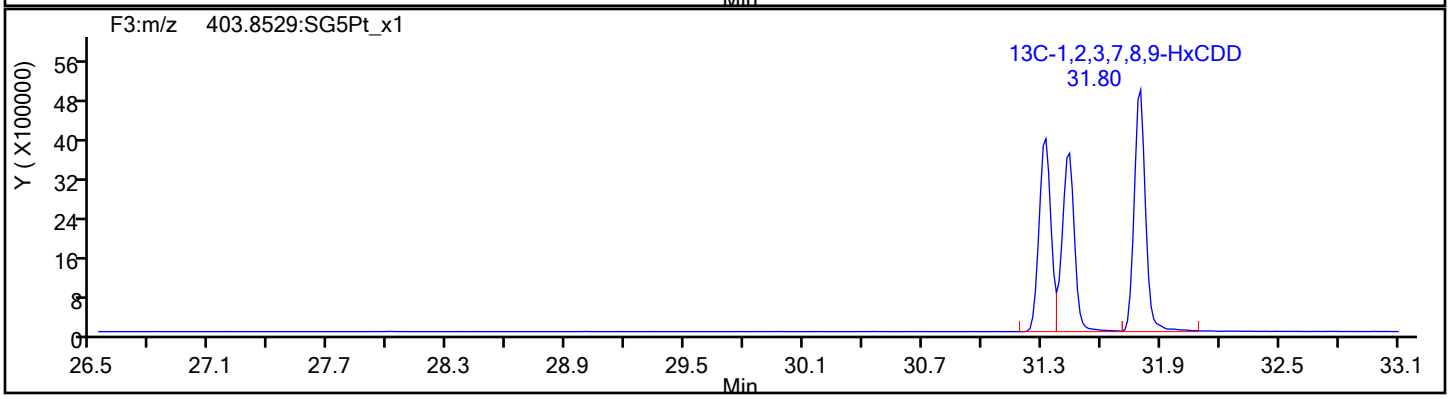

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Eurofins TestAmerica, Sacramento

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HpCDF

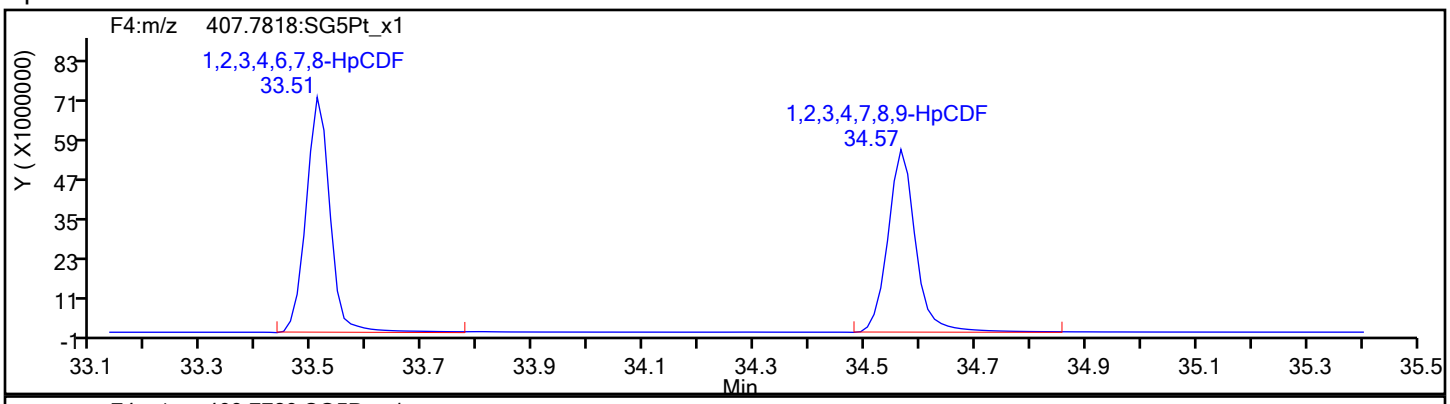

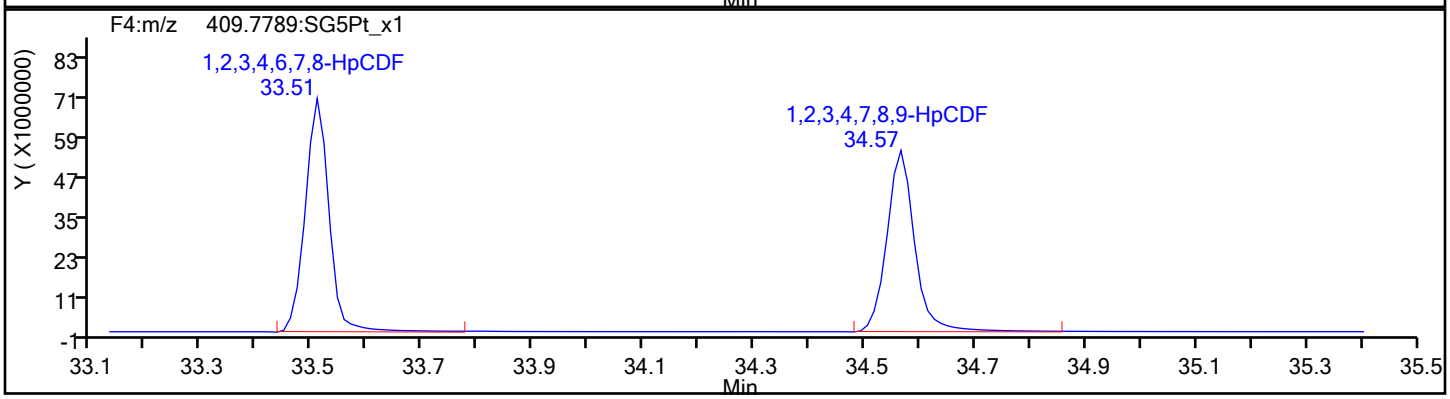

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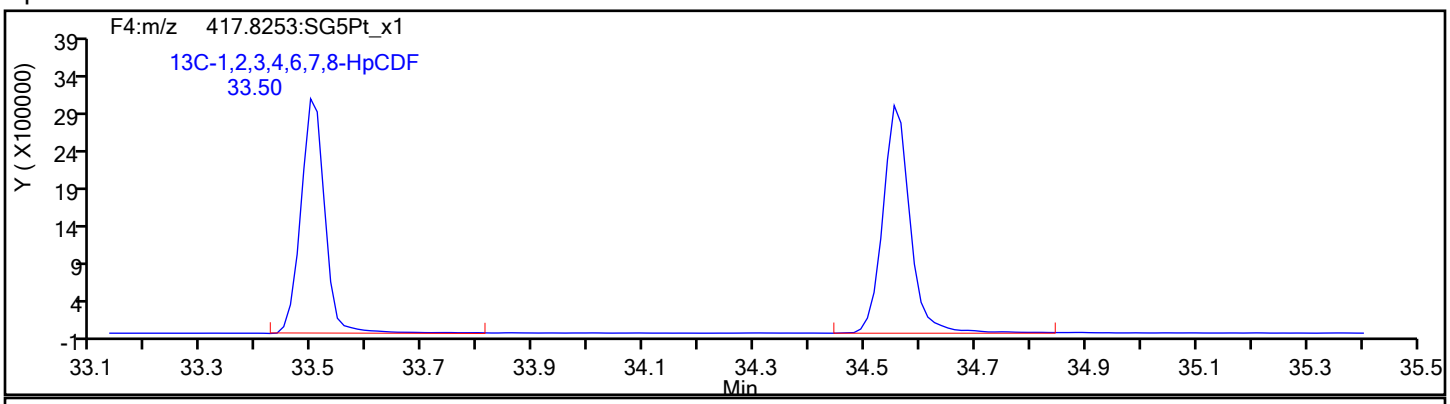

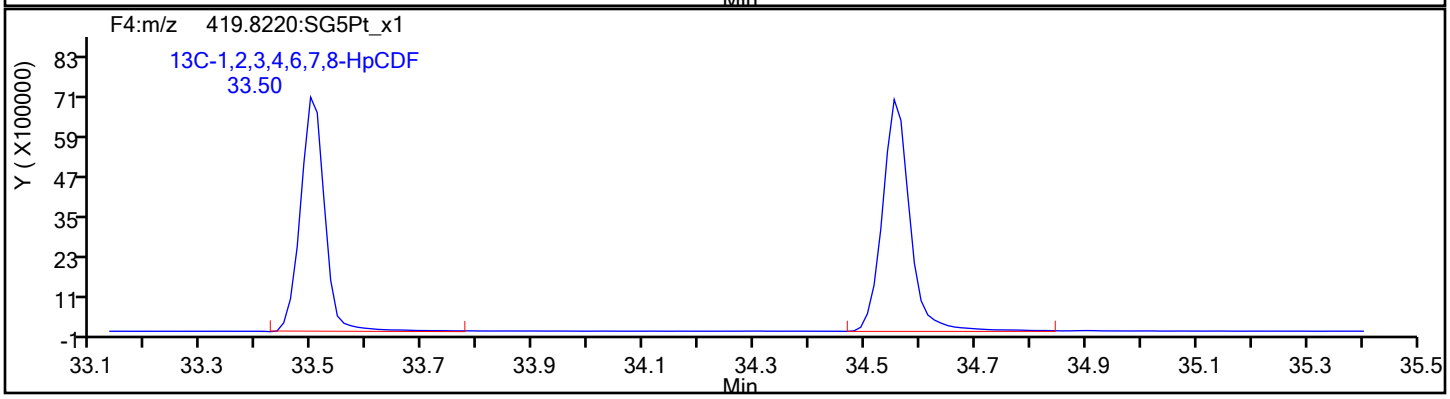

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Eurofins TestAmerica, Sacramento

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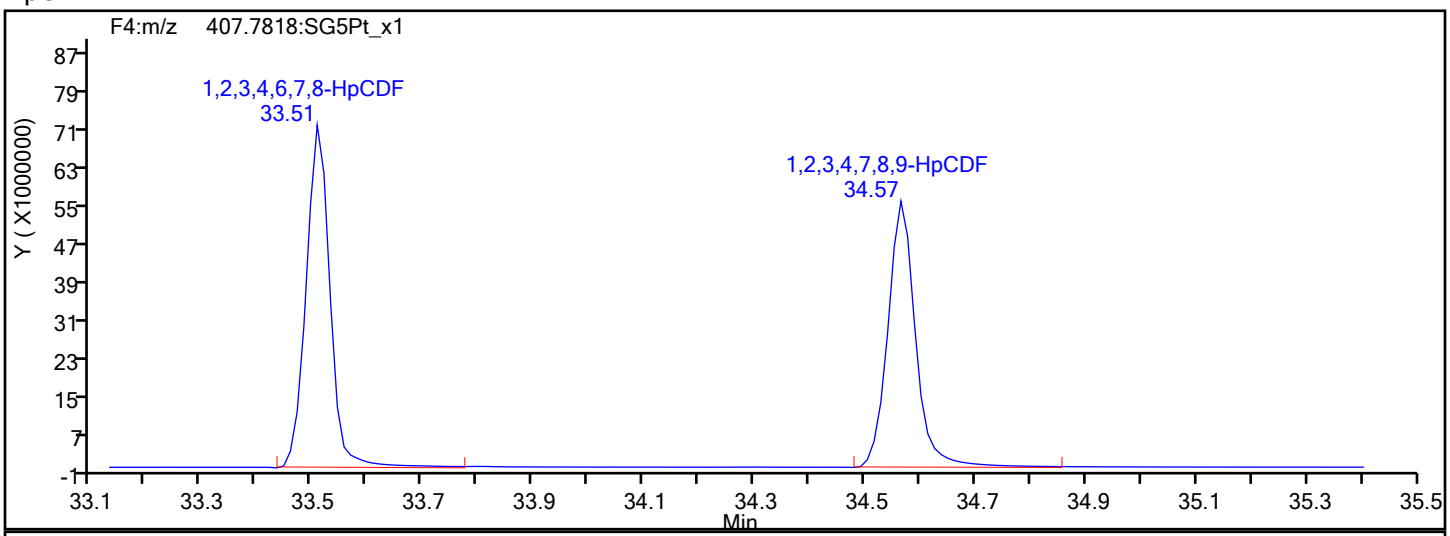

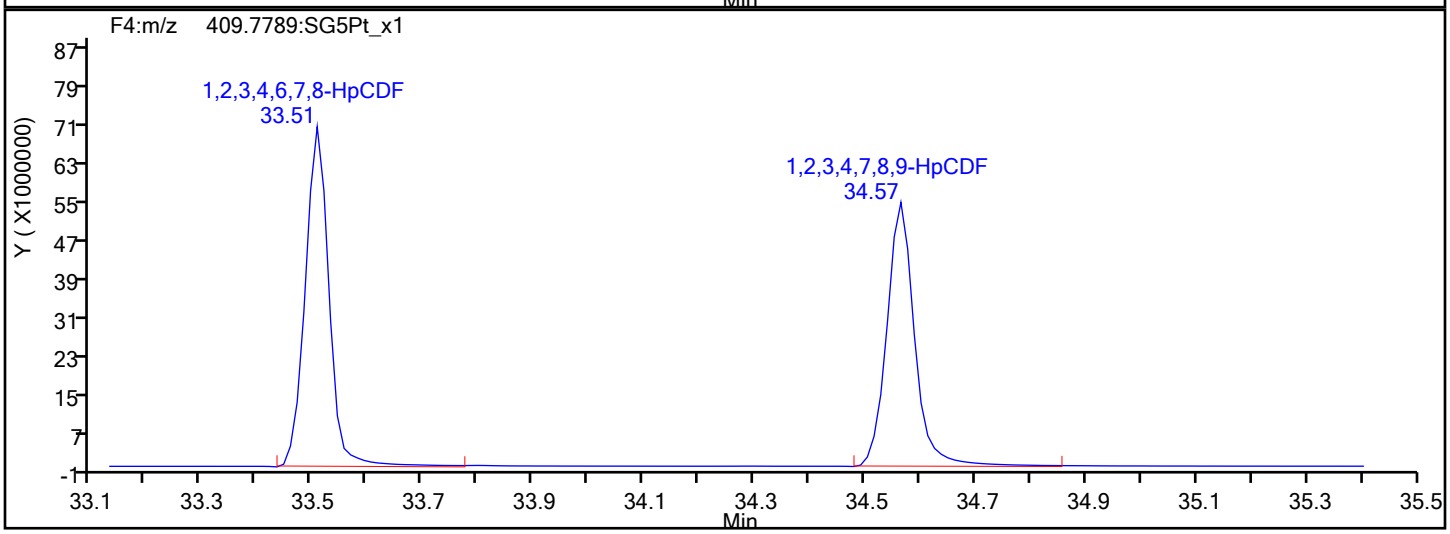

HpCDF Interference Mass

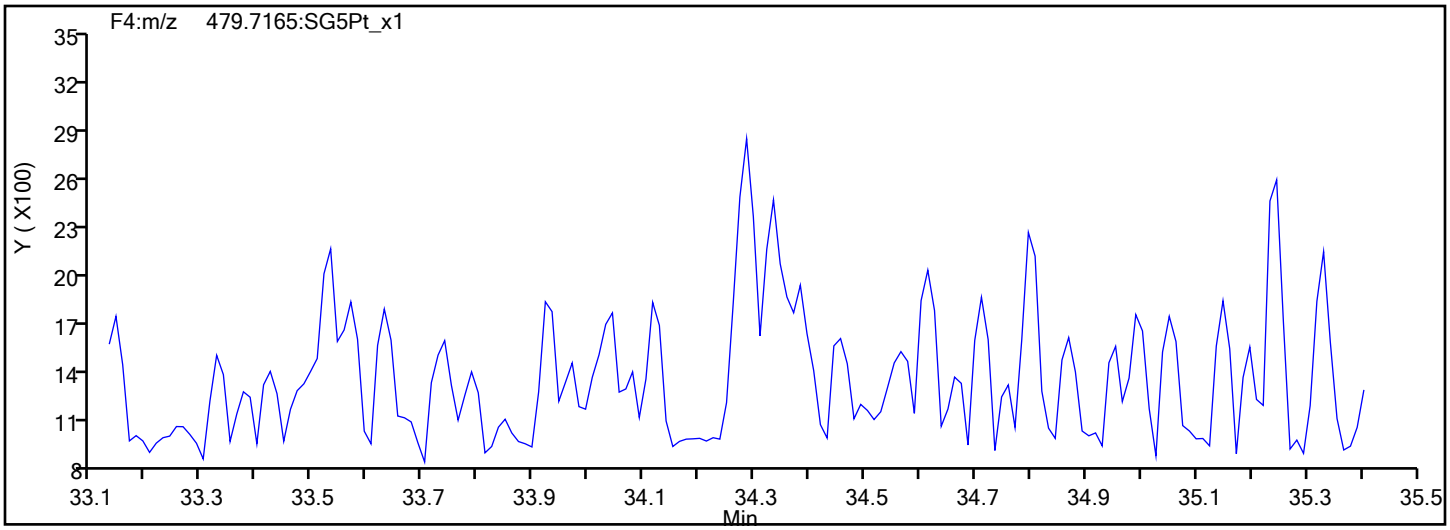

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Eurofins TestAmerica, Sacramento

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HpCDD

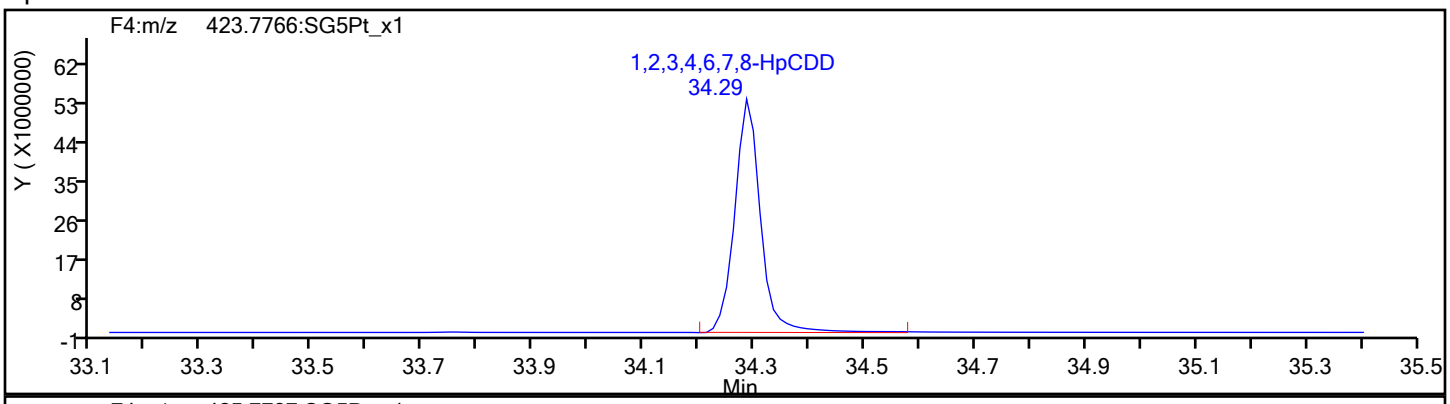

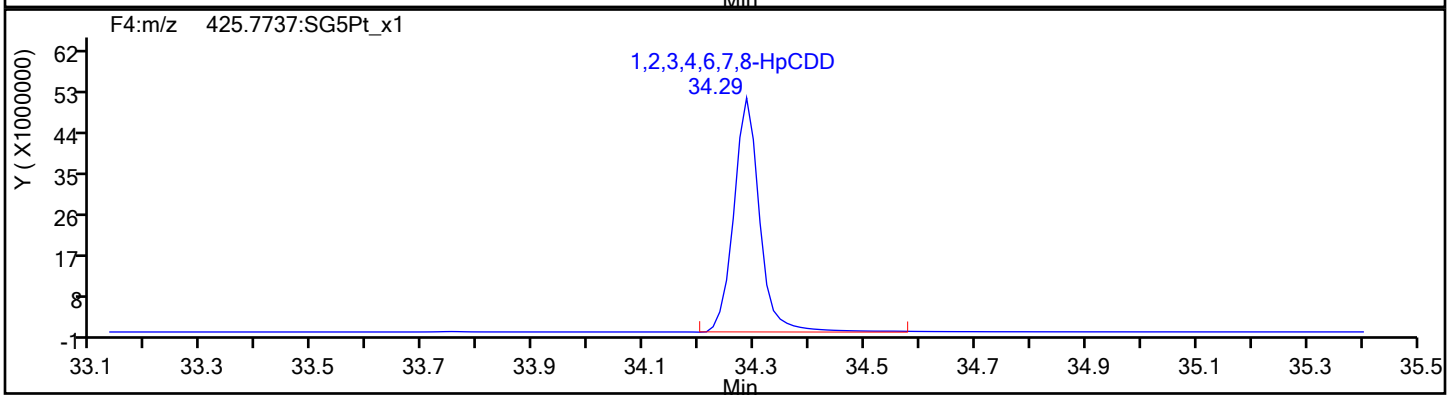

HpCDD Standards

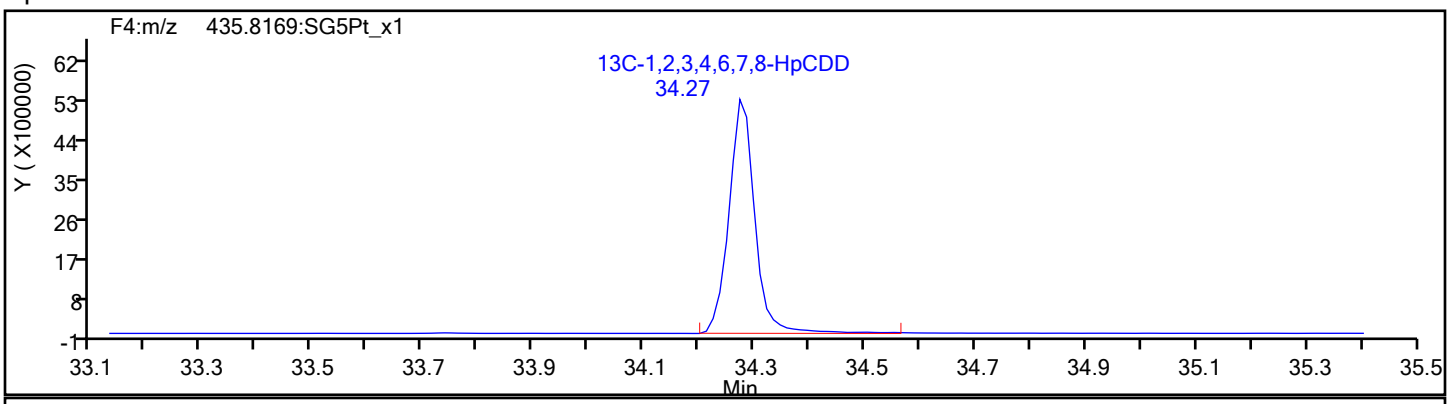

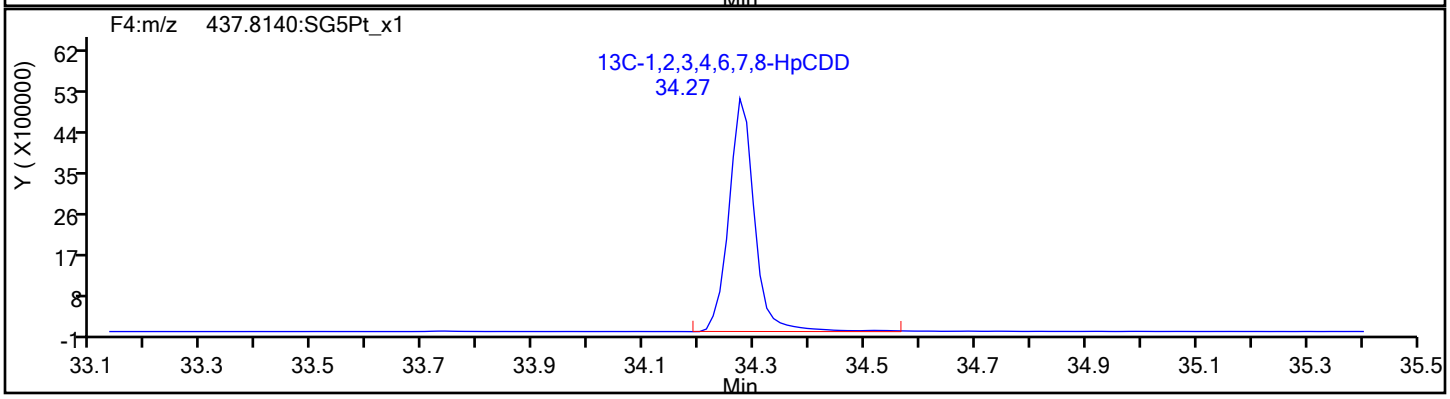

Report Date: 30-Jan-2020 09:35:39 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d		
Injection Date:	30-Jan-2020 04:53:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

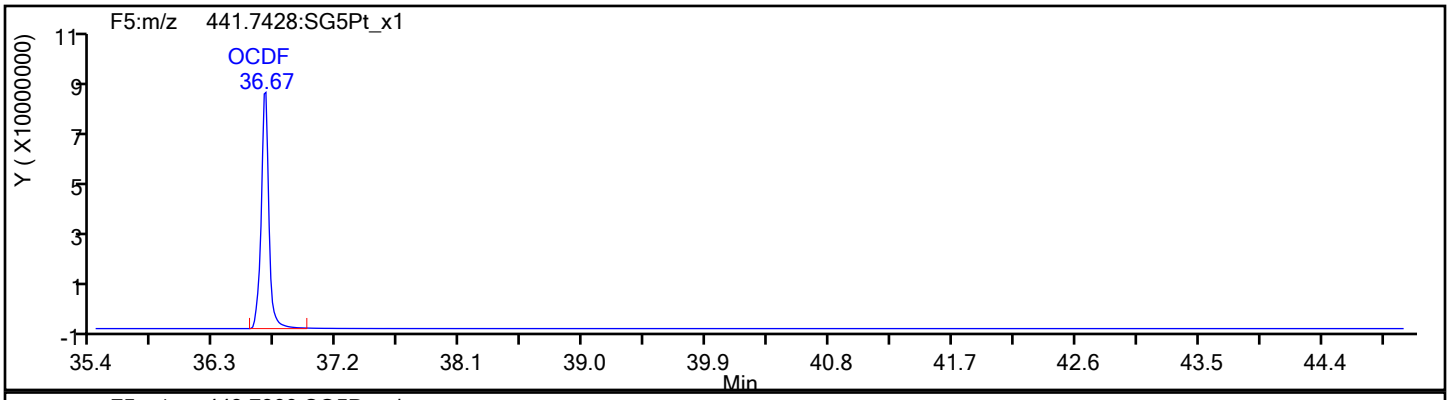

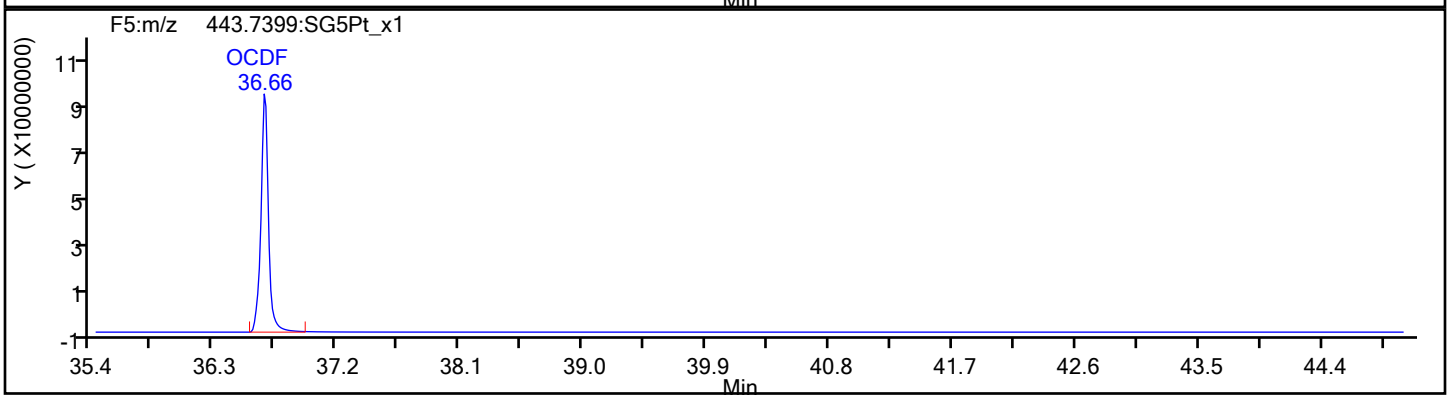

OCDF Standards

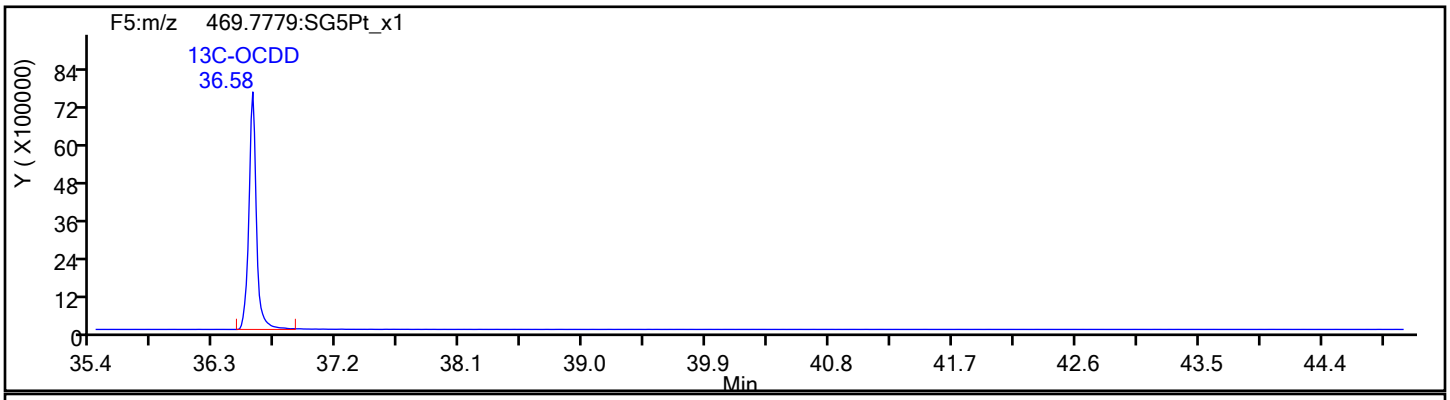

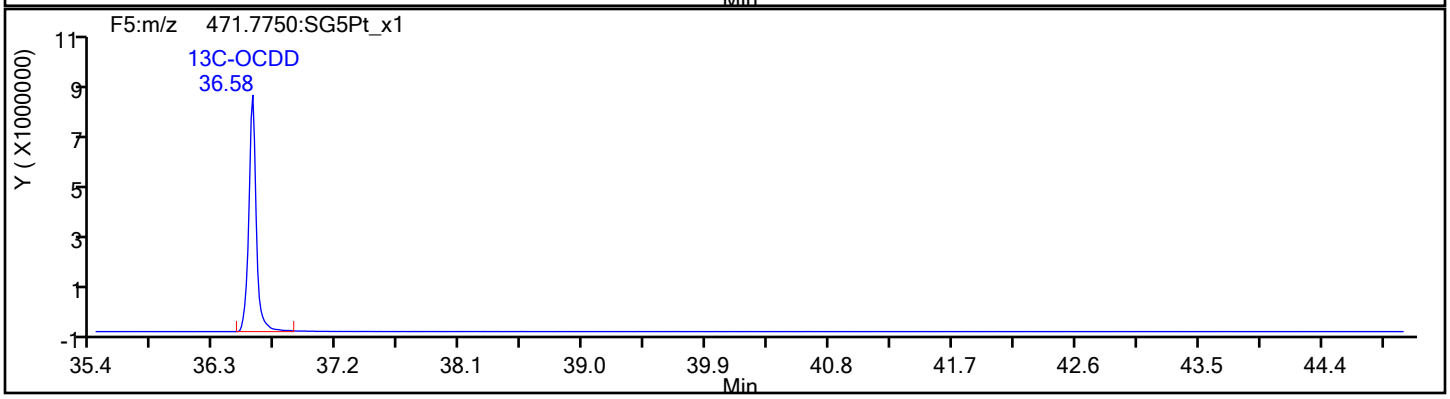

Report Date: 30-Jan-2020 09:35:39 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d		
Injection Date:	30-Jan-2020 04:53:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

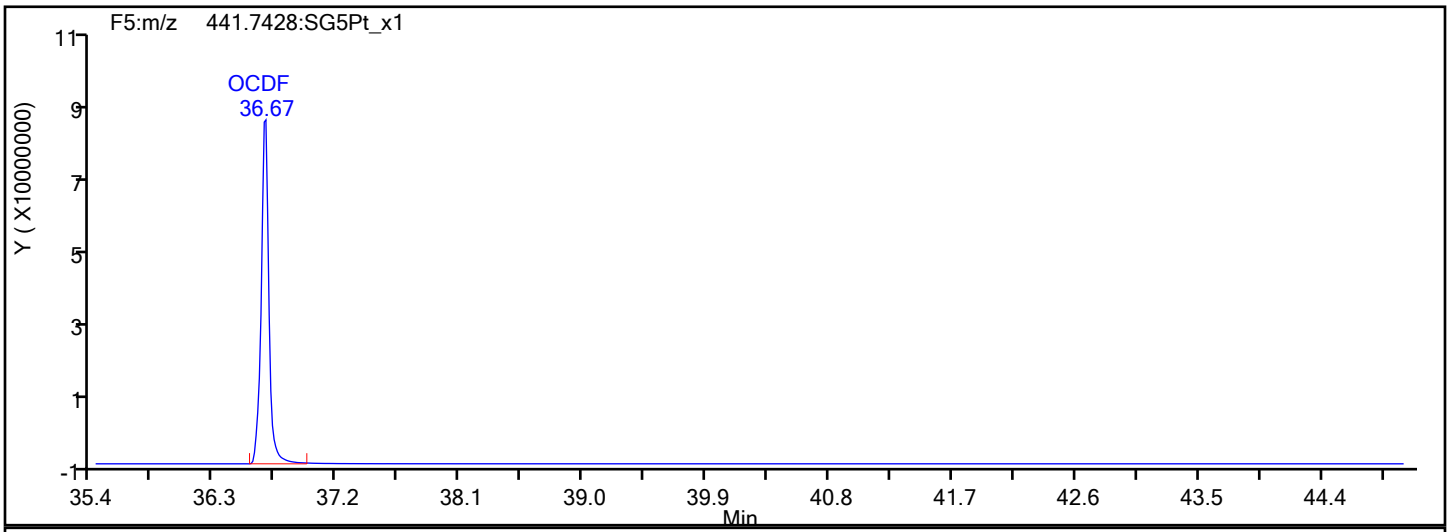

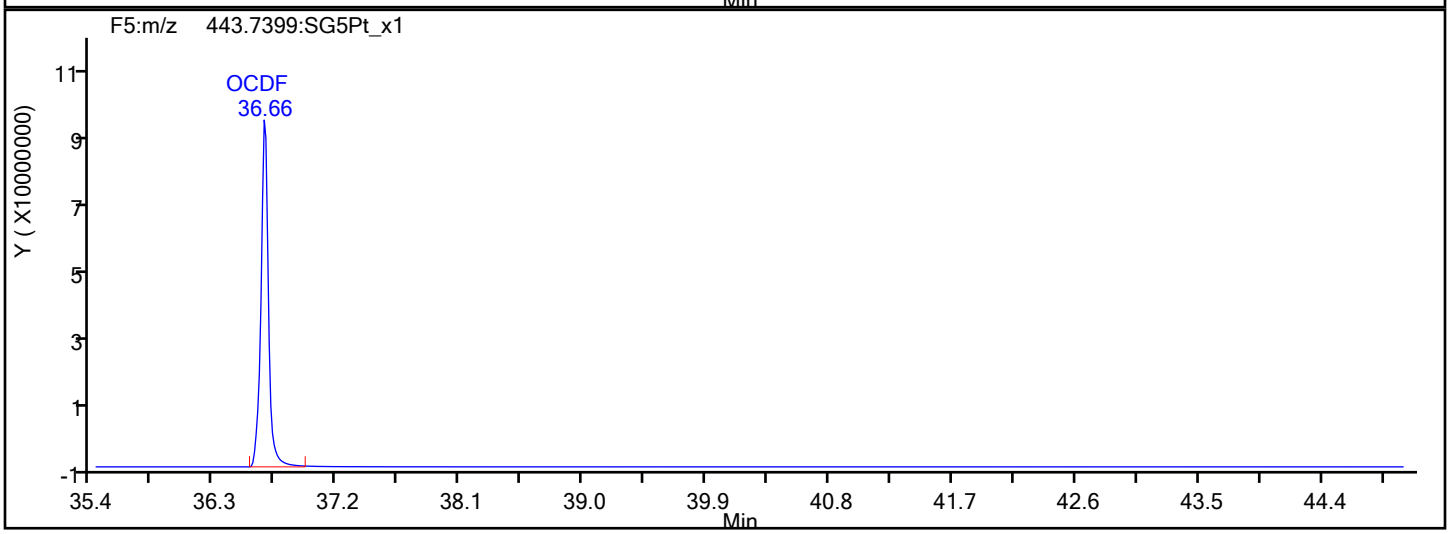

OCDF Interference Mass

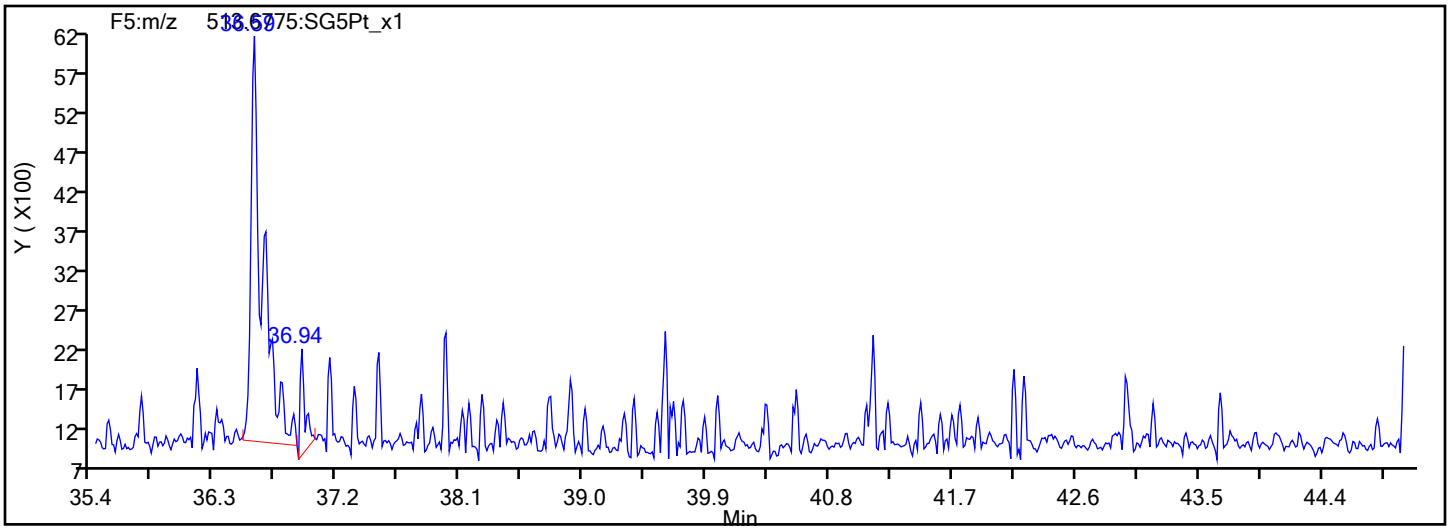

Report Date: 30-Jan-2020 09:35:40 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d		
Injection Date:	30-Jan-2020 04:53:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

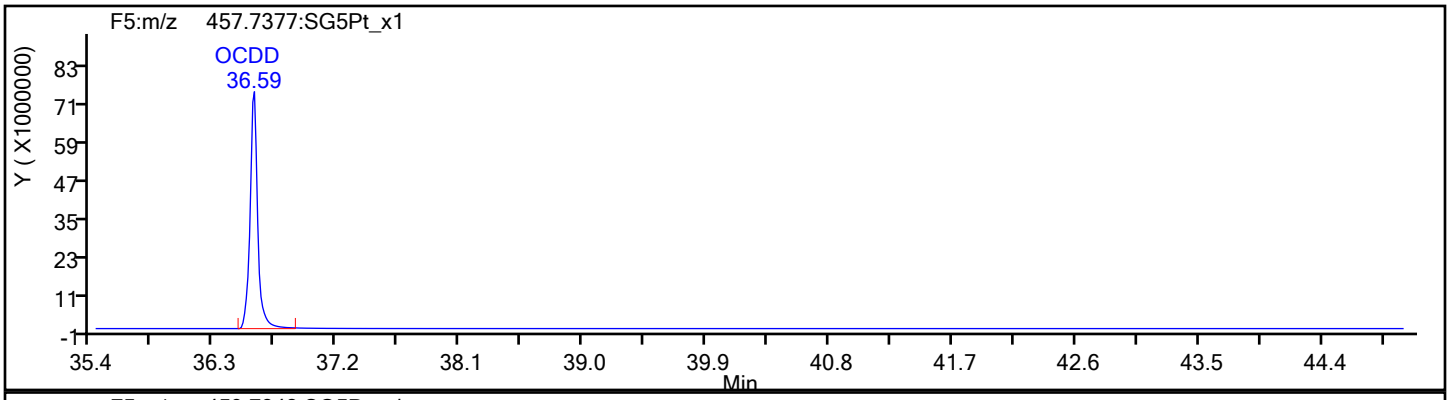

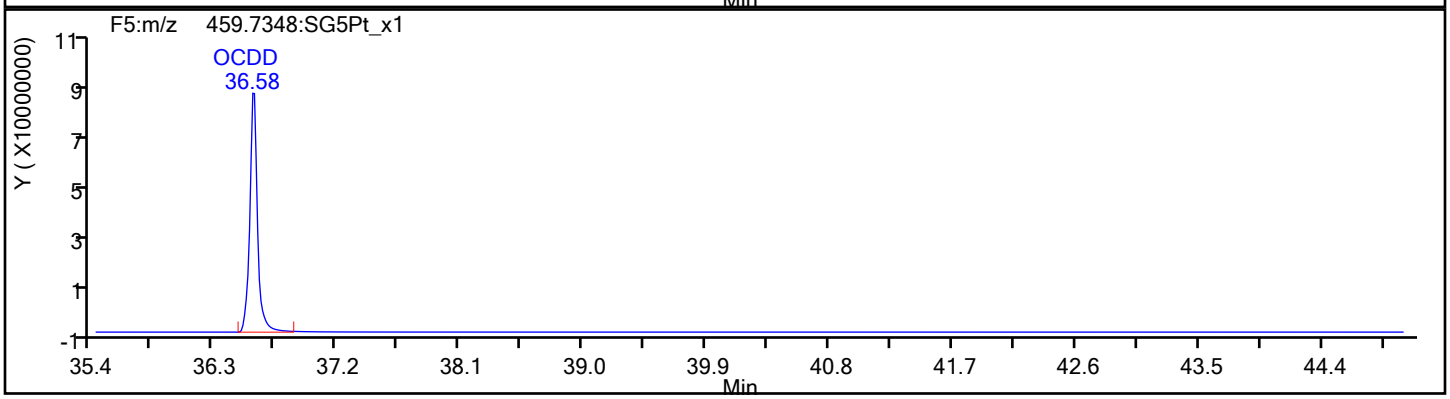

OCDD Standards

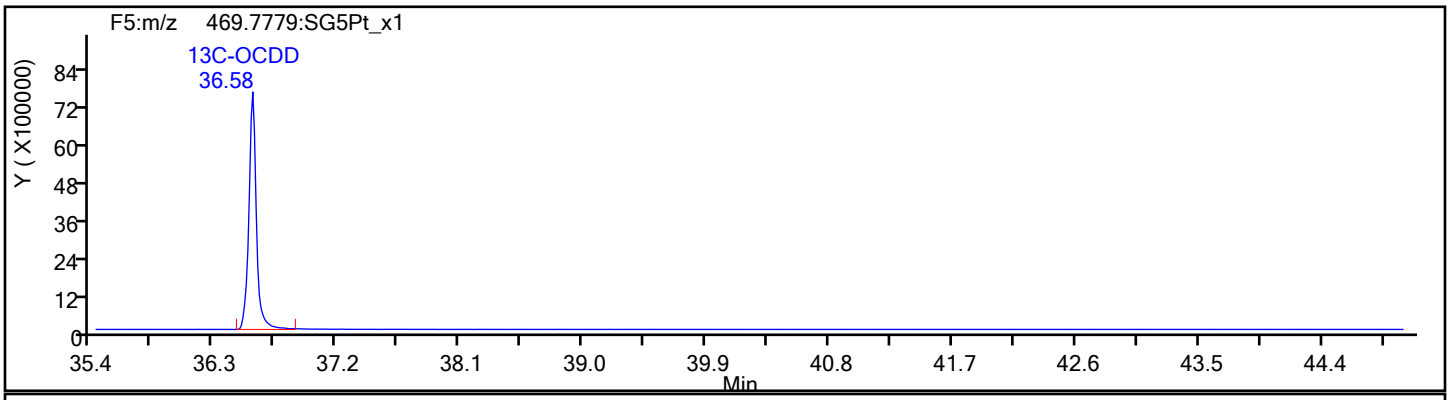

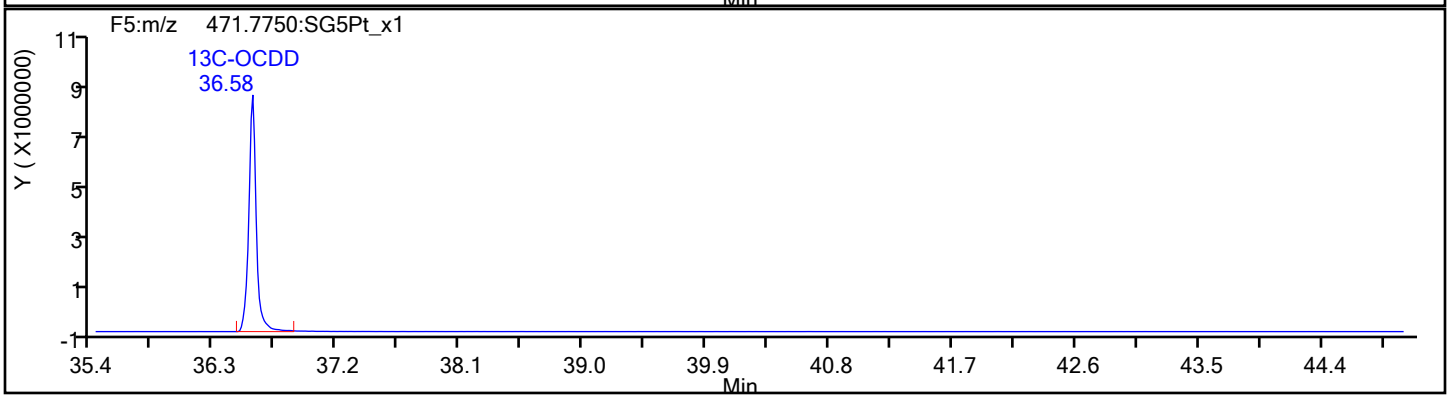

Report Date: 30-Jan-2020 09:35:40 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d		
Injection Date:	30-Jan-2020 04:53:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

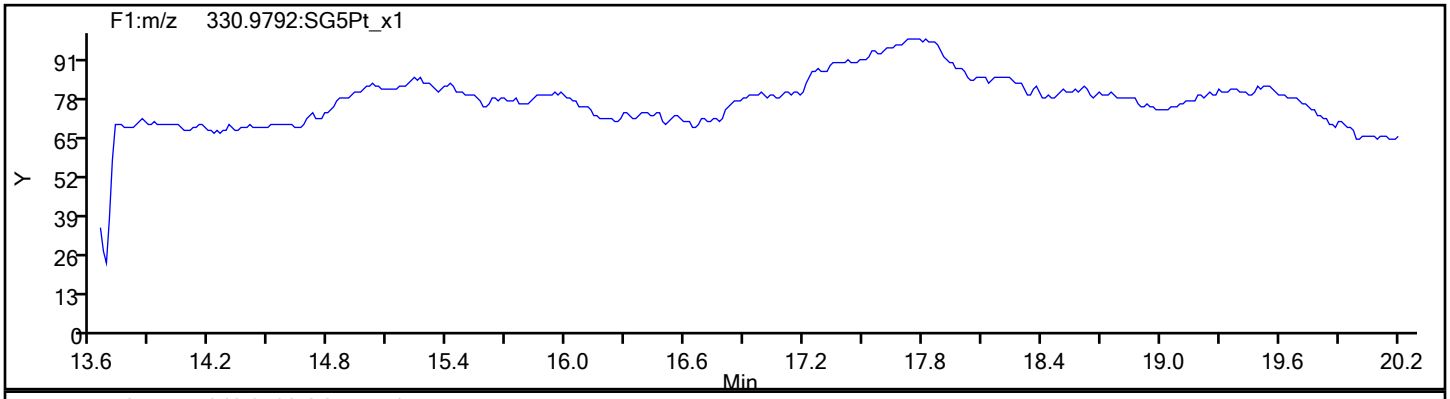

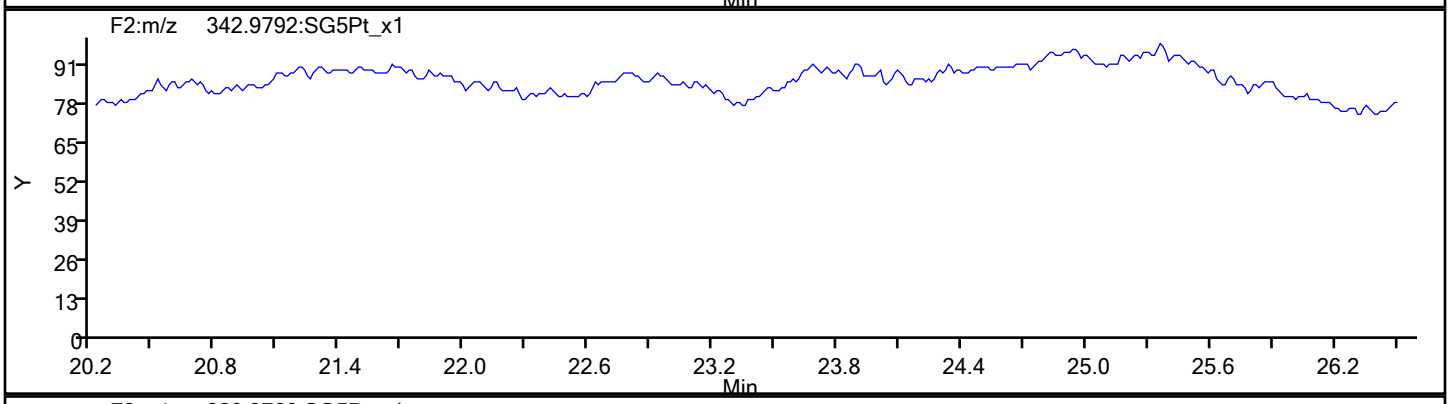

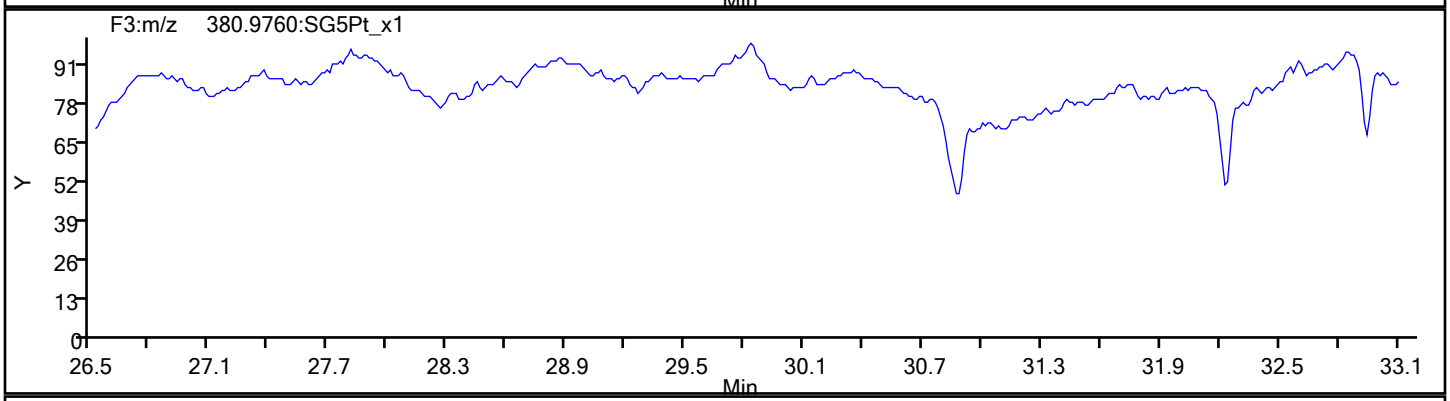

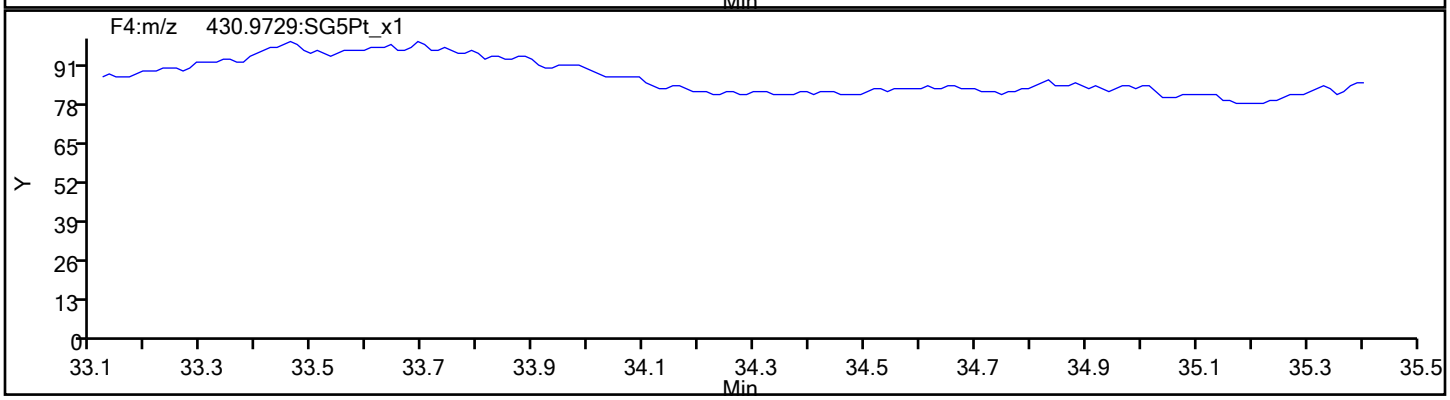

Report Date: 30-Jan-2020 09:35:40 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d		
Injection Date:	30-Jan-2020 04:53:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

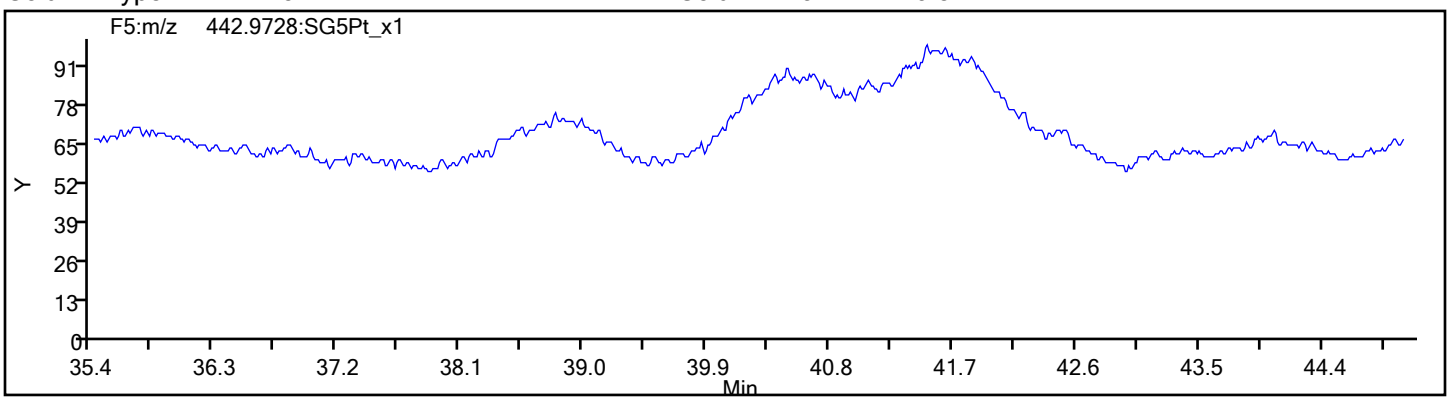

Calibration / 1,2,3,4,6,7,8-HpCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.9811

Error Coefficients

Standard Error:	174000000
Relative Standard Error:	3.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-353986/4	2.5	2.368909	100.0	31797466.0	0.947564	Y
2	IC 320-353986/5	10.0	9.680404	100.0	31043218.0	0.96804	Y
3	IC 320-353986/6	50.0	48.290568	100.0	32767179.0	0.965811	Y
4	IC 320-353986/7	200.0	201.519525	100.0	34719607.0	1.007598	Y
5	IC 320-353986/8	1000.0	1016.566458	100.0	33516886.0	1.016566	Y

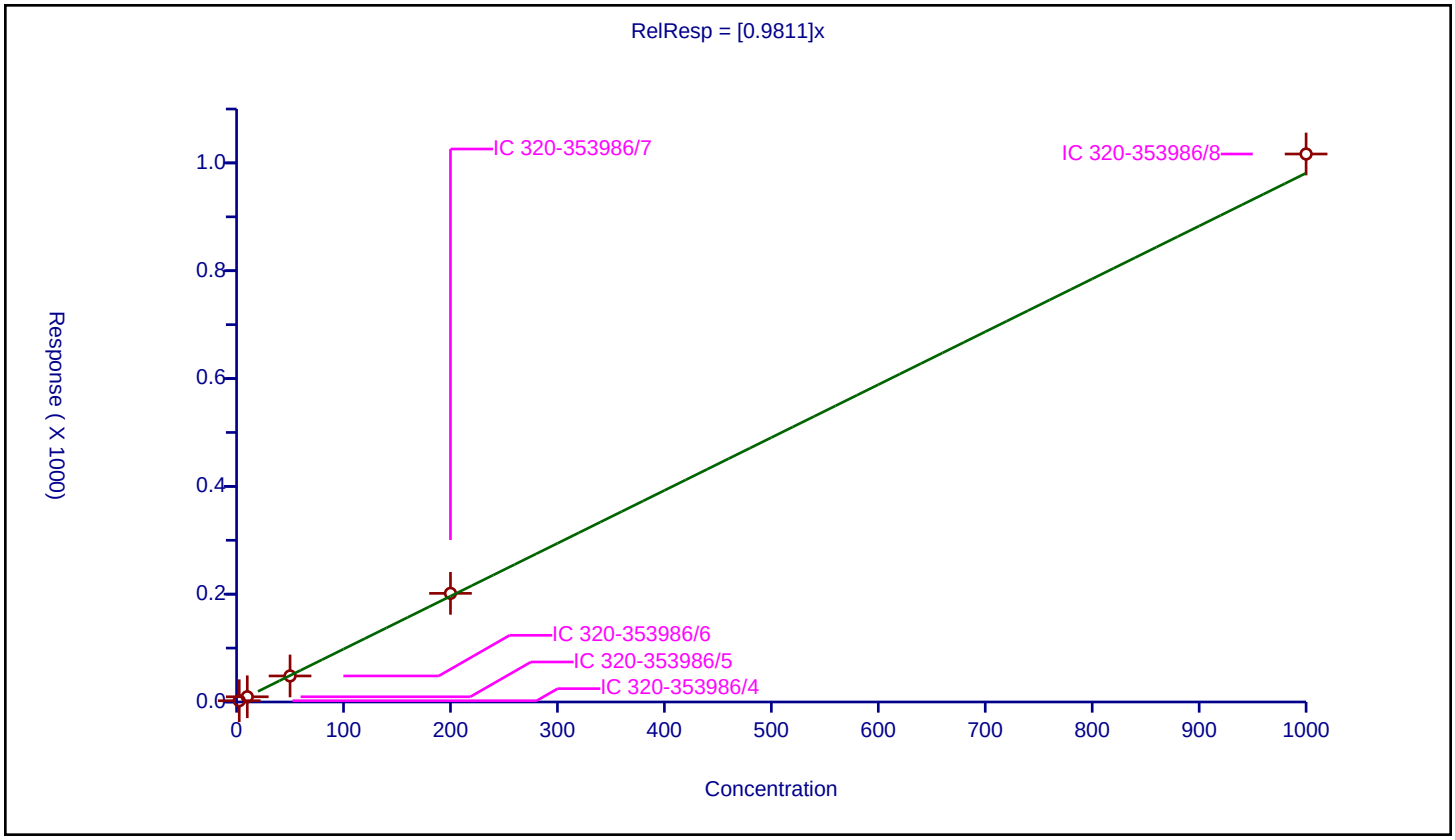

Calibration / 1,2,3,4,6,7,8-HpCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.337

Error Coefficients

Standard Error:	217000000
Relative Standard Error:	3.3
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-353986/4	2.5	3.20913	100.0	30587884.0	1.283652	Y
2	IC 320-353986/5	10.0	13.046635	100.0	30592525.0	1.304663	Y
3	IC 320-353986/6	50.0	66.935654	100.0	30722755.0	1.338713	Y
4	IC 320-353986/7	200.0	275.670853	100.0	32606646.0	1.378354	Y
5	IC 320-353986/8	1000.0	1381.871768	100.0	30697152.0	1.381872	Y

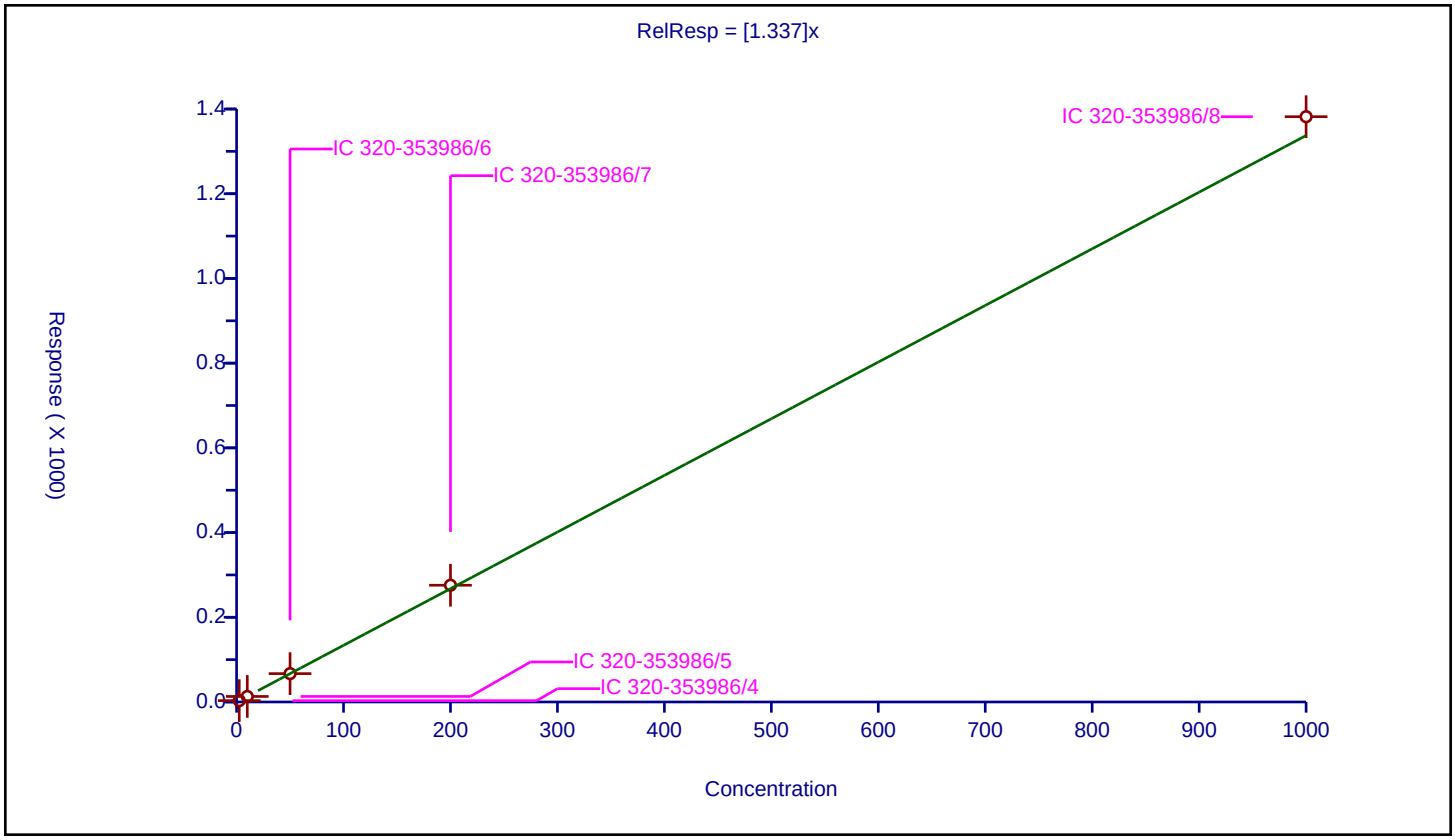

Calibration / 1,2,3,4,7,8,9-HpCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.074

Error Coefficients

Standard Error:	196000000
Relative Standard Error:	3.8
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-353986/4	2.5	2.535815	100.0	31413014.0	1.014326	Y
2	IC 320-353986/5	10.0	10.62743	100.0	30489328.0	1.062743	Y
3	IC 320-353986/6	50.0	53.426286	100.0	32082286.0	1.068526	Y
4	IC 320-353986/7	200.0	221.937083	100.0	35066339.0	1.109685	Y
5	IC 320-353986/8	1000.0	1116.923707	100.0	34335333.0	1.116924	Y

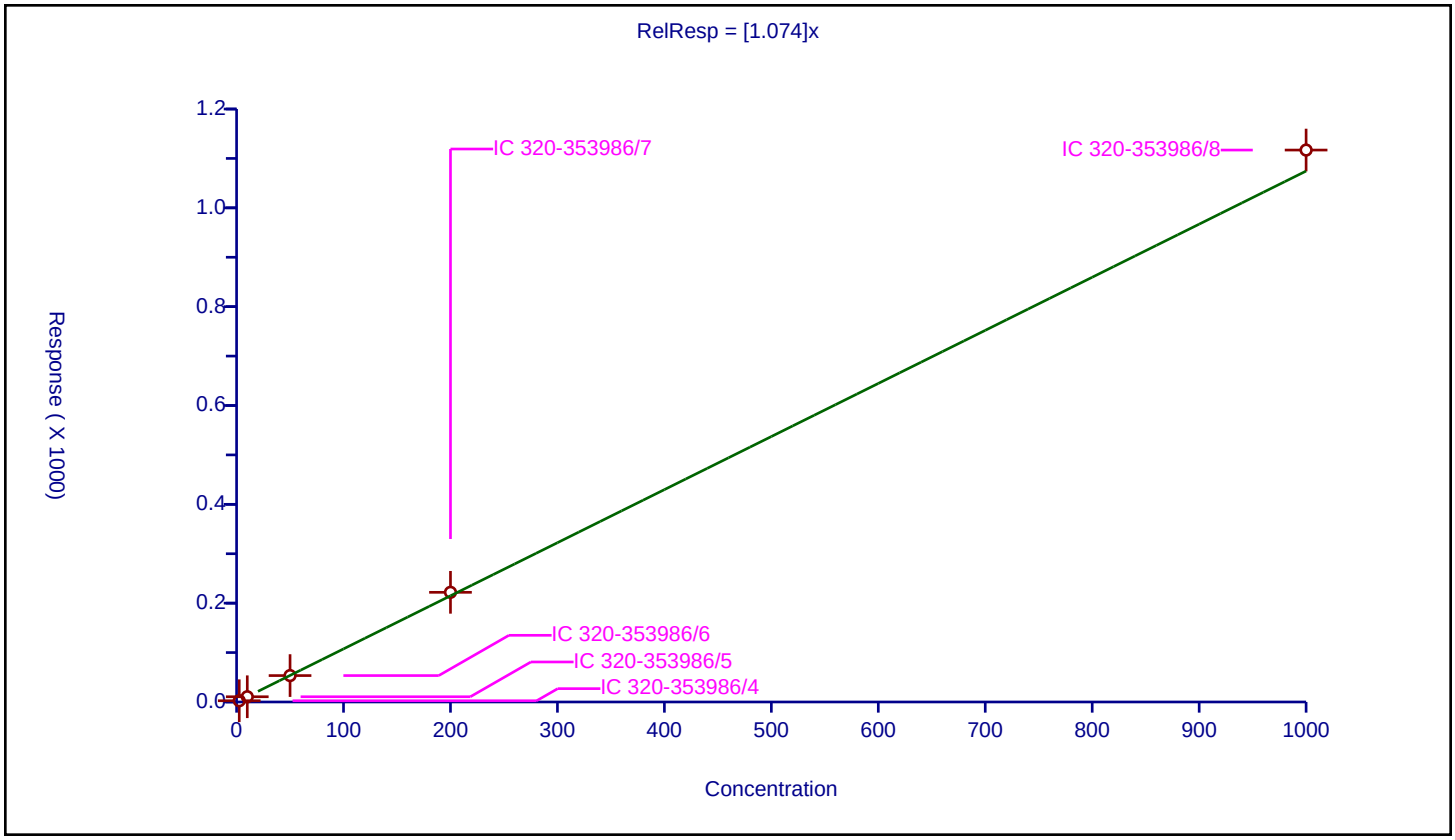

Calibration / 1,2,3,4,7,8-HxCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.8392

Error Coefficients

Standard Error:	160000000
Relative Standard Error:	1.9
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	1.000

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-353986/4	2.5	2.067911	100.0	33871376.0	0.827165	Y
2	IC 320-353986/5	10.0	8.168842	100.0	33308651.0	0.816884	Y
3	IC 320-353986/6	50.0	42.385852	100.0	34173011.0	0.847717	Y
4	IC 320-353986/7	200.0	170.197624	100.0	38415840.0	0.850988	Y
5	IC 320-353986/8	1000.0	853.127319	100.0	36771940.0	0.853127	Y

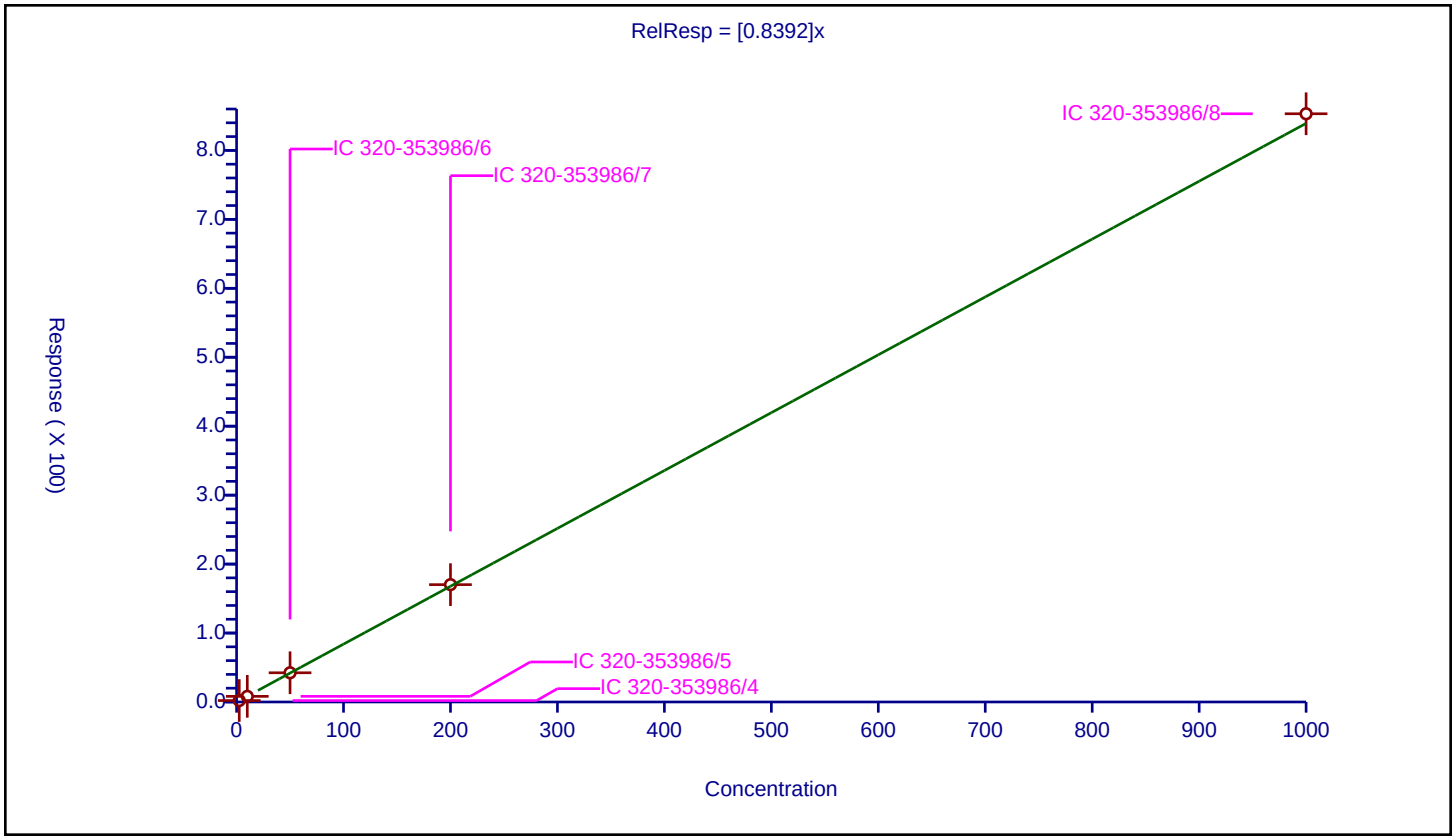

Calibration / 1,2,3,4,7,8-HxCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.7916

Error Coefficients

Standard Error:	163000000
Relative Standard Error:	6.5
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-353986/4	2.5	1.842261	100.0	36437504.0	0.736904	Y
2	IC 320-353986/5	10.0	7.455441	100.0	35906017.0	0.745544	Y
3	IC 320-353986/6	50.0	39.49135	100.0	37628448.0	0.789827	Y
4	IC 320-353986/7	200.0	166.971582	100.0	39824520.0	0.834858	Y
5	IC 320-353986/8	1000.0	850.768052	100.0	37478371.0	0.850768	Y

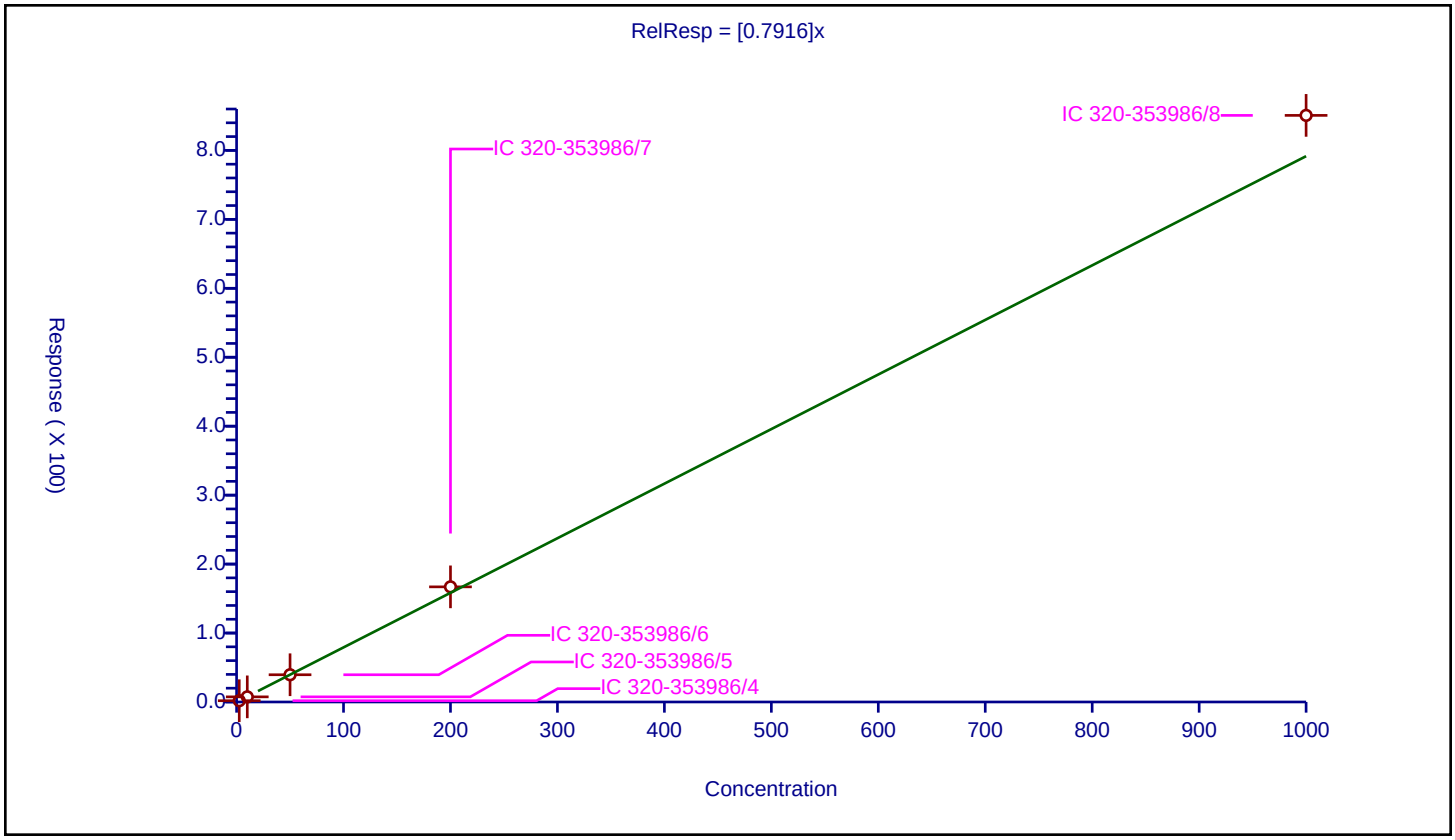

Calibration / 1,2,3,6,7,8-HxCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.8876

Error Coefficients

Standard Error:	171000000
Relative Standard Error:	5.8
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-353986/4	2.5	2.053366	100.0	36425321.0	0.821346	Y
2	IC 320-353986/5	10.0	8.742759	100.0	35558088.0	0.874276	Y
3	IC 320-353986/6	50.0	43.096686	100.0	36971045.0	0.861934	Y
4	IC 320-353986/7	200.0	187.480345	100.0	36689566.0	0.937402	Y
5	IC 320-353986/8	1000.0	943.07461	100.0	35572032.0	0.943075	Y

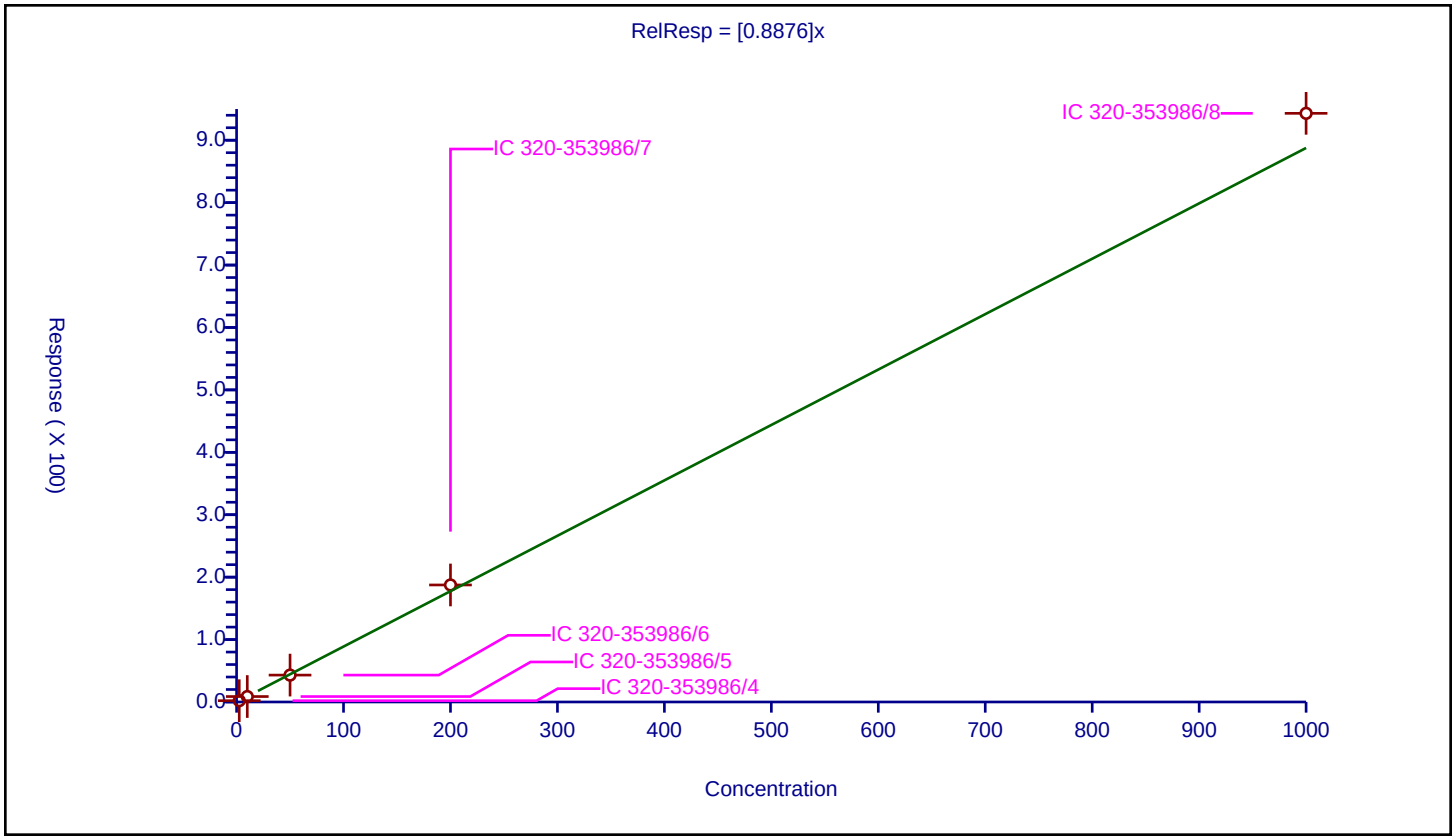

Calibration / 1,2,3,6,7,8-HxCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.8638

Error Coefficients

Standard Error:	171000000
Relative Standard Error:	6.8
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-353986/4	2.5	1.977215	100.0	36702281.0	0.790886	Y
2	IC 320-353986/5	10.0	8.202599	100.0	35494068.0	0.82026	Y
3	IC 320-353986/6	50.0	43.27331	100.0	36663775.0	0.865466	Y
4	IC 320-353986/7	200.0	182.967366	100.0	38395283.0	0.914837	Y
5	IC 320-353986/8	1000.0	927.512644	100.0	36019385.0	0.927513	Y

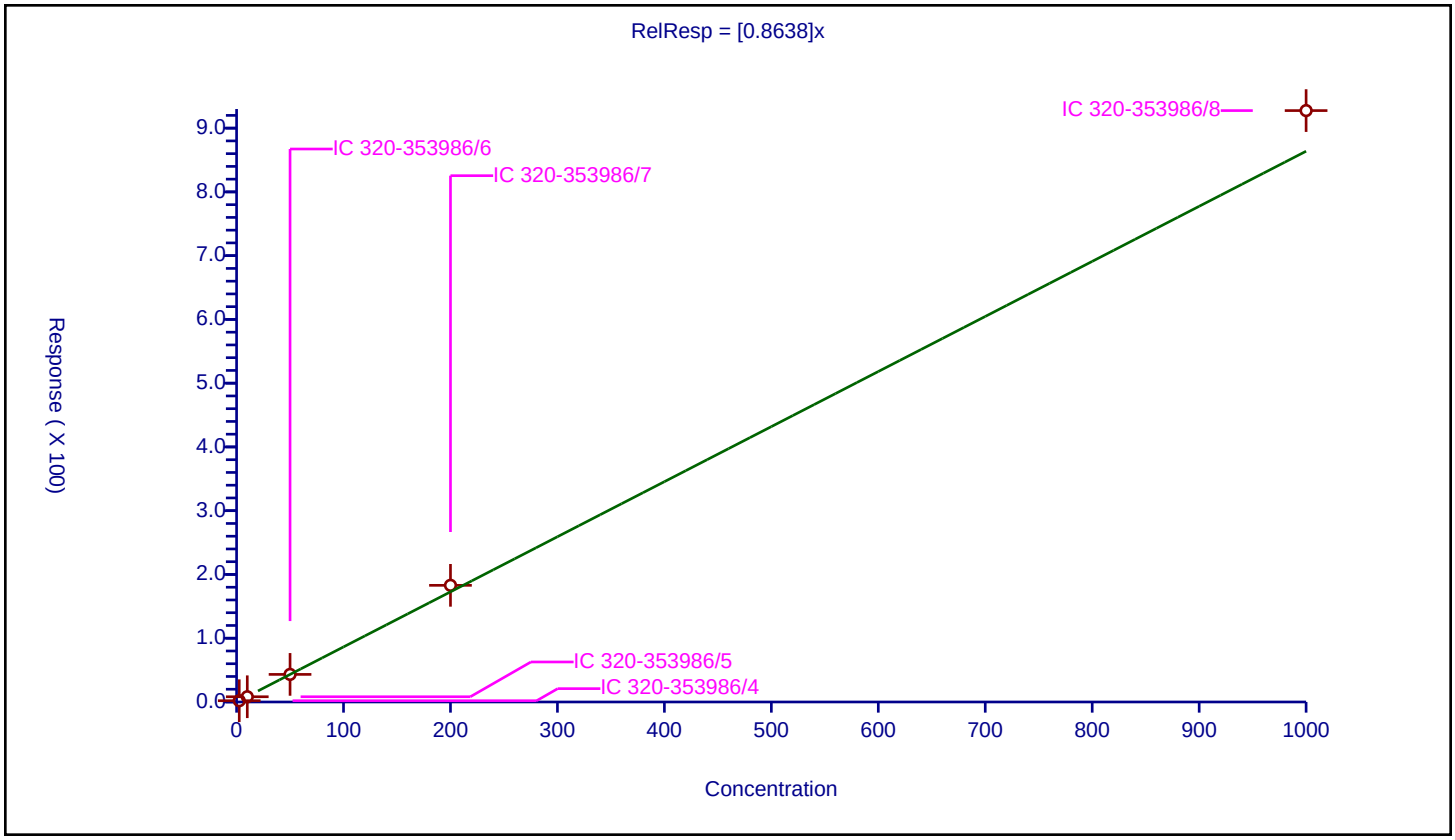

Calibration / 1,2,3,7,8,9-HxCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.9701

Error Coefficients

Standard Error:	183000000
Relative Standard Error:	2.2
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-353986/4	2.5	2.3534	100.0	33871376.0	0.94136	Y
2	IC 320-353986/5	10.0	9.925202	100.0	33308651.0	0.99252	Y
3	IC 320-353986/6	50.0	49.243001	100.0	34173011.0	0.98486	Y
4	IC 320-353986/7	200.0	191.19811	100.0	38415840.0	0.955991	Y
5	IC 320-353986/8	1000.0	975.865119	100.0	36771940.0	0.975865	Y

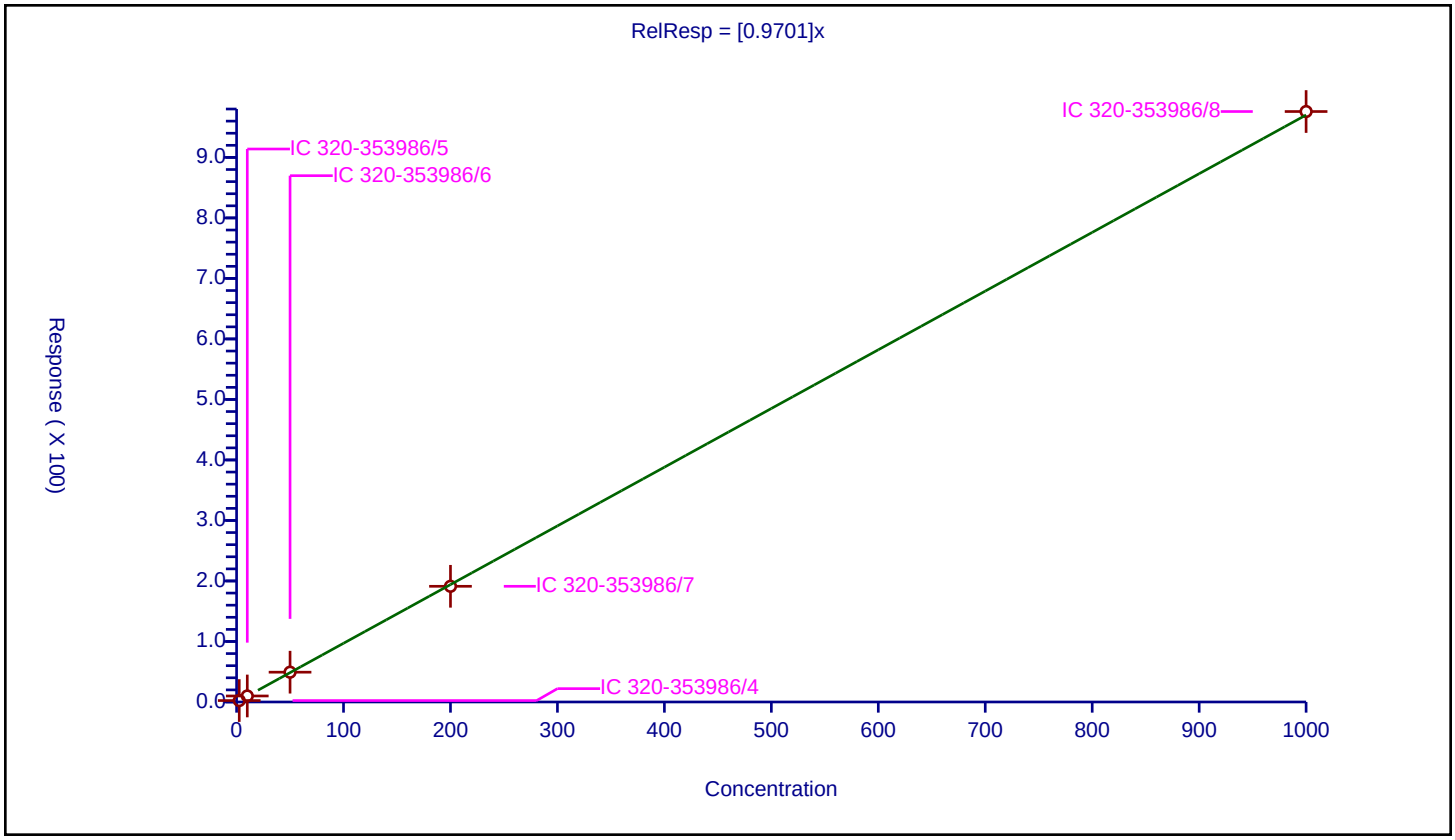

Calibration / 1,2,3,7,8,9-HxCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.9127

Error Coefficients

Standard Error:	160000000
Relative Standard Error:	6.1
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-353986/4	2.5	2.109038	100.0	30765834.0	0.843615	Y
2	IC 320-353986/5	10.0	8.732064	100.0	30809360.0	0.873206	Y
3	IC 320-353986/6	50.0	45.604853	100.0	30855181.0	0.912097	Y
4	IC 320-353986/7	200.0	192.314497	100.0	32406883.0	0.961572	Y
5	IC 320-353986/8	1000.0	972.84549	100.0	32266559.0	0.972845	Y

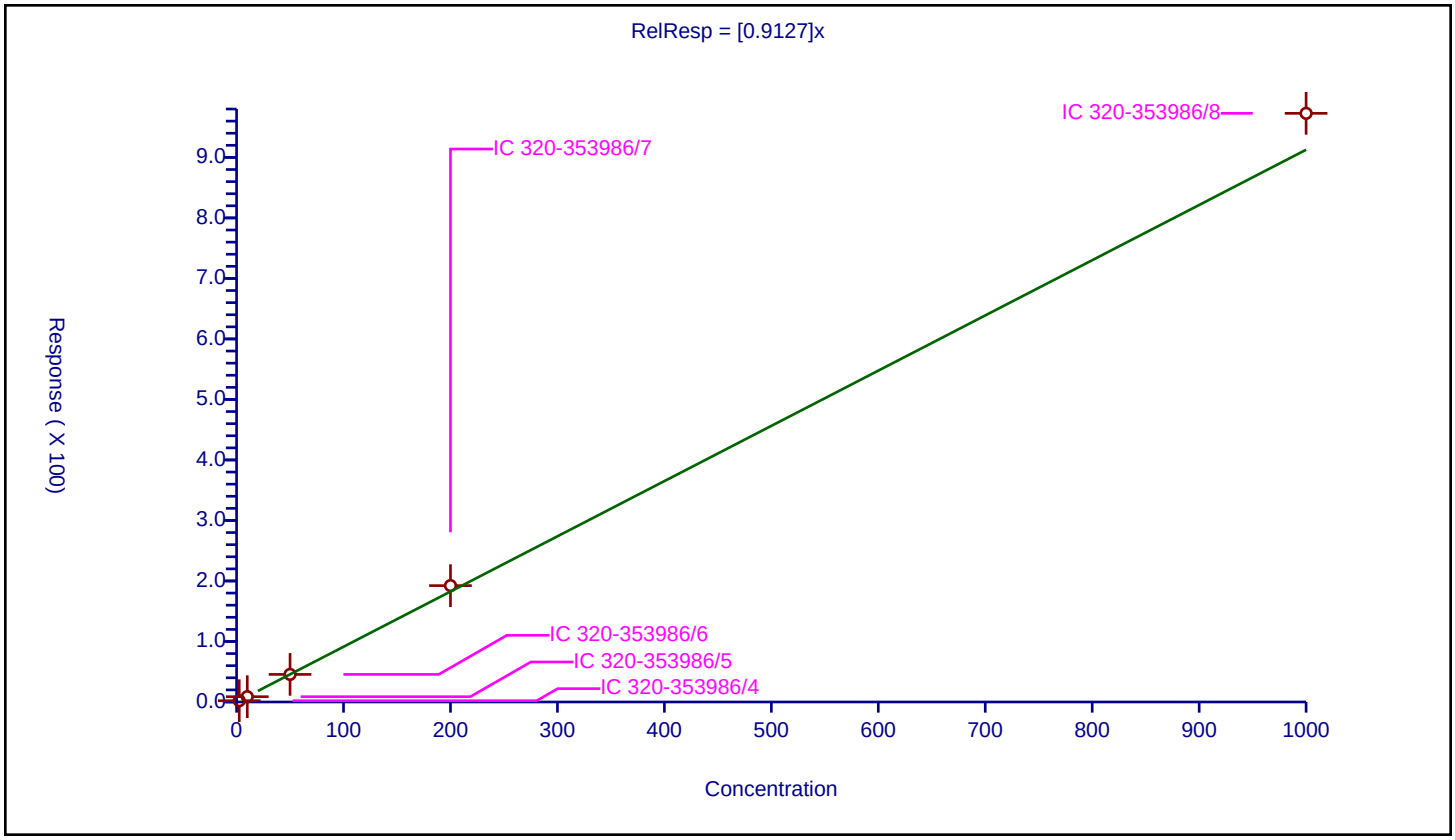

Calibration / 1,2,3,7,8-PeCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.9961

Error Coefficients

Standard Error:	200000000
Relative Standard Error:	3.8
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-353986/4	2.5	2.459763	100.0	36505473.0	0.983905	Y
2	IC 320-353986/5	10.0	9.482223	100.0	36044037.0	0.948222	Y
3	IC 320-353986/6	50.0	48.871254	100.0	36572632.0	0.977425	Y
4	IC 320-353986/7	200.0	207.137939	100.0	38740832.0	1.03569	Y
5	IC 320-353986/8	1000.0	1035.129973	100.0	37717891.0	1.03513	Y

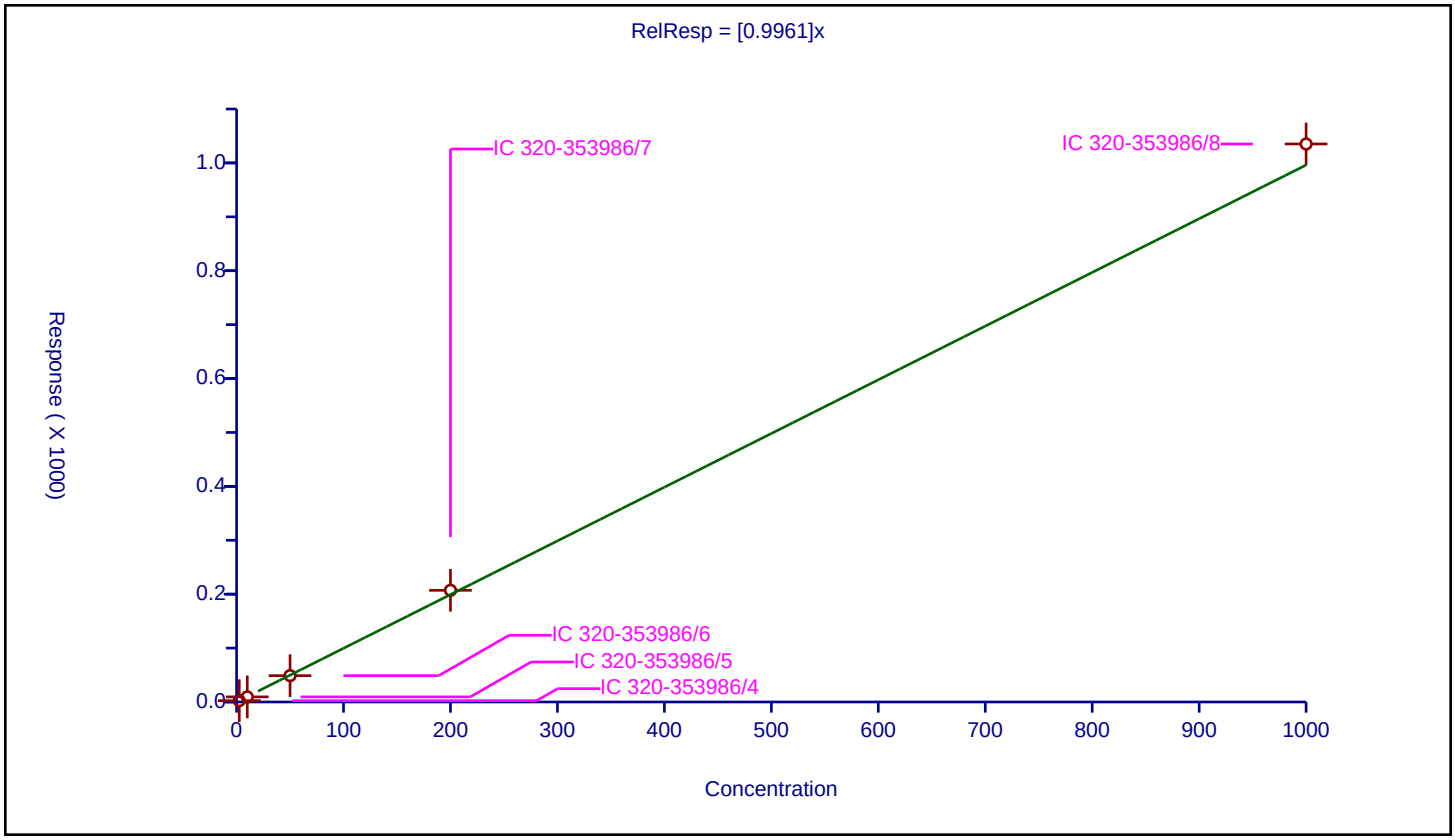

Calibration / 1,2,3,7,8-PeCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.8982

Error Coefficients

Standard Error:	250000000
Relative Standard Error:	4.3
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-353986/4	2.5	2.176879	100.0	49135392.0	0.870752	Y
2	IC 320-353986/5	10.0	8.545928	100.0	50271745.0	0.854593	Y
3	IC 320-353986/6	50.0	44.441593	100.0	52074542.0	0.888832	Y
4	IC 320-353986/7	200.0	186.830139	100.0	53714045.0	0.934151	Y
5	IC 320-353986/8	1000.0	942.425257	100.0	51996022.0	0.942425	Y

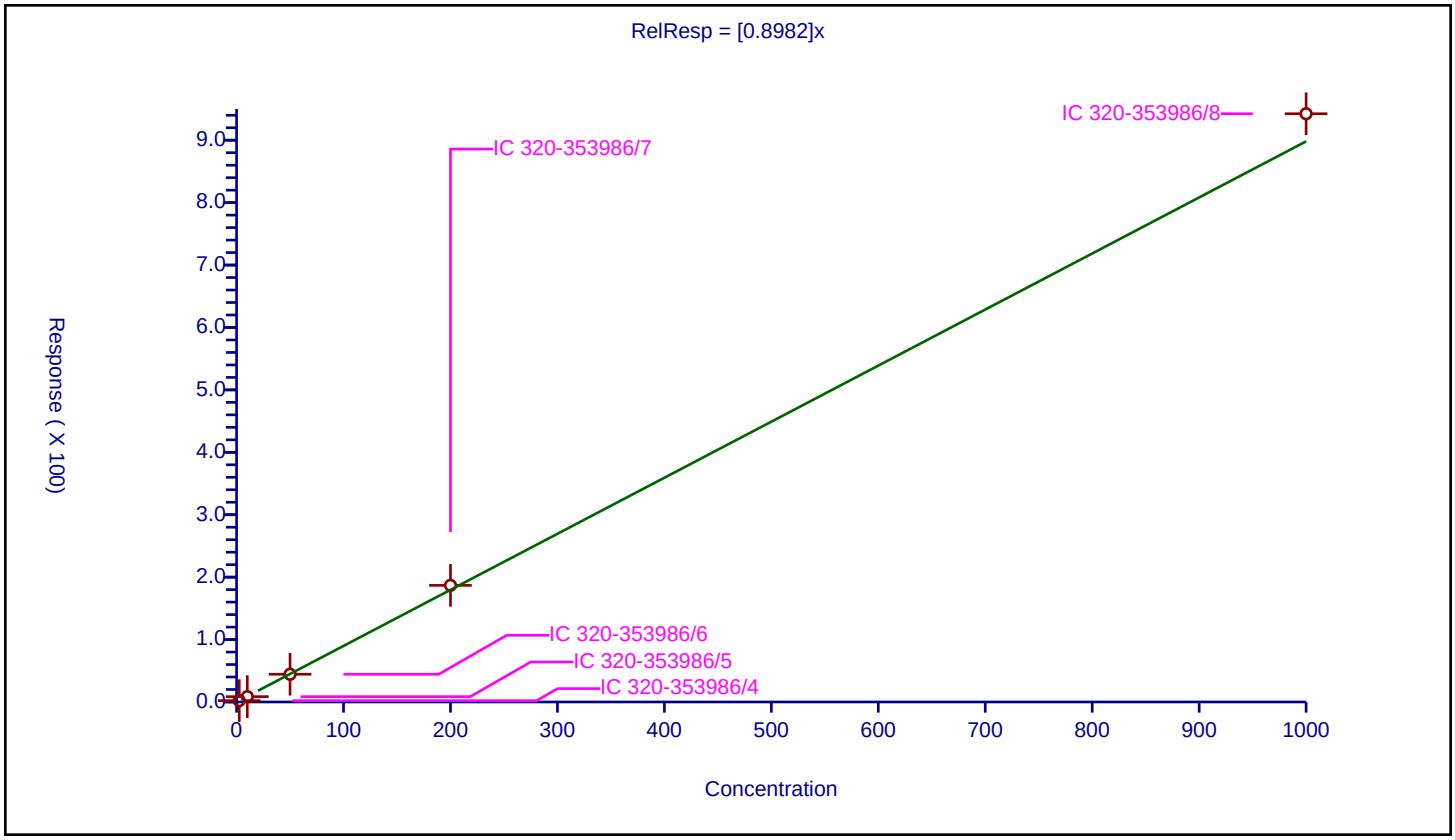

Calibration / 2,3,4,6,7,8-HxCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.901

Error Coefficients

Standard Error:	167000000
Relative Standard Error:	5.8
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-353986/4	2.5	2.1405	100.0	33531834.0	0.8562	Y
2	IC 320-353986/5	10.0	8.368094	100.0	33284581.0	0.836809	Y
3	IC 320-353986/6	50.0	45.77116	100.0	33675050.0	0.915423	Y
4	IC 320-353986/7	200.0	189.325819	100.0	35563872.0	0.946629	Y
5	IC 320-353986/8	1000.0	950.123936	100.0	34348713.0	0.950124	Y

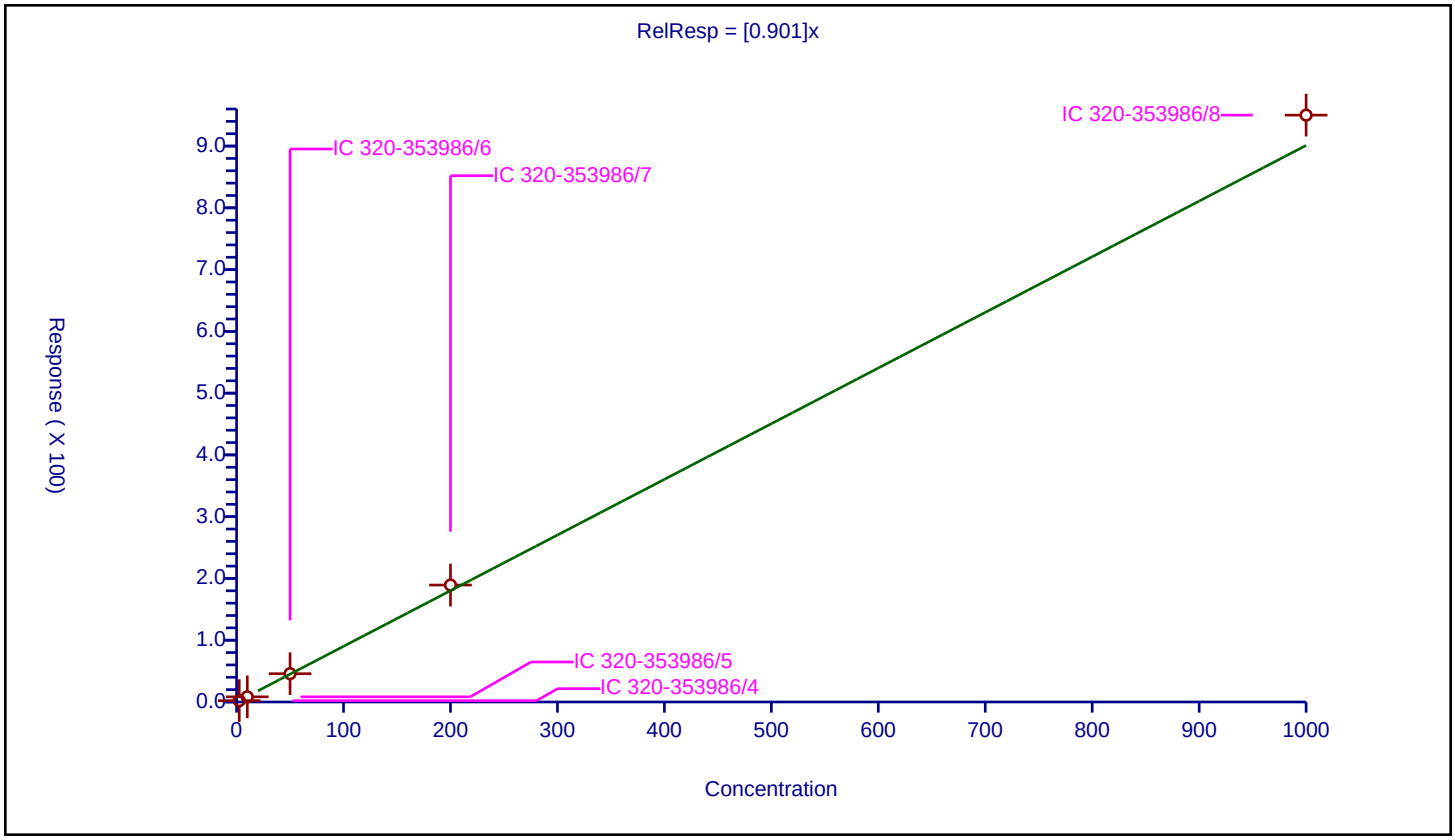

Calibration / 2,3,4,7,8-PeCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.8101

Error Coefficients

Standard Error:	248000000
Relative Standard Error:	5.2
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-353986/4	2.5	1.857308	100.0	54159362.0	0.742923	Y
2	IC 320-353986/5	10.0	8.034121	100.0	52028379.0	0.803412	Y
3	IC 320-353986/6	50.0	40.628506	100.0	55687826.0	0.81257	Y
4	IC 320-353986/7	200.0	169.073065	100.0	58863166.0	0.845365	Y
5	IC 320-353986/8	1000.0	846.230885	100.0	57282367.0	0.846231	Y

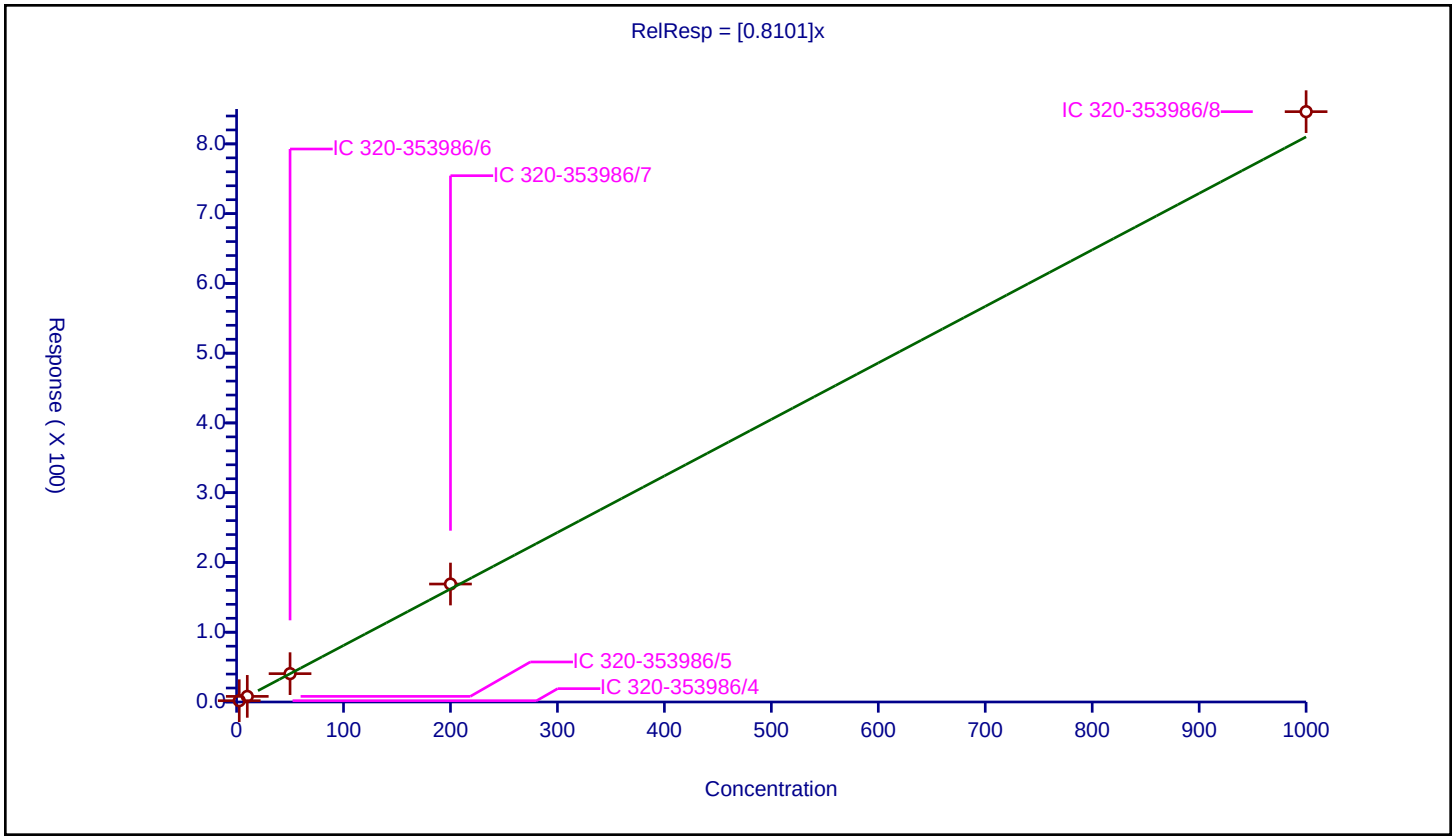

Calibration / 2,3,7,8-TCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.9599

Error Coefficients

Standard Error:	48300000
Relative Standard Error:	4.7
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-353986/4	0.5	0.485992	100.0	47625866.0	0.971984	Y
2	IC 320-353986/5	2.0	1.885196	100.0	47750377.0	0.942598	Y
3	IC 320-353986/6	10.0	8.919751	100.0	48457404.0	0.891975	Y
4	IC 320-353986/7	40.0	39.289593	100.0	51144205.0	0.98224	Y
5	IC 320-353986/8	200.0	202.120243	100.0	46738785.0	1.010601	Y

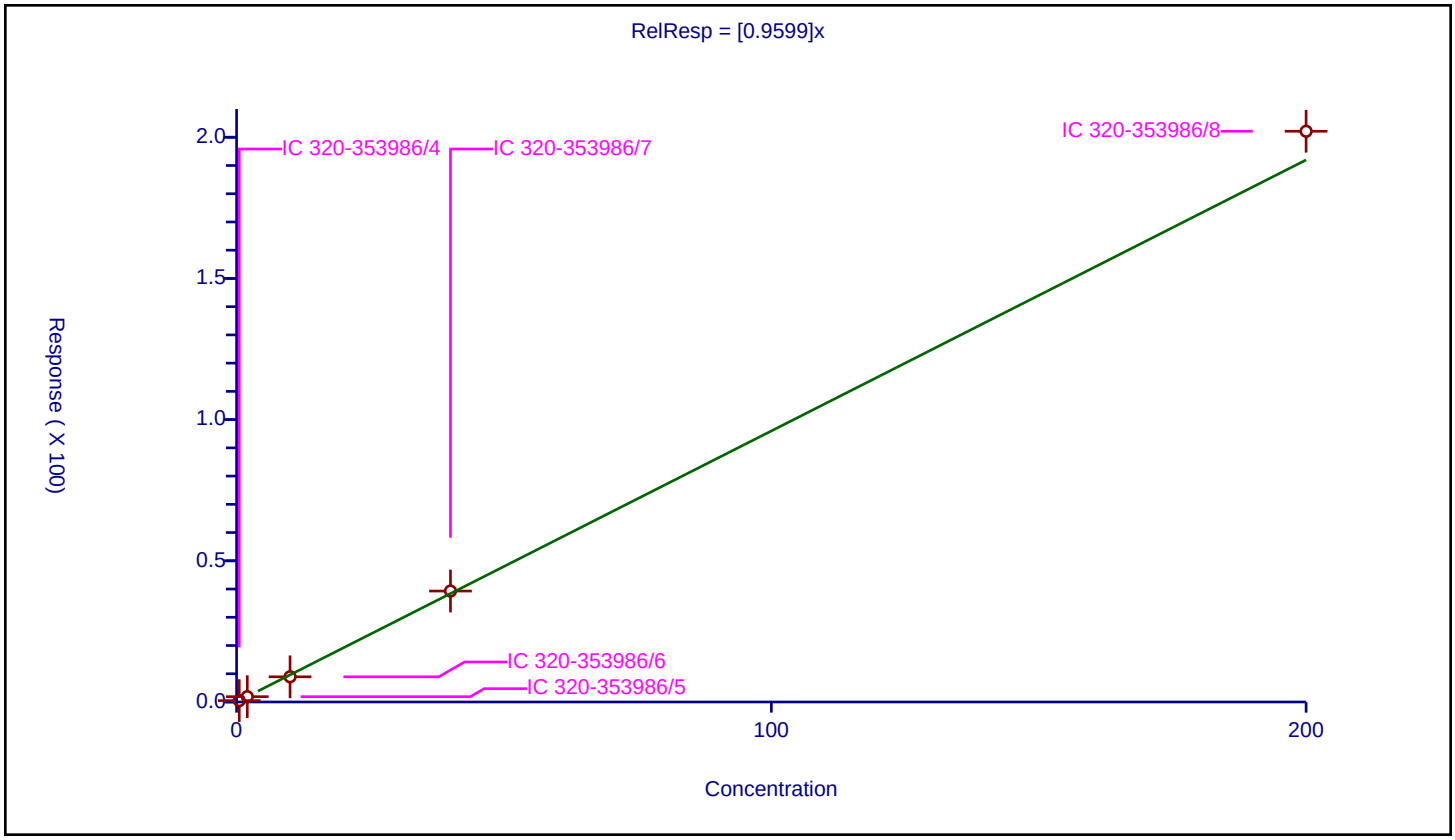

Calibration / 2,3,7,8-TCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.7675

Error Coefficients

Standard Error:	49200000
Relative Standard Error:	5.8
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-353986/4	0.5	0.36762	100.0	59724134.0	0.73524	Y
2	IC 320-353986/5	2.0	1.464986	100.0	60669870.0	0.732493	Y
3	IC 320-353986/6	10.0	7.4087	100.0	59557613.0	0.74087	Y
4	IC 320-353986/7	40.0	31.941146	100.0	63967417.0	0.798529	Y
5	IC 320-353986/8	200.0	166.108562	100.0	57856976.0	0.830543	Y

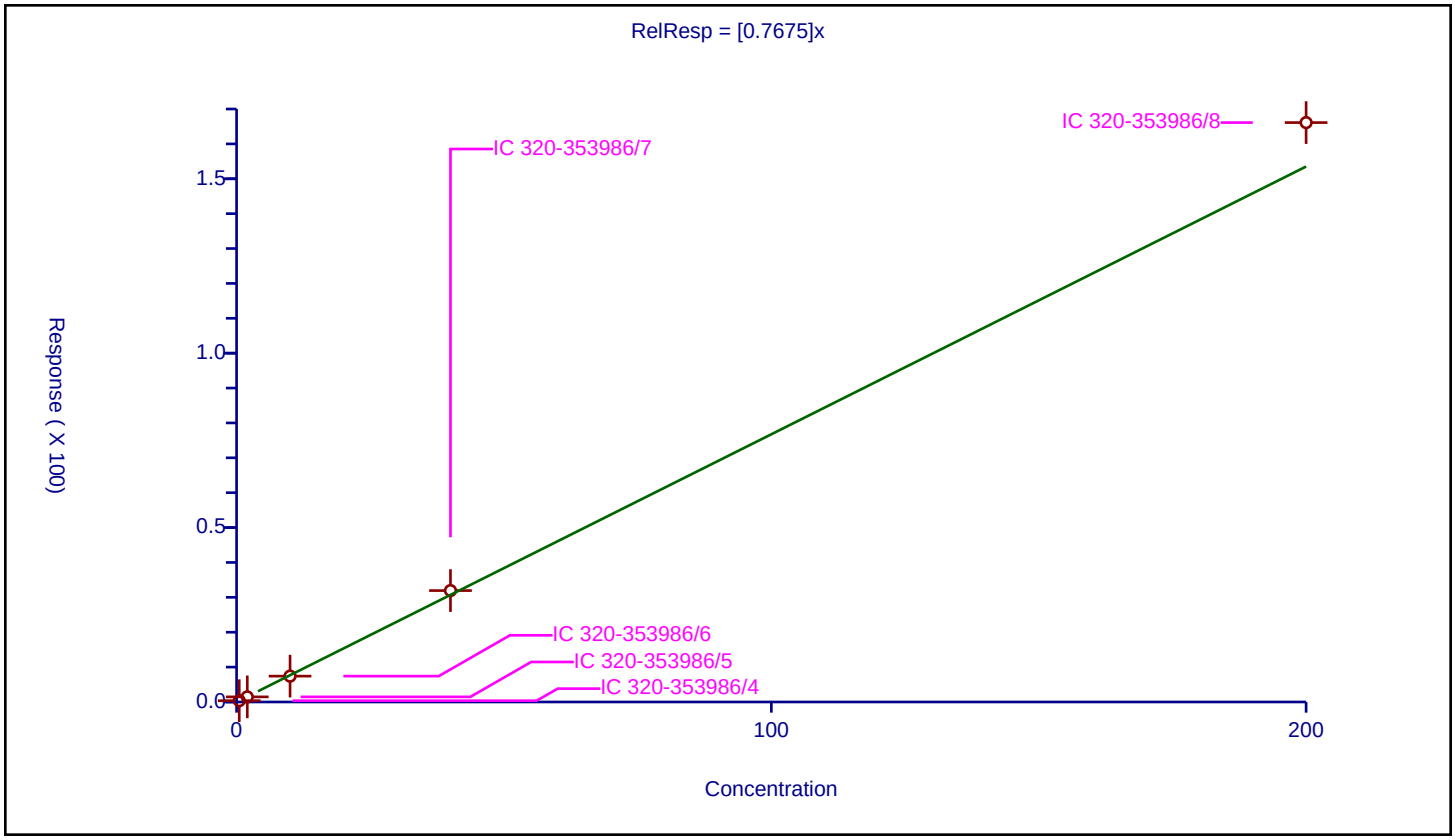

Calibration / 37Cl4-2,3,7,8-TCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.9673

Error Coefficients

Standard Error:	55600000
Relative Standard Error:	8.5
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.992

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-353986/4	0.5	0.439893	100.0	53476232.0	0.879785	Y
2	IC 320-353986/5	2.0	1.775727	100.0	53137406.0	0.887863	Y
3	IC 320-353986/6	10.0	9.749454	100.0	53351234.0	0.974945	Y
4	IC 320-353986/7	40.0	41.45797	100.0	56344688.0	1.036449	Y
5	IC 320-353986/8	200.0	211.517879	100.0	51320987.0	1.057589	Y

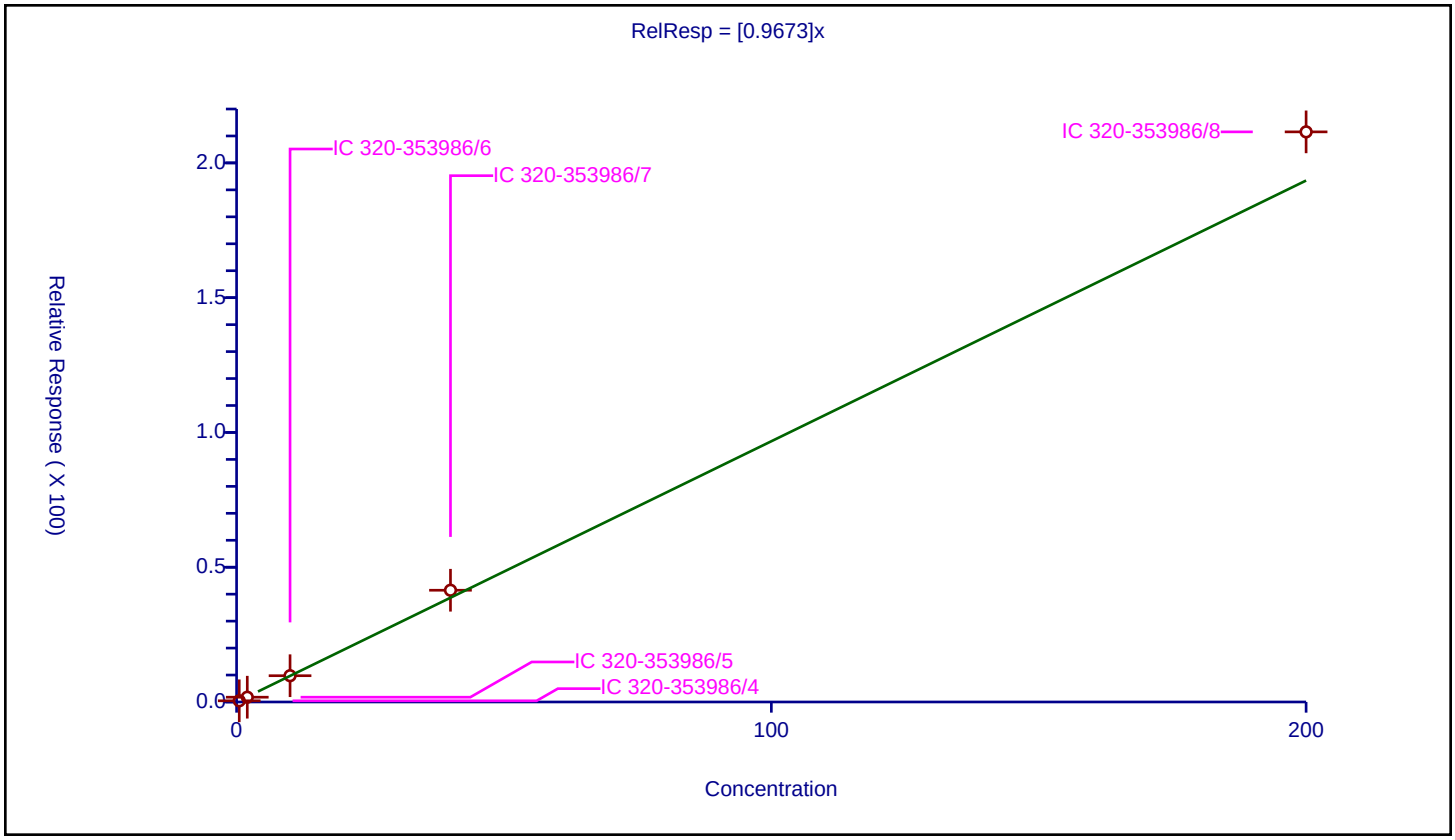

Calibration / OCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.9937

Error Coefficients

Standard Error:	319000000
Relative Standard Error:	1.5
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	1.000

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-353986/4	5.0	4.921909	200.0	54390196.0	0.984382	Y
2	IC 320-353986/5	20.0	19.831119	200.0	54582619.0	0.991556	Y
3	IC 320-353986/6	100.0	97.605097	200.0	57273958.0	0.976051	Y
4	IC 320-353986/7	400.0	405.140253	200.0	61805942.0	1.012851	Y
5	IC 320-353986/8	2000.0	2007.451233	200.0	62333978.0	1.003726	Y

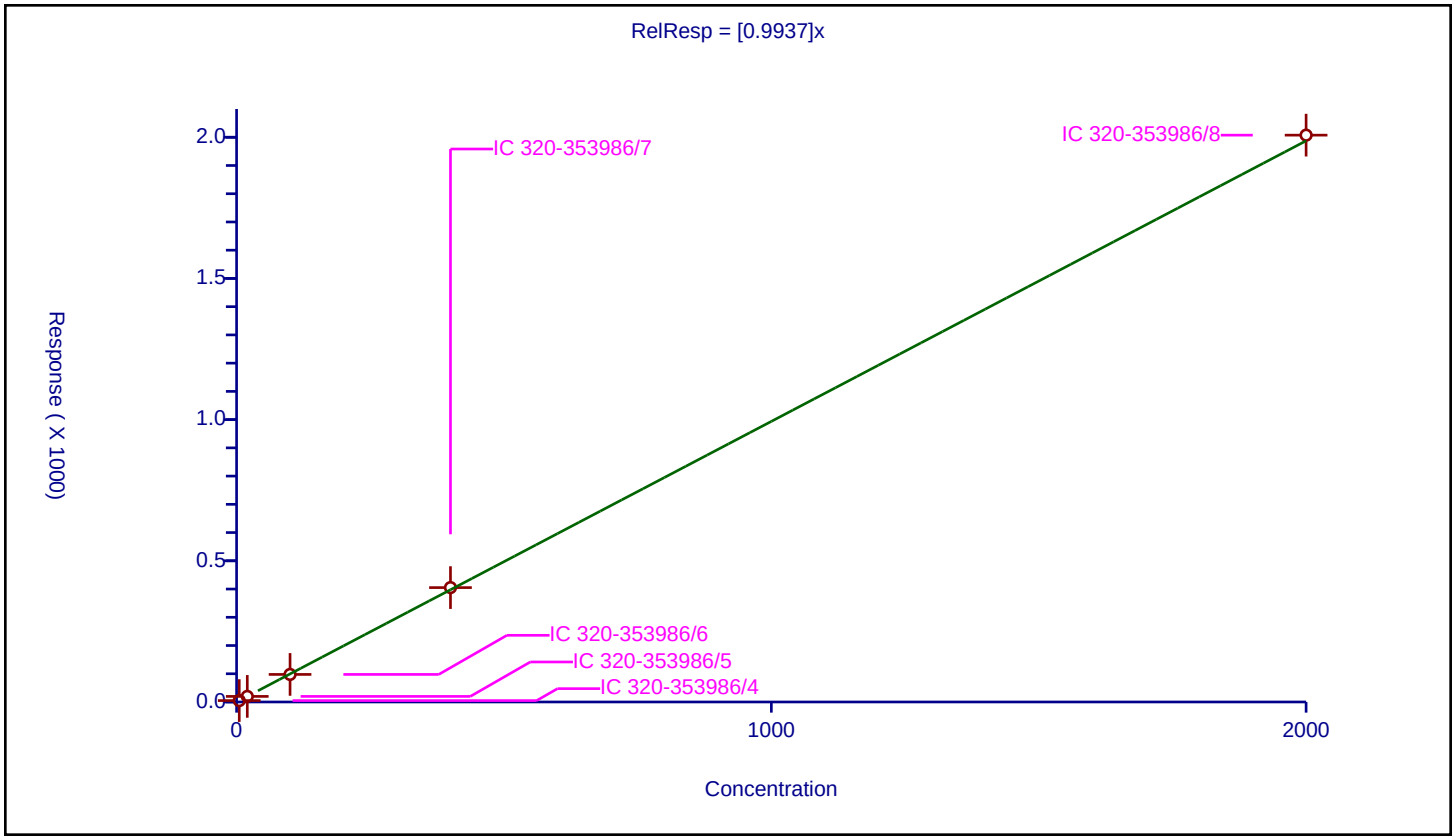

Calibration / OCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.066

Error Coefficients

Standard Error:	356000000
Relative Standard Error:	4.7
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-353986/4	5.0	5.05643	200.0	54390196.0	1.011286	Y
2	IC 320-353986/5	20.0	20.644231	200.0	54582619.0	1.032212	Y
3	IC 320-353986/6	100.0	104.785672	200.0	57273958.0	1.047857	Y
4	IC 320-353986/7	400.0	447.169138	200.0	61805942.0	1.117923	Y
5	IC 320-353986/8	2000.0	2240.670756	200.0	62333978.0	1.120335	Y

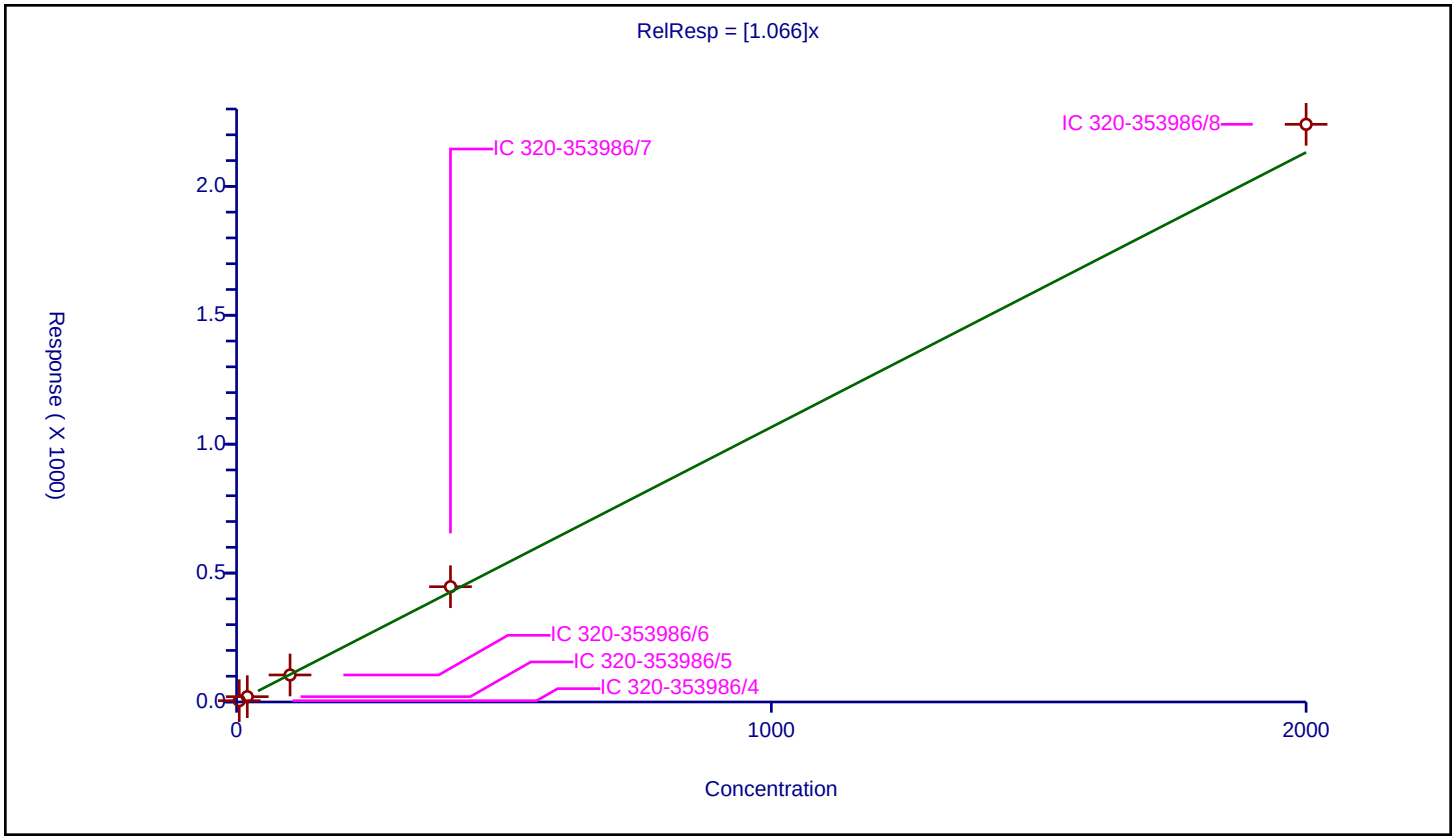

FORM VI
DIOXIN BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1 Analy Batch No.: 355060

SDG No.:

Instrument ID: 11D2 GC Column: DB-225 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/04/2020 10:28 Calibration End Date: 02/04/2020 13:02 Calibration ID: 49014

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-355060/3	04FE2011D2_003.d
Level 2	IC 320-355060/4	04FE2011D2_004.d
Level 3	IC 320-355060/5	04FE2011D2_005.d
Level 4	IC 320-355060/6	04FE2011D2_006.d
Level 5	IC 320-355060/7	04FE2011D2_007.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
2,3,7,8-TCDD	1.4254	1.2335	1.0708	1.1260	1.1661	AveID		1.2044				11.4		20.0			
2,3,7,8-TCDF	1.0205	0.9746	0.9202	0.9916	1.0084	AveID		0.9831				4.0		20.0			
13C-2,3,7,8-TCDD	0.8782	0.8618	0.8258	0.8592	0.8470	Ave		0.8544				2.3		35.0			
13C-2,3,7,8-TCDF	1.4092	1.4261	1.3234	1.4417	1.4223	Ave		1.4045				3.3		35.0			
37Cl4-2,3,7,8-TCDD	0.9044	0.8646	0.8189	0.9464	0.9516	Ave		0.8972				6.3					

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
DIOXIN BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1 Analy Batch No.: 355060

SDG No.:

Instrument ID: 11D2 GC Column: DB-225 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/04/2020 10:28 Calibration End Date: 02/04/2020 13:02 Calibration ID: 49014

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-355060/3	04FE2011D2_003.d
Level 2	IC 320-355060/4	04FE2011D2_004.d
Level 3	IC 320-355060/5	04FE2011D2_005.d
Level 4	IC 320-355060/6	04FE2011D2_006.d
Level 5	IC 320-355060/7	04FE2011D2_007.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (PG/UL)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
2,3,7,8-TCDD		AveID	1367871	5104668	17337450	87642675	465239970	0.500	2.00	10.0	40.0	200
2,3,7,8-TCDF		AveID	1571434	6673652	23877038	129503891	675517192	0.500	2.00	10.0	40.0	200
13C-2,3,7,8-TCDD	13CTC	Ave	191929924	206923513	161917026	194580828	199480734	100	100	100	100	100
13C-2,3,7,8-TCDF	13CTC	Ave	307977682	342388985	259474739	326493421	334955017	100	100	100	100	100
37Cl4-2,3,7,8-TCDD	13CTC	Ave	988238	4151778	16055320	85727717	448231154	0.500	2.00	10.0	40.0	200

Curve Type Legend:

Ave = Average ISTD
AveID = Average isotope dilution

Data file	Smp	Work Order	Sample ID	FV-uL	Method/Matrix	Box	Size	U
04FE2011D2	1	CPS 020420	CPS HRDXNCP_00040		Dioxin		1.00000	
04FE2011D2	2	SB 020420	SB Solvent Blank C-14				1.00000	
04FE2011D2	3	IC 020420	CS-2 HRDXNL2_00028		Dioxin	ICAL	1.00000	
04FE2011D2	4	IC 020420A	CS-3 HRDXNL3_00026		Dioxin		1.00000	
04FE2011D2	5	IC 020420B	CS-4 HRDXNL4_00091		Dioxin		1.00000	
04FE2011D2	6	IC 020420C	CS-5 HRDXNL5_00029		Dioxin		1.00000	
04FE2011D2	7	IC 020420D	CS-6 HRDXNL6_00025		Dioxin		1.00000	
04FE2011D2	8	SB 020420A	SB Solvent Blank C-14				1.00000	
04FE2011D2	9	ICV 020420	ICV HRDXNIC_00043		Dioxin	ICAL	1.00000	
04FE2011D2	10						1.00000	
04FE2011D2	11						1.00000	
04FE2011D2	12						1.00000	
04FE2011D2	13						1.00000	
04FE2011D2	14						1.00000	
04FE2011D2	15						1.00000	
04FE2011D2	16						1.00000	
04FE2011D2	17						1.00000	
04FE2011D2	18		KSS 02-04-2020				1.00000	
04FE2011D2	19						1.00000	

Log file checked

Ajs

02-04-20

Peak Locate Examination: 4-FEB-2020:09:11 File:04FE2011D2
Experiment:DB225RES Function:1 Reference:PFK

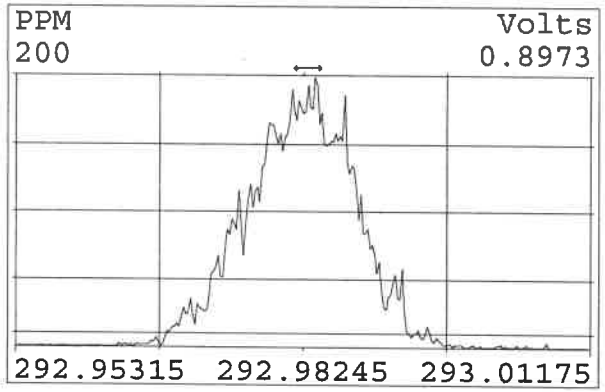

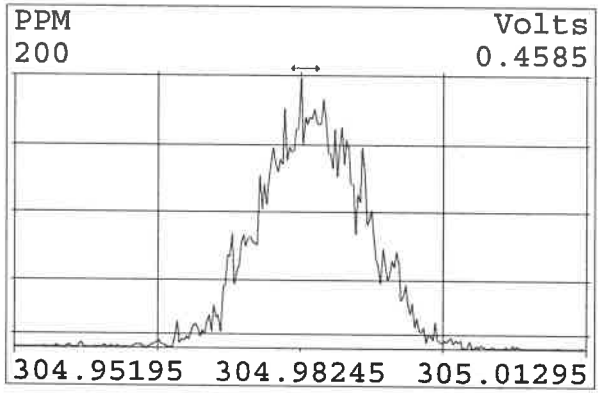

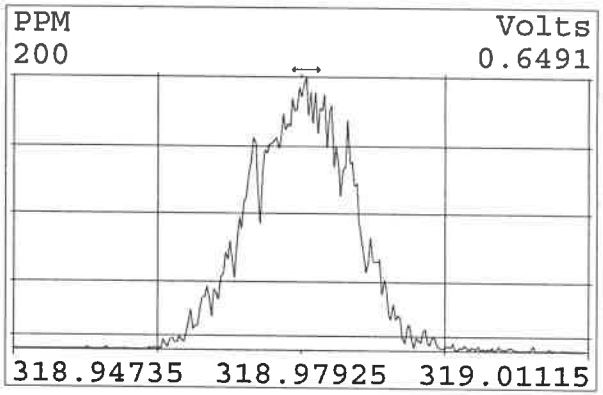

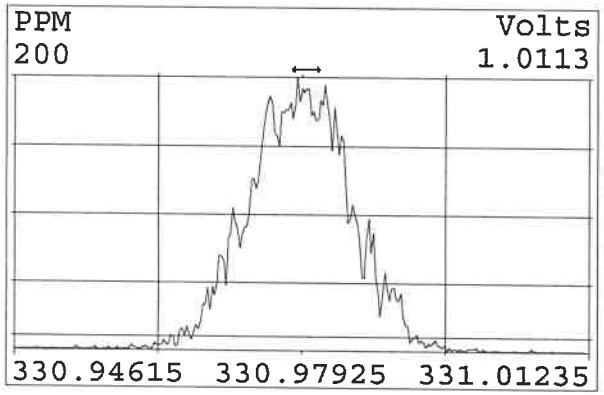

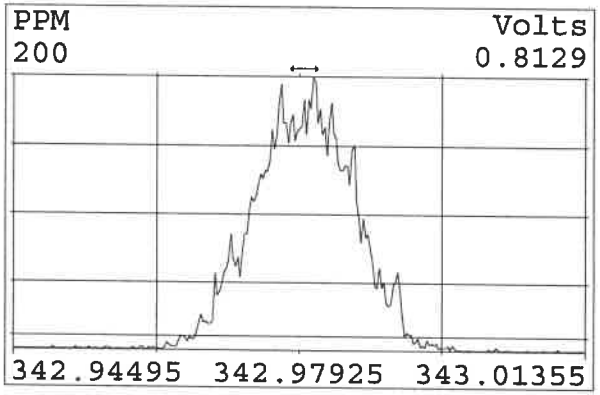

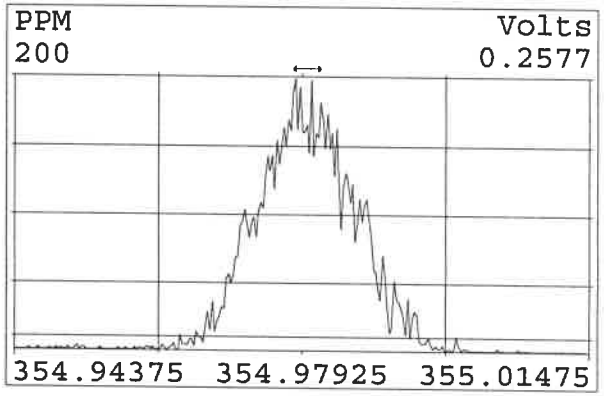

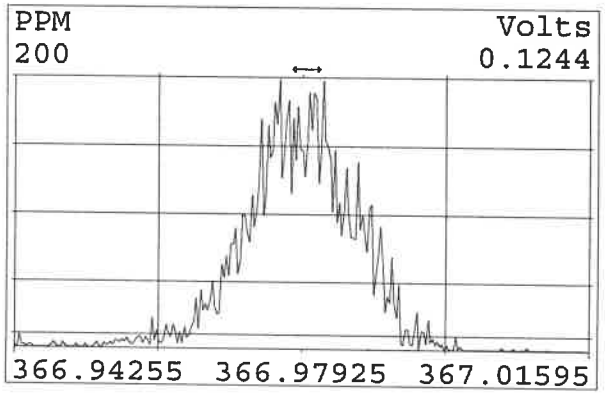

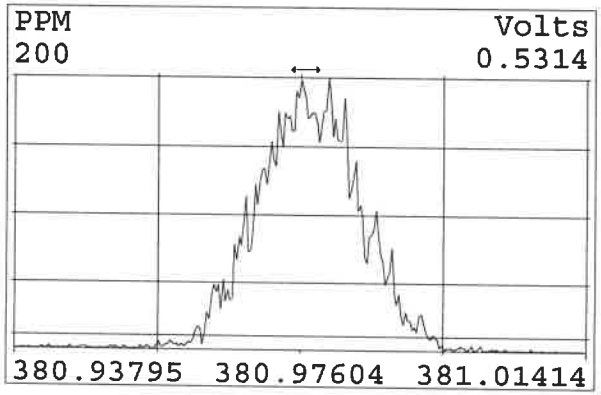

Peak Locate Examination: 4-FEB-2020:15:00 File:04FE2011D2ENDRESCK
Experiment:DB225RES Function:1 Reference:PFK

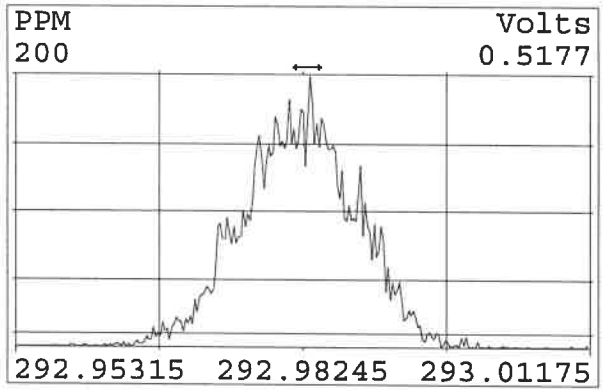

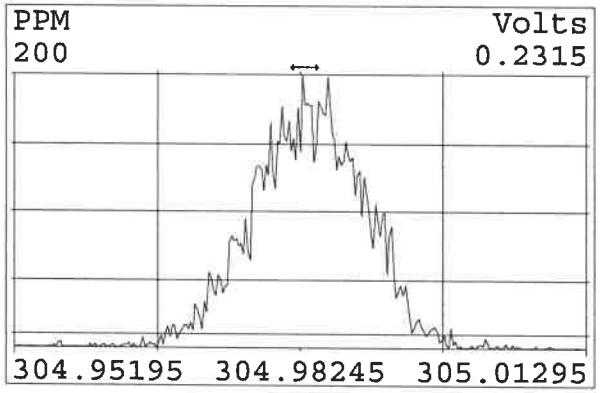

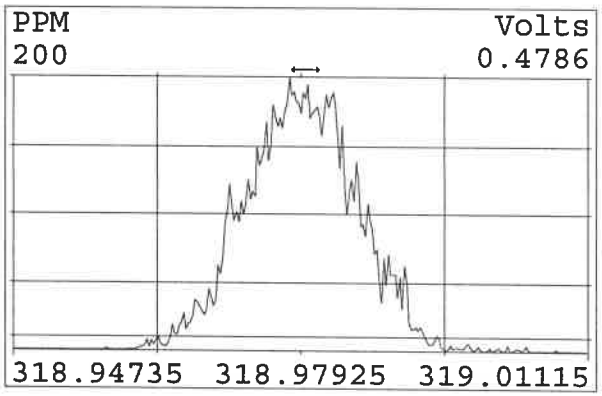

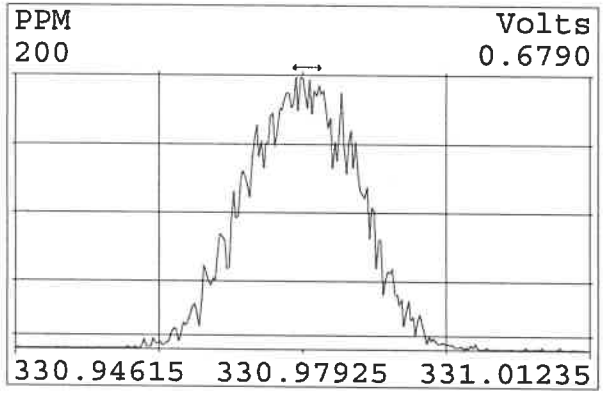

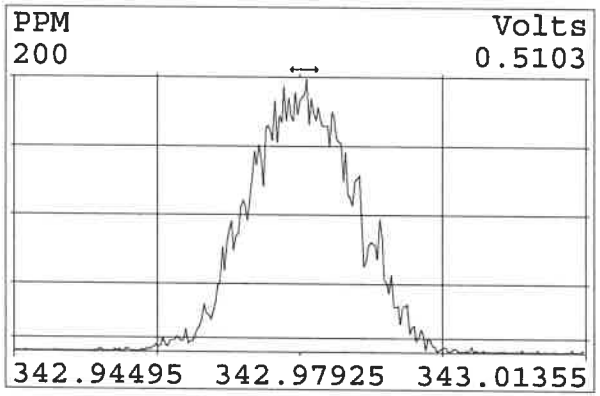

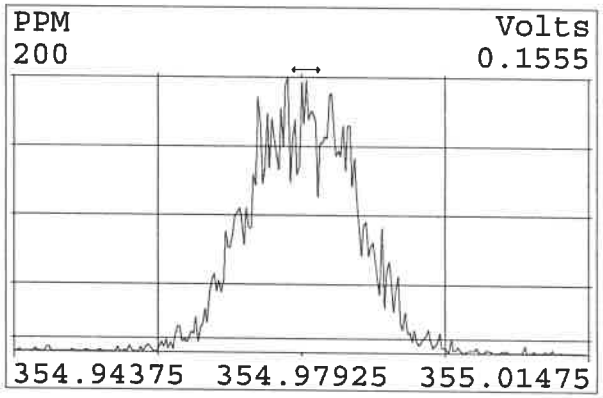

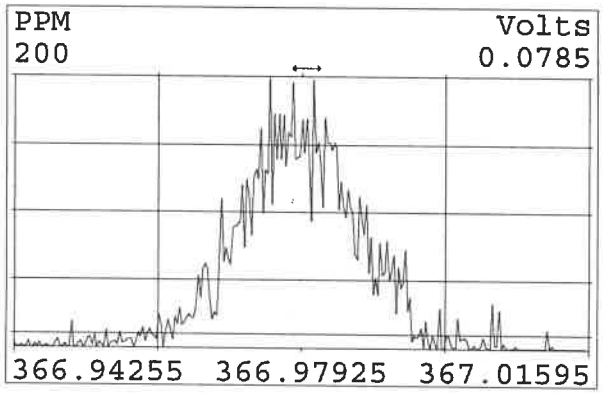

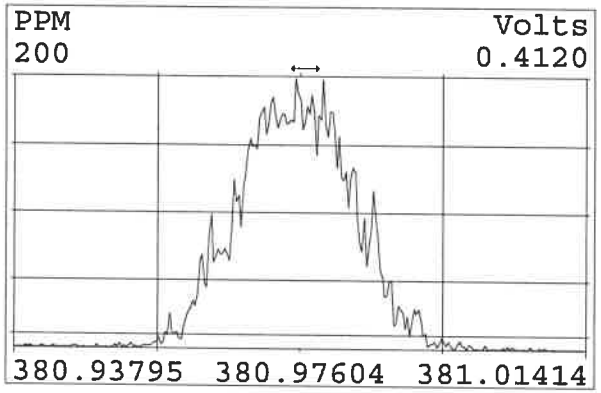

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_003.d
Lims ID: IC 2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 04-Feb-2020 10:28:58 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-2 HRDXNL2_00028
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 04-Feb-2020 16:44:33 Calib Date: 04-Feb-2020 13:02:26
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0329

First Level Reviewer: stephensk Date: 04-Feb-2020 16:30:18

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.338	218545006	0.78	2.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.504	307977682	0.80	1.4045	100.3	100.3	0.1663	0.1663	100	
2,3,7,8-TCDF	16.531	1571434	0.75	0.9831	0.5190	0.5190	0.0138	0.0138	104	
D 13C-2,3,7,8-TCDD	15.091	191929924	0.77	0.8544	102.8	102.8	0.1369	0.1369	103	
$ 37Cl4-2,3,7,8-TCDD	15.118	988238		0.8972	0.5040	0.5040	0.0172	0.0172	101	
2,3,7,8-TCDD	15.118	1367871	0.82	1.2044	0.5918	0.5918	0.0277	0.0277	118	
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNL2_00028 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_003.d
Lims ID: IC 2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 04-Feb-2020 10:28:58 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-2 HRDXNL2_00028
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 04-Feb-2020 16:44:33 Calib Date: 04-Feb-2020 13:02:26
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0329

First Level Reviewer: stephensk Date: 04-Feb-2020 16:30:18

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.338	15.345	0		95505888	20831170	11879	29697	1754		
333.9339	15.338	15.345	0		123039118	26979473	10495	26237	2571	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.504	16.511	0	1.076	136612946	26537308	22735	56837	1167		
317.9389	16.504	16.511	0	1.076	171364736	33512027	21945	54862	1527	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.531	16.538	0	1.002	673535	134038	1323	3307	101		
305.8987	16.531	16.538	0	1.002	897899	159507	1934	4835	82	0.75(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.091	15.098	0	0.984	83595540	17772092	11879	29697	1496		
333.9339	15.091	15.098	0	0.984	108334384	23364924	10495	26237	2226	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.118	15.120	0	0.986	988238	183024	2957	7392	62		
2,3,7,8-TCDD											
319.8965	15.118	15.122	0	1.002	616177	124194	3159	7897	39		
321.8936	15.118	15.122	0	1.002	751694	152187	2324	5810	65	0.82(0.65-0.89)	

Reagents:

HRDXNL2_00028 Amount Added: 2.00 Units: uL

Report Date: 04-Feb-2020 16:44:36 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_003.d		
Injection Date:	04-Feb-2020 10:28:58	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355060	Sample Line#:	3
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

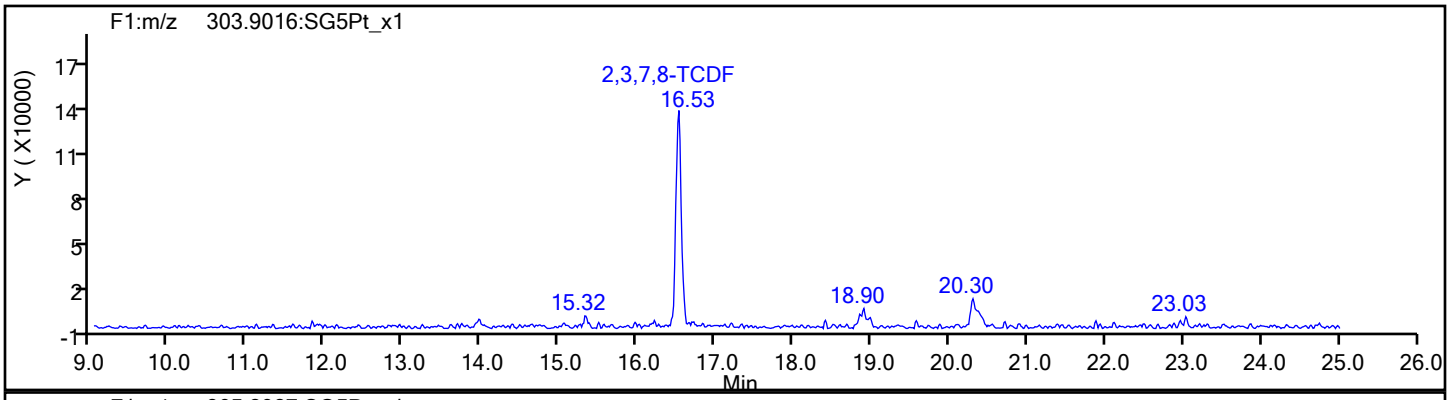

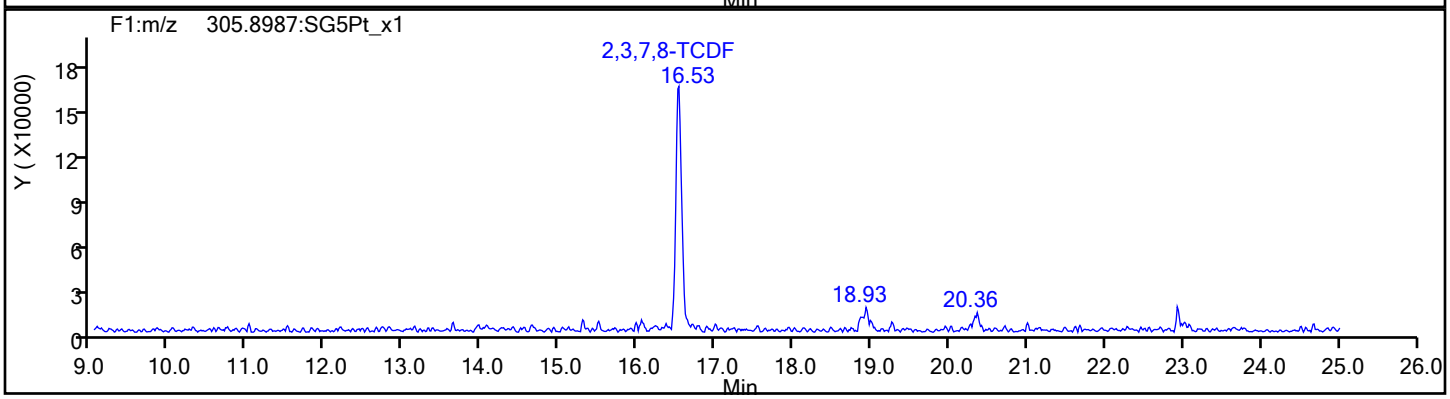

TCDF Standards

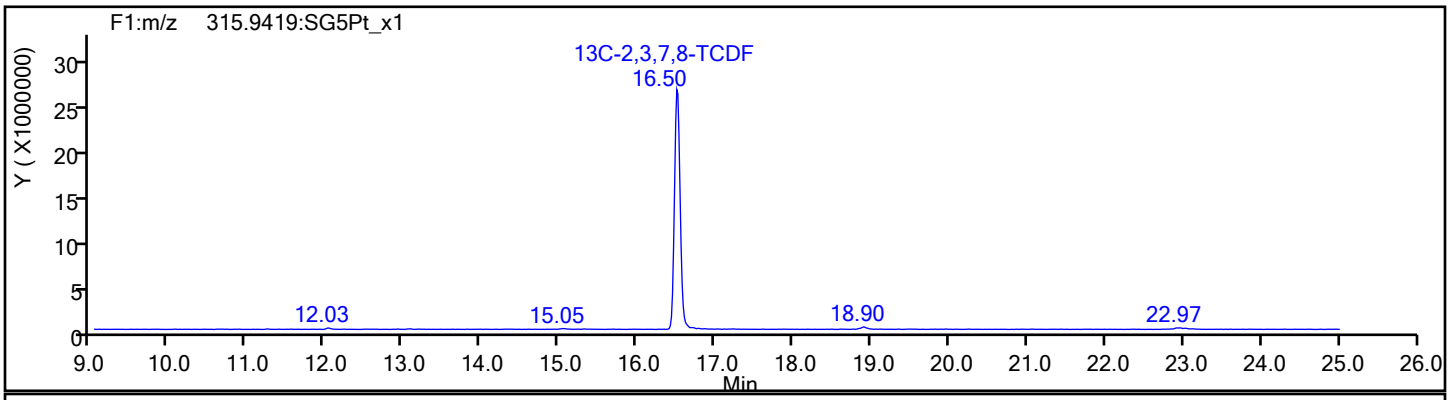

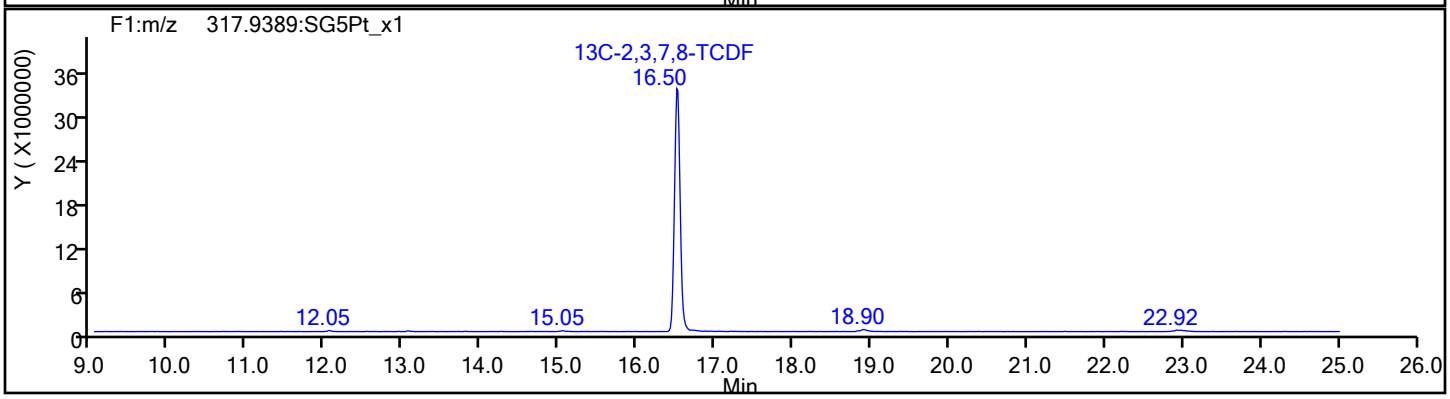

Report Date: 04-Feb-2020 16:44:36 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_003.d		
Injection Date:	04-Feb-2020 10:28:58	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355060	Sample Line#:	3
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

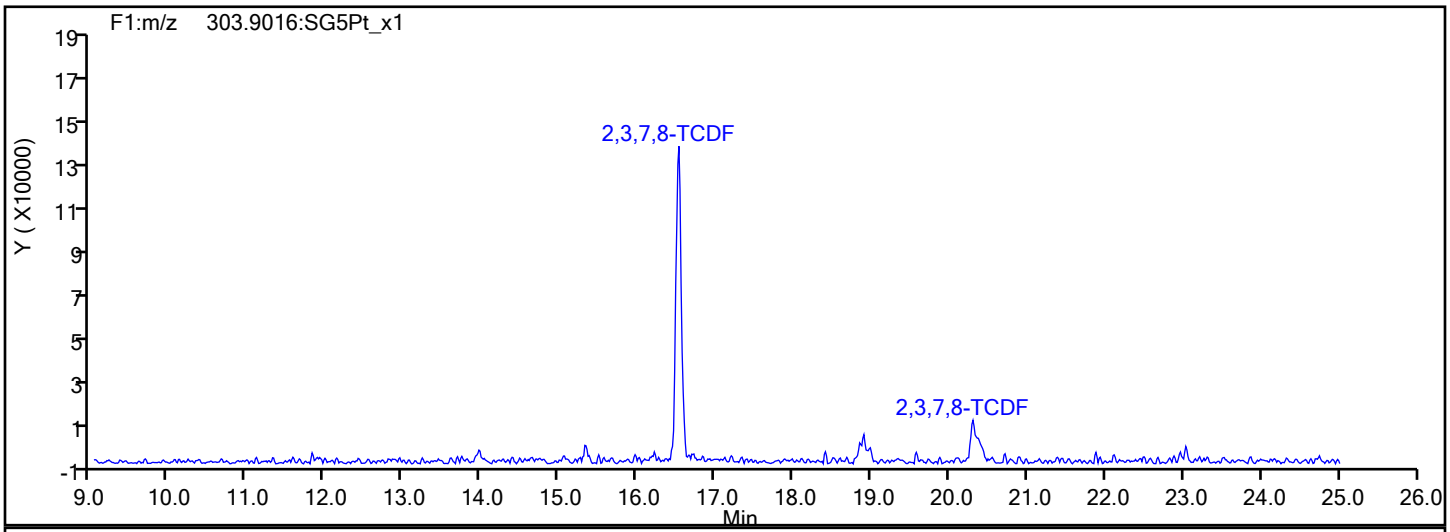

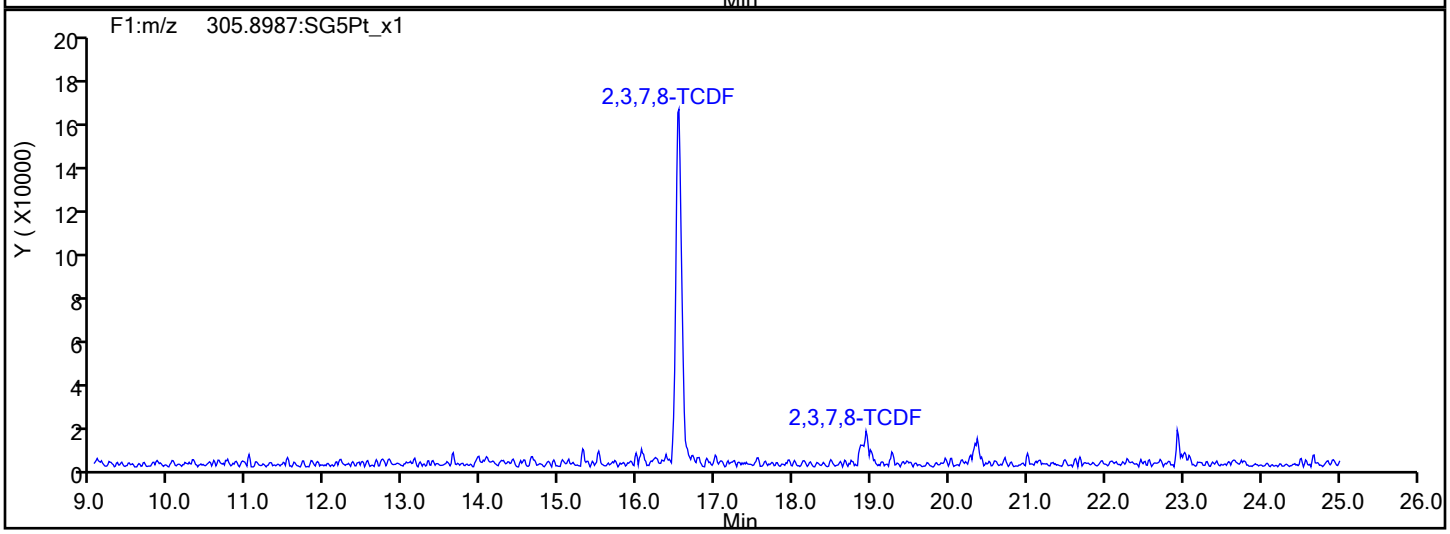

TCDF Interference Mass

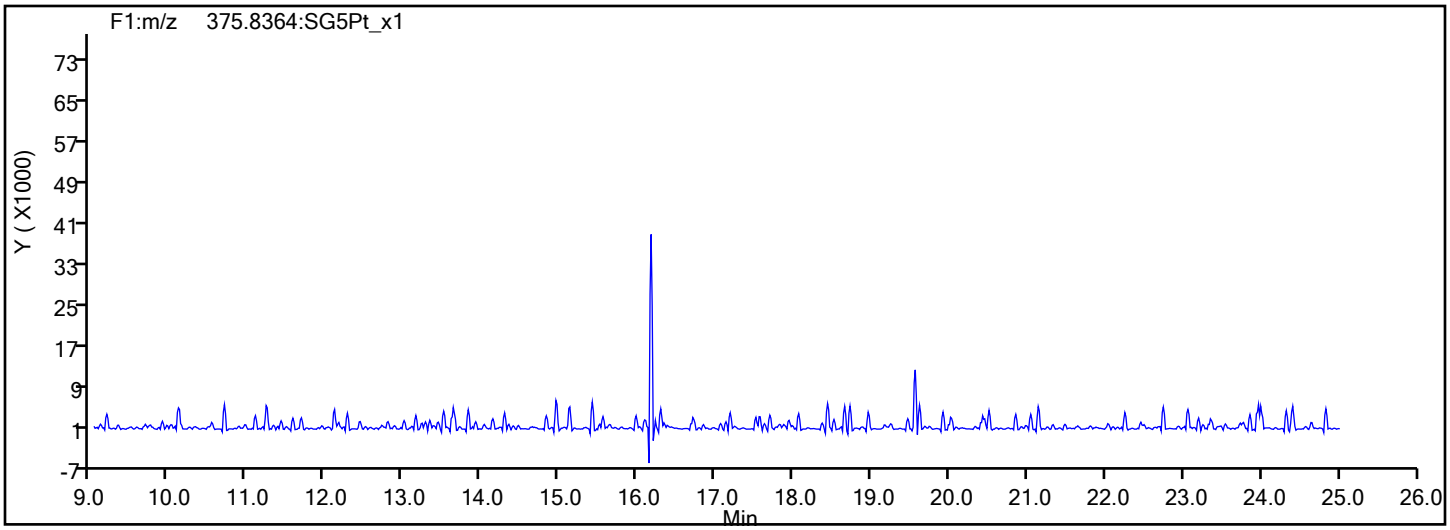

Report Date: 04-Feb-2020 16:44:36 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_003.d		
Injection Date:	04-Feb-2020 10:28:58	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355060	Sample Line#:	3
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

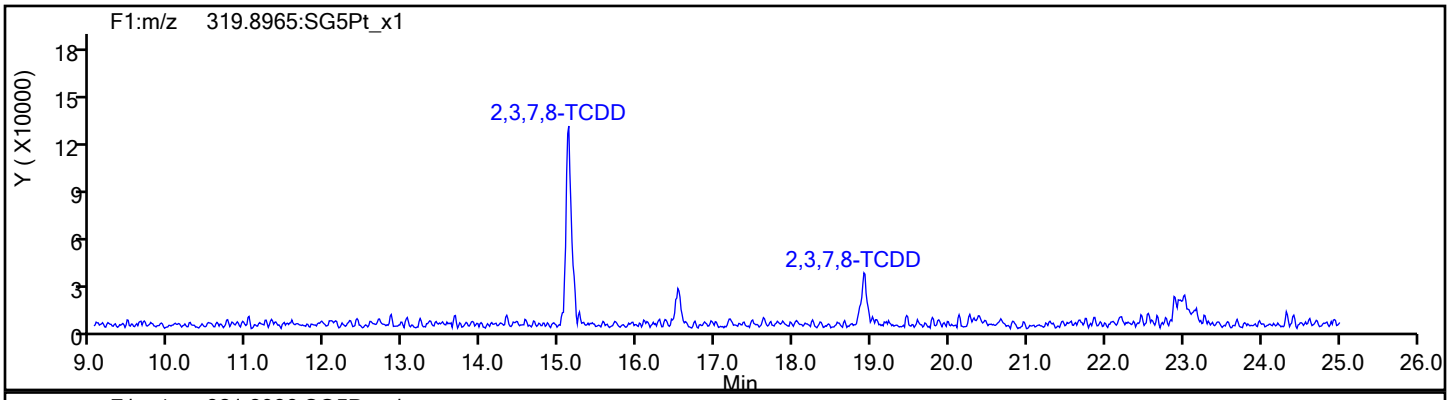

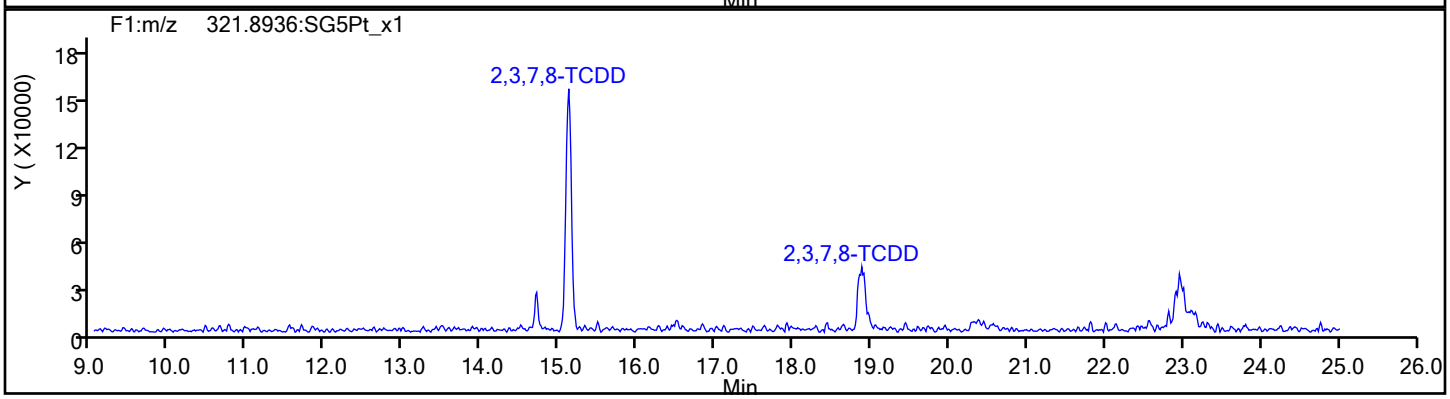

TCDD Standards

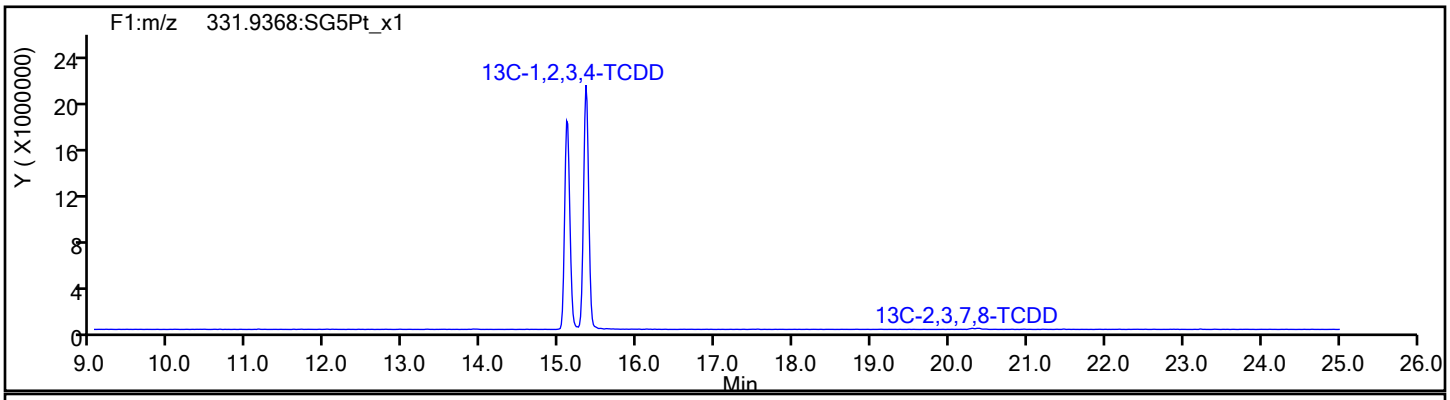

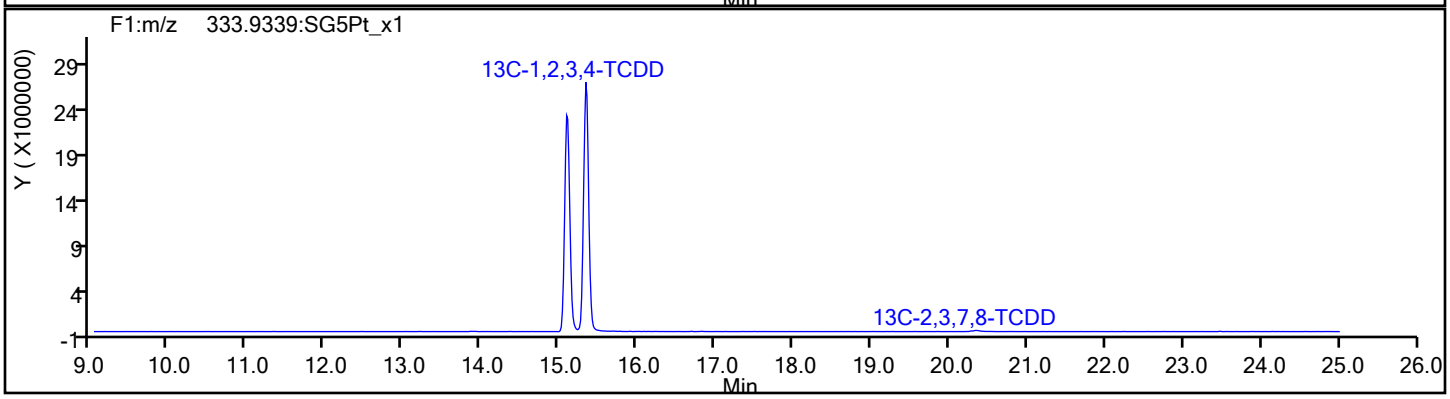

Report Date: 04-Feb-2020 16:44:37 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_003.d		
Injection Date:	04-Feb-2020 10:28:58	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355060	Sample Line#:	3
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

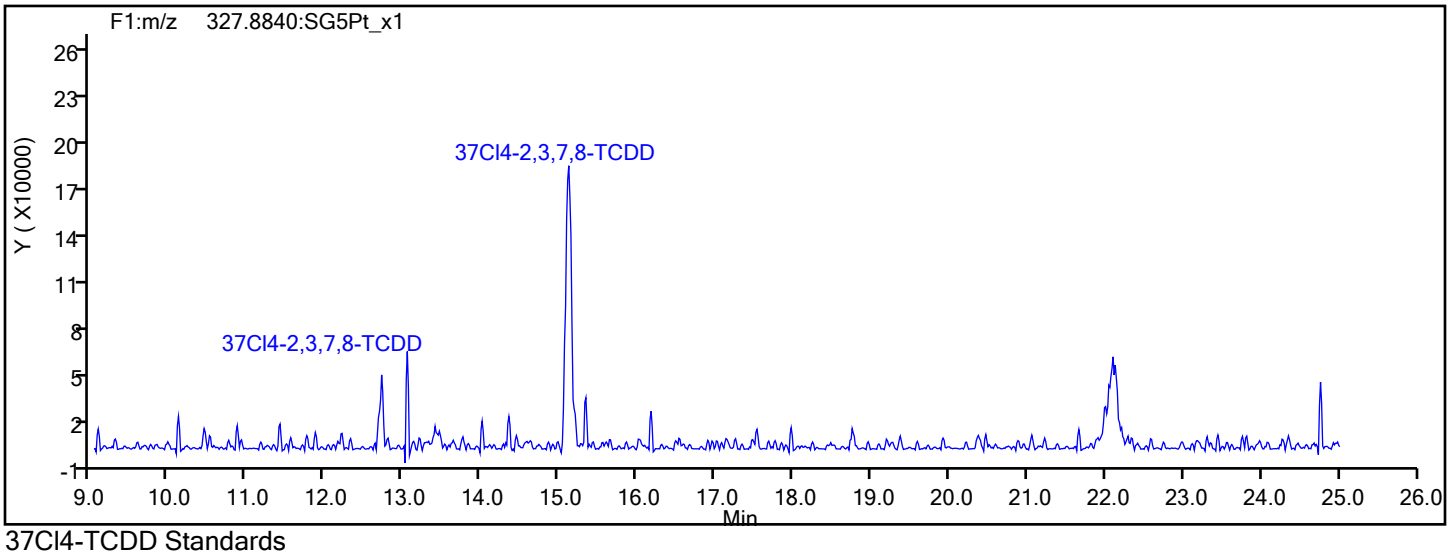

37Cl4-TCDD Standards

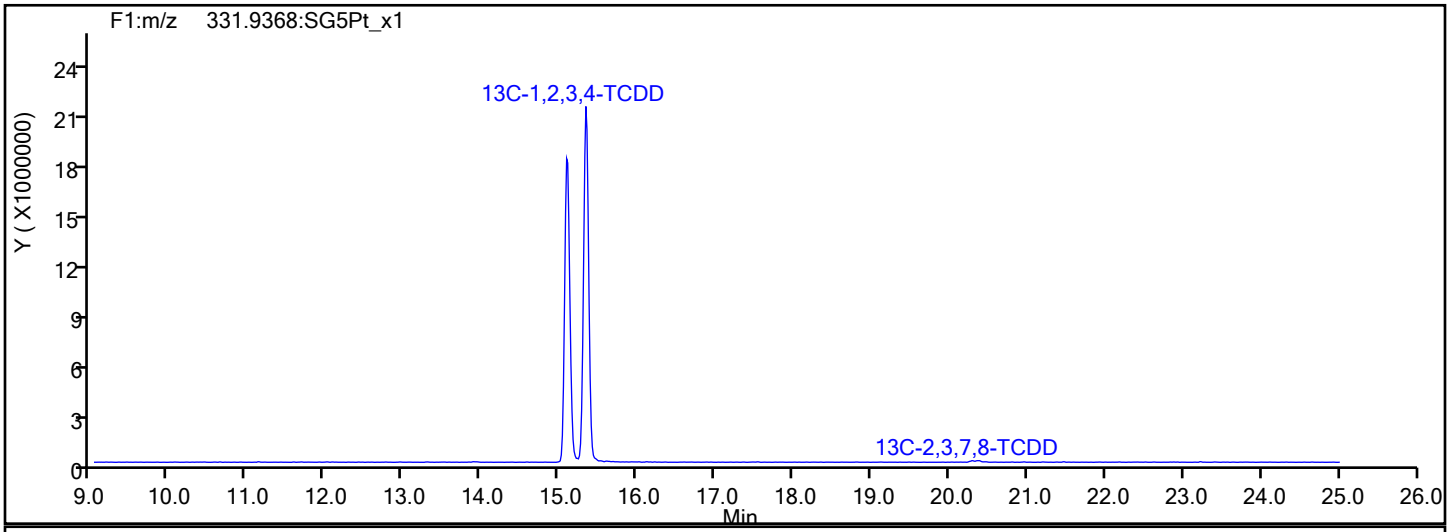

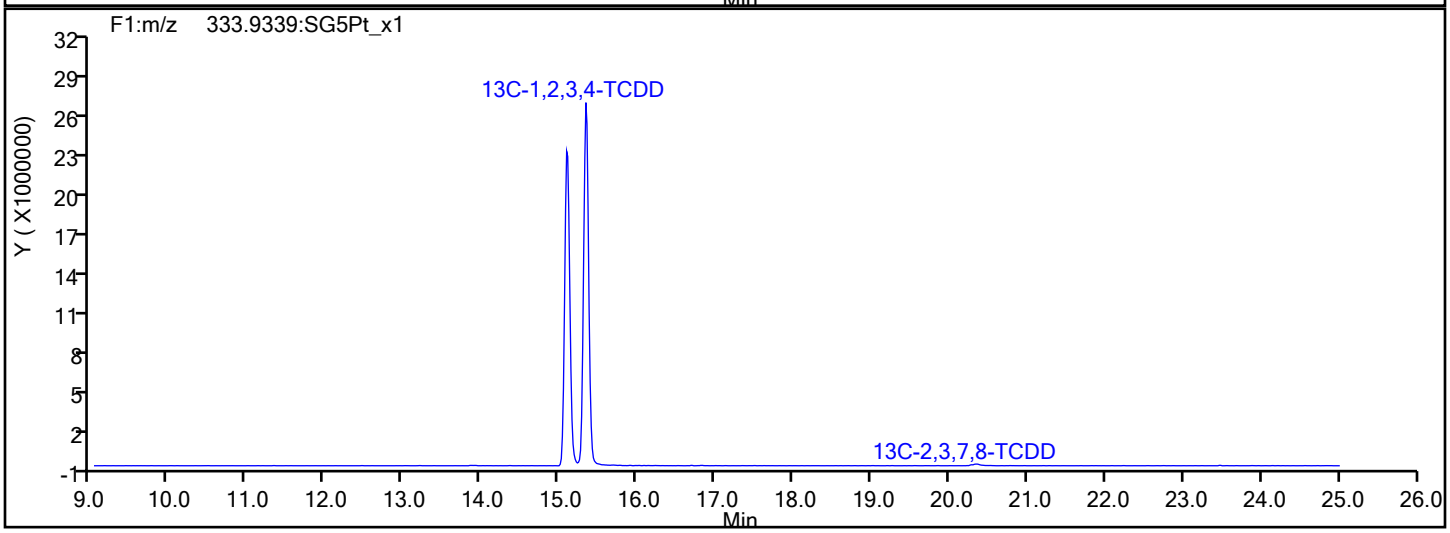

Report Date: 04-Feb-2020 16:44:37 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_003.d		
Injection Date:	04-Feb-2020 10:28:58	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355060	Sample Line#:	3
Column Type:	DB-225	Column Dia:	0.32 mm

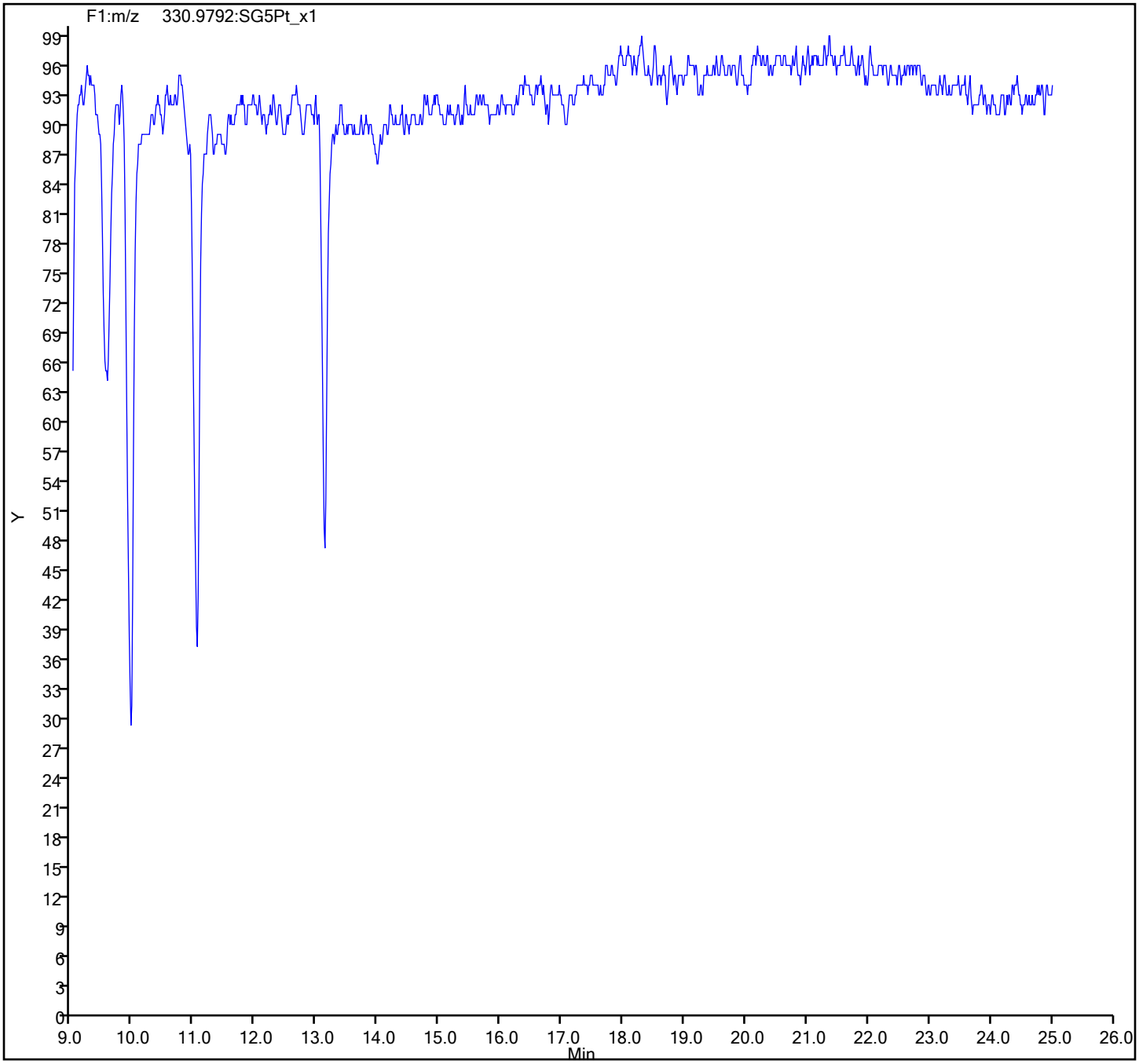

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_004.d
Lims ID: IC 3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 04-Feb-2020 11:07:20 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-3 HRDXNL3_00026
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 04-Feb-2020 16:44:38 Calib Date: 04-Feb-2020 13:02:26
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0329

First Level Reviewer: stephensk Date: 04-Feb-2020 16:30:31

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.354	240092936	0.76	2.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.520	342388985	0.82	1.4045	101.5	101.5	0.1596	0.1596	102	
2,3,7,8-TCDF	16.548	6673652	0.79	0.9831	1.983	1.983	0.0179	0.0179	99.14	
D 13C-2,3,7,8-TCDD	15.107	206923513	0.76	0.8544	100.9	100.9	0.1268	0.1268	101	
$ 37Cl4-2,3,7,8-TCDD	15.121	4151778		0.8972	1.927	1.927	0.0156	0.0156	96.37	
2,3,7,8-TCDD	15.121	5104668	0.81	1.2044	2.048	2.048	0.0292	0.0292	102	
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNL3_00026 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_004.d
Lims ID: IC 3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 04-Feb-2020 11:07:20 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-3 HRDXNL3_00026
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 04-Feb-2020 16:44:38 Calib Date: 04-Feb-2020 13:02:26
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0329

First Level Reviewer: stephensk Date: 04-Feb-2020 16:30:31

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.354	15.345	1		103988445	23144894	12821	32052	1805		
333.9339	15.354	15.345	1		136104491	30300531	10335	25837	2932	0.76(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.520	16.511	1	1.076	154230848	30817760	26132	65330	1179		
317.9389	16.520	16.511	1	1.076	188158137	37002663	21799	54497	1697	0.82(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.548	16.538	1	1.002	2944380	547988	1975	4937	277		
305.8987	16.548	16.538	1	1.002	3729272	689654	2805	7012	246	0.79(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.107	15.098	1	0.984	89392083	19610267	12821	32052	1530		
333.9339	15.107	15.098	1	0.984	117531430	25937308	10335	25837	2510	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.121	15.120	0	0.985	4151778	961147	2987	7467	322		
2,3,7,8-TCDD											
319.8965	15.121	15.122	0	1.001	2288152	488202	3261	8152	150		
321.8936	15.121	15.122	0	1.001	2816516	609557	3151	7877	193	0.81(0.65-0.89)	

Reagents:

HRDXNL3_00026 Amount Added: 2.00 Units: uL

Report Date: 04-Feb-2020 16:44:41 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_004.d		
Injection Date:	04-Feb-2020 11:07:20	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355060	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

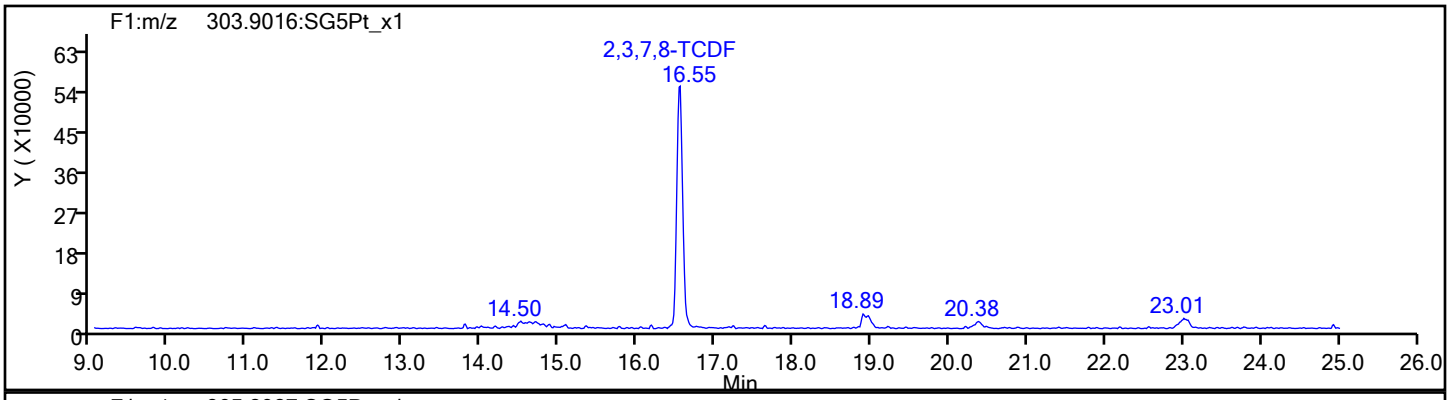

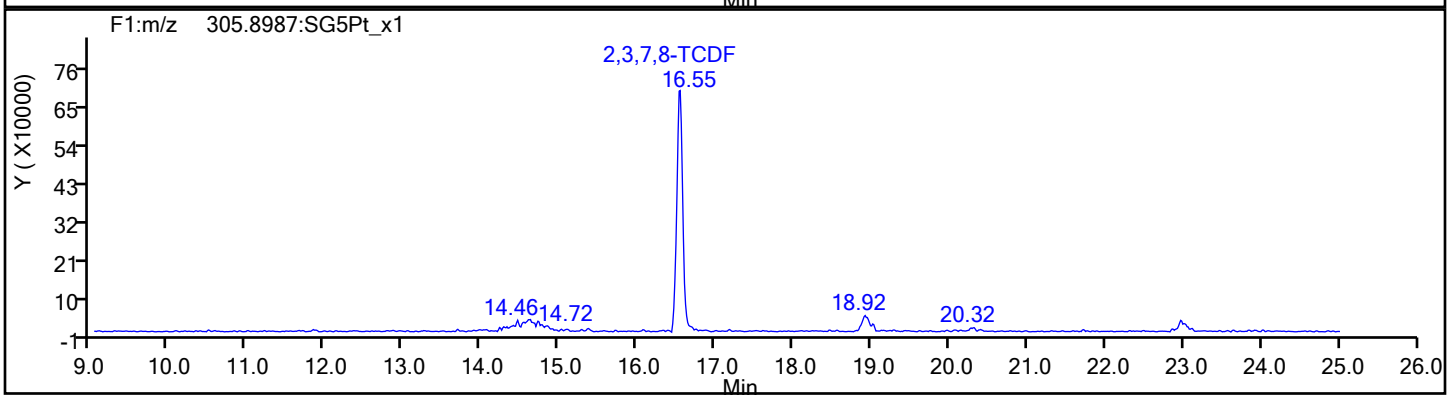

TCDF Standards

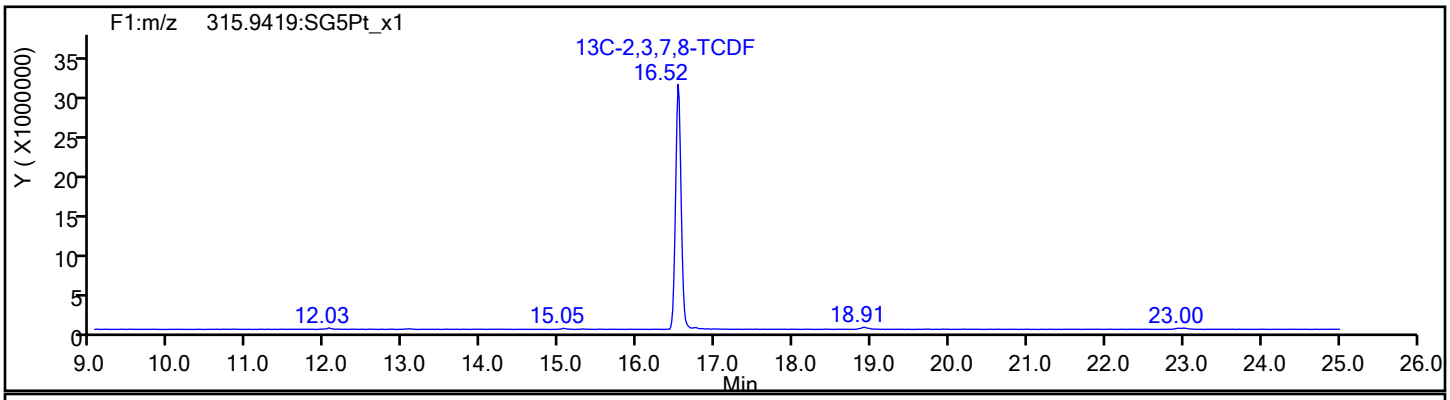

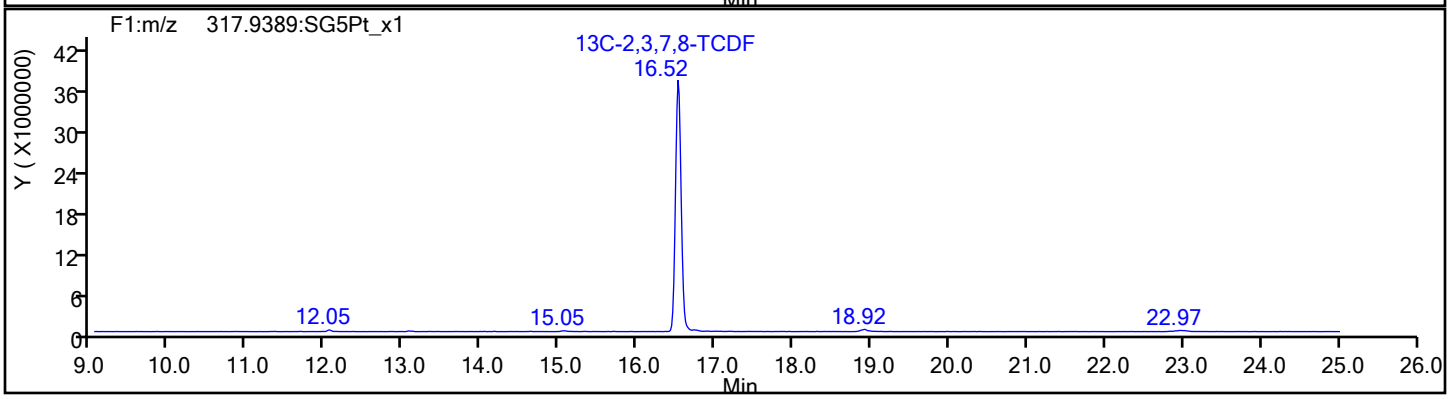

Report Date: 04-Feb-2020 16:44:41 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_004.d		
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Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355060	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

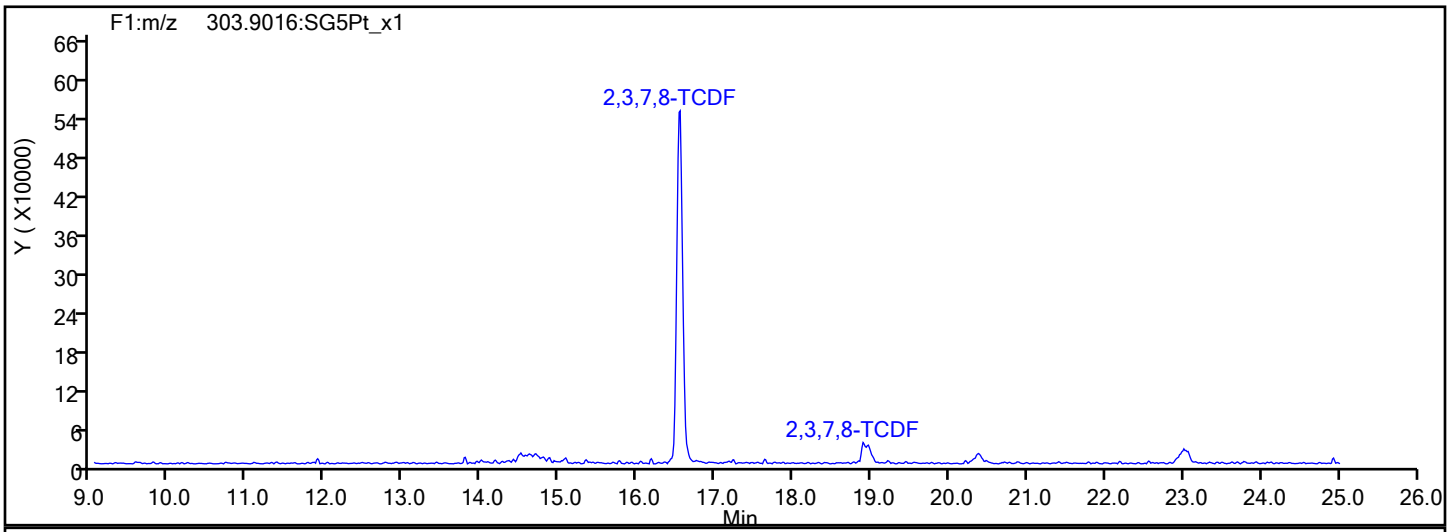

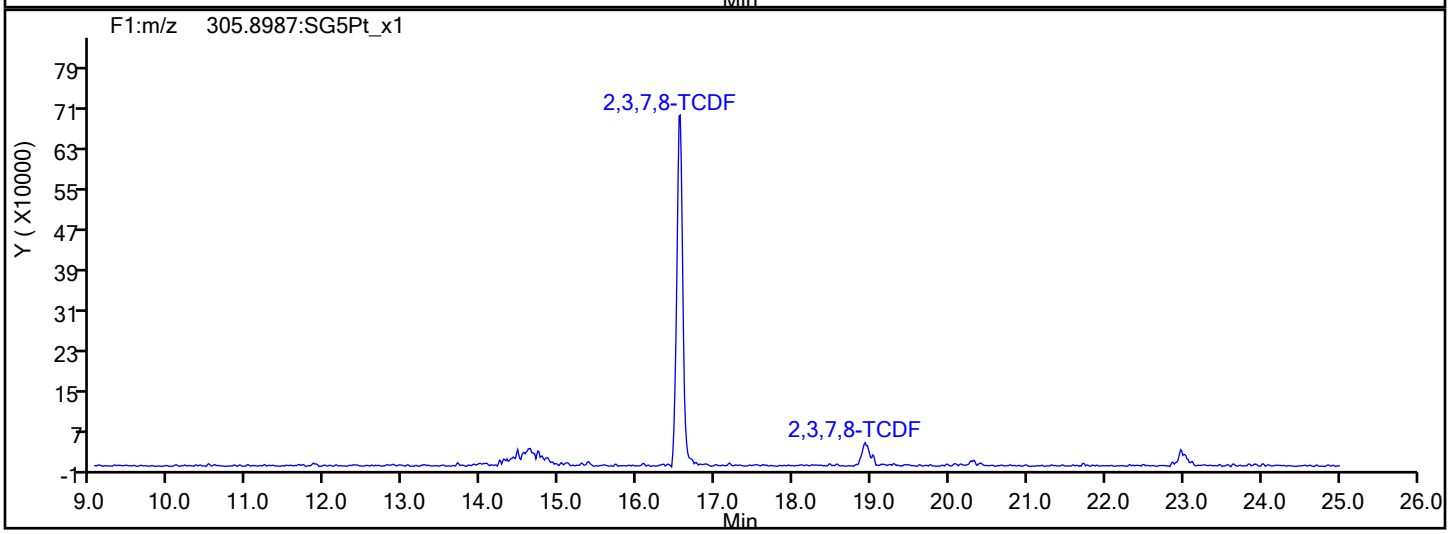

TCDF Interference Mass

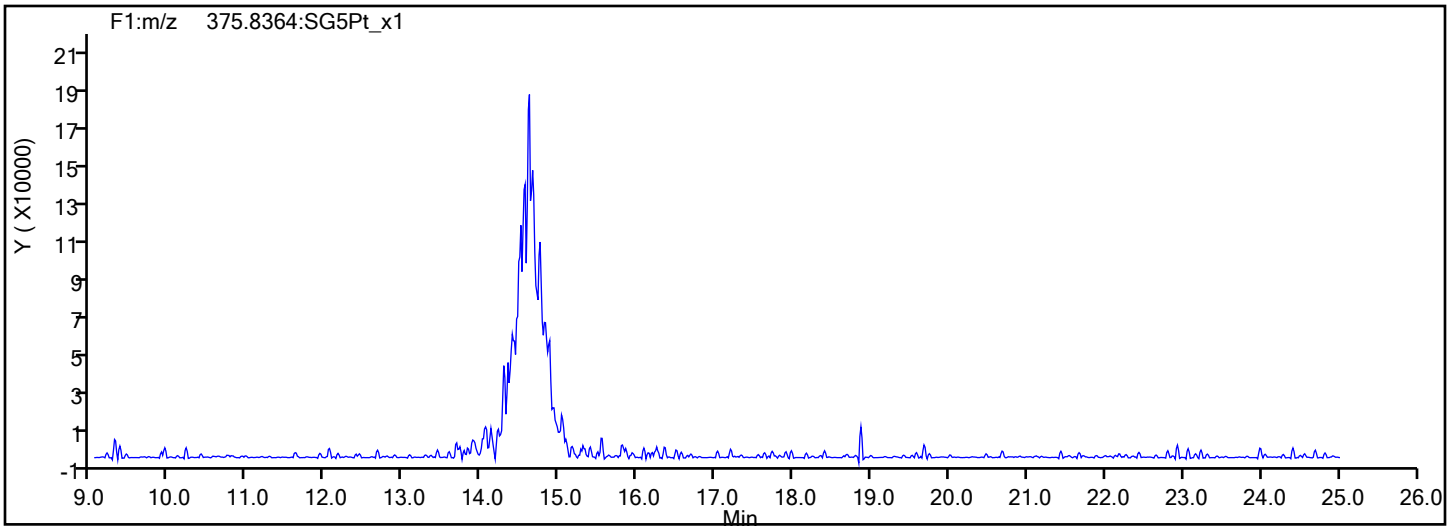

Report Date: 04-Feb-2020 16:44:41 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_004.d		
Injection Date:	04-Feb-2020 11:07:20	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355060	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

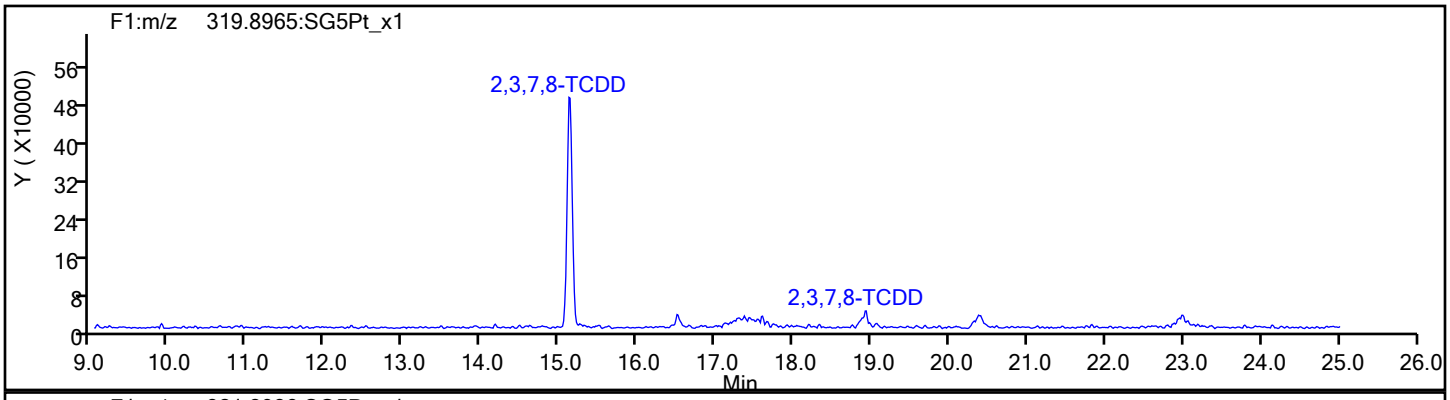

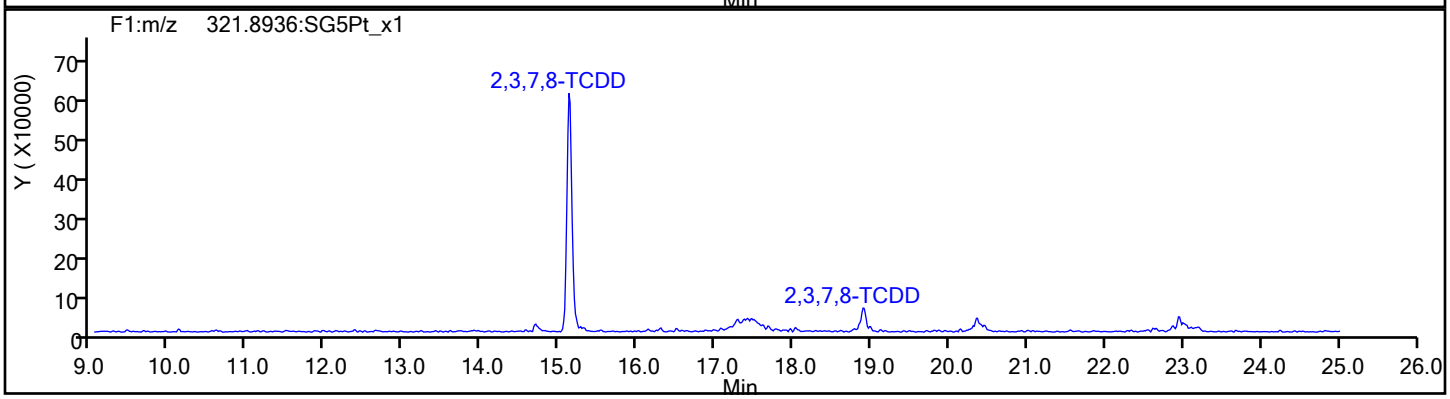

TCDD Standards

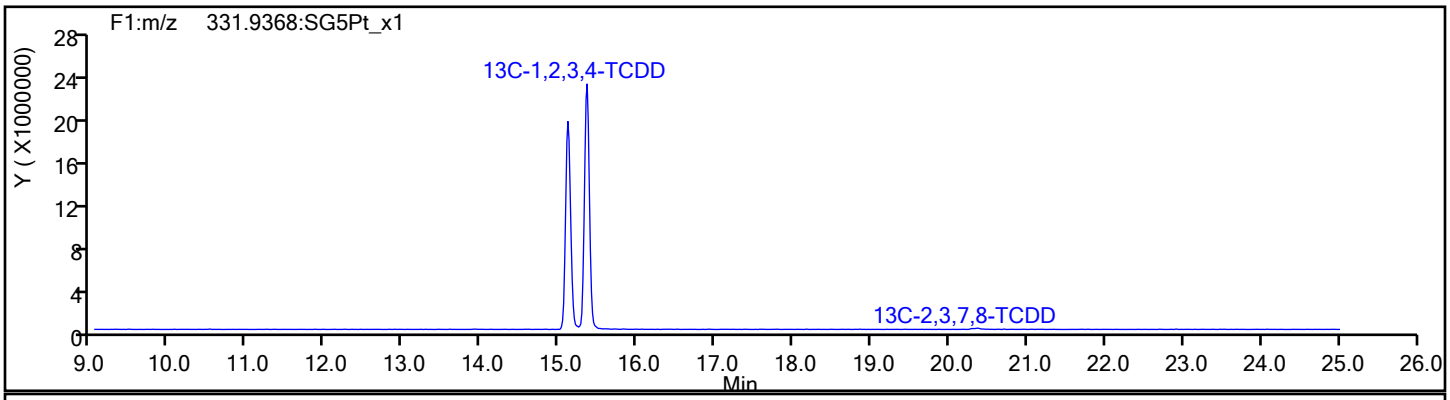

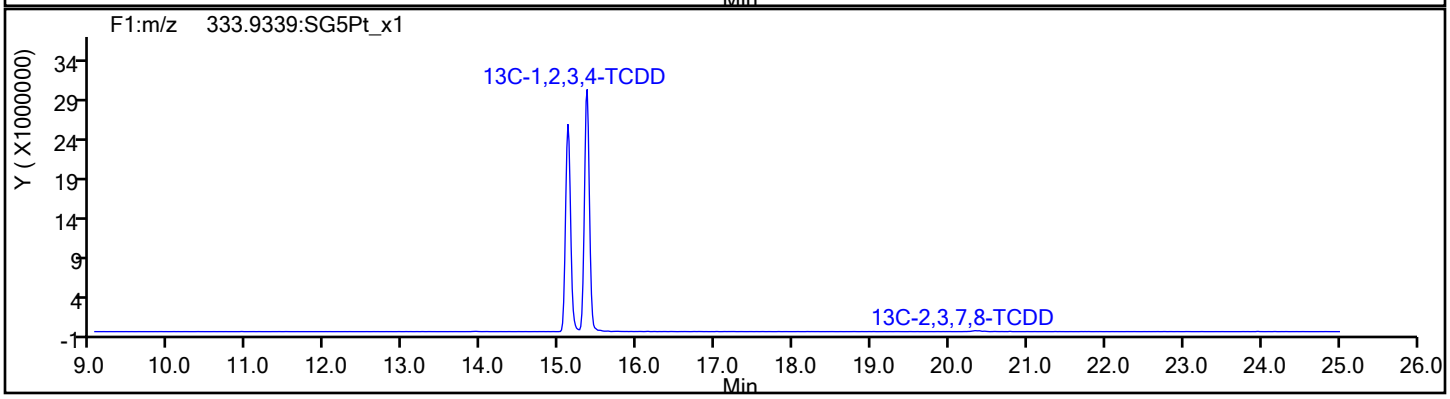

Report Date: 04-Feb-2020 16:44:41 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_004.d		
Injection Date:	04-Feb-2020 11:07:20	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355060	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

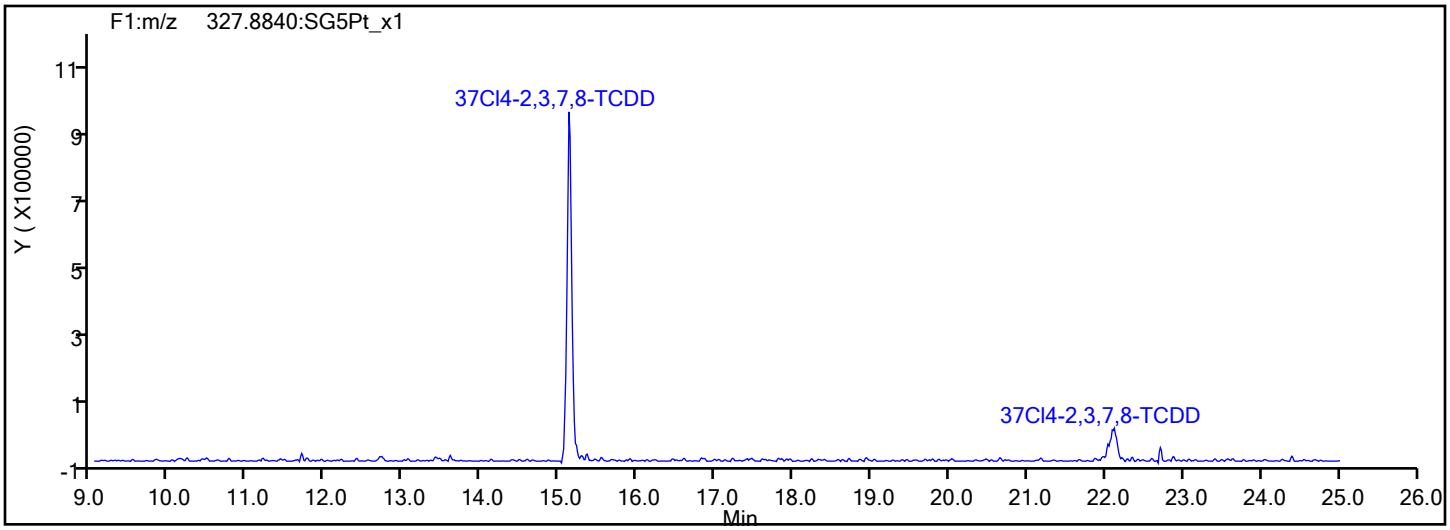

37Cl4-TCDD Standards

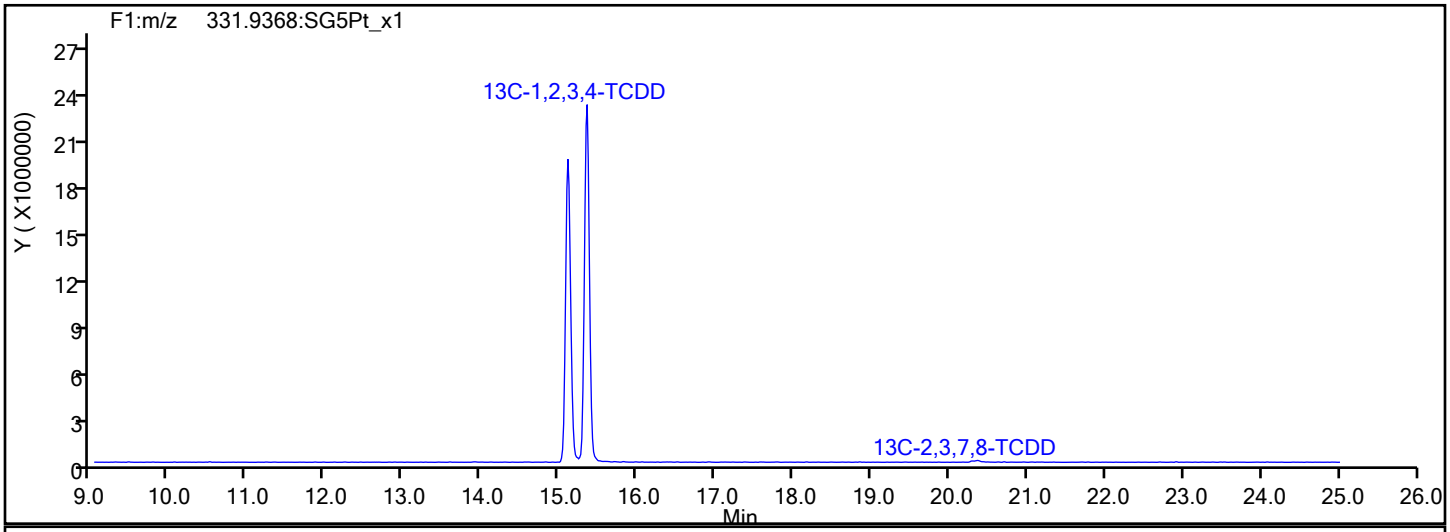

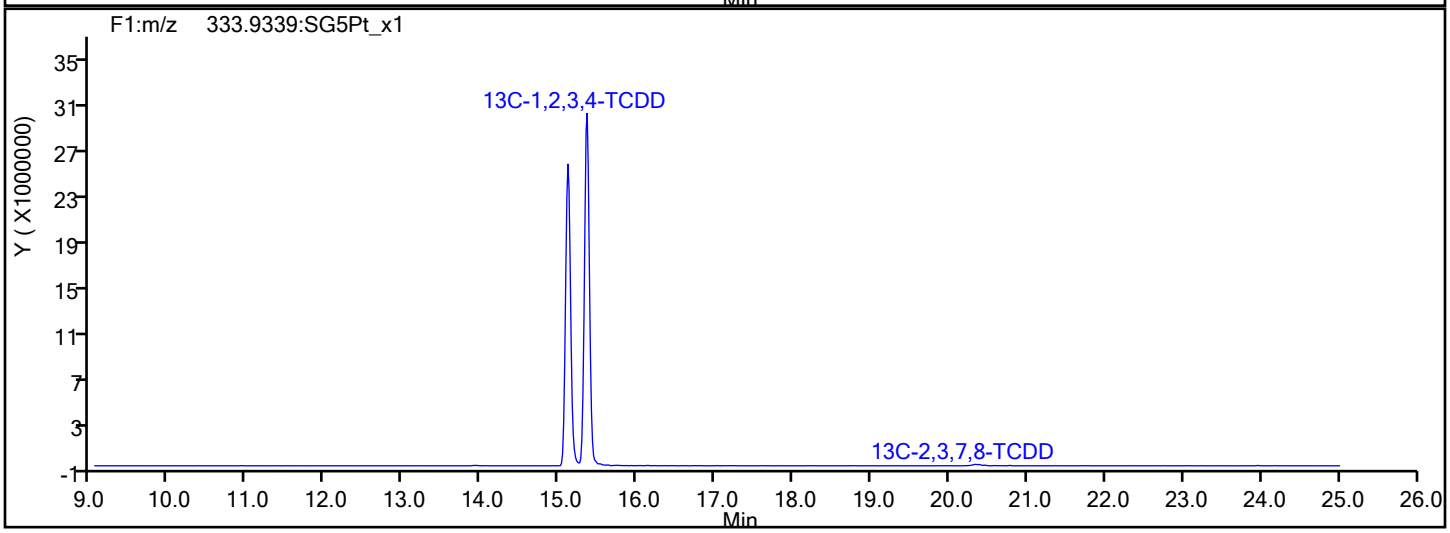

Report Date: 04-Feb-2020 16:44:41 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_004.d		
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Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355060	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm

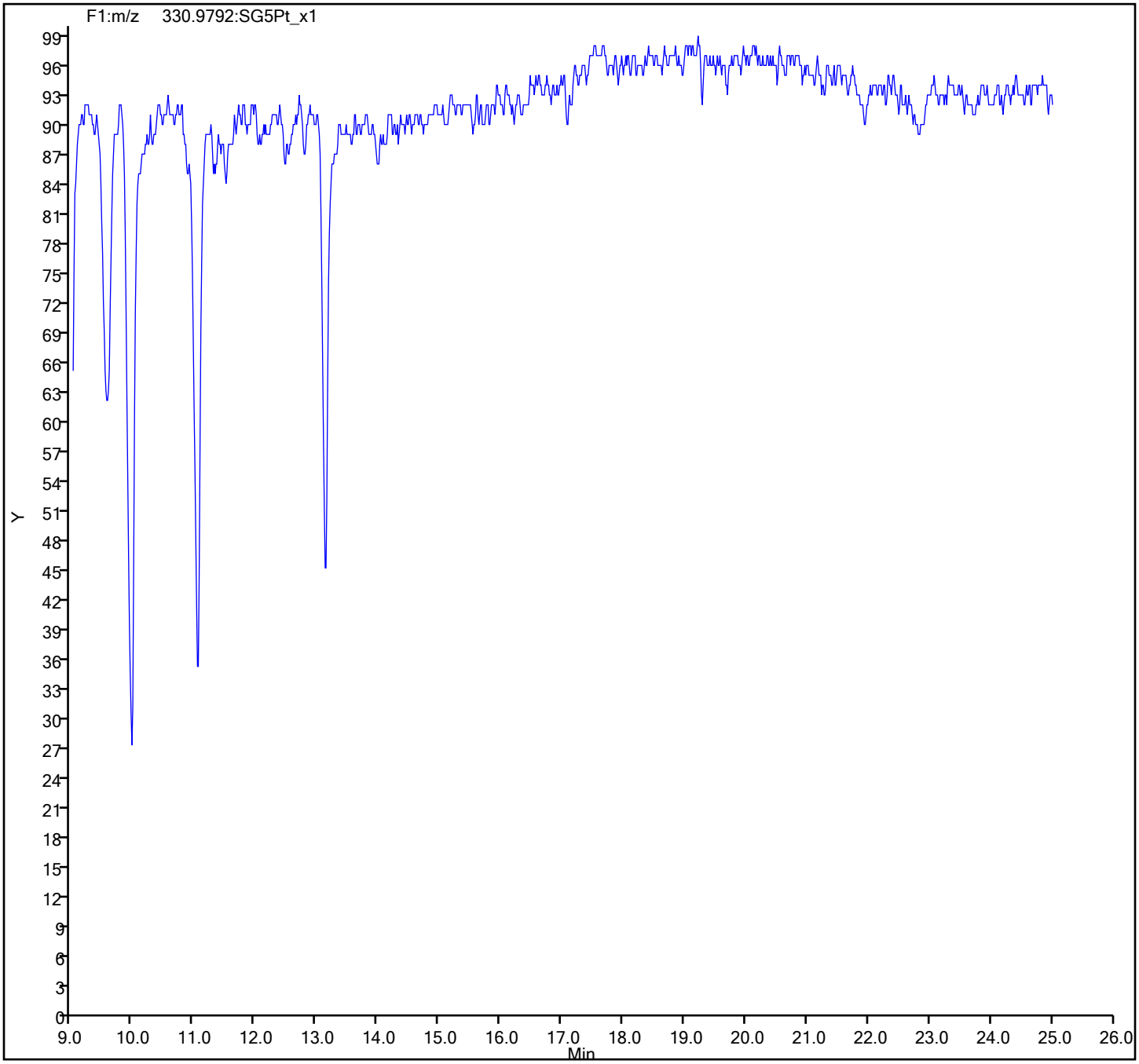

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_005.d
Lims ID: IC 4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 04-Feb-2020 11:45:43 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-4 HRDXNL4_00091
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 04-Feb-2020 16:44:43 Calib Date: 04-Feb-2020 13:02:26
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0329

First Level Reviewer: stephensk Date: 04-Feb-2020 16:30:46

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.340	196065755	0.77	2.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.506	259474739	0.81	1.4045	94.2	94.2	0.1666	0.1666	94.22	
2,3,7,8-TCDF	16.534	23877038	0.77	0.9831	9.361	9.361	0.0342	0.0342	93.61	
D 13C-2,3,7,8-TCDD	15.093	161917026	0.76	0.8544	96.7	96.7	0.1604	0.1604	96.65	
$ 37Cl4-2,3,7,8-TCDD	15.121	16055320		0.8972	9.127	9.127	0.0311	0.0311	91.27	
2,3,7,8-TCDD	15.121	17337450	0.77	1.2044	8.891	8.891	0.0454	0.0454	88.91	
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNL4_00091 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_005.d
Lims ID: IC 4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 04-Feb-2020 11:45:43 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-4 HRDXNL4_00091
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 04-Feb-2020 16:44:43 Calib Date: 04-Feb-2020 13:02:26
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0329

First Level Reviewer: stephensk Date: 04-Feb-2020 16:30:46

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.340	15.345	0		85479152	18651191	12941	32352	1441		
333.9339	15.340	15.345	0		110586603	24134114	10507	26267	2297	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.506	16.511	0	1.076	116470678	22802128	22340	55850	1021		
317.9389	16.506	16.511	0	1.076	143004061	28339133	17696	44240	1601	0.81(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.534	16.538	0	1.002	10354116	2002994	3332	8330	601		
305.8987	16.534	16.538	0	1.002	13522922	2564559	3547	8867	723	0.77(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.093	15.098	0	0.984	69683826	15317902	12941	32352	1184		
333.9339	15.093	15.098	0	0.984	92233200	19926973	10507	26267	1897	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.121	15.120	0	0.986	16055320	3418697	4783	11957	715		
2,3,7,8-TCDD											
319.8965	15.121	15.122	0	1.002	7564204	1612703	4265	10662	378		
321.8936	15.121	15.122	0	1.002	9773246	2109024	3442	8605	613	0.77(0.65-0.89)	

Reagents:

HRDXNL4_00091 Amount Added: 2.00 Units: uL

Report Date: 04-Feb-2020 16:44:46 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_005.d		
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Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355060	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

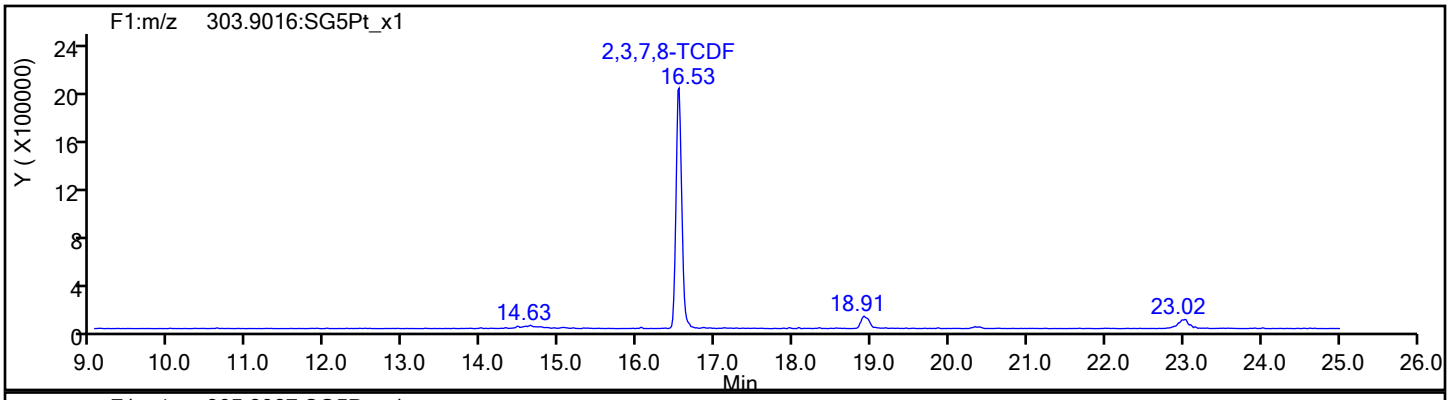

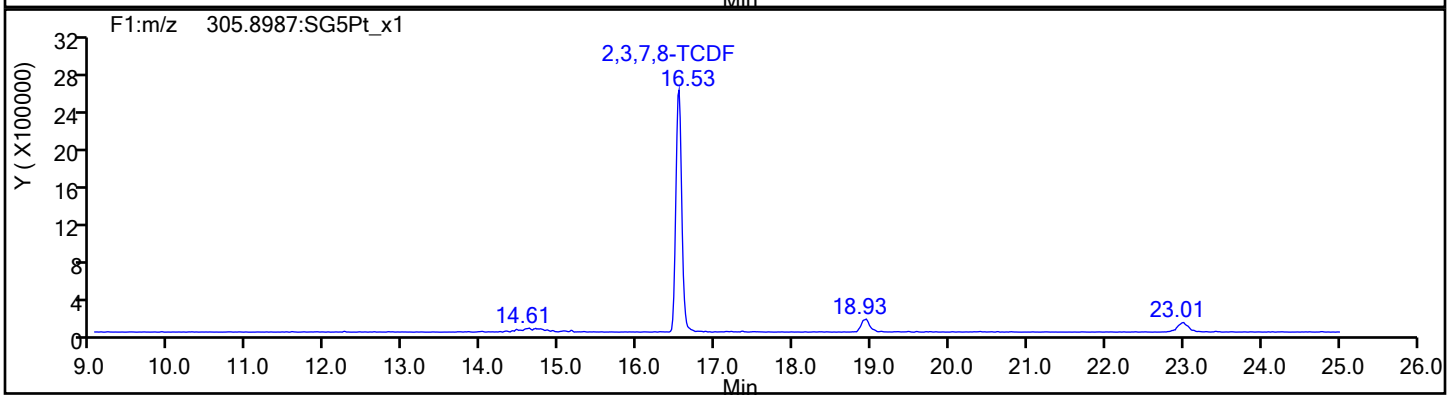

TCDF Standards

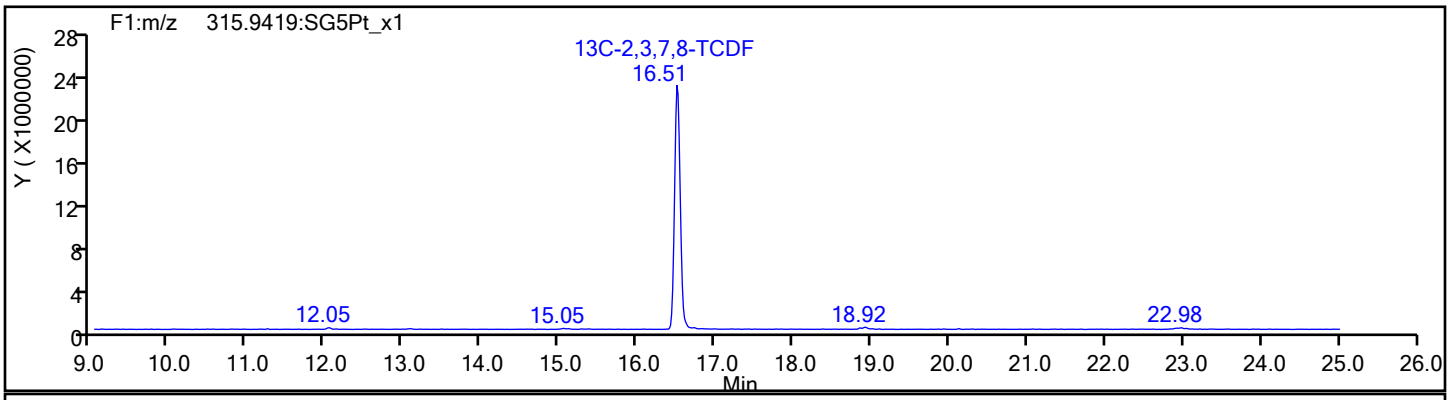

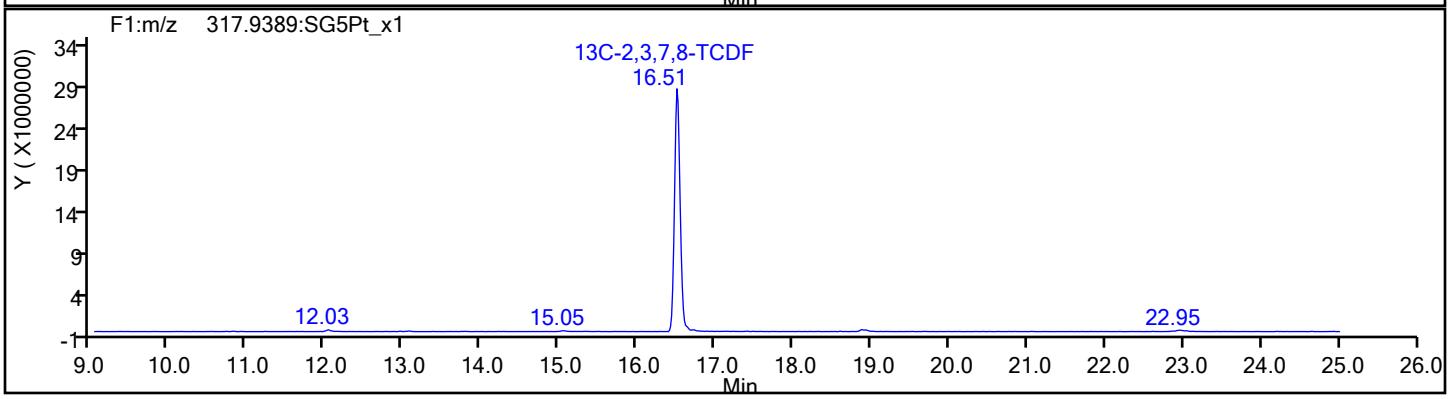

Report Date: 04-Feb-2020 16:44:46 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_005.d		
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Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355060	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

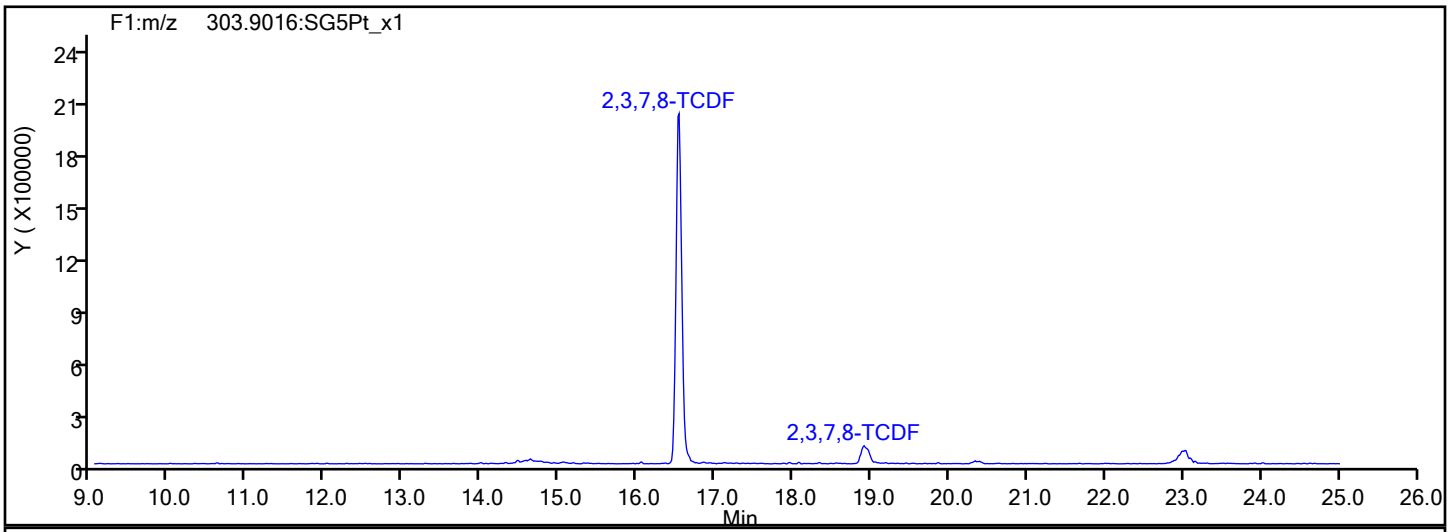

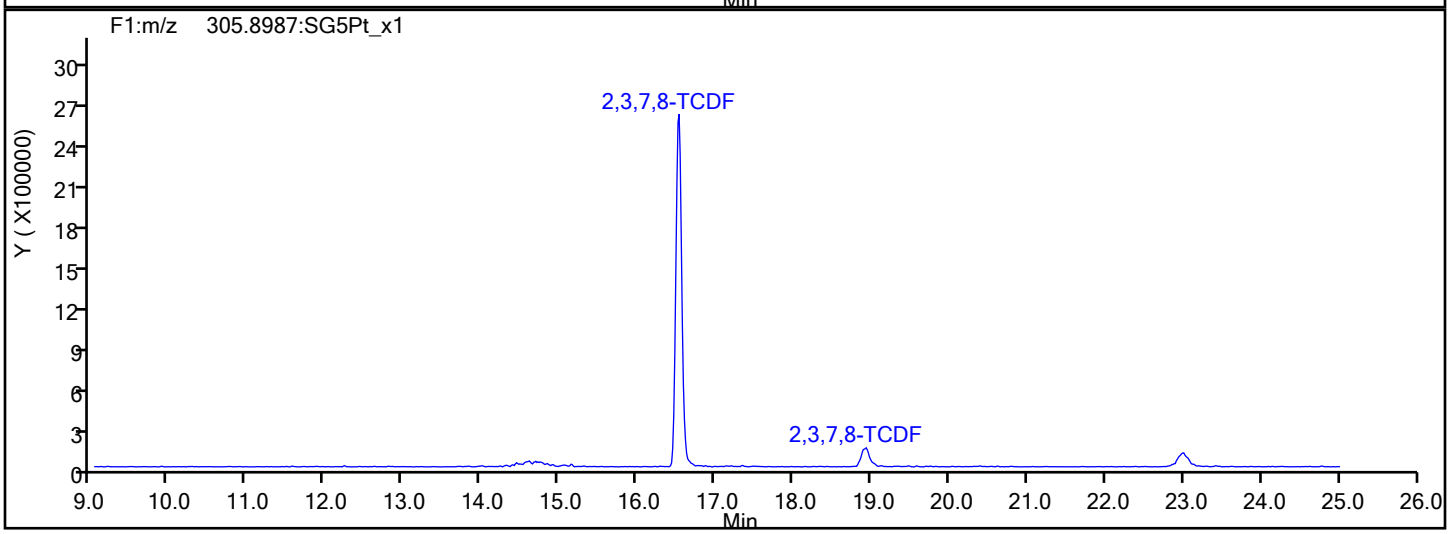

TCDF Interference Mass

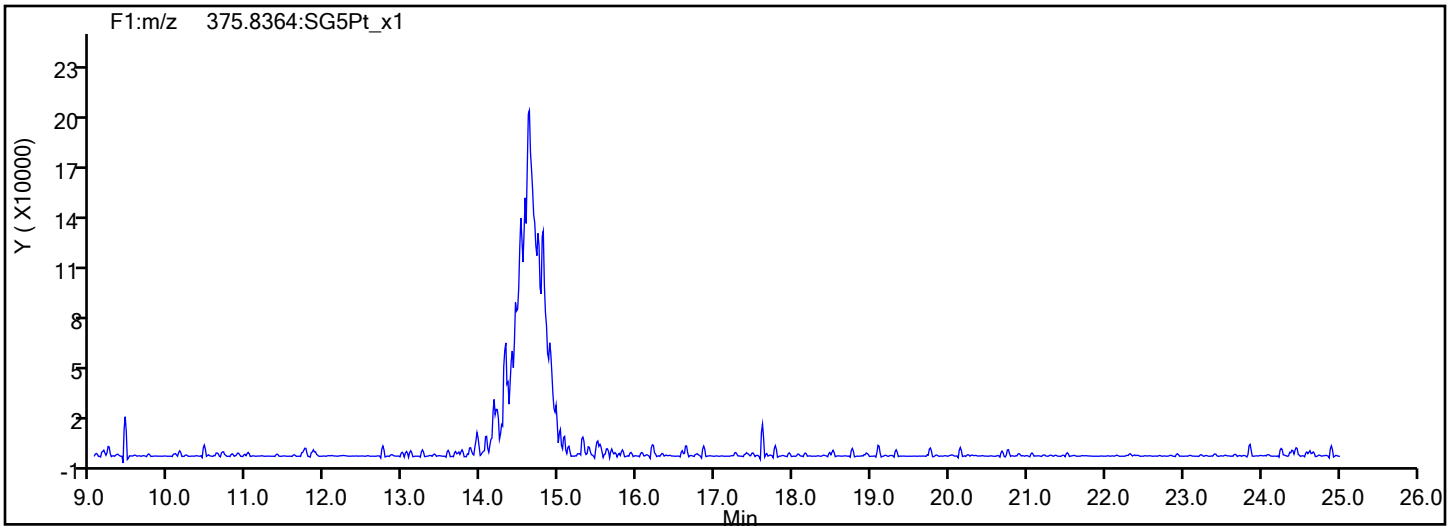

Report Date: 04-Feb-2020 16:44:46 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_005.d		
Injection Date:	04-Feb-2020 11:45:43	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355060	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

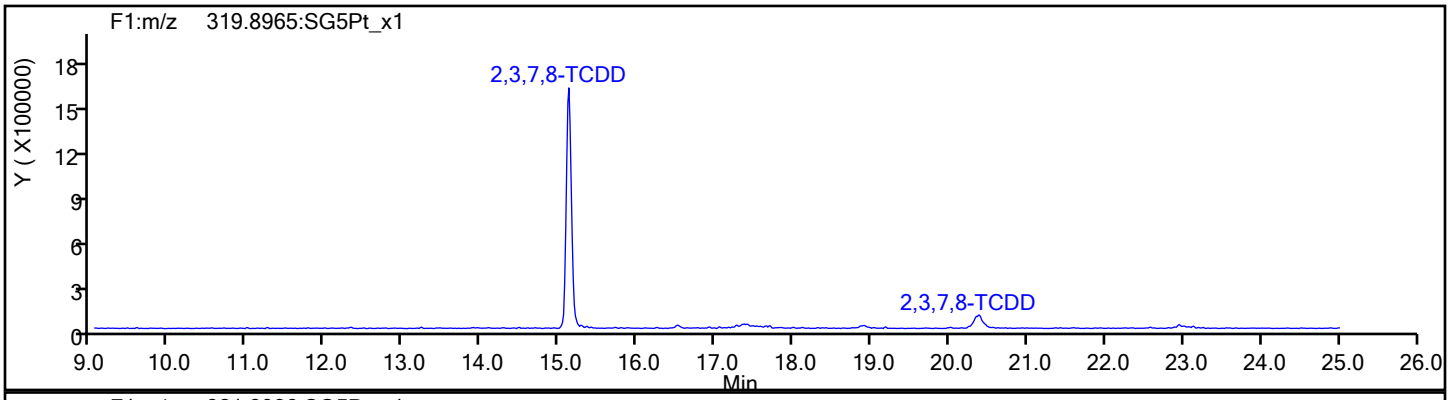

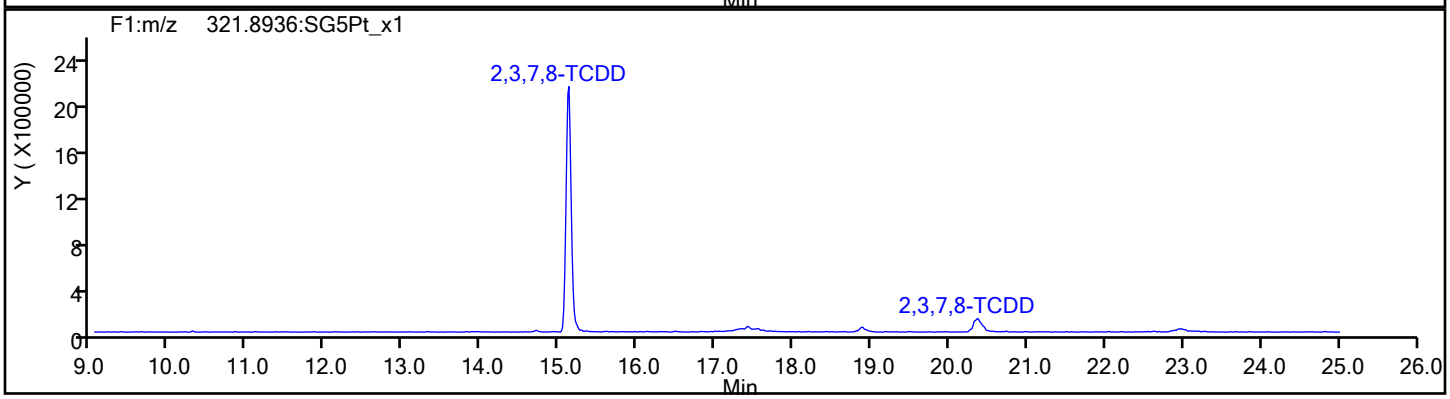

TCDD Standards

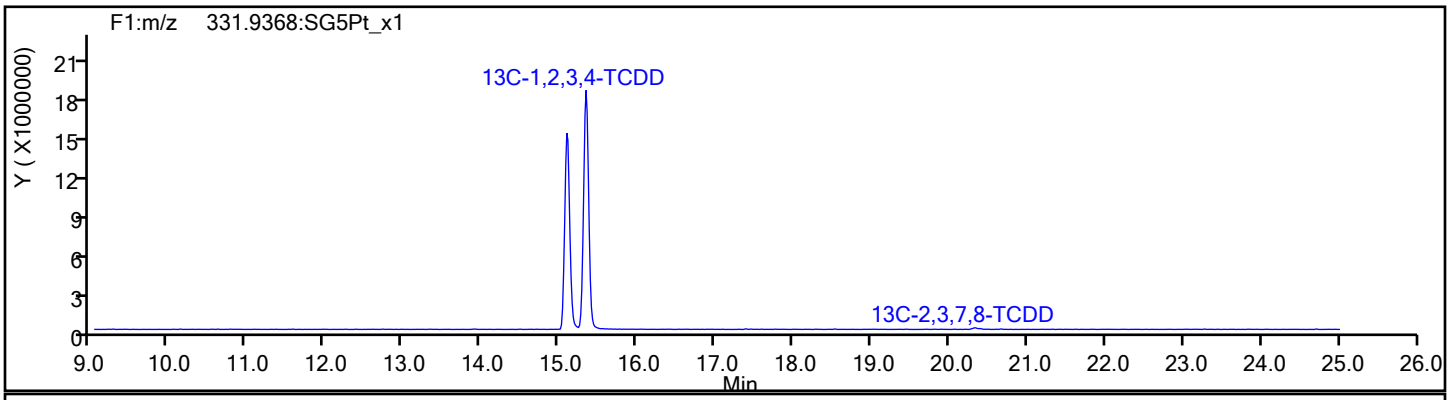

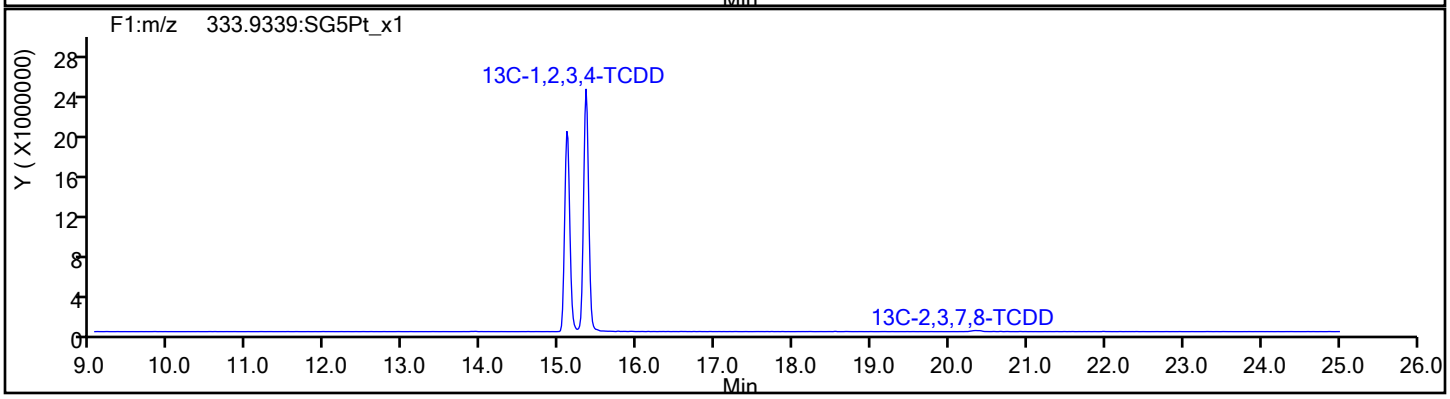

Report Date: 04-Feb-2020 16:44:46 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_005.d		
Injection Date:	04-Feb-2020 11:45:43	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355060	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

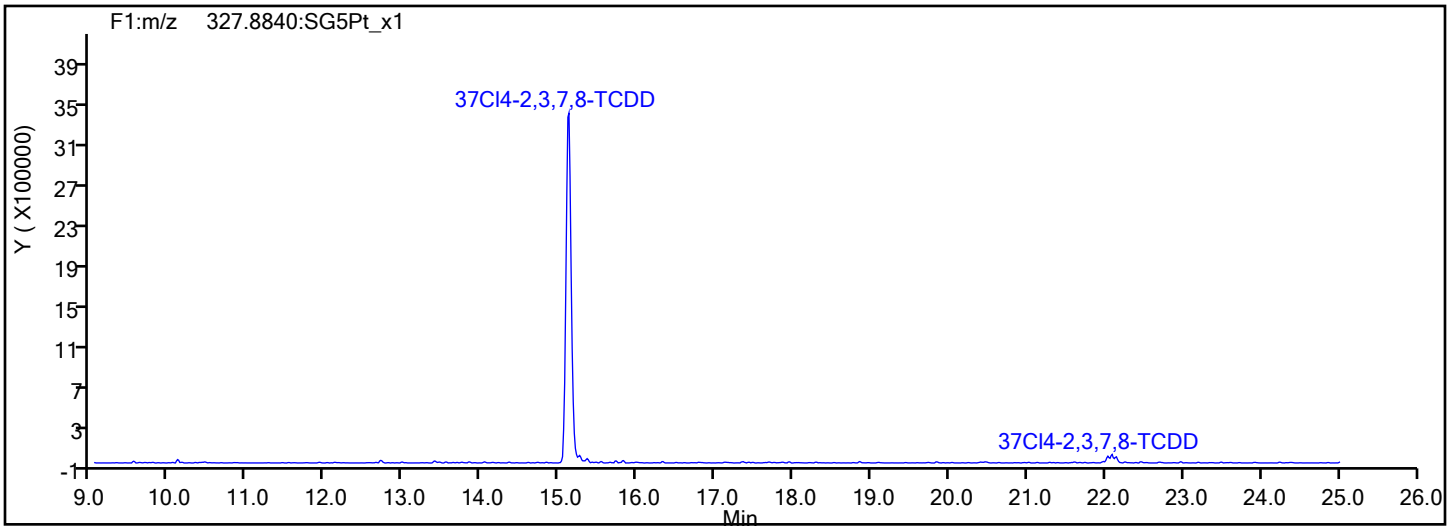

37Cl4-TCDD Standards

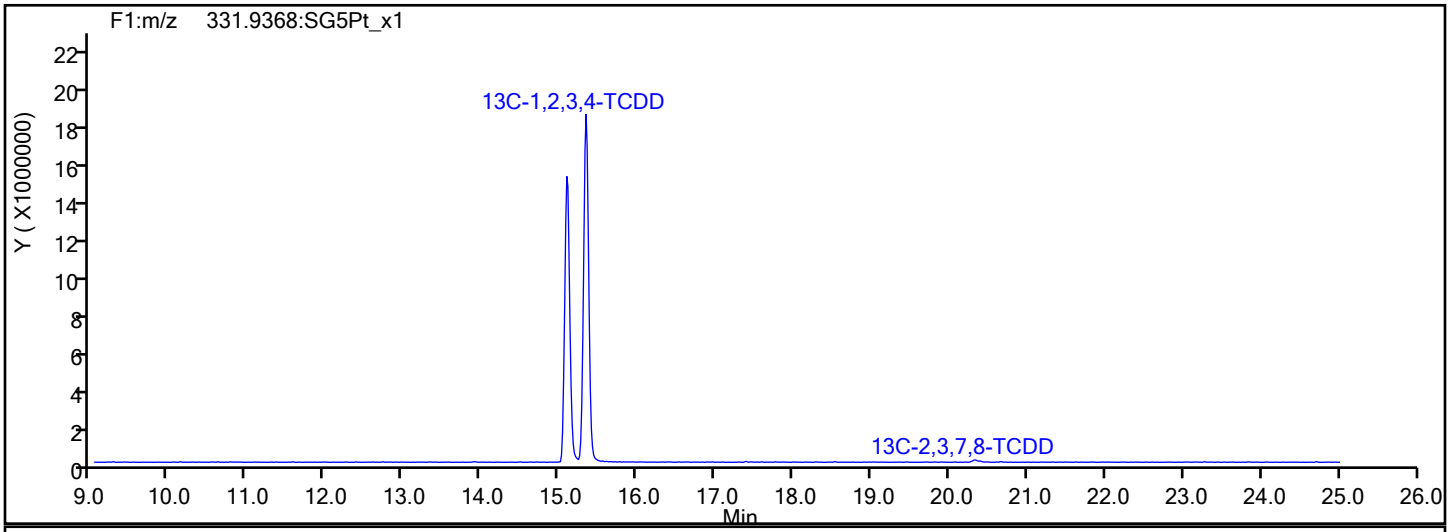

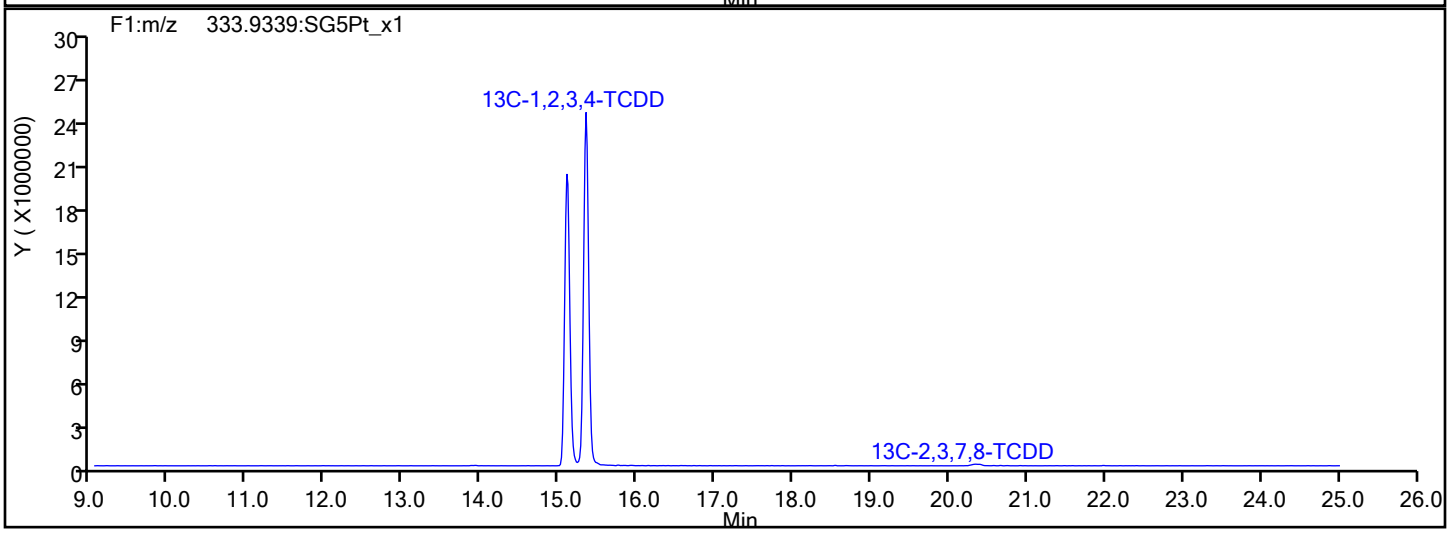

Report Date: 04-Feb-2020 16:44:46 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_005.d		
Injection Date:	04-Feb-2020 11:45:43	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355060	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

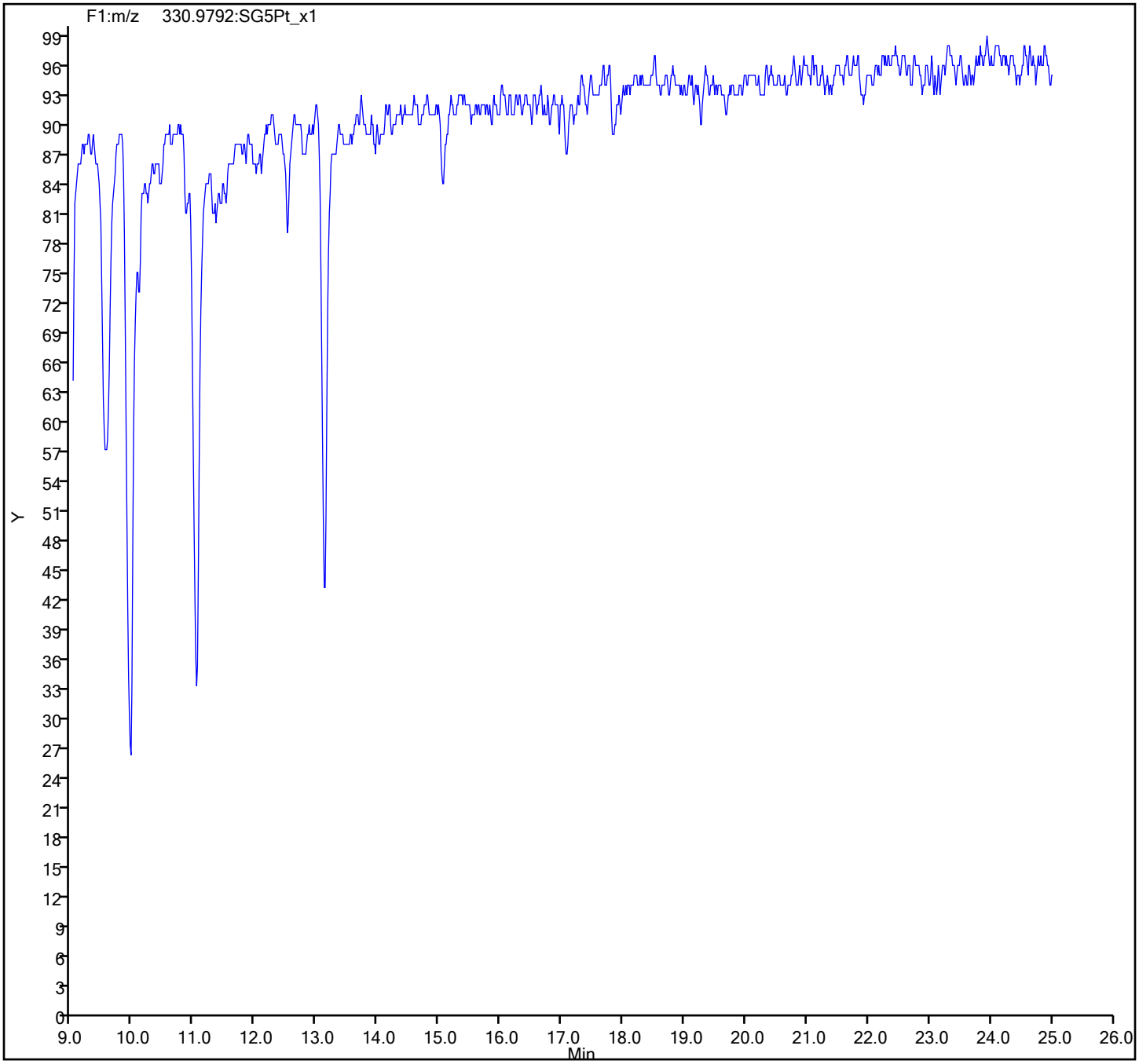

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_006.d
Lims ID: IC 5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 04-Feb-2020 12:24:04 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-5 HRDXNL5_00029
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 04-Feb-2020 16:44:48 Calib Date: 04-Feb-2020 13:02:26
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0329

First Level Reviewer: stephensk Date: 04-Feb-2020 16:31:03

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.354	226461190	0.78	2.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.520	326493421	0.79	1.4045	102.6	102.6	0.1545	0.1545	103	
2,3,7,8-TCDF	16.547	129503891	0.79	0.9831	40.3	40.3	0.0384	0.0384	101	
D 13C-2,3,7,8-TCDD	15.107	194580828	0.77	0.8544	100.6	100.6	0.1331	0.1331	101	
$ 37Cl4-2,3,7,8-TCDD	15.120	85727717		0.8972	42.2	42.2	0.0420	0.0420	105	
2,3,7,8-TCDD	15.134	87642675	0.80	1.2044	37.4	37.4	0.0509	0.0509	93.50	
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNL5_00029 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_006.d
Lims ID: IC 5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 04-Feb-2020 12:24:04 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-5 HRDXNL5_00029
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 04-Feb-2020 16:44:48 Calib Date: 04-Feb-2020 13:02:26
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0329

First Level Reviewer: stephensk Date: 04-Feb-2020 16:31:03

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.354	15.345	1		99435148	22109358	14013	35032	1578		
333.9339	15.354	15.345	1		127026042	27980720	8767	21917	3192	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.520	16.511	1	1.076	144476380	28753779	23060	57650	1247		
317.9389	16.520	16.511	1	1.076	182017041	35354093	20429	51072	1731	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.547	16.538	1	1.002	57160477	11171939	4057	10142	2754		
305.8987	16.547	16.538	1	1.002	72343414	14243757	5628	14070	2531	0.79(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.107	15.098	1	0.984	84826456	19045219	14013	35032	1359		
333.9339	15.107	15.098	1	0.984	109754372	24553856	8767	21917	2801	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.120	15.120	0	0.985	85727717	18266640	7544	18860	2421		
2,3,7,8-TCDD											
319.8965	15.134	15.122	1	1.002	38892876	8498267	5259	13147	1616		
321.8936	15.134	15.122	1	1.002	48749799	10529466	5427	13567	1940	0.80(0.65-0.89)	

Reagents:

HRDXNL5_00029 Amount Added: 2.00 Units: uL

Report Date: 04-Feb-2020 16:44:51 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_006.d		
Injection Date:	04-Feb-2020 12:24:04	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355060	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

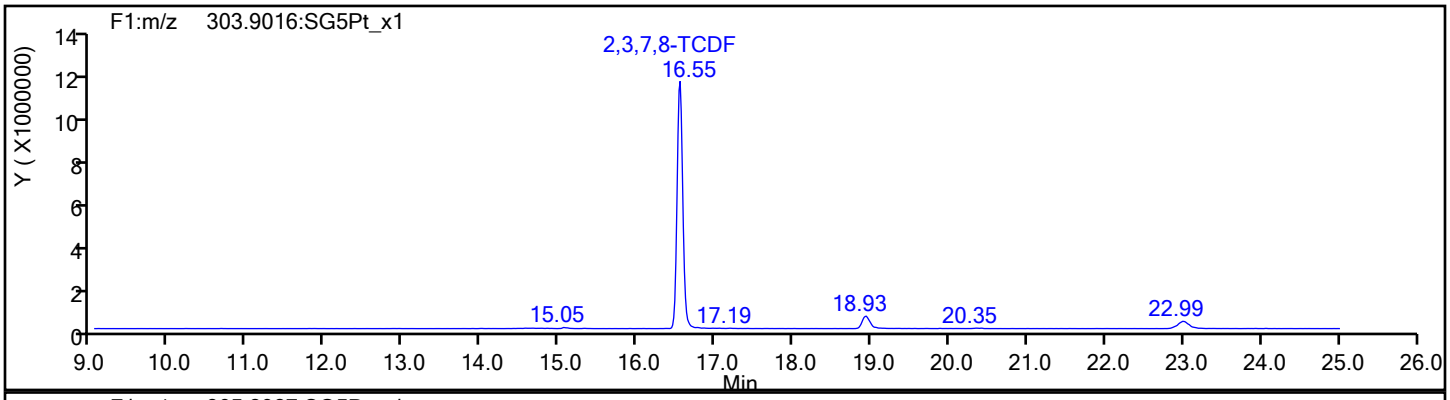

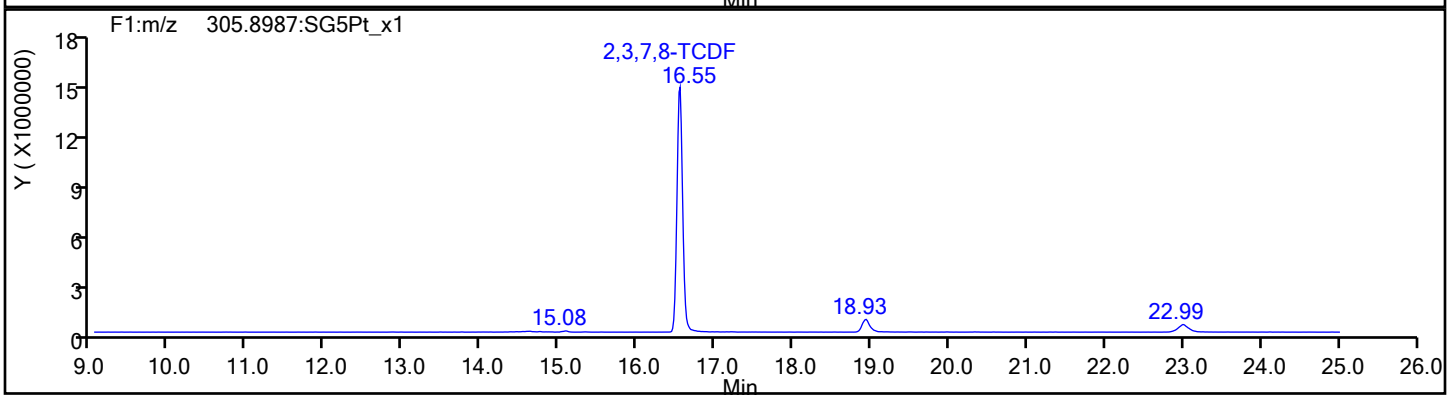

TCDF Standards

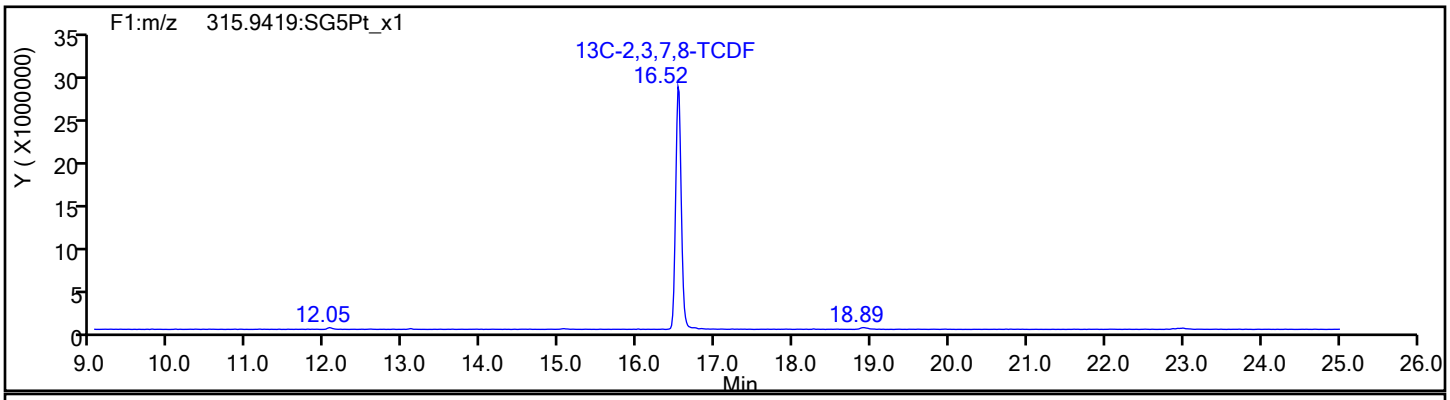

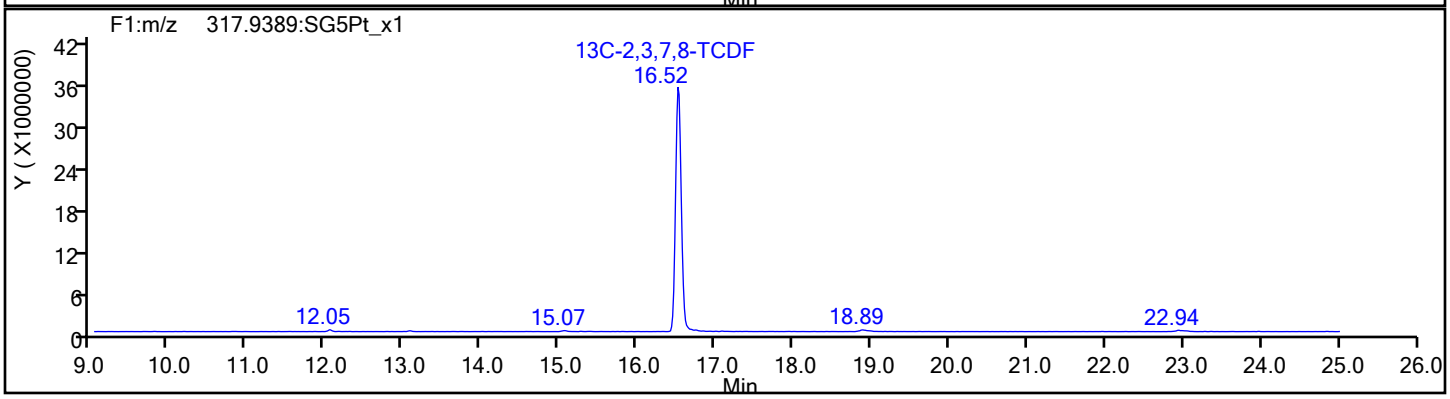

Report Date: 04-Feb-2020 16:44:51 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_006.d		
Injection Date:	04-Feb-2020 12:24:04	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355060	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

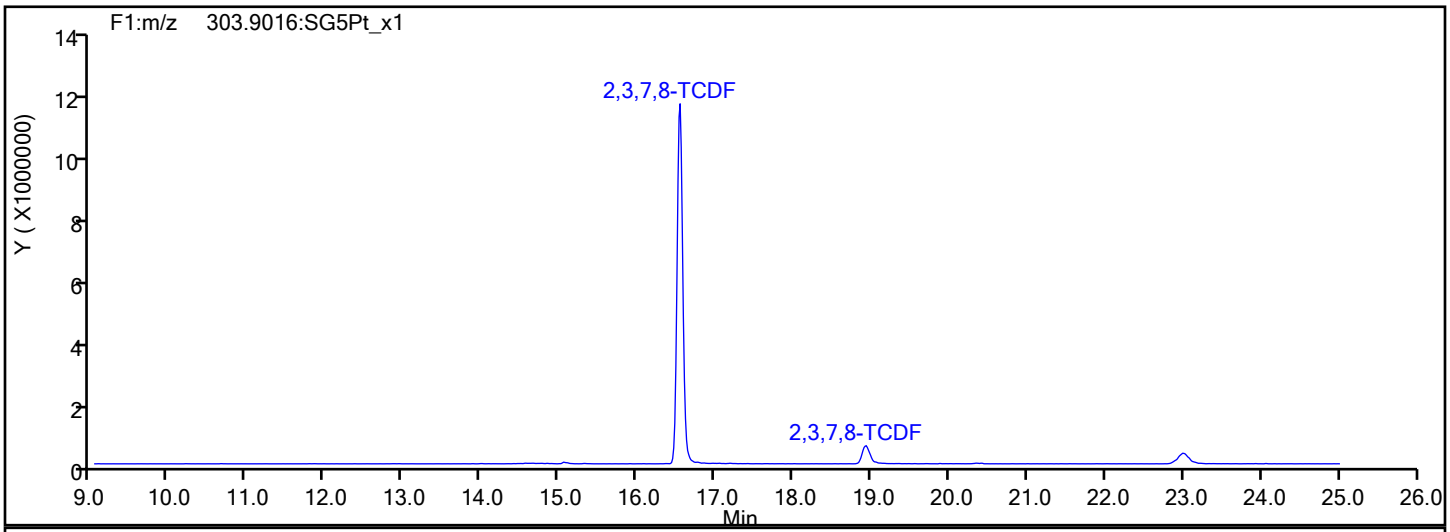

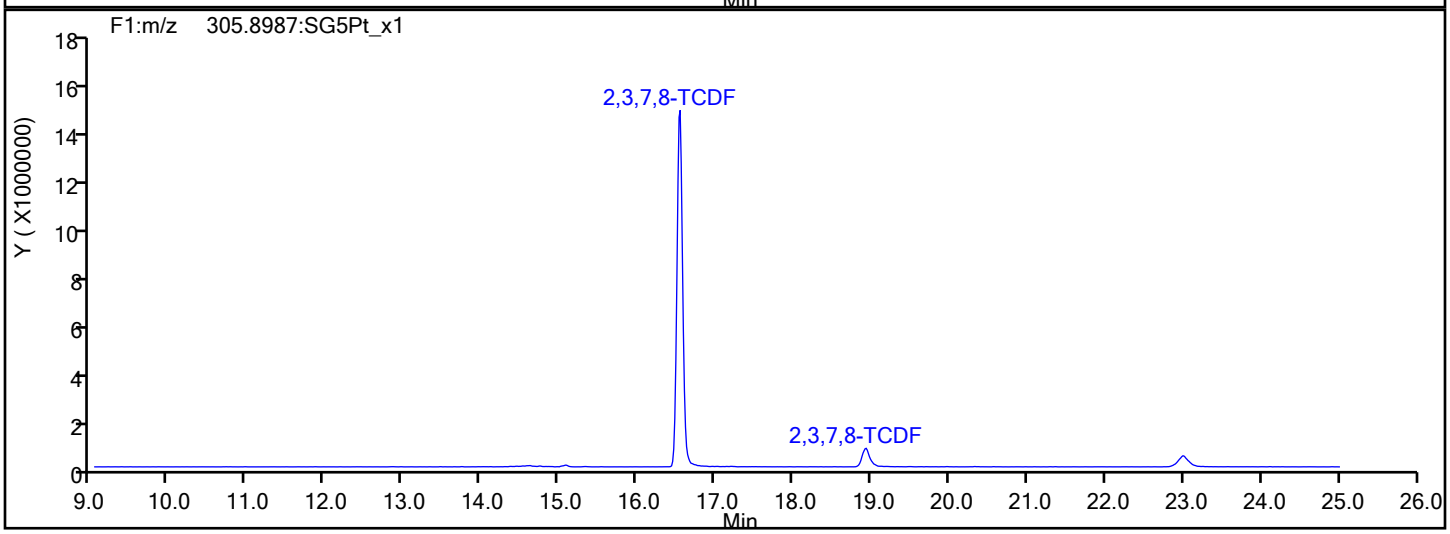

TCDF Interference Mass

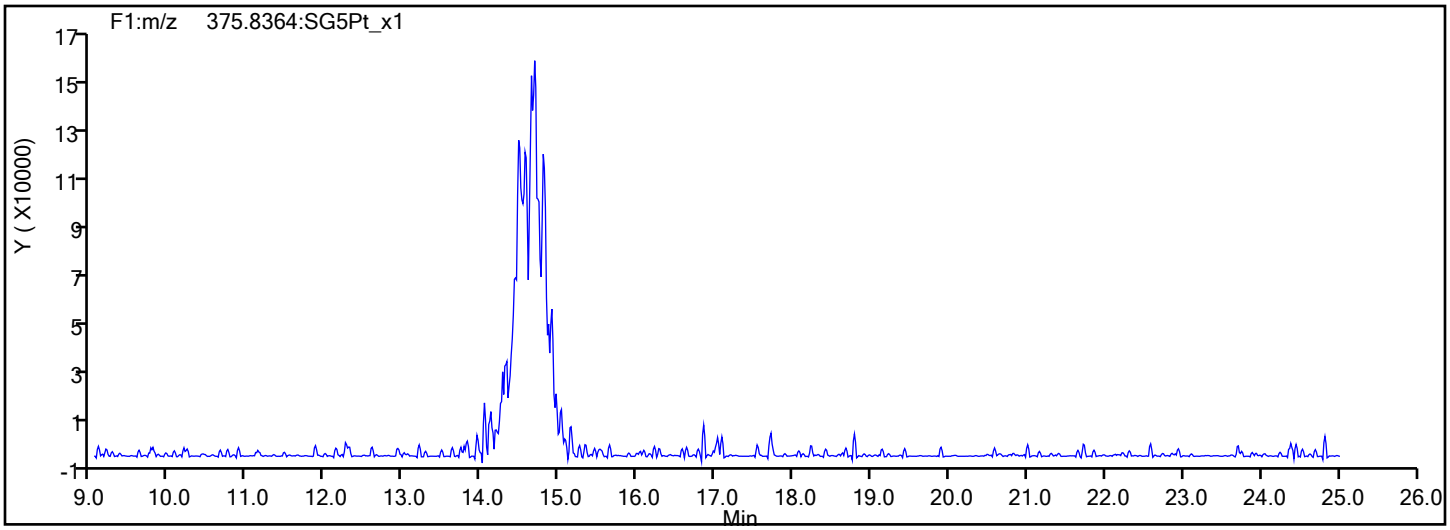

Report Date: 04-Feb-2020 16:44:51 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_006.d		
Injection Date:	04-Feb-2020 12:24:04	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355060	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

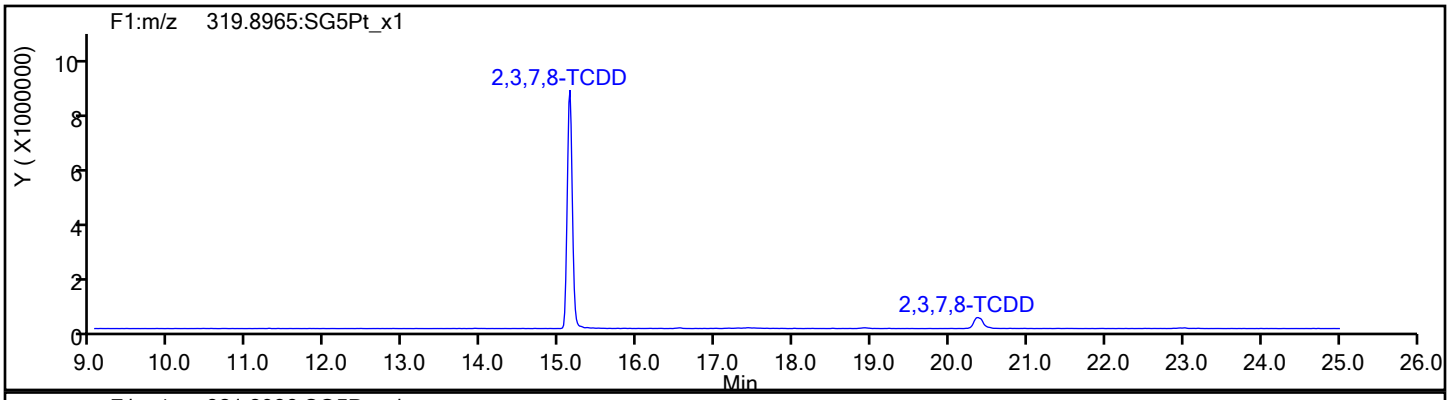

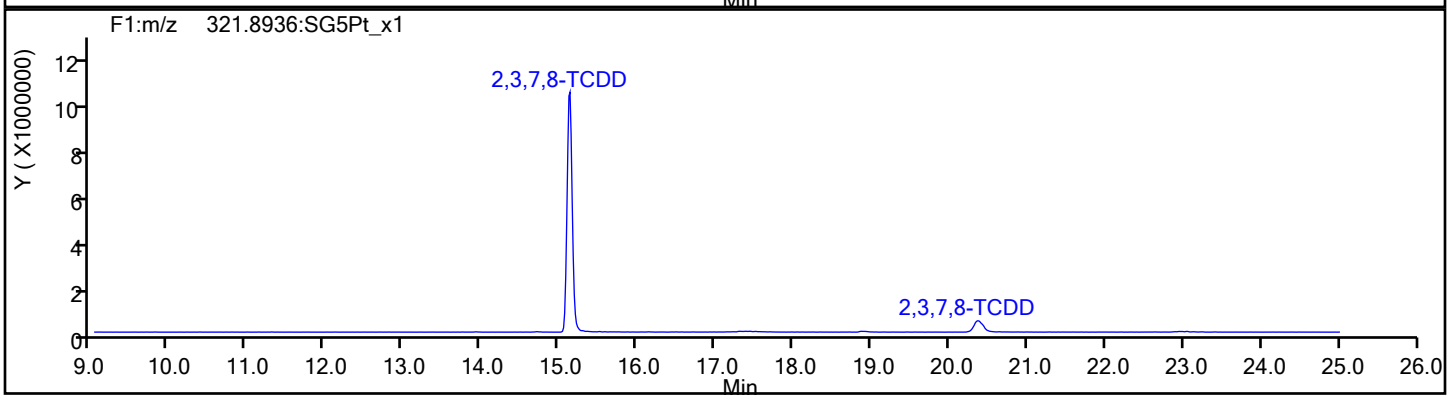

TCDD Standards

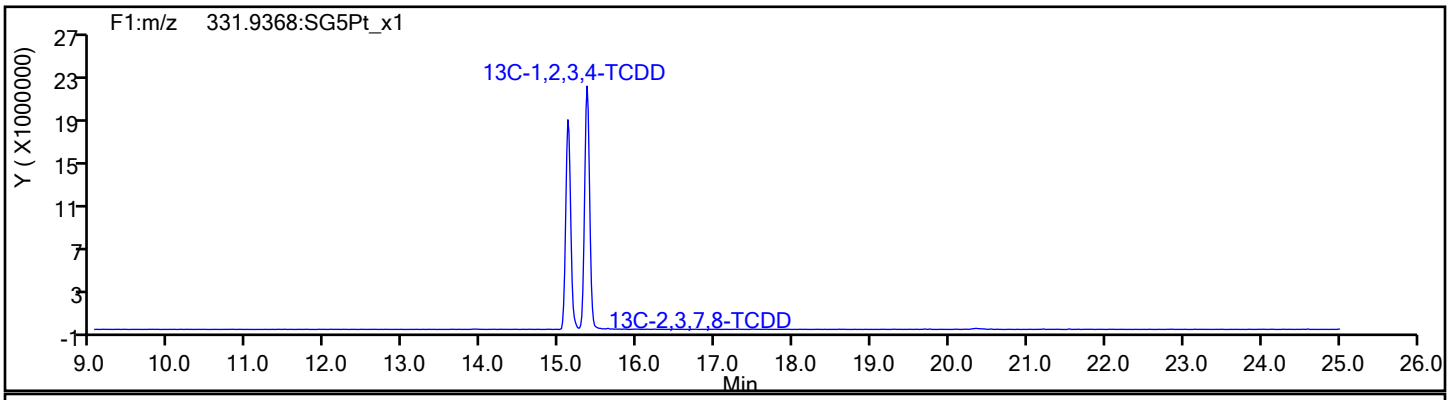

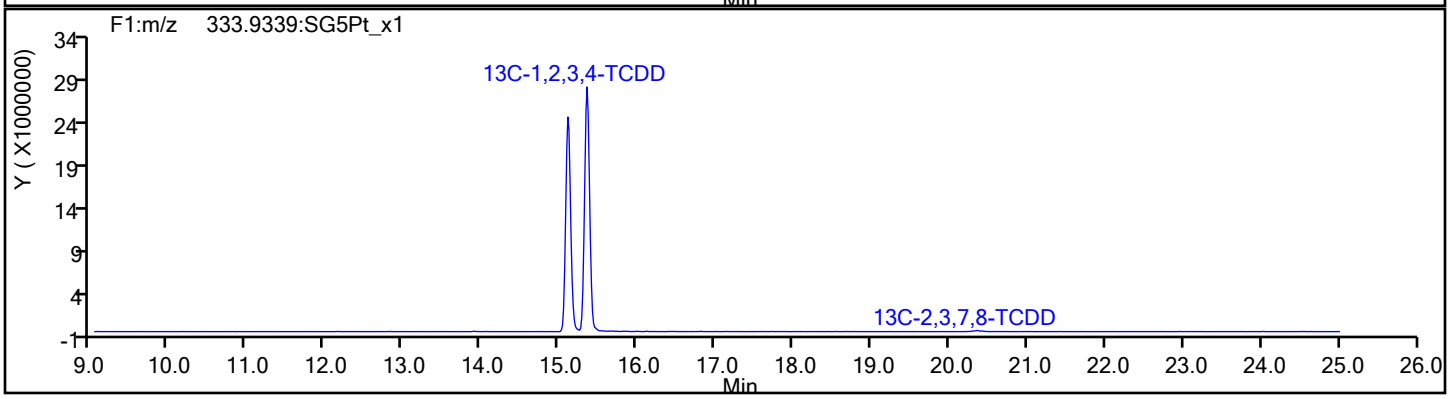

Report Date: 04-Feb-2020 16:44:51 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_006.d		
Injection Date:	04-Feb-2020 12:24:04	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355060	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

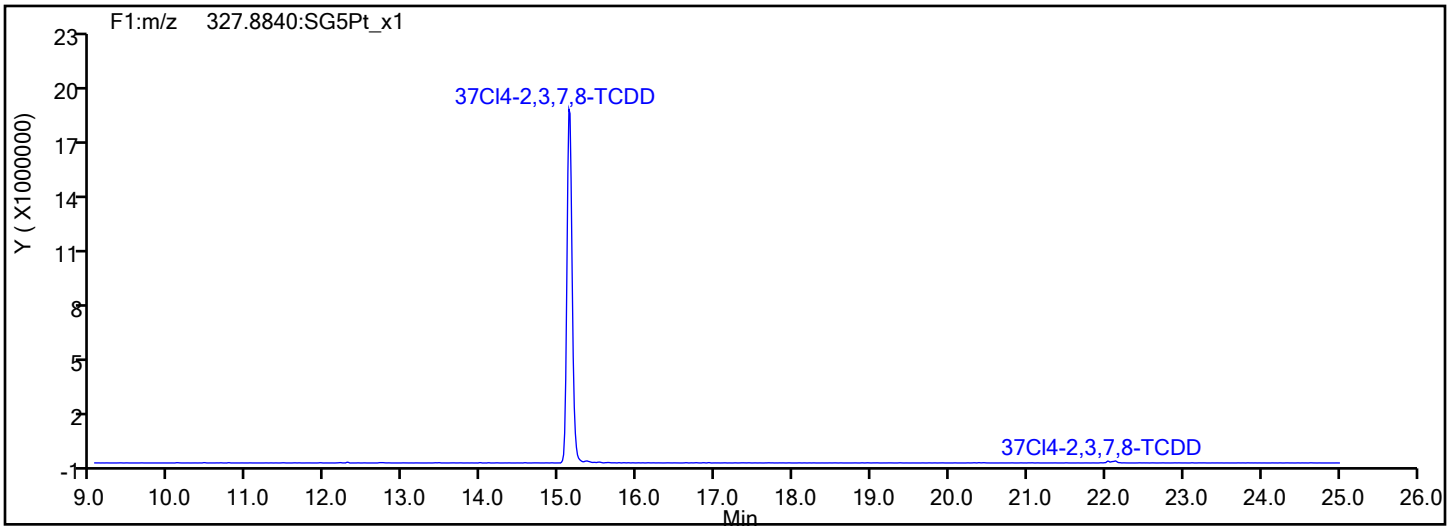

37Cl4-TCDD Standards

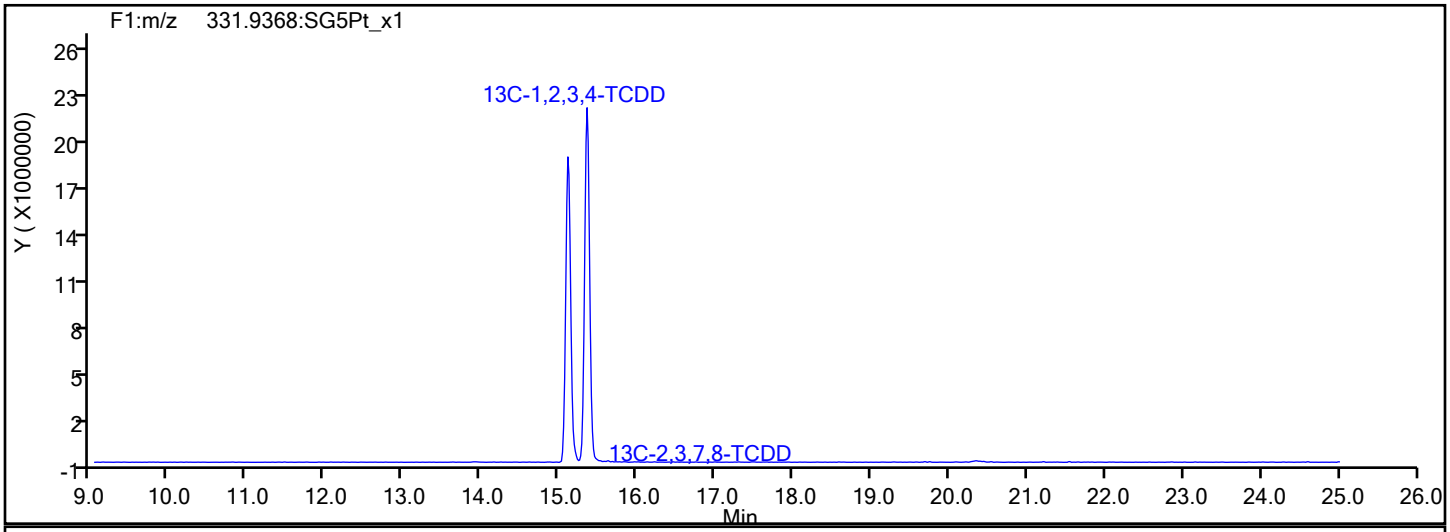

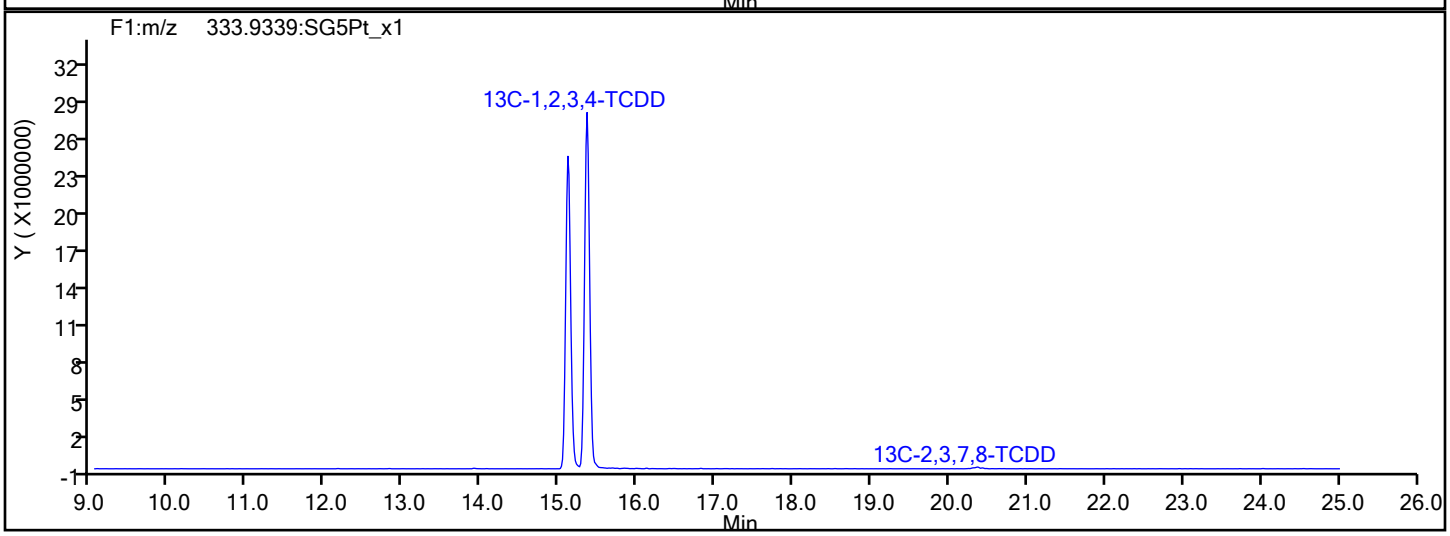

Report Date: 04-Feb-2020 16:44:51 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_006.d		
Injection Date:	04-Feb-2020 12:24:04	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355060	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

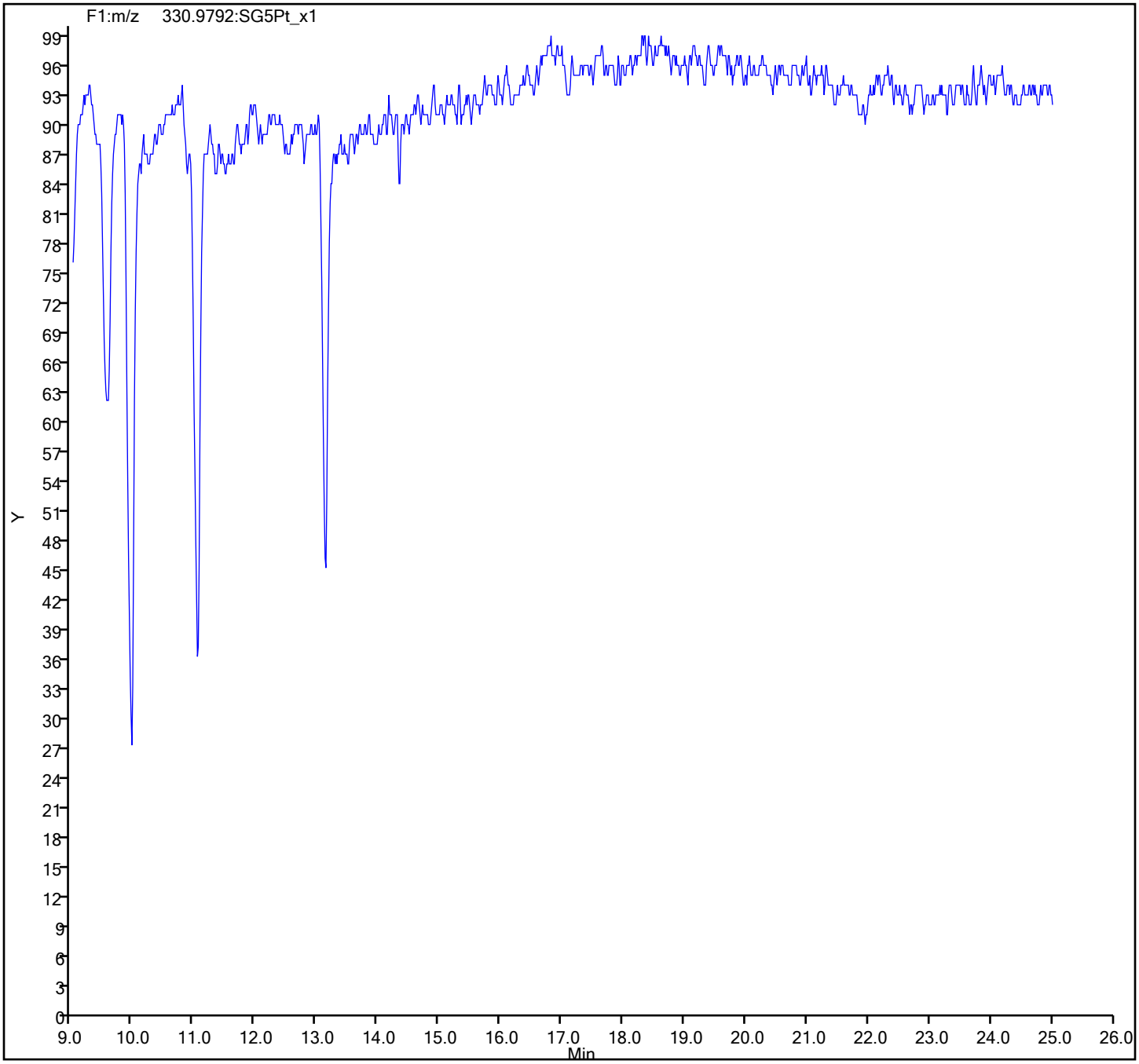

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_007.d
Lims ID: IC 6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 04-Feb-2020 13:02:26 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-6 HRDXNL6_00025
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 04-Feb-2020 16:44:52 Calib Date: 04-Feb-2020 13:02:26
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0329

First Level Reviewer: stephensk Date: 04-Feb-2020 16:31:27

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.337	235504330	0.76	2.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.503	334955017	0.80	1.4045	101.3	101.3	0.1536	0.1536	101	
2,3,7,8-TCDF	16.531	675517192	0.78	0.9831	205.2	205.2	0.1760	0.1760	103	
D 13C-2,3,7,8-TCDD	15.090	199480734	0.77	0.8544	99.1	99.1	0.1125	0.1125	99.13	
$ 37Cl4-2,3,7,8-TCDD	15.118	448231154		0.8972	212.1	212.1	0.0552	0.0552	106	
2,3,7,8-TCDD	15.118	465239970	0.80	1.2044	193.7	193.7	0.1168	0.1168	96.83	
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNL6_00025 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_007.d
Lims ID: IC 6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 04-Feb-2020 13:02:26 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-6 HRDXNL6_00025
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 04-Feb-2020 16:44:52 Calib Date: 04-Feb-2020 13:02:26
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0329

First Level Reviewer: stephensk Date: 04-Feb-2020 16:31:27

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.337	15.345	0		101374934	21930061	10934	27335	2006		
333.9339	15.337	15.345	0		134129396	28991574	8647	21617	3353	0.76(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.503	16.511	0	1.076	148876231	29279997	24921	62302	1175		
317.9389	16.503	16.511	0	1.076	186078786	36866844	19014	47535	1939	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.531	16.538	0	1.002	296774492	57692597	11309	28272	5101		
305.8987	16.531	16.538	0	1.002	378742700	73492887	34476	86190	2132	0.78(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.090	15.098	0	0.984	86662057	19151146	10934	27335	1752		
333.9339	15.090	15.098	0	0.984	112818677	25101400	8647	21617	2903	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.118	15.120	0	0.986	448231154	96591079	10094	25235	9569		
2,3,7,8-TCDD											
319.8965	15.118	15.122	0	1.002	206060875	44950575	10353	25882	4342		
321.8936	15.118	15.122	0	1.002	259179095	56300734	14545	36362	3871	0.80(0.65-0.89)	

Reagents:

HRDXNL6_00025 Amount Added: 2.00 Units: uL

Report Date: 04-Feb-2020 16:44:55 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_007.d		
Injection Date:	04-Feb-2020 13:02:26	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355060	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

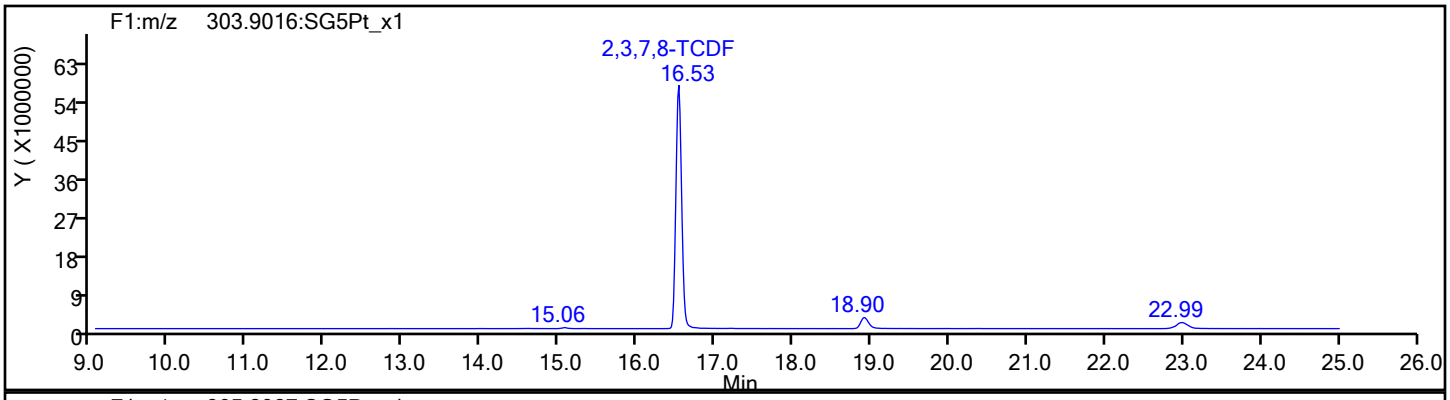

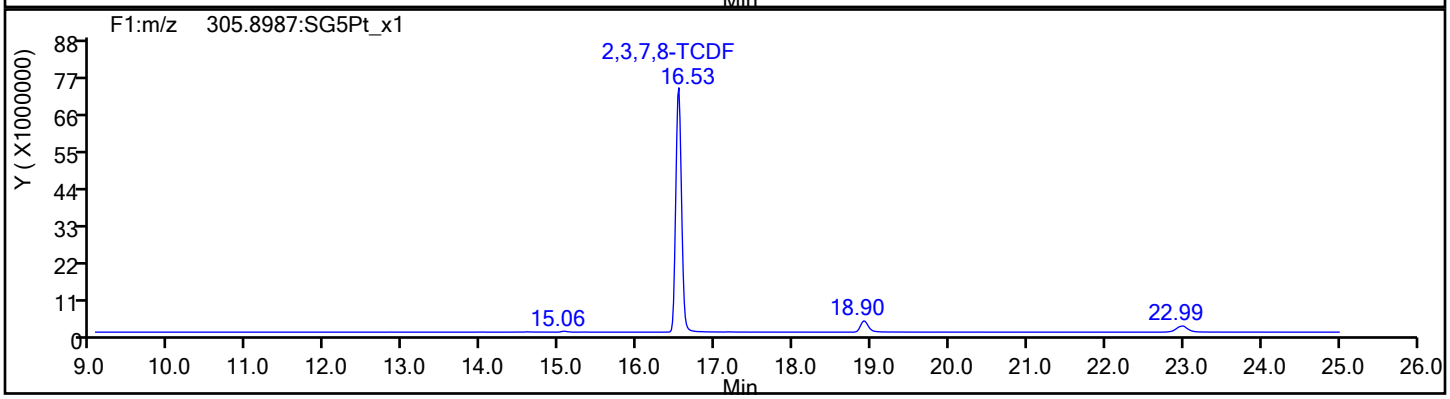

TCDF Standards

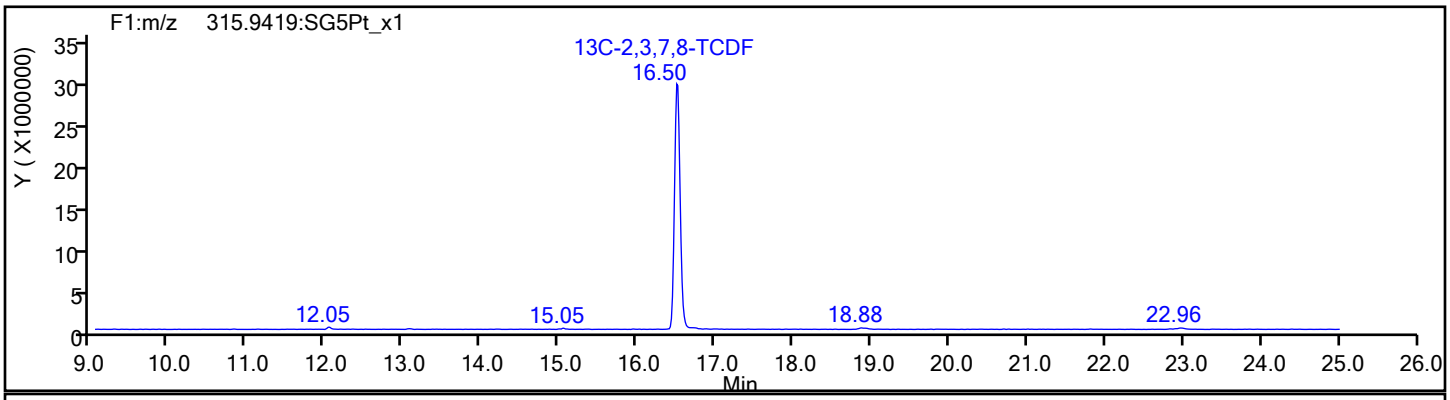

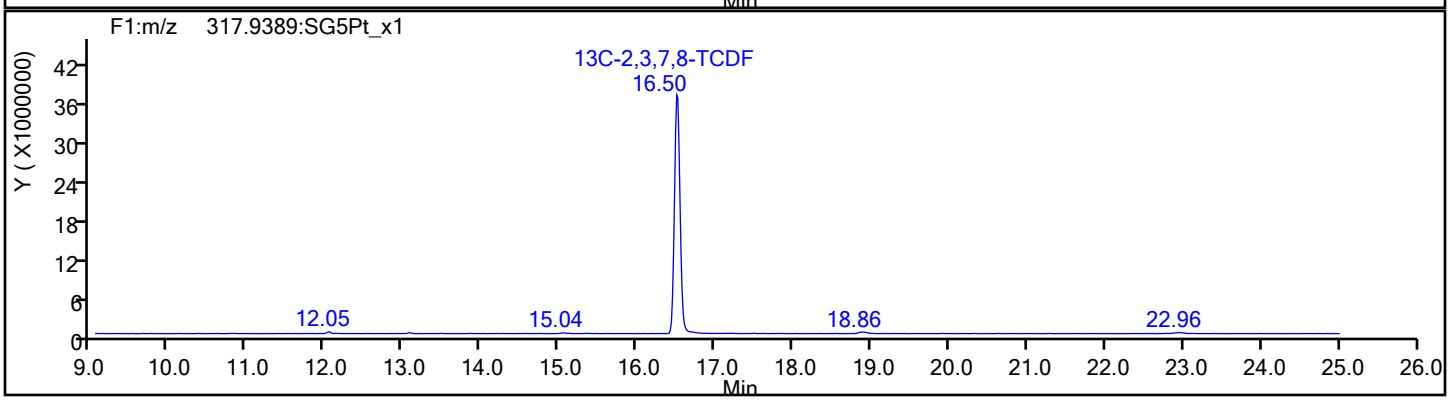

Report Date: 04-Feb-2020 16:44:55 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_007.d		
Injection Date:	04-Feb-2020 13:02:26	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355060	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

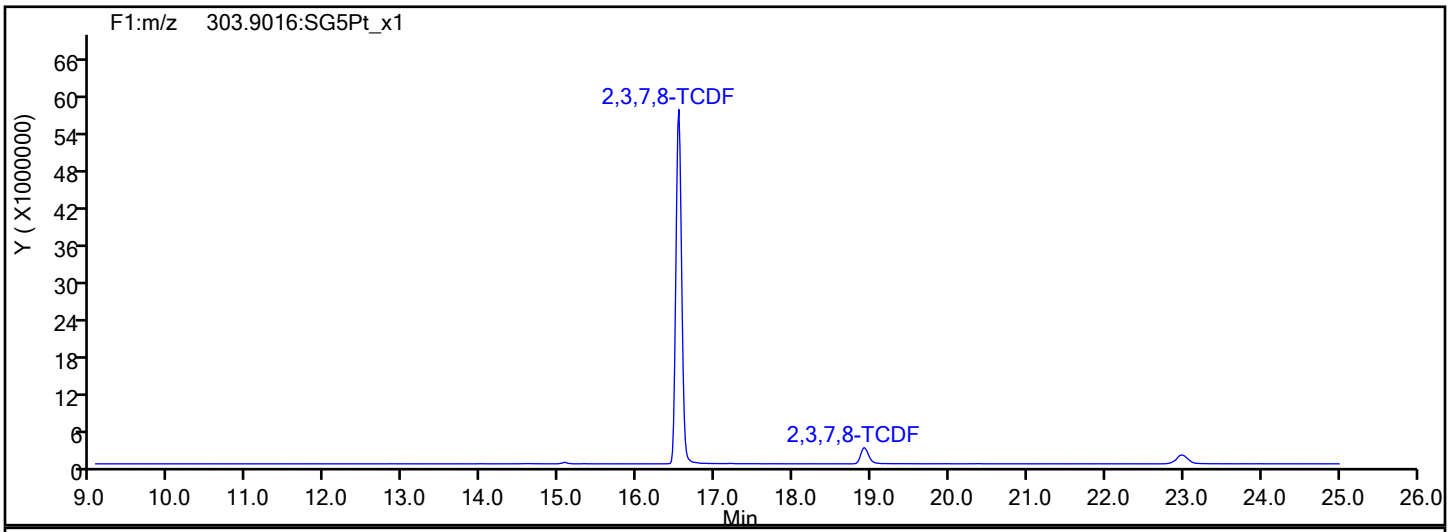

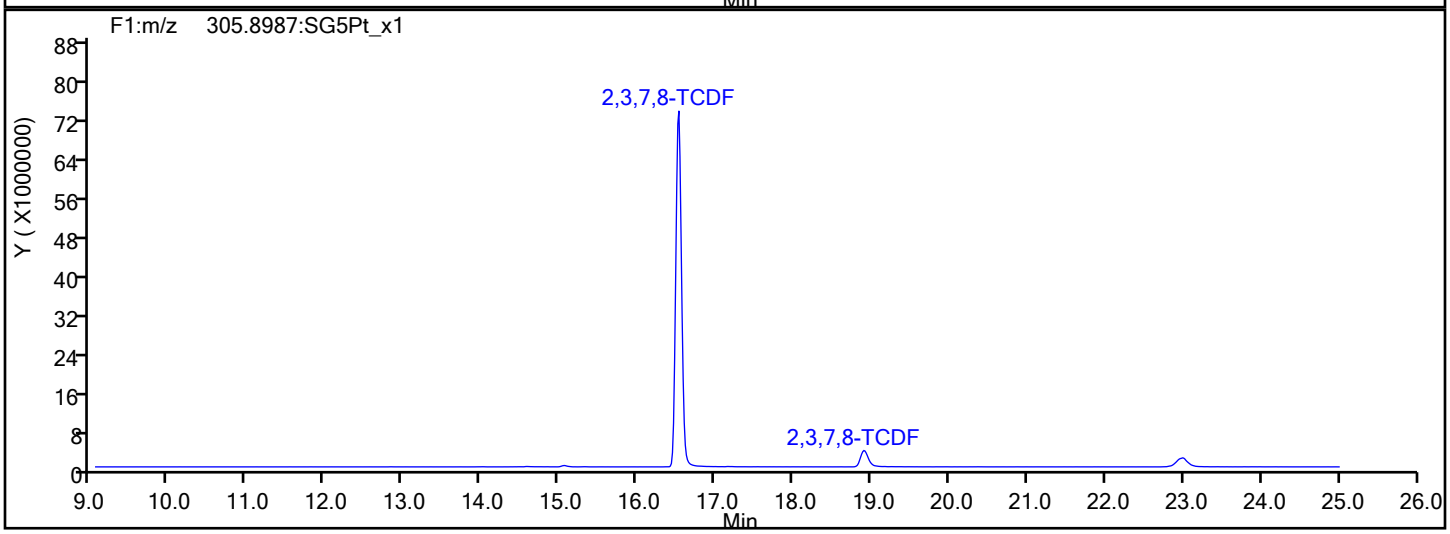

TCDF Interference Mass

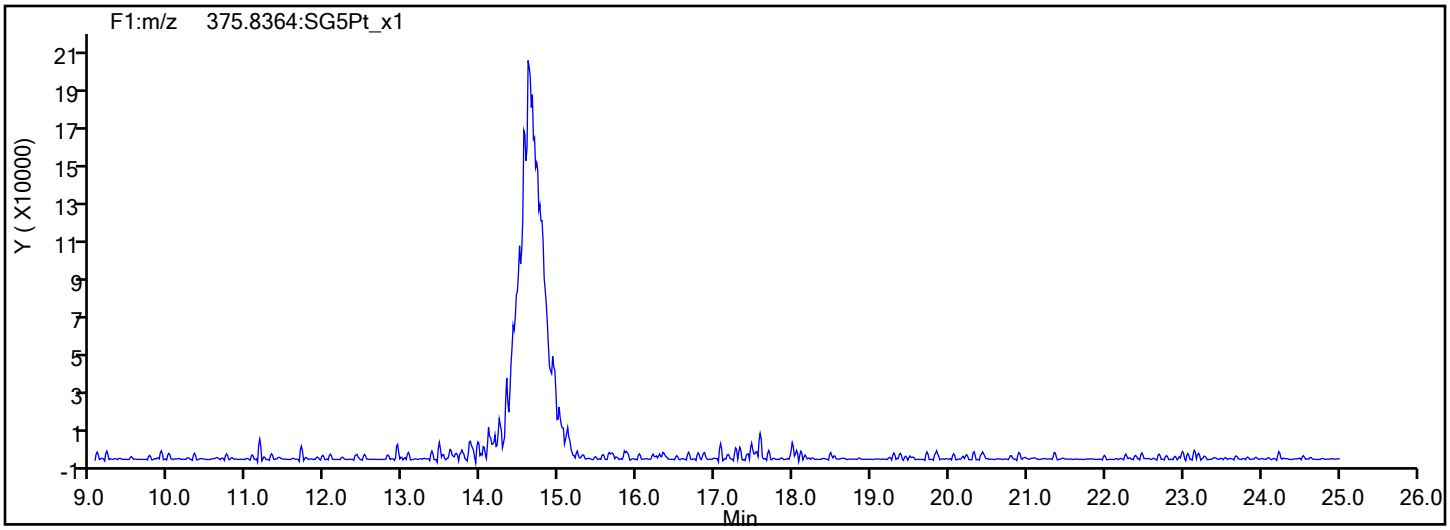

Report Date: 04-Feb-2020 16:44:55 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_007.d		
Injection Date:	04-Feb-2020 13:02:26	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355060	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

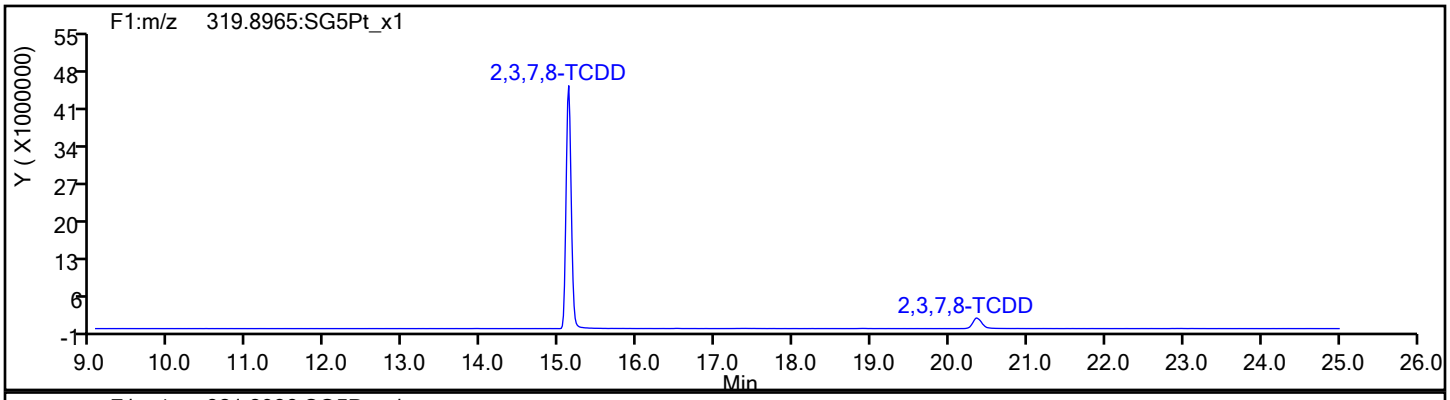

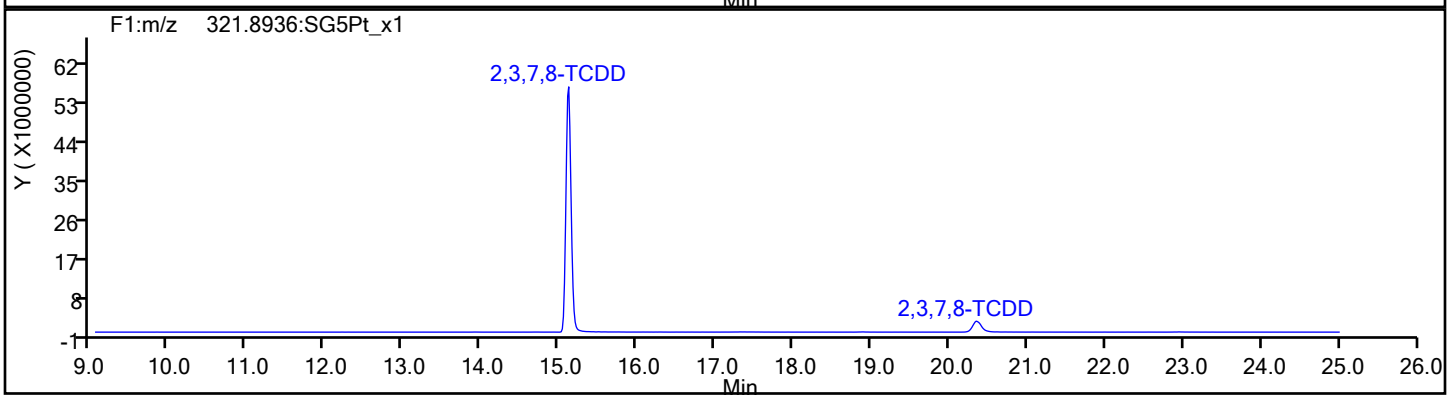

TCDD Standards

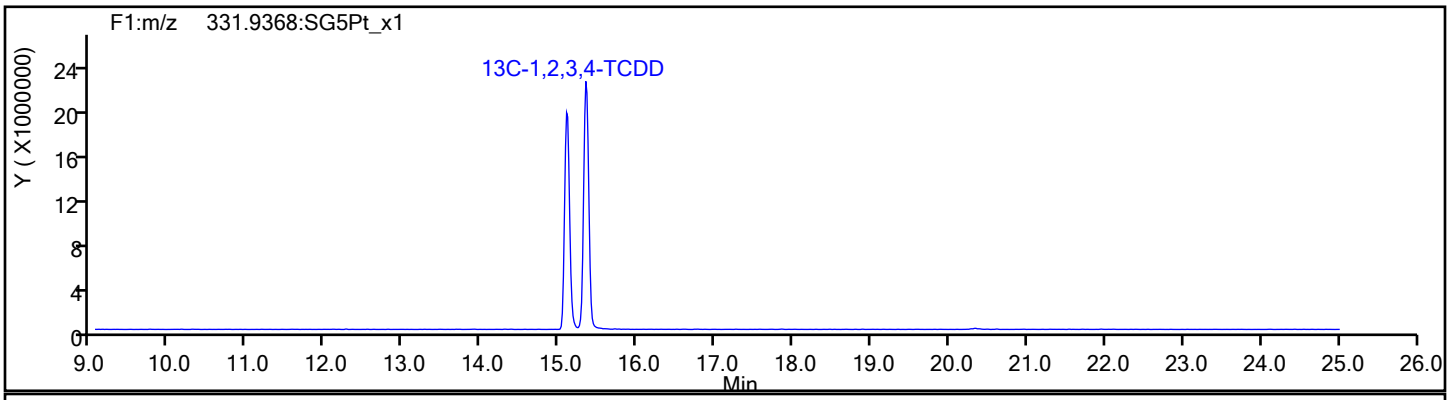

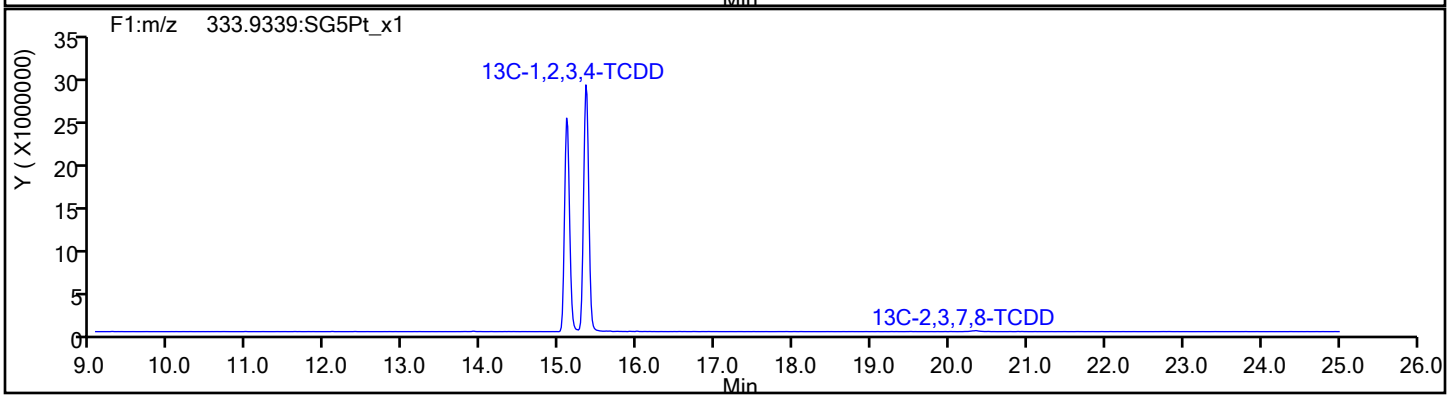

Report Date: 04-Feb-2020 16:44:55 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_007.d		
Injection Date:	04-Feb-2020 13:02:26	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355060	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

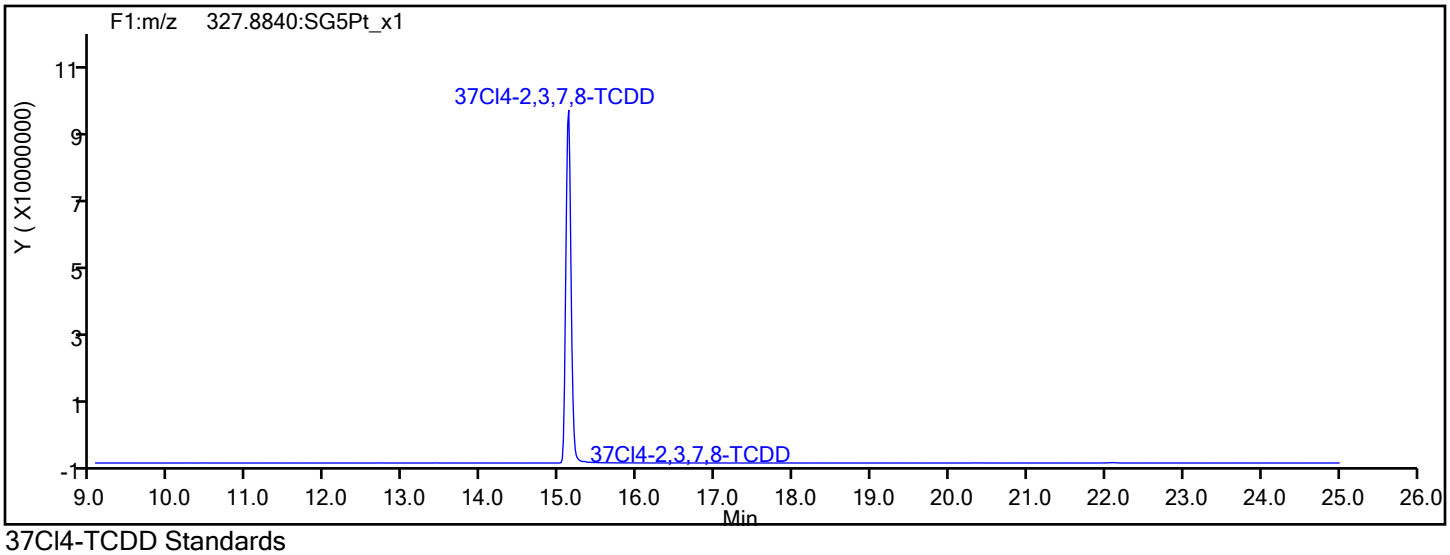

37Cl4-TCDD Standards

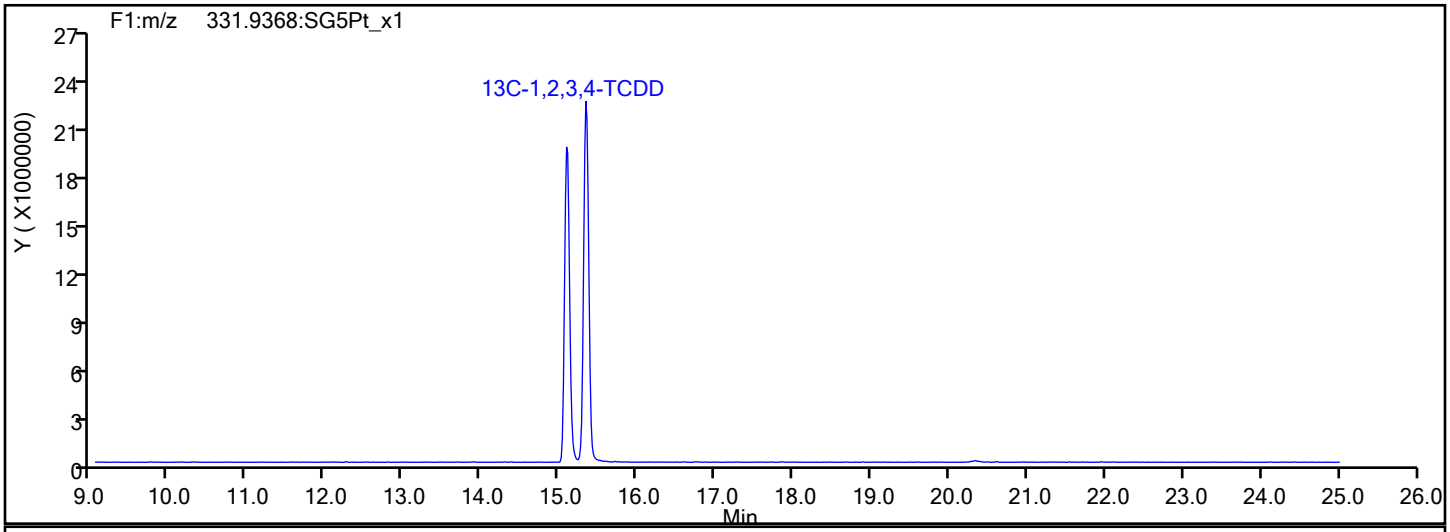

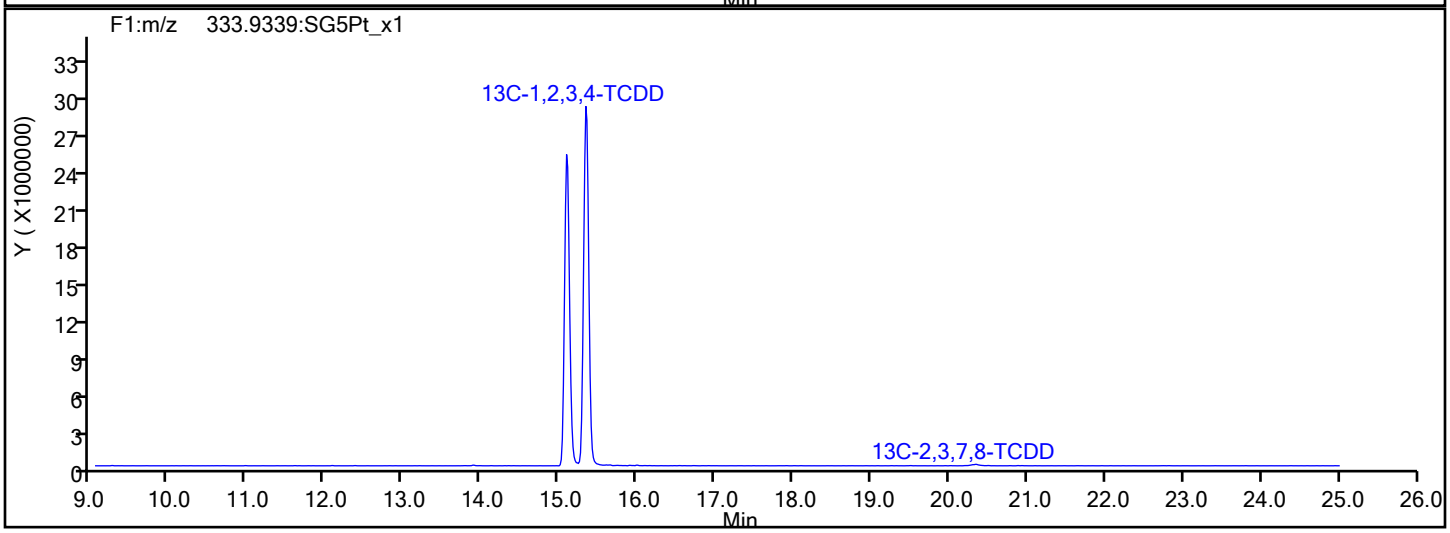

Report Date: 04-Feb-2020 16:44:56 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_007.d		
Injection Date:	04-Feb-2020 13:02:26	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355060	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

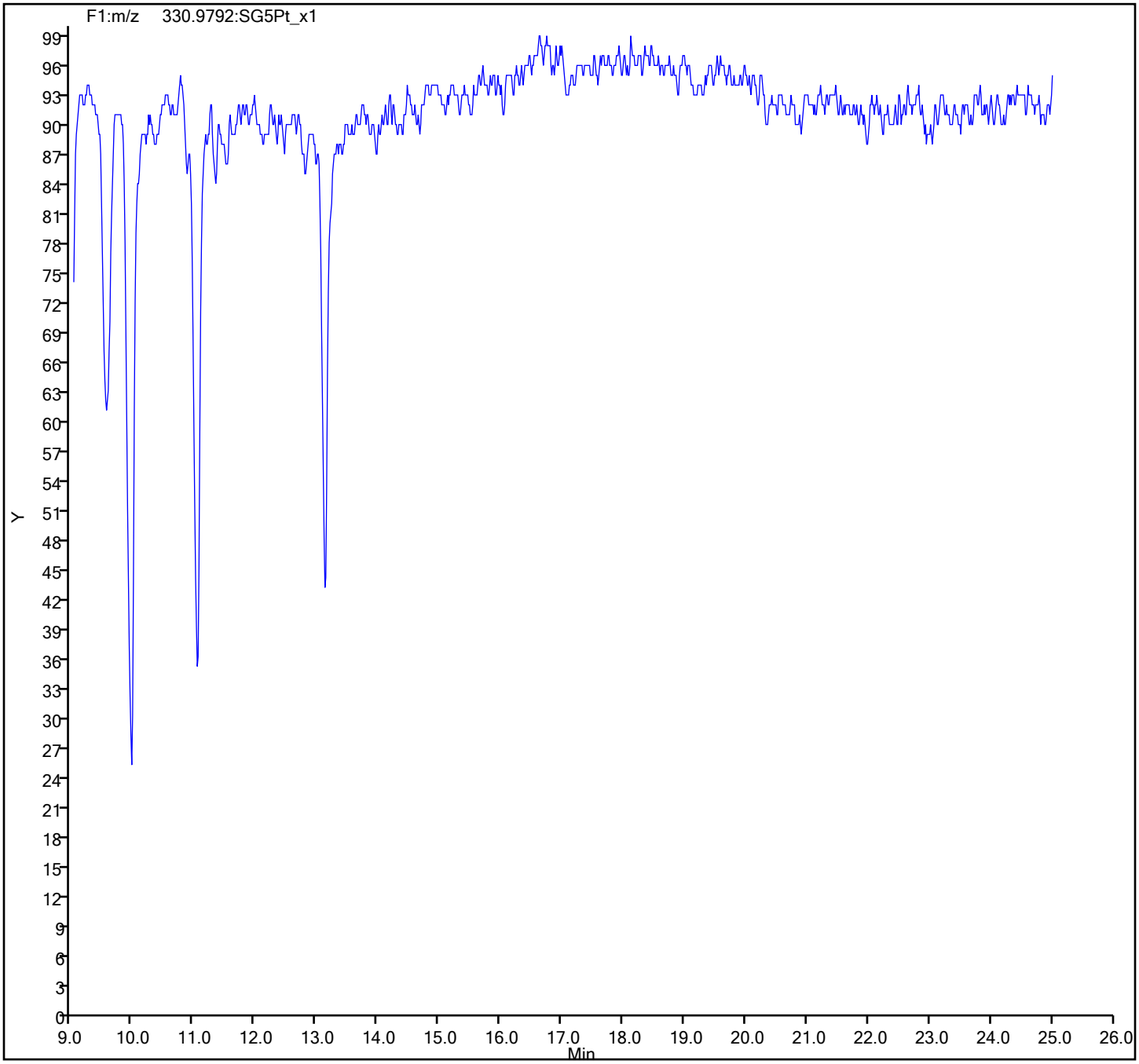

Calibration / 2,3,7,8-TCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.204

Error Coefficients

Standard Error:	237000000
Relative Standard Error:	11.4
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.982

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-355060/3	0.5	0.712693	100.0	191929924.0	1.425386	Y
2	IC 320-355060/4	2.0	2.466935	100.0	206923513.0	1.233467	Y
3	IC 320-355060/5	10.0	10.707614	100.0	161917026.0	1.070761	Y
4	IC 320-355060/6	40.0	45.041783	100.0	194580828.0	1.126045	Y
5	IC 320-355060/7	200.0	233.225515	100.0	199480734.0	1.166128	Y

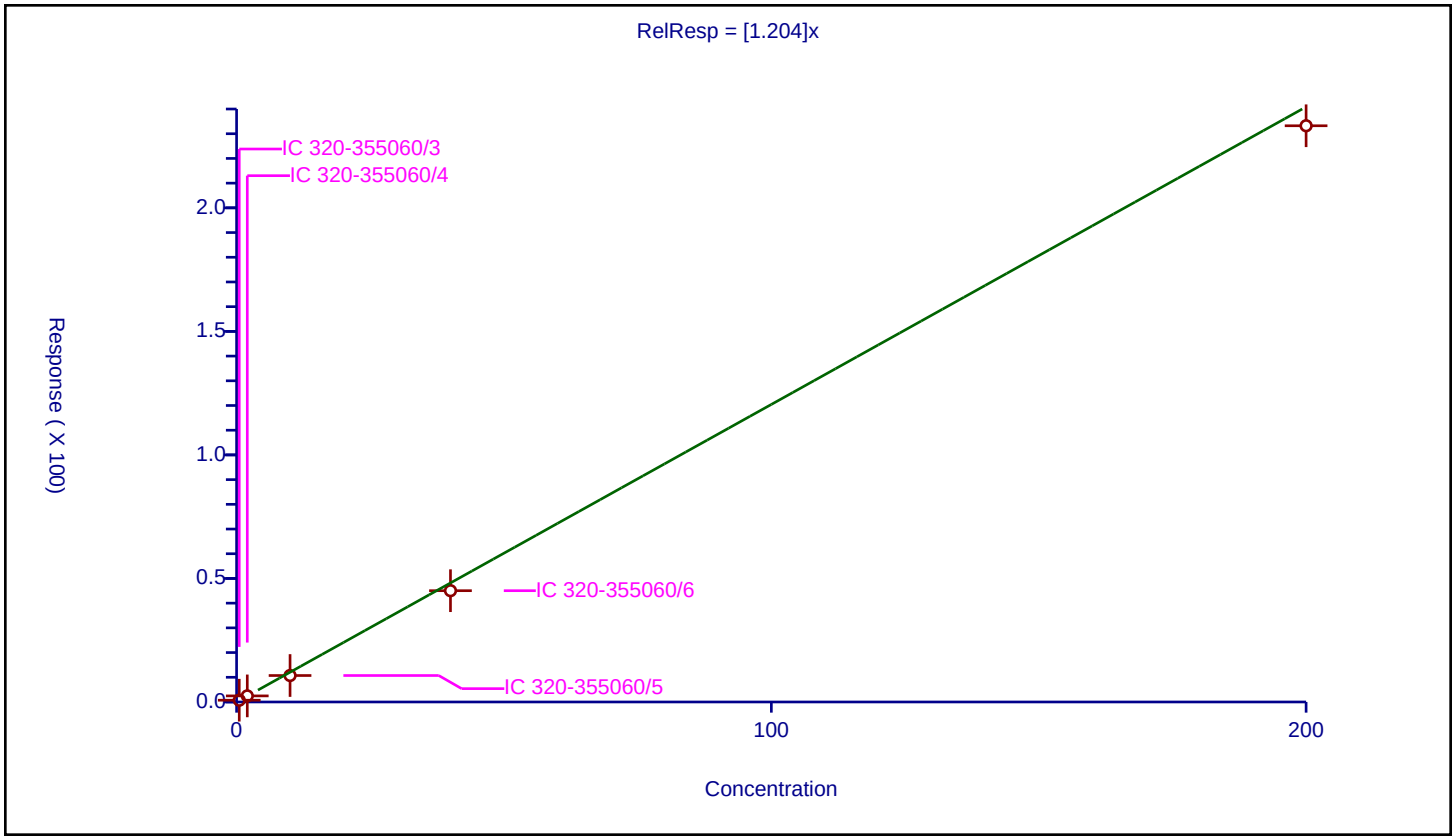

Calibration / 2,3,7,8-TCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.9831

Error Coefficients

Standard Error:	344000000
Relative Standard Error:	4.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-355060/3	0.5	0.510243	100.0	307977682.0	1.020486	Y
2	IC 320-355060/4	2.0	1.949143	100.0	342388985.0	0.974572	Y
3	IC 320-355060/5	10.0	9.202066	100.0	259474739.0	0.920207	Y
4	IC 320-355060/6	40.0	39.665084	100.0	326493421.0	0.991627	Y
5	IC 320-355060/7	200.0	201.674003	100.0	334955017.0	1.00837	Y

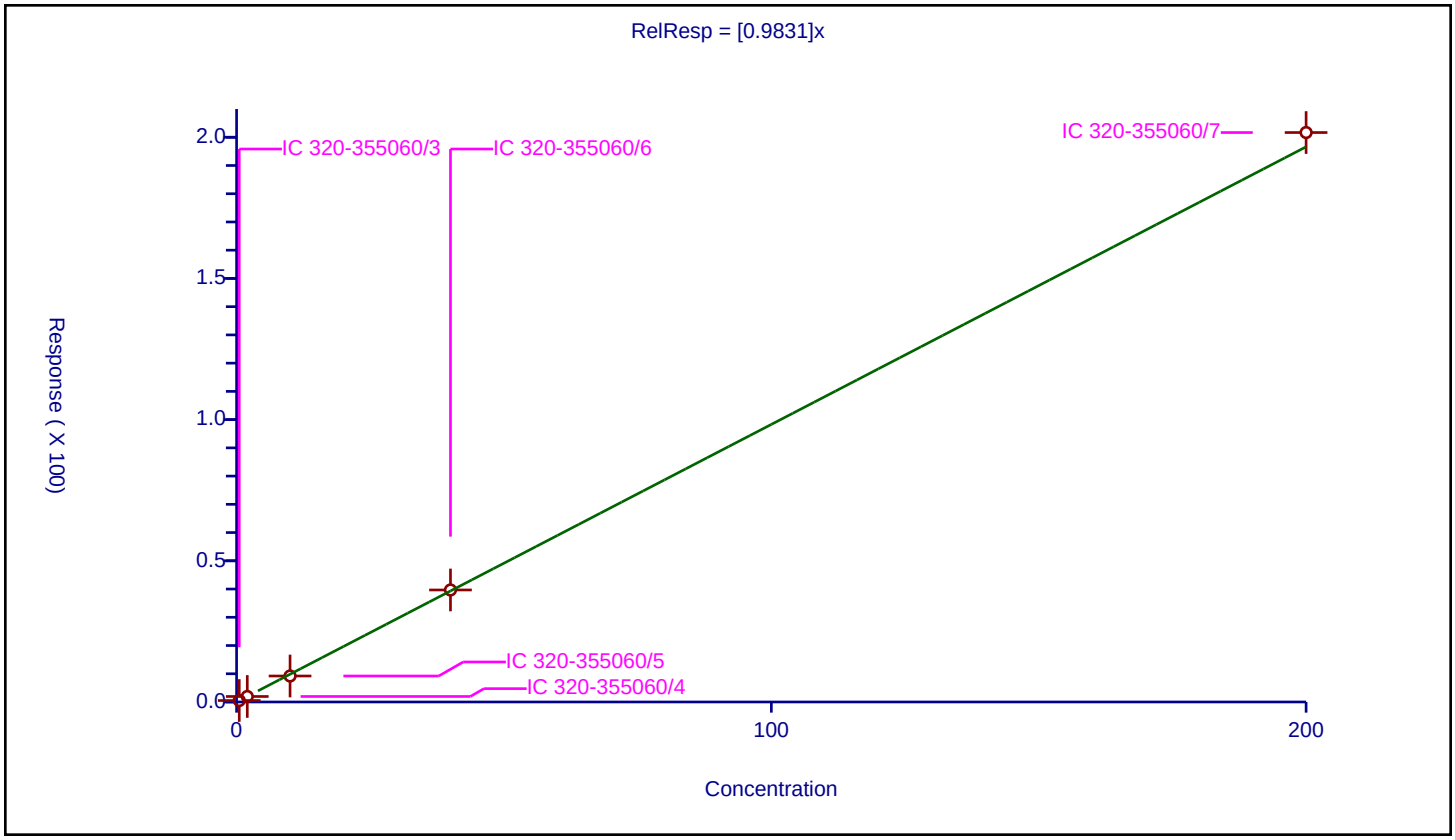

Calibration / 37Cl4-2,3,7,8-TCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.8972

Error Coefficients

Standard Error:	228000000
Relative Standard Error:	6.3
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-355060/3	0.5	0.45219	100.0	218545006.0	0.904379	Y
2	IC 320-355060/4	2.0	1.729238	100.0	240092936.0	0.864619	Y
3	IC 320-355060/5	10.0	8.188743	100.0	196065755.0	0.818874	Y
4	IC 320-355060/6	40.0	37.855368	100.0	226461190.0	0.946384	Y
5	IC 320-355060/7	200.0	190.328201	100.0	235504330.0	0.951641	Y

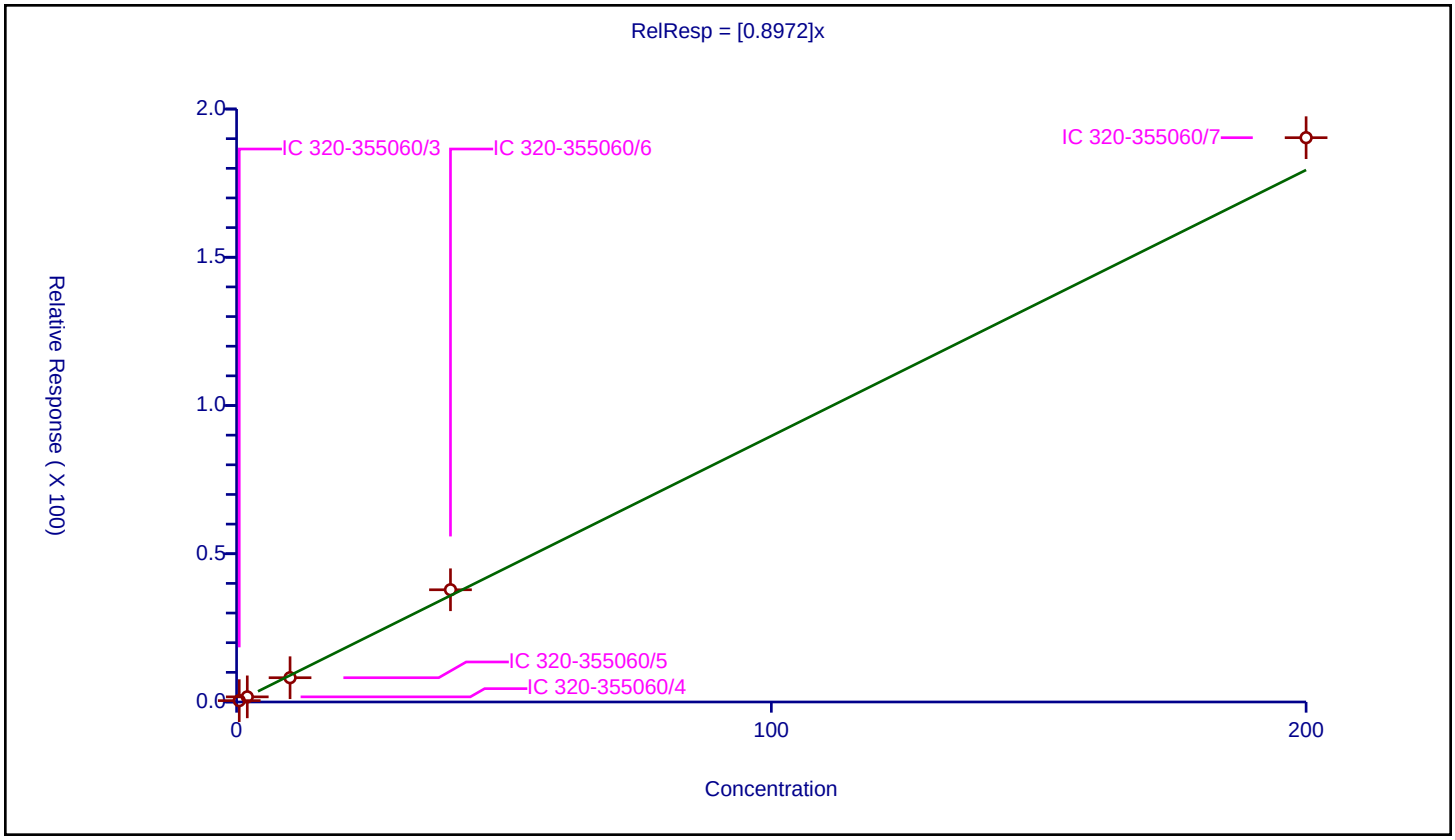

FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Lab Sample ID (1): WDM 320-353986/2 Instrument ID (1): 10D5

GC Column (1): DB-5 ID: 0.32(mm) Date Analyzed (1): 01/30/2020 00:17

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDD	17.62	24

Resolution Report

Eurofins TestAmerica, Sacramento

Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d
Injection Date: 30-Jan-2020 00:17:03 Instrument ID: 10D5
Lims ID: WDM
Client ID:
Operator ID: ALM, SMA ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 2.0 ul Column: DB-5 (0.32 mm)
Method: Dioxin_10D5 Limit Group: HR - 1613B - ICAL

2,3,7,8-TCDD

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 689016
H (Peak Height) = 2922802

%R = 24 <= 25
Passed

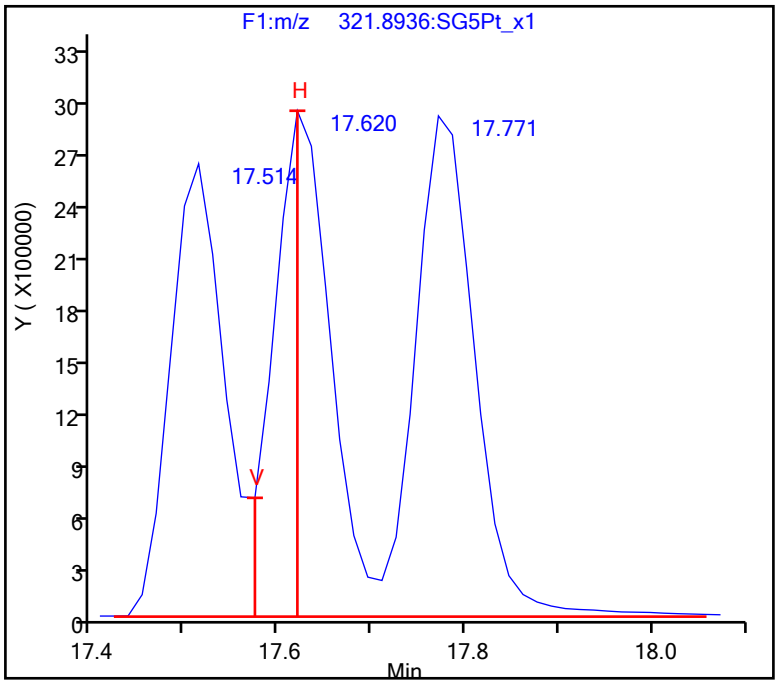

FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Lab Sample ID (1): CPS 320-355060/1 Instrument ID (1): 11D2

GC Column (1): DB-225 ID: 0.32(mm) Date Analyzed (1): 02/04/2020 09:12

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDF	16.53	20

Resolution Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_001.d				
Injection Date:	04-Feb-2020 09:12:19	Instrument ID:	11D2		
Lims ID:	CPS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	2.0 ul	Column:	DB-225 (0.32 mm)		
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL		

2,3,7,8-TCDF

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 2987024
H (Peak Height) = 15047349

%R = 20 <= 25
Passed

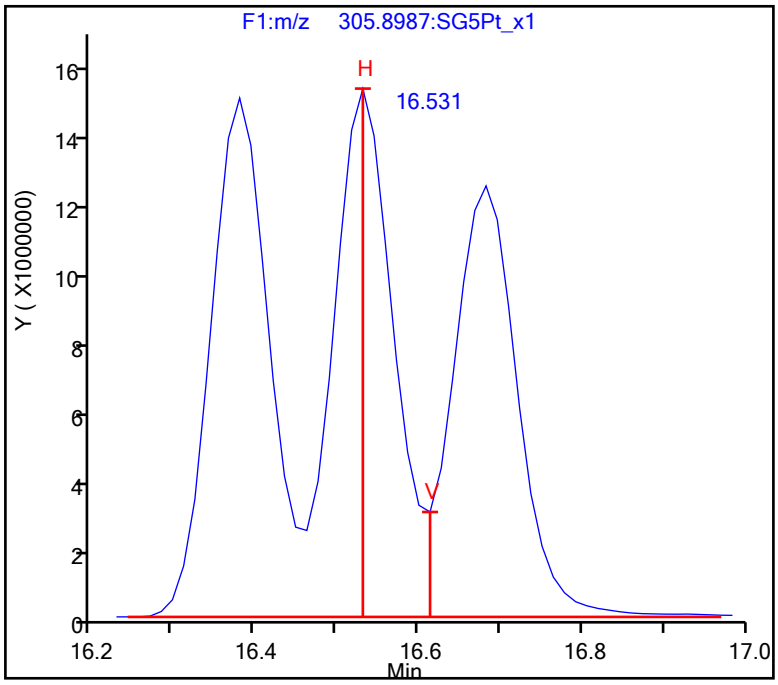

Resolution Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_001.d				
Injection Date:	04-Feb-2020 09:12:19	Instrument ID:	11D2		
Lims ID:	CPS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	2.0 ul	Column:	DB-225 (0.32 mm)		
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL		

FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Lab Sample ID (1): WDM 320-355322/1 Instrument ID (1): 10D5

GC Column (1): DB-5 ID: 0.32(mm) Date Analyzed (1): 02/05/2020 15:31

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDD	17.54	24

Resolution Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_1.d				
Injection Date:	05-Feb-2020 15:31:59	Instrument ID:	10D5		
Lims ID:	WDM				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	2.0 ul	Column:	DB-5 (0.32 mm)		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		

2,3,7,8-TCDD

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 768334
H (Peak Height) = 3201499

%R = 24 <= 25
Passed

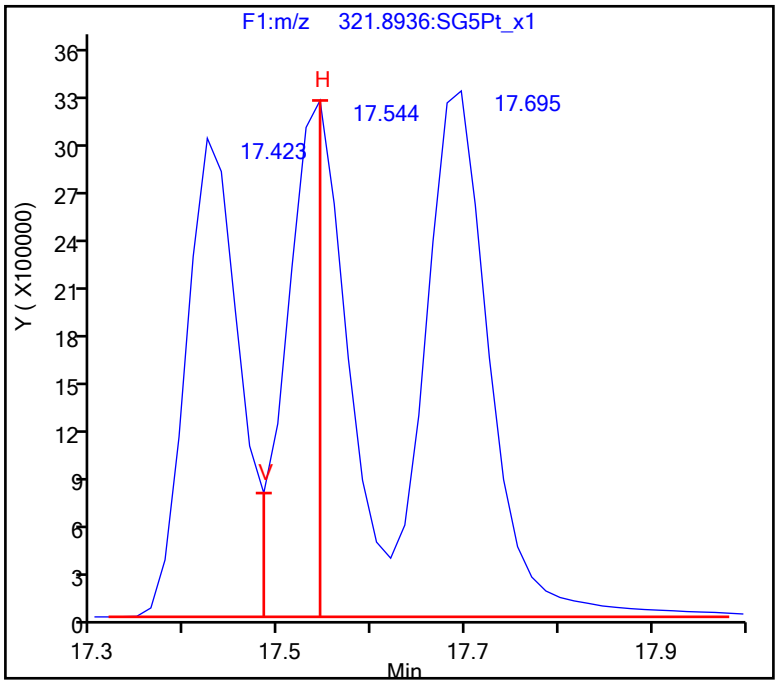

FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Lab Sample ID (1): WDM 320-355551/1 Instrument ID (1): 10D5

GC Column (1): DB-5 ID: 0.32(mm) Date Analyzed (1): 02/06/2020 10:48

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDD	17.51	21

Resolution Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_1.d				
Injection Date:	06-Feb-2020 10:48:49	Instrument ID:	10D5		
Lims ID:	WDM				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	2.0 ul	Column:	DB-5 (0.32 mm)		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		

2,3,7,8-TCDD

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 628504
H (Peak Height) = 2961518

%R = 21 <= 25
Passed

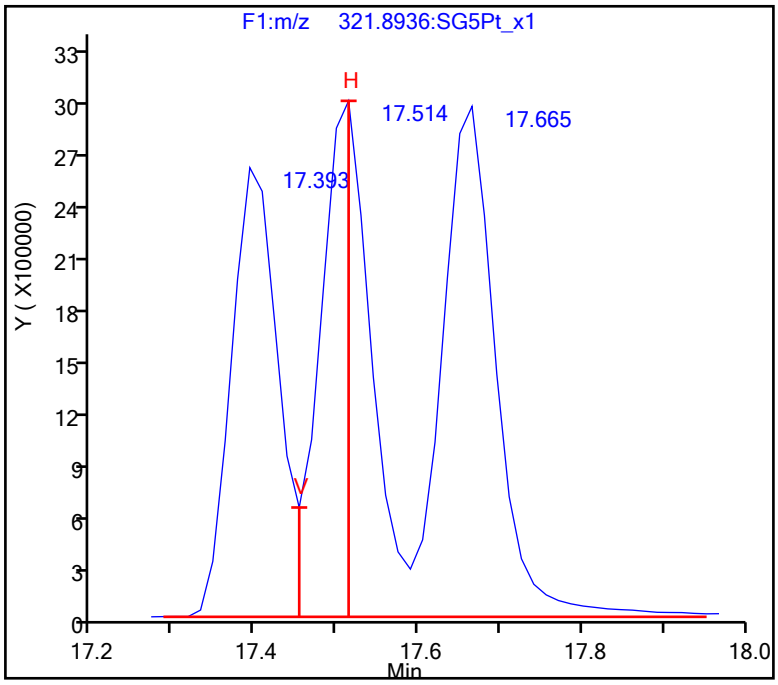

FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Lab Sample ID (1): CPS 320-355913/1 Instrument ID (1): 11D2

GC Column (1): DB-225 ID: 0.32(mm) Date Analyzed (1): 02/07/2020 13:37

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDF	16.55	17

Resolution Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200207-90742.b\07FE2011D2_001.d				
Injection Date:	07-Feb-2020 13:37:16	Instrument ID:	11D2		
Lims ID:	CPS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	2.0 ul	Column:	DB-225 (0.32 mm)		
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL		

2,3,7,8-TCDF

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 2158855
H (Peak Height) = 12375908

%R = 17 <= 25
Passed

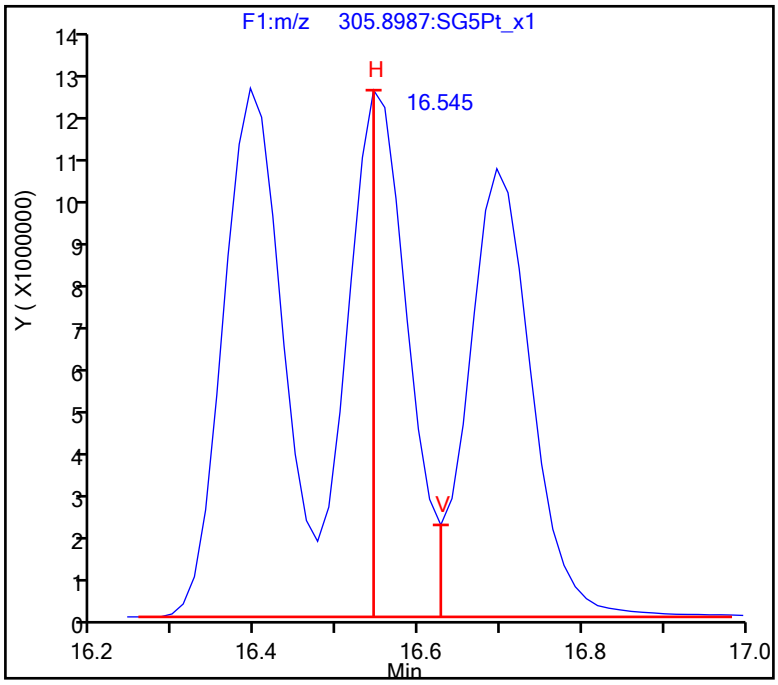

Resolution Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200207-90742.b\07FE2011D2_001.d				
Injection Date:	07-Feb-2020 13:37:16	Instrument ID:	11D2		
Lims ID:	CPS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	2.0 ul	Column:	DB-225 (0.32 mm)		
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL		

FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Lab Sample ID: ICV 320-353986/10 Calibration Date: 01/30/2020 06:35

Instrument ID: 10D5 Calib Start Date: 01/30/2020 01:49

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 01/30/2020 04:53

Lab File ID: 29JA20B10D5_10.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
2,3,7,8-TCDF	AveID	0.7675	0.8315		43.3	40.0	108	70-130
2,3,7,8-TCDD	AveID	0.9599	1.054		43.9	40.0	110	70-130
1,2,3,7,8-PeCDF	AveID	0.8982	0.9502		212	200	106	70-130
2,3,4,7,8-PeCDF	AveID	0.8101	0.9873		244	200	122	70-130
1,2,3,7,8-PeCDD	AveID	0.996	1.026		206	200	103	70-130
1,2,3,4,7,8-HxCDF	AveID	0.7916	0.9066		229	200	115	70-130
1,2,3,6,7,8-HxCDF	AveID	0.8638	0.9763		226	200	113	70-130
2,3,4,6,7,8-HxCDF	AveID	0.9010	1.028		228	200	114	70-130
1,2,3,4,7,8-HxCDD	AveID	0.8392	0.9517		227	200	113	70-130
1,2,3,6,7,8-HxCDD	AveID	0.8876	0.997		225	200	112	70-130
1,2,3,7,8,9-HxCDD	AveID	0.9567	1.017		213	200	106	70-130
1,2,3,7,8,9-HxCDF	AveID	0.9127	0.9800		215	200	107	70-130
1,2,3,4,6,7,8-HpCDF	AveID	1.337	1.488		223	200	111	70-130
1,2,3,4,6,7,8-HpCDD	AveID	0.9811	1.081		220	200	110	70-130
1,2,3,4,7,8,9-HpCDF	AveID	1.074	1.177		219	200	110	70-130
OCDD	AveID	0.9937	1.100		443	400	111	70-130
OCDF	AveID	1.066	1.185		445	400	111	70-130
13C-2,3,7,8-TCDF	Ave	1.128	1.135		101	100	101	71-140
13C-2,3,7,8-TCDD	Ave	0.9032	0.9078		101	100	101	82-121
13C-1,2,3,7,8-PeCDF	Ave	0.9615	0.9762		102	100	102	76-130
13C-2,3,4,7,8-PeCDF	Ave	1.039	1.053		101	100	101	77-130
13C-1,2,3,7,8-PeCDD	Ave	0.6938	0.6906		99.5	100	100	62-160
13C-1,2,3,4,7,8-HxCDF	Ave	0.8543	0.8779		103	100	103	76-131
13C-1,2,3,6,7,8-HxCDF	Ave	0.8361	0.8532		102	100	102	70-143
13C-2,3,4,6,7,8-HxCDF	Ave	0.7773	0.7935		102	100	102	73-137
13C-1,2,3,4,7,8-HxCDD	Ave	0.8050	0.8196		102	100	102	85-117
13C-1,2,3,6,7,8-HxCDD	Ave	0.8269	0.8553		103	100	103	85-118
13C-1,2,3,7,8,9-HxCDF	Ave	0.7167	0.7395		103	100	103	74-135
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.7080	0.7267		103	100	103	78-129
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.7473	0.7688		103	100	103	72-138
13C-1,2,3,4,7,8,9-HpCDF	Ave	0.7451	0.7669		103	100	103	77-129
13C-OCDD	Ave	0.6622	0.6920		209	200	105	48-208
37Cl4-2,3,7,8-TCDD	Ave	0.9673	1.025		42.4	40.0	106	79-127

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_10.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 30-Jan-2020 06:35:07 ALS Bottle#: 8 Worklist Smp#: 10
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ICV 012920 ICV HRDXNIC_00043
Misc. Info.: 29JA20B10D5
Operator ID: ALM Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 30-Jan-2020 09:11:50 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0321

First Level Reviewer: arghestanis Date: 30-Jan-2020 08:46:57

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.393	42287418	0.81	5.4E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.894	47990424	0.73	1.1275	100.7	100.7	0.3046	0.3046	101	
2,3,7,8-TCDF	16.909	15962240	0.72	0.7675	43.3	43.3	0.1442	0.1442	108	
A Non-2,3,7,8-sub-TCDF	16.645						0.1442	0.1442		
S Total TCDF					43.3	43.3	0.1442	0.1442		
D 13C-2,3,7,8-TCDD	17.574	38386495	0.78	0.9032	100.5	100.5	0.2350	0.2350	101	
2,3,7,8-TCDD	17.590	16190766	0.75	0.9599	43.9	43.9	0.0590	0.0590	110	
$ 37Cl4-2,3,7,8-TCDD	17.590	17331670		0.9673	42.4	42.4	0.0614	0.0614	106	
A Non-2,3,7,8-sub-TCDD	17.091	227296	0.80	0.9599	0.6169	0.6169	0.0590	0.6169		
S Total TCDD					44.6	44.6	0.0590	0.0590		
D 13C-1,2,3,7,8-PeCDF	21.733	41279665	1.56	0.9615	101.5	101.5	0.2750	0.2750	102	
1,2,3,7,8-PeCDF	21.760	78446332	1.53	0.8982	211.6	211.6	0.8428	0.8428	106	
D 13C-2,3,4,7,8-PeCDF	23.028	44528560	1.53	1.0393	101.3	101.3	0.2544	0.2544	101	
2,3,4,7,8-PeCDF	23.055	87929165	1.53	0.8101	243.8	243.8	0.9324	0.9324	122	
A F1 PeCDFs	19.570						0.0224	0.0224		
A Non-2,3,7,8-sub-PeCDF	22.600	1819762	1.59	0.8541	4.966	4.966	0.8853	4.966		
S Total PeCDF					460.3	460.3	0.8876	0.8876		
D 13C-1,2,3,7,8-PeCDD	23.723	29202955	1.64	0.6938	99.5	99.5	0.1241	0.1241	99.54	
1,2,3,7,8-PeCDD	23.751	59937102	1.56	0.9961	206.1	206.1	0.2163	0.2163	103	
A Non-2,3,7,8-sub-PeCDD	22.701						0.2163	0.2163		
S Total PeCDD					206.1	206.1	0.2163	0.2163		
D 13C-1,2,3,4,7,8-HxCDF	29.860	29828457	0.48	0.8543	102.8	102.8	0.3306	0.3306	103	
1,2,3,4,7,8-HxCDF	29.886	54083055	1.21	0.7916	229.1	229.1	1.097	1.097	115	
D 13C-1,2,3,6,7,8-HxCDF	30.099	28988925	0.48	0.8361	102.1	102.1	0.3378	0.3378	102	
1,2,3,6,7,8-HxCDF	30.126	56604725	1.21	0.8638	226.1	226.1	0.990	0.990	113	
D 13C-2,3,4,6,7,8-HxCDF	31.097	26958151	0.48	0.7773	102.1	102.1	0.3633	0.3633	102	
2,3,4,6,7,8-HxCDF	31.111	55408144	1.20	0.9010	228.1	228.1	0.7075	0.7075	114	
D 13C-1,2,3,7,8,9-HxCDF	31.989	25126172	0.49	0.7167	103.2	103.2	0.3941	0.3941	103	
1,2,3,7,8,9-HxCDF	32.002	49246589	1.20	0.9127	214.8	214.8	0.6930	0.6930	107	

Report Date: 30-Jan-2020 09:11:56 Chrom Revision: 2.3 14-Jan-2020 22:23:42
Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_10.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
A Non-2,3,7,8-sub-HxCDF	29.627						0.8431	0.8431		
S Total HxCDF					898.0	898.0	0.8720	0.8720		
* 13C-1,2,3,7,8,9-HxCDD	31.789	33975698	1.21	4.4E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.310	27847674	1.19	0.8050	101.8	101.8	0.2162	0.2162	102	
1,2,3,4,7,8-HxCDD	31.324	53003759	1.21	0.8392	226.8	226.8	0.4538	0.4538	113	
D 13C-1,2,3,6,7,8-HxCDD	31.430	29060014	1.29	0.8269	103.4	103.4	0.2104	0.2104	103	
1,2,3,6,7,8-HxCDD	31.444	57917479	1.21	0.8876	224.5	224.5	0.4512	0.4512	112	
1,2,3,7,8,9-HxCDD	31.803	57885713	1.20	0.9567	212.6	212.6	0.4081	0.4081	106	
A Non-2,3,7,8-sub-HxCDD	30.226						0.4365	0.4365		
S Total HxCDD					664.0	664.0	0.4377	0.4377		
D 13C-1,2,3,4,6,7,8-HpCDF	33.496	24690137	0.42	0.7080	102.6	102.6	1.005	1.005	103	
1,2,3,4,6,7,8-HpCDF	33.508	73491304	1.02	1.3375	222.6	222.6	1.590	1.590	111	
D 13C-1,2,3,4,7,8,9-HpCDF	34.553	26056039	0.42	0.7451	102.9	102.9	0.9550	0.9550	103	
1,2,3,4,7,8,9-HpCDF	34.565	61339475	1.02	1.0744	219.1	219.1	2.238	2.238	110	
A Non-2,3,7,8-sub-HpCDF	34.049						1.872	1.872		
S Total HpCDF					441.7	441.7	1.914	1.914		
D 13C-1,2,3,4,6,7,8-HpCDD	34.274	26120904	1.06	0.7473	102.9	102.9	0.4997	0.4997	103	
1,2,3,4,6,7,8-HpCDD	34.286	56487254	1.03	0.9811	220.4	220.4	0.8096	0.8096	110	
A Non-2,3,7,8-sub-HpCDD	34.024						0.8096	0.8096		
S Total HpCDD					220.4	220.4	0.8096	0.8096		
D 13C-OCDD	36.566	47022254	0.90	0.6622	209.0	209.0	0.1054	0.1054	105	
OCDF	36.662	111456199	0.90	1.0659	444.7	444.7	0.2137	0.2137	111	
OCDD	36.578	103472490	0.88	0.9937	442.9	442.9	0.2539	0.2539	111	

Reagents:

HRDXNIC_00043 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_10.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 30-Jan-2020 06:35:07 ALS Bottle#: 8 Worklist Smp#: 10
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ICV 012920 ICV HRDXNIC_00043
Misc. Info.: 29JA20B10D5
Operator ID: ALM Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 30-Jan-2020 09:11:50 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0321

First Level Reviewer: arghestanis Date: 30-Jan-2020 08:46:57

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.393	17.408	-1		18877630	4728925	3559	8897	1329		
333.9339	17.378	17.408	-2		23409788	5723035	5316	13290	1077	0.81(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.894	16.924	-2	0.971	20183855	5110176	6813	17032	750		
317.9389	16.894	16.924	-2	0.971	27806569	6928820	7546	18865	918	0.73(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.909	16.939	-2	1.001	6681295	1665732	1529	3822	1089		
305.8987	16.909	16.939	-2	1.001	9280945	2292780	3802	9505	603	0.72(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.645						1529	3822			
305.8987	16.645						3802	9505			
13C-2,3,7,8-TCDD											
331.9368	17.574	17.605	-2	1.010	16856030	3933620	3559	8897	1105		
333.9339	17.574	17.605	-2	1.010	21530465	5061780	5316	13290	952	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.590	17.620	-2	1.001	6949898	1590005	1063	2657	1496		
321.8936	17.590	17.620	-2	1.001	9240868	2122754	975	2437	2177	0.75(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.590	17.620	-2	1.011	17331670	4028699	2482	6205	1623		
A Non-2,3,7,8-sub-TCDD											
319.8965	17.499	17.091	24	0.996	101330	33656	1063	2657	32		
321.8936	17.484	17.091	24	0.995	125966	37843	975	2437	39	0.80(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	21.733	21.746	-1	1.249	25128810	4567031	6518	16295	701		
353.8970	21.733	21.746	-1	1.249	16150855	2965483	4538	11345	653	1.56(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.760	21.774	-1	1.001	47488200	8481117	13409	33522	632		
341.8567	21.760	21.774	-1	1.001	30958132	5552844	9399	23497	591	1.53(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	23.028	23.042	-1	1.324	26897573	4571876	6518	16295	701		
353.8970	23.028	23.042	-1	1.324	17630987	2977396	4538	11345	656	1.53(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.055	23.069	-1	1.001	53242171	8735330	13409	33522	651		
341.8567	23.042	23.069	-2	1.001	34686994	5766252	9399	23497	613	1.53(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.570						228	570			
341.8567	19.570						349	872			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.264	22.600	-20	1.024	1116874	178716	13409	33522	13		
341.8567	22.251	22.600	-21	1.024	702888	113612	9399	23497	12	1.59(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.723	23.737	-1	1.364	18136939	2840376	1947	4867	1459		
369.8919	23.723	23.737	-1	1.364	11066016	1748743	1653	4132	1058	1.64(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.751	23.764	-1	1.001	36560579	5796805	2398	5995	2417		
357.8516	23.751	23.764	-1	1.001	23376523	3706036	1557	3892	2380	1.56(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.701						2398	5995			
357.8516	22.701						1557	3892			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.860	29.873	-1	0.939	9690734	1422237	2920	7300	487		
385.8610	29.860	29.873	-1	0.939	20137723	2942553	6362	15905	463	0.48(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.886	29.899	-1	1.001	29591168	4171495	8188	20470	509		
375.8178	29.886	29.899	-1	1.001	24491887	3483312	6979	17447	499	1.21(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.099	30.112	-1	0.947	9461843	1459841	2920	7300	500		
385.8610	30.099	30.112	-1	0.947	19527082	2973896	6362	15905	467	0.48(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.126	30.139	-1	1.001	31043929	4656509	8188	20470	569		
375.8178	30.126	30.139	-1	1.001	25560796	3830016	6979	17447	549	1.21(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.097	31.097	0	0.978	8798828	1998575	2920	7300	684		
385.8610	31.097	31.097	0	0.978	18159323	3949354	6362	15905	621	0.48(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.111	31.124	-1	1.000	30265059	6534031	8188	20470	798		
375.8178	31.111	31.124	-1	1.000	25143085	5452132	6979	17447	781	1.20(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.989	31.989	0	1.006	8287041	1960027	2920	7300	671		
385.8610	31.989	31.989	0	1.006	16839131	4034853	6362	15905	634	0.49(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.002	32.002	0	1.000	26883020	6391882	8188	20470	781		
375.8178	32.002	32.002	0	1.000	22363569	5314921	6979	17447	762	1.20(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.627						8188	20470			
375.8178	29.627						6979	17447			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.789	31.803	-1		18636371	4497803	3191	7977	1410		
403.8529	31.789	31.803	-1		15339327	3718324	2528	6320	1471	1.21(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.310	31.324	-1	0.985	15110885	3858341	3191	7977	1209		
403.8529	31.310	31.324	-1	0.985	12736789	3036289	2528	6320	1201	1.19(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.324	31.337	-1	1.000	29006773	6898256	5584	13960	1235		
391.8127	31.324	31.337	-1	1.000	23996986	5719192	4918	12295	1163	1.21(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.430	31.444	-1	0.989	16349775	3620630	3191	7977	1135		
403.8529	31.430	31.444	-1	0.989	12710239	2934428	2528	6320	1161	1.29(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.444	31.457	-1	1.000	31749222	7207436	5584	13960	1291		
391.8127	31.444	31.457	-1	1.000	26168257	5995492	4918	12295	1219	1.21(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.803	31.816	-1	1.016	31548082	7505465	5584	13960	1344		
391.8127	31.803	31.816	-1	1.016	26337631	6316618	4918	12295	1284	1.20(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.226						5584	13960			
391.8127	30.226						4918	12295			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.496	33.496	0	1.054	7320059	2399824	7335	18337	327		
419.8220	33.496	33.496	0	1.054	17370078	5605059	16051	40127	349	0.42(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.508	33.508	0	1.000	37105019	11664370	33411	83527	349		
409.7789	33.496	33.508	-1	1.000	36386285	11350820	34697	86742	327	1.02(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.553	34.553	0	1.087	7698567	2134238	7335	18337	291		
419.8220	34.553	34.553	0	1.087	18357472	4947057	16051	40127	308	0.42(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.565	34.565	0	1.000	30936604	8148994	33411	83527	244		
409.7789	34.565	34.565	0	1.000	30402871	7971909	34697	86742	230	1.02(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.049						33411	83527			
409.7789	34.049						34697	86742			

Report Date: 30-Jan-2020 09:11:56 Chrom Revision: 2.3 14-Jan-2020 22:23:42
Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_10.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.274	34.274	0	1.078	13421916	3828255	5975	14937	641		
437.8140	34.274	34.274	0	1.078	12698988	3630038	6299	15747	576	1.06(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.286	34.286	0	1.000	28684458	8008672	13027	32567	615		
425.7737	34.274	34.286	-1	1.000	27802796	7669811	10669	26672	719	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.024						13027	32567			
425.7737	34.024						10669	26672			
13C-OCDD											
469.7779	36.566	36.578	-1	1.150	22245987	5366165	1408	3520	3811		
471.7750	36.566	36.578	-1	1.150	24776267	5905639	887	2217	6658	0.90(0.76-1.02)	
OCDF											
441.7428	36.662	36.674	-1	1.003	52738366	12856847	2433	6082	5284		
443.7399	36.662	36.674	-1	1.003	58717833	14246400	2701	6752	5274	0.90(0.76-1.02)	
OCDD											
457.7377	36.578	36.590	-1	1.000	48421075	11568774	3054	7635	3788		
459.7348	36.578	36.590	-1	1.000	55051415	13131832	2635	6587	4984	0.88(0.76-1.02)	

Reagents:

HRDXNIC_00043 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_10.d
Lims ID: ICV
Client ID:
Inject. Date: 30-Jan-2020 06:35:07 Dil. Factor: 1.0000
Sample Type: ICV, ICal Verification
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 353986 Lims Sample ID: 10
Sublist: chrom-Dioxin_10D5*sub1

Non-2,3,7,8-sub-TCDD, RT: 17.091

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	0.960	D 13C-2,3,7,8-TCDD	100.000	38386495	8995400

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.960		100.000	38386495	8995400

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
17.499	101330	33656	125966	37843	0.6169	0.80	
Signal Totals:							
	101330	33656	125966	37843			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	227296	71499				0.80	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.6169 = (227296 * 100.000) / (38386495 * 0.960)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_10.d
Lims ID: ICV
Client ID:
Inject. Date: 30-Jan-2020 06:35:07 Dil. Factor: 1.0000
Sample Type: ICV, ICal Verification
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 353986 Lims Sample ID: 10
Sublist: chrom-Dioxin_10D5*sub1

Non-2,3,7,8-sub-PeCDF, RT: 22.600

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	0.898	D 13C-1,2,3,7,8-PeCDF	100.000	41279665	7532514
2,3,4,7,8-PeCDF	0.810	D 13C-2,3,4,7,8-PeCDF	100.000	44528560	7549272

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.854		100.000	42904112	7540893

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
22.264	1116874	178716	702888	113612	4.97	1.59	
Signal Totals:							
	1116874	178716	702888	113612			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1819762	292328				1.59	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 4.966 = (1819762 * 100.000) / (42904112 * 0.854)

Report Date: 30-Jan-2020 09:11:56 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_10.d		
Injection Date:	30-Jan-2020 06:35:07	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

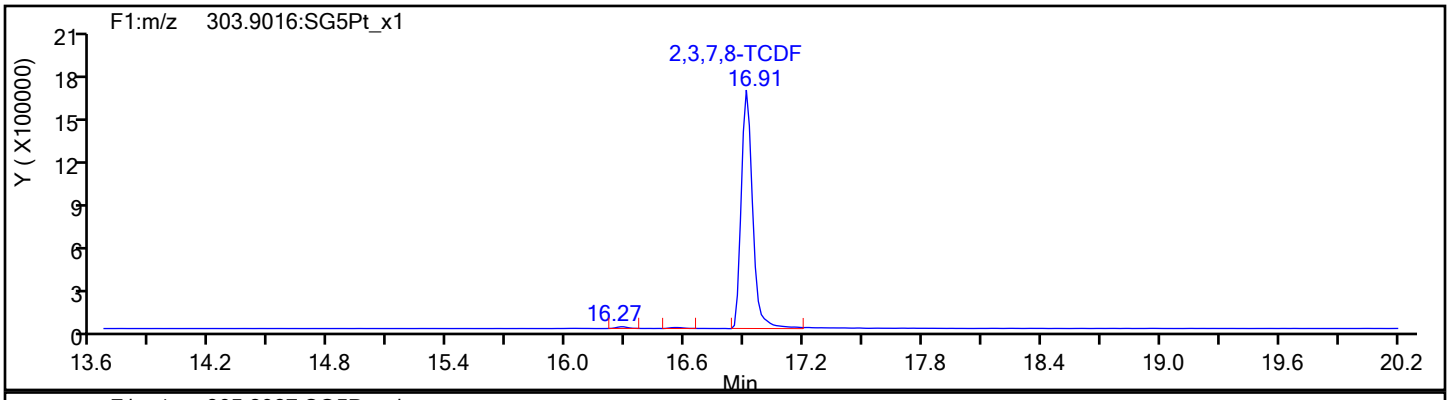

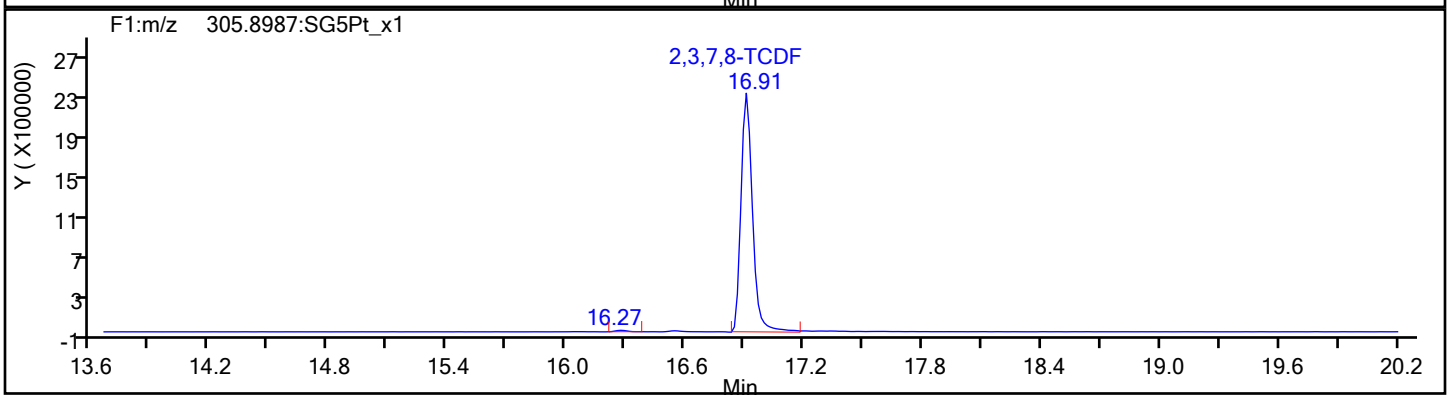

TCDF Standards

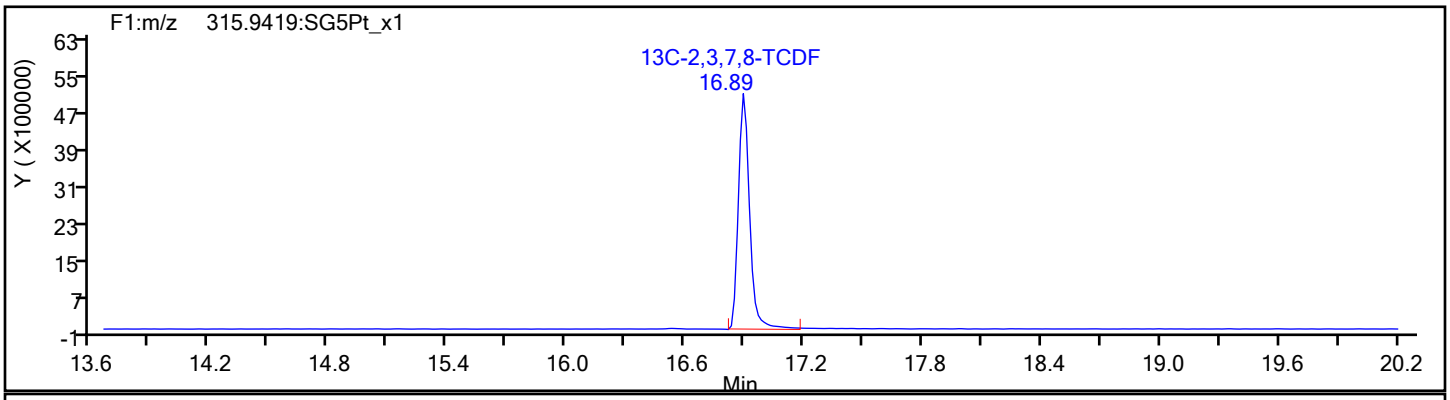

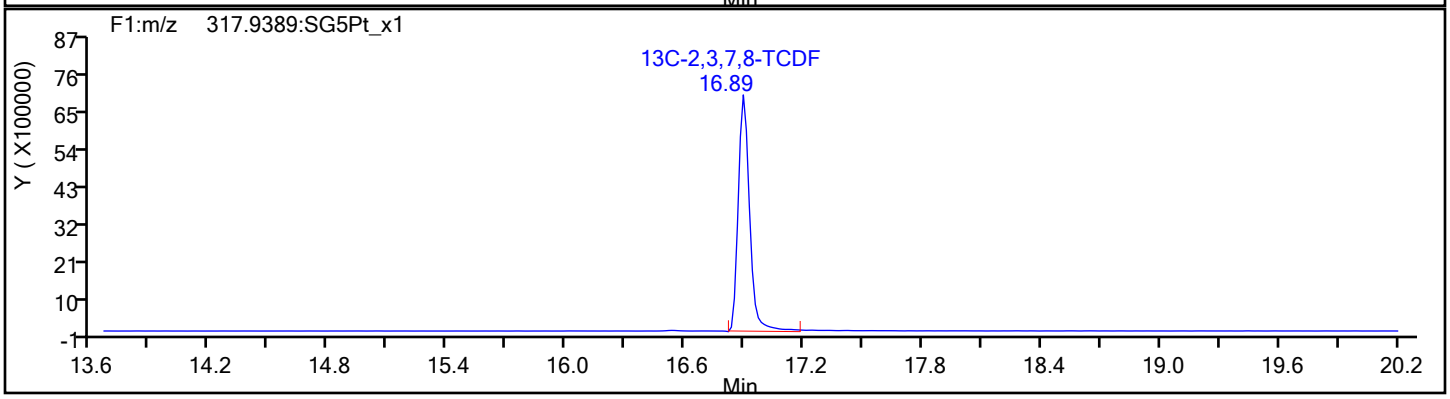

Report Date: 30-Jan-2020 09:11:56 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_10.d		
Injection Date:	30-Jan-2020 06:35:07	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

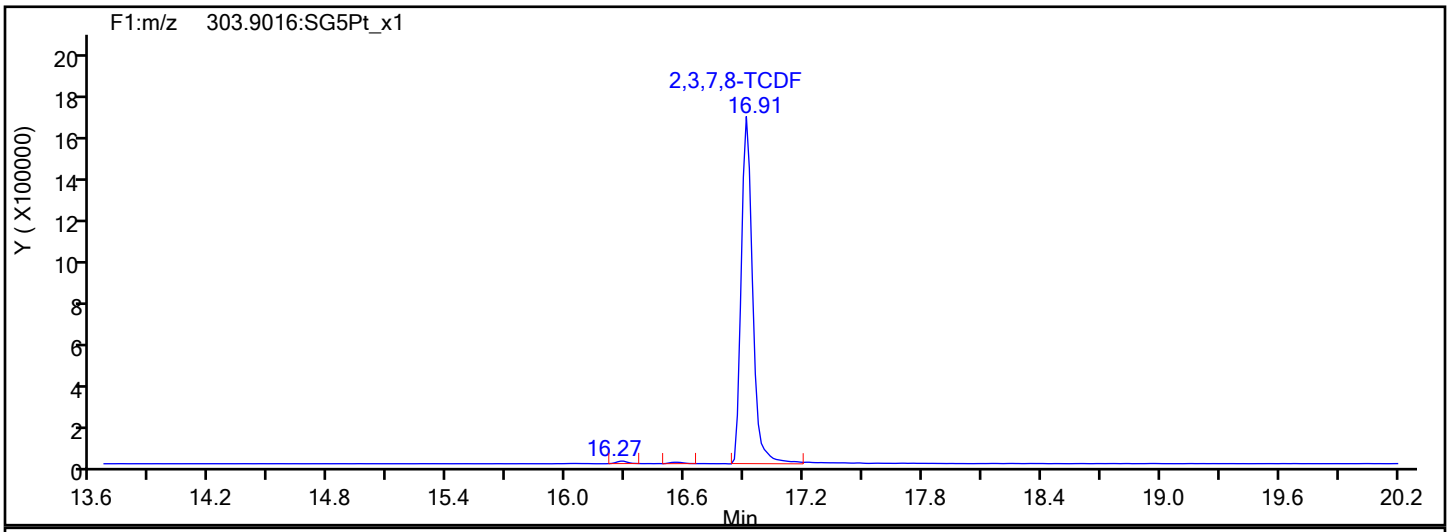

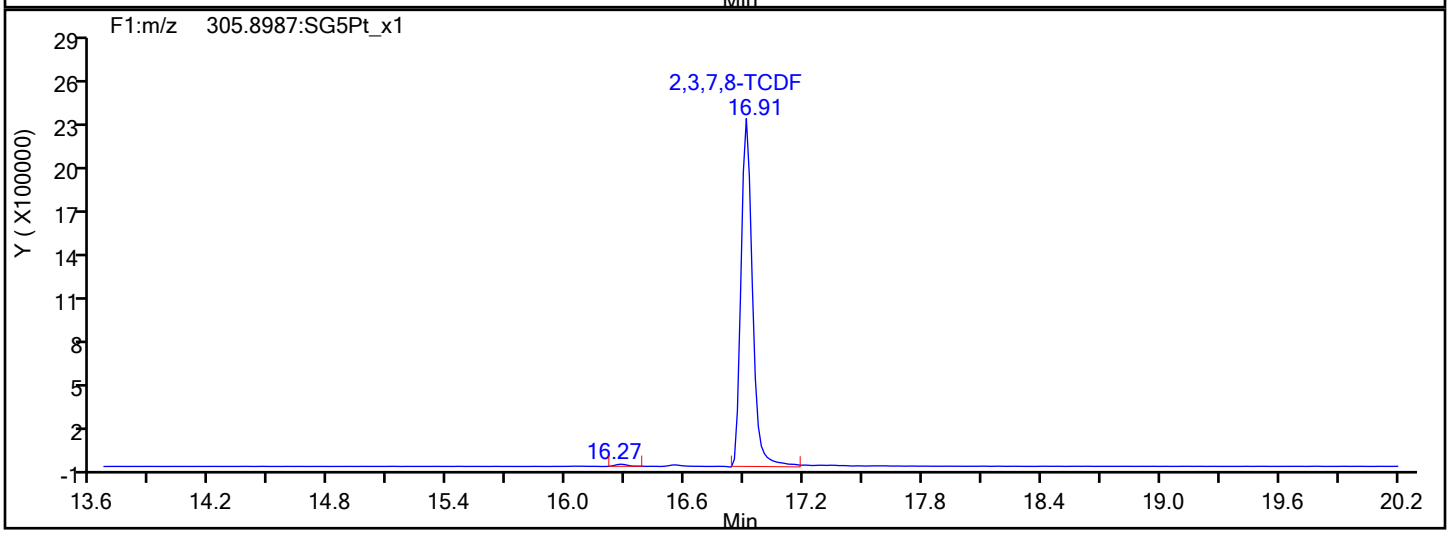

TCDF Interference Mass

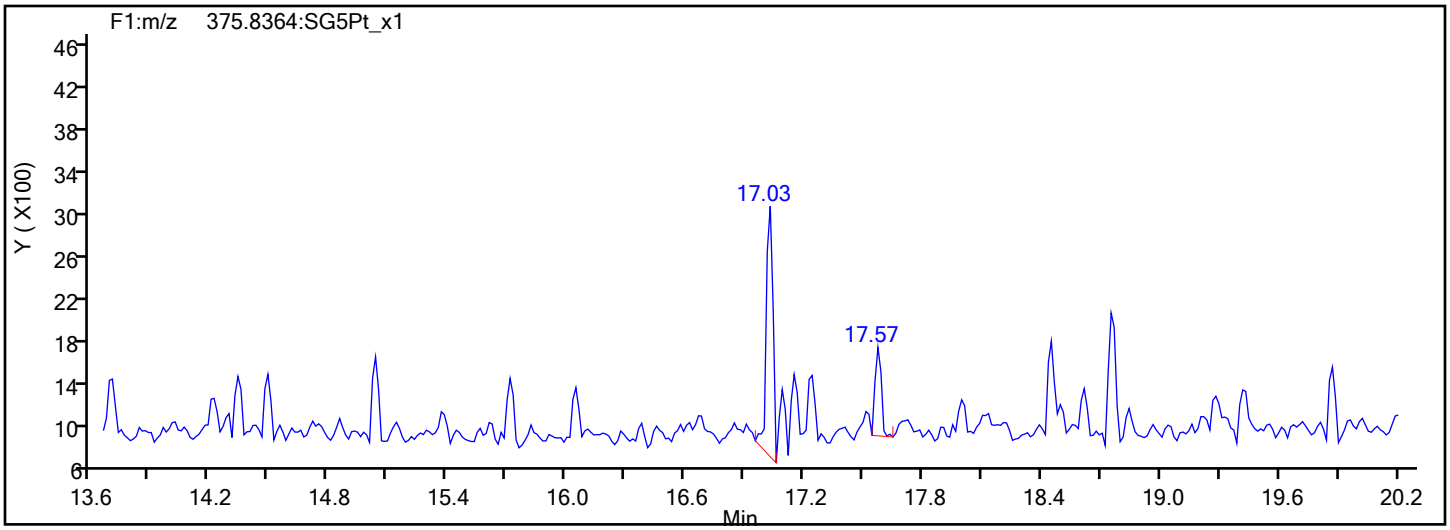

Report Date: 30-Jan-2020 09:11:56 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_10.d		
Injection Date:	30-Jan-2020 06:35:07	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

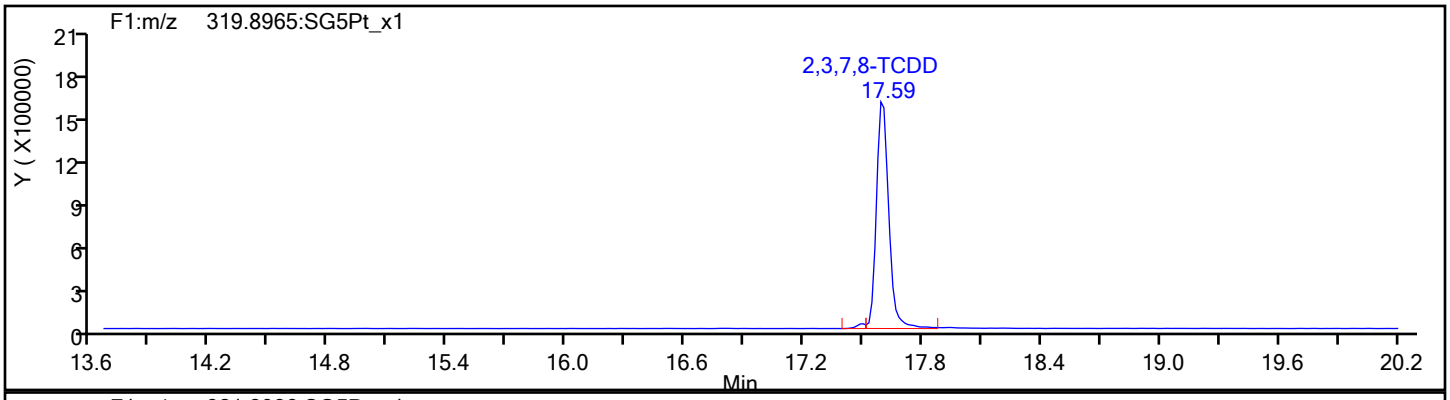

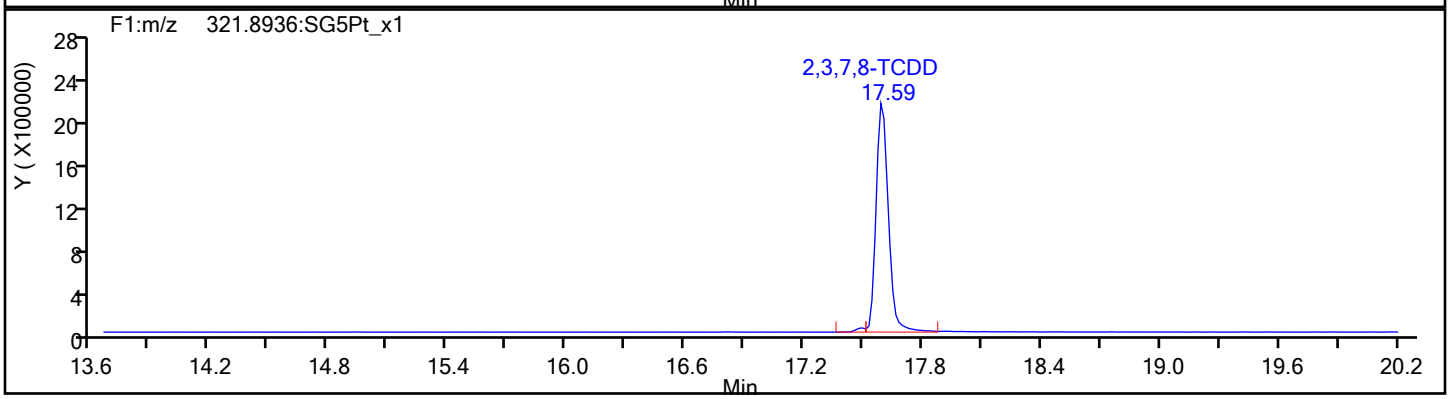

TCDD Standards

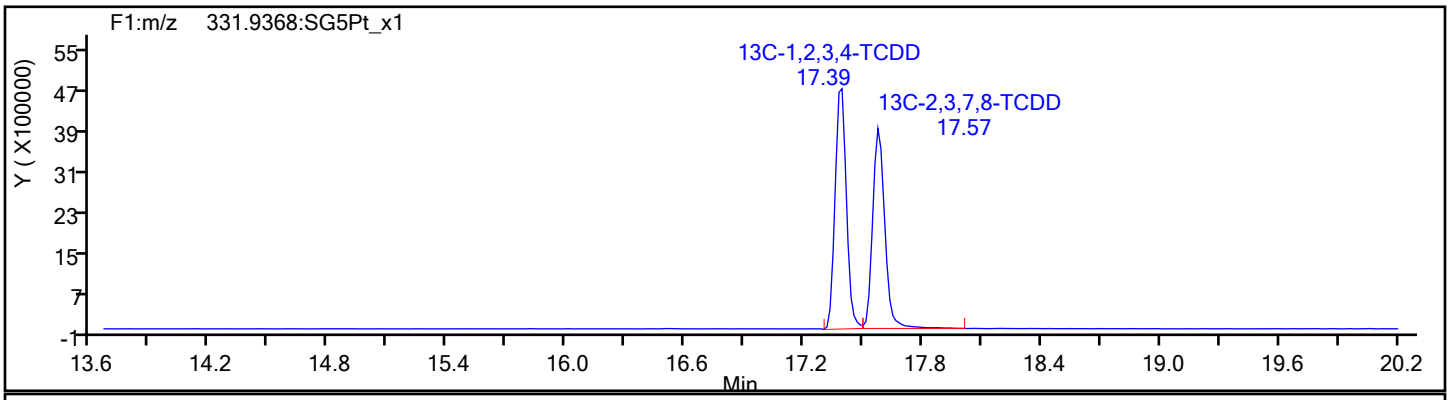

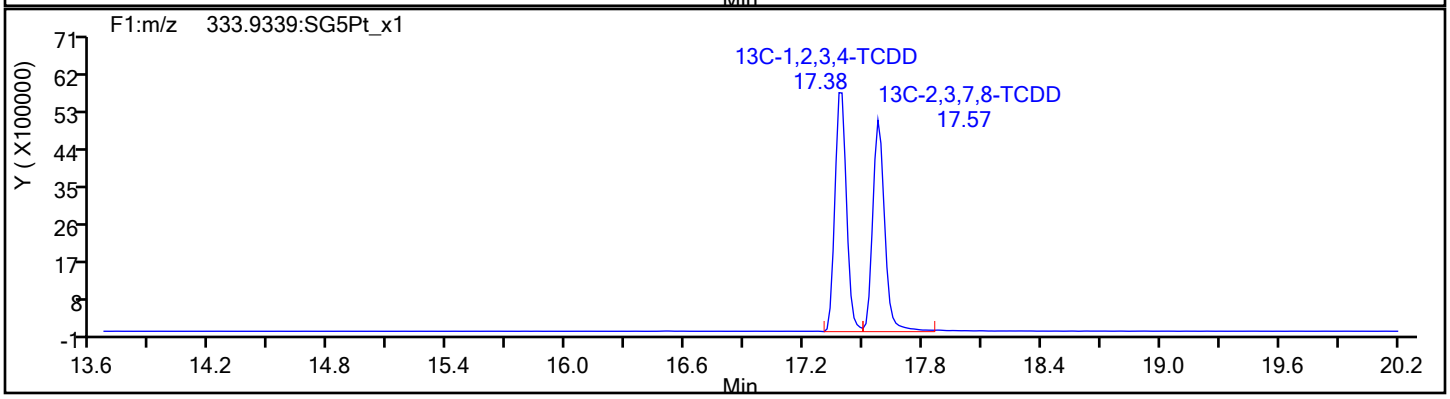

Report Date: 30-Jan-2020 09:11:56 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

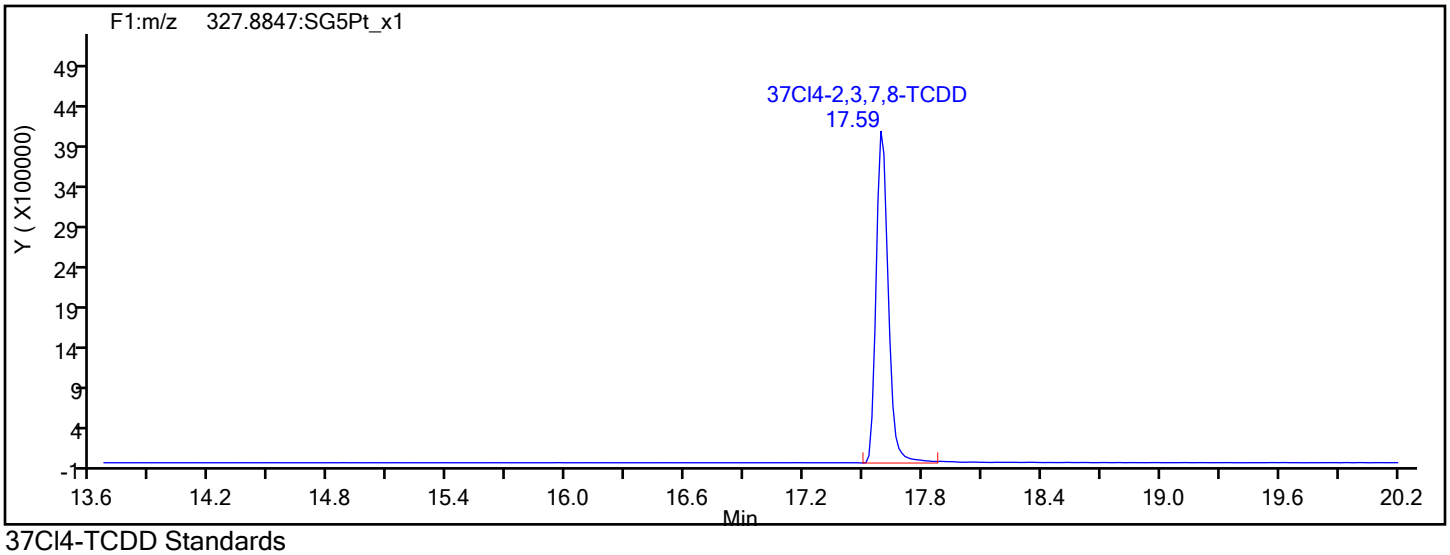

37Cl4-TCDD Standards

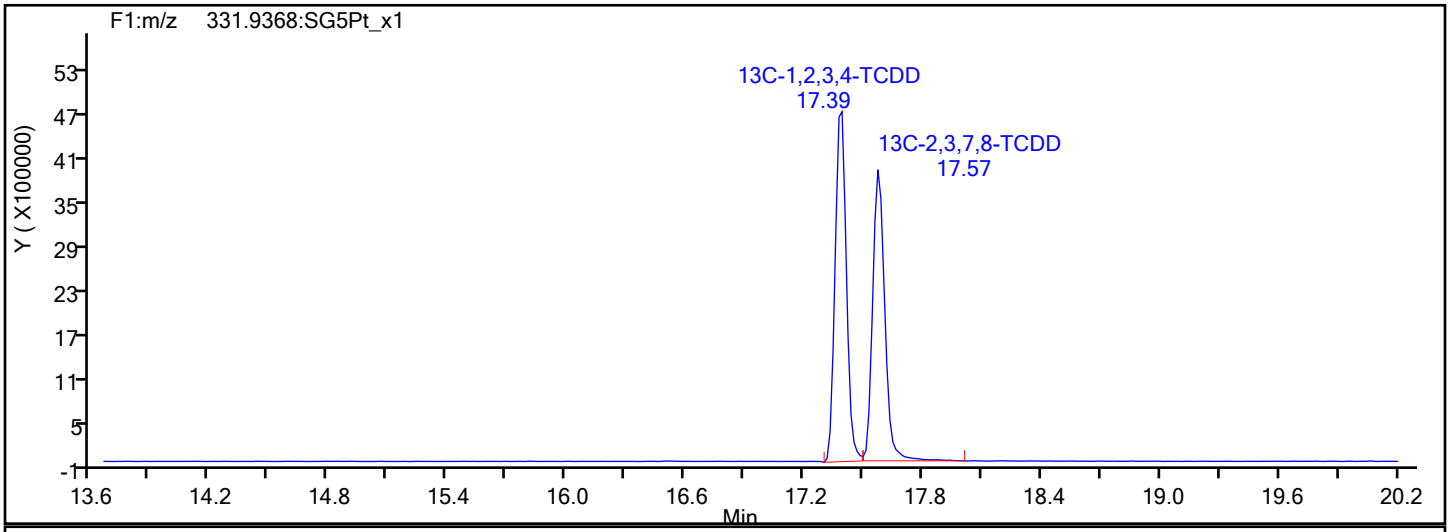

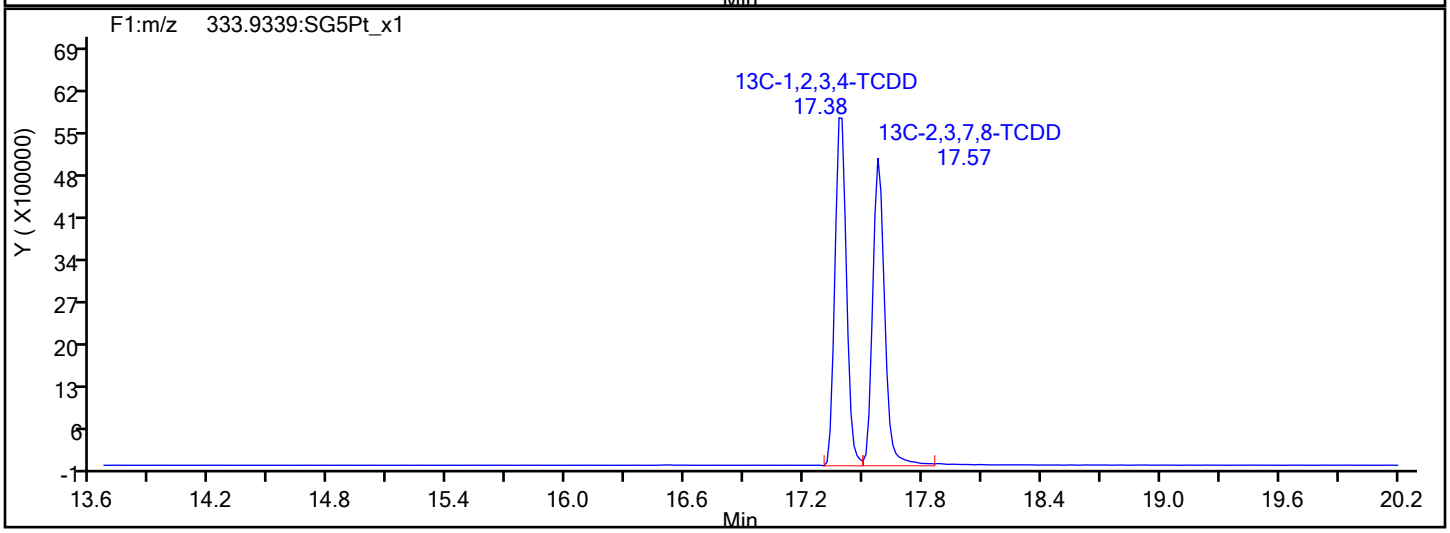

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

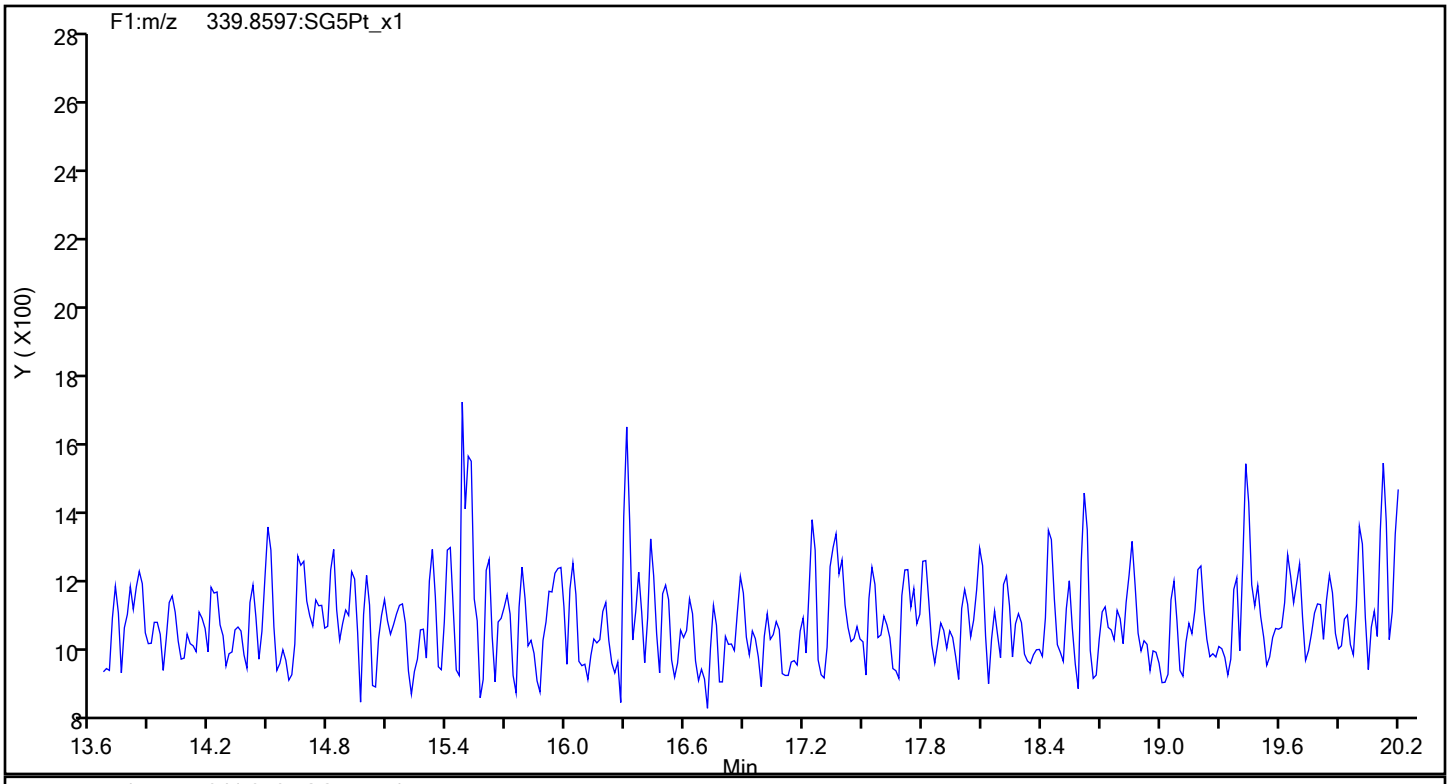

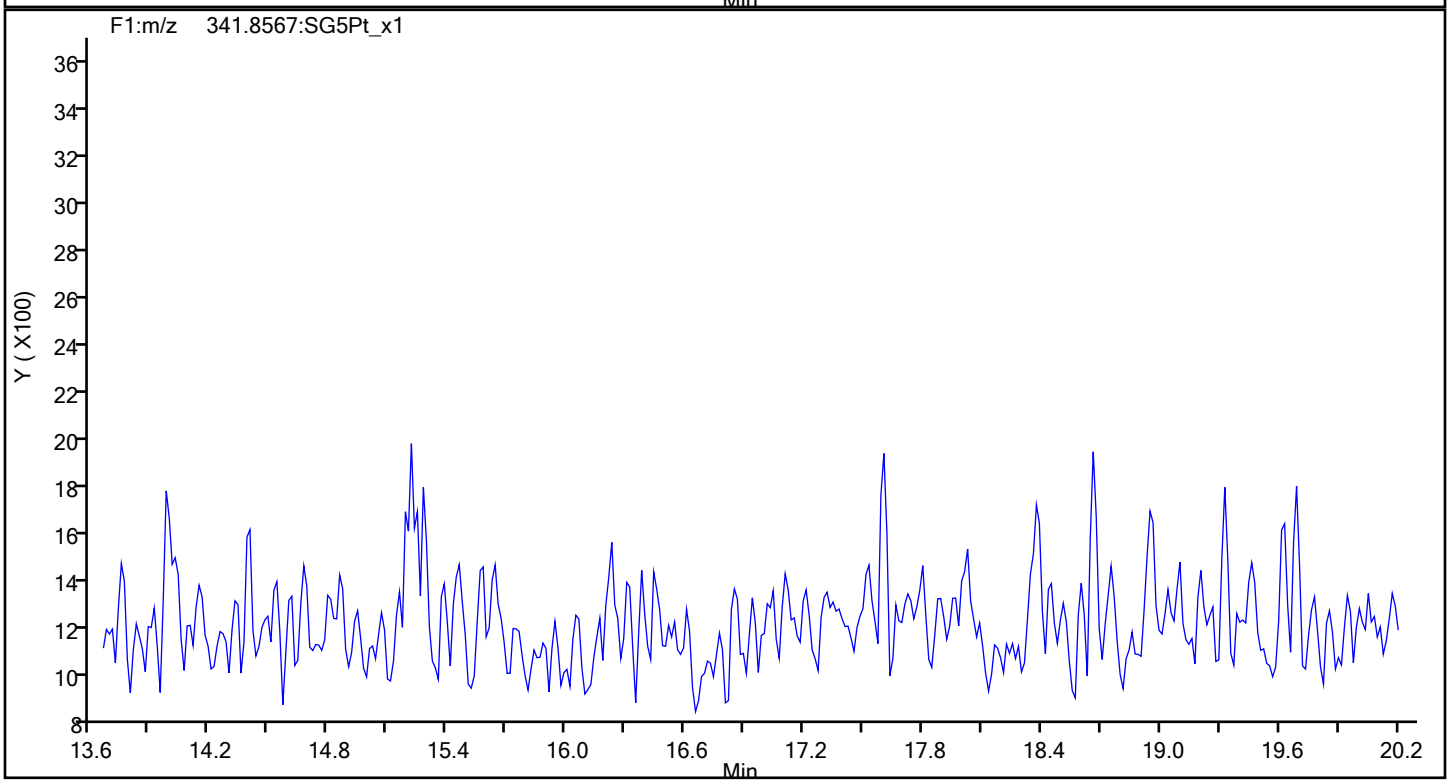

Report Date: 30-Jan-2020 09:11:56 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_10.d		
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Client ID:			
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F1 PeCDFs

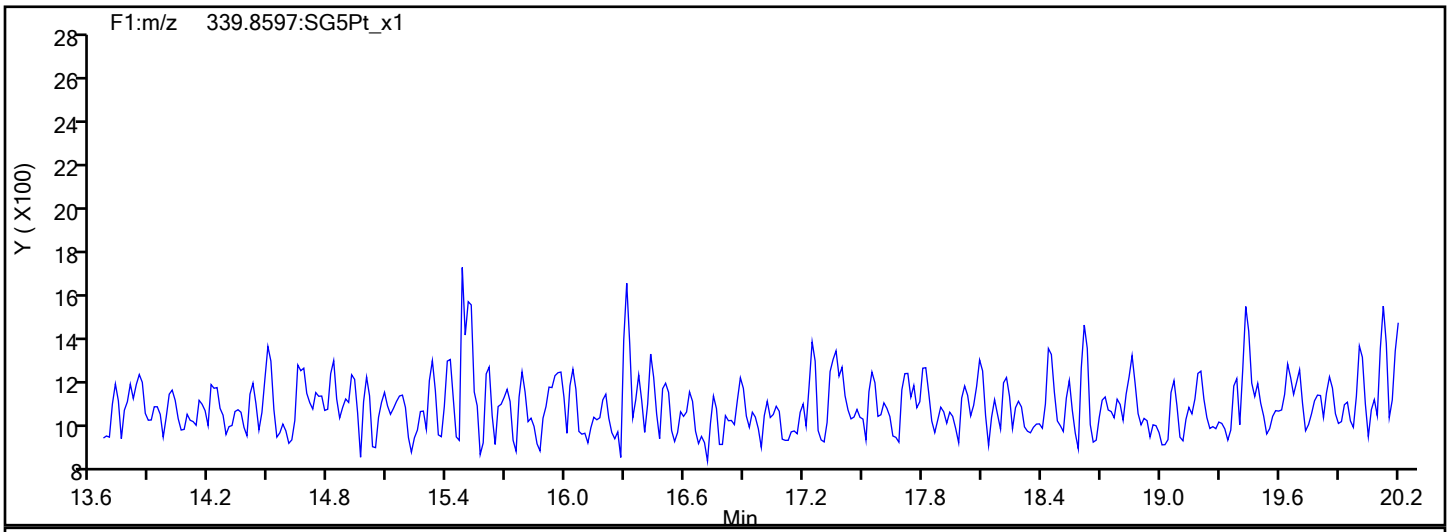

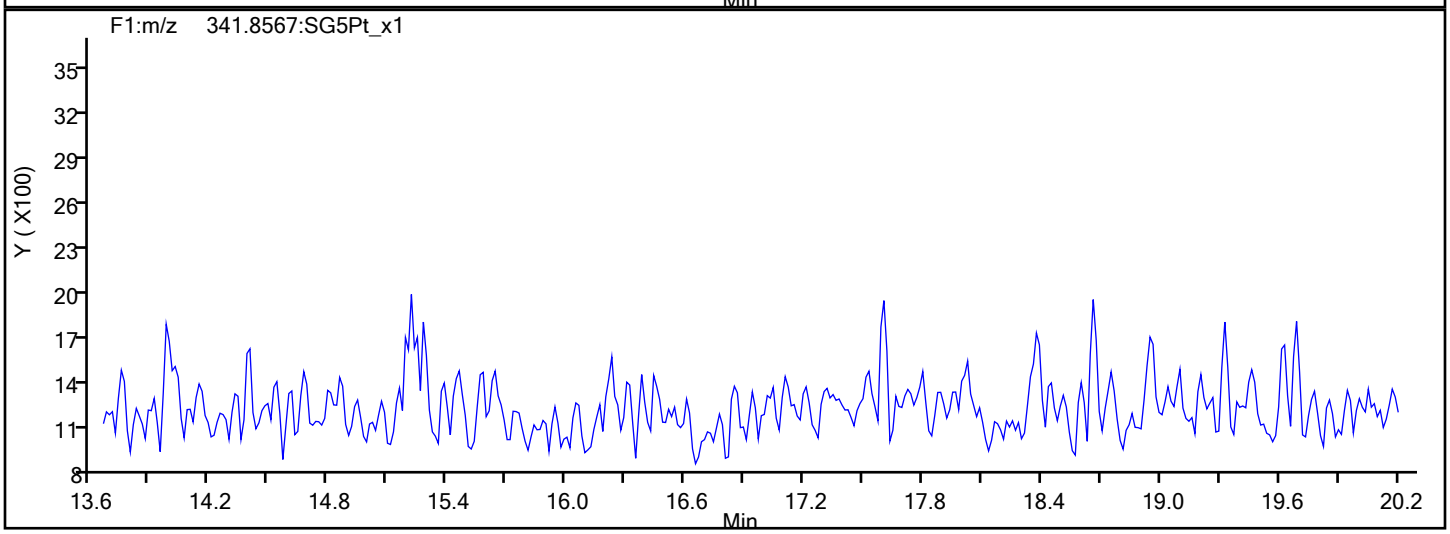

F1 PeCDFs Interference Mass

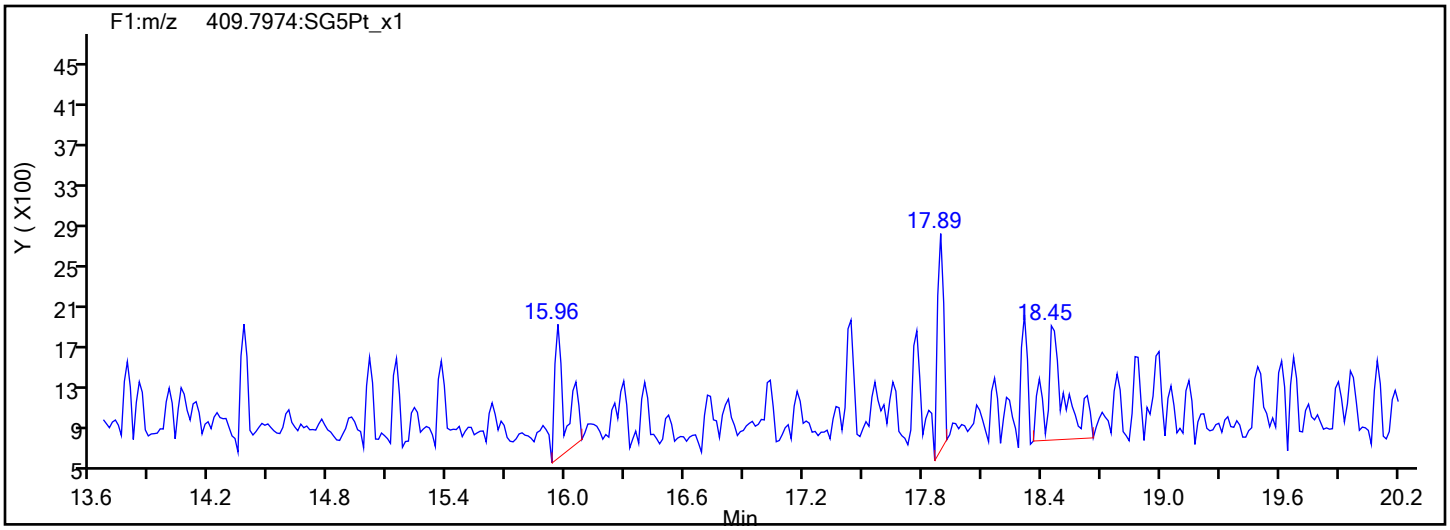

Report Date: 30-Jan-2020 09:11:56 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_10.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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PeCDF

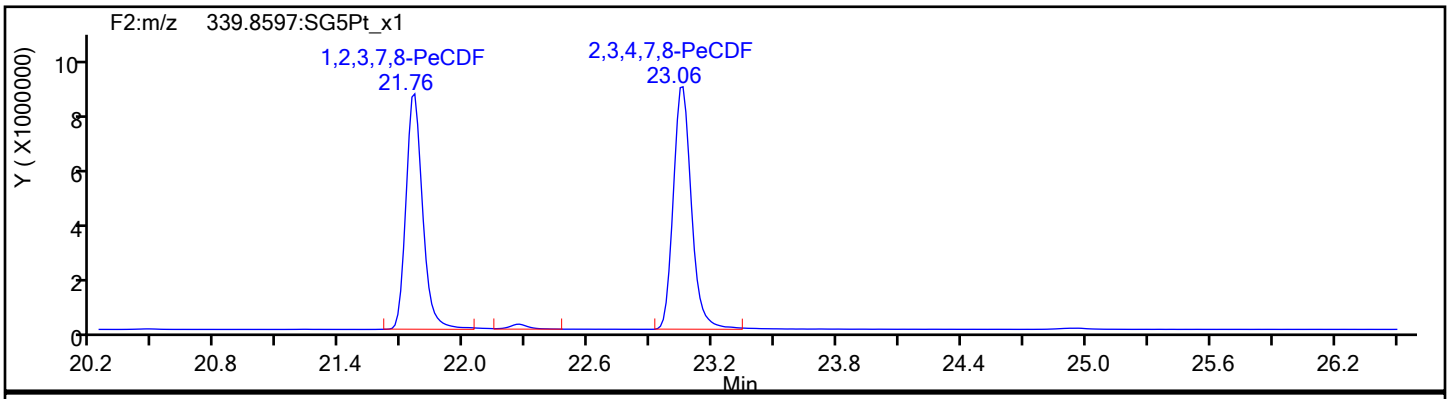

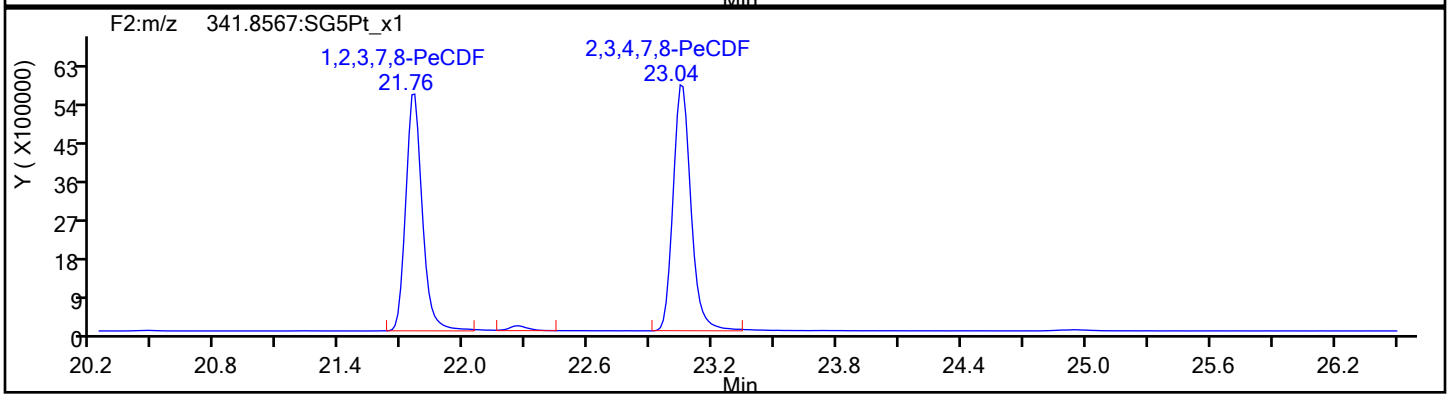

PeCDF Standards

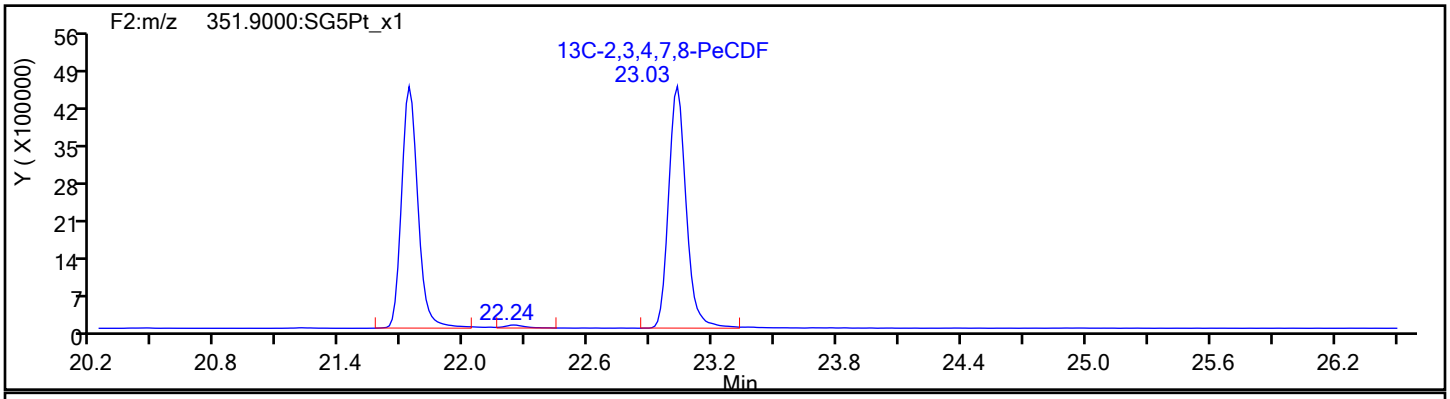

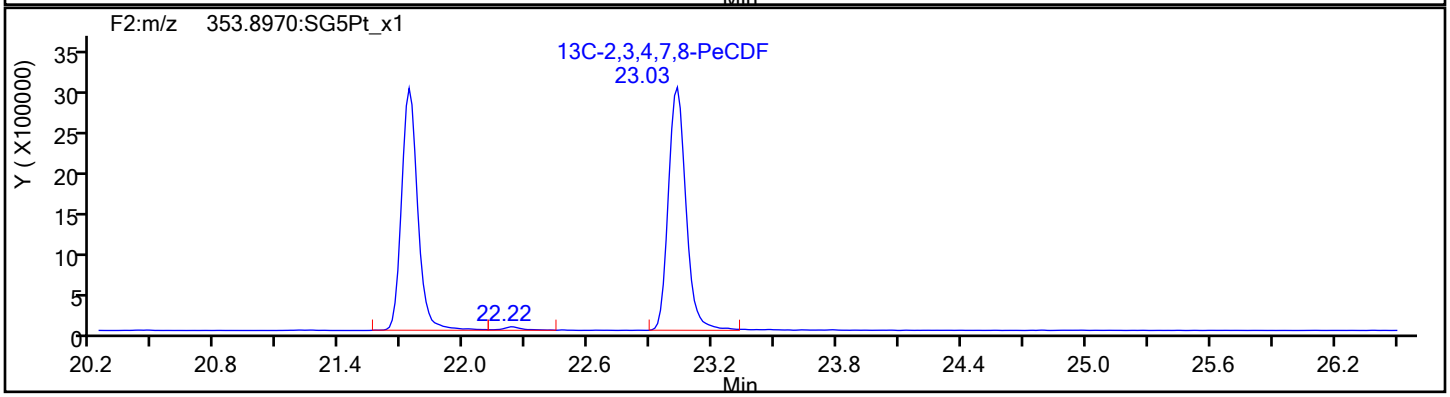

Report Date: 30-Jan-2020 09:11:56 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_10.d		
Injection Date:	30-Jan-2020 06:35:07	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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PeCDF

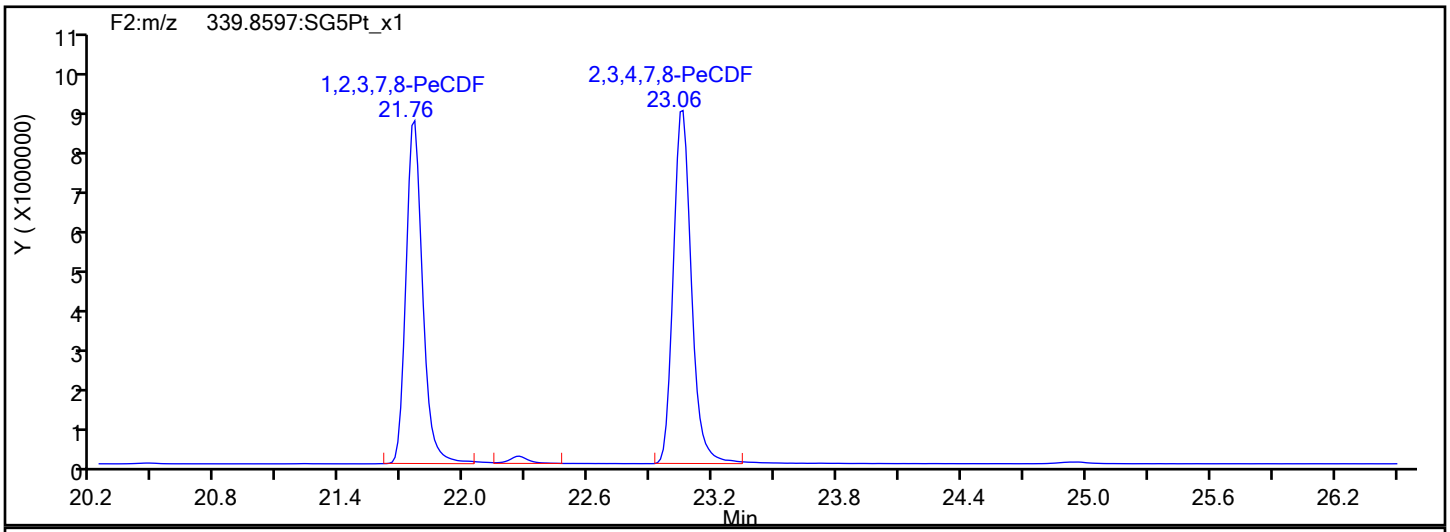

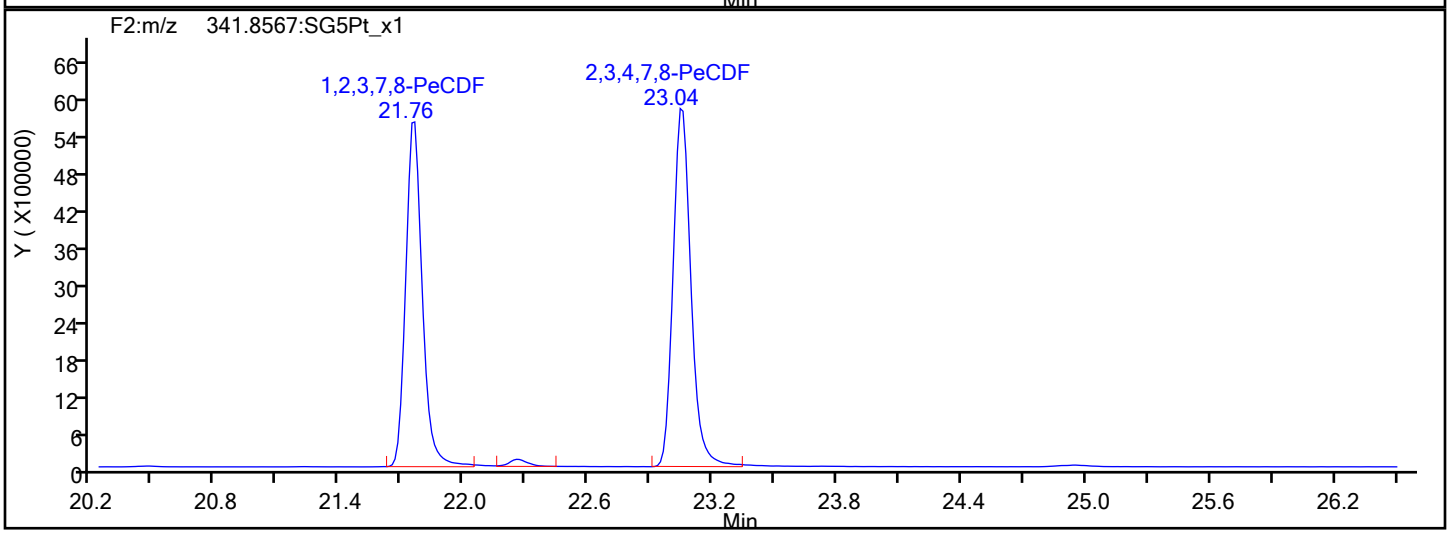

PeCDF Interference Mass

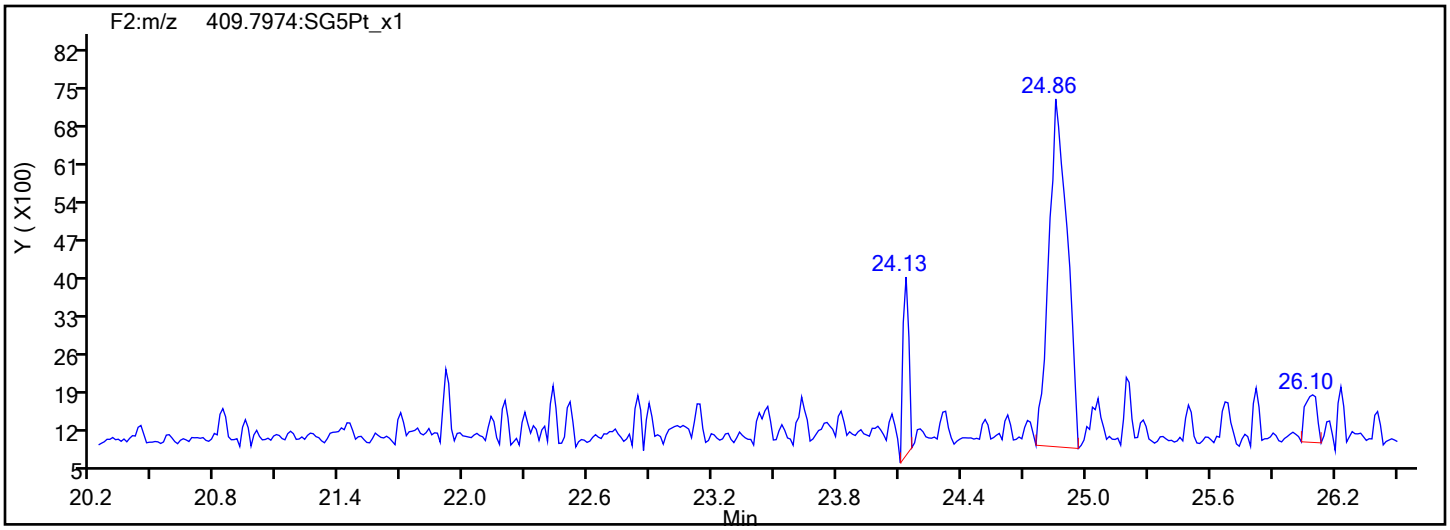

Report Date: 30-Jan-2020 09:11:56 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_10.d		
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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

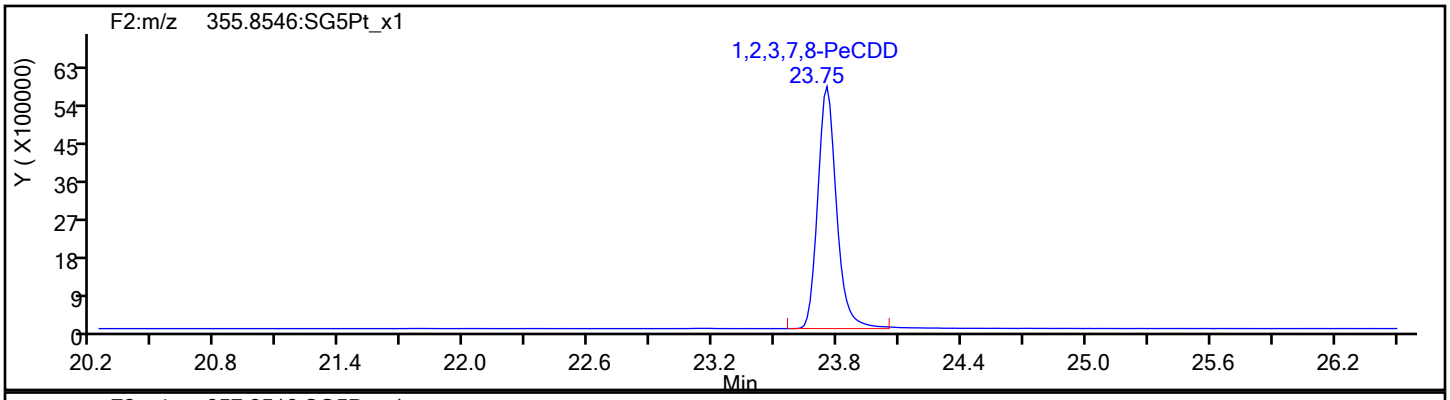

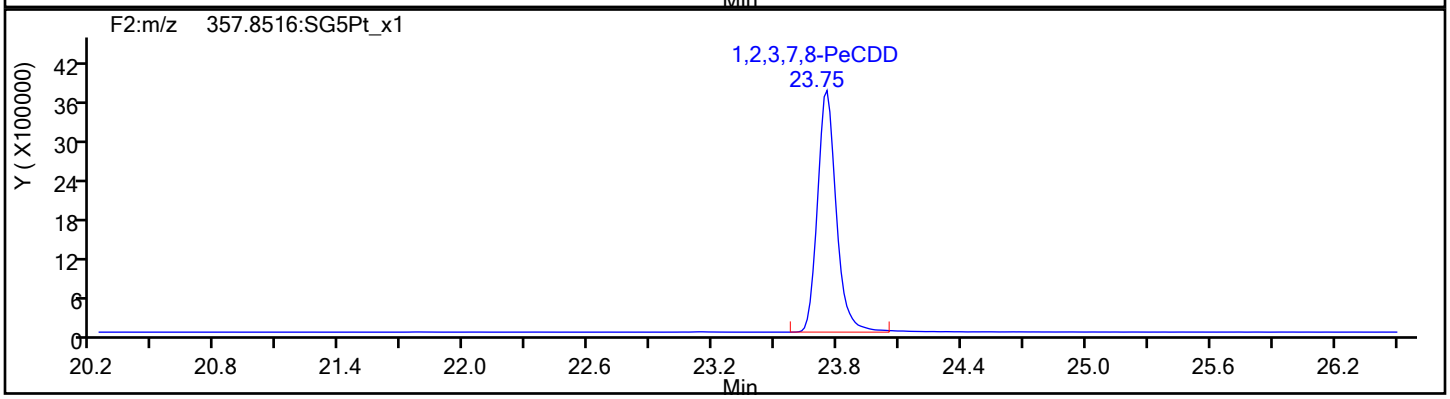

PeCDD Standards

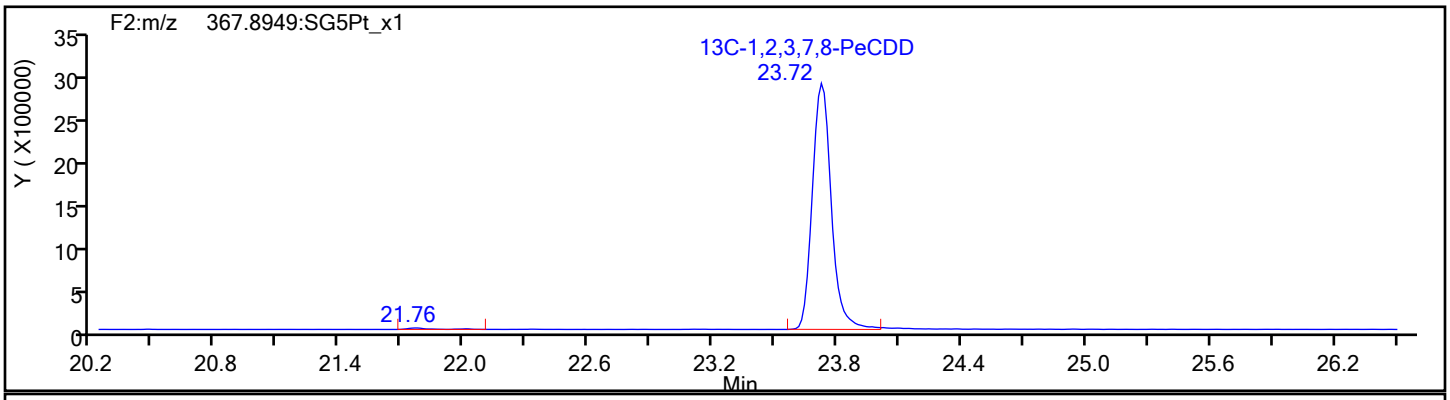

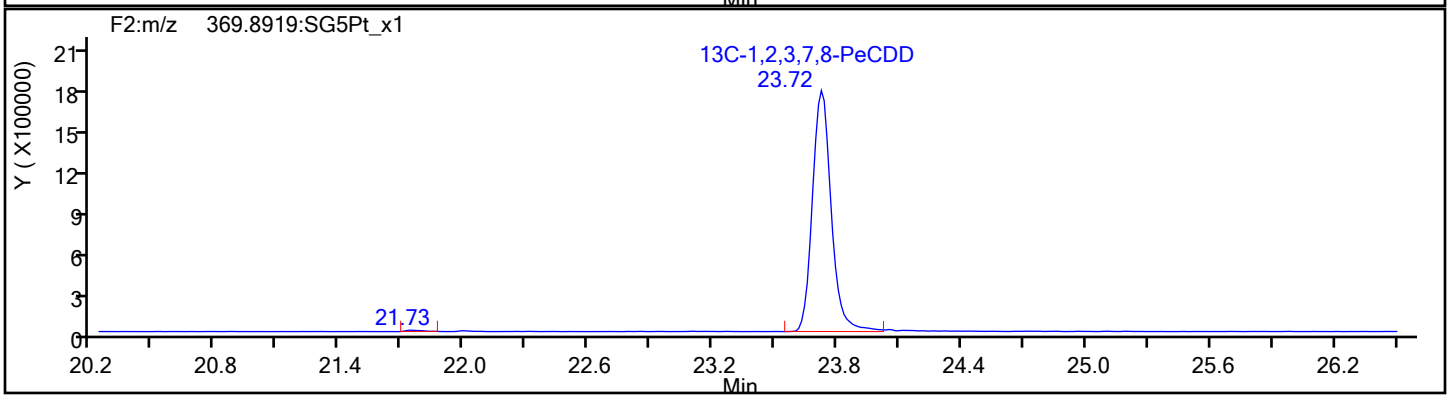

Report Date: 30-Jan-2020 09:11:56 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Injection Date:	30-Jan-2020 06:35:07	Injection Vol:	2.0 ul
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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HxCDF

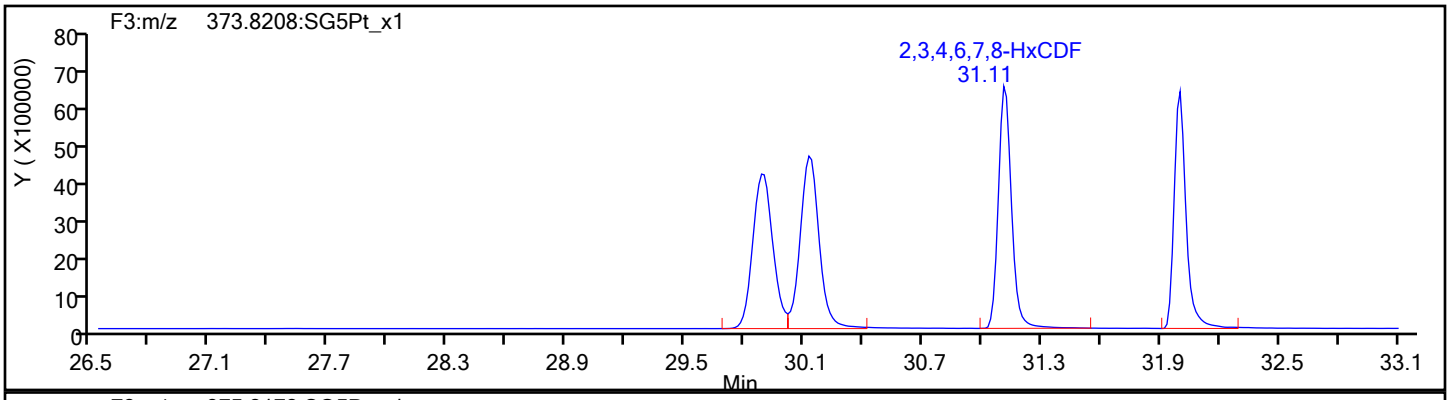

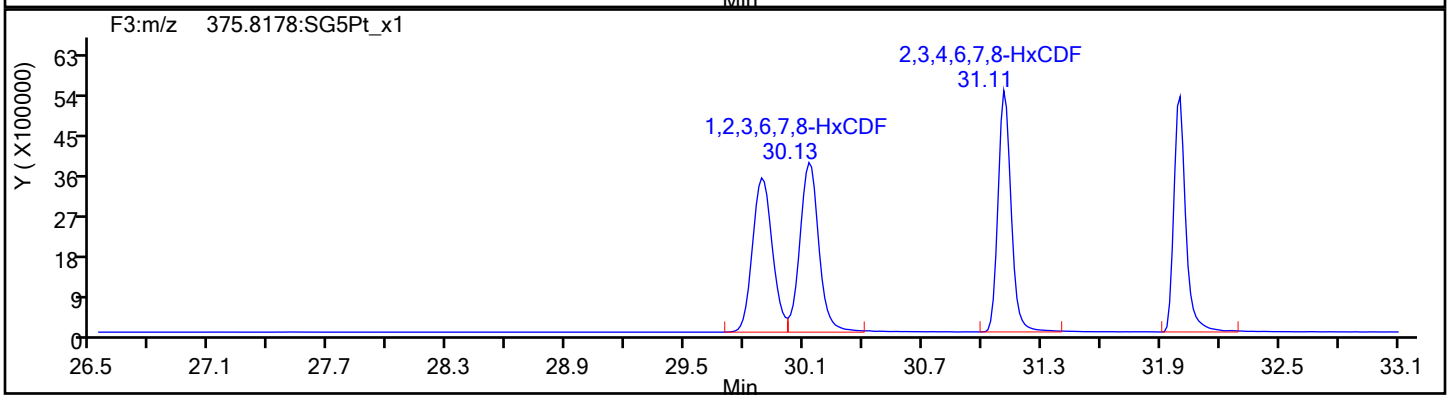

HxCDF Standards

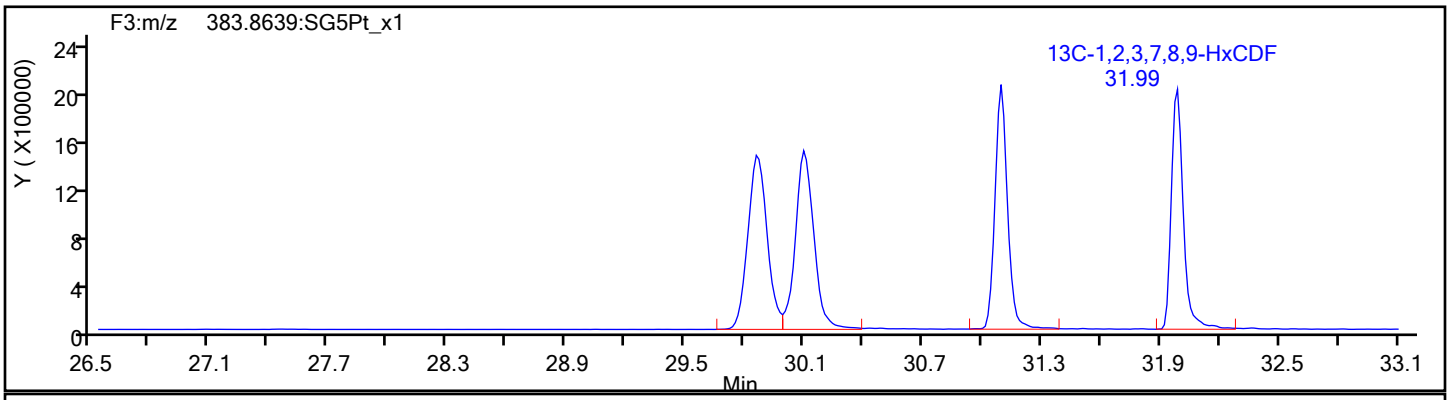

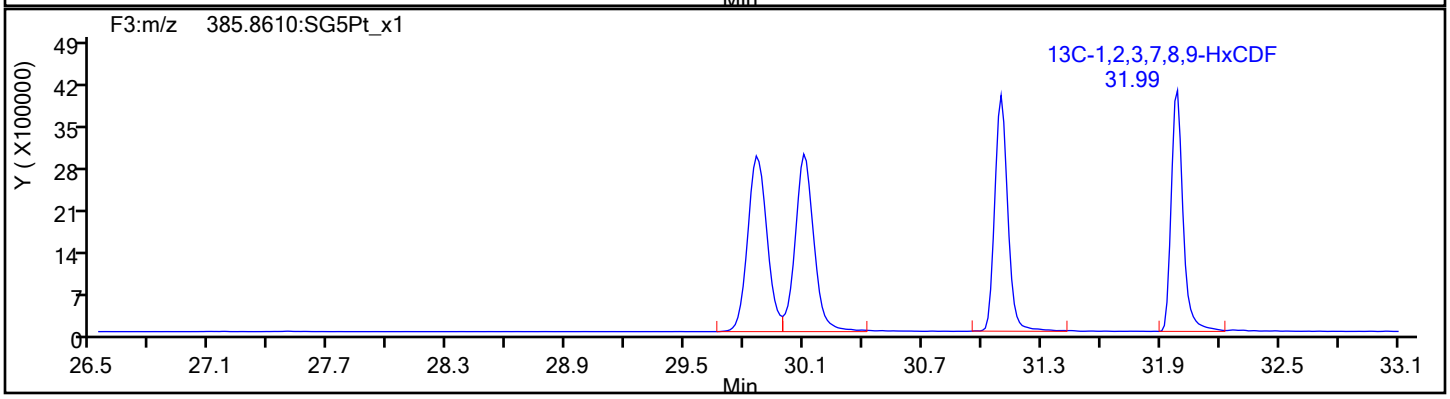

Report Date: 30-Jan-2020 09:11:56 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_10.d		
Injection Date:	30-Jan-2020 06:35:07	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

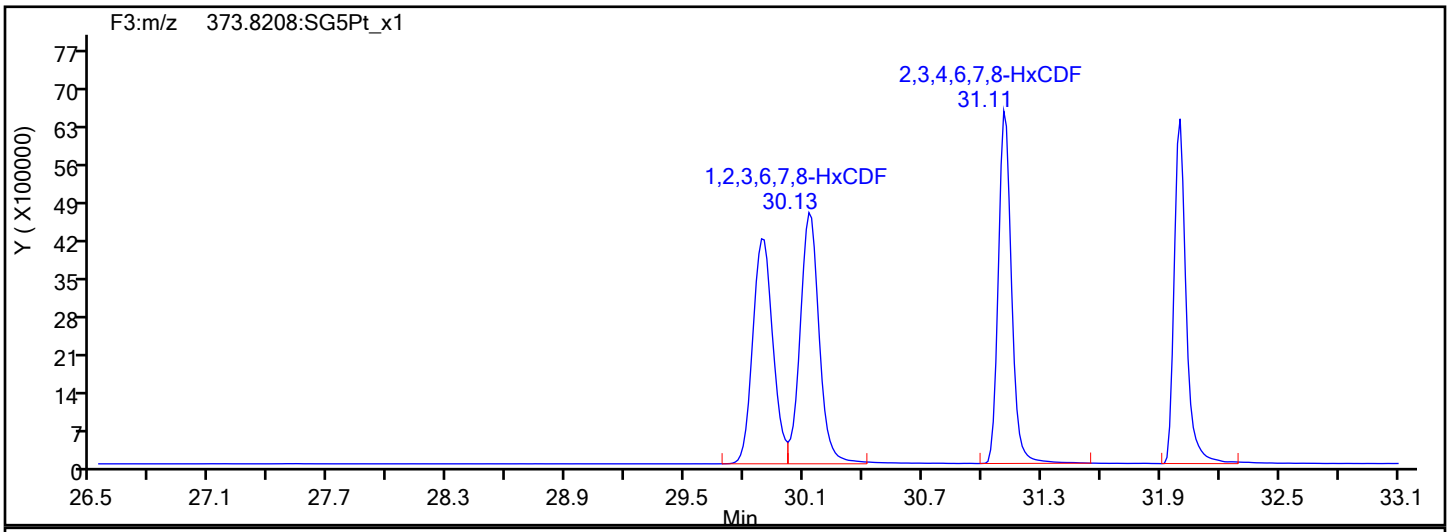

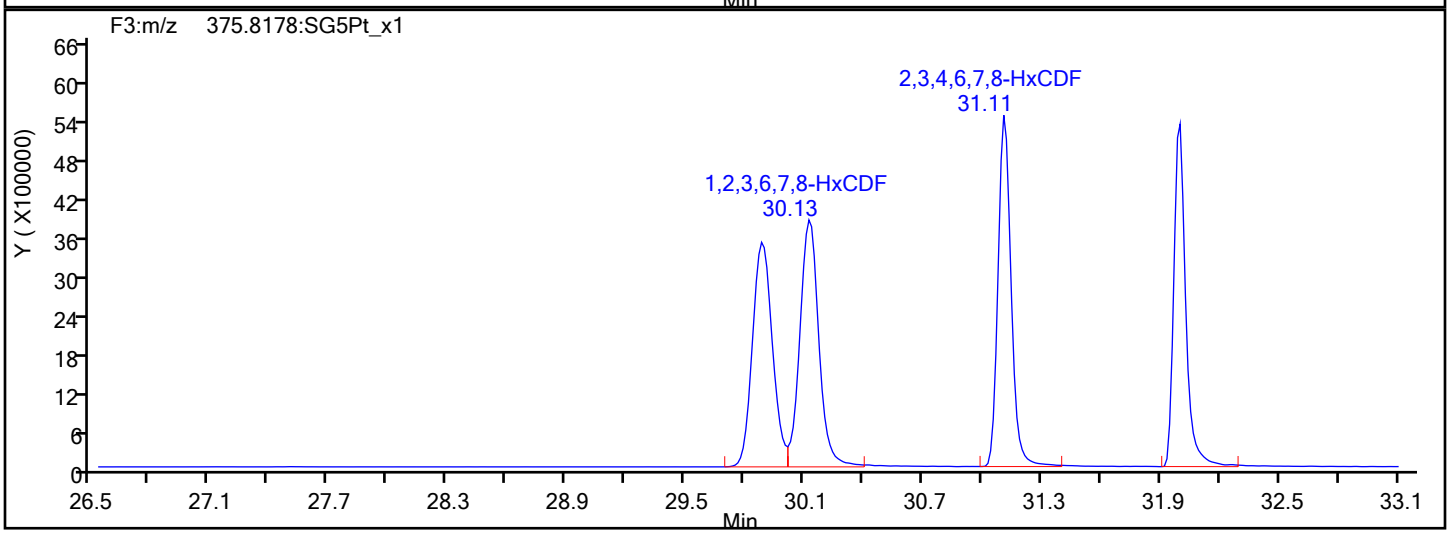

HxCDF Interference Mass

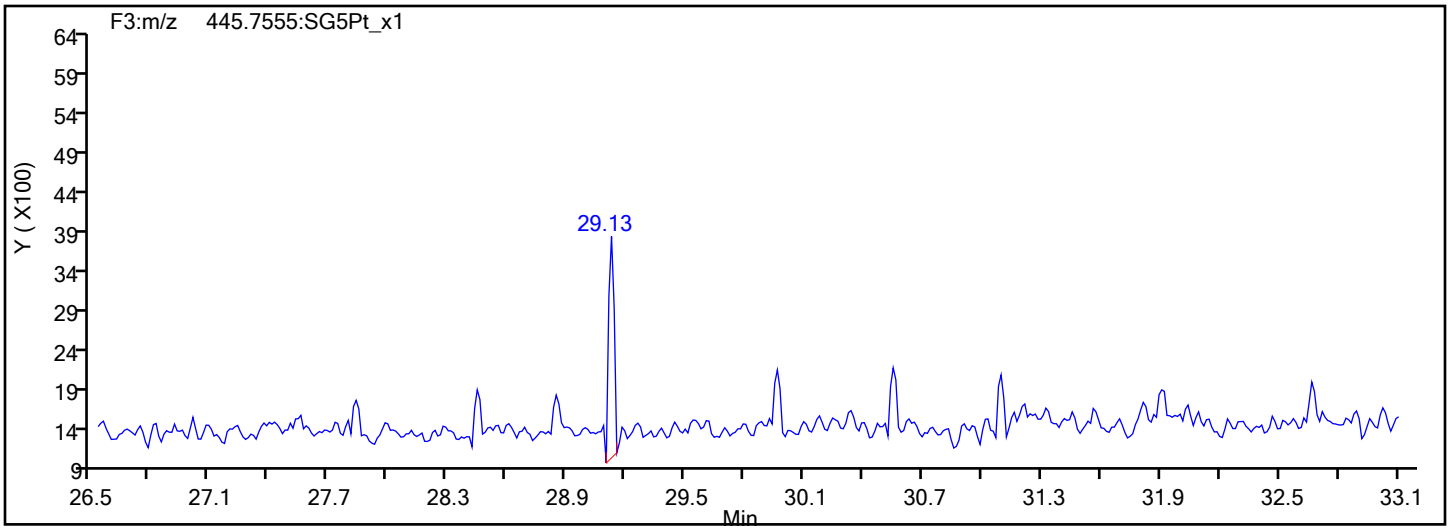

Report Date: 30-Jan-2020 09:11:56 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_10.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDD

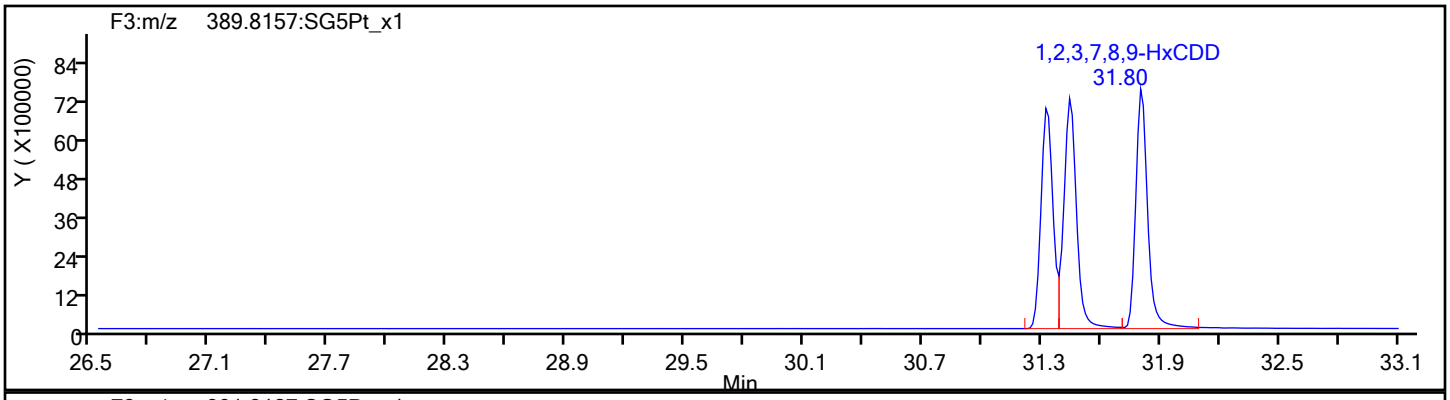

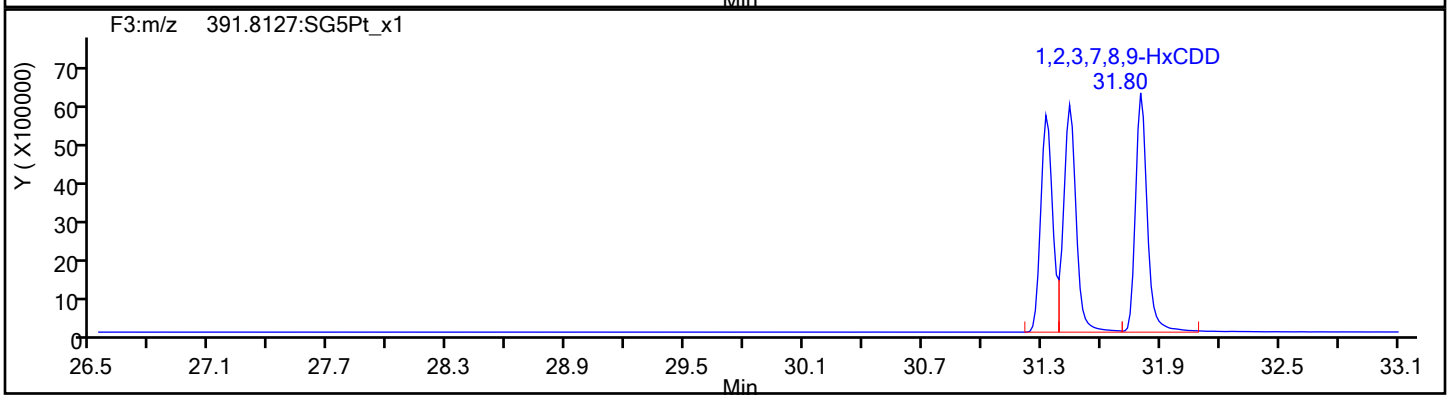

HxCDD Standards

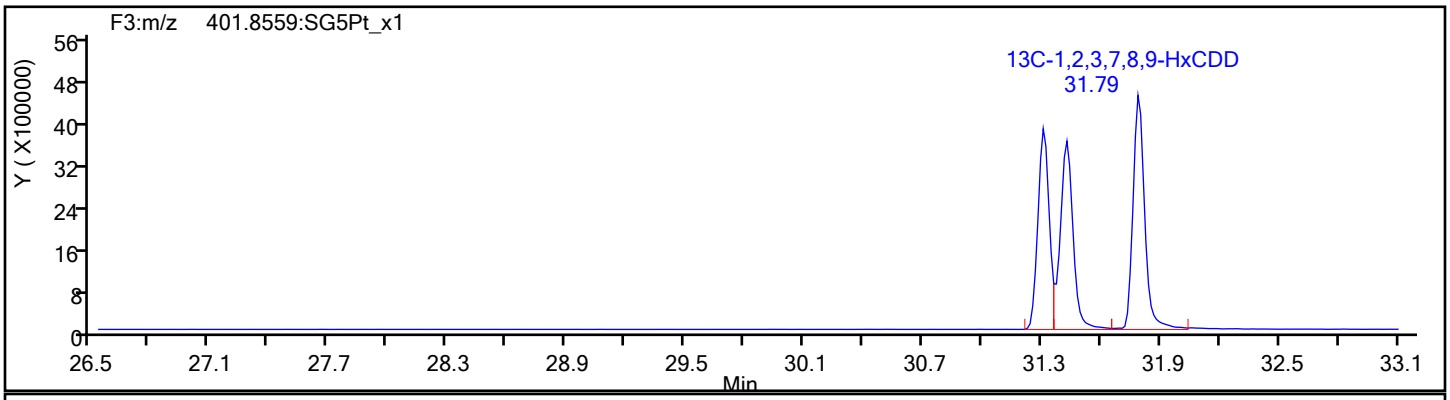

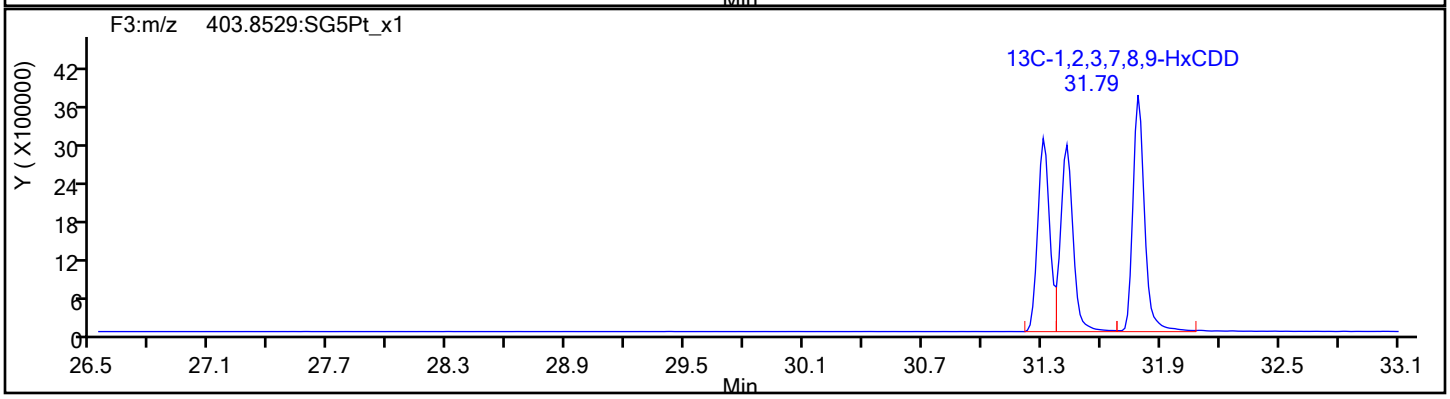

Report Date: 30-Jan-2020 09:11:56 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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HpCDF

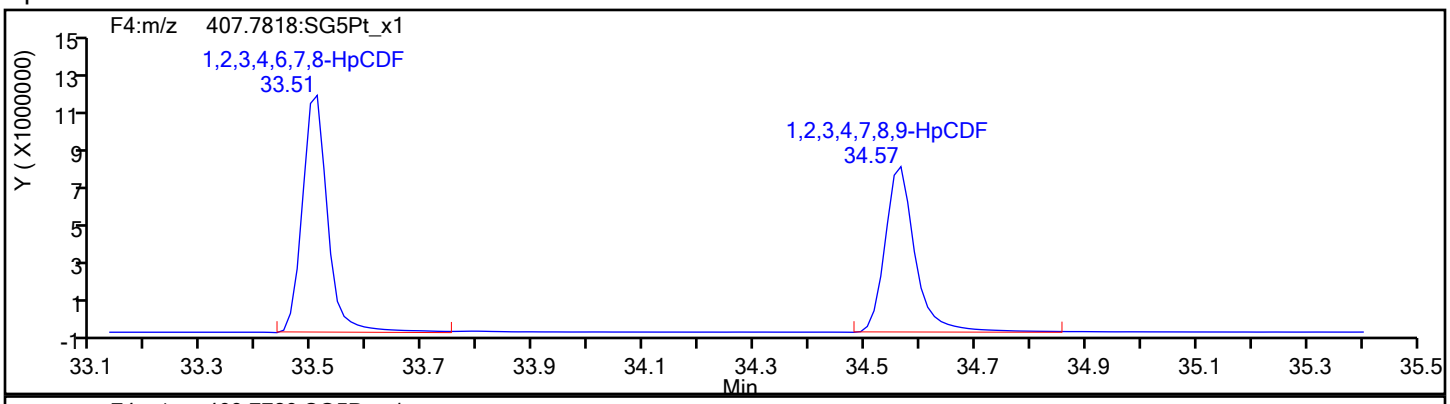

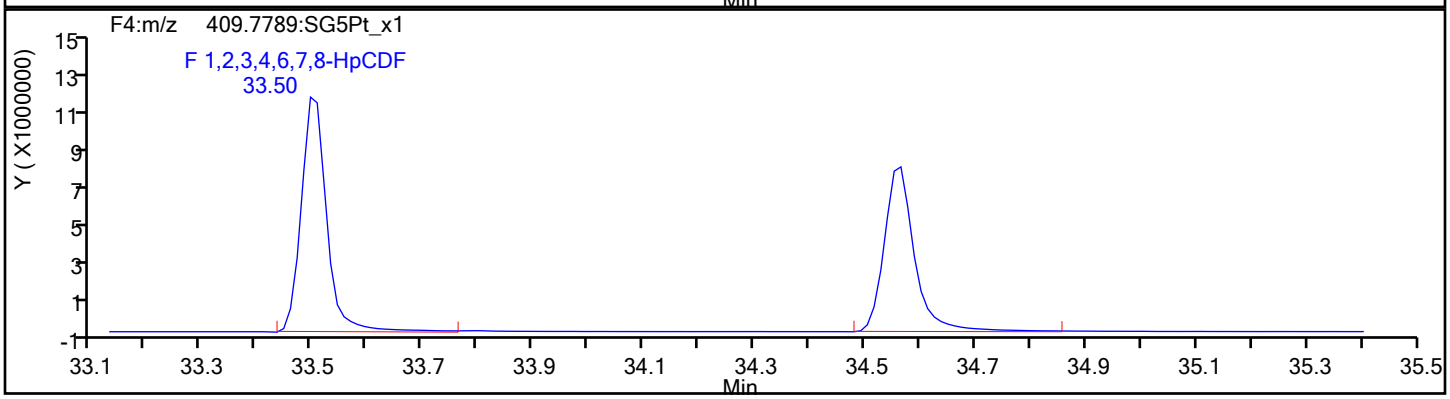

HpCDF Standards

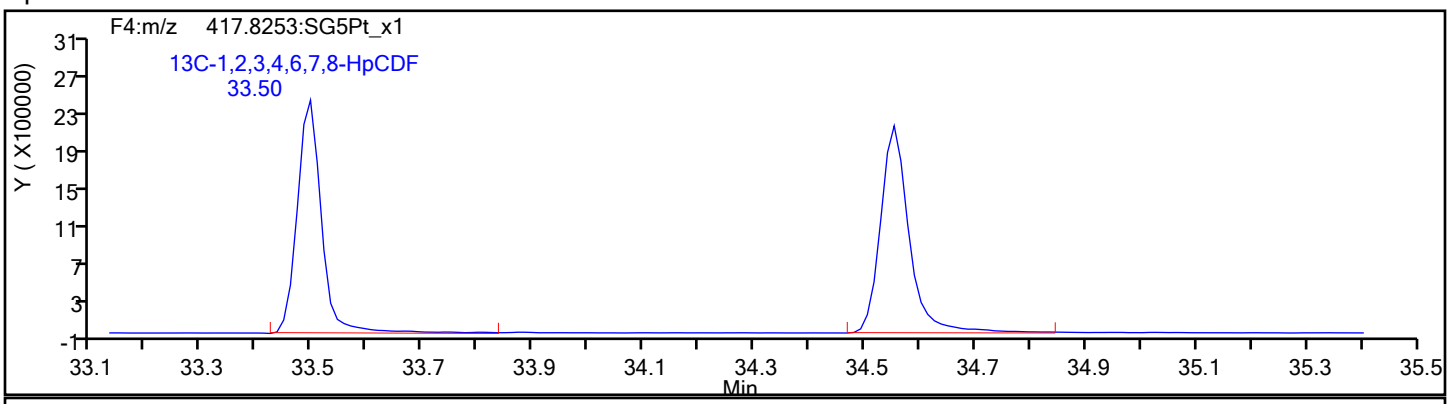

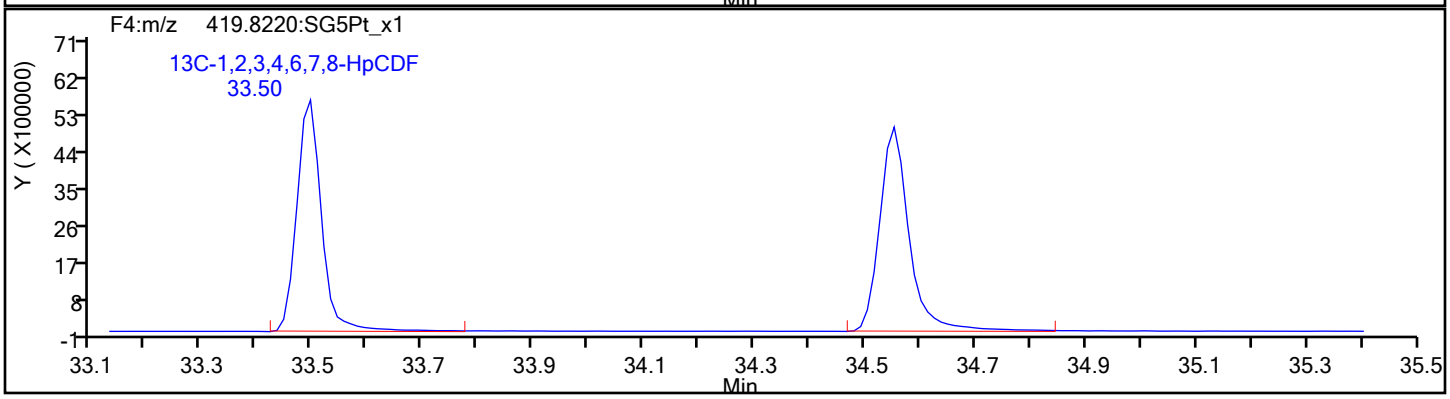

Report Date: 30-Jan-2020 09:11:56 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Client ID:			
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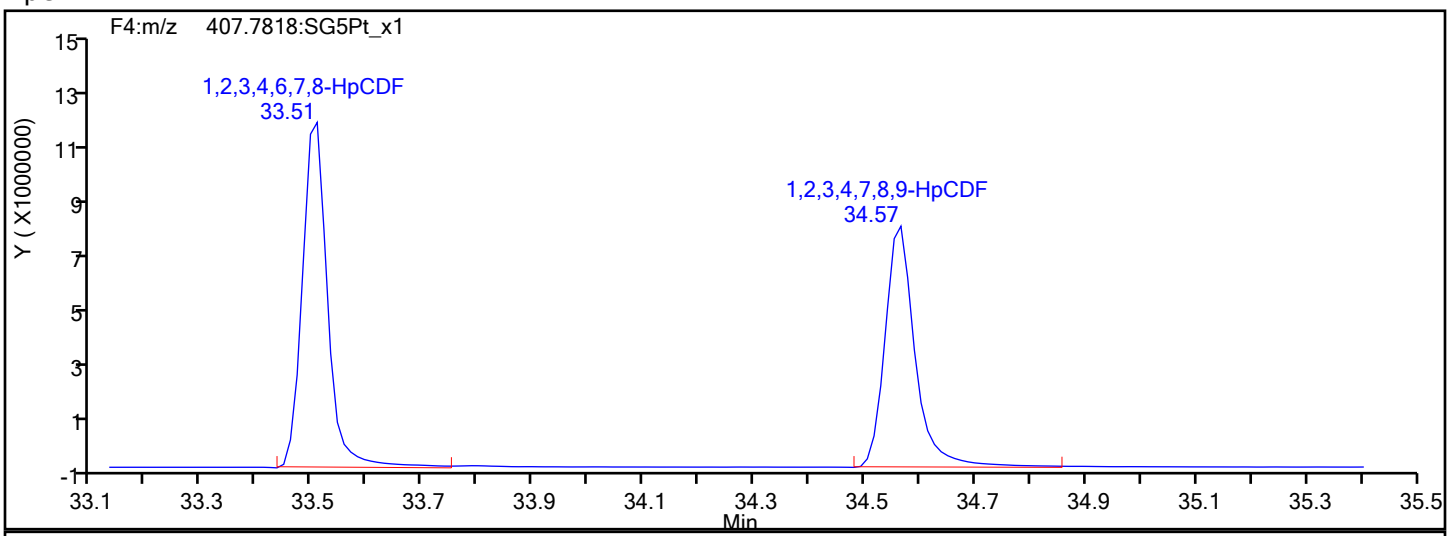

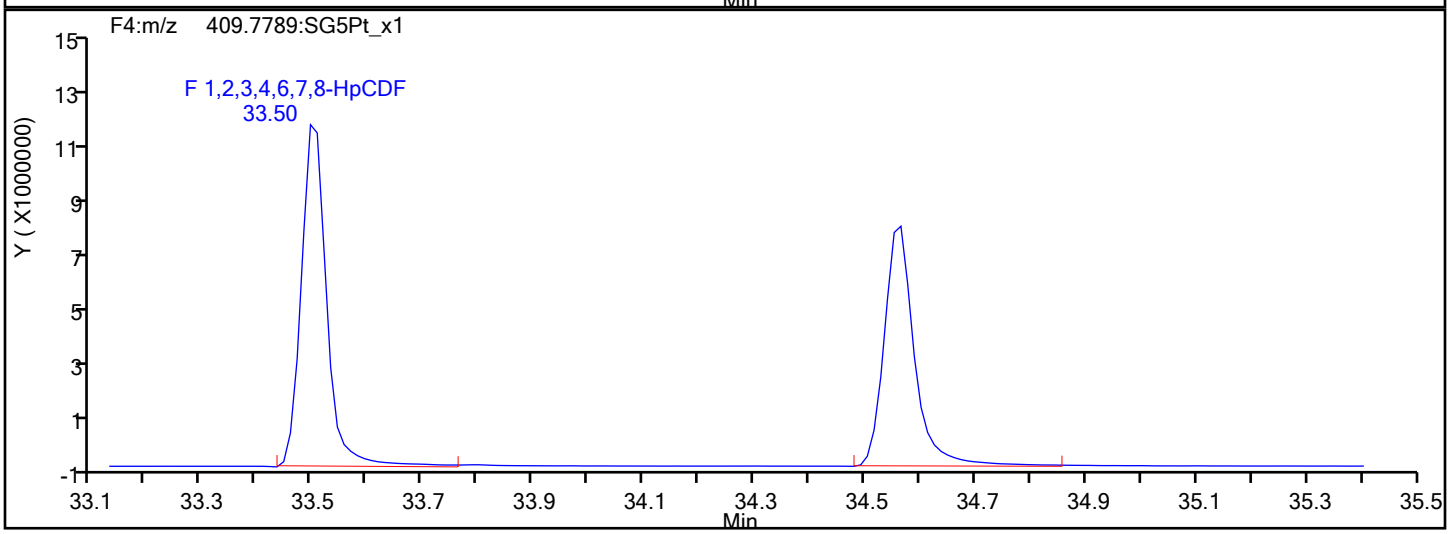

HpCDF Interference Mass

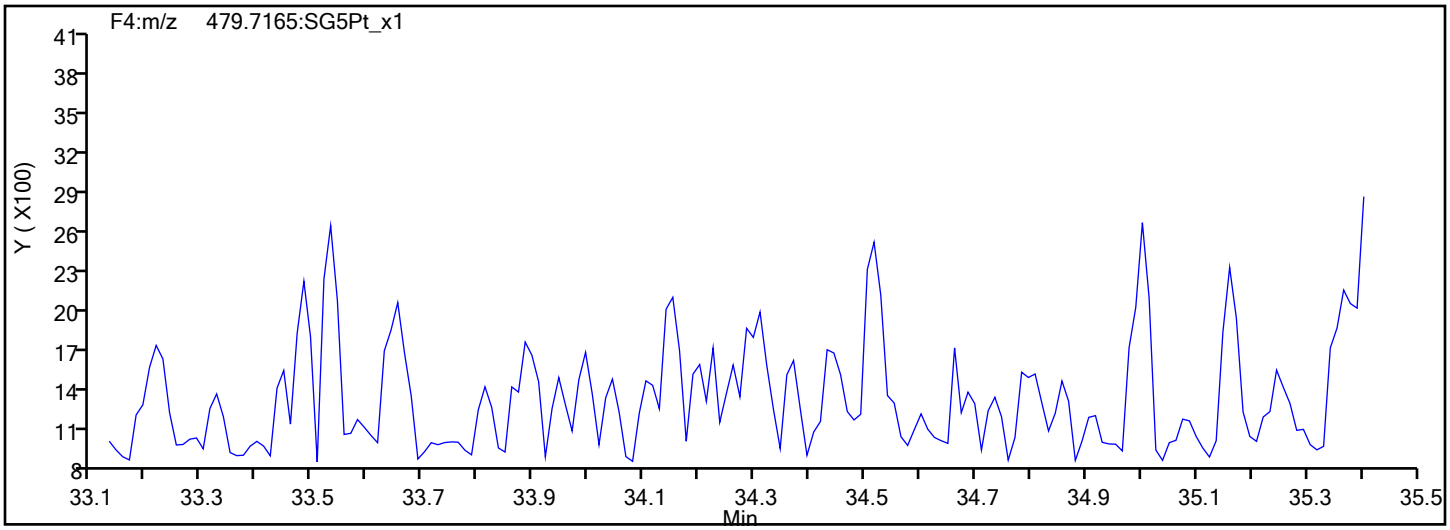

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Eurofins TestAmerica, Sacramento

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HpCDD

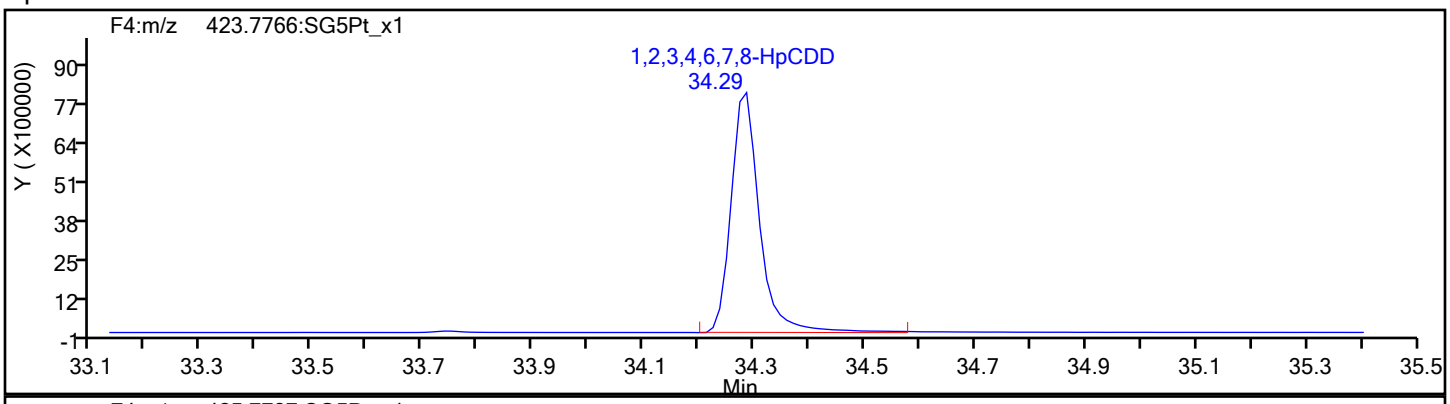

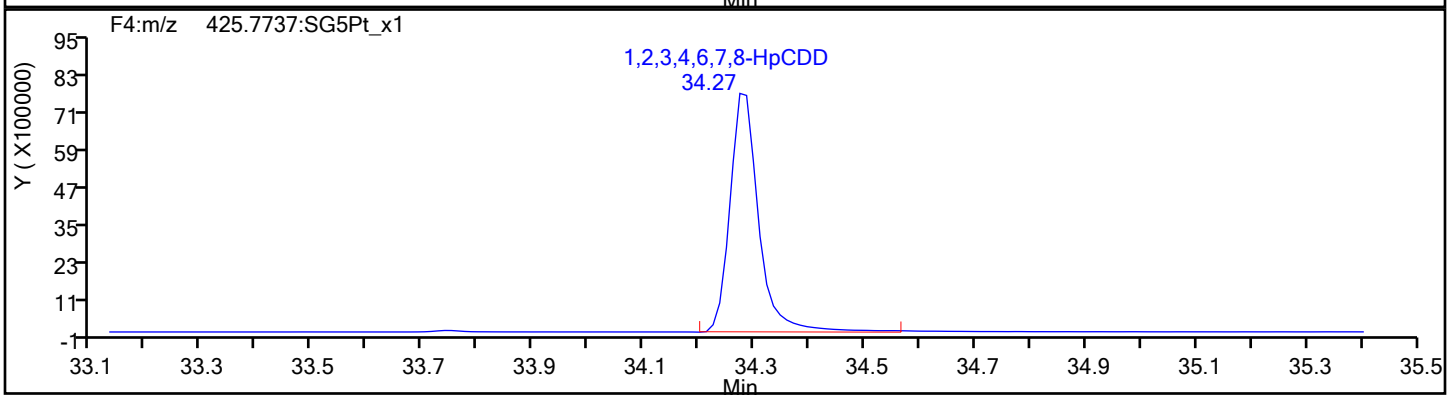

HpCDD Standards

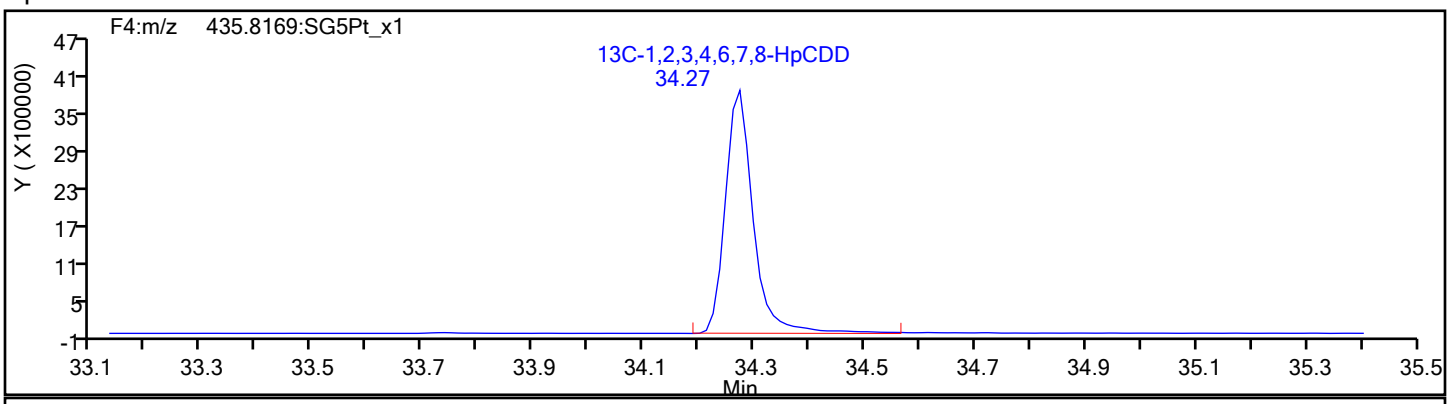

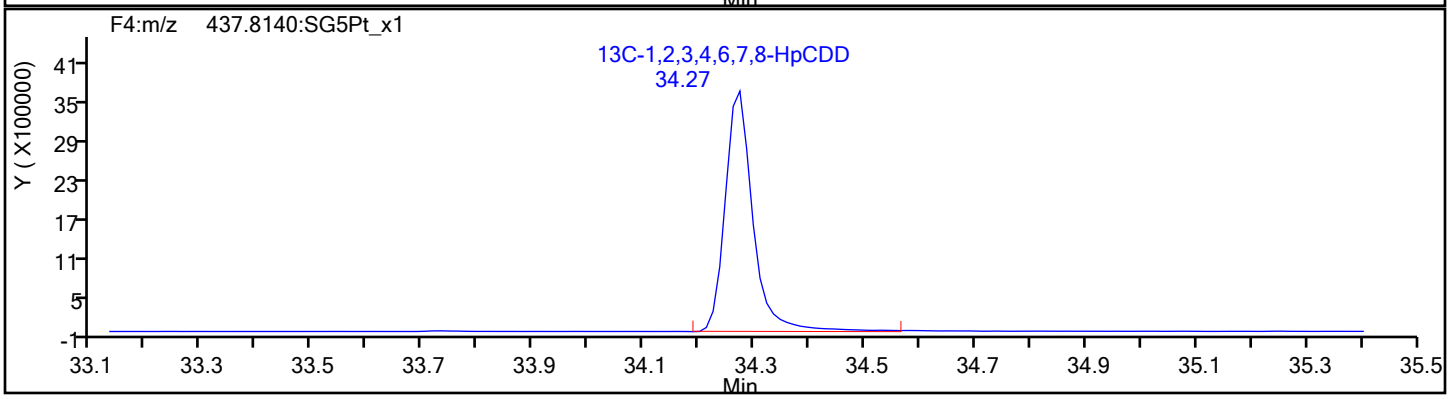

Report Date: 30-Jan-2020 09:11:56 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

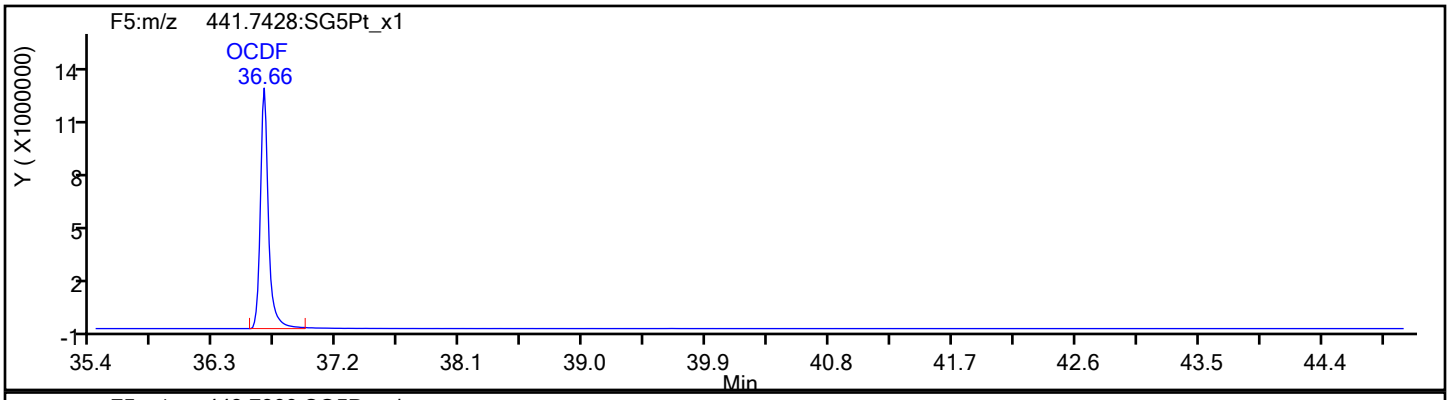

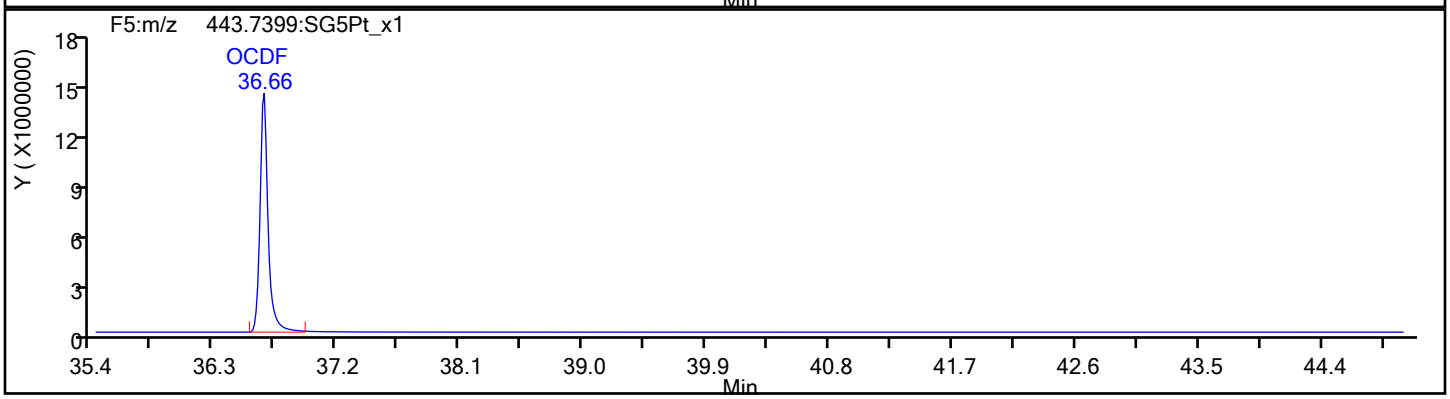

OCDF Standards

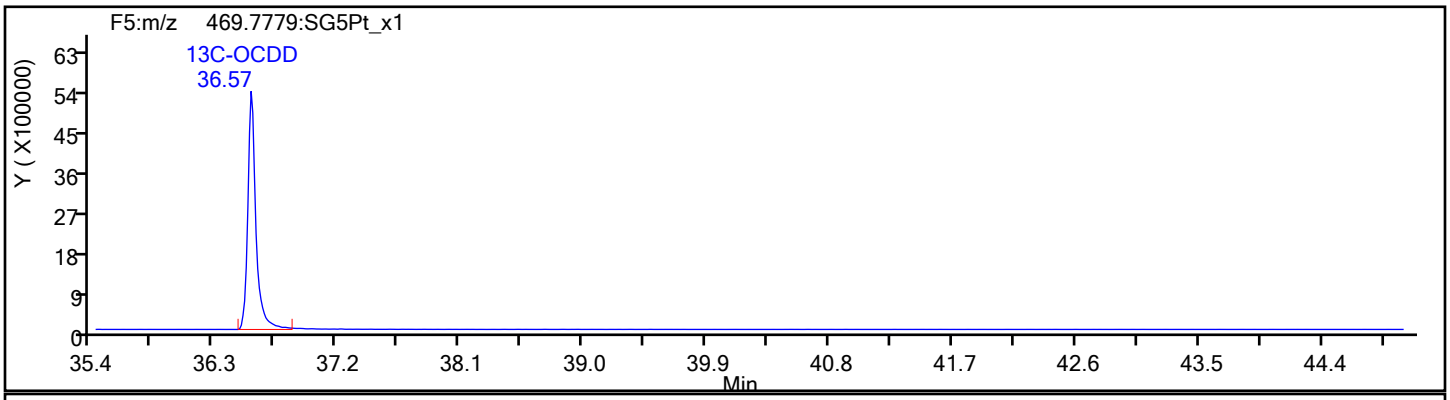

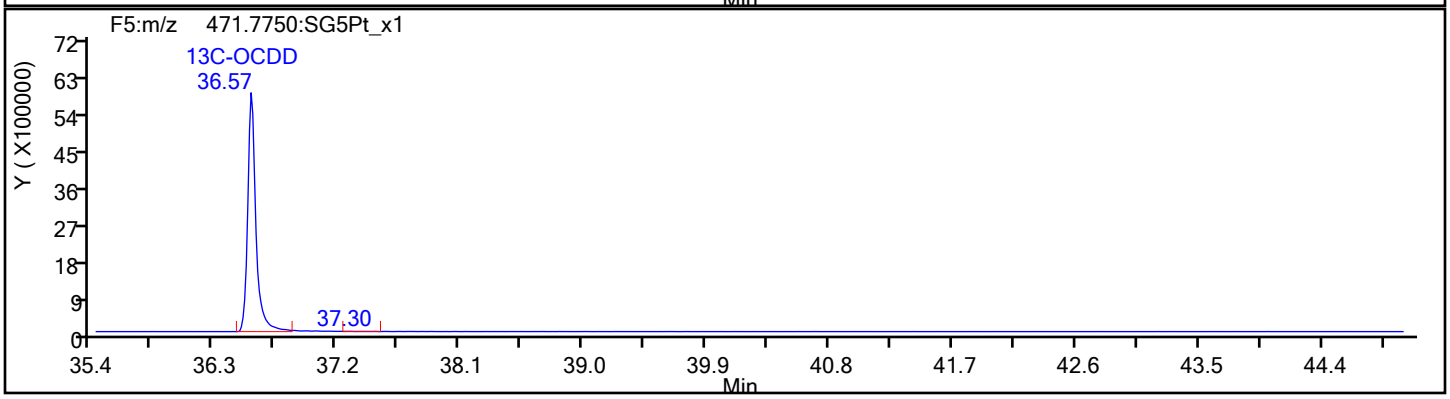

Report Date: 30-Jan-2020 09:11:56 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

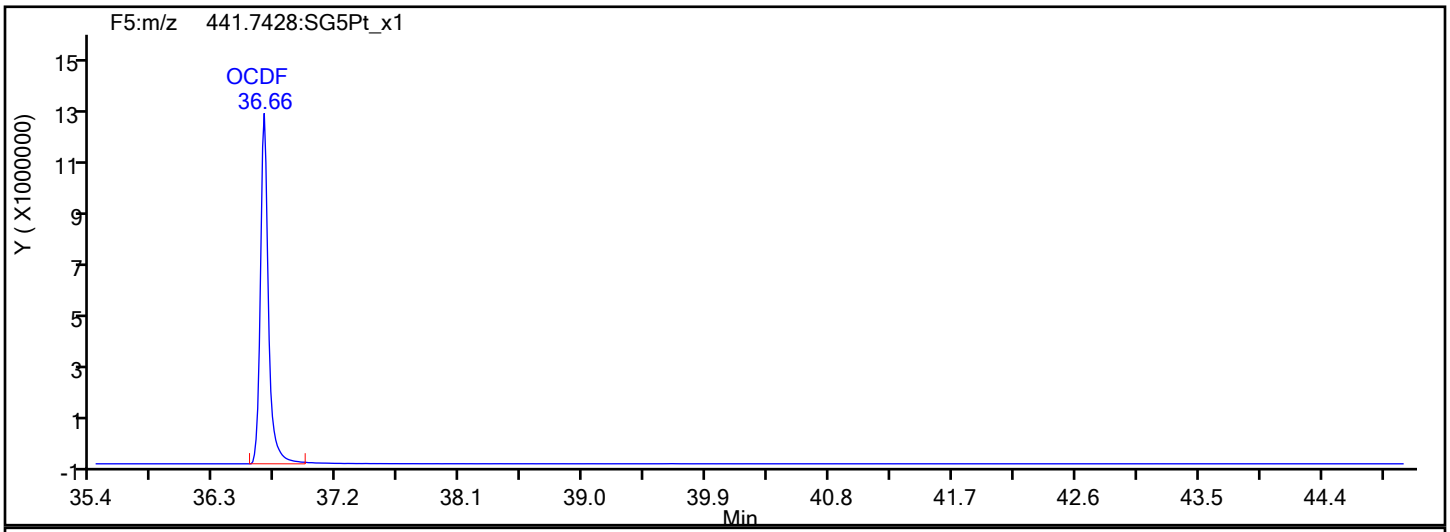

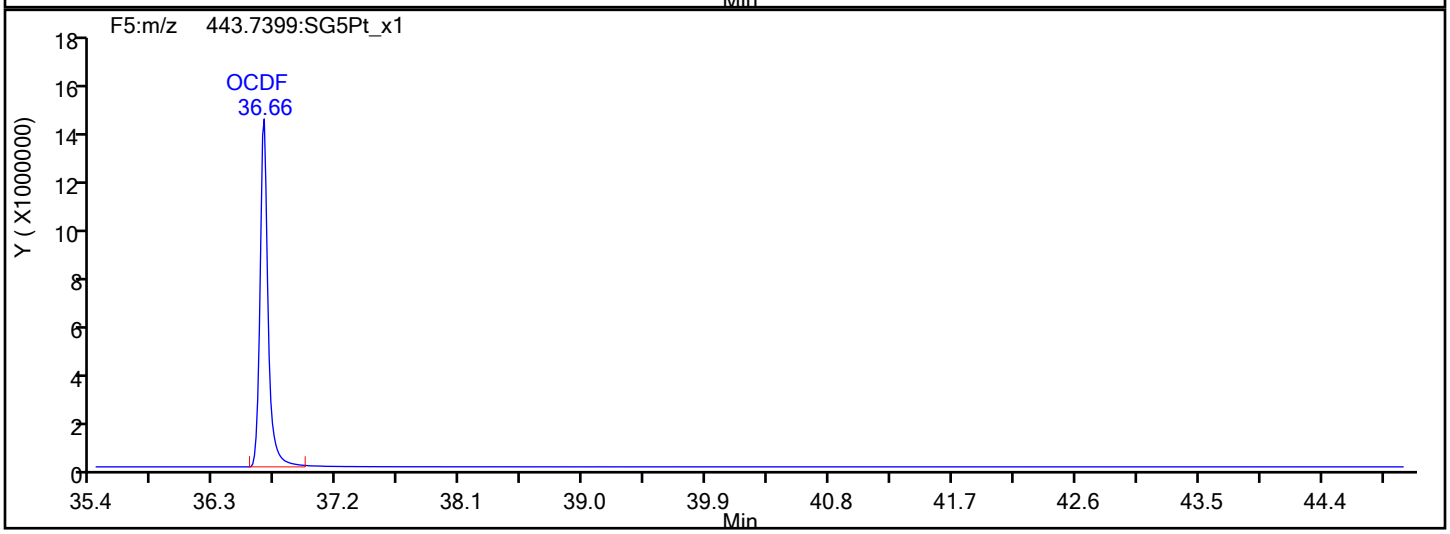

OCDF Interference Mass

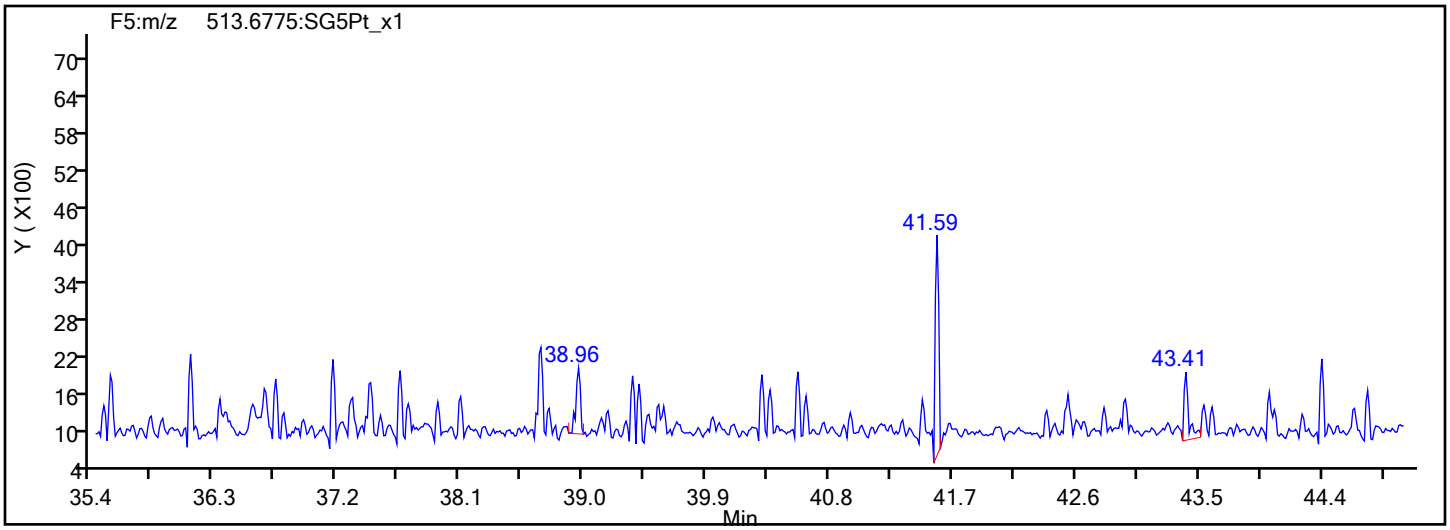

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Eurofins TestAmerica, Sacramento

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OCDD

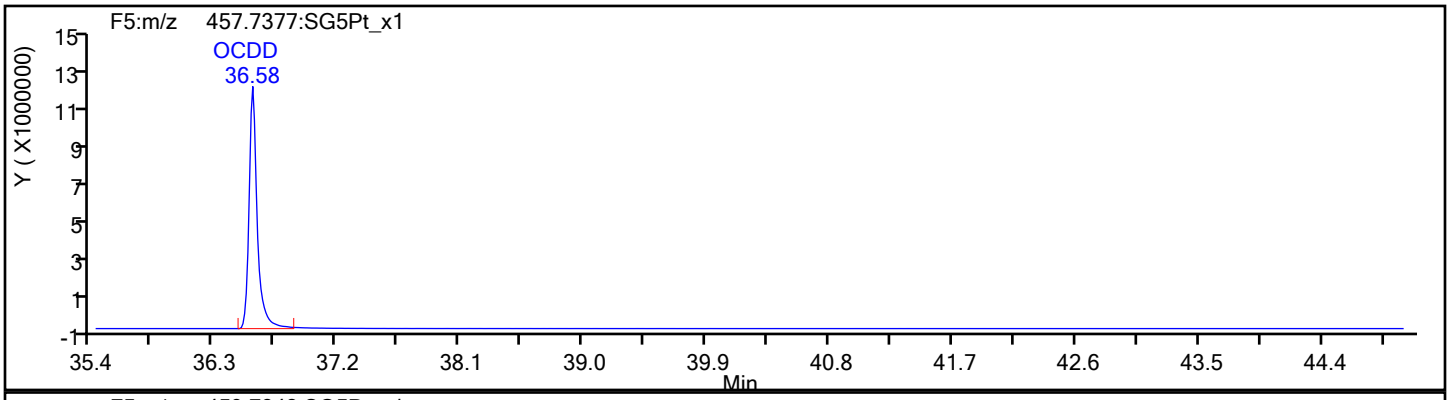

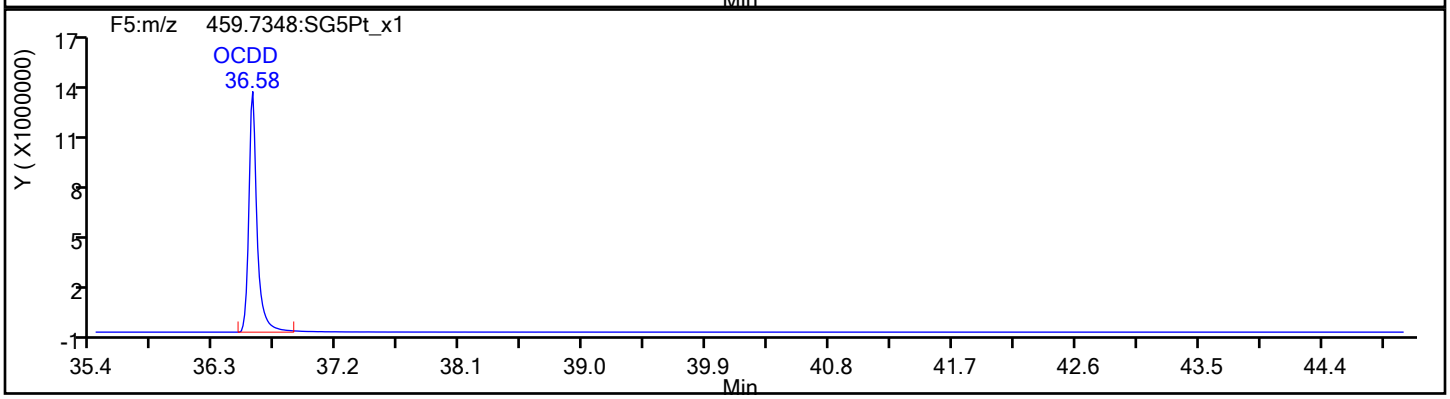

OCDD Standards

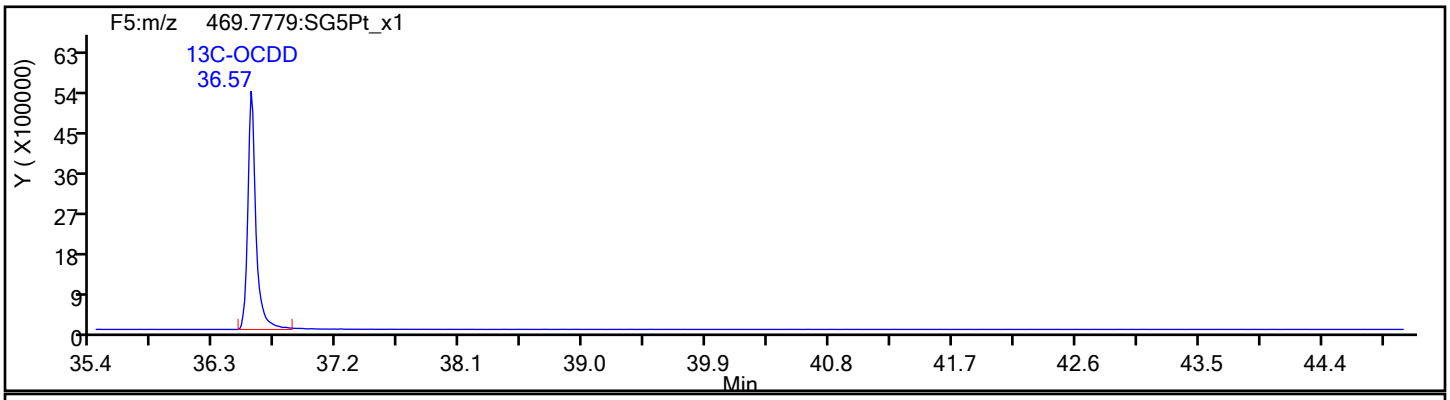

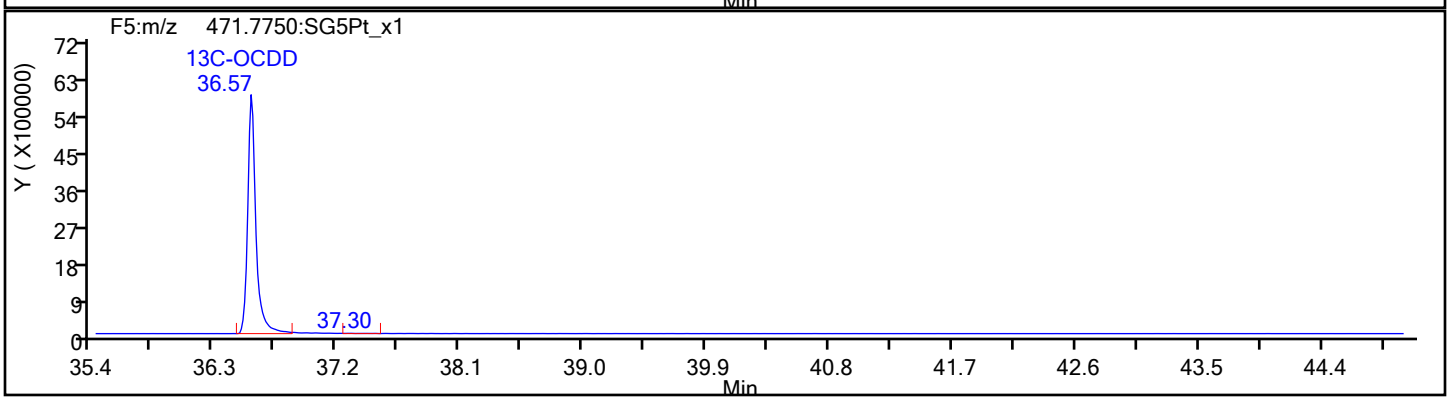

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Eurofins TestAmerica, Sacramento

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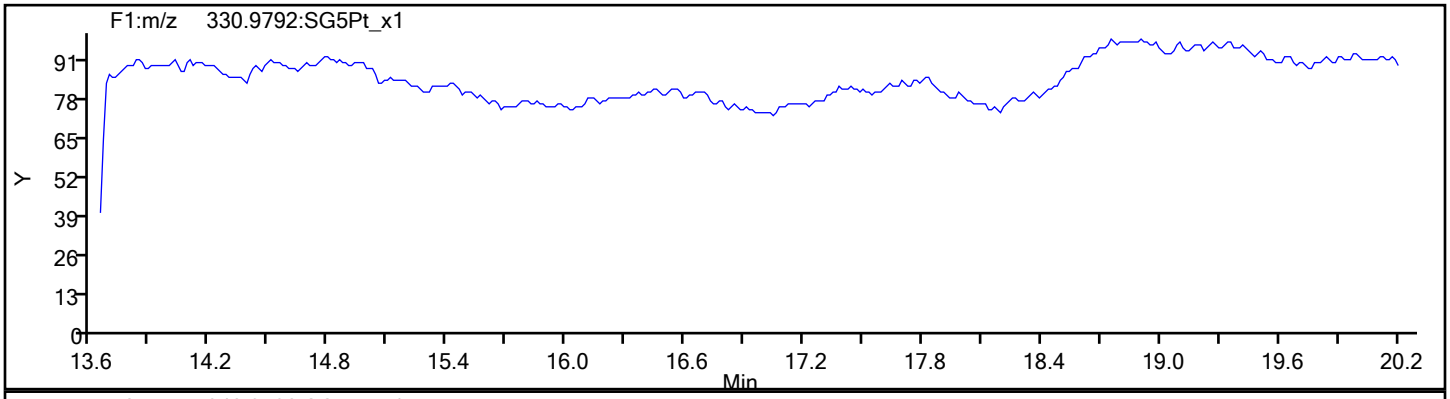

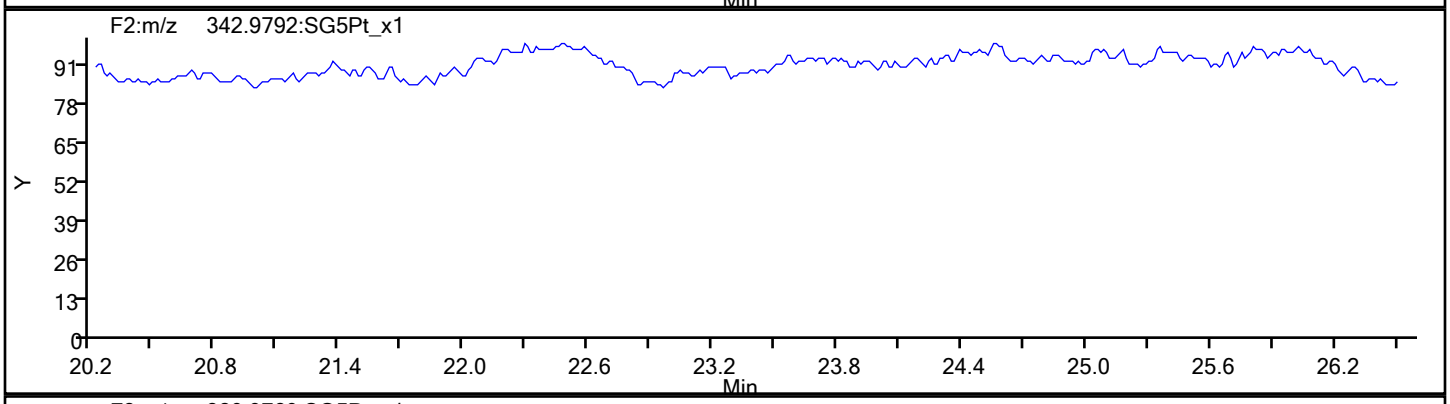

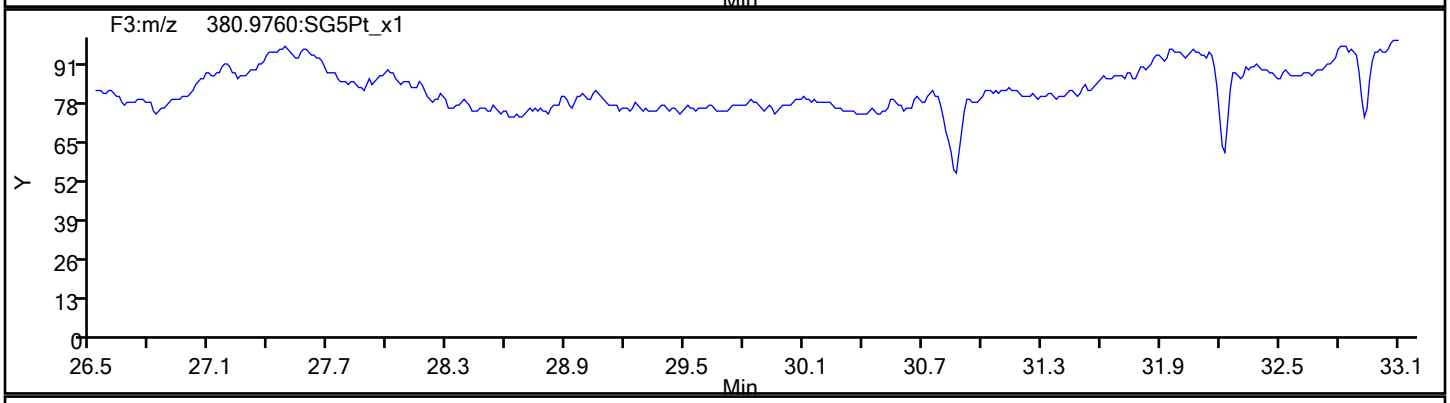

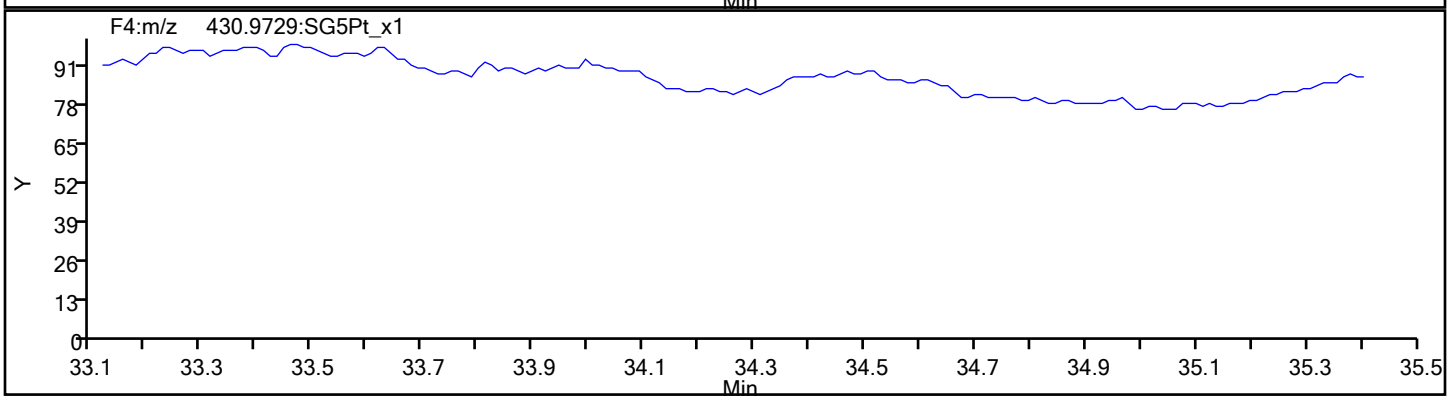

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

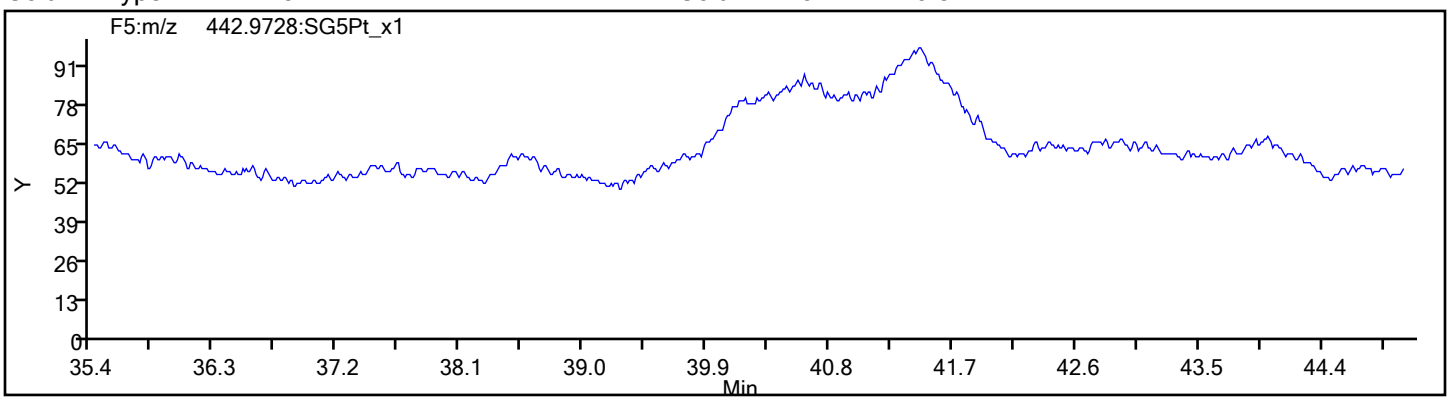

FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Lab Sample ID: CCV 320-355322/2 Calibration Date: 02/05/2020 16:18

Instrument ID: 10D5 Calib Start Date: 01/30/2020 01:49

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 01/30/2020 04:53

Lab File ID: 05FE2010D5_2.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
2,3,7,8-TCDF	AveID	0.7675	0.7714		10.1	10.0	101	84-120
2,3,7,8-TCDD	AveID	0.9599	0.9343		9.73	10.0	97	78-129
1,2,3,7,8-PeCDF	AveID	0.8982	0.9111		50.7	50.0	101	82-120
2,3,4,7,8-PeCDF	AveID	0.8101	0.8537		52.7	50.0	105	82-122
1,2,3,7,8-PeCDD	AveID	0.996	1.003		50.3	50.0	101	78-130
1,2,3,4,7,8-HxCDF	AveID	0.7916	0.8228		52.0	50.0	104	90-112
1,2,3,6,7,8-HxCDF	AveID	0.8638	0.8974		51.9	50.0	104	88-114
2,3,4,6,7,8-HxCDF	AveID	0.9010	0.9432		52.3	50.0	105	88-114
1,2,3,4,7,8-HxCDD	AveID	0.8392	0.8926		53.2	50.0	106	78-128
1,2,3,6,7,8-HxCDD	AveID	0.8876	0.9081		51.2	50.0	102	78-128
1,2,3,7,8,9-HxCDD	AveID	0.9567	0.9685		50.6	50.0	101	82-122
1,2,3,7,8,9-HxCDF	AveID	0.9127	0.9536		52.2	50.0	104	90-112
1,2,3,4,6,7,8-HpCDF	AveID	1.337	1.368		51.2	50.0	102	90-110
1,2,3,4,6,7,8-HpCDD	AveID	0.9811	0.9826		50.1	50.0	100	86-116
1,2,3,4,7,8,9-HpCDF	AveID	1.074	1.103		51.3	50.0	103	86-116
OCDD	AveID	0.9937	1.009		101	100	101	79-126
OCDF	AveID	1.066	1.075		101	100	101	63-159
13C-2,3,7,8-TCDF	Ave	1.128	1.081		95.9	100	96	71-140
13C-2,3,7,8-TCDD	Ave	0.9032	0.9028		100	100	100	82-121
13C-1,2,3,7,8-PeCDF	Ave	0.9615	0.9495		98.7	100	99	76-130
13C-2,3,4,7,8-PeCDF	Ave	1.039	1.001		96.4	100	96	77-130
13C-1,2,3,7,8-PeCDD	Ave	0.6938	0.6691		96.4	100	96	62-160
13C-1,2,3,4,7,8-HxCDF	Ave	0.8543	0.9133		107	100	107	76-131
13C-1,2,3,6,7,8-HxCDF	Ave	0.8361	0.9375		112	100	112	70-143
13C-2,3,4,6,7,8-HxCDF	Ave	0.7773	0.8422		108	100	108	73-137
13C-1,2,3,4,7,8-HxCDD	Ave	0.8050	0.7955		98.8	100	99	85-117
13C-1,2,3,6,7,8-HxCDD	Ave	0.8269	0.8867		107	100	107	85-118
13C-1,2,3,7,8,9-HxCDF	Ave	0.7167	0.7502		105	100	105	74-135
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.7080	0.6737		95.1	100	95	78-129
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.7473	0.7159		95.8	100	96	72-138
13C-1,2,3,4,7,8,9-HpCDF	Ave	0.7451	0.7061		94.8	100	95	77-129
13C-OCDD	Ave	0.6622	0.5408		163	200	82	48-208
37Cl4-2,3,7,8-TCDD	Ave	0.9673	0.9568		9.89	10.0	99	79-127

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #	User
1	05FE2010D5_1	WDM HRDXNCP_00040	WDM 020520	Tray01:1	Dioxin		AJS
2	05FE2010D5_2	CS-4 HRDXNL4_00091	CCV 020520	Tray01:2	Dioxin		AJS
3	05FE2010D5_3	Solvent Blank C-14	SB 020520	Tray01:3	---		AJS
4	05FE2010D5_4	MB 320-354177/1-A	MB 320-354177/1-A	Tray01:4	1613B(T)/Water	D128	AJS
5	05FE2010D5_5	LCS 320-354177/2-A	LCS 320-354177/2-A	Tray01:5	1613B(T)/Water		AJS
6	05FE2010D5_6	LCSD 320-354177/3-A	LCSD 320-354177/3-A	Tray01:6	1613B(T)/Water		AJS
7	05FE2010D5_7	320-58170-A-1-A	320-58170-A-1-A	Tray01:7	1613B/Water		AJS
8	05FE2010D5_8	320-58170-A-3-A	320-58170-A-3-A	Tray01:8	1613B/Water		AJS
9	05FE2010D5_9	320-58170-A-5-A	320-58170-A-5-A	Tray01:9	1613B/Water		AJS
10	05FE2010D5_10	480-165621-E-1-A	480-165621-E-1-A	Tray01:10	1613B_T/Water		AJS
11	05FE2010D5_11	550-136967-P-1-A	550-136967-P-1-A	Tray01:11	1613B_T/Water		AJS
12	05FE2010D5_12	550-136967-F-2-A	550-136967-F-2-A	Tray01:12	1613B_T/Water		AJS
13	05FE2010D5_13	400-183293-A-1-A	400-183293-A-1-A	Tray01:15	1613B_T/Water	D129	AJS
14	05FE2010D5_14	Solvent Blank C-14	SB 020520A	Tray01:3	---		AJS
15	05FE2010D5_15	CS-4 HRDXNL4_00091	CCV 020520A	Tray01:2	Dioxin		AJS
16	05FE2010D5_16	WDM HRDXNCP_00040	WDM 020520A	Tray01:1	Dioxin		AJS
17	05FE2010D5_17	Solvent Blank C-14	SB 020520B	Tray01:3	---		AJS
18	05FE2010D5_18	MB 320-354602/1-A	MB 320-354602/1-A	Tray01:16	1613B_T/Water	D129	AJS
19	05FE2010D5_19	LCS 320-354602/2-A	LCS 320-354602/2-A	Tray01:17	1613B_T/Water		AJS
20	05FE2010D5_20	LCSD 320-354602/3-A	LCSD 320-354602/3-A	Tray01:18	1613B_T/Water		AJS
21	05FE2010D5_21	550-136989-G-2-A	550-136989-G-2-A	Tray01:19	1613B_T/Water		AJS
22	05FE2010D5_22	680-179821-Q-30-A	680-179821-Q-30-A	Tray01:20	1613B_T/Water		AJS
23	05FE2010D5_23	MB 320-354207/1-A	MB 320-354207/1-A	Tray01:21	1613B/Solid	D129	AJS
24	05FE2010D5_24	LCS 320-354207/2-A	LCS 320-354207/2-A	Tray01:22	1613B/Solid		AJS
25	05FE2010D5_25	LCSD 320-354207/3-A	LCSD 320-354207/3-A	Tray01:23	1613B/Solid		AJS
26	05FE2010D5_26	320-58170-A-2-A	320-58170-A-2-A	Tray01:24	1613B/Solid		AJS
27	05FE2010D5_27	320-58170-A-4-A	320-58170-A-4-A	Tray01:25	1613B/Solid		AJS
28	05FE2010D5_28	320-58170-A-6-A	320-58170-A-6-A	Tray01:26	1613B/Solid		AJS
29	05FE2010D5_29	Solvent Blank C-14	SB 020520A	Tray01:3	---		AJS
30	05FE2010D5_30	CS-4 HRDXNL4_00091	CCV 020520A	Tray01:2	Dioxin		AJS
31	05FE2010D5_31	WDM HRDXNCP_00040	WDM 020520A	Tray01:1	Dioxin		AJS
32	05FE2010D5_32	Solvent Blank C-14	SB 020520B	Tray01:3	---		AJS

Logfile ✓'d
2/6/20
KSS

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, February 05, 2020 15:28:19 Pacific Standard Time

M 292.9824 R 11739

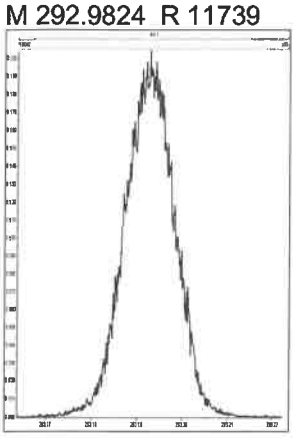

M 304.9824 R 12691

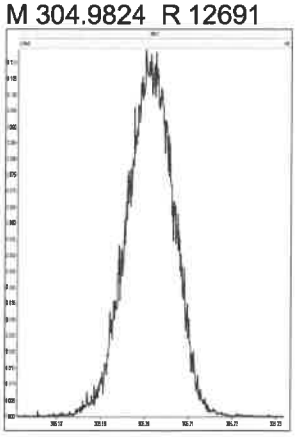

M 318.9792 R 12562

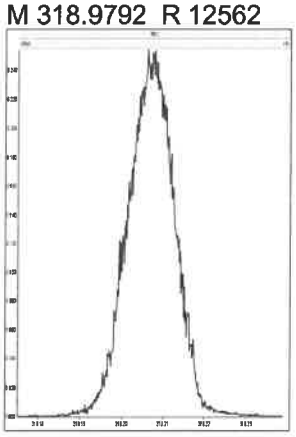

M 330.9792 R 12824

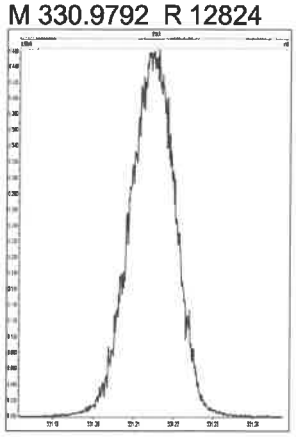

M 342.9792 R 12756

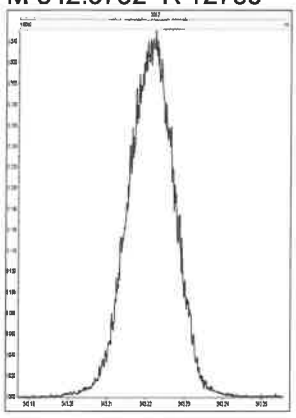

M 354.9792 R 12254

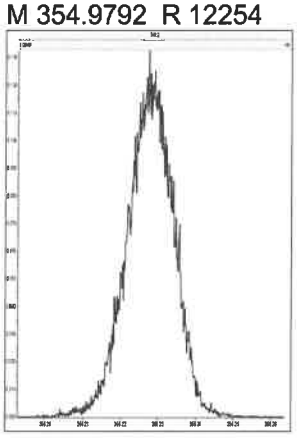

M 366.9792 R 11680

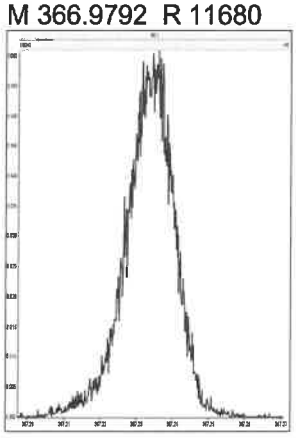

M 380.9760 R 12079

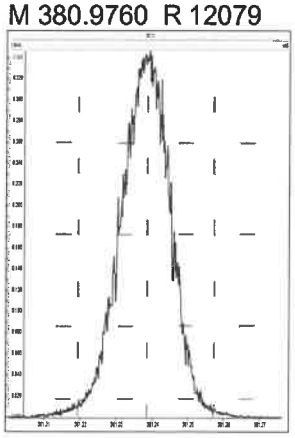

M 392.9760 R 12691

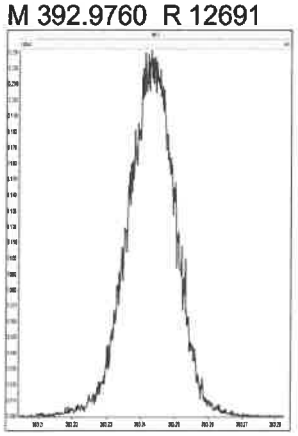

M 404.9760 R 11903

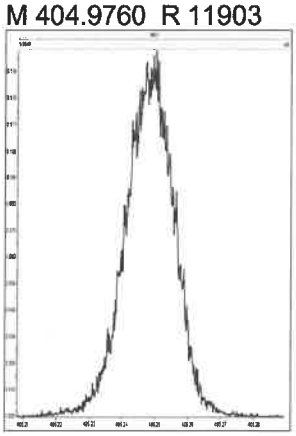

M 416.9760 R 12435

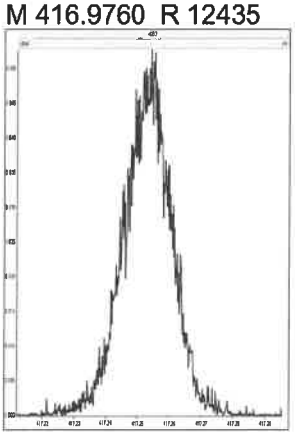

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, February 05, 2020 15:28:39 Pacific Standard Time

M 318.9792 R 12438

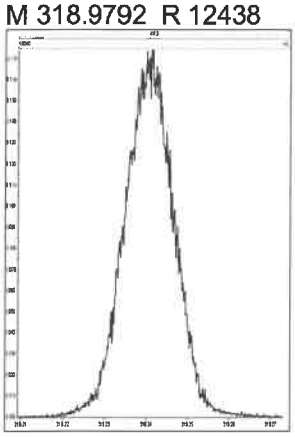

M 330.9792 R 12499

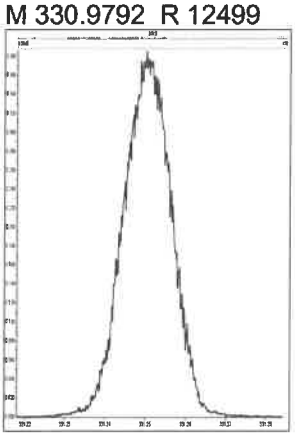

M 342.9792 R 12693

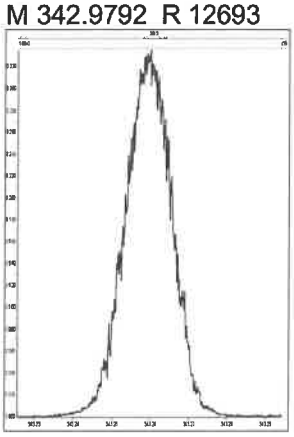

M 354.9792 R 13159

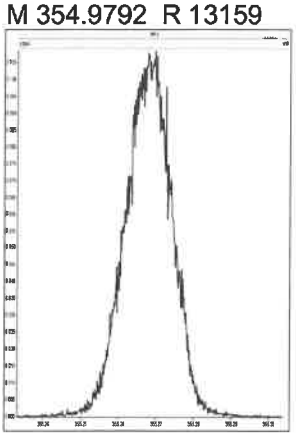

M 366.9792 R 12754

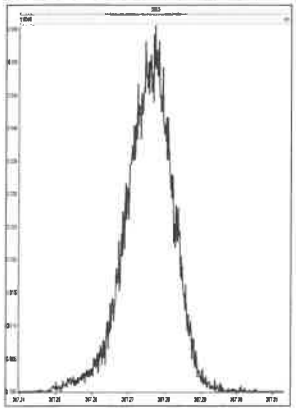

M 380.9760 R 12630

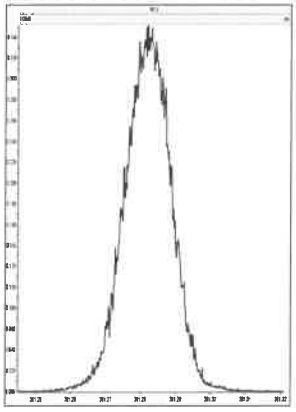

M 392.9760 R 12440

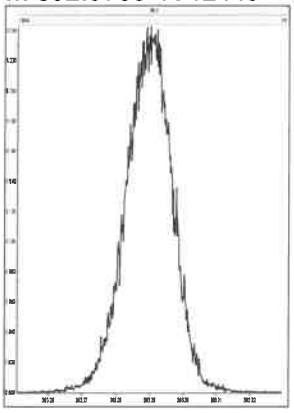

M 404.9760 R 11962

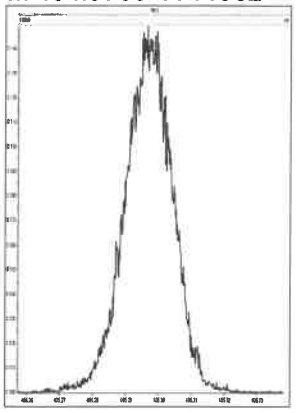

M 416.9760 R 11736

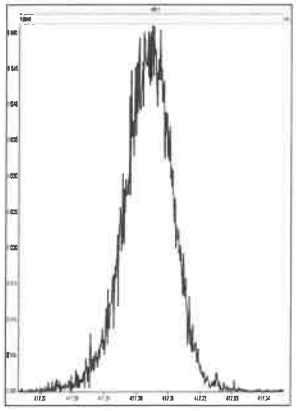

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, February 05, 2020 15:29:05 Pacific Standard Time

M 366.9792 R 11848

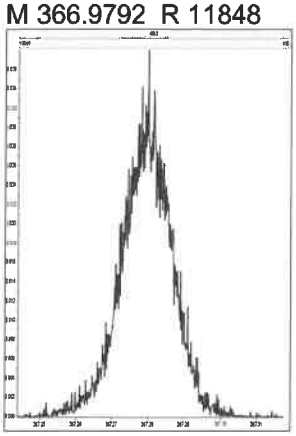

M 380.9760 R 12689

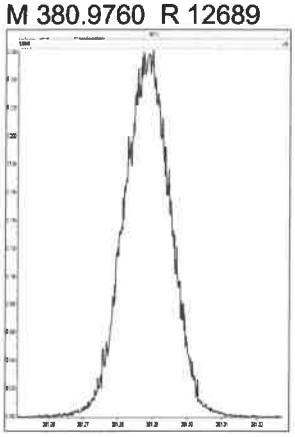

M 392.9760 R 12623

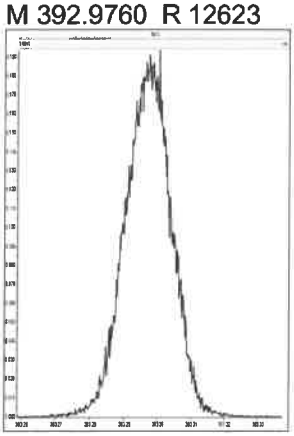

M 404.9760 R 13582

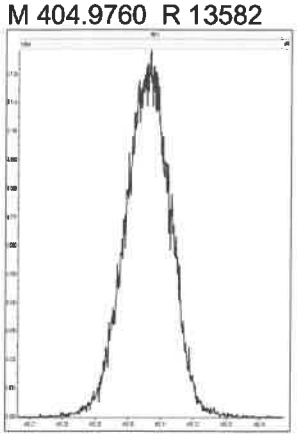

M 416.9760 R 12437

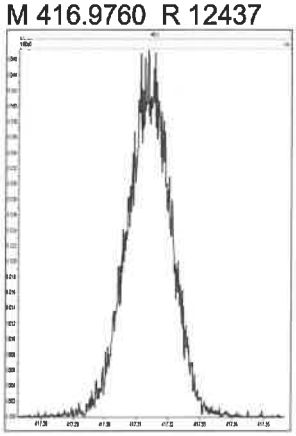

M 430.9728 R 12819

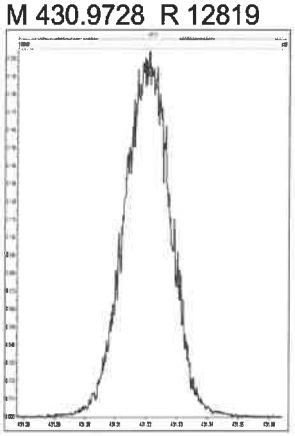

M 442.9728 R 12756

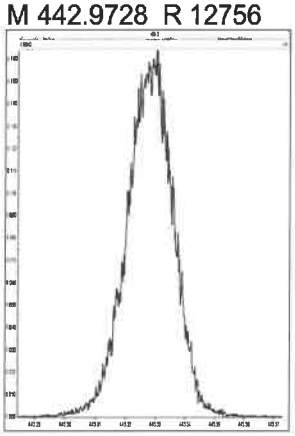

M 454.9728 R 12886

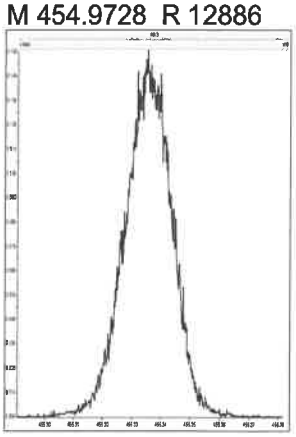

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, February 05, 2020 15:29:32 Pacific Standard Time

M 380.9760 R 11962

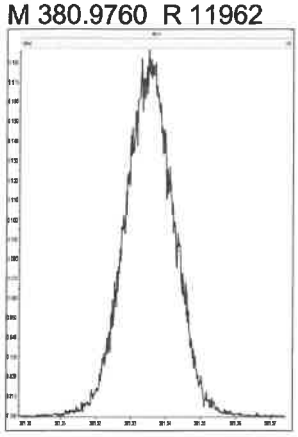

M 392.9760 R 12625

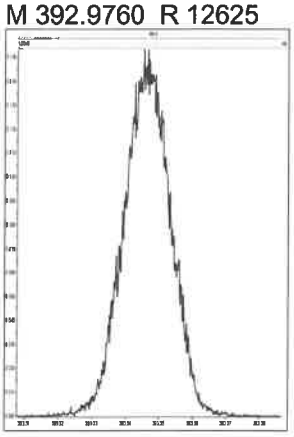

M 404.9760 R 13300

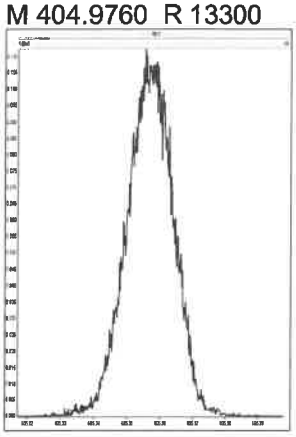

M 416.9760 R 13022

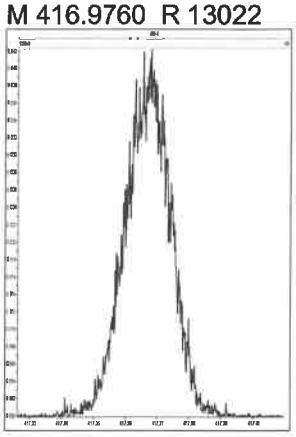

M 430.9728 R 12755

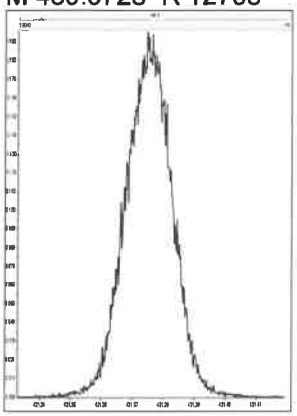

M 442.9728 R 13156

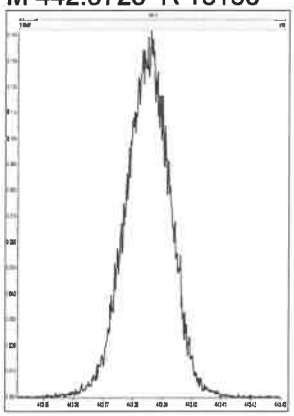

M 454.9728 R 12951

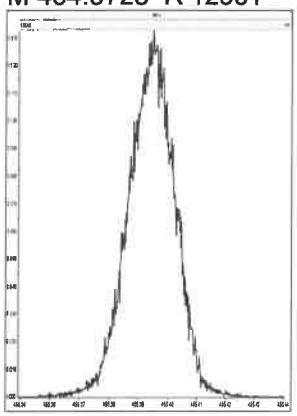

M 466.9728 R 13369

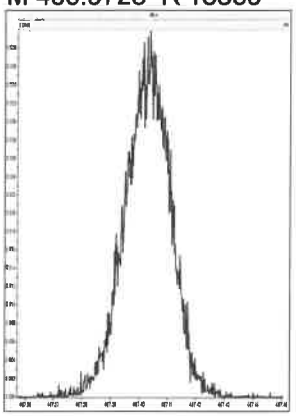

M 480.9696 R 12953

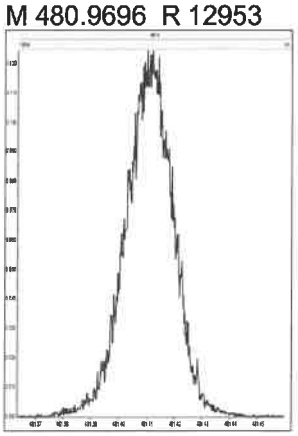

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, February 05, 2020 15:30:05 Pacific Standard Time

M 380.9760 R 11848

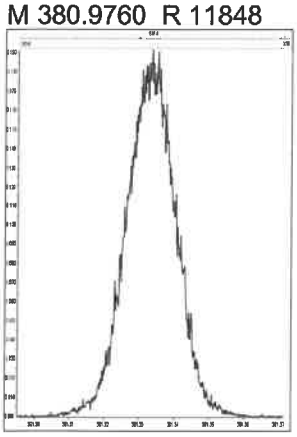

M 392.9760 R 12499

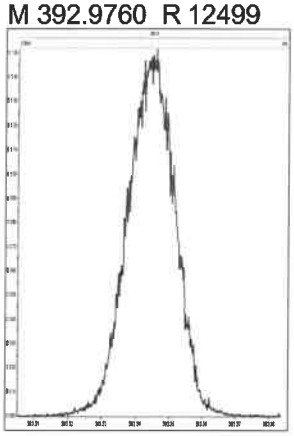

M 404.9760 R 13371

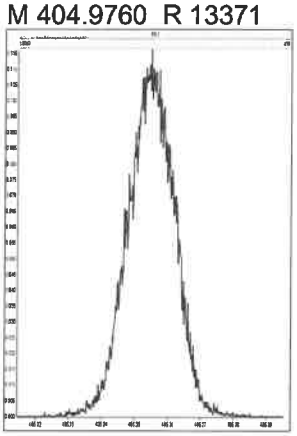

M 416.9760 R 12882

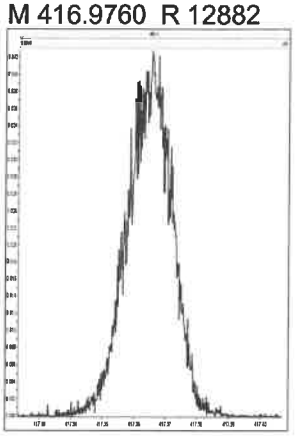

M 430.9728 R 13089

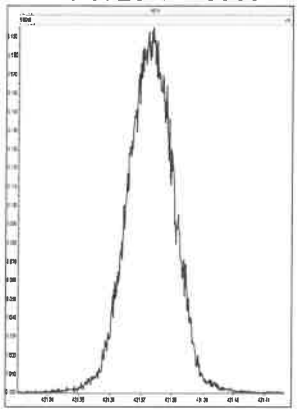

M 442.9728 R 12566

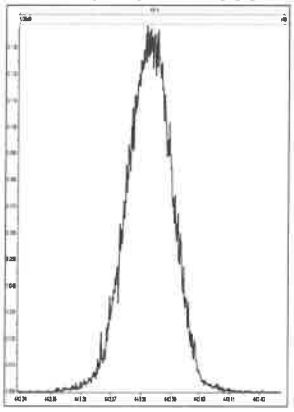

M 454.9728 R 12137

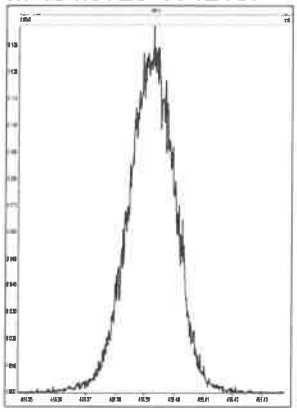

M 466.9728 R 13587

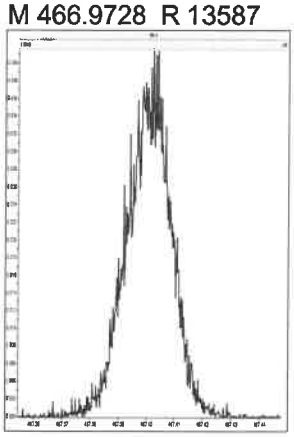

M 480.9696 R 11904

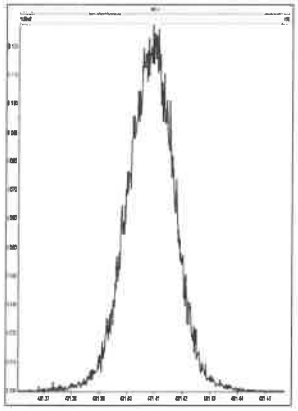

M 492.9696 R 12313

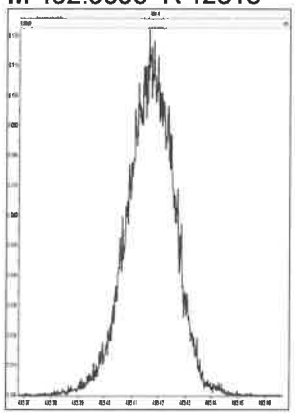

M 504.9696 R 12312

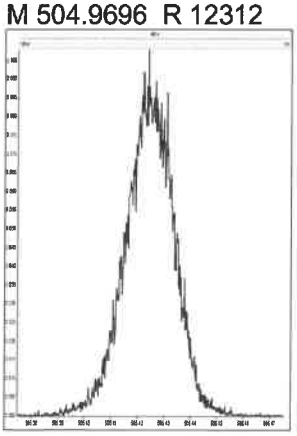

M 516.9697 R 12957

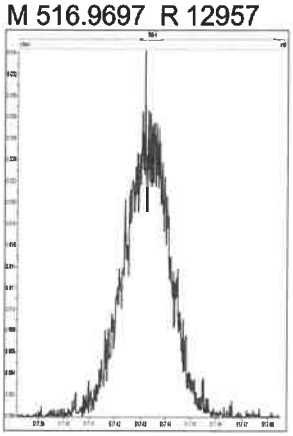

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M 292.9824 R 12726

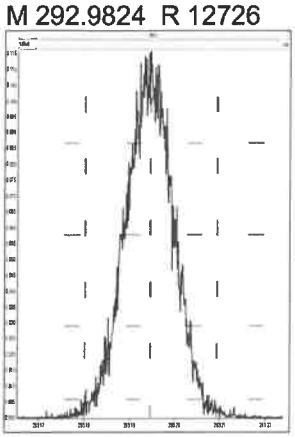

M 304.9824 R 13298

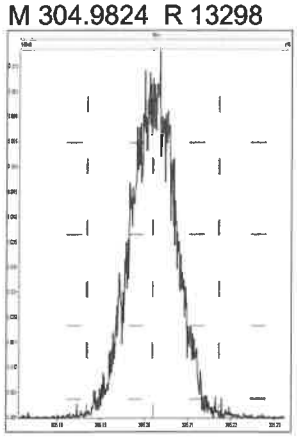

M 318.9792 R 12887

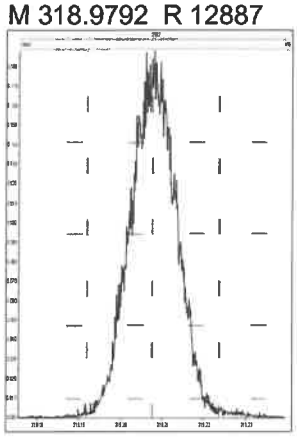

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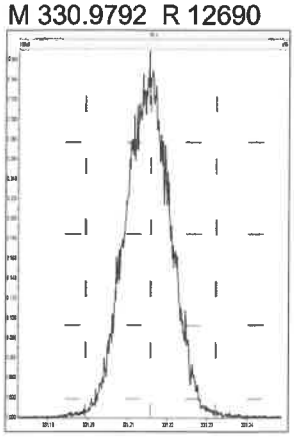

M 342.9792 R 13055

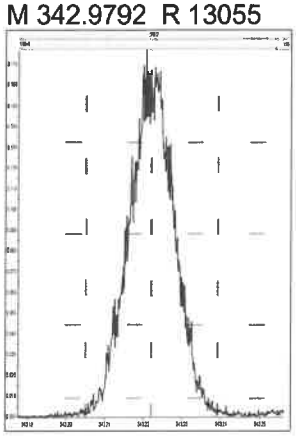

M 354.9792 R 13225

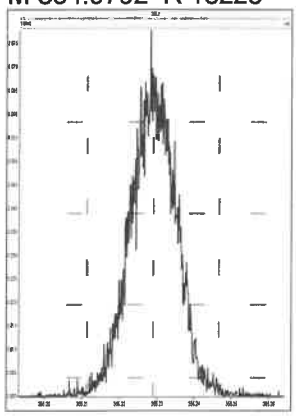

M 366.9792 R 13588

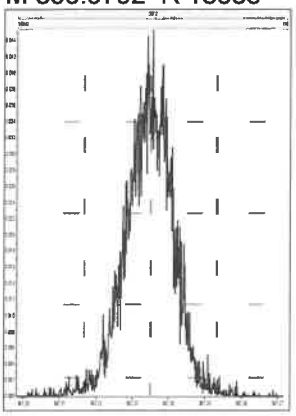

M 380.9760 R 12301

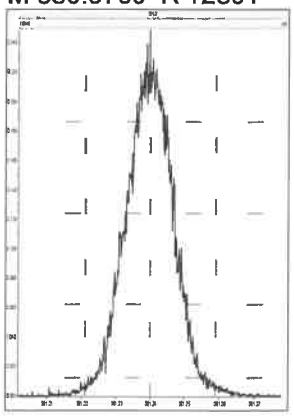

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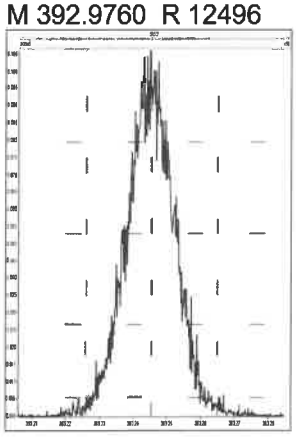

M 404.9760 R 12954

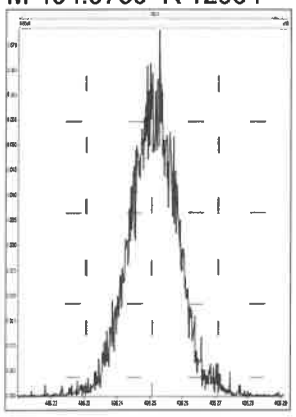

M 416.9760 R 13161

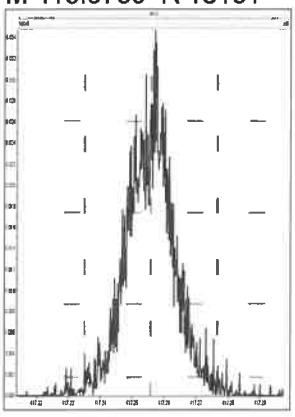

M 318.9792 R 12664

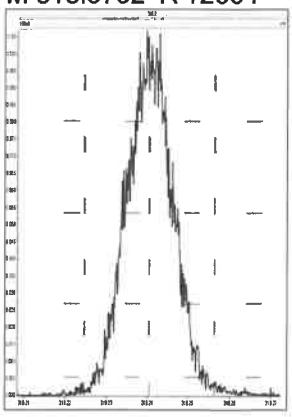

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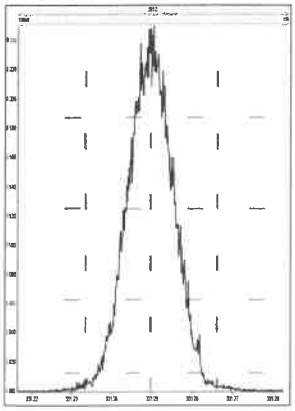

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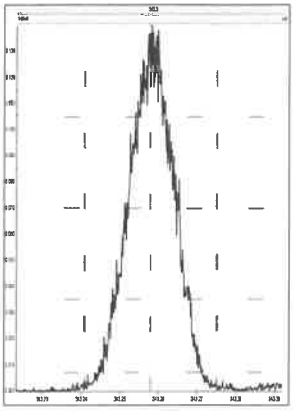

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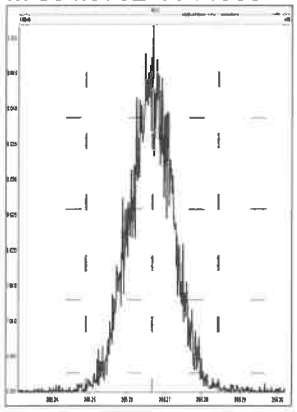

M 366.9792 R 13700

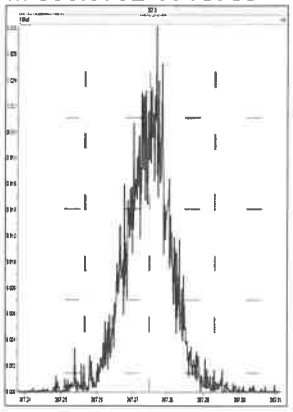

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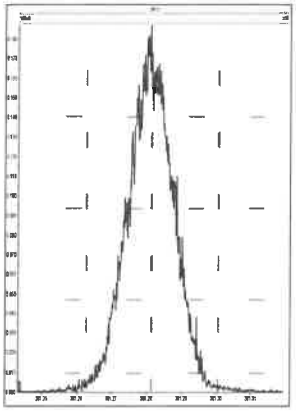

M 392.9760 R 12986

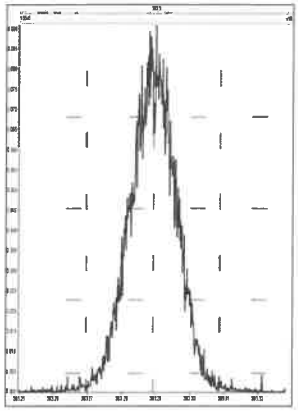

M 404.9760 R 13493

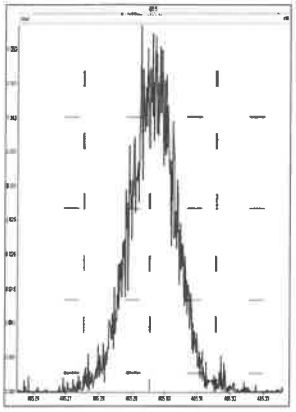

M 416.9760 R 14661

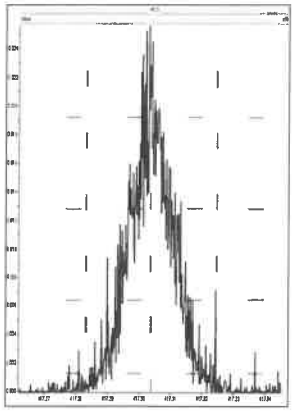

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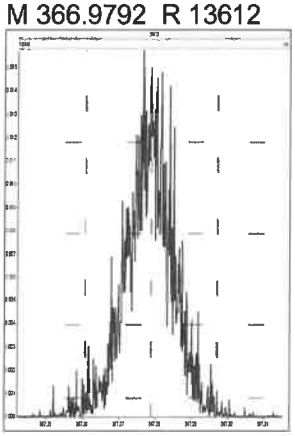

M 380.9760 R 12929

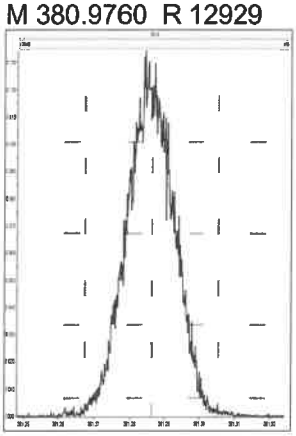

M 392.9760 R 12954

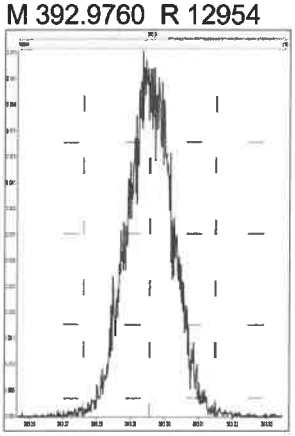

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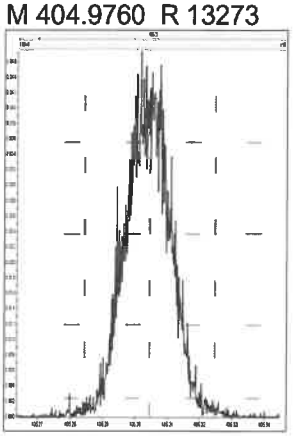

M 416.9760 R 14140

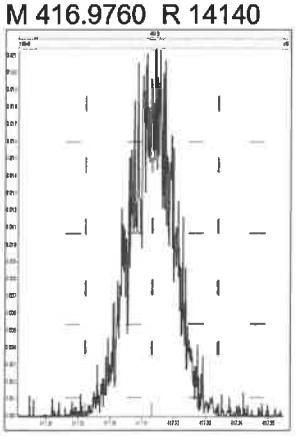

M 430.9728 R 13158

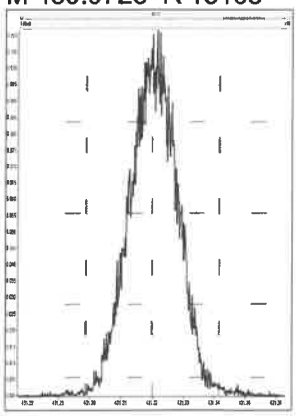

M 442.9728 R 12598

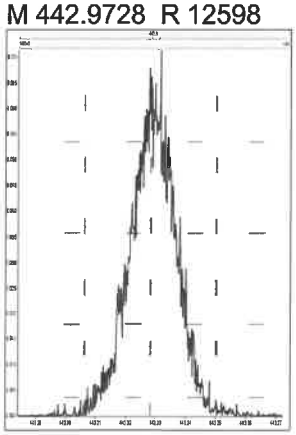

M 454.9728 R 13166

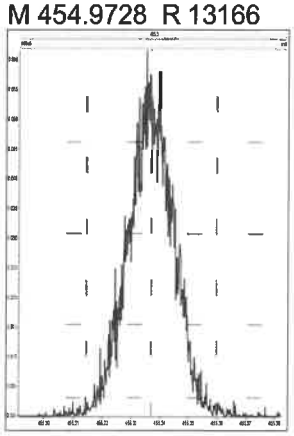

M 380.9760 R 12201

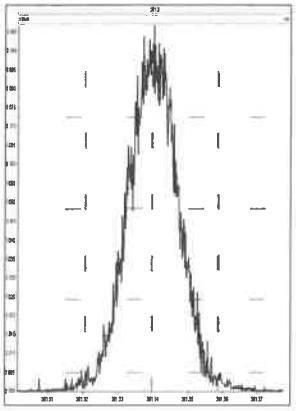

M 392.9760 R 13441

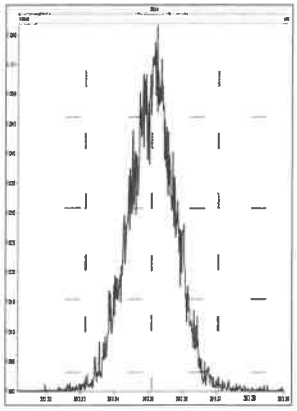

M 404.9760 R 14124

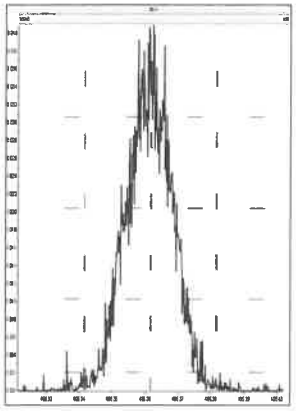

M 416.9760 R 14097

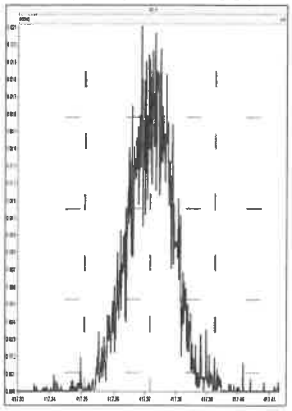

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M 430.9728 R 12732

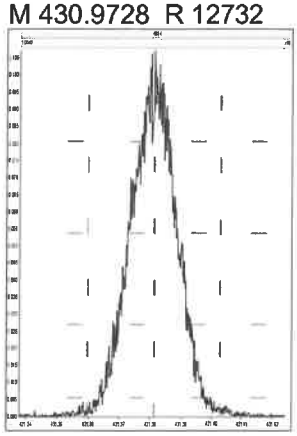

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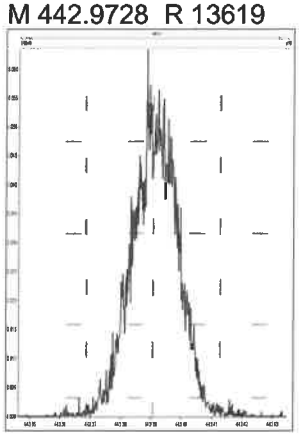

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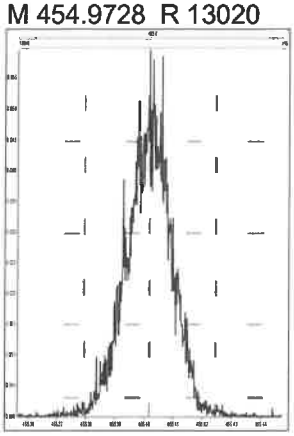

M 466.9728 R 13479

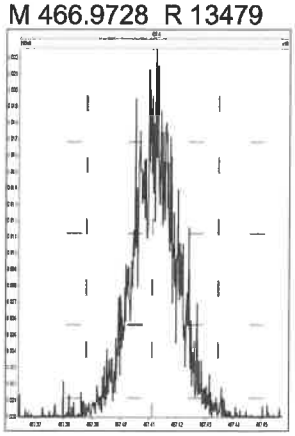

M 480.9696 R 13269

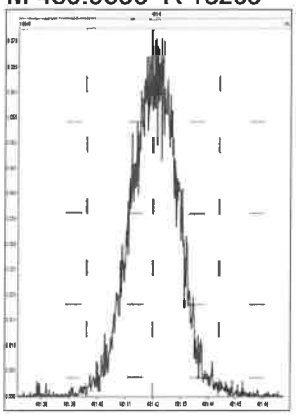

M 380.9760 R 12269

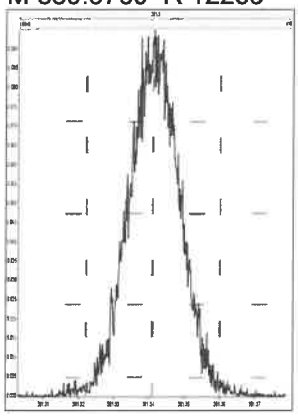

M 392.9760 R 13125

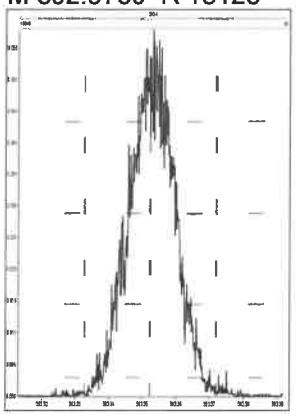

M 404.9760 R 14353

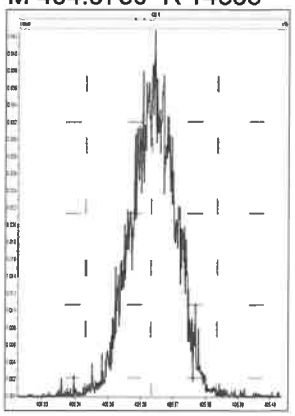

M 416.9760 R 13736

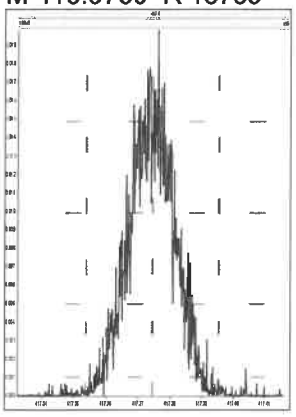

M 430.9728 R 12855

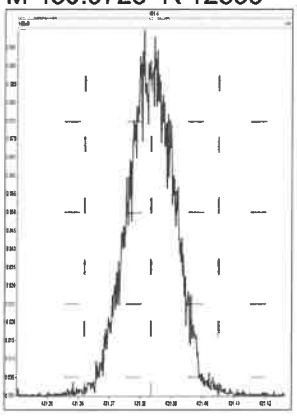

M 442.9728 R 13349

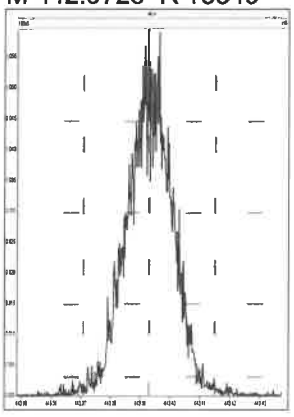

M 454.9728 R 12883

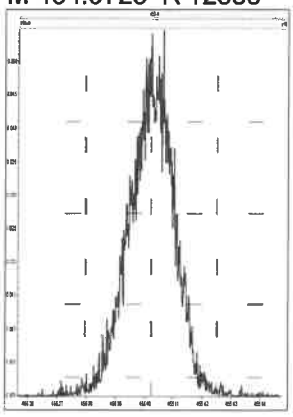

M 466.9728 R 14270

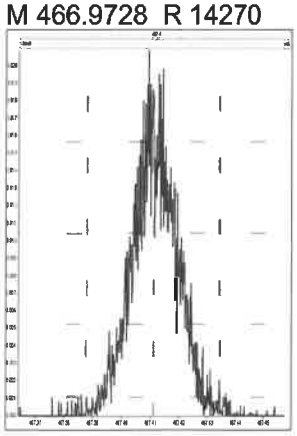

M 480.9696 R 13058

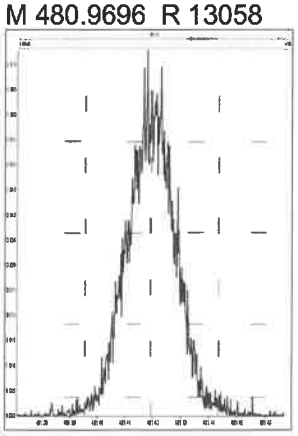

M 492.9696 R 12702

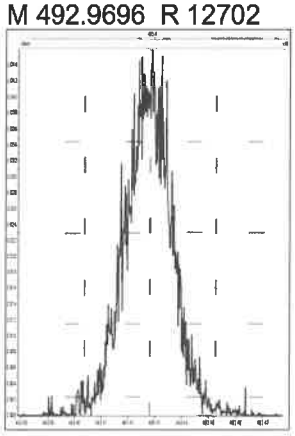

M 504.9696 R 12700

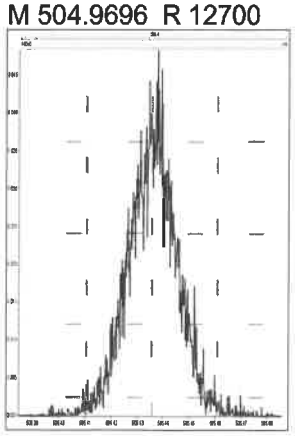

Printed: Thursday, February 06, 2020 01:39:57 Pacific Standard Time

M 516.9697 R 16250

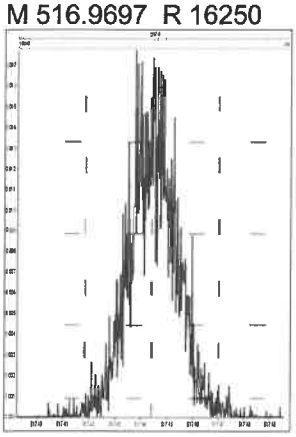

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_2.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 05-Feb-2020 16:18:01 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 020520 CS-4 HRDXNL4_00091
Misc. Info.: 05FE2010D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 06-Feb-2020 11:22:46 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0323

First Level Reviewer: shardaa Date: 06-Feb-2020 11:19:54

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.333	62577529	0.79	5.4E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.849	67642703	0.77	1.1275	95.9	95.9	0.2548	0.2548	95.87	
2,3,7,8-TCDF	16.864	5218202	0.73	0.7675	10.1	10.1	0.0371	0.0371	101	
A Non-2,3,7,8-sub-TCDF	16.561						0.0371	0.0371		
S Total TCDF					10.1	10.1	0.0371	0.0371		
D 13C-2,3,7,8-TCDD	17.529	56493536	0.80	0.9032	100.0	100.0	0.2565	0.2565	99.96	
2,3,7,8-TCDD	17.544	5278134	0.75	0.9599	9.733	9.733	0.0319	0.0319	97.33	
$ 37Cl4-2,3,7,8-TCDD	17.544	5987460		0.9673	9.891	9.891	0.0223	0.0223	98.91	
A Non-2,3,7,8-sub-TCDD	17.000						0.0319	0.0319		
S Total TCDD					9.733	9.733	0.0319	0.0319		
D 13C-1,2,3,7,8-PeCDF	21.639	59414215	1.54	0.9615	98.7	98.7	0.3473	0.3473	98.75	
1,2,3,7,8-PeCDF	21.667	27065712	1.55	0.8982	50.7	50.7	0.2736	0.2736	101	
D 13C-2,3,4,7,8-PeCDF	22.921	62669444	1.55	1.0393	96.4	96.4	0.3213	0.3213	96.36	
2,3,4,7,8-PeCDF	22.948	26748938	1.56	0.8101	52.7	52.7	0.3026	0.3026	105	
A F1 PeCDFs	19.321						0.0170	0.0170		
A Non-2,3,7,8-sub-PeCDF	22.336						0.2874	0.2874		
S Total PeCDF					103.4	103.4	0.2881	0.2881		
D 13C-1,2,3,7,8-PeCDD	23.617	41867635	1.62	0.6938	96.4	96.4	0.1131	0.1131	96.43	
1,2,3,7,8-PeCDD	23.644	20988747	1.58	0.9961	50.3	50.3	0.0968	0.0968	101	
A Non-2,3,7,8-sub-PeCDD	22.580						0.0968	0.0968		
S Total PeCDD					50.3	50.3	0.0968	0.0968		
D 13C-1,2,3,4,7,8-HxCDF	29.748	45688158	0.49	0.8543	106.9	106.9	0.5434	0.5434	107	
1,2,3,4,7,8-HxCDF	29.761	18796871	1.22	0.7916	52.0	52.0	0.4678	0.4678	104	
D 13C-1,2,3,6,7,8-HxCDF	29.988	46894499	0.49	0.8361	112.1	112.1	0.5552	0.5552	112	
1,2,3,6,7,8-HxCDF	30.028	21042573	1.20	0.8638	51.9	51.9	0.4255	0.4255	104	
D 13C-2,3,4,6,7,8-HxCDF	31.026	42128592	0.50	0.7773	108.3	108.3	0.5971	0.5971	108	
2,3,4,6,7,8-HxCDF	31.053	19867523	1.21	0.9010	52.3	52.3	0.2954	0.2954	105	
D 13C-1,2,3,7,8,9-HxCDF	31.944	37529049	0.50	0.7167	104.7	104.7	0.6477	0.6477	105	
1,2,3,7,8,9-HxCDF	31.958	17893765	1.20	0.9127	52.2	52.2	0.3079	0.3079	104	
A Non-2,3,7,8-sub-HxCDF	29.522						0.3621	0.3621		

Report Date: 06-Feb-2020 11:22:47 Chrom Revision: 2.3 14-Jan-2020 22:23:42
Data File: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_2.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					208.5	208.5	0.3742	0.3742		
* 13C-1,2,3,7,8,9-HxCDD	31.745	50023193	1.23	4.4E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.252	39792280	1.32	0.8050	98.8	98.8	0.3582	0.3582	98.82	
1,2,3,4,7,8-HxCDD	31.265	17759955	1.22	0.8392	53.2	53.2	0.1575	0.1575	106	
D 13C-1,2,3,6,7,8-HxCDD	31.372	44354927	1.16	0.8269	107.2	107.2	0.3487	0.3487	107	
1,2,3,6,7,8-HxCDD	31.385	20140329	1.24	0.8876	51.2	51.2	0.1533	0.1533	102	
1,2,3,7,8,9-HxCDD	31.758	20373486	1.24	0.9567	50.6	50.6	0.1401	0.1401	101	
A Non-2,3,7,8-sub-HxCDD	30.107						0.1499	0.1499		
S Total HxCDD					155.0	155.0	0.1503	0.1503		
D 13C-1,2,3,4,6,7,8-HpCDF	33.471	33699079	0.42	0.7080	95.1	95.1	1.594	1.594	95.15	
1,2,3,4,6,7,8-HpCDF	33.483	23058057	1.04	1.3375	51.2	51.2	0.6533	0.6533	102	
D 13C-1,2,3,4,7,8,9-HpCDF	34.540	35321186	0.43	0.7451	94.8	94.8	1.514	1.514	94.76	
1,2,3,4,7,8,9-HpCDF	34.540	19472391	1.03	1.0744	51.3	51.3	1.028	1.028	103	
A Non-2,3,7,8-sub-HpCDF	34.024						0.8092	0.8092		
S Total HpCDF					102.5	102.5	0.8408	0.8408		
D 13C-1,2,3,4,6,7,8-HpCDD	34.249	35810134	1.04	0.7473	95.8	95.8	0.5955	0.5955	95.79	
1,2,3,4,6,7,8-HpCDD	34.261	17593746	1.05	0.9811	50.1	50.1	0.2968	0.2968	100	
A Non-2,3,7,8-sub-HpCDD	33.999						0.2968	0.2968		
S Total HpCDD					50.1	50.1	0.2968	0.2968		
D 13C-OCDD	36.540	54099635	0.87	0.6622	163.3	163.3	0.1541	0.1541	81.66	
OCDF	36.636	29074790	0.90	1.0659	100.8	100.8	0.0959	0.0959	101	
OCDD	36.552	27280856	0.86	0.9937	101.5	101.5	0.0971	0.0971	101	

Reagents:

HRDXNL4_00091 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_2.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 05-Feb-2020 16:18:01 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 020520 CS-4 HRDXNL4_00091
Misc. Info.: 05FE2010D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 06-Feb-2020 11:22:46 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0323

First Level Reviewer: shardaa Date: 06-Feb-2020 11:19:54

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.333	17.333	0		27713274	6969721	7070	17675	986		
333.9339	17.333	17.333	0		34864255	8720633	7469	18672	1168	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.849	16.849	0	0.972	29342610	6818199	9153	22882	745		
317.9389	16.849	16.849	0	0.972	38300093	8834910	8876	22190	995	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.864	16.864	0	1.001	2194467	507743	638	1595	796		
305.8987	16.864	16.864	0	1.001	3023735	693102	1147	2867	604	0.73(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.561						638	1595			
305.8987	16.561						1147	2867			
13C-2,3,7,8-TCDD											
331.9368	17.529	17.529	0	1.011	25114230	5691333	7070	17675	805		
333.9339	17.529	17.529	0	1.011	31379306	7138361	7469	18672	956	0.80(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.544	17.544	0	1.001	2264487	516684	1000	2500	517		
321.8936	17.544	17.544	0	1.001	3013647	687330	572	1430	1202	0.75(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.544	17.544	0	1.012	5987460	1361421	1356	3390	1004		
A Non-2,3,7,8-sub-TCDD											
319.8965	17.000						1000	2500			
321.8936	17.000						572	1430			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	21.639	21.639	0	1.248	36048844	5934856	12711	31777	467		
353.8970	21.639	21.639	0	1.248	23365371	3895901	8245	20612	473	1.54(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.667	21.667	0	1.001	16467806	2762617	5685	14212	486		
341.8567	21.667	21.667	0	1.001	10597906	1777864	3979	9947	447	1.55(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	22.921	22.921	0	1.322	38115322	6015648	12711	31777	473		
353.8970	22.921	22.921	0	1.322	24554122	3840126	8245	20612	466	1.55(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.948	22.948	0	1.001	16297123	2474322	5685	14212	435		
341.8567	22.948	22.948	0	1.001	10451815	1596710	3979	9947	401	1.56(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.321						194	485			
341.8567	19.321						379	947			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.336						5685	14212			
341.8567	22.336						3979	9947			
13C-1,2,3,7,8-PeCDD											
367.8949	23.617	23.617	0	1.363	25860378	3780329	2722	6805	1389		
369.8919	23.617	23.617	0	1.363	16007257	2290773	2205	5512	1039	1.62(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.644	23.644	0	1.001	12850661	1847202	1535	3837	1203		
357.8516	23.644	23.644	0	1.001	8138086	1169949	807	2017	1450	1.58(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.580						1535	3837			
357.8516	22.580						807	2017			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.748	29.748	0	0.937	15108056	1946566	6622	16555	294		
385.8610	29.748	29.748	0	0.937	30580102	3820700	12296	30740	311	0.49(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.761	29.761	0	1.000	10345732	1301734	4773	11932	273		
375.8178	29.761	29.761	0	1.000	8451139	1070529	3769	9422	284	1.22(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.988	29.988	0	0.945	15477839	1941702	6622	16555	293		
385.8610	29.988	29.988	0	0.945	31416660	3868134	12296	30740	315	0.49(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.028	30.028	0	1.001	11483099	1459010	4773	11932	306		
375.8178	30.028	30.028	0	1.001	9559474	1226236	3769	9422	325	1.20(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.026	31.026	0	0.977	14079015	2660692	6622	16555	402		
385.8610	31.026	31.026	0	0.977	28049577	5361455	12296	30740	436	0.50(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.053	31.053	0	1.001	10862689	2043079	4773	11932	428		
375.8178	31.053	31.053	0	1.001	9004834	1689161	3769	9422	448	1.21(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.944	31.944	0	1.006	12482991	2511212	6622	16555	379		
385.8610	31.944	31.944	0	1.006	25046058	5088781	12296	30740	414	0.50(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.958	31.958	0	1.000	9744277	1959966	4773	11932	411		
375.8178	31.958	31.958	0	1.000	8149488	1609443	3769	9422	427	1.20(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.522						4773	11932			
375.8178	29.522						3769	9422			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.745	31.745	0		27624149	5647578	6746	16865	837		
403.8529	31.745	31.745	0		22399044	4541211	5005	12512	907	1.23(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.252	31.252	0	0.984	22632603	4935751	6746	16865	732		
403.8529	31.252	31.252	0	0.984	17159677	3907516	5005	12512	781	1.32(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.265	31.265	0	1.000	9751271	2140715	2606	6515	821		
391.8127	31.265	31.265	0	1.000	8008684	1746997	2068	5170	845	1.22(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.372	31.372	0	0.988	23796089	4735841	6746	16865	702		
403.8529	31.372	31.372	0	0.988	20558838	3853782	5005	12512	770	1.16(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.385	31.385	0	1.000	11139819	2151424	2606	6515	826		
391.8127	31.385	31.385	0	1.000	9000510	1751300	2068	5170	847	1.24(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.758	31.758	0	1.016	11288489	2280796	2606	6515	875		
391.8127	31.758	31.758	0	1.016	9084997	1831084	2068	5170	885	1.24(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.107						2606	6515			
391.8127	30.107						2068	5170			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.471	33.471	0	1.054	10047385	2771625	13316	33290	208		
419.8220	33.471	33.471	0	1.054	23651694	6371180	32668	81670	195	0.42(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.483	33.483	0	1.000	11773075	3119415	16815	42037	186		
409.7789	33.483	33.483	0	1.000	11284982	2919496	15137	37842	193	1.04(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.540	34.540	0	1.088	10604553	2146382	13316	33290	161		
419.8220	34.528	34.540	-1	1.088	24716633	5082784	32668	81670	156	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.540	34.540	0	1.000	9858919	2036164	16815	42037	121		
409.7789	34.540	34.540	0	1.000	9613472	1992220	15137	37842	132	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.024						16815	42037			
409.7789	34.024						15137	37842			

Report Date: 06-Feb-2020 11:22:47 Chrom Revision: 2.3 14-Jan-2020 22:23:42
Data File: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_2.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.249	34.249	0	1.079	18276339	4316302	9000	22500	480		
437.8140	34.249	34.249	0	1.079	17533795	4099915	9139	22847	449	1.04(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.261	34.261	0	1.000	8995718	2112435	5337	13342	396		
425.7737	34.261	34.261	0	1.000	8598028	2027607	4467	11167	454	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.999						5337	13342			
425.7737	33.999						4467	11167			
13C-OCDD											
469.7779	36.540	36.540	0	1.151	25217250	4752535	2015	5037	2359		
471.7750	36.540	36.540	0	1.151	28882385	5465951	2144	5360	2549	0.87(0.76-1.02)	
OCDF											
441.7428	36.636	36.636	0	1.003	13773889	2617592	856	2140	3058		
443.7399	36.636	36.636	0	1.003	15300901	2912432	1233	3082	2362	0.90(0.76-1.02)	
OCDD											
457.7377	36.552	36.552	0	1.000	12630945	2417577	908	2270	2663		
459.7348	36.552	36.552	0	1.000	14649911	2837588	1064	2660	2667	0.86(0.76-1.02)	

Reagents:

HRDXNL4_00091 Amount Added: 1.00 Units: mL

Report Date: 06-Feb-2020 11:22:47 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_2.d		
Injection Date:	05-Feb-2020 16:18:01	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355322	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

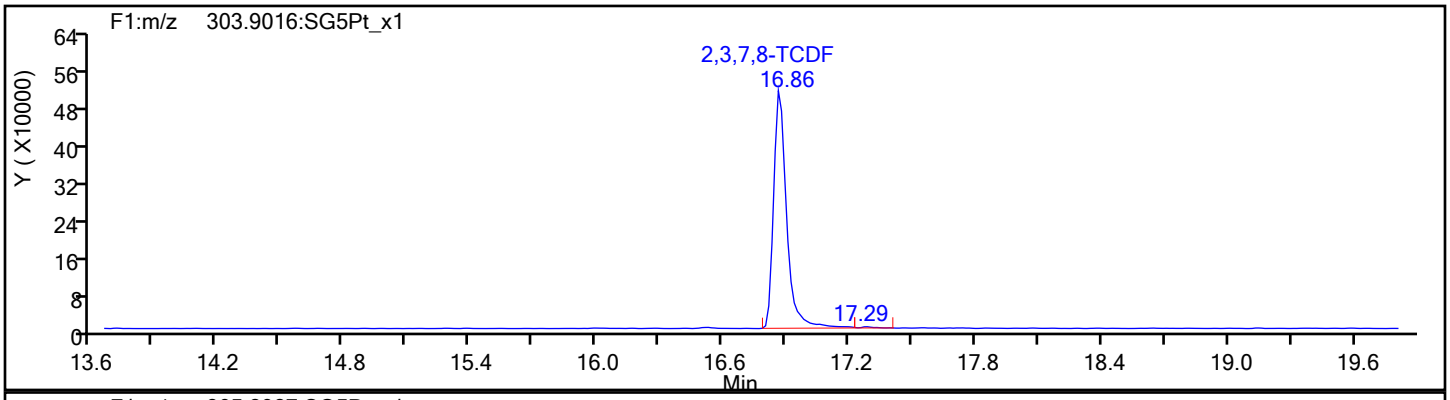

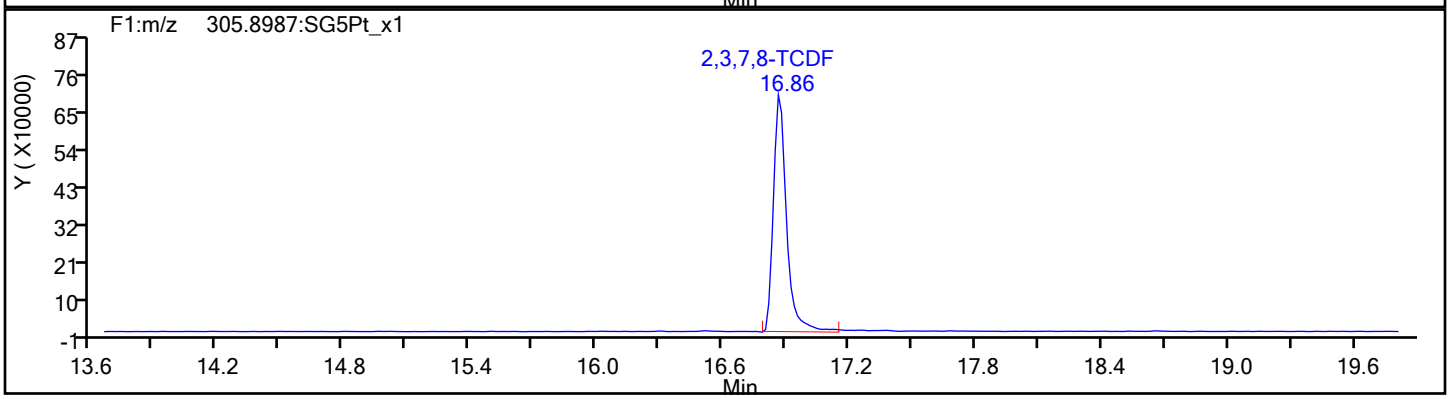

TCDF Standards

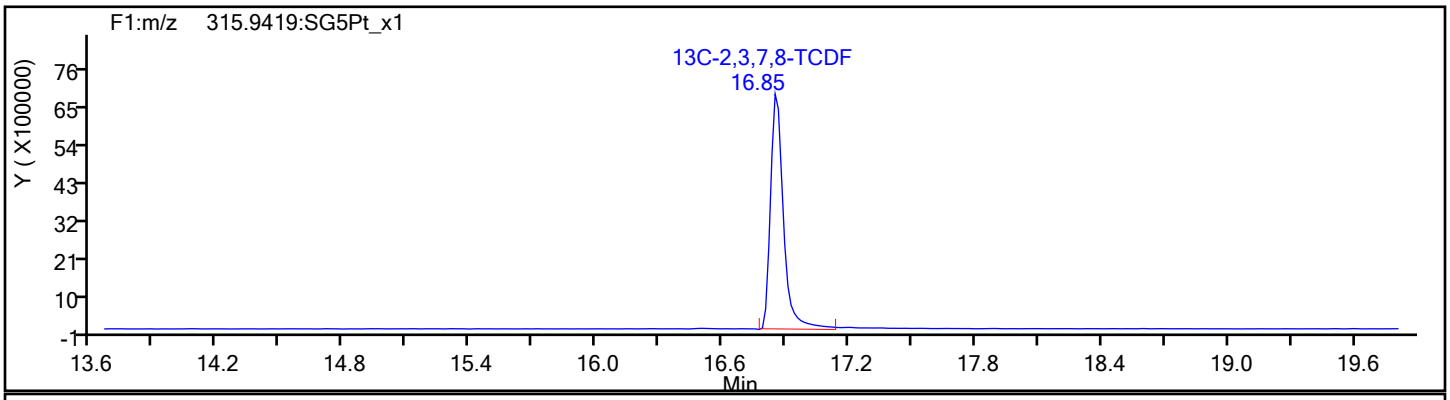

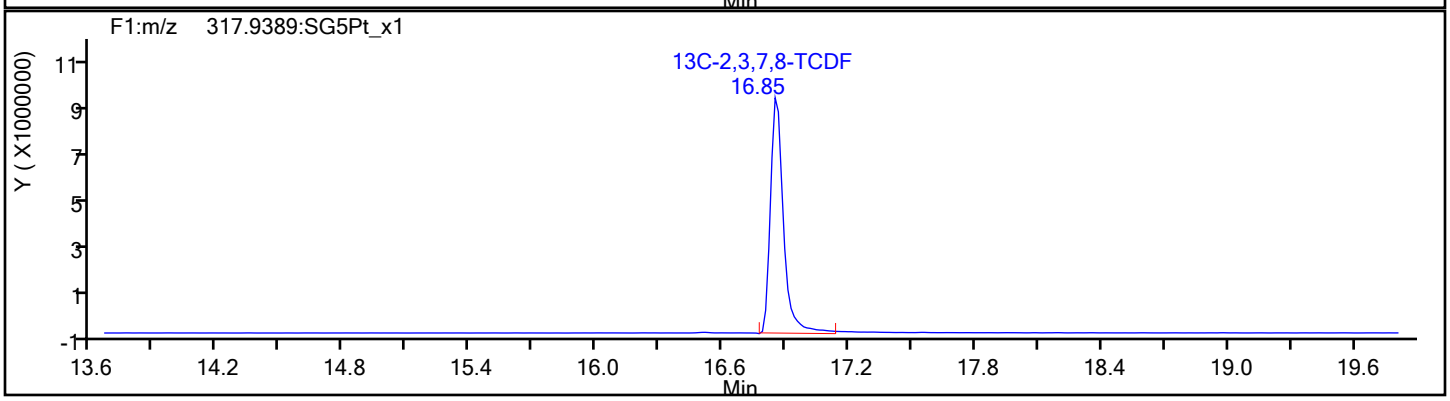

Report Date: 06-Feb-2020 11:22:47 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355322	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

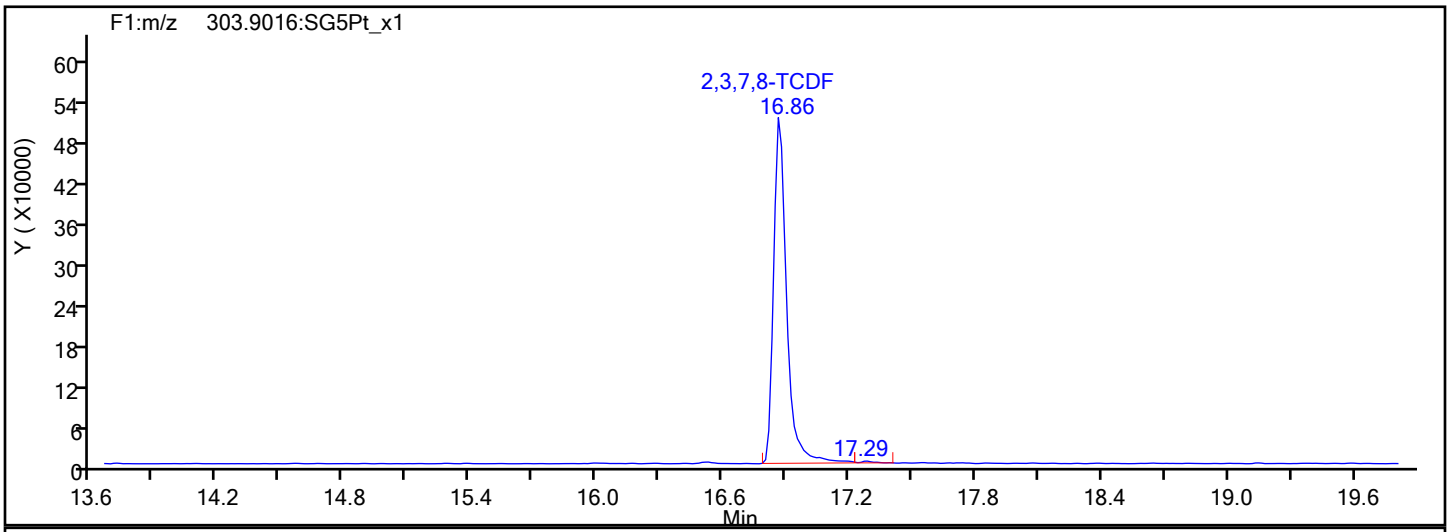

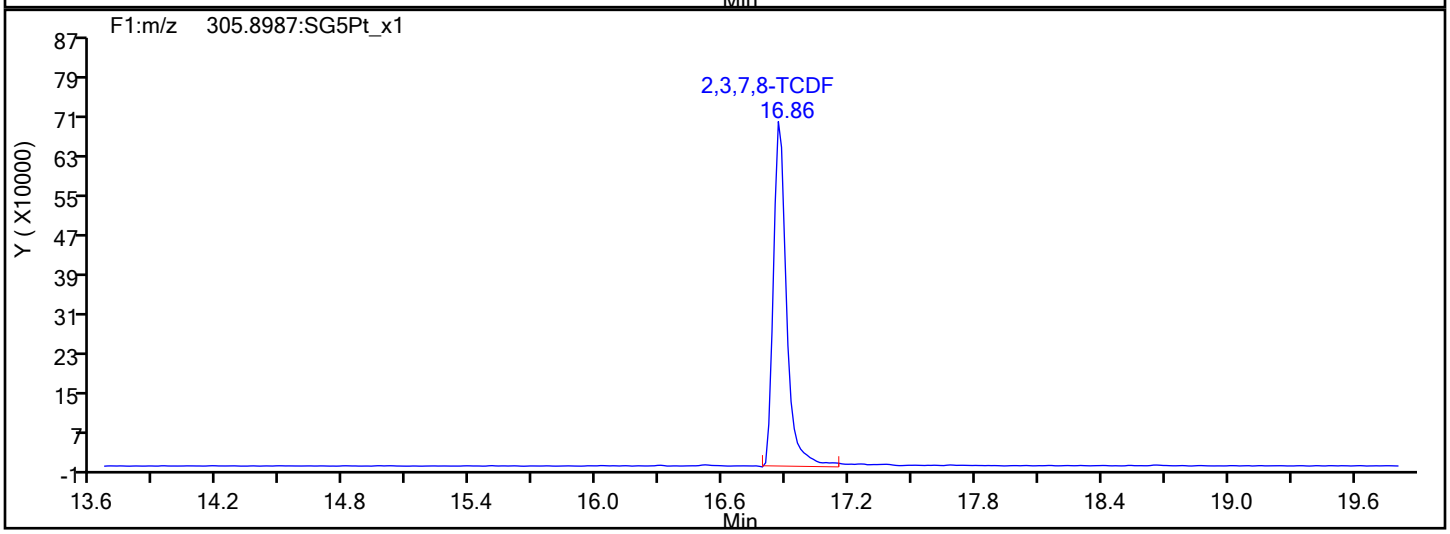

TCDF Interference Mass

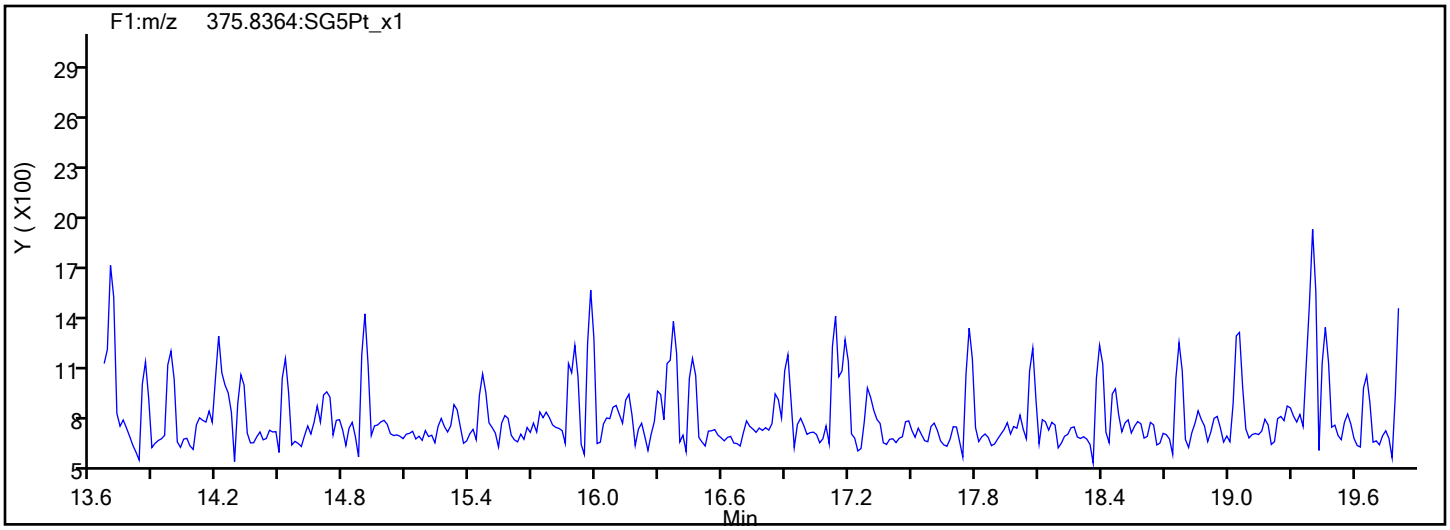

Report Date: 06-Feb-2020 11:22:47 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

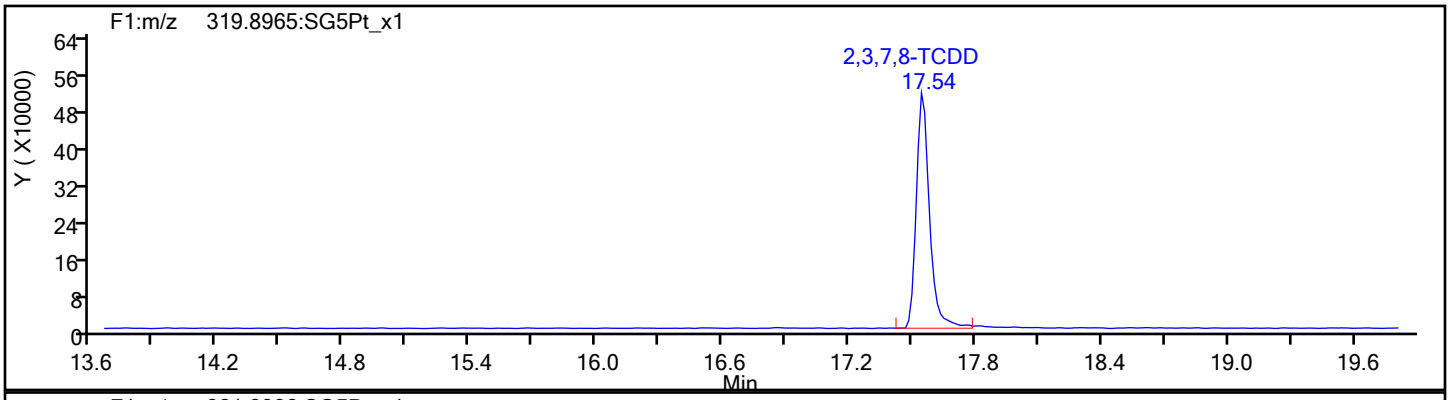

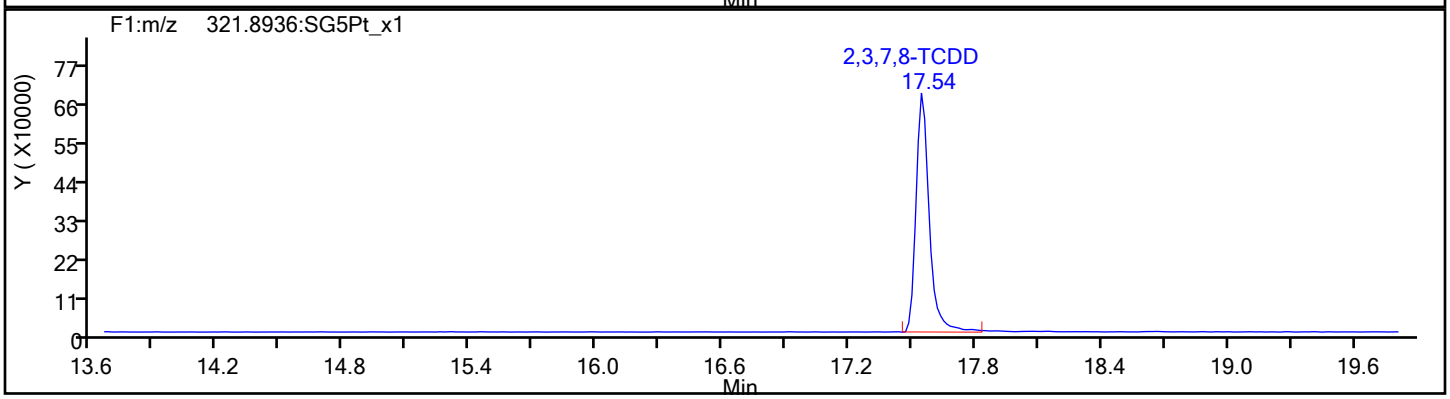

TCDD Standards

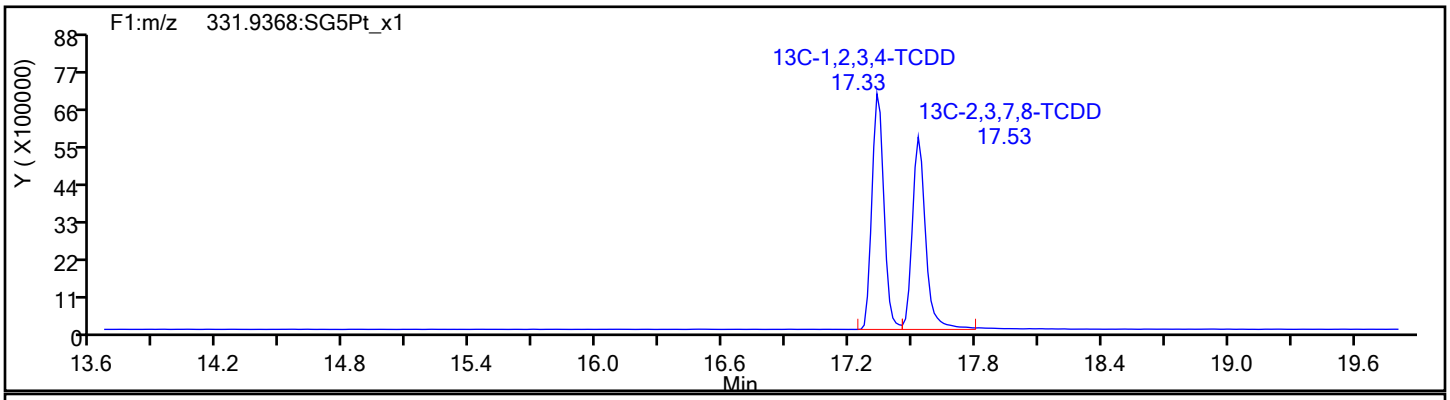

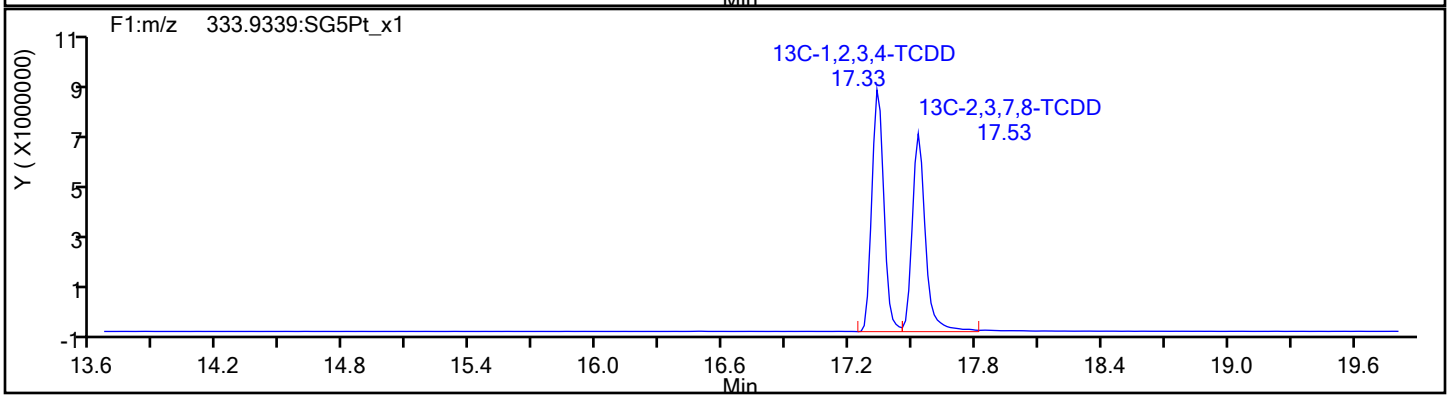

Report Date: 06-Feb-2020 11:22:47 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

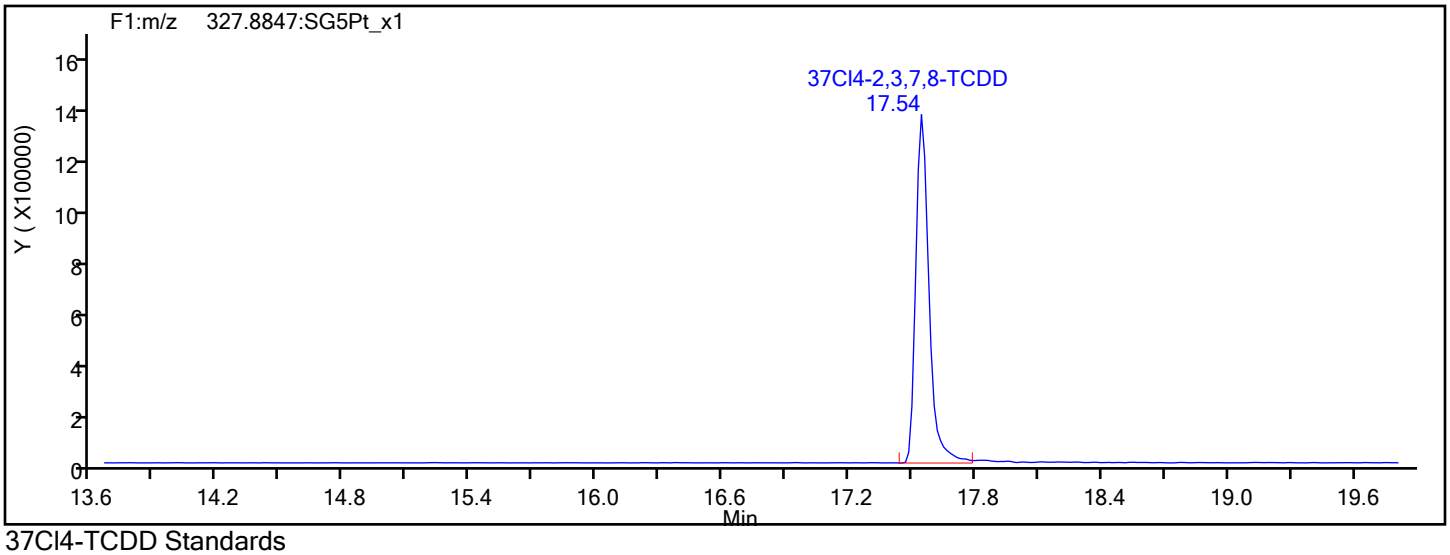

37Cl4-TCDD Standards

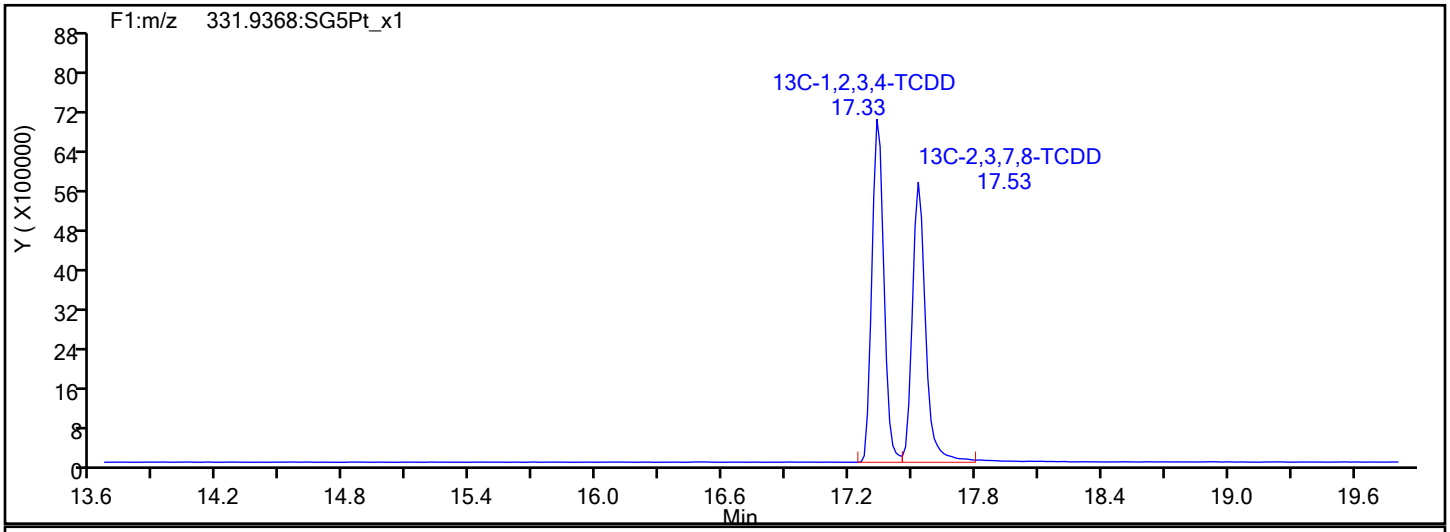

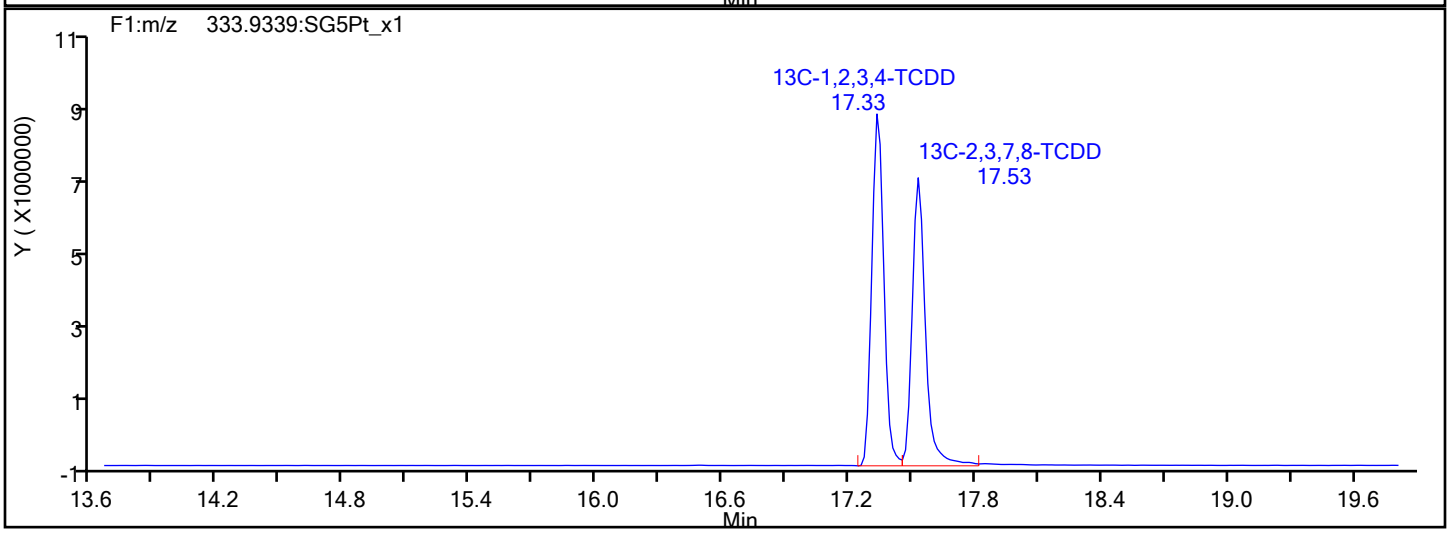

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

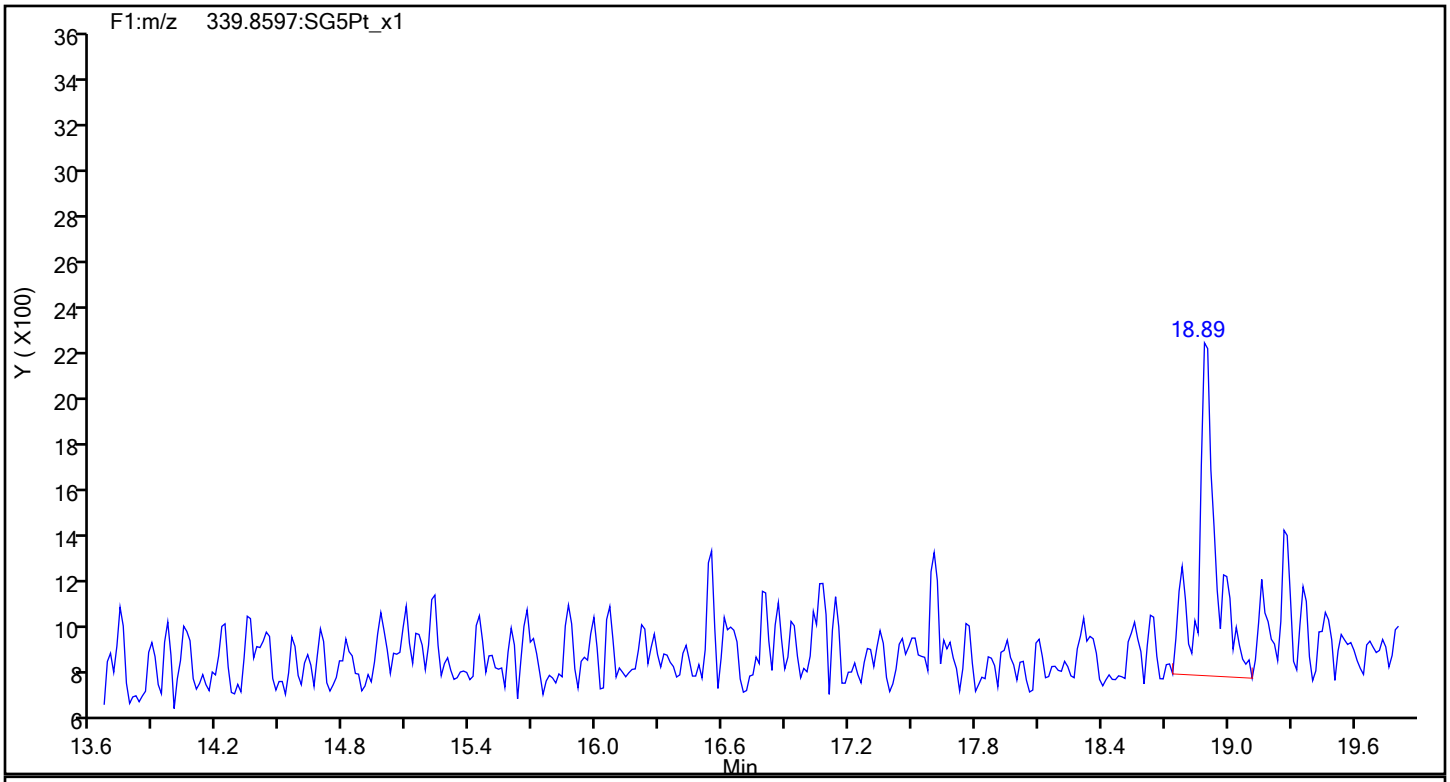

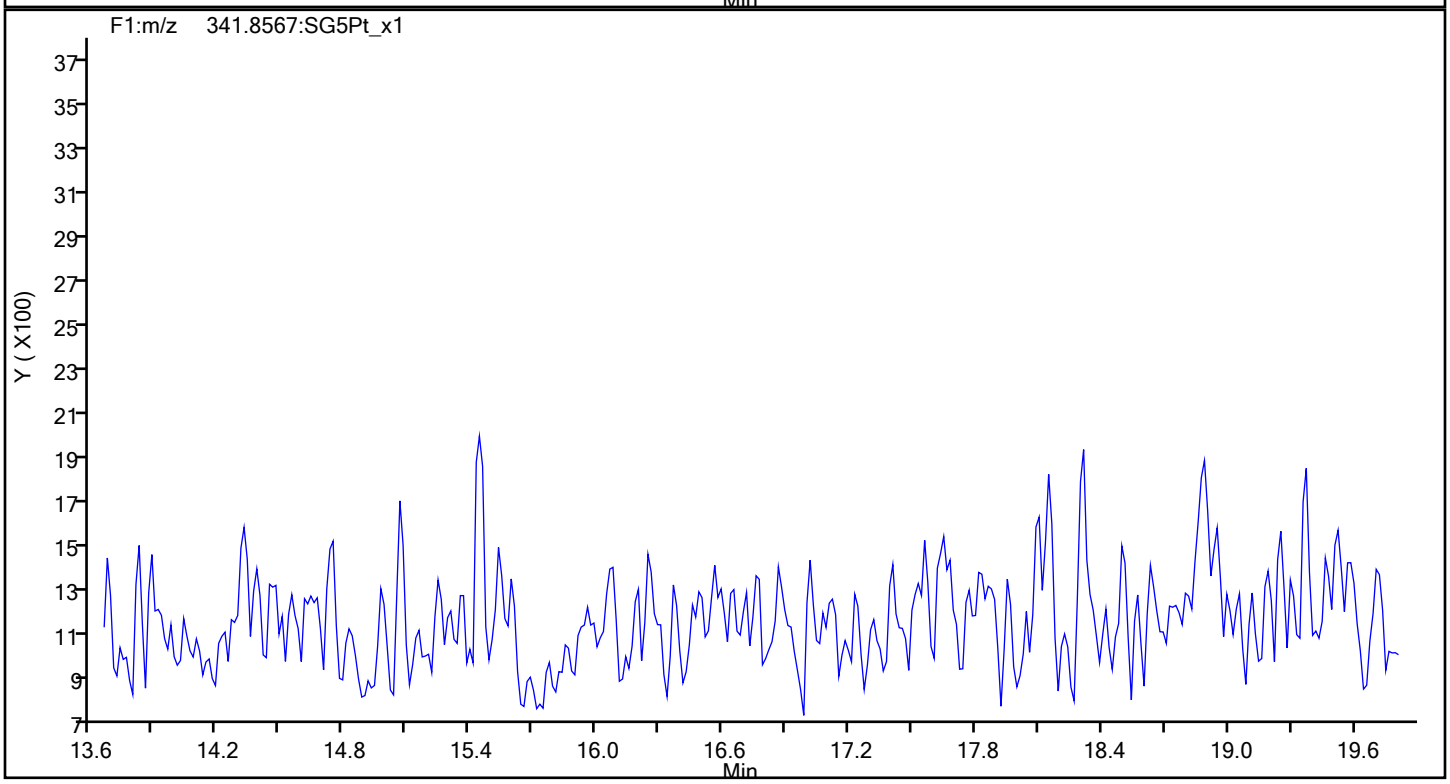

Report Date: 06-Feb-2020 11:22:47 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

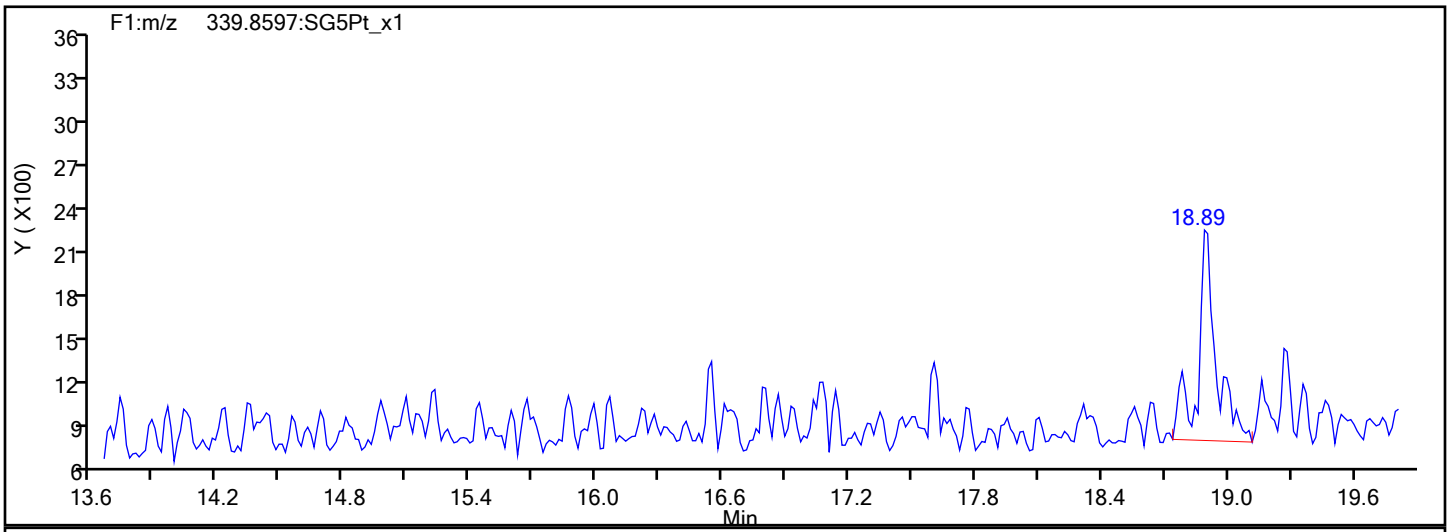

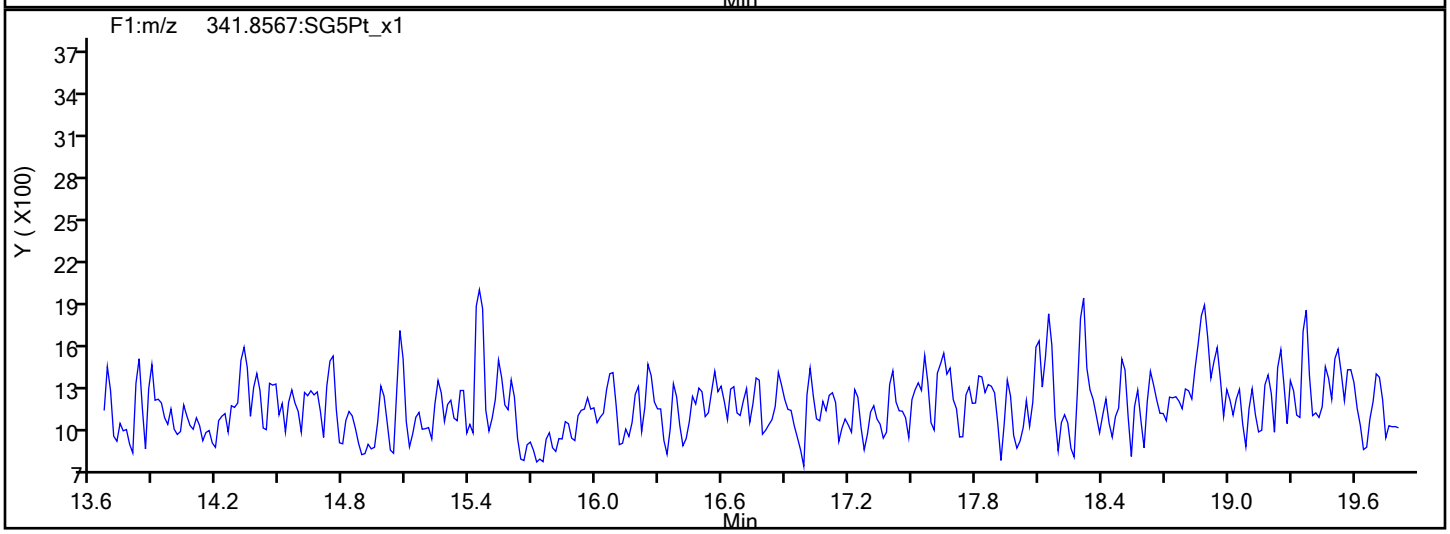

F1 PeCDFs Interference Mass

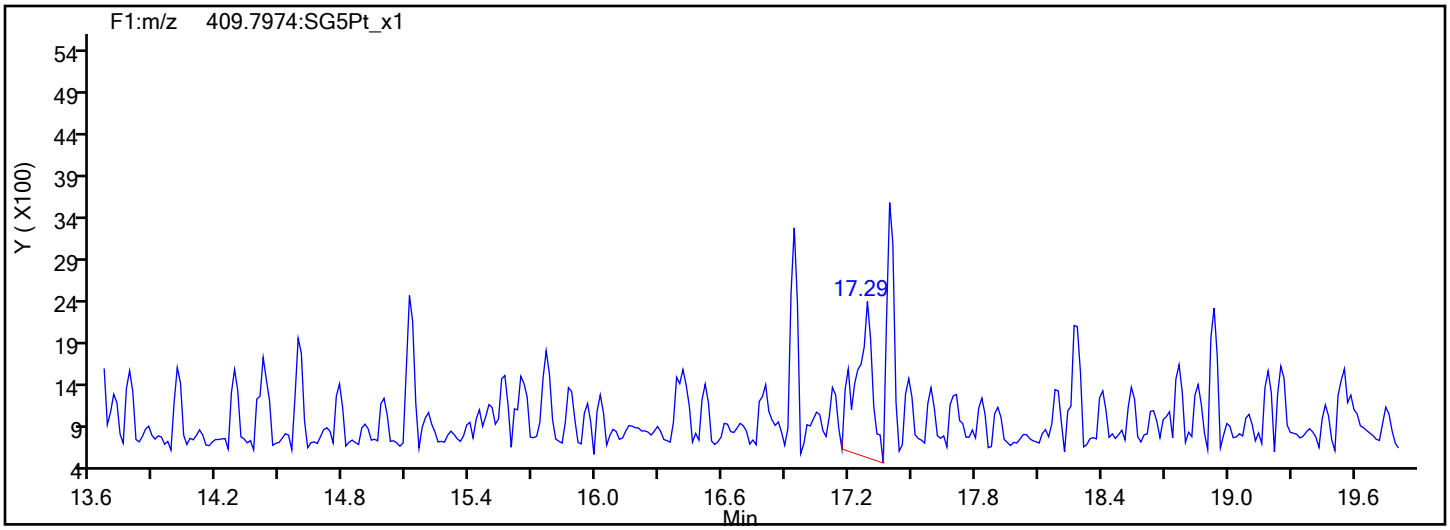

Report Date: 06-Feb-2020 11:22:47 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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PeCDF

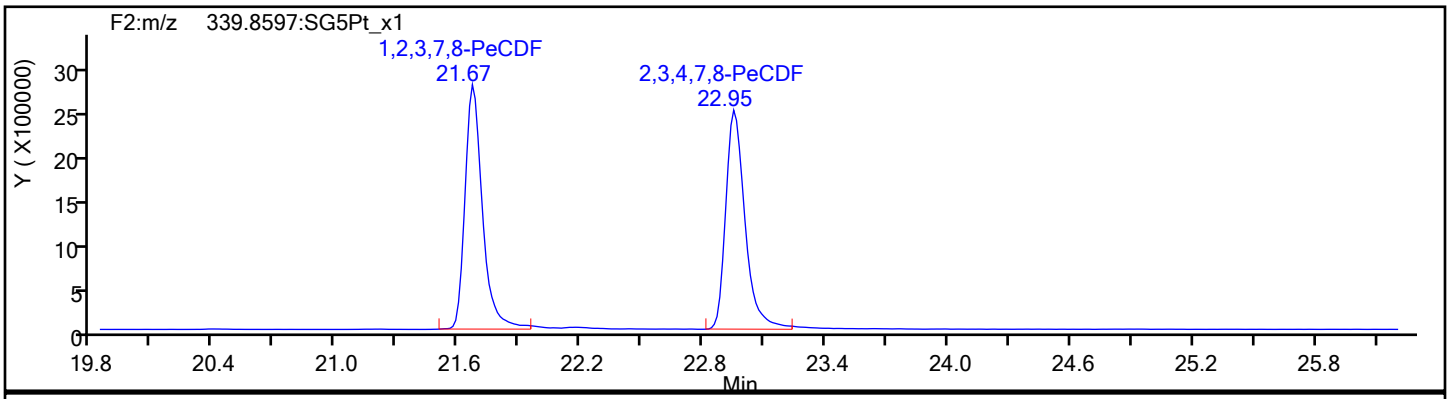

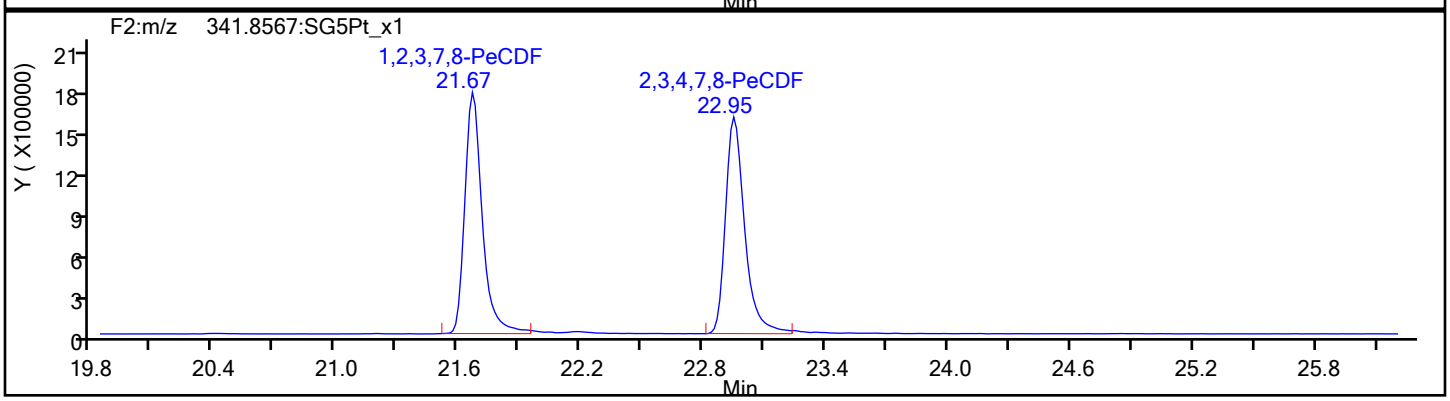

PeCDF Standards

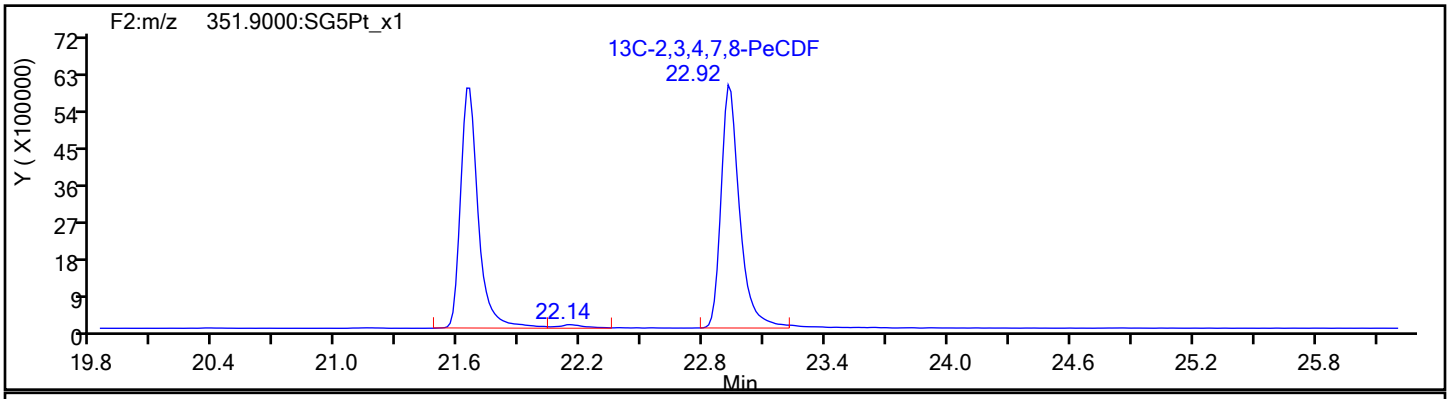

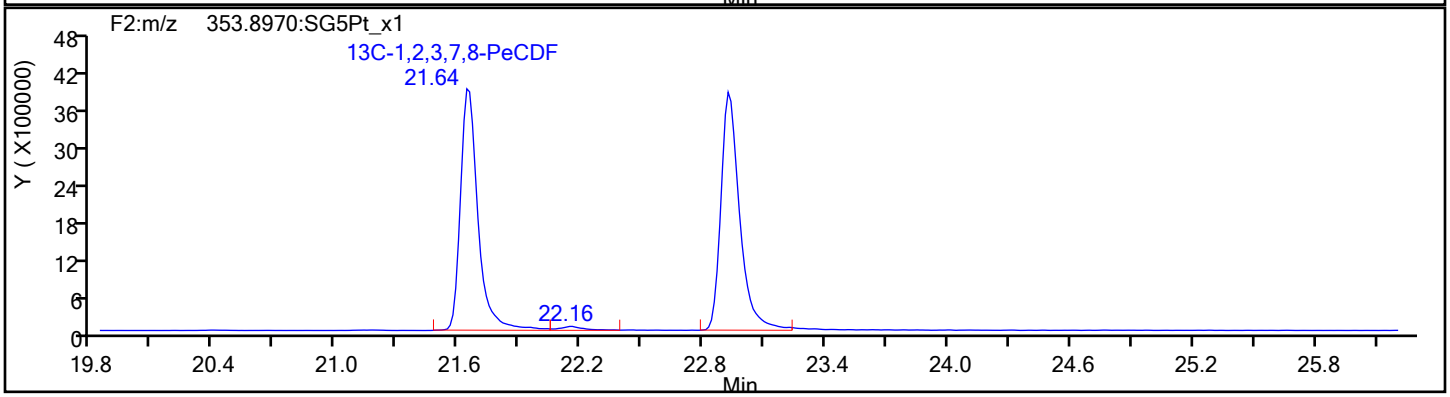

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Eurofins TestAmerica, Sacramento

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PeCDF

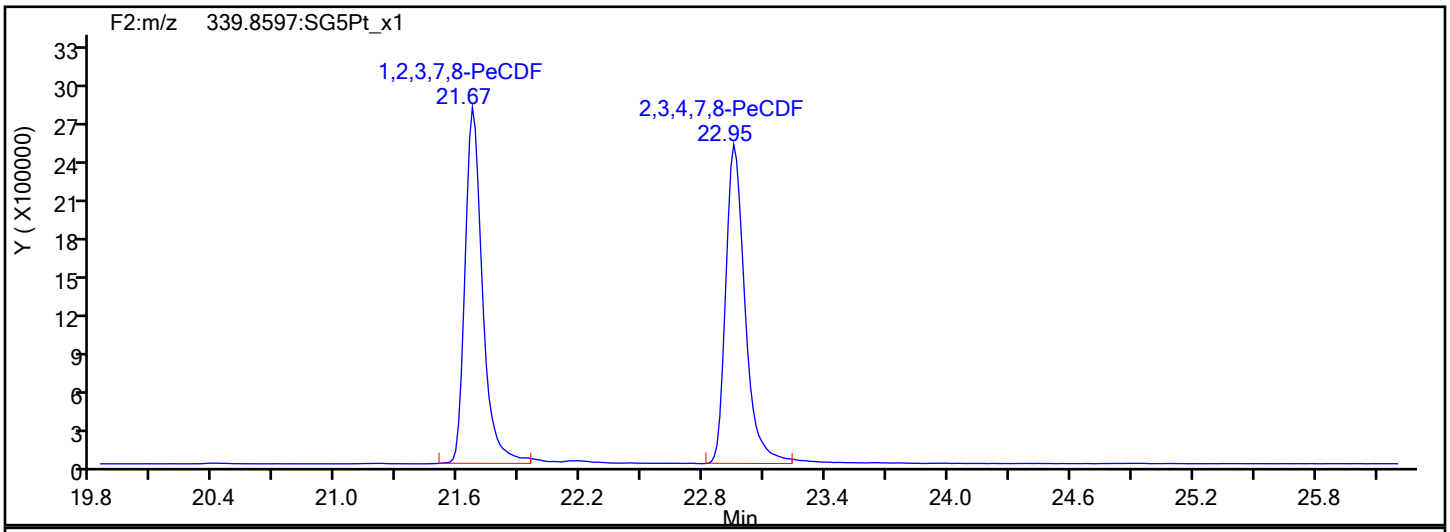

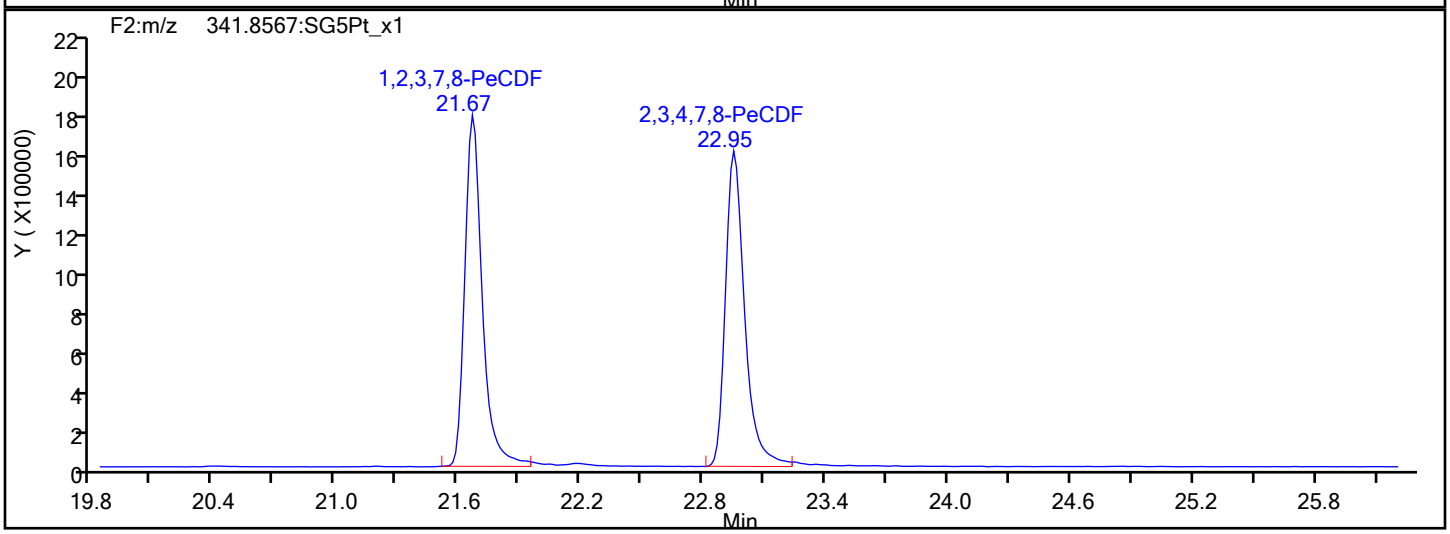

PeCDF Interference Mass

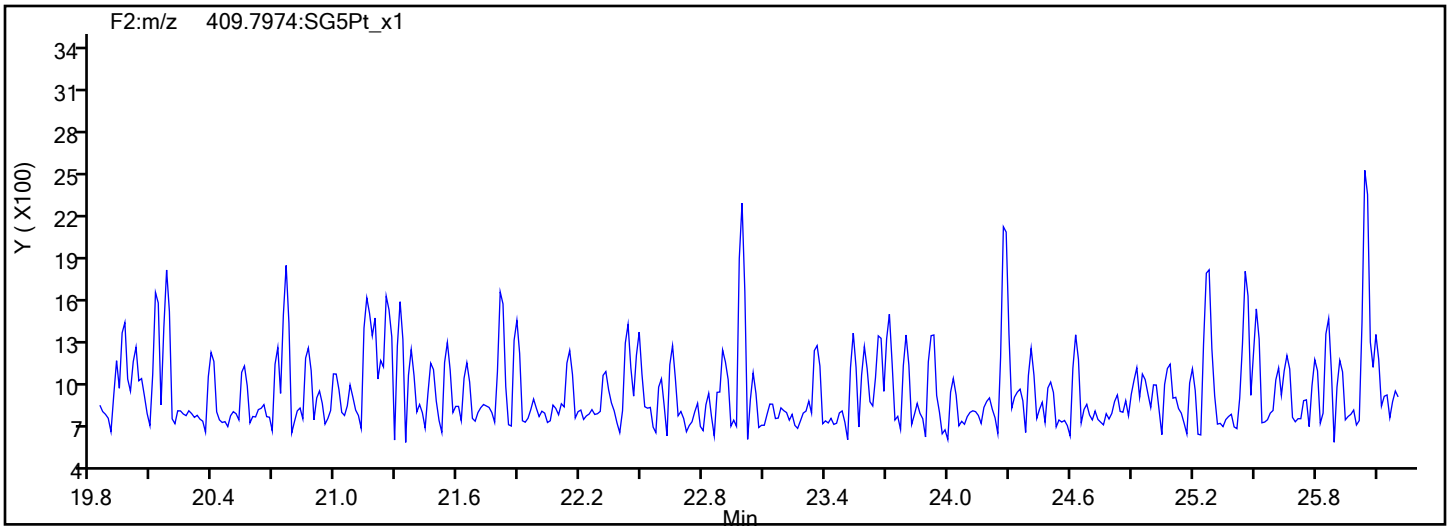

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Eurofins TestAmerica, Sacramento

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PeCDD

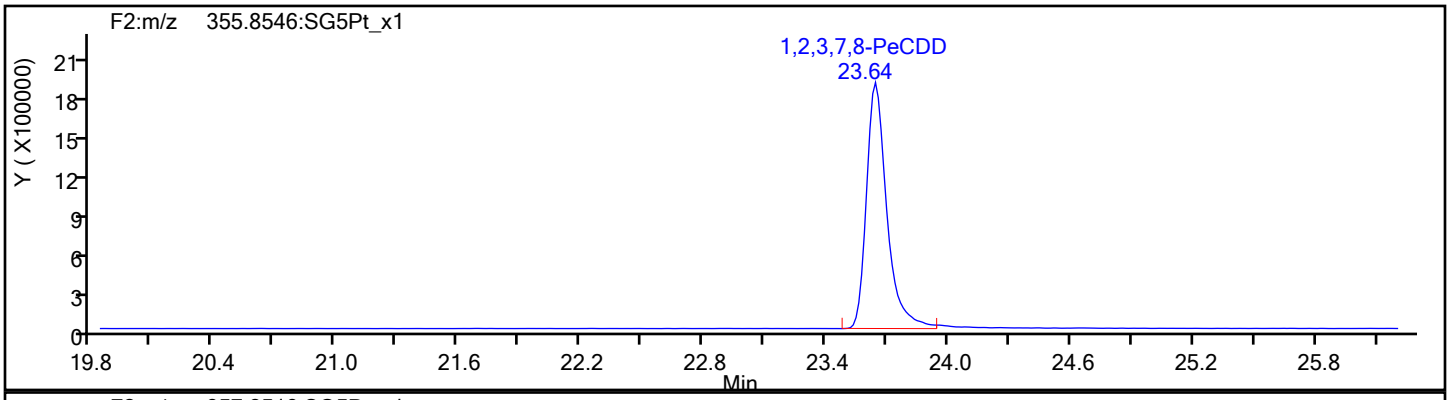

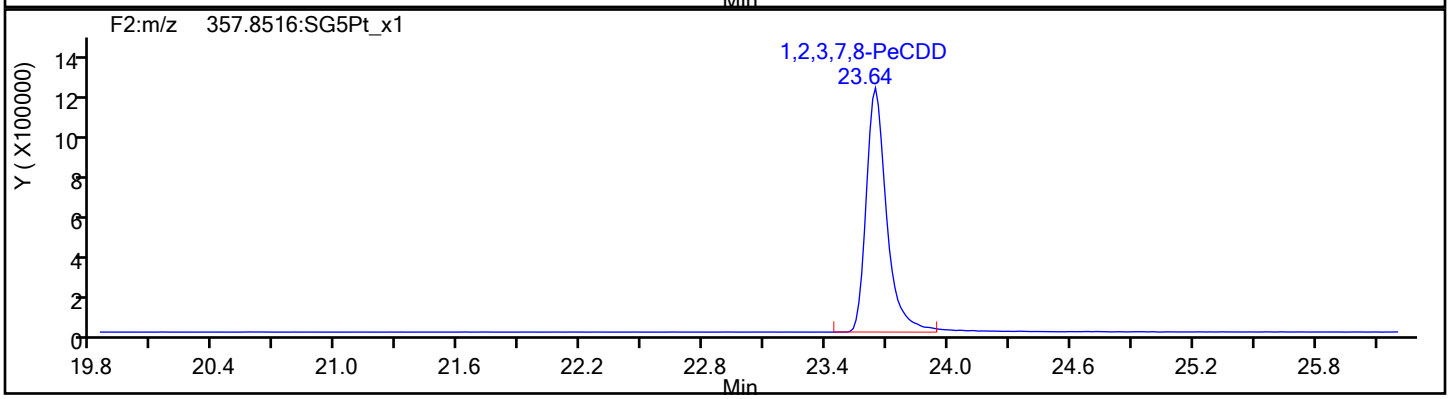

PeCDD Standards

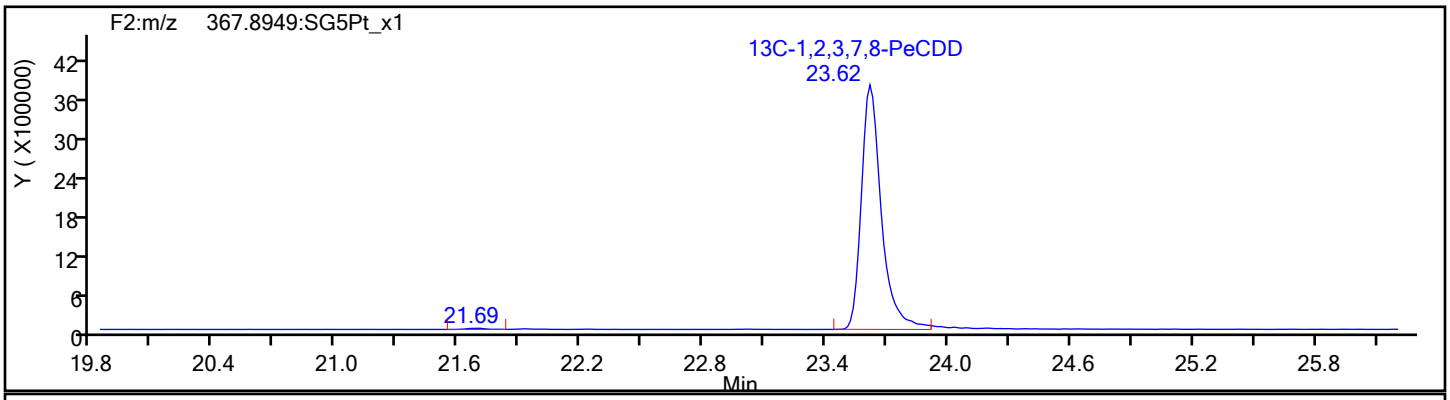

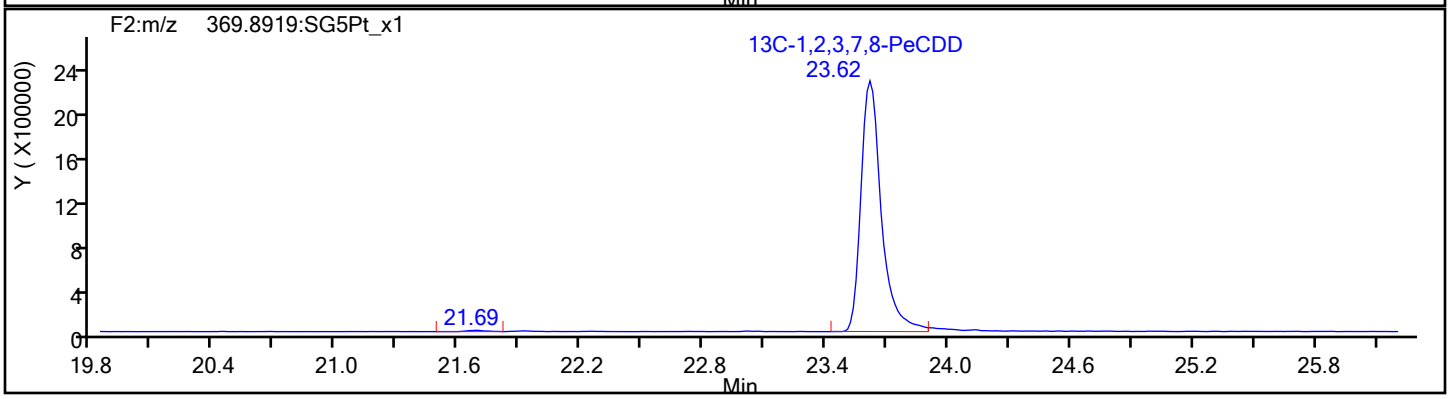

Report Date: 06-Feb-2020 11:22:48 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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HxCDF

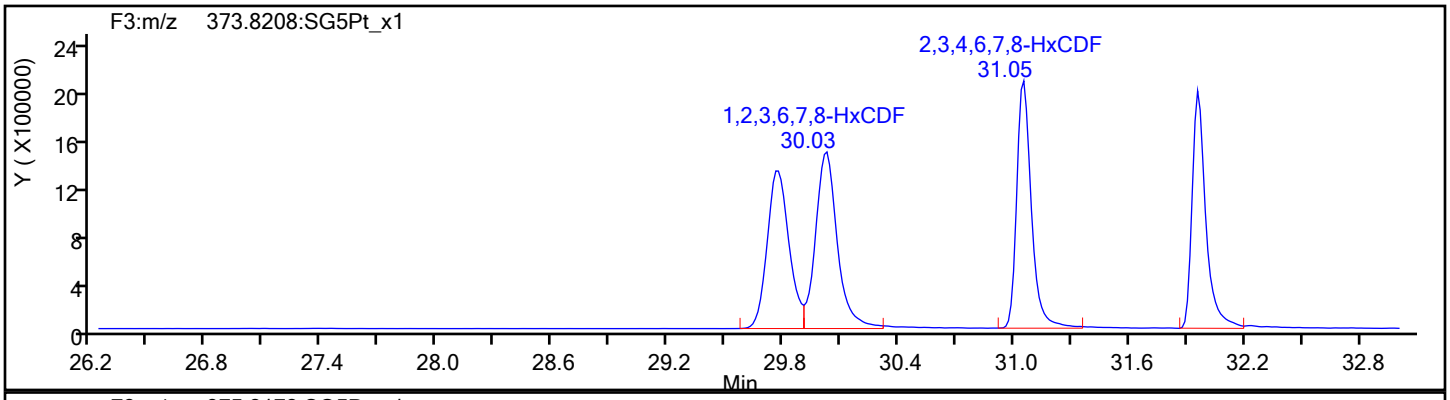

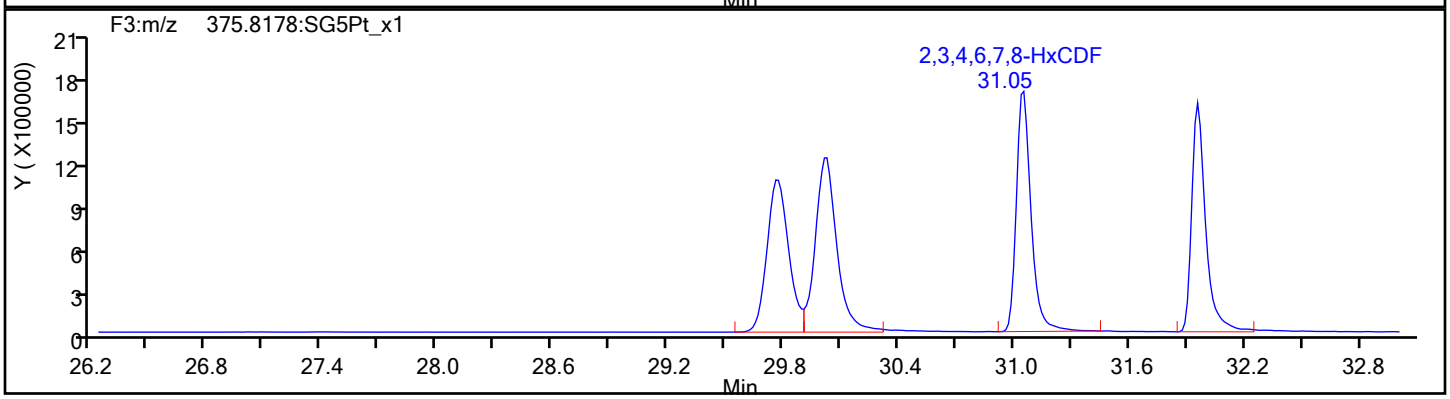

HxCDF Standards

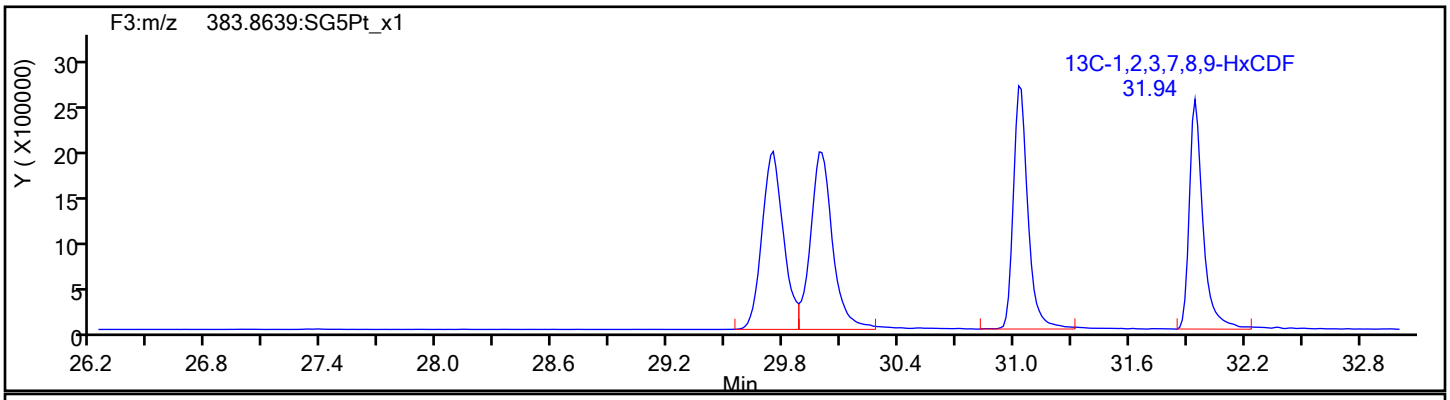

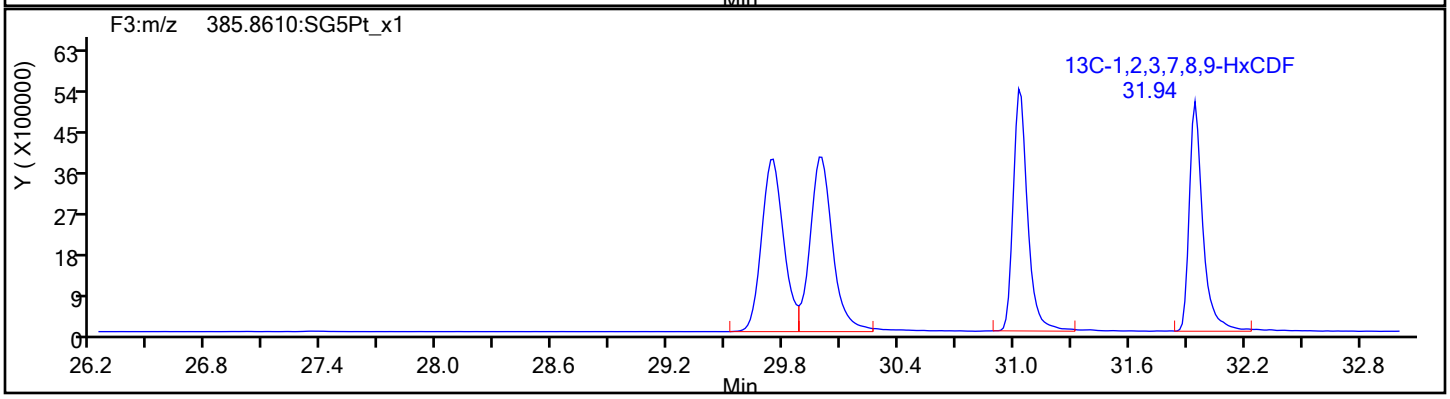

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Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	AJS
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HxCDF

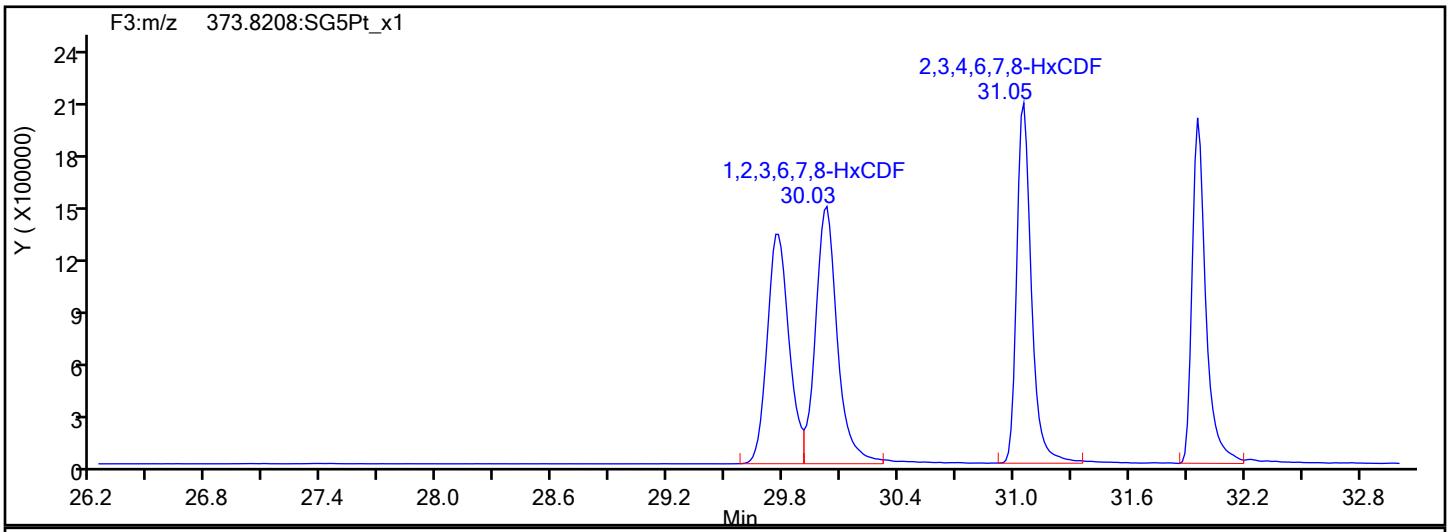

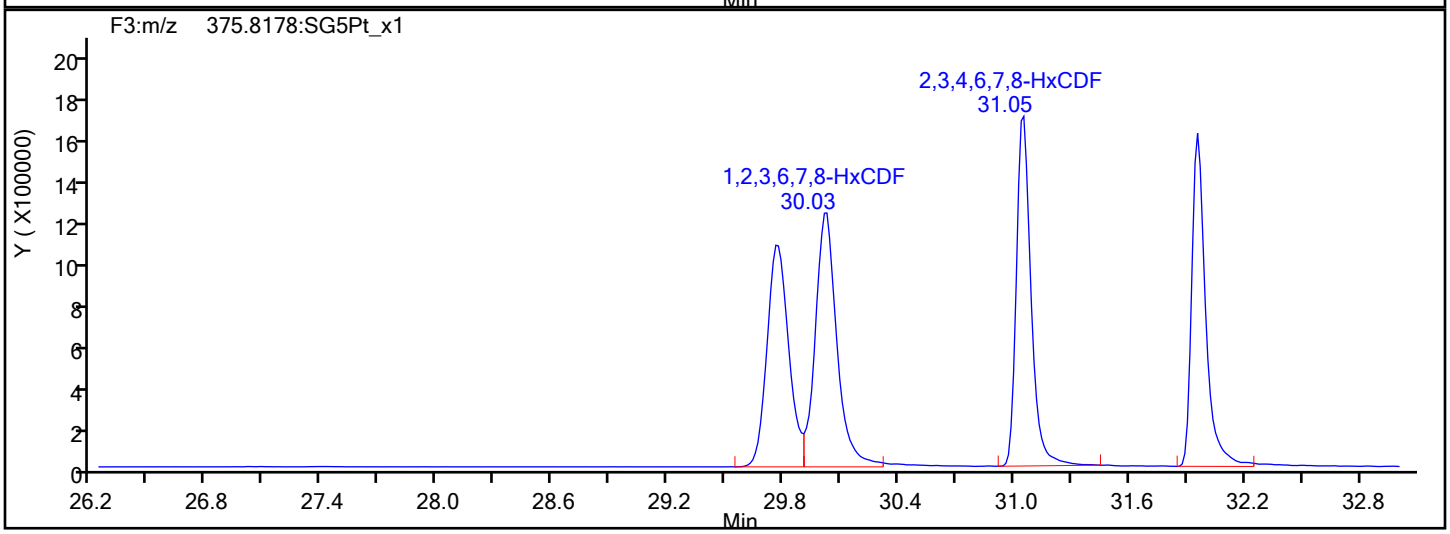

HxCDF Interference Mass

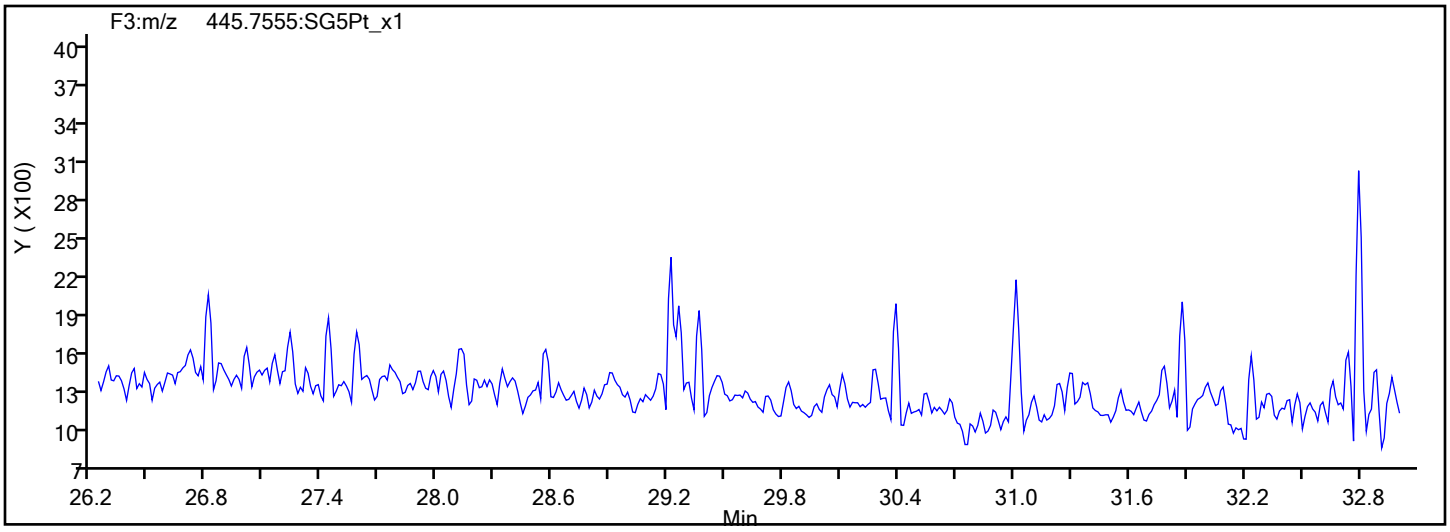

Report Date: 06-Feb-2020 11:22:48 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_2.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HxCDD

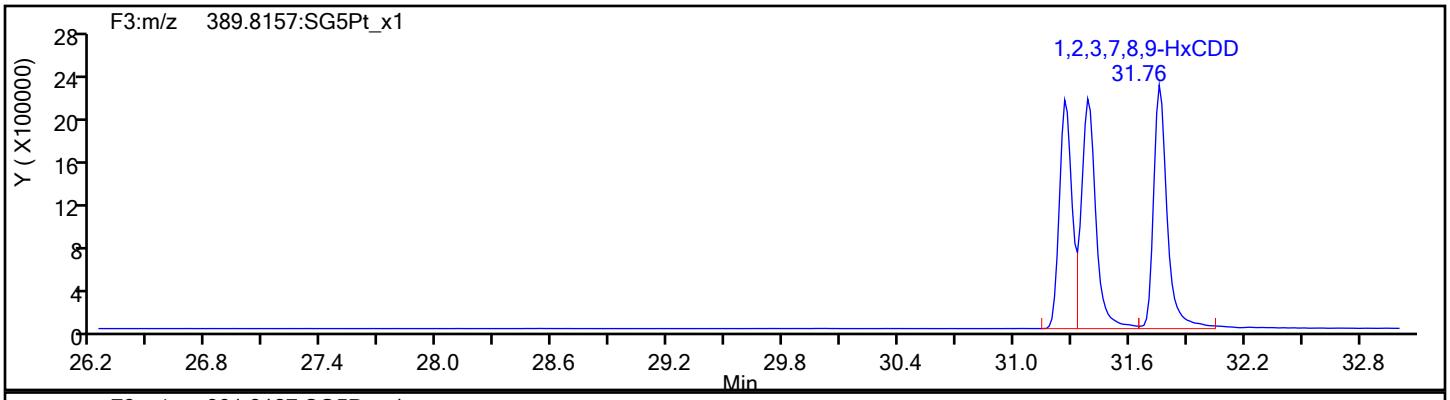

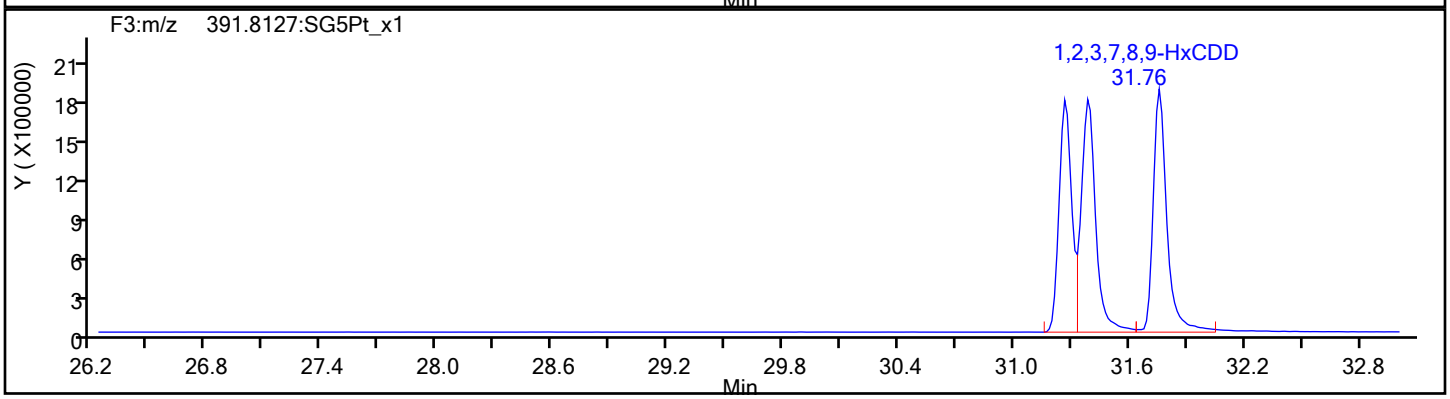

HxCDD Standards

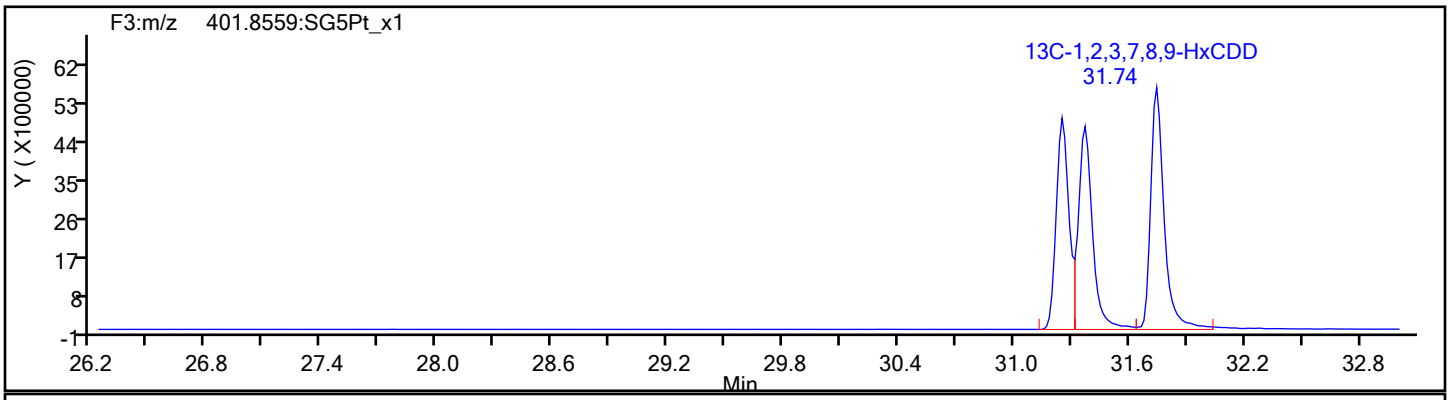

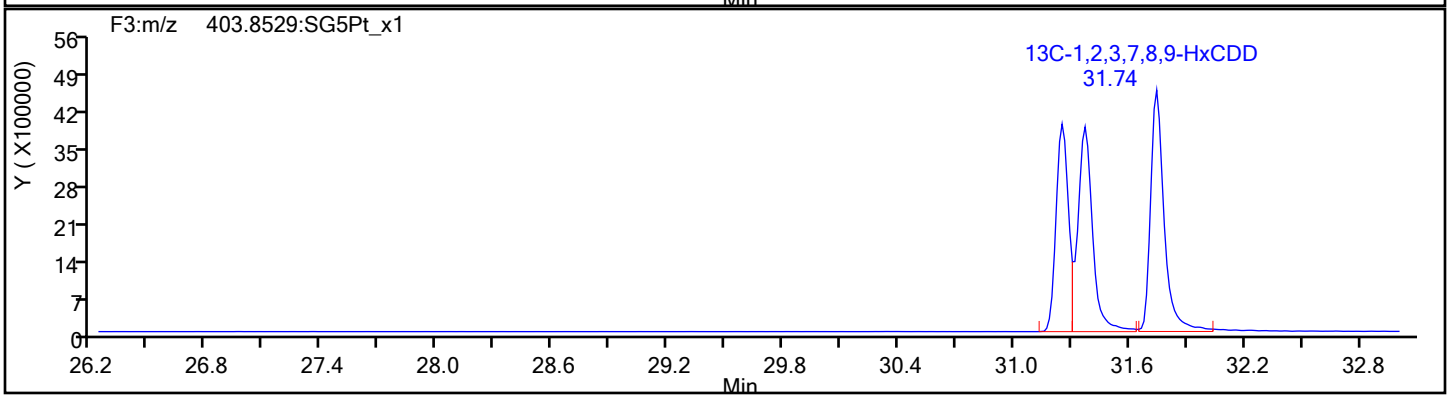

Report Date: 06-Feb-2020 11:22:48 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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HpCDF

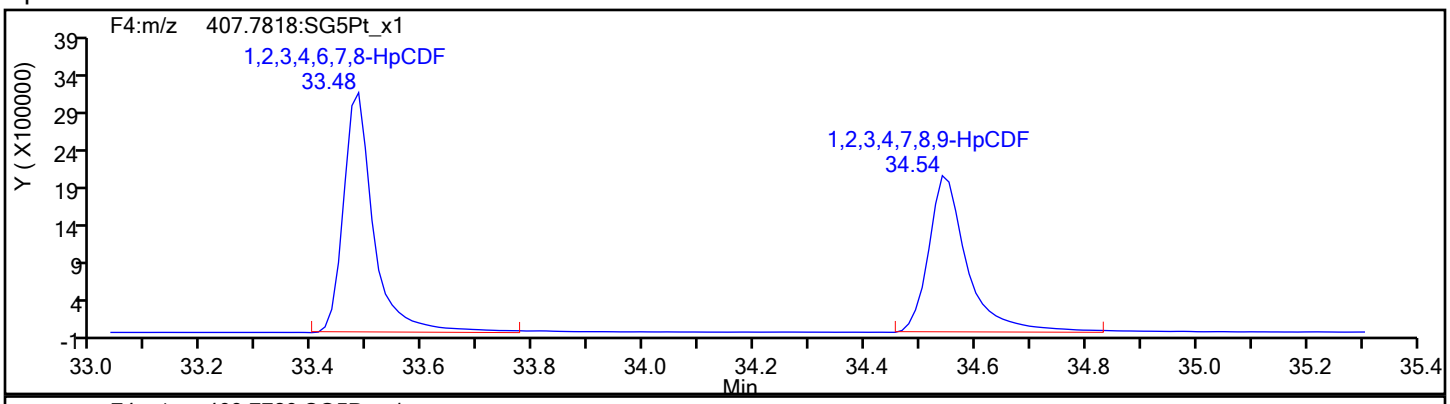

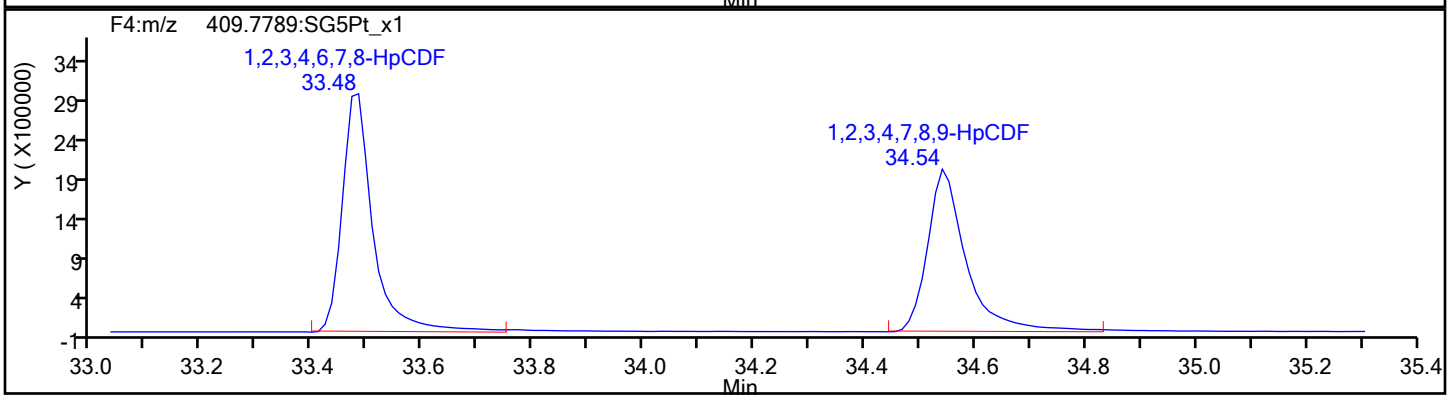

HpCDF Standards

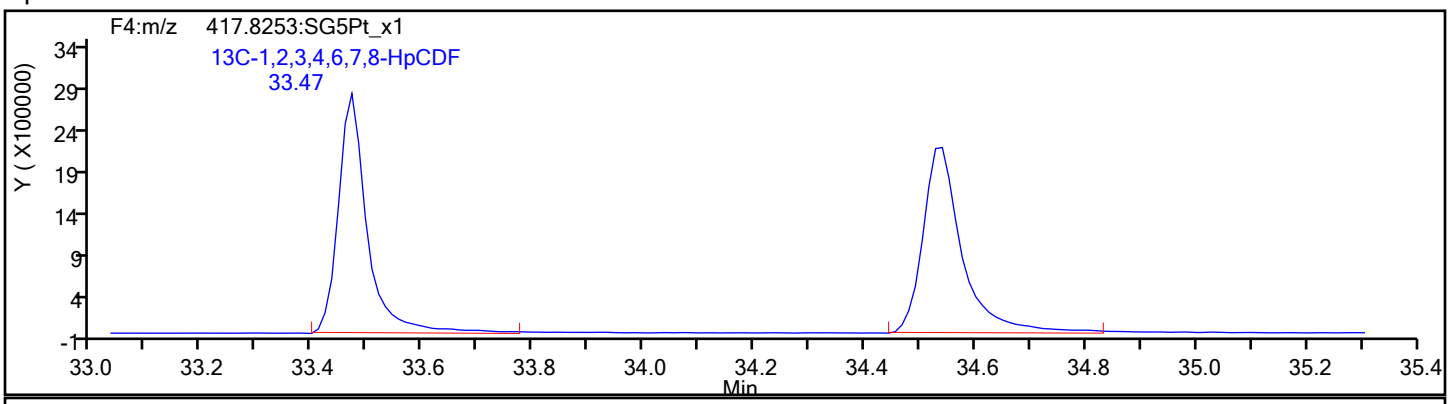

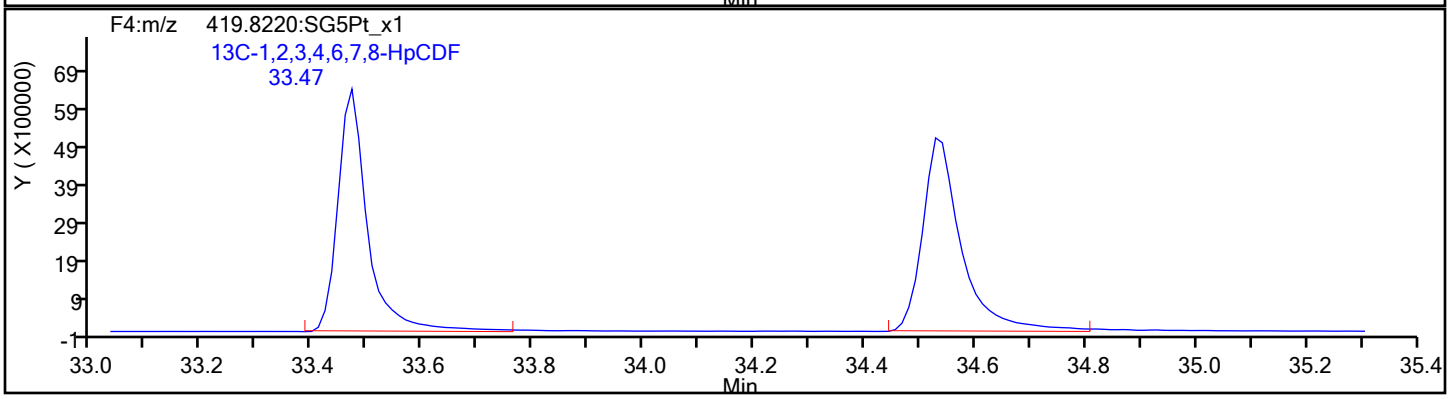

Report Date: 06-Feb-2020 11:22:48 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

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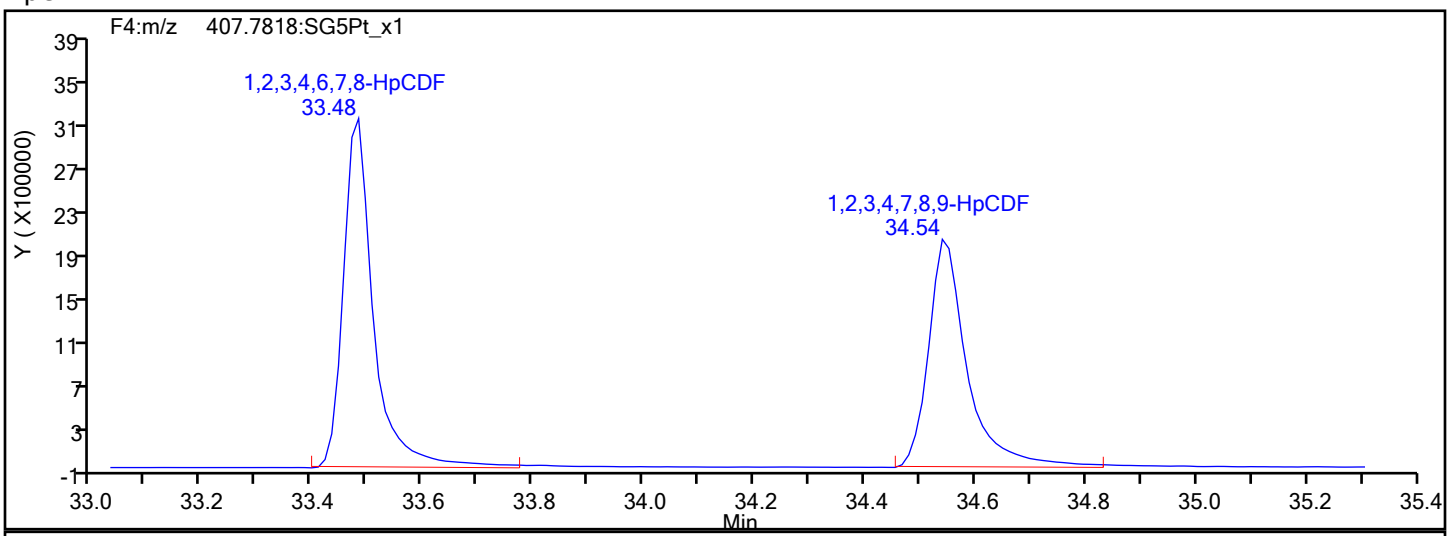

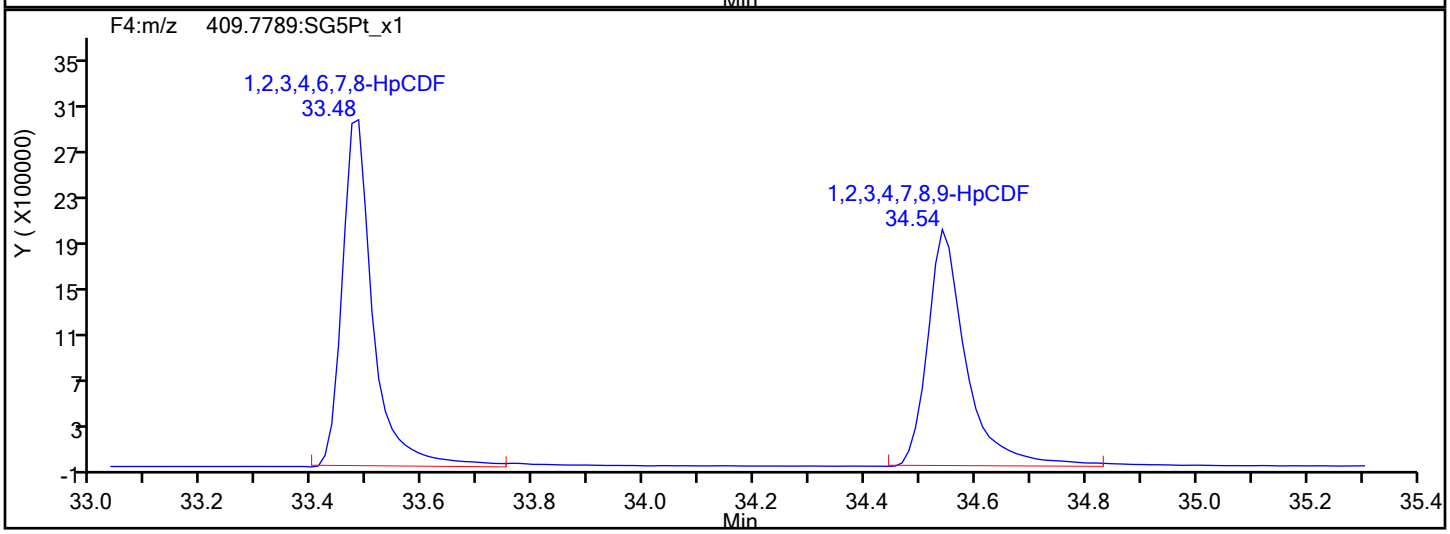

HpCDF Interference Mass

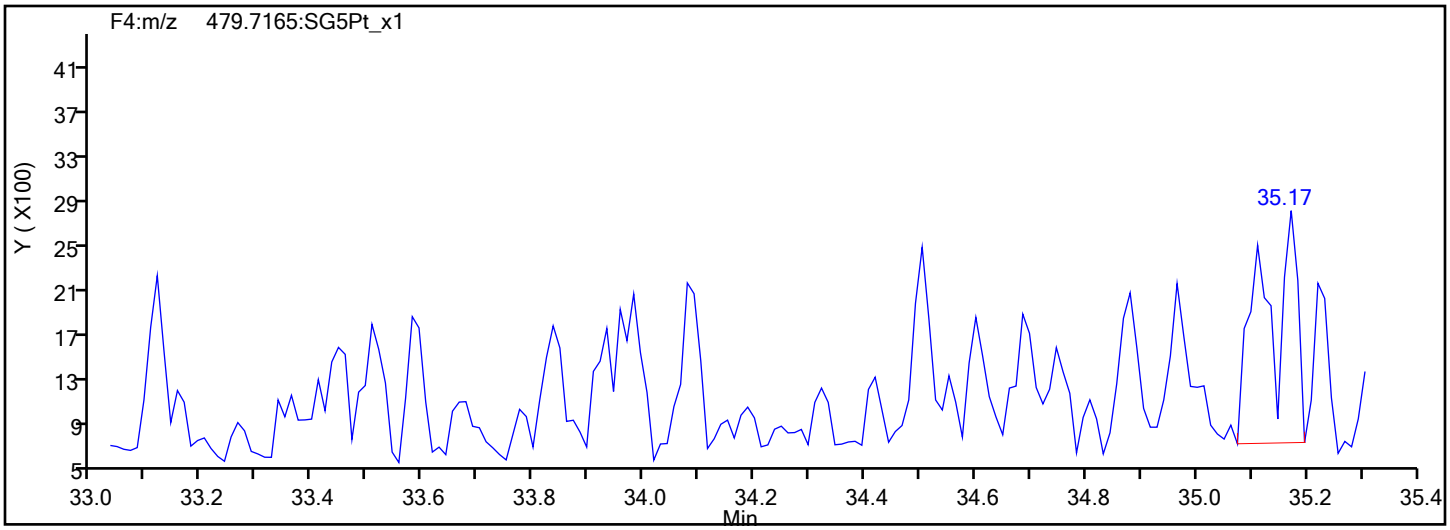

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Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_2.d		
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HpCDD

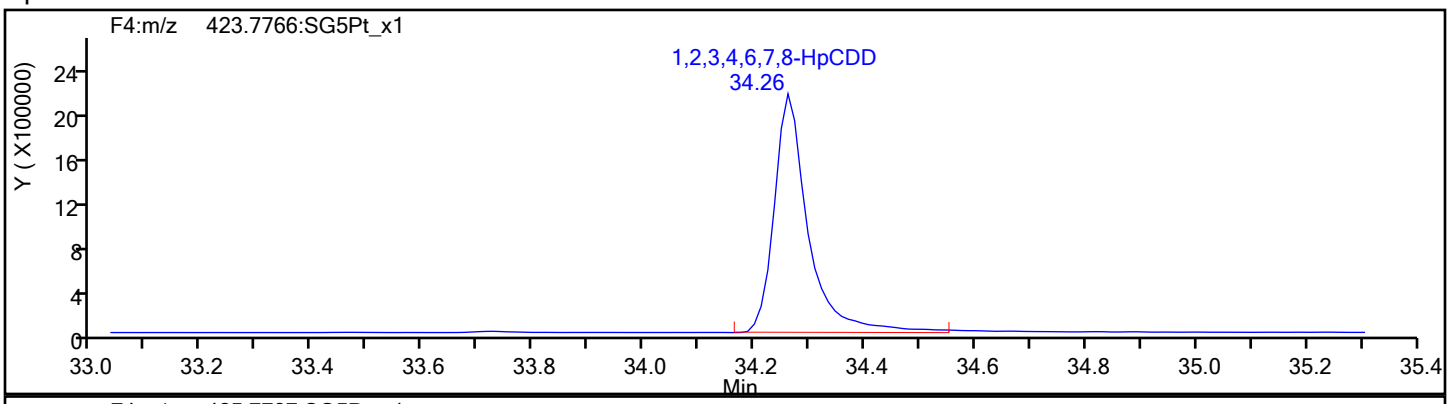

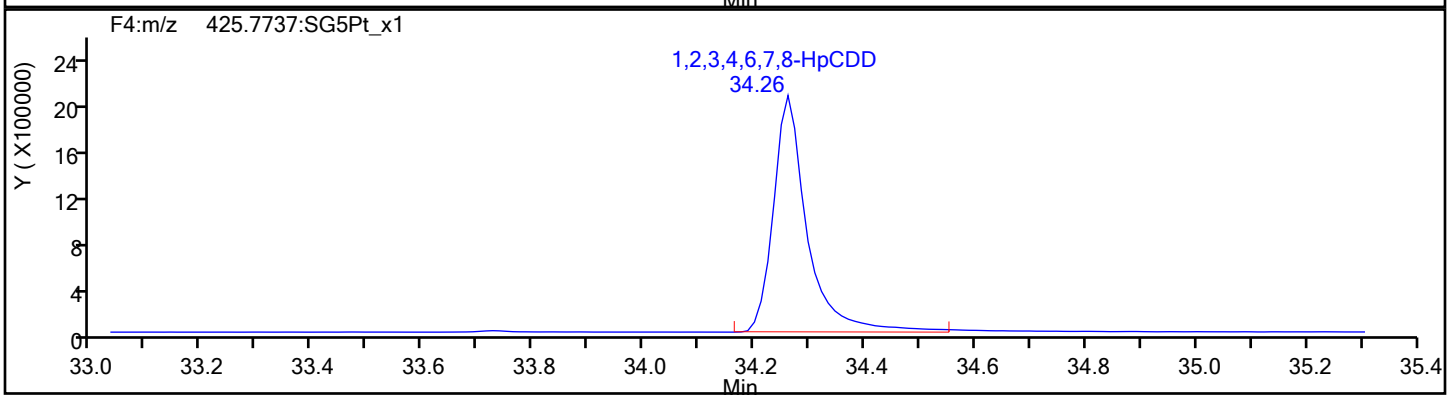

HpCDD Standards

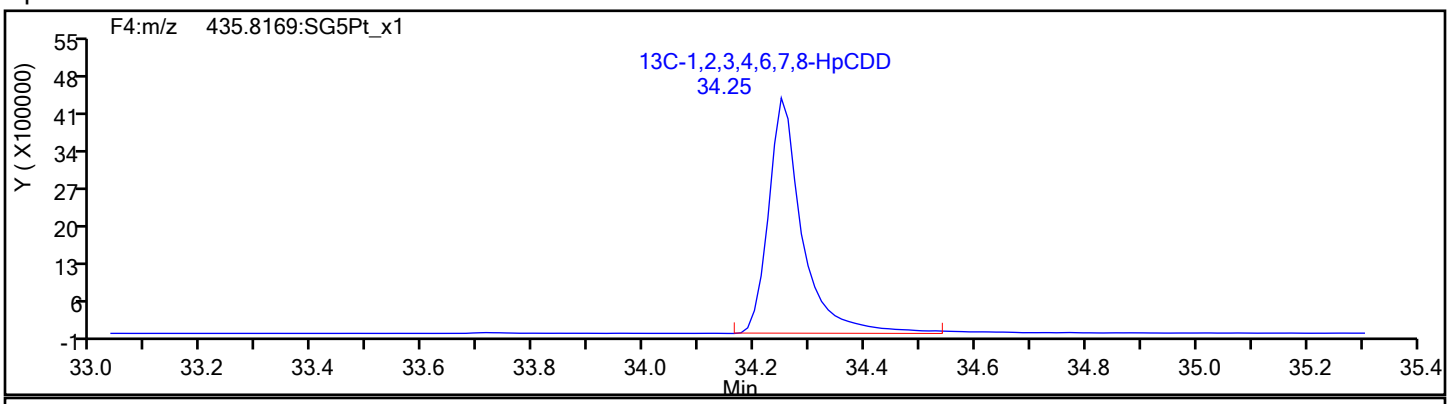

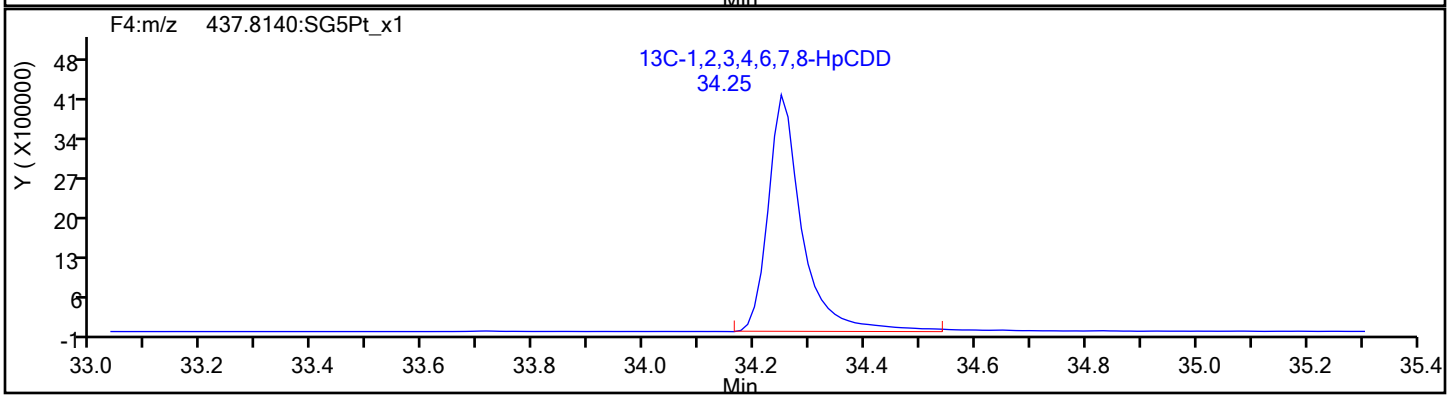

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Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

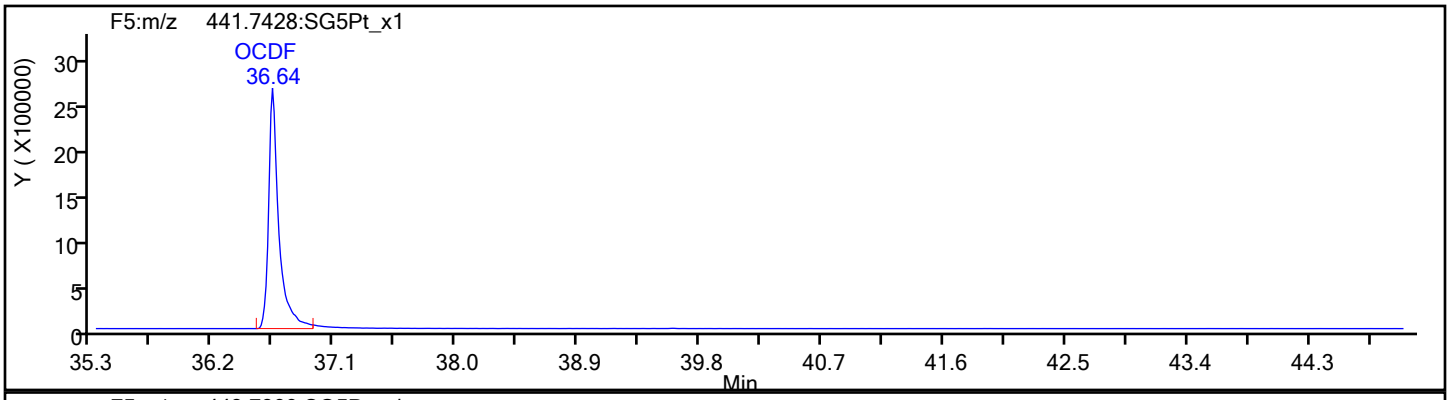

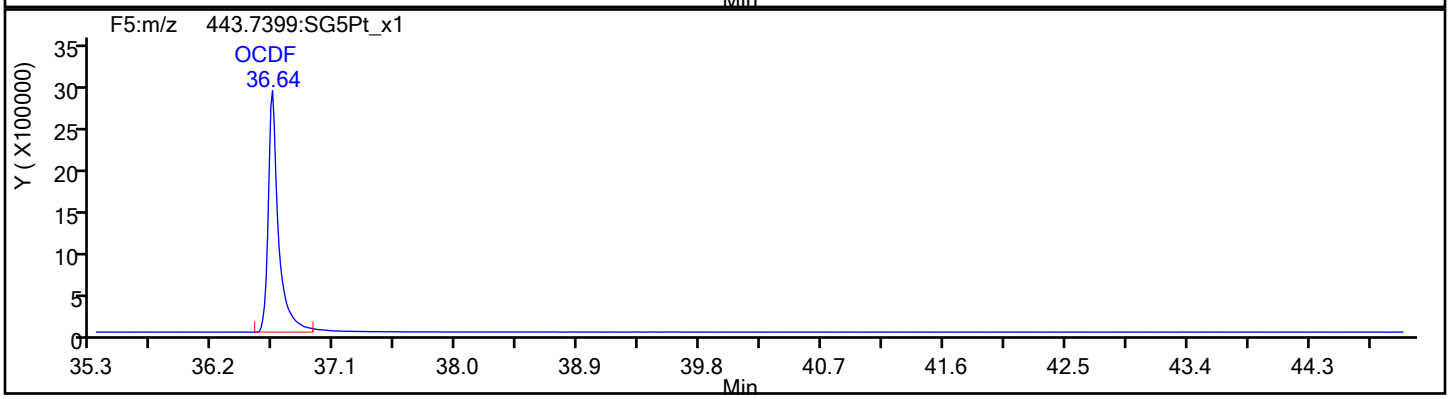

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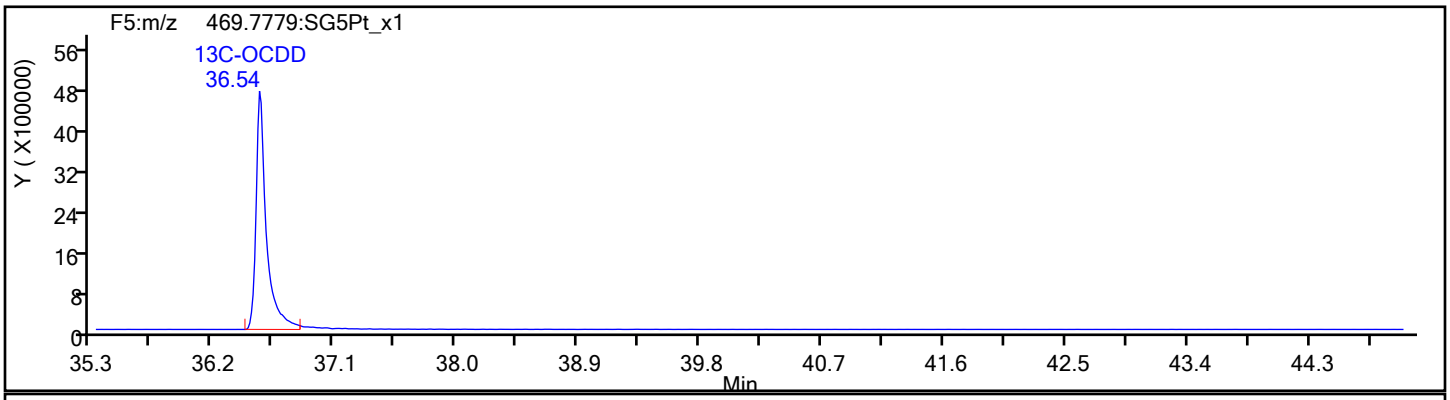

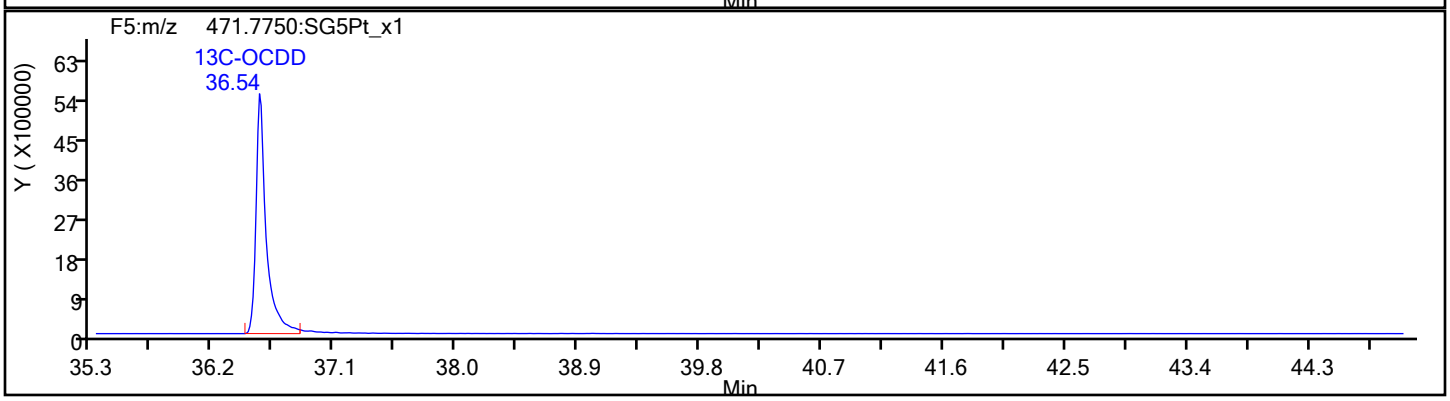

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Eurofins TestAmerica, Sacramento

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OCDF

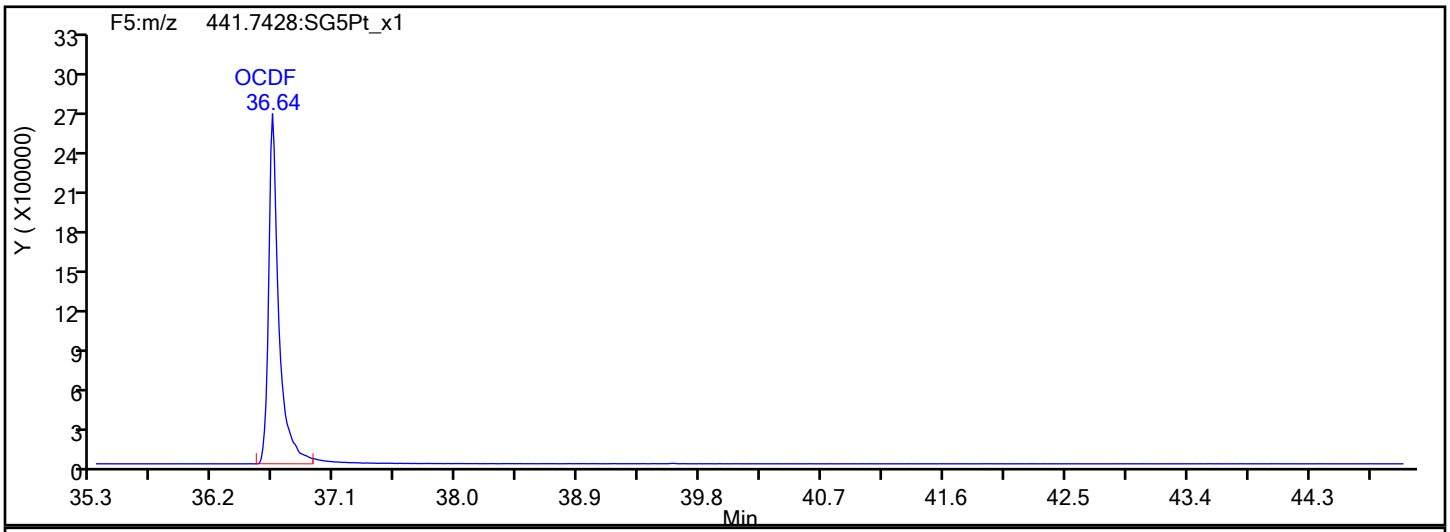

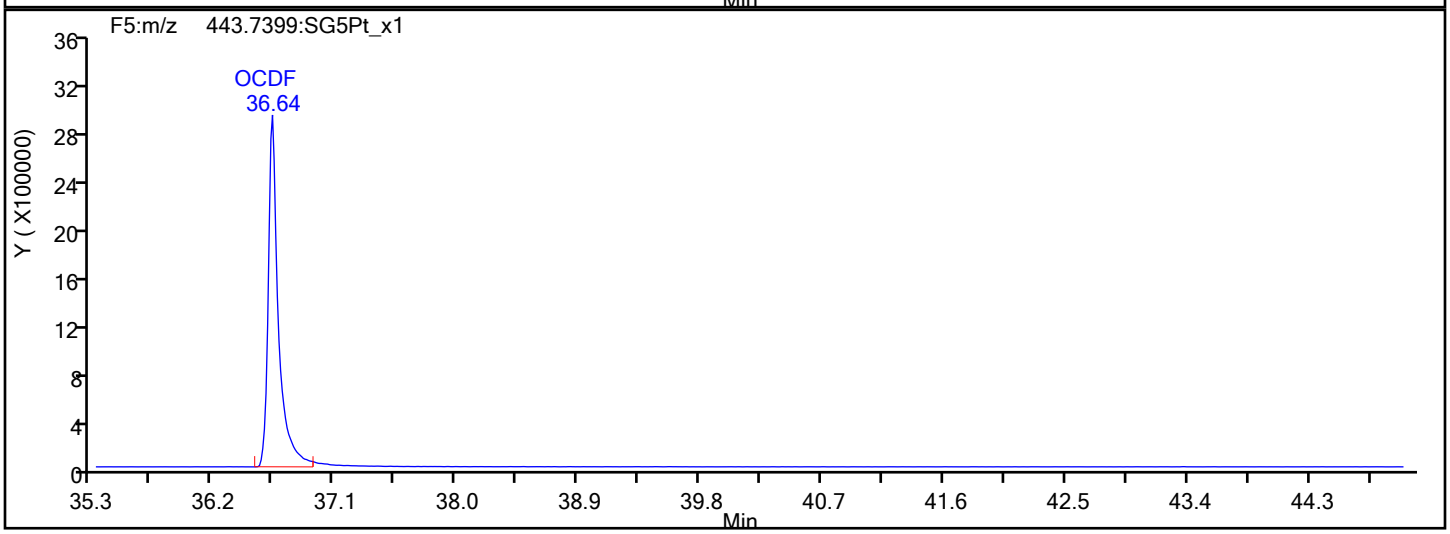

OCDF Interference Mass

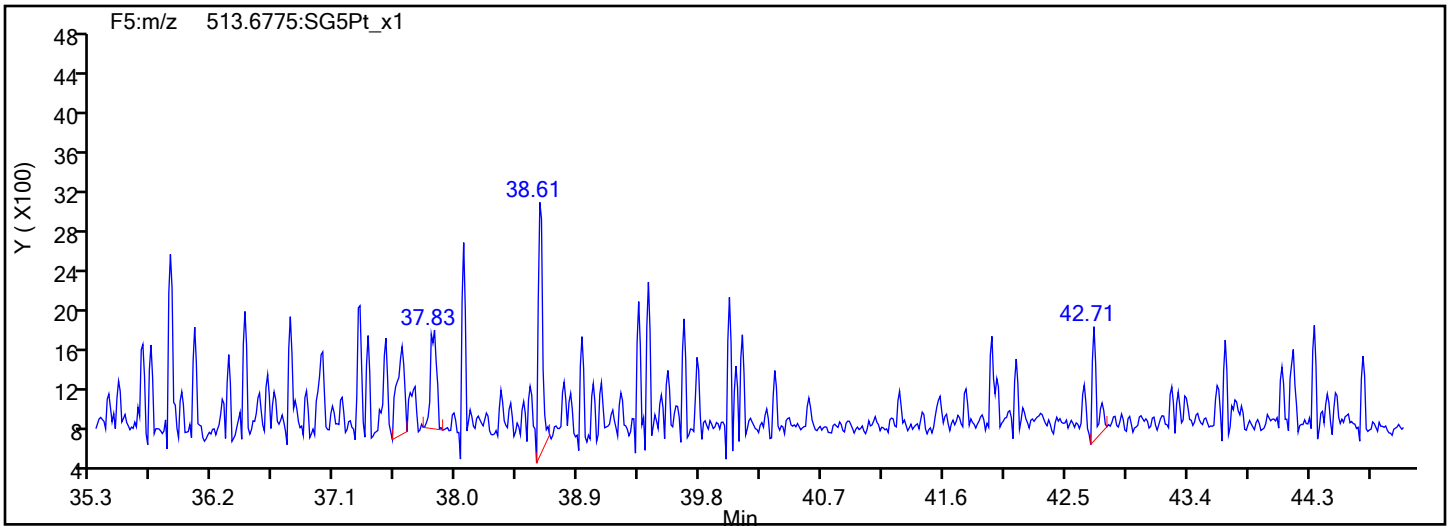

Report Date: 06-Feb-2020 11:22:48 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

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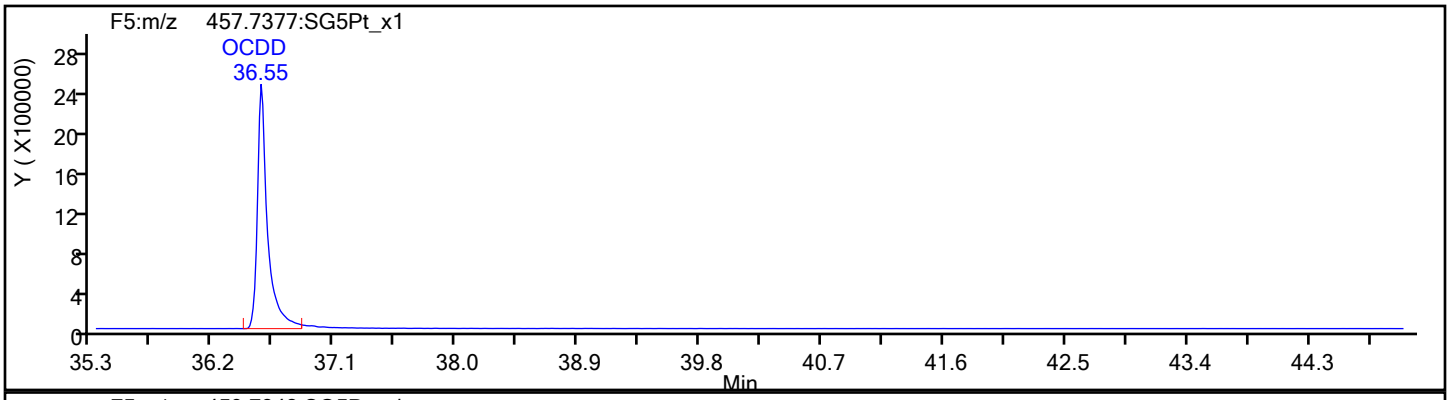

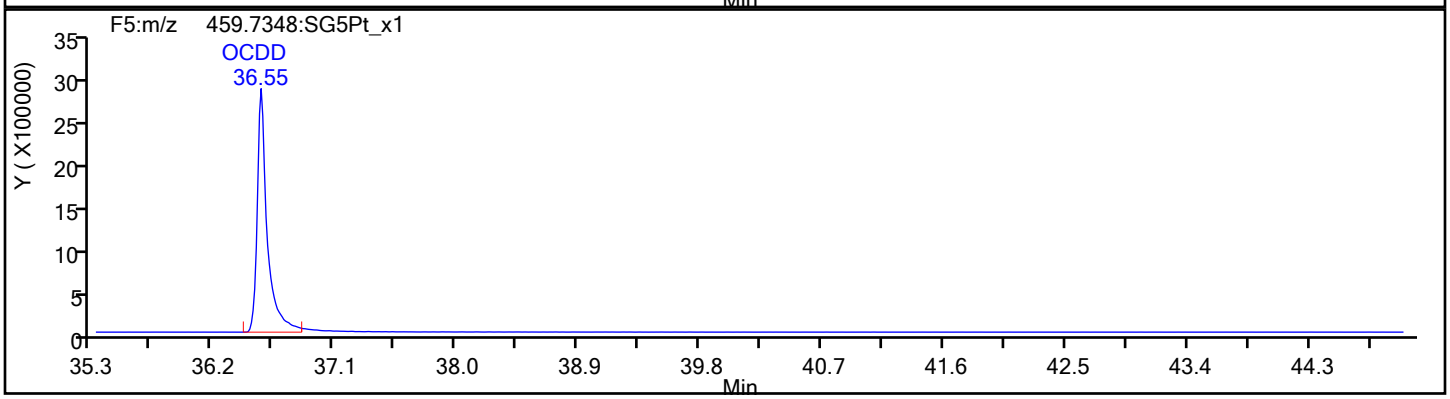

OCDD Standards

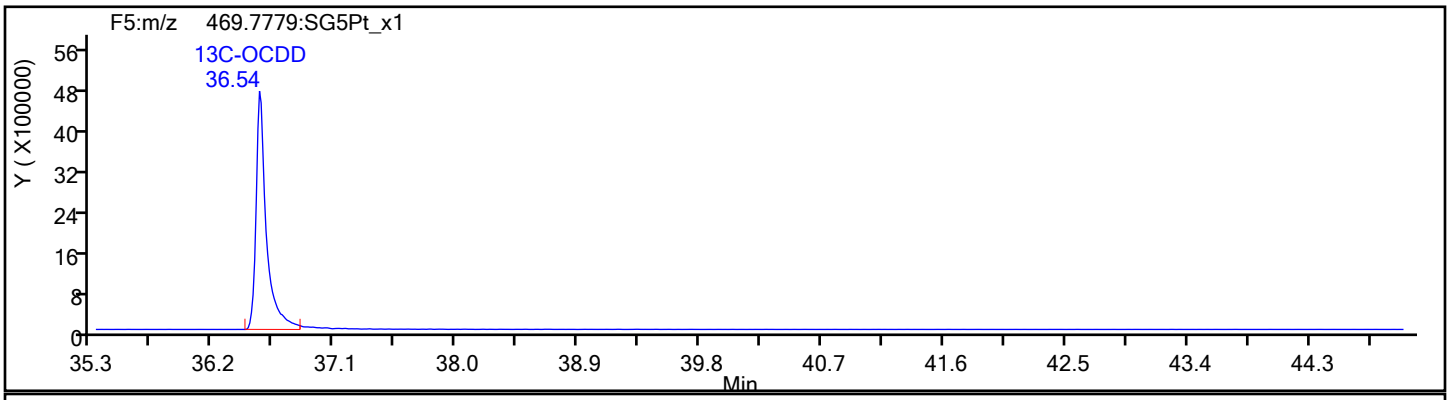

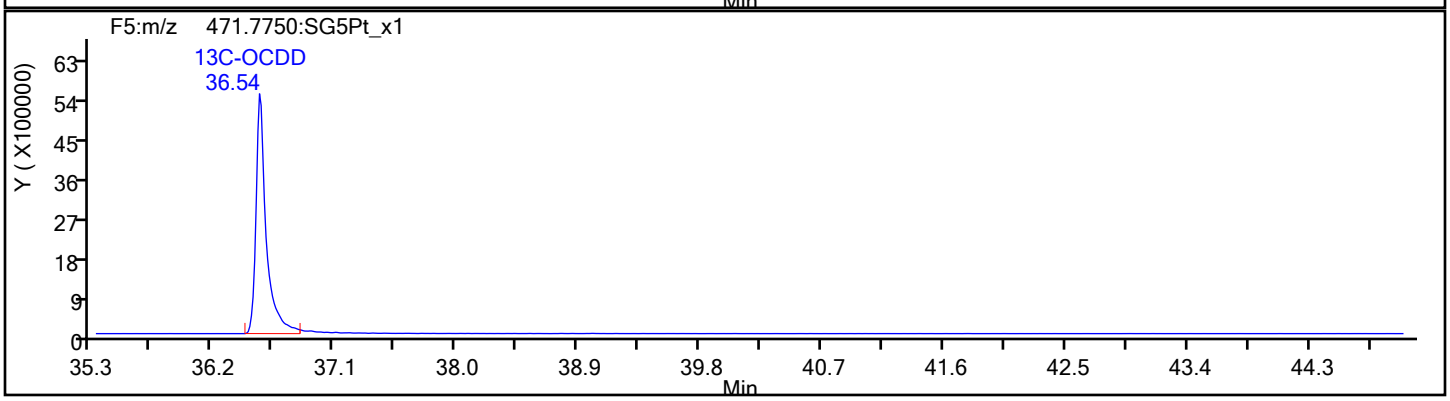

Report Date: 06-Feb-2020 11:22:49 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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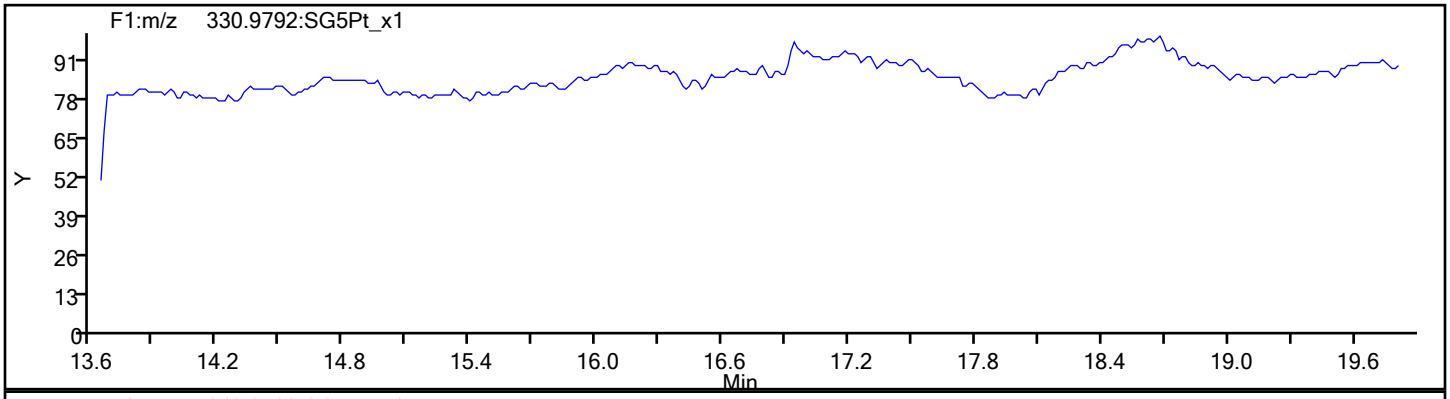

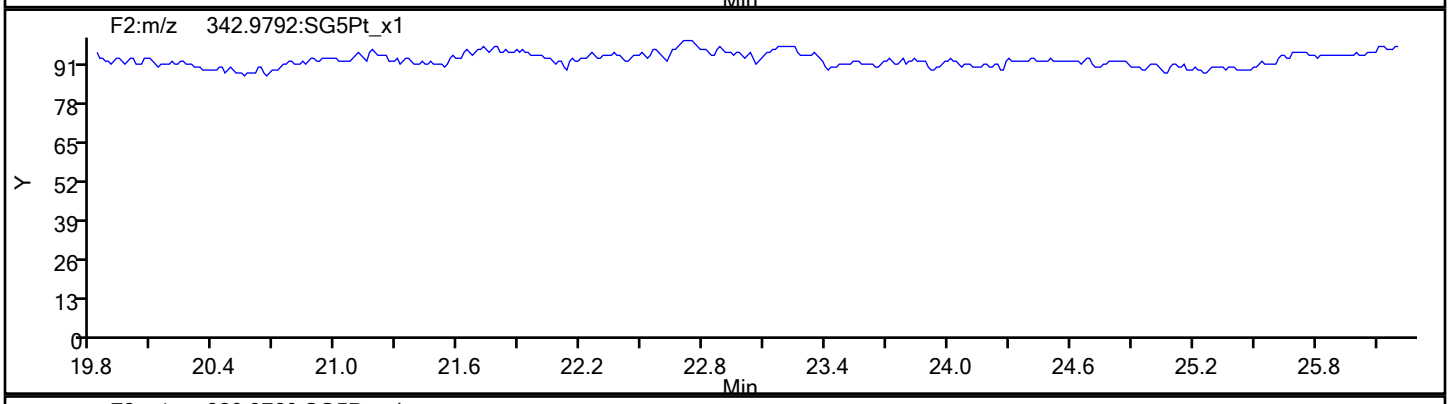

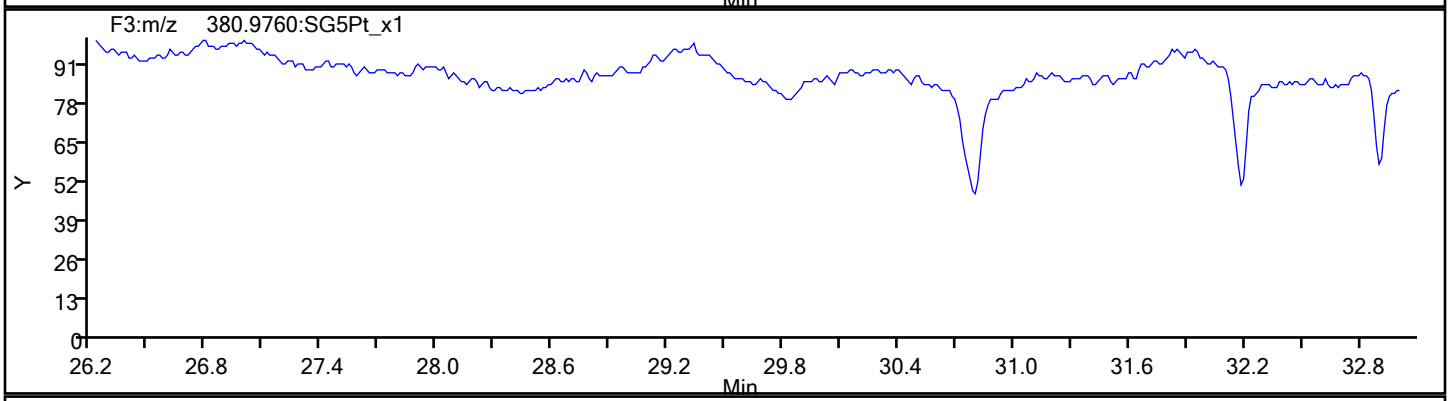

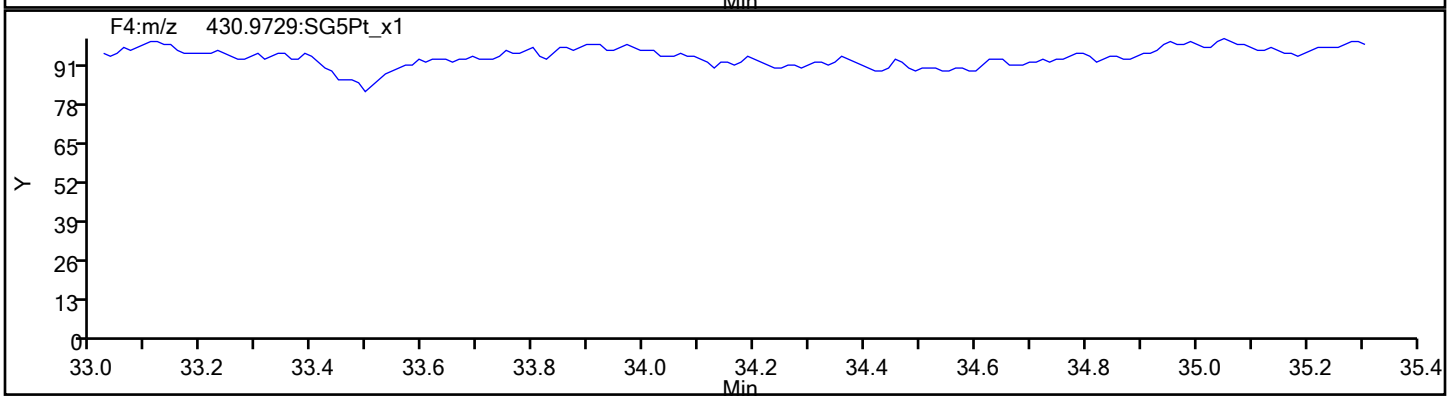

Report Date: 06-Feb-2020 11:22:49 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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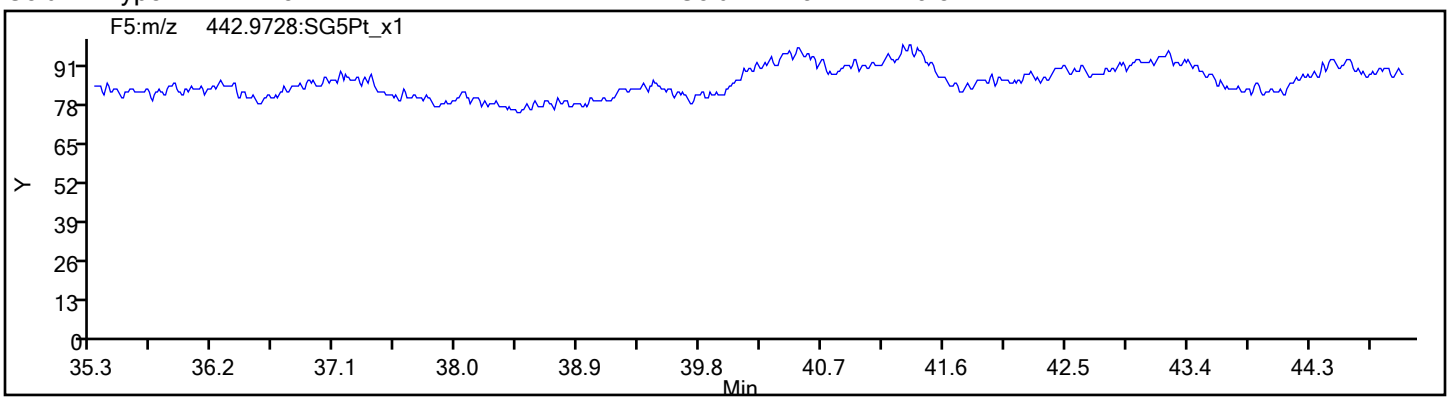

FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Lab Sample ID: CCV 320-355551/2 Calibration Date: 02/06/2020 11:34

Instrument ID: 10D5 Calib Start Date: 01/30/2020 01:49

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 01/30/2020 04:53

Lab File ID: 06FE2010D5_2.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
2,3,7,8-TCDF	AveID	0.7675	0.7794		10.2	10.0	102	84-120
2,3,7,8-TCDD	AveID	0.9599	0.9228		9.61	10.0	96	78-129
1,2,3,7,8-PeCDF	AveID	0.8982	0.9324		51.9	50.0	104	82-120
2,3,4,7,8-PeCDF	AveID	0.8101	0.8512		52.5	50.0	105	82-122
1,2,3,7,8-PeCDD	AveID	0.996	1.007		50.5	50.0	101	78-130
1,2,3,4,7,8-HxCDF	AveID	0.7916	0.8181		51.7	50.0	103	90-112
1,2,3,6,7,8-HxCDF	AveID	0.8638	0.8960		51.9	50.0	104	88-114
2,3,4,6,7,8-HxCDF	AveID	0.9010	0.9292		51.6	50.0	103	88-114
1,2,3,4,7,8-HxCDD	AveID	0.8392	0.8549		50.9	50.0	102	78-128
1,2,3,6,7,8-HxCDD	AveID	0.8876	0.9355		52.7	50.0	105	78-128
1,2,3,7,8,9-HxCDD	AveID	0.9567	0.9877		51.6	50.0	103	82-122
1,2,3,7,8,9-HxCDF	AveID	0.9127	0.9206		50.4	50.0	101	90-112
1,2,3,4,6,7,8-HpCDF	AveID	1.337	1.363		50.9	50.0	102	90-110
1,2,3,4,6,7,8-HpCDD	AveID	0.9811	0.995		50.7	50.0	101	86-116
1,2,3,4,7,8,9-HpCDF	AveID	1.074	1.115		51.9	50.0	104	86-116
OCDD	AveID	0.9937	1.000		101	100	101	79-126
OCDF	AveID	1.066	1.088		102	100	102	63-159
13C-2,3,7,8-TCDF	Ave	1.128	1.188		105	100	105	71-140
13C-2,3,7,8-TCDD	Ave	0.9032	0.9207		102	100	102	82-121
13C-1,2,3,7,8-PeCDF	Ave	0.9615	0.9693		101	100	101	76-130
13C-2,3,4,7,8-PeCDF	Ave	1.039	1.039		100	100	100	77-130
13C-1,2,3,7,8-PeCDD	Ave	0.6938	0.6631		95.6	100	96	62-160
13C-1,2,3,4,7,8-HxCDF	Ave	0.8543	0.9193		108	100	108	76-131
13C-1,2,3,6,7,8-HxCDF	Ave	0.8361	0.9385		112	100	112	70-143
13C-2,3,4,6,7,8-HxCDF	Ave	0.7773	0.8187		105	100	105	73-137
13C-1,2,3,4,7,8-HxCDD	Ave	0.8050	0.7746		96.2	100	96	85-117
13C-1,2,3,6,7,8-HxCDD	Ave	0.8269	0.8664		105	100	105	85-118
13C-1,2,3,7,8,9-HxCDF	Ave	0.7167	0.7811		109	100	109	74-135
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.7080	0.6786		95.8	100	96	78-129
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.7473	0.7380		98.8	100	99	72-138
13C-1,2,3,4,7,8,9-HpCDF	Ave	0.7451	0.7540		101	100	101	77-129
13C-OCDD	Ave	0.6622	0.6245		189	200	94	48-208
37Cl4-2,3,7,8-TCDD	Ave	0.9673	0.9755		10.1	10.0	101	79-127

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #	User
1	06FE2010D5_1	WDM HRDXNCP_00040	WDM 020620	Tray01:1	Dioxin		AJS
2	06FE2010D5_2	CS-4 HRDXNL4_00091	CCV 020620	Tray01:2	Dioxin		AJS
3	06FE2010D5_3	Solvent Blank C-14	SB 020620	Tray01:3	---		AJS
4	06FE2010D5_4	MB 320-354602/1-A	MB 320-354602/1-A	Tray01:4	1613B_T/Water	D129	AJS
5	06FE2010D5_5	LCS 320-354602/2-A	LCS 320-354602/2-A	Tray01:5	1613B_T/Water		AJS
6	06FE2010D5_6	LCSD 320-354602/3-A	LCSD 320-354602/3-A	Tray01:6	1613B_T/Water		AJS
7	06FE2010D5_7	550-136989-G-2-A	550-136989-G-2-A	Tray01:7	1613B_T/Water		AJS
8	06FE2010D5_8	680-179821-Q-30-A	680-179821-Q-30-A	Tray01:8	1613B_T/Water		AJS
9	06FE2010D5_9	MB 320-354207/1-A	MB 320-354207/1-A	Tray01:9	1613B/Solid	D129	AJS
10	06FE2010D5_10	LCS 320-354207/2-A	LCS 320-354207/2-A	Tray01:10	1613B/Solid		AJS
11	06FE2010D5_11	LCSD 320-354207/3-A	LCSD 320-354207/3-A	Tray01:11	1613B/Solid		AJS
12	06FE2010D5_12	320-58170-A-2-A	320-58170-A-2-A	Tray01:12	1613B/Solid		AJS
13	06FE2010D5_13	320-58170-A-4-A	320-58170-A-4-A	Tray01:15	1613B/Solid		AJS
14	06FE2010D5_14	320-58170-A-6-A	320-58170-A-6-A	Tray01:16	1613B/Solid		AJS
15	06FE2010D5_15	Solvent Blank C-14	SB 020620A	Tray01:3	---		AJS
16	06FE2010D5_16	CS-4 HRDXNL4_00091	CCV 020620A	Tray01:2	Dioxin		AJS
17	06FE2010D5_17	WDM HRDXNCP_00040	WDM 020620A	Tray01:1	Dioxin		AJS
18	06FE2010D5_18	WDM HRDXNCP_00040	WDM 020620B	Tray01:1	Dioxin		AJS
19	06FE2010D5_19	MB 320-353472/1-A	MB 320-353472/1-A	Tray01:17	1613B_T/Solid	D128	AJS
20	06FE2010D5_20	LCS 320-353472/2-A	LCS 320-353472/2-A	Tray01:18	1613B_T/Solid		AJS
21	06FE2010D5_21	LCSD 320-353472/3-A	LCSD 320-353472/3-A	Tray01:19	1613B_T/Solid		AJS
22	06FE2010D5_22	550-136766-C-1-A	550-136766-C-1-A	Tray01:20	1613B_T/Solid		AJS
23	06FE2010D5_23	550-136766-C-1-B MS	550-136766-C-1-B MS	Tray01:21	1613B_T/Solid		AJS
24	06FE2010D5_24	550-136766-C-1-C MSD	550-136766-C-1-C MSD	Tray01:22	1613B_T/Solid		AJS
25	06FE2010D5_25	550-136766-C-2-A	550-136766-C-2-A	Tray01:23	1613B_T/Solid		AJS
26	06FE2010D5_26	550-136766-C-3-A	550-136766-C-3-A	Tray01:24	1613B_T/Solid		AJS
27	06FE2010D5_27	550-136766-C-4-A	550-136766-C-4-A	Tray01:25	1613B_T/Solid		AJS
28	06FE2010D5_28	550-136766-C-5-A	550-136766-C-5-A	Tray01:26	1613B_T/Solid		AJS
29	06FE2010D5_29	550-136766-C-6-A	550-136766-C-6-A	Tray01:29	1613B_T/Solid		AJS
30	06FE2010D5_30	Solvent Blank C-14	SB 020620C	Tray01:3	---		AJS
31	06FE2010D5_31	CS-4 HRDXNL4_00091	CCV 020620B	Tray01:2	Dioxin		AJS
32	06FE2010D5_32	WDM HRDXNCP_00040	WDM 020620C	Tray01:1	Dioxin		AJS
33	06FE2010D5_33	Solvent Blank C-14	SB 020620D	Tray01:3	---		AJS

logfile checked
2-07-20 ALM

Sample Size	Units	MS File	Inlet File	Inject Volume	Process
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
4.400000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
4.800000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
4.500000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover

Process Options	Action On Error	s5
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
C:\Masslynx\Autospec\dioxinrescheck.dat	Ignore Error	---
C:\Masslynx\Autospec\dioxinrescheck.dat	Ignore Error	---
C:\Masslynx\Autospec\dioxinrescheck.dat	Ignore Error	---
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
C:\Masslynx\Autospec\dioxinrescheck.dat	Ignore Error	---
C:\Masslynx\Autospec\dioxinrescheck.dat	Ignore Error	---
C:\Masslynx\Autospec\dioxinrescheck.dat	Ignore Error	---
---	---	C:\CHROM
---	---	C:\CHROM

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed: Thursday, February 06, 2020 10:44:15 Pacific Standard Time

M 292.9824 R 12132

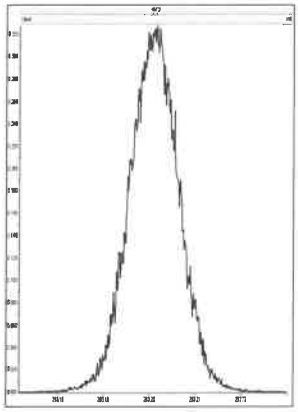

M 304.9824 R 13159

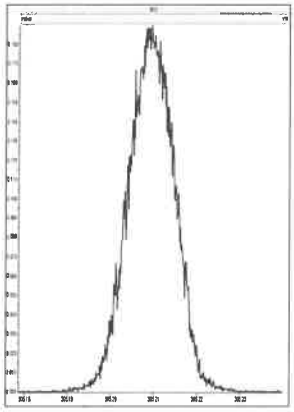

M 318.9792 R 12886

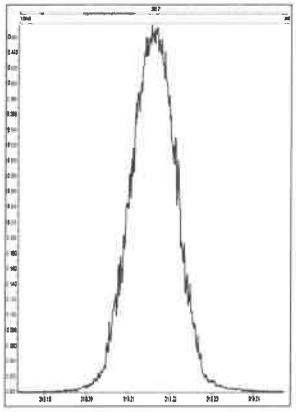

M 330.9792 R 12951

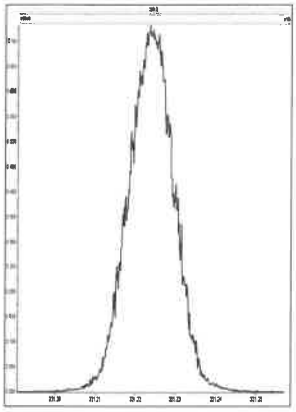

M 342.9792 R 12692

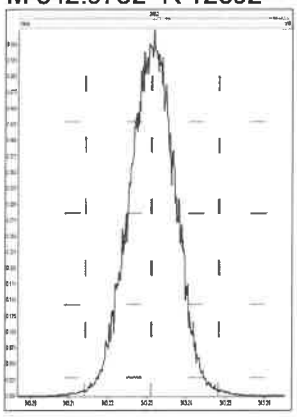

M 354.9792 R 12563

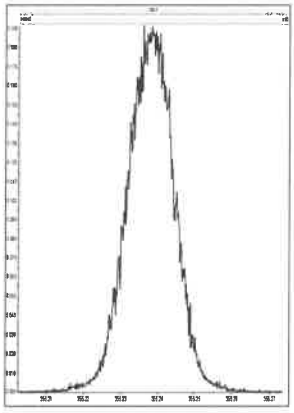

M 366.9792 R 11960

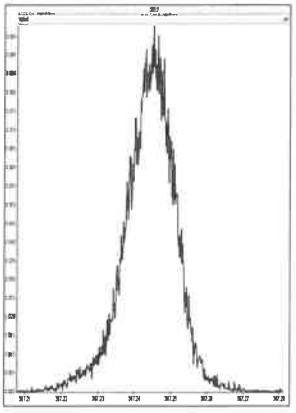

M 380.9760 R 11739

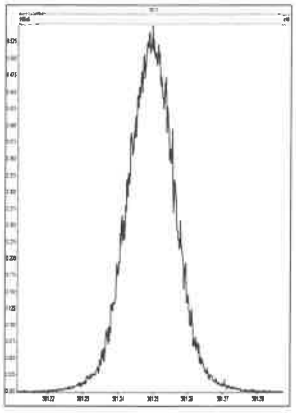

M 392.9760 R 11624

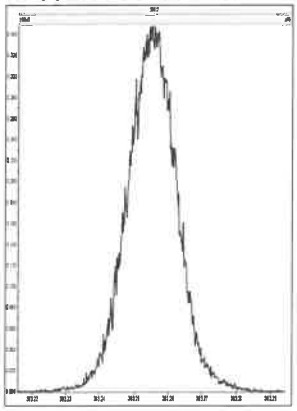

M 404.9760 R 11736

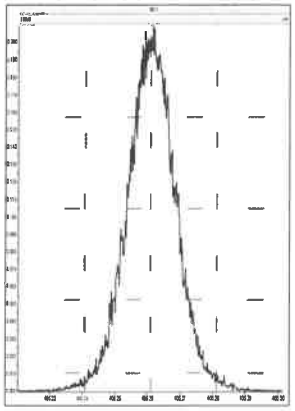

M 416.9760 R 11684

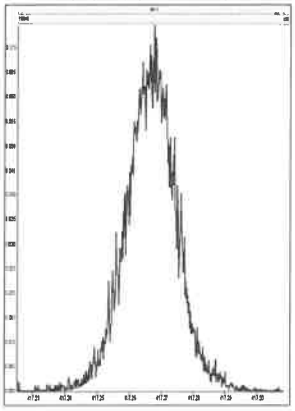

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 2 @ 200 (ppm)

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M 318.9792 R 12078

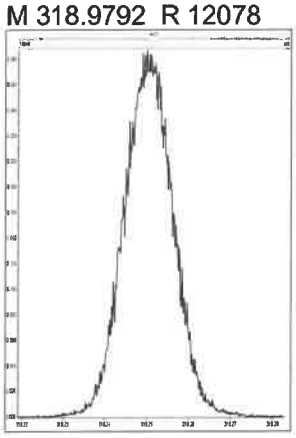

M 330.9792 R 12754

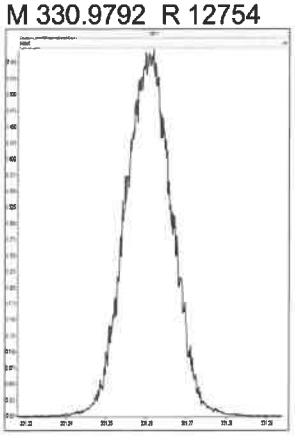

M 342.9792 R 13155

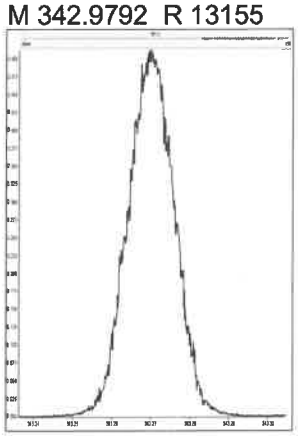

M 354.9792 R 12822

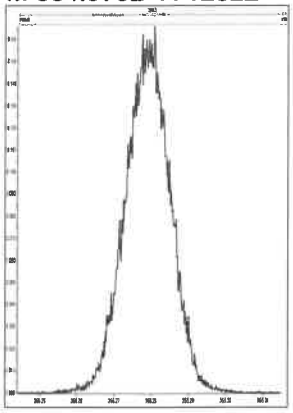

M 366.9792 R 12438

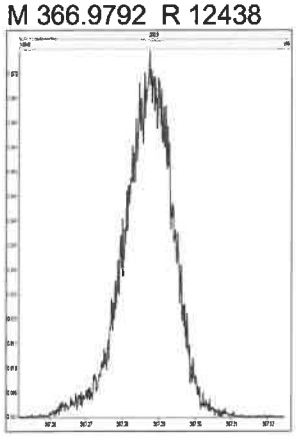

M 380.9760 R 12689

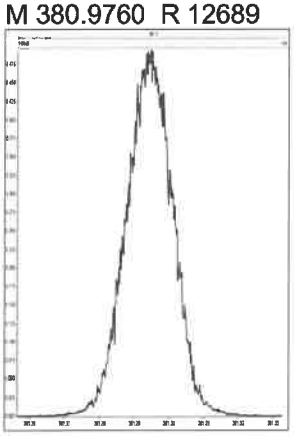

M 392.9760 R 12565

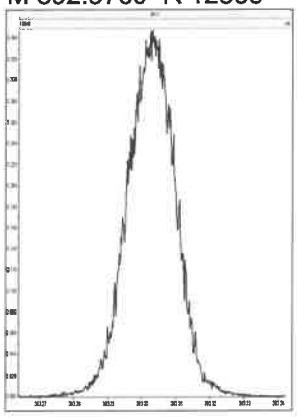

M 404.9760 R 12256

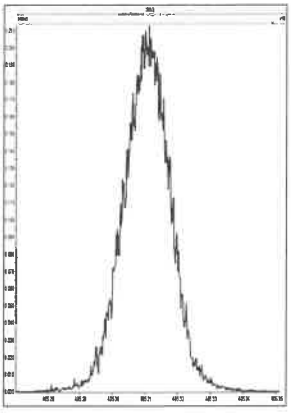

M 416.9760 R 11627

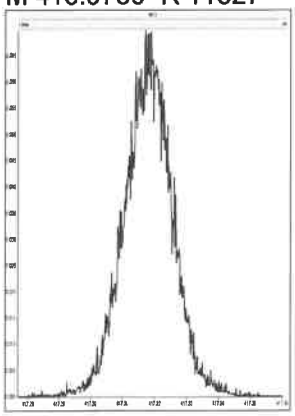

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

Printed: Thursday, February 06, 2020 10:45:13 Pacific Standard Time

M 366.9792 R 12077

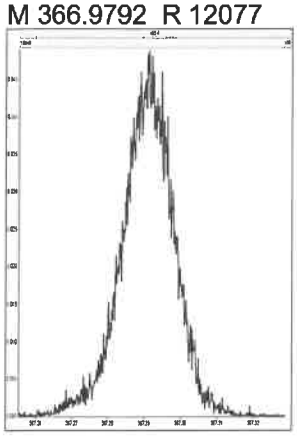

M 380.9760 R 12819

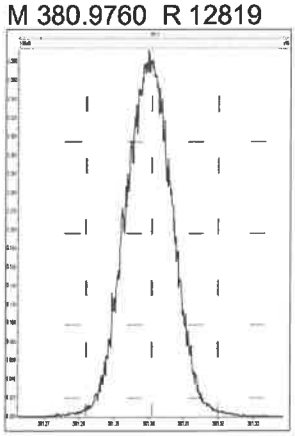

M 392.9760 R 13225

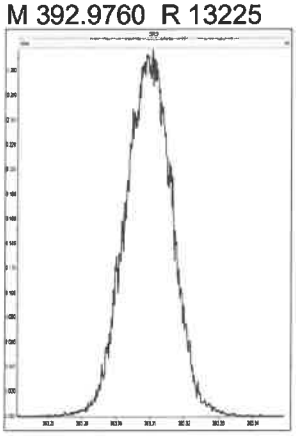

M 404.9760 R 12691

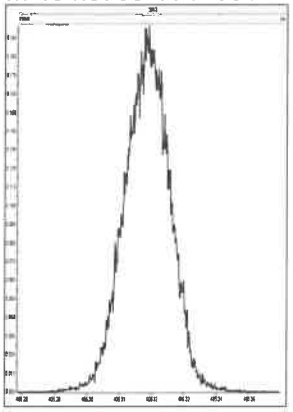

M 416.9760 R 13227

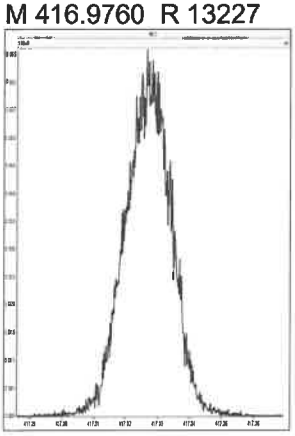

M 430.9728 R 12503

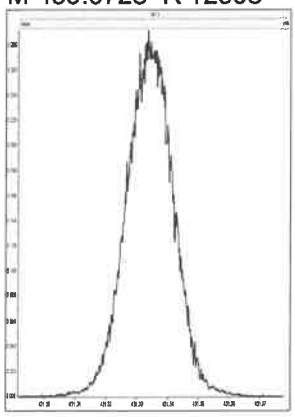

M 442.9728 R 12313

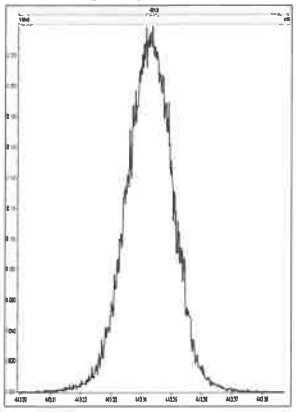

M 454.9728 R 12563

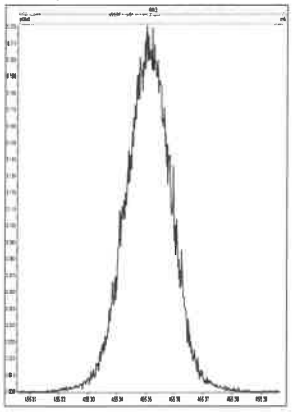

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 4 @ 200 (ppm)

Printed: Thursday, February 06, 2020 10:45:50 Pacific Standard Time

M 380.9760 R 11468

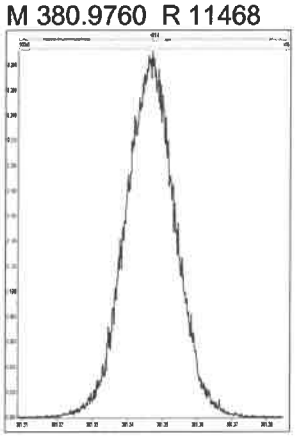

M 392.9760 R 11961

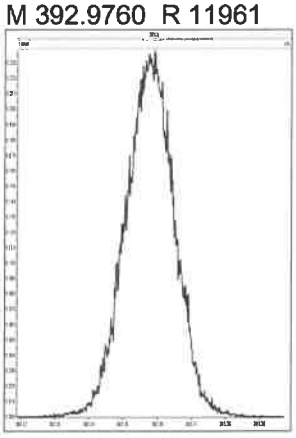

M 404.9760 R 12561

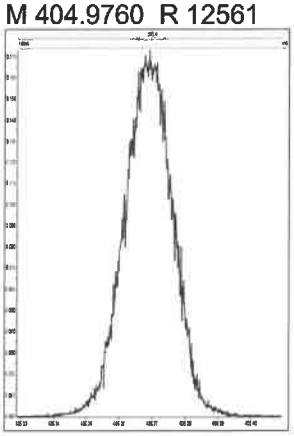

M 416.9760 R 12559

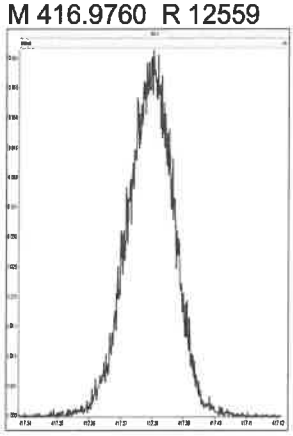

M 430.9728 R 12626

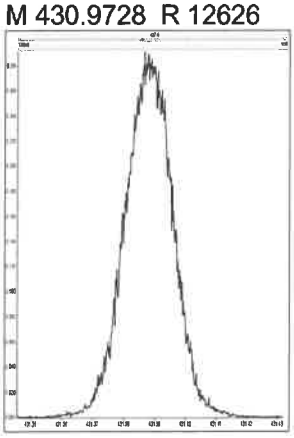

M 442.9728 R 12629

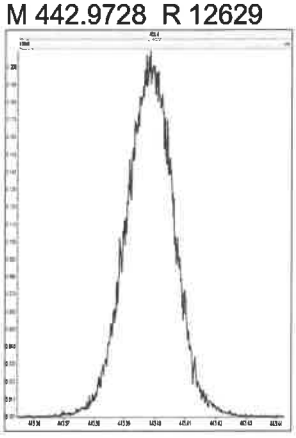

M 454.9728 R 12017

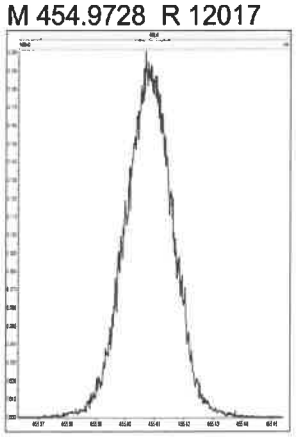

M 466.9728 R 12192

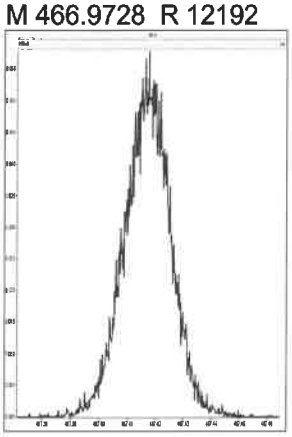

M 480.9696 R 11682

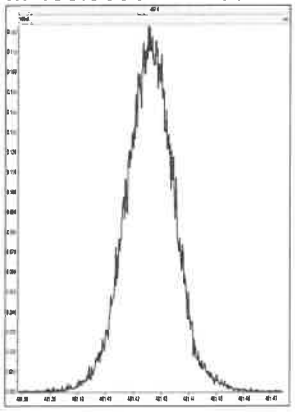

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M 380.9760 R 11364

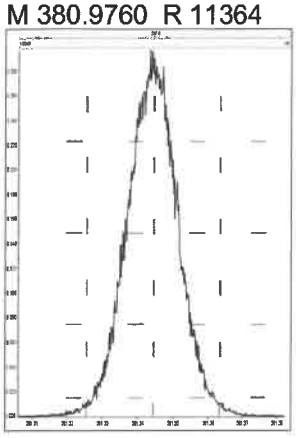

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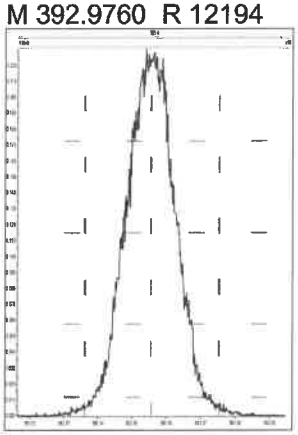

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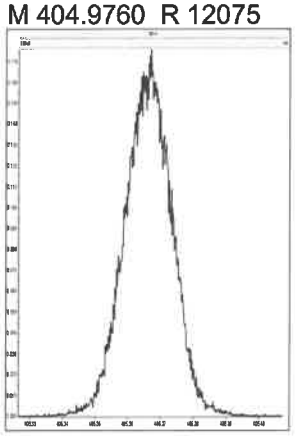

M 416.9760 R 12316

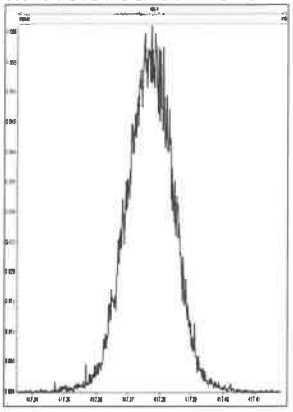

M 430.9728 R 12376

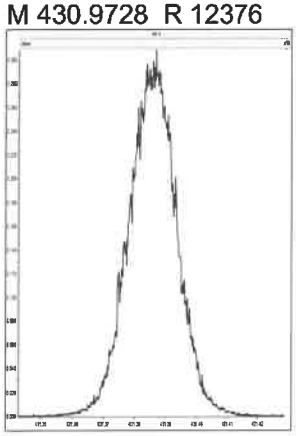

M 442.9728 R 12629

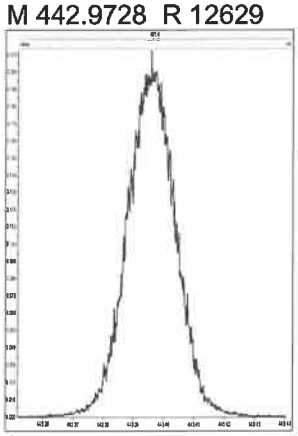

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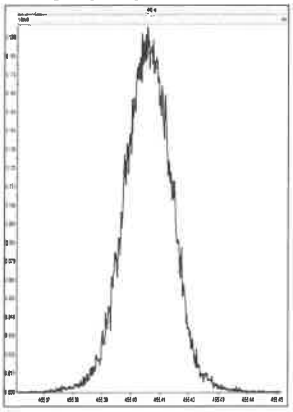

M 466.9728 R 13021

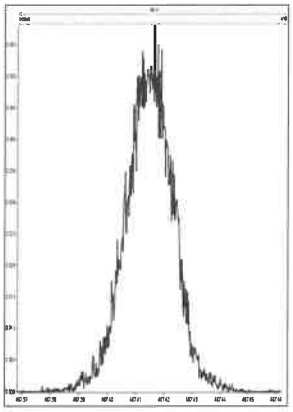

M 480.9696 R 11574

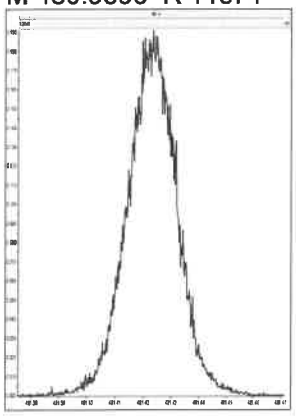

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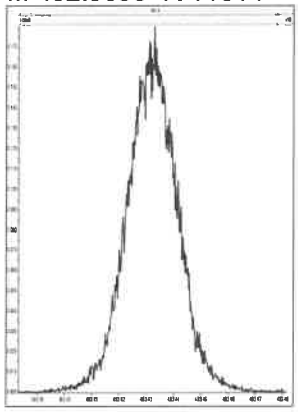

M 504.9696 R 11365

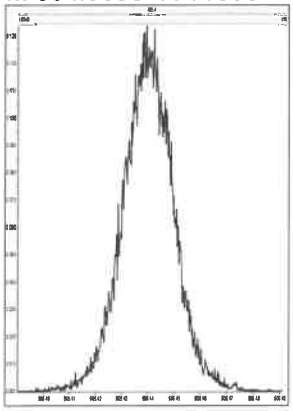

M 516.9697 R 12319

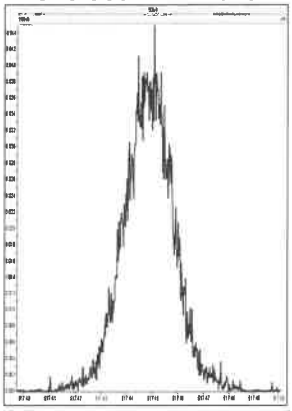

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M 292.9824 R 12698

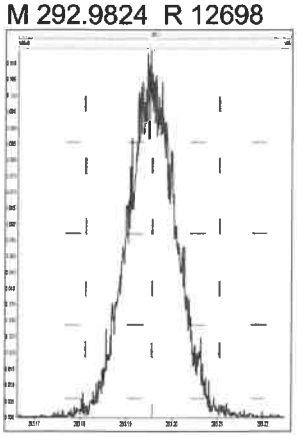

M 304.9824 R 12626

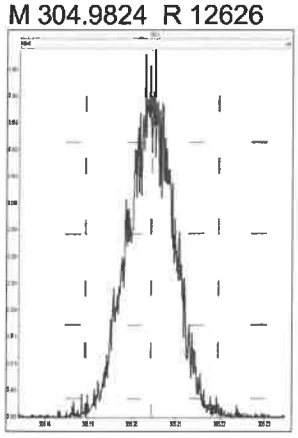

M 318.9792 R 12926

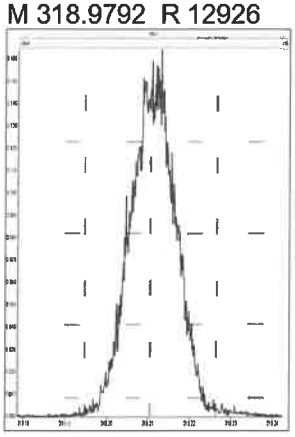

M 330.9792 R 12502

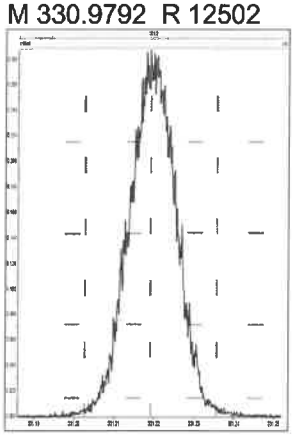

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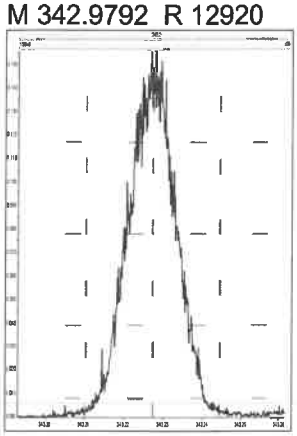

M 354.9792 R 13101

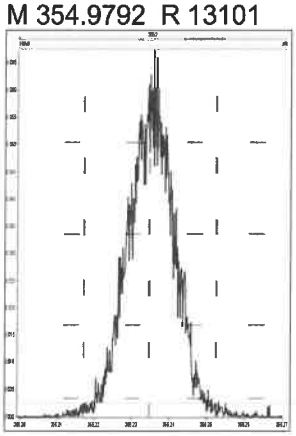

M 366.9792 R 13446

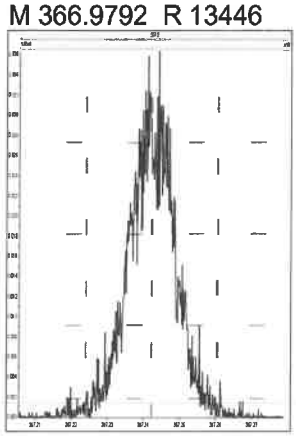

M 380.9760 R 12257

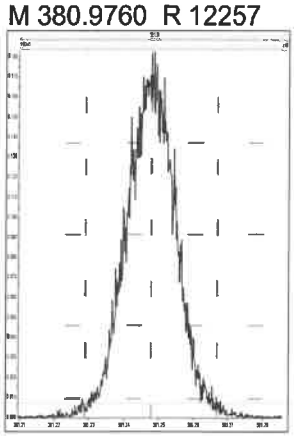

M 392.9760 R 12316

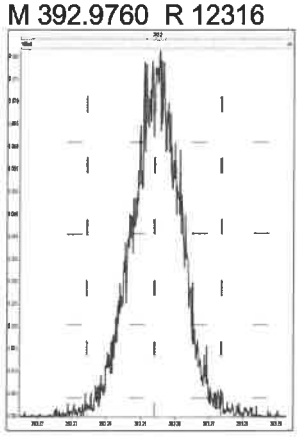

M 404.9760 R 12351

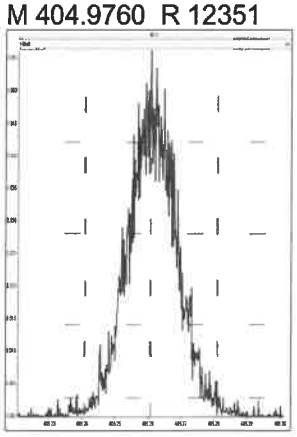

M 416.9760 R 13897

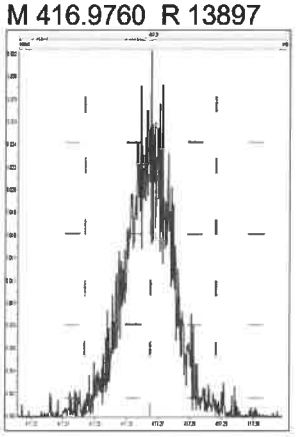

M 318.9792 R 12437

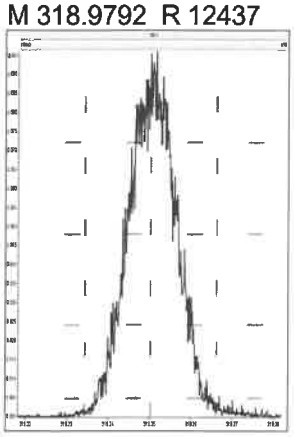

M 330.9792 R 12823

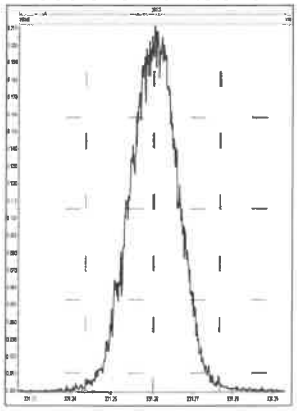

M 342.9792 R 12820

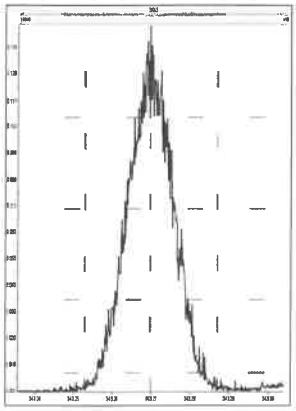

M 354.9792 R 13776

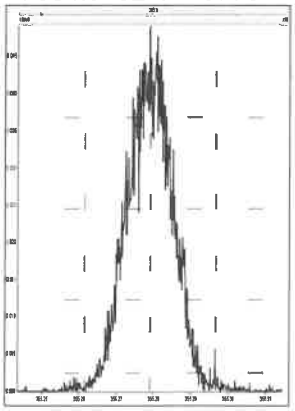

M 366.9792 R 13812

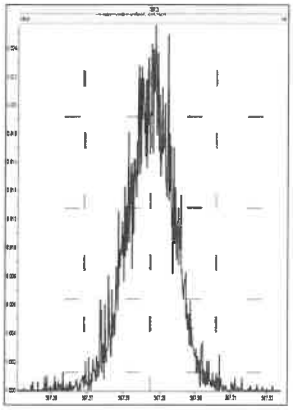

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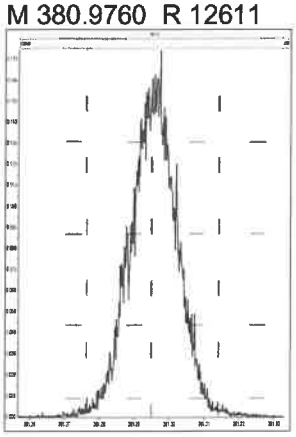

M 392.9760 R 12470

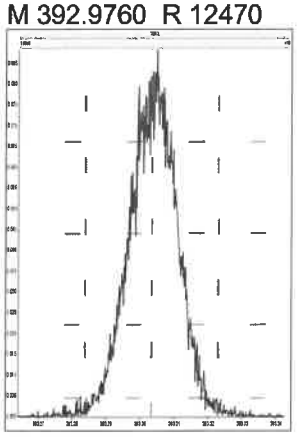

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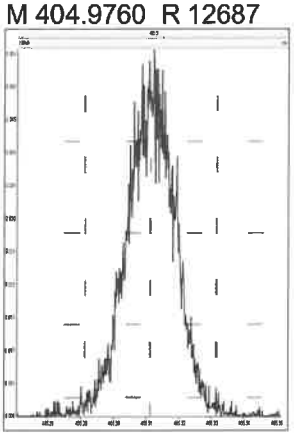

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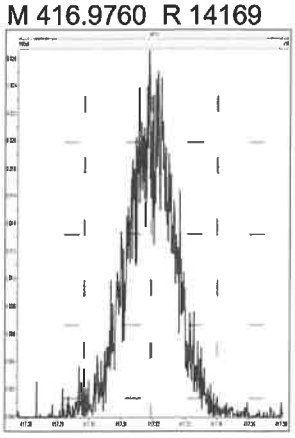

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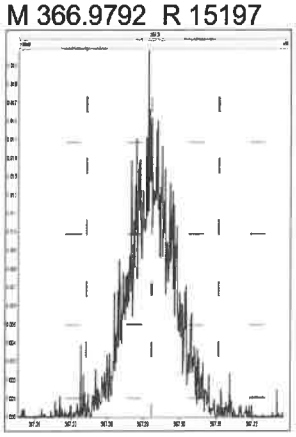

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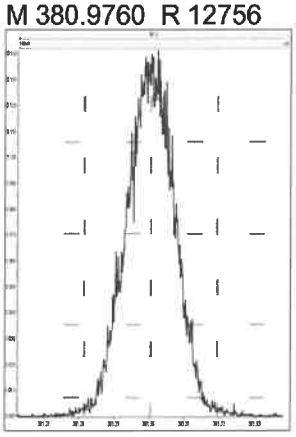

M 392.9760 R 13192

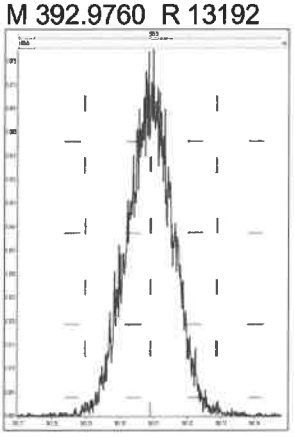

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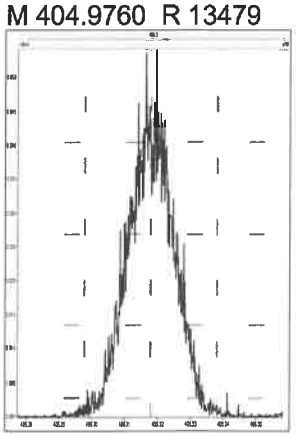

M 416.9760 R 13661

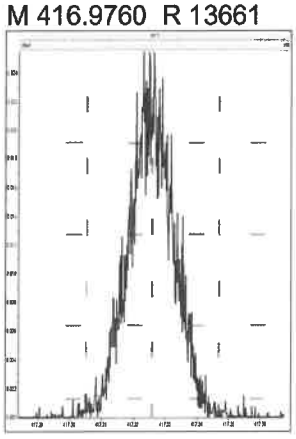

M 430.9728 R 12468

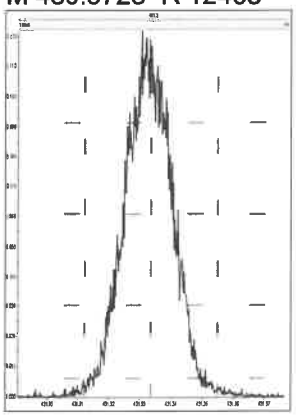

M 442.9728 R 12658

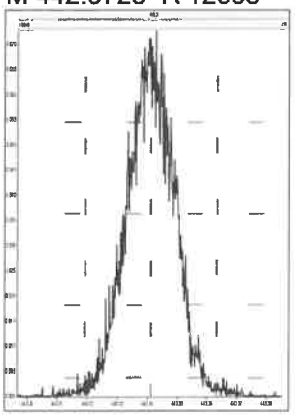

M 454.9728 R 12965

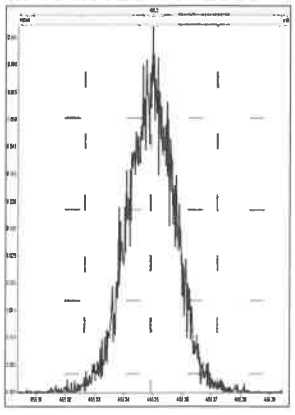

M 380.9760 R 12181

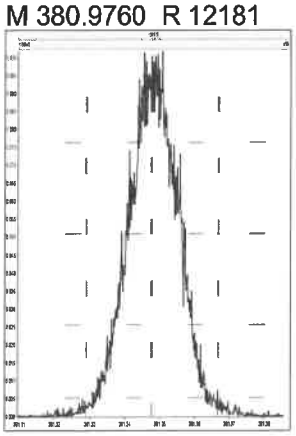

M 392.9760 R 13370

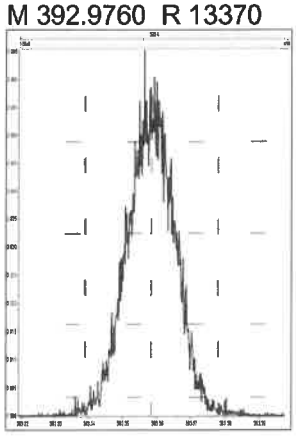

M 404.9760 R 13170

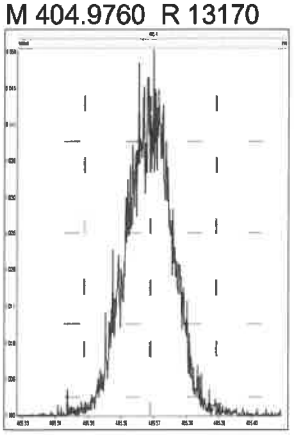

M 416.9760 R 14285

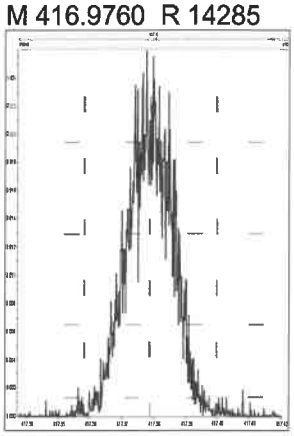

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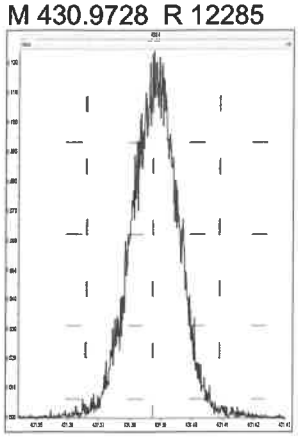

M 442.9728 R 12855

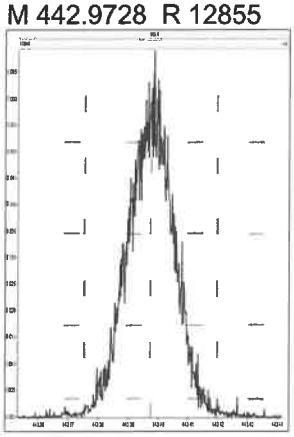

M 454.9728 R 13481

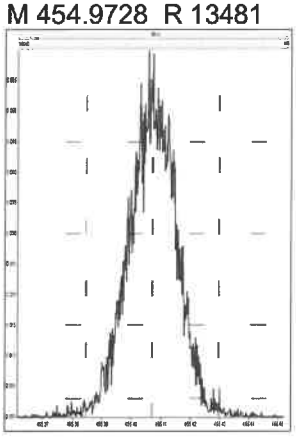

M 466.9728 R 14388

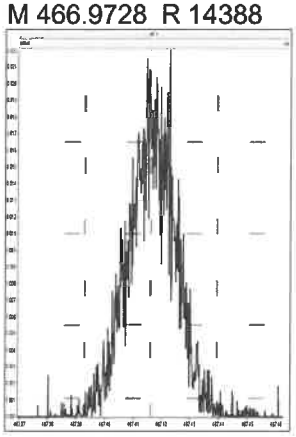

M 480.9696 R 12533

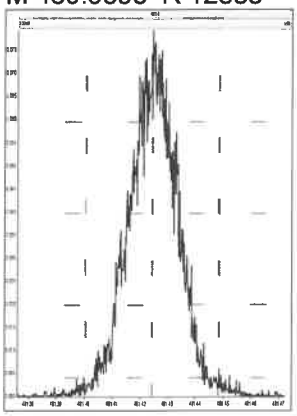

M 380.9760 R 11711

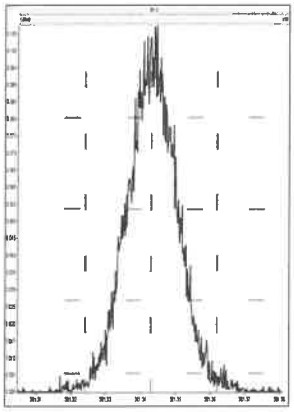

M 392.9760 R 12468

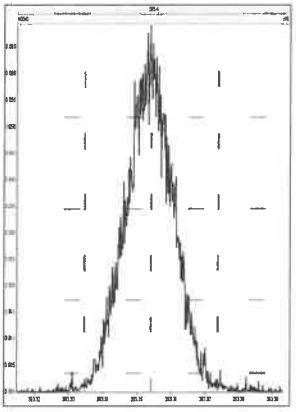

M 404.9760 R 13488

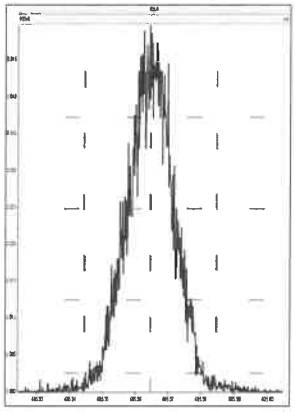

M 416.9760 R 13444

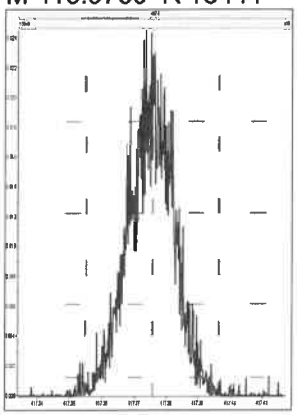

M 430.9728 R 12961

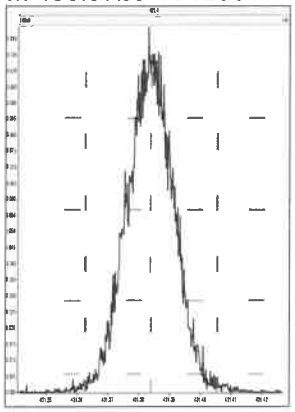

M 442.9728 R 13021

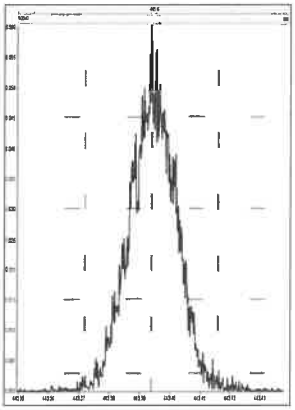

M 454.9728 R 13094

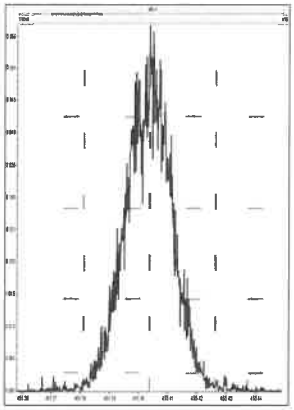

M 466.9728 R 14097

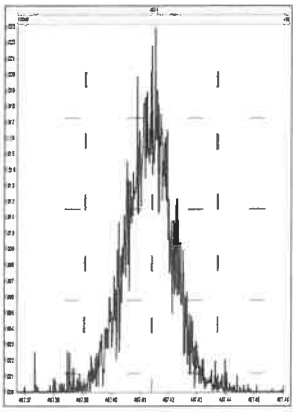

M 480.9696 R 12438

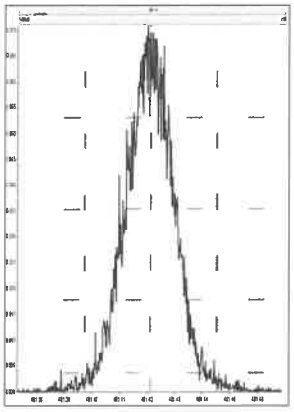

M 492.9696 R 12345

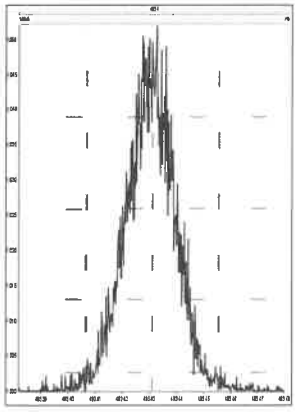

M 504.9696 R 12265

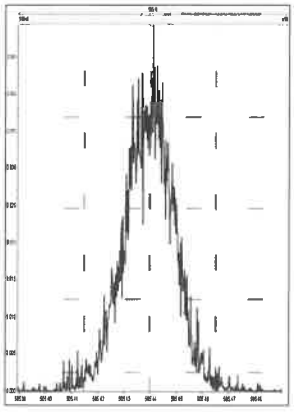

Printed: Thursday, February 06, 2020 21:42:46 Pacific Standard Time

M 516.9697 R 13158

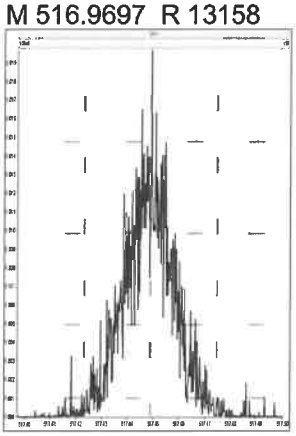

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_2.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 06-Feb-2020 11:34:55 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 020620 CS-4 HRDXNL4_00091
Misc. Info.: 06FE2010D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 07-Feb-2020 01:22:28 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0310

First Level Reviewer: shardaa Date: 06-Feb-2020 16:01:25

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.302	50005231	0.81	5.4E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.833	59405767	0.76	1.1275	105.4	105.4	0.3662	0.3662	105	
2,3,7,8-TCDF	16.849	4629781	0.73	0.7675	10.2	10.2	0.0331	0.0331	102	
A Non-2,3,7,8-sub-TCDF	16.539						0.0331	0.0331		
S Total TCDF					10.2	10.2	0.0331	0.0331		
D 13C-2,3,7,8-TCDD	17.499	46037922	0.79	0.9032	101.9	101.9	0.3032	0.3032	102	
$ 37Cl4-2,3,7,8-TCDD	17.514	4878011		0.9673	10.1	10.1	0.0226	0.0226	101	
2,3,7,8-TCDD	17.514	4248430	0.76	0.9599	9.614	9.614	0.0386	0.0386	96.14	
A Non-2,3,7,8-sub-TCDD	16.977						0.0386	0.0386		
S Total TCDD					9.614	9.614	0.0386	0.0386		
D 13C-1,2,3,7,8-PeCDF	21.612	48468416	1.58	0.9615	100.8	100.8	0.3729	0.3729	101	
1,2,3,7,8-PeCDF	21.626	22596902	1.59	0.8982	51.9	51.9	0.2851	0.2851	104	
D 13C-2,3,4,7,8-PeCDF	22.880	51946229	1.57	1.0393	100.0	100.0	0.3450	0.3450	99.95	
2,3,4,7,8-PeCDF	22.907	22107735	1.53	0.8101	52.5	52.5	0.3209	0.3209	105	
A F1 PeCDFs	19.306						0.0195	0.0195		
A Non-2,3,7,8-sub-PeCDF	22.316						0.3021	0.3021		
S Total PeCDF					104.4	104.4	0.3030	0.3030		
D 13C-1,2,3,7,8-PeCDD	23.576	33159582	1.65	0.6938	95.6	95.6	0.1540	0.1540	95.58	
1,2,3,7,8-PeCDD	23.603	16692697	1.61	0.9961	50.5	50.5	0.1063	0.1063	101	
A Non-2,3,7,8-sub-PeCDD	22.546						0.1063	0.1063		
S Total PeCDD					50.5	50.5	0.1063	0.1063		
D 13C-1,2,3,4,7,8-HxCDF	29.682	37910809	0.50	0.8543	107.6	107.6	0.6226	0.6226	108	
1,2,3,4,7,8-HxCDF	29.708	15507140	1.24	0.7916	51.7	51.7	0.5273	0.5273	103	
D 13C-1,2,3,6,7,8-HxCDF	29.948	38701934	0.50	0.8361	112.2	112.2	0.6361	0.6361	112	
1,2,3,6,7,8-HxCDF	29.975	17338691	1.22	0.8638	51.9	51.9	0.4701	0.4701	104	
D 13C-2,3,4,6,7,8-HxCDF	30.999	33763789	0.50	0.7773	105.3	105.3	0.6842	0.6842	105	
2,3,4,6,7,8-HxCDF	31.013	15687360	1.20	0.9010	51.6	51.6	0.3494	0.3494	103	
D 13C-1,2,3,7,8,9-HxCDF	31.918	32210824	0.51	0.7167	109.0	109.0	0.7421	0.7421	109	
1,2,3,7,8,9-HxCDF	31.931	14826400	1.23	0.9127	50.4	50.4	0.3431	0.3431	101	
A Non-2,3,7,8-sub-HxCDF	29.476						0.4107	0.4107		

Report Date: 07-Feb-2020 01:22:29 Chrom Revision: 2.3 14-Jan-2020 22:23:42
Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_2.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					205.5	205.5	0.4225	0.4225		
* 13C-1,2,3,7,8,9-HxCDD	31.718	41240239	1.22	4.4E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.226	31943442	1.24	0.8050	96.2	96.2	0.3533	0.3533	96.22	
1,2,3,4,7,8-HxCDD	31.239	13653723	1.24	0.8392	50.9	50.9	0.1836	0.1836	102	
D 13C-1,2,3,6,7,8-HxCDD	31.332	35729612	1.26	0.8269	104.8	104.8	0.3440	0.3440	105	
1,2,3,6,7,8-HxCDD	31.359	16711558	1.26	0.8876	52.7	52.7	0.1800	0.1800	105	
1,2,3,7,8,9-HxCDD	31.731	16709690	1.24	0.9567	51.6	51.6	0.1640	0.1640	103	
A Non-2,3,7,8-sub-HxCDD	30.055						0.1754	0.1754		
S Total HxCDD					155.2	155.2	0.1759	0.1759		
D 13C-1,2,3,4,6,7,8-HpCDF	33.447	27984333	0.44	0.7080	95.8	95.8	2.085	2.085	95.84	
1,2,3,4,6,7,8-HpCDF	33.459	19066784	1.03	1.3375	50.9	50.9	0.8759	0.8759	102	
D 13C-1,2,3,4,7,8,9-HpCDF	34.504	31096038	0.44	0.7451	101.2	101.2	1.982	1.982	101	
1,2,3,4,7,8,9-HpCDF	34.516	17343477	1.03	1.0744	51.9	51.9	1.314	1.314	104	
A Non-2,3,7,8-sub-HpCDF	33.994						1.062	1.062		
S Total HpCDF					102.9	102.9	1.095	1.095		
D 13C-1,2,3,4,6,7,8-HpCDD	34.224	30436623	1.08	0.7473	98.8	98.8	0.6647	0.6647	98.75	
1,2,3,4,6,7,8-HpCDD	34.236	15142494	1.04	0.9811	50.7	50.7	0.3711	0.3711	101	
A Non-2,3,7,8-sub-HpCDD	33.963						0.3711	0.3711		
S Total HpCDD					50.7	50.7	0.3711	0.3711		
D 13C-OCDD	36.516	51505024	0.90	0.6622	188.6	188.6	0.1668	0.1668	94.30	
OCDF	36.612	28020027	0.93	1.0659	102.1	102.1	0.1081	0.1081	102	
OCDD	36.528	25740455	0.86	0.9937	100.6	100.6	0.1529	0.1529	101	

Reagents:

HRDXNL4_00091 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_2.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 06-Feb-2020 11:34:55 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 020620 CS-4 HRDXNL4_00091
Misc. Info.: 06FE2010D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 07-Feb-2020 01:22:28 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0310

First Level Reviewer: shardaa Date: 06-Feb-2020 16:01:25

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.302	17.302	0		22324836	5557436	7827	19567	710		
333.9339	17.302	17.302	0		27680395	6892510	5812	14530	1186	0.81(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.833	16.833	0	0.973	25613052	6071009	13396	33490	453		
317.9389	16.833	16.833	0	0.973	33792715	7851491	7164	17910	1096	0.76(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.849	16.849	0	1.001	1955085	458148	530	1325	864		
305.8987	16.833	16.849	-1	1.000	2674696	597564	887	2217	674	0.73(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.539						530	1325			
305.8987	16.539						887	2217			
13C-2,3,7,8-TCDD											
331.9368	17.499	17.499	0	1.011	20266265	4549819	7827	19567	581		
333.9339	17.499	17.499	0	1.011	25771657	5808254	5812	14530	999	0.79(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.514	17.514	0	1.012	4878011	1092915	1088	2720	1005		
2,3,7,8-TCDD											
319.8965	17.514	17.514	0	1.001	1833557	403079	920	2300	438		
321.8936	17.514	17.514	0	1.001	2414873	536142	617	1542	869	0.76(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	16.977						920	2300			
321.8936	16.977						617	1542			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	21.612	21.612	0	1.249	29652259	5049111	10658	26645	474		
353.8970	21.612	21.612	0	1.249	18816157	3267543	7198	17995	454	1.58(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.626	21.626	0	1.001	13867130	2295723	5107	12767	450		
341.8567	21.626	21.626	0	1.001	8729772	1436576	3411	8527	421	1.59(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	22.880	22.880	0	1.322	31703564	5009022	10658	26645	470		
353.8970	22.880	22.880	0	1.322	20242665	3182596	7198	17995	442	1.57(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.907	22.907	0	1.001	13385910	2076946	5107	12767	407		
341.8567	22.907	22.907	0	1.001	8721825	1366476	3411	8527	401	1.53(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.306						195	487			
341.8567	19.306						354	885			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.316						5107	12767			
341.8567	22.316						3411	8527			
13C-1,2,3,7,8-PeCDD											
367.8949	23.576	23.576	0	1.363	20662085	3055669	2848	7120	1073		
369.8919	23.576	23.576	0	1.363	12497497	1834724	2474	6185	742	1.65(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.603	23.603	0	1.001	10292499	1472857	1190	2975	1238		
357.8516	23.603	23.603	0	1.001	6400198	918631	881	2202	1043	1.61(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.546						1190	2975			
357.8516	22.546						881	2202			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.682	29.682	0	0.936	12626572	1551886	5721	14302	271		
385.8610	29.682	29.682	0	0.936	25284237	3099649	11251	28127	275	0.50(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.708	29.708	0	1.001	8584905	1057479	4452	11130	238		
375.8178	29.708	29.708	0	1.001	6922235	861734	3314	8285	260	1.24(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.948	29.948	0	0.944	12874638	1660125	5721	14302	290		
385.8610	29.948	29.948	0	0.944	25827296	3121215	11251	28127	277	0.50(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	29.975	29.975	0	1.001	9540304	1179596	4452	11130	265		
375.8178	29.961	29.975	-1	1.000	7798387	970463	3314	8285	293	1.22(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	30.999	30.999	0	0.977	11203986	2057204	5721	14302	360		
385.8610	30.999	30.999	0	0.977	22559803	4110008	11251	28127	365	0.50(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.013	31.013	0	1.000	8558792	1580318	4452	11130	355		
375.8178	31.013	31.013	0	1.000	7128568	1299711	3314	8285	392	1.20(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.918	31.918	0	1.006	10814273	2118175	5721	14302	370		
385.8610	31.918	31.918	0	1.006	21396551	4082697	11251	28127	363	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.931	31.931	0	1.000	8182390	1593144	4452	11130	358		
375.8178	31.931	31.931	0	1.000	6644010	1283257	3314	8285	387	1.23(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.476						4452	11130			
375.8178	29.476						3314	8285			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.718	31.718	0		22639947	4369966	4544	11360	962		
403.8529	31.705	31.718	-1		18600292	3607904	4533	11332	796	1.22(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.226	31.226	0	0.984	17706823	3735386	4544	11360	822		
403.8529	31.212	31.226	-1	0.984	14236619	3006503	4533	11332	663	1.24(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.239	31.239	0	1.000	7567204	1672670	2304	5760	726		
391.8127	31.226	31.239	-1	1.000	6086519	1322189	1852	4630	714	1.24(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.332	31.332	0	0.988	19893606	3595562	4544	11360	791		
403.8529	31.332	31.332	0	0.988	15836006	2908653	4533	11332	642	1.26(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.359	31.359	0	1.001	9302789	1736850	2304	5760	754		
391.8127	31.359	31.359	0	1.001	7408769	1375850	1852	4630	743	1.26(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.731	31.731	0	1.016	9238824	1802441	2304	5760	782		
391.8127	31.718	31.731	-1	1.016	7470866	1435202	1852	4630	775	1.24(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.055						2304	5760			
391.8127	30.055						1852	4630			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.447	33.447	0	1.054	8493324	2140864	14726	36815	145		
419.8220	33.447	33.447	0	1.054	19491009	4887696	32394	80985	151	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.459	33.459	0	1.000	9678121	2381431	16064	40160	148		
409.7789	33.447	33.459	-1	1.000	9388663	2323436	16872	42180	138	1.03(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.504	34.504	0	1.088	9428084	1759048	14726	36815	119		
419.8220	34.504	34.504	0	1.088	21667954	4071488	32394	80985	126	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.516	34.528	-1	1.000	8820176	1654663	16064	40160	103		
409.7789	34.516	34.528	-1	1.000	8523301	1599263	16872	42180	95	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.994						16064	40160			
409.7789	33.994						16872	42180			

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Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_2.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.224	34.224	0	1.079	15802139	3305384	9049	22622	365		
437.8140	34.224	34.224	0	1.079	14634484	3082361	6803	17007	453	1.08(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.236	34.237	0	1.000	7735397	1630101	5014	12535	325		
425.7737	34.236	34.237	0	1.000	7407097	1579900	4290	10725	368	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.963						5014	12535			
425.7737	33.963						4290	10725			
13C-OCDD											
469.7779	36.516	36.516	0	1.151	24353499	4075096	1473	3682	2767		
471.7750	36.516	36.516	0	1.151	27151525	4488282	2052	5130	2187	0.90(0.76-1.02)	
OCDF											
441.7428	36.612	36.612	0	1.003	13476510	2229707	836	2090	2667		
443.7399	36.612	36.612	0	1.003	14543517	2470445	1138	2845	2171	0.93(0.76-1.02)	
OCDD											
457.7377	36.528	36.528	0	1.000	11919705	1990606	1176	2940	1693		
459.7348	36.528	36.528	0	1.000	13820750	2262139	1427	3567	1585	0.86(0.76-1.02)	

Reagents:

HRDXNL4_00091 Amount Added: 1.00 Units: mL

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Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_2.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

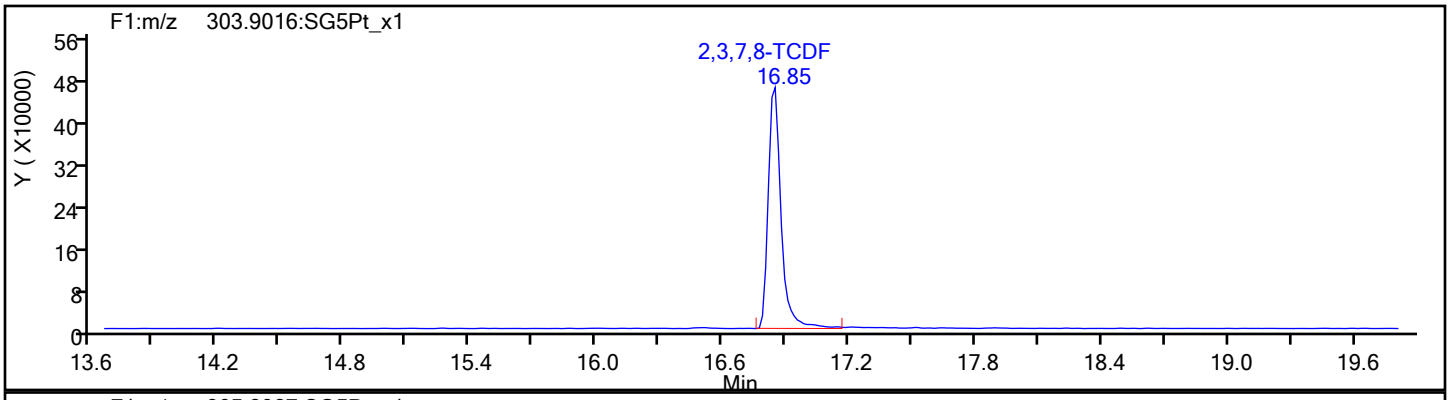

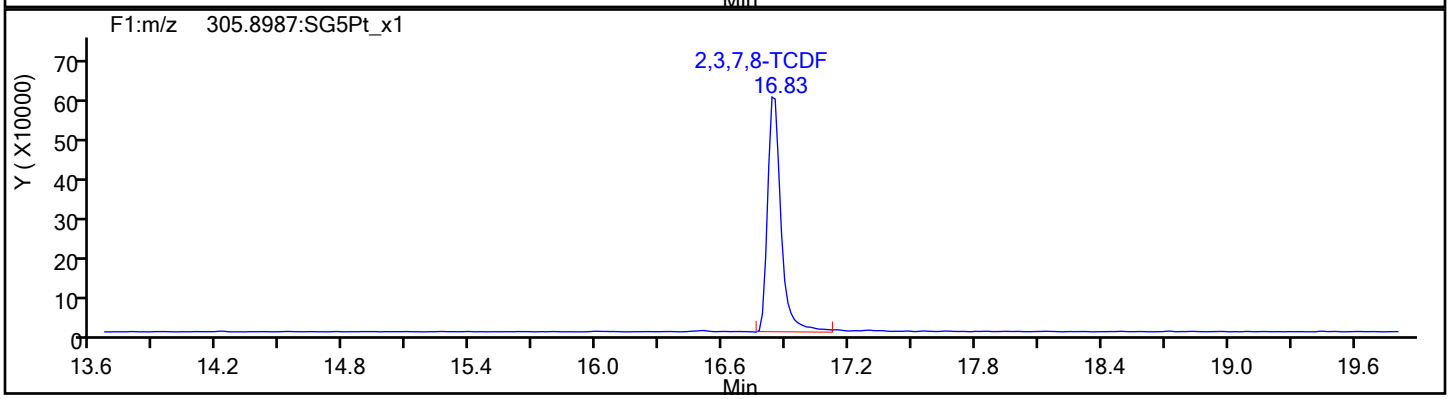

TCDF Standards

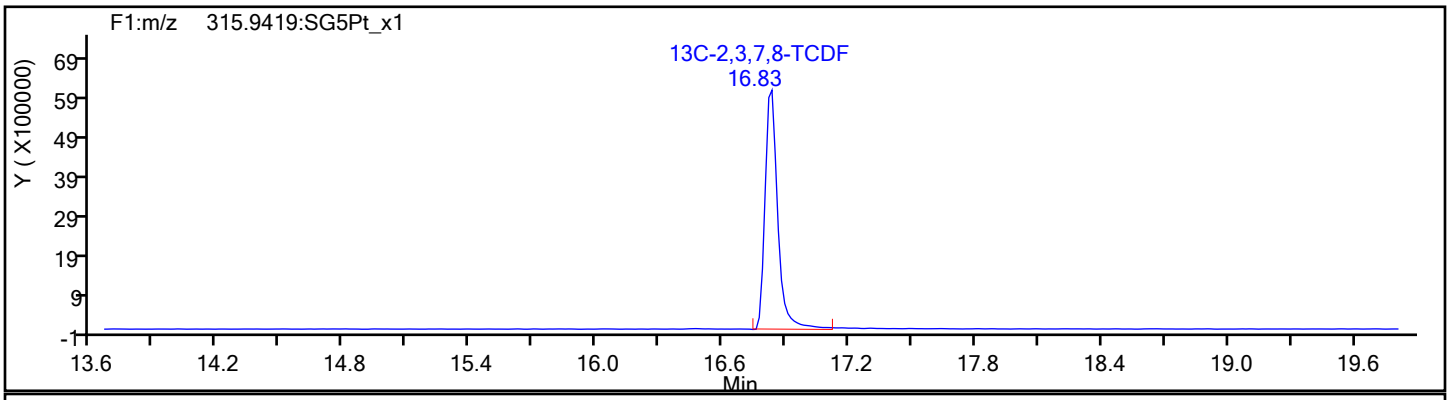

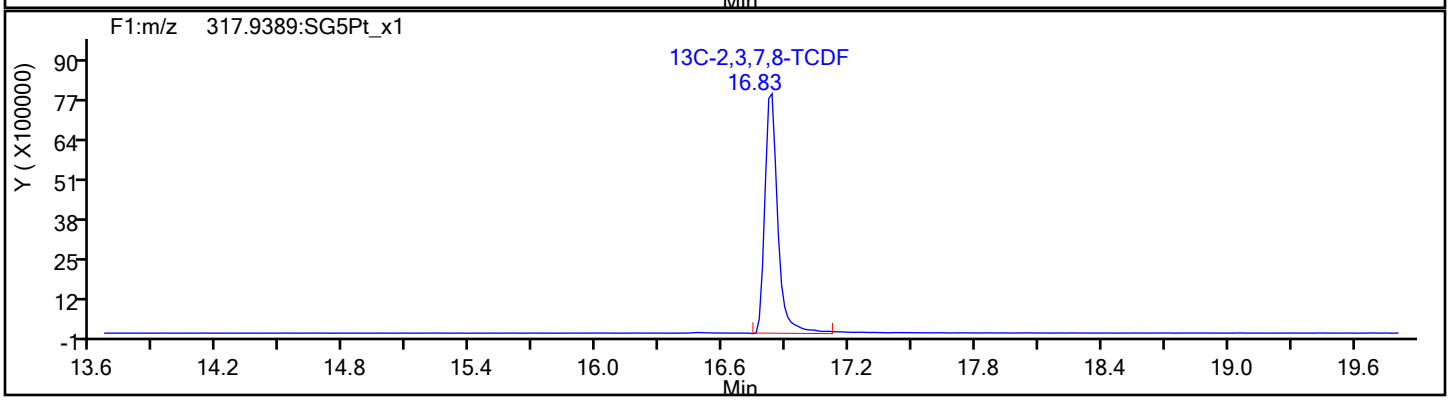

Report Date: 07-Feb-2020 01:22:29 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Injection Date:	06-Feb-2020 11:34:55	Injection Vol:	2.0 ul
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

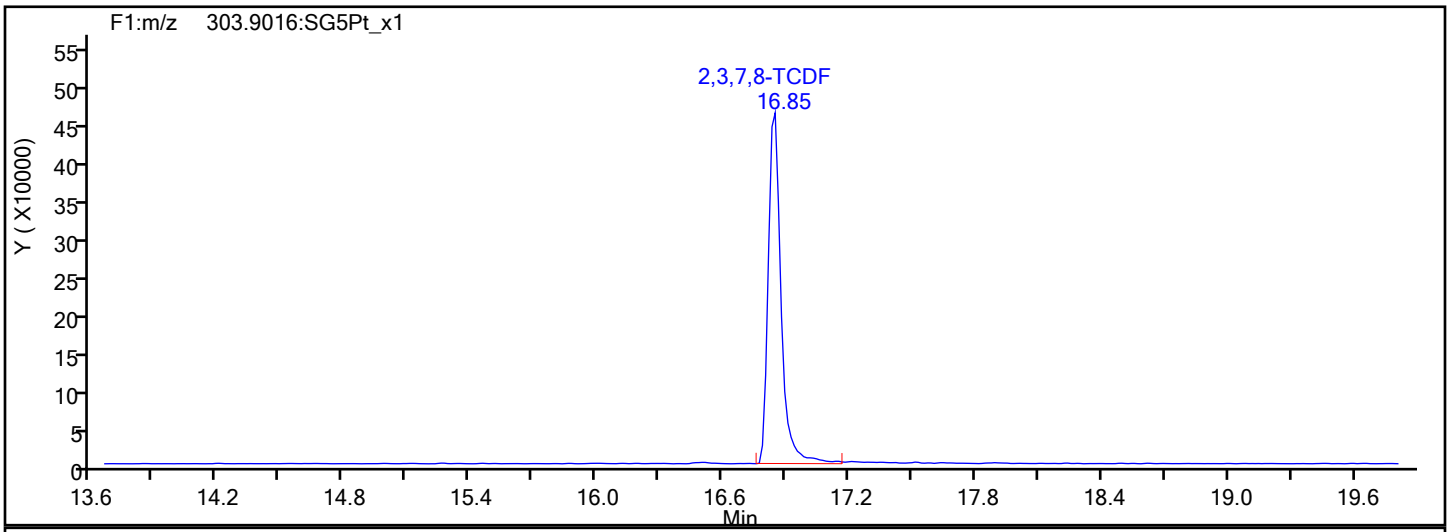

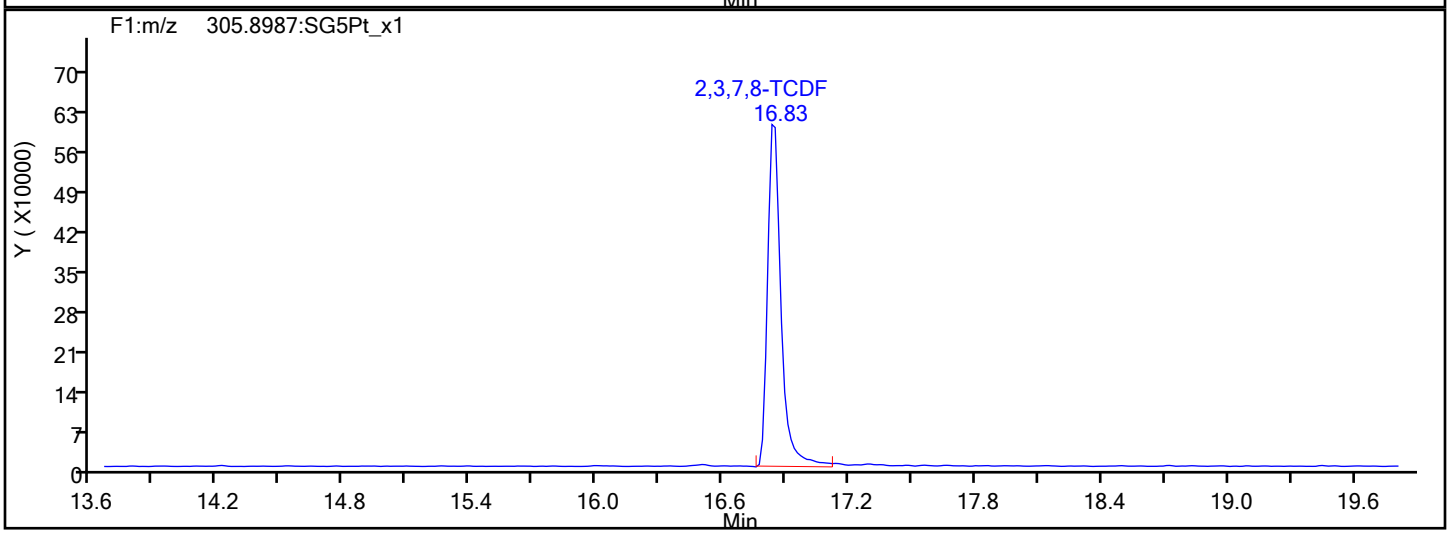

TCDF Interference Mass

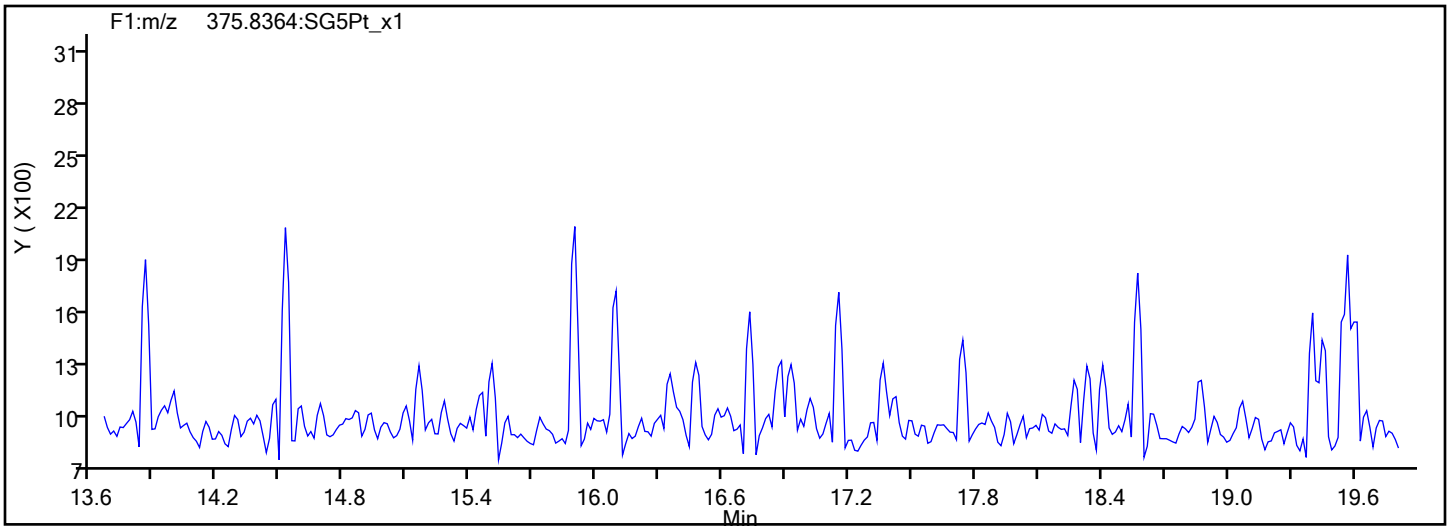

Report Date: 07-Feb-2020 01:22:29 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_2.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355551	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

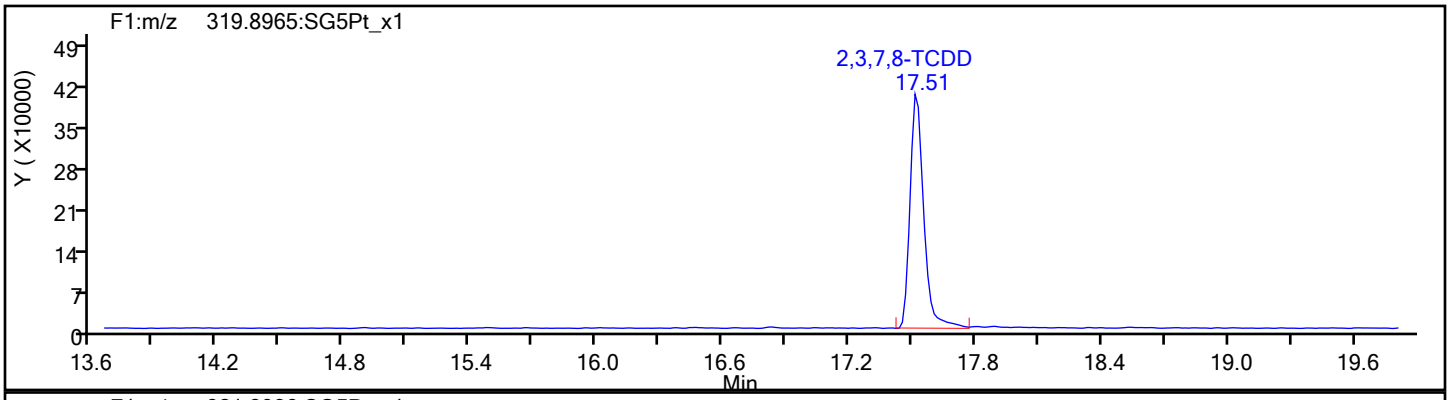

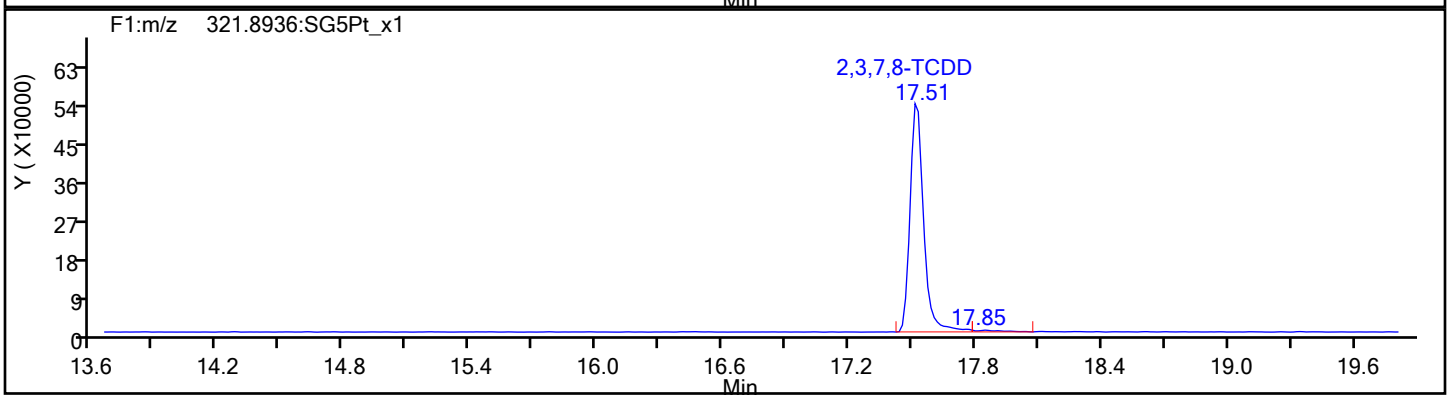

TCDD Standards

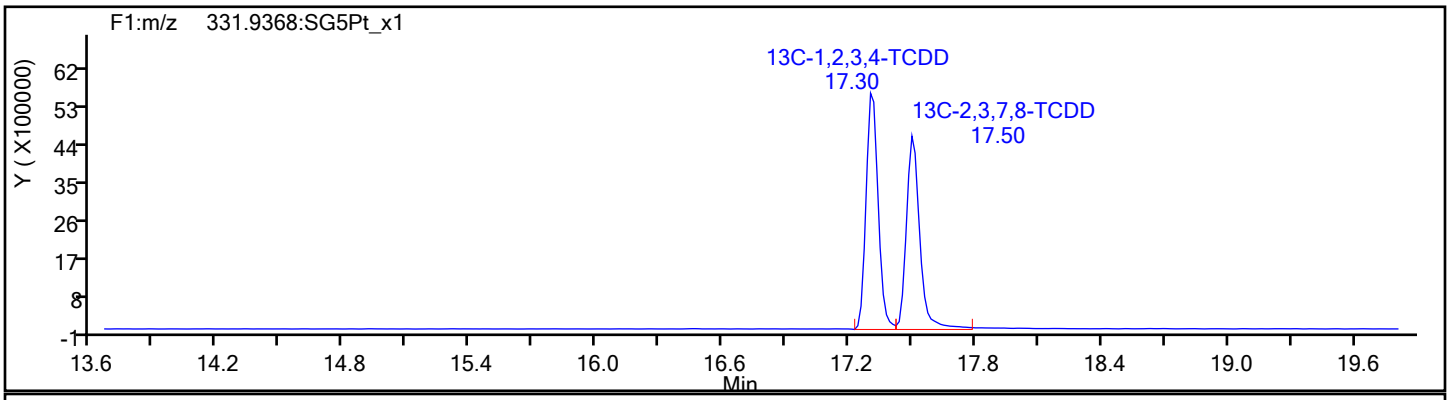

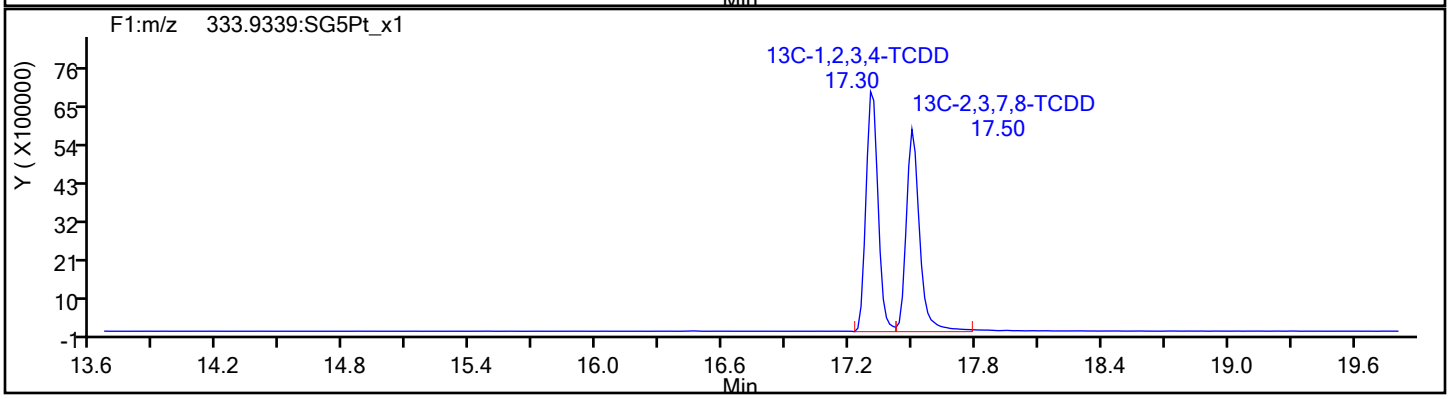

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

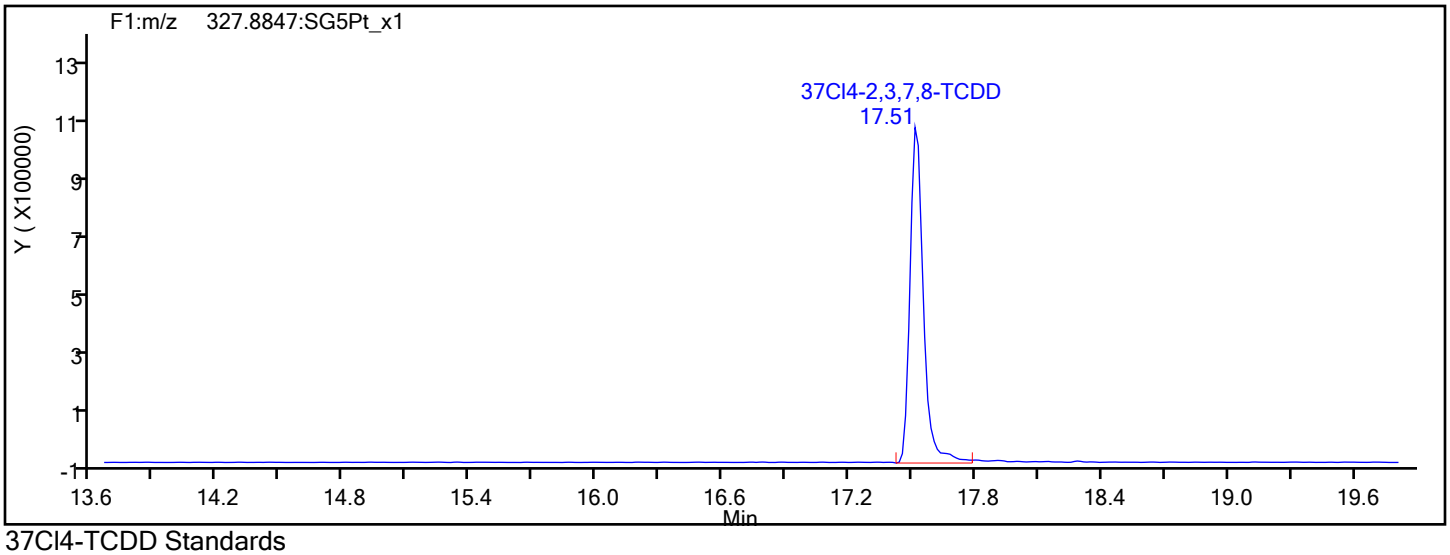

37Cl4-TCDD Standards

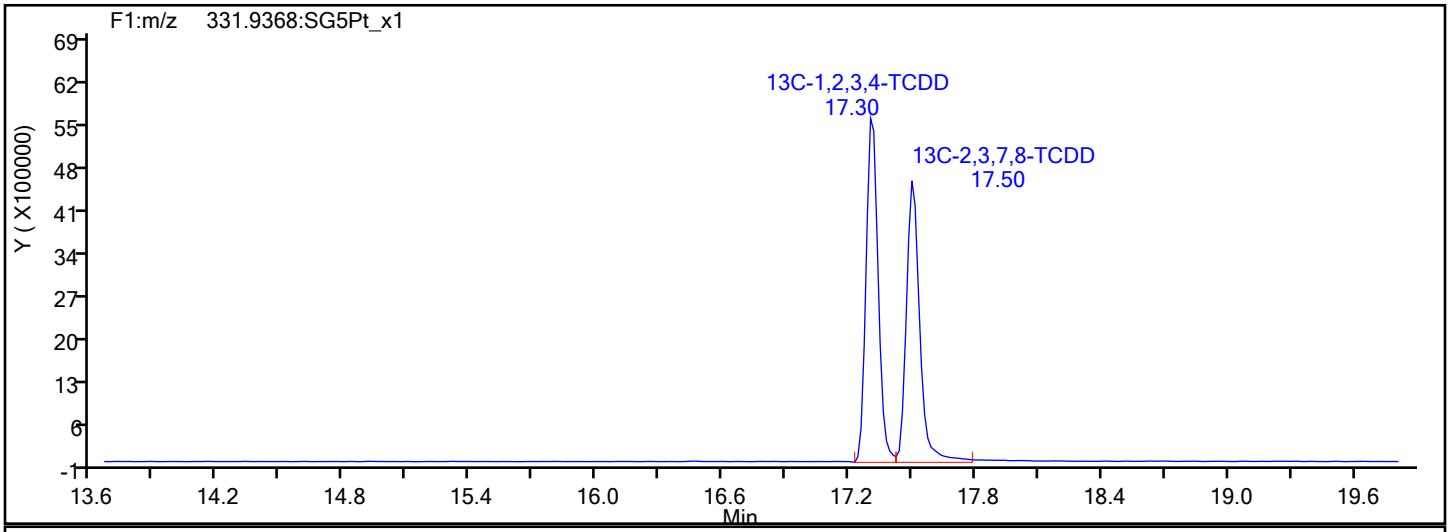

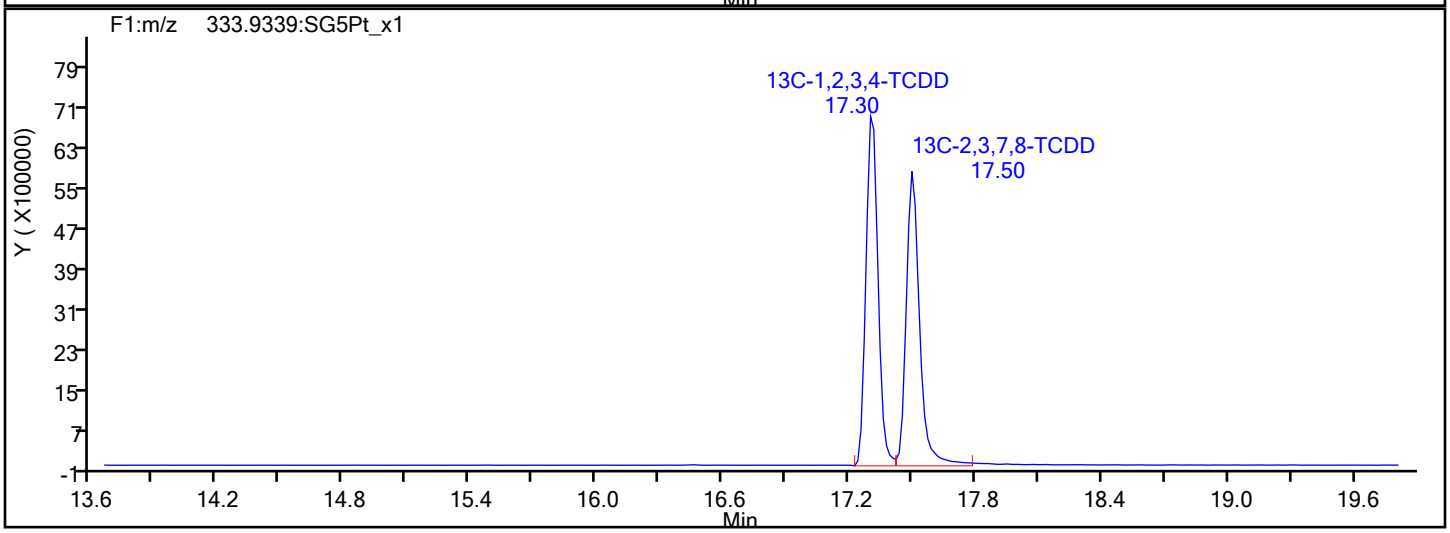

Report Date: 07-Feb-2020 01:22:30 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

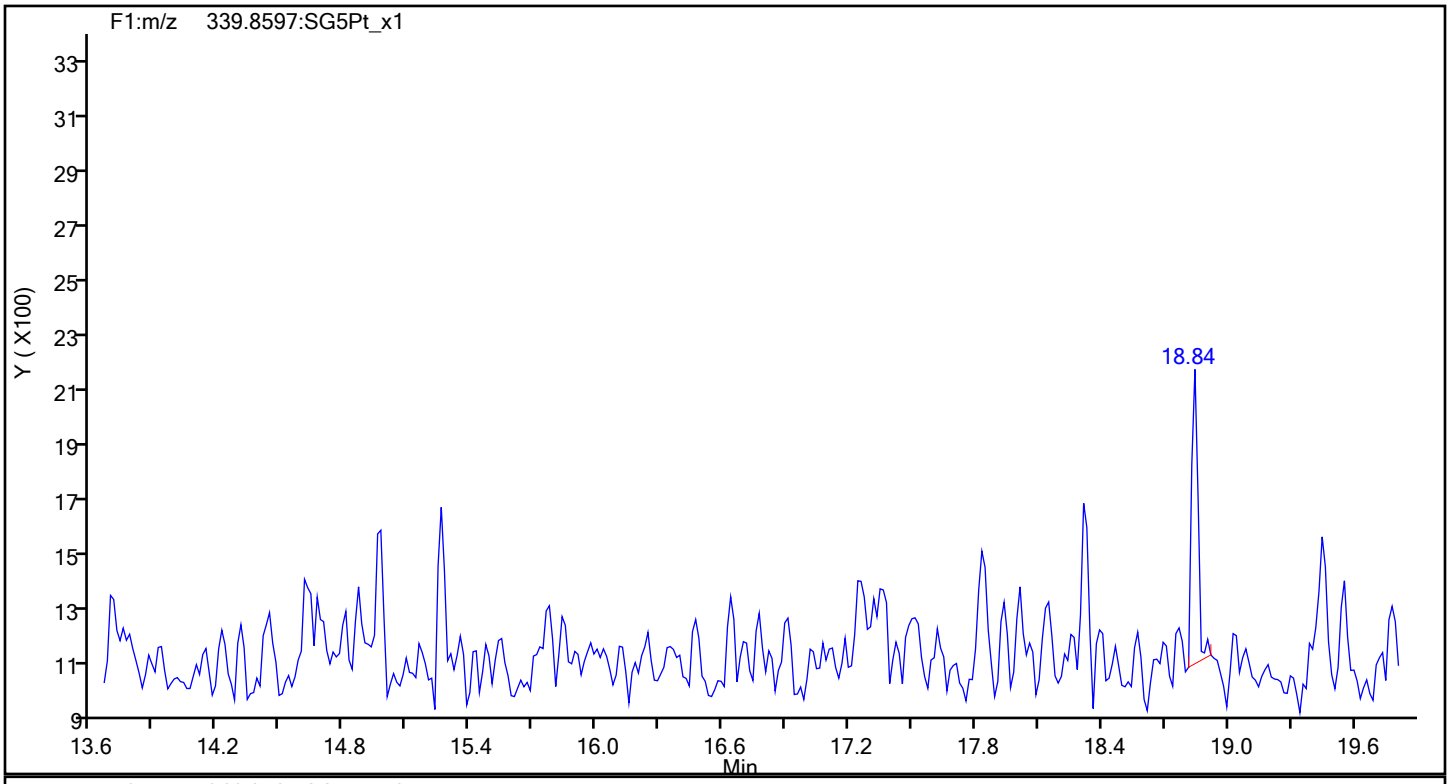

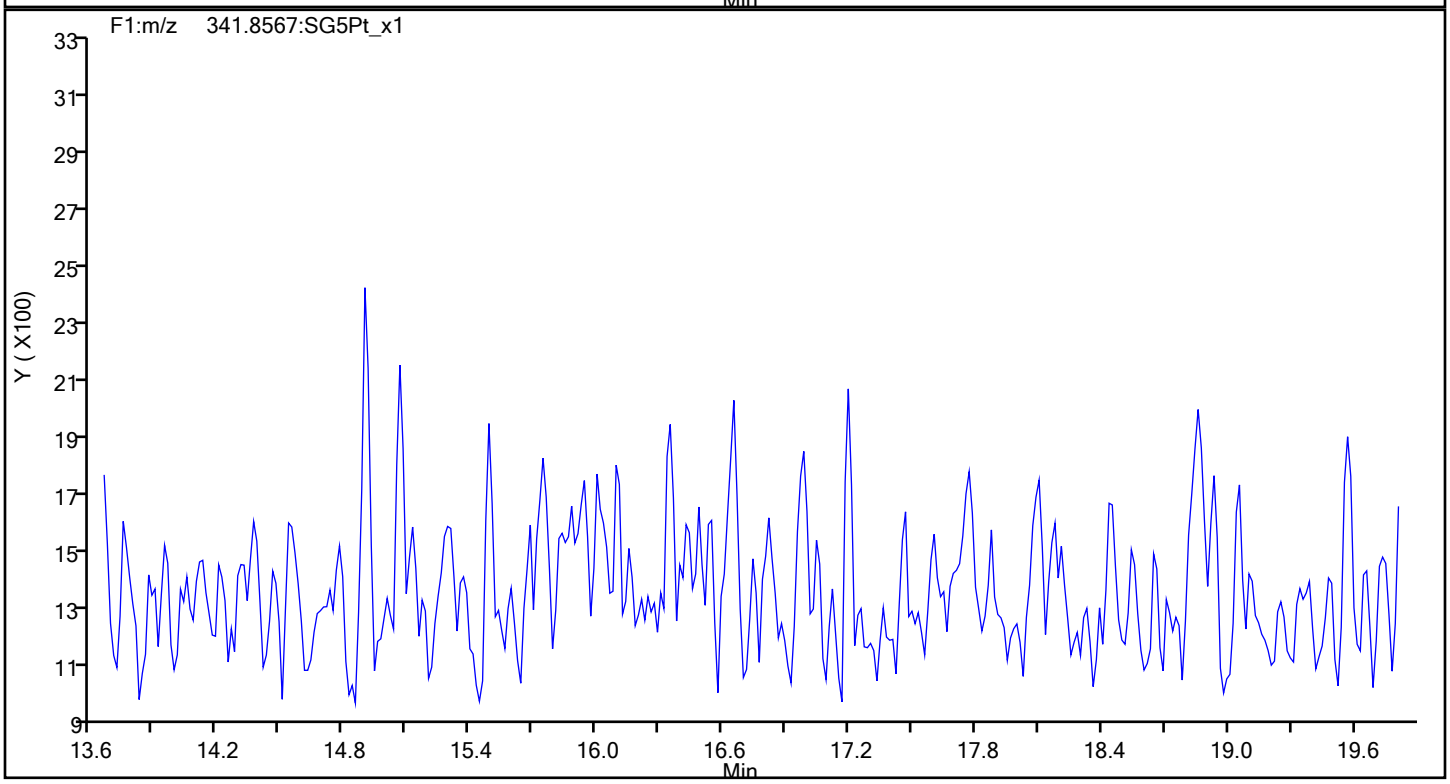

Report Date: 07-Feb-2020 01:22:30 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

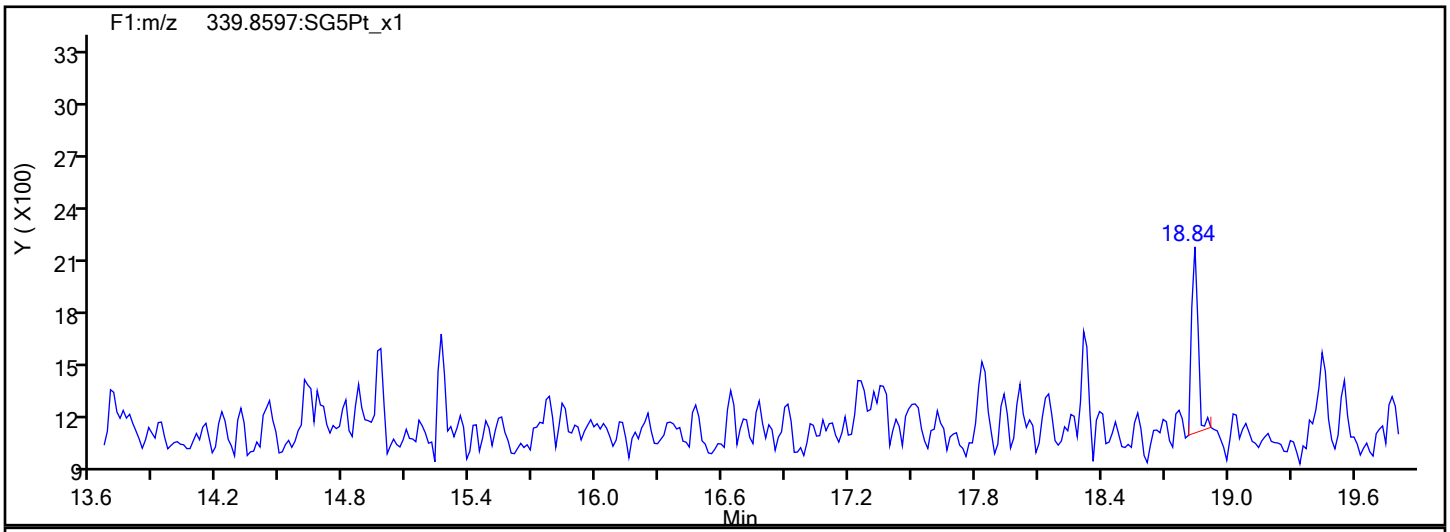

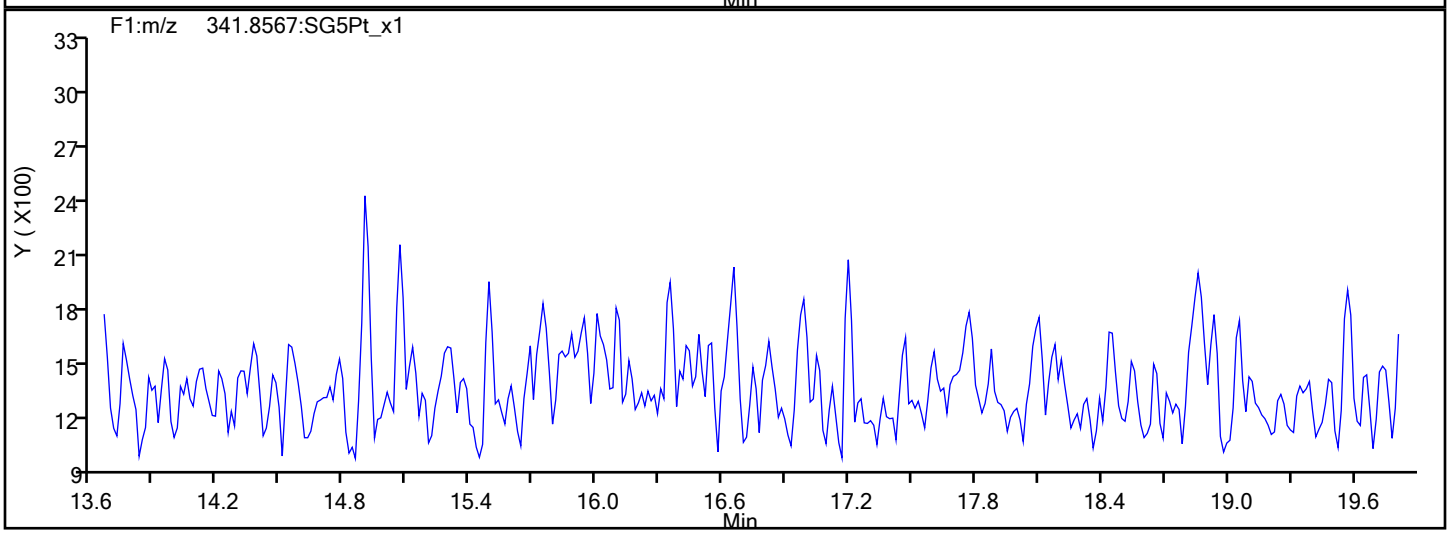

F1 PeCDFs Interference Mass

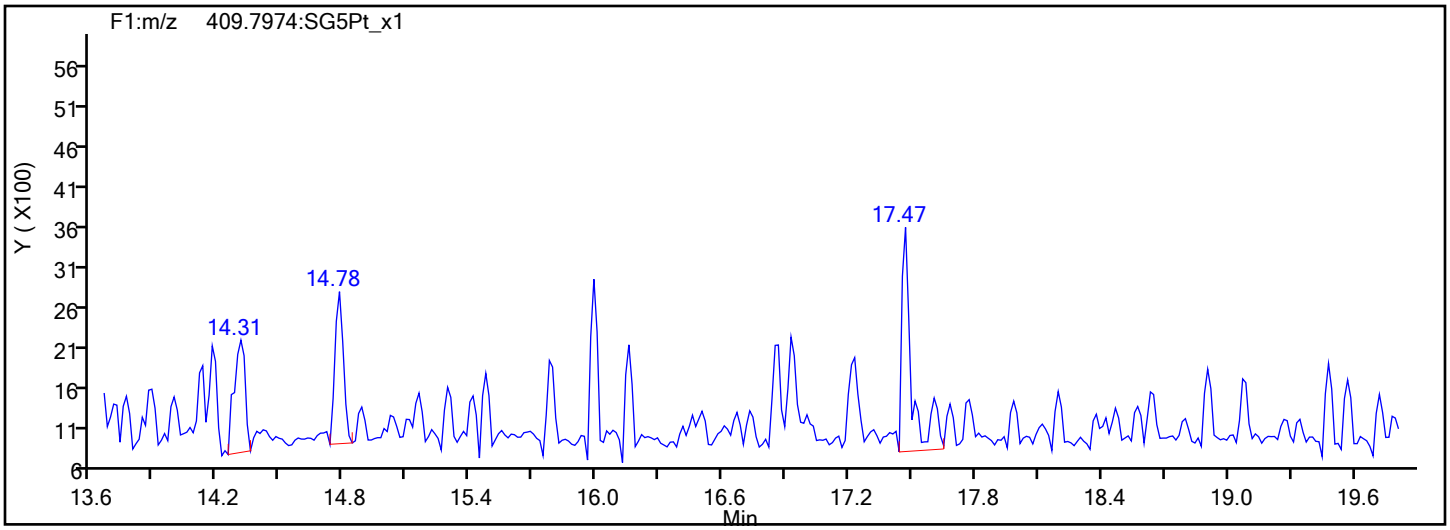

Report Date: 07-Feb-2020 01:22:30 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_2.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

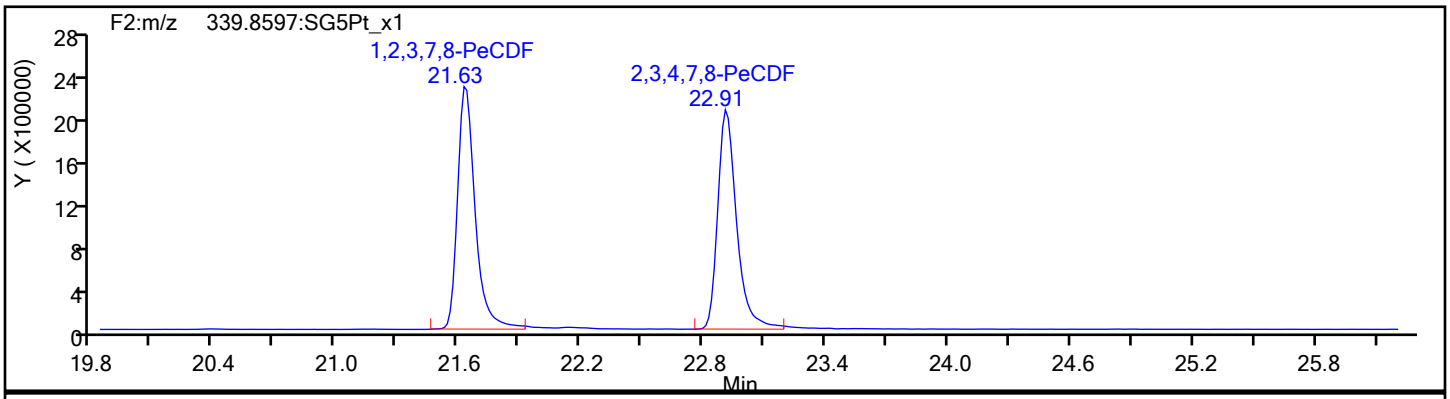

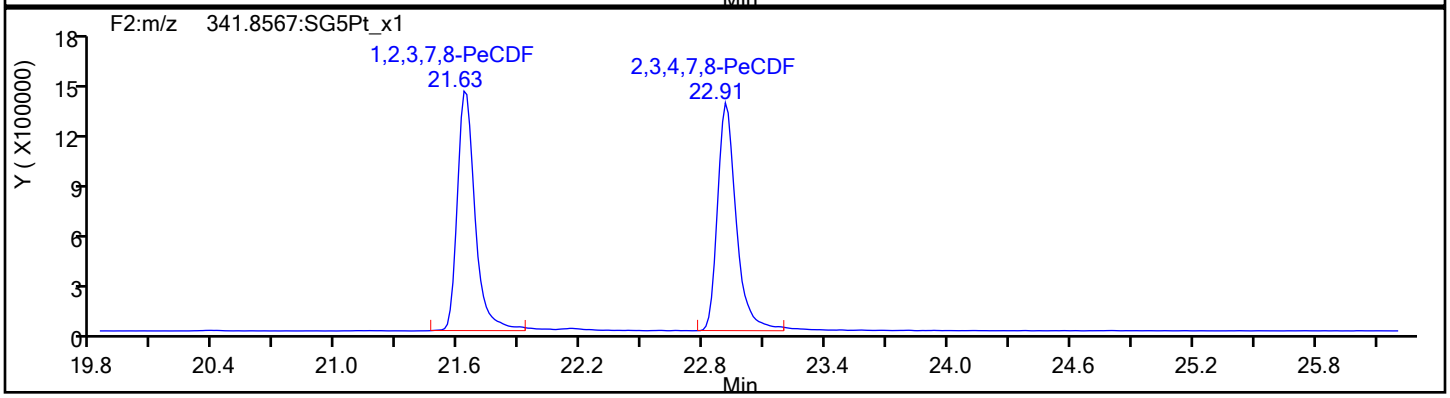

PeCDF Standards

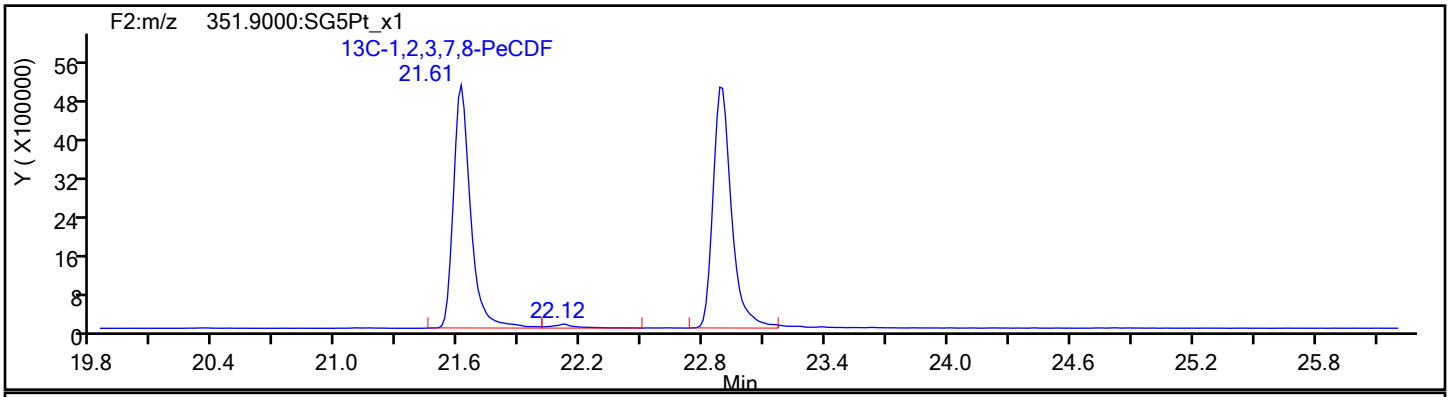

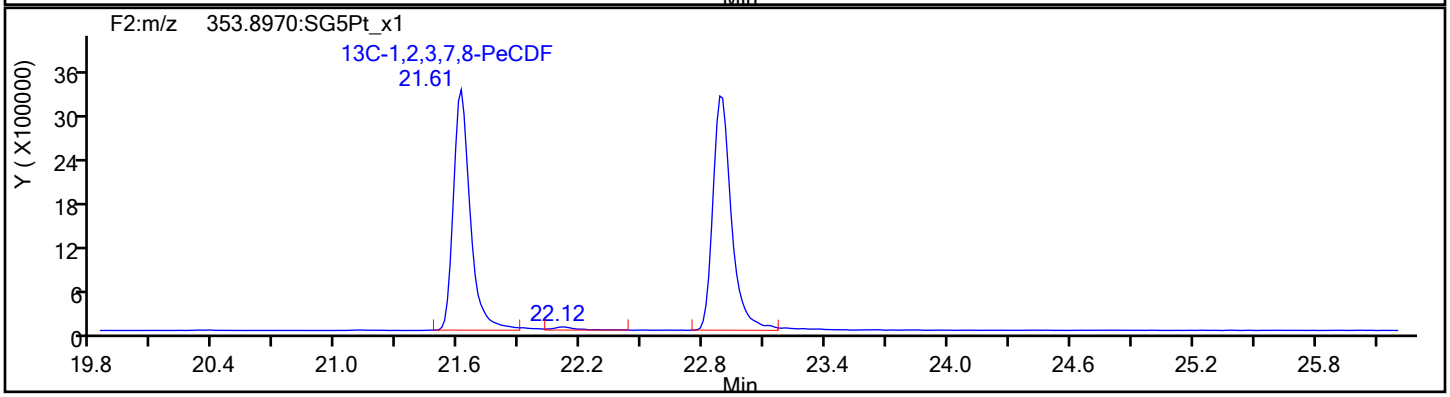

Report Date: 07-Feb-2020 01:22:30 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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PeCDF

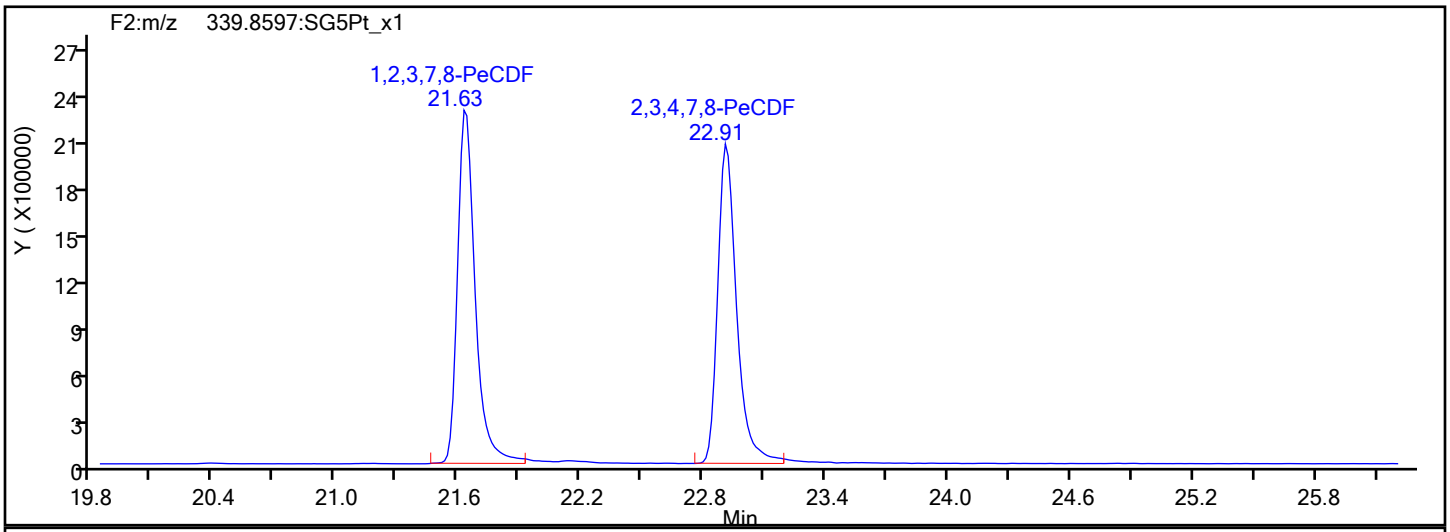

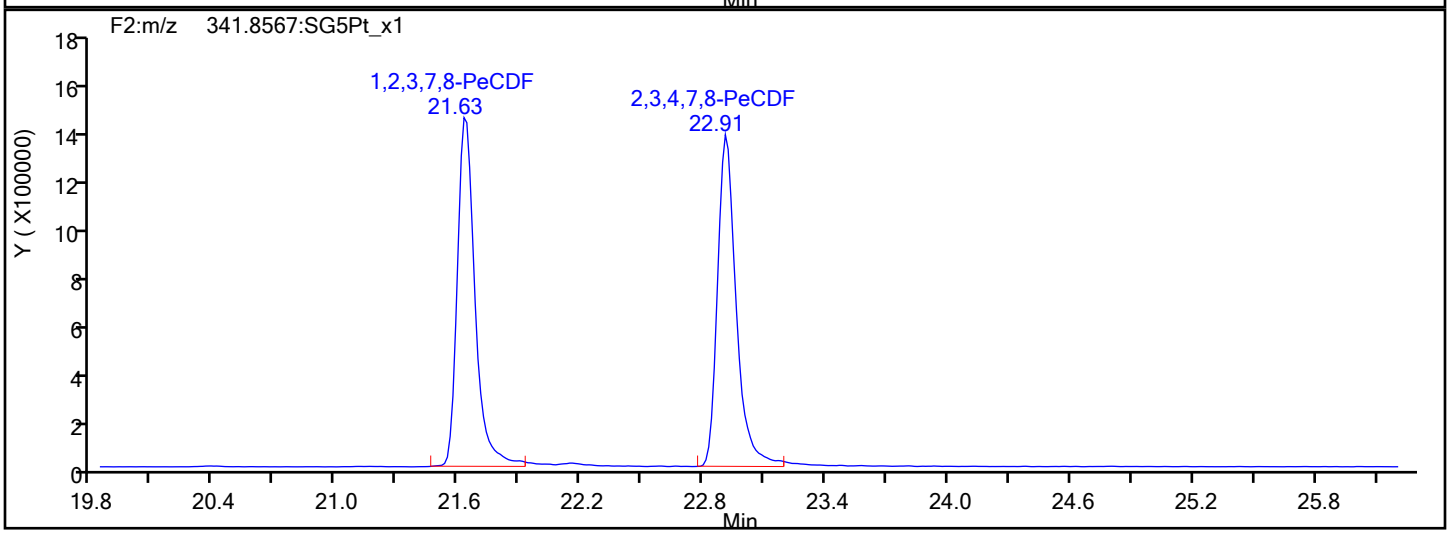

PeCDF Interference Mass

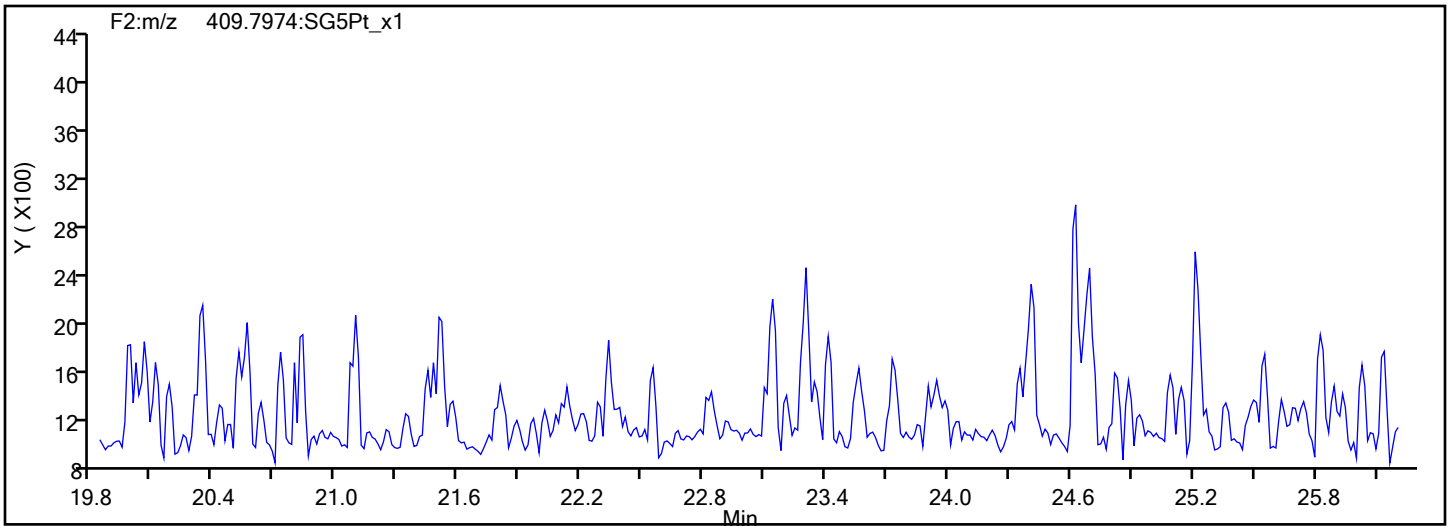

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

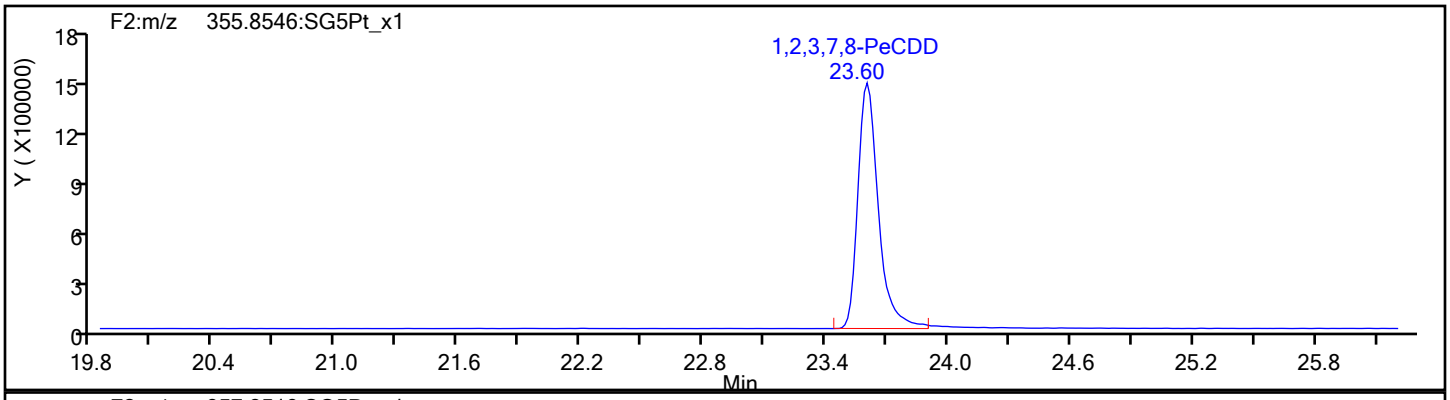

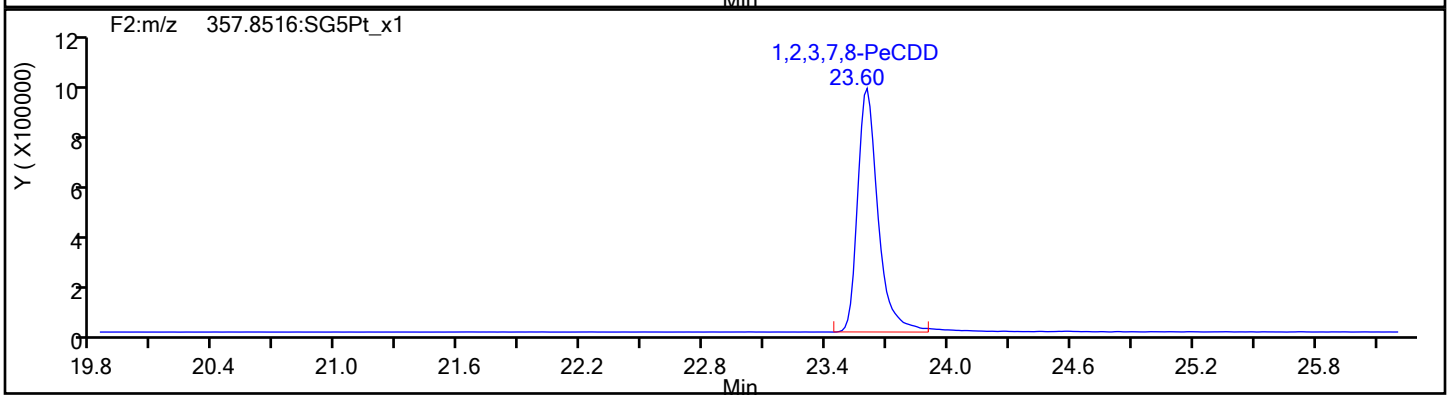

PeCDD Standards

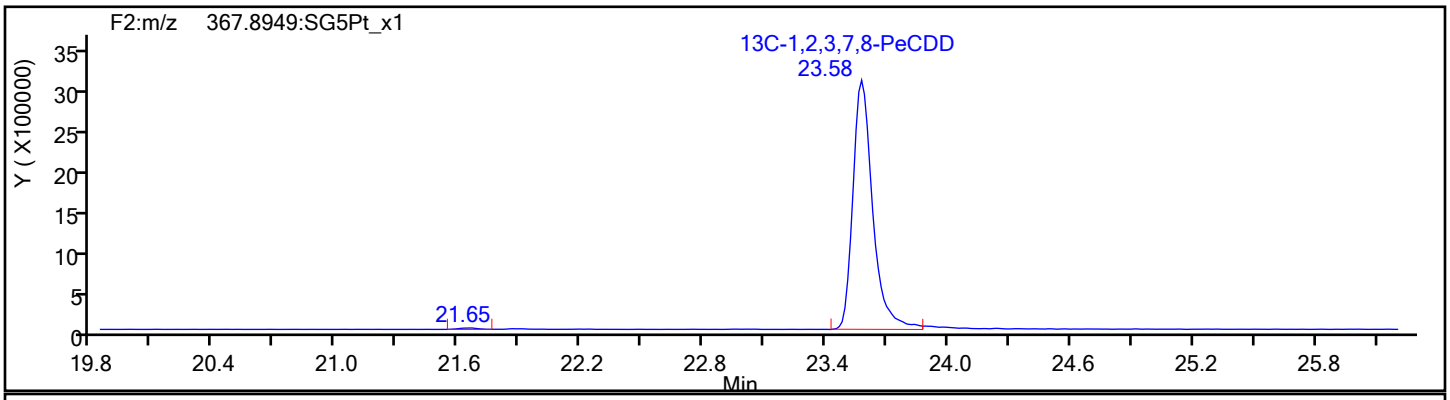

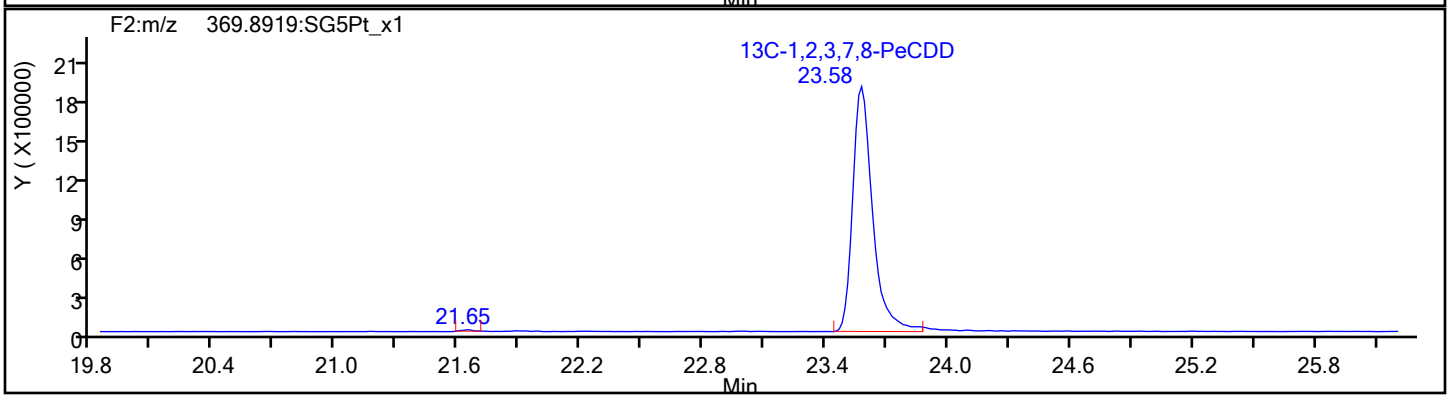

Report Date: 07-Feb-2020 01:22:30 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Client ID:			
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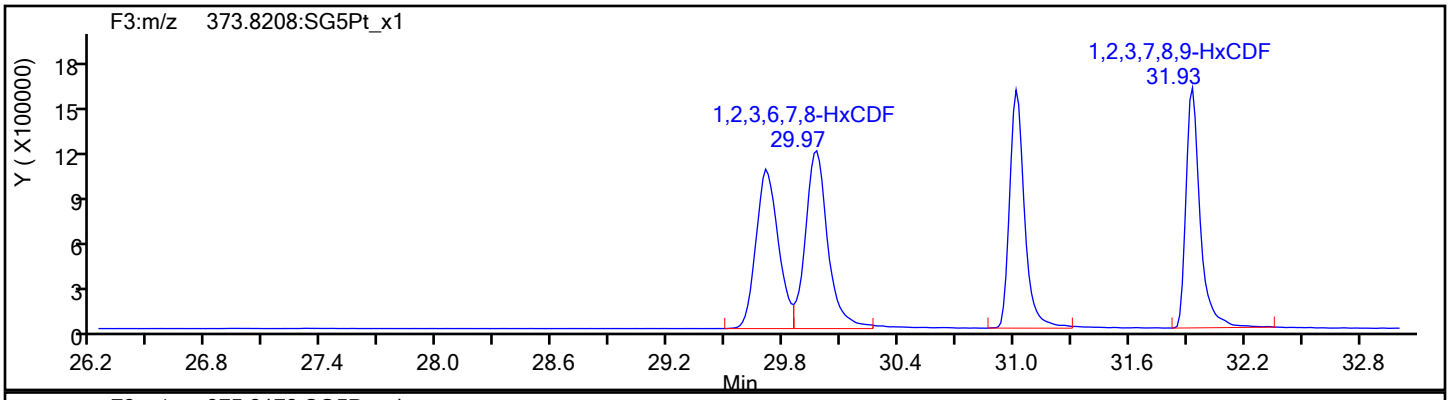

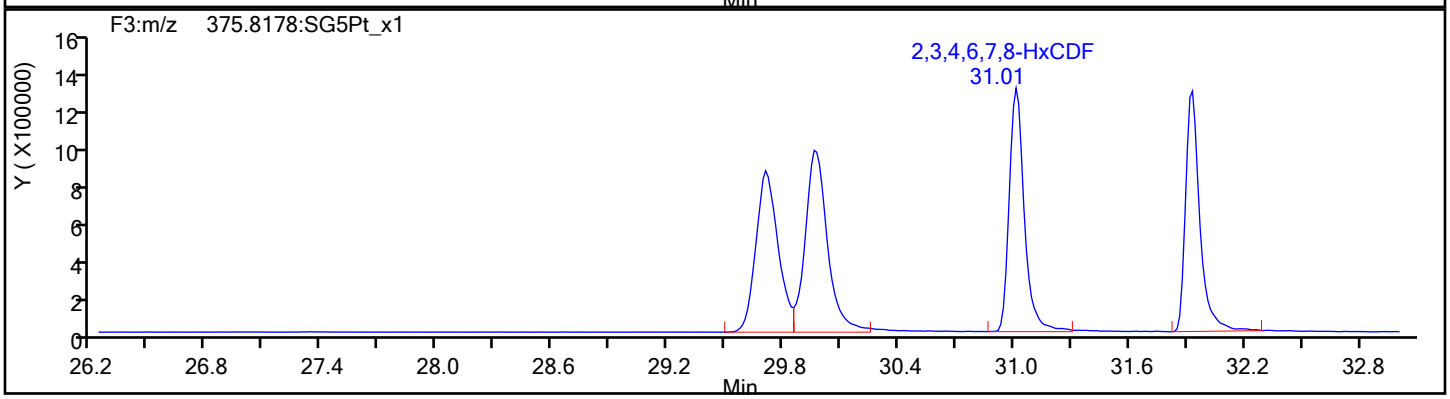

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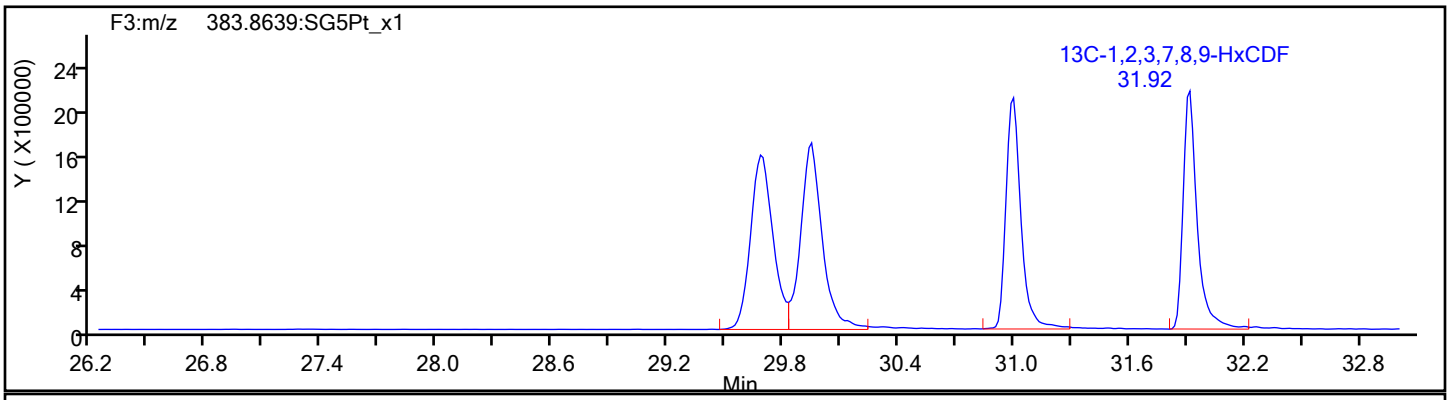

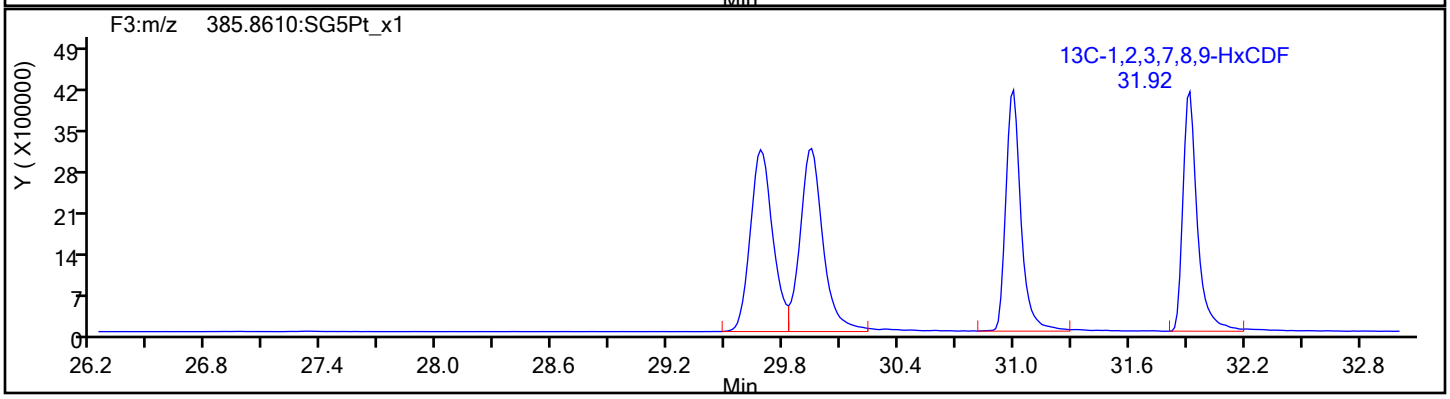

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Eurofins TestAmerica, Sacramento

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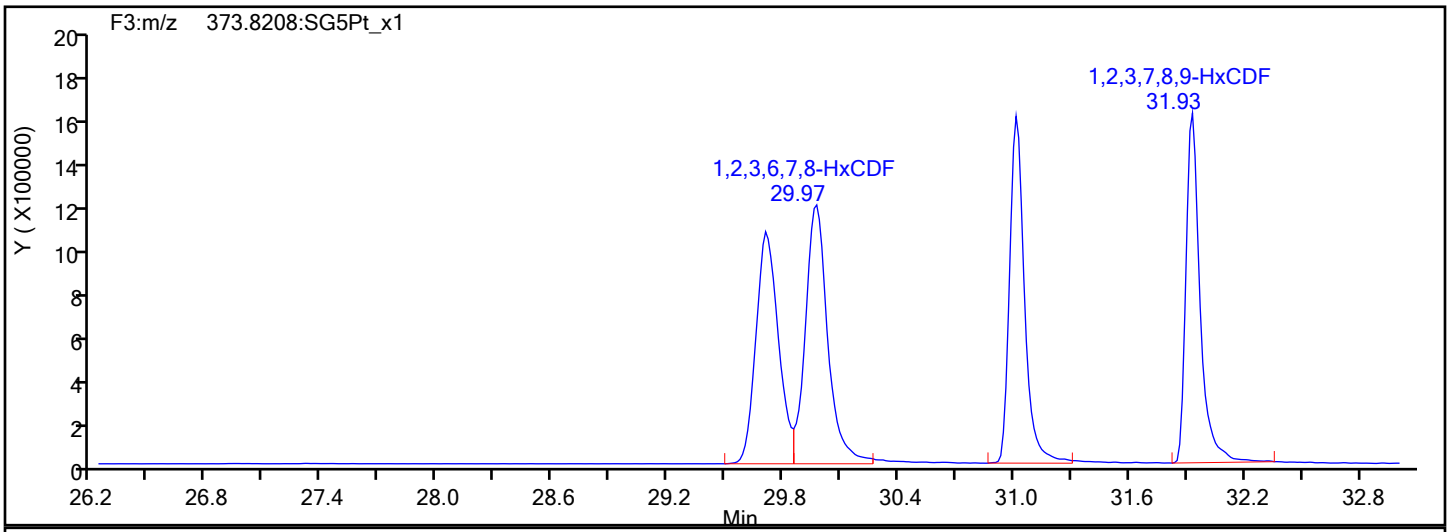

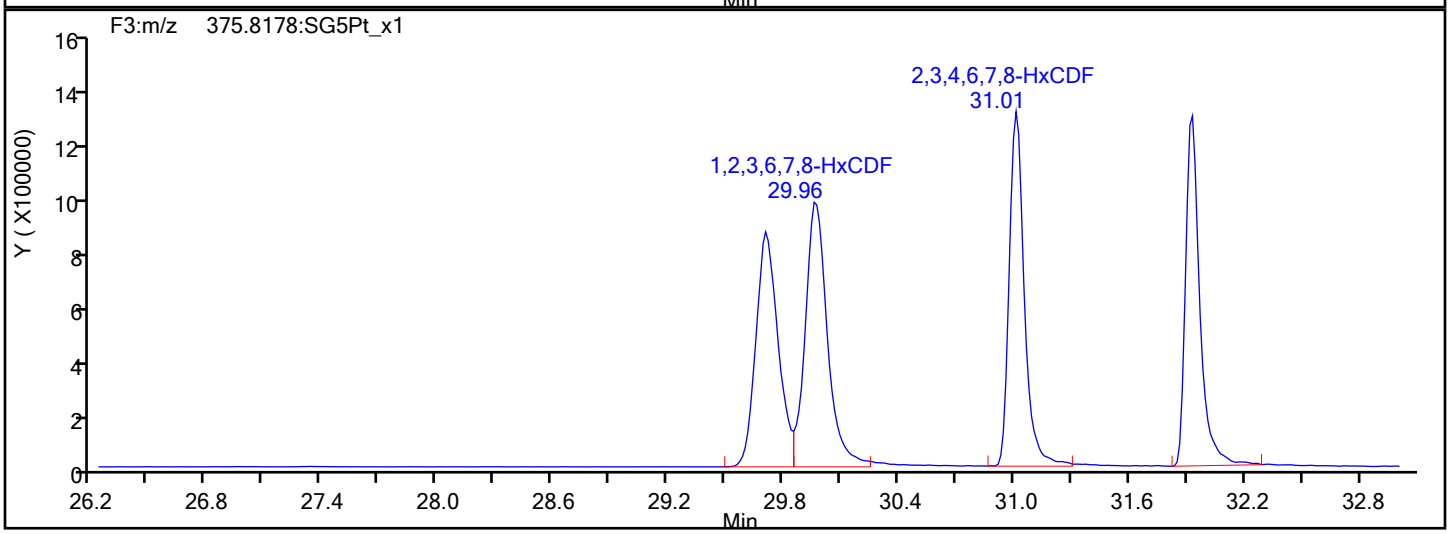

HxCDF Interference Mass

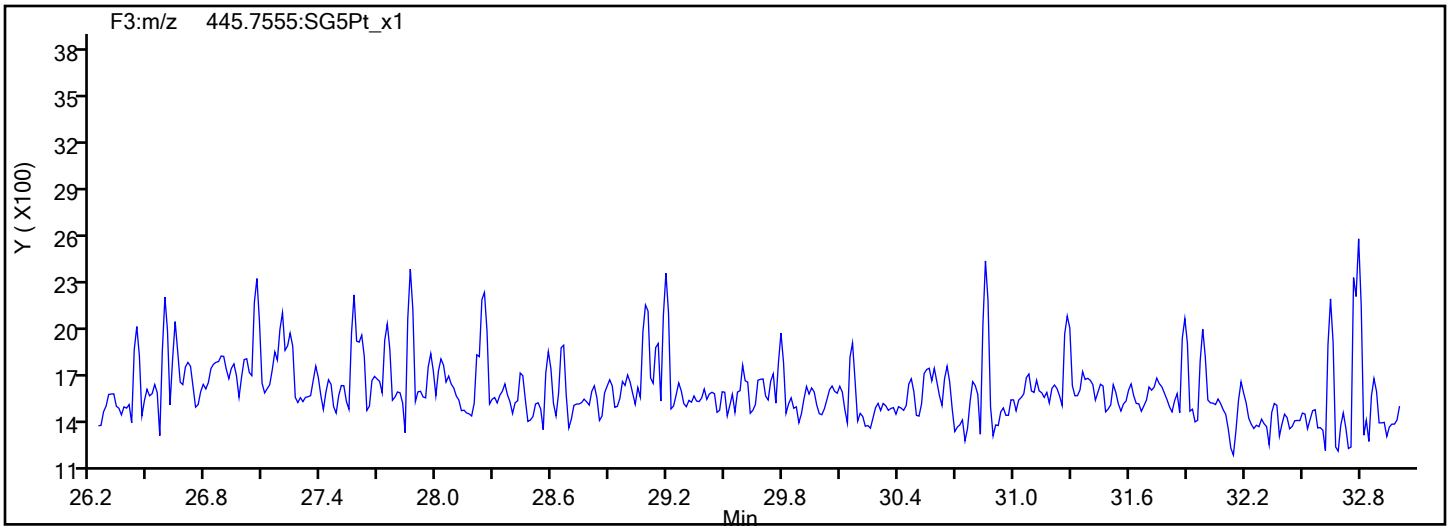

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Eurofins TestAmerica, Sacramento

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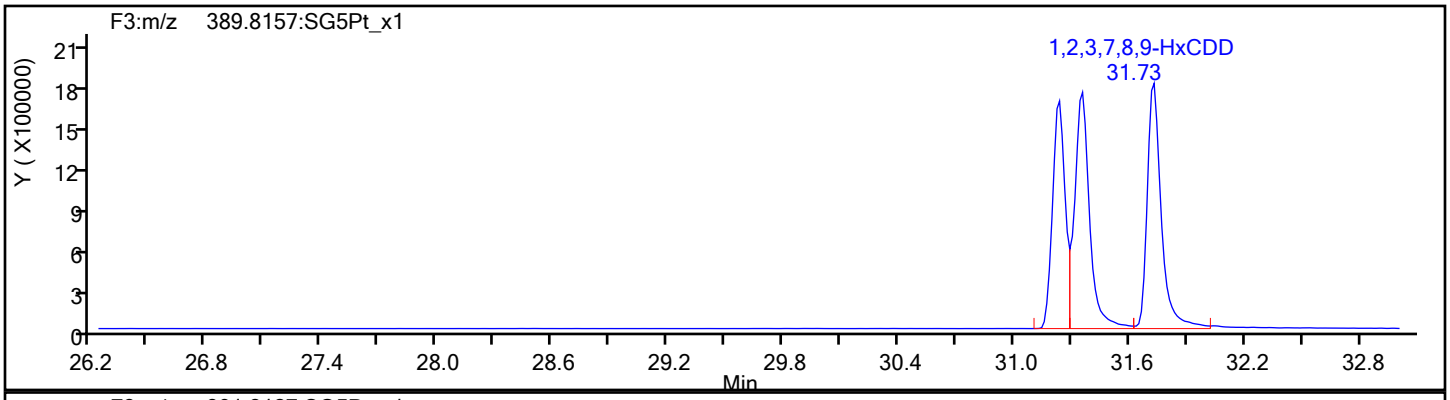

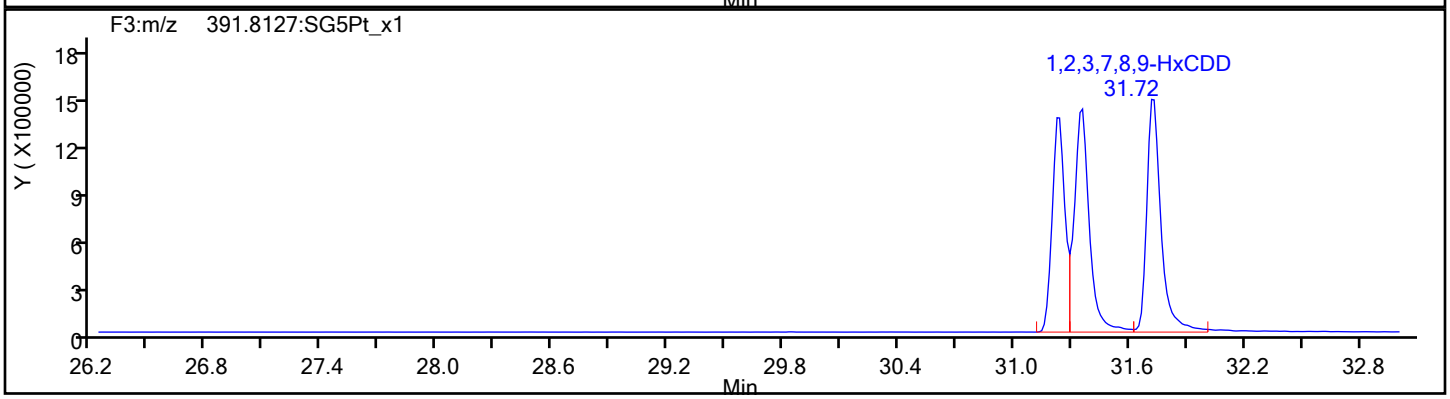

HxCDD Standards

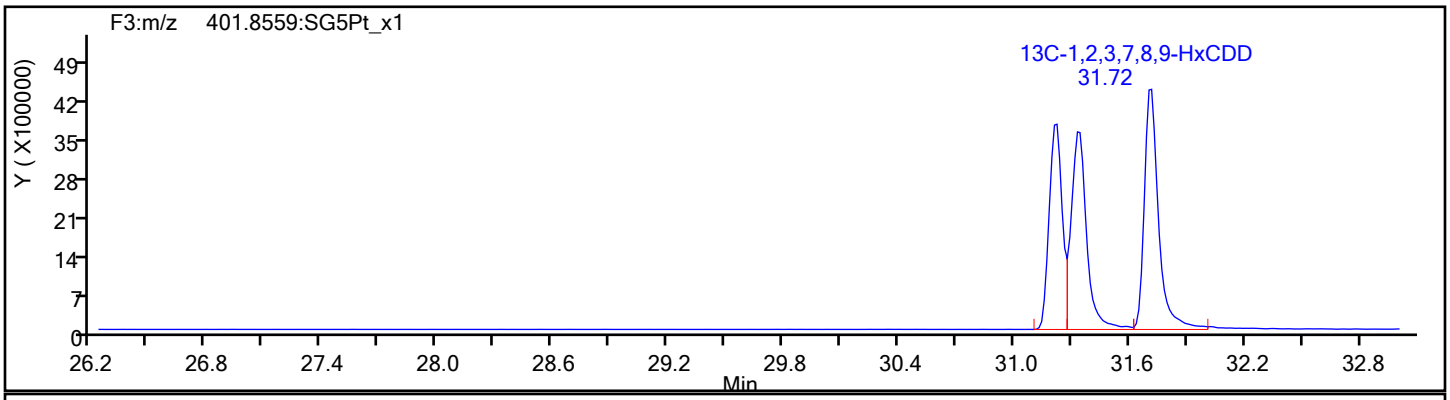

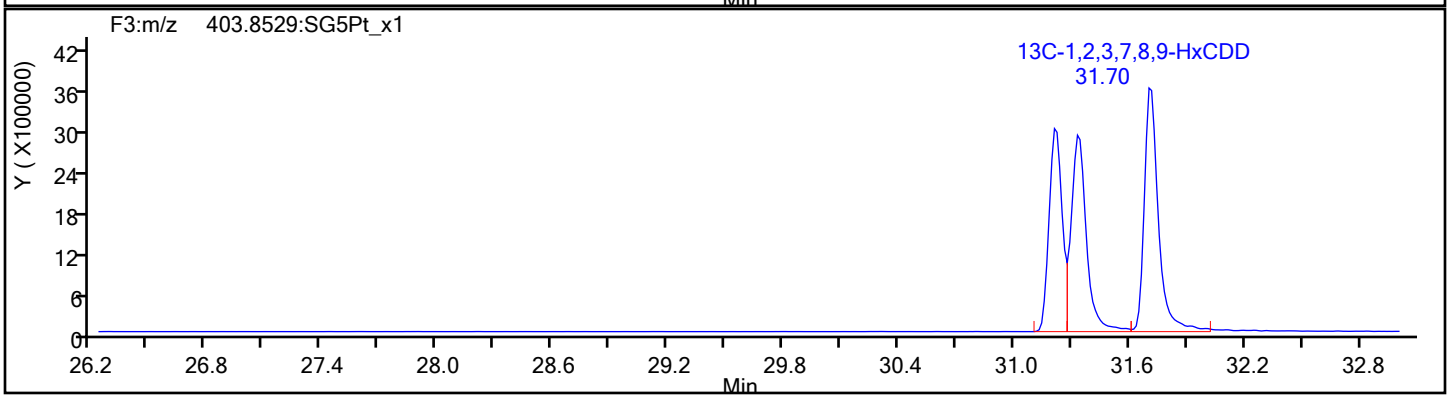

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Eurofins TestAmerica, Sacramento

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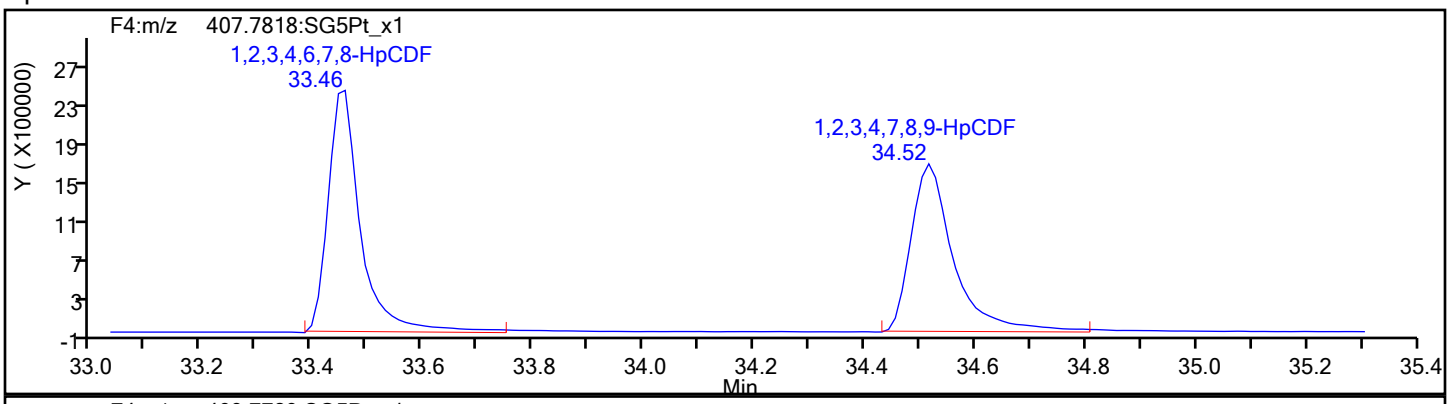

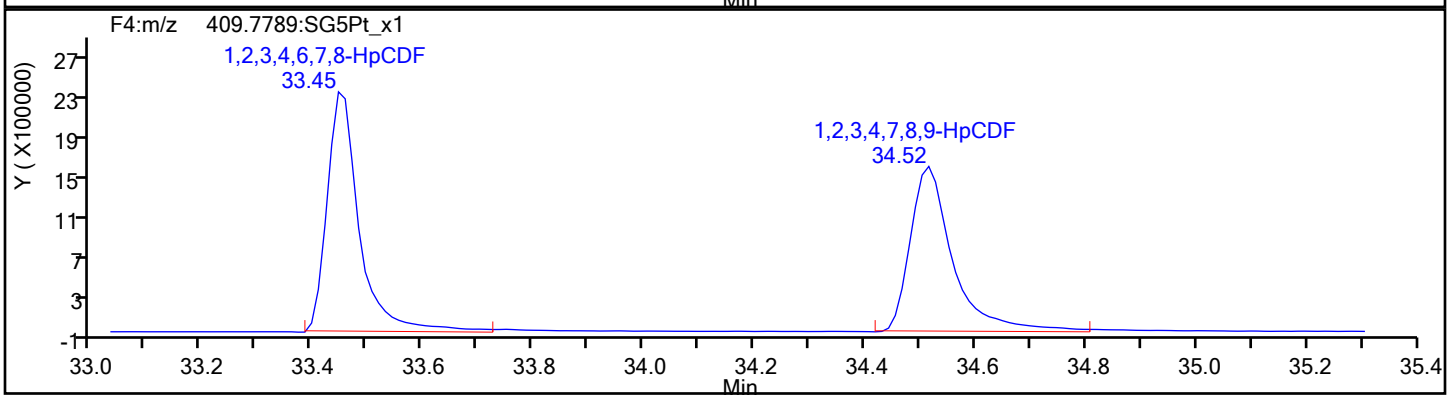

HpCDF Standards

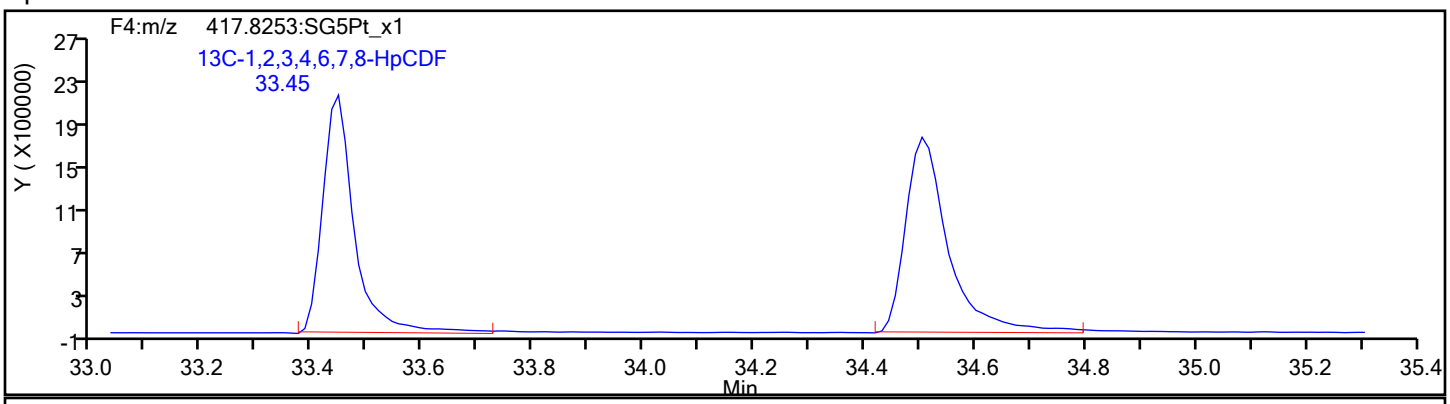

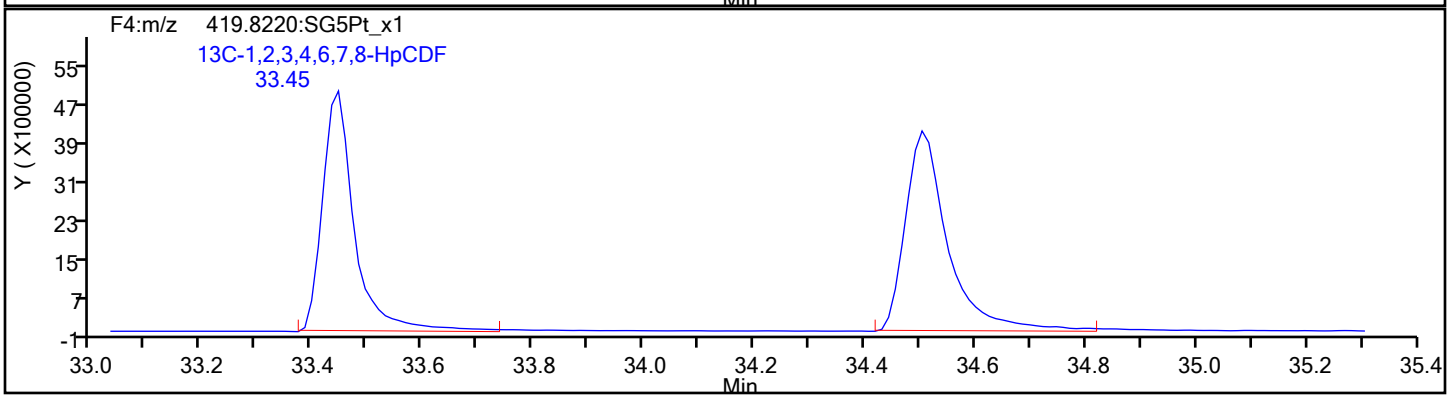

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Eurofins TestAmerica, Sacramento

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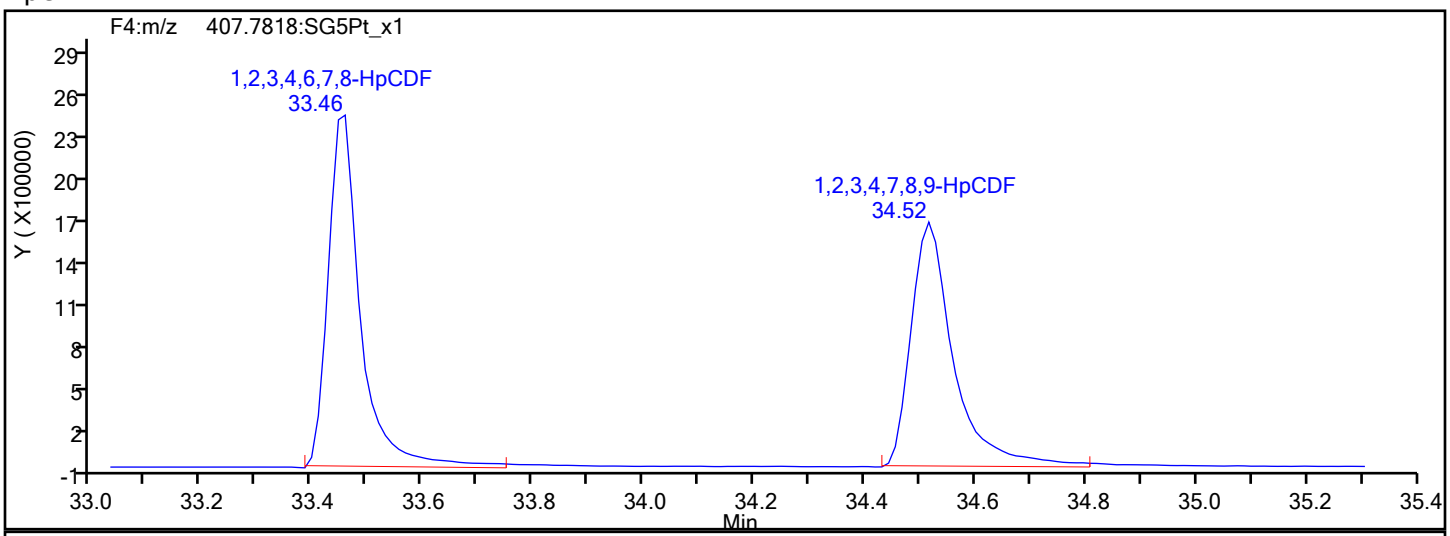

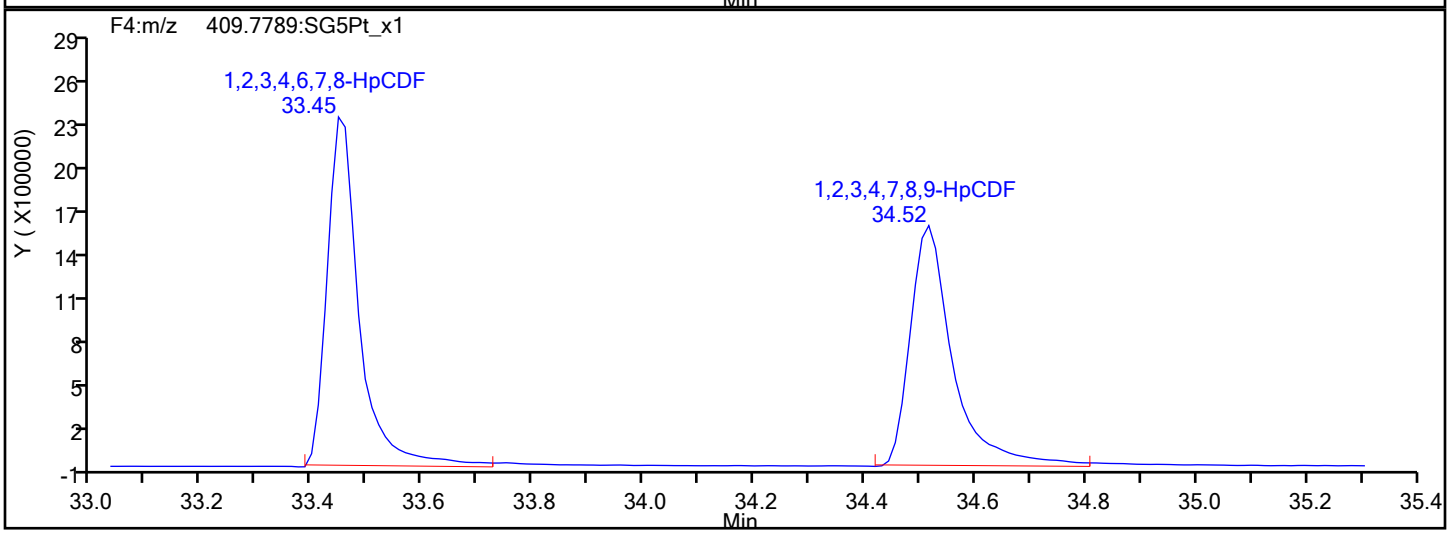

HpCDF Interference Mass

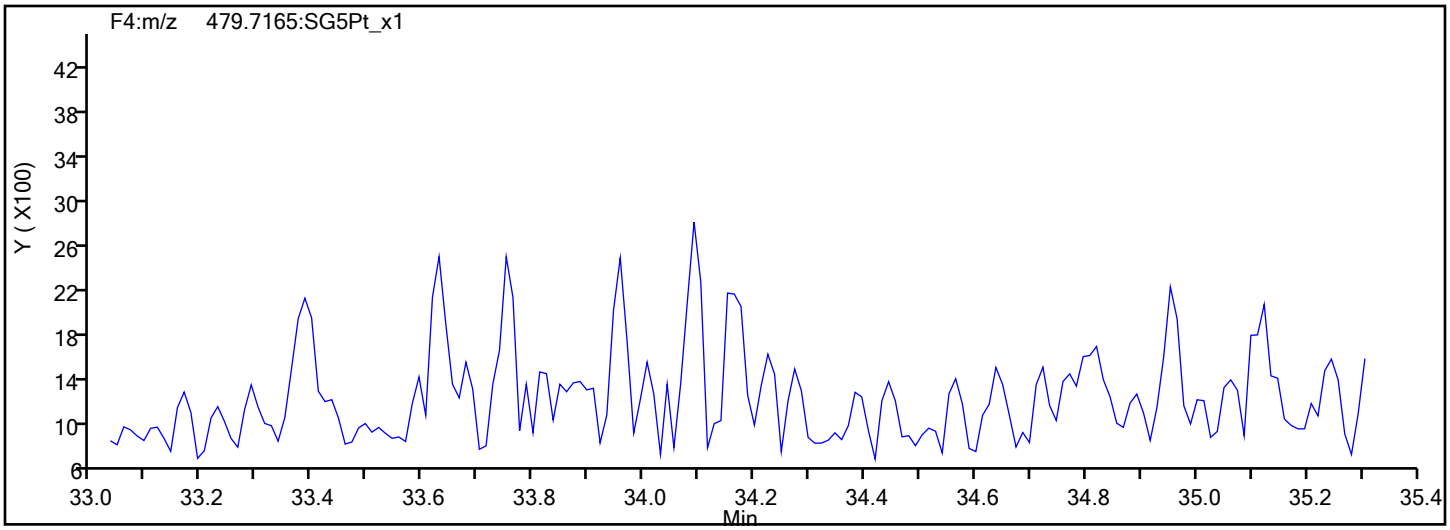

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Eurofins TestAmerica, Sacramento

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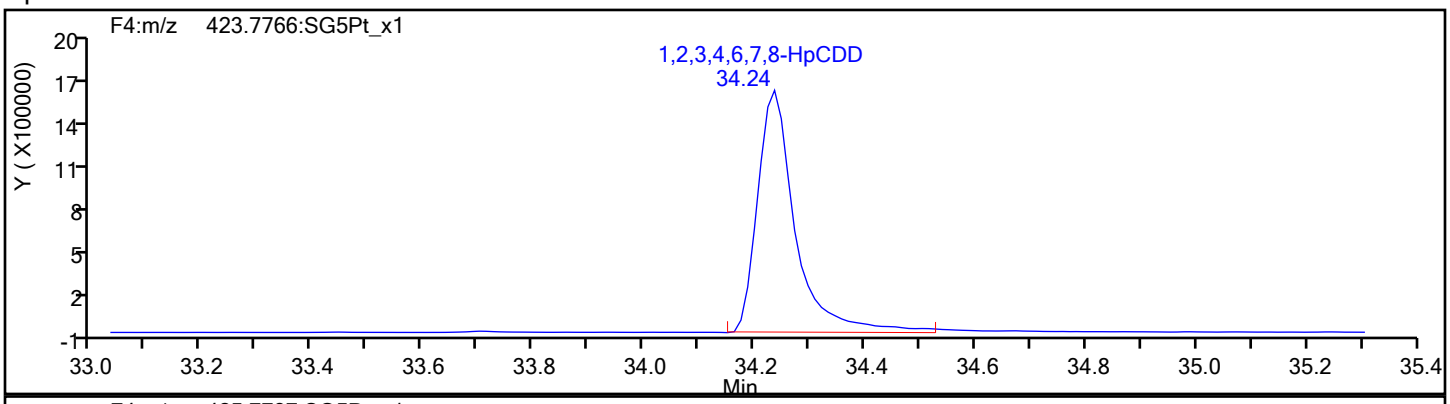

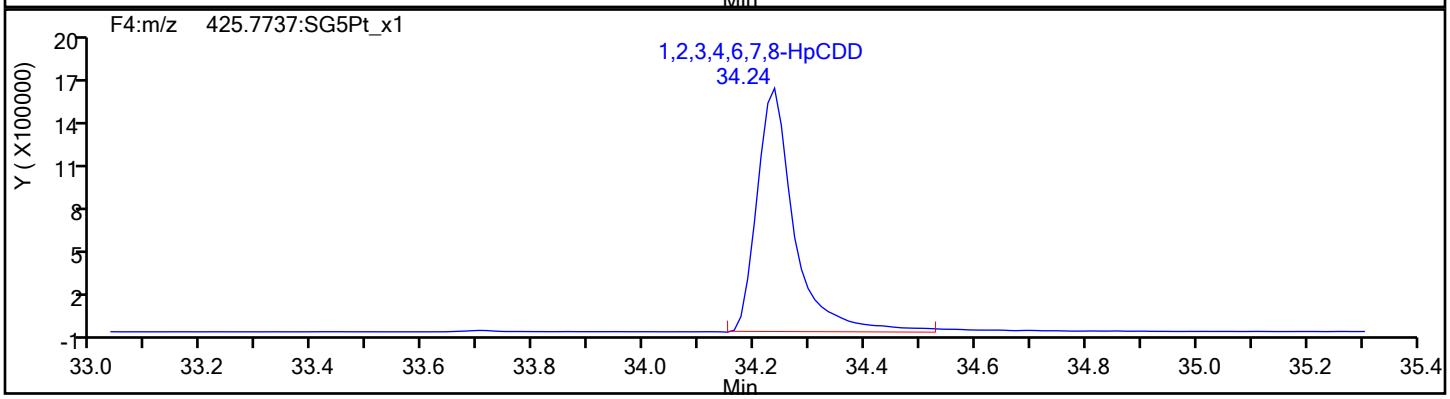

HpCDD Standards

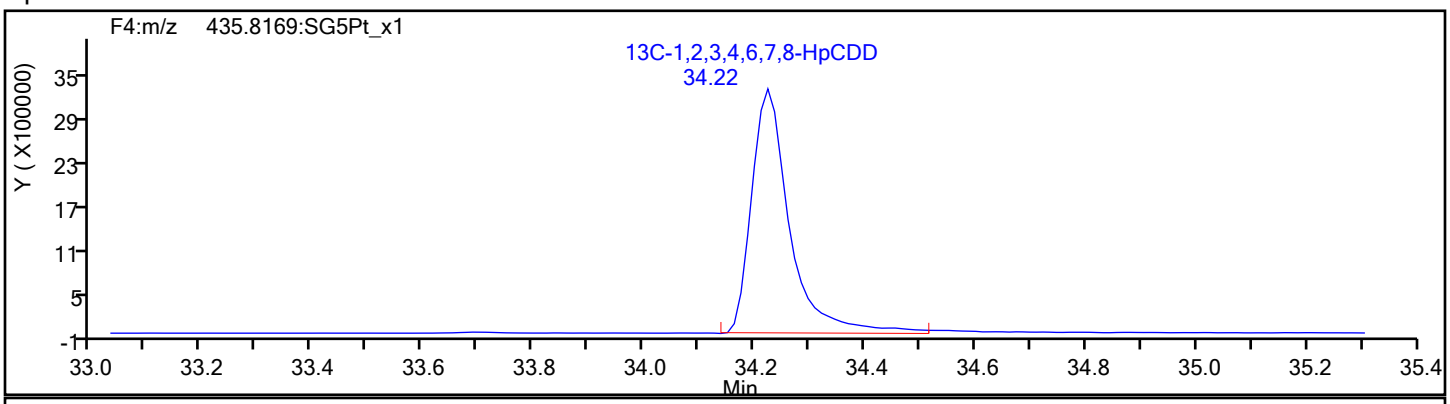

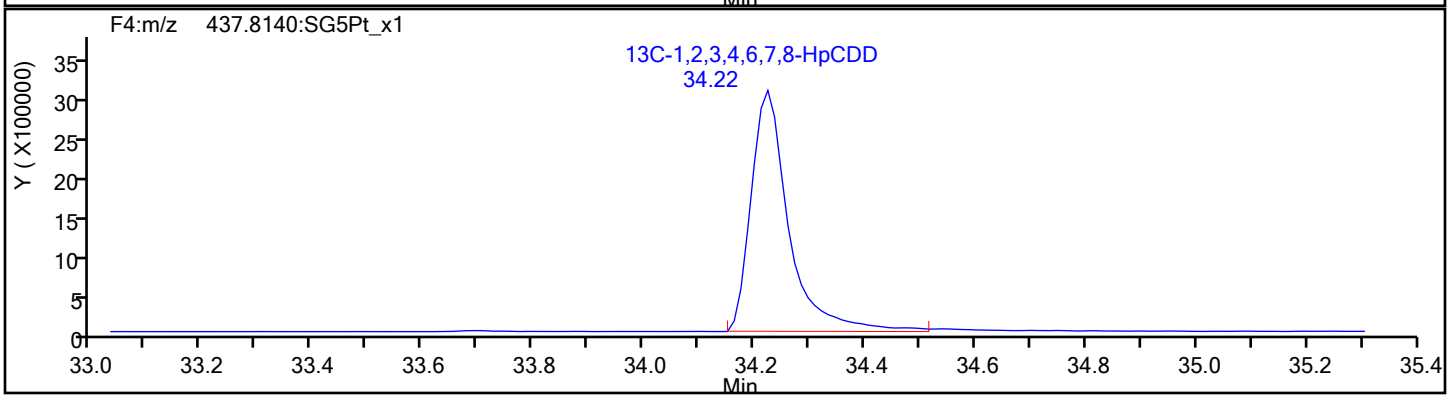

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Eurofins TestAmerica, Sacramento

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OCDF

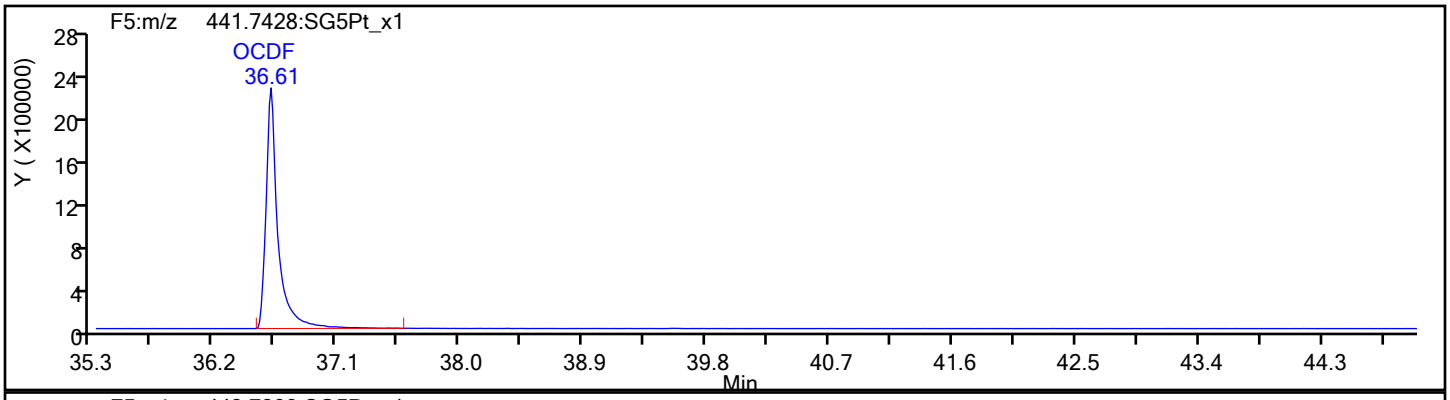

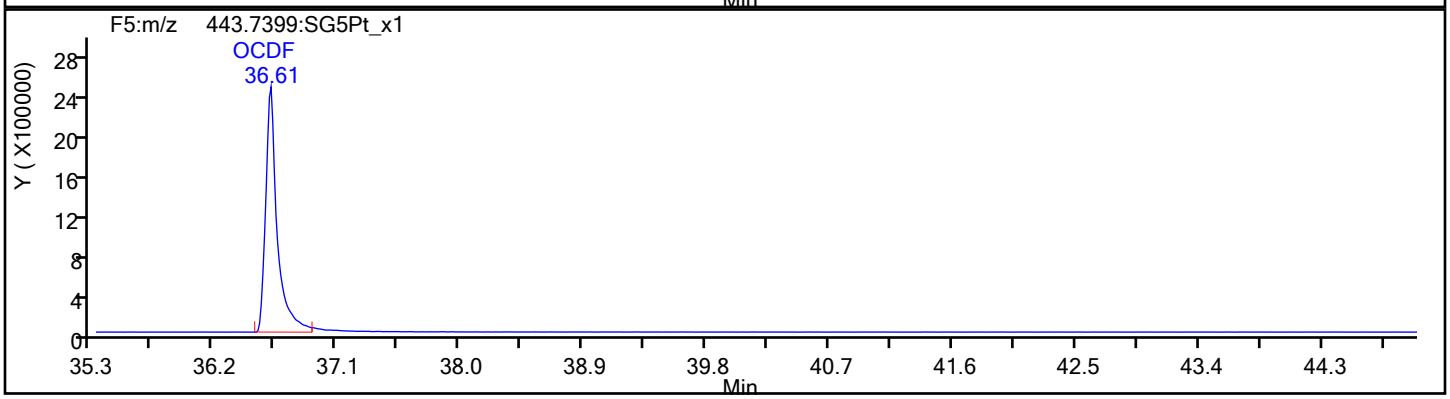

OCDF Standards

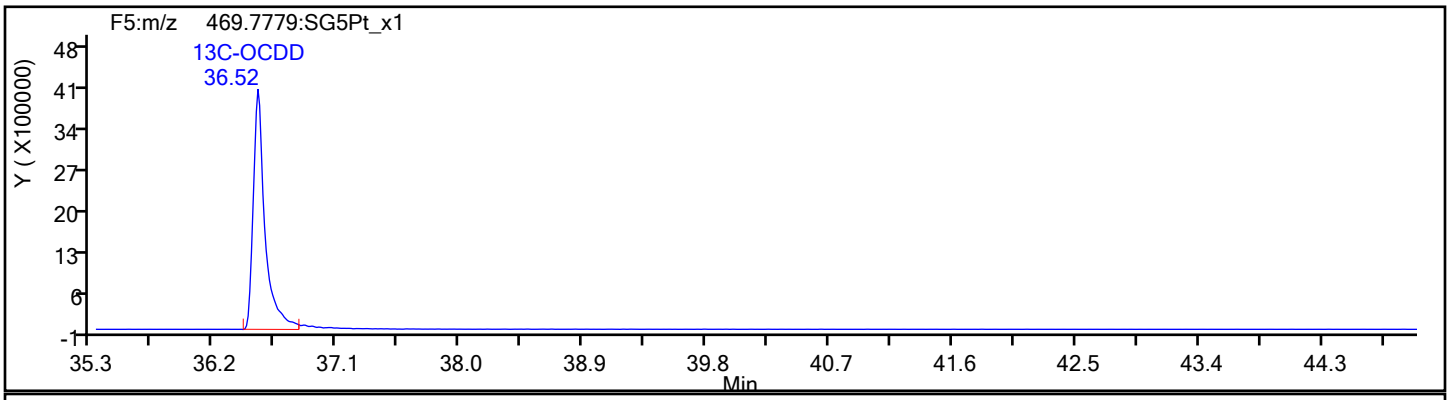

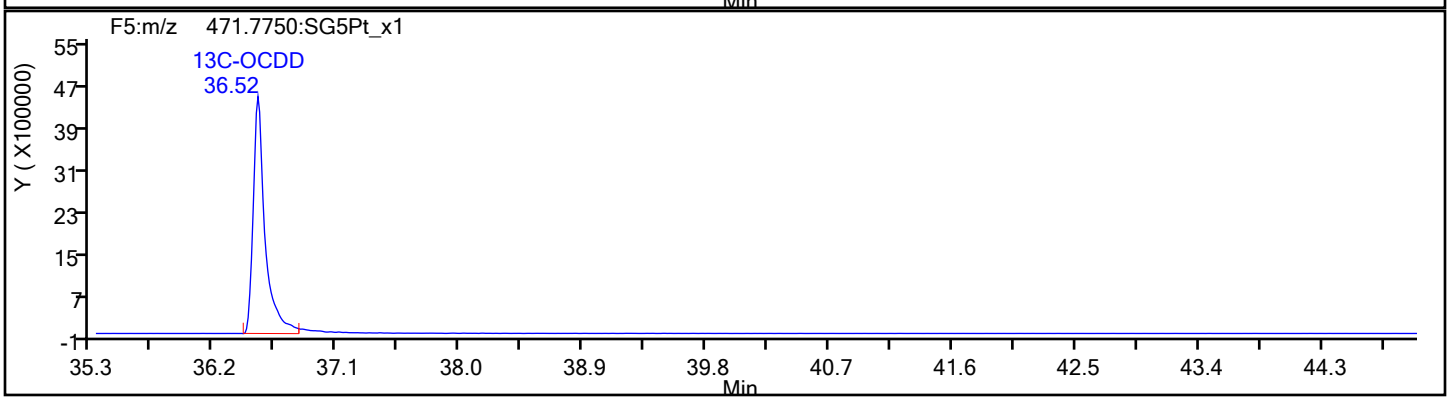

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Eurofins TestAmerica, Sacramento

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OCDF

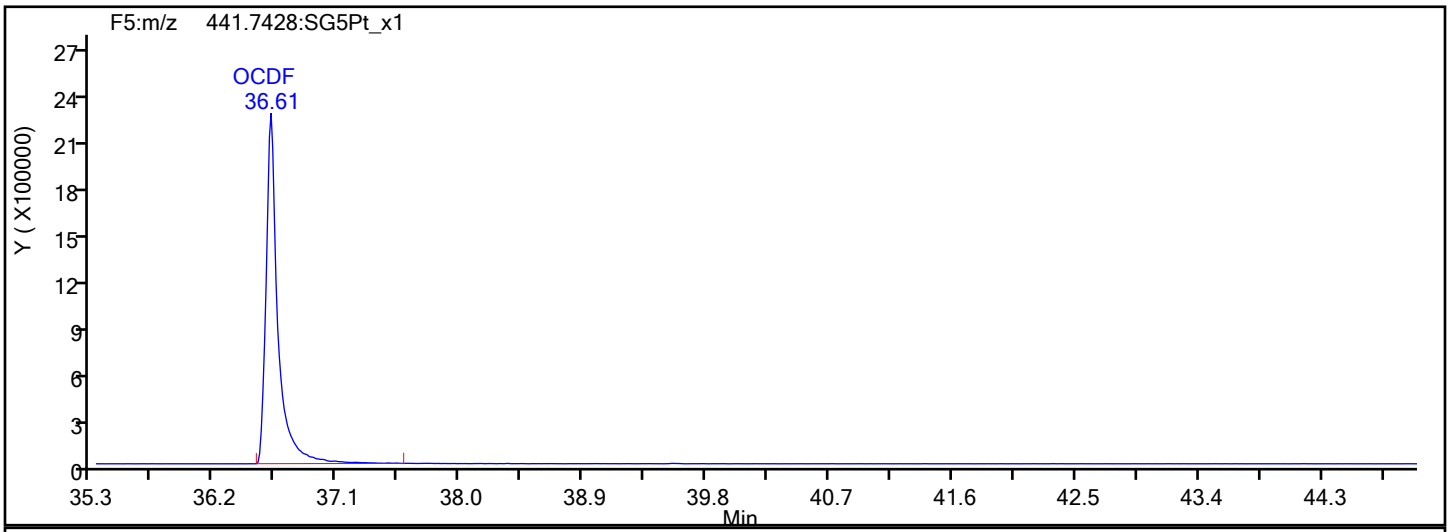

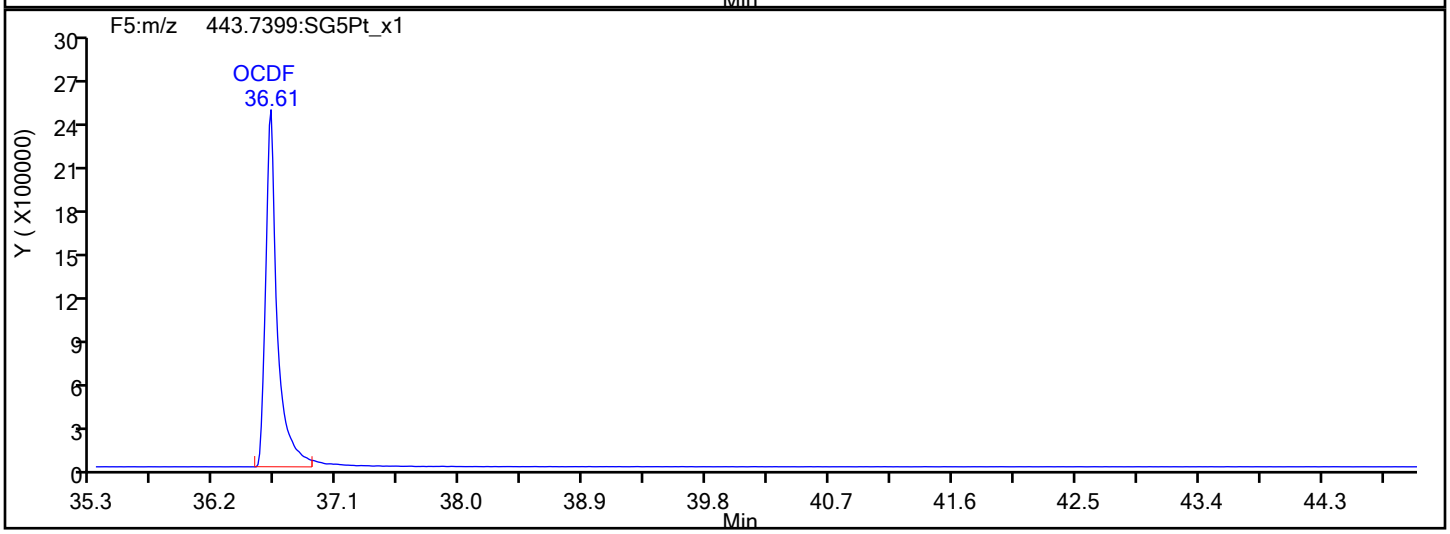

OCDF Interference Mass

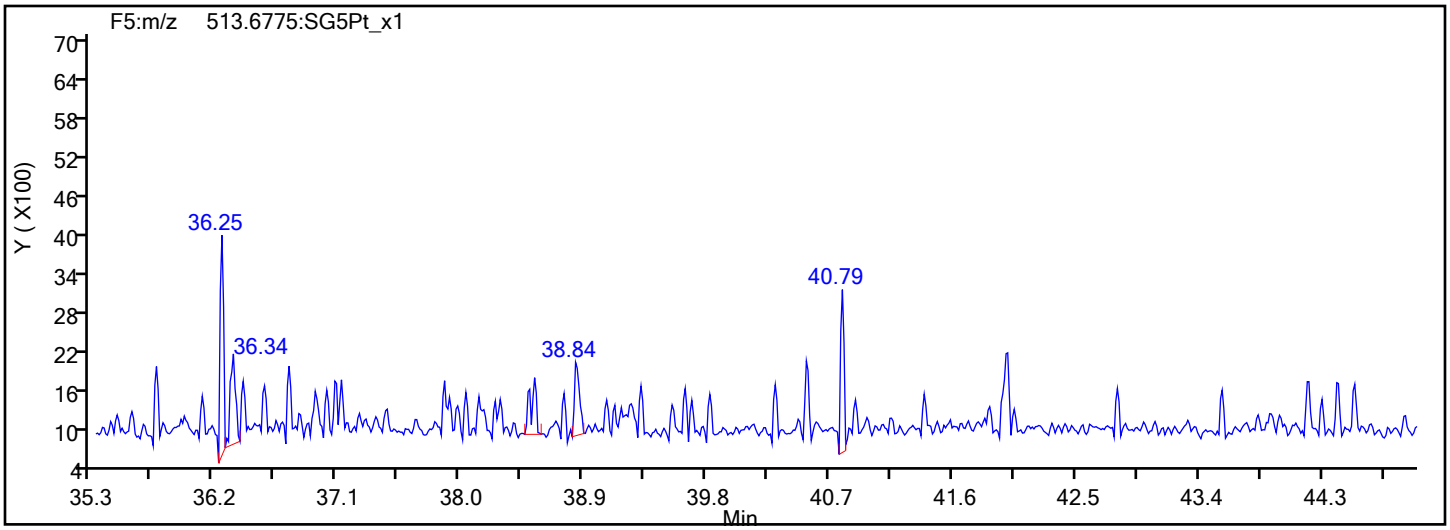

Report Date: 07-Feb-2020 01:22:31 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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OCDD

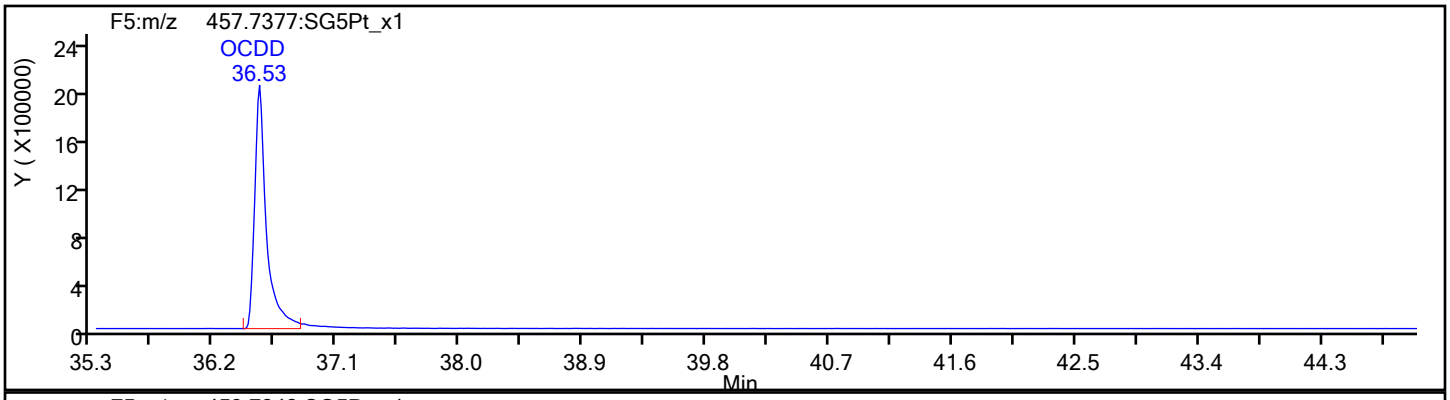

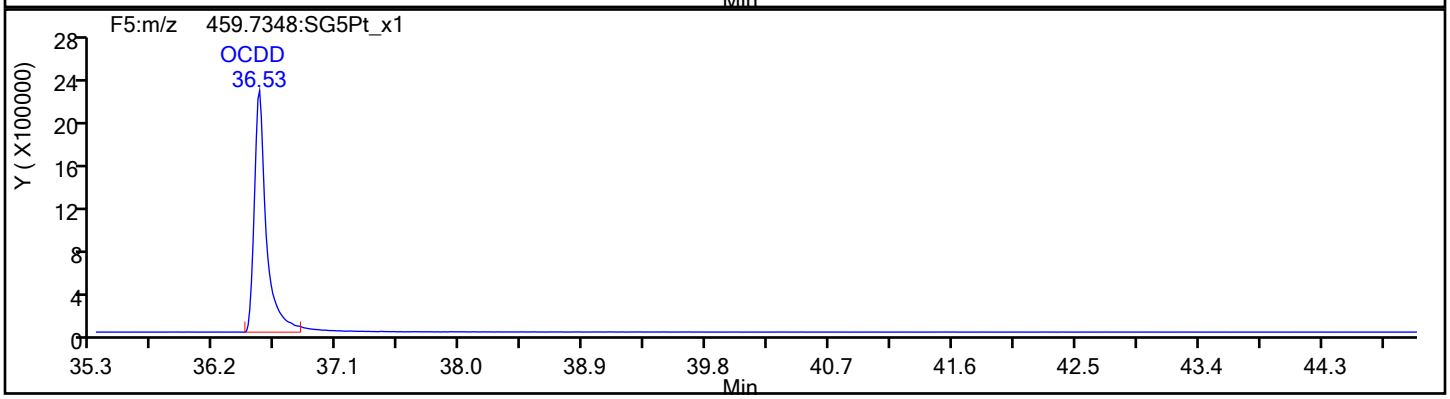

OCDD Standards

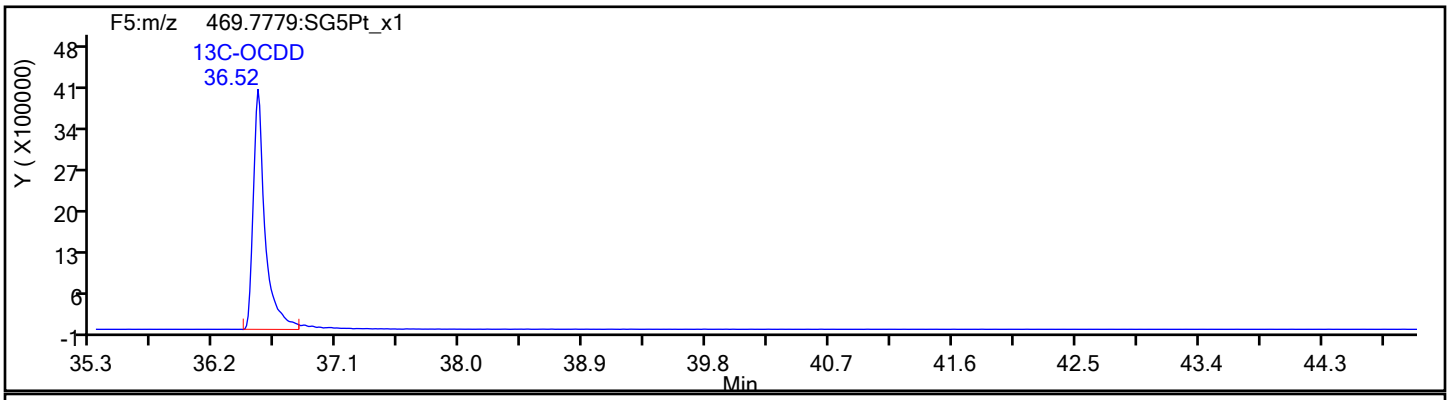

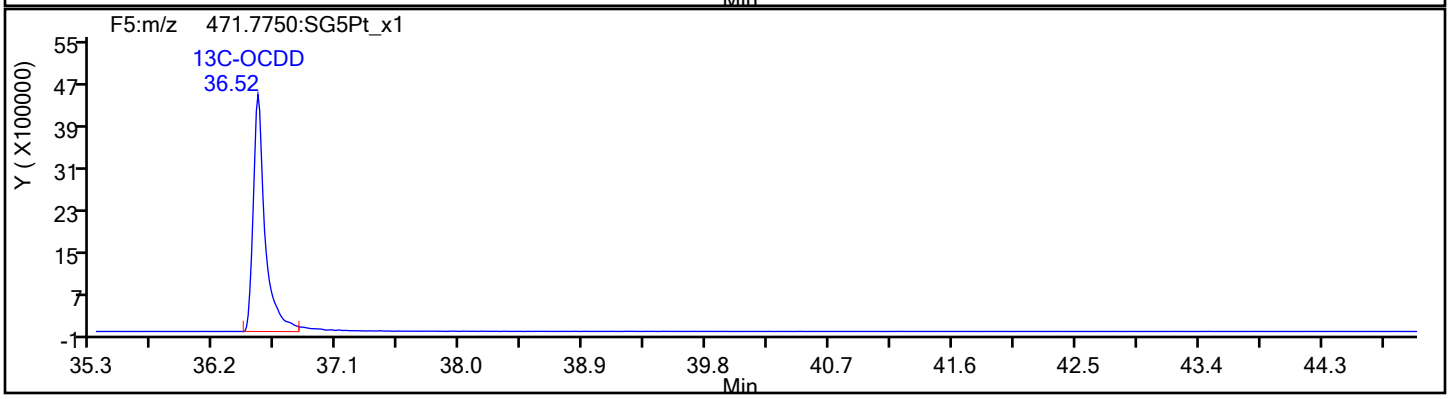

Report Date: 07-Feb-2020 01:22:31 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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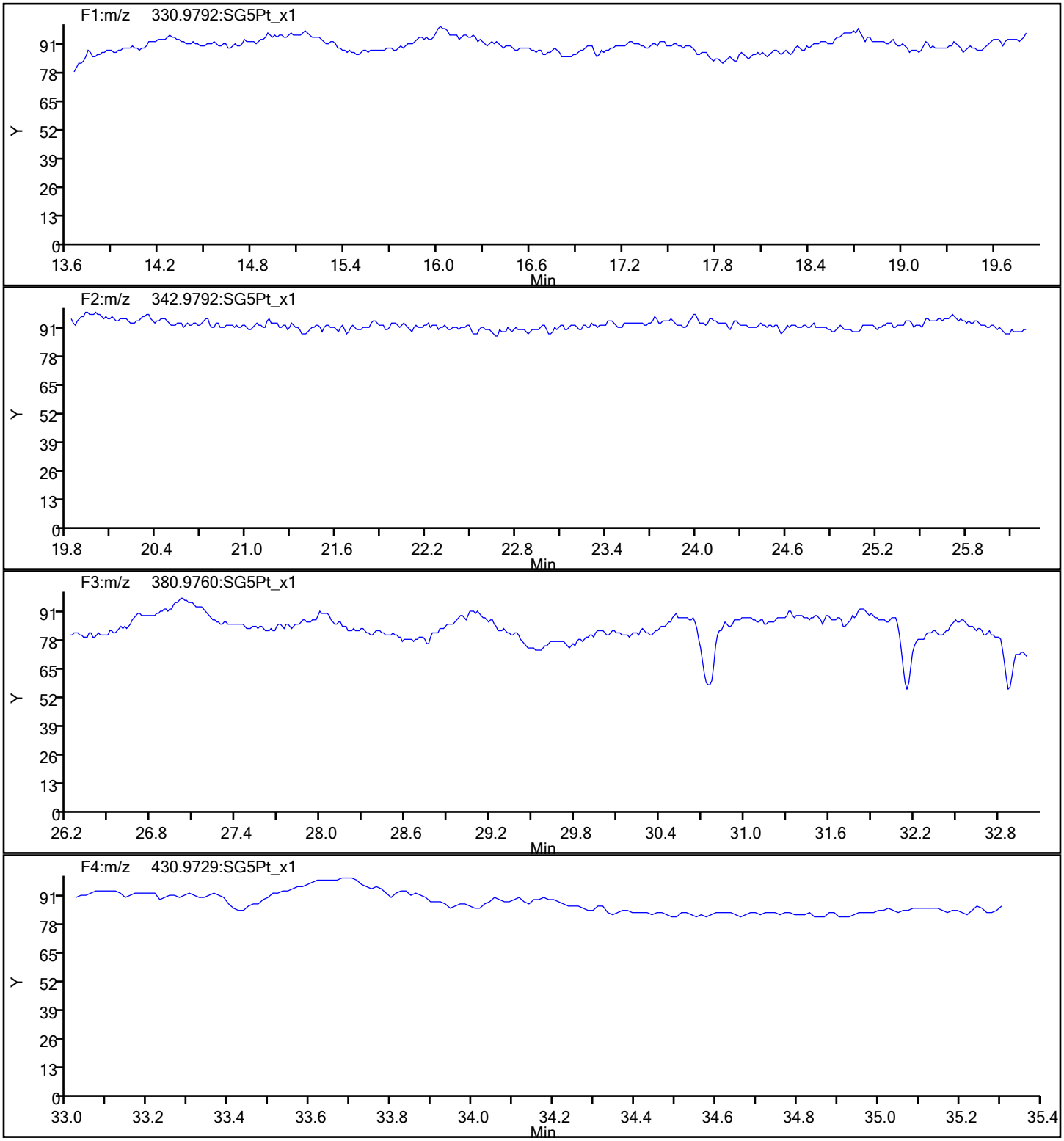

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Eurofins TestAmerica, Sacramento

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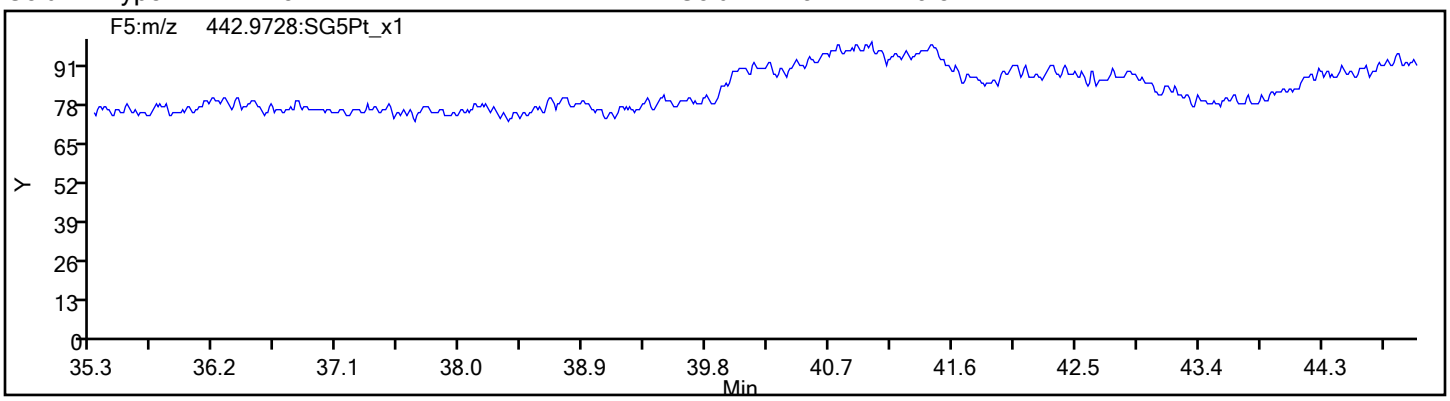

FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Lab Sample ID: ICV 320-355060/9 Calibration Date: 02/04/2020 14:19

Instrument ID: 11D2 Calib Start Date: 02/04/2020 10:28

GC Column: DB-225 ID: 0.32(mm) Calib End Date: 02/04/2020 13:02

Lab File ID: 04FE2011D2_009.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
2,3,7,8-TCDD	AveID	1.204	1.241		41.2	40.0	103	70-130
2,3,7,8-TCDF	AveID	0.9831	1.054		42.9	40.0	107	70-130
13C-2,3,7,8-TCDD	Ave	0.8544	0.8327		97.5	100	97	82-121
13C-2,3,7,8-TCDF	Ave	1.405	1.398		99.5	100	100	71-140
37Cl4-2,3,7,8-TCDD	Ave	0.8972	0.9323		41.6	40.0	104	79-127

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_009.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 04-Feb-2020 14:19:12 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ICV HRDXNIC_00043
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist:

Method: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 04-Feb-2020 16:43:26 Calib Date: 04-Feb-2020 13:02:26
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0329

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.329	184329274	0.77	2.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.495	257693311	0.80	1.4045	99.5	99.5	0.1724	0.1724	99.53	
2,3,7,8-TCDF	16.523	108617580	0.79	0.9831	42.9	42.9	0.0443	0.0443	107	
D 13C-2,3,7,8-TCDD	15.082	153492470	0.78	0.8544	97.5	97.5	0.1410	0.1410	97.46	
2,3,7,8-TCDD	15.110	76212880	0.80	1.2044	41.2	41.2	0.0578	0.0578	103	
$ 37Cl4-2,3,7,8-TCDD	15.110	68736800		0.8972	41.6	41.6	0.0421	0.0421	104	
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNIC_00043 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_009.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 04-Feb-2020 14:19:12 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ICV HRDXNIC_00043
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist:

Method: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 04-Feb-2020 16:43:26 Calib Date: 04-Feb-2020 13:02:26
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0329

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.329	15.337	0		80362811	17734356	10852	27130	1634		
333.9339	15.329	15.337	0		103966463	22807452	8687	21717	2625	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.495	16.503	0	1.076	114331310	22199031	23330	58325	952		
317.9389	16.495	16.503	0	1.076	143362001	27682283	15940	39850	1737	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.523	16.531	0	1.002	47907604	9513230	4077	10192	2333		
305.8987	16.523	16.531	0	1.002	60709976	12055029	4606	11515	2617	0.79(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.082	15.090	0	0.984	67496323	15285973	10852	27130	1409		
333.9339	15.082	15.090	0	0.984	85996147	19515877	8687	21717	2247	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.110	15.118	0	1.002	33876263	7183377	4564	11410	1574		
321.8936	15.096	15.118	-1	1.001	42336617	9090845	5131	12827	1772	0.80(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.110	15.118	0	0.986	68736800	14792431	6128	15320	2414		

Reagents:

HRDXNIC_00043 Amount Added: 2.00 Units: uL

Report Date: 04-Feb-2020 16:43:28 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_009.d		
Injection Date:	04-Feb-2020 14:19:12	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355060	Sample Line#:	9
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

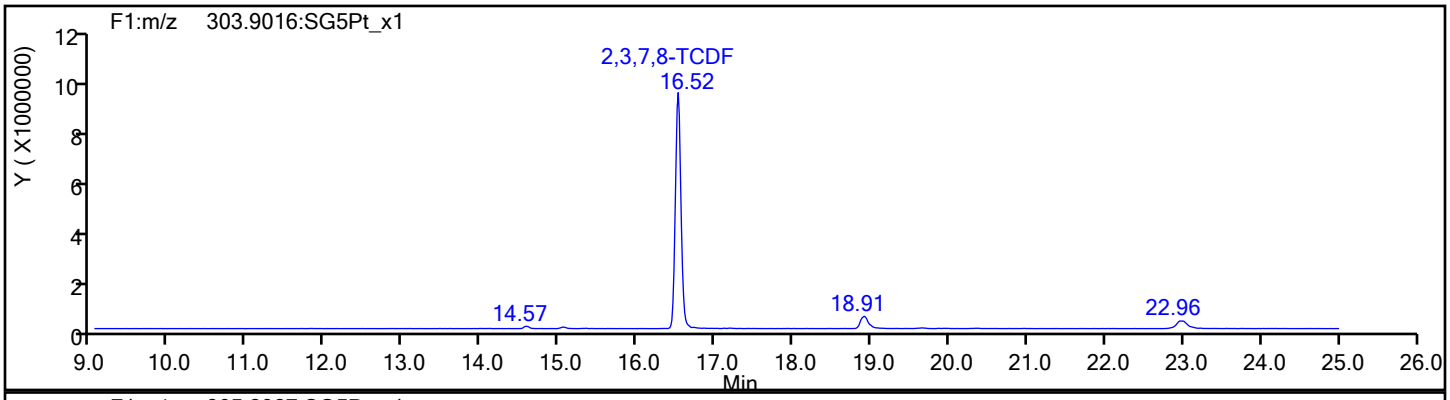

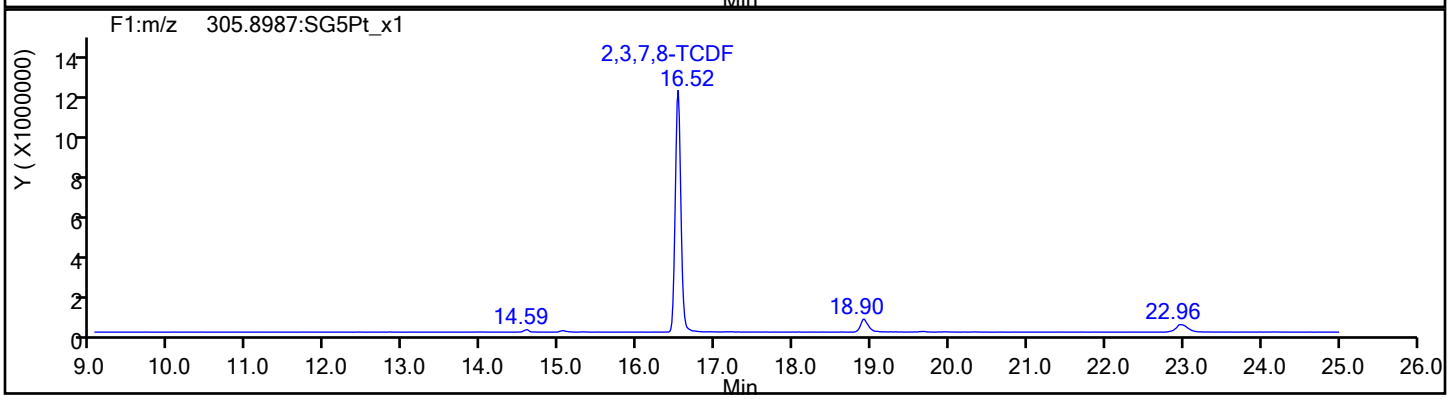

TCDF Standards

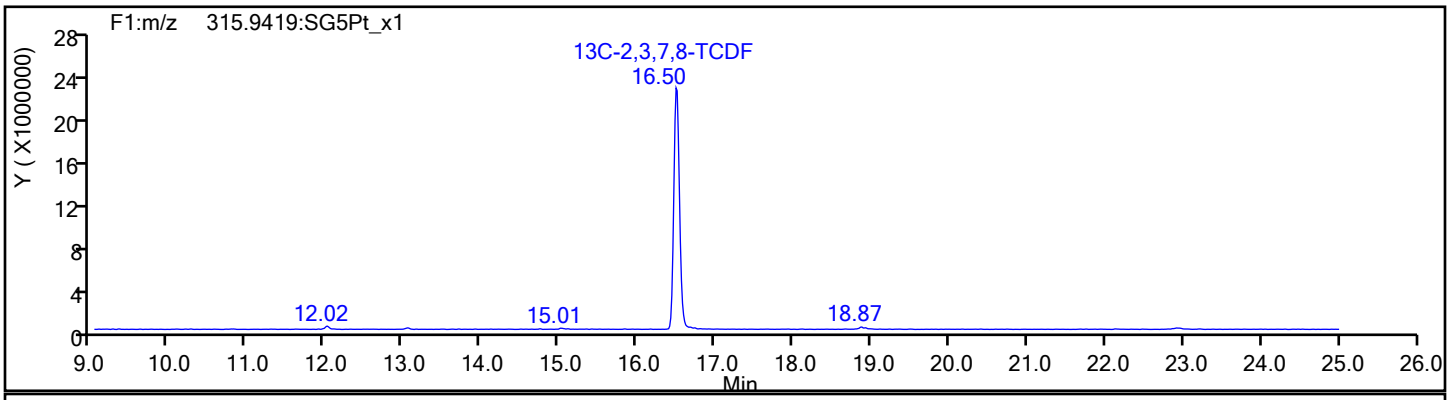

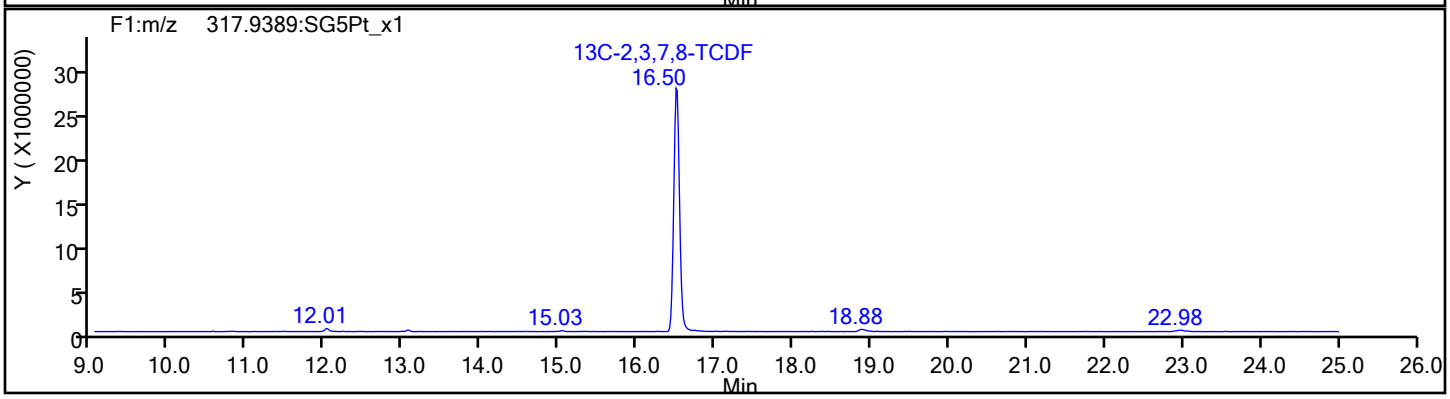

Report Date: 04-Feb-2020 16:43:28 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_009.d		
Injection Date:	04-Feb-2020 14:19:12	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355060	Sample Line#:	9
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

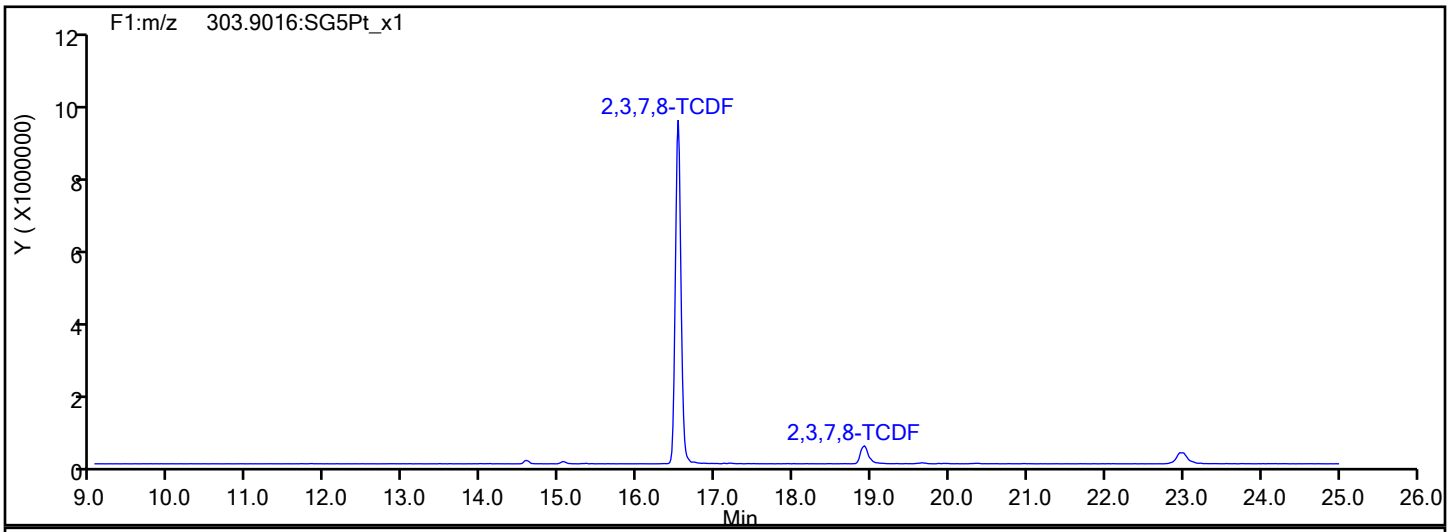

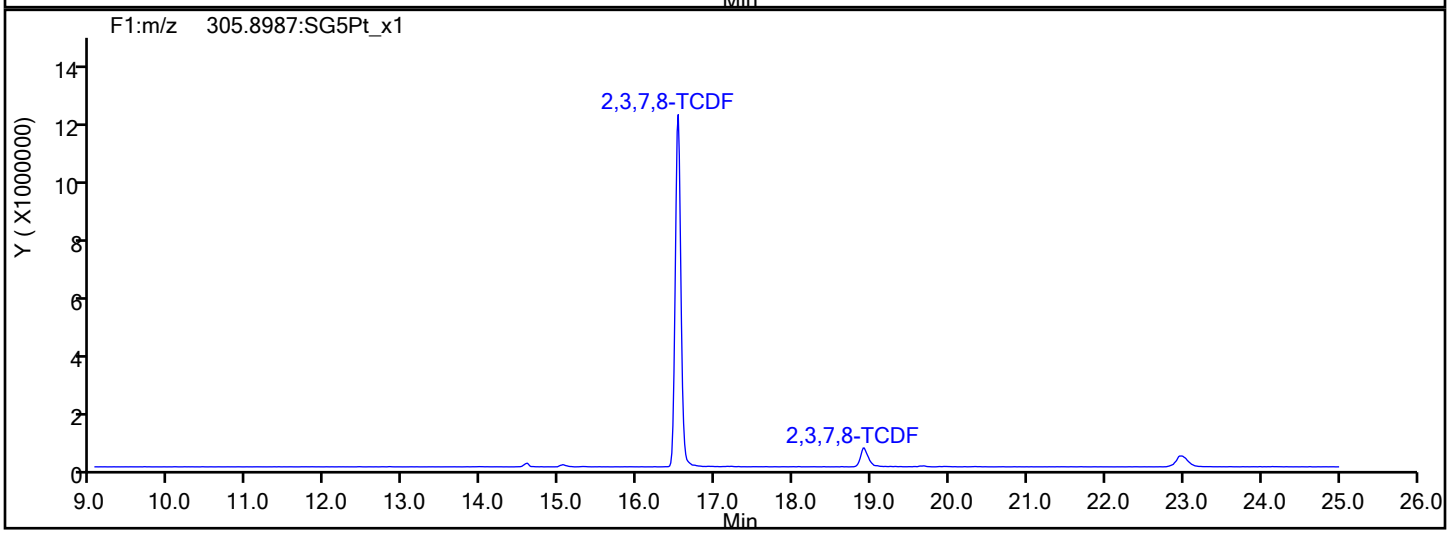

TCDF Interference Mass

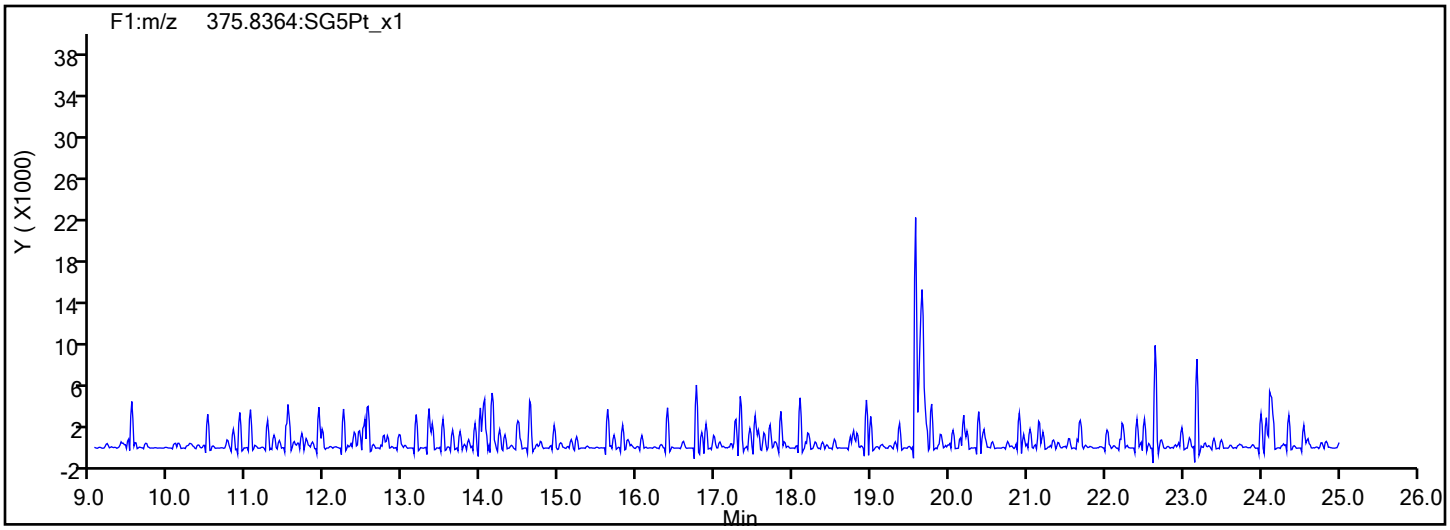

Report Date: 04-Feb-2020 16:43:28 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_009.d		
Injection Date:	04-Feb-2020 14:19:12	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355060	Sample Line#:	9
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

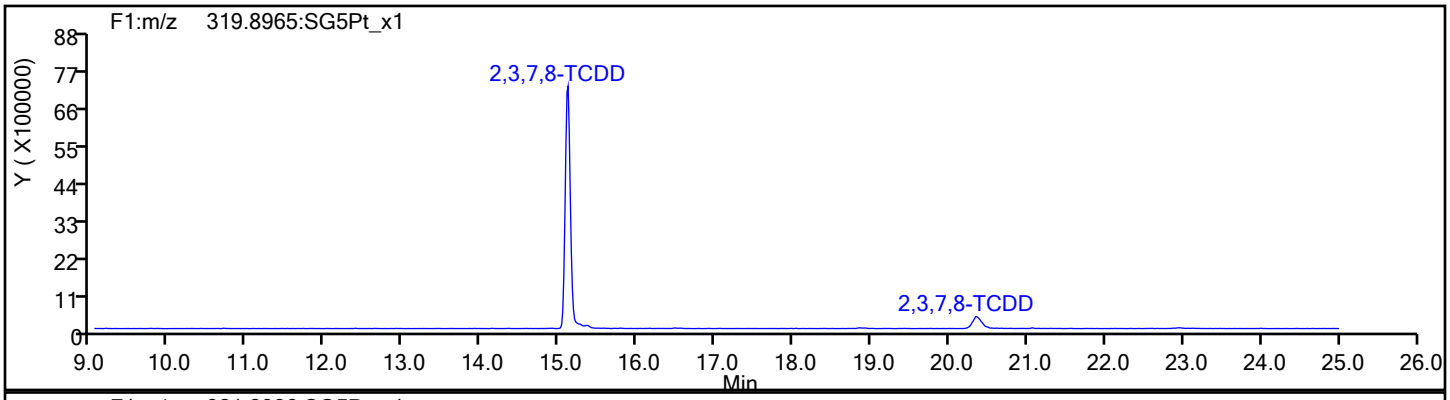

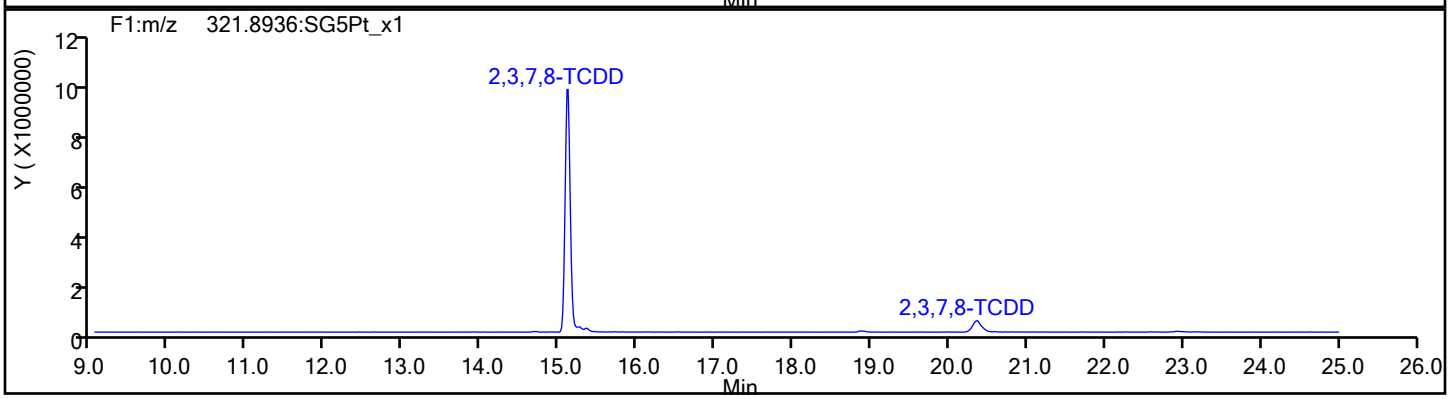

TCDD Standards

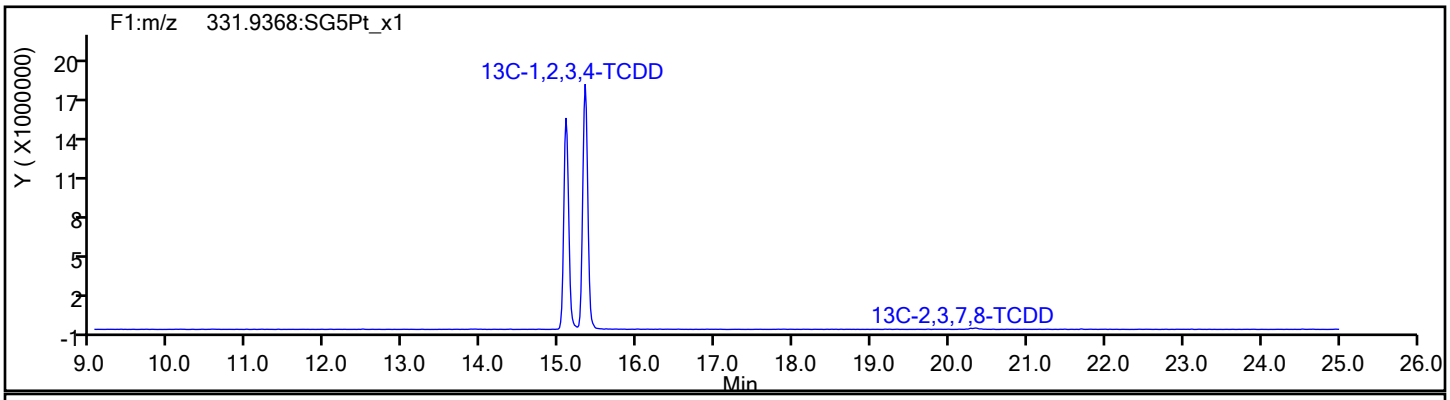

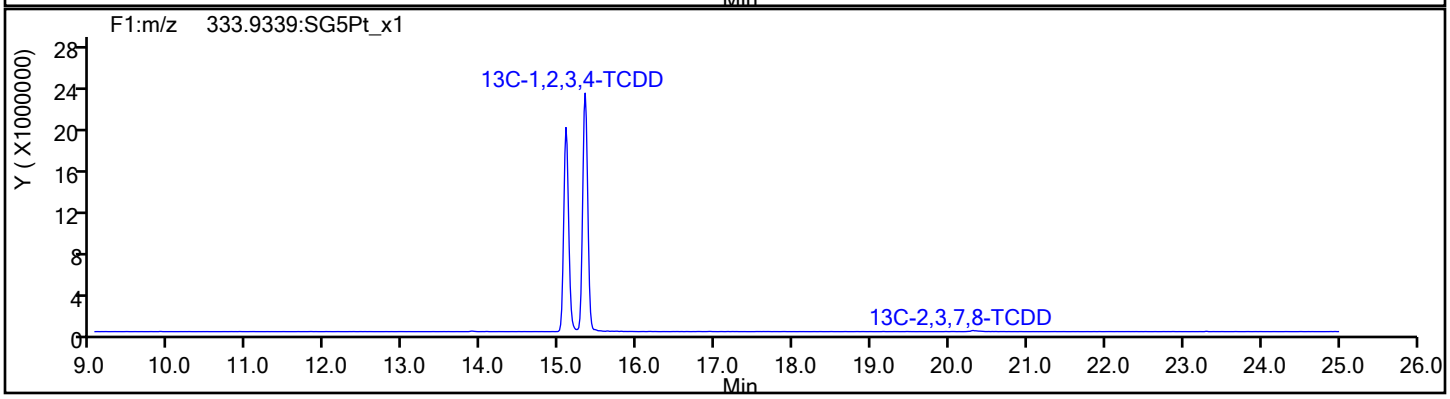

Report Date: 04-Feb-2020 16:43:28 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_009.d		
Injection Date:	04-Feb-2020 14:19:12	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355060	Sample Line#:	9
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

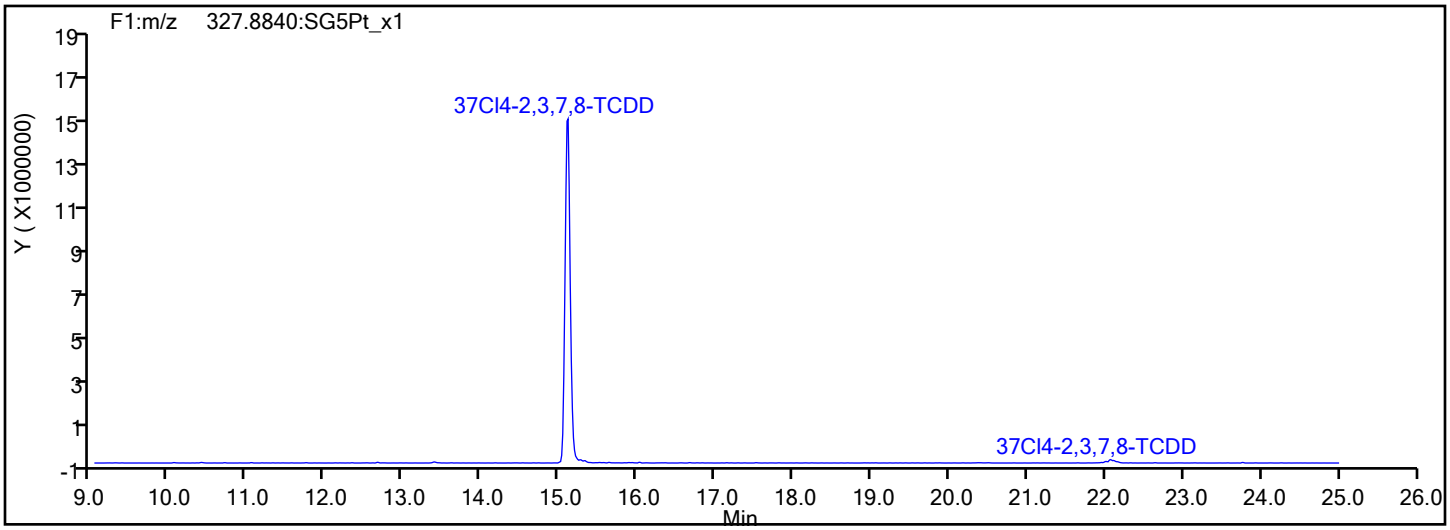

37Cl4-TCDD Standards

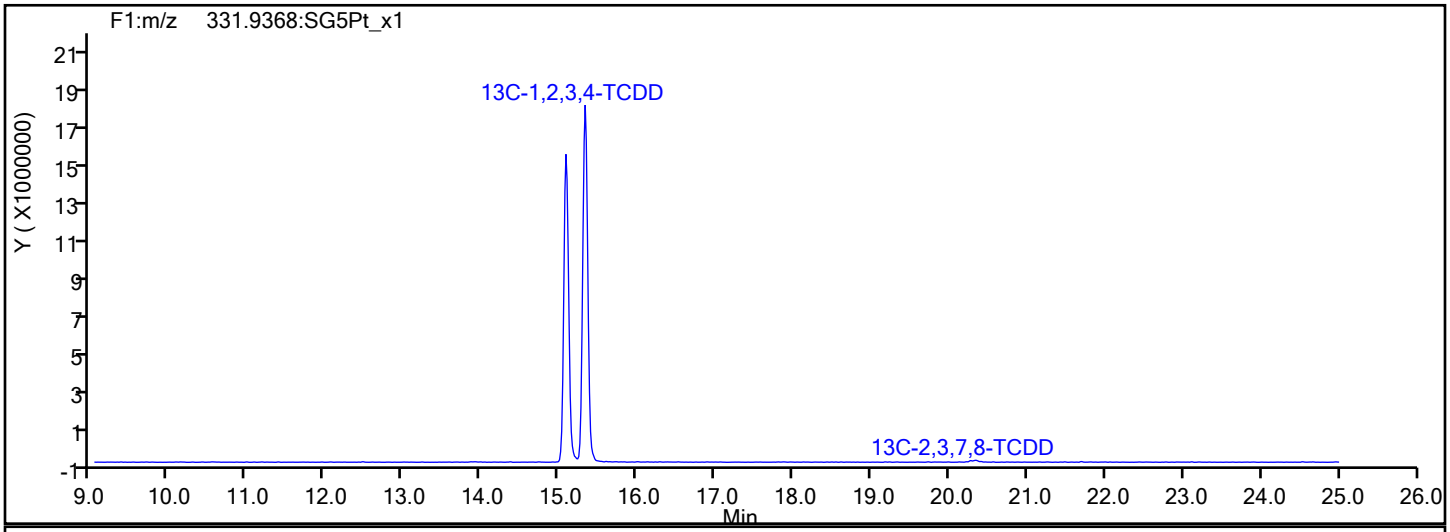

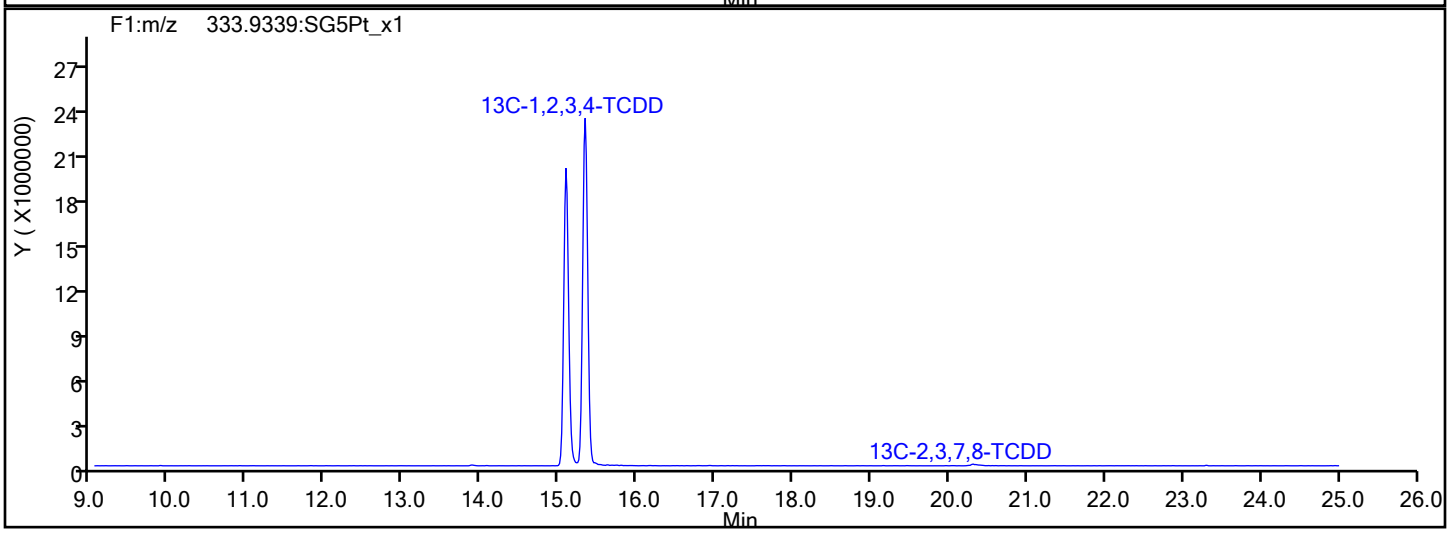

Report Date: 04-Feb-2020 16:43:28 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_009.d		
Injection Date:	04-Feb-2020 14:19:12	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355060	Sample Line#:	9
Column Type:	DB-225	Column Dia:	0.32 mm

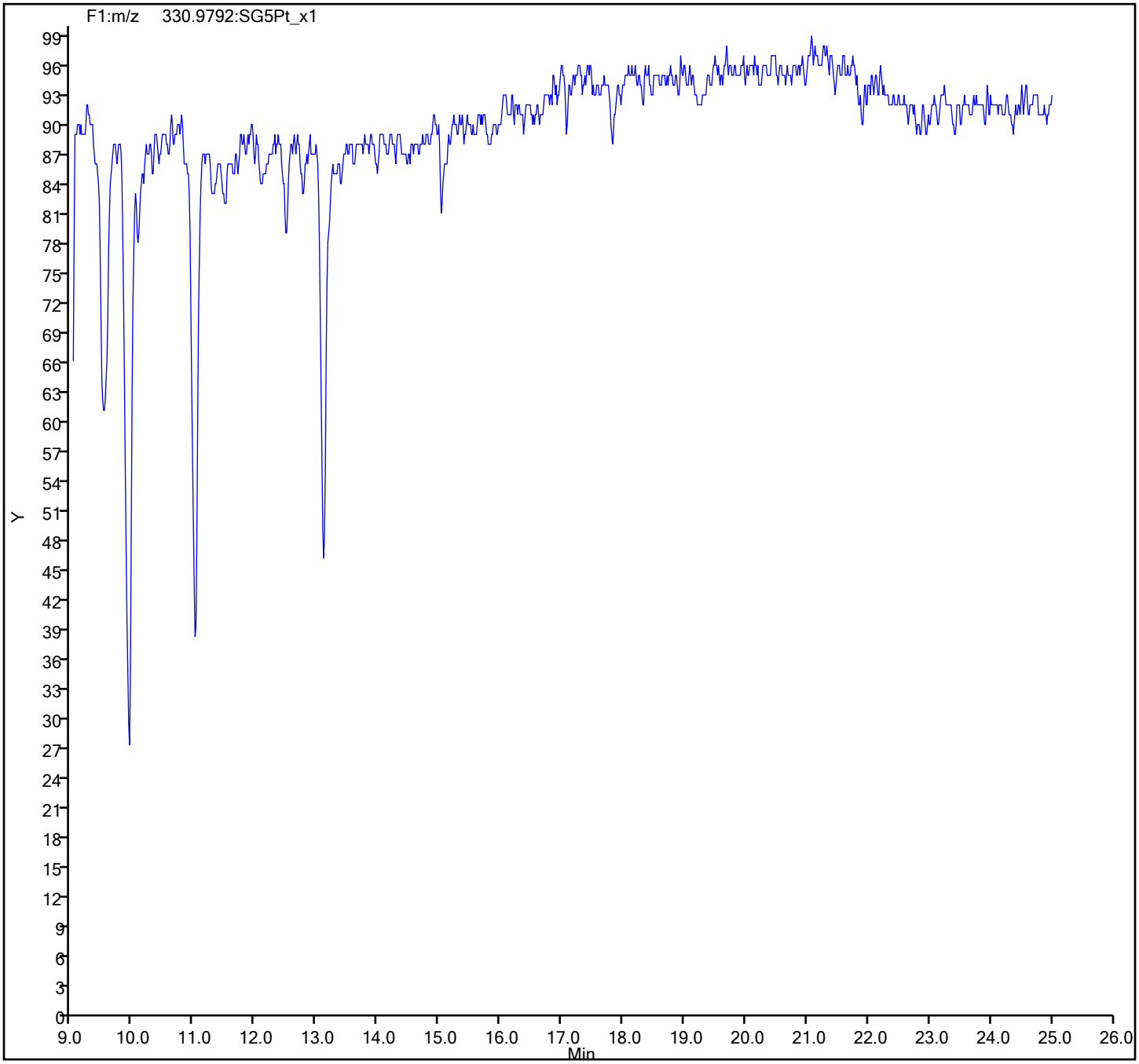

FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Lab Sample ID: CCV 320-355913/2 Calibration Date: 02/07/2020 14:15

Instrument ID: 11D2 Calib Start Date: 02/04/2020 10:28

GC Column: DB-225 ID: 0.32(mm) Calib End Date: 02/04/2020 13:02

Lab File ID: 07FE2011D2_002.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
2,3,7,8-TCDD	AveID	1.204	1.080		8.97	10.0	90	78-129
2,3,7,8-TCDF	AveID	0.9831	0.9275		9.43	10.0	94	84-120
13C-2,3,7,8-TCDD	Ave	0.8544	0.8574		100	100	100	82-121
13C-2,3,7,8-TCDF	Ave	1.405	1.362		96.9	100	97	71-140
37Cl4-2,3,7,8-TCDD	Ave	0.8972	0.8581		9.56	10.0	96	79-127

Data file	Smp	Work Order	Sample ID	FV-uL	Method/Matrix	Box	Size	U
07FE2011D2	1	CPS 020720	CPS HRDXNCP_00040				1.00000	
07FE2011D2	2	CCV 020720	CCV CS-4 HRDXNL4_00091				1.00000	
07FE2011D2	3	SB 020720	SB Solvent Blank C-14				1.00000	
07FE2011D2	4	320-354846	MB 320-354846/1-A	20	1613B/Water	D130	1.00000	L
07FE2011D2	5	320-354846	440-259373-O-1-A	20	1613B/Water		1.00000	L
07FE2011D2	6	320-354207	320-58170-A-4-A	20	1613B/Solid	D129	4.80000	g
07FE2011D2	7	320-354207	320-58170-A-6-A	20	1613B/Solid		4.50000	g
07FE2011D2	8	320-354650	160-37119-B-10-A	20	8090A_D5/Solid	D130	10.00000	g
07FE2011D2	9	320-354650	160-37119-B-10-B MS	20	8090A_D5/Solid		10.00000	g
07FE2011D2	10	320-354650	160-37119-B-10-C MSD	20	8090A_D5/Solid		10.00000	g
07FE2011D2	11	320-354650	160-37119-B-11-A	20	8090A_D5/Solid		11.00000	g
07FE2011D2	12	320-354650	160-37119-B-12-A	20	8090A_D5/Solid		2.00000	g
07FE2011D2	13	SB 020720A	SB Solvent Blank C-14				1.00000	
07FE2011D2	14	CCV 020720A	CCV CS-4 HRDXNL4_00091				1.00000	
07FE2011D2	15						1.00000	
07FE2011D2	16						1.00000	
07FE2011D2	17						1.00000	
07FE2011D2	18						1.00000	
07FE2011D2	19						1.00000	
07FE2011D2	20						1.00000	
07FE2011D2	21		AJS 02-07-20				1.00000	
07FE2011D2	22						1.00000	

logfile checked
2-07-20 ALM

Peak Locate Examination: 7-FEB-2020:13:36 File:07FE2011D2
Experiment:DB225RES Function:1 Reference:PFK

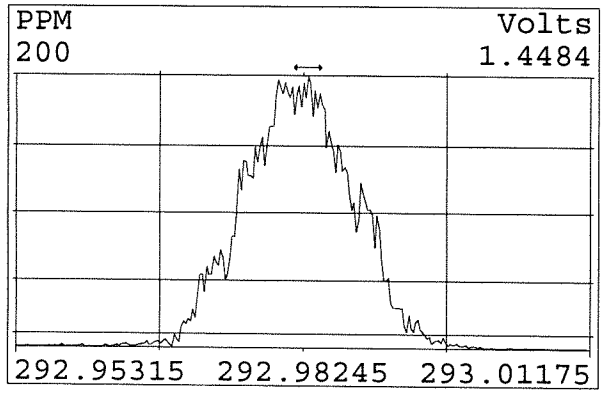

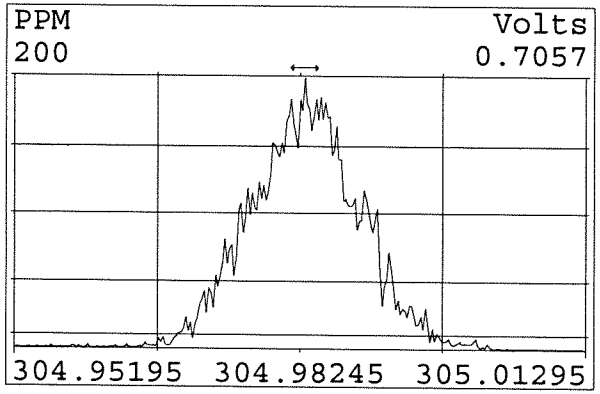

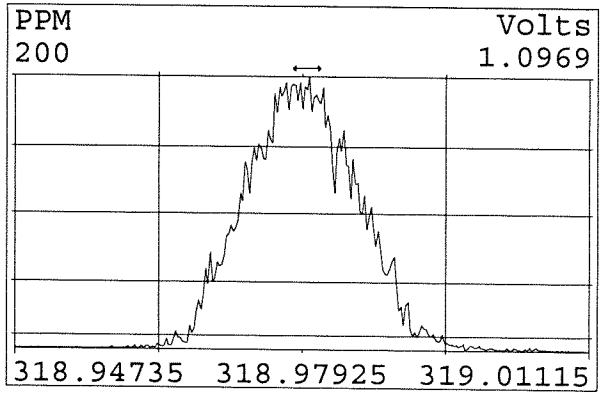

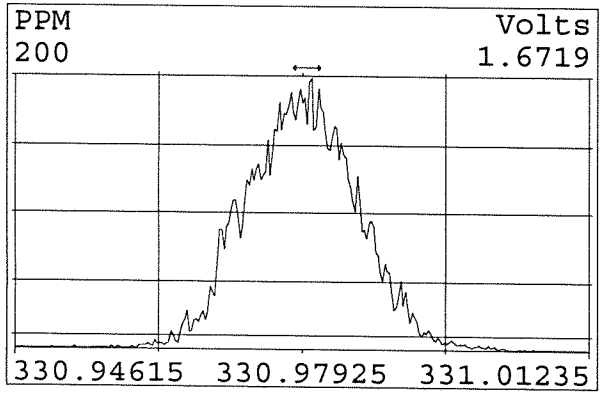

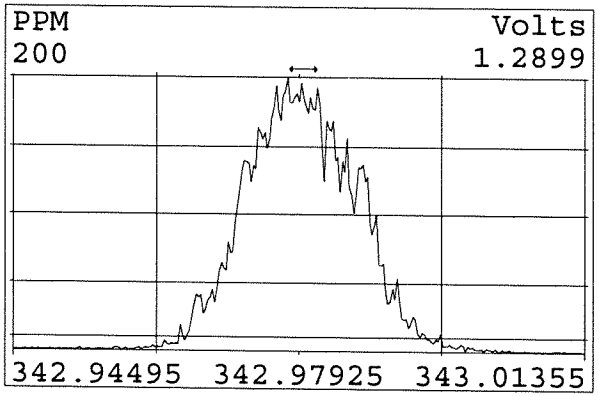

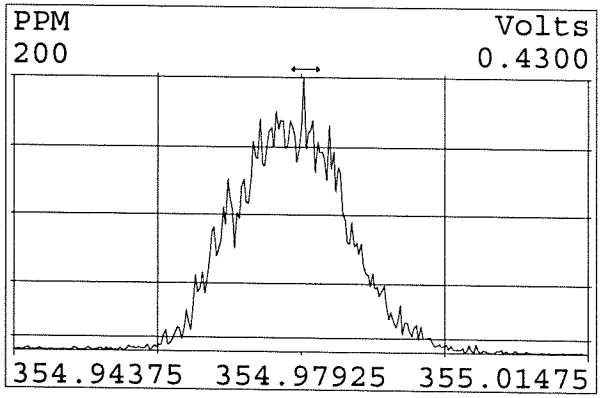

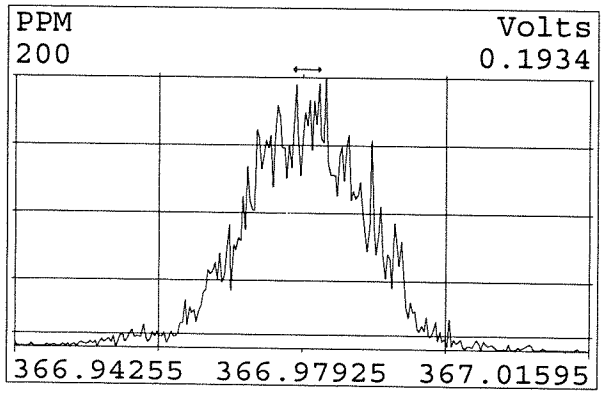

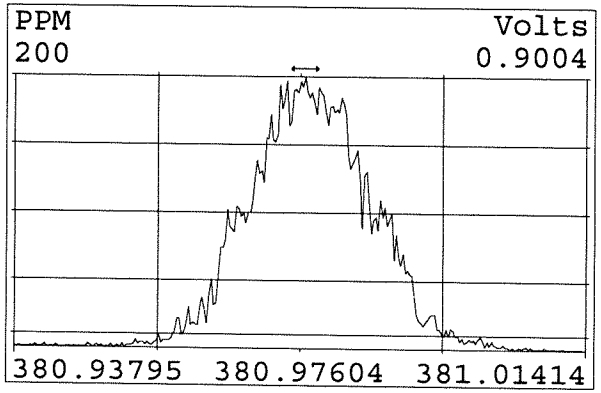

Peak Locate Examination: 7-FEB-2020:23:01 File:RESCHK07FE2011D2
Experiment:DB225RES Function:1 Reference:PFK

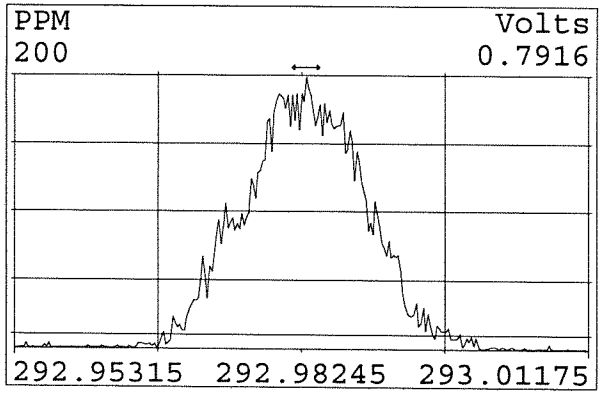

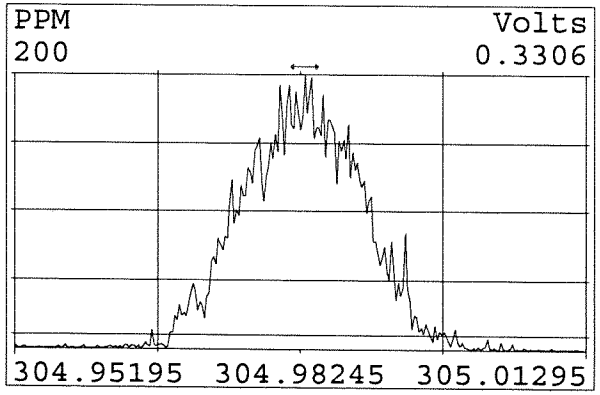

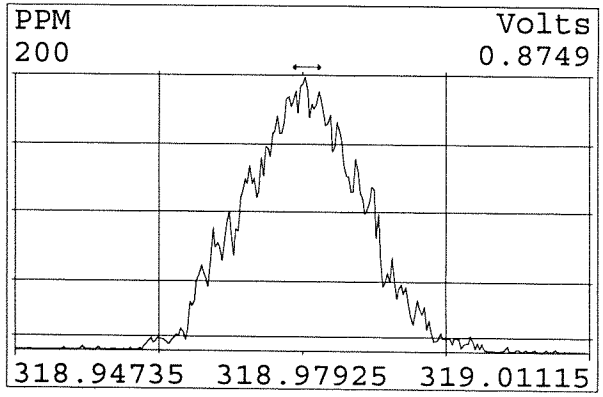

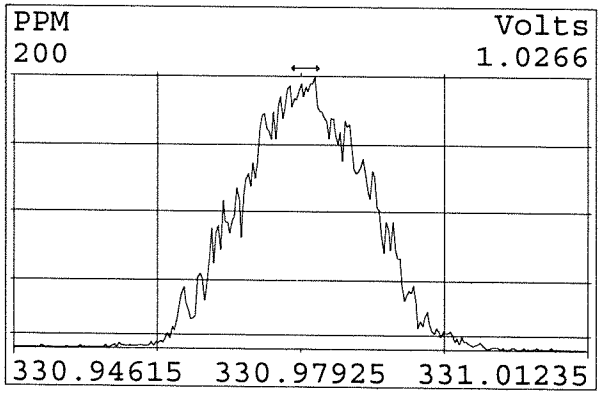

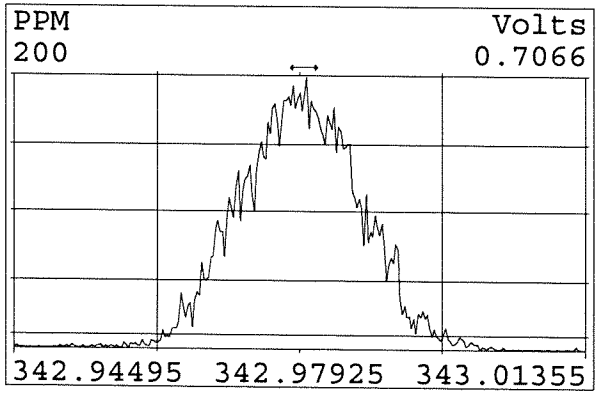

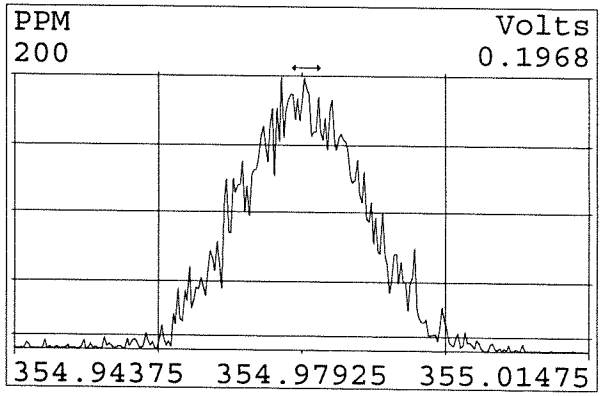

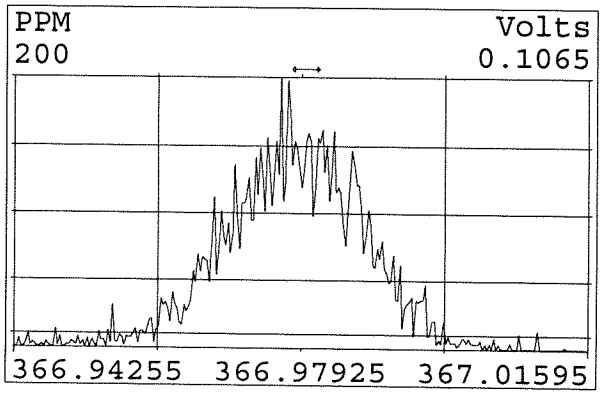

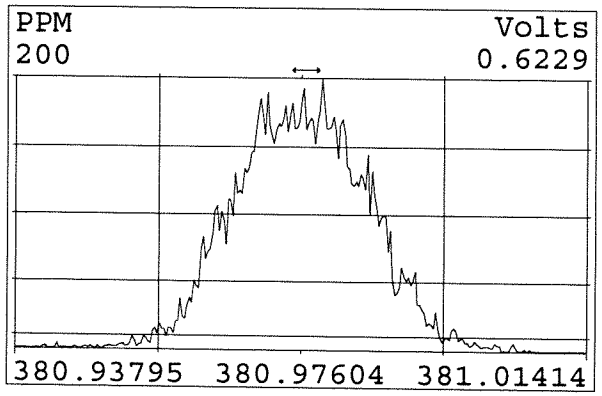

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20200207-90742.b\07FE2011D2_002.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 07-Feb-2020 14:15:38 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV CS-4 HRDXNL4_00091
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20200207-90742.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 11-Feb-2020 15:20:56 Calib Date: 04-Feb-2020 13:02:26
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0316

First Level Reviewer: shardaa Date: 11-Feb-2020 15:15:41

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.367	171128578	0.78	2.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.547	233017001	0.80	1.4045	96.9	96.9	0.2182	0.2182	96.95	
2,3,7,8-TCDF	16.560	21612525	0.77	0.9831	9.435	9.435	0.0279	0.0279	94.35	
D 13C-2,3,7,8-TCDD	15.134	146732770	0.77	0.8544	100.4	100.4	0.1758	0.1758	100	
2,3,7,8-TCDD	15.147	15853516	0.80	1.2044	8.971	8.971	0.0466	0.0466	89.71	
$ 37Cl4-2,3,7,8-TCDD	15.147	14683897		0.8972	9.564	9.564	0.0294	0.0294	95.64	
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNL4_00091 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20200207-90742.b\07FE2011D2_002.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 07-Feb-2020 14:15:38 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV CS-4 HRDXNL4_00091
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20200207-90742.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 11-Feb-2020 15:20:56 Calib Date: 04-Feb-2020 13:02:26
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0316

First Level Reviewer: shardaa Date: 11-Feb-2020 15:15:41

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.367	15.367	0		75231091	16337796	16055	40137	1018		
333.9339	15.367	15.367	0		95897487	21057518	6419	16047	3280	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.547	16.547	0	1.077	103278376	20394632	27959	69897	729		
317.9389	16.547	16.547	0	1.077	129738625	25232264	17877	44692	1411	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.560	16.560	0	1.001	9433361	1791303	2189	5472	818		
305.8987	16.560	16.560	0	1.001	12179164	2341276	2820	7050	830	0.77(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.134	15.134	0	0.985	63833657	13771102	16055	40137	858		
333.9339	15.120	15.134	-1	0.984	82899113	18187659	6419	16047	2833	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.147	15.147	0	1.001	7038650	1487607	4483	11207	332		
321.8936	15.147	15.147	0	1.001	8814866	1896486	2699	6747	703	0.80(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.147	15.147	0	0.986	14683897	3260574	3949	9872	826		

Reagents:

HRDXNL4_00091 Amount Added: 2.00 Units: uL

Report Date: 11-Feb-2020 15:20:57 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200207-90742.b\07FE2011D2_002.d		
Injection Date:	07-Feb-2020 14:15:38	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355913	Sample Line#:	2
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

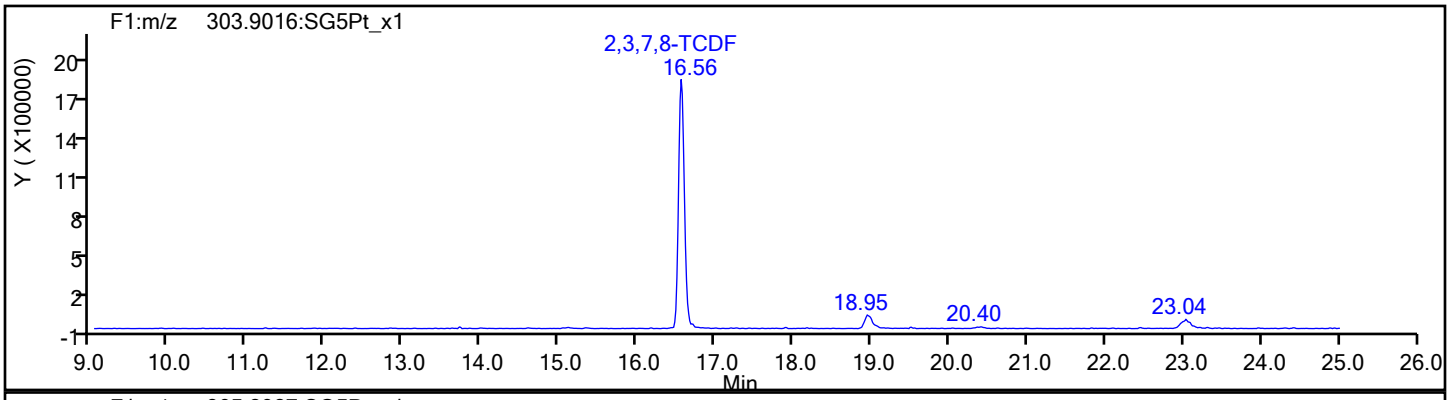

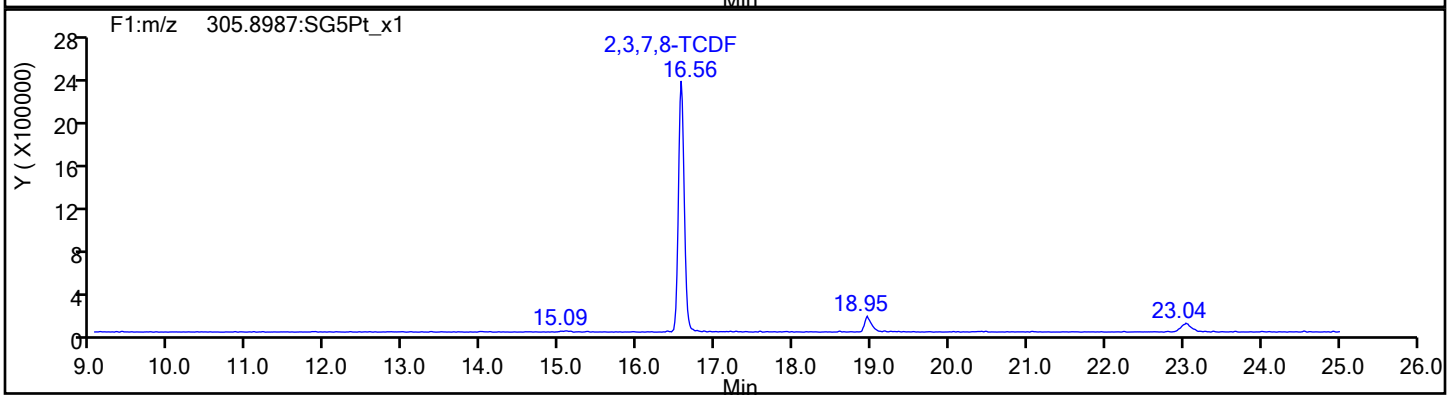

TCDF Standards

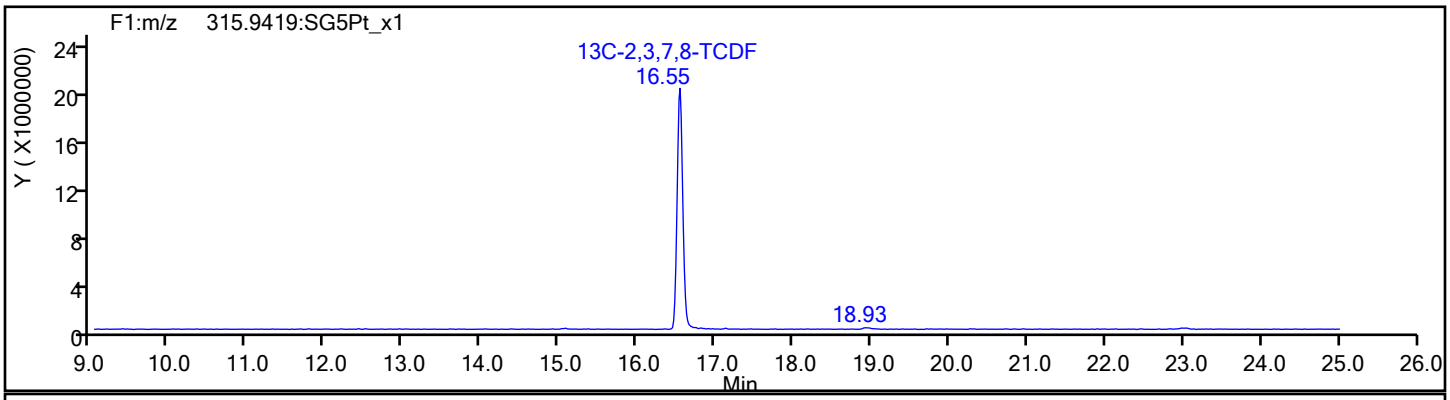

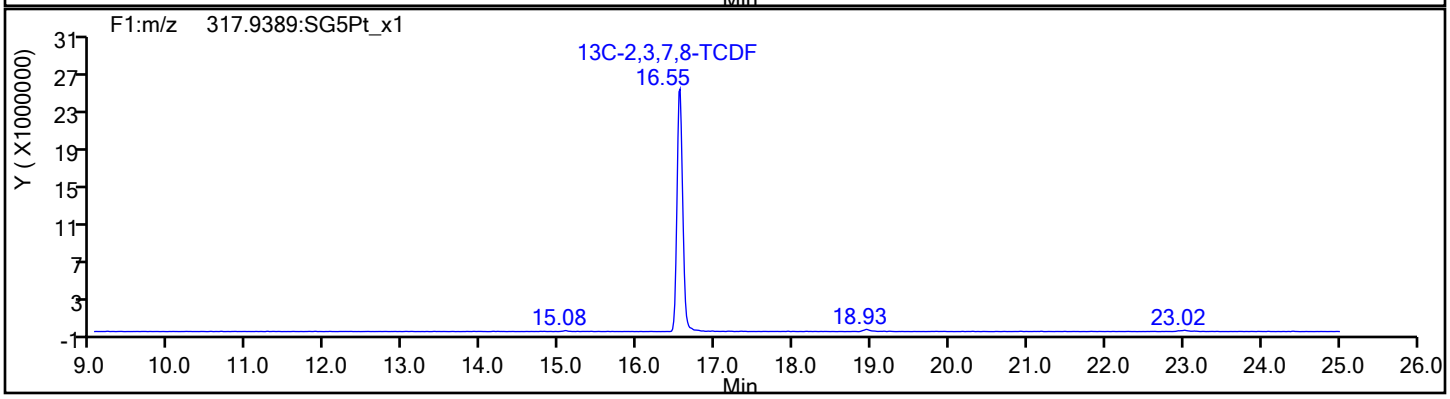

Report Date: 11-Feb-2020 15:20:57 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200207-90742.b\07FE2011D2_002.d		
Injection Date:	07-Feb-2020 14:15:38	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355913	Sample Line#:	2
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

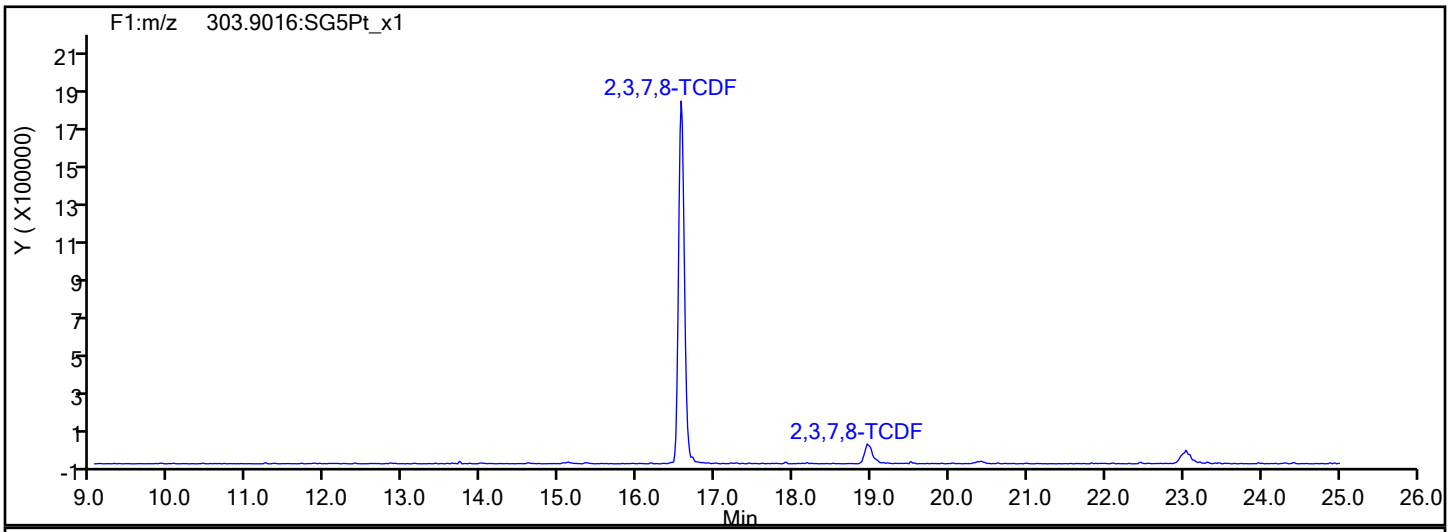

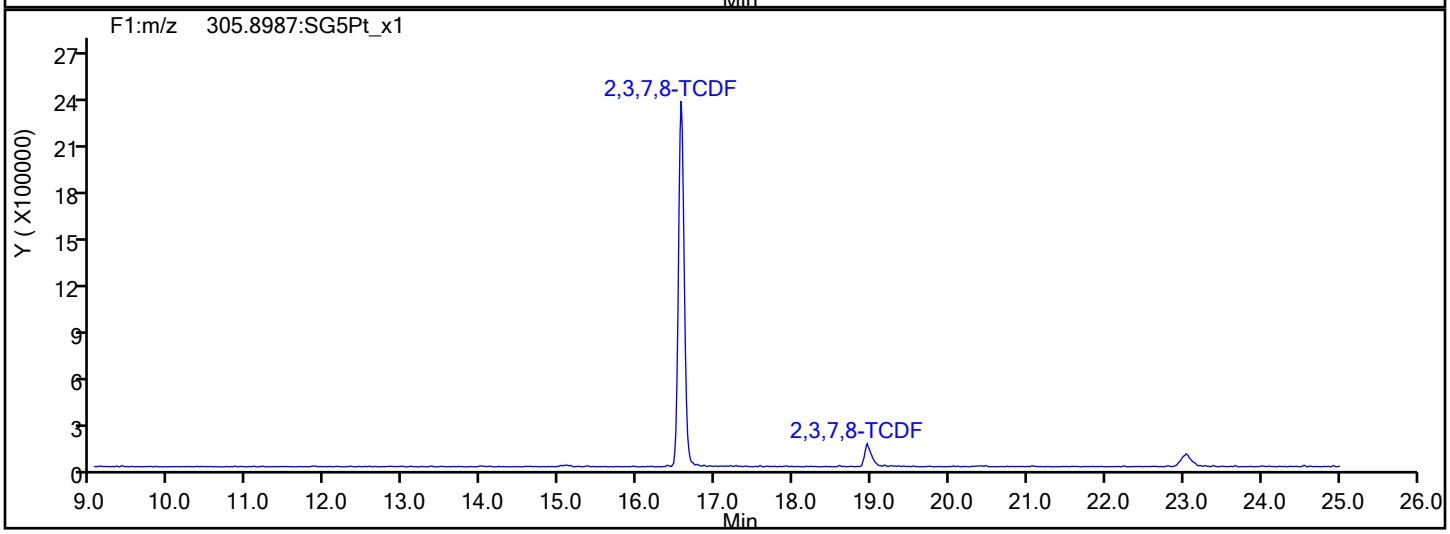

TCDF Interference Mass

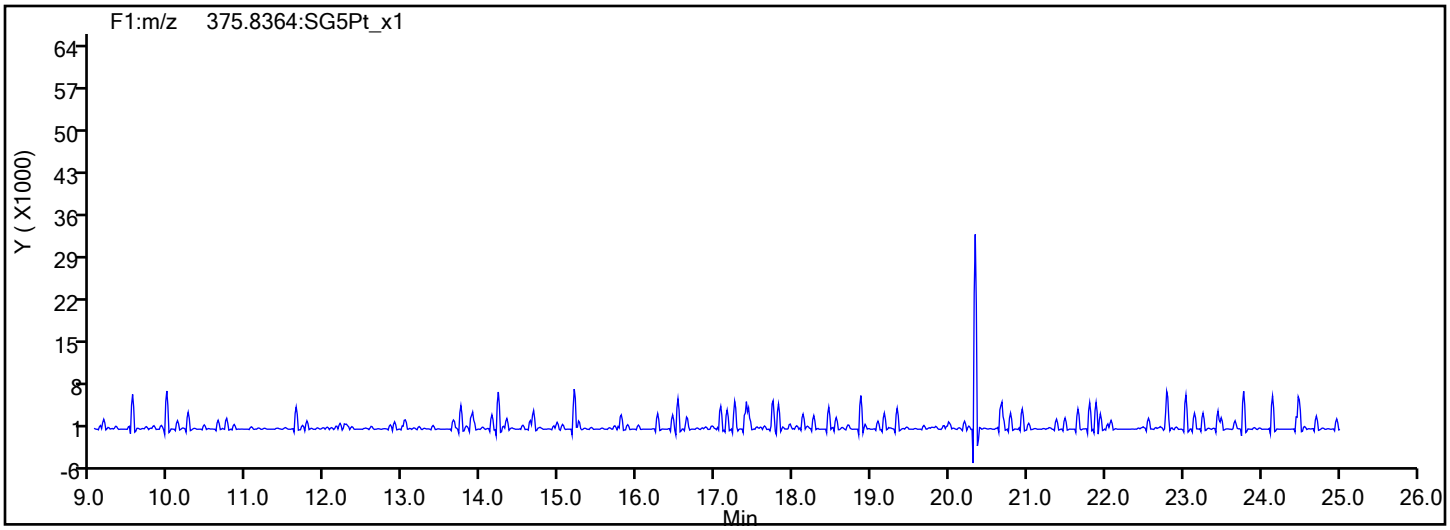

Report Date: 11-Feb-2020 15:20:57 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200207-90742.b\07FE2011D2_002.d		
Injection Date:	07-Feb-2020 14:15:38	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355913	Sample Line#:	2
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

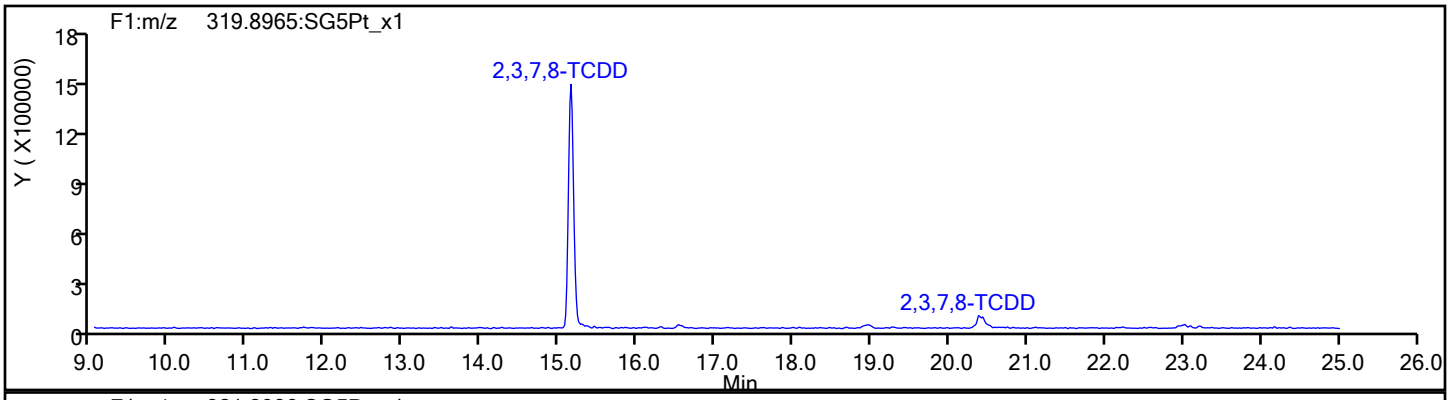

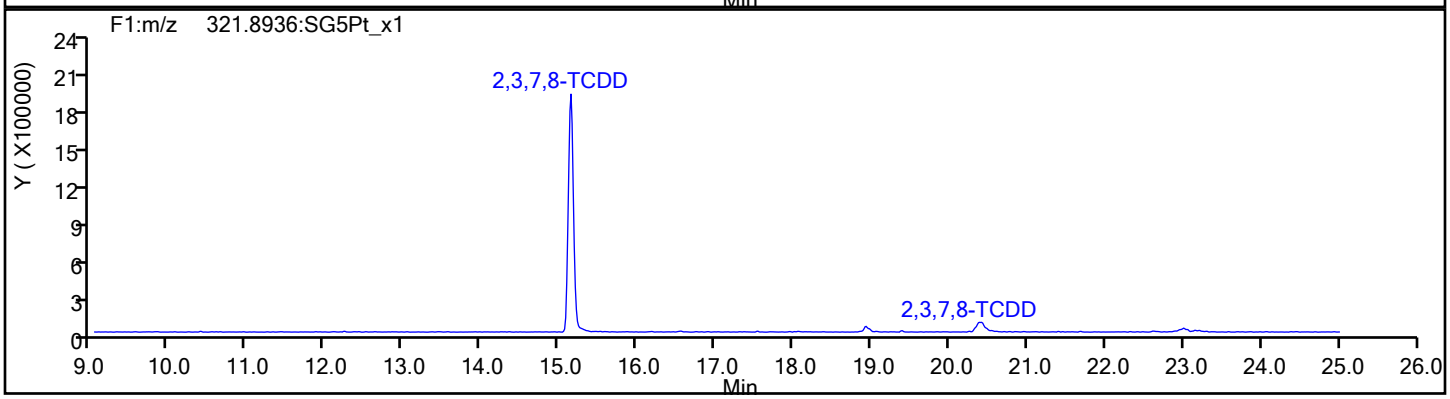

TCDD Standards

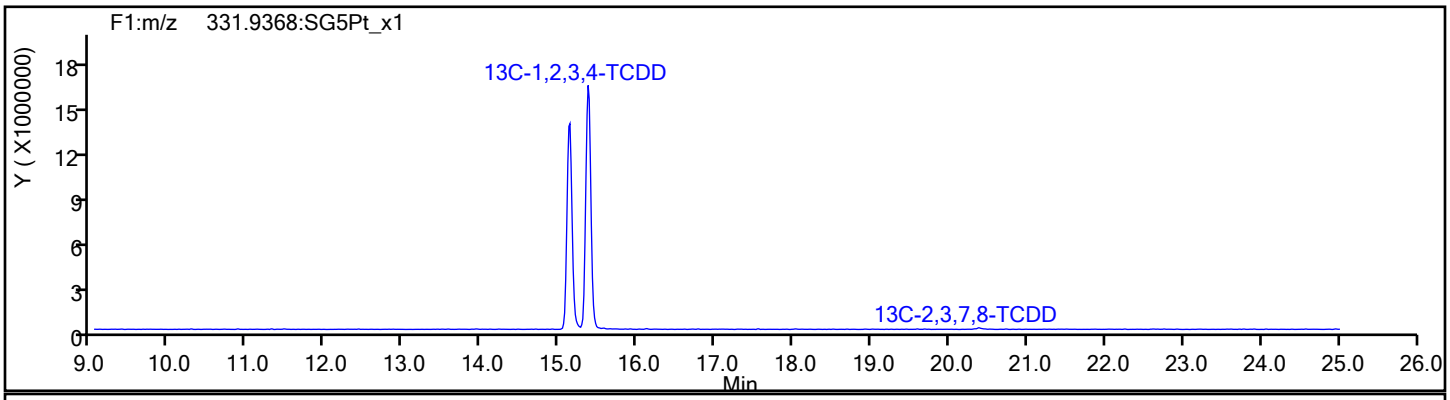

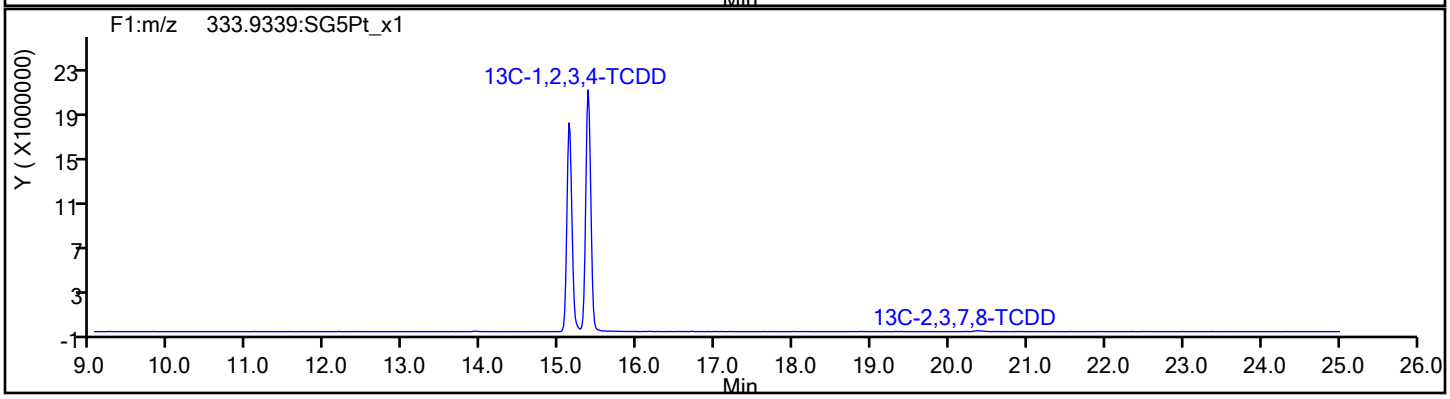

Report Date: 11-Feb-2020 15:20:57 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200207-90742.b\07FE2011D2_002.d		
Injection Date:	07-Feb-2020 14:15:38	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355913	Sample Line#:	2
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

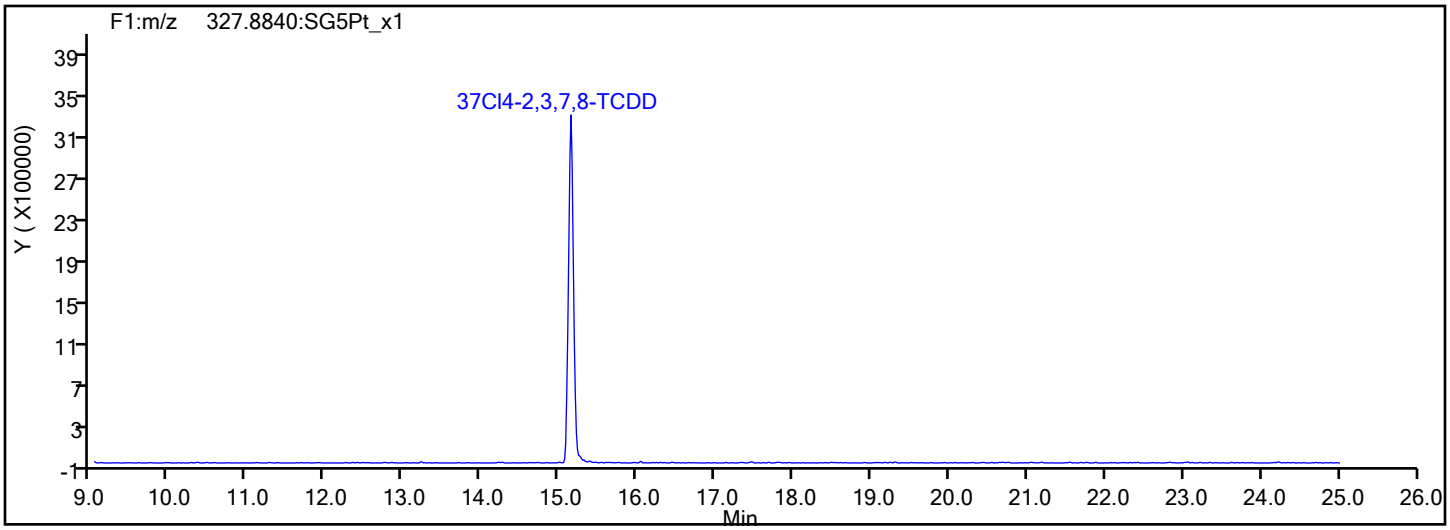

37Cl4-TCDD Standards

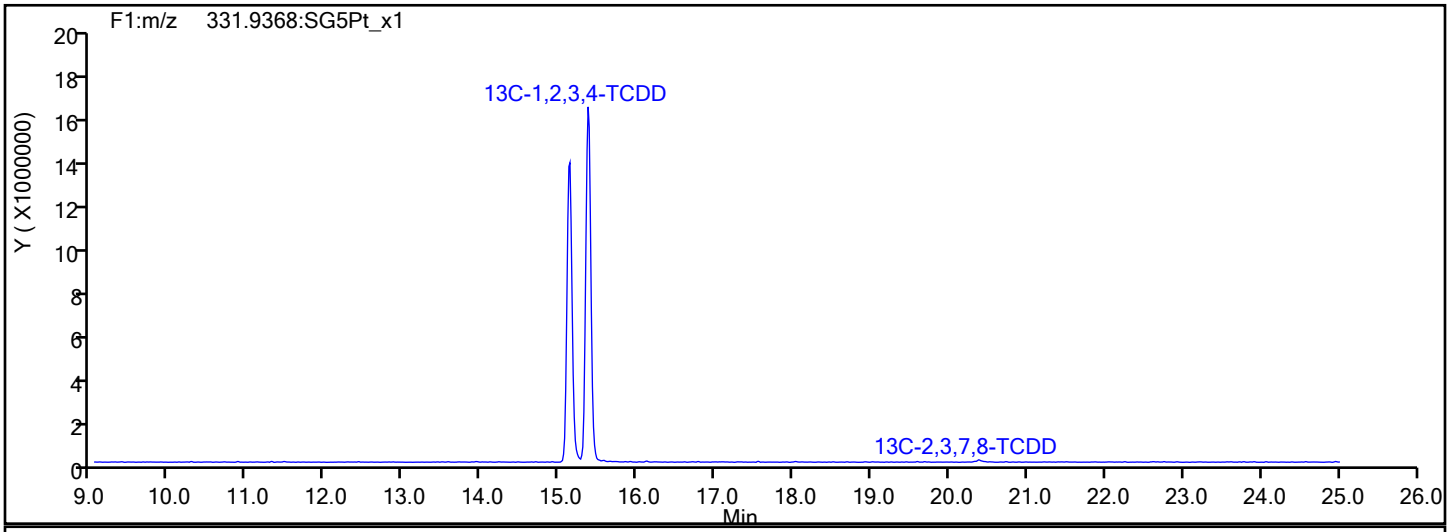

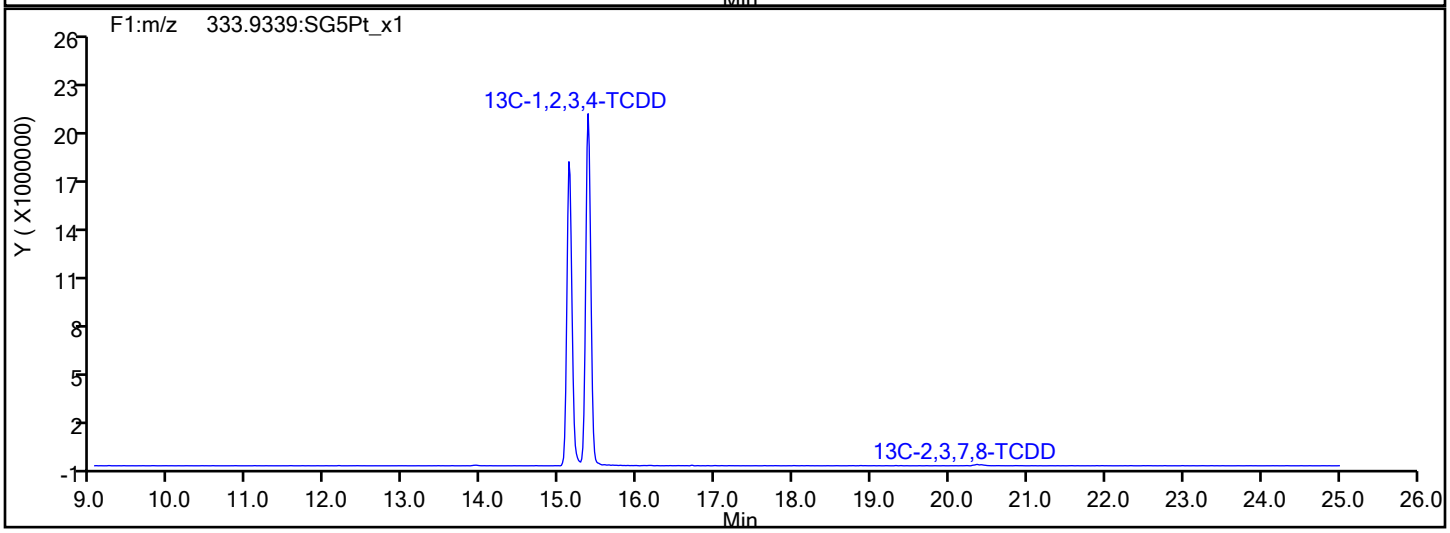

Report Date: 11-Feb-2020 15:20:57 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200207-90742.b\07FE2011D2_002.d		
Injection Date:	07-Feb-2020 14:15:38	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355913	Sample Line#:	2
Column Type:	DB-225	Column Dia:	0.32 mm

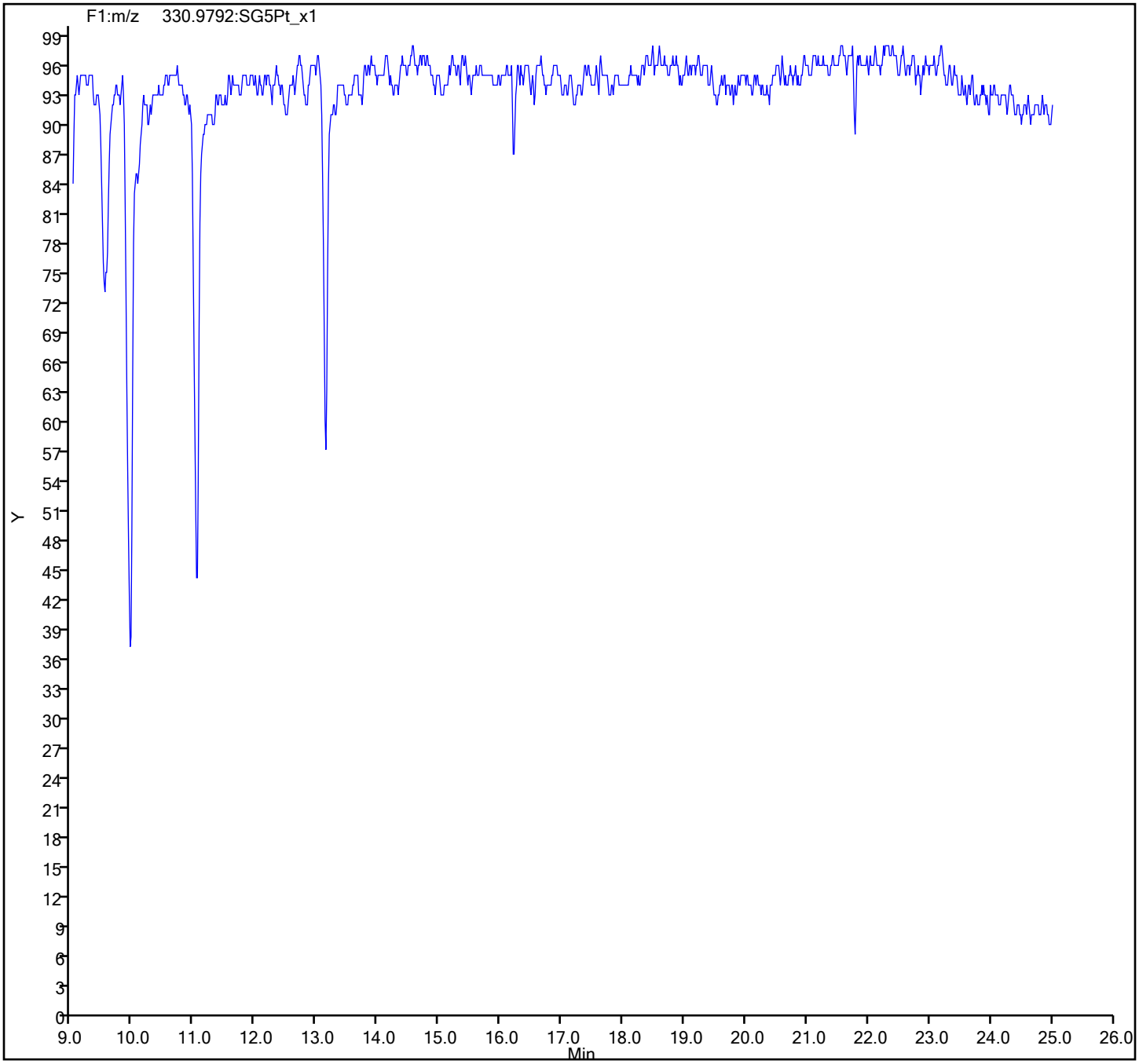

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 30-Jan-2020 00:17:03 ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 012920B WDM HRDXNCP_00040
Misc. Info.: 29JA20B10D5
Operator ID: ALM, SMA Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 30-Jan-2020 09:10:38 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0321

First Level Reviewer: arghestanis Date: 30-Jan-2020 08:31:54

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	16.924	27589833	0.76	1.1275					0.00	
2,3,7,8-TCDF	16.955	47722350	0.73	0.7675	90.1	90.1	0.5090	0.5090		
A Non-2,3,7,8-sub-TCDF	16.645						0.5090	0.5090		
S Total TCDF					90.1	90.1	0.5090	0.5090		
D 13C-2,3,7,8-TCDD	17.605	21048435	0.80	0.9032					0.00	
2,3,7,8-TCDD	17.620	21525746	0.77	0.9599	42.6	42.6	0.3530	0.3530		
A Non-2,3,7,8-sub-TCDD	17.091						0.3530	0.3530		
S Total TCDD					42.6	42.6	0.3530	0.3530		
A F1 PeCDFs	19.570						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	22.600	76717	1.55	0.0000						RQ
S Total PeCDF										RQ
A Non-2,3,7,8-sub-PeCDD	22.701						0.0	0.0		
S Total PeCDD										
A Non-2,3,7,8-sub-HxCDF	29.627						0.0	0.0		
S Total HxCDF										
A Non-2,3,7,8-sub-HxCDD	30.226						0.0	0.0		
S Total HxCDD										
1,2,3,4,6,7,8-HpCDF	33.520	18376377	1.01	1.3375						
1,2,3,4,7,8,9-HpCDF	34.577	14570085	1.04	1.0744						
A Non-2,3,7,8-sub-HpCDF	34.049						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	34.298	13694938	1.03	0.9811						
A Non-2,3,7,8-sub-HpCDD	34.024						0.0	0.0		
S Total HpCDD										
1,3,6,8-TCDF	14.596	25961980	0.73							
1,3,6,8-TCDD	15.488	21137414	0.77							
2,3,4,7-TCDF	16.955	47722350	0.73							
1,2,3,7-TCDD	17.514	18390417	0.75							
1,2,3,9-TCDD	17.771	22805456	0.77							
1,2,3,9-TCDF	17.771	19868191	0.73							

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,8,9-TCDD	18.693	8818386								
1,2,8,9-TCDF	18.693	20888007	0.74							
1,3,4,6,8-PeCDF	18.965	27892500	1.57							
1,2,4,7,9-PeCDD	20.669	18017189	1.55							
1,2,3,8,9-PeCDD	24.733	16776487	1.57							
1,2,3,8,9-PeCDF	24.951	18007046	1.56							
1,2,3,4,6,8-HxCDF	27.144	13366882	1.22							
1,2,4,6,7,9-HxCDD	28.675	13878175	1.22							
1,2,3,4,6,7-HxCDD	31.776	13912392	1.21							
1,2,3,4,8,9-HxCDF	32.109	12590706	1.21							
1,2,3,4,6,7,9-HpCDD	33.751	15752459	1.03							

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNCP_00040 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 30-Jan-2020 00:17:03 ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 012920B WDM HRDXNCP_00040
Misc. Info.: 29JA20B10D5
Operator ID: ALM, SMA Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 30-Jan-2020 09:10:38 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0321

First Level Reviewer: arghestanis Date: 30-Jan-2020 08:31:54

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	16.924	16.924	0	1.000	11881259	2942858	6847	17117	430		
317.9389	16.924	16.924	0	1.000	15708574	3905611	4216	10540	926	0.76(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.955	16.939	1	1.002	20203901	4631927	10424	26060	444		
305.8987	16.955	16.939	1	1.002	27518449	6271405	16330	40825	384	0.73(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.645						10424	26060			
305.8987	16.645						16330	40825			
13C-2,3,7,8-TCDD											
331.9368	17.605	17.605	0	1.000	9341943	2239265	3101	7752	722		
333.9339	17.605	17.605	0	1.000	11706492	2808402	1927	4817	1457	0.80(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.620	17.623	0	1.001	9370908	2214074	7219	18047	307		
321.8936	17.620	17.623	0	1.001	12154838	2922263	9883	24707	296	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.091						7219	18047			
321.8936	17.091						9883	24707			
A F1 PeCDFs											
339.8597	19.570						998	2495			
341.8567	19.570						1018	2545			
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	21.801	22.600	-48	1.000	46632	8590	1778	4445	5		
341.8567	21.801	22.600	-48	1.000	50391	6955	1353	3382	5	0.93(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.701						3448	8620			
357.8516	22.701						2075	5187			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.627						2357	5892			
375.8178	29.627						1840	4600			
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.226						2498	6245			
391.8127	30.226						2192	5480			
1,2,3,4,6,7,8-HpCDF											
407.7818	33.520	33.511	1	1.000	9256175	2581409	10648	26620	242		
409.7789	33.520	33.511	1	1.000	9120202	2494129	11558	28895	216	1.01(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.577	34.570	0	1.000	7416128	1604148	10648	26620	151		
409.7789	34.577	34.570	0	1.000	7153957	1553173	11558	28895	134	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.049						10648	26620			
409.7789	34.049						11558	28895			
1,2,3,4,6,7,8-HpCDD											
423.7766	34.298	34.288	1	1.000	6948564	1643840	10085	25212	163		
425.7737	34.298	34.288	1	1.000	6746374	1592409	10203	25507	156	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.024						10085	25212			
425.7737	34.024						10203	25507			
1,3,6,8-TCDF											
303.9016	14.596	14.596	0		10995444	3375012	10424	26060	324		
305.8987	14.596	14.596	0		14966536	4602804	16330	40825	282	0.73(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	15.488	15.488	0		9214109	2567683	7219	18047	356		
321.8936	15.473	15.488	-1		11923305	3357656	9883	24707	340	0.77(0.65-0.89)	
2,3,4,7-TCDF											
303.9016	16.955	16.955	0		20203901	4631927	10424	26060	444		
305.8987	16.955	16.955	0		27518449	6271405	16330	40825	384	0.73(0.65-0.89)	
1,2,3,7-TCDD											
319.8965	17.514	17.514	0		7858817	1983117	7219	18047	275		
321.8936	17.514	17.514	0		10531600	2617150	9883	24707	265	0.75(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	17.771	17.771	0		9893666	2200898	7219	18047	305		
321.8936	17.771	17.771	0		12911790	2893254	9883	24707	293	0.77(0.65-0.89)	
1,2,3,9-TCDF											
303.9016	17.771	17.771	0		8382825	2001296	10424	26060	192		
305.8987	17.771	17.771	0		11485366	2713268	16330	40825	166	0.73(0.65-0.89)	
1,2,8,9-TCDD											
319.8965	18.693	18.693	0		8818386	1862202	7219	18047	258		
1,2,8,9-TCDF											
303.9016	18.693	18.693	0		8851999	1975035	10424	26060	189		
305.8987	18.693	18.693	0		12036008	2683472	16330	40825	164	0.74(0.65-0.89)	
1,3,4,6,8-PeCDF											
339.8597	18.965	18.965	0		17045679	3739602	998	2495	3747		
341.8567	18.965	18.965	0		10846821	2383778	1018	2545	2342	1.57(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,4,7,9-PeCDD											
355.8546	20.669	20.669	0		10962960	1924287	3448	8620	558		
357.8516	20.669	20.669	0		7054229	1269883	2075	5187	612	1.55(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	24.733	24.733	0		10256774	1431932	3448	8620	415		
357.8516	24.733	24.733	0		6519713	887536	2075	5187	428	1.57(1.32-1.78)	
1,2,3,8,9-PeCDF											
339.8597	24.951	24.951	0		10975791	1455911	1778	4445	819		
341.8567	24.951	24.951	0		7031255	943583	1353	3382	697	1.56(1.32-1.78)	
1,2,3,4,6,8-HxCDF											
373.8208	27.144	27.144	0		7340461	891289	2357	5892	378		
375.8178	27.157	27.144	1		6026421	737627	1840	4600	401	1.22(1.05-1.43)	
1,2,4,6,7,9-HxCDD											
389.8157	28.675	28.675	0		7629489	856187	2498	6245	343		
391.8127	28.675	28.675	0		6248686	699400	2192	5480	319	1.22(1.05-1.43)	
1,2,3,4,6,7-HxCDD											
389.8157	31.776	31.776	0		7630429	1693667	2498	6245	678		
391.8127	31.776	31.776	0		6281963	1367756	2192	5480	624	1.21(1.05-1.43)	
1,2,3,4,8,9-HxCDF											
373.8208	32.109	32.109	0		6891496	1569799	2357	5892	666		
375.8178	32.109	32.109	0		5699210	1294830	1840	4600	704	1.21(1.05-1.43)	
1,2,3,4,6,7,9-HpCDD											
423.7766	33.751	33.751	0		7989498	2146390	10085	25212	213		
425.7737	33.751	33.751	0		7762961	2084823	10203	25507	204	1.03(0.88-1.20)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Reagents:

HRDXNCP_00040 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d
Lims ID: WDM
Client ID:
Inject. Date: 30-Jan-2020 00:17:03 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 10D5 Operator: ALM, SMA
Lims Batch ID: 353986 Lims Sample ID: 2

Non-2,3,7,8-sub-PeCDF, RT: 22.600

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	0.898				
2,3,4,7,8-PeCDF	0.810				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
21.801	46632	8590	50391	6955		0.93	R
Signal Totals:							
	46632	8590	50391	6955			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	97023	15545				0.93	RQ
	76717	14131					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (97023 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (76717 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Report Date: 30-Jan-2020 09:10:44 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d		
Injection Date:	30-Jan-2020 00:17:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

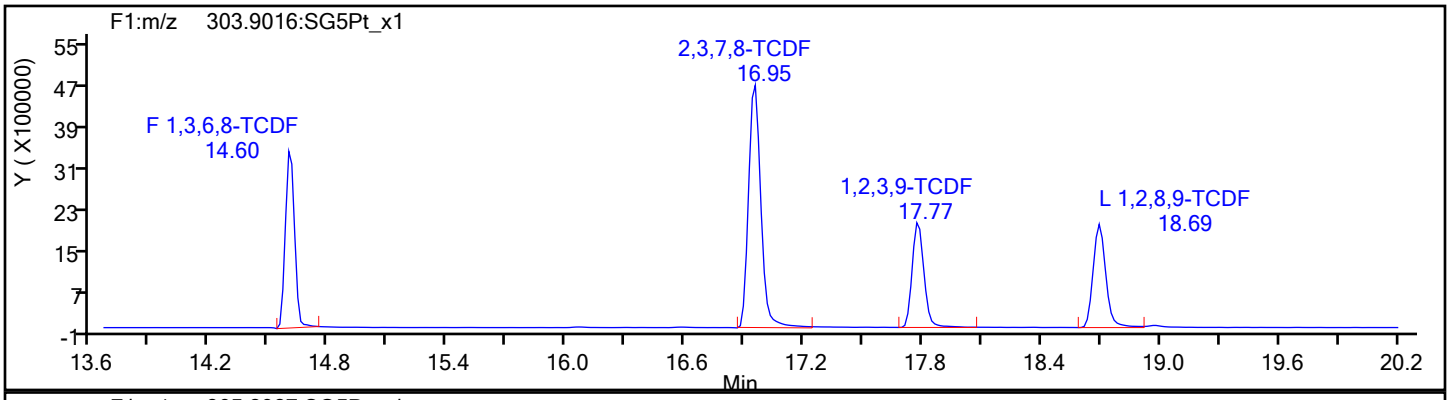

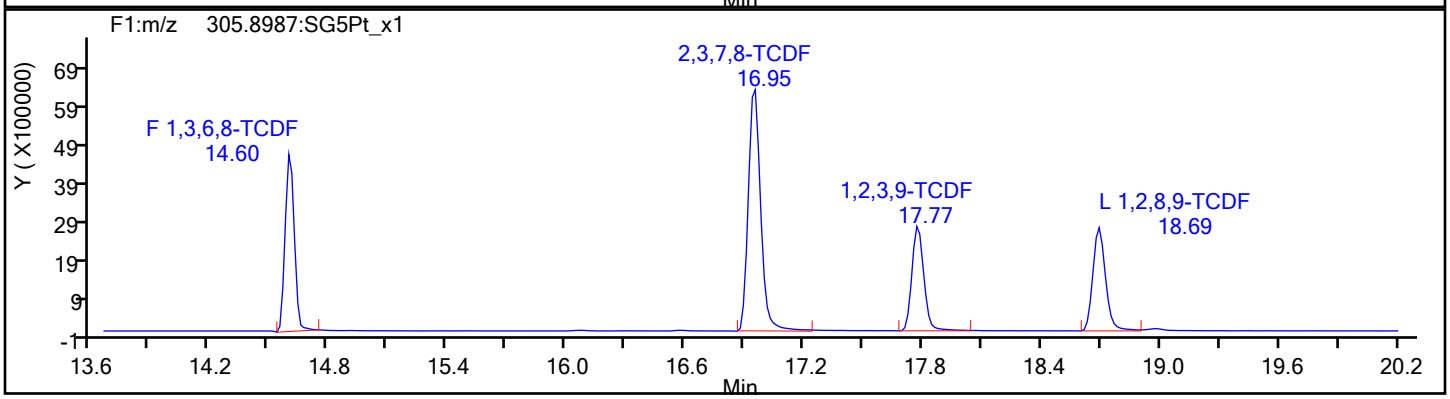

TCDF Standards

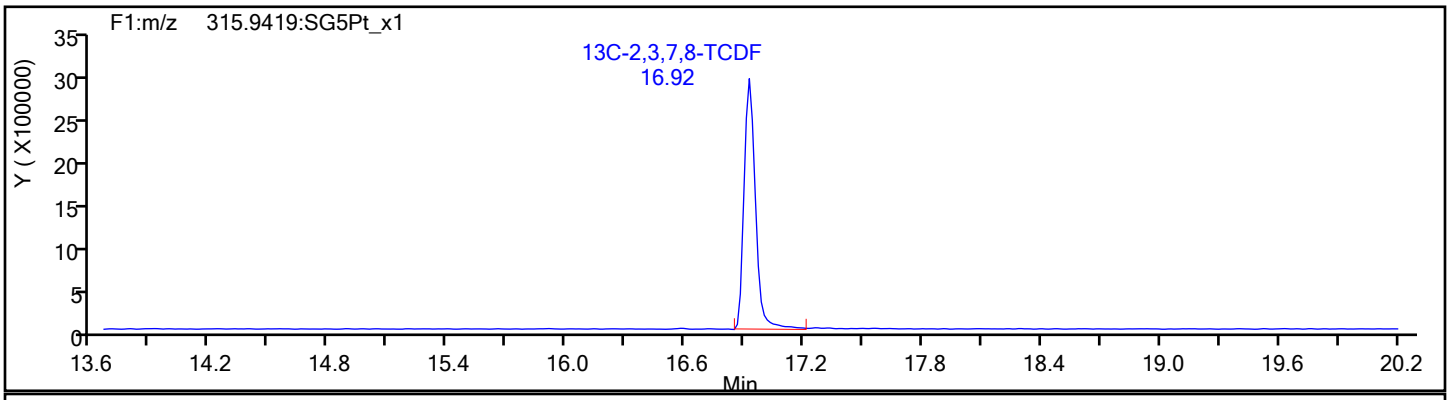

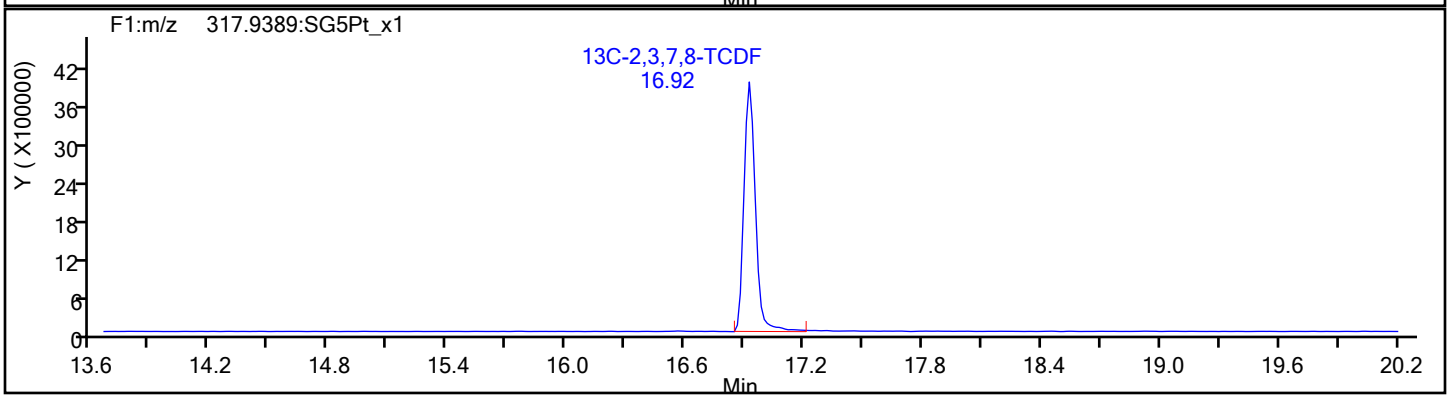

Report Date: 30-Jan-2020 09:10:44 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d		
Injection Date:	30-Jan-2020 00:17:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

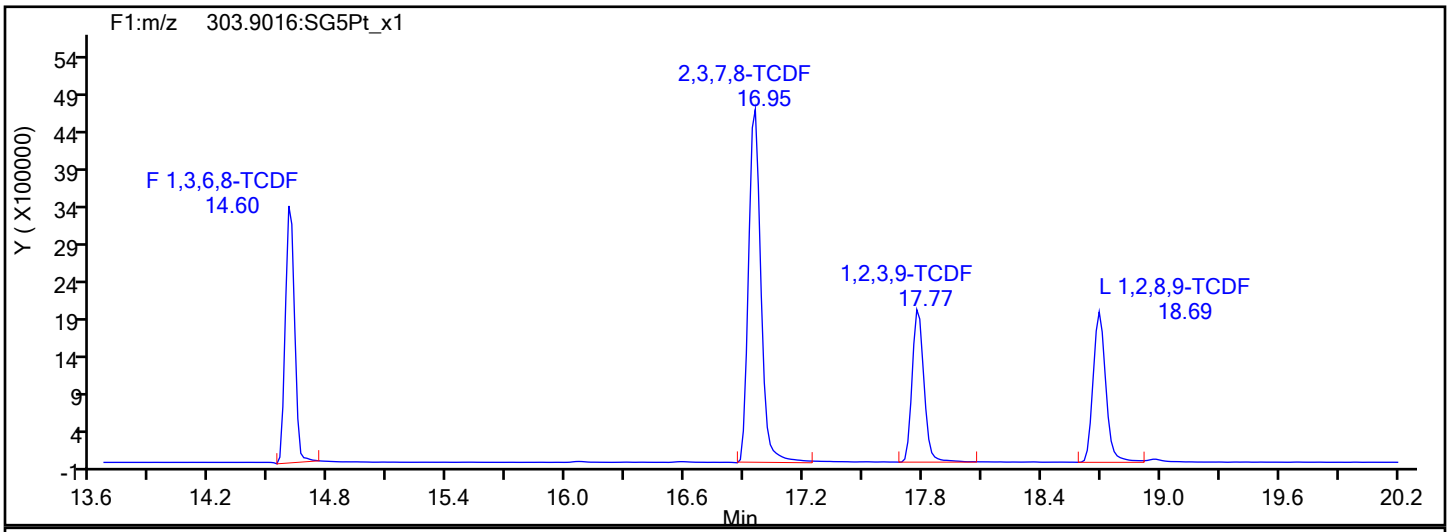

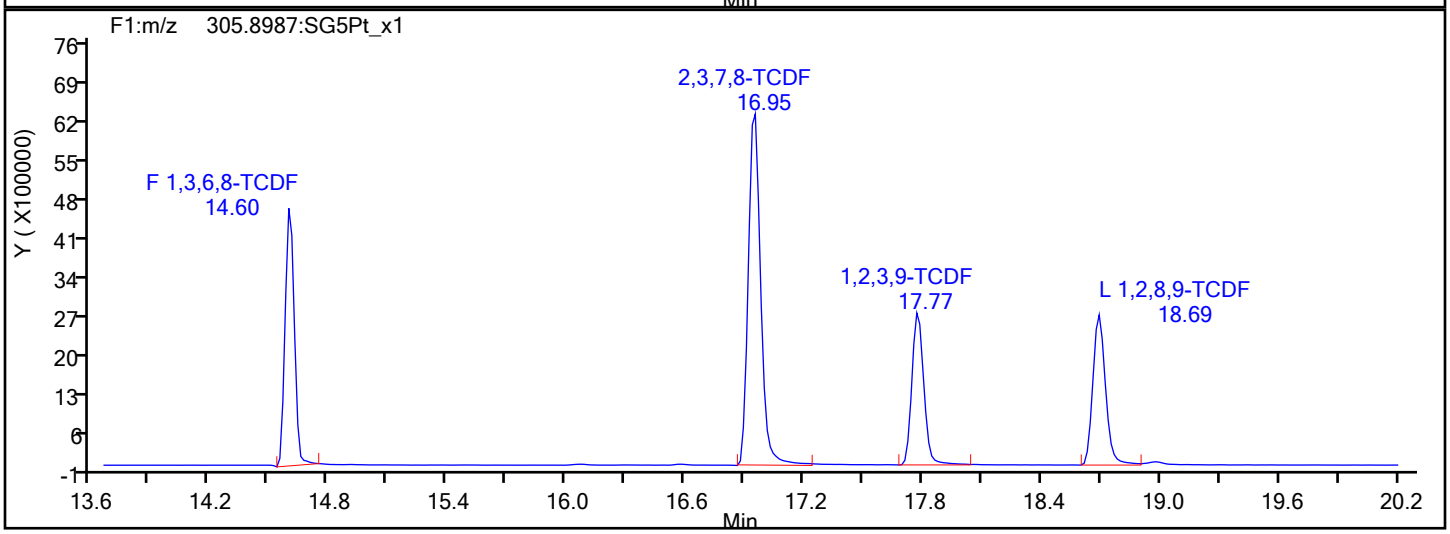

TCDF Interference Mass

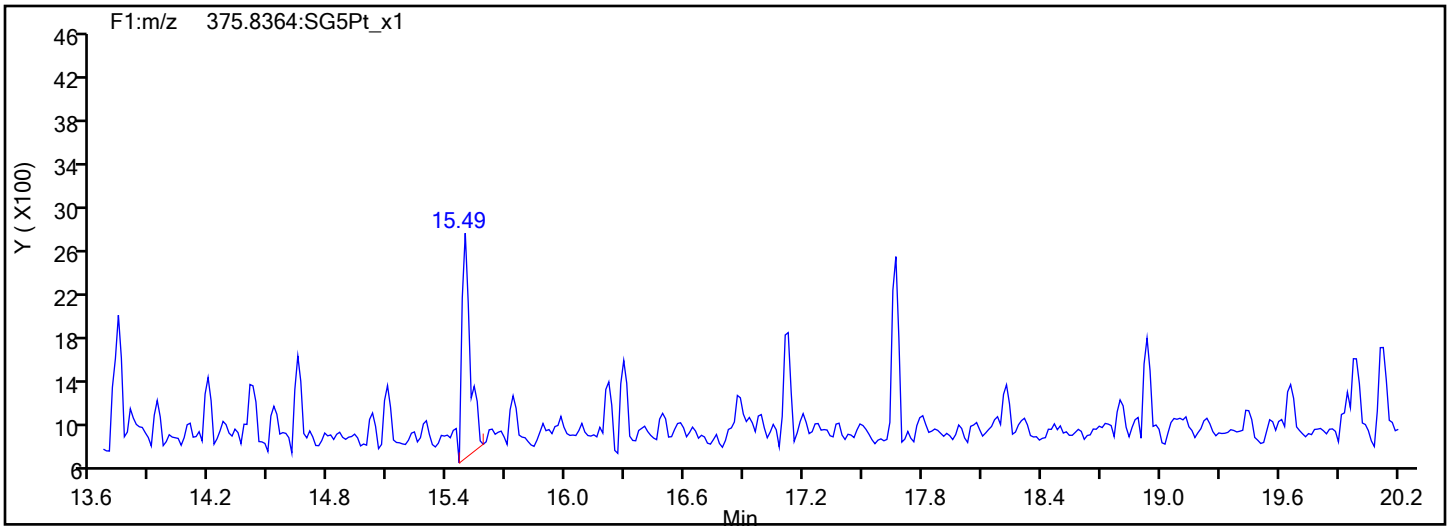

Report Date: 30-Jan-2020 09:10:44 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d		
Injection Date:	30-Jan-2020 00:17:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

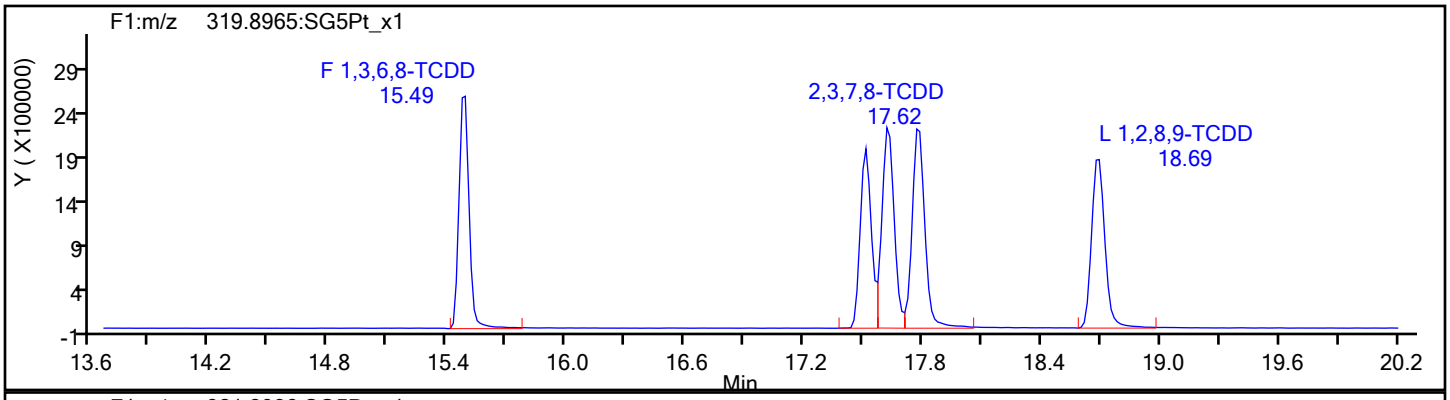

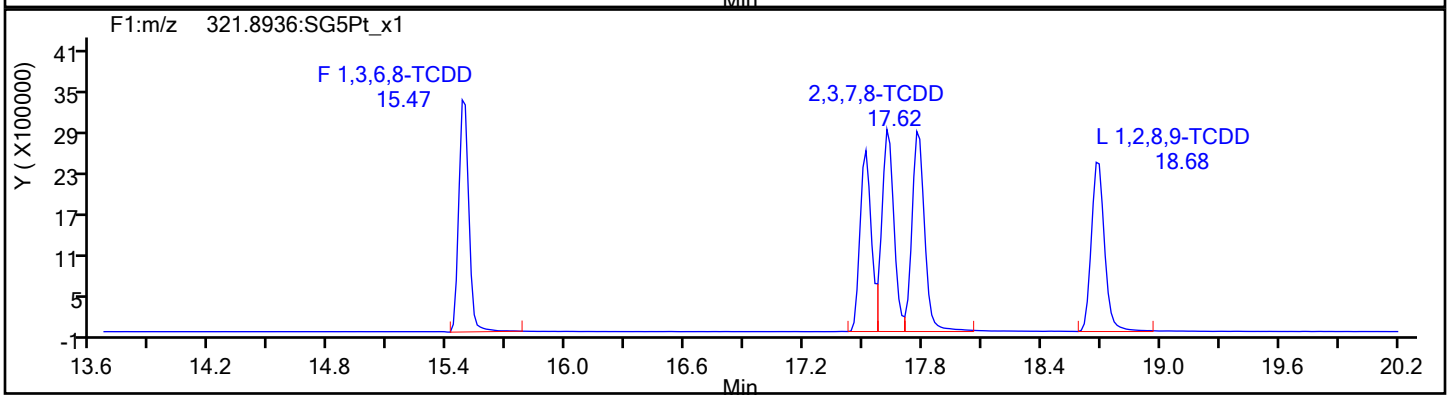

TCDD Standards

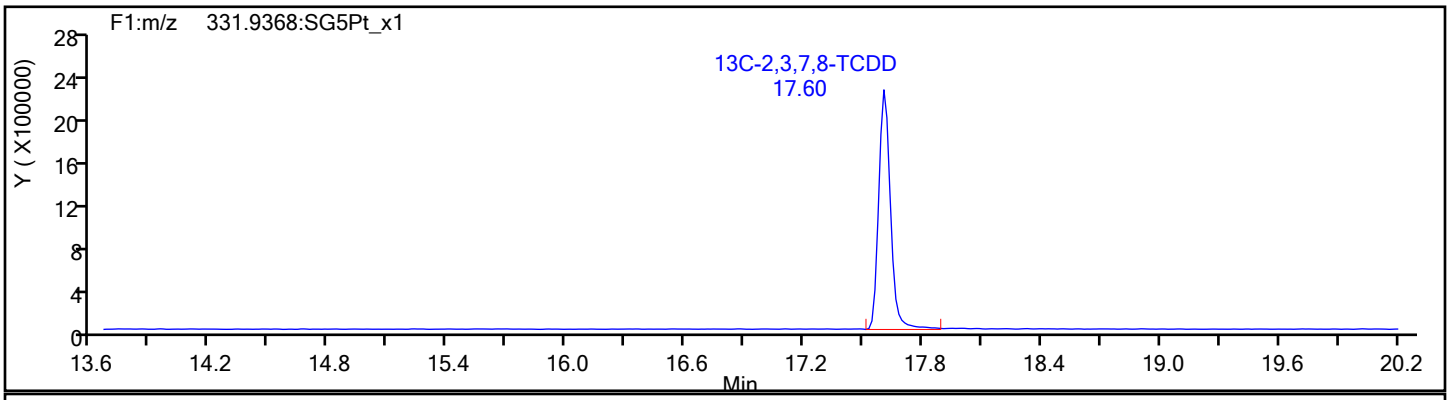

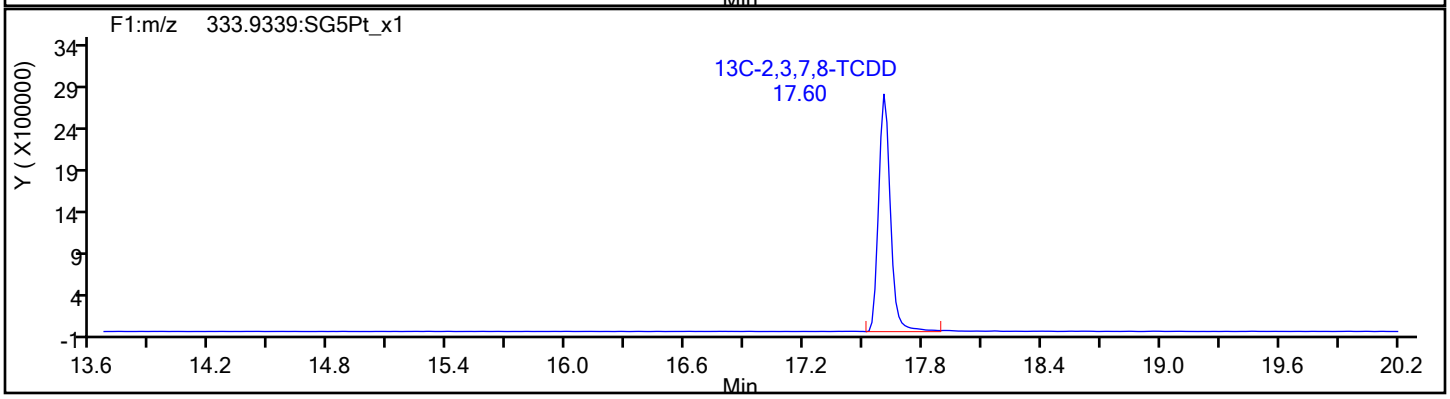

Report Date: 30-Jan-2020 09:10:44 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d		
Injection Date:	30-Jan-2020 00:17:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

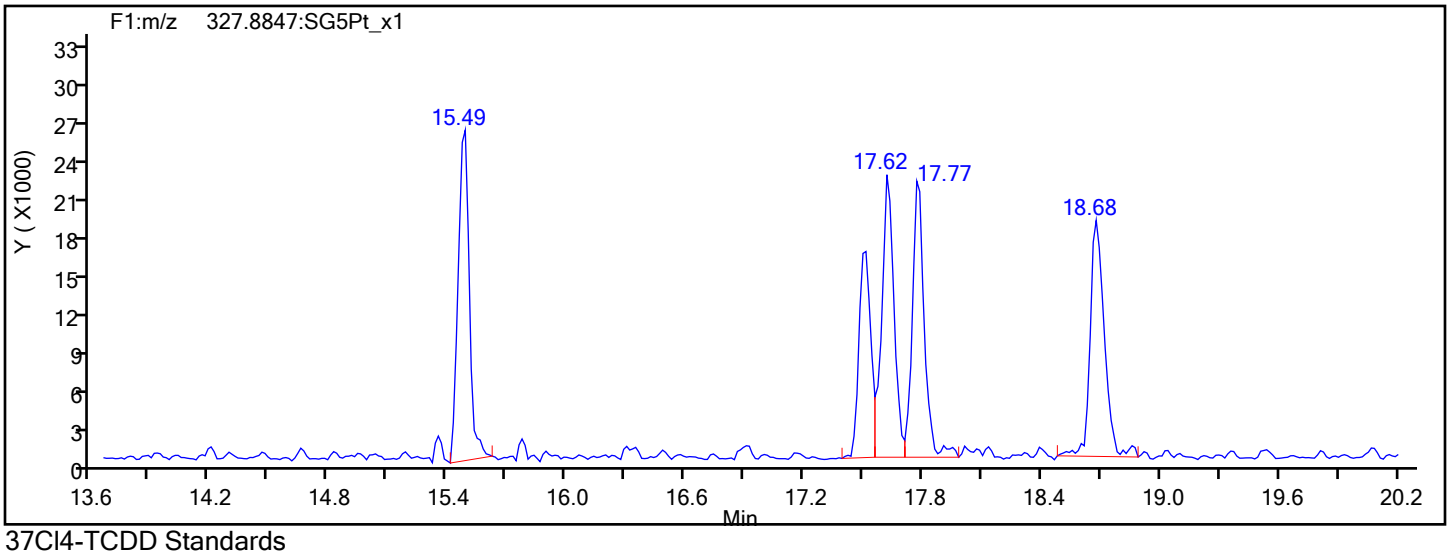

37Cl4-TCDD Standards

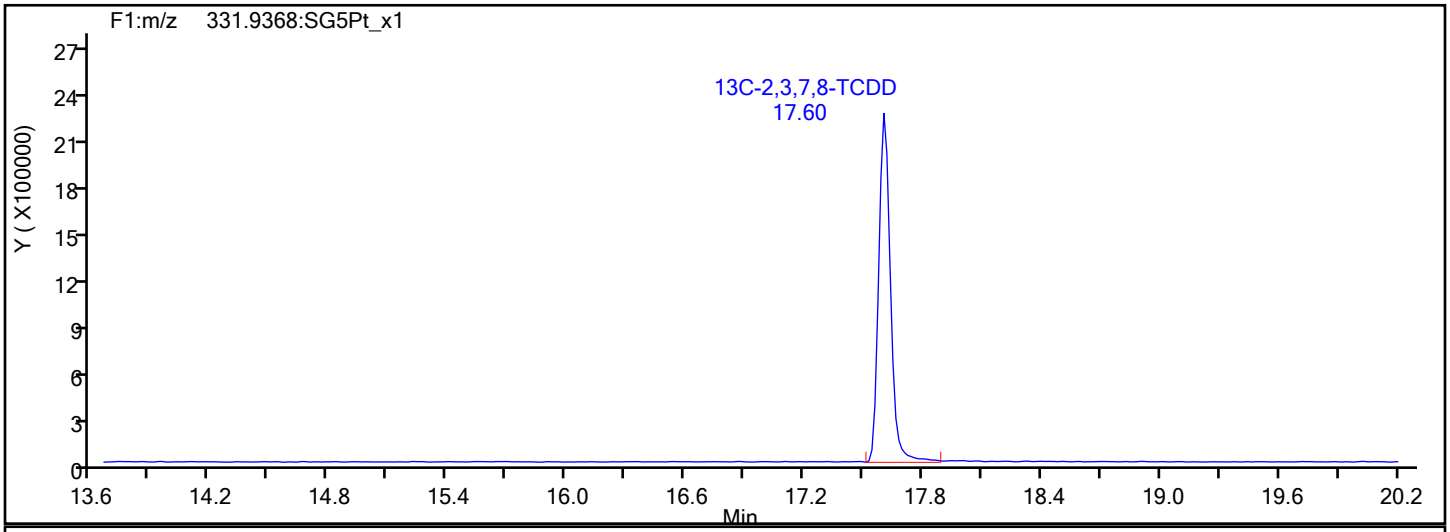

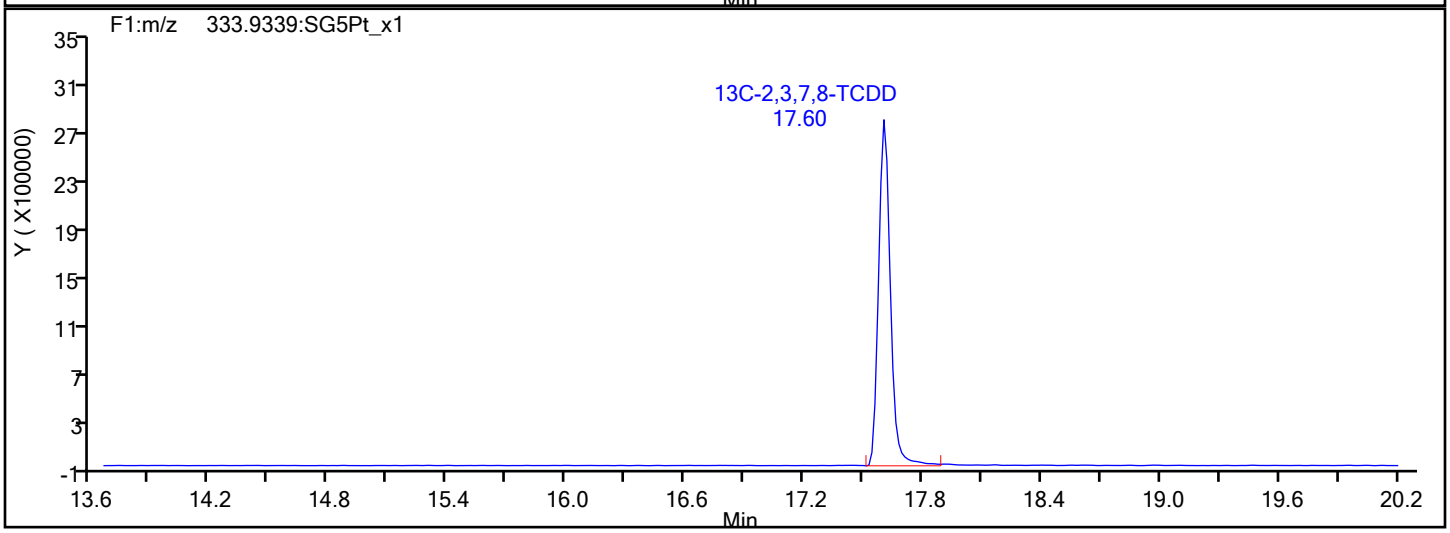

Report Date: 30-Jan-2020 09:10:44 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d		
Injection Date:	30-Jan-2020 00:17:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

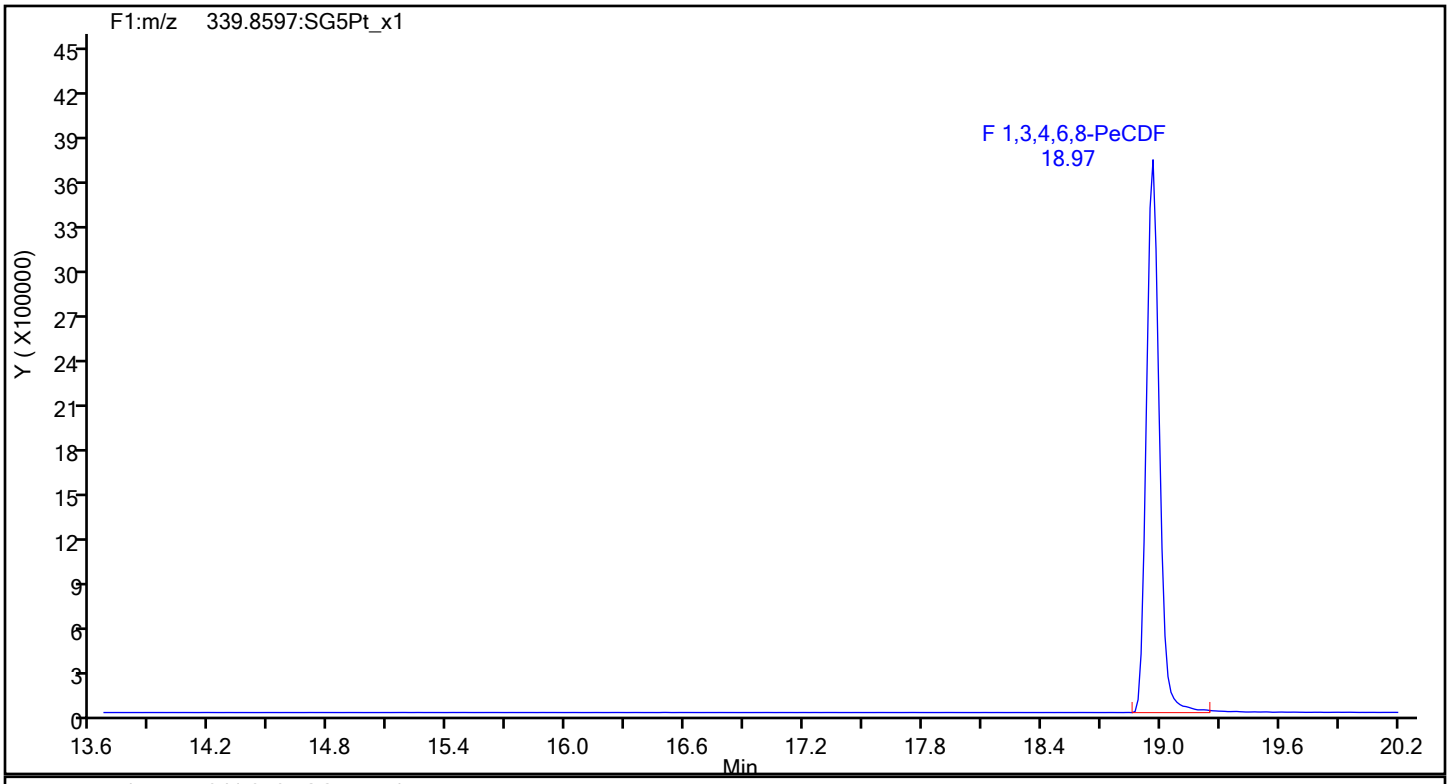

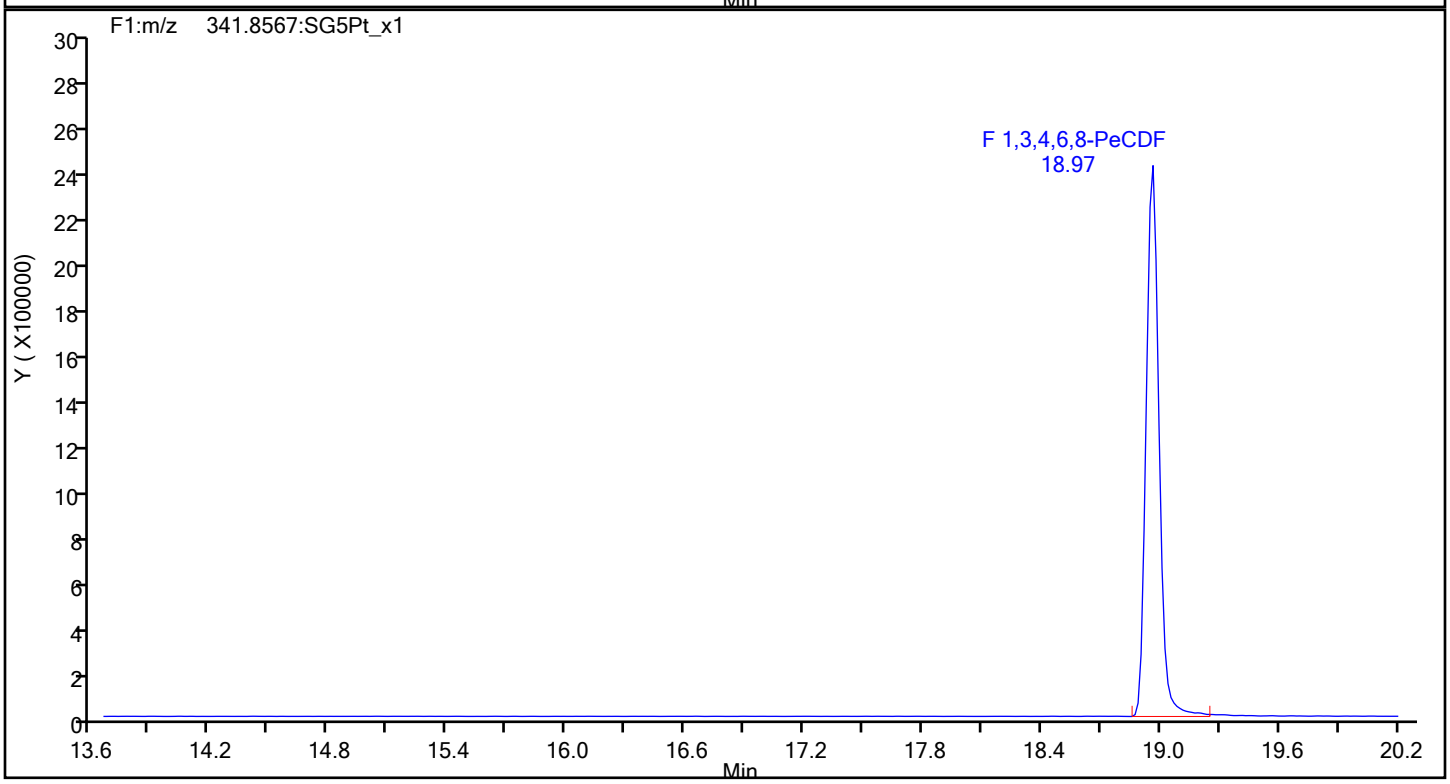

Report Date: 30-Jan-2020 09:10:44 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d		
Injection Date:	30-Jan-2020 00:17:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

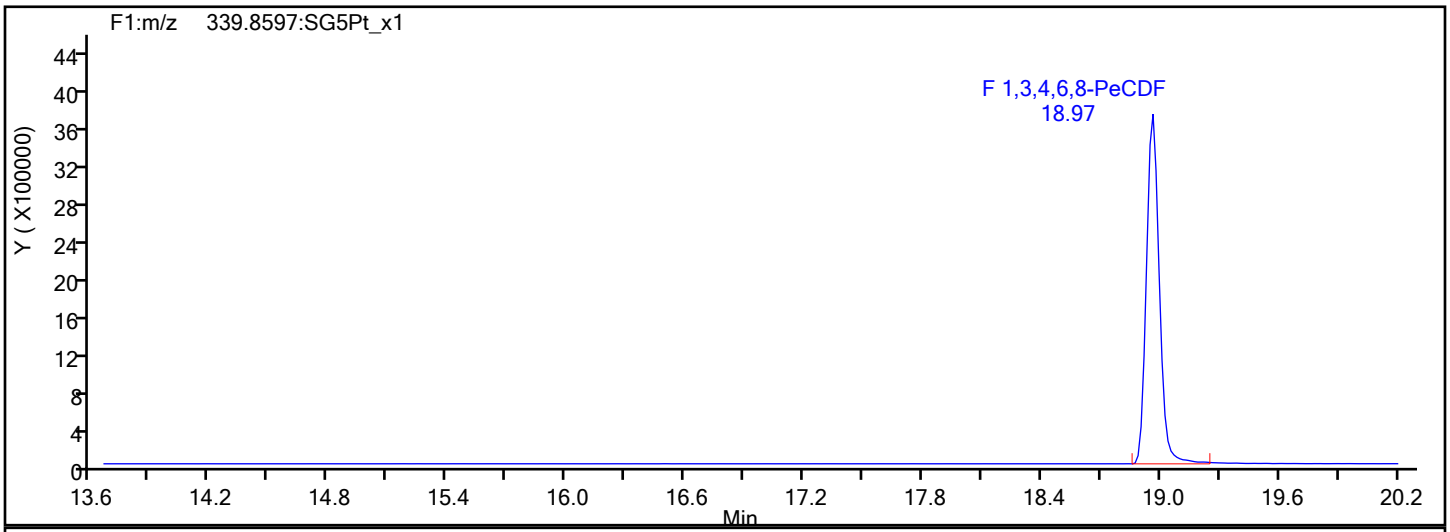

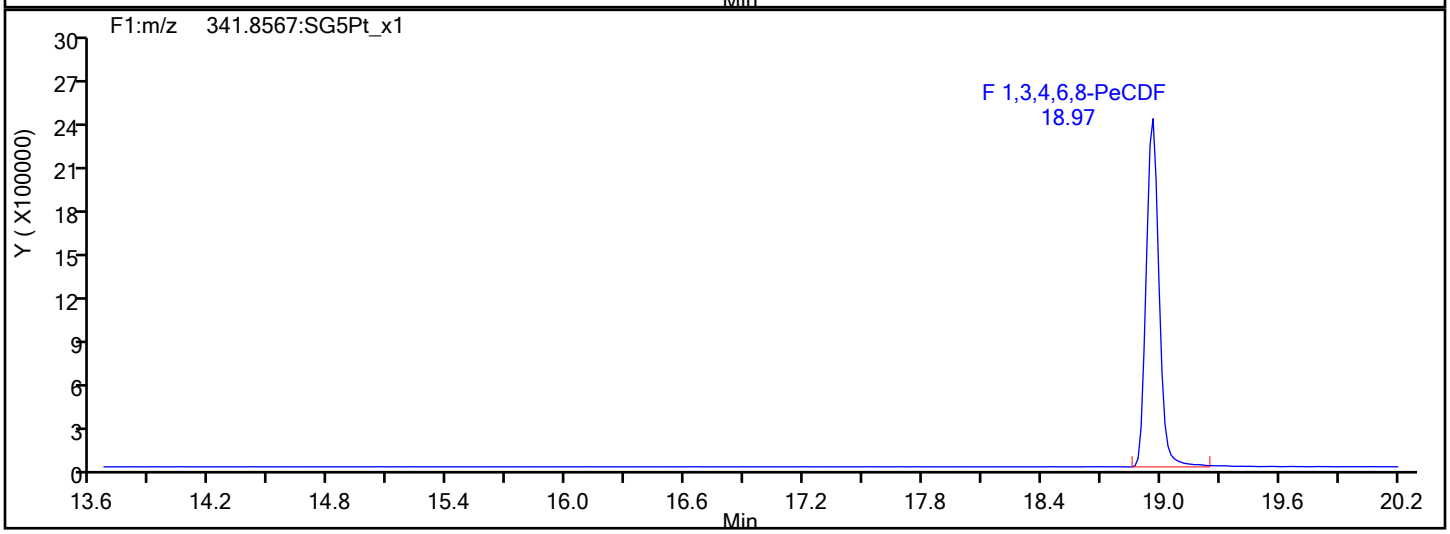

F1 PeCDFs Interference Mass

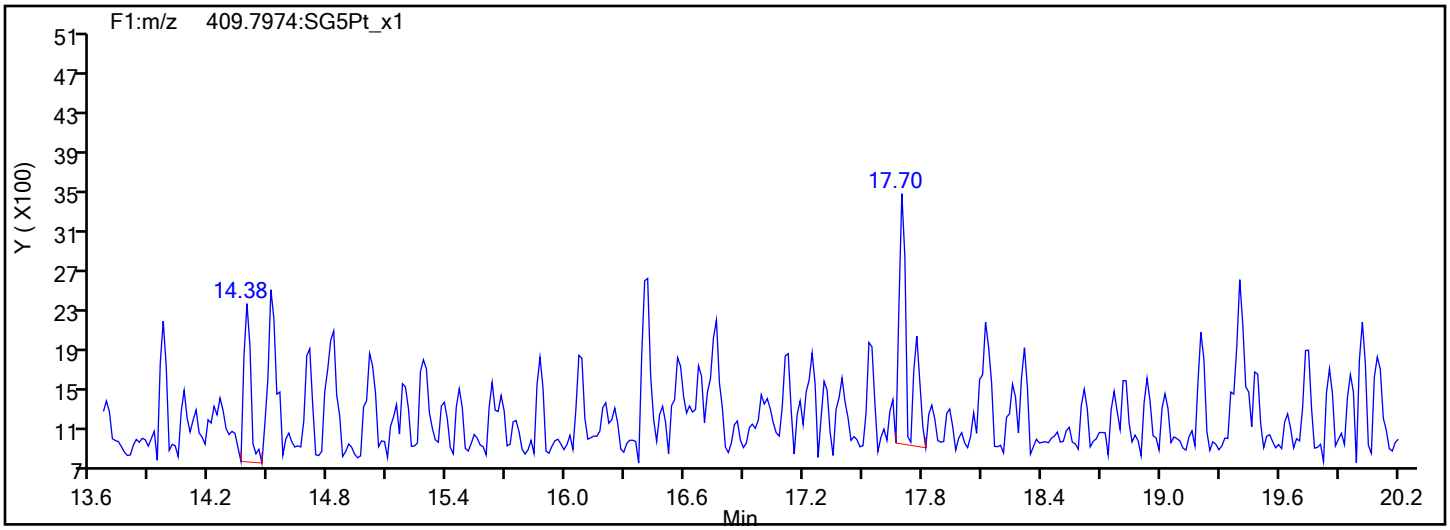

Report Date: 30-Jan-2020 09:10:44 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d		
Injection Date:	30-Jan-2020 00:17:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

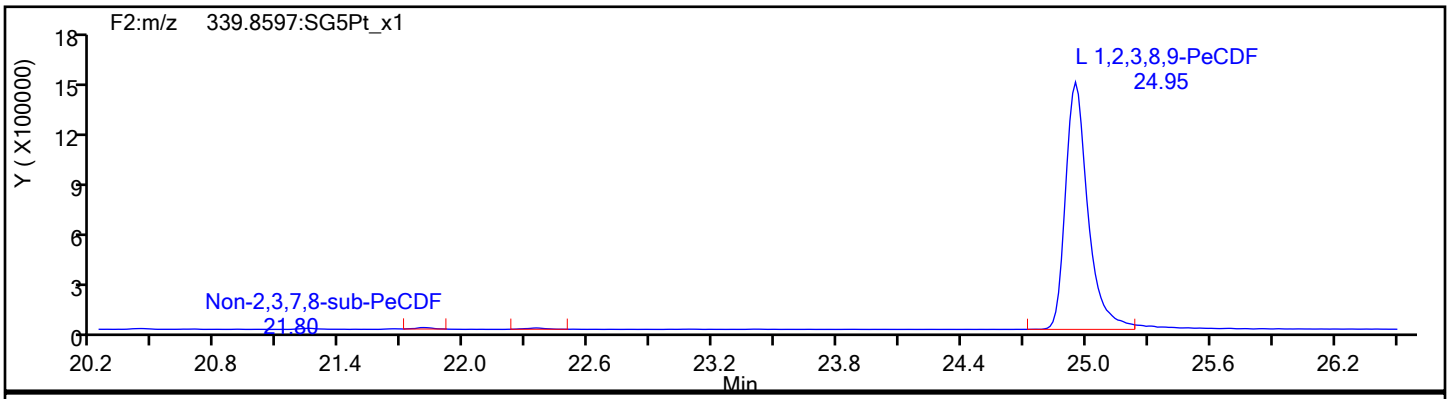

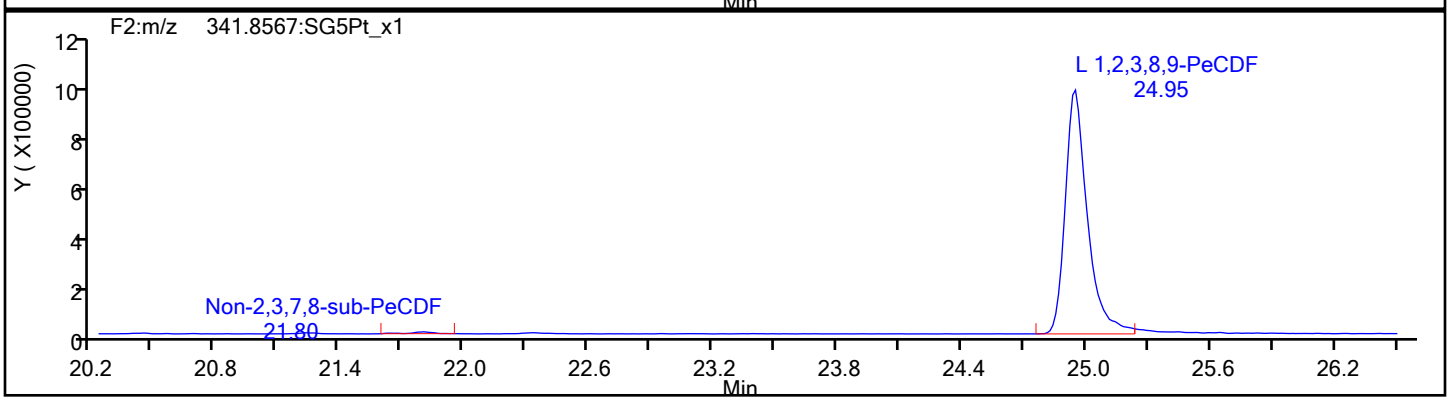

PeCDF Standards

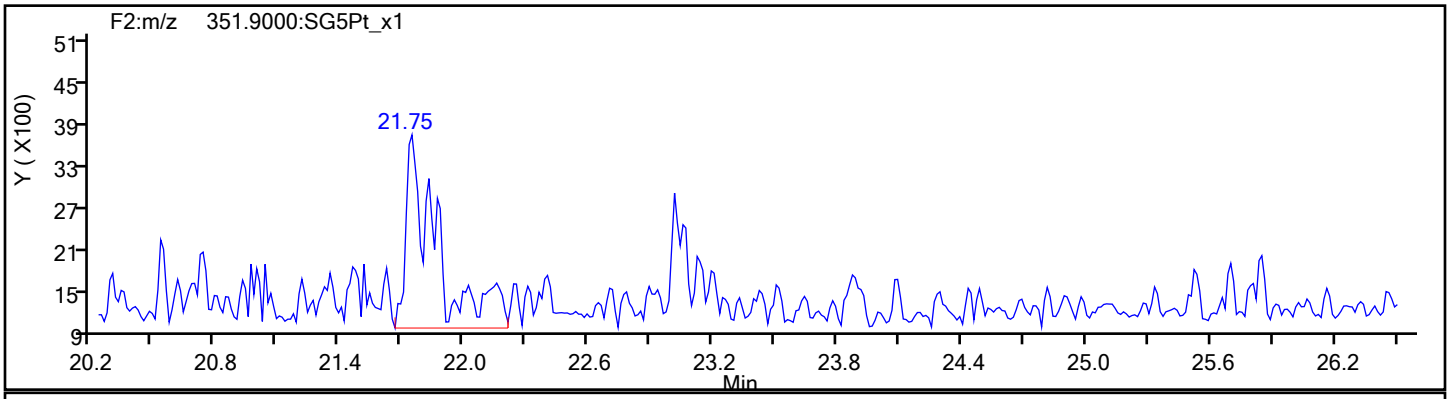

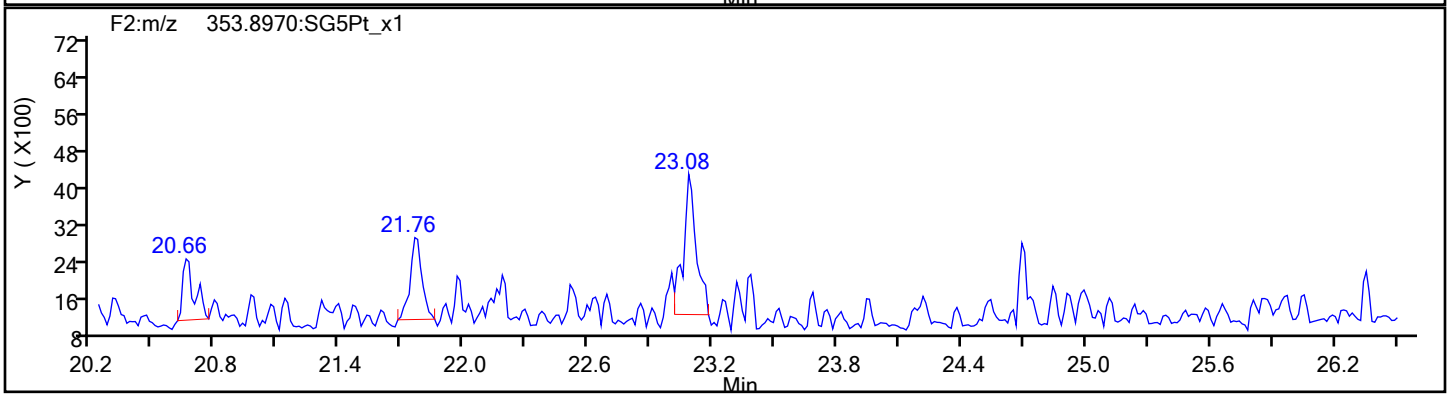

Report Date: 30-Jan-2020 09:10:44 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d		
Injection Date:	30-Jan-2020 00:17:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

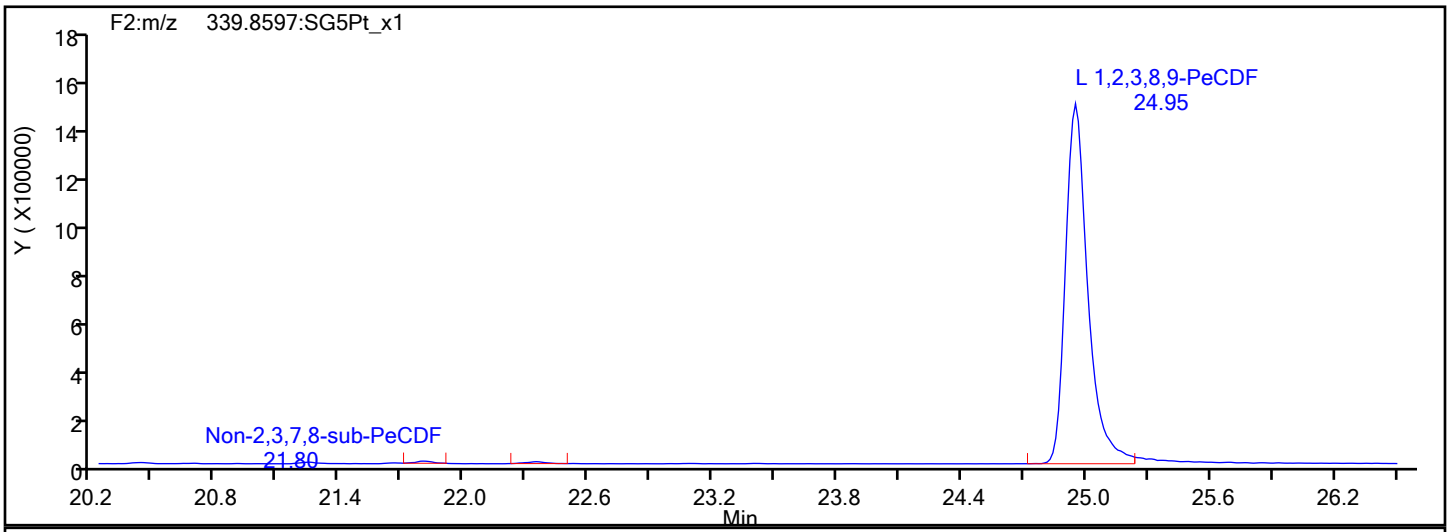

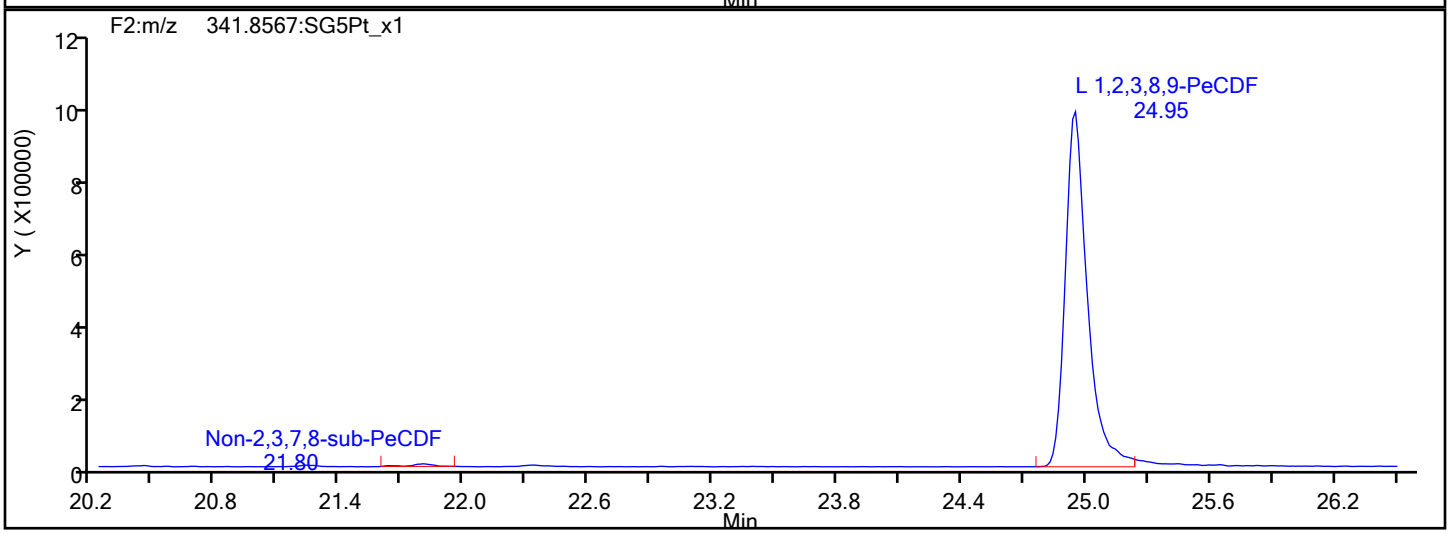

PeCDF Interference Mass

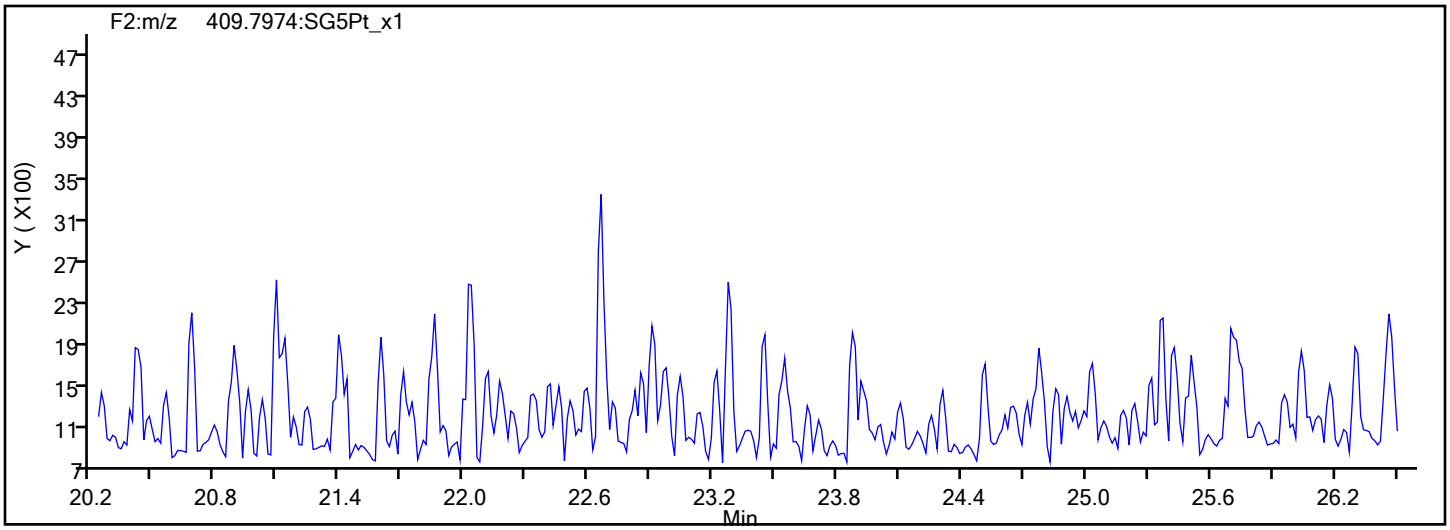

Report Date: 30-Jan-2020 09:10:44 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d		
Injection Date:	30-Jan-2020 00:17:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

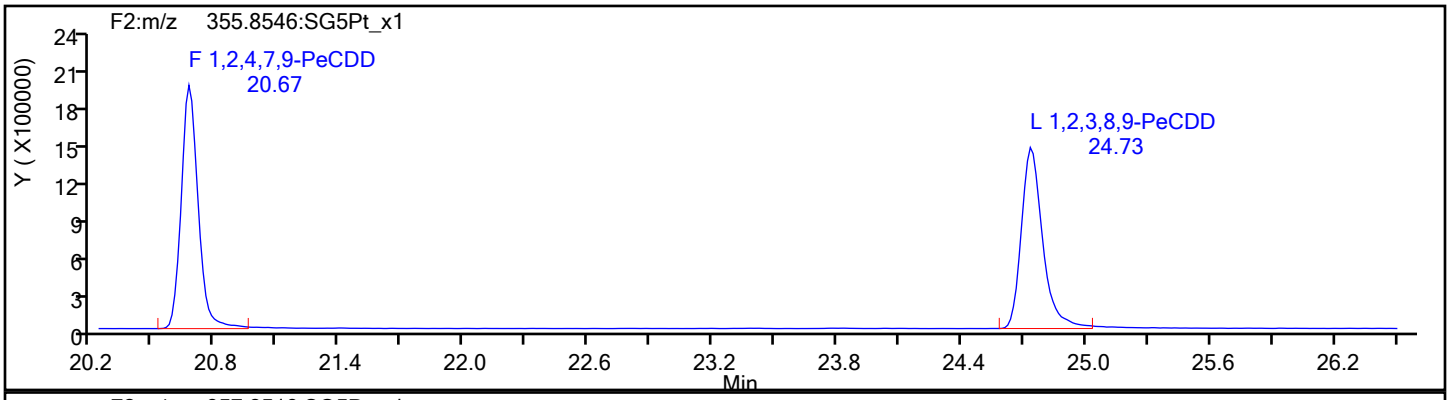

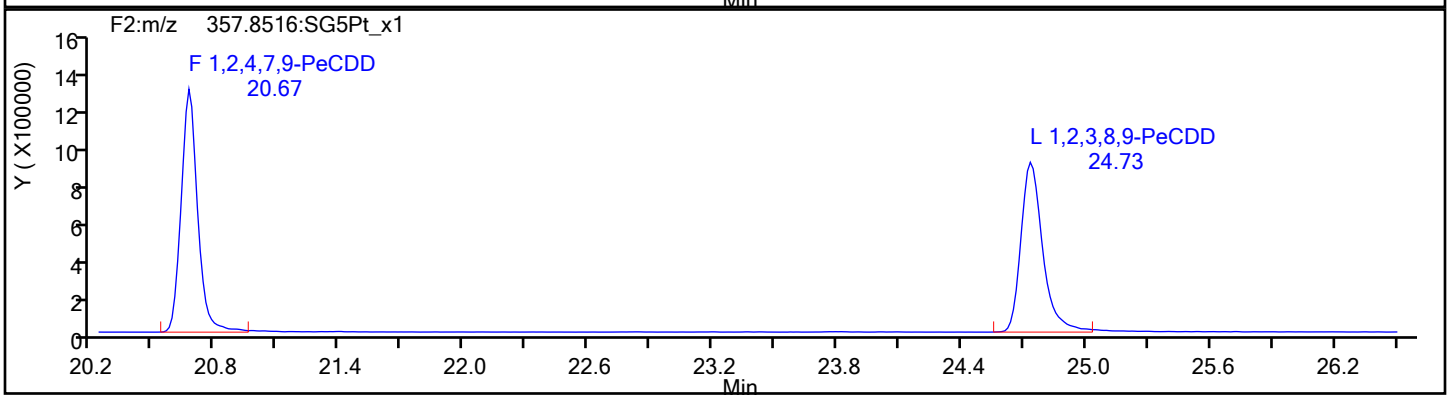

PeCDD Standards

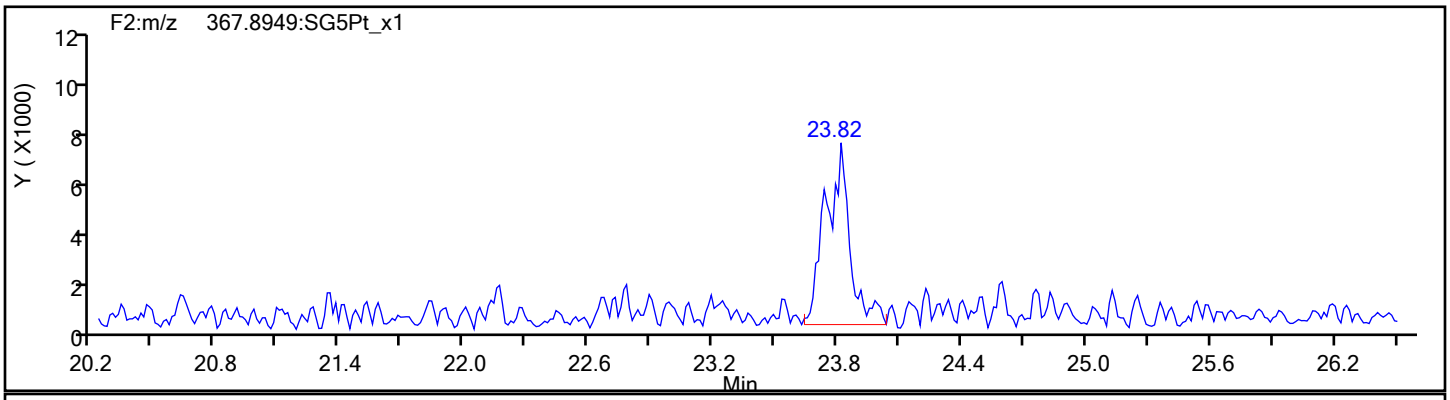

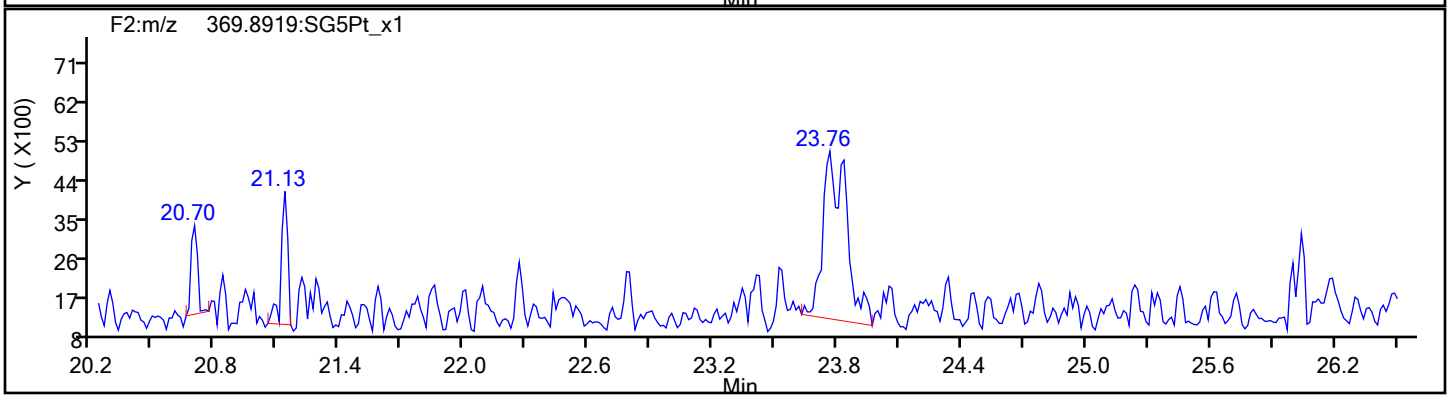

Report Date: 30-Jan-2020 09:10:44 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d		
Injection Date:	30-Jan-2020 00:17:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

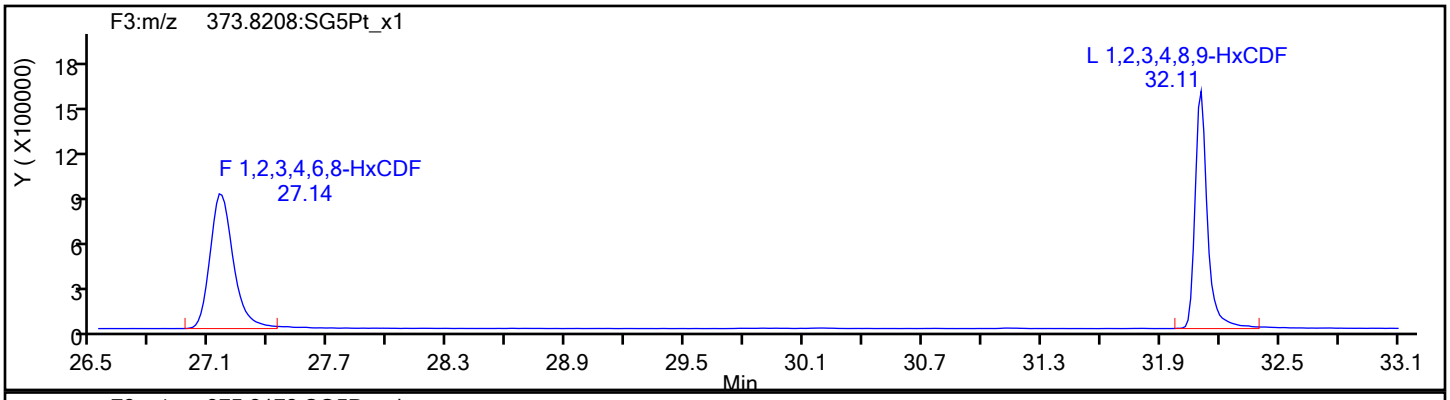

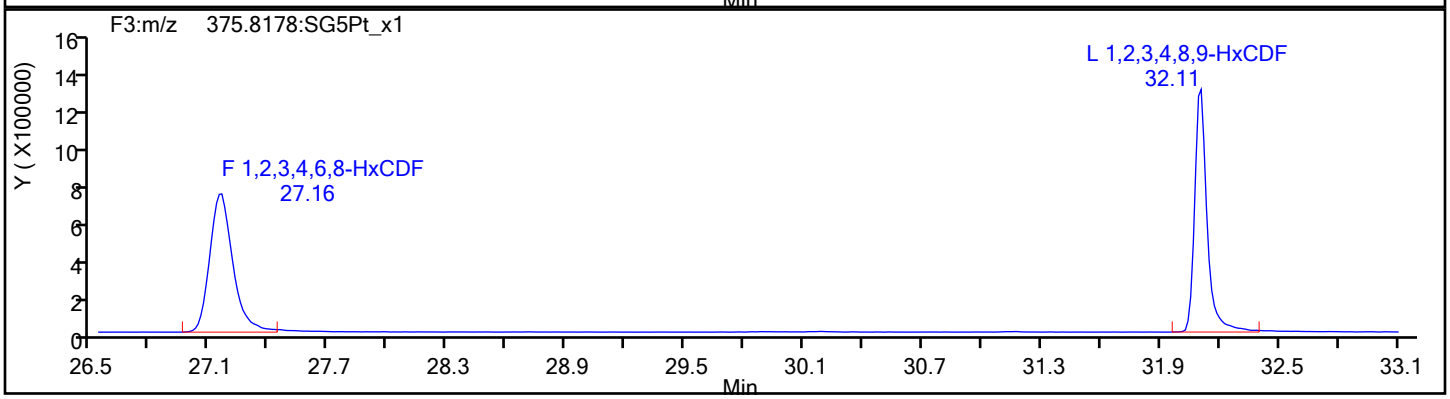

HxCDF Standards

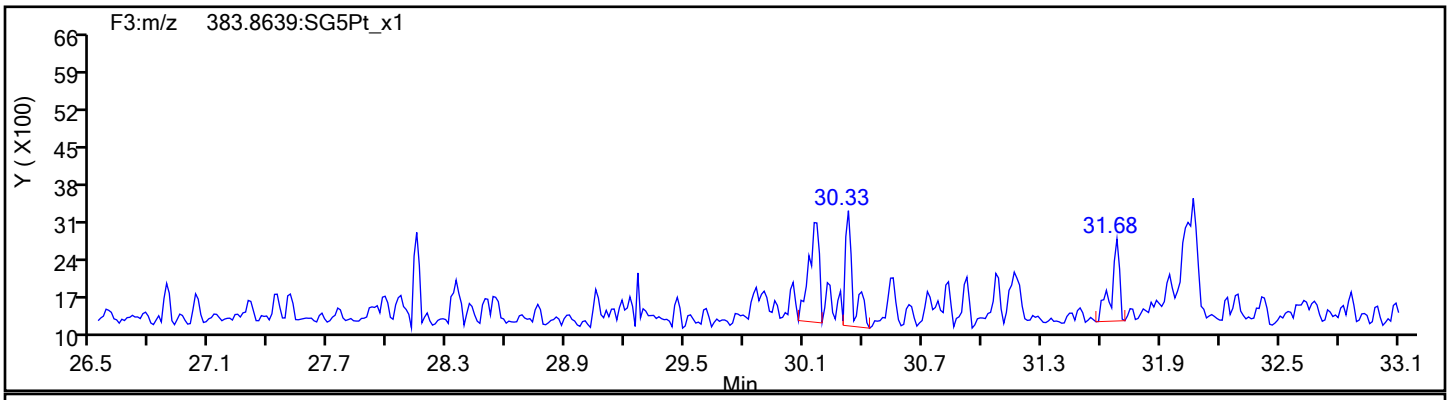

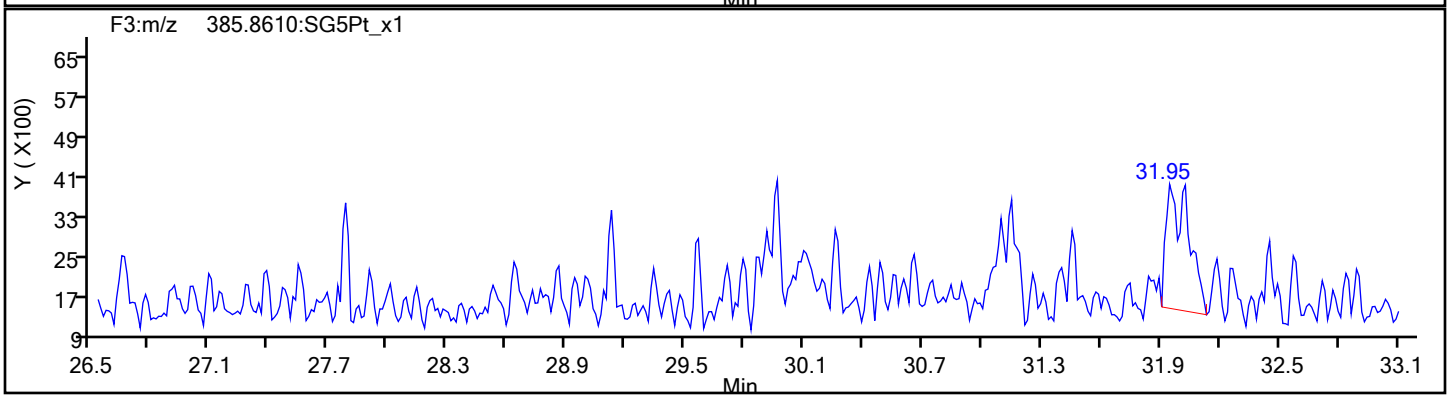

Report Date: 30-Jan-2020 09:10:44 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d		
Injection Date:	30-Jan-2020 00:17:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

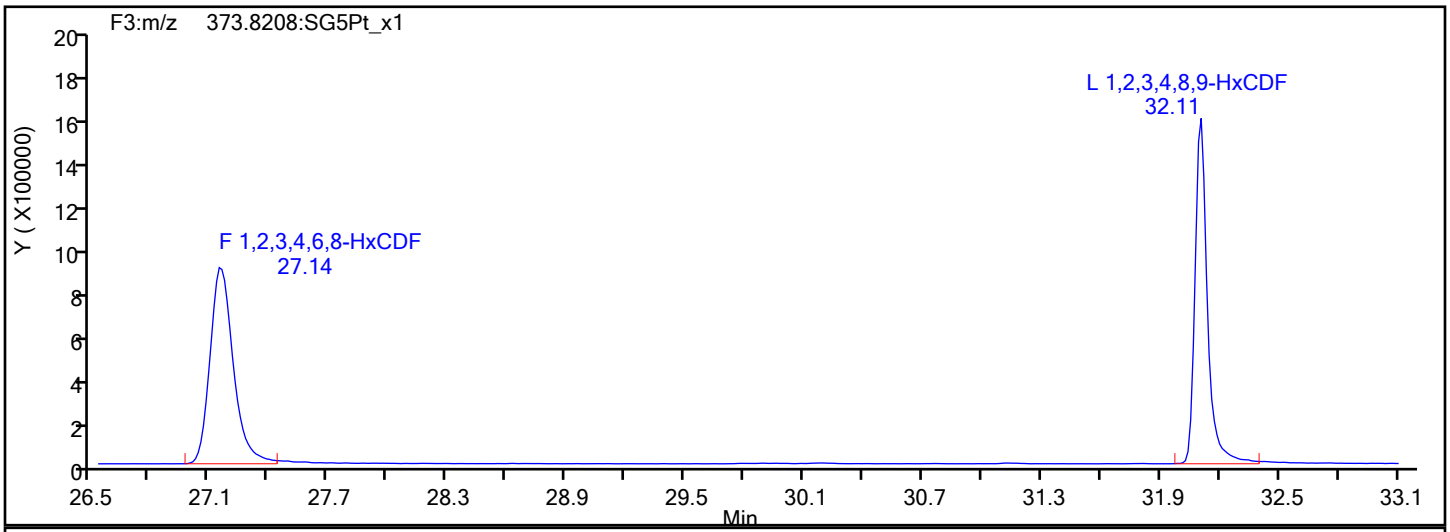

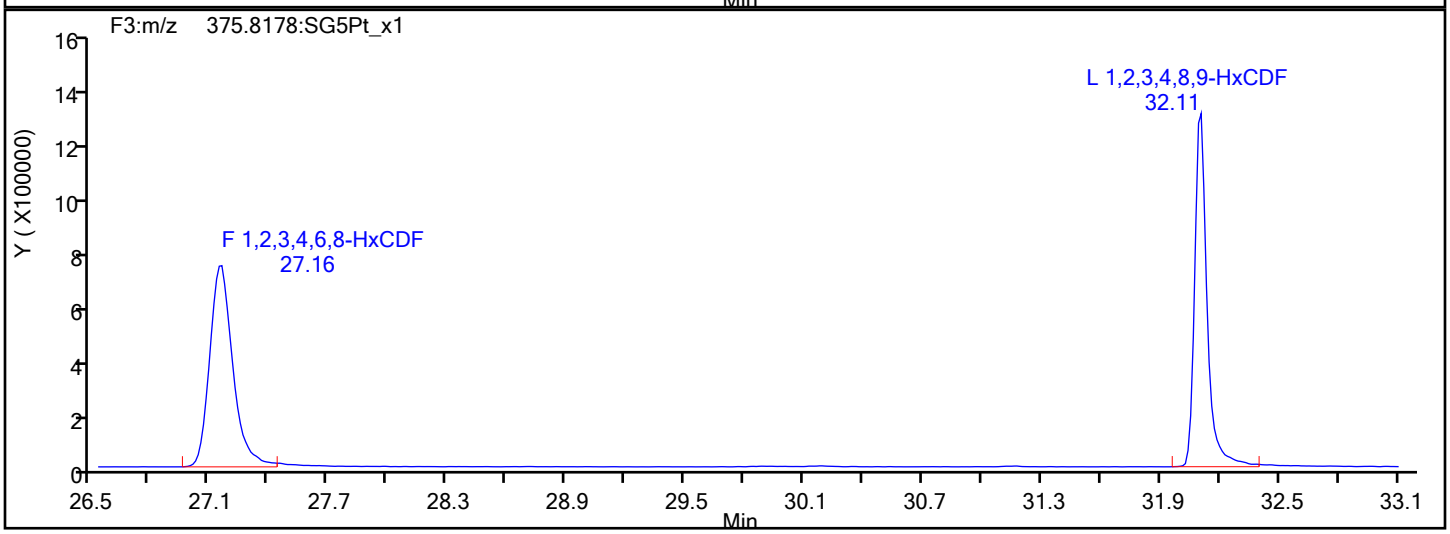

HxCDF Interference Mass

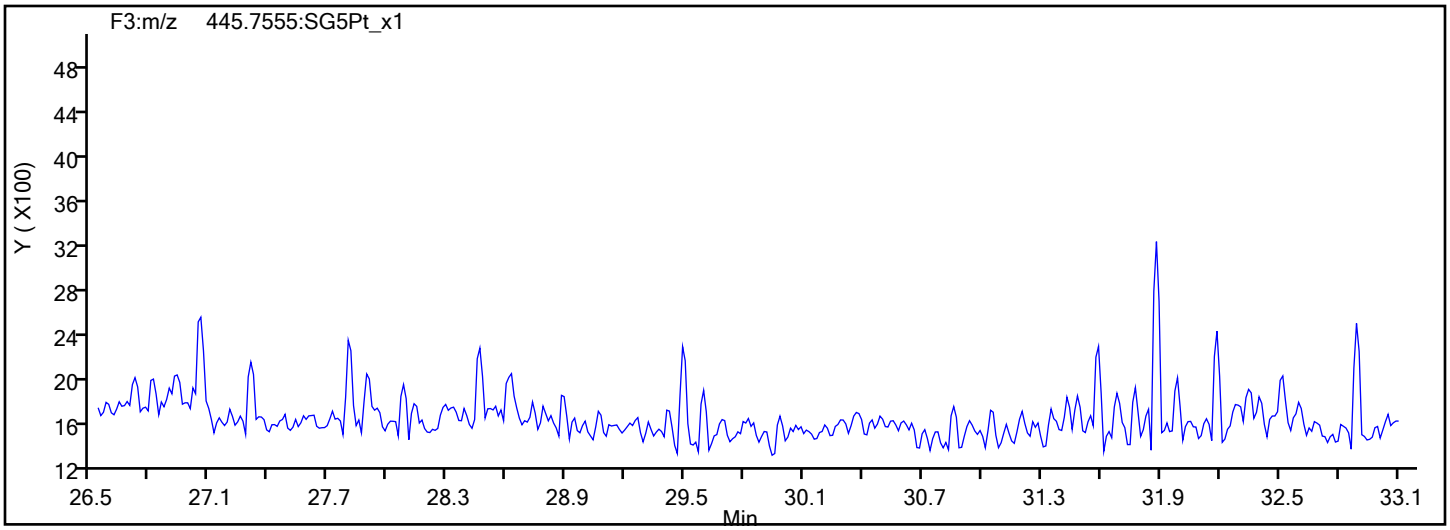

Report Date: 30-Jan-2020 09:10:44 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d		
Injection Date:	30-Jan-2020 00:17:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HxCDD

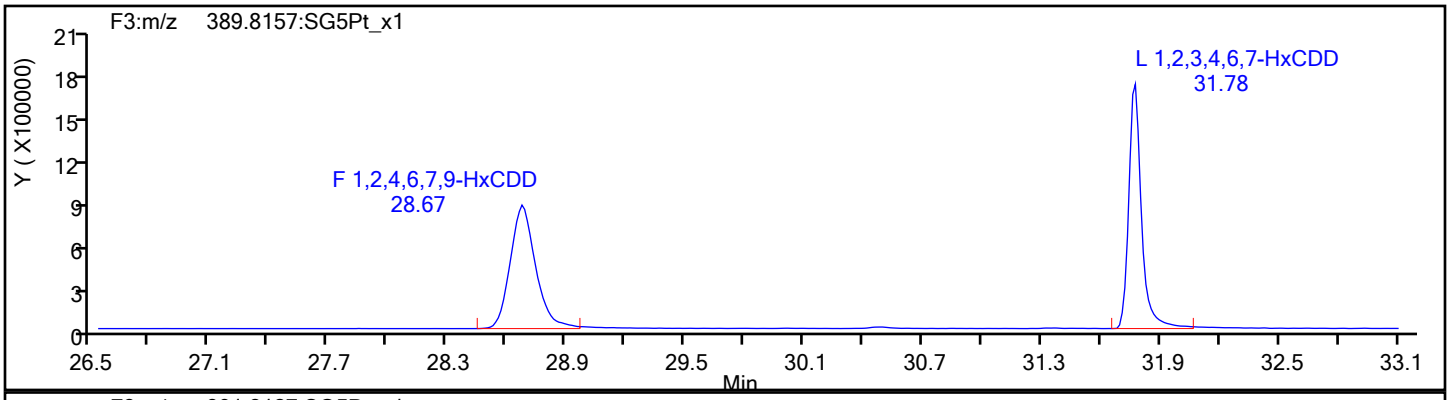

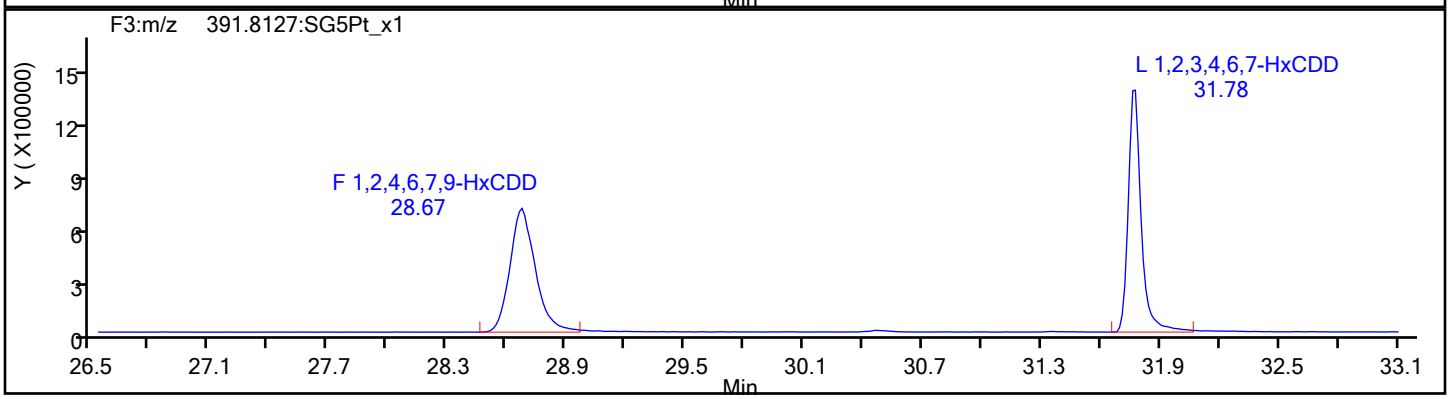

HxCDD Standards

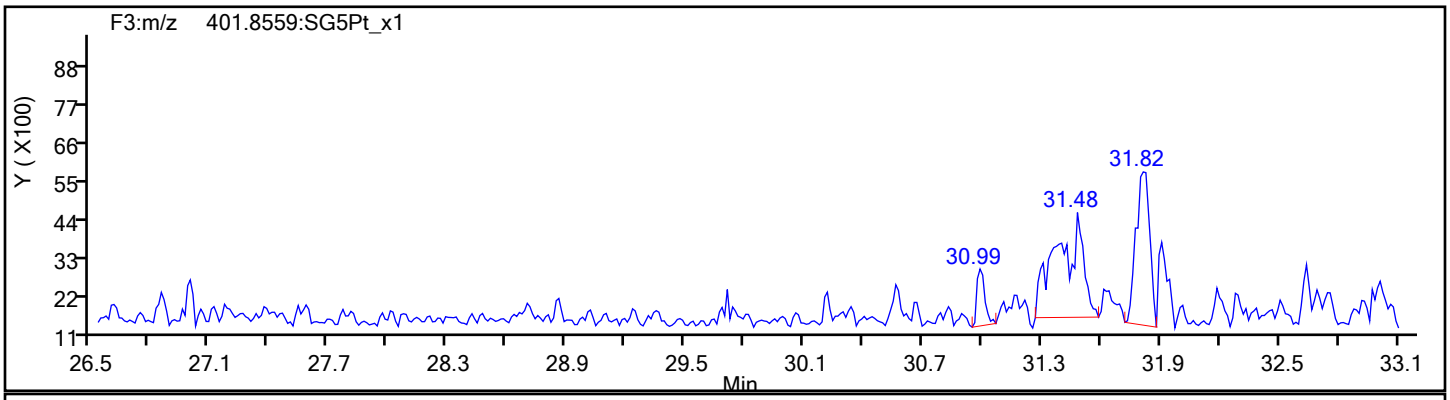

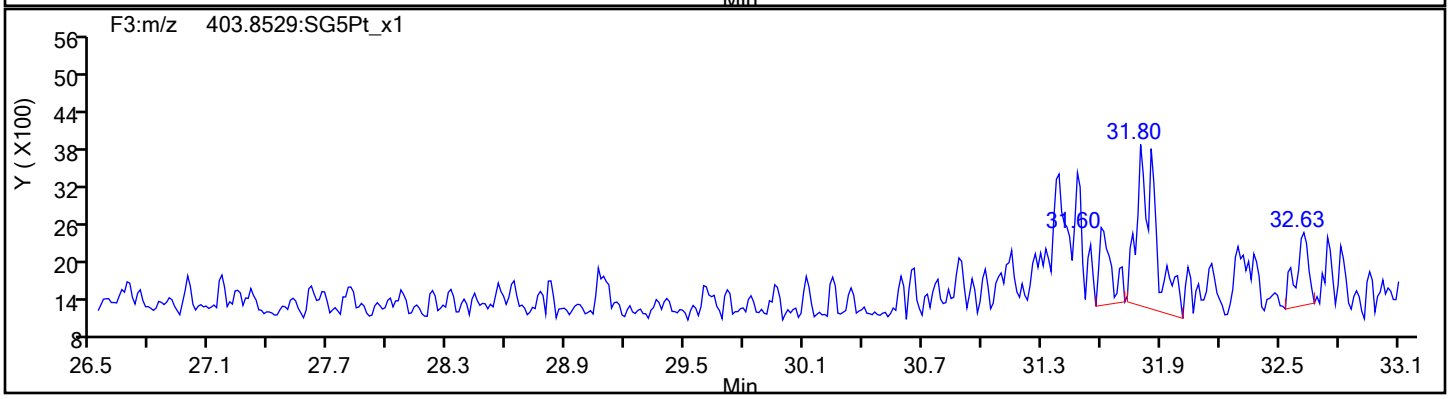

Report Date: 30-Jan-2020 09:10:44 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d		
Injection Date:	30-Jan-2020 00:17:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

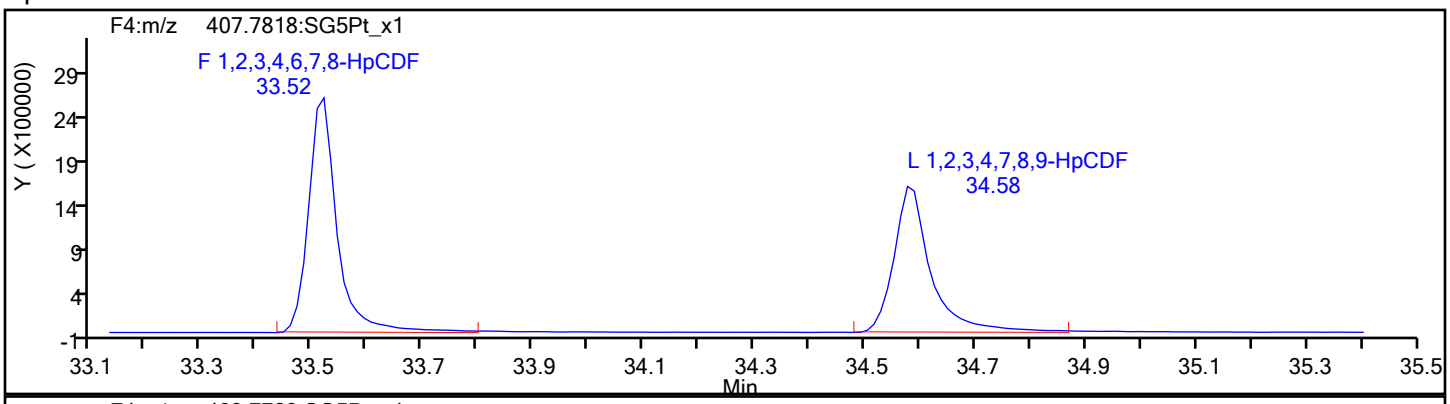

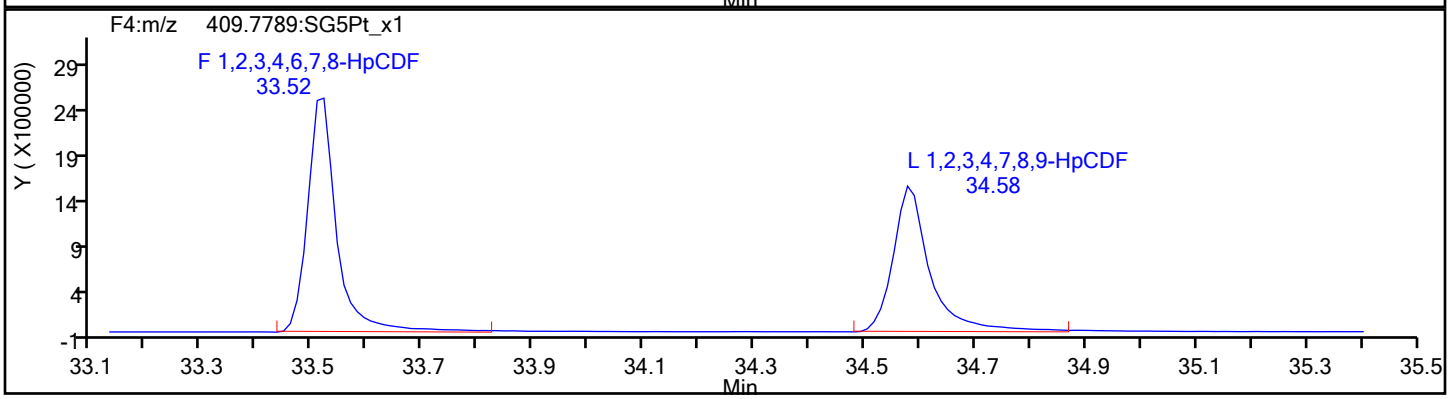

HpCDF Standards

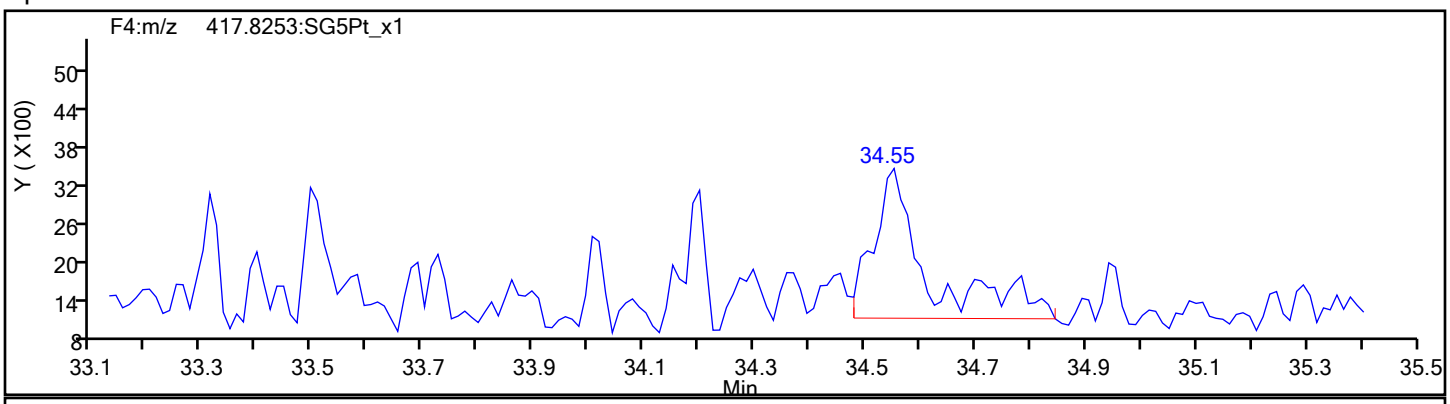

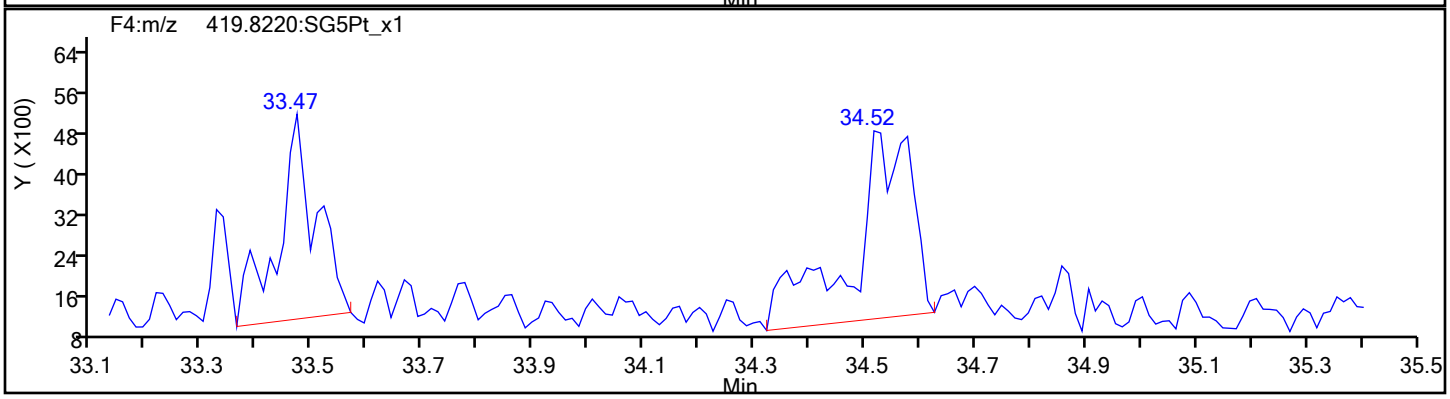

Report Date: 30-Jan-2020 09:10:44 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d		
Injection Date:	30-Jan-2020 00:17:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

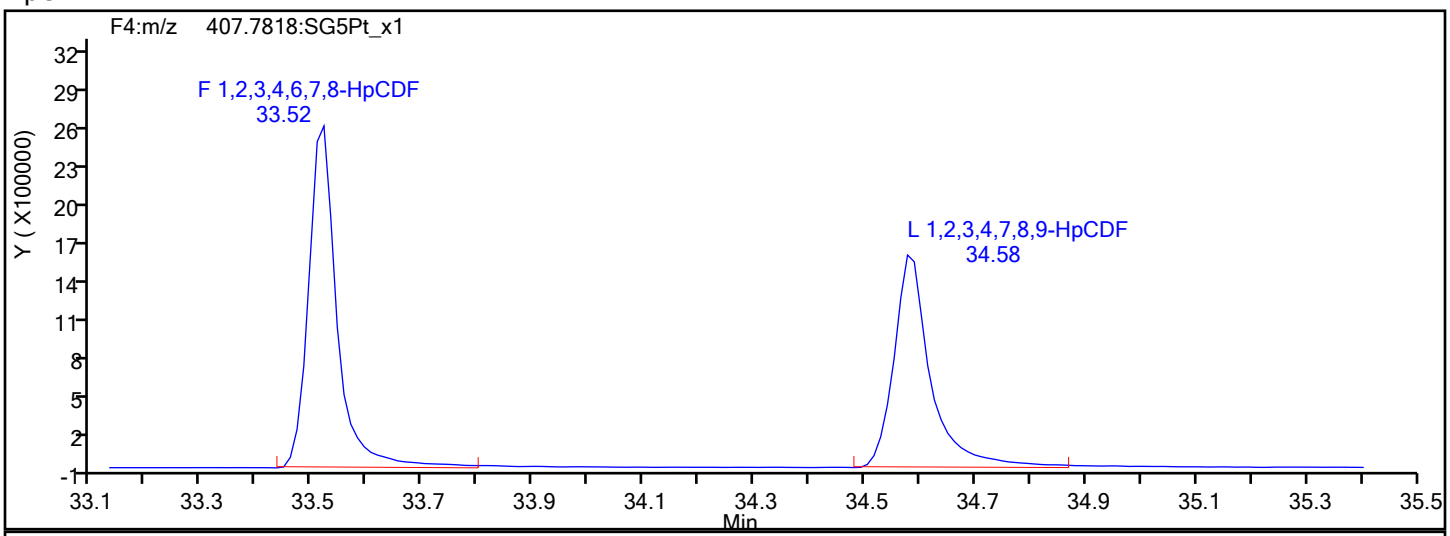

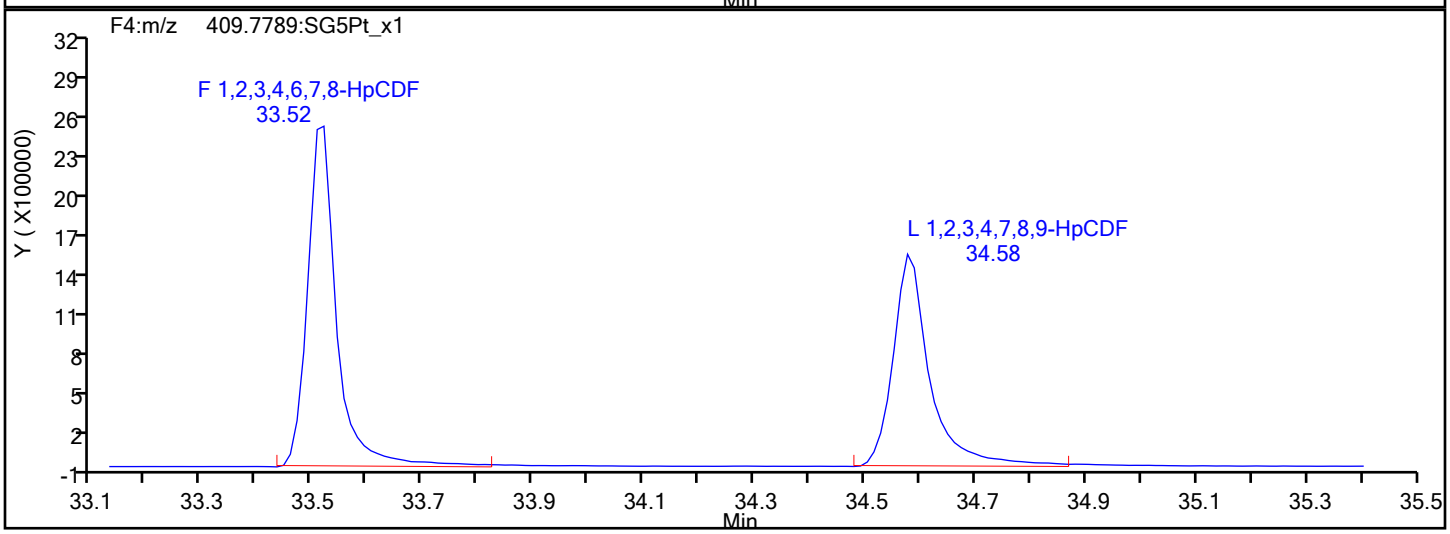

HpCDF Interference Mass

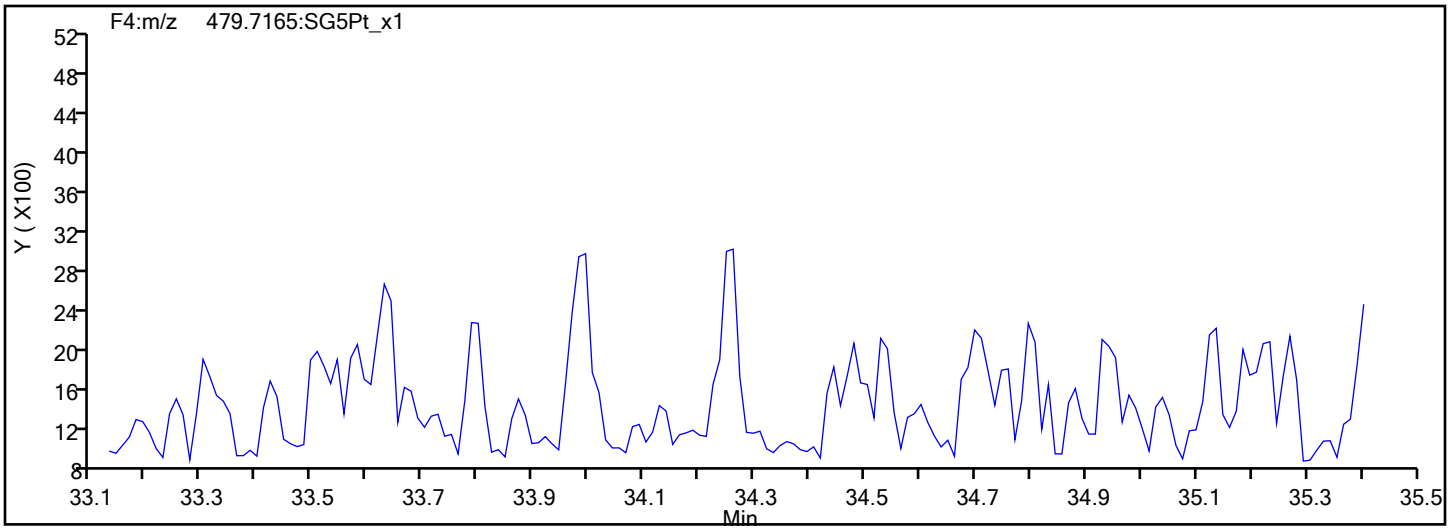

Report Date: 30-Jan-2020 09:10:44 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d		
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Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

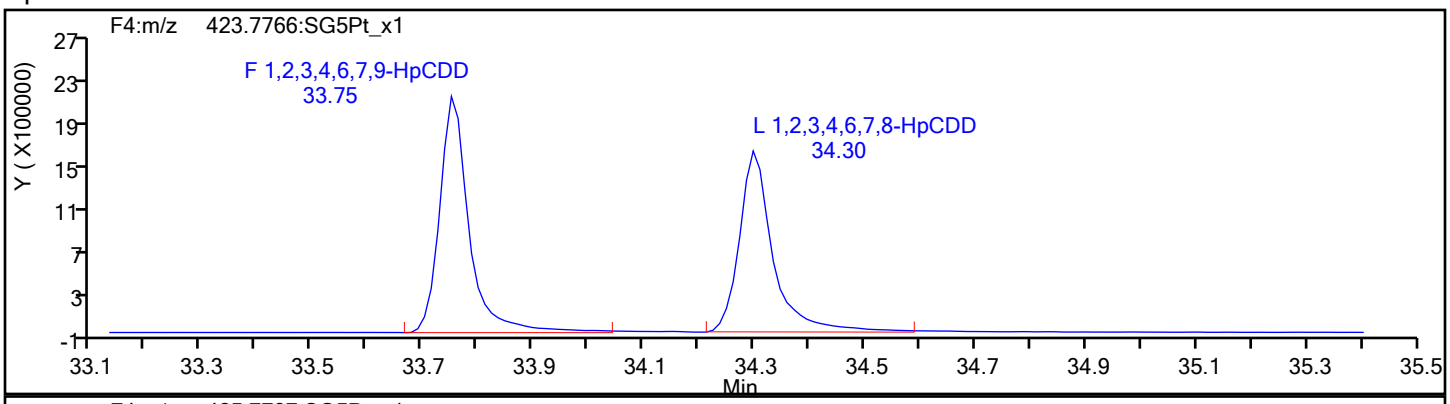

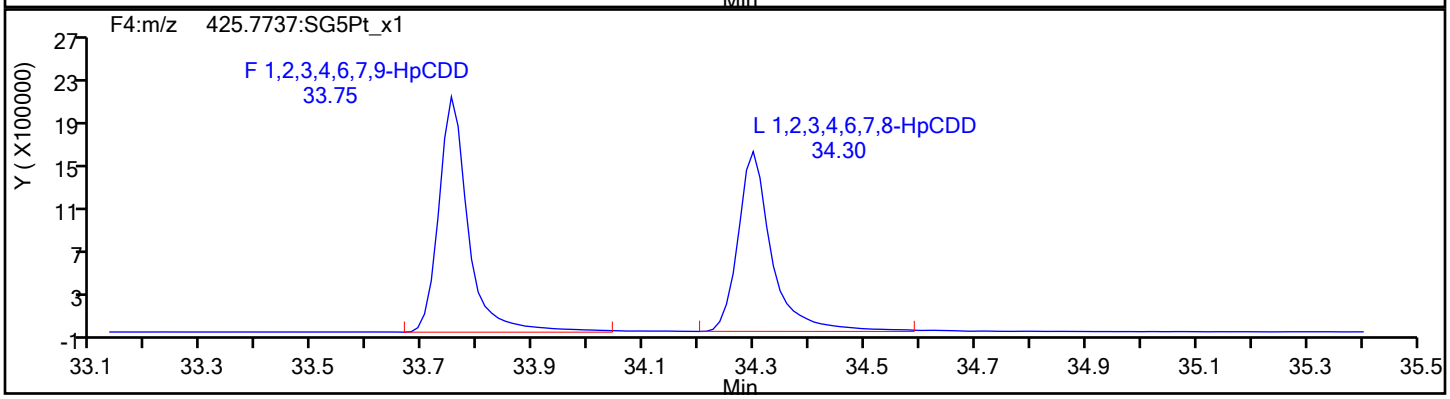

HpCDD Standards

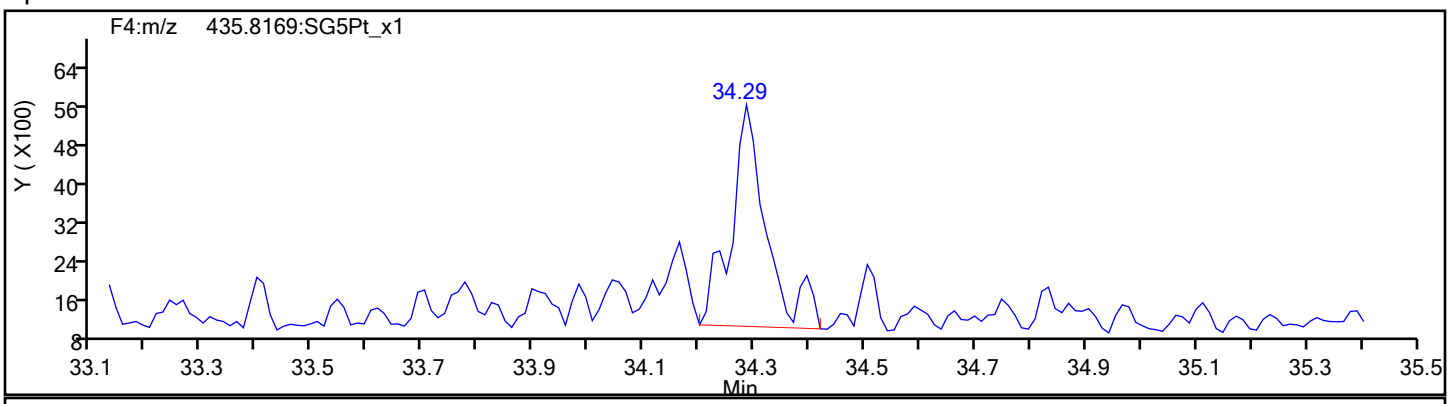

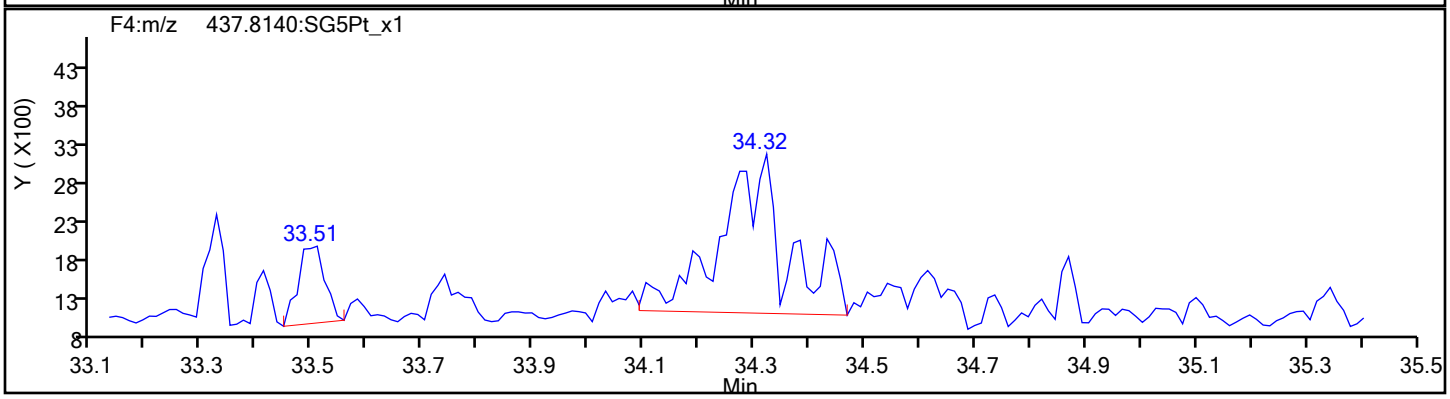

Report Date: 30-Jan-2020 09:10:44 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d		
Injection Date:	30-Jan-2020 00:17:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

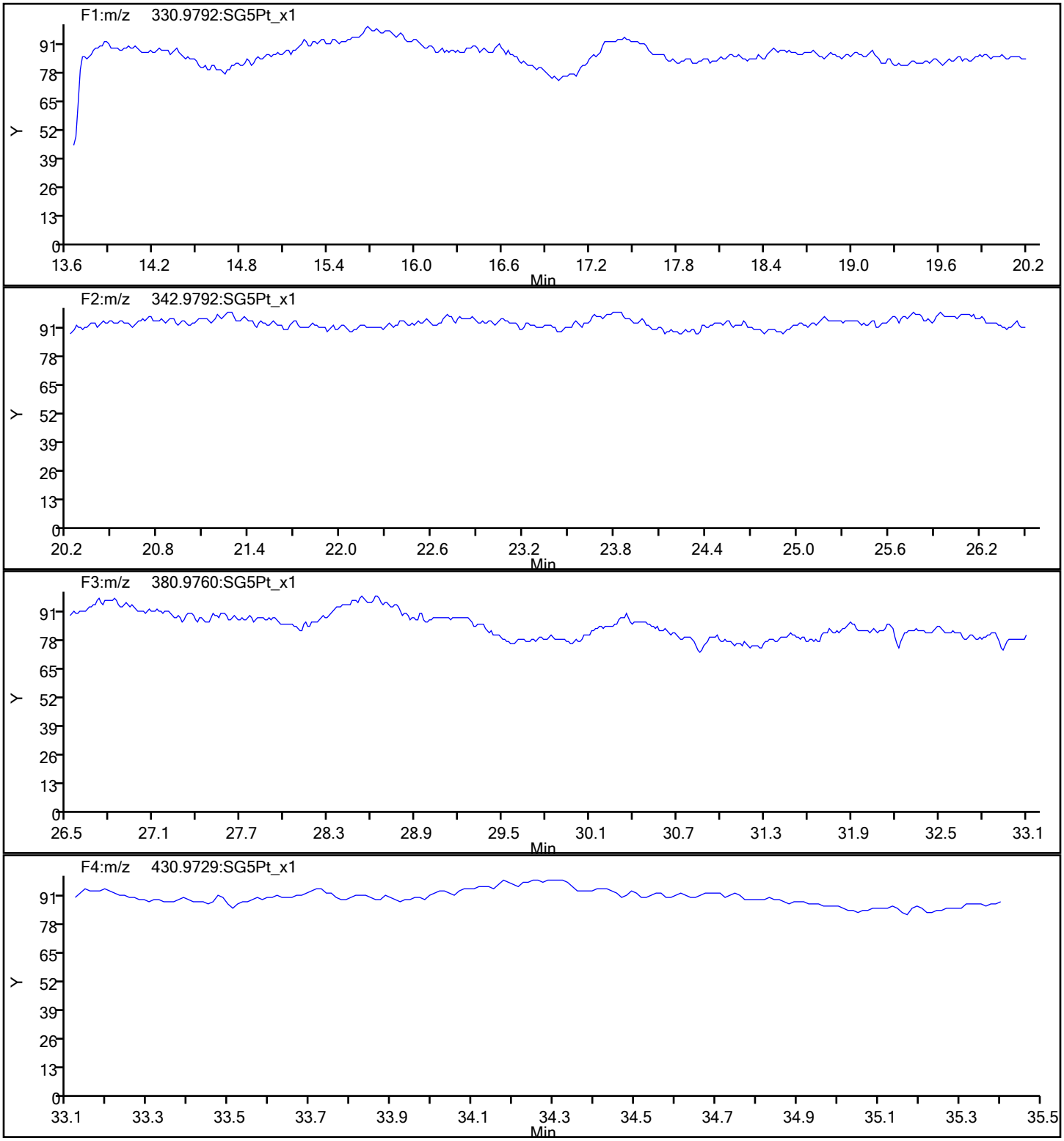

Report Date: 30-Jan-2020 09:10:44 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d		
Injection Date:	30-Jan-2020 00:17:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

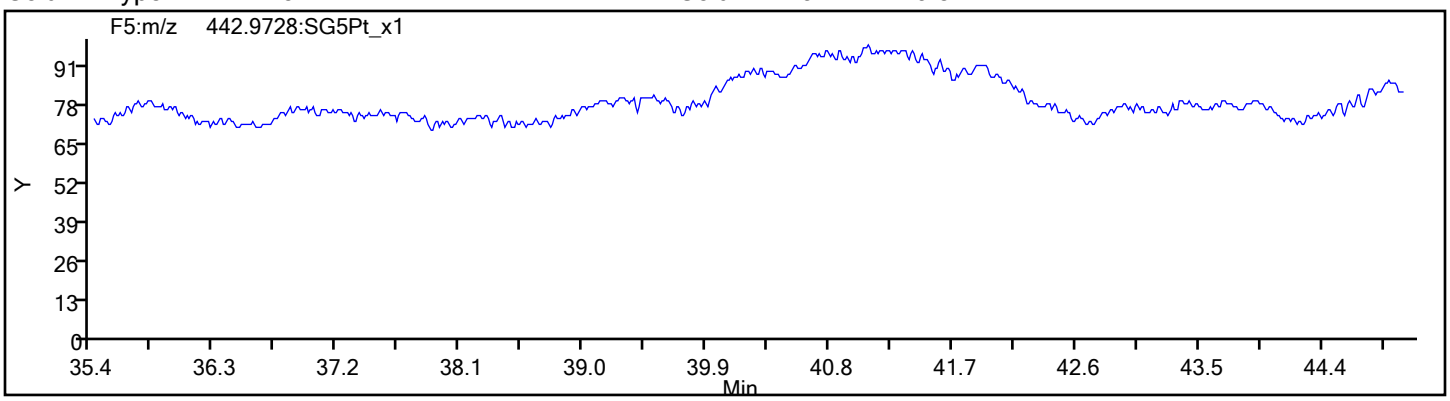

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_1.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 05-Feb-2020 15:31:59 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 020520 WDM HRDXNCP_00040
Misc. Info.: 05FE2010D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 06-Feb-2020 11:22:55 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0323

First Level Reviewer: shardaa Date: 05-Feb-2020 17:35:39

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	16.849	31745166	0.77	1.1275					0.00	
2,3,7,8-TCDF	16.864	56877027	0.73	0.7675	93.4	93.4	0.7009	0.7009		
A Non-2,3,7,8-sub-TCDF	16.569						0.7009	0.7009		
S Total TCDF					93.4	93.4	0.7009	0.7009		
D 13C-2,3,7,8-TCDD	17.529	23237426	0.78	0.9032					0.00	
2,3,7,8-TCDD	17.544	25239609	0.78	0.9599	45.3	45.3	0.4262	0.4262		
A Non-2,3,7,8-sub-TCDD	17.000						0.4262	0.4262		
S Total TCDD					45.3	45.3	0.4262	0.4262		
A F1 PeCDFs	19.329						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	22.336	87413	1.55	0.0000						RQ
S Total PeCDF										RQ
A Non-2,3,7,8-sub-PeCDD	22.580						0.0	0.0		
S Total PeCDD										
A Non-2,3,7,8-sub-HxCDF	29.529						0.0	0.0		
S Total HxCDF										
A Non-2,3,7,8-sub-HxCDD	30.108	151687	1.35	0.0000						
S Total HxCDD										
1,2,3,4,6,7,8-HpCDF	33.484	20879547	1.03	1.3375						
1,2,3,4,7,8,9-HpCDF	34.553	15656356	1.05	1.0744						
A Non-2,3,7,8-sub-HpCDF	34.018						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	34.261	14444508	1.04	0.9811						
A Non-2,3,7,8-sub-HpCDD	33.988						0.0	0.0		
S Total HpCDD										
1,3,6,8-TCDF	14.535	30421936	0.74							
1,3,6,8-TCDD	15.412	25102103	0.75							
2,3,4,7-TCDF	16.864	56877027	0.73							
1,2,3,7-TCDD	17.423	20559597	0.77							
1,2,3,9-TCDF	17.695	24791475	0.75							
1,2,3,9-TCDD	17.695	27817470	0.77							

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,8,9-TCDD	18.587	10084860								
1,2,8,9-TCDF	18.603	24898376	0.73							
1,3,4,6,8-PeCDF	18.875	29615876	1.59							
1,2,4,7,9-PeCDD	20.562	20104525	1.58							
1,2,3,8,9-PeCDD	24.599	18865366	1.53							
1,2,3,8,9-PeCDF	24.817	20852769	1.56							
1,2,3,4,6,8-HxCDF	27.007	16722805	1.22							
1,2,4,6,7,9-HxCDD	28.511	16527163	1.23							
1,2,3,4,6,7-HxCDD	31.705	16266765	1.25							
1,2,3,4,8,9-HxCDF	32.051	15852499	1.22							
1,2,3,4,6,7,9-HpCDD	33.715	16875118	1.05							

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNCP_00040 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_1.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 05-Feb-2020 15:31:59 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 020520 WDM HRDXNCP_00040
Misc. Info.: 05FE2010D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 06-Feb-2020 11:22:55 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0323

First Level Reviewer: shardaa Date: 05-Feb-2020 17:35:39

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	16.849	16.849	0	1.000	13774467	3326361	6167	15417	539		
317.9389	16.849	16.849	0	1.000	17970699	4325056	7277	18192	594	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.864	16.864	0	1.001	24033915	5191645	16598	41495	313		
305.8987	16.864	16.864	0	1.001	32843112	7198660	24564	61410	293	0.73(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.569						16598	41495			
305.8987	16.569						24564	61410			
13C-2,3,7,8-TCDD											
331.9368	17.529	17.529	0	1.000	10202290	2248742	3422	8555	657		
333.9339	17.514	17.529	-1	1.000	13035136	2850608	2870	7175	993	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.544	17.544	0	1.001	11066785	2535298	11598	28995	219		
321.8936	17.544	17.544	0	1.001	14172824	3199896	9264	23160	345	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.000						11598	28995			
321.8936	17.000						9264	23160			
A F1 PeCDFs											
339.8597	19.329						1525	3812			
341.8567	19.329						1285	3212			
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	21.708	22.336	-38	1.000	75839	9519	2564	6410	4		
341.8567	21.708	22.336	-38	1.000	34280	6761	1867	4667	4	2.21(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.580						4776	11940			
357.8516	22.580						2154	5385			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.529						2878	7195			
375.8178	29.529						2460	6150			
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.388	30.108	17	1.000	87146	10976	2929	7322	4		
391.8127	30.388	30.108	17	1.000	64541	7795	2607	6517	3	1.35(1.05-1.43)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.484	33.484	0	1.000	10605281	2458101	16018	40045	153		
409.7789	33.472	33.484	-1	1.000	10274266	2399033	16733	41832	143	1.03(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.553	34.553	0	1.000	8023569	1315386	16018	40045	82		
409.7789	34.541	34.553	-1	1.000	7632787	1245192	16733	41832	74	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.018						16018	40045			
409.7789	34.018						16733	41832			
1,2,3,4,6,7,8-HpCDD											
423.7766	34.261	34.261	0	1.000	7381046	1390945	15899	39747	87		
425.7737	34.261	34.261	0	1.000	7063462	1401150	15571	38927	90	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.988						15899	39747			
425.7737	33.988						15571	38927			
1,3,6,8-TCDF											
303.9016	14.535	14.535	0		12931639	3880015	16598	41495	234		
305.8987	14.535	14.535	0		17490297	5265206	24564	61410	214	0.74(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	15.412	15.412	0		10762935	2966477	11598	28995	256		
321.8936	15.412	15.412	0		14339168	3985262	9264	23160	430	0.75(0.65-0.89)	
2,3,4,7-TCDF											
303.9016	16.864	16.864	0		24033915	5191645	16598	41495	313		
305.8987	16.864	16.864	0		32843112	7198660	24564	61410	293	0.73(0.65-0.89)	
1,2,3,7-TCDD											
319.8965	17.423	17.423	0		8920659	2290268	11598	28995	197		
321.8936	17.423	17.423	0		11638938	2966859	9264	23160	320	0.77(0.65-0.89)	
1,2,3,9-TCDF											
303.9016	17.695	17.695	0		10605739	2385437	16598	41495	144		
305.8987	17.680	17.695	-1		14185736	3201448	24564	61410	130	0.75(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	17.695	17.695	0		12072107	2545533	11598	28995	219		
321.8936	17.695	17.695	0		15745363	3260511	9264	23160	352	0.77(0.65-0.89)	
1,2,8,9-TCDD											
319.8965	18.587	18.587	0		10084860	2076595	11598	28995	179		
1,2,8,9-TCDF											
303.9016	18.603	18.603	0		10508840	2223764	16598	41495	134		
305.8987	18.603	18.603	0		14389536	3015448	24564	61410	123	0.73(0.65-0.89)	
1,3,4,6,8-PeCDF											
339.8597	18.875	18.875	0		18199707	3698220	1525	3812	2425		
341.8567	18.860	18.875	-1		11416169	2325137	1285	3212	1809	1.59(1.32-1.78)	

Report Date: 06-Feb-2020 11:22:55 Chrom Revision: 2.3 14-Jan-2020 22:23:42
Data File: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_1.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,4,7,9-PeCDD											
355.8546	20.562	20.562	0		12315336	1997083	4776	11940	418		
357.8516	20.562	20.562	0		7789189	1246077	2154	5385	578	1.58(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	24.599	24.599	0		11422827	1450287	4776	11940	304		
357.8516	24.599	24.599	0		7442539	922509	2154	5385	428	1.53(1.32-1.78)	
1,2,3,8,9-PeCDF											
339.8597	24.817	24.817	0		12710207	1491197	2564	6410	582		
341.8567	24.817	24.817	0		8142562	948517	1867	4667	508	1.56(1.32-1.78)	
1,2,3,4,6,8-HxCDF											
373.8208	27.007	27.007	0		9182381	1006986	2878	7195	350		
375.8178	26.993	27.007	-1		7540424	836603	2460	6150	340	1.22(1.05-1.43)	
1,2,4,6,7,9-HxCDD											
389.8157	28.511	28.511	0		9123883	916069	2929	7322	313		
391.8127	28.511	28.511	0		7403280	752608	2607	6517	289	1.23(1.05-1.43)	
1,2,3,4,6,7-HxCDD											
389.8157	31.705	31.705	0		9045318	1783117	2929	7322	609		
391.8127	31.705	31.705	0		7221447	1425333	2607	6517	547	1.25(1.05-1.43)	
1,2,3,4,8,9-HxCDF											
373.8208	32.051	32.051	0		8700674	1704903	2878	7195	592		
375.8178	32.051	32.051	0		7151825	1382721	2460	6150	562	1.22(1.05-1.43)	
1,2,3,4,6,7,9-HpCDD											
423.7766	33.715	33.715	0		8628501	1936051	15899	39747	122		
425.7737	33.715	33.715	0		8246617	1837773	15571	38927	118	1.05(0.88-1.20)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Reagents:

HRDXNCP_00040 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_1.d
Lims ID: WDM
Client ID:
Inject. Date: 05-Feb-2020 15:31:59 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 355322 Lims Sample ID: 1

Non-2,3,7,8-sub-PeCDF, RT: 22.336

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	0.898				
2,3,4,7,8-PeCDF	0.810				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
21.708	75839	9519	34280	6761		2.21	R
Signal Totals:							
	75839	9519	34280	6761			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	110119	16280				2.21	RQ
	87413	17240					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (110119 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (87413 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_1.d
Lims ID: WDM
Client ID:
Inject. Date: 05-Feb-2020 15:31:59 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 355322 Lims Sample ID: 1

Non-2,3,7,8-sub-HxCDD, RT: 30.108

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.839				
1,2,3,6,7,8-HxCDD	0.888				
1,2,3,7,8,9-HxCDD	0.957				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
30.388	87146	10976	64541	7795		1.35	
Signal Totals:							
	87146	10976	64541	7795			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	151687	18771				1.35	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (151687 * 0.0) / (0 * 0.000)

Report Date: 06-Feb-2020 11:22:55 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_1.d		
Injection Date:	05-Feb-2020 15:31:59	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355322	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

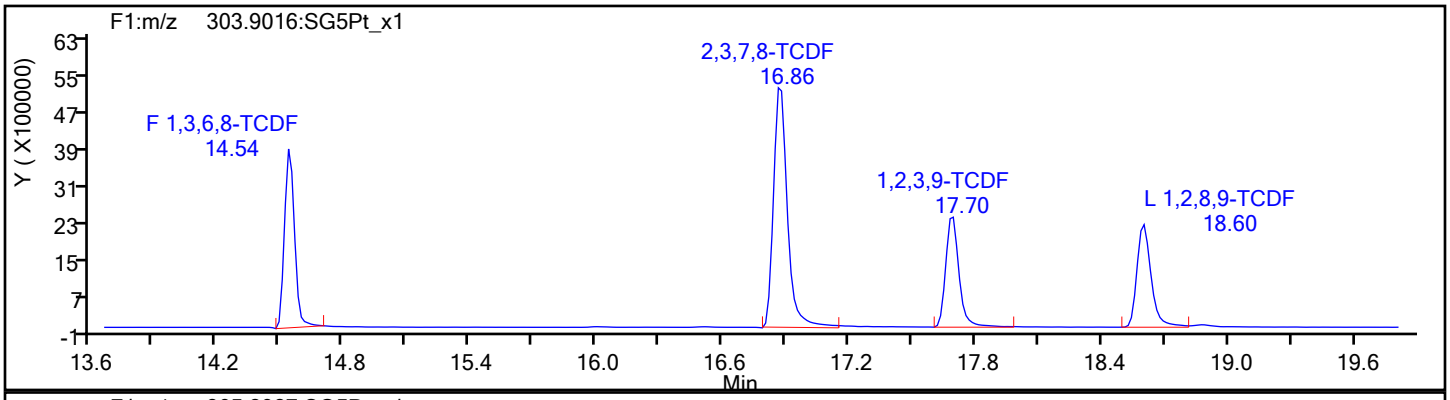

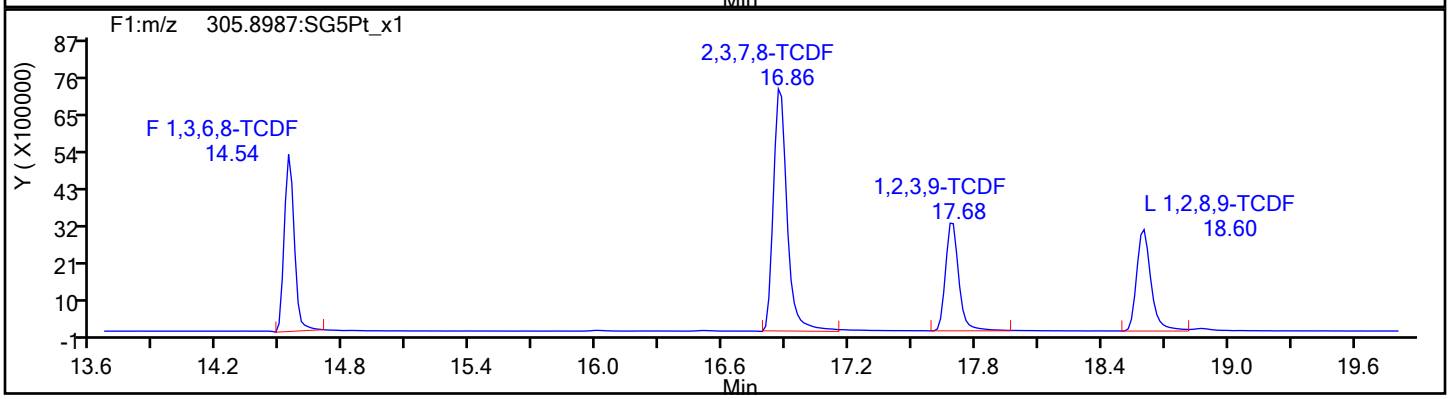

TCDF Standards

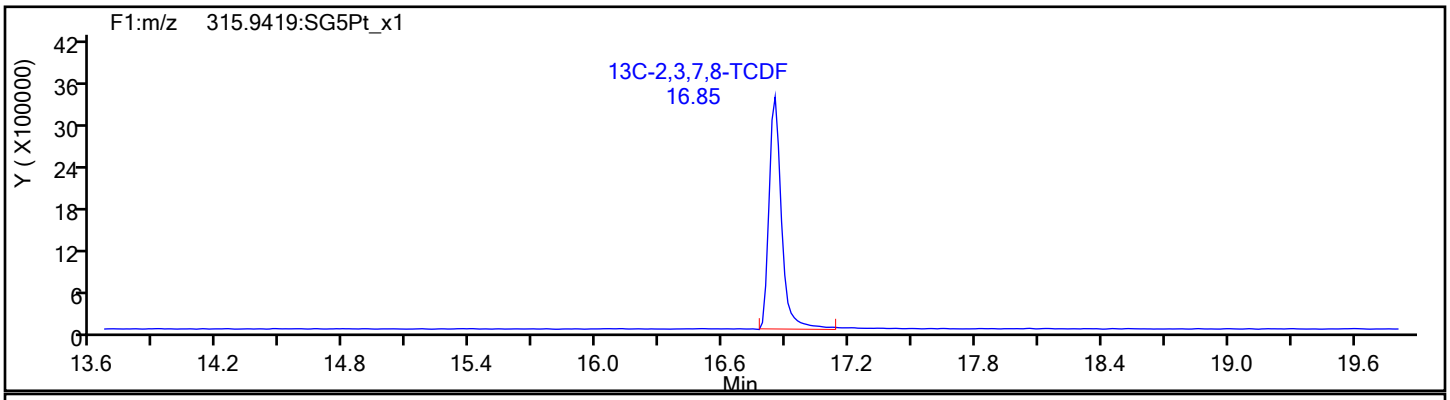

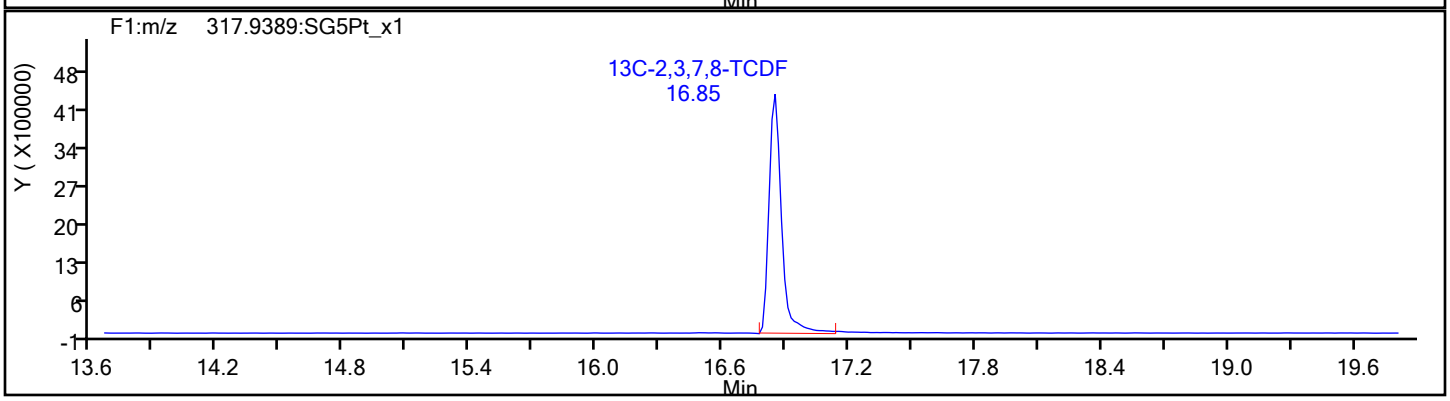

Report Date: 06-Feb-2020 11:22:56 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_1.d		
Injection Date:	05-Feb-2020 15:31:59	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355322	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

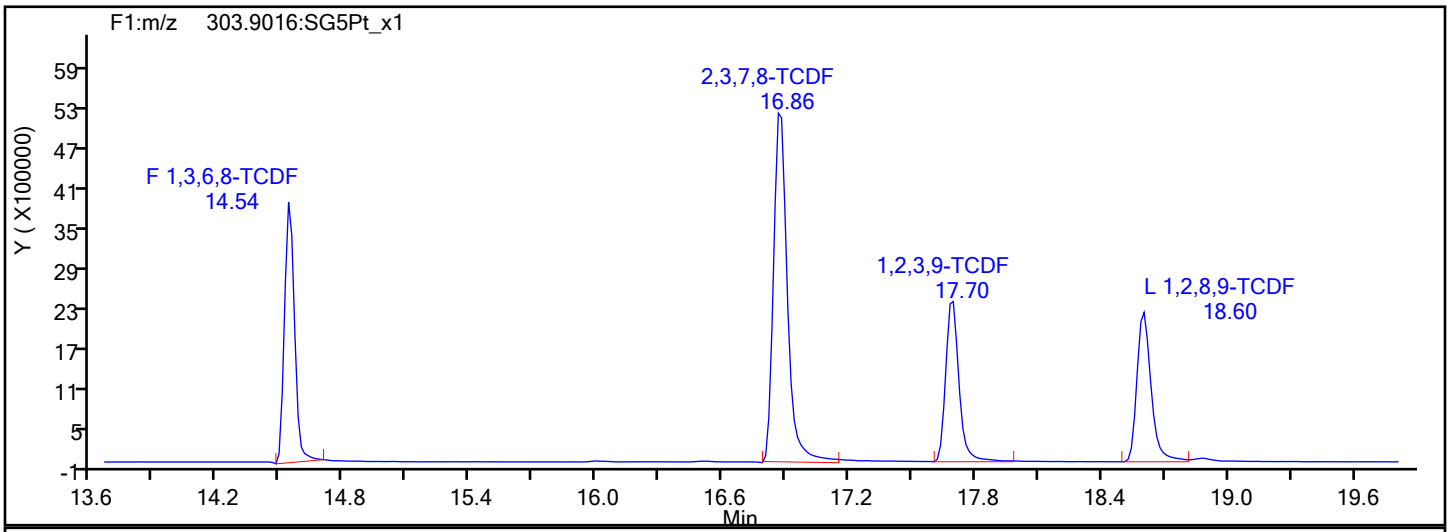

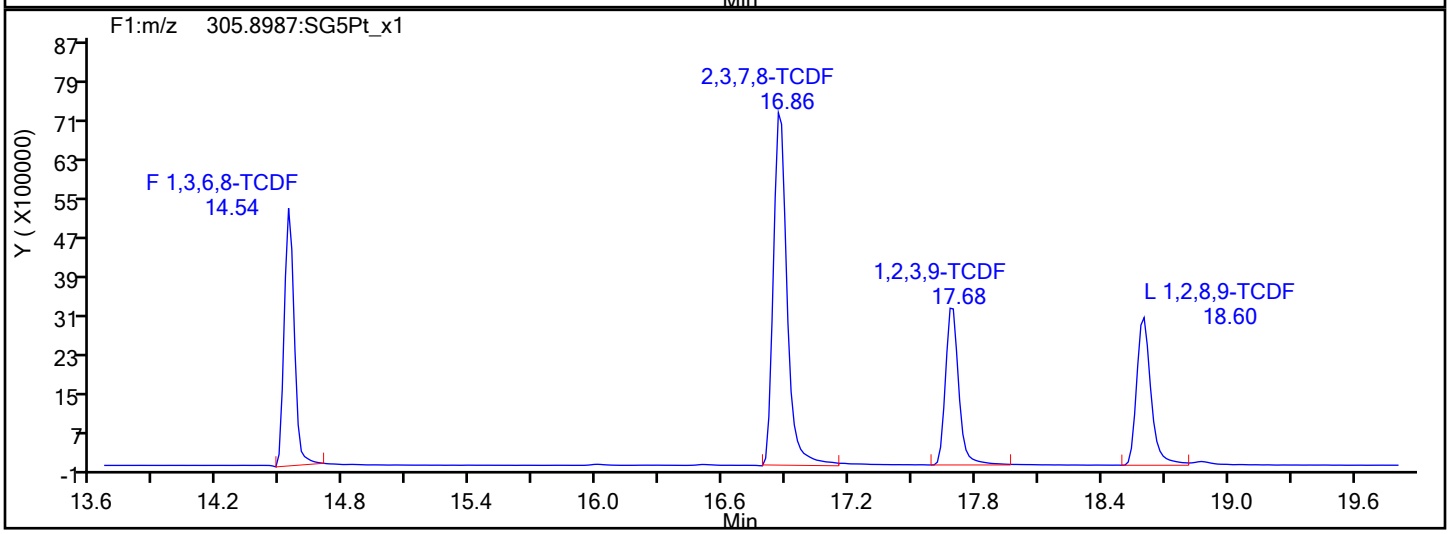

TCDF Interference Mass

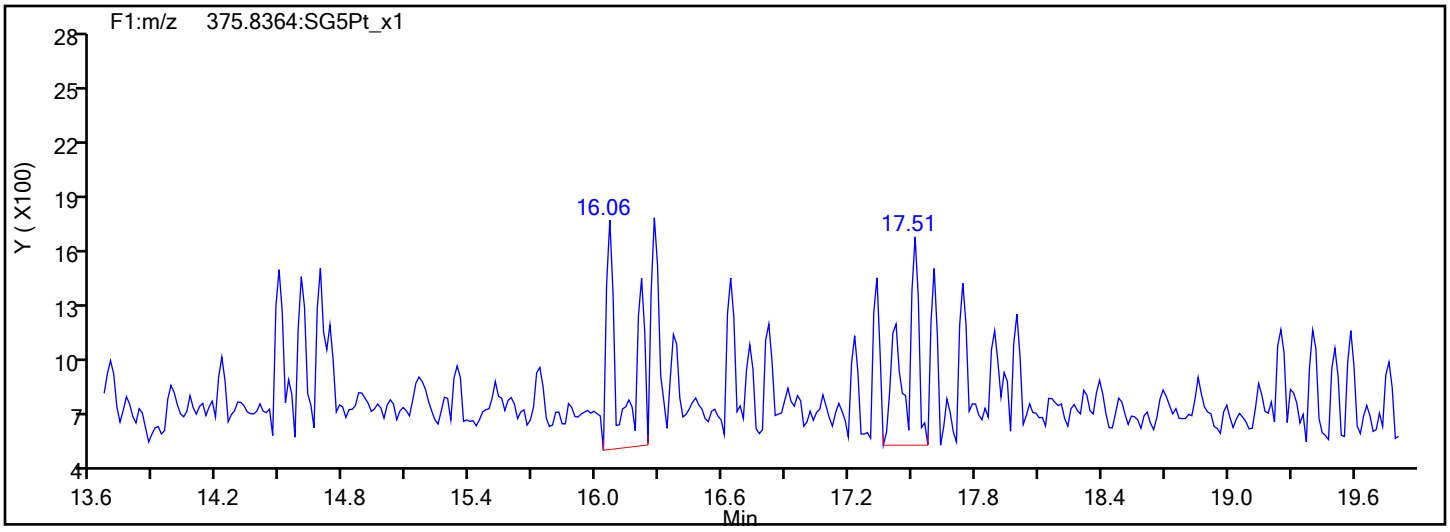

Report Date: 06-Feb-2020 11:22:56 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_1.d		
Injection Date:	05-Feb-2020 15:31:59	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355322	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

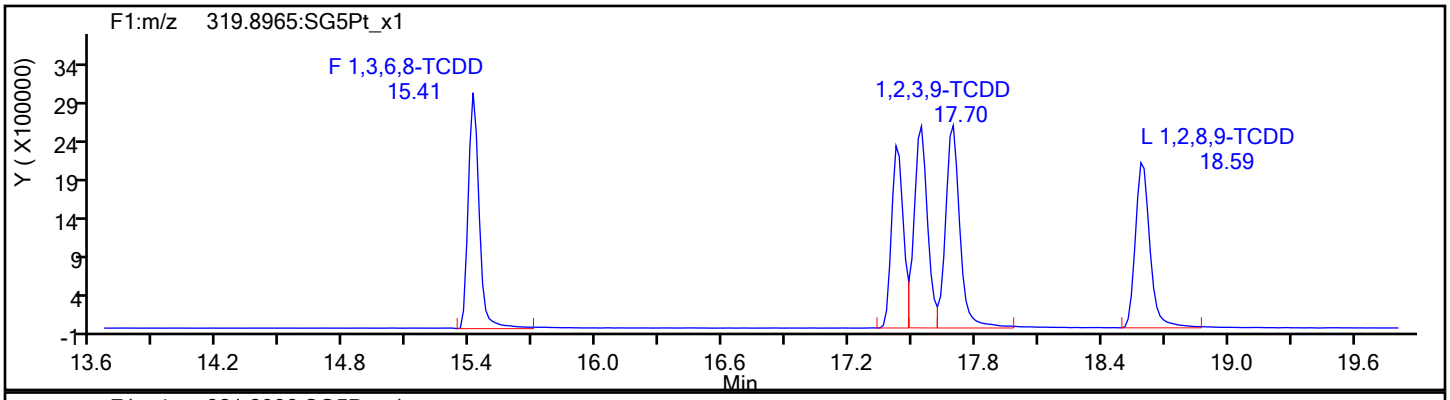

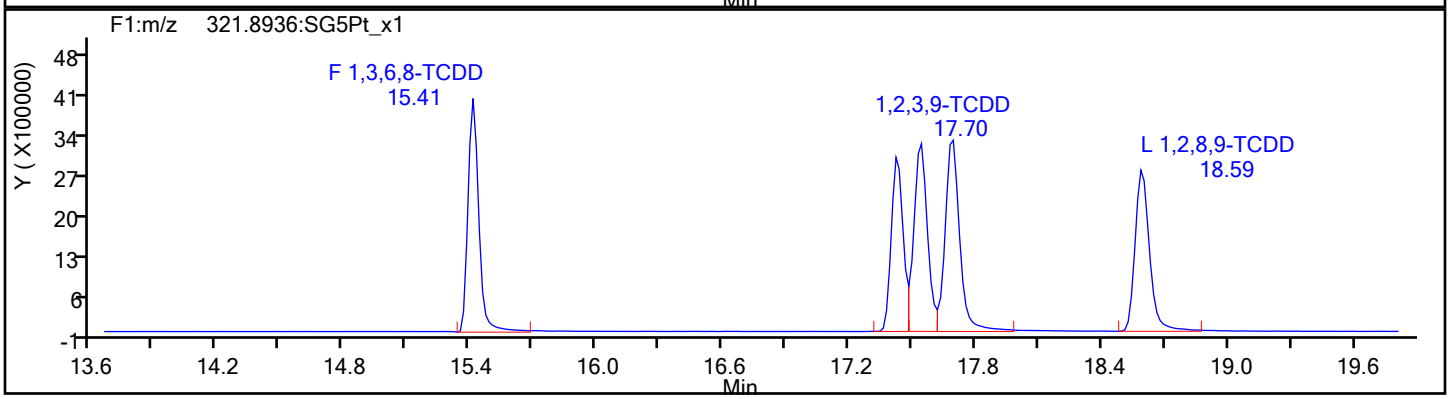

TCDD Standards

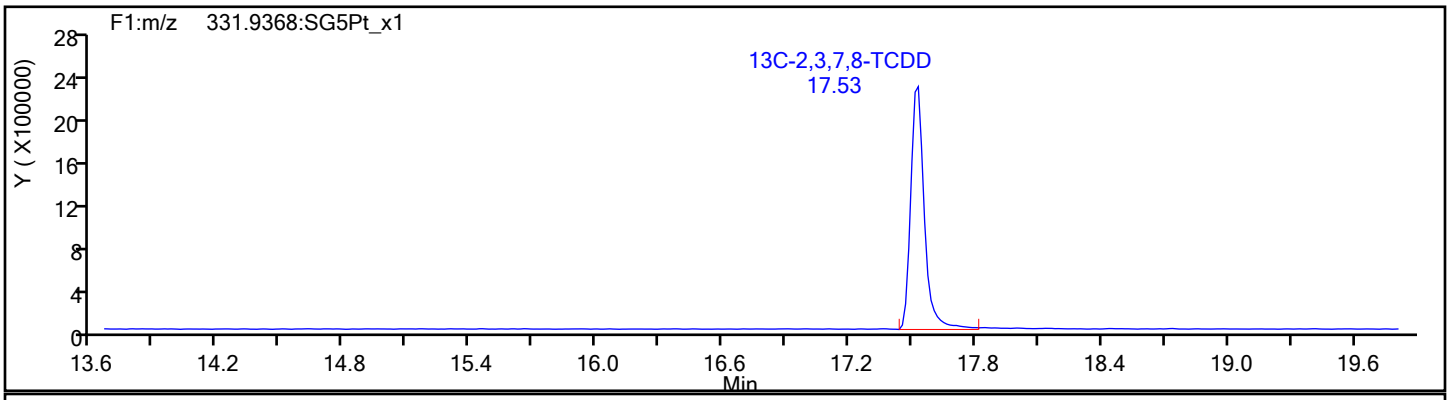

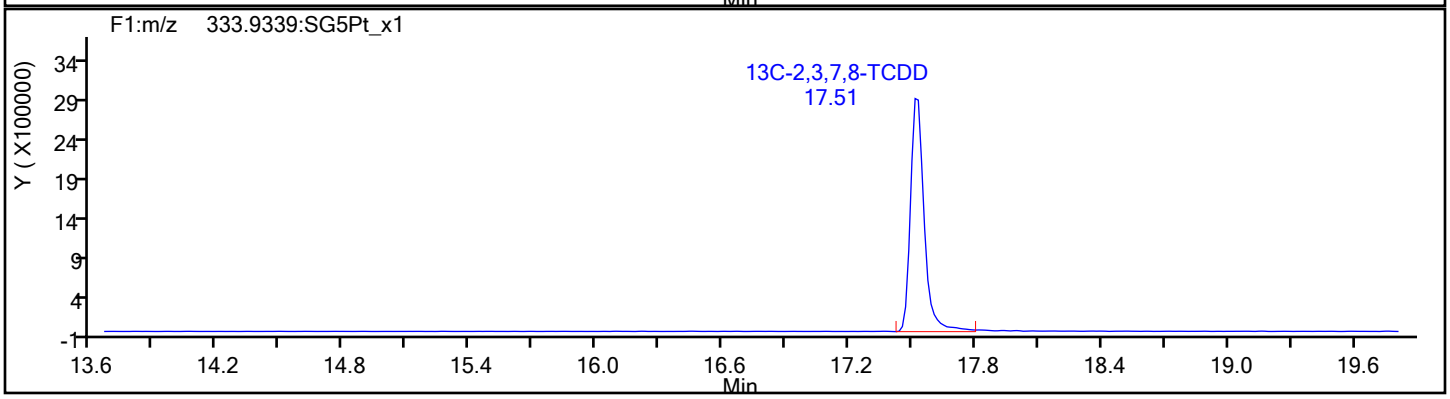

Report Date: 06-Feb-2020 11:22:56 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_1.d		
Injection Date:	05-Feb-2020 15:31:59	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355322	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

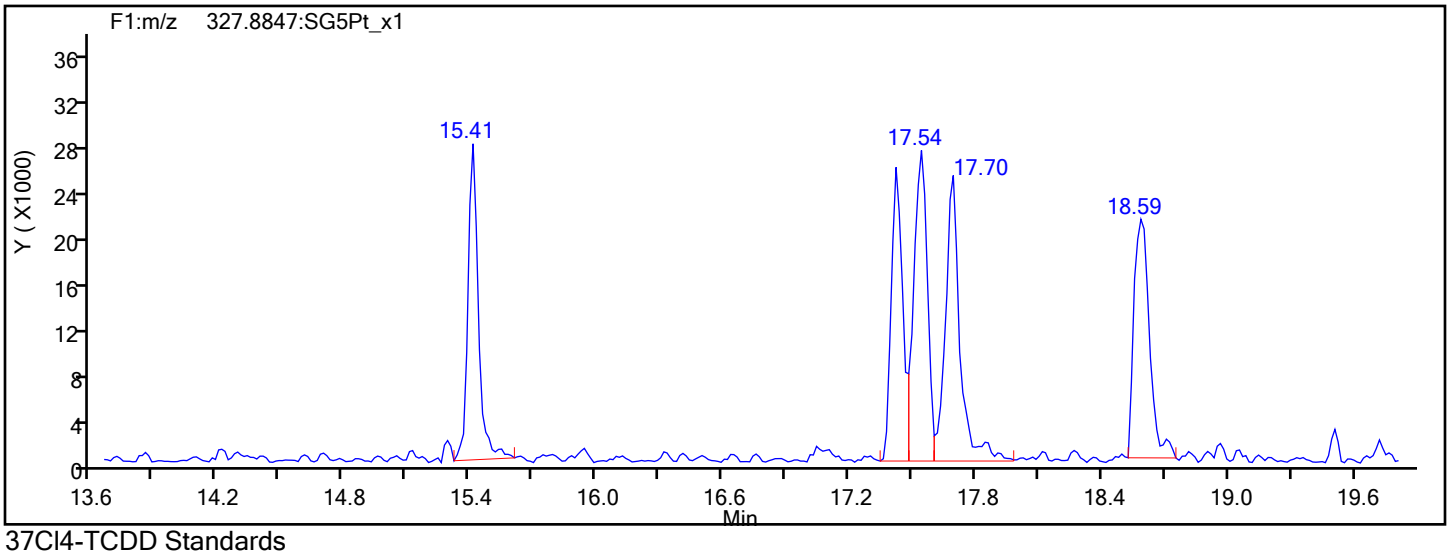

37Cl4-TCDD Standards

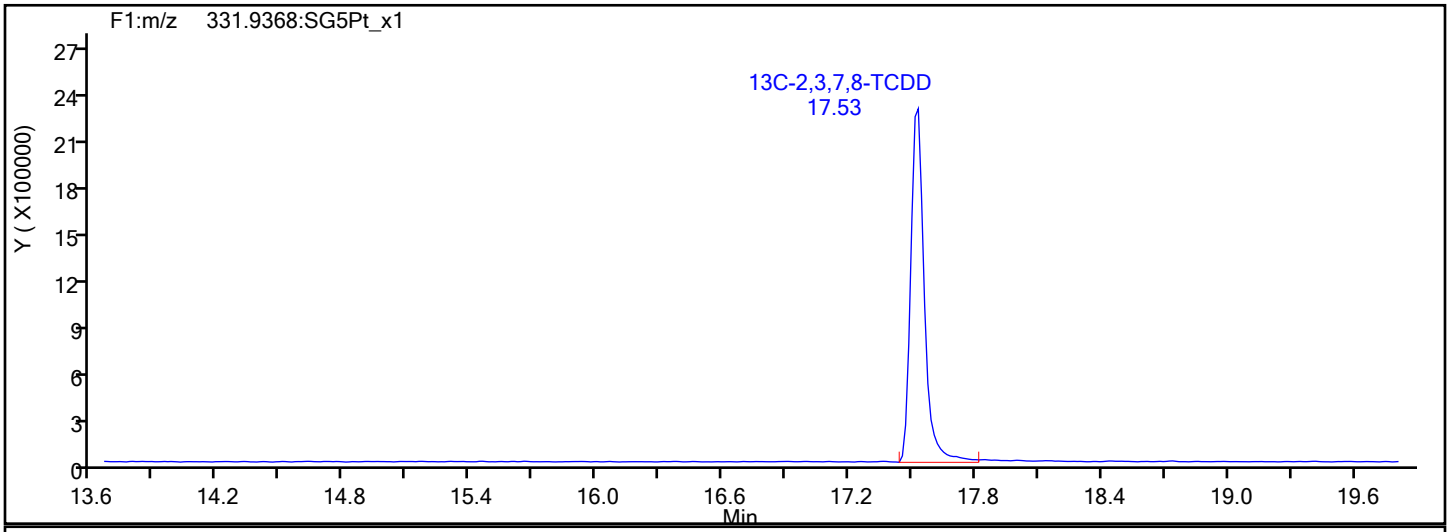

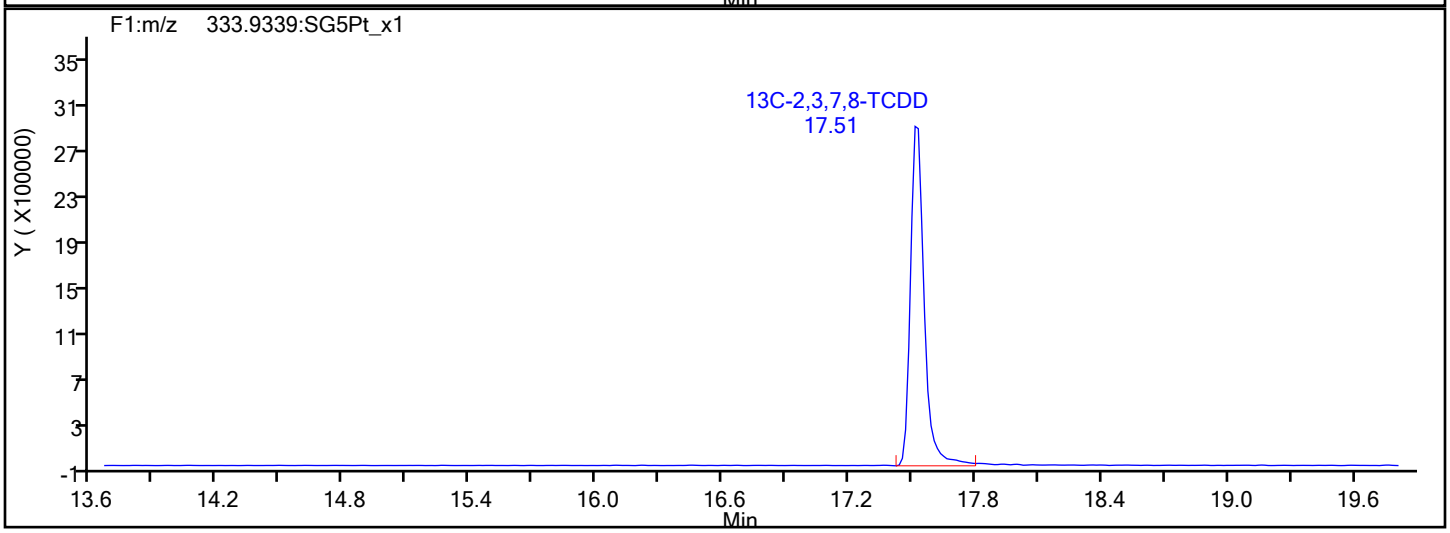

Report Date: 06-Feb-2020 11:22:56 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_1.d		
Injection Date:	05-Feb-2020 15:31:59	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355322	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

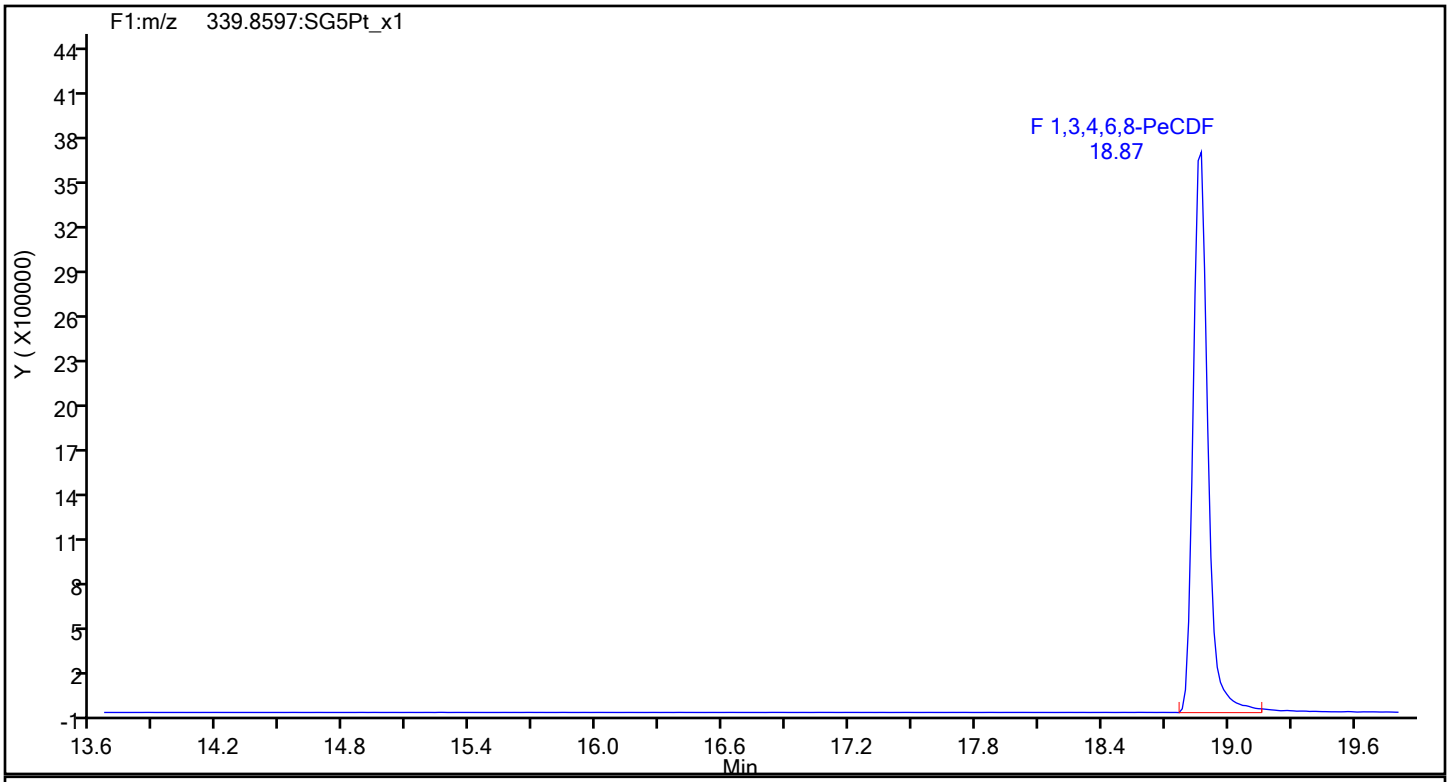

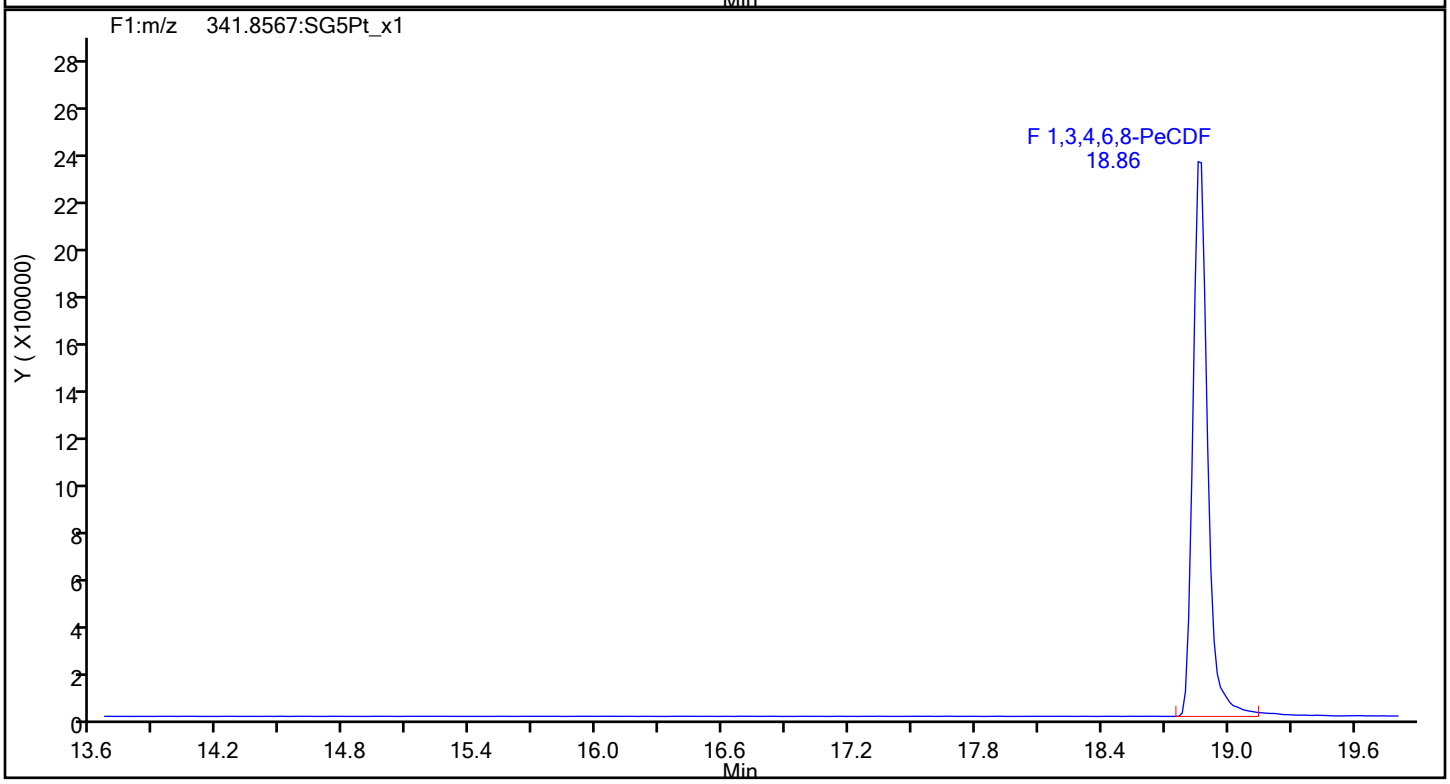

Report Date: 06-Feb-2020 11:22:56 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_1.d		
Injection Date:	05-Feb-2020 15:31:59	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355322	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

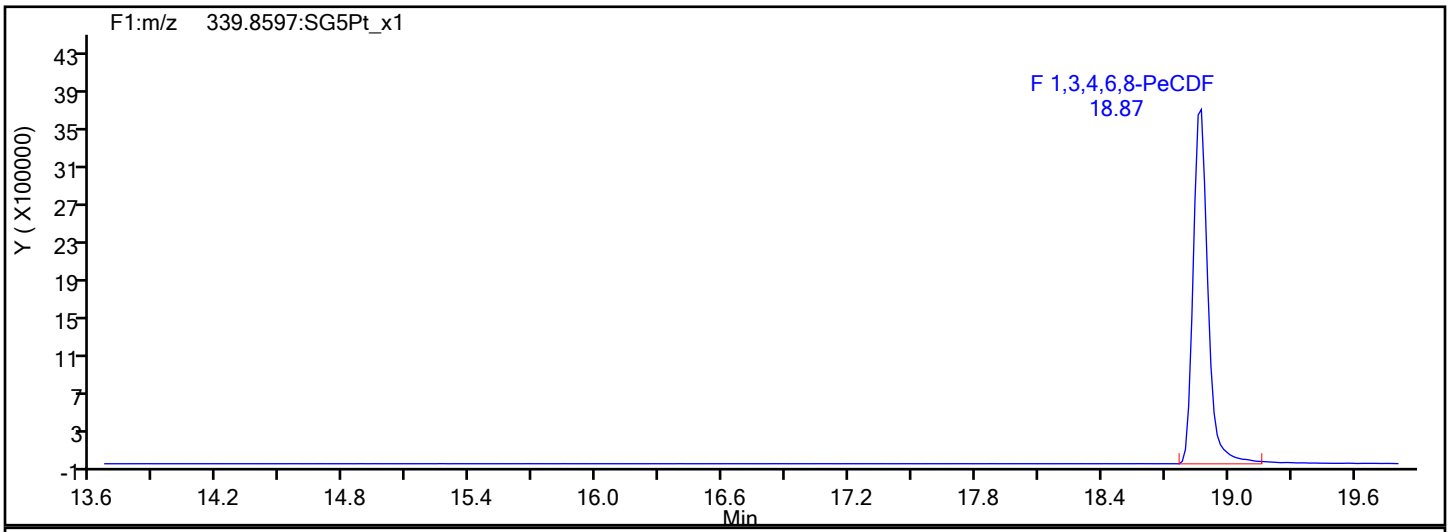

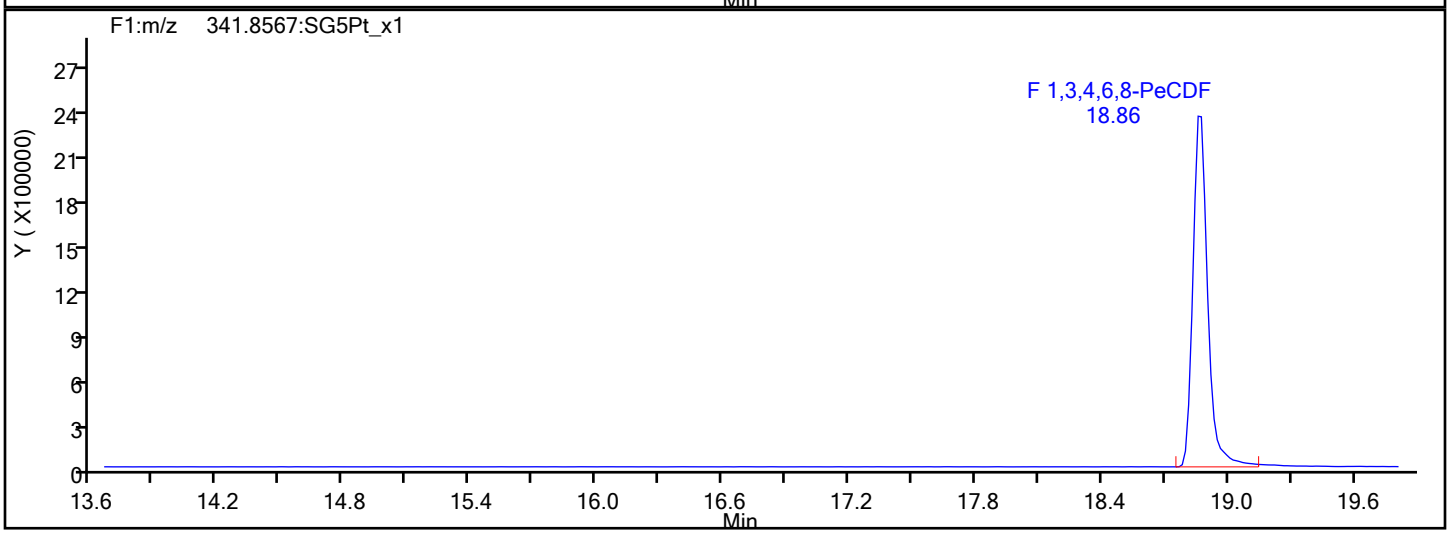

F1 PeCDFs Interference Mass

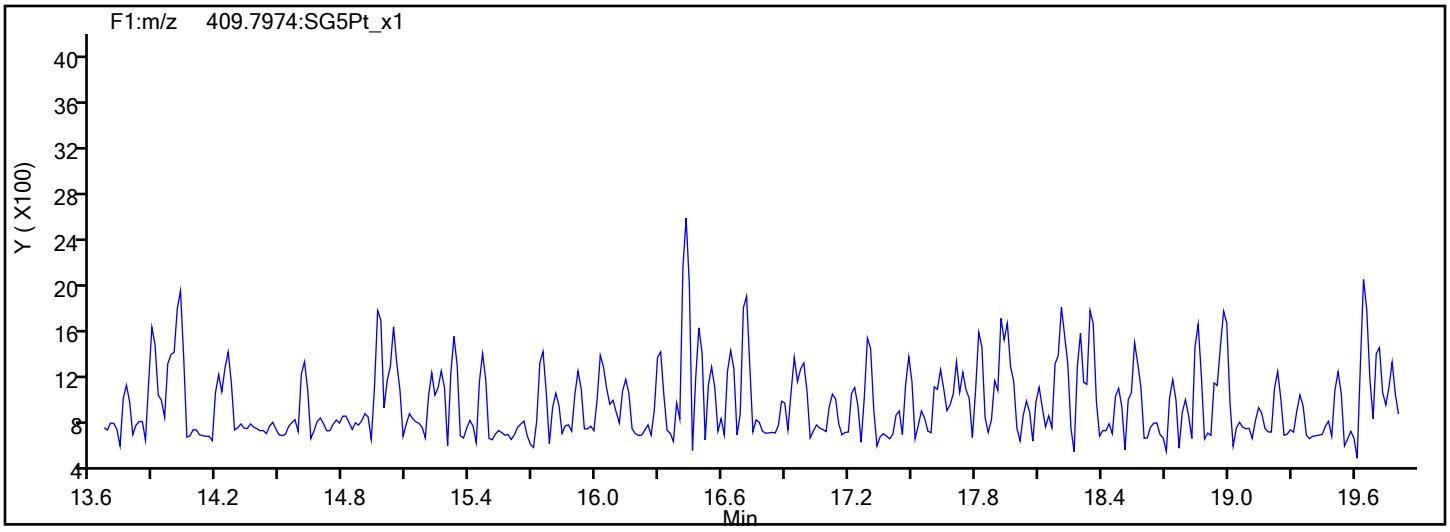

Report Date: 06-Feb-2020 11:22:56 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_1.d		
Injection Date:	05-Feb-2020 15:31:59	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355322	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

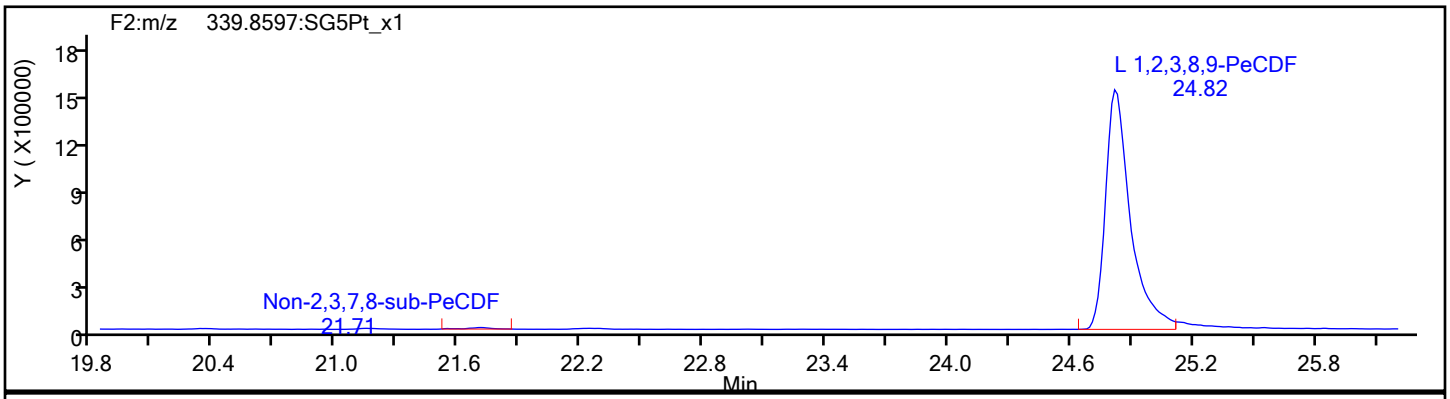

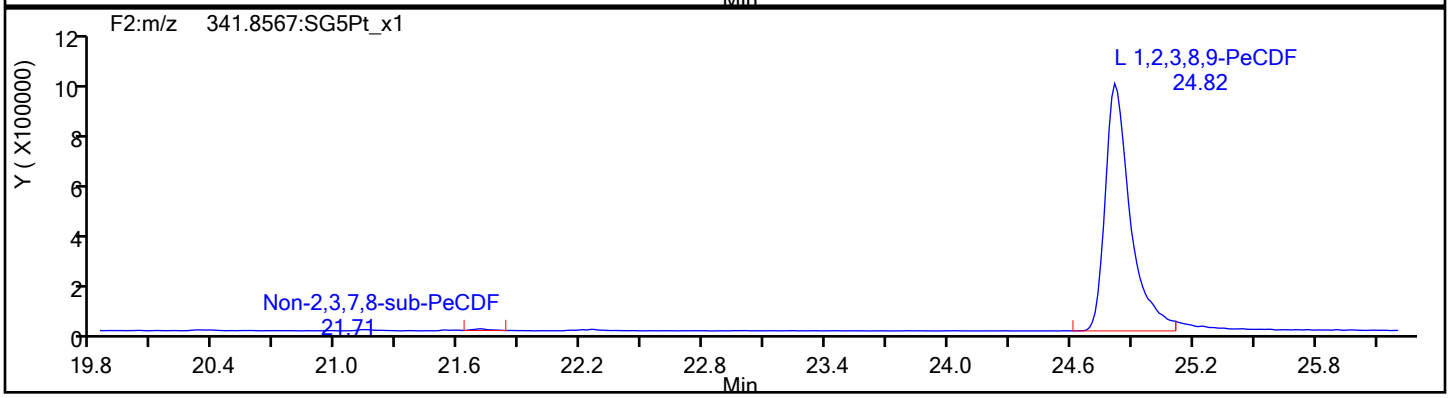

PeCDF Standards

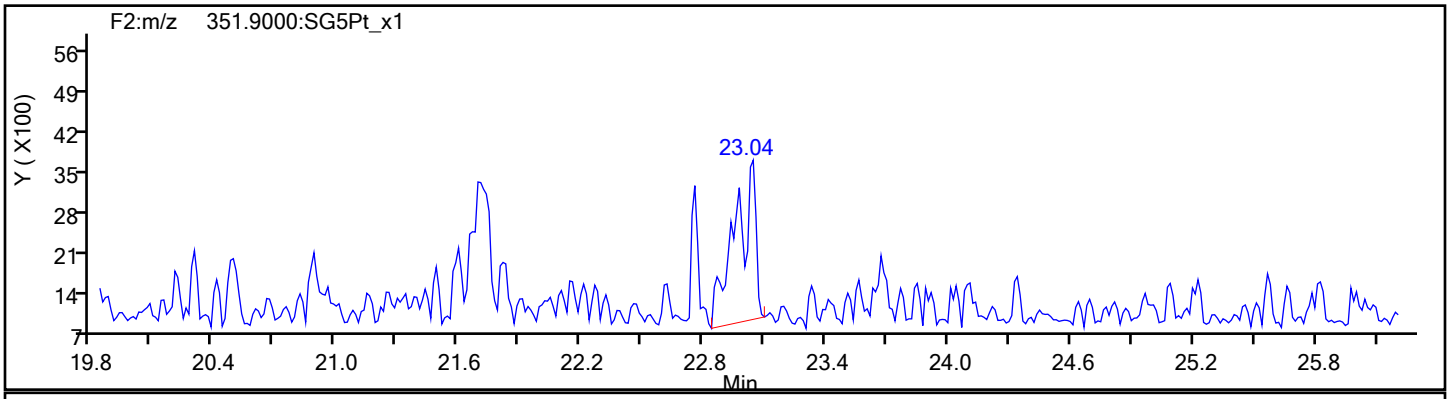

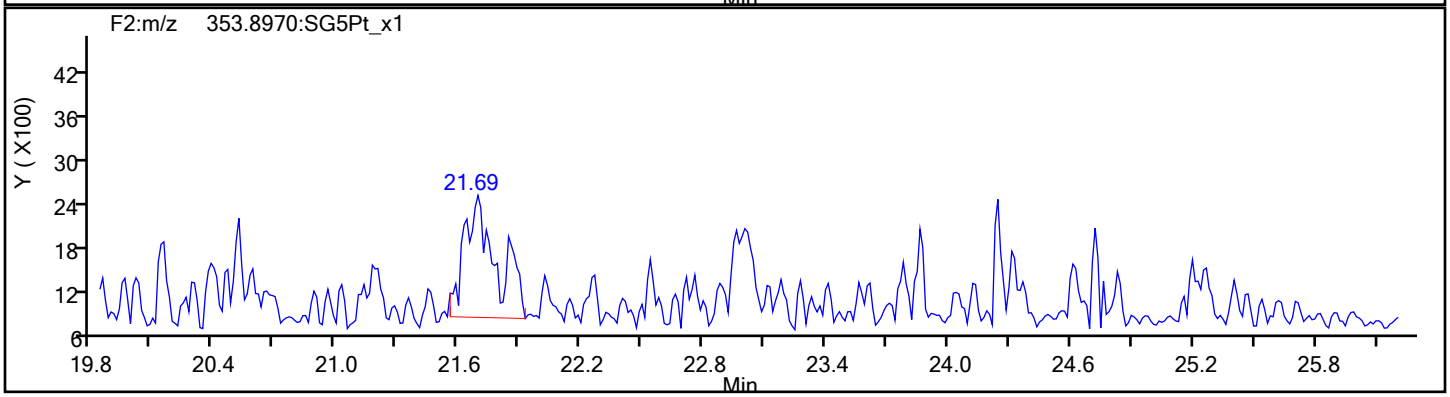

Report Date: 06-Feb-2020 11:22:56 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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PeCDF

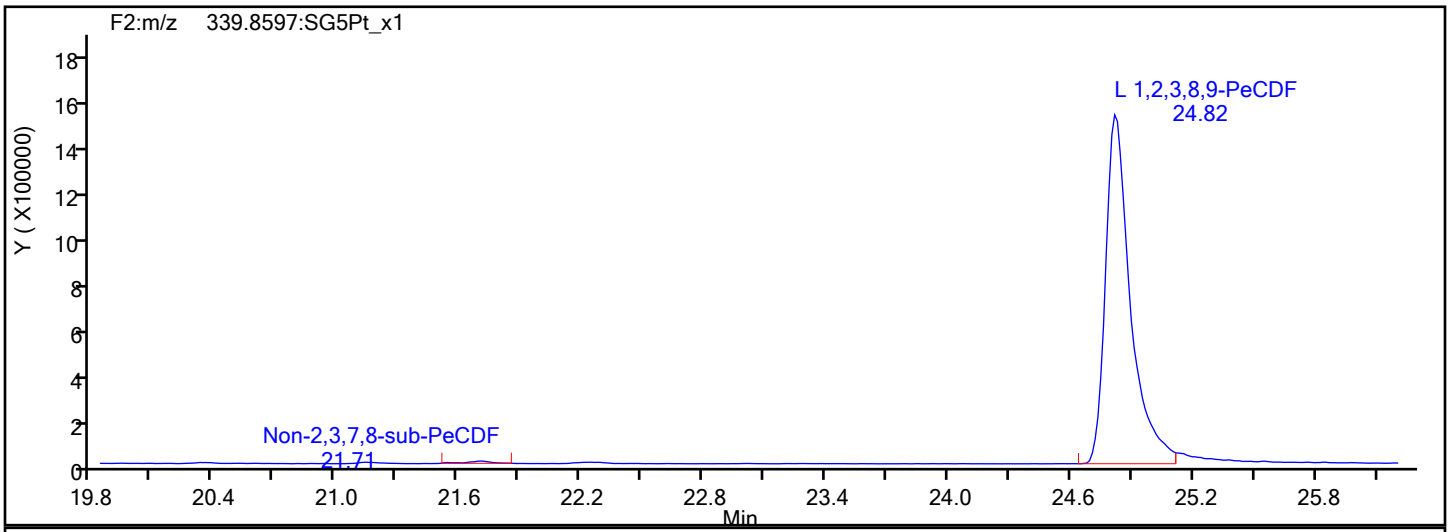

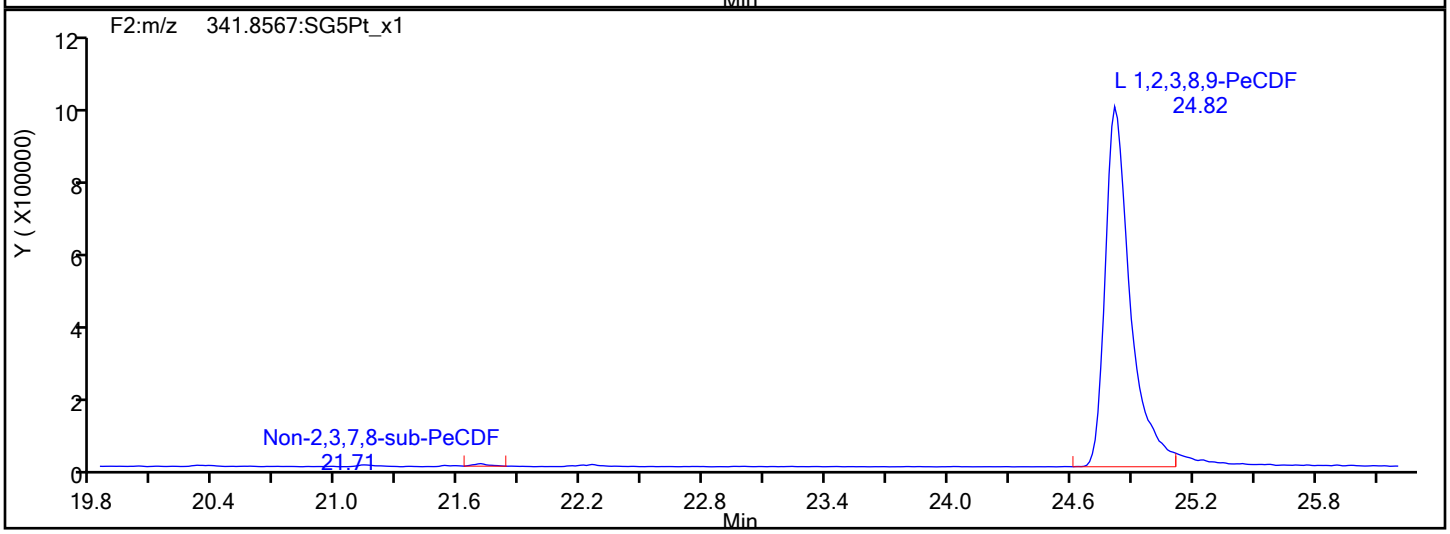

PeCDF Interference Mass

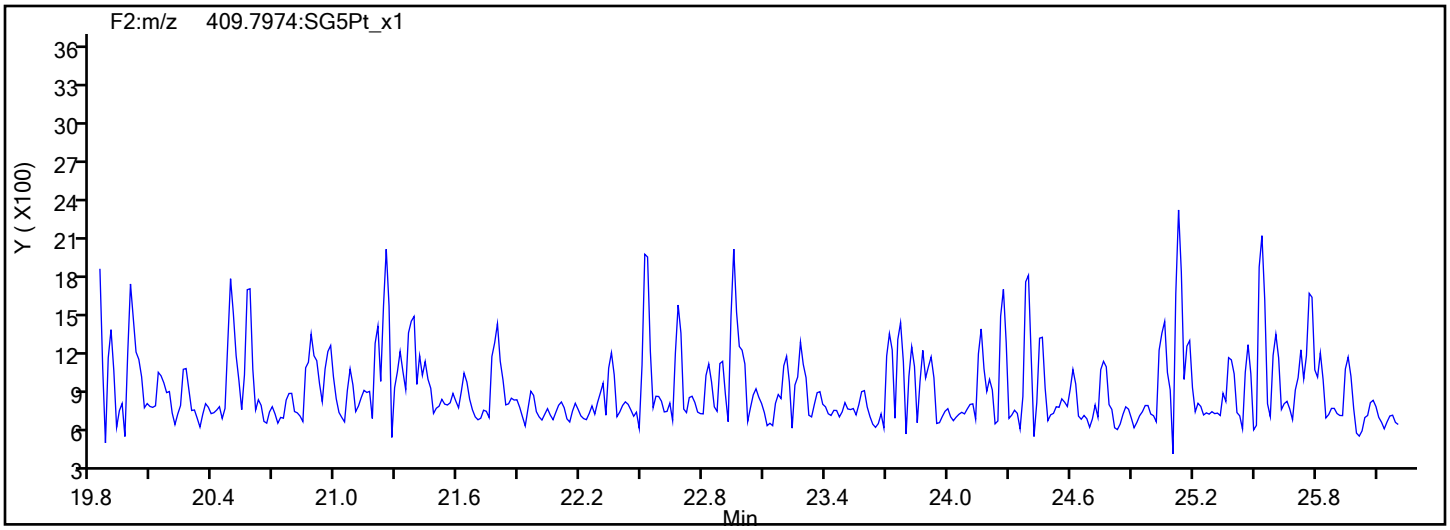

Report Date: 06-Feb-2020 11:22:56 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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PeCDD

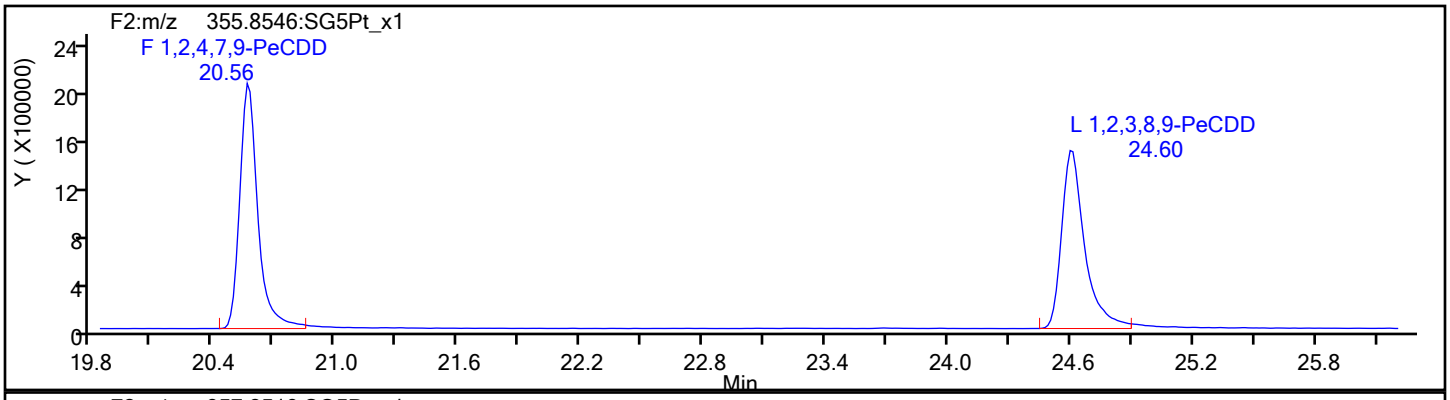

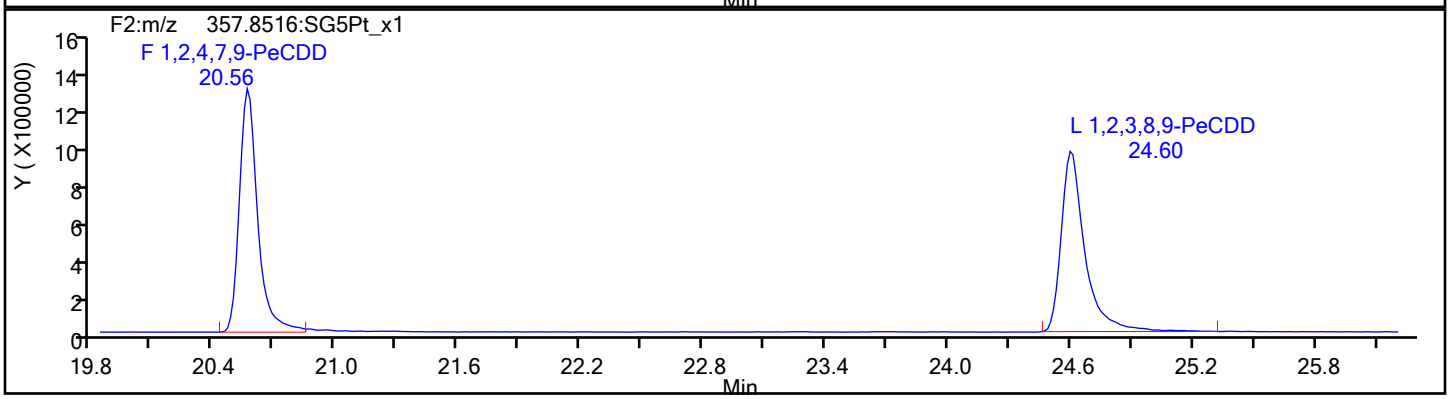

PeCDD Standards

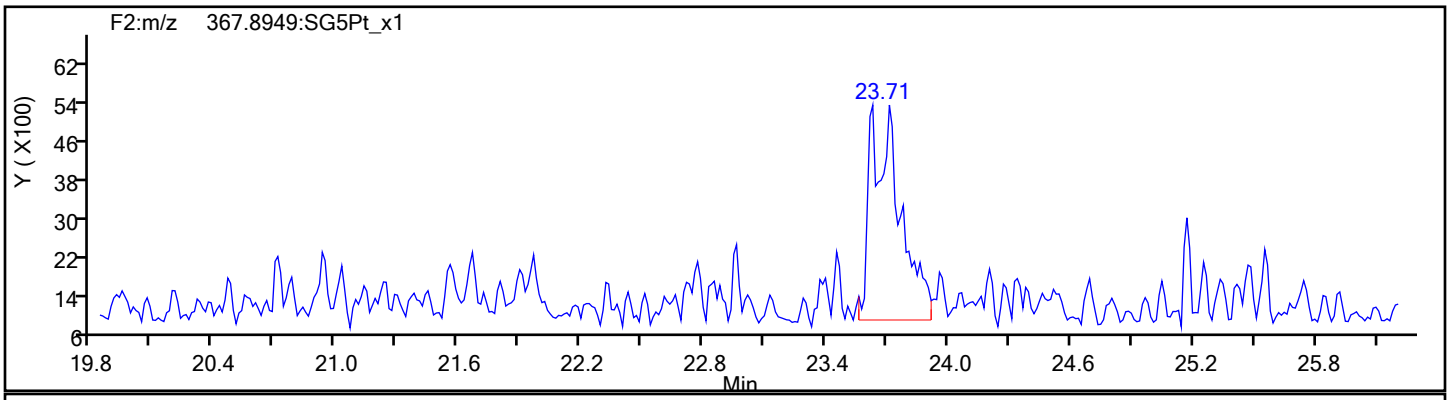

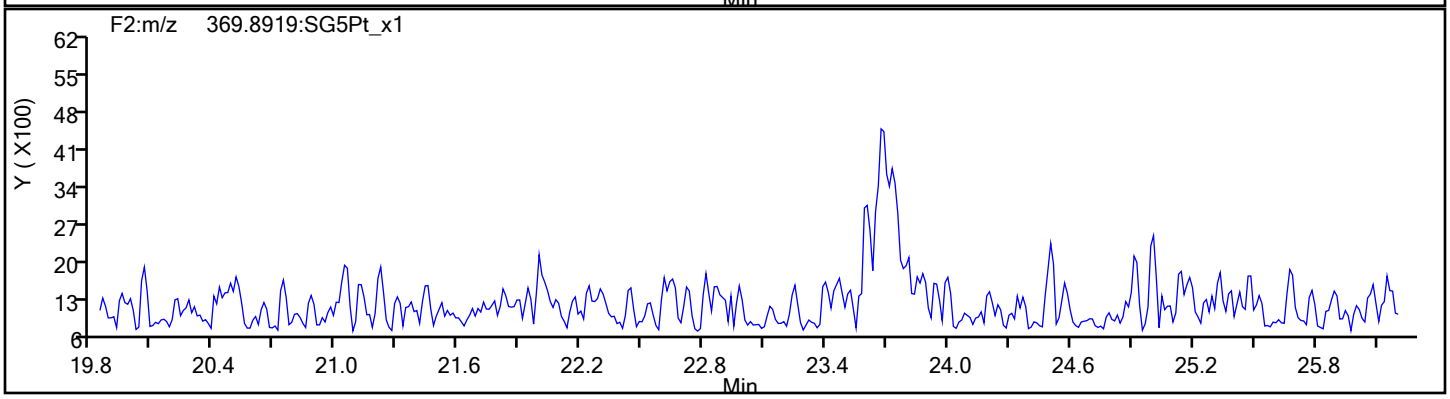

Report Date: 06-Feb-2020 11:22:56 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_1.d		
Injection Date:	05-Feb-2020 15:31:59	Injection Vol:	2.0 ul
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355322	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

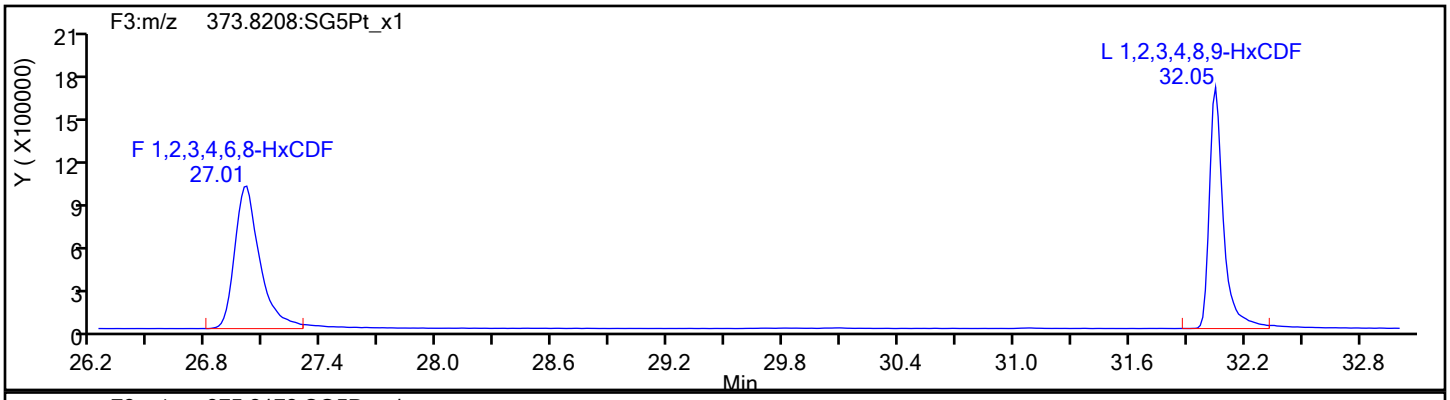

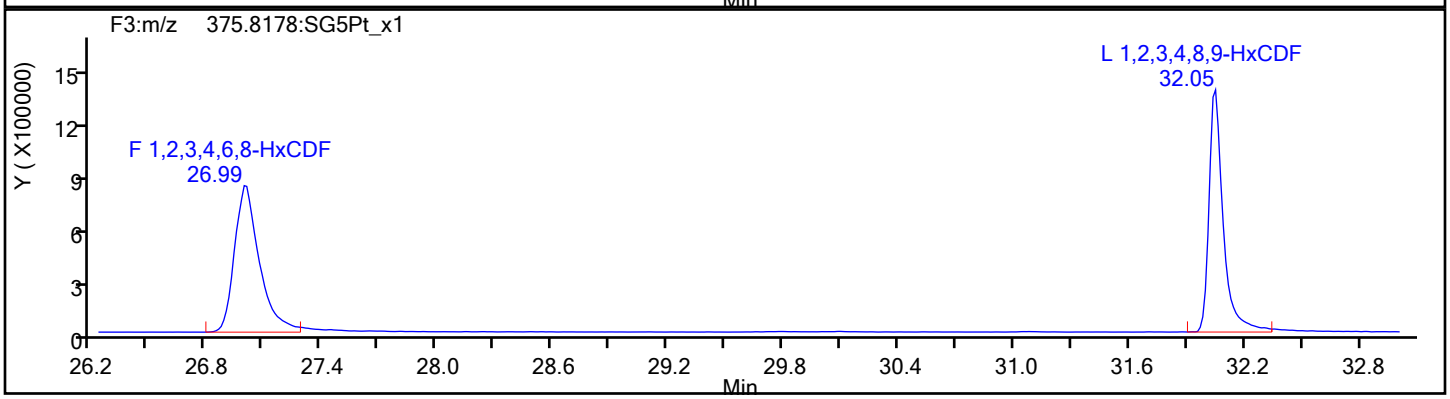

HxCDF Standards

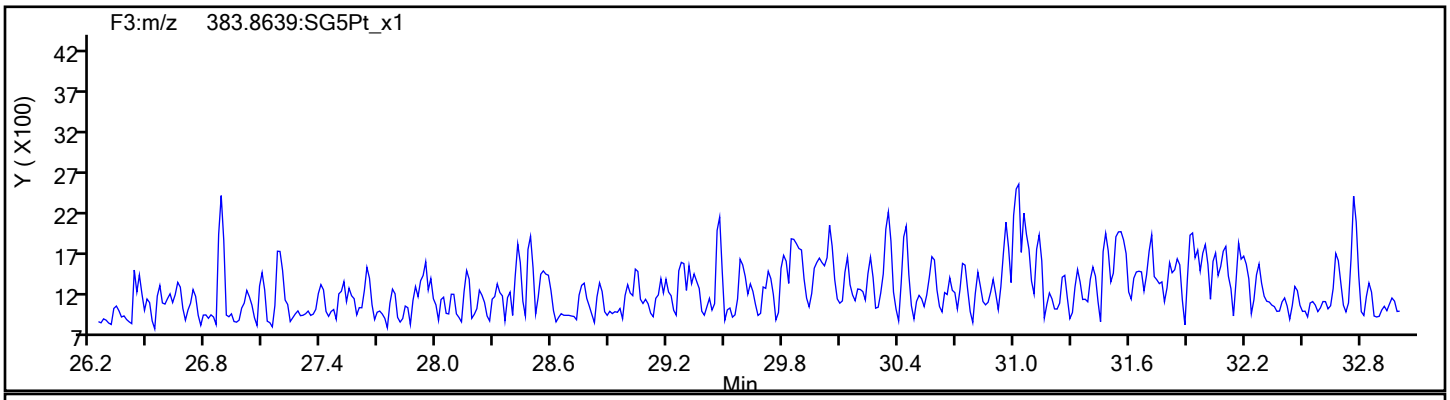

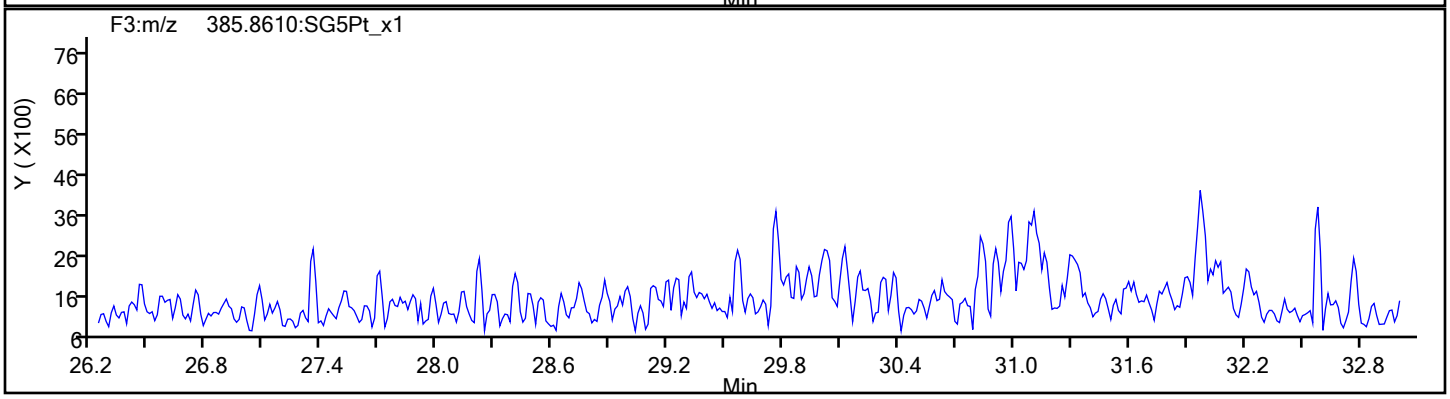

Report Date: 06-Feb-2020 11:22:57 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_1.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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HxCDF

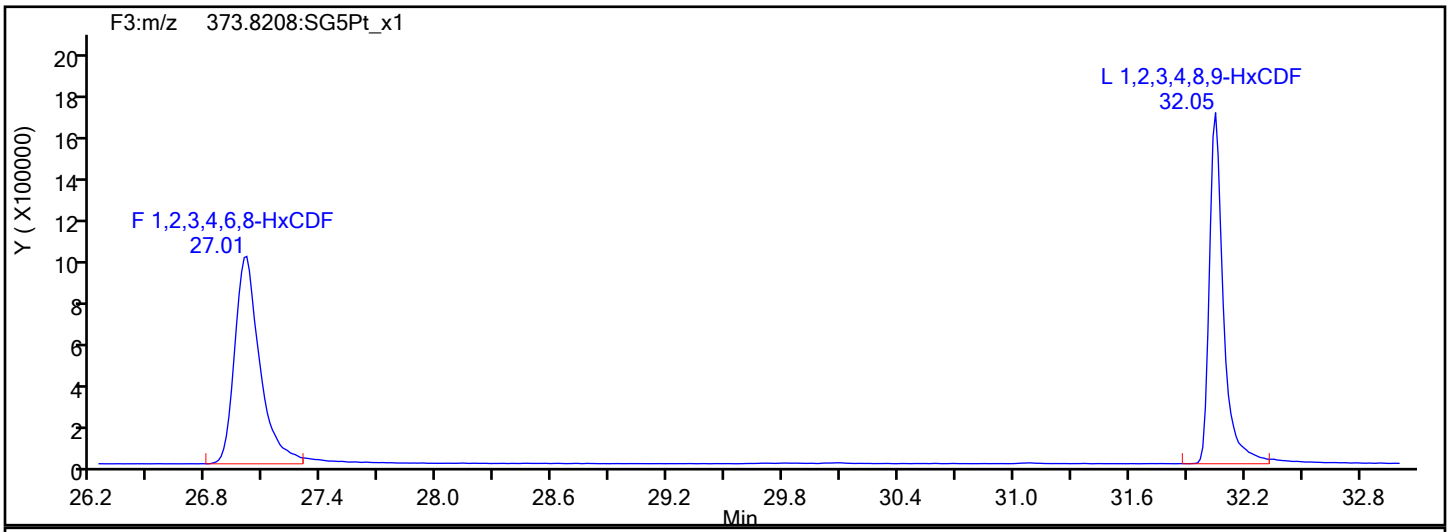

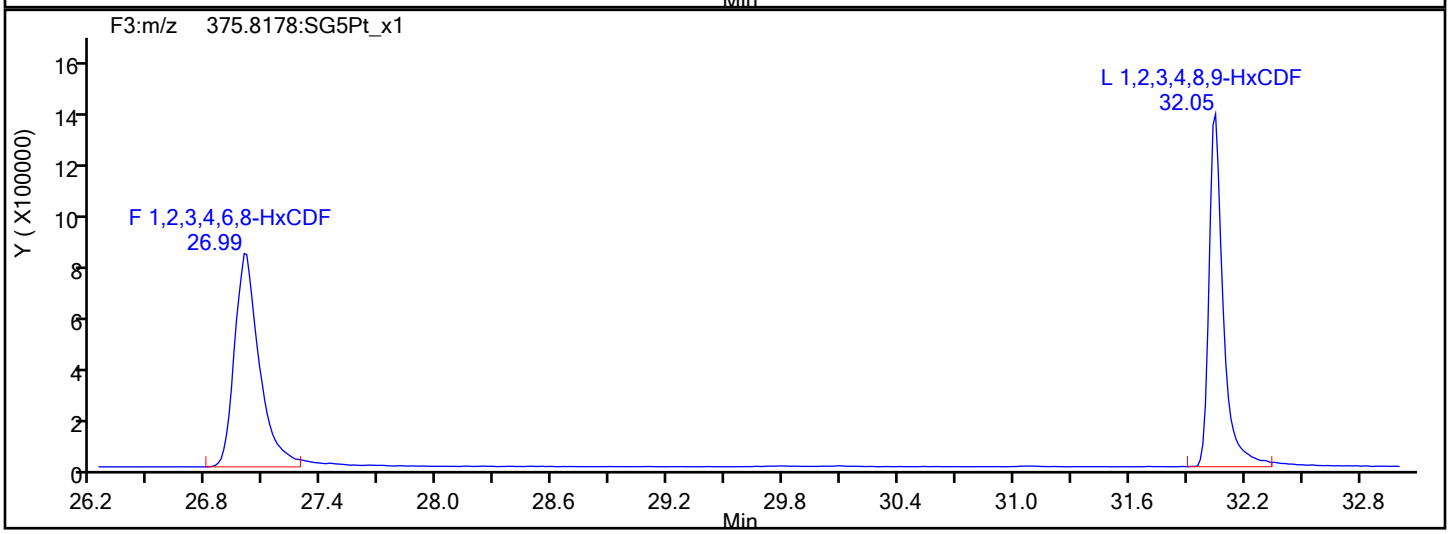

HxCDF Interference Mass

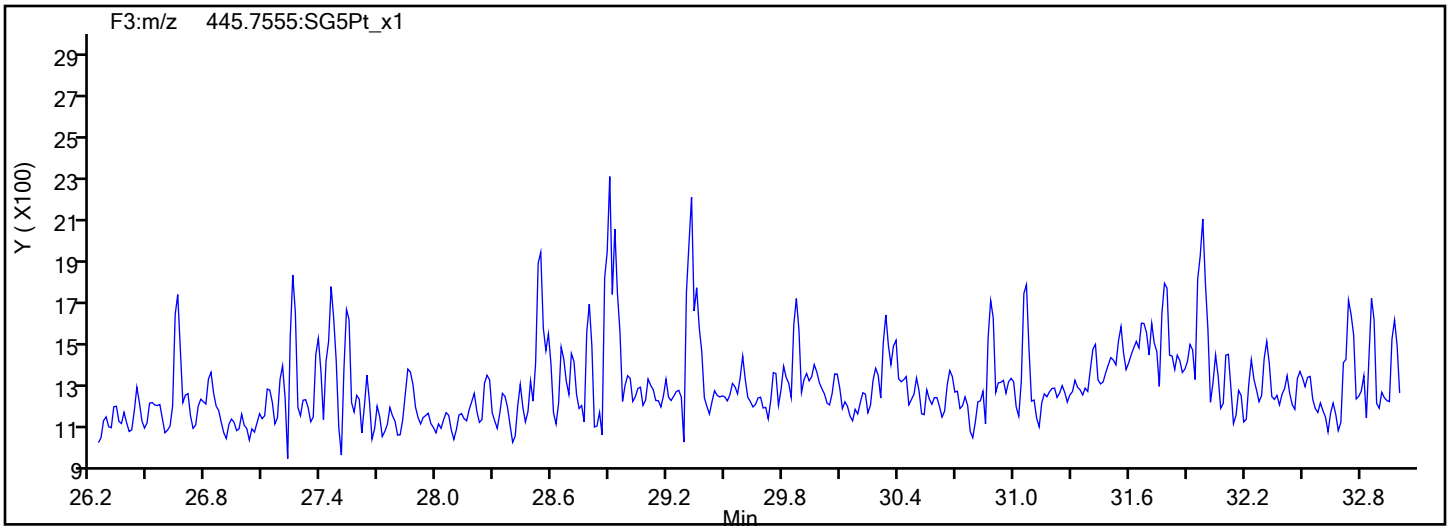

Report Date: 06-Feb-2020 11:22:57 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_1.d		
Injection Date:	05-Feb-2020 15:31:59	Injection Vol:	2.0 ul
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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HxCDD

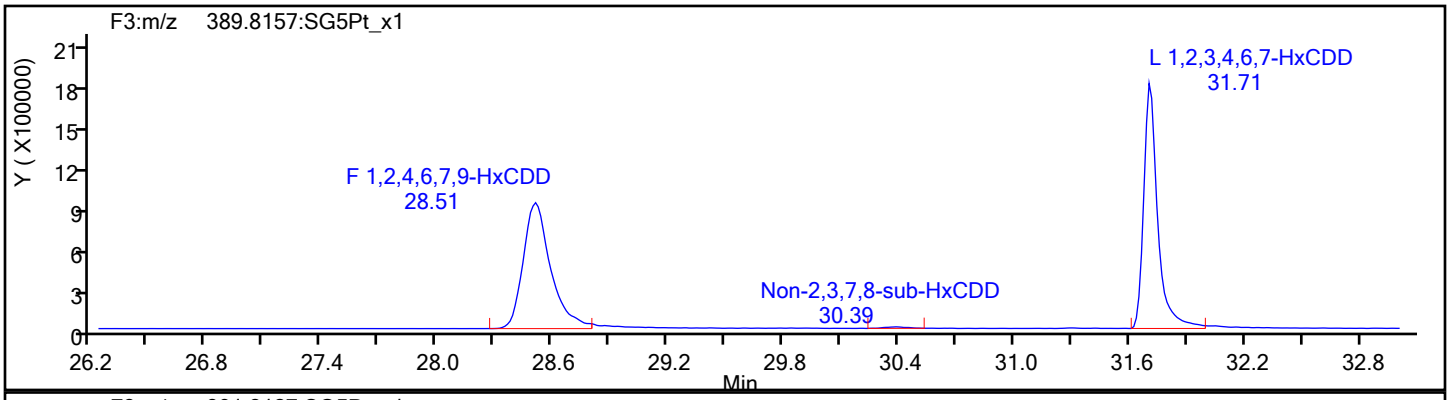

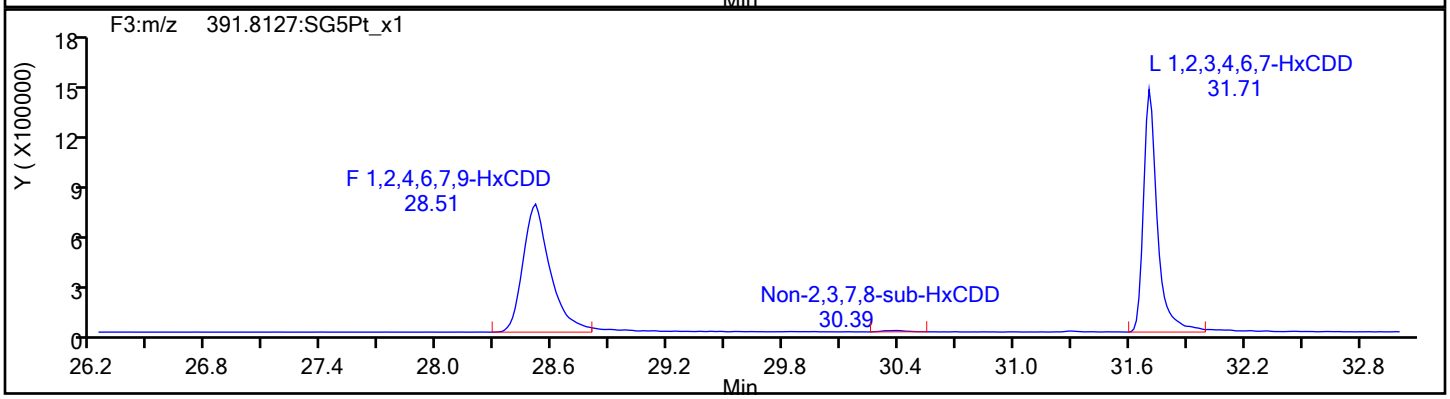

HxCDD Standards

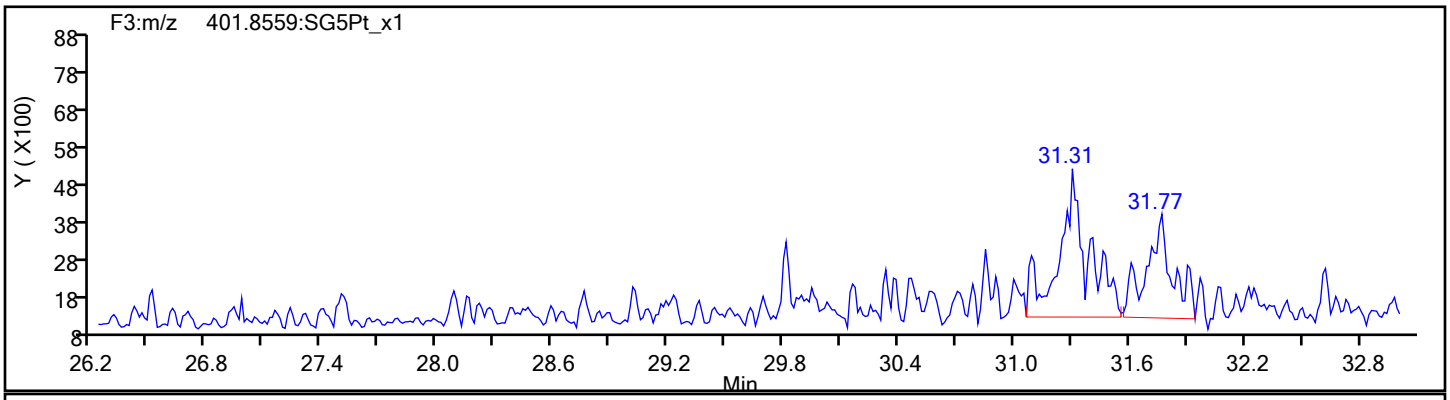

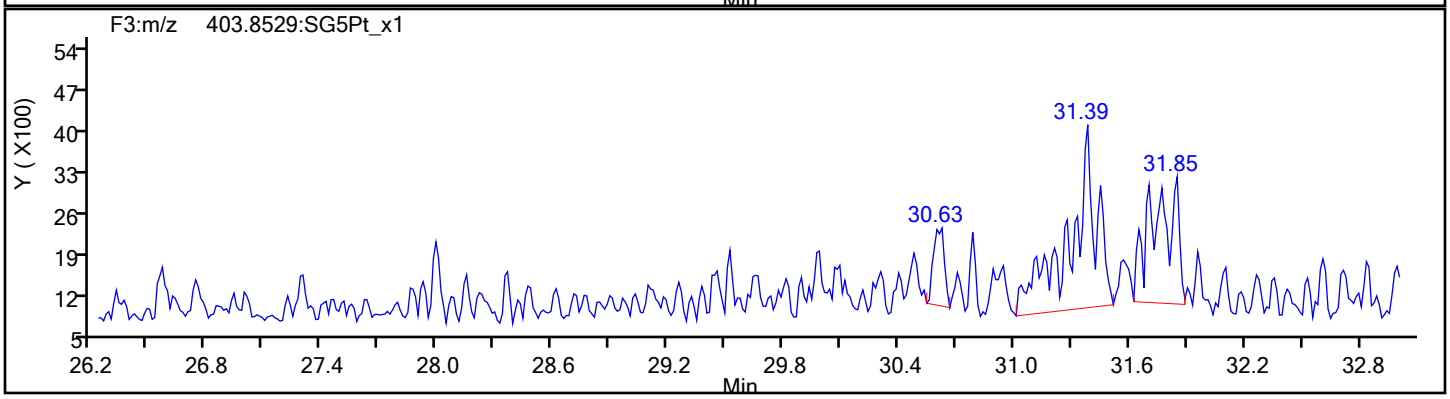

Report Date: 06-Feb-2020 11:22:57 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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HpCDF

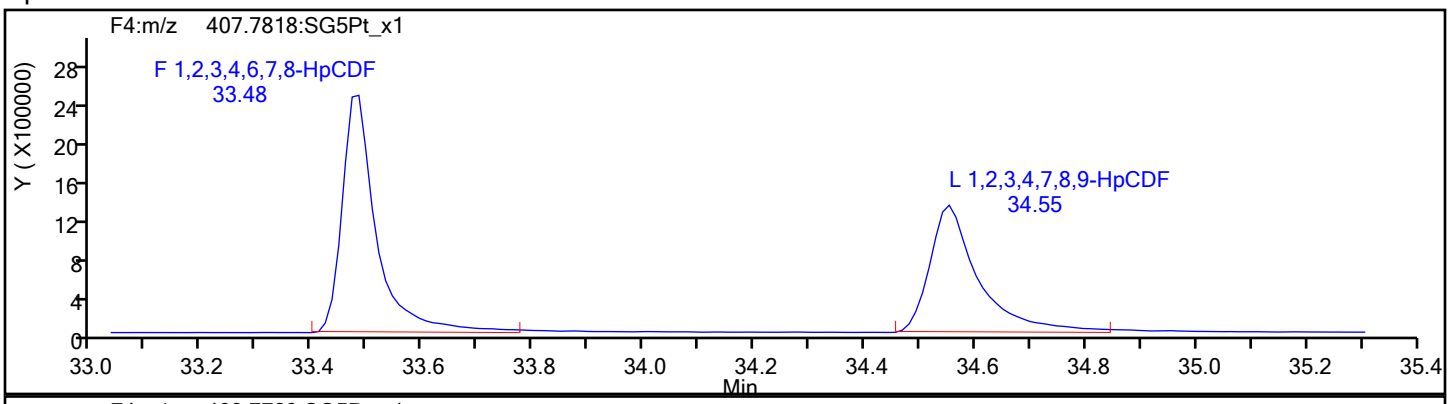

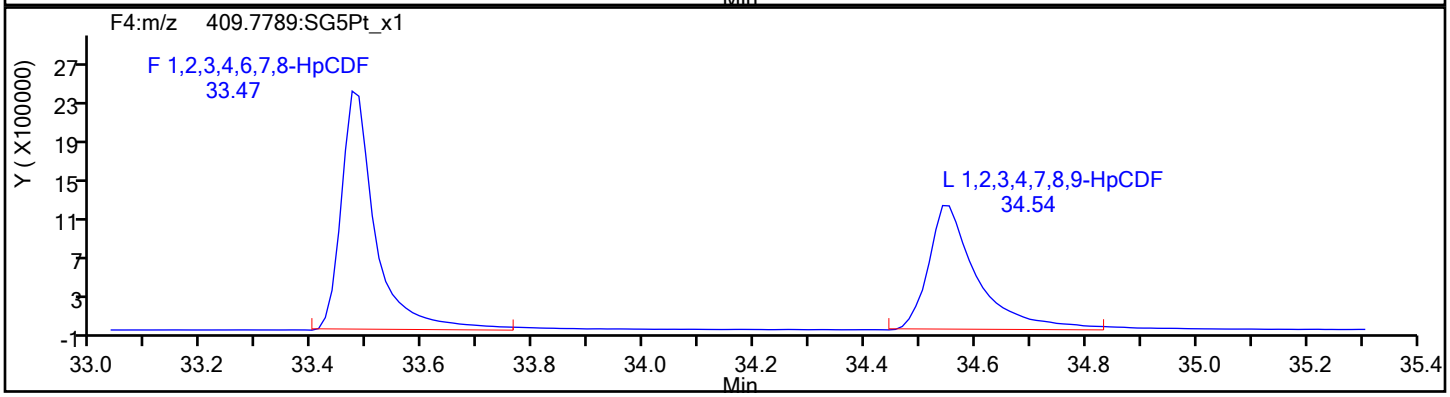

HpCDF Standards

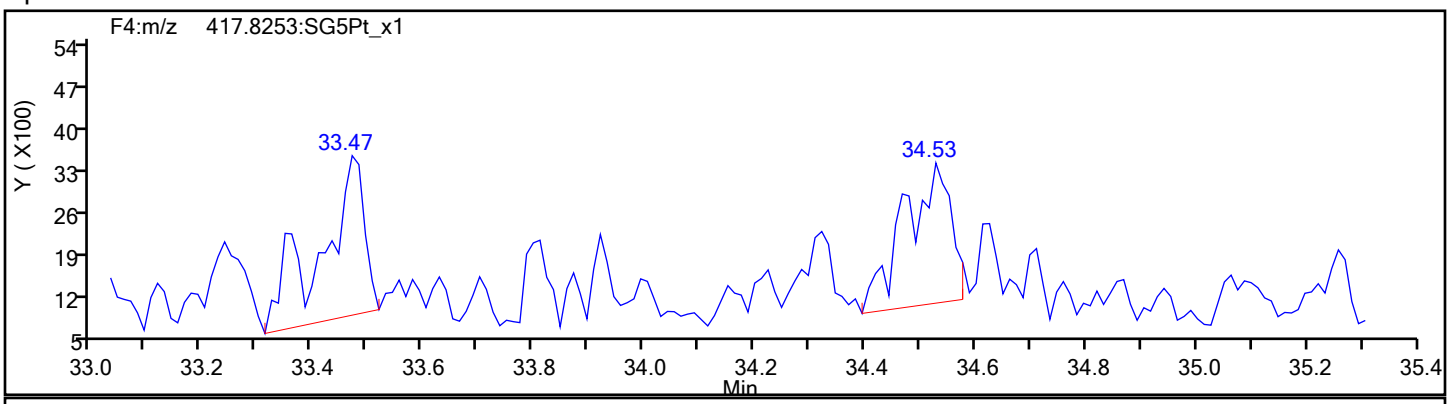

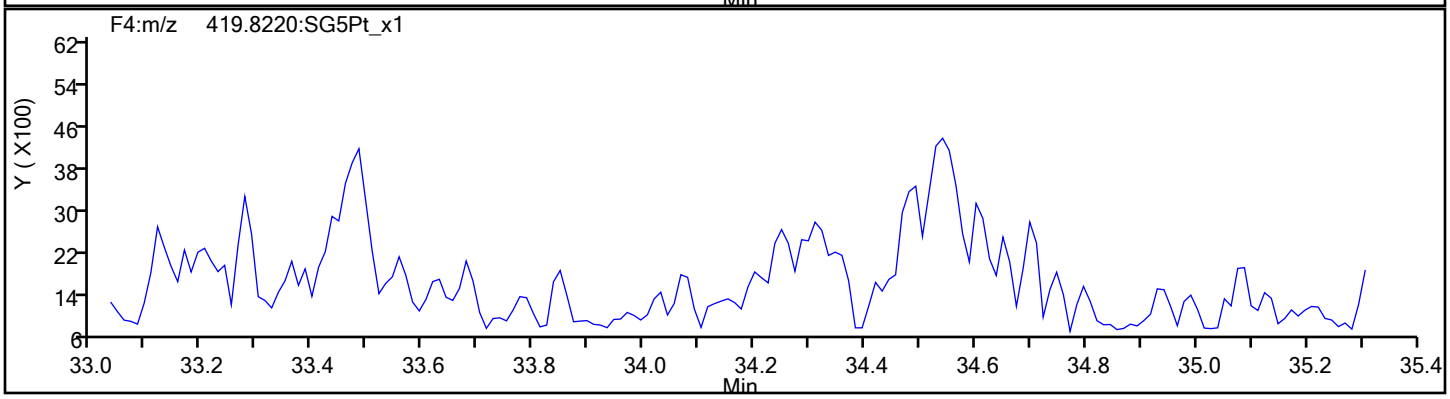

Report Date: 06-Feb-2020 11:22:57 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_1.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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HpCDF

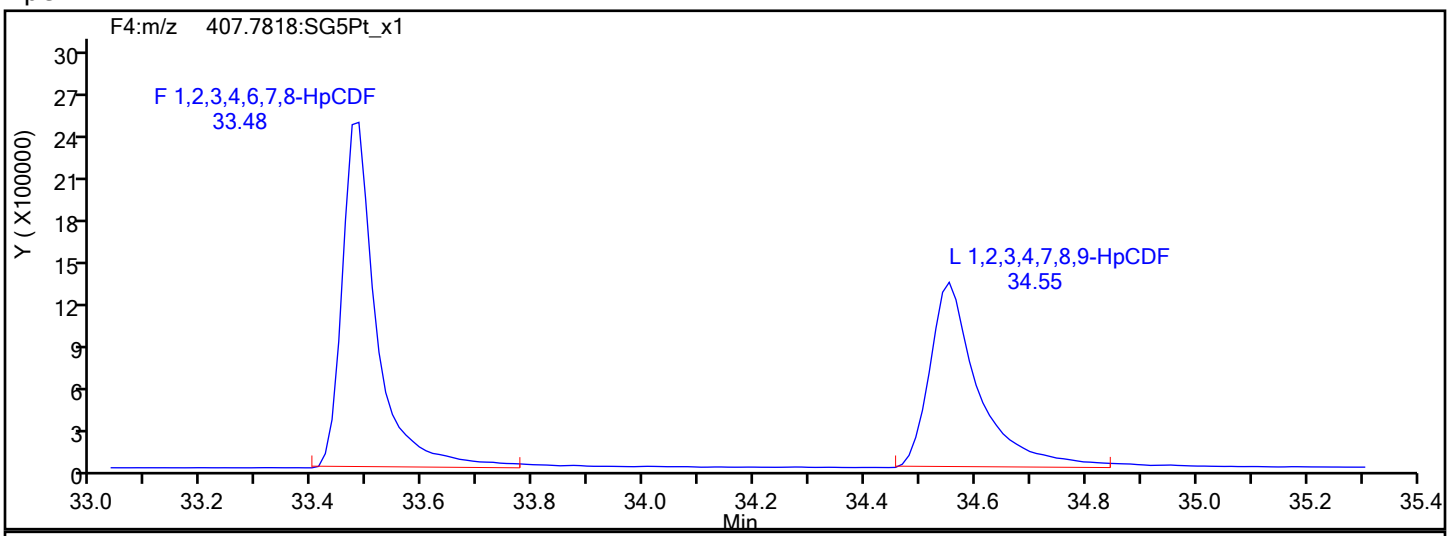

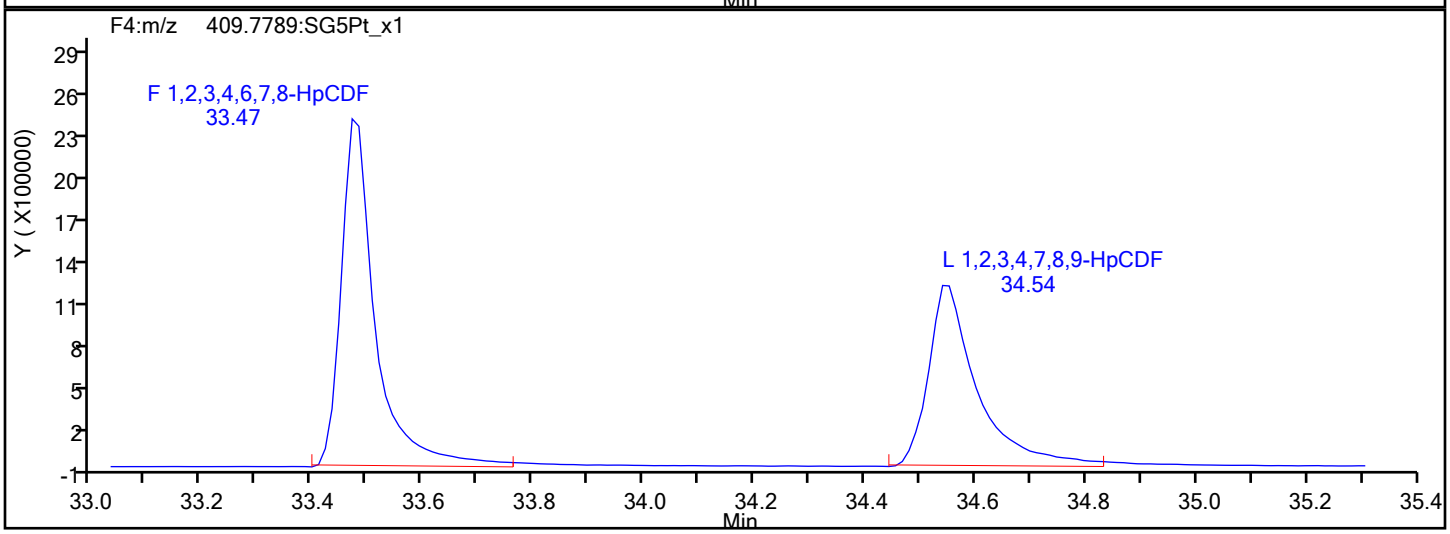

HpCDF Interference Mass

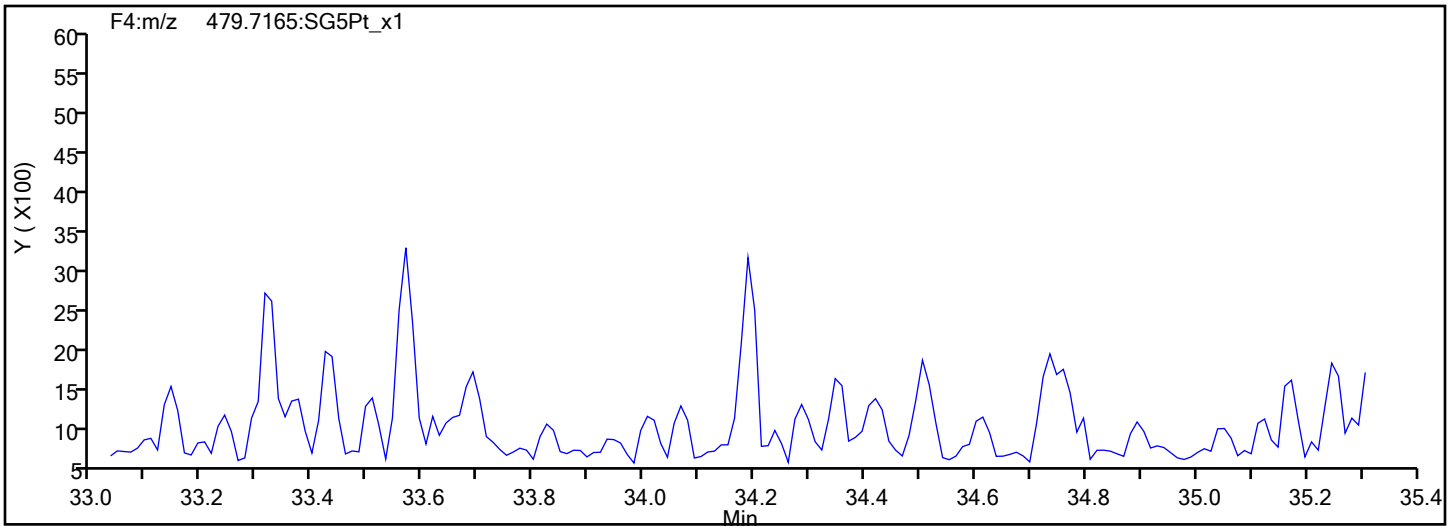

Report Date: 06-Feb-2020 11:22:57 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Injection Date:	05-Feb-2020 15:31:59	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355322	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

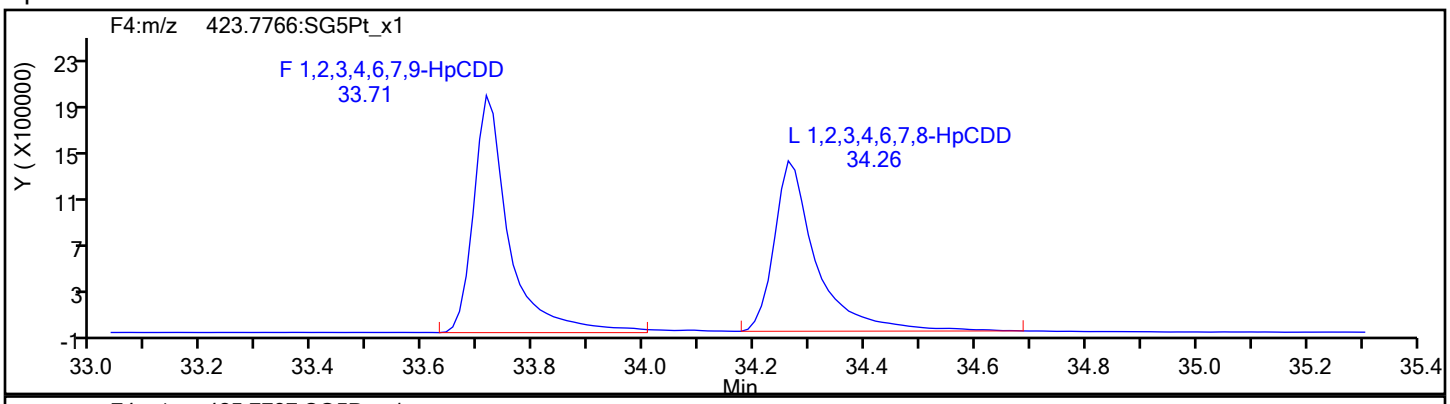

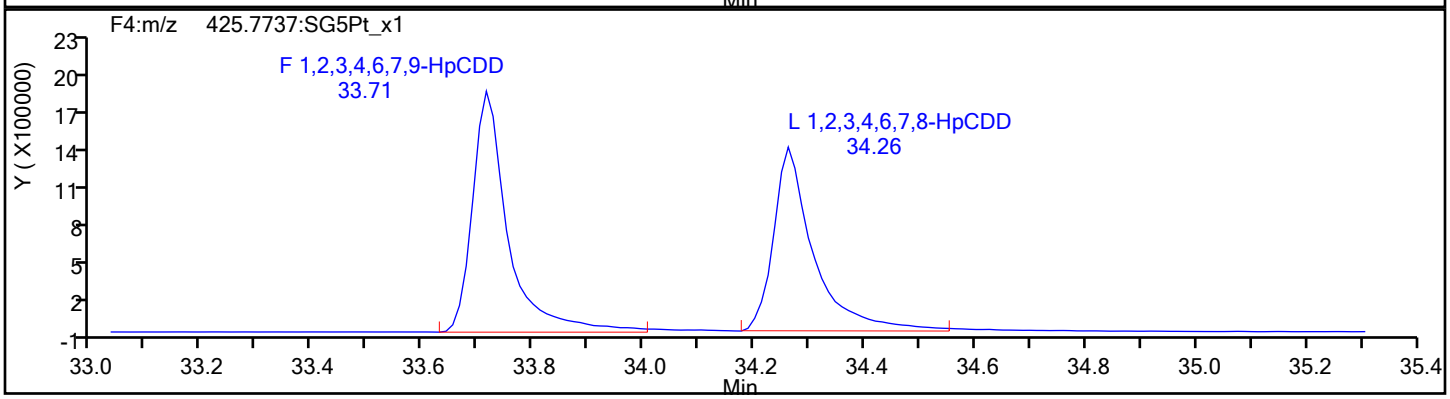

HpCDD Standards

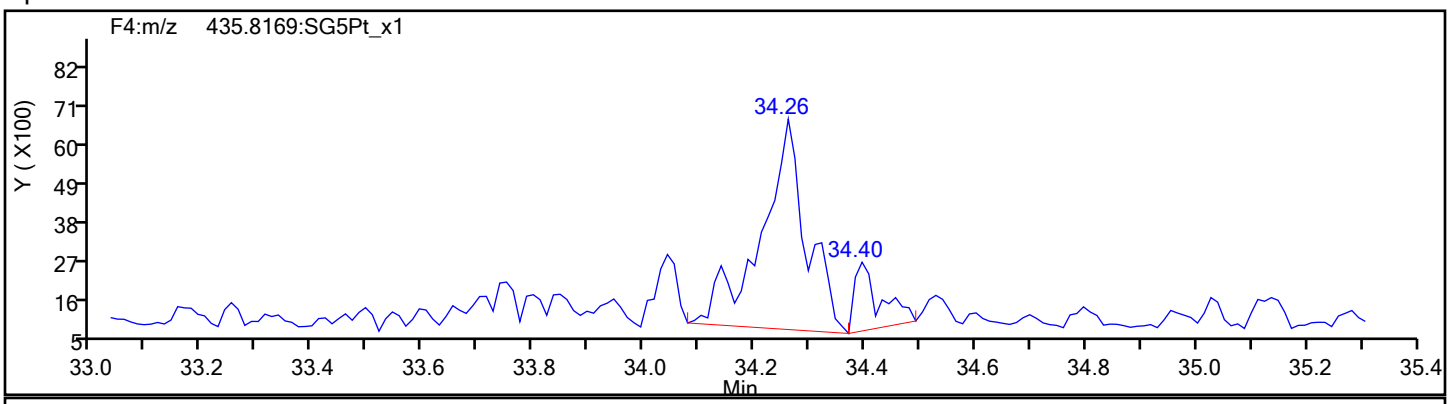

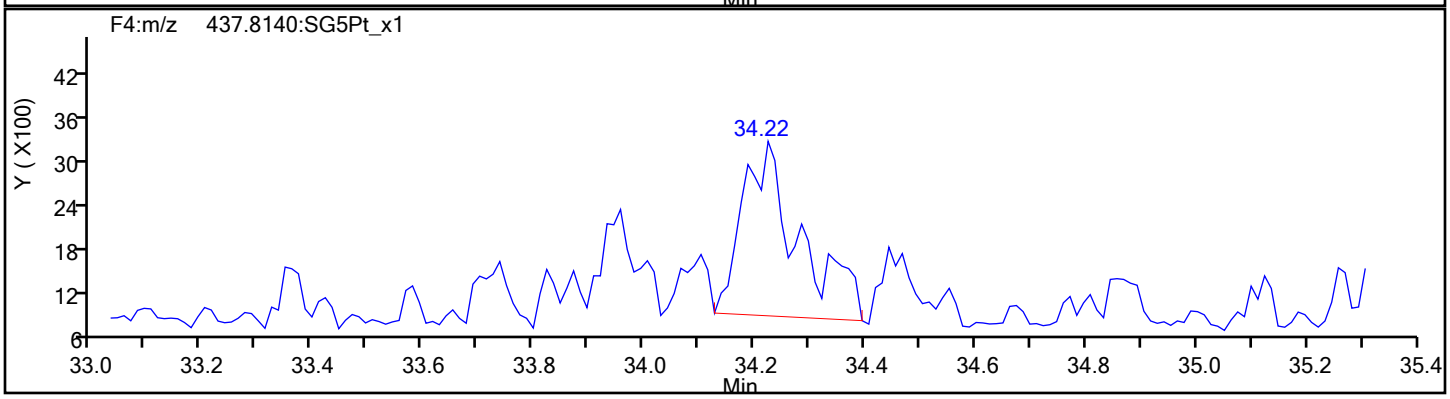

Report Date: 06-Feb-2020 11:22:58 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Injection Date:	05-Feb-2020 15:31:59	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Worklist#:	355322	Sample Line#:	1
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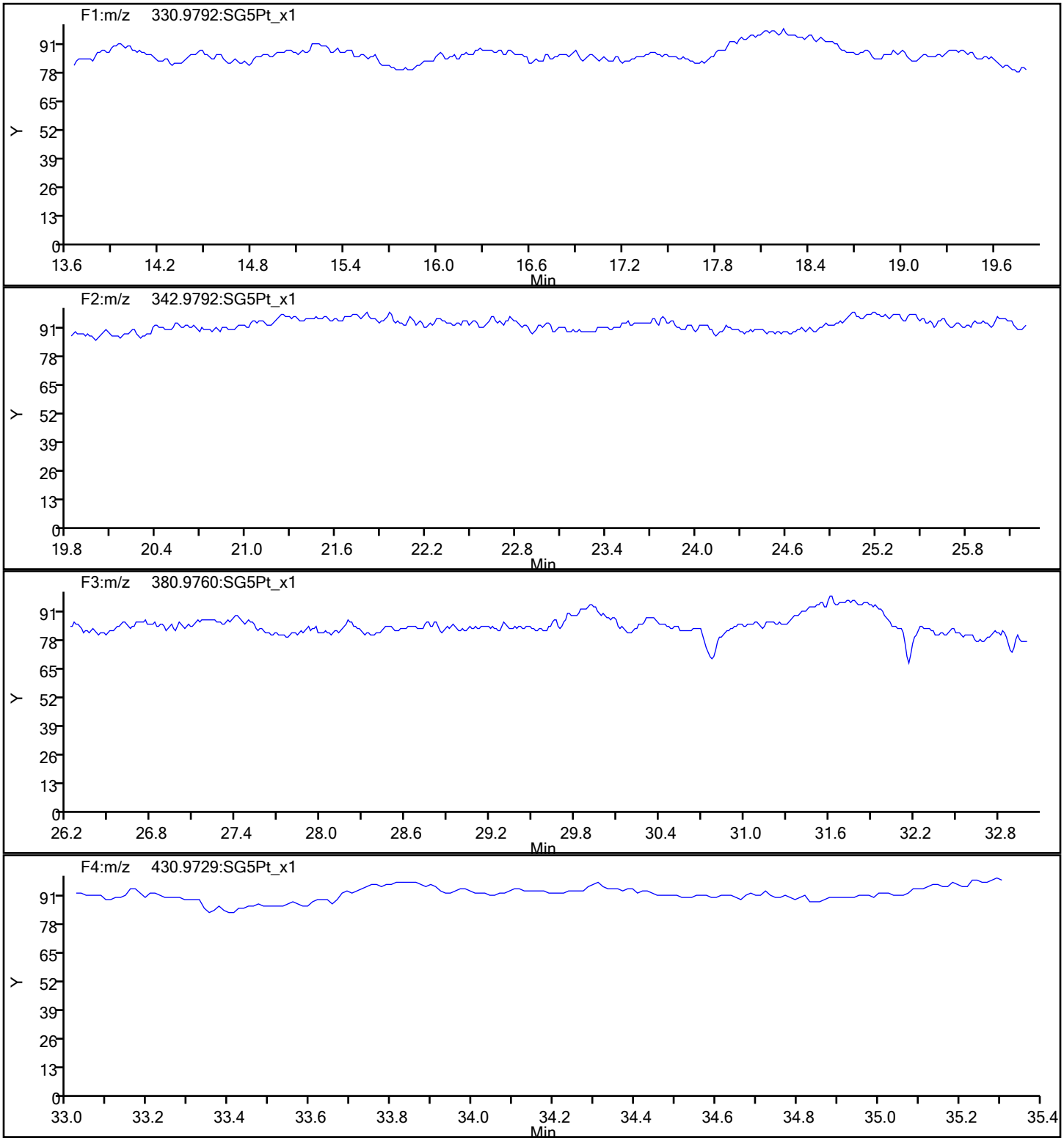

Report Date: 06-Feb-2020 11:22:58 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_1.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

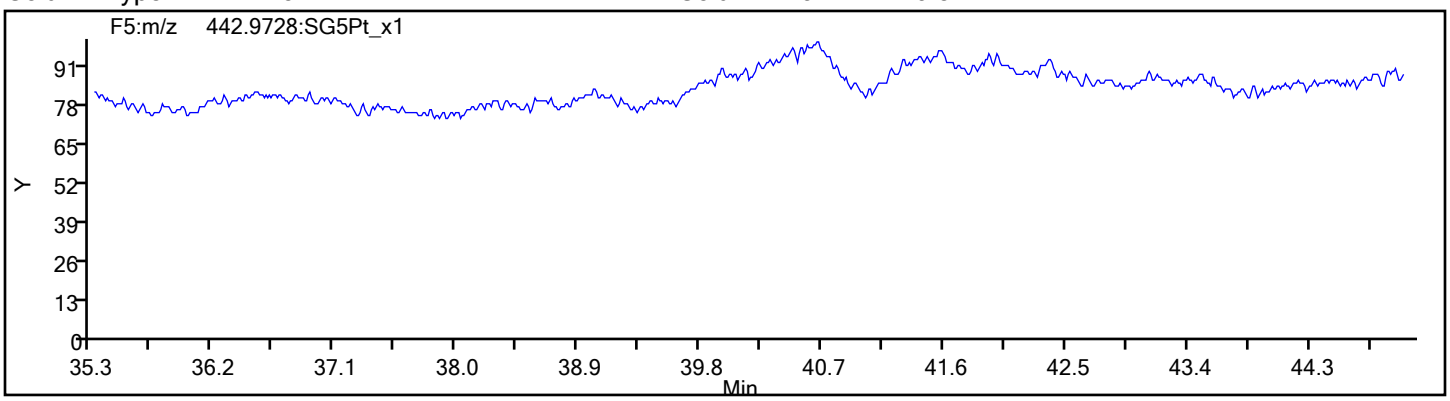

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_1.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 06-Feb-2020 10:48:49 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 020620 WDM HRDXNCP_00040
Misc. Info.: 06FE2010D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 07-Feb-2020 07:57:49 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: arghestanis Date: 07-Feb-2020 07:55:12

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	16.819	28498927	0.75	1.1275					0.00	
2,3,7,8-TCDF	16.849	51490256	0.73	0.7675	94.2	94.2	0.6307	0.6307		
A Non-2,3,7,8-sub-TCDF	16.539						0.6307	0.6307		
S Total TCDF					94.2	94.2	0.6307	0.6307		
D 13C-2,3,7,8-TCDD	17.499	20410460	0.79	0.9032					0.00	
2,3,7,8-TCDD	17.514	22227959	0.76	0.9599	45.4	45.4	0.3847	0.3847		
A Non-2,3,7,8-sub-TCDD	16.977						0.3847	0.3847		
S Total TCDD					45.4	45.4	0.3847	0.3847		
A F1 PeCDFs	19.306						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	22.316	87510	1.55	0.0000						RQ
S Total PeCDF										RQ
A Non-2,3,7,8-sub-PeCDD	22.546						0.0	0.0		
S Total PeCDD										
A Non-2,3,7,8-sub-HxCDF	29.476						0.0	0.0		
S Total HxCDF										
A Non-2,3,7,8-sub-HxCDD	30.055						0.0	0.0		
S Total HxCDD										
1,2,3,4,6,7,8-HpCDF	33.459	19451061	1.03	1.3375						
1,2,3,4,7,8,9-HpCDF	34.528	16138916	1.03	1.0744						
A Non-2,3,7,8-sub-HpCDF	33.994						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	34.237	14415188	1.04	0.9811						
A Non-2,3,7,8-sub-HpCDD	33.963						0.0	0.0		
S Total HpCDD										
1,3,6,8-TCDF	14.520	27380196	0.73							
1,3,6,8-TCDD	15.397	23019419	0.77							
2,3,4,7-TCDF	16.849	51490256	0.73							
1,2,3,7-TCDD	17.393	18163812	0.78							
1,2,3,9-TCDF	17.665	21705869	0.74							
1,2,3,9-TCDD	17.665	23632534	0.76							

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,8,9-TCDD	18.557	8856951								
1,2,8,9-TCDF	18.557	22046618	0.73							
1,3,4,6,8-PeCDF	18.830	25257091	1.60							
1,2,4,7,9-PeCDD	20.535	18181423	1.59							
1,2,3,8,9-PeCDD	24.558	16901496	1.58							
1,2,3,8,9-PeCDF	24.776	19165169	1.57							
1,2,3,4,6,8-HxCDF	26.940	14886818	1.21							
1,2,4,6,7,9-HxCDD	28.431	14769528	1.26							
1,2,3,4,6,7-HxCDD	31.678	15677400	1.23							
1,2,3,4,8,9-HxCDF	32.011	15068833	1.21							
1,2,3,4,6,7,9-HpCDD	33.690	15467074	1.06							

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNCP_00040 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_1.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 06-Feb-2020 10:48:49 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 020620 WDM HRDXNCP_00040
Misc. Info.: 06FE2010D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 07-Feb-2020 07:57:49 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: arghestanis Date: 07-Feb-2020 07:55:12

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	16.819	16.819	0	1.000	12207528	2969728	5835	14587	509		
317.9389	16.819	16.819	0	1.000	16291399	3946112	4402	11005	896	0.75(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.849	16.849	0	1.002	21809444	4842658	20130	50325	241		
305.8987	16.849	16.849	0	1.002	29680812	6510191	13348	33370	488	0.73(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.539						20130	50325			
305.8987	16.539						13348	33370			
13C-2,3,7,8-TCDD											
331.9368	17.499	17.499	0	1.000	9025704	2041002	3378	8445	604		
333.9339	17.499	17.499	0	1.000	11384756	2583310	2244	5610	1151	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.514	17.514	0	1.001	9618774	2282939	6590	16475	346		
321.8936	17.514	17.514	0	1.001	12609185	2959966	10487	26217	282	0.76(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	16.977						6590	16475			
321.8936	16.977						10487	26217			
A F1 PeCDFs											
339.8597	19.306						1397	3492			
341.8567	19.306						1150	2875			
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	21.653	22.316	-40	1.000	61983	7815	2432	6080	3		
341.8567	21.653	22.316	-40	1.000	34318	4624	1621	4052	3	1.81(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.546						3260	8150			
357.8516	22.546						2032	5080			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.476						3275	8187			
375.8178	29.476						2019	5047			
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.055						2728	6820			
391.8127	30.055						2515	6287			
1,2,3,4,6,7,8-HpCDF											
407.7818	33.459	33.459	0	1.000	9886914	2262413	17956	44890	126		
409.7789	33.447	33.459	-1	1.000	9564147	2245262	18104	45260	124	1.03(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.528	34.528	0	1.000	8176404	1233790	17956	44890	69		
409.7789	34.528	34.528	0	1.000	7962512	1188208	18104	45260	66	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.994						17956	44890			
409.7789	33.994						18104	45260			
1,2,3,4,6,7,8-HpCDD											
423.7766	34.237	34.237	0	1.000	7364048	1291114	14864	37160	87		
425.7737	34.237	34.237	0	1.000	7051140	1242627	14377	35942	86	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.963						14864	37160			
425.7737	33.963						14377	35942			
1,3,6,8-TCDF											
303.9016	14.520	14.520	0		11598415	3425591	20130	50325	170		
305.8987	14.520	14.520	0		15781781	4612944	13348	33370	346	0.73(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	15.397	15.397	0		9977463	2638433	6590	16475	400		
321.8936	15.382	15.397	-1		13041956	3476340	10487	26217	331	0.77(0.65-0.89)	
2,3,4,7-TCDF											
303.9016	16.849	16.849	0		21809444	4842658	20130	50325	241		
305.8987	16.849	16.849	0		29680812	6510191	13348	33370	488	0.73(0.65-0.89)	
1,2,3,7-TCDD											
319.8965	17.393	17.393	0		7937458	1993139	6590	16475	302		
321.8936	17.393	17.393	0		10226354	2578173	10487	26217	246	0.78(0.65-0.89)	
1,2,3,9-TCDF											
303.9016	17.665	17.665	0		9198815	2098727	20130	50325	104		
305.8987	17.650	17.665	-1		12507054	2801930	13348	33370	210	0.74(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	17.665	17.665	0		10173547	2229321	6590	16475	338		
321.8936	17.665	17.665	0		13458987	2929985	10487	26217	279	0.76(0.65-0.89)	
1,2,8,9-TCDD											
319.8965	18.557	18.557	0		8856951	1887868	6590	16475	286		
1,2,8,9-TCDF											
303.9016	18.557	18.557	0		9329537	1967745	20130	50325	98		
305.8987	18.557	18.557	0		12717081	2682431	13348	33370	201	0.73(0.65-0.89)	
1,3,4,6,8-PeCDF											
339.8597	18.830	18.830	0		15530690	3179521	1397	3492	2276		
341.8567	18.830	18.830	0		9726401	2013283	1150	2875	1751	1.60(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,4,7,9-PeCDD											
355.8546	20.535	20.535	0		11174480	1800694	3260	8150	552		
357.8516	20.535	20.535	0		7006943	1123371	2032	5080	553	1.59(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	24.558	24.558	0		10343513	1356448	3260	8150	416		
357.8516	24.558	24.558	0		6557983	854888	2032	5080	421	1.58(1.32-1.78)	
1,2,3,8,9-PeCDF											
339.8597	24.776	24.776	0		11717730	1429445	2432	6080	588		
341.8567	24.776	24.776	0		7447439	908203	1621	4052	560	1.57(1.32-1.78)	
1,2,3,4,6,8-HxCDF											
373.8208	26.940	26.940	0		8153034	948986	3275	8187	290		
375.8178	26.940	26.940	0		6733784	790900	2019	5047	392	1.21(1.05-1.43)	
1,2,4,6,7,9-HxCDD											
389.8157	28.431	28.431	0		8234743	868100	2728	6820	318		
391.8127	28.431	28.431	0		6534785	670289	2515	6287	267	1.26(1.05-1.43)	
1,2,3,4,6,7-HxCDD											
389.8157	31.678	31.678	0		8637080	1696732	2728	6820	622		
391.8127	31.678	31.678	0		7040320	1363919	2515	6287	542	1.23(1.05-1.43)	
1,2,3,4,8,9-HxCDF											
373.8208	32.011	32.011	0		8264642	1586615	3275	8187	484		
375.8178	32.011	32.011	0		6804191	1307929	2019	5047	648	1.21(1.05-1.43)	
1,2,3,4,6,7,9-HpCDD											
423.7766	33.690	33.690	0		7966328	1719539	14864	37160	116		
425.7737	33.690	33.690	0		7500746	1604635	14377	35942	112	1.06(0.88-1.20)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Reagents:

HRDXNCP_00040 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_1.d
Lims ID: WDM
Client ID:
Inject. Date: 06-Feb-2020 10:48:49 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 355551 Lims Sample ID: 1

Non-2,3,7,8-sub-PeCDF, RT: 22.316

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	0.898				
2,3,4,7,8-PeCDF	0.810				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
21.653	61983	7815	34318	4624		1.81	R
Signal Totals:							
	61983	7815	34318	4624			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	96301	12439				1.81	RQ
	87510	11791					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (96301 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (87510 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Report Date: 07-Feb-2020 07:57:49 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_1.d		
Injection Date:	06-Feb-2020 10:48:49	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355551	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

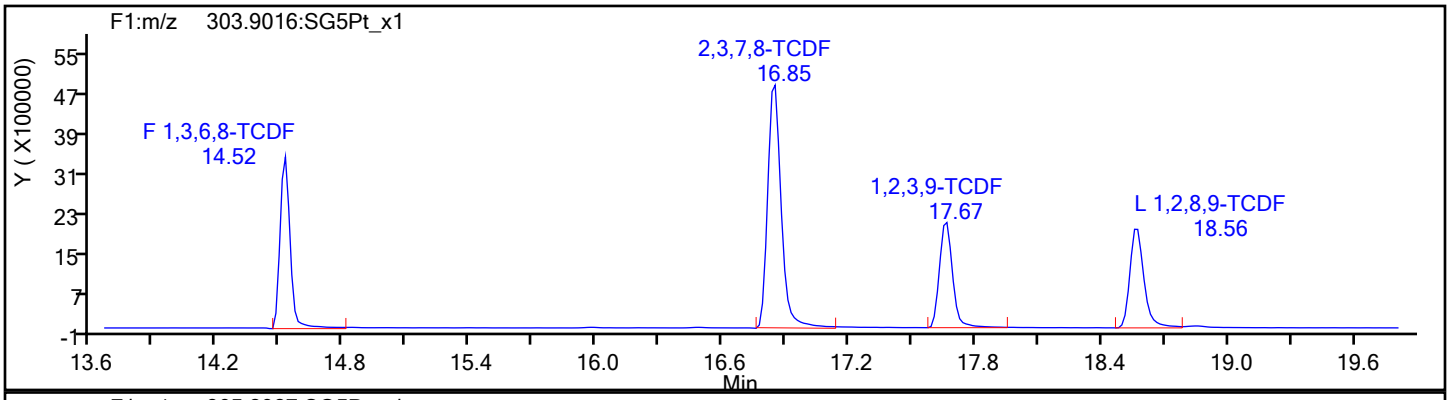

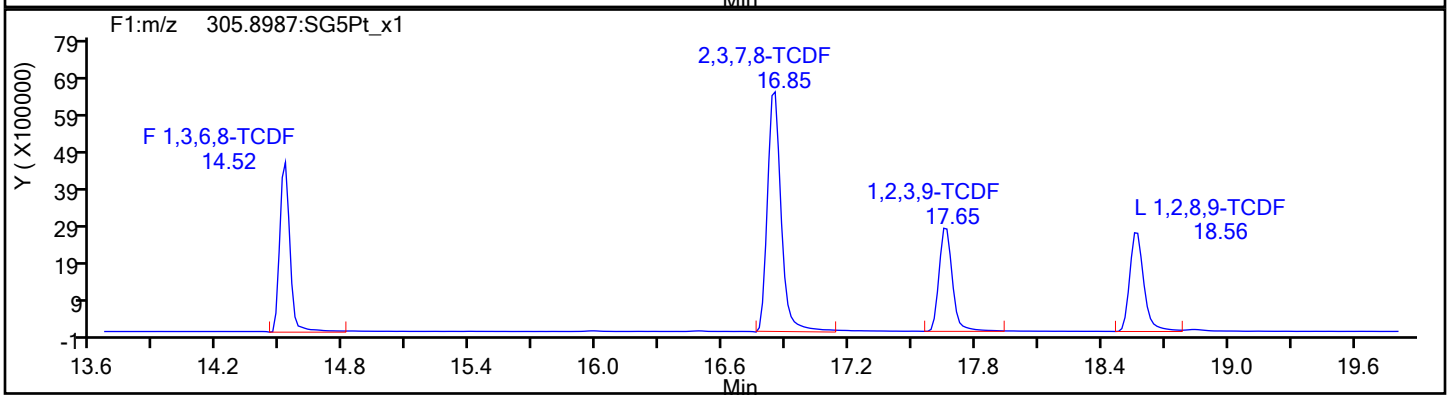

TCDF Standards

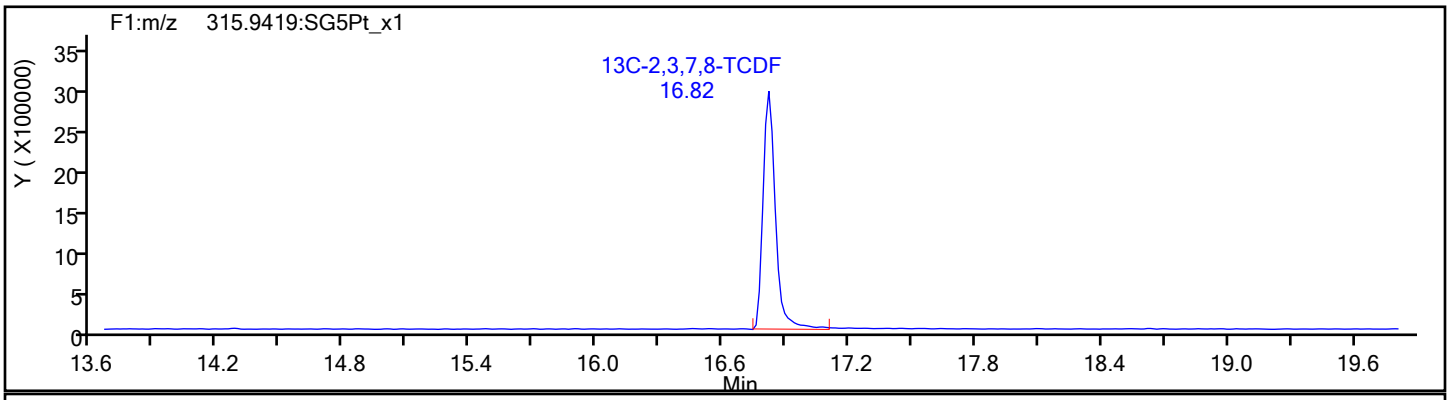

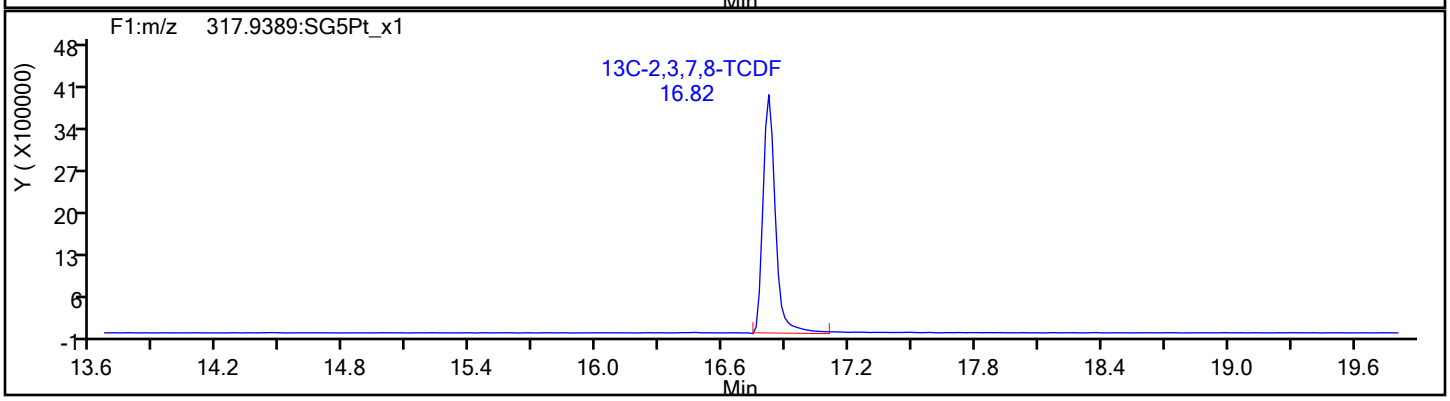

Report Date: 07-Feb-2020 07:57:49 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_1.d		
Injection Date:	06-Feb-2020 10:48:49	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355551	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

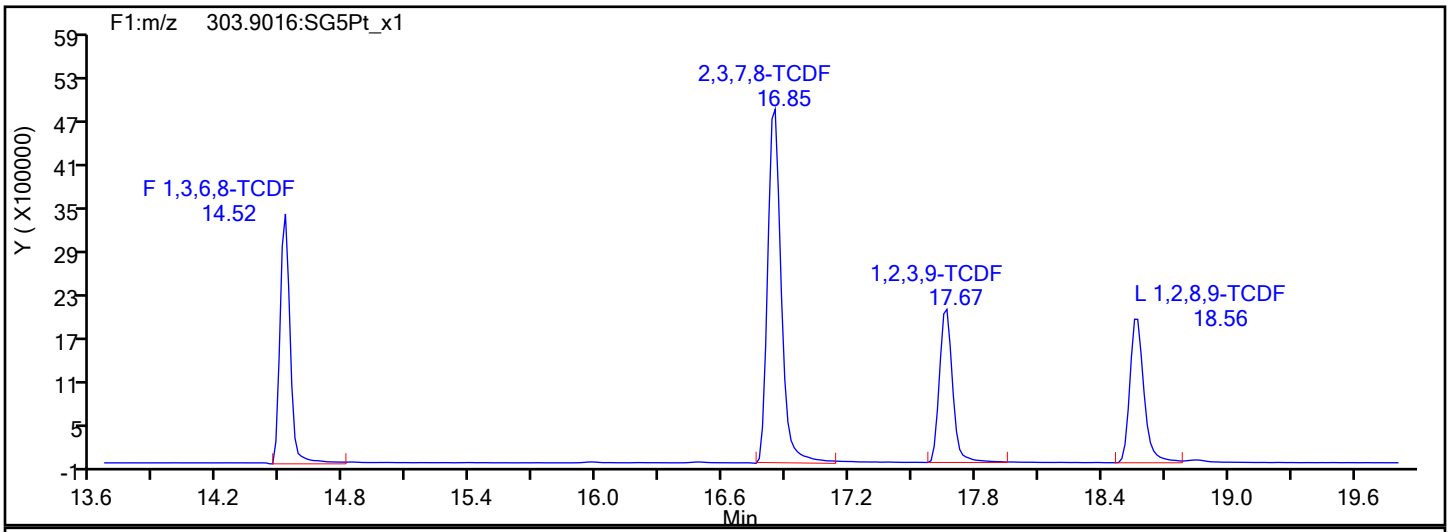

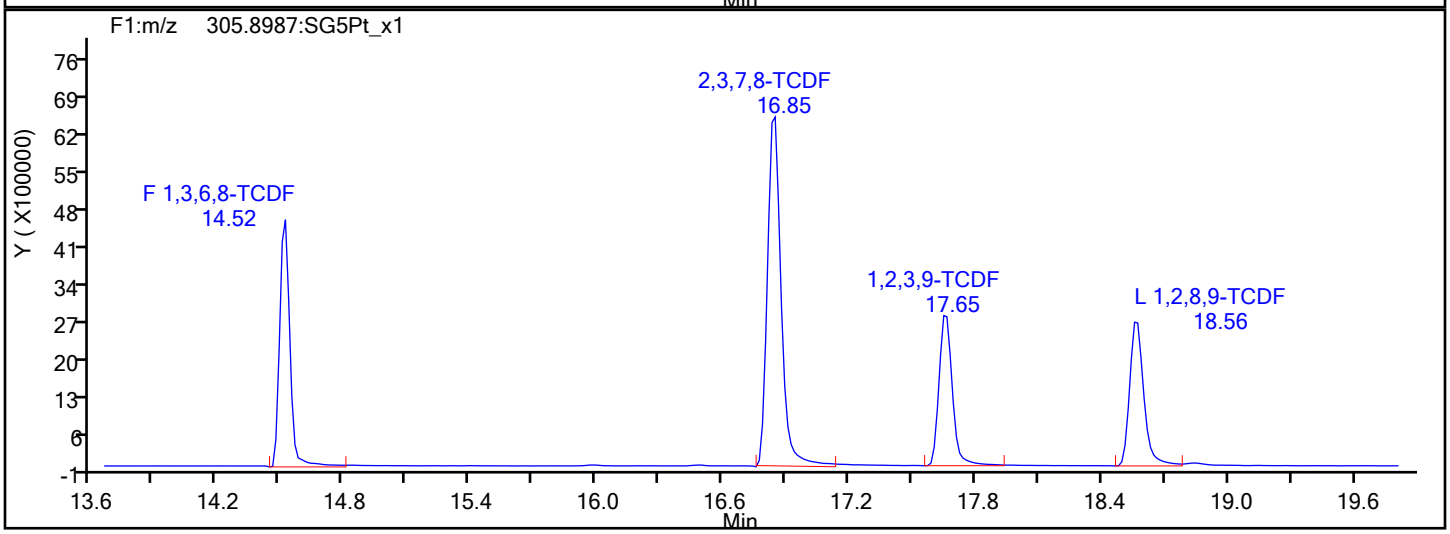

TCDF Interference Mass

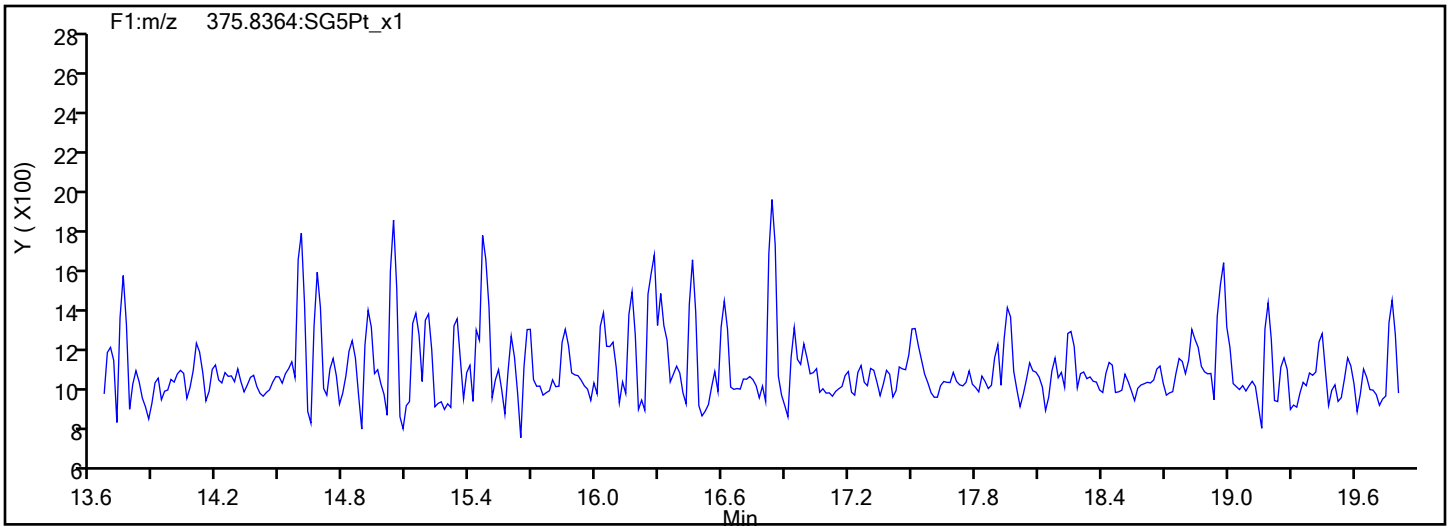

Report Date: 07-Feb-2020 07:57:49 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_1.d		
Injection Date:	06-Feb-2020 10:48:49	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355551	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

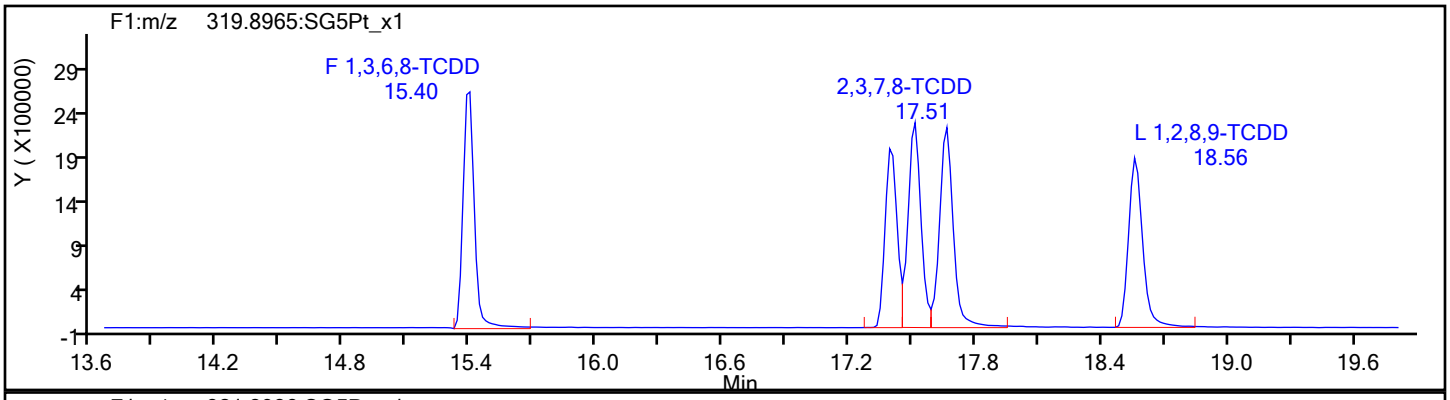

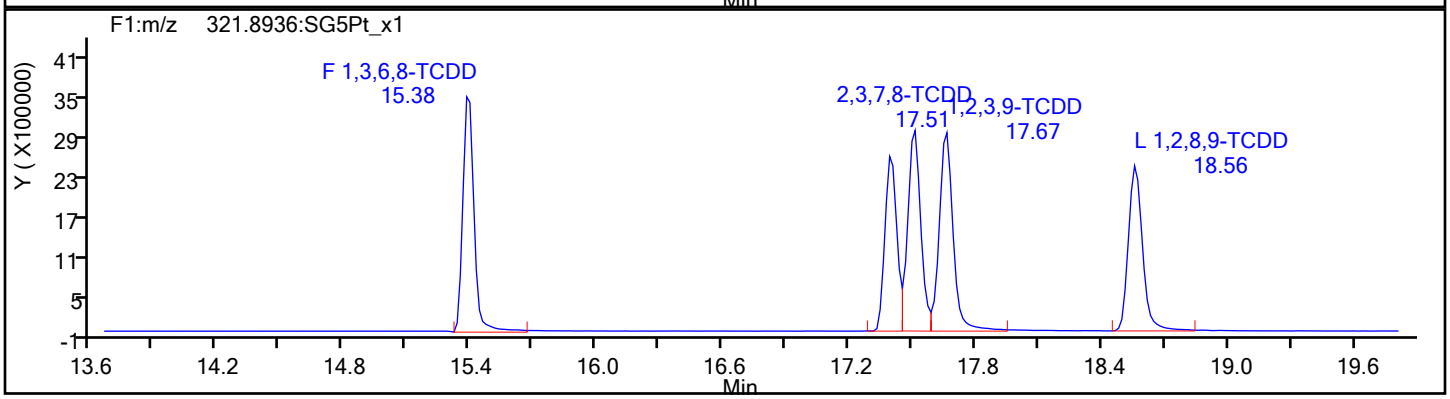

TCDD Standards

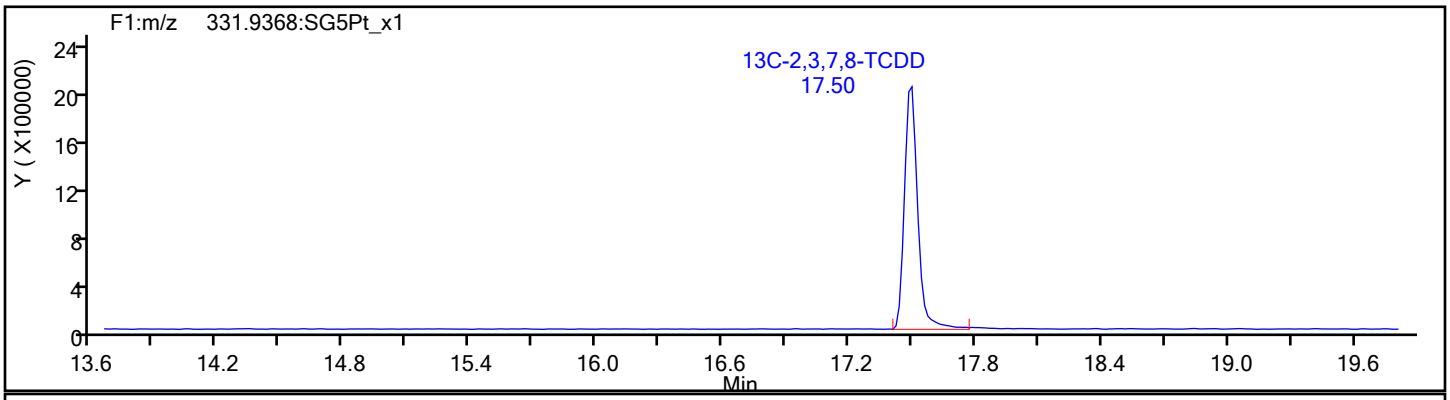

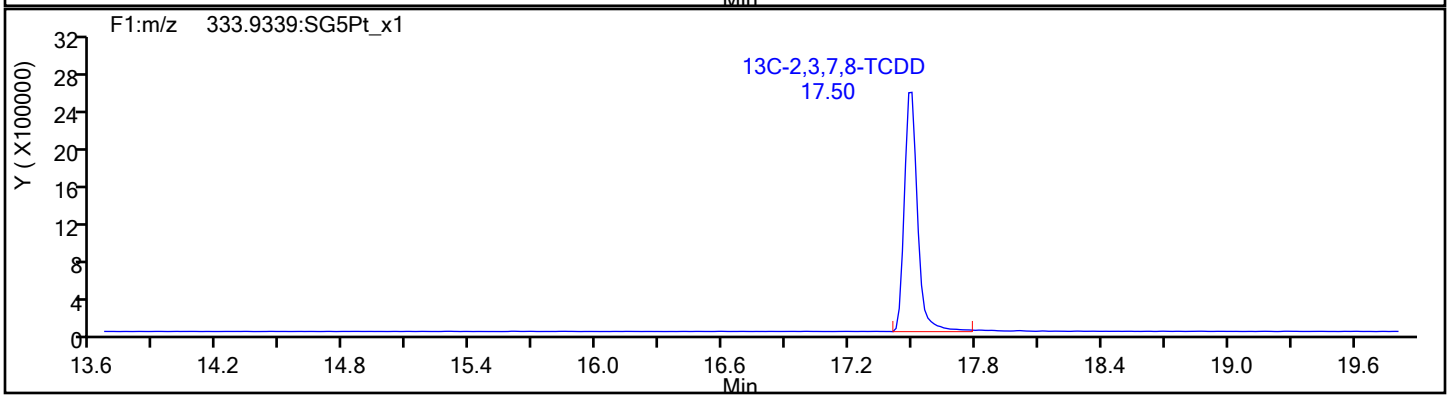

Report Date: 07-Feb-2020 07:57:49 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_1.d		
Injection Date:	06-Feb-2020 10:48:49	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355551	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

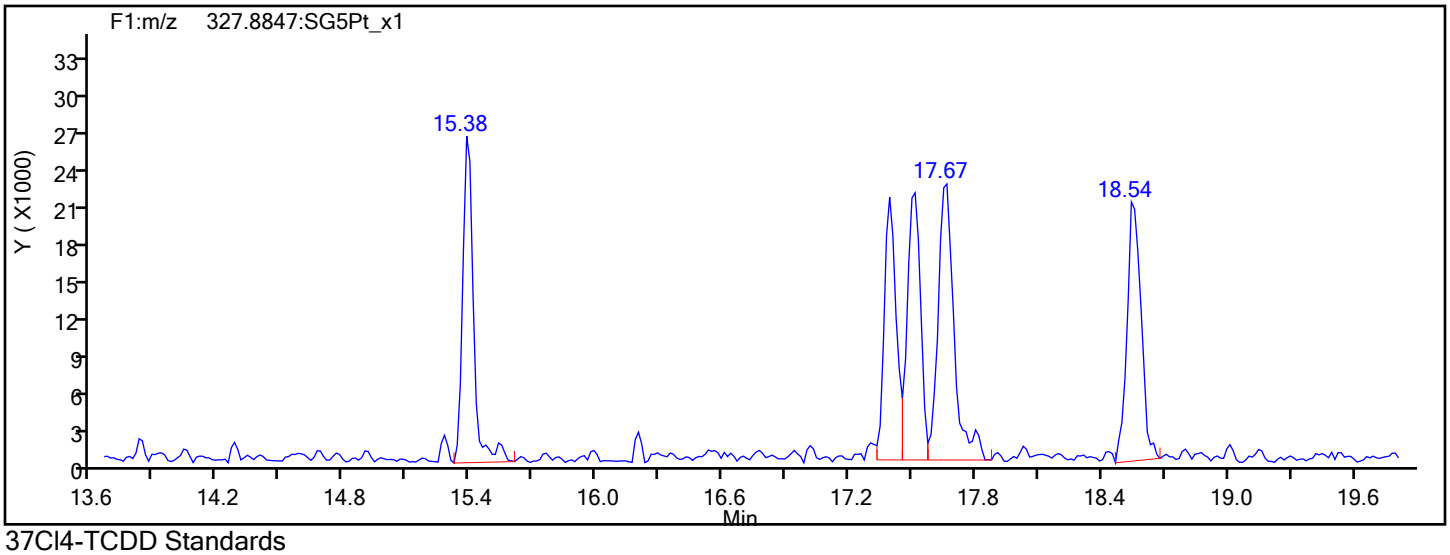

37Cl4-TCDD Standards

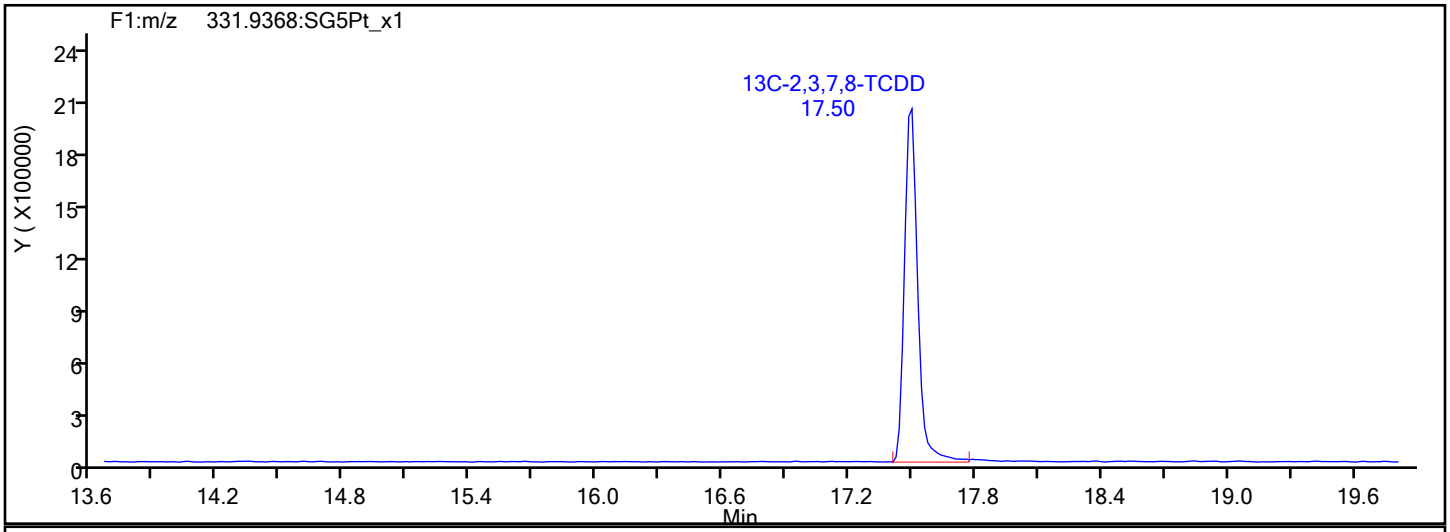

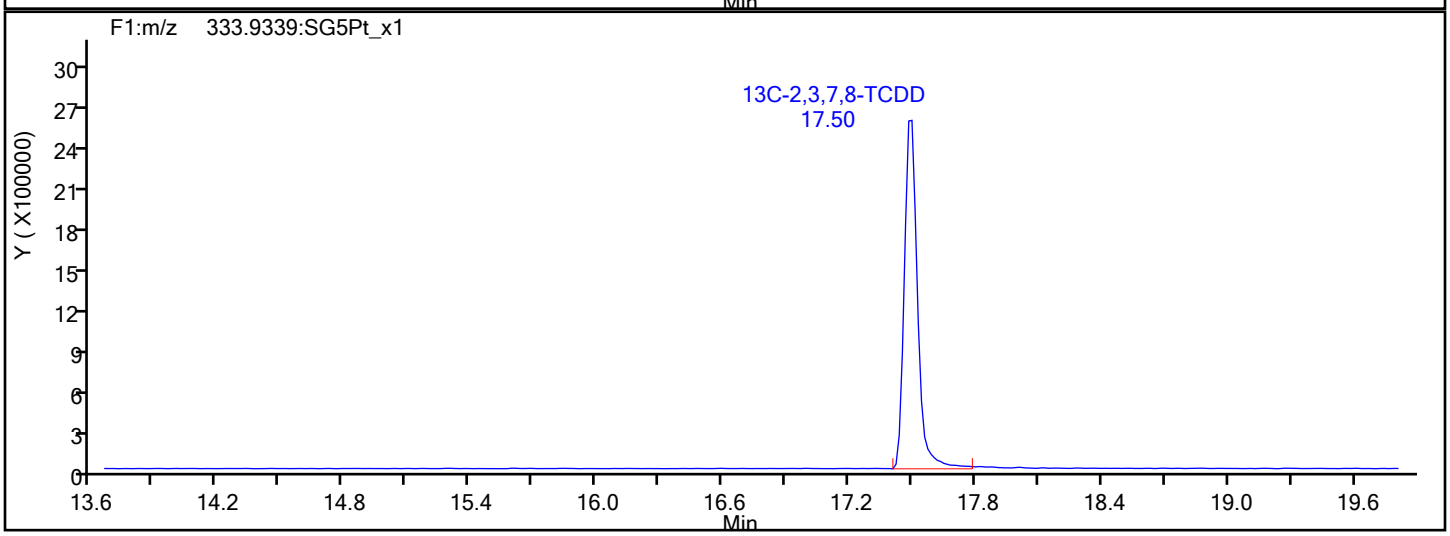

Report Date: 07-Feb-2020 07:57:49 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_1.d		
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Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

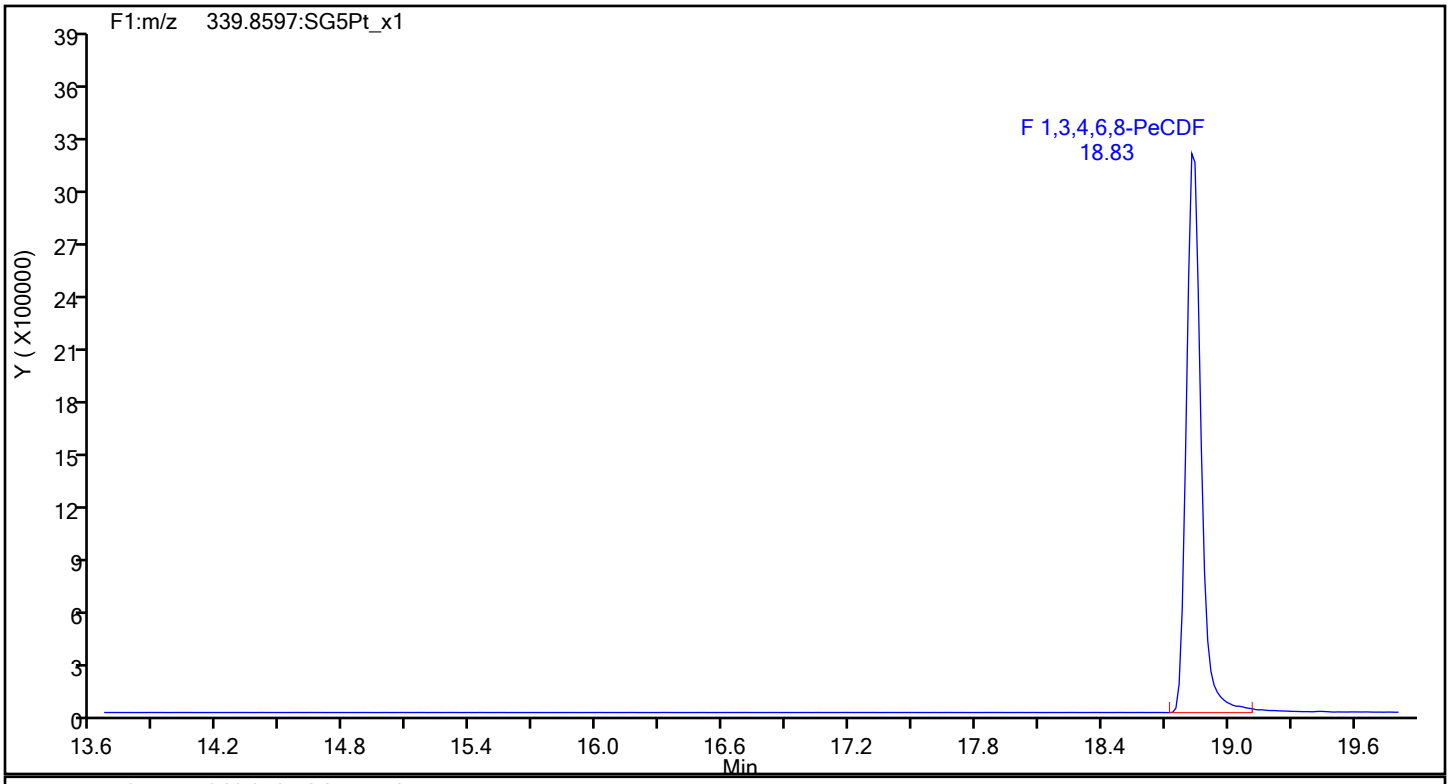

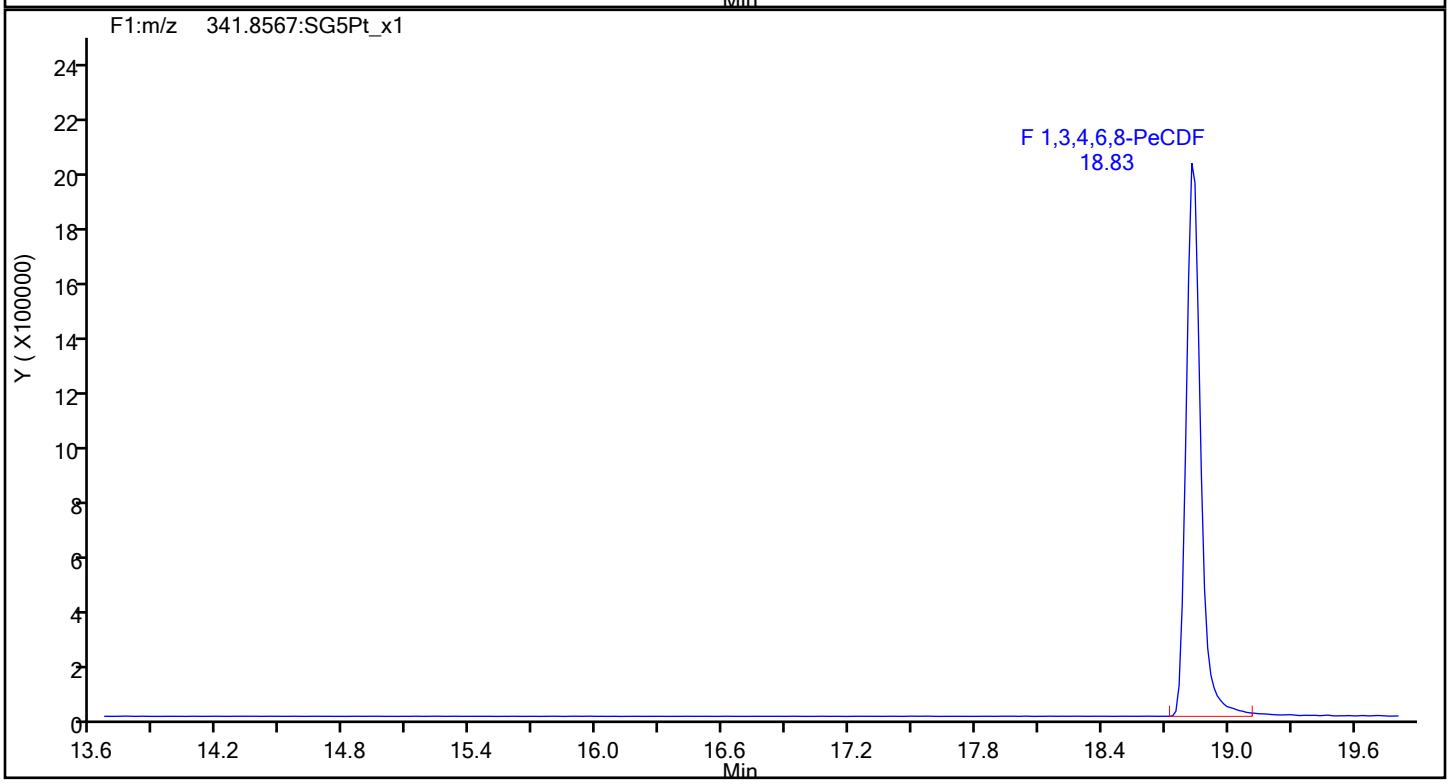

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

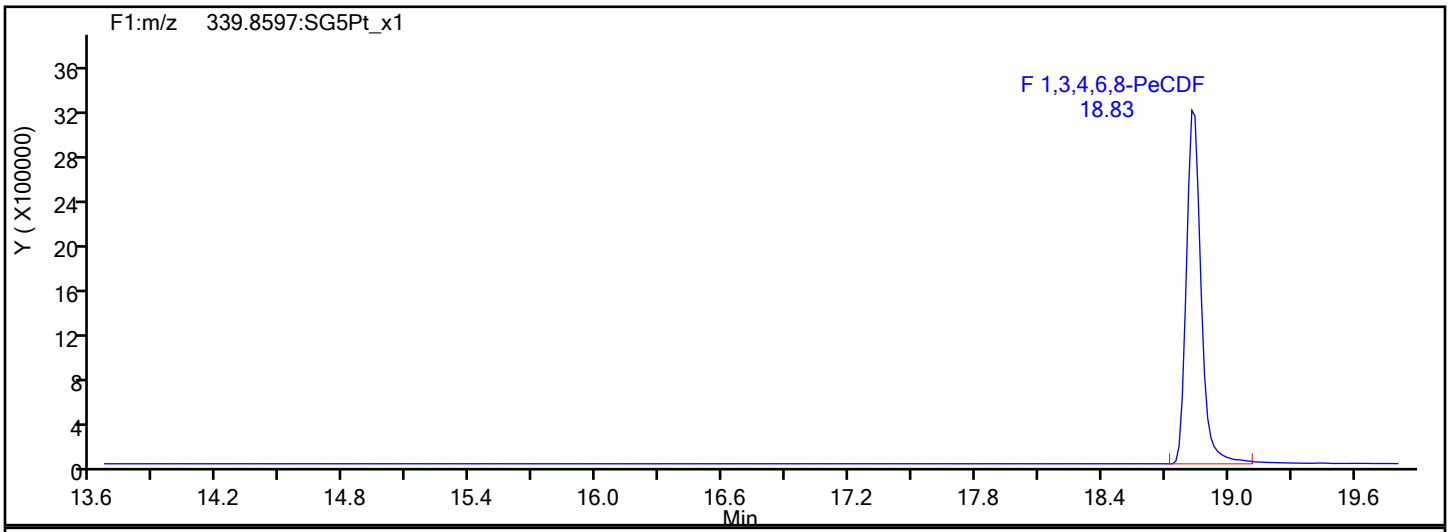

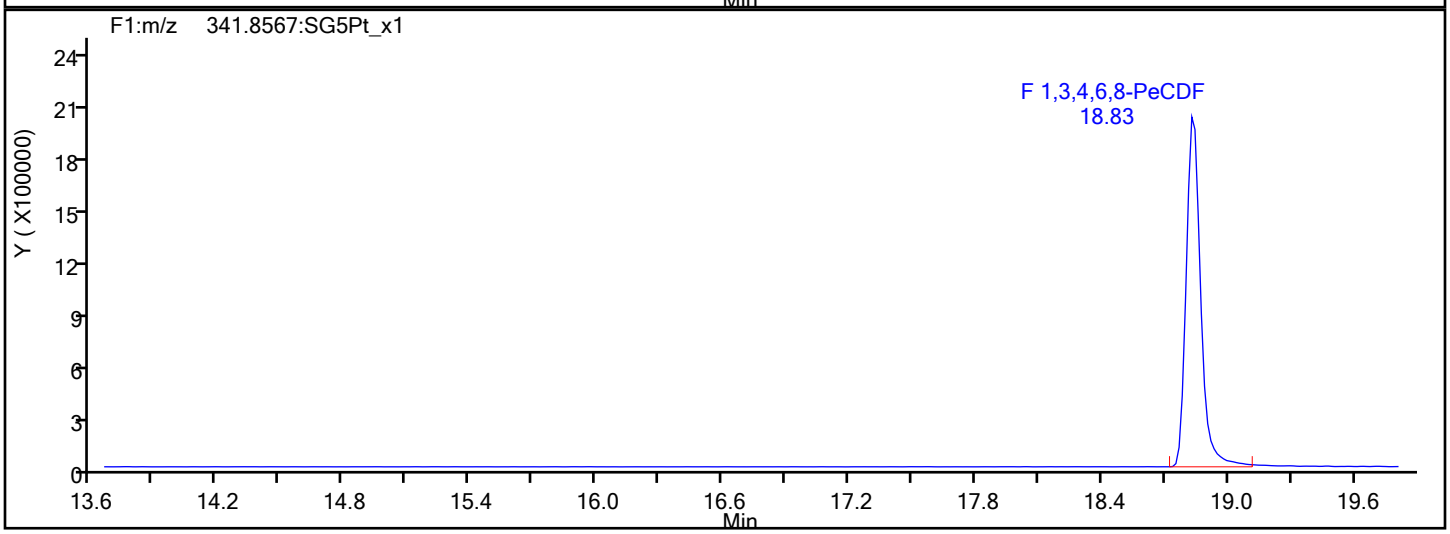

F1 PeCDFs Interference Mass

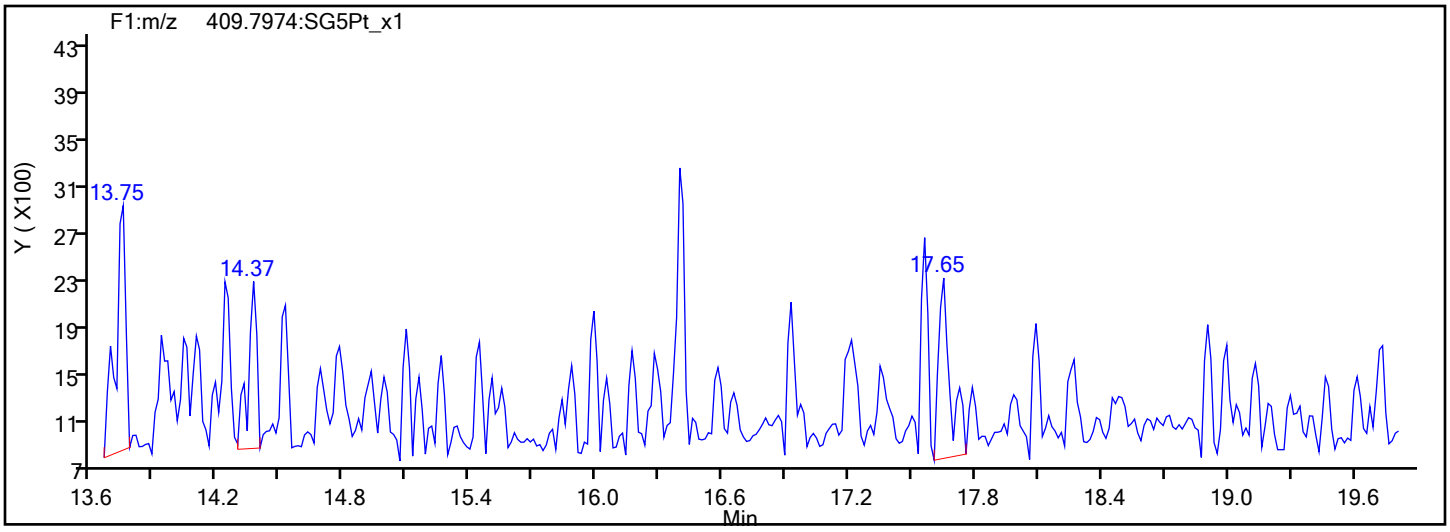

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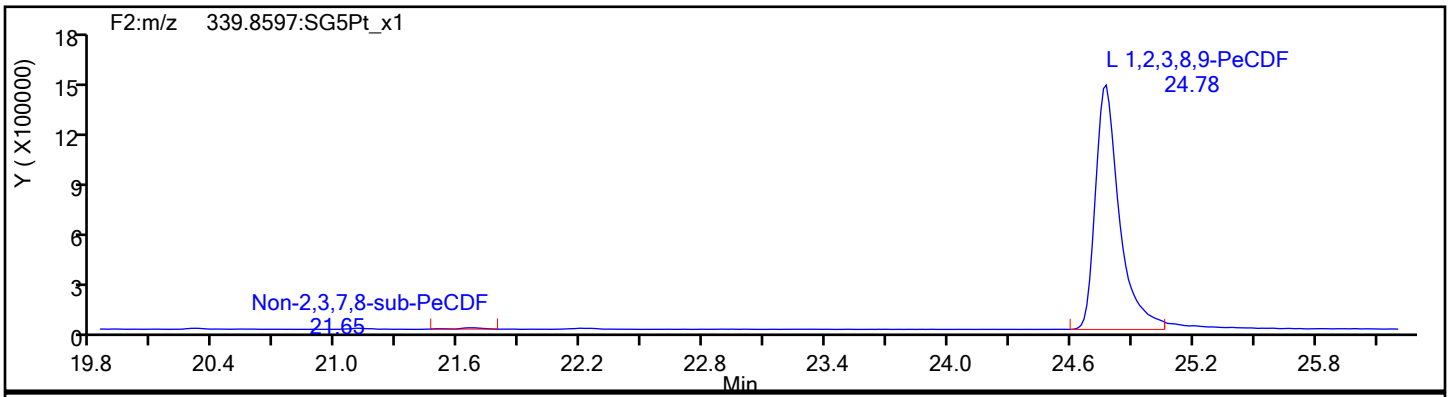

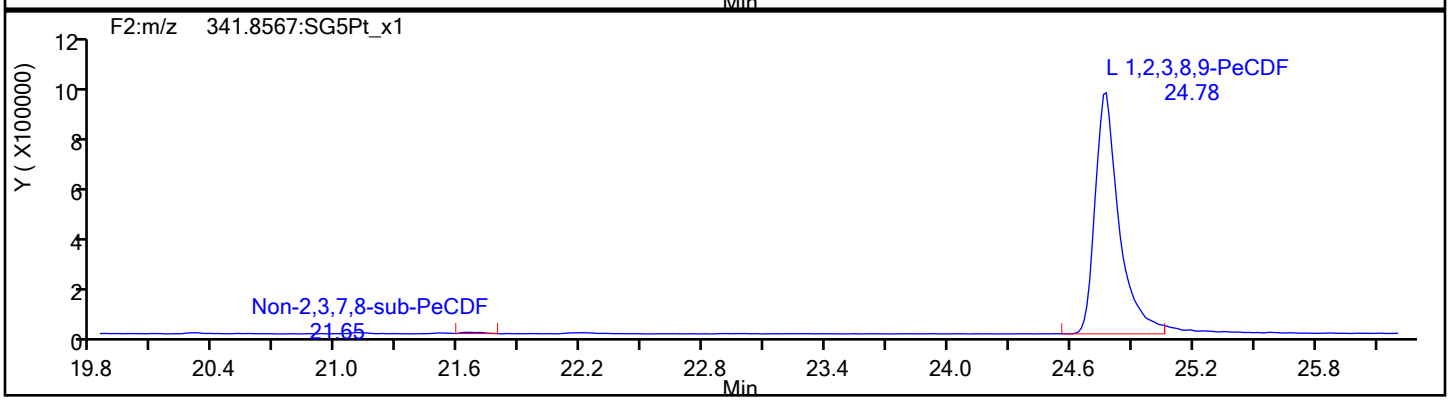

PeCDF Standards

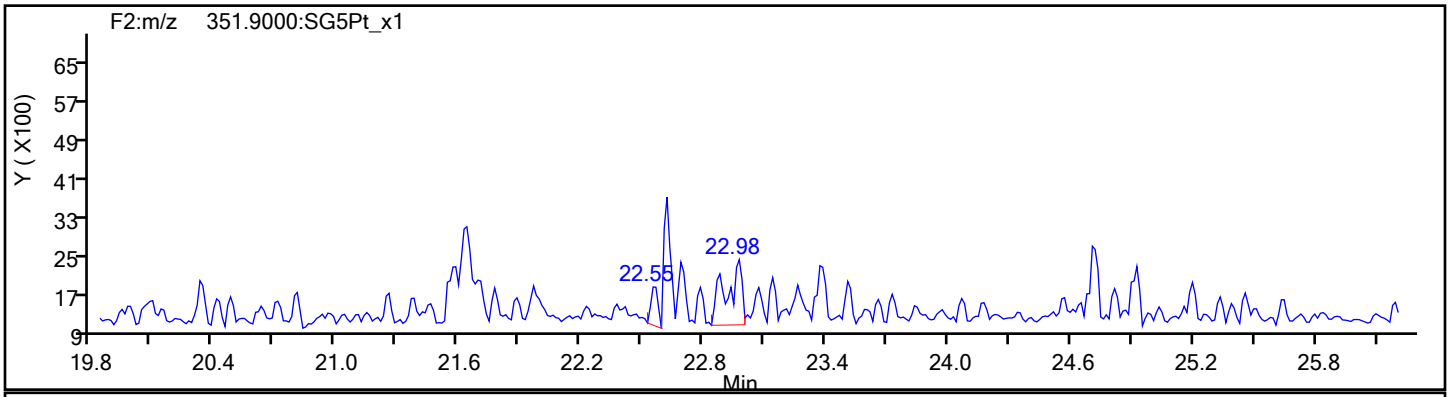

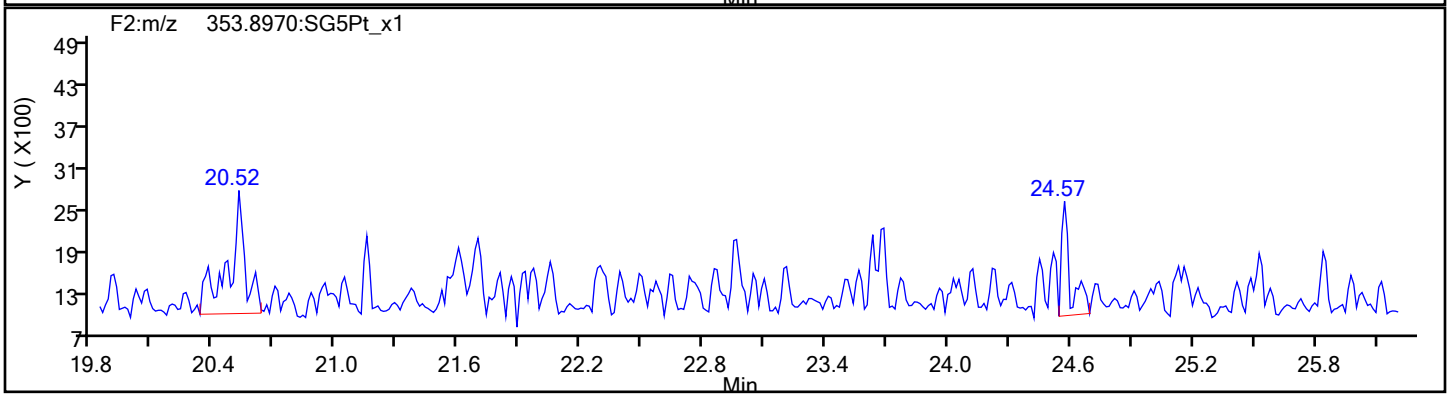

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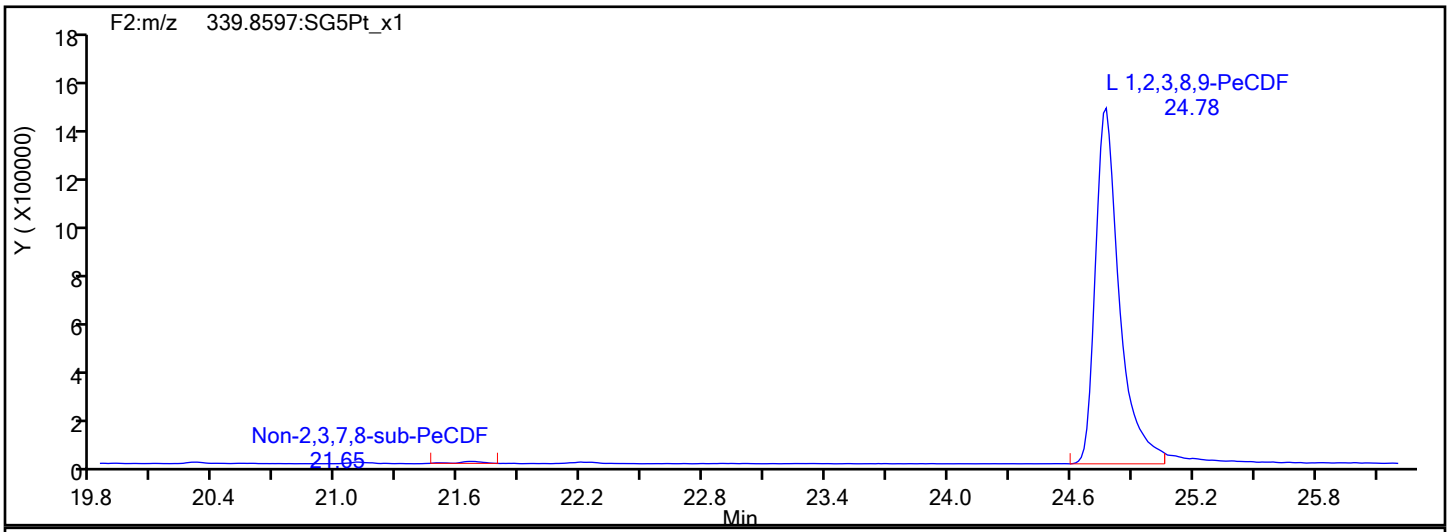

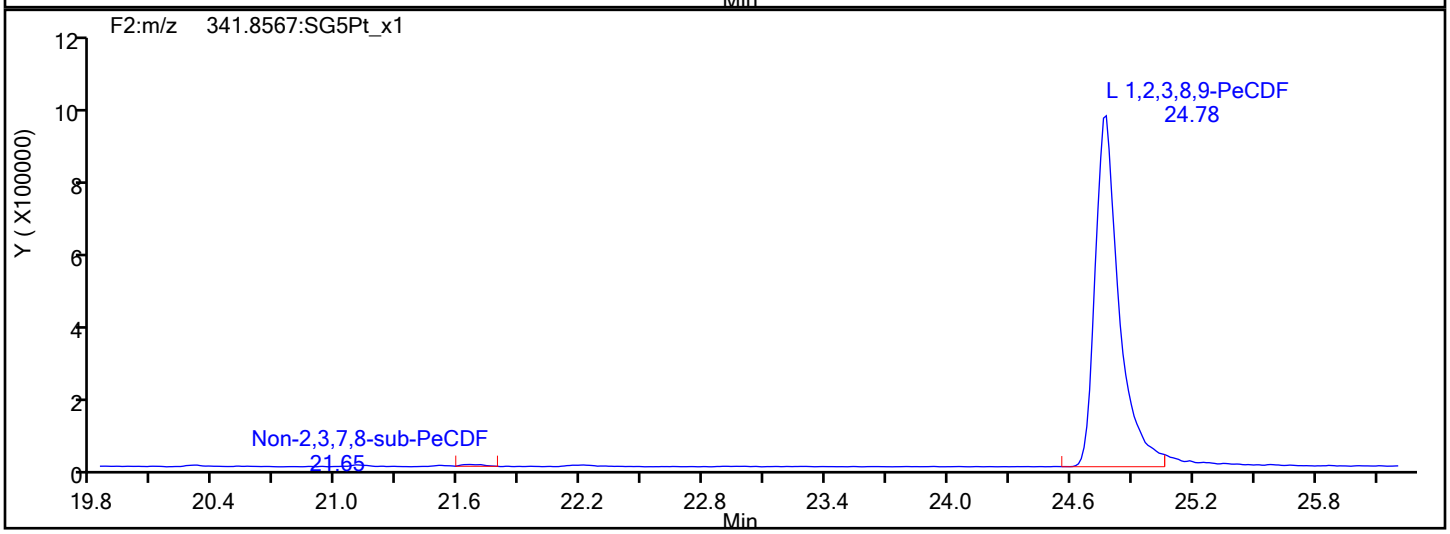

PeCDF Interference Mass

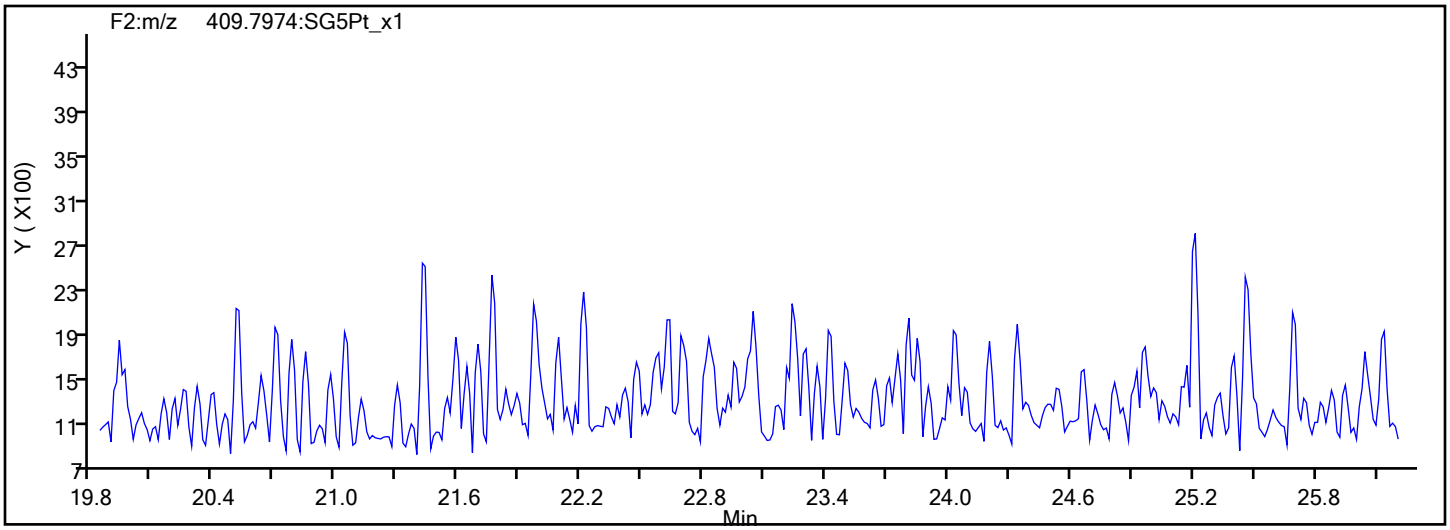

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Eurofins TestAmerica, Sacramento

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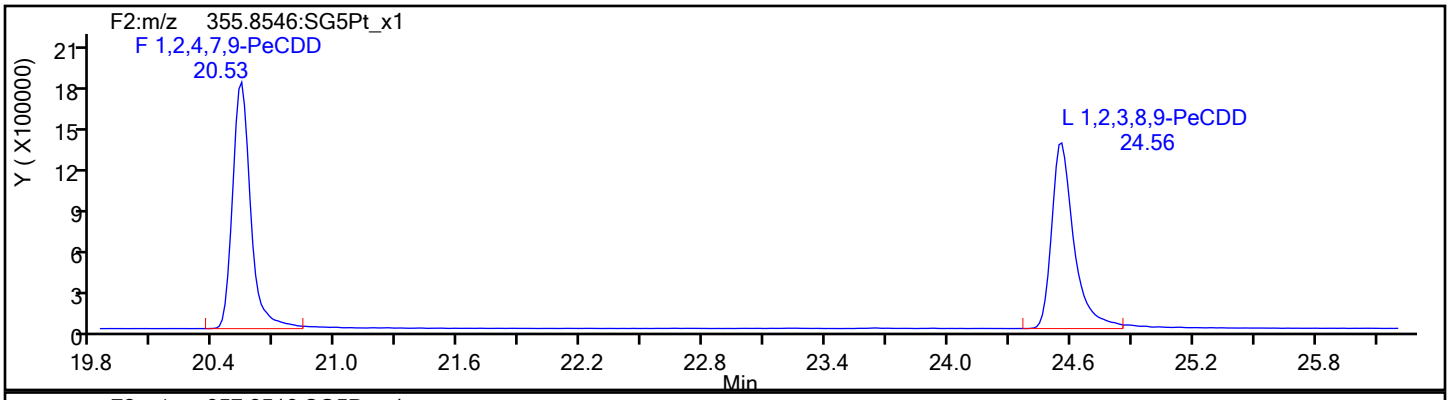

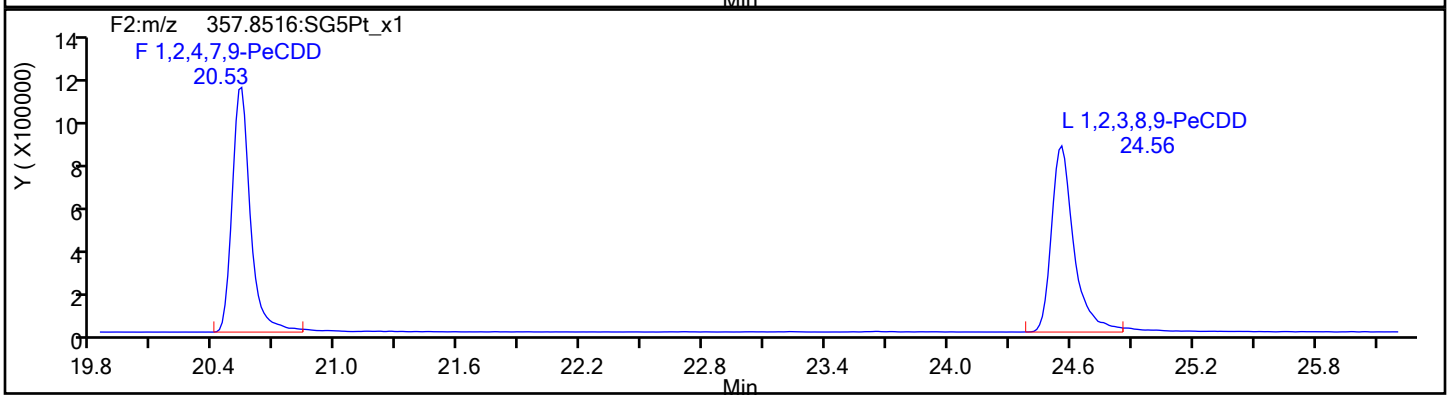

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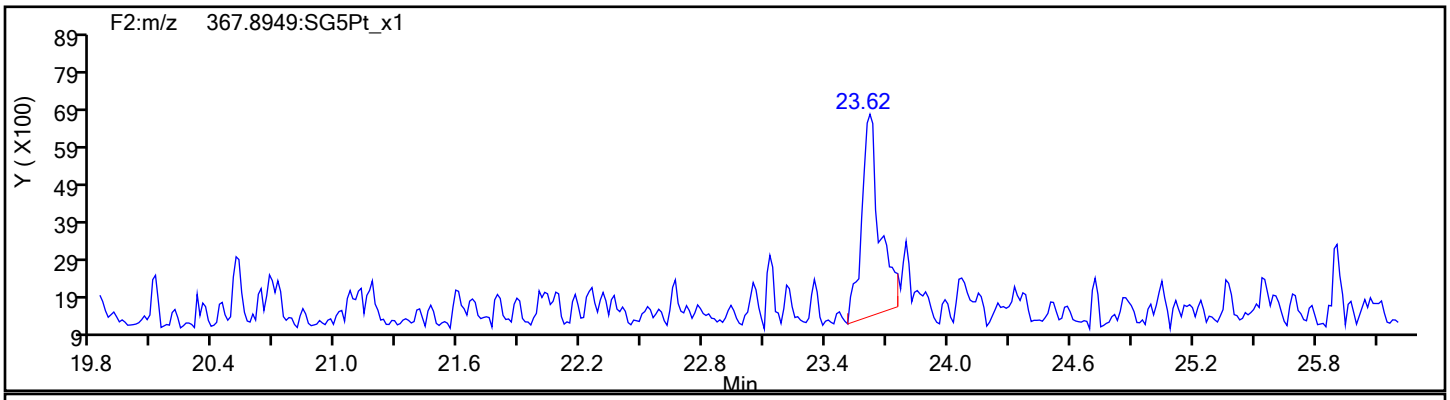

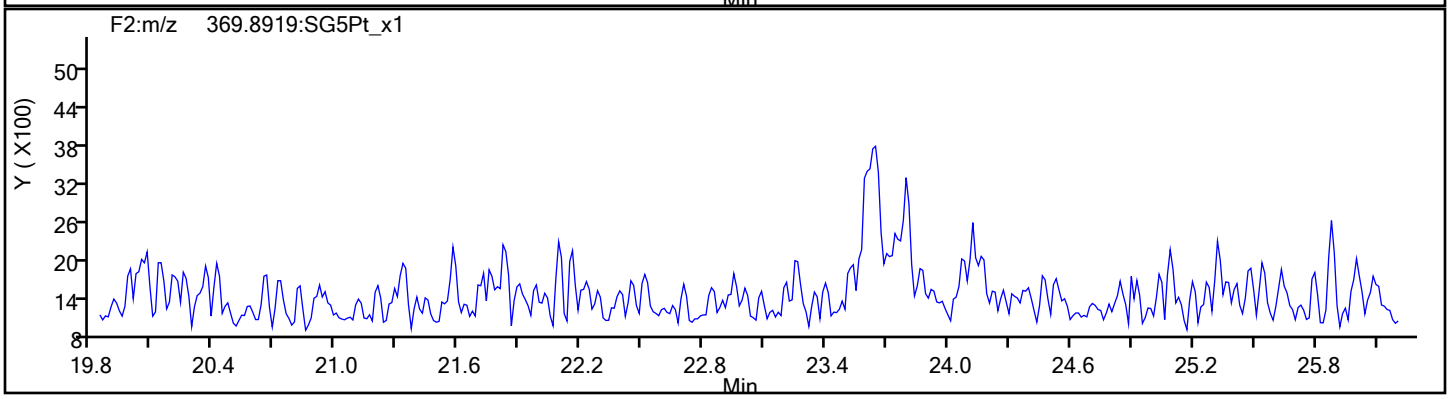

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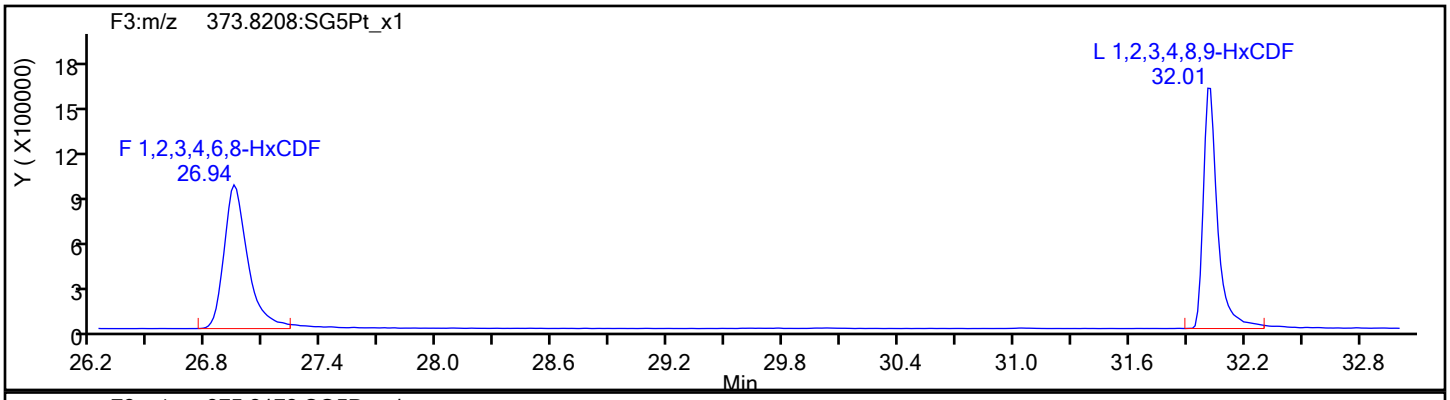

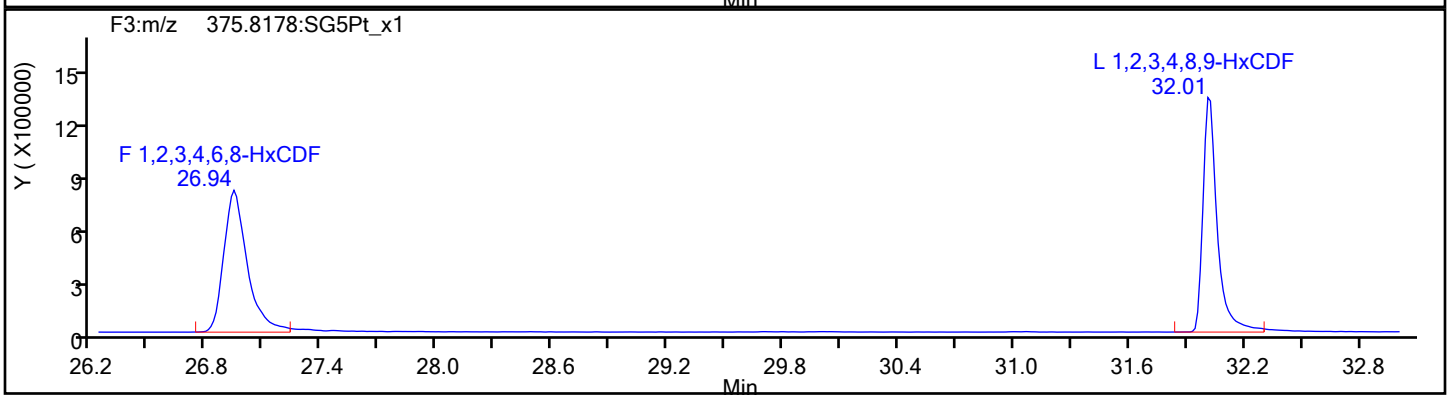

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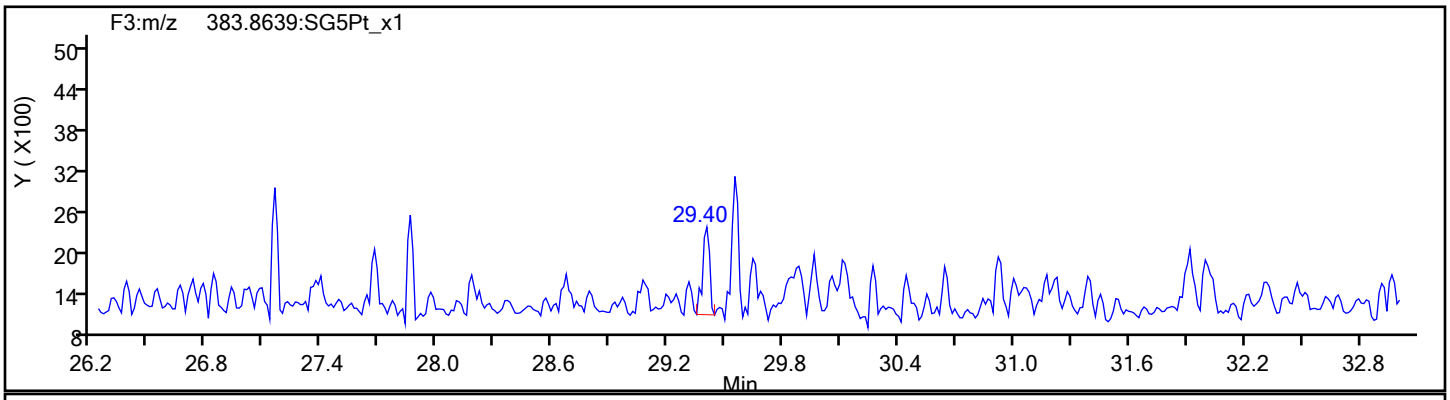

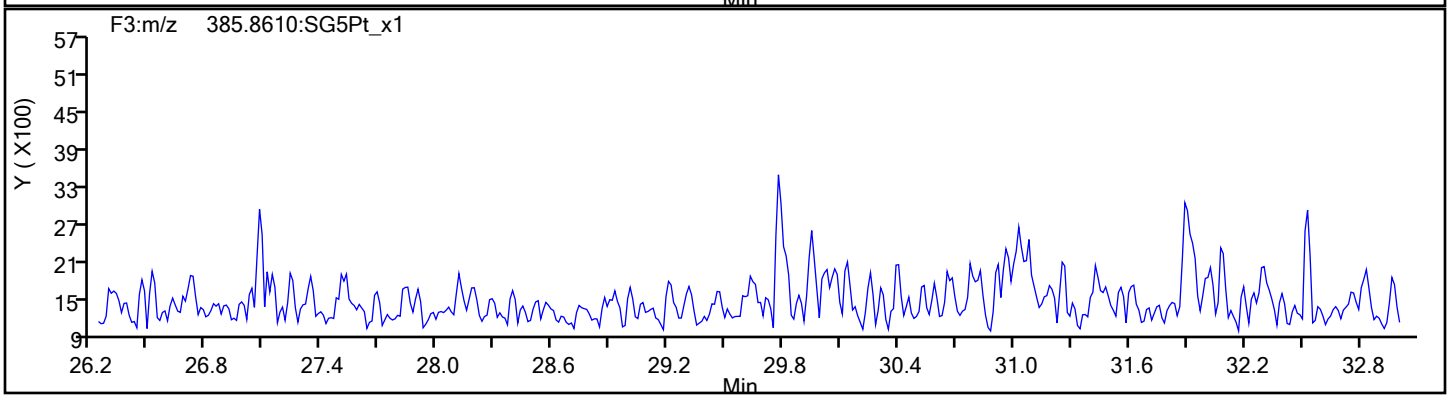

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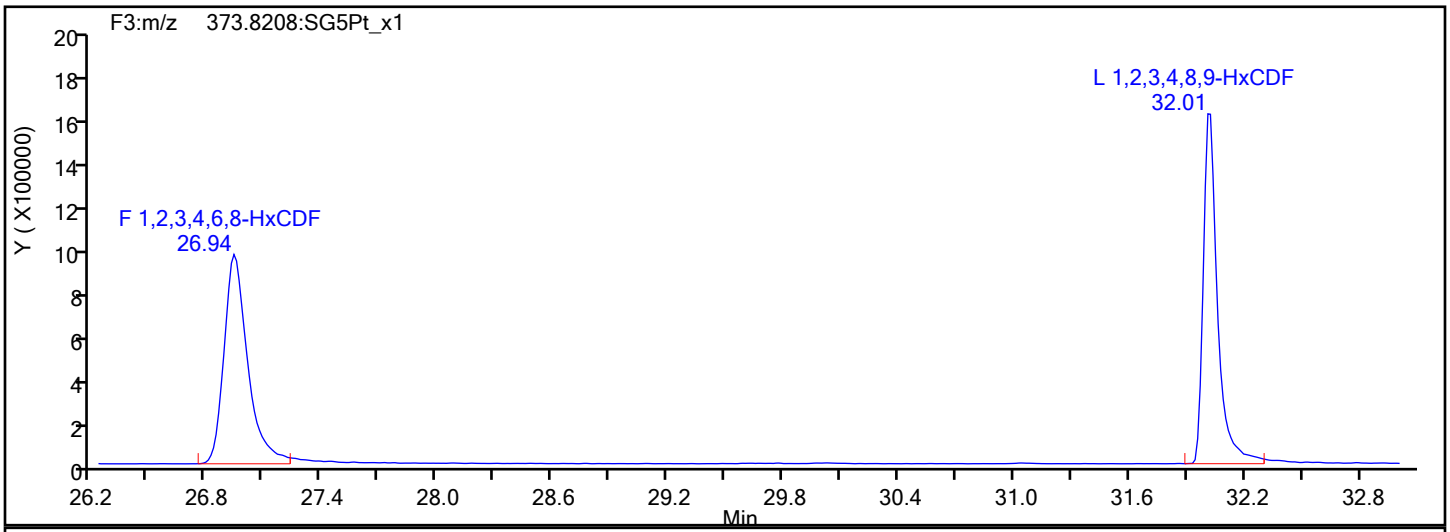

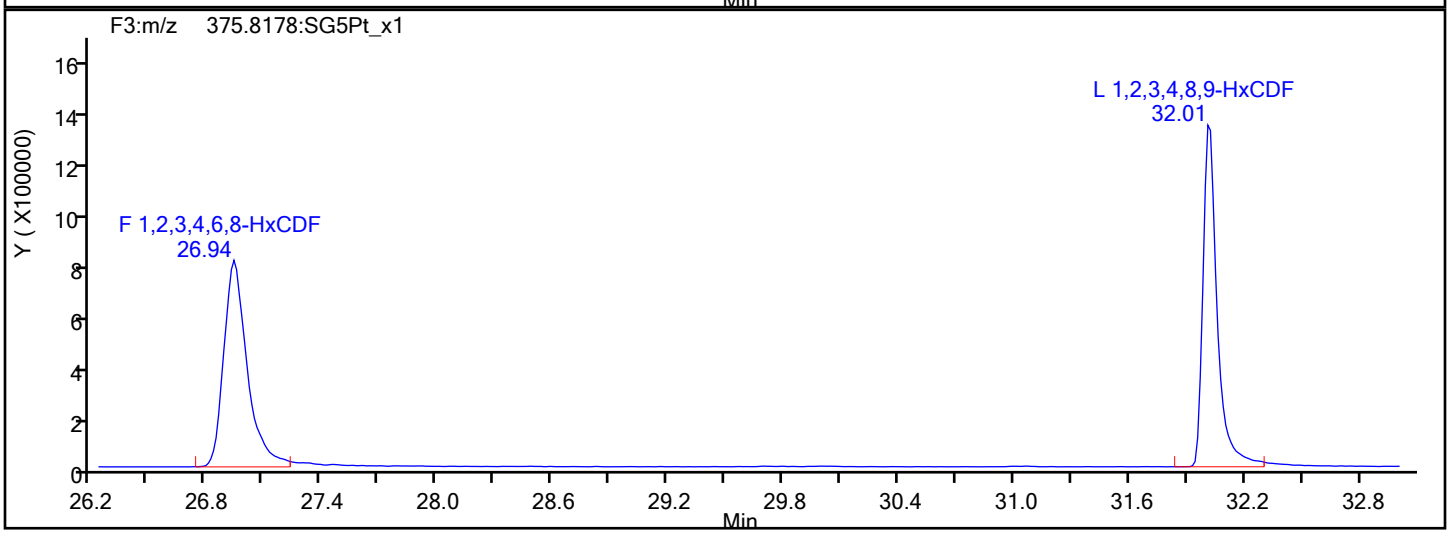

HxCDF Interference Mass

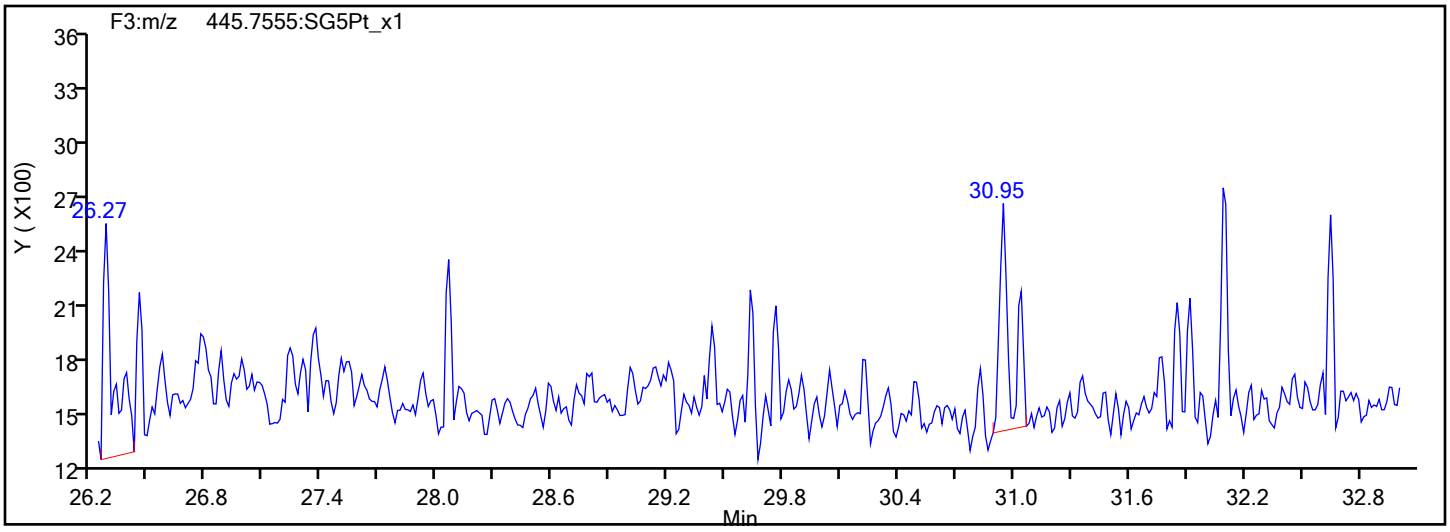

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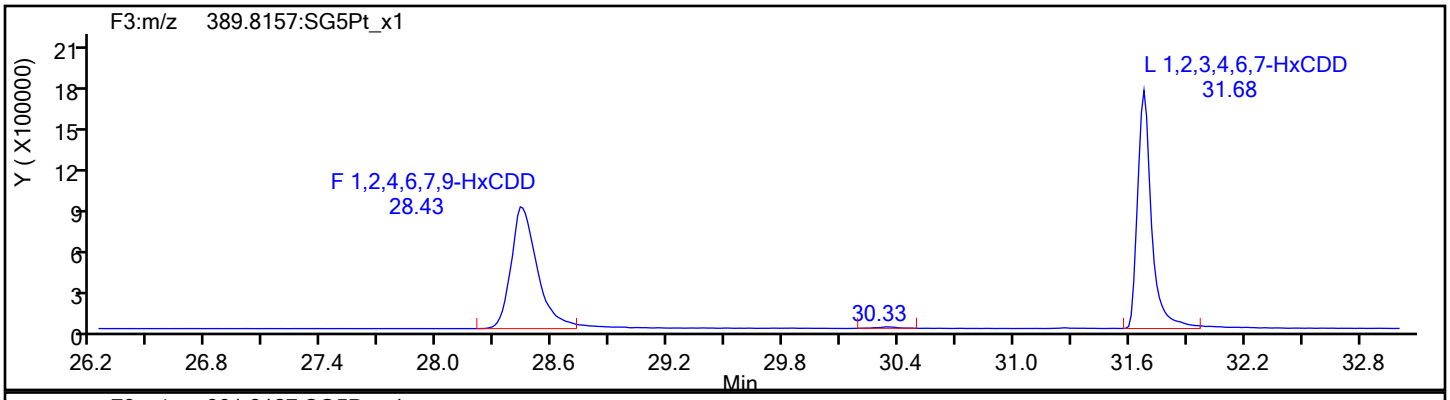

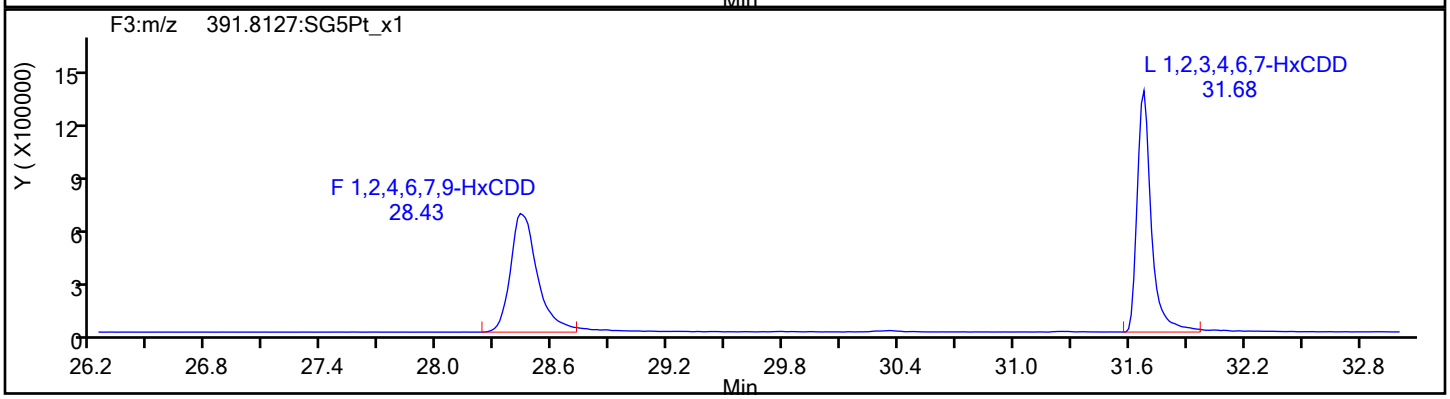

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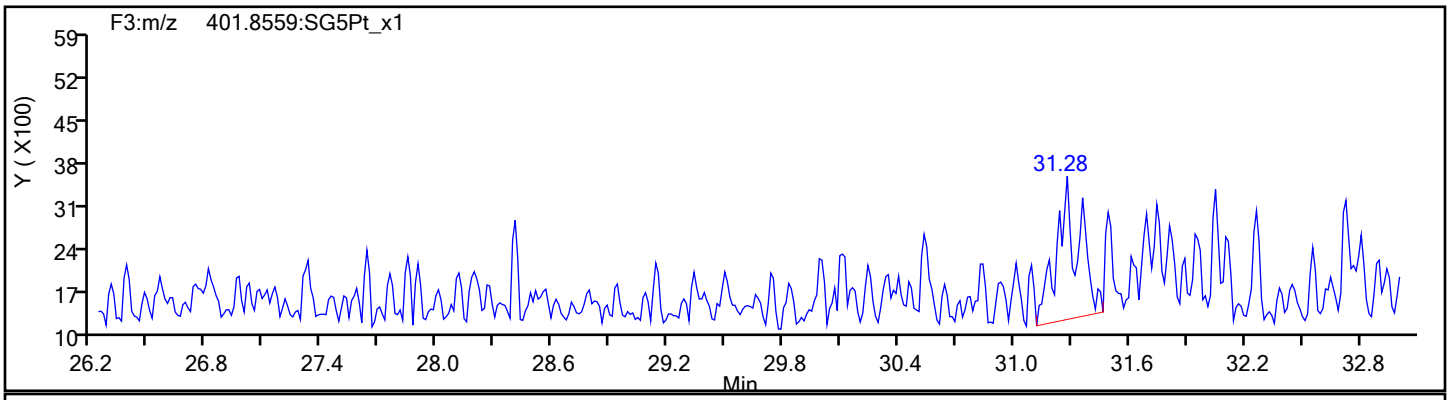

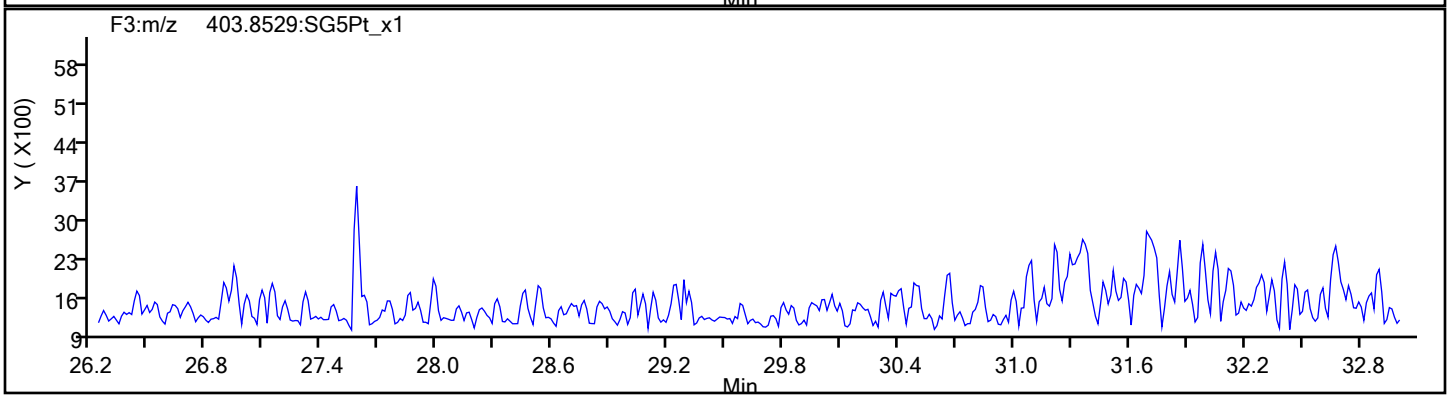

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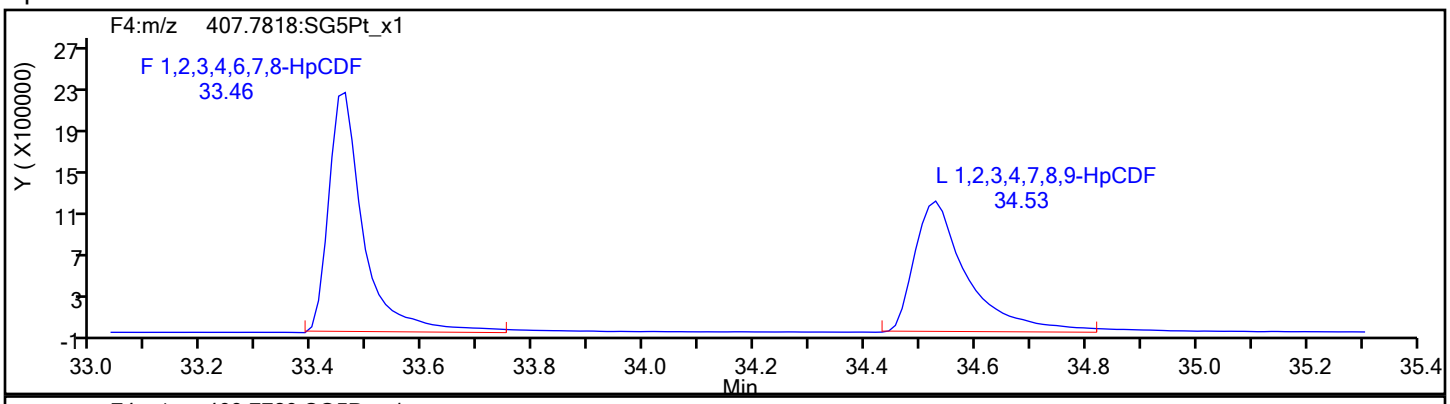

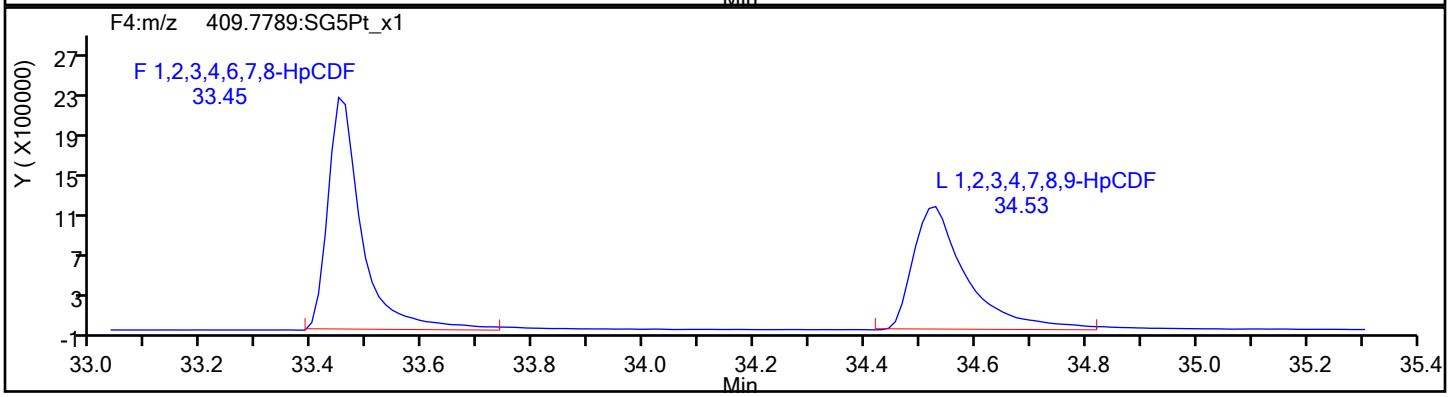

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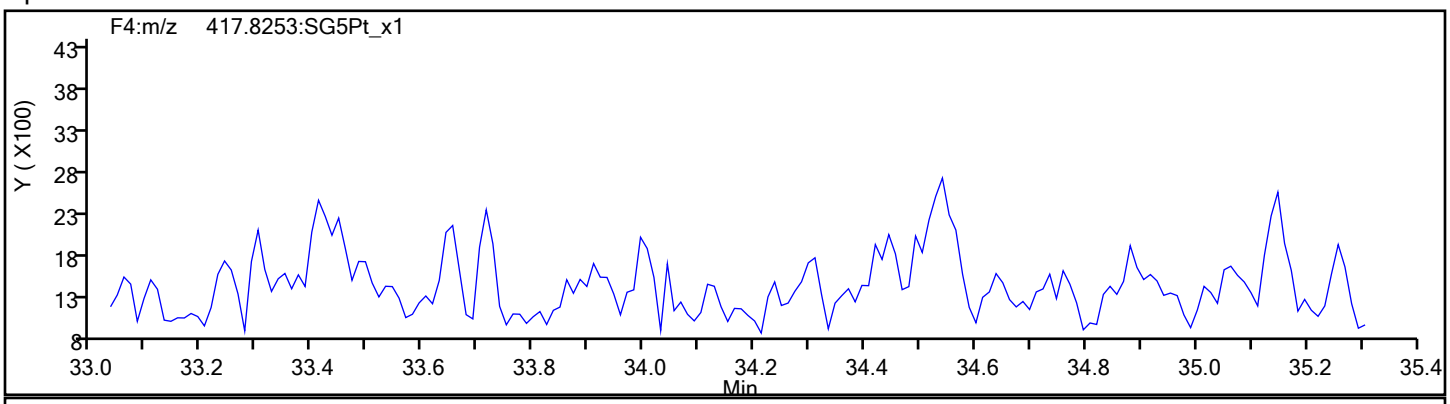

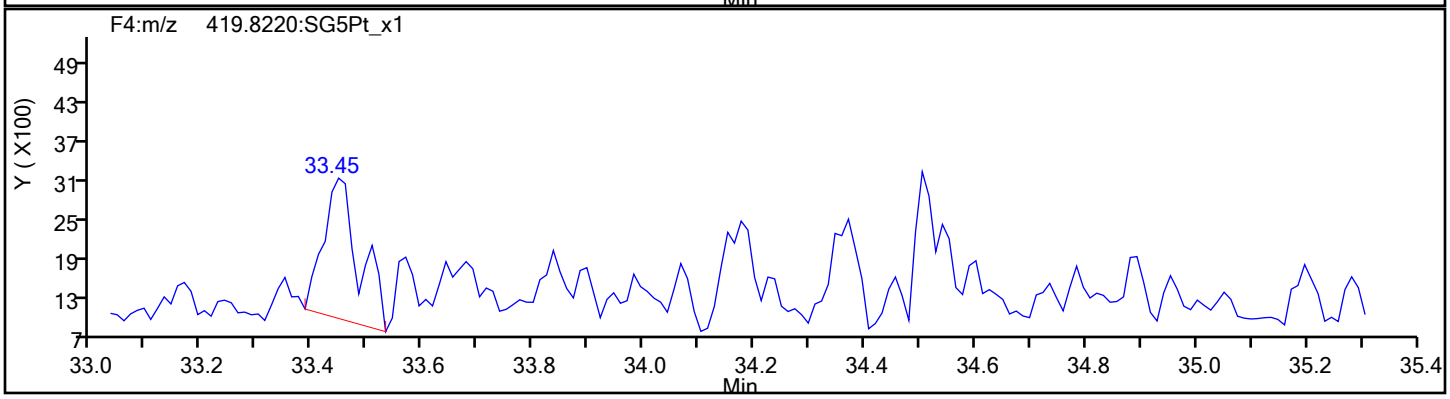

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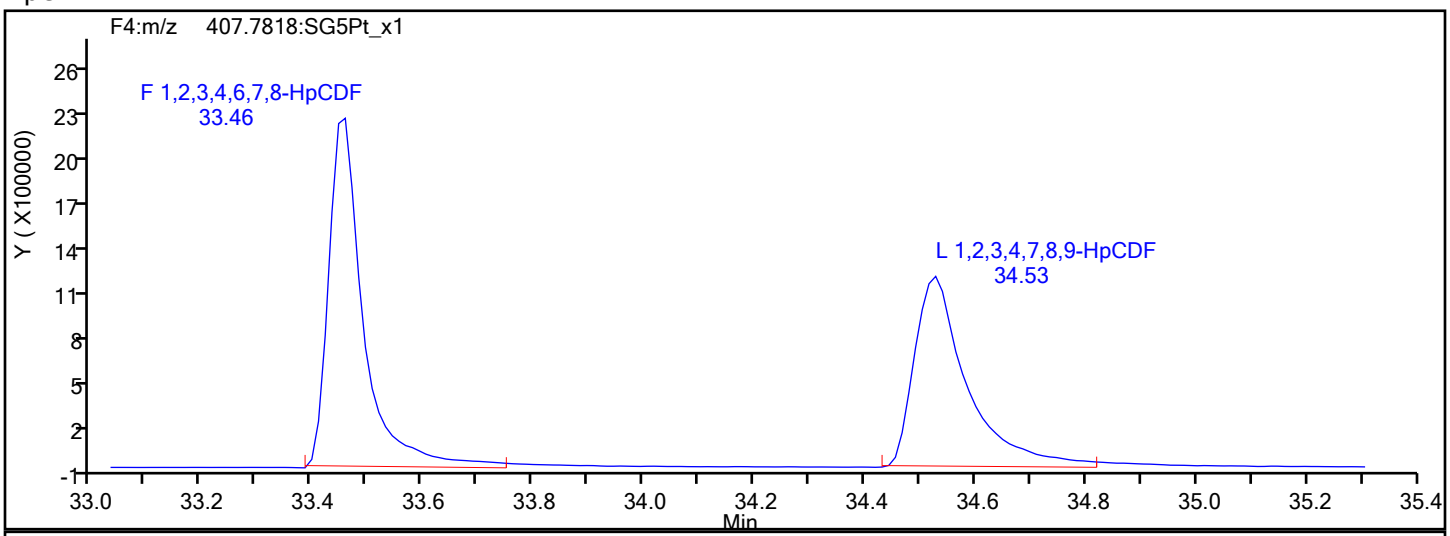

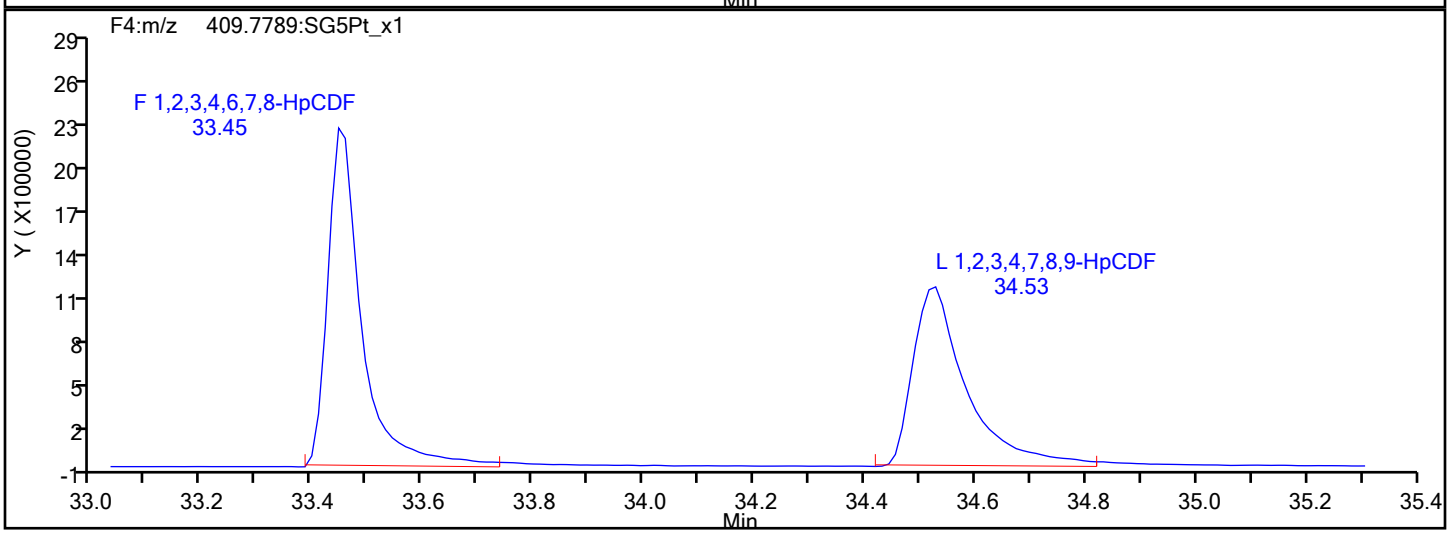

HpCDF Interference Mass

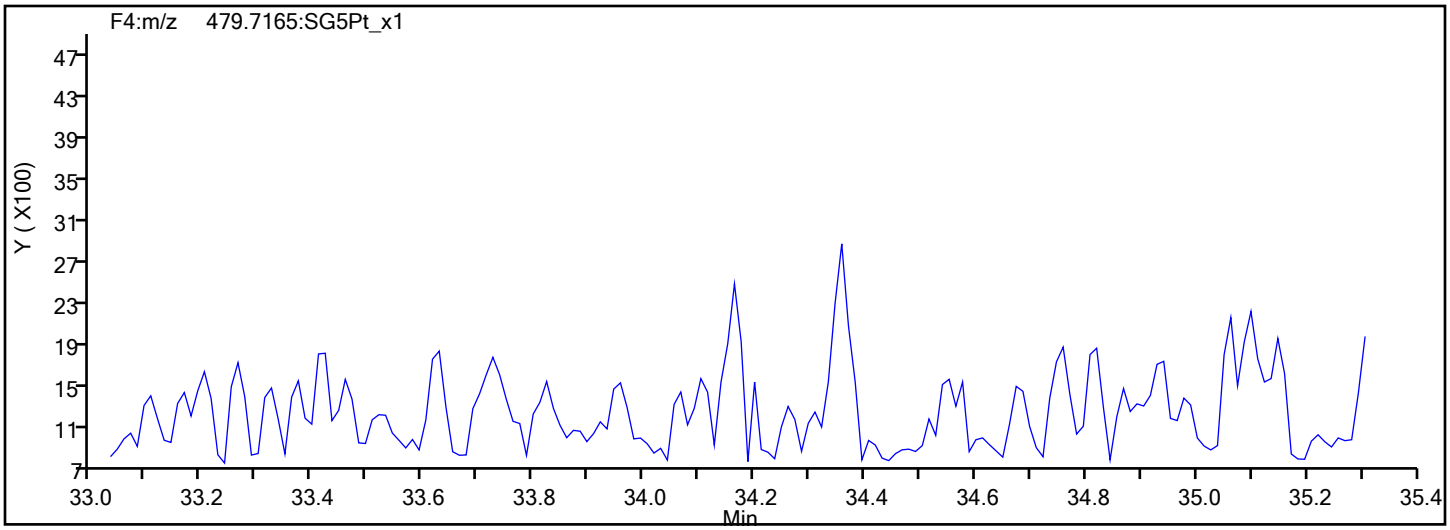

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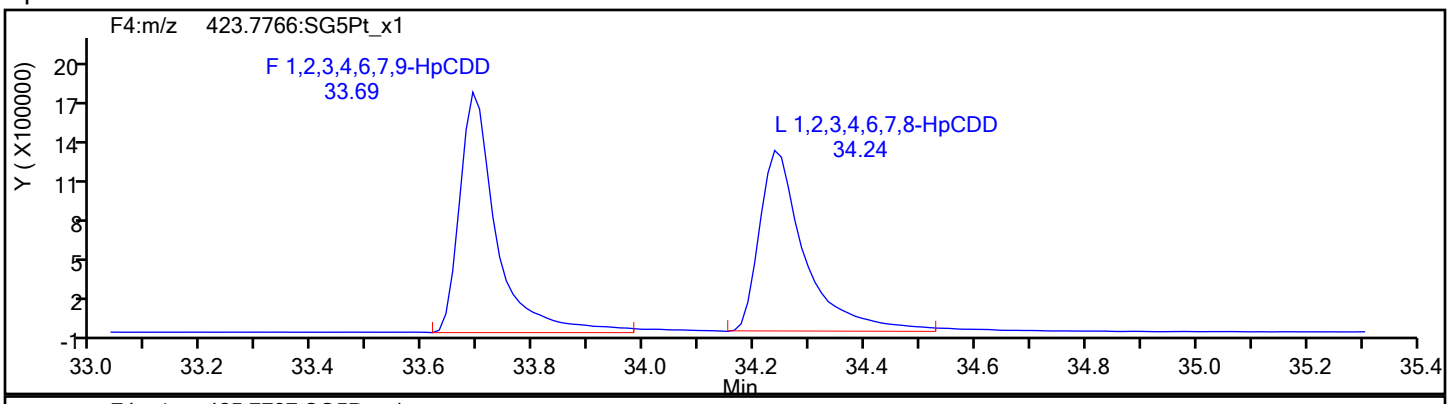

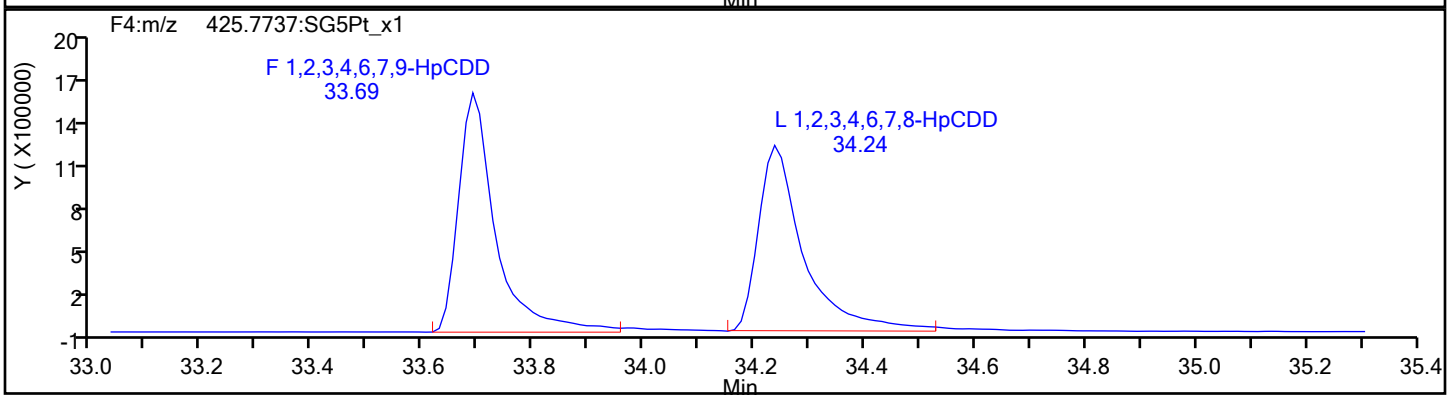

HpCDD Standards

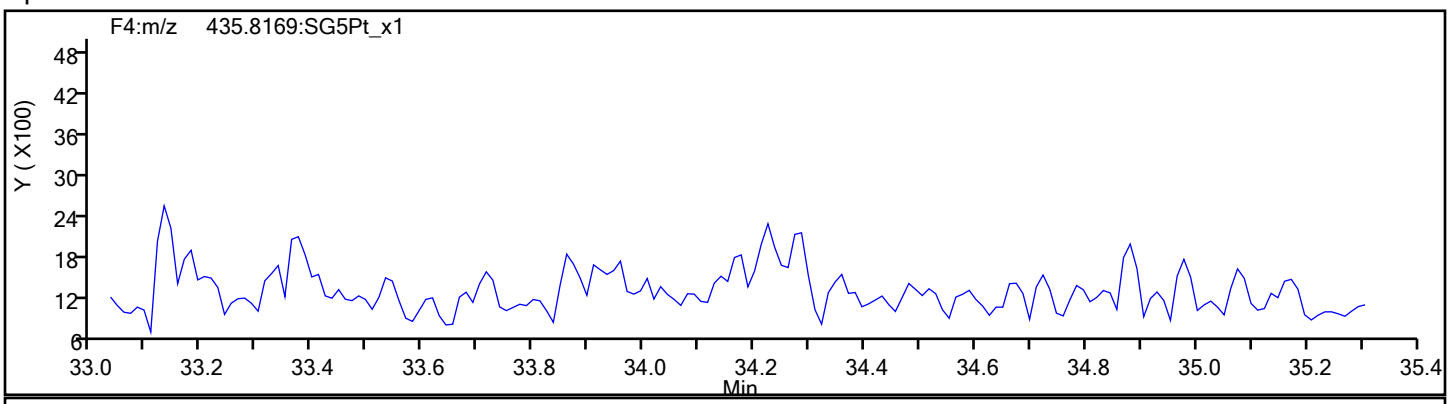

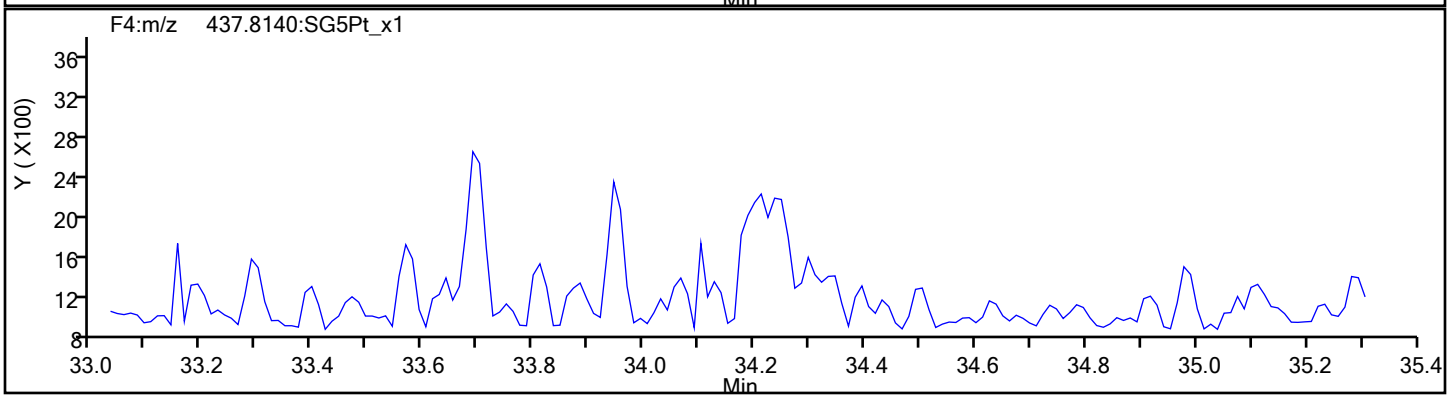

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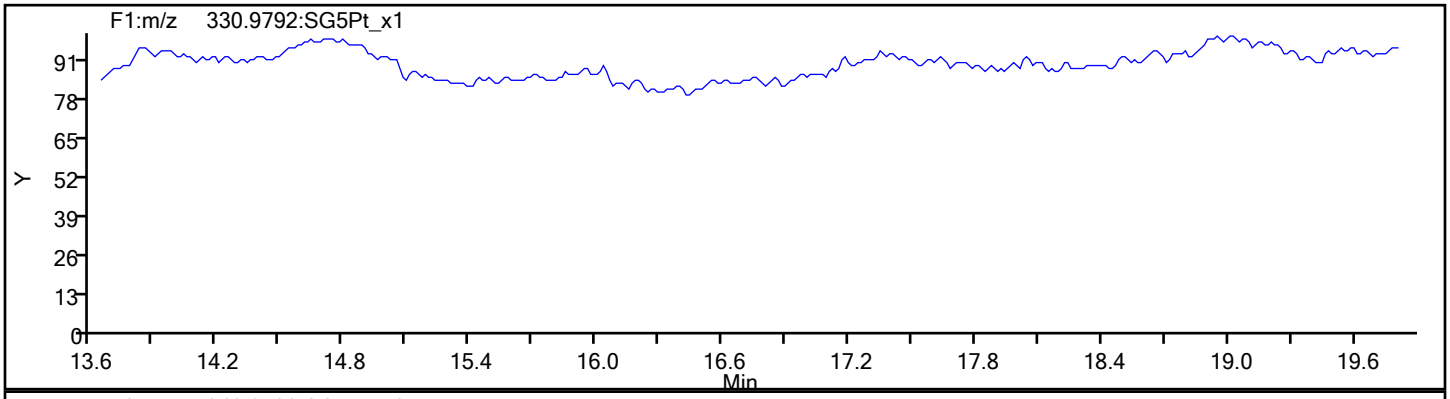

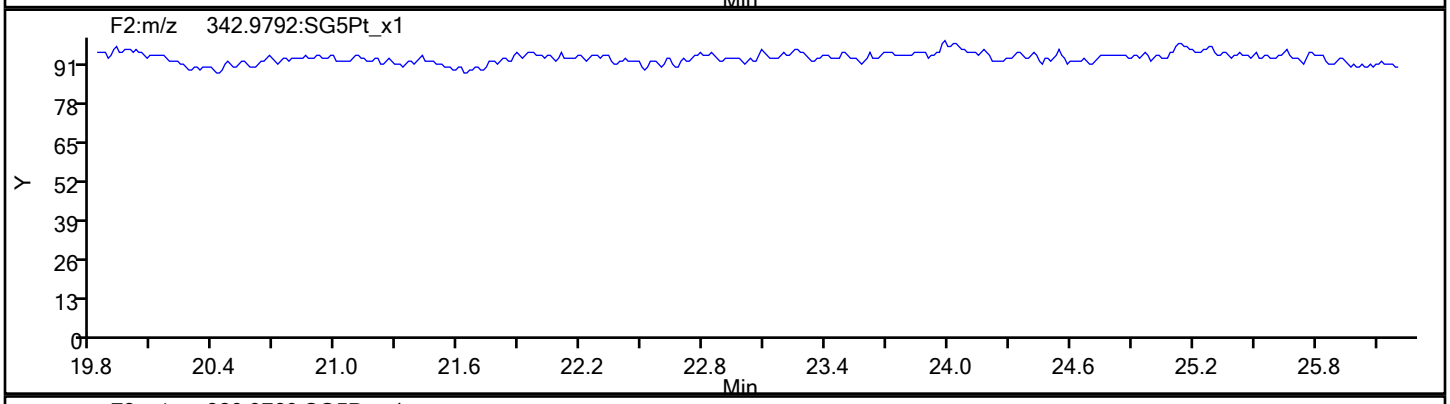

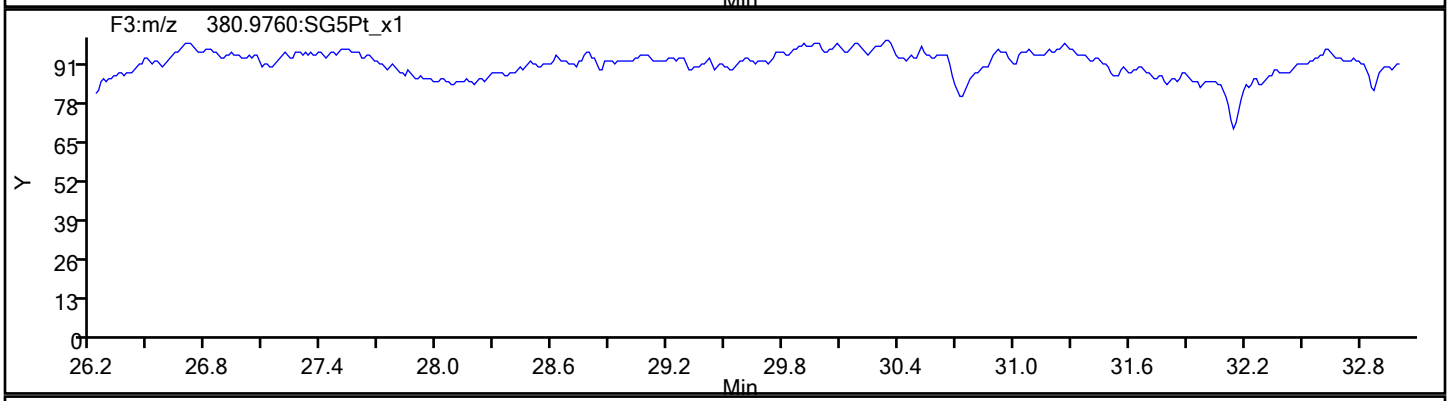

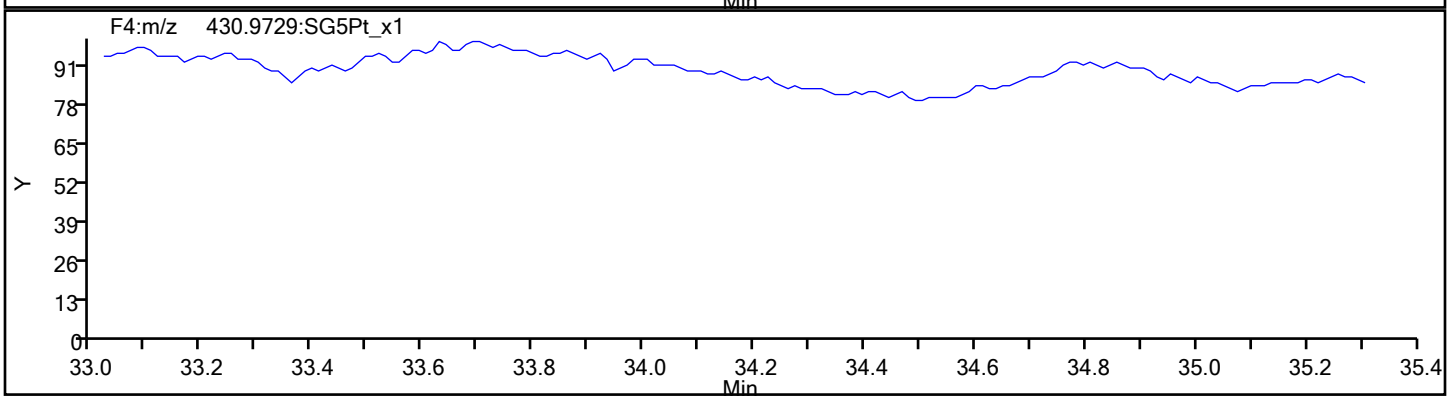

Report Date: 07-Feb-2020 07:57:50 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_1.d		
Injection Date:	06-Feb-2020 10:48:49	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355551	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

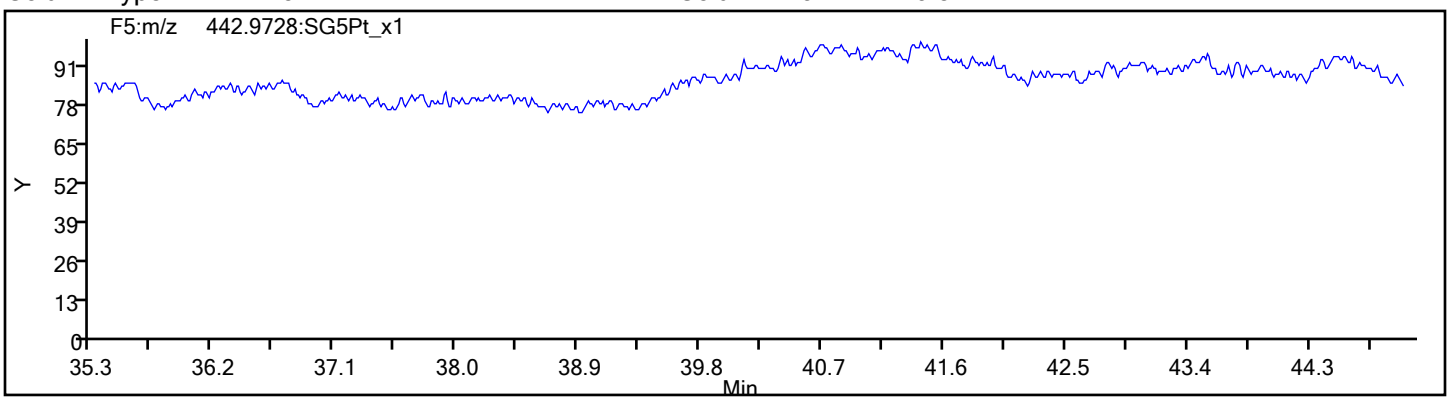

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_001.d
Lims ID: CPS
Client ID:
Sample Type: CPS
Inject. Date: 04-Feb-2020 09:12:19 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info:
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 04-Feb-2020 16:42:57 Calib Date: 04-Feb-2020 13:02:26
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0329

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	16.518	127984595	0.80	1.4045					0.00	
2,3,7,8-TCDF	16.531	134168098	0.76	0.9831	42.7	42.7	0.0749	0.0749		
D 13C-2,3,7,8-TCDD	15.105	79862076	0.75	0.8544					0.00	
2,3,7,8-TCDD	15.118	87735890	0.80	1.2044	36.5	36.5	0.0737	0.0737		
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNCP_00040 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_001.d
Lims ID: CPS
Client ID:
Sample Type: CPS
Inject. Date: 04-Feb-2020 09:12:19 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info:
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 04-Feb-2020 16:42:57 Calib Date: 04-Feb-2020 13:02:26
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0329

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	16.518	16.518	0	1.000	56767171	11297354	18194	45485	621		
317.9389	16.518	16.518	0	1.000	71217424	13928693	11079	27697	1257	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.531	16.538	0	1.001	58037501	11592794	8274	20685	1401		
305.8987	16.531	16.538	0	1.001	76130597	15048408	10295	25737	1462	0.76(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.105	15.105	0	1.000	34300225	7420535	11009	27522	674		
333.9339	15.105	15.105	0	1.000	45561851	9393559	4509	11272	2083	0.75(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.118	15.122	0	1.001	38914639	8496957	7375	18437	1152		
321.8936	15.118	15.122	0	1.001	48821251	10585855	7545	18862	1403	0.80(0.65-0.89)	

Reagents:

HRDXNCP_00040 Amount Added: 2.00 Units: uL

Report Date: 04-Feb-2020 16:43:00 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_001.d		
Injection Date:	04-Feb-2020 09:12:19	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355060	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

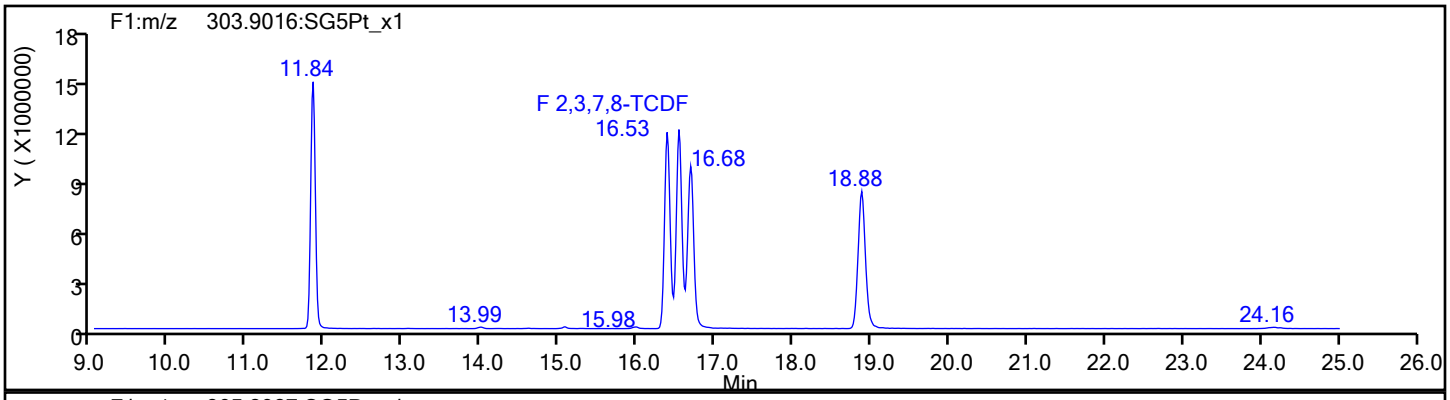

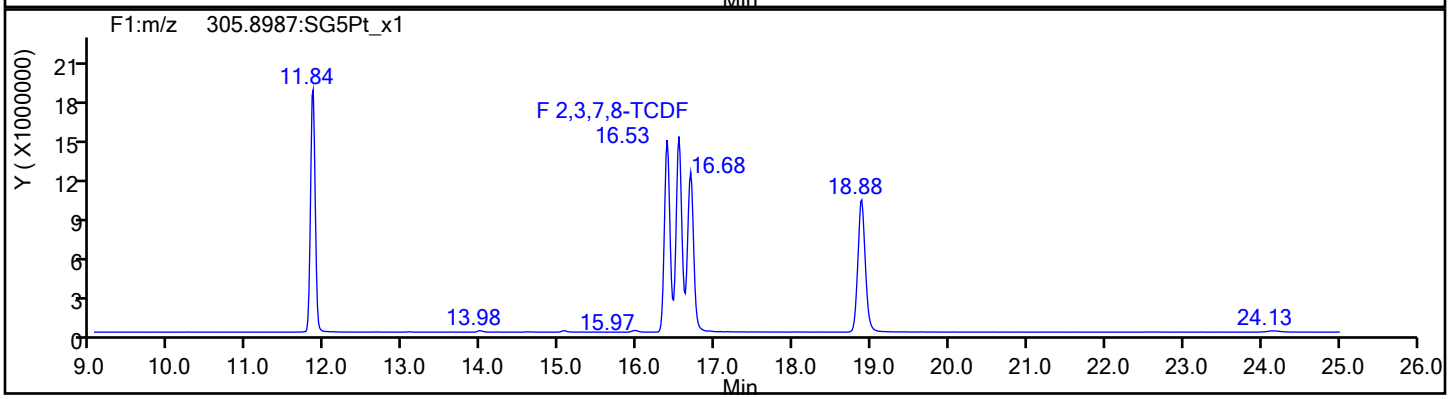

TCDF Standards

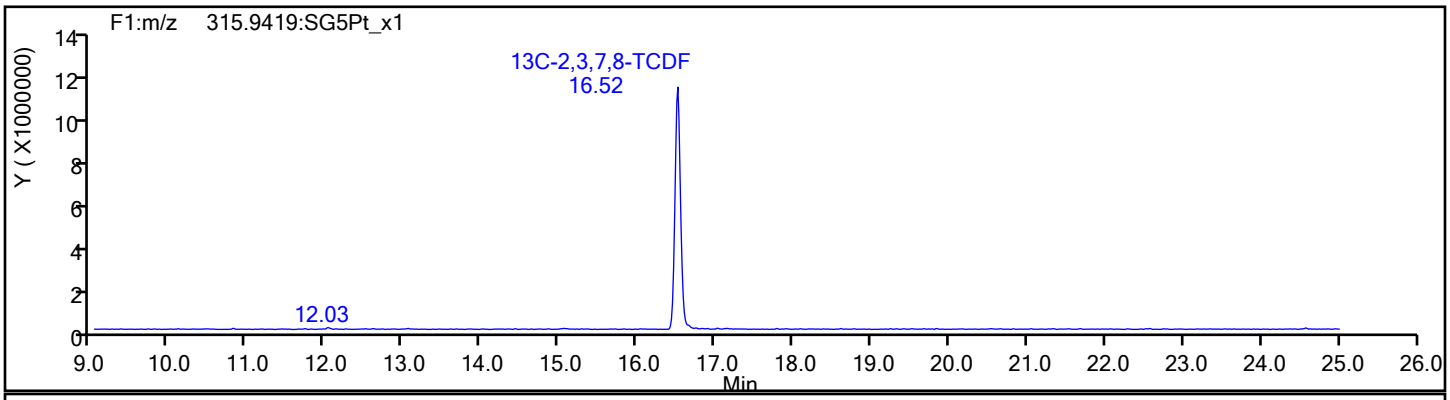

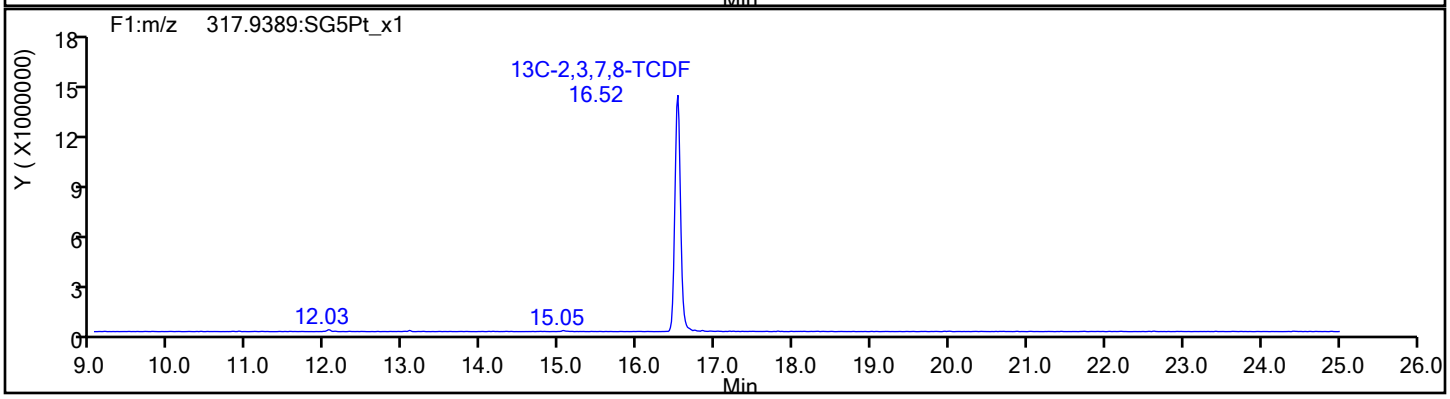

Report Date: 04-Feb-2020 16:43:00 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_001.d		
Injection Date:	04-Feb-2020 09:12:19	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355060	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

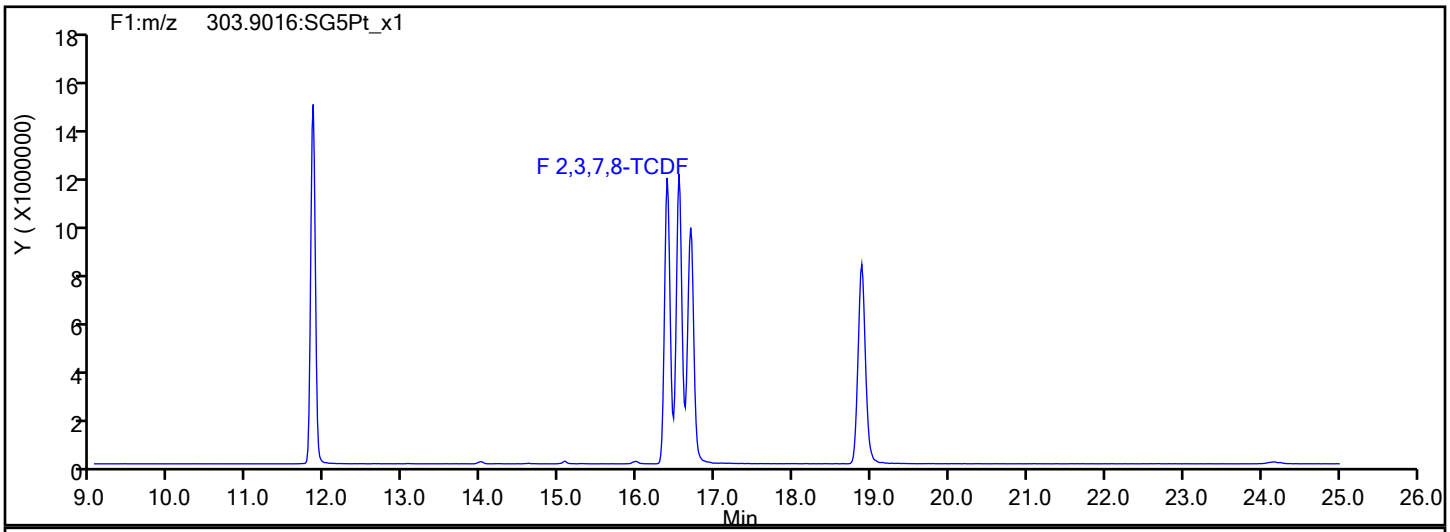

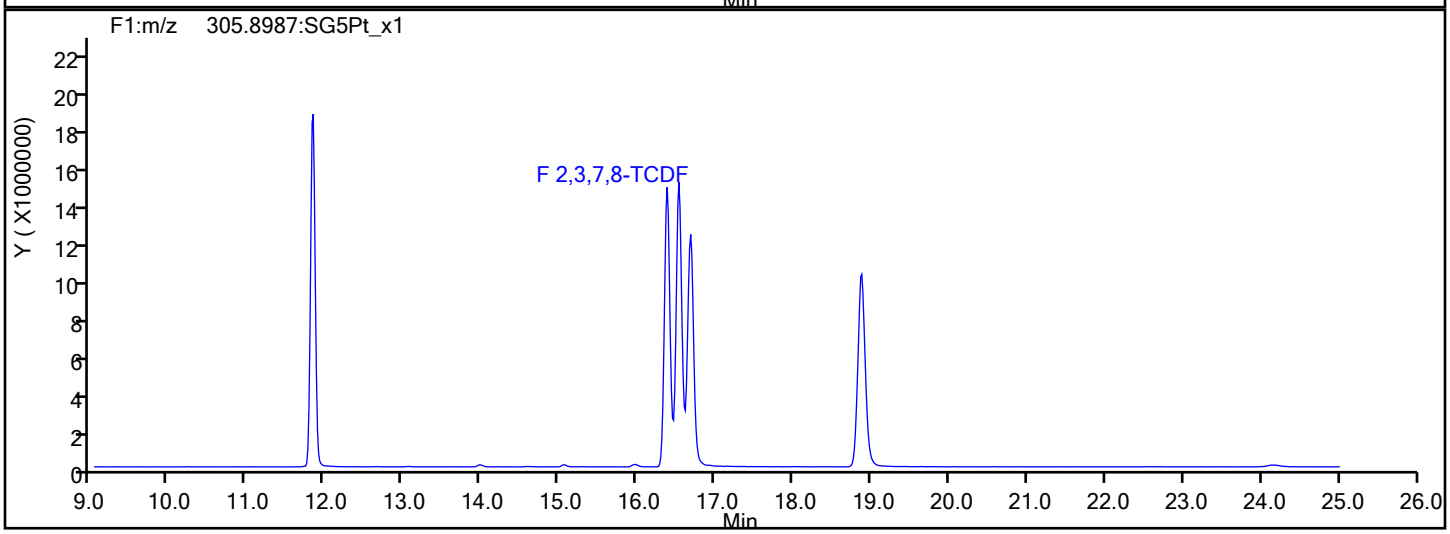

TCDF Interference Mass

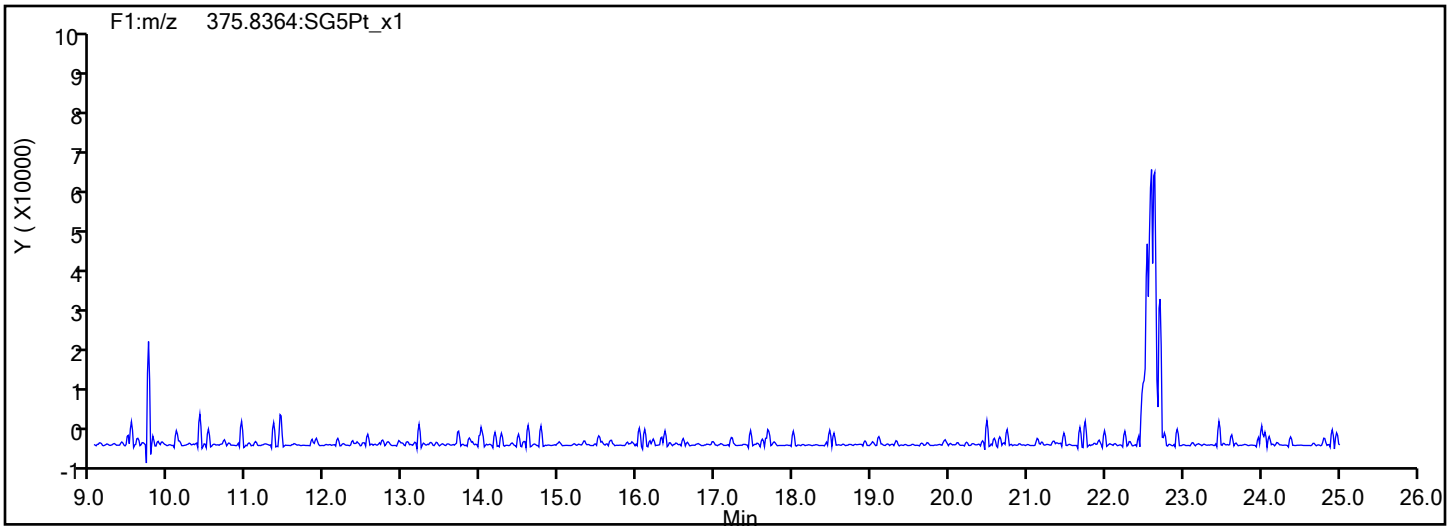

Report Date: 04-Feb-2020 16:43:00 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_001.d		
Injection Date:	04-Feb-2020 09:12:19	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355060	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

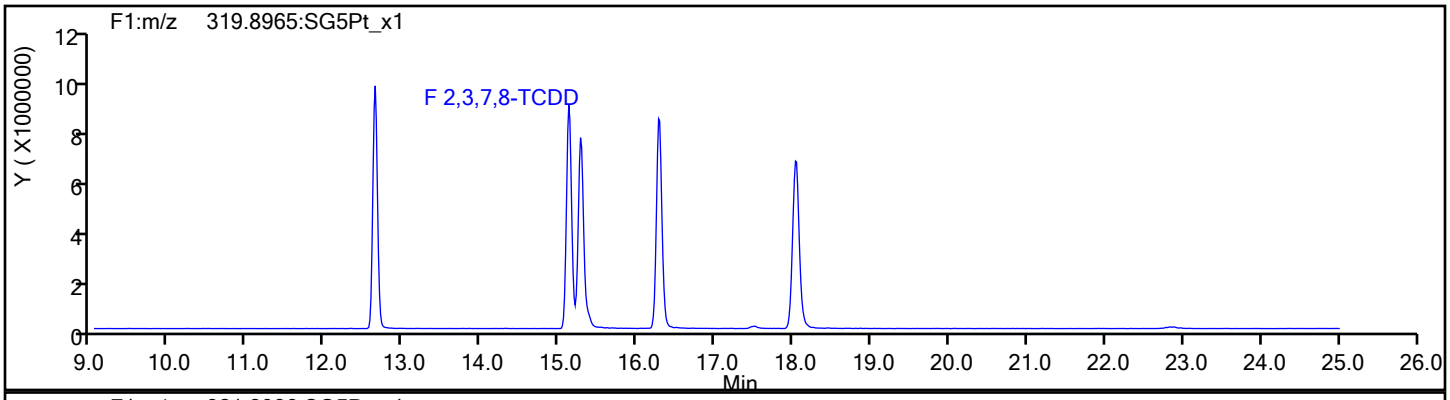

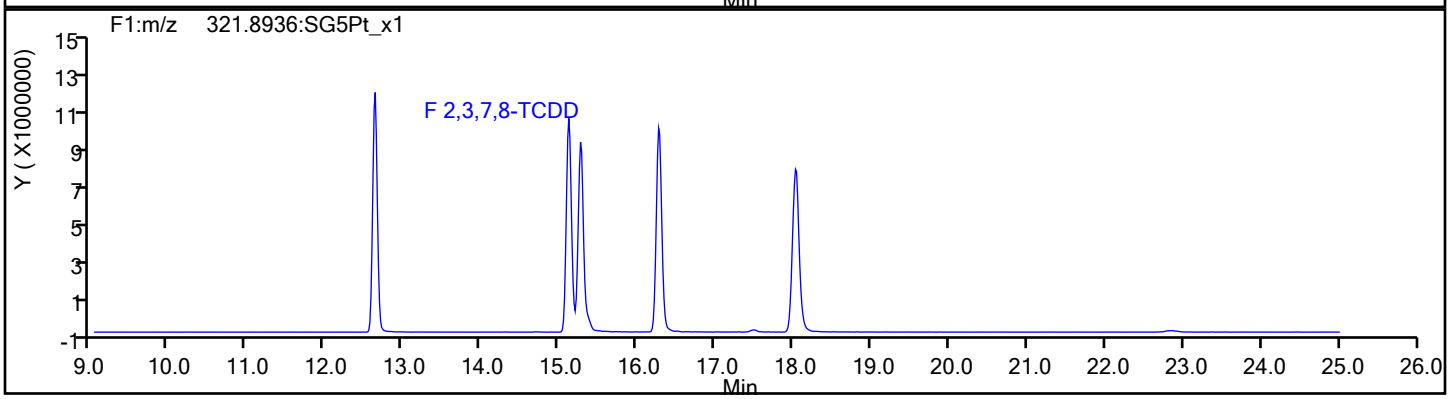

TCDD Standards

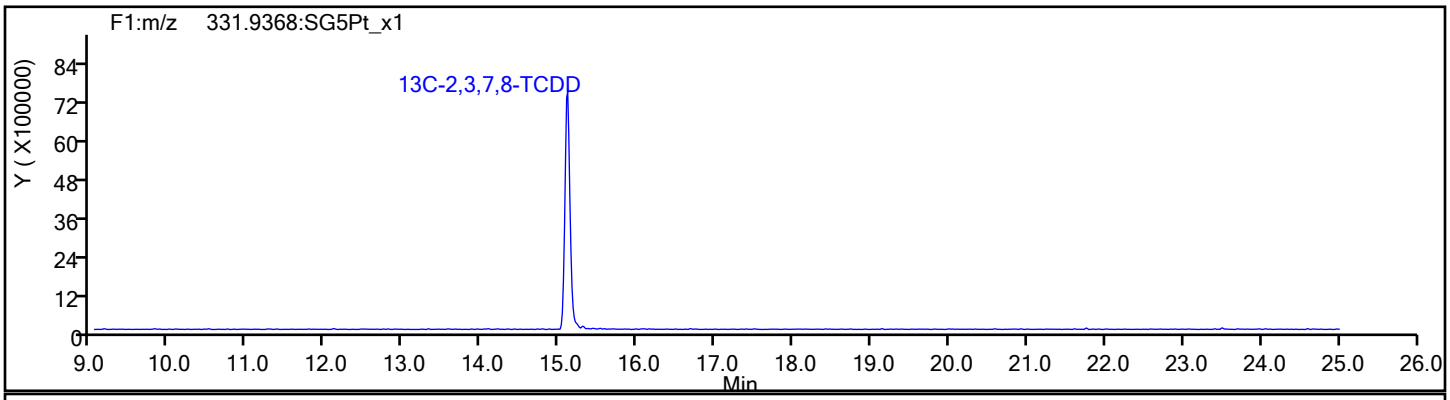

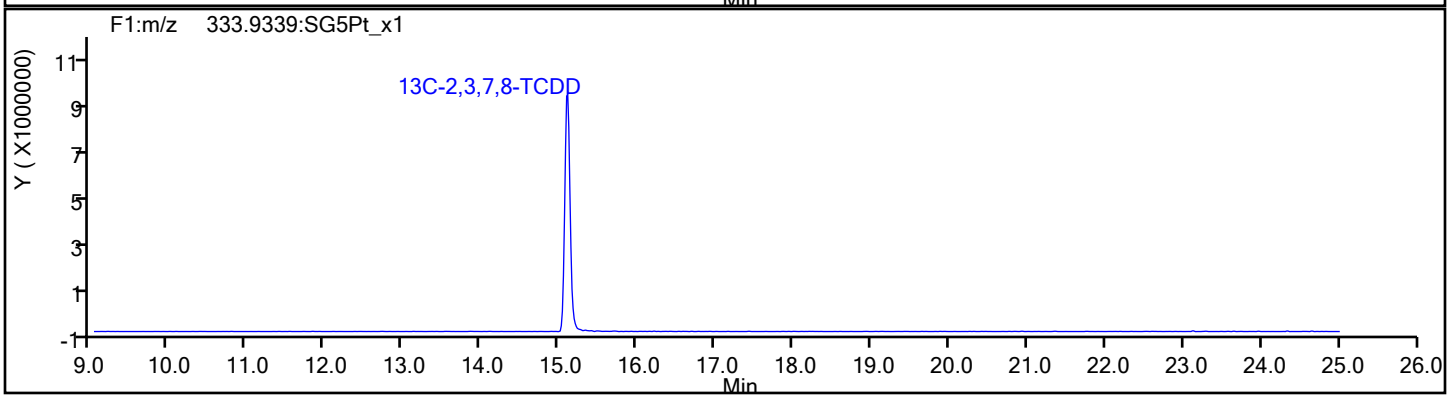

Report Date: 04-Feb-2020 16:43:00 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_001.d		
Injection Date:	04-Feb-2020 09:12:19	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355060	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

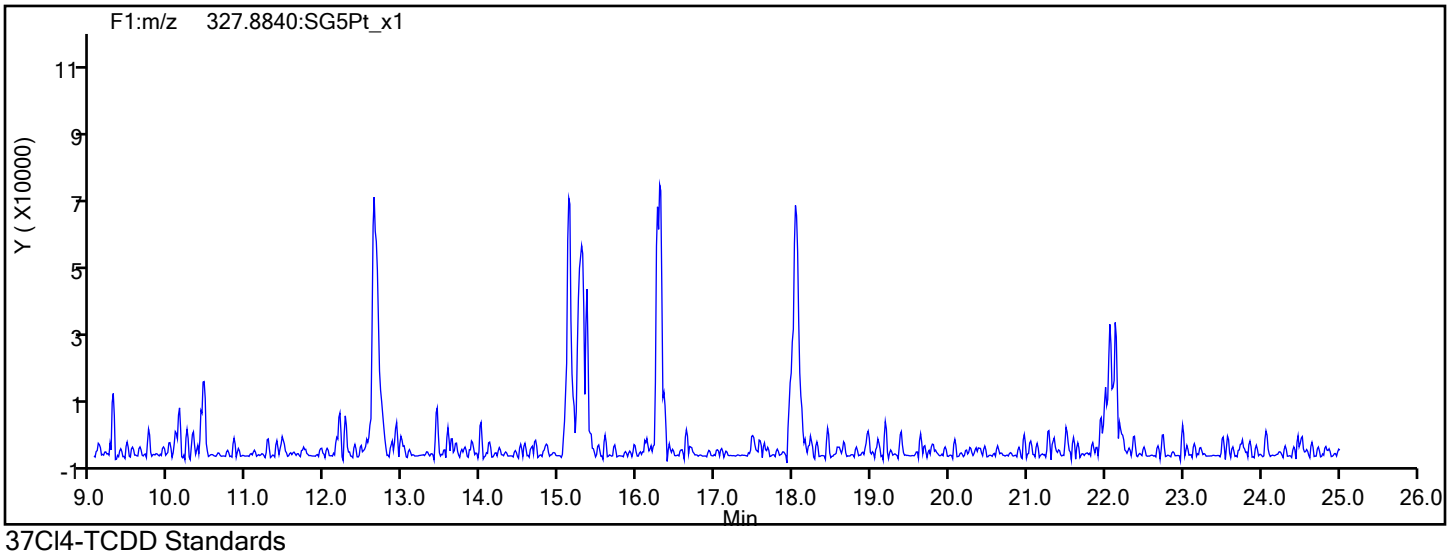

37Cl4-TCDD Standards

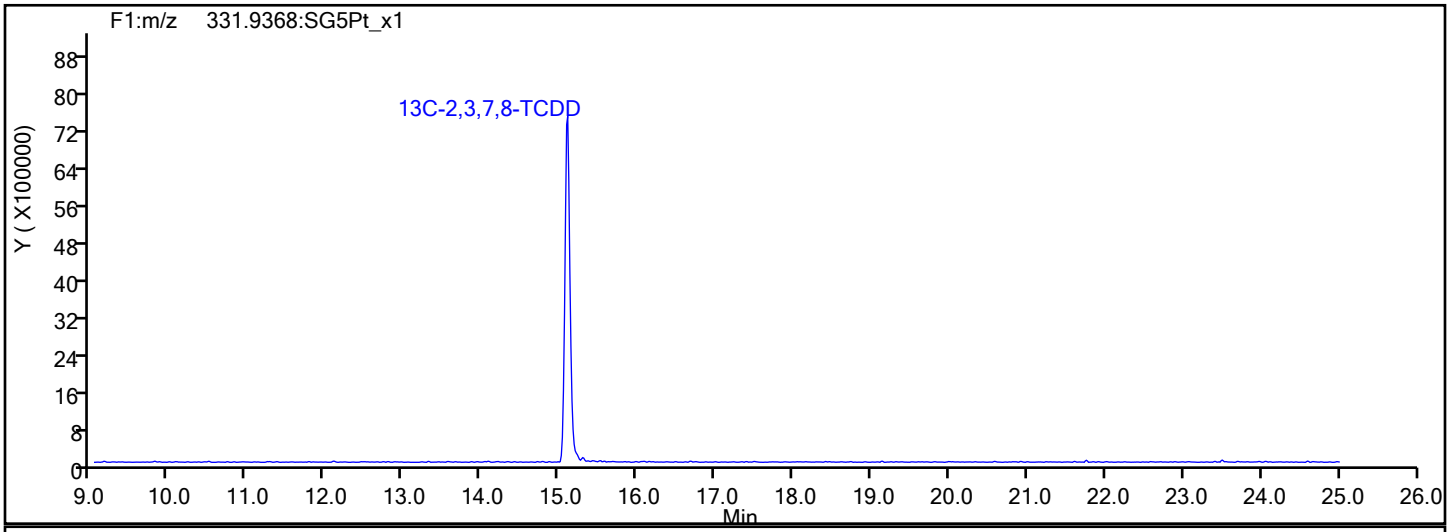

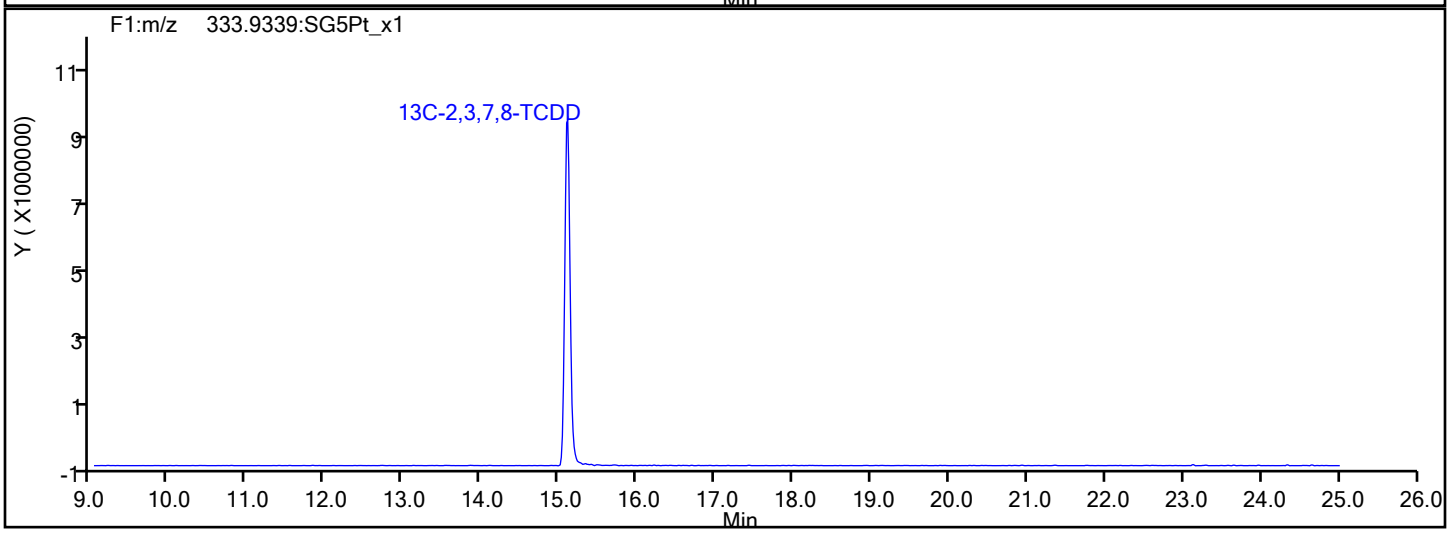

Report Date: 04-Feb-2020 16:43:00 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_001.d		
Injection Date:	04-Feb-2020 09:12:19	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355060	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

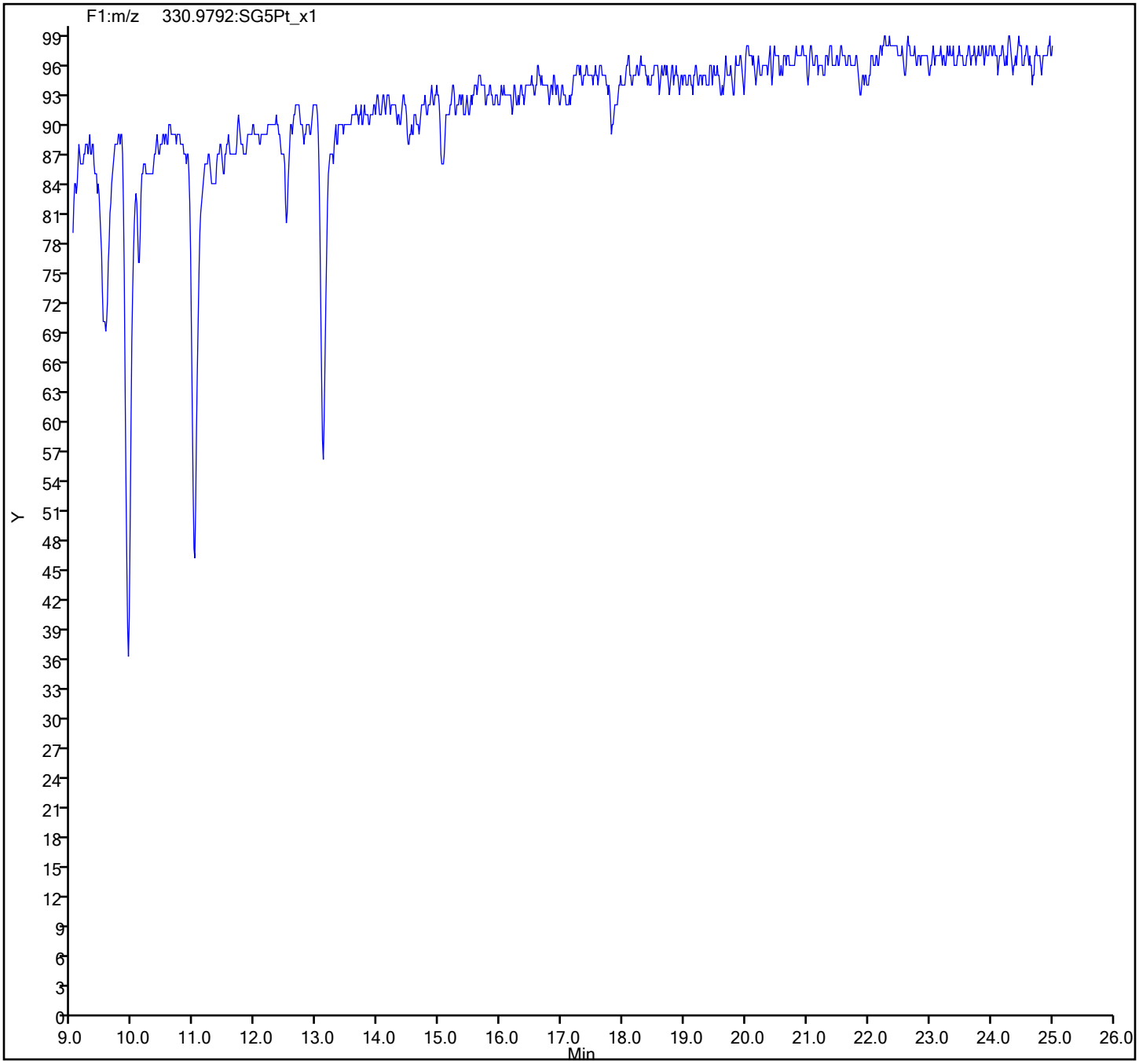

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20200207-90742.b\07FE2011D2_001.d
Lims ID: CPS
Client ID:
Sample Type: CPS
Inject. Date: 07-Feb-2020 13:37:16 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info:
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20200207-90742.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 11-Feb-2020 15:21:17 Calib Date: 04-Feb-2020 13:02:26
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0316

First Level Reviewer: shardaa Date: 11-Feb-2020 15:15:07

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	16.531	109127417	0.80	1.4045					0.00	
2,3,7,8-TCDF	16.545	111717868	0.78	0.9831	41.7	41.7	0.0730	0.0730		
D 13C-2,3,7,8-TCDD	15.104	66525044	0.77	0.8544					0.00	
2,3,7,8-TCDD	15.132	76517453	0.80	1.2044	38.2	38.2	0.0782	0.0782		
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNCP_00040 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20200207-90742.b\07FE2011D2_001.d
Lims ID: CPS
Client ID:
Sample Type: CPS
Inject. Date: 07-Feb-2020 13:37:16 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info:
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20200207-90742.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 11-Feb-2020 15:21:17 Calib Date: 04-Feb-2020 13:02:26
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20200204-90554.b\04FE2011D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0316

First Level Reviewer: shardaa Date: 11-Feb-2020 15:15:07

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	16.531	16.531	0	1.000	48519355	9327743	26226	65565	356		
317.9389	16.531	16.531	0	1.000	60608062	12362138	15646	39115	790	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.545	16.545	0	1.001	48843392	9463341	6645	16612	1424		
305.8987	16.545	16.545	0	1.001	62874476	12376917	8920	22300	1388	0.78(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.104	15.104	0	1.000	28899108	6289205	13017	32542	483		
333.9339	15.118	15.104	1	1.000	37625936	8067979	5124	12810	1575	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.132	15.132	0	1.002	34008919	7519039	7043	17607	1068		
321.8936	15.132	15.132	0	1.002	42508534	9381133	6474	16185	1449	0.80(0.65-0.89)	

Reagents:

HRDXNCP_00040 Amount Added: 2.00 Units: uL

Report Date: 11-Feb-2020 15:21:17 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200207-90742.b\07FE2011D2_001.d		
Injection Date:	07-Feb-2020 13:37:16	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355913	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

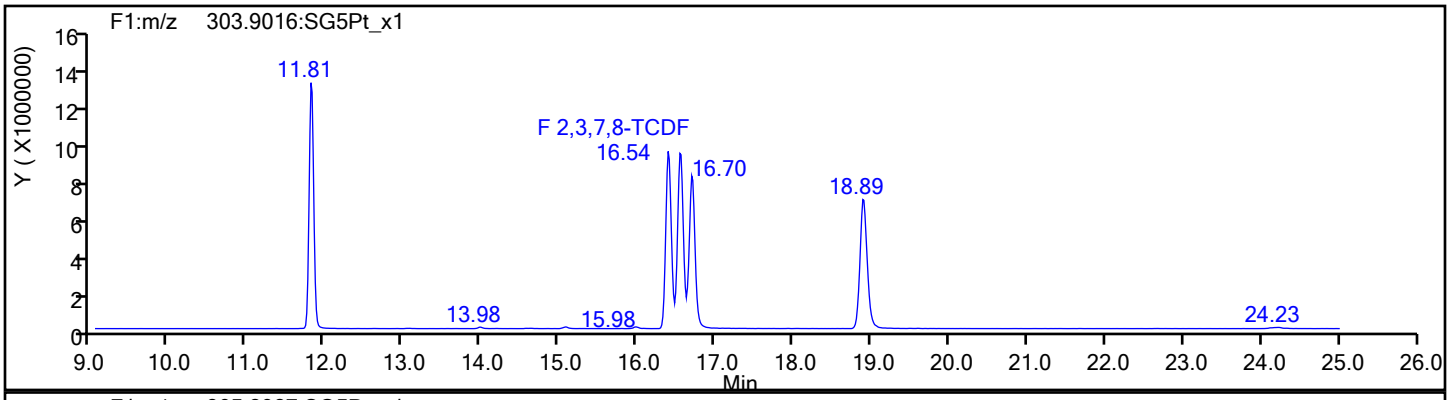

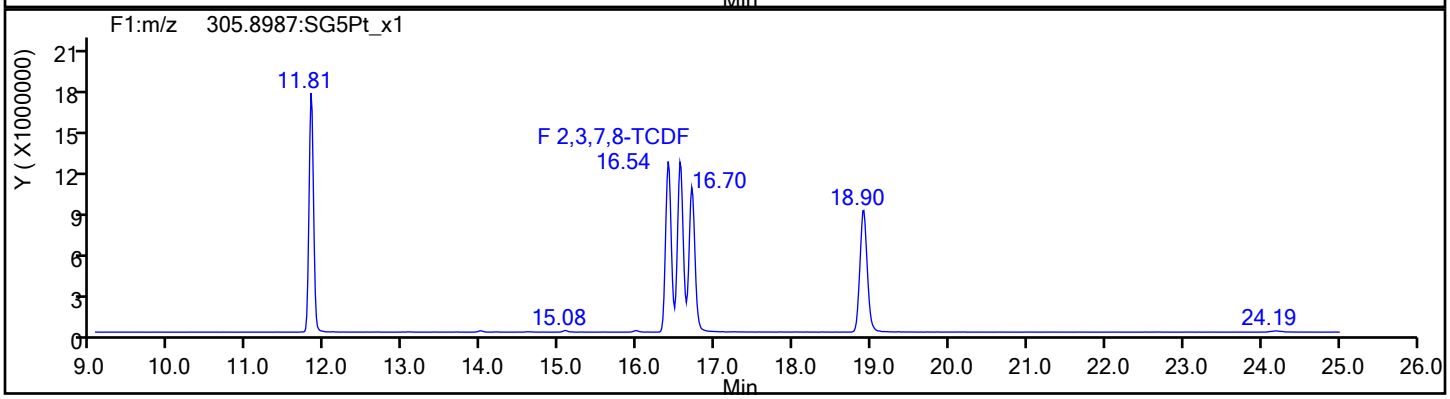

TCDF Standards

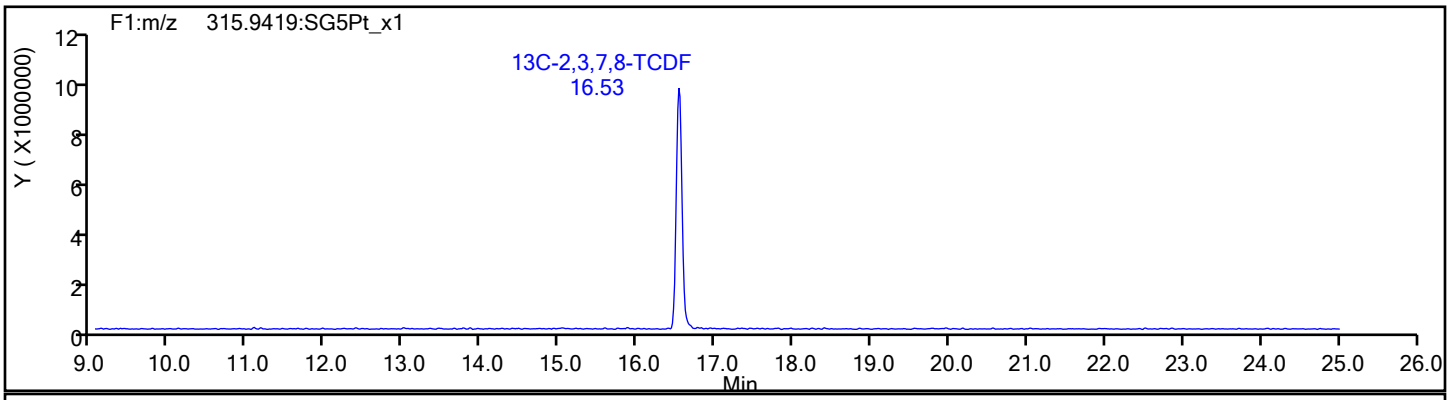

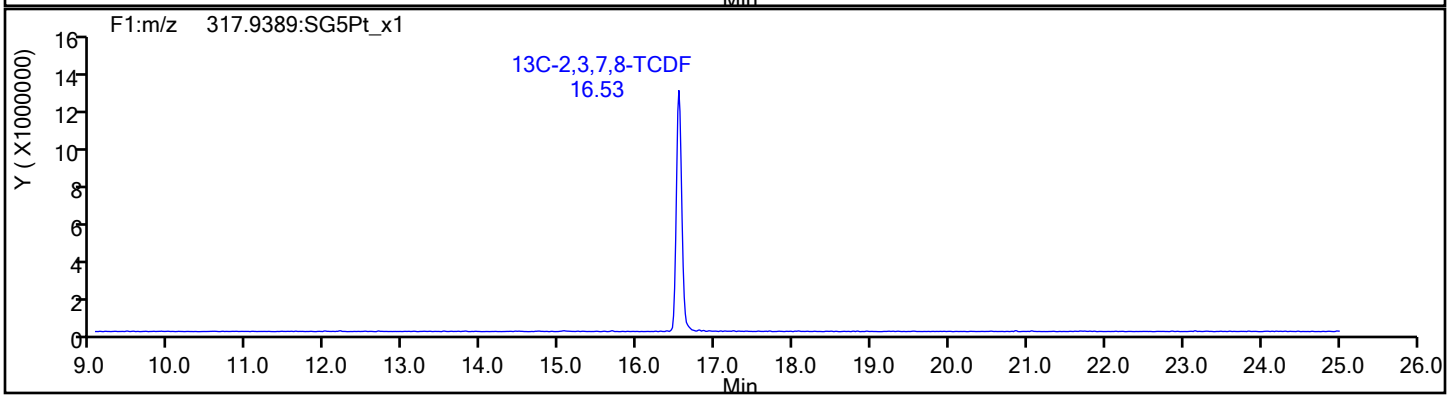

Report Date: 11-Feb-2020 15:21:17 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200207-90742.b\07FE2011D2_001.d		
Injection Date:	07-Feb-2020 13:37:16	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355913	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

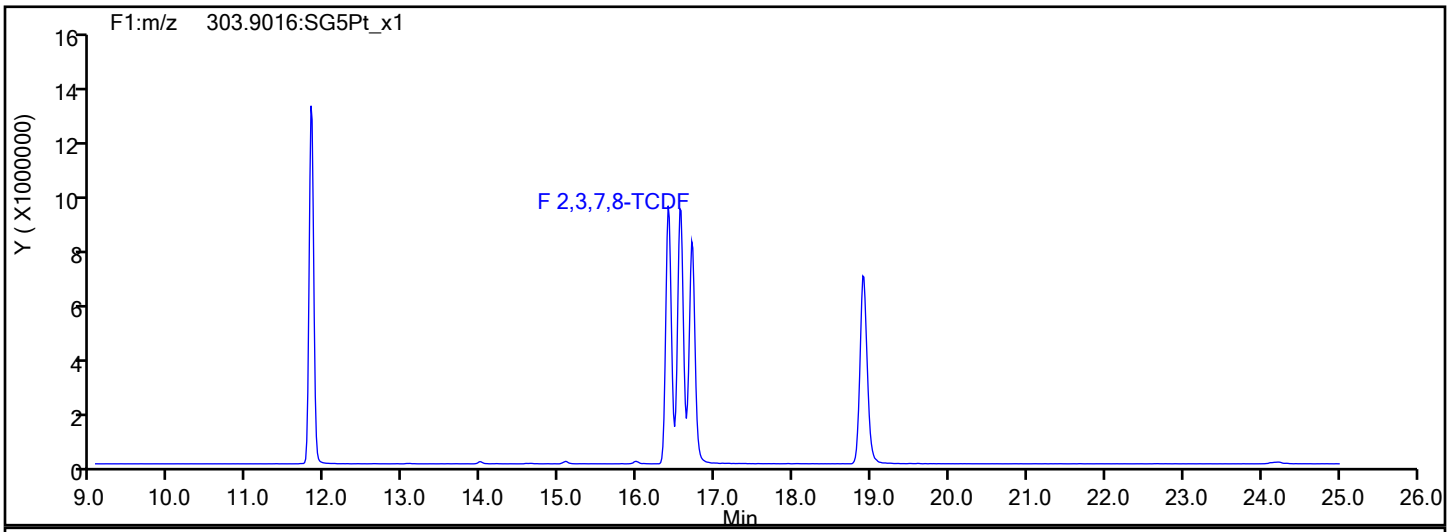

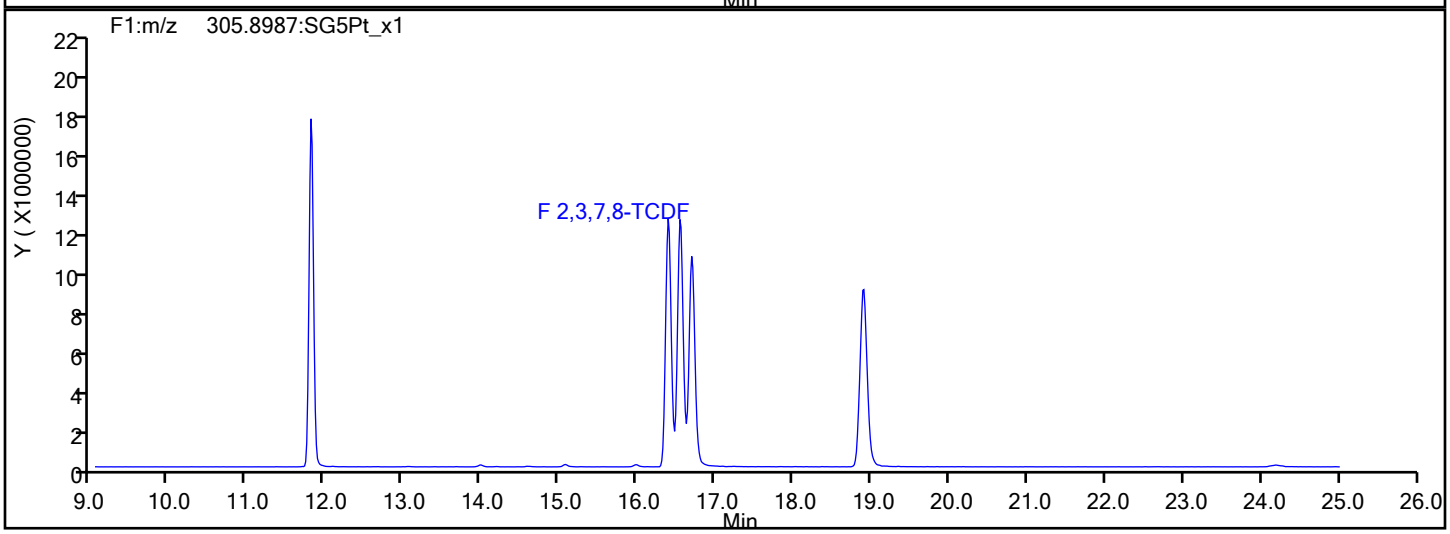

TCDF Interference Mass

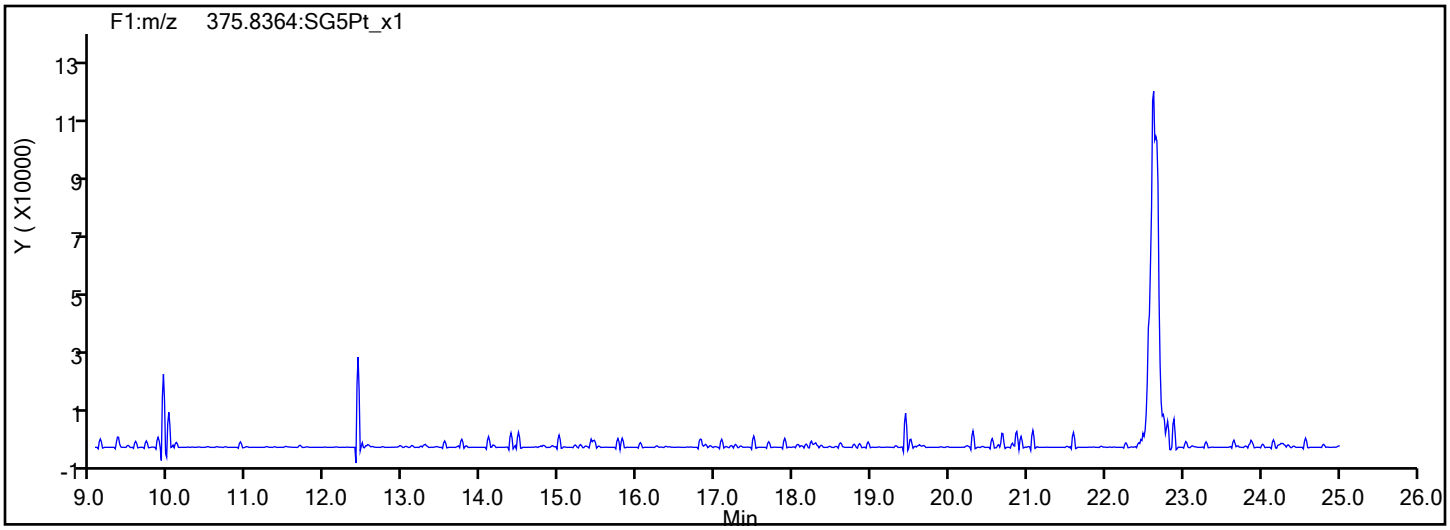

Report Date: 11-Feb-2020 15:21:17 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200207-90742.b\07FE2011D2_001.d		
Injection Date:	07-Feb-2020 13:37:16	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355913	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

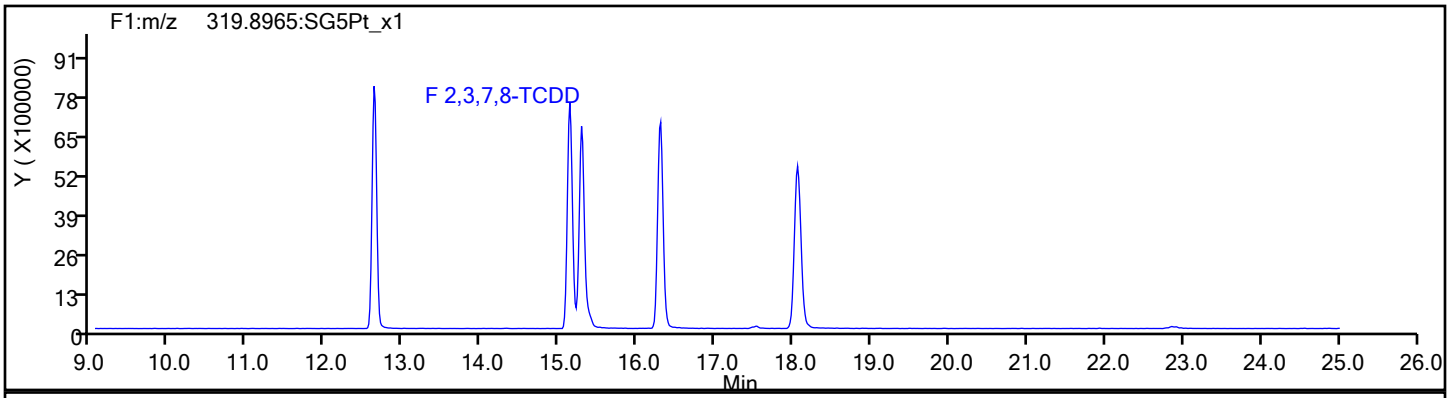

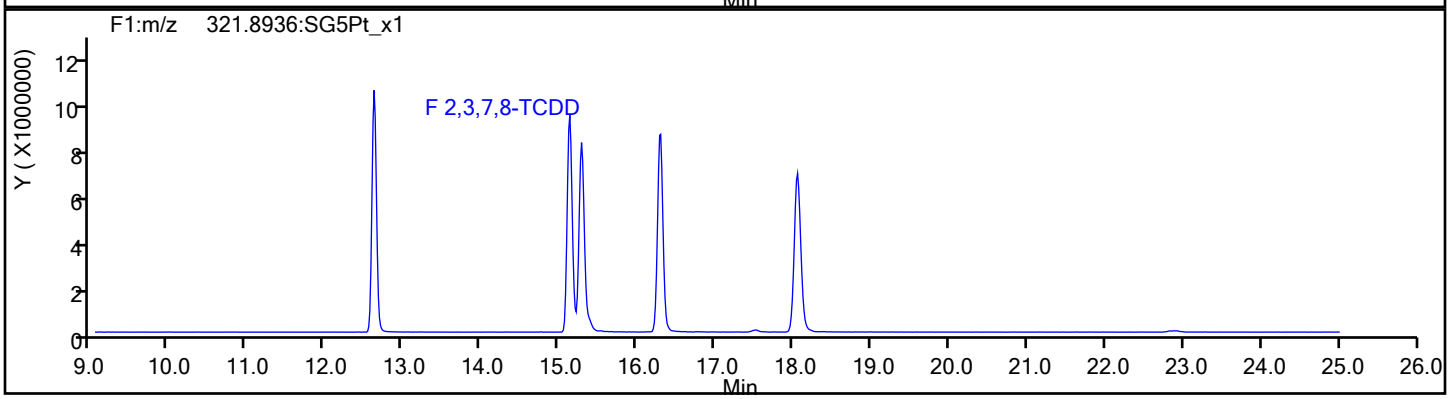

TCDD Standards

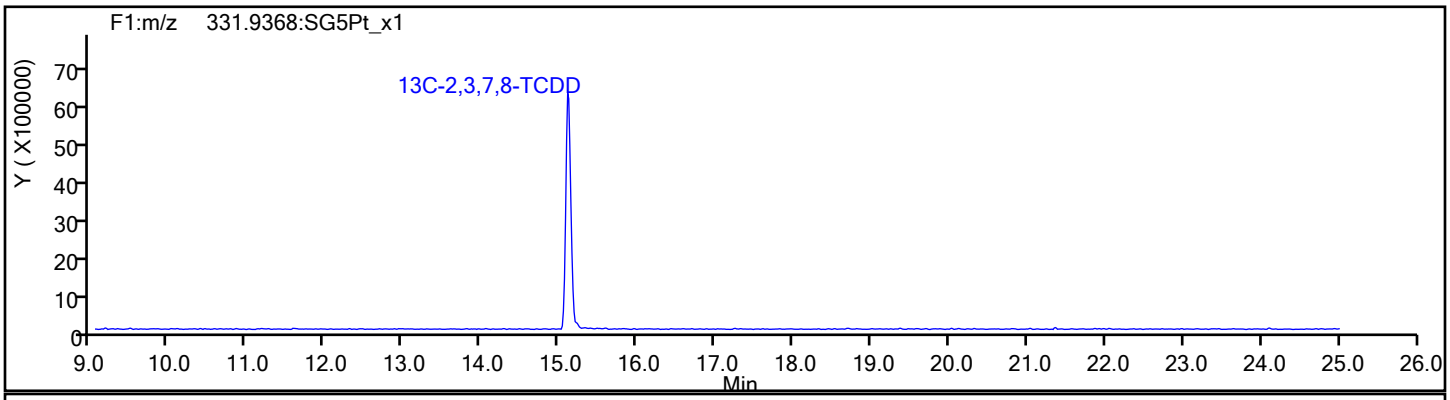

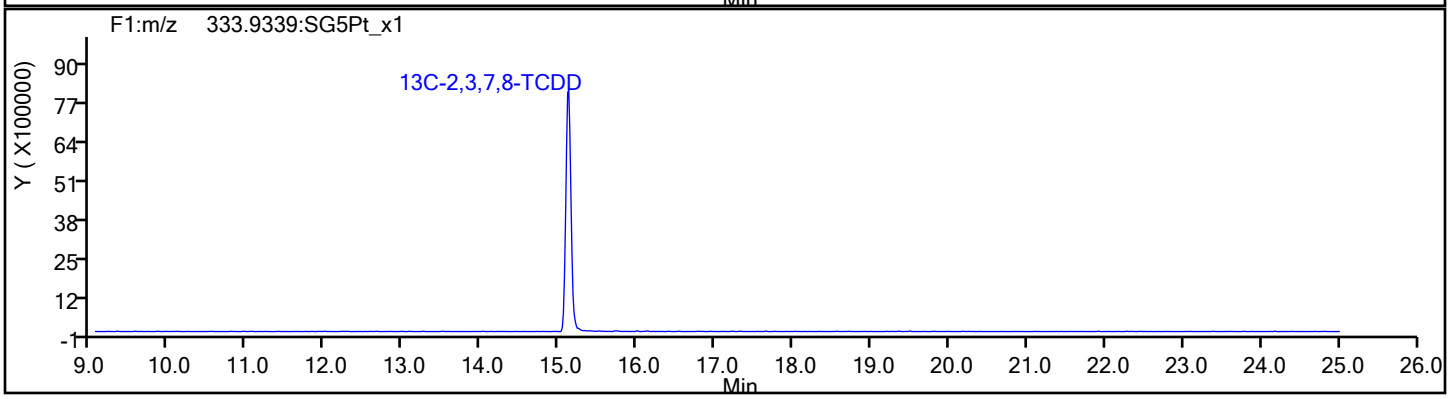

Report Date: 11-Feb-2020 15:21:17 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200207-90742.b\07FE2011D2_001.d		
Injection Date:	07-Feb-2020 13:37:16	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355913	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

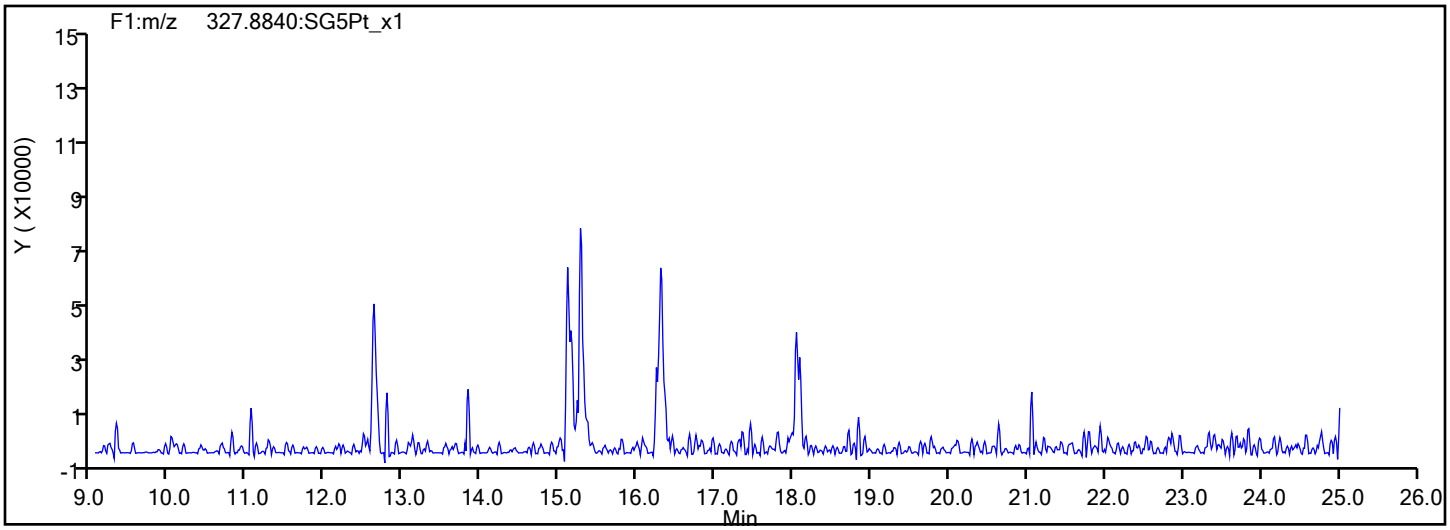

37Cl4-TCDD Standards

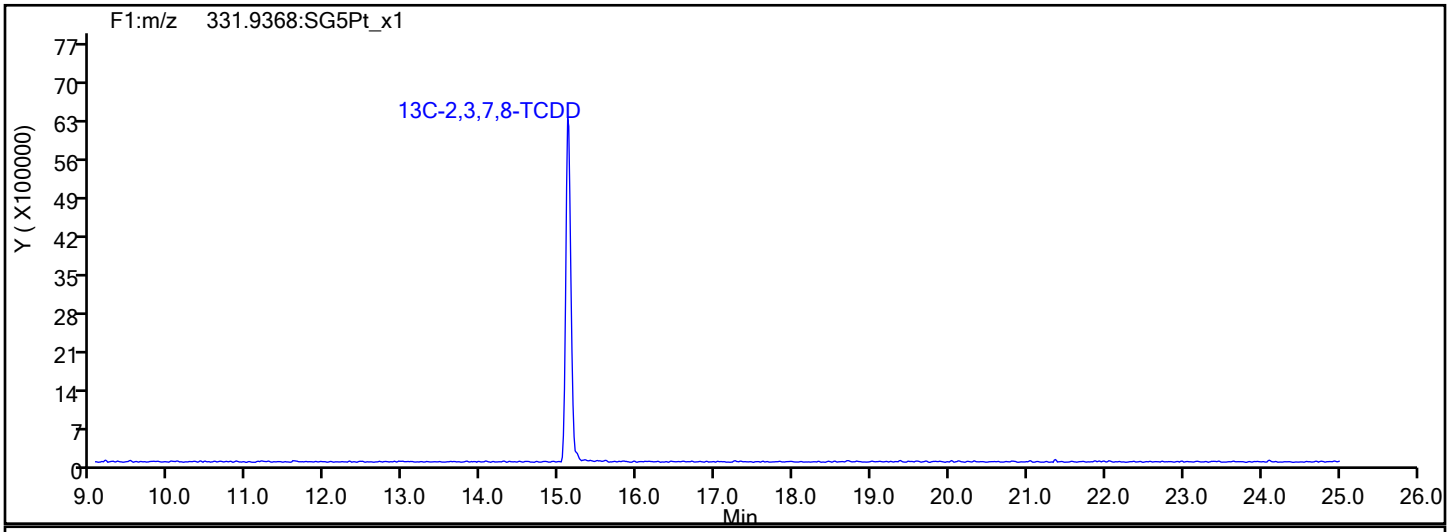

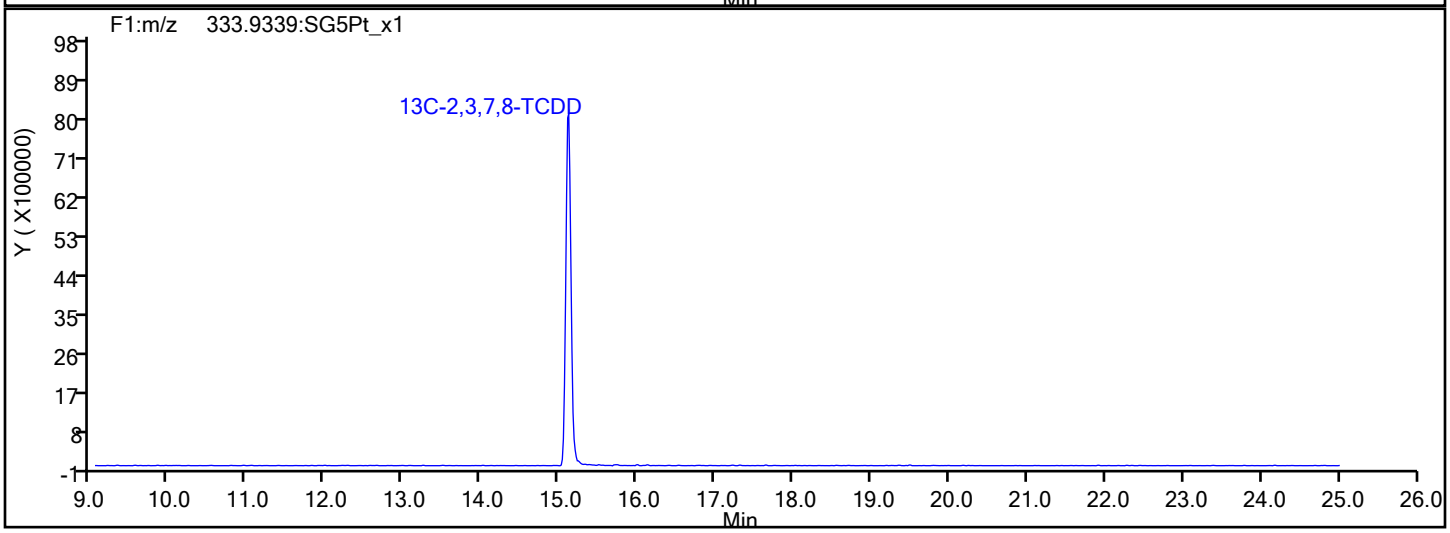

Report Date: 11-Feb-2020 15:21:18 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20200207-90742.b\07FE2011D2_001.d		
Injection Date:	07-Feb-2020 13:37:16	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355913	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

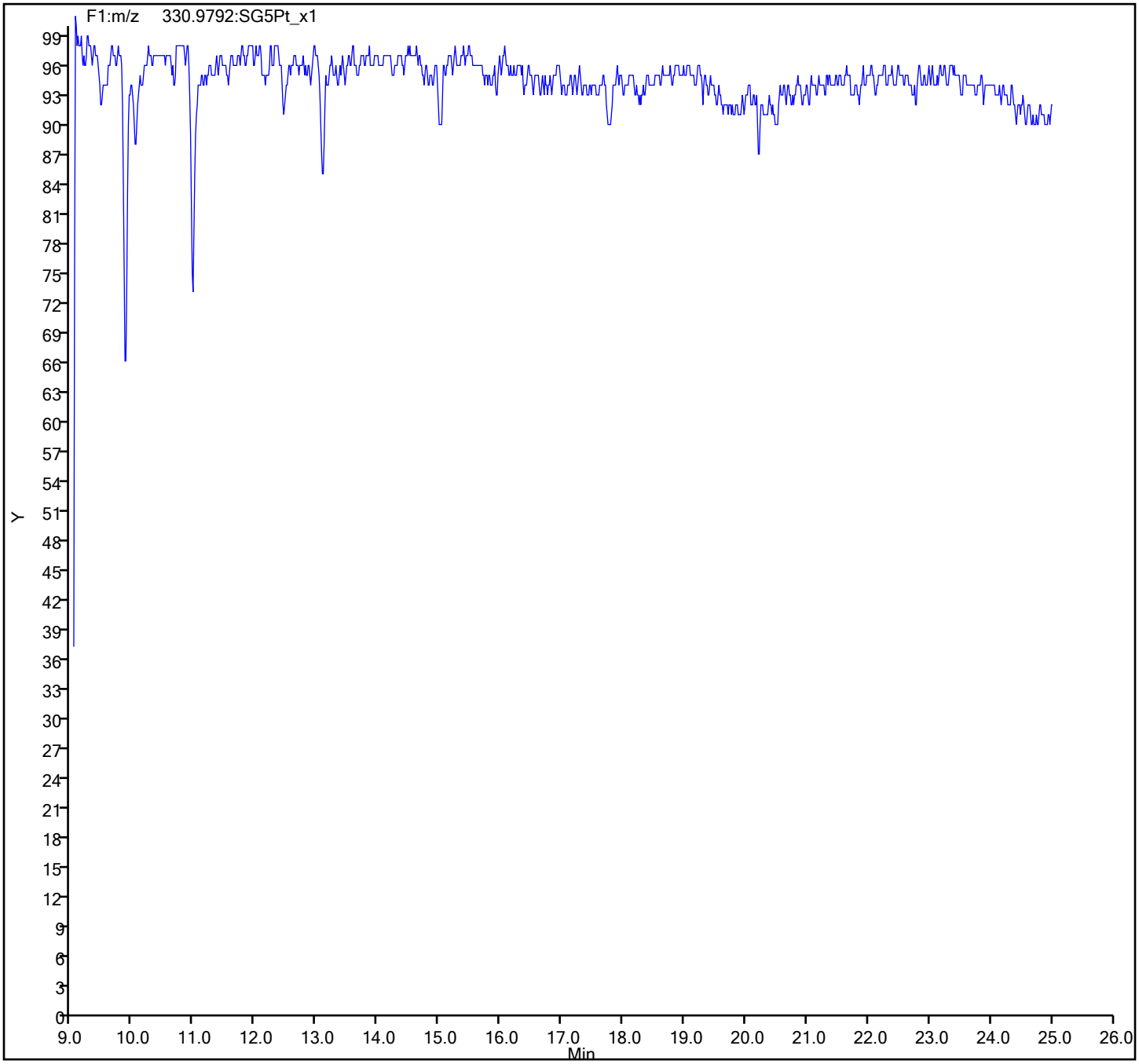

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 320-58170-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 320-354177/1-A
Matrix: Water
Lab File ID: 05FE2010D5_4.d
Analysis Method: 1613B
Date Collected:
Extract. Method: 1613B
Date Extracted: 01/31/2020 07:47
Sample wt/vol: 1000(mL)
Date Analyzed: 02/05/2020 17:50
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 355322
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		10	0.62
51207-31-9	2,3,7,8-TCDF	1.02	J	10	0.48
40321-76-4	1,2,3,7,8-PeCDD	6.12	J	50	0.78
57117-41-6	1,2,3,7,8-PeCDF	5.95	J	50	0.58
57117-31-4	2,3,4,7,8-PeCDF	5.51	J	50	0.63
39227-28-6	1,2,3,4,7,8-HxCDD	7.72	J	50	0.57
57653-85-7	1,2,3,6,7,8-HxCDD	6.90	J	50	0.53
19408-74-3	1,2,3,7,8,9-HxCDD	6.10	J	50	0.50
70648-26-9	1,2,3,4,7,8-HxCDF	5.92	J	50	1.1
57117-44-9	1,2,3,6,7,8-HxCDF	6.14	J	50	0.98
72918-21-9	1,2,3,7,8,9-HxCDF	6.25	J	50	0.80
60851-34-5	2,3,4,6,7,8-HxCDF	5.39	J	50	0.66
35822-46-9	1,2,3,4,6,7,8-HpCDD	9.52	J	50	0.93
67562-39-4	1,2,3,4,6,7,8-HpCDF	7.54	J	50	0.82
55673-89-7	1,2,3,4,7,8,9-HpCDF	5.85	J	50	1.4
3268-87-9	OCDD	28.2	J	100	1.1
39001-02-0	OCDF	13.8	J	100	1.1
41903-57-5	Total TCDD	ND		10	0.62
30402-14-3	Total TCDF	1.02	J	10	0.48
36088-22-9	Total PeCDD	6.12	J	50	0.78
30402-15-4	Total PeCDF	11.5	J	50	0.61
34465-46-8	Total HxCDD	20.7	J	50	0.53
55684-94-1	Total HxCDF	23.7	J	50	0.89
37871-00-4	Total HpCDD	11.4	J	50	0.93
38998-75-3	Total HpCDF	13.4	J	50	1.1

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 320-354177/1-A

Matrix: Water Lab File ID: 05FE2010D5_4.d

Analysis Method: 1613B Date Collected:

Extract. Method: 1613B Date Extracted: 01/31/2020 07:47

Sample wt/vol: 1000(mL) Date Analyzed: 02/05/2020 17:50

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 355322 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	69		25-164
89059-46-1	13C-2,3,7,8-TCDF	68		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	65		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	66		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	66		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	68		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	78		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	75		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	80		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	72		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	79		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	65		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	67		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	63		26-138
114423-97-1	13C-OCDD	53		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	90		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_4.d
Lims ID: MB 320-354177/1-A
Client ID:
Sample Type: MB
Inject. Date: 05-Feb-2020 17:50:06 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: MB 320-354177/1-A MB 320-354177/1-A
Misc. Info.: 05FE2010D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 07-Feb-2020 14:27:06 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: dadunj Date: 07-Feb-2020 14:27:06

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.317	58596325	0.79	5.4E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.849	44909209	0.76	1.1275	68.0	68.0	0.2061	0.2061	67.97	
2,3,7,8-TCDF	16.864	17582	0.67	0.7675	0.0510	0.0510	0.0239	0.0239		M
A Non-2,3,7,8-sub-TCDF	16.569						0.0239	0.0239		
S Total TCDF					0.0510	0.0510	0.0239	0.0239		
D 13C-2,3,7,8-TCDD	17.514	36278331	0.79	0.9032	68.5	68.5	0.3234	0.3234	68.55	
2,3,7,8-TCDD	17.544						0.0309	0.0309		
$ 37Cl4-2,3,7,8-TCDD	17.529	20474592		0.9673	36.1	36.1	0.0564	0.0564	90.30	
A Non-2,3,7,8-sub-TCDD	17.000						0.0309	0.0309		
S Total TCDD							0.0309	0.0309		
D 13C-1,2,3,7,8-PeCDF	21.639	36991924	1.55	0.9615	65.7	65.7	0.3104	0.3104	65.66	
1,2,3,7,8-PeCDF	21.680	98783	1.35	0.8982	0.2973	0.2973	0.0290	0.0290		
D 13C-2,3,4,7,8-PeCDF	22.921	40419196	1.57	1.0393	66.4	66.4	0.2871	0.2871	66.37	
2,3,4,7,8-PeCDF	22.948	90276	1.37	0.8101	0.2757	0.2757	0.0316	0.0316		M
A F1 PeCDFs	19.329						0.0283	0.0283		
A Non-2,3,7,8-sub-PeCDF	22.336						0.0302	0.0302		
S Total PeCDF					0.5730	0.5730	0.0303	0.0303		
D 13C-1,2,3,7,8-PeCDD	23.617	26400848	1.64	0.6938	64.9	64.9	0.1034	0.1034	64.94	
1,2,3,7,8-PeCDD	23.657	80418	1.36	0.9961	0.3058	0.3058	0.0389	0.0389		M
A Non-2,3,7,8-sub-PeCDD	22.580						0.0389	0.0389		U
S Total PeCDD					0.3058	0.3058	0.0389	0.0389		
D 13C-1,2,3,4,7,8-HxCDF	29.735	29250860	0.49	0.8543	75.2	75.2	0.5436	0.5436	75.18	
1,2,3,4,7,8-HxCDF	29.735	68492	1.12	0.7916	0.2958	0.2958	0.0568	0.0568		M
D 13C-1,2,3,6,7,8-HxCDF	29.988	30533835	0.49	0.8361	80.2	80.2	0.5554	0.5554	80.19	a
1,2,3,6,7,8-HxCDF	30.054	80990	1.15	0.8638	0.3071	0.3071	0.0490	0.0490		Ma
D 13C-2,3,4,6,7,8-HxCDF	31.026	27825676	0.49	0.7773	78.6	78.6	0.5973	0.5973	78.60	
2,3,4,6,7,8-HxCDF	31.026	67517	1.12	0.9010	0.2693	0.2693	0.0332	0.0332		M
D 13C-1,2,3,7,8,9-HxCDF	31.944	23588583	0.49	0.7167	72.3	72.3	0.6479	0.6479	72.27	
1,2,3,7,8,9-HxCDF	31.958	67324	1.19	0.9127	0.3127	0.3127	0.0398	0.0398		M
A Non-2,3,7,8-sub-HxCDF	29.529						0.0432	0.0432		
S Total HxCDF					1.185	1.185	0.0447	0.0447		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.732	45544175	1.23	4.4E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.239	25031383	1.23	0.8050	68.3	68.3	0.3900	0.3900	68.27	
1,2,3,4,7,8-HxCDD	31.279	81048	1.12	0.8392	0.3858	0.3858	0.0285	0.0285		Ma
D 13C-1,2,3,6,7,8-HxCDD	31.359	29326186	1.22	0.8269	77.9	77.9	0.3797	0.3797	77.87	
1,2,3,6,7,8-HxCDD	31.385	89760	1.18	0.8876	0.3448	0.3448	0.0265	0.0265		Ma
1,2,3,7,8,9-HxCDD	31.745	79341	1.19	0.9567	0.3051	0.3051	0.0248	0.0248		M
A Non-2,3,7,8-sub-HxCDD	30.108						0.0265	0.0265		
S Total HxCDD					1.036	1.036	0.0266	0.0266		
D 13C-1,2,3,4,6,7,8-HpCDF	33.459	21673489	0.42	0.7080	67.2	67.2	1.476	1.476	67.21	
1,2,3,4,6,7,8-HpCDF	33.471	109317	1.07	1.3375	0.3771	0.3771	0.0410	0.0410		M
D 13C-1,2,3,4,7,8,9-HpCDF	34.528	21223706	0.42	0.7451	62.5	62.5	1.403	1.403	62.54	
1,2,3,4,7,8,9-HpCDF	34.541	66687	1.18	1.0744	0.2924	0.2924	0.0683	0.0683		M
A Non-2,3,7,8-sub-HpCDF	34.018						0.0521	0.0521		
S Total HpCDF					0.6696	0.6696	0.0546	0.0546		
D 13C-1,2,3,4,6,7,8-HpCDD	34.249	22220263	1.06	0.7473	65.3	65.3	0.4935	0.4935	65.28	
1,2,3,4,6,7,8-HpCDD	34.249	103732	0.98	0.9811	0.4758	0.4758	0.0466	0.0466		
A Non-2,3,7,8-sub-HpCDD	33.988	20123	0.93	0.9811	0.0923	0.0923	0.0466	0.0923		M
S Total HpCDD					0.5681	0.5681	0.0466	0.0466		
D 13C-OCDD	36.540	32007617	0.88	0.6622	106.1	106.1	0.1384	0.1384	53.06	
OCDF	36.624	117428	0.89	1.0659	0.7738	0.6884	0.0553	0.0553		RQM
OCDD	36.552	224574	0.84	0.9937	1.412	1.412	0.0574	0.0574		M

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_4.d
Lims ID: MB 320-354177/1-A
Client ID:
Sample Type: MB
Inject. Date: 05-Feb-2020 17:50:06 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: MB 320-354177/1-A MB 320-354177/1-A
Misc. Info.: 05FE2010D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 07-Feb-2020 14:27:06 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: dadunj Date: 07-Feb-2020 14:27:06

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.317	17.333	-1		25861272	6346063	6816	17040	931		
333.9339	17.317	17.333	-1		32735053	8041045	9995	24987	805	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.849	16.849	0	0.973	19366419	4375282	7311	18277	598		
317.9389	16.849	16.849	0	0.973	25542790	5756246	6063	15157	949	0.76(0.65-0.89)	
2,3,7,8-TCDF											M
303.9016	16.864	16.864	0	1.001	7047	1924	252	630	8		
305.8987	16.849	16.864	-1	1.000	10535	2709	493	1232	5	0.67(0.65-0.89)	M
A Non-2,3,7,8-sub-TCDF											
303.9016	16.569						252	630			
305.8987	16.569						493	1232			
13C-2,3,7,8-TCDD											
331.9368	17.514	17.529	-1	1.011	16065985	3506817	6816	17040	514		
333.9339	17.514	17.529	-1	1.011	20212346	4416479	9995	24987	442	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.544						573	1432			
321.8936	17.544						368	920			
37Cl4-2,3,7,8-TCDD											
327.8847	17.529	17.544	-1	1.012	20474592	4561803	3142	7855	1452		
A Non-2,3,7,8-sub-TCDD											
319.8965	17.000						573	1432			
321.8936	17.000						368	920			
13C-1,2,3,7,8-PeCDF											
351.9000	21.639	21.639	0	1.250	22487335	3557209	10486	26215	339		
353.8970	21.639	21.639	0	1.250	14504589	2294778	6688	16720	343	1.55(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	21.680	21.667	1	1.002	56729	8473	260	650	33		
341.8567	21.653	21.667	-1	1.001	42054	5653	349	872	16	1.35(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	22.921	22.921	0	1.324	24709092	3620200	10486	26215	345		
353.8970	22.921	22.921	0	1.324	15710104	2331033	6688	16720	349	1.57(1.32-1.78)	
2,3,4,7,8-PeCDF											M
339.8597	22.948	22.948	0	1.001	52262	9402	260	650	36		M
341.8567	22.962	22.948	1	1.002	38014	5486	349	872	16	1.37(1.32-1.78)	M
A F1 PeCDFs											
339.8597	19.329						197	492			
341.8567	19.329						374	935			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.336						260	650			
341.8567	22.336						349	872			
13C-1,2,3,7,8-PeCDD											
367.8949	23.617	23.617	0	1.364	16415506	2236278	2367	5917	945		
369.8919	23.603	23.617	-1	1.363	9985342	1367376	1763	4407	776	1.64(1.32-1.78)	
1,2,3,7,8-PeCDD											M
355.8546	23.657	23.644	1	1.002	46402	6042	319	797	19		M
357.8516	23.617	23.644	-2	1.000	34016	4921	240	600	21	1.36(1.32-1.78)	M
A Non-2,3,7,8-sub-PeCDD											U
355.8546	22.580						319	797			
357.8516	22.580						240	600			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.735	29.748	-1	0.937	9571300	1096920	5430	13575	202		
385.8610	29.735	29.748	-1	0.937	19679560	2293673	10525	26312	218	0.49(0.43-0.59)	
1,2,3,4,7,8-HxCDF											M
373.8208	29.735	29.761	-2	1.000	36169	4796	314	785	15		M
375.8178	29.788	29.761	2	1.002	32323	4517	296	740	15	1.12(1.05-1.43)	M
13C-1,2,3,6,7,8-HxCDF											a
383.8639	29.988	29.988	0	0.945	10066374	1195001	5430	13575	220		a
385.8610	29.988	29.988	0	0.945	20467461	2408446	10525	26312	229	0.49(0.43-0.59)	
1,2,3,6,7,8-HxCDF											Ma
373.8208	30.054	30.028	2	1.002	43314	4387	314	785	14		M
375.8178	30.014	30.028	-1	1.001	37676	5669	296	740	19	1.15(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.026	31.026	0	0.978	9155053	1675820	5430	13575	309		
385.8610	31.026	31.026	0	0.978	18670623	3422266	10525	26312	325	0.49(0.43-0.59)	
2,3,4,6,7,8-HxCDF											M
373.8208	31.026	31.053	-2	1.000	35667	6946	314	785	22		M
375.8178	31.026	31.053	-2	1.000	31850	6385	296	740	22	1.12(1.05-1.43)	M
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.944	31.944	0	1.007	7769436	1382420	5430	13575	255		
385.8610	31.931	31.944	-1	1.006	15819147	2814521	10525	26312	267	0.49(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											M
373.8208	31.958	31.958	0	1.000	36558	5798	314	785	18		M
375.8178	31.971	31.958	1	1.001	30766	5154	296	740	17	1.19(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.529						314	785			
375.8178	29.529						296	740			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.732	31.745	-1		25100925	4752720	5594	13985	850		
403.8529	31.732	31.745	-1		20443250	3837218	5194	12985	739	1.23(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.239	31.252	-1	0.984	13807088	2956683	5594	13985	529		
403.8529	31.239	31.252	-1	0.984	11224295	2347678	5194	12985	452	1.23(1.05-1.43)	
1,2,3,4,7,8-HxCDD											Ma
389.8157	31.279	31.265	1	1.001	42839	8373	225	562	37		M
391.8127	31.266	31.265	0	1.001	38209	7416	282	705	26	1.12(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.359	31.372	-1	0.988	16141445	3005005	5594	13985	537		
403.8529	31.359	31.372	-1	0.988	13184741	2373251	5194	12985	457	1.22(1.05-1.43)	
1,2,3,6,7,8-HxCDD											Ma
389.8157	31.385	31.385	0	1.001	48663	8397	225	562	37		M
391.8127	31.385	31.385	0	1.001	41097	7645	282	705	27	1.18(1.05-1.43)	
1,2,3,7,8,9-HxCDD											M
389.8157	31.745	31.758	-1	1.016	43122	7131	225	562	32		
391.8127	31.745	31.758	-1	1.016	36219	6328	282	705	22	1.19(1.05-1.43)	M
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.108						225	562			
391.8127	30.108						282	705			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.459	33.471	-1	1.054	6387851	1540087	11787	29467	131		
419.8220	33.459	33.471	-1	1.054	15285638	3676309	24120	60300	152	0.42(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											M
407.7818	33.471	33.483	-1	1.000	56392	13549	711	1777	19		M
409.7789	33.471	33.483	-1	1.000	52925	13035	434	1085	30	1.07(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.528	34.540	-1	1.088	6314669	1162633	11787	29467	99		
419.8220	34.528	34.540	-1	1.088	14909037	2739093	24120	60300	114	0.42(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											M
407.7818	34.541	34.540	0	1.000	36078	7812	711	1777	11		M
409.7789	34.541	34.540	0	1.000	30609	6627	434	1085	15	1.18(0.88-1.20)	M
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.018						711	1777			
409.7789	34.018						434	1085			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.249	34.249	0	1.079	11439173	2352267	6333	15832	371		
437.8140	34.237	34.249	-1	1.079	10781090	2140131	6339	15847	338	1.06(0.88-1.20)	

Report Date: 07-Feb-2020 14:27:15 Chrom Revision: 2.3 14-Jan-2020 22:23:42
Data File: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_4.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.249	34.261	-1	1.000	51471	10780	406	1015	27		
425.7737	34.261	34.261	0	1.000	52261	9866	415	1037	24	0.98(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											M
423.7766	33.714	33.988	-16	0.984	9670	2912	406	1015	7		M
425.7737	33.702	33.988	-17	0.984	10453	3487	415	1037	8	0.93(0.88-1.20)	M
13C-OCDD											
469.7779	36.540	36.540	0	1.152	14939466	2465705	1462	3655	1687		
471.7750	36.540	36.540	0	1.152	17068151	2828717	1686	4215	1678	0.88(0.76-1.02)	
OCDF											RQM
441.7428	36.624	36.636	-1	1.002	55297	8074	236	590	34		M
443.7399	36.636	36.636	0	1.003	76698	12129	388	970	31	0.72(0.76-1.02)	M
	Empc Correction				62131	9071	388	970	23		
OCDD											M
457.7377	36.552	36.552	0	1.000	102277	15444	317	792	49		M
459.7348	36.552	36.552	0	1.000	122297	17087	287	717	60	0.84(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

U - Marked Undetected

a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_4.d
Lims ID: MB 320-354177/1-A
Client ID:
Inject. Date: 05-Feb-2020 17:50:06 Dil. Factor: 1.0000
Sample Type: MB, Method Blank
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 355322 Lims Sample ID: 4

Non-2,3,7,8-sub-PeCDD, RT: 22.580

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDD	0.996	D 13C-1,2,3,7,8-PeCDD	100.000	26400848	3603654

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.996		100.000	26400848	3603654

Sum the Uncalibrated Results

RT	355.8546 Area	355.8546 Height	357.8516 Area	357.8516 Height	Amount	Ratio	Flags

Compound is Marked ND

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_4.d
Lims ID: MB 320-354177/1-A
Client ID:
Inject. Date: 05-Feb-2020 17:50:06 Dil. Factor: 1.0000
Sample Type: MB, Method Blank
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 355322 Lims Sample ID: 4

Non-2,3,7,8-sub-HpCDD, RT: 33.988

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.981	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	22220263	4492398

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.981		100.000	22220263	4492398

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
33.714	9670	2912	10453	3487	0.0923	0.93	M
Signal Totals:							
	9670	2912	10453	3487			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	20123	6399				0.93	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0923 = (20123 * 100.000) / (22220263 * 0.981)

QC Flag Legend

Review Flags
M - Manually Integrated

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_4.d				
Injection Date:	05-Feb-2020 17:50:06	Instrument ID:	10D5		
Lims ID:	MB 320-354177/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDF, CAS: 51207-31-9

Signal: 2

Processing Integration Results

RT: 16.85
Area: 12974
Amount: 0.058083
Amount Units: pg/ul

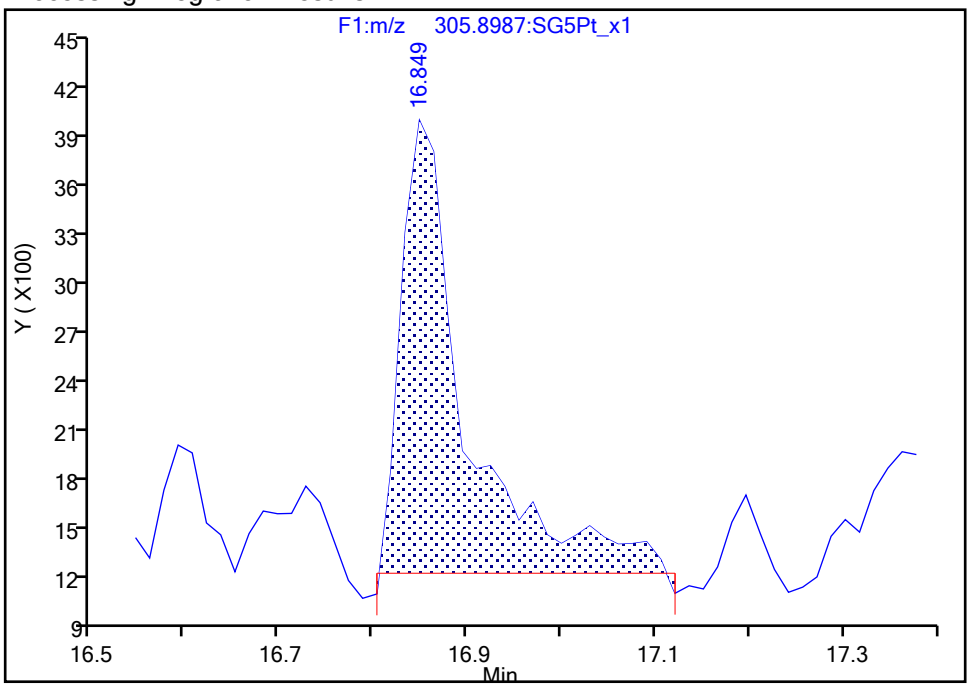

Manual Integration Results

RT: 16.85
Area: 10535
Amount: 0.051008
Amount Units: pg/ul

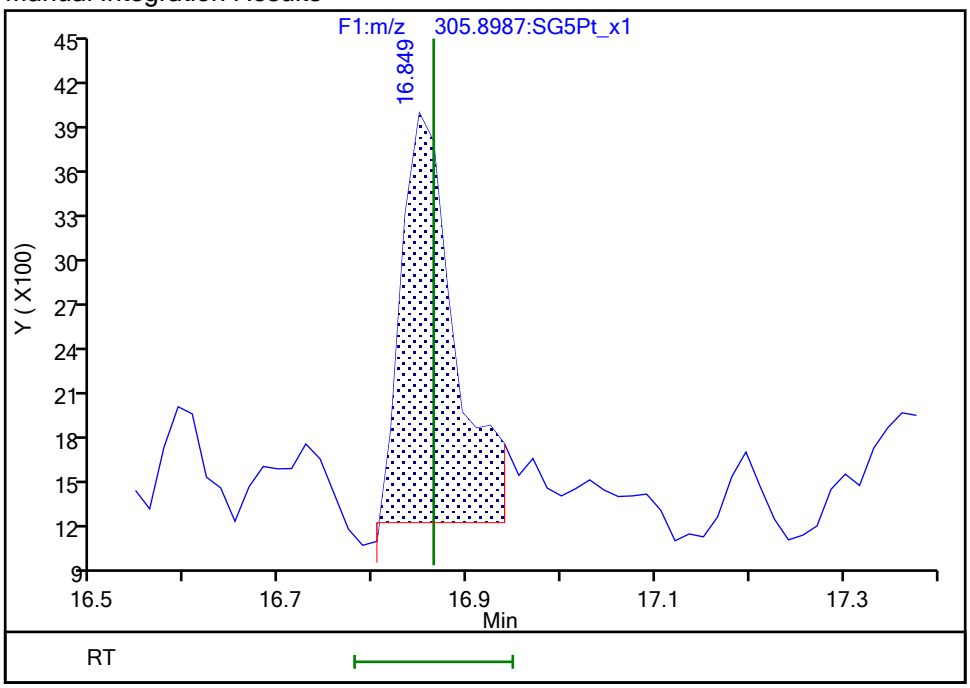

Reviewer: dadunj, 07-Feb-2020 14:23:26

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_4.d				
Injection Date:	05-Feb-2020 17:50:06	Instrument ID:	10D5		
Lims ID:	MB 320-354177/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

2,3,4,7,8-PeCDF, CAS: 57117-31-4

Signal: 1

Processing Integration Results

RT: 22.95
Area: 58928
Amount: 0.299976
Amount Units: pg/ul

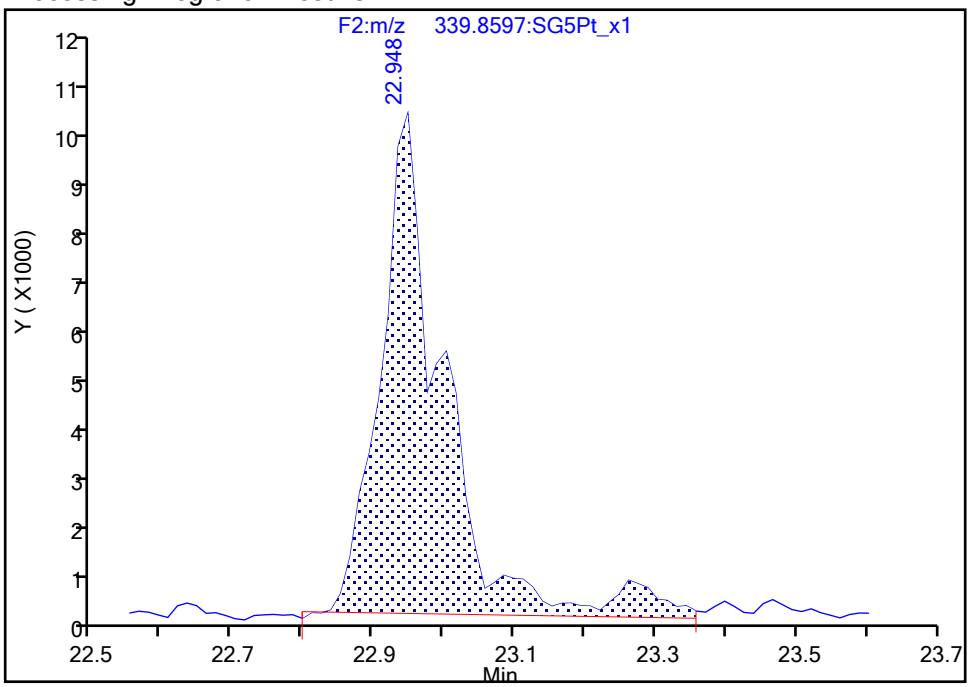

Manual Integration Results

RT: 22.95
Area: 52262
Amount: 0.275706
Amount Units: pg/ul

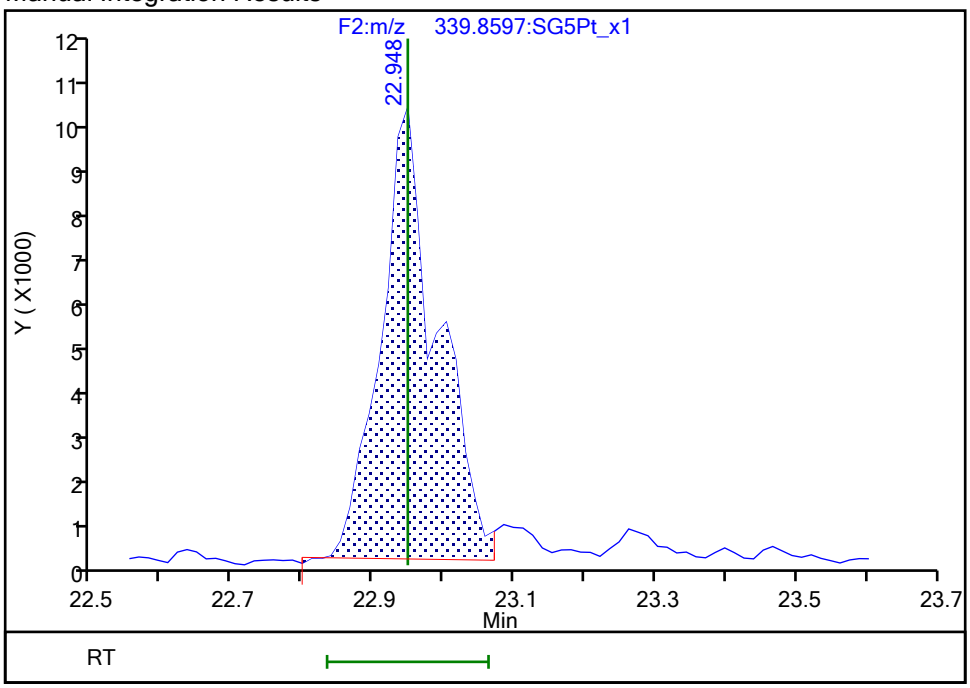

Reviewer: dadunj, 07-Feb-2020 14:23:36

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_4.d				
Injection Date:	05-Feb-2020 17:50:06	Instrument ID:	10D5		
Lims ID:	MB 320-354177/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

2,3,4,7,8-PeCDF, CAS: 57117-31-4

Signal: 2

Processing Integration Results

RT: 22.96
Area: 39295
Amount: 0.299976
Amount Units: pg/ul

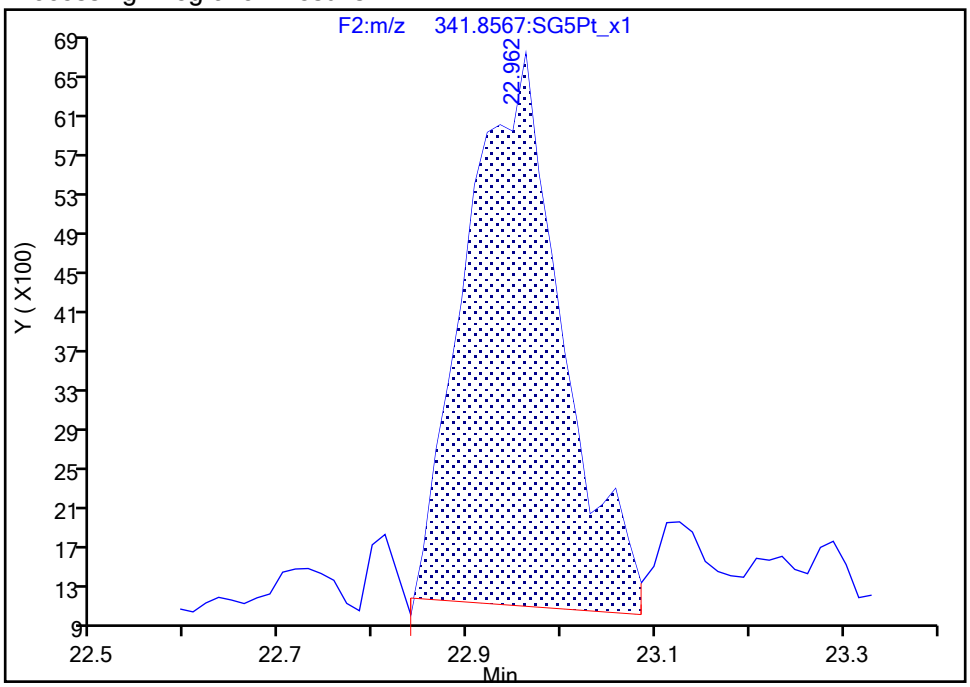

Manual Integration Results

RT: 22.96
Area: 38014
Amount: 0.275706
Amount Units: pg/ul

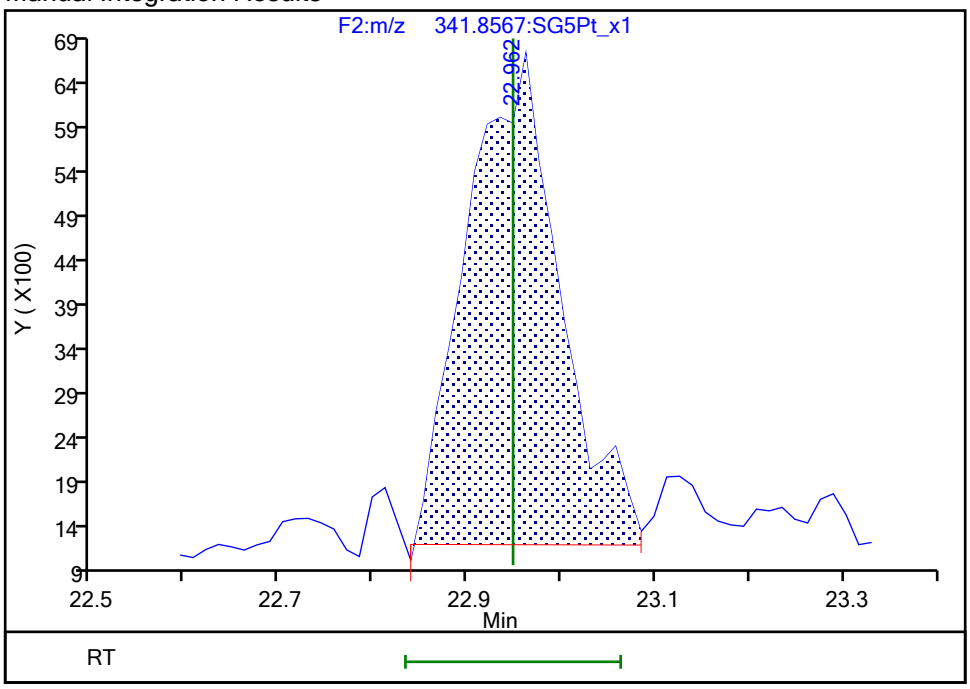

Reviewer: dadunj, 07-Feb-2020 14:23:43

Audit Action: Manually Integrated Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_4.d				
Injection Date:	05-Feb-2020 17:50:06	Instrument ID:	10D5		
Lims ID:	MB 320-354177/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

1,2,3,7,8-PeCDD, CAS: 40321-76-4

Signal: 2

Processing Integration Results

RT: 23.62
Area: 37702
Amount: 0.324993
Amount Units: pg/ul

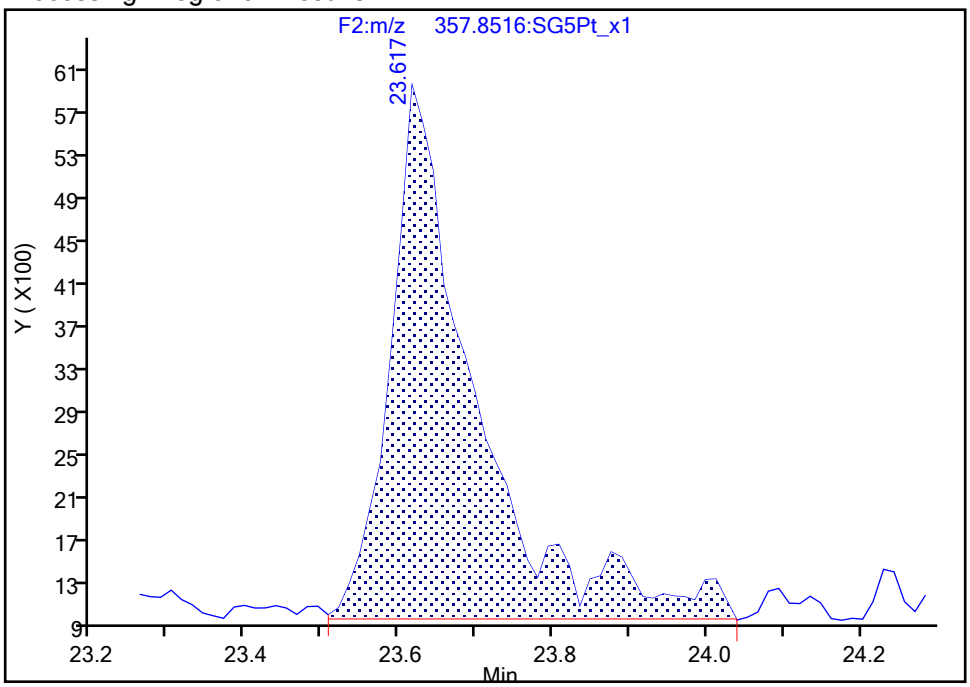

Manual Integration Results

RT: 23.62
Area: 34016
Amount: 0.305804
Amount Units: pg/ul

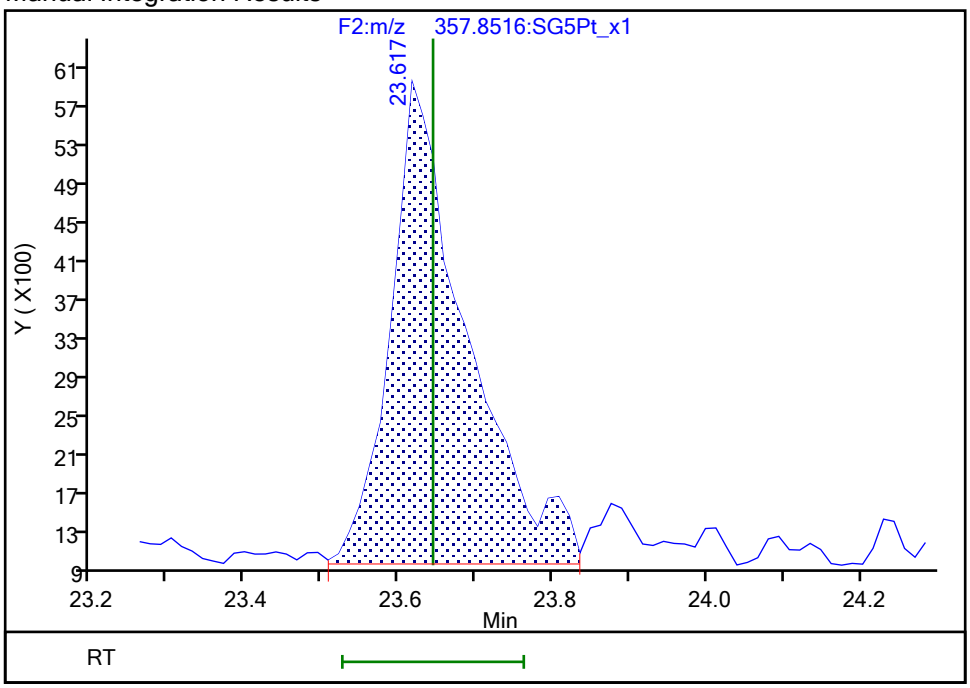

Reviewer: dadunj, 07-Feb-2020 14:23:53

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_4.d				
Injection Date:	05-Feb-2020 17:50:06	Instrument ID:	10D5		
Lims ID:	MB 320-354177/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

1,2,3,7,8-PeCDD, CAS: 40321-76-4

Signal: 1

Processing Integration Results

RT: 23.66
Area: 47762
Amount: 0.324993
Amount Units: pg/ul

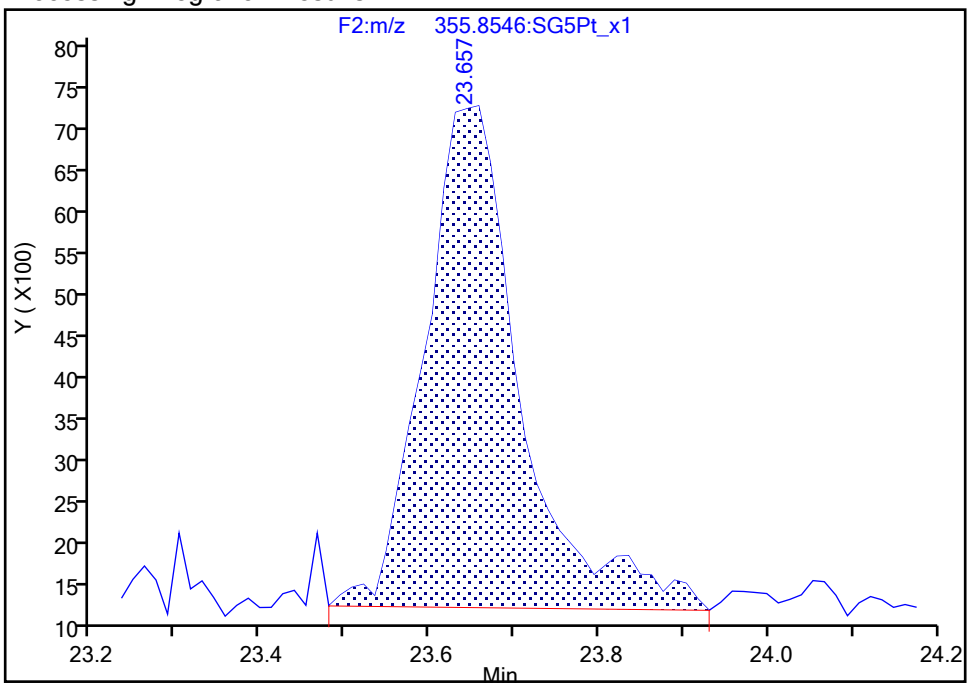

Manual Integration Results

RT: 23.66
Area: 46402
Amount: 0.305804
Amount Units: pg/ul

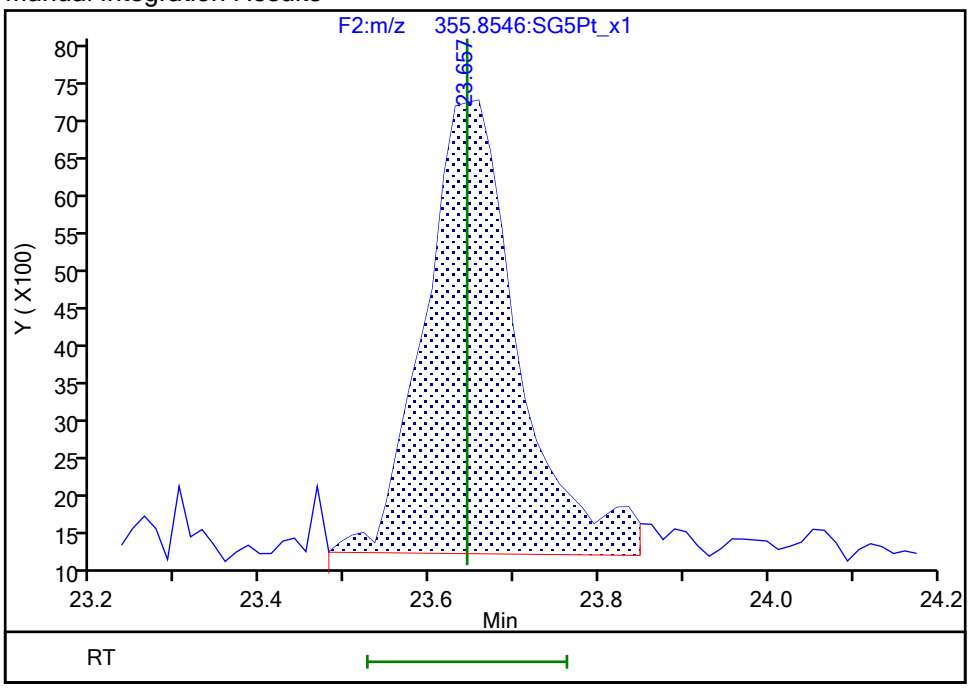

Reviewer: dadunj, 07-Feb-2020 14:23:56

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_4.d				
Injection Date:	05-Feb-2020 17:50:06	Instrument ID:	10D5		
Lims ID:	MB 320-354177/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDF, CAS: 70648-26-9

Signal: 2

Not Detected
Expected RT: 29.76

Processing Integration Results

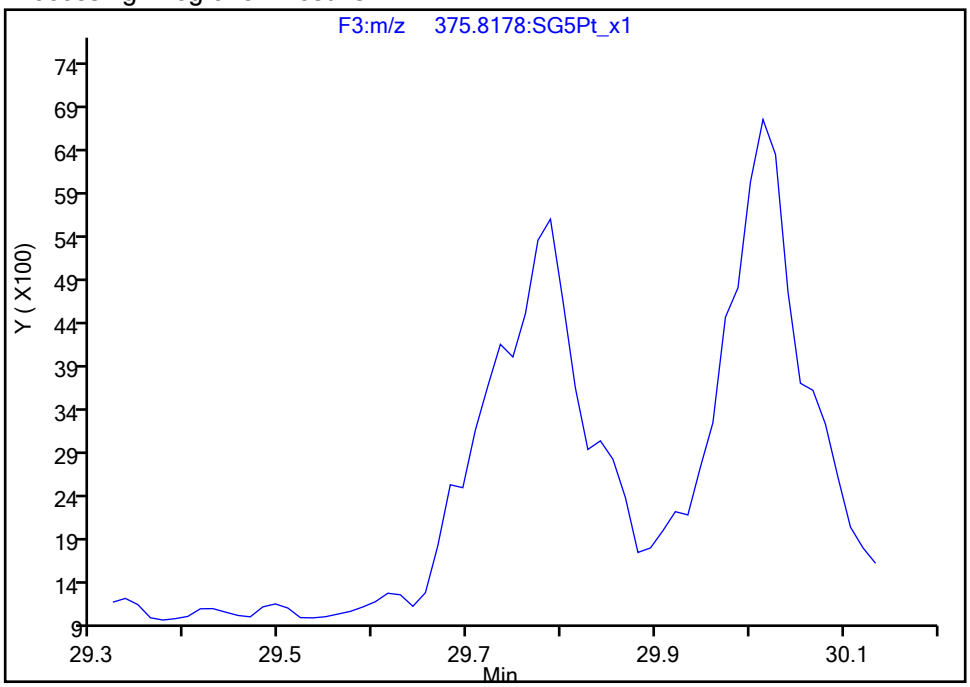

RT: 29.79
Area: 32323
Amount: 0.295805
Amount Units: pg/ul

Manual Integration Results

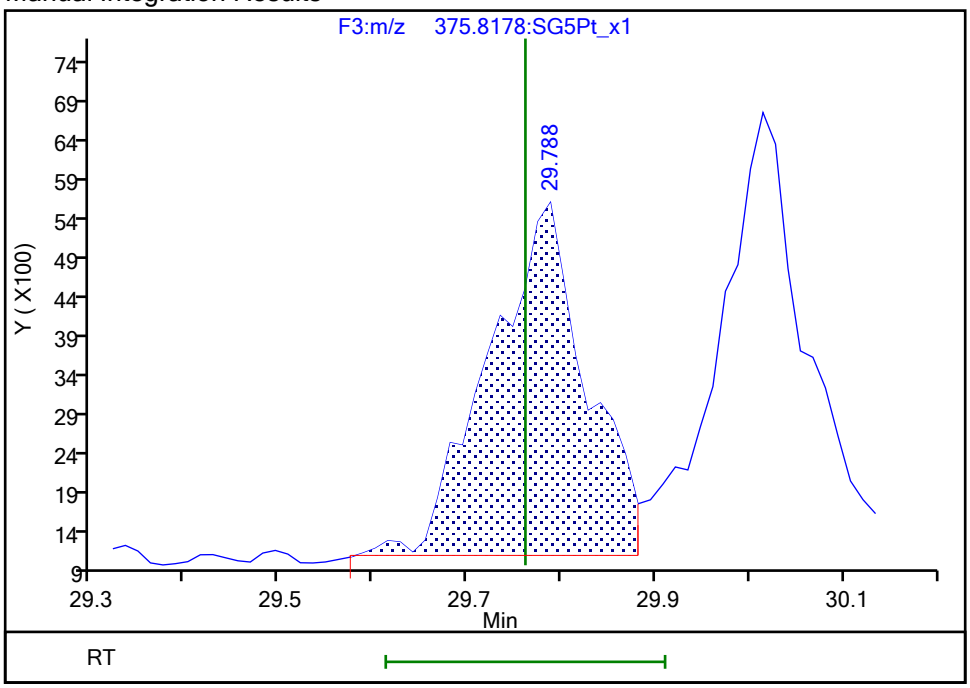

Reviewer: dadunj, 07-Feb-2020 14:24:32
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_4.d				
Injection Date:	05-Feb-2020 17:50:06	Instrument ID:	10D5		
Lims ID:	MB 320-354177/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDF, CAS: 70648-26-9

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 29.76

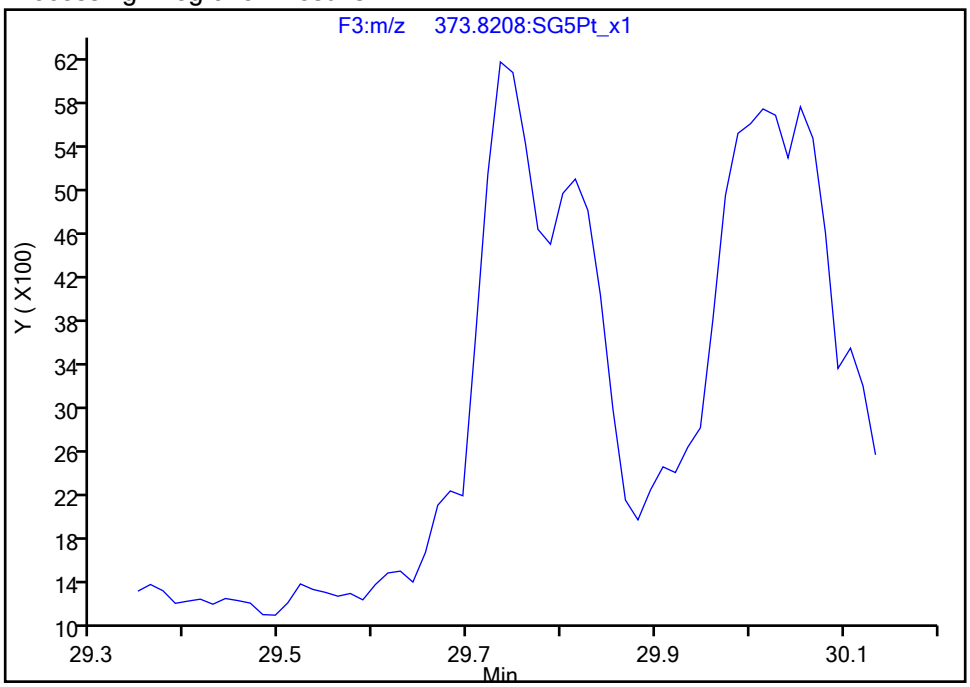

Manual Integration Results

RT: 29.73
Area: 36169
Amount: 0.295805
Amount Units: pg/ul

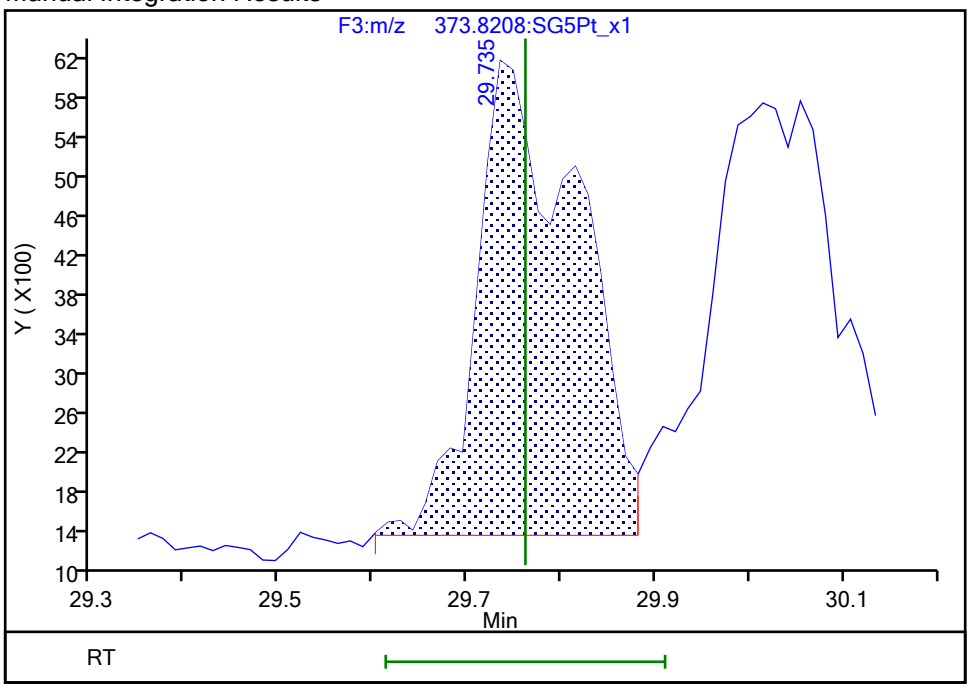

Reviewer: dadunj, 07-Feb-2020 14:24:52
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_4.d				
Injection Date:	05-Feb-2020 17:50:06	Instrument ID:	10D5		
Lims ID:	MB 320-354177/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

13C-1,2,3,6,7,8-HxCDF, CAS: 116843-03-9

Signal: 1

Processing Integration Results

RT: 29.99
Area: 10066374
Amount: 80.186149
Amount Units: pg/ul

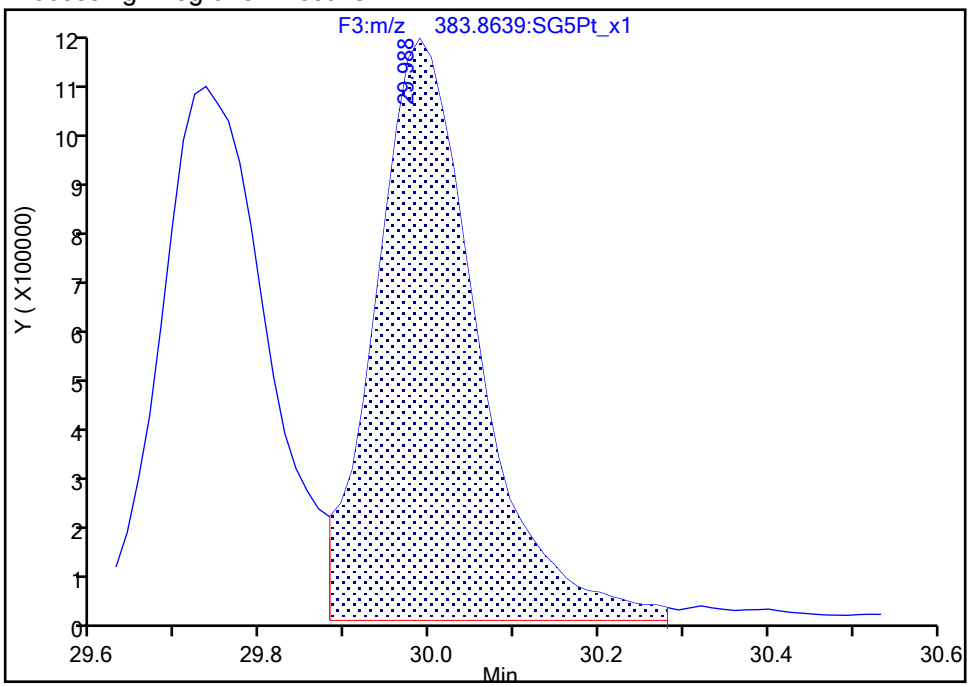

Manual Integration Results

RT: 29.99
Area: 10066374
Amount: 80.186149
Amount Units: pg/ul

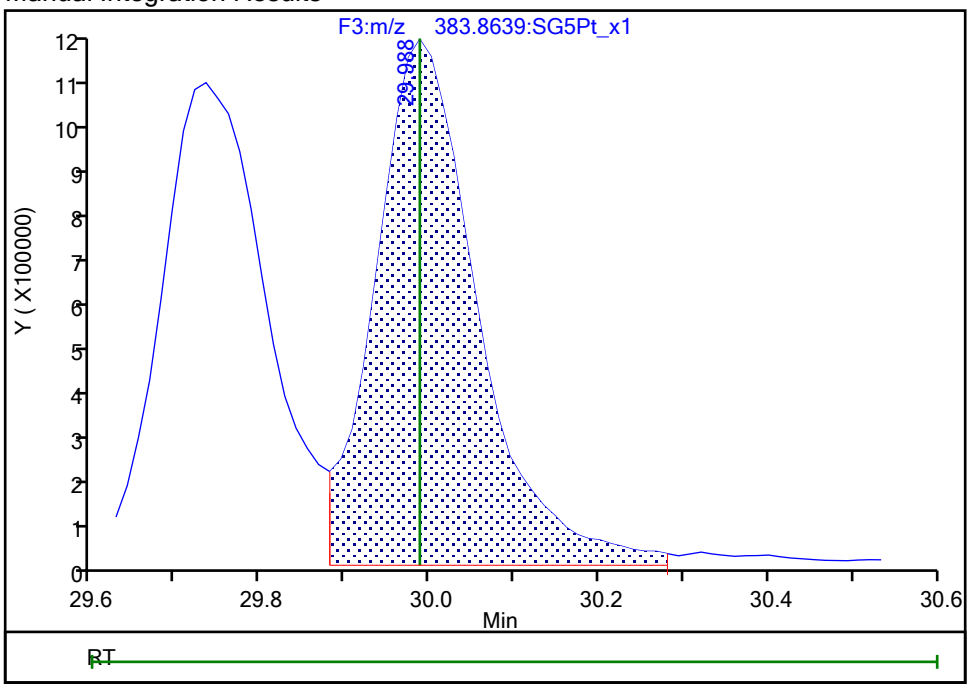

Reviewer: dadunj, 07-Feb-2020 14:24:57

Audit Action: Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_4.d				
Injection Date:	05-Feb-2020 17:50:06	Instrument ID:	10D5		
Lims ID:	MB 320-354177/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDF, CAS: 57117-44-9

Signal: 2

Processing Integration Results

RT: 30.01
Area: 31275
Amount: 0.294951
Amount Units: pg/ul

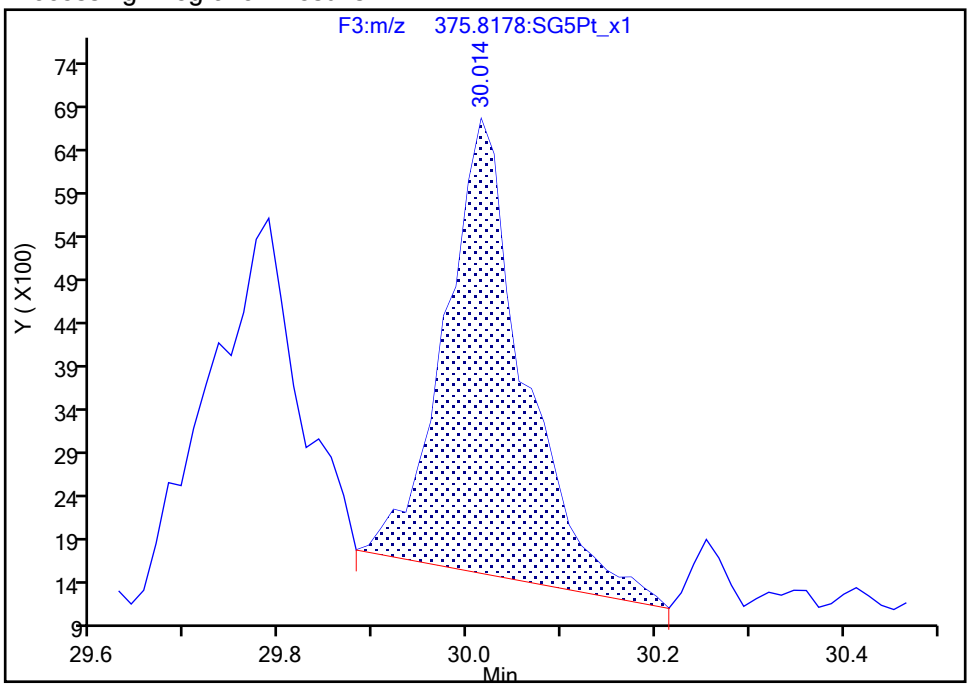

Manual Integration Results

RT: 30.01
Area: 37676
Amount: 0.307072
Amount Units: pg/ul

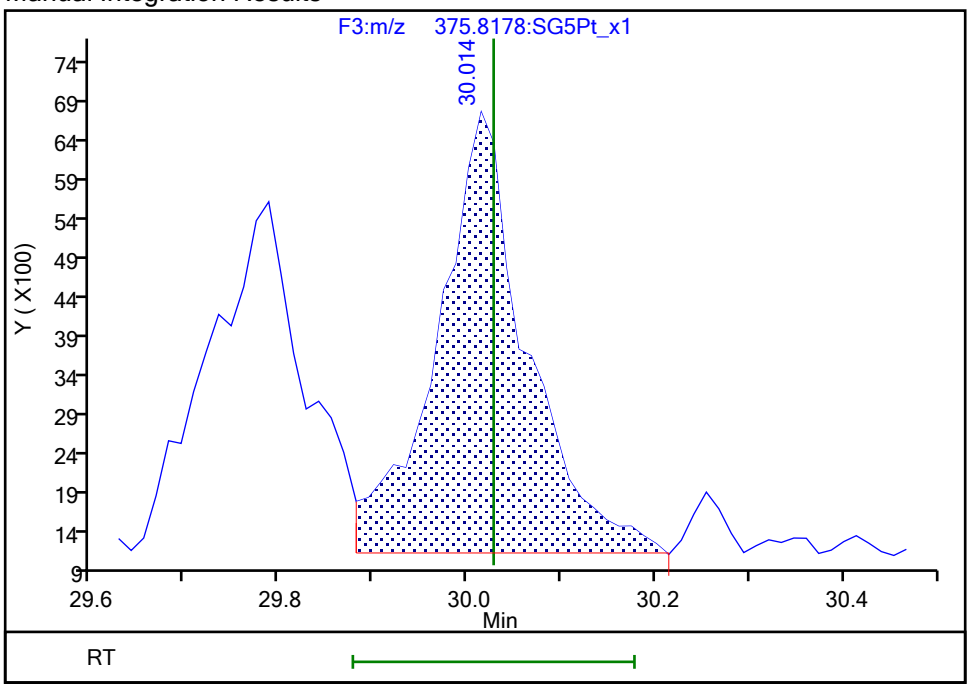

Reviewer: dadunj, 07-Feb-2020 14:25:04

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_4.d				
Injection Date:	05-Feb-2020 17:50:06	Instrument ID:	10D5		
Lims ID:	MB 320-354177/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDF, CAS: 57117-44-9

Signal: 3

Processing Integration Results

RT: 30.05
Area: 77793
Amount: 0.294951
Amount Units: pg/ul

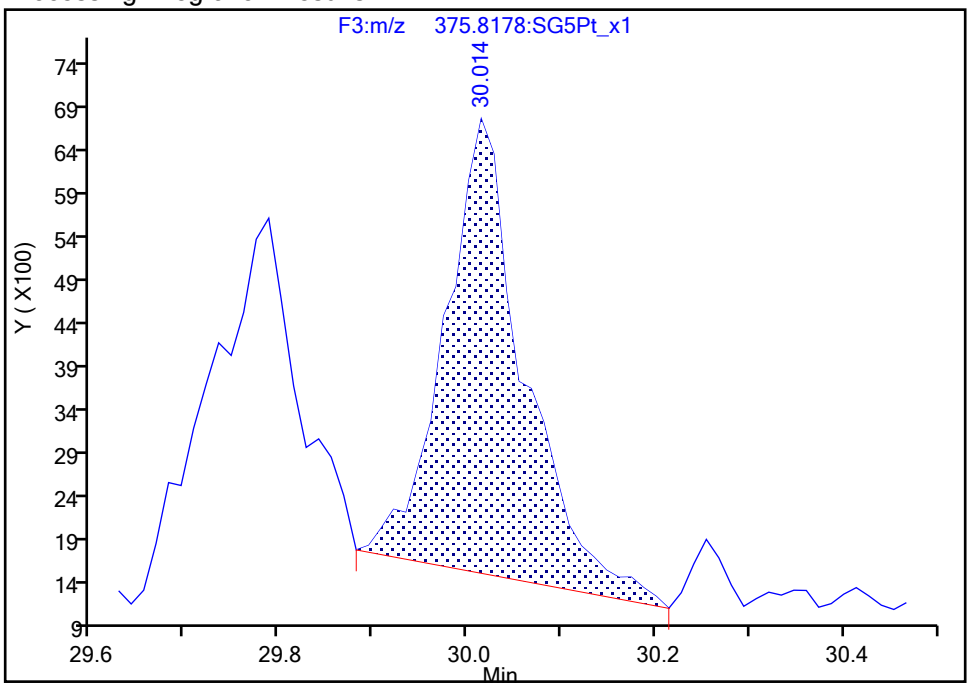

Manual Integration Results

RT: 30.05
Area: 80990
Amount: 0.307072
Amount Units: pg/ul
Reviewer: dadunj, 07-Feb-2020 14:25:04
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_4.d				
Injection Date:	05-Feb-2020 17:50:06	Instrument ID:	10D5		
Lims ID:	MB 320-354177/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDF, CAS: 57117-44-9

Signal: 1

Processing Integration Results

RT: 30.05
Area: 46518
Amount: 0.294951
Amount Units: pg/ul

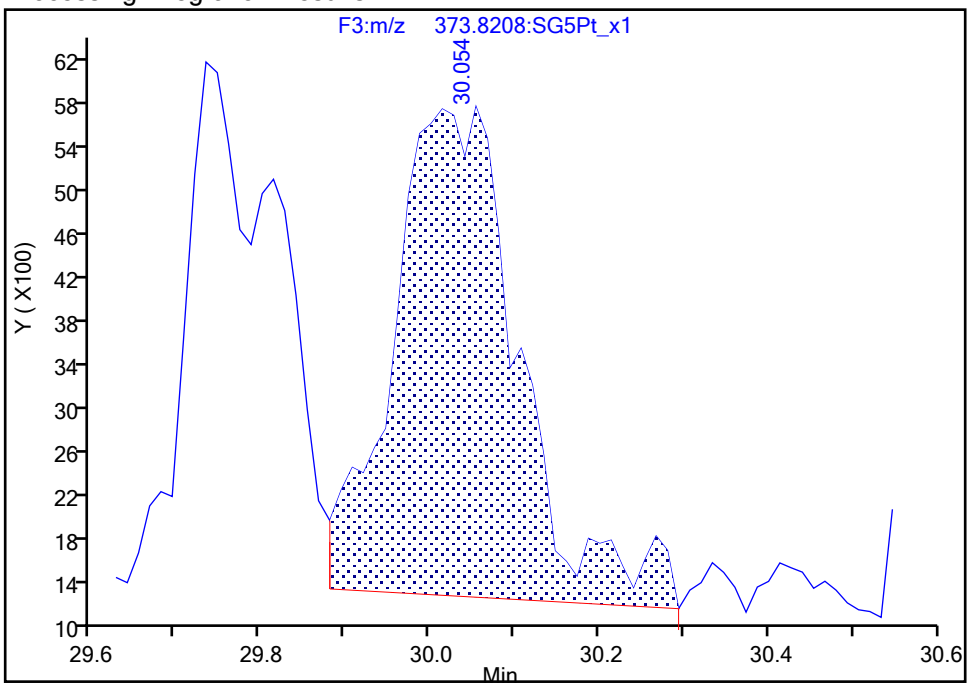

Manual Integration Results

RT: 30.05
Area: 43314
Amount: 0.307072
Amount Units: pg/ul

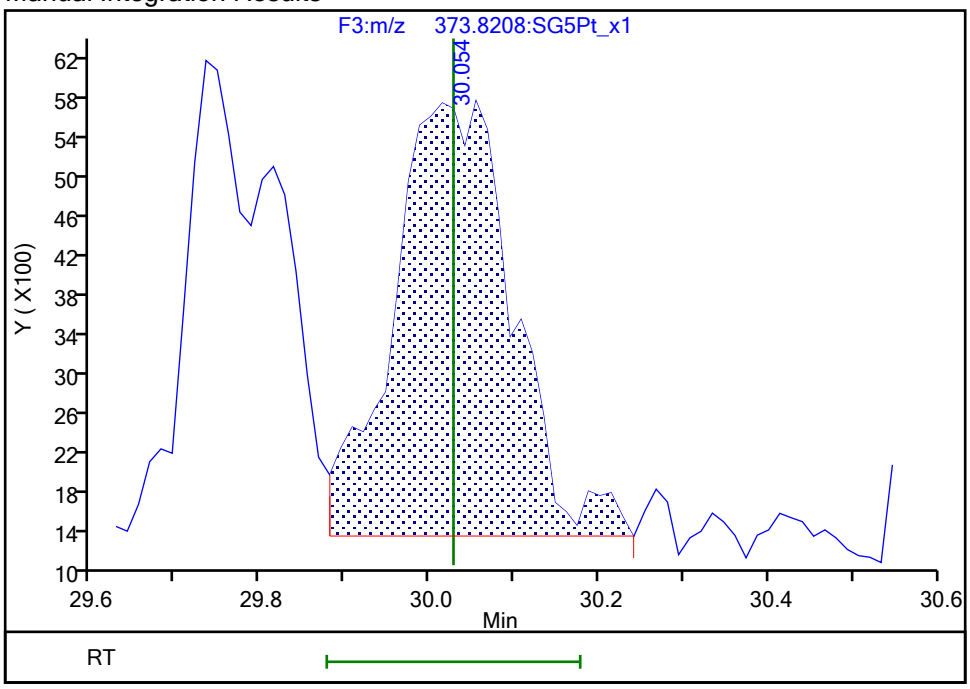

Reviewer: dadunj, 07-Feb-2020 14:25:05

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_4.d				
Injection Date:	05-Feb-2020 17:50:06	Instrument ID:	10D5		
Lims ID:	MB 320-354177/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

2,3,4,6,7,8-HxCDF, CAS: 60851-34-5

Signal: 1

Processing Integration Results

RT: 31.03
Area: 39532
Amount: 0.301053
Amount Units: pg/ul

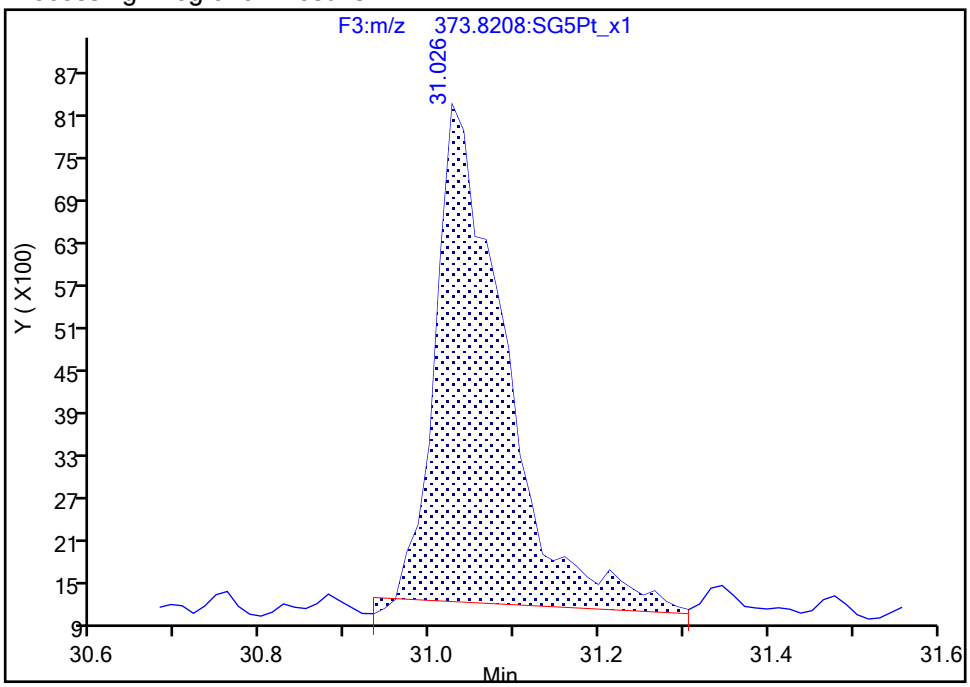

Manual Integration Results

RT: 31.03
Area: 35667
Amount: 0.269293
Amount Units: pg/ul

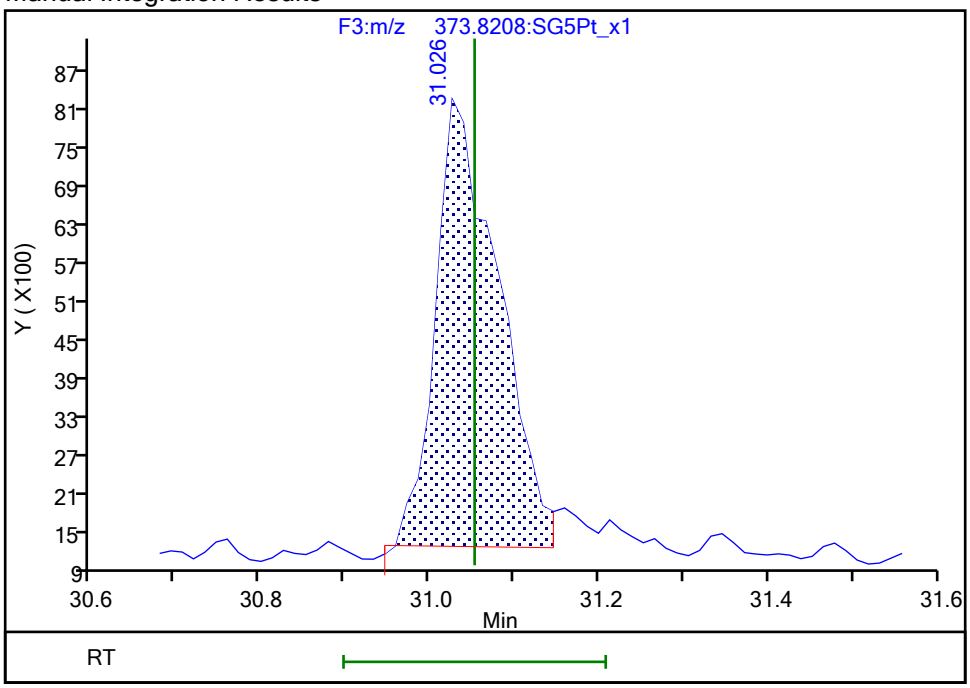

Reviewer: dadunj, 07-Feb-2020 14:25:27

Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_4.d				
Injection Date:	05-Feb-2020 17:50:06	Instrument ID:	10D5		
Lims ID:	MB 320-354177/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

2,3,4,6,7,8-HxCDF, CAS: 60851-34-5

Signal: 2

Processing Integration Results

RT: 31.03
Area: 35948
Amount: 0.301053
Amount Units: pg/ul

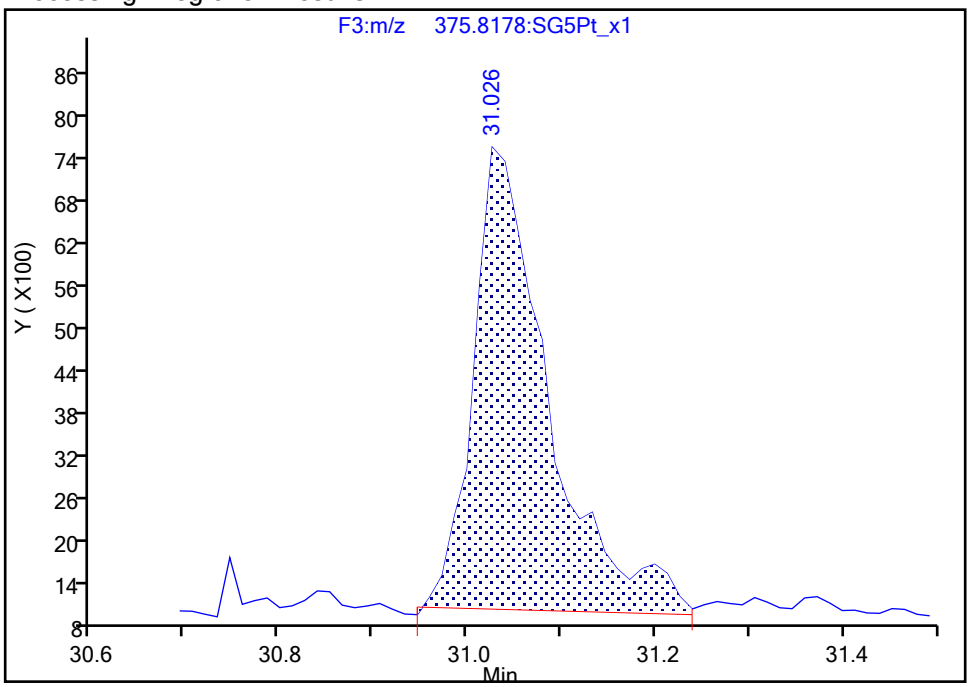

Manual Integration Results

RT: 31.03
Area: 31850
Amount: 0.269293
Amount Units: pg/ul

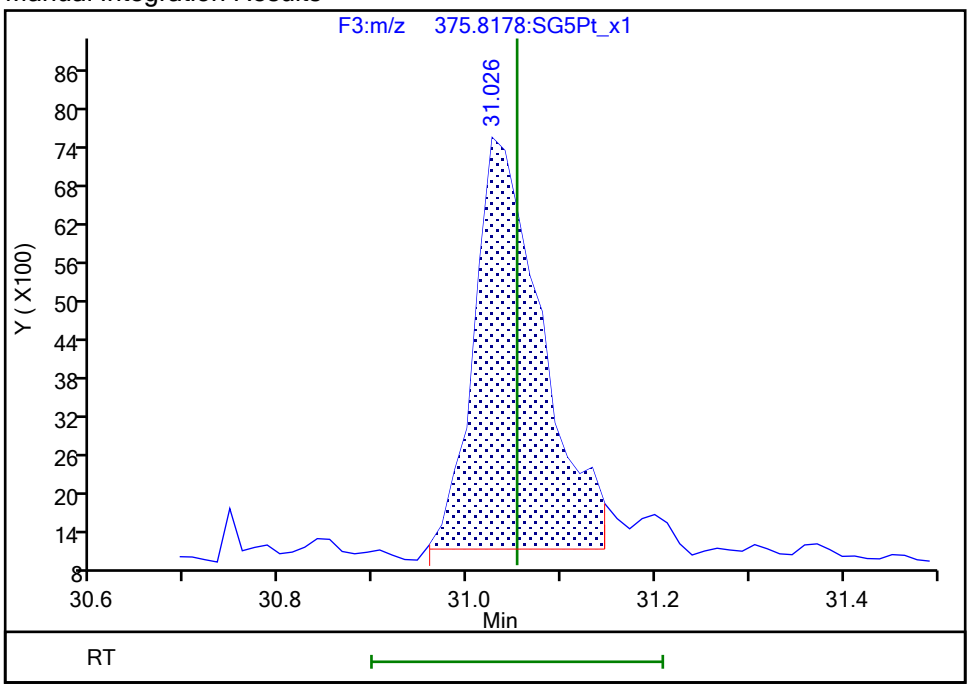

Reviewer: dadunj, 07-Feb-2020 14:25:28

Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_4.d				
Injection Date:	05-Feb-2020 17:50:06	Instrument ID:	10D5		
Lims ID:	MB 320-354177/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 1

Processing Integration Results

RT: 31.96
Area: 34464
Amount: 0.302993
Amount Units: pg/ul

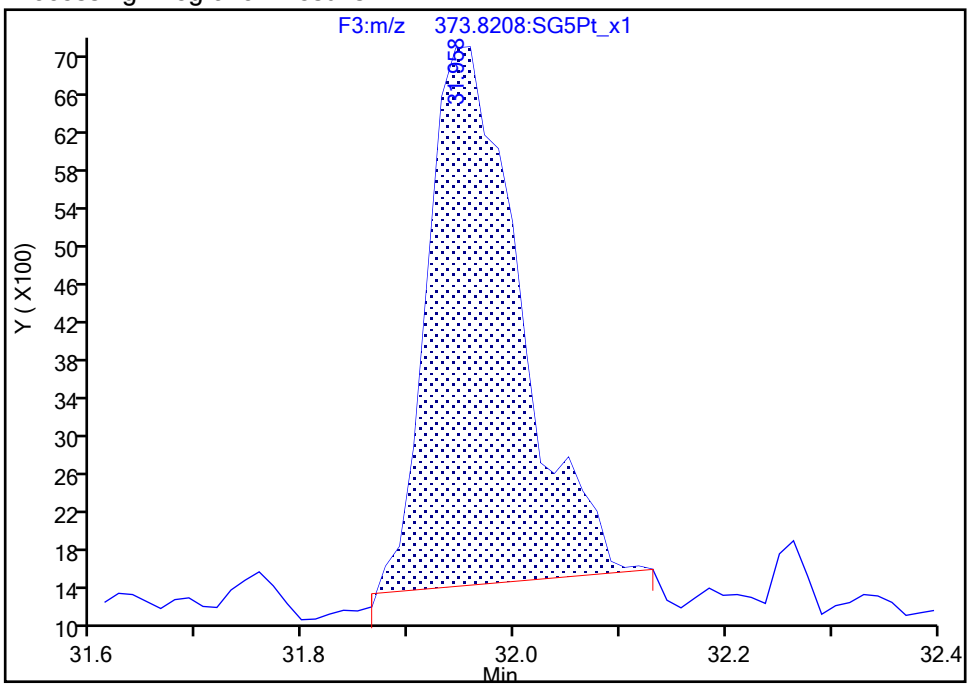

Manual Integration Results

RT: 31.96
Area: 36558
Amount: 0.312720
Amount Units: pg/ul

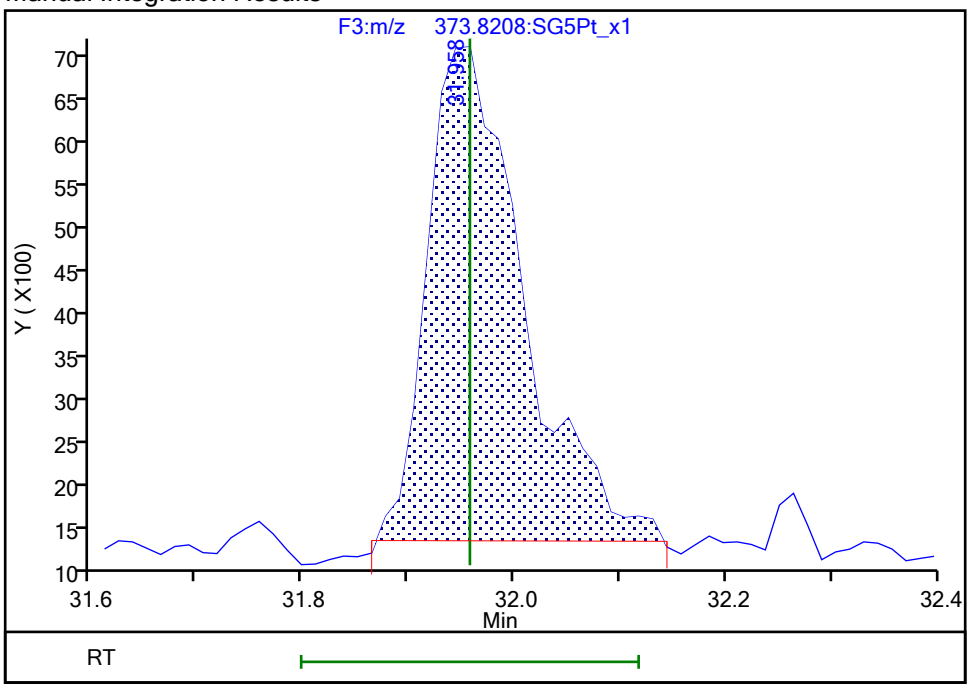

Reviewer: dadunj, 07-Feb-2020 14:25:37

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_4.d				
Injection Date:	05-Feb-2020 17:50:06	Instrument ID:	10D5		
Lims ID:	MB 320-354177/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 2

Processing Integration Results

RT: 31.39
Area: 41097
Amount: 0.631251
Amount Units: pg/ul

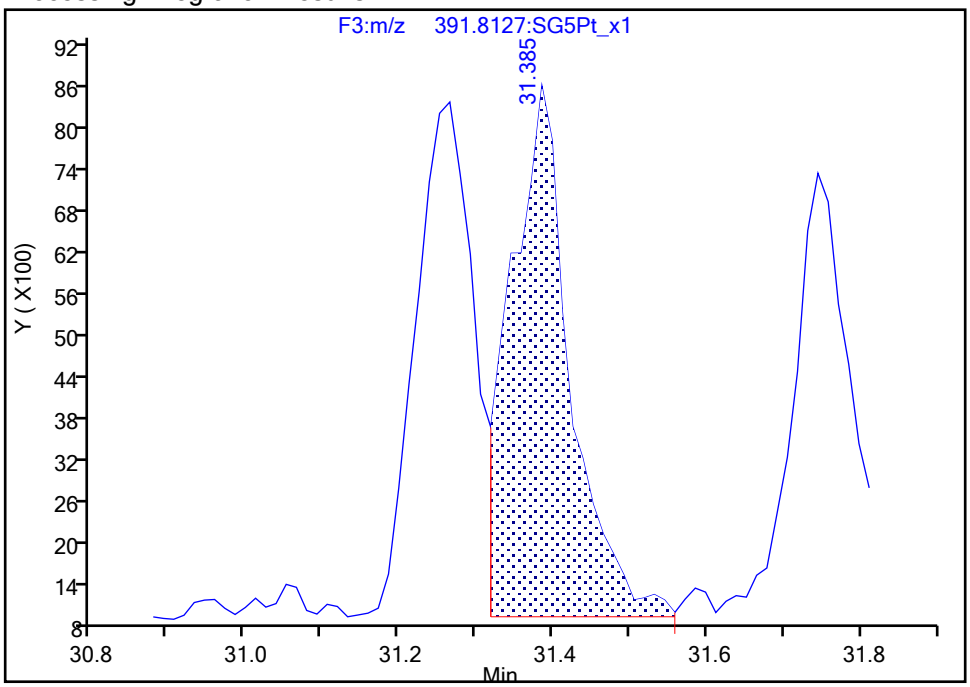

Manual Integration Results

RT: 31.27
Area: 38209
Amount: 0.385837
Amount Units: pg/ul

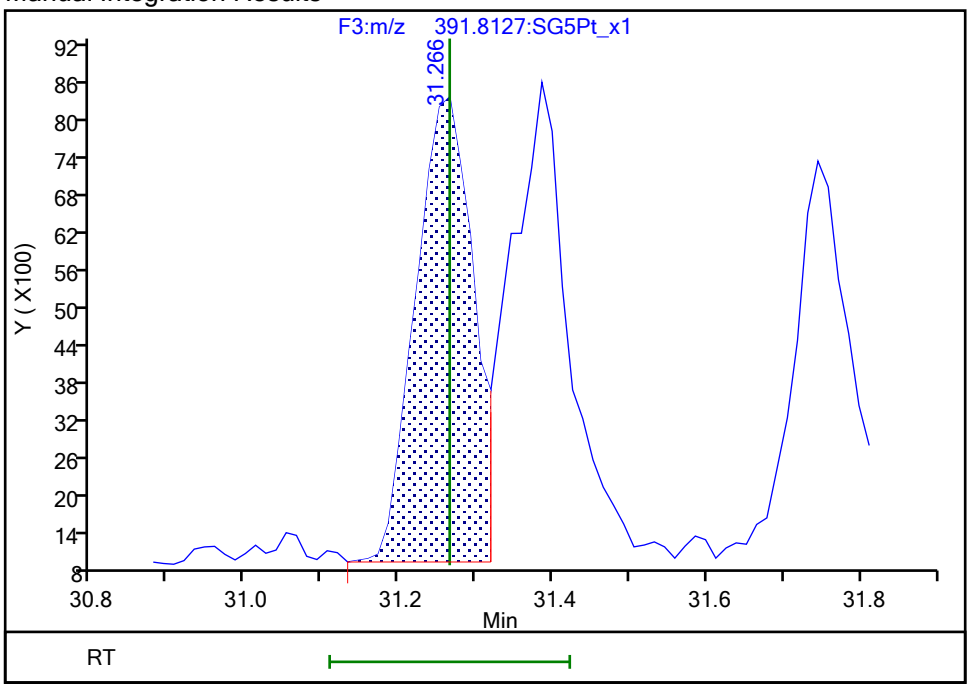

Reviewer: dadunj, 07-Feb-2020 14:25:52

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_4.d				
Injection Date:	05-Feb-2020 17:50:06	Instrument ID:	10D5		
Lims ID:	MB 320-354177/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 3

Processing Integration Results

RT: 31.39
Area: 132599
Amount: 0.631251
Amount Units: pg/ul

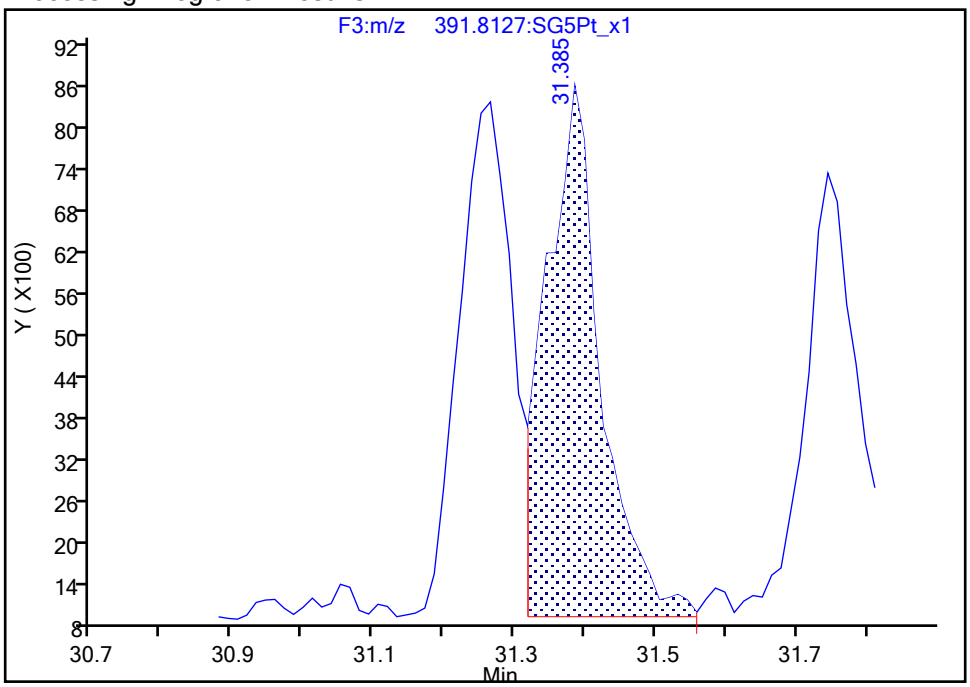

Manual Integration Results

RT: 31.28
Area: 81048
Amount: 0.385837
Amount Units: pg/ul
Reviewer: dadunj, 07-Feb-2020 14:25:52
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_4.d				
Injection Date:	05-Feb-2020 17:50:06	Instrument ID:	10D5		
Lims ID:	MB 320-354177/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 1

Processing Integration Results

RT: 31.39
Area: 91502
Amount: 0.631251
Amount Units: pg/ul

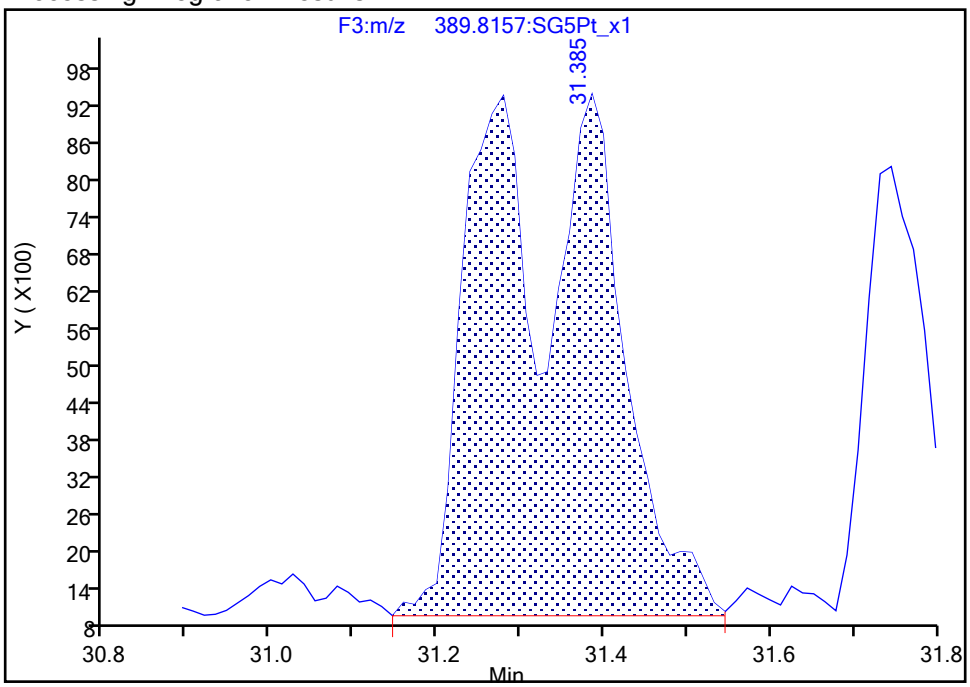

Manual Integration Results

RT: 31.28
Area: 42839
Amount: 0.385837
Amount Units: pg/ul

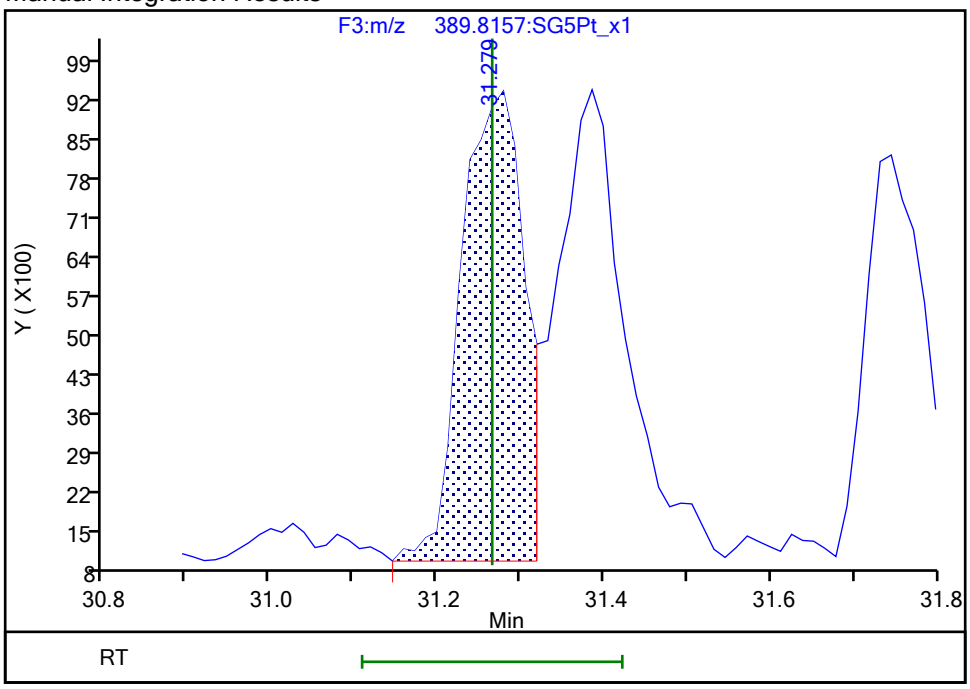

Reviewer: dadunj, 07-Feb-2020 14:25:53

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_4.d				
Injection Date:	05-Feb-2020 17:50:06	Instrument ID:	10D5		
Lims ID:	MB 320-354177/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 2

Processing Integration Results

RT: 31.39
Area: 41097
Amount: 0.509406
Amount Units: pg/ul

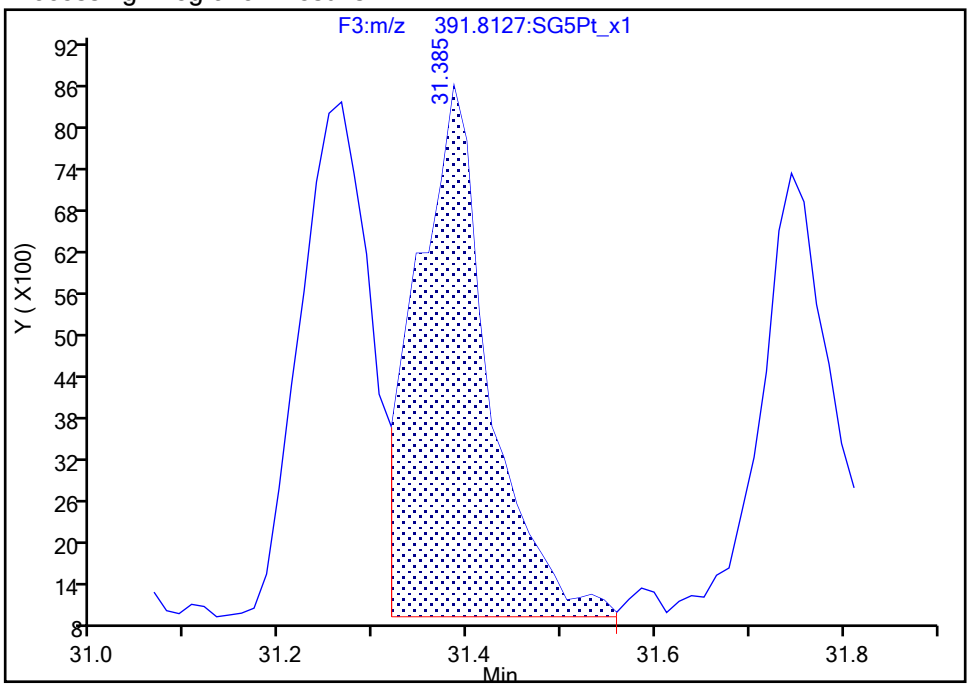

Manual Integration Results

RT: 31.39
Area: 41097
Amount: 0.344831
Amount Units: pg/ul

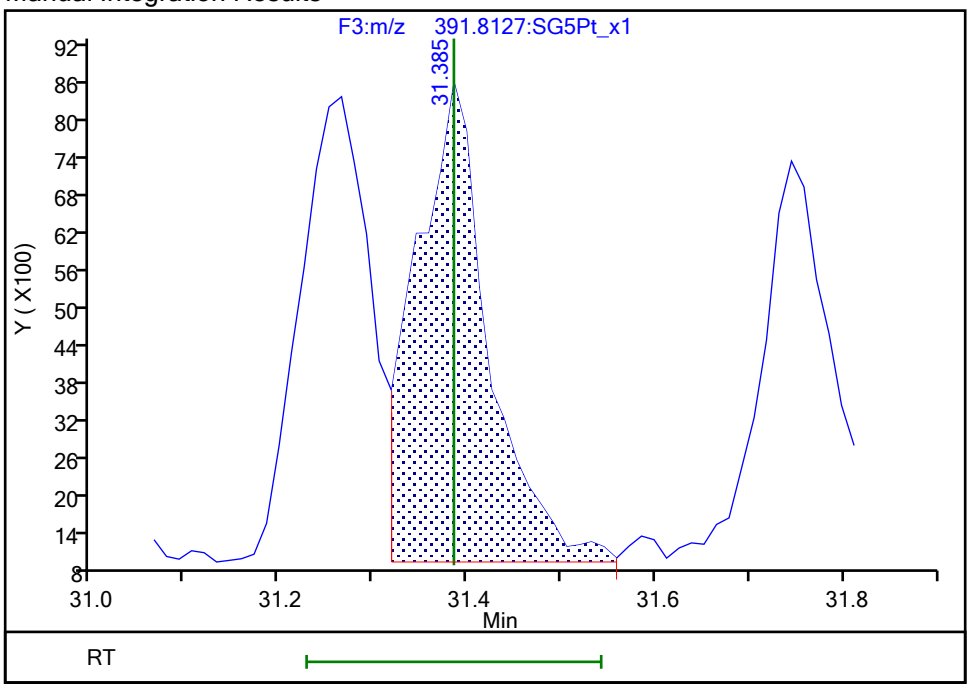

Reviewer: dadunj, 07-Feb-2020 14:25:58

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_4.d				
Injection Date:	05-Feb-2020 17:50:06	Instrument ID:	10D5		
Lims ID:	MB 320-354177/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 3

RT: 31.39
Area: 132599
Amount: 0.509406
Amount Units: pg/ul

Processing Integration Results

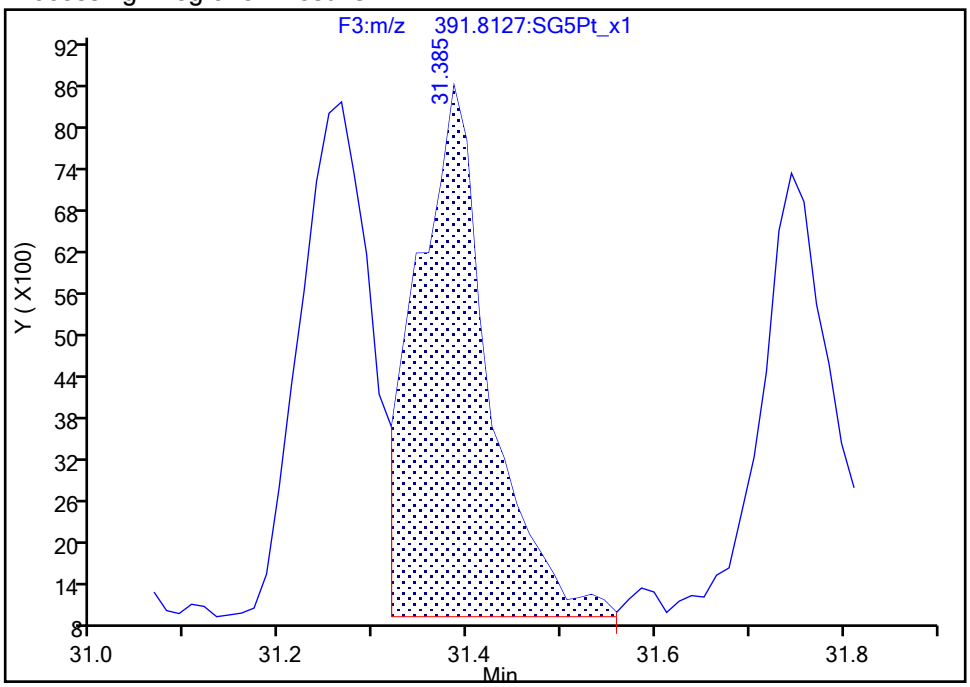

Manual Integration Results

RT: 31.39
Area: 89760
Amount: 0.344831
Amount Units: pg/ul
Reviewer: dadunj, 07-Feb-2020 14:25:58
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_4.d				
Injection Date:	05-Feb-2020 17:50:06	Instrument ID:	10D5		
Lims ID:	MB 320-354177/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 1

Processing Integration Results

RT: 31.39
Area: 91502
Amount: 0.509406
Amount Units: pg/ul

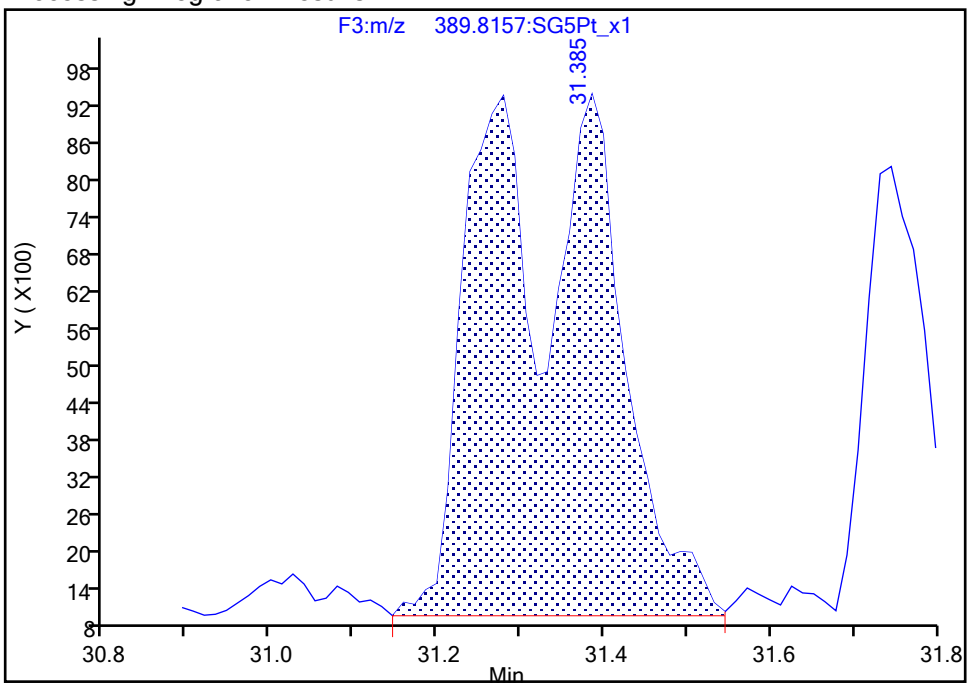

Manual Integration Results

RT: 31.39
Area: 48663
Amount: 0.344831
Amount Units: pg/ul

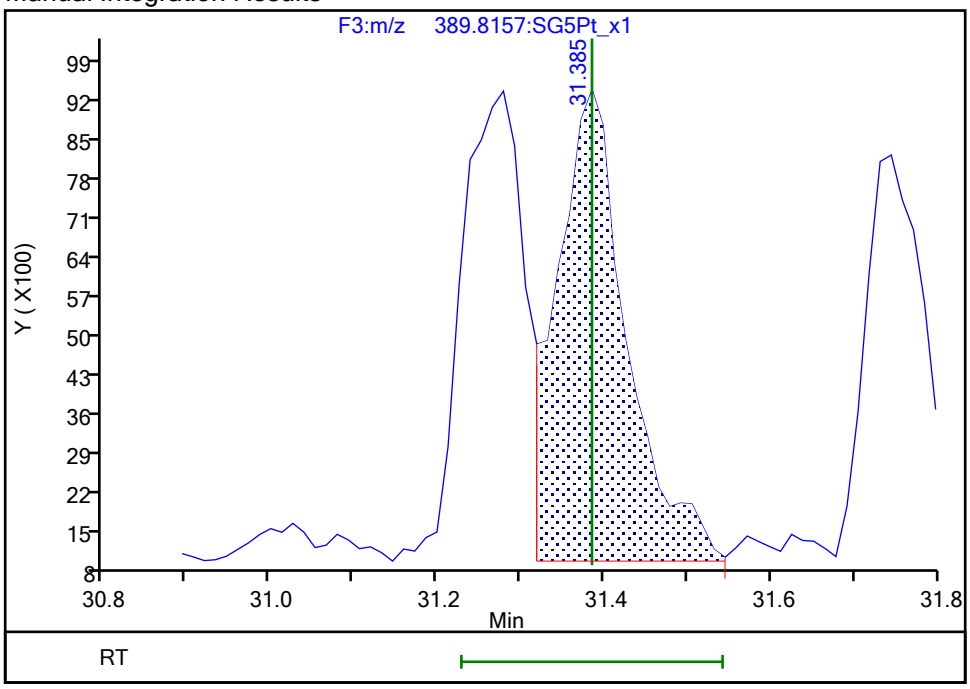

Reviewer: dadunj, 07-Feb-2020 14:25:59

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_4.d				
Injection Date:	05-Feb-2020 17:50:06	Instrument ID:	10D5		
Lims ID:	MB 320-354177/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 2

Processing Integration Results

RT: 31.74
Area: 39228
Amount: 0.316714
Amount Units: pg/ul

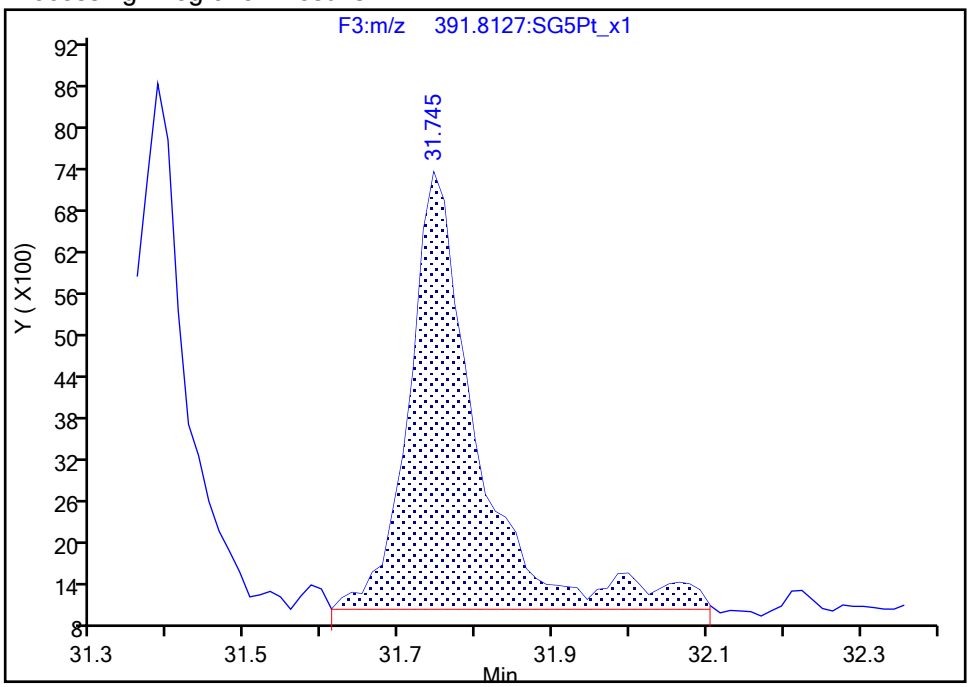

Manual Integration Results

RT: 31.74
Area: 36219
Amount: 0.305141
Amount Units: pg/ul

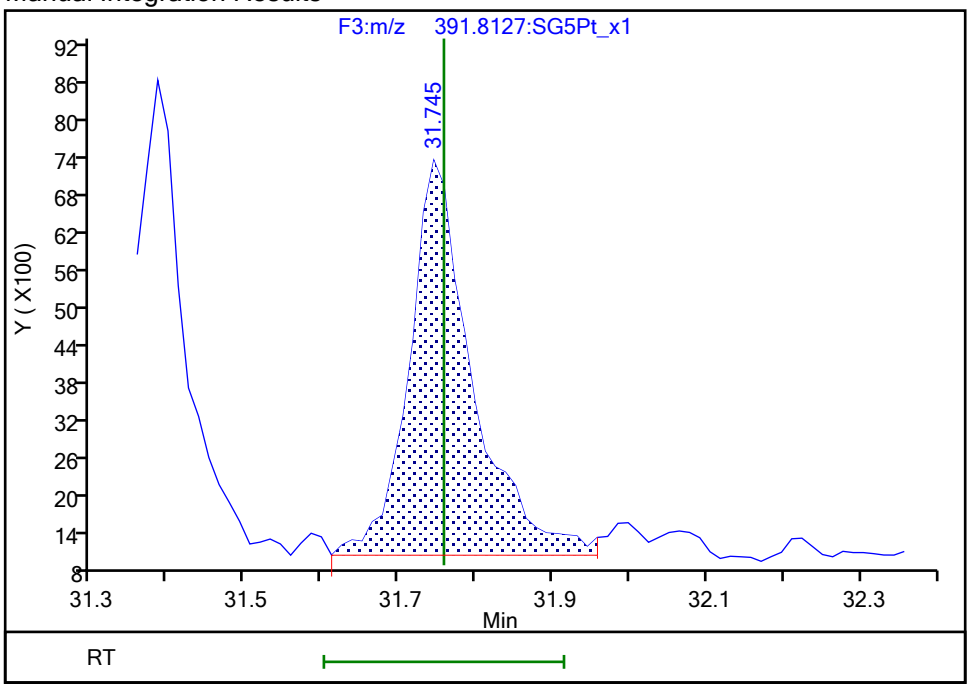

Reviewer: dadunj, 07-Feb-2020 14:26:04

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_4.d				
Injection Date:	05-Feb-2020 17:50:06	Instrument ID:	10D5		
Lims ID:	MB 320-354177/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 1

Processing Integration Results

RT: 33.47
Area: 59045
Amount: 0.386274
Amount Units: pg/ul

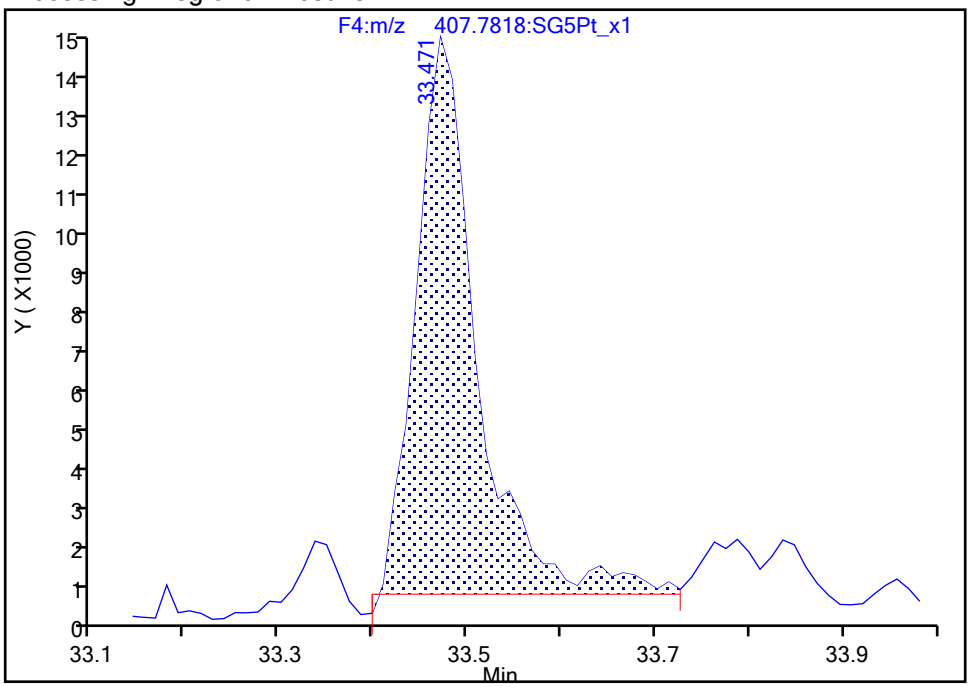

Manual Integration Results

RT: 33.47
Area: 56392
Amount: 0.377121
Amount Units: pg/ul

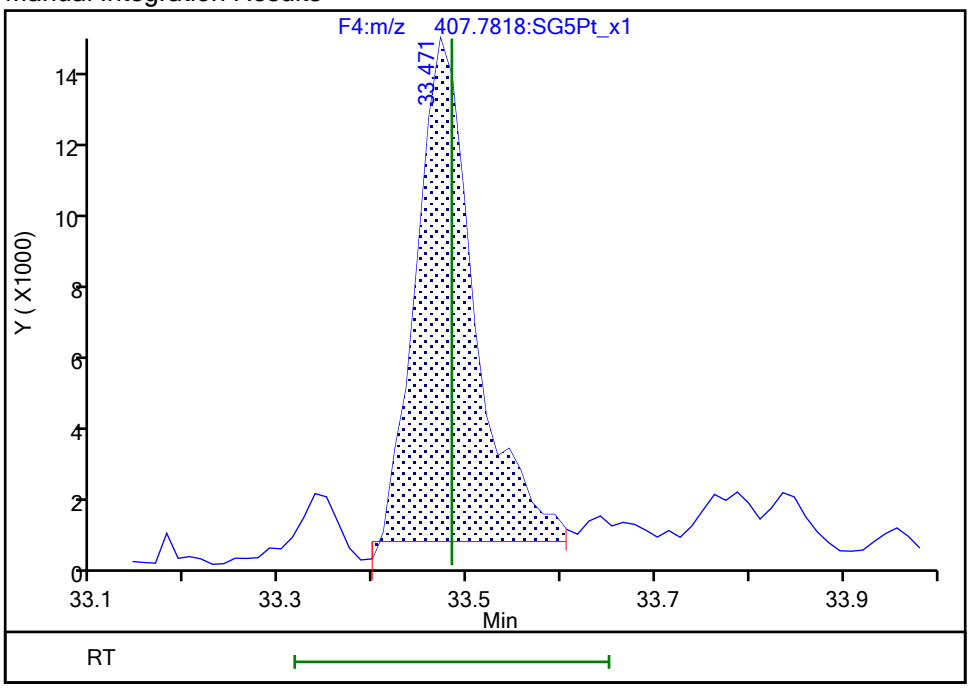

Reviewer: dadunj, 07-Feb-2020 14:26:10

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_4.d				
Injection Date:	05-Feb-2020 17:50:06	Instrument ID:	10D5		
Lims ID:	MB 320-354177/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,7,8,9-HpCDF, CAS: 55673-89-7

Signal: 2

Processing Integration Results

RT: 34.54
Area: 38357
Amount: 0.356733
Amount Units: pg/ul

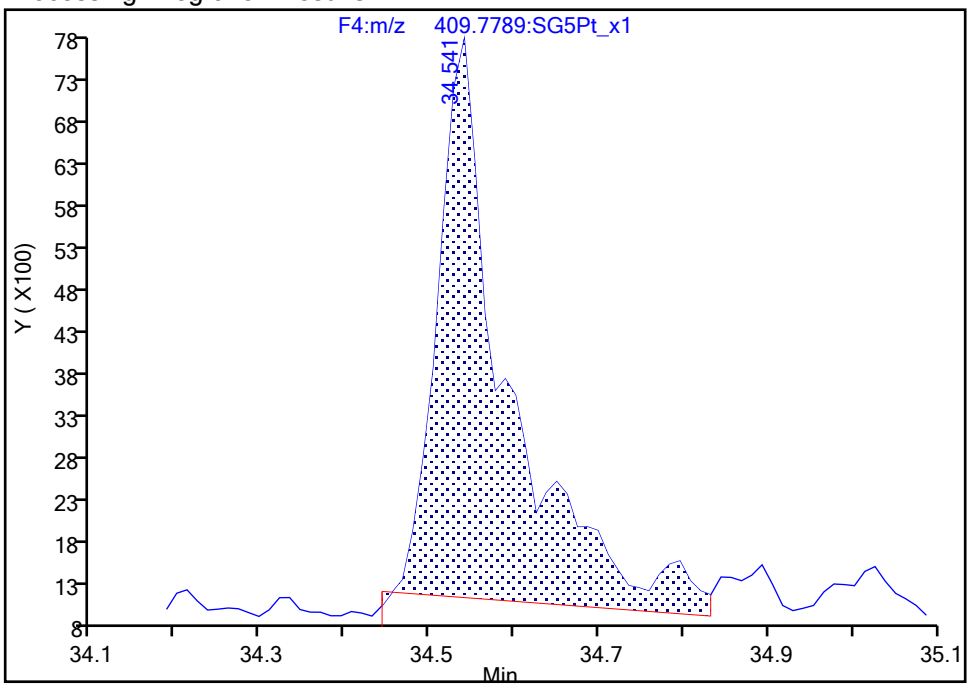

Manual Integration Results

RT: 34.54
Area: 30609
Amount: 0.292440
Amount Units: pg/ul

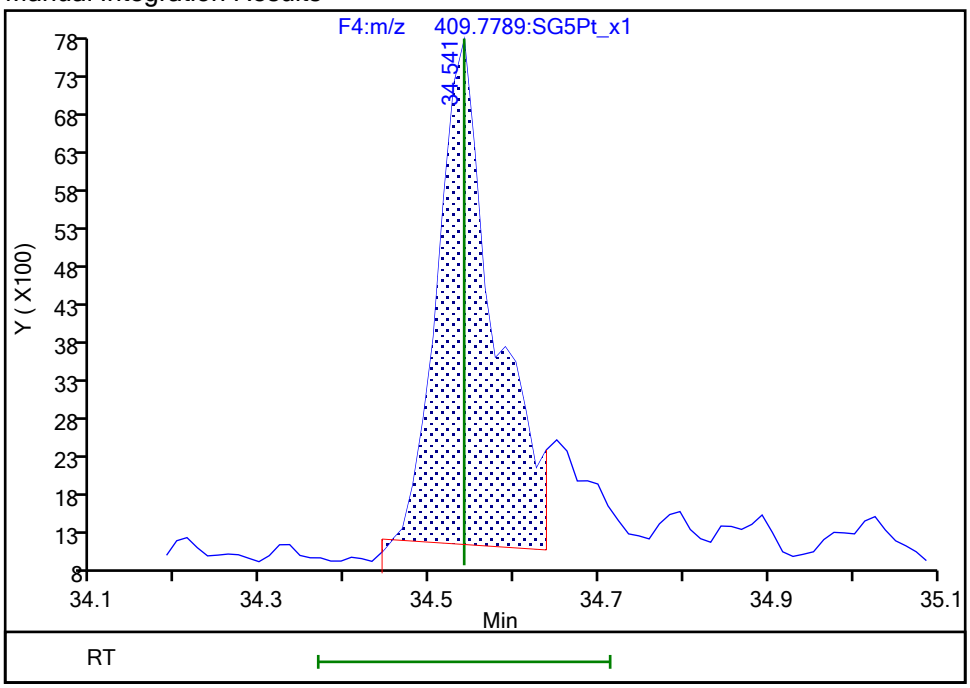

Reviewer: dadunj, 07-Feb-2020 14:26:13

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_4.d				
Injection Date:	05-Feb-2020 17:50:06	Instrument ID:	10D5		
Lims ID:	MB 320-354177/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,7,8,9-HpCDF, CAS: 55673-89-7

Signal: 1

Processing Integration Results

RT: 34.54
Area: 42991
Amount: 0.356733
Amount Units: pg/ul

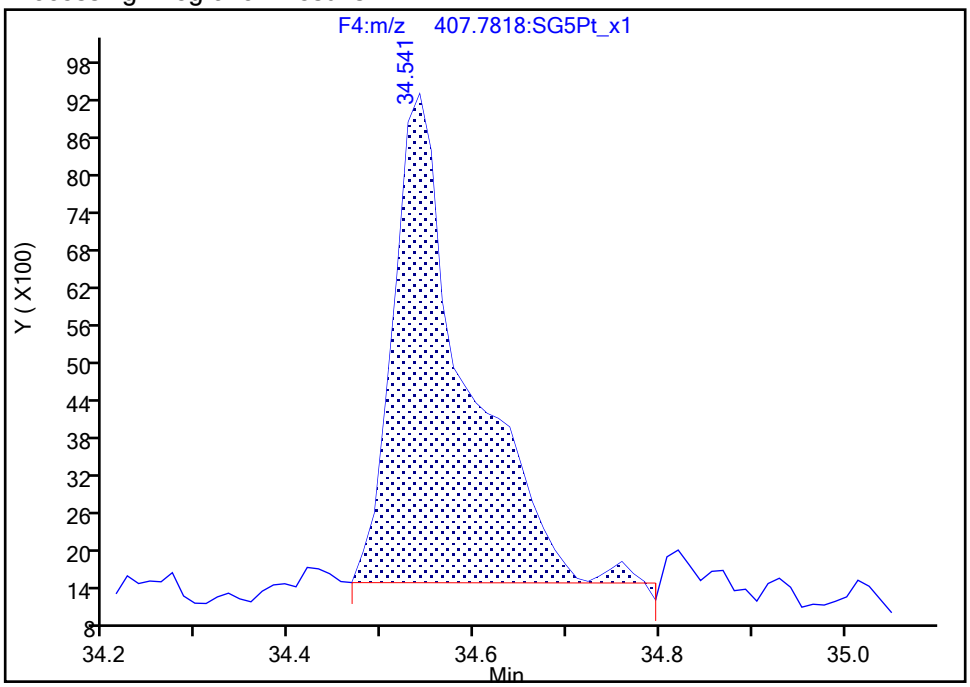

Manual Integration Results

RT: 34.54
Area: 36078
Amount: 0.292440
Amount Units: pg/ul

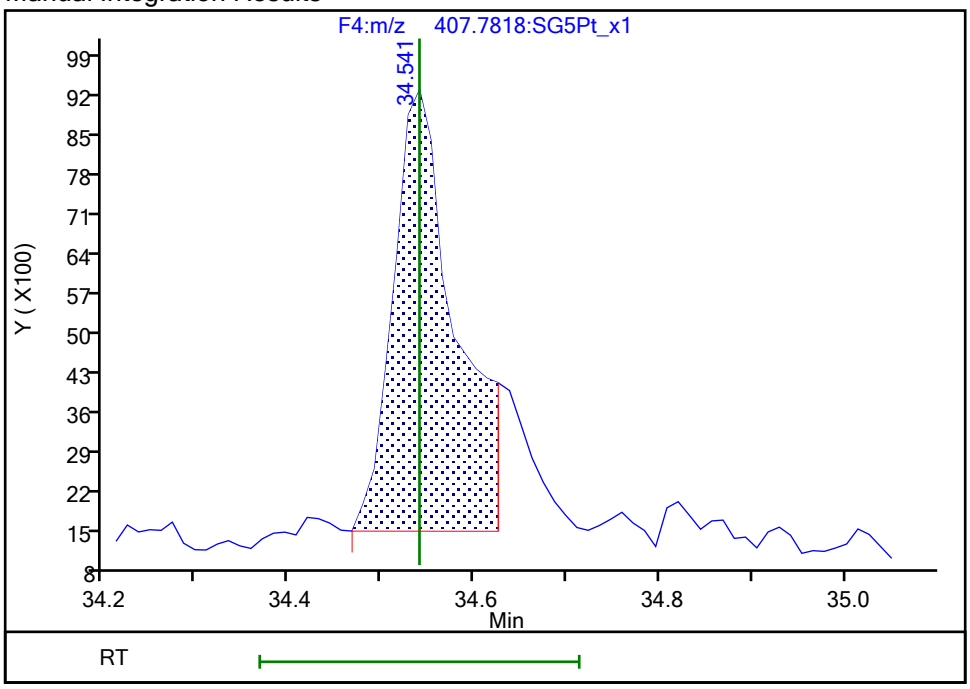

Reviewer: dadunj, 07-Feb-2020 14:26:14

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_4.d				
Injection Date:	05-Feb-2020 17:50:06	Instrument ID:	10D5		
Lims ID:	MB 320-354177/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

Non-2,3,7,8-sub-HpCDD, Signal: 1, m/z: 423.7766, RT: (33.68- 34.29)

Signal: 1

Processing Integration Results

RT = 33.714 Area = 11596

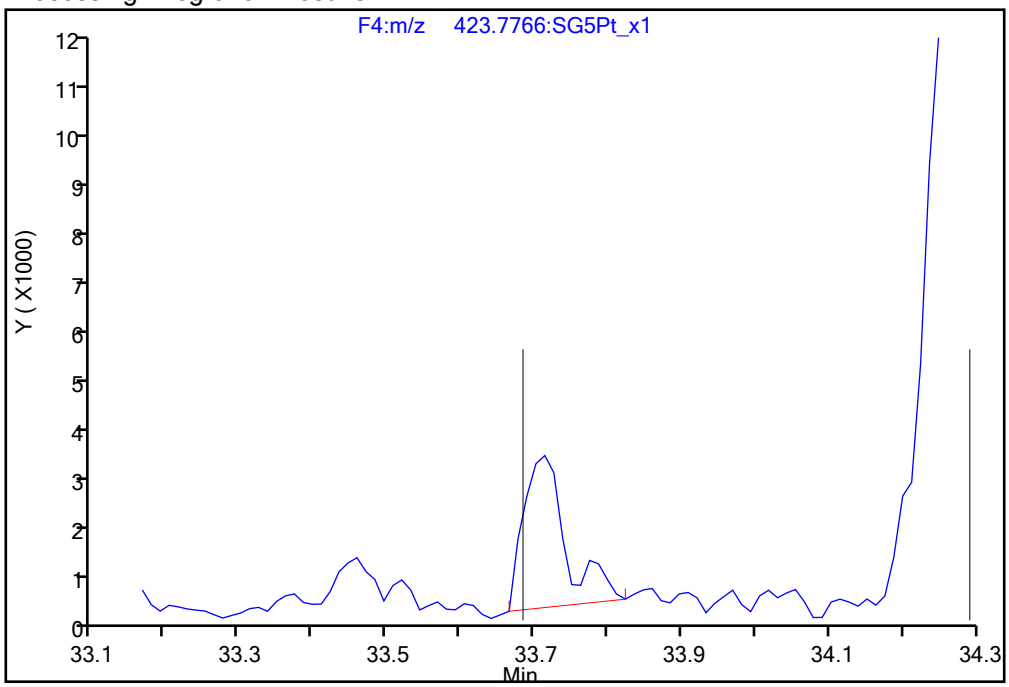

Manual Integration Results

RT = 33.714 Area = 9670 M

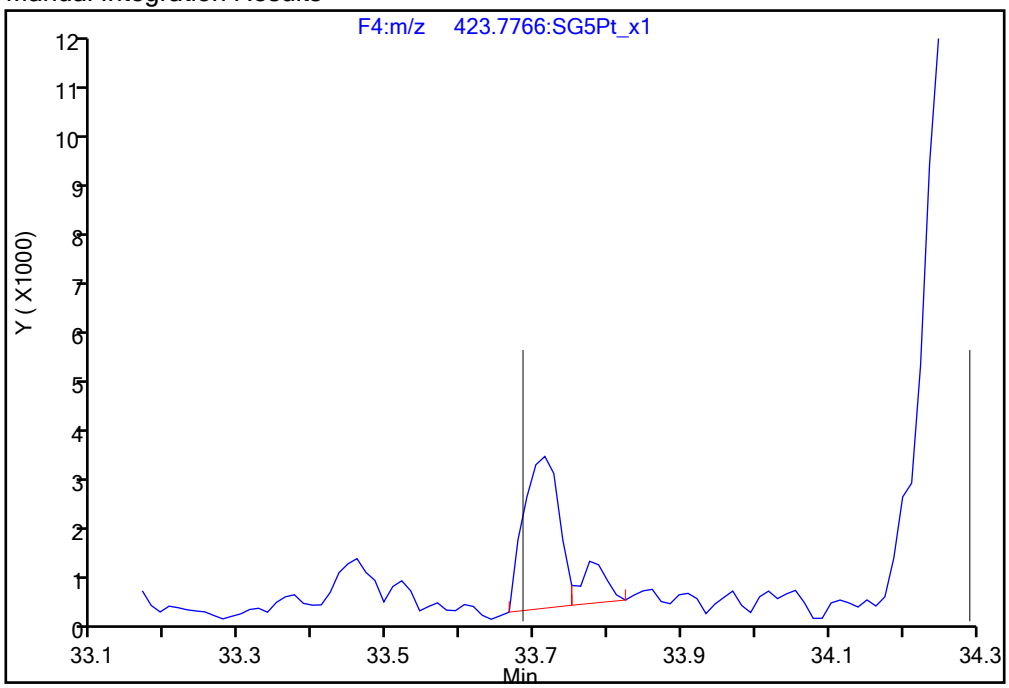

Reviewer: dadunj, 07-Feb-2020 14:26:21

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_4.d				
Injection Date:	05-Feb-2020 17:50:06	Instrument ID:	10D5		
Lims ID:	MB 320-354177/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

Non-2,3,7,8-sub-HpCDD, Signal: 2, m/z: 425.7737, RT: (33.68- 34.29)

Signal: 2

Processing Integration Results

RT = 33.702 Area = 13401

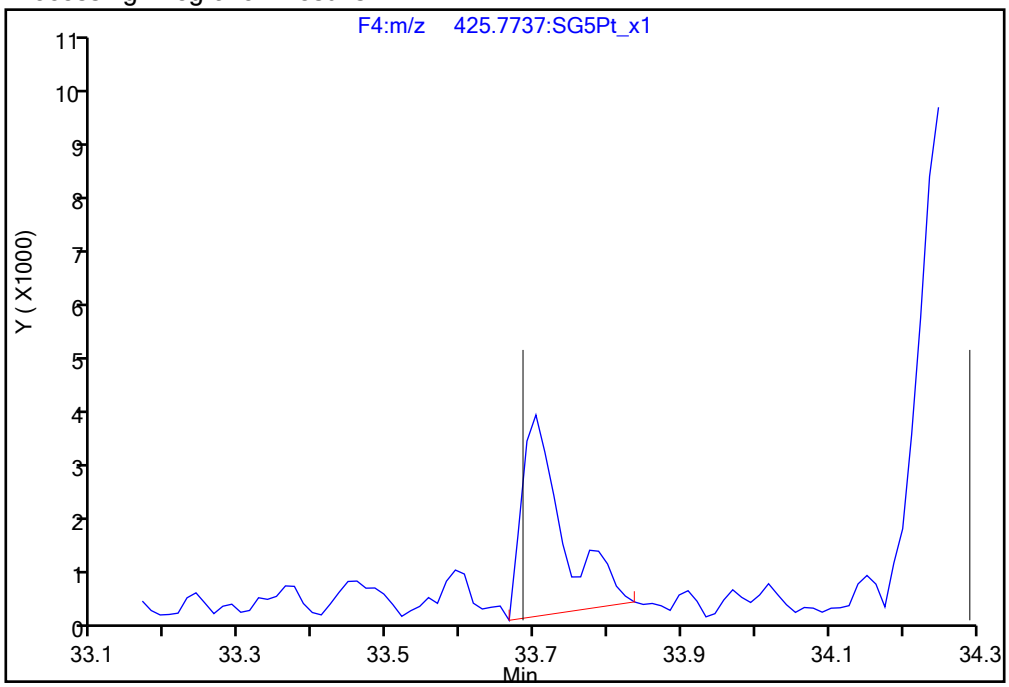

Manual Integration Results

RT = 33.702 Area = 10453 M

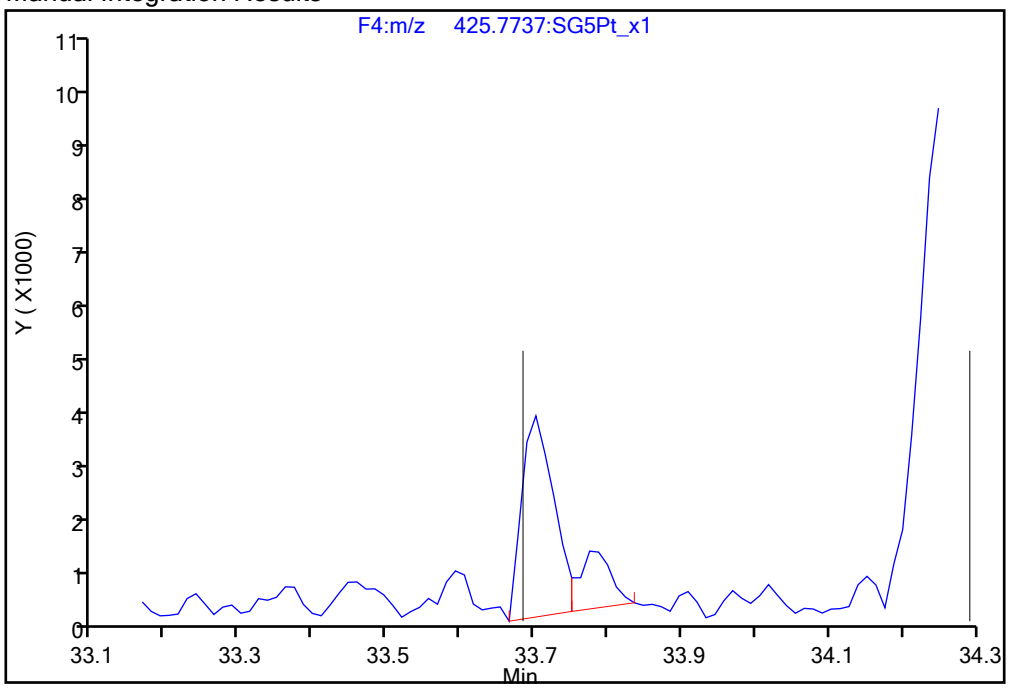

Reviewer: dadunj, 07-Feb-2020 14:26:22

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_4.d				
Injection Date:	05-Feb-2020 17:50:06	Instrument ID:	10D5		
Lims ID:	MB 320-354177/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5:HRSIR		

OCDF, CAS: 39001-02-0

Signal: 2

Processing Integration Results

RT: 36.64
Area: 83282
Amount: 0.889692
Amount Units: pg/ul

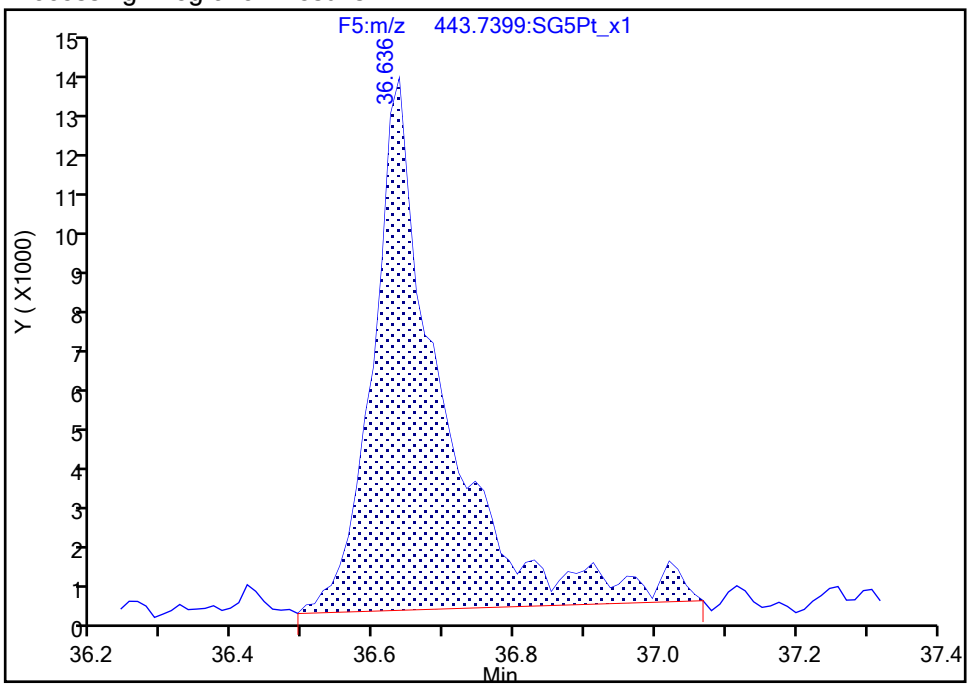

Manual Integration Results

RT: 36.64
Area: 76698
Amount: 0.773764
Amount Units: pg/ul

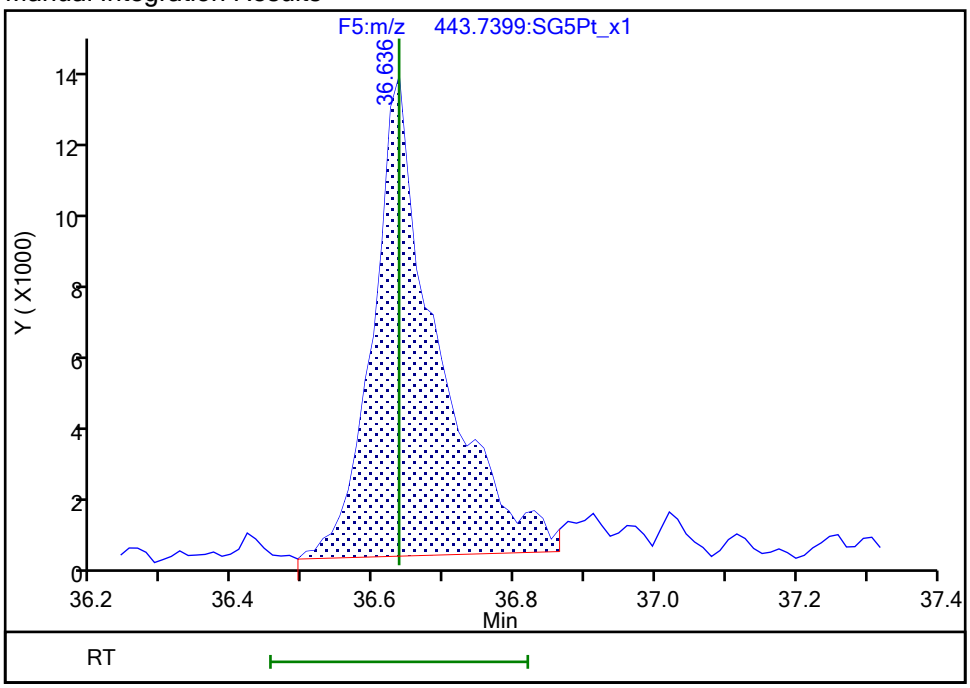

Reviewer: dadunj, 07-Feb-2020 14:26:27

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_4.d				
Injection Date:	05-Feb-2020 17:50:06	Instrument ID:	10D5		
Lims ID:	MB 320-354177/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5:HRSIR		

OCDF, CAS: 39001-02-0

Signal: 1

Processing Integration Results

RT: 36.62
Area: 68489
Amount: 0.889692
Amount Units: pg/ul

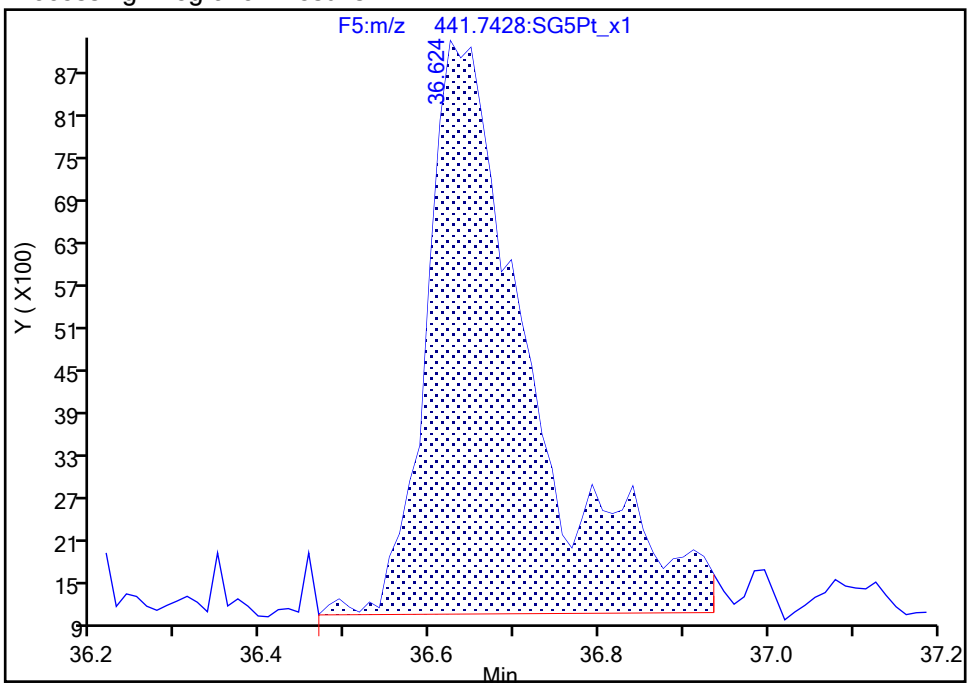

Manual Integration Results

RT: 36.62
Area: 55297
Amount: 0.773764
Amount Units: pg/ul

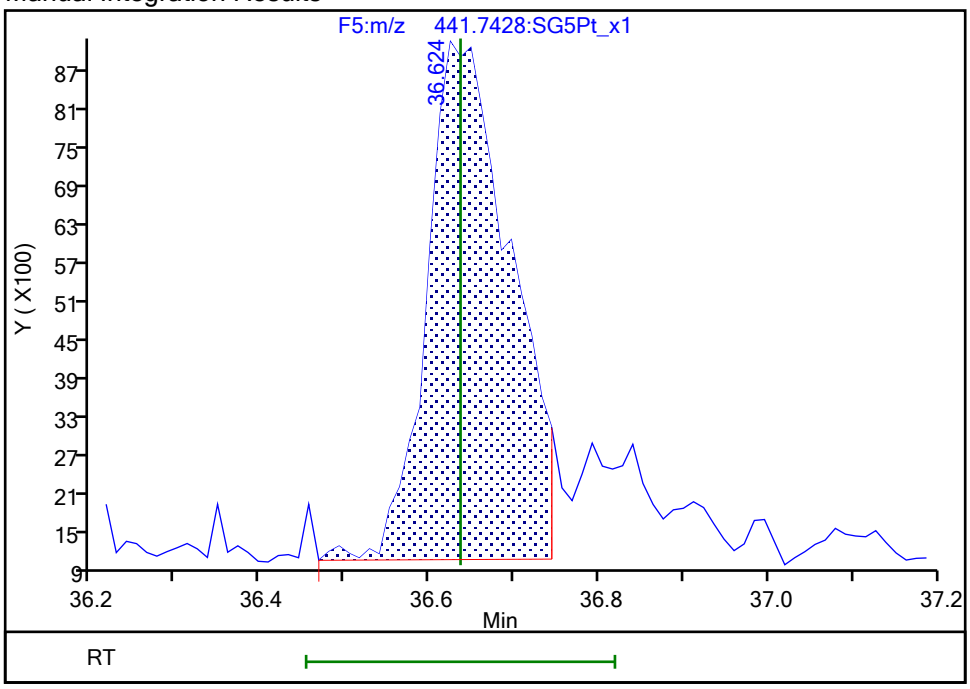

Reviewer: dadunj, 07-Feb-2020 14:26:30

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_4.d				
Injection Date:	05-Feb-2020 17:50:06	Instrument ID:	10D5		
Lims ID:	MB 320-354177/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5:HRSIR		

OCDD, CAS: 3268-87-9

Signal: 1

Processing Integration Results

RT: 36.55
Area: 115675
Amount: 1.496379
Amount Units: pg/ul

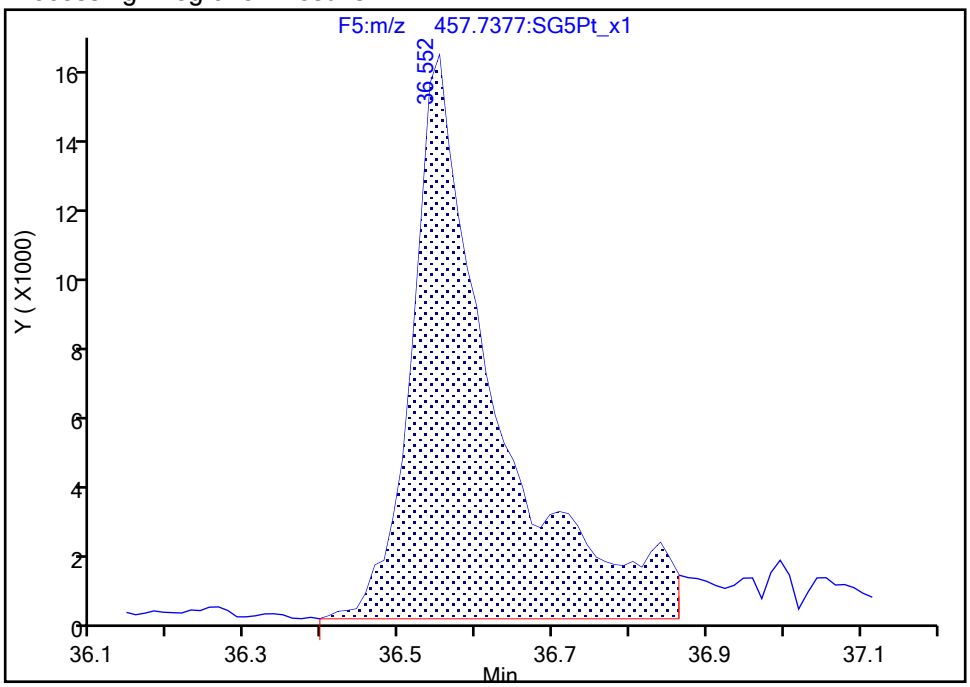

Manual Integration Results

RT: 36.55
Area: 102277
Amount: 1.412132
Amount Units: pg/ul

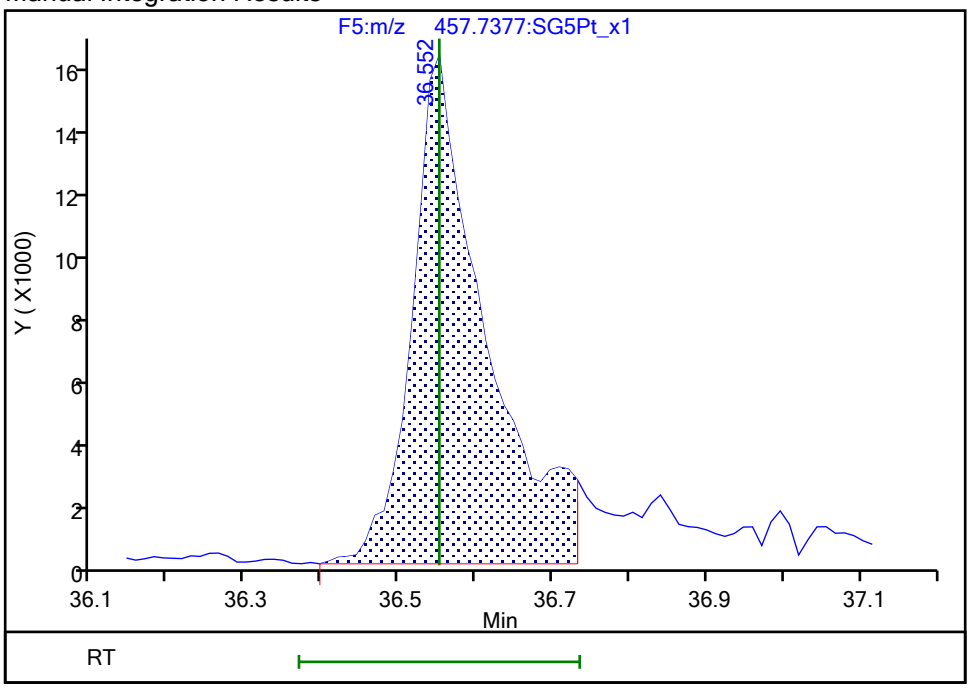

Reviewer: dadunj, 07-Feb-2020 14:26:35

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 07-Feb-2020 14:27:17 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_4.d		
Injection Date:	05-Feb-2020 17:50:06	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355322	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

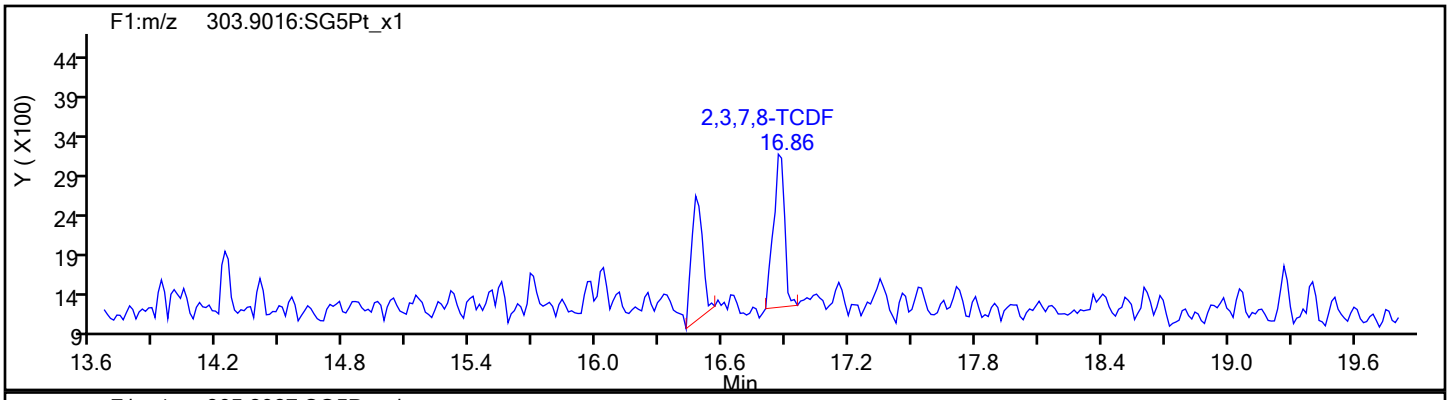

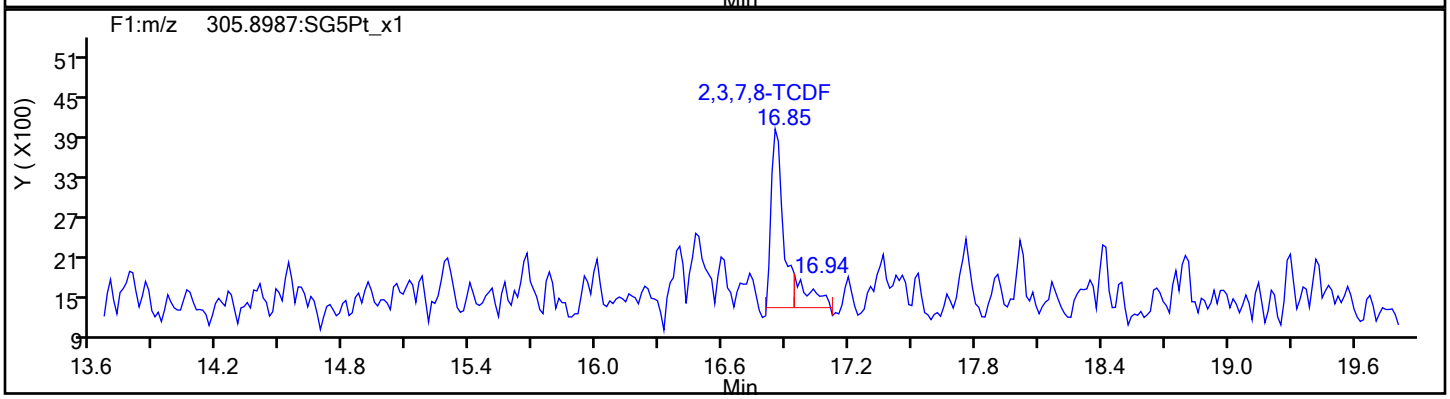

TCDF Standards

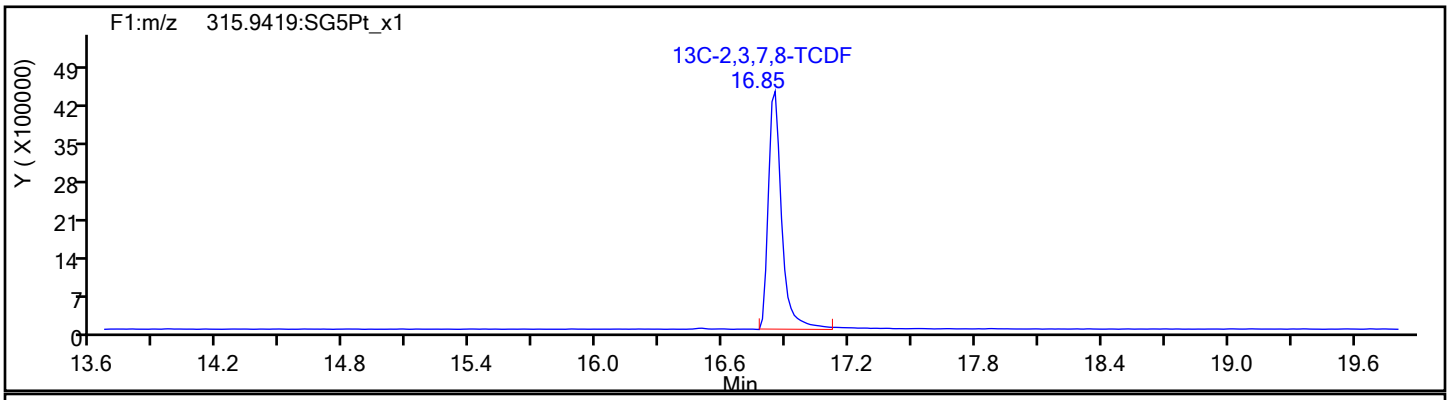

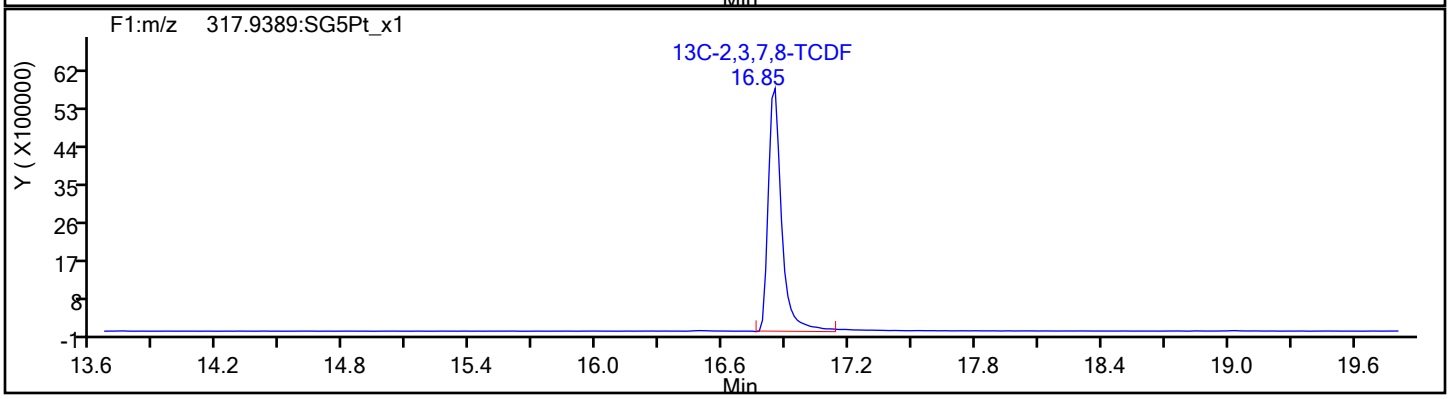

Report Date: 07-Feb-2020 14:27:17 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_4.d		
Injection Date:	05-Feb-2020 17:50:06	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355322	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

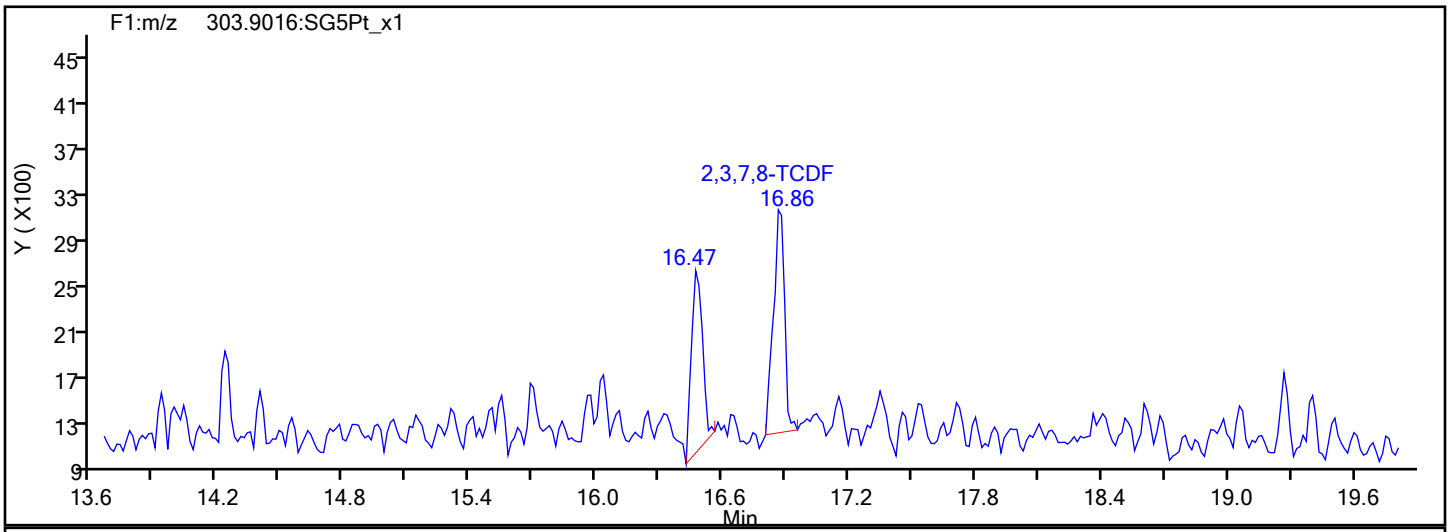

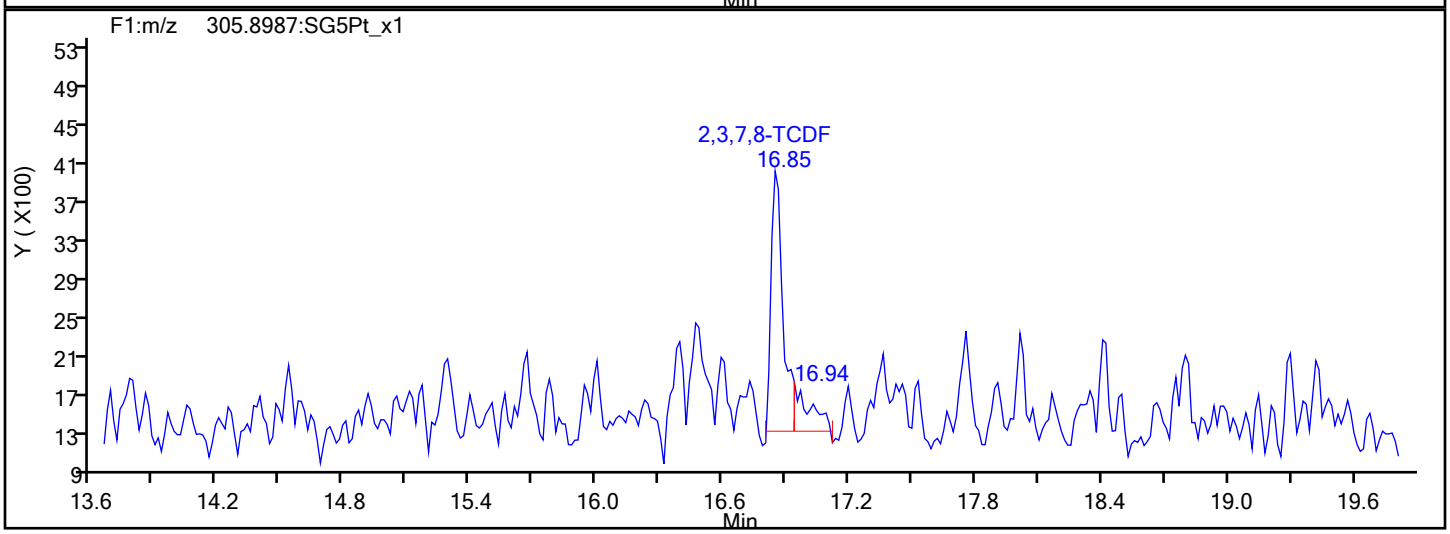

TCDF Interference Mass

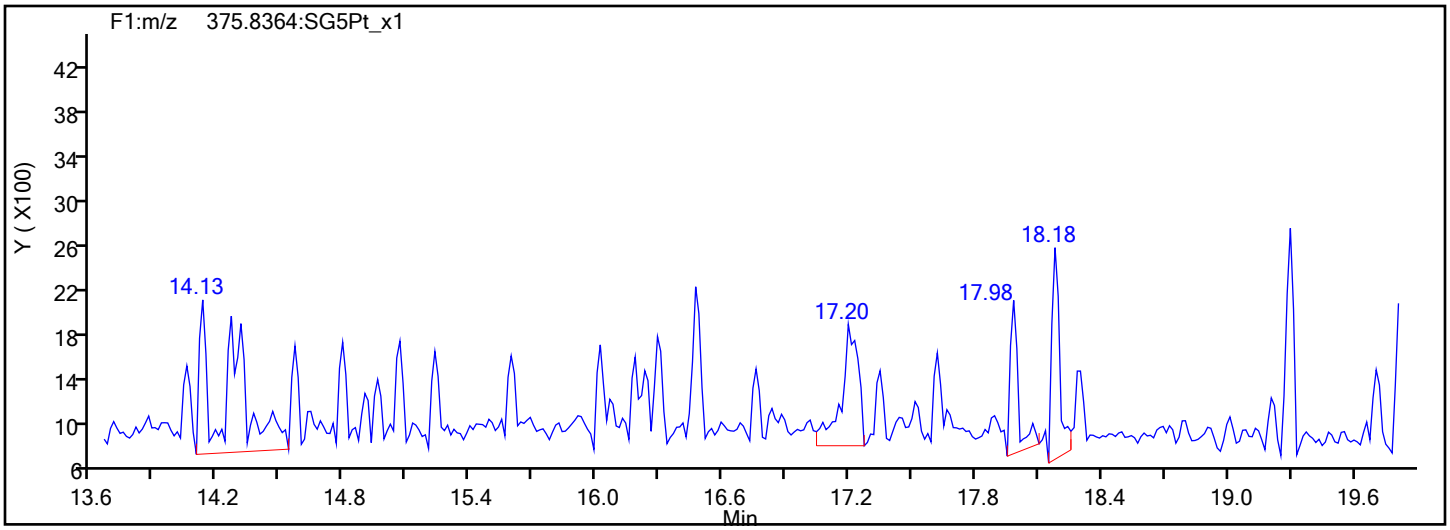

Report Date: 07-Feb-2020 14:27:17 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_4.d		
Injection Date:	05-Feb-2020 17:50:06	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355322	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

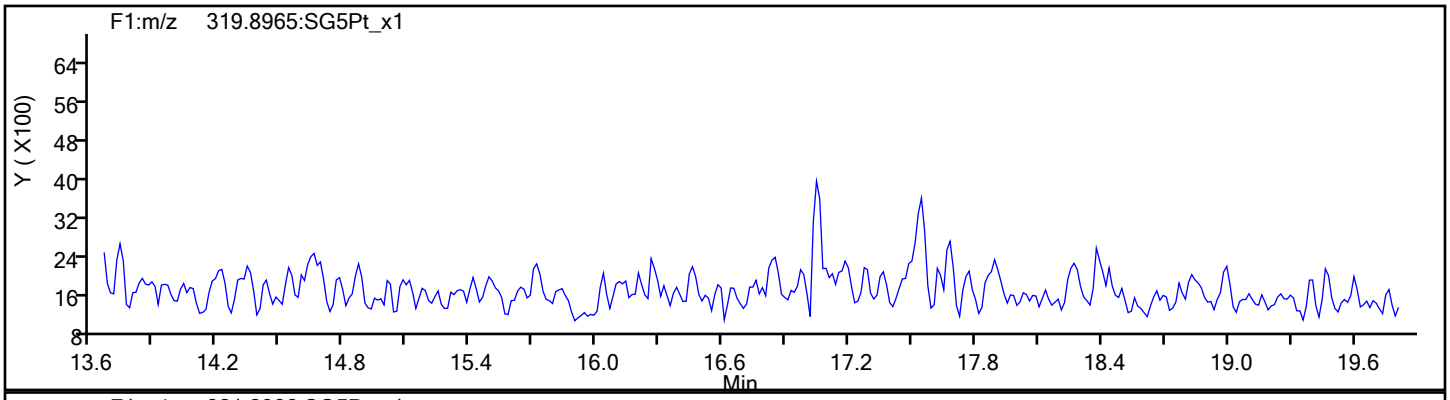

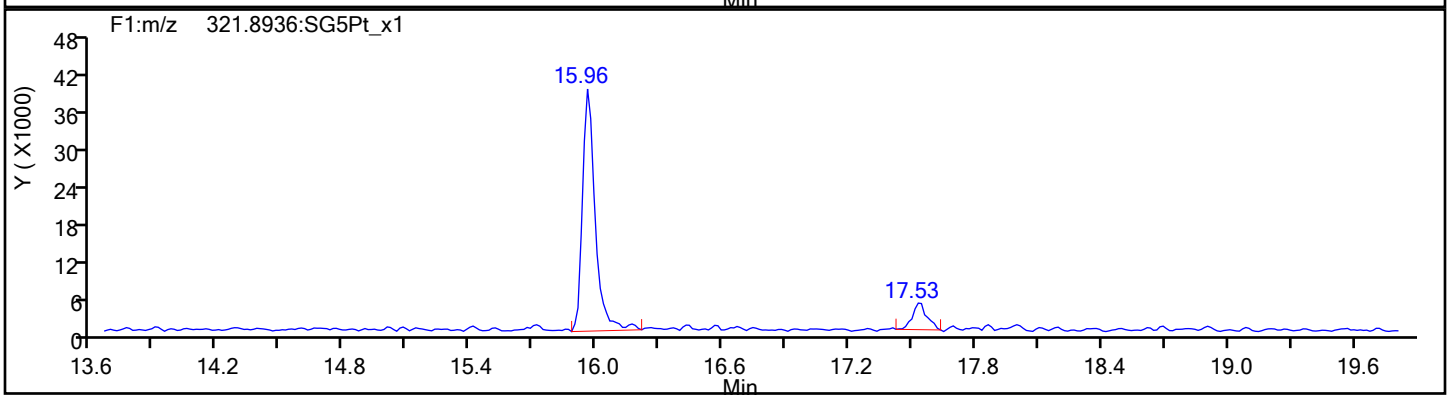

TCDD Standards

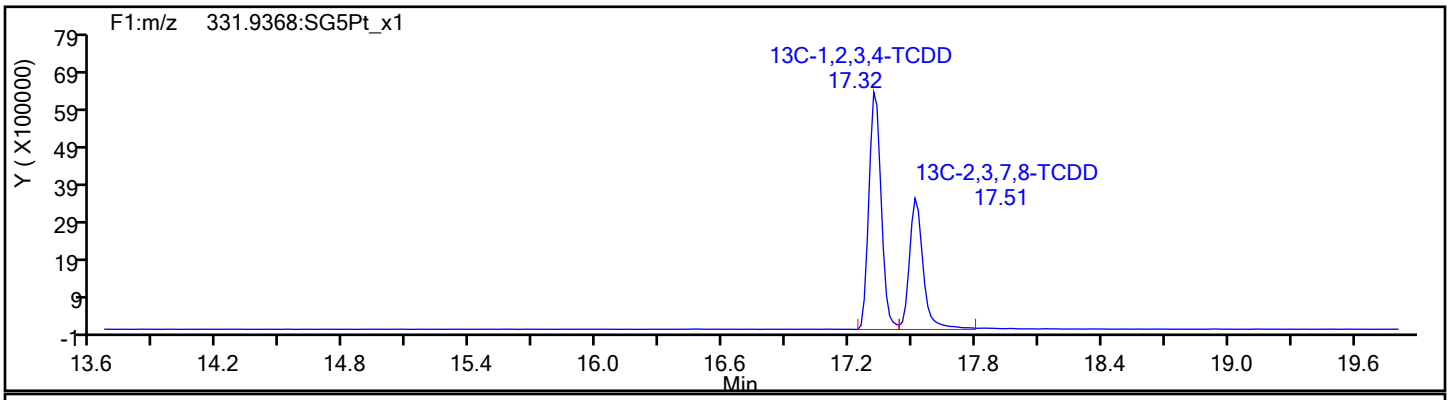

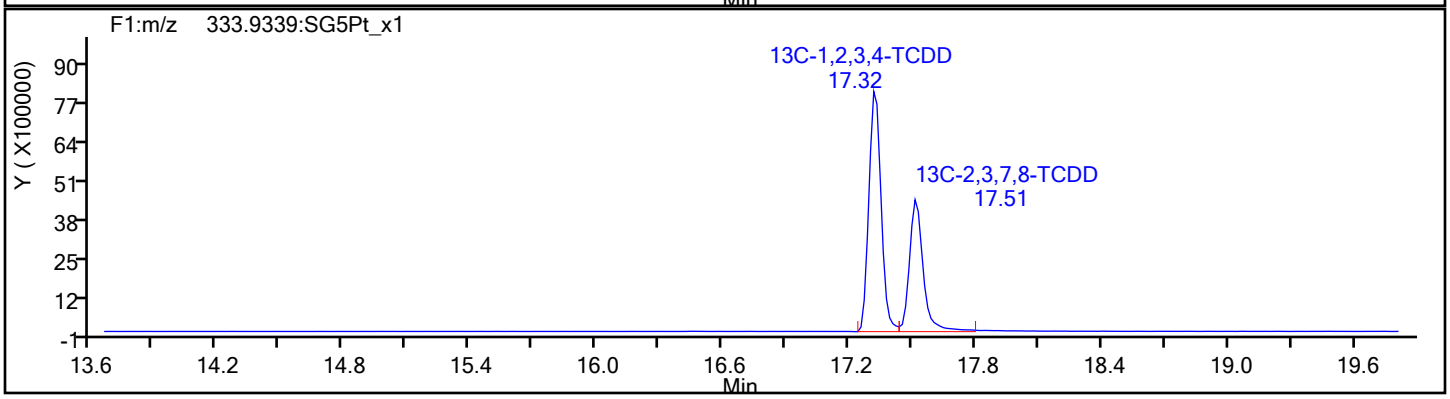

Report Date: 07-Feb-2020 14:27:17 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

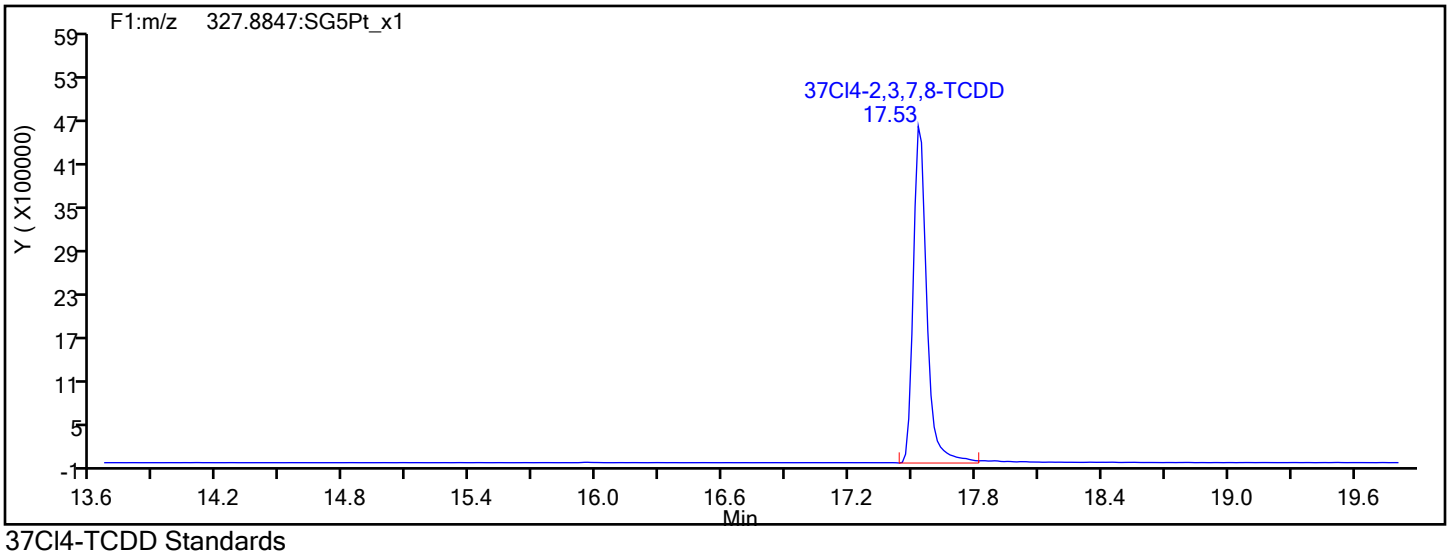

37Cl4-TCDD Standards

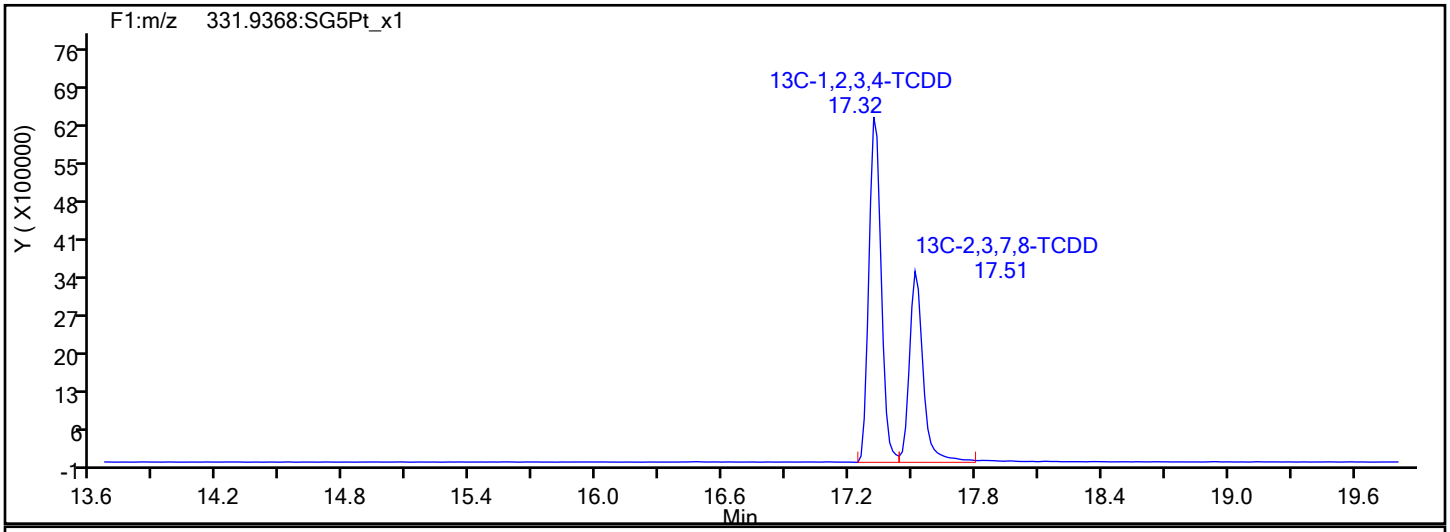

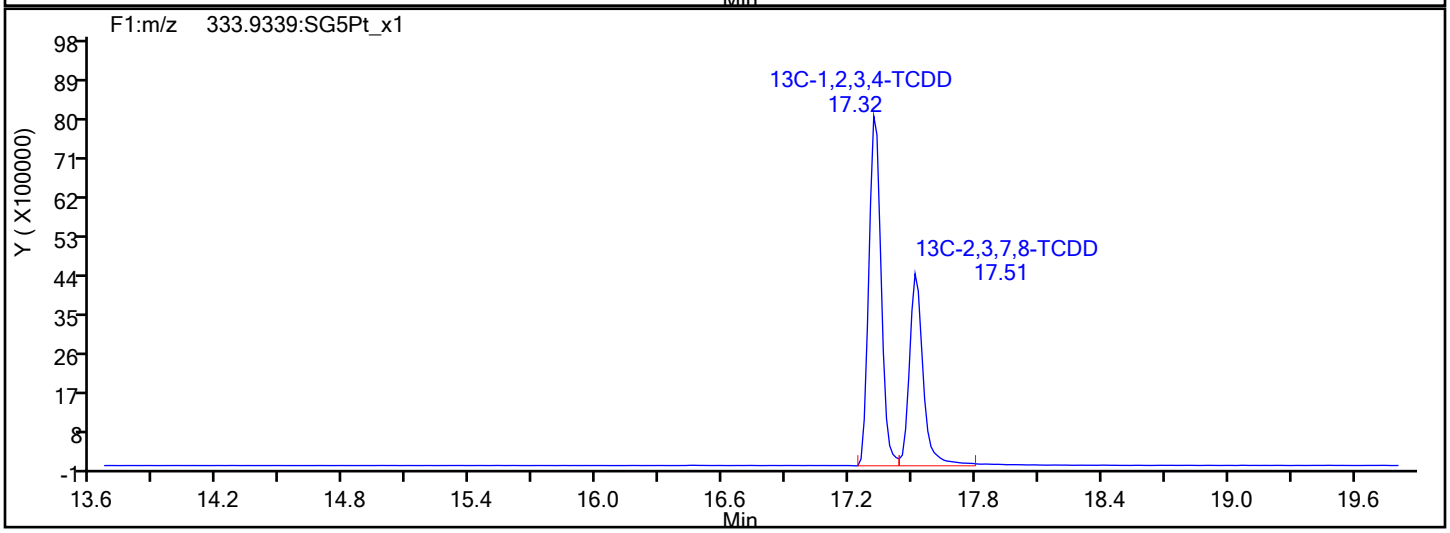

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

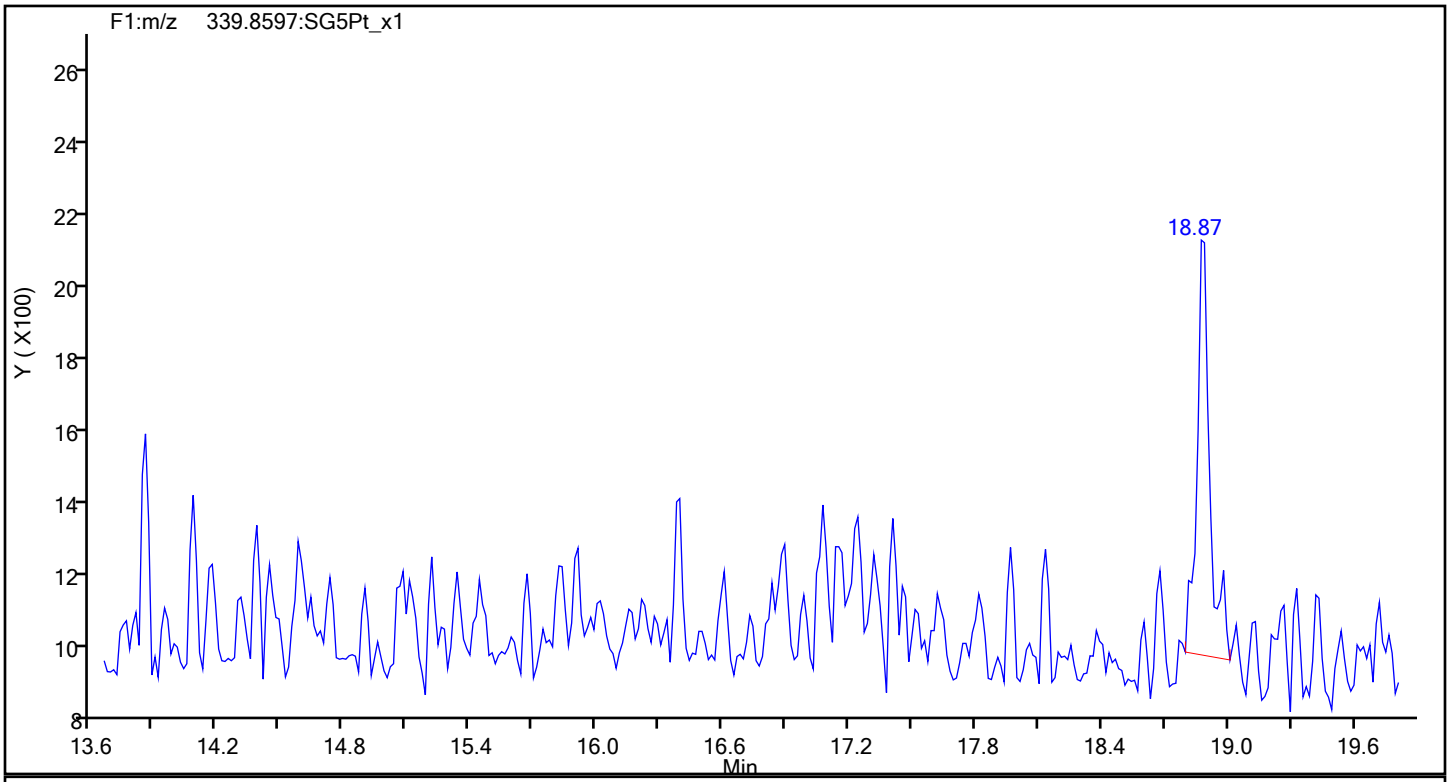

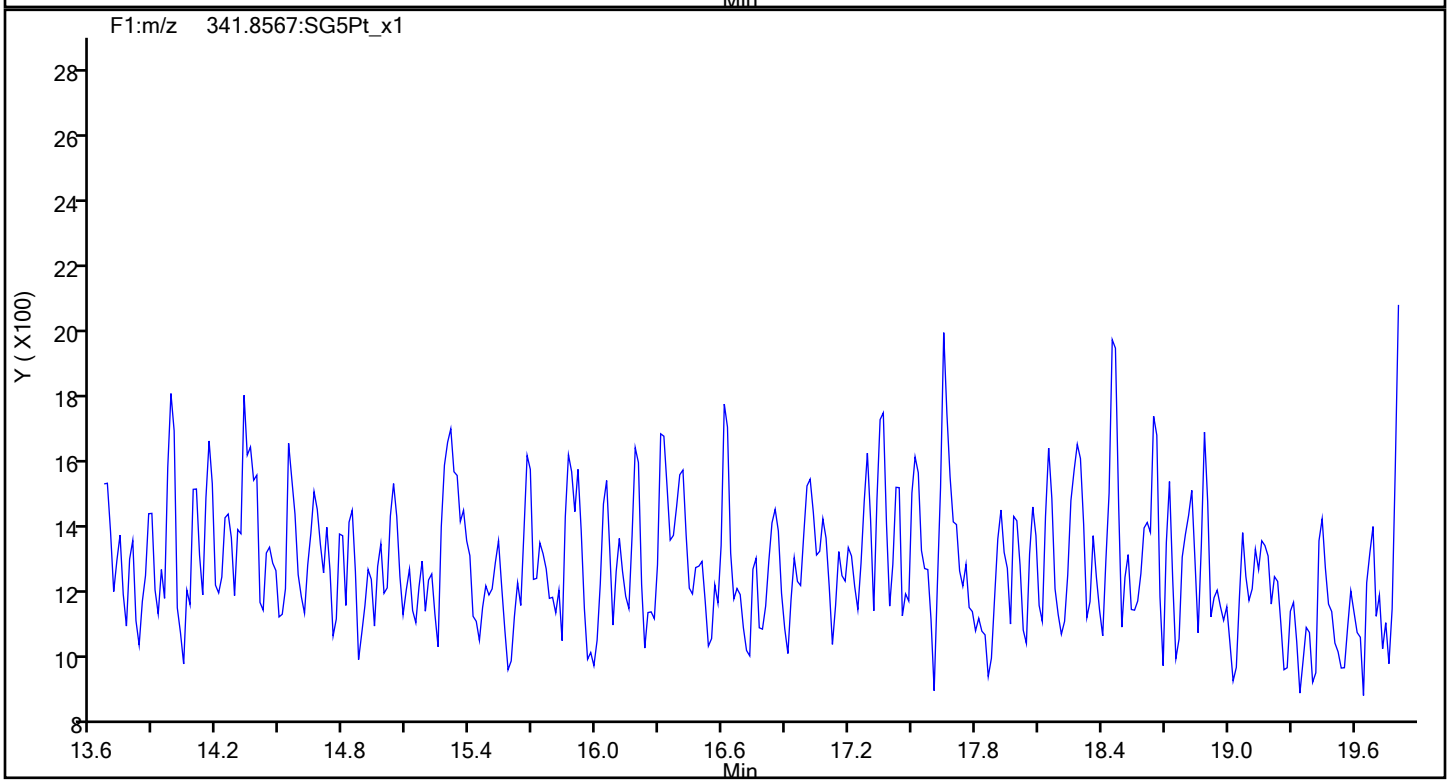

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

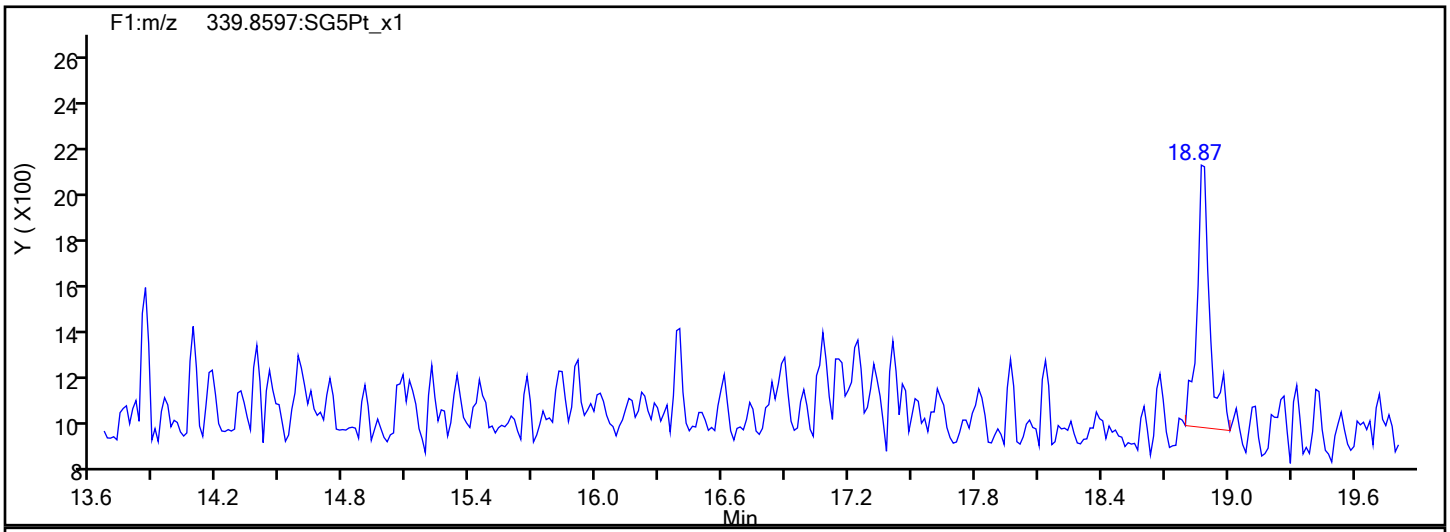

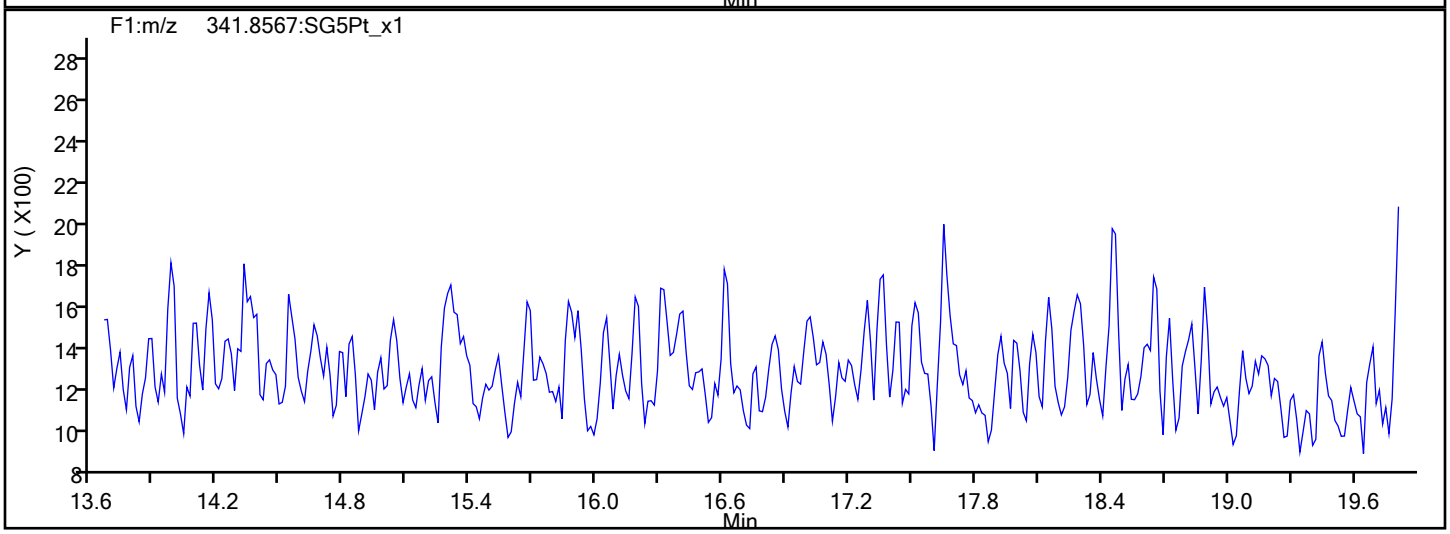

F1 PeCDFs Interference Mass

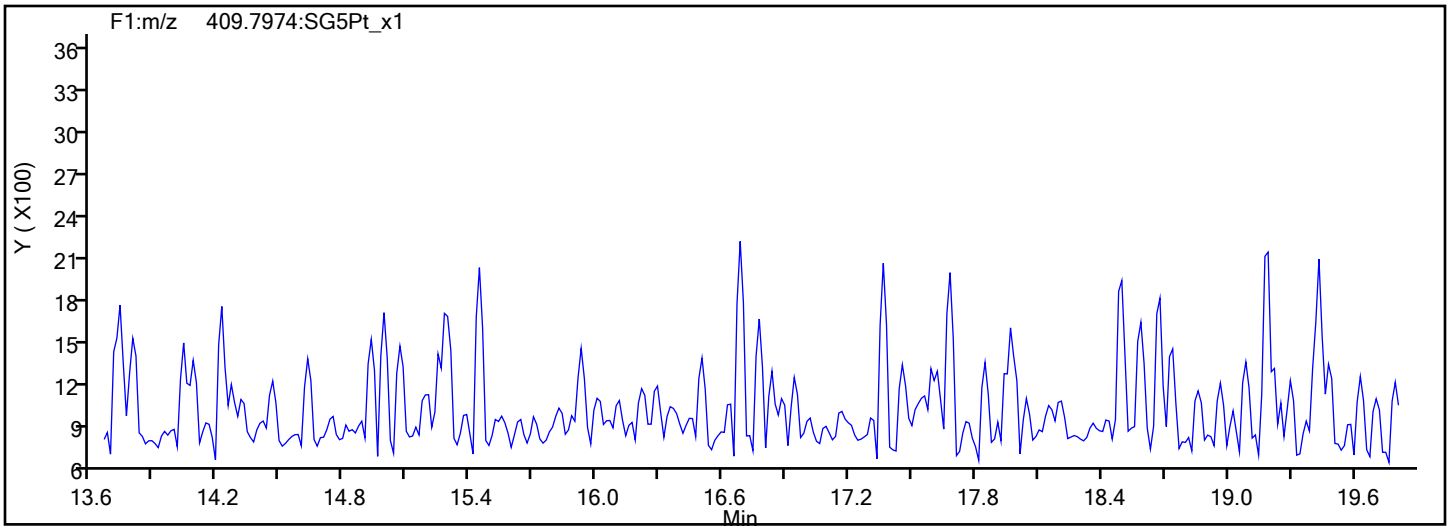

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Eurofins TestAmerica, Sacramento

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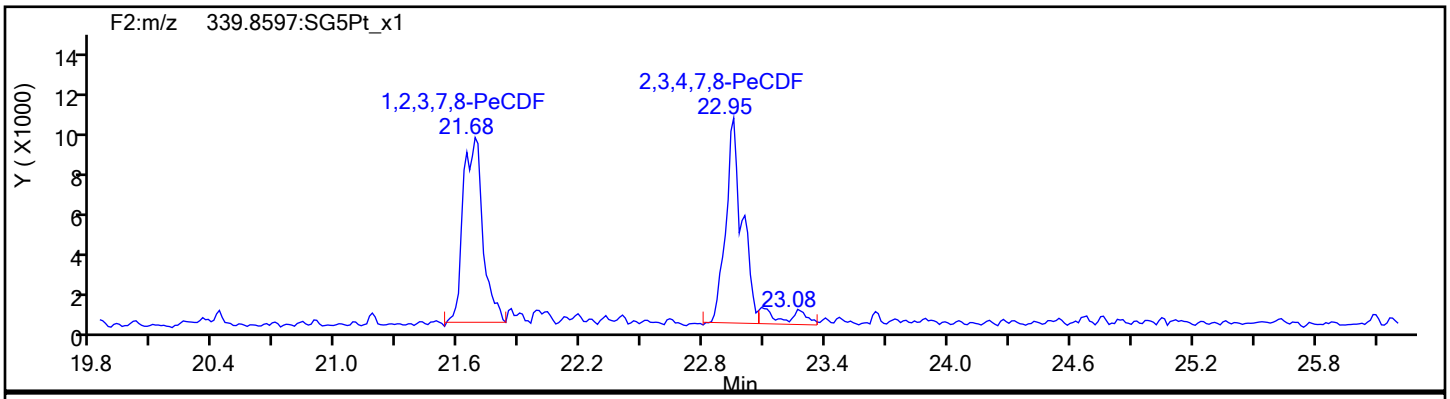

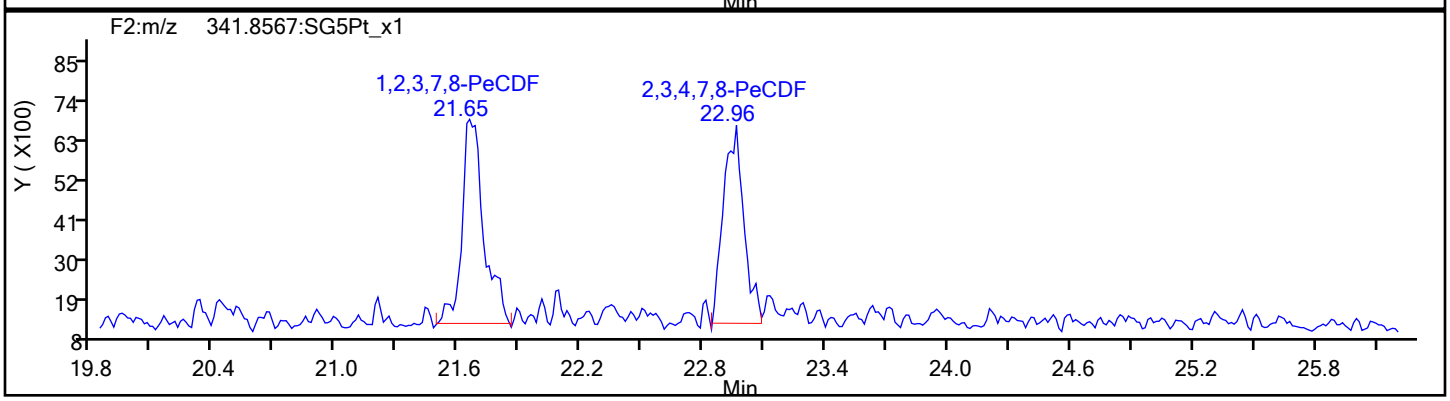

PeCDF Standards

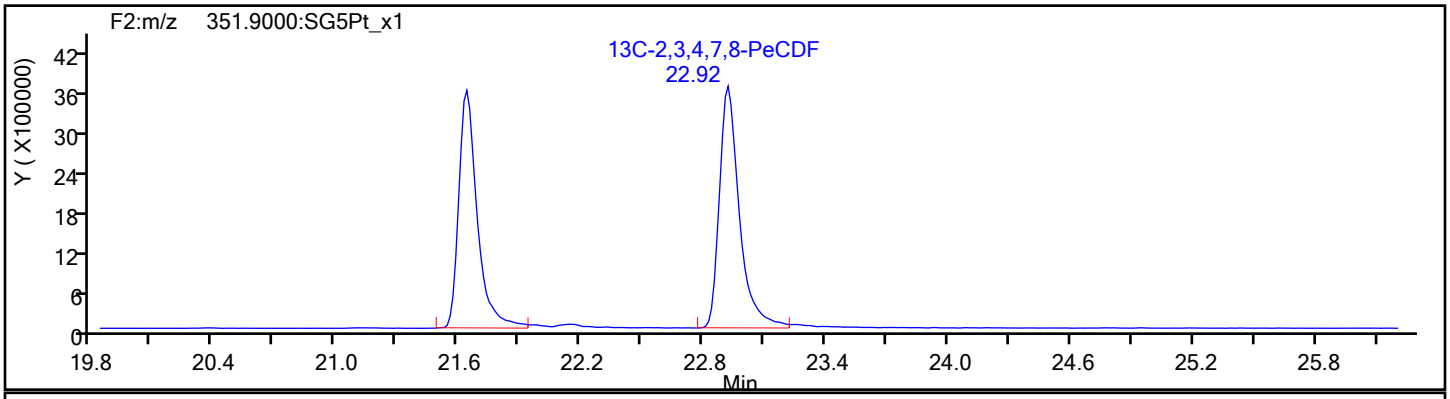

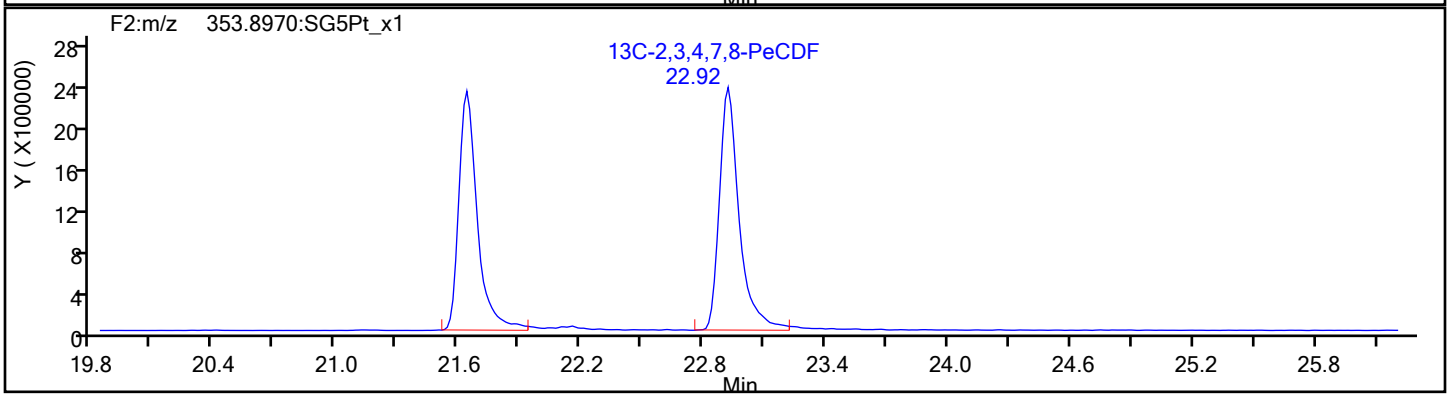

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Eurofins TestAmerica, Sacramento

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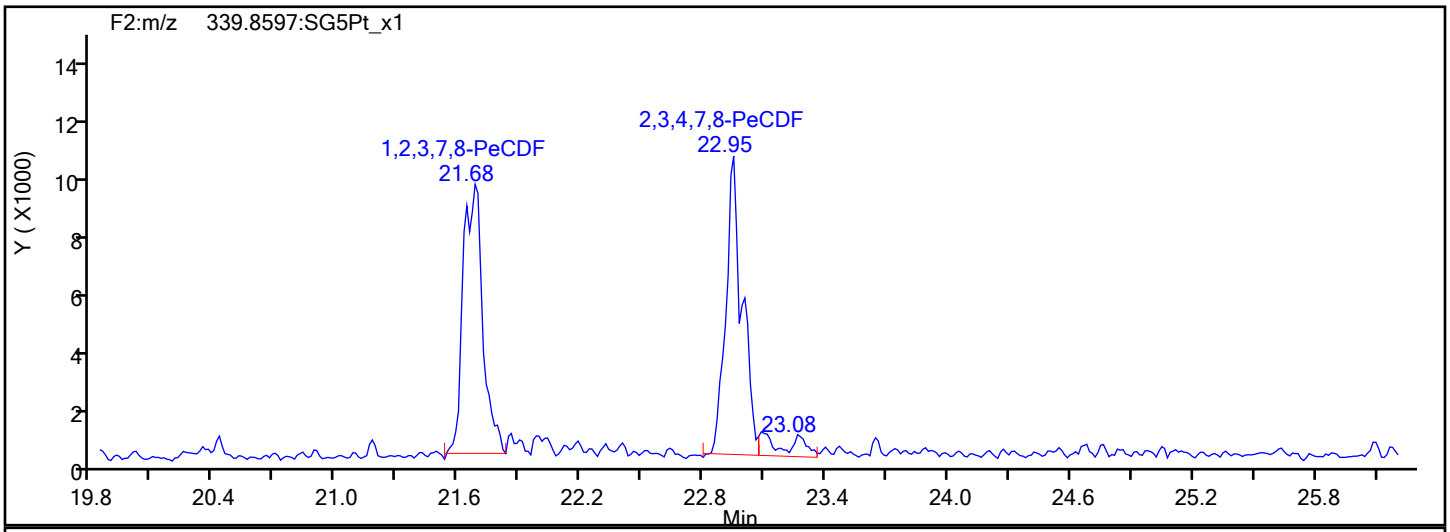

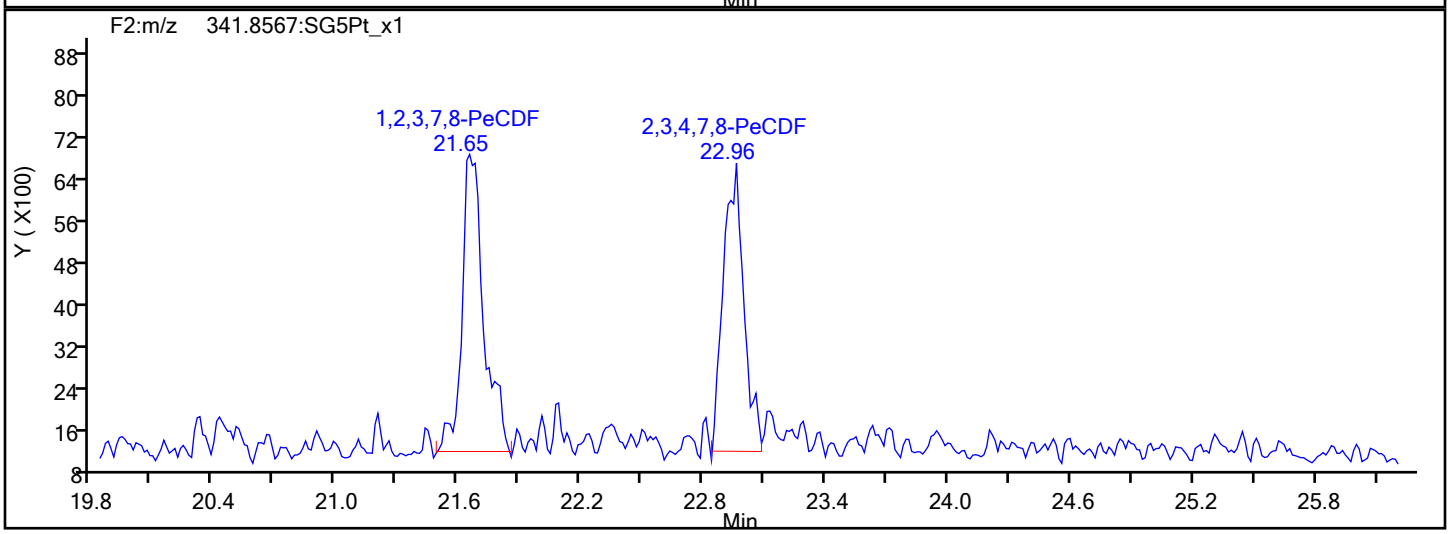

PeCDF Interference Mass

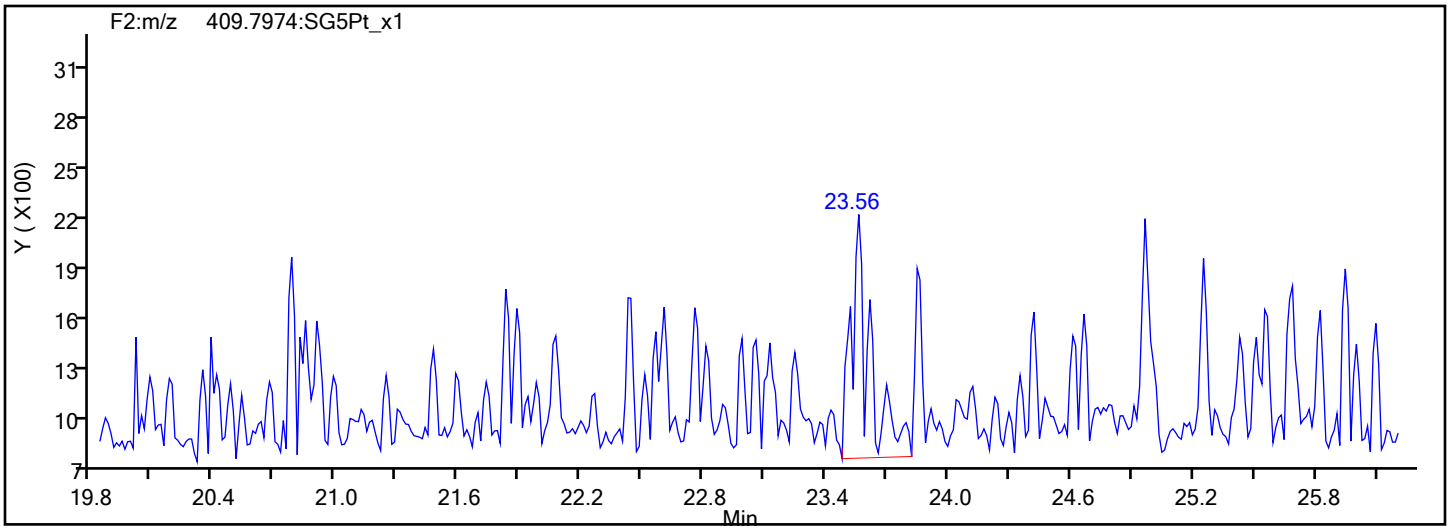

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Eurofins TestAmerica, Sacramento

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PeCDD

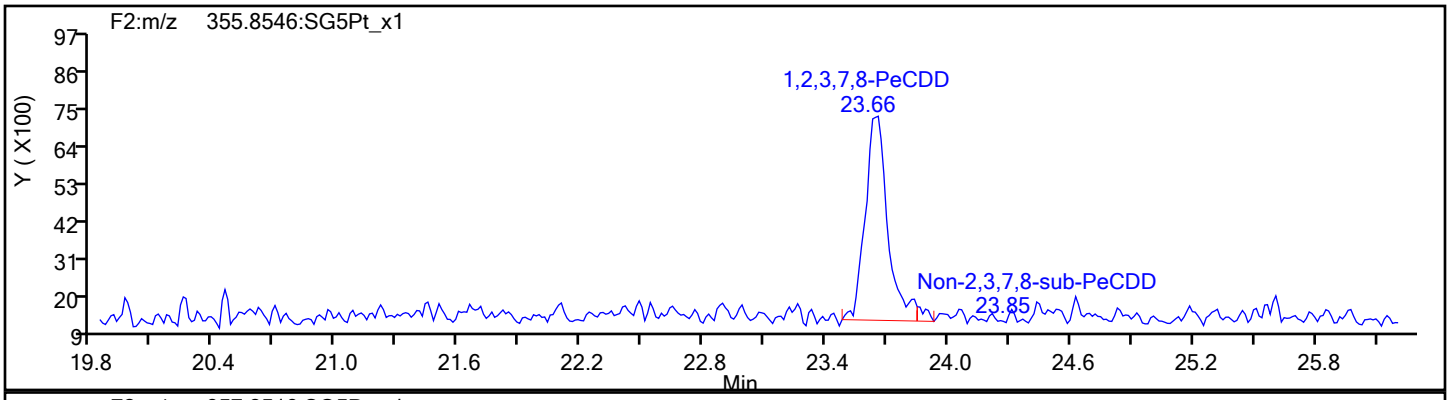

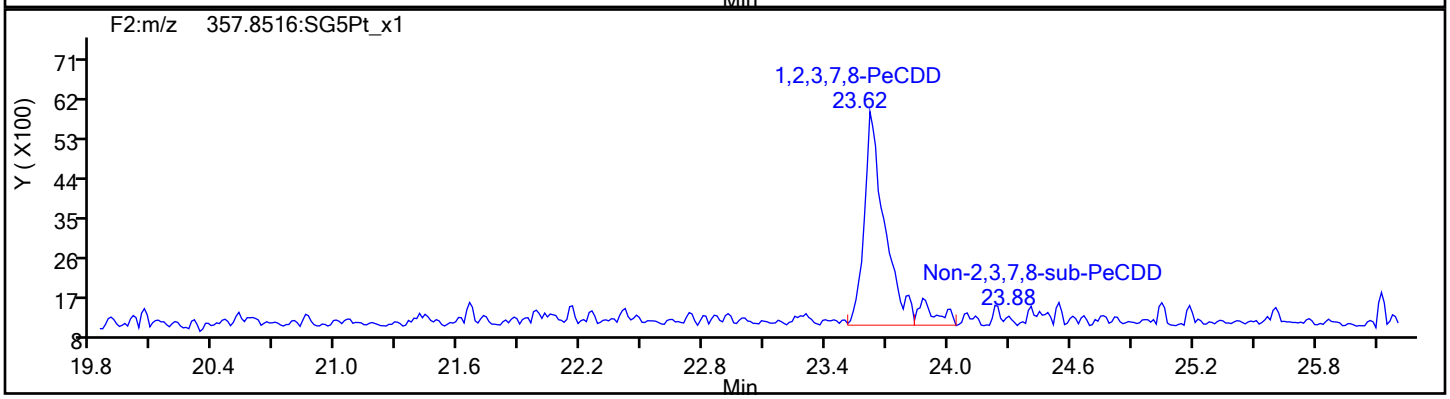

PeCDD Standards

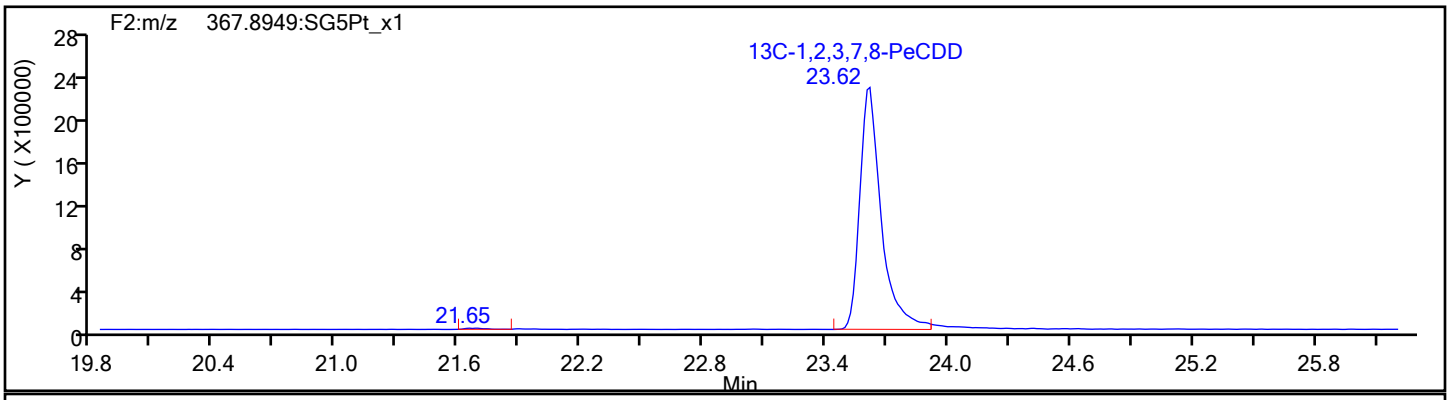

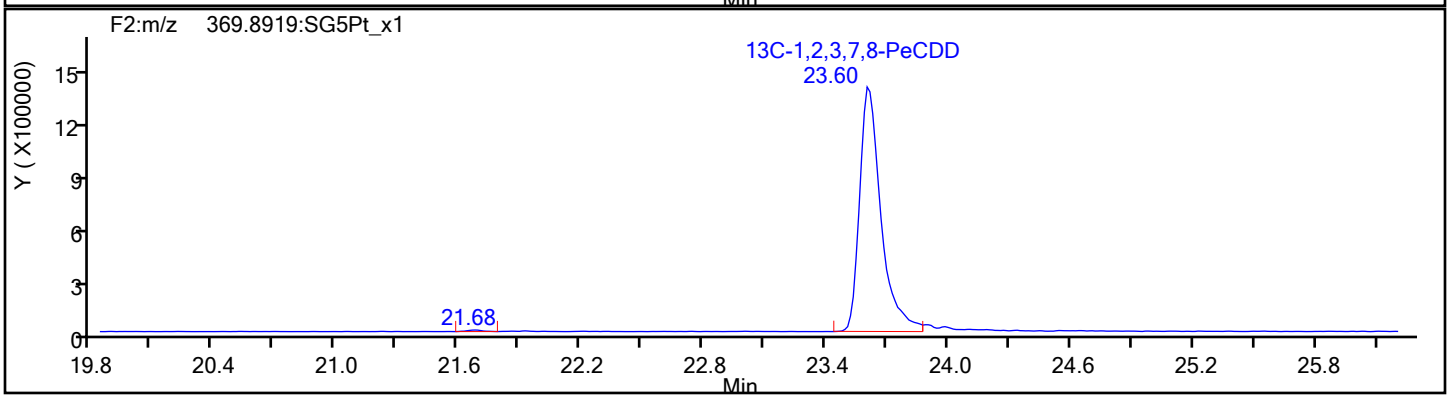

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Eurofins TestAmerica, Sacramento

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HxCDF

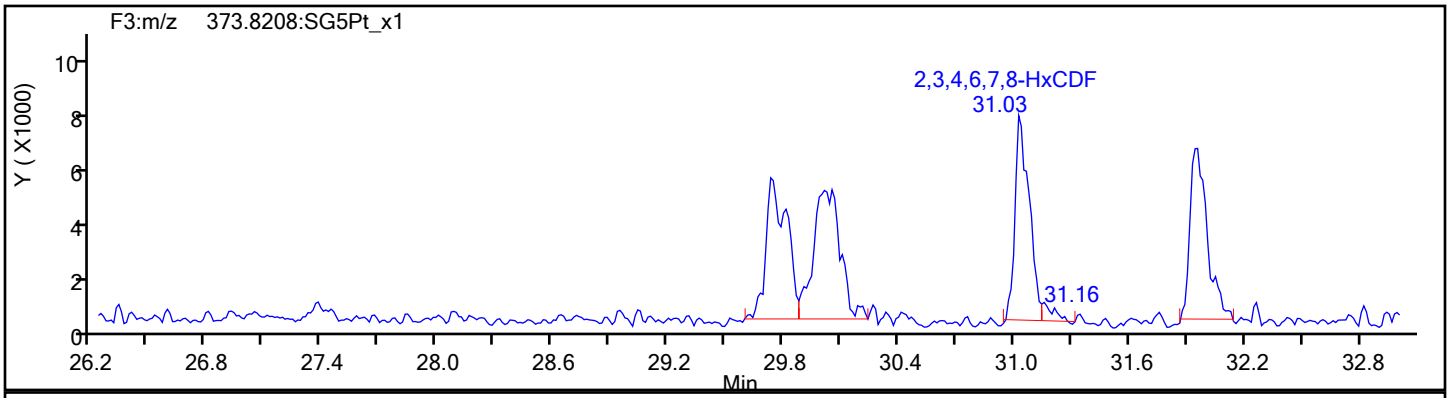

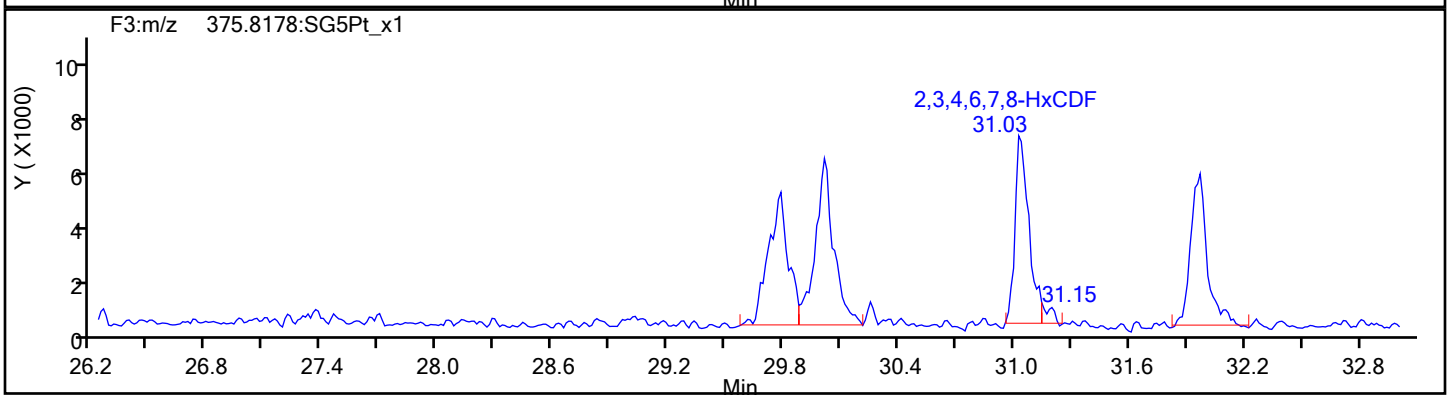

HxCDF Standards

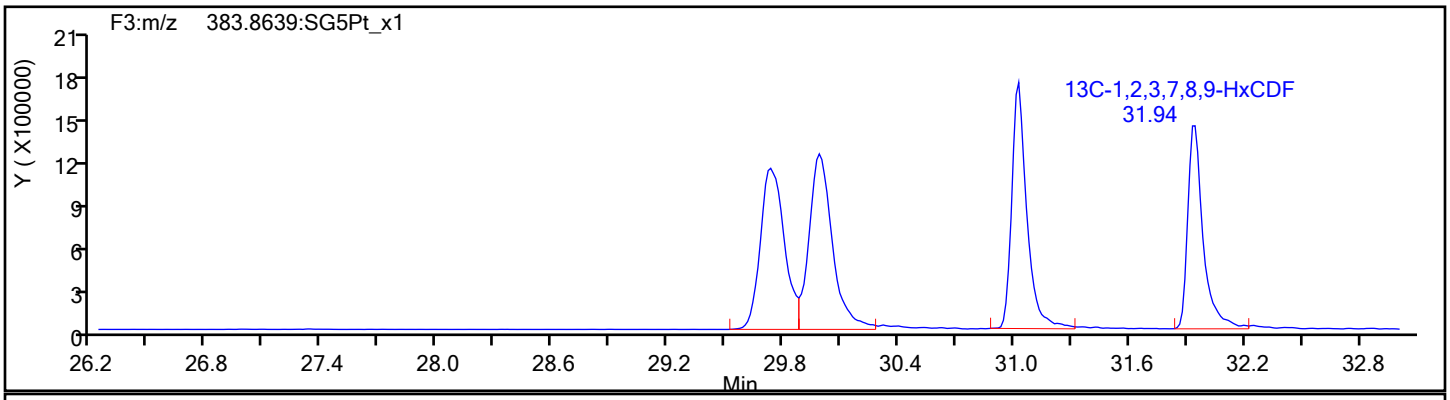

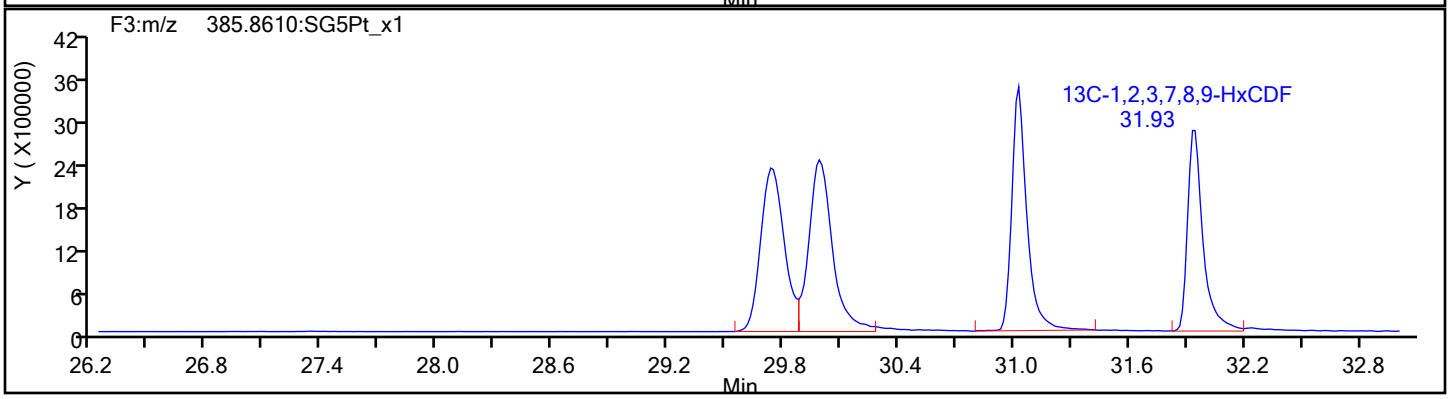

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Eurofins TestAmerica, Sacramento

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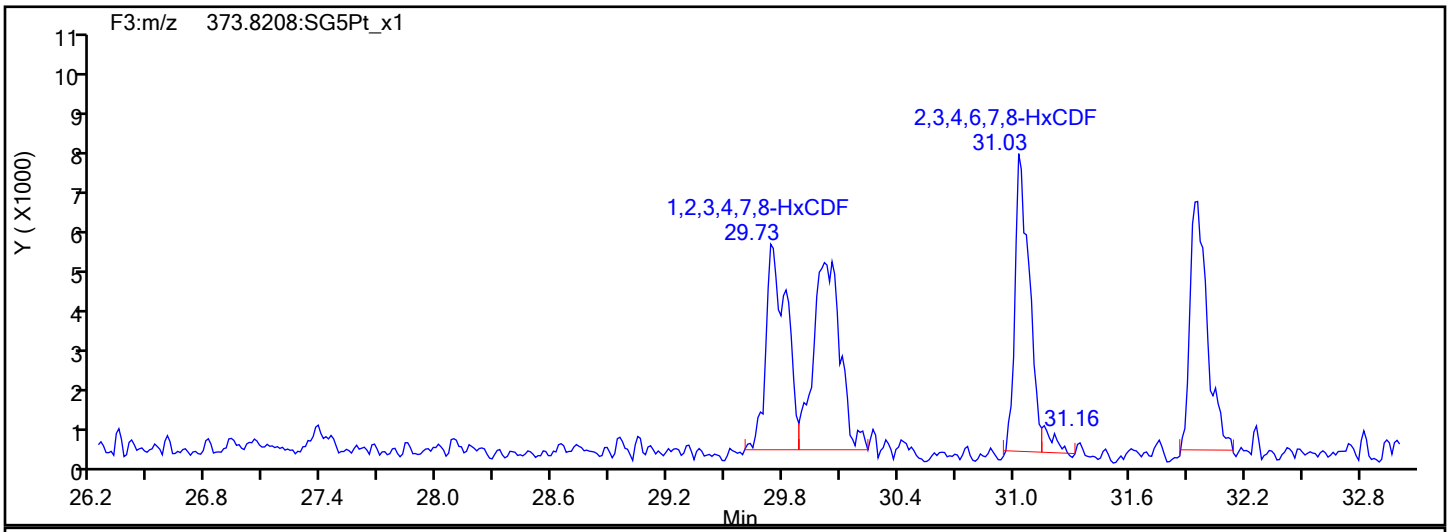

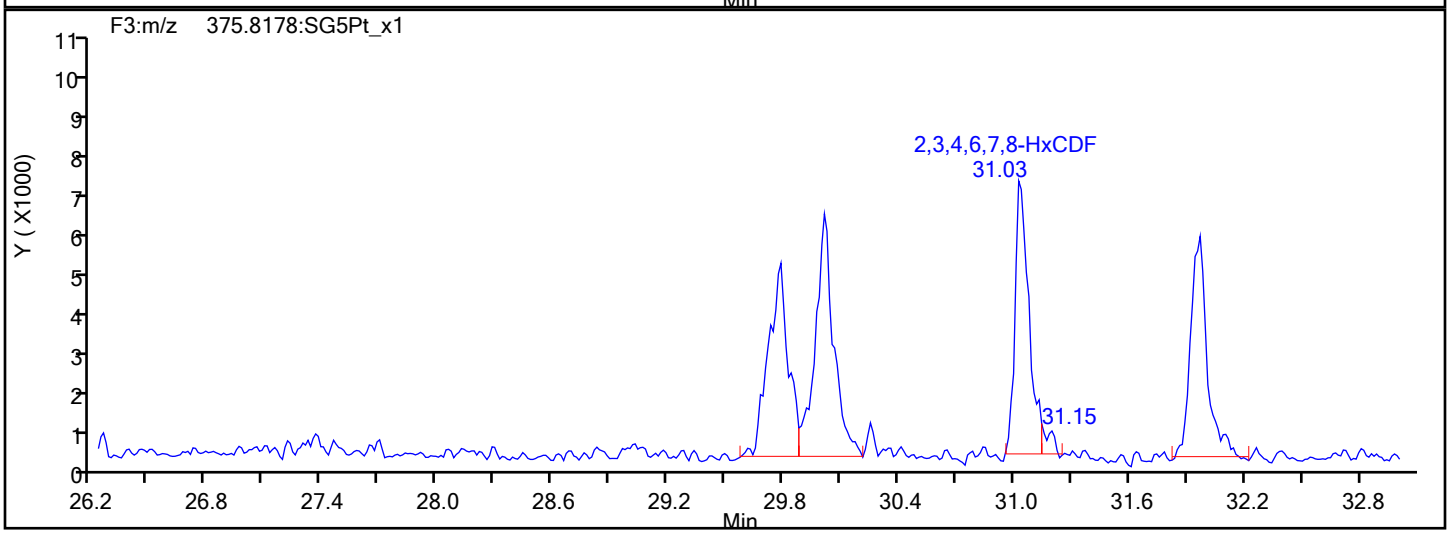

HxCDF Interference Mass

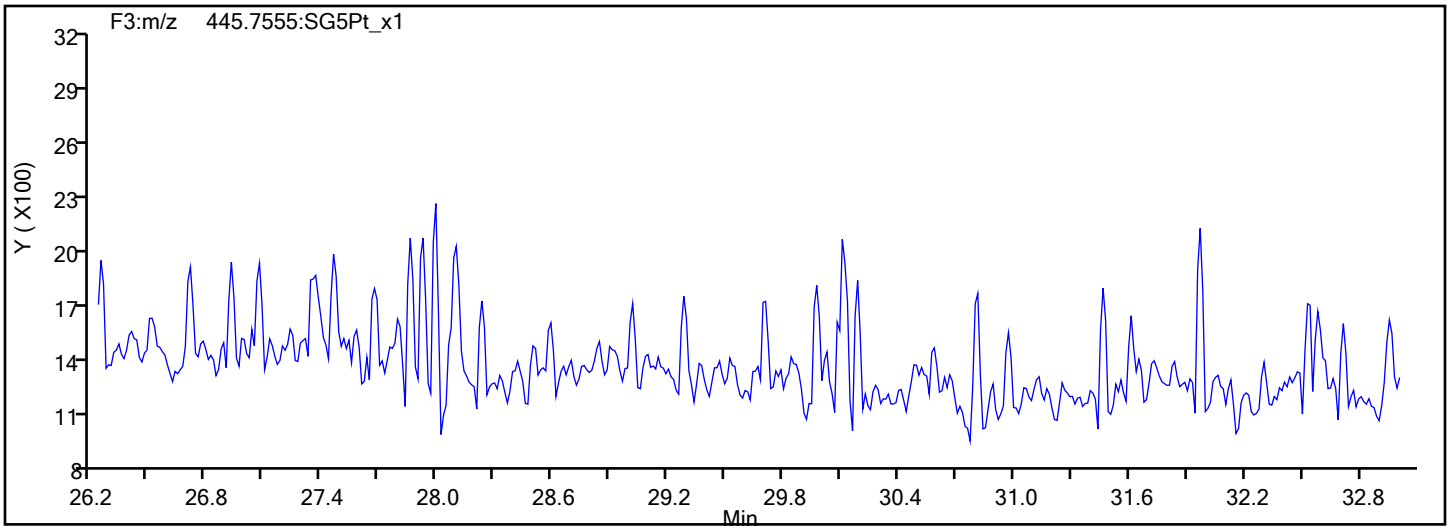

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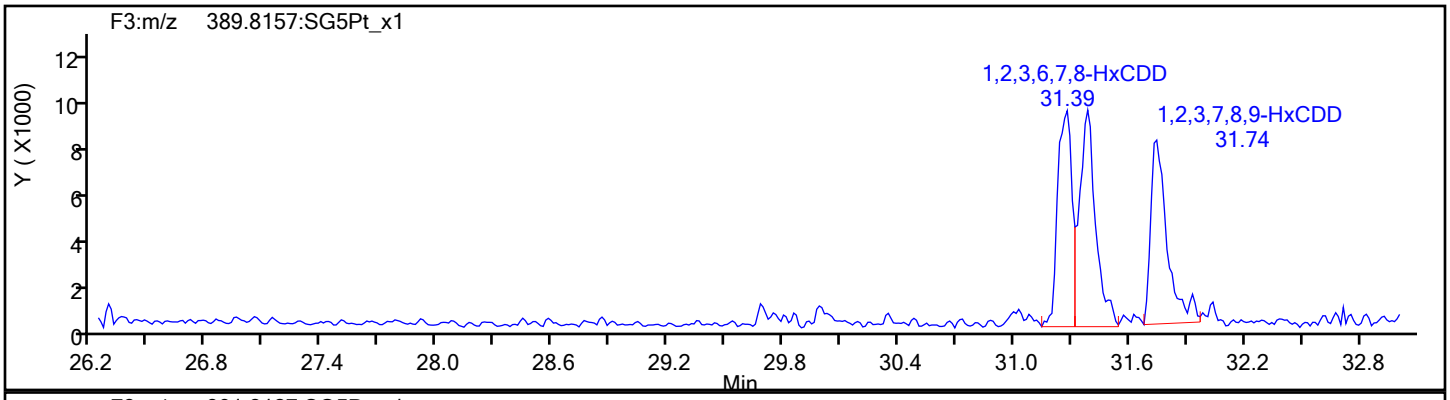

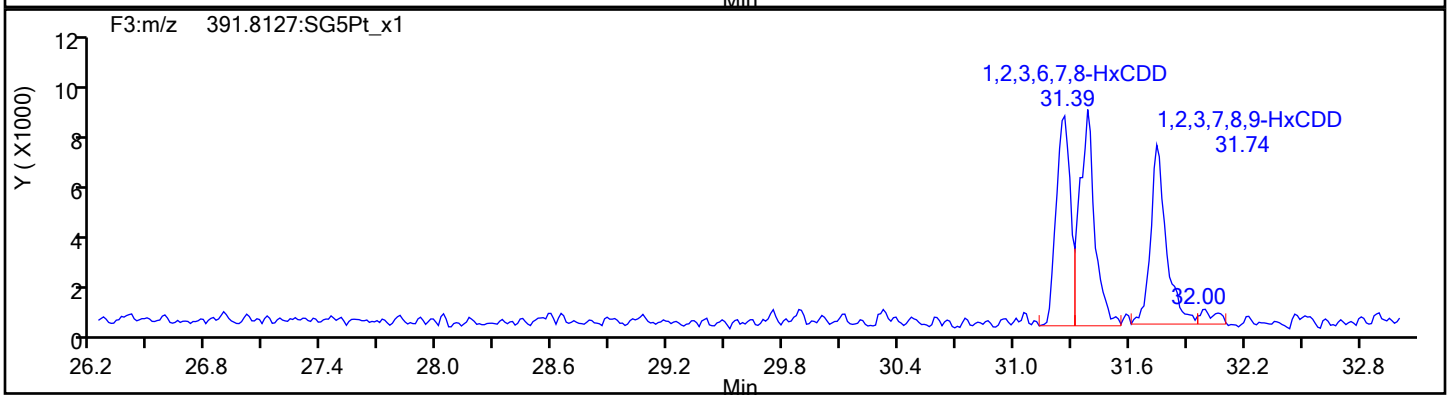

HxCDD Standards

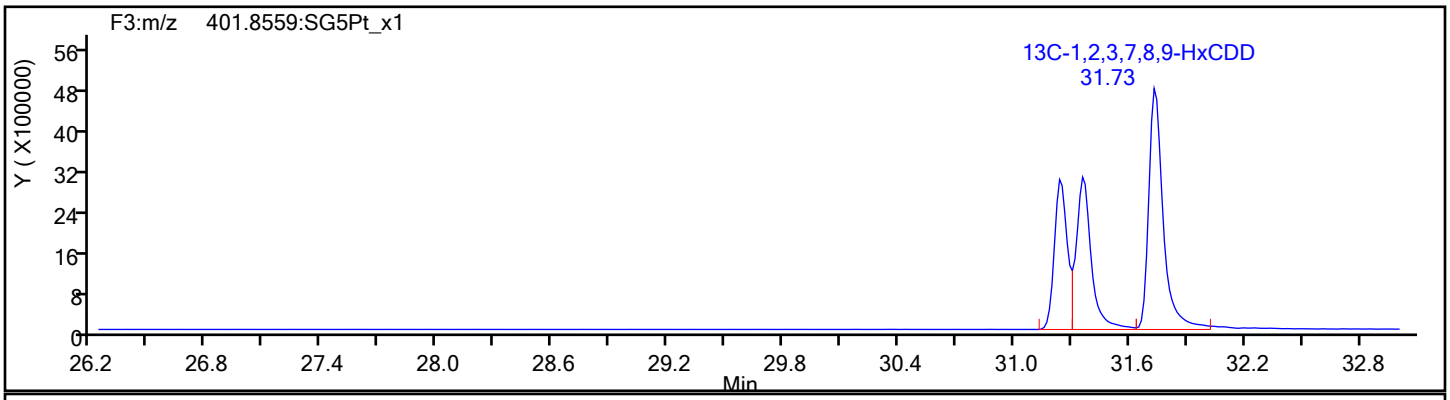

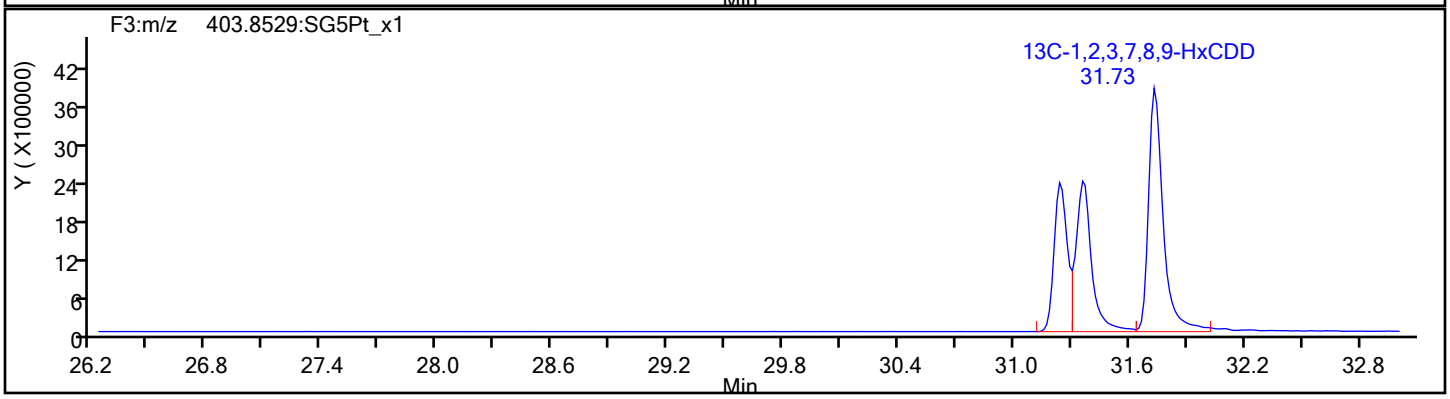

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Eurofins TestAmerica, Sacramento

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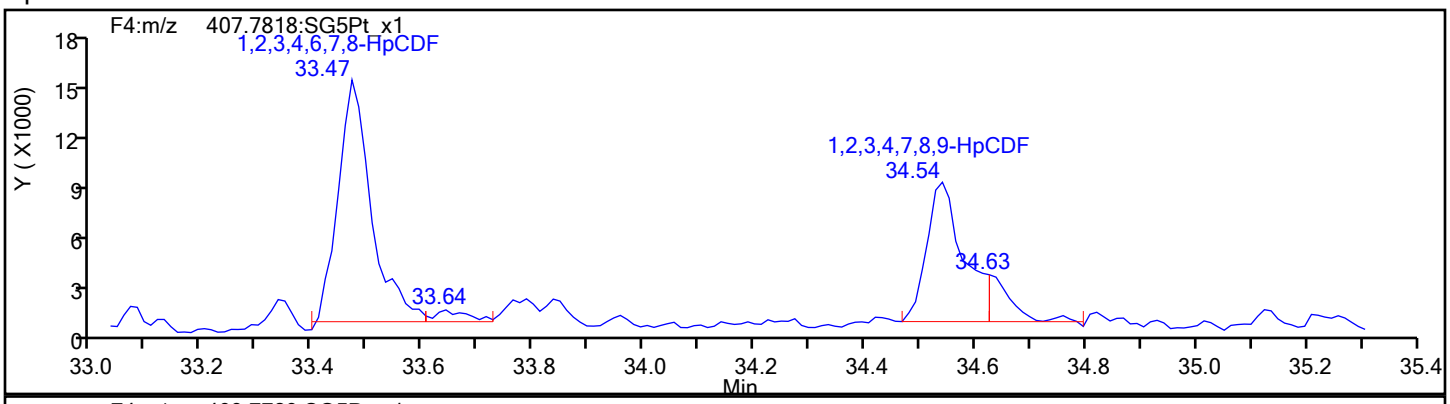

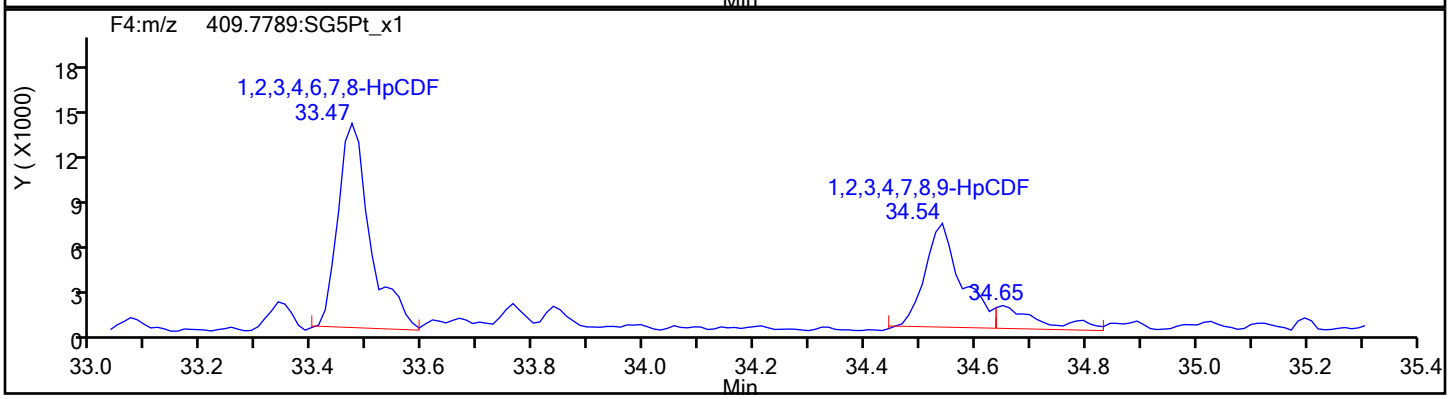

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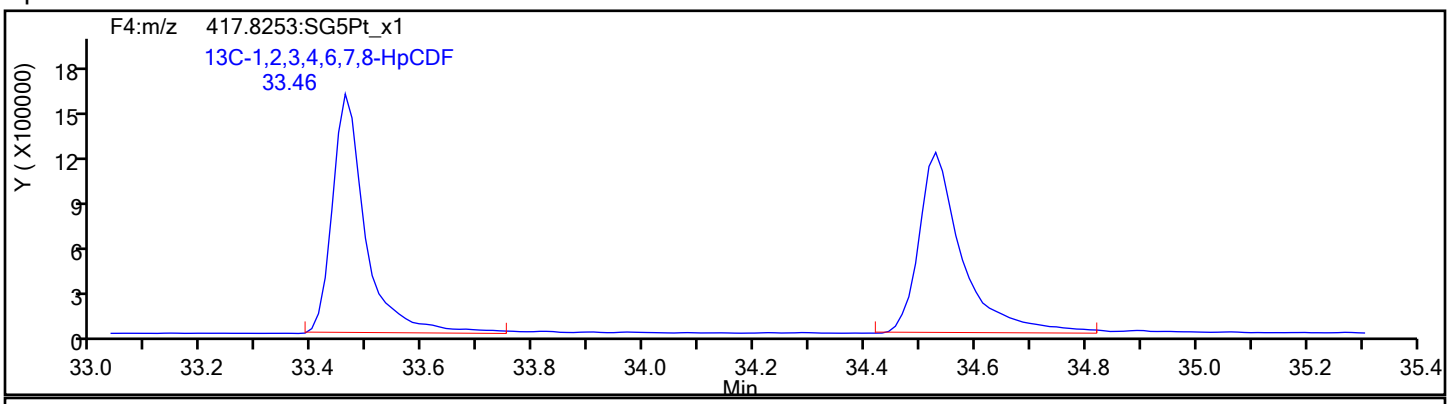

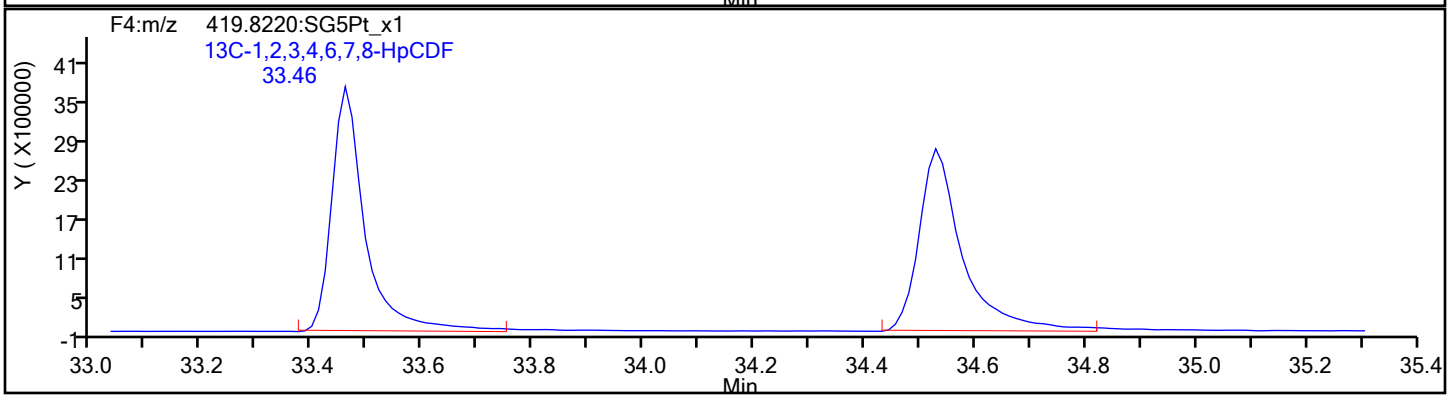

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Eurofins TestAmerica, Sacramento

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HpCDF

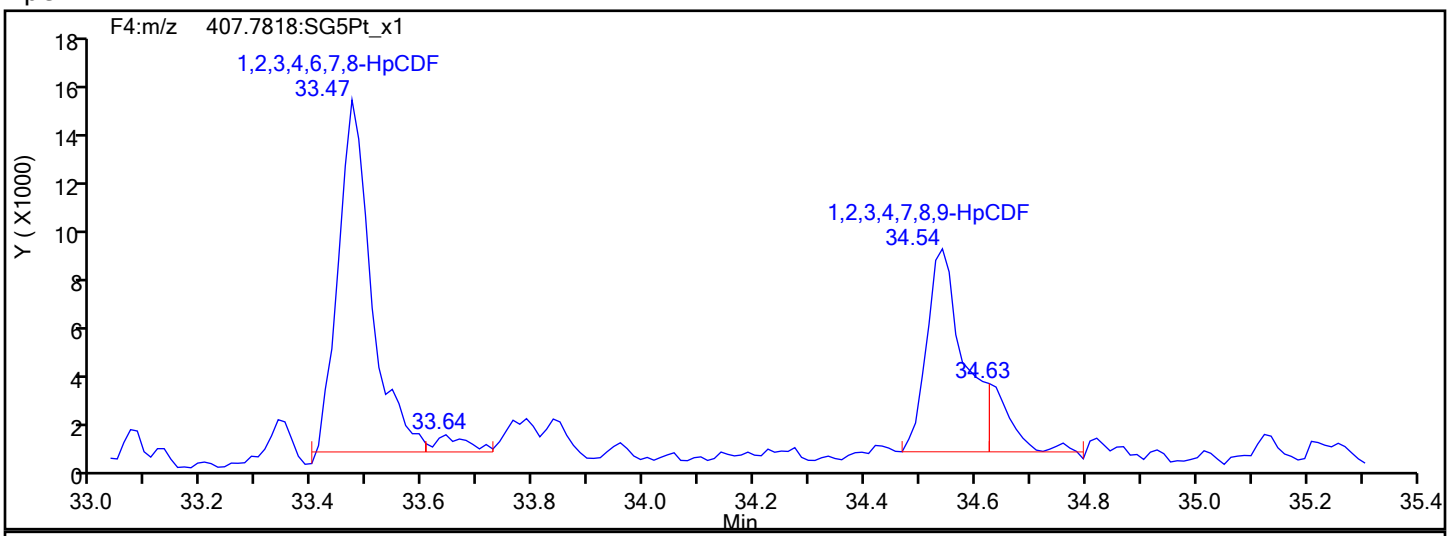

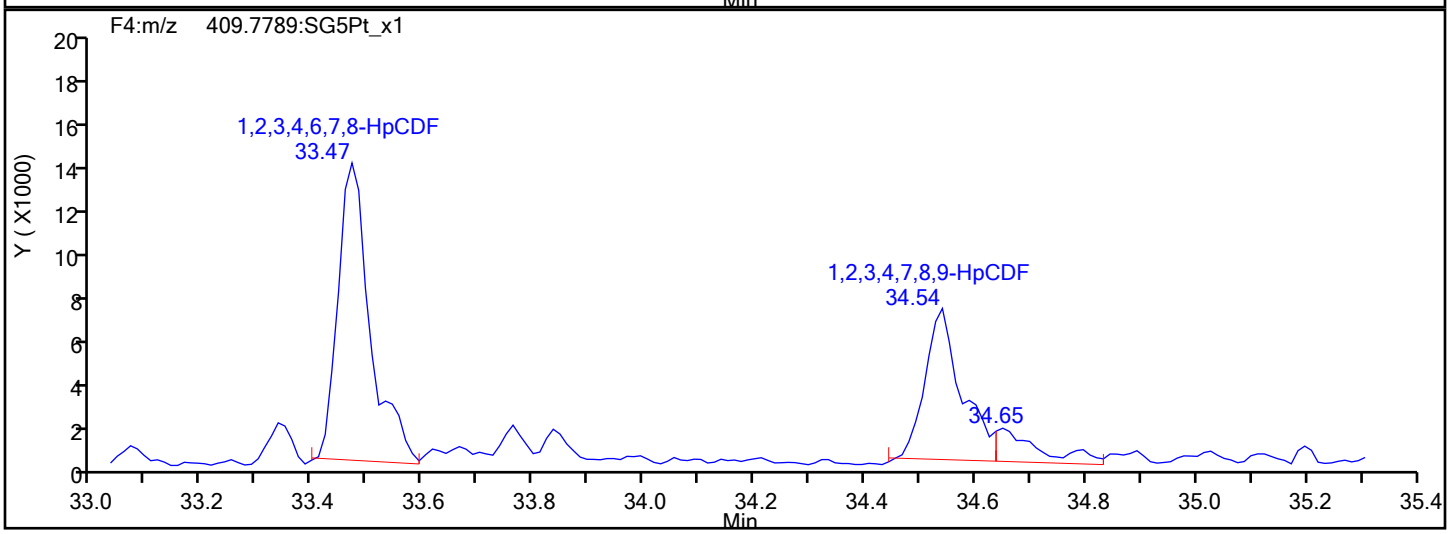

HpCDF Interference Mass

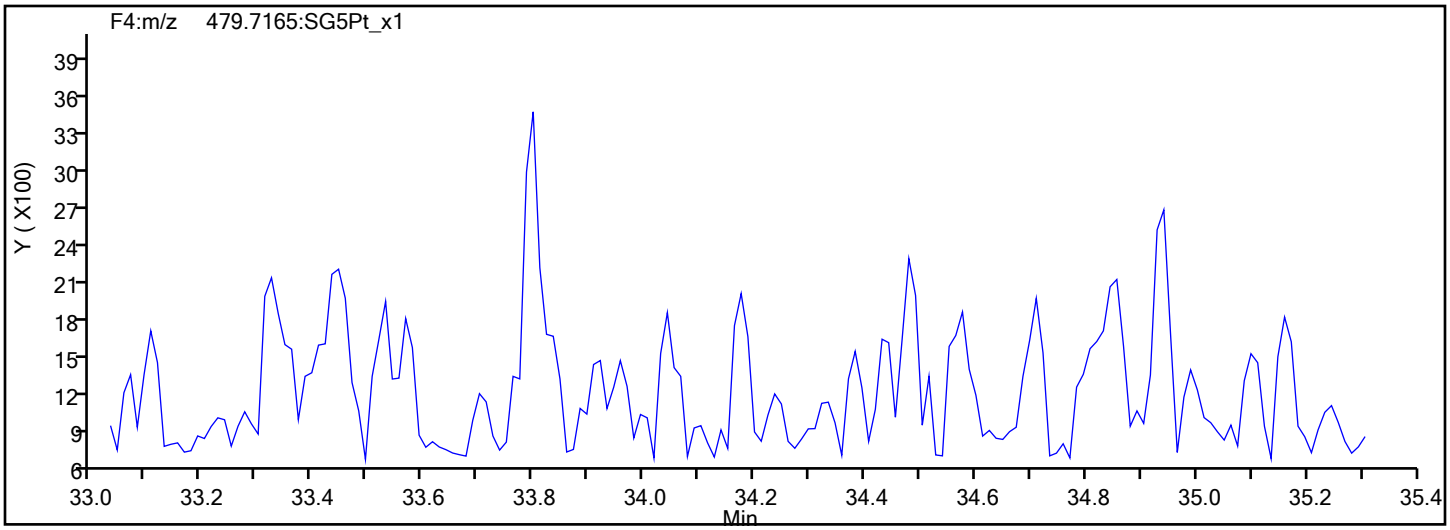

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Eurofins TestAmerica, Sacramento

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HpCDD

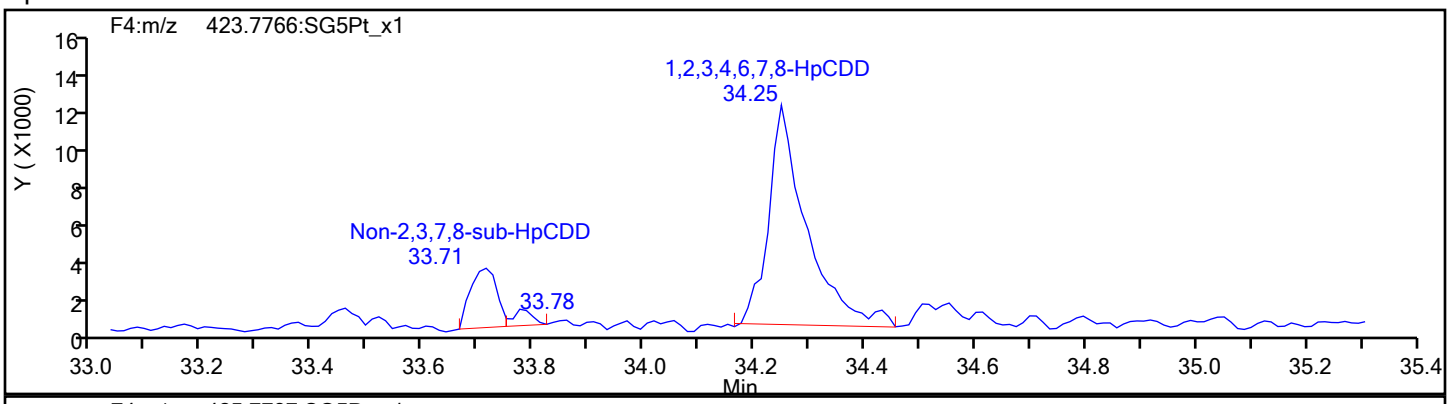

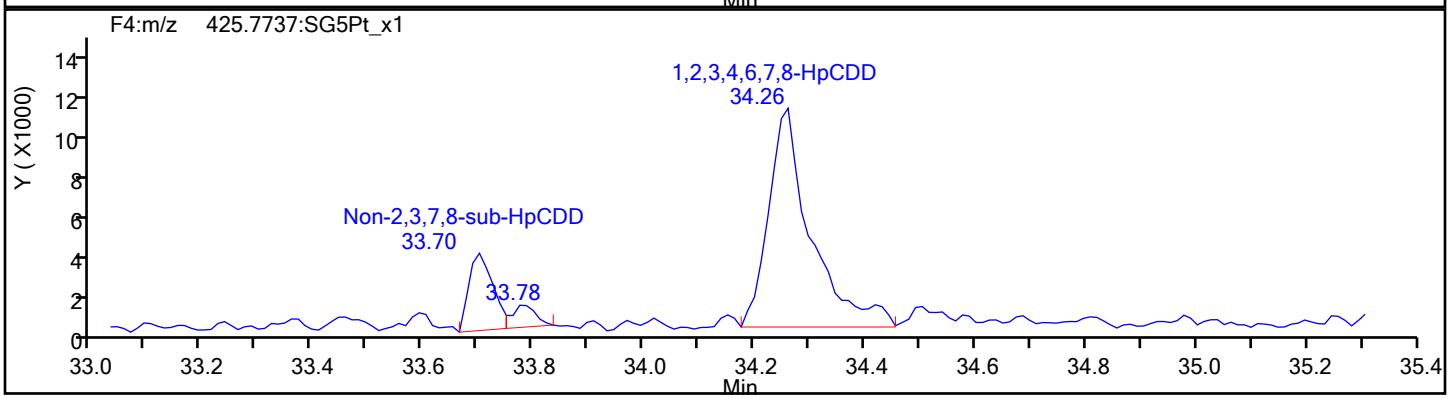

HpCDD Standards

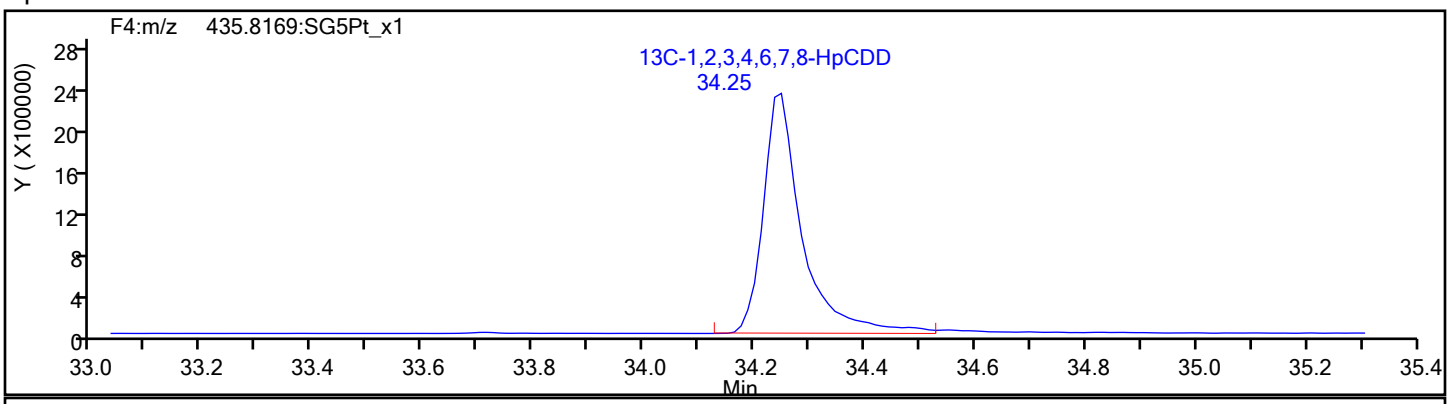

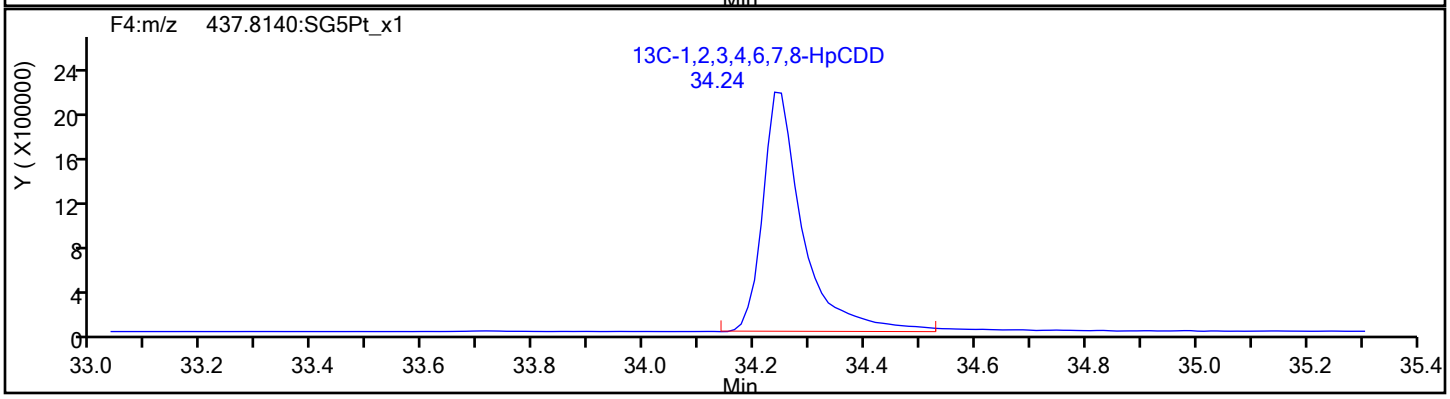

Report Date: 07-Feb-2020 14:27:19 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_4.d		
Injection Date:	05-Feb-2020 17:50:06	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355322	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

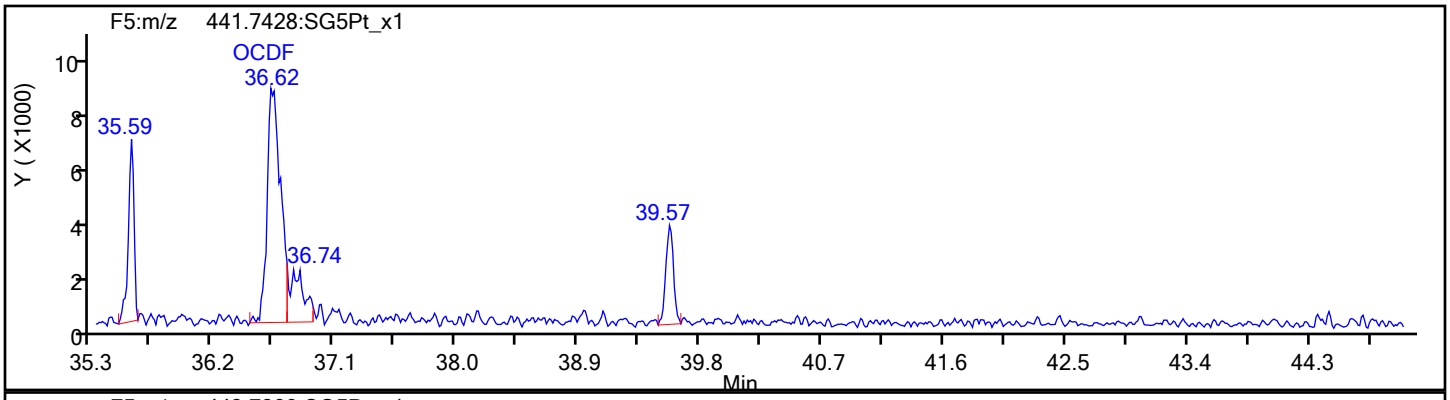

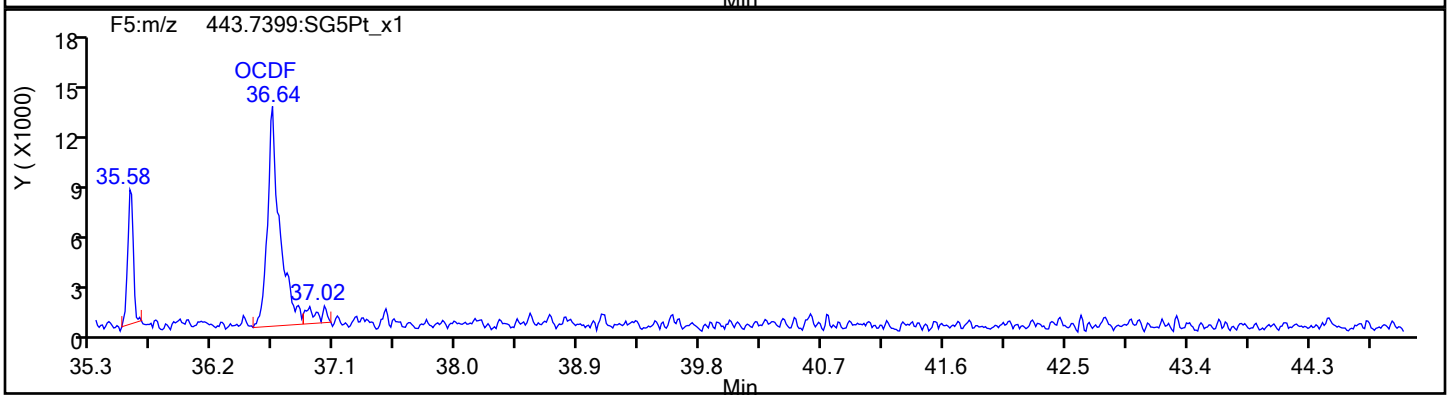

OCDF Standards

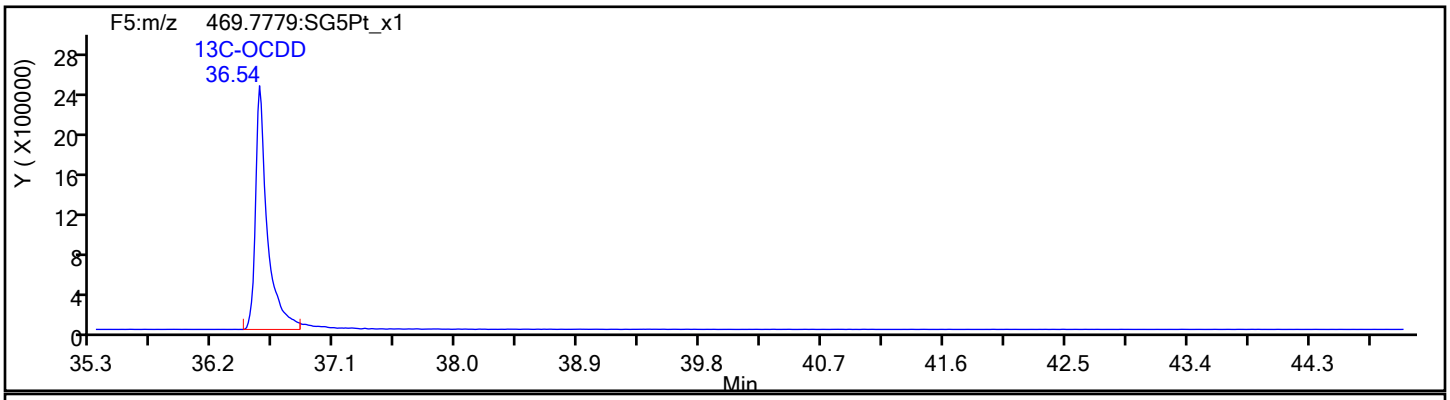

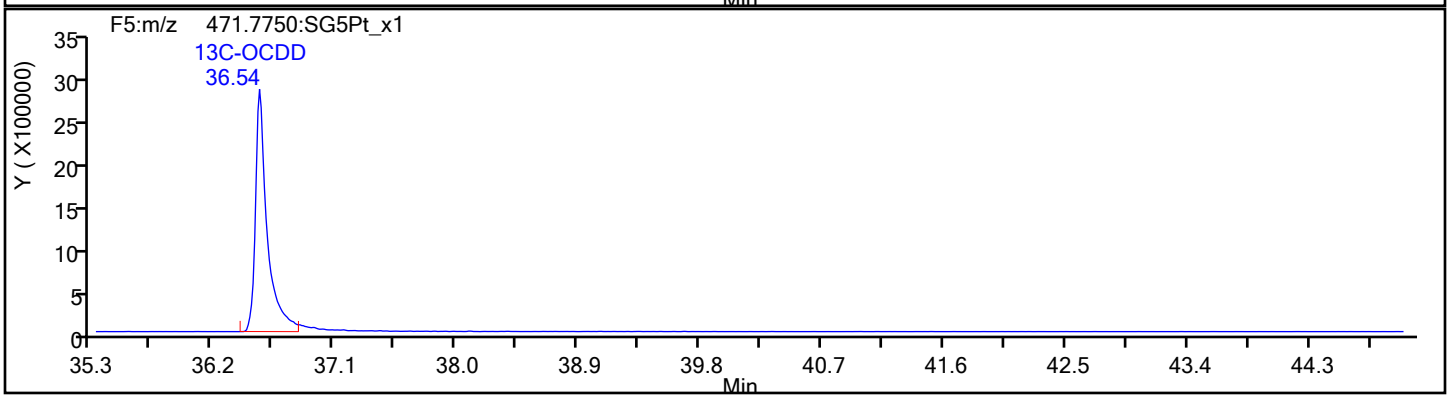

Report Date: 07-Feb-2020 14:27:19 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_4.d		
Injection Date:	05-Feb-2020 17:50:06	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355322	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

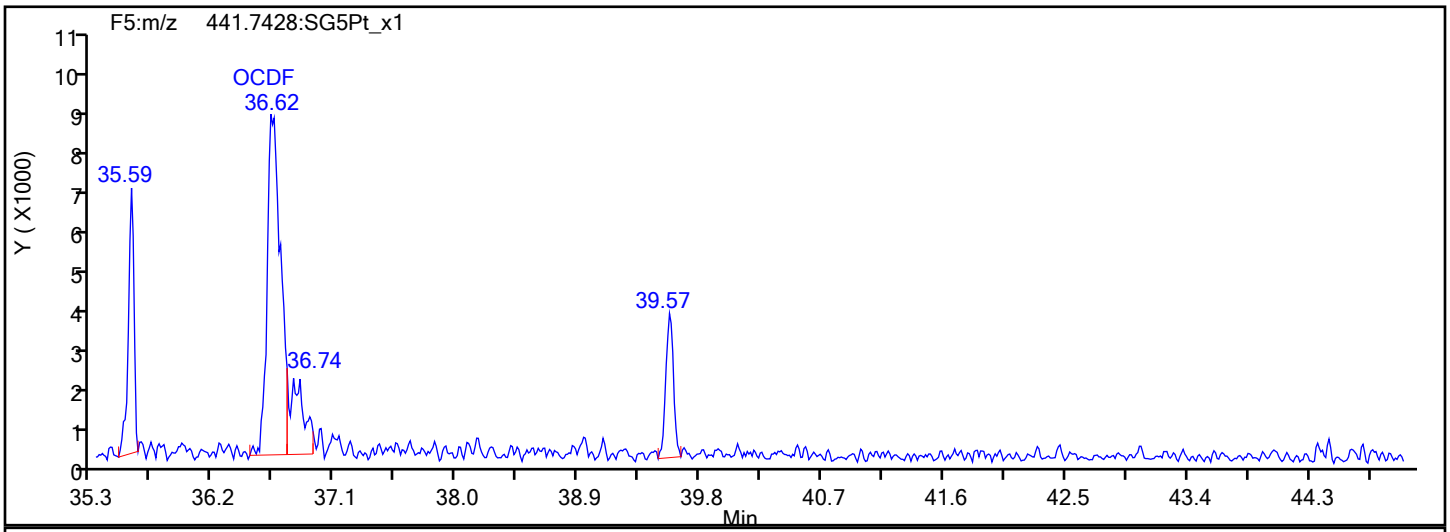

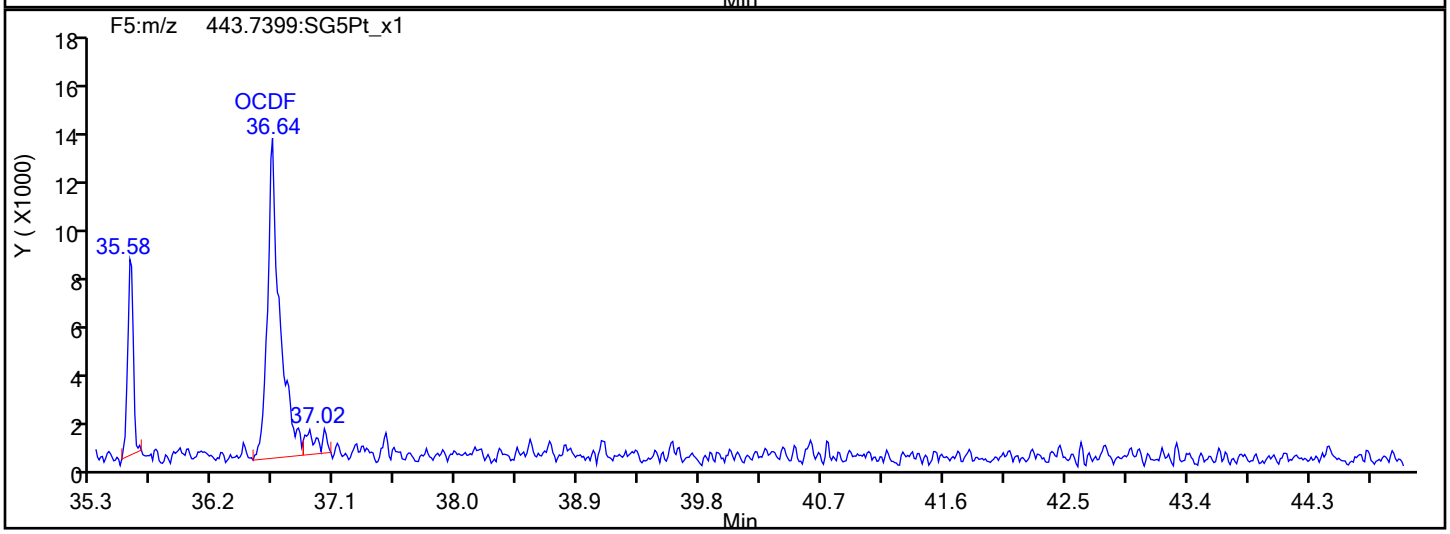

OCDF Interference Mass

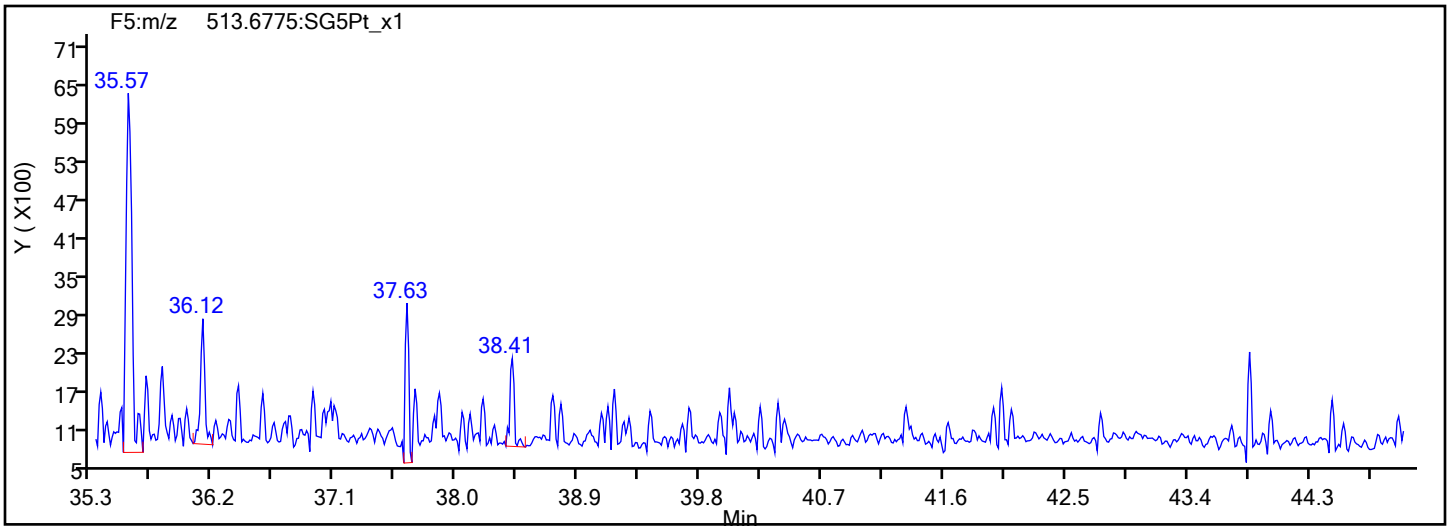

Report Date: 07-Feb-2020 14:27:19 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_4.d		
Injection Date:	05-Feb-2020 17:50:06	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355322	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

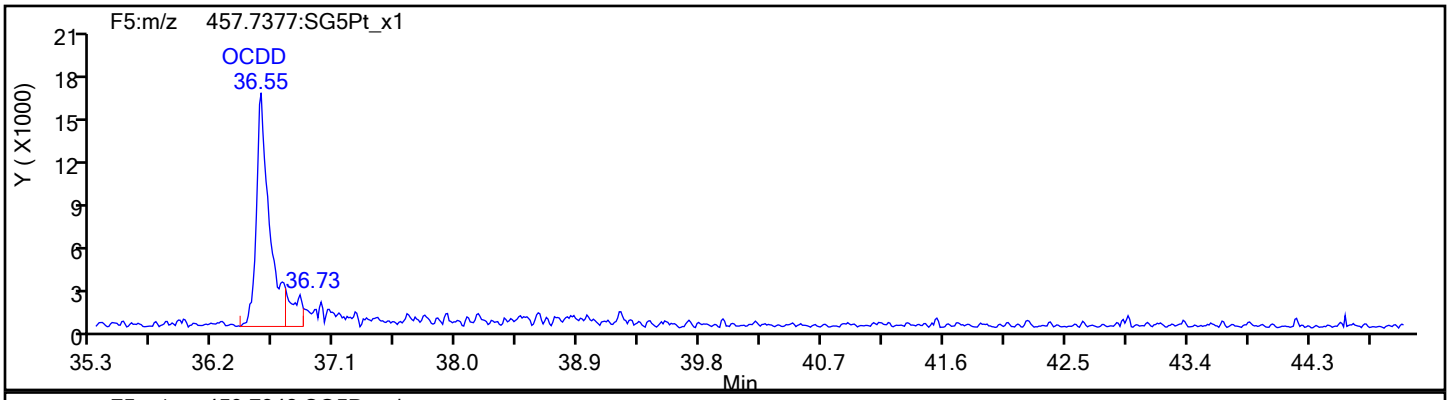

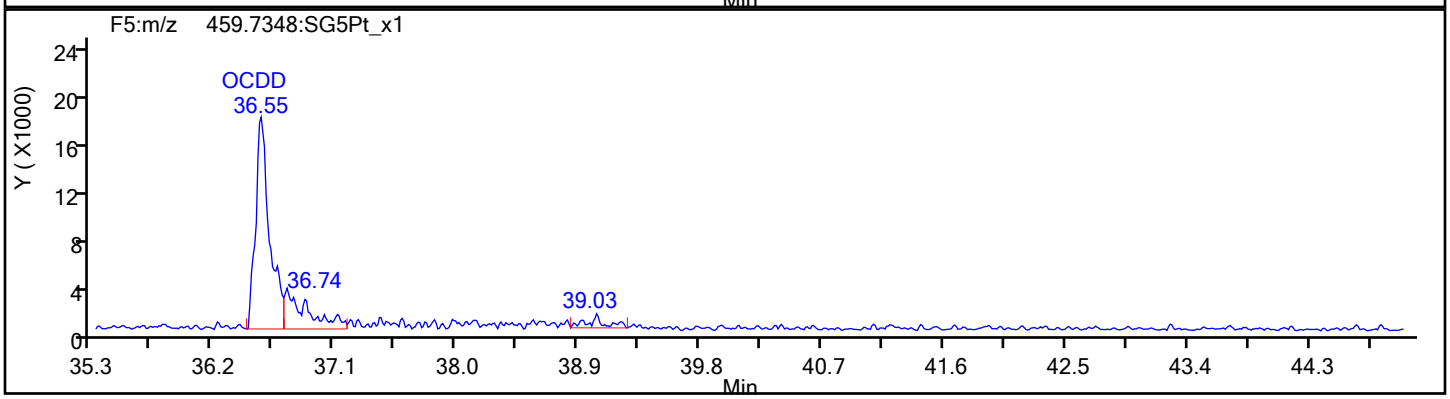

OCDD Standards

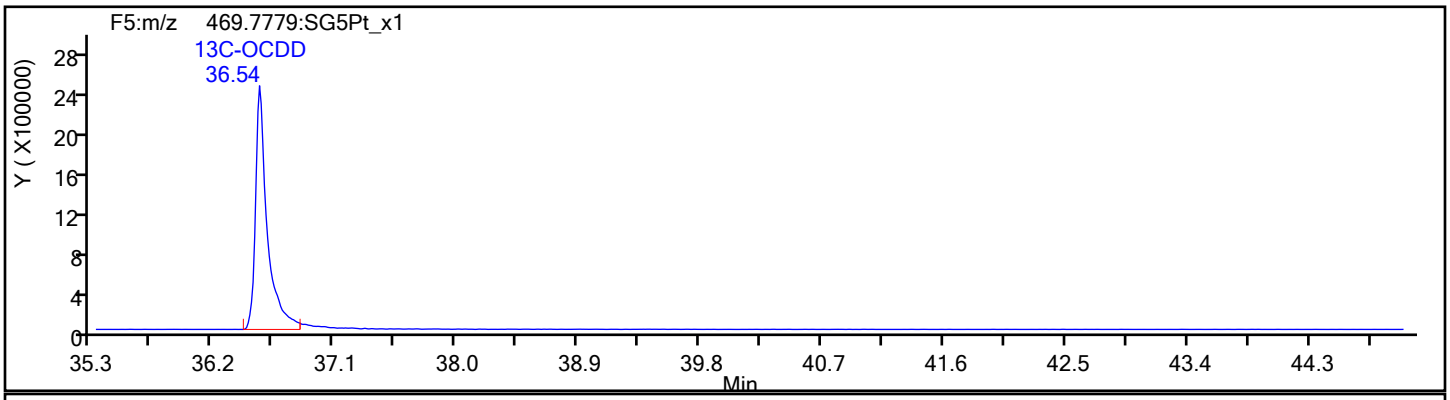

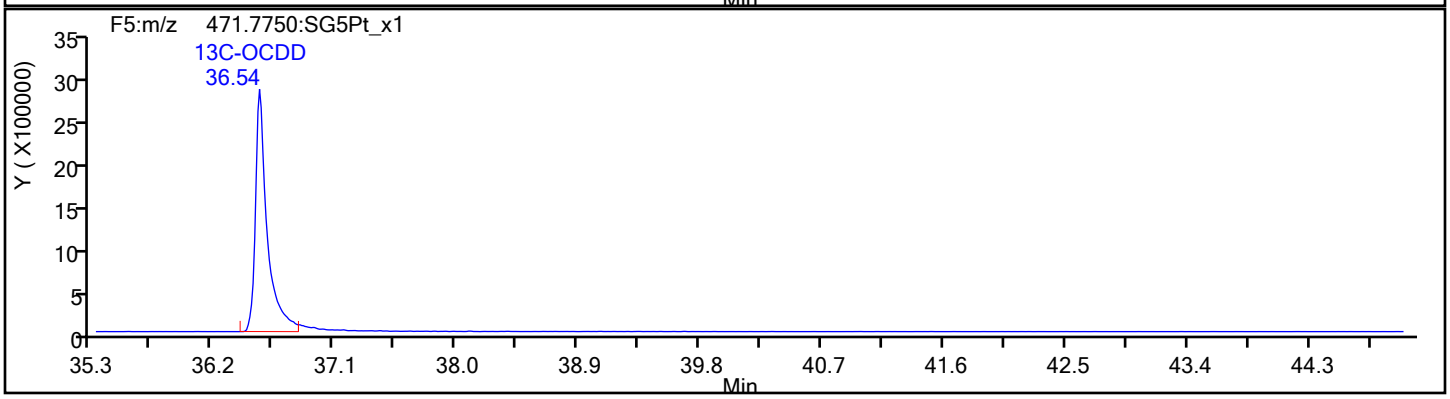

Report Date: 07-Feb-2020 14:27:19 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_4.d		
Injection Date:	05-Feb-2020 17:50:06	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355322	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

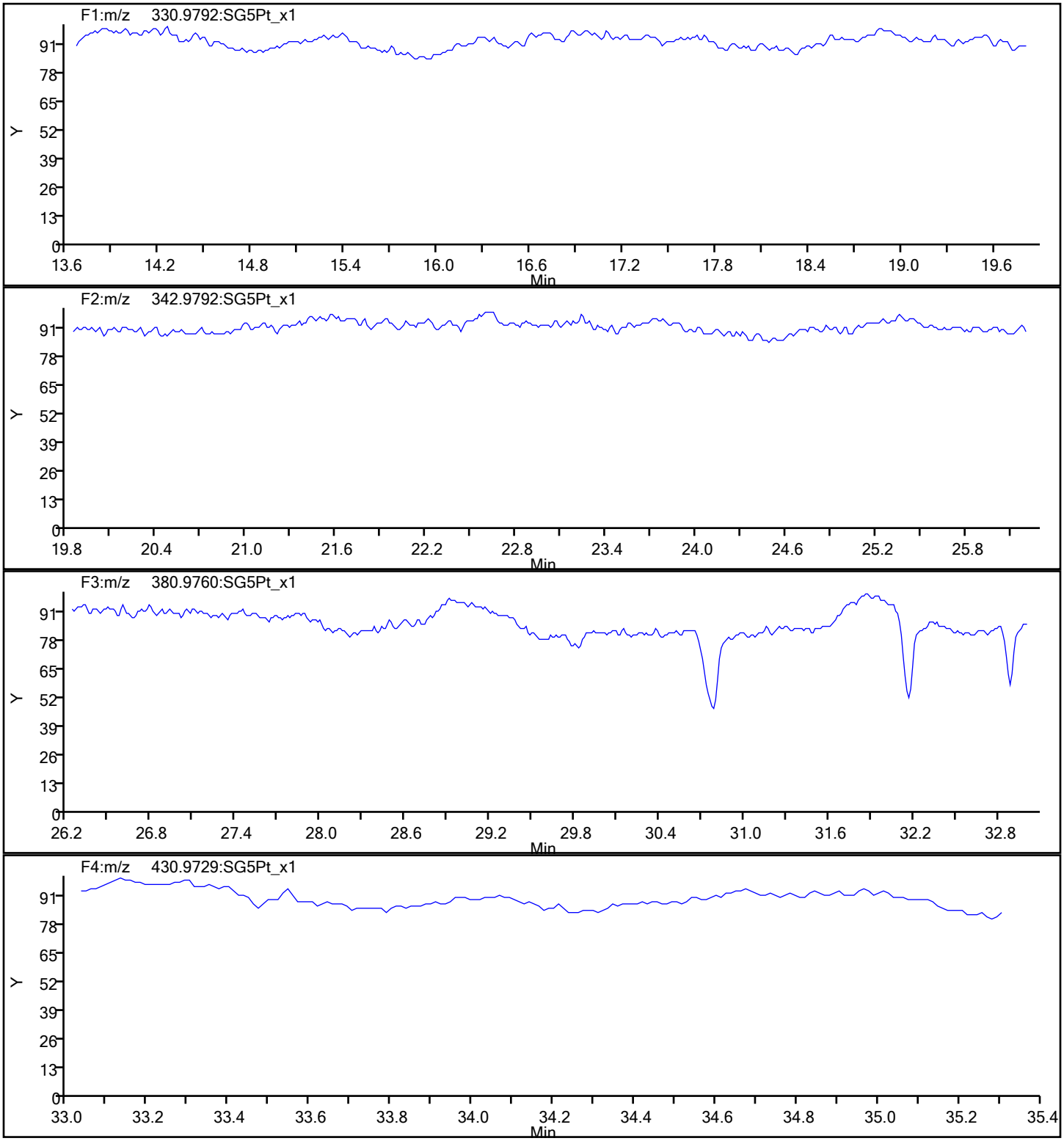

Report Date: 07-Feb-2020 14:27:19 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_4.d		
Injection Date:	05-Feb-2020 17:50:06	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355322	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

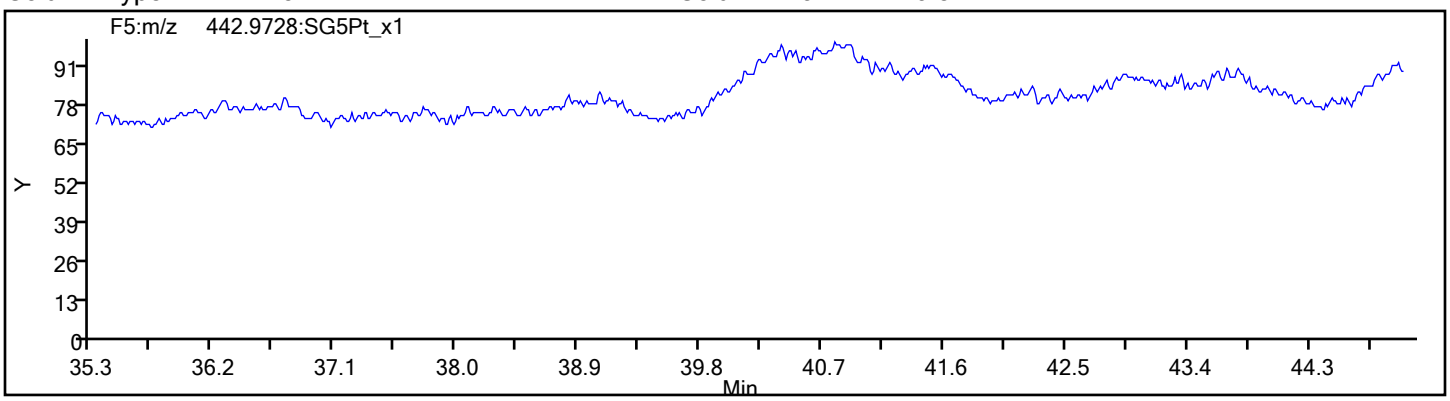

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 320-58170-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 320-354207/1-A
Matrix: Sediment
Lab File ID: 06FE2010D5_9.d
Analysis Method: 1613B
Date Collected:
Extract. Method: HRMS-Sox
Date Extracted: 01/31/2020 09:04
Sample wt/vol: 10(g)
Date Analyzed: 02/06/2020 16:56
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 355551
Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		1.0	0.053
51207-31-9	2,3,7,8-TCDF	ND		1.0	0.033
40321-76-4	1,2,3,7,8-PeCDD	ND		5.0	0.045
57117-41-6	1,2,3,7,8-PeCDF	ND		5.0	0.049
57117-31-4	2,3,4,7,8-PeCDF	ND		5.0	0.055
39227-28-6	1,2,3,4,7,8-HxCDD	0.173	J	5.0	0.052
57653-85-7	1,2,3,6,7,8-HxCDD	ND		5.0	0.049
19408-74-3	1,2,3,7,8,9-HxCDD	ND		5.0	0.045
70648-26-9	1,2,3,4,7,8-HxCDF	ND		5.0	0.064
57117-44-9	1,2,3,6,7,8-HxCDF	ND		5.0	0.058
72918-21-9	1,2,3,7,8,9-HxCDF	ND		5.0	0.042
60851-34-5	2,3,4,6,7,8-HxCDF	ND		5.0	0.041
35822-46-9	1,2,3,4,6,7,8-HpCDD	ND		5.0	0.051
67562-39-4	1,2,3,4,6,7,8-HpCDF	0.0842	J	5.0	0.034
55673-89-7	1,2,3,4,7,8,9-HpCDF	ND		5.0	0.053
3268-87-9	OCDD	1.19	J	10	0.089
39001-02-0	OCDF	ND		10	0.081
41903-57-5	Total TCDD	ND		1.0	0.053
30402-14-3	Total TCDF	ND		1.0	0.033
36088-22-9	Total PeCDD	ND		5.0	0.045
30402-15-4	Total PeCDF	ND		5.0	0.055
34465-46-8	Total HxCDD	0.173	J	5.0	0.049
55684-94-1	Total HxCDF	ND		5.0	0.064
37871-00-4	Total HpCDD	0.0930	J	5.0	0.051
38998-75-3	Total HpCDF	0.0842	J	5.0	0.044

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 320-354207/1-A

Matrix: Sediment Lab File ID: 06FE2010D5_9.d

Analysis Method: 1613B Date Collected:

Extract. Method: HRMS-Sox Date Extracted: 01/31/2020 09:04

Sample wt/vol: 10(g) Date Analyzed: 02/06/2020 16:56

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 355551 Units: pg/g

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	67		25-164
89059-46-1	13C-2,3,7,8-TCDF	69		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	66		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	68		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	66		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	62		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	73		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	70		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	77		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	76		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	75		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	65		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	65		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	65		26-138
114423-97-1	13C-OCDD	62		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	94		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_9.d
Lims ID: MB 320-354207/1-A
Client ID:
Sample Type: MB
Inject. Date: 06-Feb-2020 16:56:55 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: MB 320-354207/1-A MB 320-354207/1-A
Misc. Info.: 06FE2010D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 10-Feb-2020 09:21:44 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0306

First Level Reviewer: dadunj Date: 10-Feb-2020 09:21:43

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.333	52303703	0.80	5.4E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.849	40608663	0.75	1.1275	68.9	68.9	0.1918	0.1918	68.86	
2,3,7,8-TCDF	16.849						0.0165	0.0165		
A Non-2,3,7,8-sub-TCDF	16.539						0.0165	0.0165		
S Total TCDF							0.0165	0.0165		
D 13C-2,3,7,8-TCDD	17.529	31780032	0.81	0.9032	67.3	67.3	0.1897	0.1897	67.27	
$ 37Cl4-2,3,7,8-TCDD	17.544	19035723		0.9673	37.6	37.6	0.0503	0.0503	94.06	
2,3,7,8-TCDD	17.514						0.0266	0.0266		
A Non-2,3,7,8-sub-TCDD	16.977						0.0266	0.0266		
S Total TCDD							0.0266	0.0266		
D 13C-1,2,3,7,8-PeCDF	21.639	33954900	1.57	0.9615	67.5	67.5	0.2855	0.2855	67.52	
1,2,3,7,8-PeCDF	21.626						0.0243	0.0243		
D 13C-2,3,4,7,8-PeCDF	22.921	35695764	1.58	1.0393	65.7	65.7	0.2641	0.2641	65.67	
2,3,4,7,8-PeCDF	22.907						0.0276	0.0276		
A F1 PeCDFs	19.306						0.0262	0.0262		
A Non-2,3,7,8-sub-PeCDF	22.316						0.0258	0.0258		
S Total PeCDF							0.0276	0.0276		
D 13C-1,2,3,7,8-PeCDD	23.617	23943111	1.60	0.6938	66.0	66.0	0.0915	0.0915	65.98	
1,2,3,7,8-PeCDD	23.603						0.0226	0.0226		
A Non-2,3,7,8-sub-PeCDD	22.546						0.0226	0.0226		
S Total PeCDD							0.0226	0.0226		
D 13C-1,2,3,4,7,8-HxCDF	29.735	26182349	0.49	0.8543	70.5	70.5	0.5007	0.5007	70.47	
1,2,3,4,7,8-HxCDF	29.708						0.0320	0.0320		
D 13C-1,2,3,6,7,8-HxCDF	29.975	28106590	0.49	0.8361	77.3	77.3	0.5116	0.5116	77.29	
1,2,3,6,7,8-HxCDF	29.975						0.0292	0.0292		
D 13C-2,3,4,6,7,8-HxCDF	31.026	25225704	0.49	0.7773	74.6	74.6	0.5502	0.5502	74.61	
2,3,4,6,7,8-HxCDF	31.013						0.0203	0.0203		
D 13C-1,2,3,7,8,9-HxCDF	31.944	23541448	0.49	0.7167	75.5	75.5	0.5968	0.5968	75.52	
1,2,3,7,8,9-HxCDF	31.931						0.0208	0.0208		
A Non-2,3,7,8-sub-HxCDF	29.476						0.0247	0.0247		
S Total HxCDF							0.0320	0.0320		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.732	43495169	1.24	4.4E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.253	21844266	1.25	0.8050	62.4	62.4	0.3572	0.3572	62.39	
1,2,3,4,7,8-HxCDD	31.253	15835	1.24	0.8392	0.1004	0.0864	0.0258	0.0258		RQM
D 13C-1,2,3,6,7,8-HxCDD	31.372	26183998	1.23	0.8269	72.8	72.8	0.3477	0.3477	72.80	
1,2,3,6,7,8-HxCDD	31.253						0.0245	0.0245		RQMU
1,2,3,7,8,9-HxCDD	31.745						0.0227	0.0227		
A Non-2,3,7,8-sub-HxCDD	30.055						0.0243	0.0243		U
S Total HxCDD					0.1004	0.0864	0.0243	0.0243		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	33.459	19955633	0.42	0.7080	64.8	64.8	1.415	1.415	64.80	
1,2,3,4,6,7,8-HpCDF	33.471	11237	1.04	1.3375	0.0472	0.0421	0.0170	0.0170		RQM
D 13C-1,2,3,4,7,8,9-HpCDF	34.528	21189796	0.42	0.7451	65.4	65.4	1.345	1.345	65.38	
1,2,3,4,7,8,9-HpCDF	34.528						0.0266	0.0266		
A Non-2,3,7,8-sub-HpCDF	33.994						0.0210	0.0210		
S Total HpCDF					0.0472	0.0421	0.0218	0.0218		RQ
D 13C-1,2,3,4,6,7,8-HpCDD	34.249	21124353	1.07	0.7473	65.0	65.0	0.5313	0.5313	64.99	
1,2,3,4,6,7,8-HpCDD	34.248						0.0256	0.0256		
A Non-2,3,7,8-sub-HpCDD	33.963	9639	1.04	0.9811	0.0512	0.0465	0.0256	0.0465		RQM
S Total HpCDD					0.0512	0.0465	0.0256	0.0256		RQ
D 13C-OCDD	36.540	35568429	0.89	0.6622	123.5	123.5	0.1107	0.1107	61.75	
OCDF	36.612						0.0406	0.0406		
OCDD	36.564	104826	0.91	0.9937	0.5932	0.5932	0.0443	0.0443		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_9.d
Lims ID: MB 320-354207/1-A
Client ID:
Sample Type: MB
Inject. Date: 06-Feb-2020 16:56:55 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: MB 320-354207/1-A MB 320-354207/1-A
Misc. Info.: 06FE2010D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 10-Feb-2020 09:21:44 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0306

First Level Reviewer: dadunj Date: 10-Feb-2020 09:21:43

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.333	17.302	2		23302993	6018396	4808	12020	1252		
333.9339	17.333	17.302	2		29000710	7442845	4417	11042	1685	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.849	16.819	2	0.972	17422549	4009201	6545	16362	613		
317.9389	16.849	16.819	2	0.972	23186114	5317717	5100	12750	1043	0.75(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.849						165	412			
305.8987	16.849						308	770			
A Non-2,3,7,8-sub-TCDF											
303.9016	16.539						165	412			
305.8987	16.539						308	770			
13C-2,3,7,8-TCDD											
331.9368	17.529	17.499	2	1.011	14178900	3192960	4808	12020	664		
333.9339	17.529	17.499	2	1.011	17601132	3964476	4417	11042	898	0.81(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.544	17.514	2	1.012	19035723	4330309	2621	6552	1652		
2,3,7,8-TCDD											
319.8965	17.514						523	1307			
321.8936	17.514						208	520			
A Non-2,3,7,8-sub-TCDD											
319.8965	16.977						523	1307			
321.8936	16.977						208	520			
13C-1,2,3,7,8-PeCDF											
351.9000	21.639	21.612	2	1.248	20763733	3374866	8713	21782	387		
353.8970	21.653	21.612	2	1.249	13191167	2178607	6066	15165	359	1.57(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	21.626						165	412			
341.8567	21.626						320	800			
13C-2,3,4,7,8-PeCDF											
351.9000	22.921	22.880	2	1.322	21857695	3329208	8713	21782	382		
353.8970	22.921	22.880	2	1.322	13838069	2099526	6066	15165	346	1.58(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.907						165	412			
341.8567	22.907						320	800			
A F1 PeCDFs											
339.8597	19.306						168	420			
341.8567	19.306						323	807			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.316						165	412			
341.8567	22.316						320	800			
13C-1,2,3,7,8-PeCDD											
367.8949	23.617	23.576	2	1.363	14736370	2069431	2044	5110	1012		
369.8919	23.617	23.576	2	1.363	9206741	1288668	1374	3435	938	1.60(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.603						200	500			
357.8516	23.603						103	257			
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.546						200	500			
357.8516	22.546						103	257			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.735	29.682	3	0.937	8606380	1050506	4877	12192	215		
385.8610	29.735	29.682	3	0.937	17575969	2157705	8815	22037	245	0.49(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.708						178	445			
375.8178	29.708						147	367			
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.975	29.948	2	0.945	9203070	1032445	4877	12192	212		
385.8610	29.988	29.948	2	0.945	18903520	2190607	8815	22037	249	0.49(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	29.975						178	445			
375.8178	29.975						147	367			
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.026	30.999	2	0.978	8296446	1497200	4877	12192	307		
385.8610	31.026	30.999	2	0.978	16929258	2945403	8815	22037	334	0.49(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.013						178	445			
375.8178	31.013						147	367			
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.944	31.918	2	1.007	7703850	1413423	4877	12192	290		
385.8610	31.944	31.918	2	1.007	15837598	2869971	8815	22037	326	0.49(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	31.931						178	445			
375.8178	31.931						147	367			
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.476						178	445			
375.8178	29.476						147	367			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.732	31.718	1		24065441	4434401	5157	12892	860		
403.8529	31.732	31.718	1		19429728	3568828	4047	10117	882	1.24(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.253	31.226	2	0.985	12135460	2508220	5157	12892	486		
403.8529	31.239	31.226	1	0.984	9708806	1995685	4047	10117	493	1.25(1.05-1.43)	
1,2,3,4,7,8-HxCDD											RQM
389.8157	31.253	31.239	1	1.000	8766	1458	205	512	7		M
391.8127	31.226	31.239	-1	0.999	9635	1555	186	465	8	0.91(1.05-1.43)	M
	Empc Correction				7069	1175	186	465	6		
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.372	31.332	2	0.989	14463587	2473198	5157	12892	480		
403.8529	31.359	31.332	2	0.988	11720411	2024914	4047	10117	500	1.23(1.05-1.43)	
1,2,3,6,7,8-HxCDD											RQMU
389.8157	31.359						205	512			
391.8127	31.359						186	465			
1,2,3,7,8,9-HxCDD											
389.8157	31.731						205	512			
391.8127	31.731						186	465			
A Non-2,3,7,8-sub-HxCDD											U
389.8157	30.055						205	512			
391.8127	30.055						186	465			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.459	33.447	1	1.054	5893958	1353342	9304	23260	145		
419.8220	33.459	33.447	1	1.054	14061675	3277743	22774	56935	144	0.42(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											RQM
407.7818	33.471	33.459	1	1.000	5729	1581	284	710	6		M
409.7789	33.459	33.459	0	1.000	6872	1670	138	345	12	0.83(0.88-1.20)	M
	Empc Correction				5508	1520	138	345	11		
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.528	34.504	1	1.088	6251284	1071162	9304	23260	115		
419.8220	34.528	34.504	1	1.088	14938512	2617859	22774	56935	115	0.42(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.528						284	710			
409.7789	34.528						138	345			
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.994						284	710			
409.7789	33.994						138	345			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.249	34.224	1	1.079	10895025	2292235	7627	19067	301		
437.8140	34.249	34.224	1	1.079	10229328	2106701	5085	12712	414	1.07(0.88-1.20)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.237						222	555			
425.7737	34.237						220	550			
A Non-2,3,7,8-sub-HpCDD											RQM
423.7766	33.702	33.963	-16	0.984	4914	1839	222	555	8		M
425.7737	33.726	33.963	-14	0.985	5695	1735	220	550	8	0.86(0.88-1.20)	M
	Empc Correction				4725	1768	220	550	8		
13C-OCDD											
469.7779	36.540	36.516	1	1.152	16722853	2634848	1165	2912	2262		
471.7750	36.540	36.516	1	1.152	18845576	3002028	1181	2952	2542	0.89(0.76-1.02)	
OCDF											
441.7428	36.612						190	475			
443.7399	36.612						298	745			
OCDD											
457.7377	36.564	36.528	2	1.001	49994	7144	264	660	27		
459.7348	36.564	36.528	2	1.001	54832	7117	233	582	31	0.91(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

U - Marked Undetected

Report Date: 10-Feb-2020 09:21:47 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_9.d
Lims ID: MB 320-354207/1-A
Client ID:
Inject. Date: 06-Feb-2020 16:56:55 Dil. Factor: 1.0000
Sample Type: MB, Method Blank
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 355551 Lims Sample ID: 9

Non-2,3,7,8-sub-HxCDD, RT: 30.055

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.839	D 13C-1,2,3,4,7,8-HxCDD	100.000	21844266	4503905
1,2,3,6,7,8-HxCDD	0.888	D 13C-1,2,3,6,7,8-HxCDD	100.000	26183998	4498112
1,2,3,7,8,9-HxCDD	0.957				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.894		100.000	24014132	4501008

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags

Compound is Marked ND

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_9.d
Lims ID: MB 320-354207/1-A
Client ID:
Inject. Date: 06-Feb-2020 16:56:55 Dil. Factor: 1.0000
Sample Type: MB, Method Blank
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 355551 Lims Sample ID: 9

Non-2,3,7,8-sub-HpCDD, RT: 33.963

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.981	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	21124353	4398936

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.981		100.000	21124353	4398936

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
33.702	4914	1839	5695	1735	0.0512	0.86	RQM
33.702	4914	1839	4725	1768	0.0465		Empc Correction
Signal Totals:							
	4914	1839	4725	1768			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	10609	3574				0.86	RQM
	9639	3607					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0512 = (10609 * 100.000) / (21124353 * 0.981)
Empc Amount: 0.0465 = (9639 * 100.000) / (21124353 * 0.981)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_9.d				
Injection Date:	06-Feb-2020 16:56:55	Instrument ID:	10D5		
Lims ID:	MB 320-354207/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 1

Processing Integration Results

RT: 31.25
Area: 15126
Amount: 0.153378
Amount Units: pg/ul

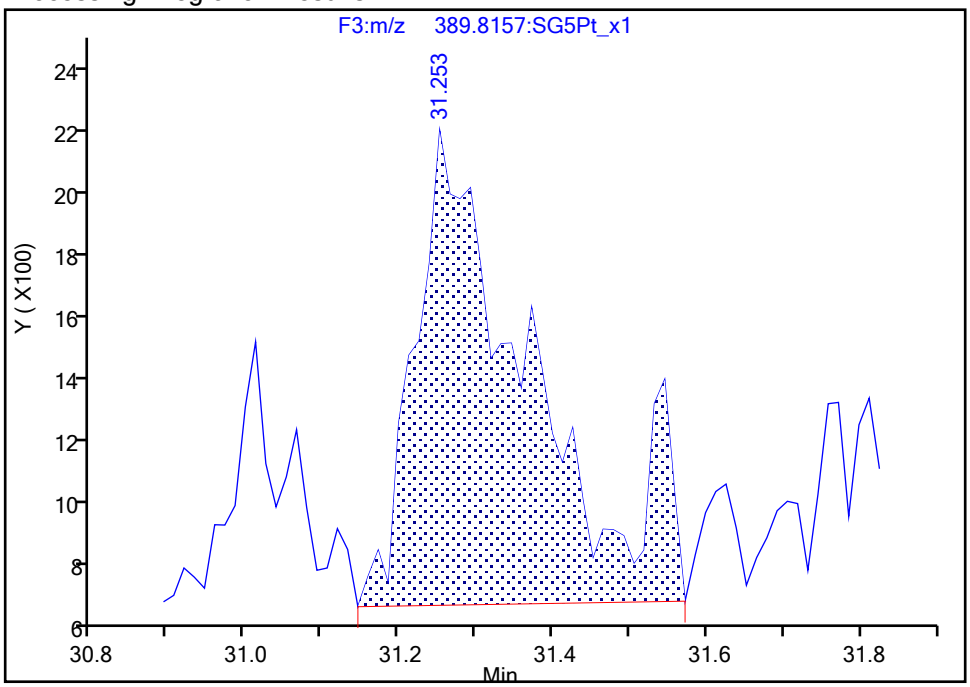

Manual Integration Results

RT: 31.25
Area: 8766
Amount: 0.100381
Amount Units: pg/ul

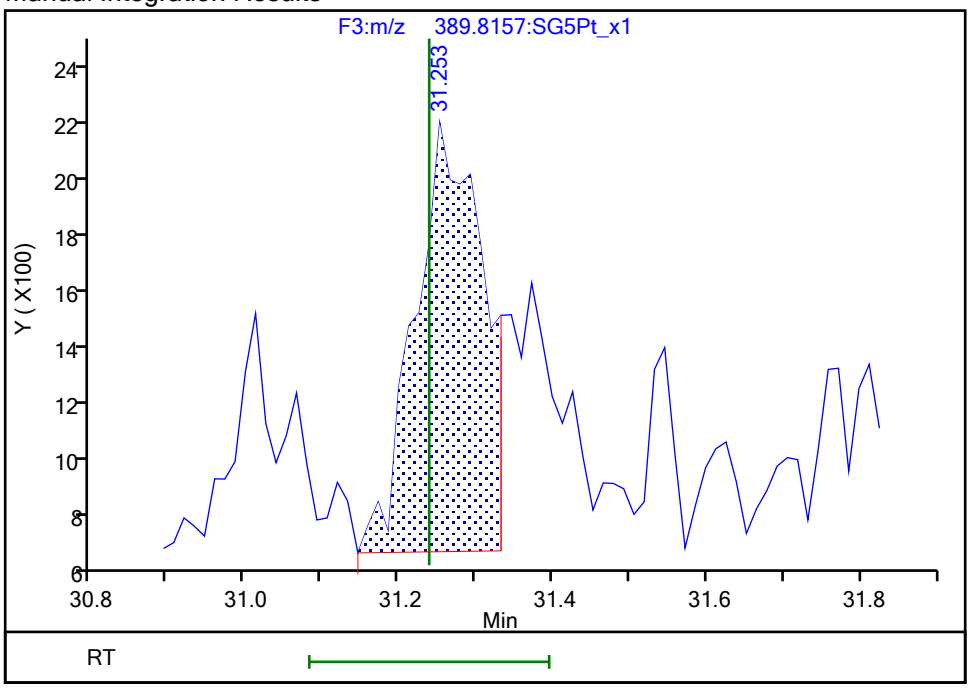

Reviewer: dadunj, 10-Feb-2020 09:20:03

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_9.d				
Injection Date:	06-Feb-2020 16:56:55	Instrument ID:	10D5		
Lims ID:	MB 320-354207/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 2

Processing Integration Results

RT: 31.23
Area: 12990
Amount: 0.153378
Amount Units: pg/ul

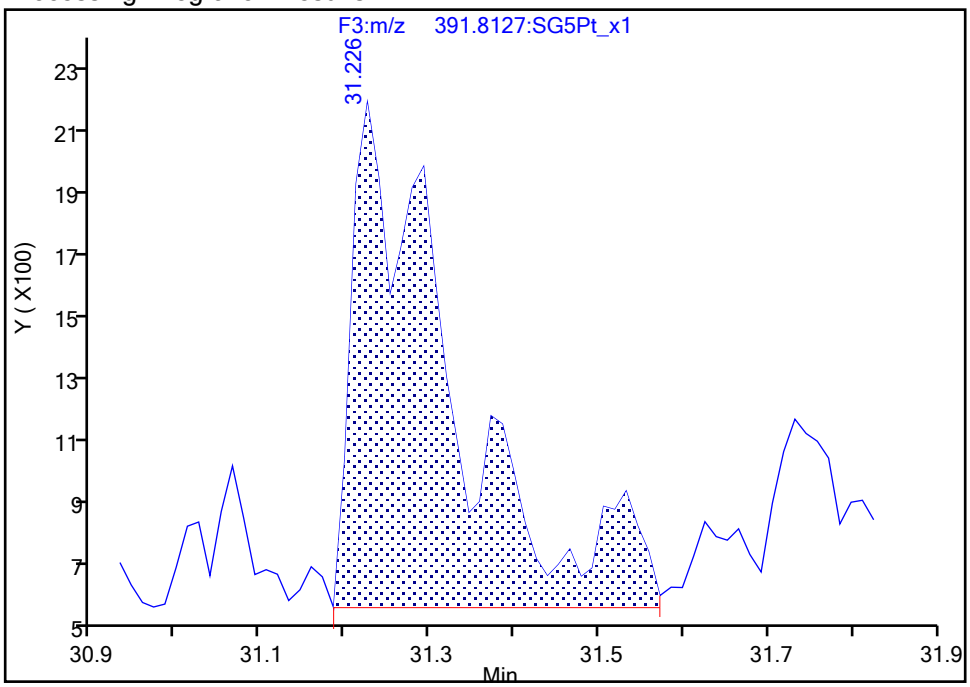

Manual Integration Results

RT: 31.23
Area: 9635
Amount: 0.100381
Amount Units: pg/ul

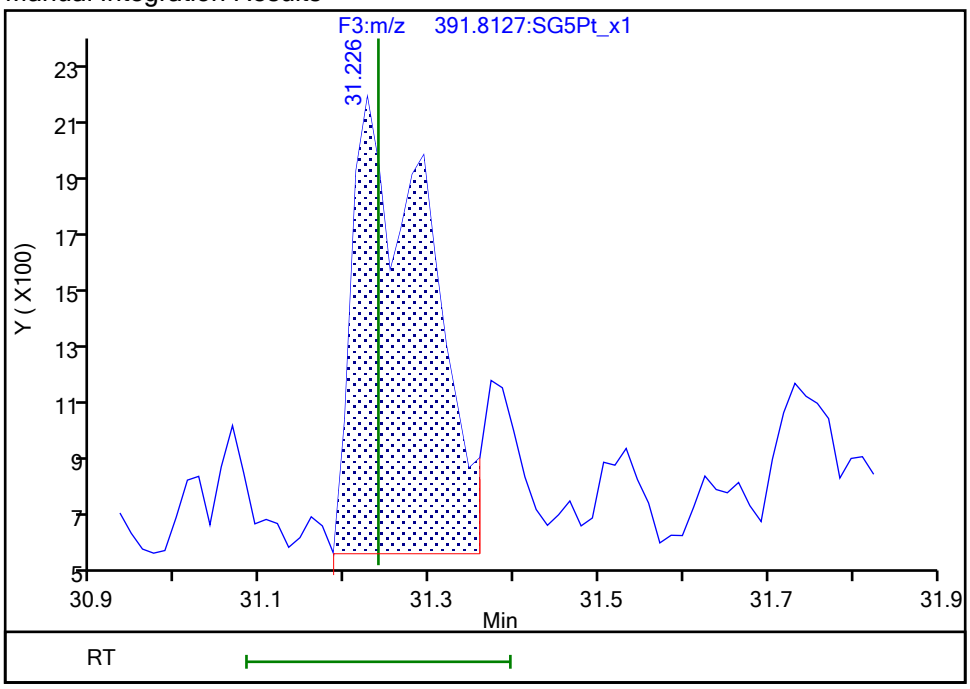

Reviewer: dadunj, 10-Feb-2020 09:20:06

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_9.d				
Injection Date:	06-Feb-2020 16:56:55	Instrument ID:	10D5		
Lims ID:	MB 320-354207/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 2

Processing Integration Results

RT: 33.46
Area: 8151
Amount: 0.056194
Amount Units: pg/ul

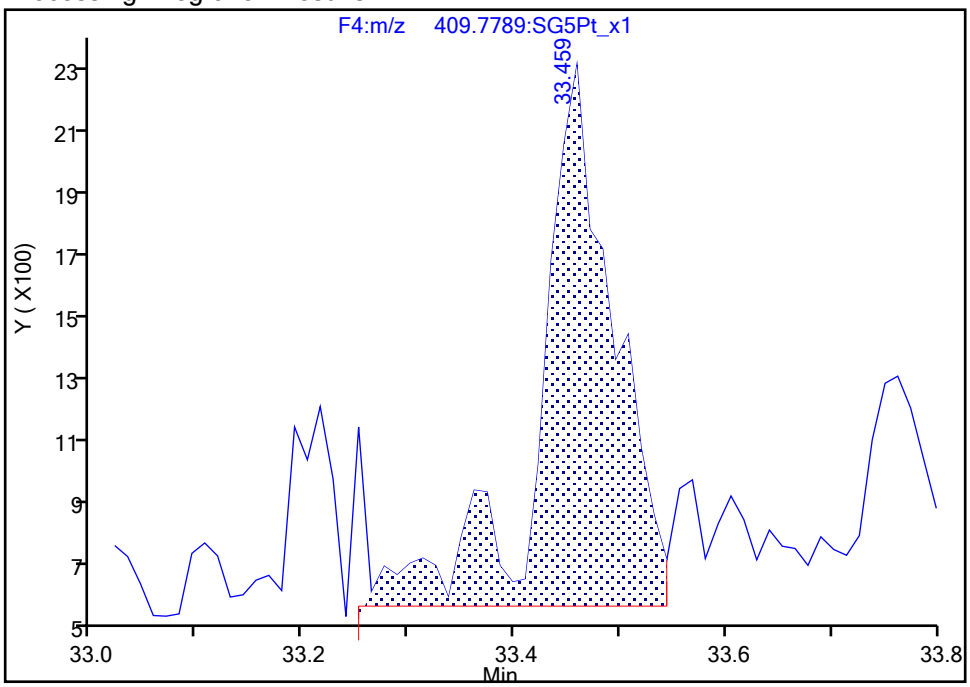

Manual Integration Results

RT: 33.46
Area: 6872
Amount: 0.047213
Amount Units: pg/ul

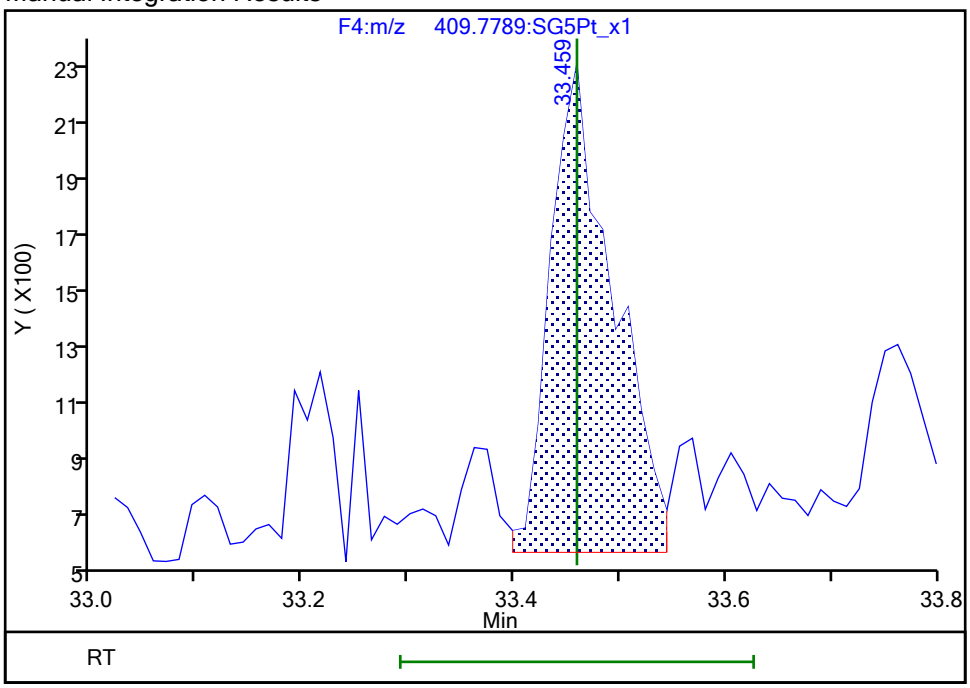

Reviewer: dadunj, 10-Feb-2020 09:20:18

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_9.d				
Injection Date:	06-Feb-2020 16:56:55	Instrument ID:	10D5		
Lims ID:	MB 320-354207/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 1

Processing Integration Results

RT: 33.47
Area: 6847
Amount: 0.056194
Amount Units: pg/ul

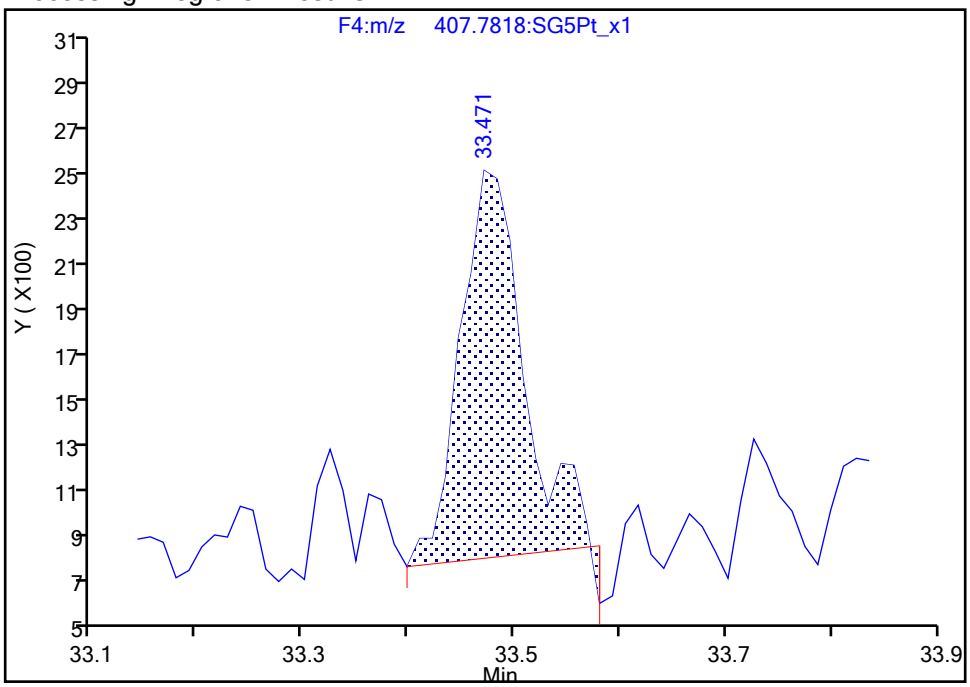

Manual Integration Results

RT: 33.47
Area: 5729
Amount: 0.047213
Amount Units: pg/ul

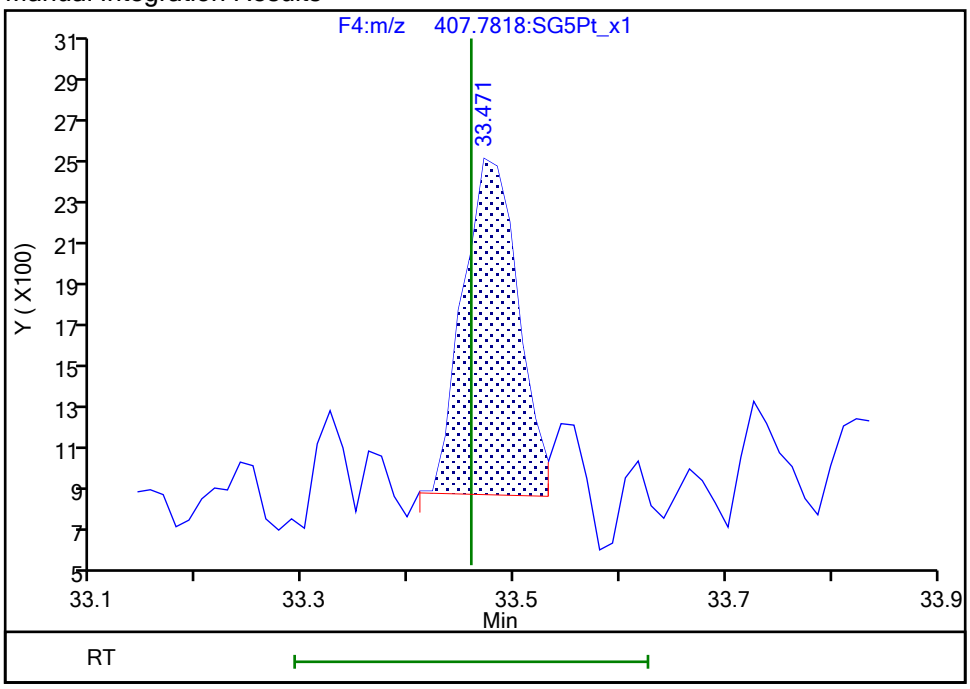

Reviewer: dadunj, 10-Feb-2020 09:20:32

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_9.d				
Injection Date:	06-Feb-2020 16:56:55	Instrument ID:	10D5		
Lims ID:	MB 320-354207/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

Non-2,3,7,8-sub-HpCDD, Signal: 1, m/z: 423.7766, RT: (33.66- 34.27)

Signal: 1

Processing Integration Results

RT = 33.702 Area = 6792

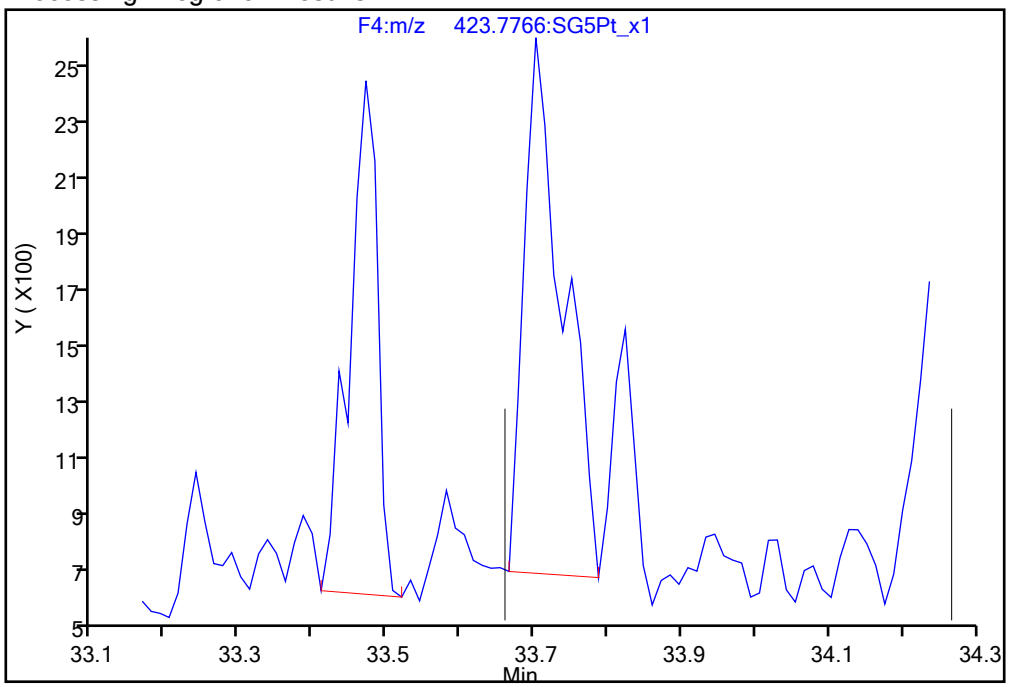

Manual Integration Results

RT = 33.702 Area = 4914 M

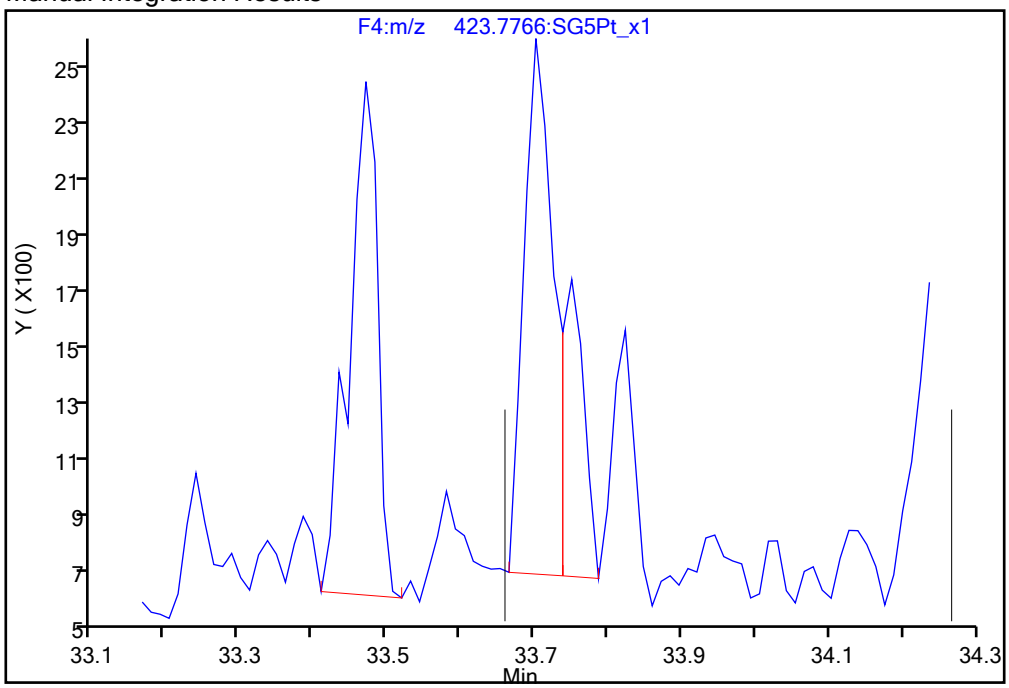

Reviewer: dadunj, 10-Feb-2020 09:20:47

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_9.d				
Injection Date:	06-Feb-2020 16:56:55	Instrument ID:	10D5		
Lims ID:	MB 320-354207/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

Non-2,3,7,8-sub-HpCDD, Signal: 2, m/z: 425.7737, RT: (33.66- 34.27)

Signal: 2

Processing Integration Results

RT = 33.726 Area = 8611

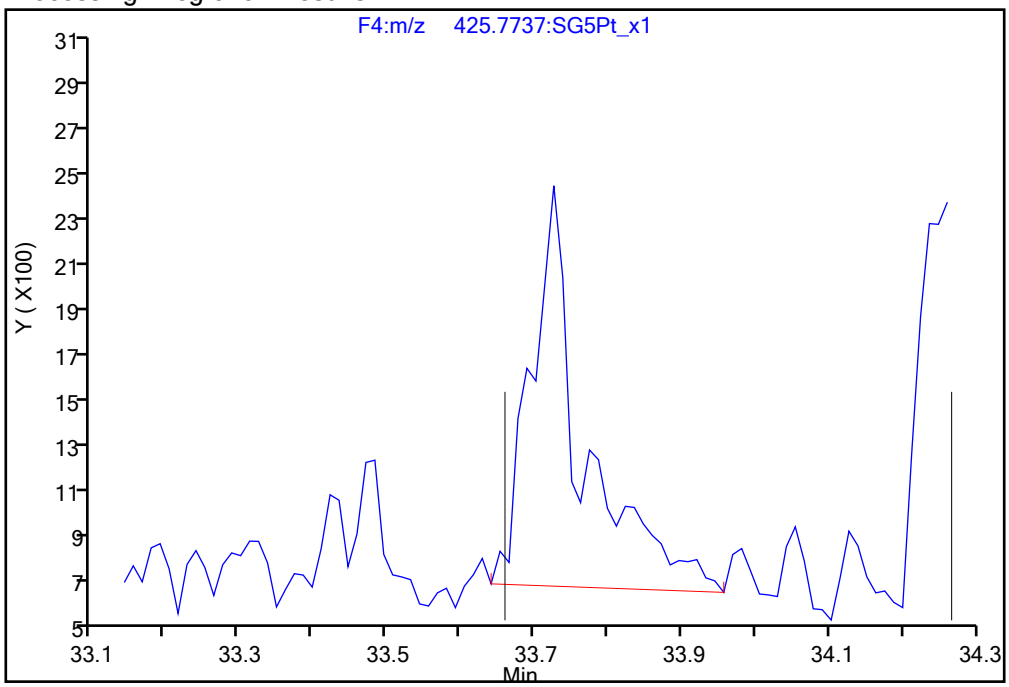

Manual Integration Results

RT = 33.726 Area = 5695 M

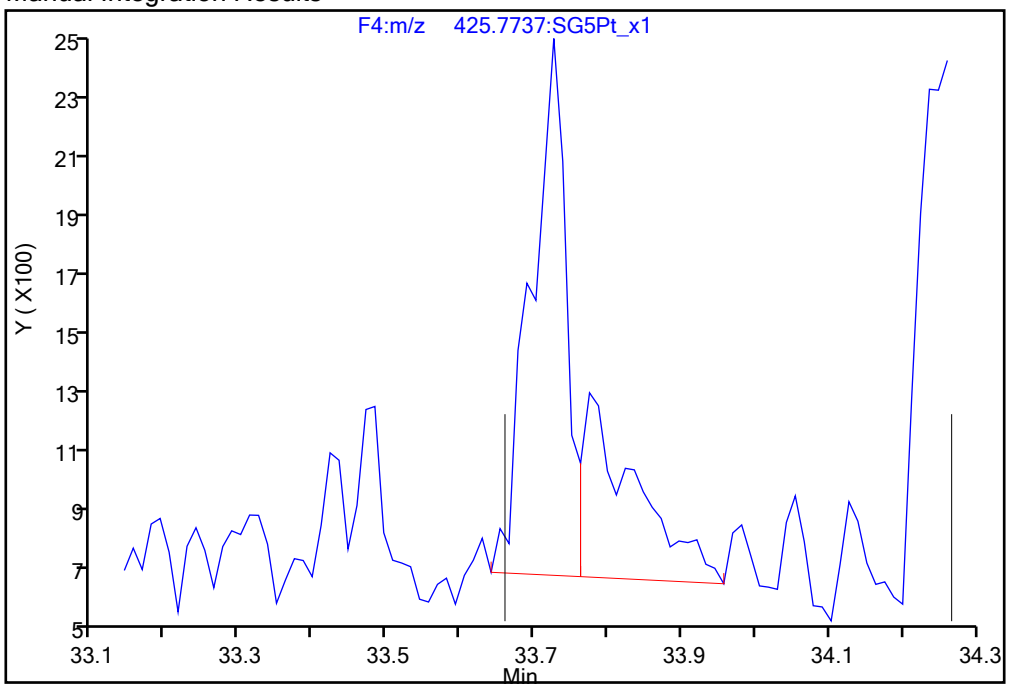

Reviewer: dadunj, 10-Feb-2020 09:20:43

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 10-Feb-2020 09:21:48 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_9.d		
Injection Date:	06-Feb-2020 16:56:55	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355551	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

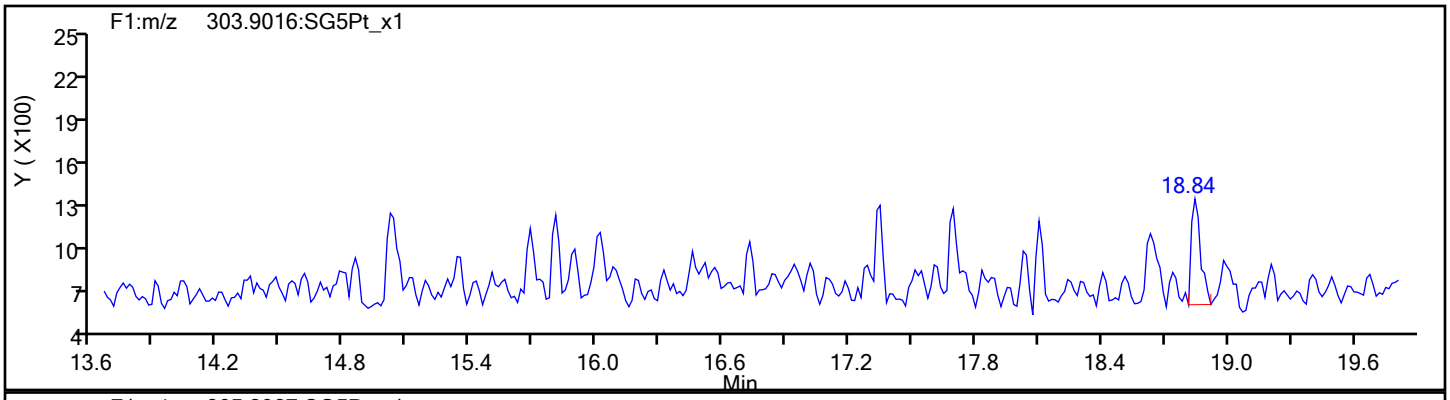

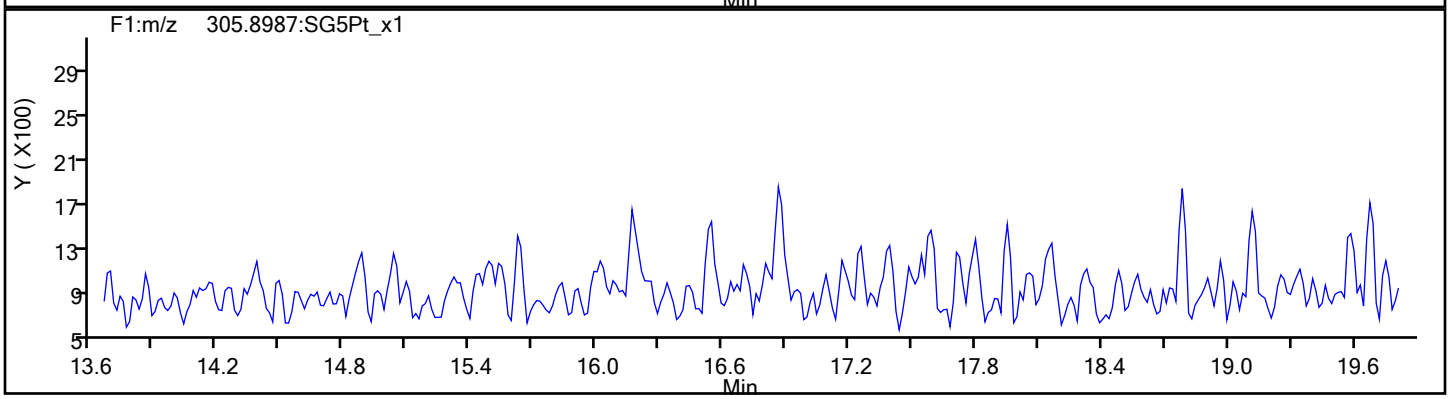

TCDF Standards

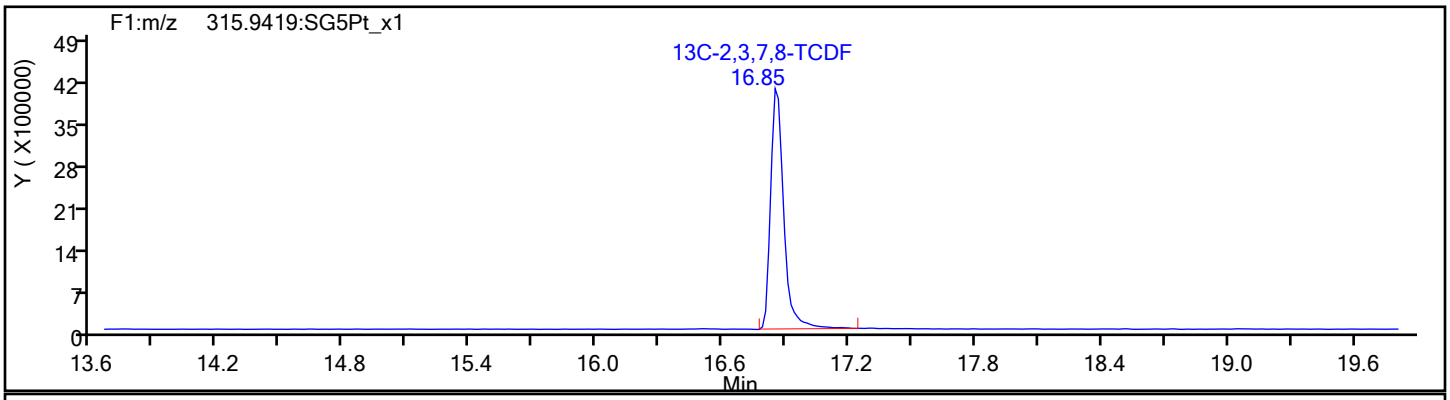

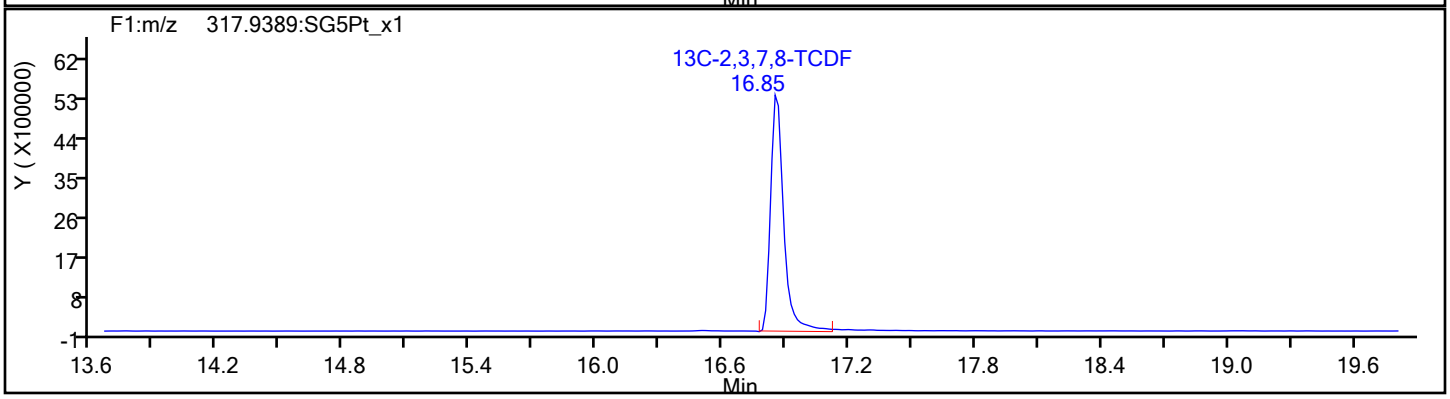

Report Date: 10-Feb-2020 09:21:48 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_9.d		
Injection Date:	06-Feb-2020 16:56:55	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355551	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

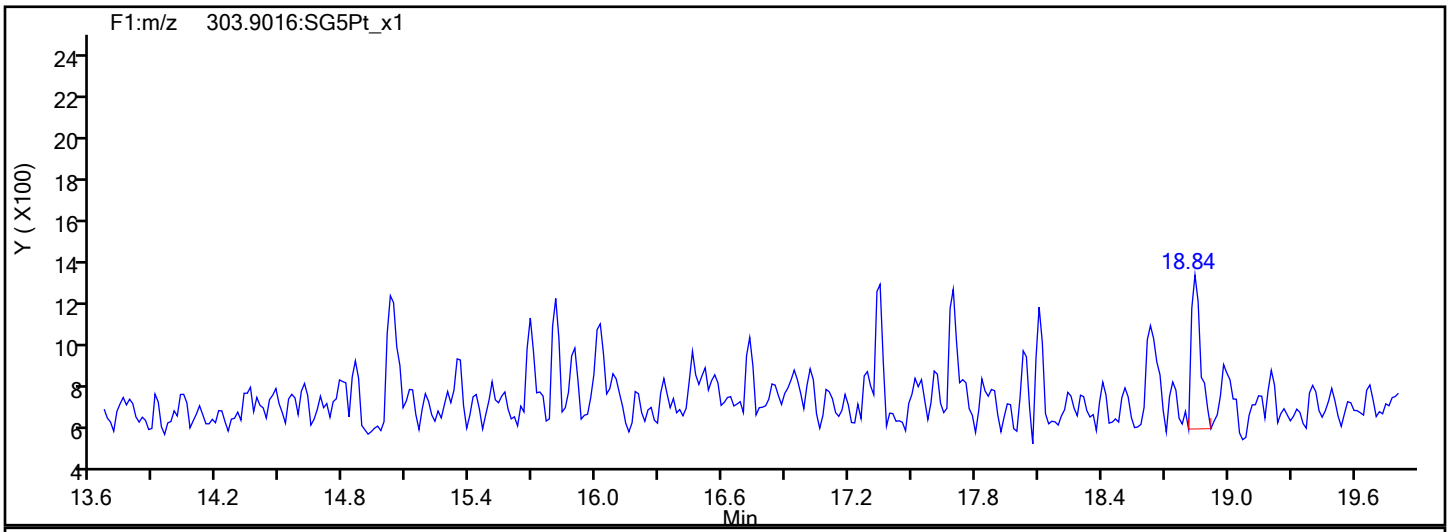

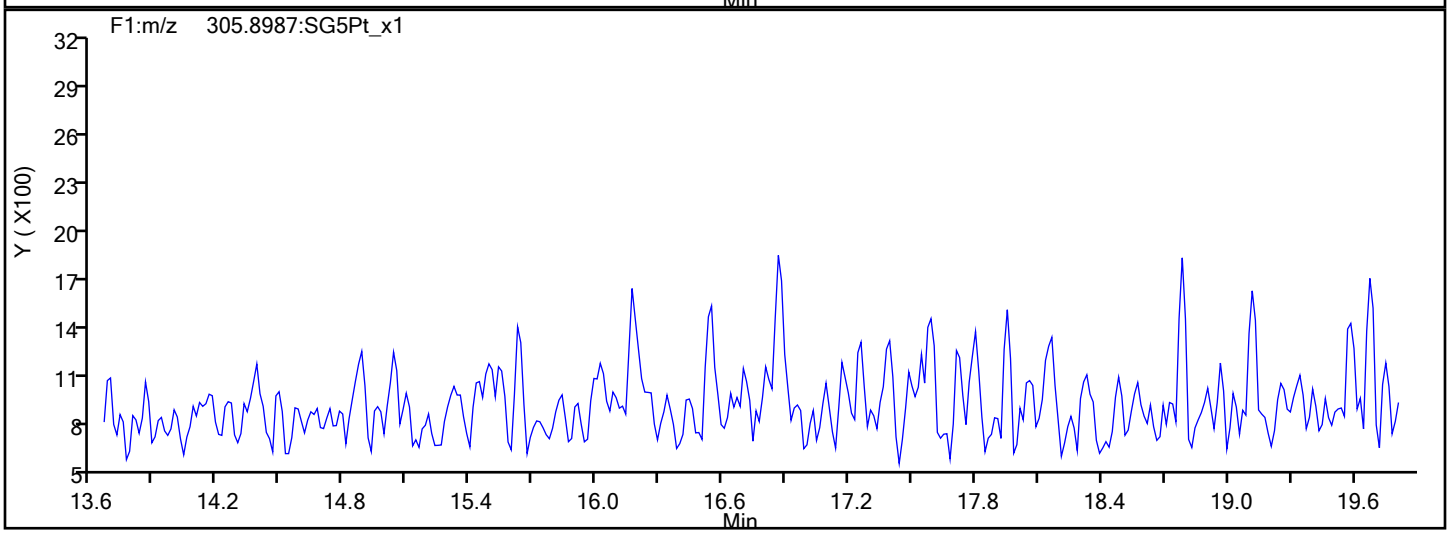

TCDF Interference Mass

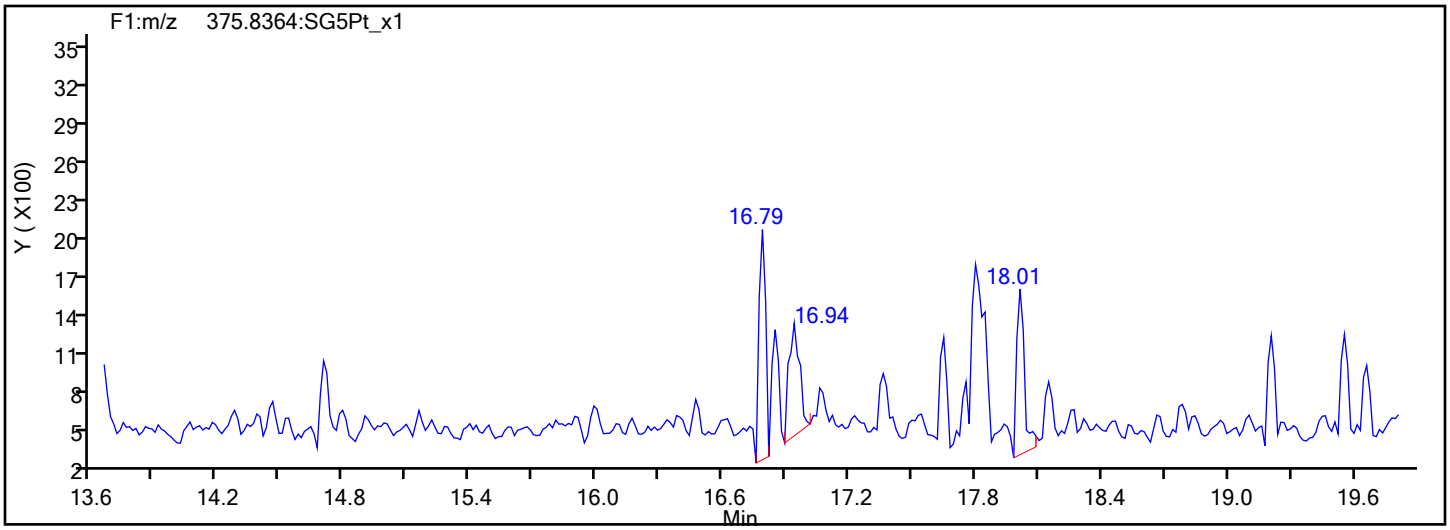

Report Date: 10-Feb-2020 09:21:48 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_9.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

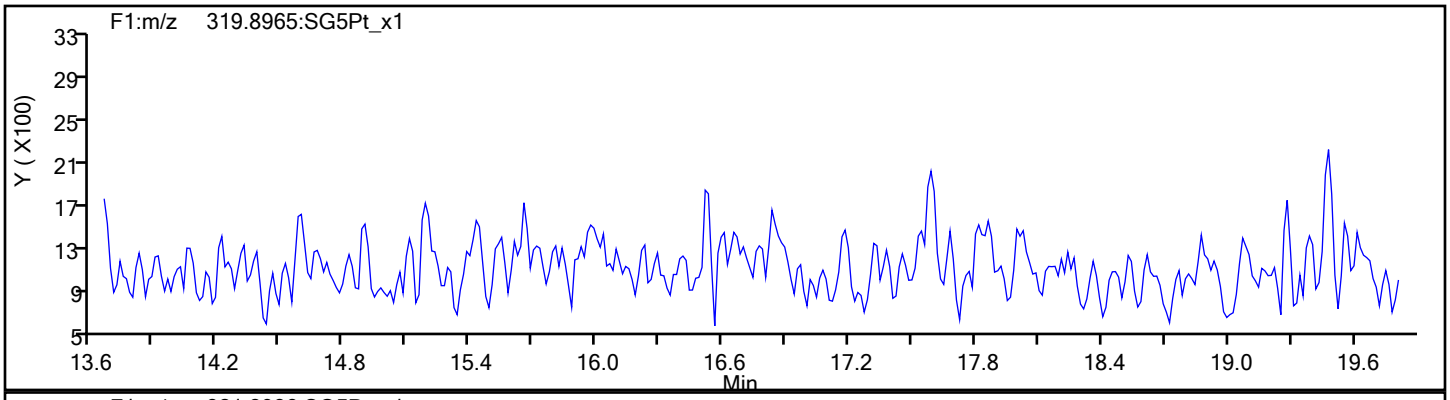

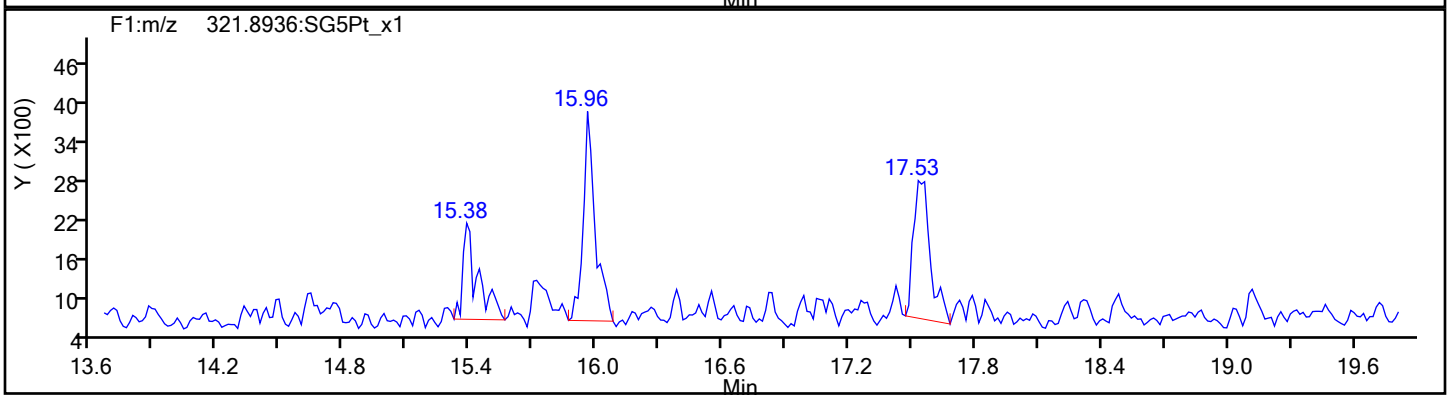

TCDD Standards

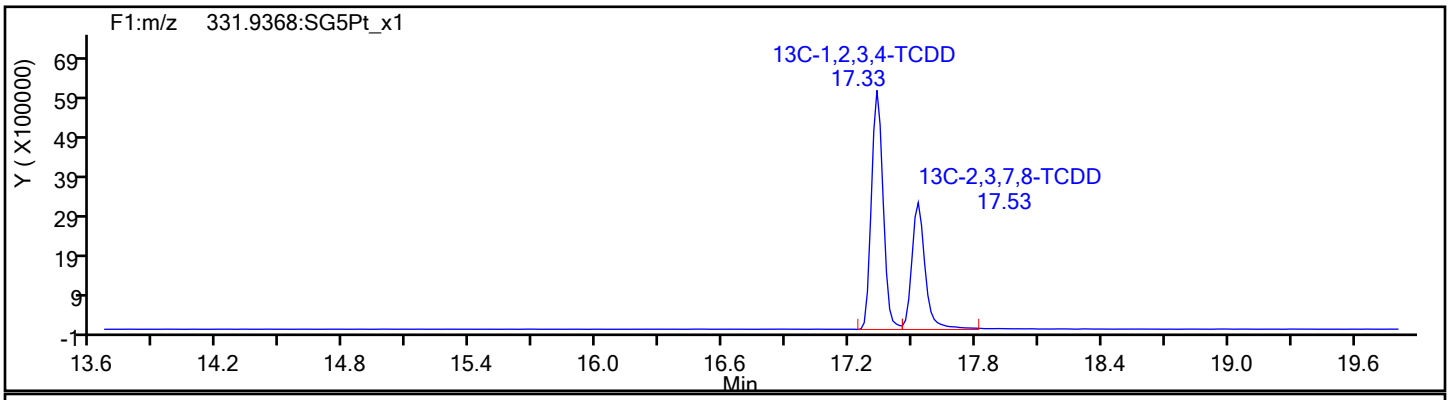

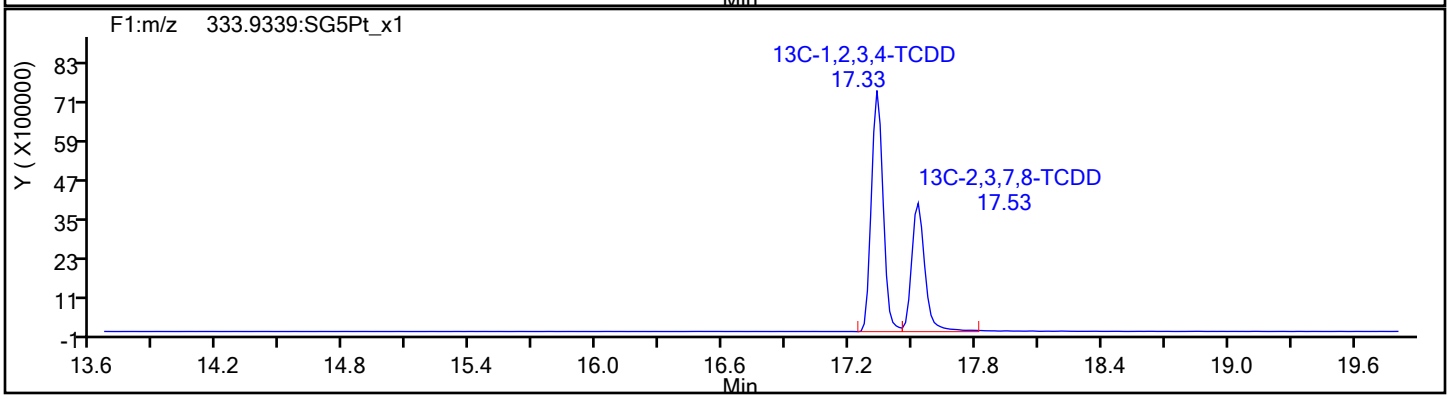

Report Date: 10-Feb-2020 09:21:48 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

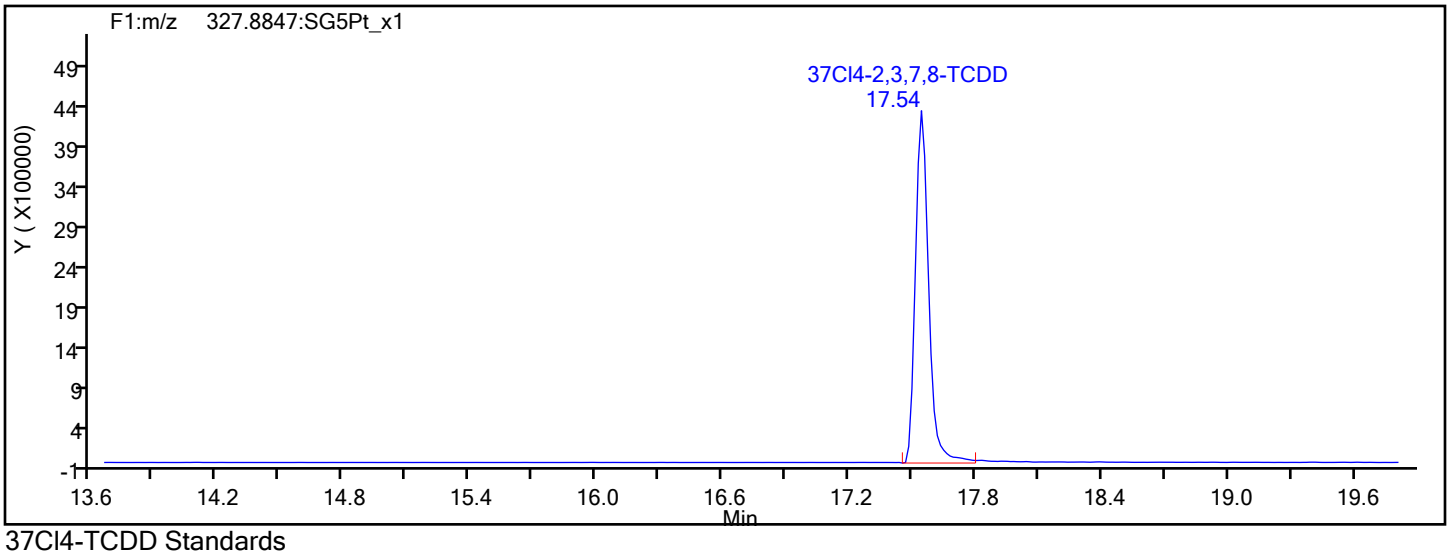

37Cl4-TCDD Standards

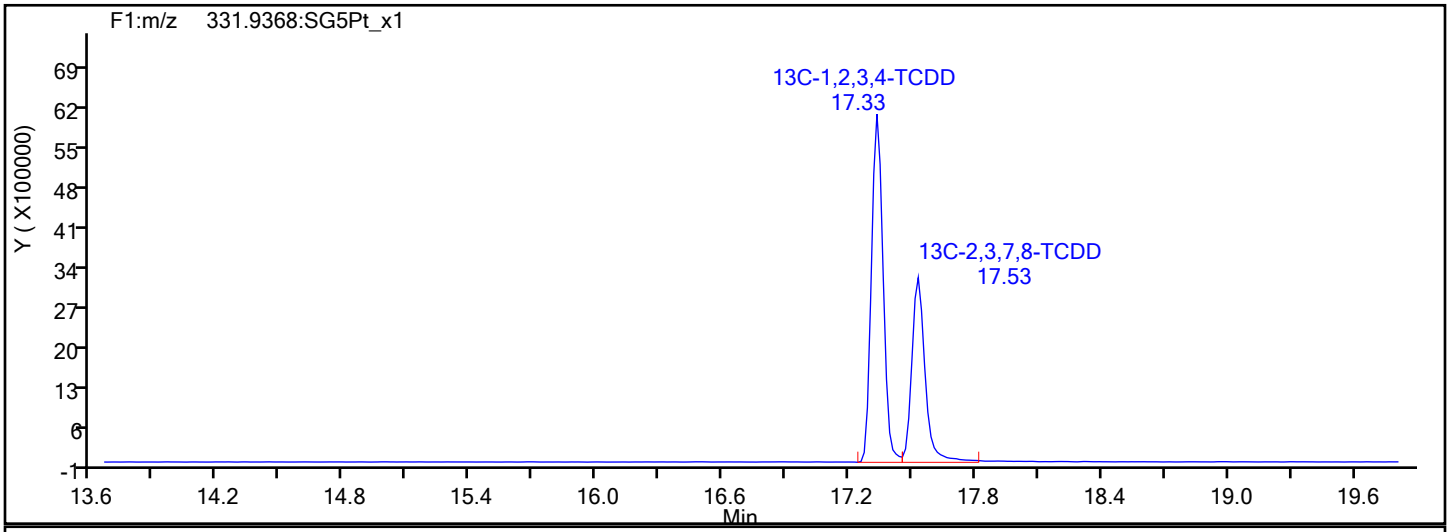

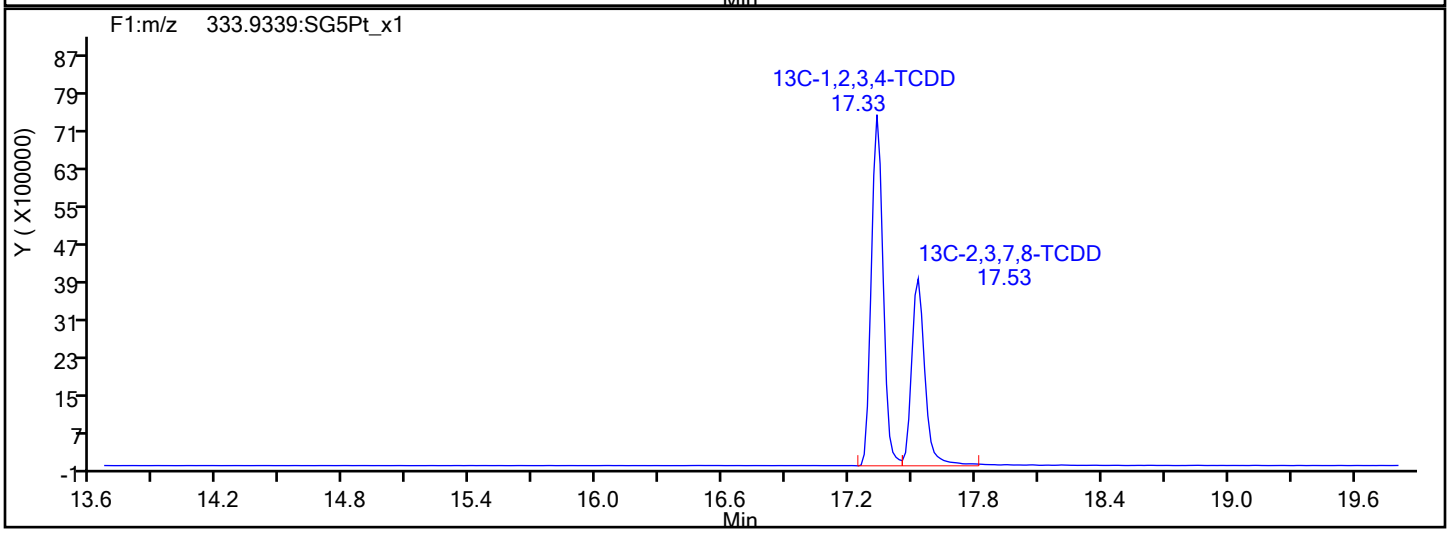

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

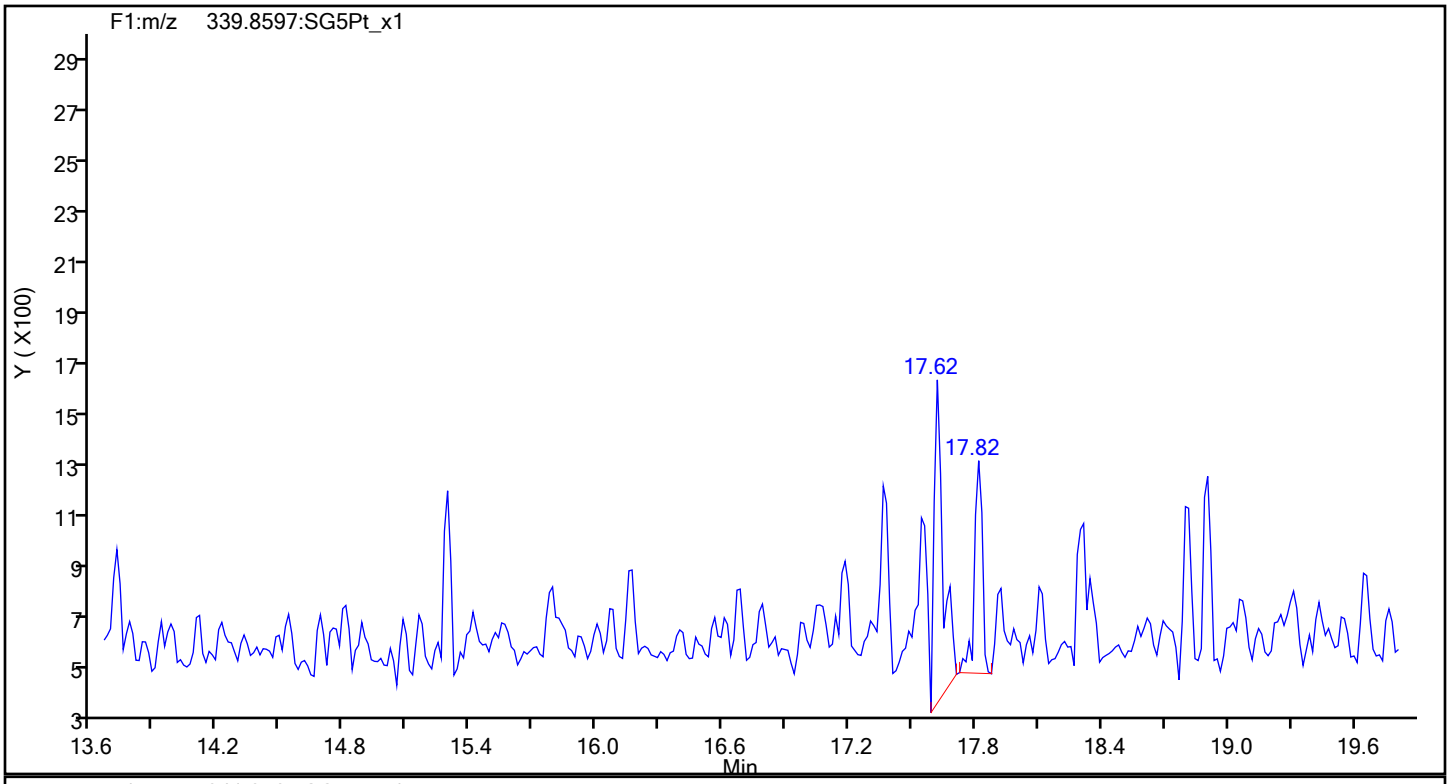

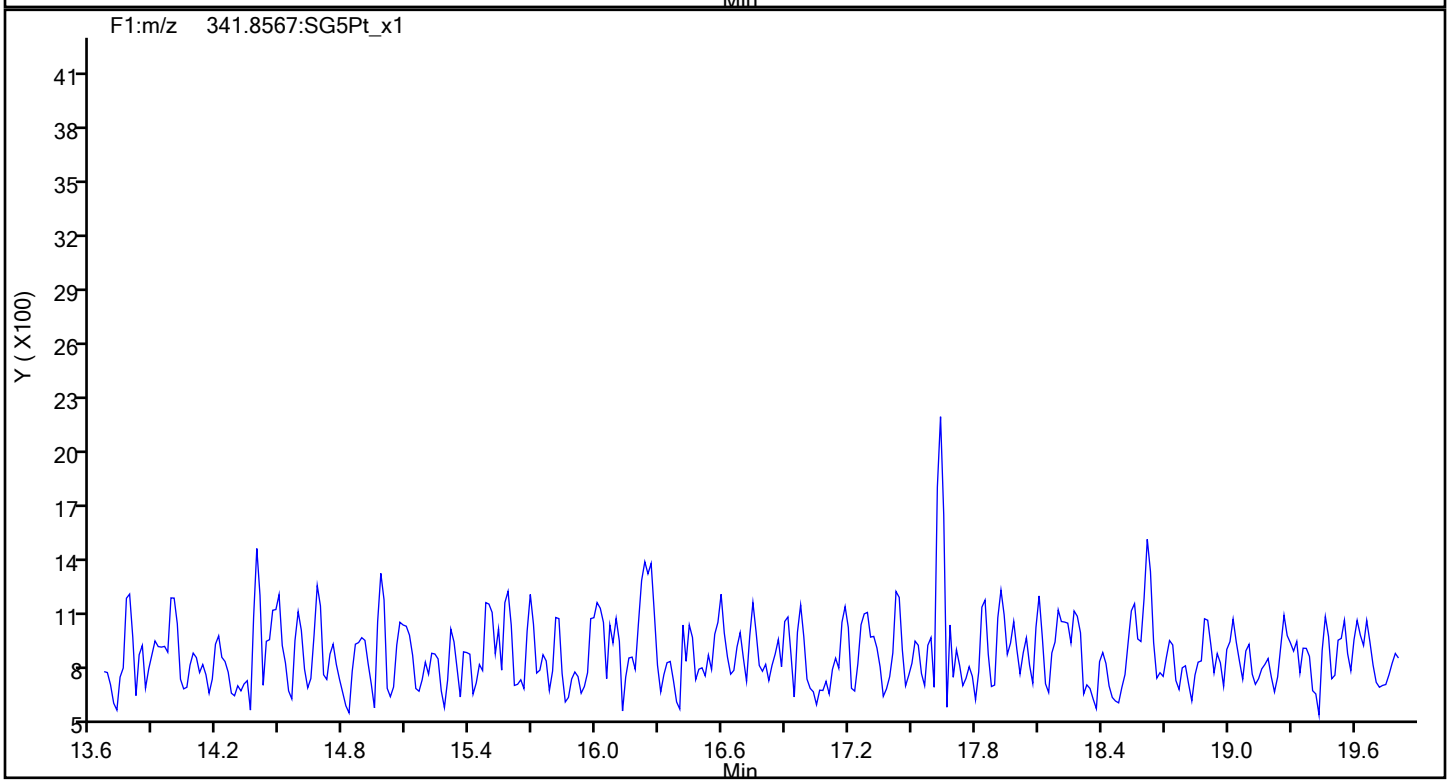

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

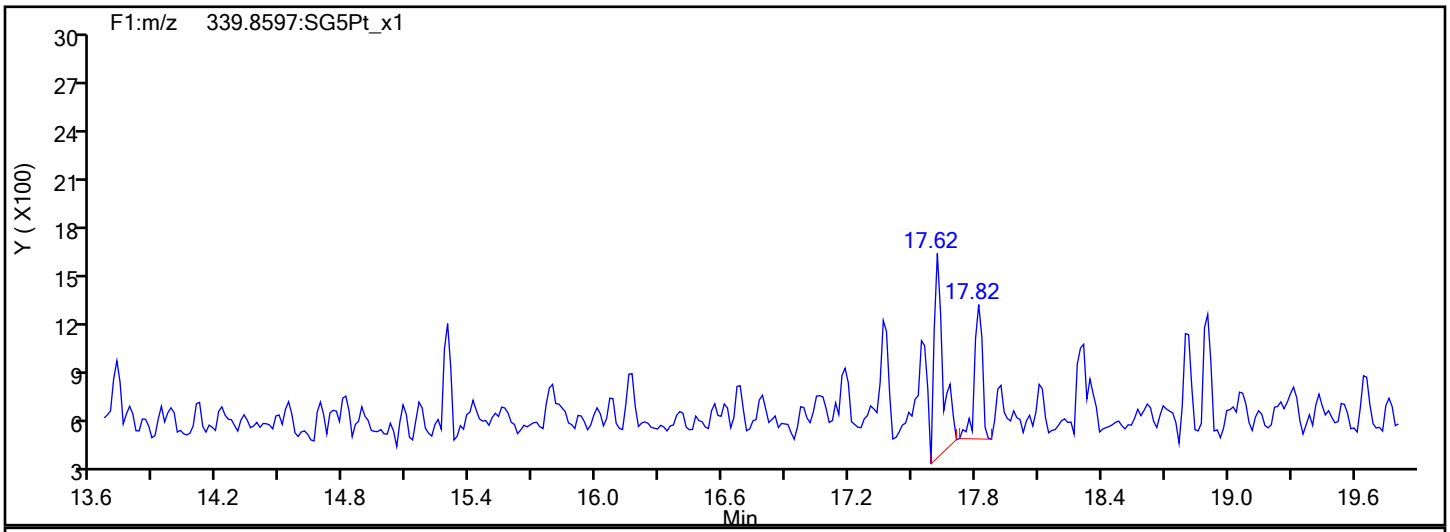

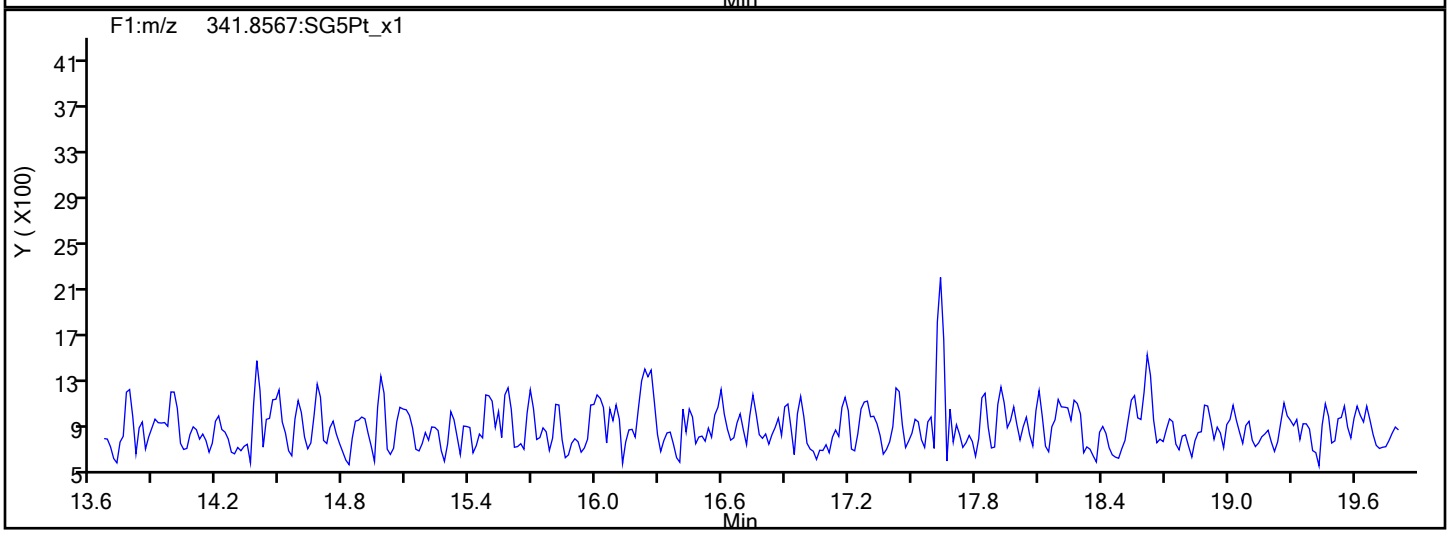

F1 PeCDFs Interference Mass

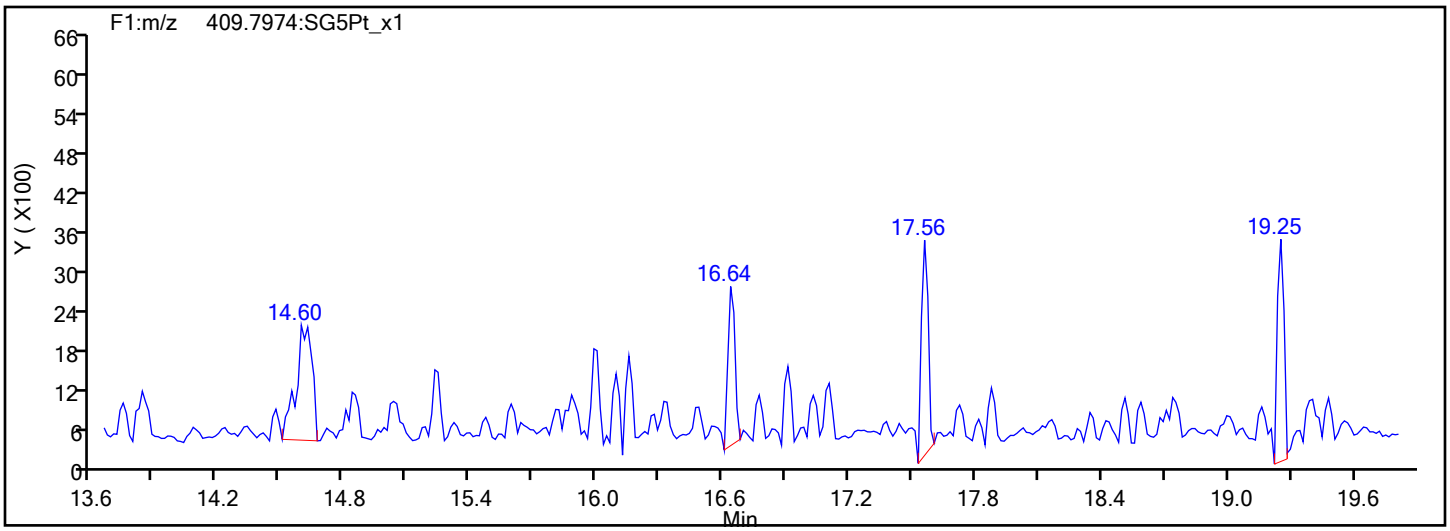

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Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_9.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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PeCDF

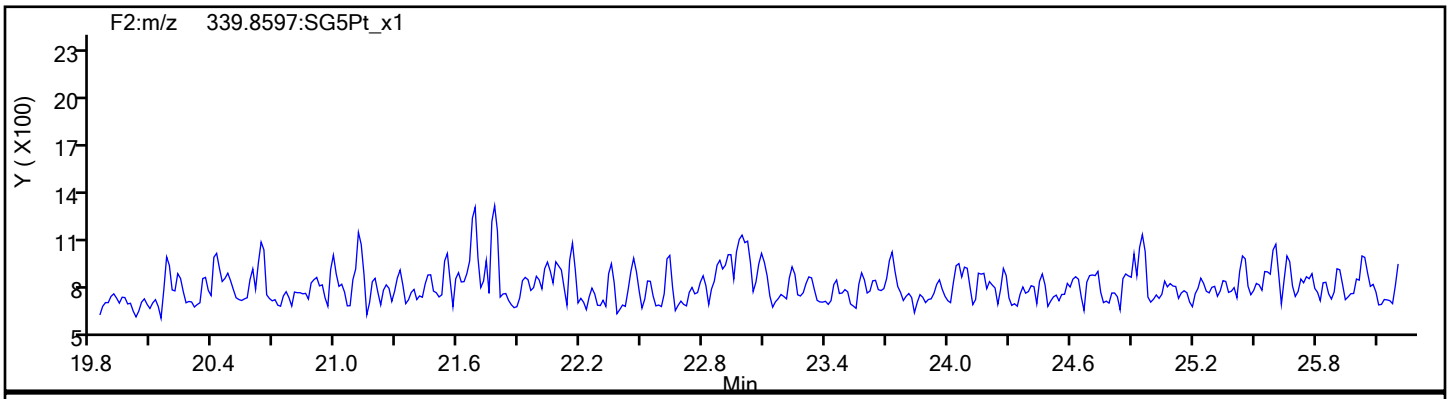

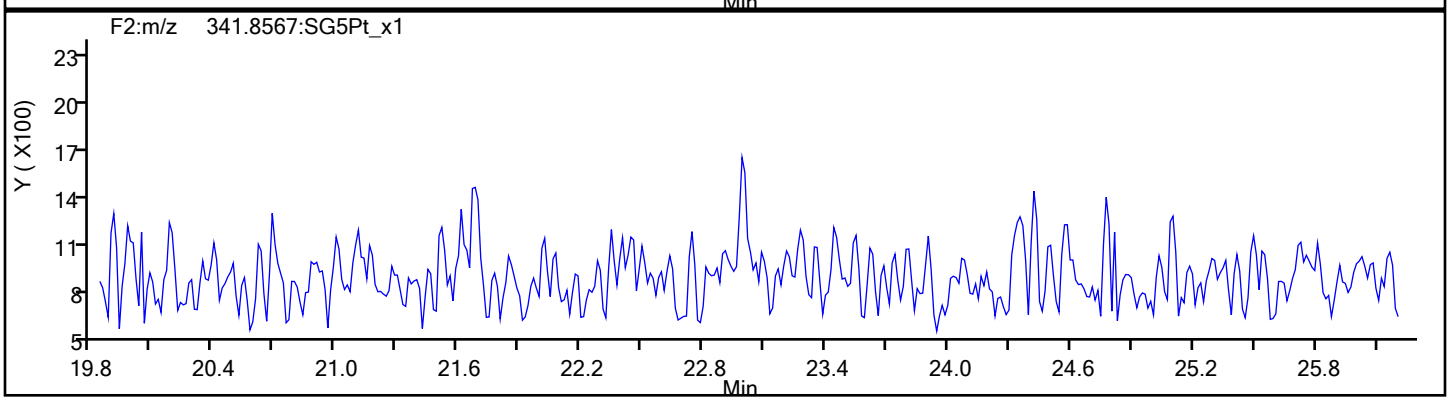

PeCDF Standards

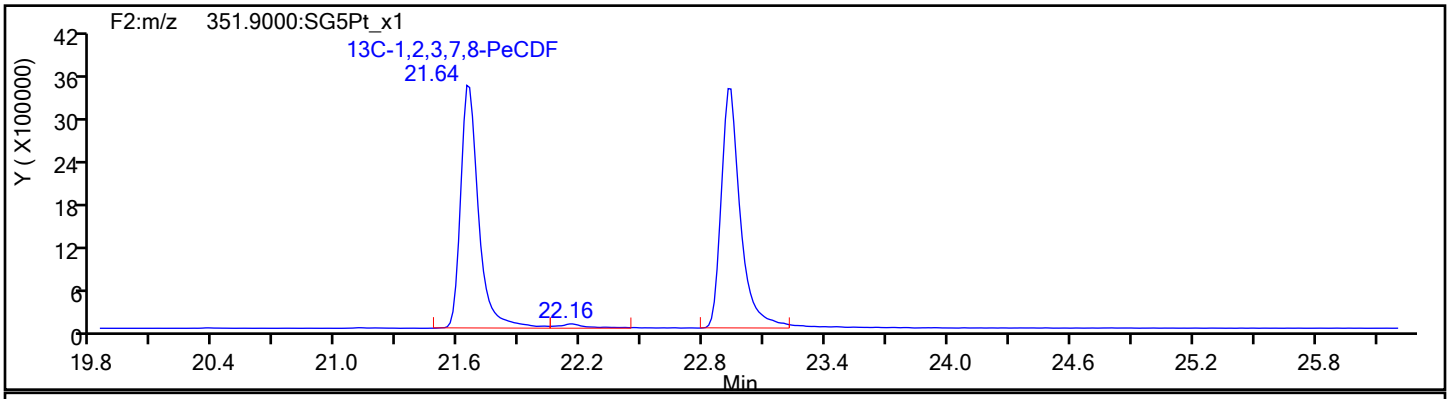

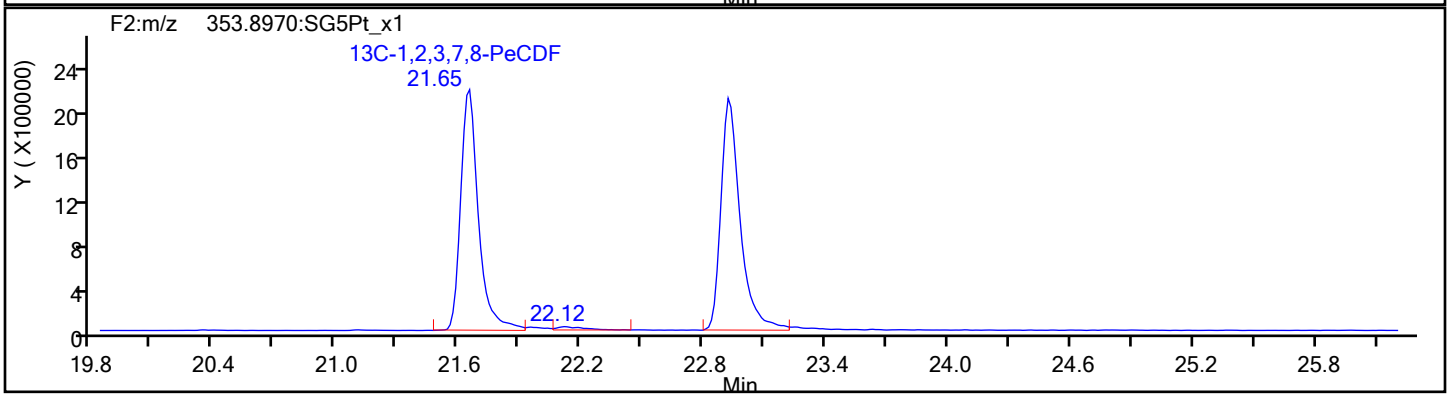

Report Date: 10-Feb-2020 09:21:48 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_9.d		
Injection Date:	06-Feb-2020 16:56:55	Injection Vol:	2.0 ul
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PeCDF

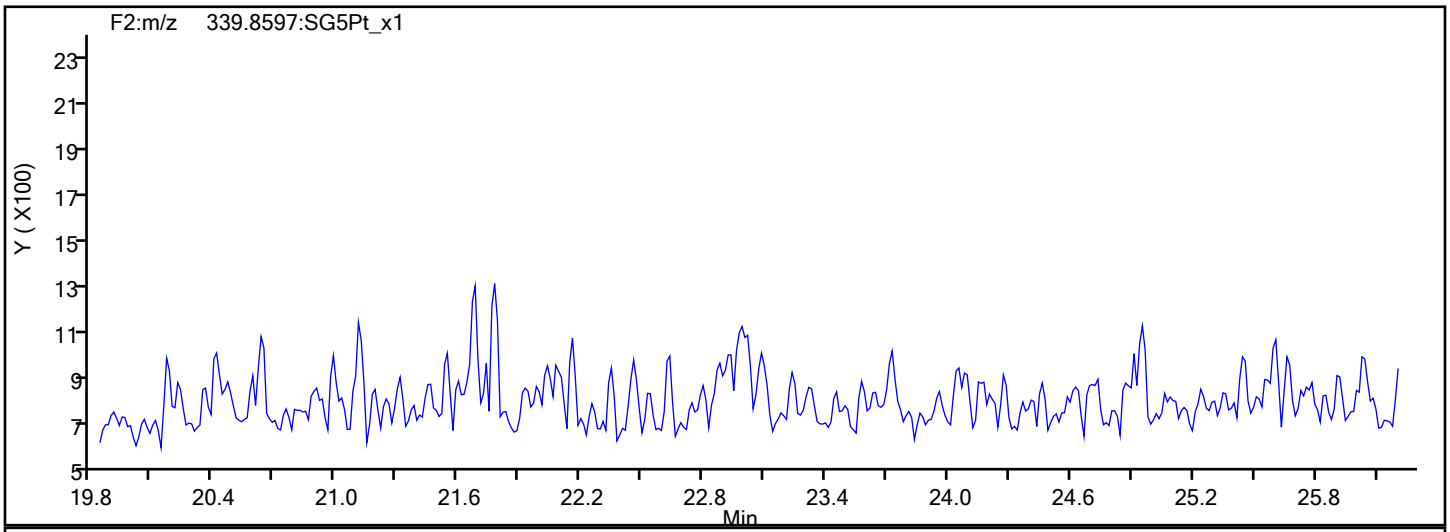

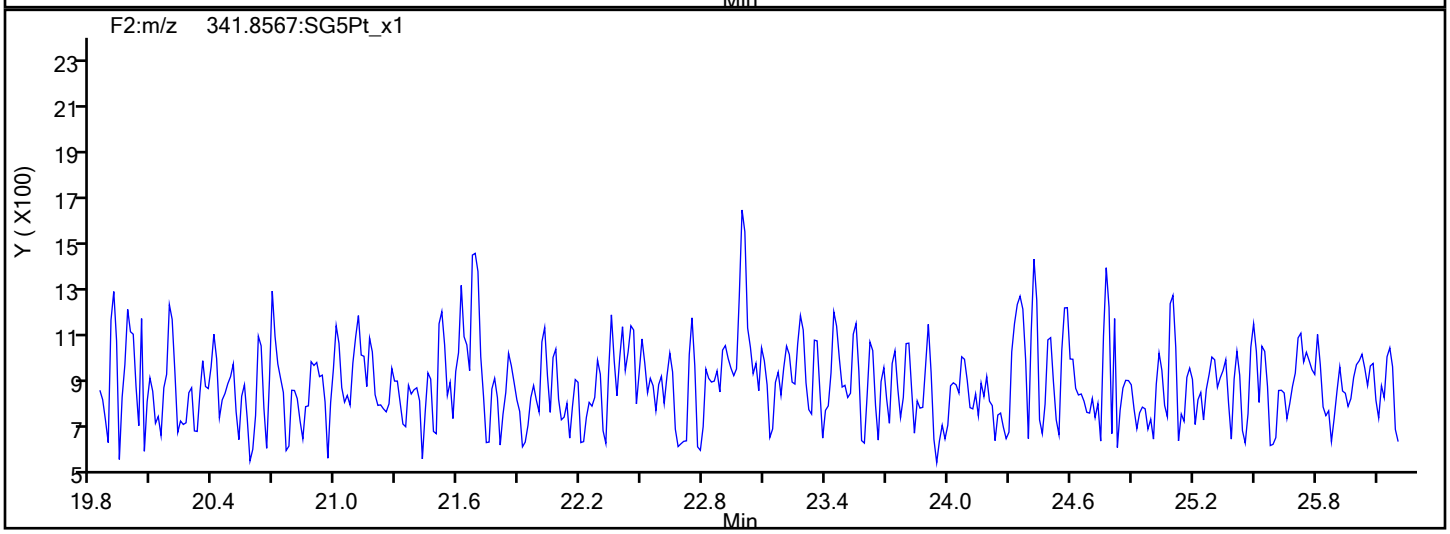

PeCDF Interference Mass

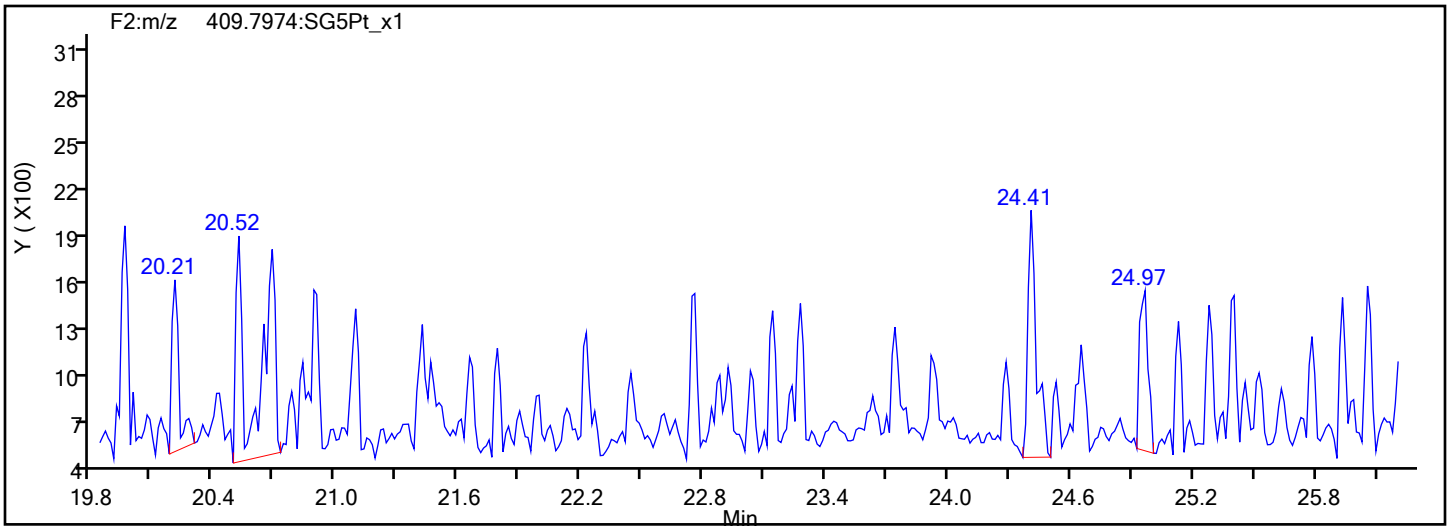

Report Date: 10-Feb-2020 09:21:48 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_9.d		
Injection Date:	06-Feb-2020 16:56:55	Injection Vol:	2.0 ul
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

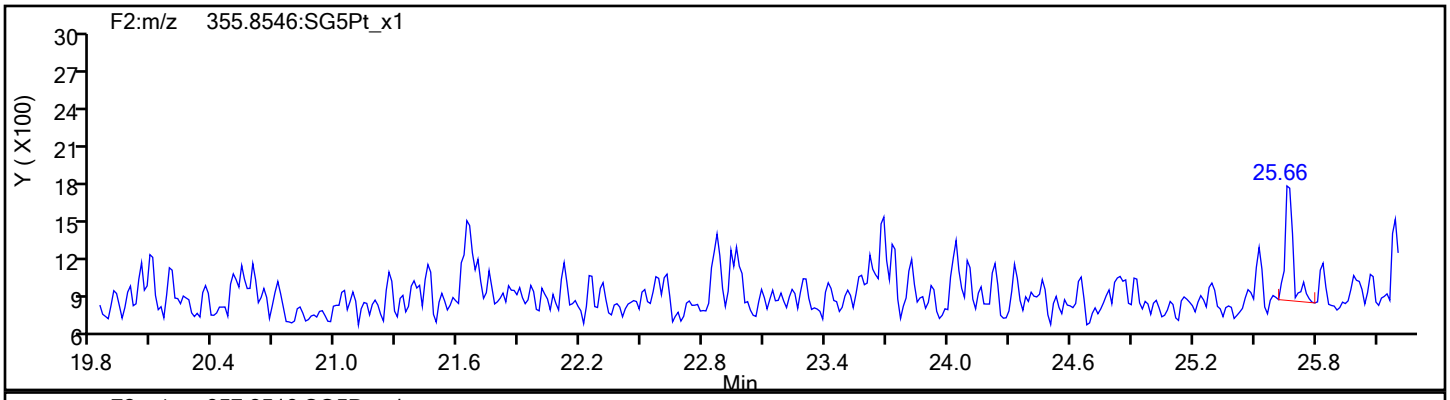

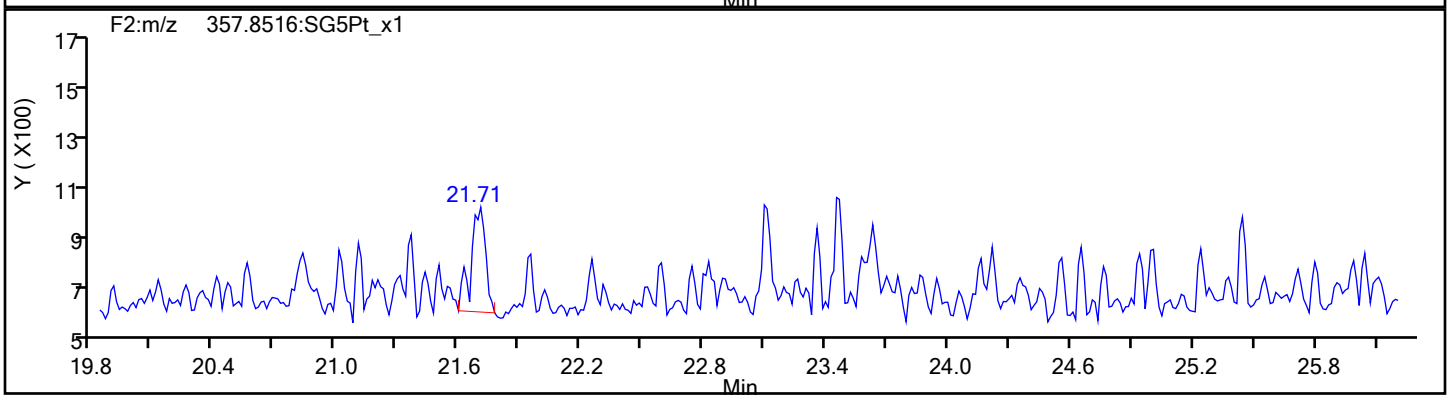

PeCDD Standards

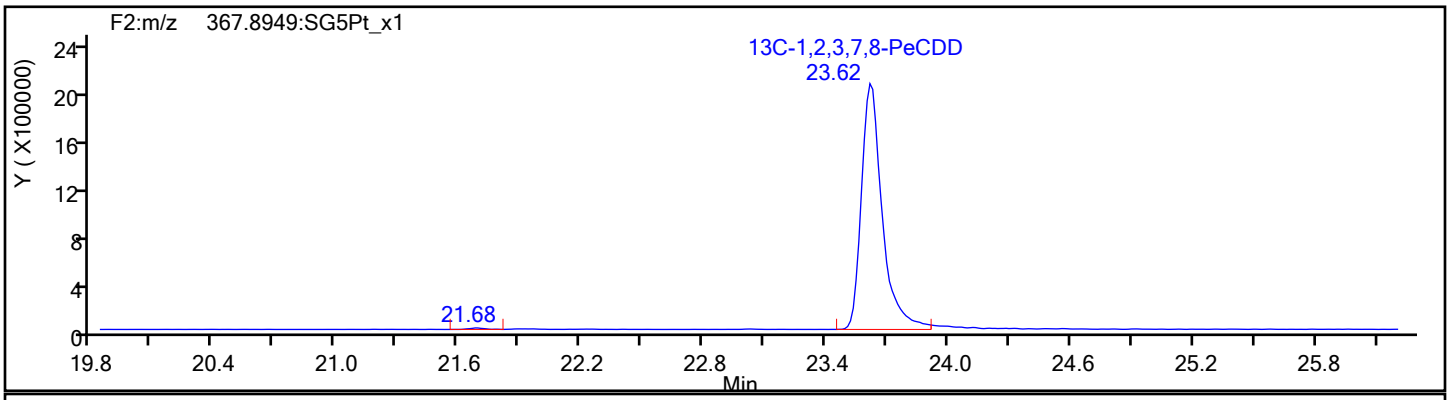

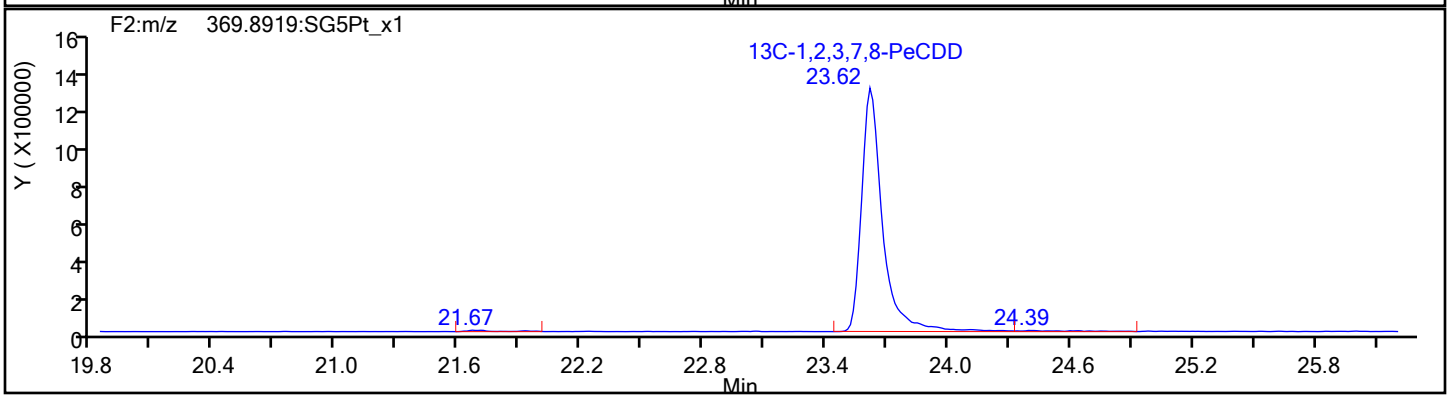

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Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_9.d		
Injection Date:	06-Feb-2020 16:56:55	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

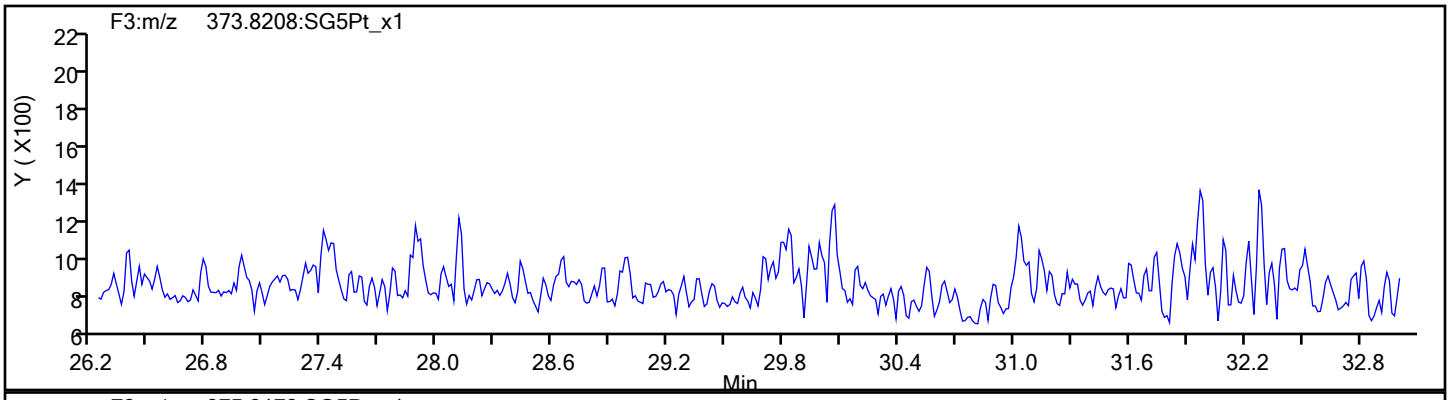

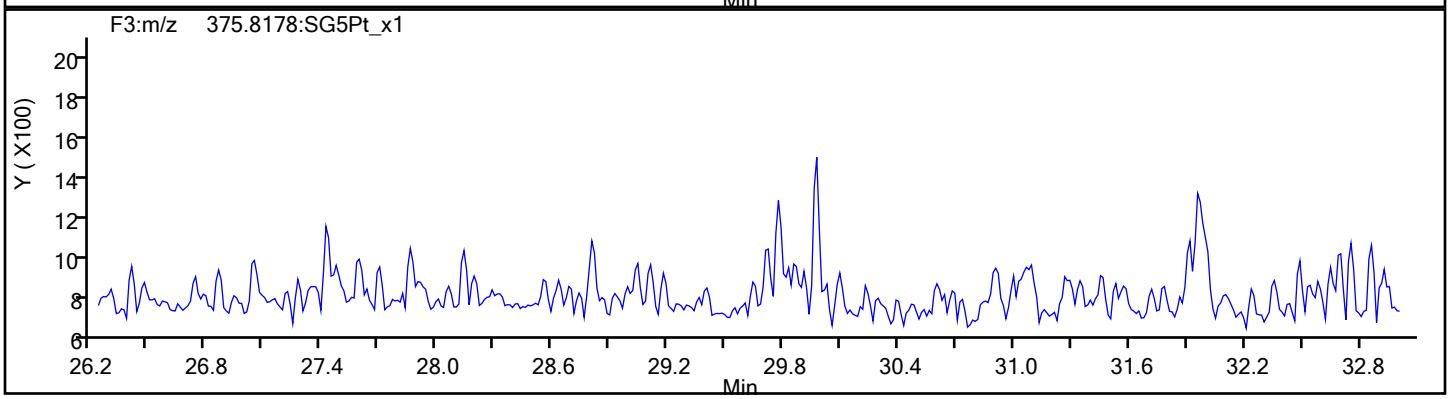

HxCDF Standards

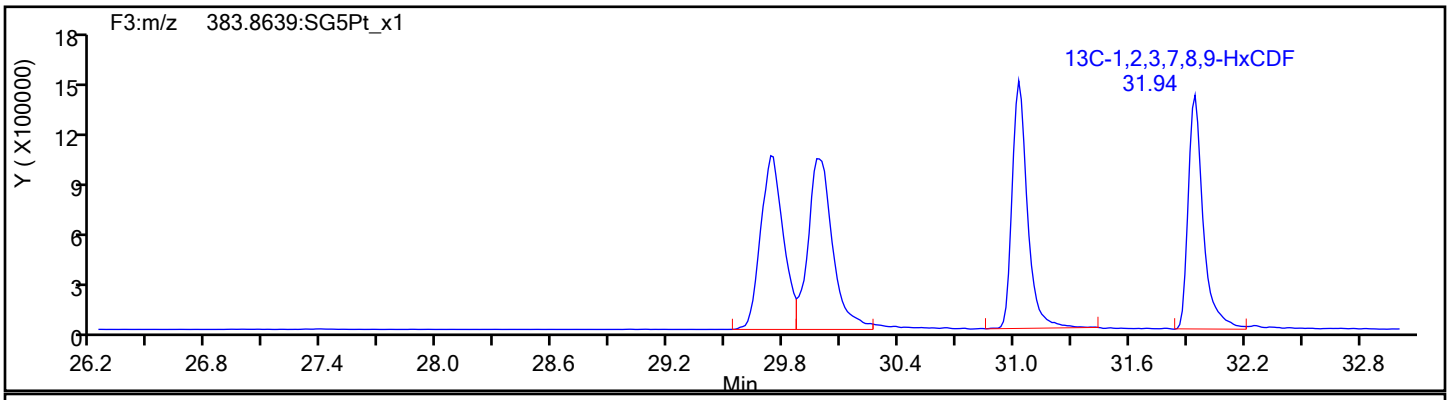

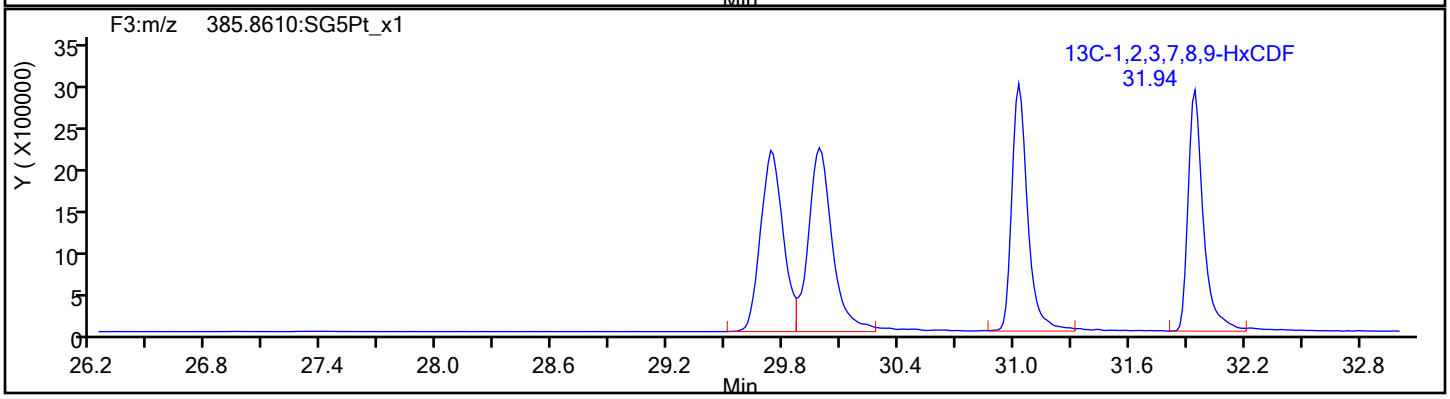

Report Date: 10-Feb-2020 09:21:49 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

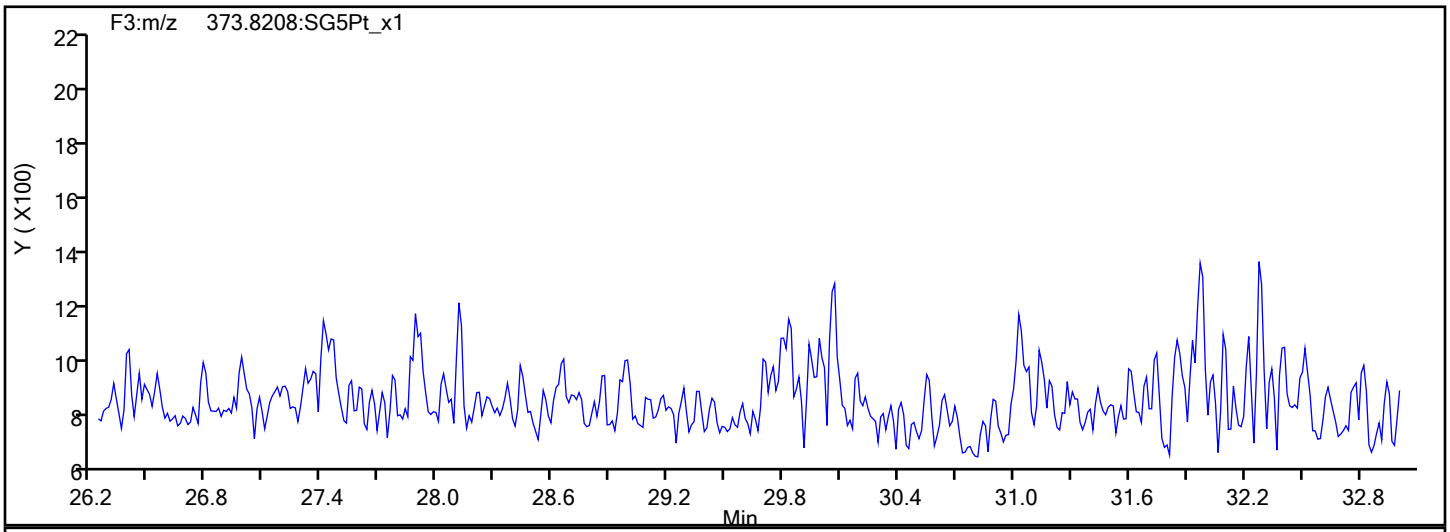

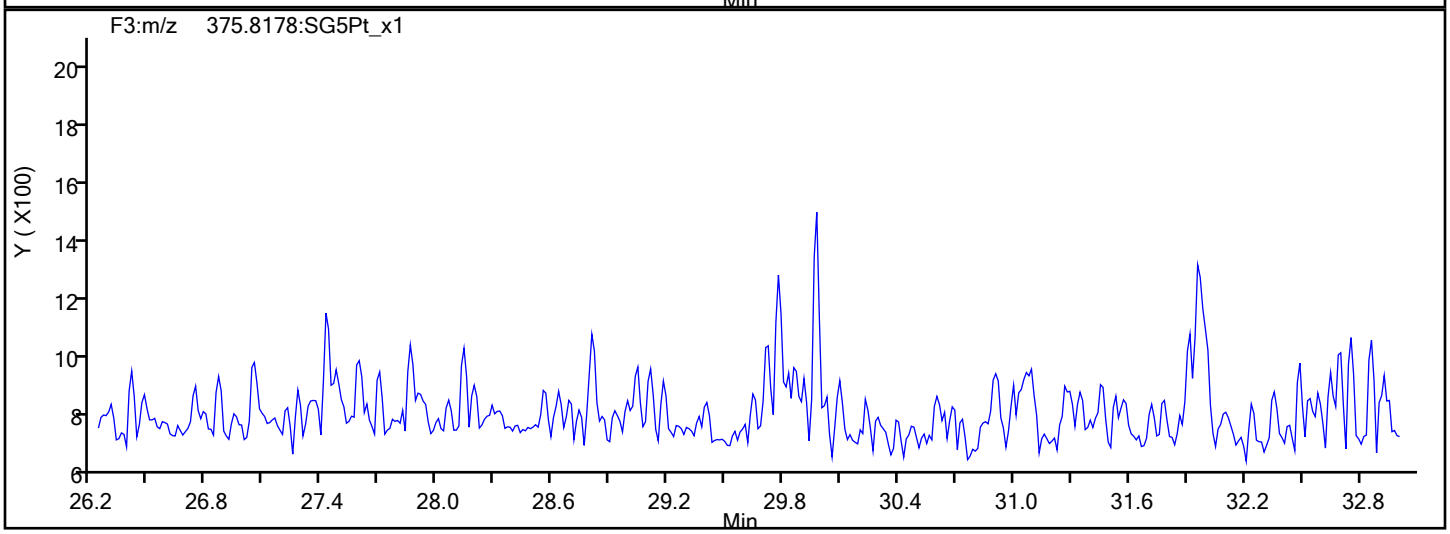

HxCDF Interference Mass

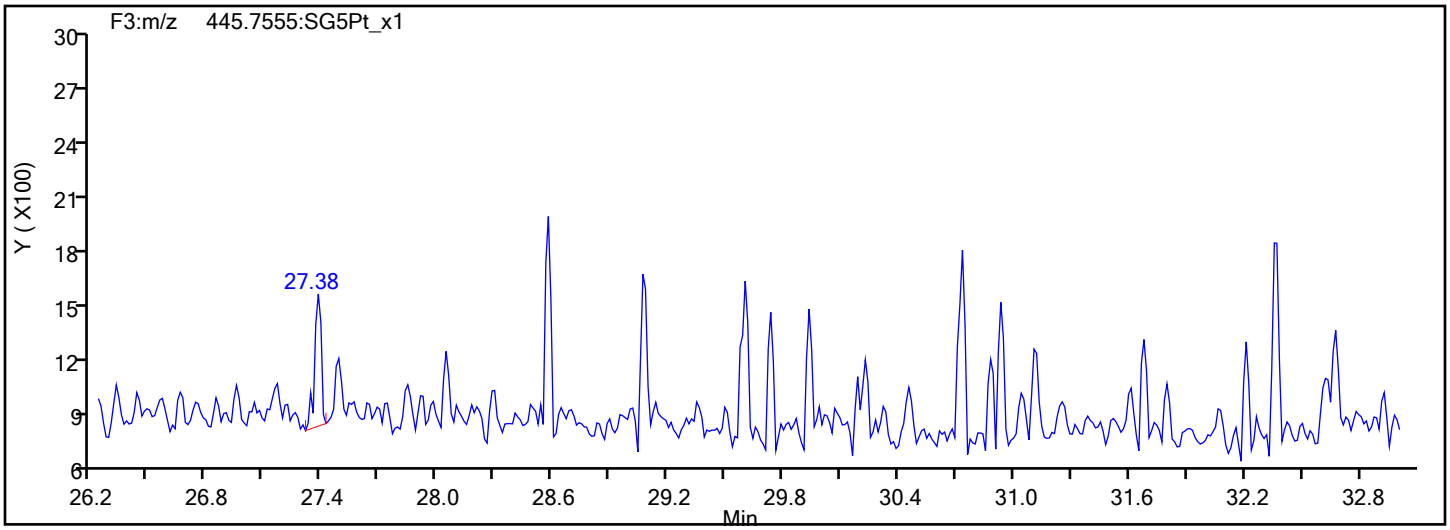

Report Date: 10-Feb-2020 09:21:49 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_9.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355551	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDD

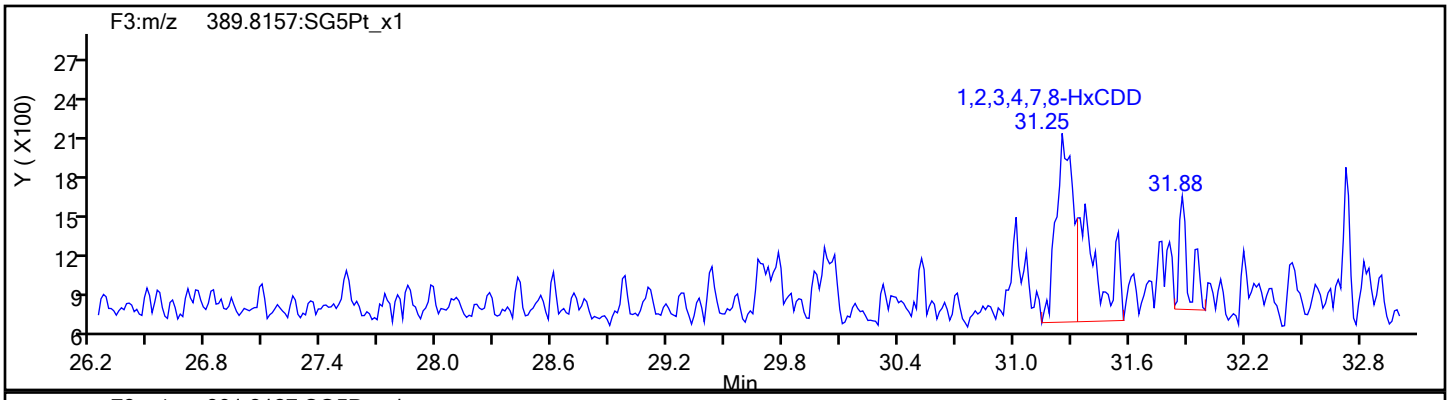

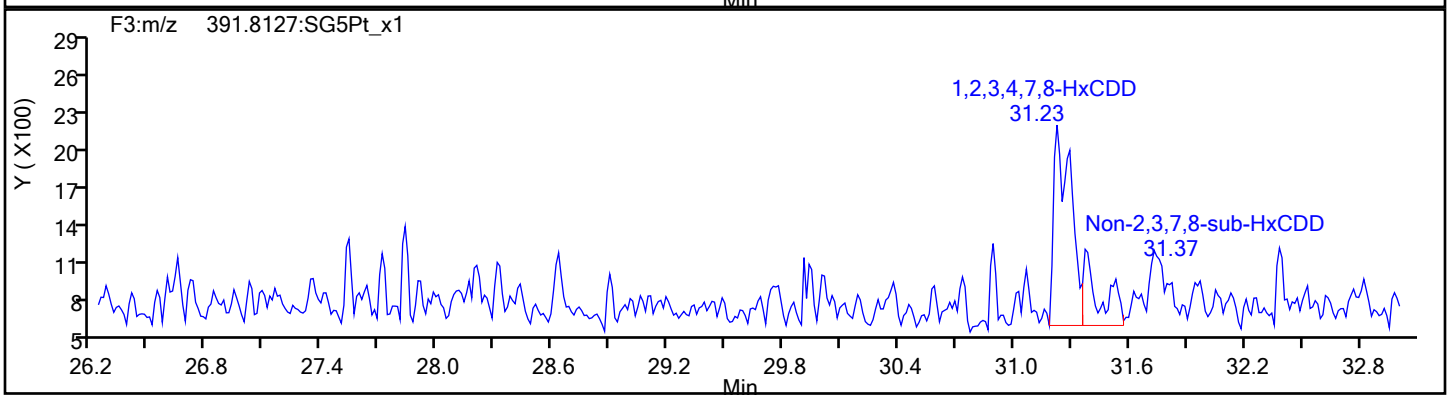

HxCDD Standards

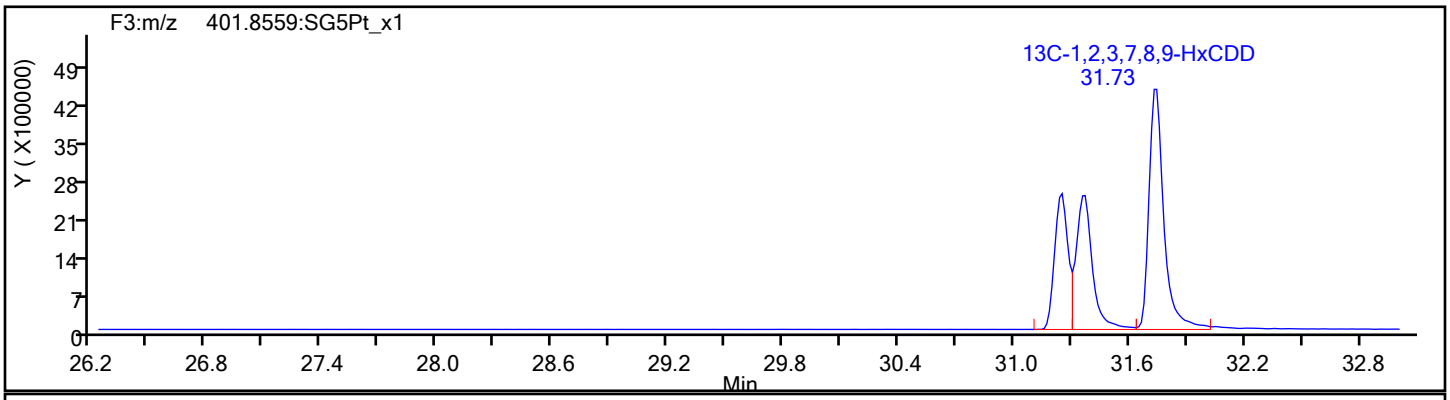

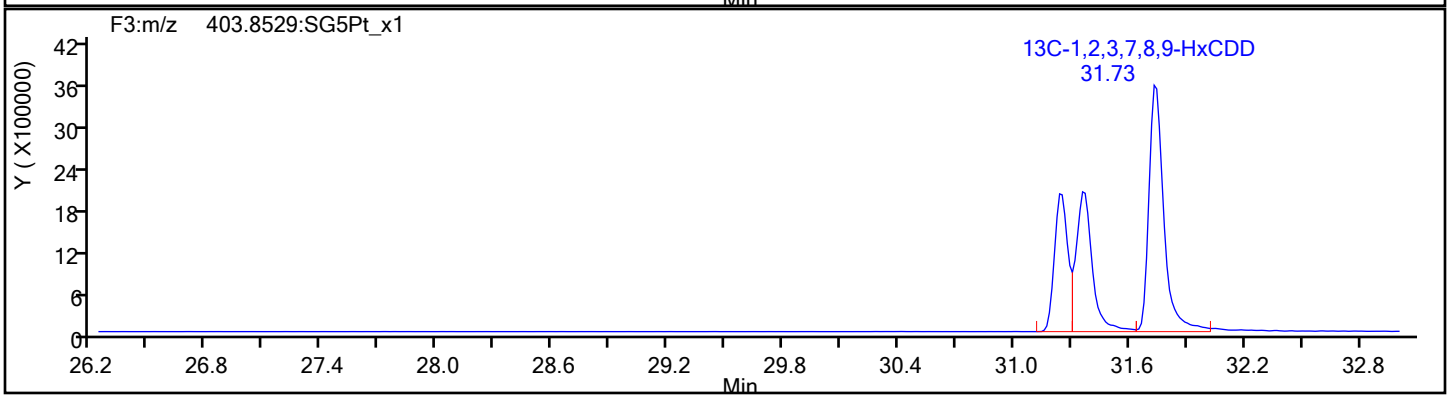

Report Date: 10-Feb-2020 09:21:49 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_9.d		
Injection Date:	06-Feb-2020 16:56:55	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355551	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

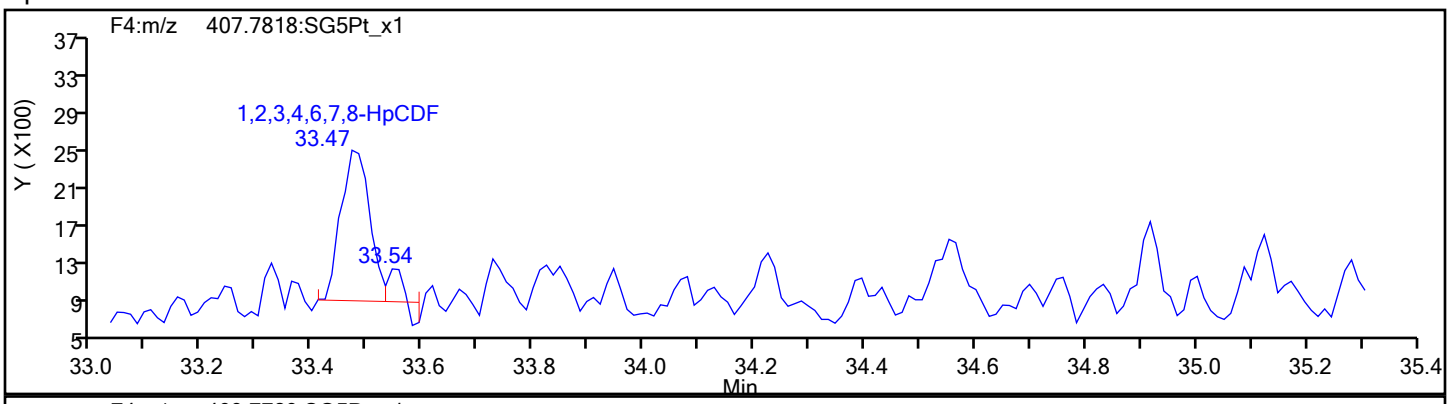

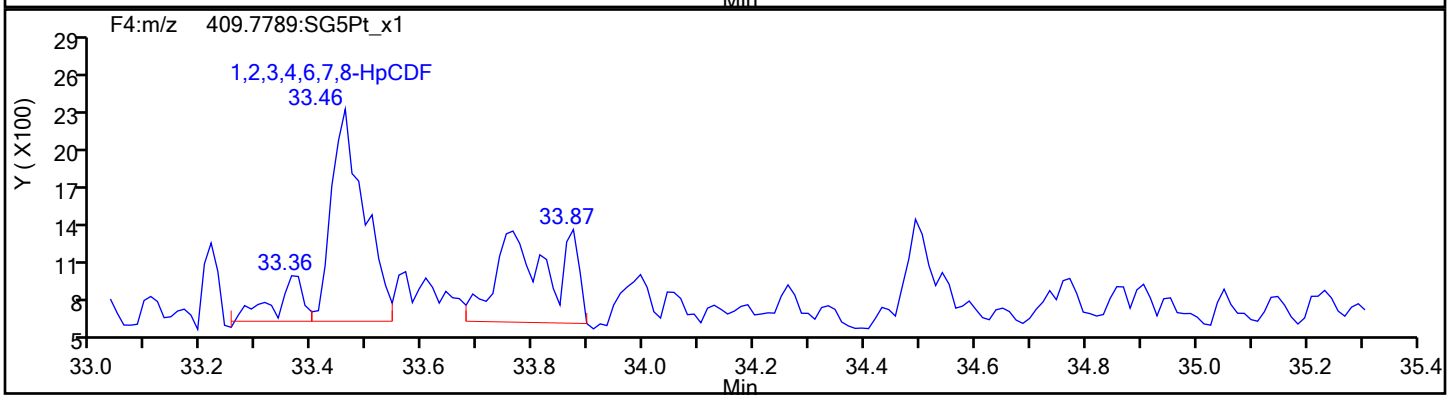

HpCDF Standards

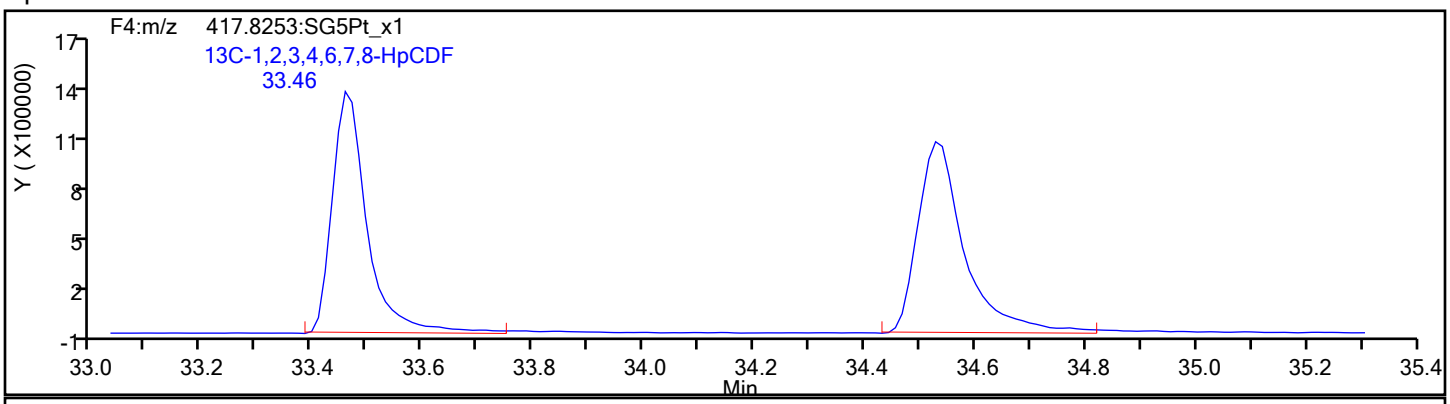

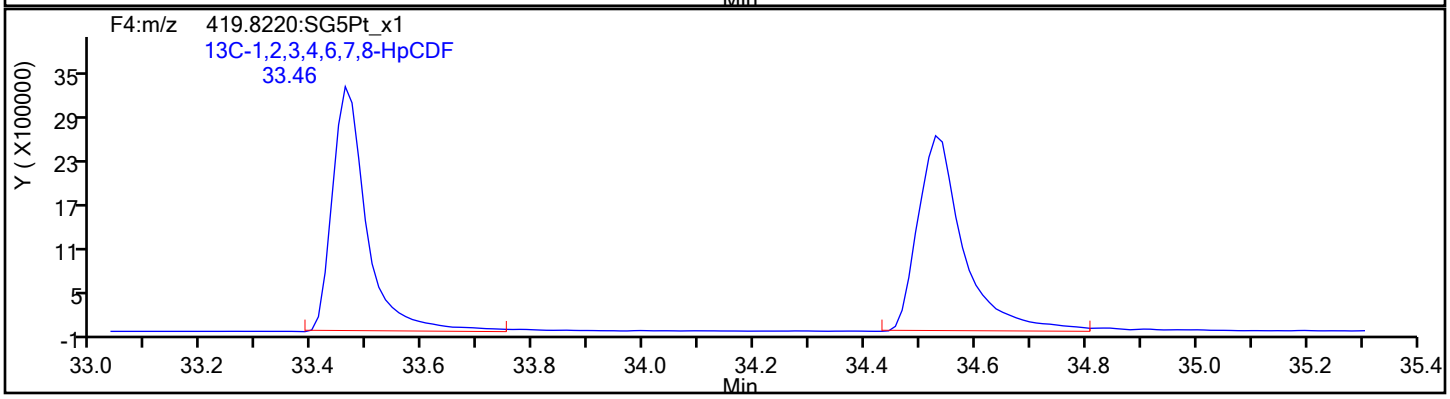

Report Date: 10-Feb-2020 09:21:49 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_9.d		
Injection Date:	06-Feb-2020 16:56:55	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355551	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

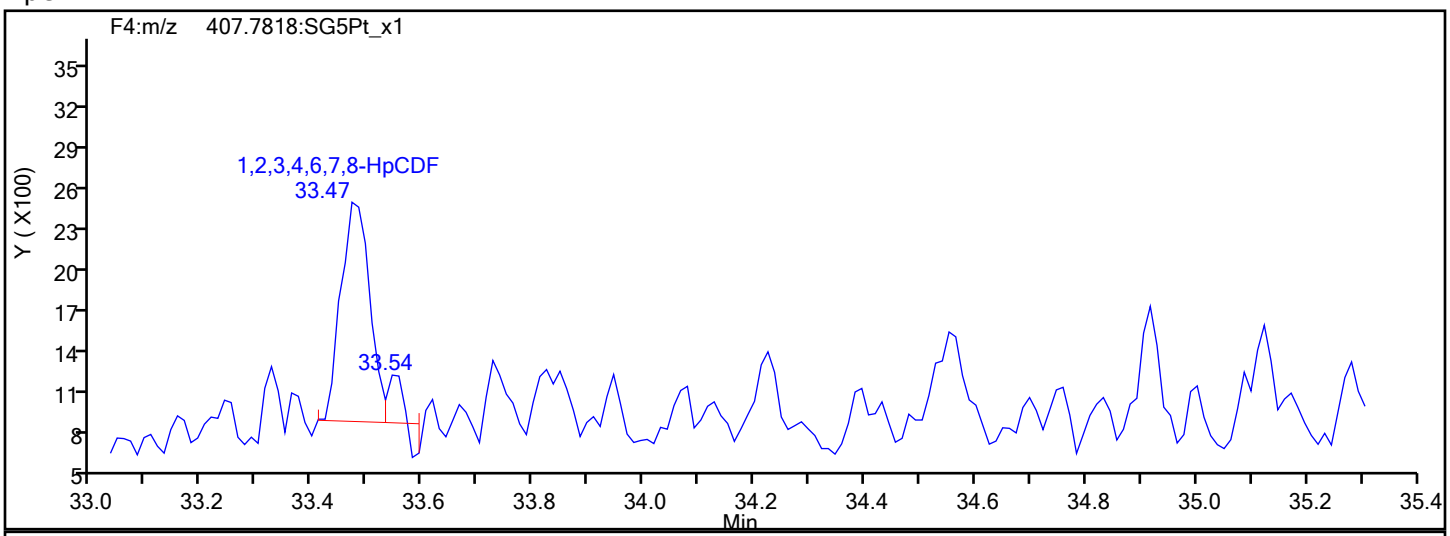

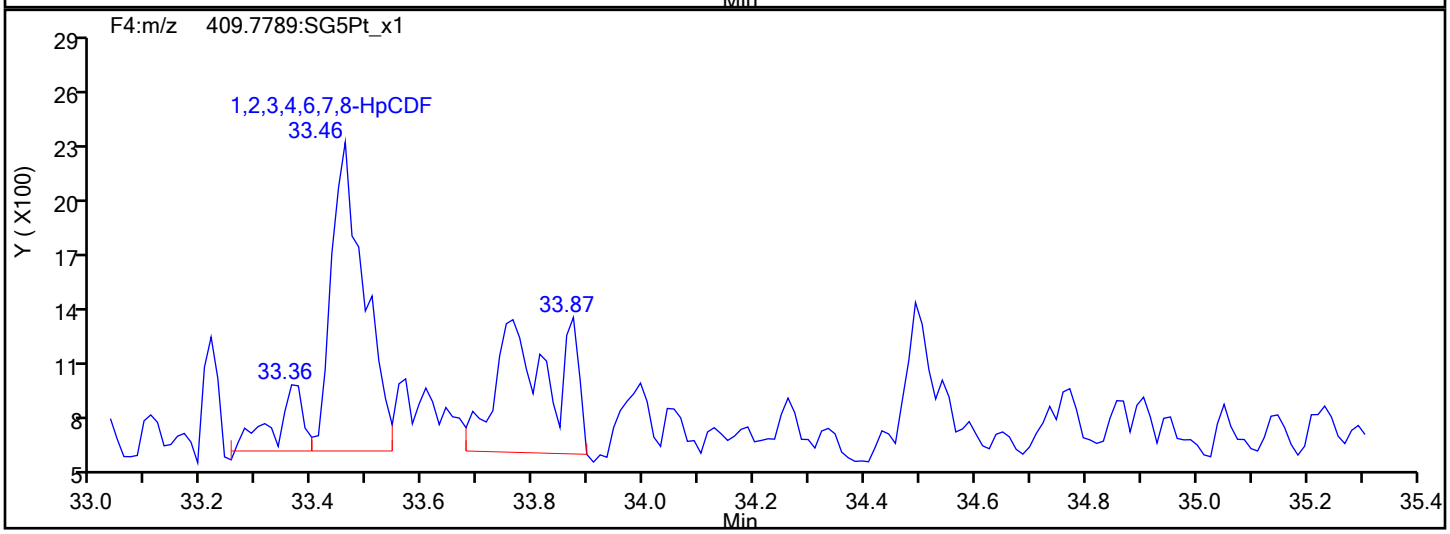

HpCDF Interference Mass

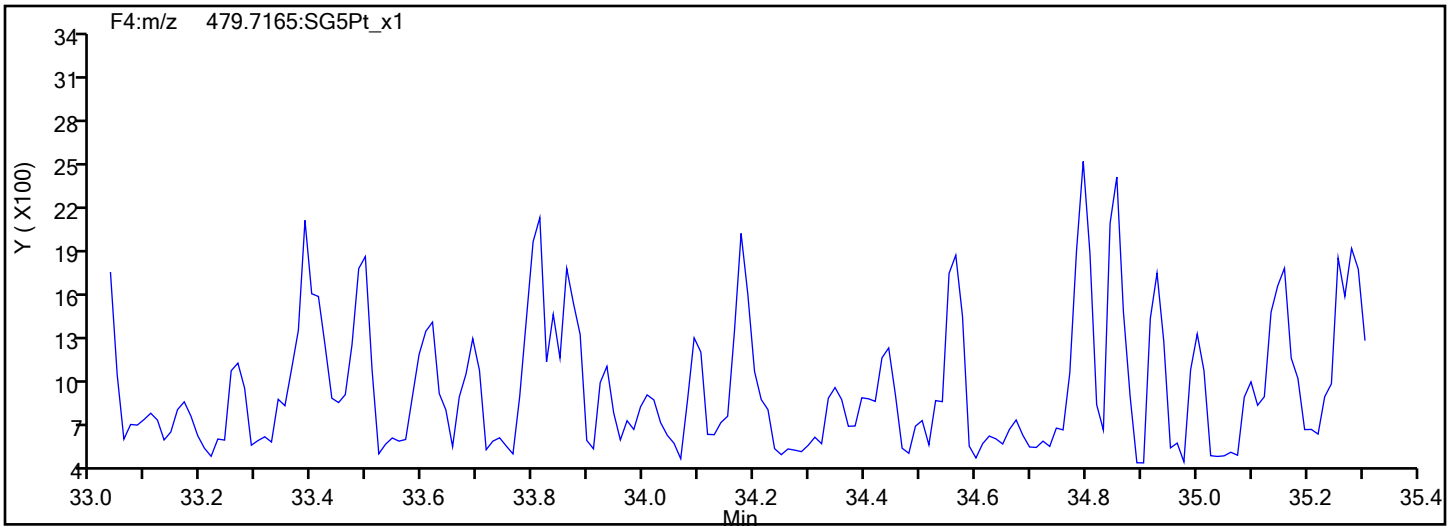

Report Date: 10-Feb-2020 09:21:49 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_9.d		
Injection Date:	06-Feb-2020 16:56:55	Injection Vol:	2.0 ul
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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HpCDD

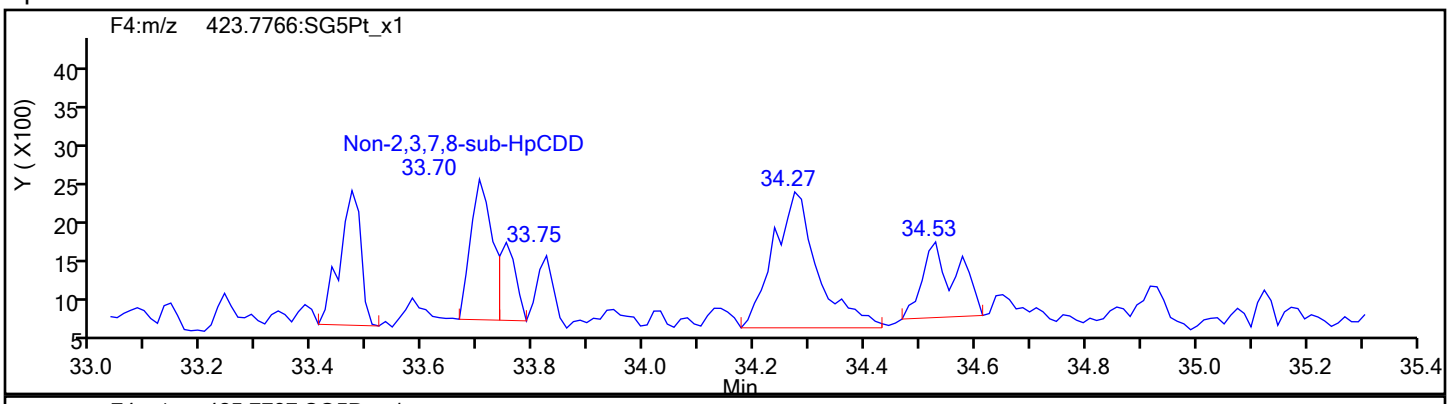

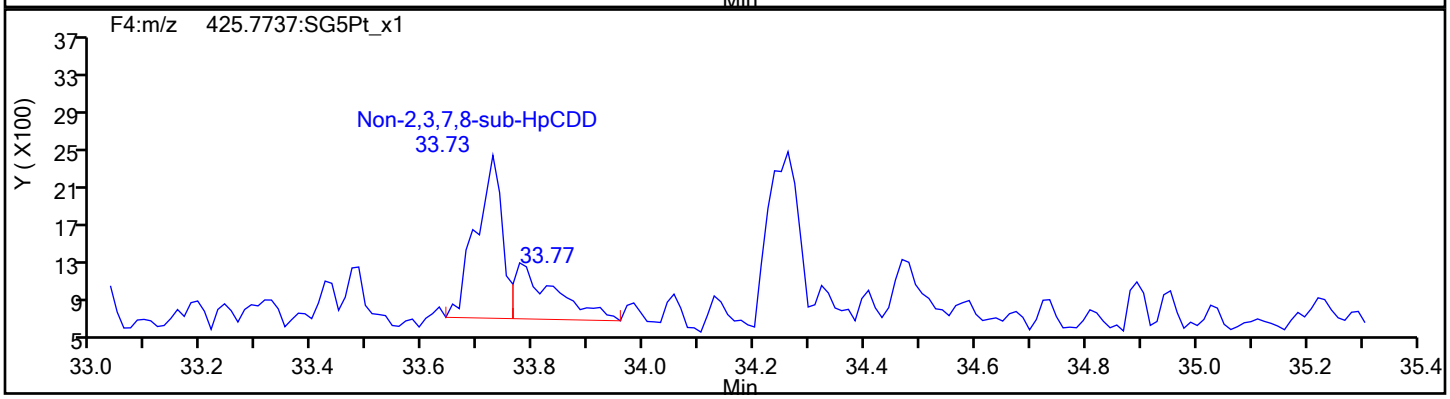

HpCDD Standards

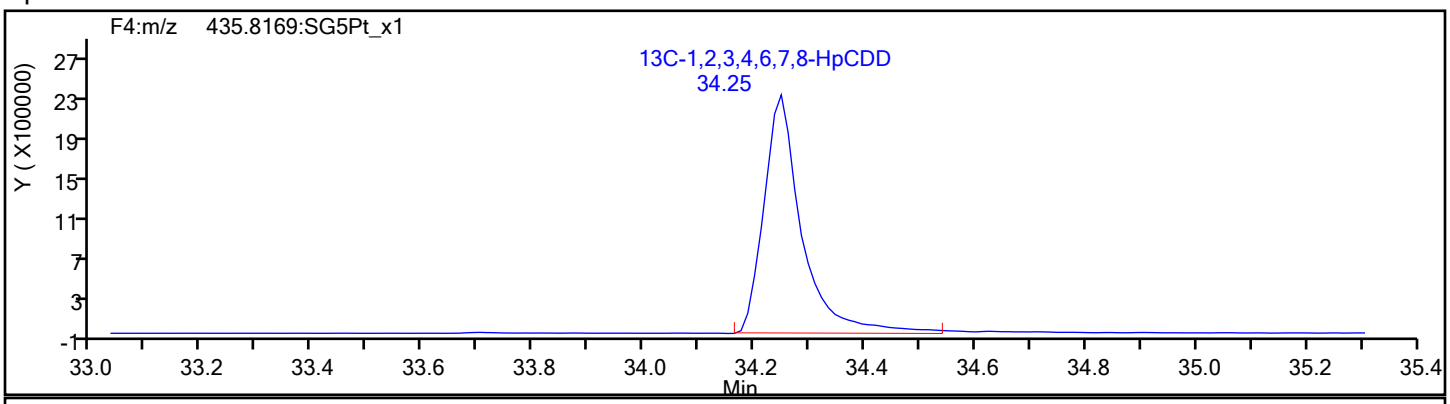

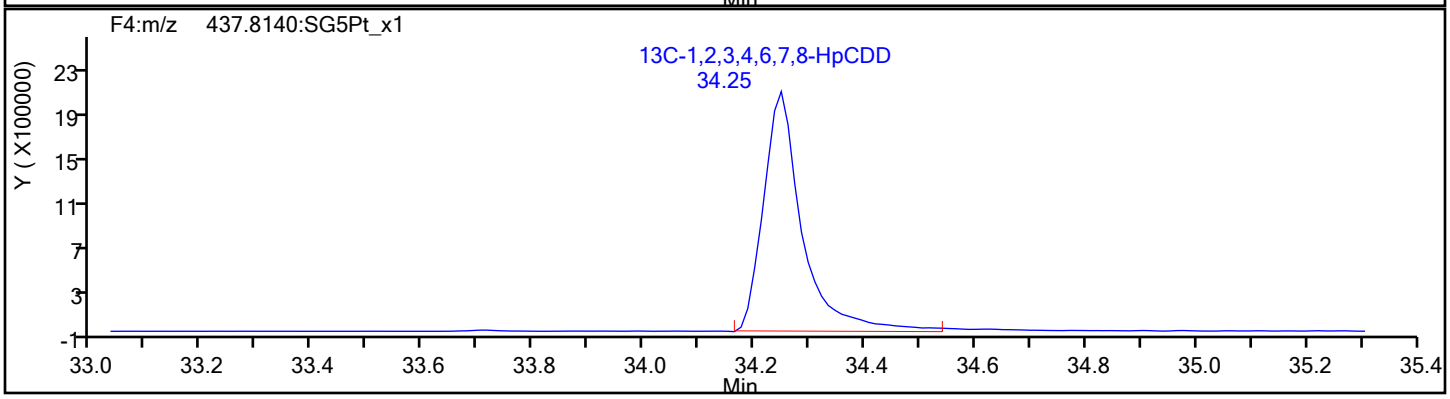

Report Date: 10-Feb-2020 09:21:49 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_9.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355551	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

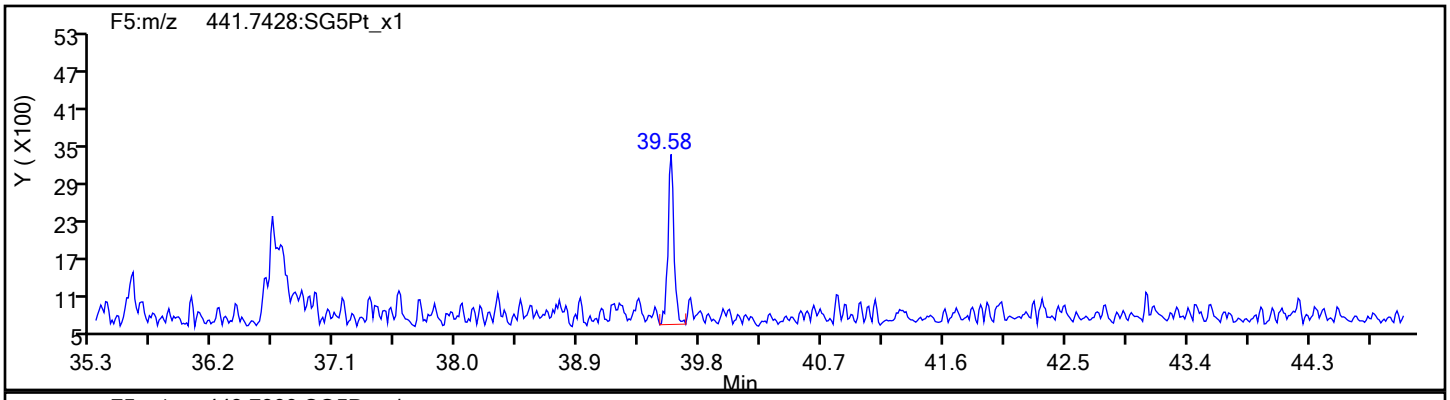

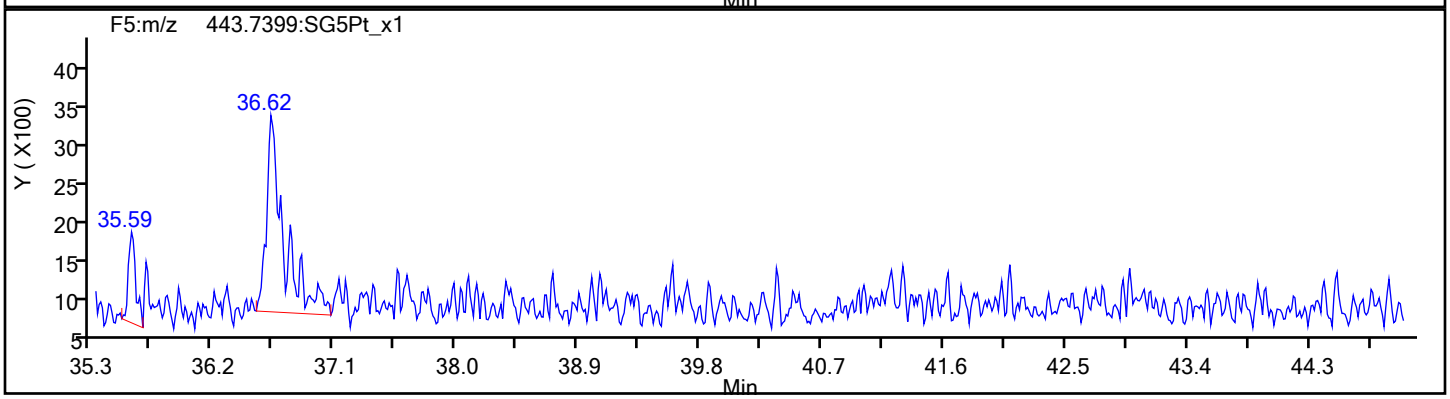

OCDF Standards

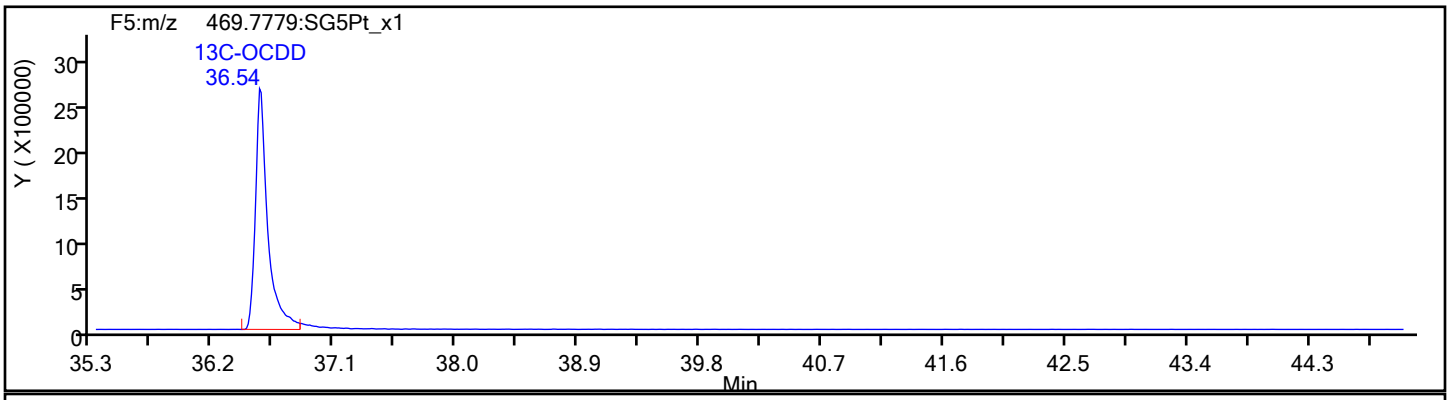

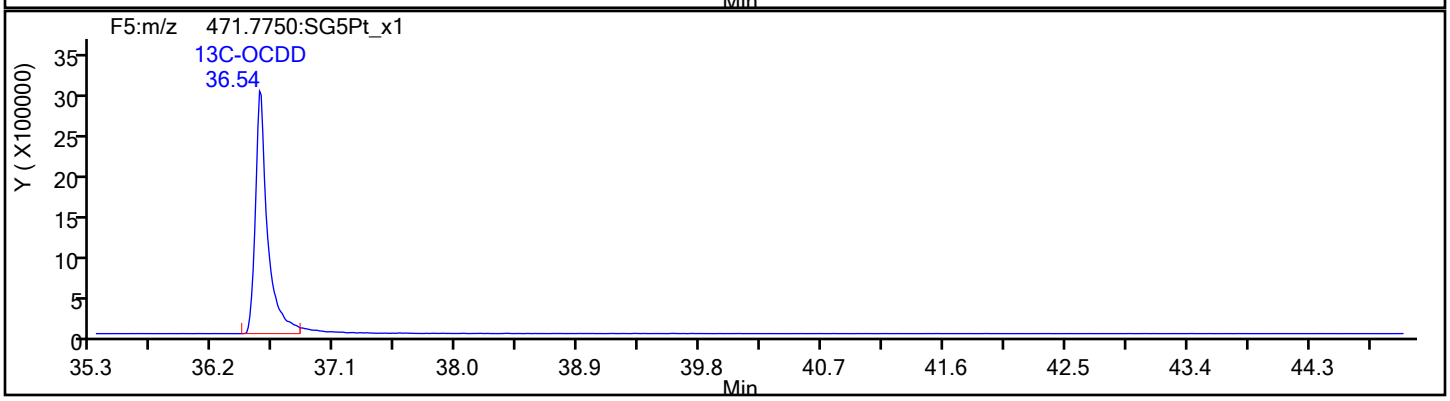

Report Date: 10-Feb-2020 09:21:49 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_9.d		
Injection Date:	06-Feb-2020 16:56:55	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355551	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

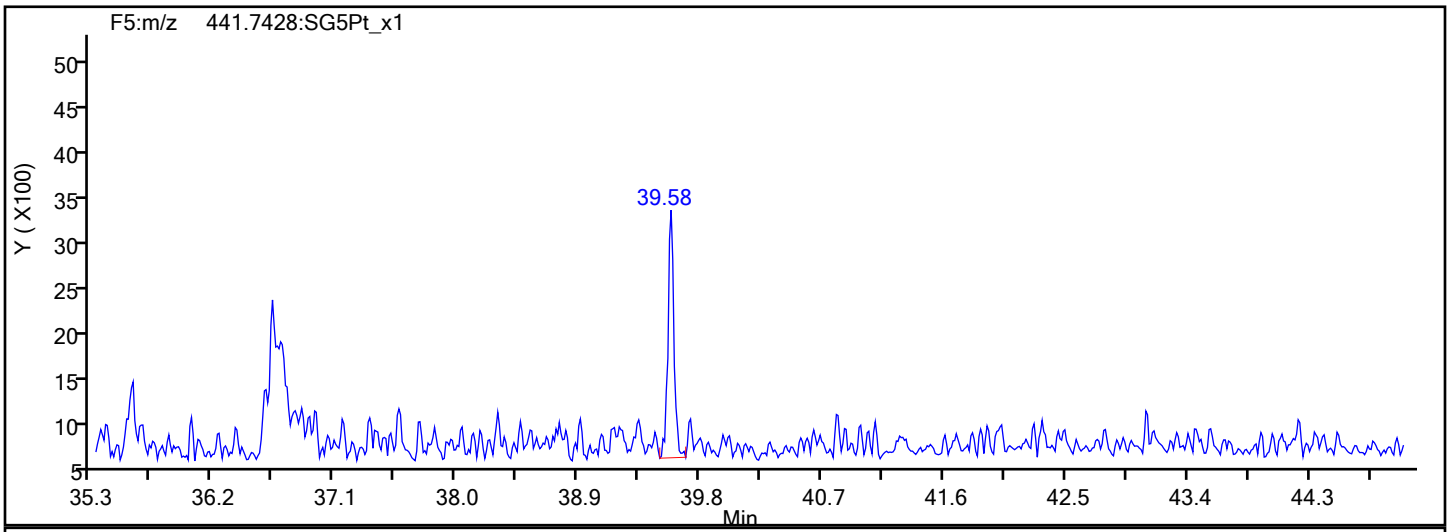

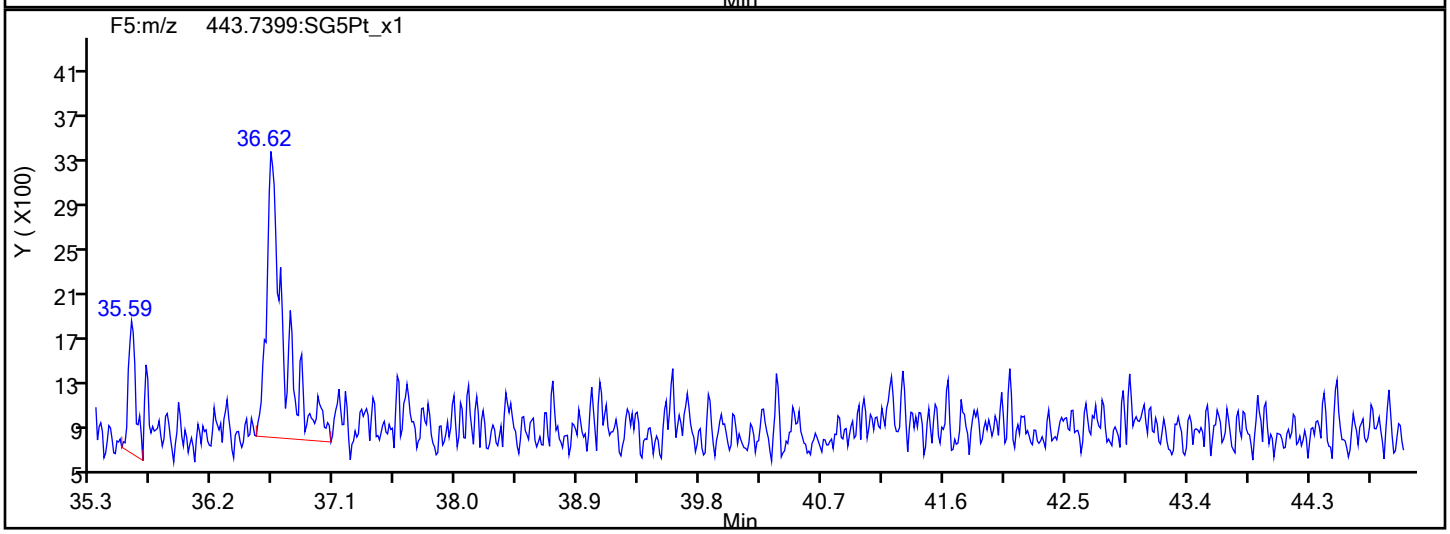

OCDF Interference Mass

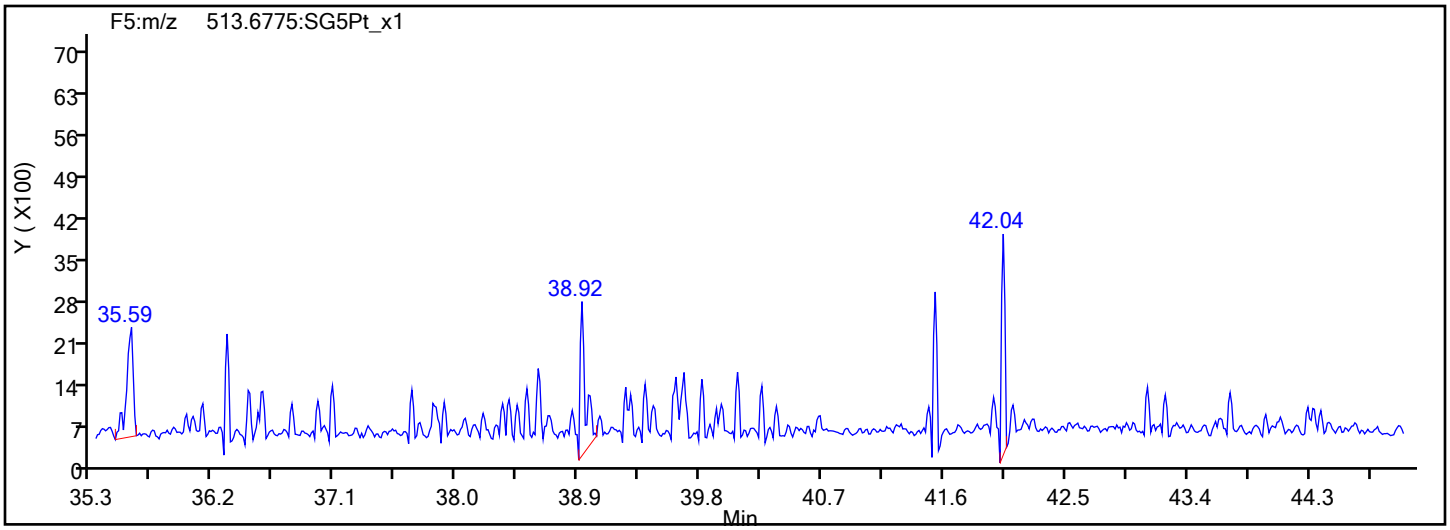

Report Date: 10-Feb-2020 09:21:49 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_9.d		
Injection Date:	06-Feb-2020 16:56:55	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

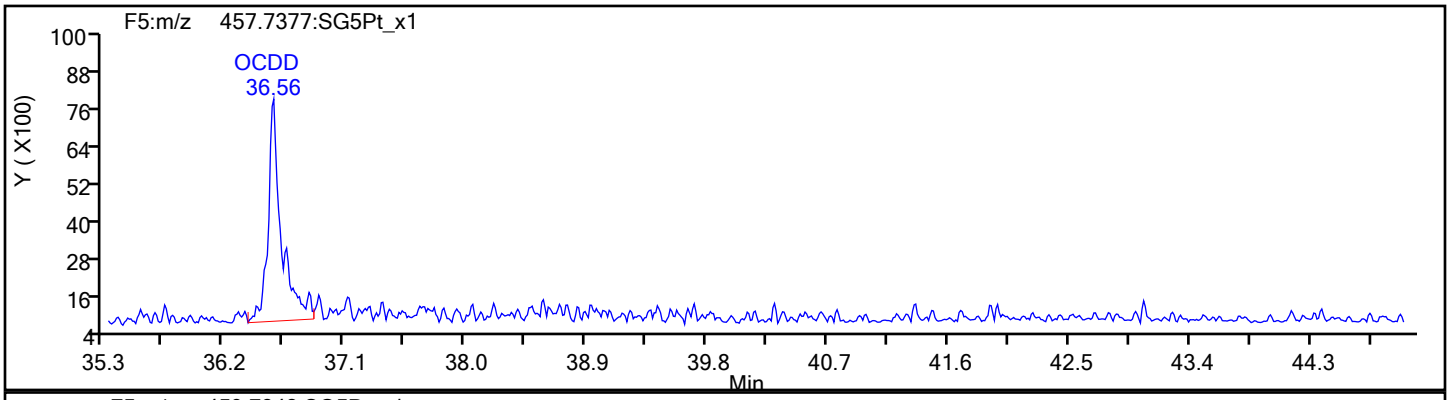

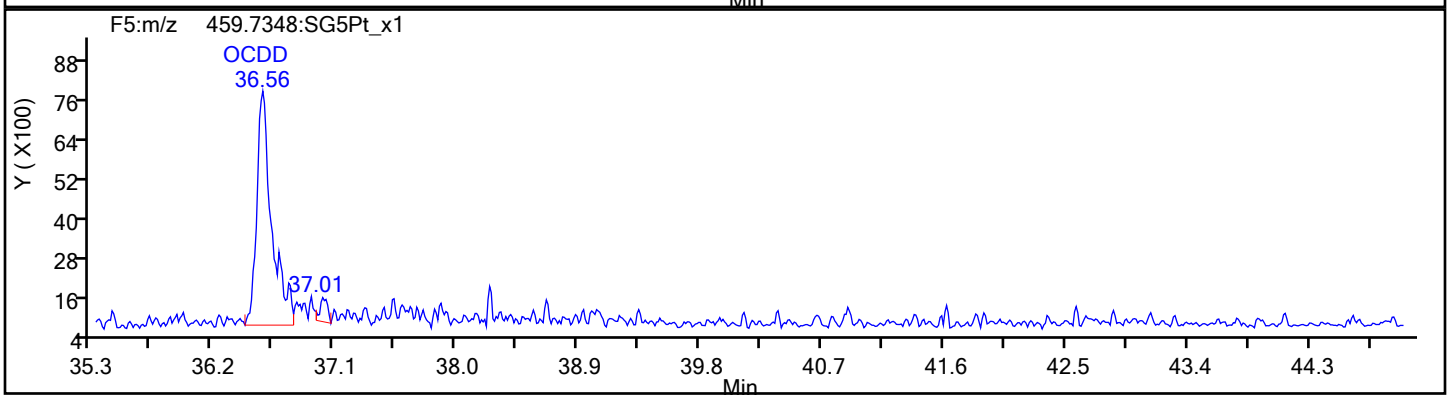

OCDD Standards

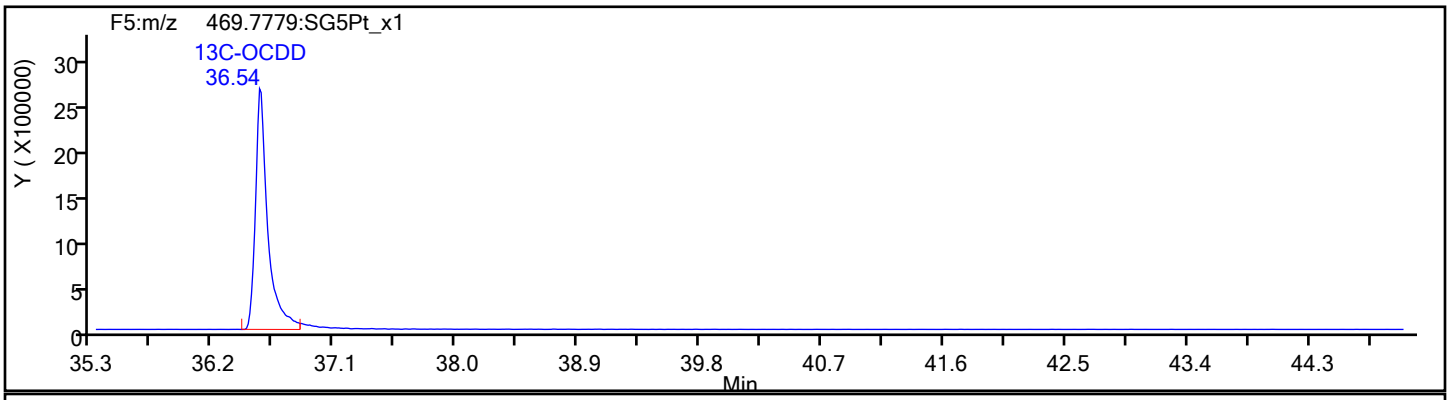

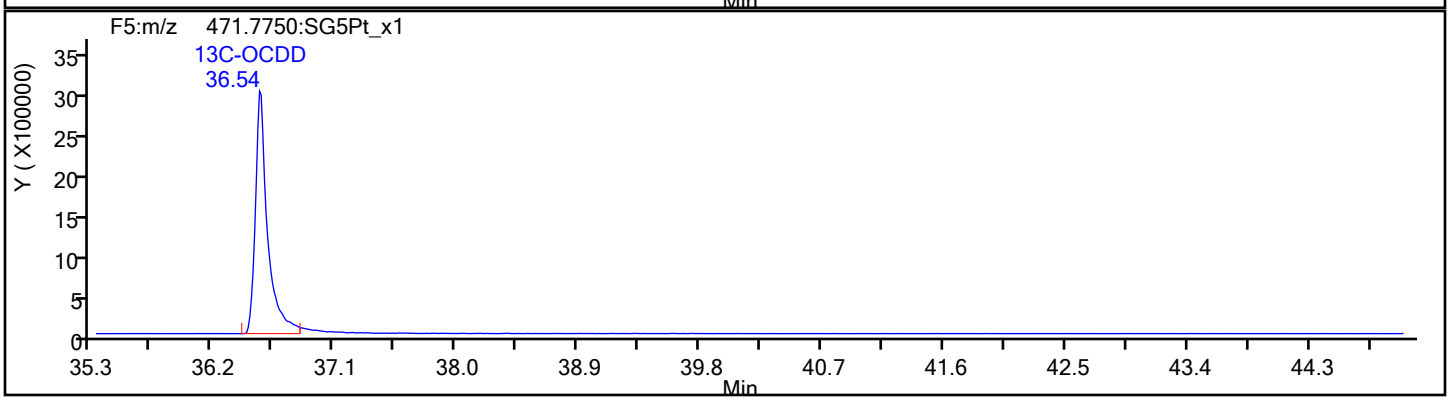

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355551	Sample Line#:	9
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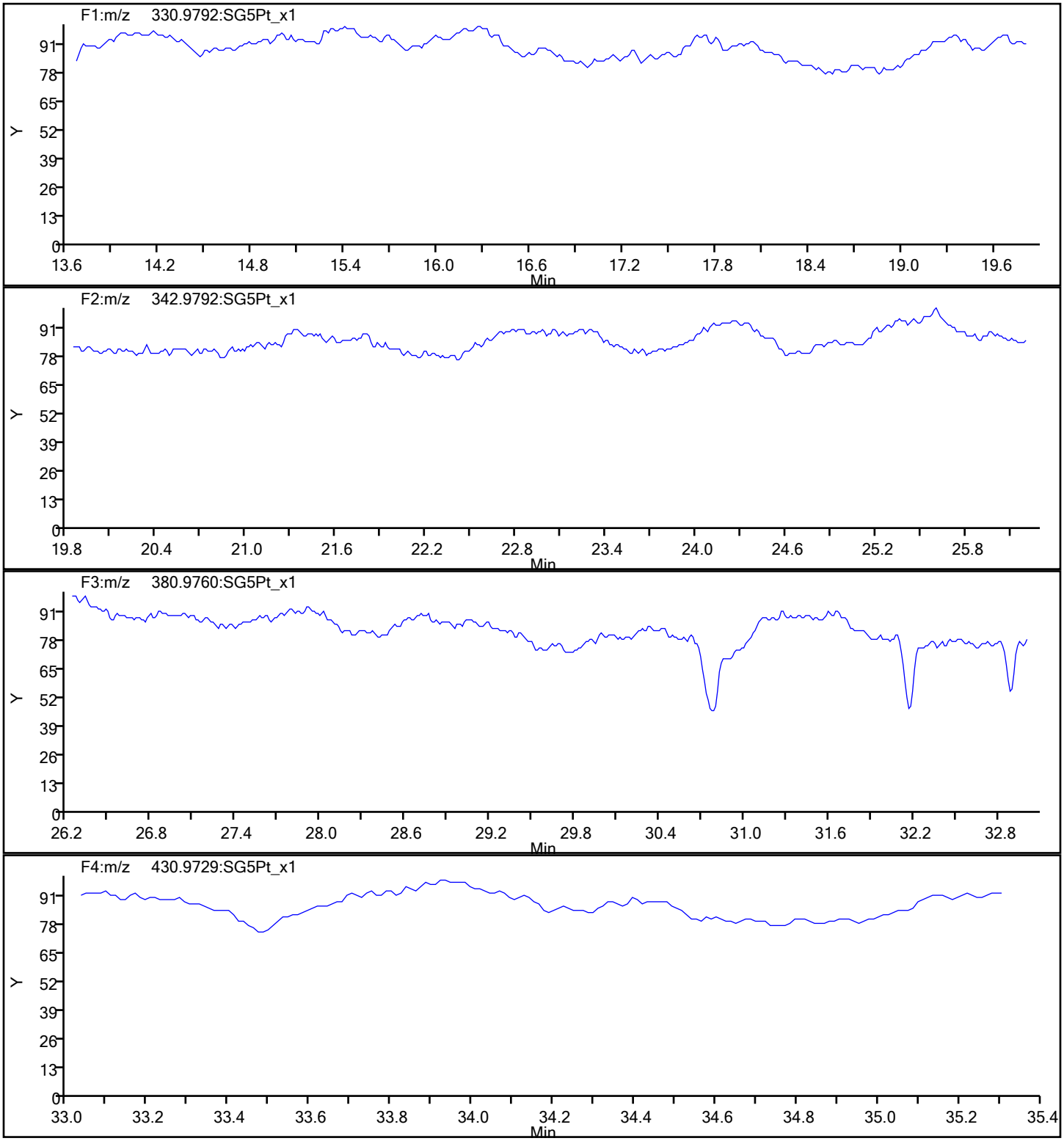

Report Date: 10-Feb-2020 09:21:49 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_9.d		
Injection Date:	06-Feb-2020 16:56:55	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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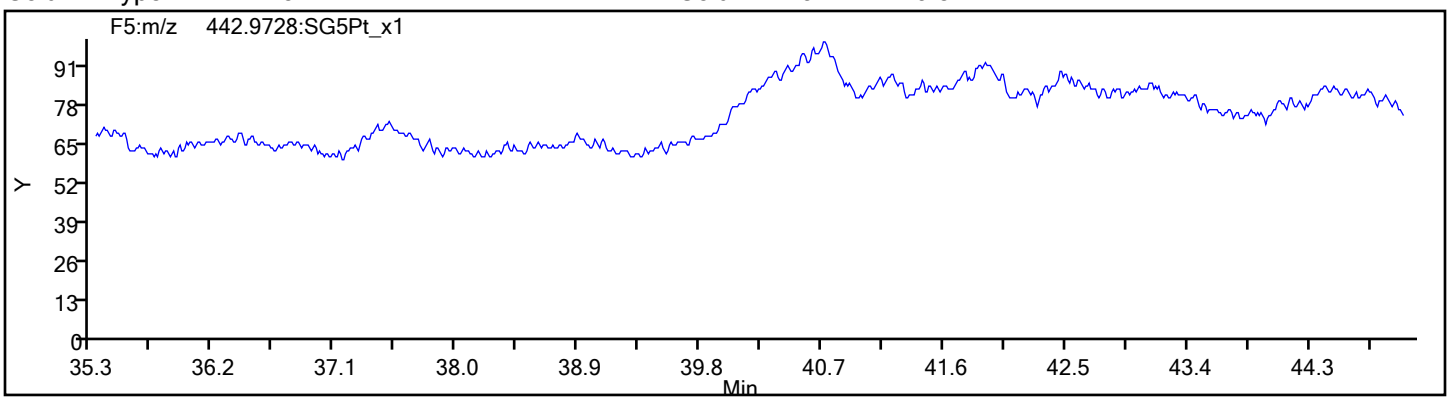

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 320-58170-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 320-354177/2-A
Matrix: Water
Lab File ID: 05FE2010D5_5.d
Analysis Method: 1613B
Date Collected:
Extract. Method: 1613B
Date Extracted: 01/31/2020 07:47
Sample wt/vol: 1000(mL)
Date Analyzed: 02/05/2020 18:36
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 355322
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	206		10	1.2
51207-31-9	2,3,7,8-TCDF	220		10	1.1
40321-76-4	1,2,3,7,8-PeCDD	1060		50	2.7
57117-41-6	1,2,3,7,8-PeCDF	1120		50	6.8
57117-31-4	2,3,4,7,8-PeCDF	1140		50	8.0
39227-28-6	1,2,3,4,7,8-HxCDD	1150		50	4.9
57653-85-7	1,2,3,6,7,8-HxCDD	1060		50	4.6
19408-74-3	1,2,3,7,8,9-HxCDD	1160		50	4.3
70648-26-9	1,2,3,4,7,8-HxCDF	1100		50	14
57117-44-9	1,2,3,6,7,8-HxCDF	1110		50	12
72918-21-9	1,2,3,7,8,9-HxCDF	1110		50	8.6
60851-34-5	2,3,4,6,7,8-HxCDF	1110		50	8.2
35822-46-9	1,2,3,4,6,7,8-HpCDD	1070		50	8.6
67562-39-4	1,2,3,4,6,7,8-HpCDF	1070		50	16
55673-89-7	1,2,3,4,7,8,9-HpCDF	1080		50	27
3268-87-9	OCDD	2050		100	3.2
39001-02-0	OCDF	2020		100	2.9
41903-57-5	Total TCDD	206		10	1.2
30402-14-3	Total TCDF	220		10	1.1
36088-22-9	Total PeCDD	1060		50	2.7
30402-15-4	Total PeCDF	2260		50	7.4
34465-46-8	Total HxCDD	3380		50	4.6
55684-94-1	Total HxCDF	4420		50	11
37871-00-4	Total HpCDD	1070		50	8.6
38998-75-3	Total HpCDF	2150		50	21

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 320-354177/2-A

Matrix: Water Lab File ID: 05FE2010D5_5.d

Analysis Method: 1613B Date Collected:

Extract. Method: 1613B Date Extracted: 01/31/2020 07:47

Sample wt/vol: 1000(mL) Date Analyzed: 02/05/2020 18:36

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 355322 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	65		20-175
89059-46-1	13C-2,3,7,8-TCDF	65		22-152
109719-79-1	13C-1,2,3,7,8-PeCDD	62		21-227
109719-77-9	13C-1,2,3,7,8-PeCDF	62		21-192
116843-02-8	13C-2,3,4,7,8-PeCDF	59		13-328
109719-80-4	13C-1,2,3,4,7,8-HxCDD	55		21-193
109719-81-5	13C-1,2,3,6,7,8-HxCDD	68		25-163
114423-98-2	13C-1,2,3,4,7,8-HxCDF	61		19-202
116843-03-9	13C-1,2,3,6,7,8-HxCDF	68		21-159
116843-04-0	13C-1,2,3,7,8,9-HxCDF	68		17-205
116843-05-1	13C-2,3,4,6,7,8-HxCDF	70		22-176
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	58		26-166
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	59		21-158
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	58		20-186
114423-97-1	13C-OCDD	51		13-199

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	91		31-191

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_5.d
Lims ID: LCS 320-354177/2-A
Client ID:
Sample Type: LCS
Inject. Date: 05-Feb-2020 18:36:09 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCS 320-354177/2-A LCS 320-354177/2-A
Misc. Info.: 05FE2010D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 07-Feb-2020 14:27:06 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: dadunj Date: 07-Feb-2020 14:28:04

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.333	54929911	0.80	5.4E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.849	40329231	0.76	1.1275	65.1	65.1	0.2032	0.2032	65.12	
2,3,7,8-TCDF	16.864	3411261	0.71	0.7675	11.0	11.0	0.0533	0.0533	110	
A Non-2,3,7,8-sub-TCDF	16.569						0.0533	0.0533		
S Total TCDF					11.0	11.0	0.0533	0.0533		
D 13C-2,3,7,8-TCDD	17.529	32342737	0.78	0.9032	65.2	65.2	0.2564	0.2564	65.19	
2,3,7,8-TCDD	17.544	3202723	0.76	0.9599	10.3	10.3	0.0578	0.0578	103	
$ 37Cl4-2,3,7,8-TCDD	17.544	19285237		0.9673	36.3	36.3	0.0611	0.0611	90.74	
A Non-2,3,7,8-sub-TCDD	17.000						0.0578	0.0578		
S Total TCDD					10.3	10.3	0.0578	0.0578		
D 13C-1,2,3,7,8-PeCDF	21.639	33001003	1.60	0.9615	62.5	62.5	0.2631	0.2631	62.48	
1,2,3,7,8-PeCDF	21.667	16559984	1.57	0.8982	55.9	55.9	0.3397	0.3397	112	
D 13C-2,3,4,7,8-PeCDF	22.921	33468278	1.55	1.0393	58.6	58.6	0.2434	0.2434	58.62	
2,3,4,7,8-PeCDF	22.948	15438579	1.60	0.8101	56.9	56.9	0.3989	0.3989	114	
A F1 PeCDFs	19.329						0.0277	0.0277		
A Non-2,3,7,8-sub-PeCDF	22.336						0.3675	0.3675		
S Total PeCDF					112.8	112.8	0.3693	0.3693		
D 13C-1,2,3,7,8-PeCDD	23.617	23606493	1.61	0.6938	61.9	61.9	0.0902	0.0902	61.94	
1,2,3,7,8-PeCDD	23.644	12415843	1.57	0.9961	52.8	52.8	0.1369	0.1369	106	
A Non-2,3,7,8-sub-PeCDD	22.580						0.1369	0.1369		
S Total PeCDD					52.8	52.8	0.1369	0.1369		
D 13C-1,2,3,4,7,8-HxCDF	29.735	22758475	0.49	0.8543	61.1	61.1	0.4722	0.4722	61.08	
1,2,3,4,7,8-HxCDF	29.775	9899598	1.24	0.7916	55.0	55.0	0.7245	0.7245	110	
D 13C-1,2,3,6,7,8-HxCDF	30.001	24630906	0.49	0.8361	67.5	67.5	0.4824	0.4824	67.55	
1,2,3,6,7,8-HxCDF	30.014	11781406	1.19	0.8638	55.4	55.4	0.6155	0.6155	111	
D 13C-2,3,4,6,7,8-HxCDF	31.026	23810687	0.50	0.7773	70.2	70.2	0.5189	0.5189	70.23	
2,3,4,6,7,8-HxCDF	31.052	11867528	1.23	0.9010	55.3	55.3	0.4108	0.4108	111	
D 13C-1,2,3,7,8,9-HxCDF	31.944	21102815	0.50	0.7167	67.5	67.5	0.5628	0.5628	67.51	
1,2,3,7,8,9-HxCDF	31.958	10652241	1.25	0.9127	55.3	55.3	0.4282	0.4282	111	
A Non-2,3,7,8-sub-HxCDF	29.529						0.5191	0.5191		
S Total HxCDF					220.9	220.9	0.5447	0.5447		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.745	43613700	1.22	4.4E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.252	19465758	1.24	0.8050	55.4	55.4	0.3165	0.3165	55.44	
1,2,3,4,7,8-HxCDD	31.265	9414019	1.23	0.8392	57.6	57.6	0.2457	0.2457	115	
D 13C-1,2,3,6,7,8-HxCDD	31.372	24551396	1.25	0.8269	68.1	68.1	0.3081	0.3081	68.07	
1,2,3,6,7,8-HxCDD	31.385	11573845	1.24	0.8876	53.1	53.1	0.2307	0.2307	106	
1,2,3,7,8,9-HxCDD	31.758	12260878	1.22	0.9567	58.2	58.2	0.2148	0.2148	116	
A Non-2,3,7,8-sub-HxCDD	30.108						0.2297	0.2297		
S Total HxCDD					169.0	169.0	0.2304	0.2304		
D 13C-1,2,3,4,6,7,8-HpCDF	33.471	18071270	0.43	0.7080	58.5	58.5	1.228	1.228	58.52	
1,2,3,4,6,7,8-HpCDF	33.483	12973853	1.04	1.3375	53.7	53.7	0.8148	0.8148	107	
D 13C-1,2,3,4,7,8,9-HpCDF	34.540	18891414	0.43	0.7451	58.1	58.1	1.167	1.167	58.13	
1,2,3,4,7,8,9-HpCDF	34.552	10957709	1.03	1.0744	54.0	54.0	1.334	1.334	108	
A Non-2,3,7,8-sub-HpCDF	34.018						1.027	1.027		
S Total HpCDF					107.7	107.7	1.075	1.075		
D 13C-1,2,3,4,6,7,8-HpCDD	34.249	18976735	1.06	0.7473	58.2	58.2	0.4139	0.4139	58.22	
1,2,3,4,6,7,8-HpCDD	34.261	9916996	1.03	0.9811	53.3	53.3	0.4304	0.4304	107	
A Non-2,3,7,8-sub-HpCDD	33.988						0.4304	0.4304		
S Total HpCDD					53.3	53.3	0.4304	0.4304		
D 13C-OCDD	36.540	29257621	0.91	0.6622	101.3	101.3	0.1429	0.1429	50.65	
OCDF	36.636	15778098	0.91	1.0659	101.2	101.2	0.1472	0.1472	101	
OCDD	36.552	14895428	0.87	0.9937	102.5	102.5	0.1617	0.1617	102	

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_5.d
Lims ID: LCS 320-354177/2-A
Client ID:
Sample Type: LCS
Inject. Date: 05-Feb-2020 18:36:09 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCS 320-354177/2-A LCS 320-354177/2-A
Misc. Info.: 05FE2010D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 07-Feb-2020 14:27:06 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: dadunj Date: 07-Feb-2020 14:28:04

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.333	17.333	0		24452566	6126154	5692	14230	1076		
333.9339	17.333	17.333	0		30477345	7547913	6973	17432	1082	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.849	16.849	0	0.972	17375451	3875262	6339	15847	611		
317.9389	16.849	16.849	0	0.972	22953780	5102426	6193	15482	824	0.76(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.864	16.864	0	1.001	1412131	302166	528	1320	572		
305.8987	16.864	16.864	0	1.001	1999130	437539	942	2355	464	0.71(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.569						528	1320			
305.8987	16.569						942	2355			
13C-2,3,7,8-TCDD											
331.9368	17.529	17.529	0	1.011	14171745	3088121	5692	14230	543		
333.9339	17.529	17.529	0	1.011	18170992	3966879	6973	17432	569	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.544	17.544	0	1.001	1386353	306002	888	2220	345		
321.8936	17.544	17.544	0	1.001	1816370	410548	679	1697	605	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.544	17.544	0	1.012	19285237	4309841	3233	8082	1333		
A Non-2,3,7,8-sub-TCDD											
319.8965	17.000						888	2220			
321.8936	17.000						679	1697			
13C-1,2,3,7,8-PeCDF											
351.9000	21.639	21.639	0	1.248	20291681	3265774	8224	20560	397		
353.8970	21.639	21.639	0	1.248	12709322	2046565	5615	14037	364	1.60(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	21.667	21.667	0	1.001	10104608	1619201	3797	9492	426		
341.8567	21.667	21.667	0	1.001	6455376	1052475	2686	6715	392	1.57(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	22.921	22.921	0	1.322	20351231	3049601	8224	20560	371		
353.8970	22.921	22.921	0	1.322	13117047	1965892	5615	14037	350	1.55(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.948	22.948	0	1.001	9500614	1396371	3797	9492	368		
341.8567	22.948	22.948	0	1.001	5937965	863117	2686	6715	321	1.60(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.329						155	387			
341.8567	19.329						333	832			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.336						3797	9492			
341.8567	22.336						2686	6715			
13C-1,2,3,7,8-PeCDD											
367.8949	23.617	23.617	0	1.363	14571685	1946096	2160	5400	901		
369.8919	23.617	23.617	0	1.363	9034808	1230838	1265	3162	973	1.61(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.644	23.644	0	1.001	7580797	1012498	1061	2652	954		
357.8516	23.644	23.644	0	1.001	4835046	641447	672	1680	955	1.57(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.580						1061	2652			
357.8516	22.580						672	1680			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.735	29.748	-1	0.937	7504067	878408	4774	11935	184		
385.8610	29.748	29.748	0	0.937	15254408	1834394	8819	22047	208	0.49(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.775	29.761	1	1.001	5474184	675649	3676	9190	184		
375.8178	29.775	29.761	1	1.001	4425414	548188	2547	6367	215	1.24(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.001	29.988	1	0.945	8138035	966272	4774	11935	202		
385.8610	30.001	29.988	1	0.945	16492871	1959934	8819	22047	222	0.49(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.014	30.028	-1	1.000	6402615	769722	3676	9190	209		
375.8178	30.014	30.028	-1	1.000	5378791	645529	2547	6367	253	1.19(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.026	31.026	0	0.977	7924517	1413178	4774	11935	296		
385.8610	31.026	31.026	0	0.977	15886170	2789417	8819	22047	316	0.50(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.052	31.053	0	1.001	6539104	1168357	3676	9190	318		
375.8178	31.052	31.053	0	1.001	5328424	953853	2547	6367	375	1.23(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.944	31.944	0	1.006	7002697	1315842	4774	11935	276		
385.8610	31.944	31.944	0	1.006	14100118	2665174	8819	22047	302	0.50(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	31.958	31.958	0	1.000	5909619	1092071	3676	9190	297		
375.8178	31.958	31.958	0	1.000	4742622	879758	2547	6367	345	1.25(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.529						3676	9190			
375.8178	29.529						2547	6367			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.745	31.745	0		24011328	4642516	4759	11897	976		
403.8529	31.745	31.745	0		19602372	3782404	3826	9565	989	1.22(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.252	31.252	0	0.984	10763755	2433205	4759	11897	511		
403.8529	31.252	31.252	0	0.984	8702003	1949052	3826	9565	509	1.24(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.265	31.265	0	1.000	5183830	1094787	1954	4885	560		
391.8127	31.265	31.265	0	1.000	4230189	884560	1661	4152	533	1.23(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.372	31.372	0	0.988	13646340	2440592	4759	11897	513		
403.8529	31.372	31.372	0	0.988	10905056	1972240	3826	9565	515	1.25(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.385	31.385	0	1.000	6409677	1202382	1954	4885	615		
391.8127	31.385	31.385	0	1.000	5164168	986690	1661	4152	594	1.24(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.758	31.758	0	1.016	6736413	1282334	1954	4885	656		
391.8127	31.758	31.758	0	1.016	5524465	1065114	1661	4152	641	1.22(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.108						1954	4885			
391.8127	30.108						1661	4152			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.471	33.471	0	1.054	5406123	1364198	9526	23815	143		
419.8220	33.471	33.471	0	1.054	12665147	3162875	19773	49432	160	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.483	33.483	0	1.000	6628524	1615735	10161	25402	159		
409.7789	33.483	33.483	0	1.000	6345329	1520605	9572	23930	159	1.04(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.540	34.540	0	1.088	5691615	1046411	9526	23815	110		
419.8220	34.540	34.540	0	1.088	13199799	2394766	19773	49432	121	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.552	34.540	1	1.000	5560779	1020805	10161	25402	100		
409.7789	34.552	34.540	1	1.000	5396930	980301	9572	23930	102	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.018						10161	25402			
409.7789	34.018						9572	23930			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.249	34.249	0	1.079	9771786	1984569	5200	13000	382		
437.8140	34.249	34.249	0	1.079	9204949	1909244	5225	13062	365	1.06(0.88-1.20)	

Report Date: 07-Feb-2020 14:28:10 Chrom Revision: 2.3 14-Jan-2020 22:23:42
Data File: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_5.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.261	34.261	0	1.000	5040210	1049920	3437	8592	305		
425.7737	34.261	34.261	0	1.000	4876786	1023237	3140	7850	326	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.988						3437	8592			
425.7737	33.988						3140	7850			
13C-OCDD											
469.7779	36.540	36.540	0	1.151	13945320	2243239	1475	3687	1521		
471.7750	36.540	36.540	0	1.151	15312301	2557073	1713	4282	1493	0.91(0.76-1.02)	
OCDF											
441.7428	36.636	36.636	0	1.003	7504696	1279102	653	1632	1959		
443.7399	36.636	36.636	0	1.003	8273402	1406891	854	2135	1647	0.91(0.76-1.02)	
OCDD											
457.7377	36.552	36.552	0	1.000	6946059	1187658	810	2025	1466		
459.7348	36.552	36.552	0	1.000	7949369	1370162	733	1832	1869	0.87(0.76-1.02)	

Report Date: 07-Feb-2020 14:28:10 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_5.d		
Injection Date:	05-Feb-2020 18:36:09	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355322	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

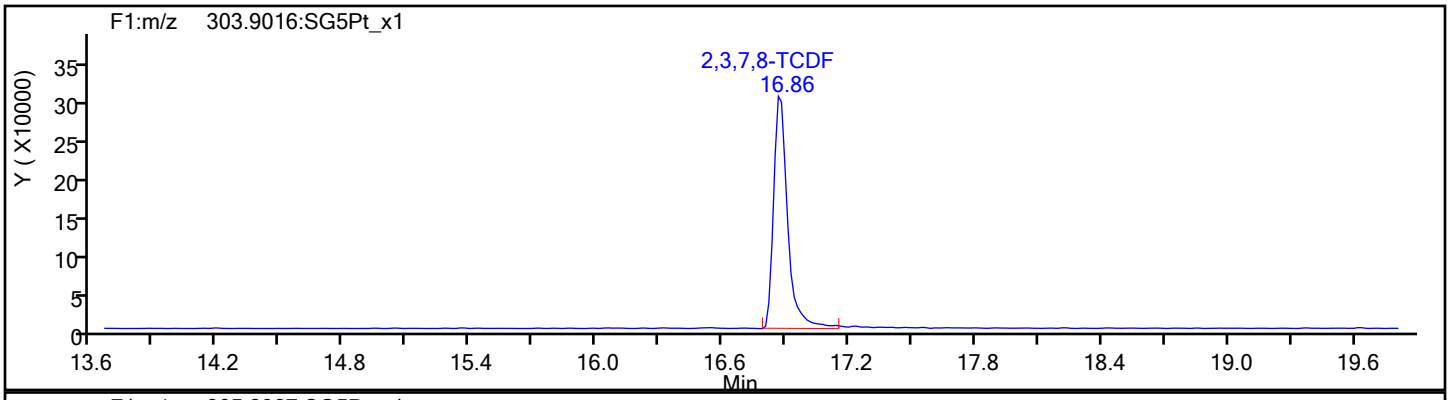

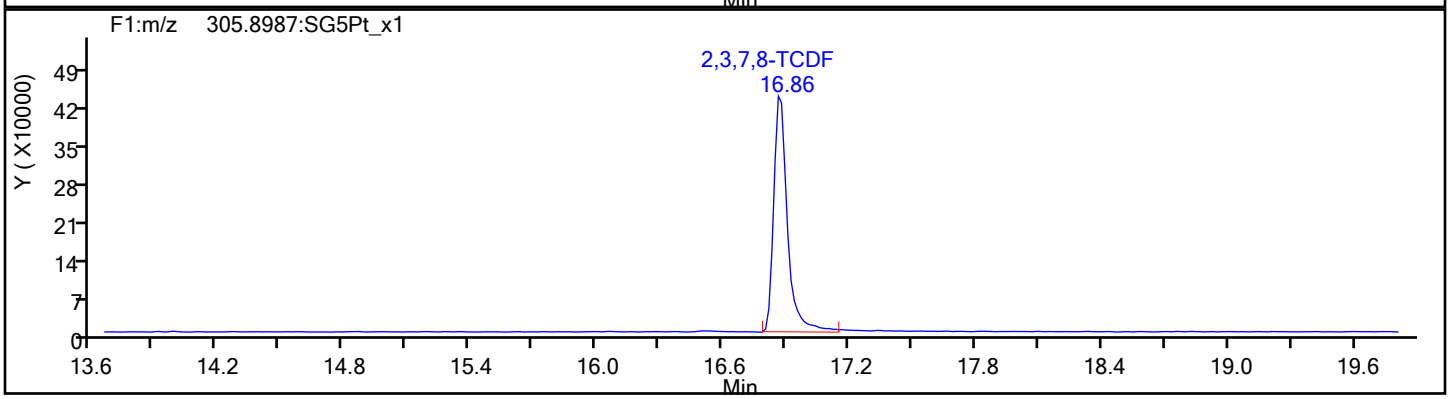

TCDF Standards

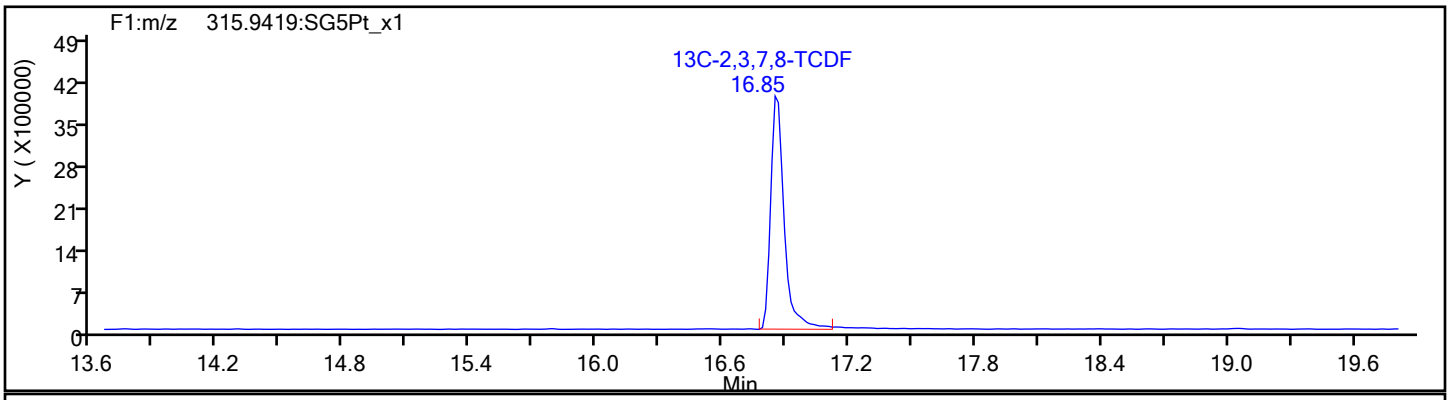

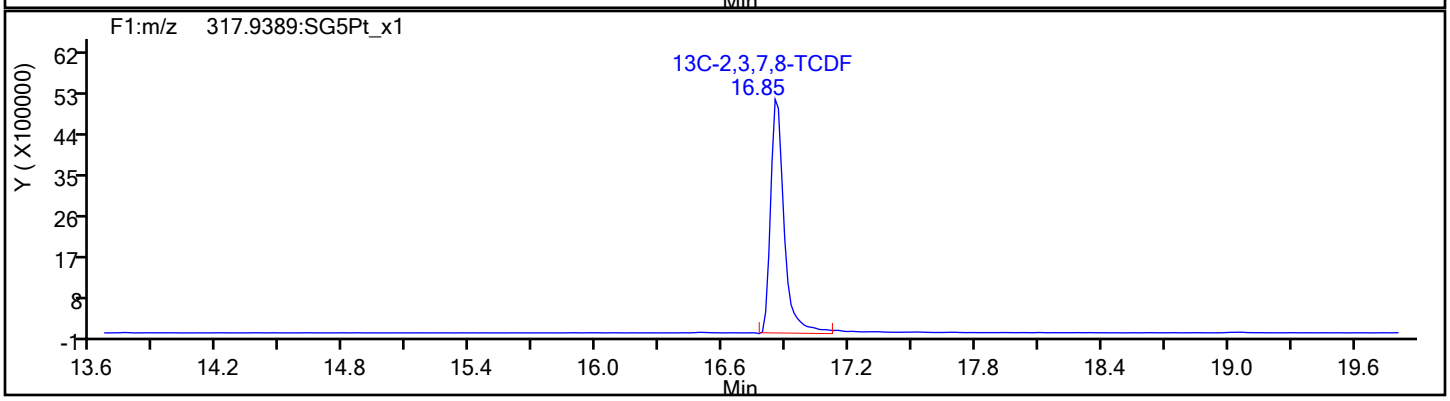

Report Date: 07-Feb-2020 14:28:10 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

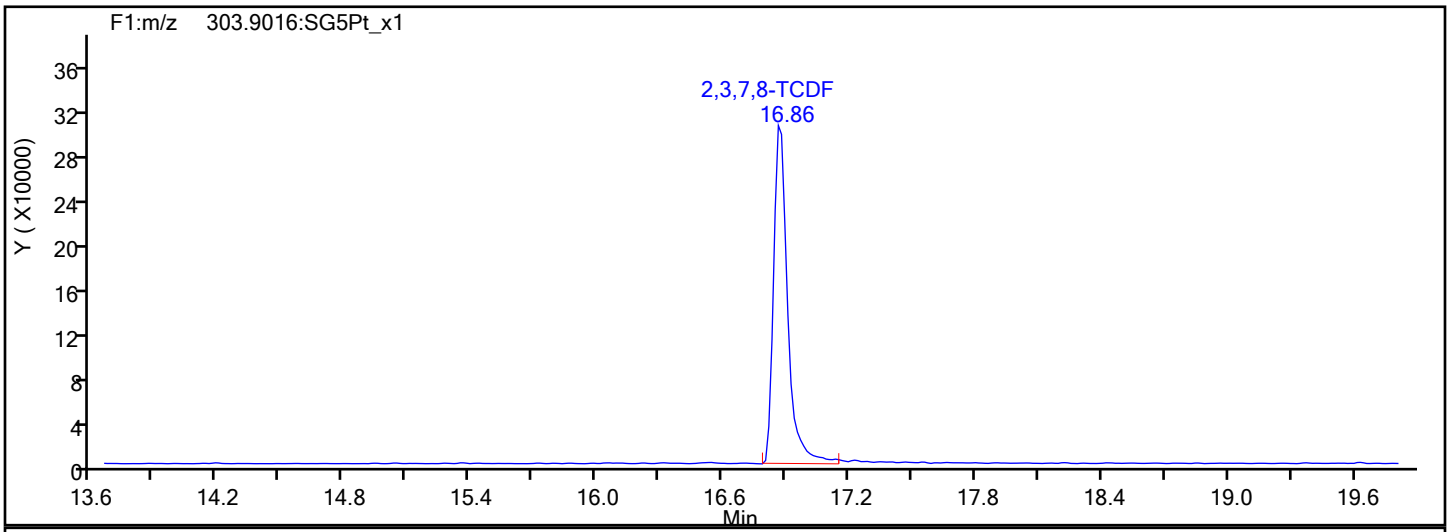

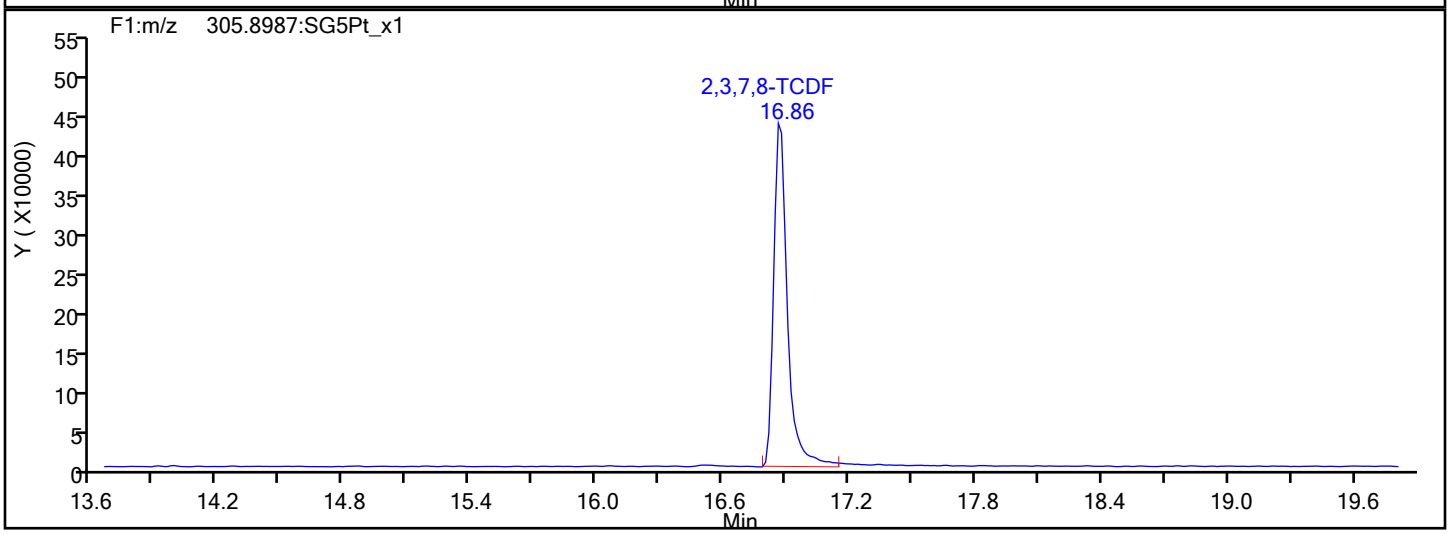

TCDF Interference Mass

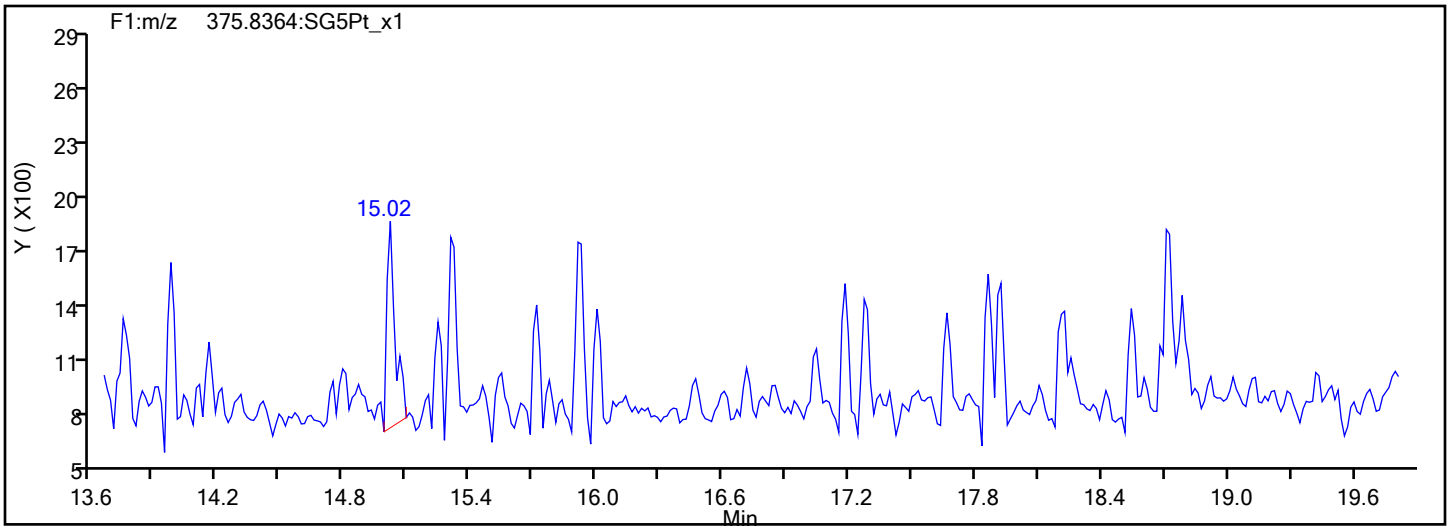

Report Date: 07-Feb-2020 14:28:11 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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TCDD

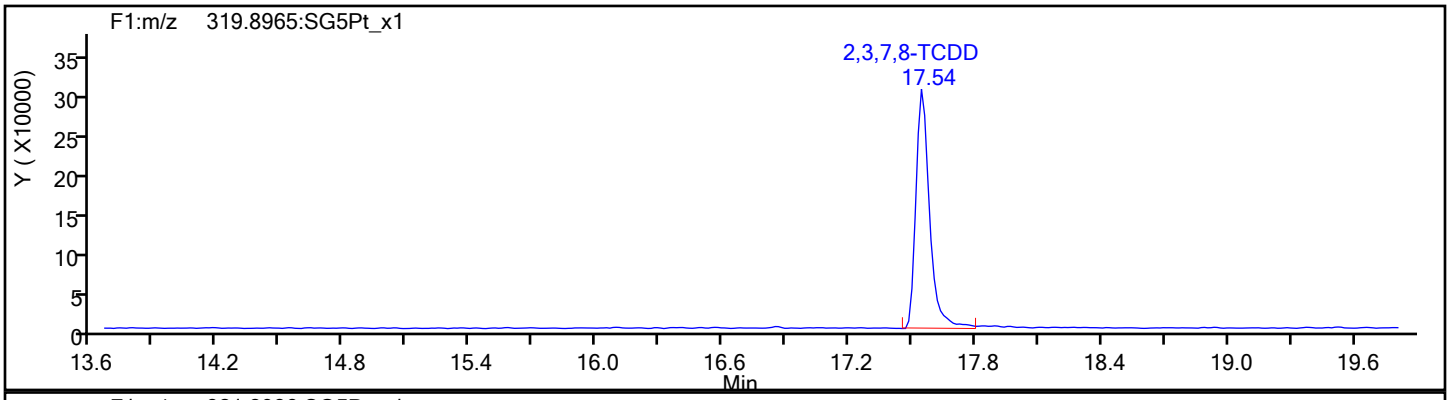

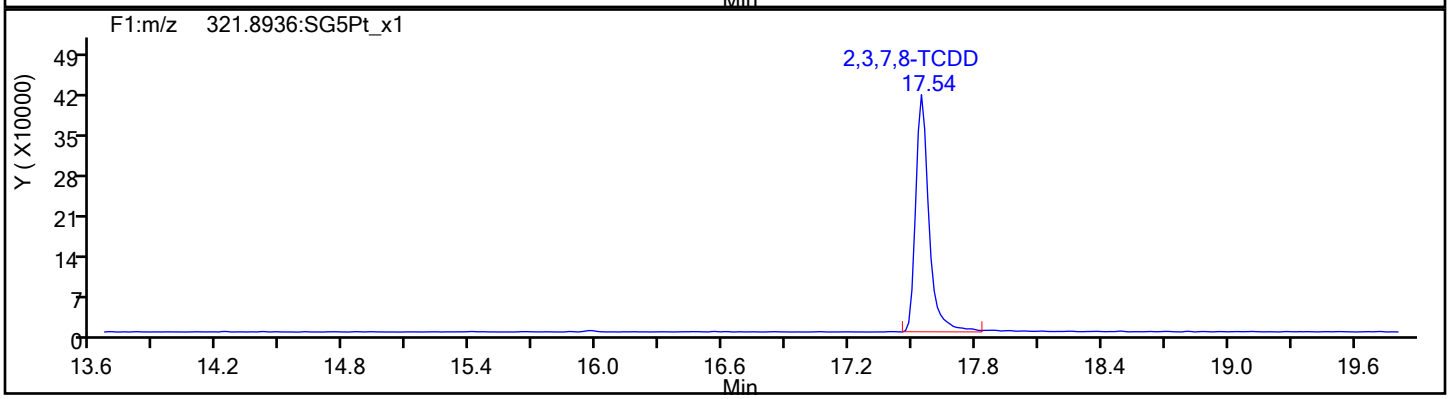

TCDD Standards

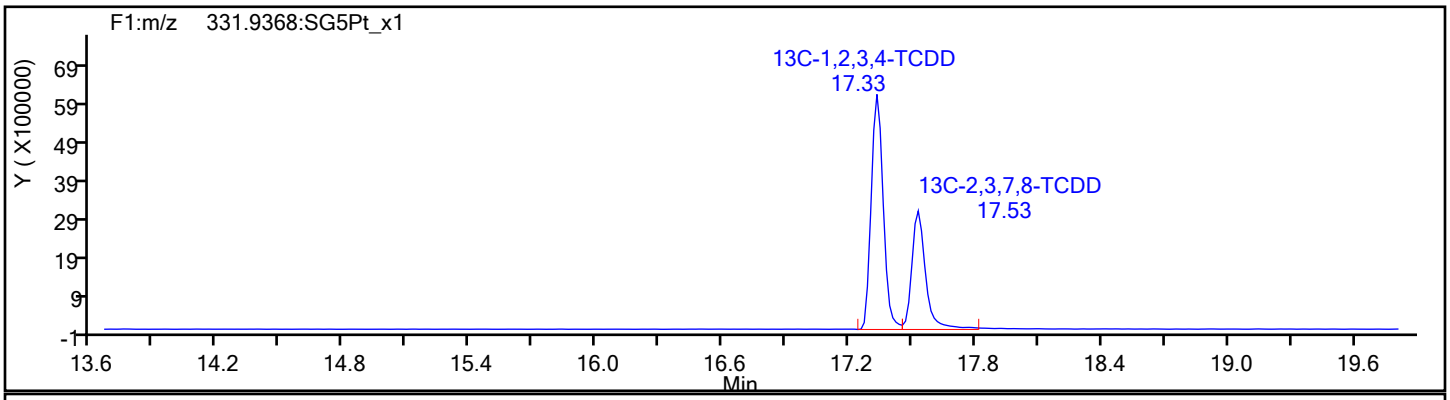

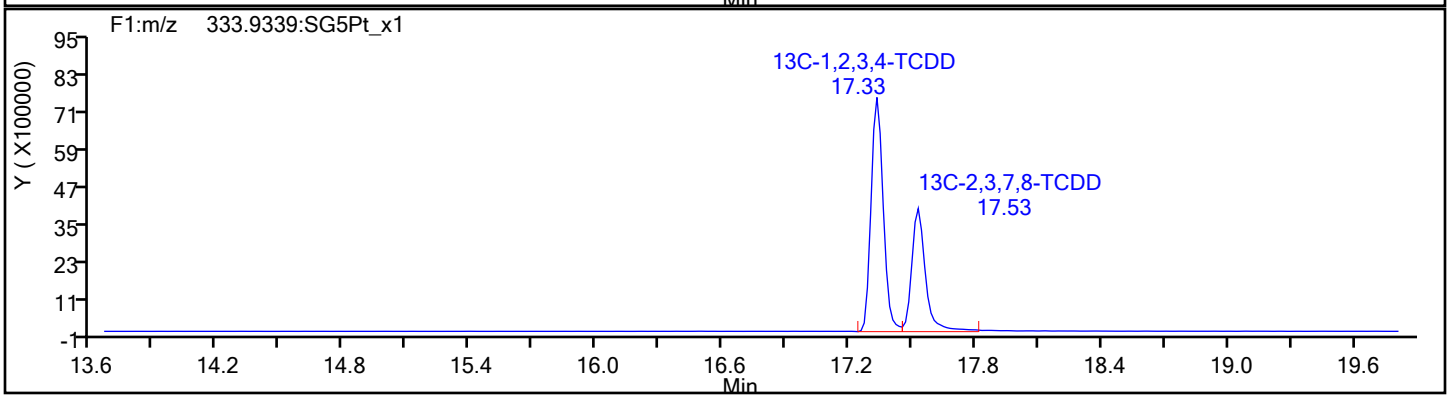

Report Date: 07-Feb-2020 14:28:11 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

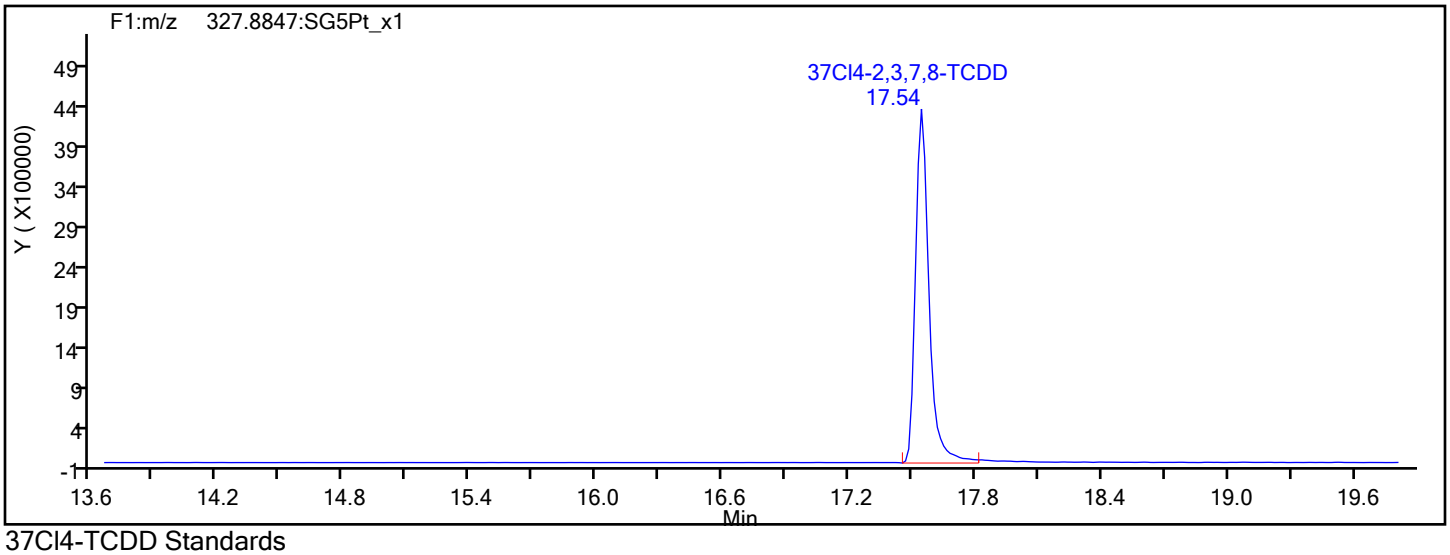

37Cl4-TCDD Standards

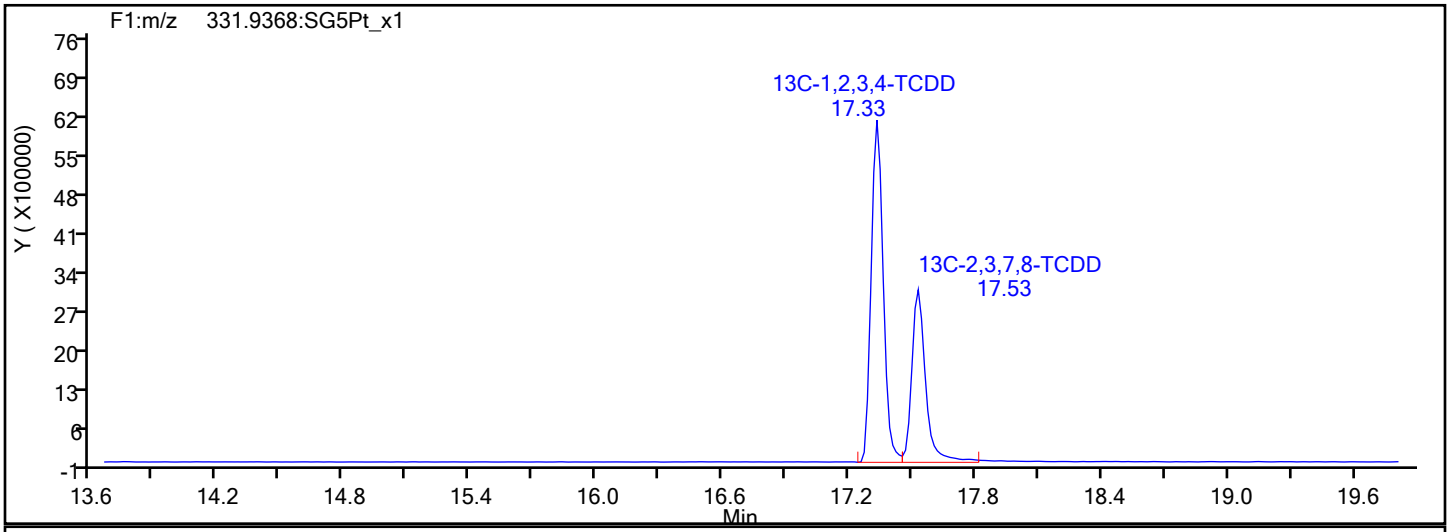

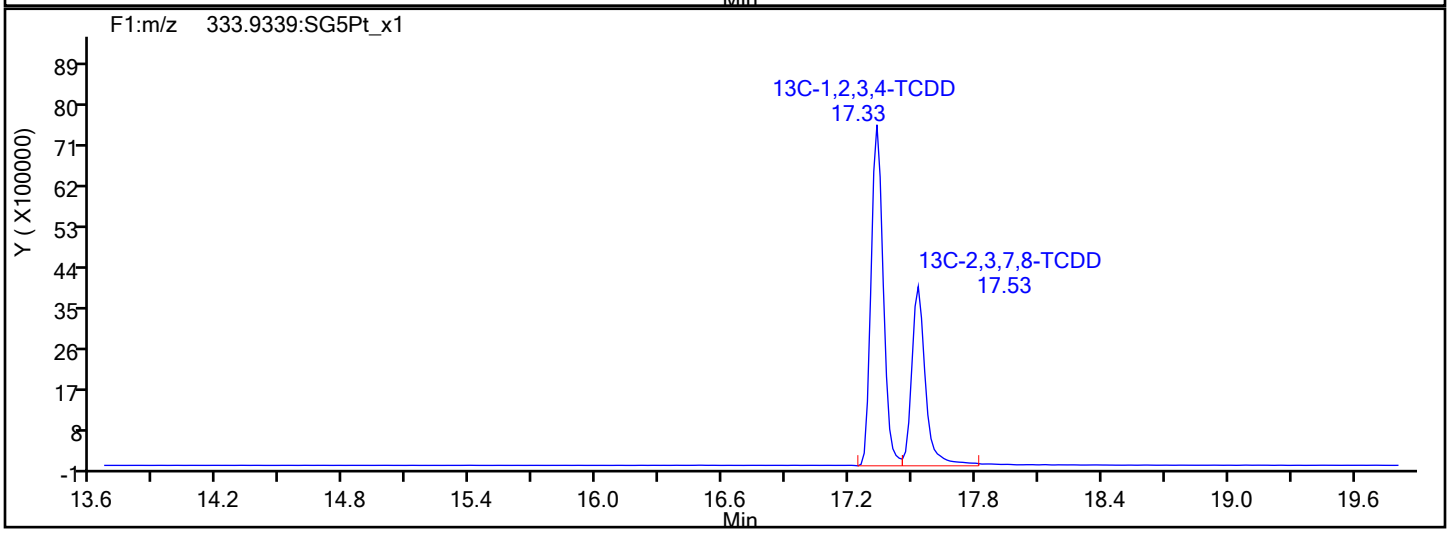

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Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

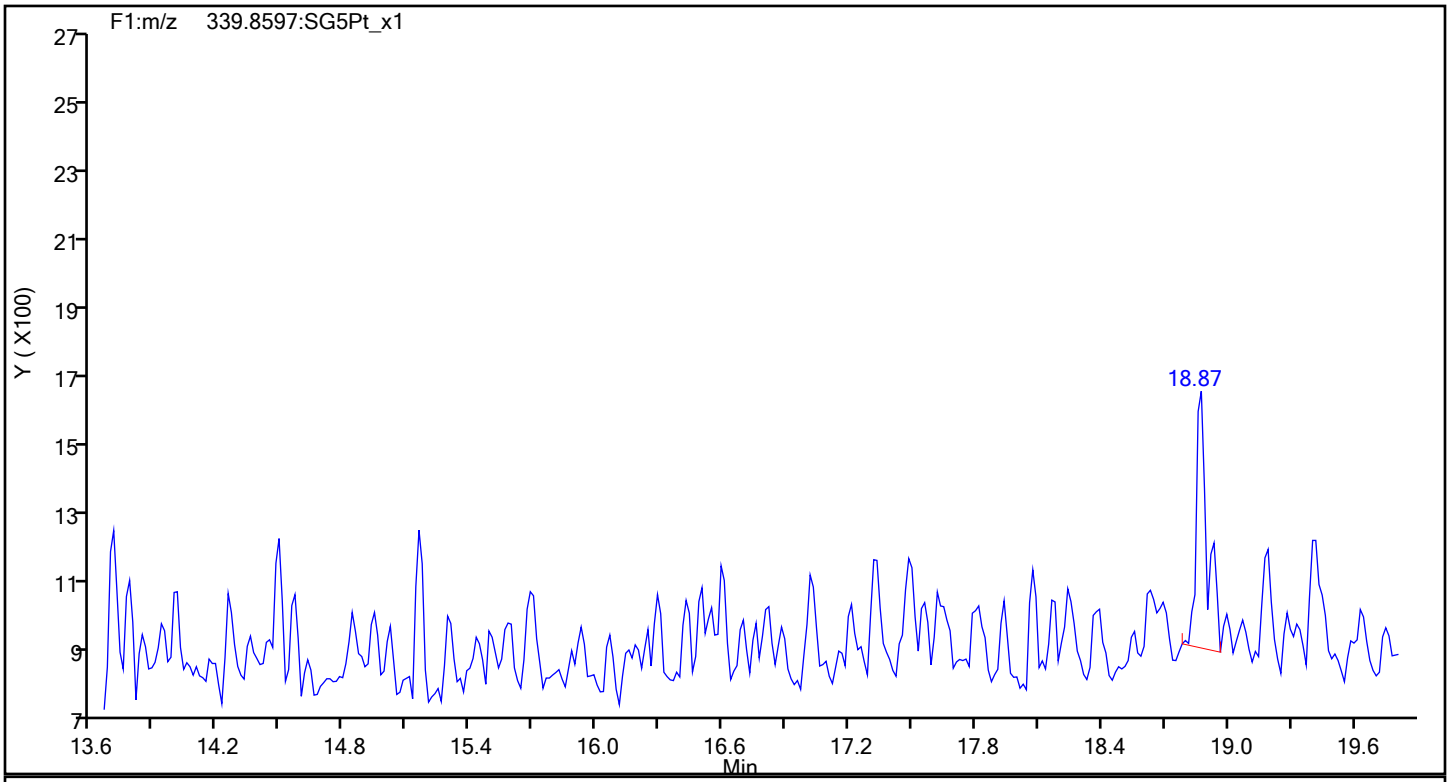

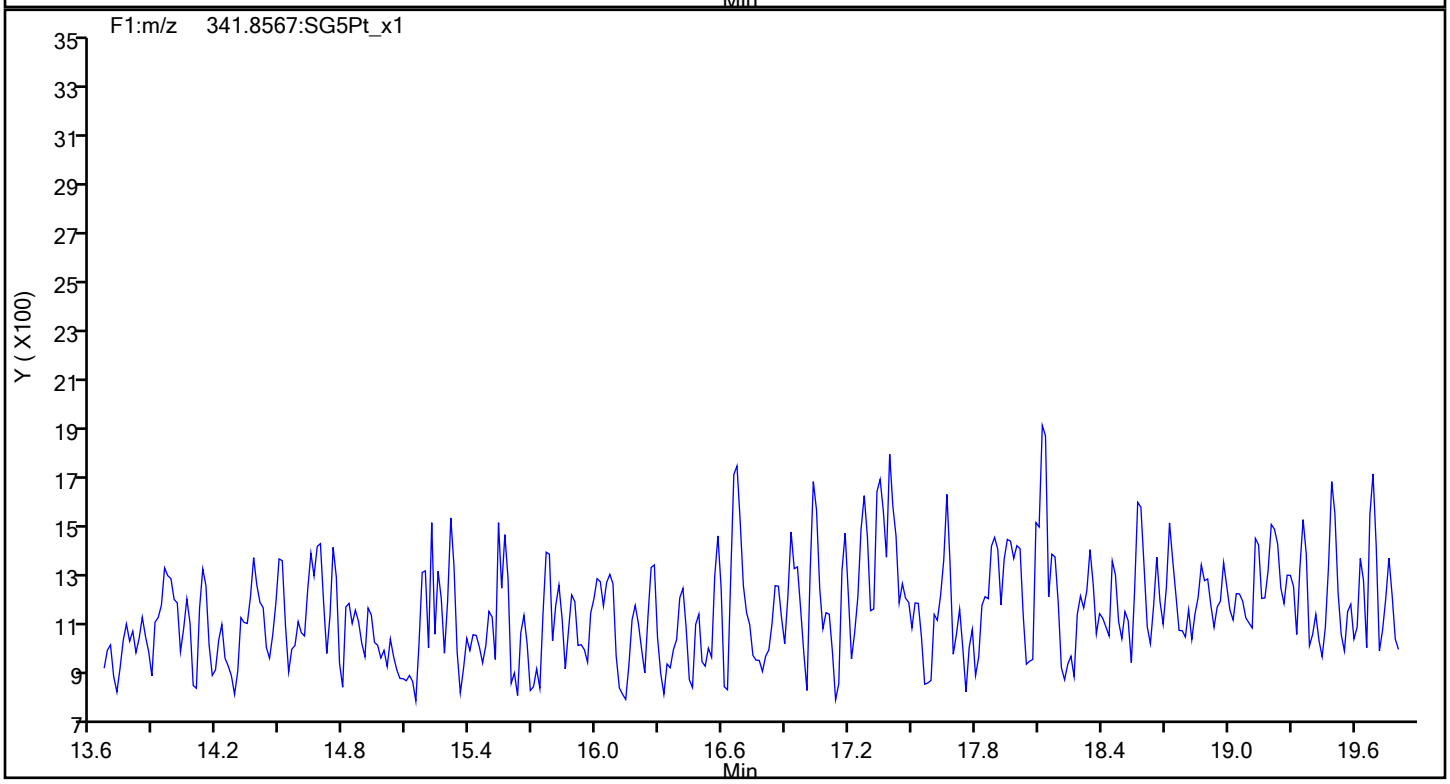

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

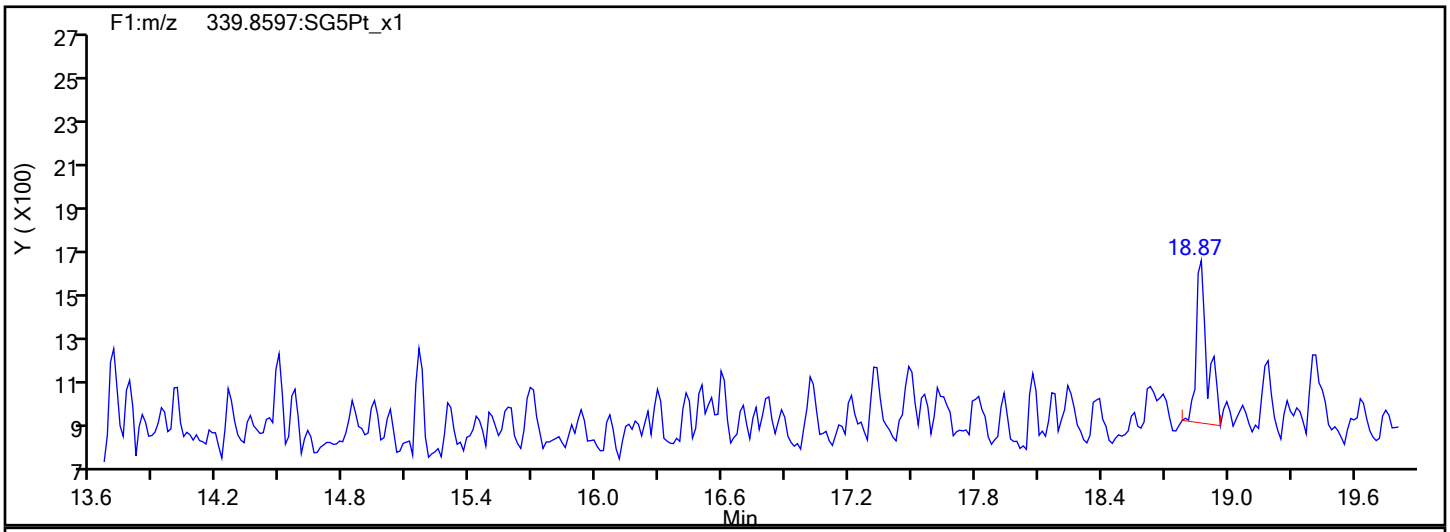

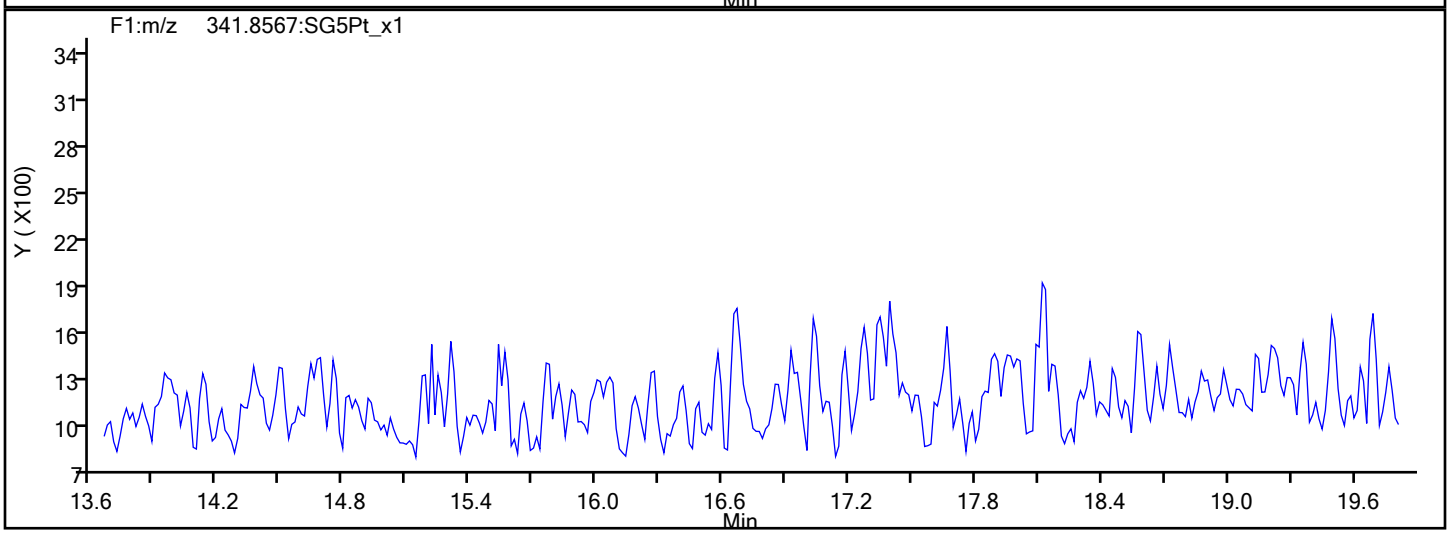

F1 PeCDFs Interference Mass

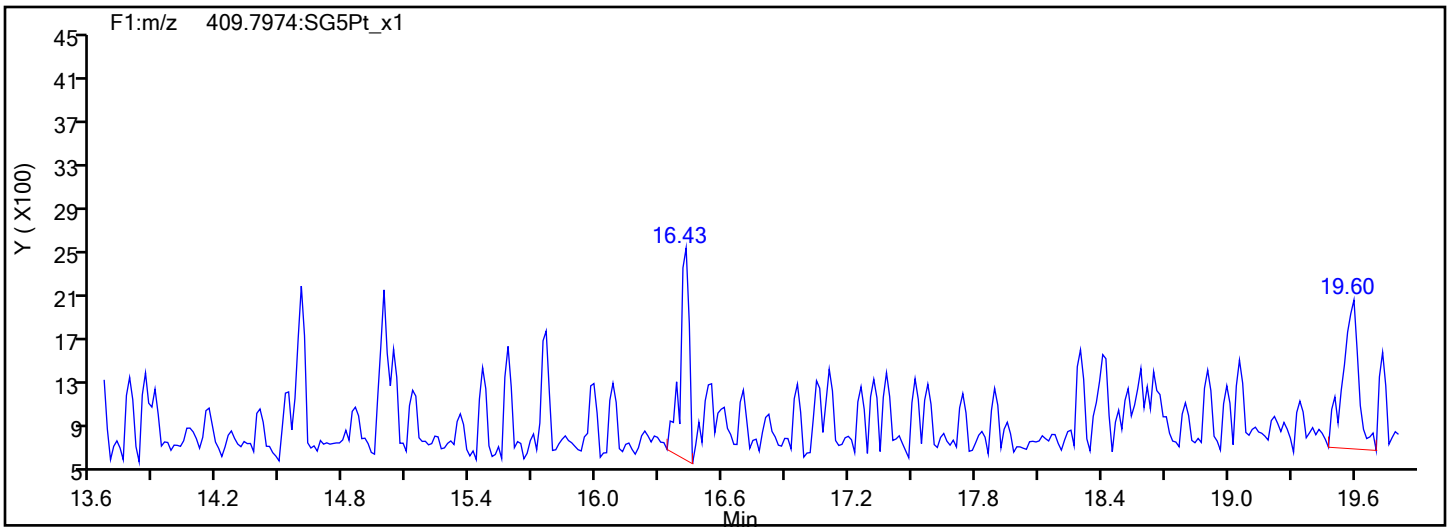

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Eurofins TestAmerica, Sacramento

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PeCDF

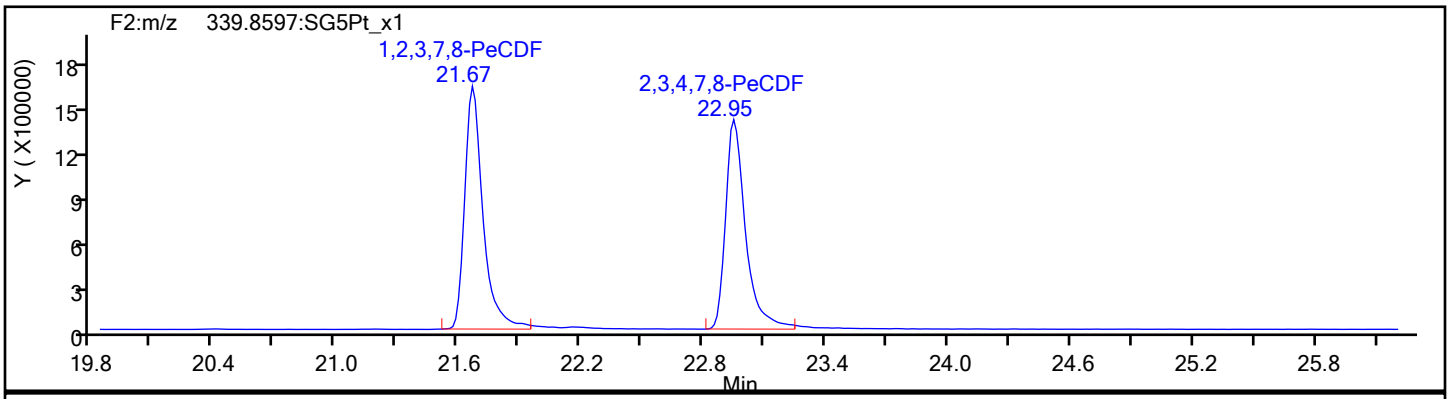

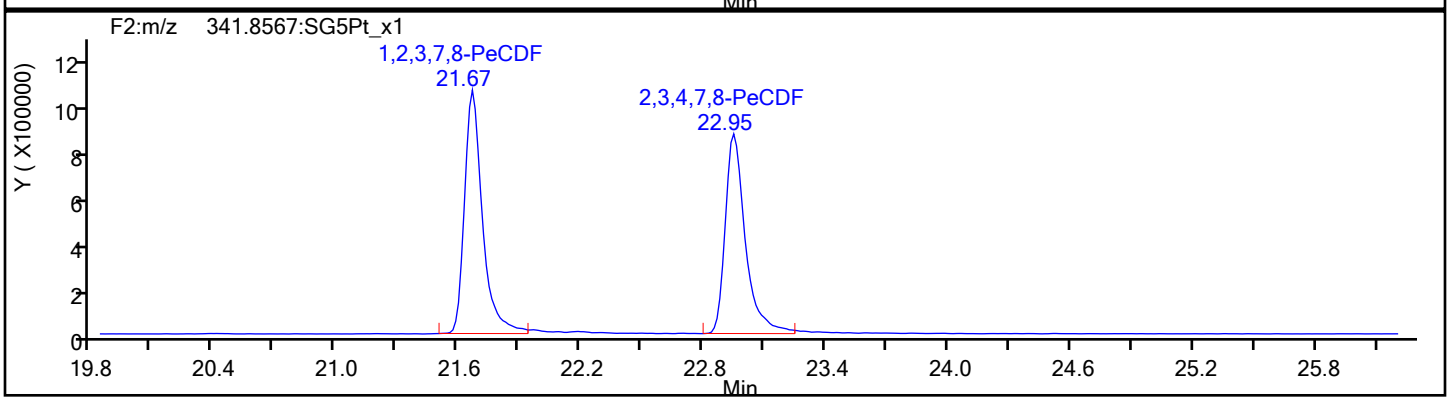

PeCDF Standards

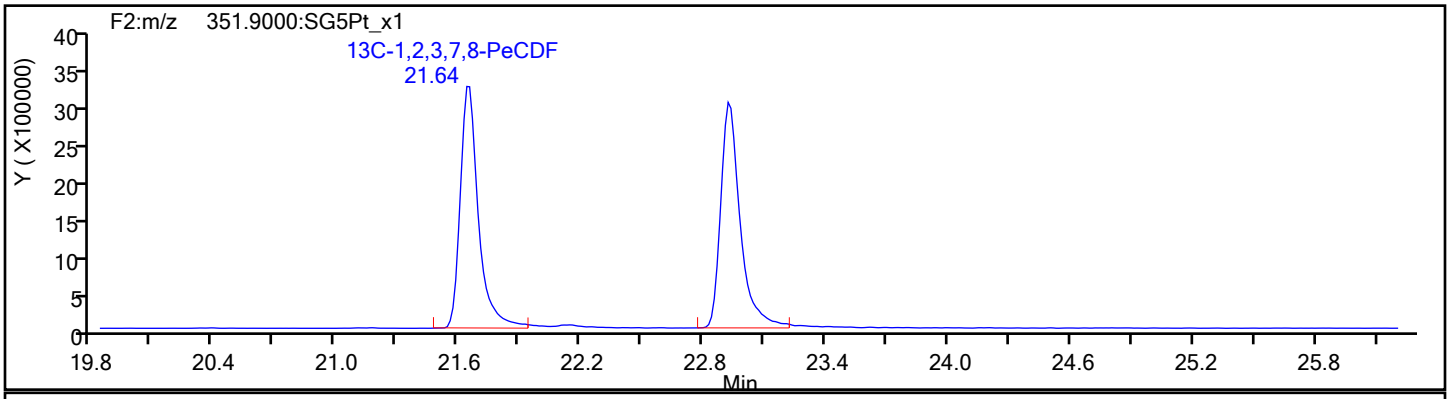

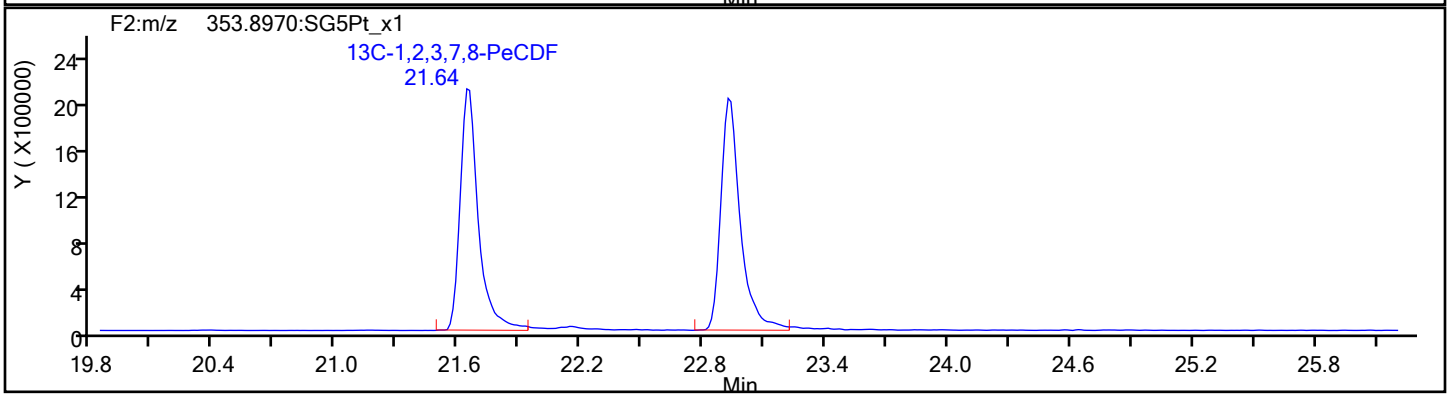

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Eurofins TestAmerica, Sacramento

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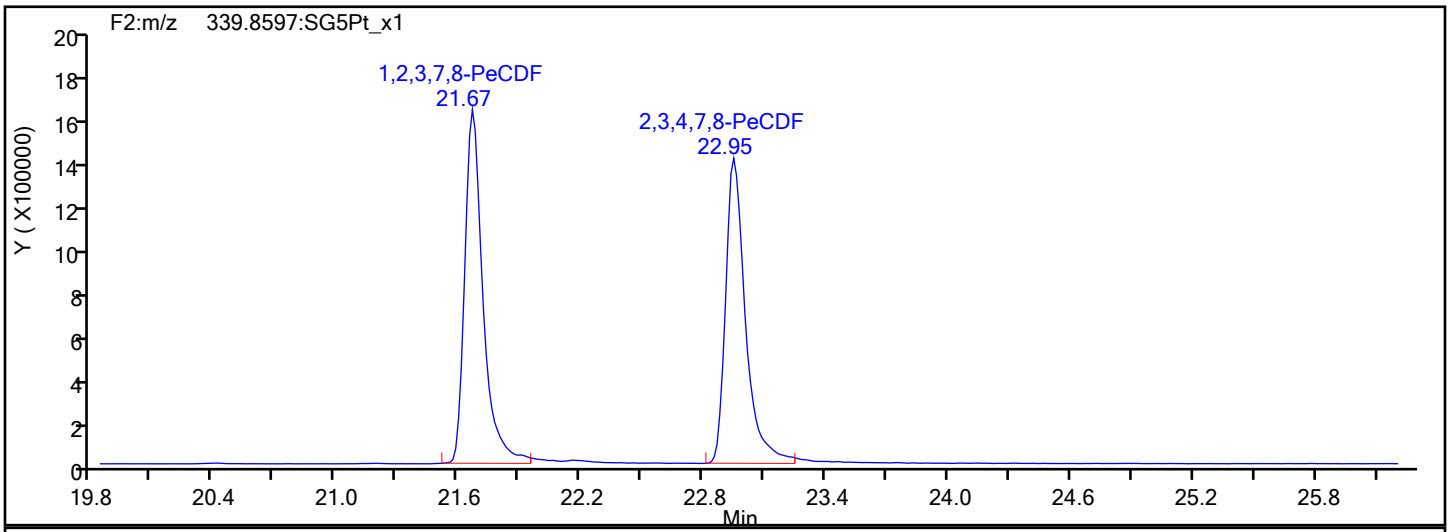

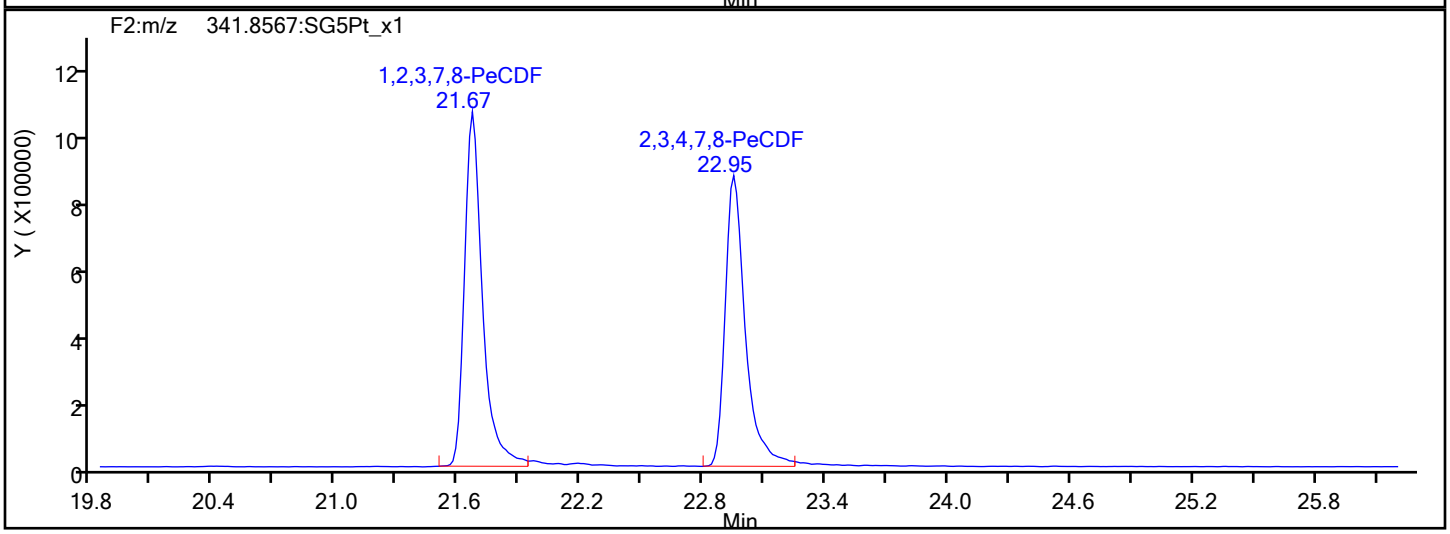

PeCDF Interference Mass

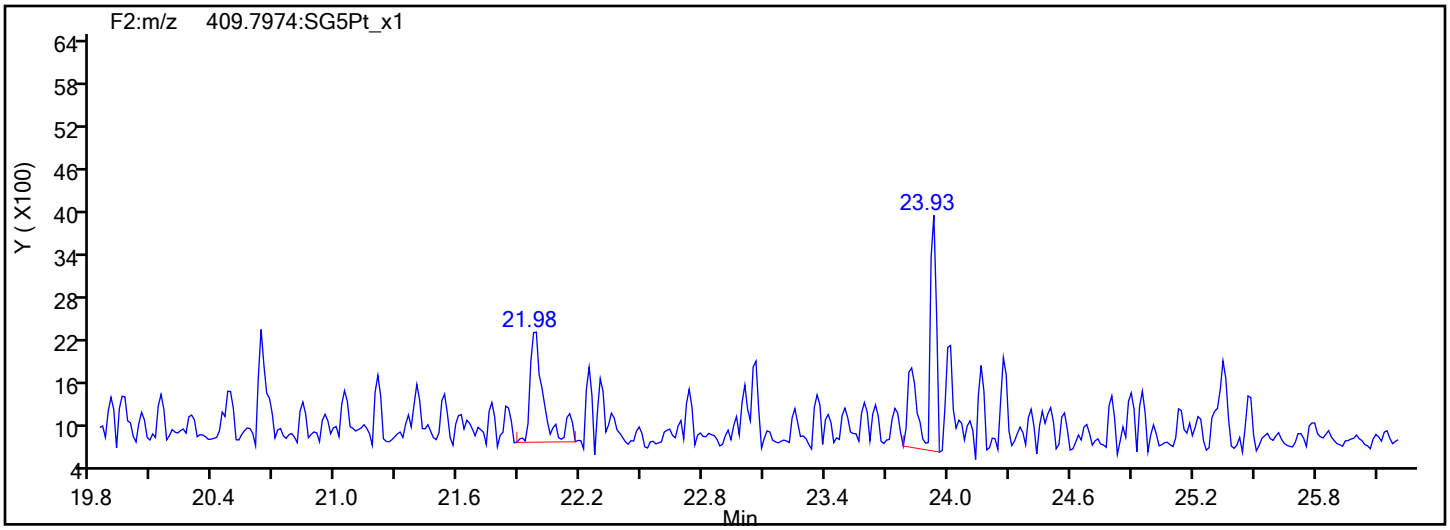

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Eurofins TestAmerica, Sacramento

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PeCDD

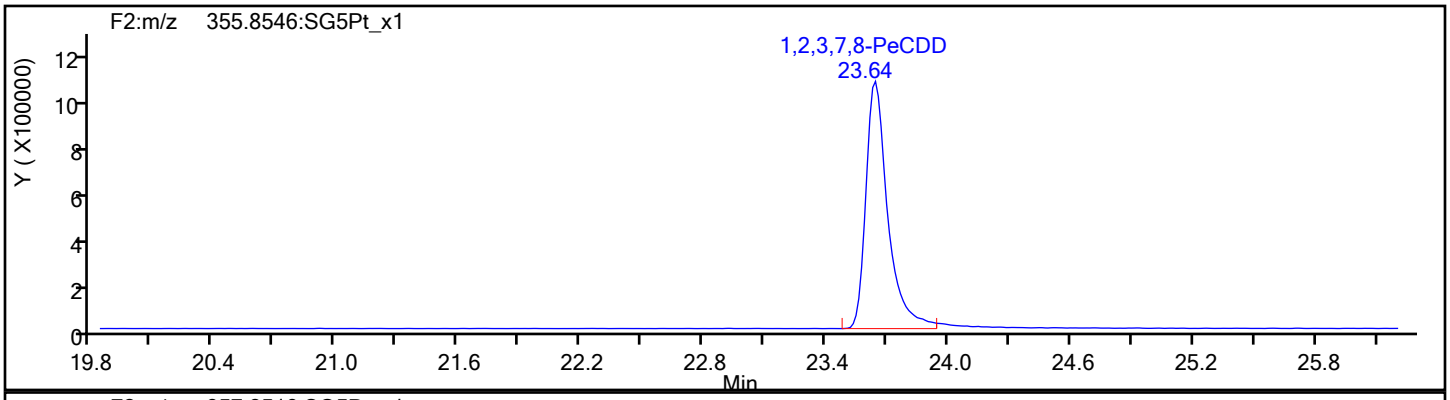

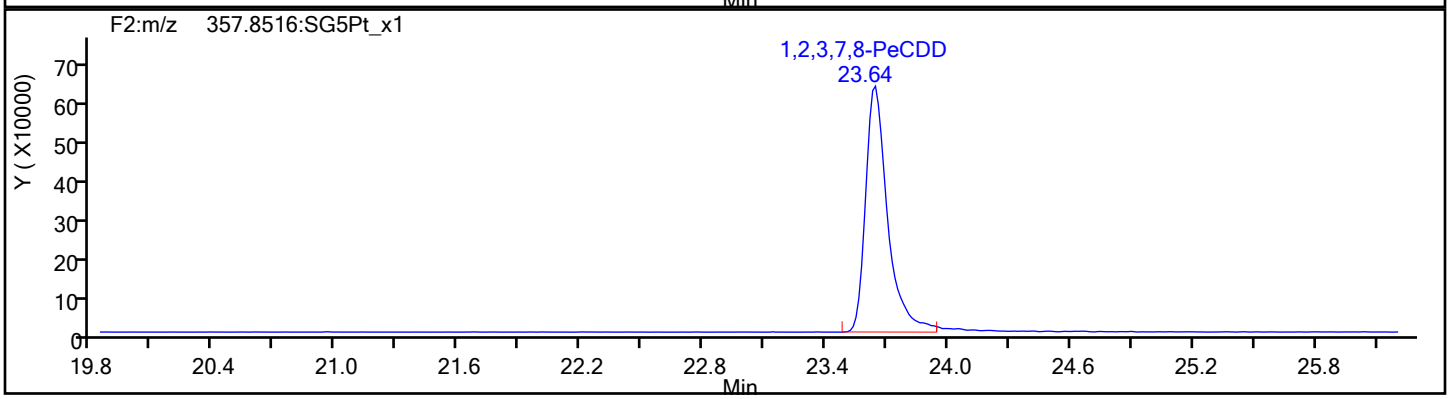

PeCDD Standards

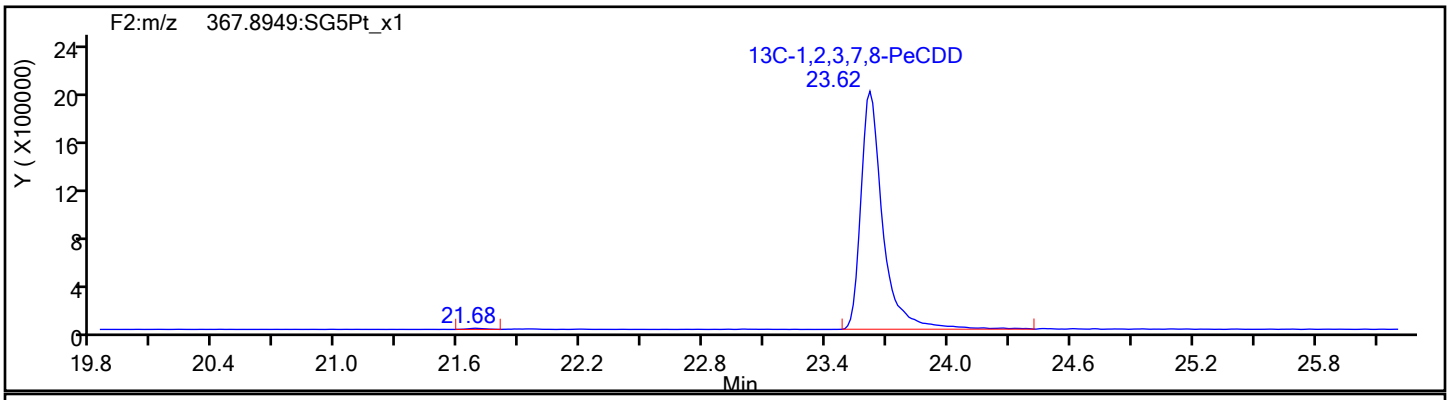

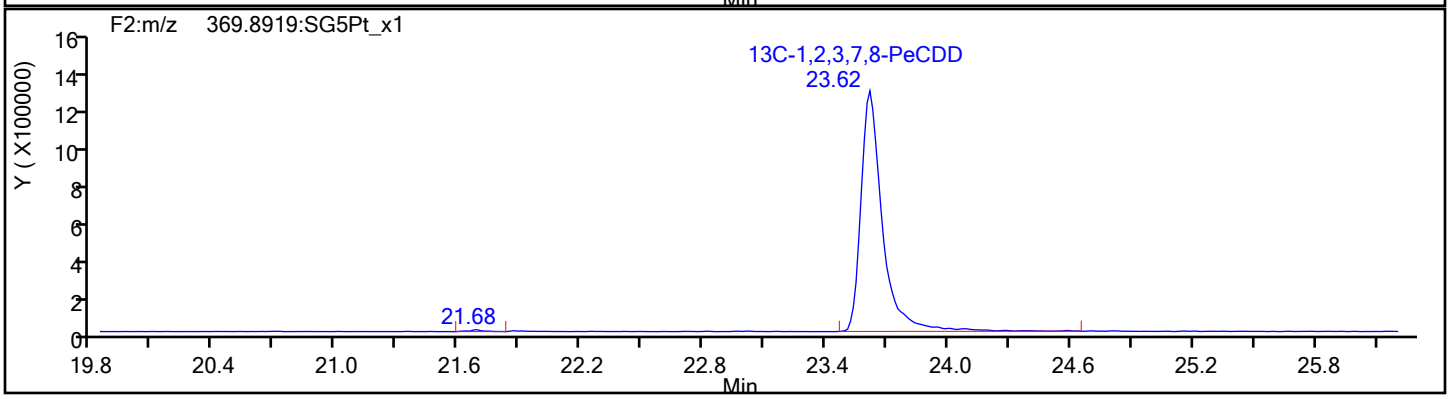

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Eurofins TestAmerica, Sacramento

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HxCDF

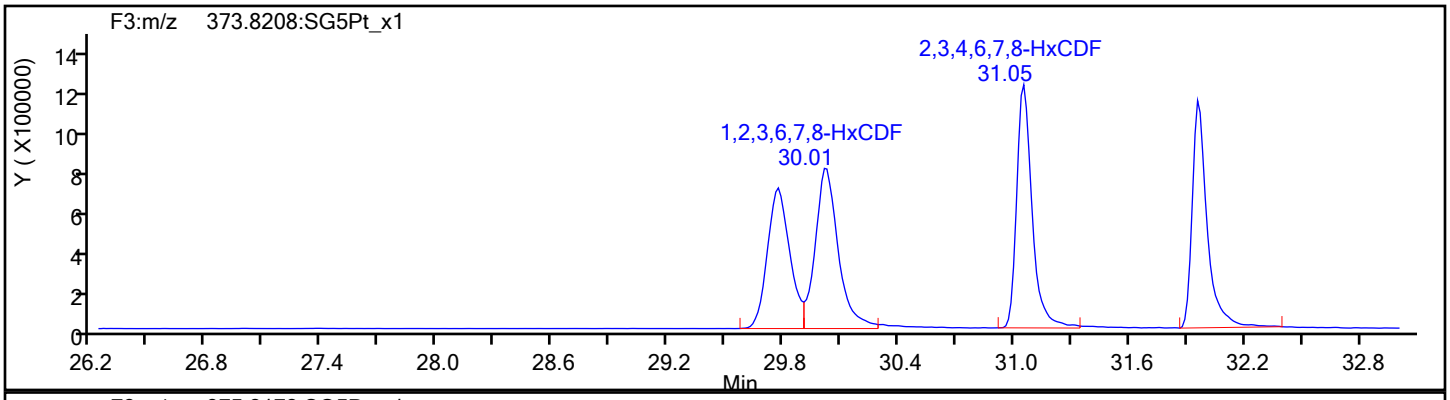

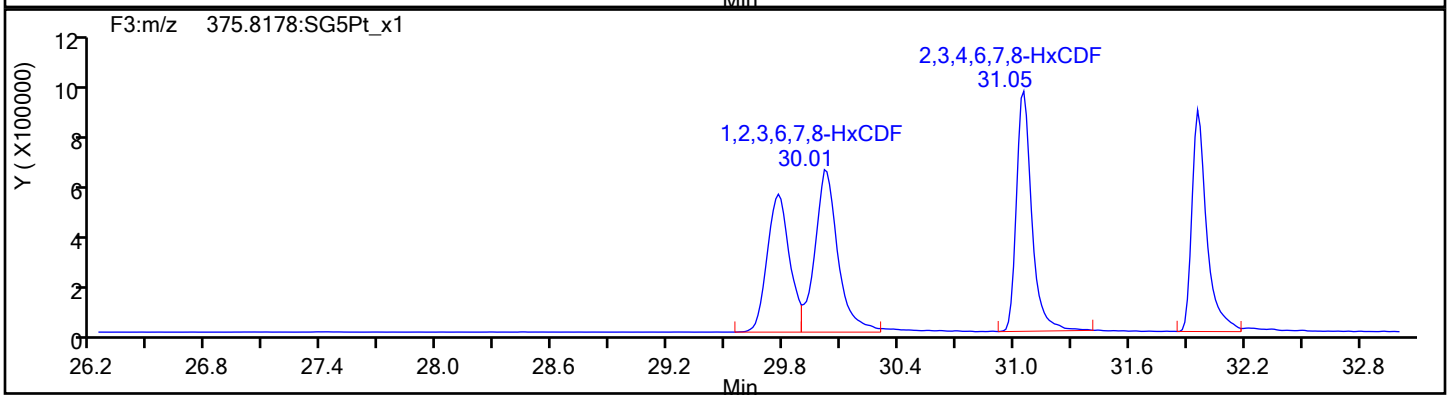

HxCDF Standards

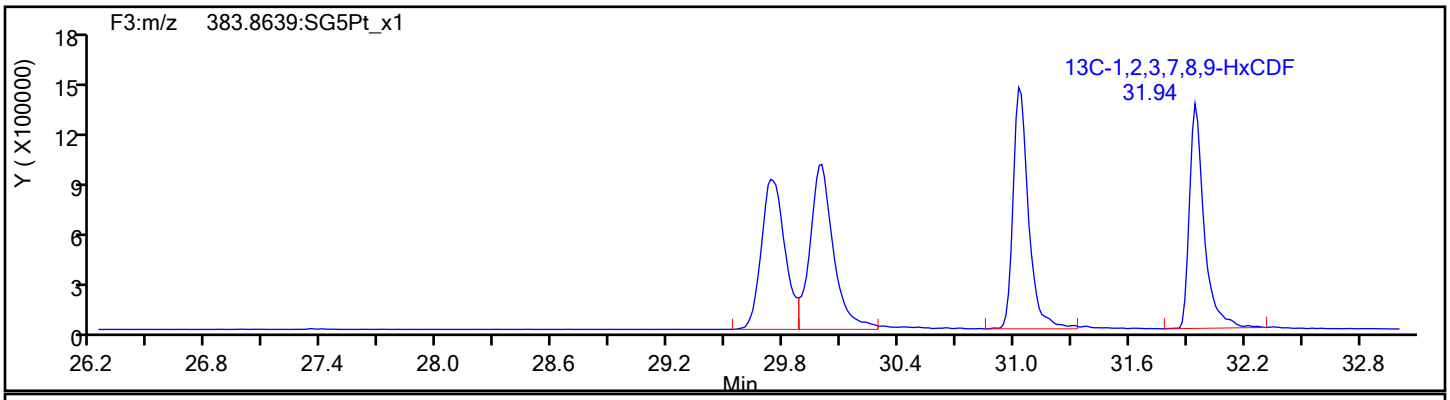

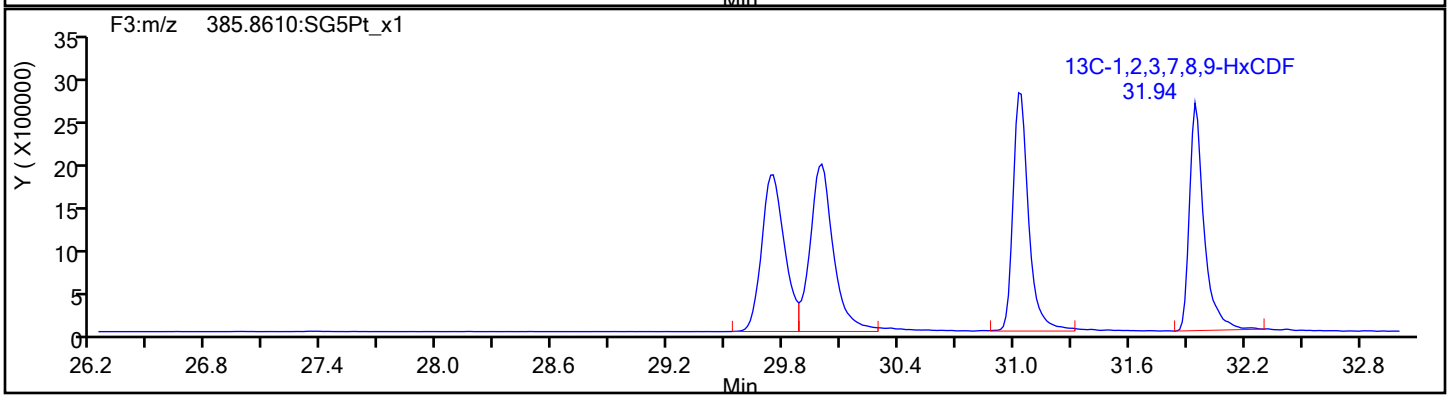

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Eurofins TestAmerica, Sacramento

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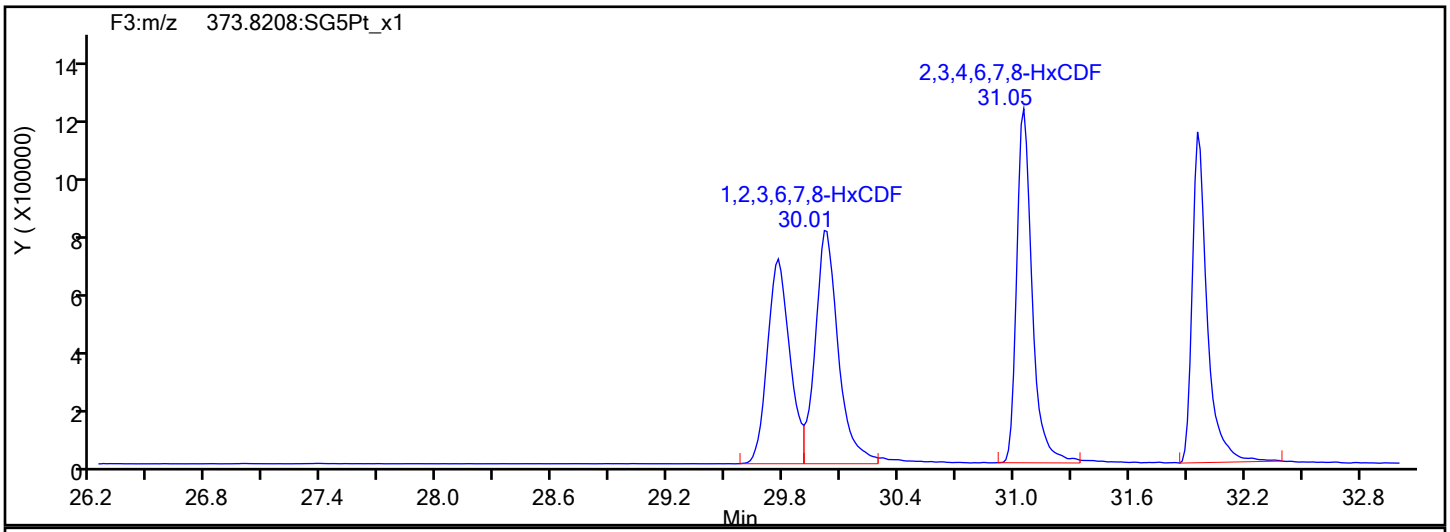

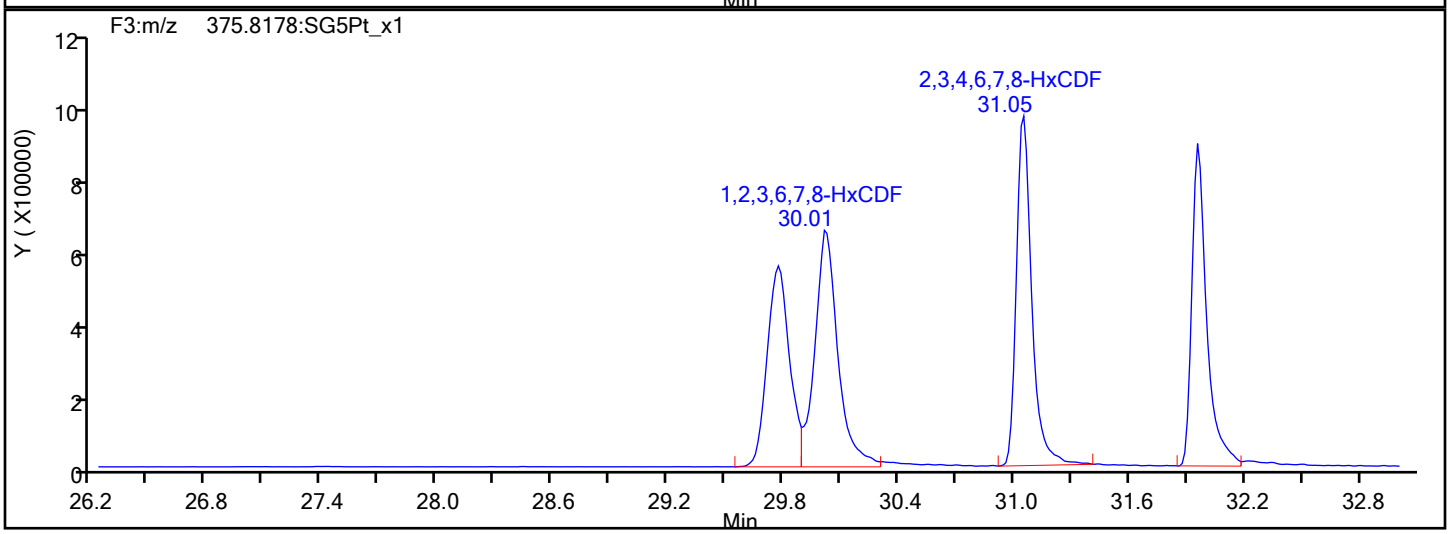

HxCDF Interference Mass

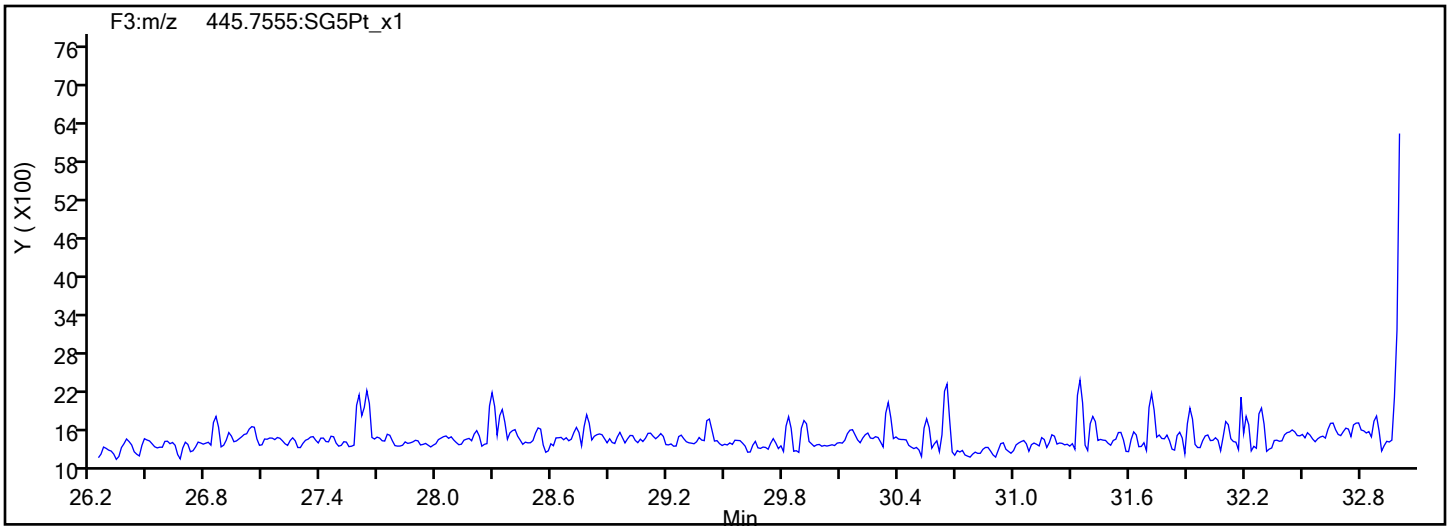

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Eurofins TestAmerica, Sacramento

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HxCDD

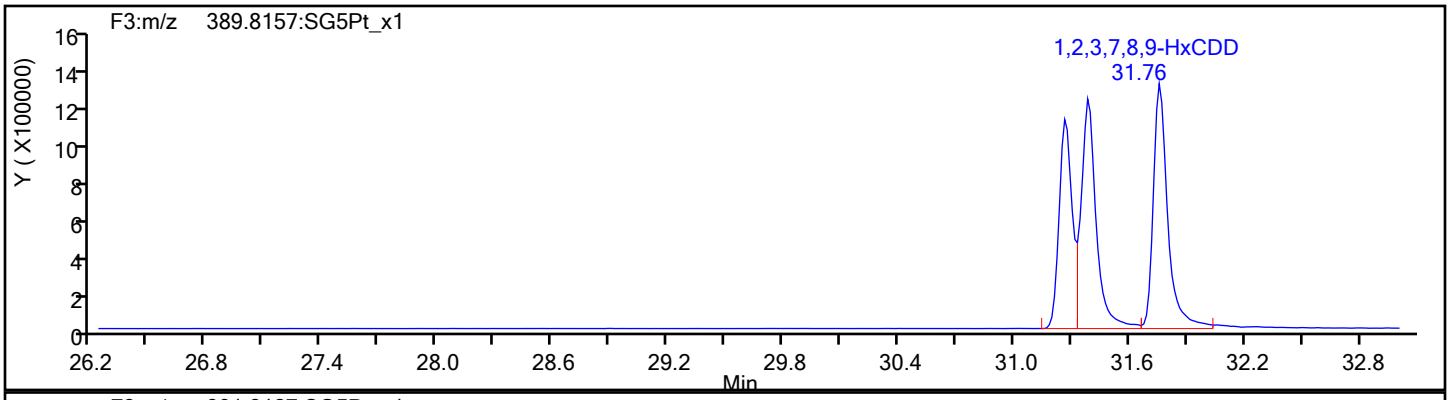

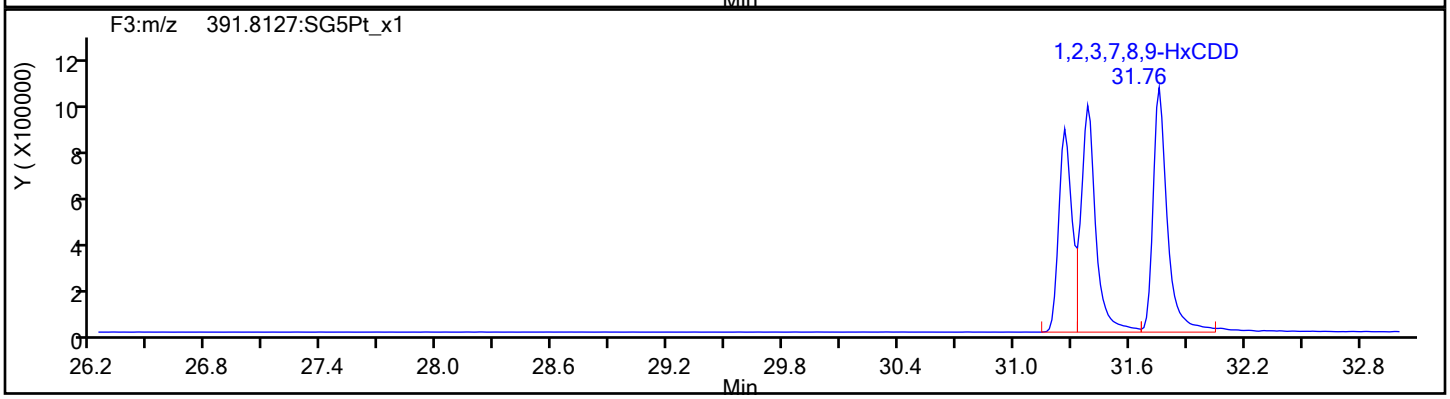

HxCDD Standards

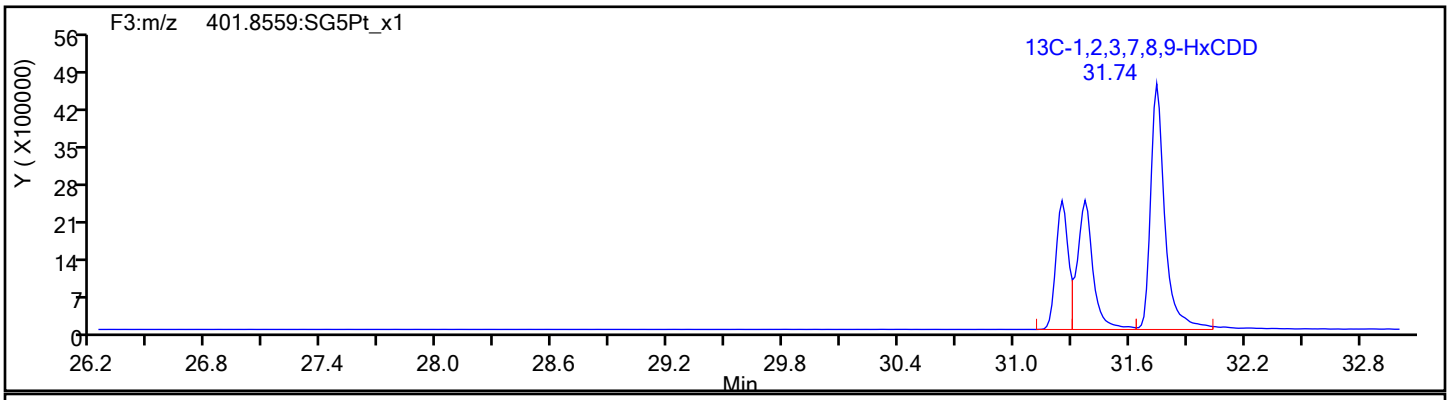

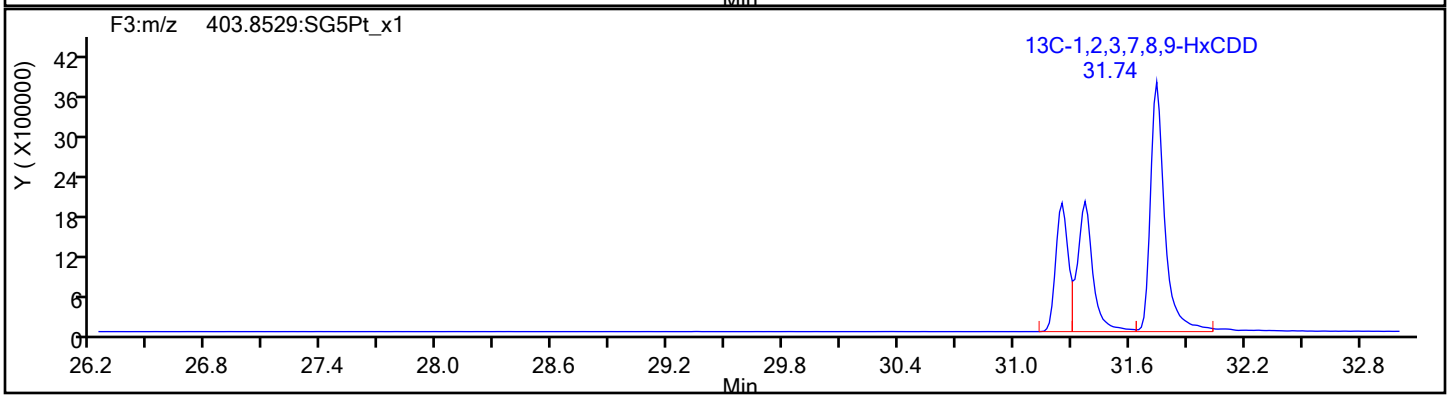

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Eurofins TestAmerica, Sacramento

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HpCDF

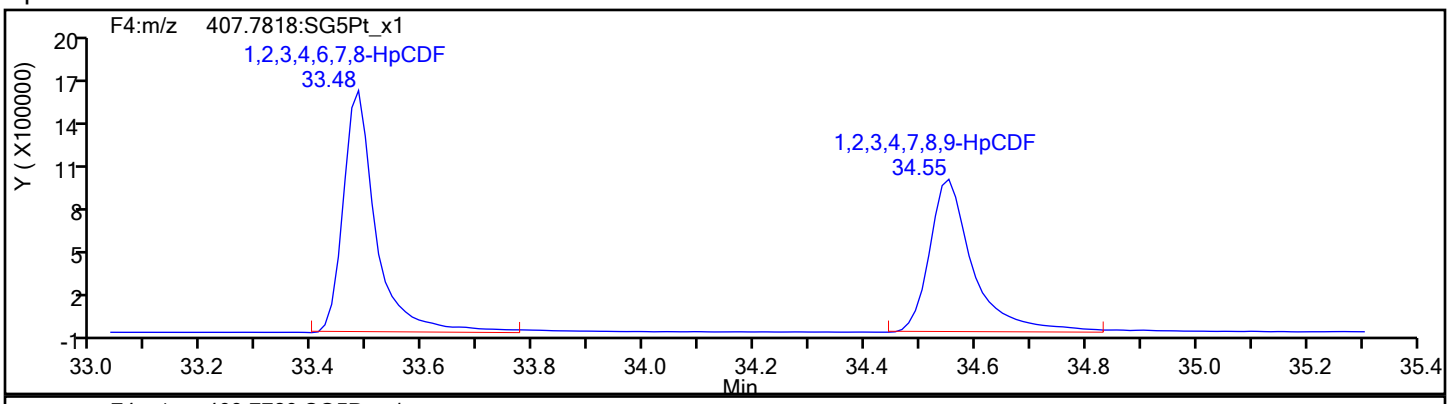

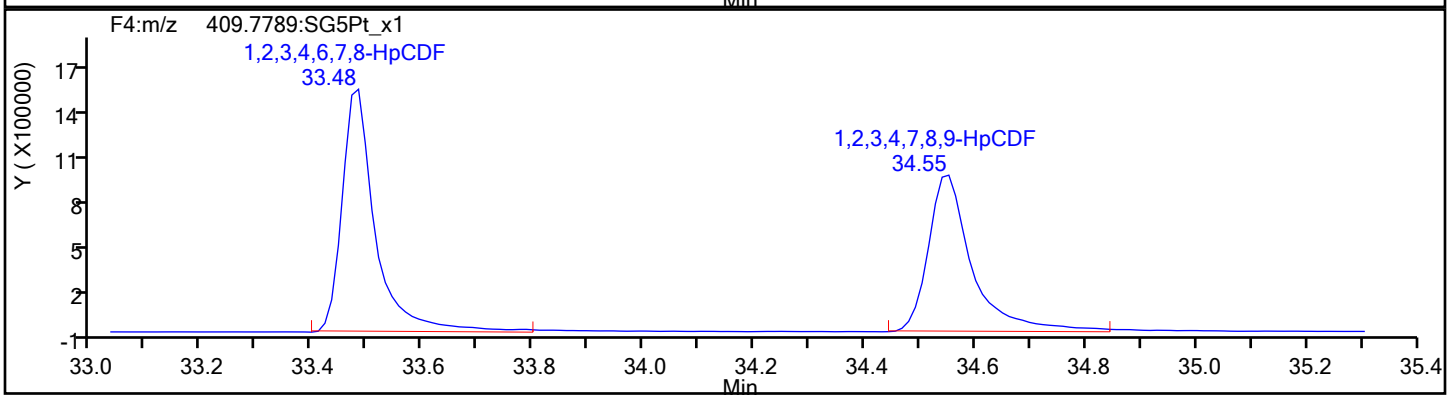

HpCDF Standards

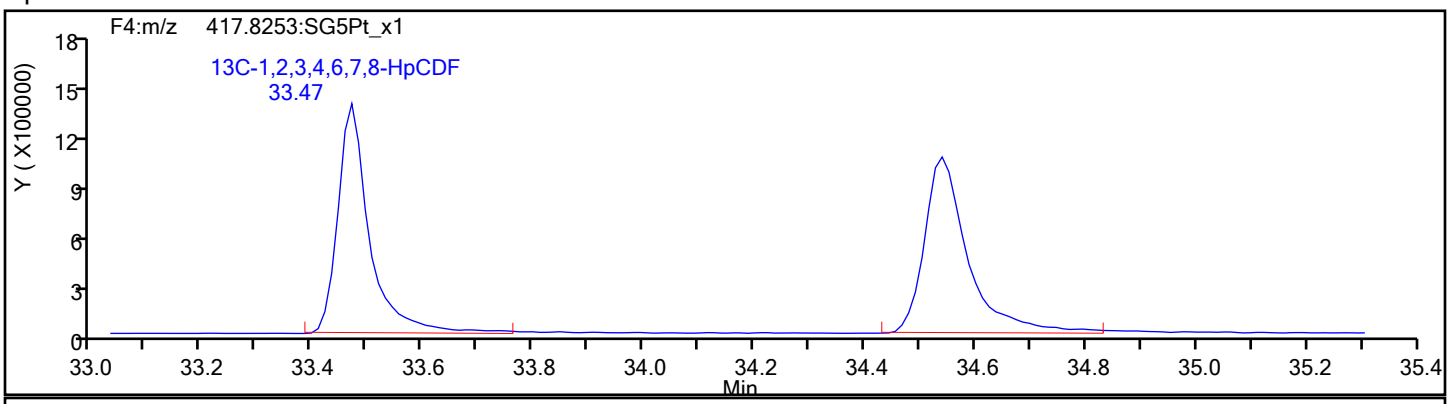

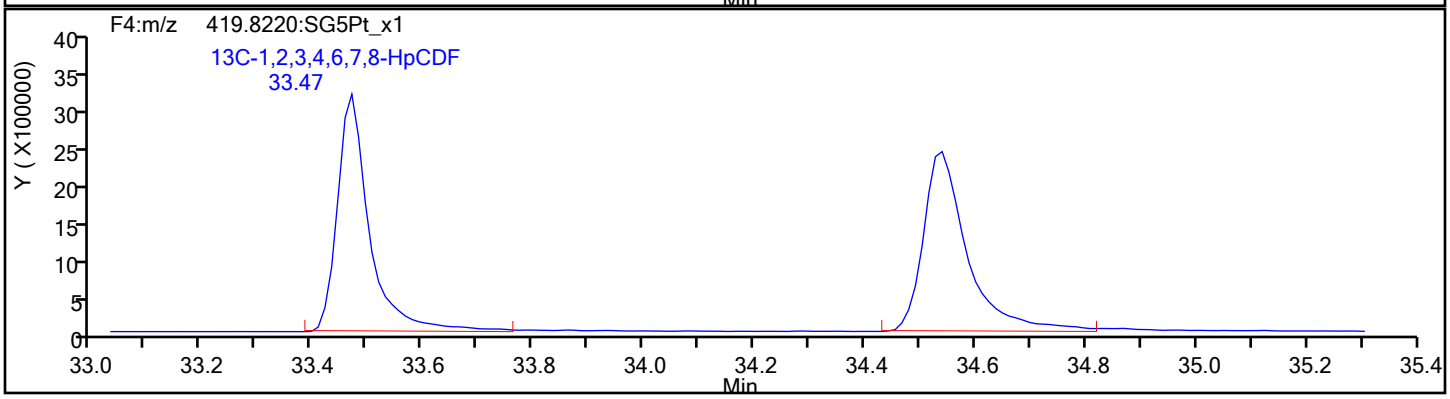

Report Date: 07-Feb-2020 14:28:12 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_5.d		
Injection Date:	05-Feb-2020 18:36:09	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355322	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

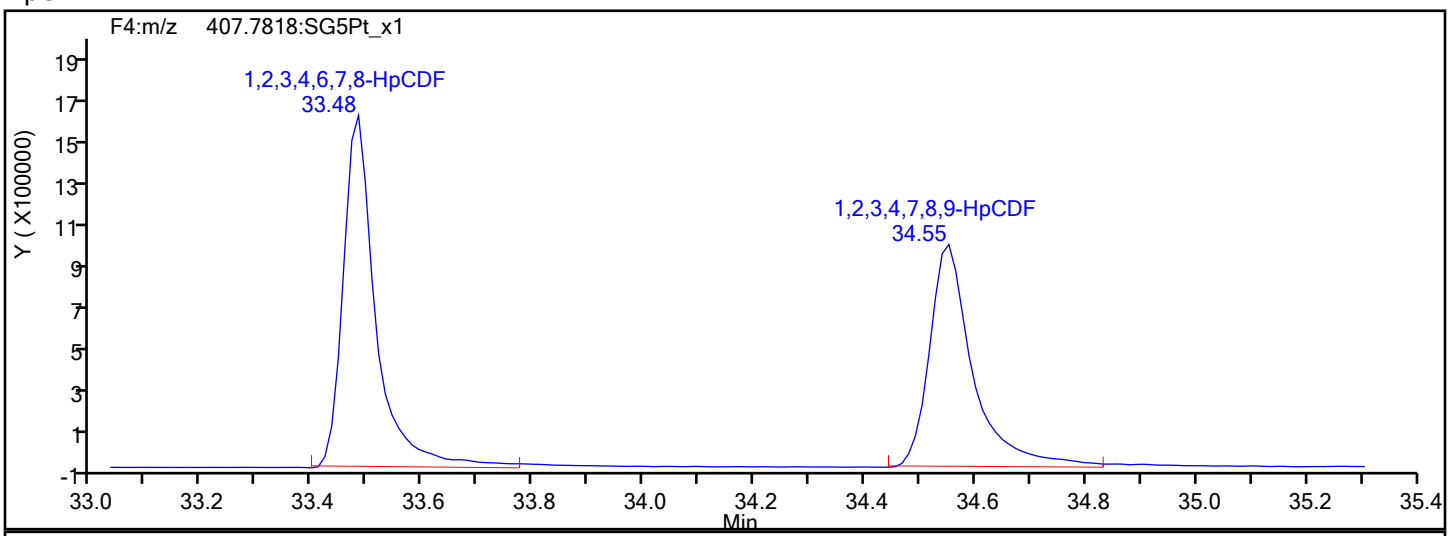

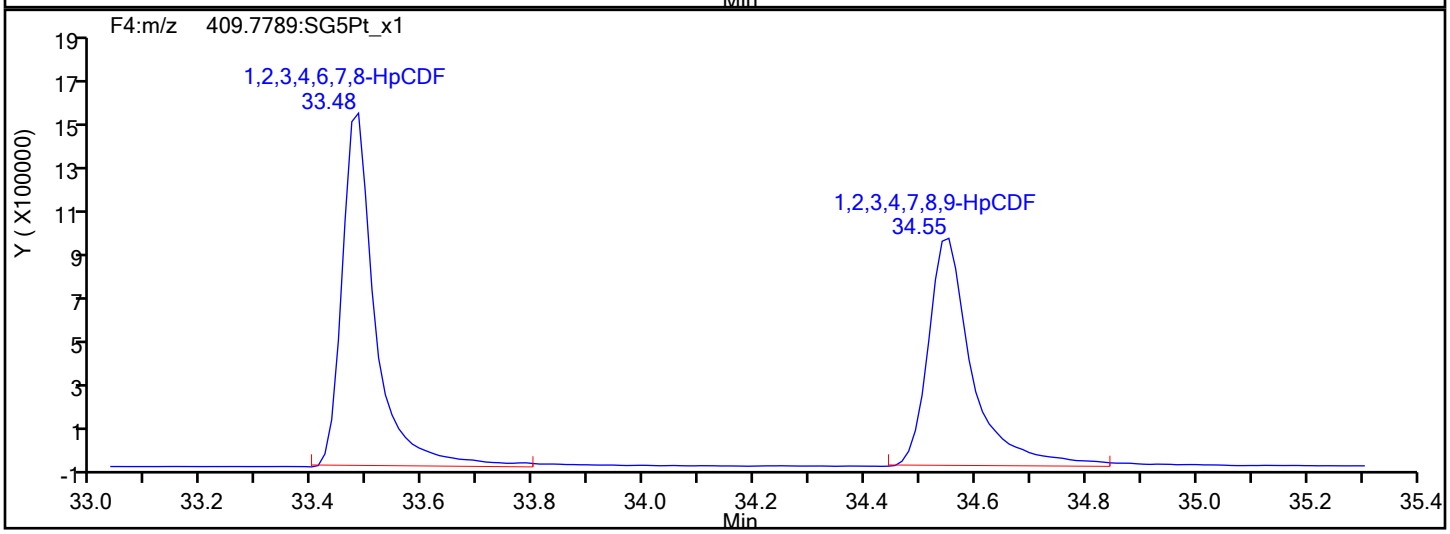

HpCDF Interference Mass

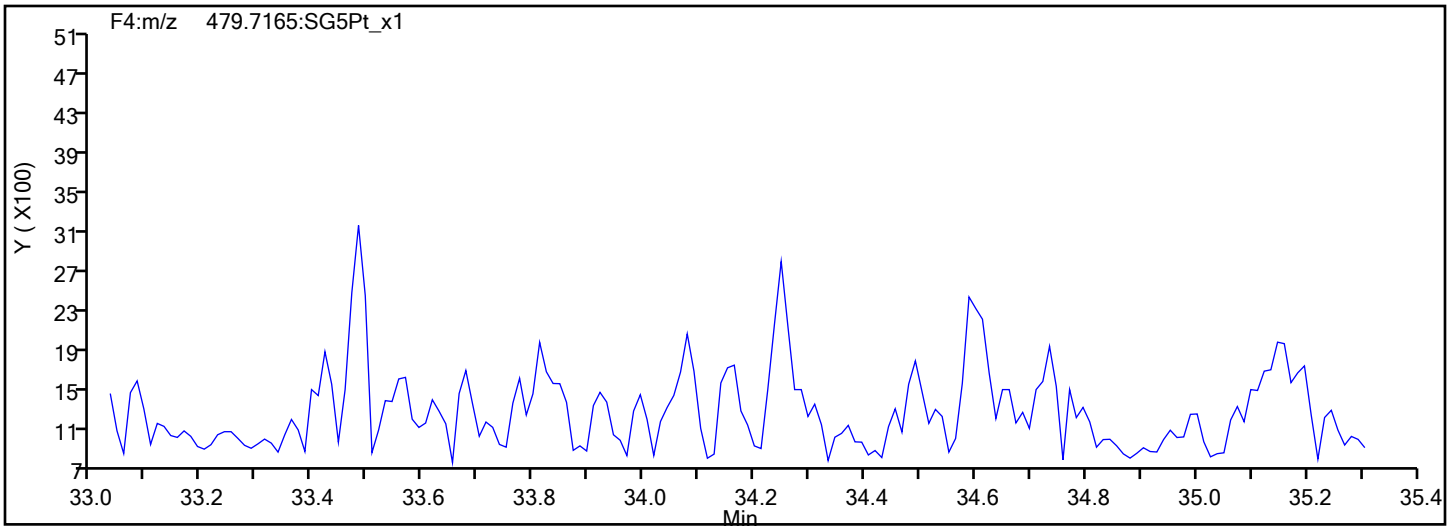

Report Date: 07-Feb-2020 14:28:12 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_5.d		
Injection Date:	05-Feb-2020 18:36:09	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355322	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

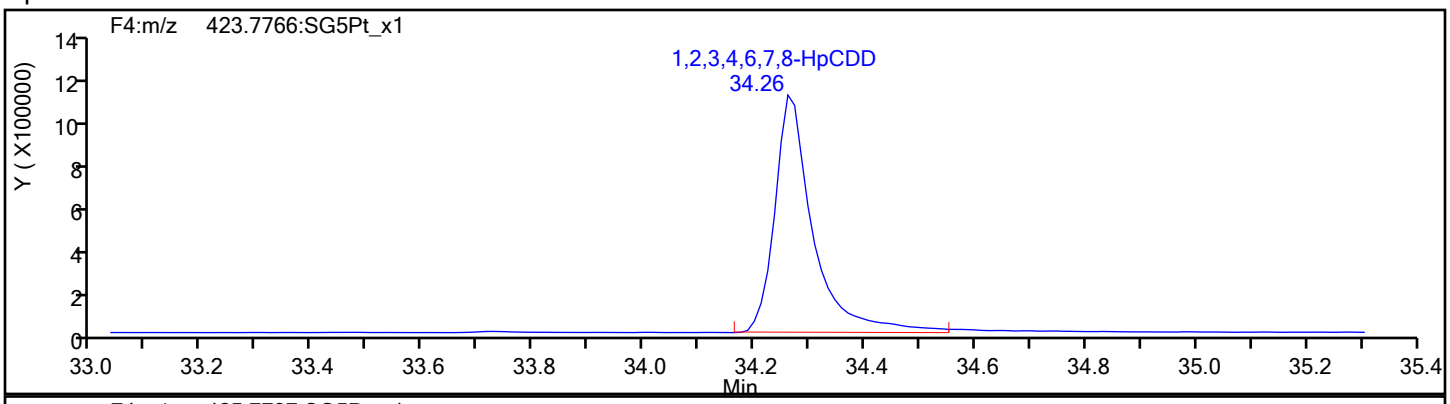

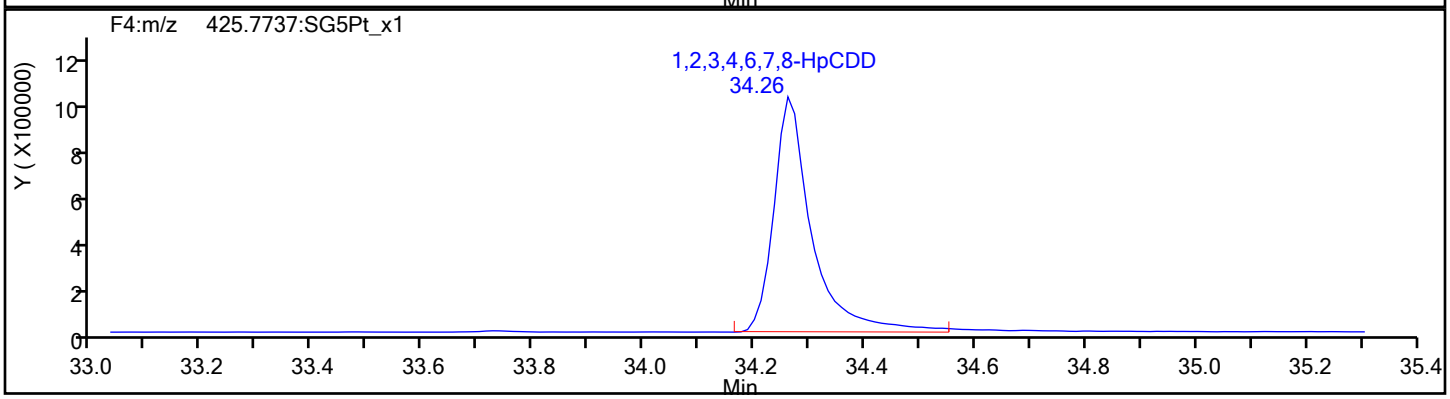

HpCDD Standards

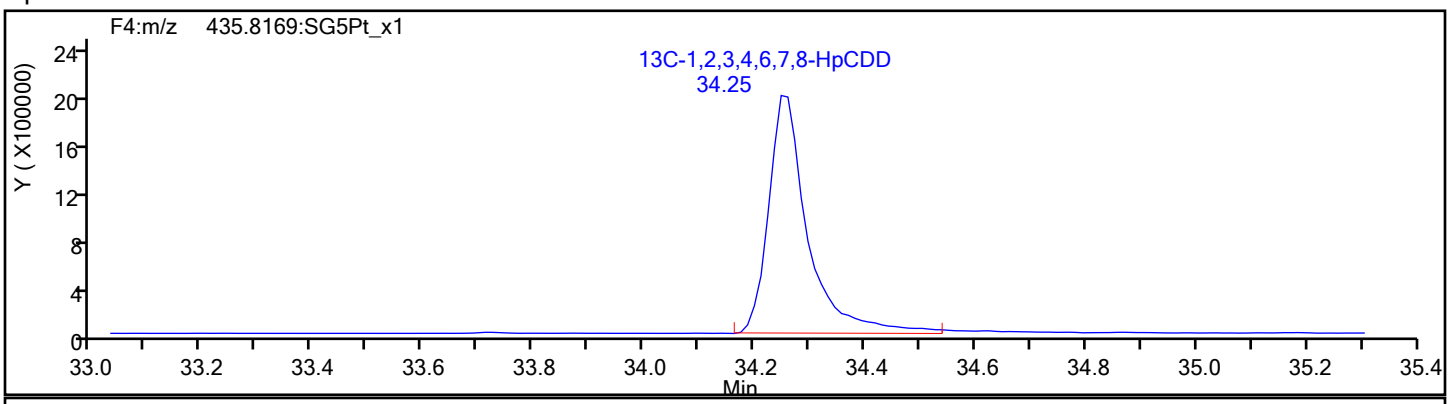

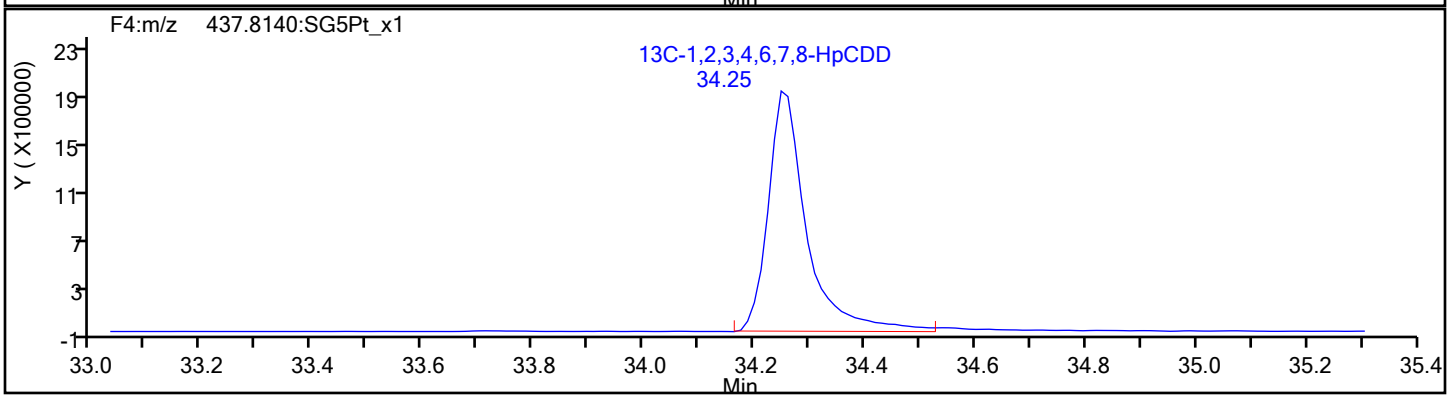

Report Date: 07-Feb-2020 14:28:12 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_5.d		
Injection Date:	05-Feb-2020 18:36:09	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355322	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

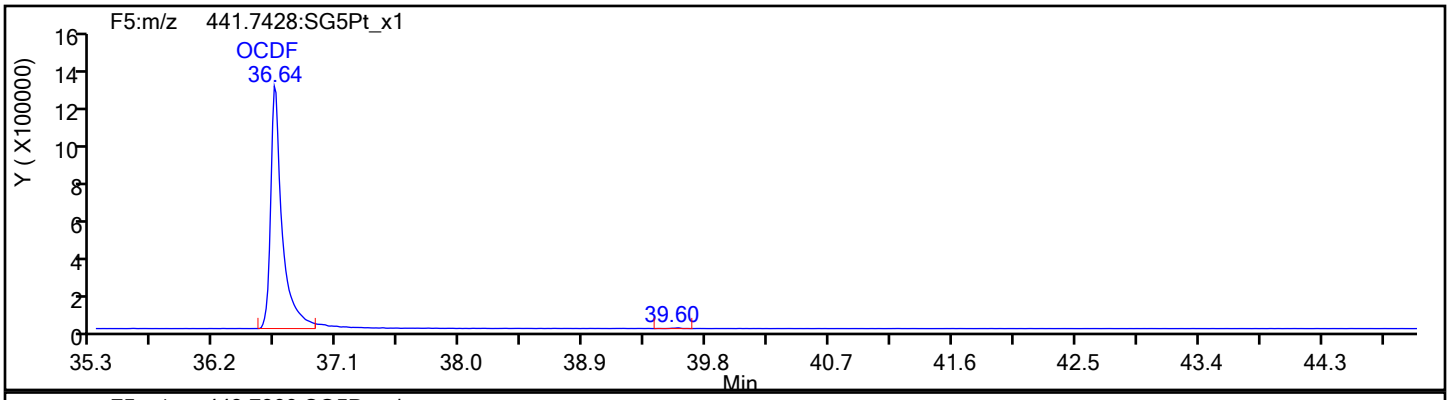

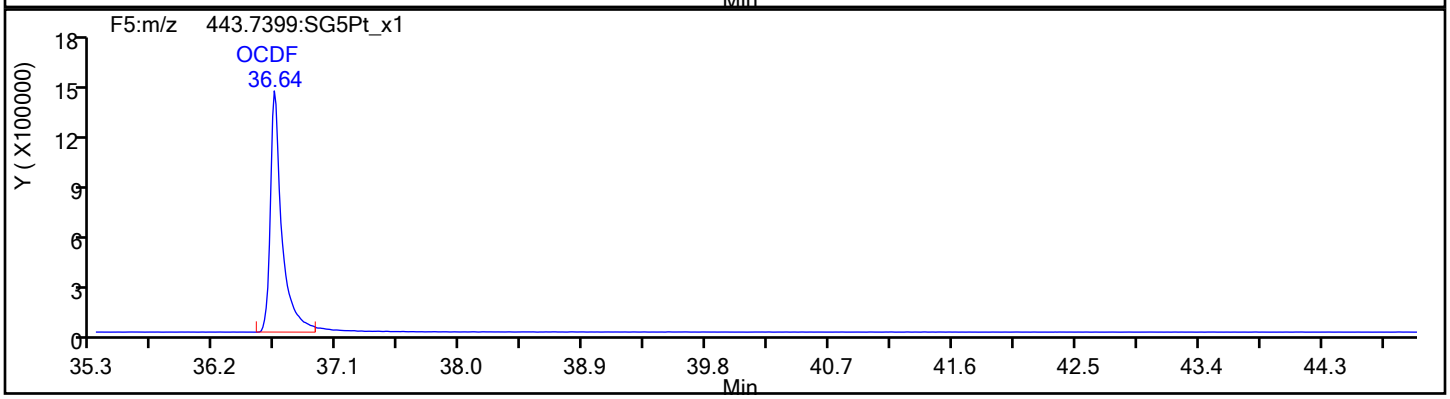

OCDF Standards

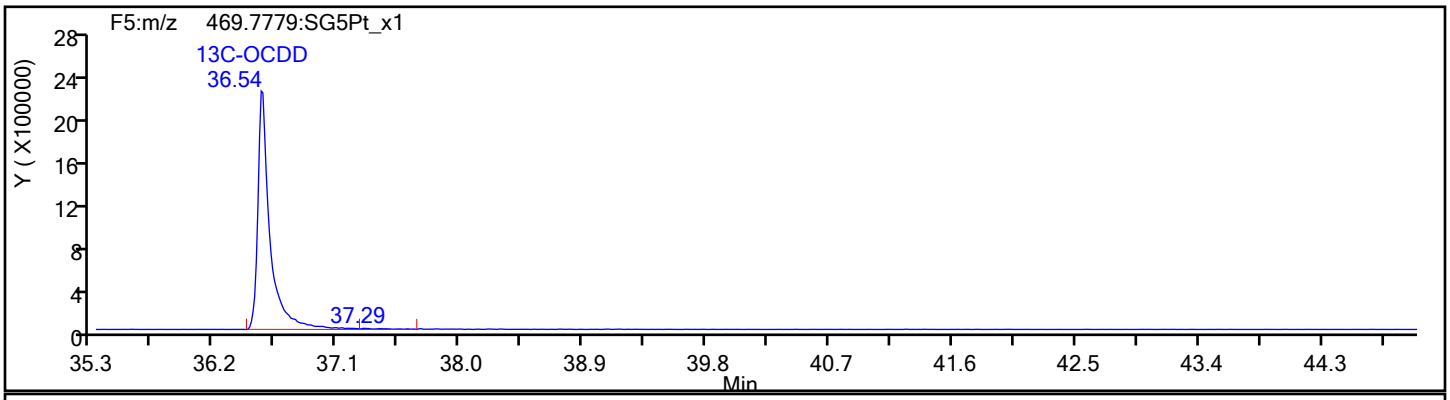

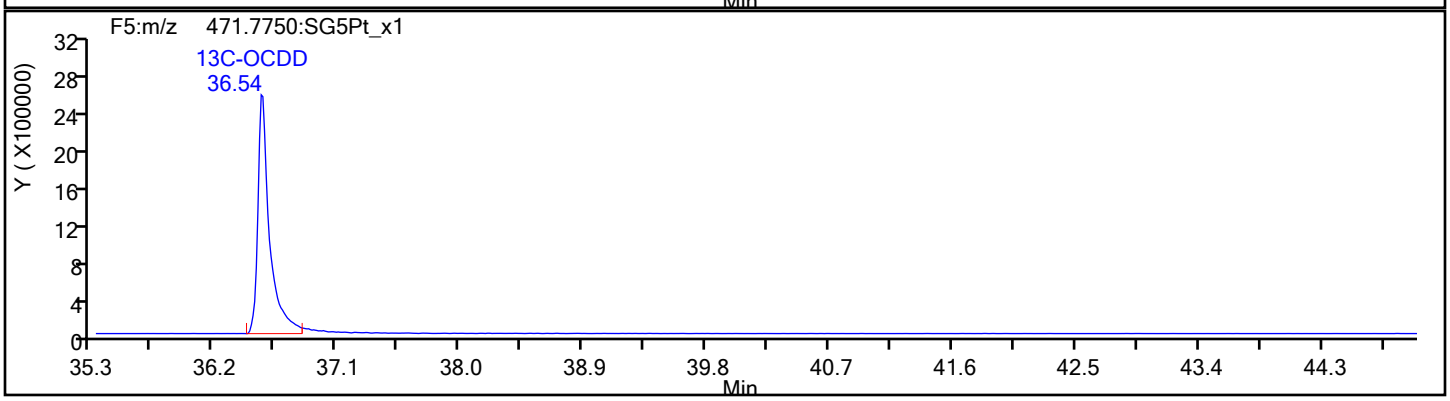

Report Date: 07-Feb-2020 14:28:12 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_5.d		
Injection Date:	05-Feb-2020 18:36:09	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355322	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

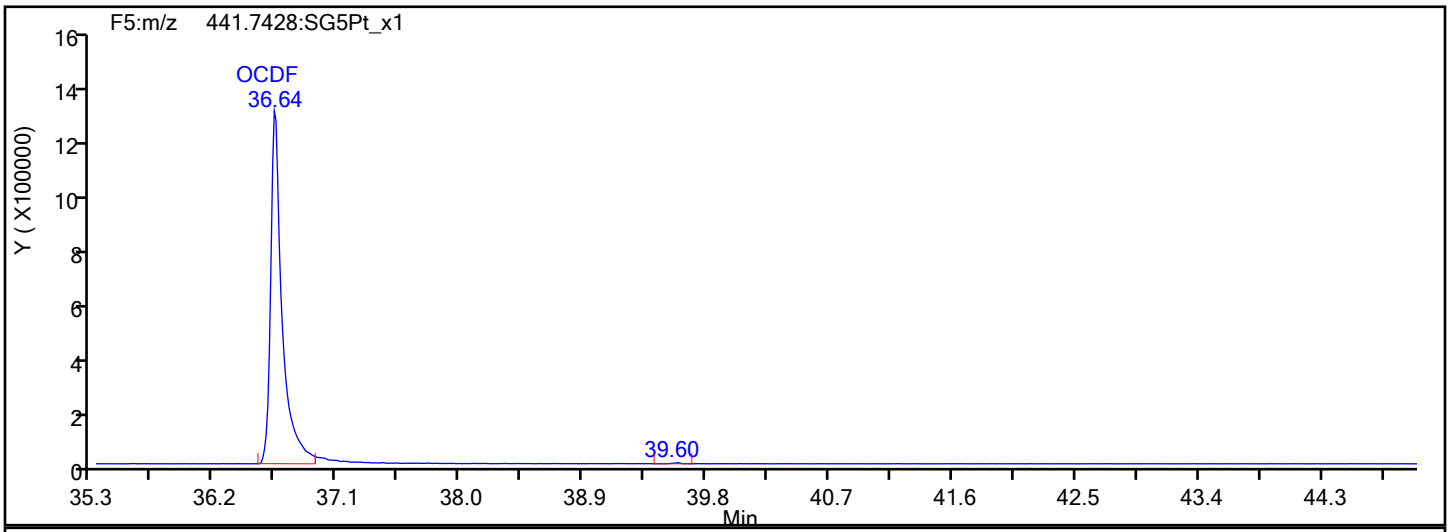

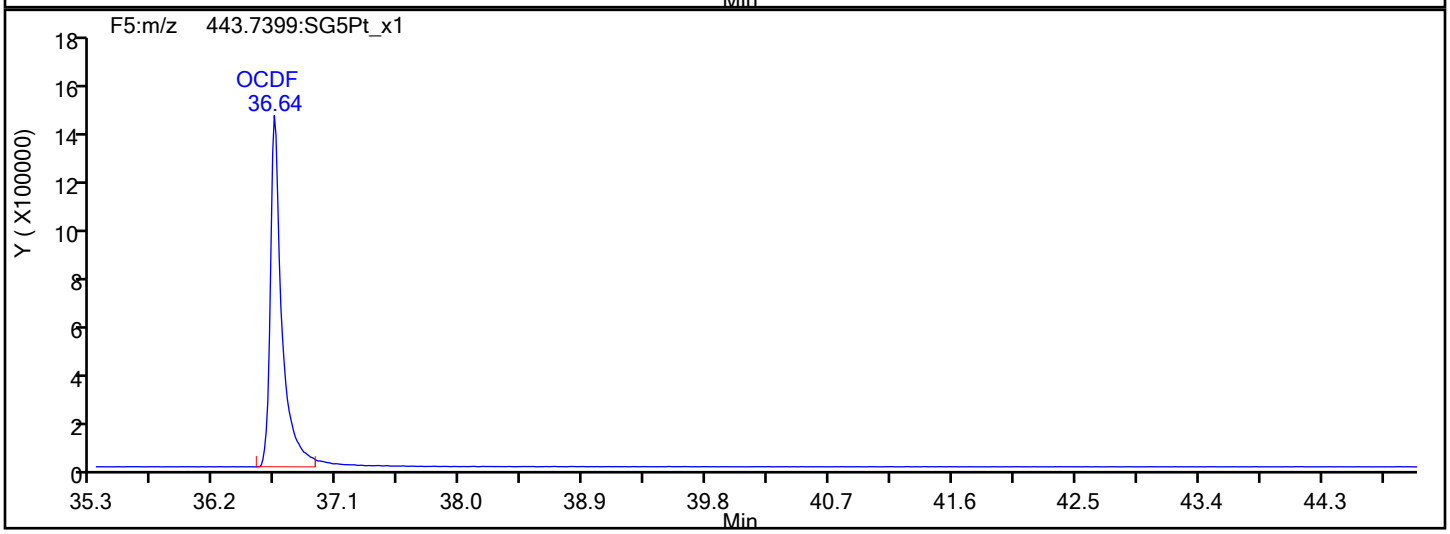

OCDF Interference Mass

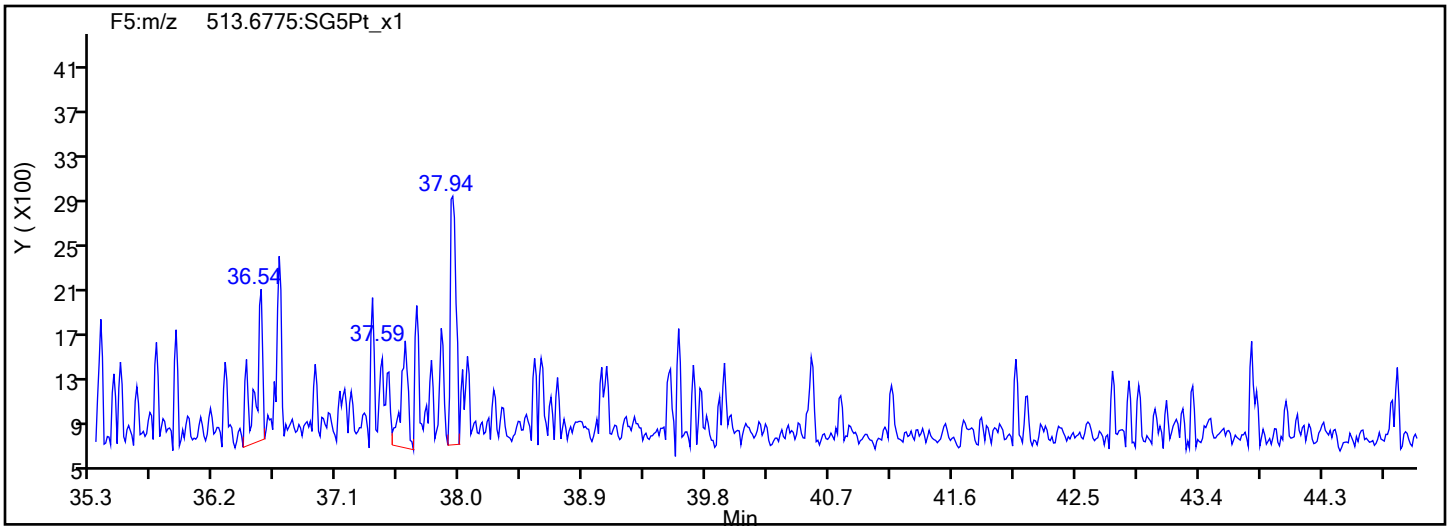

Report Date: 07-Feb-2020 14:28:12 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_5.d		
Injection Date:	05-Feb-2020 18:36:09	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355322	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

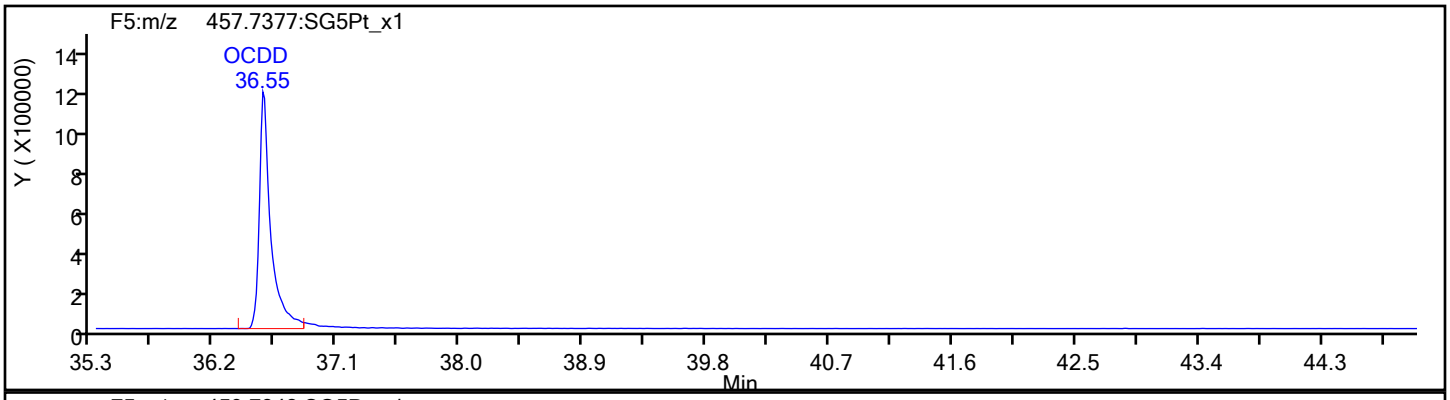

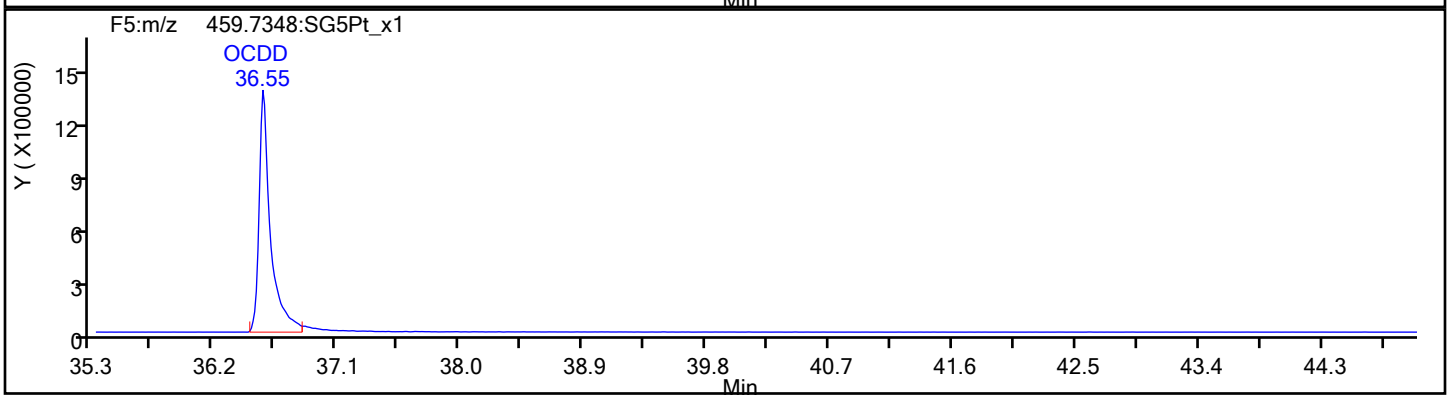

OCDD Standards

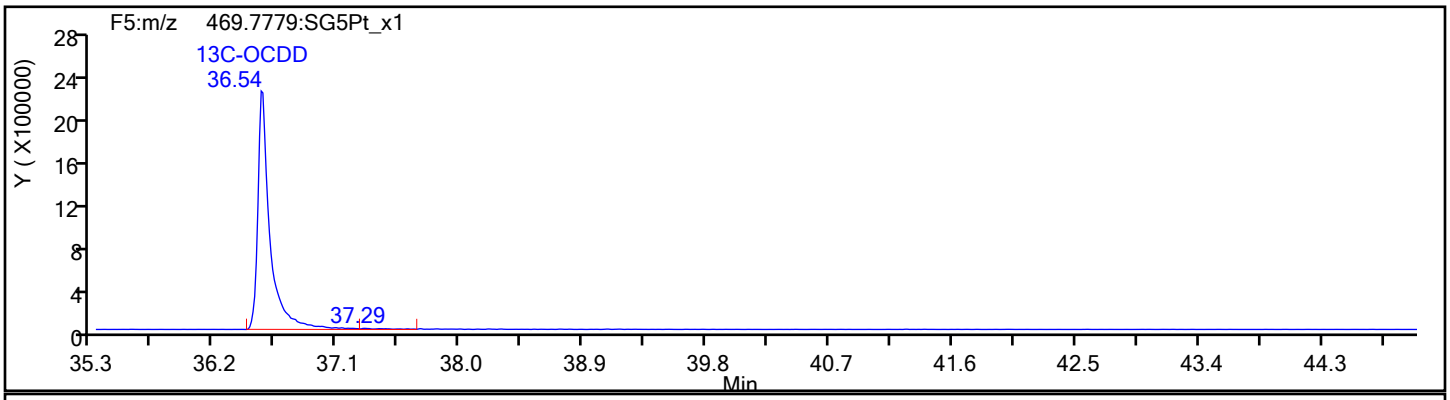

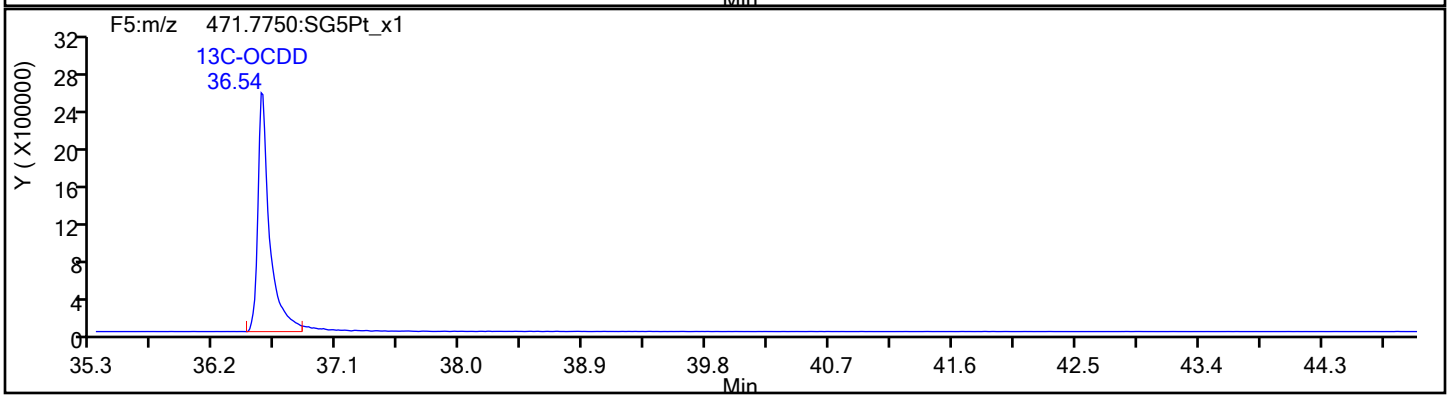

Report Date: 07-Feb-2020 14:28:12 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_5.d		
Injection Date:	05-Feb-2020 18:36:09	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355322	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

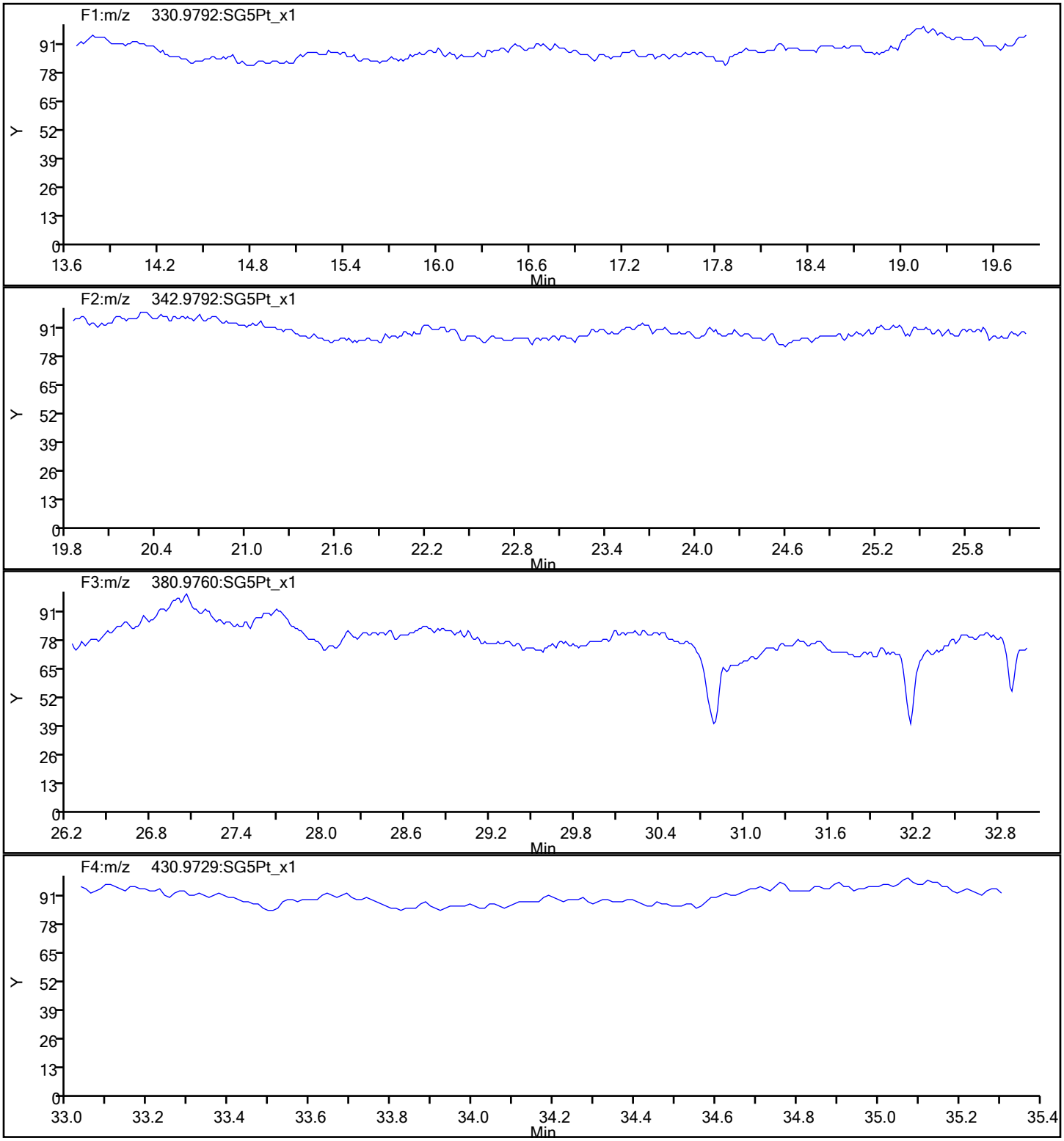

Report Date: 07-Feb-2020 14:28:12 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_5.d		
Injection Date:	05-Feb-2020 18:36:09	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355322	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

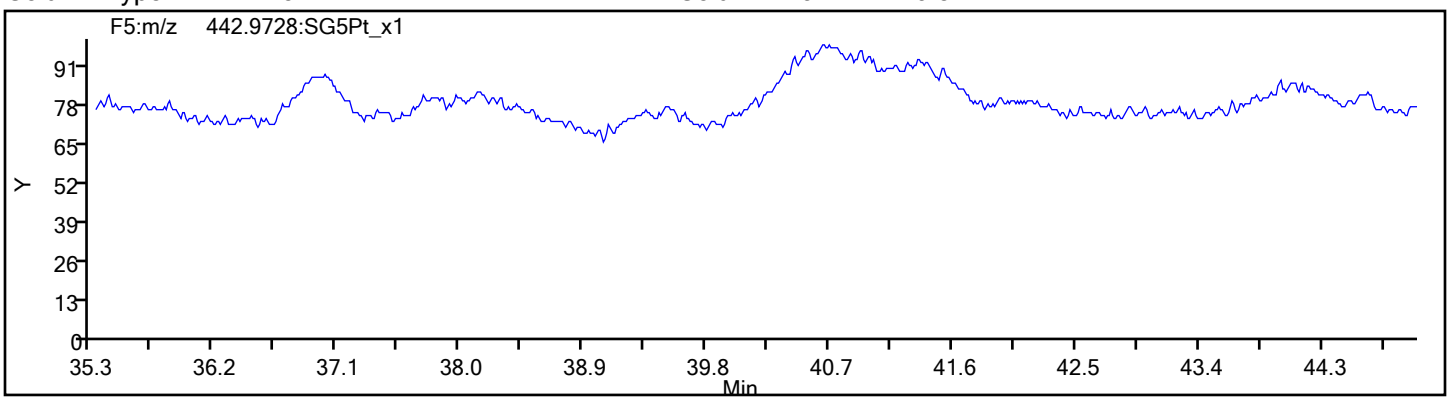

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 320-58170-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 320-354207/2-A
Matrix: Sediment
Lab File ID: 06FE2010D5_10.d
Analysis Method: 1613B
Date Collected:
Extract. Method: HRMS-Sox
Date Extracted: 01/31/2020 09:04
Sample wt/vol: 10(g)
Date Analyzed: 02/06/2020 17:42
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 355551
Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	20.7		1.0	0.092
51207-31-9	2,3,7,8-TCDF	21.7		1.0	0.12
40321-76-4	1,2,3,7,8-PeCDD	111		5.0	0.25
57117-41-6	1,2,3,7,8-PeCDF	113		5.0	0.75
57117-31-4	2,3,4,7,8-PeCDF	114		5.0	0.84
39227-28-6	1,2,3,4,7,8-HxCDD	110		5.0	0.44
57653-85-7	1,2,3,6,7,8-HxCDD	113		5.0	0.44
19408-74-3	1,2,3,7,8,9-HxCDD	109		5.0	0.40
70648-26-9	1,2,3,4,7,8-HxCDF	111		5.0	1.3
57117-44-9	1,2,3,6,7,8-HxCDF	110		5.0	1.1
72918-21-9	1,2,3,7,8,9-HxCDF	110		5.0	0.83
60851-34-5	2,3,4,6,7,8-HxCDF	109		5.0	0.78
35822-46-9	1,2,3,4,6,7,8-HpCDD	111		5.0	0.81
67562-39-4	1,2,3,4,6,7,8-HpCDF	110		5.0	1.9
55673-89-7	1,2,3,4,7,8,9-HpCDF	109		5.0	3.0
3268-87-9	OCDD	215		10	0.29
39001-02-0	OCDF	210		10	0.30
41903-57-5	Total TCDD	20.7		1.0	0.092
30402-14-3	Total TCDF	21.7		1.0	0.12
36088-22-9	Total PeCDD	111		5.0	0.25
30402-15-4	Total PeCDF	227		5.0	0.79
34465-46-8	Total HxCDD	332		5.0	0.43
55684-94-1	Total HxCDF	440		5.0	0.99
37871-00-4	Total HpCDD	111		5.0	0.81
38998-75-3	Total HpCDF	219		5.0	2.5

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 320-354207/2-A

Matrix: Sediment Lab File ID: 06FE2010D5_10.d

Analysis Method: 1613B Date Collected:

Extract. Method: HRMS-Sox Date Extracted: 01/31/2020 09:04

Sample wt/vol: 10(g) Date Analyzed: 02/06/2020 17:42

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 355551 Units: pg/g

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	63		20-175
89059-46-1	13C-2,3,7,8-TCDF	63		22-152
109719-79-1	13C-1,2,3,7,8-PeCDD	58		21-227
109719-77-9	13C-1,2,3,7,8-PeCDF	63		21-192
116843-02-8	13C-2,3,4,7,8-PeCDF	62		13-328
109719-80-4	13C-1,2,3,4,7,8-HxCDD	62		21-193
109719-81-5	13C-1,2,3,6,7,8-HxCDD	72		25-163
114423-98-2	13C-1,2,3,4,7,8-HxCDF	69		19-202
116843-03-9	13C-1,2,3,6,7,8-HxCDF	75		21-159
116843-04-0	13C-1,2,3,7,8,9-HxCDF	71		17-205
116843-05-1	13C-2,3,4,6,7,8-HxCDF	73		22-176
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	62		26-166
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	64		21-158
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	65		20-186
114423-97-1	13C-OCDD	62		13-199

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	86		31-191

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_10.d
Lims ID: LCS 320-354207/2-A
Client ID:
Sample Type: LCS
Inject. Date: 06-Feb-2020 17:42:54 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCS 320-354207/2-A LCS 320-354207/2-A
Misc. Info.: 06FE2010D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 10-Feb-2020 09:21:44 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0306

First Level Reviewer: dadunj Date: 10-Feb-2020 09:22:27

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.333	55029524	0.80	5.4E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.849	38880112	0.76	1.1275	62.7	62.7	0.2536	0.2536	62.66	
2,3,7,8-TCDF	16.864	3243094	0.72	0.7675	10.9	10.9	0.0592	0.0592	109	
A Non-2,3,7,8-sub-TCDF	16.539						0.0592	0.0592		
S Total TCDF					10.9	10.9	0.0592	0.0592		
D 13C-2,3,7,8-TCDD	17.529	31512948	0.80	0.9032	63.4	63.4	0.2748	0.2748	63.40	
$ 37Cl4-2,3,7,8-TCDD	17.544	18356429		0.9673	34.5	34.5	0.0630	0.0630	86.21	
2,3,7,8-TCDD	17.544	3127235	0.77	0.9599	10.3	10.3	0.0462	0.0462	103	
A Non-2,3,7,8-sub-TCDD	16.977						0.0462	0.0462		
S Total TCDD					10.3	10.3	0.0462	0.0462		
D 13C-1,2,3,7,8-PeCDF	21.639	33107537	1.56	0.9615	62.6	62.6	0.2581	0.2581	62.57	
1,2,3,7,8-PeCDF	21.667	16834410	1.61	0.8982	56.6	56.6	0.3763	0.3763	113	
D 13C-2,3,4,7,8-PeCDF	22.921	35416531	1.60	1.0393	61.9	61.9	0.2388	0.2388	61.92	
2,3,4,7,8-PeCDF	22.935	16289282	1.59	0.8101	56.8	56.8	0.4187	0.4187	114	
A F1 PeCDFs	19.306						0.0277	0.0277		
A Non-2,3,7,8-sub-PeCDF	22.316						0.3964	0.3964		
S Total PeCDF					113.4	113.4	0.3975	0.3975		
D 13C-1,2,3,7,8-PeCDD	23.603	22270236	1.60	0.6938	58.3	58.3	0.0962	0.0962	58.33	
1,2,3,7,8-PeCDD	23.630	12344663	1.61	0.9961	55.6	55.6	0.1243	0.1243	111	
A Non-2,3,7,8-sub-PeCDD	22.546						0.1243	0.1243		
S Total PeCDD					55.6	55.6	0.1243	0.1243		
D 13C-1,2,3,4,7,8-HxCDF	29.722	25990146	0.50	0.8543	69.4	69.4	0.4618	0.4618	69.37	
1,2,3,4,7,8-HxCDF	29.748	11387388	1.22	0.7916	55.4	55.4	0.6315	0.6315	111	
D 13C-1,2,3,6,7,8-HxCDF	29.975	27367500	0.48	0.8361	74.6	74.6	0.4718	0.4718	74.63	
1,2,3,6,7,8-HxCDF	30.001	13008201	1.19	0.8638	55.0	55.0	0.5457	0.5457	110	
D 13C-2,3,4,6,7,8-HxCDF	31.013	24861844	0.49	0.7773	72.9	72.9	0.5075	0.5075	72.92	
2,3,4,6,7,8-HxCDF	31.039	12258355	1.20	0.9010	54.7	54.7	0.3909	0.3909	109	
D 13C-1,2,3,7,8,9-HxCDF	31.931	22166482	0.49	0.7167	70.5	70.5	0.5504	0.5504	70.52	
1,2,3,7,8,9-HxCDF	31.944	11108403	1.21	0.9127	54.9	54.9	0.4140	0.4140	110	
A Non-2,3,7,8-sub-HxCDF	29.476						0.4801	0.4801		
S Total HxCDF					220.0	220.0	0.4955	0.4955		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.731	43859366	1.22	4.4E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.239	22038595	1.23	0.8050	62.4	62.4	0.3376	0.3376	62.42	
1,2,3,4,7,8-HxCDD	31.252	10168583	1.23	0.8392	55.0	55.0	0.2218	0.2218	110	
D 13C-1,2,3,6,7,8-HxCDD	31.359	26072575	1.25	0.8269	71.9	71.9	0.3286	0.3286	71.89	
1,2,3,6,7,8-HxCDD	31.372	13107128	1.25	0.8876	56.6	56.6	0.2206	0.2206	113	
1,2,3,7,8,9-HxCDD	31.745	12533080	1.23	0.9567	54.5	54.5	0.1995	0.1995	109	
A Non-2,3,7,8-sub-HxCDD	30.055						0.2133	0.2133		
S Total HxCDD					166.1	166.1	0.2140	0.2140		
D 13C-1,2,3,4,6,7,8-HpCDF	33.459	19783218	0.42	0.7080	63.7	63.7	1.498	1.498	63.71	
1,2,3,4,6,7,8-HpCDF	33.459	14510342	1.03	1.3375	54.8	54.8	0.9658	0.9658	110	
D 13C-1,2,3,4,7,8,9-HpCDF	34.516	21384623	0.43	0.7451	65.4	65.4	1.423	1.423	65.44	
1,2,3,4,7,8,9-HpCDF	34.528	12542630	1.04	1.0744	54.6	54.6	1.490	1.490	109	
A Non-2,3,7,8-sub-HpCDF	33.994						1.186	1.186		
S Total HpCDF					109.4	109.4	1.228	1.228		
D 13C-1,2,3,4,6,7,8-HpCDD	34.236	20404068	1.06	0.7473	62.2	62.2	0.4777	0.4777	62.25	
1,2,3,4,6,7,8-HpCDD	34.249	11080997	1.04	0.9811	55.4	55.4	0.4067	0.4067	111	
A Non-2,3,7,8-sub-HpCDD	33.963						0.4067	0.4067		
S Total HpCDD					55.4	55.4	0.4067	0.4067		
D 13C-OCDD	36.528	36290456	0.90	0.6622	125.0	125.0	0.1493	0.1493	62.48	
OCDF	36.624	20316422	0.89	1.0659	105.0	105.0	0.1501	0.1501	105	
OCDD	36.540	19358004	0.84	0.9937	107.4	107.4	0.1457	0.1457	107	

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_10.d
Lims ID: LCS 320-354207/2-A
Client ID:
Sample Type: LCS
Inject. Date: 06-Feb-2020 17:42:54 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCS 320-354207/2-A LCS 320-354207/2-A
Misc. Info.: 06FE2010D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 10-Feb-2020 09:21:44 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0306

First Level Reviewer: dadunj Date: 10-Feb-2020 09:22:27

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.333	17.302	2		24521346	6247246	6428	16070	972		
333.9339	17.333	17.302	2		30508178	7658692	7378	18445	1038	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.849	16.819	2	0.972	16732115	3867691	7231	18077	535		
317.9389	16.849	16.819	2	0.972	22147997	5049007	8672	21680	582	0.76(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.864	16.849	1	1.001	1354767	313750	493	1232	636		
305.8987	16.864	16.849	1	1.001	1888327	426252	1127	2817	378	0.72(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.539						493	1232			
305.8987	16.539						1127	2817			
13C-2,3,7,8-TCDD											
331.9368	17.529	17.499	2	1.011	13993955	3015010	6428	16070	469		
333.9339	17.529	17.499	2	1.011	17518993	3786930	7378	18445	513	0.80(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.544	17.514	2	1.012	18356429	4069152	3392	8480	1200		
2,3,7,8-TCDD											
319.8965	17.544	17.514	2	1.001	1361178	301873	623	1557	485		
321.8936	17.544	17.514	2	1.001	1766057	395209	583	1457	678	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	16.977						623	1557			
321.8936	16.977						583	1457			
13C-1,2,3,7,8-PeCDF											
351.9000	21.639	21.612	2	1.248	20185317	3309456	8071	20177	410		
353.8970	21.639	21.612	2	1.248	12922220	2116627	5734	14335	369	1.56(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	21.667	21.626	2	1.001	10374245	1694236	4303	10757	394		
341.8567	21.667	21.626	2	1.001	6460165	1026902	3032	7580	339	1.61(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	22.921	22.880	2	1.322	21801576	3344170	8071	20177	414		
353.8970	22.921	22.880	2	1.322	13614955	2061793	5734	14335	360	1.60(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.935	22.907	2	1.001	9998097	1480944	4303	10757	344		
341.8567	22.935	22.907	2	1.001	6291185	937676	3032	7580	309	1.59(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.306						170	425			
341.8567	19.306						343	857			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.316						4303	10757			
341.8567	22.316						3032	7580			
13C-1,2,3,7,8-PeCDD											
367.8949	23.603	23.576	2	1.362	13710402	1909098	2242	5605	852		
369.8919	23.603	23.576	2	1.362	8559834	1258045	1471	3677	855	1.60(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.630	23.603	2	1.001	7613744	1094850	913	2282	1199		
357.8516	23.630	23.603	2	1.001	4730919	680600	656	1640	1038	1.61(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.546						913	2282			
357.8516	22.546						656	1640			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.722	29.682	2	0.937	8617284	1053438	4662	11655	226		
385.8610	29.722	29.682	2	0.937	17372862	2109534	8510	21275	248	0.50(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.748	29.708	2	1.001	6267951	758347	3415	8537	222		
375.8178	29.748	29.708	2	1.001	5119437	624370	2910	7275	215	1.22(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.975	29.948	2	0.945	8830949	1116695	4662	11655	240		
385.8610	29.975	29.948	2	0.945	18536551	2237751	8510	21275	263	0.48(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.001	29.975	2	1.001	7072784	853750	3415	8537	250		
375.8178	30.001	29.975	2	1.001	5935417	713424	2910	7275	245	1.19(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.013	30.999	1	0.977	8130655	1473386	4662	11655	316		
385.8610	31.013	30.999	1	0.977	16731189	3015647	8510	21275	354	0.49(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.039	31.013	2	1.001	6679233	1193171	3415	8537	349		
375.8178	31.026	31.013	1	1.000	5579122	1002987	2910	7275	345	1.20(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.931	31.918	1	1.006	7331690	1385347	4662	11655	297		
385.8610	31.931	31.918	1	1.006	14834792	2799224	8510	21275	329	0.49(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	31.944	31.931	1	1.000	6088786	1158857	3415	8537	339		
375.8178	31.944	31.931	1	1.000	5019617	928978	2910	7275	319	1.21(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.476						3415	8537			
375.8178	29.476						2910	7275			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.731	31.718	1		24135747	4595435	4791	11977	959		
403.8529	31.731	31.718	1		19723619	3752534	4284	10710	876	1.22(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.239	31.226	1	0.984	12168753	2657900	4791	11977	555		
403.8529	31.239	31.226	1	0.984	9869842	2175194	4284	10710	508	1.23(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.252	31.239	1	1.000	5601629	1272718	1861	4652	684		
391.8127	31.252	31.239	1	1.000	4566954	1020665	1738	4345	587	1.23(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.359	31.332	2	0.988	14473460	2536907	4791	11977	530		
403.8529	31.359	31.332	2	0.988	11599115	2058914	4284	10710	481	1.25(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.372	31.359	1	1.000	7282956	1291310	1861	4652	694		
391.8127	31.372	31.359	1	1.000	5824172	1027576	1738	4345	591	1.25(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.745	31.731	1	1.016	6915346	1323320	1861	4652	711		
391.8127	31.745	31.731	1	1.016	5617734	1071652	1738	4345	617	1.23(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.055						1861	4652			
391.8127	30.055						1738	4345			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.459	33.447	1	1.054	5887922	1395221	10913	27282	128		
419.8220	33.459	33.447	1	1.054	13895296	3288797	24497	61242	134	0.42(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.459	33.459	0	1.000	7367296	1771411	13095	32737	135		
409.7789	33.459	33.459	0	1.000	7143046	1755561	11108	27770	158	1.03(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.516	34.504	1	1.088	6411179	1124532	10913	27282	103		
419.8220	34.516	34.504	1	1.088	14973444	2655631	24497	61242	108	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.528	34.528	0	1.000	6387902	1091582	13095	32737	83		
409.7789	34.528	34.528	0	1.000	6154728	1047403	11108	27770	94	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.994						13095	32737			
409.7789	33.994						11108	27770			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.236	34.224	1	1.079	10479070	2149842	5764	14410	373		
437.8140	34.236	34.224	1	1.079	9924998	2027051	6158	15395	329	1.06(0.88-1.20)	

Report Date: 10-Feb-2020 09:22:28 Chrom Revision: 2.3 14-Jan-2020 22:23:42
Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_10.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.249	34.237	1	1.000	5654456	1139950	3388	8470	336		
425.7737	34.249	34.237	1	1.000	5426541	1081755	3278	8195	330	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.963						3388	8470			
425.7737	33.963						3278	8195			
13C-OCDD											
469.7779	36.528	36.516	1	1.151	17215168	2690561	1486	3715	1811		
471.7750	36.528	36.516	1	1.151	19075288	3004457	1816	4540	1654	0.90(0.76-1.02)	
OCDF											
441.7428	36.624	36.612	1	1.003	9585004	1529243	764	1910	2002		
443.7399	36.624	36.612	1	1.003	10731418	1691969	1059	2647	1598	0.89(0.76-1.02)	
OCDD											
457.7377	36.540	36.528	1	1.000	8847246	1433082	654	1635	2191		
459.7348	36.540	36.528	1	1.000	10510758	1651356	995	2487	1660	0.84(0.76-1.02)	

Report Date: 10-Feb-2020 09:22:29 Chrom Revision: 2.3 14-Jan-2020 22:23:42

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Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_10.d		
Injection Date:	06-Feb-2020 17:42:54	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355551	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

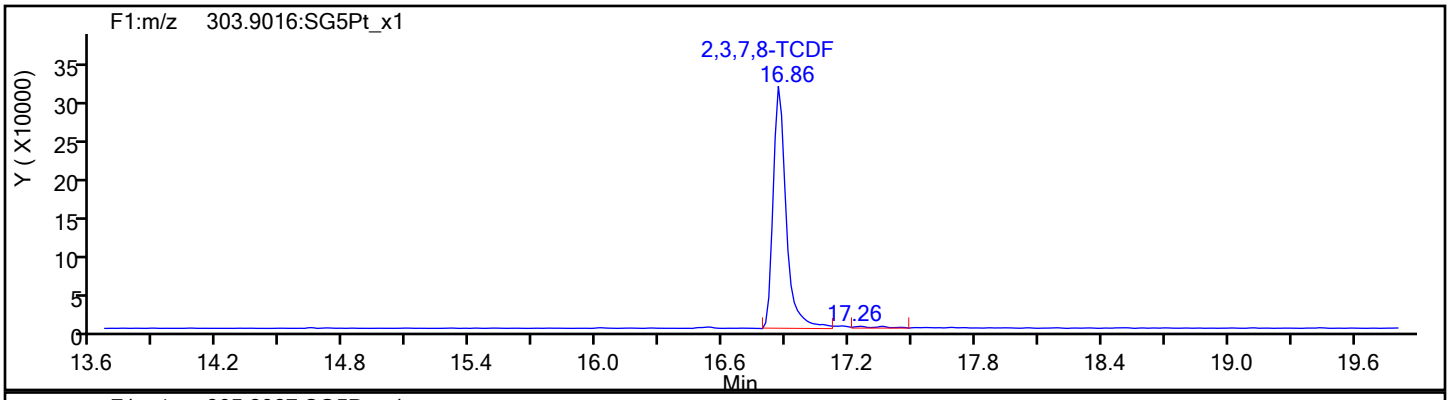

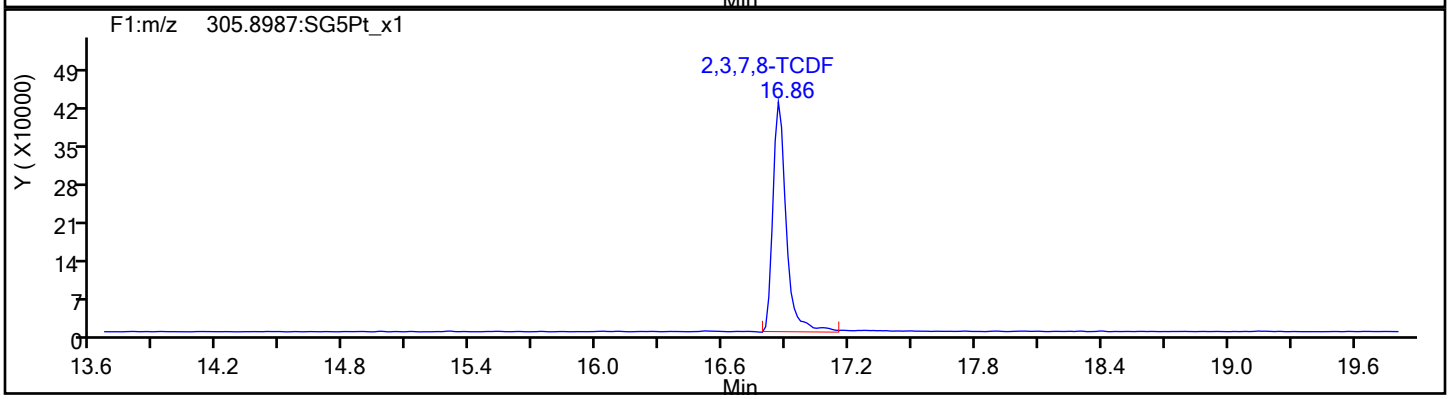

TCDF Standards

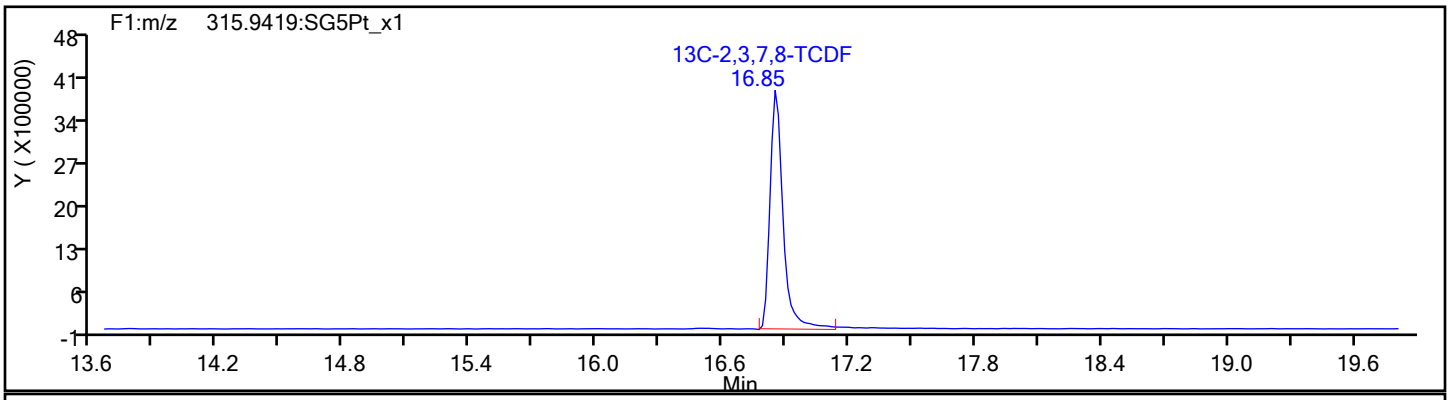

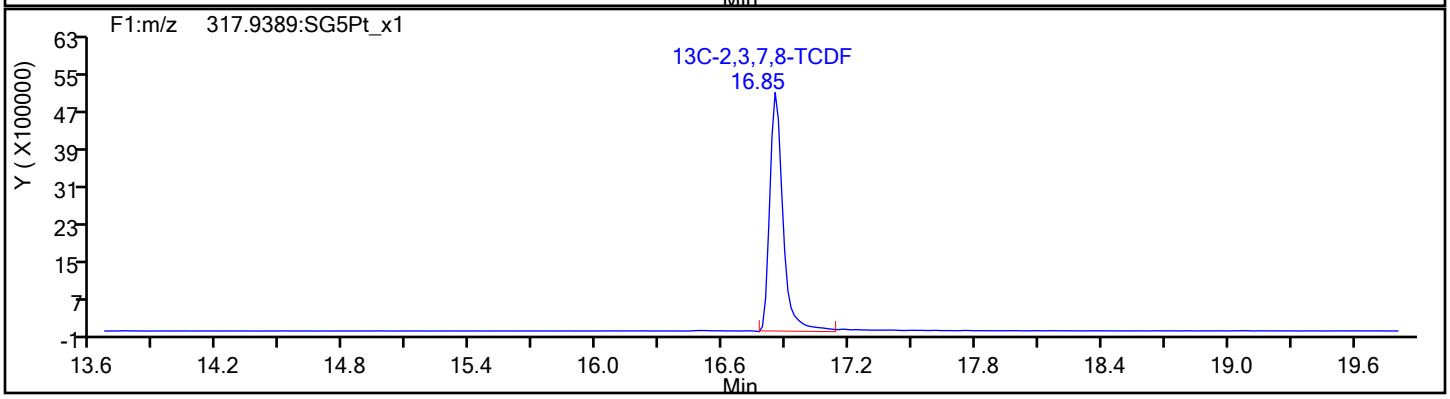

Report Date: 10-Feb-2020 09:22:29 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_10.d		
Injection Date:	06-Feb-2020 17:42:54	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355551	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

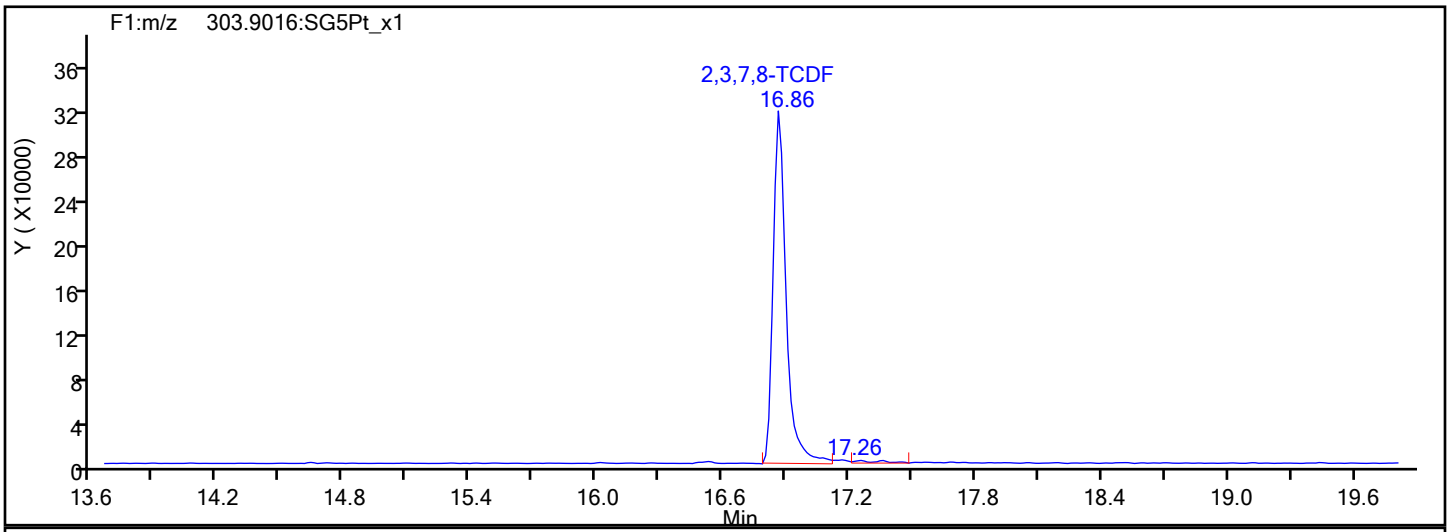

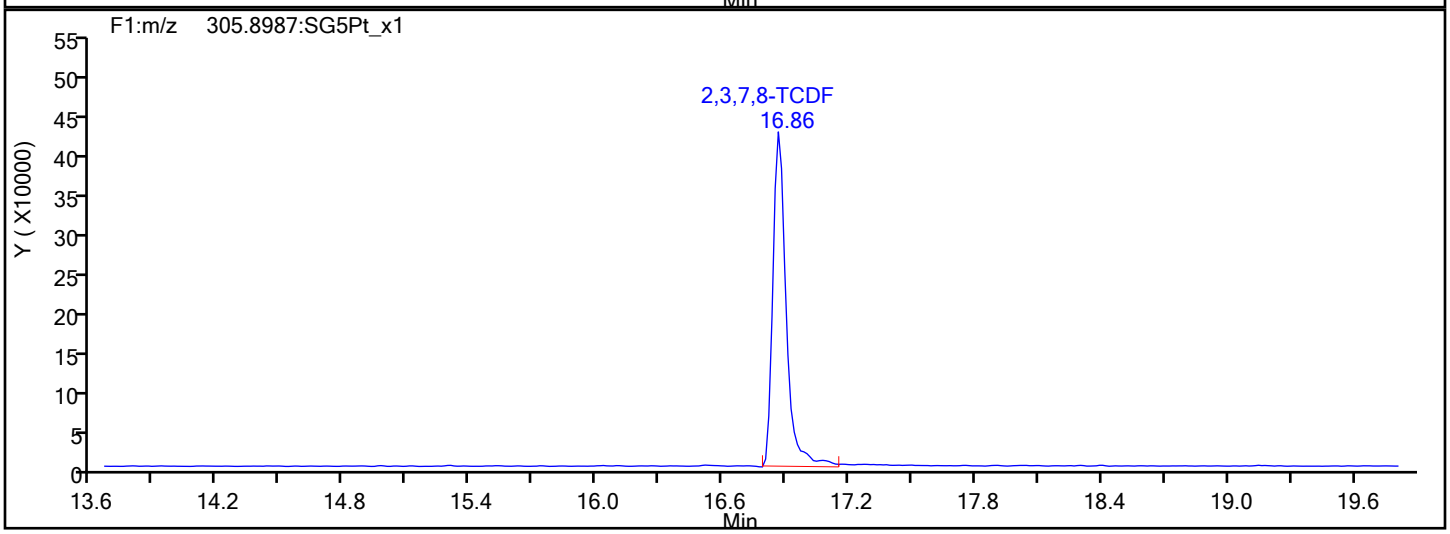

TCDF Interference Mass

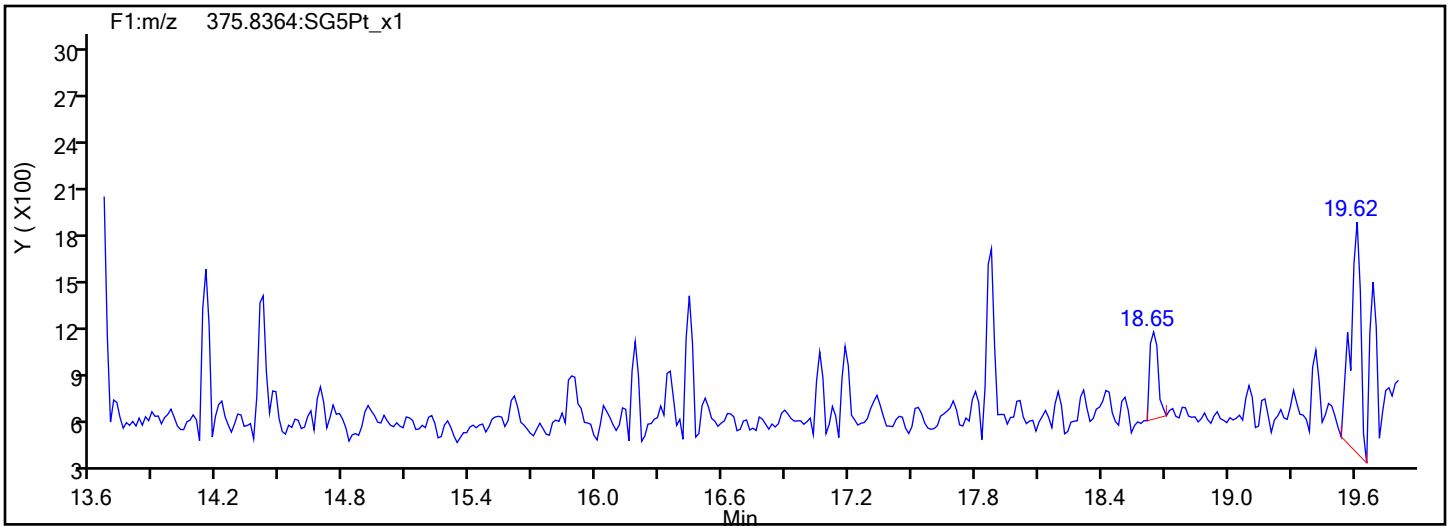

Report Date: 10-Feb-2020 09:22:29 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_10.d		
Injection Date:	06-Feb-2020 17:42:54	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355551	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

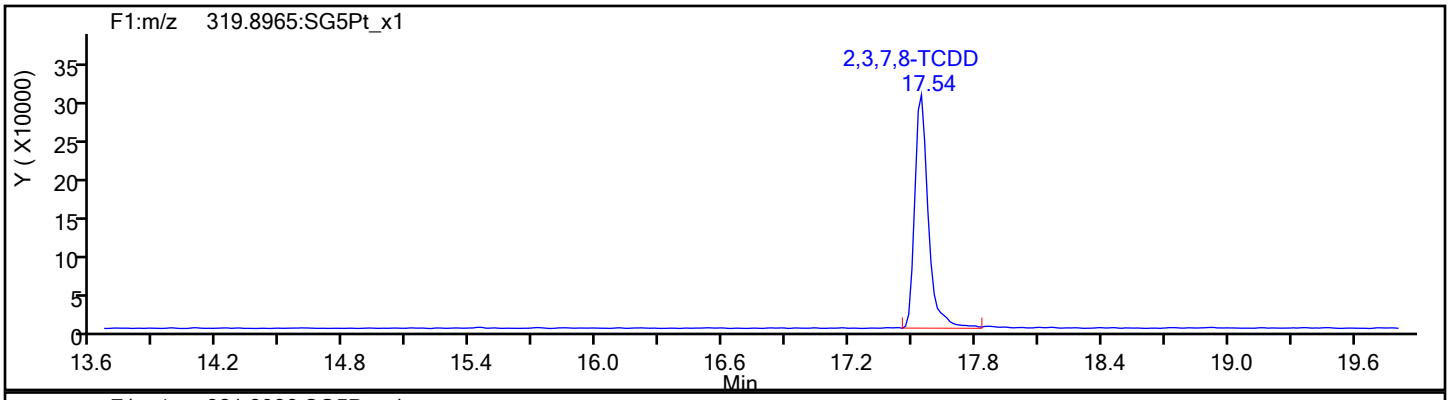

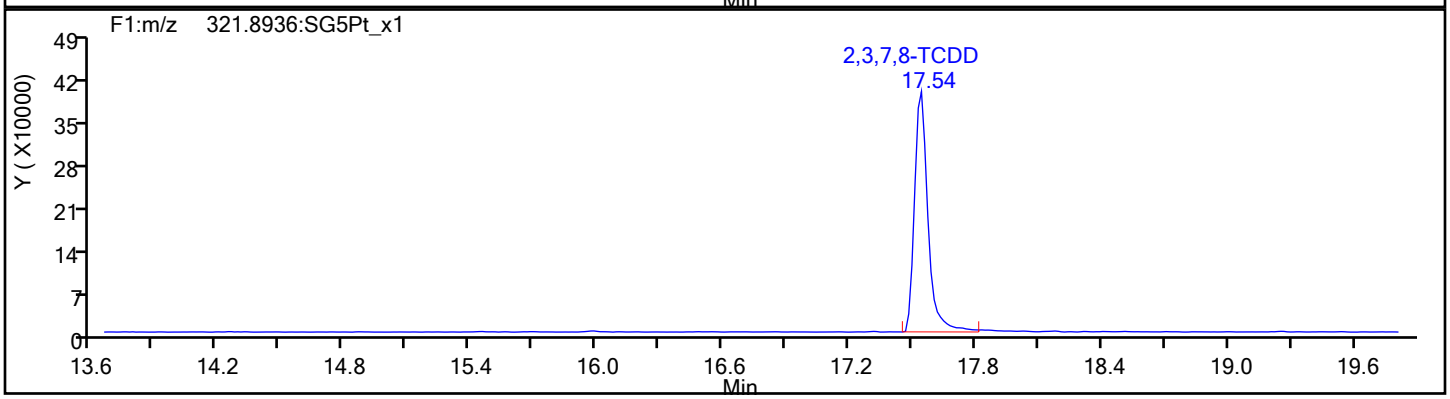

TCDD Standards

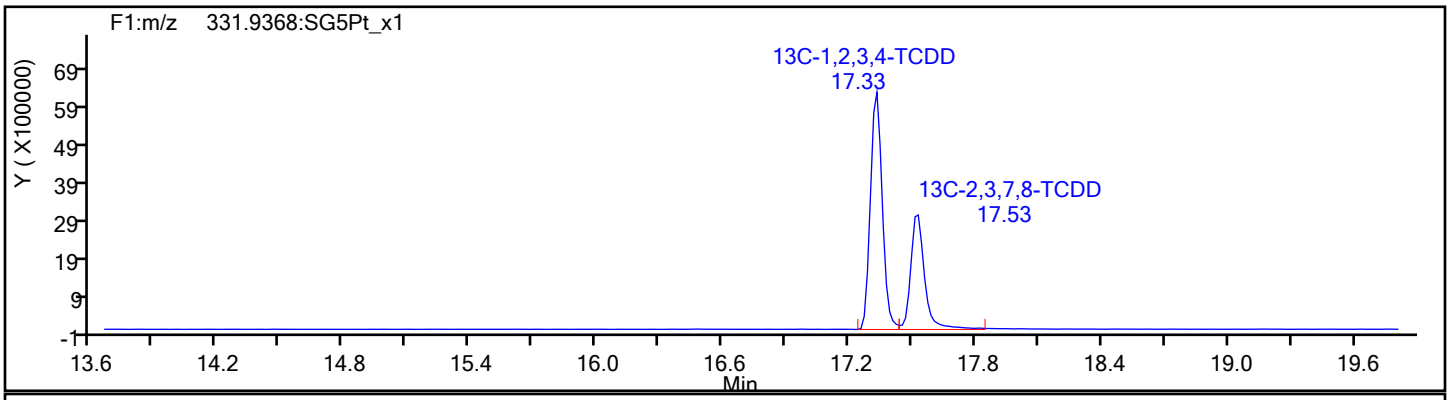

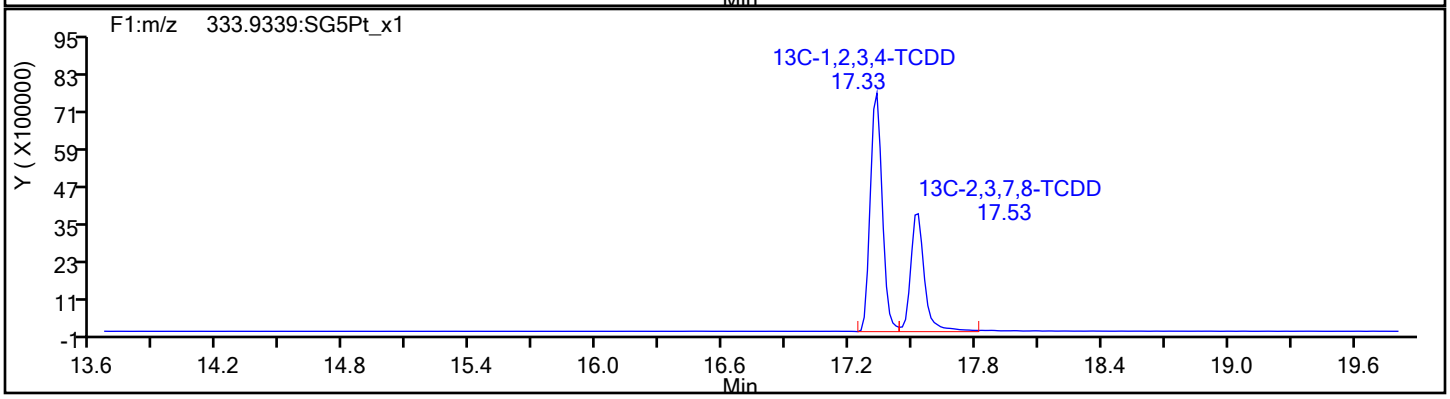

Report Date: 10-Feb-2020 09:22:29 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

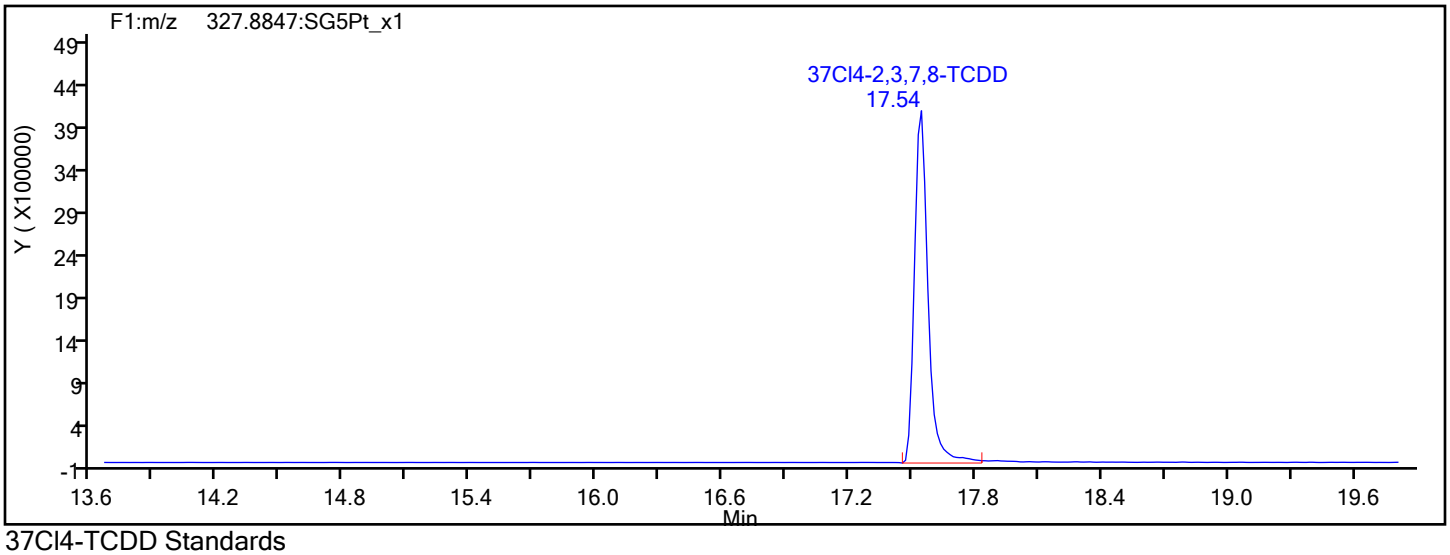

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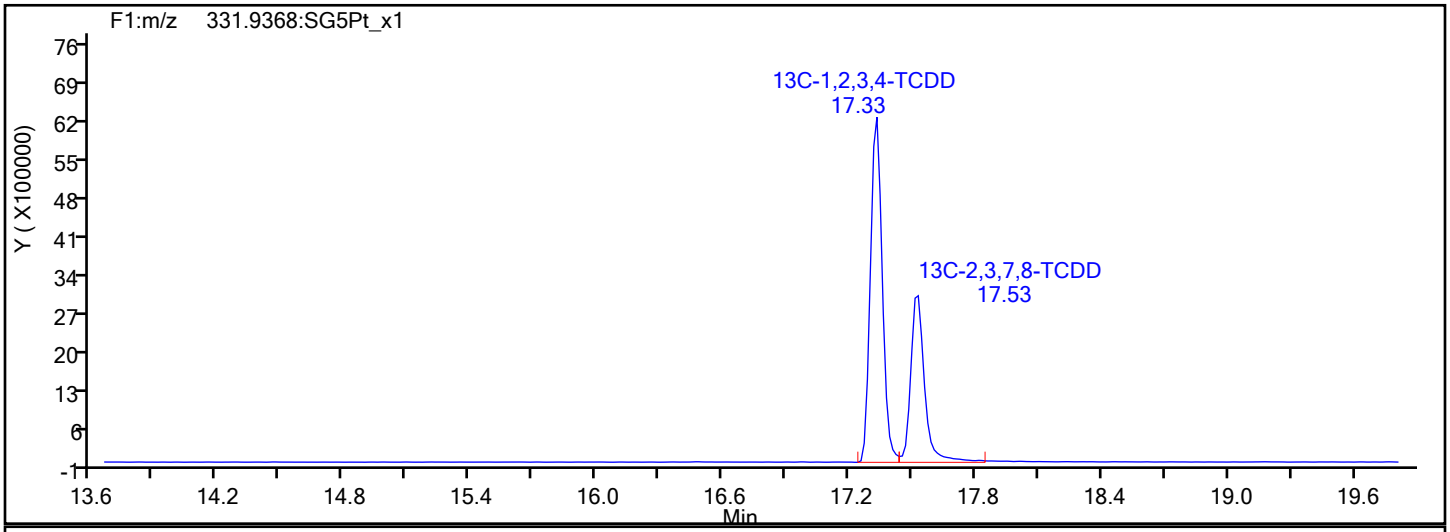

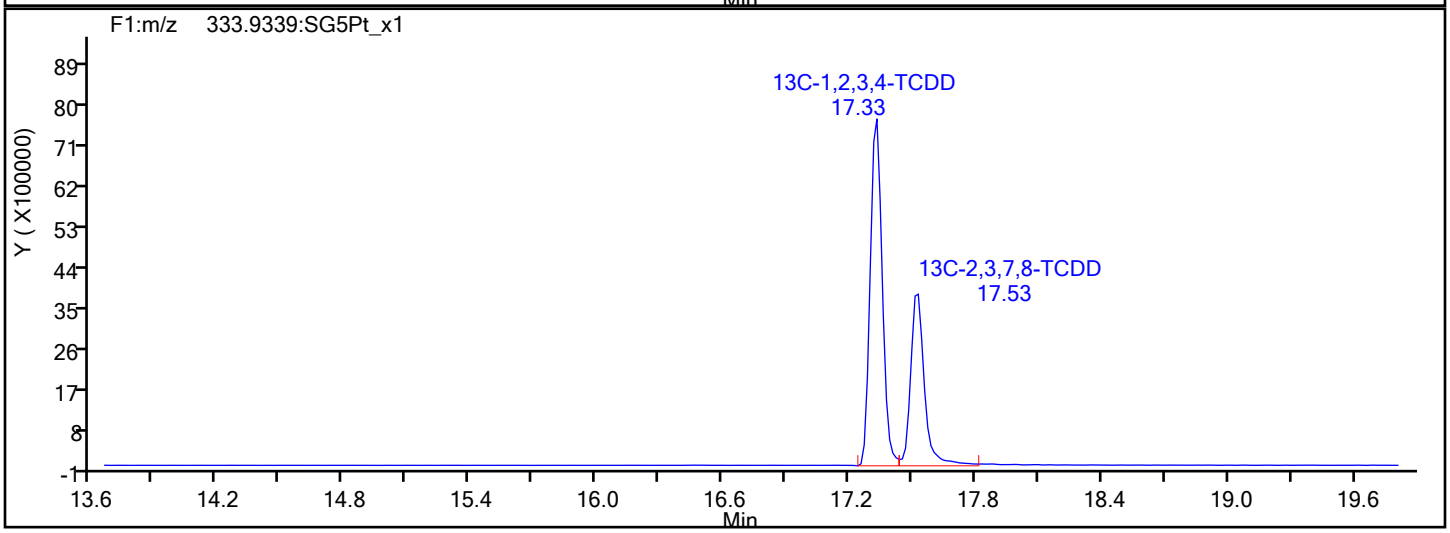

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

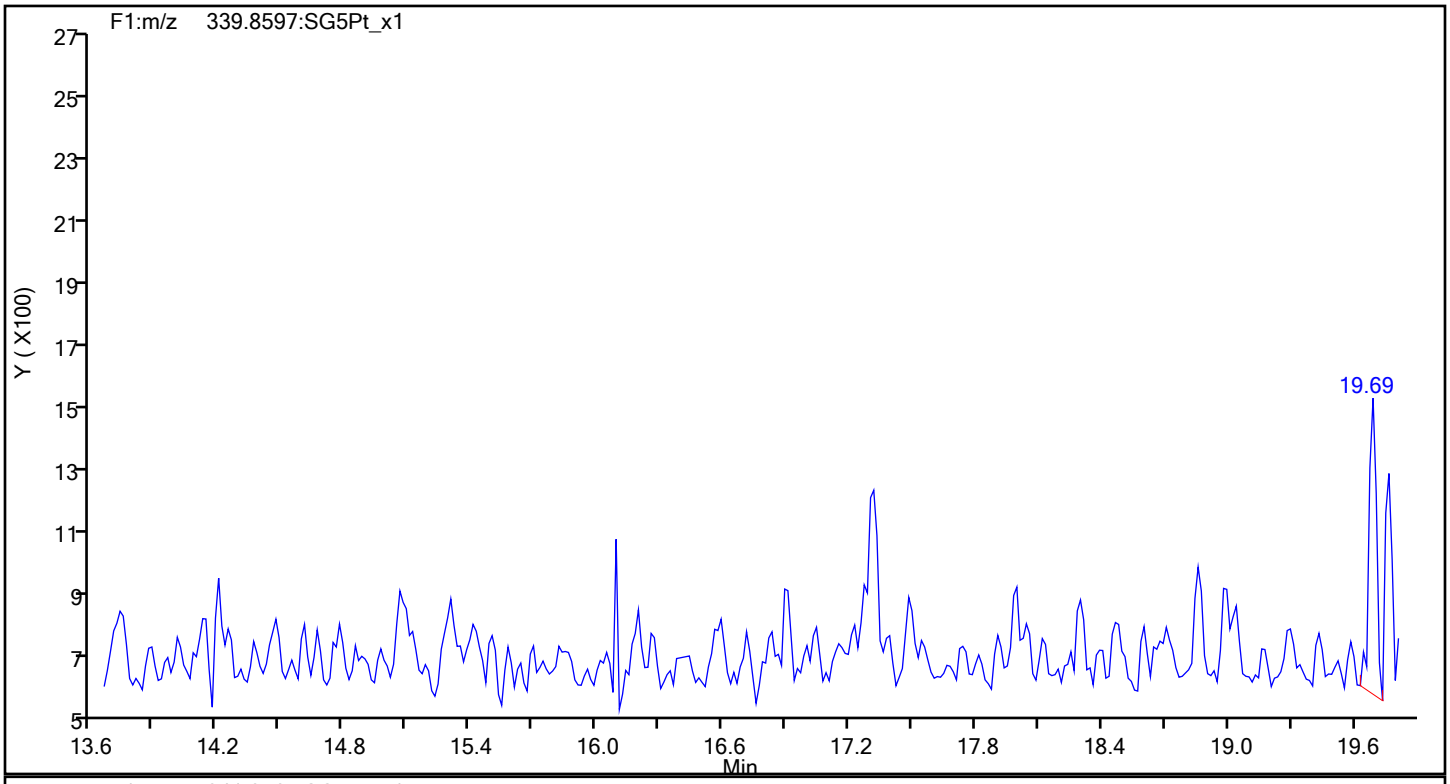

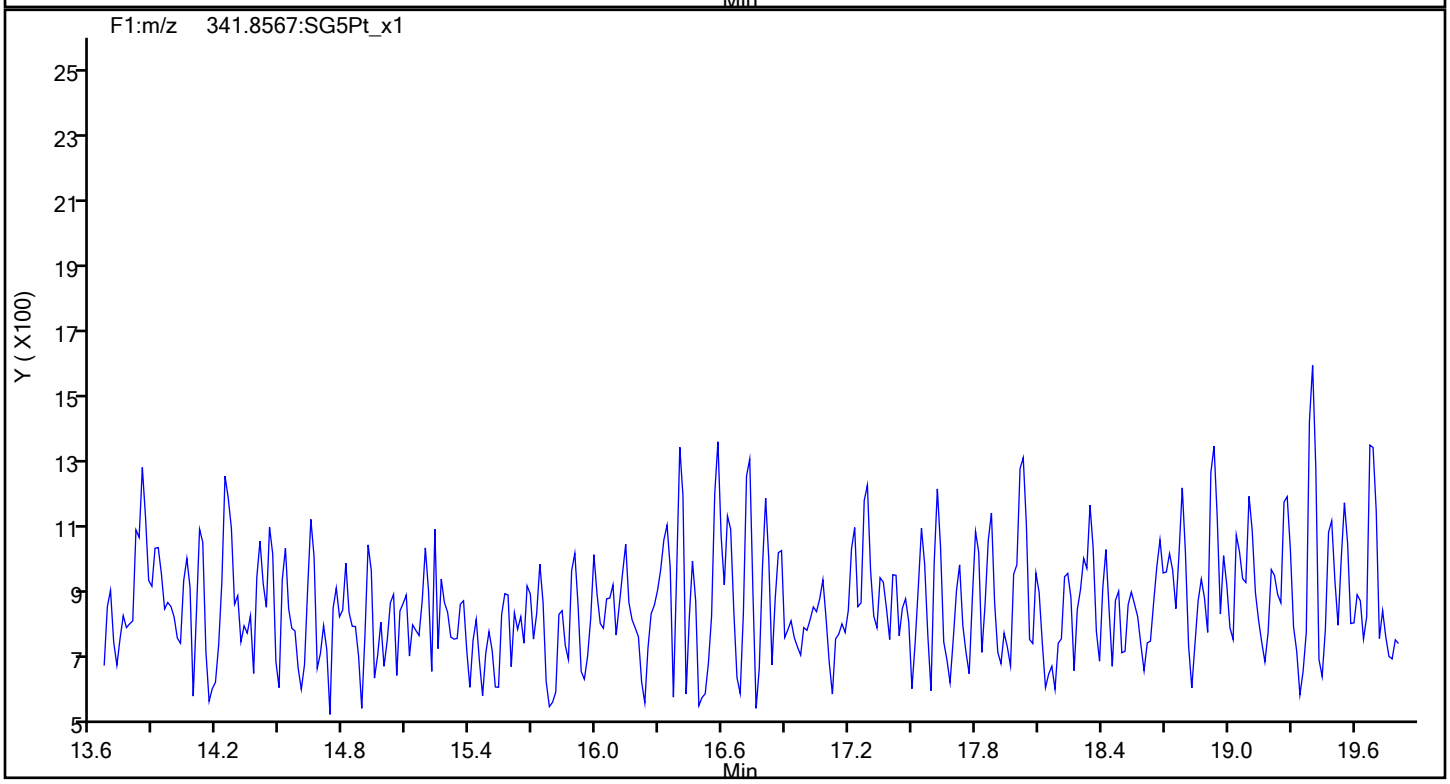

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

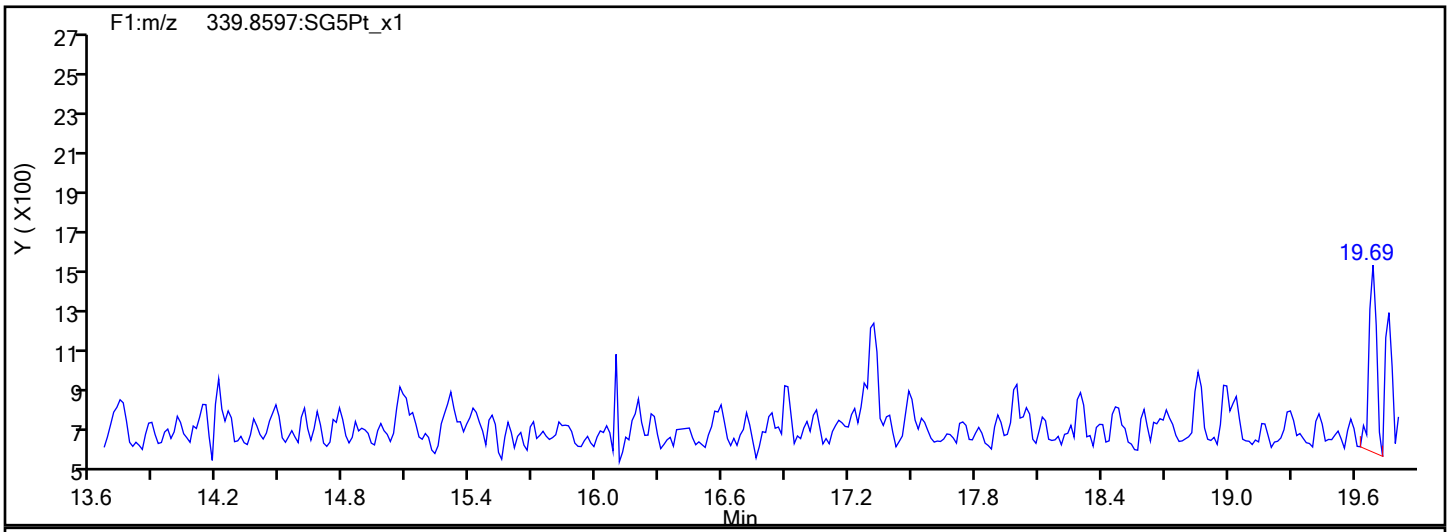

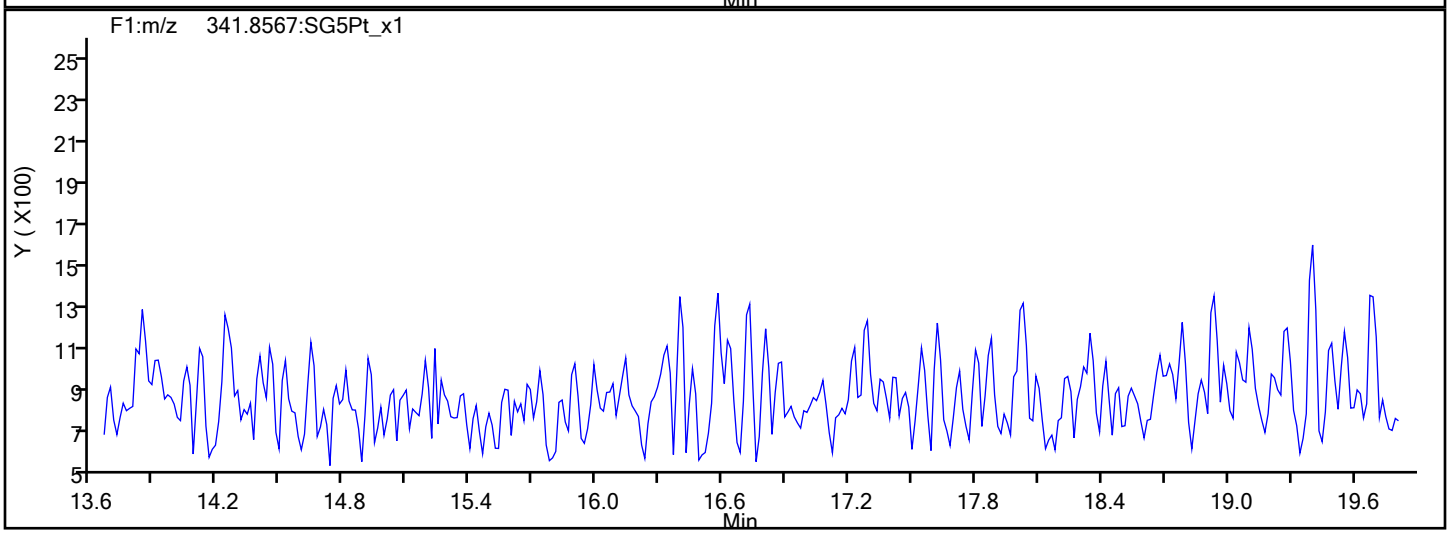

F1 PeCDFs Interference Mass

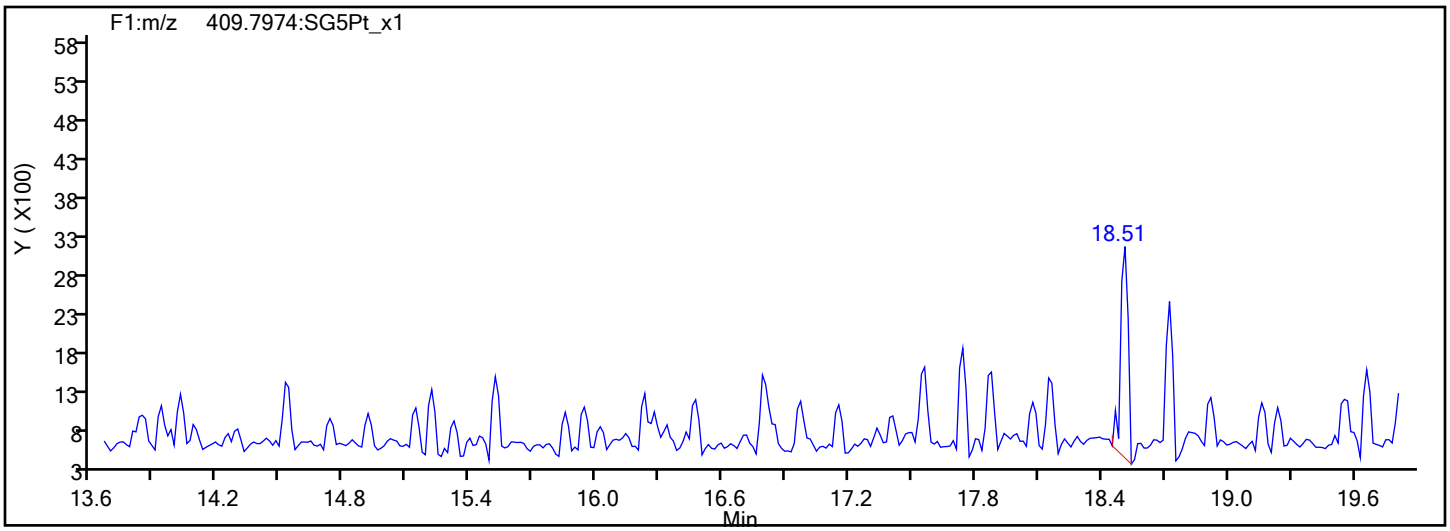

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Eurofins TestAmerica, Sacramento

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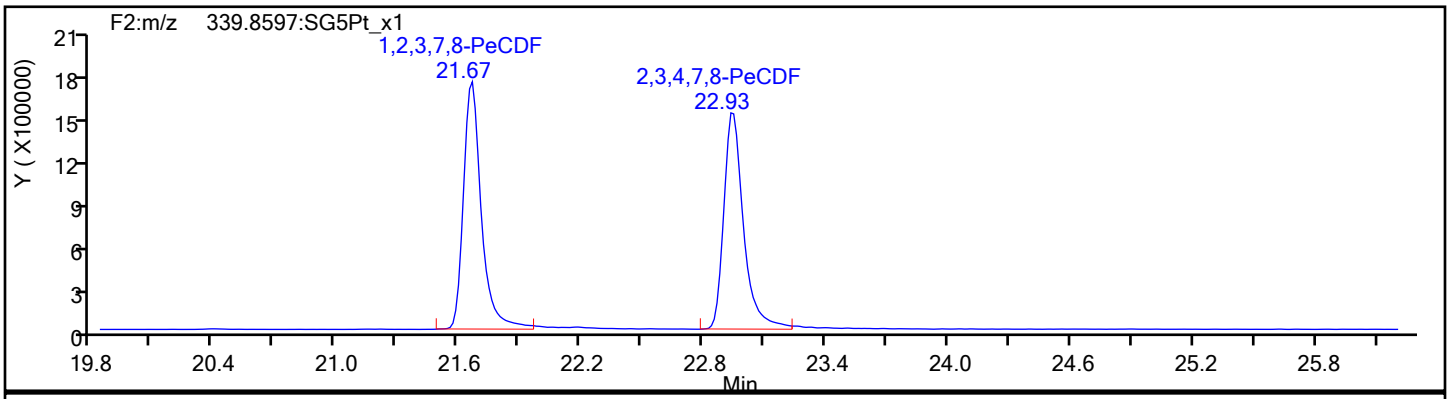

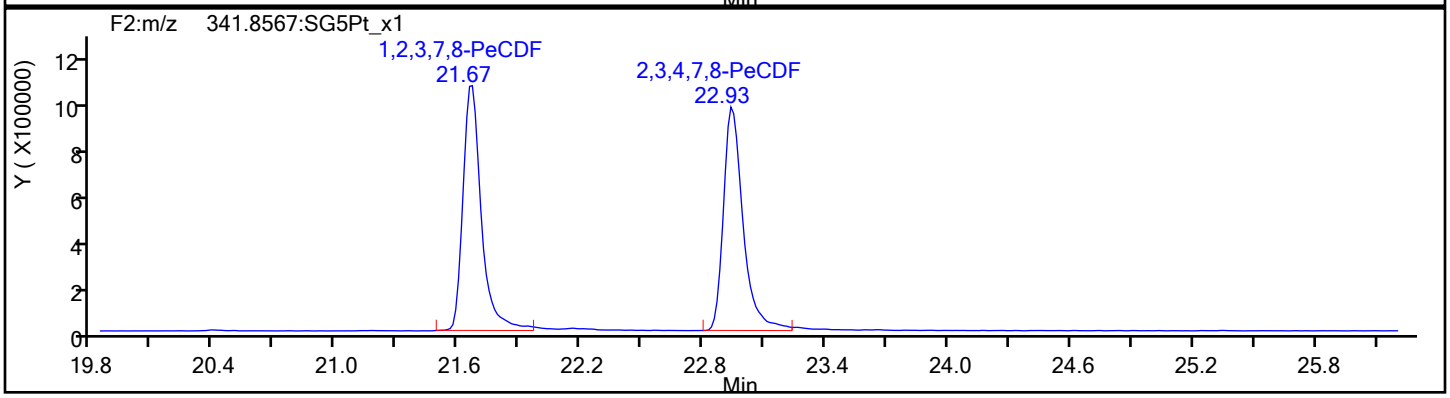

PeCDF Standards

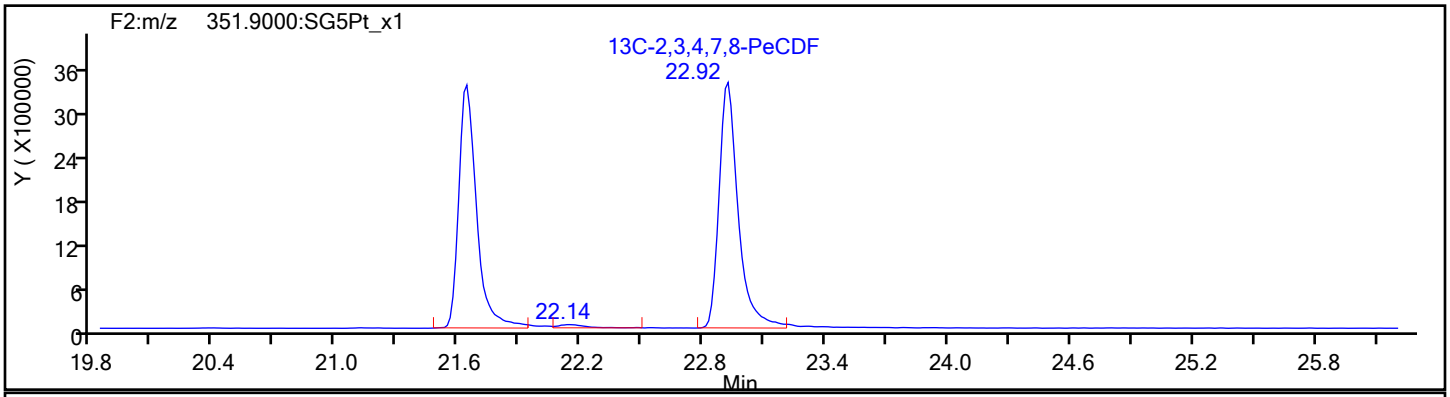

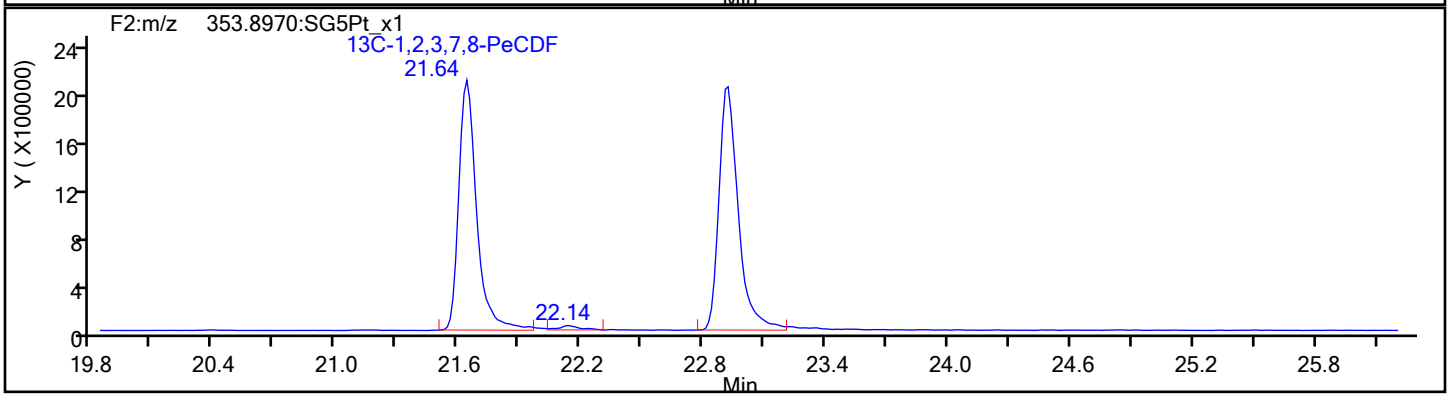

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Eurofins TestAmerica, Sacramento

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PeCDF

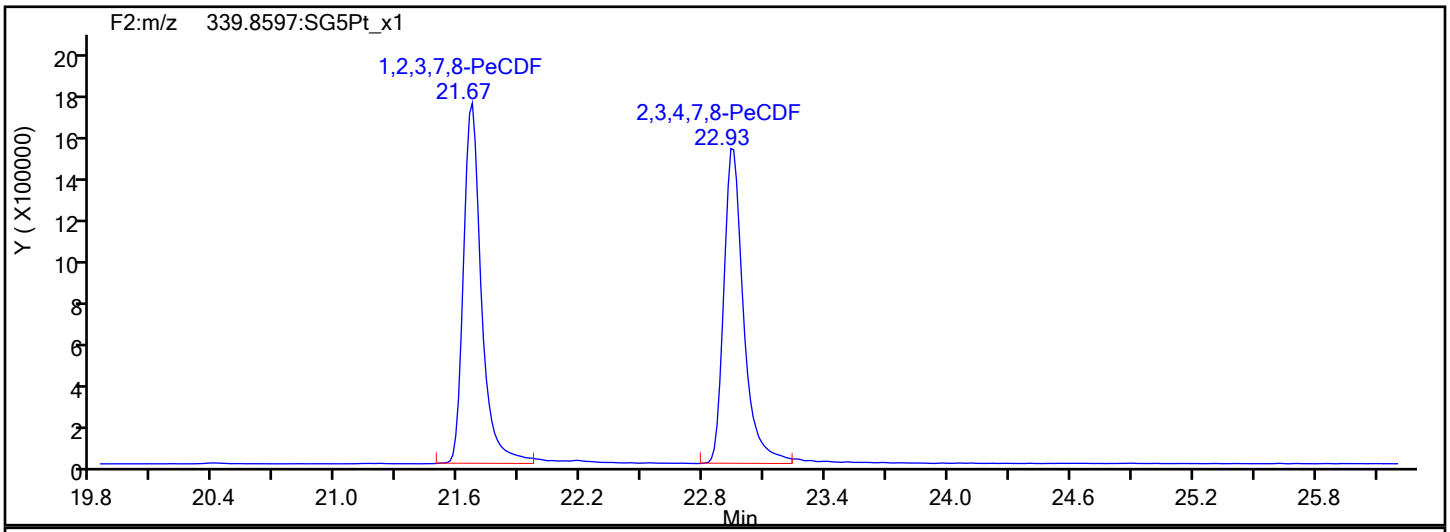

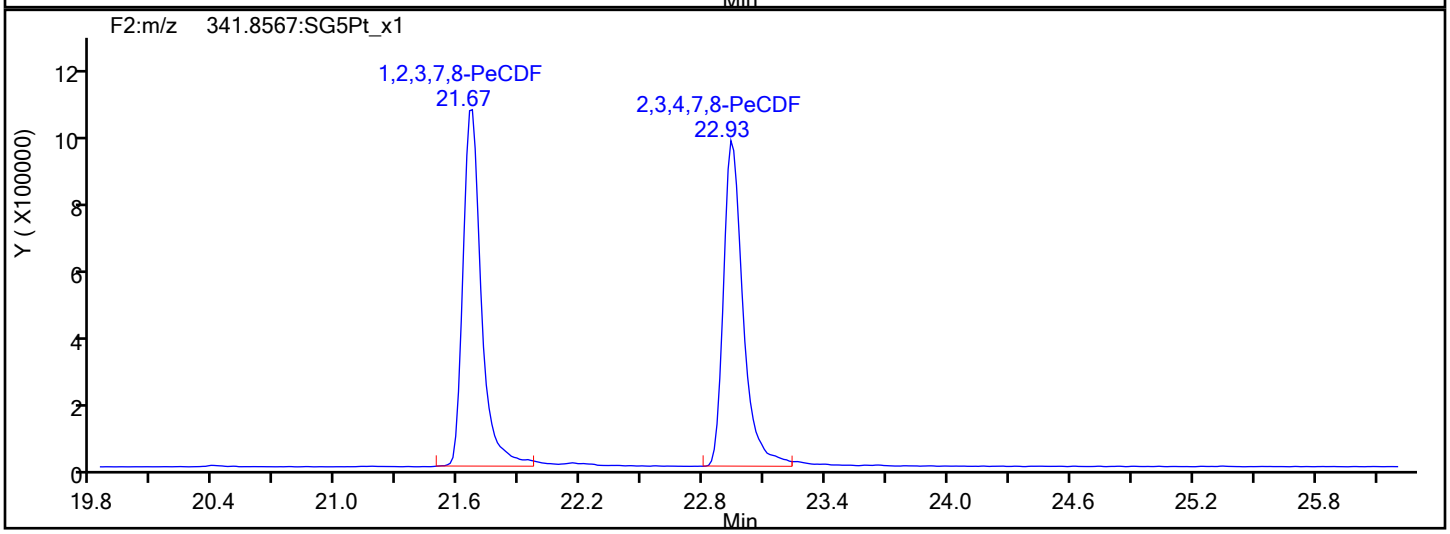

PeCDF Interference Mass

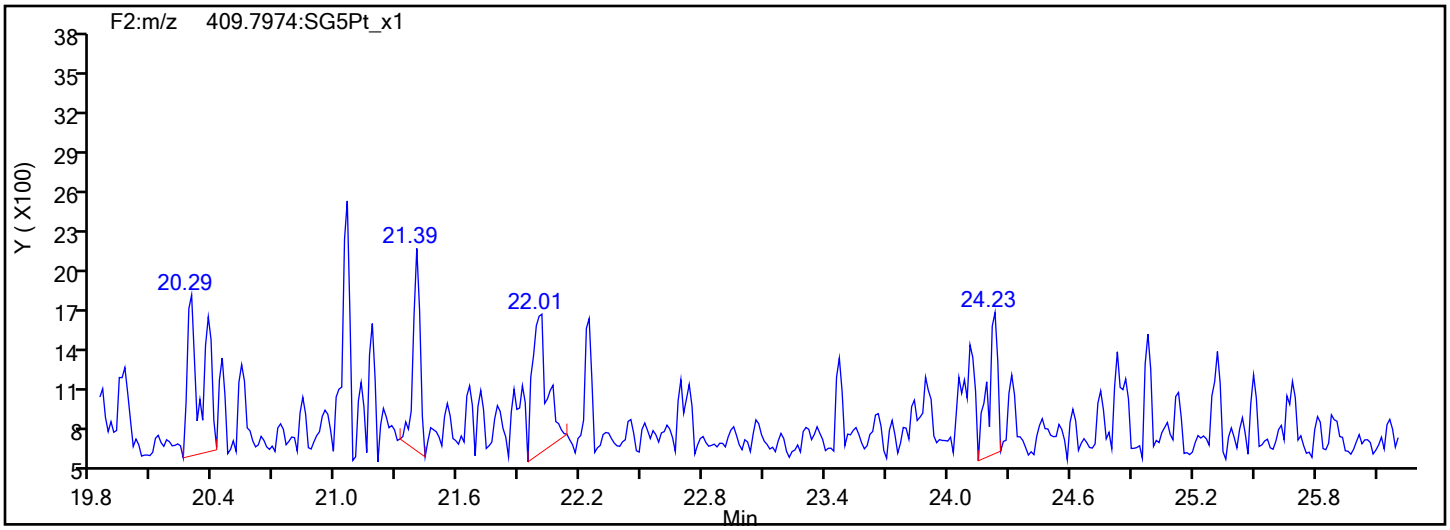

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Eurofins TestAmerica, Sacramento

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PeCDD

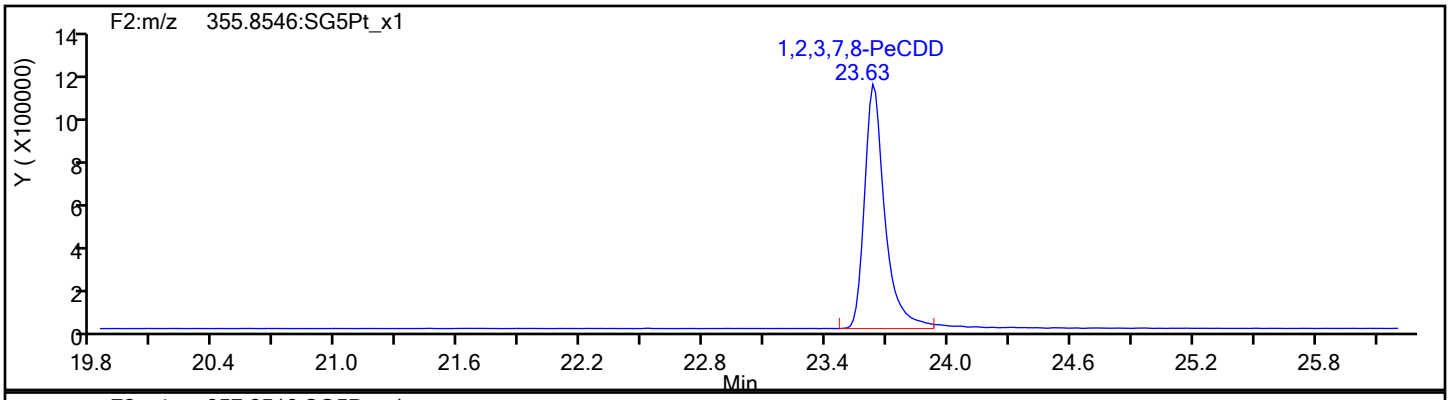

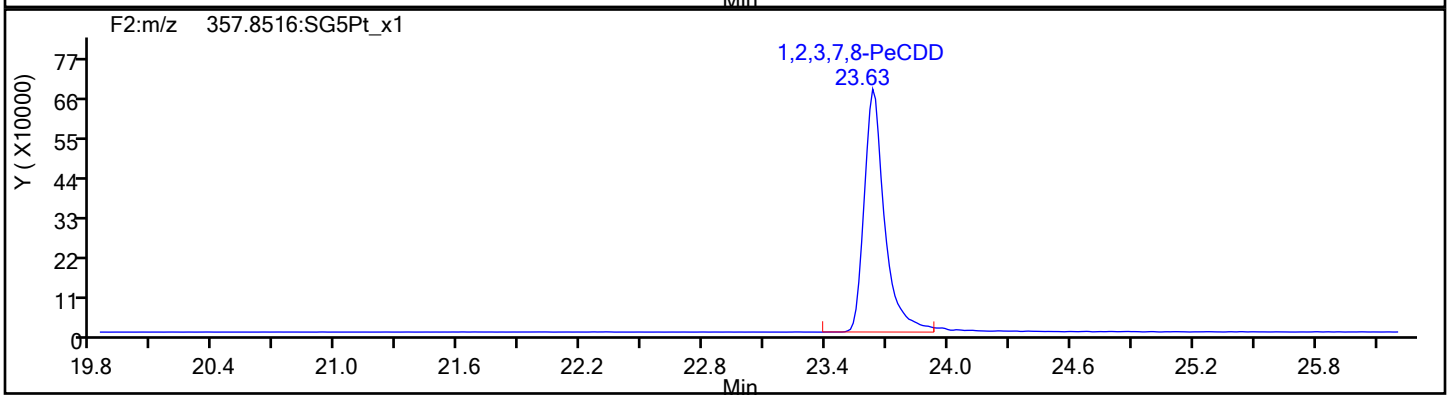

PeCDD Standards

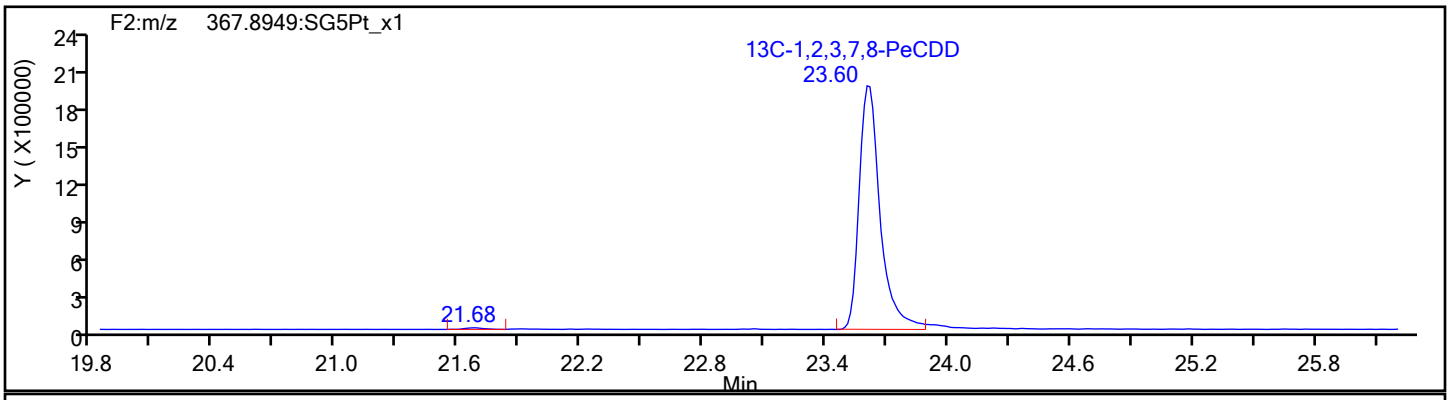

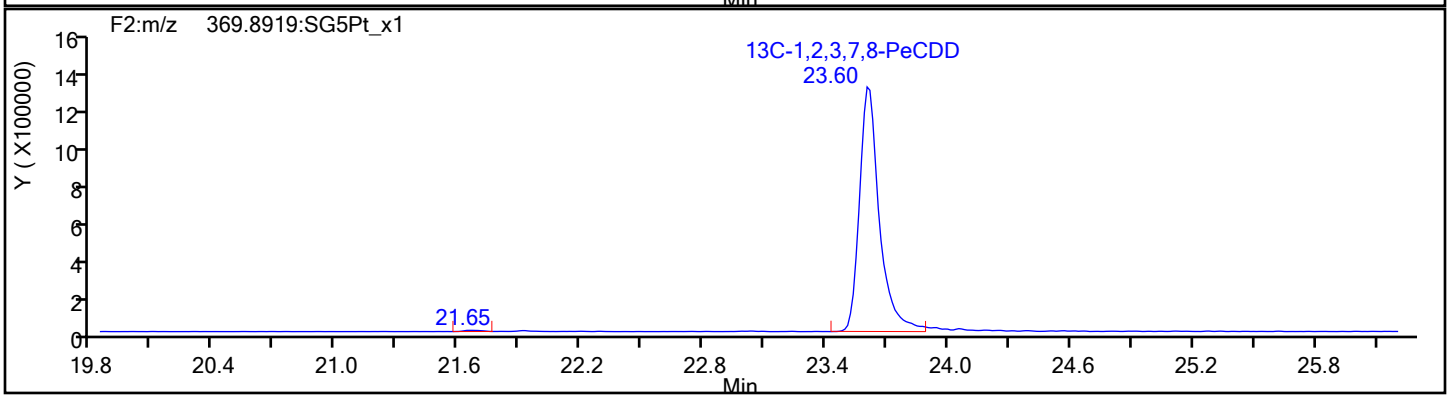

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Eurofins TestAmerica, Sacramento

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HxCDF

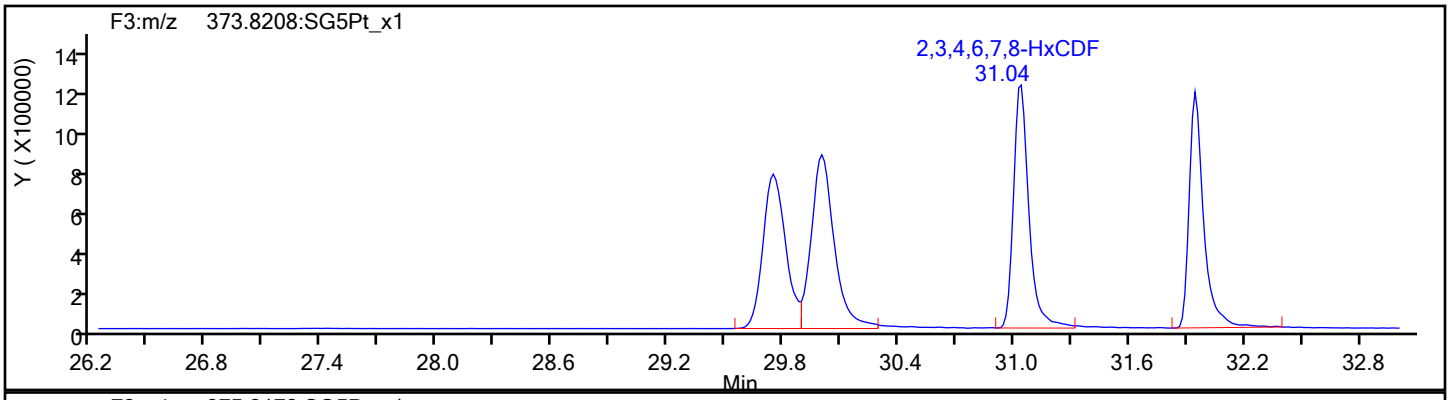

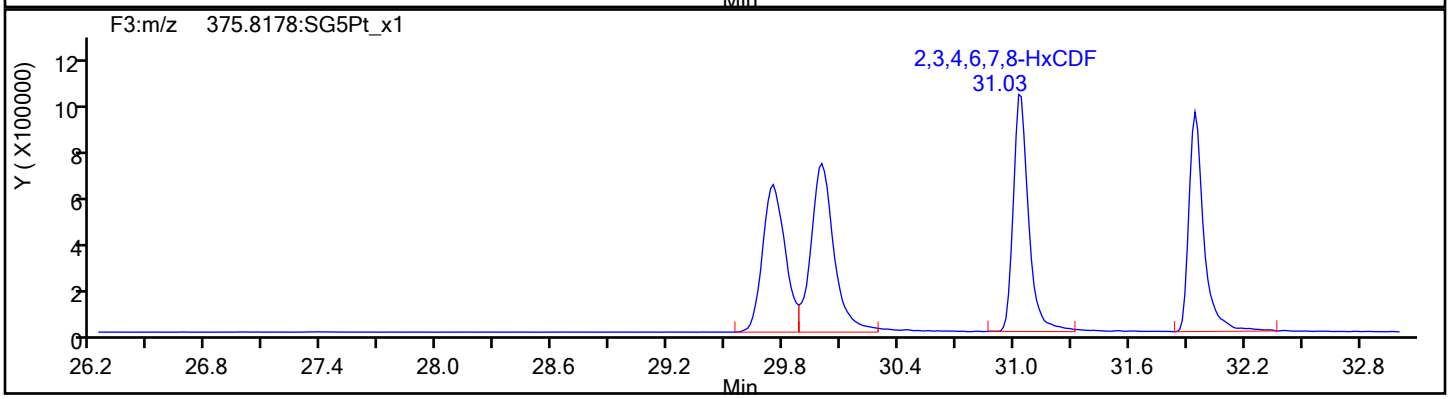

HxCDF Standards

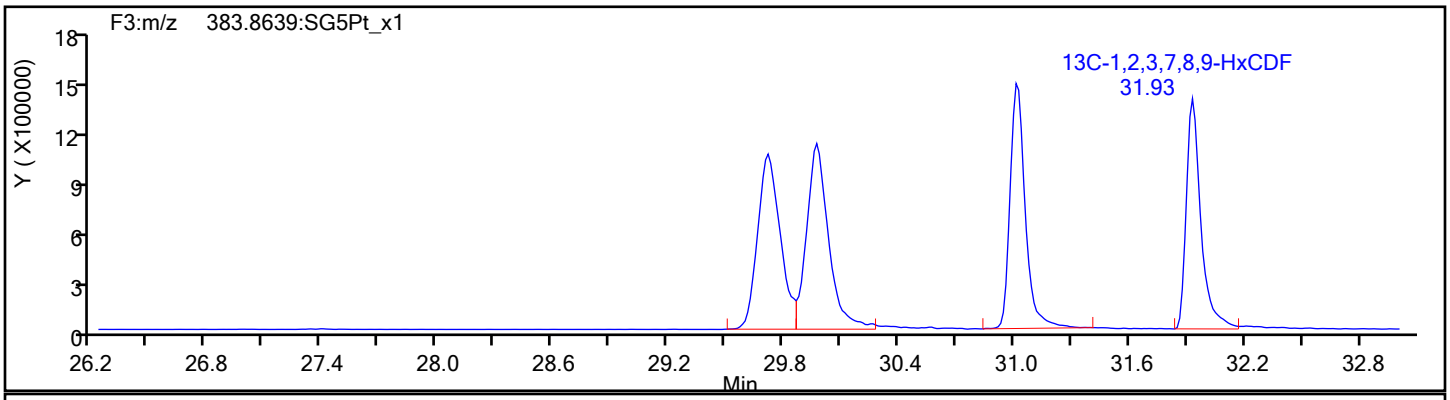

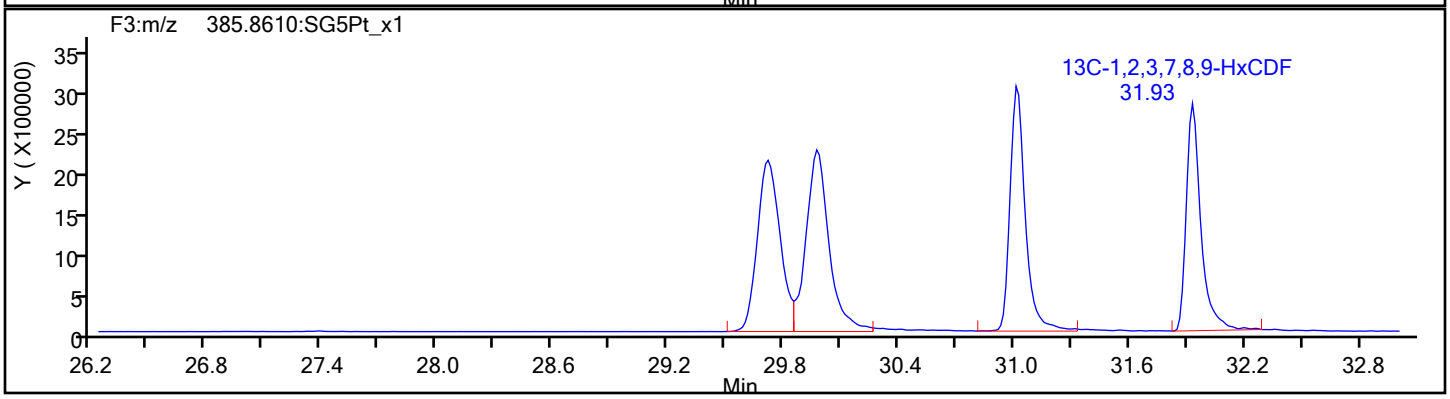

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Eurofins TestAmerica, Sacramento

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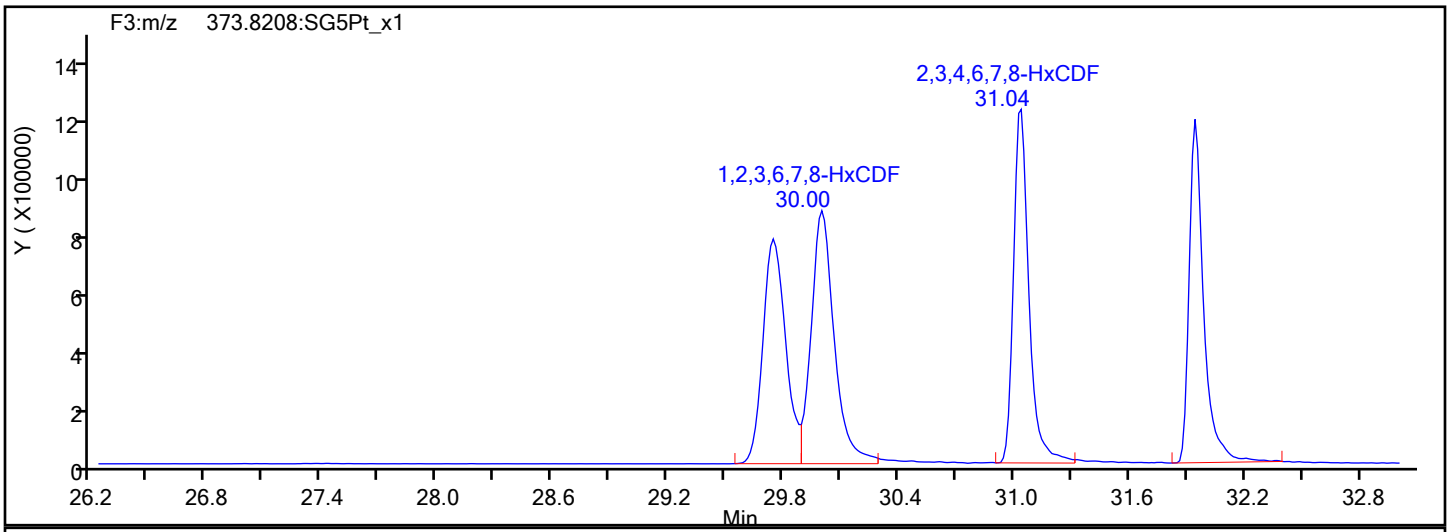

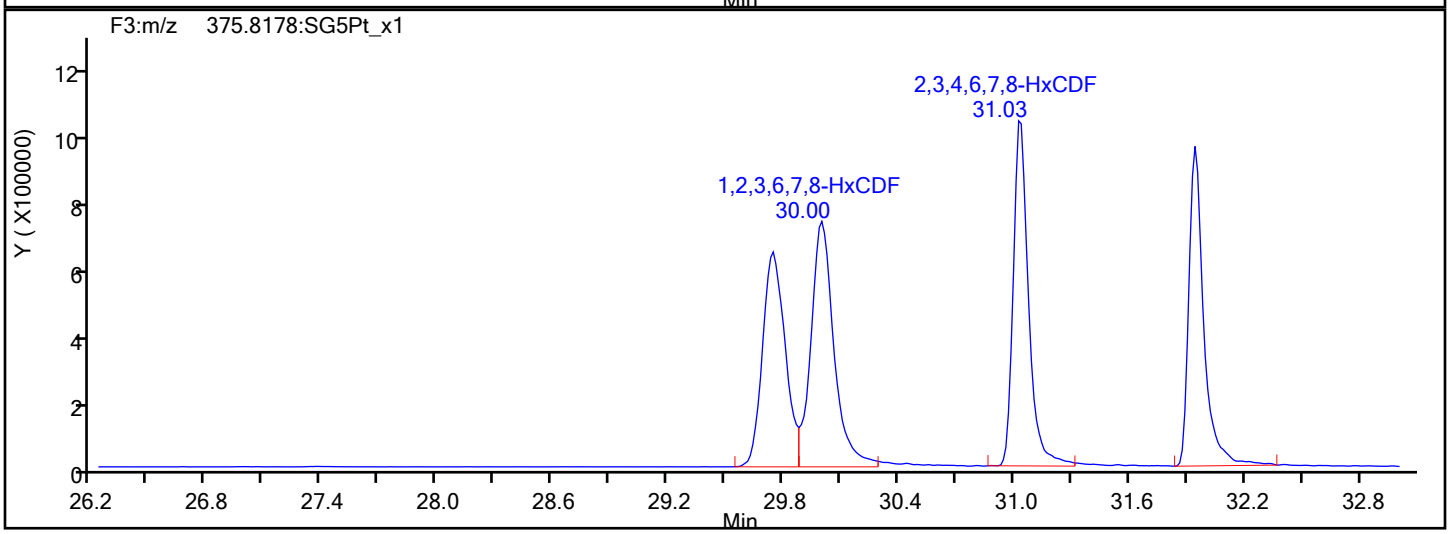

HxCDF Interference Mass

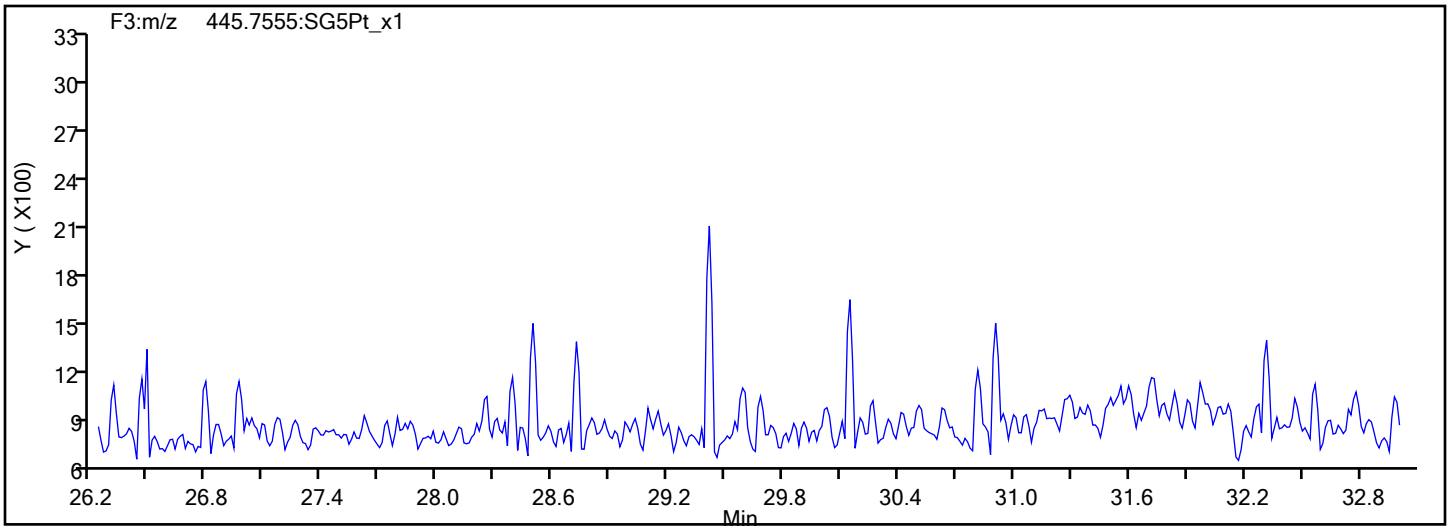

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Eurofins TestAmerica, Sacramento

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HxCDD

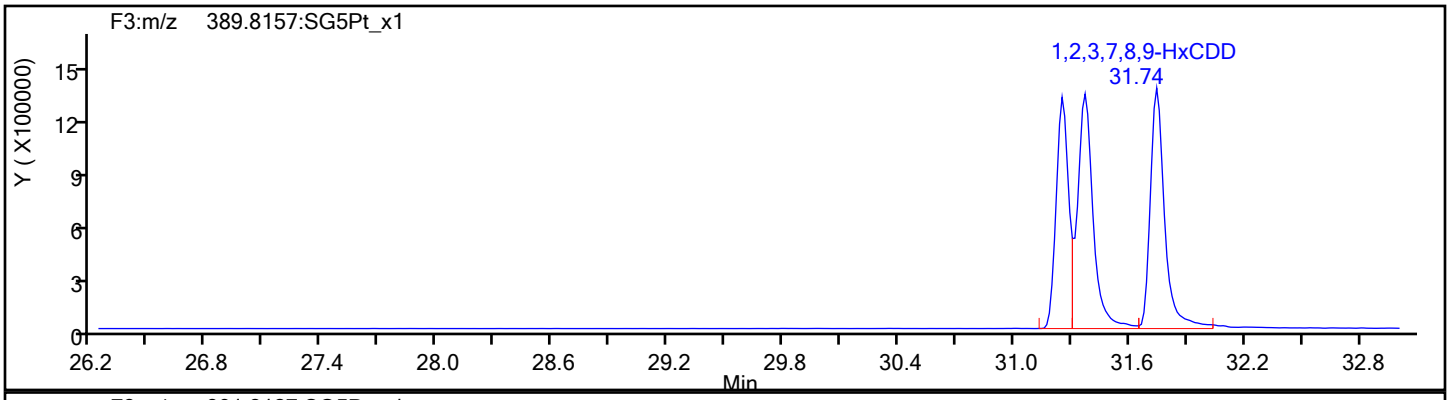

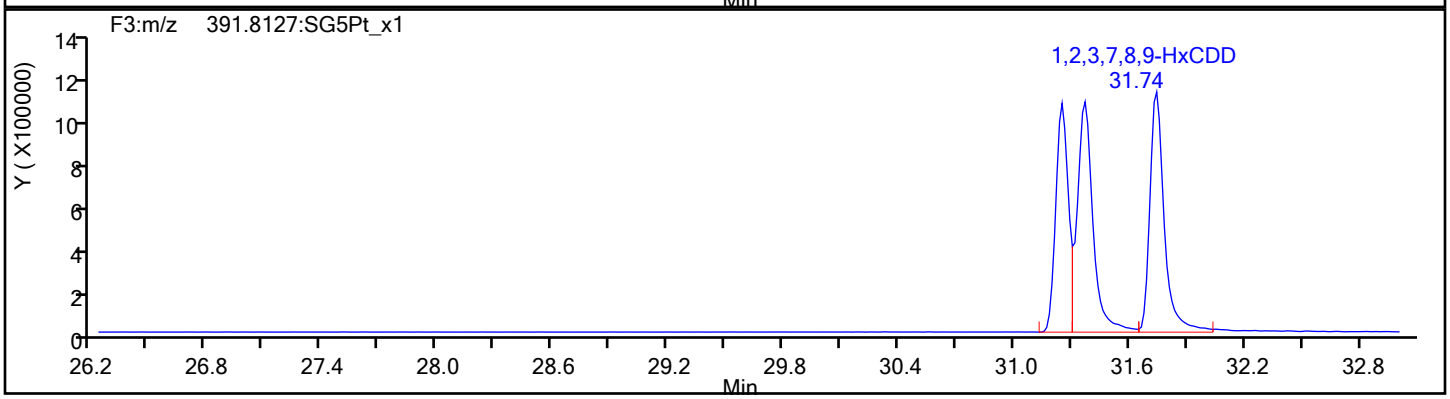

HxCDD Standards

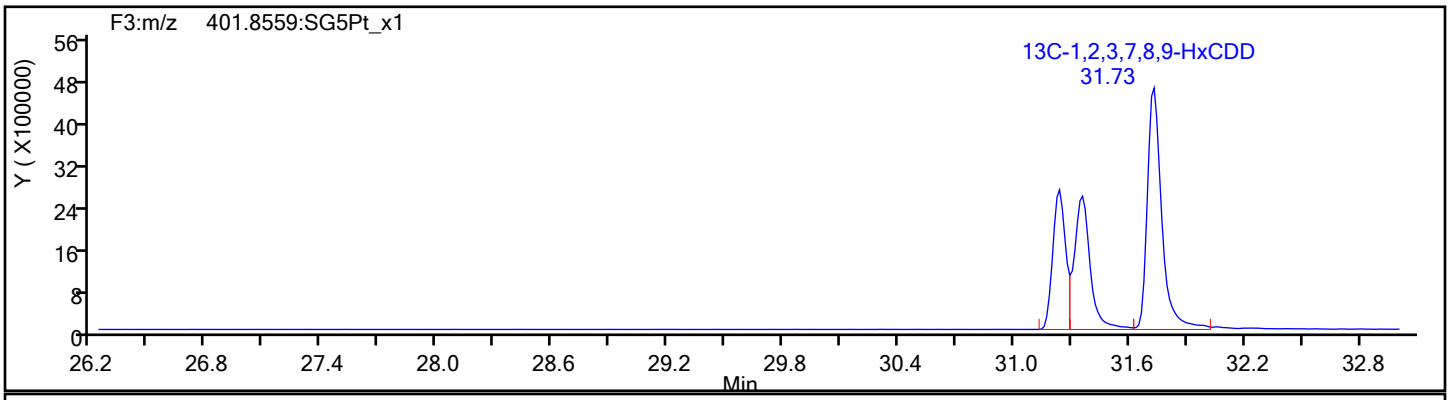

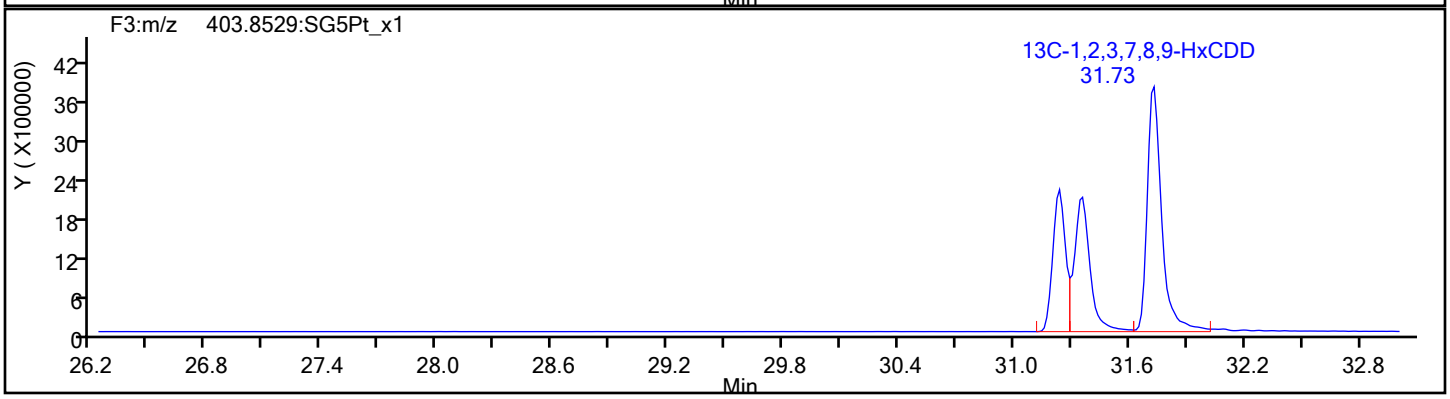

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HpCDF

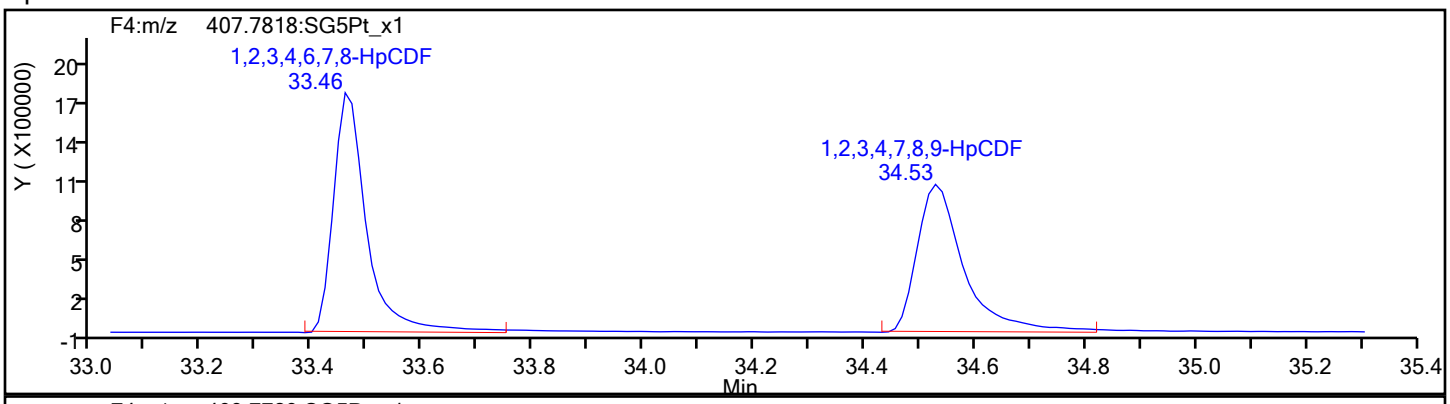

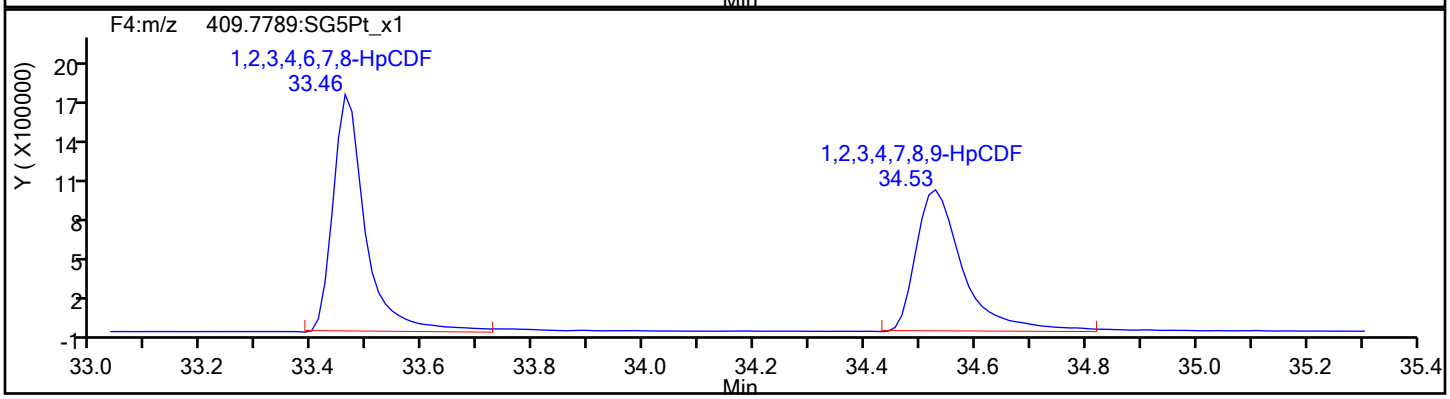

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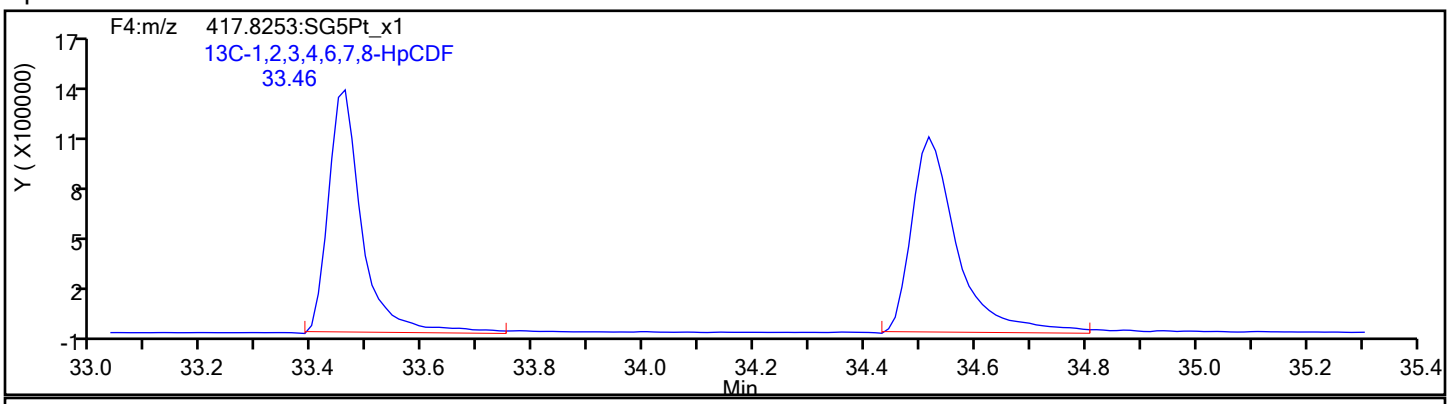

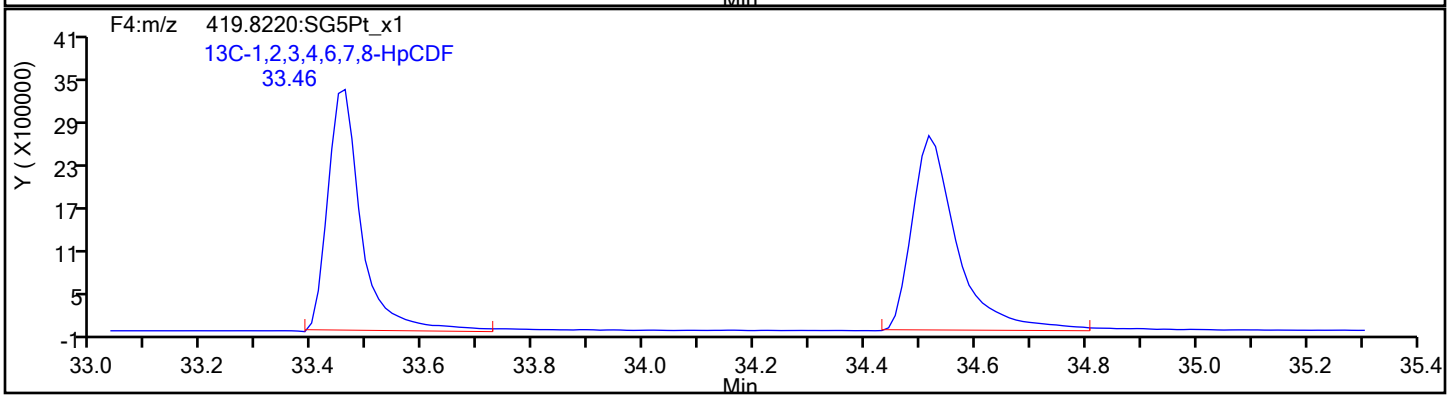

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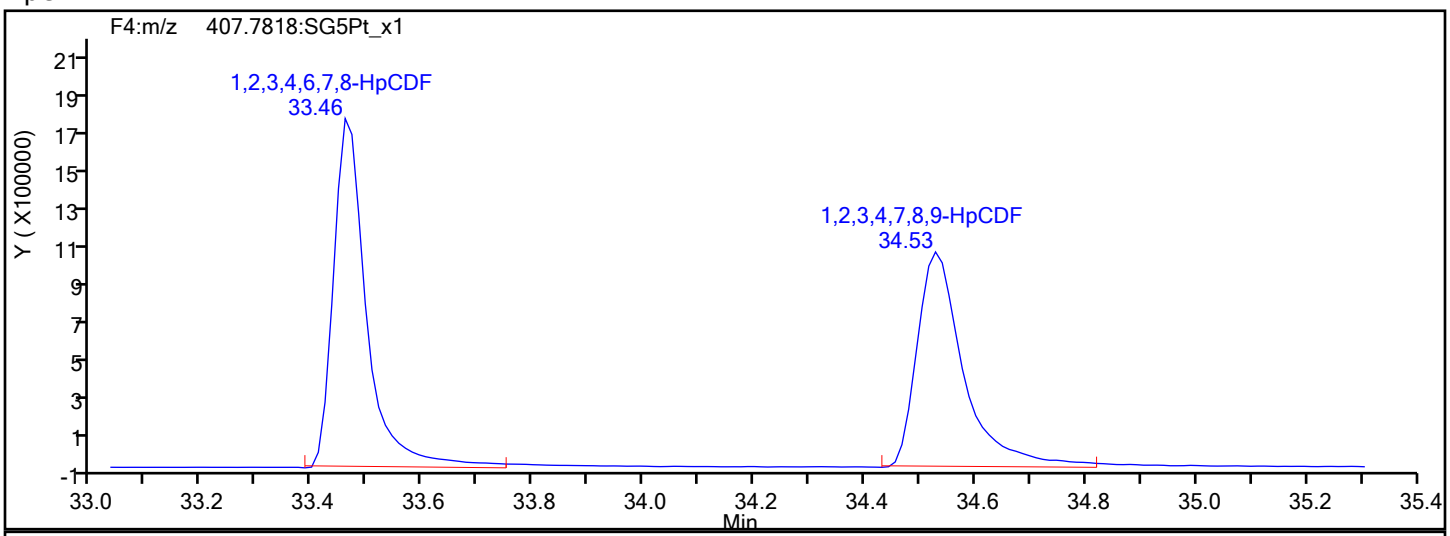

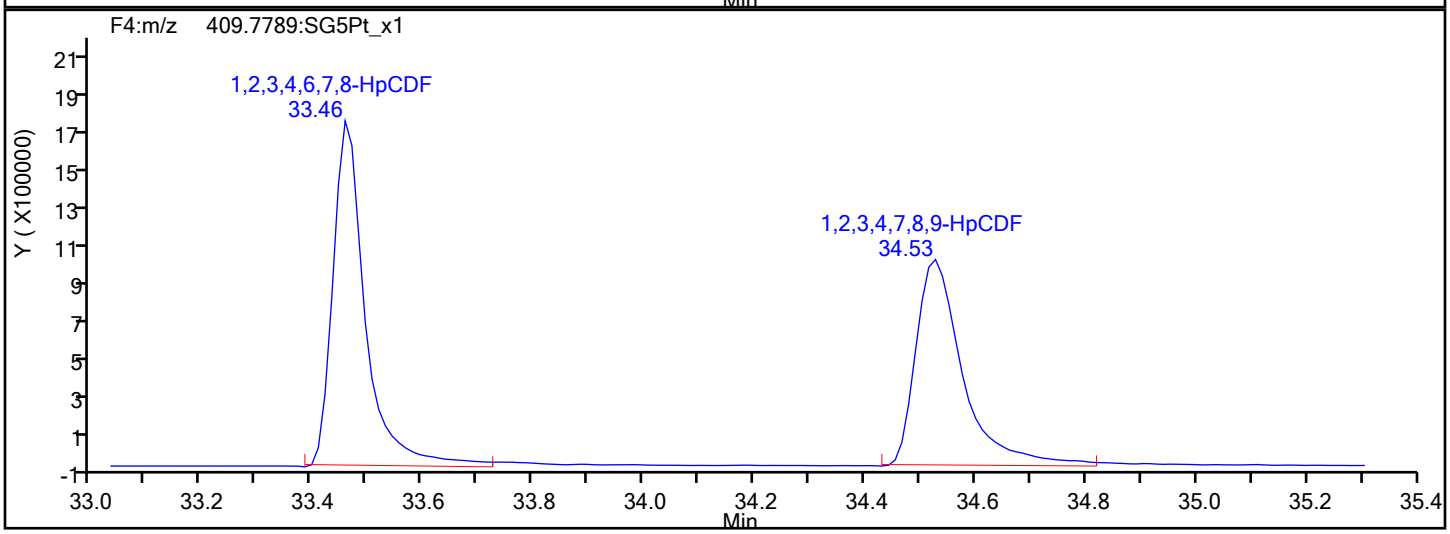

HpCDF Interference Mass

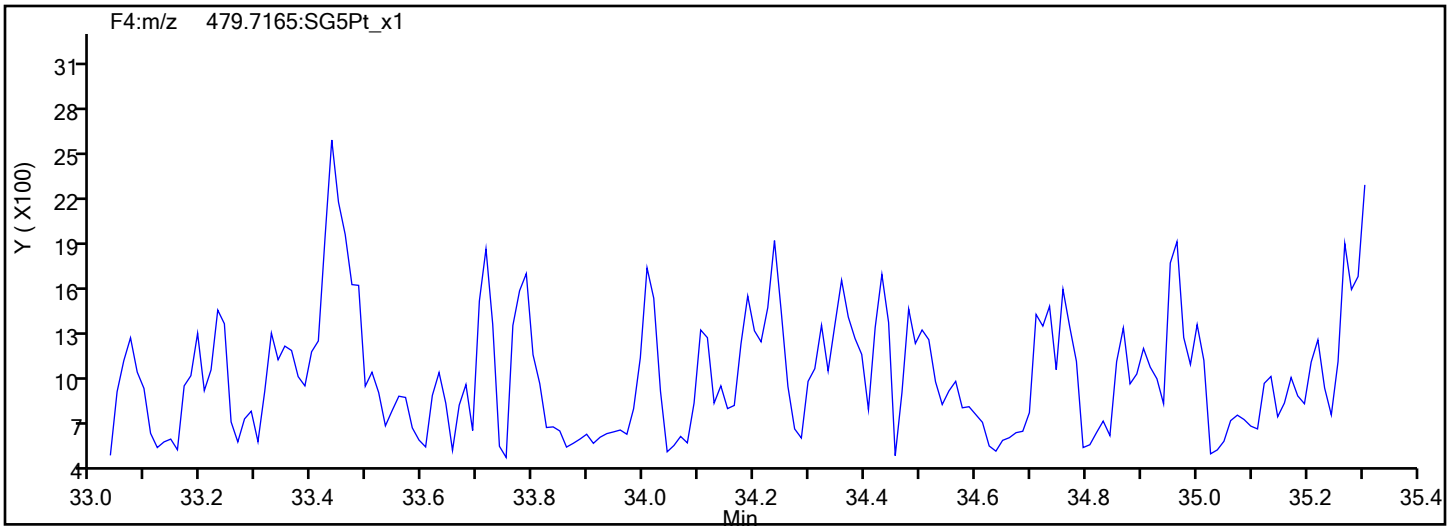

Report Date: 10-Feb-2020 09:22:29 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_10.d		
Injection Date:	06-Feb-2020 17:42:54	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355551	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

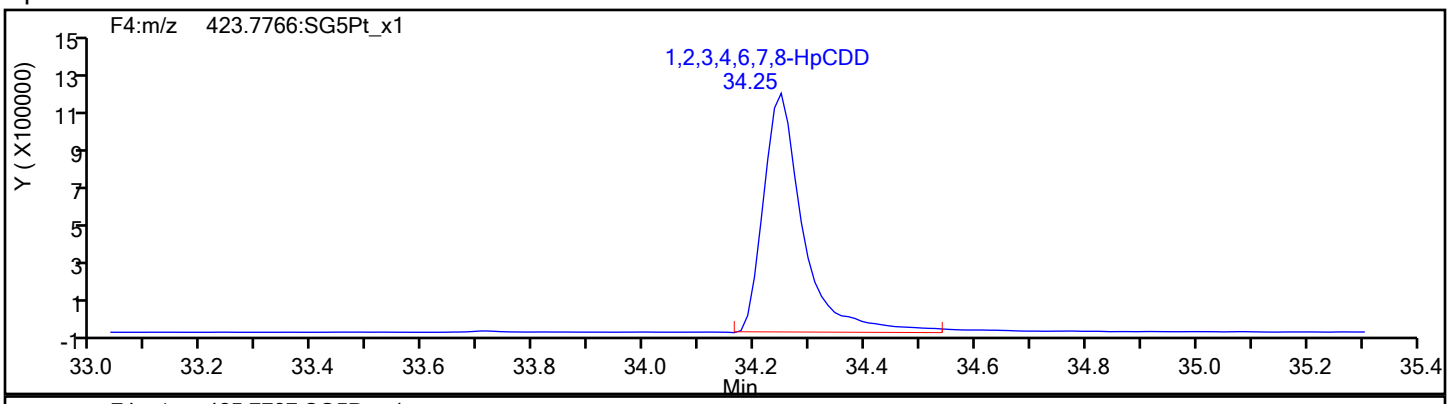

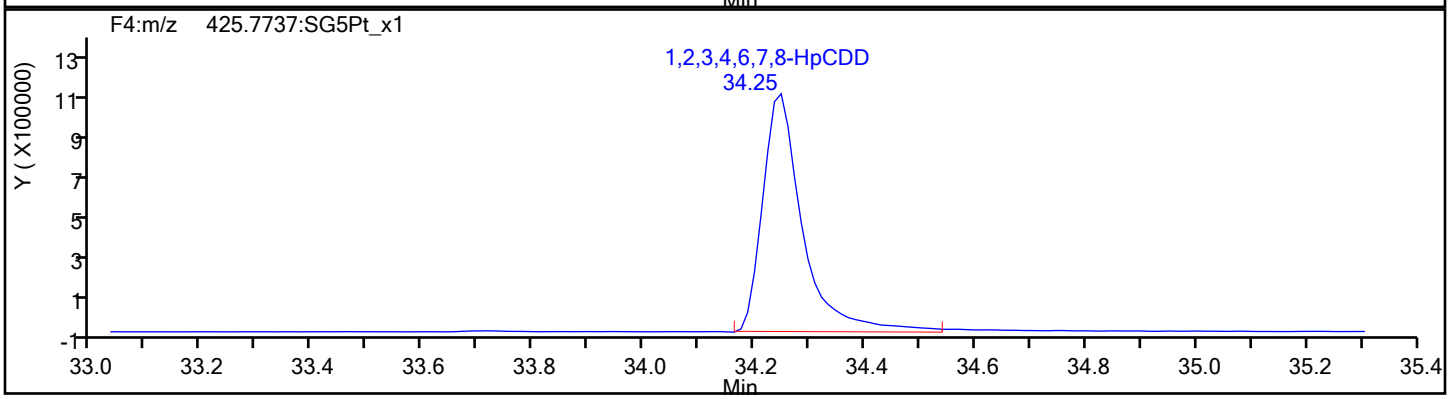

HpCDD Standards

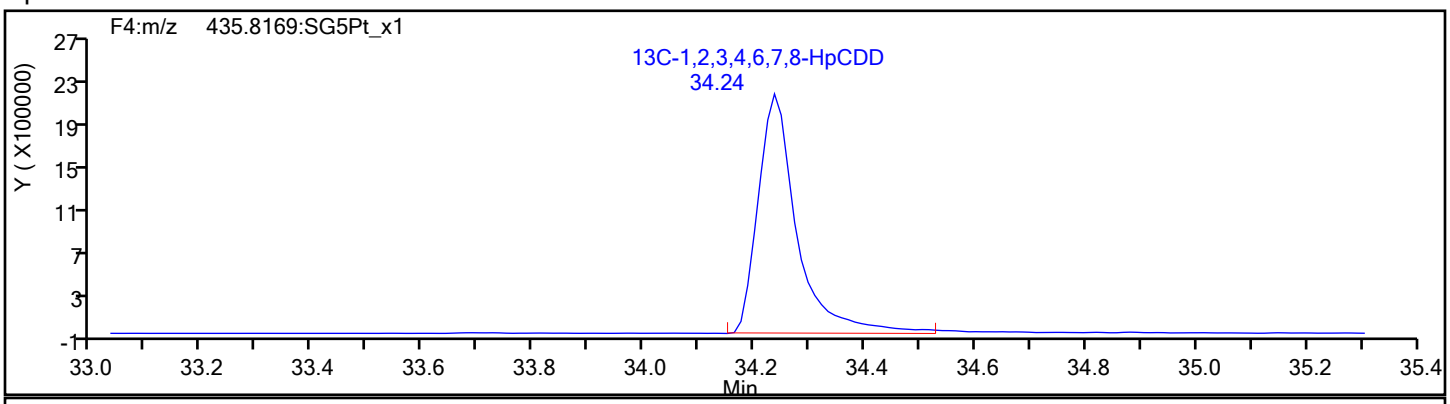

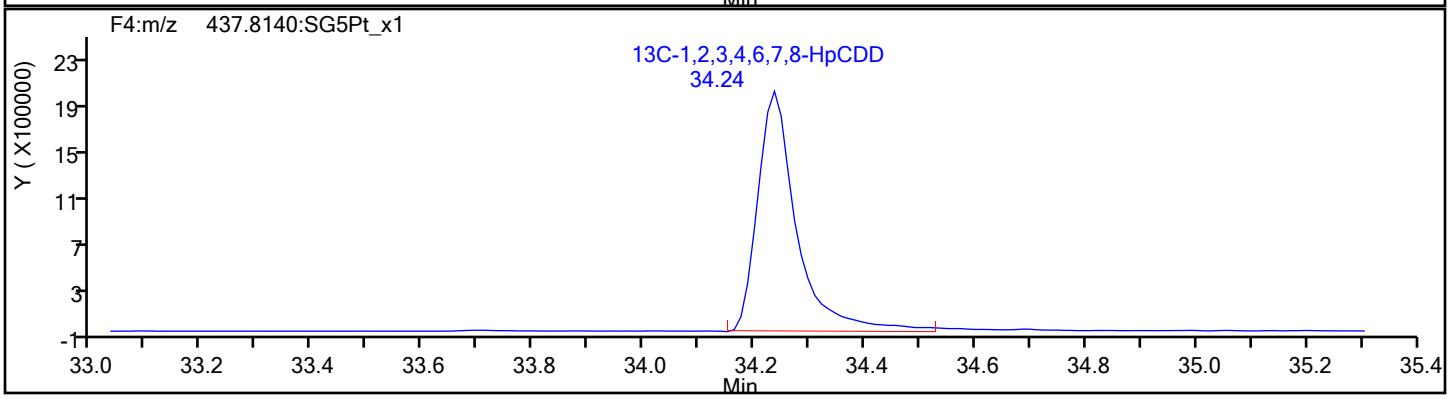

Report Date: 10-Feb-2020 09:22:29 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_10.d		
Injection Date:	06-Feb-2020 17:42:54	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355551	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

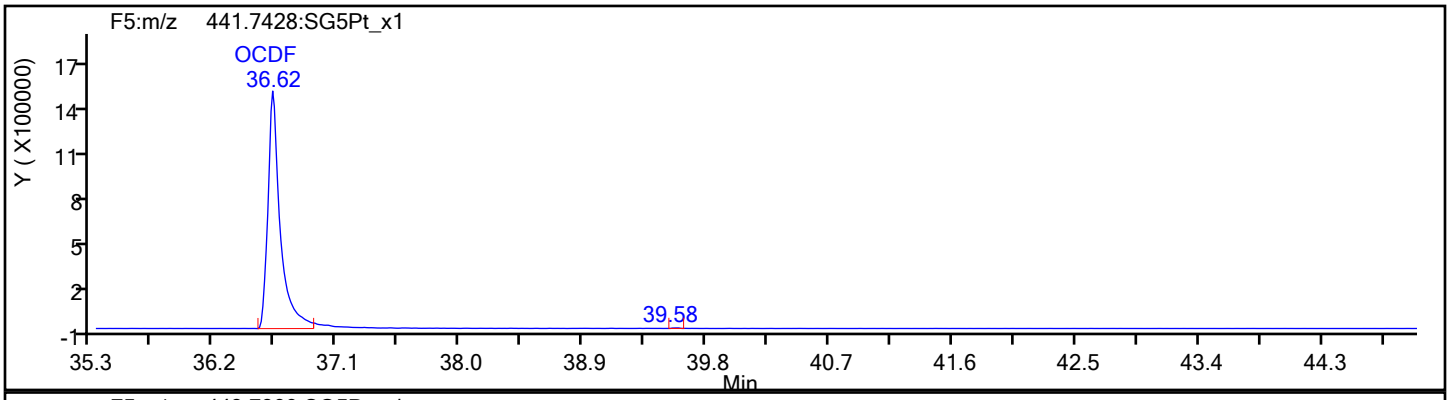

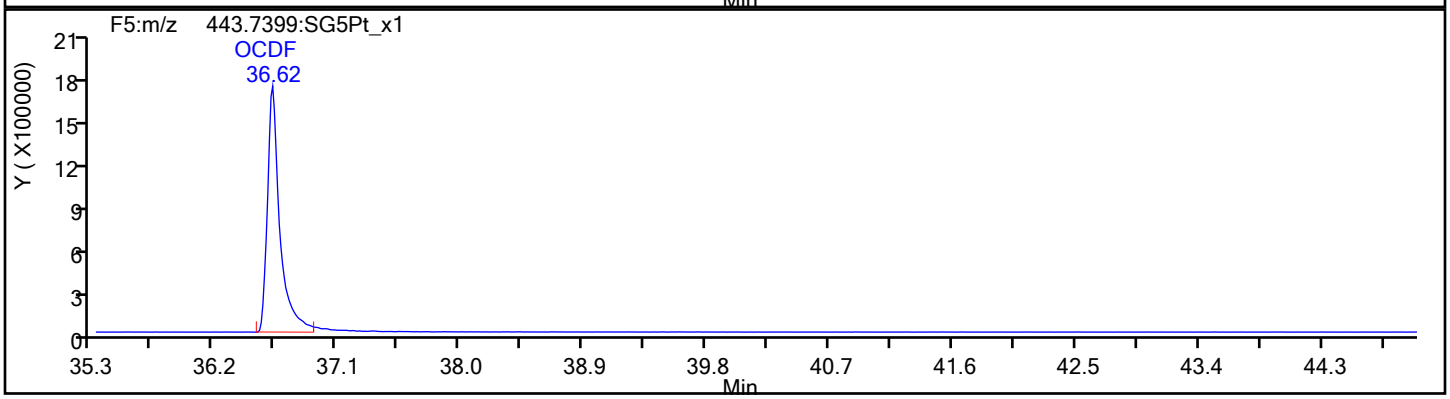

OCDF Standards

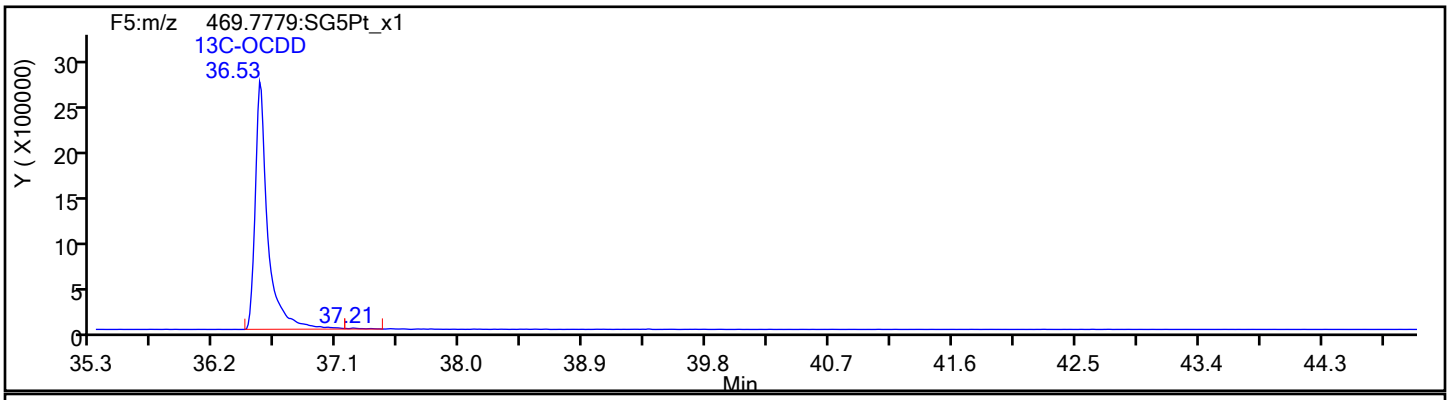

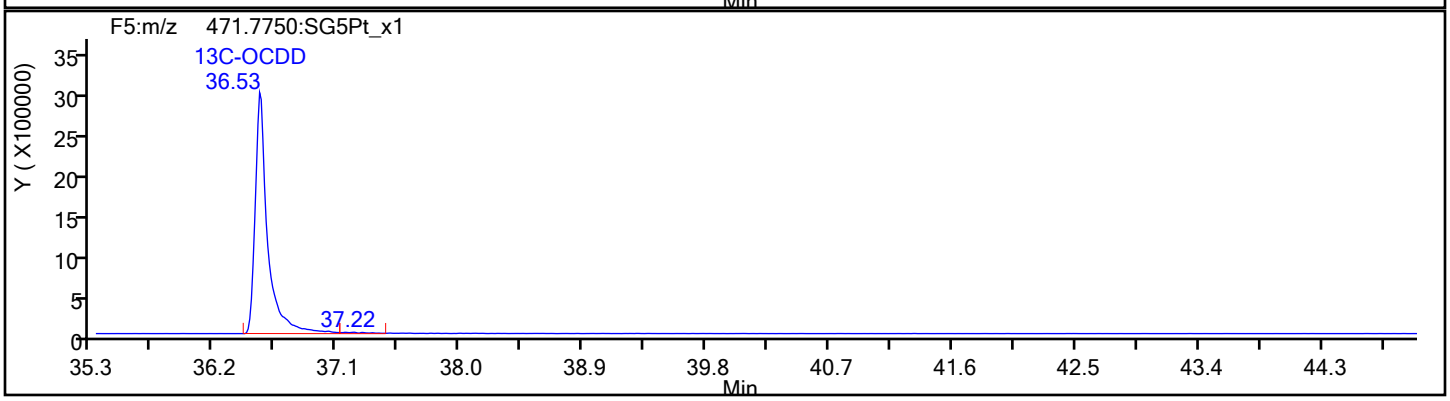

Report Date: 10-Feb-2020 09:22:29 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_10.d		
Injection Date:	06-Feb-2020 17:42:54	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355551	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

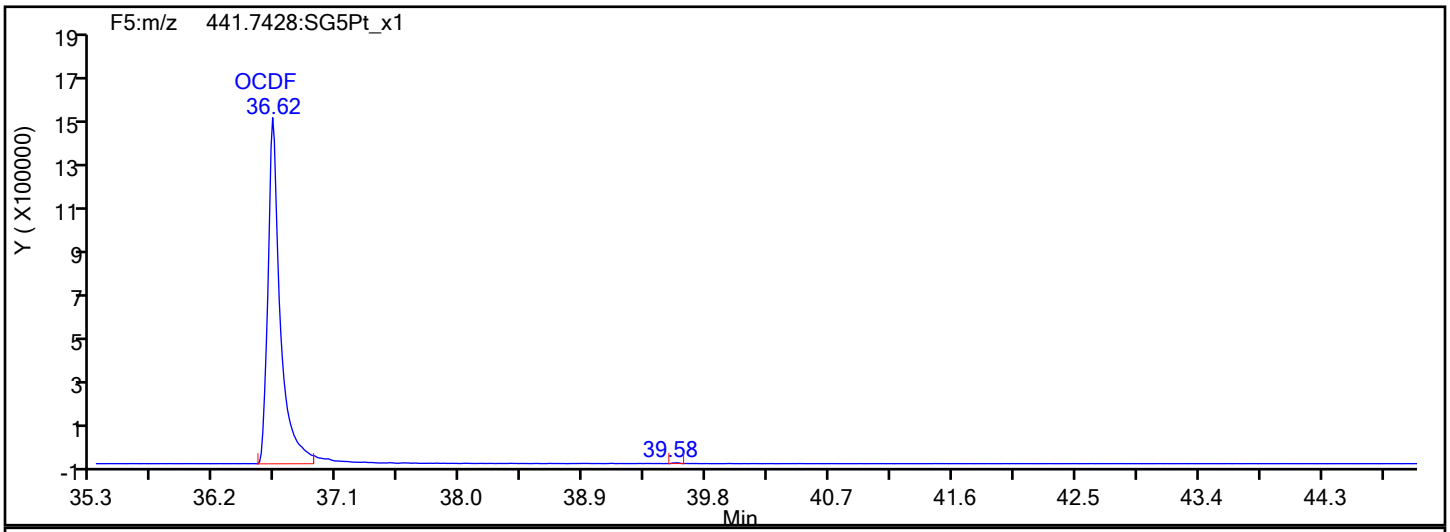

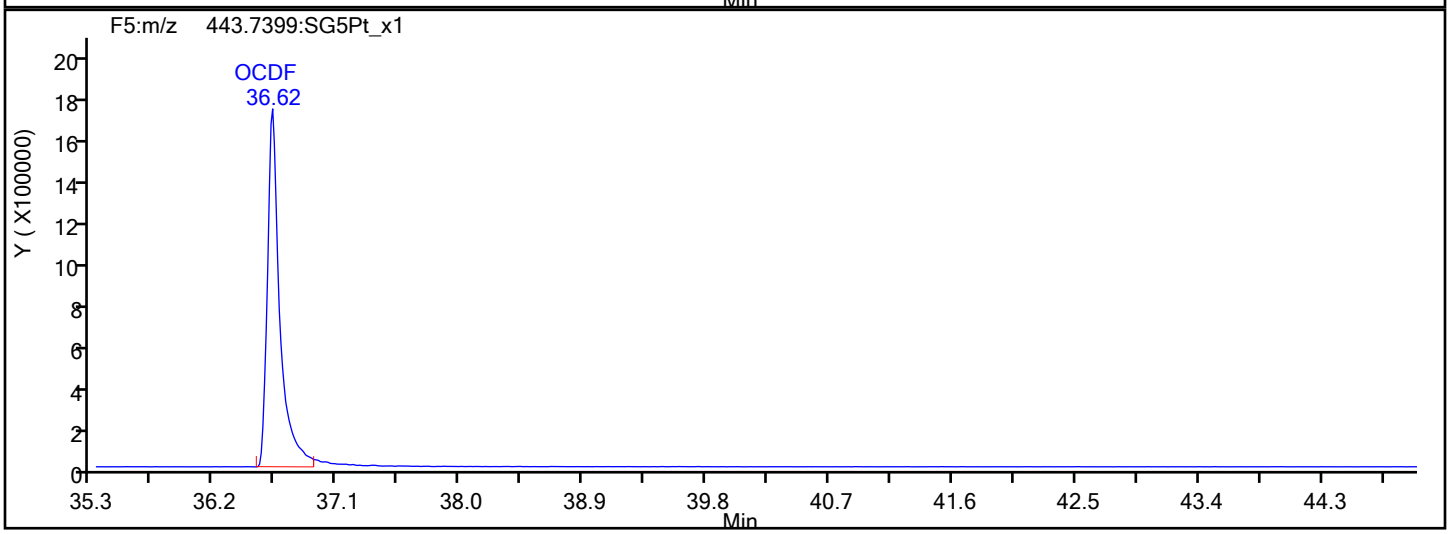

OCDF Interference Mass

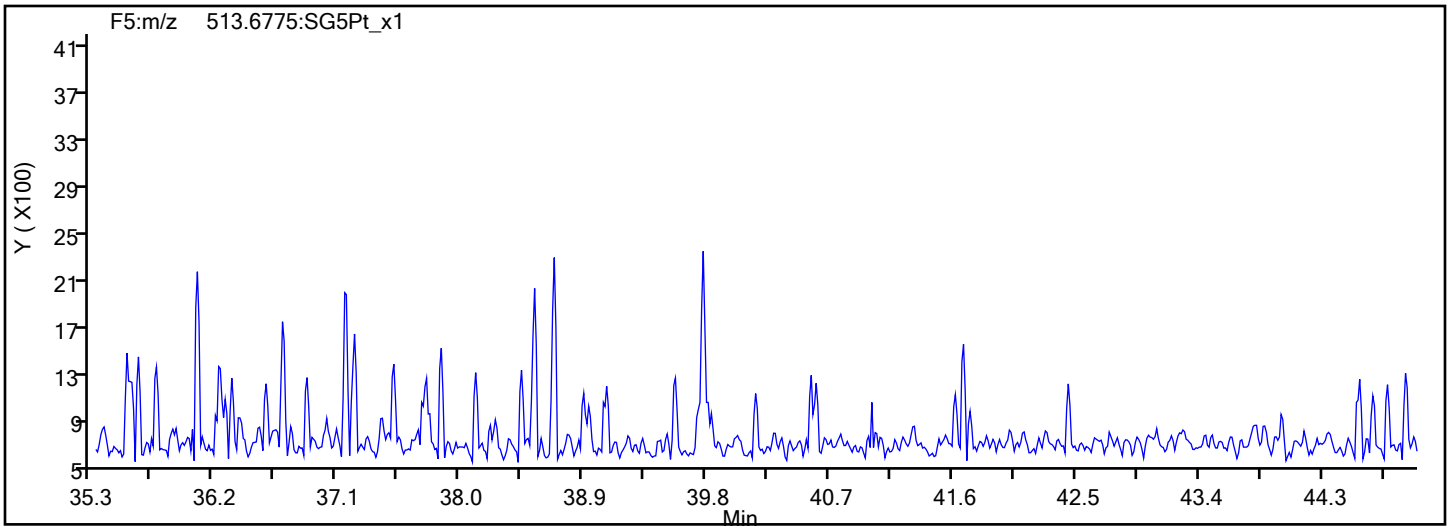

Report Date: 10-Feb-2020 09:22:29 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_10.d		
Injection Date:	06-Feb-2020 17:42:54	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355551	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

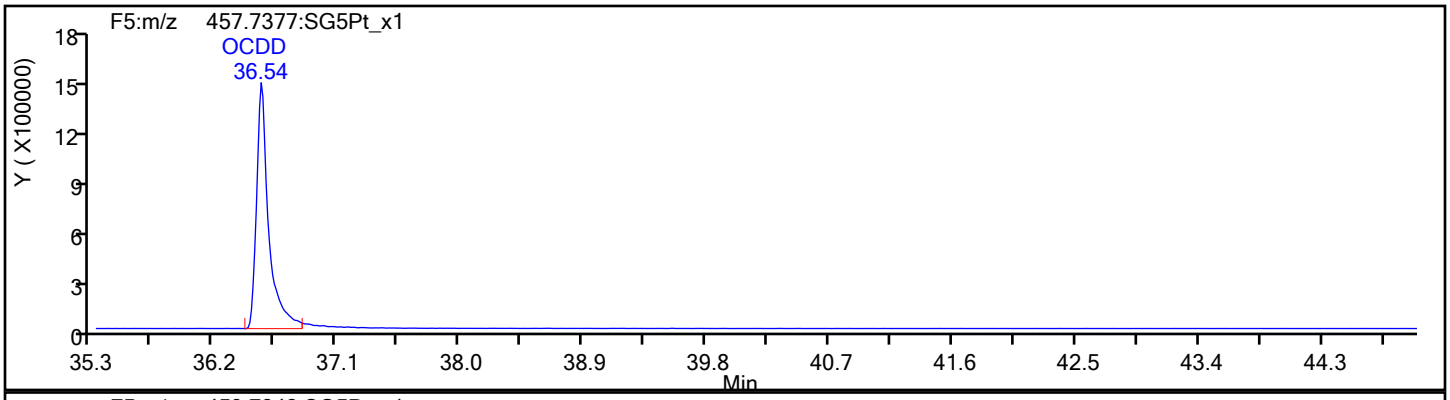

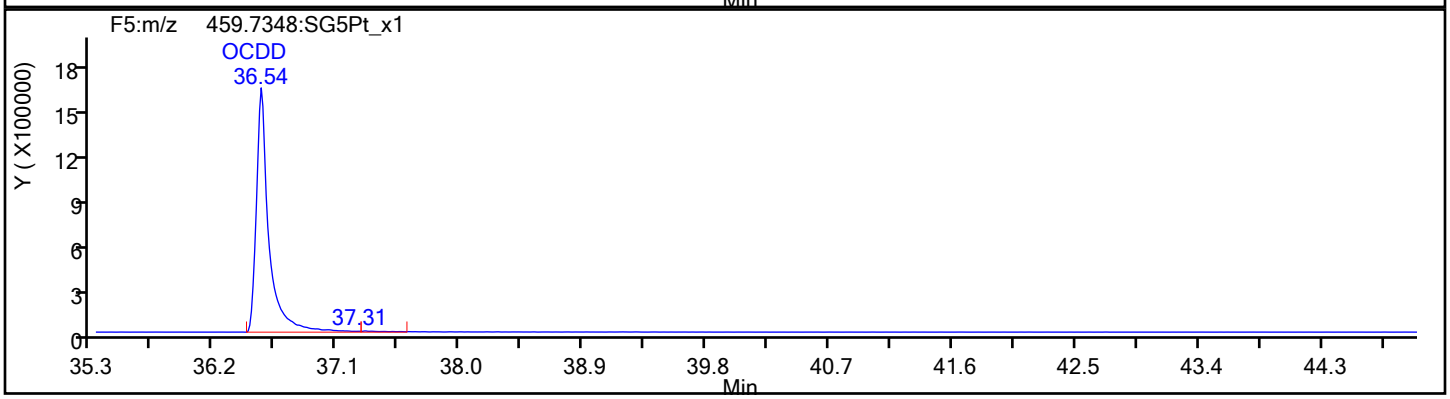

OCDD Standards

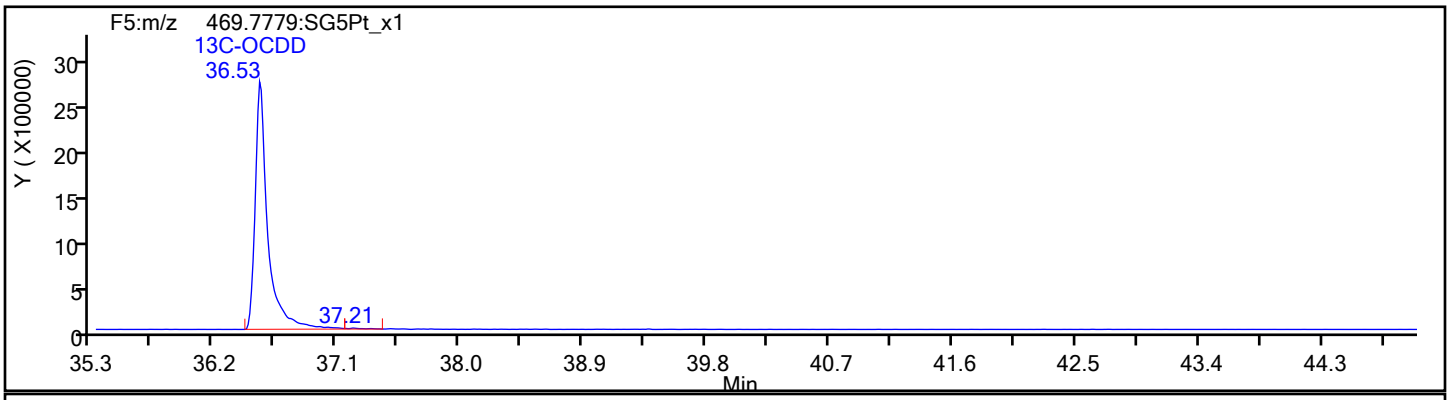

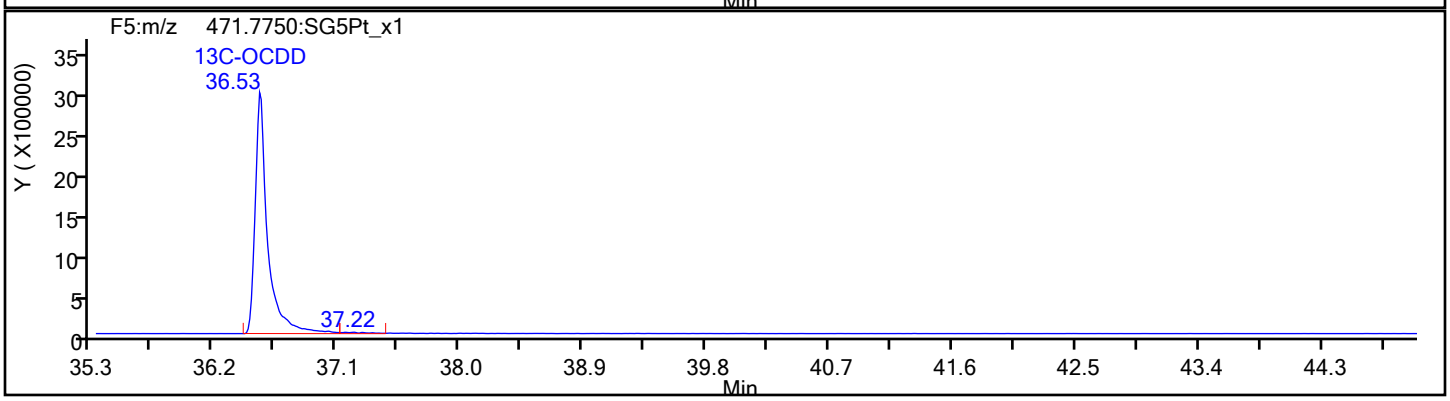

Report Date: 10-Feb-2020 09:22:29 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_10.d		
Injection Date:	06-Feb-2020 17:42:54	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355551	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

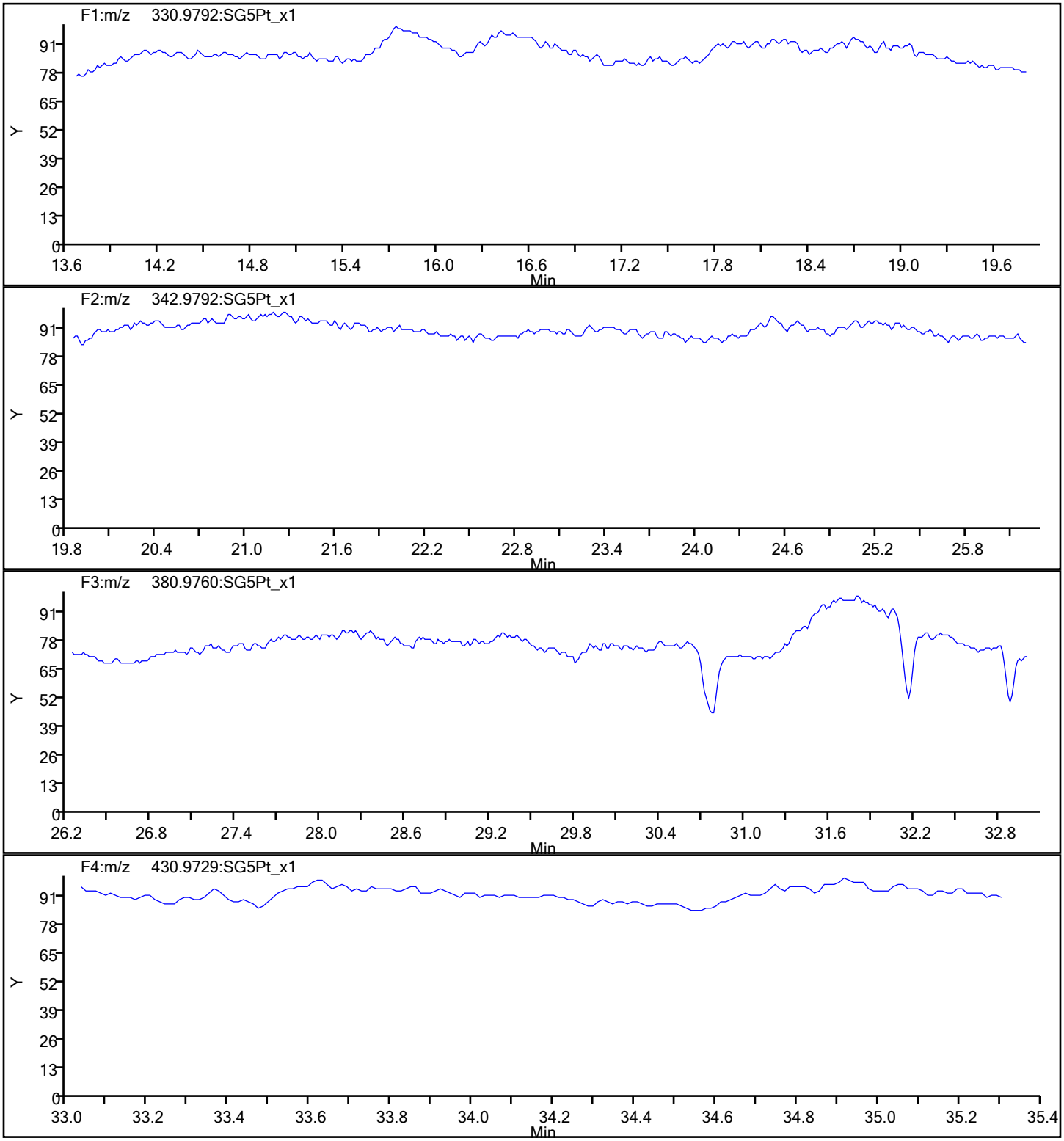

Report Date: 10-Feb-2020 09:22:29 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_10.d		
Injection Date:	06-Feb-2020 17:42:54	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355551	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

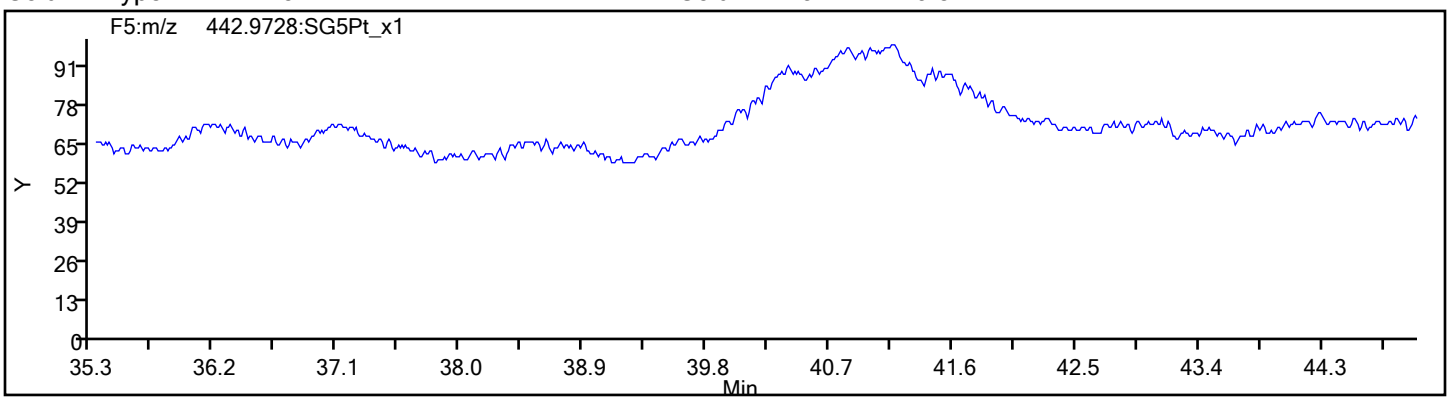

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 320-58170-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCSD 320-354177/3-A
Matrix: Water
Lab File ID: 05FE2010D5_6.d
Analysis Method: 1613B
Date Collected:
Extract. Method: 1613B
Date Extracted: 01/31/2020 07:47
Sample wt/vol: 1000(mL)
Date Analyzed: 02/05/2020 19:22
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 355322
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	220		10	0.98
51207-31-9	2,3,7,8-TCDF	228		10	1.1
40321-76-4	1,2,3,7,8-PeCDD	1110		50	2.5
57117-41-6	1,2,3,7,8-PeCDF	1130		50	6.5
57117-31-4	2,3,4,7,8-PeCDF	1150		50	7.5
39227-28-6	1,2,3,4,7,8-HxCDD	1100		50	4.1
57653-85-7	1,2,3,6,7,8-HxCDD	1160		50	3.9
19408-74-3	1,2,3,7,8,9-HxCDD	1140		50	3.6
70648-26-9	1,2,3,4,7,8-HxCDF	1130		50	13
57117-44-9	1,2,3,6,7,8-HxCDF	1110		50	11
72918-21-9	1,2,3,7,8,9-HxCDF	1120		50	8.6
60851-34-5	2,3,4,6,7,8-HxCDF	1120		50	7.8
35822-46-9	1,2,3,4,6,7,8-HpCDD	1090		50	7.1
67562-39-4	1,2,3,4,6,7,8-HpCDF	1090		50	16
55673-89-7	1,2,3,4,7,8,9-HpCDF	1090		50	25
3268-87-9	OCDD	2160		100	2.7
39001-02-0	OCDF	2140		100	3.2
41903-57-5	Total TCDD	220		10	0.98
30402-14-3	Total TCDF	228		10	1.1
36088-22-9	Total PeCDD	1110		50	2.5
30402-15-4	Total PeCDF	2290		50	7.0
34465-46-8	Total HxCDD	3400		50	3.9
55684-94-1	Total HxCDF	4470		50	10
37871-00-4	Total HpCDD	1090		50	7.1
38998-75-3	Total HpCDF	2190		50	21

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 320-354177/3-A

Matrix: Water Lab File ID: 05FE2010D5_6.d

Analysis Method: 1613B Date Collected:

Extract. Method: 1613B Date Extracted: 01/31/2020 07:47

Sample wt/vol: 1000(mL) Date Analyzed: 02/05/2020 19:22

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 355322 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	67		20-175
89059-46-1	13C-2,3,7,8-TCDF	67		22-152
109719-79-1	13C-1,2,3,7,8-PeCDD	63		21-227
109719-77-9	13C-1,2,3,7,8-PeCDF	65		21-192
116843-02-8	13C-2,3,4,7,8-PeCDF	63		13-328
109719-80-4	13C-1,2,3,4,7,8-HxCDD	63		21-193
109719-81-5	13C-1,2,3,6,7,8-HxCDD	70		25-163
114423-98-2	13C-1,2,3,4,7,8-HxCDF	68		19-202
116843-03-9	13C-1,2,3,6,7,8-HxCDF	76		21-159
116843-04-0	13C-1,2,3,7,8,9-HxCDF	71		17-205
116843-05-1	13C-2,3,4,6,7,8-HxCDF	73		22-176
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	61		26-166
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	64		21-158
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	61		20-186
114423-97-1	13C-OCDD	53		13-199

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	89		31-191

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_6.d
Lims ID: LCSD 320-354177/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 05-Feb-2020 19:22:08 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 320-354177/3-A LCSD 320-354177/3-A
Misc. Info.: 05FE2010D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 07-Feb-2020 14:27:06 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: dadunj Date: 07-Feb-2020 14:28:55

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.333	60987371	0.80	5.4E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.849	45878026	0.75	1.1275	66.7	66.7	0.2627	0.2627	66.72	
2,3,7,8-TCDF	16.864	4019399	0.72	0.7675	11.4	11.4	0.0553	0.0553	114	
A Non-2,3,7,8-sub-TCDF	16.569						0.0553	0.0553		
S Total TCDF					11.4	11.4	0.0553	0.0553		
D 13C-2,3,7,8-TCDD	17.529	36718527	0.78	0.9032	66.7	66.7	0.2529	0.2529	66.66	
2,3,7,8-TCDD	17.544	3883220	0.76	0.9599	11.0	11.0	0.0489	0.0489	110	
$ 37Cl4-2,3,7,8-TCDD	17.544	21039345		0.9673	35.7	35.7	0.1042	0.1042	89.16	
A Non-2,3,7,8-sub-TCDD	17.000						0.0489	0.0489		
S Total TCDD					11.0	11.0	0.0489	0.0489		
D 13C-1,2,3,7,8-PeCDF	21.639	38048617	1.56	0.9615	64.9	64.9	0.2597	0.2597	64.89	
1,2,3,7,8-PeCDF	21.667	19358797	1.59	0.8982	56.6	56.6	0.3262	0.3262	113	
D 13C-2,3,4,7,8-PeCDF	22.921	39784569	1.56	1.0393	62.8	62.8	0.2403	0.2403	62.77	
2,3,4,7,8-PeCDF	22.948	18579763	1.56	0.8101	57.6	57.6	0.3750	0.3750	115	
A F1 PeCDFs	19.329						0.0226	0.0226		
A Non-2,3,7,8-sub-PeCDF	22.336						0.3492	0.3492		
S Total PeCDF					114.3	114.3	0.3506	0.3506		
D 13C-1,2,3,7,8-PeCDD	23.617	26751020	1.61	0.6938	63.2	63.2	0.0873	0.0873	63.22	
1,2,3,7,8-PeCDD	23.644	14755331	1.58	0.9961	55.4	55.4	0.1251	0.1251	111	
A Non-2,3,7,8-sub-PeCDD	22.580						0.1251	0.1251		
S Total PeCDD					55.4	55.4	0.1251	0.1251		
D 13C-1,2,3,4,7,8-HxCDF	29.735	27384810	0.50	0.8543	67.7	67.7	0.4501	0.4501	67.69	
1,2,3,4,7,8-HxCDF	29.762	12198495	1.21	0.7916	56.3	56.3	0.6607	0.6607	113	
D 13C-1,2,3,6,7,8-HxCDF	29.988	30127300	0.49	0.8361	76.1	76.1	0.4599	0.4599	76.09	
1,2,3,6,7,8-HxCDF	30.014	14421214	1.22	0.8638	55.4	55.4	0.5564	0.5564	111	
D 13C-2,3,4,6,7,8-HxCDF	31.026	27033041	0.50	0.7773	73.4	73.4	0.4946	0.4946	73.43	
2,3,4,6,7,8-HxCDF	31.039	13697902	1.20	0.9010	56.2	56.2	0.3891	0.3891	112	
D 13C-1,2,3,7,8,9-HxCDF	31.931	24118136	0.49	0.7167	71.1	71.1	0.5365	0.5365	71.06	
1,2,3,7,8,9-HxCDF	31.958	12278137	1.20	0.9127	55.8	55.8	0.4296	0.4296	112	
A Non-2,3,7,8-sub-HxCDF	29.529						0.4909	0.4909		
S Total HxCDF					223.7	223.7	0.5089	0.5089		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.732	47359706	1.25	4.4E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.239	24152247	1.21	0.8050	63.4	63.4	0.2960	0.2960	63.35	
1,2,3,4,7,8-HxCDD	31.266	11164147	1.25	0.8392	55.1	55.1	0.2044	0.2044	110	
D 13C-1,2,3,6,7,8-HxCDD	31.359	27552194	1.24	0.8269	70.4	70.4	0.2881	0.2881	70.35	
1,2,3,6,7,8-HxCDD	31.385	14159310	1.24	0.8876	57.9	57.9	0.1953	0.1953	116	
1,2,3,7,8,9-HxCDD	31.758	14052768	1.24	0.9567	56.8	56.8	0.1803	0.1803	114	
A Non-2,3,7,8-sub-HxCDD	30.108						0.1928	0.1928		
S Total HxCDD					169.8	169.8	0.1933	0.1933		
D 13C-1,2,3,4,6,7,8-HpCDF	33.459	21377354	0.41	0.7080	63.8	63.8	1.216	1.216	63.75	
1,2,3,4,6,7,8-HpCDF	33.471	15635925	1.04	1.3375	54.7	54.7	0.7910	0.7910	109	
D 13C-1,2,3,4,7,8,9-HpCDF	34.528	21559569	0.42	0.7451	61.1	61.1	1.156	1.156	61.10	
1,2,3,4,7,8,9-HpCDF	34.540	12646163	1.03	1.0744	54.6	54.6	1.273	1.273	109	
A Non-2,3,7,8-sub-HpCDF	34.018						0.9893	0.9893		
S Total HpCDF					109.3	109.3	1.032	1.032		
D 13C-1,2,3,4,6,7,8-HpCDD	34.249	21706195	1.07	0.7473	61.3	61.3	0.4228	0.4228	61.33	
1,2,3,4,6,7,8-HpCDD	34.261	11591751	1.05	0.9811	54.4	54.4	0.3544	0.3544	109	
A Non-2,3,7,8-sub-HpCDD	33.988						0.3544	0.3544		
S Total HpCDD					54.4	54.4	0.3544	0.3544		
D 13C-OCDD	36.540	33045543	0.87	0.6622	105.4	105.4	0.1269	0.1269	52.69	
OCDF	36.636	18823683	0.91	1.0659	106.9	106.9	0.1587	0.1587	107	
OCDD	36.552	17764041	0.90	0.9937	108.2	108.2	0.1341	0.1341	108	

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_6.d
Lims ID: LCSD 320-354177/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 05-Feb-2020 19:22:08 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 320-354177/3-A LCSD 320-354177/3-A
Misc. Info.: 05FE2010D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 07-Feb-2020 14:27:06 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: dadunj Date: 07-Feb-2020 14:28:55

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.333	17.333	0		27147958	6769825	6892	17230	982		
333.9339	17.333	17.333	0		33839413	8570445	7123	17807	1203	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.849	16.849	0	0.972	19732347	4575106	9426	23565	485		
317.9389	16.849	16.849	0	0.972	26145679	6050452	8751	21877	691	0.75(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.864	16.864	0	1.001	1681401	384687	625	1562	615		
305.8987	16.864	16.864	0	1.001	2337998	535060	1179	2947	454	0.72(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.569						625	1562			
305.8987	16.569						1179	2947			
13C-2,3,7,8-TCDD											
331.9368	17.529	17.529	0	1.011	16110820	3548467	6892	17230	515		
333.9339	17.529	17.529	0	1.011	20607707	4455589	7123	17807	626	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.544	17.544	0	1.001	1674497	377896	826	2065	458		
321.8936	17.544	17.544	0	1.001	2208723	496043	676	1690	734	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.544	17.544	0	1.012	21039345	4737543	6182	15455	766		
A Non-2,3,7,8-sub-TCDD											
319.8965	17.000						826	2065			
321.8936	17.000						676	1690			
13C-1,2,3,7,8-PeCDF											
351.9000	21.639	21.639	0	1.248	23182870	3832374	9269	23172	413		
353.8970	21.639	21.639	0	1.248	14865747	2500639	6055	15137	413	1.56(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	21.667	21.667	0	1.001	11877899	1902712	4368	10920	436		
341.8567	21.667	21.667	0	1.001	7480898	1204963	3054	7635	395	1.59(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	22.921	22.921	0	1.322	24249532	3705383	9269	23172	400		
353.8970	22.921	22.921	0	1.322	15535037	2402580	6055	15137	397	1.56(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.948	22.948	0	1.001	11326786	1666176	4368	10920	381		
341.8567	22.948	22.948	0	1.001	7252977	1066102	3054	7635	349	1.56(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.329						175	437			
341.8567	19.329						306	765			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.336						4368	10920			
341.8567	22.336						3054	7635			
13C-1,2,3,7,8-PeCDD											
367.8949	23.617	23.617	0	1.363	16509831	2320909	2306	5765	1006		
369.8919	23.617	23.617	0	1.363	10241189	1477278	1412	3530	1046	1.61(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.644	23.644	0	1.001	9041102	1231866	1130	2825	1090		
357.8516	23.630	23.644	-1	1.001	5714229	779361	763	1907	1021	1.58(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.580						1130	2825			
357.8516	22.580						763	1907			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.735	29.748	-1	0.937	9075574	1129023	4961	12402	228		
385.8610	29.735	29.748	-1	0.937	18309236	2251350	9382	23455	240	0.50(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.762	29.761	0	1.001	6681626	847486	3881	9702	218		
375.8178	29.762	29.761	0	1.001	5516869	691290	3191	7977	217	1.21(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.988	29.988	0	0.945	9924455	1214509	4961	12402	245		
385.8610	29.988	29.988	0	0.945	20202845	2464407	9382	23455	263	0.49(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.014	30.028	-1	1.001	7932397	978408	3881	9702	252		
375.8178	30.014	30.028	-1	1.001	6488817	809373	3191	7977	254	1.22(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.026	31.026	0	0.978	8957171	1647474	4961	12402	332		
385.8610	31.026	31.026	0	0.978	18075870	3395710	9382	23455	362	0.50(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.039	31.053	-1	1.000	7475451	1361320	3881	9702	351		
375.8178	31.039	31.053	-1	1.000	6222451	1139149	3191	7977	357	1.20(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.931	31.944	-1	1.006	7911726	1475714	4961	12402	297		
385.8610	31.931	31.944	-1	1.006	16206410	3033952	9382	23455	323	0.49(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	31.958	31.958	0	1.001	6699655	1250796	3881	9702	322		
375.8178	31.944	31.958	-1	1.000	5578482	1017880	3191	7977	319	1.20(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.529						3881	9702			
375.8178	29.529						3191	7977			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.732	31.745	-1		26277298	5154975	4875	12187	1057		
403.8529	31.732	31.745	-1		21082408	4171282	4013	10032	1039	1.25(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.239	31.252	-1	0.984	13241203	2860225	4875	12187	587		
403.8529	31.239	31.252	-1	0.984	10911044	2336146	4013	10032	582	1.21(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.266	31.265	0	1.001	6211856	1373246	1990	4975	690		
391.8127	31.266	31.265	0	1.001	4952291	1070720	1576	3940	679	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.359	31.372	-1	0.988	15273438	2848668	4875	12187	584		
403.8529	31.359	31.372	-1	0.988	12278756	2294584	4013	10032	572	1.24(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.385	31.385	0	1.001	7851747	1438067	1990	4975	723		
391.8127	31.372	31.385	-1	1.000	6307563	1154561	1576	3940	733	1.24(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.758	31.758	0	1.017	7768772	1512350	1990	4975	760		
391.8127	31.745	31.758	-1	1.016	6283996	1217747	1576	3940	773	1.24(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.108						1990	4975			
391.8127	30.108						1576	3940			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.459	33.471	-1	1.054	6253123	1644660	8945	22362	184		
419.8220	33.459	33.471	-1	1.054	15124231	3846279	23183	57957	166	0.41(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.471	33.483	-1	1.000	7966285	2027573	11913	29782	170		
409.7789	33.471	33.483	-1	1.000	7669640	1968712	11323	28307	174	1.04(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.528	34.540	-1	1.088	6353206	1277968	8945	22362	143		
419.8220	34.528	34.540	-1	1.088	15206363	2969366	23183	57957	128	0.42(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.540	34.540	0	1.000	6427306	1269457	11913	29782	107		
409.7789	34.540	34.540	0	1.000	6218857	1212231	11323	28307	107	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.018						11913	29782			
409.7789	34.018						11323	28307			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.249	34.249	0	1.079	11209340	2420942	6011	15027	403		
437.8140	34.249	34.249	0	1.079	10496855	2265322	5777	14442	392	1.07(0.88-1.20)	

Report Date: 07-Feb-2020 14:29:01 Chrom Revision: 2.3 14-Jan-2020 22:23:42
Data File: \\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_6.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.261	34.261	0	1.000	5944309	1259993	3300	8250	382		
425.7737	34.249	34.261	-1	1.000	5647442	1199392	3218	8045	373	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.988						3300	8250			
425.7737	33.988						3218	8045			
13C-OCDD											
469.7779	36.540	36.540	0	1.152	15359357	2714396	1803	4507	1505		
471.7750	36.540	36.540	0	1.152	17686186	3088775	1331	3327	2321	0.87(0.76-1.02)	
OCDF											
441.7428	36.636	36.636	0	1.003	8949390	1577573	894	2235	1765		
443.7399	36.624	36.636	-1	1.002	9874293	1770941	1069	2672	1657	0.91(0.76-1.02)	
OCDD											
457.7377	36.552	36.552	0	1.000	8434266	1402272	722	1805	1942		
459.7348	36.552	36.552	0	1.000	9329775	1610697	825	2062	1952	0.90(0.76-1.02)	

Report Date: 07-Feb-2020 14:29:01 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_6.d		
Injection Date:	05-Feb-2020 19:22:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355322	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

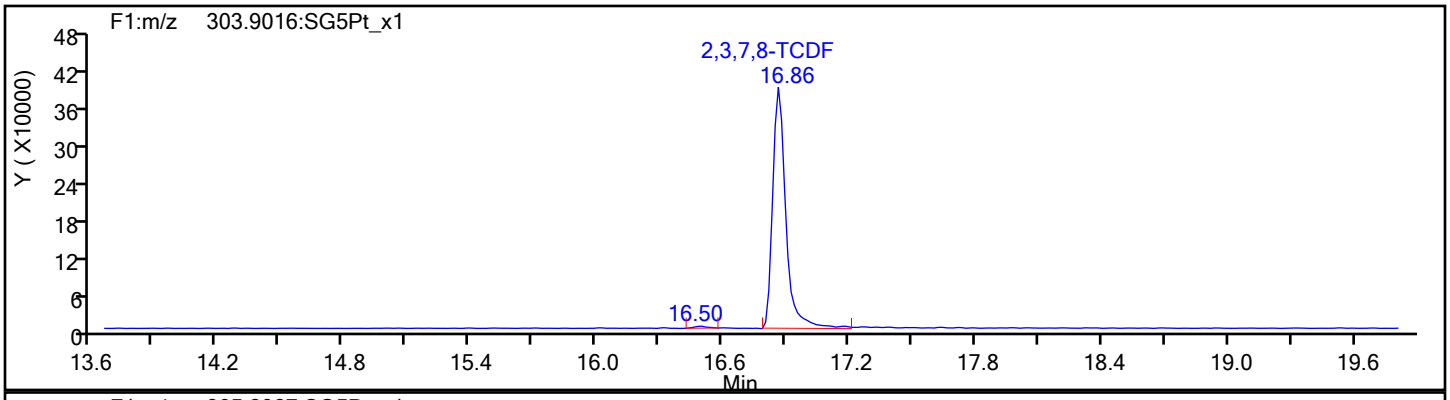

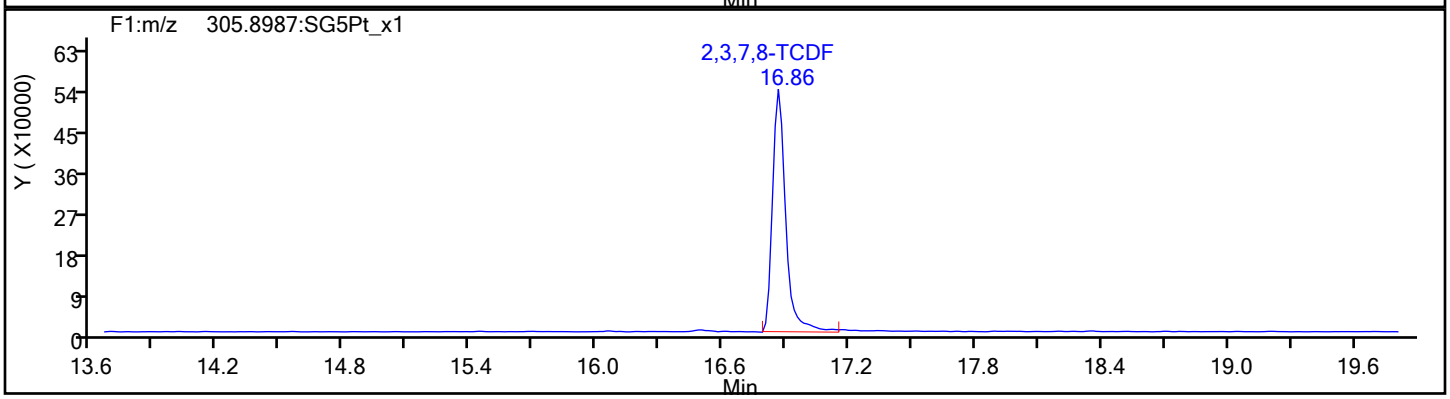

TCDF Standards

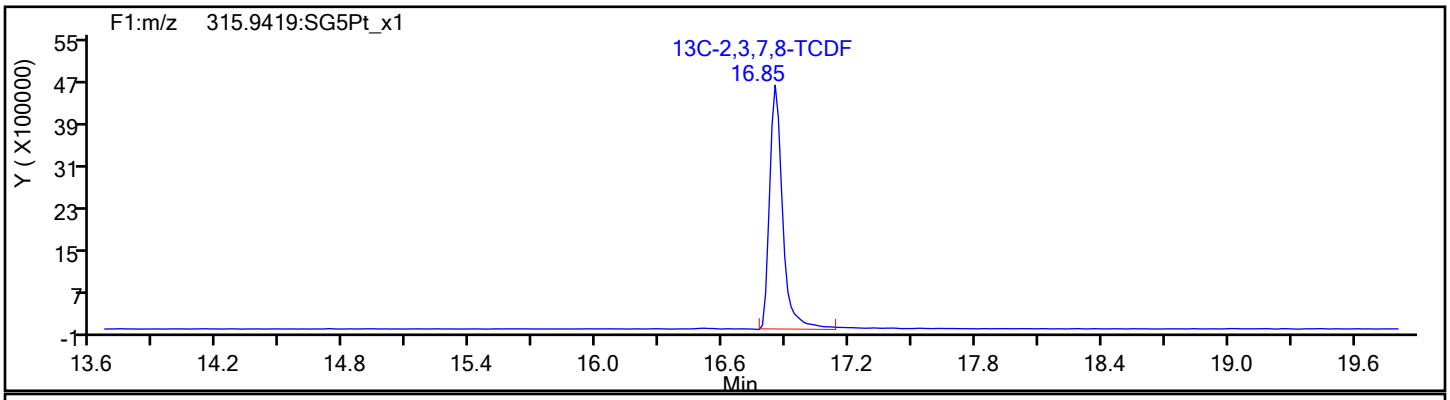

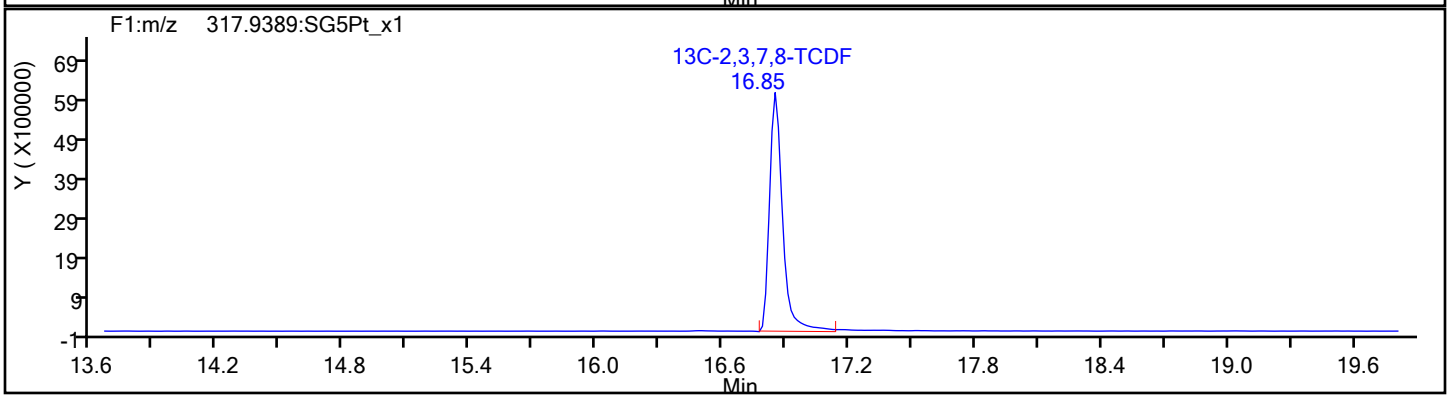

Report Date: 07-Feb-2020 14:29:01 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_6.d		
Injection Date:	05-Feb-2020 19:22:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355322	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

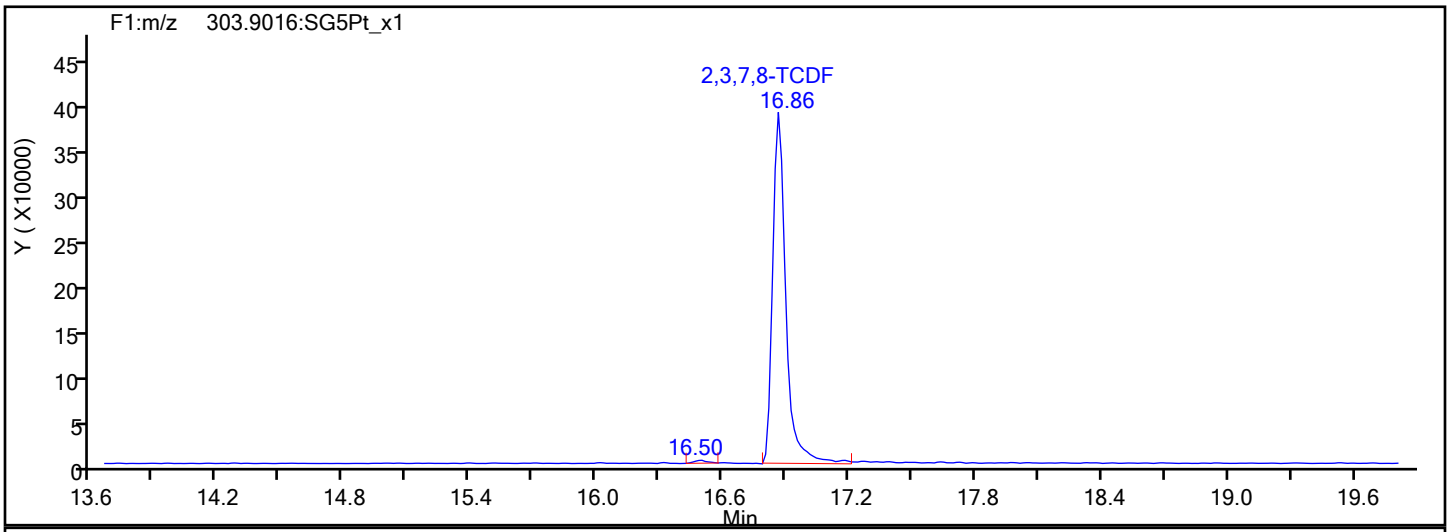

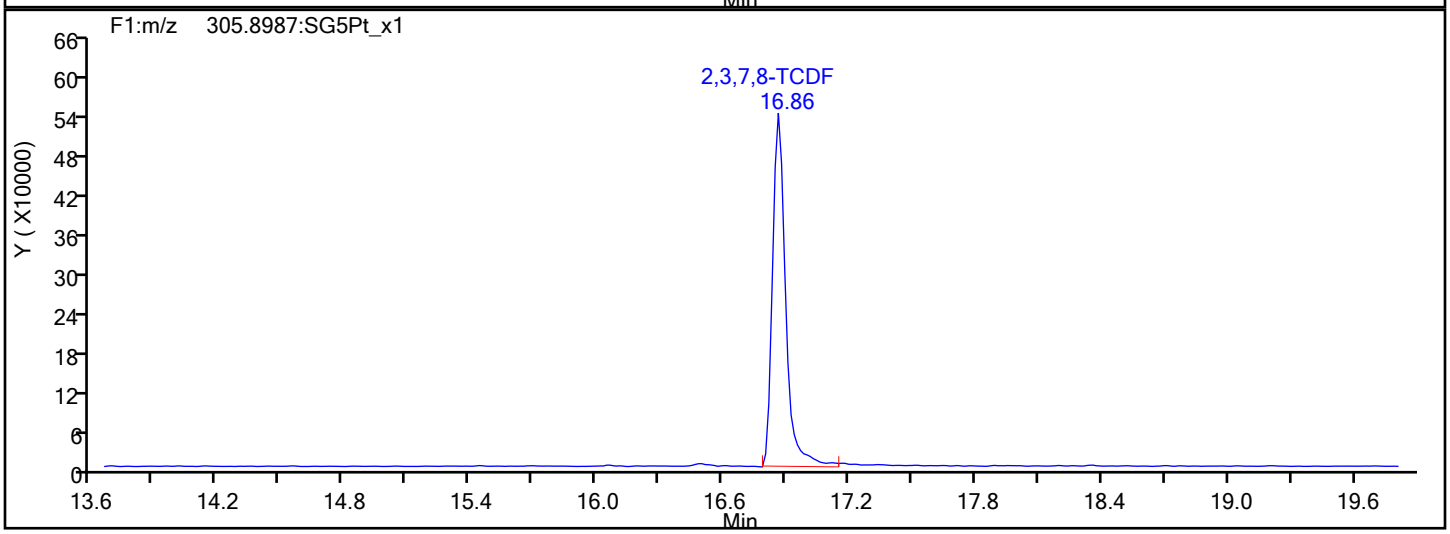

TCDF Interference Mass

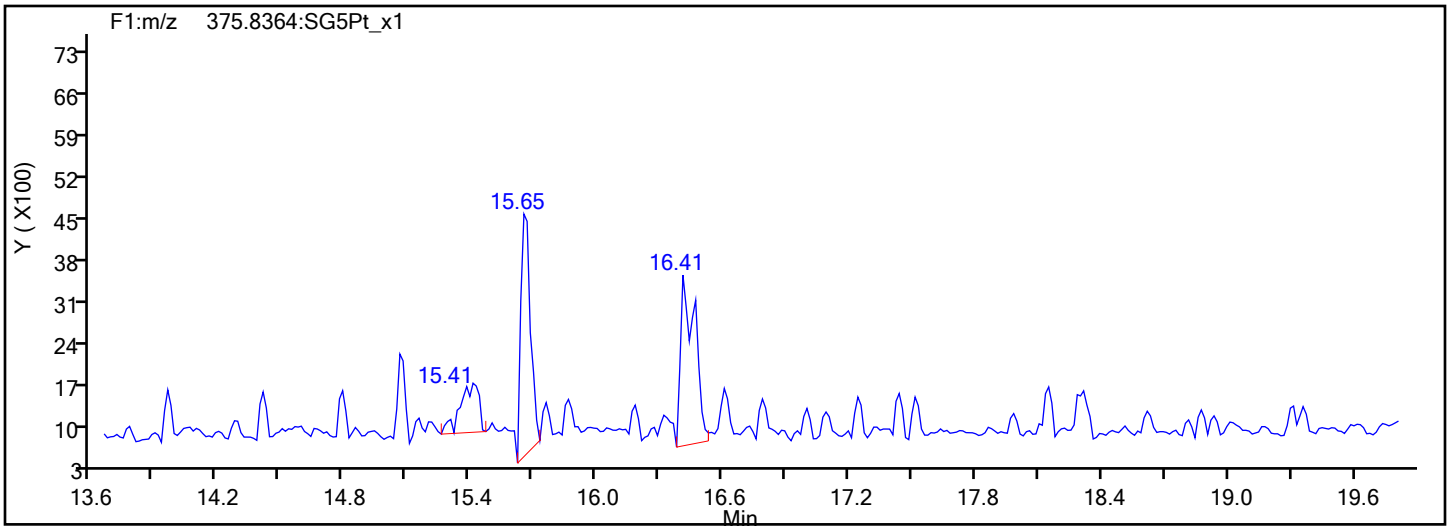

Report Date: 07-Feb-2020 14:29:01 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_6.d		
Injection Date:	05-Feb-2020 19:22:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355322	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

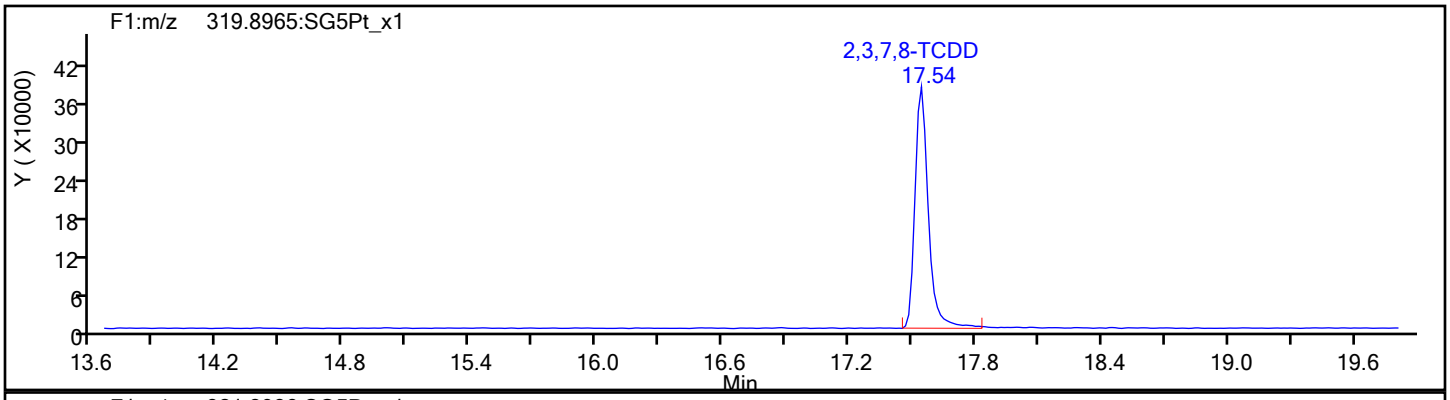

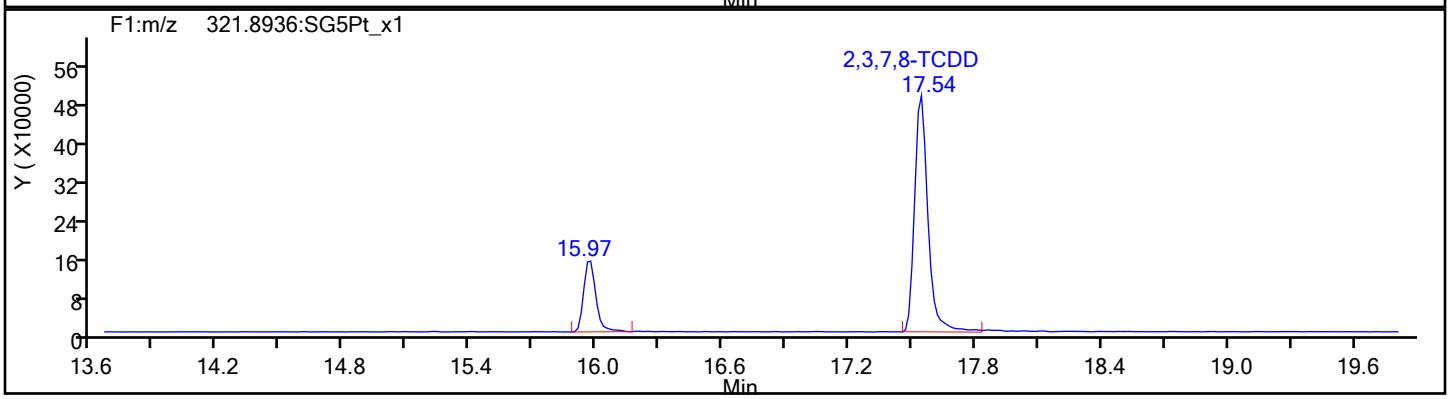

TCDD Standards

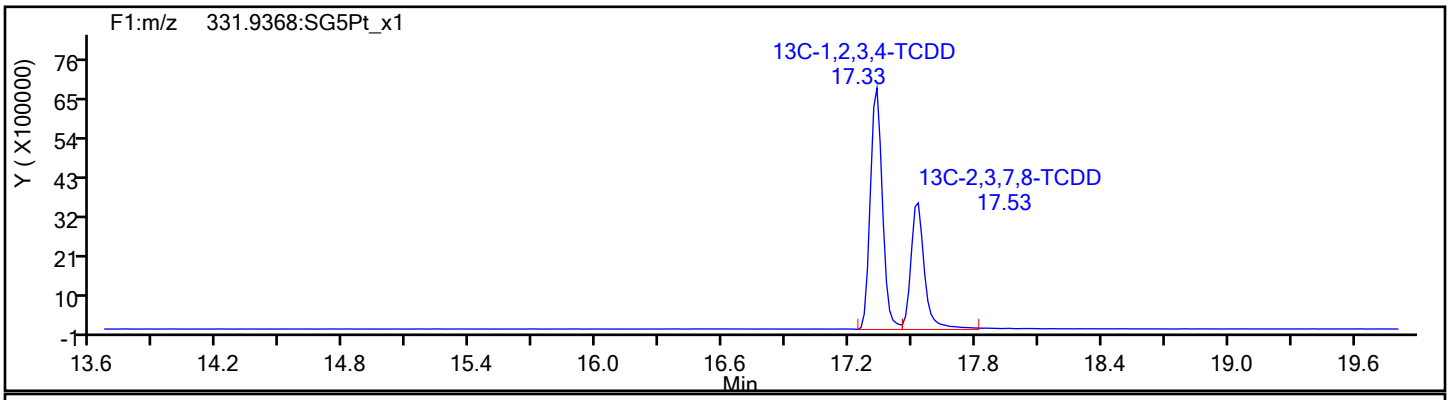

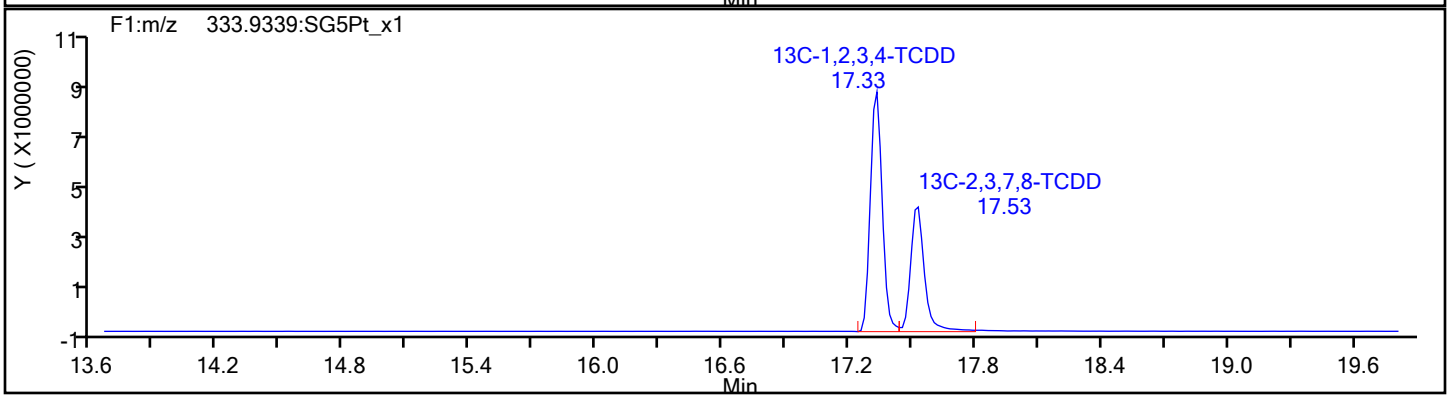

Report Date: 07-Feb-2020 14:29:02 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_6.d		
Injection Date:	05-Feb-2020 19:22:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355322	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

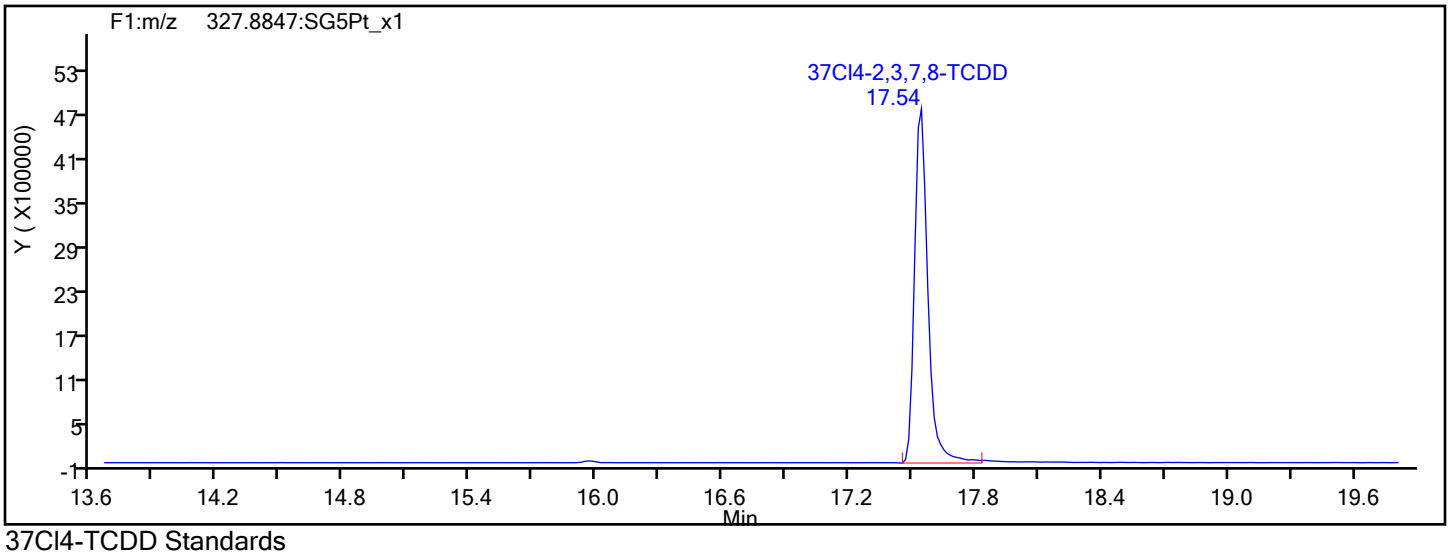

37Cl4-TCDD Standards

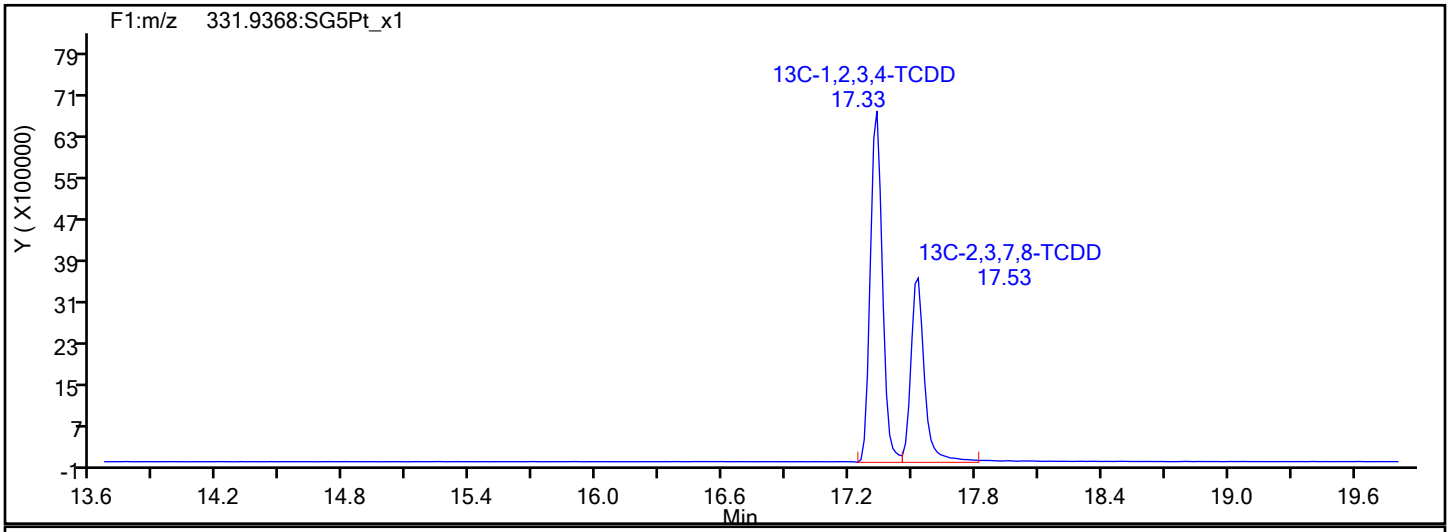

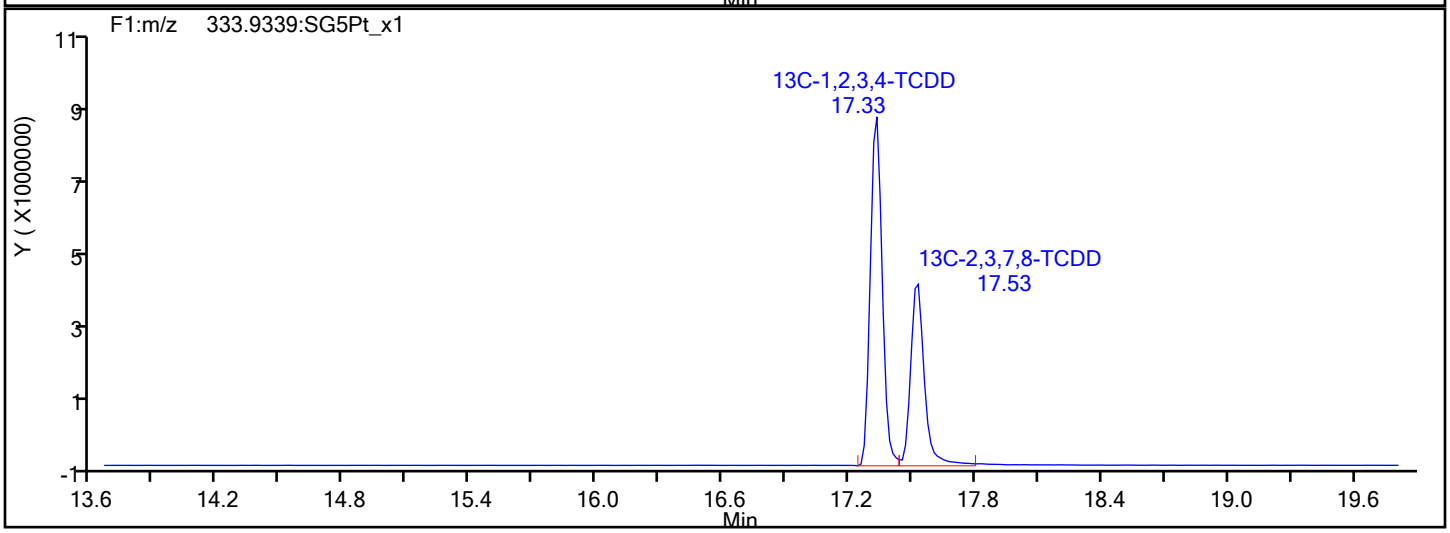

Report Date: 07-Feb-2020 14:29:02 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_6.d		
Injection Date:	05-Feb-2020 19:22:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355322	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

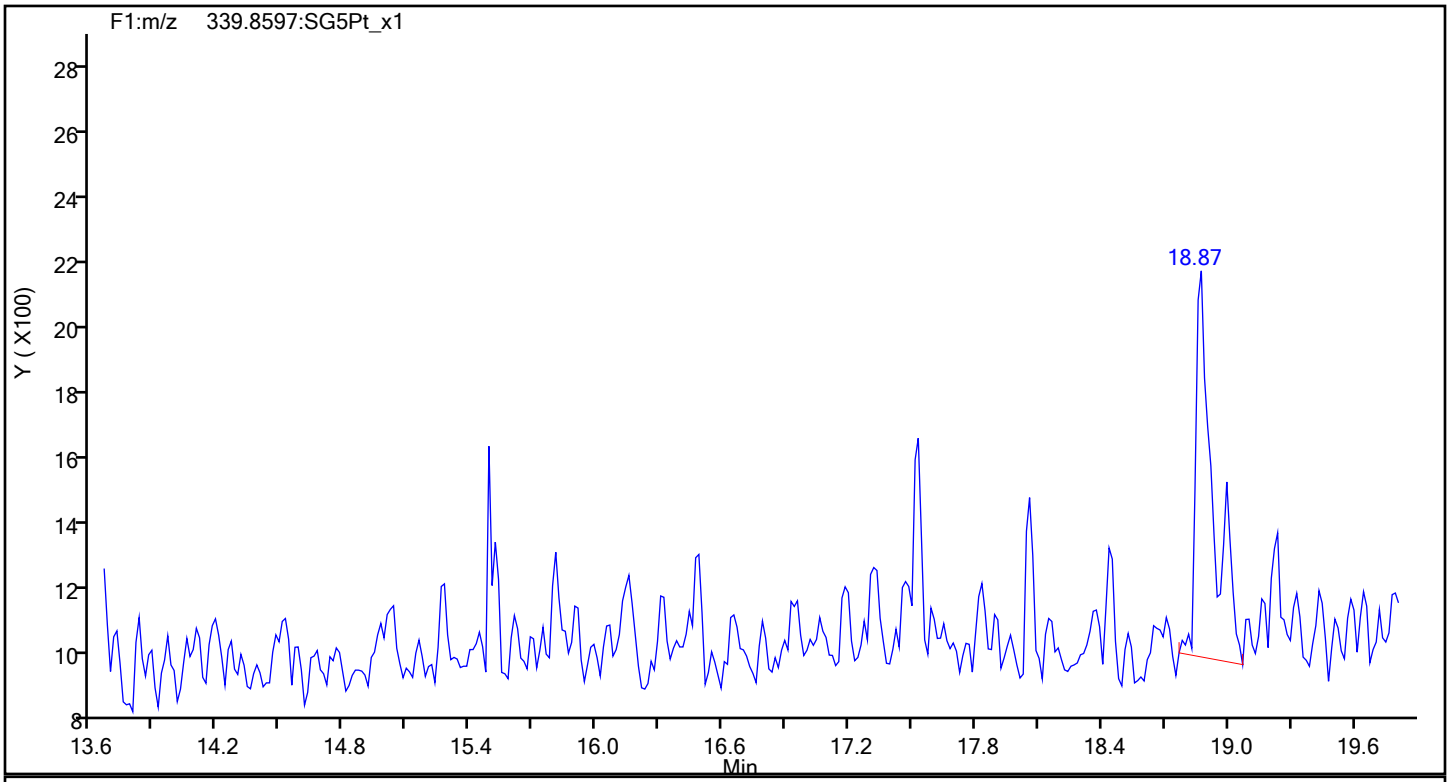

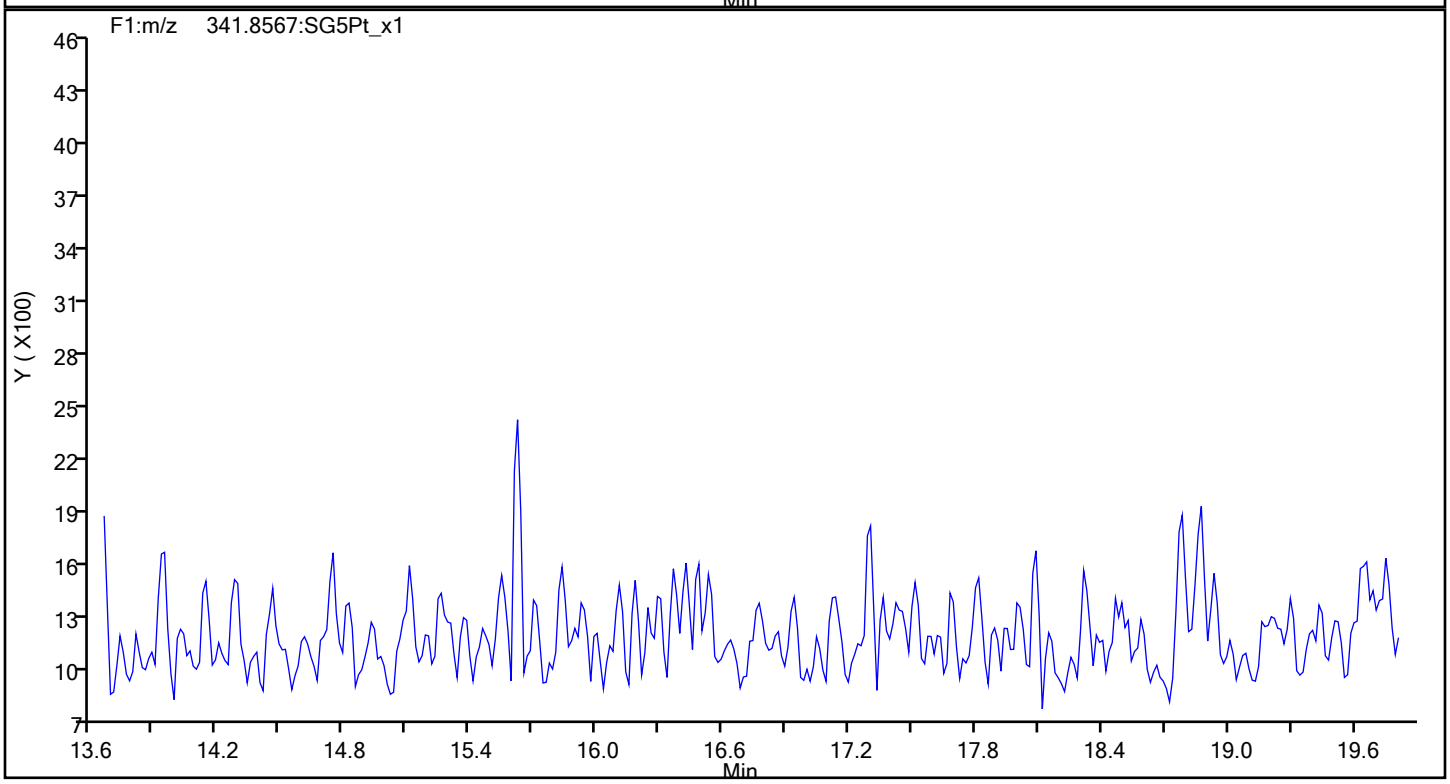

Report Date: 07-Feb-2020 14:29:02 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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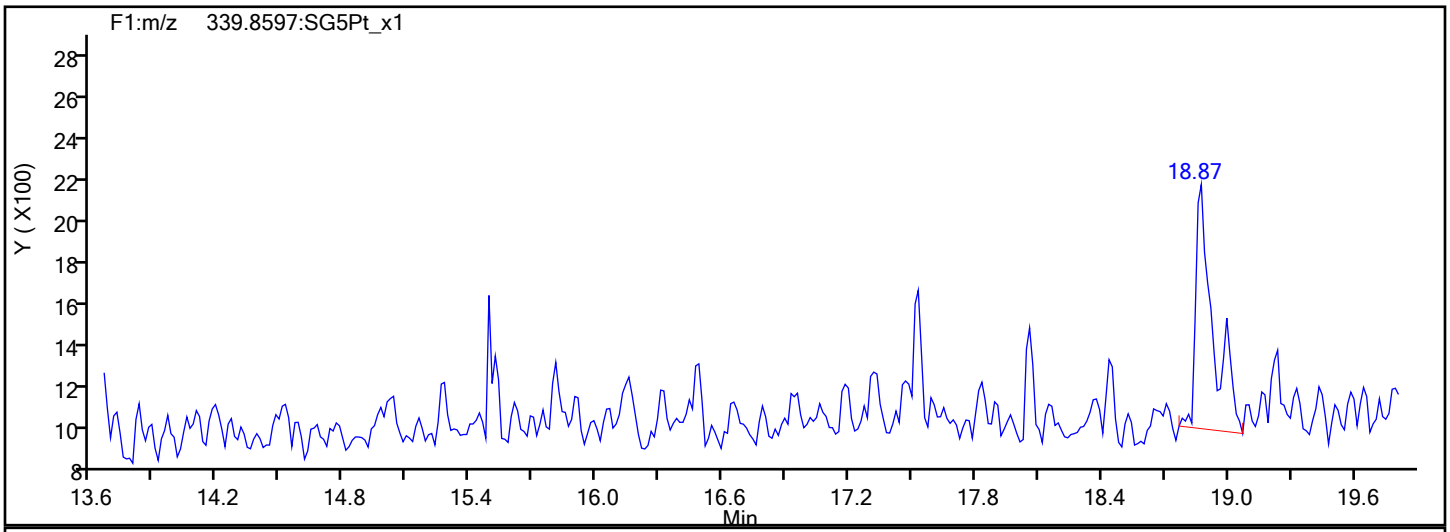

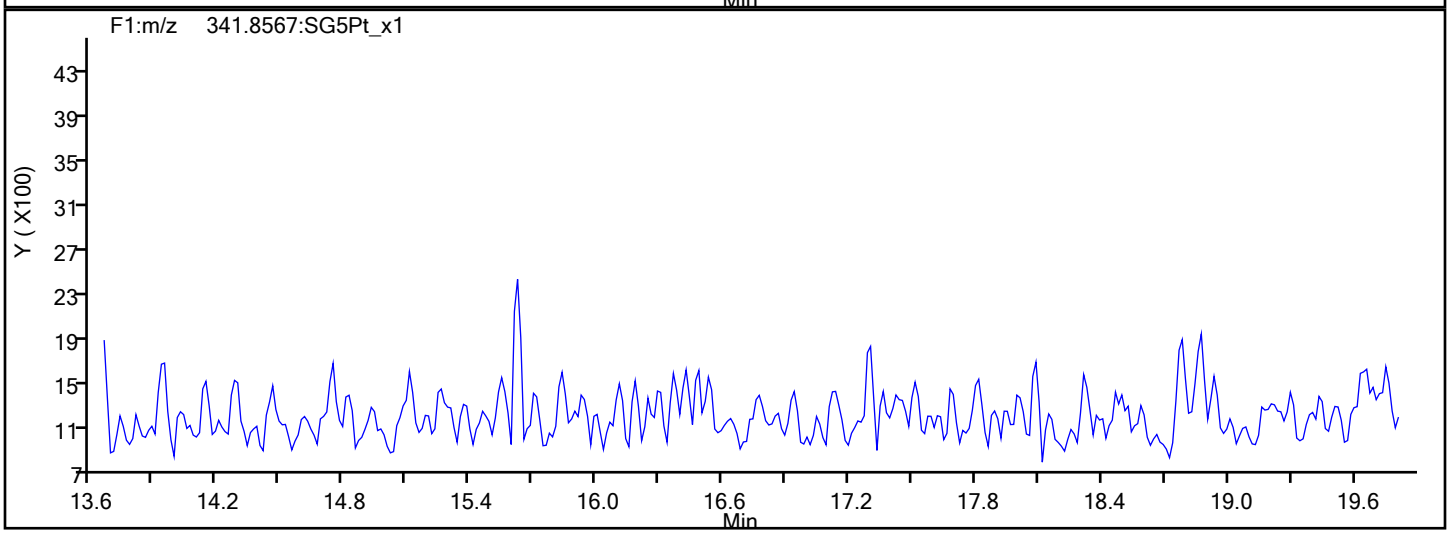

F1 PeCDFs Interference Mass

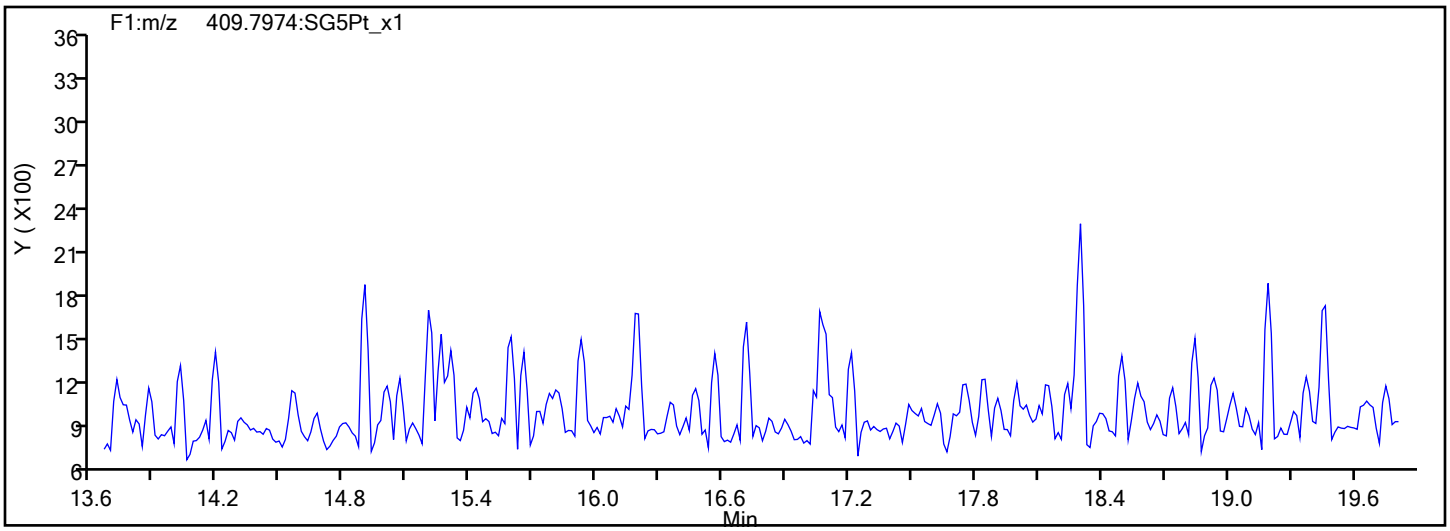

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Eurofins TestAmerica, Sacramento

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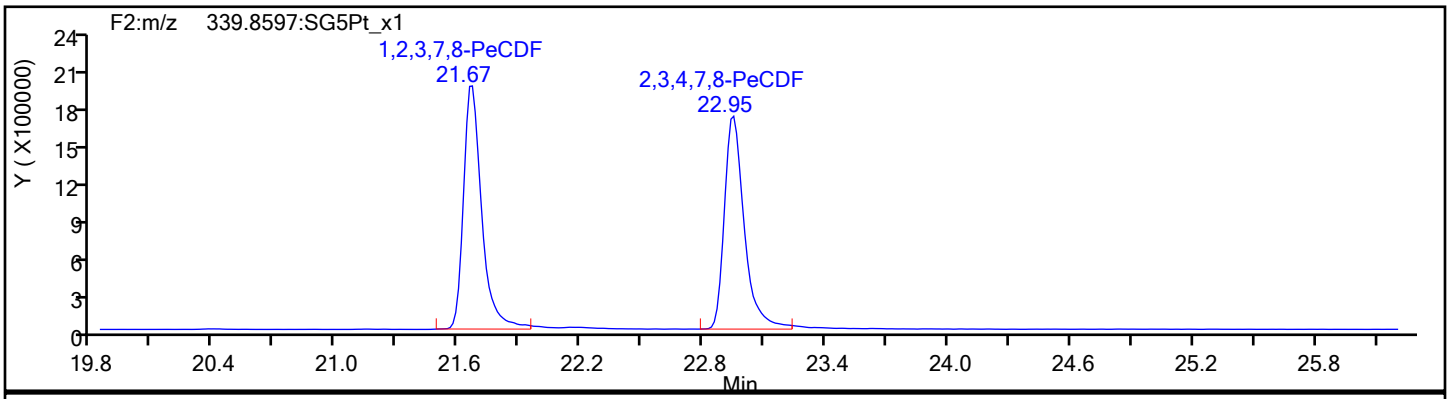

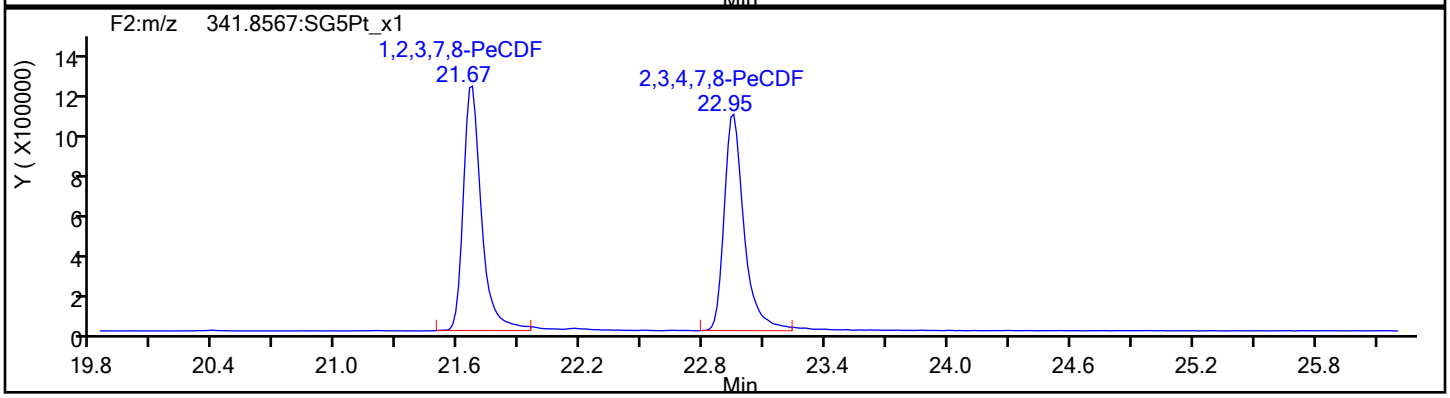

PeCDF Standards

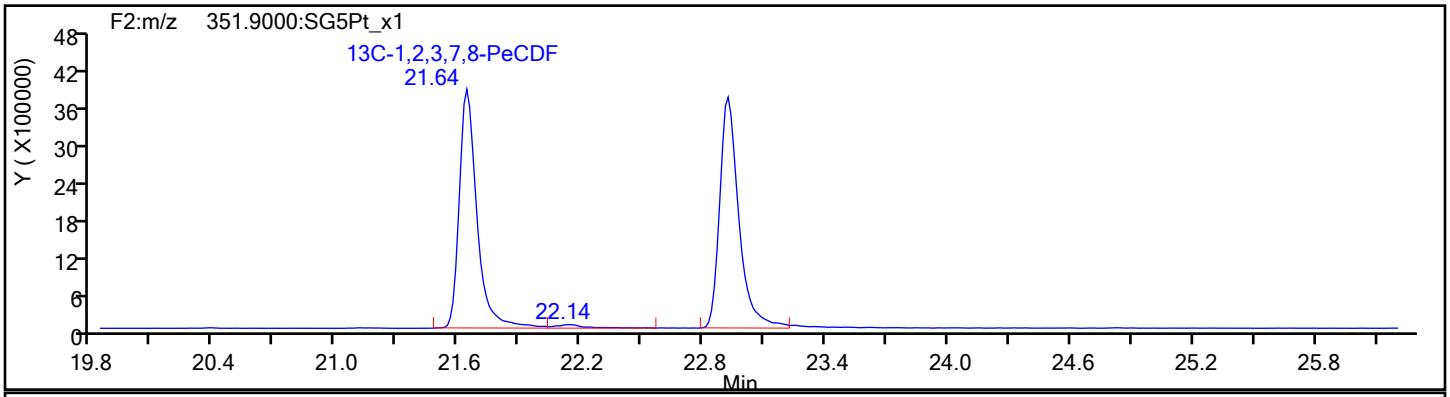

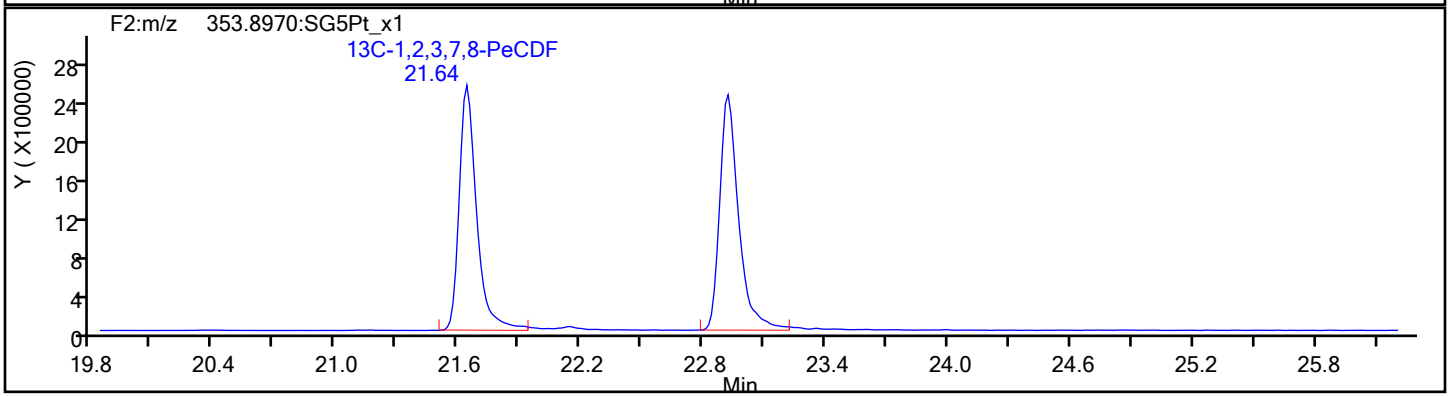

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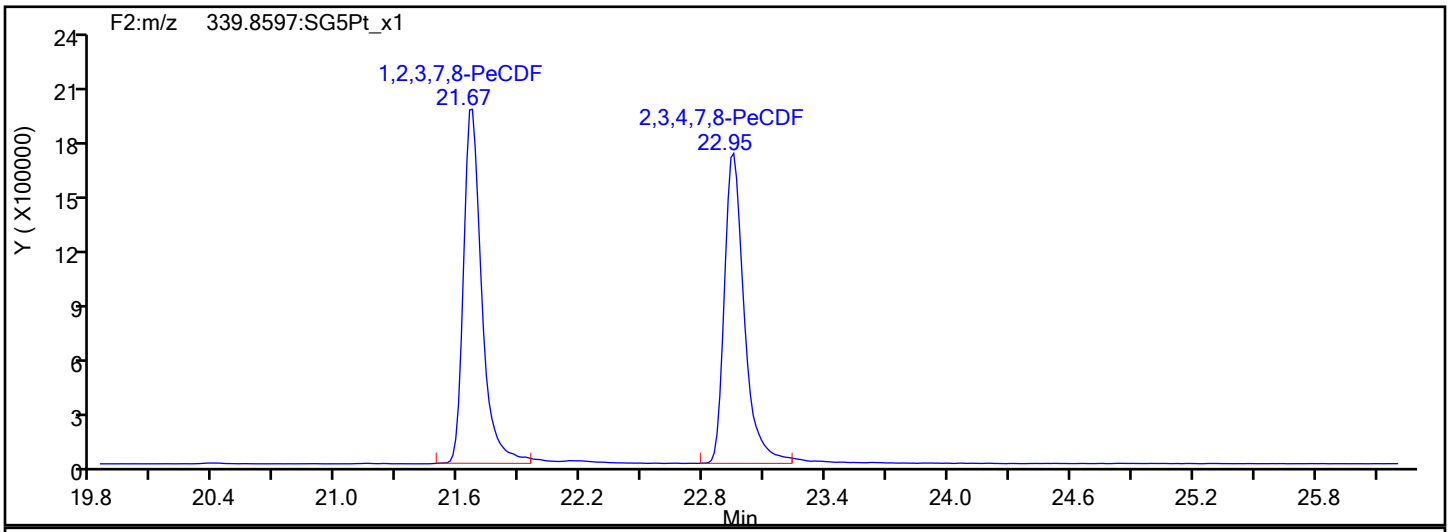

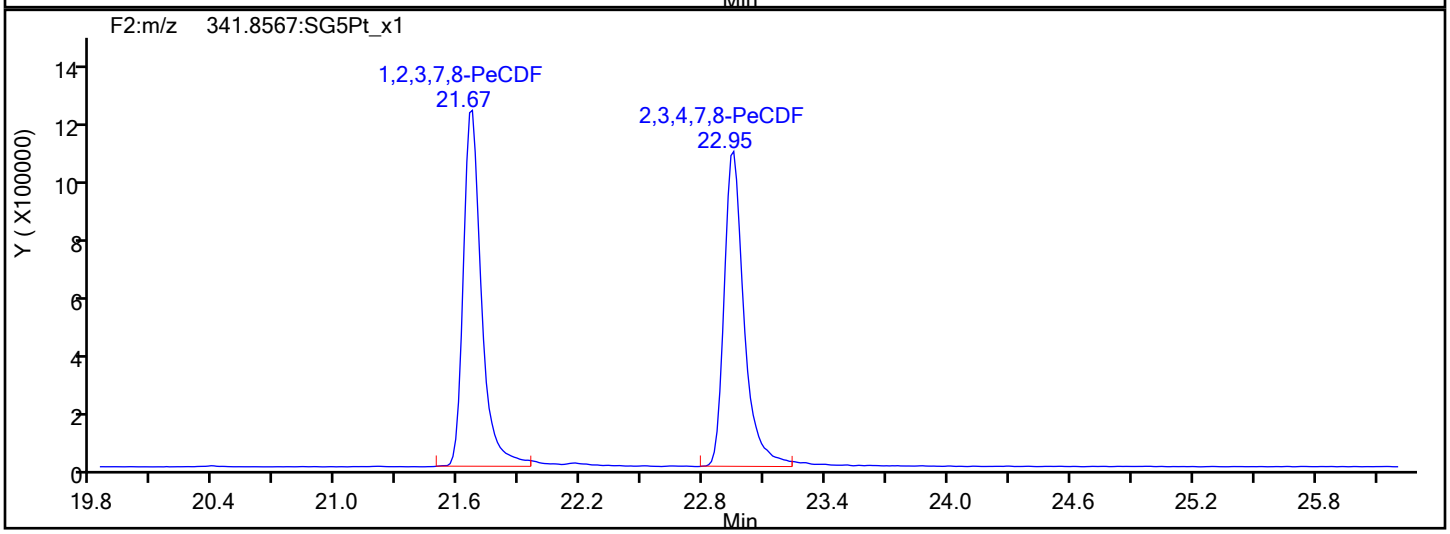

PeCDF Interference Mass

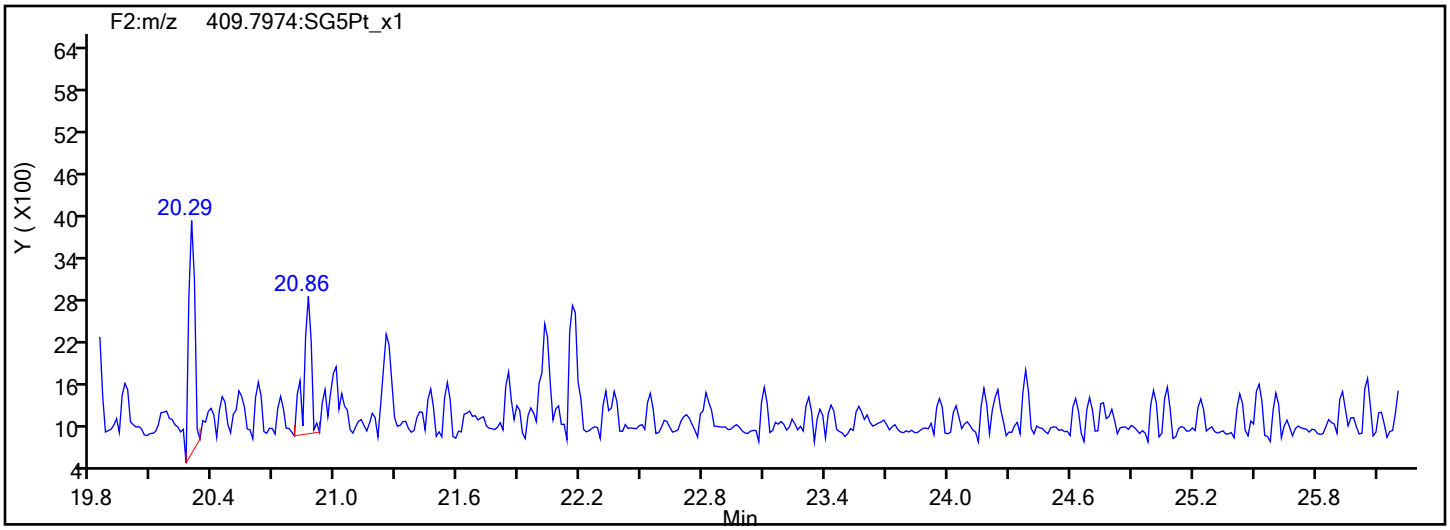

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Eurofins TestAmerica, Sacramento

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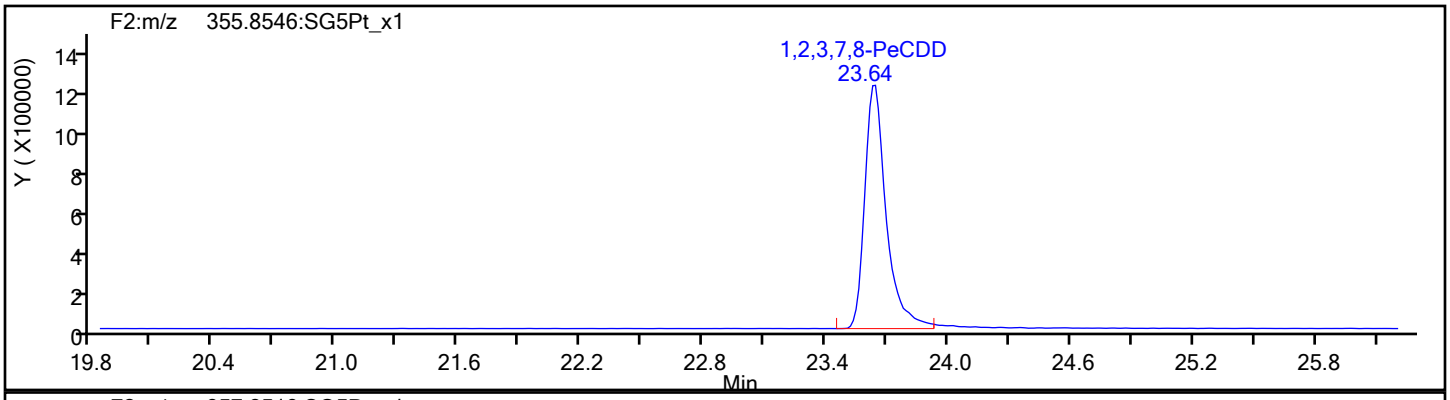

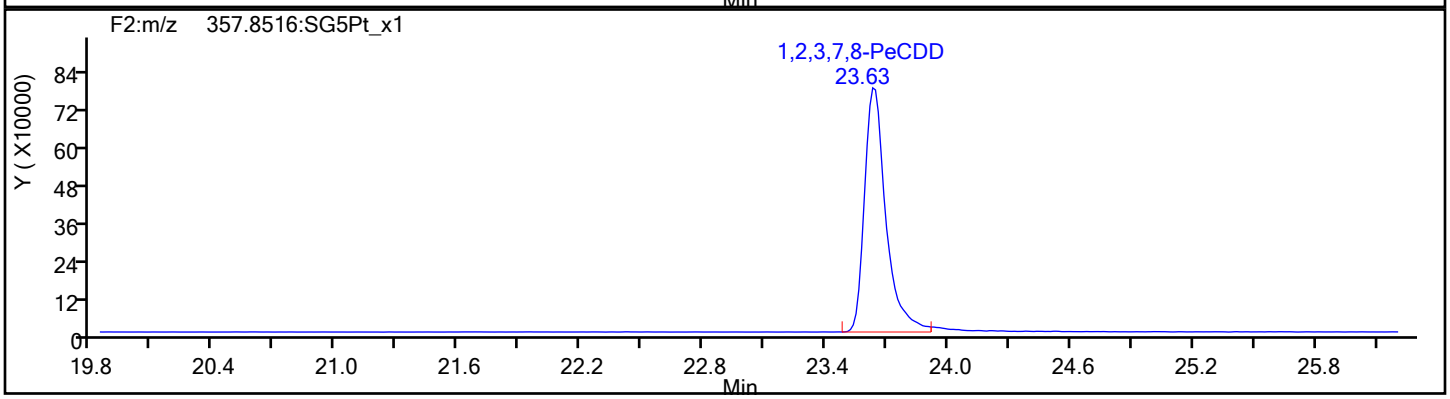

PeCDD Standards

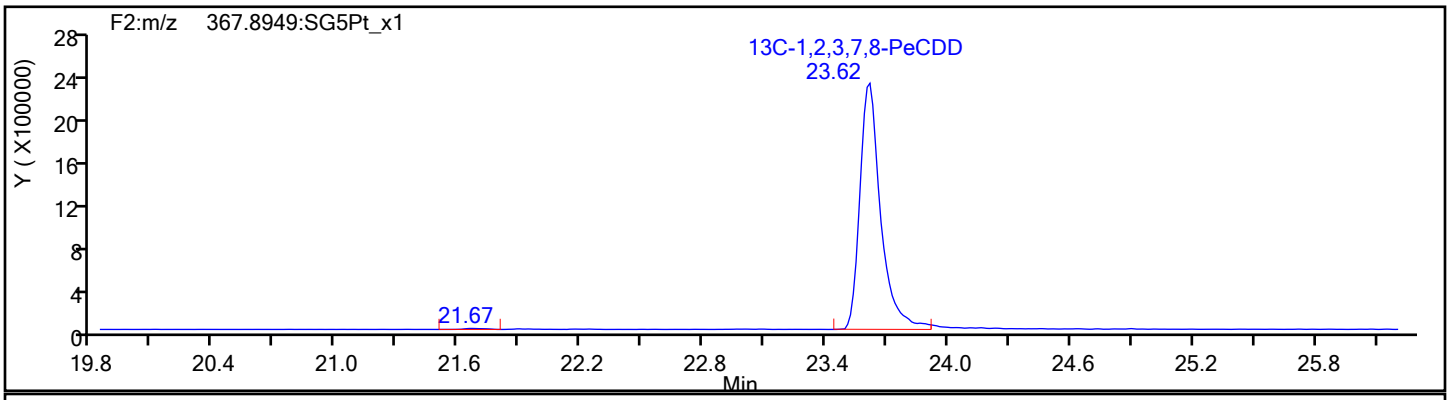

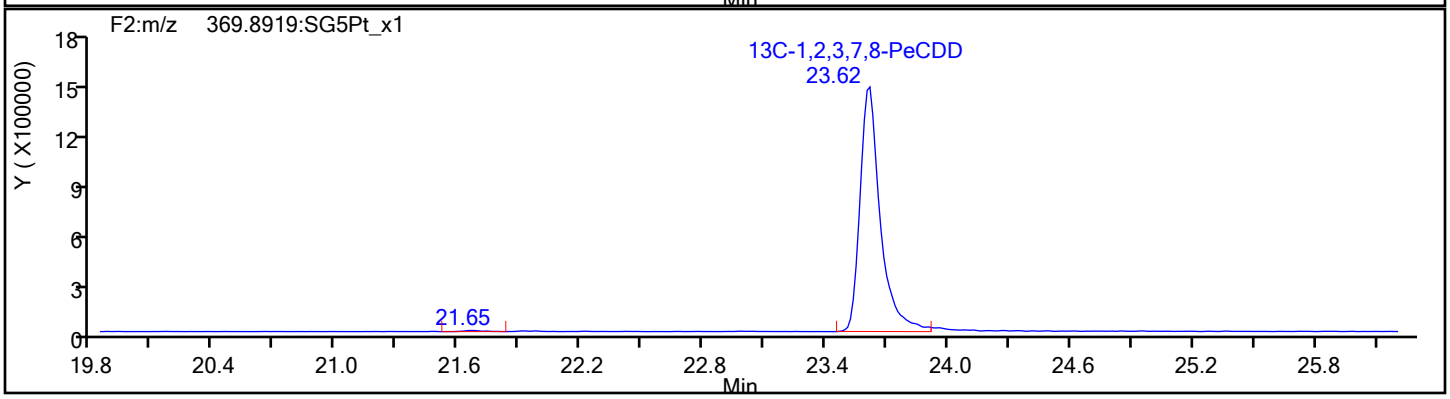

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Eurofins TestAmerica, Sacramento

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HxCDF

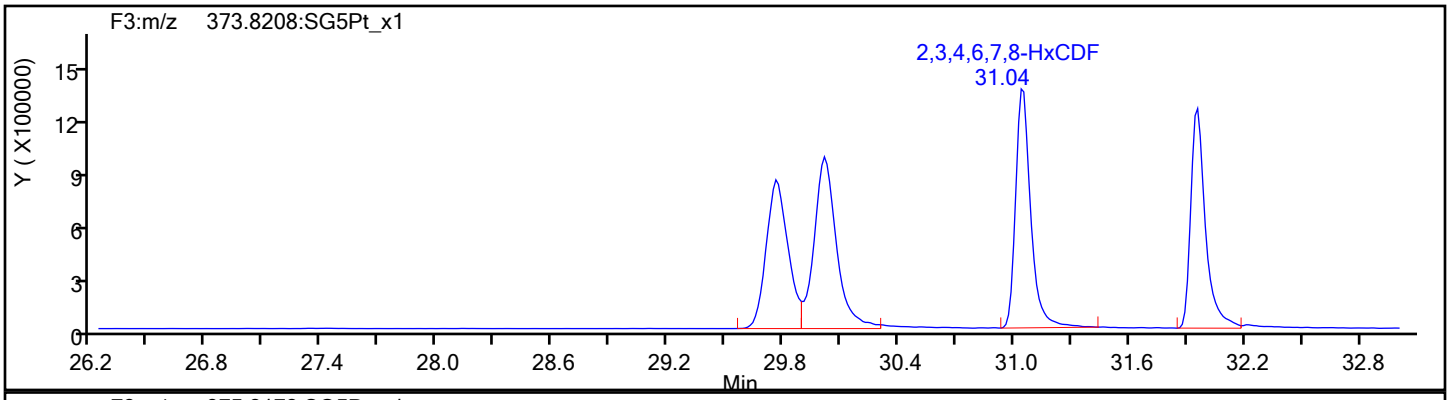

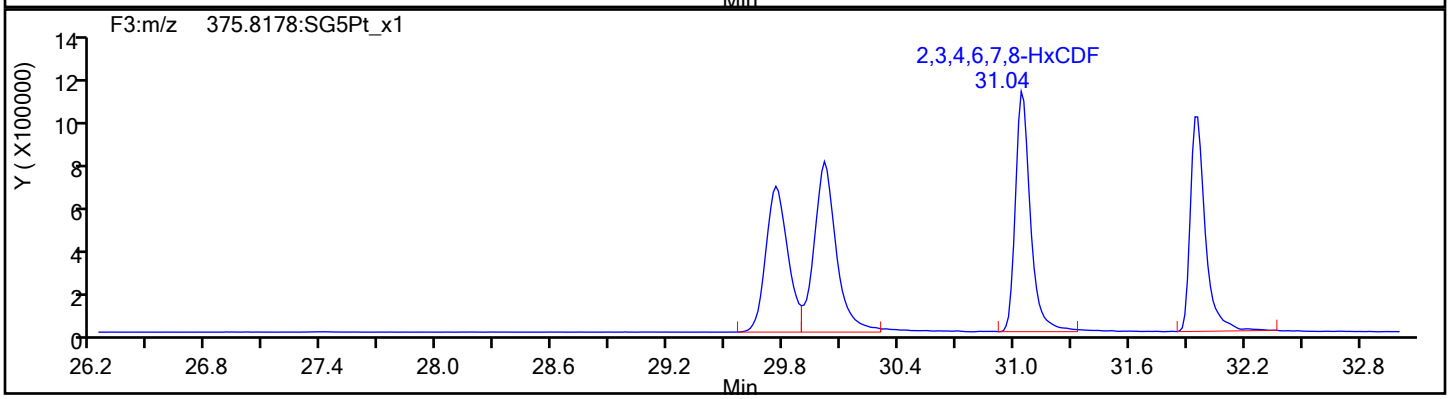

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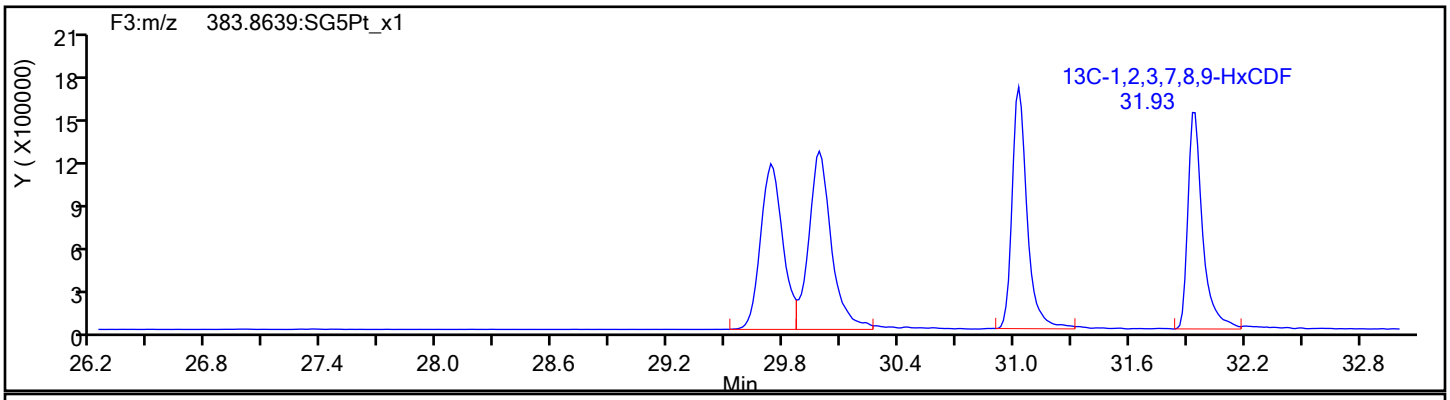

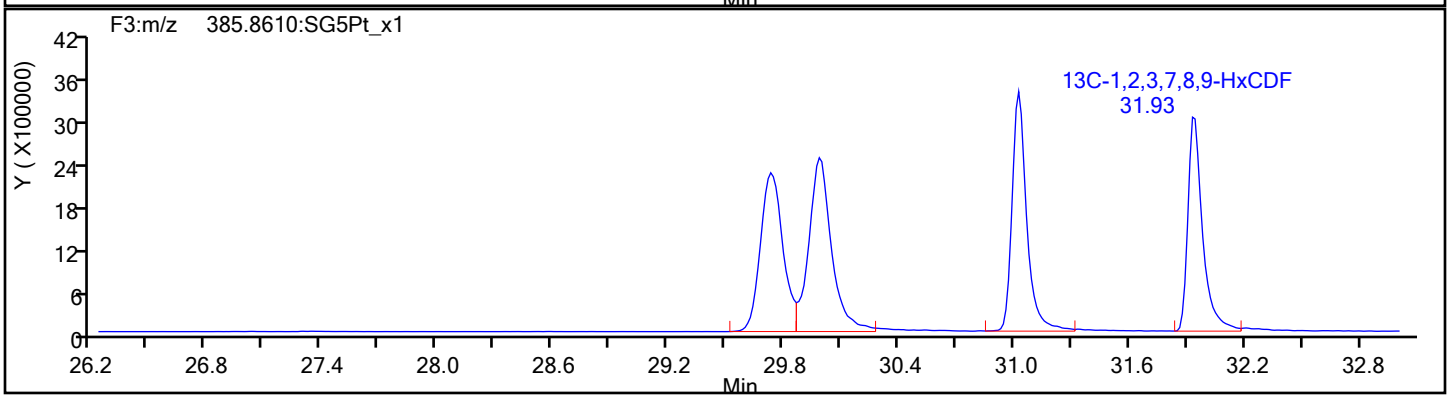

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Eurofins TestAmerica, Sacramento

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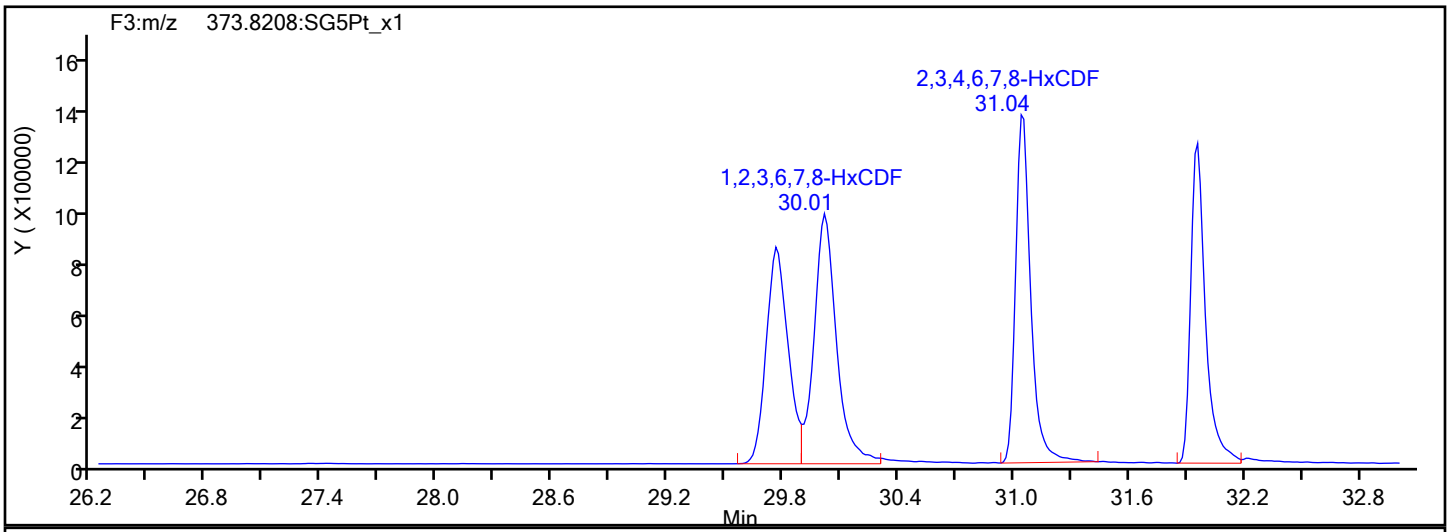

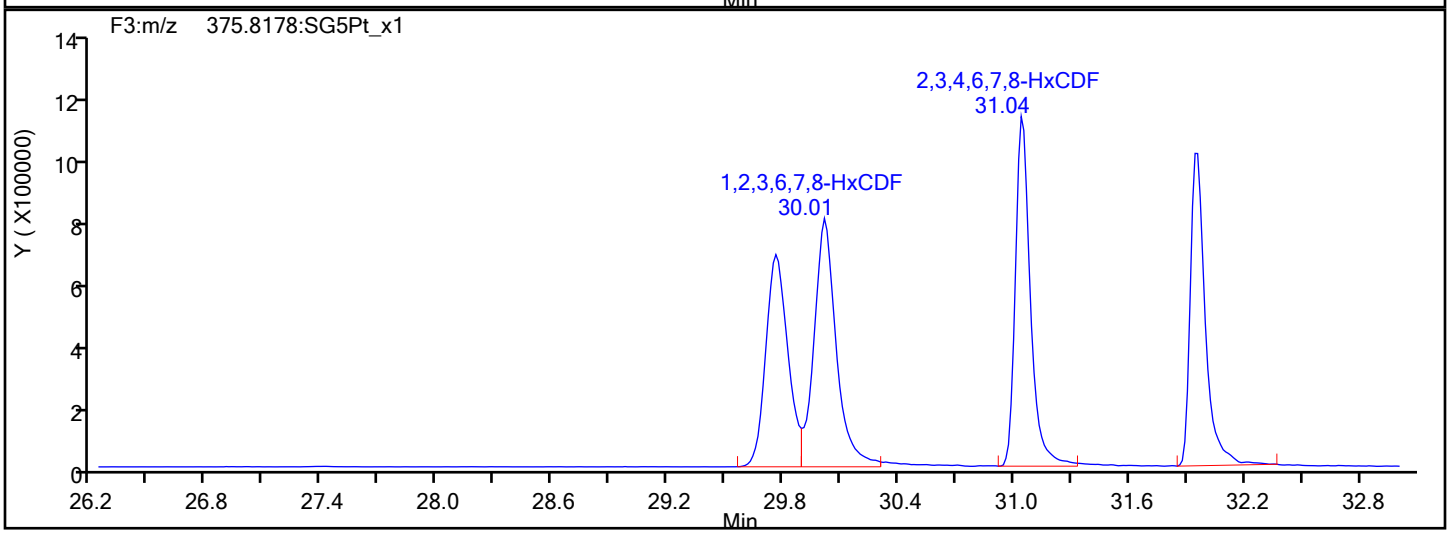

HxCDF Interference Mass

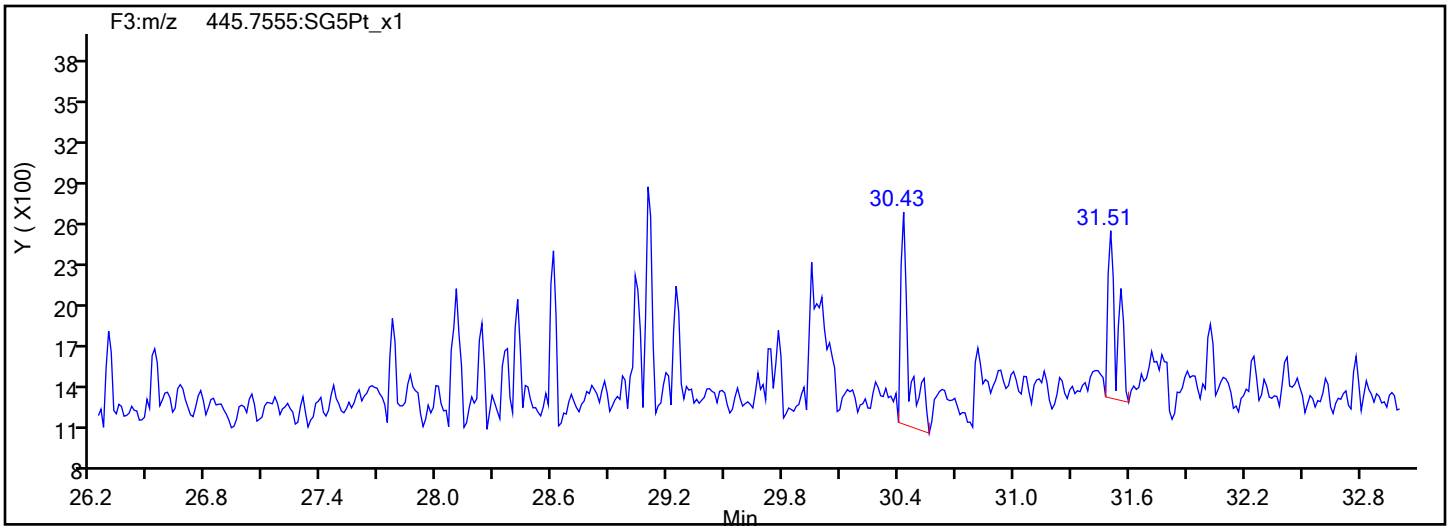

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Eurofins TestAmerica, Sacramento

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HxCDD

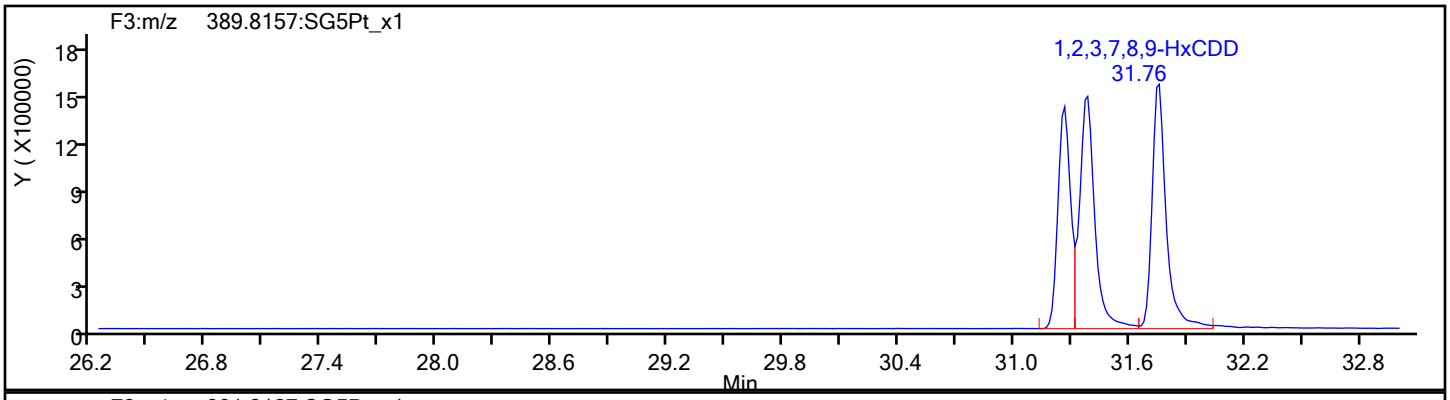

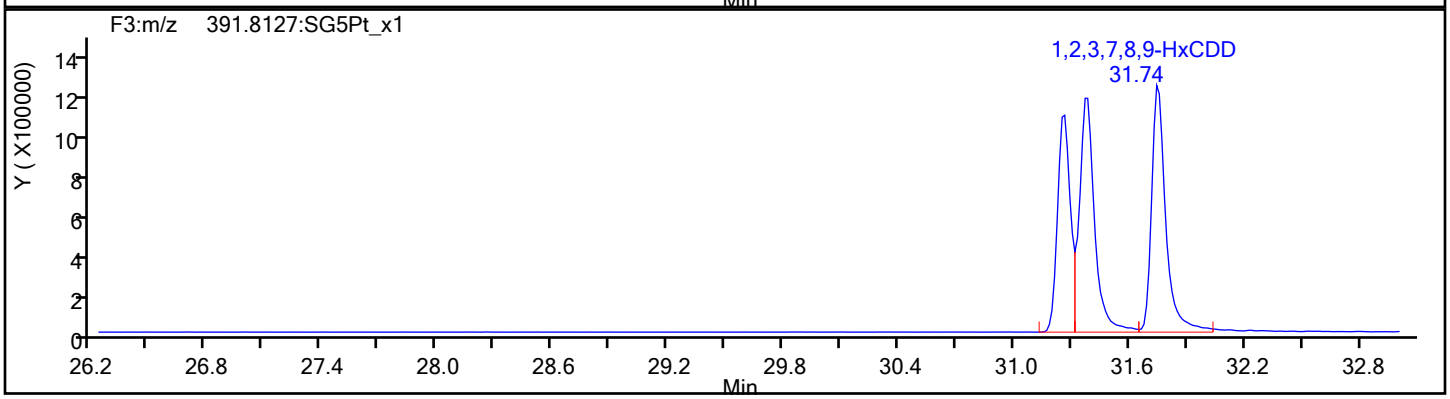

HxCDD Standards

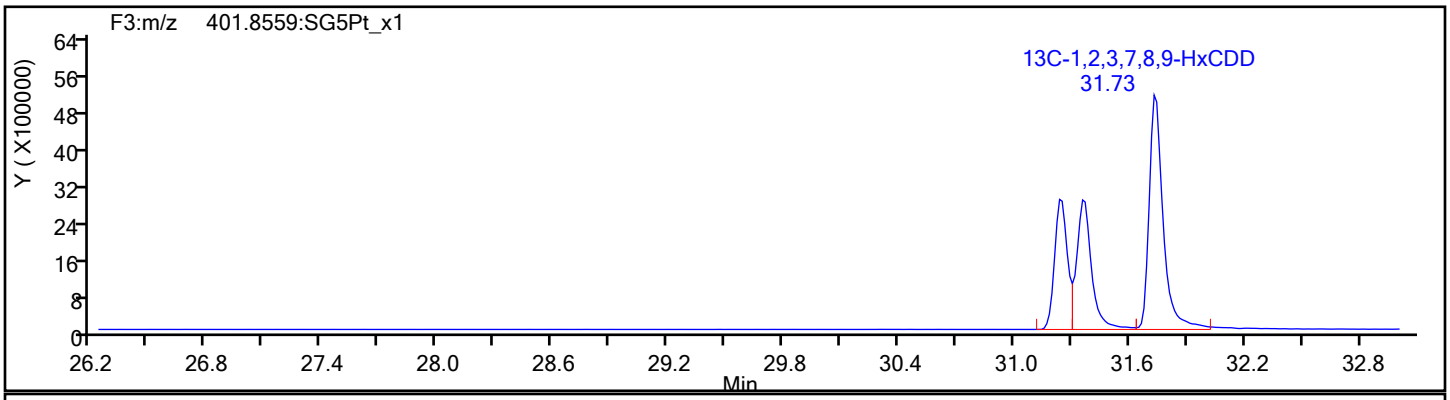

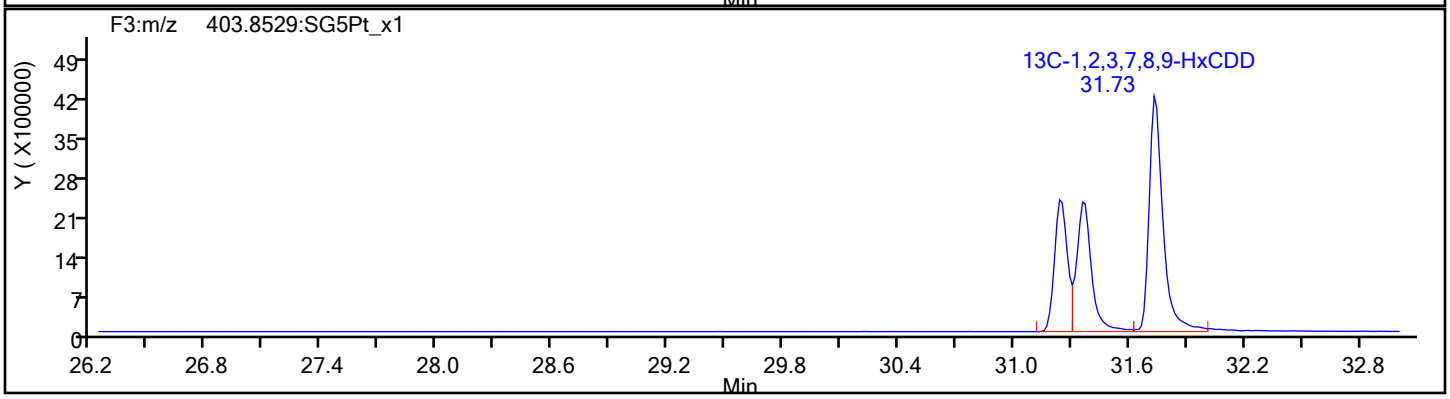

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Eurofins TestAmerica, Sacramento

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HpCDF

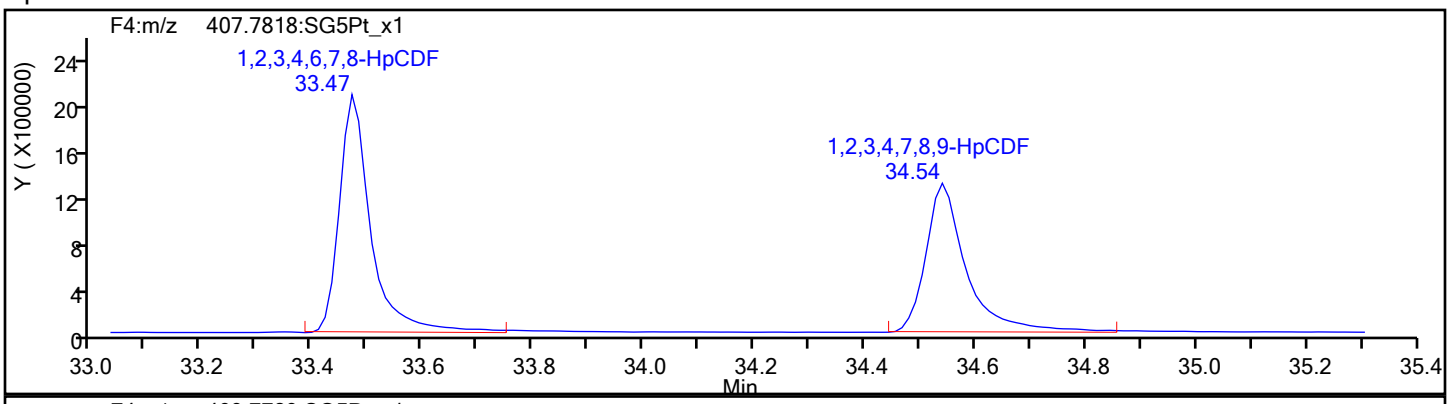

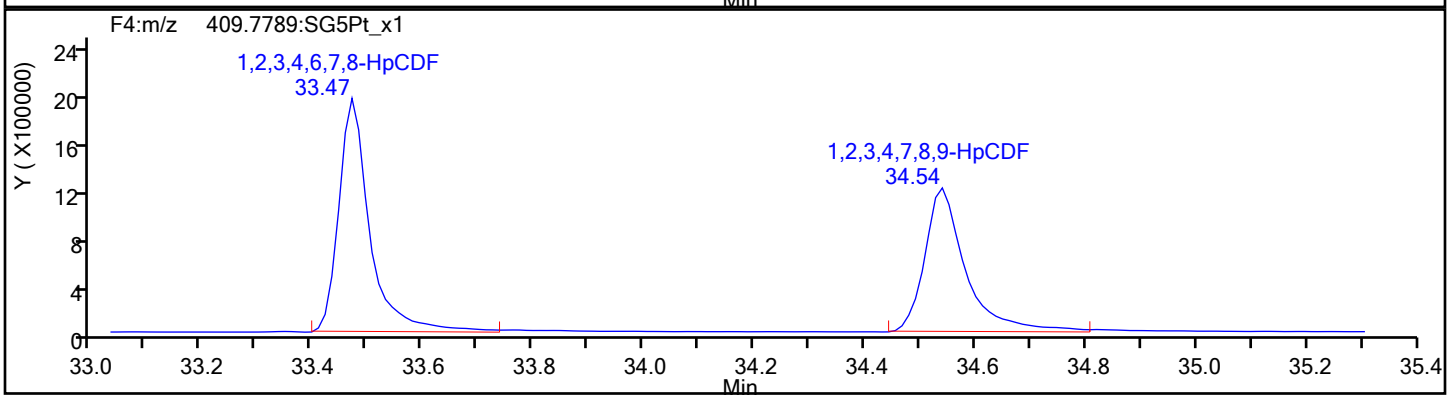

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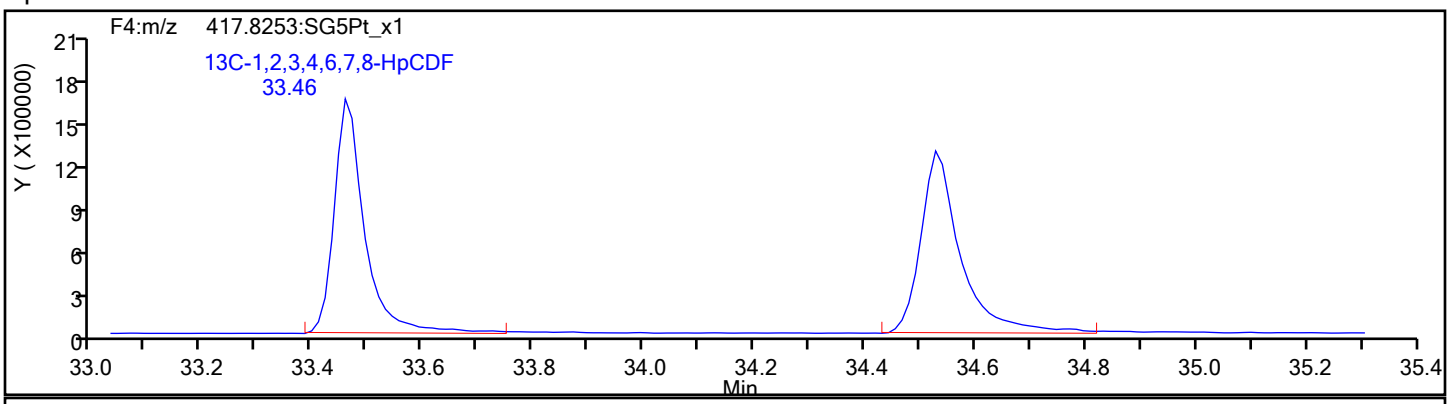

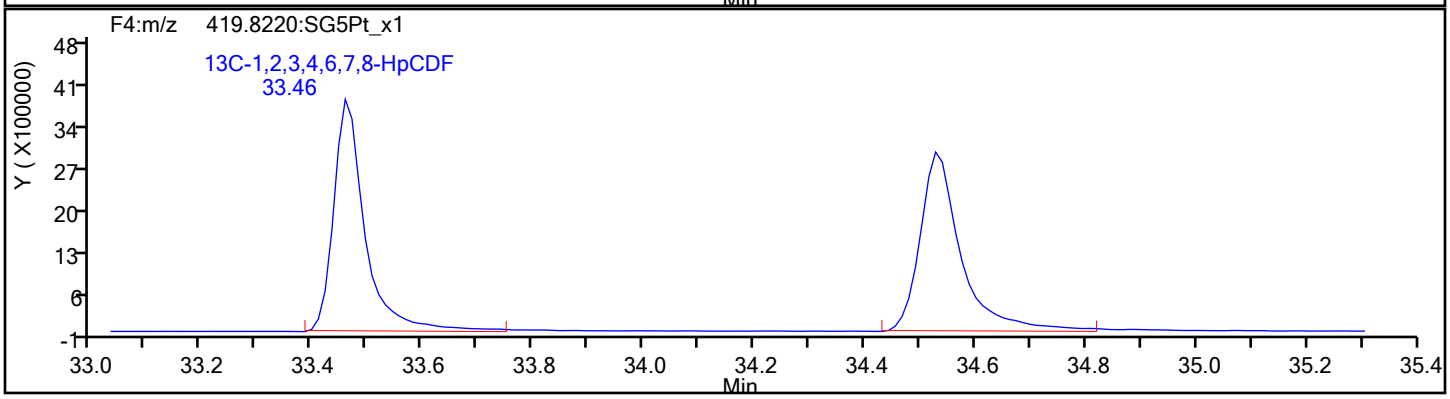

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Eurofins TestAmerica, Sacramento

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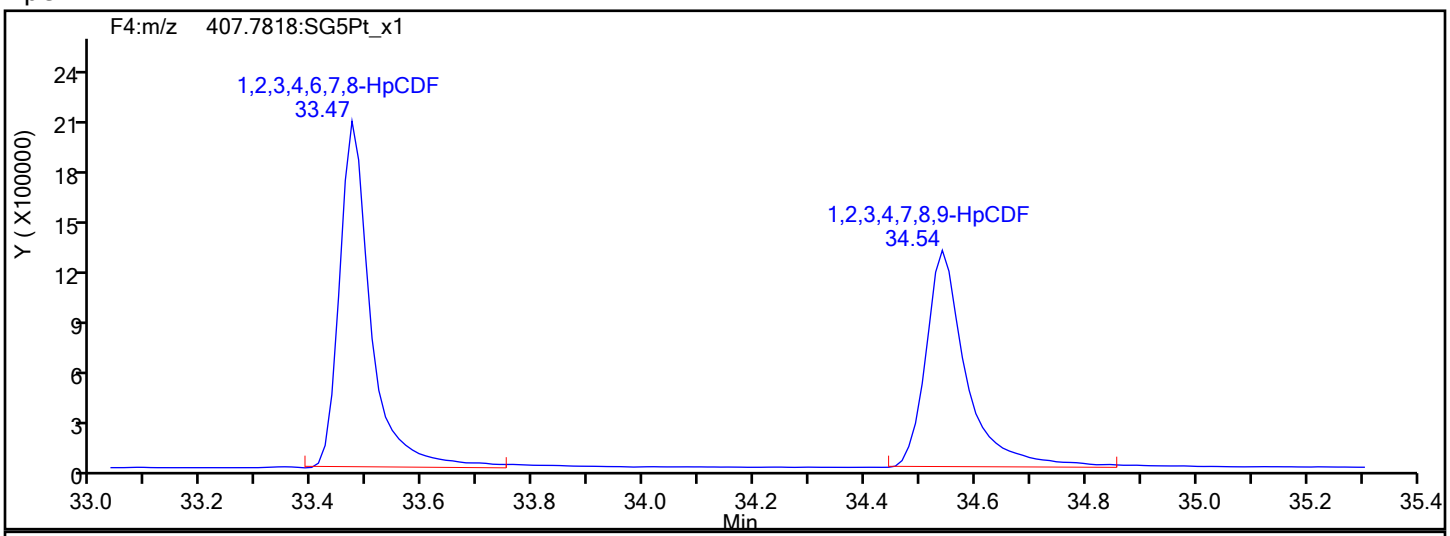

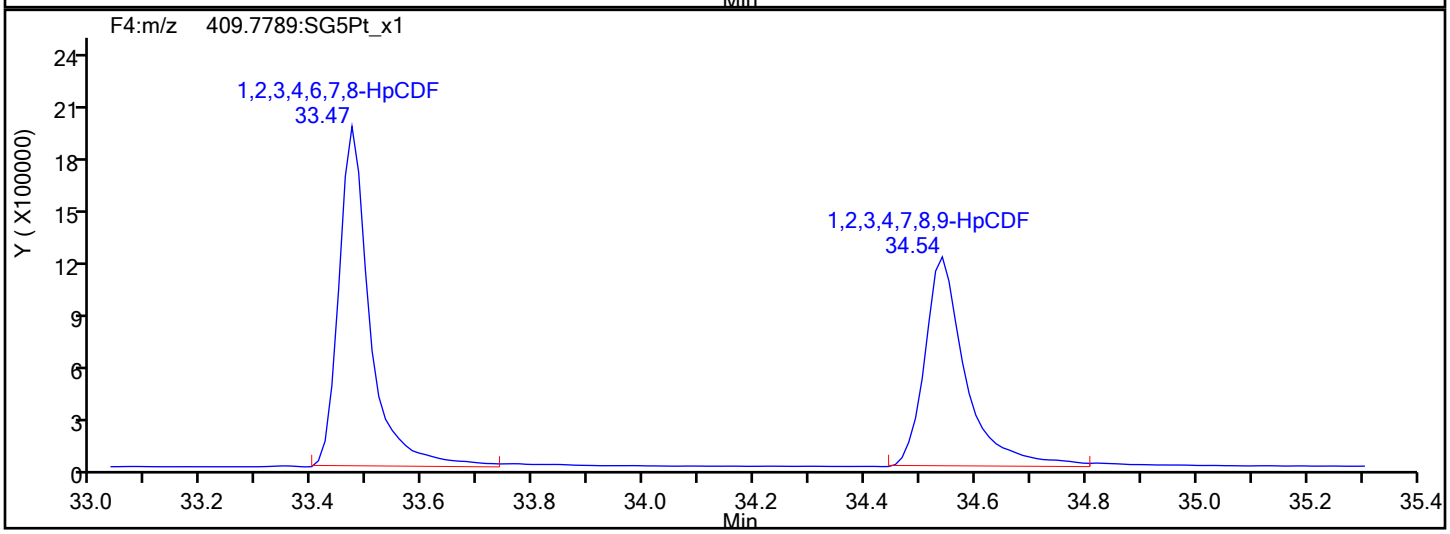

HpCDF Interference Mass

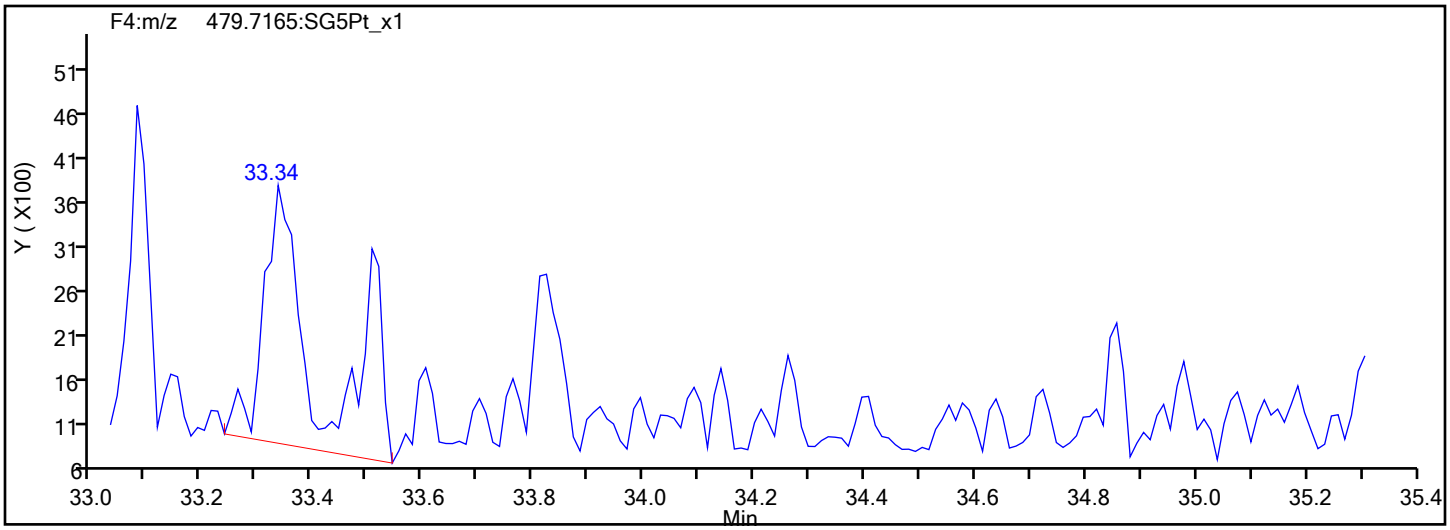

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Eurofins TestAmerica, Sacramento

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HpCDD

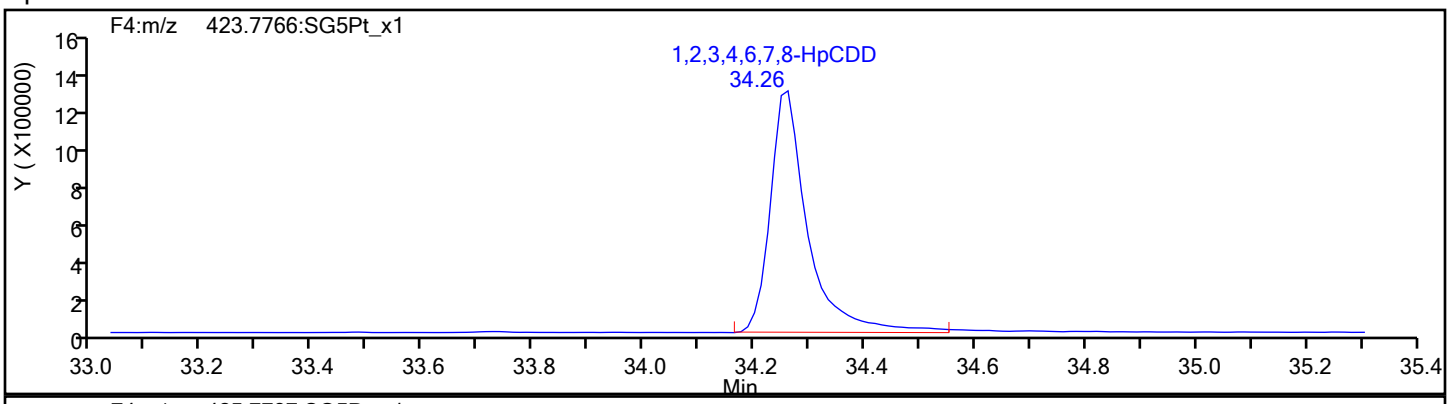

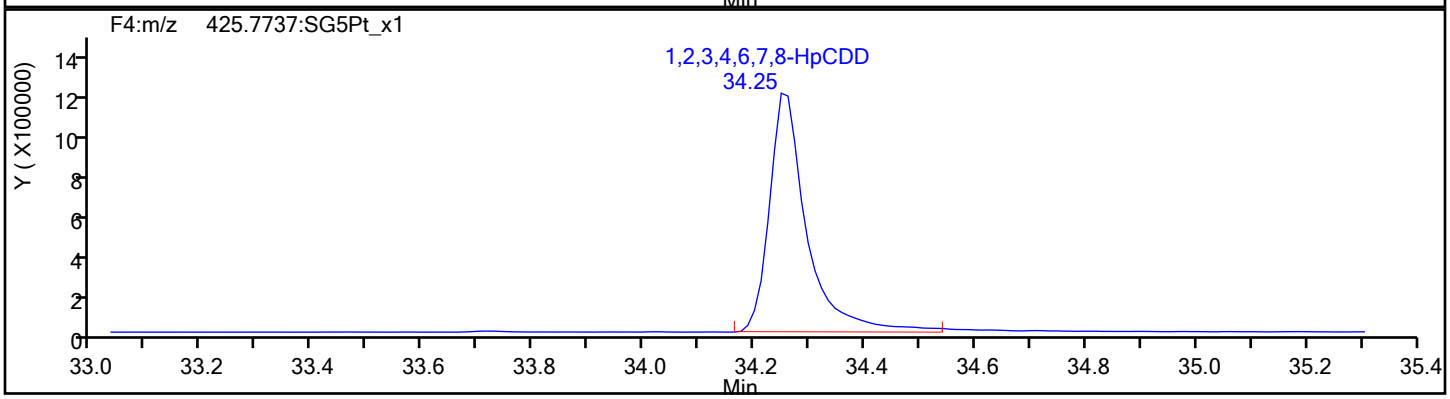

HpCDD Standards

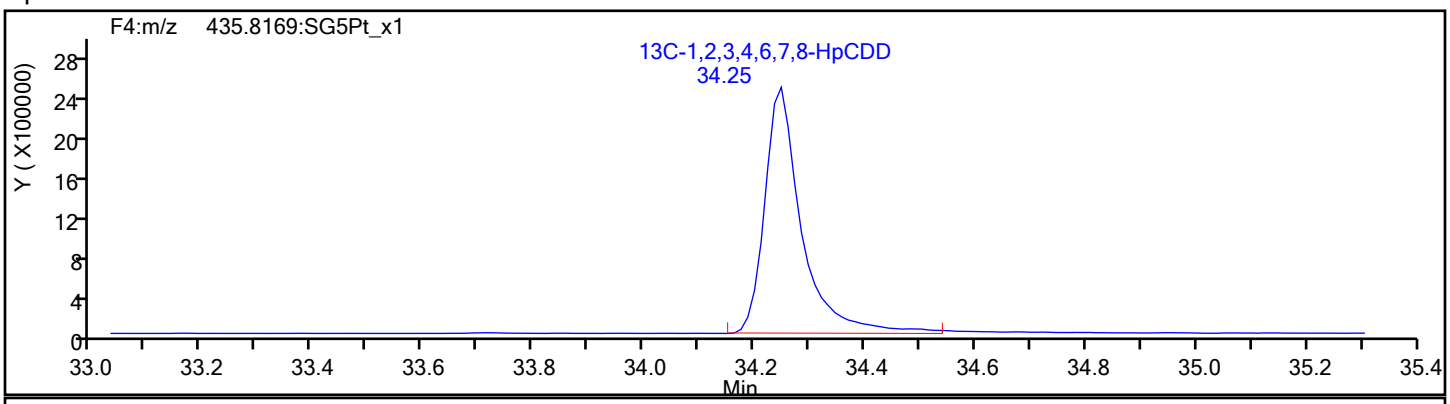

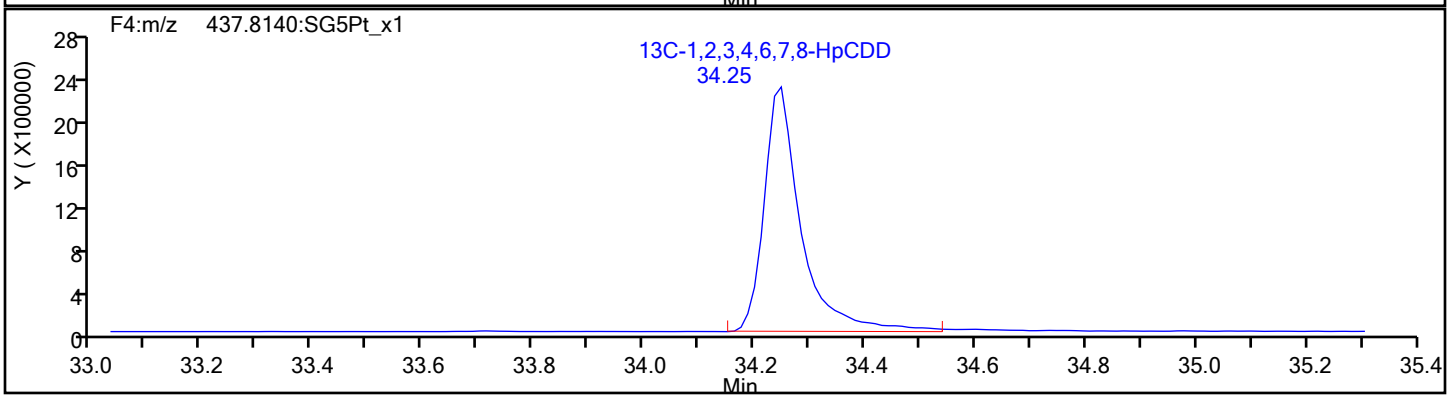

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Eurofins TestAmerica, Sacramento

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OCDF

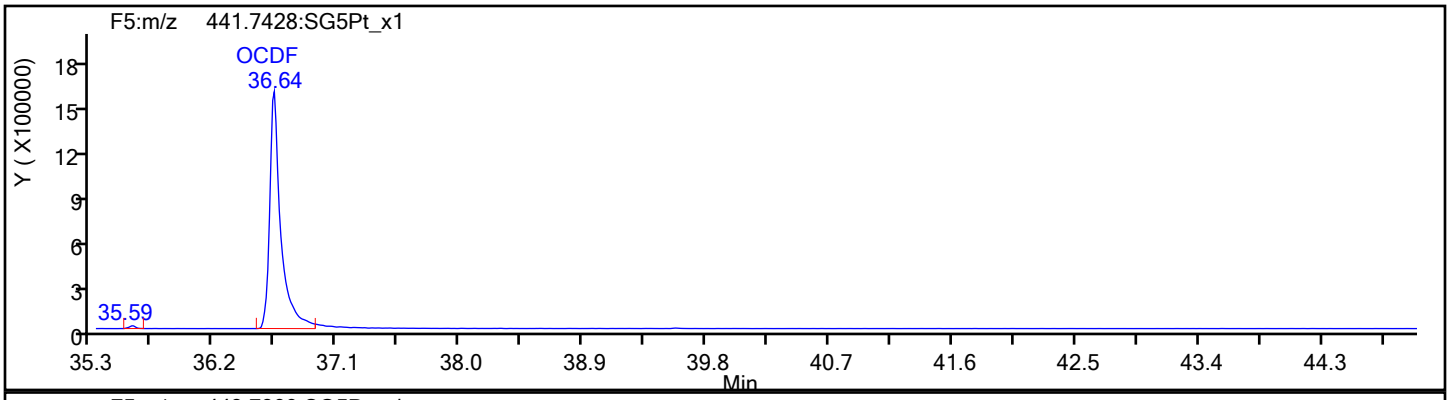

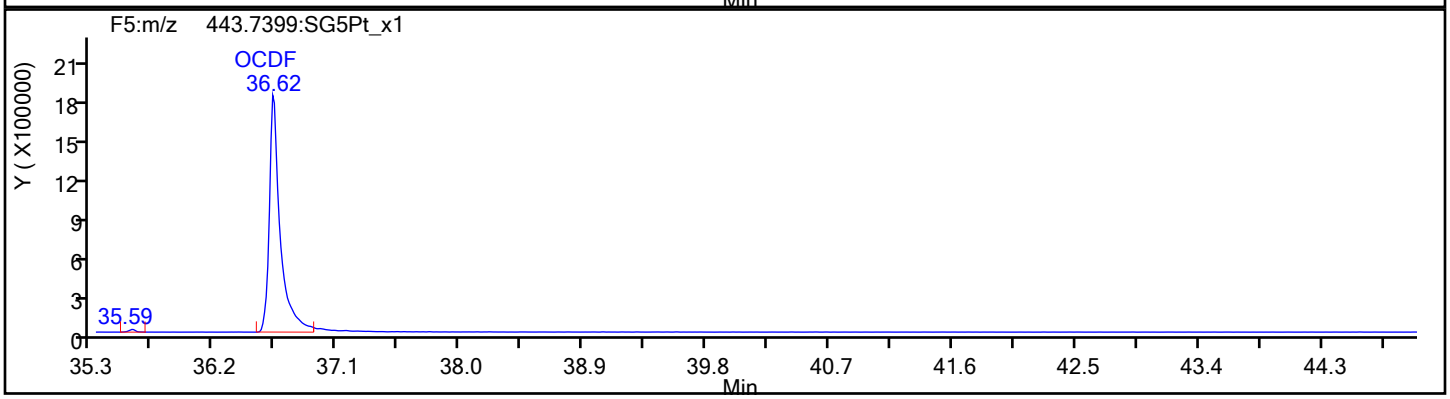

OCDF Standards

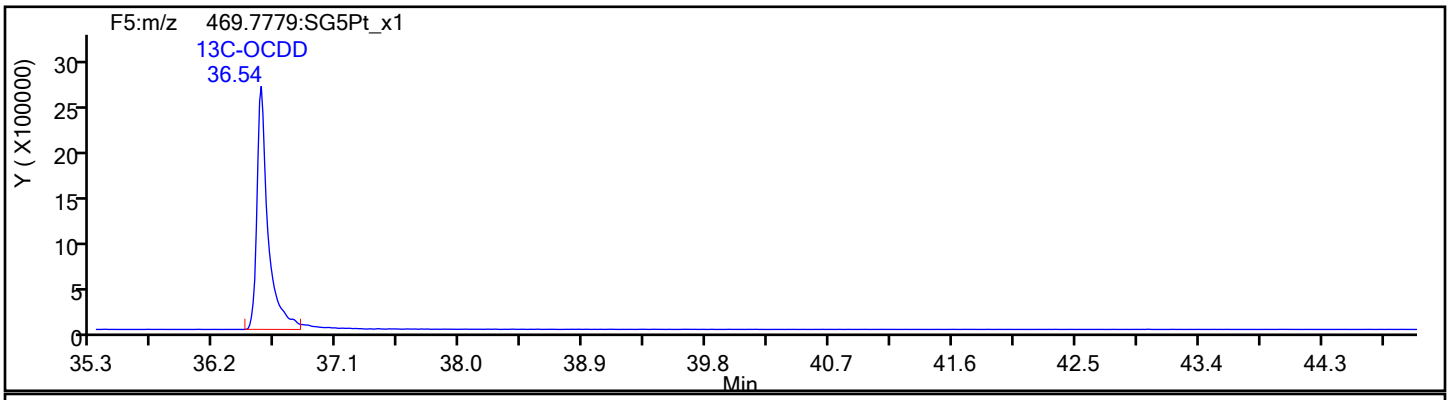

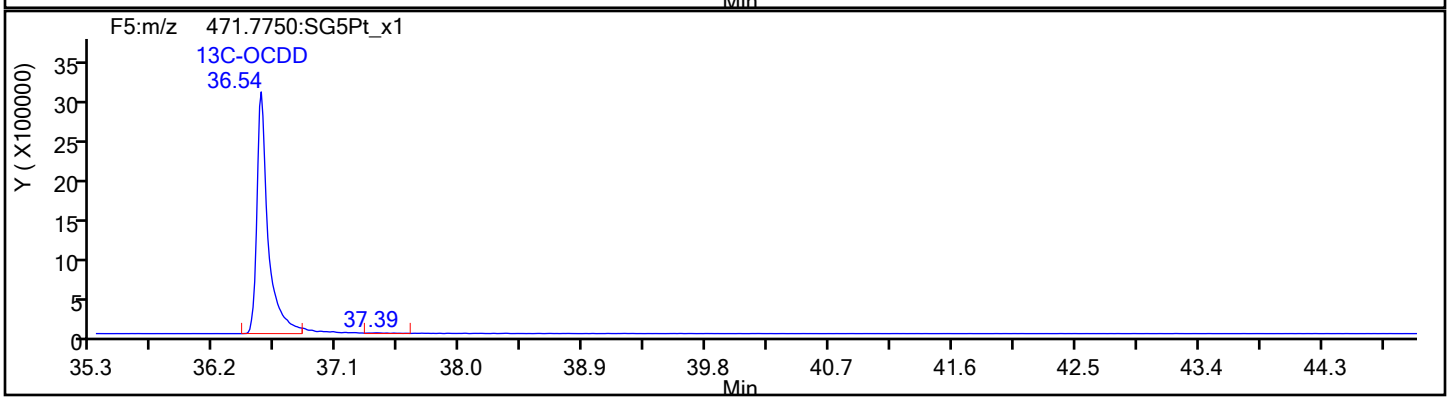

Report Date: 07-Feb-2020 14:29:02 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_6.d		
Injection Date:	05-Feb-2020 19:22:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355322	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

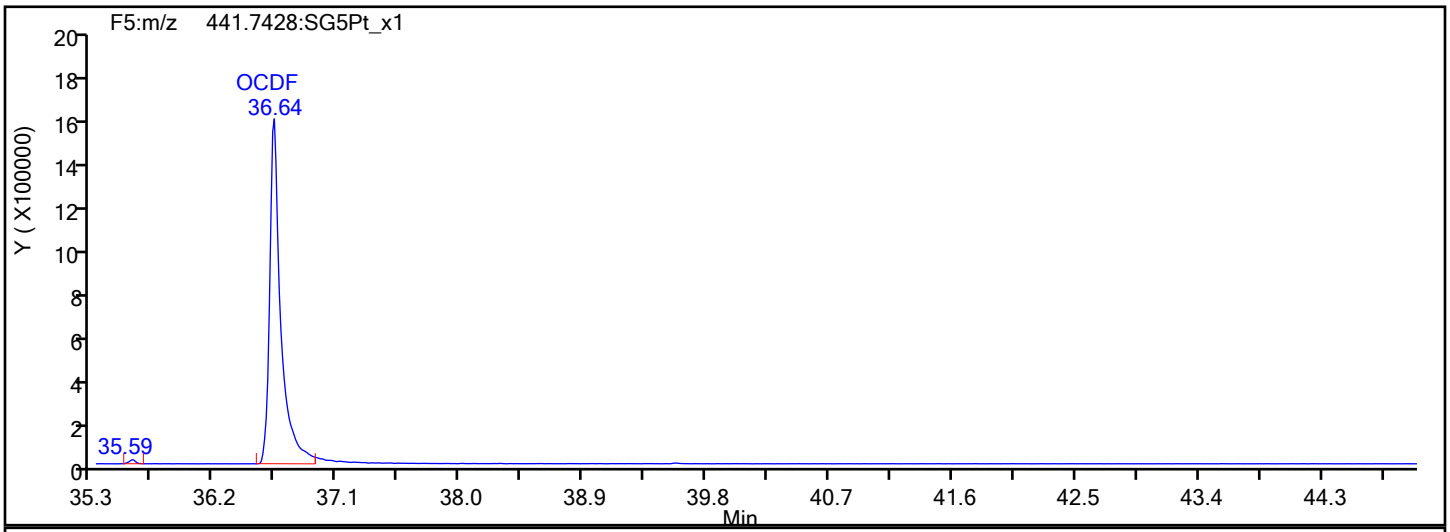

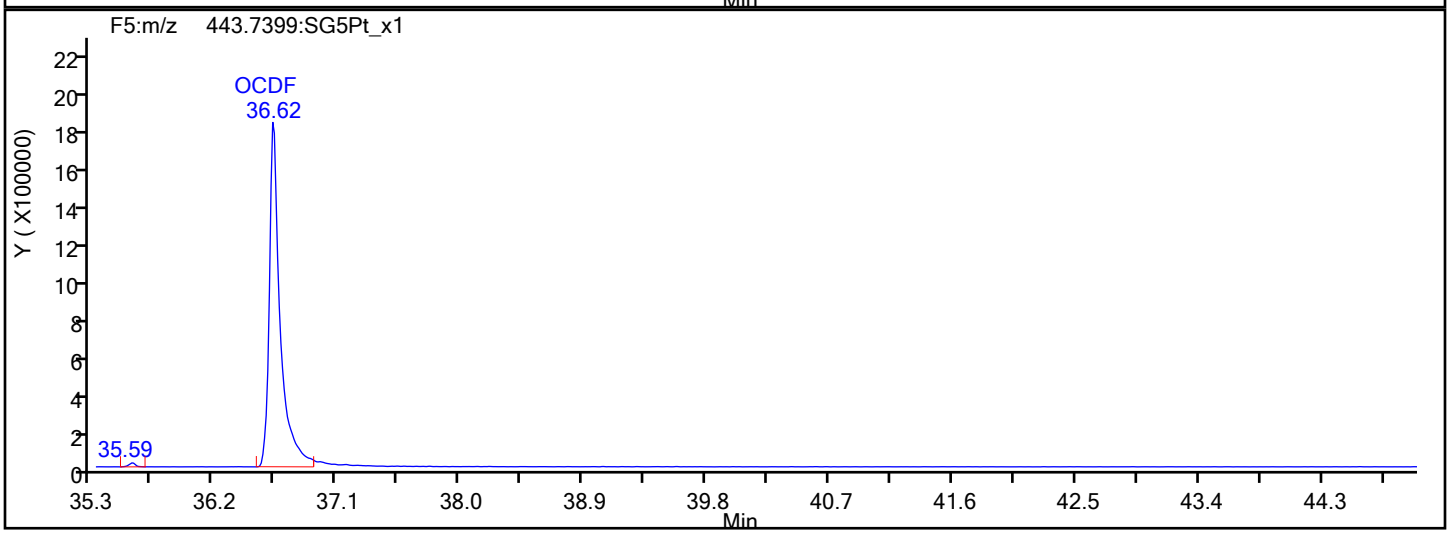

OCDF Interference Mass

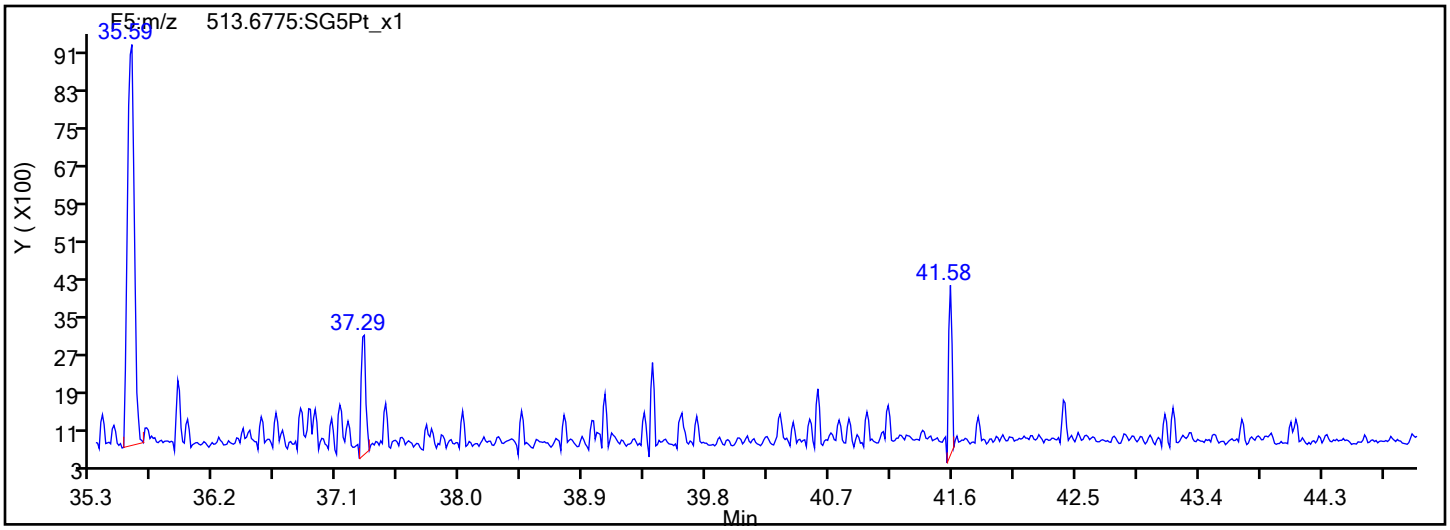

Report Date: 07-Feb-2020 14:29:02 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_6.d		
Injection Date:	05-Feb-2020 19:22:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355322	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

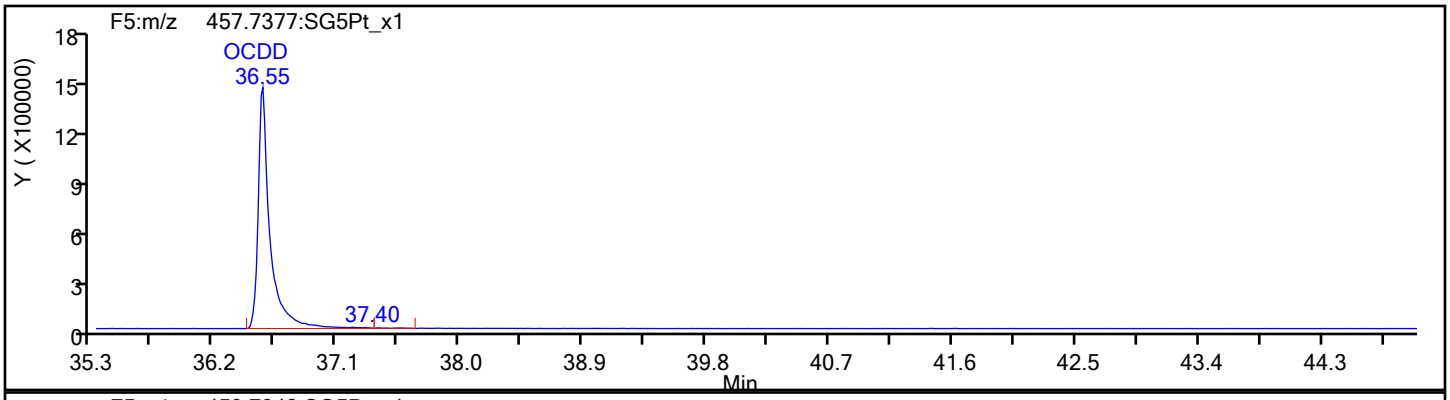

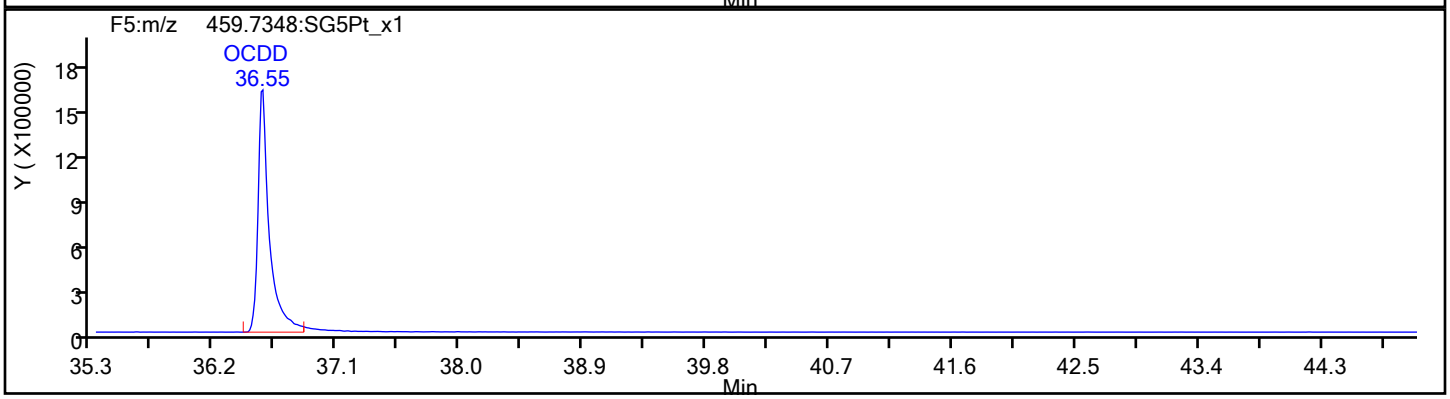

OCDD Standards

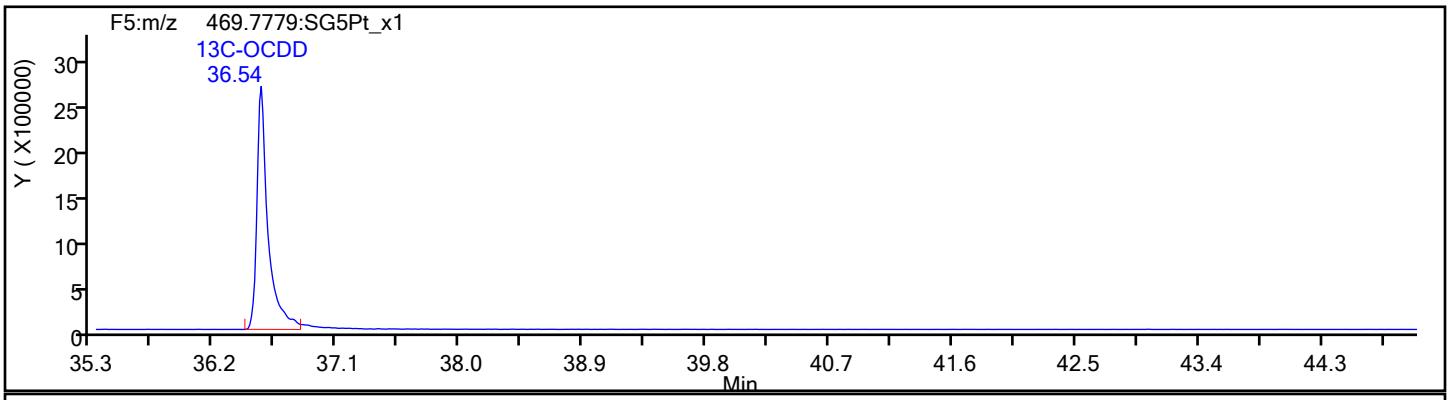

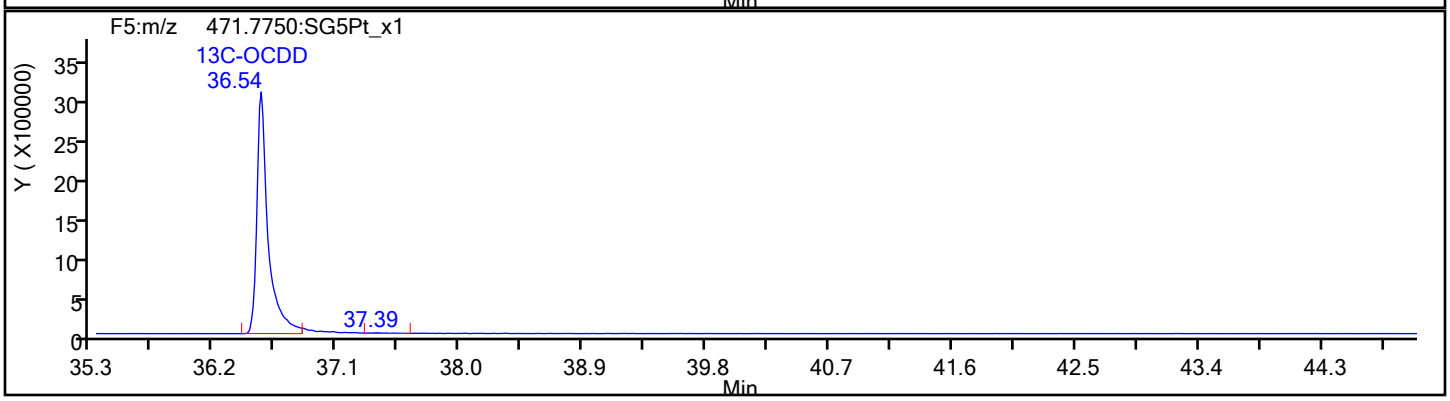

Report Date: 07-Feb-2020 14:29:02 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_6.d		
Injection Date:	05-Feb-2020 19:22:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355322	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

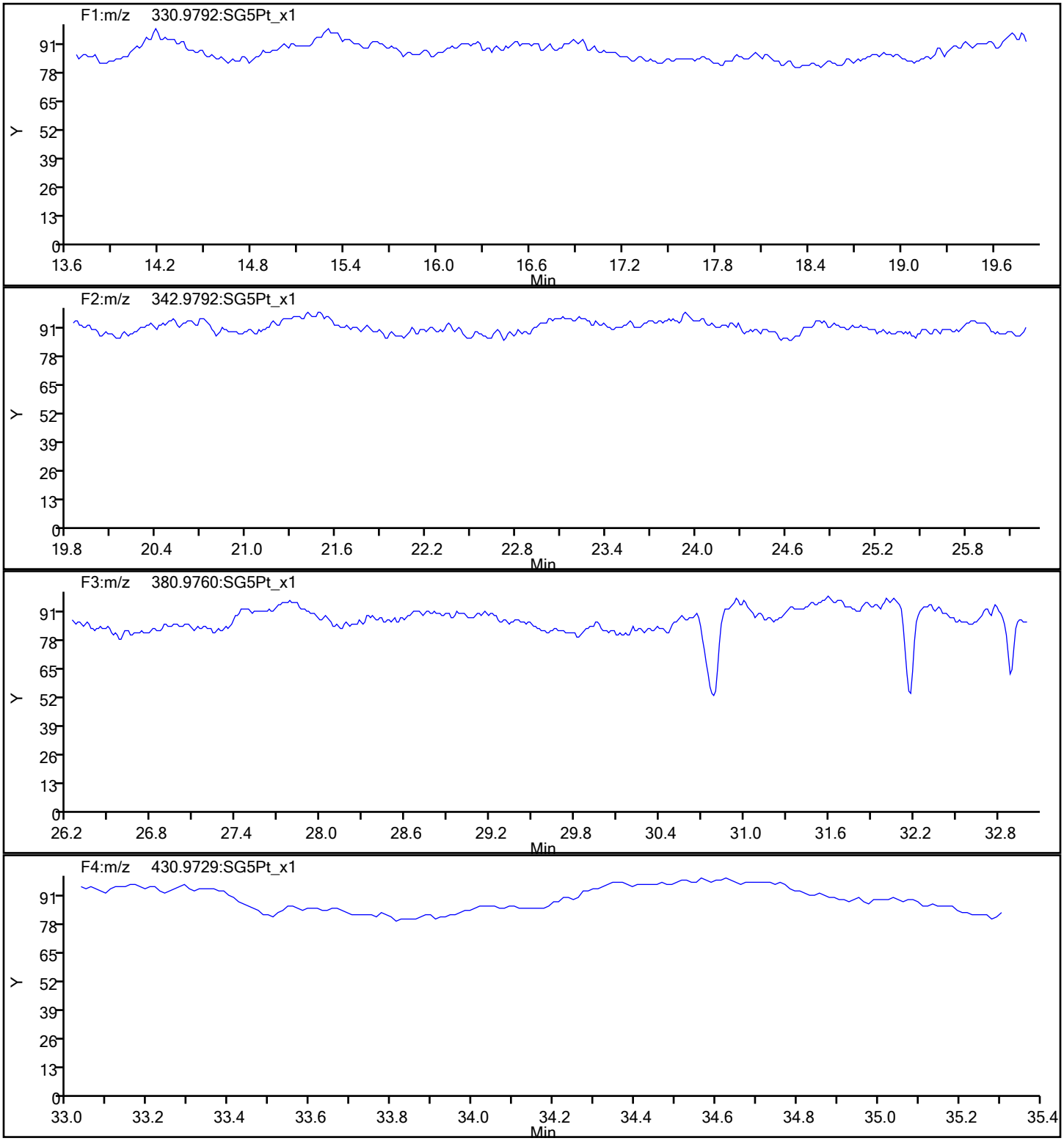

Report Date: 07-Feb-2020 14:29:02 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200205-90613.b\05FE2010D5_6.d		
Injection Date:	05-Feb-2020 19:22:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355322	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

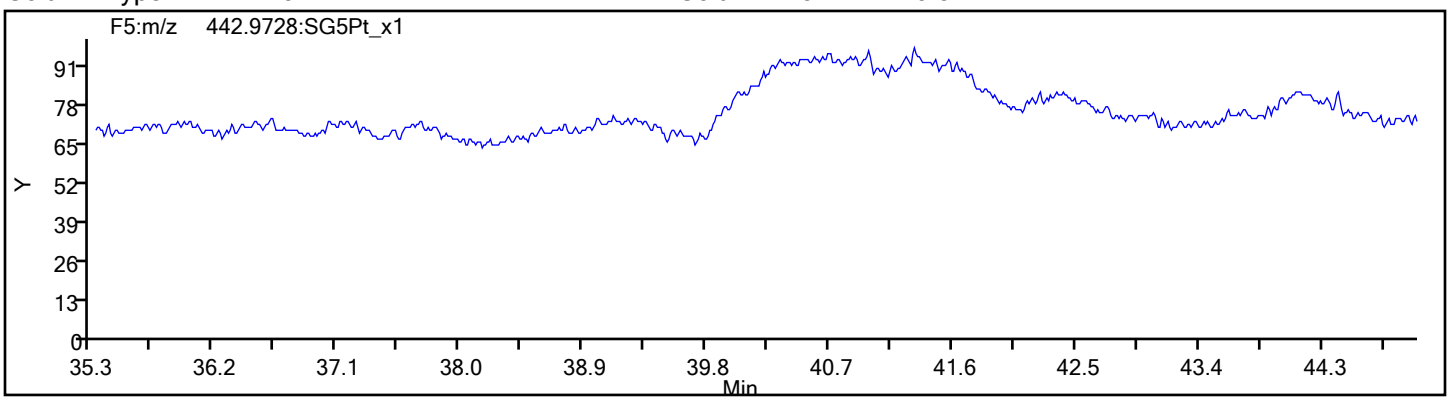

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 320-58170-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCSD 320-354207/3-A
Matrix: Sediment
Lab File ID: 06FE2010D5_11.d
Analysis Method: 1613B
Date Collected:
Extract. Method: HRMS-Sox
Date Extracted: 01/31/2020 09:04
Sample wt/vol: 10(g)
Date Analyzed: 02/06/2020 18:28
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 355551
Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	20.9		1.0	0.099
51207-31-9	2,3,7,8-TCDF	22.1		1.0	0.15
40321-76-4	1,2,3,7,8-PeCDD	108		5.0	0.27
57117-41-6	1,2,3,7,8-PeCDF	112		5.0	0.70
57117-31-4	2,3,4,7,8-PeCDF	114		5.0	0.87
39227-28-6	1,2,3,4,7,8-HxCDD	119		5.0	0.44
57653-85-7	1,2,3,6,7,8-HxCDD	106		5.0	0.41
19408-74-3	1,2,3,7,8,9-HxCDD	127		5.0	0.38
70648-26-9	1,2,3,4,7,8-HxCDF	107		5.0	1.4
57117-44-9	1,2,3,6,7,8-HxCDF	110		5.0	1.2
72918-21-9	1,2,3,7,8,9-HxCDF	109		5.0	0.83
60851-34-5	2,3,4,6,7,8-HxCDF	110		5.0	0.82
35822-46-9	1,2,3,4,6,7,8-HpCDD	110		5.0	0.77
67562-39-4	1,2,3,4,6,7,8-HpCDF	109		5.0	1.9
55673-89-7	1,2,3,4,7,8,9-HpCDF	111		5.0	2.9
3268-87-9	OCDD	214		10	0.25
39001-02-0	OCDF	212		10	0.26
41903-57-5	Total TCDD	20.9		1.0	0.099
30402-14-3	Total TCDF	22.1		1.0	0.15
36088-22-9	Total PeCDD	108		5.0	0.27
30402-15-4	Total PeCDF	226		5.0	0.78
34465-46-8	Total HxCDD	352		5.0	0.41
55684-94-1	Total HxCDF	437		5.0	1.1
37871-00-4	Total HpCDD	110		5.0	0.77
38998-75-3	Total HpCDF	220		5.0	2.4

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 320-354207/3-A

Matrix: Sediment Lab File ID: 06FE2010D5_11.d

Analysis Method: 1613B Date Collected:

Extract. Method: HRMS-Sox Date Extracted: 01/31/2020 09:04

Sample wt/vol: 10(g) Date Analyzed: 02/06/2020 18:28

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 355551 Units: pg/g

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	59		20-175
89059-46-1	13C-2,3,7,8-TCDF	61		22-152
109719-79-1	13C-1,2,3,7,8-PeCDD	58		21-227
109719-77-9	13C-1,2,3,7,8-PeCDF	61		21-192
116843-02-8	13C-2,3,4,7,8-PeCDF	53		13-328
109719-80-4	13C-1,2,3,4,7,8-HxCDD	49		21-193
109719-81-5	13C-1,2,3,6,7,8-HxCDD	62		25-163
114423-98-2	13C-1,2,3,4,7,8-HxCDF	56		19-202
116843-03-9	13C-1,2,3,6,7,8-HxCDF	63		21-159
116843-04-0	13C-1,2,3,7,8,9-HxCDF	68		17-205
116843-05-1	13C-2,3,4,6,7,8-HxCDF	65		22-176
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	57		26-166
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	54		21-158
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	58		20-186
114423-97-1	13C-OCDD	57		13-199

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	84		31-191

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_11.d
Lims ID: LCSD 320-354207/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 06-Feb-2020 18:28:53 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 320-354207/3-A LCSD 320-354207/3-A
Misc. Info.: 06FE2010D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 10-Feb-2020 09:21:44 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0306

First Level Reviewer: dadunj Date: 10-Feb-2020 09:23:14

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.333	52443833	0.81	5.4E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.849	36071230	0.75	1.1275	61.0	61.0	0.1825	0.1825	61.00	
2,3,7,8-TCDF	16.864	3059126	0.71	0.7675	11.0	11.0	0.0766	0.0766	110	
A Non-2,3,7,8-sub-TCDF	16.539						0.0766	0.0766		
S Total TCDF					11.0	11.0	0.0766	0.0766		
D 13C-2,3,7,8-TCDD	17.529	27778991	0.81	0.9032	58.6	58.6	0.2308	0.2308	58.65	
$ 37Cl4-2,3,7,8-TCDD	17.544	16945731		0.9673	33.4	33.4	0.0555	0.0555	83.51	
2,3,7,8-TCDD	17.544	2780716	0.76	0.9599	10.4	10.4	0.0493	0.0493	104	
A Non-2,3,7,8-sub-TCDD	16.977						0.0493	0.0493		
S Total TCDD					10.4	10.4	0.0493	0.0493		
D 13C-1,2,3,7,8-PeCDF	21.639	30597158	1.57	0.9615	60.7	60.7	0.2436	0.2436	60.68	
1,2,3,7,8-PeCDF	21.667	15419456	1.59	0.8982	56.1	56.1	0.3499	0.3499	112	
D 13C-2,3,4,7,8-PeCDF	22.921	28899784	1.56	1.0393	53.0	53.0	0.2253	0.2253	53.02	
2,3,4,7,8-PeCDF	22.948	13292406	1.57	0.8101	56.8	56.8	0.4350	0.4350	114	
A F1 PeCDFs	19.306						0.0282	0.0282		
A Non-2,3,7,8-sub-PeCDF	22.316						0.3890	0.3890		
S Total PeCDF					112.9	112.9	0.3925	0.3925		
D 13C-1,2,3,7,8-PeCDD	23.617	20943927	1.64	0.6938	57.6	57.6	0.1227	0.1227	57.56	
1,2,3,7,8-PeCDD	23.630	11279829	1.62	0.9961	54.1	54.1	0.1331	0.1331	108	
A Non-2,3,7,8-sub-PeCDD	22.546						0.1331	0.1331		
S Total PeCDD					54.1	54.1	0.1331	0.1331		
D 13C-1,2,3,4,7,8-HxCDF	29.722	20787625	0.50	0.8543	56.4	56.4	0.4146	0.4146	56.39	
1,2,3,4,7,8-HxCDF	29.761	8830294	1.20	0.7916	53.7	53.7	0.7212	0.7212	107	
D 13C-1,2,3,6,7,8-HxCDF	29.975	22699551	0.48	0.8361	62.9	62.9	0.4236	0.4236	62.92	
1,2,3,6,7,8-HxCDF	30.014	10806907	1.21	0.8638	55.1	55.1	0.6242	0.6242	110	
D 13C-2,3,4,6,7,8-HxCDF	31.026	21910103	0.49	0.7773	65.3	65.3	0.4556	0.4556	65.32	
2,3,4,6,7,8-HxCDF	31.039	10904074	1.21	0.9010	55.2	55.2	0.4123	0.4123	110	
D 13C-1,2,3,7,8,9-HxCDF	31.931	20874759	0.49	0.7167	67.5	67.5	0.4941	0.4941	67.50	
1,2,3,7,8,9-HxCDF	31.944	10392039	1.20	0.9127	54.5	54.5	0.4157	0.4157	109	
A Non-2,3,7,8-sub-HxCDF	29.476						0.5163	0.5163		
S Total HxCDF					218.6	218.6	0.5433	0.5433		

Report Date: 10-Feb-2020 09:23:15 Chrom Revision: 2.3 14-Jan-2020 22:23:42
Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_11.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.732	43150144	1.24	4.4E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.239	16881385	1.23	0.8050	48.6	48.6	0.2757	0.2757	48.60	
1,2,3,4,7,8-HxCDD	31.252	8394265	1.23	0.8392	59.3	59.3	0.2198	0.2198	119	
D 13C-1,2,3,6,7,8-HxCDD	31.359	22000276	1.22	0.8269	61.7	61.7	0.2684	0.2684	61.66	
1,2,3,6,7,8-HxCDD	31.372	10393648	1.24	0.8876	53.2	53.2	0.2057	0.2057	106	
1,2,3,7,8,9-HxCDD	31.745	11786145	1.24	0.9567	63.4	63.4	0.1918	0.1918	127	
A Non-2,3,7,8-sub-HxCDD	30.055						0.2051	0.2051		
S Total HxCDD					175.9	175.9	0.2058	0.2058		
D 13C-1,2,3,4,6,7,8-HpCDF	33.459	16486178	0.42	0.7080	54.0	54.0	1.170	1.170	53.96	
1,2,3,4,6,7,8-HpCDF	33.471	12020925	1.02	1.3375	54.5	54.5	0.9612	0.9612	109	
D 13C-1,2,3,4,7,8,9-HpCDF	34.528	18733356	0.41	0.7451	58.3	58.3	1.111	1.111	58.27	
1,2,3,4,7,8,9-HpCDF	34.528	11179295	1.04	1.0744	55.5	55.5	1.455	1.455	111	
A Non-2,3,7,8-sub-HpCDF	33.994						1.170	1.170		
S Total HpCDF					110.1	110.1	1.208	1.208		
D 13C-1,2,3,4,6,7,8-HpCDD	34.236	18319762	1.04	0.7473	56.8	56.8	0.4712	0.4712	56.81	
1,2,3,4,6,7,8-HpCDD	34.249	9874720	1.05	0.9811	54.9	54.9	0.3872	0.3872	110	
A Non-2,3,7,8-sub-HpCDD	33.963						0.3872	0.3872		
S Total HpCDD					54.9	54.9	0.3872	0.3872		
D 13C-OCDD	36.540	32402393	0.84	0.6622	113.4	113.4	0.1420	0.1420	56.70	
OCDF	36.624	18299479	0.90	1.0659	106.0	106.0	0.1281	0.1281	106	
OCDD	36.540	17191979	0.87	0.9937	106.8	106.8	0.1227	0.1227	107	

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_11.d
Lims ID: LCSD 320-354207/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 06-Feb-2020 18:28:53 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 320-354207/3-A LCSD 320-354207/3-A
Misc. Info.: 06FE2010D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 10-Feb-2020 09:21:44 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0306

First Level Reviewer: dadunj Date: 10-Feb-2020 09:23:14

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.333	17.302	2		23541400	5969665	4623	11557	1291		
333.9339	17.333	17.302	2		28902433	7298885	6442	16105	1133	0.81(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.849	16.819	2	0.972	15447423	3550260	5509	13772	644		
317.9389	16.849	16.819	2	0.972	20623807	4730962	5410	13525	874	0.75(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.864	16.849	1	1.001	1272719	289324	802	2005	361		
305.8987	16.864	16.849	1	1.001	1786407	403713	1145	2862	353	0.71(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.539						802	2005			
305.8987	16.539						1145	2862			
13C-2,3,7,8-TCDD											
331.9368	17.529	17.499	2	1.011	12462820	2734506	4623	11557	592		
333.9339	17.529	17.499	2	1.011	15316171	3353860	6442	16105	521	0.81(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.544	17.514	2	1.012	16945731	3764123	2851	7127	1320		
2,3,7,8-TCDD											
319.8965	17.544	17.514	2	1.001	1197306	264849	715	1787	370		
321.8936	17.544	17.514	2	1.001	1583410	352484	438	1095	805	0.76(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	16.977						715	1787			
321.8936	16.977						438	1095			
13C-1,2,3,7,8-PeCDF											
351.9000	21.639	21.612	2	1.248	18675269	3039391	7405	18512	410		
353.8970	21.639	21.612	2	1.248	11921889	1962087	5025	12562	390	1.57(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	21.667	21.626	2	1.001	9459079	1531644	3657	9142	419		
341.8567	21.667	21.626	2	1.001	5960377	949294	2630	6575	361	1.59(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	22.921	22.880	2	1.322	17627458	2734353	7405	18512	369		
353.8970	22.921	22.880	2	1.322	11272326	1725407	5025	12562	343	1.56(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.948	22.907	2	1.001	8114010	1195788	3657	9142	327		
341.8567	22.948	22.907	2	1.001	5178396	753959	2630	6575	287	1.57(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.306						153	382			
341.8567	19.306						303	757			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.316						3657	9142			
341.8567	22.316						2630	6575			
13C-1,2,3,7,8-PeCDD											
367.8949	23.617	23.576	2	1.363	12999099	1834655	3292	8230	557		
369.8919	23.617	23.576	2	1.363	7944828	1120672	1227	3067	913	1.64(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.630	23.603	2	1.001	6973401	952883	904	2260	1054		
357.8516	23.630	23.603	2	1.001	4306428	601377	663	1657	907	1.62(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.546						904	2260			
357.8516	22.546						663	1657			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.722	29.682	2	0.937	6916539	839571	3999	9997	210		
385.8610	29.722	29.682	2	0.937	13871086	1727567	7849	19622	220	0.50(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.761	29.708	3	1.001	4820076	598669	3277	8192	183		
375.8178	29.748	29.708	2	1.001	4010218	505296	2585	6462	195	1.20(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.975	29.948	2	0.945	7373646	903964	3999	9997	226		
385.8610	29.975	29.948	2	0.945	15325905	1814178	7849	19622	231	0.48(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.014	29.975	2	1.001	5908437	712040	3277	8192	217		
375.8178	30.001	29.975	2	1.001	4898470	580967	2585	6462	225	1.21(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.026	30.999	2	0.978	7166165	1295253	3999	9997	324		
385.8610	31.026	30.999	2	0.978	14743938	2649540	7849	19622	338	0.49(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.039	31.013	2	1.000	5977504	1095970	3277	8192	334		
375.8178	31.039	31.013	2	1.000	4926570	898647	2585	6462	348	1.21(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.931	31.918	1	1.006	6847327	1267215	3999	9997	317		
385.8610	31.931	31.918	1	1.006	14027432	2595252	7849	19622	331	0.49(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	31.944	31.931	1	1.000	5659963	1059074	3277	8192	323		
375.8178	31.944	31.931	1	1.000	4732076	870006	2585	6462	337	1.20(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.476						3277	8192			
375.8178	29.476						2585	6462			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.732	31.718	1		23849338	4623068	4116	10290	1123		
403.8529	31.732	31.718	1		19300806	3740682	3309	8272	1130	1.24(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.239	31.226	1	0.984	9319571	2104892	4116	10290	511		
403.8529	31.239	31.226	1	0.984	7561814	1731891	3309	8272	523	1.23(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.252	31.239	1	1.000	4634489	989473	1621	4052	610		
391.8127	31.252	31.239	1	1.000	3759776	783127	1210	3025	647	1.23(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.359	31.332	2	0.988	12078069	2139948	4116	10290	520		
403.8529	31.359	31.332	2	0.988	9922207	1736751	3309	8272	525	1.22(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.372	31.359	1	1.000	5750871	1067886	1621	4052	659		
391.8127	31.372	31.359	1	1.000	4642777	874028	1210	3025	722	1.24(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.745	31.731	1	1.016	6520005	1272463	1621	4052	785		
391.8127	31.745	31.731	1	1.016	5266140	1028324	1210	3025	850	1.24(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.055						1621	4052			
391.8127	30.055						1210	3025			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.459	33.447	1	1.054	4870168	1180914	9032	22580	131		
419.8220	33.459	33.447	1	1.054	11616010	2800036	18673	46682	150	0.42(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.471	33.459	1	1.000	6070441	1443262	10876	27190	133		
409.7789	33.471	33.459	1	1.000	5950484	1396024	9594	23985	146	1.02(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.528	34.504	1	1.088	5456982	947228	9032	22580	105		
419.8220	34.528	34.504	1	1.088	13276374	2327088	18673	46682	125	0.41(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.528	34.528	0	1.000	5687791	996626	10876	27190	92		
409.7789	34.528	34.528	0	1.000	5491504	955721	9594	23985	100	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.994						10876	27190			
409.7789	33.994						9594	23985			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.236	34.224	1	1.079	9341405	1922686	4948	12370	389		
437.8140	34.236	34.224	1	1.079	8978357	1867071	6834	17085	273	1.04(0.88-1.20)	

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Data File: \\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_11.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.249	34.237	1	1.000	5067496	1038074	2970	7425	350		
425.7737	34.249	34.237	1	1.000	4807224	978578	2789	6972	351	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.963						2970	7425			
425.7737	33.963						2789	6972			
13C-OCDD											
469.7779	36.540	36.516	1	1.152	14829446	2411742	2038	5095	1183		
471.7750	36.540	36.516	1	1.152	17572947	2812623	1107	2767	2541	0.84(0.76-1.02)	
OCDF											
441.7428	36.624	36.612	1	1.002	8681725	1393557	650	1625	2144		
443.7399	36.624	36.612	1	1.002	9617754	1551272	777	1942	1996	0.90(0.76-1.02)	
OCDD											
457.7377	36.540	36.528	1	1.000	7999636	1313705	606	1515	2168		
459.7348	36.540	36.528	1	1.000	9192343	1509007	668	1670	2259	0.87(0.76-1.02)	

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Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_11.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355551	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

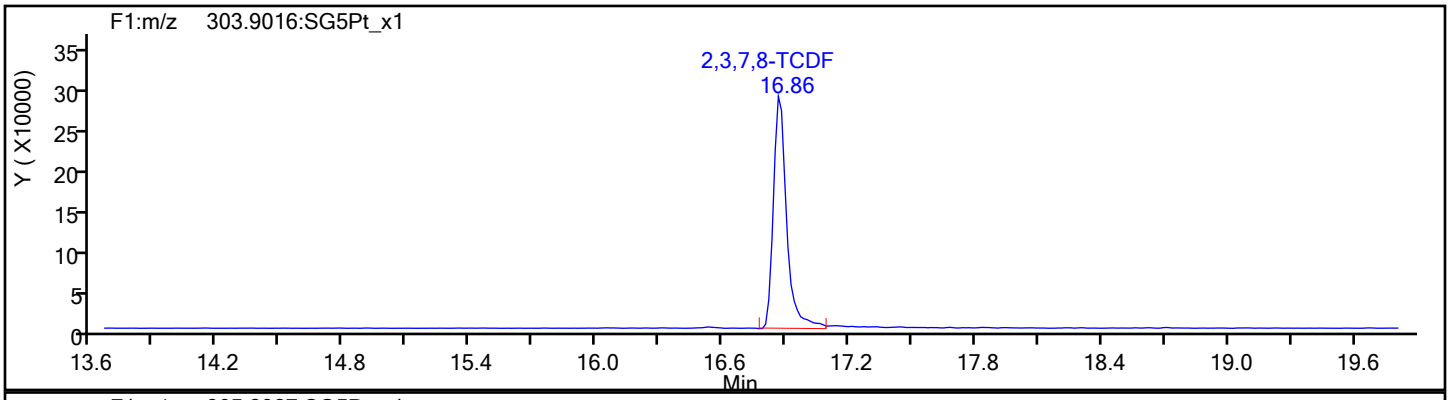

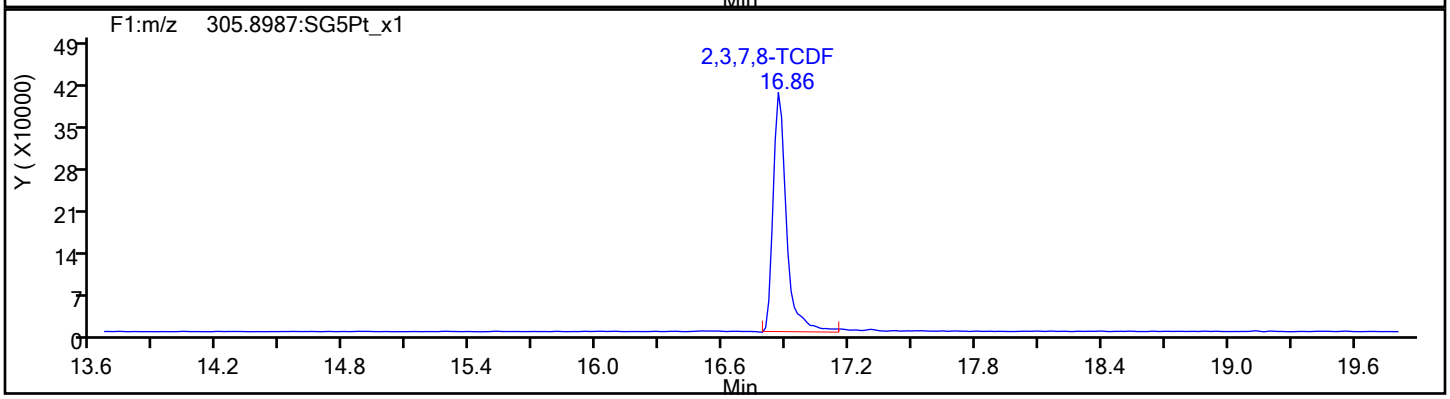

TCDF Standards

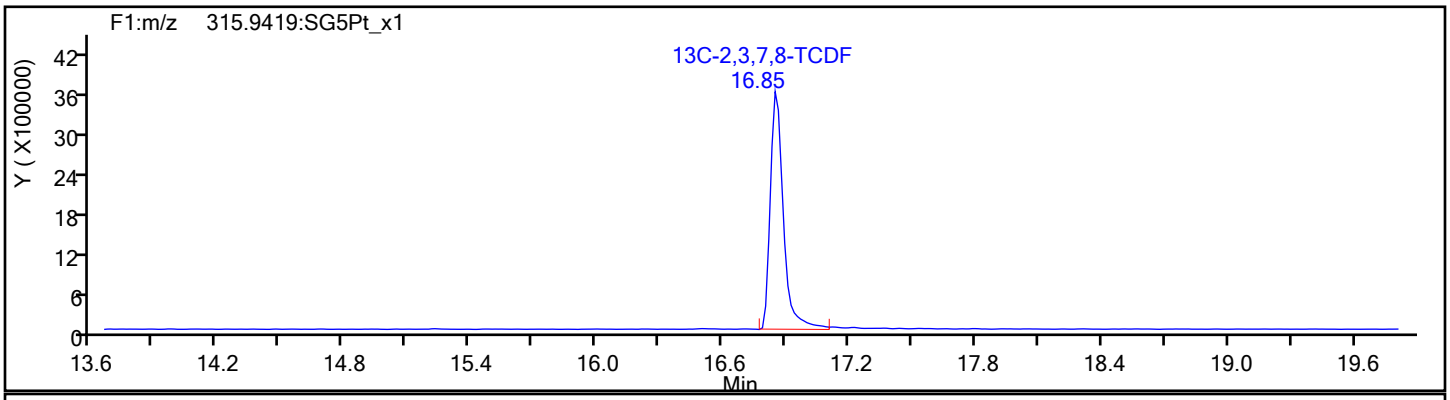

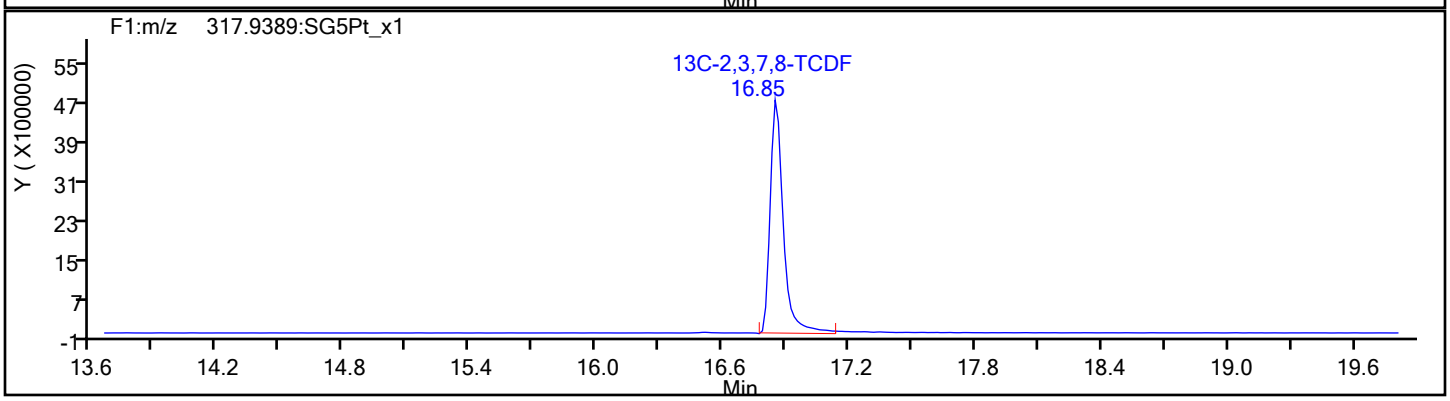

Report Date: 10-Feb-2020 09:23:15 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355551	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

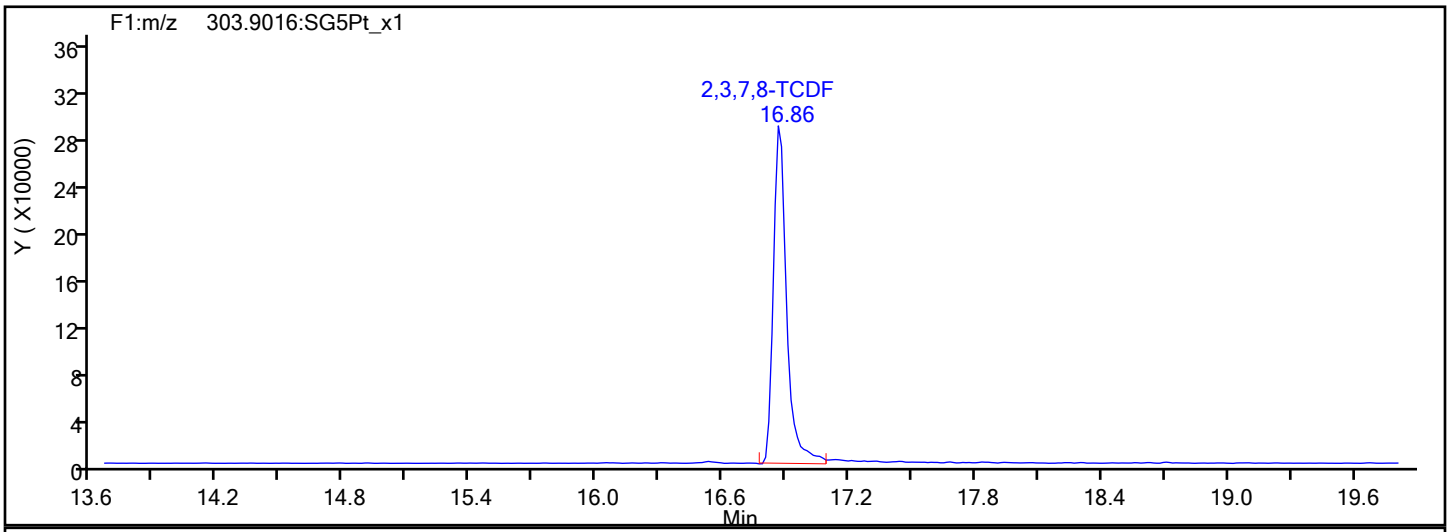

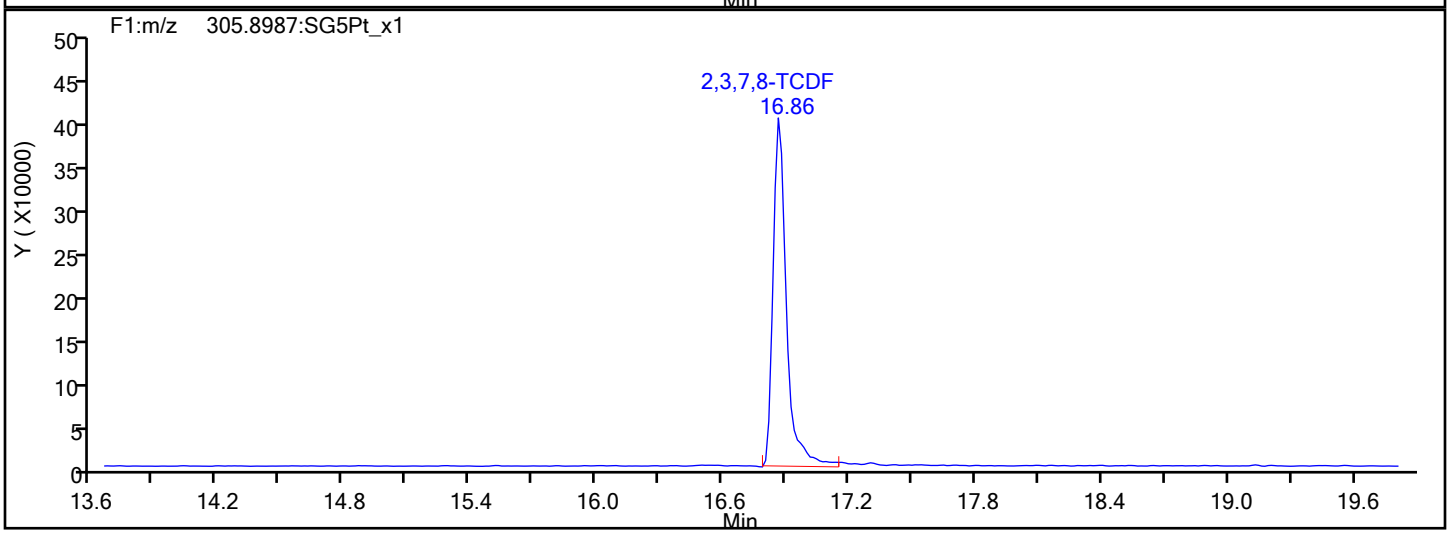

TCDF Interference Mass

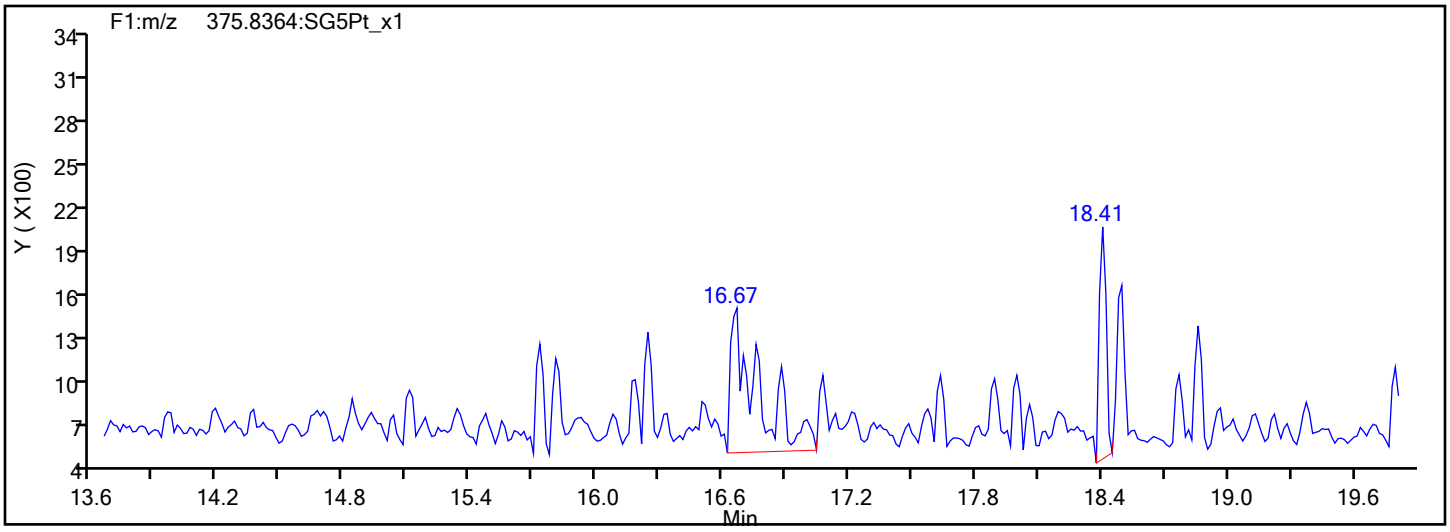

Report Date: 10-Feb-2020 09:23:15 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_11.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355551	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

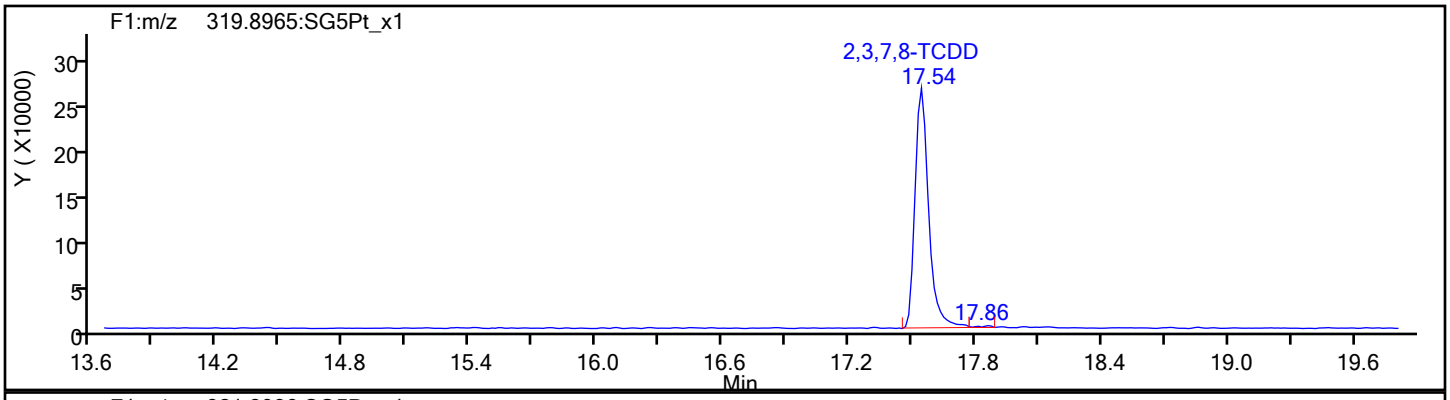

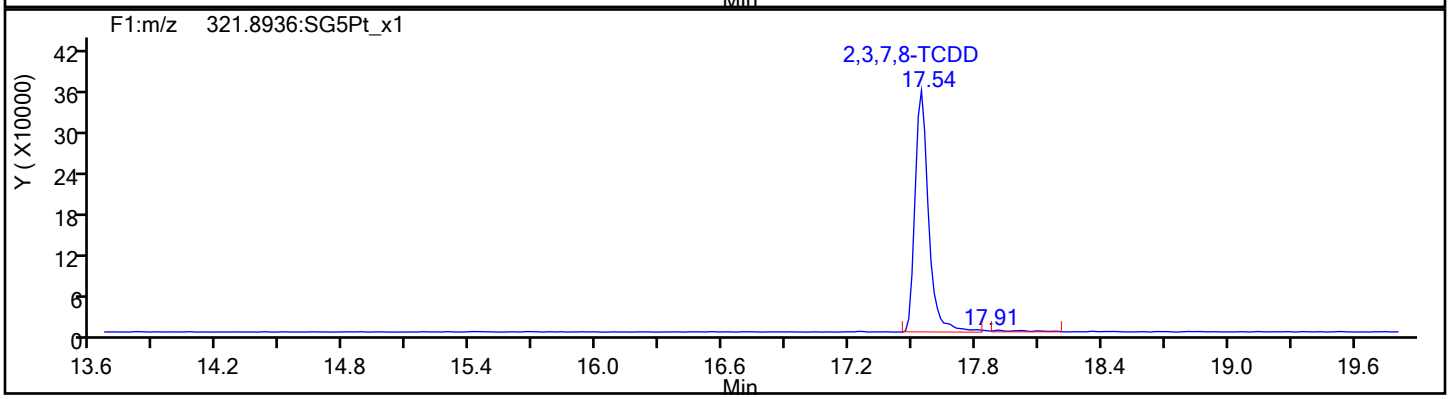

TCDD Standards

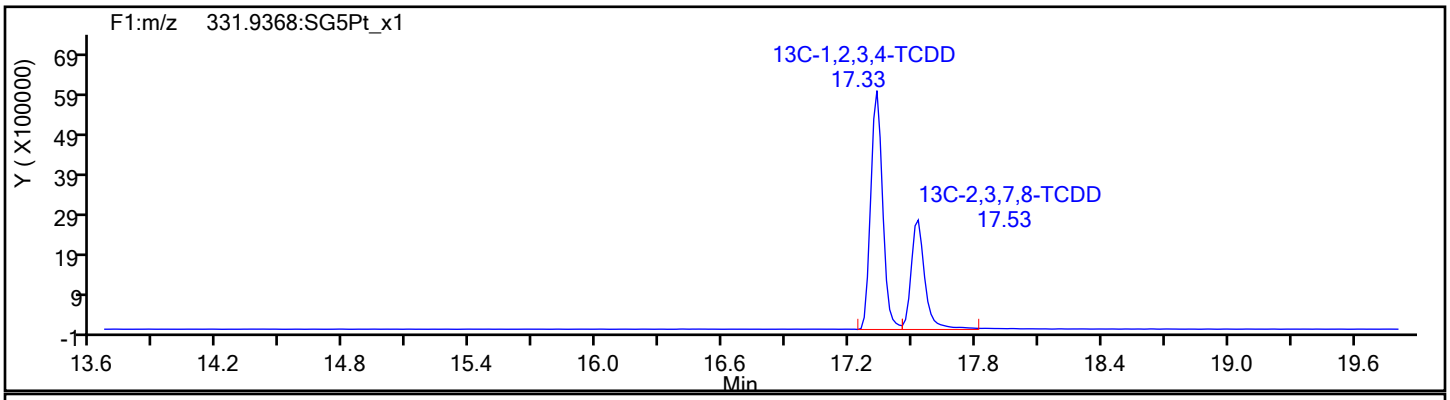

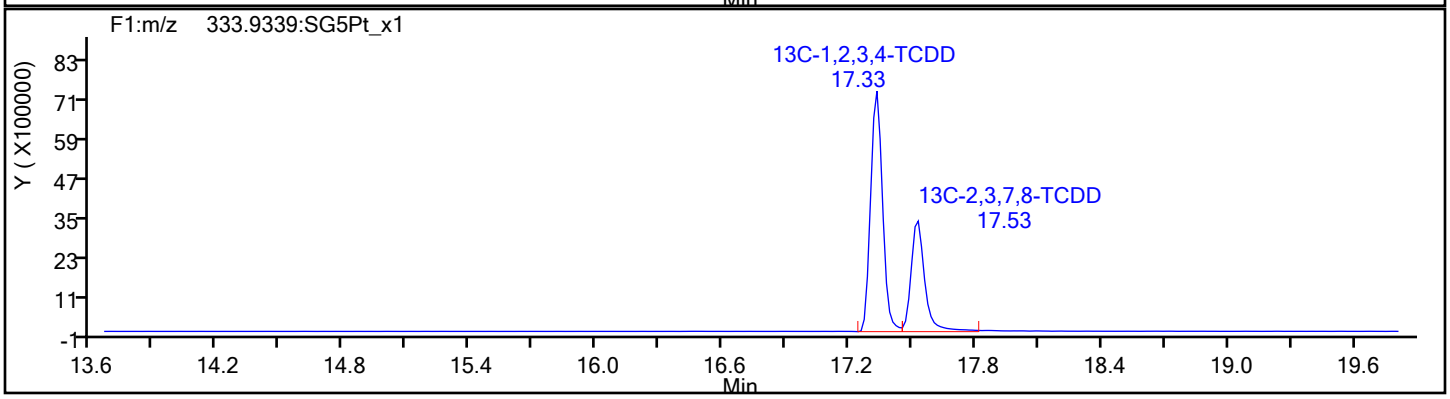

Report Date: 10-Feb-2020 09:23:15 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_11.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355551	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

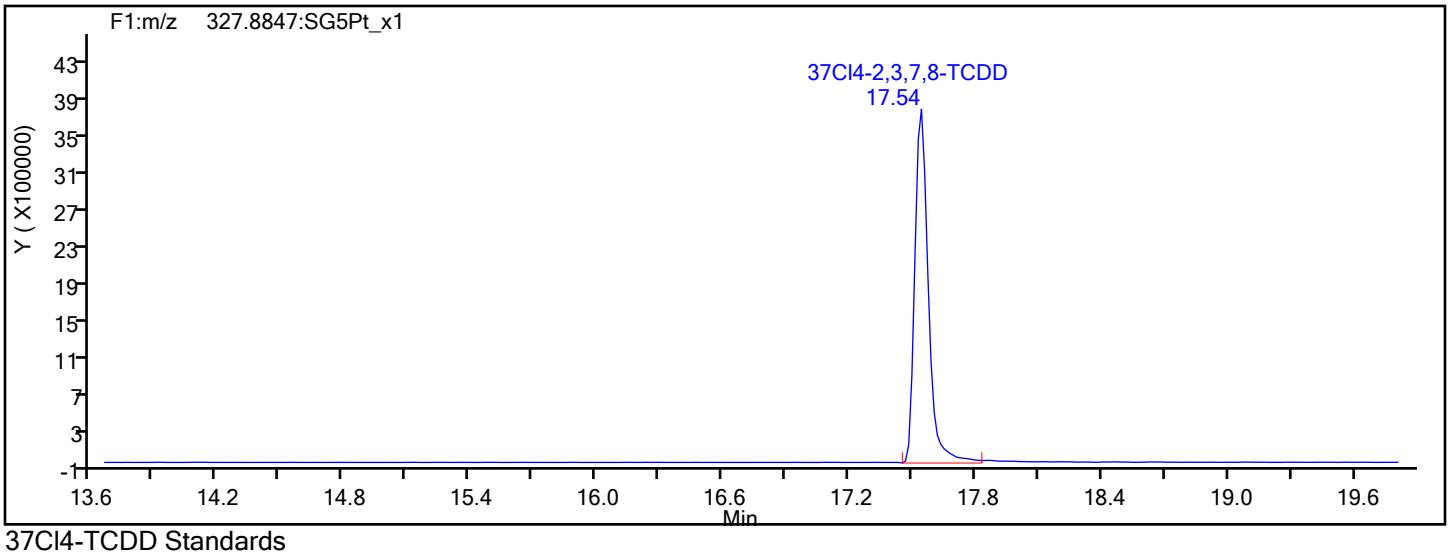

37Cl4-TCDD Standards

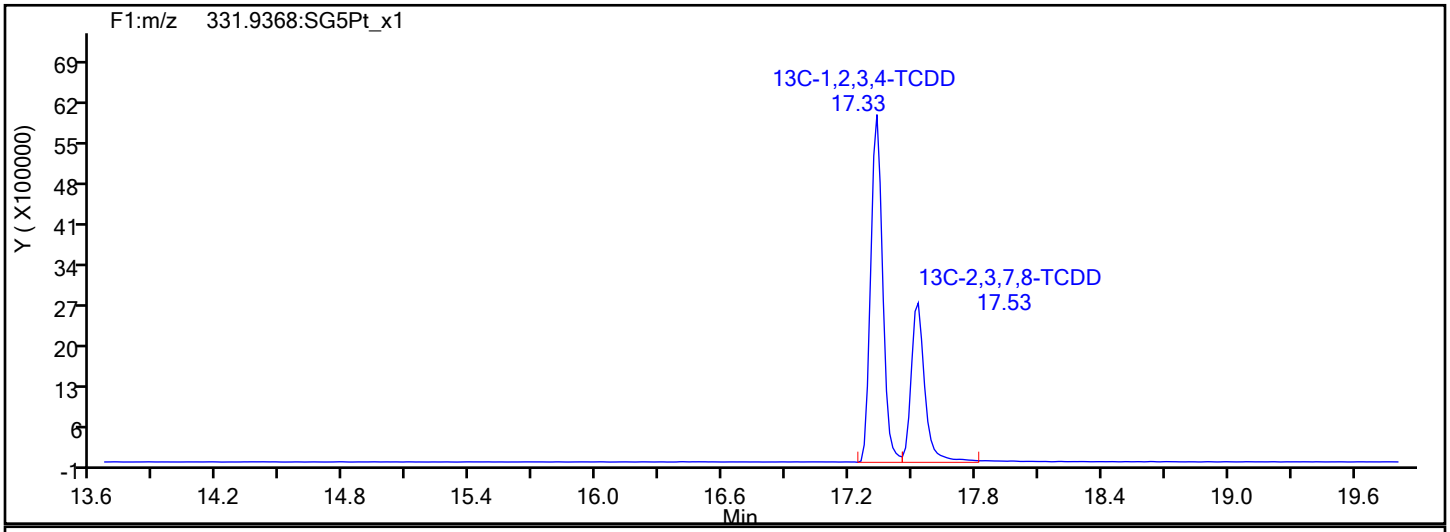

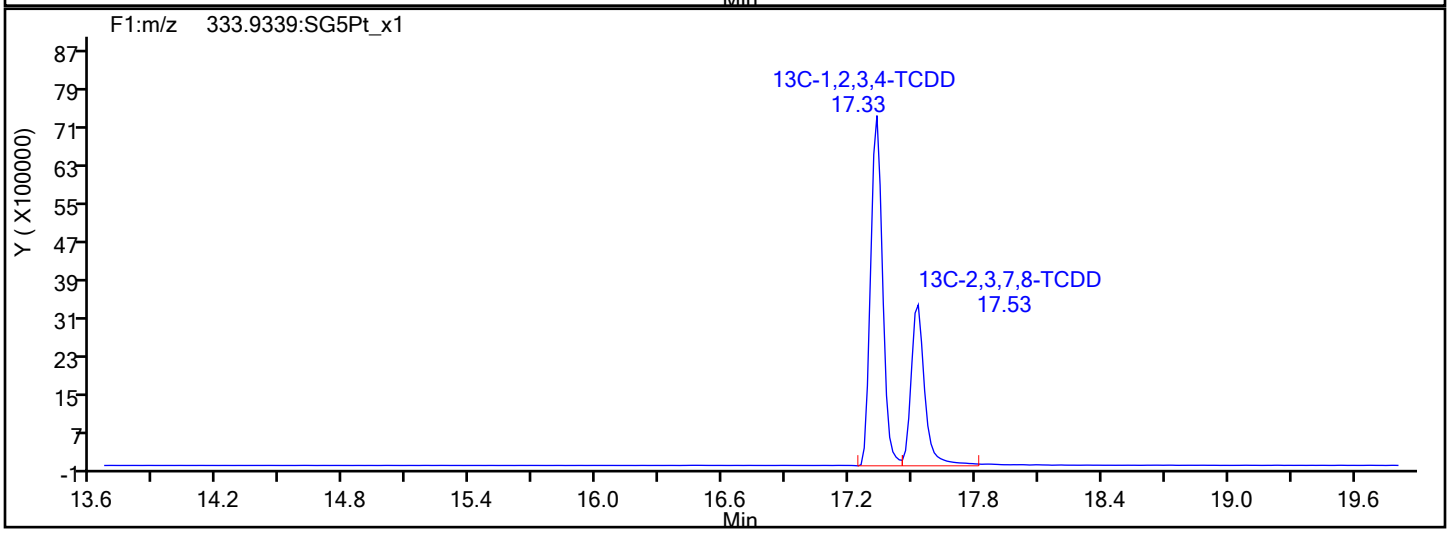

Report Date: 10-Feb-2020 09:23:15 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_11.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355551	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

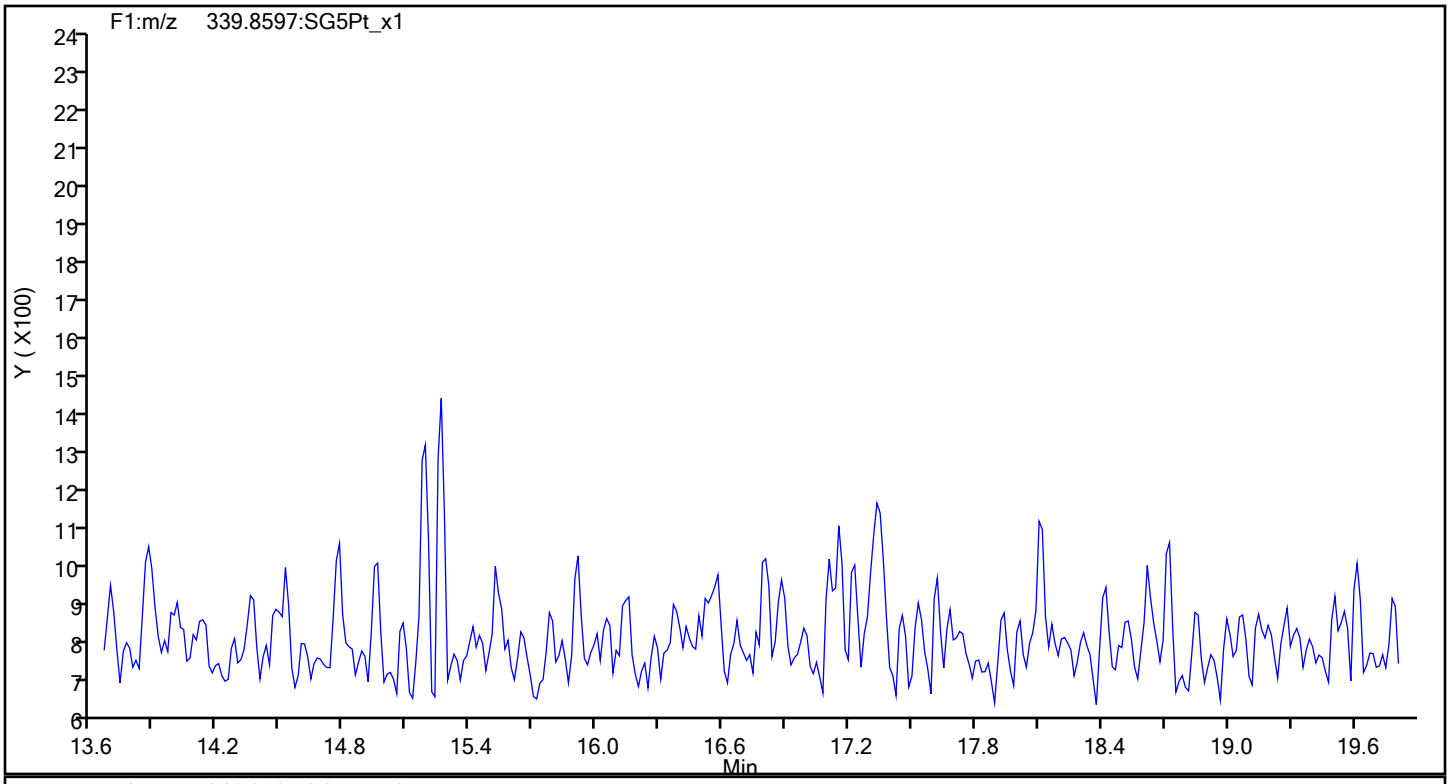

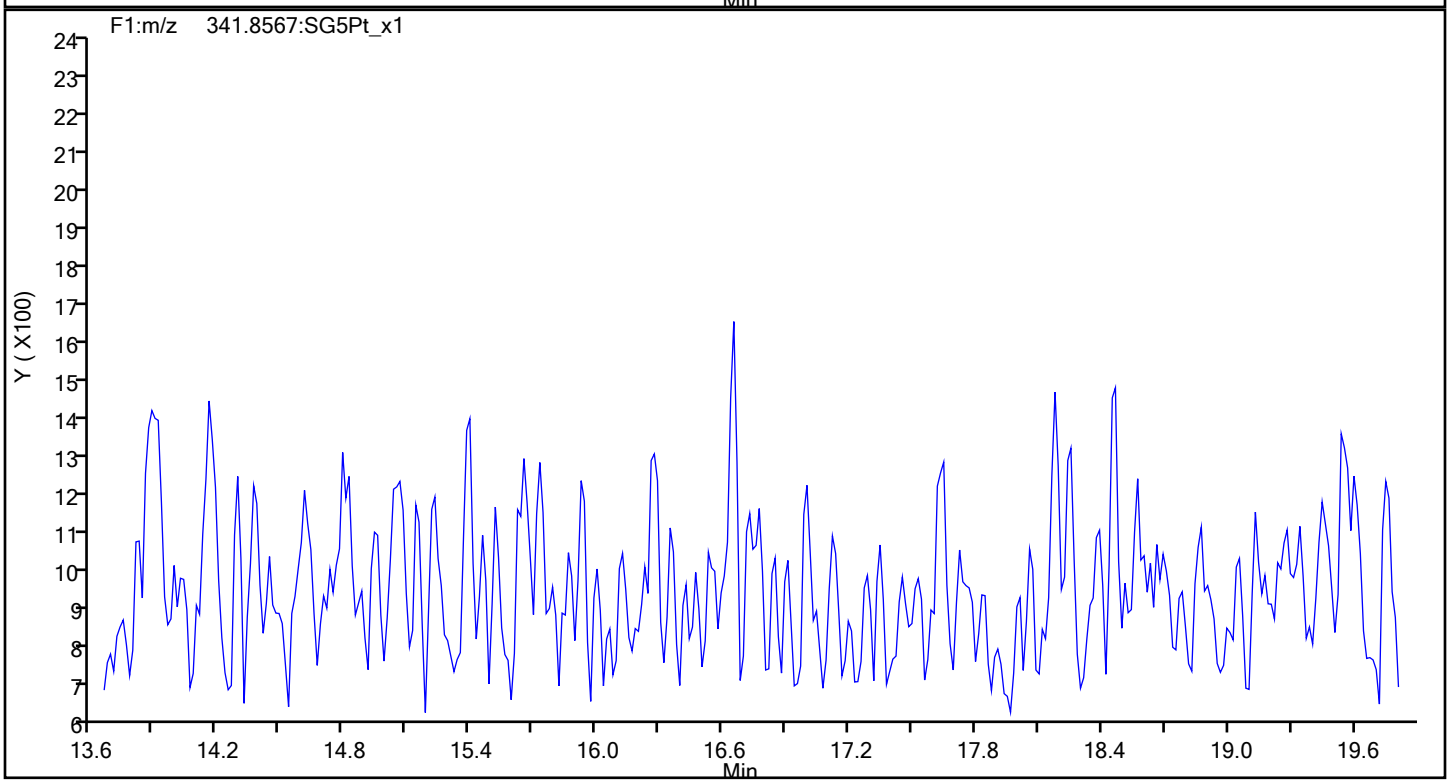

Report Date: 10-Feb-2020 09:23:15 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_11.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355551	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

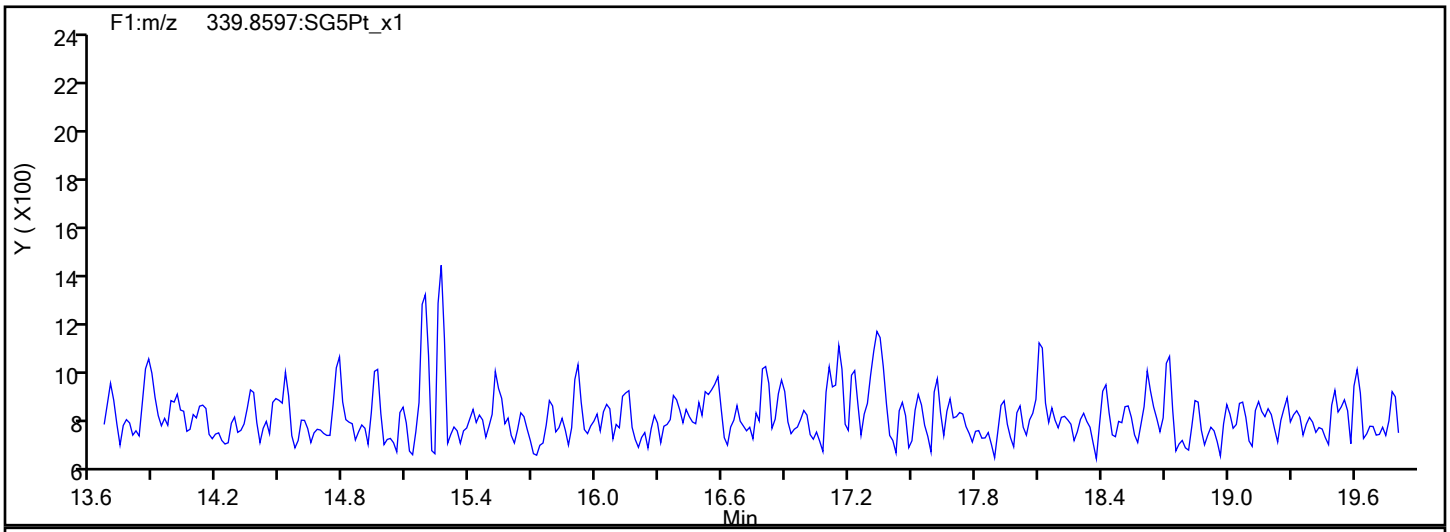

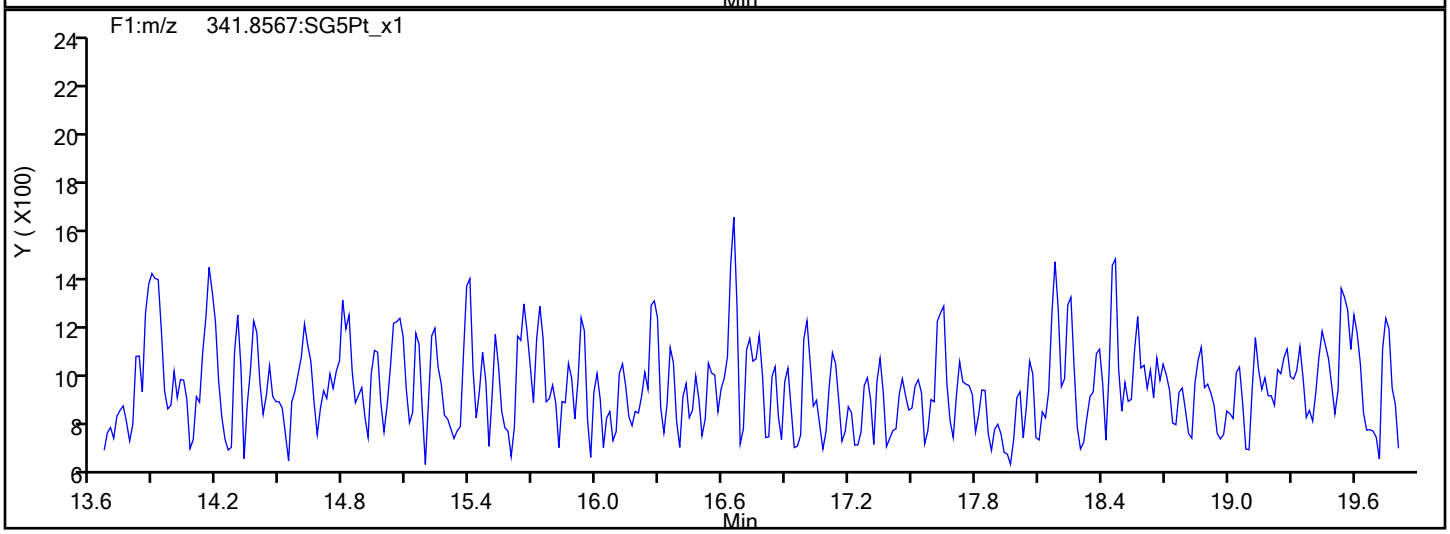

F1 PeCDFs Interference Mass

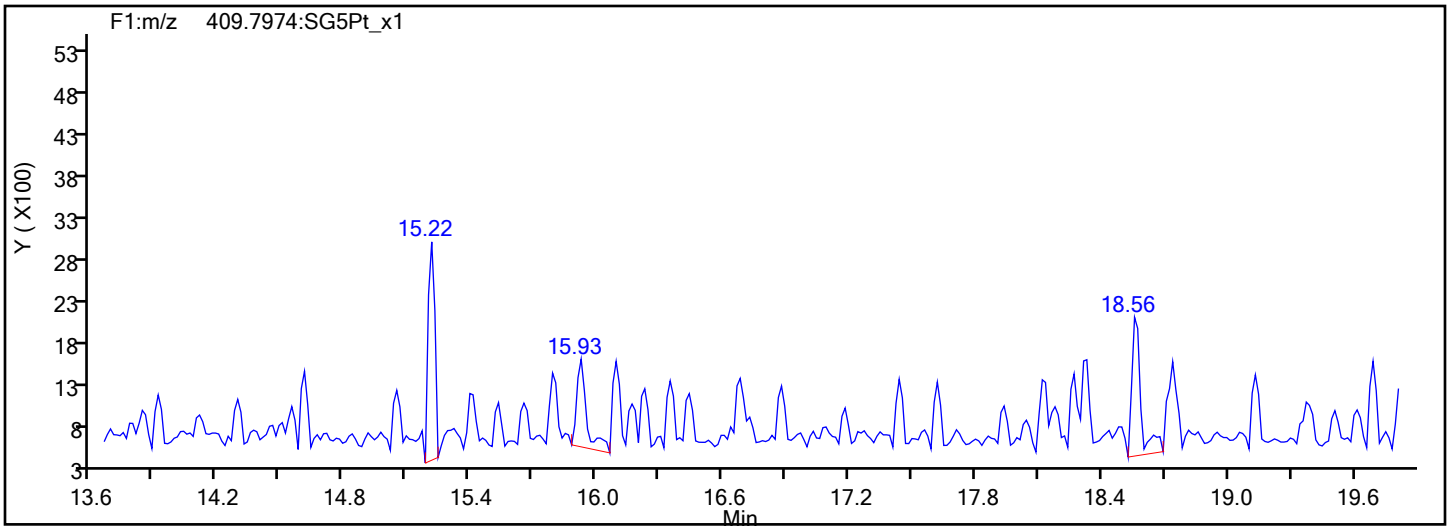

Report Date: 10-Feb-2020 09:23:15 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_11.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355551	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

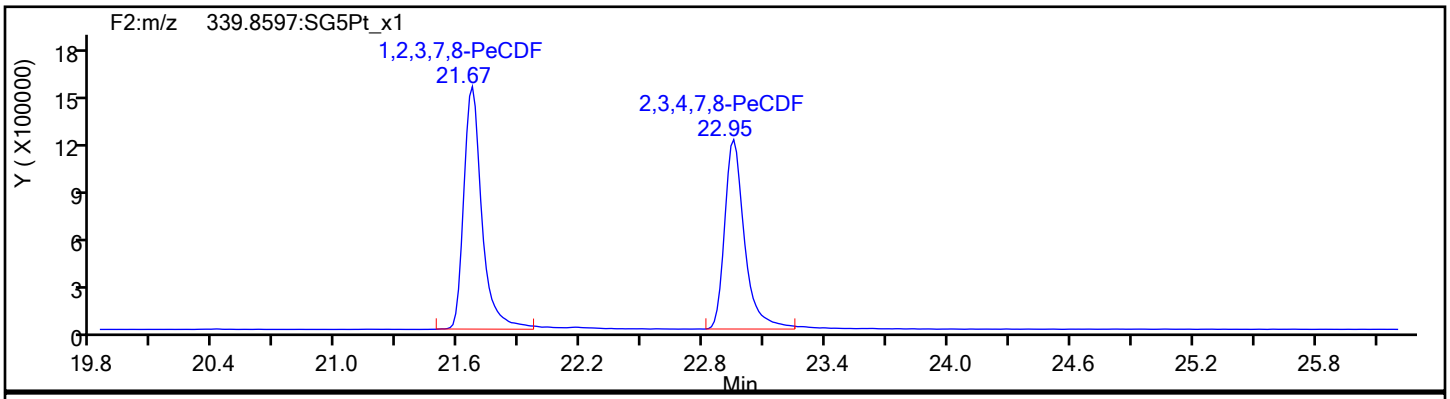

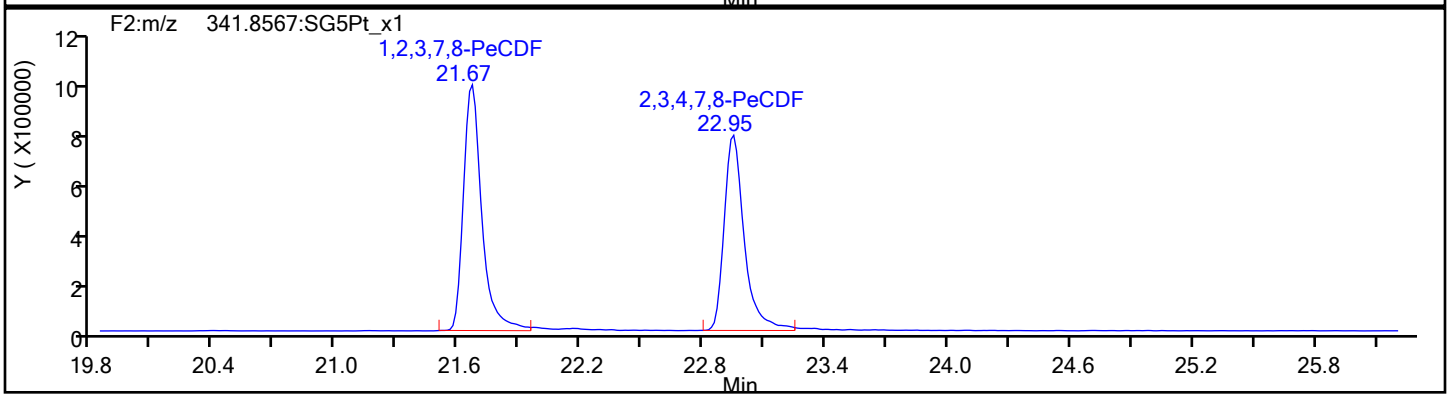

PeCDF Standards

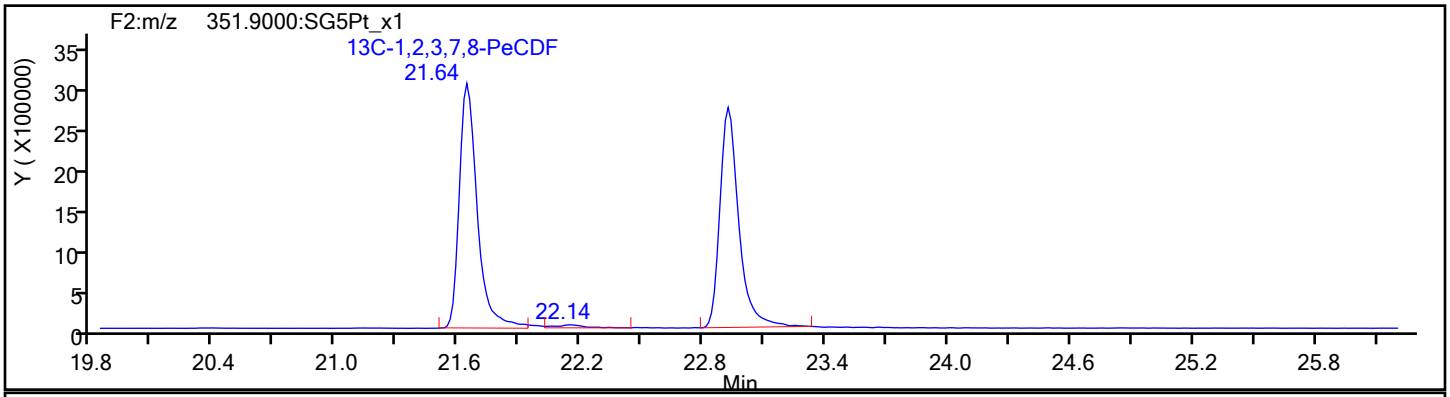

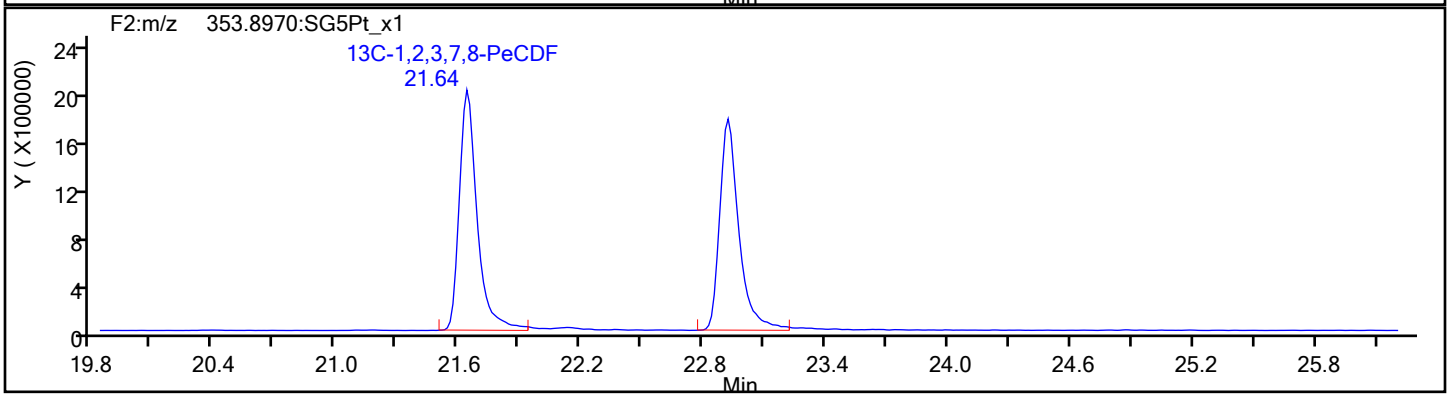

Report Date: 10-Feb-2020 09:23:15 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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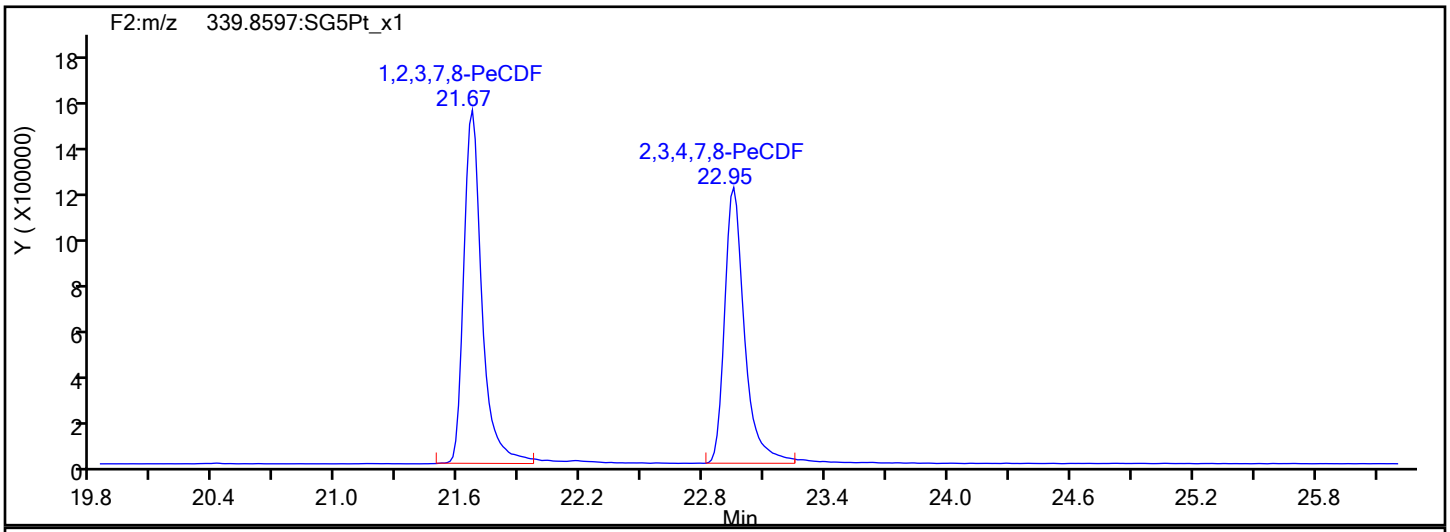

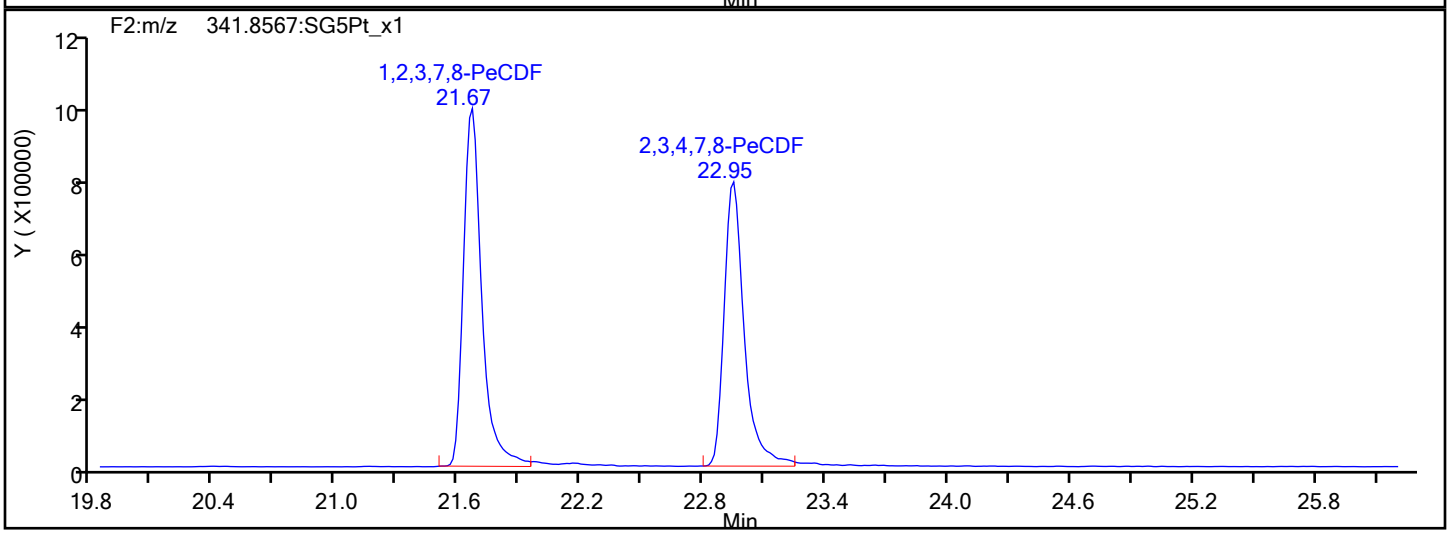

PeCDF Interference Mass

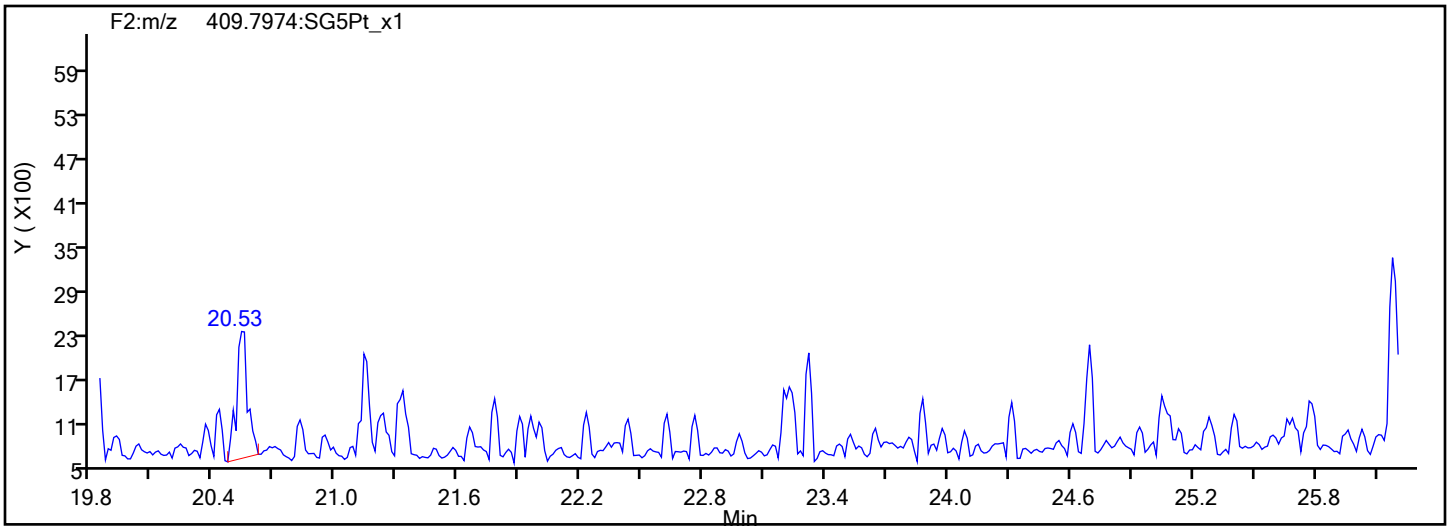

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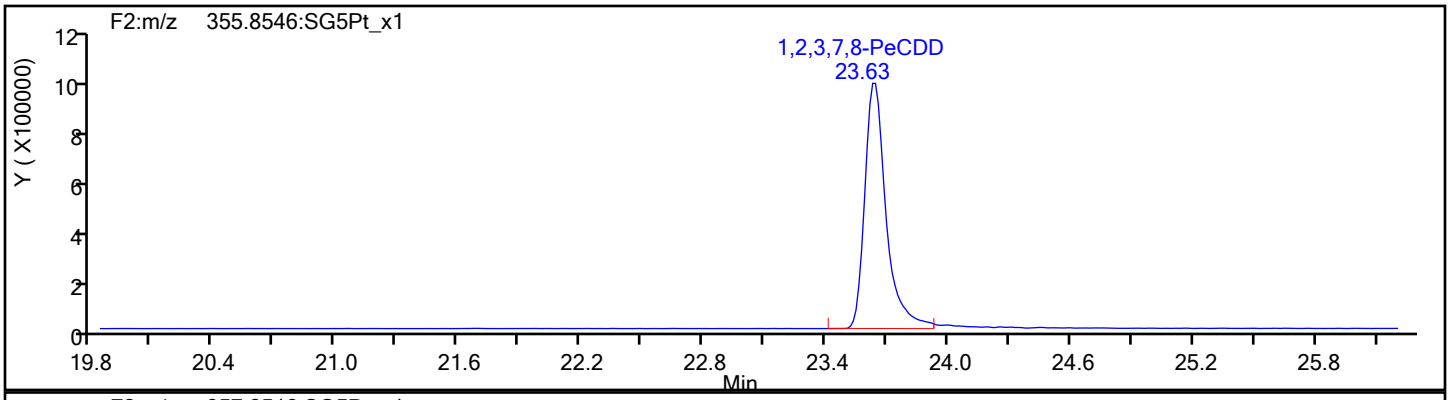

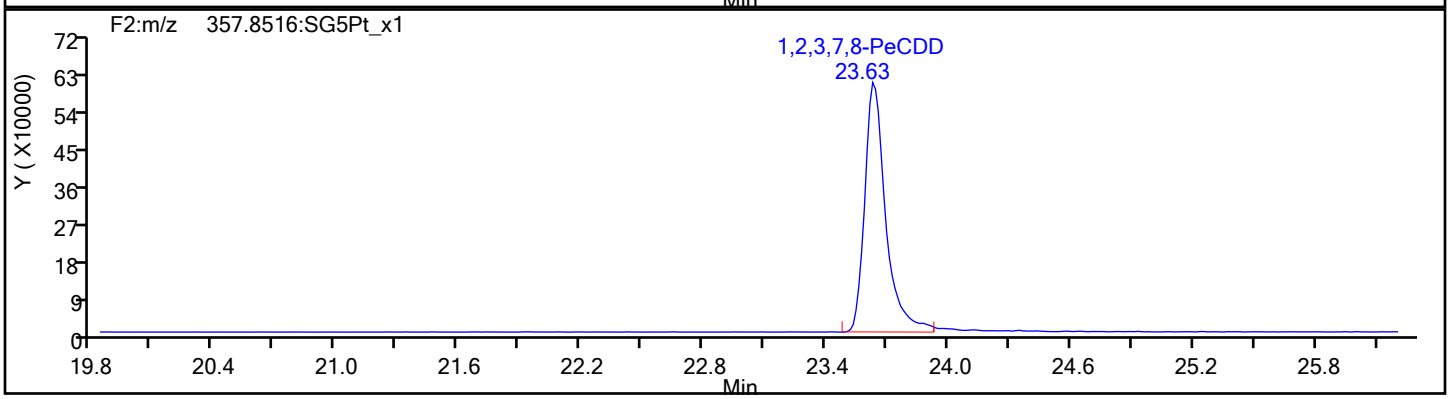

PeCDD Standards

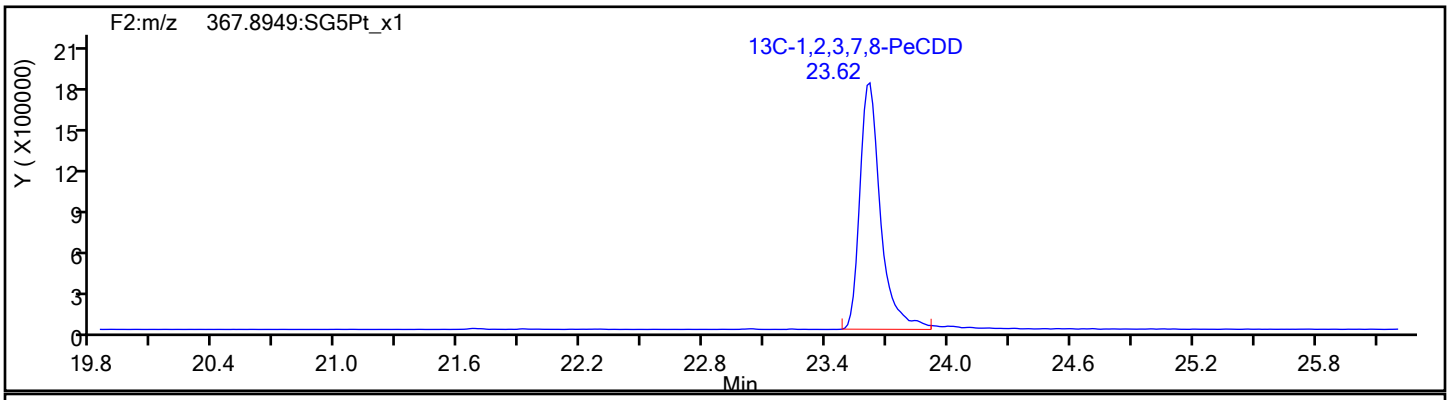

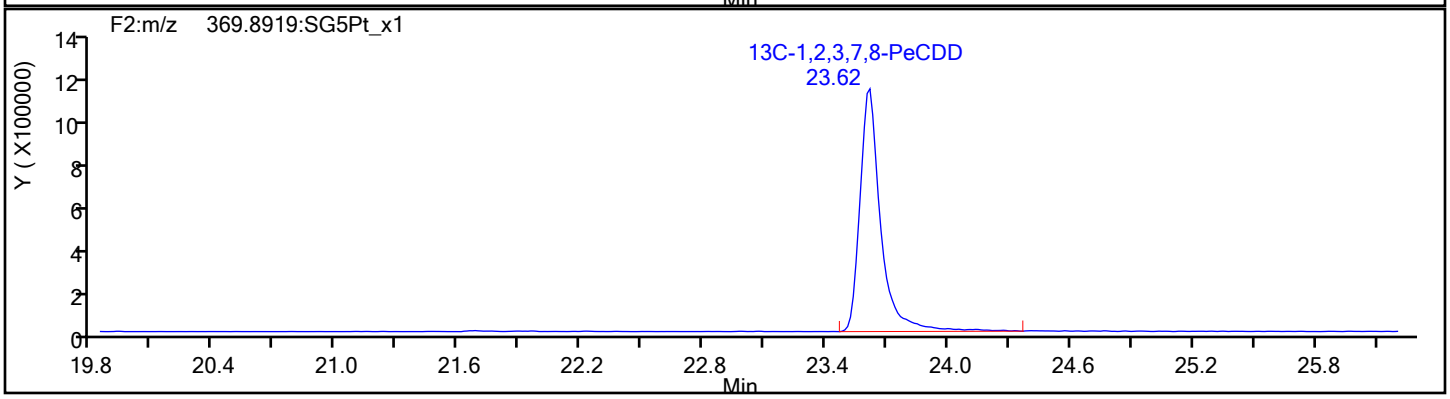

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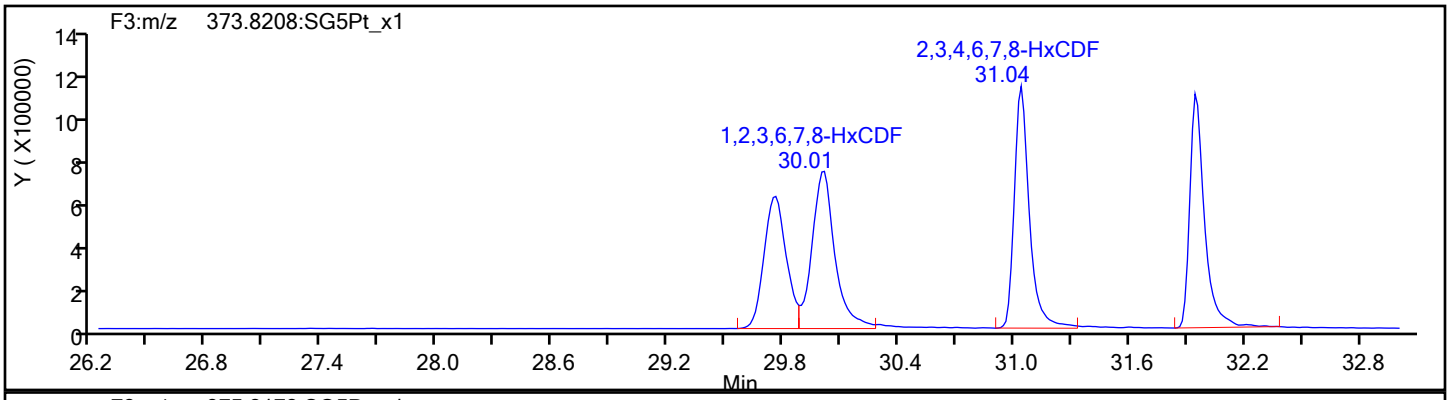

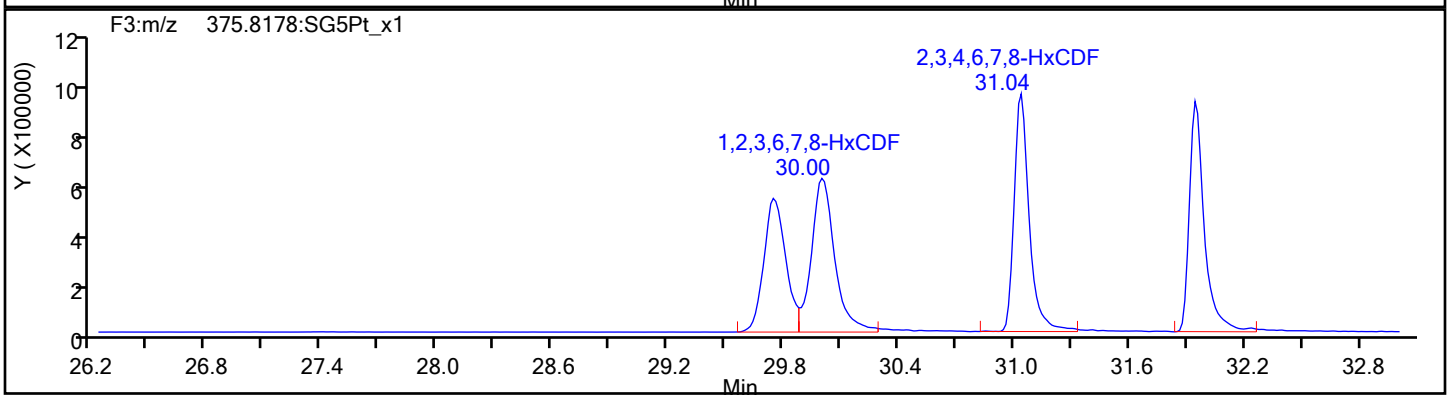

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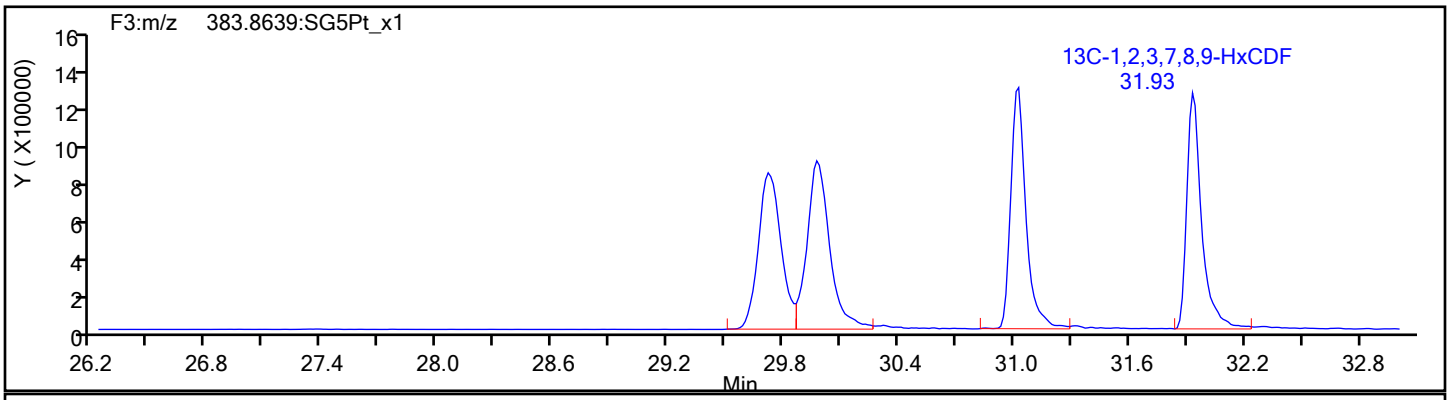

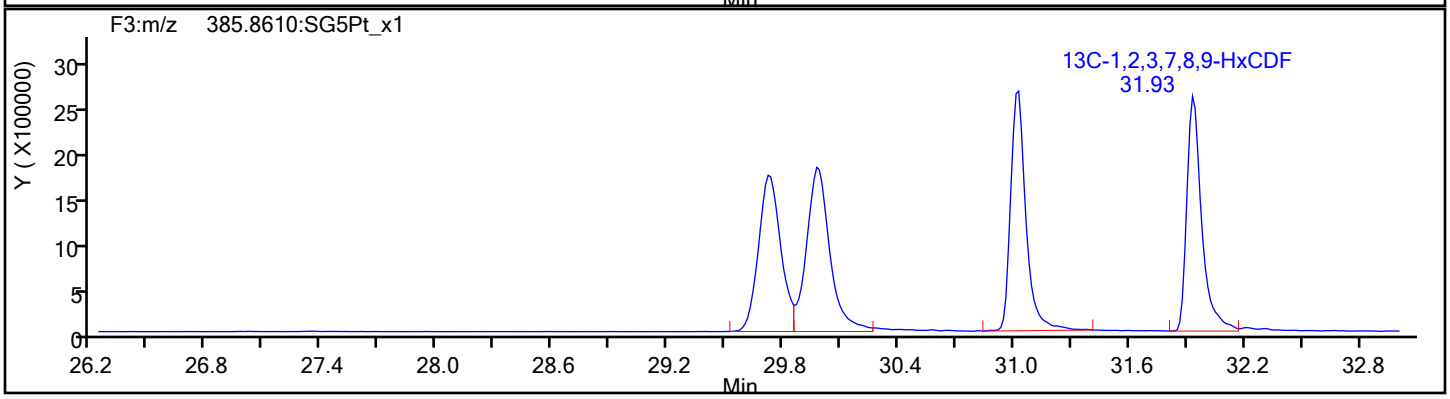

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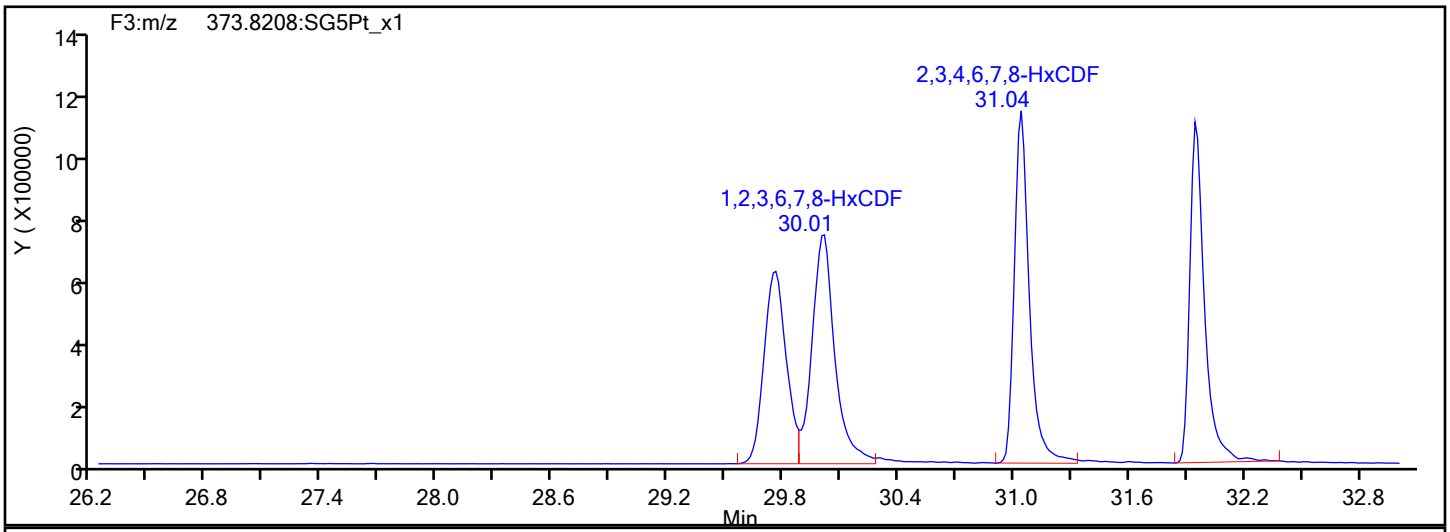

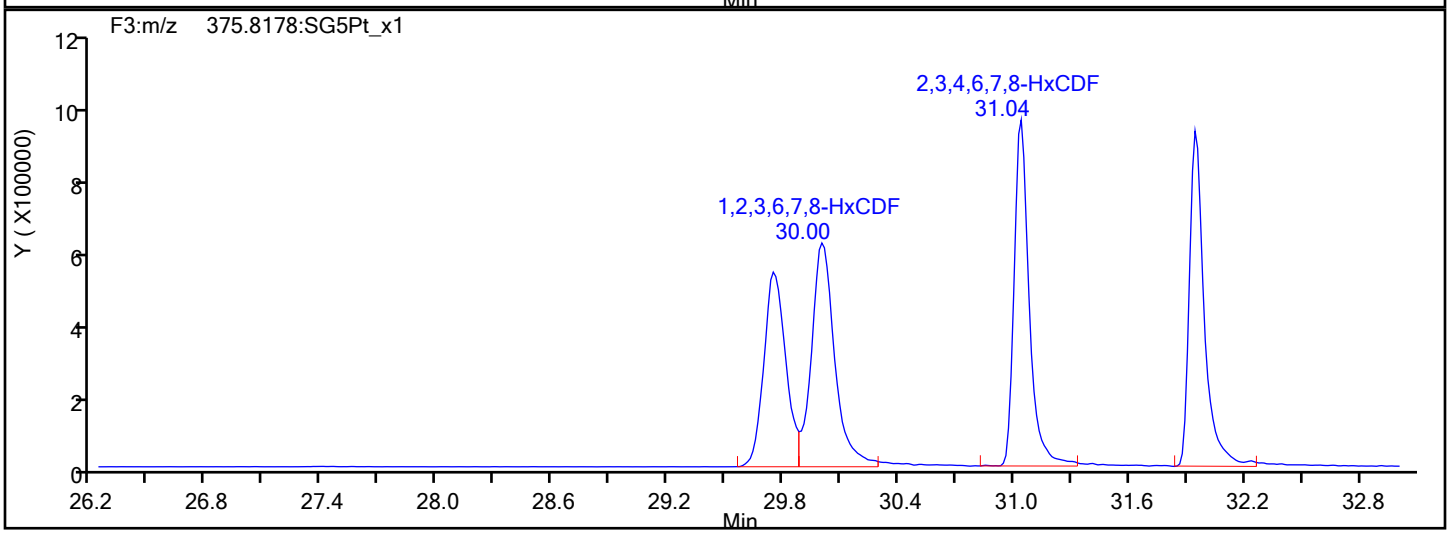

HxCDF Interference Mass

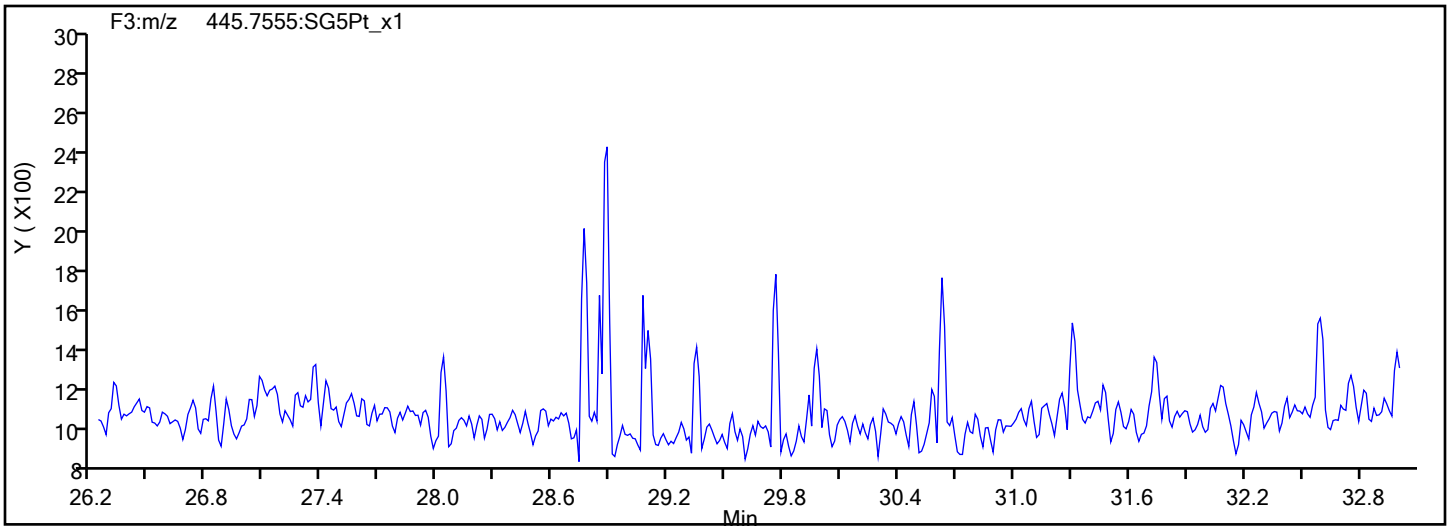

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Eurofins TestAmerica, Sacramento

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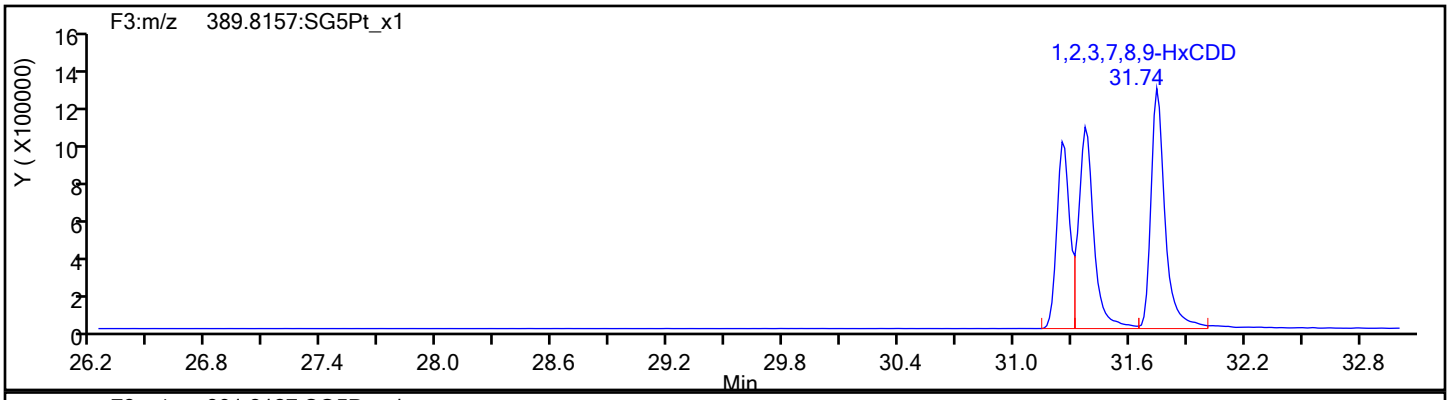

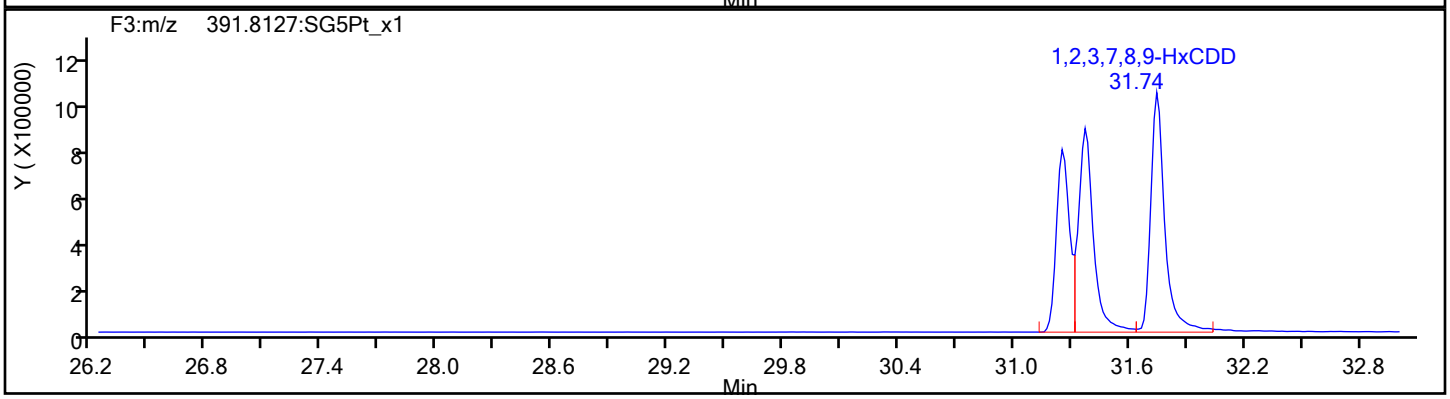

HxCDD Standards

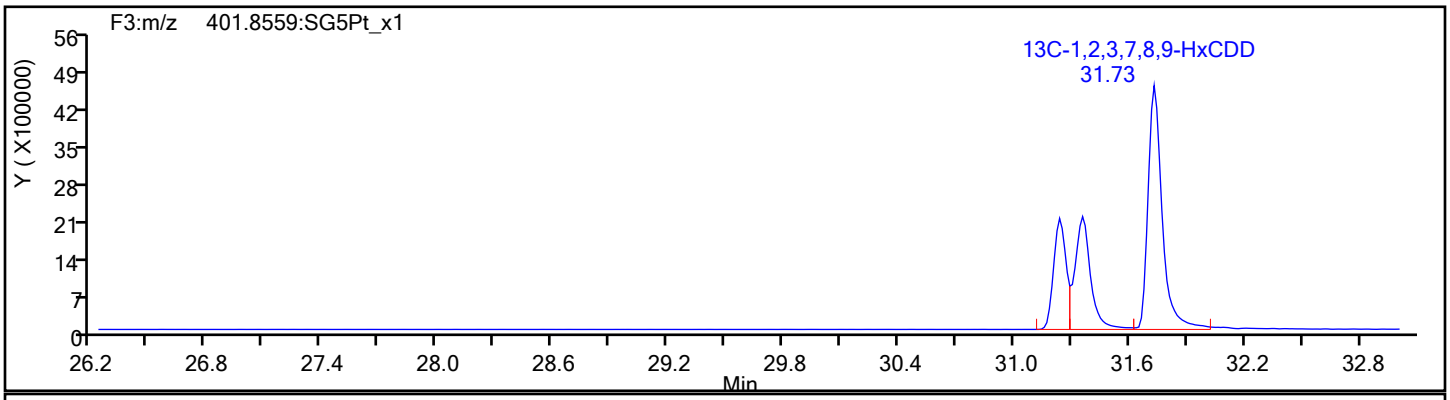

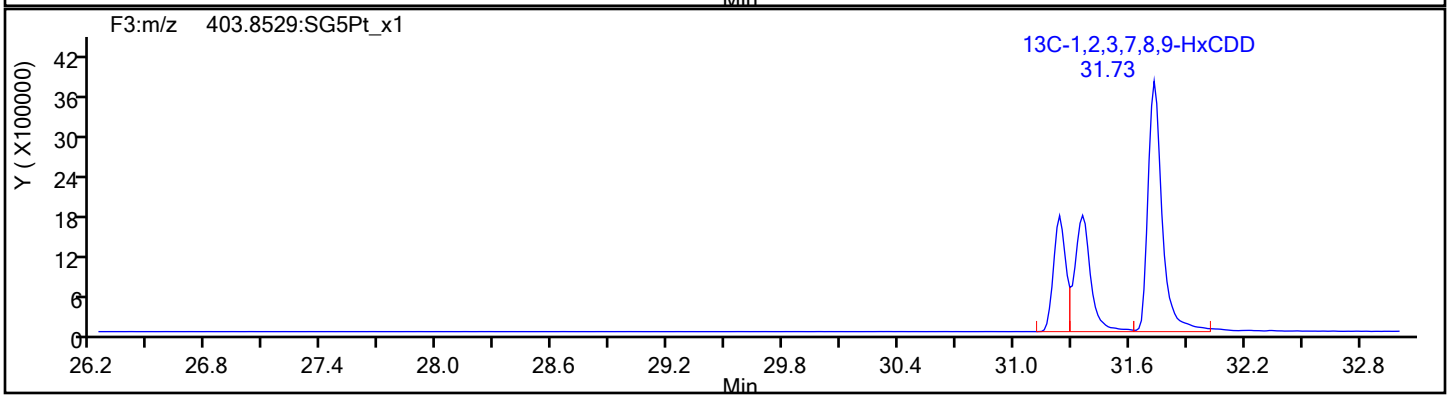

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Eurofins TestAmerica, Sacramento

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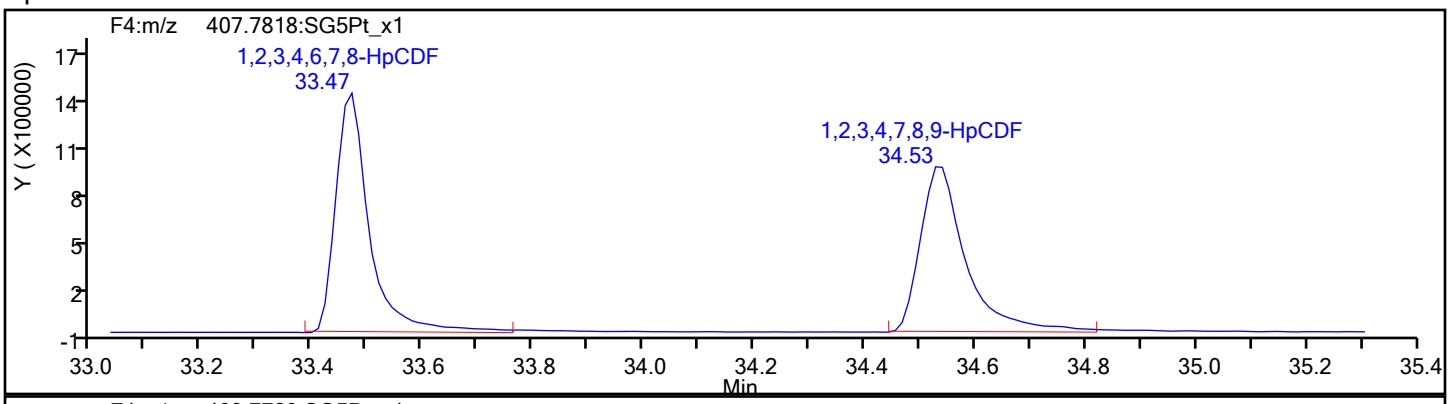

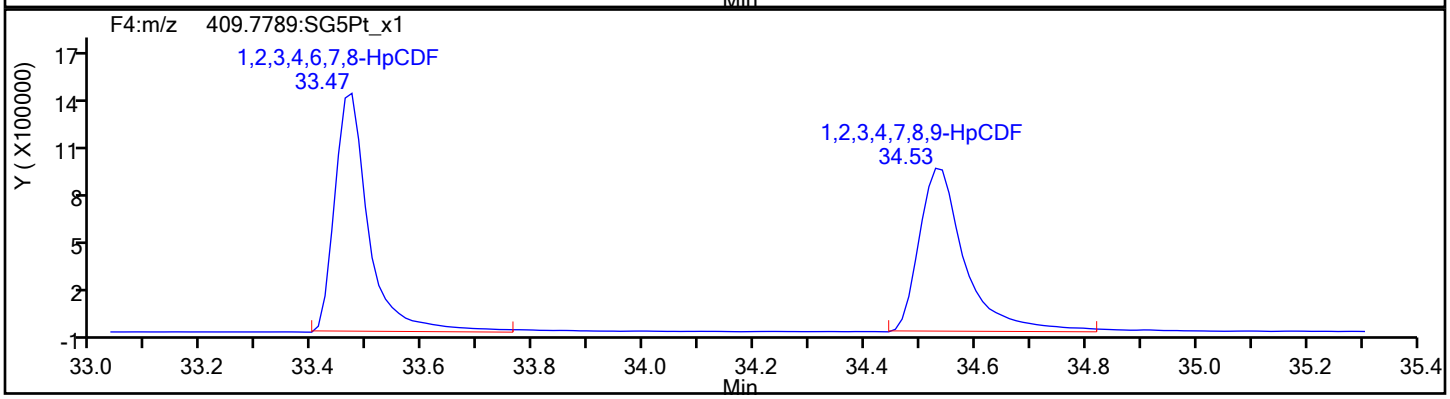

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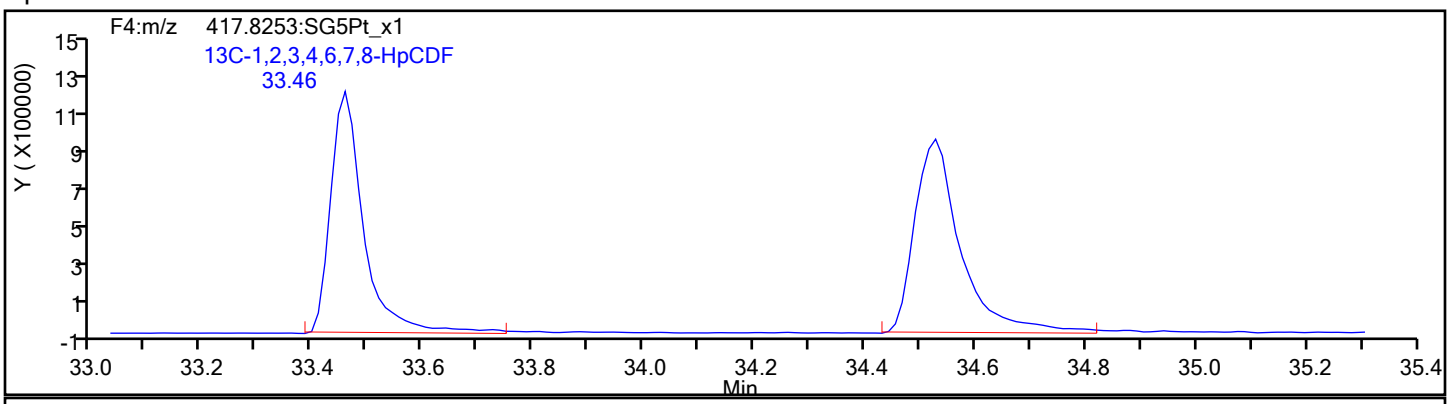

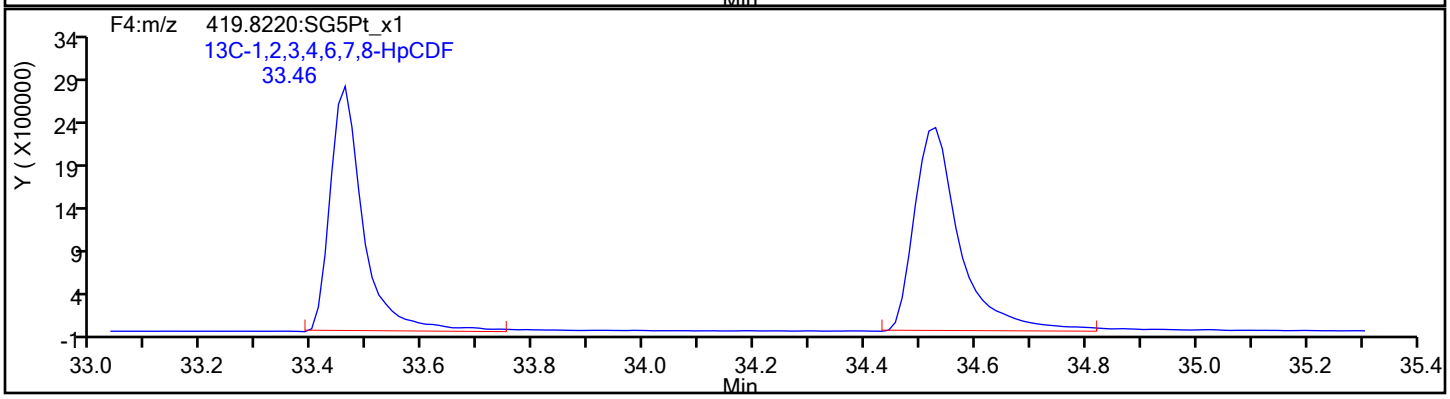

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Eurofins TestAmerica, Sacramento

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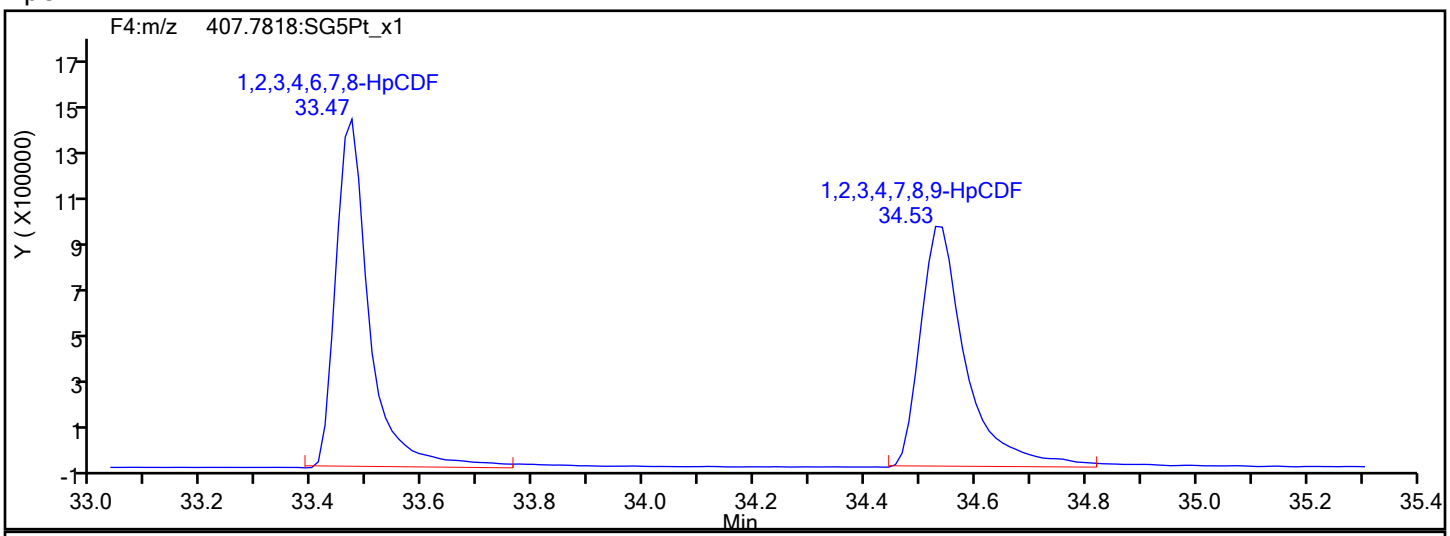

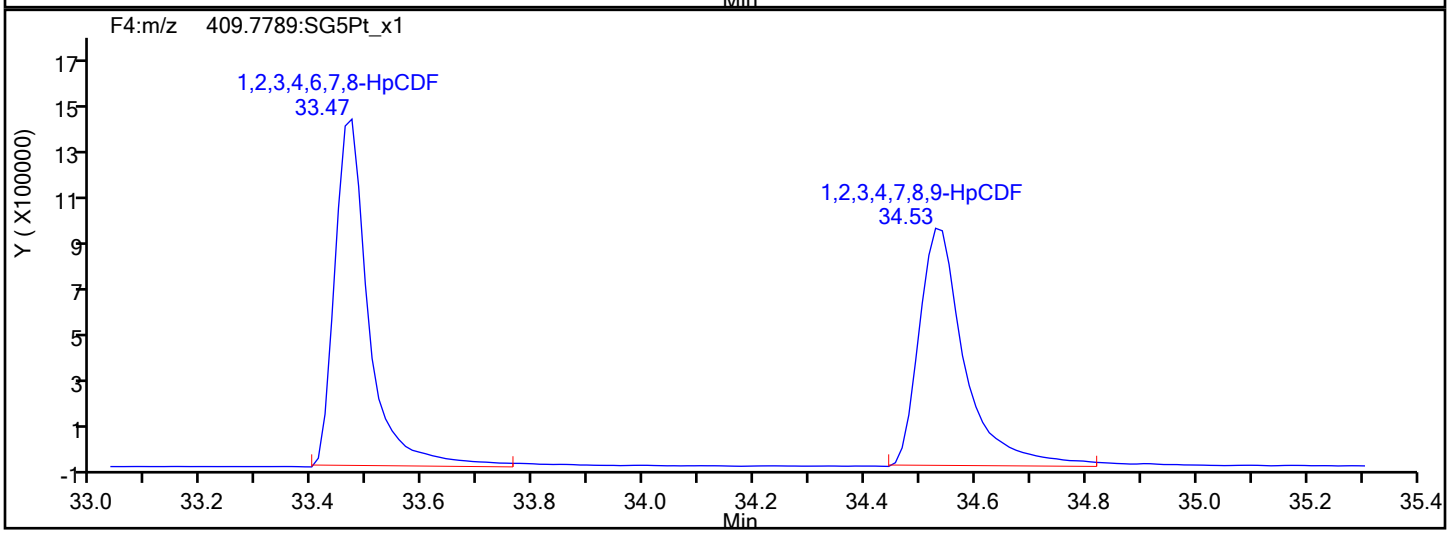

HpCDF Interference Mass

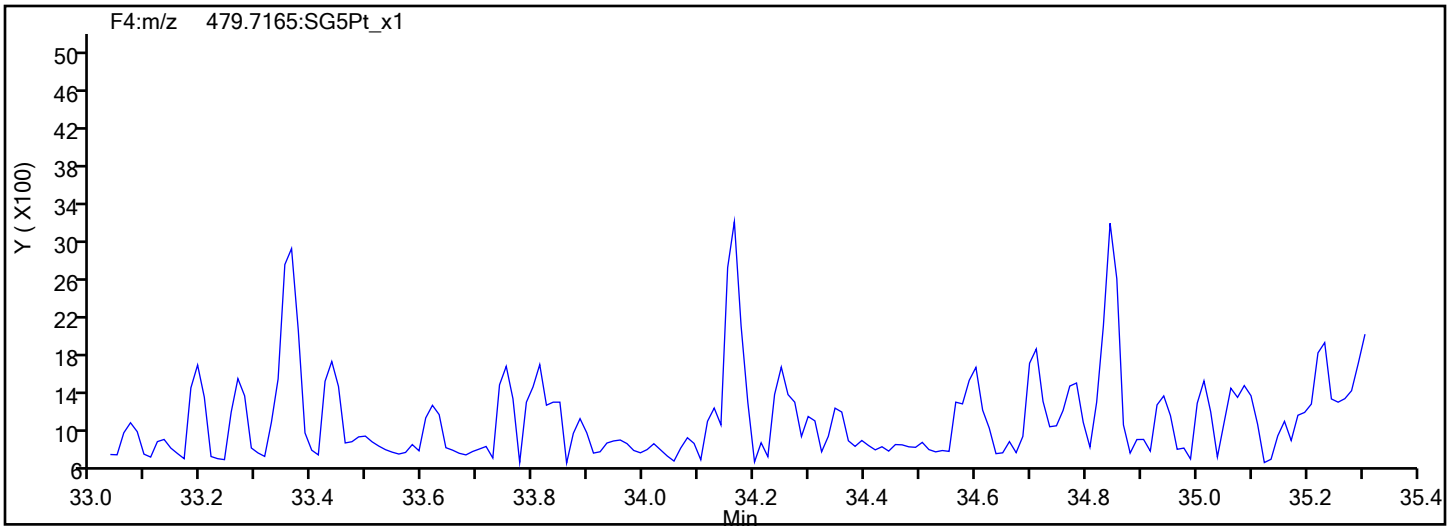

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Eurofins TestAmerica, Sacramento

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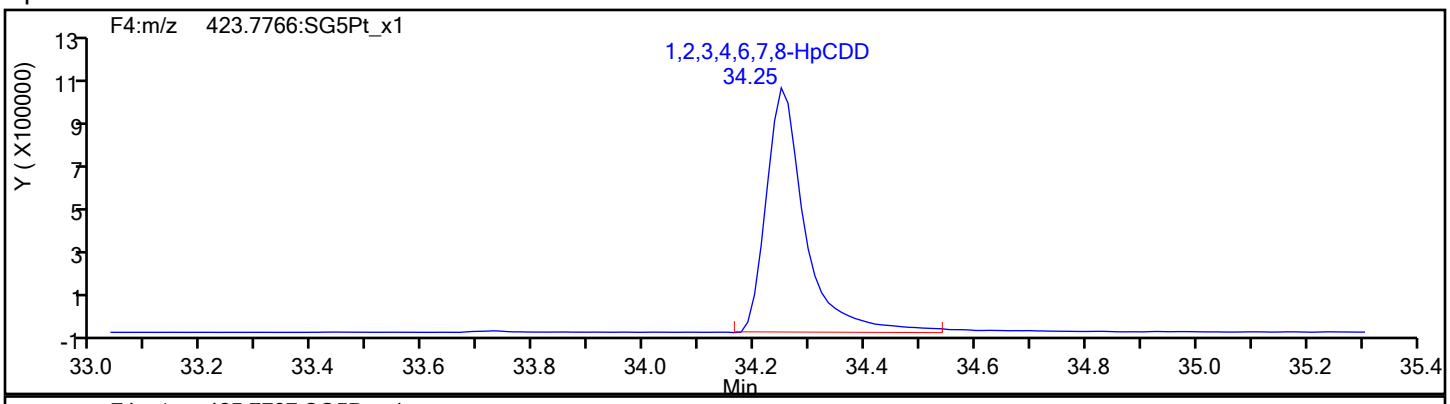

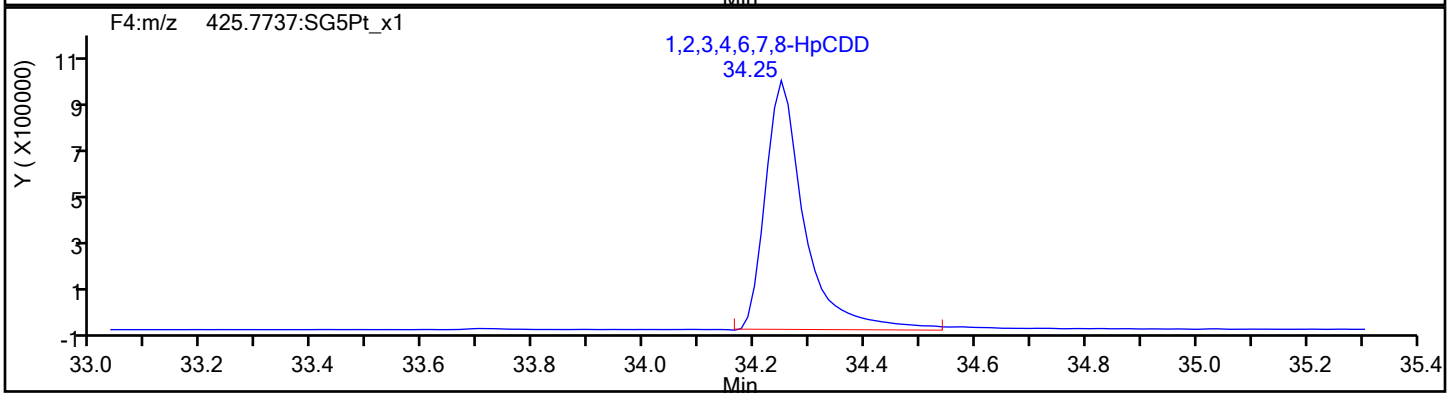

HpCDD Standards

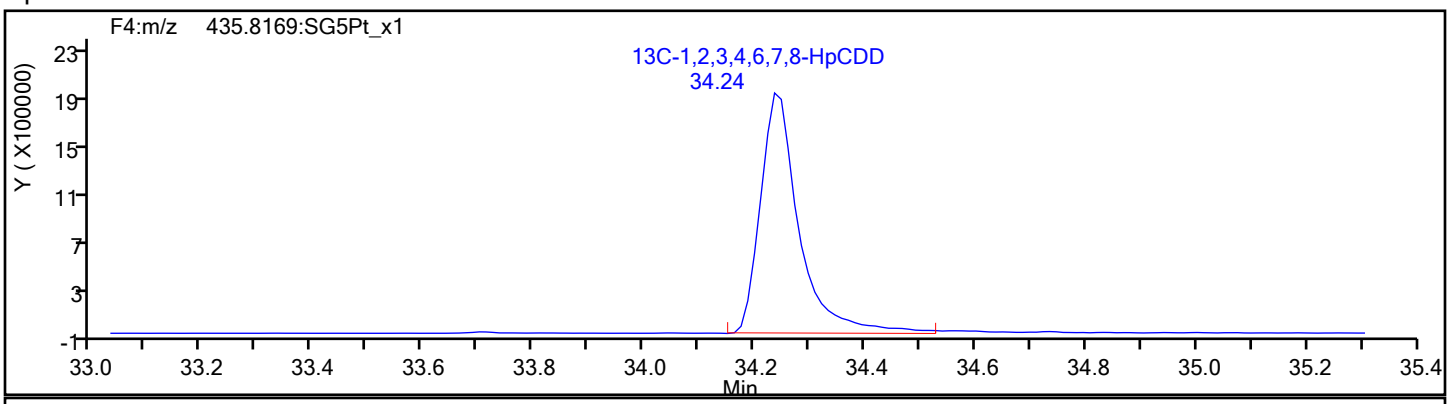

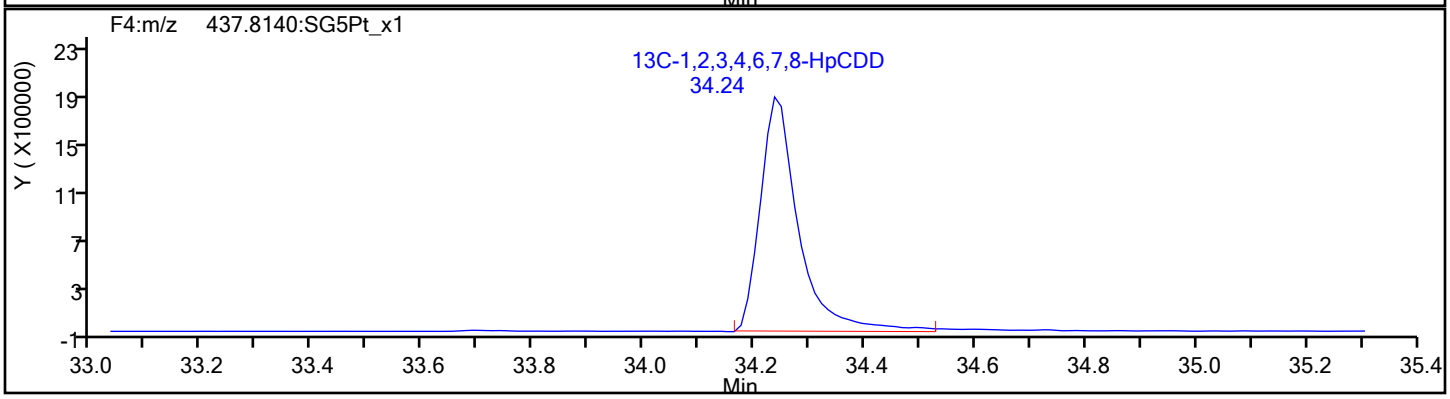

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OCDF

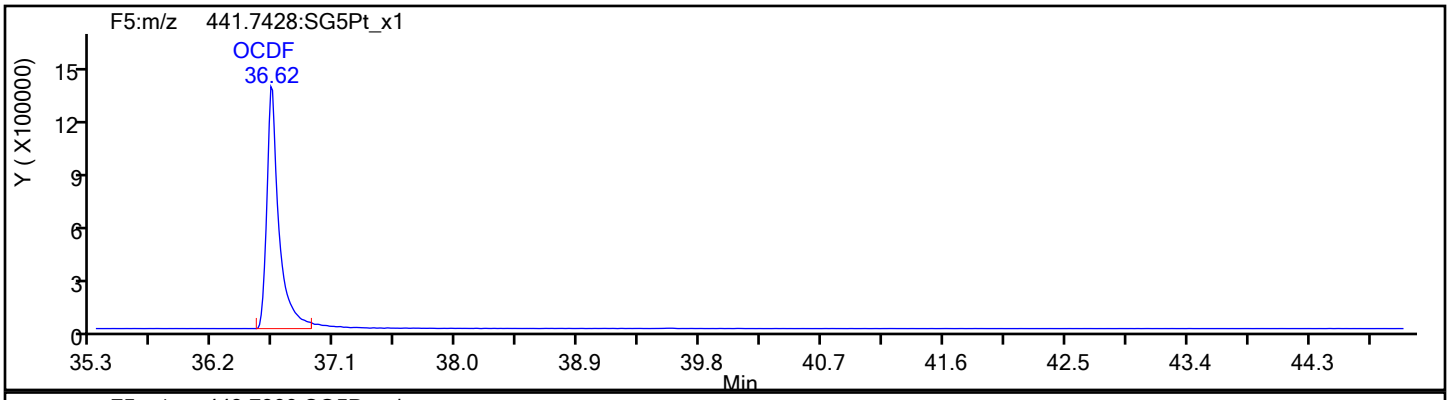

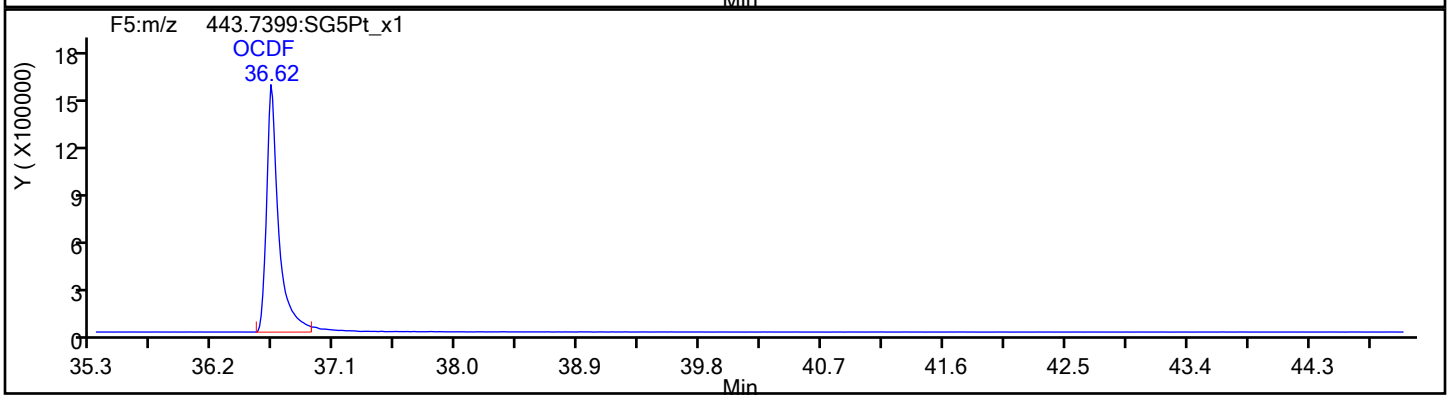

OCDF Standards

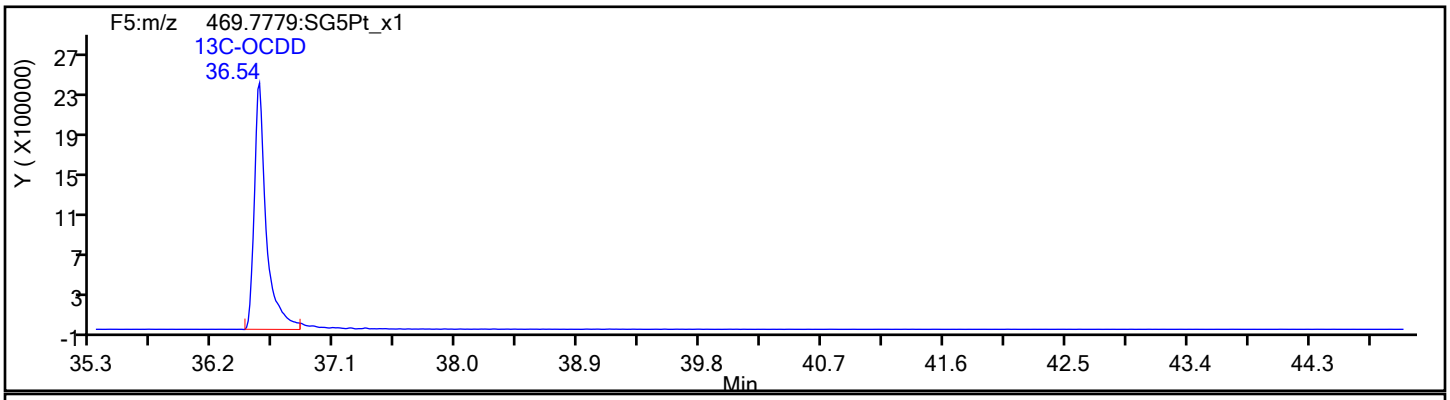

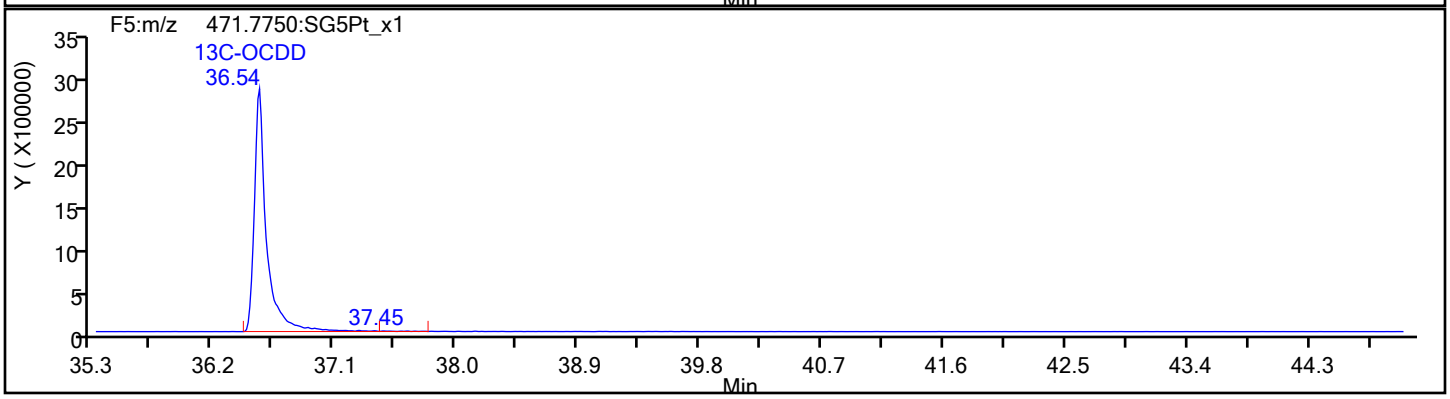

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Eurofins TestAmerica, Sacramento

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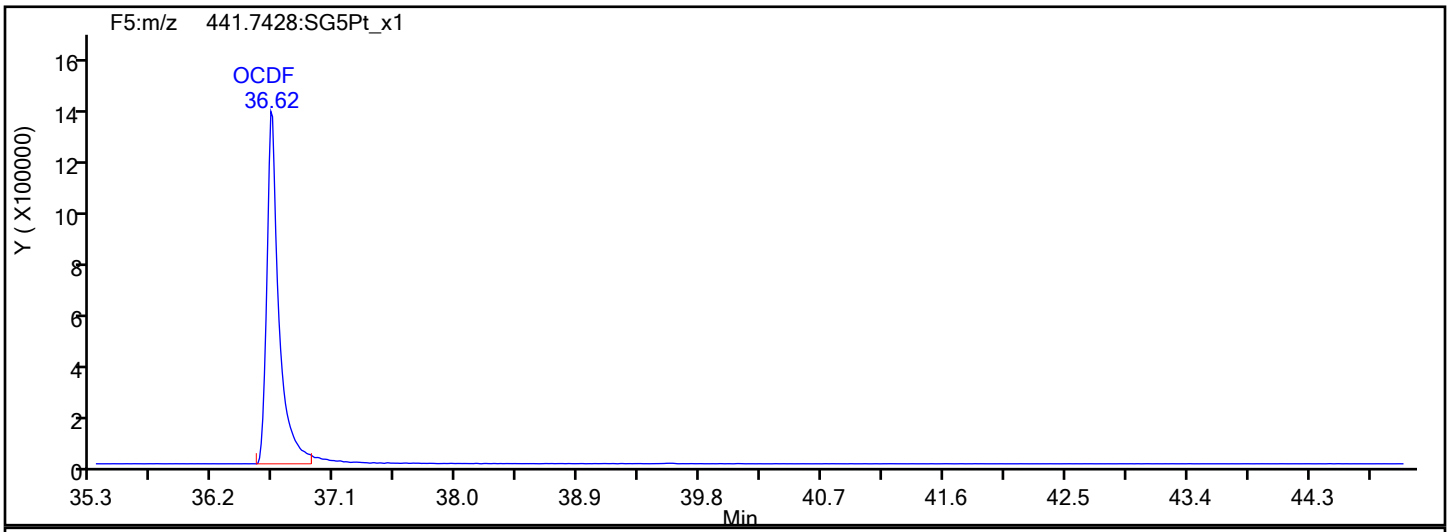

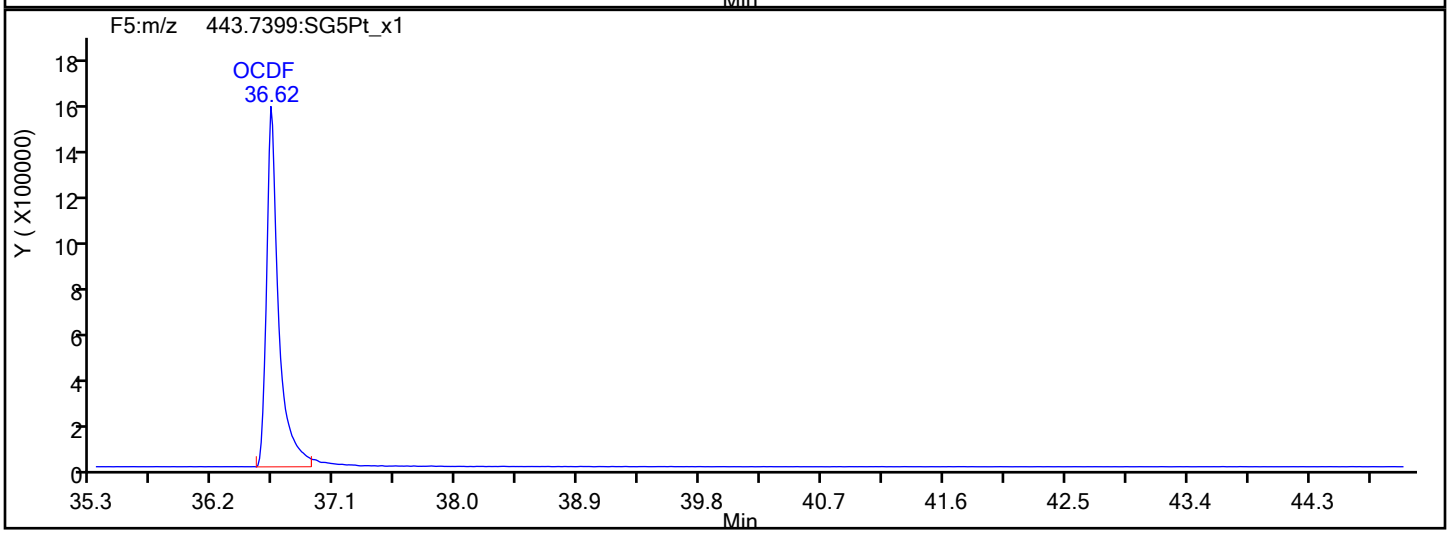

OCDF Interference Mass

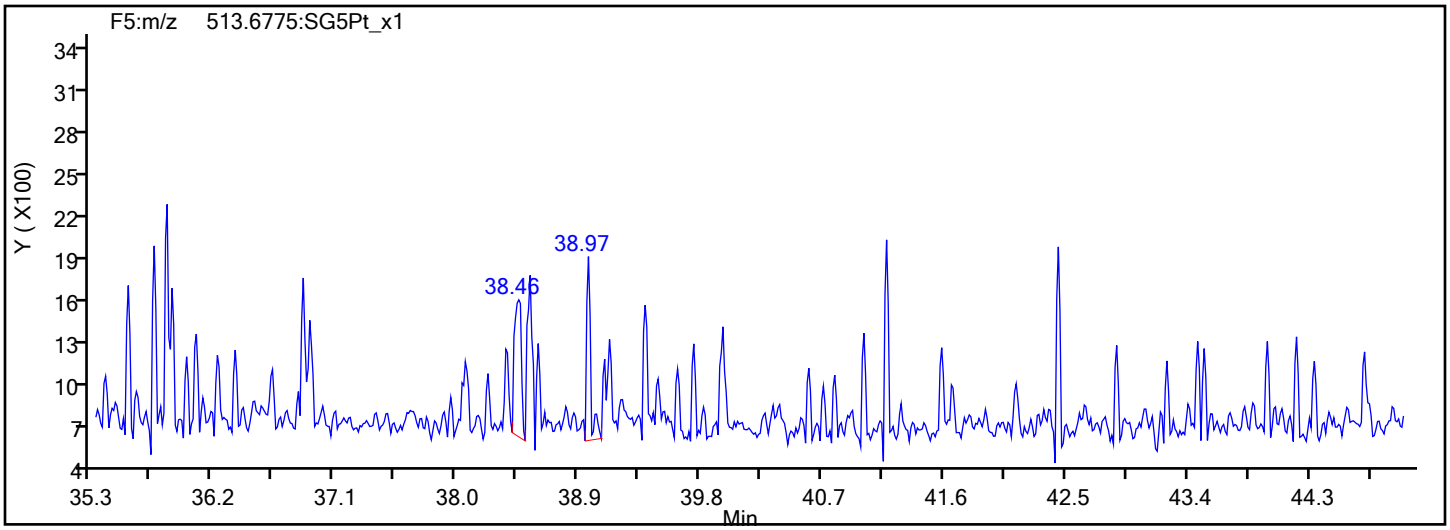

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Eurofins TestAmerica, Sacramento

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OCDD

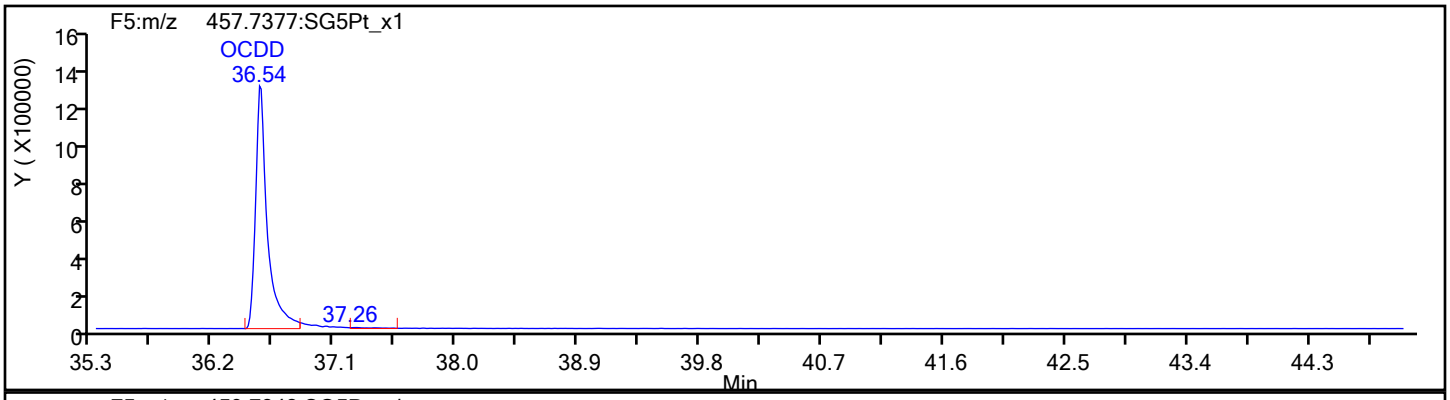

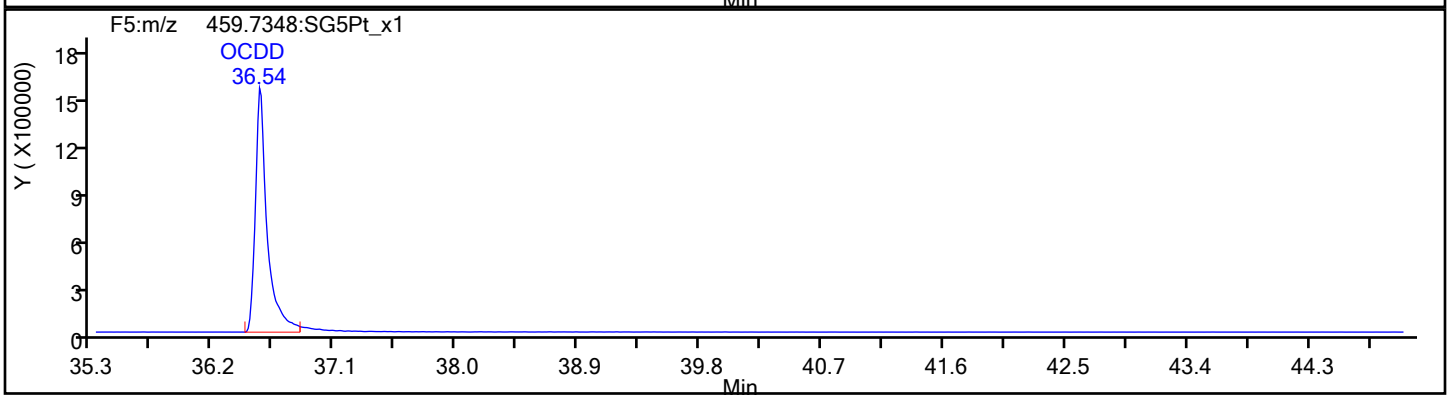

OCDD Standards

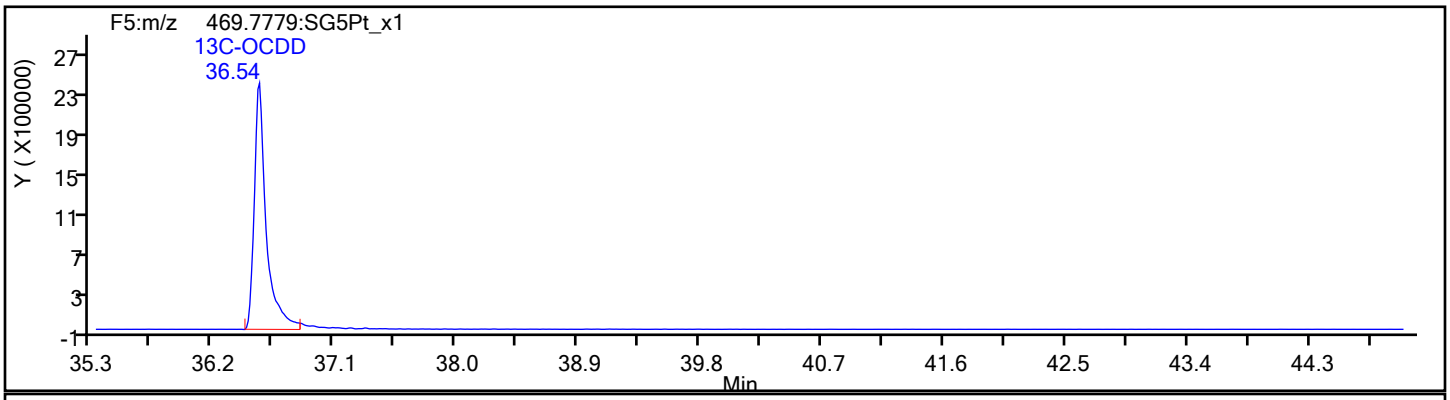

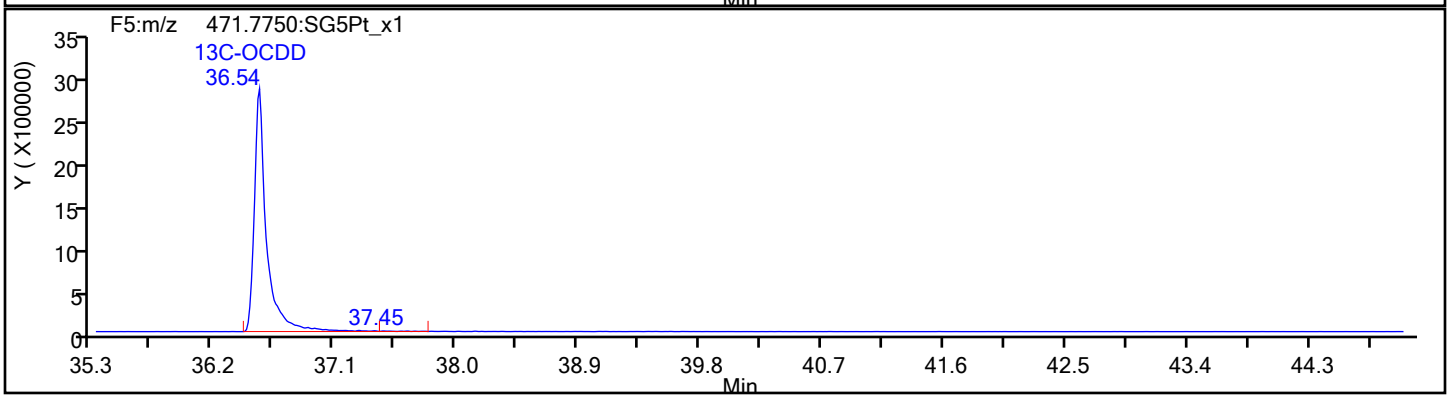

Report Date: 10-Feb-2020 09:23:15 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_11.d		
Injection Date:	06-Feb-2020 18:28:53	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355551	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm

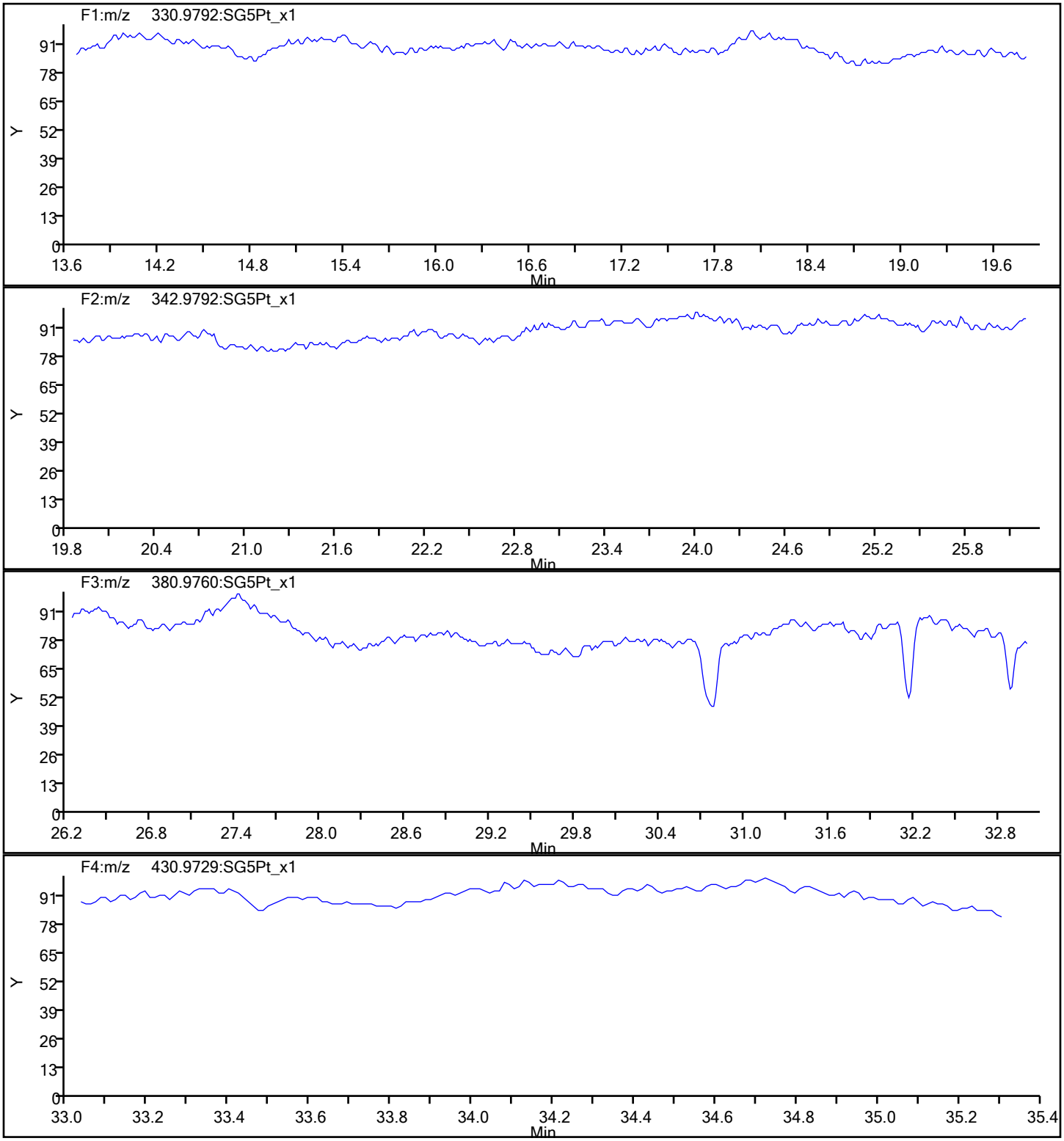

Report Date: 10-Feb-2020 09:23:15 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200206-90668.b\06FE2010D5_11.d		
Injection Date:	06-Feb-2020 18:28:53	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	355551	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm

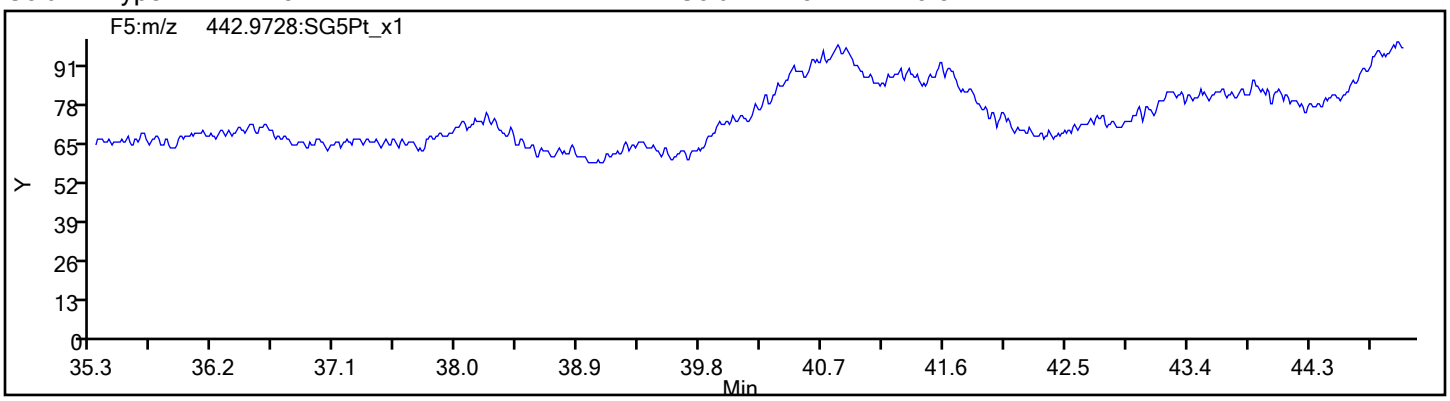

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Instrument ID: 10D5 Start Date: 01/30/2020 00:17

Analysis Batch Number: 353986 End Date: 01/30/2020 06:35

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
WDM 320-353986/2		01/30/2020 00:17	1	29JA20B10D5_2.d	DB-5 0.32(mm)
IC 320-353986/4		01/30/2020 01:49	1	29JA20B10D5_4.d	DB-5 0.32(mm)
IC 320-353986/5		01/30/2020 02:35	1	29JA20B10D5_5.d	DB-5 0.32(mm)
IC 320-353986/6		01/30/2020 03:21	1	29JA20B10D5_6.d	DB-5 0.32(mm)
IC 320-353986/7		01/30/2020 04:07	1	29JA20B10D5_7.d	DB-5 0.32(mm)
IC 320-353986/8		01/30/2020 04:53	1	29JA20B10D5_8.d	DB-5 0.32(mm)
ICV 320-353986/10		01/30/2020 06:35	1	29JA20B10D5_10.d	DB-5 0.32(mm)

1613B

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Instrument ID: 11D2 Start Date: 02/04/2020 09:12

Analysis Batch Number: 355060 End Date: 02/04/2020 14:19

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CPS 320-355060/1		02/04/2020 09:12	1	04FE2011D2_001.d	DB-225 0.32(mm)
IC 320-355060/3		02/04/2020 10:28	1	04FE2011D2_003.d	DB-225 0.32(mm)
IC 320-355060/4		02/04/2020 11:07	1	04FE2011D2_004.d	DB-225 0.32(mm)
IC 320-355060/5		02/04/2020 11:45	1	04FE2011D2_005.d	DB-225 0.32(mm)
IC 320-355060/6		02/04/2020 12:24	1	04FE2011D2_006.d	DB-225 0.32(mm)
IC 320-355060/7		02/04/2020 13:02	1	04FE2011D2_007.d	DB-225 0.32(mm)
ICV 320-355060/9		02/04/2020 14:19	1	04FE2011D2_009.d	DB-225 0.32(mm)

1613B

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Instrument ID: 10D5 Start Date: 02/05/2020 15:31

Analysis Batch Number: 355322 End Date: 02/05/2020 21:40

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
WDM 320-355322/1		02/05/2020 15:31	1	05FE2010D5_1.d	DB-5 0.32(mm)
CCV 320-355322/2		02/05/2020 16:18	1	05FE2010D5_2.d	DB-5 0.32(mm)
MB 320-354177/1-A		02/05/2020 17:50	1	05FE2010D5_4.d	DB-5 0.32(mm)
LCS 320-354177/2-A		02/05/2020 18:36	1	05FE2010D5_5.d	DB-5 0.32(mm)
LCSD 320-354177/3-A		02/05/2020 19:22	1	05FE2010D5_6.d	DB-5 0.32(mm)
320-58170-1		02/05/2020 20:08	1	05FE2010D5_7.d	DB-5 0.32(mm)
320-58170-3		02/05/2020 20:54	1	05FE2010D5_8.d	DB-5 0.32(mm)
320-58170-5		02/05/2020 21:40	1	05FE2010D5_9.d	DB-5 0.32(mm)

1613B

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Instrument ID: 10D5 Start Date: 02/06/2020 10:48

Analysis Batch Number: 355551 End Date: 02/06/2020 20:46

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
WDM 320-355551/1		02/06/2020 10:48	1	06FE2010D5_1.d	DB-5 0.32(mm)
CCV 320-355551/2		02/06/2020 11:34	1	06FE2010D5_2.d	DB-5 0.32(mm)
MB 320-354207/1-A		02/06/2020 16:56	1	06FE2010D5_9.d	DB-5 0.32(mm)
LCS 320-354207/2-A		02/06/2020 17:42	1	06FE2010D5_10.d	DB-5 0.32(mm)
LCSD 320-354207/3-A		02/06/2020 18:28	1	06FE2010D5_11.d	DB-5 0.32(mm)
320-58170-2		02/06/2020 19:14	1	06FE2010D5_12.d	DB-5 0.32(mm)
320-58170-4		02/06/2020 20:00	1	06FE2010D5_13.d	DB-5 0.32(mm)
320-58170-6		02/06/2020 20:46	1	06FE2010D5_14.d	DB-5 0.32(mm)

1613B

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Instrument ID: 11D2 Start Date: 02/07/2020 13:37

Analysis Batch Number: 355913 End Date: 02/07/2020 21:56

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CPS 320-355913/1		02/07/2020 13:37	1	07FE2011D2_001.d	DB-225 0.32(mm)
CCV 320-355913/2		02/07/2020 14:15	1	07FE2011D2_002.d	DB-225 0.32(mm)
ZZZZZ		02/07/2020 15:32	1		DB-225 0.32(mm)
ZZZZZ		02/07/2020 16:10	1		DB-225 0.32(mm)
320-58170-4 RA		02/07/2020 16:49	1	07FE2011D2_006.d	DB-225 0.32(mm)
320-58170-6 RA		02/07/2020 17:27	1	07FE2011D2_007.d	DB-225 0.32(mm)
ZZZZZ		02/07/2020 21:56	1		DB-225 0.32(mm)

1613B

DIOXIN BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Sacramen Job No.: 320-58170-1

SDG No.:

Batch Number: 354177 Batch Start Date: 01/31/20 07:47 Batch Analyst: Royce, Robert D

Batch Method: 1613B Batch End Date: 02/01/20 16:40

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	ExtractionID	RotoVapID
MB 320-354177/1		1613B, 1613B				1000 mL	20 uL	A1	8
LCS 320-354177/2		1613B, 1613B				1000 mL	20 uL	A2	6
LCSD 320-354177/3		1613B, 1613B				1000 mL	20 uL	A3	4
320-58170-A-1	11187072-Berm-GW	1613B, 1613B	T	1545.6 g	507.57 g	1038 mL	20 uL	A4	8
320-58170-A-3	11187072-Eastern-GW	1613B, 1613B	T	1545.6 g	507.40 g	1038.2 mL	20 uL	A5	6
320-58170-A-5	11187072-Western-GW	1613B, 1613B	T	1547.3 g	506.84 g	1040.5 mL	20 uL	A6	4

Lab Sample ID	Client Sample ID	Method Chain	Basis	HRDXNIDA 00412	HRDXNIS 00121	HRDXNSU 00232	HRDXNTA 00118		
MB 320-354177/1		1613B, 1613B		1 mL	20 uL	1 mL			
LCS 320-354177/2		1613B, 1613B		1 mL	20 uL	1 mL	50 uL		
LCSD 320-354177/3		1613B, 1613B		1 mL	20 uL	1 mL	50 uL		
320-58170-A-1	11187072-Berm-GW	1613B, 1613B	T	1 mL	20 uL	1 mL			
320-58170-A-3	11187072-Eastern-GW	1613B, 1613B	T	1 mL	20 uL	1 mL			
320-58170-A-5	11187072-Western-GW	1613B, 1613B	T	1 mL	20 uL	1 mL			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

DIOXIN BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Sacramen Job No.: 320-58170-1

SDG No.:

Batch Number: 354177 Batch Start Date: 01/31/20 07:47 Batch Analyst: Royce, Robert D

Batch Method: 1613B Batch End Date: 02/01/20 16:40

Batch Notes	
20% DCM:Hexane ID	DH28_00159 mL
65% DCM:Hexane ID	DH6535_00449 mL
Acid Silica Gel ID	SA5644_00598
Acid Alumina ID	28X
Balance ID	QA - 070
C14 ID	STBJ0716
Hexane ID	Hexane_00158 mL
IFB Clean Up	SR 02/01/20
MeCL2 ID	0000243865 mL
Na2SO4 ID	0000235304
Analyst ID - IDA Reagent Drop	RDR 01/31/20 HRDXNIDA_00412 B2/4 HD05018 1.00 mL
Analyst ID - IDA Reagent Drop Witness	GLB 01/31/20
Analyst ID - IS Reagent Drop	SR 02/01/20 DB15270 B-3/4 HRDXNIS_00121
Analyst ID - IS Reagent Drop Witness	JH 02/01/20
Analyst ID - SU Reagent Drop	SR 02/01/20 HD05018 B-2/4 HRDXNSU_00232
Analyst ID - SU Reagent Drop Witness	JH 02/01/20
Analyst ID - TA Reagent Drop	RDR 01/31/20 HRDXNTA_00118 B3/10 DB15270 50 uL
Analyst ID - TA Reagent Drop Witness	GLB 01/31/20
Silica Gel ID	SilicaGel_00309
Soxhlet/Soxtherm End	RDR 01/31/20
Soxhlet/Soxtherm Start	RDR 01/31/20
Storage Box ID	DXN 129
Toluene ID	Toluene_00047 mL

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

DIOXIN BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Sacramen Job No.: 320-58170-1

SDG No.:

Batch Number: 354207 Batch Start Date: 01/31/20 09:04 Batch Analyst: Hubbard, Justin M

Batch Method: HRMS-Sox Batch End Date: 02/01/20 16:45

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ExtractionID	RotoVapID	HRDXNIDA 00412	HRDXNIS 00121
MB 320-354207/1		HRMS-Sox, 1613B		10 g	20 uL	E1	1	1 mL	20 uL
LCS 320-354207/2		HRMS-Sox, 1613B		10 g	20 uL	E2	3	1 mL	20 uL
LCSD 320-354207/3		HRMS-Sox, 1613B		10 g	20 uL	E3	1	1 mL	20 uL
320-58170-A-2	11187072-Berm-Solids	HRMS-Sox, 1613B	T	4.37 g	20 uL	E4	3	1 mL	20 uL
320-58170-A-4	11187072-Eastern-Solids	HRMS-Sox, 1613B	T	4.78 g	20 uL	E5	1	1 mL	20 uL
320-58170-A-6	11187072-Western-Solids	HRMS-Sox, 1613B	T	4.46 g	20 uL	E6	3	1 mL	20 uL

Lab Sample ID	Client Sample ID	Method Chain	Basis	HRDXNSU 00232	HRDXNTA 00118				
MB 320-354207/1		HRMS-Sox, 1613B		1 mL					
LCS 320-354207/2		HRMS-Sox, 1613B		1 mL	50 uL				
LCSD 320-354207/3		HRMS-Sox, 1613B		1 mL	50 uL				
320-58170-A-2	11187072-Berm-Solids	HRMS-Sox, 1613B	T	1 mL					
320-58170-A-4	11187072-Eastern-Solids	HRMS-Sox, 1613B	T	1 mL					
320-58170-A-6	11187072-Western-Solids	HRMS-Sox, 1613B	T	1 mL					

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

DIOXIN BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Sacramen Job No.: 320-58170-1

SDG No.:

Batch Number: 354207 Batch Start Date: 01/31/20 09:04 Batch Analyst: Hubbard, Justin M

Batch Method: HRMS-Sox Batch End Date: 02/01/20 16:45

Batch Notes	
20% DCM:Hexane ID	1845836 mL
65% DCM:Hexane ID	1857383 mL
Acid Silica Gel ID	1888864
Acid Alumina ID	28X
Balance ID	QA-070
C14 ID	STBJ0716 JH 01/31/20
Hexane ID	0000238549 mL
IFB Clean Up	SR 02/01/20
Na2SO4 ID	1875901
Analyst ID - IDA Reagent Drop	JH 01/31/20 HD05018 B-2/4
Analyst ID - IDA Reagent Drop Witness	FC 01/31/20
Analyst ID - IS Reagent Drop	SR 02/01/20 DB15270 B-3/4 HRDXNIS_00121
Analyst ID - IS Reagent Drop Witness	JH 02/01/20
Analyst ID - SU Reagent Drop	SR 02/01/20 HD05018 B-2/4 HRDXNSU_00232
Analyst ID - SU Reagent Drop Witness	JH 02/01/20
Analyst ID - TA Reagent Drop	JH 01/31/20 DB15270 B-3/10
Analyst ID - TA Reagent Drop Witness	FC 01/31/20
Silica Gel ID	1870269
Soxhlet/Soxtherm End	JH 01/31/20 13:30
Soxhlet/Soxtherm Start	JH 01/31/20 10:30
Storage Box ID	DXN 129
Toluene ID	1876668 mL

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Sacramento Job Number: 320-58170-1

SDG No.:

Project: San Jacinto River Waste Pits Superfund

Client Sample ID	Lab Sample ID
11187072-Berm-Solids	320-58170-2
11187072-Eastern-Solids	320-58170-4
11187072-Western-Solids	320-58170-6

Comments:

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Sacrament Job Number: 320-58170-1

SDG Number:

Matrix: Sediment Instrument ID: NOEQUIP

Method: D 2216 MDL Date: 01/01/2017 12:44

Analyte	Wavelength/ Mass	RL (%)	MDL (%)
Percent Moisture		0.1	0.1
Percent Solids		0.1	0.1

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Sacrament Job Number: 320-58170-1

SDG Number:

Matrix: Sediment Instrument ID: NOEQUIP

Method: D 2216 XMDL Date: 01/01/2017 12:46

Analyte	Wavelength/ Mass	XRL (%)	XMDL (%)
Percent Moisture		0.1	0.1
Percent Solids		0.1	0.1

FORM IX - IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58170-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: D 2216

Start Date: 02/03/2020 16:15 End Date: 02/03/2020 16:15

Lab Sample Id	D/F	Type	Time	Analytes																								
				% Sol	Moist																							
ZZZZZZ			16:15																									
ZZZZZZ			16:15																									
ZZZZZZ			16:15																									
ZZZZZZ			16:15																									
ZZZZZZ			16:15																									
ZZZZZZ			16:15																									
ZZZZZZ			16:15																									
ZZZZZZ			16:15																									
ZZZZZZ			16:15																									
320-58170-2	1	T	16:15	X	X																							
320-58170-4	1	T	16:15	X	X																							
320-58170-6	1	T	16:15	X	X																							

Prep Types:
T = Total/NA

FORM XIII-IN

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Sacramen Job No.: 320-58170-1

SDG No.:

Batch Number: 354789 Batch Start Date: 02/03/20 16:15 Batch Analyst: Rusti, Constantin

Batch Method: D 2216 Batch End Date: 02/04/20 10:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	DISH#	DishWeight	SampleMassWet	SampleMassDry		
320-58170-A-2	11187072-Berm-Solids	D 2216	T	10	0.99 g	8.72 g	8.69 g		
320-58170-A-4	11187072-Eastern-Solids	D 2216	T	11	0.99 g	8.48 g	8.45 g		
320-58170-A-6	11187072-Western-Solids	D 2216	T	12	1.00 g	10.12 g	10.09 g		

Batch Notes	
Balance ID	QA-068
Date and Time Samples in Desiccator	02/04/2020 08:45
Date and Time Samples out of Desiccator	02/04/2020 10:30
Date samples were placed in the oven	02/03/2020
Oven Temp In	115 Degrees C
Time samples were place in the oven	16:15
Date samples were removed from oven	02/04/2020
Oven Temp Out	115 Degrees C
Time Samples were removed from oven	08:45
Oven ID	Soil Prep #2
Thermometer ID	151969607
Temperature - Start - Uncorrected	115 Degrees C
Temperature - End - Uncorrected	115 Degrees C

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Shipping and Receiving Documents

CHAIN OF CUSTODY RECORD

COC NO.: 59399

Address: 2055 Niagara Falls Blvd

Phone: 716-297-6150 Fax:

PAGE ___ OF ___

Project No/ Phase/Task Code: 11187072	Laboratory Name: Eurofins/TestAmerica	Lab Location: Sacramento	SSOW ID:
Project Name: San Jacinto	Lab Contact: Carrie Gamber / Beth Hitt		Cooler No:
Project Location: Texas			Carrier:
GHD Chemistry Contact: Debbie Brennan			Airbill No:
Sampler(s): Don Pope			Total # of Containers: 6

Item	Sample Identification (Containers for each sample may be combined on one line)	Date (mm/dd/yy)	Time (hh:mm)	Matrix Code (see back of COC)	Grab (G) or Comp (C)	Filtered (Y/N)	Dioxins/Furans												Total Containers/sample	MS/MSD Request	Comments/ Special Instructions:
	PRESERVATION - (SEE BACK OF COC FOR ABBREVIATIONS)																				
	11187072-Berm-GW	1/29/20	13:30	WG			x												1		Attn to: Carrie Gamber
	11187072-Berm-Solids	1/29/20	13:30	SO			x												1		
	11187072-Eastern-GW	1/29/20	13:30	WG			x												1		
	11187072-Eastern-Solids	1/29/20	13:30	SO			x												1		
	11187072-Western-GW	1/29/20	13:30	WG			x												1		
6	11187072-Western-Solids	1/29/20	13:30	SO			x												1		
7																					
8																					
9																					
10																					
11																					
12																					

320-58170 Chain of Custody

TAT Required in business days (use separate COCs for different TATs):

☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 1 Week ☐ 2 Week ☐ Other:

Notes/ Special Requirements:

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1. Don Pope	GHD	1/29/20	14:00	1. [signature]	ETA-SAC	01/30/20	900
2.				2.			
3.				3.			

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT – ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE – Fully Executed Copy (CRA) YELLOW – Receiving Laboratory Copy PINK – Shipper GOLDENROD – Sampling Crew

8.0°C

GHD Form: COC-10B (20110804)

eurofins | Environment Testing TestAmerica

Sacramento Sample Receiving Notes

320-58170 Field Sheet

Job: _____

Tracking # : 4576 5885 0318

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier

GSO / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations. File in the job folder with the COC.

Notes: * NO TEMP BLANK PROVIDED. BAGS OF ICE ON BOTH ENDS OF COOLER. SAMPLES WERE WRAPPED IN BUBBLE WRAP. MAN 01/30/20

Therm. ID: IR Stem Corr. Factor: (+ / -) 0 °C

Ice ✓ Wet ____ Gel ____ Other ____

Cooler Custody Seal: -

Cooler ID: -

Temp Observed: * 8.0 °C Corrected: 8.0 °C

From: Temp Blank ☐ Sample ☑

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☐	☑	☐
Samples received within holding time?	☑	☐	☐

Initials: MAN Date: 01/30/20

Unpacking/Labeling The Samples	Yes	No	NA
CoC is complete w/o discrepancies?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
Sample containers have legible labels?	☑	☐	☐
Sample custody seal?	☐	☑	☐
Containers are not broken or leaking?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

Non-conformance	Yes	No	NA
NCM Filed?	☐	☐	☑

Initials: JG Date: 1/30/20

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

ORIGIN ID:DKKA (716) 297-2160
BRITT GEBHARDT
GHD
2055 NIAGARA FALLS BLVD

NIAGARA FALLS, NY 14304
UNITED STATES US

SHIP DATE: 29JAN20
ACTWGT: 30.00 LB MAN
CAD: 68417/CAFE3211

BILL SENDER

TO SAMPLE RECEIVING
EUROFINS/TEST AMERICA
880 RIVERSIDE PARKWAY

W. SACRAMENTO CA 95605
(916) 373-5600
REF: 11187072 - NI0402 GEB (POPE)

FedEx Express

TRK# 0201 4576 5885 0318

THU - 30 JAN 10:30A
PRIORITY OVERNIGHT

XH BLUA

95605
CA-US SMF

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 320-58170-1

Login Number: 58170
List Number: 1
Creator: Thompson, Sarah W

List Source: Eurofins TestAmerica, Sacramento

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	Water present in cooler; indicates evidence of melted ice.
Cooler Temperature is acceptable.	False	Refer to Job Narrative for details.
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

Job Number: 600-194690-1

Job Description: San Jacinto River Waste Pits Superfund

For:
GHD Services Inc.
5551 Corporate Boulevard
Suite 200
Baton Rouge, LA 70808

Attention: Janie Smith

Approved for release.
Carrie L Gamber
Senior Project Manager
5/26/2020 8:49 AM

Carrie L Gamber, Senior Project Manager
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2428
carrie.gamber@testamericainc.com
05/26/2020
Revision: 1

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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Qualifiers

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
B	Compound was found in the blank and sample.
E	Result exceeded calibration range.
F1	MS and/or MSD recovery exceeds control limits.
H	Sample was prepped or analyzed beyond the specified holding time
H3	Sample was received and analyzed past holding time.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Dioxin

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	Isotope Dilution analyte is outside acceptance limits.
B	Compound was found in the blank and sample.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
G	The reported quantitation limit has been raised due to an exhibited elevated noise or matrix interference
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
B	Compound was found in the blank and sample.
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
E	Result exceeded calibration range.
F1	MS and/or MSD recovery exceeds control limits.
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE

Client: GHD Services Inc.

Project: San Jacinto River Waste Pits Superfund

Report Number: 600-194690-1 REVISED

NOTE: Per the client's request, the TEQ summaries have been removed from this report.

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 10/28/2019; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 6 coolers at receipt time were 1.3º C, 1.3º C, 1.3º C, 2.0º C, 2.1º C and 2.6º C.

The samples were logged in using the client's table with the Chain-of-Custody (COC) for reference. The analyses were confirmed by the client.

DIOXINS

Elevated reporting limits were provided for the following samples due to insufficient sample provided for 1613B_Sox_Sep_P preparation/analysis: Samples INF 4 (600-194690-10), INF 4 - DISSOLVED (600-194690-11) and INF 4 - DISSOLVED (600-194690-11[MSD]) were received in narrow-mouth amber glass bottles.

EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD associated with the following samples run on instrument DFS 1 exceeded this criteria: INF 3 (600-194690-8), INF 4 (600-194690-10), INF 4 - DISSOLVED (600-194690-11[MS]), INF 4 - DISSOLVED (600-194690-11[MSD]) and (CCV 320-336838/2). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

The Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit: INF 3 (600-194690-8), INF 4 (600-194690-10), INF 4 - DISSOLVED (600-194690-11[MS]) and INF 4 - DISSOLVED (600-194690-11[MSD]). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample(s). All detection limits are below the lower calibration.

Ion abundance ratios are outside criteria for the Isotope Dilution Analyte (IDA) associated with the following sample: INF 4 - DISSOLVED (600-194690-11[MS]). The theoretical area for the IDA was used to quantitate recovery and target concentration.

The following samples exhibited elevated noise or matrix interferences for one or more analytes causing elevation of the detection limit (EDL): INF 3 (600-194690-8), INF 3 - DISSOLVED (600-194690-9), INF 4 (600-194690-10), INF 4 - DISSOLVED (600-194690-11[MS]) and INF 4 - DISSOLVED (600-194690-11[MSD]) . The reporting limit (RL) for the affected analytes has been raised to be equal to the EDL, and a "G" qualifier applied.

The following samples were diluted to bring the concentration of target analytes within the calibration range: INF 3 (600-194690-8), INF 3 - DISSOLVED (600-194690-9), INF 4 (600-194690-10), INF 4 - DISSOLVED (600-194690-11[MS]) and INF 4 - DISSOLVED (600-194690-11[MSD]). Elevated reporting limits (RLs) are provided.

The following sample and the associated MSQC were analyzed at different dilutions due to non-homogeneity of the sample and the need to dilute the extracts to have all analytes within the calibrated linear range of the instrument. The non-homogeneity of the samples were confirmed by reanalysis: INF 4 - DISSOLVED (600-194690-11), INF 4 - DISSOLVED (600-194690-11[MS]) and INF 4 - DISSOLVED (600-194690-11[MSD])

Several analytes were detected in method blank MB 320-335248/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

The following analyte recovered outside control limits for the LCS associated with preparation batch 320-335248 and analytical batch 320-336302: OCDD. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Several analytes failed the recovery criteria high for the MS/MSD of sample INF 4 - DISSOLVED (600-194690-11) in batch 320-336838. 1,2,3,4,7,8-HxCDF, 1,2,3,7,8-PeCDF and 2,3,7,8-TCDD exceeded the RPD limit.

LOW LEVEL MERCURY

The sample and duplicate do not match; reanalysis confirms original results. FEFF 1 (600-194690-3) and DUP (600-194690-5).

Mercury was detected in method blank MB 240-408778/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Mercury failed the recovery criteria low for the MS/MSD of sample 1. CEFF (600-194690-1) in batch 240-409411.

METALS

The following samples were received with insufficient preservation: 1. CEFF (600-194690-1), INF 3 (600-194690-8) and INF 4 (600-194690-10). 1mL of nitric acid preservative was added by the laboratory. The samples' pH were adjusted to <2 SU.

The following samples were diluted to bring the concentration of target analytes within the calibration range: 1. CEFF (600-194690-1), FEFF 1 (600-194690-3), INF 3 (600-194690-8), INF 3 - DISSOLVED (600-194690-9), INF 4 (600-194690-10), INF 4 - DISSOLVED (600-194690-11), INF 4 - DISSOLVED (600-194690-11[MS]), INF 4 - DISSOLVED (600-194690-11[MSD]) and (600-194690-E-11-B DU ^5). Elevated reporting limits (RLs) are provided.

Thallium was detected in method blank MB 600-279634/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

The continuing calibration verification (CCV) associated with batch 600-280132 recovered above the upper control limit for Thallium. The samples associated with this CCV were non-detects for the affected analyte; therefore, the data have been reported.

The low level continuing calibration verification (CCVL) associated with batch 600-280132 recovered above the upper control limit for Thallium. The samples associated with this CCV were non-detects for the affected analyte; therefore, the data have been reported.

GENERAL CHEMISTRY

Several samples required dilutions for several analyses. The reporting limits have been adjusted accordingly.

The following sample was received outside of holding time for Nitrate and Nitrite IC: 1. CEFF (600-194690-1) and FEFF 1 (600-194690-3).

Alkalinity failed the recovery criteria low for the MS/MSD of sample INF 4 (600-194690-10) in batch 600-279861.

Chloride was detected in method blank MB 600-278776/6 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Chloride was detected in method blank MB 600-278901/37 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Chloride was detected in method blank MB 600-278901/6 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Chloride was detected in method blank MB 600-279038/6 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Chloride, Fluoride and Sulfate failed the recovery criteria low for the MS/MSD of sample INF 4MS (600-194690-10) in batch 600-278776. Bromide failed the recovery criteria high. The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

Fluoride failed the recovery criteria low for the MS of sample FEFF 1 (600-194690-3) in batch 600-279038. Bromide failed the recovery criteria high.

Nitrate as N and Nitrite as N failed the recovery criteria low for the MS/MSD of sample INF 4 (600-194690-10) in batch 600-278777.

Nitrite as N failed the recovery criteria low for the MS/MSD of sample FEFF 1 (600-194690-3) in batch 600-279039. Nitrate as N failed the recovery criteria high.

TOC failed the recovery criteria high for the MS/MSD of sample INF 4 (600-194690-10) in batch 600-279795.

The Calibration blank (CCB) for analytical batch 600-279038 contained Chloride above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Detection Summary

Client: GHD Services Inc. Job ID: 600-194690-1
Project/Site: San Jacinto River Waste Pits Superfund

Client Sample ID: 1. CEFF Lab Sample ID: 600-194690-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bromide	0.20	J	0.40	0.10	mg/L	1		300.0	Total/NA
Chloride	480	B	8.0	1.1	mg/L	20		300.0	Total/NA
Fluoride	0.34		0.20	0.060	mg/L	1		300.0	Total/NA
2,3,7,8-TCDD	13		9.6	0.69	pg/L	1		1613B	Total/NA
1,2,3,7,8-PeCDF	2.5	J	48	0.62	pg/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	2.6	J B	48	0.66	pg/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	1.6	J	48	0.67	pg/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	1.4	J B q	48	0.60	pg/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	3.9	J	48	0.91	pg/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	1.7	J	48	0.79	pg/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	2.0	J B	48	0.55	pg/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	1.2	J B	48	0.54	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	4.9	J	48	0.71	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	2.9	J B	48	0.53	pg/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	1.4	J B q	48	0.70	pg/L	1		1613B	Total/NA
OCDD	44	J B *	96	1.2	pg/L	1		1613B	Total/NA
OCDF	6.4	J B	96	0.93	pg/L	1		1613B	Total/NA
Total TCDD	13		9.6	0.69	pg/L	1		1613B	Total/NA
Total TCDF	68	B q	9.6	0.64	pg/L	1		1613B	Total/NA
Total PeCDF	2.5	J	48	0.63	pg/L	1		1613B	Total/NA
Total HxCDD	5.6	J B q	48	0.65	pg/L	1		1613B	Total/NA
Total HxCDF	8.8	J B	48	0.70	pg/L	1		1613B	Total/NA
Total HpCDD	8.2	J	48	0.71	pg/L	1		1613B	Total/NA
Total HpCDF	4.3	J B q	48	0.62	pg/L	1		1613B	Total/NA
2,3,7,8-TCDF - RA	37	B	9.6	1.1	pg/L	1		1613B	Total/NA
Mercury	18	B F1	2.5	0.70	ng/L	5		1631E	Total/NA
Barium	0.29		0.020	0.00053	mg/L	1		6010C	Total/NA
Boron	0.21		0.20	0.012	mg/L	1		6010C	Total/NA
Calcium	55		1.0	0.024	mg/L	1		6010C	Total/NA
Cadmium	0.00040	J	0.0050	0.00028	mg/L	1		6010C	Total/NA
Cobalt	0.00040	J	0.010	0.00031	mg/L	1		6010C	Total/NA
Iron	0.29	J	0.40	0.027	mg/L	1		6010C	Total/NA
Potassium	12		1.0	0.037	mg/L	1		6010C	Total/NA
Magnesium	33		1.0	0.056	mg/L	1		6010C	Total/NA
Manganese	0.088		0.010	0.00036	mg/L	1		6010C	Total/NA
Sodium	350		5.0	0.11	mg/L	5		6010C	Total/NA
Nickel	0.0021	J	0.010	0.00080	mg/L	1		6010C	Total/NA
Molybdenum	0.010		0.010	0.00054	mg/L	1		6010C	Total/NA
Vanadium	0.0036	J	0.010	0.00047	mg/L	1		6010C	Total/NA
Zinc	0.045		0.030	0.0040	mg/L	1		6010C	Total/NA
Strontium	0.48		0.0050	0.00034	mg/L	1		6010C	Total/NA
Titanium	0.0011	J	0.010	0.00051	mg/L	1		6010C	Total/NA
Alkalinity	160		20	20	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	160		20	20	mg/L	1		2320B-1997	Total/NA
Total Dissolved Solids	1300		20	20	mg/L	1		2540 C-1997	Total/NA
Total Suspended Solids	11		2.0	2.0	mg/L	1		2540 D-1997	Total/NA
Chemical Oxygen Demand	27		10	2.5	mg/L	1		8000	Total/NA
pH	7.7	HF	0.01	0.01	SU	1		9040B	Total/NA
TOC	5.0		1.0	0.56	mg/L	1		9060	Total/NA
Phosphorus as P	0.066		0.050	0.021	mg/L	1		SM4500 P E-1999	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 600-194690-1

Client Sample ID: 1. CEFF (Continued) — Lab Sample ID: 600-194690-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phosphorus as PO4	0.20		0.15	0.065	mg/L	1		SM4500 P E-1999	Total/NA

Client Sample ID: FEFF 1 — Lab Sample ID: 600-194690-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bromide	0.30	J F1	0.40	0.10	mg/L	1		300.0	Total/NA
Chloride	820		20	2.7	mg/L	50		300.0	Total/NA
Sulfate	62		10	1.9	mg/L	20		300.0	Total/NA
2,3,7,8-TCDD	3.2	J q	10	0.66	pg/L	1		1613B	Total/NA
2,3,7,8-TCDF	7.1	J B	10	0.50	pg/L	1		1613B	Total/NA
1,2,3,7,8-PeCDF	1.5	J	50	0.65	pg/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	1.6	J	50	0.88	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	6.7	J	50	0.83	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	1.9	J B q	50	0.99	pg/L	1		1613B	Total/NA
OCDD	44	J B *	100	1.1	pg/L	1		1613B	Total/NA
OCDF	5.5	J B q	100	1.1	pg/L	1		1613B	Total/NA
Total TCDD	3.2	J q	10	0.66	pg/L	1		1613B	Total/NA
Total TCDF	11	B q	10	0.50	pg/L	1		1613B	Total/NA
Total PeCDF	1.5	J	50	0.64	pg/L	1		1613B	Total/NA
Total HxCDF	1.6	J B	50	0.67	pg/L	1		1613B	Total/NA
Total HpCDD	13	J	50	0.83	pg/L	1		1613B	Total/NA
Total HpCDF	1.9	J B q	50	1.1	pg/L	1		1613B	Total/NA
Mercury	2.5	B	0.50	0.14	ng/L	1		1631E	Total/NA
Barium	0.28		0.020	0.00053	mg/L	1		6010C	Total/NA
Boron	0.20		0.20	0.012	mg/L	1		6010C	Total/NA
Calcium	53		1.0	0.024	mg/L	1		6010C	Total/NA
Iron	0.13	J	0.40	0.027	mg/L	1		6010C	Total/NA
Potassium	12		1.0	0.037	mg/L	1		6010C	Total/NA
Magnesium	31		1.0	0.056	mg/L	1		6010C	Total/NA
Manganese	0.029		0.010	0.00036	mg/L	1		6010C	Total/NA
Sodium	360		5.0	0.11	mg/L	5		6010C	Total/NA
Nickel	0.0020	J	0.010	0.00080	mg/L	1		6010C	Total/NA
Molybdenum	0.010		0.010	0.00054	mg/L	1		6010C	Total/NA
Thallium	0.026	J B	0.030	0.0042	mg/L	1		6010C	Total/NA
Vanadium	0.0028	J	0.010	0.00047	mg/L	1		6010C	Total/NA
Zinc	0.036		0.030	0.0040	mg/L	1		6010C	Total/NA
Strontium	0.46		0.0050	0.00034	mg/L	1		6010C	Total/NA
Titanium	0.00070	J	0.010	0.00051	mg/L	1		6010C	Total/NA
Alkalinity	140		20	20	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	140		20	20	mg/L	1		2320B-1997	Total/NA
Total Dissolved Solids	1300		20	20	mg/L	1		2540 C-1997	Total/NA
Total Suspended Solids	2.2		2.0	2.0	mg/L	1		2540 D-1997	Total/NA
Chemical Oxygen Demand	16		10	2.5	mg/L	1		8000	Total/NA
pH	7.8	HF	0.01	0.01	SU	1		9040B	Total/NA
TOC	4.3		1.0	0.56	mg/L	1		9060	Total/NA
Phosphorus as P	0.095		0.050	0.021	mg/L	1		SM4500 P E-1999	Total/NA
Phosphorus as PO4	0.29		0.15	0.065	mg/L	1		SM4500 P E-1999	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 600-194690-1

Client Sample ID: DUP — Lab Sample ID: 600-194690-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
HEM	1.8	J	3.0	1.0	mg/L	1		1664B	Total/NA
Sulfide	0.19		0.050	0.045	mg/L	5		4500 S2 D-2000	Total/NA
pH	8.9	HF	0.01	0.01	SU	1		9040B	Total/NA

Client Sample ID: DUP — Lab Sample ID: 600-194690-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Mercury	6.3	B	0.50	0.14	ng/L	1		1631E	Total/NA

Client Sample ID: CUI — Lab Sample ID: 600-194690-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Solids	16000		100	100	mg/L	1		2540 D-1997	Total/NA

Client Sample ID: SS — Lab Sample ID: 600-194690-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Solids	110000		500	500	mg/L	1		2540 D-1997	Total/NA

Client Sample ID: INF 3 — Lab Sample ID: 600-194690-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bromide	0.12	J	0.40	0.10	mg/L	1		300.0	Total/NA
Chloride	540	B	8.0	1.1	mg/L	20		300.0	Total/NA
Sulfate	37		10	1.9	mg/L	20		300.0	Total/NA
1,2,3,7,8-PeCDD	160		50	4.8	pg/L	1		1613B	Total/NA
1,2,3,7,8-PeCDF	2100		50	15	pg/L	1		1613B	Total/NA
2,3,4,7,8-PeCDF	1200		50	15	pg/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	11	J B q	50	2.1	pg/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	30	J	50	2.2	pg/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	18	J B	50	2.0	pg/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	3100		50	10	pg/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	790		50	9.0	pg/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	53	B	50	5.3	pg/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	93	B	50	6.0	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	840		50	14	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	880	B	50	9.7	pg/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	320	B	50	11	pg/L	1		1613B	Total/NA
OCDD	15000	B *	100	11	pg/L	1		1613B	Total/NA
OCDF	590	B	100	3.2	pg/L	1		1613B	Total/NA
Total TCDF	100000	G B	270	270	pg/L	1		1613B	Total/NA
Total PeCDD	190	q	50	4.8	pg/L	1		1613B	Total/NA
Total PeCDF	5000	q	50	15	pg/L	1		1613B	Total/NA
Total HxCDD	260	q B	50	2.1	pg/L	1		1613B	Total/NA
Total HxCDF	4600	B q	50	7.6	pg/L	1		1613B	Total/NA
Total HpCDD	2000		50	14	pg/L	1		1613B	Total/NA
Total HpCDF	1600	B	50	10	pg/L	1		1613B	Total/NA
2,3,7,8-TCDD - DL	18000		200	77	pg/L	20		1613B	Total/NA
Total TCDD - DL	20000		200	77	pg/L	20		1613B	Total/NA
2,3,7,8-TCDF - RA	50000	B	200	76	pg/L	20		1613B	Total/NA
Mercury	28	B	0.50	0.14	ng/L	1		1631E	Total/NA
Arsenic	0.026		0.010	0.0029	mg/L	1		6010C	Total/NA
Barium	1.1		0.020	0.00053	mg/L	1		6010C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: INF 3 (Continued) Lab Sample ID: 600-194690-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.26		0.20	0.012	mg/L	1		6010C	Total/NA
Beryllium	0.0074		0.0050	0.00042	mg/L	1		6010C	Total/NA
Calcium	130		1.0	0.024	mg/L	1		6010C	Total/NA
Cadmium	0.0028	J	0.0050	0.00028	mg/L	1		6010C	Total/NA
Cobalt	0.051		0.010	0.00031	mg/L	1		6010C	Total/NA
Chromium	0.12		0.010	0.0016	mg/L	1		6010C	Total/NA
Copper	0.11		0.010	0.0081	mg/L	1		6010C	Total/NA
Iron	110		0.40	0.027	mg/L	1		6010C	Total/NA
Potassium	25		1.0	0.037	mg/L	1		6010C	Total/NA
Magnesium	58		1.0	0.056	mg/L	1		6010C	Total/NA
Manganese	1.1		0.010	0.00036	mg/L	1		6010C	Total/NA
Sodium	340		5.0	0.11	mg/L	5		6010C	Total/NA
Nickel	0.095		0.010	0.00080	mg/L	1		6010C	Total/NA
Lead	0.12		0.010	0.0022	mg/L	1		6010C	Total/NA
Molybdenum	0.0084	J	0.010	0.00054	mg/L	1		6010C	Total/NA
Vanadium	0.20		0.010	0.00047	mg/L	1		6010C	Total/NA
Zinc	0.40		0.030	0.0040	mg/L	1		6010C	Total/NA
Tin	0.0048	J	0.010	0.00059	mg/L	1		6010C	Total/NA
Strontium	0.84		0.0050	0.00034	mg/L	1		6010C	Total/NA
Titanium	0.23		0.010	0.00051	mg/L	1		6010C	Total/NA
HEM	2.0	J	3.0	1.0	mg/L	1		1664B	Total/NA
Alkalinity	190		20	20	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	190		20	20	mg/L	1		2320B-1997	Total/NA
Total Dissolved Solids	980		100	100	mg/L	1		2540 C-1997	Total/NA
Total Suspended Solids	3500		100	100	mg/L	1		2540 D-1997	Total/NA
Ammonia	0.073	J	0.20	0.067	mg/L	1		350.1	Total/NA
Sulfide	0.57		0.050	0.045	mg/L	5		4500 S2 D-2000	Total/NA
Chemical Oxygen Demand	170		20	4.9	mg/L	2		8000	Total/NA
pH	8.2	HF	0.01	0.01	SU	1		9040B	Total/NA
TOC	17		4.0	2.2	mg/L	4		9060	Total/NA
Phosphorus as P	1.1		0.50	0.21	mg/L	10		SM4500 P E-1999	Total/NA
Phosphorus as PO4	3.3		1.5	0.65	mg/L	10		SM4500 P E-1999	Total/NA

Client Sample ID: INF 3 - DISSOLVED Lab Sample ID: 600-194690-9

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	3800	G	14	14	pg/L	1		1613B	Total/NA
1,2,3,7,8-PeCDD	40	J	50	1.9	pg/L	1		1613B	Total/NA
1,2,3,7,8-PeCDF	450		50	4.1	pg/L	1		1613B	Total/NA
2,3,4,7,8-PeCDF	250		50	4.3	pg/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	4.6	J B	50	1.3	pg/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	6.7	J q	50	1.4	pg/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	5.7	J B	50	1.2	pg/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	750		50	5.0	pg/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	190		50	4.5	pg/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	14	J B	50	2.8	pg/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	23	J B	50	3.1	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	250		50	4.5	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	240	B	50	3.0	pg/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	88	B	50	3.2	pg/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: INF 3 - DISSOLVED (Continued) Lab Sample ID: 600-194690-9

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
OCDD	5400	B *	100	4.7	pg/L	1		1613B	Total/NA
OCDF	170	B	100	1.9	pg/L	1		1613B	Total/NA
Total TCDD	4000	G	14	14	pg/L	1		1613B	Total/NA
Total TCDF	21000	G B	44	44	pg/L	1		1613B	Total/NA
Total PeCDD	51	q	50	1.9	pg/L	1		1613B	Total/NA
Total PeCDF	1100		50	4.2	pg/L	1		1613B	Total/NA
Total HxCDD	74	q B	50	1.3	pg/L	1		1613B	Total/NA
Total HxCDF	1100	B	50	3.8	pg/L	1		1613B	Total/NA
Total HpCDD	630		50	4.5	pg/L	1		1613B	Total/NA
Total HpCDF	430	B	50	3.1	pg/L	1		1613B	Total/NA
2,3,7,8-TCDF - RA	11000	B	50	28	pg/L	5		1613B	Total/NA
Arsenic	0.014		0.010	0.0029	mg/L	1		6010C	Dissolved
Boron	0.22		0.20	0.012	mg/L	1		6010C	Dissolved
Barium	0.55		0.020	0.00053	mg/L	1		6010C	Dissolved
Beryllium	0.0026	J	0.0050	0.00042	mg/L	1		6010C	Dissolved
Calcium	67		1.0	0.024	mg/L	1		6010C	Dissolved
Cadmium	0.0013	J	0.0050	0.00028	mg/L	1		6010C	Dissolved
Cobalt	0.017		0.010	0.00031	mg/L	1		6010C	Dissolved
Chromium	0.048		0.010	0.0016	mg/L	1		6010C	Dissolved
Copper	0.036		0.010	0.0081	mg/L	1		6010C	Dissolved
Iron	40		0.40	0.027	mg/L	1		6010C	Dissolved
Potassium	17		1.0	0.037	mg/L	1		6010C	Dissolved
Magnesium	42		1.0	0.056	mg/L	1		6010C	Dissolved
Manganese	0.34		0.010	0.00036	mg/L	1		6010C	Dissolved
Molybdenum	0.0084	J	0.010	0.00054	mg/L	1		6010C	Dissolved
Sodium	340		5.0	0.11	mg/L	5		6010C	Dissolved
Nickel	0.033		0.010	0.00080	mg/L	1		6010C	Dissolved
Lead	0.037		0.010	0.0022	mg/L	1		6010C	Dissolved
Tin	0.0012	J	0.010	0.00059	mg/L	1		6010C	Dissolved
Strontium	0.57		0.0050	0.00034	mg/L	1		6010C	Dissolved
Titanium	0.17		0.010	0.00051	mg/L	1		6010C	Dissolved
Vanadium	0.086		0.010	0.00047	mg/L	1		6010C	Dissolved
Zinc	0.15		0.030	0.0040	mg/L	1		6010C	Dissolved

Client Sample ID: INF 4 Lab Sample ID: 600-194690-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bromide	0.15	J F1	0.40	0.10	mg/L	1		300.0	Total/NA
Chloride	500	B	8.0	1.1	mg/L	20		300.0	Total/NA
Sulfate	36		10	1.9	mg/L	20		300.0	Total/NA
Fluoride	0.26	F1	0.20	0.060	mg/L	1		300.0	Total/NA
1,2,3,7,8-PeCDD	130		51	6.1	pg/L	1		1613B	Total/NA
1,2,3,7,8-PeCDF	1900		51	17	pg/L	1		1613B	Total/NA
2,3,4,7,8-PeCDF	1100		51	17	pg/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	4.9	J B	51	2.5	pg/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	20	J	51	2.7	pg/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	8.5	J B	51	2.4	pg/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	2500		51	11	pg/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	650		51	10	pg/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	40	J B	51	6.0	pg/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	73	B	51	7.0	pg/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: INF 4 (Continued) Lab Sample ID: 600-194690-10

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,6,7,8-HpCDD	540		51	7.6	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	600	B	51	6.2	pg/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	240	B	51	6.1	pg/L	1		1613B	Total/NA
OCDD	8800	B *	100	8.7	pg/L	1		1613B	Total/NA
OCDF	370	B	100	4.2	pg/L	1		1613B	Total/NA
Total TCDF	100000	G B	240	240	pg/L	1		1613B	Total/NA
Total PeCDD	160	q	51	6.1	pg/L	1		1613B	Total/NA
Total PeCDF	4600		51	17	pg/L	1		1613B	Total/NA
Total HxCDD	180	B	51	2.6	pg/L	1		1613B	Total/NA
Total HxCDF	3800	B q	51	8.7	pg/L	1		1613B	Total/NA
Total HpCDD	1300		51	7.6	pg/L	1		1613B	Total/NA
Total HpCDF	1100	B	51	6.1	pg/L	1		1613B	Total/NA
2,3,7,8-TCDD - DL	15000		200	73	pg/L	20		1613B	Total/NA
Total TCDD - DL	16000		200	73	pg/L	20		1613B	Total/NA
2,3,7,8-TCDF - RA	46000	B	200	61	pg/L	20		1613B	Total/NA
Arsenic	0.023		0.010	0.0029	mg/L	1		6010C	Total/NA
Barium	0.96		0.020	0.00053	mg/L	1		6010C	Total/NA
Boron	0.25		0.20	0.012	mg/L	1		6010C	Total/NA
Beryllium	0.0062		0.0050	0.00042	mg/L	1		6010C	Total/NA
Calcium	120		1.0	0.024	mg/L	1		6010C	Total/NA
Cadmium	0.0025	J	0.0050	0.00028	mg/L	1		6010C	Total/NA
Cobalt	0.043		0.010	0.00031	mg/L	1		6010C	Total/NA
Chromium	0.11		0.010	0.0016	mg/L	1		6010C	Total/NA
Copper	0.093		0.010	0.0081	mg/L	1		6010C	Total/NA
Iron	88		0.40	0.027	mg/L	1		6010C	Total/NA
Potassium	23		1.0	0.037	mg/L	1		6010C	Total/NA
Magnesium	54		1.0	0.056	mg/L	1		6010C	Total/NA
Manganese	1.0		0.010	0.00036	mg/L	1		6010C	Total/NA
Sodium	350		5.0	0.11	mg/L	5		6010C	Total/NA
Nickel	0.081		0.010	0.00080	mg/L	1		6010C	Total/NA
Lead	0.098		0.010	0.0022	mg/L	1		6010C	Total/NA
Molybdenum	0.0090	J	0.010	0.00054	mg/L	1		6010C	Total/NA
Vanadium	0.17		0.010	0.00047	mg/L	1		6010C	Total/NA
Zinc	0.36		0.030	0.0040	mg/L	1		6010C	Total/NA
Tin	0.0057	J	0.010	0.00059	mg/L	1		6010C	Total/NA
Strontium	0.79		0.0050	0.00034	mg/L	1		6010C	Total/NA
Titanium	0.22		0.010	0.00051	mg/L	1		6010C	Total/NA
HEM	2.1	J	3.0	1.0	mg/L	1		1664B	Total/NA
Alkalinity	170	F1	20	20	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	170		20	20	mg/L	1		2320B-1997	Total/NA
Total Dissolved Solids	1100		40	40	mg/L	1		2540 C-1997	Total/NA
Total Suspended Solids	4600		100	100	mg/L	1		2540 D-1997	Total/NA
Ammonia	0.23		0.20	0.067	mg/L	1		350.1	Total/NA
Sulfide	0.061		0.050	0.045	mg/L	5		4500 S2 D-2000	Total/NA
Chemical Oxygen Demand	310		40	9.9	mg/L	4		8000	Total/NA
Chemical Oxygen Demand	180	F1 E	10	2.5	mg/L	1		8000	Total/NA
pH	7.9	HF	0.01	0.01	SU	1		9040B	Total/NA
TOC	9.2	F1	1.0	0.56	mg/L	1		9060	Total/NA
Phosphorus as P	0.25		0.050	0.021	mg/L	1		SM4500 P E-1999	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 600-194690-1

Client Sample ID: INF 4 (Continued) — Lab Sample ID: 600-194690-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phosphorus as PO4	0.77		0.15	0.065	mg/L	1		SM4500 P E-1999	Total/NA

Client Sample ID: INF 4 - DISSOLVED — Lab Sample ID: 600-194690-11

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	150	F2 F1	10	1.2	pg/L	1		1613B	Total/NA
1,2,3,7,8-PeCDD	3.0	J F1 q	51	0.75	pg/L	1		1613B	Total/NA
1,2,3,7,8-PeCDF	20	J F1 F2	51	0.68	pg/L	1		1613B	Total/NA
2,3,4,7,8-PeCDF	11	J F1	51	0.72	pg/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	3.1	J B	51	0.60	pg/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	2.1	J	51	0.61	pg/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	1.7	J q B	51	0.54	pg/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	31	J F1 F2	51	0.99	pg/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	9.8	J F1	51	0.90	pg/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	4.8	J B	51	0.59	pg/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	2.8	J B	51	0.61	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	27	J F1	51	1.2	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	12	J B F1	51	0.54	pg/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	4.9	J B F1	51	0.71	pg/L	1		1613B	Total/NA
OCDD	280	B F1 F2 *	100	1.2	pg/L	1		1613B	Total/NA
OCDF	11	J B	100	0.87	pg/L	1		1613B	Total/NA
Total TCDD	170		10	1.2	pg/L	1		1613B	Total/NA
Total TCDF	920	B	10	3.1	pg/L	1		1613B	Total/NA
Total PeCDD	3.0	J q	51	0.75	pg/L	1		1613B	Total/NA
Total PeCDF	44	J	51	0.70	pg/L	1		1613B	Total/NA
Total HxCDD	6.9	J q B	51	0.58	pg/L	1		1613B	Total/NA
Total HxCDF	48	J B	51	0.77	pg/L	1		1613B	Total/NA
Total HpCDD	51		51	1.2	pg/L	1		1613B	Total/NA
Total HpCDF	20	J q B	51	0.63	pg/L	1		1613B	Total/NA
2,3,7,8-TCDF - RA	540	F1 B	10	1.2	pg/L	1		1613B	Total/NA
Mercury	22	B	0.50	0.14	ng/L	1		1631E	Total/NA
Arsenic	0.0041	J	0.010	0.0029	mg/L	1		6010C	Dissolved
Boron	0.20		0.20	0.012	mg/L	1		6010C	Dissolved
Barium	0.30		0.020	0.00053	mg/L	1		6010C	Dissolved
Calcium	55		1.0	0.024	mg/L	1		6010C	Dissolved
Cadmium	0.00040	J	0.0050	0.00028	mg/L	1		6010C	Dissolved
Cobalt	0.0012	J	0.010	0.00031	mg/L	1		6010C	Dissolved
Chromium	0.0039	J	0.010	0.0016	mg/L	1		6010C	Dissolved
Iron	2.9		0.40	0.027	mg/L	1		6010C	Dissolved
Potassium	13		1.0	0.037	mg/L	1		6010C	Dissolved
Magnesium	32		1.0	0.056	mg/L	1		6010C	Dissolved
Manganese	0.035		0.010	0.00036	mg/L	1		6010C	Dissolved
Molybdenum	0.010		0.010	0.00054	mg/L	1		6010C	Dissolved
Sodium	350		5.0	0.11	mg/L	5		6010C	Dissolved
Nickel	0.0030	J	0.010	0.00080	mg/L	1		6010C	Dissolved
Strontium	0.47		0.0050	0.00034	mg/L	1		6010C	Dissolved
Titanium	0.025		0.010	0.00051	mg/L	1		6010C	Dissolved
Vanadium	0.012		0.010	0.00047	mg/L	1		6010C	Dissolved
Zinc	0.026	J	0.030	0.0040	mg/L	1		6010C	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 600-194690-1

Client Sample ID: 1. CEFF

Date Collected: 10/25/19 19:25
Date Received: 10/28/19 14:52

Lab Sample ID: 600-194690-1

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	**0.20**	**J**	0.40	0.10	mg/L			10/30/19 14:00	1
Nitrate as N	ND	H H3	0.20	0.025	mg/L			10/30/19 14:00	1
Chloride	**480**	**B**	8.0	1.1	mg/L			10/31/19 12:14	20
Nitrite as N	ND	H H3	0.20	0.030	mg/L			10/30/19 14:00	1
Sulfate	ND		10	1.9	mg/L			10/31/19 12:14	20
Fluoride	**0.34**		0.20	0.060	mg/L			10/30/19 14:00	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	**13**		9.6	0.69	pg/L		11/01/19 08:11	11/05/19 23:22	1
1,2,3,7,8-PeCDD	ND		48	0.94	pg/L		11/01/19 08:11	11/05/19 23:22	1
1,2,3,7,8-PeCDF	**2.5**	**J**	48	0.62	pg/L		11/01/19 08:11	11/05/19 23:22	1
2,3,4,7,8-PeCDF	ND		48	0.65	pg/L		11/01/19 08:11	11/05/19 23:22	1
1,2,3,4,7,8-HxCDD	**2.6**	**J B**	48	0.66	pg/L		11/01/19 08:11	11/05/19 23:22	1
1,2,3,6,7,8-HxCDD	**1.6**	**J**	48	0.67	pg/L		11/01/19 08:11	11/05/19 23:22	1
1,2,3,7,8,9-HxCDD	**1.4**	**J B q**	48	0.60	pg/L		11/01/19 08:11	11/05/19 23:22	1
1,2,3,4,7,8-HxCDF	**3.9**	**J**	48	0.91	pg/L		11/01/19 08:11	11/05/19 23:22	1
1,2,3,6,7,8-HxCDF	**1.7**	**J**	48	0.79	pg/L		11/01/19 08:11	11/05/19 23:22	1
1,2,3,7,8,9-HxCDF	**2.0**	**J B**	48	0.55	pg/L		11/01/19 08:11	11/05/19 23:22	1
2,3,4,6,7,8-HxCDF	**1.2**	**J B**	48	0.54	pg/L		11/01/19 08:11	11/05/19 23:22	1
1,2,3,4,6,7,8-HpCDD	**4.9**	**J**	48	0.71	pg/L		11/01/19 08:11	11/05/19 23:22	1
1,2,3,4,6,7,8-HpCDF	**2.9**	**J B**	48	0.53	pg/L		11/01/19 08:11	11/05/19 23:22	1
1,2,3,4,7,8,9-HpCDF	**1.4**	**J B q**	48	0.70	pg/L		11/01/19 08:11	11/05/19 23:22	1
OCDD	**44**	**J B ***	96	1.2	pg/L		11/01/19 08:11	11/05/19 23:22	1
OCDF	**6.4**	**J B**	96	0.93	pg/L		11/01/19 08:11	11/05/19 23:22	1
Total TCDD	**13**		9.6	0.69	pg/L		11/01/19 08:11	11/05/19 23:22	1
Total TCDF	**68**	**B q**	9.6	0.64	pg/L		11/01/19 08:11	11/05/19 23:22	1
Total PeCDD	ND		48	0.94	pg/L		11/01/19 08:11	11/05/19 23:22	1
Total PeCDF	**2.5**	**J**	48	0.63	pg/L		11/01/19 08:11	11/05/19 23:22	1
Total HxCDD	**5.6**	**J B q**	48	0.65	pg/L		11/01/19 08:11	11/05/19 23:22	1
Total HxCDF	**8.8**	**J B**	48	0.70	pg/L		11/01/19 08:11	11/05/19 23:22	1
Total HpCDD	**8.2**	**J**	48	0.71	pg/L		11/01/19 08:11	11/05/19 23:22	1
Total HpCDF	**4.3**	**J B q**	48	0.62	pg/L		11/01/19 08:11	11/05/19 23:22	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*56*		*25 - 164*	*11/01/19 08:11*	*11/05/19 23:22*	*1*
13C-2,3,7,8-TCDF	*52*		*24 - 169*	*11/01/19 08:11*	*11/05/19 23:22*	*1*
13C-1,2,3,7,8-PeCDD	*55*		*25 - 181*	*11/01/19 08:11*	*11/05/19 23:22*	*1*
13C-1,2,3,7,8-PeCDF	*53*		*24 - 185*	*11/01/19 08:11*	*11/05/19 23:22*	*1*
13C-2,3,4,7,8-PeCDF	*57*		*21 - 178*	*11/01/19 08:11*	*11/05/19 23:22*	*1*
13C-1,2,3,4,7,8-HxCDD	*59*		*32 - 141*	*11/01/19 08:11*	*11/05/19 23:22*	*1*
13C-1,2,3,6,7,8-HxCDD	*59*		*28 - 130*	*11/01/19 08:11*	*11/05/19 23:22*	*1*
13C-1,2,3,4,7,8-HxCDF	*60*		*26 - 152*	*11/01/19 08:11*	*11/05/19 23:22*	*1*
13C-1,2,3,6,7,8-HxCDF	*59*		*26 - 123*	*11/01/19 08:11*	*11/05/19 23:22*	*1*
13C-1,2,3,7,8,9-HxCDF	*56*		*29 - 147*	*11/01/19 08:11*	*11/05/19 23:22*	*1*
13C-2,3,4,6,7,8-HxCDF	*57*		*28 - 136*	*11/01/19 08:11*	*11/05/19 23:22*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*50*		*23 - 140*	*11/01/19 08:11*	*11/05/19 23:22*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*48*		*28 - 143*	*11/01/19 08:11*	*11/05/19 23:22*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*51*		*26 - 138*	*11/01/19 08:11*	*11/05/19 23:22*	*1*
13C-OCDD	*40*		*17 - 157*	*11/01/19 08:11*	*11/05/19 23:22*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 600-194690-1

Client Sample ID: 1. CEFF

Date Collected: 10/25/19 19:25
Date Received: 10/28/19 14:52

Lab Sample ID: 600-194690-1

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*91*		*35 - 197*	*11/01/19 08:11*	*11/05/19 23:22*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	**37**	**B**	9.6	1.1	pg/L		11/01/19 08:11	11/07/19 16:53	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*61*		*24 - 169*	*11/01/19 08:11*	*11/07/19 16:53*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*93*		*35 - 197*	*11/01/19 08:11*	*11/07/19 16:53*	*1*

Method: 1631E - Mercury, Low Level (CVAFS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**18**	**B F1**	2.5	0.70	ng/L		11/01/19 13:07	11/05/19 12:08	5

Method: 6010C - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.010	0.0013	mg/L		11/06/19 15:20	11/12/19 16:22	1
Arsenic	ND		0.010	0.0029	mg/L		11/06/19 15:20	11/12/19 16:22	1
Barium	**0.29**		0.020	0.00053	mg/L		11/06/19 15:20	11/12/19 16:22	1
Boron	**0.21**		0.20	0.012	mg/L		11/06/19 15:20	11/12/19 16:22	1
Beryllium	ND		0.0050	0.00042	mg/L		11/06/19 15:20	11/12/19 16:22	1
Calcium	**55**		1.0	0.024	mg/L		11/06/19 15:20	11/12/19 16:22	1
Cadmium	**0.00040**	**J**	0.0050	0.00028	mg/L		11/06/19 15:20	11/12/19 16:22	1
Cobalt	**0.00040**	**J**	0.010	0.00031	mg/L		11/06/19 15:20	11/12/19 16:22	1
Chromium	ND		0.010	0.0016	mg/L		11/06/19 15:20	11/12/19 16:22	1
Copper	ND		0.010	0.0081	mg/L		11/06/19 15:20	11/12/19 16:22	1
Iron	**0.29**	**J**	0.40	0.027	mg/L		11/06/19 15:20	11/12/19 16:22	1
Potassium	**12**		1.0	0.037	mg/L		11/06/19 15:20	11/12/19 16:22	1
Magnesium	**33**		1.0	0.056	mg/L		11/06/19 15:20	11/12/19 16:22	1
Manganese	**0.088**		0.010	0.00036	mg/L		11/06/19 15:20	11/12/19 16:22	1
Sodium	**350**		5.0	0.11	mg/L		11/06/19 15:20	11/13/19 12:56	5
Nickel	**0.0021**	**J**	0.010	0.00080	mg/L		11/06/19 15:20	11/12/19 16:22	1
Lead	ND		0.010	0.0022	mg/L		11/06/19 15:20	11/12/19 16:22	1
Antimony	ND		0.050	0.0039	mg/L		11/06/19 15:20	11/12/19 16:22	1
Selenium	ND		0.040	0.0029	mg/L		11/06/19 15:20	11/12/19 16:22	1
Molybdenum	**0.010**		0.010	0.00054	mg/L		11/06/19 15:20	11/12/19 16:22	1
Thallium	ND	^	0.030	0.0042	mg/L		11/06/19 15:20	11/12/19 16:22	1
Vanadium	**0.0036**	**J**	0.010	0.00047	mg/L		11/06/19 15:20	11/12/19 16:22	1
Zinc	**0.045**		0.030	0.0040	mg/L		11/06/19 15:20	11/12/19 16:22	1
Tin	ND		0.010	0.00059	mg/L		11/06/19 15:20	11/12/19 16:22	1
Strontium	**0.48**		0.0050	0.00034	mg/L		11/06/19 15:20	11/12/19 16:22	1
Titanium	**0.0011**	**J**	0.010	0.00051	mg/L		11/06/19 15:20	11/12/19 16:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**160**		20	20	mg/L			11/08/19 11:10	1
Bicarbonate Alkalinity as CaCO3	**160**		20	20	mg/L			11/08/19 11:10	1
Carbonate Alkalinity as CaCO3	ND		20	20	mg/L			11/08/19 11:10	1
Total Dissolved Solids	**1300**		20	20	mg/L			10/29/19 13:14	1
Total Suspended Solids	**11**		2.0	2.0	mg/L			10/30/19 09:08	1

Client Sample ID: 1. CEFF — Lab Sample ID: 600-194690-1

Date Collected: 10/25/19 19:25 **Matrix: Water**
Date Received: 10/28/19 14:52

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.20	0.067	mg/L		10/30/19 05:22	10/30/19 10:40	1
Sulfide	ND		0.010	0.0090	mg/L			10/30/19 09:50	1
Chemical Oxygen Demand	**27**		10	2.5	mg/L			11/06/19 08:51	1
pH	**7.7**	**HF**	0.01	0.01	SU			11/05/19 11:41	1
TOC	**5.0**		1.0	0.56	mg/L			11/07/19 11:11	1
Phosphorus as P	**0.066**		0.050	0.021	mg/L		10/30/19 01:35	10/30/19 06:09	1
Phosphorus as PO4	**0.20**		0.15	0.065	mg/L		10/30/19 01:35	10/30/19 06:09	1

Client Sample ID: FEFF 1 — Lab Sample ID: 600-194690-3

Date Collected: 10/26/19 12:45 **Matrix: Water**
Date Received: 10/28/19 14:52

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	**0.30**	**J F1**	0.40	0.10	mg/L			10/31/19 10:00	1
Nitrate as N	ND	H H3 F1	0.20	0.025	mg/L			10/31/19 10:00	1
Chloride	**820**		20	2.7	mg/L			11/04/19 13:32	50
Nitrite as N	ND	H H3 F1	0.20	0.030	mg/L			10/31/19 10:00	1
Sulfate	**62**		10	1.9	mg/L			11/01/19 16:39	20
Fluoride	ND	F1	0.20	0.060	mg/L			10/31/19 10:00	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	**3.2**	**J q**	10	0.66	pg/L		11/01/19 08:11	11/06/19 00:08	1
2,3,7,8-TCDF	**7.1**	**J B**	10	0.50	pg/L		11/01/19 08:11	11/06/19 00:08	1
1,2,3,7,8-PeCDD	ND		50	0.99	pg/L		11/01/19 08:11	11/06/19 00:08	1
1,2,3,7,8-PeCDF	**1.5**	**J**	50	0.65	pg/L		11/01/19 08:11	11/06/19 00:08	1
2,3,4,7,8-PeCDF	ND		50	0.63	pg/L		11/01/19 08:11	11/06/19 00:08	1
1,2,3,4,7,8-HxCDD	ND		50	0.83	pg/L		11/01/19 08:11	11/06/19 00:08	1
1,2,3,6,7,8-HxCDD	ND		50	0.79	pg/L		11/01/19 08:11	11/06/19 00:08	1
1,2,3,7,8,9-HxCDD	ND		50	0.73	pg/L		11/01/19 08:11	11/06/19 00:08	1
1,2,3,4,7,8-HxCDF	**1.6**	**J**	50	0.88	pg/L		11/01/19 08:11	11/06/19 00:08	1
1,2,3,6,7,8-HxCDF	ND		50	0.77	pg/L		11/01/19 08:11	11/06/19 00:08	1
1,2,3,7,8,9-HxCDF	ND		50	0.52	pg/L		11/01/19 08:11	11/06/19 00:08	1
2,3,4,6,7,8-HxCDF	ND		50	0.52	pg/L		11/01/19 08:11	11/06/19 00:08	1
1,2,3,4,6,7,8-HpCDD	**6.7**	**J**	50	0.83	pg/L		11/01/19 08:11	11/06/19 00:08	1
1,2,3,4,6,7,8-HpCDF	**1.9**	**J B q**	50	0.99	pg/L		11/01/19 08:11	11/06/19 00:08	1
1,2,3,4,7,8,9-HpCDF	ND		50	1.3	pg/L		11/01/19 08:11	11/06/19 00:08	1
OCDD	**44**	**J B ***	100	1.1	pg/L		11/01/19 08:11	11/06/19 00:08	1
OCDF	**5.5**	**J B q**	100	1.1	pg/L		11/01/19 08:11	11/06/19 00:08	1
Total TCDD	**3.2**	**J q**	10	0.66	pg/L		11/01/19 08:11	11/06/19 00:08	1
Total TCDF	**11**	**B q**	10	0.50	pg/L		11/01/19 08:11	11/06/19 00:08	1
Total PeCDD	ND		50	0.99	pg/L		11/01/19 08:11	11/06/19 00:08	1
Total PeCDF	**1.5**	**J**	50	0.64	pg/L		11/01/19 08:11	11/06/19 00:08	1
Total HxCDD	ND		50	0.83	pg/L		11/01/19 08:11	11/06/19 00:08	1
Total HxCDF	**1.6**	**J B**	50	0.67	pg/L		11/01/19 08:11	11/06/19 00:08	1
Total HpCDD	**13**	**J**	50	0.83	pg/L		11/01/19 08:11	11/06/19 00:08	1
Total HpCDF	**1.9**	**J B q**	50	1.1	pg/L		11/01/19 08:11	11/06/19 00:08	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*59*		*25 - 164*	*11/01/19 08:11*	*11/06/19 00:08*	*1*

Client Sample ID: FEFF 1 — Lab Sample ID: 600-194690-3

Date Collected: 10/26/19 12:45 **Matrix: Water**
Date Received: 10/28/19 14:52

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDF	52		24 - 169	11/01/19 08:11	11/06/19 00:08	1
13C-1,2,3,7,8-PeCDD	58		25 - 181	11/01/19 08:11	11/06/19 00:08	1
13C-1,2,3,7,8-PeCDF	54		24 - 185	11/01/19 08:11	11/06/19 00:08	1
13C-2,3,4,7,8-PeCDF	60		21 - 178	11/01/19 08:11	11/06/19 00:08	1
13C-1,2,3,4,7,8-HxCDD	62		32 - 141	11/01/19 08:11	11/06/19 00:08	1
13C-1,2,3,6,7,8-HxCDD	62		28 - 130	11/01/19 08:11	11/06/19 00:08	1
13C-1,2,3,4,7,8-HxCDF	63		26 - 152	11/01/19 08:11	11/06/19 00:08	1
13C-1,2,3,6,7,8-HxCDF	60		26 - 123	11/01/19 08:11	11/06/19 00:08	1
13C-1,2,3,7,8,9-HxCDF	58		29 - 147	11/01/19 08:11	11/06/19 00:08	1
13C-2,3,4,6,7,8-HxCDF	60		28 - 136	11/01/19 08:11	11/06/19 00:08	1
13C-1,2,3,4,6,7,8-HpCDD	55		23 - 140	11/01/19 08:11	11/06/19 00:08	1
13C-1,2,3,4,6,7,8-HpCDF	51		28 - 143	11/01/19 08:11	11/06/19 00:08	1
13C-1,2,3,4,7,8,9-HpCDF	55		26 - 138	11/01/19 08:11	11/06/19 00:08	1
13C-OCDD	45		17 - 157	11/01/19 08:11	11/06/19 00:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	98		35 - 197	11/01/19 08:11	11/06/19 00:08	1

Method: 1631E - Mercury, Low Level (CVAFS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**2.5**	**B**	0.50	0.14	ng/L		11/01/19 13:07	11/04/19 17:00	1

Method: 6010C - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.010	0.0013	mg/L		11/06/19 15:20	11/12/19 16:24	1
Arsenic	ND		0.010	0.0029	mg/L		11/06/19 15:20	11/12/19 16:24	1
Barium	**0.28**		0.020	0.00053	mg/L		11/06/19 15:20	11/12/19 16:24	1
Boron	**0.20**		0.20	0.012	mg/L		11/06/19 15:20	11/12/19 16:24	1
Beryllium	ND		0.0050	0.00042	mg/L		11/06/19 15:20	11/12/19 16:24	1
Calcium	**53**		1.0	0.024	mg/L		11/06/19 15:20	11/12/19 16:24	1
Cadmium	ND		0.0050	0.00028	mg/L		11/06/19 15:20	11/12/19 16:24	1
Cobalt	ND		0.010	0.00031	mg/L		11/06/19 15:20	11/12/19 16:24	1
Chromium	ND		0.010	0.0016	mg/L		11/06/19 15:20	11/12/19 16:24	1
Copper	ND		0.010	0.0081	mg/L		11/06/19 15:20	11/12/19 16:24	1
Iron	**0.13**	**J**	0.40	0.027	mg/L		11/06/19 15:20	11/12/19 16:24	1
Potassium	**12**		1.0	0.037	mg/L		11/06/19 15:20	11/12/19 16:24	1
Magnesium	**31**		1.0	0.056	mg/L		11/06/19 15:20	11/12/19 16:24	1
Manganese	**0.029**		0.010	0.00036	mg/L		11/06/19 15:20	11/12/19 16:24	1
Sodium	**360**		5.0	0.11	mg/L		11/06/19 15:20	11/13/19 13:00	5
Nickel	**0.0020**	**J**	0.010	0.00080	mg/L		11/06/19 15:20	11/12/19 16:24	1
Lead	ND		0.010	0.0022	mg/L		11/06/19 15:20	11/12/19 16:24	1
Antimony	ND		0.050	0.0039	mg/L		11/06/19 15:20	11/12/19 16:24	1
Selenium	ND		0.040	0.0029	mg/L		11/06/19 15:20	11/12/19 16:24	1
Molybdenum	**0.010**		0.010	0.00054	mg/L		11/06/19 15:20	11/12/19 16:24	1
Thallium	**0.026**	**J B**	0.030	0.0042	mg/L		11/06/19 15:20	11/19/19 11:02	1
Vanadium	**0.0028**	**J**	0.010	0.00047	mg/L		11/06/19 15:20	11/12/19 16:24	1
Zinc	**0.036**		0.030	0.0040	mg/L		11/06/19 15:20	11/12/19 16:24	1
Tin	ND		0.010	0.00059	mg/L		11/06/19 15:20	11/12/19 16:24	1
Strontium	**0.46**		0.0050	0.00034	mg/L		11/06/19 15:20	11/12/19 16:24	1
Titanium	**0.00070**	**J**	0.010	0.00051	mg/L		11/06/19 15:20	11/12/19 16:24	1

Client Sample ID: FEFF 1 — Lab Sample ID: 600-194690-3

Date Collected: 10/26/19 12:45 **Matrix: Water**
Date Received: 10/28/19 14:52

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	140		20	20	mg/L			11/08/19 10:17	1
Bicarbonate Alkalinity as CaCO3	140		20	20	mg/L			11/08/19 10:17	1
Carbonate Alkalinity as CaCO3	ND		20	20	mg/L			11/08/19 10:17	1
Total Dissolved Solids	1300		20	20	mg/L			10/29/19 13:14	1
Total Suspended Solids	2.2		2.0	2.0	mg/L			10/30/19 09:08	1
Ammonia	ND		0.20	0.067	mg/L		10/30/19 05:22	10/30/19 10:41	1
Sulfide	ND		0.010	0.0090	mg/L			10/30/19 09:50	1
Chemical Oxygen Demand	16		10	2.5	mg/L			11/06/19 08:51	1
pH	7.8	HF	0.01	0.01	SU			10/31/19 13:36	1
TOC	4.3		1.0	0.56	mg/L			11/07/19 13:01	1
Phosphorus as P	0.095		0.050	0.021	mg/L		10/30/19 01:35	10/30/19 06:09	1
Phosphorus as PO4	0.29		0.15	0.065	mg/L		10/30/19 01:35	10/30/19 06:09	1

Client Sample ID: DUP — Lab Sample ID: 600-194690-4

Date Collected: 10/25/19 00:00 **Matrix: Water**
Date Received: 10/28/19 14:52

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	1.8	J	3.0	1.0	mg/L		11/10/19 11:32	11/10/19 11:33	1
SGT-HEM	ND		3.0	1.0	mg/L		11/10/19 11:32	11/10/19 11:33	1
Sulfide	0.19		0.050	0.045	mg/L			10/30/19 09:50	5
pH	8.9	HF	0.01	0.01	SU			11/05/19 11:27	1

Client Sample ID: DUP — Lab Sample ID: 600-194690-5

Date Collected: 10/26/19 00:00 **Matrix: Water**
Date Received: 10/28/19 14:52

Method: 1631E - Mercury, Low Level (CVAFS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	6.3	B	0.50	0.14	ng/L		11/01/19 13:07	11/04/19 17:05	1

Client Sample ID: CUI — Lab Sample ID: 600-194690-6

Date Collected: 10/26/19 14:30 **Matrix: Water**
Date Received: 10/28/19 14:52

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	16000		100	100	mg/L			10/30/19 09:08	1

Client Sample ID: SS — Lab Sample ID: 600-194690-7

Date Collected: 10/26/19 14:30 **Matrix: Water**
Date Received: 10/28/19 14:52

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	110000		500	500	mg/L			10/30/19 09:09	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 600-194690-1

Client Sample ID: INF 3

Date Collected: 10/25/19 13:30
Date Received: 10/28/19 14:52

Lab Sample ID: 600-194690-8

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	**0.12**	**J**	0.40	0.10	mg/L			10/29/19 07:38	1
Nitrate as N	ND	H H3	0.20	0.025	mg/L			10/29/19 07:38	1
Chloride	**540**	**B**	8.0	1.1	mg/L			10/30/19 12:02	20
Nitrite as N	ND	H H3	0.20	0.030	mg/L			10/29/19 07:38	1
Sulfate	**37**		10	1.9	mg/L			10/30/19 12:02	20
Fluoride	ND		4.0	1.2	mg/L			10/30/19 12:02	20

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,7,8-PeCDD	**160**		50	4.8	pg/L		11/01/19 08:11	11/06/19 00:54	1
1,2,3,7,8-PeCDF	**2100**		50	15	pg/L		11/01/19 08:11	11/06/19 00:54	1
2,3,4,7,8-PeCDF	**1200**		50	15	pg/L		11/01/19 08:11	11/06/19 00:54	1
1,2,3,4,7,8-HxCDD	**11**	**J B q**	50	2.1	pg/L		11/01/19 08:11	11/06/19 00:54	1
1,2,3,6,7,8-HxCDD	**30**	**J**	50	2.2	pg/L		11/01/19 08:11	11/06/19 00:54	1
1,2,3,7,8,9-HxCDD	**18**	**J B**	50	2.0	pg/L		11/01/19 08:11	11/06/19 00:54	1
1,2,3,4,7,8-HxCDF	**3100**		50	10	pg/L		11/01/19 08:11	11/06/19 00:54	1
1,2,3,6,7,8-HxCDF	**790**		50	9.0	pg/L		11/01/19 08:11	11/06/19 00:54	1
1,2,3,7,8,9-HxCDF	**53**	**B**	50	5.3	pg/L		11/01/19 08:11	11/06/19 00:54	1
2,3,4,6,7,8-HxCDF	**93**	**B**	50	6.0	pg/L		11/01/19 08:11	11/06/19 00:54	1
1,2,3,4,6,7,8-HpCDD	**840**		50	14	pg/L		11/01/19 08:11	11/06/19 00:54	1
1,2,3,4,6,7,8-HpCDF	**880**	**B**	50	9.7	pg/L		11/01/19 08:11	11/06/19 00:54	1
1,2,3,4,7,8,9-HpCDF	**320**	**B**	50	11	pg/L		11/01/19 08:11	11/06/19 00:54	1
OCDD	**15000**	**B ***	100	11	pg/L		11/01/19 08:11	11/06/19 00:54	1
OCDF	**590**	**B**	100	3.2	pg/L		11/01/19 08:11	11/06/19 00:54	1
Total TCDF	**100000**	**G B**	270	270	pg/L		11/01/19 08:11	11/06/19 00:54	1
Total PeCDD	**190**	**q**	50	4.8	pg/L		11/01/19 08:11	11/06/19 00:54	1
Total PeCDF	**5000**	**q**	50	15	pg/L		11/01/19 08:11	11/06/19 00:54	1
Total HxCDD	**260**	**q B**	50	2.1	pg/L		11/01/19 08:11	11/06/19 00:54	1
Total HxCDF	**4600**	**B q**	50	7.6	pg/L		11/01/19 08:11	11/06/19 00:54	1
Total HpCDD	**2000**		50	14	pg/L		11/01/19 08:11	11/06/19 00:54	1
Total HpCDF	**1600**	**B**	50	10	pg/L		11/01/19 08:11	11/06/19 00:54	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*39*		*24 - 169*	*11/01/19 08:11*	*11/06/19 00:54*	*1*
13C-1,2,3,7,8-PeCDD	*37*		*25 - 181*	*11/01/19 08:11*	*11/06/19 00:54*	*1*
13C-1,2,3,7,8-PeCDF	*38*		*24 - 185*	*11/01/19 08:11*	*11/06/19 00:54*	*1*
13C-2,3,4,7,8-PeCDF	*40*		*21 - 178*	*11/01/19 08:11*	*11/06/19 00:54*	*1*
13C-1,2,3,4,7,8-HxCDD	*31*	*	*32 - 141*	*11/01/19 08:11*	*11/06/19 00:54*	*1*
13C-1,2,3,6,7,8-HxCDD	*28*		*28 - 130*	*11/01/19 08:11*	*11/06/19 00:54*	*1*
13C-1,2,3,4,7,8-HxCDF	*32*		*26 - 152*	*11/01/19 08:11*	*11/06/19 00:54*	*1*
13C-1,2,3,6,7,8-HxCDF	*29*		*26 - 123*	*11/01/19 08:11*	*11/06/19 00:54*	*1*
13C-1,2,3,7,8,9-HxCDF	*32*		*29 - 147*	*11/01/19 08:11*	*11/06/19 00:54*	*1*
13C-2,3,4,6,7,8-HxCDF	*30*		*28 - 136*	*11/01/19 08:11*	*11/06/19 00:54*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*23*		*23 - 140*	*11/01/19 08:11*	*11/06/19 00:54*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*20*	*	*28 - 143*	*11/01/19 08:11*	*11/06/19 00:54*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*26*		*26 - 138*	*11/01/19 08:11*	*11/06/19 00:54*	*1*
13C-OCDD	*17*		*17 - 157*	*11/01/19 08:11*	*11/06/19 00:54*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*100*		*35 - 197*	*11/01/19 08:11*	*11/06/19 00:54*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 600-194690-1

Client Sample ID: INF 3

Date Collected: 10/25/19 13:30
Date Received: 10/28/19 14:52

Lab Sample ID: 600-194690-8

Matrix: Water

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - DL

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	18000		200	77	pg/L		11/01/19 08:11	11/07/19 21:41	20
Total TCDD	20000		200	77	pg/L		11/01/19 08:11	11/07/19 21:41	20

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*38*		*25 - 164*	*11/01/19 08:11*	*11/07/19 21:41*	*20*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*94*		*35 - 197*	*11/01/19 08:11*	*11/07/19 21:41*	*20*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	50000	B	200	76	pg/L		11/01/19 08:11	11/07/19 17:32	20

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*56*		*24 - 169*	*11/01/19 08:11*	*11/07/19 17:32*	*20*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*104*		*35 - 197*	*11/01/19 08:11*	*11/07/19 17:32*	*20*

Method: 1631E - Mercury, Low Level (CVAFS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	28	B	0.50	0.14	ng/L		11/01/19 13:07	11/04/19 17:09	1

Method: 6010C - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.010	0.0013	mg/L		11/06/19 15:20	11/12/19 16:26	1
Arsenic	0.026		0.010	0.0029	mg/L		11/06/19 15:20	11/12/19 16:26	1
Barium	1.1		0.020	0.00053	mg/L		11/06/19 15:20	11/12/19 16:26	1
Boron	0.26		0.20	0.012	mg/L		11/06/19 15:20	11/12/19 16:26	1
Beryllium	0.0074		0.0050	0.00042	mg/L		11/06/19 15:20	11/12/19 16:26	1
Calcium	130		1.0	0.024	mg/L		11/06/19 15:20	11/12/19 16:26	1
Cadmium	0.0028	J	0.0050	0.00028	mg/L		11/06/19 15:20	11/12/19 16:26	1
Cobalt	0.051		0.010	0.00031	mg/L		11/06/19 15:20	11/12/19 16:26	1
Chromium	0.12		0.010	0.0016	mg/L		11/06/19 15:20	11/12/19 16:26	1
Copper	0.11		0.010	0.0081	mg/L		11/06/19 15:20	11/12/19 16:26	1
Iron	110		0.40	0.027	mg/L		11/06/19 15:20	11/12/19 16:26	1
Potassium	25		1.0	0.037	mg/L		11/06/19 15:20	11/12/19 16:26	1
Magnesium	58		1.0	0.056	mg/L		11/06/19 15:20	11/12/19 16:26	1
Manganese	1.1		0.010	0.00036	mg/L		11/06/19 15:20	11/12/19 16:26	1
Sodium	340		5.0	0.11	mg/L		11/06/19 15:20	11/13/19 13:02	5
Nickel	0.095		0.010	0.00080	mg/L		11/06/19 15:20	11/12/19 16:26	1
Lead	0.12		0.010	0.0022	mg/L		11/06/19 15:20	11/12/19 16:26	1
Antimony	ND		0.050	0.0039	mg/L		11/06/19 15:20	11/12/19 16:26	1
Selenium	ND		0.040	0.0029	mg/L		11/06/19 15:20	11/12/19 16:26	1
Molybdenum	0.0084	J	0.010	0.00054	mg/L		11/06/19 15:20	11/12/19 16:26	1
Thallium	ND	^	0.030	0.0042	mg/L		11/06/19 15:20	11/12/19 16:26	1
Vanadium	0.20		0.010	0.00047	mg/L		11/06/19 15:20	11/12/19 16:26	1
Zinc	0.40		0.030	0.0040	mg/L		11/06/19 15:20	11/12/19 16:26	1
Tin	0.0048	J	0.010	0.00059	mg/L		11/06/19 15:20	11/12/19 16:26	1
Strontium	0.84		0.0050	0.00034	mg/L		11/06/19 15:20	11/12/19 16:26	1
Titanium	0.23		0.010	0.00051	mg/L		11/06/19 15:20	11/12/19 16:26	1

Client Sample ID: INF 3 — Lab Sample ID: 600-194690-8

Date Collected: 10/25/19 13:30 **Matrix: Water**
Date Received: 10/28/19 14:52

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	2.0	J	3.0	1.0	mg/L		11/12/19 13:44	11/12/19 13:45	1
SGT-HEM	ND		3.0	1.0	mg/L		11/12/19 13:44	11/12/19 13:45	1
Alkalinity	190		20	20	mg/L			11/08/19 11:05	1
Bicarbonate Alkalinity as CaCO3	190		20	20	mg/L			11/08/19 11:05	1
Carbonate Alkalinity as CaCO3	ND		20	20	mg/L			11/08/19 11:05	1
Total Dissolved Solids	980		100	100	mg/L			10/29/19 13:14	1
Total Suspended Solids	3500		100	100	mg/L			10/30/19 09:09	1
Ammonia	0.073	J	0.20	0.067	mg/L		10/30/19 05:22	10/30/19 10:42	1
Sulfide	0.57		0.050	0.045	mg/L			10/30/19 09:50	5
Chemical Oxygen Demand	170		20	4.9	mg/L			11/06/19 08:51	2
pH	8.2	HF	0.01	0.01	SU			10/31/19 12:36	1
TOC	17		4.0	2.2	mg/L			11/07/19 10:10	4
Phosphorus as P	1.1		0.50	0.21	mg/L		11/06/19 03:20	11/06/19 06:27	10
Phosphorus as PO4	3.3		1.5	0.65	mg/L		11/06/19 03:20	11/06/19 06:27	10

Client Sample ID: INF 3 - DISSOLVED — Lab Sample ID: 600-194690-9

Date Collected: 10/25/19 13:30 **Matrix: Water**
Date Received: 10/28/19 14:52

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	3800	G	14	14	pg/L		11/01/19 08:11	11/06/19 01:40	1
1,2,3,7,8-PeCDD	40	J	50	1.9	pg/L		11/01/19 08:11	11/06/19 01:40	1
1,2,3,7,8-PeCDF	450		50	4.1	pg/L		11/01/19 08:11	11/06/19 01:40	1
2,3,4,7,8-PeCDF	250		50	4.3	pg/L		11/01/19 08:11	11/06/19 01:40	1
1,2,3,4,7,8-HxCDD	4.6	J B	50	1.3	pg/L		11/01/19 08:11	11/06/19 01:40	1
1,2,3,6,7,8-HxCDD	6.7	J q	50	1.4	pg/L		11/01/19 08:11	11/06/19 01:40	1
1,2,3,7,8,9-HxCDD	5.7	J B	50	1.2	pg/L		11/01/19 08:11	11/06/19 01:40	1
1,2,3,4,7,8-HxCDF	750		50	5.0	pg/L		11/01/19 08:11	11/06/19 01:40	1
1,2,3,6,7,8-HxCDF	190		50	4.5	pg/L		11/01/19 08:11	11/06/19 01:40	1
1,2,3,7,8,9-HxCDF	14	J B	50	2.8	pg/L		11/01/19 08:11	11/06/19 01:40	1
2,3,4,6,7,8-HxCDF	23	J B	50	3.1	pg/L		11/01/19 08:11	11/06/19 01:40	1
1,2,3,4,6,7,8-HpCDD	250		50	4.5	pg/L		11/01/19 08:11	11/06/19 01:40	1
1,2,3,4,6,7,8-HpCDF	240	B	50	3.0	pg/L		11/01/19 08:11	11/06/19 01:40	1
1,2,3,4,7,8,9-HpCDF	88	B	50	3.2	pg/L		11/01/19 08:11	11/06/19 01:40	1
OCDD	5400	B *	100	4.7	pg/L		11/01/19 08:11	11/06/19 01:40	1
OCDF	170	B	100	1.9	pg/L		11/01/19 08:11	11/06/19 01:40	1
Total TCDD	4000	G	14	14	pg/L		11/01/19 08:11	11/06/19 01:40	1
Total TCDF	21000	G B	44	44	pg/L		11/01/19 08:11	11/06/19 01:40	1
Total PeCDD	51	q	50	1.9	pg/L		11/01/19 08:11	11/06/19 01:40	1
Total PeCDF	1100		50	4.2	pg/L		11/01/19 08:11	11/06/19 01:40	1
Total HxCDD	74	q B	50	1.3	pg/L		11/01/19 08:11	11/06/19 01:40	1
Total HxCDF	1100	B	50	3.8	pg/L		11/01/19 08:11	11/06/19 01:40	1
Total HpCDD	630		50	4.5	pg/L		11/01/19 08:11	11/06/19 01:40	1
Total HpCDF	430	B	50	3.1	pg/L		11/01/19 08:11	11/06/19 01:40	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*51*		*25 - 164*	*11/01/19 08:11*	*11/06/19 01:40*	*1*
13C-2,3,7,8-TCDF	*48*		*24 - 169*	*11/01/19 08:11*	*11/06/19 01:40*	*1*
13C-1,2,3,7,8-PeCDD	*48*		*25 - 181*	*11/01/19 08:11*	*11/06/19 01:40*	*1*
13C-1,2,3,7,8-PeCDF	*48*		*24 - 185*	*11/01/19 08:11*	*11/06/19 01:40*	*1*

Client Sample ID: INF 3 - DISSOLVED
Lab Sample ID: 600-194690-9

Date Collected: 10/25/19 13:30 **Matrix: Water**
Date Received: 10/28/19 14:52

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,4,7,8-PeCDF	51		21 - 178	11/01/19 08:11	11/06/19 01:40	1
13C-1,2,3,4,7,8-HxCDD	47		32 - 141	11/01/19 08:11	11/06/19 01:40	1
13C-1,2,3,6,7,8-HxCDD	45		28 - 130	11/01/19 08:11	11/06/19 01:40	1
13C-1,2,3,4,7,8-HxCDF	49		26 - 152	11/01/19 08:11	11/06/19 01:40	1
13C-1,2,3,6,7,8-HxCDF	45		26 - 123	11/01/19 08:11	11/06/19 01:40	1
13C-1,2,3,7,8,9-HxCDF	47		29 - 147	11/01/19 08:11	11/06/19 01:40	1
13C-2,3,4,6,7,8-HxCDF	45		28 - 136	11/01/19 08:11	11/06/19 01:40	1
13C-1,2,3,4,6,7,8-HpCDD	36		23 - 140	11/01/19 08:11	11/06/19 01:40	1
13C-1,2,3,4,6,7,8-HpCDF	34		28 - 143	11/01/19 08:11	11/06/19 01:40	1
13C-1,2,3,4,7,8,9-HpCDF	39		26 - 138	11/01/19 08:11	11/06/19 01:40	1
13C-OCDD	27		17 - 157	11/01/19 08:11	11/06/19 01:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	99		35 - 197	11/01/19 08:11	11/06/19 01:40	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	**11000**	**B**	50	28	pg/L		11/01/19 08:11	11/07/19 18:10	5

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDF	61		24 - 169	11/01/19 08:11	11/07/19 18:10	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	104		35 - 197	11/01/19 08:11	11/07/19 18:10	5

Method: 6010C - Inductively Coupled Plasma - Atomic Emission Spectrometry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.010	0.0013	mg/L		11/06/19 15:20	11/12/19 16:28	1
Arsenic	**0.014**		0.010	0.0029	mg/L		11/06/19 15:20	11/12/19 16:28	1
Boron	**0.22**		0.20	0.012	mg/L		11/06/19 15:20	11/12/19 16:28	1
Barium	**0.55**		0.020	0.00053	mg/L		11/06/19 15:20	11/12/19 16:28	1
Beryllium	**0.0026**	**J**	0.0050	0.00042	mg/L		11/06/19 15:20	11/12/19 16:28	1
Calcium	**67**		1.0	0.024	mg/L		11/06/19 15:20	11/12/19 16:28	1
Cadmium	**0.0013**	**J**	0.0050	0.00028	mg/L		11/06/19 15:20	11/12/19 16:28	1
Cobalt	**0.017**		0.010	0.00031	mg/L		11/06/19 15:20	11/12/19 16:28	1
Chromium	**0.048**		0.010	0.0016	mg/L		11/06/19 15:20	11/12/19 16:28	1
Copper	**0.036**		0.010	0.0081	mg/L		11/06/19 15:20	11/12/19 16:28	1
Iron	**40**		0.40	0.027	mg/L		11/06/19 15:20	11/12/19 16:28	1
Potassium	**17**		1.0	0.037	mg/L		11/06/19 15:20	11/12/19 16:28	1
Magnesium	**42**		1.0	0.056	mg/L		11/06/19 15:20	11/12/19 16:28	1
Manganese	**0.34**		0.010	0.00036	mg/L		11/06/19 15:20	11/12/19 16:28	1
Molybdenum	**0.0084**	**J**	0.010	0.00054	mg/L		11/06/19 15:20	11/12/19 16:28	1
Sodium	**340**		5.0	0.11	mg/L		11/06/19 15:20	11/13/19 13:04	5
Nickel	**0.033**		0.010	0.00080	mg/L		11/06/19 15:20	11/12/19 16:28	1
Lead	**0.037**		0.010	0.0022	mg/L		11/06/19 15:20	11/12/19 16:28	1
Antimony	ND		0.050	0.0039	mg/L		11/06/19 15:20	11/12/19 16:28	1
Selenium	ND		0.040	0.0029	mg/L		11/06/19 15:20	11/12/19 16:28	1
Tin	**0.0012**	**J**	0.010	0.00059	mg/L		11/06/19 15:20	11/12/19 16:28	1
Strontium	**0.57**		0.0050	0.00034	mg/L		11/06/19 15:20	11/12/19 16:28	1
Titanium	**0.17**		0.010	0.00051	mg/L		11/06/19 15:20	11/12/19 16:28	1
Thallium	ND	^	0.030	0.0042	mg/L		11/06/19 15:20	11/12/19 16:28	1

Client Sample ID: INF 3 - DISSOLVED — Lab Sample ID: 600-194690-9

Date Collected: 10/25/19 13:30 **Matrix: Water**
Date Received: 10/28/19 14:52

Method: 6010C - Inductively Coupled Plasma - Atomic Emission Spectrometry - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vanadium	0.086		0.010	0.00047	mg/L		11/06/19 15:20	11/12/19 16:28	1
Zinc	0.15		0.030	0.0040	mg/L		11/06/19 15:20	11/12/19 16:28	1

Client Sample ID: INF 4 — Lab Sample ID: 600-194690-10

Date Collected: 10/25/19 20:50 **Matrix: Water**
Date Received: 10/28/19 14:52

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.15	J F1	0.40	0.10	mg/L			10/29/19 07:49	1
Nitrate as N	ND	H F1 H3	0.20	0.025	mg/L			10/29/19 07:49	1
Chloride	500	B	8.0	1.1	mg/L			10/30/19 12:12	20
Nitrite as N	ND	H F1 H3	0.20	0.030	mg/L			10/29/19 07:49	1
Sulfate	36		10	1.9	mg/L			10/30/19 12:12	20
Fluoride	0.26	F1	0.20	0.060	mg/L			10/29/19 07:49	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,7,8-PeCDD	130		51	6.1	pg/L		11/01/19 08:11	11/06/19 02:26	1
1,2,3,7,8-PeCDF	1900		51	17	pg/L		11/01/19 08:11	11/06/19 02:26	1
2,3,4,7,8-PeCDF	1100		51	17	pg/L		11/01/19 08:11	11/06/19 02:26	1
1,2,3,4,7,8-HxCDD	4.9	J B	51	2.5	pg/L		11/01/19 08:11	11/06/19 02:26	1
1,2,3,6,7,8-HxCDD	20	J	51	2.7	pg/L		11/01/19 08:11	11/06/19 02:26	1
1,2,3,7,8,9-HxCDD	8.5	J B	51	2.4	pg/L		11/01/19 08:11	11/06/19 02:26	1
1,2,3,4,7,8-HxCDF	2500		51	11	pg/L		11/01/19 08:11	11/06/19 02:26	1
1,2,3,6,7,8-HxCDF	650		51	10	pg/L		11/01/19 08:11	11/06/19 02:26	1
1,2,3,7,8,9-HxCDF	40	J B	51	6.0	pg/L		11/01/19 08:11	11/06/19 02:26	1
2,3,4,6,7,8-HxCDF	73	B	51	7.0	pg/L		11/01/19 08:11	11/06/19 02:26	1
1,2,3,4,6,7,8-HpCDD	540		51	7.6	pg/L		11/01/19 08:11	11/06/19 02:26	1
1,2,3,4,6,7,8-HpCDF	600	B	51	6.2	pg/L		11/01/19 08:11	11/06/19 02:26	1
1,2,3,4,7,8,9-HpCDF	240	B	51	6.1	pg/L		11/01/19 08:11	11/06/19 02:26	1
OCDD	8800	B *	100	8.7	pg/L		11/01/19 08:11	11/06/19 02:26	1
OCDF	370	B	100	4.2	pg/L		11/01/19 08:11	11/06/19 02:26	1
Total TCDF	100000	G B	240	240	pg/L		11/01/19 08:11	11/06/19 02:26	1
Total PeCDD	160	q	51	6.1	pg/L		11/01/19 08:11	11/06/19 02:26	1
Total PeCDF	4600		51	17	pg/L		11/01/19 08:11	11/06/19 02:26	1
Total HxCDD	180	B	51	2.6	pg/L		11/01/19 08:11	11/06/19 02:26	1
Total HxCDF	3800	B q	51	8.7	pg/L		11/01/19 08:11	11/06/19 02:26	1
Total HpCDD	1300		51	7.6	pg/L		11/01/19 08:11	11/06/19 02:26	1
Total HpCDF	1100	B	51	6.1	pg/L		11/01/19 08:11	11/06/19 02:26	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*34*		*24 - 169*	*11/01/19 08:11*	*11/06/19 02:26*	*1*
13C-1,2,3,7,8-PeCDD	*29*		*25 - 181*	*11/01/19 08:11*	*11/06/19 02:26*	*1*
13C-1,2,3,7,8-PeCDF	*30*		*24 - 185*	*11/01/19 08:11*	*11/06/19 02:26*	*1*
13C-2,3,4,7,8-PeCDF	*31*		*21 - 178*	*11/01/19 08:11*	*11/06/19 02:26*	*1*
13C-1,2,3,4,7,8-HxCDD	*25*	*	*32 - 141*	*11/01/19 08:11*	*11/06/19 02:26*	*1*
13C-1,2,3,6,7,8-HxCDD	*22*	*	*28 - 130*	*11/01/19 08:11*	*11/06/19 02:26*	*1*
13C-1,2,3,4,7,8-HxCDF	*25*	*	*26 - 152*	*11/01/19 08:11*	*11/06/19 02:26*	*1*
13C-1,2,3,6,7,8-HxCDF	*23*	*	*26 - 123*	*11/01/19 08:11*	*11/06/19 02:26*	*1*
13C-1,2,3,7,8,9-HxCDF	*26*	*	*29 - 147*	*11/01/19 08:11*	*11/06/19 02:26*	*1*

Client Sample ID: INF 4 — Lab Sample ID: 600-194690-10

Date Collected: 10/25/19 20:50 **Matrix: Water**
Date Received: 10/28/19 14:52

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,4,6,7,8-HxCDF	24	*	28 - 136	11/01/19 08:11	11/06/19 02:26	1
13C-1,2,3,4,6,7,8-HpCDD	19	*	23 - 140	11/01/19 08:11	11/06/19 02:26	1
13C-1,2,3,4,6,7,8-HpCDF	16	*	28 - 143	11/01/19 08:11	11/06/19 02:26	1
13C-1,2,3,4,7,8,9-HpCDF	21	*	26 - 138	11/01/19 08:11	11/06/19 02:26	1
13C-OCDD	14	*	17 - 157	11/01/19 08:11	11/06/19 02:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	92		35 - 197	11/01/19 08:11	11/06/19 02:26	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - DL

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	**15000**		200	73	pg/L		11/01/19 08:11	11/07/19 22:29	20
Total TCDD	**16000**		200	73	pg/L		11/01/19 08:11	11/07/19 22:29	20

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	32		25 - 164	11/01/19 08:11	11/07/19 22:29	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	92		35 - 197	11/01/19 08:11	11/07/19 22:29	20

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	**46000**	**B**	200	61	pg/L		11/01/19 08:11	11/07/19 18:49	20

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDF	52		24 - 169	11/01/19 08:11	11/07/19 18:49	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	86		35 - 197	11/01/19 08:11	11/07/19 18:49	20

Method: 6010C - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.010	0.0013	mg/L		11/06/19 15:20	11/12/19 16:30	1
Arsenic	**0.023**		0.010	0.0029	mg/L		11/06/19 15:20	11/12/19 16:30	1
Barium	**0.96**		0.020	0.00053	mg/L		11/06/19 15:20	11/12/19 16:30	1
Boron	**0.25**		0.20	0.012	mg/L		11/06/19 15:20	11/12/19 16:30	1
Beryllium	**0.0062**		0.0050	0.00042	mg/L		11/06/19 15:20	11/12/19 16:30	1
Calcium	**120**		1.0	0.024	mg/L		11/06/19 15:20	11/12/19 16:30	1
Cadmium	**0.0025**	**J**	0.0050	0.00028	mg/L		11/06/19 15:20	11/12/19 16:30	1
Cobalt	**0.043**		0.010	0.00031	mg/L		11/06/19 15:20	11/12/19 16:30	1
Chromium	**0.11**		0.010	0.0016	mg/L		11/06/19 15:20	11/12/19 16:30	1
Copper	**0.093**		0.010	0.0081	mg/L		11/06/19 15:20	11/12/19 16:30	1
Iron	**88**		0.40	0.027	mg/L		11/06/19 15:20	11/12/19 16:30	1
Potassium	**23**		1.0	0.037	mg/L		11/06/19 15:20	11/12/19 16:30	1
Magnesium	**54**		1.0	0.056	mg/L		11/06/19 15:20	11/12/19 16:30	1
Manganese	**1.0**		0.010	0.00036	mg/L		11/06/19 15:20	11/12/19 16:30	1
Sodium	**350**		5.0	0.11	mg/L		11/06/19 15:20	11/13/19 13:18	5
Nickel	**0.081**		0.010	0.00080	mg/L		11/06/19 15:20	11/12/19 16:30	1
Lead	**0.098**		0.010	0.0022	mg/L		11/06/19 15:20	11/12/19 16:30	1
Antimony	ND		0.050	0.0039	mg/L		11/06/19 15:20	11/12/19 16:30	1
Selenium	ND		0.040	0.0029	mg/L		11/06/19 15:20	11/12/19 16:30	1
Molybdenum	**0.0090**	**J**	0.010	0.00054	mg/L		11/06/19 15:20	11/12/19 16:30	1

Client Sample ID: INF 4 — Lab Sample ID: 600-194690-10

Date Collected: 10/25/19 20:50 **Matrix: Water**
Date Received: 10/28/19 14:52

Method: 6010C - Inductively Coupled Plasma - Atomic Emission Spectrometry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	ND	^	0.030	0.0042	mg/L		11/06/19 15:20	11/12/19 16:30	1
Vanadium	0.17		0.010	0.00047	mg/L		11/06/19 15:20	11/12/19 16:30	1
Zinc	0.36		0.030	0.0040	mg/L		11/06/19 15:20	11/12/19 16:30	1
Tin	0.0057	J	0.010	0.00059	mg/L		11/06/19 15:20	11/12/19 16:30	1
Strontium	0.79		0.0050	0.00034	mg/L		11/06/19 15:20	11/12/19 16:30	1
Titanium	0.22		0.010	0.00051	mg/L		11/06/19 15:20	11/12/19 16:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	2.1	J	3.0	1.0	mg/L		11/12/19 13:44	11/12/19 13:45	1
SGT-HEM	ND		3.0	1.0	mg/L		11/12/19 13:44	11/12/19 13:45	1
Alkalinity	170	F1	20	20	mg/L			11/08/19 11:25	1
Bicarbonate Alkalinity as CaCO3	170		20	20	mg/L			11/08/19 11:25	1
Carbonate Alkalinity as CaCO3	ND		20	20	mg/L			11/08/19 11:25	1
Total Dissolved Solids	1100		40	40	mg/L			10/30/19 13:38	1
Total Suspended Solids	4600		100	100	mg/L			10/30/19 09:08	1
Ammonia	0.23		0.20	0.067	mg/L		11/06/19 07:01	11/06/19 12:20	1
Sulfide	0.061		0.050	0.045	mg/L			10/30/19 09:54	5
Chemical Oxygen Demand	310		40	9.9	mg/L			11/06/19 08:51	4
Chemical Oxygen Demand	180	F1 E	10	2.5	mg/L			11/07/19 08:48	1
pH	7.9	HF	0.01	0.01	SU			11/05/19 11:34	1
TOC	9.2	F1	1.0	0.56	mg/L			11/07/19 12:00	1
Phosphorus as P	0.25		0.050	0.021	mg/L		11/06/19 03:20	11/06/19 06:27	1
Phosphorus as PO4	0.77		0.15	0.065	mg/L		11/06/19 03:20	11/06/19 06:27	1

Client Sample ID: INF 4 - DISSOLVED — Lab Sample ID: 600-194690-11

Date Collected: 10/26/19 22:10 **Matrix: Water**
Date Received: 10/28/19 14:52

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	150	F2 F1	10	1.2	pg/L		11/01/19 08:11	11/06/19 03:12	1
1,2,3,7,8-PeCDD	3.0	J F1 q	51	0.75	pg/L		11/01/19 08:11	11/06/19 03:12	1
1,2,3,7,8-PeCDF	20	J F1 F2	51	0.68	pg/L		11/01/19 08:11	11/06/19 03:12	1
2,3,4,7,8-PeCDF	11	J F1	51	0.72	pg/L		11/01/19 08:11	11/06/19 03:12	1
1,2,3,4,7,8-HxCDD	3.1	J B	51	0.60	pg/L		11/01/19 08:11	11/06/19 03:12	1
1,2,3,6,7,8-HxCDD	2.1	J	51	0.61	pg/L		11/01/19 08:11	11/06/19 03:12	1
1,2,3,7,8,9-HxCDD	1.7	J q B	51	0.54	pg/L		11/01/19 08:11	11/06/19 03:12	1
1,2,3,4,7,8-HxCDF	31	J F1 F2	51	0.99	pg/L		11/01/19 08:11	11/06/19 03:12	1
1,2,3,6,7,8-HxCDF	9.8	J F1	51	0.90	pg/L		11/01/19 08:11	11/06/19 03:12	1
1,2,3,7,8,9-HxCDF	4.8	J B	51	0.59	pg/L		11/01/19 08:11	11/06/19 03:12	1
2,3,4,6,7,8-HxCDF	2.8	J B	51	0.61	pg/L		11/01/19 08:11	11/06/19 03:12	1
1,2,3,4,6,7,8-HpCDD	27	J F1	51	1.2	pg/L		11/01/19 08:11	11/06/19 03:12	1
1,2,3,4,6,7,8-HpCDF	12	J B F1	51	0.54	pg/L		11/01/19 08:11	11/06/19 03:12	1
1,2,3,4,7,8,9-HpCDF	4.9	J B F1	51	0.71	pg/L		11/01/19 08:11	11/06/19 03:12	1
OCDD	280	B F1 F2 *	100	1.2	pg/L		11/01/19 08:11	11/06/19 03:12	1
OCDF	11	J B	100	0.87	pg/L		11/01/19 08:11	11/06/19 03:12	1
Total TCDD	170		10	1.2	pg/L		11/01/19 08:11	11/06/19 03:12	1
Total TCDF	920	B	10	3.1	pg/L		11/01/19 08:11	11/06/19 03:12	1
Total PeCDD	3.0	J q	51	0.75	pg/L		11/01/19 08:11	11/06/19 03:12	1

Client Sample ID: INF 4 - DISSOLVED — Lab Sample ID: 600-194690-11

Date Collected: 10/26/19 22:10 **Matrix: Water**
Date Received: 10/28/19 14:52

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total PeCDF	**44**	**J**	51	0.70	pg/L		11/01/19 08:11	11/06/19 03:12	1
Total HxCDD	**6.9**	**J q B**	51	0.58	pg/L		11/01/19 08:11	11/06/19 03:12	1
Total HxCDF	**48**	**J B**	51	0.77	pg/L		11/01/19 08:11	11/06/19 03:12	1
Total HpCDD	**51**		51	1.2	pg/L		11/01/19 08:11	11/06/19 03:12	1
Total HpCDF	**20**	**J q B**	51	0.63	pg/L		11/01/19 08:11	11/06/19 03:12	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*62*		*25 - 164*	*11/01/19 08:11*	*11/06/19 03:12*	*1*
13C-2,3,7,8-TCDF	*57*		*24 - 169*	*11/01/19 08:11*	*11/06/19 03:12*	*1*
13C-1,2,3,7,8-PeCDD	*64*		*25 - 181*	*11/01/19 08:11*	*11/06/19 03:12*	*1*
13C-1,2,3,7,8-PeCDF	*61*		*24 - 185*	*11/01/19 08:11*	*11/06/19 03:12*	*1*
13C-2,3,4,7,8-PeCDF	*66*		*21 - 178*	*11/01/19 08:11*	*11/06/19 03:12*	*1*
13C-1,2,3,4,7,8-HxCDD	*70*		*32 - 141*	*11/01/19 08:11*	*11/06/19 03:12*	*1*
13C-1,2,3,6,7,8-HxCDD	*65*		*28 - 130*	*11/01/19 08:11*	*11/06/19 03:12*	*1*
13C-1,2,3,4,7,8-HxCDF	*69*		*26 - 152*	*11/01/19 08:11*	*11/06/19 03:12*	*1*
13C-1,2,3,6,7,8-HxCDF	*66*		*26 - 123*	*11/01/19 08:11*	*11/06/19 03:12*	*1*
13C-1,2,3,7,8,9-HxCDF	*64*		*29 - 147*	*11/01/19 08:11*	*11/06/19 03:12*	*1*
13C-2,3,4,6,7,8-HxCDF	*65*		*28 - 136*	*11/01/19 08:11*	*11/06/19 03:12*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*55*		*23 - 140*	*11/01/19 08:11*	*11/06/19 03:12*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*53*		*28 - 143*	*11/01/19 08:11*	*11/06/19 03:12*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*56*		*26 - 138*	*11/01/19 08:11*	*11/06/19 03:12*	*1*
13C-OCDD	*46*		*17 - 157*	*11/01/19 08:11*	*11/06/19 03:12*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*96*		*35 - 197*	*11/01/19 08:11*	*11/06/19 03:12*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	**540**	**F1 B**	10	1.2	pg/L		11/01/19 08:11	11/07/19 19:27	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*68*		*24 - 169*	*11/01/19 08:11*	*11/07/19 19:27*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*105*		*35 - 197*	*11/01/19 08:11*	*11/07/19 19:27*	*1*

Method: 1631E - Mercury, Low Level (CVAFS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**22**	**B**	0.50	0.14	ng/L		11/01/19 13:07	11/04/19 17:14	1

Method: 6010C - Inductively Coupled Plasma - Atomic Emission Spectrometry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.010	0.0013	mg/L		11/06/19 15:20	11/12/19 16:32	1
Arsenic	**0.0041**	**J**	0.010	0.0029	mg/L		11/06/19 15:20	11/12/19 16:32	1
Boron	**0.20**		0.20	0.012	mg/L		11/06/19 15:20	11/12/19 16:32	1
Barium	**0.30**		0.020	0.00053	mg/L		11/06/19 15:20	11/12/19 16:32	1
Beryllium	ND		0.0050	0.00042	mg/L		11/06/19 15:20	11/12/19 16:32	1
Calcium	**55**		1.0	0.024	mg/L		11/06/19 15:20	11/12/19 16:32	1
Cadmium	**0.00040**	**J**	0.0050	0.00028	mg/L		11/06/19 15:20	11/12/19 16:32	1
Cobalt	**0.0012**	**J**	0.010	0.00031	mg/L		11/06/19 15:20	11/12/19 16:32	1
Chromium	**0.0039**	**J**	0.010	0.0016	mg/L		11/06/19 15:20	11/12/19 16:32	1
Copper	ND		0.010	0.0081	mg/L		11/06/19 15:20	11/12/19 16:32	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 600-194690-1

Client Sample ID: INF 4 - DISSOLVED

Lab Sample ID: 600-194690-11

Date Collected: 10/26/19 22:10
Date Received: 10/28/19 14:52

Matrix: Water

Method: 6010C - Inductively Coupled Plasma - Atomic Emission Spectrometry - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**2.9**		0.40	0.027	mg/L		11/06/19 15:20	11/12/19 16:32	1
Potassium	**13**		1.0	0.037	mg/L		11/06/19 15:20	11/12/19 16:32	1
Magnesium	**32**		1.0	0.056	mg/L		11/06/19 15:20	11/12/19 16:32	1
Manganese	**0.035**		0.010	0.00036	mg/L		11/06/19 15:20	11/12/19 16:32	1
Molybdenum	**0.010**		0.010	0.00054	mg/L		11/06/19 15:20	11/12/19 16:32	1
Sodium	**350**		5.0	0.11	mg/L		11/06/19 15:20	11/13/19 13:20	5
Nickel	**0.0030**	**J**	0.010	0.00080	mg/L		11/06/19 15:20	11/12/19 16:32	1
Lead	ND		0.010	0.0022	mg/L		11/06/19 15:20	11/12/19 16:32	1
Antimony	ND		0.050	0.0039	mg/L		11/06/19 15:20	11/12/19 16:32	1
Selenium	ND		0.040	0.0029	mg/L		11/06/19 15:20	11/12/19 16:32	1
Tin	ND		0.010	0.00059	mg/L		11/06/19 15:20	11/12/19 16:32	1
Strontium	**0.47**		0.0050	0.00034	mg/L		11/06/19 15:20	11/12/19 16:32	1
Titanium	**0.025**		0.010	0.00051	mg/L		11/06/19 15:20	11/12/19 16:32	1
Thallium	ND	^	0.030	0.0042	mg/L		11/06/19 15:20	11/12/19 16:32	1
Vanadium	**0.012**		0.010	0.00047	mg/L		11/06/19 15:20	11/12/19 16:32	1
Zinc	**0.026**	**J**	0.030	0.0040	mg/L		11/06/19 15:20	11/12/19 16:32	1

Default Detection Limits

Client: GHD Services Inc.
Job ID: 600-194690-1
Project/Site: San Jacinto River Waste Pits Superfund

Method: 300.0 - Anions, Ion Chromatography

Analyte	RL	MDL	Units
Bromide	0.40	0.10	mg/L
Chloride	0.40	0.053	mg/L
Fluoride	0.20	0.060	mg/L
Nitrate as N	0.20	0.025	mg/L
Nitrite as N	0.20	0.030	mg/L
Sulfate	0.50	0.096	mg/L

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Prep: 1613B

Analyte	RL		Units
1,2,3,4,6,7,8-HpCDD	50		pg/L
1,2,3,4,6,7,8-HpCDF	50		pg/L
1,2,3,4,7,8,9-HpCDF	50		pg/L
1,2,3,4,7,8-HxCDD	50		pg/L
1,2,3,4,7,8-HxCDF	50		pg/L
1,2,3,6,7,8-HxCDD	50		pg/L
1,2,3,6,7,8-HxCDF	50		pg/L
1,2,3,7,8,9-HxCDD	50		pg/L
1,2,3,7,8,9-HxCDF	50		pg/L
1,2,3,7,8-PeCDD	50		pg/L
1,2,3,7,8-PeCDF	50		pg/L
2,3,4,6,7,8-HxCDF	50		pg/L
2,3,4,7,8-PeCDF	50		pg/L
2,3,7,8-TCDD	10		pg/L
2,3,7,8-TCDF	10		pg/L
OCDD	100		pg/L
OCDF	100		pg/L
Total HpCDD	50		pg/L
Total HpCDF	50		pg/L
Total HxCDD	50		pg/L
Total HxCDF	50		pg/L
Total PeCDD	50		pg/L
Total PeCDF	50		pg/L
Total TCDD	10		pg/L
Total TCDF	10		pg/L

Method: 1631E - Mercury, Low Level (CVAFS)

Prep: 1631E

Analyte	RL	MDL	Units
Mercury	0.50	0.14	ng/L

Method: 6010C - Inductively Coupled Plasma - Atomic Emission Spectrometry

Prep: 3010A

Analyte	RL	MDL	Units
Antimony	0.050	0.0039	mg/L
Arsenic	0.010	0.0029	mg/L
Barium	0.020	0.00053	mg/L
Beryllium	0.0050	0.00042	mg/L
Boron	0.20	0.012	mg/L
Cadmium	0.0050	0.00028	mg/L
Calcium	1.0	0.024	mg/L
Chromium	0.010	0.0016	mg/L

Default Detection Limits

Client: GHD Services Inc.
Job ID: 600-194690-1
Project/Site: San Jacinto River Waste Pits Superfund

Method: 6010C - Inductively Coupled Plasma - Atomic Emission Spectrometry (Continued)

Prep: 3010A

Analyte	RL	MDL	Units
Cobalt	0.010	0.00031	mg/L
Copper	0.010	0.0081	mg/L
Iron	0.40	0.027	mg/L
Lead	0.010	0.0022	mg/L
Magnesium	1.0	0.056	mg/L
Manganese	0.010	0.00036	mg/L
Molybdenum	0.010	0.00054	mg/L
Nickel	0.010	0.00080	mg/L
Potassium	1.0	0.037	mg/L
Selenium	0.040	0.0029	mg/L
Silver	0.010	0.0013	mg/L
Sodium	1.0	0.021	mg/L
Strontium	0.0050	0.00034	mg/L
Thallium	0.030	0.0042	mg/L
Tin	0.010	0.00059	mg/L
Titanium	0.010	0.00051	mg/L
Vanadium	0.010	0.00047	mg/L
Zinc	0.030	0.0040	mg/L

Method: 6010C - Inductively Coupled Plasma - Atomic Emission Spectrometry - Dissolved

Prep: 3010A

Analyte	RL	MDL	Units
Antimony	0.050	0.0039	mg/L
Arsenic	0.010	0.0029	mg/L
Barium	0.020	0.00053	mg/L
Beryllium	0.0050	0.00042	mg/L
Boron	0.20	0.012	mg/L
Cadmium	0.0050	0.00028	mg/L
Calcium	1.0	0.024	mg/L
Chromium	0.010	0.0016	mg/L
Cobalt	0.010	0.00031	mg/L
Copper	0.010	0.0081	mg/L
Iron	0.40	0.027	mg/L
Lead	0.010	0.0022	mg/L
Magnesium	1.0	0.056	mg/L
Manganese	0.010	0.00036	mg/L
Molybdenum	0.010	0.00054	mg/L
Nickel	0.010	0.00080	mg/L
Potassium	1.0	0.037	mg/L
Selenium	0.040	0.0029	mg/L
Silver	0.010	0.0013	mg/L
Sodium	1.0	0.021	mg/L
Strontium	0.0050	0.00034	mg/L
Thallium	0.030	0.0042	mg/L
Tin	0.010	0.00059	mg/L
Titanium	0.010	0.00051	mg/L
Vanadium	0.010	0.00047	mg/L
Zinc	0.030	0.0040	mg/L

General Chemistry

Default Detection Limits

Client: GHD Services Inc.
Job ID: 600-194690-1
Project/Site: San Jacinto River Waste Pits Superfund

General Chemistry

Analyte	RL	MDL	Units
Alkalinity	20	20	mg/L
Bicarbonate Alkalinity as CaCO3	20	20	mg/L
Carbonate Alkalinity as CaCO3	20	20	mg/L
Total Dissolved Solids	10	10	mg/L
Total Suspended Solids	2.0	2.0	mg/L
Sulfide	0.010	0.0090	mg/L
Chemical Oxygen Demand	10	2.5	mg/L
pH	0.01	0.01	SU
TOC	1.0	0.56	mg/L

General Chemistry
Prep: 1664B

Analyte	RL	MDL	Units
HEM	3.0	1.0	mg/L
SGT-HEM	3.0	1.0	mg/L

General Chemistry
Prep: 350.1

Analyte	RL	MDL	Units
Ammonia	0.20	0.067	mg/L

General Chemistry
Prep: SM 4500 P B

Analyte	RL	MDL	Units
Phosphorus as P	0.050	0.021	mg/L
Phosphorus as PO4	0.15	0.065	mg/L

Surrogate Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 600-194690-1

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

Lab Sample ID	Client Sample ID	37TCDD (35-197)
600-194690-1	1. CEFF	91
600-194690-1 - RA	1. CEFF	93
600-194690-3	FEFF 1	98
600-194690-8	INF 3	100
600-194690-8 - RA	INF 3	104
600-194690-8 - DL	INF 3	94
600-194690-9	INF 3 - DISSOLVED	99
600-194690-9 - RA	INF 3 - DISSOLVED	104
600-194690-10	INF 4	92
600-194690-10 - RA	INF 4	86
600-194690-10 - DL	INF 4	92
600-194690-11	INF 4 - DISSOLVED	96
600-194690-11 - RA	INF 4 - DISSOLVED	105
600-194690-11 MS	INF 4 - DISSOLVED	92
600-194690-11 MS - RA	INF 4 - DISSOLVED	110
600-194690-11 MS - DL	INF 4 - DISSOLVED	89
600-194690-11 MSD	INF 4 - DISSOLVED	99
600-194690-11 MSD - RA	INF 4 - DISSOLVED	97
600-194690-11 MSD - DL	INF 4 - DISSOLVED	96
MB 320-335248/1-A	Method Blank	96

Percent Surrogate Recovery (Acceptance Limits)

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

Lab Sample ID	Client Sample ID	37TCDD (31-191)
LCS 320-335248/2-A	Lab Control Sample	100

Percent Surrogate Recovery (Acceptance Limits)

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 600-194690-1

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
600-194690-1	1. CEFF	56	52	55	53	57	59	59	60
600-194690-1 - RA	1. CEFF		61						
600-194690-3	FEFF 1	59	52	58	54	60	62	62	63
600-194690-8	INF 3		39	37	38	40	31 *	28	32
600-194690-8 - RA	INF 3		56						
600-194690-8 - DL	INF 3	38							
600-194690-9	INF 3 - DISSOLVED	51	48	48	48	51	47	45	49
600-194690-9 - RA	INF 3 - DISSOLVED		61						
600-194690-10	INF 4		34	29	30	31	25 *	22 *	25 *
600-194690-10 - RA	INF 4		52						
600-194690-10 - DL	INF 4	32							
600-194690-11	INF 4 - DISSOLVED	62	57	64	61	66	70	65	69
600-194690-11 - RA	INF 4 - DISSOLVED		68						
600-194690-11 MS	INF 4 - DISSOLVED	24 *	27	29	28	31	21 *	19 *	22 *
600-194690-11 MS - RA	INF 4 - DISSOLVED		67						
600-194690-11 MS - DL	INF 4 - DISSOLVED	28 q							
600-194690-11 MSD	INF 4 - DISSOLVED	24 *	27	25	25	27	22 *	19 *	22 *
600-194690-11 MSD - RA	INF 4 - DISSOLVED		40						
600-194690-11 MSD - DL	INF 4 - DISSOLVED	28							
MB 320-335248/1-A	Method Blank	53	48	51	49	53	55	53	54

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)
600-194690-1	1. CEFF	59	56	57	50	48	51	40
600-194690-1 - RA	1. CEFF							
600-194690-3	FEFF 1	60	58	60	55	51	55	45
600-194690-8	INF 3	29	32	30	23	20 *	26	17
600-194690-8 - RA	INF 3							
600-194690-8 - DL	INF 3							
600-194690-9	INF 3 - DISSOLVED	45	47	45	36	34	39	27
600-194690-9 - RA	INF 3 - DISSOLVED							
600-194690-10	INF 4	23 *	26 *	24 *	19 *	16 *	21 *	14 *
600-194690-10 - RA	INF 4							
600-194690-10 - DL	INF 4							
600-194690-11	INF 4 - DISSOLVED	66	64	65	55	53	56	46
600-194690-11 - RA	INF 4 - DISSOLVED							
600-194690-11 MS	INF 4 - DISSOLVED	19 *	21 *	19 *	15 *	13 *	17 *	13 *
600-194690-11 MS - RA	INF 4 - DISSOLVED							
600-194690-11 MS - DL	INF 4 - DISSOLVED							
600-194690-11 MSD	INF 4 - DISSOLVED	20 *	21 *	20 *	17 *	14 *	17 *	14 *
600-194690-11 MSD - RA	INF 4 - DISSOLVED							
600-194690-11 MSD - DL	INF 4 - DISSOLVED							
MB 320-335248/1-A	Method Blank	53	51	52	43	41	43	32

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF

HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		TCDD	TCDF	PeCDD	PeCDF	PeCF	HxCDD	HxDD	HxCDF
Lab Sample ID	Client Sample ID	(20-175)	(22-152)	(21-227)	(21-192)	(13-328)	(21-193)	(25-163)	(19-202)
LCS 320-335248/2-A	Lab Control Sample	65	59	67	61	67	75	68	71

		Percent Isotope Dilution Recovery (Acceptance Limits)						
		HxDF	HxCF	13CHxCF	HpCDD	HpCDF	HpCDF2	OCDD
Lab Sample ID	Client Sample ID	(21-159)	(17-205)	(22-176)	(26-166)	(21-158)	(20-186)	(13-199)
LCS 320-335248/2-A	Lab Control Sample	68	67	68	61	58	61	50

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 600-278776/6
Matrix: Water
Analysis Batch: 278776

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.40	0.10	mg/L			10/29/19 03:03	1
Chloride	0.237	J	0.40	0.053	mg/L			10/29/19 03:03	1
Sulfate	ND		0.50	0.096	mg/L			10/29/19 03:03	1
Fluoride	ND		0.20	0.060	mg/L			10/29/19 03:03	1

Lab Sample ID: LCS 600-278776/7
Matrix: Water
Analysis Batch: 278776

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	7.50	7.55		mg/L		101	90 - 110
Chloride	20.0	19.5		mg/L		98	90 - 110
Sulfate	20.0	19.6		mg/L		98	90 - 110
Fluoride	7.50	7.71		mg/L		103	90 - 110

Lab Sample ID: 600-194690-10 MS
Matrix: Water
Analysis Batch: 278776

Client Sample ID: INF 4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	0.15	J F1	2.00	2.65	F1	mg/L		125	80 - 120
Chloride	690	E B	10.0	635	E 4	mg/L		-521	80 - 120
Sulfate	55	E	10.0	61.8	E 4	mg/L		71	80 - 120
Fluoride	0.26	F1	2.00	1.65	F1	mg/L		70	80 - 120

Lab Sample ID: 600-194690-10 MSD
Matrix: Water
Analysis Batch: 278776

Client Sample ID: INF 4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromide	0.15	J F1	2.00	2.66	F1	mg/L		125	80 - 120	0	20
Chloride	690	E B	10.0	635	E 4	mg/L		-524	80 - 120	0	20
Sulfate	55	E	10.0	61.9	E 4	mg/L		72	80 - 120	0	20
Fluoride	0.26	F1	2.00	1.66	F1	mg/L		70	80 - 120	0	20

Lab Sample ID: MB 600-278777/6
Matrix: Water
Analysis Batch: 278777

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.20	0.025	mg/L			10/29/19 03:03	1
Nitrite as N	ND		0.20	0.030	mg/L			10/29/19 03:03	1

Lab Sample ID: LCS 600-278777/7
Matrix: Water
Analysis Batch: 278777

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	10.0	9.68		mg/L		97	90 - 110
Nitrite as N	10.0	10.4		mg/L		104	90 - 110

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 600-194690-10 MS
Matrix: Water
Analysis Batch: 278777

Client Sample ID: INF 4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	ND	H F1 H3	2.00	ND	H F1 H3	mg/L		0	80 - 120
Nitrite as N	ND	H F1 H3	2.00	ND	H F1 H3	mg/L		0	80 - 120

Lab Sample ID: 600-194690-10 MSD
Matrix: Water
Analysis Batch: 278777

Client Sample ID: INF 4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as N	ND	H F1 H3	2.00	ND	H H3 F1	mg/L		0	80 - 120	NC	20
Nitrite as N	ND	H F1 H3	2.00	ND	H H3 F1	mg/L		0	80 - 120	NC	20

Lab Sample ID: MB 600-278901/37
Matrix: Water
Analysis Batch: 278901

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.40	0.10	mg/L			10/30/19 14:54	1
Chloride	0.266	J	0.40	0.053	mg/L			10/30/19 14:54	1
Sulfate	ND		0.50	0.096	mg/L			10/30/19 14:54	1
Fluoride	ND		0.20	0.060	mg/L			10/30/19 14:54	1

Lab Sample ID: MB 600-278901/6
Matrix: Water
Analysis Batch: 278901

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.40	0.10	mg/L			10/30/19 06:34	1
Chloride	0.218	J	0.40	0.053	mg/L			10/30/19 06:34	1
Sulfate	ND		0.50	0.096	mg/L			10/30/19 06:34	1
Fluoride	ND		0.20	0.060	mg/L			10/30/19 06:34	1

Lab Sample ID: LCS 600-278901/38
Matrix: Water
Analysis Batch: 278901

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	7.50	7.67		mg/L		102	90 - 110
Chloride	20.0	19.3		mg/L		97	90 - 110
Sulfate	20.0	19.7		mg/L		98	90 - 110
Fluoride	7.50	8.04		mg/L		107	90 - 110

Lab Sample ID: LCS 600-278901/7
Matrix: Water
Analysis Batch: 278901

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	7.50	7.56		mg/L		101	90 - 110
Chloride	20.0	19.6		mg/L		98	90 - 110
Sulfate	20.0	19.6		mg/L		98	90 - 110
Fluoride	7.50	7.71		mg/L		103	90 - 110

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 600-278902/37
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 278902

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.20	0.025	mg/L			10/30/19 14:54	1
Nitrite as N	ND		0.20	0.030	mg/L			10/30/19 14:54	1

Lab Sample ID: MB 600-278902/6
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 278902

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.20	0.025	mg/L			10/30/19 06:34	1
Nitrite as N	ND		0.20	0.030	mg/L			10/30/19 06:34	1

Lab Sample ID: LCS 600-278902/38
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 278902

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	10.0	9.59		mg/L		96	90 - 110
Nitrite as N	10.0	10.5		mg/L		105	90 - 110

Lab Sample ID: LCS 600-278902/7
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 278902

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	10.0	9.72		mg/L		97	90 - 110
Nitrite as N	10.0	10.4		mg/L		104	90 - 110

Lab Sample ID: MB 600-279038/6
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 279038

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.40	0.10	mg/L			10/31/19 04:38	1
Chloride	0.221	J	0.40	0.053	mg/L			10/31/19 04:38	1
Sulfate	ND		0.50	0.096	mg/L			10/31/19 04:38	1
Fluoride	ND		0.20	0.060	mg/L			10/31/19 04:38	1

Lab Sample ID: LCS 600-279038/7
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 279038

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	7.50	7.19		mg/L		96	90 - 110
Chloride	20.0	19.5		mg/L		98	90 - 110
Sulfate	20.0	19.6		mg/L		98	90 - 110
Fluoride	7.50	7.70		mg/L		103	90 - 110

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 600-194690-3 MS
Client Sample ID: FEFF 1
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 279038

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	0.30	J F1	2.00	5.68	F1	mg/L		269	80 - 120
Fluoride	ND	F1	2.00	1.38	F1	mg/L		69	80 - 120

Lab Sample ID: 600-194690-3 MSD
Client Sample ID: FEFF 1
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 279038

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromide	0.30	J F1	2.00	5.67	F1	mg/L		269	80 - 120	0	20
Fluoride	ND	F1	2.00	1.43	F1	mg/L		71	80 - 120	4	20

Lab Sample ID: MB 600-279039/6
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 279039

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.20	0.025	mg/L			10/31/19 04:38	1
Nitrite as N	ND		0.20	0.030	mg/L			10/31/19 04:38	1

Lab Sample ID: LCS 600-279039/7
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 279039

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	10.0	9.62		mg/L		96	90 - 110
Nitrite as N	10.0	10.2		mg/L		102	90 - 110

Lab Sample ID: 600-194690-3 MS
Client Sample ID: FEFF 1
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 279039

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	ND	H H3 F1	2.00	3.79	F1	mg/L		190	80 - 120
Nitrite as N	ND	H H3 F1	2.00	ND	F1	mg/L		0	80 - 120

Lab Sample ID: 600-194690-3 MSD
Client Sample ID: FEFF 1
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 279039

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as N	ND	H H3 F1	2.00	3.81	F1	mg/L		190	80 - 120	0	20
Nitrite as N	ND	H H3 F1	2.00	ND	F1	mg/L		0	80 - 120	NC	20

Lab Sample ID: MB 600-279165/4
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 279165

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.40	0.10	mg/L			11/01/19 11:16	1
Chloride	ND		0.40	0.053	mg/L			11/01/19 11:16	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 600-279165/4
Matrix: Water
Analysis Batch: 279165

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		0.50	0.096	mg/L			11/01/19 11:16	1
Fluoride	ND		0.20	0.060	mg/L			11/01/19 11:16	1

Lab Sample ID: LCS 600-279165/5
Matrix: Water
Analysis Batch: 279165

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	7.50	7.31		mg/L		97	90 - 110
Chloride	20.0	19.9		mg/L		100	90 - 110
Sulfate	20.0	20.1		mg/L		100	90 - 110
Fluoride	7.50	7.59		mg/L		101	90 - 110

Lab Sample ID: MB 600-279268/4
Matrix: Water
Analysis Batch: 279268

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.40	0.10	mg/L			11/04/19 12:11	1
Chloride	ND		0.40	0.053	mg/L			11/04/19 12:11	1
Sulfate	ND		0.50	0.096	mg/L			11/04/19 12:11	1
Fluoride	ND		0.20	0.060	mg/L			11/04/19 12:11	1

Lab Sample ID: LCS 600-279268/5
Matrix: Water
Analysis Batch: 279268

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	7.50	7.73		mg/L		103	90 - 110
Chloride	20.0	20.8		mg/L		104	90 - 110
Sulfate	20.0	20.8		mg/L		104	90 - 110
Fluoride	7.50	7.75		mg/L		103	90 - 110

Lab Sample ID: MB 600-279269/35
Matrix: Water
Analysis Batch: 279269

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.20	0.025	mg/L			11/04/19 23:24	1
Nitrite as N	ND		0.20	0.030	mg/L			11/04/19 23:24	1

Lab Sample ID: LCS 600-279269/36
Matrix: Water
Analysis Batch: 279269

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	10.0	10.6		mg/L		106	90 - 110
Nitrite as N	10.0	10.7		mg/L		107	90 - 110

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-335248/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 336302 **Prep Batch: 335248**

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		10	0.66	pg/L		11/01/19 08:11	11/05/19 21:50	1
2,3,7,8-TCDF	0.628	J q	10	0.35	pg/L		11/01/19 08:11	11/05/19 21:50	1
1,2,3,7,8-PeCDD	ND		50	1.0	pg/L		11/01/19 08:11	11/05/19 21:50	1
1,2,3,7,8-PeCDF	ND		50	0.60	pg/L		11/01/19 08:11	11/05/19 21:50	1
2,3,4,7,8-PeCDF	ND		50	0.61	pg/L		11/01/19 08:11	11/05/19 21:50	1
1,2,3,4,7,8-HxCDD	3.72	J	50	0.54	pg/L		11/01/19 08:11	11/05/19 21:50	1
1,2,3,6,7,8-HxCDD	ND		50	0.57	pg/L		11/01/19 08:11	11/05/19 21:50	1
1,2,3,7,8,9-HxCDD	1.01	J q	50	0.50	pg/L		11/01/19 08:11	11/05/19 21:50	1
1,2,3,4,7,8-HxCDF	ND		50	0.77	pg/L		11/01/19 08:11	11/05/19 21:50	1
1,2,3,6,7,8-HxCDF	ND		50	0.65	pg/L		11/01/19 08:11	11/05/19 21:50	1
1,2,3,7,8,9-HxCDF	1.44	J	50	0.44	pg/L		11/01/19 08:11	11/05/19 21:50	1
2,3,4,6,7,8-HxCDF	0.888	J	50	0.45	pg/L		11/01/19 08:11	11/05/19 21:50	1
1,2,3,4,6,7,8-HpCDD	ND		50	0.80	pg/L		11/01/19 08:11	11/05/19 21:50	1
1,2,3,4,6,7,8-HpCDF	1.76	J	50	0.44	pg/L		11/01/19 08:11	11/05/19 21:50	1
1,2,3,4,7,8,9-HpCDF	1.16	J	50	0.57	pg/L		11/01/19 08:11	11/05/19 21:50	1
OCDD	9.40	J	100	1.2	pg/L		11/01/19 08:11	11/05/19 21:50	1
OCDF	3.85	J q	100	1.3	pg/L		11/01/19 08:11	11/05/19 21:50	1
Total TCDD	ND		10	0.66	pg/L		11/01/19 08:11	11/05/19 21:50	1
Total TCDF	0.628	J q	10	0.35	pg/L		11/01/19 08:11	11/05/19 21:50	1
Total PeCDD	ND		50	1.0	pg/L		11/01/19 08:11	11/05/19 21:50	1
Total PeCDF	ND		50	0.61	pg/L		11/01/19 08:11	11/05/19 21:50	1
Total HxCDD	4.73	J q	50	0.53	pg/L		11/01/19 08:11	11/05/19 21:50	1
Total HxCDF	2.32	J	50	0.58	pg/L		11/01/19 08:11	11/05/19 21:50	1
Total HpCDD	ND		50	0.80	pg/L		11/01/19 08:11	11/05/19 21:50	1
Total HpCDF	2.92	J	50	0.50	pg/L		11/01/19 08:11	11/05/19 21:50	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*53*		*25 - 164*	*11/01/19 08:11*	*11/05/19 21:50*	*1*
13C-2,3,7,8-TCDF	*48*		*24 - 169*	*11/01/19 08:11*	*11/05/19 21:50*	*1*
13C-1,2,3,7,8-PeCDD	*51*		*25 - 181*	*11/01/19 08:11*	*11/05/19 21:50*	*1*
13C-1,2,3,7,8-PeCDF	*49*		*24 - 185*	*11/01/19 08:11*	*11/05/19 21:50*	*1*
13C-2,3,4,7,8-PeCDF	*53*		*21 - 178*	*11/01/19 08:11*	*11/05/19 21:50*	*1*
13C-1,2,3,4,7,8-HxCDD	*55*		*32 - 141*	*11/01/19 08:11*	*11/05/19 21:50*	*1*
13C-1,2,3,6,7,8-HxCDD	*53*		*28 - 130*	*11/01/19 08:11*	*11/05/19 21:50*	*1*
13C-1,2,3,4,7,8-HxCDF	*54*		*26 - 152*	*11/01/19 08:11*	*11/05/19 21:50*	*1*
13C-1,2,3,6,7,8-HxCDF	*53*		*26 - 123*	*11/01/19 08:11*	*11/05/19 21:50*	*1*
13C-1,2,3,7,8,9-HxCDF	*51*		*29 - 147*	*11/01/19 08:11*	*11/05/19 21:50*	*1*
13C-2,3,4,6,7,8-HxCDF	*52*		*28 - 136*	*11/01/19 08:11*	*11/05/19 21:50*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*43*		*23 - 140*	*11/01/19 08:11*	*11/05/19 21:50*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*41*		*28 - 143*	*11/01/19 08:11*	*11/05/19 21:50*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*43*		*26 - 138*	*11/01/19 08:11*	*11/05/19 21:50*	*1*
13C-OCDD	*32*		*17 - 157*	*11/01/19 08:11*	*11/05/19 21:50*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*96*		*35 - 197*	*11/01/19 08:11*	*11/05/19 21:50*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-335248/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 336302 **Prep Batch: 335248**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	200	195		pg/L		98	67 - 158
2,3,7,8-TCDF	200	214		pg/L		107	75 - 158
1,2,3,7,8-PeCDD	1000	1110		pg/L		111	70 - 142
1,2,3,7,8-PeCDF	1000	1090		pg/L		109	80 - 134
2,3,4,7,8-PeCDF	1000	1030		pg/L		103	68 - 160
1,2,3,4,7,8-HxCDD	1000	1020		pg/L		102	70 - 164
1,2,3,6,7,8-HxCDD	1000	1090		pg/L		109	76 - 134
1,2,3,7,8,9-HxCDD	1000	1030		pg/L		103	64 - 162
1,2,3,4,7,8-HxCDF	1000	1030		pg/L		103	72 - 134
1,2,3,6,7,8-HxCDF	1000	1090		pg/L		109	84 - 130
1,2,3,7,8,9-HxCDF	1000	1080		pg/L		108	78 - 130
2,3,4,6,7,8-HxCDF	1000	1080		pg/L		108	70 - 156
1,2,3,4,6,7,8-HpCDD	1000	1180		pg/L		118	70 - 140
1,2,3,4,6,7,8-HpCDF	1000	1080		pg/L		108	82 - 122
1,2,3,4,7,8,9-HpCDF	1000	1020		pg/L		102	78 - 138
OCDD	2000	3050	*	pg/L		153	78 - 144
OCDF	2000	2180		pg/L		109	63 - 170

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*65*		*20 - 175*
13C-2,3,7,8-TCDF	*59*		*22 - 152*
13C-1,2,3,7,8-PeCDD	*67*		*21 - 227*
13C-1,2,3,7,8-PeCDF	*61*		*21 - 192*
13C-2,3,4,7,8-PeCDF	*67*		*13 - 328*
13C-1,2,3,4,7,8-HxCDD	*75*		*21 - 193*
13C-1,2,3,6,7,8-HxCDD	*68*		*25 - 163*
13C-1,2,3,4,7,8-HxCDF	*71*		*19 - 202*
13C-1,2,3,6,7,8-HxCDF	*68*		*21 - 159*
13C-1,2,3,7,8,9-HxCDF	*67*		*17 - 205*
13C-2,3,4,6,7,8-HxCDF	*68*		*22 - 176*
13C-1,2,3,4,6,7,8-HpCDD	*61*		*26 - 166*
13C-1,2,3,4,6,7,8-HpCDF	*58*		*21 - 158*
13C-1,2,3,4,7,8,9-HpCDF	*61*		*20 - 186*
13C-OCDD	*50*		*13 - 199*

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
37Cl4-2,3,7,8-TCDD	*100*		*31 - 191*

Lab Sample ID: 600-194690-11 MS **Client Sample ID: INF 4 - DISSOLVED**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 336302 **Prep Batch: 335248**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3,7,8-PeCDD	3.0	J F1 q	981	1570	F1	pg/L		160	70 - 142
1,2,3,7,8-PeCDF	20	J F1 F2	981	6500	F1	pg/L		661	80 - 134
2,3,4,7,8-PeCDF	11	J F1	981	4120	F1	pg/L		419	68 - 160
1,2,3,4,7,8-HxCDD	3.1	J B	981	1110		pg/L		112	70 - 164
1,2,3,6,7,8-HxCDD	2.1	J	981	1090		pg/L		111	76 - 134

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: 600-194690-11 MS **Client Sample ID: INF 4 - DISSOLVED**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 336302 **Prep Batch: 335248**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3,7,8,9-HxCDD	1.7	J q B	981	1010		pg/L		103	64 - 162
1,2,3,4,7,8-HxCDF	31	J F1 F2	981	8830	F1	pg/L		897	72 - 134
1,2,3,6,7,8-HxCDF	9.8	J F1	981	2830	F1	pg/L		288	84 - 130
1,2,3,7,8,9-HxCDF	4.8	J B	981	1170		pg/L		118	78 - 130
2,3,4,6,7,8-HxCDF	2.8	J B	981	1300		pg/L		132	70 - 156
1,2,3,4,6,7,8-HpCDD	27	J F1	981	2350	F1	pg/L		237	70 - 140
1,2,3,4,6,7,8-HpCDF	12	J B F1	981	2730	F1	pg/L		277	82 - 122
1,2,3,4,7,8,9-HpCDF	4.9	J B F1	981	1670	F1	pg/L		170	78 - 138
OCDD	280	B F1 F2 *	1960	18000	F1	pg/L		904	78 - 144
OCDF	11	J B	1960	2910		pg/L		147	63 - 170

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*24*	*	*25 - 164*
13C-2,3,7,8-TCDF	*27*		*24 - 169*
13C-1,2,3,7,8-PeCDD	*29*		*25 - 181*
13C-1,2,3,7,8-PeCDF	*28*		*24 - 185*
13C-2,3,4,7,8-PeCDF	*31*		*21 - 178*
13C-1,2,3,4,7,8-HxCDD	*21*	*	*32 - 141*
13C-1,2,3,6,7,8-HxCDD	*19*	*	*28 - 130*
13C-1,2,3,4,7,8-HxCDF	*22*	*	*26 - 152*
13C-1,2,3,6,7,8-HxCDF	*19*	*	*26 - 123*
13C-1,2,3,7,8,9-HxCDF	*21*	*	*29 - 147*
13C-2,3,4,6,7,8-HxCDF	*19*	*	*28 - 136*
13C-1,2,3,4,6,7,8-HpCDD	*15*	*	*23 - 140*
13C-1,2,3,4,6,7,8-HpCDF	*13*	*	*28 - 143*
13C-1,2,3,4,7,8,9-HpCDF	*17*	*	*26 - 138*
13C-OCDD	*13*	*	*17 - 157*

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
37Cl4-2,3,7,8-TCDD	*92*		*35 - 197*

Lab Sample ID: 600-194690-11 MSD **Client Sample ID: INF 4 - DISSOLVED**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 336302 **Prep Batch: 335248**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3,7,8-PeCDD	3.0	J F1 q	1020	1330		pg/L		130	70 - 142	17	50
1,2,3,7,8-PeCDF	20	J F1 F2	1020	3630	F1 F2	pg/L		354	80 - 134	57	50
2,3,4,7,8-PeCDF	11	J F1	1020	2550	F1	pg/L		249	68 - 160	47	50
1,2,3,4,7,8-HxCDD	3.1	J B	1020	1030		pg/L		101	70 - 164	7	50
1,2,3,6,7,8-HxCDD	2.1	J	1020	1110		pg/L		109	76 - 134	2	50
1,2,3,7,8,9-HxCDD	1.7	J q B	1020	980		pg/L		96	64 - 162	3	50
1,2,3,4,7,8-HxCDF	31	J F1 F2	1020	4240	F1 F2	pg/L		413	72 - 134	70	50
1,2,3,6,7,8-HxCDF	9.8	J F1	1020	1920	F1	pg/L		188	84 - 130	38	50
1,2,3,7,8,9-HxCDF	4.8	J B	1020	1060		pg/L		104	78 - 130	9	50
2,3,4,6,7,8-HxCDF	2.8	J B	1020	1160		pg/L		114	70 - 156	11	50
1,2,3,4,6,7,8-HpCDD	27	J F1	1020	1700	F1	pg/L		164	70 - 140	32	50
1,2,3,4,6,7,8-HpCDF	12	J B F1	1020	1830	F1	pg/L		179	82 - 122	39	50

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: 600-194690-11 MSD **Client Sample ID: INF 4 - DISSOLVED**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 336302 **Prep Batch: 335248**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3,4,7,8,9-HpCDF	4.9	J B F1	1020	1330		pg/L		130	78 - 138	23	50
OCDD	280	B F1 F2 *	2040	11100	F1	pg/L		530	78 - 144	48	50
OCDF	11	J B	2040	2450		pg/L		120	63 - 170	17	50

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*24*	*	*25 - 164*
13C-2,3,7,8-TCDF	*27*		*24 - 169*
13C-1,2,3,7,8-PeCDD	*25*		*25 - 181*
13C-1,2,3,7,8-PeCDF	*25*		*24 - 185*
13C-2,3,4,7,8-PeCDF	*27*		*21 - 178*
13C-1,2,3,4,7,8-HxCDD	*22*	*	*32 - 141*
13C-1,2,3,6,7,8-HxCDD	*19*	*	*28 - 130*
13C-1,2,3,4,7,8-HxCDF	*22*	*	*26 - 152*
13C-1,2,3,6,7,8-HxCDF	*20*	*	*26 - 123*
13C-1,2,3,7,8,9-HxCDF	*21*	*	*29 - 147*
13C-2,3,4,6,7,8-HxCDF	*20*	*	*28 - 136*
13C-1,2,3,4,6,7,8-HpCDD	*17*	*	*23 - 140*
13C-1,2,3,4,6,7,8-HpCDF	*14*	*	*28 - 143*
13C-1,2,3,4,7,8,9-HpCDF	*17*	*	*26 - 138*
13C-OCDD	*14*	*	*17 - 157*

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
37Cl4-2,3,7,8-TCDD	*99*		*35 - 197*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - DL

Lab Sample ID: 600-194690-11 MS **Client Sample ID: INF 4 - DISSOLVED**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 336838 **Prep Batch: 335248**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
2,3,7,8-TCDD - DL	150	F2 F1	196	40900	F1	pg/L		20781	67 - 158		

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C-2,3,7,8-TCDD - DL	*28*	*q*	*25 - 164*

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
37Cl4-2,3,7,8-TCDD - DL	*89*		*35 - 197*

Lab Sample ID: 600-194690-11 MSD **Client Sample ID: INF 4 - DISSOLVED**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 336838 **Prep Batch: 335248**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD - DL	150	F2 F1	204	20000	F1 F2	pg/L		9745	67 - 158	69	50

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C-2,3,7,8-TCDD - DL	*28*		*25 - 164*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - DL (Continued)

Lab Sample ID: 600-194690-11 MSD **Client Sample ID: INF 4 - DISSOLVED**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 336838 **Prep Batch: 335248**

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
37Cl4-2,3,7,8-TCDD - DL	*96*		*35 - 197*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Lab Sample ID: 600-194690-11 MS **Client Sample ID: INF 4 - DISSOLVED**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 336810 **Prep Batch: 335248**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
2,3,7,8-TCDF - RA	540	F1 B	196	107000	F1	pg/L		54002	75 - 158		

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C-2,3,7,8-TCDF - RA	*67*		*24 - 169*

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
37Cl4-2,3,7,8-TCDD - RA	*110*		*35 - 197*

Lab Sample ID: 600-194690-11 MSD **Client Sample ID: INF 4 - DISSOLVED**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 336810 **Prep Batch: 335248**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDF - RA	540	F1 B	204	66300	F1	pg/L		32281	75 - 158	47	50

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C-2,3,7,8-TCDF - RA	*40*		*24 - 169*

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
37Cl4-2,3,7,8-TCDD - RA	*97*		*35 - 197*

Method: 1631E - Mercury, Low Level (CVAFS)

Lab Sample ID: MB 240-408778/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 409214 **Prep Batch: 408778**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.210	J	0.50	0.14	ng/L		11/01/19 13:07	11/04/19 16:16	1

Lab Sample ID: LCS 240-408778/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 409214 **Prep Batch: 408778**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			5.00	4.88		ng/L		98	77 - 123		

Method: 1631E - Mercury, Low Level (CVAFS) (Continued)

Lab Sample ID: 600-194690-1 MS **Client Sample ID: 1. CEFF**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 409411 **Prep Batch: 408778**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	18	B F1	25.0	34.5	F1	ng/L		67	71 - 125

Lab Sample ID: 600-194690-1 MSD **Client Sample ID: 1. CEFF**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 409411 **Prep Batch: 408778**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	18	B F1	25.0	35.0	F1	ng/L		69	71 - 125	1	24

Method: 6010C - Inductively Coupled Plasma - Atomic Emission Spectrometry

Lab Sample ID: MB 600-279634/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 280132 **Prep Batch: 279634**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.010	0.0013	mg/L		11/06/19 15:20	11/12/19 11:54	1
Arsenic	ND		0.010	0.0029	mg/L		11/06/19 15:20	11/12/19 11:54	1
Barium	ND		0.020	0.00053	mg/L		11/06/19 15:20	11/12/19 11:54	1
Boron	ND		0.20	0.012	mg/L		11/06/19 15:20	11/12/19 11:54	1
Beryllium	ND		0.0050	0.00042	mg/L		11/06/19 15:20	11/12/19 11:54	1
Calcium	ND		1.0	0.024	mg/L		11/06/19 15:20	11/12/19 11:54	1
Cadmium	ND		0.0050	0.00028	mg/L		11/06/19 15:20	11/12/19 11:54	1
Cobalt	ND		0.010	0.00031	mg/L		11/06/19 15:20	11/12/19 11:54	1
Chromium	ND		0.010	0.0016	mg/L		11/06/19 15:20	11/12/19 11:54	1
Copper	ND		0.010	0.0081	mg/L		11/06/19 15:20	11/12/19 11:54	1
Iron	ND		0.40	0.027	mg/L		11/06/19 15:20	11/12/19 11:54	1
Potassium	ND		1.0	0.037	mg/L		11/06/19 15:20	11/12/19 11:54	1
Magnesium	ND		1.0	0.056	mg/L		11/06/19 15:20	11/12/19 11:54	1
Manganese	ND		0.010	0.00036	mg/L		11/06/19 15:20	11/12/19 11:54	1
Nickel	ND		0.010	0.00080	mg/L		11/06/19 15:20	11/12/19 11:54	1
Lead	ND		0.010	0.0022	mg/L		11/06/19 15:20	11/12/19 11:54	1
Antimony	ND		0.050	0.0039	mg/L		11/06/19 15:20	11/12/19 11:54	1
Molybdenum	ND		0.010	0.00054	mg/L		11/06/19 15:20	11/12/19 11:54	1
Selenium	ND		0.040	0.0029	mg/L		11/06/19 15:20	11/12/19 11:54	1
Tin	ND		0.010	0.00059	mg/L		11/06/19 15:20	11/12/19 11:54	1
Strontium	ND		0.0050	0.00034	mg/L		11/06/19 15:20	11/12/19 11:54	1
Vanadium	ND		0.010	0.00047	mg/L		11/06/19 15:20	11/12/19 11:54	1
Titanium	ND		0.010	0.00051	mg/L		11/06/19 15:20	11/12/19 11:54	1
Zinc	ND		0.030	0.0040	mg/L		11/06/19 15:20	11/12/19 11:54	1

Lab Sample ID: MB 600-279634/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 280247 **Prep Batch: 279634**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	ND		1.0	0.021	mg/L		11/06/19 15:20	11/13/19 12:46	1

Method: 6010C - Inductively Coupled Plasma - Atomic Emission Spectrometry (Continued)

Lab Sample ID: MB 600-279634/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 280693 **Prep Batch: 279634**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	0.00830	J	0.030	0.0042	mg/L		11/06/19 15:20	11/19/19 10:58	1

Lab Sample ID: LCS 600-279634/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 280132 **Prep Batch: 279634**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	0.250	0.248		mg/L		99	80 - 120
Arsenic	1.00	1.00		mg/L		100	80 - 120
Barium	1.00	1.02		mg/L		102	80 - 120
Boron	0.500	0.505		mg/L		101	80 - 120
Beryllium	1.00	0.986		mg/L		99	80 - 120
Calcium	10.0	9.77		mg/L		98	80 - 120
Cadmium	1.00	0.990		mg/L		99	80 - 120
Cobalt	1.00	0.974		mg/L		97	80 - 120
Chromium	1.00	0.940		mg/L		94	80 - 120
Copper	1.00	0.981		mg/L		98	80 - 120
Iron	10.0	10.0		mg/L		100	80 - 120
Potassium	10.0	10.0		mg/L		100	80 - 120
Magnesium	10.0	10.1		mg/L		101	80 - 120
Manganese	1.00	0.986		mg/L		99	80 - 120
Nickel	1.00	0.999		mg/L		100	80 - 120
Lead	1.00	0.992		mg/L		99	80 - 120
Antimony	1.50	1.66		mg/L		110	80 - 120
Molybdenum	1.00	1.02		mg/L		102	80 - 120
Selenium	1.00	1.00		mg/L		100	80 - 120
Tin	1.00	0.998		mg/L		100	80 - 120
Strontium	1.00	1.01		mg/L		101	80 - 120
Vanadium	1.00	0.962		mg/L		96	80 - 120
Titanium	1.00	0.971		mg/L		97	80 - 120
Zinc	0.500	0.496		mg/L		99	80 - 120

Lab Sample ID: LCS 600-279634/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 280247 **Prep Batch: 279634**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sodium	10.0	10.2		mg/L		102	80 - 120

Lab Sample ID: LCS 600-279634/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 280693 **Prep Batch: 279634**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Thallium	1.00	0.882		mg/L		88	80 - 120

Method: 6010C - Inductively Coupled Plasma - Atomic Emission Spectrometry (Continued)

Lab Sample ID: 600-194690-11 MS **Client Sample ID: INF 4 - DISSOLVED**
Matrix: Water **Prep Type: Dissolved**
Analysis Batch: 280132 **Prep Batch: 279634**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	ND		0.250	0.258		mg/L		103	75 - 125
Arsenic	0.0041	J	1.00	1.04		mg/L		104	75 - 125
Boron	0.20		0.500	0.712		mg/L		102	75 - 125
Barium	0.30		1.00	1.27		mg/L		98	75 - 125
Beryllium	ND		1.00	1.02		mg/L		102	75 - 125
Calcium	55		10.0	64.6	4	mg/L		100	75 - 125
Cadmium	0.00040	J	1.00	1.01		mg/L		100	75 - 125
Cobalt	0.0012	J	1.00	1.02		mg/L		102	75 - 125
Chromium	0.0039	J	1.00	0.943		mg/L		94	75 - 125
Copper	ND		1.00	0.986		mg/L		99	75 - 125
Iron	2.9		10.0	11.7		mg/L		88	75 - 125
Potassium	13		10.0	22.5		mg/L		99	75 - 125
Magnesium	32		10.0	42.0		mg/L		97	75 - 125
Manganese	0.035		1.00	0.992		mg/L		96	75 - 125
Molybdenum	0.010		1.00	1.00		mg/L		99	75 - 125
Nickel	0.0030	J	1.00	1.05		mg/L		105	75 - 125
Lead	ND		1.00	1.02		mg/L		102	75 - 125
Antimony	ND		1.50	1.66		mg/L		111	75 - 125
Selenium	ND		1.00	1.02		mg/L		102	75 - 125
Tin	ND		1.00	1.05		mg/L		105	75 - 125
Strontium	0.47		1.00	1.45		mg/L		98	75 - 125
Titanium	0.025		1.00	0.993		mg/L		97	75 - 125
Thallium	ND	^	1.00	1.01	^	mg/L		101	75 - 125
Vanadium	0.012		1.00	0.972		mg/L		96	75 - 125
Zinc	0.026	J	0.500	0.561		mg/L		107	75 - 125

Lab Sample ID: 600-194690-11 MS **Client Sample ID: INF 4 - DISSOLVED**
Matrix: Water **Prep Type: Dissolved**
Analysis Batch: 280247 **Prep Batch: 279634**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sodium	350		10.0	359	4	mg/L		98	75 - 125

Lab Sample ID: 600-194690-11 MSD **Client Sample ID: INF 4 - DISSOLVED**
Matrix: Water **Prep Type: Dissolved**
Analysis Batch: 280132 **Prep Batch: 279634**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silver	ND		0.250	0.258		mg/L		103	75 - 125	0	20
Arsenic	0.0041	J	1.00	0.969		mg/L		96	75 - 125	7	20
Boron	0.20		0.500	0.711		mg/L		102	75 - 125	0	20
Barium	0.30		1.00	1.28		mg/L		98	75 - 125	1	20
Beryllium	ND		1.00	1.02		mg/L		102	75 - 125	0	20
Calcium	55		10.0	64.5	4	mg/L		99	75 - 125	0	20
Cadmium	0.00040	J	1.00	0.936		mg/L		94	75 - 125	7	20
Cobalt	0.0012	J	1.00	0.951		mg/L		95	75 - 125	7	20
Chromium	0.0039	J	1.00	0.937		mg/L		93	75 - 125	1	20
Copper	ND		1.00	0.986		mg/L		99	75 - 125	0	20
Iron	2.9		10.0	11.6		mg/L		87	75 - 125	1	20

Method: 6010C - Inductively Coupled Plasma - Atomic Emission Spectrometry (Continued)

Lab Sample ID: 600-194690-11 MSD **Client Sample ID: INF 4 - DISSOLVED**
Matrix: Water **Prep Type: Dissolved**
Analysis Batch: 280132 **Prep Batch: 279634**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Potassium	13		10.0	22.4		mg/L		97	75 - 125	1	20
Magnesium	32		10.0	41.5		mg/L		92	75 - 125	1	20
Manganese	0.035		1.00	0.993		mg/L		96	75 - 125	0	20
Molybdenum	0.010		1.00	0.939		mg/L		93	75 - 125	7	20
Nickel	0.0030	J	1.00	0.980		mg/L		98	75 - 125	7	20
Lead	ND		1.00	0.949		mg/L		95	75 - 125	7	20
Antimony	ND		1.50	1.55		mg/L		104	75 - 125	7	20
Selenium	ND		1.00	0.955		mg/L		96	75 - 125	7	20
Tin	ND		1.00	0.982		mg/L		98	75 - 125	7	20
Strontium	0.47		1.00	1.46		mg/L		99	75 - 125	1	20
Titanium	0.025		1.00	0.991		mg/L		97	75 - 125	0	20
Thallium	ND	^	1.00	0.997	^	mg/L		100	75 - 125	2	20
Vanadium	0.012		1.00	0.971		mg/L		96	75 - 125	0	20
Zinc	0.026	J	0.500	0.521		mg/L		99	75 - 125	7	20

Lab Sample ID: 600-194690-11 MSD **Client Sample ID: INF 4 - DISSOLVED**
Matrix: Water **Prep Type: Dissolved**
Analysis Batch: 280247 **Prep Batch: 279634**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sodium	350		10.0	359	4	mg/L		89	75 - 125	0	20

Lab Sample ID: 600-194690-11 DU **Client Sample ID: INF 4 - DISSOLVED**
Matrix: Water **Prep Type: Dissolved**
Analysis Batch: 280132 **Prep Batch: 279634**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Silver	ND		ND		mg/L		NC	20
Arsenic	0.0041	J	ND		mg/L		NC	20
Barium	0.30		0.295		mg/L		0.7	20
Boron	0.20		0.209		mg/L		3	20
Beryllium	ND		ND		mg/L		NC	20
Calcium	55		54.6		mg/L		0	20
Cadmium	0.00040	J	0.000400	J	mg/L		0	20
Cobalt	0.0012	J	0.00120	J	mg/L		0	20
Chromium	0.0039	J	0.00410	J	mg/L		5	20
Copper	ND		ND		mg/L		NC	20
Iron	2.9		2.87		mg/L		1	20
Potassium	13		12.6		mg/L		0.6	20
Magnesium	32		32.7		mg/L		1	20
Manganese	0.035		0.0356		mg/L		0.6	20
Nickel	0.0030	J	0.00310	J	mg/L		3	20
Lead	ND		ND		mg/L		NC	20
Antimony	ND		ND		mg/L		NC	20
Molybdenum	0.010		0.0103		mg/L		1	20
Selenium	ND		ND		mg/L		NC	20
Thallium	ND	^	ND	^	mg/L		NC	20
Tin	ND		ND		mg/L		NC	20
Strontium	0.47		0.475		mg/L		0	20

Method: 6010C - Inductively Coupled Plasma - Atomic Emission Spectrometry (Continued)

Lab Sample ID: 600-194690-11 DU **Client Sample ID: INF 4 - DISSOLVED**
Matrix: Water **Prep Type: Dissolved**
Analysis Batch: 280132 **Prep Batch: 279634**

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Vanadium	0.012			0.0114		mg/L				3	20
Titanium	0.025			0.0263		mg/L				4	20
Zinc	0.026	J		0.0237	J	mg/L				10	20

Lab Sample ID: 600-194690-11 DU **Client Sample ID: INF 4 - DISSOLVED**
Matrix: Water **Prep Type: Dissolved**
Analysis Batch: 280247 **Prep Batch: 279634**

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Sodium	350			350		mg/L				0	20

Method: 1664B - HEM and SGT-HEM

Lab Sample ID: MB 600-279936/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 279937 **Prep Batch: 279936**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		3.0	1.0	mg/L		11/10/19 11:32	11/10/19 11:33	1
SGT-HEM	ND		3.0	1.0	mg/L		11/10/19 11:32	11/10/19 11:33	1

Lab Sample ID: LCS 600-279936/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 279937 **Prep Batch: 279936**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
HEM			40.0	35.70		mg/L		89	78 - 114		
SGT-HEM			20.0	17.50		mg/L		88	64 - 132		

Lab Sample ID: LCSD 600-279936/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 279937 **Prep Batch: 279936**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM			40.0	35.90		mg/L		90	78 - 114	1	11
SGT-HEM			20.0	17.70		mg/L		88	64 - 132	1	34

Lab Sample ID: MB 600-280144/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 280145 **Prep Batch: 280144**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		3.0	1.0	mg/L		11/12/19 13:43	11/12/19 13:44	1
SGT-HEM	ND		3.0	1.0	mg/L		11/12/19 13:43	11/12/19 13:44	1

Method: 1664B - HEM and SGT-HEM (Continued)

Lab Sample ID: LCS 600-280144/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 280145 **Prep Batch: 280144**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM	40.0	35.60		mg/L		89	78 - 114
SGT-HEM	20.0	17.50		mg/L		88	64 - 132

Lab Sample ID: LCSD 600-280144/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 280145 **Prep Batch: 280144**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM	40.0	35.30		mg/L		88	78 - 114	1	11
SGT-HEM	20.0	17.50		mg/L		88	64 - 132	0	34

Method: 2320B-1997 - Alkalinity, Total - SM Online, 2011

Lab Sample ID: MB 600-279861/2 **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 279861

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	ND		20	20	mg/L			11/08/19 10:06	1
Bicarbonate Alkalinity as CaCO3	ND		20	20	mg/L			11/08/19 10:06	1
Carbonate Alkalinity as CaCO3	ND		20	20	mg/L			11/08/19 10:06	1

Lab Sample ID: LCS 600-279861/3 **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 279861

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	100	95.6		mg/L		96	90 - 110

Lab Sample ID: 600-194690-3 MS **Client Sample ID: FEFF 1**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 279861

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	140		250	340		mg/L		80	75 - 125

Lab Sample ID: 600-194690-3 MSD **Client Sample ID: FEFF 1**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 279861

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity	140		250	341		mg/L		80	75 - 125	0	20

Lab Sample ID: 600-194690-10 MS **Client Sample ID: INF 4**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 279861

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	170	F1	250	292	F1	mg/L		48	75 - 125

Method: 2320B-1997 - Alkalinity, Total - SM Online, 2011 (Continued)

Lab Sample ID: 600-194690-10 MSD **Client Sample ID: INF 4**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 279861

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity	170	F1	250	293	F1	mg/L		49	75 - 125	0	20

Lab Sample ID: 600-194690-10 DU **Client Sample ID: INF 4**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 279861

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity	170	F1		153		mg/L				11	20
Bicarbonate Alkalinity as CaCO3	170			153		mg/L				11	20
Carbonate Alkalinity as CaCO3	ND			ND		mg/L				NC	20

Method: 2540 C-1997 - Total Dissolved Solids (Dried at 180 °C)

Lab Sample ID: MB 600-278858/1 **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 278858

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	10	mg/L			10/29/19 13:14	1

Lab Sample ID: LCS 600-278858/2 **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 278858

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1800	1790		mg/L		99	90 - 110		

Lab Sample ID: 600-194690-1 DU **Client Sample ID: 1. CEFF**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 278858

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	1300			1260		mg/L				0.5	10

Lab Sample ID: MB 600-278999/1 **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 278999

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	10	mg/L			10/30/19 13:38	1

Lab Sample ID: LCS 600-278999/2 **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 278999

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1800	1770		mg/L		98	90 - 110		

Method: 2540 C-1997 - Total Dissolved Solids (Dried at 180 °C) (Continued)

Lab Sample ID: 600-194690-10 DU **Client Sample ID: INF 4**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 278999

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	1100			1190		mg/L				5	10

Method: 2540 D-1997 - Solids, Total Suspended (TSS) - SM Online, 2011

Lab Sample ID: MB 600-278988/1 **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 278988

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		2.0	2.0	mg/L			10/30/19 09:08	1

Lab Sample ID: LCS 600-278988/2 **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 278988

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Suspended Solids			1200	1200		mg/L		100	90 - 110		

Lab Sample ID: 600-194690-10 DU **Client Sample ID: INF 4**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 278988

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Suspended Solids	4600			4430		mg/L				3	10

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 600-278914/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 278965 **Prep Batch: 278914**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.20	0.067	mg/L		10/30/19 05:22	10/30/19 10:26	1

Lab Sample ID: LCS 600-278914/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 278965 **Prep Batch: 278914**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia			5.00	5.15		mg/L		103	90 - 110		

Lab Sample ID: MB 600-279538/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 279607 **Prep Batch: 279538**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.20	0.067	mg/L		11/06/19 07:01	11/06/19 12:02	1

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: LCS 600-279538/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 279607 **Prep Batch: 279538**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia			5.00	5.16		mg/L		103	90 - 110		

Lab Sample ID: 600-194690-10 MS **Client Sample ID: INF 4**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 279607 **Prep Batch: 279538**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia	0.23		5.00	5.37		mg/L		103	90 - 110		

Lab Sample ID: 600-194690-10 MSD **Client Sample ID: INF 4**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 279607 **Prep Batch: 279538**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia	0.23		5.00	5.22		mg/L		100	90 - 110	3	20

Method: 4500 S2 D-2000 - Sulfide, Total

Lab Sample ID: MB 600-278947/3 **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 278947

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		0.010	0.0090	mg/L			10/30/19 09:50	1

Lab Sample ID: LCS 600-278947/4 **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 278947

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfide			0.300	0.313		mg/L		104	90 - 110		

Method: 8000 - Chemical Oxygen Demand (COD) Colorimetric

Lab Sample ID: MB 600-279560/3 **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 279560

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		10	2.5	mg/L			11/06/19 08:51	1

Lab Sample ID: LCS 600-279560/4 **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 279560

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chemical Oxygen Demand			75.0	77.3		mg/L		103	90 - 110		

Method: 8000 - Chemical Oxygen Demand (COD) Colorimetric (Continued)

Lab Sample ID: MB 600-279707/2
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 279707

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		10	2.5	mg/L			11/07/19 08:48	1

Lab Sample ID: LCS 600-279707/1
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 279707

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	75.0	78.3		mg/L		104	90 - 110

Lab Sample ID: 600-194690-10 MS
Client Sample ID: INF 4
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 279707

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	180	F1 E	75.0	180	F1	mg/L		4	75 - 125

Lab Sample ID: 600-194690-10 MSD
Client Sample ID: INF 4
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 279707

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chemical Oxygen Demand	180	F1 E	75.0	178	F1	mg/L		1	75 - 125	1	20

Method: 9040B - pH

Lab Sample ID: LCS 600-279135/1
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 279135

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.1		SU		101	99 - 101

Lab Sample ID: LCS 600-279135/26
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 279135

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.1		SU		101	99 - 101

Lab Sample ID: 600-194690-3 DU
Client Sample ID: FEFF 1
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 279135

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.8	HF	7.9		SU		0.5	1

Method: 9040B - pH (Continued)

Lab Sample ID: LCS 600-279464/1
Matrix: Water
Analysis Batch: 279464

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			7.00	7.0		SU		100	99 - 101		

Lab Sample ID: 600-194690-10 DU
Matrix: Water
Analysis Batch: 279464

Client Sample ID: INF 4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.9	HF		7.9	HF	SU				0.1	1

Method: 9060 - Total Organic Carbon

Lab Sample ID: MB 600-279795/5
Matrix: Water
Analysis Batch: 279795

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC	ND		1.0	0.56	mg/L			11/07/19 08:45	1

Lab Sample ID: LCS 600-279795/6
Matrix: Water
Analysis Batch: 279795

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
TOC			10.0	9.79		mg/L		98	85 - 115		

Lab Sample ID: 600-194690-10 MS
Matrix: Water
Analysis Batch: 279795

Client Sample ID: INF 4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
TOC	9.2	F1	10.0	22.7	F1	mg/L		135	80 - 120		

Lab Sample ID: 600-194690-10 MSD
Matrix: Water
Analysis Batch: 279795

Client Sample ID: INF 4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
TOC	9.2	F1	10.0	22.4	F1	mg/L		132	80 - 120	1	20

Method: SM4500 P E-1999 - Phosphorus

Lab Sample ID: MB 600-278908/3-A
Matrix: Water
Analysis Batch: 278917

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 278908

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phosphorus as P	ND		0.050	0.021	mg/L		10/30/19 01:35	10/30/19 06:09	1
Phosphorus as PO4	ND		0.15	0.065	mg/L		10/30/19 01:35	10/30/19 06:09	1

Method: SM4500 P E-1999 - Phosphorus (Continued)

Lab Sample ID: LCS 600-278908/4-A
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 278917
Prep Batch: 278908

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus as P	0.500	0.482		mg/L		96	90 - 110
Phosphorus as PO4	1.53	1.48		mg/L		96	90 - 110

Lab Sample ID: MB 600-279528/3-A
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 279534
Prep Batch: 279528

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phosphorus as P	ND		0.050	0.021	mg/L		11/06/19 03:20	11/06/19 06:27	1
Phosphorus as PO4	ND		0.15	0.065	mg/L		11/06/19 03:20	11/06/19 06:27	1

Lab Sample ID: LCS 600-279528/4-A
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 279534
Prep Batch: 279528

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus as P	0.500	0.466		mg/L		93	90 - 110
Phosphorus as PO4	1.53	1.43		mg/L		93	90 - 110

Lab Sample ID: 600-194690-10 MS
Client Sample ID: INF 4
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 279534
Prep Batch: 279528

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus as P	0.25		0.500	0.730		mg/L		96	75 - 125
Phosphorus as PO4	0.77		1.53	2.24		mg/L		96	75 - 125

Lab Sample ID: 600-194690-10 MSD
Client Sample ID: INF 4
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 279534
Prep Batch: 279528

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Phosphorus as P	0.25		0.500	0.725		mg/L		95	75 - 125	1	20
Phosphorus as PO4	0.77		1.53	2.22		mg/L		95	75 - 125	1	20

QC Association Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 600-194690-1

HPLC/IC

Analysis Batch: 278776

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-8	INF 3	Total/NA	Water	300.0	
600-194690-10	INF 4	Total/NA	Water	300.0	
MB 600-278776/6	Method Blank	Total/NA	Water	300.0	
LCS 600-278776/7	Lab Control Sample	Total/NA	Water	300.0	
600-194690-10 MS	INF 4	Total/NA	Water	300.0	
600-194690-10 MSD	INF 4	Total/NA	Water	300.0	

Analysis Batch: 278777

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-8	INF 3	Total/NA	Water	300.0	
600-194690-10	INF 4	Total/NA	Water	300.0	
MB 600-278777/6	Method Blank	Total/NA	Water	300.0	
LCS 600-278777/7	Lab Control Sample	Total/NA	Water	300.0	
600-194690-10 MS	INF 4	Total/NA	Water	300.0	
600-194690-10 MSD	INF 4	Total/NA	Water	300.0	

Analysis Batch: 278901

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-1	1. CEFF	Total/NA	Water	300.0	
600-194690-8	INF 3	Total/NA	Water	300.0	
600-194690-10	INF 4	Total/NA	Water	300.0	
MB 600-278901/37	Method Blank	Total/NA	Water	300.0	
MB 600-278901/6	Method Blank	Total/NA	Water	300.0	
LCS 600-278901/38	Lab Control Sample	Total/NA	Water	300.0	
LCS 600-278901/7	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 278902

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-1	1. CEFF	Total/NA	Water	300.0	
MB 600-278902/37	Method Blank	Total/NA	Water	300.0	
MB 600-278902/6	Method Blank	Total/NA	Water	300.0	
LCS 600-278902/38	Lab Control Sample	Total/NA	Water	300.0	
LCS 600-278902/7	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 279038

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-1	1. CEFF	Total/NA	Water	300.0	
600-194690-3	FEFF 1	Total/NA	Water	300.0	
MB 600-279038/6	Method Blank	Total/NA	Water	300.0	
LCS 600-279038/7	Lab Control Sample	Total/NA	Water	300.0	
600-194690-3 MS	FEFF 1	Total/NA	Water	300.0	
600-194690-3 MSD	FEFF 1	Total/NA	Water	300.0	

Analysis Batch: 279039

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-3	FEFF 1	Total/NA	Water	300.0	
MB 600-279039/6	Method Blank	Total/NA	Water	300.0	
LCS 600-279039/7	Lab Control Sample	Total/NA	Water	300.0	
600-194690-3 MS	FEFF 1	Total/NA	Water	300.0	
600-194690-3 MSD	FEFF 1	Total/NA	Water	300.0	

QC Association Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 600-194690-1

HPLC/IC

Analysis Batch: 279165

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-3	FEFF 1	Total/NA	Water	300.0	
MB 600-279165/4	Method Blank	Total/NA	Water	300.0	
LCS 600-279165/5	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 279268

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-3	FEFF 1	Total/NA	Water	300.0	
MB 600-279268/4	Method Blank	Total/NA	Water	300.0	
LCS 600-279268/5	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 279269

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 600-279269/35	Method Blank	Total/NA	Water	300.0	
LCS 600-279269/36	Lab Control Sample	Total/NA	Water	300.0	

Specialty Organics

Prep Batch: 335248

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-1	1. CEFF	Total/NA	Water	1613B	
600-194690-1 - RA	1. CEFF	Total/NA	Water	1613B	
600-194690-3	FEFF 1	Total/NA	Water	1613B	
600-194690-8	INF 3	Total/NA	Water	1613B	
600-194690-8 - RA	INF 3	Total/NA	Water	1613B	
600-194690-8 - DL	INF 3	Total/NA	Water	1613B	
600-194690-9	INF 3 - DISSOLVED	Total/NA	Water	1613B	
600-194690-9 - RA	INF 3 - DISSOLVED	Total/NA	Water	1613B	
600-194690-10	INF 4	Total/NA	Water	1613B	
600-194690-10 - RA	INF 4	Total/NA	Water	1613B	
600-194690-10 - DL	INF 4	Total/NA	Water	1613B	
600-194690-11	INF 4 - DISSOLVED	Total/NA	Water	1613B	
600-194690-11 - RA	INF 4 - DISSOLVED	Total/NA	Water	1613B	
MB 320-335248/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-335248/2-A	Lab Control Sample	Total/NA	Water	1613B	
600-194690-11 MS	INF 4 - DISSOLVED	Total/NA	Water	1613B	
600-194690-11 MS - RA	INF 4 - DISSOLVED	Total/NA	Water	1613B	
600-194690-11 MS - DL	INF 4 - DISSOLVED	Total/NA	Water	1613B	
600-194690-11 MSD	INF 4 - DISSOLVED	Total/NA	Water	1613B	
600-194690-11 MSD - RA	INF 4 - DISSOLVED	Total/NA	Water	1613B	
600-194690-11 MSD - DL	INF 4 - DISSOLVED	Total/NA	Water	1613B	

Analysis Batch: 336302

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-1	1. CEFF	Total/NA	Water	1613B	335248
600-194690-3	FEFF 1	Total/NA	Water	1613B	335248
600-194690-8	INF 3	Total/NA	Water	1613B	335248
600-194690-9	INF 3 - DISSOLVED	Total/NA	Water	1613B	335248
600-194690-10	INF 4	Total/NA	Water	1613B	335248
600-194690-11	INF 4 - DISSOLVED	Total/NA	Water	1613B	335248
MB 320-335248/1-A	Method Blank	Total/NA	Water	1613B	335248
LCS 320-335248/2-A	Lab Control Sample	Total/NA	Water	1613B	335248

Specialty Organics (Continued)

Analysis Batch: 336302 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-11 MS	INF 4 - DISSOLVED	Total/NA	Water	1613B	335248
600-194690-11 MSD	INF 4 - DISSOLVED	Total/NA	Water	1613B	335248

Analysis Batch: 336810

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-1 - RA	1. CEFF	Total/NA	Water	1613B	335248
600-194690-8 - RA	INF 3	Total/NA	Water	1613B	335248
600-194690-9 - RA	INF 3 - DISSOLVED	Total/NA	Water	1613B	335248
600-194690-10 - RA	INF 4	Total/NA	Water	1613B	335248
600-194690-11 - RA	INF 4 - DISSOLVED	Total/NA	Water	1613B	335248
600-194690-11 MS - RA	INF 4 - DISSOLVED	Total/NA	Water	1613B	335248
600-194690-11 MSD - RA	INF 4 - DISSOLVED	Total/NA	Water	1613B	335248

Analysis Batch: 336838

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-8 - DL	INF 3	Total/NA	Water	1613B	335248
600-194690-10 - DL	INF 4	Total/NA	Water	1613B	335248
600-194690-11 MS - DL	INF 4 - DISSOLVED	Total/NA	Water	1613B	335248
600-194690-11 MSD - DL	INF 4 - DISSOLVED	Total/NA	Water	1613B	335248

Metals

Prep Batch: 279634

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-1	1. CEFF	Total/NA	Water	3010A	
600-194690-3	FEFF 1	Total/NA	Water	3010A	
600-194690-8	INF 3	Total/NA	Water	3010A	
600-194690-9	INF 3 - DISSOLVED	Dissolved	Water	3010A	
600-194690-10	INF 4	Total/NA	Water	3010A	
600-194690-11	INF 4 - DISSOLVED	Dissolved	Water	3010A	
MB 600-279634/1-A	Method Blank	Total/NA	Water	3010A	
LCS 600-279634/2-A	Lab Control Sample	Total/NA	Water	3010A	
600-194690-11 MS	INF 4 - DISSOLVED	Dissolved	Water	3010A	
600-194690-11 MSD	INF 4 - DISSOLVED	Dissolved	Water	3010A	
600-194690-11 DU	INF 4 - DISSOLVED	Dissolved	Water	3010A	

Analysis Batch: 280132

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-1	1. CEFF	Total/NA	Water	6010C	279634
600-194690-3	FEFF 1	Total/NA	Water	6010C	279634
600-194690-8	INF 3	Total/NA	Water	6010C	279634
600-194690-9	INF 3 - DISSOLVED	Dissolved	Water	6010C	279634
600-194690-10	INF 4	Total/NA	Water	6010C	279634
600-194690-11	INF 4 - DISSOLVED	Dissolved	Water	6010C	279634
MB 600-279634/1-A	Method Blank	Total/NA	Water	6010C	279634
LCS 600-279634/2-A	Lab Control Sample	Total/NA	Water	6010C	279634
600-194690-11 MS	INF 4 - DISSOLVED	Dissolved	Water	6010C	279634
600-194690-11 MSD	INF 4 - DISSOLVED	Dissolved	Water	6010C	279634
600-194690-11 DU	INF 4 - DISSOLVED	Dissolved	Water	6010C	279634

QC Association Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 600-194690-1

Metals

Analysis Batch: 280247

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-1	1. CEFF	Total/NA	Water	6010C	279634
600-194690-3	FEFF 1	Total/NA	Water	6010C	279634
600-194690-8	INF 3	Total/NA	Water	6010C	279634
600-194690-9	INF 3 - DISSOLVED	Dissolved	Water	6010C	279634
600-194690-10	INF 4	Total/NA	Water	6010C	279634
600-194690-11	INF 4 - DISSOLVED	Dissolved	Water	6010C	279634
MB 600-279634/1-A	Method Blank	Total/NA	Water	6010C	279634
LCS 600-279634/2-A	Lab Control Sample	Total/NA	Water	6010C	279634
600-194690-11 MS	INF 4 - DISSOLVED	Dissolved	Water	6010C	279634
600-194690-11 MSD	INF 4 - DISSOLVED	Dissolved	Water	6010C	279634
600-194690-11 DU	INF 4 - DISSOLVED	Dissolved	Water	6010C	279634

Analysis Batch: 280693

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-3	FEFF 1	Total/NA	Water	6010C	279634
MB 600-279634/1-A	Method Blank	Total/NA	Water	6010C	279634
LCS 600-279634/2-A	Lab Control Sample	Total/NA	Water	6010C	279634

Prep Batch: 408778

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-1	1. CEFF	Total/NA	Water	1631E	
600-194690-3	FEFF 1	Total/NA	Water	1631E	
600-194690-5	DUP	Total/NA	Water	1631E	
600-194690-8	INF 3	Total/NA	Water	1631E	
600-194690-11	INF 4 - DISSOLVED	Total/NA	Water	1631E	
MB 240-408778/1-A	Method Blank	Total/NA	Water	1631E	
LCS 240-408778/2-A	Lab Control Sample	Total/NA	Water	1631E	
600-194690-1 MS	1. CEFF	Total/NA	Water	1631E	
600-194690-1 MSD	1. CEFF	Total/NA	Water	1631E	

Analysis Batch: 409214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-3	FEFF 1	Total/NA	Water	1631E	408778
600-194690-5	DUP	Total/NA	Water	1631E	408778
600-194690-8	INF 3	Total/NA	Water	1631E	408778
600-194690-11	INF 4 - DISSOLVED	Total/NA	Water	1631E	408778
MB 240-408778/1-A	Method Blank	Total/NA	Water	1631E	408778
LCS 240-408778/2-A	Lab Control Sample	Total/NA	Water	1631E	408778

Analysis Batch: 409411

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-1	1. CEFF	Total/NA	Water	1631E	408778
600-194690-1 MS	1. CEFF	Total/NA	Water	1631E	408778
600-194690-1 MSD	1. CEFF	Total/NA	Water	1631E	408778

General Chemistry

Analysis Batch: 278858

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-1	1. CEFF	Total/NA	Water	2540 C-1997	
600-194690-3	FEFF 1	Total/NA	Water	2540 C-1997	

General Chemistry (Continued)

Analysis Batch: 278858 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-8	INF 3	Total/NA	Water	2540 C-1997	
MB 600-278858/1	Method Blank	Total/NA	Water	2540 C-1997	
LCS 600-278858/2	Lab Control Sample	Total/NA	Water	2540 C-1997	
600-194690-1 DU	1. CEFF	Total/NA	Water	2540 C-1997	

Prep Batch: 278908

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-1	1. CEFF	Total/NA	Water	SM 4500 P B	
600-194690-3	FEFF 1	Total/NA	Water	SM 4500 P B	
MB 600-278908/3-A	Method Blank	Total/NA	Water	SM 4500 P B	
LCS 600-278908/4-A	Lab Control Sample	Total/NA	Water	SM 4500 P B	

Prep Batch: 278914

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-1	1. CEFF	Total/NA	Water	350.1	
600-194690-3	FEFF 1	Total/NA	Water	350.1	
600-194690-8	INF 3	Total/NA	Water	350.1	
MB 600-278914/1-A	Method Blank	Total/NA	Water	350.1	
LCS 600-278914/2-A	Lab Control Sample	Total/NA	Water	350.1	

Analysis Batch: 278917

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-1	1. CEFF	Total/NA	Water	SM4500 P E-1999	278908
600-194690-3	FEFF 1	Total/NA	Water	SM4500 P E-1999	278908
MB 600-278908/3-A	Method Blank	Total/NA	Water	SM4500 P E-1999	278908
LCS 600-278908/4-A	Lab Control Sample	Total/NA	Water	SM4500 P E-1999	278908

Analysis Batch: 278947

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-1	1. CEFF	Total/NA	Water	4500 S2 D-2000	
600-194690-3	FEFF 1	Total/NA	Water	4500 S2 D-2000	
600-194690-4	DUP	Total/NA	Water	4500 S2 D-2000	
600-194690-8	INF 3	Total/NA	Water	4500 S2 D-2000	
600-194690-10	INF 4	Total/NA	Water	4500 S2 D-2000	
MB 600-278947/3	Method Blank	Total/NA	Water	4500 S2 D-2000	
LCS 600-278947/4	Lab Control Sample	Total/NA	Water	4500 S2 D-2000	

Analysis Batch: 278965

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-1	1. CEFF	Total/NA	Water	350.1	278914
600-194690-3	FEFF 1	Total/NA	Water	350.1	278914
600-194690-8	INF 3	Total/NA	Water	350.1	278914
MB 600-278914/1-A	Method Blank	Total/NA	Water	350.1	278914
LCS 600-278914/2-A	Lab Control Sample	Total/NA	Water	350.1	278914

Analysis Batch: 278988

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-1	1. CEFF	Total/NA	Water	2540 D-1997	

General Chemistry (Continued)

Analysis Batch: 278988 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-3	FEFF 1	Total/NA	Water	2540 D-1997	
600-194690-6	CUI	Total/NA	Water	2540 D-1997	
600-194690-7	SS	Total/NA	Water	2540 D-1997	
600-194690-8	INF 3	Total/NA	Water	2540 D-1997	
600-194690-10	INF 4	Total/NA	Water	2540 D-1997	
MB 600-278988/1	Method Blank	Total/NA	Water	2540 D-1997	
LCS 600-278988/2	Lab Control Sample	Total/NA	Water	2540 D-1997	
600-194690-10 DU	INF 4	Total/NA	Water	2540 D-1997	

Analysis Batch: 278999

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-10	INF 4	Total/NA	Water	2540 C-1997	
MB 600-278999/1	Method Blank	Total/NA	Water	2540 C-1997	
LCS 600-278999/2	Lab Control Sample	Total/NA	Water	2540 C-1997	
600-194690-10 DU	INF 4	Total/NA	Water	2540 C-1997	

Analysis Batch: 279135

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-3	FEFF 1	Total/NA	Water	9040B	
600-194690-8	INF 3	Total/NA	Water	9040B	
LCS 600-279135/1	Lab Control Sample	Total/NA	Water	9040B	
LCS 600-279135/26	Lab Control Sample	Total/NA	Water	9040B	
600-194690-3 DU	FEFF 1	Total/NA	Water	9040B	

Analysis Batch: 279464

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-1	1. CEFF	Total/NA	Water	9040B	
600-194690-4	DUP	Total/NA	Water	9040B	
600-194690-10	INF 4	Total/NA	Water	9040B	
LCS 600-279464/1	Lab Control Sample	Total/NA	Water	9040B	
600-194690-10 DU	INF 4	Total/NA	Water	9040B	

Prep Batch: 279528

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-8	INF 3	Total/NA	Water	SM 4500 P B	
600-194690-10	INF 4	Total/NA	Water	SM 4500 P B	
MB 600-279528/3-A	Method Blank	Total/NA	Water	SM 4500 P B	
LCS 600-279528/4-A	Lab Control Sample	Total/NA	Water	SM 4500 P B	
600-194690-10 MS	INF 4	Total/NA	Water	SM 4500 P B	
600-194690-10 MSD	INF 4	Total/NA	Water	SM 4500 P B	

Analysis Batch: 279534

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-8	INF 3	Total/NA	Water	SM4500 P E-1999	279528
600-194690-10	INF 4	Total/NA	Water	SM4500 P E-1999	279528
MB 600-279528/3-A	Method Blank	Total/NA	Water	SM4500 P E-1999	279528
LCS 600-279528/4-A	Lab Control Sample	Total/NA	Water	SM4500 P E-1999	279528

General Chemistry (Continued)

Analysis Batch: 279534 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-10 MS	INF 4	Total/NA	Water	SM4500 P E-1999	279528
600-194690-10 MSD	INF 4	Total/NA	Water	SM4500 P E-1999	279528

Prep Batch: 279538

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-10	INF 4	Total/NA	Water	350.1	
MB 600-279538/1-A	Method Blank	Total/NA	Water	350.1	
LCS 600-279538/2-A	Lab Control Sample	Total/NA	Water	350.1	
600-194690-10 MS	INF 4	Total/NA	Water	350.1	
600-194690-10 MSD	INF 4	Total/NA	Water	350.1	

Analysis Batch: 279560

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-1	1. CEFF	Total/NA	Water	8000	
600-194690-3	FEFF 1	Total/NA	Water	8000	
600-194690-8	INF 3	Total/NA	Water	8000	
600-194690-10	INF 4	Total/NA	Water	8000	
MB 600-279560/3	Method Blank	Total/NA	Water	8000	
LCS 600-279560/4	Lab Control Sample	Total/NA	Water	8000	

Analysis Batch: 279607

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-10	INF 4	Total/NA	Water	350.1	279538
MB 600-279538/1-A	Method Blank	Total/NA	Water	350.1	279538
LCS 600-279538/2-A	Lab Control Sample	Total/NA	Water	350.1	279538
600-194690-10 MS	INF 4	Total/NA	Water	350.1	279538
600-194690-10 MSD	INF 4	Total/NA	Water	350.1	279538

Analysis Batch: 279707

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-10	INF 4	Total/NA	Water	8000	
MB 600-279707/2	Method Blank	Total/NA	Water	8000	
LCS 600-279707/1	Lab Control Sample	Total/NA	Water	8000	
600-194690-10 MS	INF 4	Total/NA	Water	8000	
600-194690-10 MSD	INF 4	Total/NA	Water	8000	

Analysis Batch: 279795

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-1	1. CEFF	Total/NA	Water	9060	
600-194690-3	FEFF 1	Total/NA	Water	9060	
600-194690-8	INF 3	Total/NA	Water	9060	
600-194690-10	INF 4	Total/NA	Water	9060	
MB 600-279795/5	Method Blank	Total/NA	Water	9060	
LCS 600-279795/6	Lab Control Sample	Total/NA	Water	9060	
600-194690-10 MS	INF 4	Total/NA	Water	9060	
600-194690-10 MSD	INF 4	Total/NA	Water	9060	

Analysis Batch: 279861

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-1	1. CEFF	Total/NA	Water	2320B-1997	

General Chemistry (Continued)

Analysis Batch: 279861 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-3	FEFF 1	Total/NA	Water	2320B-1997	
600-194690-8	INF 3	Total/NA	Water	2320B-1997	
600-194690-10	INF 4	Total/NA	Water	2320B-1997	
MB 600-279861/2	Method Blank	Total/NA	Water	2320B-1997	
LCS 600-279861/3	Lab Control Sample	Total/NA	Water	2320B-1997	
600-194690-3 MS	FEFF 1	Total/NA	Water	2320B-1997	
600-194690-3 MSD	FEFF 1	Total/NA	Water	2320B-1997	
600-194690-10 MS	INF 4	Total/NA	Water	2320B-1997	
600-194690-10 MSD	INF 4	Total/NA	Water	2320B-1997	
600-194690-10 DU	INF 4	Total/NA	Water	2320B-1997	

Prep Batch: 279936

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-4	DUP	Total/NA	Water	1664B	
MB 600-279936/1-A	Method Blank	Total/NA	Water	1664B	
LCS 600-279936/2-A	Lab Control Sample	Total/NA	Water	1664B	
LCSD 600-279936/3-A	Lab Control Sample Dup	Total/NA	Water	1664B	

Analysis Batch: 279937

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-4	DUP	Total/NA	Water	1664B	279936
MB 600-279936/1-A	Method Blank	Total/NA	Water	1664B	279936
LCS 600-279936/2-A	Lab Control Sample	Total/NA	Water	1664B	279936
LCSD 600-279936/3-A	Lab Control Sample Dup	Total/NA	Water	1664B	279936

Prep Batch: 280144

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-8	INF 3	Total/NA	Water	1664B	
600-194690-10	INF 4	Total/NA	Water	1664B	
MB 600-280144/1-A	Method Blank	Total/NA	Water	1664B	
LCS 600-280144/2-A	Lab Control Sample	Total/NA	Water	1664B	
LCSD 600-280144/3-A	Lab Control Sample Dup	Total/NA	Water	1664B	

Analysis Batch: 280145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-194690-8	INF 3	Total/NA	Water	1664B	280144
600-194690-10	INF 4	Total/NA	Water	1664B	280144
MB 600-280144/1-A	Method Blank	Total/NA	Water	1664B	280144
LCS 600-280144/2-A	Lab Control Sample	Total/NA	Water	1664B	280144
LCSD 600-280144/3-A	Lab Control Sample Dup	Total/NA	Water	1664B	280144

Client Sample ID: 1. CEFF — Lab Sample ID: 600-194690-1

Date Collected: 10/25/19 19:25 **Matrix: Water**
Date Received: 10/28/19 14:52

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	278901	10/30/19 14:00	SKR	TAL HOU
Total/NA	Analysis	300.0		1	278902	10/30/19 14:00	SKR	TAL HOU
Total/NA	Analysis	300.0		20	279038	10/31/19 12:14	SKR	TAL HOU
Total/NA	Prep	1613B			335248	11/01/19 08:11	RDR	TAL SAC
Total/NA	Analysis	1613B		1	336302	11/05/19 23:22	SMA	TAL SAC
Total/NA	Prep	1613B	RA		335248	11/01/19 08:11	RDR	TAL SAC
Total/NA	Analysis	1613B	RA	1	336810	11/07/19 16:53	ALM	TAL SAC
Total/NA	Prep	1631E			408778	11/01/19 13:07	DSH	TAL CAN
Total/NA	Analysis	1631E		5	409411	11/05/19 12:08	DSH	TAL CAN
Total/NA	Prep	3010A			279634	11/06/19 15:20	PQJ	TAL HOU
Total/NA	Analysis	6010C		1	280132	11/12/19 16:22	KP1	TAL HOU
Total/NA	Prep	3010A			279634	11/06/19 15:20	PQJ	TAL HOU
Total/NA	Analysis	6010C		5	280247	11/13/19 12:56	KP1	TAL HOU
Total/NA	Analysis	2320B-1997		1	279861	11/08/19 11:10	DTN	TAL HOU
Total/NA	Analysis	2540 C-1997		1	278858	10/29/19 13:14	TNL	TAL HOU
Total/NA	Analysis	2540 D-1997		1	278988	10/30/19 09:08	TNL	TAL HOU
Total/NA	Prep	350.1			278914	10/30/19 05:22	SC1	TAL HOU
Total/NA	Analysis	350.1		1	278965	10/30/19 10:40	SC1	TAL HOU
Total/NA	Analysis	4500 S2 D-2000		1	278947	10/30/19 09:50	DTN	TAL HOU
Total/NA	Analysis	8000		1	279560	11/06/19 08:51	DTN	TAL HOU
Total/NA	Analysis	9040B		1	279464	11/05/19 11:41	KRD	TAL HOU
Total/NA	Analysis	9060		1	279795	11/07/19 11:11	ANP	TAL HOU
Total/NA	Prep	SM 4500 P B			278908	10/30/19 01:35	SC1	TAL HOU
Total/NA	Analysis	SM4500 P E-1999		1	278917	10/30/19 06:09	SC1	TAL HOU

Client Sample ID: FEFF 1 — Lab Sample ID: 600-194690-3

Date Collected: 10/26/19 12:45 **Matrix: Water**
Date Received: 10/28/19 14:52

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		20	279165	11/01/19 16:39	SKR	TAL HOU
Total/NA	Analysis	300.0		50	279268	11/04/19 13:32	SKR	TAL HOU
Total/NA	Analysis	300.0		1	279038	10/31/19 10:00	SKR	TAL HOU
Total/NA	Analysis	300.0		1	279039	10/31/19 10:00	SKR	TAL HOU
Total/NA	Prep	1613B			335248	11/01/19 08:11	RDR	TAL SAC
Total/NA	Analysis	1613B		1	336302	11/06/19 00:08	SMA	TAL SAC
Total/NA	Prep	1631E			408778	11/01/19 13:07	DSH	TAL CAN
Total/NA	Analysis	1631E		1	409214	11/04/19 17:00	DSH	TAL CAN
Total/NA	Prep	3010A			279634	11/06/19 15:20	PQJ	TAL HOU
Total/NA	Analysis	6010C		1	280132	11/12/19 16:24	KP1	TAL HOU
Total/NA	Prep	3010A			279634	11/06/19 15:20	PQJ	TAL HOU
Total/NA	Analysis	6010C		5	280247	11/13/19 13:00	KP1	TAL HOU

Client Sample ID: FEFF 1 — Lab Sample ID: 600-194690-3

Date Collected: 10/26/19 12:45 **Matrix: Water**
Date Received: 10/28/19 14:52

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			279634	11/06/19 15:20	PQJ	TAL HOU
Total/NA	Analysis	6010C		1	280693	11/19/19 11:02	KP1	TAL HOU
Total/NA	Analysis	2320B-1997		1	279861	11/08/19 10:17	DTN	TAL HOU
Total/NA	Analysis	2540 C-1997		1	278858	10/29/19 13:14	TNL	TAL HOU
Total/NA	Analysis	2540 D-1997		1	278988	10/30/19 09:08	TNL	TAL HOU
Total/NA	Prep	350.1			278914	10/30/19 05:22	SC1	TAL HOU
Total/NA	Analysis	350.1		1	278965	10/30/19 10:41	SC1	TAL HOU
Total/NA	Analysis	4500 S2 D-2000		1	278947	10/30/19 09:50	DTN	TAL HOU
Total/NA	Analysis	8000		1	279560	11/06/19 08:51	DTN	TAL HOU
Total/NA	Analysis	9040B		1	279135	10/31/19 13:36	KRD	TAL HOU
Total/NA	Analysis	9060		1	279795	11/07/19 13:01	ANP	TAL HOU
Total/NA	Prep	SM 4500 P B			278908	10/30/19 01:35	SC1	TAL HOU
Total/NA	Analysis	SM4500 P E-1999		1	278917	10/30/19 06:09	SC1	TAL HOU

Client Sample ID: DUP — Lab Sample ID: 600-194690-4

Date Collected: 10/25/19 00:00 **Matrix: Water**
Date Received: 10/28/19 14:52

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1664B			279936	11/10/19 11:32	FNC	TAL HOU
Total/NA	Analysis	1664B		1	279937	11/10/19 11:33	FNC	TAL HOU
Total/NA	Analysis	4500 S2 D-2000		5	278947	10/30/19 09:50	DTN	TAL HOU
Total/NA	Analysis	9040B		1	279464	11/05/19 11:27	KRD	TAL HOU

Client Sample ID: DUP — Lab Sample ID: 600-194690-5

Date Collected: 10/26/19 00:00 **Matrix: Water**
Date Received: 10/28/19 14:52

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1631E			408778	11/01/19 13:07	DSH	TAL CAN
Total/NA	Analysis	1631E		1	409214	11/04/19 17:05	DSH	TAL CAN

Client Sample ID: CUI — Lab Sample ID: 600-194690-6

Date Collected: 10/26/19 14:30 **Matrix: Water**
Date Received: 10/28/19 14:52

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540 D-1997		1	278988	10/30/19 09:08	TNL	TAL HOU

Client Sample ID: SS — Lab Sample ID: 600-194690-7

Date Collected: 10/26/19 14:30 **Matrix: Water**
Date Received: 10/28/19 14:52

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540 D-1997		1	278988	10/30/19 09:09	TNL	TAL HOU

Client Sample ID: INF 3 — Lab Sample ID: 600-194690-8

Date Collected: 10/25/19 13:30 **Matrix: Water**
Date Received: 10/28/19 14:52

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	278776	10/29/19 07:38	SKR	TAL HOU
Total/NA	Analysis	300.0		1	278777	10/29/19 07:38	SKR	TAL HOU
Total/NA	Analysis	300.0		20	278901	10/30/19 12:02	SKR	TAL HOU
Total/NA	Prep	1613B			335248	11/01/19 08:11	RDR	TAL SAC
Total/NA	Analysis	1613B		1	336302	11/06/19 00:54	SMA	TAL SAC
Total/NA	Prep	1613B	RA		335248	11/01/19 08:11	RDR	TAL SAC
Total/NA	Analysis	1613B	RA	20	336810	11/07/19 17:32	ALM	TAL SAC
Total/NA	Prep	1613B	DL		335248	11/01/19 08:11	RDR	TAL SAC
Total/NA	Analysis	1613B	DL	20	336838	11/07/19 21:41	AS	TAL SAC
Total/NA	Prep	1631E			408778	11/01/19 13:07	DSH	TAL CAN
Total/NA	Analysis	1631E		1	409214	11/04/19 17:09	DSH	TAL CAN
Total/NA	Prep	3010A			279634	11/06/19 15:20	PQJ	TAL HOU
Total/NA	Analysis	6010C		1	280132	11/12/19 16:26	KP1	TAL HOU
Total/NA	Prep	3010A			279634	11/06/19 15:20	PQJ	TAL HOU
Total/NA	Analysis	6010C		5	280247	11/13/19 13:02	KP1	TAL HOU
Total/NA	Prep	1664B			280144	11/12/19 13:44	FNC	TAL HOU
Total/NA	Analysis	1664B		1	280145	11/12/19 13:45	FNC	TAL HOU
Total/NA	Analysis	2320B-1997		1	279861	11/08/19 11:05	DTN	TAL HOU
Total/NA	Analysis	2540 C-1997		1	278858	10/29/19 13:14	TNL	TAL HOU
Total/NA	Analysis	2540 D-1997		1	278988	10/30/19 09:09	TNL	TAL HOU
Total/NA	Prep	350.1			278914	10/30/19 05:22	SC1	TAL HOU
Total/NA	Analysis	350.1		1	278965	10/30/19 10:42	SC1	TAL HOU
Total/NA	Analysis	4500 S2 D-2000		5	278947	10/30/19 09:50	DTN	TAL HOU
Total/NA	Analysis	8000		2	279560	11/06/19 08:51	DTN	TAL HOU
Total/NA	Analysis	9040B		1	279135	10/31/19 12:36	KRD	TAL HOU
Total/NA	Analysis	9060		4	279795	11/07/19 10:10	ANP	TAL HOU
Total/NA	Prep	SM 4500 P B			279528	11/06/19 03:20	SC1	TAL HOU
Total/NA	Analysis	SM4500 P E-1999		10	279534	11/06/19 06:27	SC1	TAL HOU

Client Sample ID: INF 3 - DISSOLVED — Lab Sample ID: 600-194690-9

Date Collected: 10/25/19 13:30 **Matrix: Water**
Date Received: 10/28/19 14:52

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			335248	11/01/19 08:11	RDR	TAL SAC
Total/NA	Analysis	1613B		1	336302	11/06/19 01:40	SMA	TAL SAC
Total/NA	Prep	1613B	RA		335248	11/01/19 08:11	RDR	TAL SAC
Total/NA	Analysis	1613B	RA	5	336810	11/07/19 18:10	ALM	TAL SAC
Dissolved	Prep	3010A			279634	11/06/19 15:20	PQJ	TAL HOU
Dissolved	Analysis	6010C		1	280132	11/12/19 16:28	KP1	TAL HOU
Dissolved	Prep	3010A			279634	11/06/19 15:20	PQJ	TAL HOU
Dissolved	Analysis	6010C		5	280247	11/13/19 13:04	KP1	TAL HOU

Client Sample ID: INF 4 — Lab Sample ID: 600-194690-10

Date Collected: 10/25/19 20:50 **Matrix: Water**
Date Received: 10/28/19 14:52

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	278776	10/29/19 07:49	SKR	TAL HOU
Total/NA	Analysis	300.0		1	278777	10/29/19 07:49	SKR	TAL HOU
Total/NA	Analysis	300.0		20	278901	10/30/19 12:12	SKR	TAL HOU
Total/NA	Prep	1613B			335248	11/01/19 08:11	RDR	TAL SAC
Total/NA	Analysis	1613B		1	336302	11/06/19 02:26	SMA	TAL SAC
Total/NA	Prep	1613B	RA		335248	11/01/19 08:11	RDR	TAL SAC
Total/NA	Analysis	1613B	RA	20	336810	11/07/19 18:49	ALM	TAL SAC
Total/NA	Prep	1613B	DL		335248	11/01/19 08:11	RDR	TAL SAC
Total/NA	Analysis	1613B	DL	20	336838	11/07/19 22:29	AS	TAL SAC
Total/NA	Prep	3010A			279634	11/06/19 15:20	PQJ	TAL HOU
Total/NA	Analysis	6010C		1	280132	11/12/19 16:30	KP1	TAL HOU
Total/NA	Prep	3010A			279634	11/06/19 15:20	PQJ	TAL HOU
Total/NA	Analysis	6010C		5	280247	11/13/19 13:18	KP1	TAL HOU
Total/NA	Prep	1664B			280144	11/12/19 13:44	FNC	TAL HOU
Total/NA	Analysis	1664B		1	280145	11/12/19 13:45	FNC	TAL HOU
Total/NA	Analysis	2320B-1997		1	279861	11/08/19 11:25	DTN	TAL HOU
Total/NA	Analysis	2540 C-1997		1	278999	10/30/19 13:38	TNL	TAL HOU
Total/NA	Analysis	2540 D-1997		1	278988	10/30/19 09:08	TNL	TAL HOU
Total/NA	Prep	350.1			279538	11/06/19 07:01	SC1	TAL HOU
Total/NA	Analysis	350.1		1	279607	11/06/19 12:20	SC1	TAL HOU
Total/NA	Analysis	4500 S2 D-2000		5	278947	10/30/19 09:54	DTN	TAL HOU
Total/NA	Analysis	8000		4	279560	11/06/19 08:51	DTN	TAL HOU
Total/NA	Analysis	8000		1	279707	11/07/19 08:48	DTN	TAL HOU
Total/NA	Analysis	9040B		1	279464	11/05/19 11:34	KRD	TAL HOU
Total/NA	Analysis	9060		1	279795	11/07/19 12:00	ANP	TAL HOU
Total/NA	Prep	SM 4500 P B			279528	11/06/19 03:20	SC1	TAL HOU
Total/NA	Analysis	SM4500 P E-1999		1	279534	11/06/19 06:27	SC1	TAL HOU

Client Sample ID: INF 4 - DISSOLVED — Lab Sample ID: 600-194690-11

Date Collected: 10/26/19 22:10 **Matrix: Water**
Date Received: 10/28/19 14:52

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			335248	11/01/19 08:11	RDR	TAL SAC
Total/NA	Analysis	1613B		1	336302	11/06/19 03:12	SMA	TAL SAC
Total/NA	Prep	1613B	RA		335248	11/01/19 08:11	RDR	TAL SAC
Total/NA	Analysis	1613B	RA	1	336810	11/07/19 19:27	ALM	TAL SAC
Total/NA	Prep	1631E			408778	11/01/19 13:07	DSH	TAL CAN
Total/NA	Analysis	1631E		1	409214	11/04/19 17:14	DSH	TAL CAN
Dissolved	Prep	3010A			279634	11/06/19 15:20	PQJ	TAL HOU
Dissolved	Analysis	6010C		1	280132	11/12/19 16:32	KP1	TAL HOU
Dissolved	Prep	3010A			279634	11/06/19 15:20	PQJ	TAL HOU
Dissolved	Analysis	6010C		5	280247	11/13/19 13:20	KP1	TAL HOU

Lab Chronicle

Client: GHD Services Inc.
Job ID: 600-194690-1
Project/Site: San Jacinto River Waste Pits Superfund

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL HOU = Eurofins TestAmerica, Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GHD Services Inc. Job ID: 600-194690-1
Project/Site: San Jacinto River Waste Pits Superfund

Laboratory: Eurofins TestAmerica, Houston

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704223-19-25	10-31-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1664B	1664B	Water	HEM
1664B	1664B	Water	SGT-HEM
2320B-1997		Water	Bicarbonate Alkalinity as CaCO3
2320B-1997		Water	Carbonate Alkalinity as CaCO3
SM4500 P E-1999	SM 4500 P B	Water	Phosphorus as PO4

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-20
Connecticut	State	PH-0590	12-31-19
Florida	NELAP	E87225	06-30-20
Georgia	State	4062	02-23-20
Illinois	NELAP	004498	07-31-20
Iowa	State	421	11-06-19
Kansas	NELAP	E-10336	04-30-20
Kentucky (UST)	State	112225	02-23-20
Kentucky (WW)	State	KY98016	12-31-19
Minnesota	NELAP	OH00048	12-31-19
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-20
New York	NELAP	10975	03-31-20
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-23-20
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-18-00281	09-17-21
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-20
West Virginia DEP	State	210	12-31-19

Laboratory: Eurofins TestAmerica, Pittsburgh

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704528-15-2	03-31-20

Laboratory: Eurofins TestAmerica, Sacramento

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704399	05-31-20

Method Summary

Client: GHD Services Inc.
Job ID: 600-194690-1
Project/Site: San Jacinto River Waste Pits Superfund

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL HOU
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	TAL SAC
TEQ	Total TEQ Calculation	TAL SOP	TAL SAC
1631E	Mercury, Low Level (CVAFS)	EPA	TAL CAN
6010C	Inductively Coupled Plasma - Atomic Emission Spectrometry	SW846	TAL HOU
1664B	HEM and SGT-HEM	1664B	TAL HOU
2320B-1997	Alkalinity, Total - SM Online, 2011	SM-Online	TAL HOU
2540 C-1997	Total Dissolved Solids (Dried at 180 °C)	SM	TAL HOU
2540 D-1997	Solids, Total Suspended (TSS) - SM Online, 2011	SM-Online	TAL HOU
350.1	Nitrogen, Ammonia	MCAWW	TAL HOU
4500 S2 D-2000	Sulfide, Total	SM	TAL HOU
8000	Chemical Oxygen Demand (COD) Colorimetric	Hach	TAL HOU
9040B	pH	SW846	TAL HOU
9060	Total Organic Carbon	SW846	TAL HOU
SM4500 P E-1999	Phosphorus	SM	TAL HOU
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	TAL SAC
1631E	Preparation, Mercury, Low Level	EPA	TAL CAN
1664B	HEM and SGT-HEM (Aqueous)	1664B	TAL HOU
3010A	Acid Digestion of Aqueous Samples and Extracts for Total Metals	SW846	TAL HOU
350.1	Distillation, Ammonia	EPA	TAL HOU
SM 4500 P B	Sample Preparation for Total and Ortho Phosphorus	SM	TAL HOU

Protocol References:

1664B = EPA-821-98-002
EPA = US Environmental Protection Agency
Hach = Hach Company
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SM = "Standard Methods For The Examination Of Water And Wastewater"
SM-Online = Standard Methods Online
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396
TAL HOU = Eurofins TestAmerica, Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444
TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GHD Services Inc.
Job ID: 600-194690-1
Project/Site: San Jacinto River Waste Pits Superfund

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
600-194690-1	1. CEFF	Water	10/25/19 19:25	10/28/19 14:52	
600-194690-3	FEFF 1	Water	10/26/19 12:45	10/28/19 14:52	
600-194690-4	DUP	Water	10/25/19 00:00	10/28/19 14:52	
600-194690-5	DUP	Water	10/26/19 00:00	10/28/19 14:52	
600-194690-6	CUI	Water	10/26/19 14:30	10/28/19 14:52	
600-194690-7	SS	Water	10/26/19 14:30	10/28/19 14:52	
600-194690-8	INF 3	Water	10/25/19 13:30	10/28/19 14:52	
600-194690-9	INF 3 - DISSOLVED	Water	10/25/19 13:30	10/28/19 14:52	
600-194690-10	INF 4	Water	10/25/19 20:50	10/28/19 14:52	
600-194690-11	INF 4 - DISSOLVED	Water	10/26/19 22:10	10/28/19 14:52	

Quantitation Limit Exceptions Summary

Client: GHD Services Inc. Job ID: 600-194690-1
Project/Site: San Jacinto River Waste Pits Superfund

The requested project specific reporting limits listed below were less than laboratory standard quantitation limits (PQL) but greater than or equal to the laboratory method detection limits (MDL). It must be noted that results reported below lab standard quantitation limits may result in false positive/false negative values and less accurate quantitation. Routine laboratory procedures do not indicate corrective action for detections below the laboratory's PQL.

Method	Analyte	Matrix	Prep Type	Unit	Client RL	Lab PQL
SM4500 P E-1999	Phosphorus as PO4	Water	Total/NA	mg/L	0.15	0.154

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC11 Analysis Batch Number: 277958

Lab Sample ID: IC 600-277958/3 Client Sample ID:

Date Analyzed: 10/18/19 16:55 Lab File ID: CAL101819-3.d GC Column: AS-18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Fluoride	3.13	Baseline Smoothing	buschk	10/21/19 11:13
Bromide	8.87	Baseline Smoothing	reachs	10/21/19 10:25
Sulfate	9.60	Incomplete Integration	patelk	10/23/19 10:35

Lab Sample ID: IC 600-277958/4 Client Sample ID:

Date Analyzed: 10/18/19 17:15 Lab File ID: CAL101819-4.d GC Column: AS-18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Fluoride	3.13	Baseline Smoothing	buschk	10/21/19 11:11

Lab Sample ID: IC 600-277958/5 Client Sample ID:

Date Analyzed: 10/18/19 17:36 Lab File ID: CAL101819-5.d GC Column: AS-18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Fluoride	3.13	Baseline Smoothing	buschk	10/21/19 11:12
Chloride	4.91	Baseline Smoothing	reachs	10/21/19 10:27
Bromide	8.86	Baseline Smoothing	reachs	10/21/19 10:27
Sulfate	9.60	Baseline Smoothing	reachs	10/21/19 10:27

Lab Sample ID: IC 600-277958/6 Client Sample ID:

Date Analyzed: 10/18/19 17:56 Lab File ID: CAL101819-6.d GC Column: AS-18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Fluoride	3.13	Baseline Smoothing	reachs	10/21/19 10:29
Chloride	4.91	Baseline Smoothing	reachs	10/21/19 10:29
Bromide	8.85	Baseline Smoothing	reachs	10/21/19 10:29
Sulfate	9.59	Baseline Smoothing	reachs	10/21/19 10:30

300.0

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC11 Analysis Batch Number: 277958

Lab Sample ID: IC 600-277958/7 Client Sample ID:

Date Analyzed: 10/18/19 18:16 Lab File ID: CAL101819-7.d GC Column: AS-18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Fluoride	3.13	Baseline Smoothing	reachs	10/21/19 10:30
Chloride	4.90	Baseline Smoothing	reachs	10/21/19 10:30
Bromide	8.84	Baseline Smoothing	reachs	10/21/19 10:31
Sulfate	9.58	Baseline Smoothing	reachs	10/21/19 10:34

Lab Sample ID: IC 600-277958/9 Client Sample ID:

Date Analyzed: 10/18/19 18:57 Lab File ID: CAL101819-9.d GC Column: AS-18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Fluoride	3.13	Baseline Smoothing	buschk	10/21/19 11:15
Bromide	8.83	Baseline Smoothing	reachs	10/21/19 10:37
Sulfate	9.54	Baseline Smoothing	reachs	10/21/19 10:38

300.0

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC11 Analysis Batch Number: 277959

Lab Sample ID: IC 600-277959/3 Client Sample ID:

Date Analyzed: 10/18/19 16:55 Lab File ID: CAL101819-3.d GC Column: AS-18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrate as N	10.36	Incomplete Integration	patelk	10/23/19 10:35

Lab Sample ID: IC 600-277959/5 Client Sample ID:

Date Analyzed: 10/18/19 17:36 Lab File ID: CAL101819-5.d GC Column: AS-18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrite as N	6.13	Baseline Smoothing	reachs	10/21/19 10:28
Nitrate as N	10.34	Baseline Smoothing	reachs	10/21/19 10:28

Lab Sample ID: IC 600-277959/6 Client Sample ID:

Date Analyzed: 10/18/19 17:56 Lab File ID: CAL101819-6.d GC Column: AS-18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrite as N	6.13	Baseline Smoothing	reachs	10/21/19 10:30
Nitrate as N	10.32	Baseline Smoothing	reachs	10/21/19 10:30

Lab Sample ID: IC 600-277959/7 Client Sample ID:

Date Analyzed: 10/18/19 18:16 Lab File ID: CAL101819-7.d GC Column: AS-18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrite as N	6.13	Baseline Smoothing	reachs	10/21/19 10:34
Nitrate as N	10.29	Incomplete Integration	reachs	10/21/19 10:35

300.0

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC11 Analysis Batch Number: 277959

Lab Sample ID: IC 600-277959/9 Client Sample ID:

Date Analyzed: 10/18/19 18:57 Lab File ID: CAL101819-9.d GC Column: AS-18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrate as N	10.18	Baseline Smoothing	reachs	10/21/19 10:38

300.0

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC11 Analysis Batch Number: 279165

Lab Sample ID: CCB 600-279165/3 Client Sample ID:

Date Analyzed: 11/01/19 10:56 Lab File ID: 110119-3.d GC Column: AS-18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloride		Unspecified		

Lab Sample ID: MB 600-279165/4 Client Sample ID:

Date Analyzed: 11/01/19 11:16 Lab File ID: 110119-4.d GC Column: AS-18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloride		Unspecified		
Sulfate		Unspecified		

Lab Sample ID: 600-194690-3 Client Sample ID: FEFF 1

Date Analyzed: 11/01/19 16:39 Lab File ID: 110119-9.d GC Column: AS-18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Sulfate	9.40	Baseline Smoothing	reachs	11/04/19 10:45

Lab Sample ID: CCV 600-279165/14 Client Sample ID:

Date Analyzed: 11/01/19 18:22 Lab File ID: 110119-14.d GC Column: AS-18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Fluoride	3.12	Incomplete Integration	reachs	11/04/19 10:51
Bromide	8.65	Incomplete Integration	reachs	11/04/19 10:51

Lab Sample ID: CCB 600-279165/15 Client Sample ID:

Date Analyzed: 11/01/19 18:42 Lab File ID: 110119-15.d GC Column: AS-18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloride		Unspecified		

300.0

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC11 Analysis Batch Number: 279165

Lab Sample ID: CCV 600-279165/26 Client Sample ID:

Date Analyzed: 11/01/19 22:26 Lab File ID: 110119-26.d GC Column: AS-18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromide	8.66	Baseline Smoothing	reachs	11/04/19 10:57

Lab Sample ID: CCB 600-279165/27 Client Sample ID:

Date Analyzed: 11/01/19 22:47 Lab File ID: 110119-27.d GC Column: AS-18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloride		Unspecified		

300.0

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC11 Analysis Batch Number: 279166

Lab Sample ID: CCV 600-279166/14 Client Sample ID:

Date Analyzed: 11/01/19 18:22 Lab File ID: 110119-14.d GC Column: AS-18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrite as N	6.01	Baseline Smoothing	reachs	11/04/19 10:53
Nitrate as N	10.03	Baseline Smoothing	reachs	11/04/19 10:52

300.0

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC11 Analysis Batch Number: 279268

Lab Sample ID: CCV 600-279268/2 Client Sample ID:

Date Analyzed: 11/04/19 11:30 Lab File ID: 110419-2.d GC Column: AS-18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Fluoride	3.13	Incomplete Integration	reachs	11/04/19 11:58
Bromide	8.65	Incomplete Integration	reachs	11/04/19 11:59

Lab Sample ID: CCB 600-279268/3 Client Sample ID:

Date Analyzed: 11/04/19 11:51 Lab File ID: 110419-3.d GC Column: AS-18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Fluoride		Unspecified		

Lab Sample ID: MB 600-279268/4 Client Sample ID:

Date Analyzed: 11/04/19 12:11 Lab File ID: 110419-4.d GC Column: AS-18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloride		Unspecified		
Fluoride		Unspecified		
Sulfate		Unspecified		

Lab Sample ID: LCS 600-279268/5 Client Sample ID:

Date Analyzed: 11/04/19 12:31 Lab File ID: 110419-5.d GC Column: AS-18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromide	8.65	Baseline Smoothing	reachs	11/04/19 13:31
Sulfate	9.31	Incomplete Integration	reachs	11/04/19 13:31

300.0

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC11 Analysis Batch Number: 279269

Lab Sample ID: CCV 600-279269/2 Client Sample ID:

Date Analyzed: 11/04/19 11:30 Lab File ID: 110419-2.d GC Column: AS-18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrite as N	6.01	Baseline Smoothing	reachs	11/04/19 11:57

Lab Sample ID: CCV 600-279269/14 Client Sample ID:

Date Analyzed: 11/04/19 16:15 Lab File ID: 110419-14.d GC Column: AS-18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrite as N	6.02	Baseline Smoothing	reachs	11/05/19 10:40

Lab Sample ID: CCV 600-279269/26 Client Sample ID:

Date Analyzed: 11/04/19 20:20 Lab File ID: 110419-26.d GC Column: AS-18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrite as N	6.01	Baseline Smoothing	reachs	11/05/19 10:45

Lab Sample ID: LCS 600-279269/36 Client Sample ID:

Date Analyzed: 11/04/19 23:44 Lab File ID: 110419-36.d GC Column: AS-18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrite as N	6.01	Baseline Smoothing	reachs	11/05/19 10:50

Lab Sample ID: CCV 600-279269/38 Client Sample ID:

Date Analyzed: 11/05/19 00:25 Lab File ID: 110419-38.d GC Column: AS-18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrite as N	6.01	Baseline Smoothing	reachs	11/05/19 10:55
Nitrate as N	10.01	Baseline Smoothing	reachs	11/05/19 10:55

300.0

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC17(IC) Analysis Batch Number: 278508

Lab Sample ID: IC 600-278508/5 Client Sample ID:

Date Analyzed: 10/24/19 13:38 Lab File ID: CAL102419-600-0031875-005 GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Fluoride	2.22	Baseline Smoothing	buschk	10/25/19 17:11
Bromide	4.43	Baseline Smoothing	buschk	10/25/19 17:11
Sulfate	7.04	Baseline Smoothing	buschk	10/25/19 17:36

Lab Sample ID: IC 600-278508/6 Client Sample ID:

Date Analyzed: 10/24/19 13:49 Lab File ID: CAL102419-600-0031875-006 GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Fluoride	2.21	Baseline Smoothing	buschk	10/25/19 17:14
Chloride	3.10	Baseline Smoothing	buschk	10/25/19 17:15
Bromide	4.43	Baseline Smoothing	buschk	10/25/19 17:14
Sulfate	7.04	Baseline Smoothing	buschk	10/25/19 17:15

Lab Sample ID: IC 600-278508/7 Client Sample ID:

Date Analyzed: 10/24/19 14:00 Lab File ID: CAL102419-600-0031875-007 GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Fluoride	2.21	Baseline Smoothing	buschk	10/25/19 17:16
Chloride	3.09	Baseline Smoothing	buschk	10/25/19 17:16
Bromide	4.42	Baseline Smoothing	buschk	10/25/19 17:15
Sulfate	7.04	Baseline Smoothing	buschk	10/25/19 17:16

300.0

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC17(IC) Analysis Batch Number: 278508

Lab Sample ID: IC 600-278508/8 Client Sample ID:

Date Analyzed: 10/24/19 14:11 Lab File ID: CAL102419-600-0031875-008 GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Fluoride	2.22	Baseline Smoothing	buschk	10/25/19 17:19
Chloride	3.10	Baseline Smoothing	buschk	10/25/19 17:18
Bromide	4.41	Baseline Smoothing	buschk	10/25/19 17:18
Sulfate	7.06	Baseline Smoothing	buschk	10/25/19 17:19

Lab Sample ID: IC 600-278508/9 Client Sample ID:

Date Analyzed: 10/24/19 14:21 Lab File ID: CAL102419-600-0031875-009 GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Fluoride	2.22	Baseline Smoothing	buschk	10/25/19 17:20
Chloride	3.11	Baseline Smoothing	buschk	10/25/19 17:21
Bromide	4.42	Baseline Smoothing	buschk	10/25/19 17:21
Sulfate	7.08	Baseline Smoothing	buschk	10/25/19 17:22

Lab Sample ID: IC 600-278508/10 Client Sample ID:

Date Analyzed: 10/24/19 14:32 Lab File ID: CAL102419-600-0031875-010 GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Fluoride	2.23	Baseline Smoothing	buschk	10/25/19 17:25
Chloride	3.12	Baseline Smoothing	buschk	10/25/19 17:24
Bromide	4.42	Baseline Smoothing	buschk	10/25/19 17:24
Sulfate	7.11	Baseline Smoothing	buschk	10/25/19 17:25

300.0

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC17(IC) Analysis Batch Number: 278508

Lab Sample ID: IC 600-278508/11 Client Sample ID:

Date Analyzed: 10/24/19 14:43 Lab File ID: CAL102419-600-0031875-011 GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Fluoride	2.22	Baseline Smoothing	buschk	10/25/19 17:32
Chloride	3.14	Baseline Smoothing	buschk	10/25/19 17:30
Bromide	4.42	Baseline Smoothing	buschk	10/25/19 17:30
Sulfate	7.17	Baseline Smoothing	buschk	10/25/19 17:31

300.0

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC17(IC) Analysis Batch Number: 278509

Lab Sample ID: IC 600-278509/5 Client Sample ID:

Date Analyzed: 10/24/19 13:38 Lab File ID: CAL102419-600-0031875-005 GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrite as N	3.71	Baseline Smoothing	buschk	10/25/19 17:12
Nitrate as N	4.94	Baseline Smoothing	buschk	10/25/19 17:35

Lab Sample ID: IC 600-278509/6 Client Sample ID:

Date Analyzed: 10/24/19 13:49 Lab File ID: CAL102419-600-0031875-006 GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrite as N	3.71	Baseline Smoothing	buschk	10/25/19 17:13
Nitrate as N	4.94	Baseline Smoothing	buschk	10/25/19 17:13

Lab Sample ID: IC 600-278509/7 Client Sample ID:

Date Analyzed: 10/24/19 14:00 Lab File ID: CAL102419-600-0031875-007 GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrite as N	3.71	Baseline Smoothing	buschk	10/25/19 17:17
Nitrate as N	4.92	Baseline Smoothing	buschk	10/25/19 17:16

Lab Sample ID: IC 600-278509/8 Client Sample ID:

Date Analyzed: 10/24/19 14:11 Lab File ID: CAL102419-600-0031875-008 GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrite as N	3.72	Baseline Smoothing	buschk	10/25/19 17:18
Nitrate as N	4.91	Baseline Smoothing	buschk	10/25/19 17:17

300.0

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC17(IC) Analysis Batch Number: 278509

Lab Sample ID: IC 600-278509/9 Client Sample ID:

Date Analyzed: 10/24/19 14:21 Lab File ID: CAL102419-600-0031875-009 GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrite as N	3.74	Baseline Smoothing	buschk	10/25/19 17:22
Nitrate as N	4.90	Baseline Smoothing	buschk	10/25/19 17:22

Lab Sample ID: IC 600-278509/10 Client Sample ID:

Date Analyzed: 10/24/19 14:32 Lab File ID: CAL102419-600-0031875-010 GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrite as N	3.76	Baseline Smoothing	buschk	10/25/19 17:24
Nitrate as N	4.89	Baseline Smoothing	buschk	10/25/19 17:23

Lab Sample ID: IC 600-278509/11 Client Sample ID:

Date Analyzed: 10/24/19 14:43 Lab File ID: CAL102419-600-0031875-011 GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrite as N	3.80	Baseline Smoothing	buschk	10/25/19 17:34
Nitrate as N	4.86	Baseline Smoothing	buschk	10/25/19 17:33

300.0

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC17(IC) Analysis Batch Number: 278776

Lab Sample ID: CCV 600-278776/4 Client Sample ID:

Date Analyzed: 10/29/19 02:42 Lab File ID: 102919-600-0031944-004.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Fluoride	2.24	Baseline Smoothing	reachs	10/29/19 12:03
Chloride	3.11	Baseline Smoothing	reachs	10/29/19 12:04
Bromide	4.38	Incomplete Integration	reachs	10/30/19 12:00
Sulfate	7.08	Baseline Smoothing	reachs	10/29/19 12:04

Lab Sample ID: CCB 600-278776/5 Client Sample ID:

Date Analyzed: 10/29/19 02:53 Lab File ID: 102919-600-0031944-005.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloride		Unspecified		

Lab Sample ID: MB 600-278776/6 Client Sample ID:

Date Analyzed: 10/29/19 03:03 Lab File ID: 102919-600-0031944-006.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloride	3.11	Baseline Smoothing	reachs	10/29/19 12:05

Lab Sample ID: LCS 600-278776/7 Client Sample ID:

Date Analyzed: 10/29/19 03:14 Lab File ID: 102919-600-0031944-007.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Fluoride	2.24	Baseline Smoothing	reachs	10/29/19 12:08
Chloride	3.12	Baseline Smoothing	reachs	10/29/19 12:08
Bromide	4.40	Baseline Smoothing	reachs	10/29/19 12:08
Sulfate	7.10	Baseline Smoothing	reachs	10/29/19 12:08

300.0

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC17(IC) Analysis Batch Number: 278776

Lab Sample ID: 600-194690-8 Client Sample ID: INF 3

Date Analyzed: 10/29/19 07:38 Lab File ID: 102919-600-0031944-010.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromide	4.38	Baseline Smoothing	reachs	10/30/19 12:04

Lab Sample ID: 600-194690-10 Client Sample ID: INF 4

Date Analyzed: 10/29/19 07:49 Lab File ID: 102919-600-0031944-011.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Fluoride	2.15	Baseline Smoothing	reachs	10/30/19 12:05
Bromide	4.39	Baseline Smoothing	reachs	10/30/19 12:05

Lab Sample ID: 600-194690-10 MS Client Sample ID: INF 4 MS

Date Analyzed: 10/29/19 08:00 Lab File ID: 102919-600-0031944-012.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloride	3.45	Peak assignment corrected	reachs	10/30/19 12:06

Lab Sample ID: 600-194690-10 MSD Client Sample ID: INF 4 MSD

Date Analyzed: 10/29/19 08:10 Lab File ID: 102919-600-0031944-013.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloride	3.44	Peak assignment corrected	reachs	10/30/19 12:06

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC17(IC) Analysis Batch Number: 278776

Lab Sample ID: CCV 600-278776/16 Client Sample ID:

Date Analyzed: 10/29/19 09:31 Lab File ID: 102919-600-0031944-016.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Fluoride	2.23	Baseline Smoothing	reachs	10/30/19 12:09
Chloride	3.11	Baseline Smoothing	reachs	10/30/19 12:09
Bromide	4.38	Baseline Smoothing	reachs	10/30/19 12:09
Sulfate	7.06	Baseline Smoothing	reachs	10/30/19 12:09

Lab Sample ID: CCB 600-278776/17 Client Sample ID:

Date Analyzed: 10/29/19 09:41 Lab File ID: 102919-600-0031944-017.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloride	3.08	Baseline Smoothing	reachs	10/30/19 12:10

300.0

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC17(IC) Analysis Batch Number: 278777

Lab Sample ID: CCV 600-278777/4 Client Sample ID:

Date Analyzed: 10/29/19 02:42 Lab File ID: 102919-600-0031944-004.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrite as N	3.75	Baseline Smoothing	reachs	10/29/19 12:04
Nitrate as N	4.84	Incomplete Integration	reachs	10/30/19 12:00

Lab Sample ID: LCS 600-278777/7 Client Sample ID:

Date Analyzed: 10/29/19 03:14 Lab File ID: 102919-600-0031944-007.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrite as N	3.76	Baseline Smoothing	reachs	10/29/19 12:09
Nitrate as N	4.86	Baseline Smoothing	reachs	10/29/19 12:09

Lab Sample ID: CCV 600-278777/16 Client Sample ID:

Date Analyzed: 10/29/19 09:31 Lab File ID: 102919-600-0031944-016.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrite as N	3.75	Baseline Smoothing	reachs	10/30/19 12:09
Nitrate as N	4.84	Baseline Smoothing	reachs	10/30/19 12:09

300.0

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC17(IC) Analysis Batch Number: 278901

Lab Sample ID: CCV 600-278901/4 Client Sample ID:

Date Analyzed: 10/30/19 06:12 Lab File ID: 103019-600-0031972-004.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Fluoride	2.23	Baseline Smoothing	reachs	10/30/19 14:08
Chloride	3.10	Baseline Smoothing	reachs	10/30/19 14:08
Bromide	4.36	Baseline Smoothing	reachs	10/30/19 14:08
Sulfate	7.05	Baseline Smoothing	reachs	10/30/19 14:08

Lab Sample ID: CCB 600-278901/5 Client Sample ID:

Date Analyzed: 10/30/19 06:23 Lab File ID: 103019-600-0031972-005.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloride	3.08	Baseline Smoothing	reachs	10/30/19 14:09

Lab Sample ID: MB 600-278901/6 Client Sample ID:

Date Analyzed: 10/30/19 06:34 Lab File ID: 103019-600-0031972-006.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloride	3.08	Baseline Smoothing	reachs	10/30/19 14:10

Lab Sample ID: LCS 600-278901/7 Client Sample ID:

Date Analyzed: 10/30/19 06:45 Lab File ID: 103019-600-0031972-007.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Fluoride	2.23	Baseline Smoothing	reachs	10/30/19 14:10
Chloride	3.10	Baseline Smoothing	reachs	10/30/19 14:10
Bromide	4.35	Baseline Smoothing	reachs	10/30/19 14:10
Sulfate	7.06	Baseline Smoothing	reachs	10/30/19 14:10

300.0

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC17(IC) Analysis Batch Number: 278901

Lab Sample ID: CCV 600-278901/16 Client Sample ID:

Date Analyzed: 10/30/19 11:08 Lab File ID: 103019-600-0031972-016.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Fluoride	2.22	Baseline Smoothing	reachs	10/31/19 11:51
Chloride	3.09	Baseline Smoothing	reachs	10/31/19 11:51
Bromide	4.34	Baseline Smoothing	reachs	10/31/19 11:51
Sulfate	7.04	Baseline Smoothing	reachs	10/31/19 11:51

Lab Sample ID: CCB 600-278901/17 Client Sample ID:

Date Analyzed: 10/30/19 11:19 Lab File ID: 103019-600-0031972-017.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloride	3.07	Baseline Smoothing	reachs	10/31/19 11:52

Lab Sample ID: 600-194690-8 Client Sample ID: INF 3

Date Analyzed: 10/30/19 12:02 Lab File ID: 103019-600-0031972-021.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloride	3.11	Baseline Smoothing	reachs	10/31/19 11:58
Sulfate	6.98	Baseline Smoothing	reachs	10/31/19 11:58

Lab Sample ID: 600-194690-10 Client Sample ID: INF 4

Date Analyzed: 10/30/19 12:12 Lab File ID: 103019-600-0031972-022.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloride	3.11	Baseline Smoothing	reachs	10/31/19 11:59
Sulfate	6.98	Baseline Smoothing	reachs	10/31/19 11:59

300.0

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC17(IC) Analysis Batch Number: 278901

Lab Sample ID: CCV 600-278901/28 Client Sample ID:

Date Analyzed: 10/30/19 13:17 Lab File ID: 103019-600-0031972-028.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Fluoride	2.23	Baseline Smoothing	reachs	10/31/19 12:04
Chloride	3.10	Baseline Smoothing	reachs	10/31/19 12:04
Bromide	4.36	Baseline Smoothing	reachs	10/31/19 12:04
Sulfate	7.04	Baseline Smoothing	reachs	10/31/19 12:04

Lab Sample ID: CCB 600-278901/29 Client Sample ID:

Date Analyzed: 10/30/19 13:28 Lab File ID: 103019-600-0031972-029.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloride	3.08	Baseline Smoothing	reachs	10/31/19 12:05

Lab Sample ID: 600-194690-1 Client Sample ID: 1. CEFF

Date Analyzed: 10/30/19 14:00 Lab File ID: 103019-600-0031972-032.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Fluoride	2.30	Baseline Smoothing	reachs	10/31/19 12:09
Bromide	4.38	Baseline Smoothing	reachs	10/31/19 12:12

Lab Sample ID: MB 600-278901/37 Client Sample ID:

Date Analyzed: 10/30/19 14:54 Lab File ID: 103019-600-0031972-037.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloride	3.09	Baseline Smoothing	reachs	10/31/19 12:18

300.0

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC17(IC) Analysis Batch Number: 278901

Lab Sample ID: LCS 600-278901/38 Client Sample ID:

Date Analyzed: 10/30/19 15:05 Lab File ID: 103019-600-0031972-038.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Fluoride	2.23	Incomplete Integration	reachs	10/31/19 12:18
Chloride	3.11	Incomplete Integration	reachs	10/31/19 12:18
Bromide	4.38	Incomplete Integration	reachs	10/31/19 12:19
Sulfate	7.03	Incomplete Integration	reachs	10/31/19 12:19

Lab Sample ID: CCV 600-278901/40 Client Sample ID:

Date Analyzed: 10/30/19 15:26 Lab File ID: 103019-600-0031972-040.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Fluoride	2.23	Baseline Smoothing	reachs	10/31/19 12:26
Chloride	3.11	Baseline Smoothing	reachs	10/31/19 12:26
Bromide	4.38	Baseline Smoothing	reachs	10/31/19 12:25
Sulfate	7.03	Baseline Smoothing	reachs	10/31/19 12:25

Lab Sample ID: CCB 600-278901/41 Client Sample ID:

Date Analyzed: 10/30/19 15:37 Lab File ID: 103019-600-0031972-041.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloride	3.09	Baseline Smoothing	reachs	10/31/19 12:27

300.0

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC17(IC) Analysis Batch Number: 278901

Lab Sample ID: CCV 600-278901/48 Client Sample ID:

Date Analyzed: 10/30/19 16:52 Lab File ID: 103019-600-0031972-048.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Fluoride	2.23	Baseline Smoothing	reachs	10/31/19 12:31
Chloride	3.11	Baseline Smoothing	reachs	10/31/19 12:32
Bromide	4.39	Baseline Smoothing	reachs	10/31/19 12:31
Sulfate	7.02	Baseline Smoothing	reachs	10/31/19 12:32

Lab Sample ID: CCB 600-278901/49 Client Sample ID:

Date Analyzed: 10/30/19 17:03 Lab File ID: 103019-600-0031972-049.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloride	3.10	Baseline Smoothing	reachs	10/31/19 12:34

300.0

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC17(IC) Analysis Batch Number: 278902

Lab Sample ID: CCV 600-278902/4 Client Sample ID:

Date Analyzed: 10/30/19 06:12 Lab File ID: 103019-600-0031972-004.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrite as N	3.74	Baseline Smoothing	reachs	10/30/19 14:09
Nitrate as N	4.82	Baseline Smoothing	reachs	10/30/19 14:09

Lab Sample ID: LCS 600-278902/7 Client Sample ID:

Date Analyzed: 10/30/19 06:45 Lab File ID: 103019-600-0031972-007.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrite as N	3.73	Baseline Smoothing	reachs	10/30/19 14:11
Nitrate as N	4.81	Baseline Smoothing	reachs	10/30/19 14:11

Lab Sample ID: CCV 600-278902/16 Client Sample ID:

Date Analyzed: 10/30/19 11:08 Lab File ID: 103019-600-0031972-016.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrite as N	3.72	Baseline Smoothing	reachs	10/31/19 11:52
Nitrate as N	4.79	Baseline Smoothing	reachs	10/31/19 11:52

Lab Sample ID: CCV 600-278902/28 Client Sample ID:

Date Analyzed: 10/30/19 13:17 Lab File ID: 103019-600-0031972-028.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrite as N	3.73	Baseline Smoothing	reachs	10/31/19 12:04
Nitrate as N	4.82	Baseline Smoothing	reachs	10/31/19 12:05

300.0

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC17(IC) Analysis Batch Number: 278902

Lab Sample ID: MB 600-278902/37 Client Sample ID:

Date Analyzed: 10/30/19 14:54 Lab File ID: 103019-600-0031972-037.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrite as N		Unspecified		

Lab Sample ID: LCS 600-278902/38 Client Sample ID:

Date Analyzed: 10/30/19 15:05 Lab File ID: 103019-600-0031972-038.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrite as N	3.74	Incomplete Integration	reachs	10/31/19 12:19
Nitrate as N	4.84	Incomplete Integration	reachs	10/31/19 12:19

Lab Sample ID: CCV 600-278902/40 Client Sample ID:

Date Analyzed: 10/30/19 15:26 Lab File ID: 103019-600-0031972-040.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrite as N	3.75	Baseline Smoothing	reachs	10/31/19 12:26
Nitrate as N	4.84	Baseline Smoothing	reachs	10/31/19 12:26

Lab Sample ID: CCV 600-278902/48 Client Sample ID:

Date Analyzed: 10/30/19 16:52 Lab File ID: 103019-600-0031972-048.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrite as N	3.75	Baseline Smoothing	reachs	10/31/19 12:32
Nitrate as N	4.85	Baseline Smoothing	reachs	10/31/19 12:34

300.0

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC17(IC) Analysis Batch Number: 279038

Lab Sample ID: CCV 600-279038/4 Client Sample ID:

Date Analyzed: 10/31/19 04:17 Lab File ID: 103119-600-0032001-004.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Fluoride	2.22	Baseline Smoothing	reachs	10/31/19 10:44
Chloride	3.10	Baseline Smoothing	reachs	10/31/19 10:43
Bromide	4.38	Baseline Smoothing	reachs	10/31/19 10:43
Sulfate	6.98	Baseline Smoothing	reachs	10/31/19 10:43

Lab Sample ID: CCB 600-279038/5 Client Sample ID:

Date Analyzed: 10/31/19 04:27 Lab File ID: 103119-600-0032001-005.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloride	3.08	Unspecified	reachs	11/01/19 12:01

Lab Sample ID: MB 600-279038/6 Client Sample ID:

Date Analyzed: 10/31/19 04:38 Lab File ID: 103119-600-0032001-006.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloride	3.08	Incomplete Integration	reachs	10/31/19 10:48

Lab Sample ID: LCS 600-279038/7 Client Sample ID:

Date Analyzed: 10/31/19 04:49 Lab File ID: 103119-600-0032001-007.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Fluoride	2.22	Baseline Smoothing	reachs	11/01/19 12:03
Chloride	3.10	Baseline Smoothing	reachs	11/01/19 12:03
Bromide	4.38	Baseline Smoothing	reachs	11/01/19 12:03
Sulfate	6.99	Baseline Smoothing	reachs	11/01/19 12:03

300.0

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC17(IC) Analysis Batch Number: 279038

Lab Sample ID: 600-194690-3 Client Sample ID: FEFF 1

Date Analyzed: 10/31/19 10:00 Lab File ID: 103119-600-0032001-010.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromide	4.28	Baseline Smoothing	reachs	11/01/19 12:12

Lab Sample ID: CCV 600-279038/16 Client Sample ID:

Date Analyzed: 10/31/19 11:31 Lab File ID: 103119-600-0032001-016.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Fluoride	2.20	Baseline Smoothing	reachs	11/01/19 13:06
Chloride	3.03	Baseline Smoothing	reachs	11/01/19 13:06
Bromide	4.23	Baseline Smoothing	reachs	11/01/19 13:06
Sulfate	6.83	Baseline Smoothing	reachs	11/01/19 13:06

Lab Sample ID: CCB 600-279038/17 Client Sample ID:

Date Analyzed: 10/31/19 11:41 Lab File ID: 103119-600-0032001-017.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloride	3.01	Baseline Smoothing	reachs	11/01/19 12:23

Lab Sample ID: 600-194690-1 Client Sample ID: 1. CEFF

Date Analyzed: 10/31/19 12:14 Lab File ID: 103119-600-0032001-020.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloride	3.04	Baseline Smoothing	reachs	11/01/19 12:24

300.0

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC17(IC) Analysis Batch Number: 279038

Lab Sample ID: CCV 600-279038/28 Client Sample ID:

Date Analyzed: 10/31/19 13:40 Lab File ID: 103119-600-0032001-028.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Fluoride	2.20	Baseline Smoothing	reachs	11/01/19 13:14
Chloride	3.04	Baseline Smoothing	reachs	11/01/19 13:15
Bromide	4.25	Baseline Smoothing	reachs	11/01/19 13:15
Sulfate	6.85	Baseline Smoothing	reachs	11/01/19 13:15

Lab Sample ID: CCB 600-279038/29 Client Sample ID:

Date Analyzed: 10/31/19 13:51 Lab File ID: 103119-600-0032001-029.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloride	3.02	Baseline Smoothing	reachs	11/01/19 12:36

300.0

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC17(IC) Analysis Batch Number: 279039

Lab Sample ID: CCV 600-279039/4 Client Sample ID:

Date Analyzed: 10/31/19 04:17 Lab File ID: 103119-600-0032001-004.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrite as N	3.74	Baseline Smoothing	reachs	10/31/19 10:44
Nitrate as N	4.84	Baseline Smoothing	reachs	10/31/19 10:44

Lab Sample ID: MB 600-279039/6 Client Sample ID:

Date Analyzed: 10/31/19 04:38 Lab File ID: 103119-600-0032001-006.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrite as N		Unspecified		

Lab Sample ID: LCS 600-279039/7 Client Sample ID:

Date Analyzed: 10/31/19 04:49 Lab File ID: 103119-600-0032001-007.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrite as N	3.74	Baseline Smoothing	reachs	11/01/19 12:03
Nitrate as N	4.83	Baseline Smoothing	reachs	11/01/19 12:03

Lab Sample ID: 600-194690-3 MS Client Sample ID: FEFF 1 MS

Date Analyzed: 10/31/19 10:10 Lab File ID: 103119-600-0032001-011.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrate as N	5.03	Peak assignment corrected	reachs	11/01/19 12:13

Lab Sample ID: 600-194690-3 MSD Client Sample ID: FEFF 1 MSD

Date Analyzed: 10/31/19 10:21 Lab File ID: 103119-600-0032001-012.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrate as N	5.04	Peak assignment corrected	reachs	11/01/19 12:14

300.0

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC17(IC) Analysis Batch Number: 279039

Lab Sample ID: CCV 600-279039/16 Client Sample ID:

Date Analyzed: 10/31/19 11:31 Lab File ID: 103119-600-0032001-016.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrite as N	3.64	Baseline Smoothing	reachs	11/01/19 13:06
Nitrate as N	4.68	Baseline Smoothing	reachs	11/01/19 13:07

Lab Sample ID: CCV 600-279039/28 Client Sample ID:

Date Analyzed: 10/31/19 13:40 Lab File ID: 103119-600-0032001-028.d GC Column: AS22 ID: 2(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrite as N	3.65	Baseline Smoothing	reachs	11/01/19 13:15
Nitrate as N	4.69	Baseline Smoothing	reachs	11/01/19 13:16

300.0

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Sacram Job No.: 600-194690-1

SDG No.:

Instrument ID: 10D5 Analysis Batch Number: 324128

Lab Sample ID: IC 320-324128/3 Client Sample ID:

Date Analyzed: 09/17/19 13:03 Lab File ID: 17SE1910D5_3.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,7,8,9-HxCDD	31.76	Invalid Compound ID	shardaa	09/17/19 18:02

1613B

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Sacram Job No.: 600-194690-1

SDG No.:

Instrument ID: 10D5 Analysis Batch Number: 336302

Lab Sample ID: MB 320-335248/1-A Client Sample ID:

Date Analyzed: 11/05/19 21:50 Lab File ID: 05NO19B10D5_4.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,6,7,8-HxCDD		Invalid Compound ID	dadunj	11/08/19 08:41
2,3,7,8-TCDF	16.76	Baseline	dadunj	11/08/19 08:40
2,3,4,6,7,8-HxCDF	30.96	Baseline	dadunj	11/08/19 08:40
1,2,3,4,7,8-HxCDD	31.17	Baseline	dadunj	11/08/19 08:41
1,2,3,7,8,9-HxCDF	31.86	Baseline	dadunj	11/08/19 08:40
1,2,3,4,6,7,8-HpCDF	33.42	Split Peak	dadunj	11/08/19 08:41
OCDF	36.56	Baseline	dadunj	11/08/19 08:41

Lab Sample ID: 600-194690-1 Client Sample ID: 1. CEFF

Date Analyzed: 11/05/19 23:22 Lab File ID: 05NO19B10D5_6.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,4,7,8-HxCDF	29.55	Split Peak	dadunj	11/08/19 08:45
1,2,3,6,7,8-HxCDF	29.84	Split Peak	dadunj	11/08/19 08:45
2,3,4,6,7,8-HxCDF	30.94	Split Peak	dadunj	11/08/19 08:46
1,2,3,4,7,8-HxCDD	31.17	Split Peak	dadunj	11/08/19 08:50
1,2,3,6,7,8-HxCDD	31.30	Invalid Compound ID	dadunj	11/08/19 08:50
1,2,3,7,8,9-HxCDD	31.65	Split Peak	dadunj	11/08/19 08:50
1,2,3,7,8,9-HxCDF	31.86	Split Peak	dadunj	11/08/19 08:46
1,2,3,4,6,7,8-HpCDF	33.41	Baseline	dadunj	11/08/19 08:50
1,2,3,4,6,7,8-HpCDD	34.18	Split Peak	dadunj	11/08/19 08:51
1,2,3,4,7,8,9-HpCDF	34.45	Baseline	dadunj	11/08/19 08:51
OCDD	36.46	Split Peak	dadunj	11/08/19 08:51

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Sacram Job No.: 600-194690-1

SDG No.:

Instrument ID: 10D5 Analysis Batch Number: 336302

Lab Sample ID: 600-194690-3 Client Sample ID: FEFF 1

Date Analyzed: 11/06/19 00:08 Lab File ID: 05NO19B10D5_7.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,3,7,8-TCDD	17.46	Baseline	dadunj	11/08/19 08:53
1,2,3,7,8-PeCDF	21.51	Baseline	dadunj	11/08/19 08:53
1,2,3,4,7,8-HxCDF	29.57	Split Peak	dadunj	11/08/19 08:53
1,2,3,4,6,7,8-HpCDF	33.42	Split Peak	dadunj	11/08/19 08:54

Lab Sample ID: 600-194690-8 Client Sample ID: INF 3

Date Analyzed: 11/06/19 00:54 Lab File ID: 05NO19B10D5_8.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,7,8-PeCDD	23.52	Baseline	dadunj	11/08/19 08:56
1,2,3,7,8,9-HxCDD	31.66	Split Peak	dadunj	11/08/19 08:57
1,2,3,4,6,7,8-HpCDF	33.41	Split Peak	dadunj	11/08/19 08:57

Lab Sample ID: 600-194690-9 Client Sample ID: INF 3 - DISSOLVED

Date Analyzed: 11/06/19 01:40 Lab File ID: 05NO19B10D5_9.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,4,7,8-HxCDD	31.18	Invalid Compound ID	dadunj	11/08/19 09:00
1,2,3,6,7,8-HxCDD	31.30	Split Peak	dadunj	11/08/19 09:00
1,2,3,7,8,9-HxCDF	31.86	Invalid Compound ID	dadunj	11/08/19 09:00

Lab Sample ID: 600-194690-10 Client Sample ID: INF 4

Date Analyzed: 11/06/19 02:26 Lab File ID: 05NO19B10D5_10.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,4,7,8-HxCDD	31.17	Split Peak	dadunj	11/08/19 09:04
1,2,3,6,7,8-HxCDD	31.30	Invalid Compound ID	dadunj	11/08/19 09:04

1613B

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Sacram Job No.: 600-194690-1

SDG No.:

Instrument ID: 10D5 Analysis Batch Number: 336302

Lab Sample ID: 600-194690-11 Client Sample ID: INF 4 - DISSOLVED

Date Analyzed: 11/06/19 03:12 Lab File ID: 05NO19B10D5_11.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,7,8-PeCDF	21.53	Split Peak	dadunj	11/08/19 09:10
1,2,3,4,7,8-HxCDF	29.59	Invalid Compound ID	dadunj	11/08/19 09:11
1,2,3,6,7,8-HxCDF	29.84	Invalid Compound ID	dadunj	11/08/19 09:11
1,2,3,4,7,8-HxCDD	31.16	Split Peak	dadunj	11/08/19 09:12
1,2,3,6,7,8-HxCDD	31.29	Invalid Compound ID	dadunj	11/08/19 09:12
1,2,3,4,6,7,8-HpCDF	33.41	Split Peak	dadunj	11/08/19 09:12
1,2,3,4,6,7,8-HpCDD	34.18	Split Peak	dadunj	11/08/19 09:12
1,2,3,4,7,8,9-HpCDF	34.45	Split Peak	dadunj	11/08/19 09:12

Lab Sample ID: 600-194690-11 MS Client Sample ID: INF 4 - DISSOLVED MS

Date Analyzed: 11/06/19 03:58 Lab File ID: 05NO19B10D5_12.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,3,7,8-TCDF	16.87	Peak assignment corrected	arghestan is	11/06/19 09:40
13C-2,3,7,8-TCDD	17.55	Peak assignment corrected	arghestan is	11/06/19 09:40
2,3,7,8-TCDD	17.56	Peak assignment corrected	arghestan is	11/06/19 09:40
1,2,3,7,8-PeCDF	21.68	Split Peak	dadunj	11/08/19 09:20
1,2,3,7,8,9-HxCDF	31.88	Split Peak	dadunj	11/08/19 09:21

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Sacram Job No.: 600-194690-1

SDG No.:

Instrument ID: 10D5 Analysis Batch Number: 336302

Lab Sample ID: 600-194690-11 MSD Client Sample ID: INF 4 - DISSOLVED MSD

Date Analyzed: 11/06/19 04:44 Lab File ID: 05NO19B10D5_13.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,3,7,8-TCDD	17.52	Peak assignment corrected	arghestanis	11/06/19 09:41
1,2,3,7,8-PeCDF	21.61	Peak assignment corrected	arghestanis	11/07/19 13:33
1,2,3,4,6,7,8-HpCDF	33.41	Split Peak	dadunj	11/08/19 09:29

1613B

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Sacram Job No.: 600-194690-1

SDG No.:

Instrument ID: 11D2 Analysis Batch Number: 336810

Lab Sample ID: 600-194690-11 MS RA Client Sample ID: INF 4 - DISSOLVED MS RA

Date Analyzed: 11/07/19 20:05 Lab File ID: 07NO19A11D2_009.d GC Column: DB-225 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
13C-2,3,7,8-TCDF	16.53	Baseline	stephensk	11/08/19 11:06

1613B

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Sacram Job No.: 600-194690-1

SDG No.:

Instrument ID: DFS 1 Analysis Batch Number: 336838

Lab Sample ID: CCV 320-336838/2 Client Sample ID:

Date Analyzed: 11/07/19 16:49 Lab File ID: 07no19adfs1_3.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,3,7,8-TCDF	19.46	Peak assignment corrected	shardaa	11/07/19 18:29
13C-1,2,3,4-TCDD	20.37	Peak assignment corrected	shardaa	11/07/19 18:29

Lab Sample ID: 600-194690-8 DL Client Sample ID: INF 3 DL

Date Analyzed: 11/07/19 21:41 Lab File ID: 07no19adfs1_9.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,3,7,8-TCDD	20.75	Split Peak	dadunj	11/11/19 10:22

Lab Sample ID: 600-194690-11 MS DL Client Sample ID: INF 4 - DISSOLVED MS DL

Date Analyzed: 11/07/19 23:17 Lab File ID: 07no19adfs1_11.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
13C-2,3,7,8-TCDD	20.73	Peak assignment corrected	shardaa	11/08/19 13:17

Lab Sample ID: 600-194690-11 MSD DL Client Sample ID: INF 4 - DISSOLVED MSD DL

Date Analyzed: 11/08/19 00:05 Lab File ID: 07no19adfs1_12.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
13C-2,3,7,8-TCDD	20.72	Peak assignment corrected	shardaa	11/08/19 13:18

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
CCV_00112	12/26/19	10/21/19	DI WATER, Lot NONE	500 mL	WETSICCBRO_00013	3.75 mL	Bromide	7.5 mg/L
					WETSICCCL_00024	10 mL	Chloride	20 mg/L
					WETSICCFL_00014	3.75 mL	Fluoride	7.5 mg/L
					WETSICCNO3_00018	5 mL	Nitrate as N	10 mg/L
					WETSICCSO4_00015	10 mL	Sulfate	20 mg/L
					WETSNO2ICV_00029	5 mL	Nitrite as N	10 mg/L
.WETSICCBRO_00013	04/25/20	INORGANIC VENTURES, Lot N2-BR665239			(Purchased Reagent)		Bromide	1000 mg/L
.WETSICCCL_00024	12/26/19	INORGANIC-VENTURE, Lot N2-CL664868			(Purchased Reagent)		Chloride	1000 mg/L
.WETSICCFL_00014	11/03/20	Accustandard, Lot 218105011			(Purchased Reagent)		Fluoride	1000 mg/L
.WETSICCNO3_00018	03/31/21	INORGANIC VENTURES, Lot m2-nox656803			(Purchased Reagent)		Nitrate as N	1000 mg/L
.WETSICCSO4_00015	06/21/20	INORGANIC-VENTURE, Lot k2-sox01111			(Purchased Reagent)		Sulfate	1000 mg/L
.WETSNO2ICV_00029	12/26/19	INORGANIC VENTURES, Lot N2-NOX668822			(Purchased Reagent)		Nitrite as N	1000 mg/L
EX-O&G Spk_00034	08/23/22	Environmental Express, Lot 385740			(Purchased Reagent)		HEM	4000 ug/mL
							Hexadecane	4000 ug/mL
							SGT-HEM	2000 ug/mL
							Stearic Acid	2000 ug/mL
ICCALSTD1_00045	12/26/19	10/25/19	DI WATER, Lot NONE	100 mL	WETSICCBRO_00013	0 mL	Bromide	0 mg/L
					WETSICCCL_00024	0 mL	Chloride	0 mg/L
					WETSICCFL_00014	0 mL	Fluoride	0 mg/L
					WETSICCNO3_00019	0 mL	Nitrate as N	0 mg/L
					WETSICCSO4_00016	0 mL	Sulfate	0 mg/L
					WETSNO2ICV_00029	0 mL	Nitrite as N	0 mg/L
.WETSICCBRO_00013	04/25/20	INORGANIC VENTURES, Lot N2-BR665239			(Purchased Reagent)		Bromide	1000 mg/L
.WETSICCCL_00024	12/26/19	INORGANIC-VENTURE, Lot N2-CL664868			(Purchased Reagent)		Chloride	1000 mg/L
.WETSICCFL_00014	11/03/20	Accustandard, Lot 218105011			(Purchased Reagent)		Fluoride	1000 mg/L
.WETSICCNO3_00019	02/26/20	INORGANIC VENTURES, Lot N2-NOX664930			(Purchased Reagent)		Nitrate as N	1000 mg/L
.WETSICCSO4_00016	02/26/20	INORGANIC-VENTURE, Lot N2-SOX671919			(Purchased Reagent)		Sulfate	1000 mg/L
.WETSNO2ICV_00029	12/26/19	INORGANIC VENTURES, Lot N2-NOX668822			(Purchased Reagent)		Nitrite as N	1000 mg/L
ICCALSTD2_00051	04/07/20	10/07/19	DI WATER, Lot NONE	100 mL	WETSIC ICV_00007	40 uL	Chloride	0.4 mg/L
					WETSICCFL_00014	20 uL	Fluoride	0.2 mg/L
					WETSICCNO3_00020	20 uL	Nitrate as N	0.2 mg/L
					WETSICIBR_00012	20 uL	Bromide	0.2 mg/L
					WETSICINO2_00032	20 uL	Nitrite as N	0.2 mg/L
					WETSICISO4_00012	40 uL	Sulfate	0.4 mg/L
.WETSIC ICV_00007	09/30/20	ACCUSTD, Lot 218085176			(Purchased Reagent)		Chloride	1000 mg/L
.WETSICCFL_00014	11/03/20	Accustandard, Lot 218105011			(Purchased Reagent)		Fluoride	1000 mg/L
.WETSICCNO3_00020	06/24/20	INORGANIC VENTURES, Lot N2-NOX675947			(Purchased Reagent)		Nitrate as N	1000 mg/L
.WETSICIBR_00012	10/11/20	ACCUSTANDARD, Lot 218095035			(Purchased Reagent)		Bromide	1000 mg/L
.WETSICINO2_00032	08/31/21	ACCUSTANDARD, Lot 219075013			(Purchased Reagent)		Nitrite as N	1000 mg/L
.WETSICISO4_00012	09/29/20	ACCUSTANDARD, Lot 218085152			(Purchased Reagent)		Sulfate	1000 mg/L
ICCALSTD2_00052	12/26/19	10/25/19	DI WATER, Lot NONE	100 mL	WETSICCCL_00024	40 uL	Chloride	0.4 mg/L
					WETSICCFL_00014	20 uL	Fluoride	0.2 mg/L
					WETSICCSO4_00016	40 uL	Sulfate	0.4 mg/L
					WETSNO2ICV_00029	20 uL	Nitrite as N	0.2 mg/L
.WETSICCCL_00024	12/26/19	INORGANIC-VENTURE, Lot N2-CL664868			(Purchased Reagent)		Chloride	1000 mg/L
.WETSICCFL_00014	11/03/20	Accustandard, Lot 218105011			(Purchased Reagent)		Fluoride	1000 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.WETSICCSO4_00016	02/26/20	INORGANIC-VENTURE, Lot N2-SOX671919			(Purchased Reagent)		Sulfate	1000 mg/L
.WETSNO2ICV_00029	12/26/19	INORGANIC VENTURES, Lot N2-NOX668822			(Purchased Reagent)		Nitrite as N	1000 mg/L
ICCALSTD3_00044	04/07/20	10/07/19	DI WATER, Lot NONE	100 mL	WETSIC ICV_00007	100 uL	Chloride	1 mg/L
					WETSICCFL_00014	50 uL	Fluoride	0.5 mg/L
					WETSICCNO3_00020	50 uL	Nitrate as N	0.5 mg/L
					WETSICIBR_00012	50 uL	Bromide	0.5 mg/L
					WETSICINO2_00032	50 uL	Nitrite as N	0.5 mg/L
					WETSICISO4_00012	100 uL	Sulfate	1 mg/L
.WETSIC ICV_00007	09/30/20	ACCUSTD, Lot 218085176			(Purchased Reagent)		Chloride	1000 mg/L
.WETSICCFL_00014	11/03/20	Accustandard, Lot 218105011			(Purchased Reagent)		Fluoride	1000 mg/L
.WETSICCNO3_00020	06/24/20	INORGANIC VENTURES, Lot N2-NOX675947			(Purchased Reagent)		Nitrate as N	1000 mg/L
.WETSICIBR_00012	10/11/20	ACCUSTANDARD, Lot 218095035			(Purchased Reagent)		Bromide	1000 mg/L
.WETSICINO2_00032	08/31/21	ACCUSTANDARD, Lot 219075013			(Purchased Reagent)		Nitrite as N	1000 mg/L
.WETSICISO4_00012	09/29/20	ACCUSTANDARD, Lot 218085152			(Purchased Reagent)		Sulfate	1000 mg/L
ICCALSTD4_00043	04/07/20	10/07/19	DI WATER, Lot NONE	100 mL	WETSIC ICV_00007	200 uL	Chloride	2 mg/L
					WETSICCFL_00014	100 uL	Fluoride	1 mg/L
					WETSICCNO3_00020	100 uL	Nitrate as N	1 mg/L
					WETSICIBR_00012	100 uL	Bromide	1 mg/L
					WETSICINO2_00032	100 uL	Nitrite as N	1 mg/L
					WETSICISO4_00012	200 uL	Sulfate	2 mg/L
.WETSIC ICV_00007	09/30/20	ACCUSTD, Lot 218085176			(Purchased Reagent)		Chloride	1000 mg/L
.WETSICCFL_00014	11/03/20	Accustandard, Lot 218105011			(Purchased Reagent)		Fluoride	1000 mg/L
.WETSICCNO3_00020	06/24/20	INORGANIC VENTURES, Lot N2-NOX675947			(Purchased Reagent)		Nitrate as N	1000 mg/L
.WETSICIBR_00012	10/11/20	ACCUSTANDARD, Lot 218095035			(Purchased Reagent)		Bromide	1000 mg/L
.WETSICINO2_00032	08/31/21	ACCUSTANDARD, Lot 219075013			(Purchased Reagent)		Nitrite as N	1000 mg/L
.WETSICISO4_00012	09/29/20	ACCUSTANDARD, Lot 218085152			(Purchased Reagent)		Sulfate	1000 mg/L
ICCALSTD5_00044	04/07/20	10/07/19	DI WATER, Lot NONE	100 mL	WETSIC ICV_00007	500 uL	Chloride	5 mg/L
					WETSICCFL_00014	200 uL	Fluoride	2 mg/L
					WETSICCNO3_00020	250 uL	Nitrate as N	2.5 mg/L
					WETSICIBR_00012	200 uL	Bromide	2 mg/L
					WETSICINO2_00032	250 uL	Nitrite as N	2.5 mg/L
					WETSICISO4_00012	500 uL	Sulfate	5 mg/L
.WETSIC ICV_00007	09/30/20	ACCUSTD, Lot 218085176			(Purchased Reagent)		Chloride	1000 mg/L
.WETSICCFL_00014	11/03/20	Accustandard, Lot 218105011			(Purchased Reagent)		Fluoride	1000 mg/L
.WETSICCNO3_00020	06/24/20	INORGANIC VENTURES, Lot N2-NOX675947			(Purchased Reagent)		Nitrate as N	1000 mg/L
.WETSICIBR_00012	10/11/20	ACCUSTANDARD, Lot 218095035			(Purchased Reagent)		Bromide	1000 mg/L
.WETSICINO2_00032	08/31/21	ACCUSTANDARD, Lot 219075013			(Purchased Reagent)		Nitrite as N	1000 mg/L
.WETSICISO4_00012	09/29/20	ACCUSTANDARD, Lot 218085152			(Purchased Reagent)		Sulfate	1000 mg/L
ICCALSTD6_00040	04/07/20	10/07/19	DI WATER, Lot NONE	100 mL	WETSIC ICV_00007	1 mL	Chloride	10 mg/L
					WETSICCFL_00014	500 uL	Fluoride	5 mg/L
					WETSICCNO3_00020	500 uL	Nitrate as N	5 mg/L
					WETSICIBR_00012	500 uL	Bromide	5 mg/L
					WETSICINO2_00032	500 uL	Nitrite as N	5 mg/L
					WETSICISO4_00012	1 mL	Sulfate	10 mg/L
.WETSIC ICV_00007	09/30/20	ACCUSTD, Lot 218085176			(Purchased Reagent)		Chloride	1000 mg/L
.WETSICCFL_00014	11/03/20	Accustandard, Lot 218105011			(Purchased Reagent)		Fluoride	1000 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.WETSICCNO3_00020	06/24/20	INORGANIC VENTURES, Lot N2-NOX675947			(Purchased Reagent)		Nitrate as N	1000 mg/L
.WETSICIBR_00012	10/11/20	ACCUSTANDARD, Lot 218095035			(Purchased Reagent)		Bromide	1000 mg/L
.WETSICINO2_00032	08/31/21	ACCUSTANDARD, Lot 219075013			(Purchased Reagent)		Nitrite as N	1000 mg/L
.WETSICISO4_00012	09/29/20	ACCUSTANDARD, Lot 218085152			(Purchased Reagent)		Sulfate	1000 mg/L
ICCALSTD8_00031	04/07/20	10/07/19	DI WATER, Lot NONE	100 mL	WETSIC ICV_00007	4 mL	Chloride	40 mg/L
					WETSICCFL_00014	1 mL	Fluoride	10 mg/L
					WETSICCNO3_00020	2 mL	Nitrate as N	20 mg/L
					WETSICIBR_00012	1 mL	Bromide	10 mg/L
					WETSICINO2_00032	2 mL	Nitrite as N	20 mg/L
					WETSICISO4_00012	4 mL	Sulfate	40 mg/L
.WETSIC ICV_00007	09/30/20	ACCUSTD, Lot 218085176			(Purchased Reagent)		Chloride	1000 mg/L
.WETSICCFL_00014	11/03/20	Accustandard, Lot 218105011			(Purchased Reagent)		Fluoride	1000 mg/L
.WETSICCNO3_00020	06/24/20	INORGANIC VENTURES, Lot N2-NOX675947			(Purchased Reagent)		Nitrate as N	1000 mg/L
.WETSICIBR_00012	10/11/20	ACCUSTANDARD, Lot 218095035			(Purchased Reagent)		Bromide	1000 mg/L
.WETSICINO2_00032	08/31/21	ACCUSTANDARD, Lot 219075013			(Purchased Reagent)		Nitrite as N	1000 mg/L
.WETSICISO4_00012	09/29/20	ACCUSTANDARD, Lot 218085152			(Purchased Reagent)		Sulfate	1000 mg/L
ICPMSCALMIX1S_00006	10/24/20	CPI, Lot 992738-1			(Purchased Reagent)		Antimony	100 mg/L
							Arsenic	100 mg/L
							Barium	100 mg/L
							Beryllium	100 mg/L
							Cadmium	100 mg/L
							Chromium	100 mg/L
							Cobalt	100 mg/L
							Copper	100 mg/L
							Lead	100 mg/L
							Li	100 mg/L
							Manganese	100 mg/L
							Molybdenum	100 mg/L
							Nickel	100 mg/L
							Selenium	100 mg/L
							Si	1000 mg/L
							SiO2	2140 mg/L
							Strontium	100 mg/L
							Thallium	100 mg/L
							Tin	100 mg/L
							Titanium	100 mg/L
							Vanadium	100 mg/L
ICPMSCALMIX2S_00003	09/24/20	CPI, Lot 992740-2			(Purchased Reagent)		Al	2000 mg/L
							Calcium	2000 mg/L
							Iron	2000 mg/L
							Magnesium	2000 mg/L
							Potassium	2000 mg/L
							Sodium	2000 mg/L
ICPMSCALMIX3S_00004	09/24/20	CPI, Lot 987270-1			(Purchased Reagent)		Phosphorus as P	1000 mg/L
							Sulfur	1000 mg/L
							U	100 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							W	100 mg/L
ICPMSCALMIX4S_00004	10/24/20	CPI, Lot 10100318-2			(Purchased Reagent)		Antimony	100 mg/L
							Boron	100 mg/L
							Silver	50 mg/L
							Zinc	100 mg/L
ICSMS_00116	03/27/20	09/27/19	DI WATER, Lot NONE	50 mL	WETSIC ICV_00007	10 mL	Chloride	200 mg/L
					WETSICCFL_00014	2 mL	Fluoride	40 mg/L
					WETSICIBR_00012	2 mL	Bromide	40 mg/L
					WETSICINO3_00019	2 mL	Nitrate as N	40 mg/L
					WETSICISO4_00012	10 mL	Sulfate	200 mg/L
.WETSIC ICV_00007	09/30/20	ACCUSTD, Lot 218085176			(Purchased Reagent)		Chloride	1000 mg/L
.WETSICCFL_00014	11/03/20	Accustandard, Lot 218105011			(Purchased Reagent)		Fluoride	1000 mg/L
.WETSICIBR_00012	10/11/20	ACCUSTANDARD, Lot 218095035			(Purchased Reagent)		Bromide	1000 mg/L
.WETSICINO3_00019	06/24/20	ACCUSTANDARD, Lot 218055125			(Purchased Reagent)		Nitrate as N	1000 mg/L
.WETSICISO4_00012	09/29/20	ACCUSTANDARD, Lot 218085152			(Purchased Reagent)		Sulfate	1000 mg/L
ICSMS_00117	03/27/20	09/27/19	DI WATER, Lot NONE	50 mL	WETSICINO2_00032	2 mL	Nitrite as N	40 mg/L
.WETSICINO2_00032	08/31/21	ACCUSTANDARD, Lot 219075013			(Purchased Reagent)		Nitrite as N	1000 mg/L
ICSMS_00118	04/29/20	10/29/19	DI WATER, Lot NONE	50 mL	WETSICINO2_00032	2 mL	Nitrite as N	40 mg/L
.WETSICINO2_00032	08/31/21	ACCUSTANDARD, Lot 219075013			(Purchased Reagent)		Nitrite as N	1000 mg/L
ICSMS_00119	04/29/20	10/29/19	DI WATER, Lot NONE	50 mL	WETSICCFL_00014	2 mL	Fluoride	40 mg/L
					WETSICIBR_00012	2 mL	Bromide	40 mg/L
					WETSICINO3_00019	2 mL	Nitrate as N	40 mg/L
.WETSICCFL_00014	11/03/20	Accustandard, Lot 218105011			(Purchased Reagent)		Fluoride	1000 mg/L
.WETSICIBR_00012	10/11/20	ACCUSTANDARD, Lot 218095035			(Purchased Reagent)		Bromide	1000 mg/L
.WETSICINO3_00019	06/24/20	ACCUSTANDARD, Lot 218055125			(Purchased Reagent)		Nitrate as N	1000 mg/L
ICV/LCS_00108	04/23/20	10/23/19	DI WATER, Lot NONE	500 mL	WETSIC ICV_00007	10 mL	Chloride	20 mg/L
					WETSICCFL_00014	3.75 mL	Fluoride	7.5 mg/L
					WETSICCNO3_00020	5 mL	Nitrate as N	10 mg/L
					WETSICIBR_00012	3.75 mL	Bromide	7.5 mg/L
					WETSICINO2_00032	5 mL	Nitrite as N	10 mg/L
					WETSICISO4_00012	10 mL	Sulfate	20 mg/L
.WETSIC ICV_00007	09/30/20	ACCUSTD, Lot 218085176			(Purchased Reagent)		Chloride	1000 mg/L
.WETSICCFL_00014	11/03/20	Accustandard, Lot 218105011			(Purchased Reagent)		Fluoride	1000 mg/L
.WETSICCNO3_00020	06/24/20	INORGANIC VENTURES, Lot N2-NOX675947			(Purchased Reagent)		Nitrate as N	1000 mg/L
.WETSICIBR_00012	10/11/20	ACCUSTANDARD, Lot 218095035			(Purchased Reagent)		Bromide	1000 mg/L
.WETSICINO2_00032	08/31/21	ACCUSTANDARD, Lot 219075013			(Purchased Reagent)		Nitrite as N	1000 mg/L
.WETSICISO4_00012	09/29/20	ACCUSTANDARD, Lot 218085152			(Purchased Reagent)		Sulfate	1000 mg/L
MET1119CCVL_00001	04/01/20	11/01/19	DI WATER, Lot n/a	1000 mL	ICPMSCALMIX4_00002	200 uL	Antimony	0.05 mg/L
							Boron	0.2 mg/L
							Silver	0.01 mg/L
							Zinc	0.02 mg/L
					ICPMSPIKEMIX1_00002	100 uL	Arsenic	0.02 mg/L
							Barium	0.02 mg/L
							Beryllium	0.01 mg/L
							Cadmium	0.01 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Chromium	0.01 mg/L
							Cobalt	0.01 mg/L
							Copper	0.01 mg/L
							Lead	0.01 mg/L
							Manganese	0.01 mg/L
							Molybdenum	0.02 mg/L
							Nickel	0.01 mg/L
							Selenium	0.02 mg/L
							Strontium	0.01 mg/L
							Thallium	0.02 mg/L
							Tin	0.02 mg/L
							Titanium	0.01 mg/L
							Vanadium	0.01 mg/L
					ICPMSPIKEMIX2_00001	200 uL	Calcium	1 mg/L
							Iron	0.2 mg/L
							Magnesium	1 mg/L
							Potassium	1 mg/L
							Sodium	1 mg/L
					METB_00013	180 uL	Boron	0.2 mg/L
					METMO_00012	10 uL	Molybdenum	0.02 mg/L
					METSB_00013	30 uL	Antimony	0.05 mg/L
.ICPMSCALMIX4_00002	01/15/21	CPI, Lot 10100318-1			(Purchased Reagent)		Antimony	100 mg/L
							Boron	100 mg/L
							Silver	50 mg/L
							Zinc	100 mg/L
.ICPMSPIKEMIX1_00002	05/19/20	CPI, Lot 982744-1			(Purchased Reagent)		Arsenic	200 mg/L
							Barium	200 mg/L
							Beryllium	100 mg/L
							Cadmium	100 mg/L
							Chromium	100 mg/L
							Cobalt	100 mg/L
							Copper	100 mg/L
							Lead	100 mg/L
							Manganese	100 mg/L
							Molybdenum	100 mg/L
							Nickel	100 mg/L
							Selenium	200 mg/L
							Strontium	100 mg/L
							Thallium	200 mg/L
							Tin	200 mg/L
							Titanium	100 mg/L
							Vanadium	100 mg/L
.ICPMSPIKEMIX2_00001	05/19/20	CPI, Lot 982744-1			(Purchased Reagent)		Calcium	5000 mg/L
							Iron	1000 mg/L
							Magnesium	5000 mg/L
							Potassium	5000 mg/L
							Sodium	5000 mg/L
.METB_00013	12/04/20	CPI, Lot 982524-31			(Purchased Reagent)		Boron	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.METMO_00012	12/04/20		CPI, Lot 169424-57		(Purchased Reagent)		Molybdenum	1000 ug/mL
.METSB_00013	12/04/20		CPI, Lot 201251-11		(Purchased Reagent)		Antimony	1000 ug/mL
METHCL_00283	08/26/24		J.T.Baker, Lot 0000240180		(Purchased Reagent)		Stock Chemical	0 mL
METHNO3_00334	11/01/23		Macron, Lot 0000216908		(Purchased Reagent)		Stock Chemical	0 mL
METICPCAL2_00005	03/20/20	11/12/19	DI WATER, Lot n/a	1000 mL	ICPMSCALMIX1_00002	300 uL	Antimony	0.23 mg/L
							Arsenic	0.03 mg/L
							Barium	0.03 mg/L
							Beryllium	0.03 mg/L
							Cadmium	0.03 mg/L
							Chromium	0.03 mg/L
							Cobalt	0.03 mg/L
							Copper	0.03 mg/L
							Lead	0.03 mg/L
							Manganese	0.03 mg/L
							Molybdenum	0.03 mg/L
							Nickel	0.03 mg/L
							Selenium	0.03 mg/L
							Strontium	0.03 mg/L
							Thallium	0.03 mg/L
							Tin	0.03 mg/L
							Titanium	0.03 mg/L
							Vanadium	0.03 mg/L
					ICPMSCALMIX2_00001	500 uL	Calcium	1 mg/L
							Iron	1 mg/L
							Magnesium	1 mg/L
							Potassium	1 mg/L
							Sodium	1 mg/L
					ICPMSCALMIX4_00002	2000 uL	Antimony	0.23 mg/L
							Boron	0.2 mg/L
							Silver	0.1 mg/L
							Zinc	0.2 mg/L
.ICPMSCALMIX1_00002	12/26/20		CPI, Lot 1018875-1		(Purchased Reagent)		Antimony	100 mg/L
							Arsenic	100 mg/L
							Barium	100 mg/L
							Beryllium	100 mg/L
							Cadmium	100 mg/L
							Chromium	100 mg/L
							Cobalt	100 mg/L
							Copper	100 mg/L
							Lead	100 mg/L
							Manganese	100 mg/L
							Molybdenum	100 mg/L
							Nickel	100 mg/L
							Selenium	100 mg/L
							Strontium	100 mg/L
							Thallium	100 mg/L
							Tin	100 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Titanium	100 mg/L
							Vanadium	100 mg/L
.ICPMSCALMIX2_00001	05/31/20	CPI, Lot 982734-1			(Purchased Reagent)		Calcium	2000 mg/L
							Iron	2000 mg/L
							Magnesium	2000 mg/L
							Potassium	2000 mg/L
							Sodium	2000 mg/L
.ICPMSCALMIX4_00002	01/15/21	CPI, Lot 10100318-1			(Purchased Reagent)		Antimony	100 mg/L
							Boron	100 mg/L
							Silver	50 mg/L
							Zinc	100 mg/L
METICPCCV_00027	05/06/20	11/06/19	DI Water, Lot n/a	500 mL	ICPMSCALMIX1S_00006	5 mL	Antimony	2 mg/L
							Arsenic	1 mg/L
							Barium	1 mg/L
							Beryllium	1 mg/L
							Cadmium	1 mg/L
							Chromium	1 mg/L
							Cobalt	1 mg/L
							Copper	1 mg/L
							Lead	1 mg/L
							Manganese	1 mg/L
							Molybdenum	1 mg/L
							Nickel	1 mg/L
							Selenium	1 mg/L
							Strontium	1 mg/L
							Thallium	1 mg/L
							Tin	1 mg/L
							Titanium	1 mg/L
							Vanadium	1 mg/L
					ICPMSCALMIX2S_00003	5 mL	Calcium	20 mg/L
							Iron	20 mg/L
							Magnesium	20 mg/L
							Potassium	20 mg/L
							Sodium	20 mg/L
					ICPMSCALMIX4S_00004	5 mL	Antimony	2 mg/L
							Boron	1 mg/L
							Silver	0.5 mg/L
							Zinc	1 mg/L
.ICPMSCALMIX1S_00006	10/24/20	CPI, Lot 992738-1			(Purchased Reagent)		Antimony	100 mg/L
							Arsenic	100 mg/L
							Barium	100 mg/L
							Beryllium	100 mg/L
							Cadmium	100 mg/L
							Chromium	100 mg/L
							Cobalt	100 mg/L
							Copper	100 mg/L
							Lead	100 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Manganese	100 mg/L
							Molybdenum	100 mg/L
							Nickel	100 mg/L
							Selenium	100 mg/L
							Strontium	100 mg/L
							Thallium	100 mg/L
							Tin	100 mg/L
							Titanium	100 mg/L
							Vanadium	100 mg/L
.ICPMSCALMIX2S_00003	09/24/20	CPI, Lot 992740-2			(Purchased Reagent)		Calcium	2000 mg/L
							Iron	2000 mg/L
							Magnesium	2000 mg/L
							Potassium	2000 mg/L
							Sodium	2000 mg/L
.ICPMSCALMIX4S_00004	10/24/20	CPI, Lot 10100318-2			(Purchased Reagent)		Antimony	100 mg/L
							Boron	100 mg/L
							Silver	50 mg/L
							Zinc	100 mg/L
METICPCCV_00028	05/12/20	11/12/19	DI Water, Lot n/a	500 mL	ICPMSCALMIX1S_00006	5 mL	Antimony	2 mg/L
							Arsenic	1 mg/L
							Barium	1 mg/L
							Beryllium	1 mg/L
							Cadmium	1 mg/L
							Chromium	1 mg/L
							Cobalt	1 mg/L
							Copper	1 mg/L
							Lead	1 mg/L
							Manganese	1 mg/L
							Molybdenum	1 mg/L
							Nickel	1 mg/L
							Selenium	1 mg/L
							Strontium	1 mg/L
							Thallium	1 mg/L
							Tin	1 mg/L
							Titanium	1 mg/L
							Vanadium	1 mg/L
					ICPMSCALMIX2S_00003	5 mL	Calcium	20 mg/L
							Iron	20 mg/L
							Magnesium	20 mg/L
							Potassium	20 mg/L
							Sodium	20 mg/L
					ICPMSCALMIX4S_00004	5 mL	Antimony	2 mg/L
							Boron	1 mg/L
							Silver	0.5 mg/L
							Zinc	1 mg/L
.ICPMSCALMIX1S_00006	10/24/20	CPI, Lot 992738-1			(Purchased Reagent)		Antimony	100 mg/L
							Arsenic	100 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Barium	100 mg/L
							Beryllium	100 mg/L
							Cadmium	100 mg/L
							Chromium	100 mg/L
							Cobalt	100 mg/L
							Copper	100 mg/L
							Lead	100 mg/L
							Manganese	100 mg/L
							Molybdenum	100 mg/L
							Nickel	100 mg/L
							Selenium	100 mg/L
							Strontium	100 mg/L
							Thallium	100 mg/L
							Tin	100 mg/L
							Titanium	100 mg/L
							Vanadium	100 mg/L
.ICPMSCALMIX2S_00003	09/24/20	CPI, Lot 992740-2			(Purchased Reagent)		Calcium	2000 mg/L
							Iron	2000 mg/L
							Magnesium	2000 mg/L
							Potassium	2000 mg/L
							Sodium	2000 mg/L
.ICPMSCALMIX4S_00004	10/24/20	CPI, Lot 10100318-2			(Purchased Reagent)		Antimony	100 mg/L
							Boron	100 mg/L
							Silver	50 mg/L
							Zinc	100 mg/L
METISA_00135	05/11/20	11/11/19	DI WATER, Lot NA	500 mL	METICSA_00030	50 mL	Al	500 mg/L
							Calcium	500 mg/L
							Iron	200 mg/L
							Magnesium	500 mg/L
.METICSA_00030	11/08/20	CPI, Lot 1013122-1			(Purchased Reagent)		Al	5000 ug/mL
							Calcium	5000 ug/mL
							Iron	2000 ug/mL
							Magnesium	5000 ug/mL
METISB_00135	05/11/20	11/11/19	DI WATER, Lot NA	500 mL	ICPMSCALMIX4_00002	2.5 mL	Antimony	2 mg/L
							Boron	0.5 mg/L
							Silver	0.25 mg/L
							Zinc	0.5 mg/L
					ICPMSPIKEMIX1_00002	5 mL	Arsenic	2 mg/L
							Barium	2 mg/L
							Beryllium	1 mg/L
							Cadmium	1 mg/L
							Chromium	1 mg/L
							Cobalt	1 mg/L
							Copper	1 mg/L
							Lead	1 mg/L
							Li	1 mg/L
							Manganese	1 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Molybdenum	1 mg/L
							Nickel	1 mg/L
							Selenium	2 mg/L
							Si	2 mg/L
							Strontium	1 mg/L
							Thallium	2 mg/L
							Tin	2 mg/L
							Titanium	1 mg/L
							Vanadium	1 mg/L
					ICPMSPIKEMIX3_00001	2.5 mL	Phosphorus as P	10 mg/L
							Sulfur	5 mg/L
					METICSA_00030	50 mL	Al	500 mg/L
							Calcium	500 mg/L
							Iron	200 mg/L
							Magnesium	500 mg/L
					METK_00013	0.5 mL	Potassium	10 mg/L
					METNA_00013	0.5 mL	Sodium	10 mg/L
					METSB_00013	0.75 mL	Antimony	2 mg/L
.ICPMSCALMIX4_00002	01/15/21		CPI, Lot 10100318-1		(Purchased Reagent)		Antimony	100 mg/L
							Boron	100 mg/L
							Silver	50 mg/L
							Zinc	100 mg/L
.ICPMSPIKEMIX1_00002	05/19/20		CPI, Lot 982744-1		(Purchased Reagent)		Arsenic	200 mg/L
							Barium	200 mg/L
							Beryllium	100 mg/L
							Cadmium	100 mg/L
							Chromium	100 mg/L
							Cobalt	100 mg/L
							Copper	100 mg/L
							Lead	100 mg/L
							Li	100 mg/L
							Manganese	100 mg/L
							Molybdenum	100 mg/L
							Nickel	100 mg/L
							Selenium	200 mg/L
							Si	200 mg/L
							Strontium	100 mg/L
							Thallium	200 mg/L
							Tin	200 mg/L
							Titanium	100 mg/L
							Vanadium	100 mg/L
.ICPMSPIKEMIX3_00001	05/19/20		CPI, Lot 982745-1		(Purchased Reagent)		Phosphorus as P	2000 mg/L
							Sulfur	1000 mg/L
.METICSA_00030	11/08/20		CPI, Lot 1013122-1		(Purchased Reagent)		Al	5000 ug/mL
							Calcium	5000 ug/mL
							Iron	2000 ug/mL
							Magnesium	5000 ug/mL
.METK_00013	12/04/20		CPI, Lot 172053-80		(Purchased Reagent)		Potassium	10000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.METNA_00013	12/04/20		CPI, Lot 752887-33		(Purchased Reagent)		Sodium	10000 ug/mL
.METSB_00013	12/04/20		CPI, Lot 201251-11		(Purchased Reagent)		Antimony	1000 ug/mL
METISB_00136	03/20/20	11/18/19	DI WATER, Lot NA	500 mL	ICPMSCALMIX1_00002	5 mL	Antimony	3 mg/L
							Arsenic	1 mg/L
							Barium	1 mg/L
							Beryllium	1 mg/L
							Cadmium	1 mg/L
							Chromium	1 mg/L
							Cobalt	1 mg/L
							Copper	1 mg/L
							Lead	1 mg/L
							Li	1 mg/L
							Manganese	1 mg/L
							Molybdenum	1 mg/L
							Nickel	1 mg/L
							Selenium	1 mg/L
							Si	10 mg/L
							Strontium	1 mg/L
							Thallium	1 mg/L
							Tin	1 mg/L
							Titanium	1 mg/L
							Vanadium	1 mg/L
					ICPMSCALMIX4_00002	2.5 mL	Antimony	3 mg/L
							Boron	0.5 mg/L
							Silver	0.25 mg/L
							Zinc	0.5 mg/L
					ICPMSICALMIX3_00001	2.5 mL	Phosphorus as P	5 mg/L
					METICSA_00030	50 mL	Al	500 mg/L
							Calcium	500 mg/L
							Iron	200 mg/L
							Magnesium	500 mg/L
					METK_00013	0.5 mL	Potassium	10 mg/L
					METNA_00013	0.5 mL	Sodium	10 mg/L
					METSB_00013	0.75 mL	Antimony	3 mg/L
.ICPMSCALMIX1_00002	12/26/20		CPI, Lot 1018875-1		(Purchased Reagent)		Antimony	100 mg/L
							Arsenic	100 mg/L
							Barium	100 mg/L
							Beryllium	100 mg/L
							Cadmium	100 mg/L
							Chromium	100 mg/L
							Cobalt	100 mg/L
							Copper	100 mg/L
							Lead	100 mg/L
							Li	100 mg/L
							Manganese	100 mg/L
							Molybdenum	100 mg/L
							Nickel	100 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Selenium	100 mg/L
							Si	1000 mg/L
							Strontium	100 mg/L
							Thallium	100 mg/L
							Tin	100 mg/L
							Titanium	100 mg/L
							Vanadium	100 mg/L
.ICPMSCALMIX4_00002	01/15/21		CPI, Lot 10100318-1		(Purchased Reagent)		Antimony	100 mg/L
							Boron	100 mg/L
							Silver	50 mg/L
							Zinc	100 mg/L
.ICPMSICALMIX3_00001	03/20/20		CPI, Lot 982737-1		(Purchased Reagent)		Phosphorus as P	1000 mg/L
.METICSA_00030	11/08/20		CPI, Lot 1013122-1		(Purchased Reagent)		Al	5000 ug/mL
							Calcium	5000 ug/mL
							Iron	2000 ug/mL
							Magnesium	5000 ug/mL
.METK_00013	12/04/20		CPI, Lot 172053-80		(Purchased Reagent)		Potassium	10000 ug/mL
.METNA_00013	12/04/20		CPI, Lot 752887-33		(Purchased Reagent)		Sodium	10000 ug/mL
.METSB_00013	12/04/20		CPI, Lot 201251-11		(Purchased Reagent)		Antimony	1000 ug/mL
TDSILCS_00139	10/30/19	09/30/19	DI WATER, Lot N/A	2 L	WETDSODCHL_00004	3.6 g	Total Dissolved Solids	1800 mg/L
.WETDSODCHL_00004	01/01/20		Mallinckrodt, Lot J28621		(Purchased Reagent)		Total Dissolved Solids	100 %
TDSILCS_00140	11/30/19	10/30/19	DI WATER, Lot N/A	2 L	WETDSODCHL_00004	3.6 g	Total Dissolved Solids	1800 mg/L
.WETDSODCHL_00004	01/01/20		Mallinckrodt, Lot J28621		(Purchased Reagent)		Total Dissolved Solids	100 %
TOCISCAL_00451	11/08/19	10/08/19	DI WATER, Lot NONE	1000 mL	WETSTOCCAL_00023	10 mL	TOC	10 ppm
.WETSTOCCAL_00023	05/31/20		RICCA, Lot 1906641		(Purchased Reagent)		TOC	1000 mg/L
TOCSLCS_00272	11/08/19	10/08/19	DI WATER, Lot NONE	1000 mL	WETSTOCICV_00035	10 mL	TOC	10 ppm
.WETSTOCICV_00035	05/11/19		LABCHEM, Lot G131-05		(Purchased Reagent)		TOC	1000 mg/L
TSSICCV_00973	11/30/19	10/30/19	DI WATER, Lot N/A	1 L	WETDCELITE_00008	0.6 g	Total Suspended Solids	600 mg/L
.WETDCELITE_00008	05/29/23		FISHER, Lot 175788		(Purchased Reagent)		Total Suspended Solids	100 %
TSSILCS_01023	11/30/19	10/30/19	DI WATER, Lot N/A	1 L	WETDCELITE_00007	1.2 g	Total Suspended Solids	1200 mg/L
.WETDCELITE_00007	04/12/22		FISHER, Lot 166571		(Purchased Reagent)		Total Suspended Solids	100 %
WETDSODCAR_00009	01/31/20		RICCA, Lot 1902987		(Purchased Reagent)		Alkalinity	2500 NONE
							Bicarbonate Alkalinity as CaCO3	2500 NONE
							Carbonate Alkalinity as CaCO3	2500 NONE
WETRPH7BUF_00039	04/30/20		RICCA, Lot 1804m86		(Purchased Reagent)		pH	7 SU
WETRPH7CAL_00021	07/31/20		Ricca, Lot 1807J37		(Purchased Reagent)		pH	7 SU
WETRPH7CAL_00022	09/30/21		Ricca, Lot 1909D12		(Purchased Reagent)		pH	7 SU
WETSCODCAL_00031	11/30/19		Hach, Lot A8331		(Purchased Reagent)		Chemical Oxygen Demand	300 mg/L
WETSCODCAL_00032	02/28/20		HACH, Lot A9031		(Purchased Reagent)		Chemical Oxygen Demand	1000 mg/L
WETSMETBSU_00023	10/31/19		AQUA SOLUTIONS, Lot 8100538		(Purchased Reagent)		Sulfide	15 mg/L
WETSMETBSU_00024	10/30/19		AQUA SOLUTIONS, Lot 8101846		(Purchased Reagent)		Sulfide	15 mg/L
WETSNACO3sp_00007	05/11/20		neat, Lot neat		(Purchased Reagent)		Alkalinity	1000 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
WETSNH3ICV_00027	01/28/20		RICCA, Lot 2708j23		(Purchased Reagent)		Ammonia	1000 mg/L
WETSNH3ICV_00028	10/07/21		LabChem, Lot J277-05		(Purchased Reagent)		Ammonia	1000 mg/L
							Ammonia, undistilled	1000 mg/L
							Nitrogen, Kjeldahl	1000 mg/L
WETSPHOSCS_00030	09/30/19		RICCA, Lot 2809a43		(Purchased Reagent)		Phosphorus as P	50 mg/L
							Phosphorus as PO4	153.325 mg/L
WETSPHOSCS_00031	05/31/20		RICCA, Lot 2905C63		(Purchased Reagent)		Orthophosphate	50 mg/L
							Orthophosphorus as PO4	153.325 mg/L
							Phosphorus as P	50 mg/L
							Phosphorus as PO4	153.325 mg/L
							Phosphorus, Organic	50 mg/L
							Phosphorus, Ortho	50 mg/L
							Total Hydrolyzable Phosphorus	50 mg/L
WETSPHOSIS_00028	03/11/20		LABCHEM, Lot J070-04		(Purchased Reagent)		Orthophosphate	50 mg/L
							Orthophosphorus as PO4	153.325 mg/L
							Phosphorus as P	50 mg/L
							Phosphorus as PO4	153.325 mg/L
							Phosphorus, Organic	50 mg/L
							Phosphorus, Ortho	50 mg/L
							Total Hydrolyzable Phosphorus	50 mg/L
WETSTOCICV_00037	02/06/21		LABCHEM, Lot J028-17		(Purchased Reagent)		TOC	1000 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Canton Job No.: 600-194690-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
1N BrCl_00041	12/11/20	10/04/19	DIWATER, Lot NA	500 mL	LLHg_KBr_00002	5.4 g	Potassium Bromide	10756.8 mL
					LLHg_KBrO3_00001	7.6 g	Potassium Bromate	15169.6 mL
					MTTMHCL_00266	500 mL	Hydrogen Chloride	1000000 mL
.LLHg_KBr_00002	12/11/20	Fisher Scientific, Lot 149360			(Purchased Reagent)		Potassium Bromide	99.6 %
.LLHg_KBrO3_00001	01/06/21	Alfa Aesar, Lot Y13B049			(Purchased Reagent)		Potassium Bromate	99.8 %
.MTTMHCL_00266	09/04/21	JT Baker(Avantor), Lot 0000229504			(Purchased Reagent)		Hydrogen Chloride	100 %
1N BrCl_00042	12/11/20	10/24/19	DIWATER, Lot NA	500 mL	LLHg_KBr_00002	5.4 g	Potassium Bromide	10756.8 mL
					LLHg_KBrO3_00001	7.6 g	Potassium Bromate	15169.6 mL
					MTTMHCL_00272	500 mL	Hydrogen Chloride	1000000 mL
.LLHg_KBr_00002	12/11/20	Fisher Scientific, Lot 149360			(Purchased Reagent)		Potassium Bromide	99.6 %
.LLHg_KBrO3_00001	01/06/21	Alfa Aesar, Lot Y13B049			(Purchased Reagent)		Potassium Bromate	99.8 %
.MTTMHCL_00272	10/15/21	JT Baker(Avantor), Lot 0000240180			(Purchased Reagent)		Hydrogen Chloride	100 %
LLHg-1631-ICV_00052	11/03/19	06/03/19	DIWATER, Lot NONE	100 mL	1N BrCl_00029	0.5 mL	Potassium Bromide	59162.4 ug/L
							Potassium Bromate	83432.8 ug/L
							Hydrogen Chloride	5500000 ug/L
					LLHg-ICV Int_00036	10 mL	Potassium Bromide	59162.4 ug/L
							Potassium Bromate	83432.8 ug/L
							Hydrogen Chloride	5500000 ug/L
							Mercury	1 ug/L
.1N BrCl_00029	11/03/19	05/03/19	DIWATER, Lot NA	500 mL	LLHg_KBr_00002	5.4 g	Potassium Bromide	10756.8 mL
					LLHg_KBrO3_00001	7.6 g	Potassium Bromate	15169.6 mL
					MTTMHCL_00242	500 mL	Hydrogen Chloride	1000000 mL
..LLHg_KBr_00002	12/11/20	Fisher Scientific, Lot 149360			(Purchased Reagent)		Potassium Bromide	99.6 %
..LLHg_KBrO3_00001	01/06/21	Alfa Aesar, Lot Y13B049			(Purchased Reagent)		Potassium Bromate	99.8 %
..MTTMHCL_00242	03/28/21	JT Baker(Avantor), Lot 0000217157			(Purchased Reagent)		Hydrogen Chloride	100 %
.LLHg-ICV Int_00036	11/03/19	06/03/19	DIWATER, Lot NONE	100 mL	1N BrCl_00029	0.5 mL	Potassium Bromide	53.784 ug/mL
							Potassium Bromate	75.848 ug/mL
							Hydrogen Chloride	5000 ug/mL
					LLHG-cal_00008	0.1 mL	Mercury	0.01 ug/mL
..1N BrCl_00029	11/03/19	05/03/19	DIWATER, Lot NA	500 mL	LLHg_KBr_00002	5.4 g	Potassium Bromide	10756.8 mL
					LLHg_KBrO3_00001	7.6 g	Potassium Bromate	15169.6 mL
					MTTMHCL_00242	500 mL	Hydrogen Chloride	1000000 mL
...LLHg_KBr_00002	12/11/20	Fisher Scientific, Lot 149360			(Purchased Reagent)		Potassium Bromide	99.6 %
...LLHg_KBrO3_00001	01/06/21	Alfa Aesar, Lot Y13B049			(Purchased Reagent)		Potassium Bromate	99.8 %
...MTTMHCL_00242	03/28/21	JT Baker(Avantor), Lot 0000217157			(Purchased Reagent)		Hydrogen Chloride	100 %
..LLHG-cal_00008	05/31/20	ESI, Lot 1910030			(Purchased Reagent)		Mercury	10 ug/mL
LLHg-1631ICal_00117	01/31/20	11/04/19	DIWATER, Lot DIWATER	100 mL	LLHg-ICal Int_00053	3.25 mL	Mercury	0.325 ug/L
.LLHg-ICal Int_00053	01/31/20	10/30/19	DIWATER, Lot NONE	100 mL	LLHG-cal_00007	0.1 mL	Mercury	0.01 ug/mL
..LLHG-cal_00007	01/31/20	High-Purity Standards, Lot 1831020			(Purchased Reagent)		Mercury	10 ug/mL
LLHg-CCV_00221	01/31/20	11/04/19	DIWATER, Lot NA	1 L	LLHg-ICal Int_00053	0.5 mL	Mercury	5 ppt
.LLHg-ICal Int_00053	01/31/20	10/30/19	DIWATER, Lot NONE	100 mL	LLHG-cal_00007	0.1 mL	Mercury	0.01 ug/mL
..LLHG-cal_00007	01/31/20	High-Purity Standards, Lot 1831020			(Purchased Reagent)		Mercury	10 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
HRDXNCP_00038	10/16/19	10/16/18	C14, Lot STBH5862	6 mL	HRDXNCP_00037	1.2 mL	13C-2,3,7,8-TCDD	40 pg/uL
							13C-2,3,7,8-TCDF	40 pg/uL
							2,3,7,8-TCDD	40 pg/uL
							2,3,7,8-TCDF	40 pg/uL
.HRDXNCP_00037	03/31/25	CIL, Lot ER03111502			(Purchased Reagent)		13C-2,3,7,8-TCDD	200 ng/mL
							13C-2,3,7,8-TCDF	200 ng/mL
							2,3,7,8-TCDD	200 ng/mL
							2,3,7,8-TCDF	200 ng/mL
HRDXNCP_00040	08/30/20	08/30/19	C14, Lot STBH7678	6 mL	HRDXNCP_00039	1.2 mL	1,2,3,4,6,7,9-HpCDD	40 pg/uL
							1,2,3,4,6,7-HxCDD	40 pg/uL
							1,2,3,4,6,8-HxCDF	40 pg/uL
							1,2,3,4,8,9-HxCDF	40 pg/uL
							1,2,3,7-TCDD	40 pg/uL
							1,2,3,8,9-PeCDD	40 pg/uL
							1,2,3,8,9-PeCDF	40 pg/uL
							1,2,3,9-TCDD	40 pg/uL
							1,2,3,9-TCDF	40 pg/uL
							1,2,4,6,7,9-HxCDD	40 pg/uL
							1,2,4,7,9-PeCDD	40 pg/uL
							1,2,8,9-TCDD	40 pg/uL
							1,2,8,9-TCDF	40 pg/uL
							1,3,4,6,8-PeCDF	40 pg/uL
							1,3,6,8-TCDD	40 pg/uL
							1,3,6,8-TCDF	40 pg/uL
							13C-2,3,7,8-TCDD	40 pg/uL
							13C-2,3,7,8-TCDF	40 pg/uL
							2,3,4,7-TCDF	40 pg/uL
							2,3,7,8-TCDD	40 pg/uL
							2,3,7,8-TCDF	40 pg/uL
.HRDXNCP_00039	03/31/25	CIL, Lot ER03111502			(Purchased Reagent)		1,2,3,4,6,7,9-HpCDD	200 ng/mL
							1,2,3,4,6,7-HxCDD	200 ng/mL
							1,2,3,4,6,8-HxCDF	200 ng/mL
							1,2,3,4,8,9-HxCDF	200 ng/mL
							1,2,3,7-TCDD	200 ng/mL
							1,2,3,8,9-PeCDD	200 ng/mL
							1,2,3,8,9-PeCDF	200 ng/mL
							1,2,3,9-TCDD	200 ng/mL
							1,2,3,9-TCDF	200 ng/mL
							1,2,4,6,7,9-HxCDD	200 ng/mL
							1,2,4,7,9-PeCDD	200 ng/mL
							1,2,8,9-TCDD	200 ng/mL
							1,2,8,9-TCDF	200 ng/mL
							1,3,4,6,8-PeCDF	200 ng/mL
							1,3,6,8-TCDD	200 ng/mL
							1,3,6,8-TCDF	200 ng/mL
							13C-2,3,7,8-TCDD	200 ng/mL
							13C-2,3,7,8-TCDF	200 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,3,4,7-TCDF	200 ng/mL
							2,3,7,8-TCDD	200 ng/mL
							2,3,7,8-TCDF	200 ng/mL
HRDXNIC_00042	04/29/20	07/02/19	C14, Lot STBH7678	0.5 mL	HRDXNIDA_00303	0.125 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.25 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNSU_00196	0.05 mL	37Cl4-2,3,7,8-TCDD	40 ng/mL
					HRDXNTA_00102	0.5 mL	1,2,3,4,6,7,8-HpCDD	200 ng/mL
							1,2,3,4,6,7,8-HpCDF	200 ng/mL
							1,2,3,4,7,8,9-HpCDF	200 ng/mL
							1,2,3,4,7,8-HxCDD	200 ng/mL
							1,2,3,4,7,8-HxCDF	200 ng/mL
							1,2,3,6,7,8-HxCDD	200 ng/mL
							1,2,3,6,7,8-HxCDF	200 ng/mL
							1,2,3,7,8,9-HxCDD	200 ng/mL
							1,2,3,7,8,9-HxCDF	200 ng/mL
							1,2,3,7,8-PeCDD	200 ng/mL
							1,2,3,7,8-PeCDF	200 ng/mL
							2,3,4,6,7,8-HxCDF	200 ng/mL
							2,3,4,7,8-PeCDF	200 ng/mL
							2,3,7,8-TCDD	40 ng/mL
							2,3,7,8-TCDF	40 ng/mL
							OCDD	400 ng/mL
							OCDF	400 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00102	03/01/25	Wellington Labs, Lot 13PAR0418			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	200 ng/mL
							1,2,3,4,6,7,8-HpCDF	200 ng/mL
							1,2,3,4,7,8,9-HpCDF	200 ng/mL
							1,2,3,4,7,8-HxCDD	200 ng/mL
							1,2,3,4,7,8-HxCDF	200 ng/mL
							1,2,3,6,7,8-HxCDD	200 ng/mL
							1,2,3,6,7,8-HxCDF	200 ng/mL
							1,2,3,7,8,9-HxCDD	200 ng/mL
							1,2,3,7,8,9-HxCDF	200 ng/mL
							1,2,3,7,8-PeCDD	200 ng/mL
							1,2,3,7,8-PeCDF	200 ng/mL
							2,3,4,6,7,8-HxCDF	200 ng/mL
							2,3,4,7,8-PeCDF	200 ng/mL
							2,3,7,8-TCDD	40 ng/mL
							2,3,7,8-TCDF	40 ng/mL
							OCDD	400 ng/mL
							OCDF	400 ng/mL
HRDXNIDA_00392	10/24/20	10/24/19	Acetone, Lot 0000236139	500 mL	HRDXNIDA_00364	5 mL	13C-1,2,3,4,6,7,8-HpCDD	2 pg/uL
							13C-1,2,3,4,6,7,8-HpCDF	2 pg/uL
							13C-2,3,7,8-TCDF	2 pg/uL
							13C-2,3,7,8-TCDD	2 pg/uL
							13C-1,2,3,6,7,8-HxCDF	2 pg/uL
							13C-1,2,3,7,8,9-HxCDF	2 pg/uL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-2,3,4,6,7,8-HxCDF	2 pg/uL
							13C-1,2,3,7,8-PeCDD	2 pg/uL
							13C-1,2,3,7,8-PeCDF	2 pg/uL
							13C-1,2,3,6,7,8-HxCDD	2 pg/uL
							13C-OCDD	4 pg/uL
					HRDXNIDA_00379	2.5 mL	13C-1,2,3,4,7,8,9-HpCDF	2 pg/uL
							13C-2,3,4,7,8-PeCDF	2 pg/uL
							13C-1,2,3,4,7,8-HxCDD	2 pg/uL
							13C-1,2,3,4,7,8-HxCDF	2 pg/uL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIDA_00379	04/11/26	04/11/19	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00375	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00376	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00377	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00378	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00375	05/31/26	CIL, Lot ER04251601			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00376	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00377	06/30/26	CIL, Lot ER04211601			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00378	07/31/27	CIL, Lot ER04211701			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
HRDXNIS_00121	10/09/20	10/09/19	C14, Lot STBJ0716	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
.HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
..HRDXNIS_00110	09/30/26	CIL, Lot ER08221601			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
..HRDXNIS_00111	01/31/27	CIL, Lot ER11081602			(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
HRDXNL2_00027	04/29/20	07/02/19	C14, Lot STBH7678	1 mL	HRDXNIDA_00303	0.25 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.5 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIS_00117	1 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00217	0.625 mL	37Cl4-2,3,7,8-TCDD	0.5 ng/mL
					HRDXNTA_00113	0.125 mL	1,2,3,4,6,7,8-HpCDD	2.5 ng/mL
							1,2,3,4,6,7,8-HpCDF	2.5 ng/mL
							1,2,3,4,7,8,9-HpCDF	2.5 ng/mL
							1,2,3,4,7,8-HxCDD	2.5 ng/mL
							1,2,3,4,7,8-HxCDF	2.5 ng/mL
							1,2,3,6,7,8-HxCDD	2.5 ng/mL
							1,2,3,6,7,8-HxCDF	2.5 ng/mL
							1,2,3,7,8,9-HxCDD	2.5 ng/mL
							1,2,3,7,8,9-HxCDF	2.5 ng/mL
							1,2,3,7,8-PeCDD	2.5 ng/mL
							1,2,3,7,8-PeCDF	2.5 ng/mL
							2,3,4,6,7,8-HxCDF	2.5 ng/mL
							2,3,4,7,8-PeCDF	2.5 ng/mL
							2,3,7,8-TCDD	0.5 ng/mL
							2,3,7,8-TCDF	0.5 ng/mL
							OCDD	5 ng/mL
							OCDF	5 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20		CIL, Lot ER111010-01		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24		CIL, Lot ER08101404		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26		CIL, Lot ER09131601		(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26		CIL, Lot ER03031601		(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26		CIL, Lot ER02241603		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20		CIL, Lot ER100610-01		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20		CIL, Lot ER100610-02		(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21		CIL, Lot ER012111-01		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28		CIL, Lot ER03151801		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27		CIL, Lot ER04051701		(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26		CIL, Lot ER08221601		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27		CIL, Lot ER11081602		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00217	07/01/20	07/01/19	Isooctane, Lot 0000201867	500 mL	HRDXNSU_00196	1000 uL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
..HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
...HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
....HRDXNSU_00187	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00113	05/29/20	05/29/19	Acetone, Lot 00000197752	25 mL	HRDXNTA_00092	0.25 mL	1,2,3,4,6,7,8-HpCDD	20 ng/mL
							1,2,3,4,6,7,8-HpCDF	20 ng/mL
							1,2,3,4,7,8,9-HpCDF	20 ng/mL
							1,2,3,4,7,8-HxCDD	20 ng/mL
							1,2,3,4,7,8-HxCDF	20 ng/mL
							1,2,3,6,7,8-HxCDD	20 ng/mL
							1,2,3,6,7,8-HxCDF	20 ng/mL
							1,2,3,7,8,9-HxCDD	20 ng/mL
							1,2,3,7,8,9-HxCDF	20 ng/mL
							1,2,3,7,8-PeCDD	20 ng/mL
							1,2,3,7,8-PeCDF	20 ng/mL
							2,3,4,6,7,8-HxCDF	20 ng/mL
							2,3,4,7,8-PeCDF	20 ng/mL
							2,3,7,8-TCDD	4 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,3,7,8-TCDF	4 ng/mL
							OCDD	40 ng/mL
							OCDF	40 ng/mL
..HRDXNTA_00092	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL3_00025	04/29/20	07/02/19	C14, Lot STBH7678	0.5 mL	HRDXNIDA_00303	0.125 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.25 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIS_00117	0.5 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00217	1.25 mL	37Cl4-2,3,7,8-TCDD	2 ng/mL
					HRDXNTA_00113	0.25 mL	1,2,3,4,6,7,8-HpCDD	10 ng/mL
							1,2,3,4,6,7,8-HpCDF	10 ng/mL
							1,2,3,4,7,8,9-HpCDF	10 ng/mL
							1,2,3,4,7,8-HxCDD	10 ng/mL
							1,2,3,4,7,8-HxCDF	10 ng/mL
							1,2,3,6,7,8-HxCDD	10 ng/mL
							1,2,3,6,7,8-HxCDF	10 ng/mL
							1,2,3,7,8,9-HxCDD	10 ng/mL
							1,2,3,7,8,9-HxCDF	10 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,7,8-PeCDD	10 ng/mL
							1,2,3,7,8-PeCDF	10 ng/mL
							2,3,4,6,7,8-HxCDF	10 ng/mL
							2,3,4,7,8-PeCDF	10 ng/mL
							2,3,7,8-TCDD	2 ng/mL
							2,3,7,8-TCDF	2 ng/mL
							OCDD	20 ng/mL
							OCDF	20 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26	CIL, Lot ER08221601			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27	CIL, Lot ER11081602			(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.HRDXNSU_00217	07/01/20	07/01/19	Isooctane, Lot 0000201867	500 mL	HRDXNSU_00196	1000 uL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
..HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
...HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
....HRDXNSU_00187	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00113	05/29/20	05/29/19	Acetone, Lot 00000197752	25 mL	HRDXNTA_00092	0.25 mL	1,2,3,4,6,7,8-HpCDD	20 ng/mL
							1,2,3,4,6,7,8-HpCDF	20 ng/mL
							1,2,3,4,7,8,9-HpCDF	20 ng/mL
							1,2,3,4,7,8-HxCDD	20 ng/mL
							1,2,3,4,7,8-HxCDF	20 ng/mL
							1,2,3,6,7,8-HxCDD	20 ng/mL
							1,2,3,6,7,8-HxCDF	20 ng/mL
							1,2,3,7,8,9-HxCDD	20 ng/mL
							1,2,3,7,8,9-HxCDF	20 ng/mL
							1,2,3,7,8-PeCDD	20 ng/mL
							1,2,3,7,8-PeCDF	20 ng/mL
							2,3,4,6,7,8-HxCDF	20 ng/mL
							2,3,4,7,8-PeCDF	20 ng/mL
							2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL
							OCDD	40 ng/mL
							OCDF	40 ng/mL
..HRDXNTA_00092	04/30/26	CIL, Lot ER02241602			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL4_00084	04/29/20	07/11/19	C14, Lot STBH7678	1 mL	HRDXNIDA_00364	0.5 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIDA_00379	0.25 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIS_00117	1 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00196	0.02 mL	37Cl4-2,3,7,8-TCDD	8 ng/mL
					HRDXNTA_00093	0.025 mL	1,2,3,4,6,7,8-HpCDD	50 ng/mL
							1,2,3,4,6,7,8-HpCDF	50 ng/mL
							1,2,3,4,7,8,9-HpCDF	50 ng/mL
							1,2,3,4,7,8-HxCDD	50 ng/mL
							1,2,3,4,7,8-HxCDF	50 ng/mL
							1,2,3,6,7,8-HxCDD	50 ng/mL
							1,2,3,6,7,8-HxCDF	50 ng/mL
							1,2,3,7,8,9-HxCDD	50 ng/mL
							1,2,3,7,8,9-HxCDF	50 ng/mL
							1,2,3,7,8-PeCDD	50 ng/mL
							1,2,3,7,8-PeCDF	50 ng/mL
							2,3,4,6,7,8-HxCDF	50 ng/mL
							2,3,4,7,8-PeCDF	50 ng/mL
							2,3,7,8-TCDD	10 ng/mL
							2,3,7,8-TCDF	10 ng/mL
							OCDD	100 ng/mL
							OCDF	100 ng/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNIDA_00360	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21		CIL, Lot ER012111-01		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28		CIL, Lot ER03151801		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27		CIL, Lot ER04051701		(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIDA_00379	04/11/26	04/11/19	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00375	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00376	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00377	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00378	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00375	05/31/26		CIL, Lot ER04251601		(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00376	01/31/27		CIL, Lot ER01061701		(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00377	06/30/26		CIL, Lot ER04211601		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00378	07/31/27		CIL, Lot ER04211701		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26		CIL, Lot ER08221601		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27		CIL, Lot ER11081602		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00093	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL4_00085	04/29/20	10/03/19	C14, Lot STBH7678	1 mL	HRDXNIDA_00364	0.5 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIDA_00379	0.25 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNSU_00196	0.025 mL	37Cl4-2,3,7,8-TCDD	10 ng/mL
					HRDXNTA_00093	0.025 mL	1,2,3,4,6,7,8-HpCDD	50 ng/mL
							1,2,3,4,6,7,8-HpCDF	50 ng/mL
							1,2,3,4,7,8,9-HpCDF	50 ng/mL
							1,2,3,4,7,8-HxCDD	50 ng/mL
							1,2,3,4,7,8-HxCDF	50 ng/mL
							1,2,3,6,7,8-HxCDD	50 ng/mL
							1,2,3,6,7,8-HxCDF	50 ng/mL
							1,2,3,7,8,9-HxCDD	50 ng/mL
							1,2,3,7,8,9-HxCDF	50 ng/mL
							1,2,3,7,8-PeCDD	50 ng/mL
							1,2,3,7,8-PeCDF	50 ng/mL
							2,3,4,6,7,8-HxCDF	50 ng/mL
							2,3,4,7,8-PeCDF	50 ng/mL
							2,3,7,8-TCDD	10 ng/mL
							2,3,7,8-TCDF	10 ng/mL
							OCDD	100 ng/mL
							OCDF	100 ng/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNIDA_00362	03/31/28		CIL, Lot ER03151801		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27		CIL, Lot ER04051701		(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIDA_00379	04/11/26	04/11/19	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00375	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00376	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00377	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00378	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00375	05/31/26		CIL, Lot ER04251601		(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00376	01/31/27		CIL, Lot ER01061701		(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00377	06/30/26		CIL, Lot ER04211601		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00378	07/31/27		CIL, Lot ER04211701		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00093	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL4_00086	04/29/20	10/03/19	C14, Lot STBH7678	1 mL	HRDXNIDA_00364	0.5 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIDA_00379	0.25 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					HRDXNIS_00117	1 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00196	0.025 mL	37Cl4-2,3,7,8-TCDD	10 ng/mL
					HRDXNTA_00093	0.025 mL	1,2,3,4,6,7,8-HpCDD	50 ng/mL
							1,2,3,4,6,7,8-HpCDF	50 ng/mL
							1,2,3,4,7,8,9-HpCDF	50 ng/mL
							1,2,3,4,7,8-HxCDD	50 ng/mL
							1,2,3,4,7,8-HxCDF	50 ng/mL
							1,2,3,6,7,8-HxCDD	50 ng/mL
							1,2,3,6,7,8-HxCDF	50 ng/mL
							1,2,3,7,8,9-HxCDD	50 ng/mL
							1,2,3,7,8,9-HxCDF	50 ng/mL
							1,2,3,7,8-PeCDD	50 ng/mL
							1,2,3,7,8-PeCDF	50 ng/mL
							2,3,4,6,7,8-HxCDF	50 ng/mL
							2,3,4,7,8-PeCDF	50 ng/mL
							2,3,7,8-TCDD	10 ng/mL
							2,3,7,8-TCDF	10 ng/mL
							OCDD	100 ng/mL
							OCDF	100 ng/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIDA_00379	04/11/26	04/11/19	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00375	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00376	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00377	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00378	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNIDA_00375	05/31/26		CIL, Lot ER04251601		(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00376	01/31/27		CIL, Lot ER01061701		(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00377	06/30/26		CIL, Lot ER04211601		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00378	07/31/27		CIL, Lot ER04211701		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26		CIL, Lot ER08221601		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27		CIL, Lot ER11081602		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00093	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL5_00028	04/29/20	07/02/19	C14, Lot STBH7678	0.2 mL	HRDXNIDA_00303	0.05 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.1 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					HRDXNIS_00117	0.2 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00196	0.02 mL	37Cl4-2,3,7,8-TCDD	40 ng/mL
					HRDXNTA_00093	0.02 mL	1,2,3,4,6,7,8-HpCDD	200 ng/mL
							1,2,3,4,6,7,8-HpCDF	200 ng/mL
							1,2,3,4,7,8,9-HpCDF	200 ng/mL
							1,2,3,4,7,8-HxCDD	200 ng/mL
							1,2,3,4,7,8-HxCDF	200 ng/mL
							1,2,3,6,7,8-HxCDD	200 ng/mL
							1,2,3,6,7,8-HxCDF	200 ng/mL
							1,2,3,7,8,9-HxCDD	200 ng/mL
							1,2,3,7,8,9-HxCDF	200 ng/mL
							1,2,3,7,8-PeCDD	200 ng/mL
							1,2,3,7,8-PeCDF	200 ng/mL
							2,3,4,6,7,8-HxCDF	200 ng/mL
							2,3,4,7,8-PeCDF	200 ng/mL
							2,3,7,8-TCDD	40 ng/mL
							2,3,7,8-TCDF	40 ng/mL
							OCDD	400 ng/mL
							OCDF	400 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNIDA_00360	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21		CIL, Lot ER012111-01		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28		CIL, Lot ER03151801		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27		CIL, Lot ER04051701		(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26		CIL, Lot ER08221601		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27		CIL, Lot ER11081602		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00093	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL6_00024	04/29/20	07/02/19	C14, Lot STBH7678	0.2 mL	HRDXNIDA_00303	0.05 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.1 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					HRDXNIS_00117	0.2 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00196	0.1 mL	37Cl4-2,3,7,8-TCDD	200 ng/mL
					HRDXNTA_00093	0.1 mL	1,2,3,4,6,7,8-HpCDD	1000 ng/mL
							1,2,3,4,6,7,8-HpCDF	1000 ng/mL
							1,2,3,4,7,8,9-HpCDF	1000 ng/mL
							1,2,3,4,7,8-HxCDD	1000 ng/mL
							1,2,3,4,7,8-HxCDF	1000 ng/mL
							1,2,3,6,7,8-HxCDD	1000 ng/mL
							1,2,3,6,7,8-HxCDF	1000 ng/mL
							1,2,3,7,8,9-HxCDD	1000 ng/mL
							1,2,3,7,8,9-HxCDF	1000 ng/mL
							1,2,3,7,8-PeCDD	1000 ng/mL
							1,2,3,7,8-PeCDF	1000 ng/mL
							2,3,4,6,7,8-HxCDF	1000 ng/mL
							2,3,4,7,8-PeCDF	1000 ng/mL
							2,3,7,8-TCDD	200 ng/mL
							2,3,7,8-TCDF	200 ng/mL
							OCDD	2000 ng/mL
							OCDF	2000 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNIDA_00360	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21		CIL, Lot ER012111-01		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28		CIL, Lot ER03151801		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27		CIL, Lot ER04051701		(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26		CIL, Lot ER08221601		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27		CIL, Lot ER11081602		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00093	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNSU_00221	10/18/20	10/18/19	Isooctane, Lot 0000221197	500 mL	HRDXNSU_00196	1000 uL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
HRDXNTA_00116	08/26/20	08/26/19	Acetone, Lot 00000236139	25 mL	HRDXNTA_00093	0.25 mL	1,2,3,4,6,7,8-HpCDD	20 ng/mL
							1,2,3,4,6,7,8-HpCDF	20 ng/mL
							1,2,3,4,7,8,9-HpCDF	20 ng/mL
							1,2,3,4,7,8-HxCDD	20 ng/mL
							1,2,3,4,7,8-HxCDF	20 ng/mL
							1,2,3,6,7,8-HxCDD	20 ng/mL
							1,2,3,6,7,8-HxCDF	20 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,7,8,9-HxCDD	20 ng/mL
							1,2,3,7,8,9-HxCDF	20 ng/mL
							1,2,3,7,8-PeCDD	20 ng/mL
							1,2,3,7,8-PeCDF	20 ng/mL
							2,3,4,6,7,8-HxCDF	20 ng/mL
							2,3,4,7,8-PeCDF	20 ng/mL
							2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL
							OCDD	40 ng/mL
							OCDF	40 ng/mL
.HRDXNTA_00093	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL

Reagent

ICPMSPIKEMIX2_00001

3012437

ID: ICPMSPIKEMIX2_00001
Exp: 05/19/20 Prpd: KP1
ICPMSSPIKEMIX#2

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

Product #: TA-SPIKE2

Spike Mix # 2

Lot #: 982744-1

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
Al	1000 ± 5 mg/L	Fe	1000 ± 5 mg/L	Mg	5000 ± 25 mg/L
Ca	5000 ± 25 mg/L	K	5000 ± 25 mg/L	Na	5000 ± 25 mg/L

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see reverse side)**. The solution was stabilized using high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentrations were determined based upon gravimetric procedures. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see reverse side)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

November 19, 2018
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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www.cpiinternational.com

Reagent

WETDSODCAR_00009

RICCA CHEMICAL COMPANY®

448 West Fork Dr
Arlington, TX 76012
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

Certificate of Analysis

Sodium Carbonate, 0.0500 Normal (N/20), 1 mL = 2.5 mg $CaCO_3$

Lot Number: 1902987 **Product Number:** 7185

Manufacture Date: FEB 05, 2019
Expiration Date: JAN 2020

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Sodium Carbonate	497-19-8	ACS

Test	Specification	Result	NIST SRM#
Appearance	Colorless liquid	Passed	
Assay (vs. Sulfuric Acid/Methyl Orange)	0.04999-0.05001 N at 20°C	0.04999 N at 20°C	723

Specification	Reference
Sodium carbonate solution, approximately 0.05 N	APHA (2320 B)
Sodium Carbonate Solution, 0.05 N	EPA (310.1)
Sodium Carbonate Solution (approx 0.05 N)	EPA (375.4)
Sodium Carbonate Solution (approximately 0.05 N)	EPA (SW-846) (9038)

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
7185-1	4 L natural poly	12 months
7185-16	500 mL natural poly	12 months
7185-32	1 L natural poly	12 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

Israel Alamudun (02/05/2019)
Quality Control Supervisor
This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

This test report shall not be reproduced, except in full, without the written approval of Ricca Chemical Company.

Reagent

WETRPH7CAL_00022

RICCA CHEMICAL COMPANY®

448 West Fork Dr
Arlington, TX 76012
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

Certificate of Analysis

Buffer, Reference Standard, pH 7.00 ± 0.01 at 25°C (Color Coded Yellow)

Lot Number: 1909D12 **Product Number:** 1551

Manufacture Date: SEP 25, 2019
Expiration Date: SEP 2021

The certified value for this product is confirmed in independent testing by a second qualified chemist.
The NIST traceable pH value is certified to ±0.01 at 25 °C only. All other pH values at their corresponding temperatures are accurate to ± 0.05.

°C	0	5	10	15	20	25	30	35	40	45	50
pH	7.12	7.09	7.06	7.04	7.02	7.00	6.99	6.98	6.98	6.97	6.97

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Sodium Phosphate Dibasic	7558-79-4	ACS
Sodium Hydroxide	1310-73-2	Reagent
Potassium Dihydrogen Phosphate	7778-77-0	ACS
Yellow Dye	Proprietary	
Preservative	Proprietary	

Test	Specification	Result	NIST SRM#
Appearance	Yellow liquid	Passed	
pH at 25°C (Method: SQCP027, SQCP033)	6.990-7.010	7.008	186-I-g, 186-II-g, 191d
pH at 25°C (Method: SQCP027, SQCP033) Uncertainty	0.01	0.01	

Specification	Reference
Commercial Buffer Solutions	ASTM (D 1293 B)
Buffer A	ASTM (D 5464)
Buffer A	ASTM (D 5128)

pH measurements were performed in our Arlington, TX laboratory under ISO/IEC 17025 accreditation (ANAB Certificate L2387) and are certified traceable to National Institute of Standards and Technology (NIST) Standard Reference Material as indicated above via an unbroken chain of comparisons. The uncertainty is calculated from the uncertainty of the measurement variation from sample to sample, the uncertainty in the NIST Standard Reference Material, and the uncertainty of the measurement process. The uncertainty is multiplied by k=2, corresponding to 95% coverage in a normal distribution.

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
1551-1G	4 L amber glass	24 months
1551-2.5	10 L Cubitainer®	24 months
1551-5	20 L Cubitainer®	24 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

Israel Alamudun (09/25/2019)
Quality Control Supervisor

This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

Certificate # L2387 Testing

This test report shall not be reproduced, except in full, without the written approval of Ricca Chemical Company.

Reagent

WETSCODCAL_00032

Certificate of Analysis List

For request number 1094245

Catalog Number Entered	Lot Number Entered	Related Catalog Number	Related Lot Code	Description
2253929	9031	N/A	N/A	Chemical Oxygen Demand Standard Solution 1000 mg/l COD

Total Enclosures: 1

HACH COMPANY

P.O.Box 389
Loveland, CO 80539
(970) 669-3050

An ISO 9001 Certified Company

Certificate of Analysis

COMMODITY:**Chemical Oxygen Demand Standard Solution 1000 mg/l COD**
COMMODITY NUMBER: **2253929** MANUFACTURE DATE: DATE OF ANALYSIS:
LOT NUMBER: **A9031** **2/17/2019** **2/18/2019**

TEST	*SPECIFICATIONS*	*RESULTS*
COD Concentration	950 to 1050 ppm	995.5 ppm

The expiration date is Feb 2020

The item 2253929 is traceable to NIST standards SRM 84L Potassium Hydrogen Phthalate LOT N/A.

Certified by _____
Scott Als
Analytical Services Chemist

Reagent

WETSIC ICV_00007

125 Market Street
New Haven, CT 06513
USA

AccuStandard® Inc.

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

CERTIFICATE OF ANALYSIS

AccuTrace™ Reference Standard

Catalog No: IC-CL-10X-5
Description: Anion Standard - Chloride
Element: Chloride (Cl)
SRM: 3182
Lot: 218085176
Matrix: Water
Hazards: *Refer to SDS for complete safety information*

Signal Word: None

Date Certified: Aug 30, 2018
Expiration: Sep 30, 2020
Sample Size: 500 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Included on ISO/IEC 17025 Scope of Accreditation: Yes

Included on ISO 17034 Scope of Accreditation: Yes

Component		SRM #	Prepared Concentration (µg/mL)
Cl	Chloride	3182	1000

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by ion chromatography against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as ASTM Type I 18 megohm deionized water.

All solutions are filtered through a 0.2 µm filter prior to being bottled.

All glassware used in preparation is Class A and calibrated regularly.

All weights are traceable through NIST, Test No. 684/289871-17

All bottles are triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015

QR-ORG/INO-001
Rev. 5/18

1. **Quality Standards:**

   ISO 17034 – General Requirements for the Competence of Reference Material Producers ANAB Certificate Number AR-1463

   ISO/IEC 17025 – General Requirements for the Competence of Testing And Calibration Laboratories ANAB Certificate Number AT-1339

   ISO 9001:2015 – Quality Management System – Requirements Eagle Registrations Certificate Number 3774

2. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 11.

3. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards and calibrated using an in-house procedure. Good Laboratory Practices have been used throughout the preparation of this CRM.

4. **Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

5. **Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label.

6. **Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_m = \sqrt{(u(\mathrm{P}))^2 + (u(\mathrm{m}))^2 + (u(\mathrm{V}))^2}$ The expanded uncertainty, U_{CRM} assumes a normal distribution and a coverage factor of k=2 is chosen using approximately a 95% confidence level.

7. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

Reagent

WETSICCFL_00014

125 Market Street
New Haven, CT 06513
USA

AccuStandard® Inc.

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

CERTIFICATE OF ANALYSIS

AccuTrace™ Reference Standard

Catalog No: IC-F-10X-5
Description: Anion Standard - Fluoride
Element: Fluoride (F)
SRM: 3183
Lot: 218105011
Matrix: Water
Hazards: *Refer to SDS for complete safety information*

Signal Word: None

Date Certified: Oct 3, 2018
Expiration: Nov 3, 2020
Sample Size: 500 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Certified Reference Material

ANAB ACCREDITED PROGRAM REFERENCE MATERIAL PRODUCER AR-1463
ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY AT-1339
ilac-MRA

Component		SRM #	Prepared Concentration (µg/mL)
F	Fluoride	3183	1000

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by ion chromatography against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as ASTM Type I 18 megohm deionized water.

All solutions are filtered through a 0.2 µm filter prior to being bottled.

All glassware used in preparation is Class A and calibrated regularly.

All weights are traceable through NIST, Test No. 684/289871-17

All bottles are triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

Page 1 of 1

For use in routine laboratory analysis.

AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015

QR-ORG/INO-001
Rev. 5/18

1. **Quality Standards:**

   ISO 17034 – General Requirements for the Competence of Reference Material Producers ANAB Certificate Number AR-1463

   ISO/IEC 17025 – General Requirements for the Competence of Testing And Calibration Laboratories ANAB Certificate Number AT-1339

   ISO 9001:2015 – Quality Management System – Requirements Eagle Registrations Certificate Number 3774

2. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 11.

3. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards and calibrated using an in-house procedure. Good Laboratory Practices have been used throughout the preparation of this CRM.

4. **Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

5. **Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label

6. **Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_a = \sqrt{(u(\mathrm{V}))^2 + (u(\mathrm{m}))^2 + (u(\mathrm{IV}))^2 + (u(\mathrm{RO}))^2}$ This formula represents uncertainty components from the mass, volume, short-term stability, long-term stability and homogeneity factors associated with the production of this product. The expanded uncertainty, assumes a normal distribution and a coverage factor of k=2 is chosen using approximately a 95% confidence level.

7. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

Reagent

WETSICCNO3_00018

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01

ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Ion Chromatography Solution
Catalog Number:	ICNNO31
Lot Number:	M2-NOX656803
Matrix:	H2O
Value / Analyte(s):	1 000 µg/mL ea: Nitrate as N
Starting Material:	Sodium Nitrate
Starting Material Lot#:	1571
Starting Material Purity:	100.0000%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 998 ± 4 µg/mL

Certified Density: 1.002 g/mL (measured at 20 ± 1 ºC)

Assay Information:

Assay Method #1 **997 ± 3 µg/mL**
IC Assay NIST SRM 3185 Lot Number: 050517

Assay Method #2 **1000 ± 4 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 CHROMATOGRAM

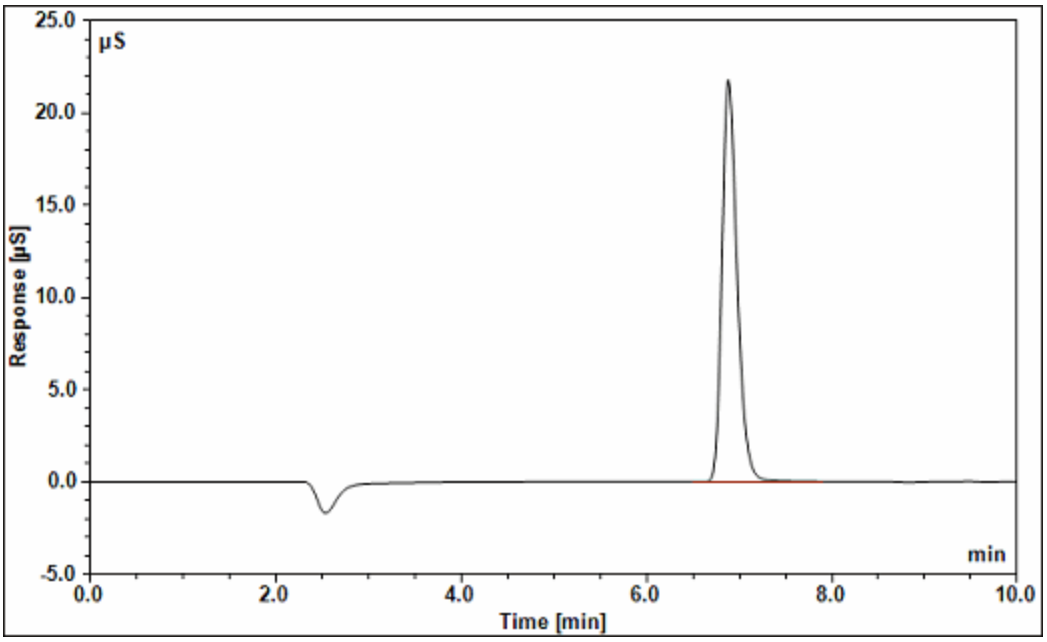

Dionex ICS-1000 Ion Chromatograph

Analytical Column:	IonPac AS22 4 x 250 mm	**Eluent:**	4.5mM Na2CO3 / 1.4mM NaHCO3
Guard Column:	IonPac AG22 4 x 50 mm	**Eluent Flow Rate:**	1.2 mL/min
Anion Self Regen Suppressor/ Chemical Suppression:	AERS 500 4 mm	**Column Temp:**	35ºC
		Cell Temp:	35ºC
Cation Self Regen Suppressor/ Chemical Suppression:	N/A	**Scale X-Axis:**	minutes
		Scale Y-Axis:	25 µS/cm
		Concentration:	20 µg/g
Suppressor Current/ Chemical Suppressant:	31 mA		

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 31, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **March 31, 2021**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year from the date of removal from the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled and stored in accordance with the instructions given in Sec 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Brenda Francis
Product Documentation Technician

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Reagent

WETSICCNO3_00019

INORGANIC VENTURES
300 Technology Drive
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inorganicventures.com

CERTIFICATE OF ANALYSIS

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Ion Chromatography Solution
Catalog Number:	ICNO31
Lot Number:	N2-NOX664930
Matrix:	H2O
Value / Analyte(s):	1 000 µg/mL ea: Nitrate
Starting Material:	Sodium Nitrate
Starting Material Lot#:	1571
Starting Material Purity:	99.0000%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1003 ± 3 µg/mL

Density: 0.999 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **1003 ± 1 µg/mL**
IC Assay NIST SRM 3185 Lot Number: 050517

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 CHROMATOGRAM

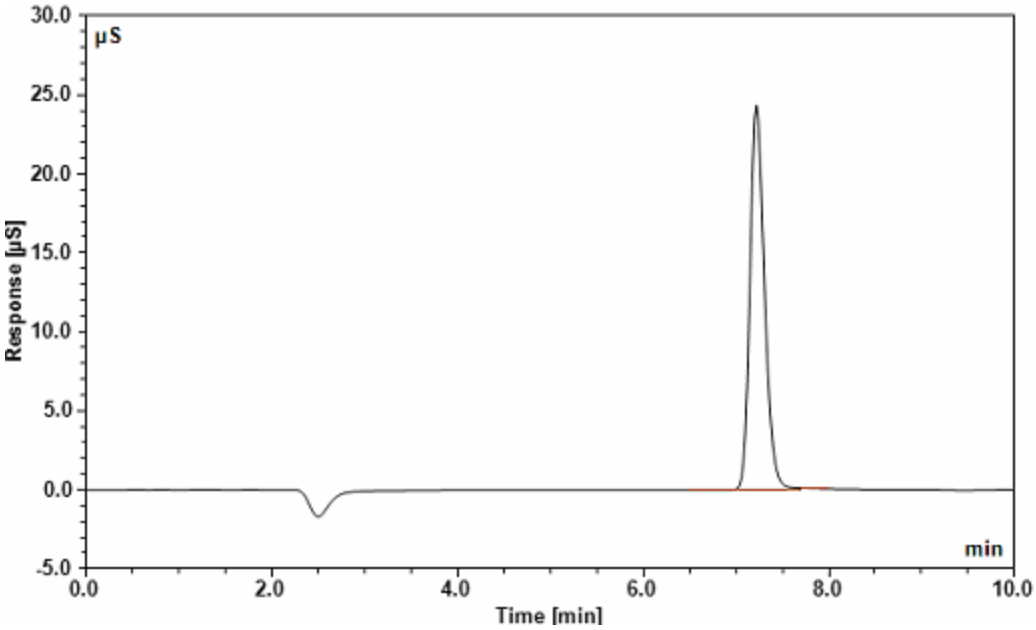

Dionex ICS-1000 Ion Chromatograph

Analytical Column:	IonPac AS22 4x250mm	**Eluent:**	4.5mM Na2CO3 / 1.4mM NaHCO3
Guard Column:	IonPac AG22 4x50mm	**Eluent Flow Rate:**	1.2 mL/min
Anion Self Regen Suppressor/ Chemical Suppression:	AERS 500 4mm	**Column Temp:**	35 °C
		Cell Temp:	35 °C
Cation Self Regen Suppressor/ Chemical Suppression:	N/A	**Scale X-Axis:**	minutes
		Scale Y-Axis:	30 µS/cm
		Concentration:	20 µg/g
Suppressor Current/ Chemical Suppressant:	31mA		

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 19, 2018

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **March 19, 2022**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Joseph Burns
Supervisor, Product Documentation

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Reagent

WETSICCNO3_00020

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Ion Chromatography Solution
Catalog Number:	ICNO31
Lot Number:	P2-NOX675947
Matrix:	H2O
Value / Analyte(s):	1 000 µg/mL ea: Nitrate
Starting Material:	Sodium Nitrate
Starting Material Lot#:	1571
Starting Material Purity:	100.0000%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1003 ± 4 µg/mL

Density: 0.999 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **1003 ± 1 µg/mL**
IC Assay NIST SRM 3185 Lot Number: 170309

Assay Method #2 **1000 ± 5 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{1/2}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 CHROMATOGRAM

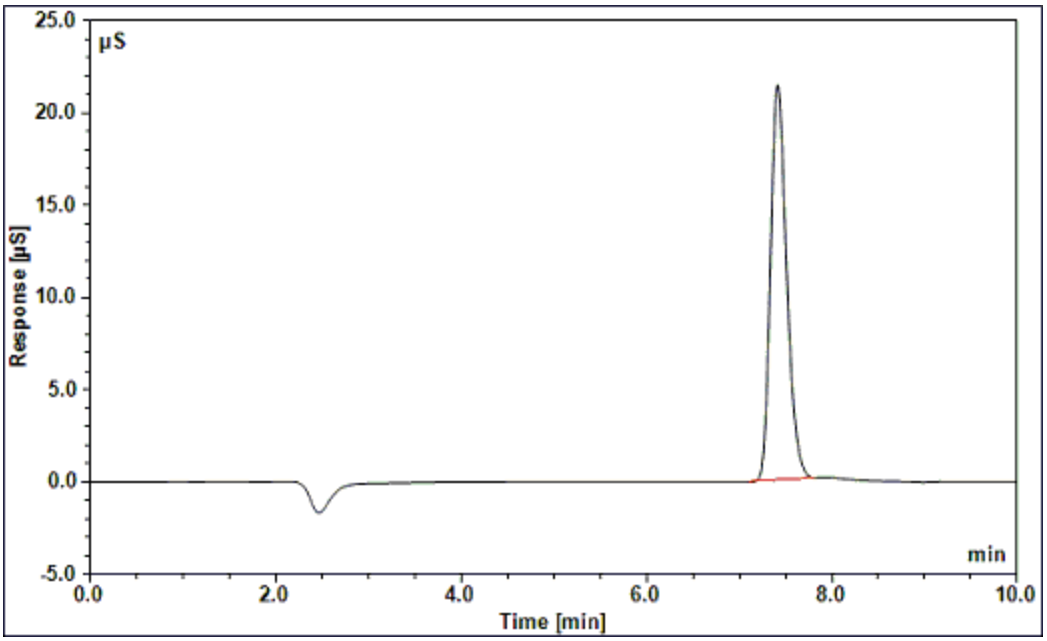

Dionex ICS-1000 Ion Chromatograph

Analytical Column:	IonPac AS22 4 x 250 mm	**Eluent:**	4.5mM Na2CO3 / 1.4mM NaHCO3
Guard Column:	IonPac AG22 4 x 50 mm	**Eluent Flow Rate:**	1.2 mL/min
Anion Self Regen Suppressor/ Chemical Suppression:	AERS 500 4 mm	**Column Temp:**	20°C
		Cell Temp:	35°C
Cation Self Regen Suppressor/ Chemical Suppression:	N/A	**Scale X-Axis:**	minutes
		Scale Y-Axis:	25 µS/cm
		Concentration:	20 µg/g
Suppressor Current/ Chemical Suppressant:	31mA		

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 11, 2019

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **March 11, 2023**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Product Documentation Supervisor

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Reagent

WETSICCSO4_00015

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED
Testing Laboratory
Certificate 883.01

ACCREDITED
Reference Material Producer
Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Ion Chromatography Solution
Catalog Number:	ICSO41
Lot Number:	K2-SOX01111
Matrix:	H2O
Value / Analyte(s):	1 000 µg/mL ea: Sulfate
Starting Material:	Potassium Sulfate
Starting Material Lot#:	1637, 1477
Starting Material Purity:	99.1000%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1002 ± 4 µg/mL

Certified Density: 1.000 g/mL (measured at 20 ± 1 ºC)

Assay Information:

Assay Method #1 **1002 ± 1 µg/mL**
IC Assay NIST SRM 3181 Lot Number: 080603

Assay Method #2 **1000 ± 4 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods | **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 CHROMATOGRAM

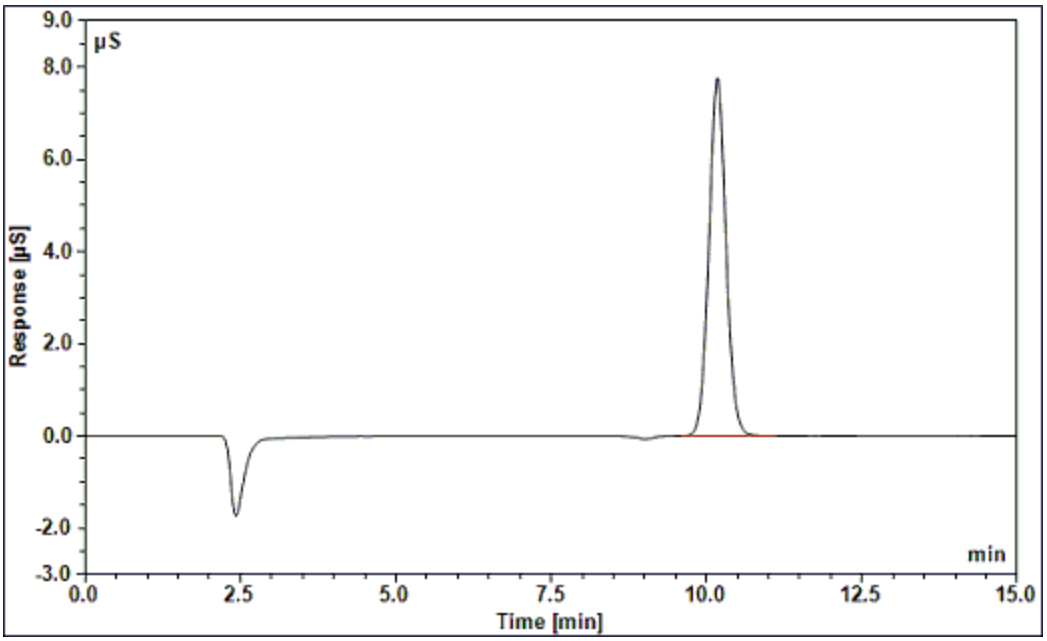

Dionex ICS-1000 Ion Chromatograph

Analytical Column:	IonPac AS22 4 x 250 mm	**Eluent:**	4.5/1.4 mM Na2CO3/NaHCO3
Guard Column:	IonPac AG22 4 x 50 mm	**Eluent Flow Rate:**	1.2 mL/min
Anion Self-Regenerating Suppressor:	AERS 500 4 mm	**Column Temp:**	N/A
		Cell Temp:	35 °C
Cation Self-Regenerating Suppressor:	N/A	**Scale X-Axis:**	minutes
		Scale Y-Axis:	9 µS
Suppressor Current:	31 mA	**Concentration:**	10 µg/g

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

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10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

June 21, 2016

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **June 21, 2020**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year from the date of removal from the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled and stored in accordance with the instructions given in Sec 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

James King Jr
Product Documentation Supervisor

Certificate Approved By:

Michael Booth
QC Supervisor

Certifying Officer:

Paul Gaines
PhD., Senior Technical Director

Reagent

WETSICCSO4_00016

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inorganicventures.com

CERTIFICATE OF ANALYSIS

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fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Ion Chromatography Solution
Catalog Number:	ICSO41
Lot Number:	N2-SOX671919
Matrix:	H2O
Value / Analyte(s):	1 000 µg/mL ea: Sulfate
Starting Material:	Sulfuric acid
Starting Material Lot#:	1637 & 05013BA
Starting Material Purity:	100.0000%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 999 ± 4 µg/mL

Density: 1.000 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **1000 ± 4 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

Assay Method #2 **999 ± 3 µg/mL**
IC Assay NIST SRM 3181 Lot Number: 080603

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 CHROMATOGRAM

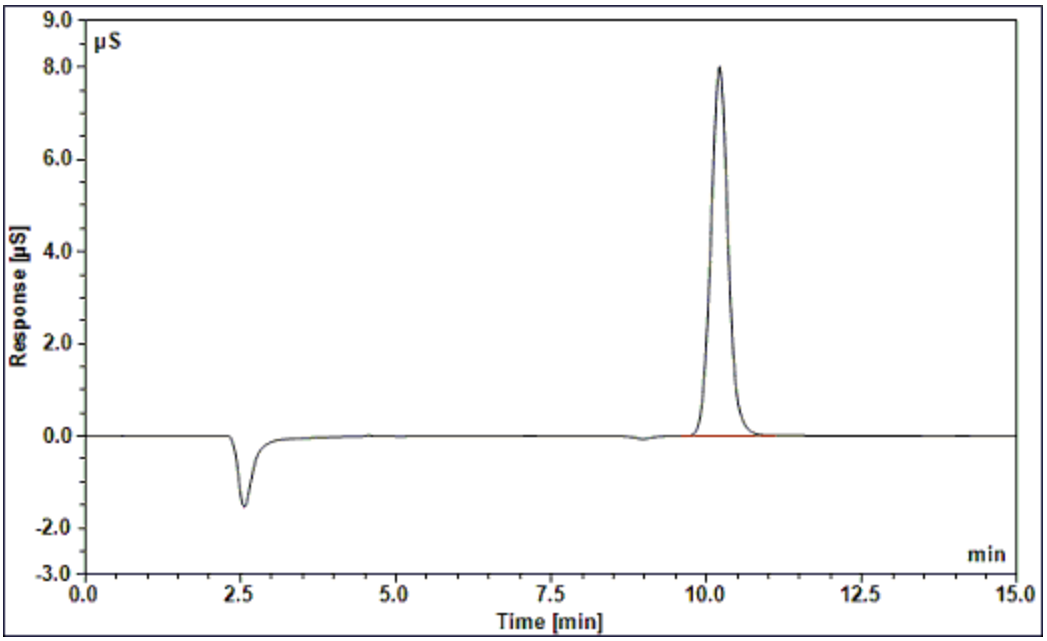

Dionex ICS-1000 Ion Chromatograph

Analytical Column:	IonPac AS22 4 x 250 mm	**Eluent:**	4.5mM Na2CO3 / 1.4mM NaHCO3
Guard Column:	IonPac AG22 4 x 50 mm	**Eluent Flow Rate:**	1.2 mL/min
Anion Self Regen Suppressor/ Chemical Suppression:	AERS 500 4 mm	**Column Temp:**	20°C
		Cell Temp:	35°C
Cation Self Regen Suppressor/ Chemical Suppression:	N/A	**Scale X-Axis:**	minutes
		Scale Y-Axis:	9 µS/cm
		Concentration:	10 µg/g
Suppressor Current/ Chemical Suppressant:	31mA		

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

October 19, 2018

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **October 19, 2022**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Product Documentation Supervisor

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Reagent

WETSICIBR_00012

125 Market Street
New Haven, CT 06513
USA

AccuStandard® Inc.

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

CERTIFICATE OF ANALYSIS

AccuTrace™ Reference Standard

Catalog No: IC-BR-10X-5
Description: Anion Standard - Bromide
Element: Bromide (Br)
SRM: 3184
Lot: 218095035
Matrix: Water
Hazards: *Refer to SDS for complete safety information*

Signal Word: None

Date Certified: Sep 11, 2018
Expiration: Oct 11, 2020
Sample Size: 500 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Included on ISO/IEC 17025 Scope of Accreditation: Yes

Included on ISO 17034 Scope of Accreditation: Yes

Component		SRM #	Prepared Concentration (µg/mL)
Br	Bromide	3184	1000

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by ion chromatography against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as ASTM Type I 18 megohm deionized water.

All solutions are filtered through a 0.2 µm filter prior to being bottled.

All glassware used in preparation is Class A and calibrated regularly.

All weights are traceable through NIST, Test No. 684/289871-17

All bottles are triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015

QR-ORG/INO-001
Rev. 5/18

1. **Quality Standards:**

   ISO 17034 – General Requirements for the Competence of Reference Material Producers ANAB Certificate Number AR-1463

   ISO/IEC 17025 – General Requirements for the Competence of Testing And Calibration Laboratories ANAB Certificate Number AT-1339

   ISO 9001:2015 – Quality Management System – Requirements Eagle Registrations Certificate Number 3774

2. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 11.

3. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards and calibrated using an in-house procedure. Good Laboratory Practices have been used throughout the preparation of this CRM.

4. **Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

5. **Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label.

6. **Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_m = \sqrt{(u(\mathrm{P}))^2 + (u(\mathrm{m}))^2 + (u(\mathrm{V}))^2}$ The expanded uncertainty, U_{CRM} assumes a normal distribution and a coverage factor of k=2 is chosen using approximately a 95% confidence level.

7. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

Reagent

WETSICINO2_00032

125 Market Street
New Haven, CT 06513
USA

AccuStandard® Inc.

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

CERTIFICATE OF ANALYSIS

AccuTrace™ Reference Standard

Catalog No: IC-NO2-N-10X-5
Description: Anion Standard - Nitrite as Nitrogen
Element: Nitrite as Nitrogen (NO_2-N)
SRM: Ind. Std.
Lot: 219075013
Matrix: Water
Hazards: *Refer to SDS for complete safety information*

Date Certified: Jul 3, 2019
Expiration: Aug 3, 2021
Sample Size: 500 mL
Components: 1
Storage Condition: Refrig (0-5 °C)

Signal Word: None

Certified Reference Material

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER AR-1463
ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY AT-1339
ilac-MRA

Component		SRM #	Certified Concentration (µg/mL)
NO_2-N	Nitrite as Nitrogen	Ind. Std.	1000

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

The final solution was checked against an independent standard to verify its concentration.

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as ASTM Type I 18 megohm deionized water.

All glassware used in preparation is Class A and calibrated regularly.

All weights are traceable through NIST, Test No. 684/289871-17

All bottles are triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

Page 1 of 1

For use in routine laboratory analysis.

AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015

QR-ORG/INO-001
Rev. 5/18

1. **Quality Standards:**

   ISO 17034 – General Requirements for the Competence of Reference Material Producers ANAB Certificate Number AR-1463

   ISO/IEC 17025 – General Requirements for the Competence of Testing And Calibration Laboratories ANAB Certificate Number AT-1339

   ISO 9001:2015 – Quality Management System – Requirements Eagle Registrations Certificate Number 3774

2. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 7.

3. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards and calibrated using an in-house procedure. Good Laboratory Practices have been used throughout the preparation of this Standard.

4. **Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

5. **Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label

6. **Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_a = \sqrt{(u(\mathrm{V}))^2 + (u(\mathrm{m}))^2 + (u(\mathrm{IV}))^2 + (u(\mathrm{RO}))^2}$ This formula represents uncertainty components from the mass, volume, short-term stability, long-term stability and homogeneity factors associated with the production of this product. The expanded uncertainty, assumes a normal distribution and a coverage factor of k=2 is chosen using approximately a 95% confidence level.

7. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

Reagent

WETSICINO3_00019

125 Market Street
New Haven, CT 06513
USA

AccuStandard® Inc.

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

CERTIFICATE OF ANALYSIS

AccuTrace™ Reference Standard

Catalog No: IC-NO3-N-10X-5
Description: Anion Standard - Nitrate as Nitrogen
Element: Nitrate as Nitrogen (NO_3-N)
SRM: 3185
Lot: 218055125
Matrix: Water
Hazards: *Refer to SDS for complete safety information*

Signal Word: None

Date Certified: May 24, 2018
Expiration: Jun 24, 2020
Sample Size: 500 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Certified Reference Material

ANAB ACCREDITED PROGRAM REFERENCE MATERIAL PRODUCER AR-1463
ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY AT-1339
ilac-MRA

Component		SRM #	Prepared Concentration (µg/mL)
NO_3-N	Nitrate as Nitrogen	3185	1000

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by ion chromatography against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as ASTM Type I 18 megohm deionized water.

All solutions are filtered through a 0.2 µm filter prior to being bottled.

All glassware used in preparation is Class A and calibrated regularly.

All weights are traceable through NIST, Test No. 822-275872-11

All bottles are triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015

1. **Quality Standards:**

   ISO 17034 – General Requirements for the Competence of Reference Material Producers ANAB Certificate Number AR-1463

   ISO/IEC 17025 – General Requirements for the Competence of Testing And Calibration Laboratories ANAB Certificate Number AT-1339

   ISO 9001:2015 – Quality Management System – Requirements Eagle Registrations Certificate Number 3774

2. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 7.

3. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards and calibrated using an in-house procedure. Good Laboratory Practices have been used throughout the preparation of this CRM.

4. **Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

5. **Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label

6. **Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_a = \sqrt{(u(\mathrm{V}))^2 + (u(\mathrm{m}))^2 + (u(\mathrm{IV}))^2 + (u(\mathrm{RO}))^2}$ This formula represents uncertainty components from the mass, volume, short-term stability, long-term stability and homogeneity factors associated with the production of this product. The expanded uncertainty, assumes a normal distribution and a coverage factor of k=2 is chosen using approximately a 95% confidence level.

7. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

Reagent

WETSICISO4_00012

125 Market Street
New Haven, CT 06513
USA

AccuStandard® Inc.

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

CERTIFICATE OF ANALYSIS

AccuTrace™ Reference Standard

Catalog No: IC-SO4-10X-5
Description: Anion Standard - Sulfate
Element: Sulfate (SO_4)
SRM: 3181
Lot: 218085152
Matrix: Water
Hazards: *Refer to SDS for complete safety information*

Signal Word: None

Date Certified: Aug 29, 2018
Expiration: Sep 29, 2020
Sample Size: 500 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Included on ISO/IEC 17025 Scope of Accreditation: Yes

Included on ISO 17034 Scope of Accreditation: Yes

Component		SRM #	Prepared Concentration (µg/mL)
SO_4	Sulfate	3181	1000

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by ion chromatography against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as ASTM Type I 18 megohm deionized water.

All solutions are filtered through a 0.2 µm filter prior to being bottled.

All glassware used in preparation is Class A and calibrated regularly.

All weights are traceable through NIST, Test No. 822-275872-11

All bottles are triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015

QR-ORG/INO-001
Rev. 5/18

1. **Quality Standards:**

   ISO 17034 – General Requirements for the Competence of Reference Material Producers ANAB Certificate Number AR-1463

   ISO/IEC 17025 – General Requirements for the Competence of Testing And Calibration Laboratories ANAB Certificate Number AT-1339

   ISO 9001:2015 – Quality Management System – Requirements Eagle Registrations Certificate Number 3774

2. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 11.

3. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards and calibrated using an in-house procedure. Good Laboratory Practices have been used throughout the preparation of this CRM.

4. **Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

5. **Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label.

6. **Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_m = \sqrt{(u(\mathrm{P}))^2 + (u(\mathrm{m}))^2 + (u(\mathrm{V}))^2}$ The expanded uncertainty, U_{CRM} assumes a normal distribution and a coverage factor of k=2 is chosen using approximately a 95% confidence level.

7. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

Reagent

WETSMETBSU_00024

Aqua Solutions, Inc.
6913 Highway 225
Deer Park, TX, 77536
281/479-2569

Certificate of Analysis / QC Results

Customer: FIS010 / FISHER SCIENTIFIC*

Packaged Product: 5810-100ML
METHYLENE BLUE SOLUTION II (100ML)

Lot # 8101846

Chemical Product: 5810
METHYLENE BLUE SOLUTION II

Test	Target/UOM	Range	Result
PREPARED TO FORMULATION ON FILE	YES		YES
APPEARANCE AND COLOR	DARK BLUE LIQUID APPEARANCE		PASS
INSTRUMENTS USED DURING PREPARATION	LAB EQUIPMENT INSTRUMENT		M53,EF500-4
GPL METHYLENE BLUE	0.1000 GPL	0.0995 - 0.1005	0.1008

Made 10/18/18

This is to certify that the product listed above has been prepared according to the agreed upon formulation. The solutions producer has a Quality Management System which governs each step of the manufacturing process to insure the production of a consistent product. Traceability from the producer's lot numbers to the original manufacturer's lot number is maintained. Certificates of Analysis for the raw materials used to prepare this product are available upon request.

The weights and/or volumes used to prepare this product are N.I.S.T. Traceable. All balances used in the preparation of product are calibrated daily against N.I.S.T. Traceable weights. The balances are maintained and serviced on a regular basis by an outside certified company. All volumetric glassware used is N.I.S.T. Traceable and certified as meeting Class A specifications.

Unless otherwise agreed to, all chemicals used in the preparation of this product are Reagent ACS grade.

Aqua Solutions' Quality System has been found to conform to Quality Management System Standard ISO9001:2015 by DNV Certificate Number 51119-2009-AQ-USA-ANAB.

Quality Manager
Aqua Solutions, Inc.

2979523
ID: WETSMETBSU_00024
Desc: METHYLENE BLUE SLN (CAL) FOR SULFIDES
Exp: 10/30/2019 Prpd/Rcvd: 10/31/2018
Sol: Prpd: danielk Op: 10/31/2018
METHYLENE BLUE SLN (CAL) FOR SULFIDES

2979522
ID: WETSMETBSU_00024
Desc: METHYLENE BLUE SLN (CAL) FOR SULFIDES
Exp: 10/30/2019 Prpd/Rcvd: 10/31/2018
Sol: Prpd: danielk Op: 10/31/2018
METHYLENE BLUE SLN (CAL) FOR SULFIDES

Reagent

WETSNH3ICV_00028

LabChem
performance through chemistry
Jackson's Pointe Commerce Park - Building 1000
1010 Jackson's Pointe Court, Zelienople, PA 16063
Ph: 412-826-5230 | Fax: 724-473-0647 | www.labchem.com

CERTIFICATE OF ANALYSIS

Description: AMMONIA (as NITROGEN) STANDARD, 1000ppm (1mL = 1mg N)

Mfg. Date: 10/07/2019

Catalog Number: LC17940

Exp. Date: 10/07/2021

Lot Number: J277-05

ANALYTICAL SECTION

Test	Specification	Test Result
Appearance	clear, colorless solution	Pass Test
Concentration ppm N	1000ppm +/- 10ppm	1000 ppm
Concentration mg N/mL	1.000 +/- 0.010 mg N/mL	1.000 mg N/mL
Traceable to NIST	Potassium Chloride	999b

Intended Use - Product is intended for use in manufacturing procedures and laboratory procedures and protocols.

Storage Information - Unless otherwise noted on the product label, store the product under normal lab conditions in its tightly closed, original container. Do not pipet directly from the container or return unused portions to the container.

Instructions for Handling and Use - Please refer to the associated product label and Safety Data Sheet (SDS) for information regarding safety and handling of this product.

Preparation - All products are manufactured and tested according to established, documented procedures and methodology. Production documentation records manufacturing data, raw material traceability and testing history on a per lot basis. Balances, thermometers, and glassware are calibrated before first use and on a regular schedule with references traceable to NIST standards.

Submitted by: Greg Albright, Chemist Supervisor

Greg Albright

An ISO9001:2008 certified company. Registration # 0306-01 10/18/2019 1:54 PM

Form #17.13 07/28/2016

Reagent

WETSPHOSCS_00031

RICCA CHEMICAL COMPANY®

1841 Broad Street
Pocomoke City, MD 21851
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

Certificate of Analysis

Phosphate Phosphorus Standard, 50 ppm P (153 ppm PO_4^{3-})

Lot Number: 2905C63 **Product Number:** 5830

Manufacture Date: MAY 20, 2019
Expiration Date: MAY 2020

Use purified water to make dilutions of this standard.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Potassium Dihydrogen Phosphate	7778-77-0	High Purity

Test	Specification	Result	NIST SRM#
Appearance	Colorless liquid	Passed	
Phosphorus (P)	49.75-50.25 ppm	50.00 ppm	3139

Specification	Reference
Stock Solution (1.0 mL = 0.05 mg Phosphorus)	ASTM (D 515 A)
Standard Phosphate Solution	APHA (4500-P C)
Standard Phosphate Solution	APHA (4500-P D)
Stock Phosphate Solution	APHA (4500-P E)
Stock Phosphorus Solution, 1 mL = 0.05 mg P	EPA (365.2)

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
5830-16	500 mL natural poly	12 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

Tara Jones

Tara Jones (05/20/2019)
Quality Control Supervisor
This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

This test report shall not be reproduced, except in full, without the written approval of Ricca Chemical Company.

Reagent

WETSTOCICV_00037

Reagent

LLHG-cal_00007

7221 Investment Drive • North Charleston, SC 29418
843.767.7900 • info@highpuritystandards.com • www.highpuritystandards.com

Certificate of Analysis

Certified Reference Material

ISO Guide 34:2009 (RMP) Accreditation
Certificate Number AR-1436

ISO/IEC 17025:2005 Accreditation
Certificate Number AT-1529

Product Description:

Mercury

Product Number:	**10 33-2**
Lot Number:	**1831020**
Matrix:	2% (v/v) HCl

Certified Value:

Element	(µg/mL)	SRM ID	SRM Lot#
Hg	10.0 ± 0.2	3177	090925

The Certified value is based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor *k* is about 2.
* Refer to Traceability Information, Section d

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned glass bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for twelve months from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date: **January 2019**

Certificate Issue Date: January 10, 2019

Moven Mututuvari

Moven Mututuvari, Ph. D, Laboratory Manager

Preparation Information:

This standard is prepared using **99.9995%** pure **mercury chloride** which was purchased from a qualified vendor per ISO 9001 guidelines and assayed by analytical methods for conformity prior to use. This standard was manufactured under appropriate laboratory conditions using the methods developed at NIST for SRM Spectrometric Standard Solutions. Sub-boiling distilled high-purity acid has been used to place the materials in solution and to stabilize the standard. The matrix is as noted above in 18 megaohm deionized water.

Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. This testing includes, but is not limited to, the effect of temperature and packaging on the product. If during the period of validity, a recall is instituted due to substantial changes in the stability of this product, the purchaser will be notified.

Homogeneity:

This product is determined to be homogeneous following in-house procedures developed in accordance with the requirements of ISO Guide 34 and ISO Guide 35.

Intended Use:

This product is intended for use as a calibration standard, quality control standard, and/or for the validation of analytical methods. The standard is confirmed homogeneous; therefore, the minimum sample size should be consistent with the end user's measurement capabilities.

Traceability Information:

The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties. The maintenance of the base and derived units of International System of Units (SI) with traceability of measurement results (contemporary metrology) to SI ensures their comparability over time as follows.

a. **Standard Weight and Analytical Balance**
   The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in "NIST Weights and Measures Measurement Assurance Program" with a certificate of measurement traceability to NIST primary standards.
   The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.
b. **Volumetric Device**
   The calibrations of volumetric vessels are verified using the ASTM method E542.
c. **Thermometer**
   The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.
d. **Calibration Standards**
   The Calibration Standard is traceable to SRM 3100 Series Spectrometric Standard Solutions. If an SRM is not available, a second source standard or independent lot is used.

Refer to Safety Datasheet (SDS) for hazardous information.

NOTICE: HPS products are intended for laboratory use only. All products should be handled and used by trained professional personnel. The responsibility for the safe handling and use of these products rests solely with the buyer and/or user. The data and information as stated was furnished by the manufacturer of the product. The information provided in this certificate pertains only to the lot number specified. None of the information provided in this certificate may be used, reproduced or transmitted in any form or by any means without written approval from High-Purity Standards.

Reagent

LLHG-cal_00008

Received 05/24/19 DTN

Elemental Scientific

Evolution of Automation
ICP | ICPMS | AA

Certificate of Analysis

Product Description: **Mercury**

Product Number: **S1-Hg-10xVol**

Lot Number: **1910030**

Matrix: 5% (v/v) HNO_3

Certified Value:

Element	(µg/mL)	SRM ID	SRM Lot#
Mercury	10.0 ± 0.2	3133	061204

The Certified value is based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor *k* is about 2.

* Refer to Traceability Information, Section d

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for twelve months from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date: **May 2019**

Certificate Issue Date: **May 14, 2019**

Chris Ramsgard, Product Manager Standard Solutions

7277 World Communications Dr. | Omaha, NE 68122 USA | Phone: +1.402.991.7800 | Fax: +1.402.991.7799
Email: esi@icpms.com | Web: www.icpms.com

Preparation Information:

This standard was prepared using **99.9995%** pure **mercury metal** which was purchased from a qualified vendor per ISO 9001 guidelines and assayed by analytical methods for conformity prior to use. This standard was manufactured under appropriate laboratory conditions using the methods developed at NIST for SRM Spectrometric Standard Solutions. Sub-boiling distilled high-purity acid has been used to place the materials in solution and to stabilize the standard. The matrix is as noted above in 18 megaohm deionized water.

Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. This testing includes, but is not limited to, the effect of temperature and packaging on the product.

Intended Use:

This product is intended for use as a calibration standard, quality control standard, and/or for the validation of analytical methods. The standard is confirmed homogeneous; therefore, the minimum sample size should be consistent with the end user's measurement capabilities.

Traceability Information:

The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties. The maintenance of the base and derived units of International System of Units (SI) with traceability of measurement results (contemporary metrology) to SI ensures their comparability over time as follows.

a. **Standard Weight and Analytical Balance**
   The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in "NIST Weights and Measures Measurement Assurance Program" with a certificate of measurement traceability to NIST primary standards.
   The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.
b. **Volumetric Device**
   The calibrations of volumetric vessels are verified using the ASTM method E542.
c. **Thermometer**
   The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.
d. **Calibration Standards:**
   The Calibration Standard is traceable to SRM 3100 Series Spectrometric Standard Solutions. If an SRM is not available, a second source standard or independent lot is used.

Accreditation:

This product has been manufactured by an ISO 9001 registered and ISO/IEC 17025 and ISO 17034 accredited laboratory.

Refer to Safety Datasheet (SDS) for hazardous information.

NOTICE: HPS products are intended for laboratory use only. All products should be handled and used by trained professional personnel. The responsibility for the safe handling and use of these products rests solely with the buyer and/or user. The data and information as stated was furnished by the manufacturer of the product. The information provided in this certificate pertains only to the lot number specified. None of the information provided in this certificate may be used, reproduced or transmitted in any form or by any means without written approval from High-Purity Standards.

Reagent

HRDXNCP_00039

received 8/30/19 KSS

(pg 1/6)

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

PCDD/PCDF Window Defining and Isomer Specificity Mix (DB-5)

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number:	EDF-4147
Solution Lot:	ER03111502
Expiration Date:	March 2025
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/ analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies.
- Ampules are overfilled to ensure a minimum 1 2 mL volume We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

March 24, 2015
Date

Component	Chromatographic Purity	Concentration
1,3,6,8-Tetrachlorodibenzo-p-dioxin	99.9%	200.3 ± 2.0 ng/mL
1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin	99.8%	200.6 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzo-p-dioxin	99.2%	200.3 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	98.9%	200.1 ± 2.0 ng/mL
1,2,3,9-Tetrachlorodibenzo-p-dioxin	99.6%	199.9 ± 2.0 ng/mL
1,2,8,9-Tetrachlorodibenzo-p-dioxin	99.2%	200.2 ± 2.0 ng/mL
1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin	98.9%	200.6 ± 2.0 ng/mL
1,2,3,8,9-Pentachlorodibenzo-p-dioxin	99.0%	200.1 ± 2.0 ng/mL
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin	98.7%	200.2 ± 2.0 ng/mL
1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin	99.0%	200.5 ± 2.0 ng/mL
1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin	98.9%	200.1 ± 2.0 ng/mL
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	99.8%	200.3 ± 2.0 ng/mL
1,3,6,8-Tetrachlorodibenzofuran	98.5%	200.1 ± 2.0 ng/mL
1,2,3,9-Tetrachlorodibenzofuran	98.2%	200.4 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzofuran	99.4%	200.0 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	99.2%	200.5 ± 2.0 ng/mL
2,3,4,7-Tetrachlorodibenzofuran	98.7%	200.2 ± 2.0 ng/mL
1,2,8,9-Tetrachlorodibenzofuran	99.3%	199.9 ± 2.0 ng/mL
1,3,4,6,8-Pentachlorodibenzofuran	99.5%	200.6 ± 2.0 ng/mL
1,2,3,8,9-Pentachlorodibenzofuran	99.0%	200.5 ± 2.0 ng/mL
1,2,3,4,6,8-Hexachlorodibenzofuran	98.6%	200.5 ± 2.0 ng/mL
1,2,3,4,8,9-Hexachlorodibenzofuran	99.7%	200.5 ± 2.0 ng/mL
1,2,3,4,6,7,8-Heptachlorodibenzofuran	98.9%	200.6 ± 2.0 ng/mL
1,2,3,4,7,8,9-Heptachlorodibenzofuran	99.1%	200.1 ± 2.0 ng/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Stock solution concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.

Standard Solution Assay Parameters

Analysis Method:	GC/MS
Column:	DB-5ms 30 m x 0.25 mm ID, 0.25 µm film thickness
Temp Program:	140°C to 200°C at 40°C/min 200°C to 300°C at 4°C/min
Injector Temp:	Cool-on-Column
Detector Temp:	280°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	1

Solution Standard Verification and Homogeneity

Compound	Verified Concentration ng/mL	Verified Concentration Acceptance Criteria	%RSD - Homogeneity %	%RSD - Homogeneity Acceptance Criteria
1,3,6,8-Tetrachlorodibenzo-p-dioxin	200 4	± 10%	1 6	≤ 5%
1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin/ 2,3,7,8-Tetrachlorodibenzo-p-dioxin/ 1,2,3,9-Tetrachlorodibenzo-p-dioxin [1]	591.2	± 10%	1 6	≤ 5%
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	196 8	± 10%	2 7	≤ 5%
1,2,8,9-Tetrachlorodibenzo-p-dioxin	197 2	± 10%	2 8	≤ 5%
1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin	194 6	± 10%	2 8	≤ 5%
1,2,3,8,9-Pentachlorodibenzo-p-dioxin	194 7	± 10%	2 3	≤ 5%
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin	195 3	± 10%	1 7	≤ 5%
1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin	192.6	± 10%	2 3	≤ 5%
1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin	191.2	± 10%	2 5	≤ 5%
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	196 7	± 10%	2 1	≤ 5%
1,3,6,8-Tetrachlorodibenzofuran	202 3	± 10%	2 1	≤ 5%
1,2,3,9-Tetrachlorodibenzofuran	194 4	± 10%	2 4	≤ 5%
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	198 0	± 10%	3.3	≤ 5%
2,3,4,7-Tetrachlorodibenzofuran/ 2,3,7,8-Tetrachlorodibenzofuran [1]	399.3	± 10%	2.4	≤ 5%
1,2,8,9-Tetrachlorodibenzofuran	198 9	± 10%	2.9	≤ 5%
1,3,4,6,8-Pentachlorodibenzofuran	195 0	± 10%	2.1	≤ 5%
1,2,3,8,9-Pentachlorodibenzofuran	199.6	± 10%	2.1	≤ 5%
1,2,3,4,6,8-Hexachlorodibenzofuran	195.5	± 10%	2.4	≤ 5%
1,2,3,4,8,9-Hexachlorodibenzofuran	196.4	± 10%	1.8	≤ 5%
1,2,3,4,6,7,8-Heptachlorodibenzofuran	197.4	± 10%	2.9	≤ 5%
1,2,3,4,7,8,9-Heptachlorodibenzofuran	195.3	± 10%	2.1	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The %RSD of samples pulled from across the lot demonstrate homogeneity.
- Product is compared to prior lot and meets acceptance criteria of ± 10%.

[1] Compounds co-elute. Concentration is the sum of both or all analytes.

Neat Material Data

Compound	Lot Number	CAS Number	Chemical Formula	Molecular Weight	Chromatographic Purity
1,3,6,8-Tetrachlorodibenzo-p-dioxin	ER040811-02	33423-92-6	$C_{12}H_4Cl_4O_2$	321.97	99.9%
1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin	ER021510-01	NA	$C_{12}H_4Cl_4O_2$	321.97	99.8%
2,3,7,8-Tetrachlorodibenzo-p-dioxin	ER061009-02	1746-01-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	ER01031401	76523-40-5	$^{13}C_{12}H_4Cl_4O_2$	333.84	98.9%
1,2,3,9-Tetrachlorodibenzo-p-dioxin	ER0529401	71669-26-6	$C_{12}H_4Cl_4O_2$	321.97	99.6%
1,2,8,9-Tetrachlorodibenzo-p-dioxin	ER11201301	62470-54-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%
1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin	ER11051302	NA	$C_{12}H_3Cl_5O_2$	356.42	98.9%
1,2,3,8,9-Pentachlorodibenzo-p-dioxin	ER05161401	NA	$C_{12}H_3Cl_5O_2$	356.42	99.0%
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin	ER08101402	NA	$C_{12}H_2Cl_6O_2$	390.86	98.7%
1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin	ER030107-01	NA	$C_{12}H_2Cl_6O_2$	390.86	99.0%
1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin	ER01201502	58200-70-7	$C_{12}HCl_7O_2$	425.31	98.9%
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	ER100207-02	35822-46-9	$C_{12}HCl_7O_2$	425.31	99.8%
1,3,6,8-Tetrachlorodibenzofuran	ER021808-01	71998-72-6	$C_{12}H_4Cl_4O$	305.98	98.5%
1,2,3,9-Tetrachlorodibenzofuran	ER071107-01	NA	$C_{12}H_4Cl_4O$	305.98	98.2%
2,3,7,8-Tetrachlorodibenzofuran	ER101211-02	51207-31-9	$C_{12}H_4Cl_4O$	305.98	99.4%
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	ER12101304	89059-46-1	$^{13}C_{12}H_4Cl_4O$	317.88	99.2%
2,3,4,7-Tetrachlorodibenzofuran	ER052307-01	NA	$C_{12}H_4Cl_4O$	305.98	98.7%
1,2,8,9-Tetrachlorodibenzofuran	ER041508-03	NA	$C_{12}H_4Cl_4O$	305.98	99.3%
1,3,4,6,8-Pentachlorodibenzofuran	ER04231401	NA	$C_{12}H_3Cl_5O$	340.42	99.5%
1,2,3,8,9-Pentachlorodibenzofuran	ER12101303	NA	$C_{12}H_3Cl_5O$	340.42	99.0%
1,2,3,4,6,8-Hexachlorodibenzofuran	ER04231402	NA	$C_{12}H_2Cl_6O$	374.86	98.6%
1,2,3,4,8,9-Hexachlorodibenzofuran	ER12091401	92341-07-6	$C_{12}H_2Cl_6O$	374.86	99.7%
1,2,3,4,6,7,8-Heptachlorodibenzofuran	ER02281403	67562-39-4	$C_{12}HCl_7O$	409.31	98.9%
1,2,3,4,7,8,9-Heptachlorodibenzofuran	ER01121503	55673-89-7	$C_{12}HCl_7O$	409.31	99.1%

Product Analysis

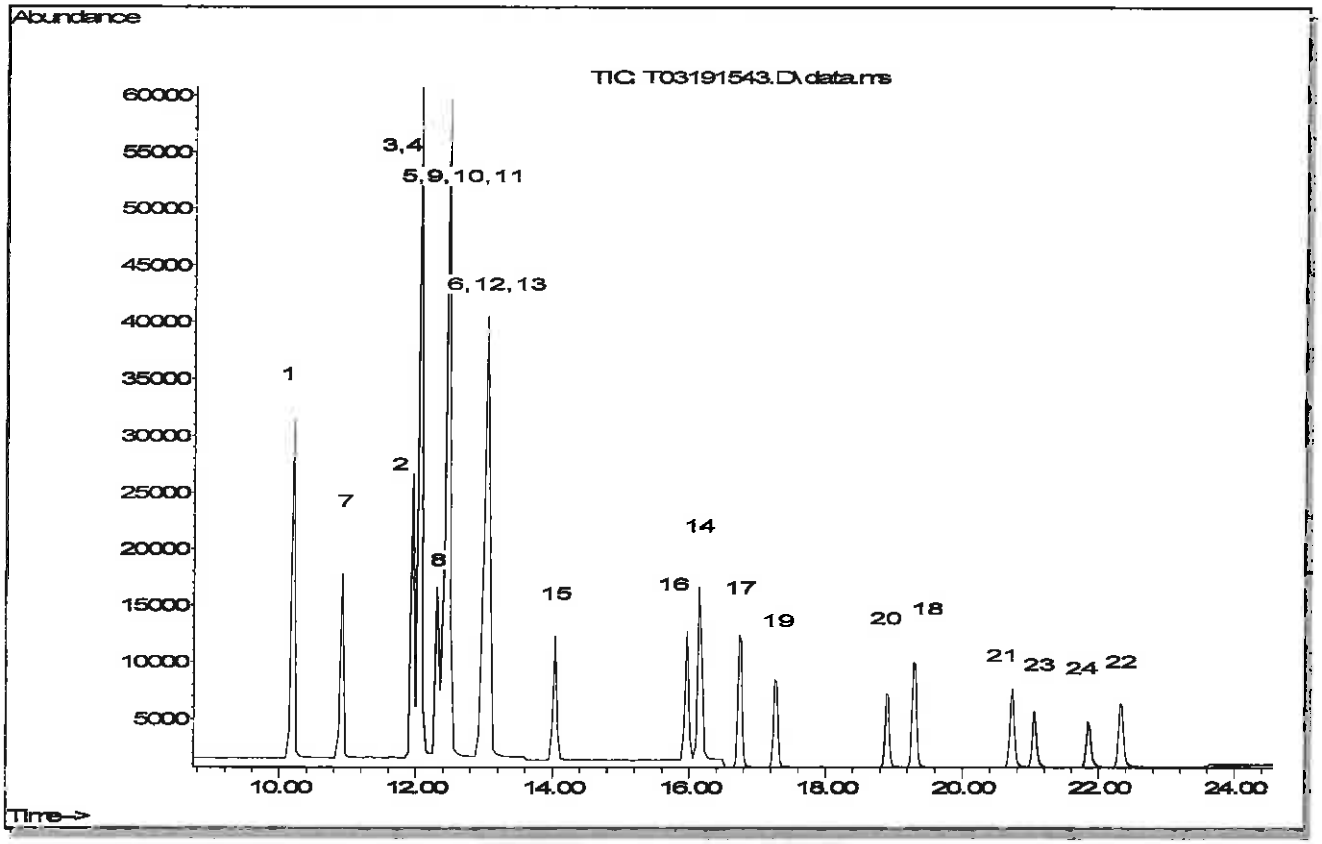

1 1,3,6,8-Tetrachlorodibenzofuran
2 2,3,4,7-Tetrachlorodibenzofuran
3 2,3,7,8-Tetrachlorodibenzofuran
4 2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$
5 1,2,3,9-Tetrachlorodibenzofuran
6 1,2,8,9-Tetrachlorodibenzofuran
7 1,3,6,8-Tetrachlorodibenzo-p-dioxin
8 1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin
9 1,2,3,9-Tetrachlorodibenzo-p-dioxin
10 2,3,7,8-Tetrachlorodibenzo-p-dioxin
11 2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$
12 1,2,8,9-Tetrachlorodibenzo-p-dioxin
13 1,3,4,6,8-Pentachlorodibenzofuran
14 1,2,3,8,9-Pentachlorodibenzofuran
15 1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin
16 1,2,3,8,9-Pentachlorodibenzo-p-dioxin
17 1,2,3,4,6,8-Hexachlorodibenzofuran
18 1,2,3,4,8,9-Hexachlorodibenzofuran
19 1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin
20 1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin
21 1,2,3,4,6,7,8-Heptachlorodibenzofuran
22 1,2,3,4,7,8,9-Heptachlorodibenzofuran
23 1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin
24 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin

COA Revision History

Revision No.	Date	Reason for Revision
00	March 24, 2015	Initial version

Reagent

HRDXNIDA_00075

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-$^{13}C_{12}$

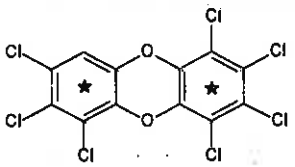

Catalog Number:	ED-972
Solution Lot:	ER111010-01
Expiration Date:	November 2020
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature Do not store cold
Intended Use:	For laboratory use only Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-$^{13}C_{12}$	98.9%	50.03 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER111010-01	50.5	± 5%	0.5	≤ 3%
Previous Lot	ER011807-01	47.4	± 5%	1.8	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

January 15, 2016
Date

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}HO_2Cl_7$
Compound Lot:	ER100110-01	**CAS Number:**	NA
		Molecular Weight:	437.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.9%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.10% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		98.91%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

Spectral and Physical Data

GC/FID

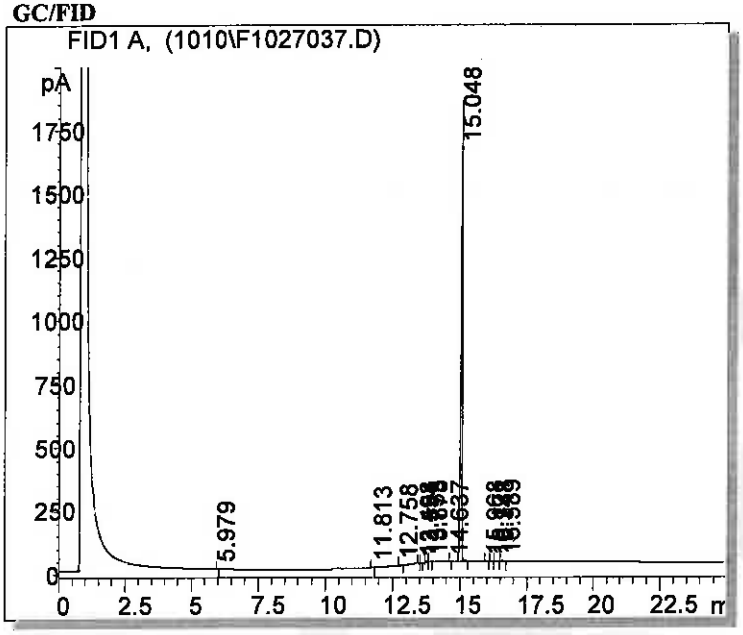

Column:	DB-5ms, 30m x 0.53mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-column
Detector Temp:	325°C
Data File Name:	S:\GC\GC6\2010\1010\F1027037.D
Instrument:	GC#6
Sample Name:	ER100110-01
Acquired:	October 28, 2010

Peak #	Ret Time	Area	Height	Area %
1	5.98	0.34	0.18	0.00
2	11.81	1.00	0.08	0.01
3	12.76	10.96	2.89	0.16
4	13.50	1.19	0.32	0.02
5	13.55	2.63	0.80	0.04
6	13.75	13.39	3.28	0.19
7	13.88	7.04	1.81	0.10
8	14.64	0.86	0.28	0.01
9	15.05	6900.70	1812.09	98.81
10	15.97	3.15	0.73	0.05
11	16.17	2.25	0.55	0.03
12	16.35	5.12	1.10	0.07
13	16.59	18.93	4.26	0.27
14	26.99	15.17	0.35	0.22
15	35.58	0.06	0.21	0.00
16	41.80	0.77	0.13	0.01

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-13C
Lab Number : [illegible]
Instrument : Agilent 5973N MSD/5890 GC
Operator-Inst ID : [illegible] - 010106
Date Reported : Wed Oct 27 [illegible] 2010
Column Type : [illegible], 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 300°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 290°C

Scan Range : 50-550

Total Ion Chromatogram

Mass Spectrum

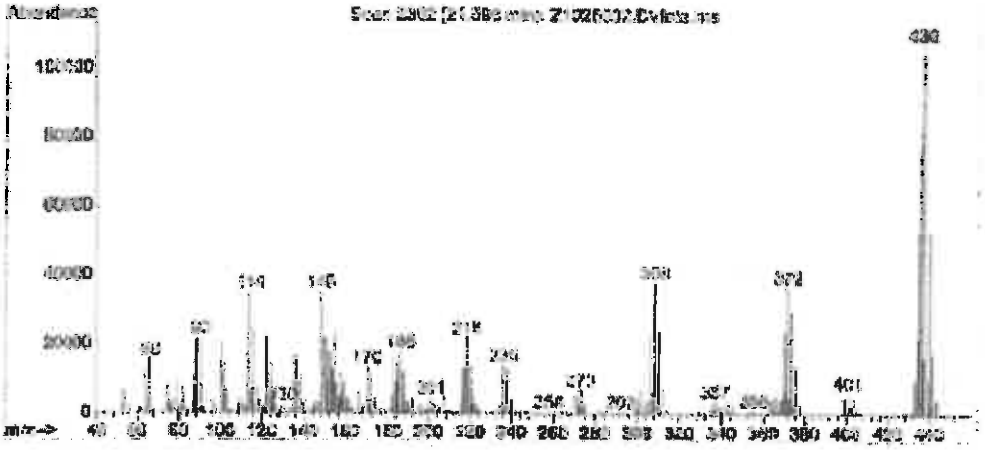

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

COA Revision History

Revision No.	Date	Reason for Revision
00	November 24, 2010	Initial version
01	January 15, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

Reagent

HRDXNIDA_00247

Recd 8-17-16

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Analytical Reference Standards
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CIL

Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$

HpCDF

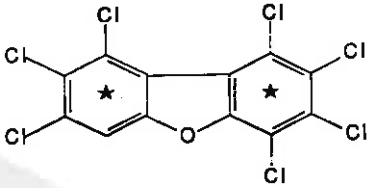

Catalog Number: EF-988
Solution Lot: ER04251601
Expiration Date: March 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	99.1%	49.99 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Acceptance Criteria	%RSD - Homogeneity Actual Results	Acceptance Criteria
New Lot	ER04251601	49.11	± 5%	0.2	≤ 3%
Previous Lot	ER053107-02	50.58	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

June 21, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}HCl_7O$
Compound Lot:	ER04041602	**CAS Number:**	109719-94-0
		Molecular Weight:	421.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.1%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS SIM	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.16% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.10%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data (cont.)

GC/FID

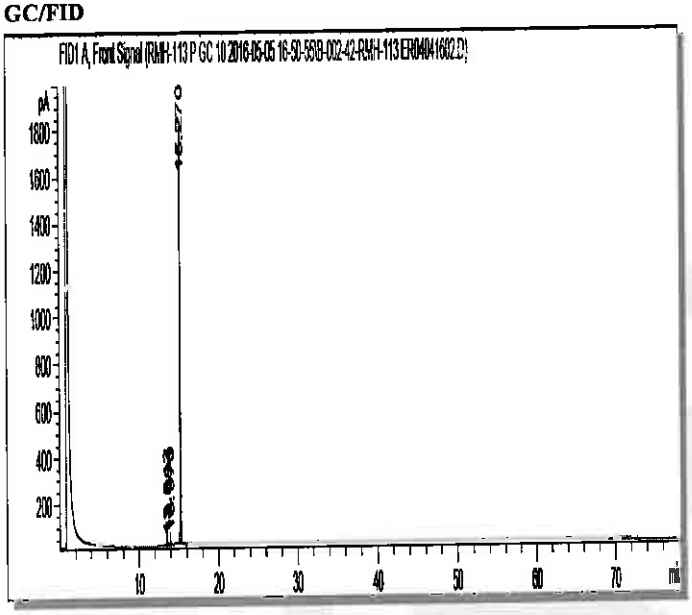

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Data File Name:	RMH-113 P GC 10 2016-05-05 16-50-55\B-002-42.D
Instrument:	GC#10
Sample Name:	ER04041602
Acquired:	May 05, 2016

Peak #	Ret Time	Area	Height	Area %
1	13.51	8.76	2.52	0.12
2	13.68	17.42	7.45	0.24
3	13.97	39.65	15.48	0.54
4	15.27	7226.95	1798.33	99.10

Spectral and Physical Data (cont.)

GC/MS

```
Compound Name          : 1,2,3,4,7,8,9-Heptachlorodibenzofuran-13C12
Lot Number             : ER04041602
Instrument             : Agilent GCMS
Operator               : ECM(SGIUFFRE)
Date Reported          : Wed May 04 15:34:28 2016
Column Type            : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program          : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.         : Cool on-column
Carrier Gas            : Helium
Flow Rate (mL\min)     : 0.80 mL/min
Transfer Line Temp.    : 280°C
Scan Range             : 50-550
```

Total Ion Chromatogram

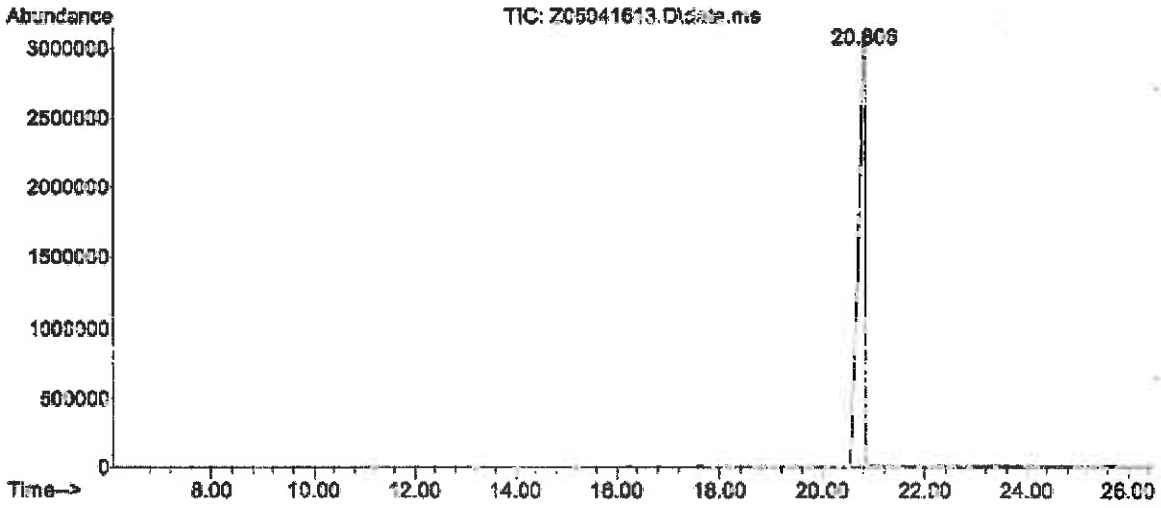

Mass Spectrum

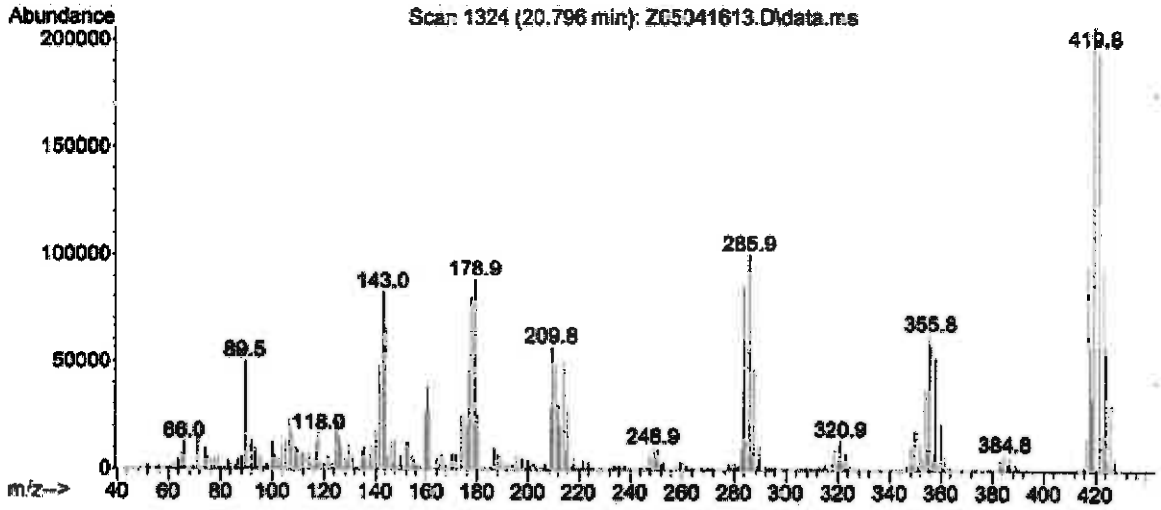

COA Revision History

Revision No.	Date	Reason for Revision
00	June 21, 2016	Initial version

Reagent

HRDXNIDA_00297

r: 9/28/17 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

1042065
ID: HRDXNIDA_00297
Exp: 01/31/27 Prpd: SKV
13C-2,3,4,7,8-PeCDF [50ug

CIL

Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$

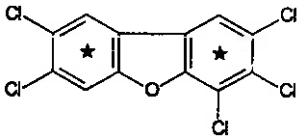

Catalog Number: EF-958
Solution Lot: ER01061701
Expiration Date: January 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	97.9%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s); measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER01061701	50.51	± 5%	0.1	≤ 3%
Previous Lot	ER11041601	49.56	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

January 27, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3Cl_5O$
Compound Lot:	ER11101601	**CAS Number:**	116843-02-8
		Molecular Weight:	352.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0102	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.02% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 0.5%
Mass Balance Purity Factor		98.33%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

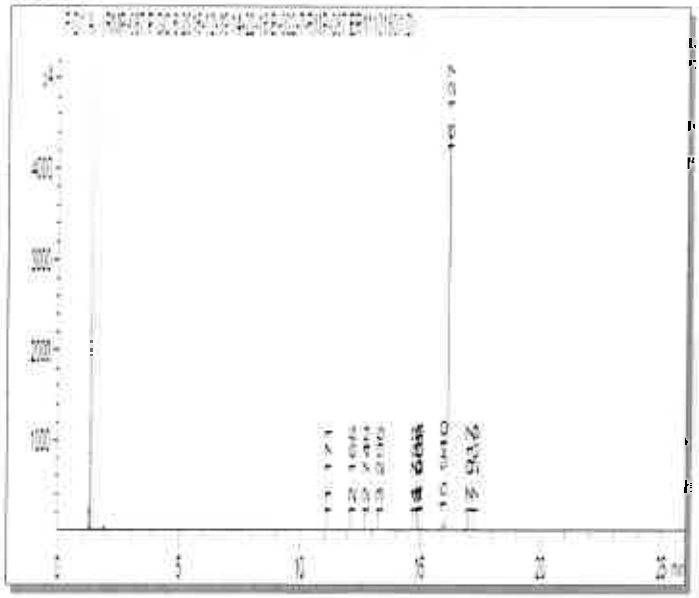

Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 100°C to 300°C at 15°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: RMP-087 P GC 6 2016-12-19 14-22-16\B-002-7.D
Instrument: GC#6
Sample Name: ER11101601
Acquired: December 19, 2016

Peak #	Ret Time	Area	Height	Area %
1	11.17	0.94	0.40	0.01
2	12.17	1.30	0.39	0.01
3	12.75	0.47	0.20	0.00
4	13.30	0.90	0.35	0.01
5	14.75	1.70	0.87	0.02
6	14.91	1.09	0.56	0.01
7	14.97	32.24	17.54	0.29
8	15.94	124.38	64.36	1.13
9	16.13	10866.60	4688.80	98.41
10	17.02	6.31	2.46	0.06
11	17.27	6.76	2.34	0.06

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 2,3,4,7,8-Pentachlorodibenzofuran-13C12
Lot Number	: ER11101601
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRS)
Date Reported	: Tue Dec 20 12:19:55 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.50 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

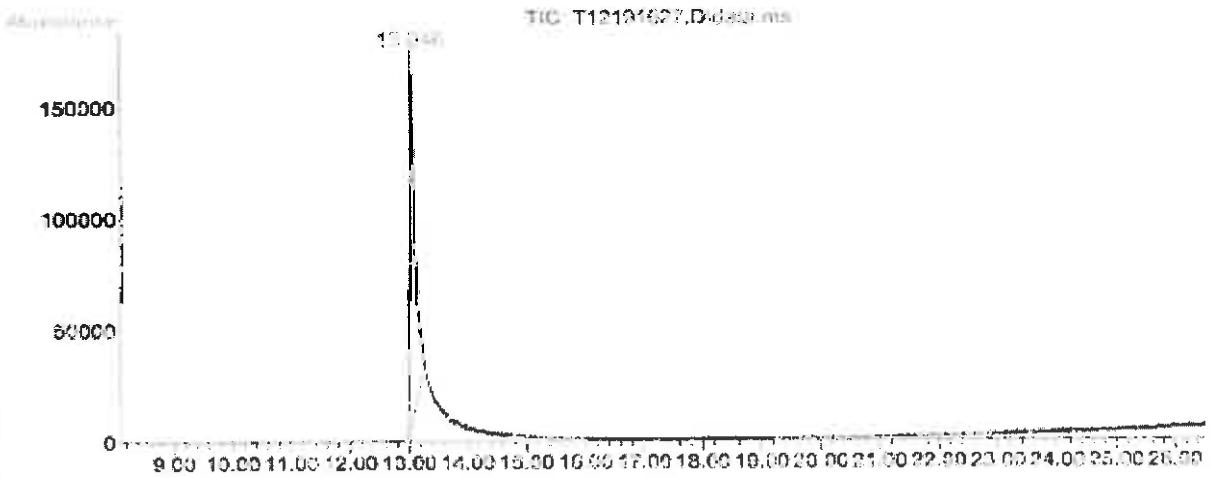

Mass Spectrum

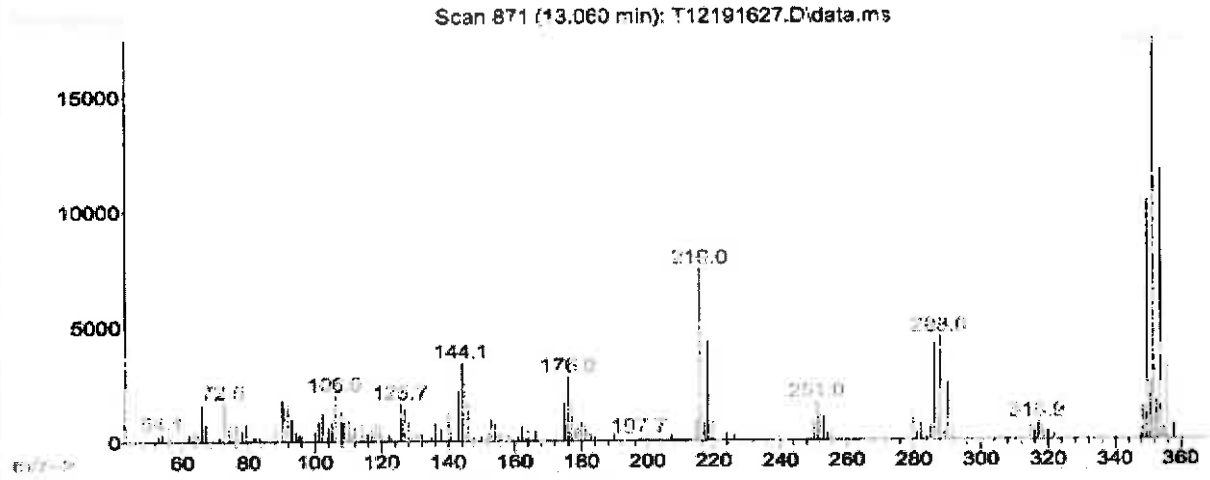

Reagent

HRDXNIDA_00301

n: 9/20/17 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

1042073
ID: HRDXNIDA_00301
Exp: 10/31/21 Prpd: SKV
13C-1,2,3,4,7,8-HxCDD [50

CIL

Certificate of Analysis

Certificate Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 9001
GMP/GLP

1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

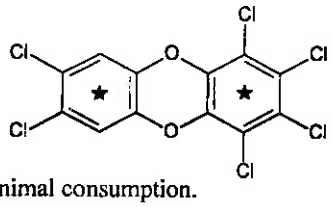

Catalog Number: ED-946
Solution Lot: ER102711-01
Expiration Date: October 2021
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.0%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER102711-01	48.2	± 5%	0.2	≤ 3%
Previous Lot	ER012208-01	49.6	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS ACCREDITED
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

September 17, 2015
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O_2$
Compound Lot:	ER011008-01	**CAS Number:**	109719-80-4
		Molecular Weight:	402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.2%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.08% $^{13}C_0$ vs $^{13}C_{12}$
		0.19% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.19%

- Chromatographic purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

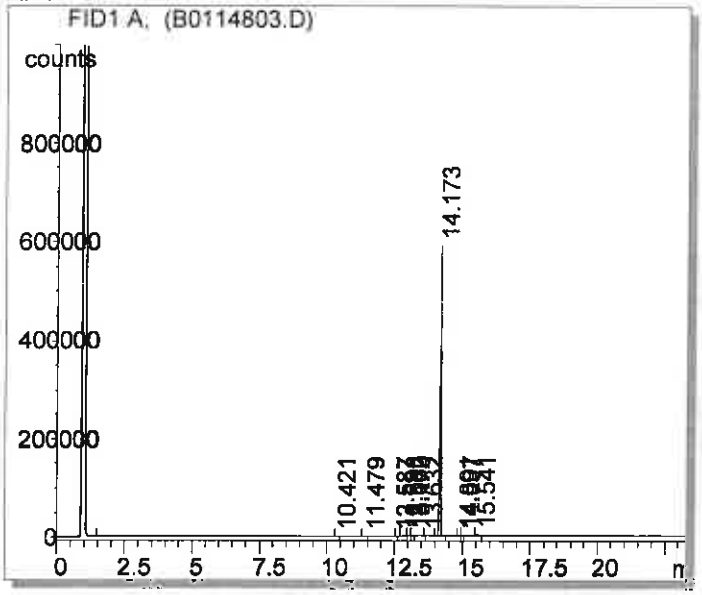

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0114803.D
Instrument:	GC#2
Sample Name:	ER011008-01
Acquired:	January 14, 2008

Peak #	Ret Time	Area	Height	Area %
1	10.42	287.44	132.33	0.02
2	11.48	242.24	92.03	0.01
3	12.59	389.12	196.33	0.02
4	12.90	3015.36	1199.07	0.17
5	13.06	2243.36	788.13	0.13
6	13.17	2243.90	754.45	0.13
7	13.63	2349.03	134.07	0.02
8	14.17	427.02	588610.00	99.20
9	14.89	1731980.00	110.79	0.03
10	15.00	512.26	86.41	0.02
11	15.54	4077.63	1008.44	0.23

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

Compound Name : 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-13C12
Lot Number : [illegible]-01
Instrument : Agilent 5973N MSD/6890N GC
Operator-Inst ID : REC - C1010E
Date Reported : Wed Jan 16 11:15:58 2008
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 300°C@6°C/min (5 min)
Injection Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 280°C

Scan Range : 50-550

Total Ion Chromatogram

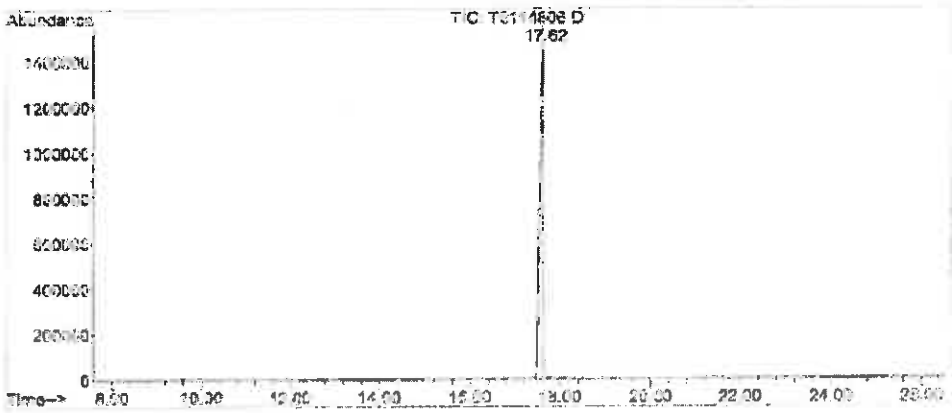

Mass Spectrum

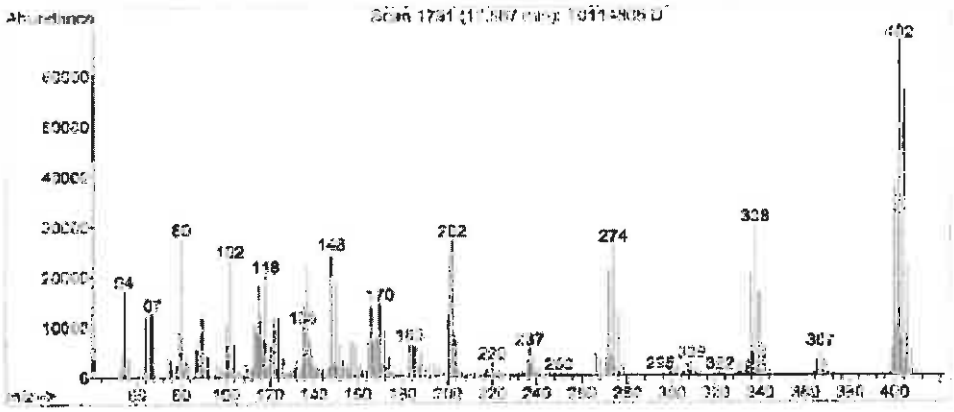

COA Revision History

Revision No.	Date	Reason for Revision
00	November 12, 2011	Initial version
01	September 17, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet"

Reagent

HRDXNIDA_00302

r: 9/20/17 SKV

1042074
ID: HRDXNIDA_00302
Exp: 07/31/20 Prpd: SKV
13C-1,2,3,4,7,8-HxCDF [50

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CIL

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

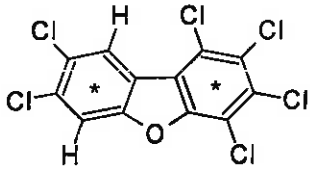

Catalog Number:	EF-963
Solution Lot:	ER072810-02
Expiration Date:	July 2020
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Protect from air and light, store at room temperature. Do not store cold.
Intended Use:	For laboratory use only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration.

Component	Chromatographic Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.6%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Acceptance Criteria	%RSD - Homogeneity Actual Results	Acceptance Criteria
New Lot	ER072810-02	47.4	± 5%	0.3	≤ 3%
Previous Lot	LR011907-01	46.6	—	1.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

November 15, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$
Compound Lot:	35135-45

Chemical Formula:	$^{13}C_{12}H_2OCl_6$
CAS Number:	114423-98-2
Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.6%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% C_0 vs C_{12}
		0.13% C_6 vs C_{12}
Purity Factor		99.57%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

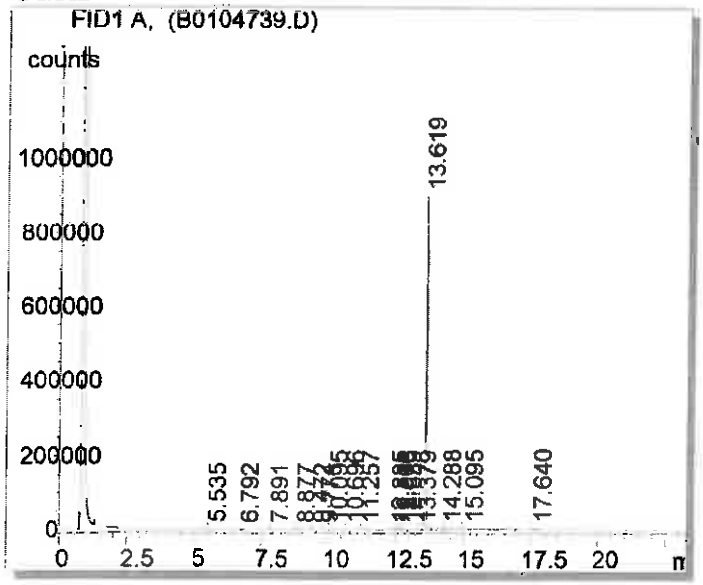

Column:	DB-5ms, 30m x 0.53mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0104739.D
Instrument:	GC#2
Sample Name:	35135-45
Acquired:	January 05, 2007

Peak #	Ret Time	Area	Height	Area %
1	4.21	615.24	161.26	0.02
2	5.21	1024.94	292.85	0.04
3	6.09	326.05	83.67	0.01
4	7.10	301.83	31.69	0.01
5	7.75	169.71	40.31	0.01
6	8.38	136.91	47.17	0.01
7	8.97	123.76	38.29	0.00
8	12.30	2684.80	1153.73	0.10
9	12.48	1162.83	467.42	0.04
10	12.56	1893.94	719.41	0.07
11	12.68	466.69	180.24	0.02
12	12.86	690.32	301.63	0.03
13	13.62	2651450.00	979725.00	99.58
14	14.34	274.11	82.01	0.01
15	15.17	1208.09	320.67	0.05
16	19.00	166.44	32.66	0.01

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

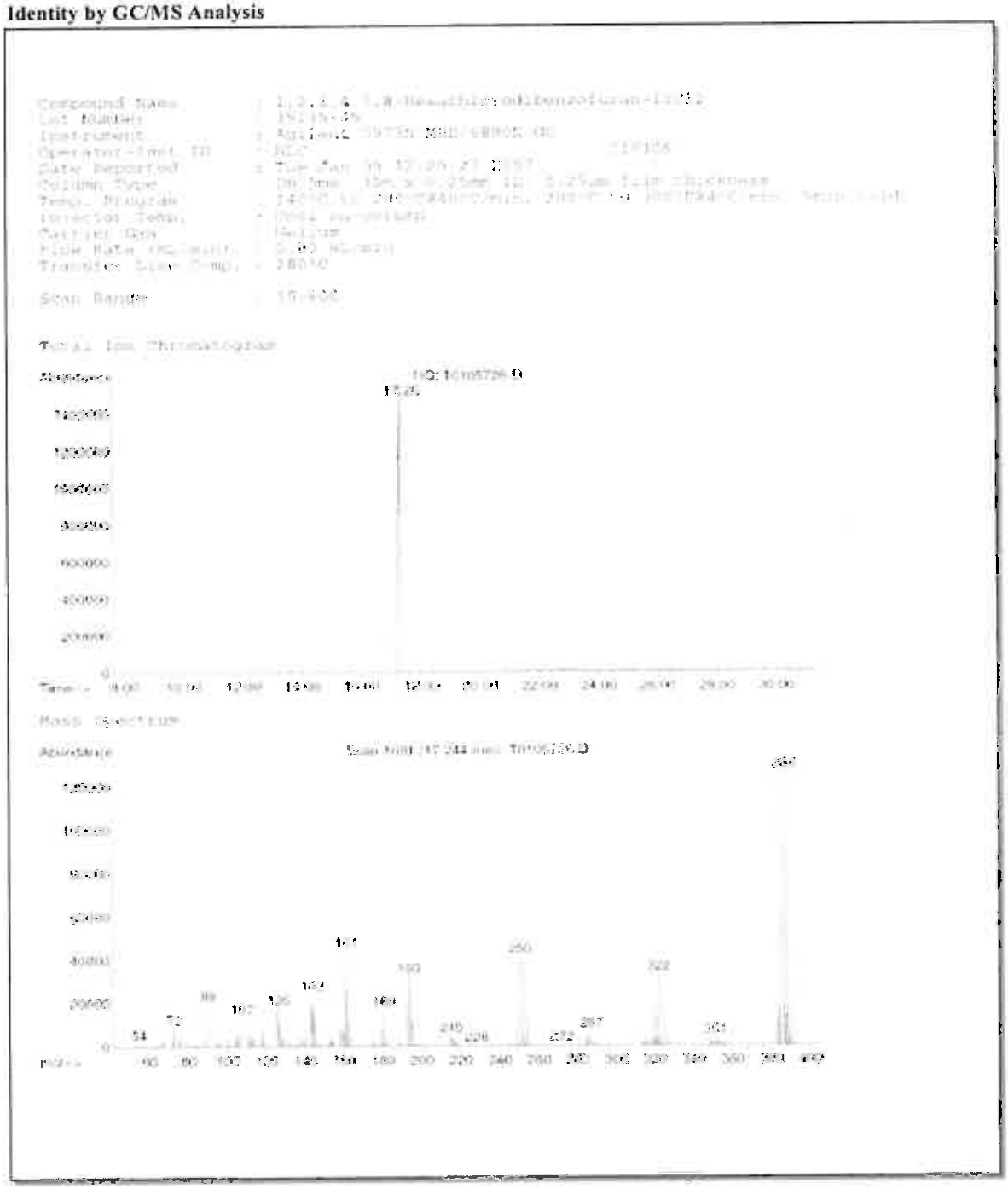

COA Revision History

Revision No.	Date	Reason for Revision
00	September 22, 2010	Initial version
01	September 22, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet"
02	November 15, 2016	Corrected Molecular Weight from 368.77 to 386.77

Reagent

HRDXNIDA_00353

r: 11/28/18 SKV

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Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Certificate of Analysis

1,2,3,4,6,7,8-Heptachlorodibenzofuran-$^{13}C_{12}$

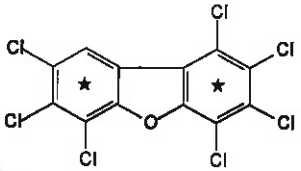

Catalog Number: EF-974
Solution Lot: ER08101404
Expiration Date: November 2024
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,6,7,8-Heptachlorodibenzofuran-$^{13}C_{12}$	98.3%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER08101404	48.75	± 5%	0.3	≤ 3%
Previous Lot	ER102711-02	51.49	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

December 03, 2015
Date

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 60°C to 300°C at 40°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 4
Linearity (r): 1.000

Neat Material Data

Compound Name: 1,2,3,4,6,7,8-Heptachlorodibenzofuran-$^{13}C_{12}$
Compound Lot: ER020507-02

Chemical Formula: $^{13}C_{12}HCl_7O$
CAS Number: 109719-84-8
Molecular Weight: 421.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	98.7%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.16% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS	SP10-0105	Pass
		no single DD/DF impurity ≥1.0%
Purity Factor		98.69%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

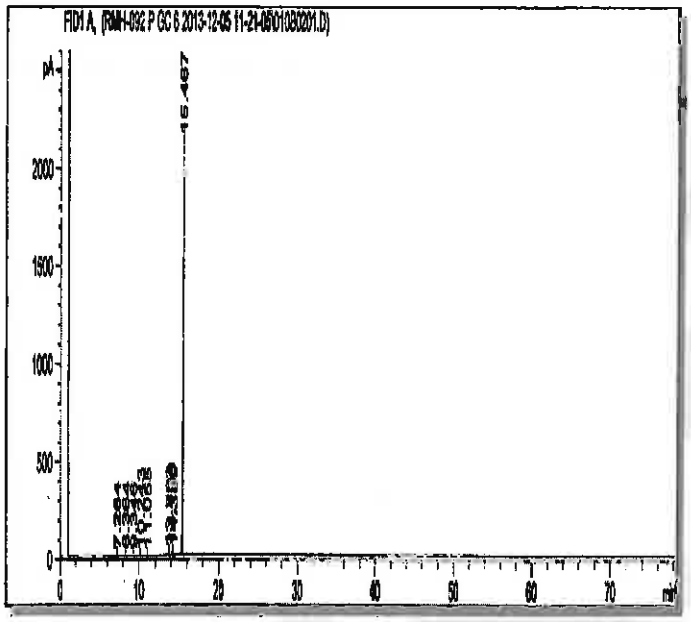

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-092 P GC 6 2013-12-05 11-21-05\010B0201.D
Instrument:	GC#6
Sample Name:	ER020507-02
Acquired:	December 05, 2013

Peak #	Ret Time	Area	Height	Area %
1	7.26	4.41	2.08	0.05
2	8.36	11.76	5.45	0.12
3	9.35	5.20	2.32	0.05
4	10.24	1.47	0.62	0.02
5	11.06	0.34	0.17	0.00
6	13.75	8.81	4.38	0.09
7	13.80	23.67	9.98	0.25
8	14.13	43.07	16.42	0.45
9	14.20	21.73	8.77	0.23
10	14.39	4.79	1.81	0.05
11	15.47	9349.36	2200.33	98.68

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 1,2,3,4,6,7,8-Heptachlorodibenzofuran-13C12
Lot Number : ER020507-02
Instrument : Agilent GCMS
Operator : ECM(BRYAN_DOCKERY)
Date Reported : Tue Dec 17 09:08:58 2013
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL\min) : 0.80 mL/min
Transfer Line Temp. : 280°C
Scan Range : 50-550

Total Ion Chromatogram

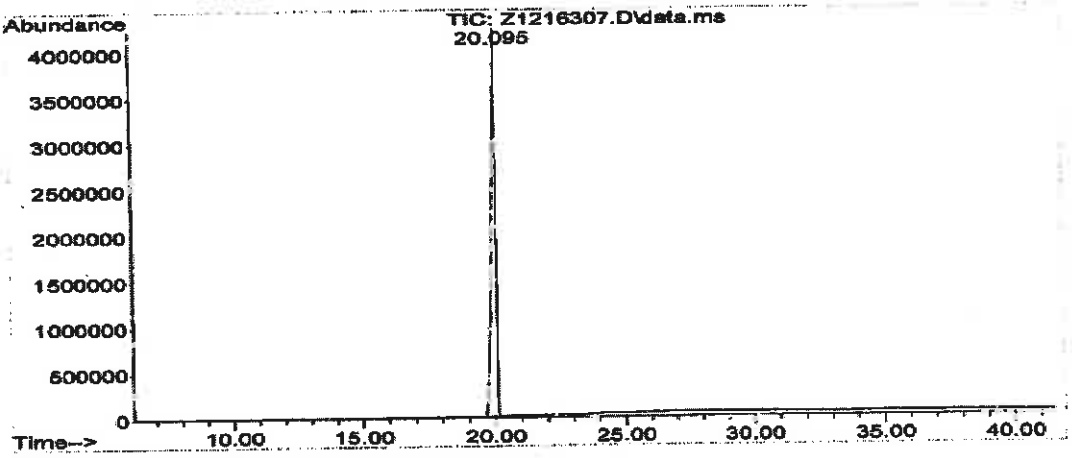

Mass Spectrum

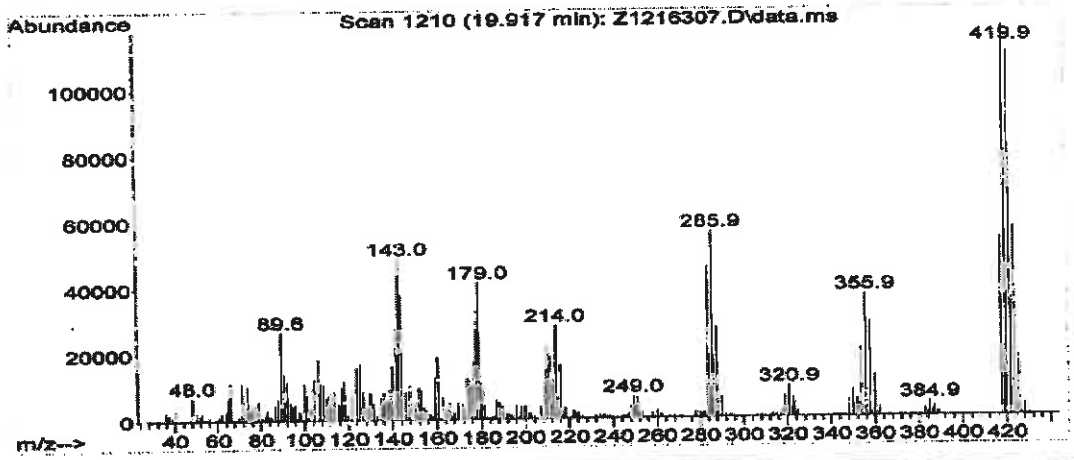

COA Revision History

Revision No.	Date	Reason for Revision
00	January 19, 2015	Initial version
01	December 04, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet"

Reagent

HRDXNIDA_00354

Rec: 11/28/18 SKV

Cerilliant Analytical Reference Standards
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Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$

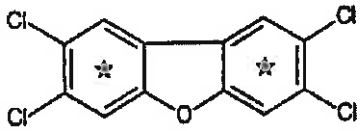

Catalog Number: EF-904
Solution Lot: ER09131601
Expiration Date: September 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	99.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER09131601	49.91	± 5%	0.2	≤ 3%
Previous Lot	ER12101304	51.13	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

November 02, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_4Cl_4O$
Compound Lot:	ER01161401	**CAS Number:**	89059-46-1
		Molecular Weight:	317.88

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.2%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS SIM	SP10-0105	No single DD/DF ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.00% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.24%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

GC/FID

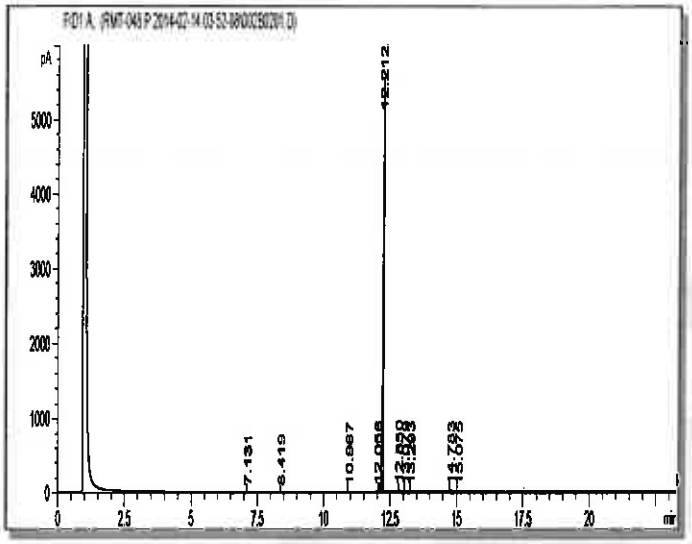

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMT-048 P 2014-02-14 03-52-08\002B0201.D
Instrument:	GC#10
Sample Name:	ER01161401
Acquired:	February 14, 2014

Peak #	Ret Time	Area	Height	Area %
1	7.13	1.19	0.61	0.01
2	8.42	3.23	1.42	0.03
3	10.97	3.57	1.04	0.03
4	12.06	20.86	12.47	0.18
5	12.21	11764.70	5466.96	99.29
6	12.85	30.72	15.48	0.26
7	13.08	7.62	4.03	0.06
8	13.29	5.47	2.91	0.05
9	14.78	7.62	2.76	0.06
10	15.08	3.87	1.33	0.03

GC/MS

Compound Name	: 2,3,7,8-Tetrachlorodibenzofuran-13C12
Lot Number	: ER01161401
Instrument	: Agilent GCMS
Operator	: ECM(SAMUEL_GIUFFRE)
Date Reported	: Thu Feb 13 11:57:07 2014
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

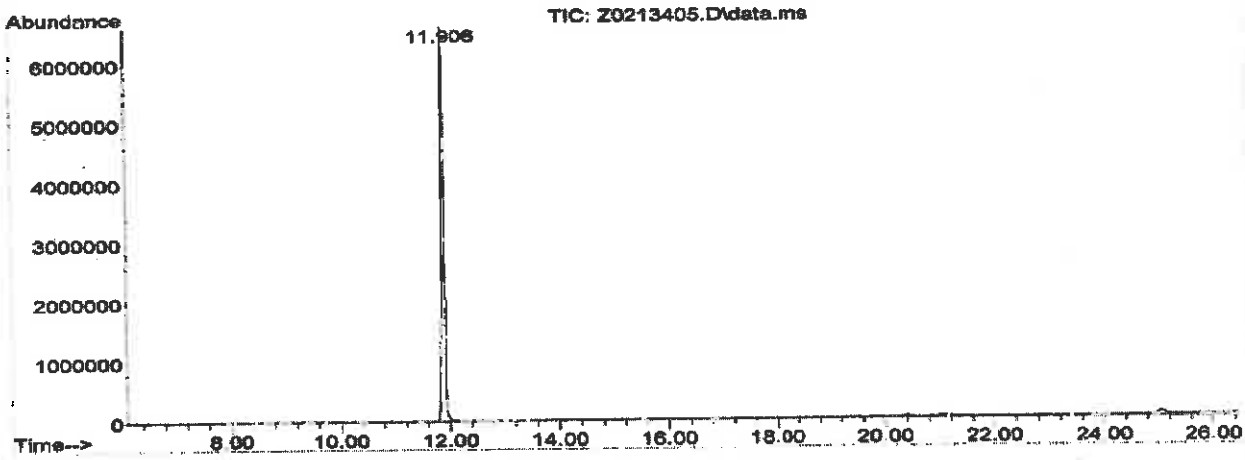

Mass Spectrum

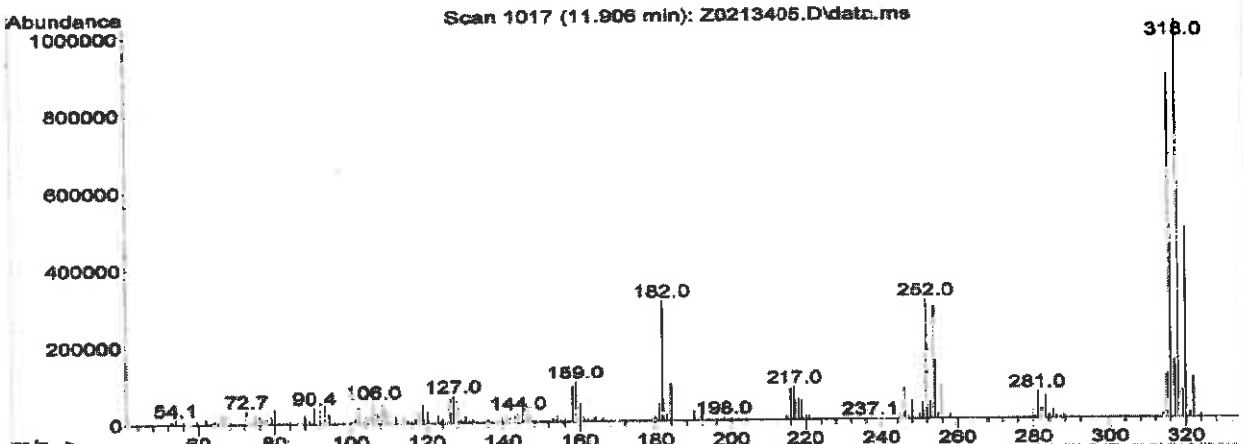

COA Revision History

Revision No.	Date	Reason for Revision
00	November 02, 2016	Initial version

Reagent

HRDXNIDA_00355

Rec: 11/28/18 SJV

Cerilliant
Analytical Reference Standards
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Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 18194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$

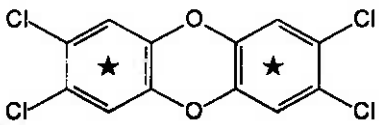

Catalog Number:	ED-900
Solution Lot:	ER03031601
Expiration Date:	March 2026
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.4%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution, and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER03031601	52.66	± 5%	0.3	≤ 3%
Previous Lot	ER01031401	49.83	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

March 24, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-35ms 30 m x 0.53 mm ID, 1.0 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_4Cl_4O_2$
Compound Lot:	ER01201405	**CAS Number:**	76523-40-5
		Molecular Weight:	333.88

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity and Distribution by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.05% $^{13}C_6$ vs $^{13}C_{12}$
Impurities by GC/MS SIM Analysis	SP10-0105	no single DD/DF impurity $\geq$0.5%
Mass Balance Purity Factor		99.34%

- The primary chromatographic purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Mass Balance Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

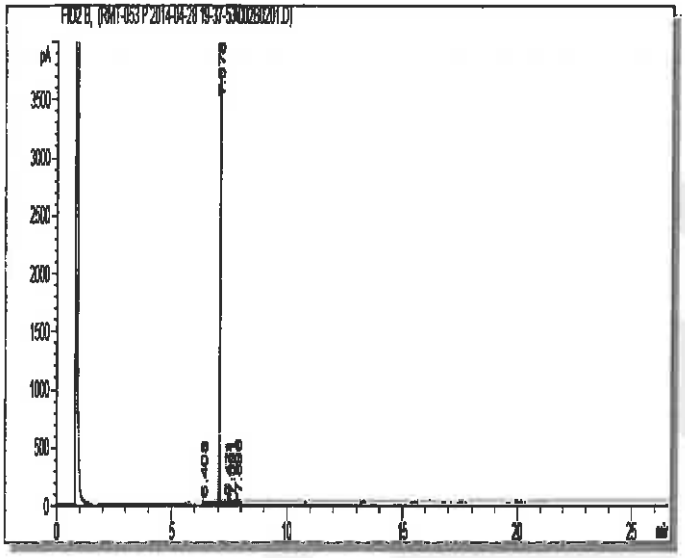

Column:	DB-35ms, 30 m x 0.53 mm ID, 1.0 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMT-053 P 2014-04-28 19-37-53\002B0201.D
Instrument:	GC#6
Sample Name:	ER01201405
Acquired:	April 28, 2014

Peak #	Ret Time	Area	Height	Area %
1	6.41	4 36	2.80	0.08
2	7 08	5225 21	3678.99	99.32
3	7 47	5 29	3.00	0.10
4	7 59	9 11	4.81	0.17
5	7.90	17 05	9.22	0.32

GC/MS

Compound Name	: 2,3,7,8-Tetrachlorodibenzo-p-dioxin-13C12
Lot Number	: ERD1201405
Instrument	: Agilent GCMS
Operator	: ECM(SAMUEL_GIUITRE)
Date Reported	: Tue May 06 09:30:26 2014
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,280°C to 220°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

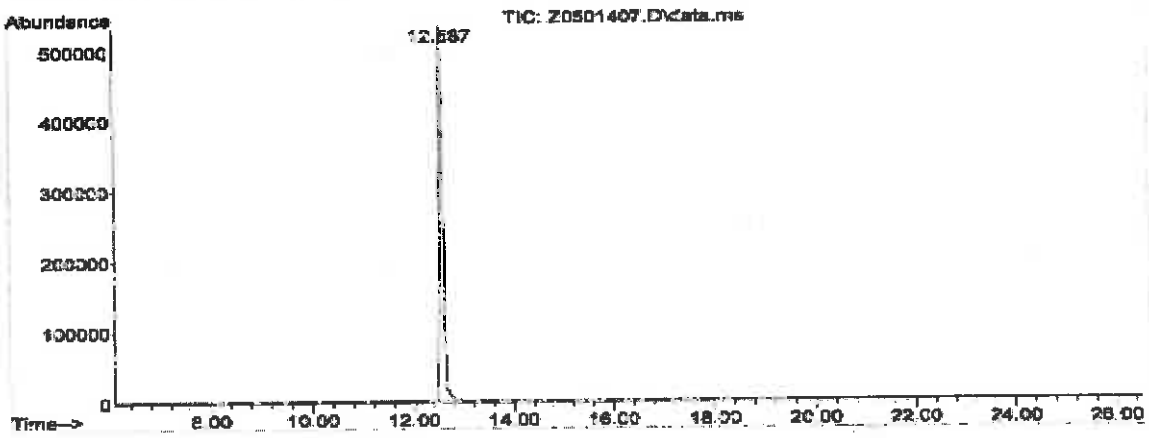

Mass Spectrum

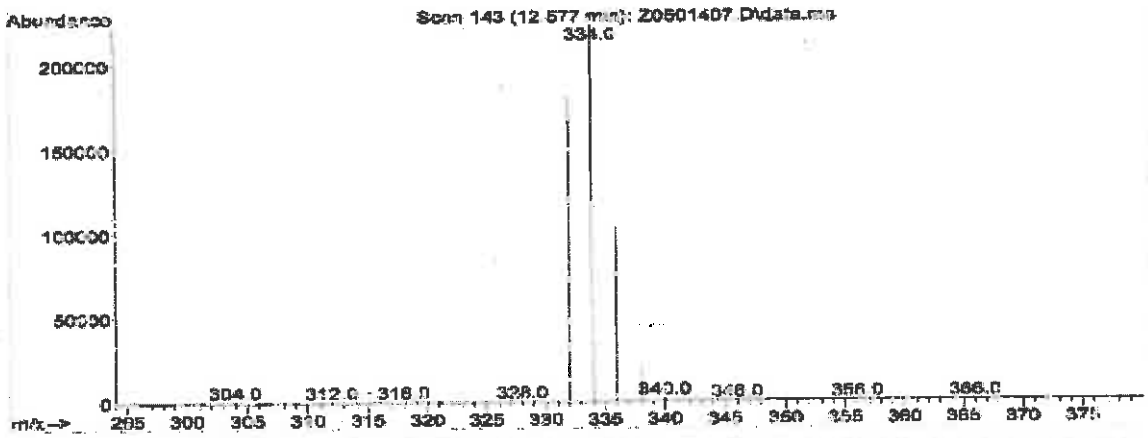

Reagent

HRDXNIDA_00357

r: 1/15/19 SKV

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ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Certificate of Analysis

1,2,3,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

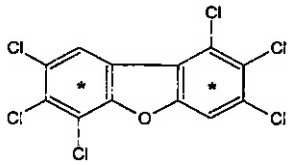

Catalog Number: EF-985
Solution Lot: ER02241603
Expiration Date: April 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.6%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER02241603	50.09	± 5%	0.4	≤ 3%
Previous Lot	ER053107-03	50.81	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

May 04, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O$
Compound Lot:	ER051607-01	**CAS Number:**	116843-03-9
		Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.06% $^{13}C_6$ vs $^{13}C_{12}$
Impurities by GC/MS SIM Analysis	SP10-0105	no single DD/DF impurity ≥ 0.5%
Mass Balance Purity Factor		99.01%

- The chromatographic purity is calculated as the average of two independently performed analyses utilizing two different methods Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Mass Balance Purity Factor
- Mass Balance Purity Factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

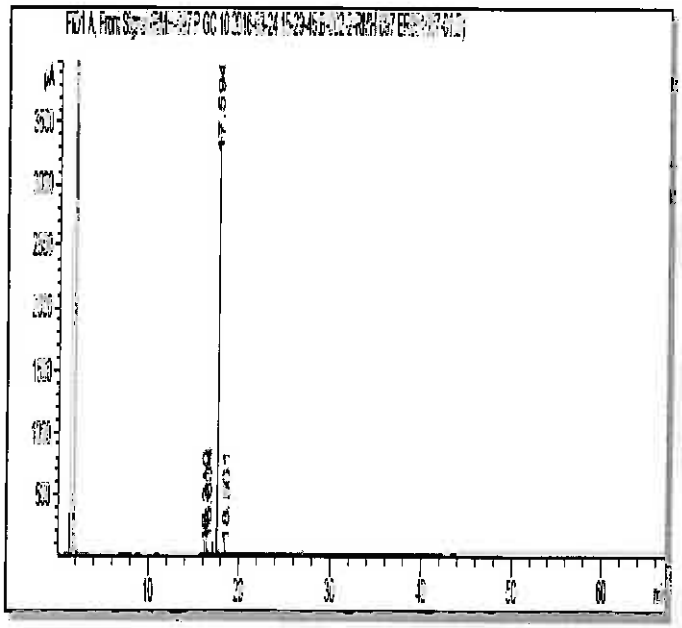

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	40°C to 300°C at 15°C/min hold 50 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-097 P GC 10 2016-03-24 15-29-45\B-002-2.D
Instrument:	GC#10
Sample Name:	ER051607-01
Acquired:	March 24, 2016

Peak #	Ret Time	Area	Height	Area %
1	16.31	6.97	3.21	0.08
2	16.60	77.08	33.51	0.83
3	17.59	9156.82	3458.38	99.00
4	18.56	8.48	2.69	0.09

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 1,2,3,6,7,8-Hexachlorodibenzofuran-13C12
Lot Number	: ER051607-01
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Fri Mar 18 07:08:54 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

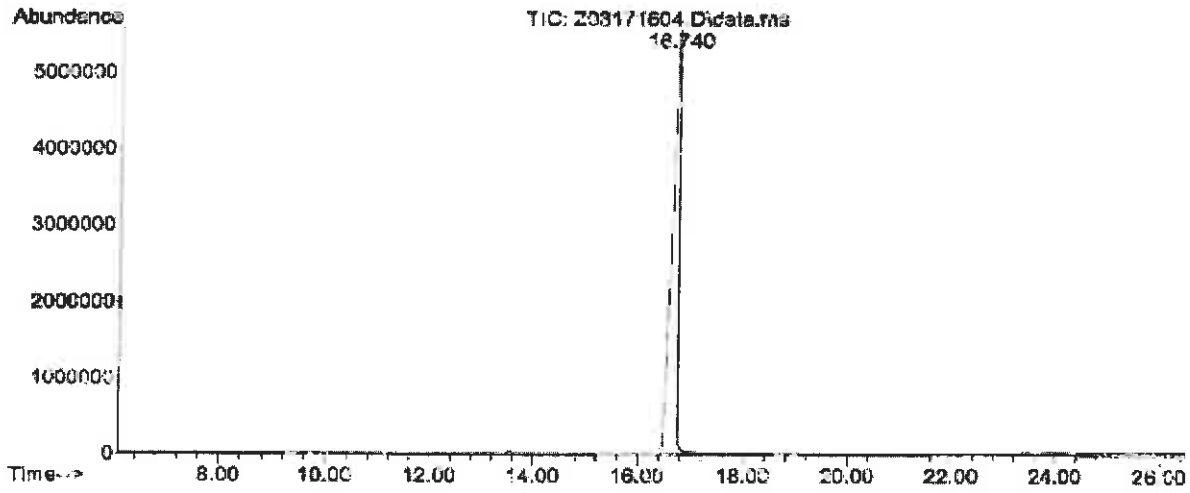

Mass Spectrum

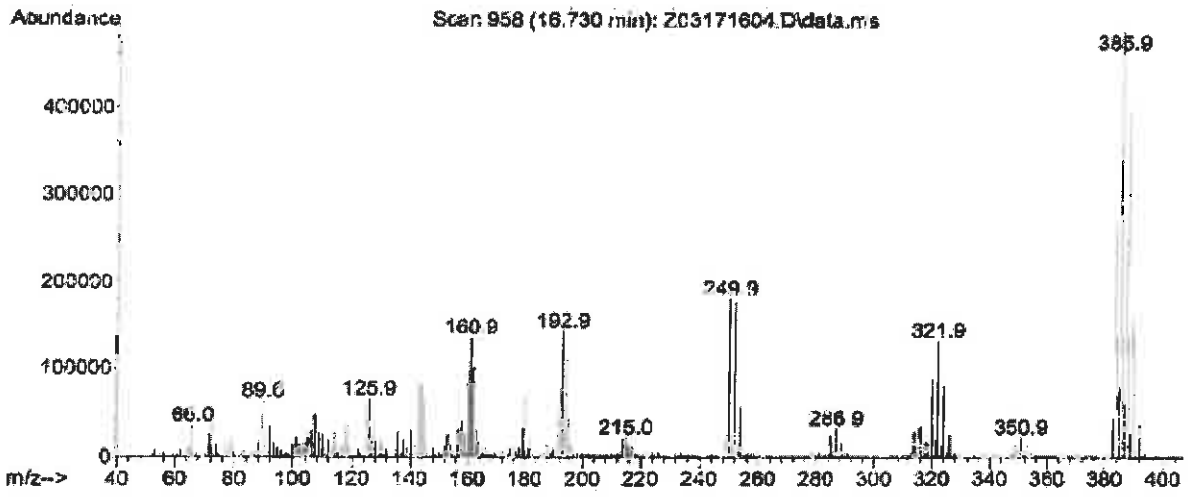

COA Revision History

Revision No.	Date	Reason for Revision
00	May 04, 2016	Initial version

Reagent

HRDXNIDA_00358

r: 1/15/19 SKV

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Analytical Reference Standards
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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,7,8,9-Hexachlorodibenzofuran-$^{13}C_{12}$

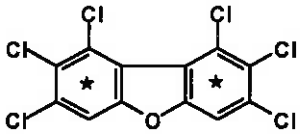

Catalog Number: EF-986
Solution Lot: ER100610-01
Expiration Date: December 2020
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For laboratory use only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
1,2,3,7,8,9-Hexachlorodibenzofuran-$^{13}C_{12}$	99.5%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER100610-01	51.2	± 5%	0.4	≤ 3%
Previous Lot	ER100107-01	49.9	± 5%	1.4	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

February 14, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2OCl_6$
Compound Lot:	ER080108-03	**CAS Number:**	116843-04-0
		Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.5%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.03% $^{13}C_0$ vs $^{13}C_{12}$
		0.09% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.49%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

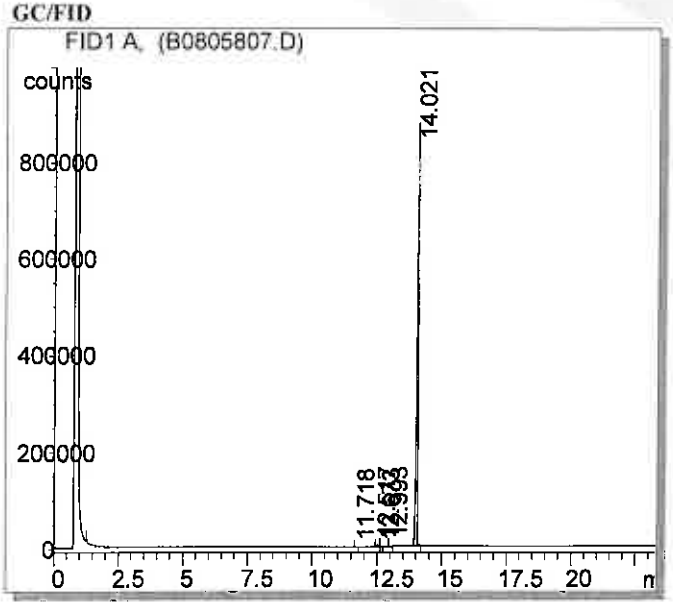

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0805807.D
Instrument:	GC#2
Sample Name:	ER080108-03
Acquired:	August 05, 2008

Peak #	Ret Time	Area	Height	Area %
1	11.72	318.47	152.10	0.01
2	12.52	8294.54	2994.64	0.30
3	12.67	155.17	67.29	0.01
4	12.99	4248.66	1646.53	0.16
5	14.02	2708910.00	880320.00	99.52

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

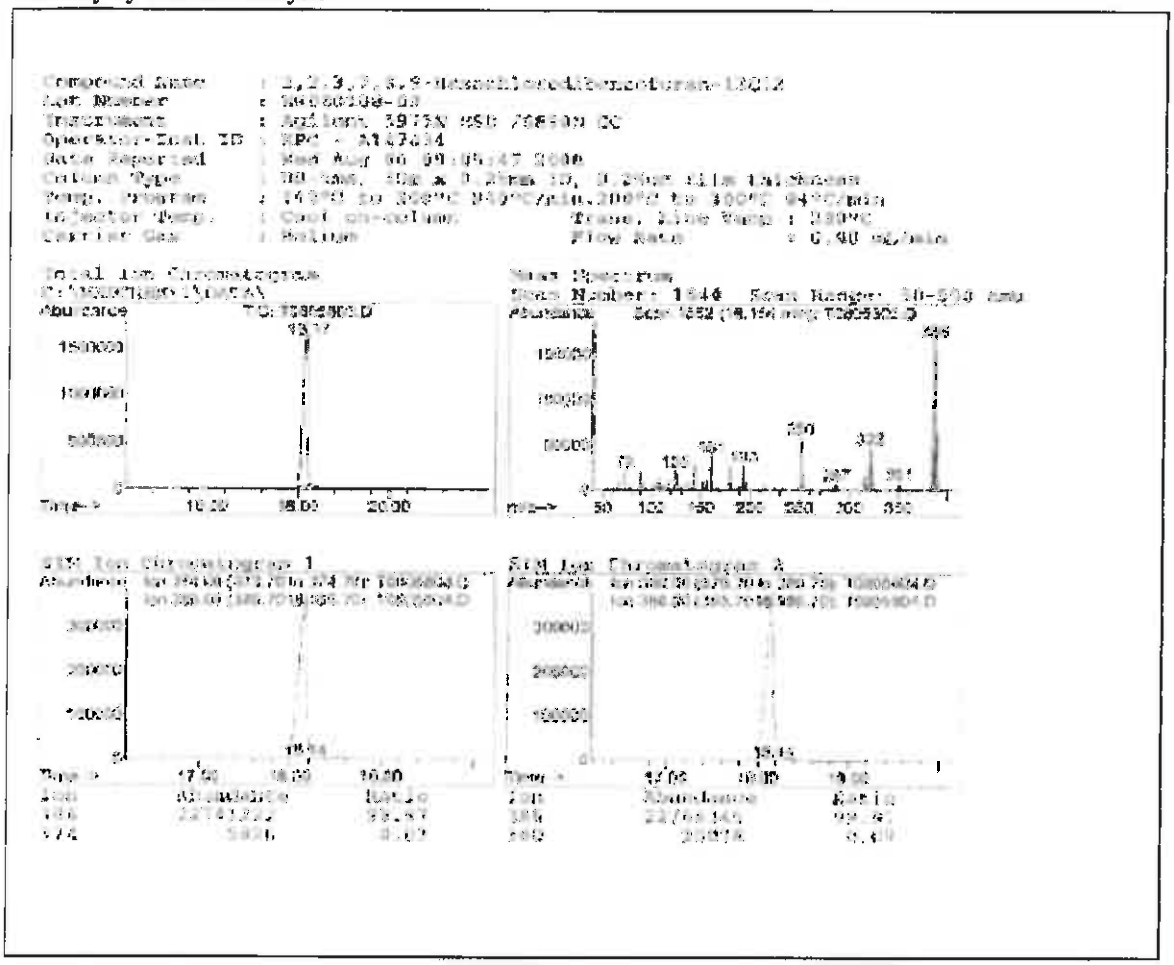

COA Revision History

Revision No.	Date	Reason for Revision
00	January 12, 2011	Initial version
01	November 05, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".
02	February 14, 2017	Corrected Isotopic Purity by GC/MS SIM from C to ^{13}C.

Reagent

HRDXNIDA_00359

r: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

2,3,4,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

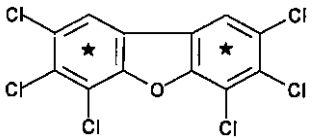

Catalog Number: EF-987
Solution Lot: ER100610-02
Expiration Date: December 2020
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For laboratory use only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
2,3,4,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.4%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER100610-02	50.9	± 5%	0.6	≤ 3%
Previous Lot	ER031507-03	50.3	± 5%	1.8	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

January 15, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,4,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O$
Compound Lot:	ER061906-02	**CAS Number:**	116843-05-1
		Molecular Weight:	386.73

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.4%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.04% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.40%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

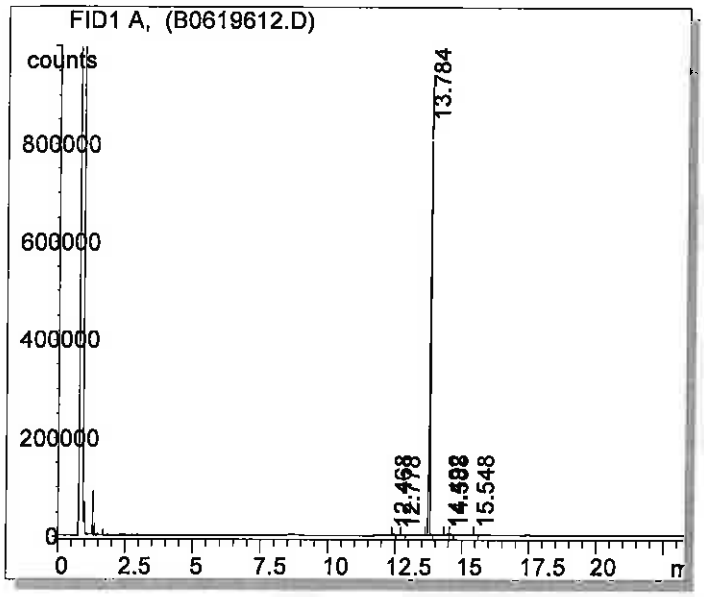

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0619612.D
Instrument:	GC#2
Sample Name:	ER061906-02
Acquired:	June 19, 2006

Peak #	Ret Time	Area	Height	Area %
1	12.47	4458	1822	0.18
2	12.78	3496	1304	0.14
3	13.78	2443150	925399	99.39
4	14.49	1528	387	0.06
5	14.59	4236	1332	0.17
6	15.55	1361	348	0.06

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 2,3,4,6,7,8-Hexachlorodibenzofuran-13C12
Lab Number : ZR061906-02
Instrument : Agilent 5975N MSD /6890N GC
Operator Inst ID : RPC - A147434
Date Reported : Tue Jun 20 08:44:12 2006
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 290°C 8.0°C/min,200°C to 330°C @4°C/min
Injector Temp. : Cool on-column Trans. Line Temp : 280°C
Carrier Gas : Helium Flow Rate : 0.80 mL/min

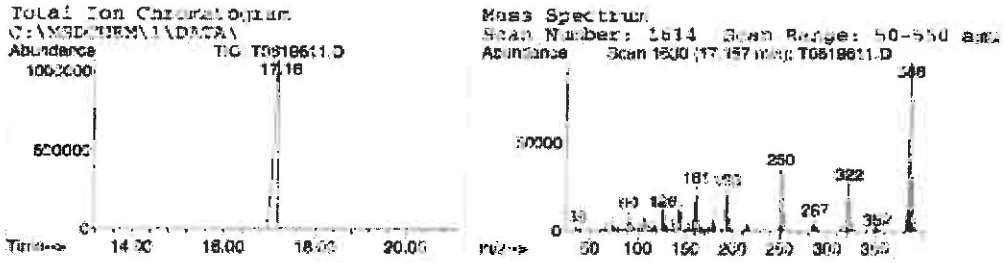

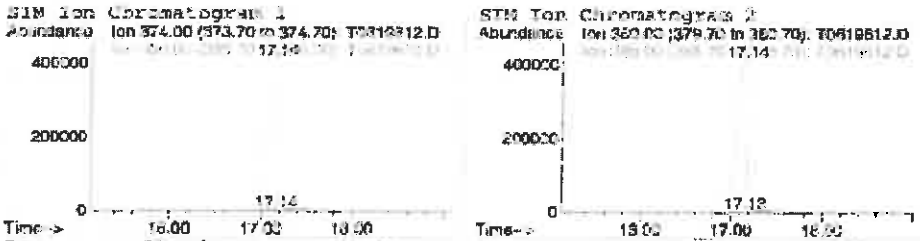

COA Revision History

Revision No.	Date	Reason for Revision
00	January 04, 2011	Initial version
01	January 15, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Reagent

HRDXNIDA_00360

r: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
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Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,7,8-Pentachlorodibenzo-p-dioxin-$^{13}C_{12}$

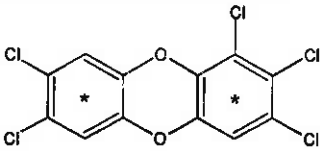

Catalog Number: ED-955
Solution Lot: ER08041401
Expiration Date: August 2024
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,7,8-Pentachlorodibenzo-p-dioxin-$^{13}C_{12}$	98.2%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER08041401	48.80	± 5%	0.3	≤ 3%
Previous Lot	ER030907-02	49.84	± 5%	0.4	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

February 10, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,7,8-Pentachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3Cl_5O_2$
Compound Lot:	ER06241403	**CAS Number:**	109719-79-1
		Molecular Weight:	368.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.9%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS-SIM Analysis	SP10-0105	0.07% $^{13}C_0$ vs $^{13}C_{12}$
		0.14% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS	SP10-0105	No single DD/DF $\geq$ 0.5%
Mass Balance Purity Factor		98.90%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

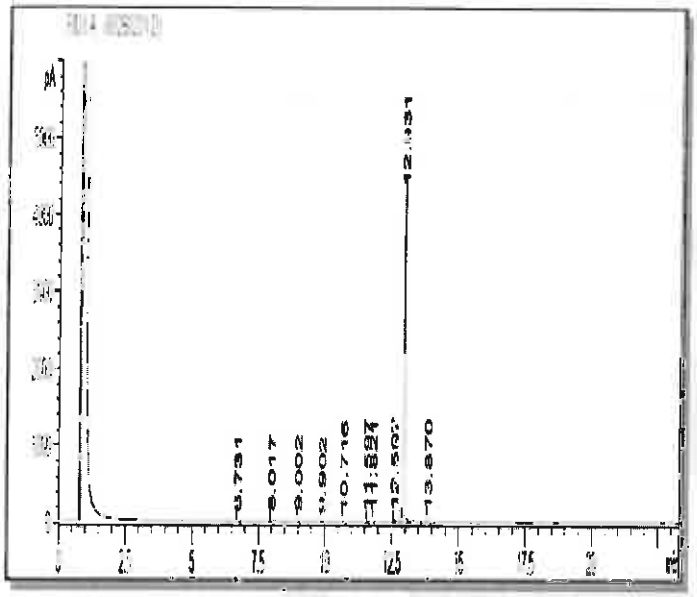

Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 100°C to 300°C at 15°C/min, hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: RMP-085 P GC 6 2014-07-30 18-11-11\002B0201.D
Instrument: GC#6
Sample Name: ER06241403
Acquired: July 30, 2014

Peak #	Ret Time	Area	Height	Area %
1	6 73	7.32	3.42	0.07
2	8.02	3 79	1.60	0.04
3	9.00	8 74	3.64	0.08
4	9 90	3 38	1.35	0.03
5	10 72	1 31	0.45	0.01
6	11 60	14 46	6.69	0.14
7	11 82	2 21	1.11	0.02
8	12.60	68 05	28.10	0.64
9	12.93	10594 10	4235.85	98.91
10	13.87	7 09	2.57	0.07

Spectral and Physical Data (cont.)

GC/MS

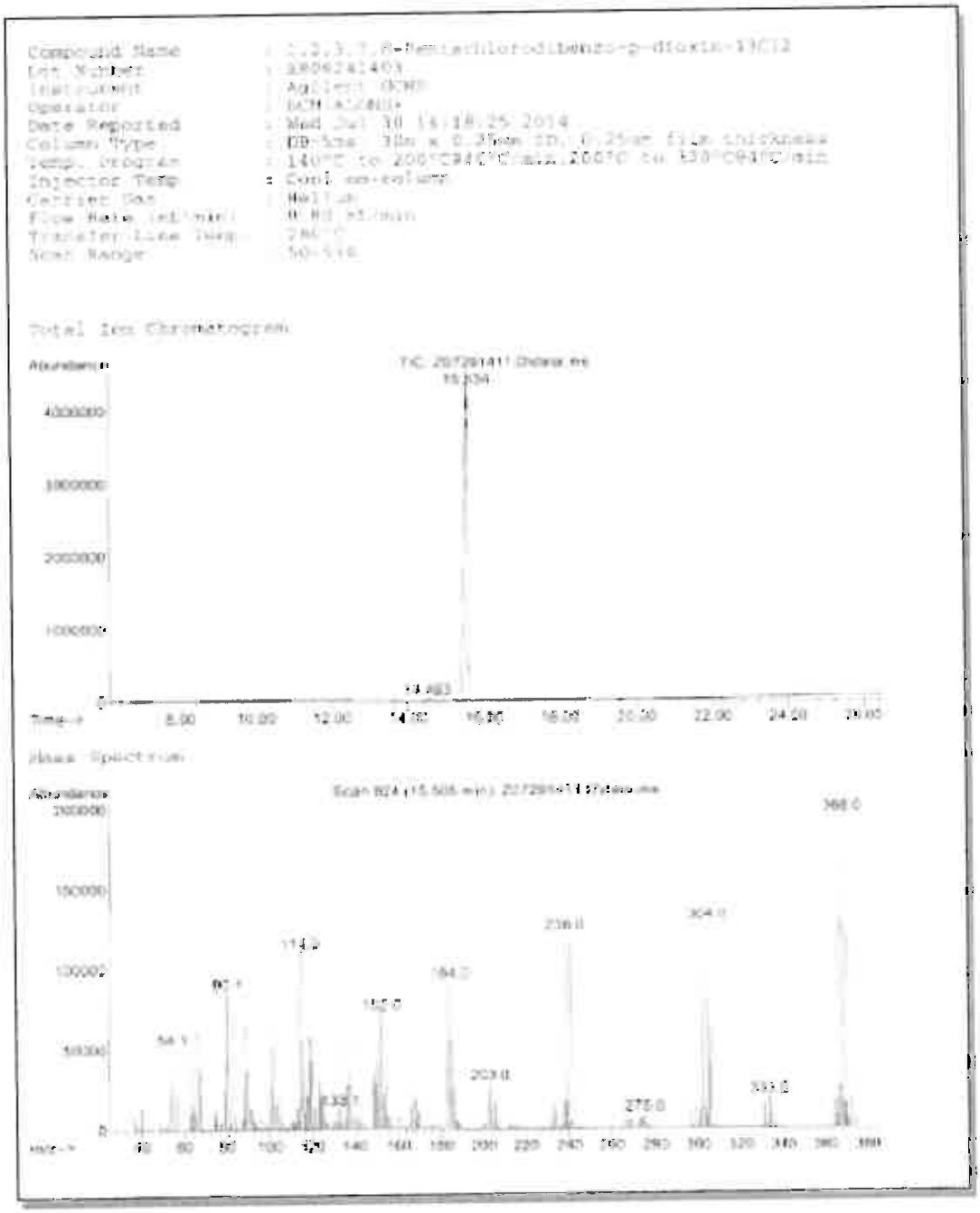

COA Revision History

Revision No.	Date	Reason for Revision
00	September 24, 2014	Initial version
01	February 10, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Reagent

HRDXNIDA_00361

r: 1/15/19 SKV

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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$

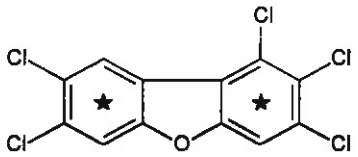

Catalog Number: EF-952
Solution Lot: ER012111-01
Expiration Date: January 2021
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For laboratory use only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
1,2,3,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	99.2%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER012111-01	50.7	± 5%	0.4	≤ 3%
Previous Lot	ER0100407-02	51.0	± 5%	0.5	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

February 15, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3OCl_5$
Compound Lot:	ER090110-01	**CAS Number:**	109719-77-9
		Molecular Weight:	352.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.2%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.03% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.17%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

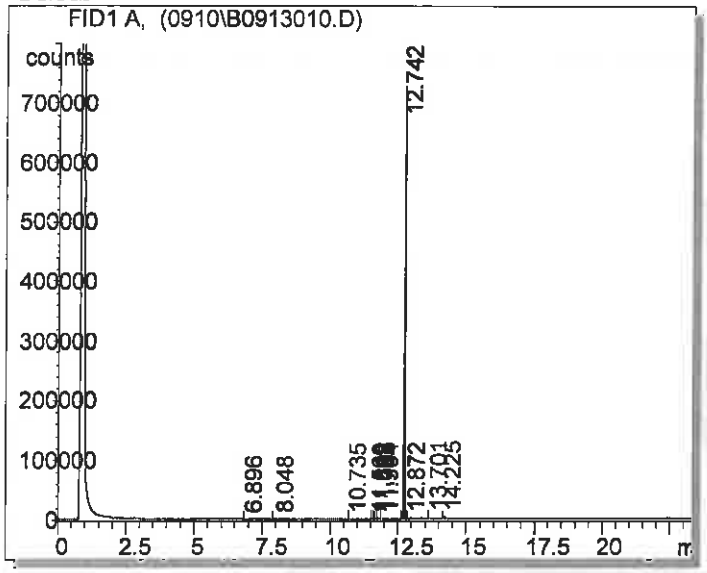

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	S:\GC\GC2\2010\0910\B0913010.D
Instrument:	GC#2
Sample Name:	ER090110-01
Acquired:	September 13, 2010

Peak #	Ret Time	Area	Height	Area %
1	6.90	618.64	296.84	0.04
2	8.05	254 50	102.70	0.01
3	10.74	162 25	70.86	0.01
4	11 57	145 03	82.11	0.01
5	11 62	468 46	216.27	0.03
6	11 69	1863 76	870.51	0.11
7	11.79	1631 76	576.35	0.10
8	11.90	421 31	184.81	0.02
9	12.74	1702290 00	729831.00	99.20
10	12.87	308 15	147.54	0.02
11	13.70	3743 55	1299.40	0.22
12	14.23	4032 24	1491.01	0.23

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

Compound Name : 1,2,3,7,8-Pentachlorodibenzofuran-13C12
Lot Number : ER090110-01
Instrument : Agilent 5973N MSD/6890N GC
Operator-Inst ID : RPC - CI0106
Date Reported : Tue Sep 14 11:05:33 2010
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 280°C

Scan Range : 50-550

Total Ion Chromatogram

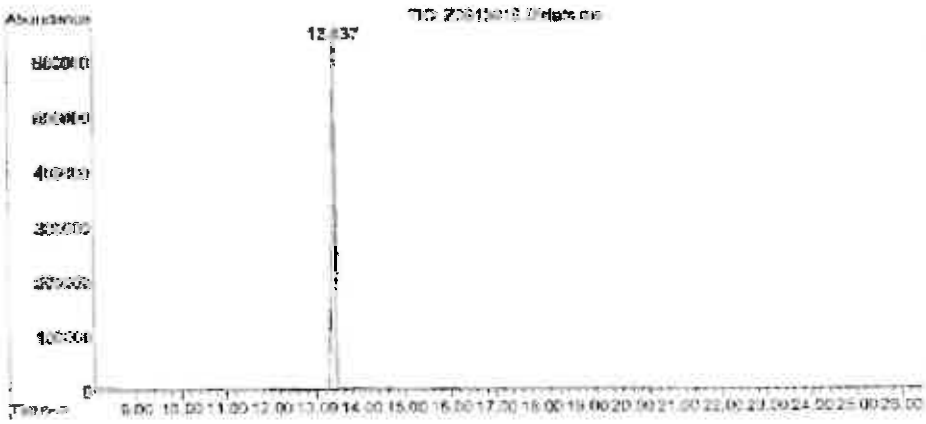

Mass Spectrum

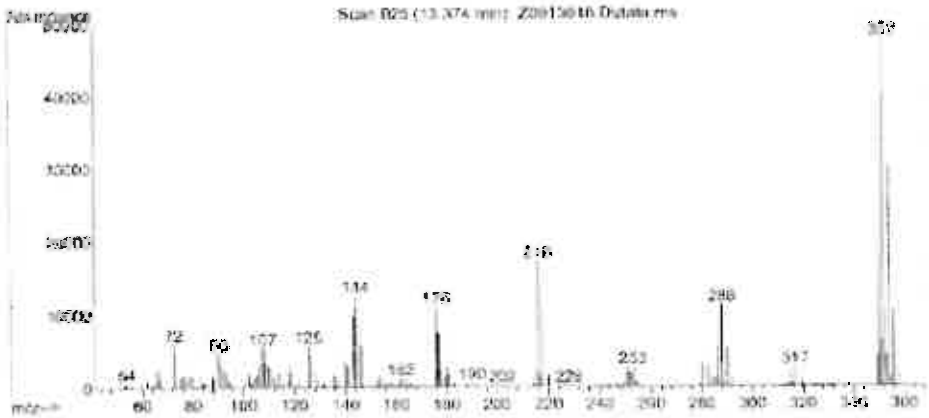

COA Revision History

Revision No.	Date	Reason for Revision
00	February 11, 2011	Initial version
01	March 01, 2011	Corrected typographical error: Chemical Structure
02	February 15, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Reagent

HRDXNIDA_00362

P: 1/15/19 SKV

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Analytical Reference Standards
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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

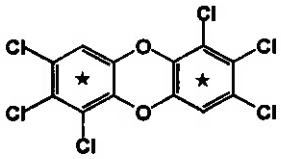

Catalog Number:	ED-966
Solution Lot:	ER03151801
Expiration Date:	March 2028
Solvent:	n-Nonane:Toluene (80:20) (v/v)
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	> 99.9%	50.03 ± 0.28 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER03151801	52.29	± 5%	0.2	≤ 3%
Previous Lot	ER010209-01	48.05	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using balances that have been qualified and calibrated to ISO 17025 requirements. All calibrations utilize NIST traceable weights which are calibrated externally by a qualified ISO 17025 accredited calibration laboratory to NIST standards. Qualification of each balance includes the assignment of a minimum weighing by a qualified and ISO 17025 accredited calibration vendor taking into consideration the balance and installed environmental conditions to ensure compliance with USP tolerances of NMT 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

April 19, 2018
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O_2$
Compound Lot:	FN01151802	**CAS Number:**	109719-81-5
		Molecular Weight:	402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.04% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 1.0%
Mass Balance Purity Factor		98.96%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

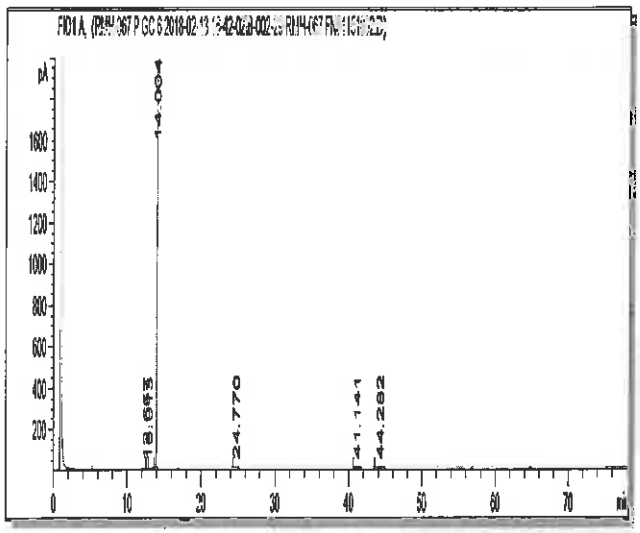

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-067 P GC 6 2018-02-13 16-42-02\B-002-29.D
Instrument:	GC#6
Sample Name:	FN01151802
Acquired:	February 13, 2018

Peak #	Ret Time	Area	Height	Area %
1	12.66	1 69	0.62	0.03
2	13.01	1 96	0.53	0.03
3	14 00	5617 62	1952.76	98.87
4	24 77	5.26	0.34	0.09
5	41 14	10.58	0.38	0.19
6	44 28	44.69	1.49	0.79

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-13C12
Lot Number	: FN01151802
Instrument	: Agilent GCMS
Operator	: FCM(SGIUFTRE)
Date Reported	: Mon Mar 05 10:17:32 2018
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

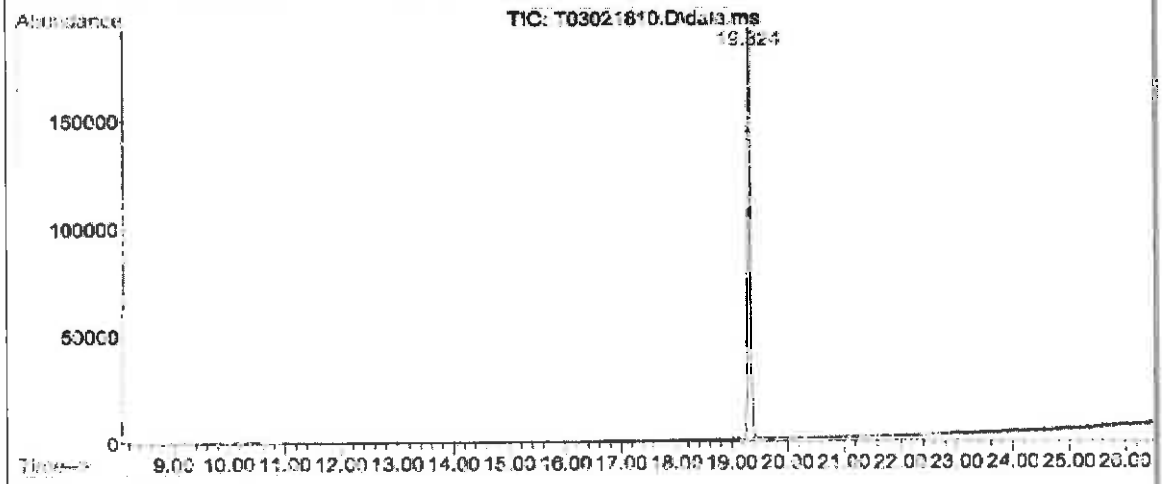

Mass Spectrum

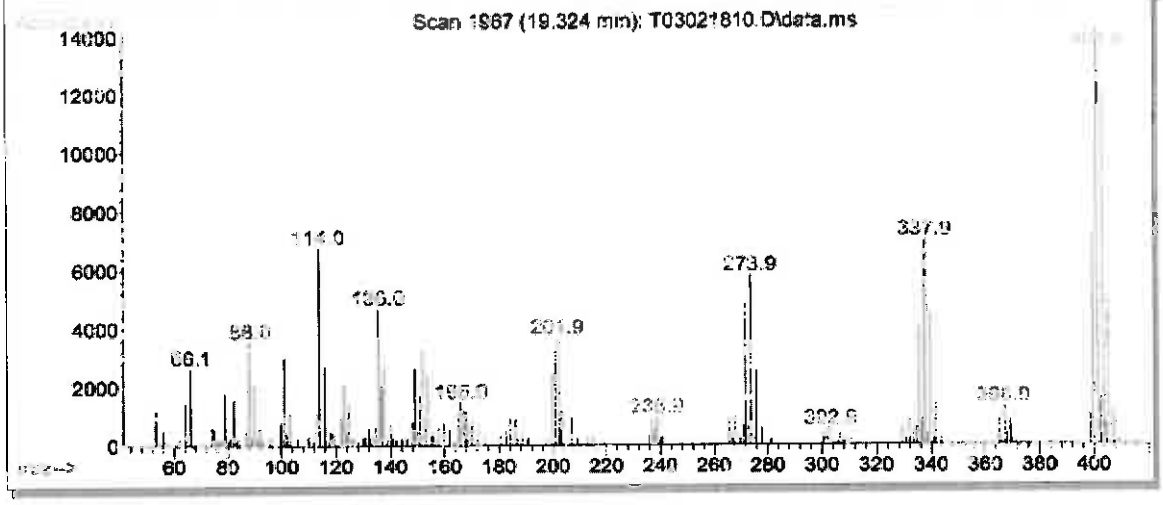

Reagent

HRDXNIDA_00365

Rec 11/28/18 SKV

1450145
ID: HRDXNIDA_00347
Exp: 04/30/27 Prpd: SKV
13C-OCDD [10 ug/mL]

Cerilliant
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CIL

Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Octachlorodibenzo-p-dioxin-$^{13}C_{12}$

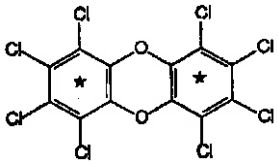

Catalog Number: ED-981-1.2
Solution Lot: ER04051701
Expiration Date: April 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
Octachlorodibenzo-p-dioxin-$^{13}C_{12}$	> 99.9%	10.00 ± 0.05 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04057101	10.22	± 5%	1.1	≤ 5%
Previous Lot	ER06061601	10.17	± 5%	0 8	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

May 19, 2017
Date

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-5ms, 30 m x 0.25 mm ID, 0.25 µm film thickness
Temp Program: 70°C to 200°C at 40°C/min
200°C to 280°C at 10°C/min hold 15 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 3
Linearity (r): 0.997

Neat Material Data

Compound Name: Octachlorodibenzo-p-dioxin-$^{13}C_{12}$
Compound Lot: ER04041601

Chemical Formula: $^{13}C_{12}Cl_8O_2$
CAS Number: 114423-97-1
Molecular Weight: 471.66

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.1%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.07% $^{13}C_0$ vs $^{13}C_{12}$
		0.96% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.15%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

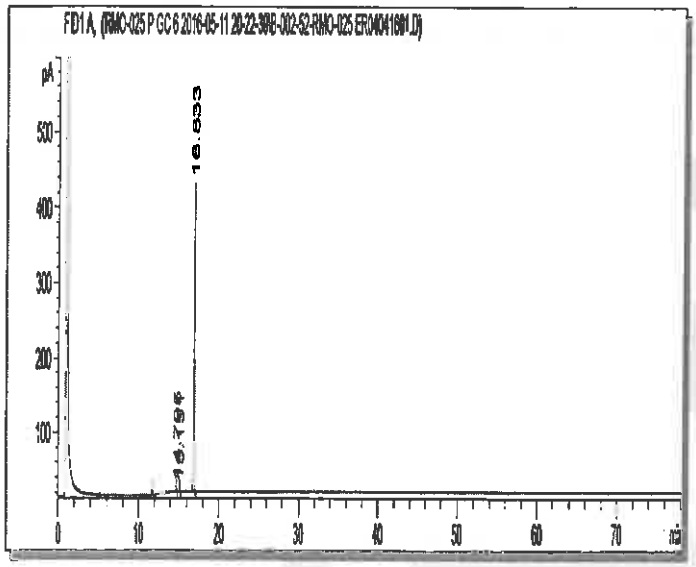

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMO-025 P GC 6 2016-05-11 20-22-39\B-002-52.D
Instrument:	GC#6
Sample Name:	ER04041601
Acquired:	May 11, 2016

Peak #	Ret Time	Area	Height	Area %
1	14.80	12.12	3.62	0.61
2	15.15	4.72	1.32	0.24
3	16.83	1980.56	409.54	99.16

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: Octachlorodibenzo-p-dioxin-13C12
Lot Number	: ERC4041601
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Wed May 04 13:45:40 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

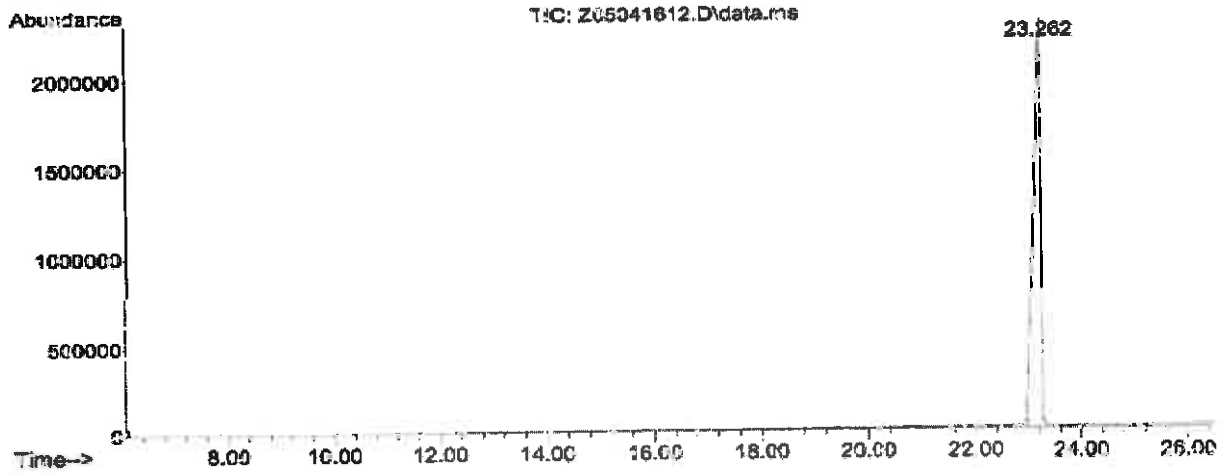

Mass Spectrum

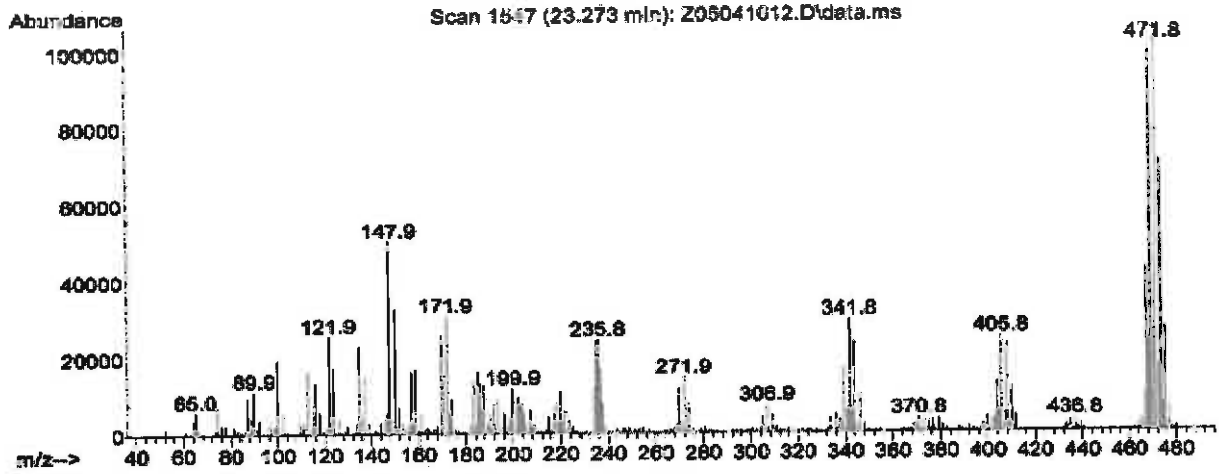

Reagent

HRDXNIDA_00375

nr: 4/8/19 BW

Cerilliant
Analytical Reference Standards
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CIL

Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$

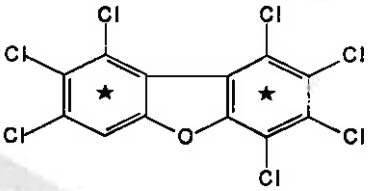

Catalog Number: EF-988
Solution Lot: ER04251601
Expiration Date: May 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	99.1%	49.99 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass, Purity Factor of the analyte(s), measured mass of the solution, and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04251601	49.11	± 5%	0.2	≤ 3%
Previous Lot	ER053107-02	50.58	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

November 09, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}HCl_7O$
Compound Lot:	ER04041602	**CAS Number:**	109719-94-0
		Molecular Weight:	421.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.1%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS SIM	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.16% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.10%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data (cont.)

GC/FID

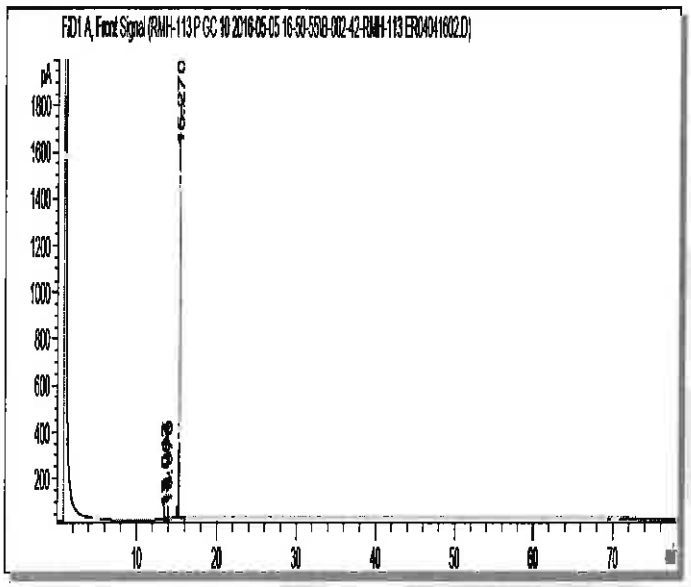

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-113 P GC 10 2016-05-05 16-50-55\B-002-42.D
Instrument:	GC#10
Sample Name:	ER04041602
Acquired:	May 05, 2016

Peak #	Ret Time	Area	Height	Area %
1	13.51	8.76	2.52	0.12
2	13.68	17.42	7.45	0.24
3	13.97	39.65	15.48	0.54
4	15.27	7226.95	1798.33	99.10

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 1,2,3,4,7,8,9-Heptachlorodibenzofuran-13C12
Lot Number	: ER04041602
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Wed May 04 15:34:28 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

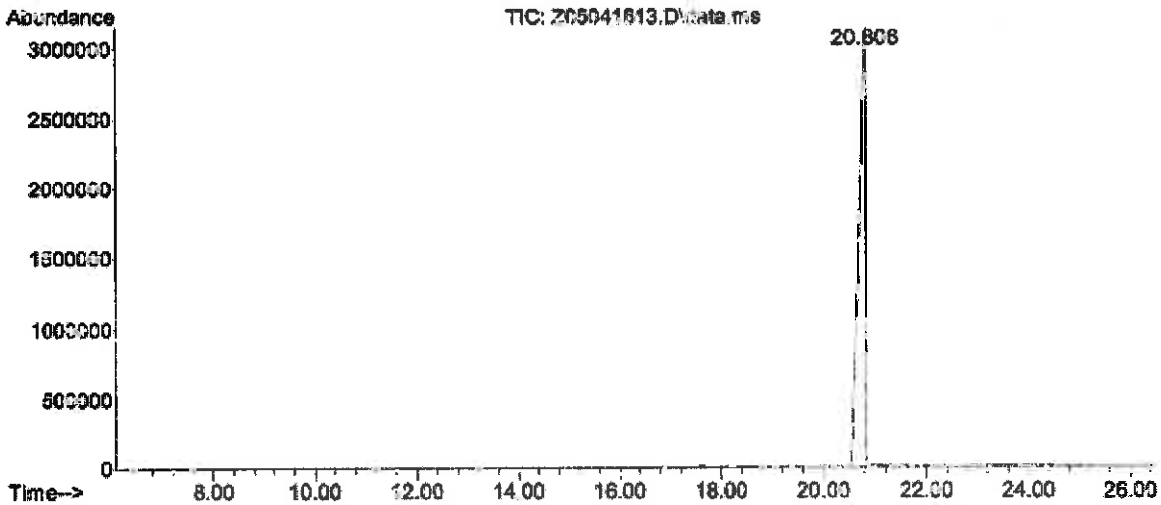

Mass Spectrum

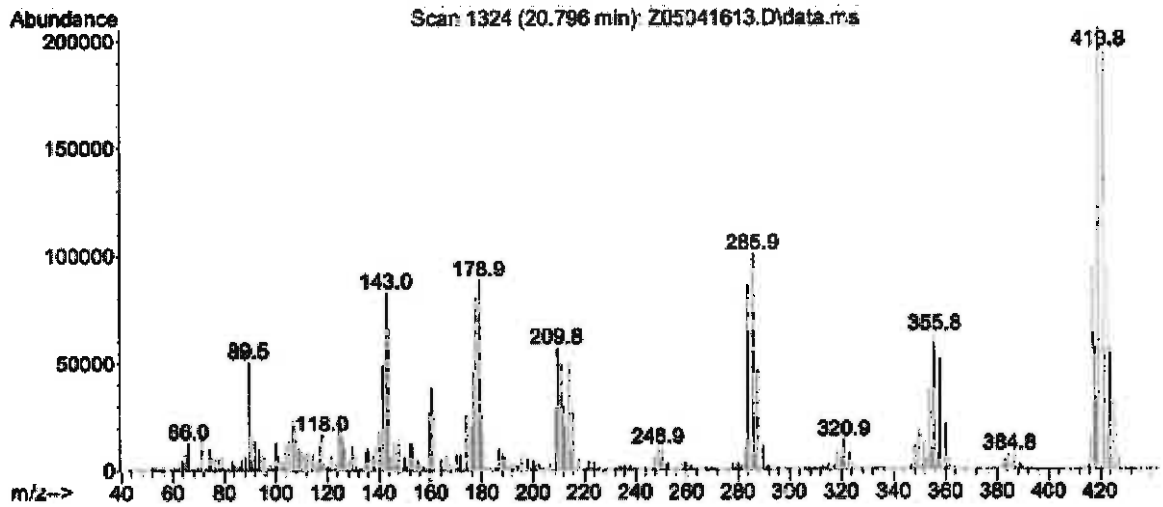

COA Revision History

Revision No.	Date	Reason for Revision
00	June 21, 2016	Initial version
01	November 09, 2016	Corrected Expiration Date from March 2026 to May 2026.

Reagent

HRDXNIDA_00376

N: 4/8/19 SW

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Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$

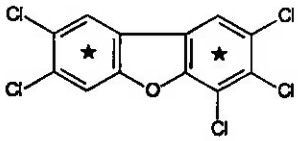

Catalog Number: EF-958
Solution Lot: ER01061701
Expiration Date: January 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	97.9%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass, Purity Factor of the analyte(s), measured mass of the solution, and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Acceptance Criteria	%RSD - Homogeneity Actual Results	Acceptance Criteria
New Lot	ER01061701	50.51	± 5%	0.1	≤ 3%
Previous Lot	ER11041601	49.56	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

January 27, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3Cl_5O$
Compound Lot:	ER11101601	**CAS Number:**	116843-02-8
		Molecular Weight:	352.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0102	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.02% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 0.5%
Mass Balance Purity Factor		**98.33%**

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

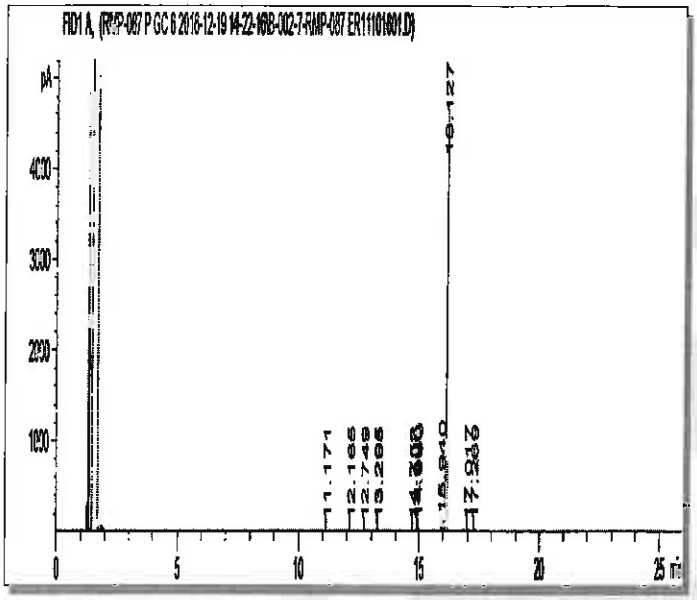

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMP-087 P GC 6 2016-12-19 14-22-16\B-002-7.D
Instrument:	GC#6
Sample Name:	ER11101601
Acquired:	December 19, 2016

Peak #	Ret Time	Area	Height	Area %
1	11.17	0.94	0.40	0.01
2	12.17	1.30	0.39	0.01
3	12.75	0.47	0.20	0.00
4	13.30	0.90	0.35	0.01
5	14.75	1.70	0.87	0.02
6	14.91	1.09	0.56	0.01
7	14.97	32.24	17.54	0.29
8	15.94	124.38	64.36	1.13
9	16.13	10866.60	4688.80	98.41
10	17.02	6.31	2.46	0.06
11	17.27	6.76	2.34	0.06

Spectral and Physical Data (cont.)

GC/MS

```
Compound Name          : 2,3,4,7,8-Pentachlorodibenzofuran-13C12
Lot Number             : ER11101601
Instrument             : Agilent GCMS
Operator               : ECM(SGIUFFRE)
Date Reported          : Tue Dec 20 12:19:55 2016
Column Type            : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program          : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.         : Cool on-column
Carrier Gas            : Helium
Flow Rate (mL\min)     : 0.80 mL/min
Transfer Line Temp.    : 280°C
Scan Range             : 50-550
```

Total Ion Chromatogram

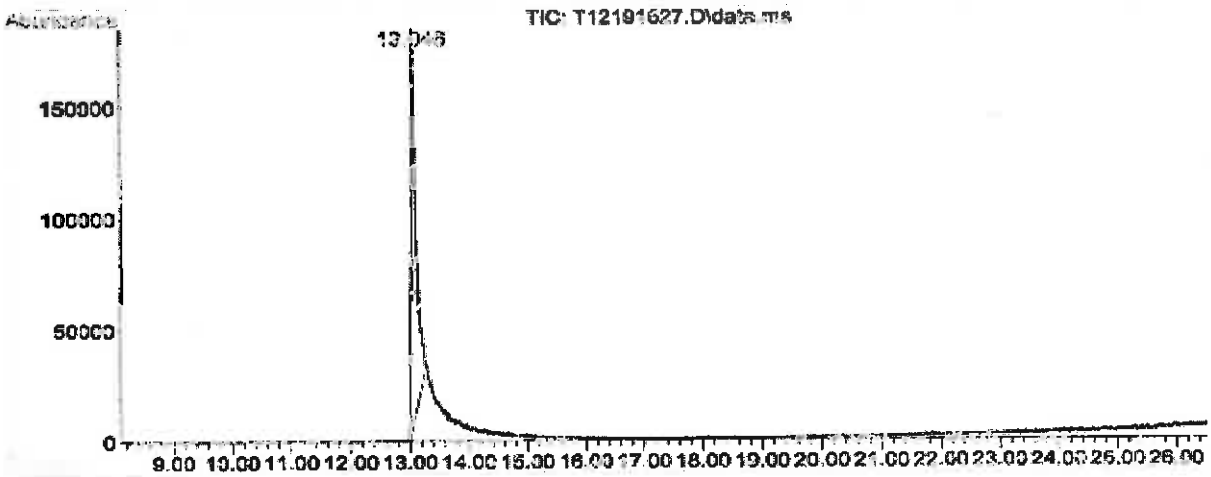

Mass Spectrum

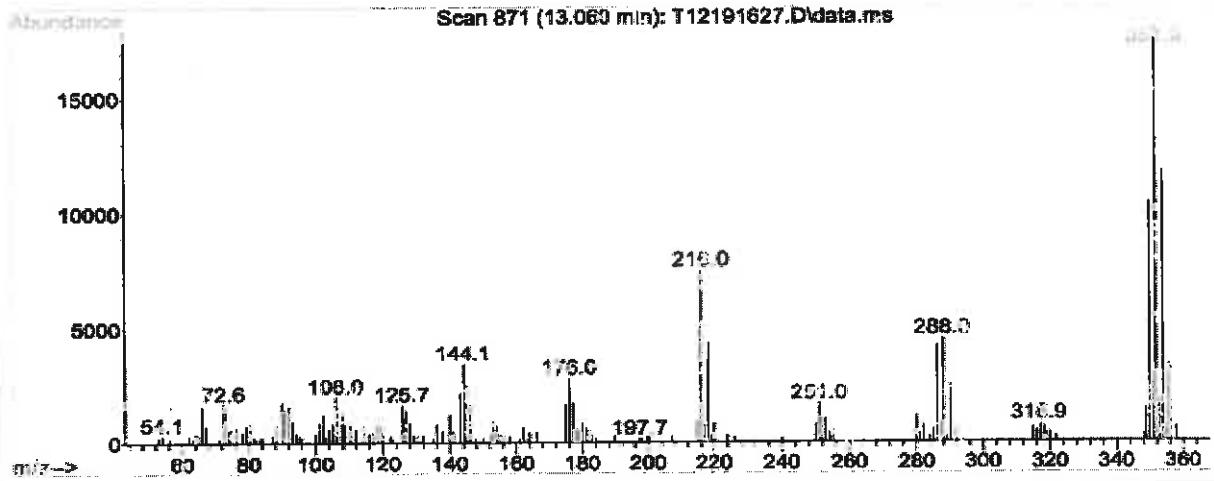

Reagent

HRDXNIDA_00377

r: 4/8/16 SKJ

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

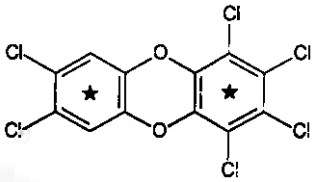

Catalog Number:	ED-946
Solution Lot:	ER04211601
Expiration Date:	June 2026
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.3%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04211601	49.24	± 5%	0.4	≤ 3%
Previous Lot	ER102711-01	49.69	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

August 11, 2016
Date

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 60°C to 300°C at 40°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 4
Linearity (r): 1.000

Neat Material Data

Compound Name: 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$
Compound Lot: ER011008-01

Chemical Formula: $^{13}C_{12}H_2Cl_6O_2$
CAS Number: 109719-80-4
Molecular Weight: 402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.08% $^{13}C_0$ vs $^{13}C_{12}$
		0.21% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.26%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

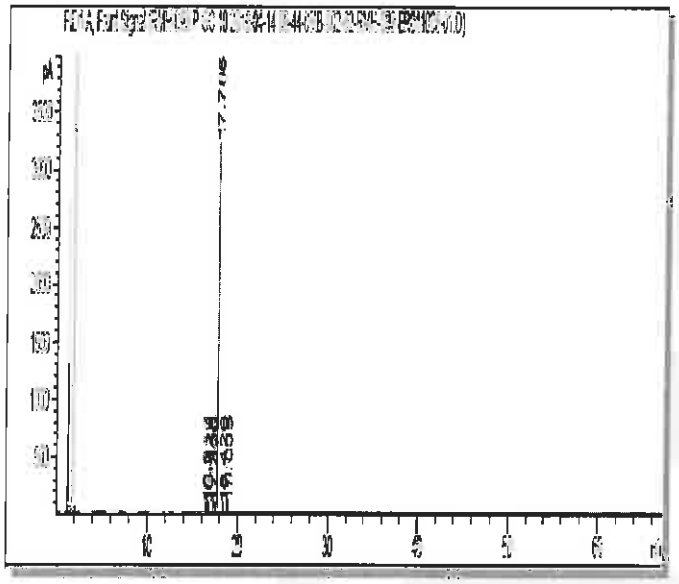

Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 40°C to 300°C at 15°C/min hold 50 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: RMH-098 P GC 10 2016-04-14 08-44-08\B-002-62.D
Instrument: GC#10
Sample Name: ER011008-01
Acquired: April 14, 2016

Peak #	Ret Time	Area	Height	Area %
1	16.56	16.58	7.74	0.19
2	16.72	11.25	5.08	0.13
3	16.83	8.45	4.05	0.10
4	17.30	1.81	0.71	0.02
5	17.48	1.07	0.50	0.01
6	17.79	8682.22	3203.58	99.29
7	18.43	1.99	0.68	0.02
8	19.01	20.62	6.08	0.24

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-13C12
Lot Number : ER011028-01
Instrument : Agilent GCMS
Operator : KCM(SGIUFKS)
Date Reported : Wed Apr 13 07:10:54 2016
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (ml/min) : 0.80 ml/min
Transfer Line Temp. : 280°C
Scan Range : 50-550

Total Ion Chromatogram

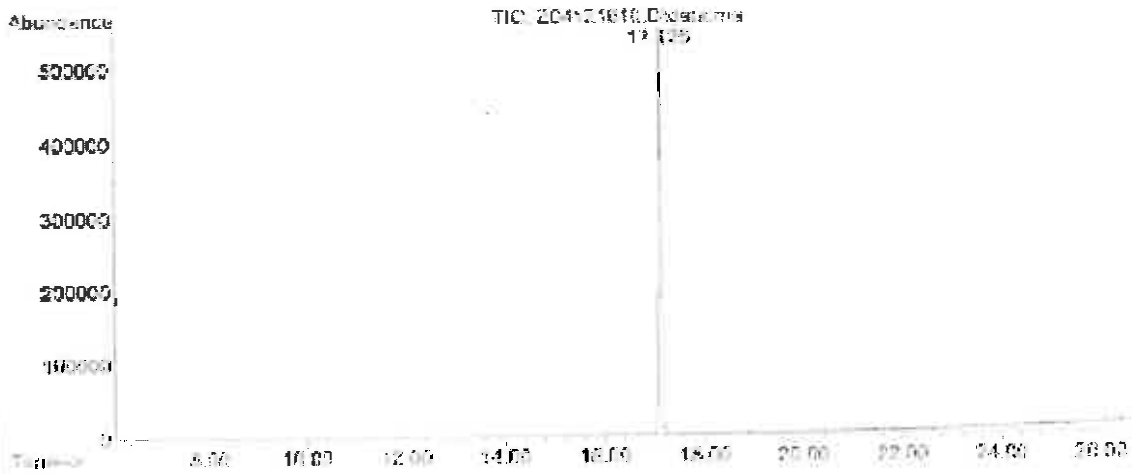

Mass Spectrum

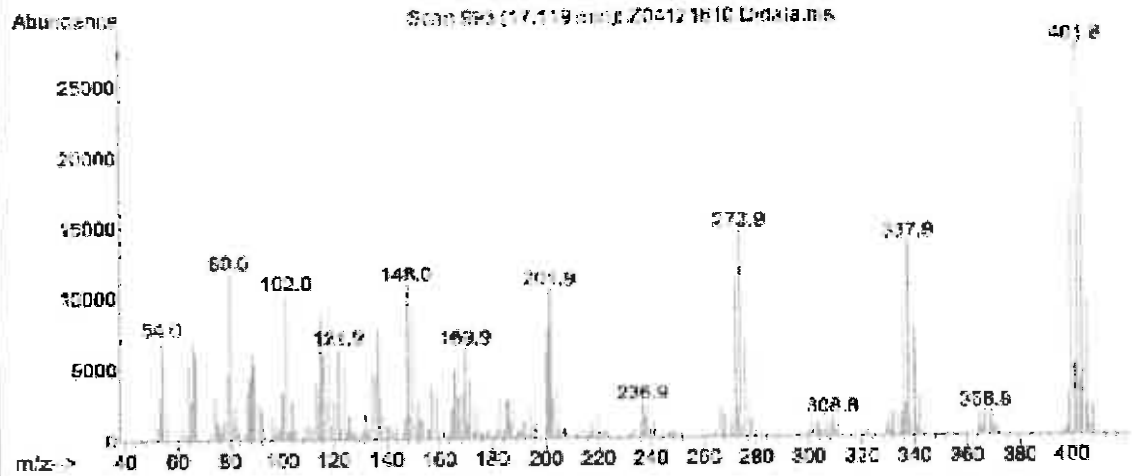

Reagent

HRDXNIDA_00378

r: 4/8/19 SKJ

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Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

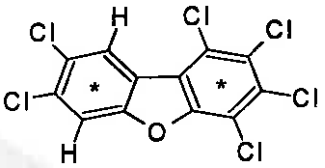

Catalog Number:	EF-963
Solution Lot:	ER04211701
Expiration Date:	July 2027
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.4%	50.00 ± 0.28 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04211701	49.47	± 5%	0.2	≤ 3%
Previous Lot	ER072810-02	45.87	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release

Traceability

- Gravemetrically prepared using balances that have been qualified and calibrated to ISO 17025 requirements. All calibrations utilize NIST traceable weights which are calibrated externally by a qualified ISO 17025 accredited calibration laboratory to NIST standards. Qualification of each balance includes the assignment of a minimum weighing by a qualified and ISO 17025 accredited calibration vendor taking into consideration the balance and installed environmental conditions to ensure compliance with USP tolerances of NMT 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

September 11, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}Cl_6H_2O$
Compound Lot:	ER11281601	**CAS Number:**	114423-98-2
		Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0102	99.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.06% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 0.5%
Mass Balance Purity Factor		99.31%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

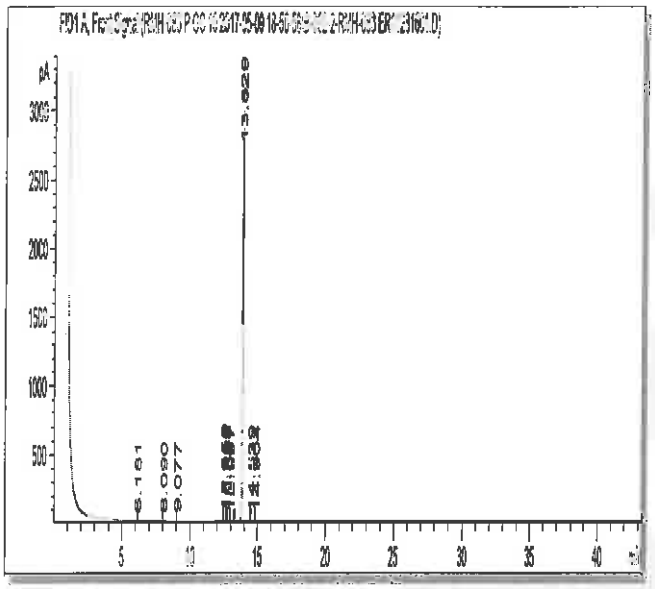

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 30 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-083 P GC 10 2017-05-09 18-50-58\B-002-2.D
Instrument:	GC#10
Sample Name:	ER11281601
Acquired:	May 09, 2017

Peak #	Ret Time	Area	Height	Area %
1	6.18	1.10	0.64	0.01
2	8.09	2.00	0.70	0.02
3	9.08	1.17	0.48	0.01
4	12.55	14.76	7.25	0.16
5	12.73	32.67	11.32	0.36
6	12.84	5.45	2.50	0.06
7	13.00	2.51	1.30	0.03
8	13.83	8993.56	3122.16	99.30
9	14.54	1.11	0.20	0.01
10	14.90	2.71	0.86	0.03

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 1,2,3,4,7,8-hexachlorodibenzofuran-13C12
Lot Number : SRI128160[illegible]
Instrument : Agilent GCMS
Operator : ECM(SGIDEFKE)
Date Reported : Mon May 08 09:30:09 2017
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@60°C/min,200°C to 320°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL\min) : 0.80 mL/min
Transfer Line Temp. : 280°C
Scan Range : 50-550

Total Ion Chromatogram

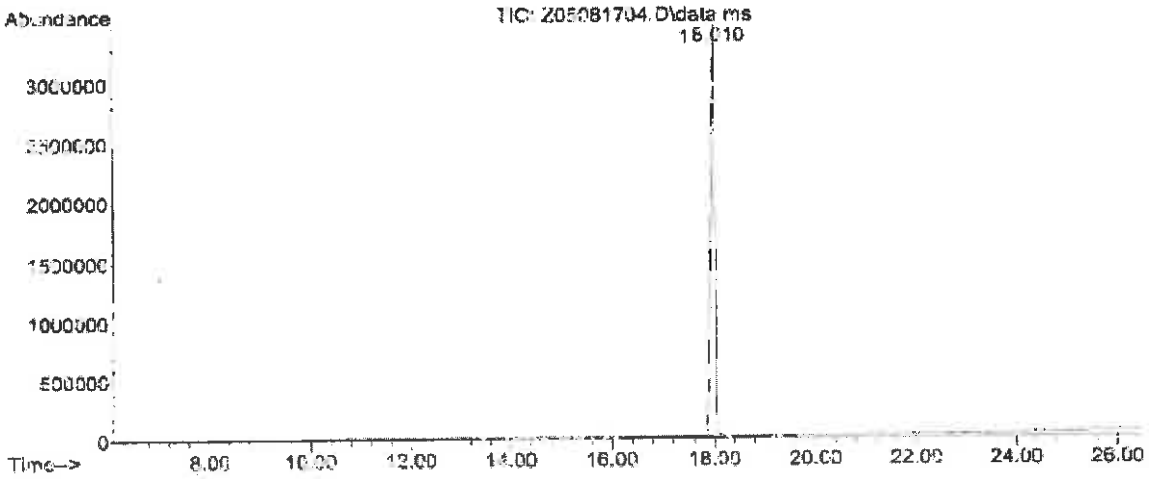

Mass Spectrum

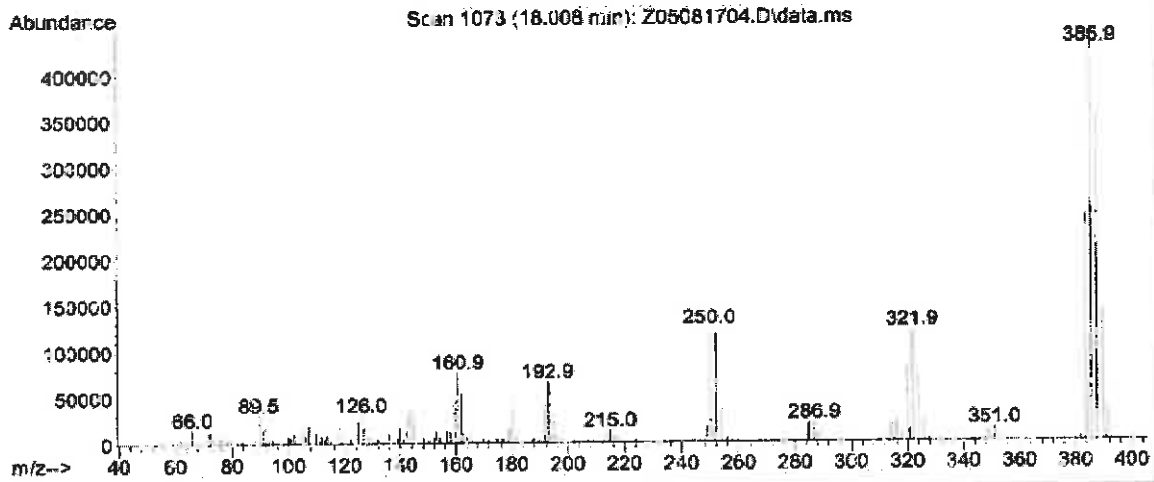

Reagent

HRDXNIS_00110

r: 9/4/18 SKV

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Analytical Reference Standards
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CIL

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

Catalog Number: ED-996
Solution Lot: ER08221601
Expiration Date: September 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER08221601	49.20	± 5%	0.3	≤ 3%
Previous Lot	ER021313-01	49.56	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

September 28, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O_2$
Compound Lot:	ER110510-01	**CAS Number:**	109719-82-6
		Molecular Weight:	402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.04% $^{13}C_0$ vs $^{13}C_{12}$
		0.27% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.02%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

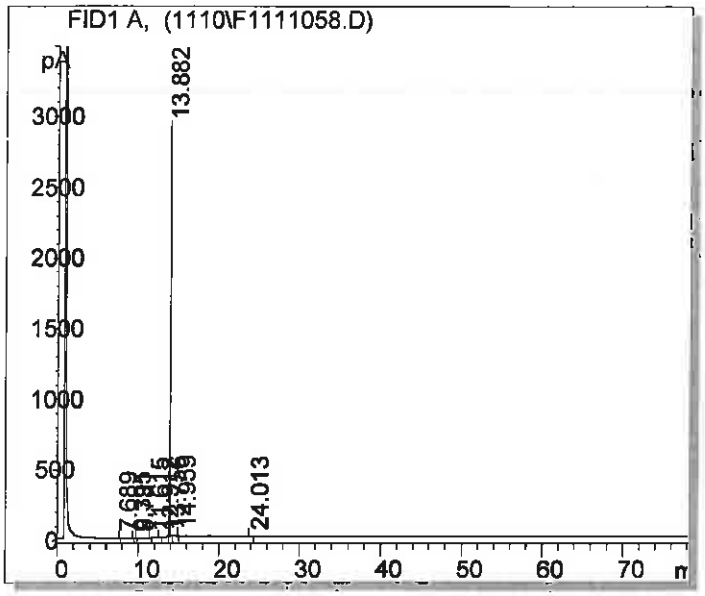

Column:	DB-5ms 30m x 0.53mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-column
Detector Temp:	325°C
Data File Name:	S:\GC\GC6\2010\1110\F1111058.D
Instrument:	GC#6
Sample Name:	ER110510-01
Acquired:	November 12, 2010

Peak #	Ret Time	Area	Height	Area %
1	4 69	0.45	0.10	0.01
2	9.40	0 72	0.14	0.01
3	9.78	0 80	0.13	0.01
4	11 62	7.34	2.54	0.09
5	12 91	2.59	0.23	0.03
6	13 76	1.91	1.00	0.02
7	13 88	8026.07	2938.74	99.11
8	14.96	36.82	11.38	0.45
9	24.01	21.08	1.62	0.26

Spectral and Physical Data (cont.)

GC/MS

```
Compound Name      : 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-13C12
Lot Number         : ER110510-01
Instrument         : Agilent 5973N MSD /6890N GC
Operator-Inst ID   : RPC - A147434
Date Reported      : Fri Nov 12 16:41:14 2010
Column Type        : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program      : 140°C to 200°C @40°C/min,200°C to 320°C @4°C/min
Injector Temp.     : Cool on-column          Trans. Line Temp : 280°C
Carrier Gas        : Helium                  Flow Rate        : 0.80 mL/min
```

Total Ion Chromatogram
S:\GCMS\GCMS2\2010\1110\

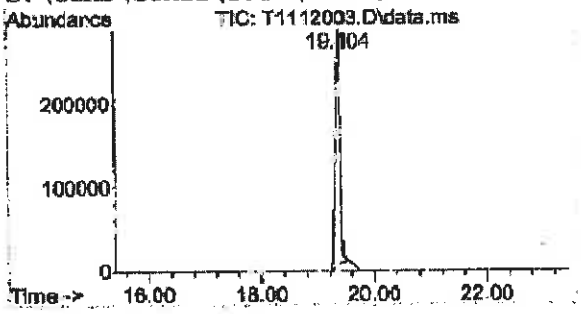

Mass Spectrum
Scan Number: 1976 Scan Range: 50-550 amu

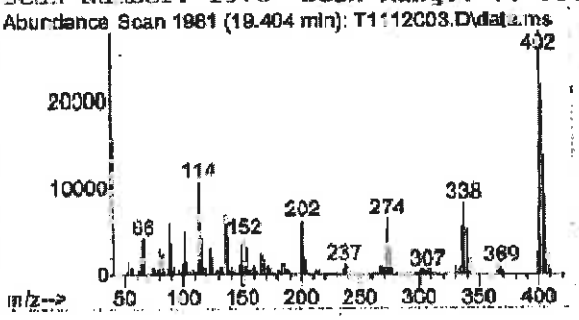

SIM Ion Chromatogram 1

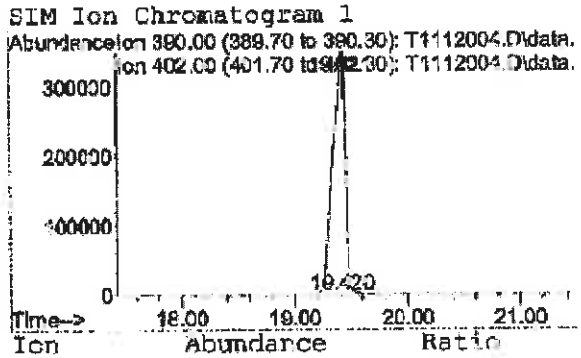

Ion	Abundance	Ratio
402	26368380	99.96
390	9776	0.04

SIM Ion Chromatogram 2

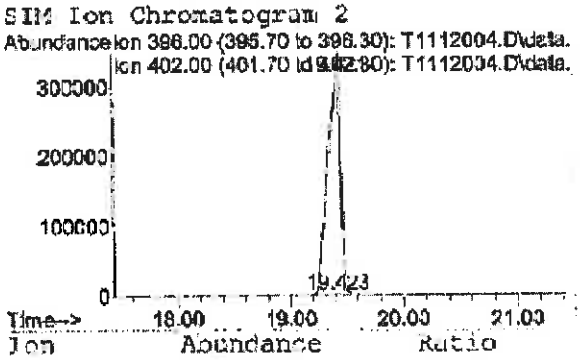

Ion	Abundance	Ratio
402	26368380	99.73
396	71626	0.27

Reagent

HRDXNIS_00111

Rec: 9/4/18 SKV

Cerilliant
Analytical Reference Standards
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CIL

Certificate of Analysis

1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$

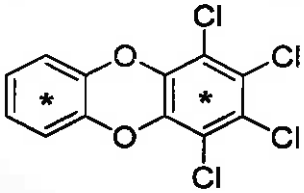

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number: ED-911
Solution Lot: ER11081602
Expiration Date: January 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.7%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER11081602	51.01	± 10%	0.1	≤ 3%
Previous Lot	ER060710-01	50.59	± 10%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

January 23, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$
Compound Lot:	ER02021602

Chemical Formula:	$^{13}C_{12}H_4Cl_4O_2$
CAS Number:	114423-99-3
Molecular Weight:	333.88

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS	SP10-0105	no single DD/DF impurity ≥ 1.0%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.03% $^{13}C_0$ vs $^{13}C_{12}$
		0.01% $^{13}C_6$ vs $^{13}C_{12}$
Identity by ^{1}H-NMR Analysis	USP <761>, SP10-0116	Consistent with Structure
Residual Solvent by ^{1}H-NMR Analysis	USP <761>, SP10-0116	0.31% Dichloromethane
Mass Balance Purity Factor		98.71%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

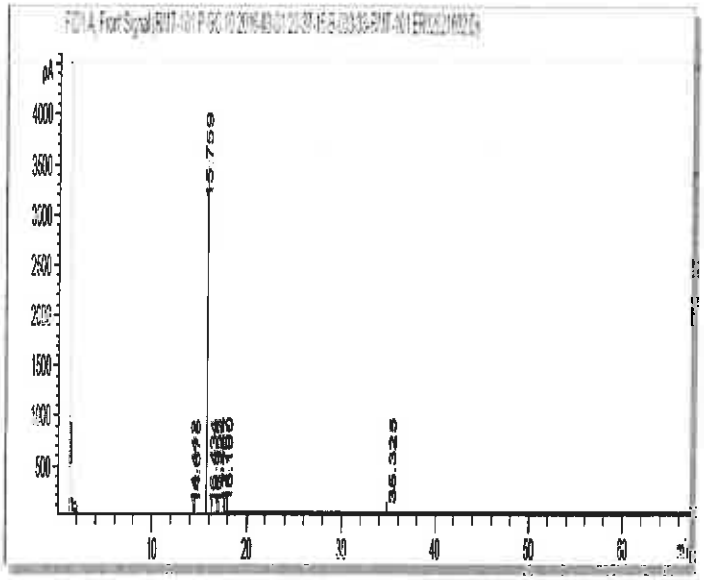

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	40°C to 300°C at 15°C/min hold 50 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMT-101 P GC 10 2016-03-01 20-37-15\B-003-33.D
Instrument:	GC#10
Sample Name:	ER02021602
Acquired:	March 01, 2016

Peak #	Ret Time	Area	Height	Area %
1	14.44	1.34	0.53	0.02
2	14.68	3.60	0.58	0.05
3	15.76	7522.29	3054.11	99.22
4	16.43	3.51	0.80	0.05
5	16.96	2.38	1.09	0.03
6	17.13	4.79	2.26	0.06
7	17.77	8.72	3.38	0.11
8	18.10	1.68	0.54	0.02
9	35.33	32.94	1.28	0.43

^{1}H NMR

Instrument:	JEOL ECS 400
Solvent:	Chloroform-D

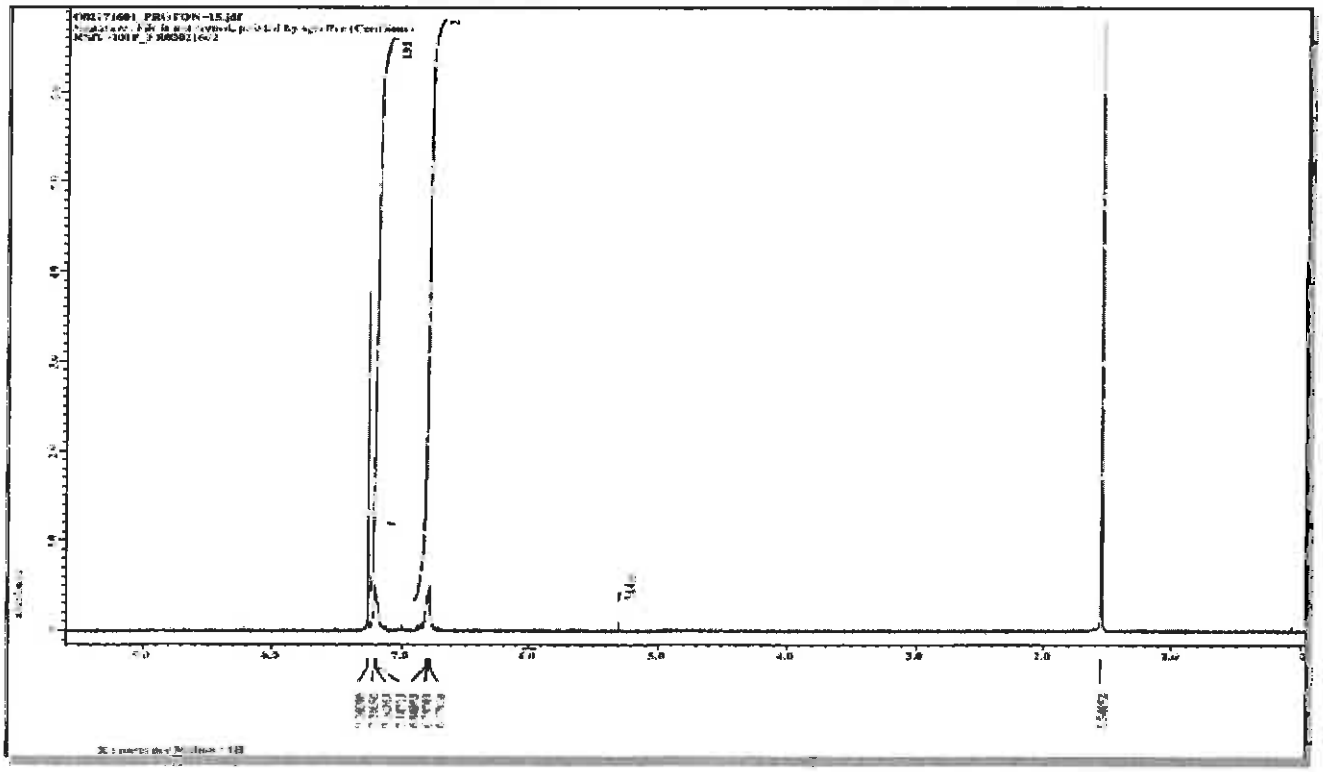

Spectral and Physical Data (cont.)

GC/MS

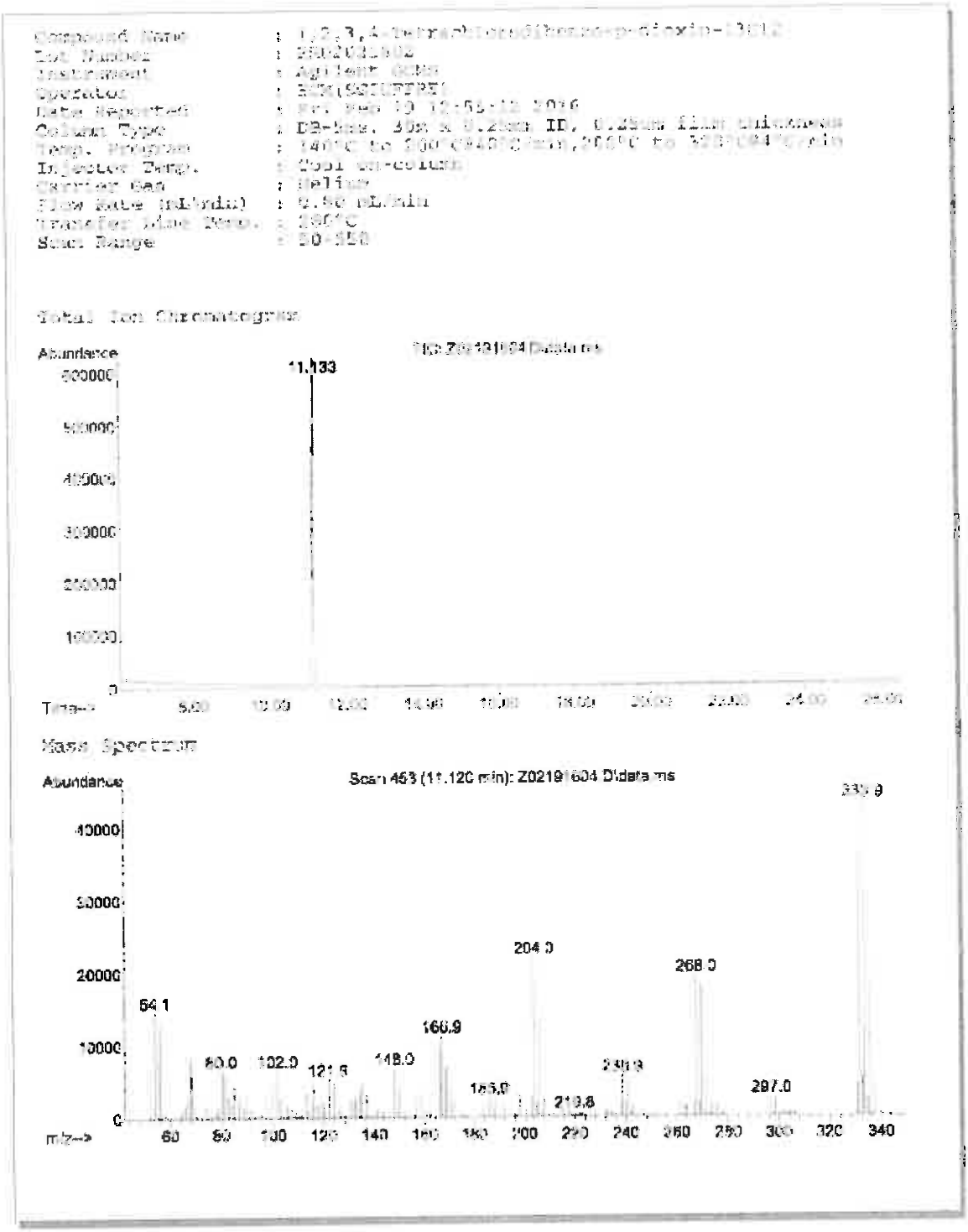

Reagent

HRDXNSU_00187

r: 7/30/18 SKJ

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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$

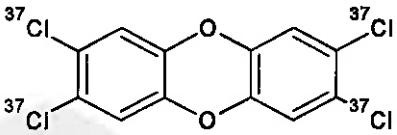

Catalog Number:	ED-907
Solution Lot:	ER05211501
Expiration Date:	July 2025
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold
Shipping:	Ambient.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Instructions for Use:	Sonicate before use.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration
- For MS Applications, we advise laboratories not to mix lots during a single sequence.

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$	98.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Acceptance Criteria	%RSD - Homogeneity Actual Results	Acceptance Criteria
New Lot	ER05211501	50.60	± 10%	0.2	≤ 5%
Previous Lot	ER052010-02	49.73	± 10%	0.5	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after

ACLASS ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

August 03, 2015
Date

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 60°C to 300°C at 40°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 4
Linearity (r): 1.000

Neat Material Data

Compound Name: 2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$
Compound Lot: ER040510-01

Chemical Formula: $C_{12}H_4O_2{}^{37}Cl_4$
CAS Number 85508-50-5
Molecular Weight 328.02

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{37}Cl_0$ vs $^{37}Cl_4$
Identity by ^{1}H-NMR Analysis	USP <761>, SP10-0116	Consistent with Structure
Residual Solvent Analysis by ^{1}H-NMR	USP <761>, SP10-0116	1.2% Chloroform
Purity Factor		97.14%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

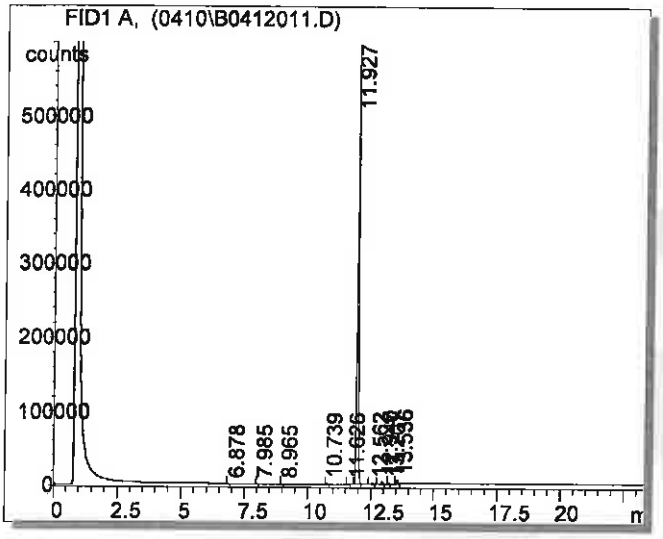

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	S:\GC\GC2\2010\0410\B0412011.D
Instrument:	GC#2
Sample Name:	ER040510-01
Acquired:	April 13, 2010

Peak #	Ret Time	Area	Height	Area %
1	6.88	245.58	89.37	0.01
2	7.99	304.03	131.27	0.01
3	8.97	233.91	72.32	0.01
4	10.74	931.14	265.29	0.04
5	11.63	127.86	46.74	0.01
6	11.93	2261830.00	580792.00	98.34
7	12.56	6435.54	1838.17	0.28
8	12.94	13336.80	4373.86	0.58
9	13.20	2178.30	729.98	0.09
10	13.54	14483.80	5038.43	0.63

^{1}H NMR

Instrument:	JEOL ECS 400
Solvent:	Toluene-D_8

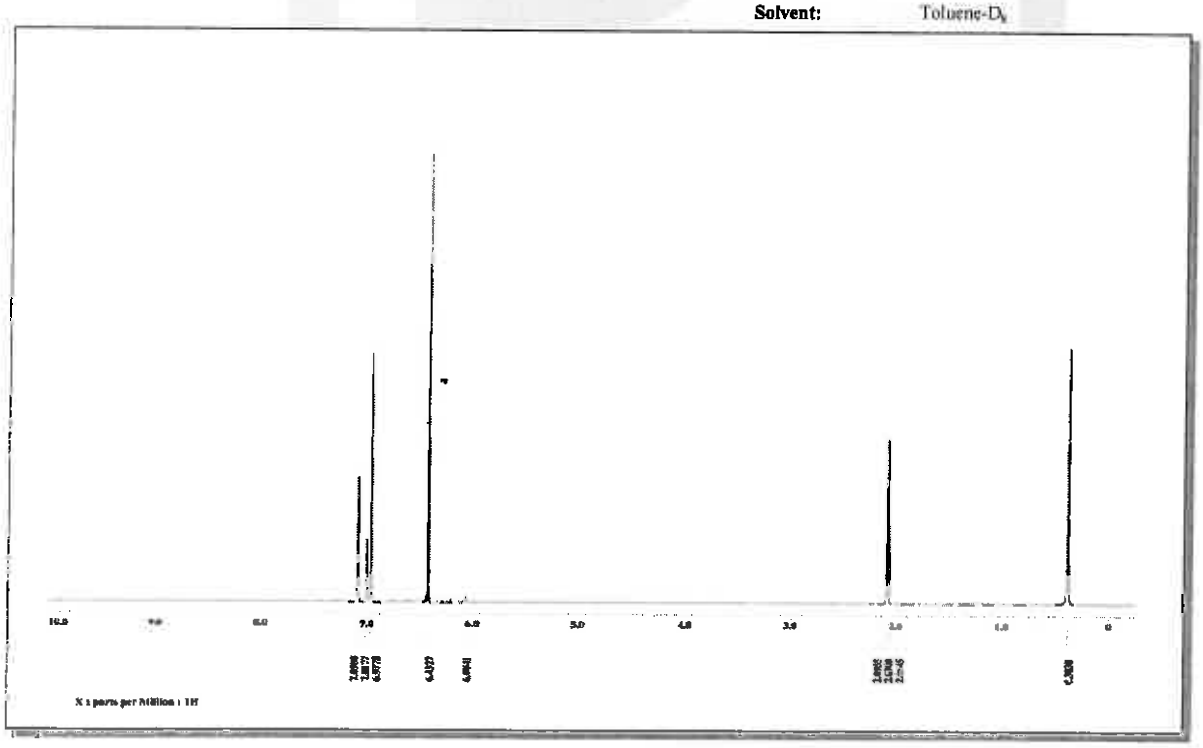

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

Compound Name : 2,3,7,8-Tetrachlorodibenzo-p-dioxin-37C14
Lot Number : [illegible]0510-02
Instrument : Agilent 5973N MSD/6890N GC
Operator-Inst ID : RPC - C10106
Date Acquired : Mon Apr 19 [illegible]:[illegible]:[illegible] 2010
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to [illegible]°C/min, 200°C to 320°C[illegible]°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 280°C

Scan Range : 50-550

Total Ion Chromatogram

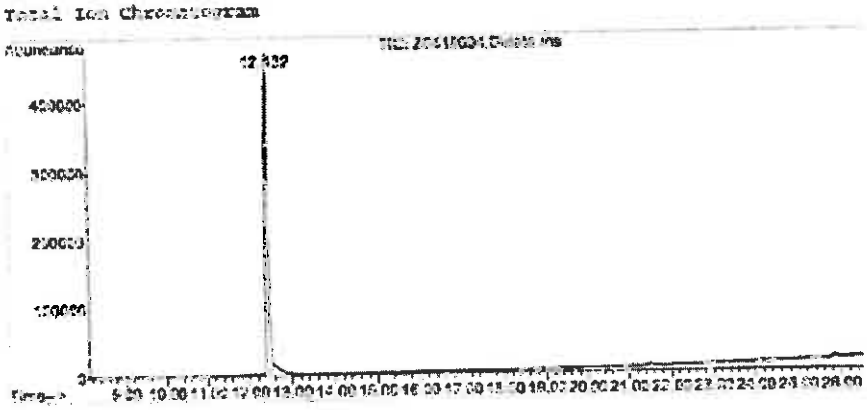

Mass Spectrum

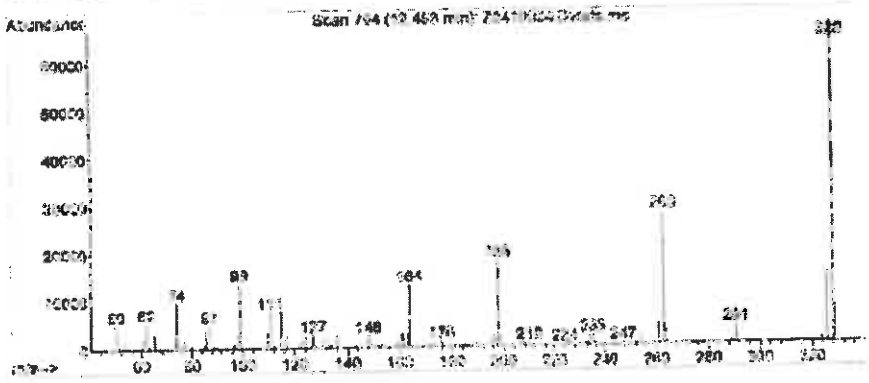

Reagent

HRDXNTA_00092

R: 7/6/18 SKJ

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Certificate of Analysis

Method 1613 PAR Stock Solution

Certificate Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number: EDF-7999-10X
Solution Lot: ER02241602
Expiration Date: April 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/ analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 volume. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Lot Number	CAS Number	Chemical Formula	Molecular Weight	Chromatographic Purity	Concentration
2,3,7,8-TeCDD	ER04271502	1746-01-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%	399.9 ± 4.0 ng/mL
2,3,7,8-TeCDF	ER101211-02	51207-31-9	$C_{12}H_4Cl_4O$	305.97	99.4%	399.9 ± 4.0 ng/mL
1,2,3,7,8-PeCDD	ER110909-02	40321-76-4	$C_{12}H_3Cl_5O_2$	356.42	99.2%	2000 ± 20 ng/mL
1,2,3,7,8-PeCDF	ER03121401	57117-41-6	$C_{12}H_3Cl_5O$	340.42	99.5%	1999 ± 20 ng/mL
2,3,4,7,8-PeCDF	ER070710-01	57117-31-4	$C_{12}H_3Cl_5O$	340.42	99.4%	1999 ± 20 ng/mL
1,2,3,4,7,8-HxCDD	ER080108-02	39227-28-6	$C_{12}H_2Cl_6O_2$	390.86	98.6%	2000 ± 20 ng/mL
1,2,3,6,7,8-HxCDD	ER03231501	57653-85-7	$C_{12}H_2Cl_6O_2$	390.86	99.6%	2000 ± 20 ng/mL
1,2,3,7,8,9-HxCDD	ER02041601	19408-74-3	$C_{12}H_2Cl_6O_2$	390.86	99.2%	2000 ± 20 ng/mL
1,2,3,4,7,8-HxCDF	ER021110-01	70648-26-9	$C_{12}H_2Cl_6O$	374.86	99.0%	2000 ± 20 ng/mL
1,2,3,6,7,8-HxCDF	ER04161501	57117-44-9	$C_{12}H_2Cl_6O$	374.86	99.8%	2000 ± 20 ng/mL
1,2,3,7,8,9-HxCDF	ER060107-01	72918-21-9	$C_{12}H_2Cl_6O$	374.86	97.5%	1999 ± 20 ng/mL
2,3,4,6,7,8-HxCDF	ER02041602	60851-34-5	$C_{12}H_2Cl_6O$	374.86	99.1%	2001 ± 20 ng/mL
1,2,3,4,6,7,8-HpCDD	ER01201504	35822-46-9	$C_{12}HCl_7O_2$	425.31	98.5%	1999 ± 20 ng/mL
1,2,3,4,6,7,8-HpCDF	ER02281403	67562-39-4	$C_{12}HCl_7O$	409.31	98.9%	1999 ± 20 ng/mL
1,2,3,4,7,8,9-HpCDF	ER01121503	55673-89-7	$C_{12}HCl_7O$	409.31	99.1%	1999 ± 20 ng/mL
OCDD	ER05221301	3268-87-9	$C_{12}Cl_8O_2$	459.75	99.9%	3999 ± 40 ng/mL
OCDF	ER040811-01	39001-02-0	$C_{12}Cl_8O$	443.75	98.9%	4000 ± 40 ng/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Stock solution concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

April 28, 2016
Date

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.

Standard Solution Assay Parameters

Analysis Method: GC/ECD
Column: DB-5ms, 30 m x 0.25 mm ID, 0 25 µm film thickness
Temp Program: 140°C to 200°C at 40°C/min, 200°C to 300°C at 4°C/min hold 3 min
Injector Temp: Cool on-column
Detector Temp: 280°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 1

Solution Standard Verification and Homogeneity

Compound	Verified Concentration ng/mL	Acceptance Criteria	%RSD - Homogeneity %	Acceptance Criteria
2,3,7,8-TeCDD	397 1	± 10%	0.7	≤ 5%
2,3,7,8-TeCDF	386 6	± 10%	0.7	≤ 5%
1,2,3,7,8-PeCDD	1937	± 10%	0 8	≤ 5%
1,2,3,7,8-PeCDF	1919	± 10%	0.8	≤ 5%
2,3,4,7,8-PeCDF	1941	± 10%	0.8	≤ 5%
1,2,3,4,7,8-HxCDD	1932	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDD	1987	± 10%	0 8	≤ 5%
1,2,3,7,8,9-HxCDD	1943	± 10%	0 7	≤ 5%
1,2,3,4,7,8-HxCDF	1933	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDF	1909	± 10%	0.9	≤ 5%
1,2,3,7,8,9-HxCDF	1942	± 10%	0.7	≤ 5%
2,3,4,6,7,8-HxCDF	1950	± 10%	0.8	≤ 5%
1.2.3.4.6.7.8-HpCDD	1930	± 10%	0.9	≤ 5%
1,2,3,4,6,7,8-HpCDF	1919	± 10%	0.9	≤ 5%
1,2,3,4,7,8,9-HpCDF	1943	± 10%	1.0	≤ 5%
OCDD	3844	± 10%	1.0	≤ 5%
OCDF	3906	± 10%	0.9	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The %RSD of samples pulled from across the lot demonstrate homogeneity.
- Product is compared to prior lot and meets acceptance criteria of ± 10%.

Product Analysis

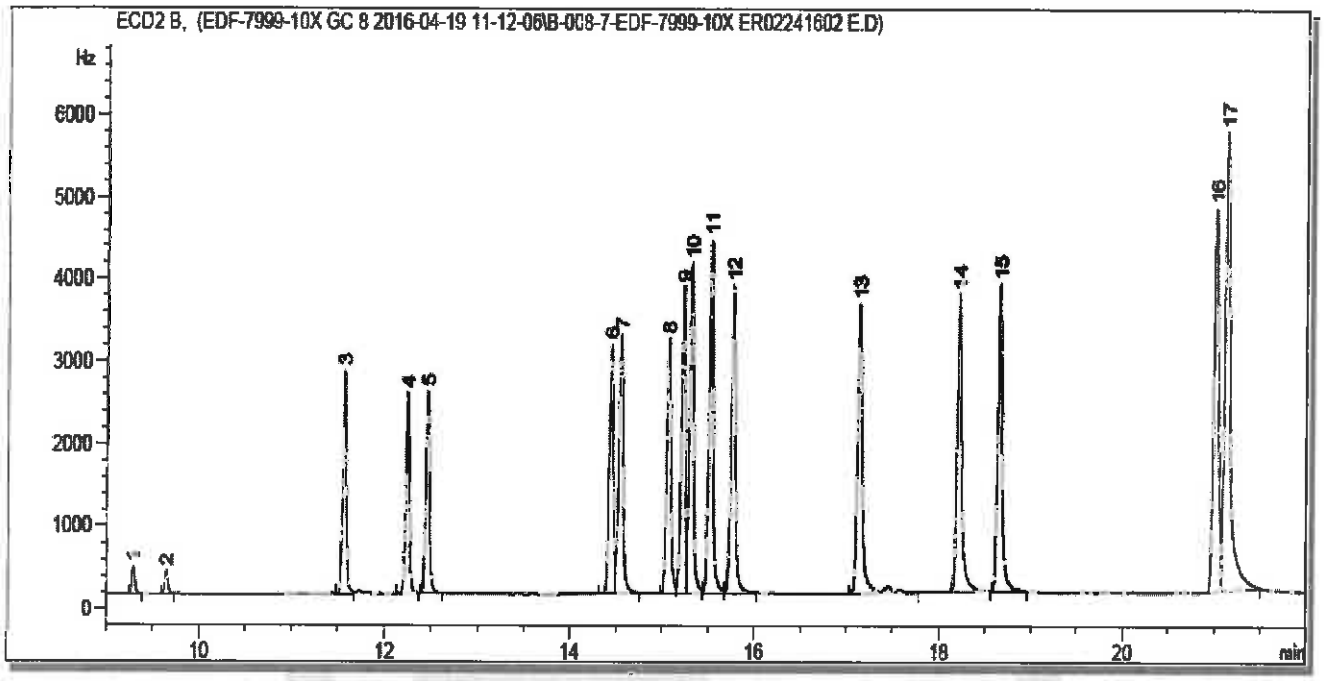

Peak:	Analyte:
1	2,3,7,8-Tetrachlorodibenzofuran
2	2,3,7,8-Tetrachloro-p-dioxin
3	1,2,3,7,8-Pentachlorodibenzofuran
4	2,3,4,7,8-Pentachlorodibenzofuran
5	1,2,3,7,8-Pentachlorodibenzo-p-dioxin
6	1,2,3,4,7,8-Hexachlorodibenzofuran
7	1,2,3,6,7,8-Hexachlorodibenzofuran
8	2,3,4,6,7,8-Hexachlorodibenzofuran
9	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin
10	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin
11	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin
12	1,2,3,7,8,9-Hexachlorodibenzofuran
13	1,2,3,4,6,7,8-Heptachlorodibenzofuran
14	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin
15	1,2,3,4,7,8,9-Heptachlorodibenzofuran
16	Octachlorodibenzo-p-dioxin
17	Octachlorodibenzofuran

COA Revision History

Revision No.	Date	Reason for Revision
00	April 28, 2016	Initial version

Reagent

HRDXNTA_00093

R: 7/6/18 SKJ

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Analytical Reference Standards
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Certificate of Analysis

Method 1613 PAR Stock Solution

Certificant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number: EDF-7999-10X
Solution Lot: ER02241602
Expiration Date: April 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/ analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 volume. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Lot Number	CAS Number	Chemical Formula	Molecular Weight	Chromatographic Purity	Concentration
2,3,7,8-TeCDD	ER04271502	1746-01-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%	399.9 ± 4.0 ng/mL
2,3,7,8-TeCDF	ER101211-02	51207-31-9	$C_{12}H_4Cl_4O$	305.97	99.4%	399.9 ± 4.0 ng/mL
1,2,3,7,8-PeCDD	ER110909-02	40321-76-4	$C_{12}H_3Cl_5O_2$	356.42	99.2%	2000 ± 20 ng/mL
1,2,3,7,8-PeCDF	ER03121401	57117-41-6	$C_{12}H_3Cl_5O$	340.42	99.5%	1999 ± 20 ng/mL
2,3,4,7,8-PeCDF	ER070710-01	57117-31-4	$C_{12}H_3Cl_5O$	340.42	99.4%	1999 ± 20 ng/mL
1,2,3,4,7,8-HxCDD	ER080108-02	39227-28-6	$C_{12}H_2Cl_6O_2$	390.86	98.6%	2000 ± 20 ng/mL
1,2,3,6,7,8-HxCDD	ER03231501	57653-85-7	$C_{12}H_2Cl_6O_2$	390.86	99.6%	2000 ± 20 ng/mL
1,2,3,7,8,9-HxCDD	ER02041601	19408-74-3	$C_{12}H_2Cl_6O_2$	390.86	99.2%	2000 ± 20 ng/mL
1,2,3,4,7,8-HxCDF	ER021110-01	70648-26-9	$C_{12}H_2Cl_6O$	374.86	99.0%	2000 ± 20 ng/mL
1,2,3,6,7,8-HxCDF	ER04161501	57117-44-9	$C_{12}H_2Cl_6O$	374.86	99.8%	2000 ± 20 ng/mL
1,2,3,7,8,9-HxCDF	ER060107-01	72918-21-9	$C_{12}H_2Cl_6O$	374.86	97.5%	1999 ± 20 ng/mL
2,3,4,6,7,8-HxCDF	ER02041602	60851-34-5	$C_{12}H_2Cl_6O$	374.86	99.1%	2001 ± 20 ng/mL
1,2,3,4,6,7,8-HpCDD	ER01201504	35822-46-9	$C_{12}HCl_7O_2$	425.31	98.5%	1999 ± 20 ng/mL
1,2,3,4,6,7,8-HpCDF	ER02281403	67562-39-4	$C_{12}HCl_7O$	409.31	98.9%	1999 ± 20 ng/mL
1,2,3,4,7,8,9-HpCDF	ER01121503	55673-89-7	$C_{12}HCl_7O$	409.31	99.1%	1999 ± 20 ng/mL
OCDD	ER05221301	3268-87-9	$C_{12}Cl_8O_2$	459.75	99.9%	3999 ± 40 ng/mL
OCDF	ER040811-01	39001-02-0	$C_{12}Cl_8O$	443.75	98.9%	4000 ± 40 ng/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Stock solution concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

April 28, 2016
Date

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.

Standard Solution Assay Parameters

Analysis Method: GC/ECD
Column: DB-5ms, 30 m x 0.25 mm ID, 0 25 µm film thickness
Temp Program: 140°C to 200°C at 40°C/min, 200°C to 300°C at 4°C/min hold 3 min
Injector Temp: Cool on-column
Detector Temp: 280°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 1

Solution Standard Verification and Homogeneity

Compound	Verified Concentration ng/mL	Acceptance Criteria	%RSD - Homogeneity %	Acceptance Criteria
2,3,7,8-TeCDD	397 1	± 10%	0.7	≤ 5%
2,3,7,8-TeCDF	386 6	± 10%	0.7	≤ 5%
1,2,3,7,8-PeCDD	1937	± 10%	0 8	≤ 5%
1,2,3,7,8-PeCDF	1919	± 10%	0.8	≤ 5%
2,3,4,7,8-PeCDF	1941	± 10%	0.8	≤ 5%
1,2,3,4,7,8-HxCDD	1932	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDD	1987	± 10%	0 8	≤ 5%
1,2,3,7,8,9-HxCDD	1943	± 10%	0 7	≤ 5%
1,2,3,4,7,8-HxCDF	1933	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDF	1909	± 10%	0.9	≤ 5%
1,2,3,7,8,9-HxCDF	1942	± 10%	0.7	≤ 5%
2,3,4,6,7,8-HxCDF	1950	± 10%	0.8	≤ 5%
1.2.3.4.6.7.8-HpCDD	1930	± 10%	0.9	≤ 5%
1,2,3,4,6,7,8-HpCDF	1919	± 10%	0.9	≤ 5%
1,2,3,4,7,8,9-HpCDF	1943	± 10%	1.0	≤ 5%
OCDD	3844	± 10%	1.0	≤ 5%
OCDF	3906	± 10%	0.9	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The %RSD of samples pulled from across the lot demonstrate homogeneity.
- Product is compared to prior lot and meets acceptance criteria of ± 10%.

Product Analysis

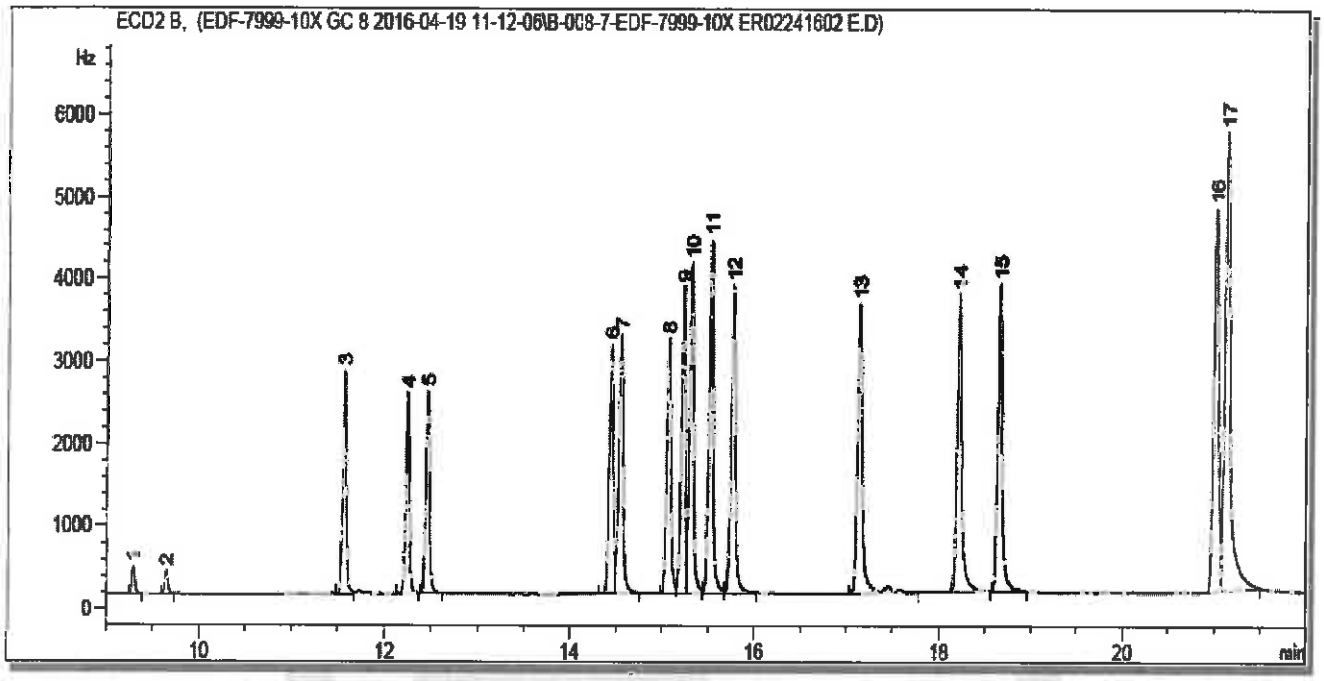

Peak:	Analyte:
1	2,3,7,8-Tetrachlorodibenzofuran
2	2,3,7,8-Tetrachloro-p-dioxin
3	1,2,3,7,8-Pentachlorodibenzofuran
4	2,3,4,7,8-Pentachlorodibenzofuran
5	1,2,3,7,8-Pentachlorodibenzo-p-dioxin
6	1,2,3,4,7,8-Hexachlorodibenzofuran
7	1,2,3,6,7,8-Hexachlorodibenzofuran
8	2,3,4,6,7,8-Hexachlorodibenzofuran
9	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin
10	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin
11	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin
12	1,2,3,7,8,9-Hexachlorodibenzofuran
13	1,2,3,4,6,7,8-Heptachlorodibenzofuran
14	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin
15	1,2,3,4,7,8,9-Heptachlorodibenzofuran
16	Octachlorodibenzo-p-dioxin
17	Octachlorodibenzofuran

COA Revision History

Revision No.	Date	Reason for Revision
00	April 28, 2016	Initial version

Reagent

HRDXNTA_00102

Rec: 1/31/19 SKV

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

EPA-1613PAR

U.S. EPA Method 1613 Native PCDD/PCDF
Precision and Recovery Stock Solution

PRODUCT CODE:	EPA-1613PAR
LOT NUMBER:	13PAR0418
SOLVENT(S):	Nonane/Toluene
DATE PREPARED: (mm/dd/yyyy)	04/11/2018
LAST TESTED: (mm/dd/yyyy)	04/12/2018
EXPIRY DATE: (mm/dd/yyyy)	03/01/2025
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION:

EPA-1613PAR is a solution/mixture of all the 2,3,7,8-substituted chlorinated dibenzo-p-dioxins (PCDDs) and 2,3,7,8-substituted dibenzofurans (PCDFs). The components and their concentrations are given in Table A.

EPA-1613PAR was designed for, and prepared to be used according to, U.S. EPA Method 1613 (Revision B).

The individual PCDDs and PCDFs all have chemical purities of >98%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: HRGC/HRMS Data (SIR; 10,000 mass resolving power)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Table A: **EPA-1613PAR; Components and Concentrations (ng/ml, ± 5% in nonane/ 2.4% toluene)**

	Concentration (ng/ml)
PCDDs:	
2,3,7,8-Tetrachlorodibenzo-p-dioxin	40
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	200
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	200
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	200
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	200
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	200
Octachlorodibenzo-p-dioxin	400
PCDFs:	
2,3,7,8-Tetrachlorodibenzofuran	40
1,2,3,7,8-Pentachlorodibenzofuran	200
2,3,4,7,8-Pentachlorodibenzofuran	200
1,2,3,4,7,8-Hexachlorodibenzofuran	200
1,2,3,6,7,8-Hexachlorodibenzofuran	200
1,2,3,7,8,9-Hexachlorodibenzofuran	200
2,3,4,6,7,8-Hexachlorodibenzofuran	200
1,2,3,4,6,7,8-Heptachlorodibenzofuran	200
1,2,3,4,7,8,9-Heptachlorodibenzofuran	200
Octachlorodibenzofuran	400

Certified By: _____ **Date:** 04/16/2018 (mm/dd/yyyy)

B.G. Chittim, General Manager

Figure 1: **EPA-1613PAR; HRGC/HRMS Data (60 m DB-5 Column)**

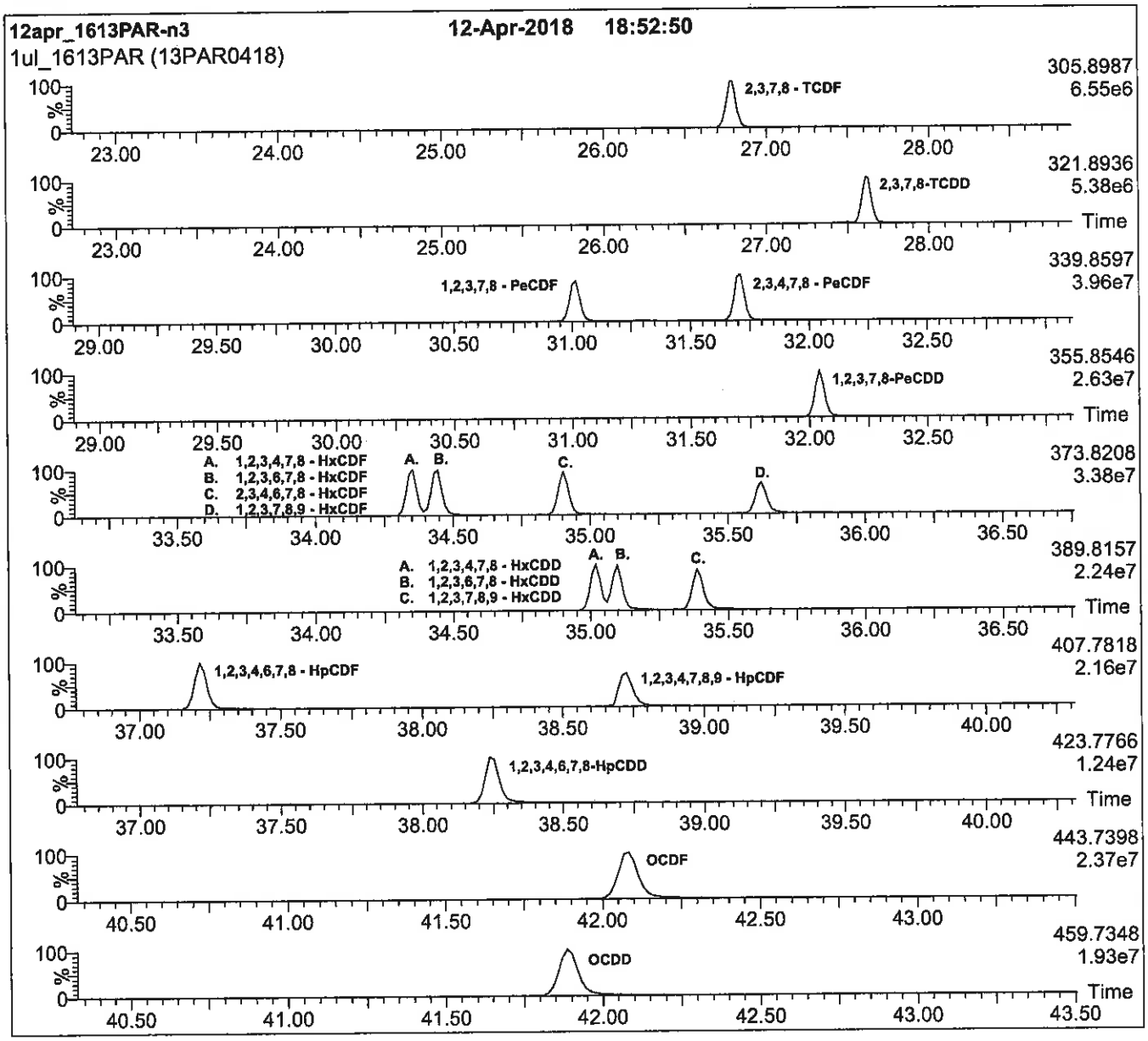

HRGC/HRMS:

Agilent 6890N (HRGC)
Autospec Ultima (HRMS)

Chromatographic Conditions:

Column: 60 m DB-5 (0.25 mm id, 0.25 µm film thickness) Agilent J&W

Flow:	Constant at 1 ml/min	Oven:	150 °C (1 min)
Injector:	280 °C (Splitless Injection)		12 °C/min to 200 °C
Ionization:	EI+		3 °C/min to 235 °C
Detector:	280 °C		235 °C (8 min)
	SIR at 10,000 mass resolving power		8 °C/min to 310 °C
			310 °C (8 min)

Method 300.0

Anions (IC) by Method 300.0

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 102919-600-0031944-007.d

Lab ID: LCS 600-278776/7 Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
Bromide	7.50	7.55	101	90-110	
Chloride	20.0	19.5	98	90-110	
Sulfate	20.0	19.6	98	90-110	
Fluoride	7.50	7.71	103	90-110	

Column to be used to flag recovery and RPD values

FORM III 300.0

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 102919-600-0031944-007.d

Lab ID: LCS 600-278777/7 Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
Nitrate as N	10.0	9.68	97	90-110	
Nitrite as N	10.0	10.4	104	90-110	

Column to be used to flag recovery and RPD values

FORM III 300.0

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 103019-600-0031972-007.d

Lab ID: LCS 600-278901/7 Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
Bromide	7.50	7.56	101	90-110	
Chloride	20.0	19.6	98	90-110	
Sulfate	20.0	19.6	98	90-110	
Fluoride	7.50	7.71	103	90-110	

Column to be used to flag recovery and RPD values

FORM III 300.0

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 103019-600-0031972-038.d

Lab ID: LCS 600-278901/38 Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
Bromide	7.50	7.67	102	90-110	
Chloride	20.0	19.3	97	90-110	
Sulfate	20.0	19.7	98	90-110	
Fluoride	7.50	8.04	107	90-110	

Column to be used to flag recovery and RPD values

FORM III 300.0

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 103019-600-0031972-007.d

Lab ID: LCS 600-278902/7 Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
Nitrate as N	10.0	9.72	97	90-110	
Nitrite as N	10.0	10.4	104	90-110	

Column to be used to flag recovery and RPD values

FORM III 300.0

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 103019-600-0031972-038.d

Lab ID: LCS 600-278902/38 Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
Nitrate as N	10.0	9.59	96	90-110	
Nitrite as N	10.0	10.5	105	90-110	

Column to be used to flag recovery and RPD values

FORM III 300.0

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 103119-600-0032001-007.d

Lab ID: LCS 600-279038/7 Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
Bromide	7.50	7.19	96	90-110	
Chloride	20.0	19.5	98	90-110	
Sulfate	20.0	19.6	98	90-110	
Fluoride	7.50	7.70	103	90-110	

Column to be used to flag recovery and RPD values

FORM III 300.0

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 103119-600-0032001-007.d

Lab ID: LCS 600-279039/7 Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
Nitrate as N	10.0	9.62	96	90-110	
Nitrite as N	10.0	10.2	102	90-110	

Column to be used to flag recovery and RPD values

FORM III 300.0

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 110119-5.d

Lab ID: LCS 600-279165/5 Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
Bromide	7.50	7.31	97	90-110	
Chloride	20.0	19.9	100	90-110	
Sulfate	20.0	20.1	100	90-110	
Fluoride	7.50	7.59	101	90-110	

Column to be used to flag recovery and RPD values

FORM III 300.0

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 110419-5.d

Lab ID: LCS 600-279268/5 Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
Bromide	7.50	7.73	103	90-110	
Chloride	20.0	20.8	104	90-110	
Sulfate	20.0	20.8	104	90-110	
Fluoride	7.50	7.75	103	90-110	

Column to be used to flag recovery and RPD values

FORM III 300.0

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 110419-36.d

Lab ID: LCS 600-279269/36 Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
Nitrate as N	10.0	10.6	106	90-110	
Nitrite as N	10.0	10.7	107	90-110	

Column to be used to flag recovery and RPD values

FORM III 300.0

FORM III
HPLC/IC MATRIX SPIKE RECOVERY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 103119-600-0032001-011.d

Lab ID: 600-194690-3 MS Client ID: FEFF 1 MS

COMPOUND	SPIKE ADDED (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS CONCENTRATION (mg/L)	MS % REC	QC LIMITS REC	#
Bromide	2.00	0.30 J	5.68	269	80-120	F1
Nitrate as N	2.00	ND	3.79	190	80-120	F1
Nitrite as N	2.00	ND	ND	0	80-120	F1
Fluoride	2.00	ND	1.38	69	80-120	F1

Column to be used to flag recovery and RPD values

FORM III 300.0

FORM III
HPLC/IC MATRIX SPIKE RECOVERY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 102919-600-0031944-012.d

Lab ID: 600-194690-10 MS Client ID: INF 4 MS

COMPOUND	SPIKE ADDED (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS CONCENTRATION (mg/L)	MS % REC	QC LIMITS REC	#
Bromide	2.00	0.15 J	2.65	125	80-120	F1
Nitrate as N	2.00	ND	ND	0	80-120	H F1 H3
Chloride	10.0	690	635	-521	80-120	E 4
Nitrite as N	2.00	ND	ND	0	80-120	H F1 H3
Sulfate	10.0	55	61.8	71	80-120	E 4
Fluoride	2.00	0.26	1.65	70	80-120	F1

Column to be used to flag recovery and RPD values

FORM III 300.0

FORM III
HPLC/IC MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 103119-600-0032001-012.d

Lab ID: 600-194690-3 MSD Client ID: FEFF 1 MSD

COMPOUND	SPIKE ADDED (mg/L)	MSD CONCENTRATION (mg/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Bromide	2.00	5.67	269	0	20	80-120	F1
Nitrate as N	2.00	3.81	190	0	20	80-120	F1
Nitrite as N	2.00	ND	0	NC	20	80-120	F1
Fluoride	2.00	1.43	71	4	20	80-120	F1

Column to be used to flag recovery and RPD values

FORM III 300.0

FORM III
HPLC/IC MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 102919-600-0031944-013.d

Lab ID: 600-194690-10 MSD Client ID: INF 4 MSD

COMPOUND	SPIKE ADDED (mg/L)	MSD CONCENTRATION (mg/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Bromide	2.00	2.66	125	0	20	80-120	F1
Nitrate as N	2.00	ND	0	NC	20	80-120	H H3 F1
Chloride	10.0	635	-524	0	20	80-120	E 4
Nitrite as N	2.00	ND	0	NC	20	80-120	H H3 F1
Sulfate	10.0	61.9	72	0	20	80-120	E 4
Fluoride	2.00	1.66	70	0	20	80-120	F1

Column to be used to flag recovery and RPD values

FORM III 300.0

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab File ID: 110119-4.d Lab Sample ID: MB 600-279165/4

Matrix: Water Date Extracted:

Instrument ID: CHWC11 Date Analyzed: 11/01/2019 11:16

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	CCB 600-279165/3	110119-3.d	11/01/2019 10:56
	LCS 600-279165/5	110119-5.d	11/01/2019 11:37
FEFF 1	600-194690-3	110119-9.d	11/01/2019 16:39
	CCB 600-279165/15	110119-15.d	11/01/2019 18:42
	CCB 600-279165/27	110119-27.d	11/01/2019 22:47

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab File ID: 110419-4.d Lab Sample ID: MB 600-279268/4

Matrix: Water Date Extracted:

Instrument ID: CHWC11 Date Analyzed: 11/04/2019 12:11

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	CCB 600-279268/3	110419-3.d	11/04/2019 11:51
	LCS 600-279268/5	110419-5.d	11/04/2019 12:31
FEFF 1	600-194690-3	110419-6.d	11/04/2019 13:32
	CCB 600-279268/15	110419-15.d	11/04/2019 16:35

FORM IV 300.0

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab File ID: 110419-35.d Lab Sample ID: MB 600-279269/35

Matrix: Water Date Extracted:

Instrument ID: CHWC11 Date Analyzed: 11/04/2019 23:24

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	CCB 600-279269/3	110419-3.d	11/04/2019 11:51
	CCB 600-279269/15	110419-15.d	11/04/2019 16:35
	CCB 600-279269/27	110419-27.d	11/04/2019 20:40
	LCS 600-279269/36	110419-36.d	11/04/2019 23:44
	CCB 600-279269/39	110419-39.d	11/05/2019 00:45

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab File ID: 102919-600-0031944-006.d Lab Sample ID: MB 600-278776/6

Matrix: Water Date Extracted:

Instrument ID: CHWC17(IC) Date Analyzed: 10/29/2019 03:03

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	CCB 600-278776/5	102919-600-0031944-005.d	10/29/2019 02:53
	LCS 600-278776/7	102919-600-0031944-007.d	10/29/2019 03:14
INF 3	600-194690-8	102919-600-0031944-010.d	10/29/2019 07:38
INF 4	600-194690-10	102919-600-0031944-011.d	10/29/2019 07:49
INF 4 MS	600-194690-10 MS	102919-600-0031944-012.d	10/29/2019 08:00
INF 4 MSD	600-194690-10 MSD	102919-600-0031944-013.d	10/29/2019 08:10
	CCB 600-278776/17	102919-600-0031944-017.d	10/29/2019 09:41

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab File ID: 102919-600-0031944-006.d Lab Sample ID: MB 600-278777/6

Matrix: Water Date Extracted:

Instrument ID: CHWC17(IC) Date Analyzed: 10/29/2019 03:03

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	CCB 600-278777/5	102919-600-0031944-005.d	10/29/2019 02:53
	LCS 600-278777/7	102919-600-0031944-007.d	10/29/2019 03:14
INF 3	600-194690-8	102919-600-0031944-010.d	10/29/2019 07:38
INF 4	600-194690-10	102919-600-0031944-011.d	10/29/2019 07:49
INF 4 MS	600-194690-10 MS	102919-600-0031944-012.d	10/29/2019 08:00
INF 4 MSD	600-194690-10 MSD	102919-600-0031944-013.d	10/29/2019 08:10
	CCB 600-278777/17	102919-600-0031944-017.d	10/29/2019 09:41

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab File ID: 103019-600-0031972-006.d Lab Sample ID: MB 600-278901/6

Matrix: Water Date Extracted:

Instrument ID: CHWC17(IC) Date Analyzed: 10/30/2019 06:34

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 600-278901/7	103019-600-0031972-007.d	10/30/2019 06:45
INF 3	600-194690-8	103019-600-0031972-021.d	10/30/2019 12:02
INF 4	600-194690-10	103019-600-0031972-022.d	10/30/2019 12:12
1. CEFF	600-194690-1	103019-600-0031972-032.d	10/30/2019 14:00

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab File ID: 103019-600-0031972-006.d Lab Sample ID: MB 600-278902/6

Matrix: Water Date Extracted:

Instrument ID: CHWC17(IC) Date Analyzed: 10/30/2019 06:34

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 600-278902/7	103019-600-0031972-007.d	10/30/2019 06:45
1. CEFF	600-194690-1	103019-600-0031972-032.d	10/30/2019 14:00

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab File ID: 103019-600-0031972-037.d Lab Sample ID: MB 600-278901/37

Matrix: Water Date Extracted:

Instrument ID: CHWC17(IC) Date Analyzed: 10/30/2019 14:54

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	CCB 600-278901/5	103019-600-0031972-005.d	10/30/2019 06:23
	CCB 600-278901/17	103019-600-0031972-017.d	10/30/2019 11:19
	CCB 600-278901/29	103019-600-0031972-029.d	10/30/2019 13:28
	LCS 600-278901/38	103019-600-0031972-038.d	10/30/2019 15:05
	CCB 600-278901/41	103019-600-0031972-041.d	10/30/2019 15:37
	CCB 600-278901/49	103019-600-0031972-049.d	10/30/2019 17:03

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab File ID: 103019-600-0031972-037.d Lab Sample ID: MB 600-278902/37

Matrix: Water Date Extracted:

Instrument ID: CHWC17(IC) Date Analyzed: 10/30/2019 14:54

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	CCB 600-278902/5	103019-600-0031972-005.d	10/30/2019 06:23
	CCB 600-278902/17	103019-600-0031972-017.d	10/30/2019 11:19
	CCB 600-278902/29	103019-600-0031972-029.d	10/30/2019 13:28
	LCS 600-278902/38	103019-600-0031972-038.d	10/30/2019 15:05
	CCB 600-278902/41	103019-600-0031972-041.d	10/30/2019 15:37
	CCB 600-278902/49	103019-600-0031972-049.d	10/30/2019 17:03

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab File ID: 103119-600-0032001-006.d Lab Sample ID: MB 600-279038/6

Matrix: Water Date Extracted:

Instrument ID: CHWC17(IC) Date Analyzed: 10/31/2019 04:38

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	CCB 600-279038/5	103119-600-0032001-005.d	10/31/2019 04:27
	LCS 600-279038/7	103119-600-0032001-007.d	10/31/2019 04:49
FEFF 1	600-194690-3	103119-600-0032001-010.d	10/31/2019 10:00
FEFF 1 MS	600-194690-3 MS	103119-600-0032001-011.d	10/31/2019 10:10
FEFF 1 MSD	600-194690-3 MSD	103119-600-0032001-012.d	10/31/2019 10:21
	CCB 600-279038/17	103119-600-0032001-017.d	10/31/2019 11:41
1. CEFF	600-194690-1	103119-600-0032001-020.d	10/31/2019 12:14
	CCB 600-279038/29	103119-600-0032001-029.d	10/31/2019 13:51

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab File ID: 103119-600-0032001-006.d Lab Sample ID: MB 600-279039/6

Matrix: Water Date Extracted:

Instrument ID: CHWC17(IC) Date Analyzed: 10/31/2019 04:38

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	CCB 600-279039/5	103119-600-0032001-005.d	10/31/2019 04:27
	LCS 600-279039/7	103119-600-0032001-007.d	10/31/2019 04:49
FEFF 1	600-194690-3	103119-600-0032001-010.d	10/31/2019 10:00
FEFF 1 MS	600-194690-3 MS	103119-600-0032001-011.d	10/31/2019 10:10
FEFF 1 MSD	600-194690-3 MSD	103119-600-0032001-012.d	10/31/2019 10:21
	CCB 600-279039/17	103119-600-0032001-017.d	10/31/2019 11:41
	CCB 600-279039/29	103119-600-0032001-029.d	10/31/2019 13:51

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: 1. CEFF Lab Sample ID: 600-194690-1

Matrix: Water Lab File ID: 103019-600-0031972-032.d

Analysis Method: 300.0 Date Collected: 10/25/2019 19:25

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 10/30/2019 14:00

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS22 ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 278901 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	0.20	J	0.40	0.10
16984-48-8	Fluoride	0.34		0.20	0.060

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-032.d
Lims ID: 600-194690-E-1
Client ID: 1. CEFF
Sample Type: Client
Inject. Date: 30-Oct-2019 14:00:00 ALS Bottle#: 0 Worklist Smp#: 32
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031972-032
Misc. Info.: 600-194690-e-1
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 31-Oct-2019 12:35:49 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0305

First Level Reviewer: reachs Date: 31-Oct-2019 12:12:17

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
7 Fluoride	2.297	2.241	0.056	9237262	0.3443	M
2 Chloride	3.481	3.121	0.360	32676237733	707.6	Ea
9 Nitrite as N		3.761			ND	
1 Bromide	4.384	4.397	-0.013	3089906	0.2036	M
3 Nitrate as N		4.864			ND	
5 Sulfate	7.157	7.101	0.056	1776346600	57.0	EM

QC Flag Legend

Processing Flags
E - Exceeded Maximum Amount
Review Flags
M - Manually Integrated
a - User Assigned ID

Report Date: 31-Oct-2019 12:35:53 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-032.d				
Injection Date:	30-Oct-2019 14:00:00	Instrument ID:	CHWC17(IC)	Operator ID:	
Lims ID:	600-194690-E-1	Lab Sample ID:	600-194690-1	Worklist Smp#:	32
Client ID:	1. CEFF				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		

Column: AS-22 Dionex Lion Pac (2.00 mm)

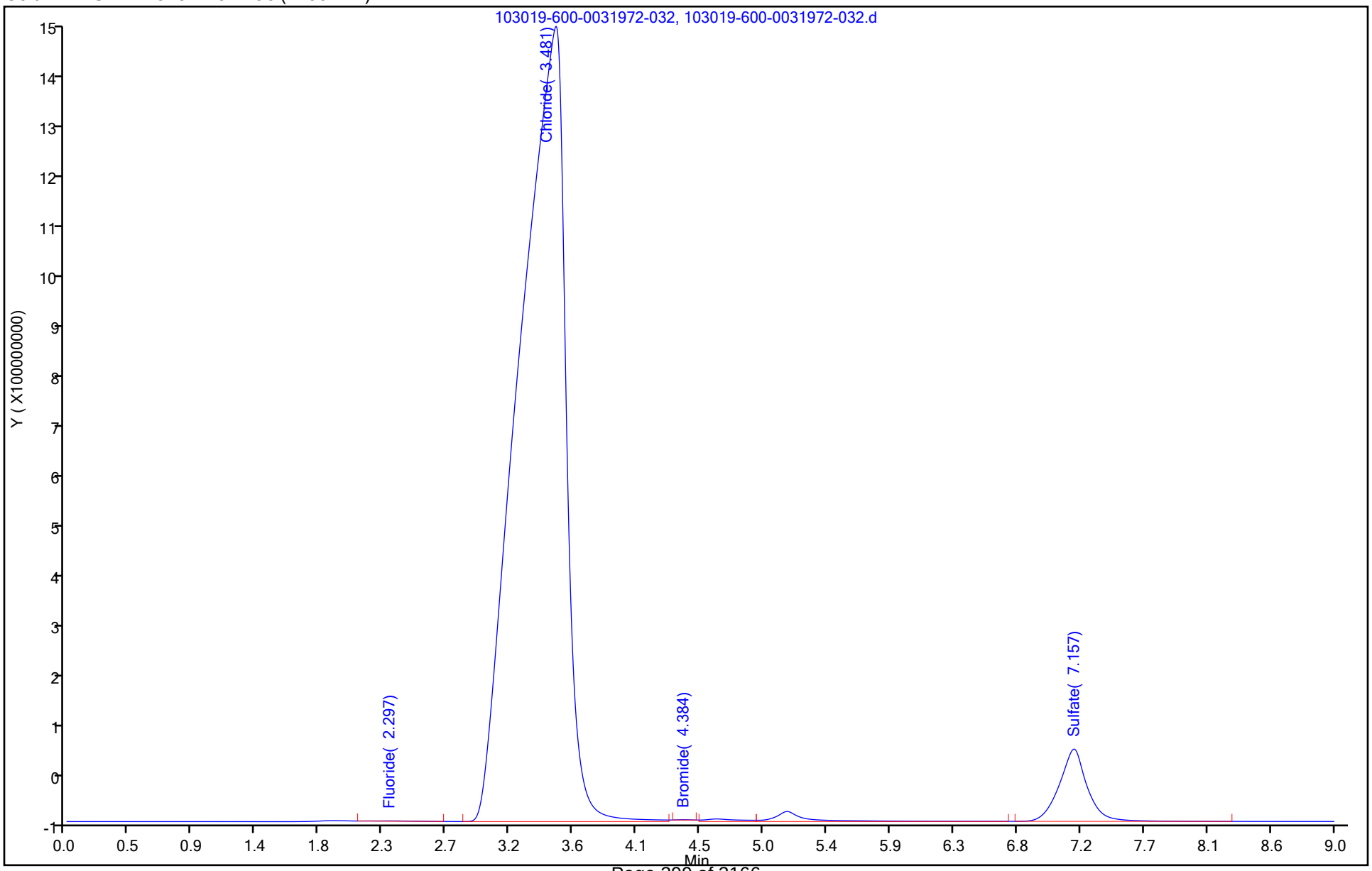

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-032.d				
Injection Date:	30-Oct-2019 14:00:00	Instrument ID:	CHWC17(IC)		
Lims ID:	600-194690-E-1	Lab Sample ID:	600-194690-1		
Client ID:	1. CEFF				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	32
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

1 Bromide, CAS: 24959-67-9

Signal: 1

RT: 4.38
Area: 37488587
Amount: 2.742627
Amount Units: ug/ml

Processing Integration Results

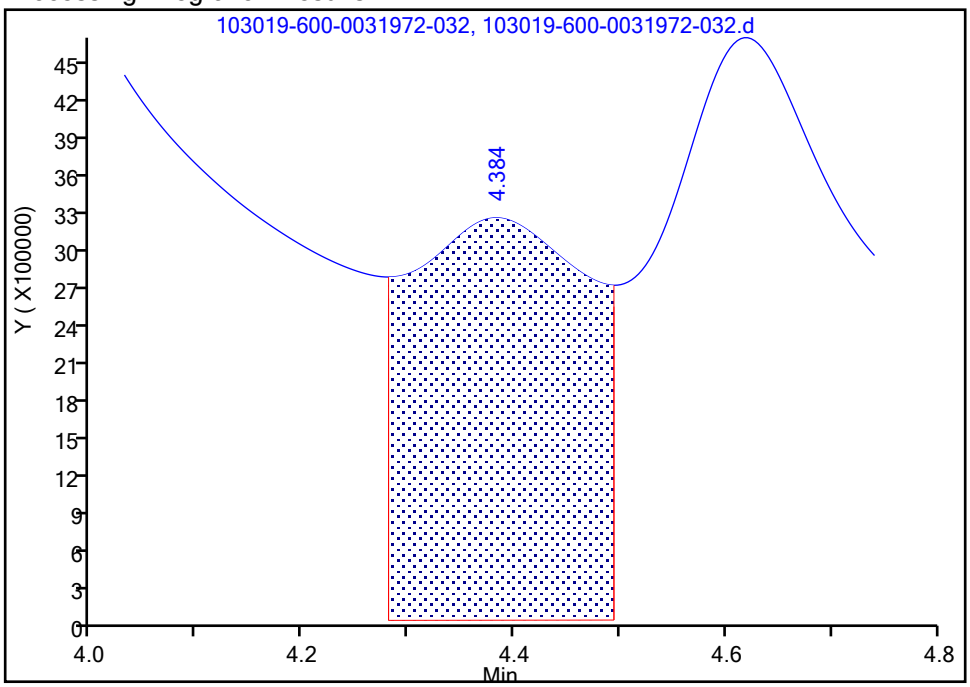

RT: 4.38
Area: 3089906
Amount: 0.203612
Amount Units: ug/ml

Manual Integration Results

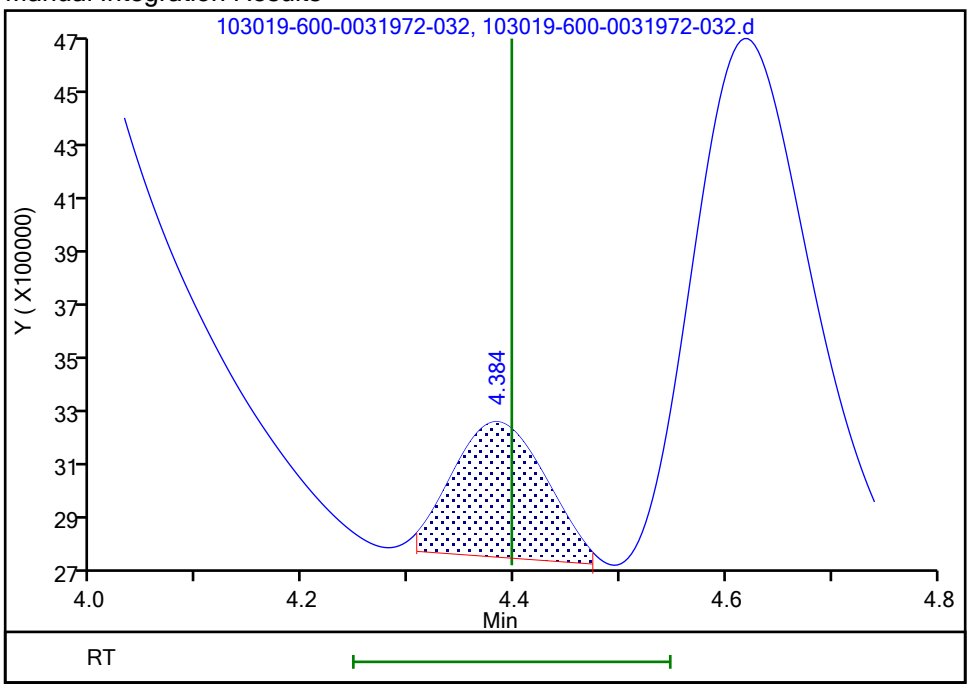

Reviewer: reachs, 31-Oct-2019 12:12:47
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-032.d				
Injection Date:	30-Oct-2019 14:00:00	Instrument ID:	CHWC17(IC)		
Lims ID:	600-194690-E-1	Lab Sample ID:	600-194690-1		
Client ID:	1. CEFF				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	32
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

7 Fluoride, CAS: 16984-48-8

Signal: 1

Processing Integration Results

RT: 2.30
Area: 7552086
Amount: 0.314025
Amount Units: ug/ml

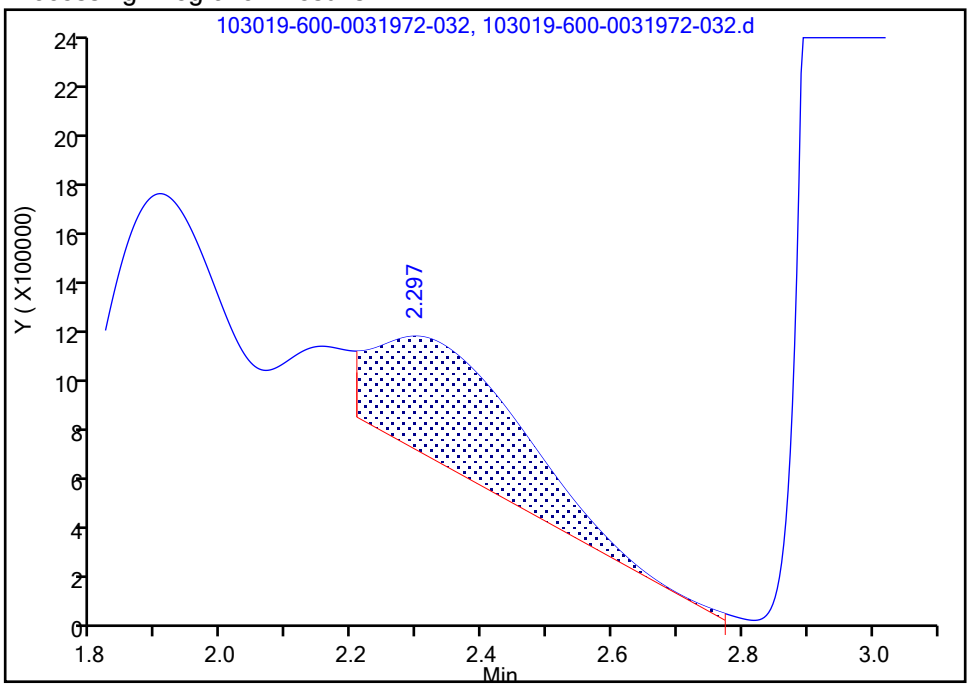

Manual Integration Results

RT: 2.30
Area: 9237262
Amount: 0.344338
Amount Units: ug/ml

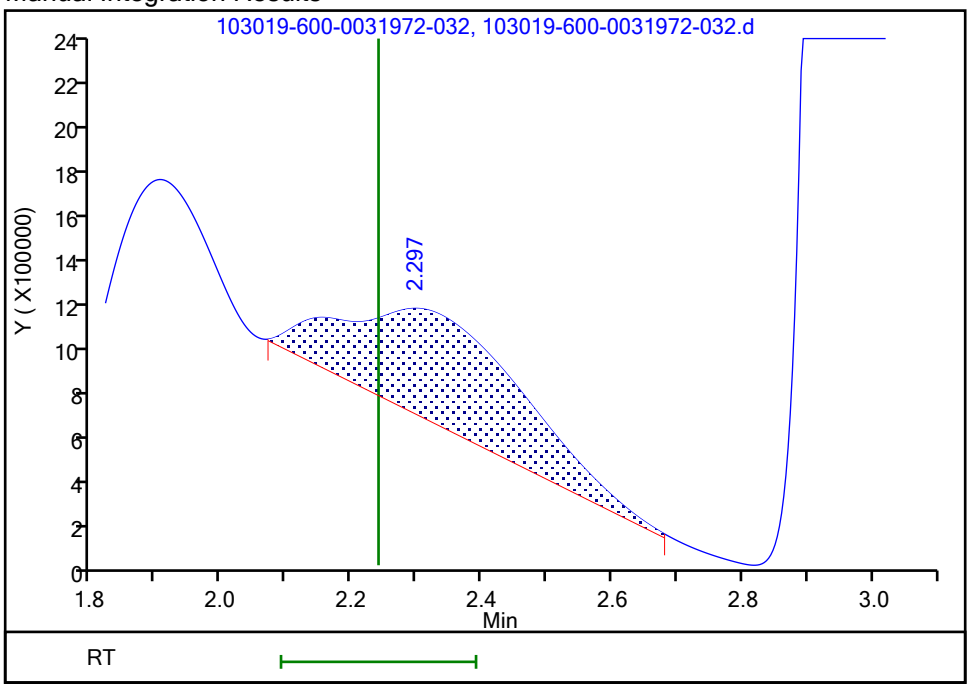

Reviewer: reachs, 31-Oct-2019 12:09:29

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: 1. CEFF Lab Sample ID: 600-194690-1

Matrix: Water Lab File ID: 103019-600-0031972-032.d

Analysis Method: 300.0 Date Collected: 10/25/2019 19:25

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 10/30/2019 14:00

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS22 ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 278902 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	ND	H H3	0.20	0.025
14797-65-0	Nitrite as N	ND	H H3	0.20	0.030

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-032.d
Lims ID: 600-194690-E-1
Client ID: 1. CEFF
Sample Type: Client
Inject. Date: 30-Oct-2019 14:00:00 ALS Bottle#: 0 Worklist Smp#: 32
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031972-032
Misc. Info.: 600-194690-e-1
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 31-Oct-2019 12:35:49 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0305

First Level Reviewer: reachs Date: 31-Oct-2019 12:12:17

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
7 Fluoride	2.297	2.241	0.056	9237262	NC	M
2 Chloride	3.481	3.121	0.360	32676237733	NC	a
9 Nitrite as N		3.761			ND	
1 Bromide	4.384	4.397	-0.013	3089906	NC	M
3 Nitrate as N		4.864			ND	
5 Sulfate	7.157	7.101	0.056	1776346600	NC	M

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated
a - User Assigned ID

Report Date: 31-Oct-2019 12:35:53 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-032.d				
Injection Date:	30-Oct-2019 14:00:00	Instrument ID:	CHWC17(IC)	Operator ID:	
Lims ID:	600-194690-E-1	Lab Sample ID:	600-194690-1	Worklist Smp#:	32
Client ID:	1. CEFF				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		

Column: AS-22 Dionex Lion Pac (2.00 mm)

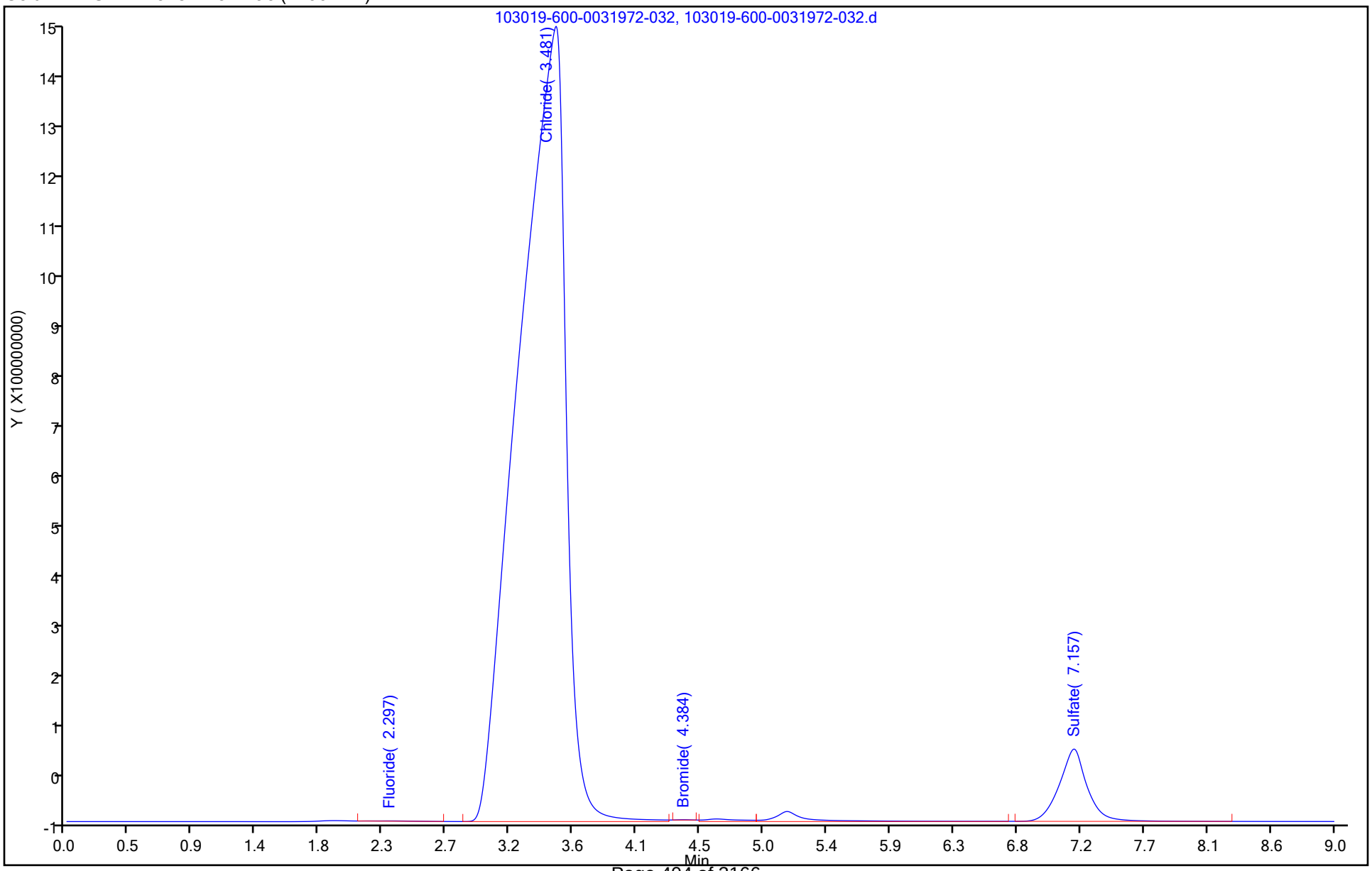

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: 1. CEFF Lab Sample ID: 600-194690-1

Matrix: Water Lab File ID: 103119-600-0032001-020.d

Analysis Method: 300.0 Date Collected: 10/25/2019 19:25

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 10/31/2019 12:14

Con. Extract Vol.: Dilution Factor: 20

Injection Volume: 1(uL) GC Column: AS22 ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 279038 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
16887-00-6	Chloride	480	B	8.0	1.1
14808-79-8	Sulfate	ND		10	1.9

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-020.d
Lims ID: 600-194690-E-1
Client ID: 1. CEFF
Sample Type: Client
Inject. Date: 31-Oct-2019 12:14:00 ALS Bottle#: 0 Worklist Smp#: 20
Injection Vol: 1.0 ul Dil. Factor: 20.0000
Sample Info: 600-0032001-020
Misc. Info.: 600-194690-e-1
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 01-Nov-2019 13:35:16 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0332

First Level Reviewer: reachs Date: 01-Nov-2019 12:24:34

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
7 Fluoride		2.214			ND	
2 Chloride	3.044	3.071	-0.027	1090059111	23.8	M
9 Nitrite as N		3.694			ND	
1 Bromide		4.314			ND	
3 Nitrate as N	4.727	4.761	-0.034	5151923	NC	M
5 Sulfate		6.857			ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Report Date: 01-Nov-2019 13:35:35 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-020.d				
Injection Date:	31-Oct-2019 12:14:00	Instrument ID:	CHWC17(IC)	Operator ID:	
Lims ID:	600-194690-E-1	Lab Sample ID:	600-194690-1	Worklist Smp#:	20
Client ID:	1. CEFF				
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	0
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		

Column: AS-22 Dionex Lion Pac (2.00 mm)

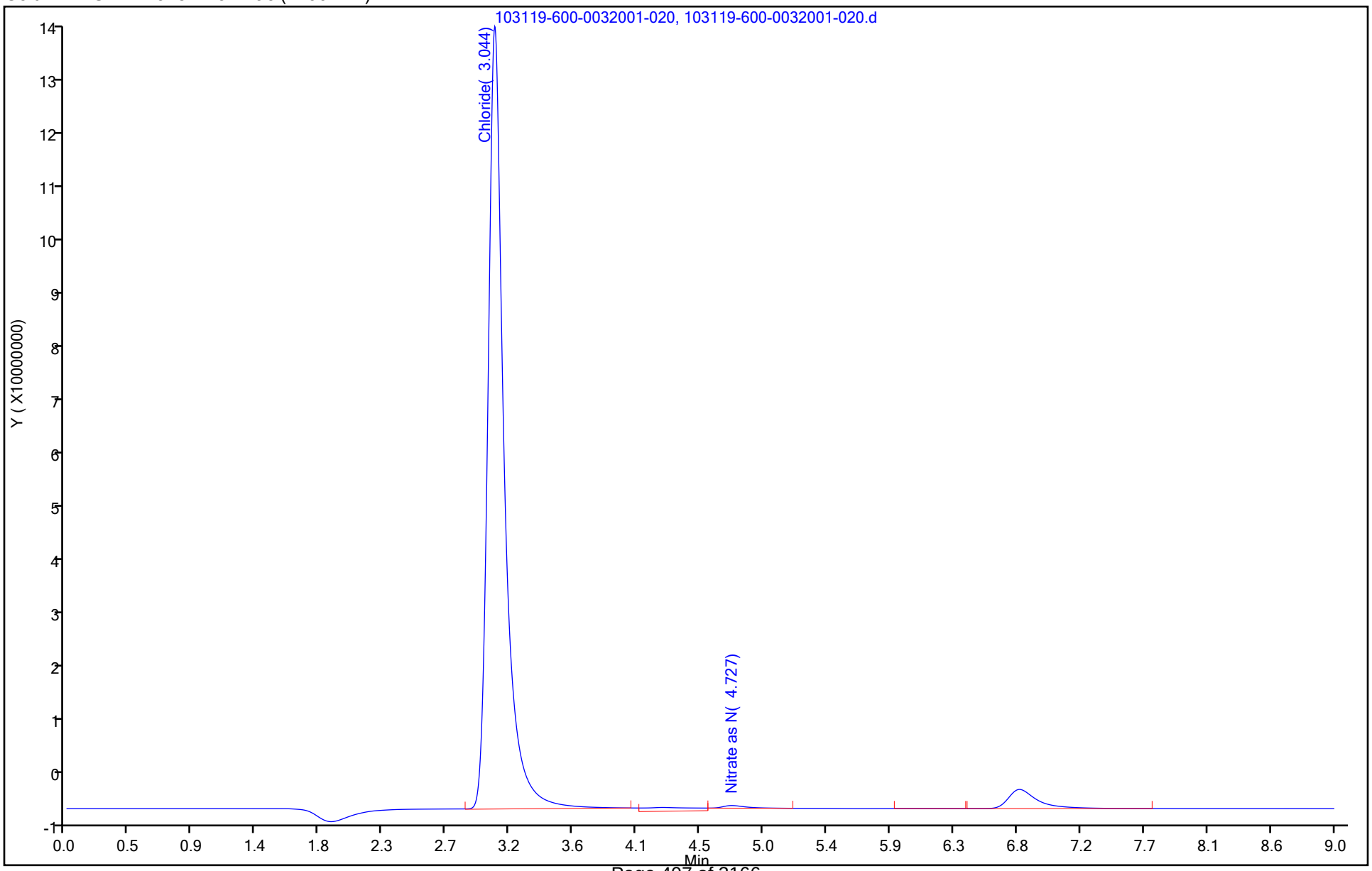

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-020.d				
Injection Date:	31-Oct-2019 12:14:00	Instrument ID:	CHWC17(IC)		
Lims ID:	600-194690-E-1	Lab Sample ID:	600-194690-1		
Client ID:	1. CEFF				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	20
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

2 Chloride, CAS: 16887-00-6

Signal: 1

Processing Integration Results

RT: 3.04
Area: 1181401541
Amount: 25.785342
Amount Units: ug/ml

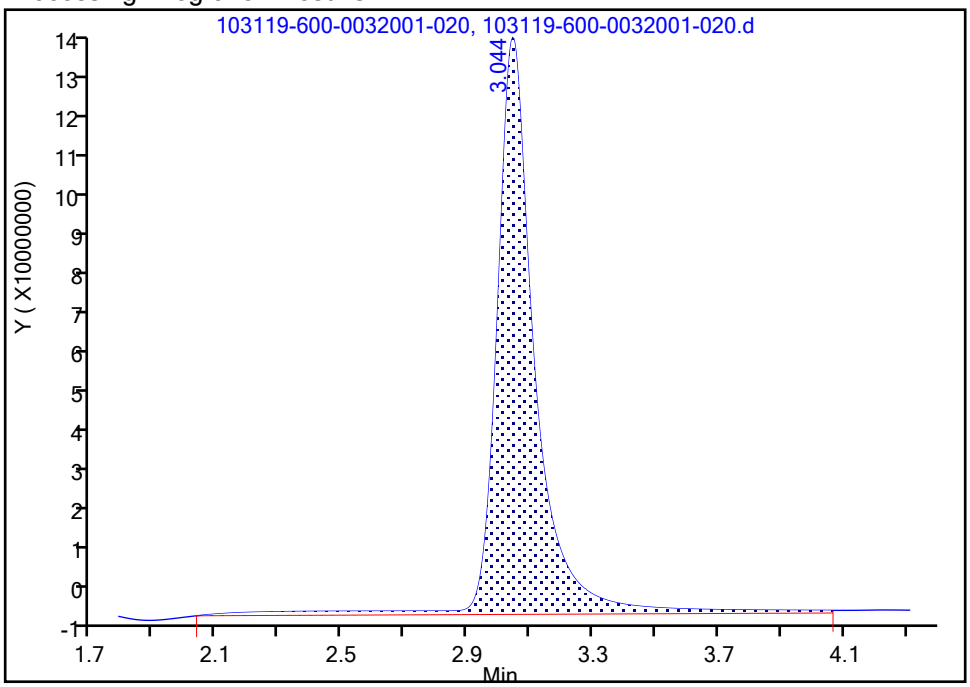

Manual Integration Results

RT: 3.04
Area: 1090059111
Amount: 23.807847
Amount Units: ug/ml

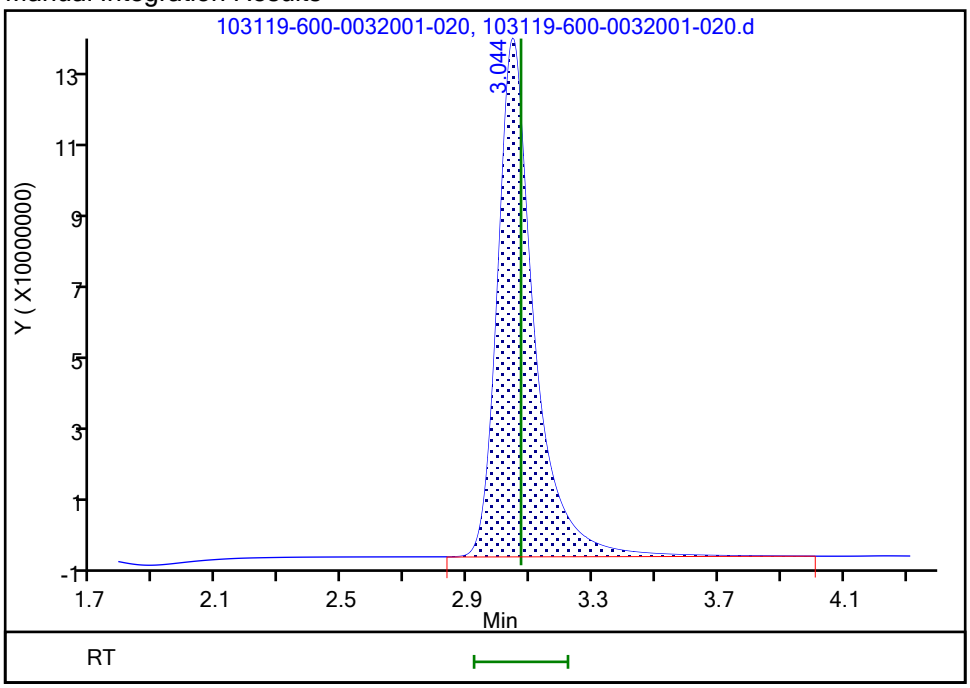

Reviewer: reachs, 01-Nov-2019 12:24:17

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: FEFF 1 Lab Sample ID: 600-194690-3

Matrix: Water Lab File ID: 103119-600-0032001-010.d

Analysis Method: 300.0 Date Collected: 10/26/2019 12:45

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 10/31/2019 10:00

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS22 ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 279038 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	0.30	J F1	0.40	0.10
16984-48-8	Fluoride	ND	F1	0.20	0.060

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-010.d
Lims ID: 600-194690-A-3
Client ID: FEFF 1
Sample Type: Client
Inject. Date: 31-Oct-2019 10:00:00 ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032001-010
Misc. Info.: 600-194690-a-3
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 01-Nov-2019 13:34:16 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0332

First Level Reviewer: reachs Date: 01-Nov-2019 12:13:26

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
	7 Fluoride		2.214			ND	
	2 Chloride	3.434	3.071	0.363	33652754166	728.8	Ea
	9 Nitrite as N		3.694			ND	
	1 Bromide	4.284	4.314	-0.030	4395252	0.3000	M
	3 Nitrate as N		4.761			ND	
	5 Sulfate	7.067	6.857	0.210	1794014270	57.5	Ea
	4 Orthophosphate as P		7.044			ND	a
S	8 Sulfate as Sulfur					57.5	
S	6 Nitrate Nitrite as N		0.000			ND	

QC Flag Legend

Processing Flags
E - Exceeded Maximum Amount
Review Flags
M - Manually Integrated
a - User Assigned ID

Report Date: 01-Nov-2019 13:34:51 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-010.d				
Injection Date:	31-Oct-2019 10:00:00	Instrument ID:	CHWC17(IC)	Operator ID:	
Lims ID:	600-194690-A-3	Lab Sample ID:	600-194690-3	Worklist Smp#:	10
Client ID:	FEFF 1				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		

Column: AS-22 Dionex Lion Pac (2.00 mm)

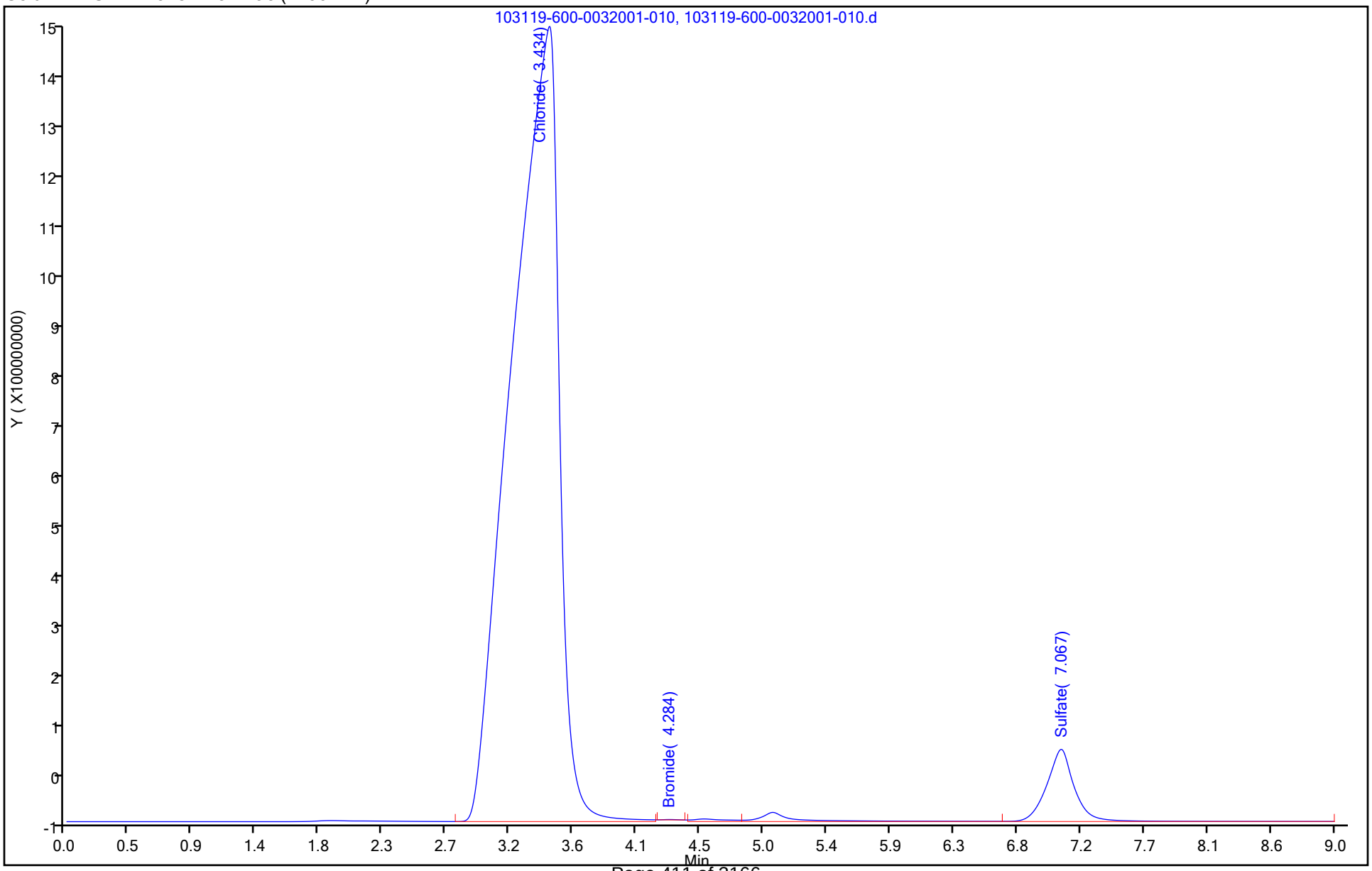

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-010.d				
Injection Date:	31-Oct-2019 10:00:00	Instrument ID:	CHWC17(IC)		
Lims ID:	600-194690-A-3	Lab Sample ID:	600-194690-3		
Client ID:	FEFF 1				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

1 Bromide, CAS: 24959-67-9

Signal: 1

RT: 4.28
Area: 44643201
Amount: 3.270719
Amount Units: ug/ml

Processing Integration Results

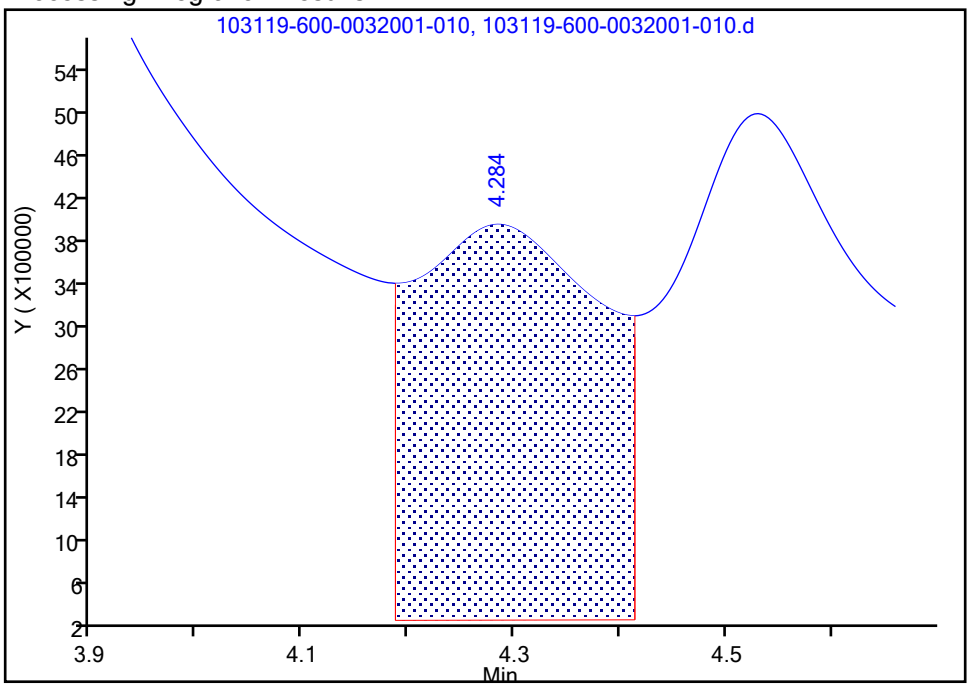

RT: 4.28
Area: 4395252
Amount: 0.299961
Amount Units: ug/ml

Manual Integration Results

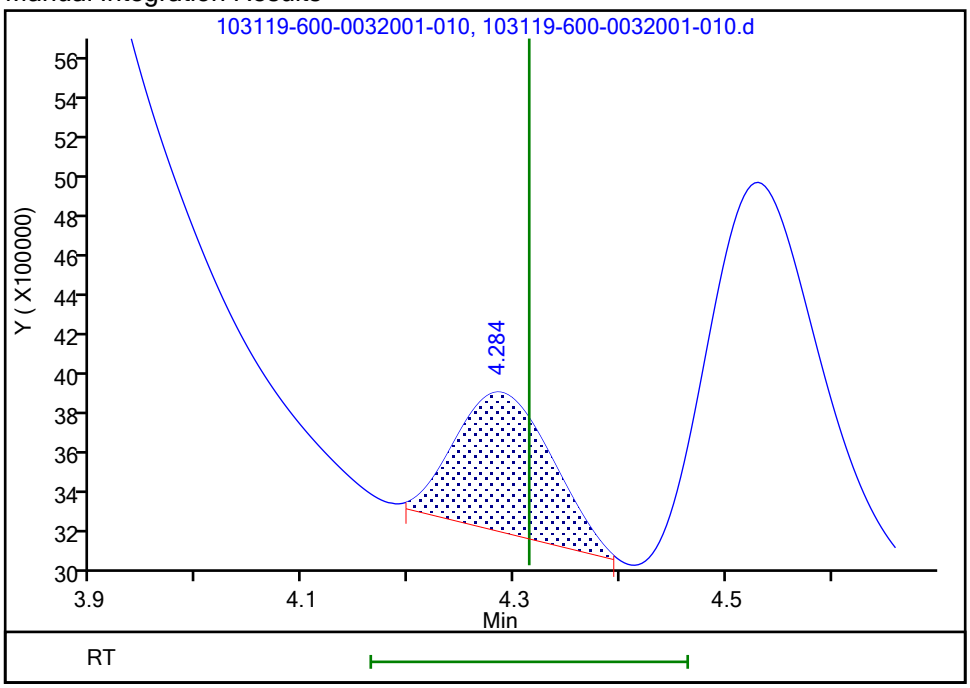

Reviewer: reachs, 01-Nov-2019 12:12:28
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: FEFF 1 Lab Sample ID: 600-194690-3

Matrix: Water Lab File ID: 103119-600-0032001-010.d

Analysis Method: 300.0 Date Collected: 10/26/2019 12:45

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 10/31/2019 10:00

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS22 ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 279039 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	ND	H H3 F1	0.20	0.025
14797-65-0	Nitrite as N	ND	H H3 F1	0.20	0.030

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-010.d
Lims ID: 600-194690-A-3
Client ID: FEFF 1
Sample Type: Client
Inject. Date: 31-Oct-2019 10:00:00 ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032001-010
Misc. Info.: 600-194690-a-3
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 01-Nov-2019 13:34:16 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0332

First Level Reviewer: reachs Date: 01-Nov-2019 12:13:26

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
	7 Fluoride		2.214			ND	
	2 Chloride	3.434	3.071	0.363	33652754166	NC	a
	9 Nitrite as N		3.694			ND	
	1 Bromide	4.284	4.314	-0.030	4395252	NC	M
	3 Nitrate as N		4.761			ND	
	5 Sulfate	7.067	6.857	0.210	1794014270	NC	a
	4 Orthophosphate as P		7.044			ND	a
S	8 Sulfate as Sulfur		0.000			ND	
S	6 Nitrate Nitrite as N		0.000			ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated
a - User Assigned ID

Report Date: 01-Nov-2019 13:34:51 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-010.d				
Injection Date:	31-Oct-2019 10:00:00	Instrument ID:	CHWC17(IC)	Operator ID:	
Lims ID:	600-194690-A-3	Lab Sample ID:	600-194690-3	Worklist Smp#:	10
Client ID:	FEFF 1				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		

Column: AS-22 Dionex Lion Pac (2.00 mm)

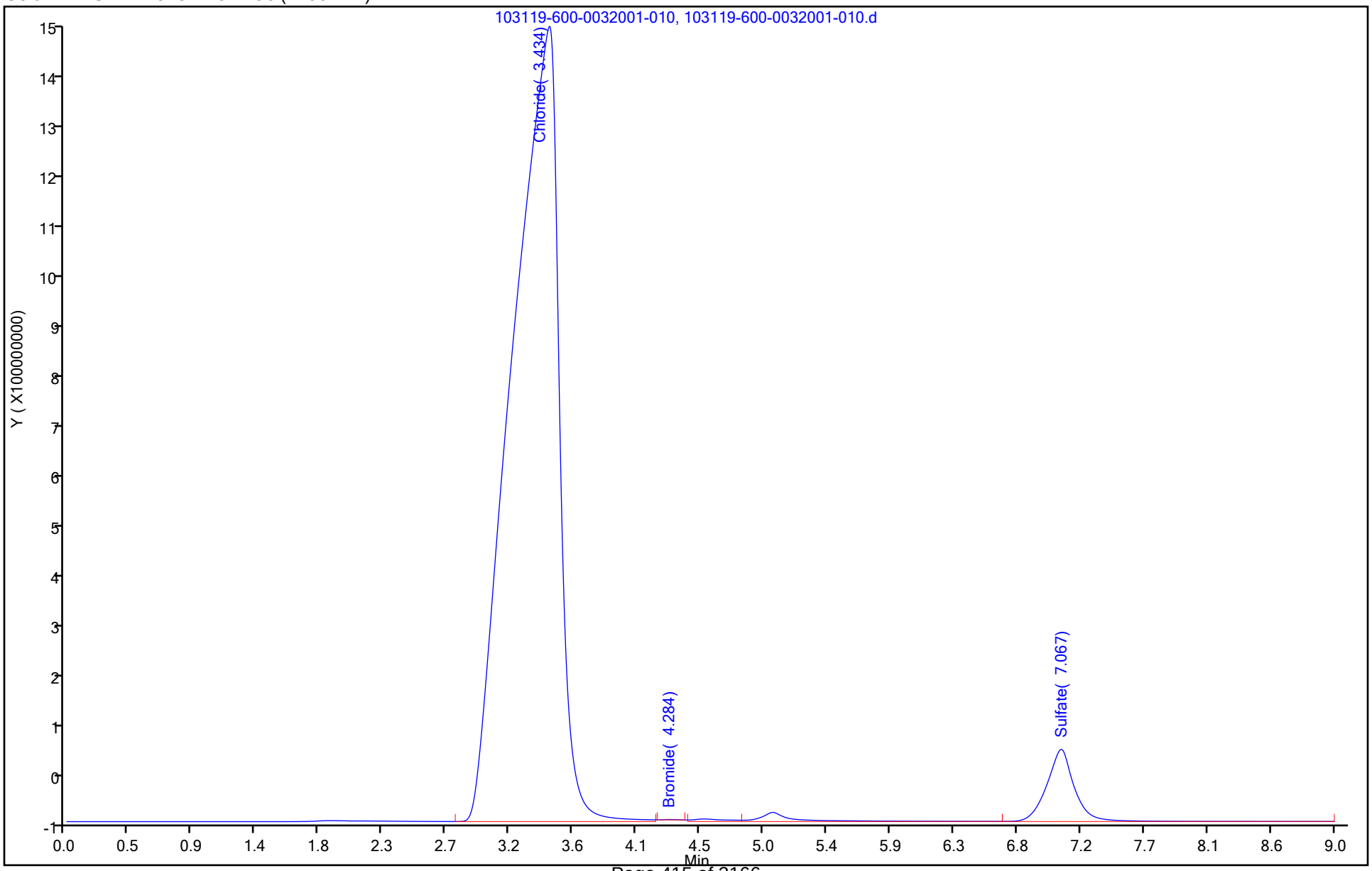

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: FEFF 1 Lab Sample ID: 600-194690-3

Matrix: Water Lab File ID: 110119-9.d

Analysis Method: 300.0 Date Collected: 10/26/2019 12:45

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 11/01/2019 16:39

Con. Extract Vol.: Dilution Factor: 20

Injection Volume: 1(uL) GC Column: AS-18 ID:

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 279165 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14808-79-8	Sulfate	62		10	1.9

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20191031-32021.b\110119-9.d
Lims ID: 600-194690-A-3
Client ID: FEFF 1
Sample Type: Client
Inject. Date: 01-Nov-2019 16:39:00 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 20.0000
Sample Info: 600-0032021-009
Misc. Info.: 26513
Operator ID: Instrument ID: CHWC11

Method: \\chromna\Houston\ChromData\CHWC11\20191031-32021.b\300_11.m
Limit Group: WC - IC_300_9056_28day
Last Update: 04-Nov-2019 11:07:01 Calib Date: 18-Oct-2019 18:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d

Column 1 : Det: 040914-1
Process Host: CTX0335

First Level Reviewer: reachs Date: 04-Nov-2019 10:44:50

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
7 Fluoride	3.109	3.117	-0.008	38668	0.0463	7M
2 Chloride	4.842	4.842	0.000	236315685	43.1	E
9 Nitrite as N		6.017			ND	
1 Bromide	8.684	8.667	0.017	130007	0.1470	M
5 Sulfate	9.400	9.325	0.075	11639921	3.09	M
3 Nitrate as N	10.134	10.042	0.092	874074	NC	M

QC Flag Legend

Processing Flags
- NC - Not Calibrated
- E - Exceeded Maximum Amount
- 7 - Failed Limit of Detection

Review Flags
- M - Manually Integrated

Report Date: 04-Nov-2019 11:07:12 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191031-32021.b\110119-9.d				
Injection Date:	01-Nov-2019 16:39:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	600-194690-A-3	Lab Sample ID:	600-194690-3	Worklist Smp#:	9
Client ID:	FEFF 1				
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		

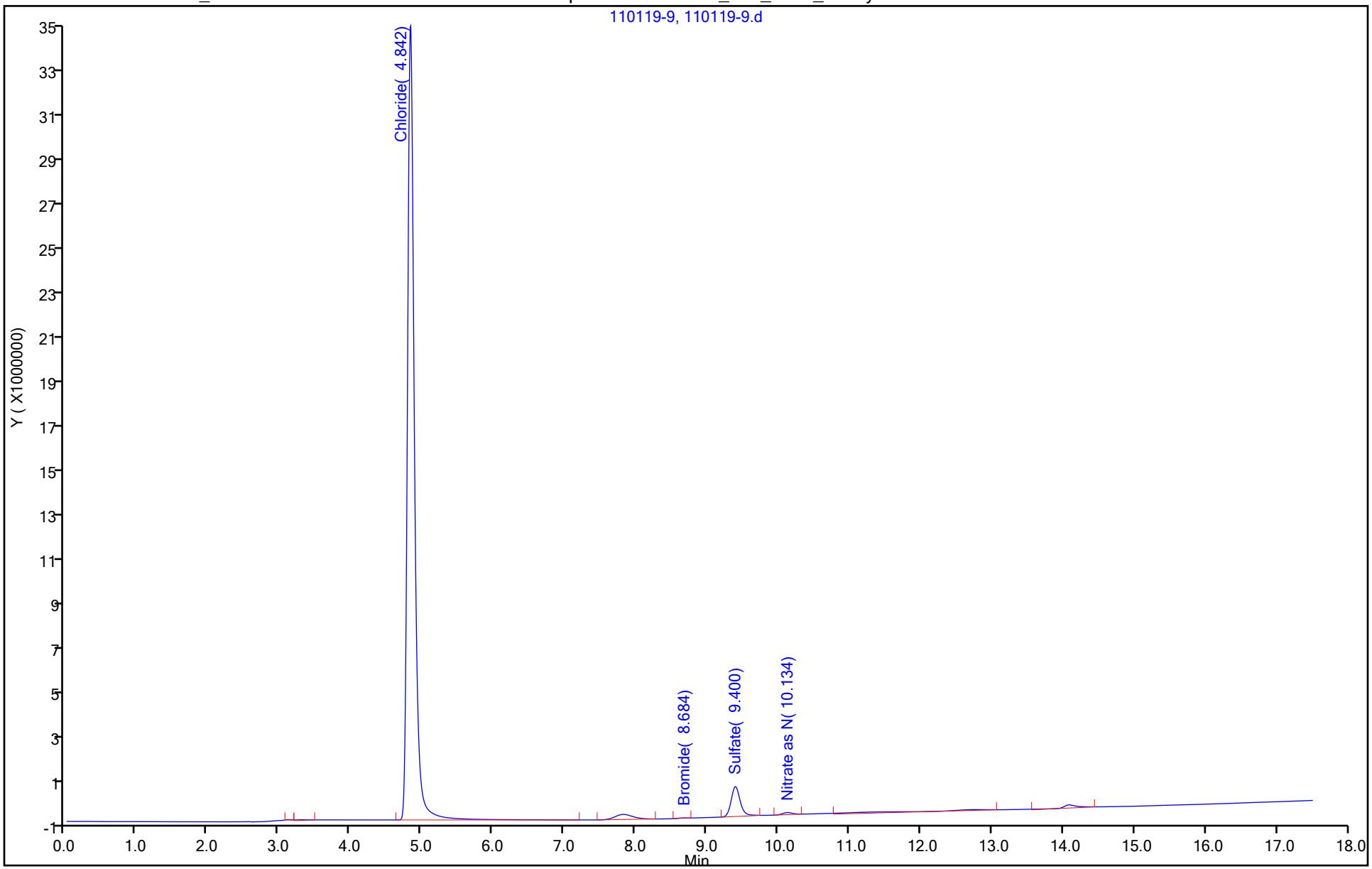

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191031-32021.b\110119-9.d				
Injection Date:	01-Nov-2019 16:39:00	Instrument ID:	CHWC11		
Lims ID:	600-194690-A-3	Lab Sample ID:	600-194690-3		
Client ID:	FEFF 1				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		
Column:		Detector	040914-1		

5 Sulfate, CAS: 14808-79-8

Signal: 1

Processing Integration Results

RT: 9.40
Area: 11745974
Amount: 3.120457
Amount Units: ug/ml

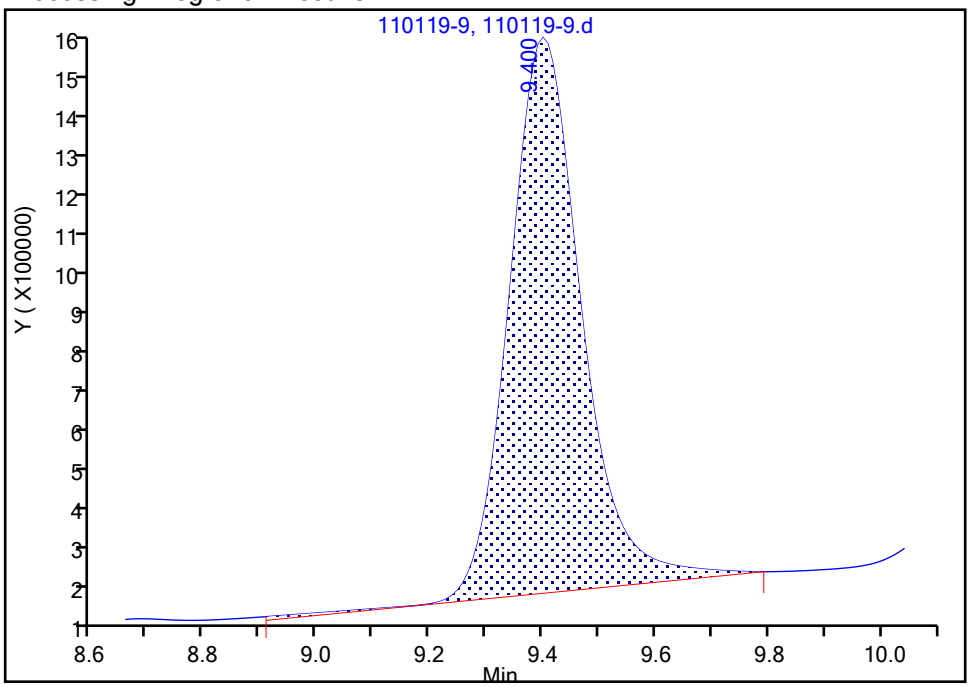

Manual Integration Results

RT: 9.40
Area: 11639921
Amount: 3.093534
Amount Units: ug/ml

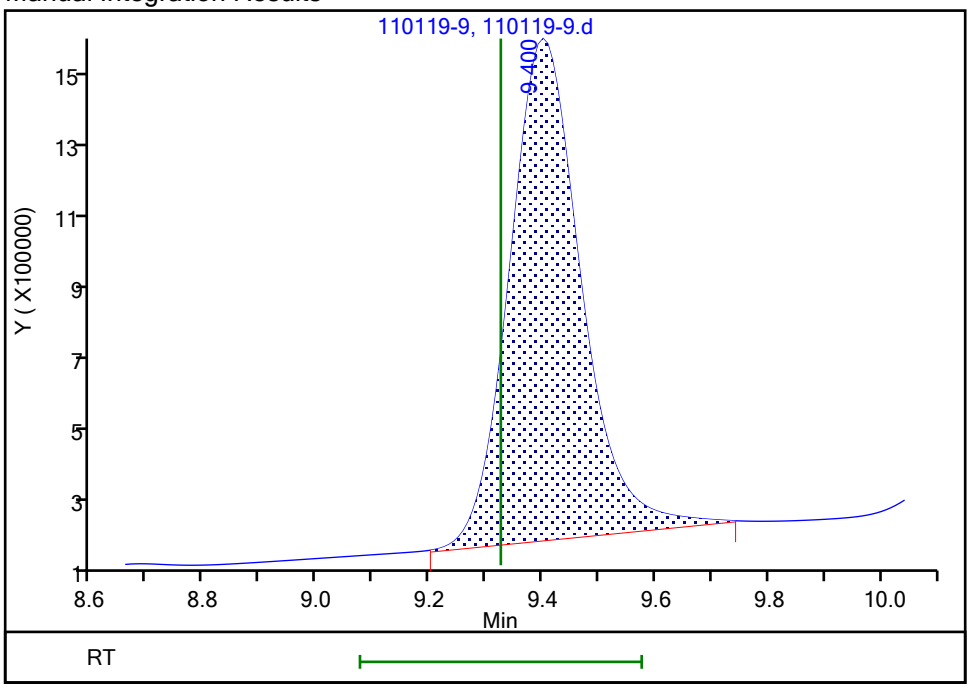

Reviewer: reachs, 04-Nov-2019 10:45:53

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: FEFF 1 Lab Sample ID: 600-194690-3

Matrix: Water Lab File ID: 110419-6.d

Analysis Method: 300.0 Date Collected: 10/26/2019 12:45

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 11/04/2019 13:32

Con. Extract Vol.: Dilution Factor: 50

Injection Volume: 1(uL) GC Column: AS-18 ID:

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 279268 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
16887-00-6	Chloride	820		20	2.7

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-6.d
Lims ID: 600-194690-A-3
Client ID: FEFF 1
Sample Type: Client
Inject. Date: 04-Nov-2019 13:32:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 50.0000
Sample Info: 600-0032042-006
Misc. Info.: 4570
Operator ID: Instrument ID: CHWC11

Method: \\chromna\Houston\ChromData\CHWC11\20191101-32042.b\300_11.m
Limit Group: WC - IC_300_9056_28day
Last Update: 05-Nov-2019 11:30:10 Calib Date: 18-Oct-2019 18:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d

Column 1 : Det: 040914-1
Process Host: CTX0336

First Level Reviewer: reachs Date: 05-Nov-2019 10:34:42

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
7 Fluoride	3.117	3.125	-0.008	32167	0.0457	7M
2 Chloride	4.842	4.842	0.000	89710163	16.5	
9 Nitrite as N		6.009			ND	
1 Bromide		8.650			ND	
5 Sulfate	9.334	9.309	0.025	4167544	1.20	M
3 Nitrate as N		10.017			ND	M

QC Flag Legend

Processing Flags
7 - Failed Limit of Detection
Review Flags
M - Manually Integrated

Report Date: 05-Nov-2019 11:30:23 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-6.d				
Injection Date:	04-Nov-2019 13:32:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	600-194690-A-3	Lab Sample ID:	600-194690-3	Worklist Smp#:	6
Client ID:	FEFF 1				
Injection Vol:	1.0 ul	Dil. Factor:	50.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		

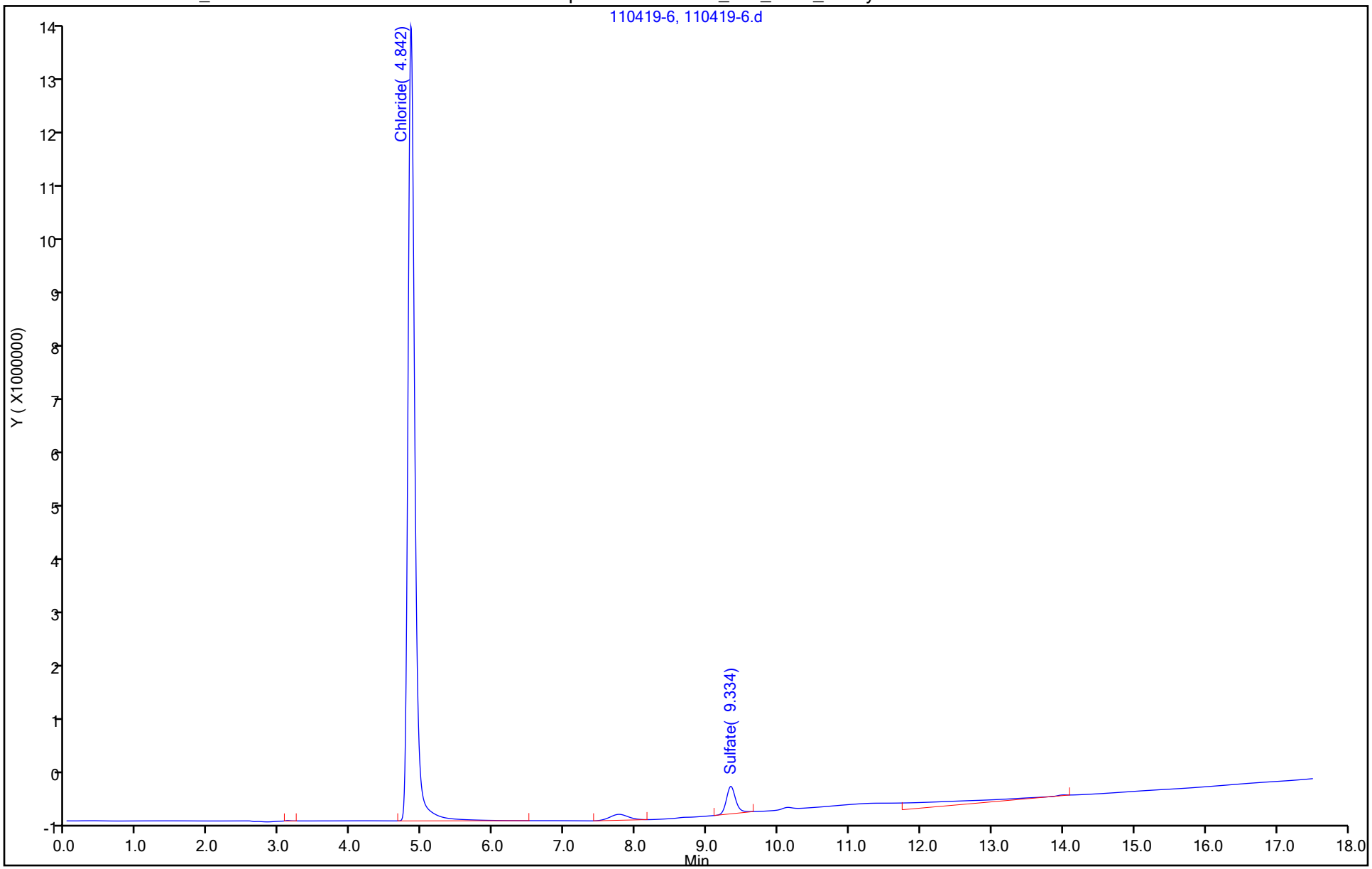

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-194690-1
SDG No.:
Client Sample ID: INF 3
Lab Sample ID: 600-194690-8
Matrix: Water
Lab File ID: 102919-600-0031944-010.d
Analysis Method: 300.0
Date Collected: 10/25/2019 13:30
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 10/29/2019 07:38
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS22 ID: 2(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 278776
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	0.12	J	0.40	0.10

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-010.d
Lims ID: 600-194690-G-8
Client ID: INF 3
Sample Type: Client
Inject. Date: 29-Oct-2019 07:38:00 ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031944-010
Misc. Info.: 600-194690-g-8
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 30-Oct-2019 12:43:28 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0337

First Level Reviewer: reachs Date: 30-Oct-2019 12:04:48

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
2 Chloride	3.457	3.121	0.336	29939754472	648.4	Ea
9 Nitrite as N		3.761			ND	
1 Bromide	4.384	4.397	-0.013	1997601	0.1230	M
3 Nitrate as N		4.864			ND	
5 Sulfate	7.154	7.101	0.053	1553134963	49.8	EM

QC Flag Legend

Processing Flags
E - Exceeded Maximum Amount
Review Flags
M - Manually Integrated
a - User Assigned ID

Report Date: 30-Oct-2019 12:43:36 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-010.d				
Injection Date:	29-Oct-2019 07:38:00	Instrument ID:	CHWC17(IC)	Operator ID:	
Lims ID:	600-194690-G-8	Lab Sample ID:	600-194690-8	Worklist Smp#:	10
Client ID:	INF 3				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		

Column: AS-22 Dionex Lion Pac (2.00 mm)

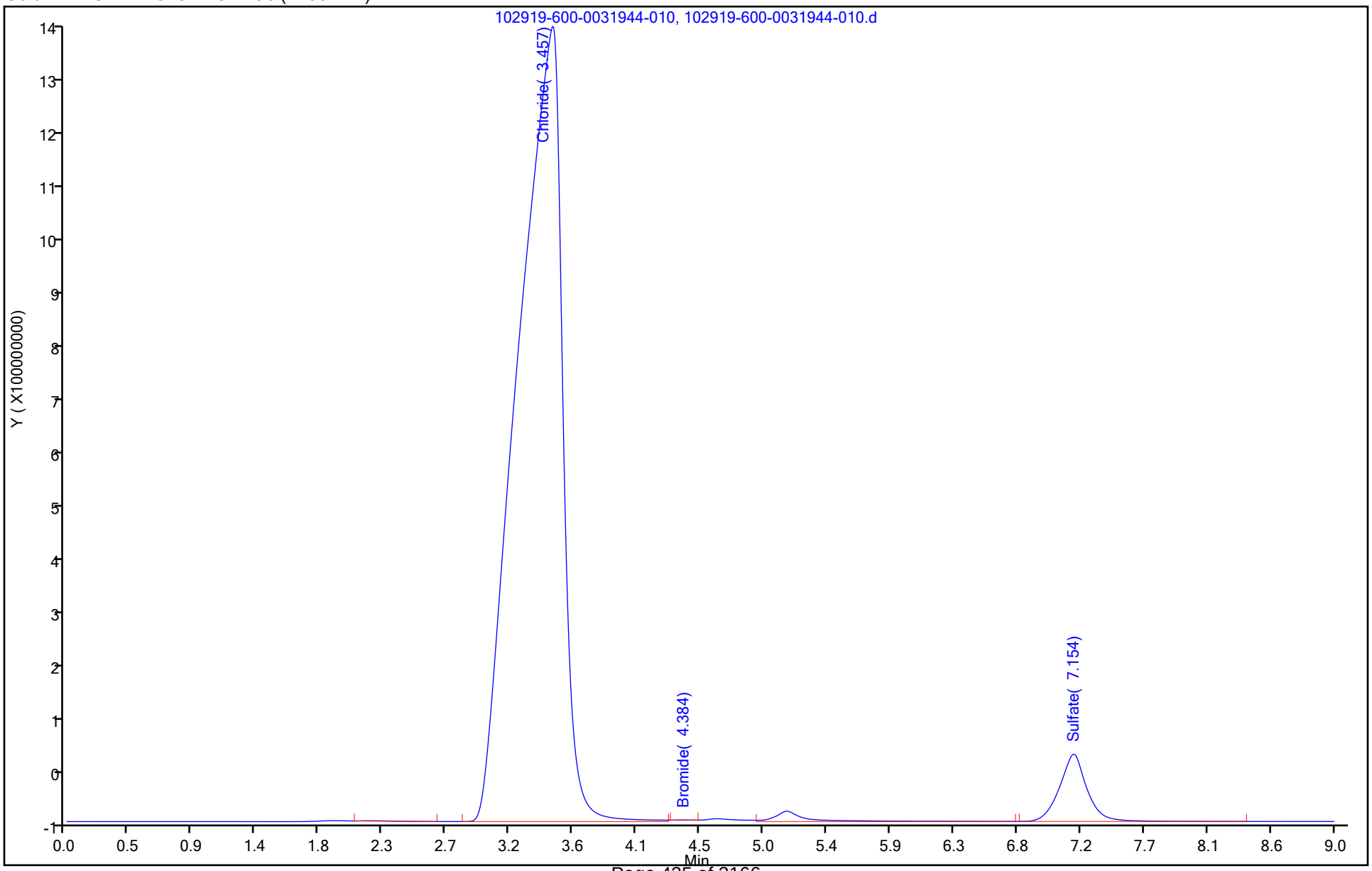

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-010.d				
Injection Date:	29-Oct-2019 07:38:00	Instrument ID:	CHWC17(IC)		
Lims ID:	600-194690-G-8	Lab Sample ID:	600-194690-8		
Client ID:	INF 3				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

1 Bromide, CAS: 24959-67-9

Signal: 1

RT: 4.38
Area: 31668508
Amount: 2.313039
Amount Units: ug/ml

Processing Integration Results

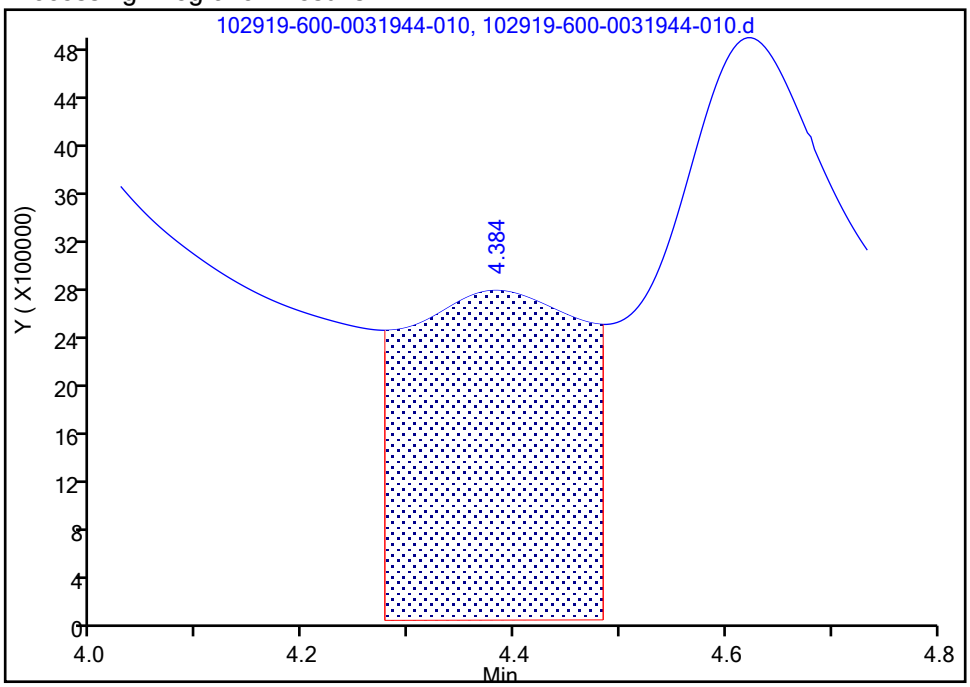

RT: 4.38
Area: 1997601
Amount: 0.122987
Amount Units: ug/ml

Manual Integration Results

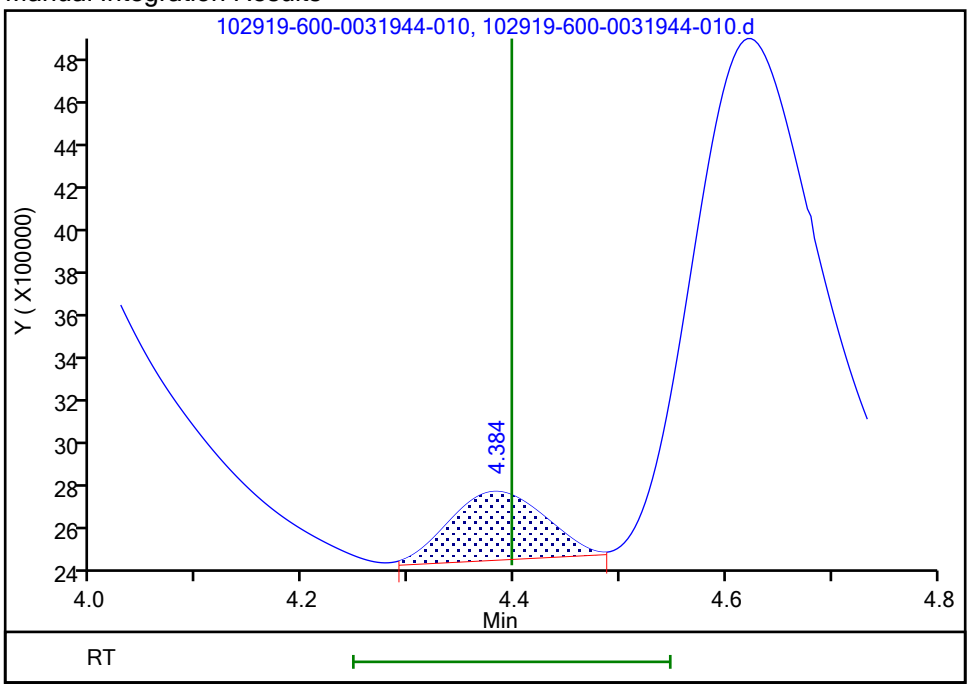

Reviewer: reachs, 30-Oct-2019 12:04:23
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: INF 3 Lab Sample ID: 600-194690-8

Matrix: Water Lab File ID: 102919-600-0031944-010.d

Analysis Method: 300.0 Date Collected: 10/25/2019 13:30

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 10/29/2019 07:38

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS22 ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 278777 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	ND	H H3	0.20	0.025
14797-65-0	Nitrite as N	ND	H H3	0.20	0.030

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-010.d
Lims ID: 600-194690-G-8
Client ID: INF 3
Sample Type: Client
Inject. Date: 29-Oct-2019 07:38:00 ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031944-010
Misc. Info.: 600-194690-g-8
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 30-Oct-2019 12:43:28 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0337

First Level Reviewer: reachs Date: 30-Oct-2019 12:04:48

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
2 Chloride	3.457	3.121	0.336	29939754472	NC	a
9 Nitrite as N		3.761		ND		
1 Bromide	4.384	4.397	-0.013	1997601	NC	M
3 Nitrate as N		4.864		ND		
5 Sulfate	7.154	7.101	0.053	1553134963	NC	M

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated
a - User Assigned ID

Report Date: 30-Oct-2019 12:43:37 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-010.d				
Injection Date:	29-Oct-2019 07:38:00	Instrument ID:	CHWC17(IC)	Operator ID:	
Lims ID:	600-194690-G-8	Lab Sample ID:	600-194690-8	Worklist Smp#:	10
Client ID:	INF 3				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		

Column: AS-22 Dionex Lion Pac (2.00 mm)

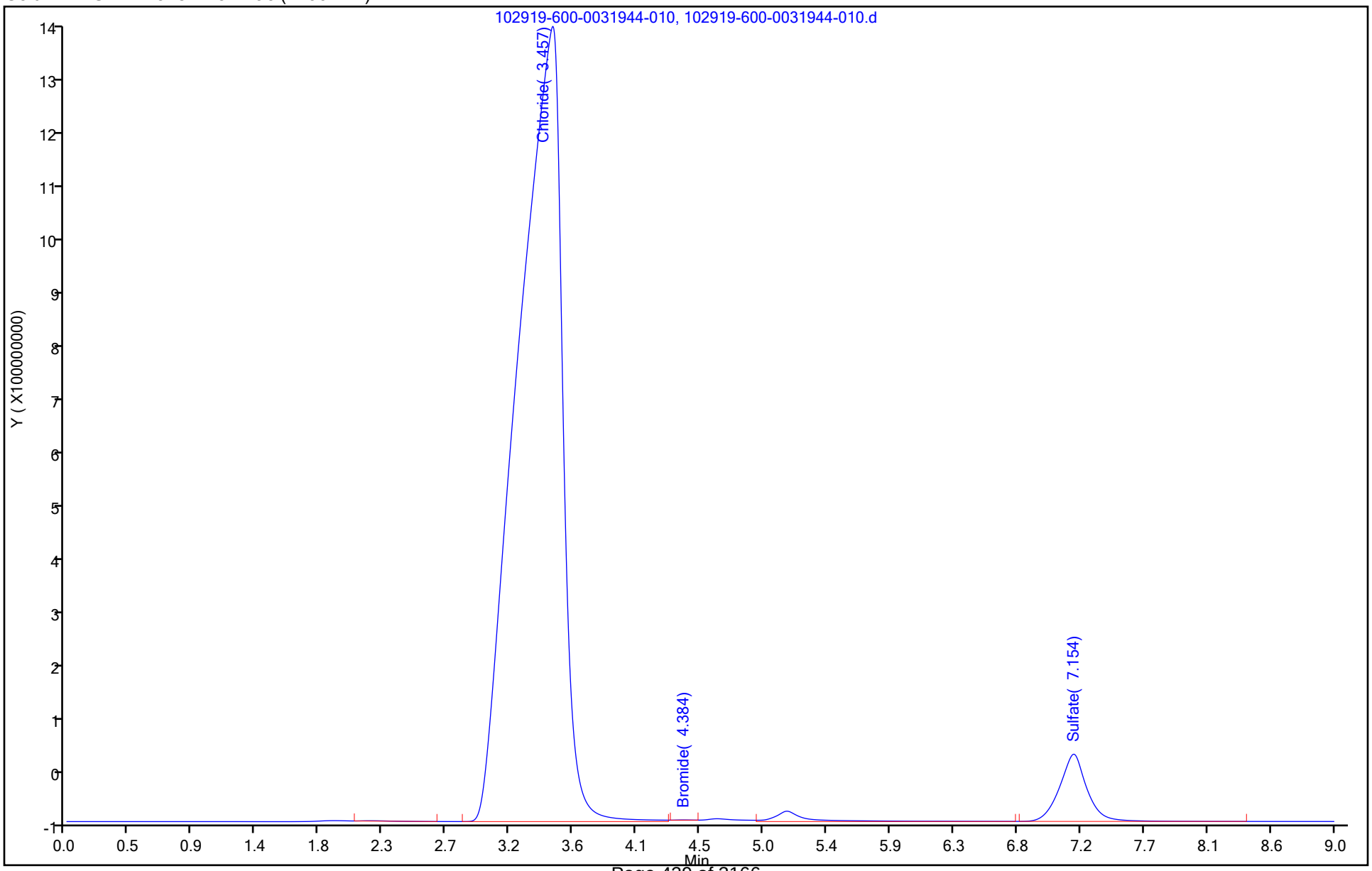

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: INF 3 Lab Sample ID: 600-194690-8

Matrix: Water Lab File ID: 103019-600-0031972-021.d

Analysis Method: 300.0 Date Collected: 10/25/2019 13:30

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 10/30/2019 12:02

Con. Extract Vol.: Dilution Factor: 20

Injection Volume: 1(uL) GC Column: AS22 ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 278901 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
16887-00-6	Chloride	540	B	8.0	1.1
14808-79-8	Sulfate	37		10	1.9
16984-48-8	Fluoride	ND		4.0	1.2

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-021.d				
Lims ID:	600-194690-G-8				
Client ID:	INF 3				
Sample Type:	Client				
Inject. Date:	30-Oct-2019 12:02:00	ALS Bottle#:	0	Worklist Smp#:	21
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	600-0031972-021				
Misc. Info.:	600-194690-g-8				
Operator ID:		Instrument ID:	CHWC17(IC)		
Method:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\CHWC17(IC).m				
Limit Group:	WC - IC_300_9056_28day				
Last Update:	31-Oct-2019 12:35:33	Calib Date:	24-Oct-2019 14:43:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d				
Column 1 :	AS-22 Dionex Lion Pac (2.00 mm)		Det: 040914-1		
Process Host:	CTX0305				

First Level Reviewer: reachs Date: 31-Oct-2019 11:58:58

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
7 Fluoride		2.241			ND	
2 Chloride	3.114	3.121	-0.007	1230181204	26.8	M
9 Nitrite as N		3.761			ND	
1 Bromide	4.367	4.397	-0.030	1406538	0.0794	M
3 Nitrate as N	4.867	4.864	0.003	5871627	NC	M
5 Sulfate	6.977	7.101	-0.124	52031389	1.84	M

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Report Date: 31-Oct-2019 12:35:40 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-021.d				
Injection Date:	30-Oct-2019 12:02:00	Instrument ID:	CHWC17(IC)	Operator ID:	
Lims ID:	600-194690-G-8	Lab Sample ID:	600-194690-8	Worklist Smp#:	21
Client ID:	INF 3				
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	0
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		

Column: AS-22 Dionex Lion Pac (2.00 mm)

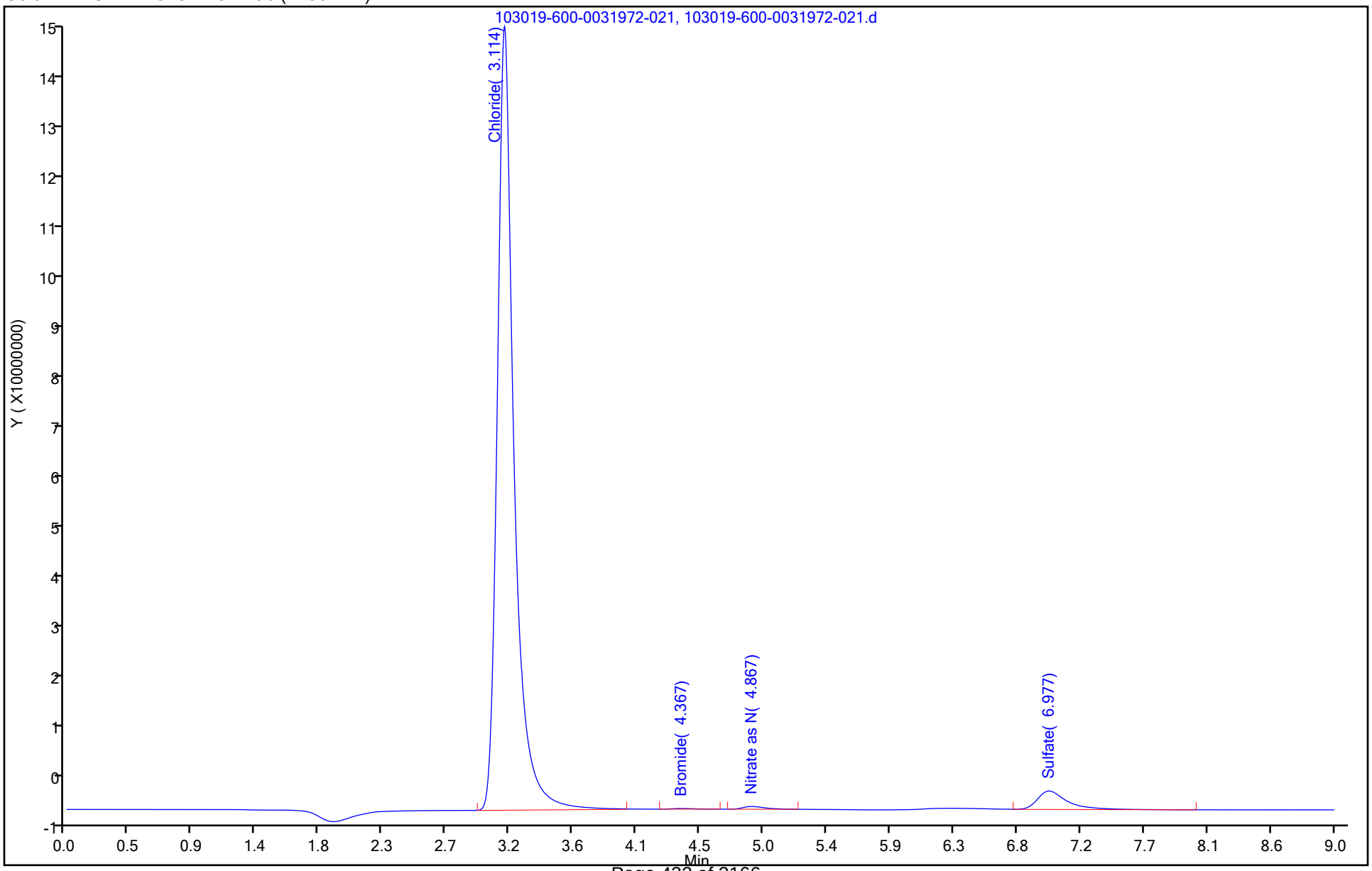

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-021.d				
Injection Date:	30-Oct-2019 12:02:00	Instrument ID:	CHWC17(IC)		
Lims ID:	600-194690-G-8	Lab Sample ID:	600-194690-8		
Client ID:	INF 3				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	21
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

2 Chloride, CAS: 16887-00-6

Signal: 1

Processing Integration Results

RT: 3.11
Area: 1358901551
Amount: 29.628083
Amount Units: ug/ml

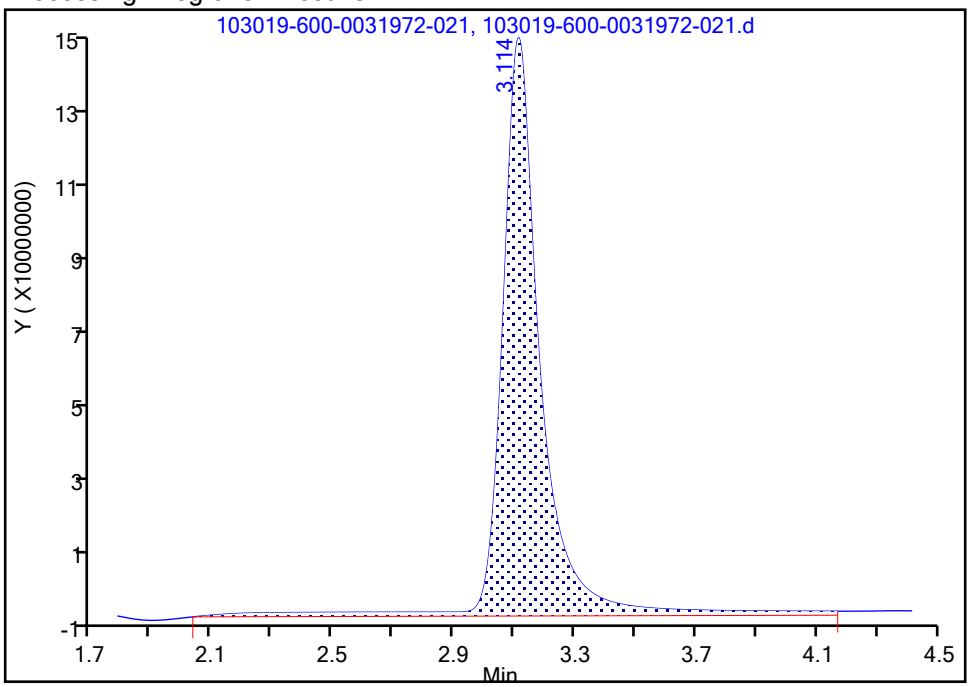

Manual Integration Results

RT: 3.11
Area: 1230181204
Amount: 26.841385
Amount Units: ug/ml

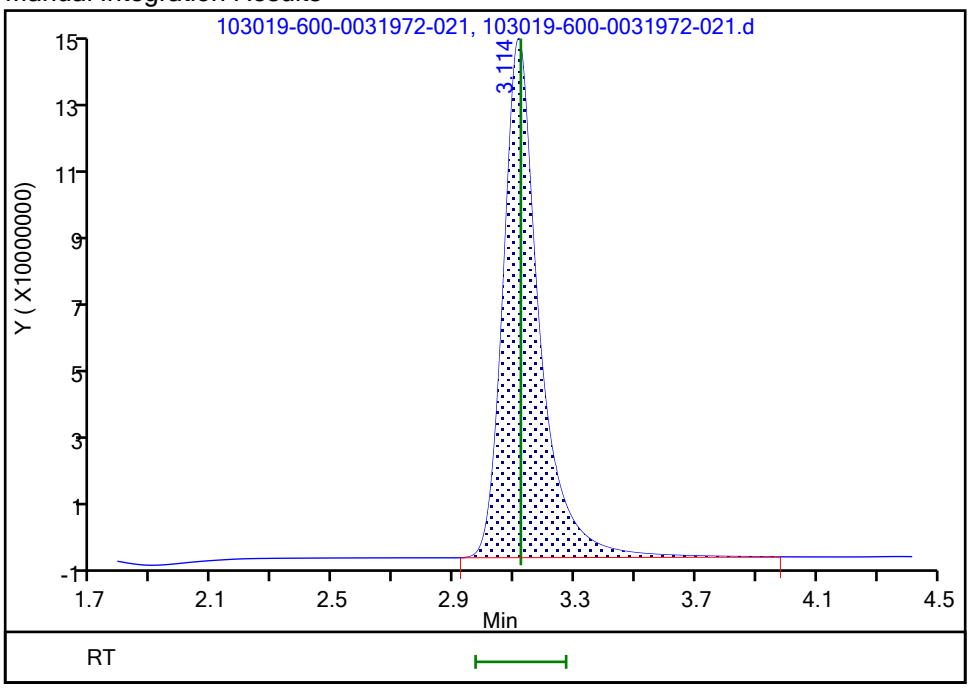

Reviewer: reachs, 31-Oct-2019 11:58:22

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-021.d				
Injection Date:	30-Oct-2019 12:02:00	Instrument ID:	CHWC17(IC)		
Lims ID:	600-194690-G-8	Lab Sample ID:	600-194690-8		
Client ID:	INF 3				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	21
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

5 Sulfate, CAS: 14808-79-8

Signal: 1

Processing Integration Results

RT: 6.98
Area: 77045453
Amount: 2.640935
Amount Units: ug/ml

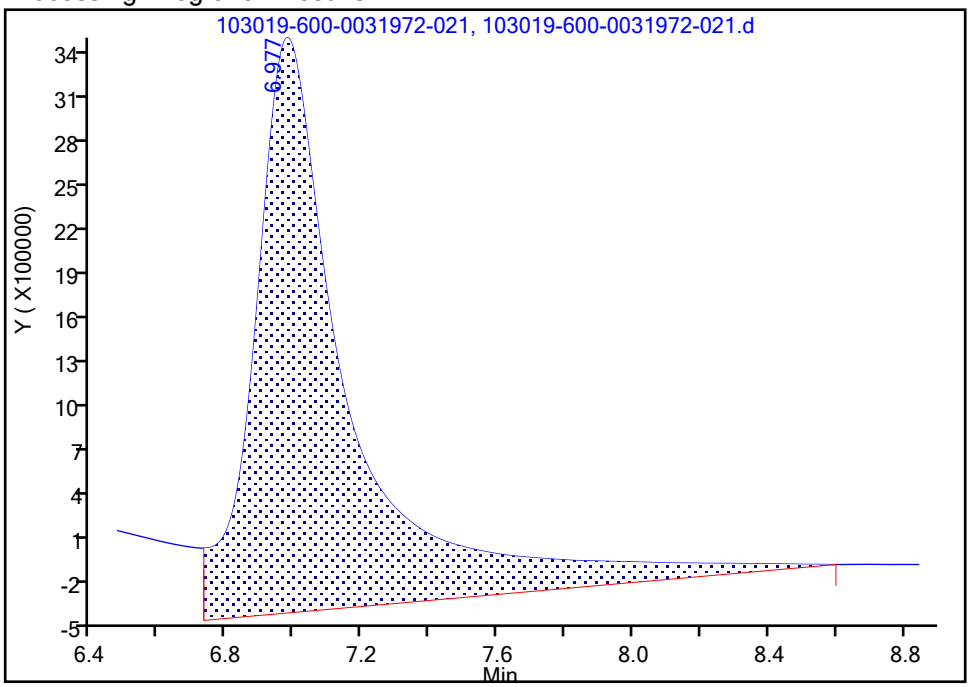

Manual Integration Results

RT: 6.98
Area: 52031389
Amount: 1.841113
Amount Units: ug/ml

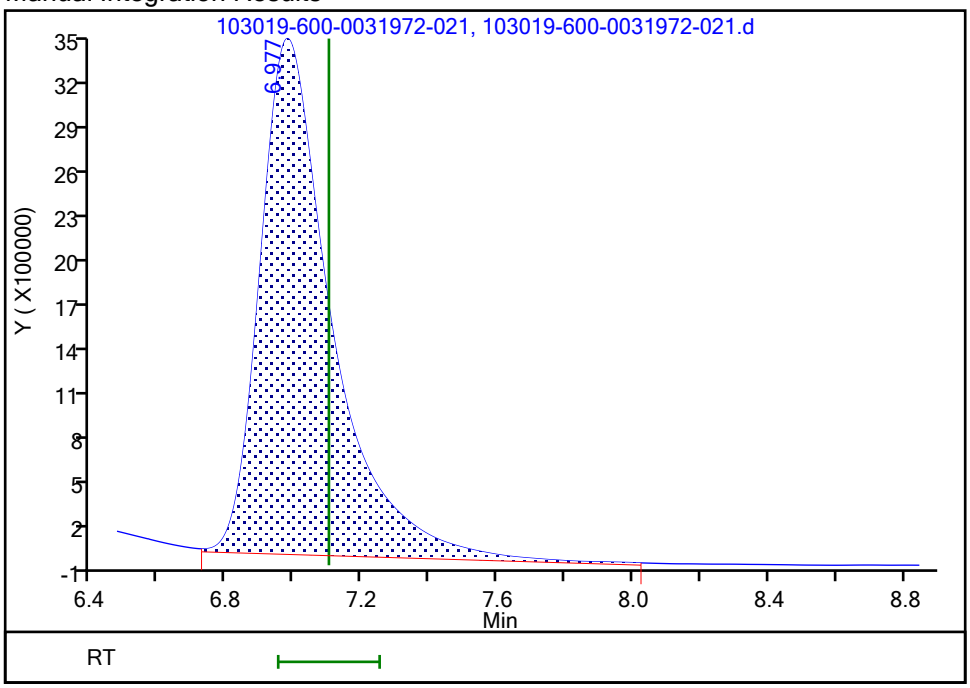

Reviewer: reachs, 31-Oct-2019 11:58:41

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: INF 4 Lab Sample ID: 600-194690-10

Matrix: Water Lab File ID: 102919-600-0031944-011.d

Analysis Method: 300.0 Date Collected: 10/25/2019 20:50

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 10/29/2019 07:49

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS22 ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 278776 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	0.15	J F1	0.40	0.10
16984-48-8	Fluoride	0.26	F1	0.20	0.060

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-011.d
Lims ID: 600-194690-F-10
Client ID: INF 4
Sample Type: Client
Inject. Date: 29-Oct-2019 07:49:00 ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031944-011
Misc. Info.: 600-194690-f-10
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 30-Oct-2019 12:43:28 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0337

First Level Reviewer: reachs Date: 30-Oct-2019 12:06:14

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
	7 Fluoride	2.150	2.241	-0.091	4578736	0.2605	M
	2 Chloride	3.474	3.121	0.353	31749604714	687.6	Ea
	9 Nitrite as N		3.761			ND	
	1 Bromide	4.394	4.397	-0.003	2389967	0.1519	M
	3 Nitrate as N		4.864			ND	
	4 Orthophosphate as P		7.044			ND	
	5 Sulfate	7.164	7.101	0.063	1704303296	54.7	EM
S	8 Sulfate as Sulfur					54.7	
S	6 Nitrate Nitrite as N		0.000			ND	

QC Flag Legend

Processing Flags
E - Exceeded Maximum Amount
Review Flags
M - Manually Integrated
a - User Assigned ID

Report Date: 30-Oct-2019 12:43:37 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-011.d				
Injection Date:	29-Oct-2019 07:49:00	Instrument ID:	CHWC17(IC)	Operator ID:	
Lims ID:	600-194690-F-10	Lab Sample ID:	600-194690-10	Worklist Smp#:	11
Client ID:	INF 4				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		

Column: AS-22 Dionex Lion Pac (2.00 mm)

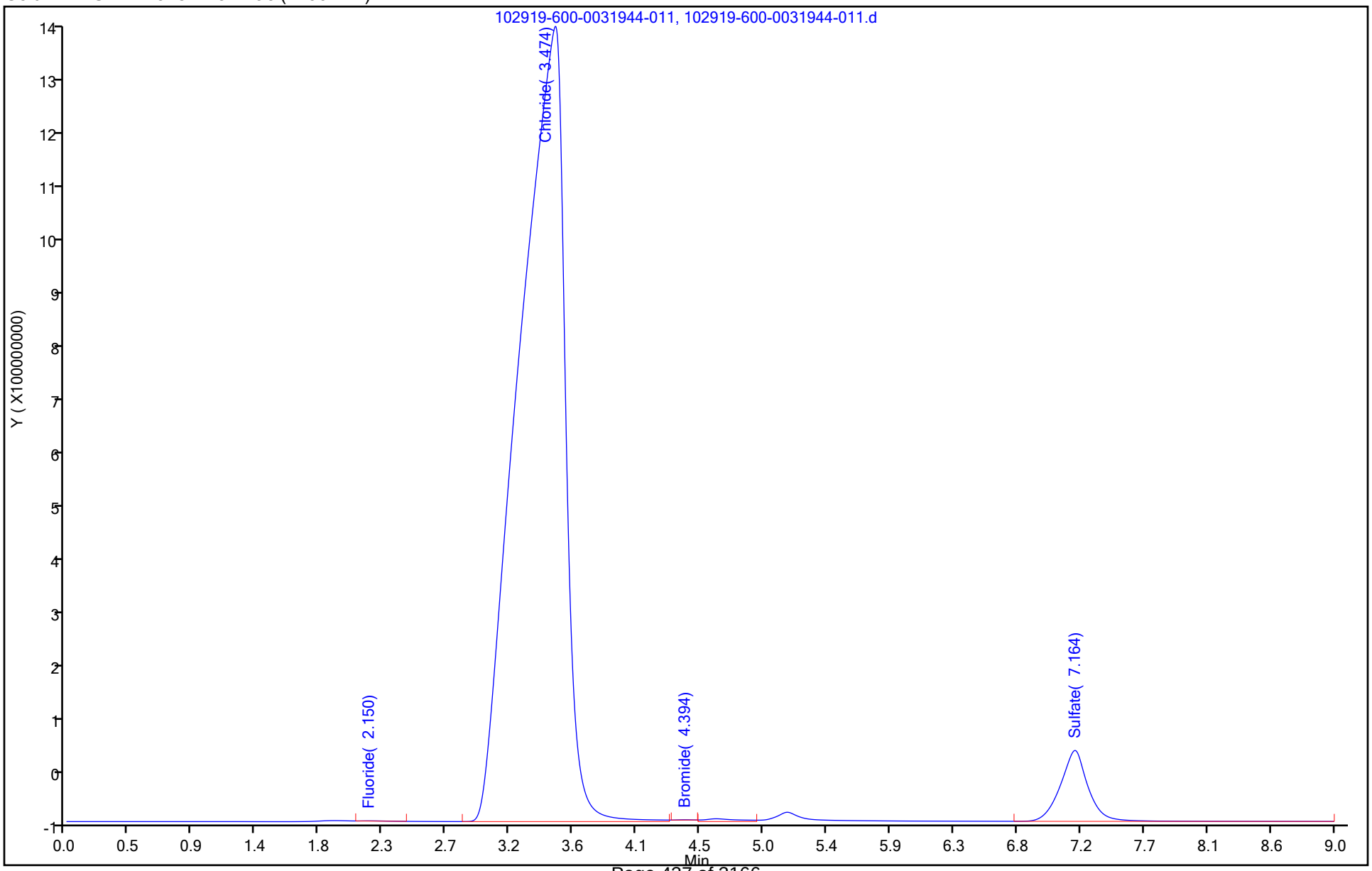

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-011.d				
Injection Date:	29-Oct-2019 07:49:00	Instrument ID:	CHWC17(IC)		
Lims ID:	600-194690-F-10	Lab Sample ID:	600-194690-10		
Client ID:	INF 4				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

1 Bromide, CAS: 24959-67-9

Signal: 1

RT: 4.39
Area: 34612231
Amount: 2.530319
Amount Units: ug/ml

Processing Integration Results

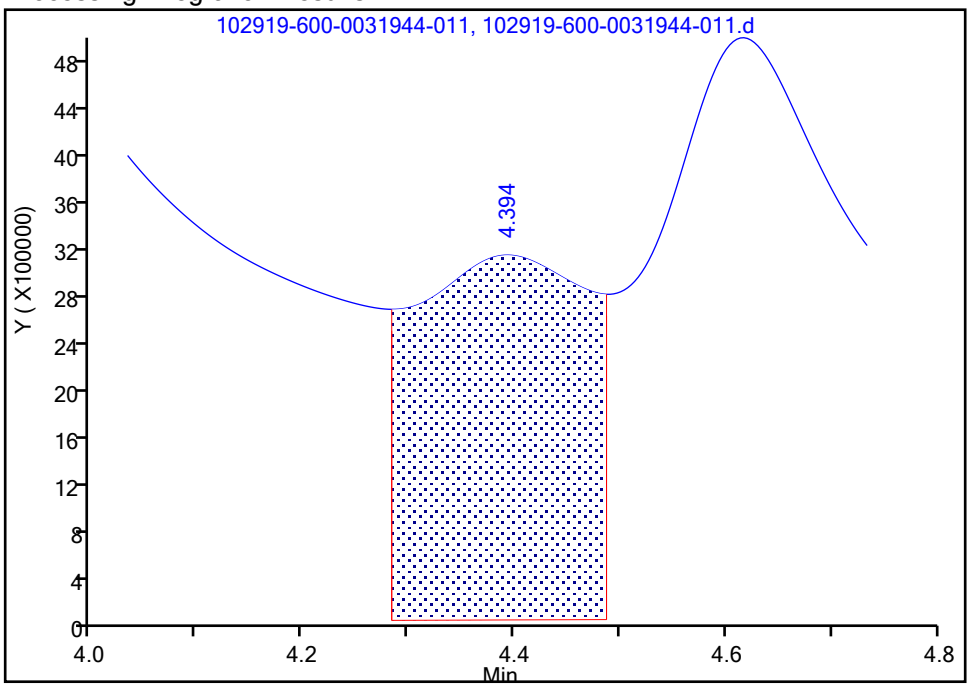

RT: 4.39
Area: 2389967
Amount: 0.151948
Amount Units: ug/ml

Manual Integration Results

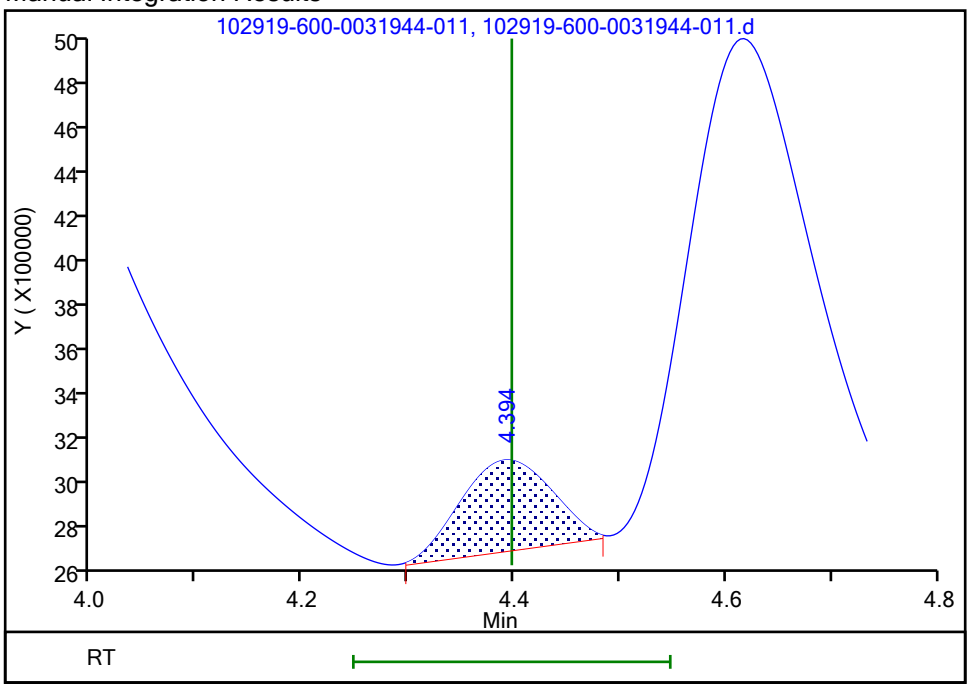

Reviewer: reachs, 30-Oct-2019 12:05:33
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-011.d				
Injection Date:	29-Oct-2019 07:49:00	Instrument ID:	CHWC17(IC)		
Lims ID:	600-194690-F-10	Lab Sample ID:	600-194690-10		
Client ID:	INF 4				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

7 Fluoride, CAS: 16984-48-8

Signal: 1

Processing Integration Results

RT: 2.15
Area: 4946520
Amount: 0.267157
Amount Units: ug/ml

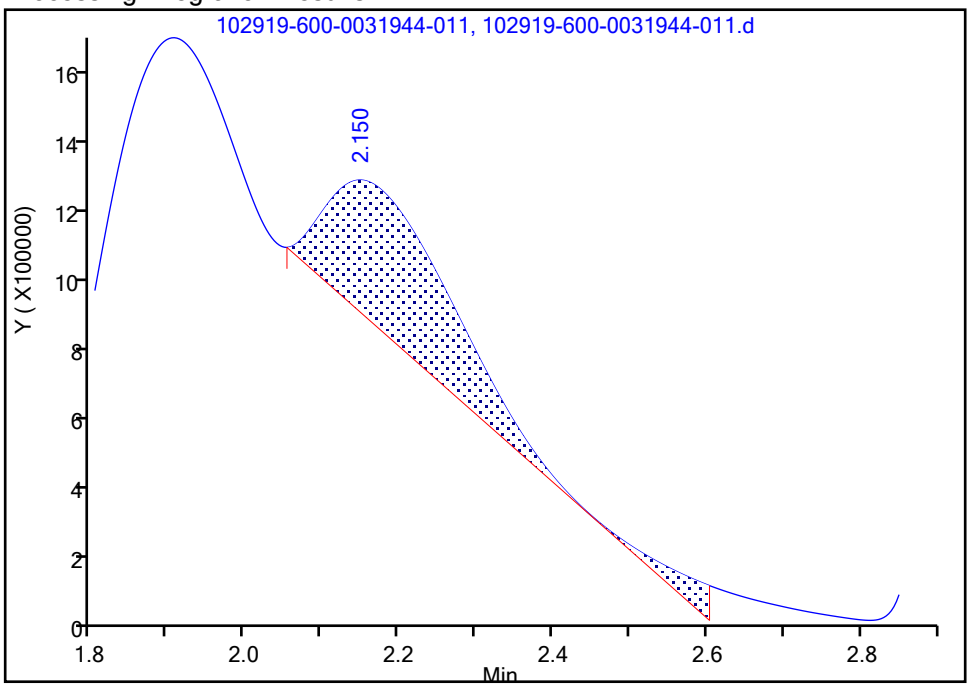

Manual Integration Results

RT: 2.15
Area: 4578736
Amount: 0.260541
Amount Units: ug/ml

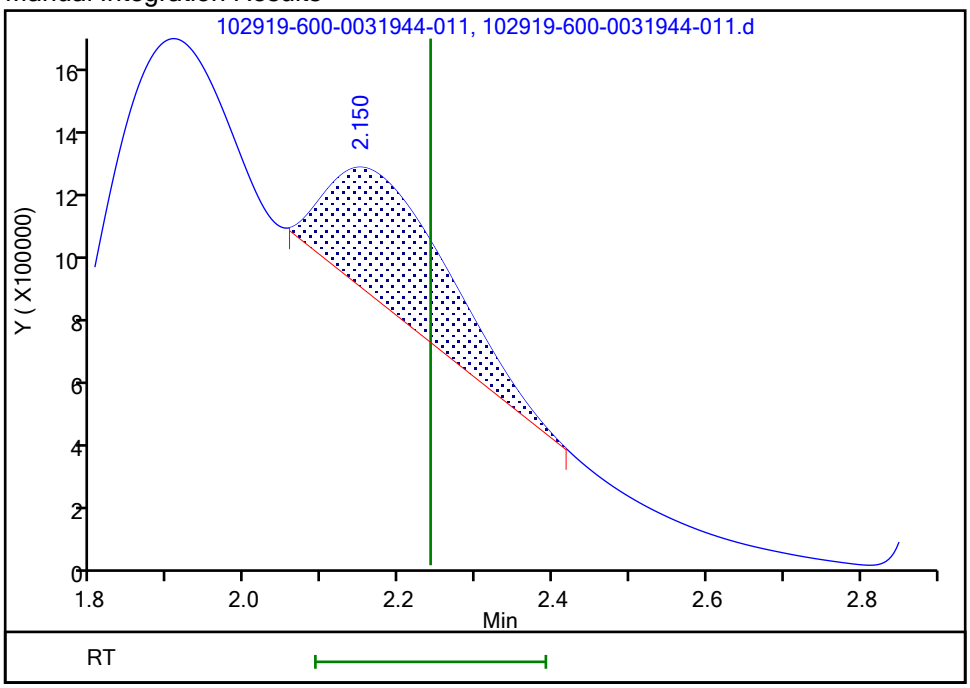

Reviewer: reachs, 30-Oct-2019 12:05:14
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: INF 4 Lab Sample ID: 600-194690-10

Matrix: Water Lab File ID: 102919-600-0031944-011.d

Analysis Method: 300.0 Date Collected: 10/25/2019 20:50

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 10/29/2019 07:49

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS22 ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 278777 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	ND	H F1 H3	0.20	0.025
14797-65-0	Nitrite as N	ND	H F1 H3	0.20	0.030

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-011.d
Lims ID: 600-194690-F-10
Client ID: INF 4
Sample Type: Client
Inject. Date: 29-Oct-2019 07:49:00 ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031944-011
Misc. Info.: 600-194690-f-10
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 30-Oct-2019 12:43:28 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0337

First Level Reviewer: reachs Date: 30-Oct-2019 12:06:14

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
	7 Fluoride	2.150	2.241	-0.091	4578736	NC	M
	2 Chloride	3.474	3.121	0.353	31749604714	NC	a
	9 Nitrite as N		3.761			ND	
	1 Bromide	4.394	4.397	-0.003	2389967	NC	M
	3 Nitrate as N		4.864			ND	
	4 Orthophosphate as P		7.044			ND	
	5 Sulfate	7.164	7.101	0.063	1704303296	NC	M
S	8 Sulfate as Sulfur		0.000			ND	
S	6 Nitrate Nitrite as N		0.000			ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated
a - User Assigned ID

Report Date: 30-Oct-2019 12:43:38 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-011.d				
Injection Date:	29-Oct-2019 07:49:00	Instrument ID:	CHWC17(IC)	Operator ID:	
Lims ID:	600-194690-F-10	Lab Sample ID:	600-194690-10	Worklist Smp#:	11
Client ID:	INF 4				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		

Column: AS-22 Dionex Lion Pac (2.00 mm)

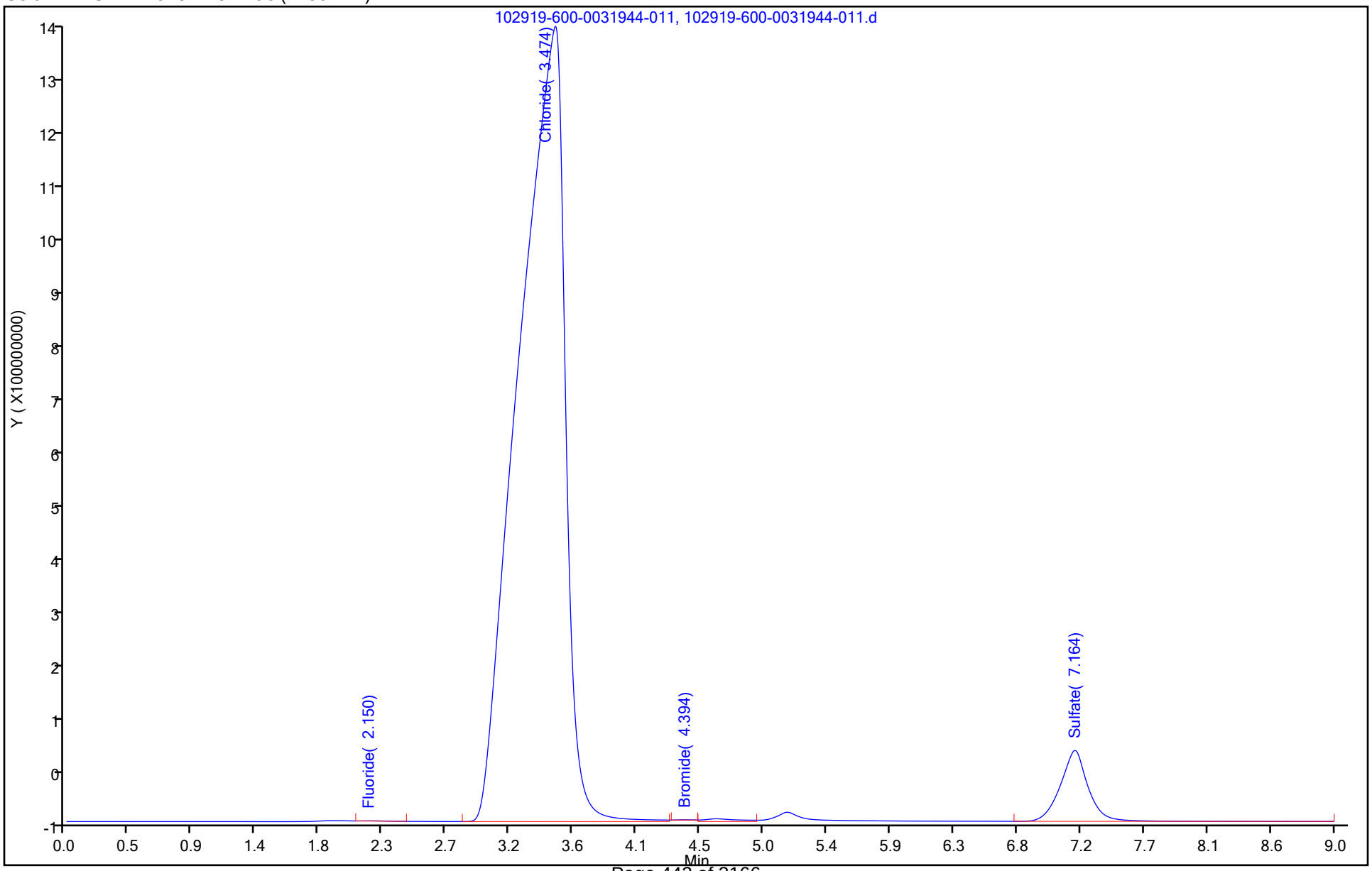

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: INF 4 Lab Sample ID: 600-194690-10

Matrix: Water Lab File ID: 103019-600-0031972-022.d

Analysis Method: 300.0 Date Collected: 10/25/2019 20:50

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 10/30/2019 12:12

Con. Extract Vol.: Dilution Factor: 20

Injection Volume: 1(uL) GC Column: AS22 ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 278901 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
16887-00-6	Chloride	500	B	8.0	1.1
14808-79-8	Sulfate	36		10	1.9

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-022.d				
Lims ID:	600-194690-F-10				
Client ID:	INF 4				
Sample Type:	Client				
Inject. Date:	30-Oct-2019 12:12:00	ALS Bottle#:	0	Worklist Smp#:	22
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	600-0031972-022				
Misc. Info.:	600-194690-f-10				
Operator ID:		Instrument ID:	CHWC17(IC)		
Method:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\CHWC17(IC).m				
Limit Group:	WC - IC_300_9056_28day				
Last Update:	31-Oct-2019 12:35:33	Calib Date:	24-Oct-2019 14:43:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d				
Column 1 :	AS-22 Dionex Lion Pac (2.00 mm)		Det: 040914-1		
Process Host:	CTX0305				

First Level Reviewer: reachs Date: 31-Oct-2019 11:59:48

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
7 Fluoride		2.241			ND	
2 Chloride	3.111	3.121	-0.010	1152370677	25.2	M
9 Nitrite as N		3.761			ND	
1 Bromide	4.364	4.397	-0.033	1084794	0.0556	M
3 Nitrate as N	4.867	4.864	0.003	5052052	NC	M
5 Sulfate	6.977	7.101	-0.124	50436116	1.79	M

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Report Date: 31-Oct-2019 12:35:41 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-022.d				
Injection Date:	30-Oct-2019 12:12:00	Instrument ID:	CHWC17(IC)	Operator ID:	
Lims ID:	600-194690-F-10	Lab Sample ID:	600-194690-10	Worklist Smp#:	22
Client ID:	INF 4				
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	0
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		

Column: AS-22 Dionex Lion Pac (2.00 mm)

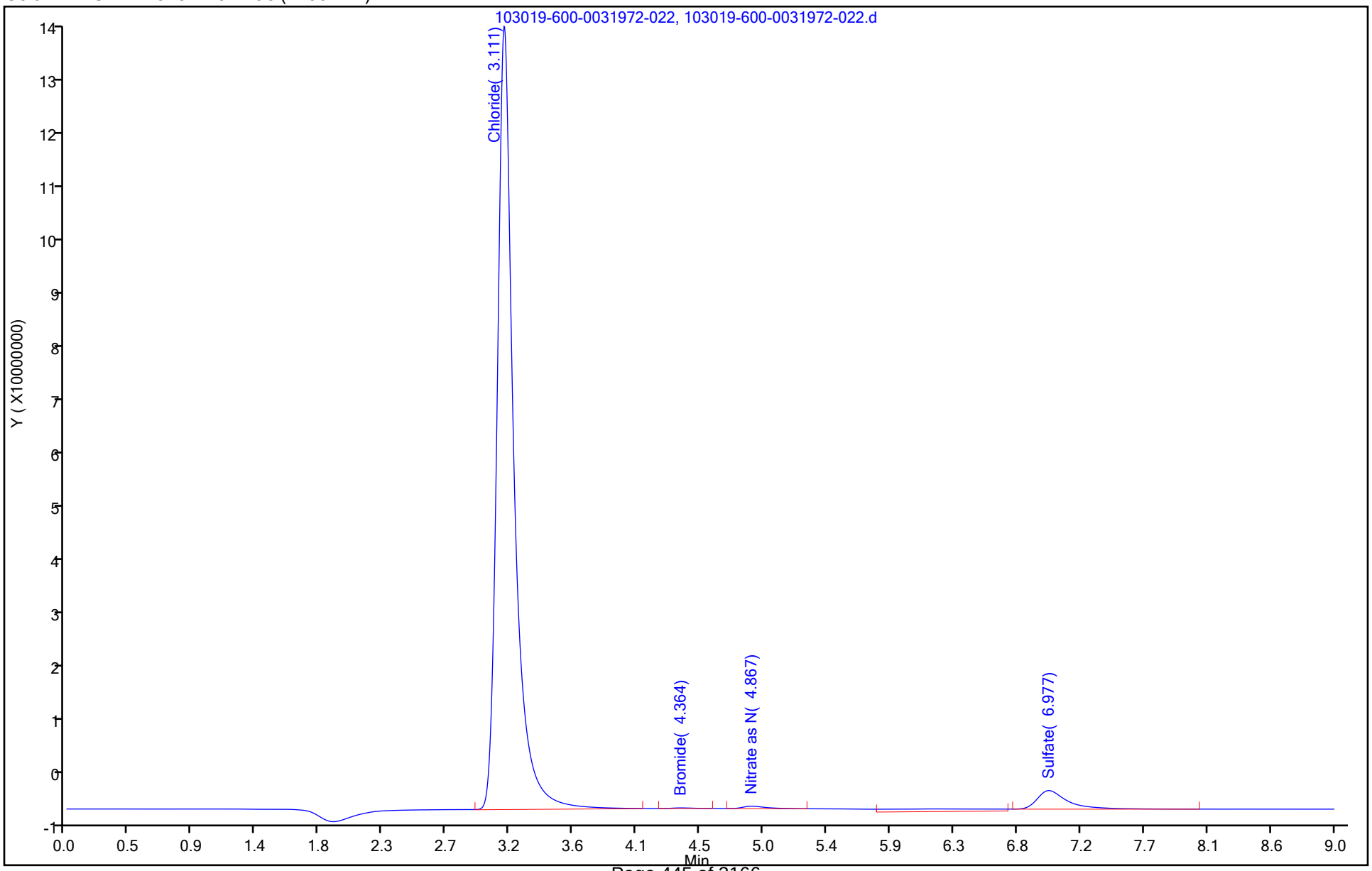

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-022.d				
Injection Date:	30-Oct-2019 12:12:00	Instrument ID:	CHWC17(IC)		
Lims ID:	600-194690-F-10	Lab Sample ID:	600-194690-10		
Client ID:	INF 4				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	22
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

2 Chloride, CAS: 16887-00-6

Signal: 1

Processing Integration Results

RT: 3.11
Area: 1277263176
Amount: 27.860674
Amount Units: ug/ml

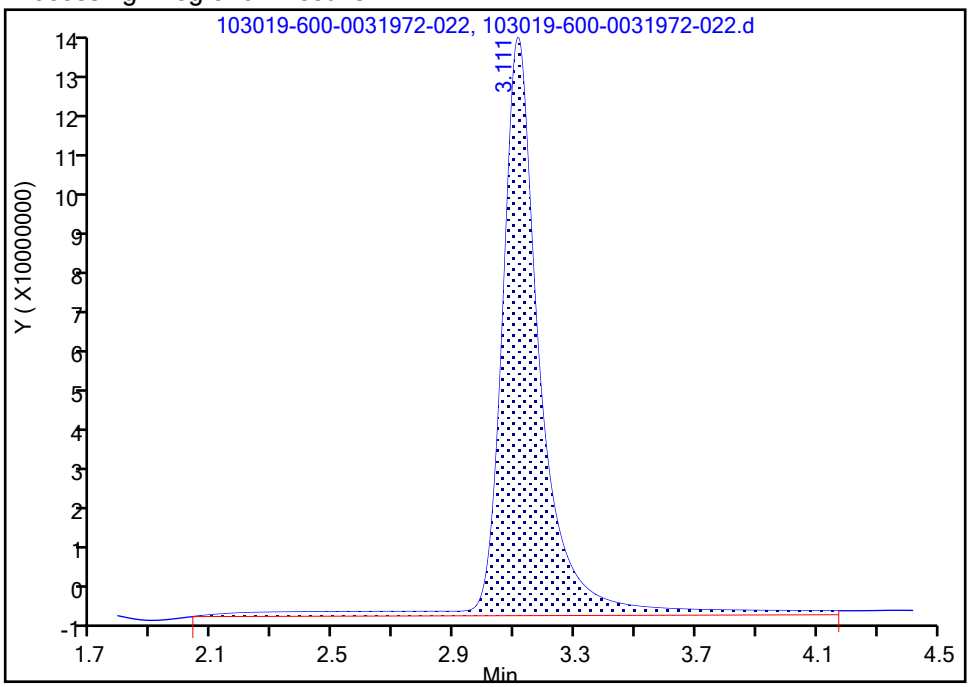

Manual Integration Results

RT: 3.11
Area: 1152370677
Amount: 25.156845
Amount Units: ug/ml

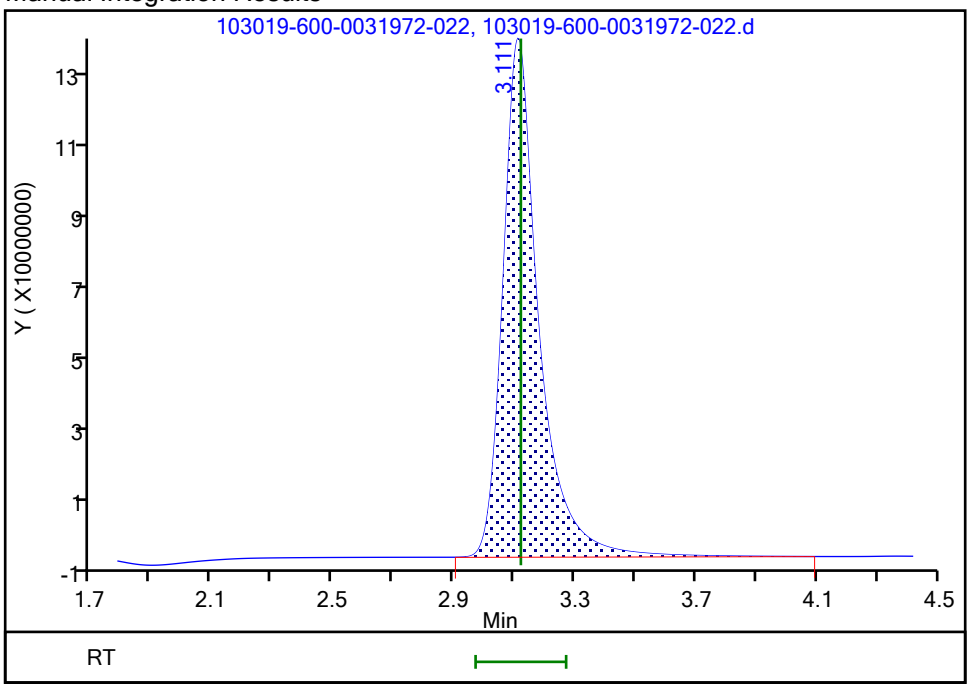

Reviewer: reachs, 31-Oct-2019 11:59:23

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-022.d				
Injection Date:	30-Oct-2019 12:12:00	Instrument ID:	CHWC17(IC)		
Lims ID:	600-194690-F-10	Lab Sample ID:	600-194690-10		
Client ID:	INF 4				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	22
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

5 Sulfate, CAS: 14808-79-8

Signal: 1

Processing Integration Results

RT: 6.98
Area: 64926710
Amount: 2.253439
Amount Units: ug/ml

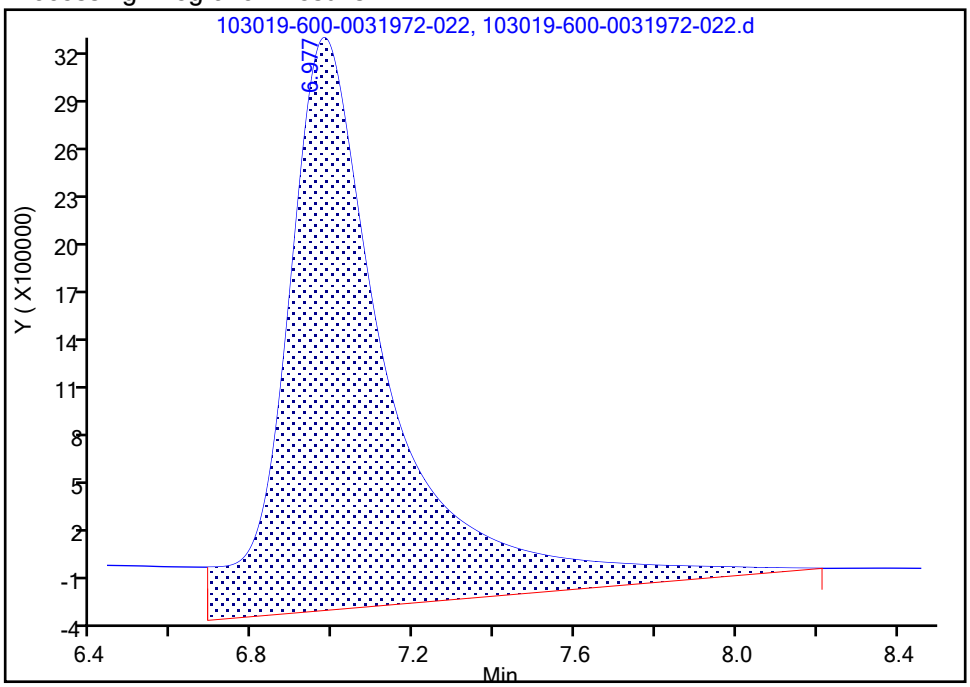

Manual Integration Results

RT: 6.98
Area: 50436116
Amount: 1.790104
Amount Units: ug/ml

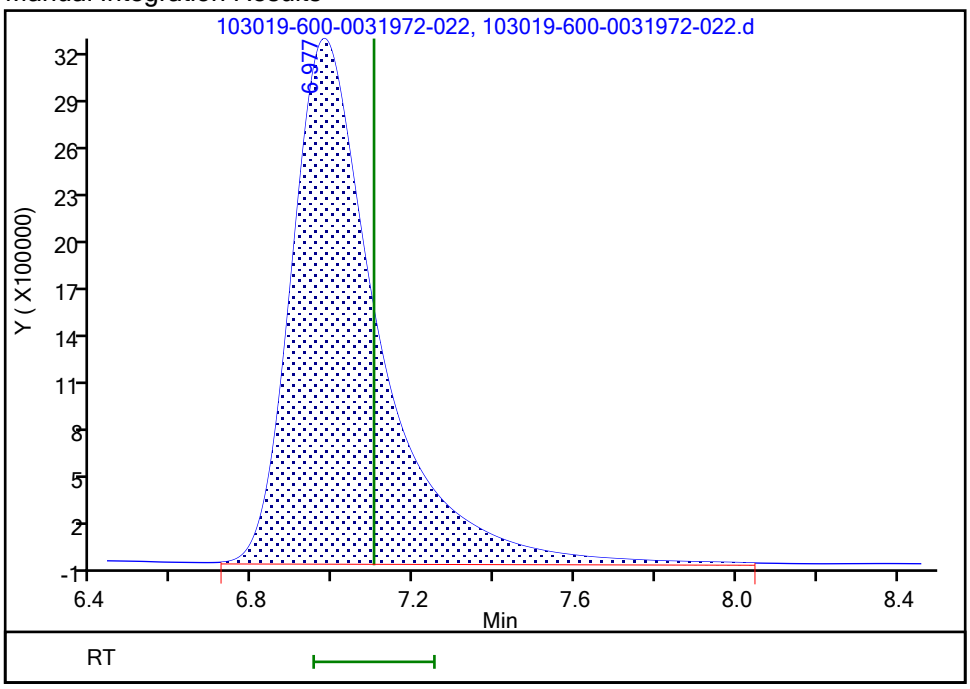

Reviewer: reachs, 31-Oct-2019 11:59:34

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1 Analy Batch No.: 277958

SDG No.:

Instrument ID: CHWC11 GC Column: AS-18 ID: Heated Purge: (Y/N) N

Calibration Start Date: 10/18/2019 16:34 Calibration End Date: 10/18/2019 18:57 Calibration ID: 16927

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-277958/3	CAL101819-3.d
Level 2	IC 600-277958/4	CAL101819-4.d
Level 3	IC 600-277958/5	CAL101819-5.d
Level 4	IC 600-277958/6	CAL101819-6.d
Level 5	IC 600-277958/7	CAL101819-7.d
Level 6	IC 600-277958/9	CAL101819-9.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6					RT WINDOW	AVG RT
Fluoride	3.126	3.125	3.126	3.125	3.126	3.134					2.875 - 3.375	3.127
Chloride	4.909	4.909	4.909	4.909	4.901	4.892					4.659 - 5.159	4.905
Bromide	8.867	8.867	8.859	8.850	8.842	8.825					8.600 - 9.100	8.852
Sulfate	9.601	9.600	9.601	9.592	9.584	9.542					9.342 - 9.842	9.587

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1 Analy Batch No.: 277958

SDG No.:

Instrument ID: CHWC11 GC Column: AS-18 ID: Heated Purge: (Y/N) N

Calibration Start Date: 10/18/2019 16:34 Calibration End Date: 10/18/2019 18:57 Calibration ID: 16927

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-277958/3	CAL101819-3.d
Level 2	IC 600-277958/4	CAL101819-4.d
Level 3	IC 600-277958/5	CAL101819-5.d
Level 4	IC 600-277958/6	CAL101819-6.d
Level 5	IC 600-277958/7	CAL101819-7.d
Level 6	IC 600-277958/9	CAL101819-9.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3	LVL 4		B	M1	M2								
Fluoride	7198060 10373807	10626294 10292104	9557991	10787435	Lin1	-446242.92	10470211.5							0.9990		0.9900
Chloride	4126308 5413429	4184995 5529260	5004422	5087014	Lin1	-853051.61	5503166.62							1.0000		0.9900
Bromide	1504895 1942916	1711014 2065563	1602217	1871273	Lin1	-168929.93	2034160.52							0.9980		0.9900
Sulfate	3112680 3737717	3479007 3998225	3395404	3538060	Lin1	-545812.99	3939097.96							0.9990		0.9900

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1 Analy Batch No.: 277958

SDG No.:

Instrument ID: CHWC11 GC Column: AS-18 ID: Heated Purge: (Y/N) N

Calibration Start Date: 10/18/2019 16:34 Calibration End Date: 10/18/2019 18:57 Calibration ID: 16927

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-277958/3	CAL101819-3.d
Level 2	IC 600-277958/4	CAL101819-4.d
Level 3	IC 600-277958/5	CAL101819-5.d
Level 4	IC 600-277958/6	CAL101819-6.d
Level 5	IC 600-277958/7	CAL101819-7.d
Level 6	IC 600-277958/9	CAL101819-9.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
		LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Fluoride	Lin1	1439612 102921044	5313147	9557991	21574870	51869037	0.200 10.0	0.500	1.00	2.00	5.00
Chloride	Lin1	1650523 221170411	4184995	10008843	25435068	54134292	0.400 40.0	1.00	2.00	5.00	10.0
Bromide	Lin1	300979 20655628	855507	1602217	3742546	9714578	0.200 10.0	0.500	1.00	2.00	5.00
Sulfate	Lin1	1245072 159929009	3479007	6790807	17690301	37377166	0.400 40.0	1.00	2.00	5.00	10.0

Curve Type Legend:
Lin1 = Linear 1/conc

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-3.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 18-Oct-2019 16:55:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031755-003
Operator ID: Instrument ID: CHWC11
Sublist: chrom-300_11*sub8

Method: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\300_11.m
Limit Group: WC - IC_300_9056_28day
Last Update: 23-Oct-2019 10:37:24 Calib Date: 18-Oct-2019 18:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d

Column 1 : Det: 040914-1
Process Host: CTX0301

First Level Reviewer: reachs Date: 21-Oct-2019 10:26:06

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	3.126	3.125	0.001	1439612	0.2000	0.1801	M
	2 Chloride	4.909	4.909	0.000	1650523	0.4000	0.4549	
	9 Nitrite as N	6.126	6.125	0.001	2058962	NC	NC	
	1 Bromide	8.867	8.850	0.017	300979	0.2000	0.2310	M
	5 Sulfate	9.601	9.592	0.009	1245072	0.4000	0.4546	Ma
	3 Nitrate as N	10.359	10.317	0.042	2067356	NC	NC	Ma
S	8 Sulfate as Sulfur						0.4546	
S	6 Nitrate Nitrite as N		0.000			0.2000	ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

ICCALSTD2_00051 Amount Added: 5.00 Units: mL

Report Date: 23-Oct-2019 10:37:25 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-3.d				
Injection Date:	18-Oct-2019 16:55:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	IC			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		

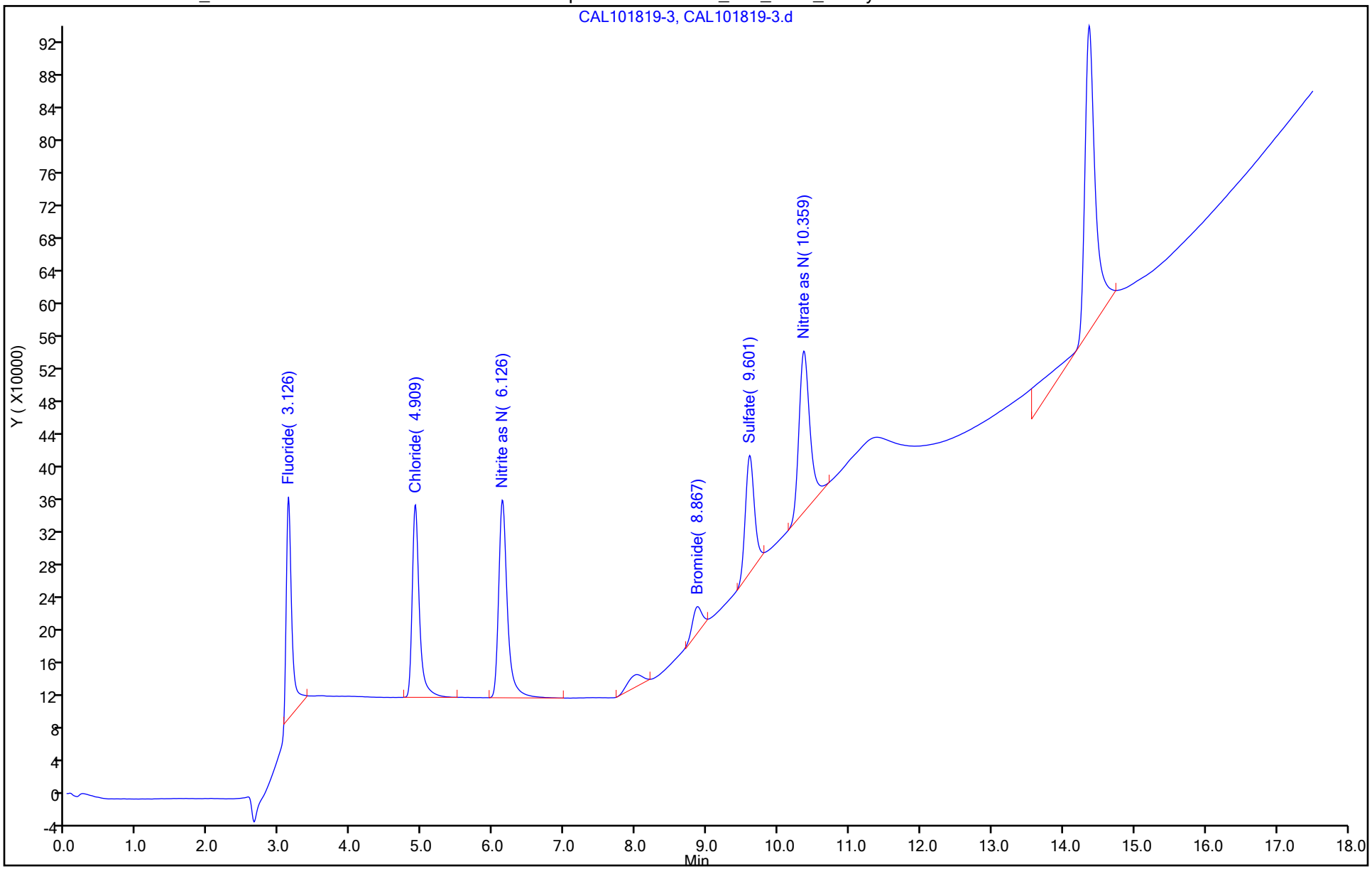

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-3.d				
Injection Date:	18-Oct-2019 16:55:00	Instrument ID:	CHWC11		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		
Column:		Detector	040914-1		

7 Fluoride, CAS: 16984-48-8

Signal: 1

Processing Integration Results

RT: 3.13
Area: 2185414
Amount: -0.232721
Amount Units: ug/ml

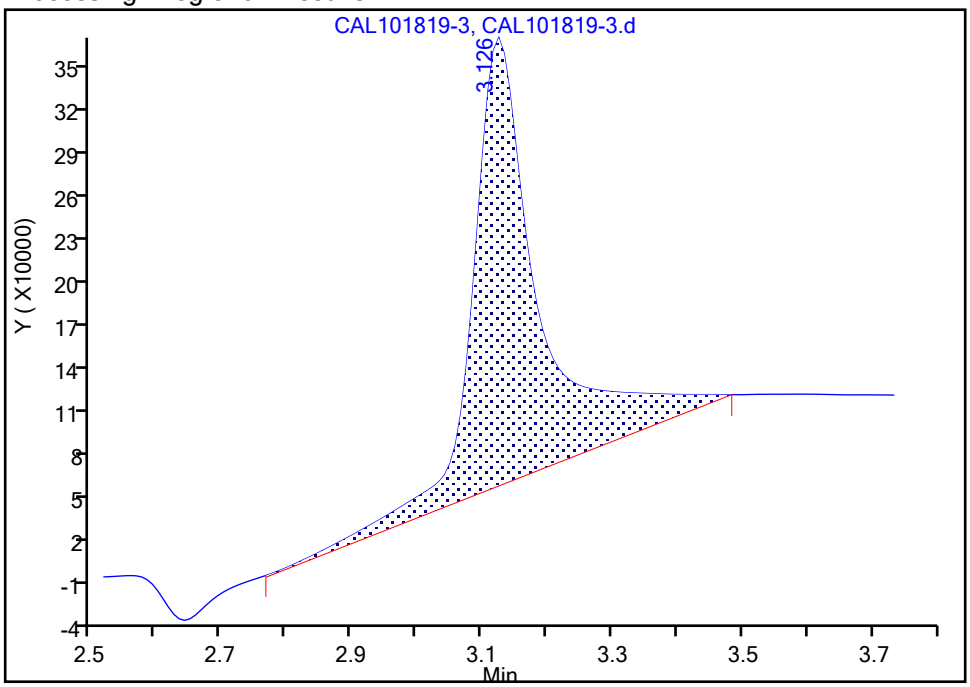

Manual Integration Results

RT: 3.13
Area: 1439612
Amount: 0.180116
Amount Units: ug/ml

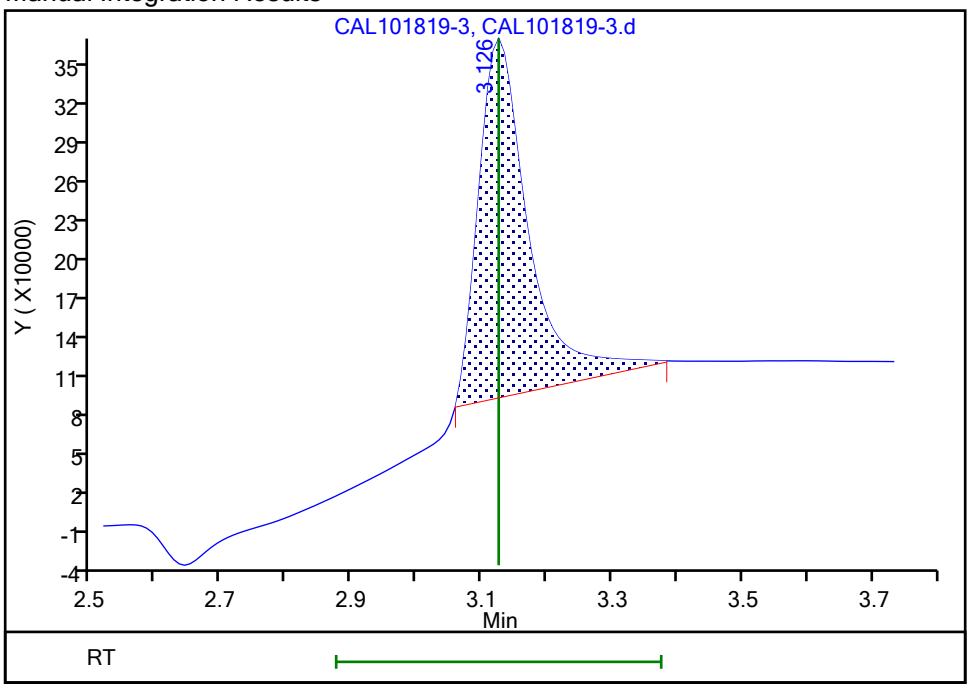

Reviewer: buschk, 21-Oct-2019 11:13:25

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-3.d				
Injection Date:	18-Oct-2019 16:55:00	Instrument ID:	CHWC11		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		
Column:		Detector	040914-1		

1 Bromide, CAS: 24959-67-9

Signal: 1

Processing Integration Results

RT: 8.87
Area: 352469
Amount: 0.234706
Amount Units: ug/ml

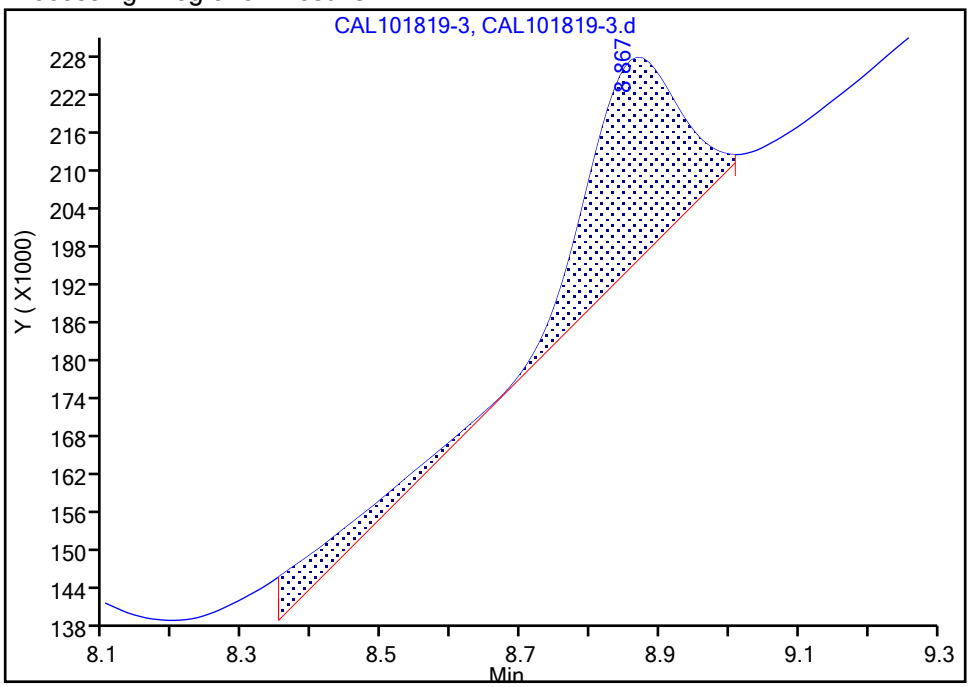

Manual Integration Results

RT: 8.87
Area: 300979
Amount: 0.231009
Amount Units: ug/ml

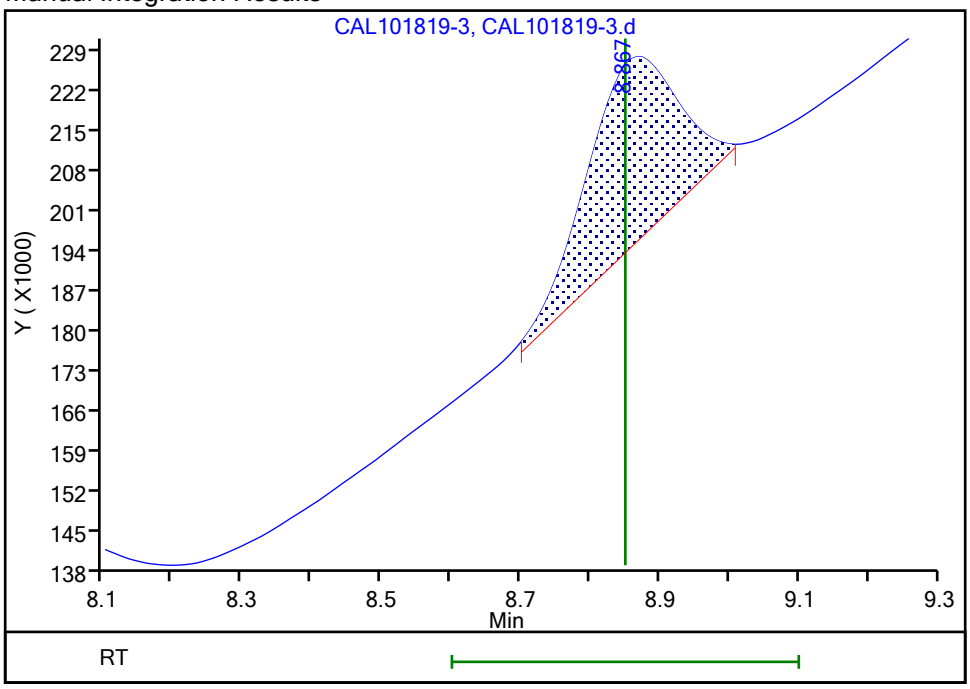

Reviewer: reachs, 21-Oct-2019 10:25:06

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-3.d				
Injection Date:	18-Oct-2019 16:55:00	Instrument ID:	CHWC11		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		
Column:		Detector	040914-1		

5 Sulfate, CAS: 14808-79-8

Signal: 1

Processing Integration Results

RT: 9.60
Area: 1632313
Amount: 0.479250
Amount Units: ug/ml

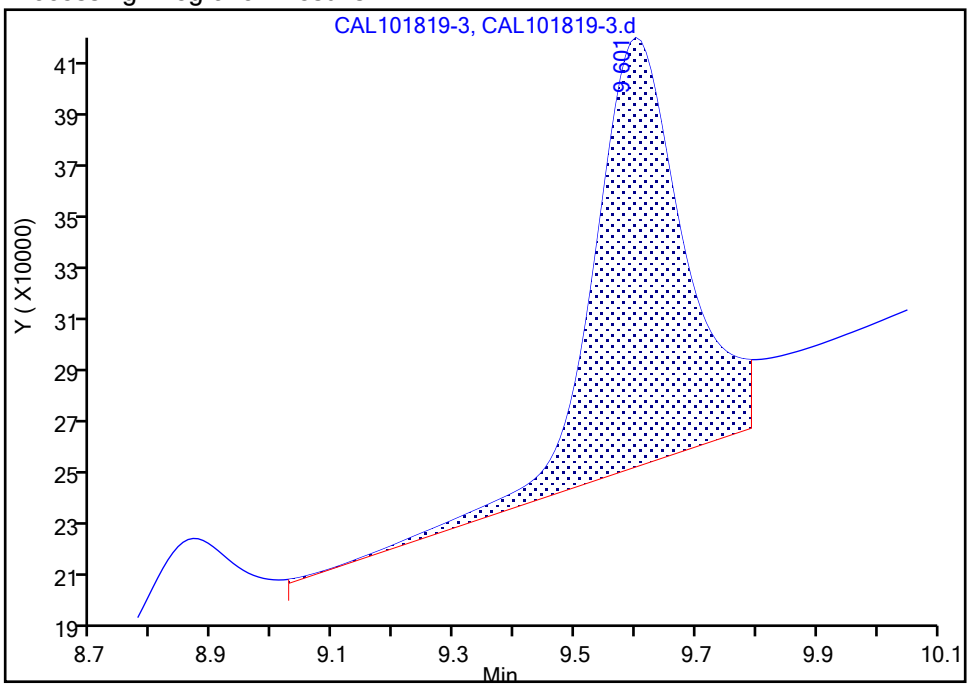

Manual Integration Results

RT: 9.60
Area: 1245072
Amount: 0.454643
Amount Units: ug/ml

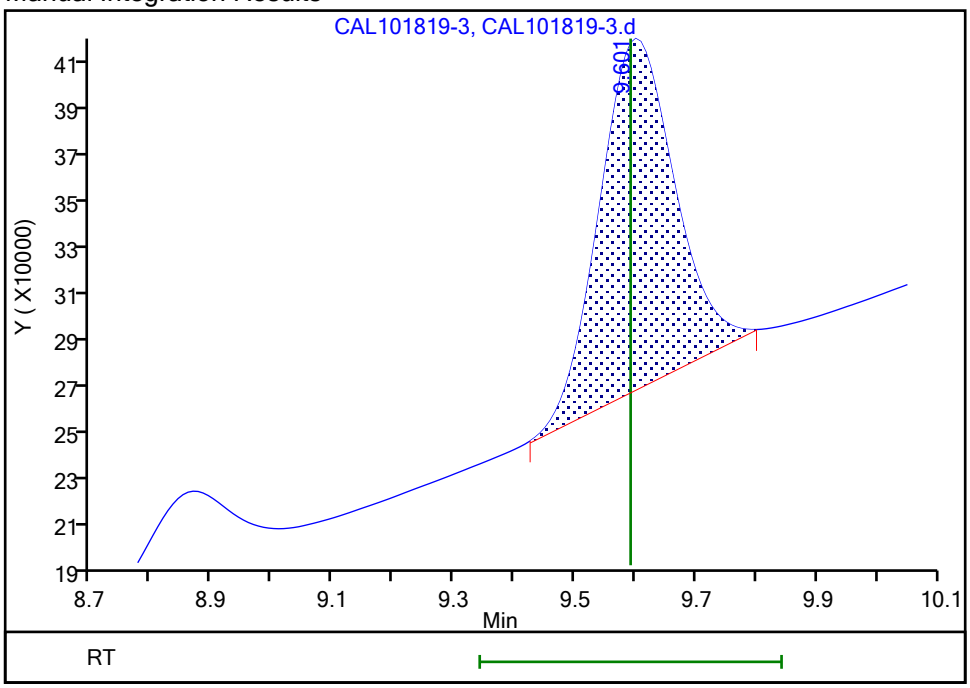

Reviewer: patelk, 23-Oct-2019 10:35:48

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Incomplete Integration

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-4.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 18-Oct-2019 17:15:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031755-004
Operator ID: Instrument ID: CHWC11
Sublist: chrom-300_11*sub8

Method: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\300_11.m
Limit Group: WC - IC_300_9056_28day
Last Update: 23-Oct-2019 10:37:25 Calib Date: 18-Oct-2019 18:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d

Column 1 : Det: 040914-1
Process Host: CTX0301

First Level Reviewer: reachs Date: 21-Oct-2019 10:26:16

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	3.125	3.125	0.000	5313147	0.5000	0.5501	M
	2 Chloride	4.909	4.909	0.000	4184995	1.00	0.9155	
	9 Nitrite as N	6.134	6.125	0.009	5112235	NC	NC	
	1 Bromide	8.867	8.850	0.017	855507	0.5000	0.5036	
	5 Sulfate	9.600	9.592	0.008	3479007	1.00	1.02	
	3 Nitrate as N	10.359	10.317	0.042	6756108	NC	NC	
S	8 Sulfate as Sulfur						1.02	
S	6 Nitrate Nitrite as N		0.000			0.5000	ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

ICCALSTD3_00044 Amount Added: 5.00 Units: mL

Report Date: 23-Oct-2019 10:37:26 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-4.d				
Injection Date:	18-Oct-2019 17:15:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	IC			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		

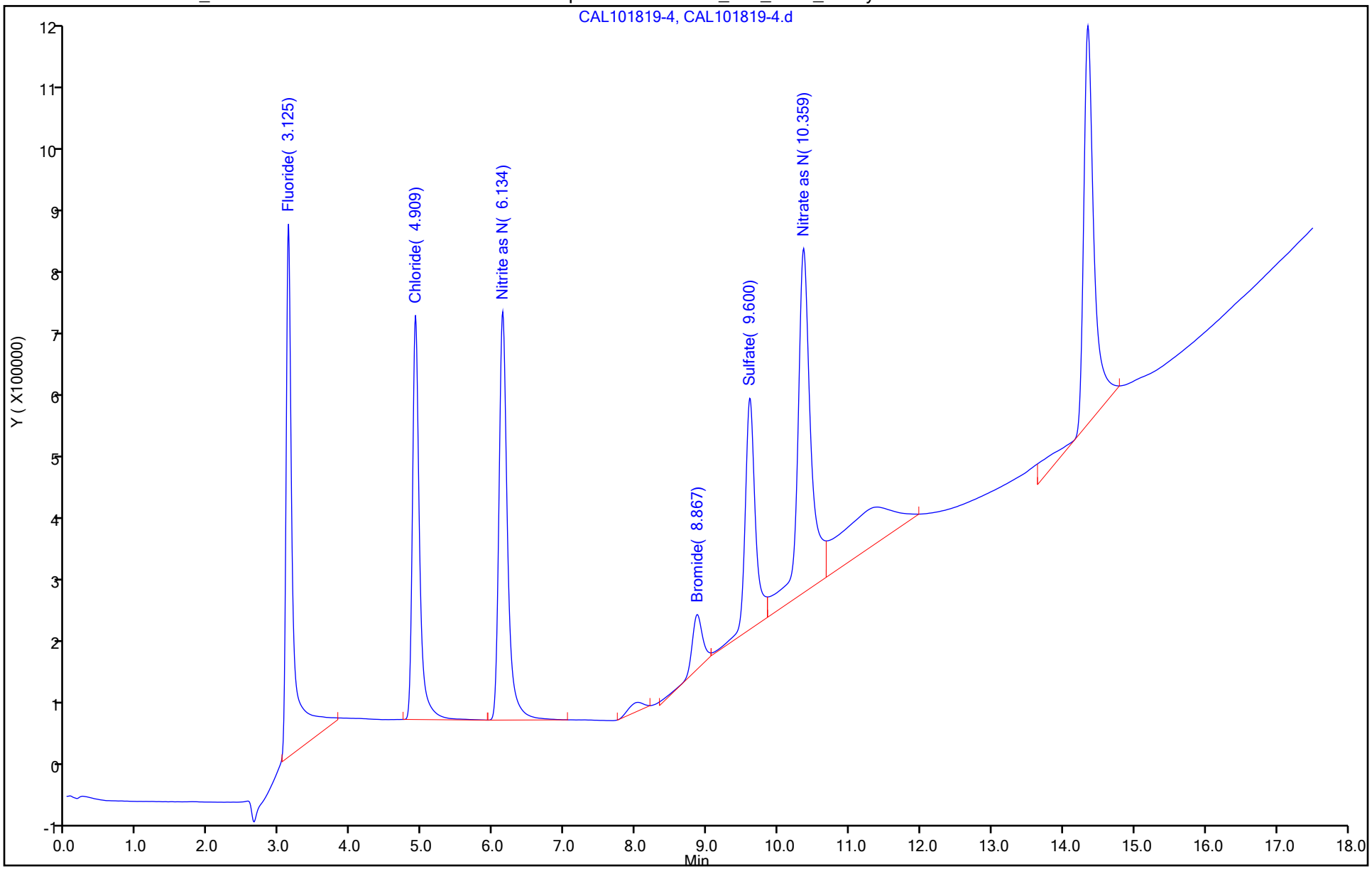

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-4.d				
Injection Date:	18-Oct-2019 17:15:00	Instrument ID:	CHWC11		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		
Column:		Detector	040914-1		

7 Fluoride, CAS: 16984-48-8

Signal: 1

Processing Integration Results

RT: 3.13
Area: 7110497
Amount: 0.652937
Amount Units: ug/ml

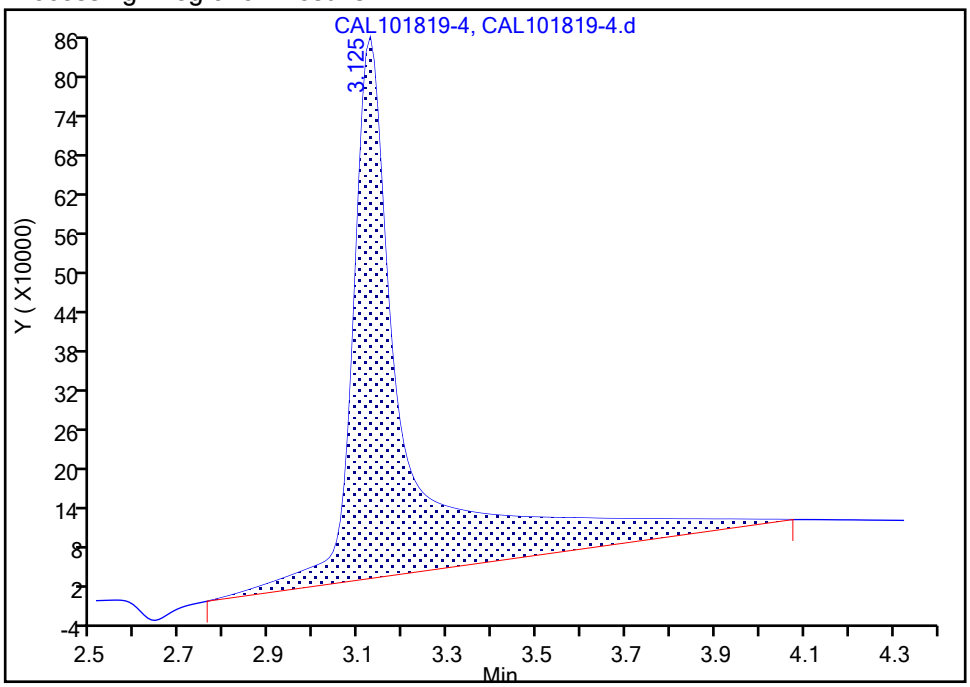

Manual Integration Results

RT: 3.13
Area: 5313147
Amount: 0.550074
Amount Units: ug/ml

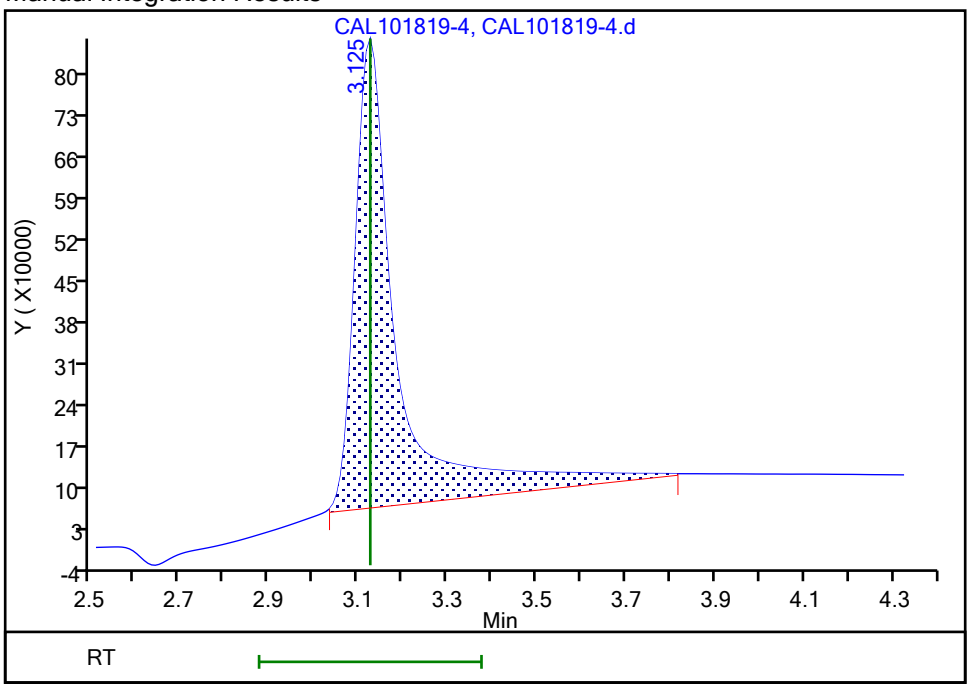

Reviewer: buschk, 21-Oct-2019 11:11:42

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-5.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 18-Oct-2019 17:36:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031755-005
Operator ID: Instrument ID: CHWC11
Sublist: chrom-300_11*sub8

Method: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\300_11.m
Limit Group: WC - IC_300_9056_28day
Last Update: 23-Oct-2019 10:37:26 Calib Date: 18-Oct-2019 18:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d

Column 1 : Det: 040914-1
Process Host: CTX0301

First Level Reviewer: reachs Date: 21-Oct-2019 10:28:23

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
7 Fluoride	3.126	3.125	0.001	9557991	1.00	0.9555	M
2 Chloride	4.909	4.909	0.000	10008843	2.00	1.97	M
9 Nitrite as N	6.126	6.125	0.001	10785461	NC	NC	M
1 Bromide	8.859	8.850	0.009	1602217	1.00	0.8707	M
5 Sulfate	9.601	9.592	0.009	6790807	2.00	1.86	M
3 Nitrate as N	10.342	10.317	0.025	10567467	NC	NC	M
S 8 Sulfate as Sulfur						1.86	
S 6 Nitrate Nitrite as N		0.000			1.00	ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

ICCALSTD4_00043 Amount Added: 5.00 Units: mL

Report Date: 23-Oct-2019 10:37:27 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-5.d

Injection Date: 18-Oct-2019 17:36:00 Instrument ID: CHWC11 Operator ID:

Lims ID: IC Worklist Smp#: 5

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 300_11 Limit Group: WC - IC_300_9056_28day

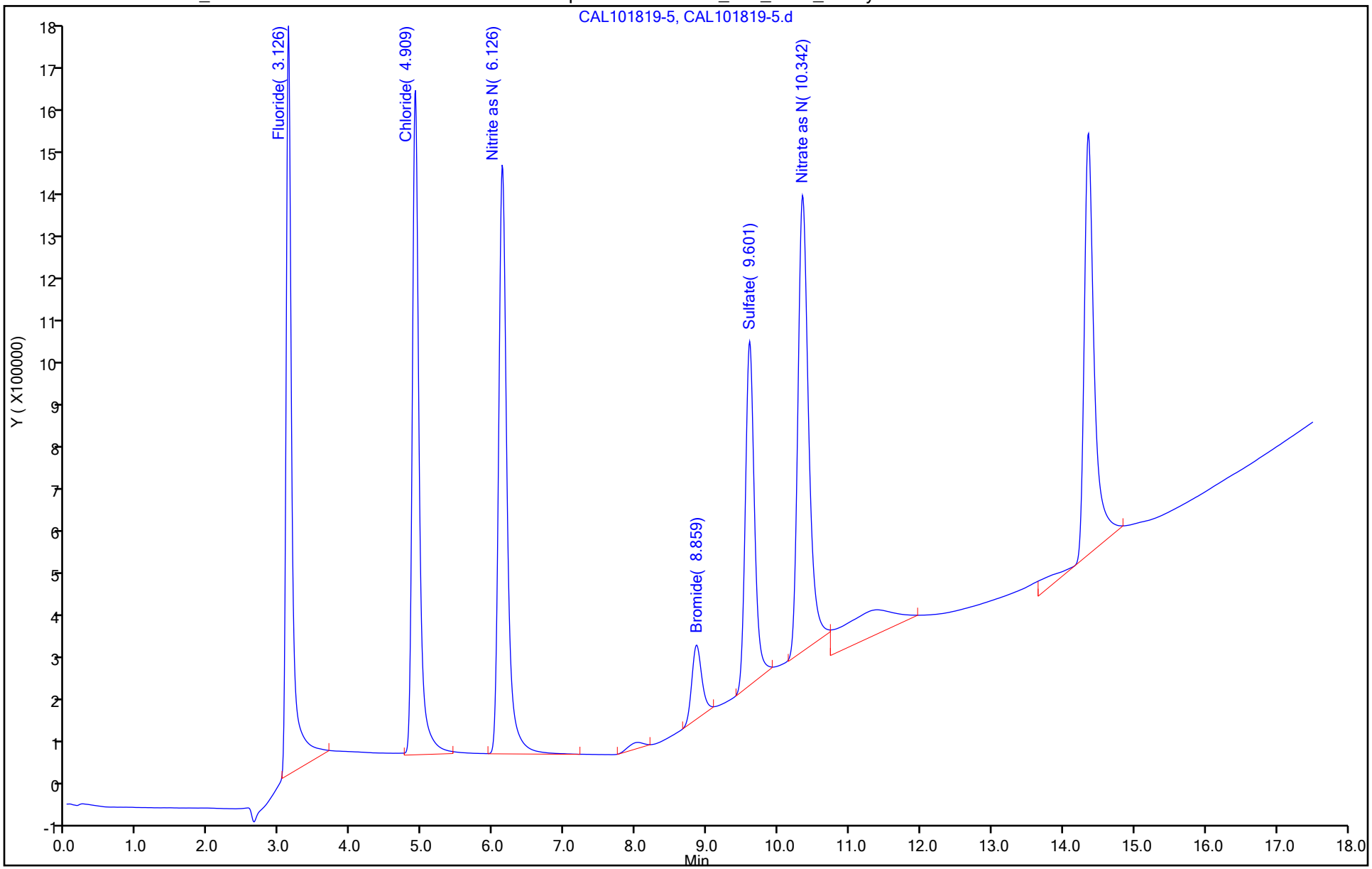

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-5.d				
Injection Date:	18-Oct-2019 17:36:00	Instrument ID:	CHWC11		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		
Column:		Detector	040914-1		

7 Fluoride, CAS: 16984-48-8

Signal: 1

Processing Integration Results

RT: 3.13
Area: 18074762
Amount: 1.327501
Amount Units: ug/ml

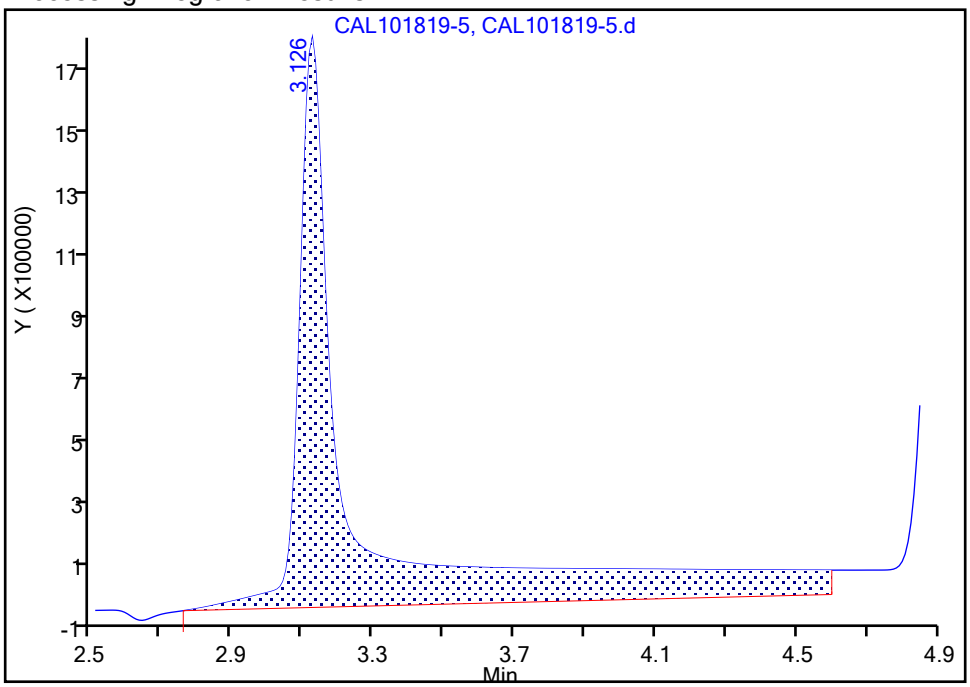

Manual Integration Results

RT: 3.13
Area: 9557991
Amount: 0.955495
Amount Units: ug/ml

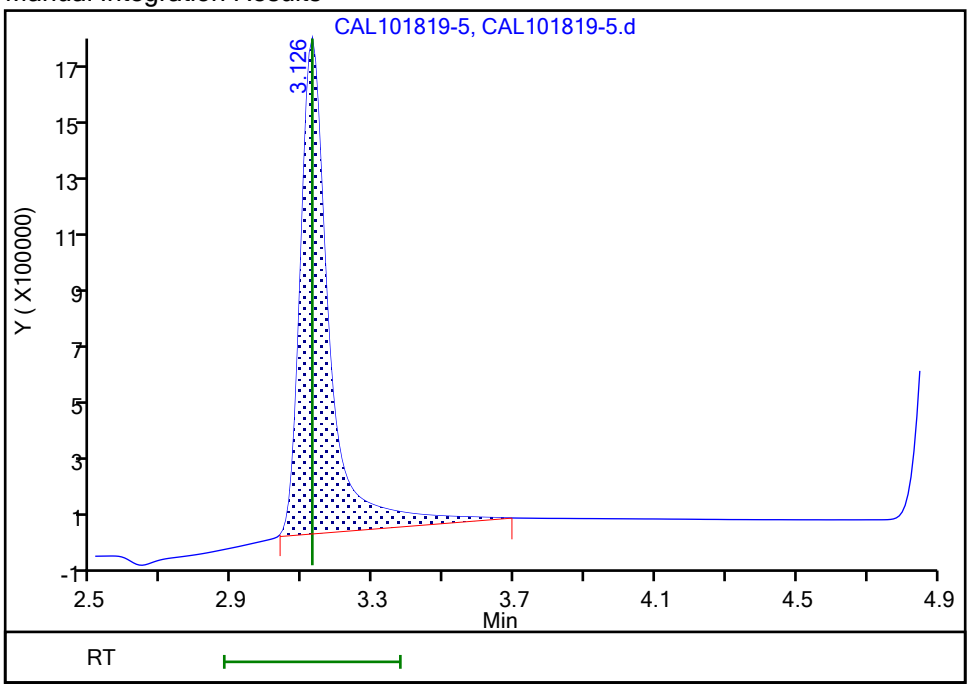

Reviewer: buschk, 21-Oct-2019 11:12:10
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-5.d				
Injection Date:	18-Oct-2019 17:36:00	Instrument ID:	CHWC11		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		
Column:		Detector	040914-1		

2 Chloride, CAS: 16887-00-6

Signal: 1

Processing Integration Results

RT: 4.91
Area: 14394381
Amount: 2.650679
Amount Units: ug/ml

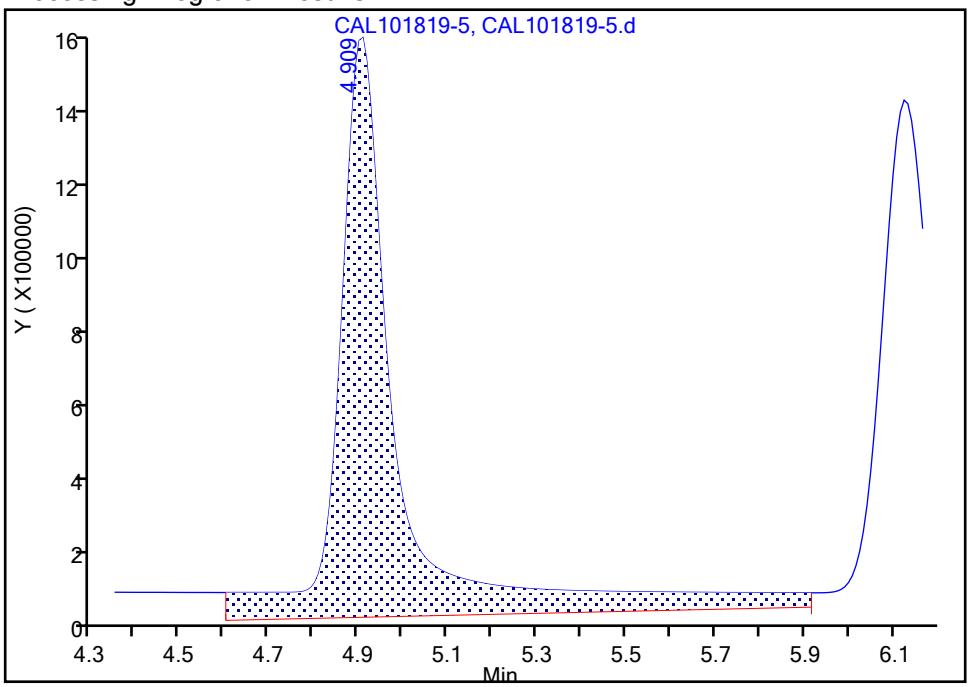

Manual Integration Results

RT: 4.91
Area: 10008843
Amount: 1.973754
Amount Units: ug/ml

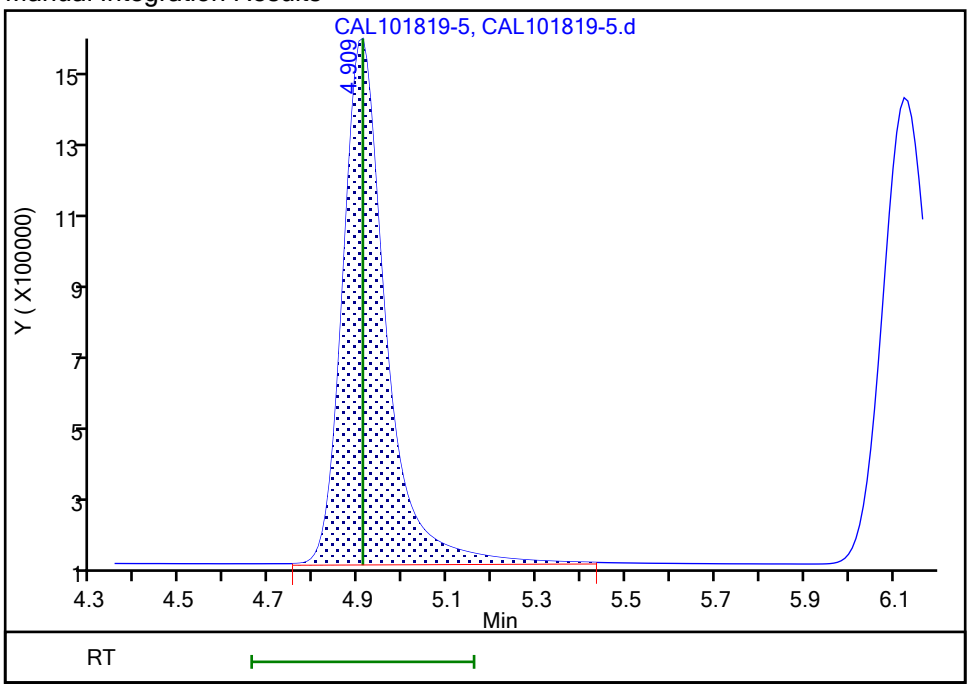

Reviewer: reachs, 21-Oct-2019 10:27:30

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-5.d				
Injection Date:	18-Oct-2019 17:36:00	Instrument ID:	CHWC11		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		
Column:		Detector	040914-1		

1 Bromide, CAS: 24959-67-9

Signal: 1

Processing Integration Results

RT: 8.86
Area: 1722727
Amount: 0.918134
Amount Units: ug/ml

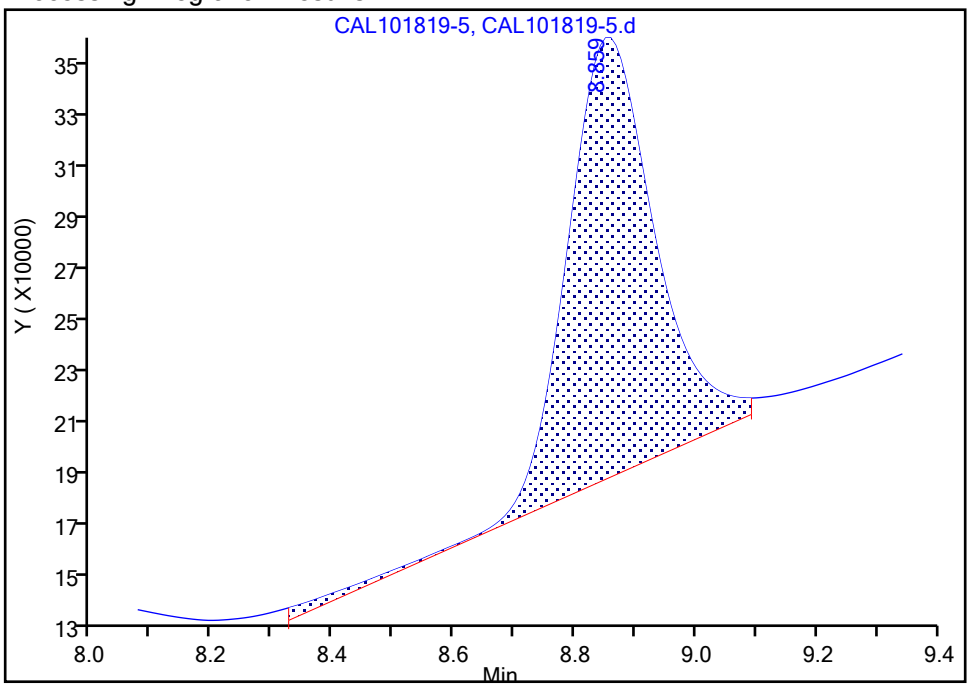

Manual Integration Results

RT: 8.86
Area: 1602217
Amount: 0.870702
Amount Units: ug/ml

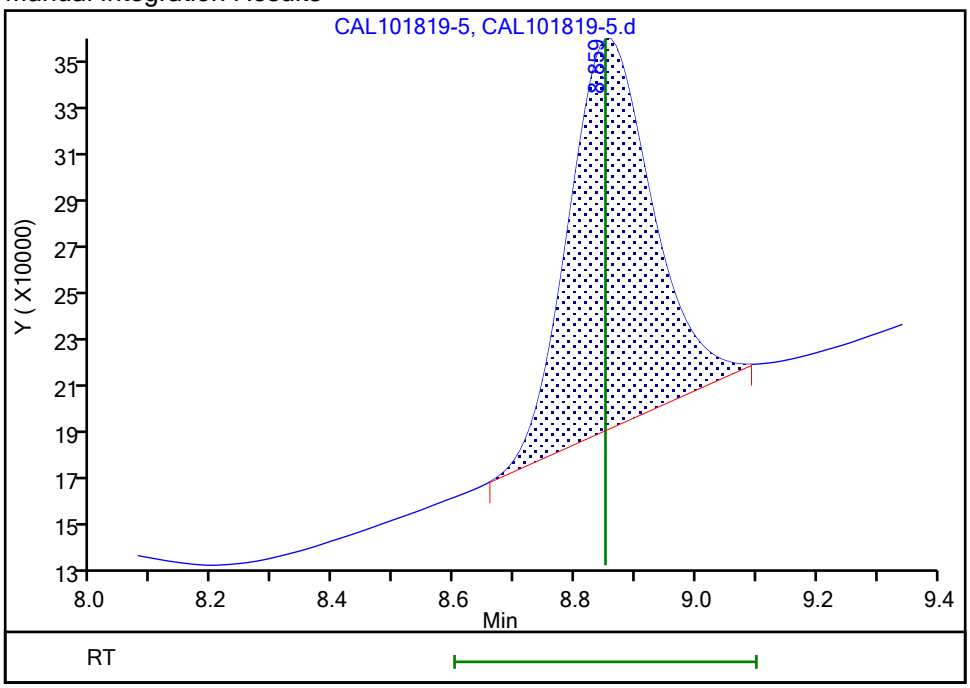

Reviewer: reachs, 21-Oct-2019 10:27:41

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-5.d				
Injection Date:	18-Oct-2019 17:36:00	Instrument ID:	CHWC11		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		
Column:		Detector	040914-1		

5 Sulfate, CAS: 14808-79-8

Signal: 1

Processing Integration Results

RT: 9.60
Area: 7497471
Amount: 2.012343
Amount Units: ug/ml

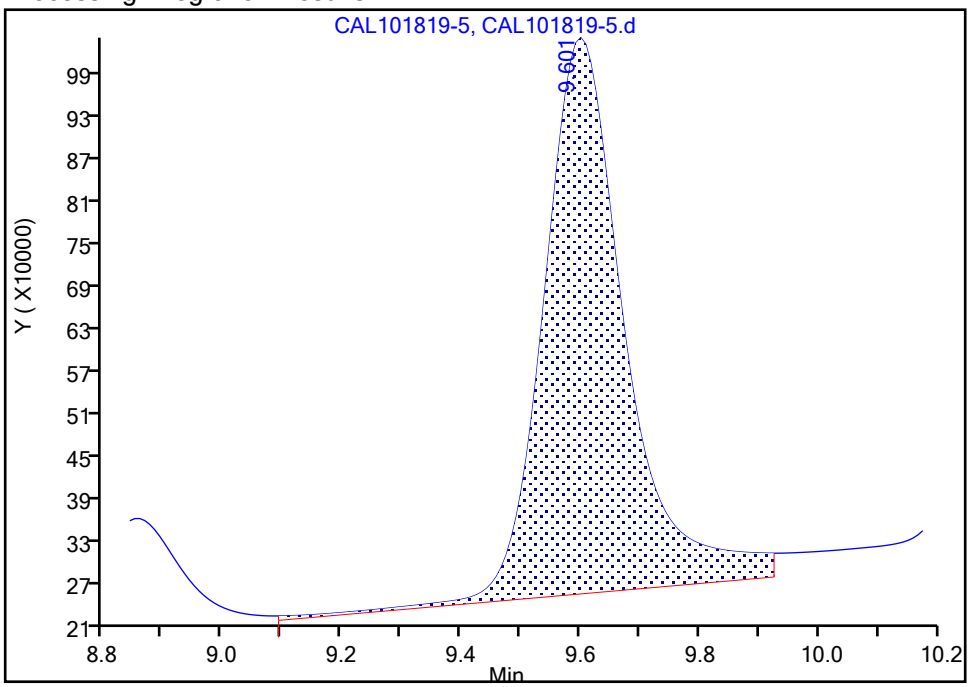

Manual Integration Results

RT: 9.60
Area: 6790807
Amount: 1.862513
Amount Units: ug/ml

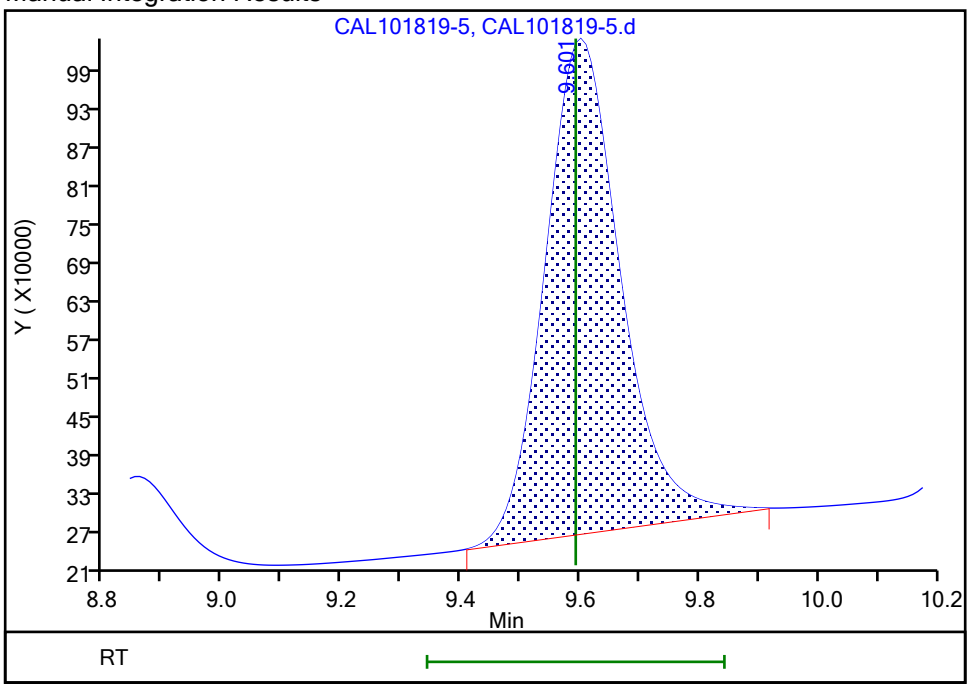

Reviewer: reachs, 21-Oct-2019 10:27:53

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-6.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 18-Oct-2019 17:56:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031755-006
Operator ID: Instrument ID: CHWC11
Sublist: chrom-300_11*sub8

Method: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\300_11.m
Limit Group: WC - IC_300_9056_28day
Last Update: 23-Oct-2019 10:37:29 Calib Date: 18-Oct-2019 18:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d

Column 1 : Det: 040914-1
Process Host: CTX0301

First Level Reviewer: reachs Date: 21-Oct-2019 10:30:35

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
7 Fluoride	3.125	3.125	0.000	21574870	2.00	2.10	M
2 Chloride	4.909	4.909	0.000	25435068	5.00	4.78	M
9 Nitrite as N	6.125	6.125	0.000	31592126	NC	NC	M
1 Bromide	8.850	8.850	0.000	3742546	2.00	1.92	M
5 Sulfate	9.592	9.592	0.000	17690301	5.00	4.63	M
3 Nitrate as N	10.317	10.317	0.000	31692932	NC	NC	M
S 6 Nitrate Nitrite as N		0.000			2.50	ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

ICCALSTD5_00044 Amount Added: 5.00 Units: mL

Report Date: 23-Oct-2019 10:37:29 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-6.d				
Injection Date:	18-Oct-2019 17:56:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	IC			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		

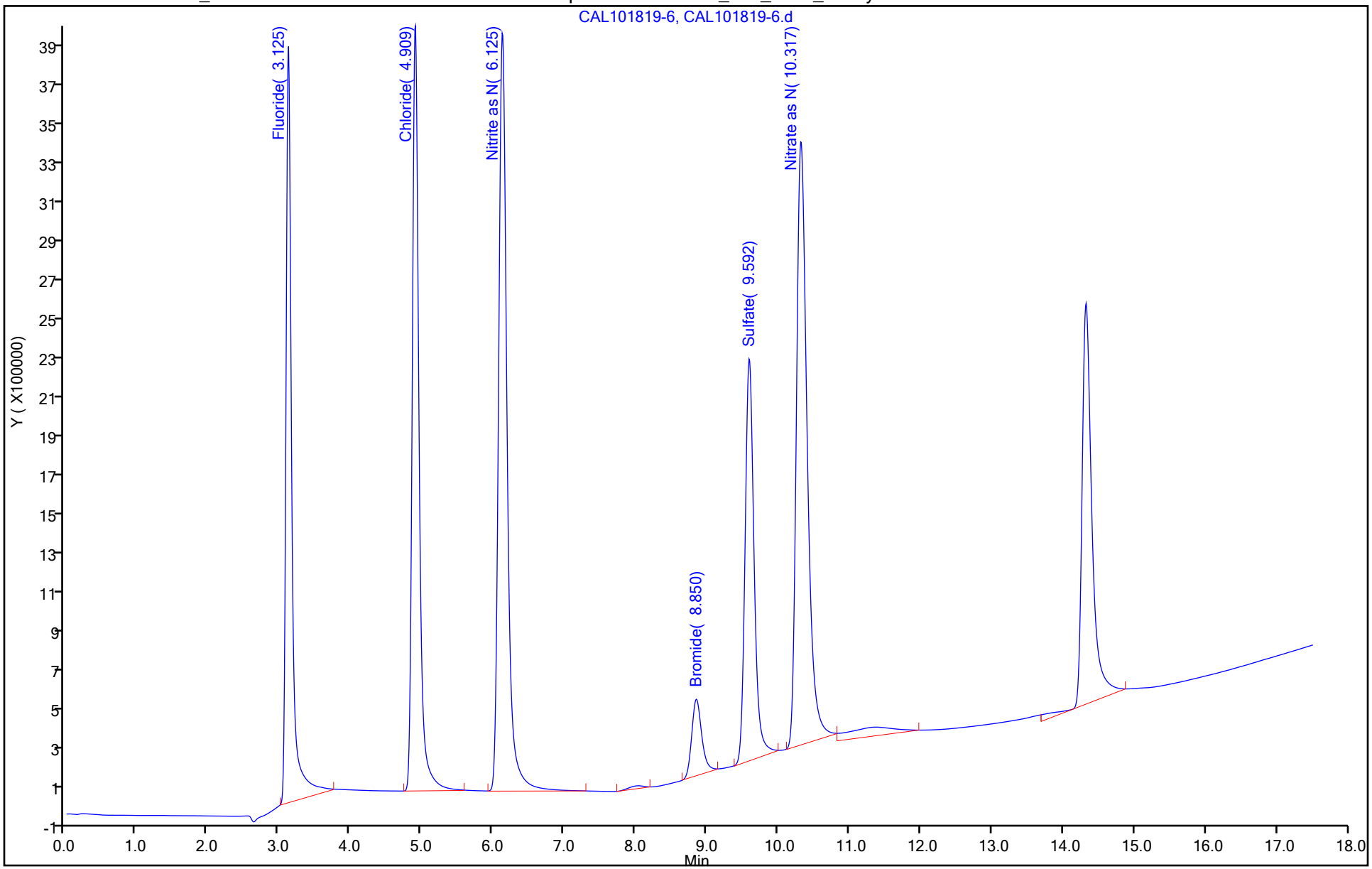

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-6.d				
Injection Date:	18-Oct-2019 17:56:00	Instrument ID:	CHWC11		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		
Column:		Detector	040914-1		

7 Fluoride, CAS: 16984-48-8

Signal: 1

Processing Integration Results

RT: 3.13
Area: 28342117
Amount: 2.474225
Amount Units: ug/ml

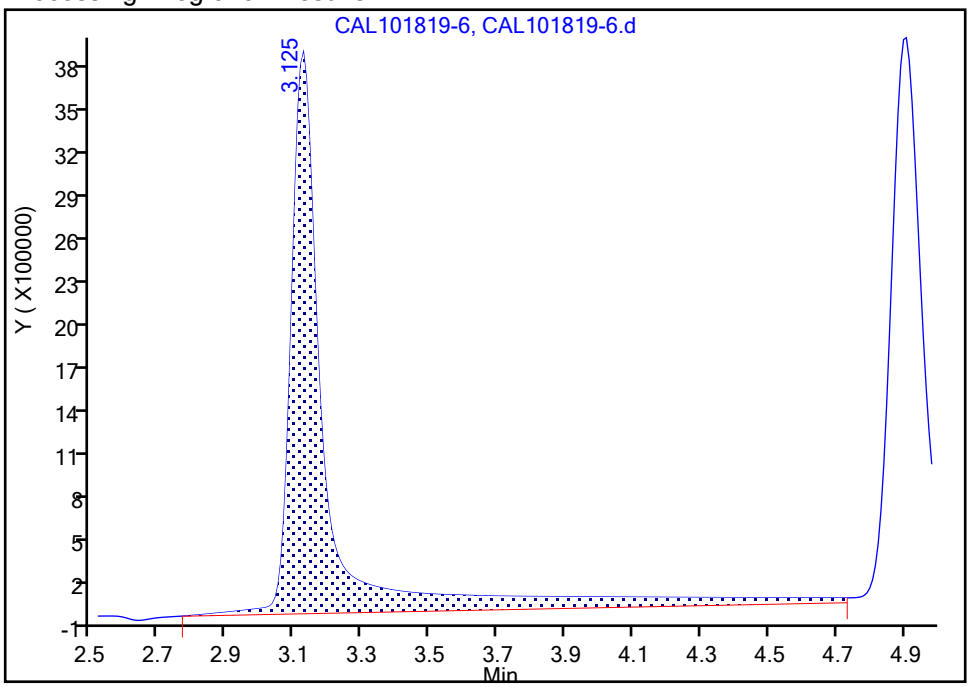

Manual Integration Results

RT: 3.13
Area: 21574870
Amount: 2.103216
Amount Units: ug/ml

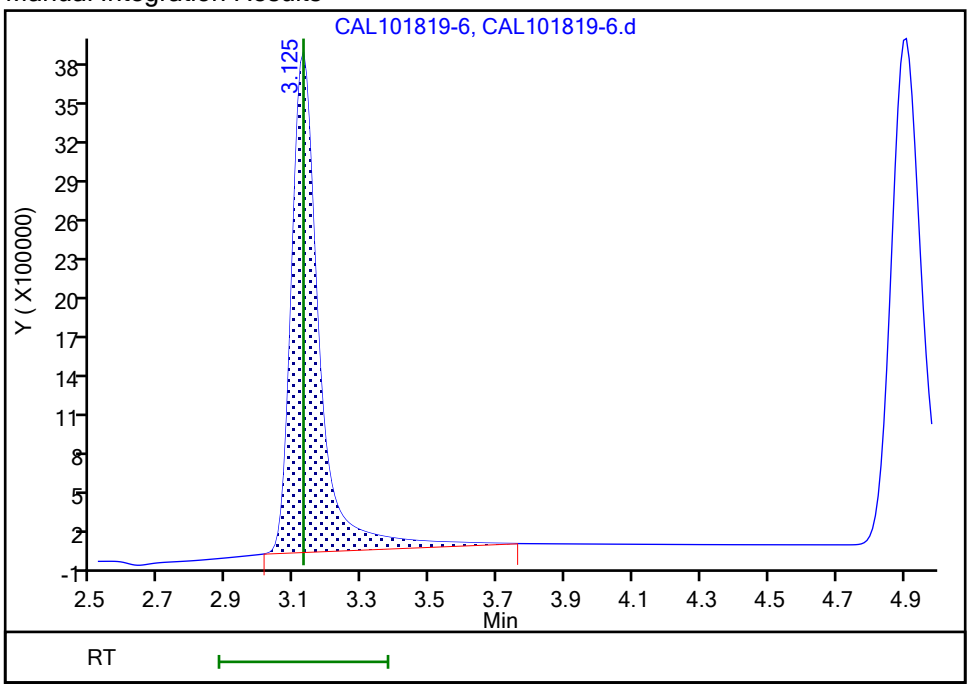

Reviewer: reachs, 21-Oct-2019 10:29:25

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-6.d				
Injection Date:	18-Oct-2019 17:56:00	Instrument ID:	CHWC11		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		
Column:		Detector	040914-1		

2 Chloride, CAS: 16887-00-6

Signal: 1

Processing Integration Results

RT: 4.91
Area: 26724272
Amount: 4.966726
Amount Units: ug/ml

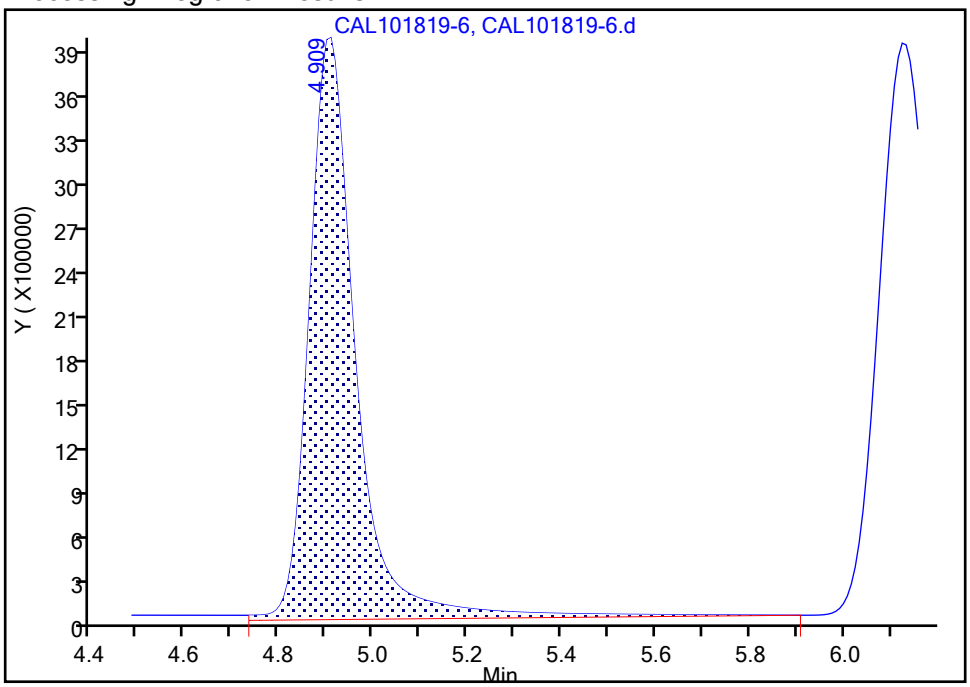

Manual Integration Results

RT: 4.91
Area: 25435068
Amount: 4.776908
Amount Units: ug/ml

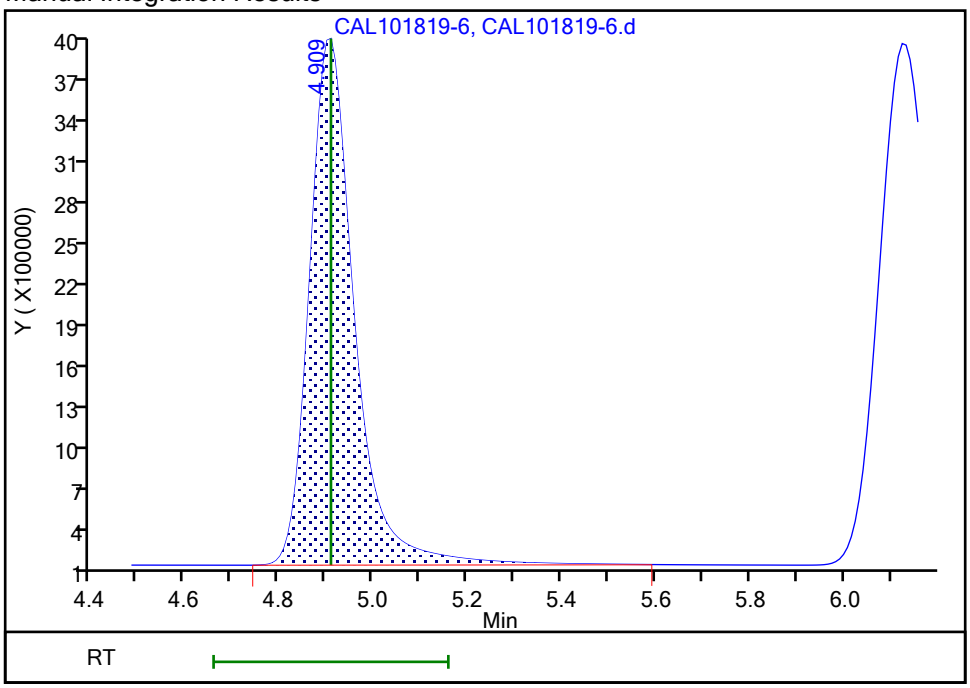

Reviewer: reachs, 21-Oct-2019 10:29:38

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-6.d				
Injection Date:	18-Oct-2019 17:56:00	Instrument ID:	CHWC11		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		
Column:		Detector	040914-1		

1 Bromide, CAS: 24959-67-9

Signal: 1

Processing Integration Results

RT: 8.85
Area: 3811080
Amount: 1.942650
Amount Units: ug/ml

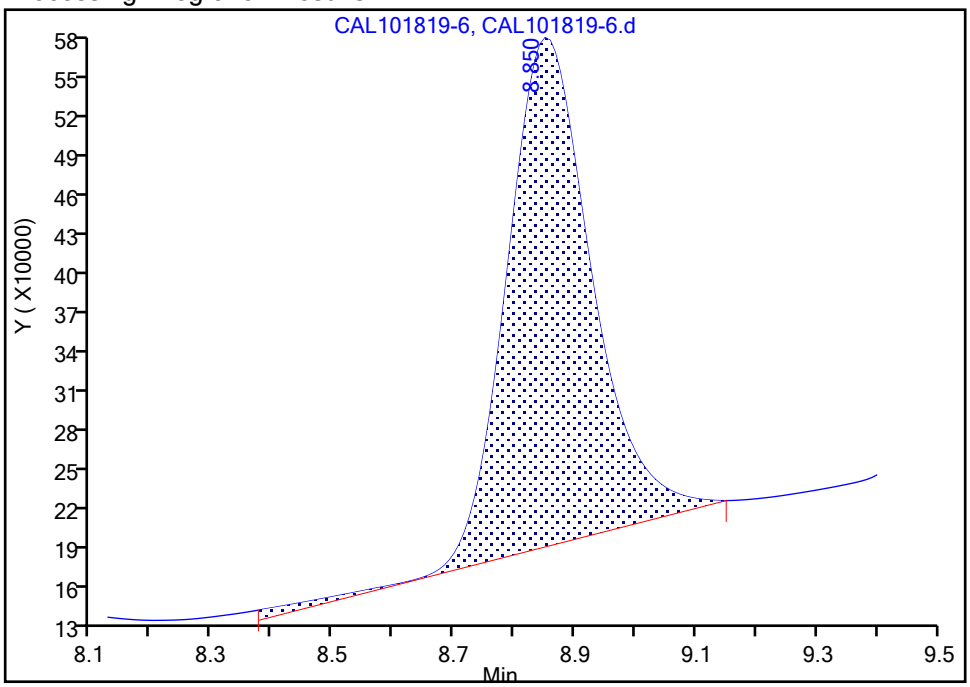

Manual Integration Results

RT: 8.85
Area: 3742546
Amount: 1.922894
Amount Units: ug/ml

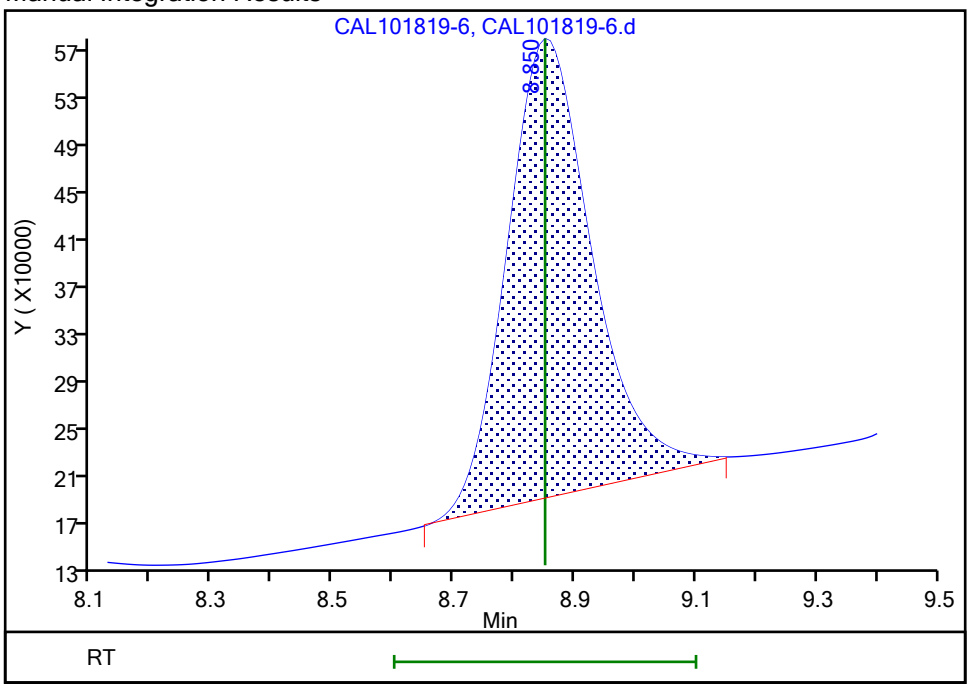

Reviewer: reachs, 21-Oct-2019 10:29:49

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-6.d				
Injection Date:	18-Oct-2019 17:56:00	Instrument ID:	CHWC11		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		
Column:		Detector	040914-1		

5 Sulfate, CAS: 14808-79-8

Signal: 1

Processing Integration Results

RT: 9.59
Area: 17668990
Amount: 4.588140
Amount Units: ug/ml

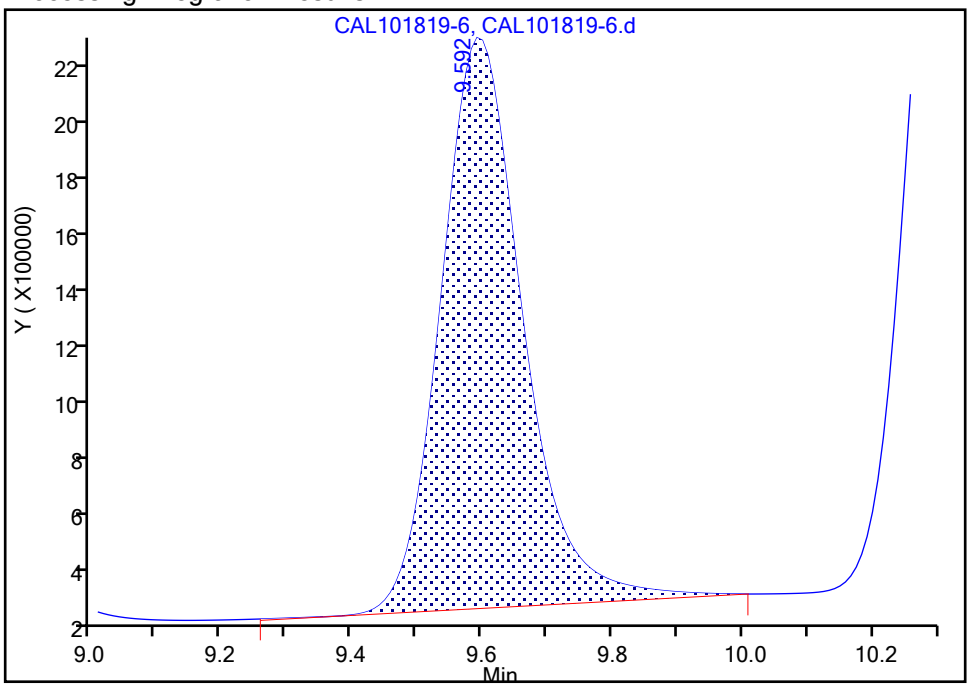

Manual Integration Results

RT: 9.59
Area: 17690301
Amount: 4.629515
Amount Units: ug/ml

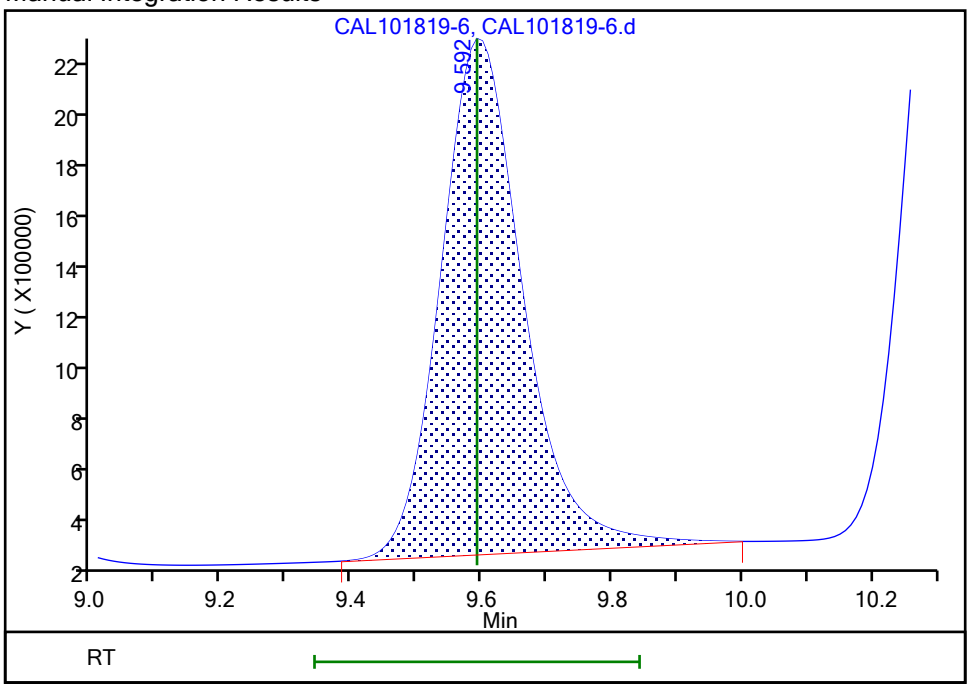

Reviewer: reachs, 21-Oct-2019 10:30:05

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-7.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 18-Oct-2019 18:16:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031755-007
Operator ID: Instrument ID: CHWC11
Sublist: chrom-300_11*sub8

Method: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\300_11.m
Limit Group: WC - IC_300_9056_28day
Last Update: 23-Oct-2019 10:37:30 Calib Date: 18-Oct-2019 18:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d

Column 1 : Det: 040914-1
Process Host: CTX0301

First Level Reviewer: reachs Date: 21-Oct-2019 10:35:52

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
7 Fluoride	3.126	3.125	0.001	51869037	5.00	5.00	M
2 Chloride	4.901	4.909	-0.008	54134292	10.0	10.0	M
9 Nitrite as N	6.126	6.125	0.001	62586260	NC	NC	M
1 Bromide	8.842	8.850	-0.008	9714578	5.00	4.86	M
5 Sulfate	9.584	9.592	-0.008	37377166	10.0	9.63	Ma
3 Nitrate as N	10.292	10.317	-0.025	63891943	NC	NC	Ma
S 8 Sulfate as Sulfur						9.63	
S 6 Nitrate Nitrite as N		0.000			5.00	ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

ICCALSTD6_00040 Amount Added: 5.00 Units: mL

Report Date: 23-Oct-2019 10:37:31 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-7.d				
Injection Date:	18-Oct-2019 18:16:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	IC			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		

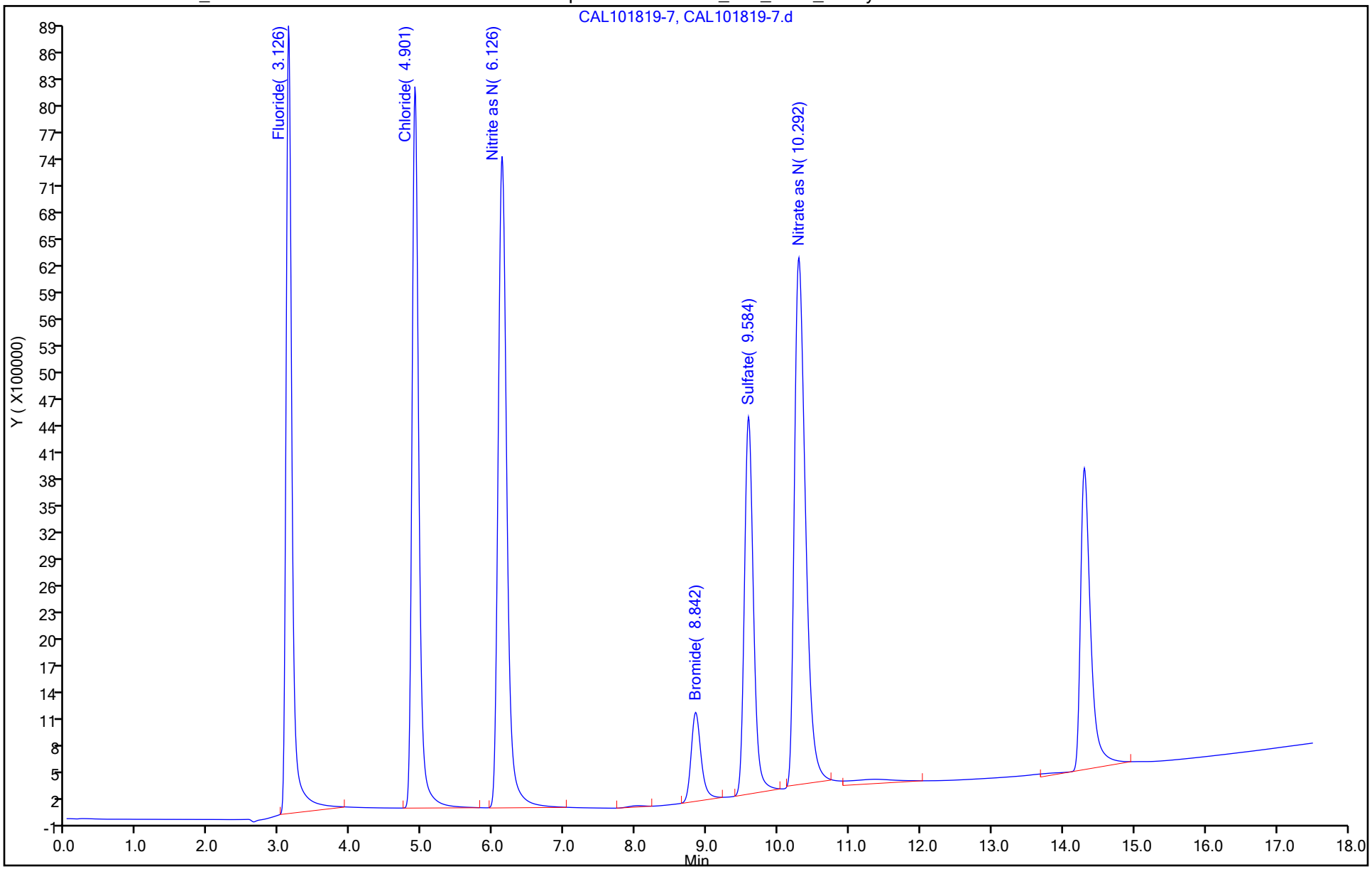

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-7.d				
Injection Date:	18-Oct-2019 18:16:00	Instrument ID:	CHWC11		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		
Column:		Detector	040914-1		

7 Fluoride, CAS: 16984-48-8

Signal: 1

Processing Integration Results

RT: 3.13
Area: 58621494
Amount: 5.391913
Amount Units: ug/ml

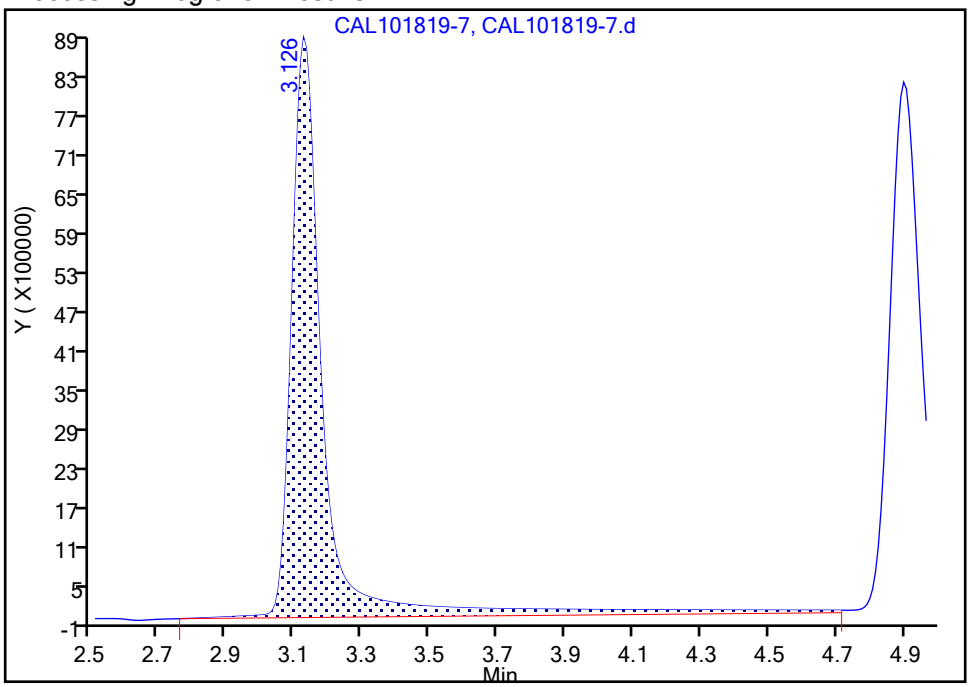

Manual Integration Results

RT: 3.13
Area: 51869037
Amount: 4.996583
Amount Units: ug/ml

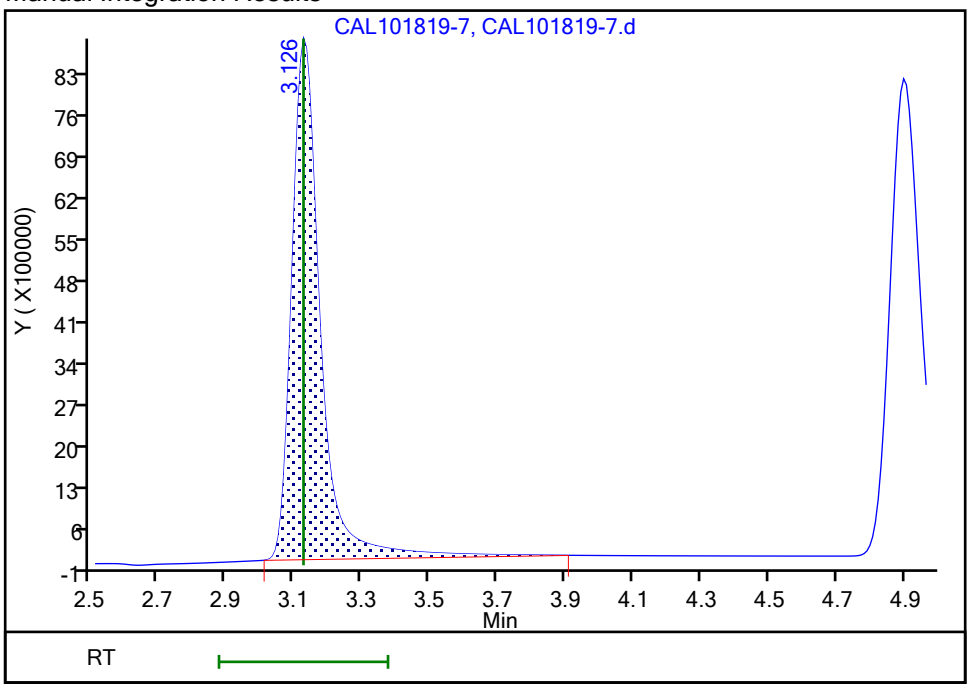

Reviewer: reachs, 21-Oct-2019 10:30:49

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-7.d				
Injection Date:	18-Oct-2019 18:16:00	Instrument ID:	CHWC11		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		
Column:		Detector	040914-1		

2 Chloride, CAS: 16887-00-6

Signal: 1

Processing Integration Results

RT: 4.90
Area: 55468420
Amount: 10.180392
Amount Units: ug/ml

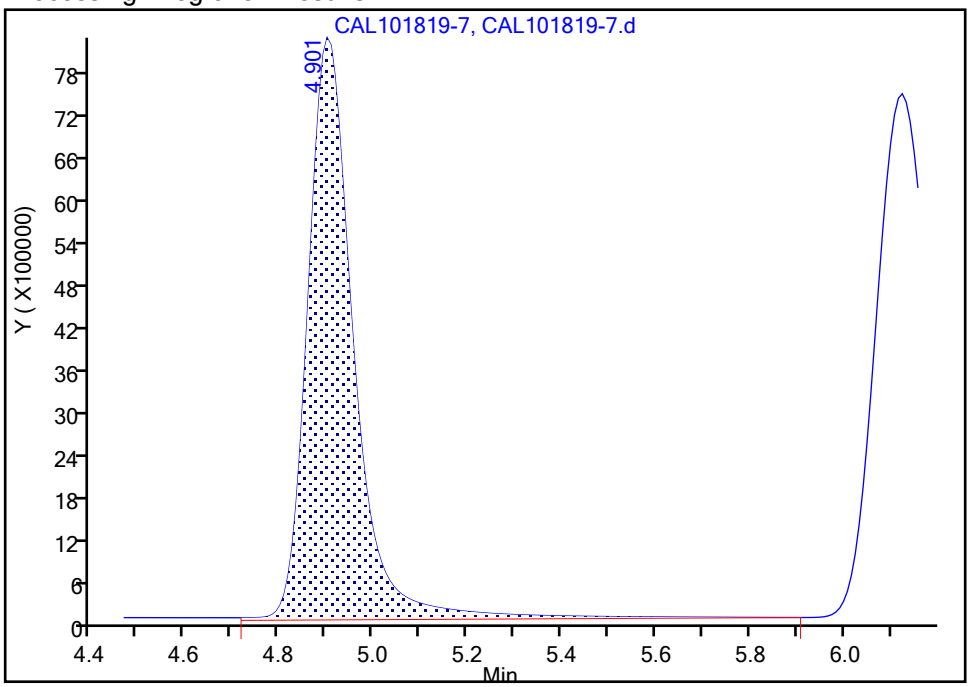

Manual Integration Results

RT: 4.90
Area: 54134292
Amount: 9.991946
Amount Units: ug/ml

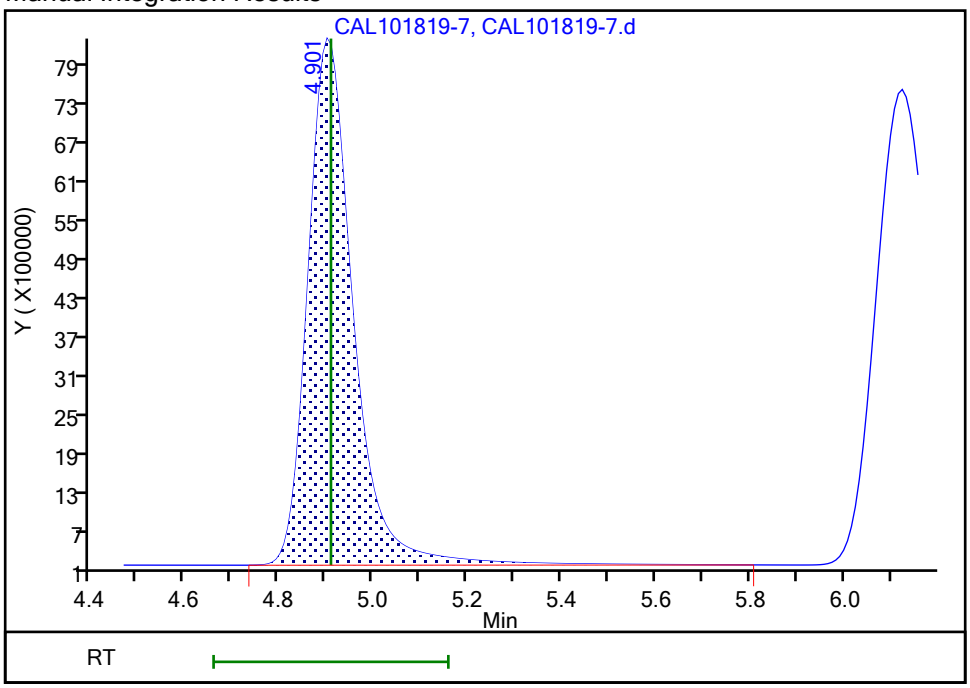

Reviewer: reachs, 21-Oct-2019 10:30:59

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-7.d				
Injection Date:	18-Oct-2019 18:16:00	Instrument ID:	CHWC11		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		
Column:		Detector	040914-1		

1 Bromide, CAS: 24959-67-9

Signal: 1

Processing Integration Results

RT: 8.84
Area: 9730678
Amount: 4.833691
Amount Units: ug/ml

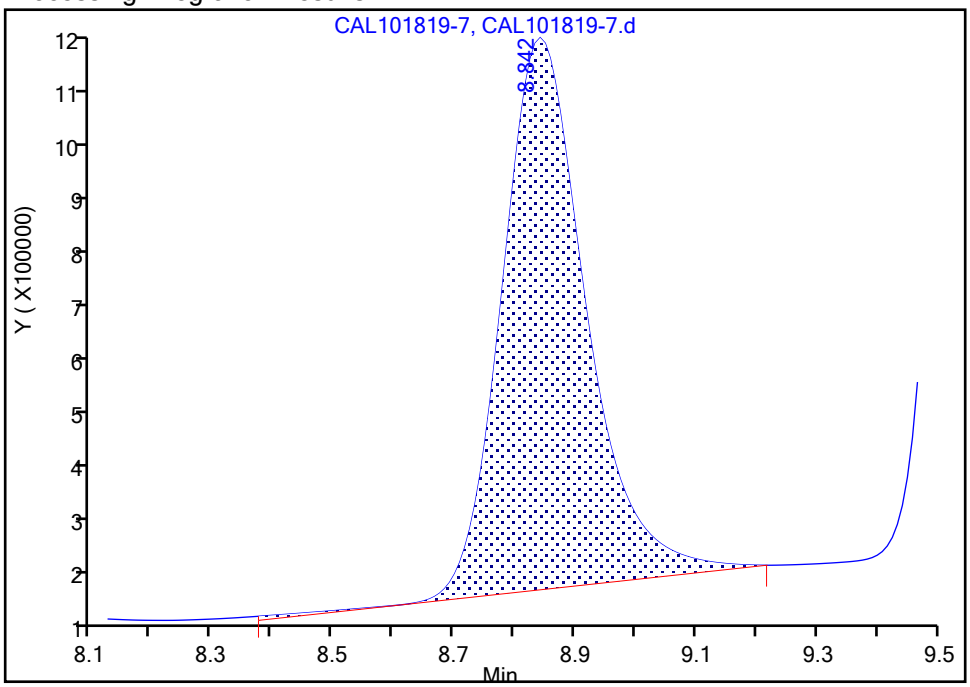

Manual Integration Results

RT: 8.84
Area: 9714578
Amount: 4.858765
Amount Units: ug/ml

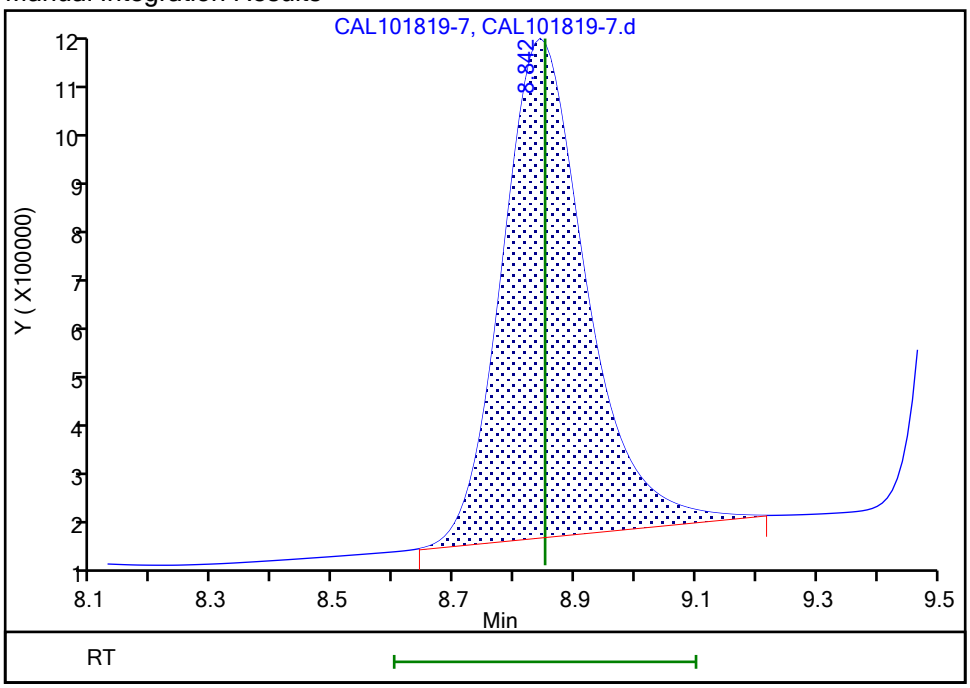

Reviewer: reachs, 21-Oct-2019 10:31:10

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-7.d				
Injection Date:	18-Oct-2019 18:16:00	Instrument ID:	CHWC11		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		
Column:		Detector	040914-1		

5 Sulfate, CAS: 14808-79-8

Signal: 1

Processing Integration Results

RT: 9.58
Area: 37491052
Amount: 9.567164
Amount Units: ug/ml

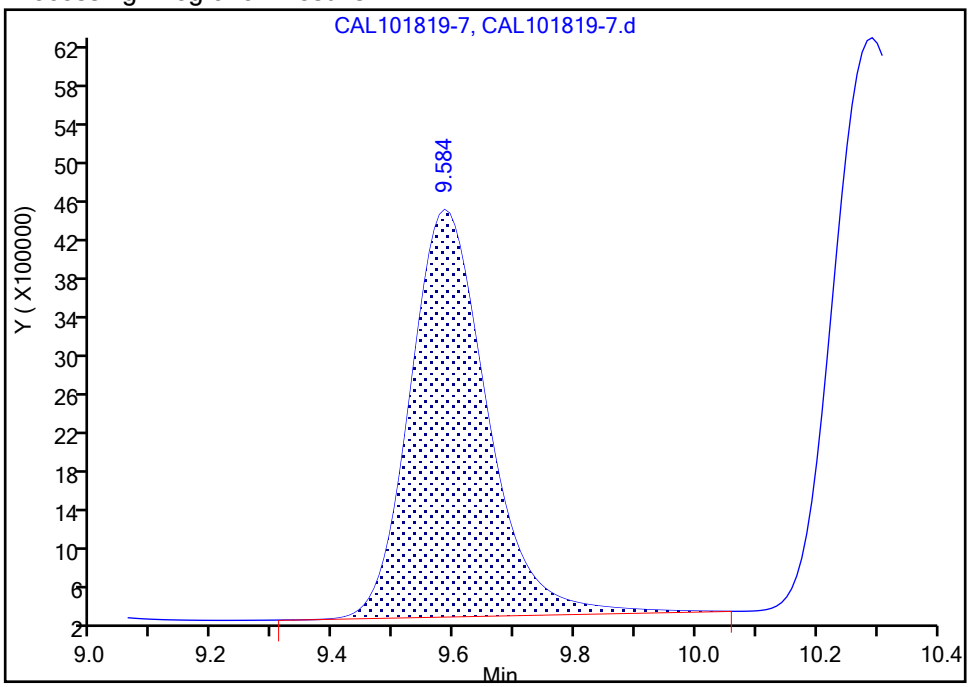

Manual Integration Results

RT: 9.58
Area: 37377166
Amount: 9.627326
Amount Units: ug/ml

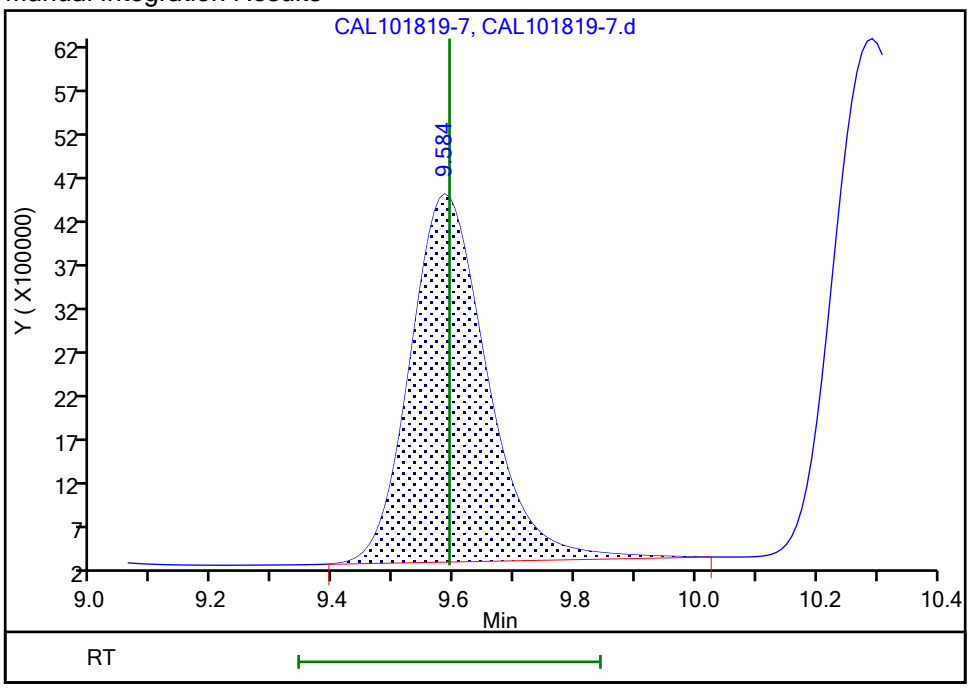

Reviewer: reachs, 21-Oct-2019 10:34:05

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 18-Oct-2019 18:57:00 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031755-009
Operator ID: Instrument ID: CHWC11
Sublist: chrom-300_11*sub8

Method: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\300_11.m
Limit Group: WC - IC_300_9056_28day
Last Update: 23-Oct-2019 10:37:33 Calib Date: 18-Oct-2019 18:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d

Column 1 : Det: 040914-1
Process Host: CTX0301

First Level Reviewer: reachs Date: 21-Oct-2019 10:39:22

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
7 Fluoride	3.134	3.125	0.009	102921044	10.0	9.87	M
2 Chloride	4.892	4.909	-0.017	221170411	40.0	40.3	
9 Nitrite as N	6.109	6.125	-0.016	248120418	NC	NC	
1 Bromide	8.825	8.850	-0.025	20655628	10.0	10.2	M
5 Sulfate	9.542	9.592	-0.050	159929009	40.0	40.7	M
3 Nitrate as N	10.184	10.317	-0.133	270064467	NC	NC	M
S 8 Sulfate as Sulfur						40.7	
S 6 Nitrate Nitrite as N		0.000			20.0	ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

ICCALSTD8_00031 Amount Added: 5.00 Units: mL

Report Date: 23-Oct-2019 10:37:33 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d				
Injection Date:	18-Oct-2019 18:57:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	IC			Worklist Smp#:	9
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		

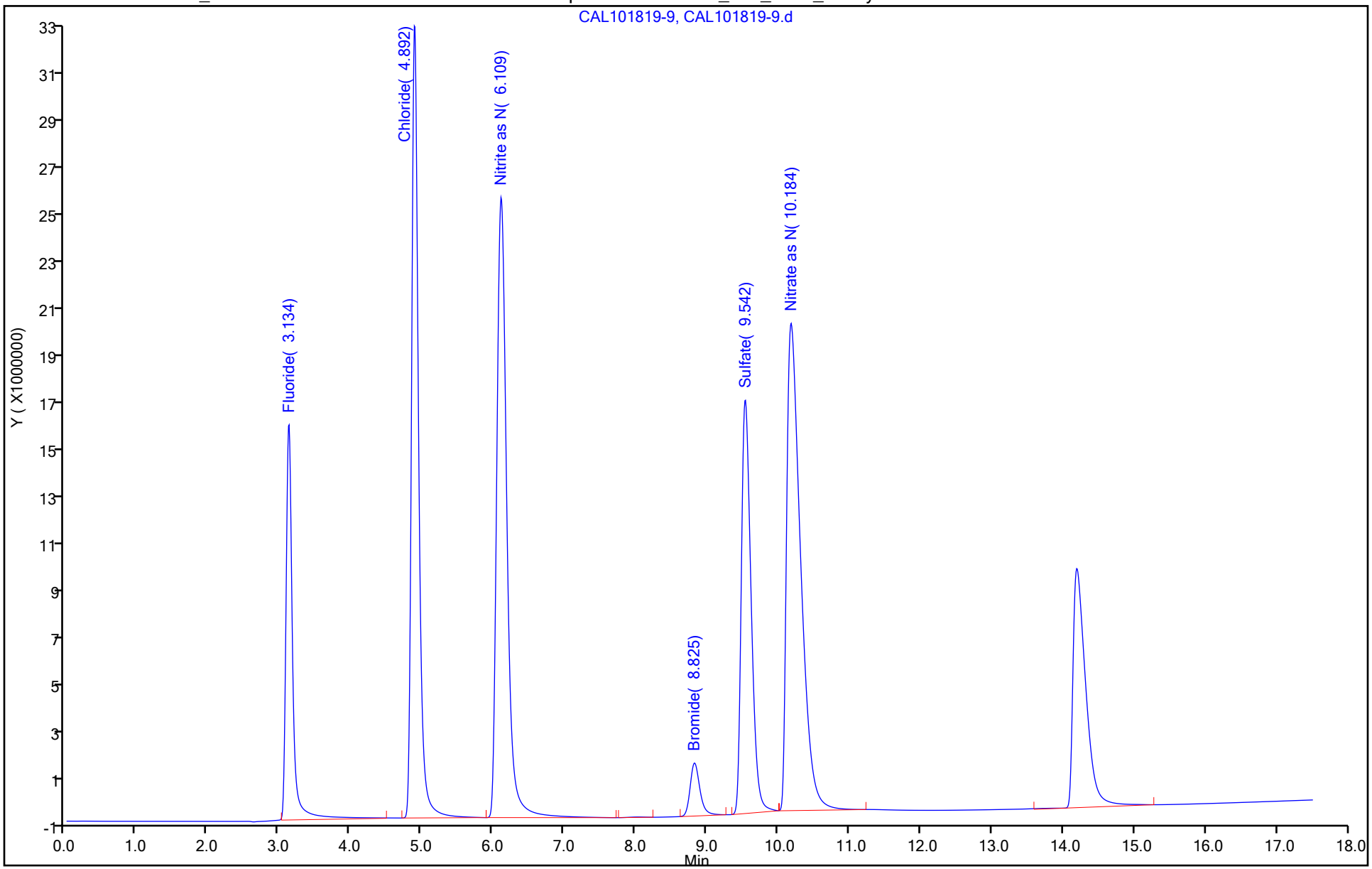

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d				
Injection Date:	18-Oct-2019 18:57:00	Instrument ID:	CHWC11		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		
Column:		Detector	040914-1		

7 Fluoride, CAS: 16984-48-8

Signal: 1

Processing Integration Results

RT: 3.13
Area: 104867428
Amount: 10.017318
Amount Units: ug/ml

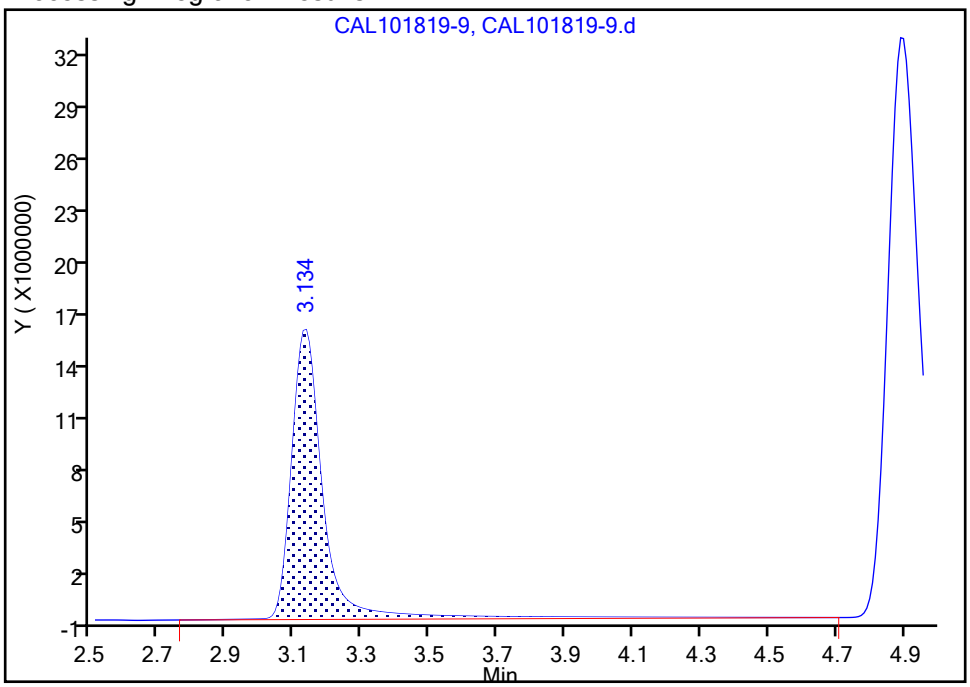

Manual Integration Results

RT: 3.13
Area: 102921044
Amount: 9.872512
Amount Units: ug/ml

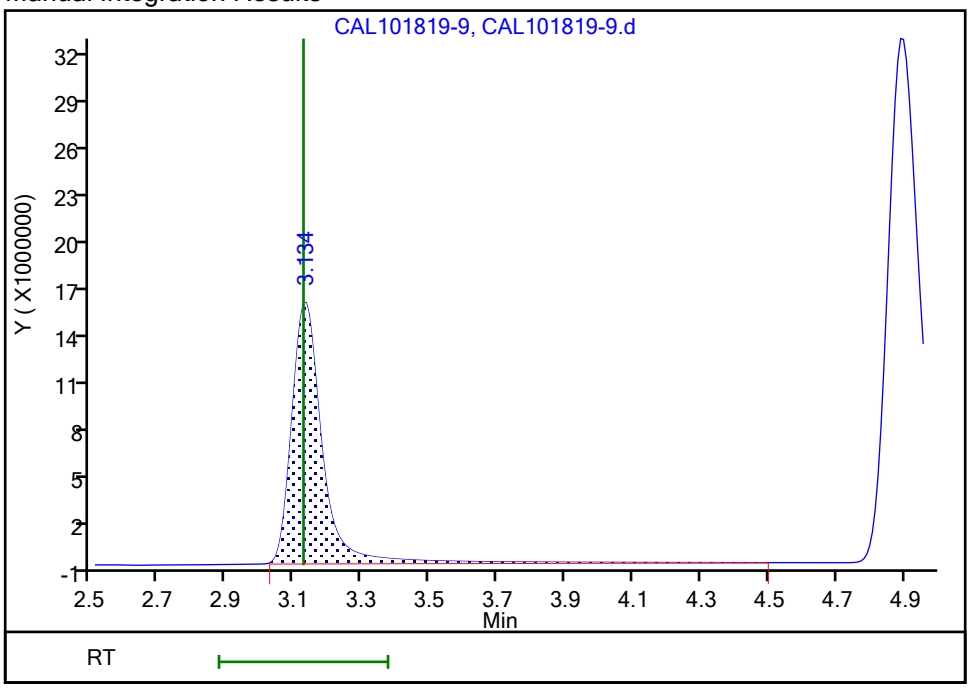

Reviewer: buschk, 21-Oct-2019 11:15:07

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d				
Injection Date:	18-Oct-2019 18:57:00	Instrument ID:	CHWC11		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		
Column:		Detector	040914-1		

1 Bromide, CAS: 24959-67-9

Signal: 1

Processing Integration Results

RT: 8.83
Area: 20974993
Amount: 10.326009
Amount Units: ug/ml

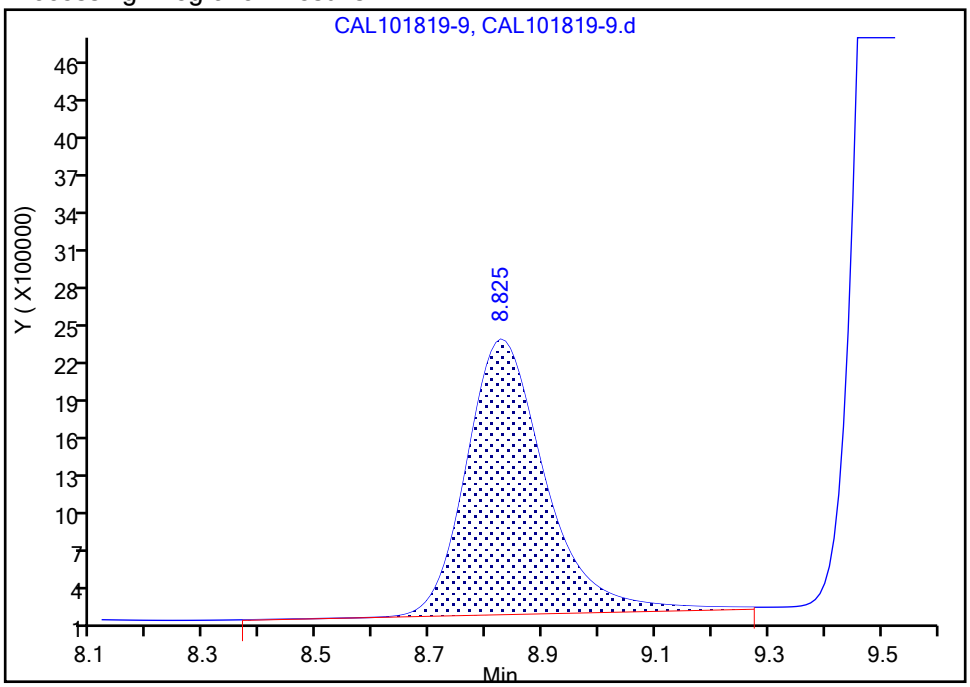

Manual Integration Results

RT: 8.83
Area: 20655628
Amount: 10.237421
Amount Units: ug/ml

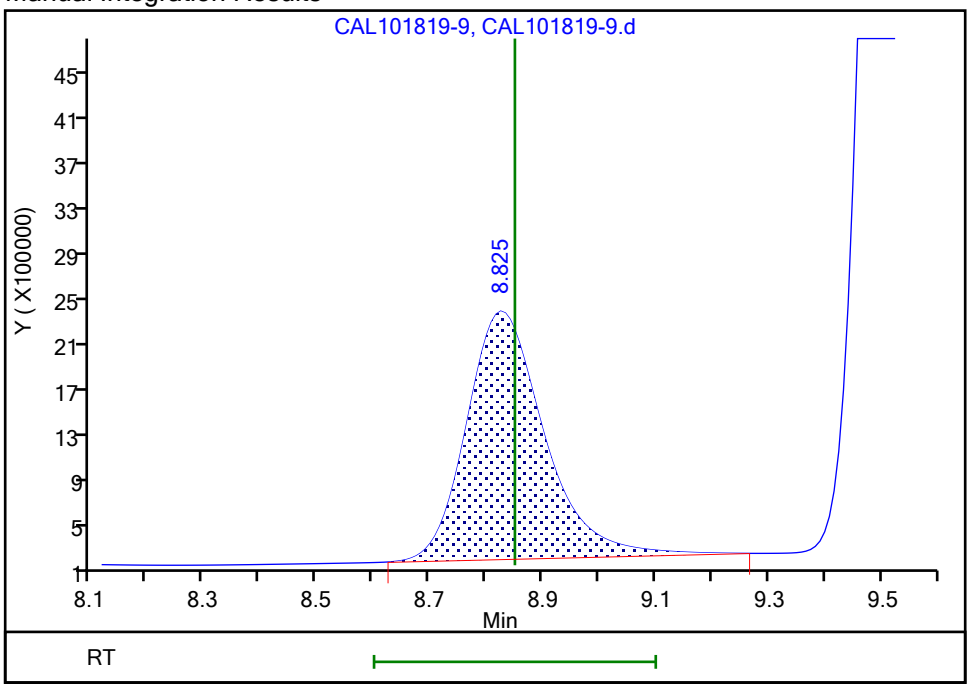

Reviewer: reachs, 21-Oct-2019 10:37:52

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d				
Injection Date:	18-Oct-2019 18:57:00	Instrument ID:	CHWC11		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		
Column:		Detector	040914-1		

5 Sulfate, CAS: 14808-79-8

Signal: 1

Processing Integration Results

RT: 9.54
Area: 162747742
Amount: 41.047215
Amount Units: ug/ml

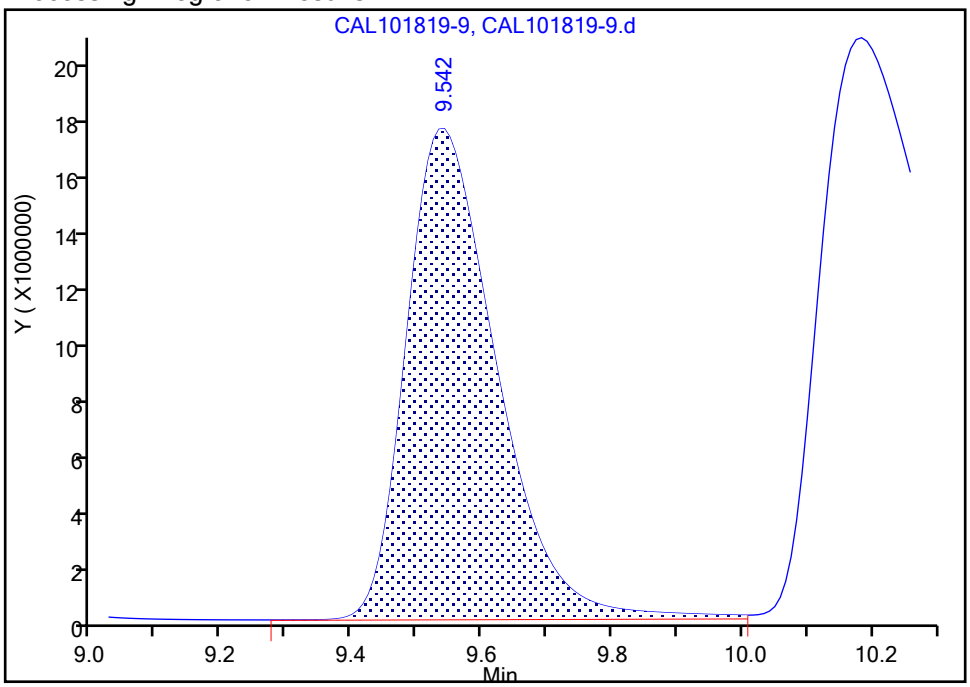

Manual Integration Results

RT: 9.54
Area: 159929009
Amount: 40.738977
Amount Units: ug/ml

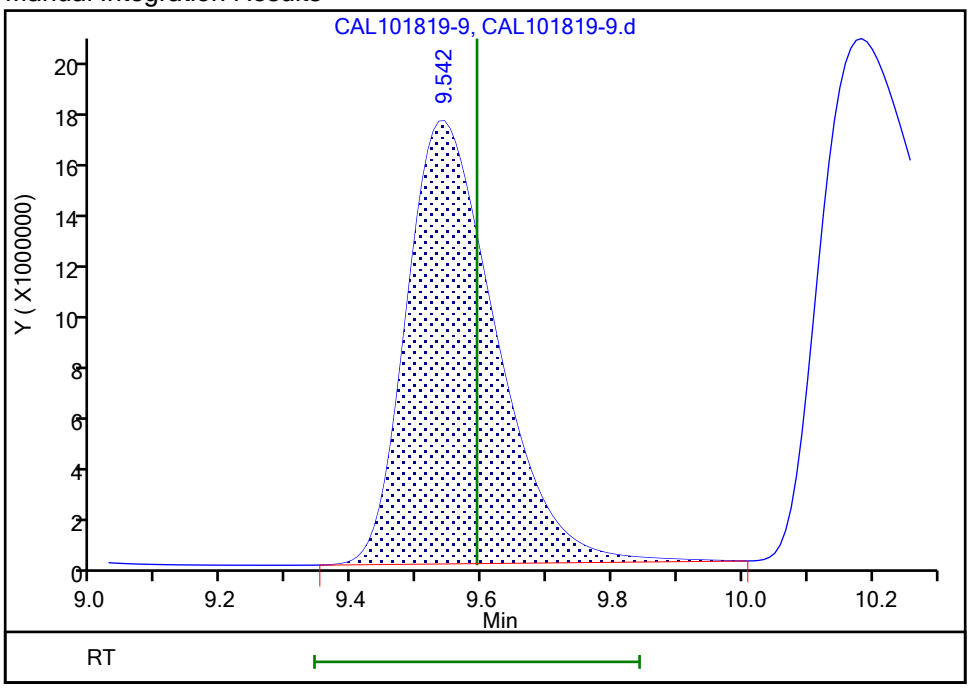

Reviewer: reachs, 21-Oct-2019 10:38:05

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1 Analy Batch No.: 277959

SDG No.:

Instrument ID: CHWC11 GC Column: AS-18 ID: Heated Purge: (Y/N) N

Calibration Start Date: 10/18/2019 16:34 Calibration End Date: 10/18/2019 18:57 Calibration ID: 16949

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-277959/3	CAL101819-3.d
Level 2	IC 600-277959/4	CAL101819-4.d
Level 3	IC 600-277959/5	CAL101819-5.d
Level 4	IC 600-277959/6	CAL101819-6.d
Level 5	IC 600-277959/7	CAL101819-7.d
Level 6	IC 600-277959/9	CAL101819-9.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6					RT WINDOW	AVG RT
Nitrite as N	6.126	6.134	6.126	6.125	6.126	6.109					5.875 - 6.375	6.124
Nitrate as N	10.359	10.359	10.342	10.317	10.292	10.184					10.067 - 10.567	10.309

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1 Analy Batch No.: 277959

SDG No.:

Instrument ID: CHWC11 GC Column: AS-18 ID: Heated Purge: (Y/N) N

Calibration Start Date: 10/18/2019 16:34 Calibration End Date: 10/18/2019 18:57 Calibration ID: 16949

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-277959/3	CAL101819-3.d
Level 2	IC 600-277959/4	CAL101819-4.d
Level 3	IC 600-277959/5	CAL101819-5.d
Level 4	IC 600-277959/6	CAL101819-6.d
Level 5	IC 600-277959/7	CAL101819-7.d
Level 6	IC 600-277959/9	CAL101819-9.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3	LVL 4		B	M1	M2								
Nitrite as N	10294810 12517252	10224470 12406021	10785461	12636850	Lin1	-688656.37	12462013.6							1.0000		0.9900
Nitrate as N	10336780 12778389	13512216 13503223	10567467	12677173	Lin1	-753312.92	13290710.9							0.9990		0.9900

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1 Analy Batch No.: 277959

SDG No.:

Instrument ID: CHWC11 GC Column: AS-18 ID: Heated Purge: (Y/N) N

Calibration Start Date: 10/18/2019 16:34 Calibration End Date: 10/18/2019 18:57 Calibration ID: 16949

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-277959/3	CAL101819-3.d
Level 2	IC 600-277959/4	CAL101819-4.d
Level 3	IC 600-277959/5	CAL101819-5.d
Level 4	IC 600-277959/6	CAL101819-6.d
Level 5	IC 600-277959/7	CAL101819-7.d
Level 6	IC 600-277959/9	CAL101819-9.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
		LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Nitrite as N	Lin1	2058962 248120418	5112235	10785461	31592126	62586260	0.200 20.0	0.500	1.00	2.50	5.00
Nitrate as N	Lin1	2067356 270064467	6756108	10567467	31692932	63891943	0.200 20.0	0.500	1.00	2.50	5.00

Curve Type Legend:

Lin1 = Linear 1/conc

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-3.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 18-Oct-2019 16:55:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031755-003
Operator ID: Instrument ID: CHWC11
Sublist: chrom-300_11*sub8

Method: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\300_11.m
Limit Group: WC - IC_300_9056_48hr
Last Update: 23-Oct-2019 10:37:24 Calib Date: 18-Oct-2019 18:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d

Column 1 : Det: 040914-1
Process Host: CTX0301

First Level Reviewer: reachs Date: 21-Oct-2019 10:26:06

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	3.126	3.125	0.001	1439612	NC	NC	M
	2 Chloride	4.909	4.909	0.000	1650523	NC	NC	
	9 Nitrite as N	6.126	6.125	0.001	2058962	0.2000	0.2205	
	1 Bromide	8.867	8.850	0.017	300979	NC	NC	M
	5 Sulfate	9.601	9.592	0.009	1245072	NC	NC	Ma
	3 Nitrate as N	10.359	10.317	0.042	2067356	0.2000	0.2122	Ma
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N					0.2000	0.4327	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

ICCALSTD2_00051 Amount Added: 5.00 Units: mL

Report Date: 23-Oct-2019 10:37:25 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-3.d				
Injection Date:	18-Oct-2019 16:55:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	IC			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		

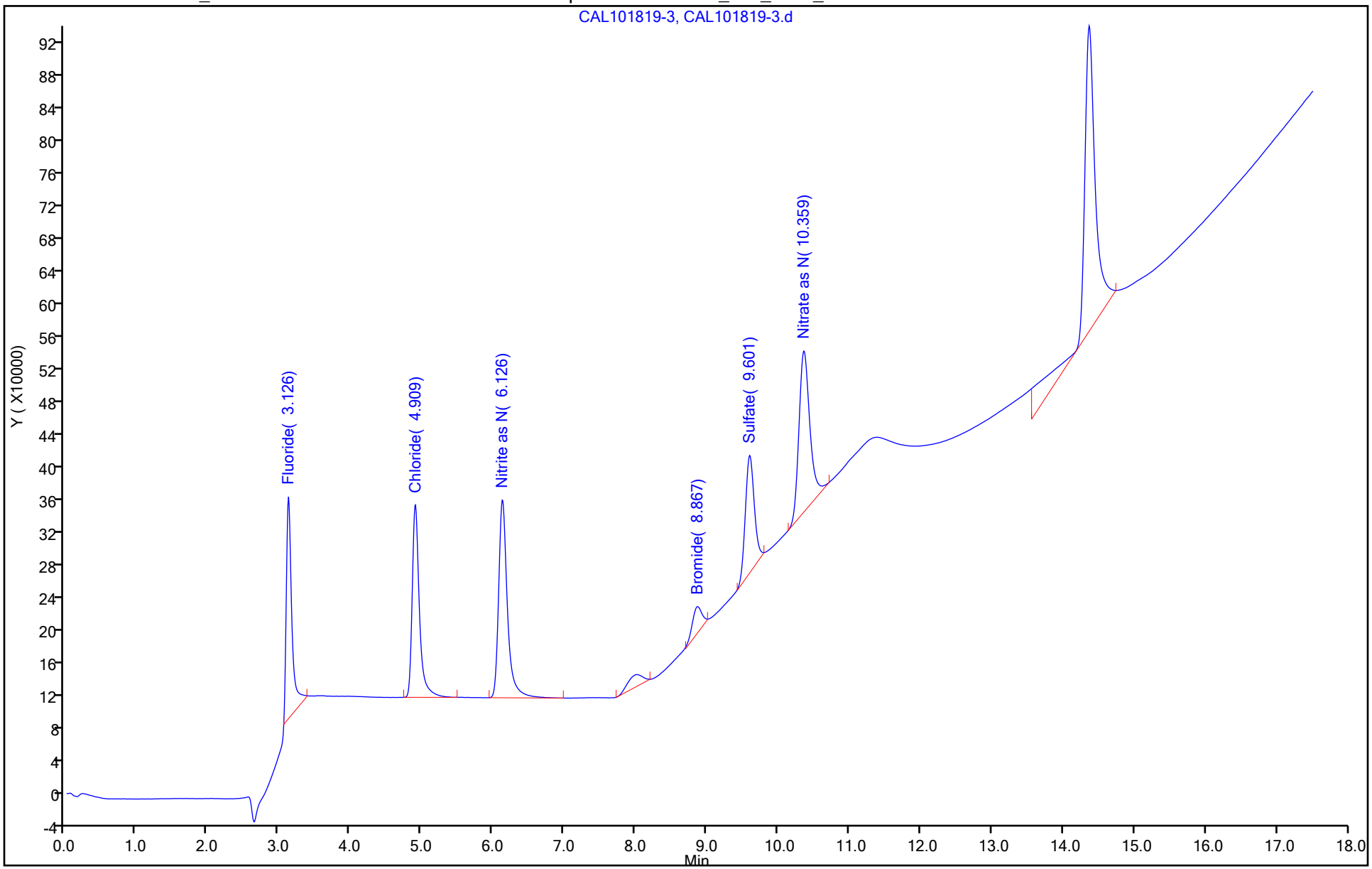

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-3.d				
Injection Date:	18-Oct-2019 16:55:00	Instrument ID:	CHWC11		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		
Column:		Detector	040914-1		

3 Nitrate as N, CAS: 14797-55-8

Signal: 1

Processing Integration Results

RT: 10.36
Area: 3514748
Amount: 0
Amount Units: ug/ml

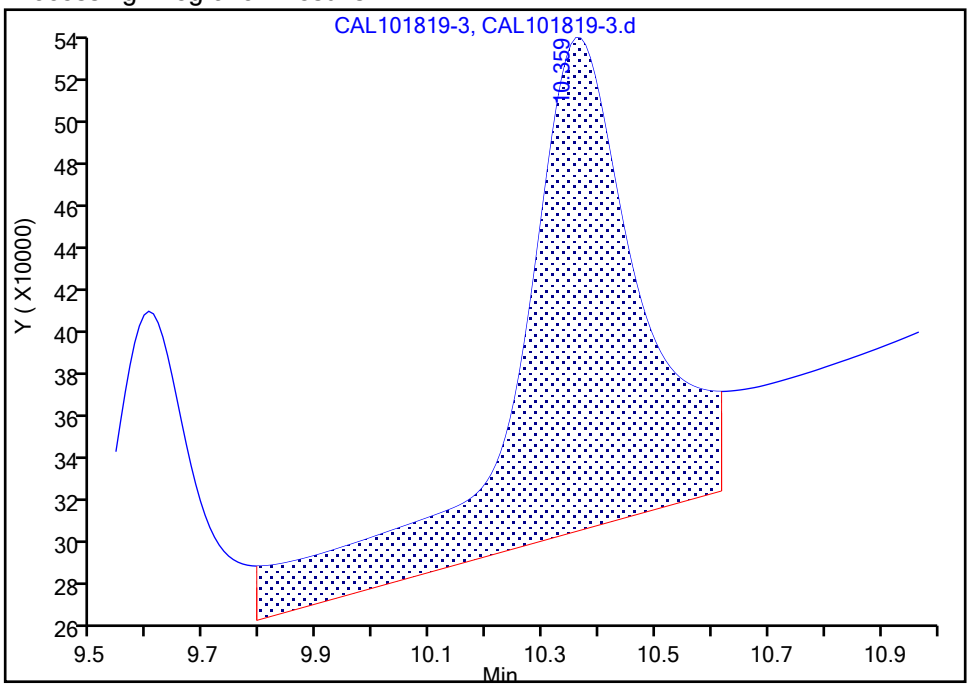

Manual Integration Results

RT: 10.36
Area: 2067356
Amount: 0.212229
Amount Units: ug/ml

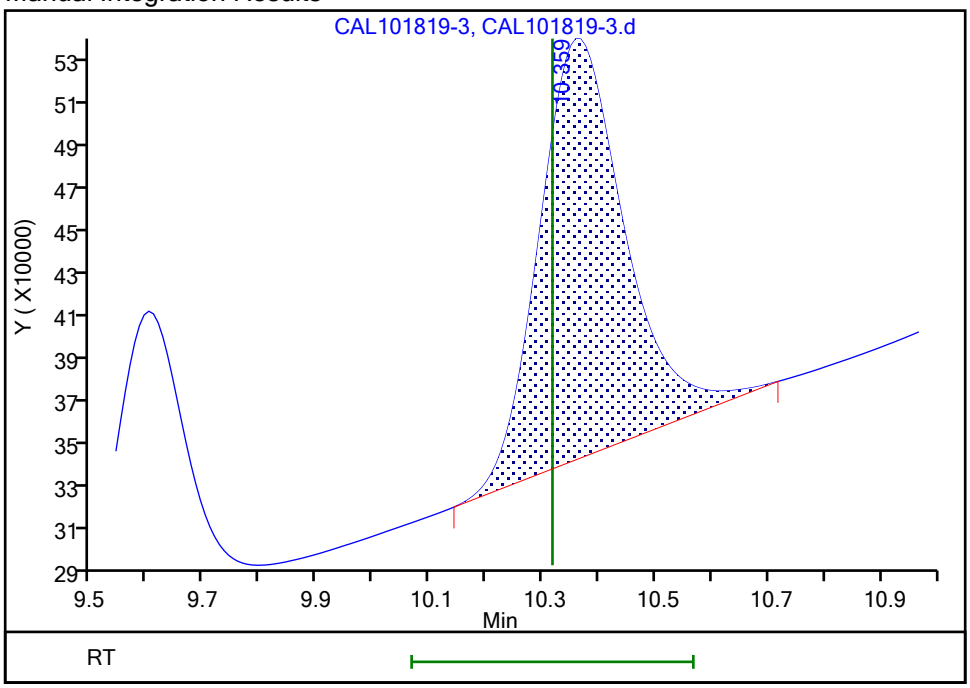

Reviewer: patelk, 23-Oct-2019 10:35:42

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Incomplete Integration

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-4.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 18-Oct-2019 17:15:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031755-004
Operator ID: Instrument ID: CHWC11
Sublist: chrom-300_11*sub8

Method: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\300_11.m
Limit Group: WC - IC_300_9056_48hr
Last Update: 23-Oct-2019 10:37:25 Calib Date: 18-Oct-2019 18:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d

Column 1 : Det: 040914-1
Process Host: CTX0301

First Level Reviewer: reachs Date: 21-Oct-2019 10:26:16

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	3.125	3.125	0.000	5313147	NC	NC	M
	2 Chloride	4.909	4.909	0.000	4184995	NC	NC	
	9 Nitrite as N	6.134	6.125	0.009	5112235	0.5000	0.4655	
	1 Bromide	8.867	8.850	0.017	855507	NC	NC	
	5 Sulfate	9.600	9.592	0.008	3479007	NC	NC	
	3 Nitrate as N	10.359	10.317	0.042	6756108	0.5000	0.5650	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N					0.5000	1.03	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

ICCALSTD3_00044 Amount Added: 5.00 Units: mL

Report Date: 23-Oct-2019 10:37:26 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-4.d				
Injection Date:	18-Oct-2019 17:15:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	IC			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		

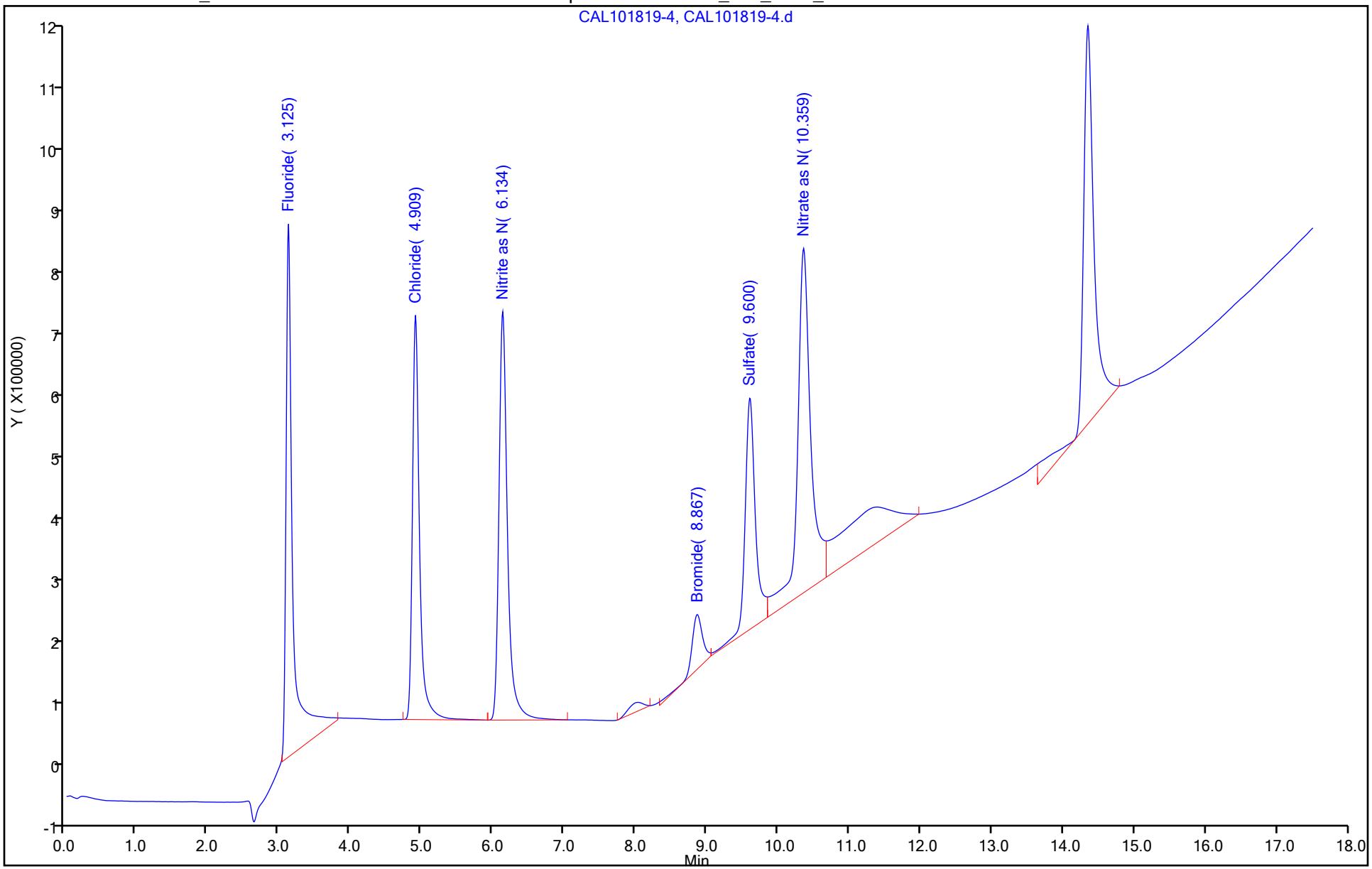

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-5.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 18-Oct-2019 17:36:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031755-005
Operator ID: Instrument ID: CHWC11
Sublist: chrom-300_11*sub8

Method: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\300_11.m
Limit Group: WC - IC_300_9056_48hr
Last Update: 23-Oct-2019 10:37:26 Calib Date: 18-Oct-2019 18:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d

Column 1 : Det: 040914-1
Process Host: CTX0301

First Level Reviewer: reachs Date: 21-Oct-2019 10:28:23

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	3.126	3.125	0.001	9557991	NC	NC	M
	2 Chloride	4.909	4.909	0.000	10008843	NC	NC	M
	9 Nitrite as N	6.126	6.125	0.001	10785461	1.00	0.9207	M
	1 Bromide	8.859	8.850	0.009	1602217	NC	NC	M
	5 Sulfate	9.601	9.592	0.009	6790807	NC	NC	M
	3 Nitrate as N	10.342	10.317	0.025	10567467	1.00	0.8518	M
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N					1.00	1.77	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

ICCALSTD4_00043 Amount Added: 5.00 Units: mL

Report Date: 23-Oct-2019 10:37:28 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-5.d

Injection Date: 18-Oct-2019 17:36:00 Instrument ID: CHWC11 Operator ID:

Lims ID: IC Worklist Smp#: 5

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 300_11 Limit Group: WC - IC_300_9056_48hr

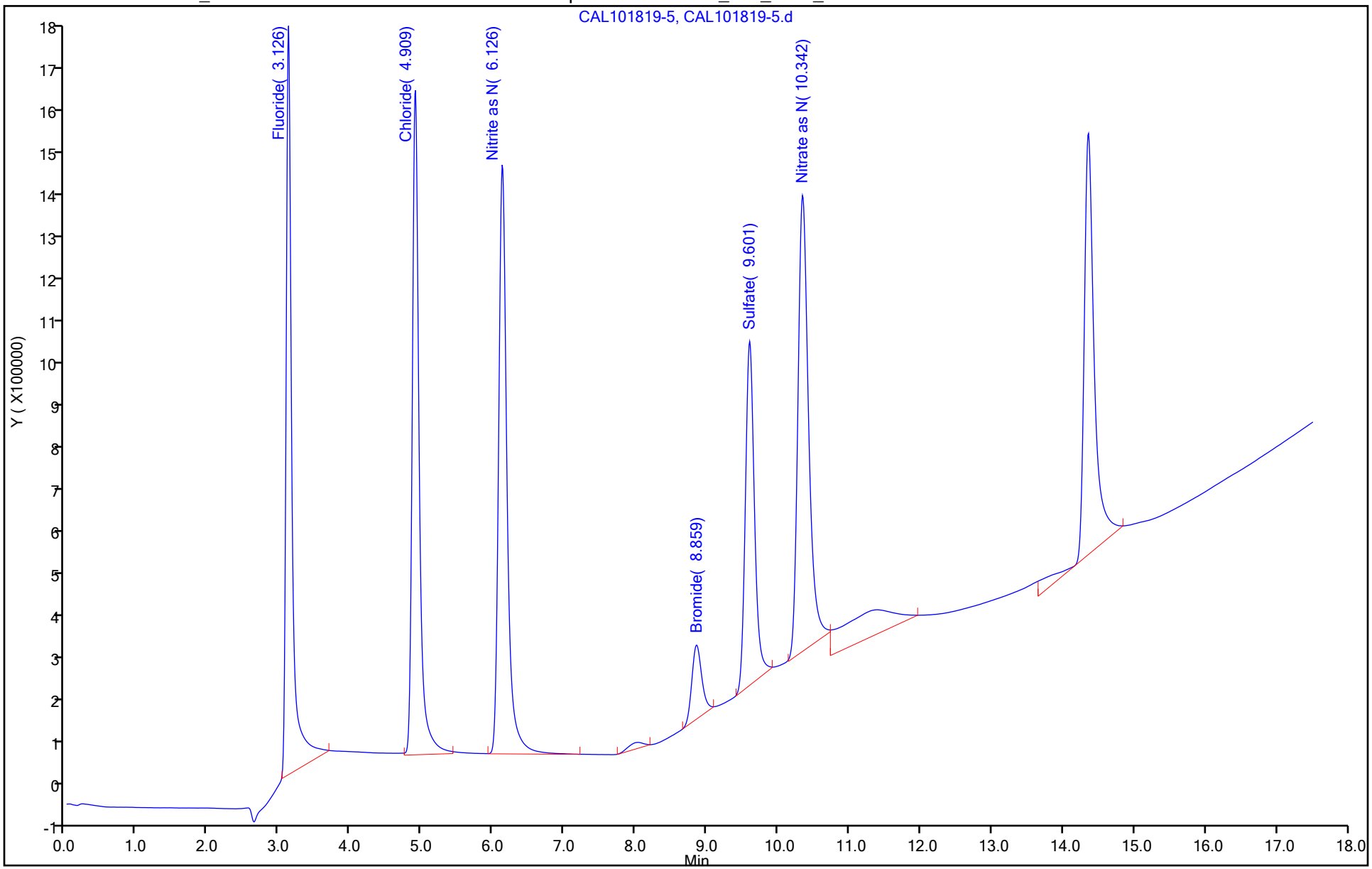

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-5.d				
Injection Date:	18-Oct-2019 17:36:00	Instrument ID:	CHWC11		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		
Column:		Detector	040914-1		

9 Nitrite as N, CAS: 14797-65-0

Signal: 1

Processing Integration Results

RT: 6.13
Area: 12329065
Amount: 1.029021
Amount Units: ug/ml

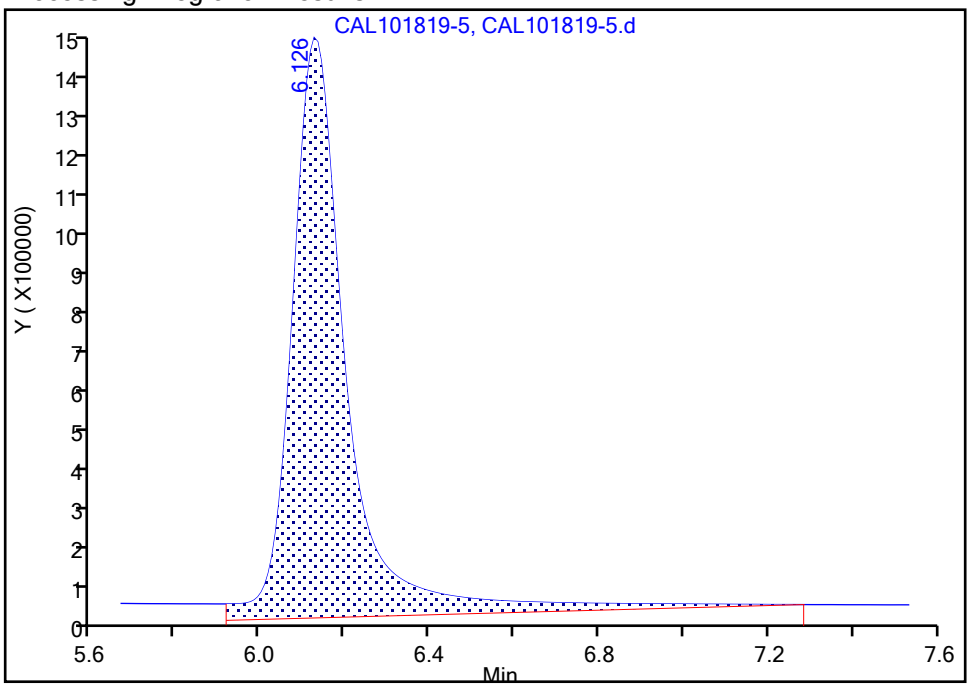

Manual Integration Results

RT: 6.13
Area: 10785461
Amount: 0.920727
Amount Units: ug/ml

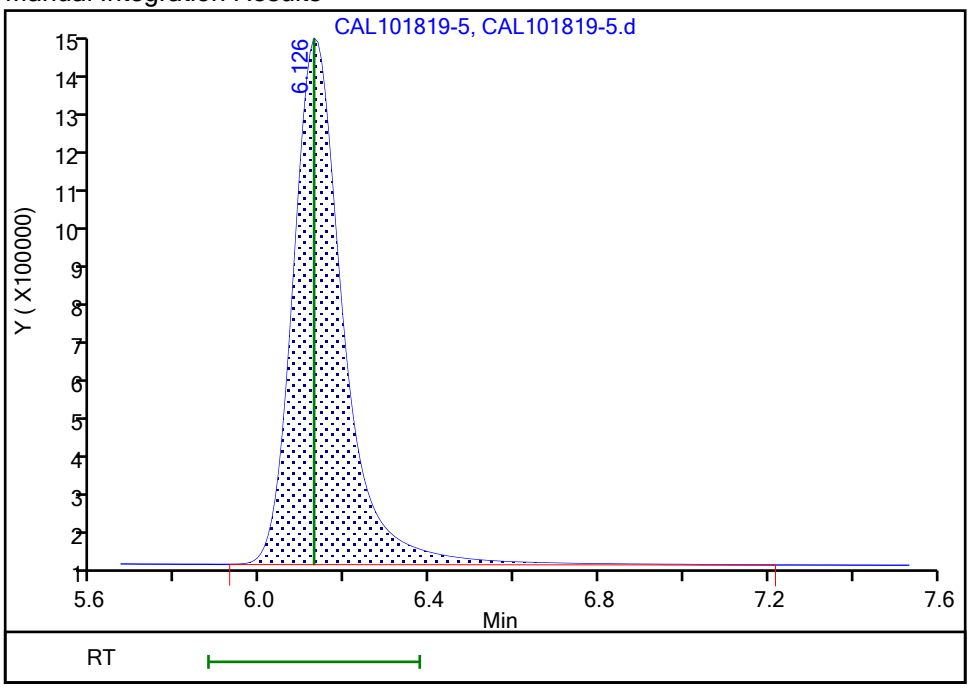

Reviewer: reachs, 21-Oct-2019 10:28:08

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-5.d				
Injection Date:	18-Oct-2019 17:36:00	Instrument ID:	CHWC11		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		
Column:		Detector	040914-1		

3 Nitrate as N, CAS: 14797-55-8

Signal: 1

Processing Integration Results

RT: 10.34
Area: 12443866
Amount: 0.994360
Amount Units: ug/ml

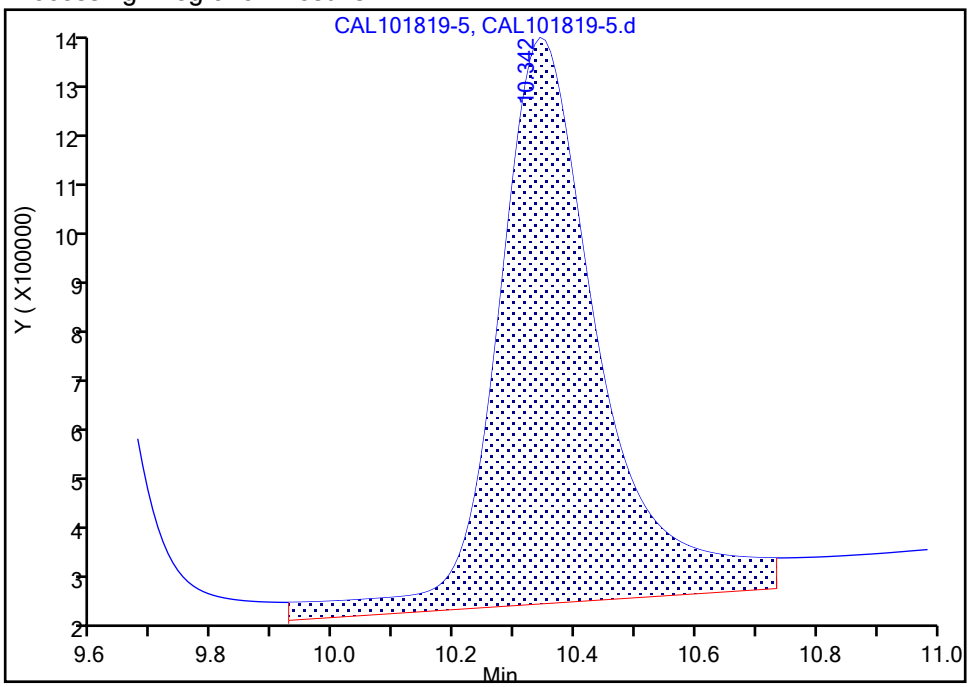

Manual Integration Results

RT: 10.34
Area: 10567467
Amount: 0.851781
Amount Units: ug/ml

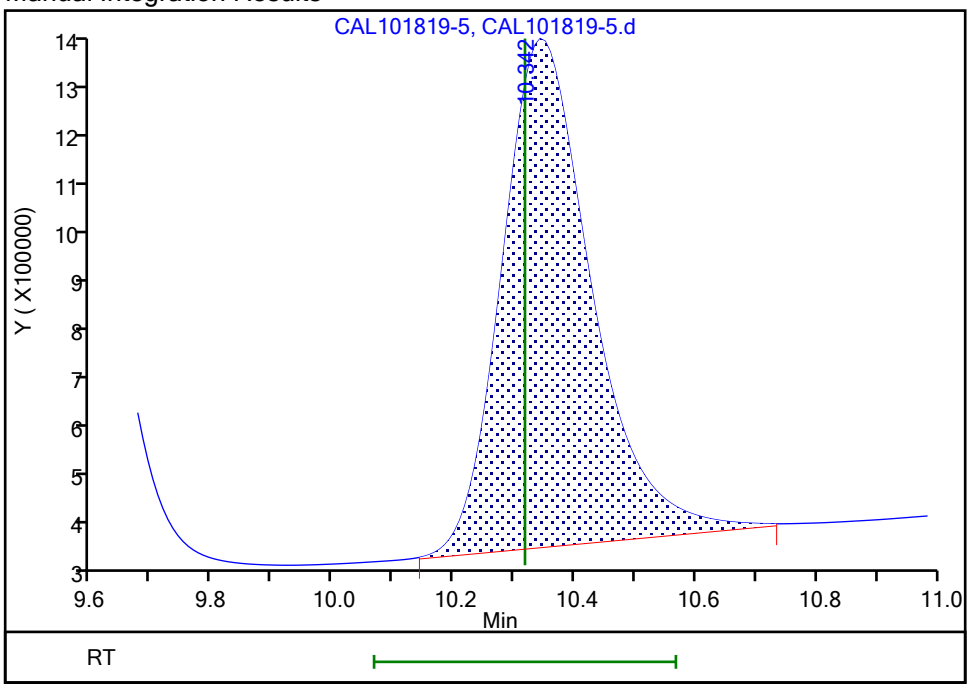

Reviewer: reachs, 21-Oct-2019 10:28:16

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-6.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 18-Oct-2019 17:56:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031755-006
Operator ID: Instrument ID: CHWC11
Sublist: chrom-300_11*sub8

Method: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\300_11.m
Limit Group: WC - IC_300_9056_48hr
Last Update: 23-Oct-2019 10:37:29 Calib Date: 18-Oct-2019 18:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d

Column 1 : Det: 040914-1
Process Host: CTX0301

First Level Reviewer: reachs Date: 21-Oct-2019 10:30:35

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
7 Fluoride	3.125	3.125	0.000	21574870	NC	NC	M
2 Chloride	4.909	4.909	0.000	25435068	NC	NC	M
9 Nitrite as N	6.125	6.125	0.000	31592126	2.50	2.59	M
1 Bromide	8.850	8.850	0.000	3742546	NC	NC	M
5 Sulfate	9.592	9.592	0.000	17690301	NC	NC	M
3 Nitrate as N	10.317	10.317	0.000	31692932	2.50	2.44	M
S 6 Nitrate Nitrite as N					2.50	5.03	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

ICCALSTD5_00044 Amount Added: 5.00 Units: mL

Report Date: 23-Oct-2019 10:37:29 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-6.d				
Injection Date:	18-Oct-2019 17:56:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	IC			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		

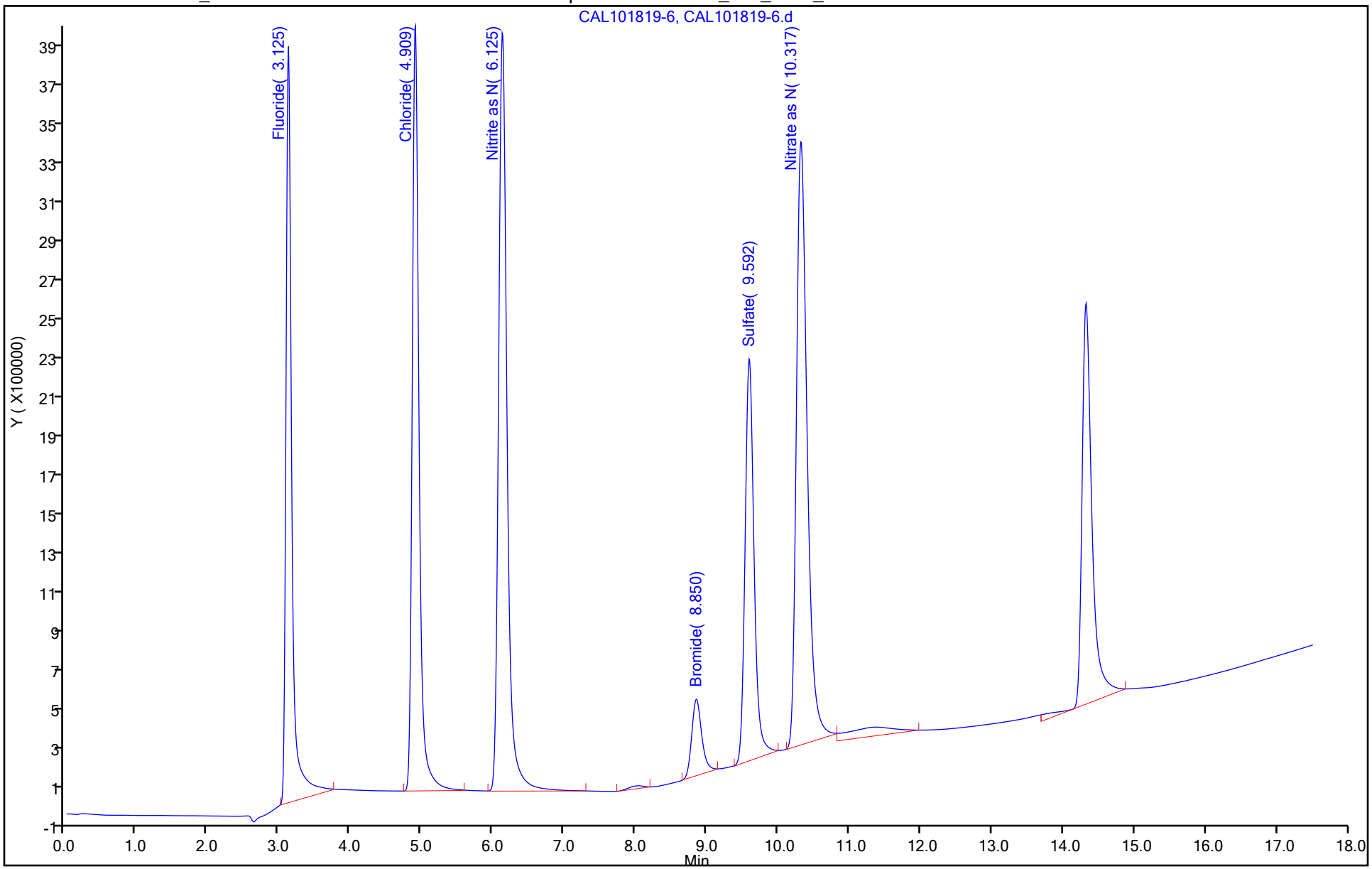

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-6.d				
Injection Date:	18-Oct-2019 17:56:00	Instrument ID:	CHWC11		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		
Column:		Detector	040914-1		

9 Nitrite as N, CAS: 14797-65-0

Signal: 1

Processing Integration Results

RT: 6.13
Area: 31658549
Amount: 2.592619
Amount Units: ug/ml

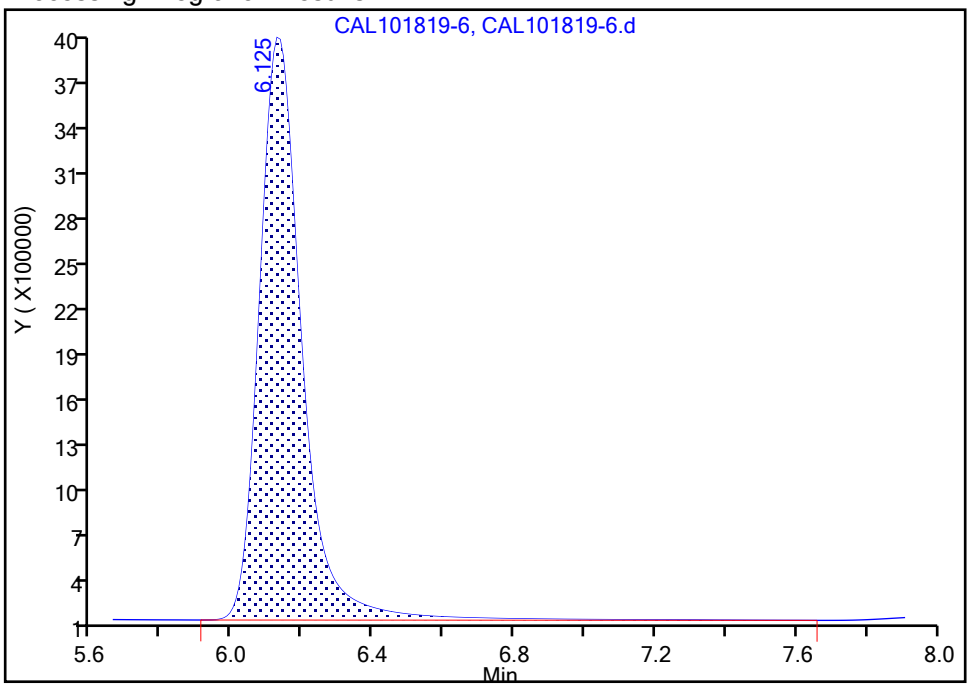

Manual Integration Results

RT: 6.13
Area: 31592126
Amount: 2.590334
Amount Units: ug/ml

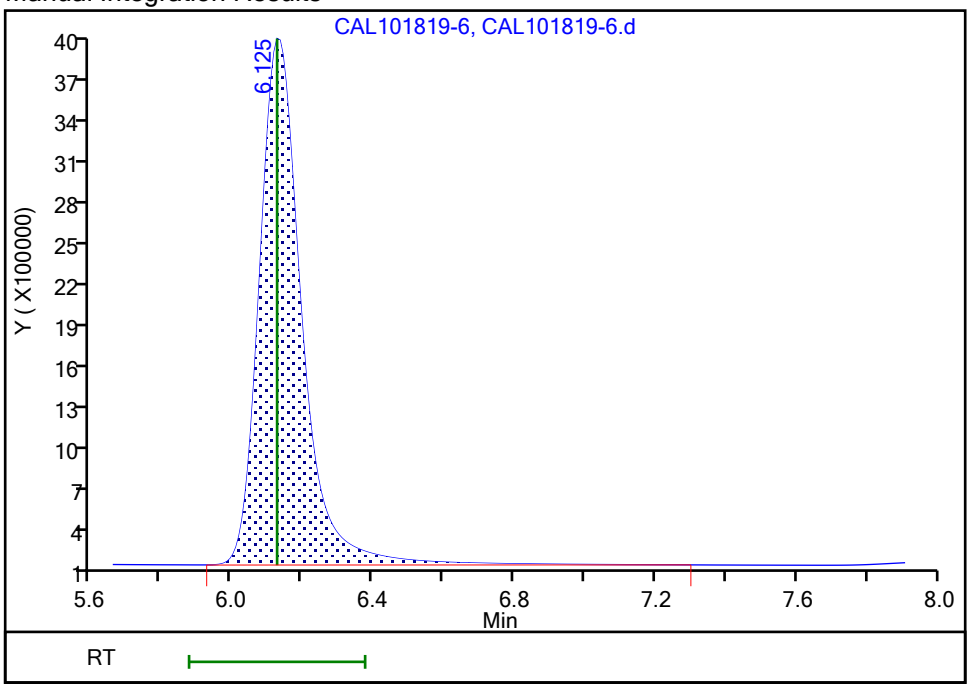

Reviewer: reachs, 21-Oct-2019 10:30:18

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-6.d				
Injection Date:	18-Oct-2019 17:56:00	Instrument ID:	CHWC11		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		
Column:		Detector	040914-1		

3 Nitrate as N, CAS: 14797-55-8

Signal: 1

Processing Integration Results

RT: 10.32
Area: 32474075
Amount: 2.468787
Amount Units: ug/ml

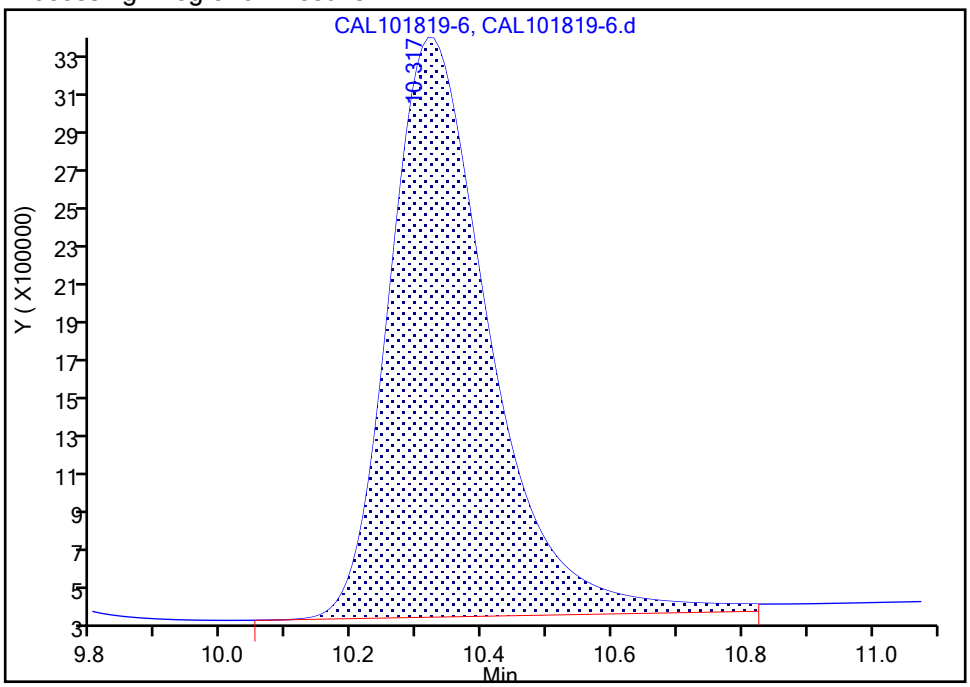

Manual Integration Results

RT: 10.32
Area: 31692932
Amount: 2.441272
Amount Units: ug/ml

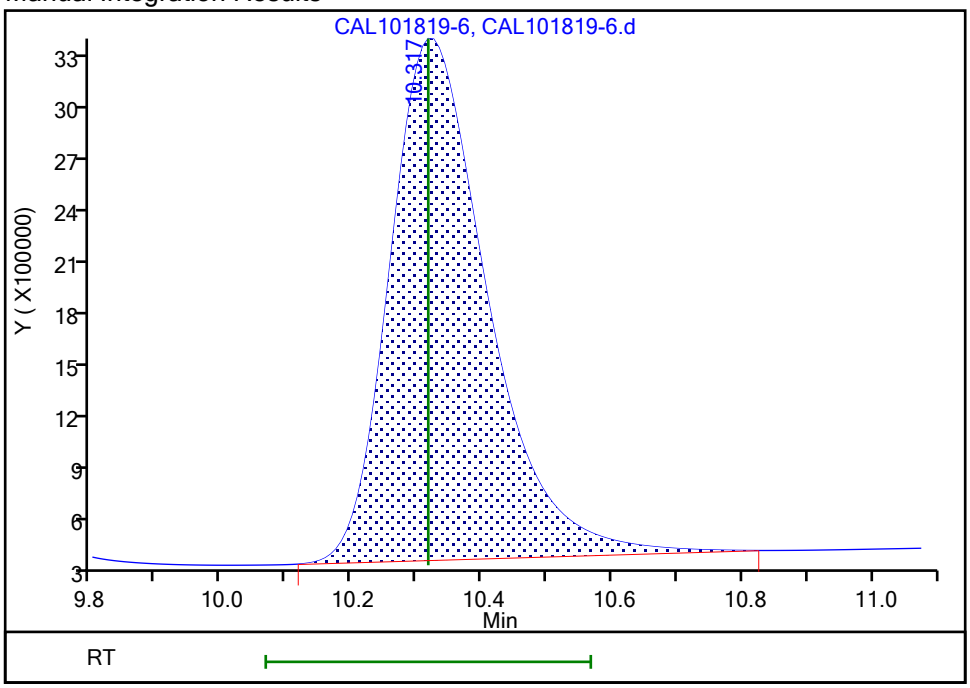

Reviewer: reachs, 21-Oct-2019 10:30:28

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-7.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 18-Oct-2019 18:16:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031755-007
Operator ID: Instrument ID: CHWC11
Sublist: chrom-300_11*sub8

Method: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\300_11.m
Limit Group: WC - IC_300_9056_48hr
Last Update: 23-Oct-2019 10:37:30 Calib Date: 18-Oct-2019 18:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d

Column 1 : Det: 040914-1
Process Host: CTX0301

First Level Reviewer: reachs Date: 21-Oct-2019 10:35:52

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	3.126	3.125	0.001	51869037	NC	NC	M
	2 Chloride	4.901	4.909	-0.008	54134292	NC	NC	M
	9 Nitrite as N	6.126	6.125	0.001	62586260	5.00	5.08	M
	1 Bromide	8.842	8.850	-0.008	9714578	NC	NC	M
	5 Sulfate	9.584	9.592	-0.008	37377166	NC	NC	Ma
	3 Nitrate as N	10.292	10.317	-0.025	63891943	5.00	4.86	Ma
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N					5.00	9.94	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

ICCALSTD6_00040 Amount Added: 5.00 Units: mL

Report Date: 23-Oct-2019 10:37:31 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-7.d				
Injection Date:	18-Oct-2019 18:16:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	IC			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		

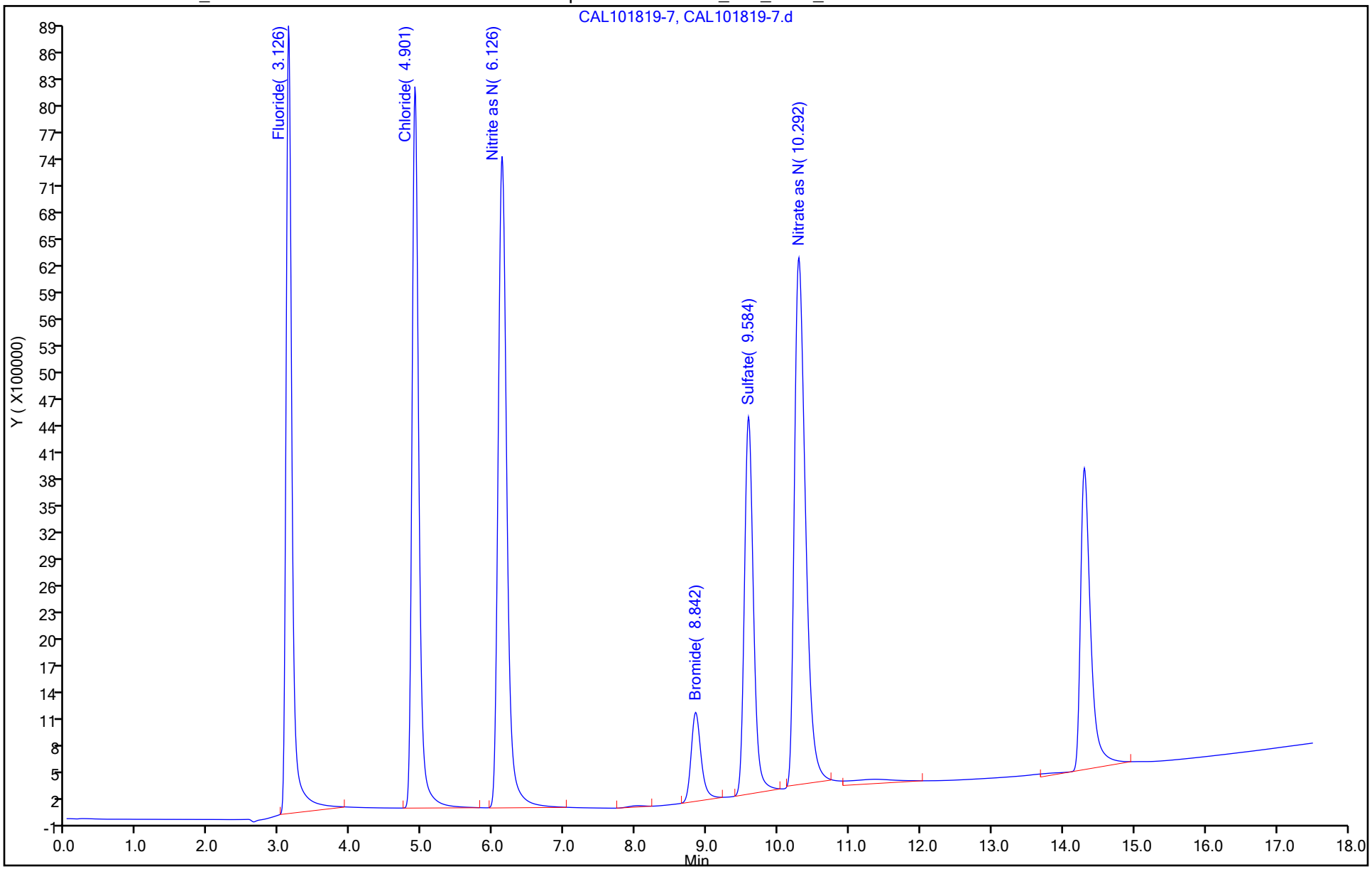

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-7.d				
Injection Date:	18-Oct-2019 18:16:00	Instrument ID:	CHWC11		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		
Column:		Detector	040914-1		

9 Nitrite as N, CAS: 14797-65-0

Signal: 1

Processing Integration Results

RT: 6.13
Area: 62890404
Amount: 5.096608
Amount Units: ug/ml

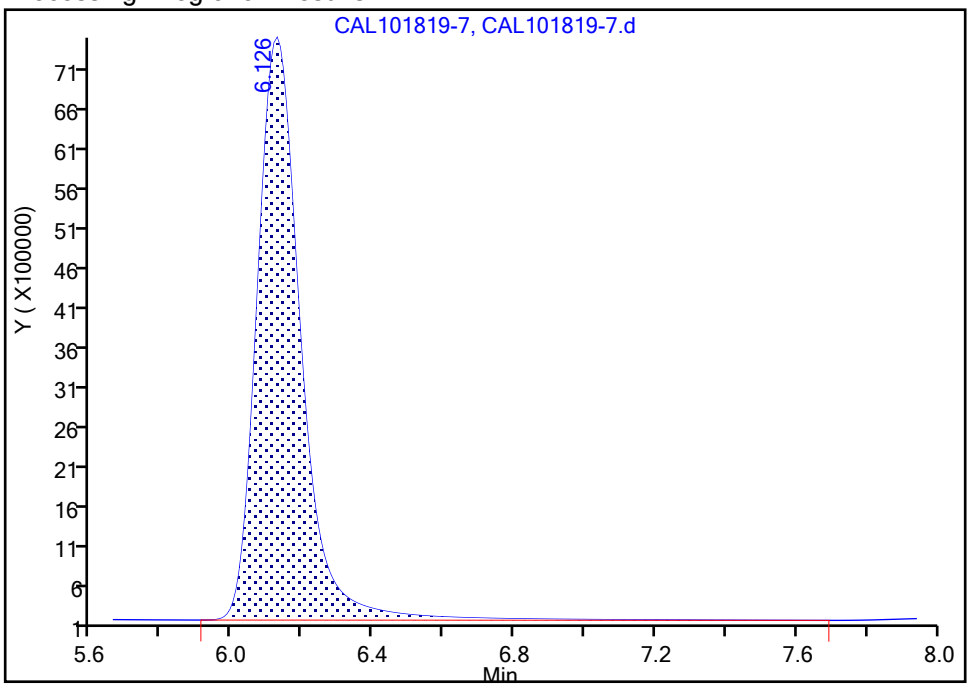

Manual Integration Results

RT: 6.13
Area: 62586260
Amount: 5.077423
Amount Units: ug/ml

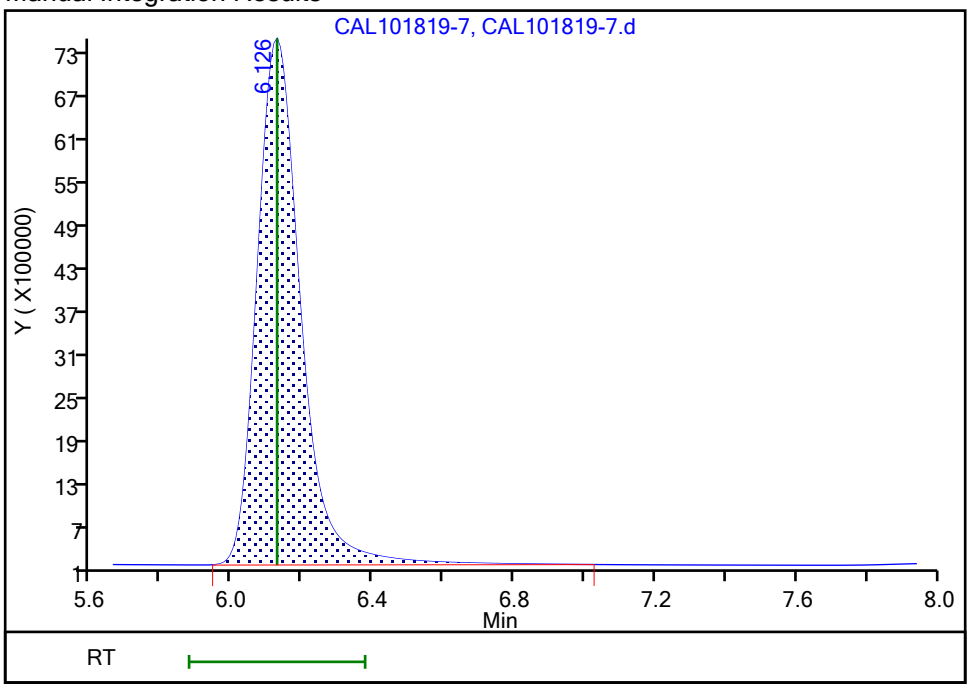

Reviewer: reachs, 21-Oct-2019 10:34:22

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-7.d				
Injection Date:	18-Oct-2019 18:16:00	Instrument ID:	CHWC11		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		
Column:		Detector	040914-1		

3 Nitrate as N, CAS: 14797-55-8

Signal: 1

Processing Integration Results

RT: 10.29
Area: 66288733
Amount: 0
Amount Units: ug/ml

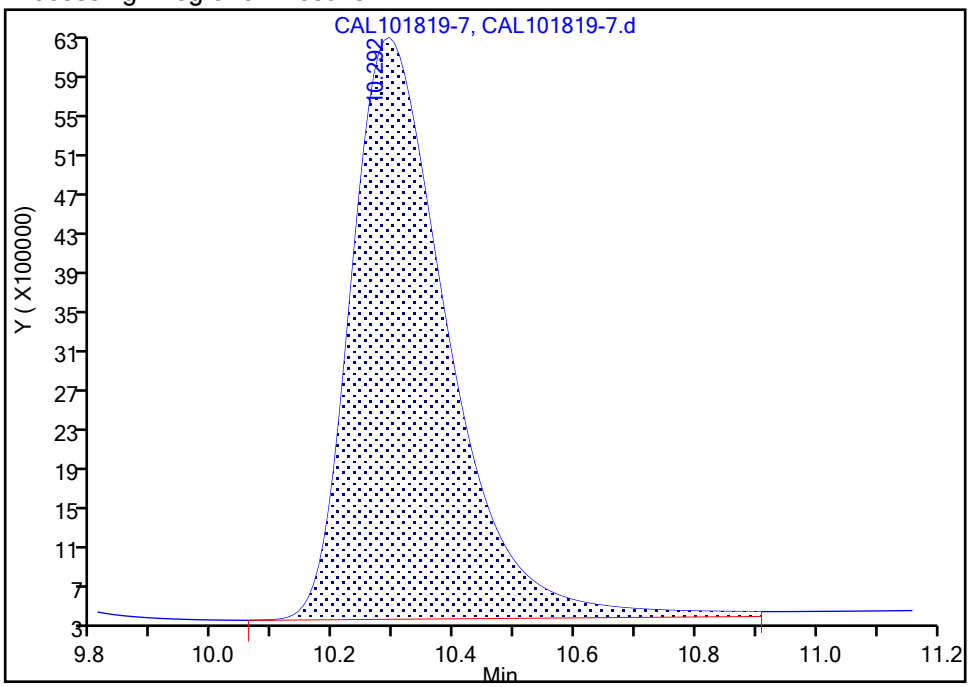

Manual Integration Results

RT: 10.29
Area: 63891943
Amount: 4.863943
Amount Units: ug/ml

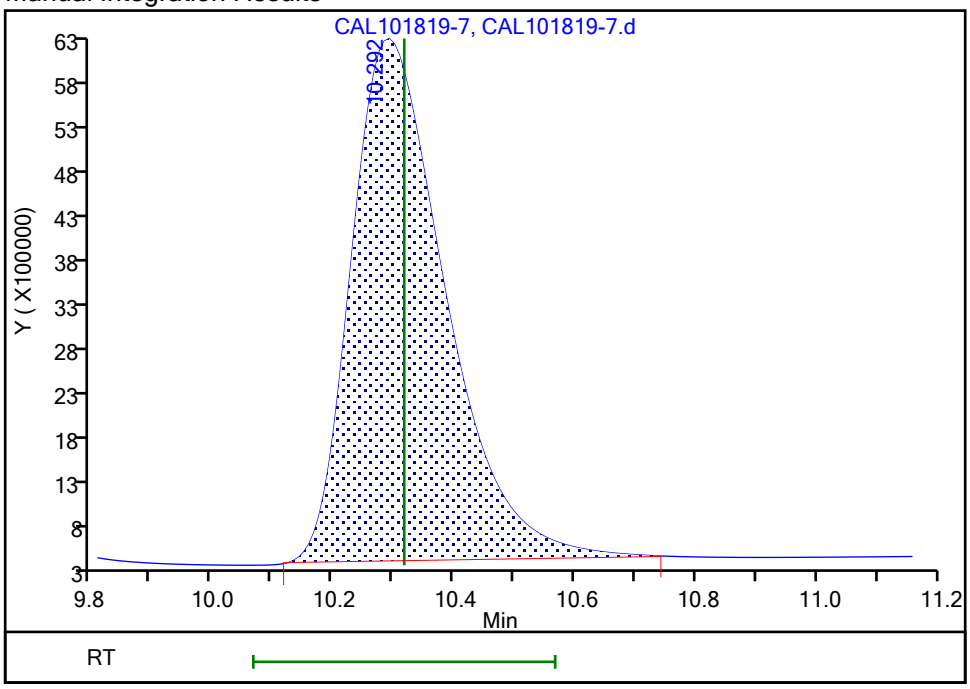

Reviewer: reachs, 21-Oct-2019 10:35:35

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Incomplete Integration

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 18-Oct-2019 18:57:00 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031755-009
Operator ID: Instrument ID: CHWC11
Sublist: chrom-300_11*sub8

Method: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\300_11.m
Limit Group: WC - IC_300_9056_48hr
Last Update: 23-Oct-2019 10:37:33 Calib Date: 18-Oct-2019 18:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d

Column 1 : Det: 040914-1
Process Host: CTX0301

First Level Reviewer: reachs Date: 21-Oct-2019 10:39:22

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	3.134	3.125	0.009	102921044	NC	NC	M
	2 Chloride	4.892	4.909	-0.017	221170411	NC	NC	
	9 Nitrite as N	6.109	6.125	-0.016	248120418	20.0	20.0	
	1 Bromide	8.825	8.850	-0.025	20655628	NC	NC	M
	5 Sulfate	9.542	9.592	-0.050	159929009	NC	NC	M
	3 Nitrate as N	10.184	10.317	-0.133	270064467	20.0	20.4	M
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N					20.0	40.3	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

ICCALSTD8_00031 Amount Added: 5.00 Units: mL

Report Date: 23-Oct-2019 10:37:34 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d				
Injection Date:	18-Oct-2019 18:57:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	IC			Worklist Smp#:	9
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		

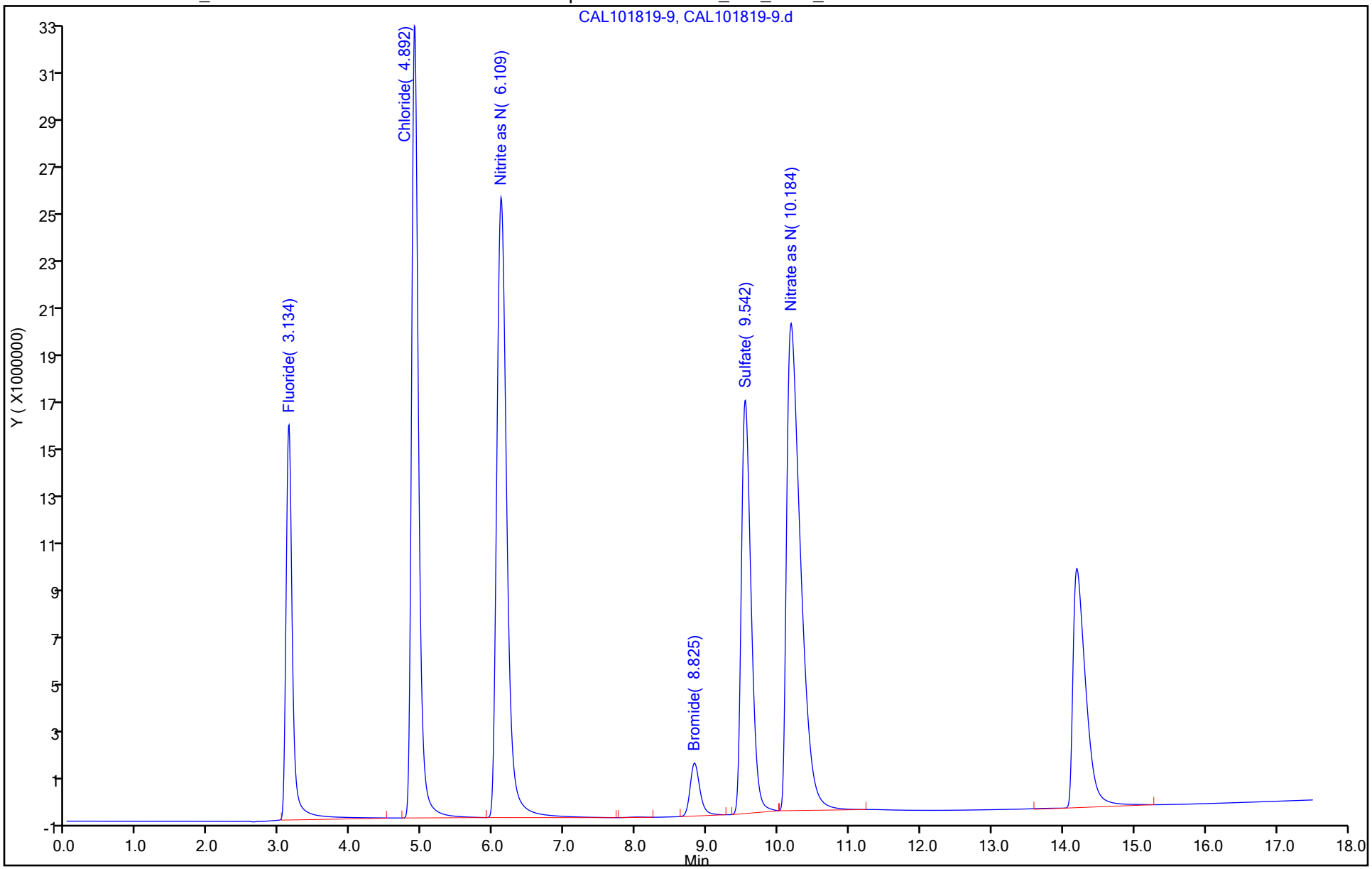

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d				
Injection Date:	18-Oct-2019 18:57:00	Instrument ID:	CHWC11		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		
Column:		Detector	040914-1		

3 Nitrate as N, CAS: 14797-55-8

Signal: 1

Processing Integration Results

RT: 10.18
Area: 280289187
Amount: 20.631294
Amount Units: ug/ml

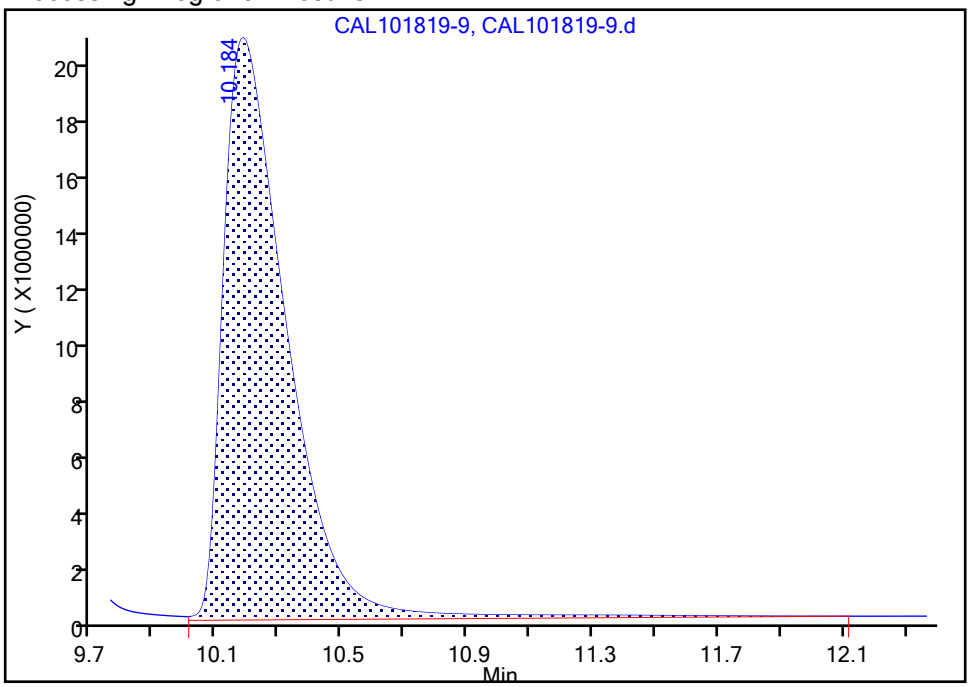

Manual Integration Results

RT: 10.18
Area: 270064467
Amount: 20.376471
Amount Units: ug/ml

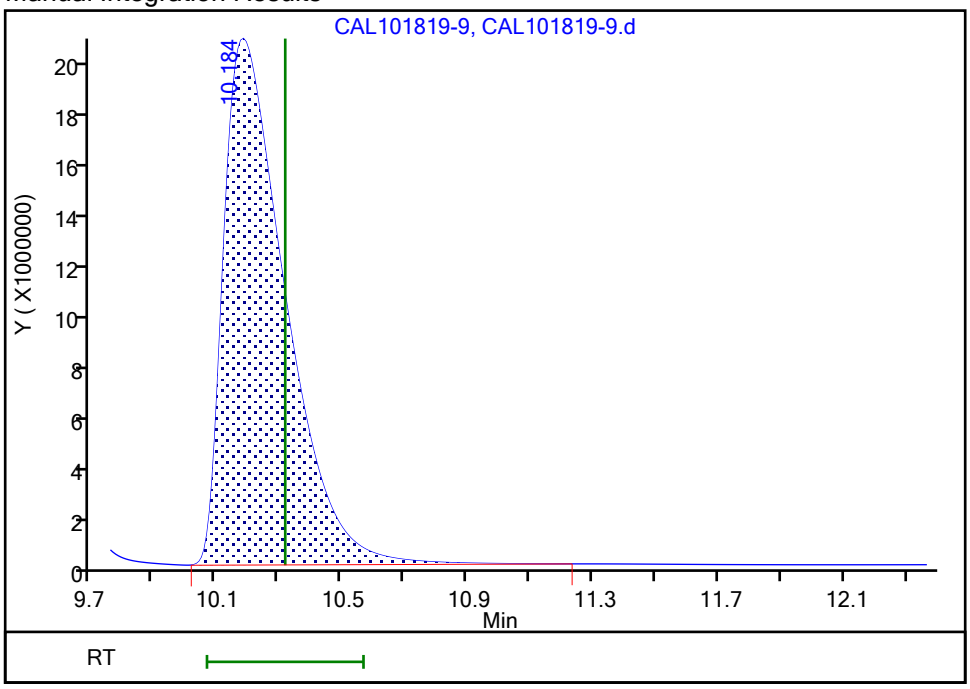

Reviewer: reachs, 21-Oct-2019 10:38:51

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1 Analy Batch No.: 278508

SDG No.:

Instrument ID: CHWC17(IC) GC Column: AS22 ID: 2(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/24/2019 13:38 Calibration End Date: 10/24/2019 14:43 Calibration ID: 16960

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-278508/5	CAL102419-600-0031875-005.d
Level 2	IC 600-278508/6	CAL102419-600-0031875-006.d
Level 3	IC 600-278508/7	CAL102419-600-0031875-007.d
Level 4	IC 600-278508/8	CAL102419-600-0031875-008.d
Level 5	IC 600-278508/9	CAL102419-600-0031875-009.d
Level 6	IC 600-278508/10	CAL102419-600-0031875-010.d
Level 7	IC 600-278508/11	CAL102419-600-0031875-011.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7				RT WINDOW	AVG RT
Fluoride	2.224	2.214	2.211	2.217	2.221	2.227	2.224				2.074 - 2.374	2.220
Chloride	3.097	3.100	3.094	3.100	3.107	3.121	3.137				2.961 - 3.261	3.108
Bromide	4.431	4.430	4.417	4.414	4.421	4.421	4.417				4.247 - 4.547	4.422
Sulfate	7.037	7.044	7.044	7.064	7.081	7.114	7.174				6.961 - 7.261	7.080

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1 Analy Batch No.: 278508

SDG No.:

Instrument ID: CHWC17(IC) GC Column: AS22 ID: 2(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/24/2019 13:38 Calibration End Date: 10/24/2019 14:43 Calibration ID: 16960

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-278508/5	CAL102419-600-0031875-005.d
Level 2	IC 600-278508/6	CAL102419-600-0031875-006.d
Level 3	IC 600-278508/7	CAL102419-600-0031875-007.d
Level 4	IC 600-278508/8	CAL102419-600-0031875-008.d
Level 5	IC 600-278508/9	CAL102419-600-0031875-009.d
Level 6	IC 600-278508/10	CAL102419-600-0031875-010.d
Level 7	IC 600-278508/11	CAL102419-600-0031875-011.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4		B	M1	M2								
Fluoride	14230210 49765186	26634834 51999313	37788096 53281964	47243454	Lin1	-10158391	53098764.1							0.9980		0.9900
Chloride	35248003 42028772	32975730 45255267	37369404 47674306	42536517	Lin1	-9435144.2	46338107.7							0.9980		0.9900
Bromide	14662775 13886804	13222382 14462901	13386009 13388690	14759792	Lin1	64105.4346	13885239.7							0.9980		0.9900
Sulfate	27315898 28098513	24441819 30458265	26935872 32903835	26971345	Lin1	-5299865.8	31473208.6							0.9960		0.9900

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1 Analy Batch No.: 278508

SDG No.:

Instrument ID: CHWC17(IC) GC Column: AS22 ID: 2(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/24/2019 13:38 Calibration End Date: 10/24/2019 14:43 Calibration ID: 16960

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-278508/5	CAL102419-600-0031875-005.d
Level 2	IC 600-278508/6	CAL102419-600-0031875-006.d
Level 3	IC 600-278508/7	CAL102419-600-0031875-007.d
Level 4	IC 600-278508/8	CAL102419-600-0031875-008.d
Level 5	IC 600-278508/9	CAL102419-600-0031875-009.d
Level 6	IC 600-278508/10	CAL102419-600-0031875-010.d
Level 7	IC 600-278508/11	CAL102419-600-0031875-011.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Fluoride	Lin1	2846042 389994850	13317417 532819640	37788096	94486907	248825932	0.200 7.50	0.500 10.0	1.00	2.00	5.00
Chloride	Lin1	14099201 905105344	32975730 1906972252	74738807	212682586	420287718	0.400 20.0	1.00 40.0	2.00	5.00	10.0
Bromide	Lin1	2932555 108471759	6611191 133886899	13386009	29519583	69434021	0.200 7.50	0.500 10.0	1.00	2.00	5.00
Sulfate	Lin1	10926359 609165306	24441819 1316153403	53871743	134856727	280985134	0.400 20.0	1.00 40.0	2.00	5.00	10.0

Curve Type Legend:

Lin1 = Linear 1/conc

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-005.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 24-Oct-2019 13:38:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031875-005
Misc. Info.: ic-2
Operator ID: Instrument ID: CHWC17(IC)
Sublist: chrom-CHWC17(IC)*sub2

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 25-Oct-2019 17:40:41 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX1001

First Level Reviewer: reachs Date: 25-Oct-2019 10:51:37

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.224	2.224	0.000	2846042	0.2000	0.2449	M
	2 Chloride	3.097	3.111	-0.014	14099201	0.4000	0.5079	
	9 Nitrite as N	3.711	3.751	-0.040	13870776	NC	NC	M
	1 Bromide	4.431	4.397	0.034	2932555	0.2000	0.2066	M
	3 Nitrate as N	4.944	4.867	0.077	18359989	NC	NC	M
	5 Sulfate	7.037	7.111	-0.074	10926359	0.4000	0.5156	M
S	8 Sulfate as Sulfur						0.5156	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

ICCALSTD2_00052 Amount Added: 5.00 Units: mL
ICCALSTD1_00045 Amount Added: 5.00 Units: mL Run Reagent

Report Date: 25-Oct-2019 17:40:41 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-005.d

Injection Date: 24-Oct-2019 13:38:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: IC Worklist Smp#: 5

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_28day

Column: AS-22 Dionex Lion Pac (2.00 mm)

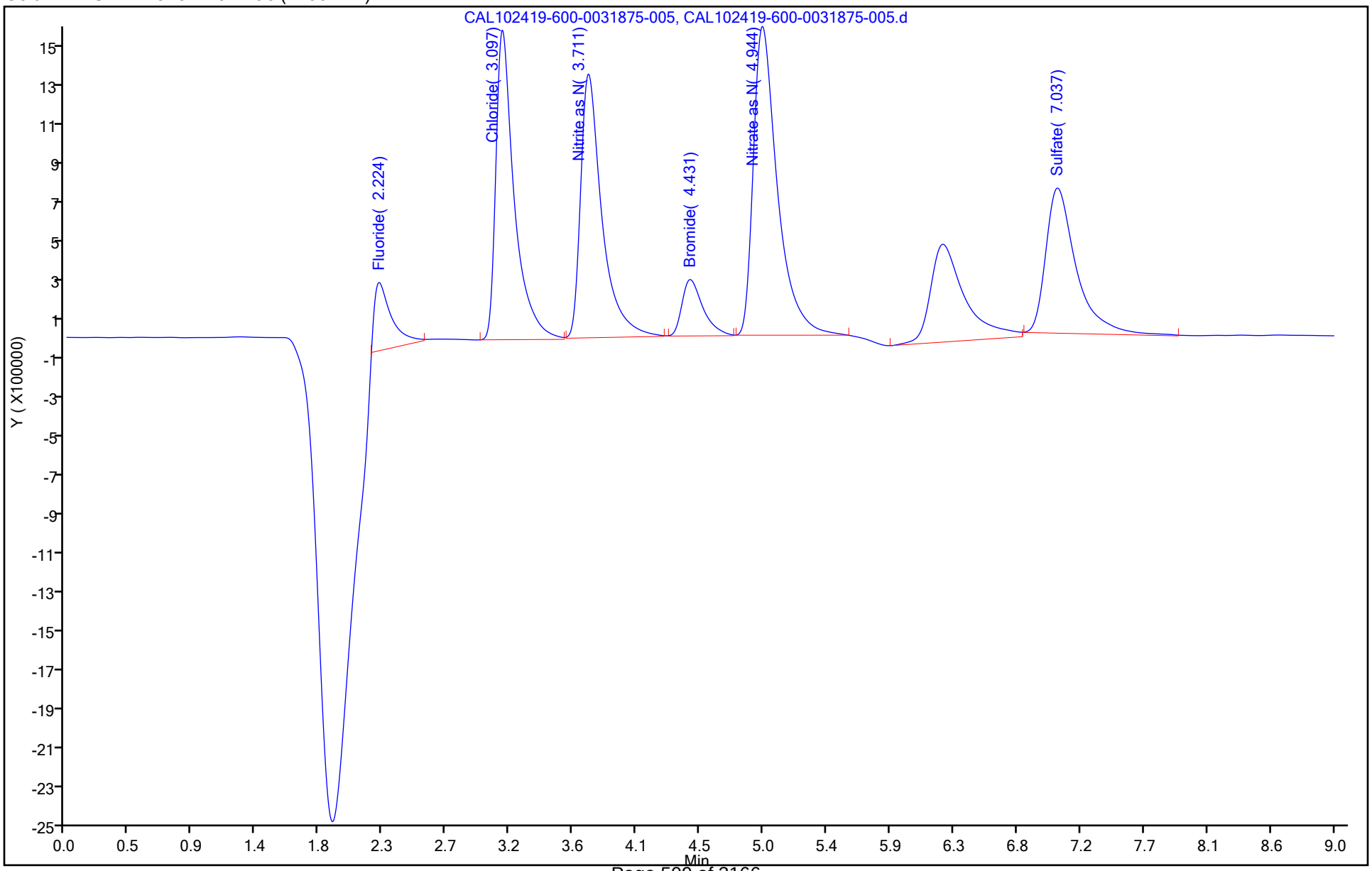

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-005.d				
Injection Date:	24-Oct-2019 13:38:00	Instrument ID:	CHWC17(IC)		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

7 Fluoride, CAS: 16984-48-8

Signal: 1

Processing Integration Results

RT: 2.22
Area: 16555274
Amount: -0.050623
Amount Units: ug/ml

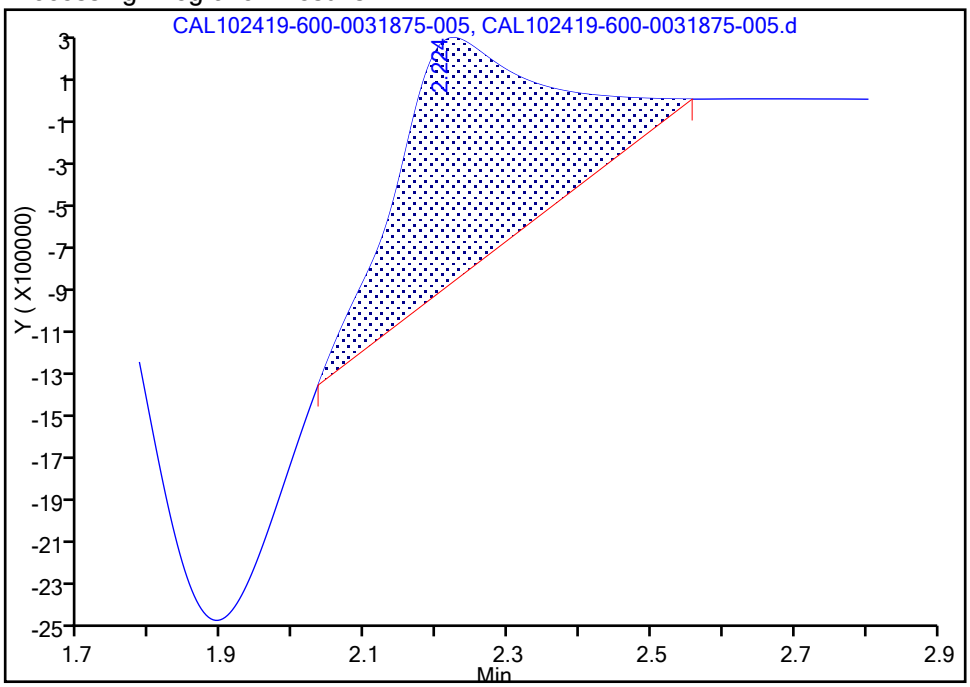

Manual Integration Results

RT: 2.22
Area: 2846042
Amount: 0.244910
Amount Units: ug/ml

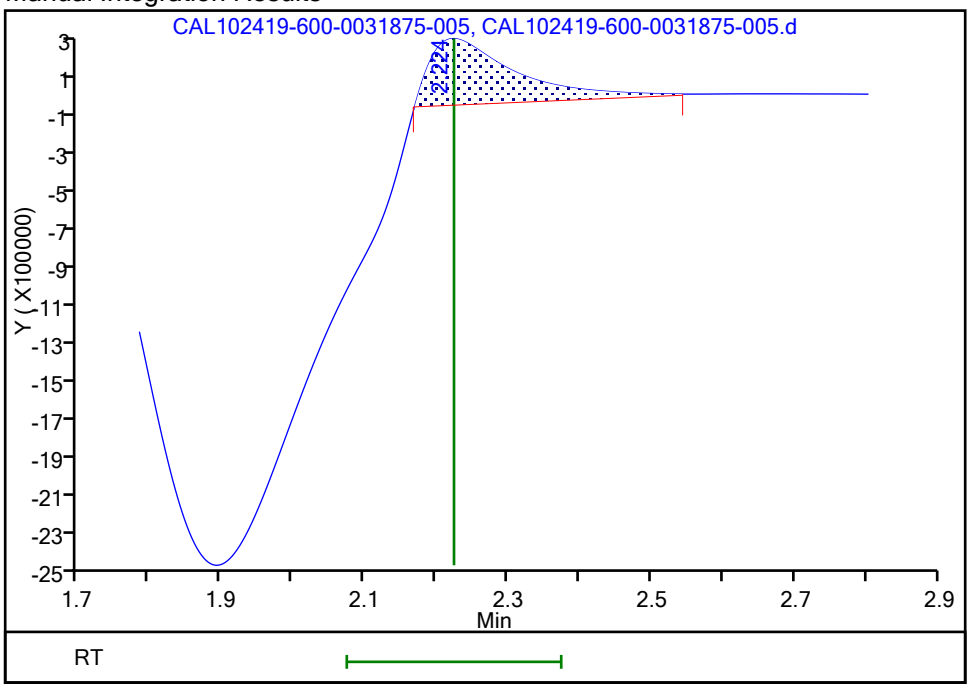

Reviewer: buschk, 25-Oct-2019 17:11:35

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-005.d				
Injection Date:	24-Oct-2019 13:38:00	Instrument ID:	CHWC17(IC)		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

1 Bromide, CAS: 24959-67-9

Signal: 1

Processing Integration Results

RT: 4.43
Area: 3324704
Amount: -0.178145
Amount Units: ug/ml

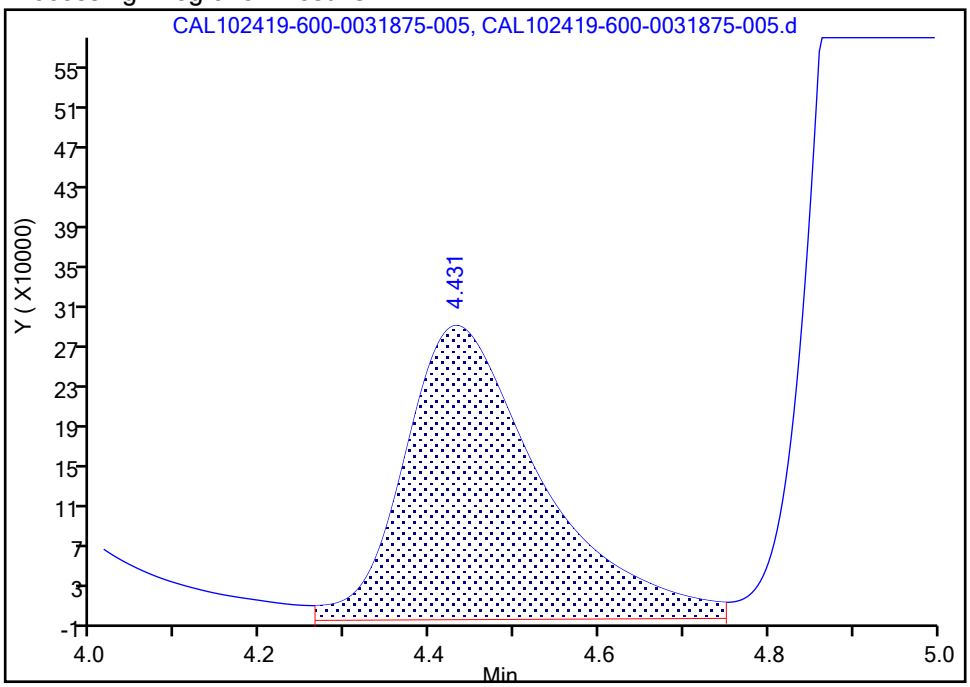

Manual Integration Results

RT: 4.43
Area: 2932555
Amount: 0.206583
Amount Units: ug/ml

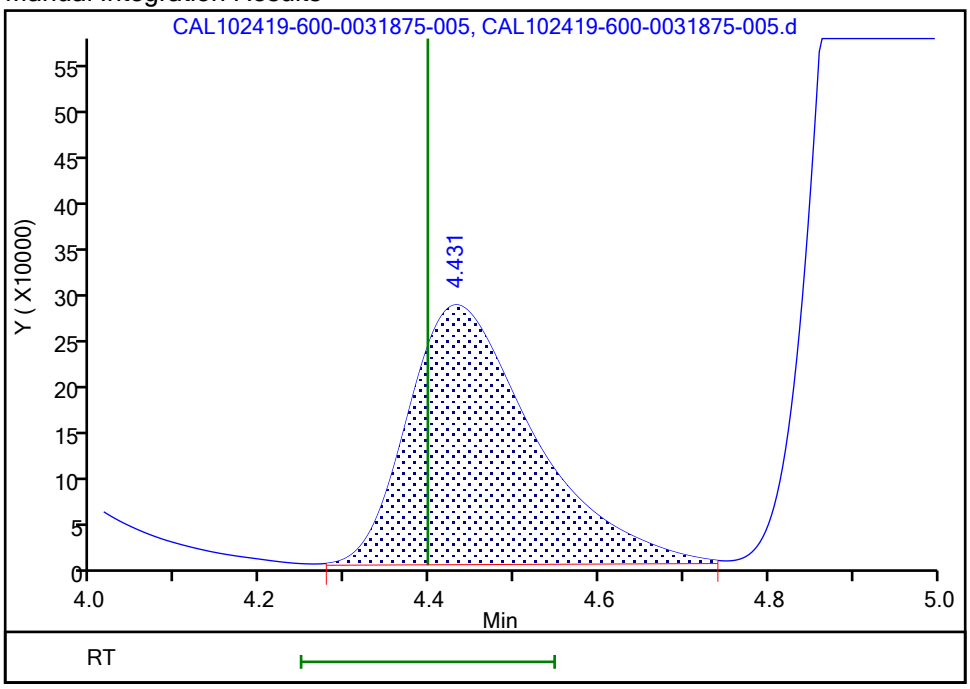

Reviewer: buschk, 25-Oct-2019 17:11:52

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-005.d				
Injection Date:	24-Oct-2019 13:38:00	Instrument ID:	CHWC17(IC)		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

5 Sulfate, CAS: 14808-79-8

Signal: 1

RT: 7.04
Area: 11625289
Amount: 0.524007
Amount Units: ug/ml

Processing Integration Results

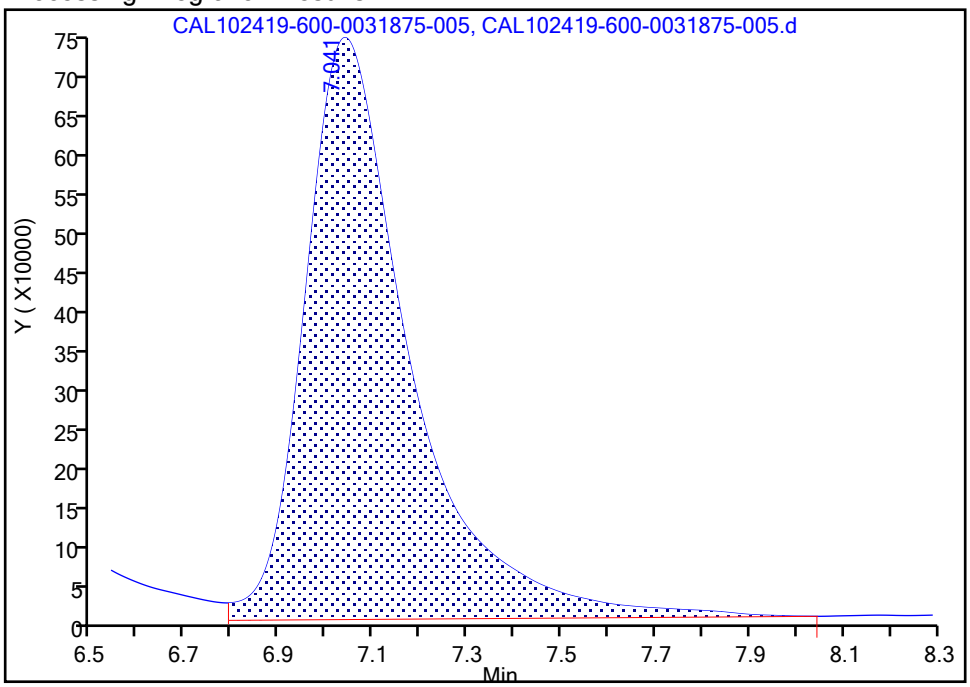

RT: 7.04
Area: 10926359
Amount: 0.515557
Amount Units: ug/ml

Manual Integration Results

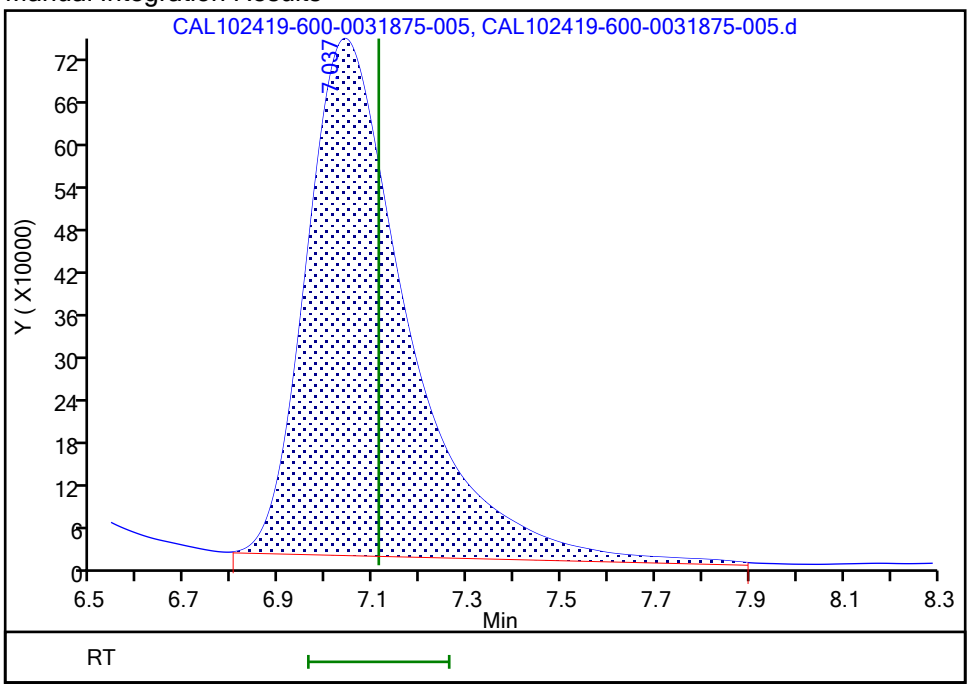

Reviewer: buschk, 25-Oct-2019 17:36:34

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-006.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 24-Oct-2019 13:49:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031875-006
Misc. Info.: ic-3
Operator ID: Instrument ID: CHWC17(IC)
Sublist: chrom-CHWC17(IC)*sub2

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 25-Oct-2019 17:40:42 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX1001

First Level Reviewer: reachs Date: 25-Oct-2019 10:54:40

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.214	2.224	-0.010	13317417	0.5000	0.4421	M
	2 Chloride	3.100	3.111	-0.011	32975730	1.00	0.9152	M
	9 Nitrite as N	3.714	3.751	-0.037	32063077	NC	NC	M
	1 Bromide	4.430	4.397	0.033	6611191	0.5000	0.4715	M
	3 Nitrate as N	4.940	4.867	0.073	43346542	NC	NC	M
	5 Sulfate	7.044	7.111	-0.067	24441819	1.00	0.9450	M
S	8 Sulfate as Sulfur						0.9450	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

ICCALSTD3_00045 Amount Added: 5.00 Units: mL
ICCALSTD1_00045 Amount Added: 5.00 Units: mL Run Reagent

Report Date: 25-Oct-2019 17:40:43 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-006.d

Injection Date: 24-Oct-2019 13:49:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: IC Worklist Smp#: 6

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_28day

Column: AS-22 Dionex Lion Pac (2.00 mm)

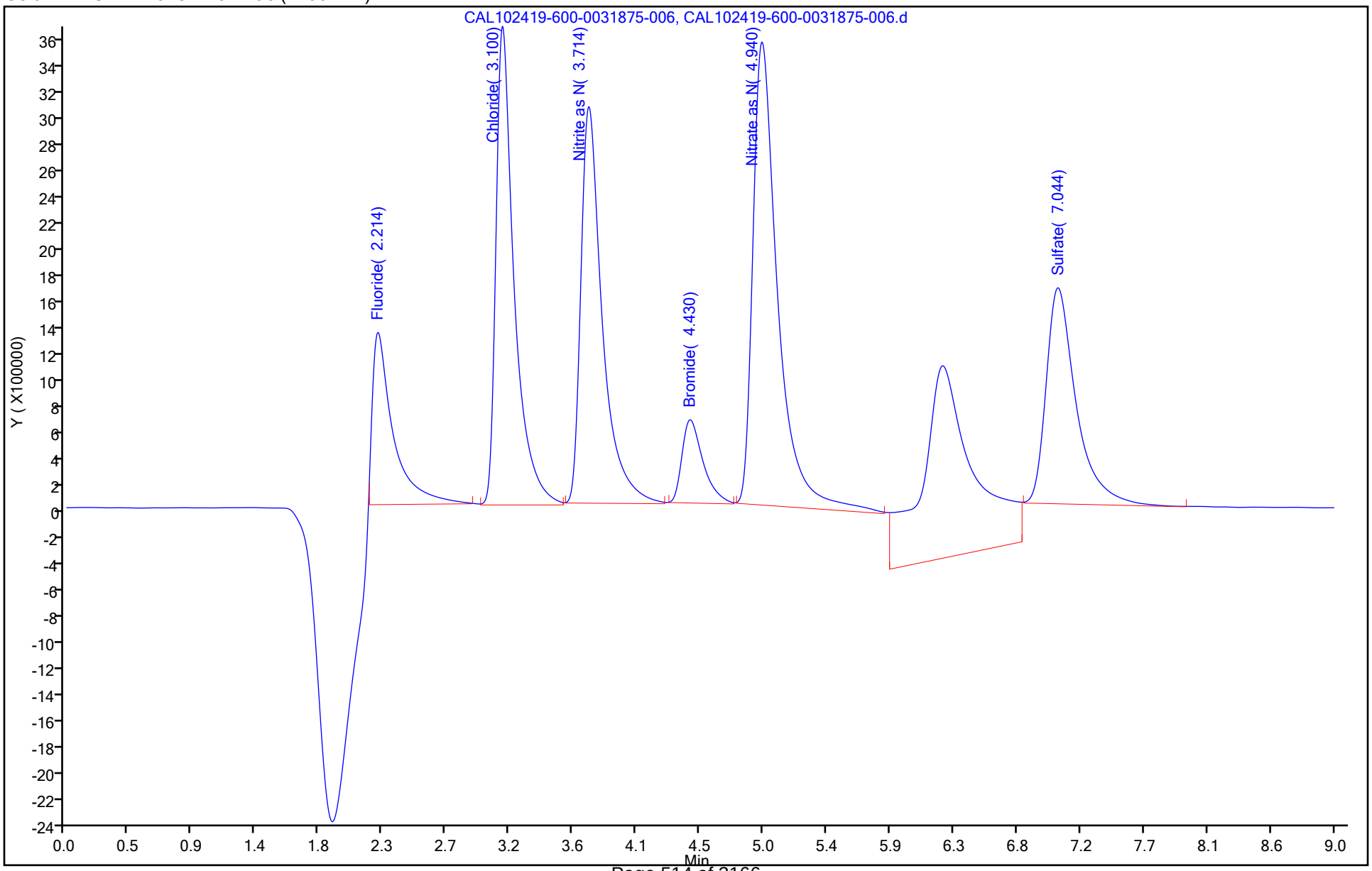

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-006.d				
Injection Date:	24-Oct-2019 13:49:00	Instrument ID:	CHWC17(IC)		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

7 Fluoride, CAS: 16984-48-8

Signal: 1

Processing Integration Results

RT: 2.21
Area: 75022369
Amount: 1.065733
Amount Units: ug/ml

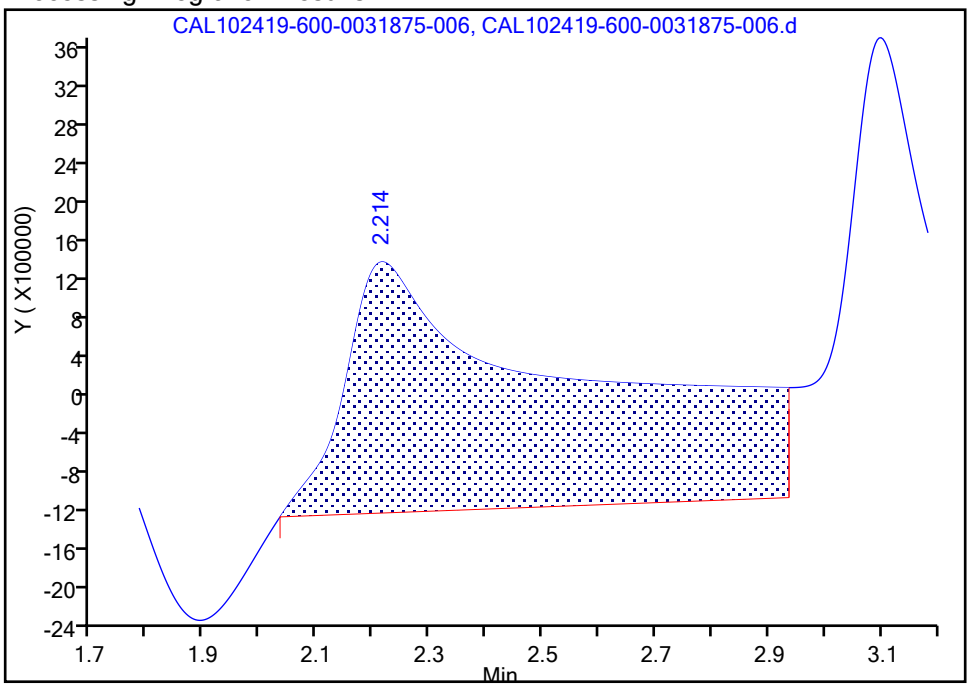

Manual Integration Results

RT: 2.21
Area: 13317417
Amount: 0.442116
Amount Units: ug/ml

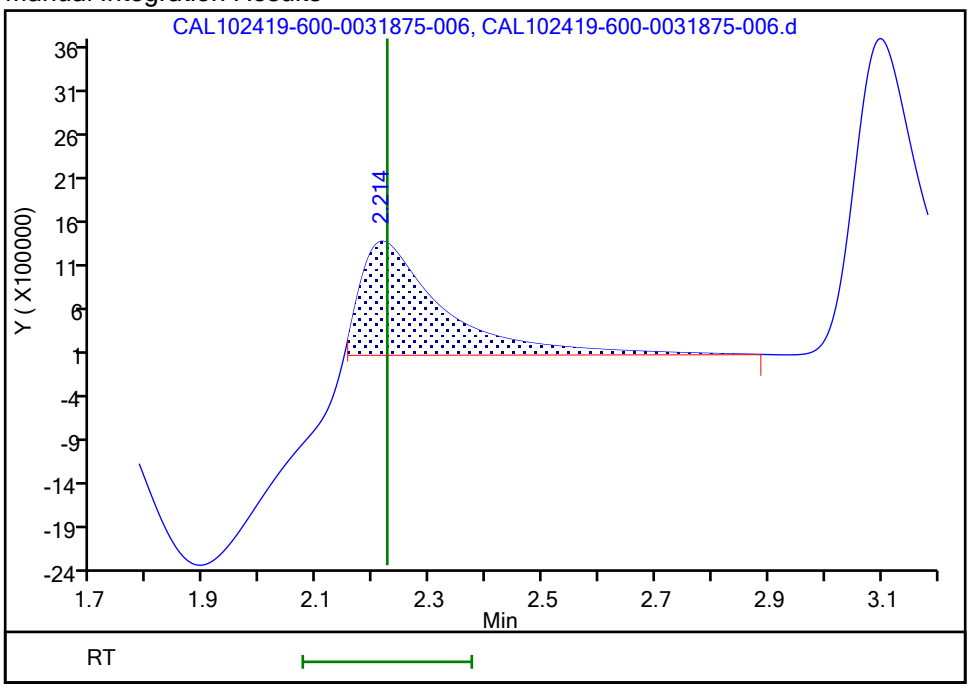

Reviewer: buschk, 25-Oct-2019 17:14:17

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-006.d				
Injection Date:	24-Oct-2019 13:49:00	Instrument ID:	CHWC17(IC)		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

2 Chloride, CAS: 16887-00-6

Signal: 1

Processing Integration Results

RT: 3.10
Area: 71727431
Amount: 1.382214
Amount Units: ug/ml

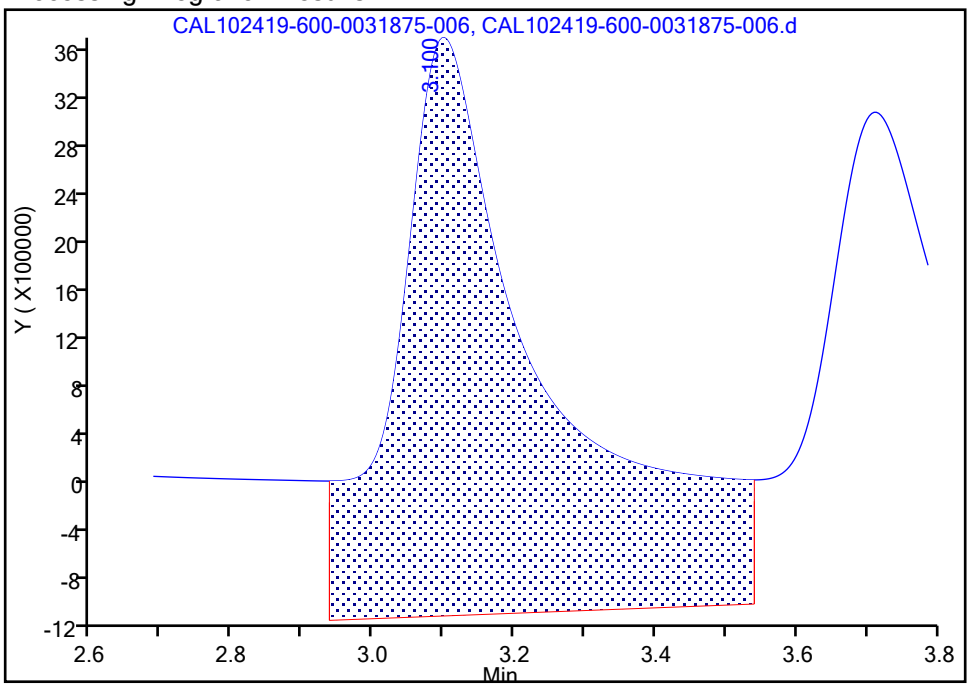

Manual Integration Results

RT: 3.10
Area: 32975730
Amount: 0.915248
Amount Units: ug/ml

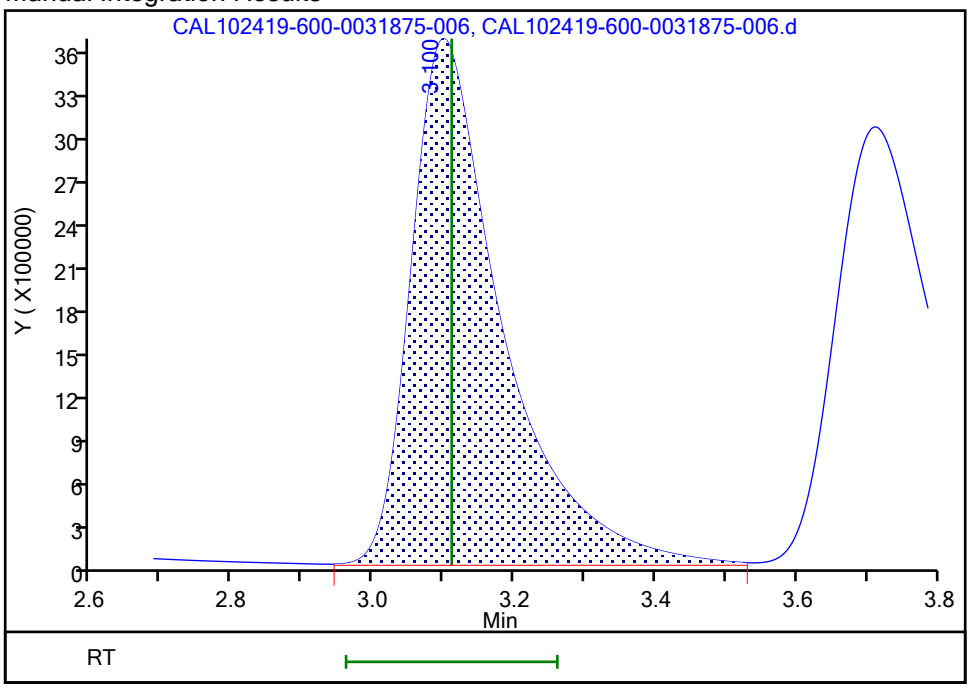

Reviewer: buschk, 25-Oct-2019 17:15:06

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-006.d				
Injection Date:	24-Oct-2019 13:49:00	Instrument ID:	CHWC17(IC)		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

1 Bromide, CAS: 24959-67-9

Signal: 1

Processing Integration Results

RT: 4.43
Area: 29836703
Amount: 1.146636
Amount Units: ug/ml

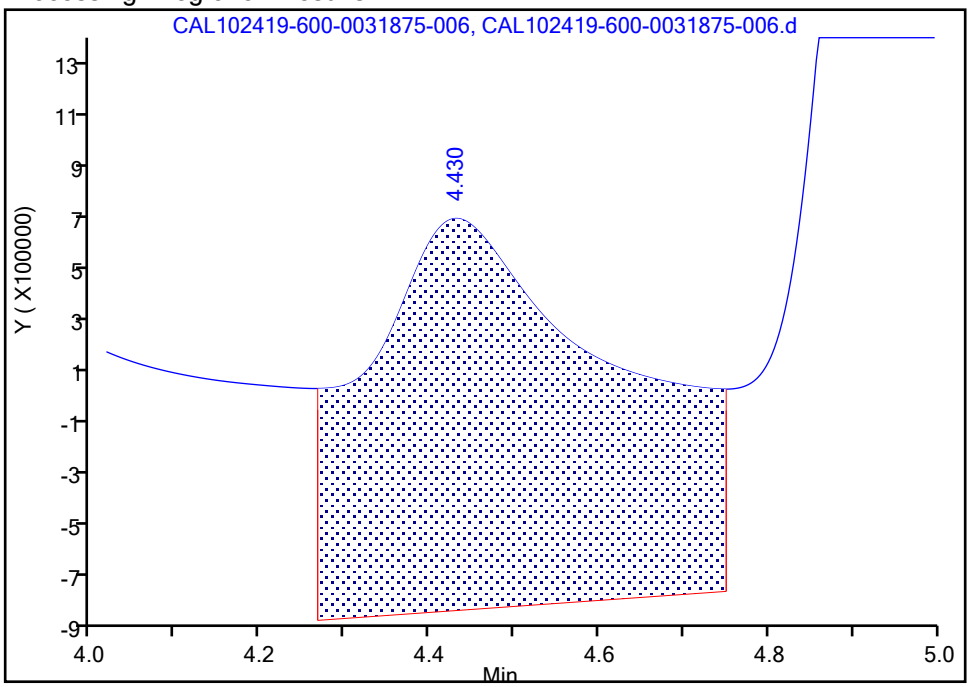

Manual Integration Results

RT: 4.43
Area: 6611191
Amount: 0.471514
Amount Units: ug/ml

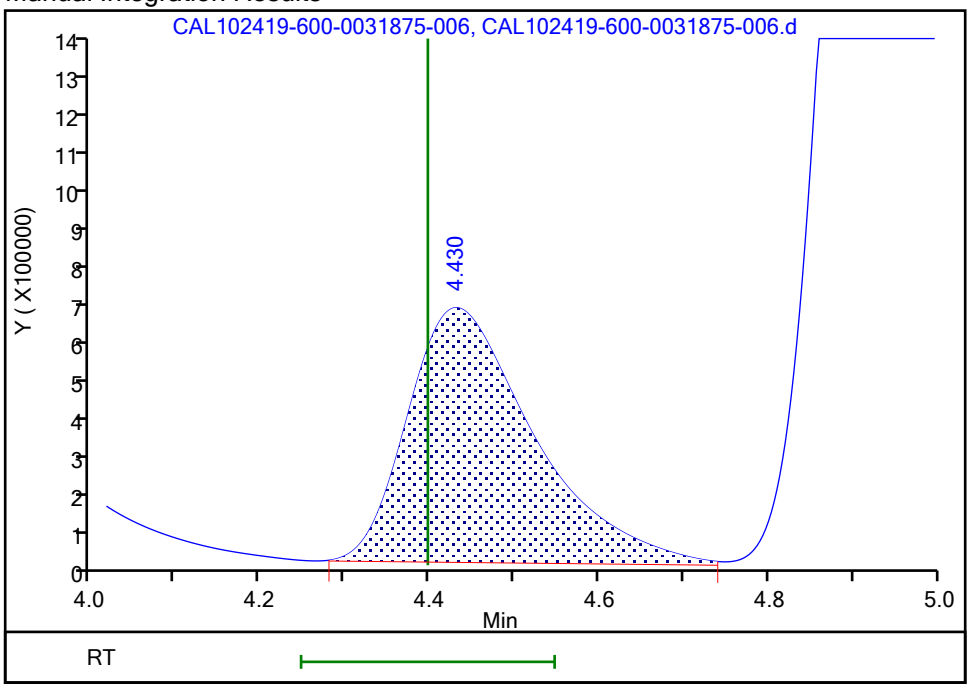

Reviewer: buschk, 25-Oct-2019 17:14:38

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-006.d				
Injection Date:	24-Oct-2019 13:49:00	Instrument ID:	CHWC17(IC)		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

5 Sulfate, CAS: 14808-79-8

Signal: 1

Processing Integration Results

RT: 7.04
Area: 35072328
Amount: 1.067401
Amount Units: ug/ml

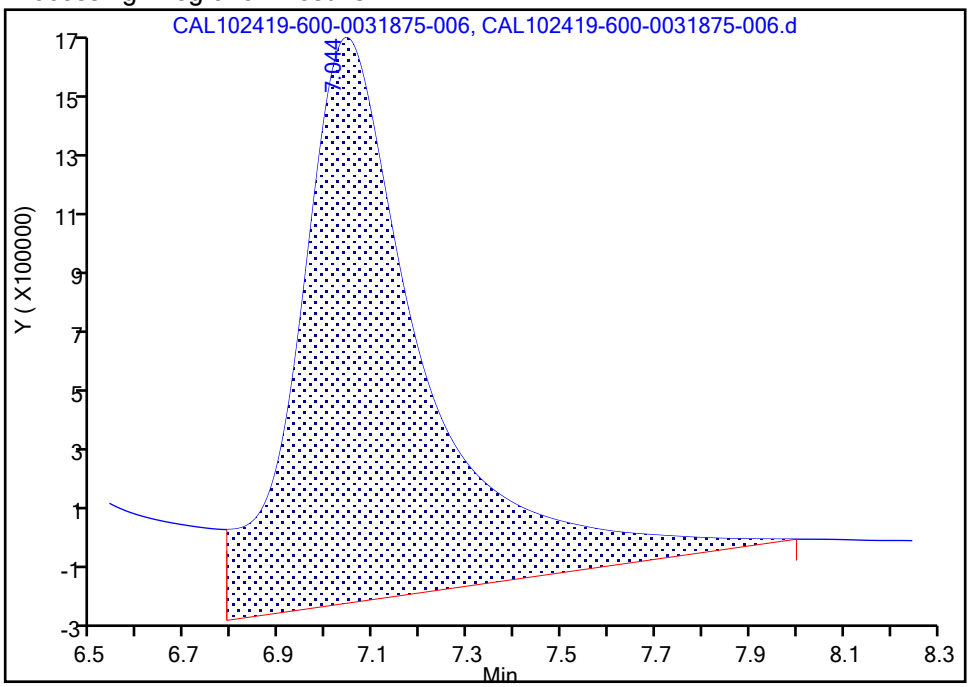

Manual Integration Results

RT: 7.04
Area: 24441819
Amount: 0.944984
Amount Units: ug/ml

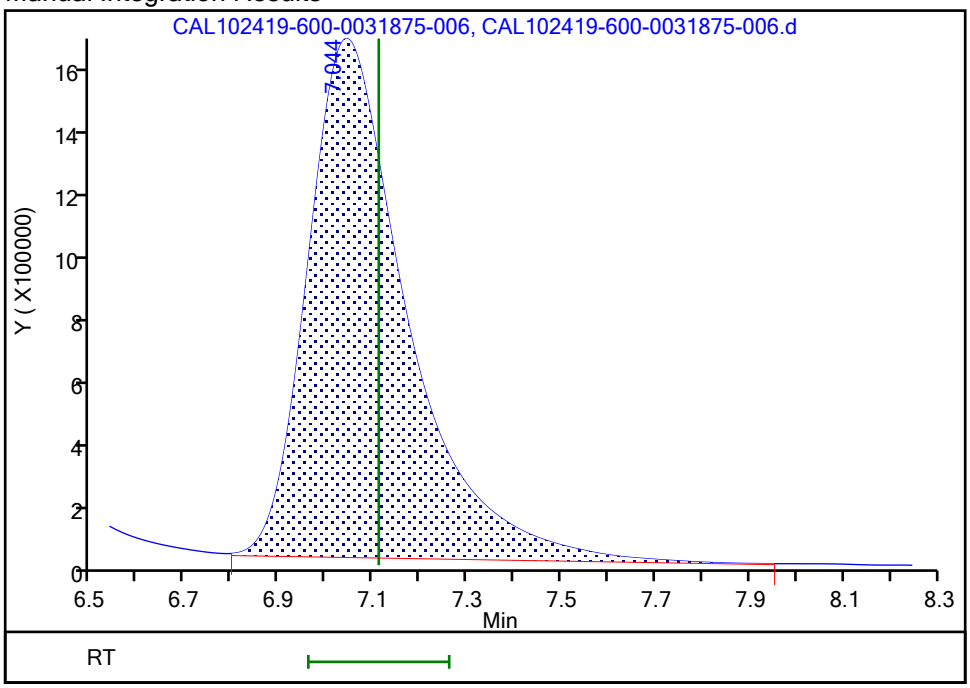

Reviewer: buschk, 25-Oct-2019 17:15:17

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-007.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 24-Oct-2019 14:00:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031875-007
Misc. Info.: ic-4
Operator ID: Instrument ID: CHWC17(IC)
Sublist: chrom-CHWC17(IC)*sub2

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 25-Oct-2019 17:40:43 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX1001

First Level Reviewer: reachs Date: 25-Oct-2019 10:56:20

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.211	2.211	0.000	37788096	1.00	0.9030	M
	2 Chloride	3.094	3.094	0.000	74738807	2.00	1.82	M
	9 Nitrite as N	3.707	3.707	0.000	64813894	NC	NC	M
	1 Bromide	4.417	4.417	0.000	13386009	1.00	0.9594	M
	3 Nitrate as N	4.921	4.921	0.000	86776235	NC	NC	M
	5 Sulfate	7.044	7.044	0.000	53871743	2.00	1.88	M
S	8 Sulfate as Sulfur						1.88	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

ICCALSTD4_00044 Amount Added: 5.00 Units: mL
ICCALSTD1_00045 Amount Added: 5.00 Units: mL Run Reagent

Report Date: 25-Oct-2019 17:40:44 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-007.d

Injection Date: 24-Oct-2019 14:00:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: IC Worklist Smp#: 7

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_28day

Column: AS-22 Dionex Lion Pac (2.00 mm)

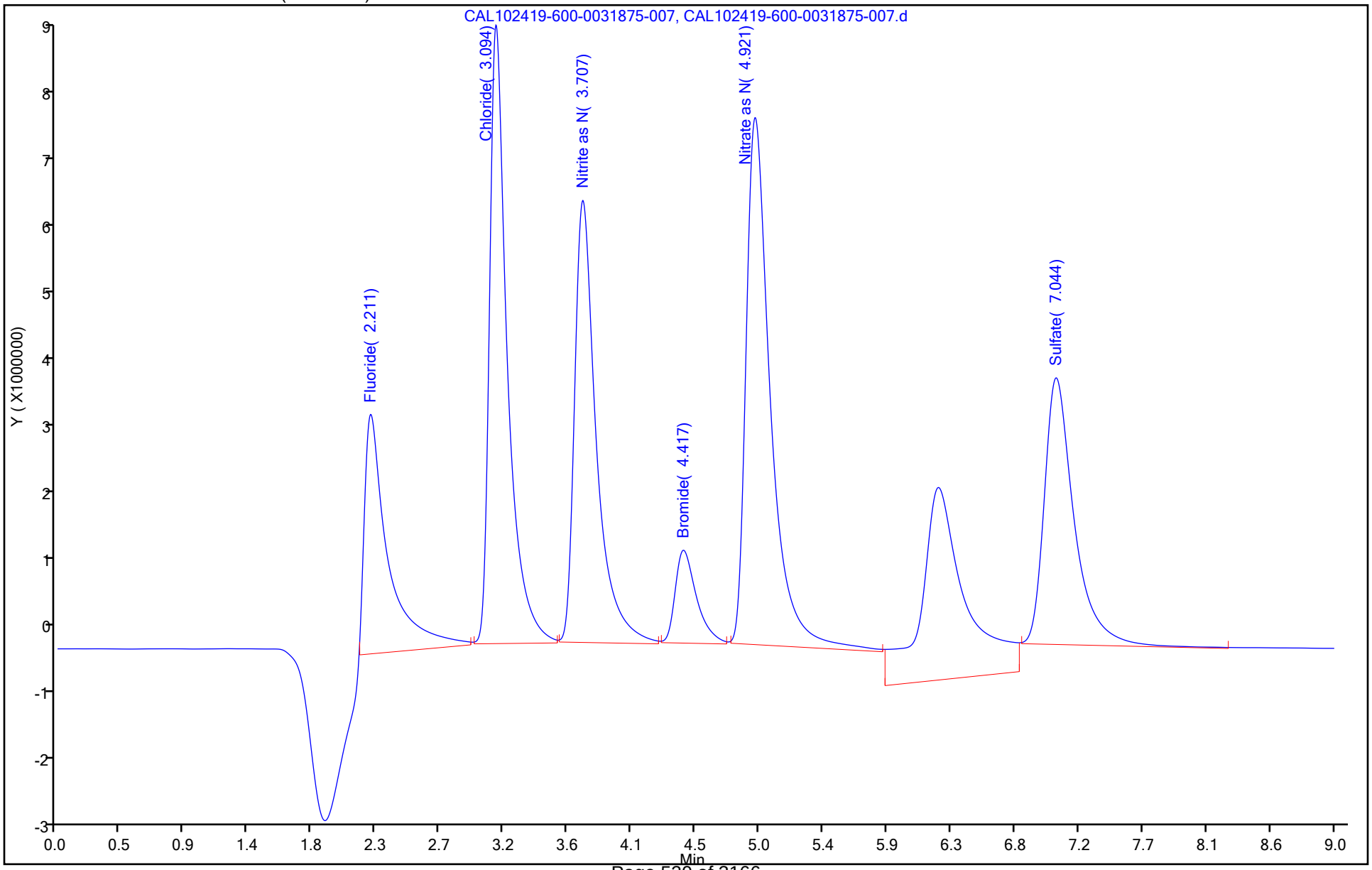

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-007.d				
Injection Date:	24-Oct-2019 14:00:00	Instrument ID:	CHWC17(IC)		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

7 Fluoride, CAS: 16984-48-8

Signal: 1

Processing Integration Results

RT: 2.21
Area: 96171404
Amount: 1.618595
Amount Units: ug/ml

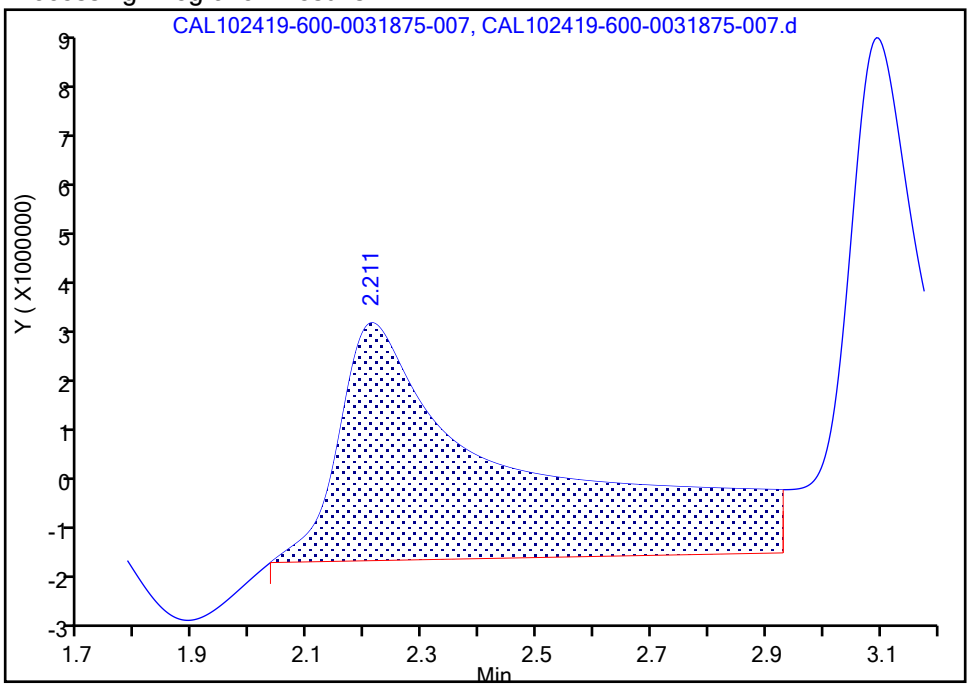

Manual Integration Results

RT: 2.21
Area: 37788096
Amount: 0.902968
Amount Units: ug/ml

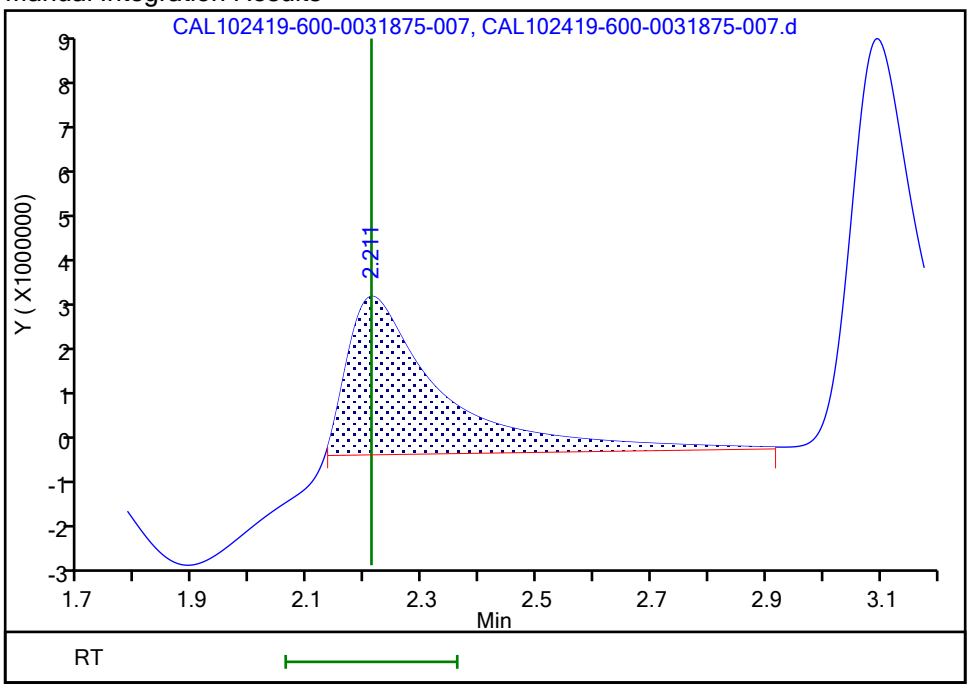

Reviewer: buschk, 25-Oct-2019 17:16:39

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-007.d				
Injection Date:	24-Oct-2019 14:00:00	Instrument ID:	CHWC17(IC)		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

2 Chloride, CAS: 16887-00-6

Signal: 1

Processing Integration Results

RT: 3.09
Area: 114877208
Amount: 2.438632
Amount Units: ug/ml

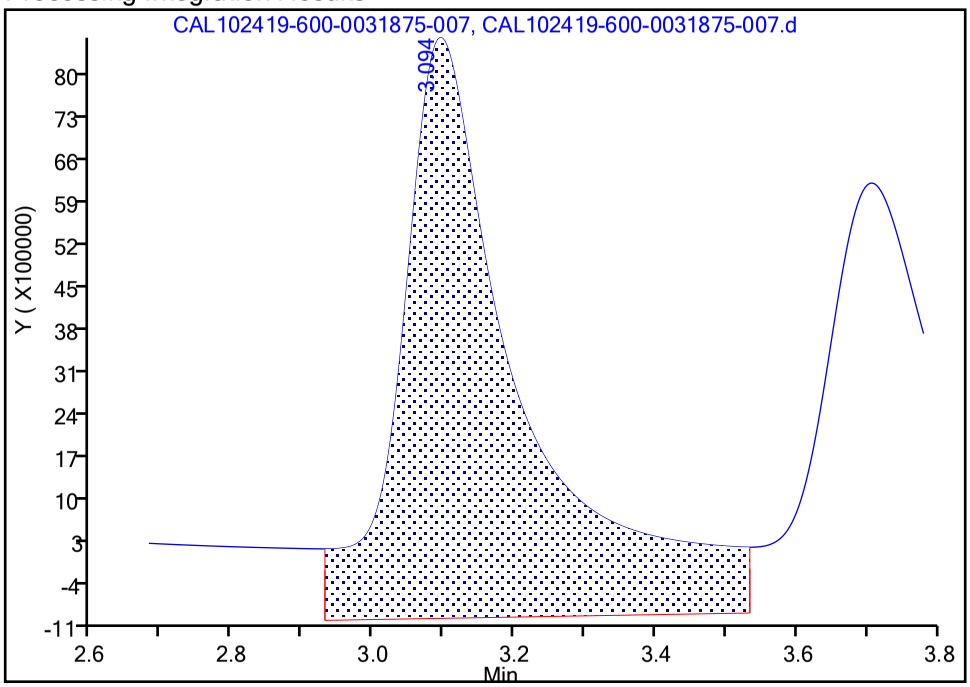

Manual Integration Results

RT: 3.09
Area: 74738807
Amount: 1.816517
Amount Units: ug/ml

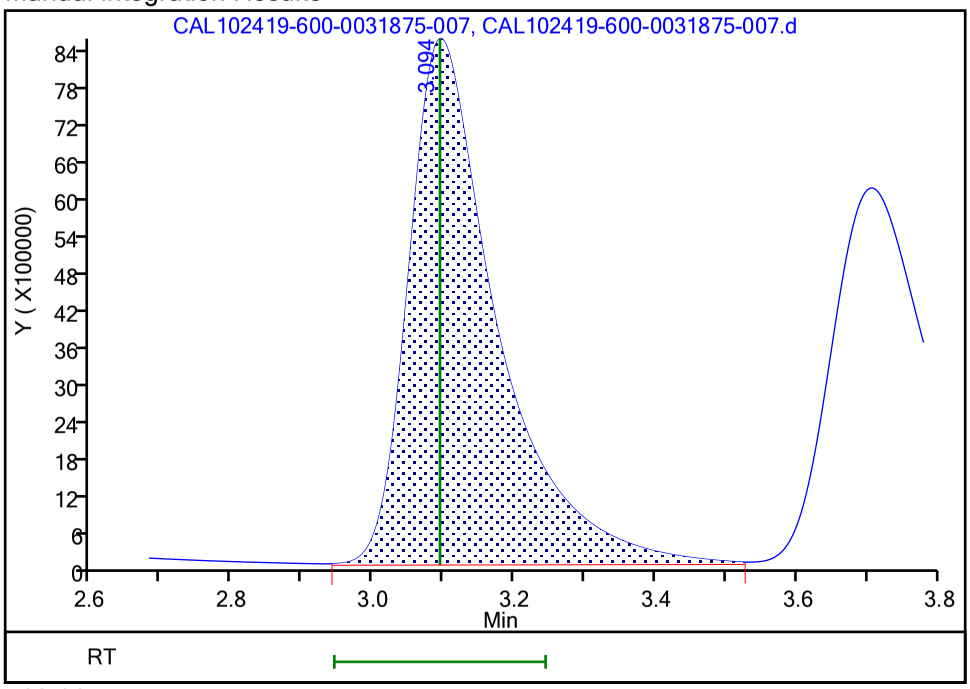

Reviewer: buschk, 25-Oct-2019 17:16:11

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-007.d				
Injection Date:	24-Oct-2019 14:00:00	Instrument ID:	CHWC17(IC)		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

1 Bromide, CAS: 24959-67-9

Signal: 1

Processing Integration Results

RT: 4.42
Area: 37821687
Amount: 1.767804
Amount Units: ug/ml

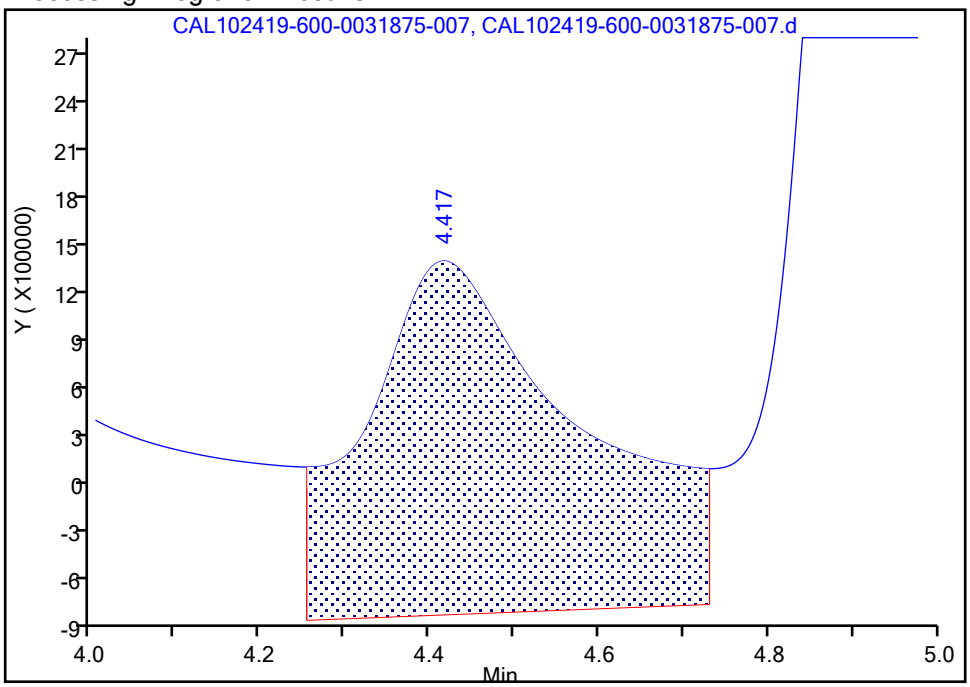

Manual Integration Results

RT: 4.42
Area: 13386009
Amount: 0.959429
Amount Units: ug/ml

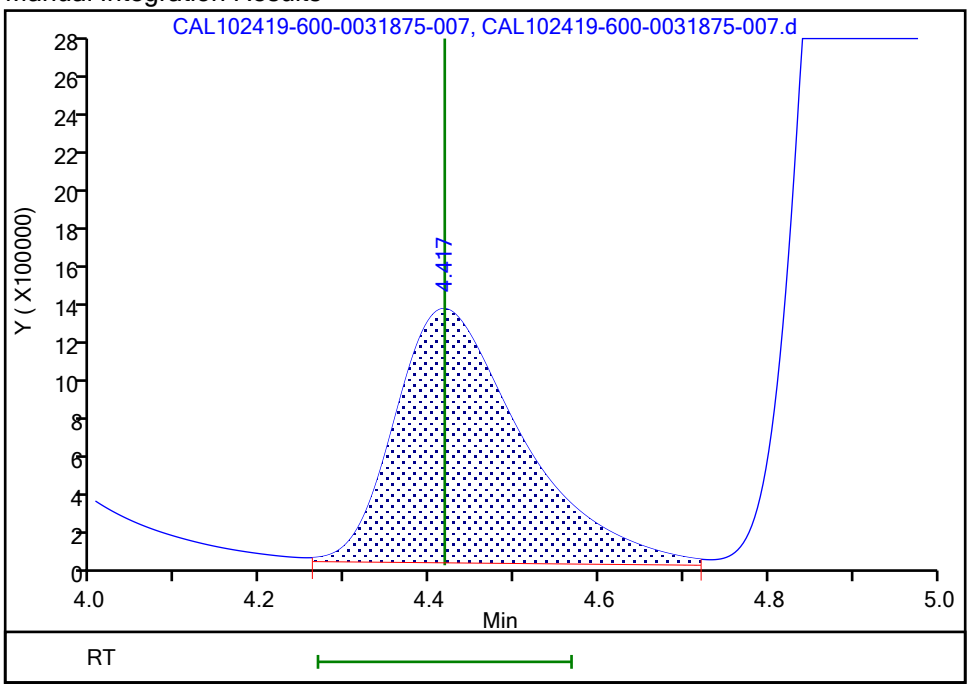

Reviewer: buschk, 25-Oct-2019 17:15:53
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-007.d				
Injection Date:	24-Oct-2019 14:00:00	Instrument ID:	CHWC17(IC)		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

5 Sulfate, CAS: 14808-79-8

Signal: 1

Processing Integration Results

RT: 7.04
Area: 71895401
Amount: 2.234232
Amount Units: ug/ml

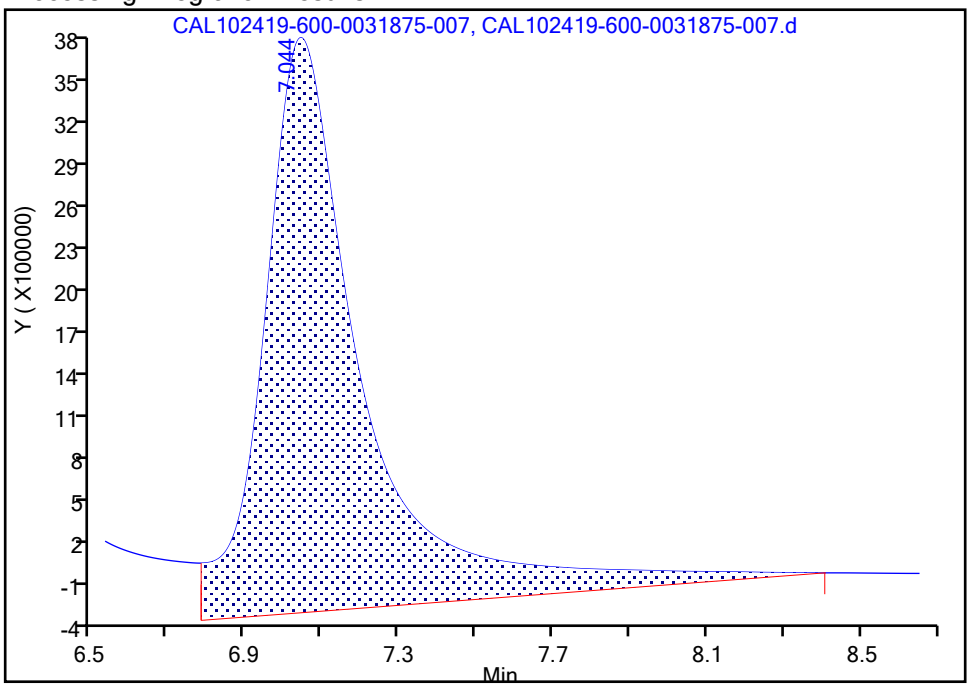

Manual Integration Results

RT: 7.04
Area: 53871743
Amount: 1.880063
Amount Units: ug/ml

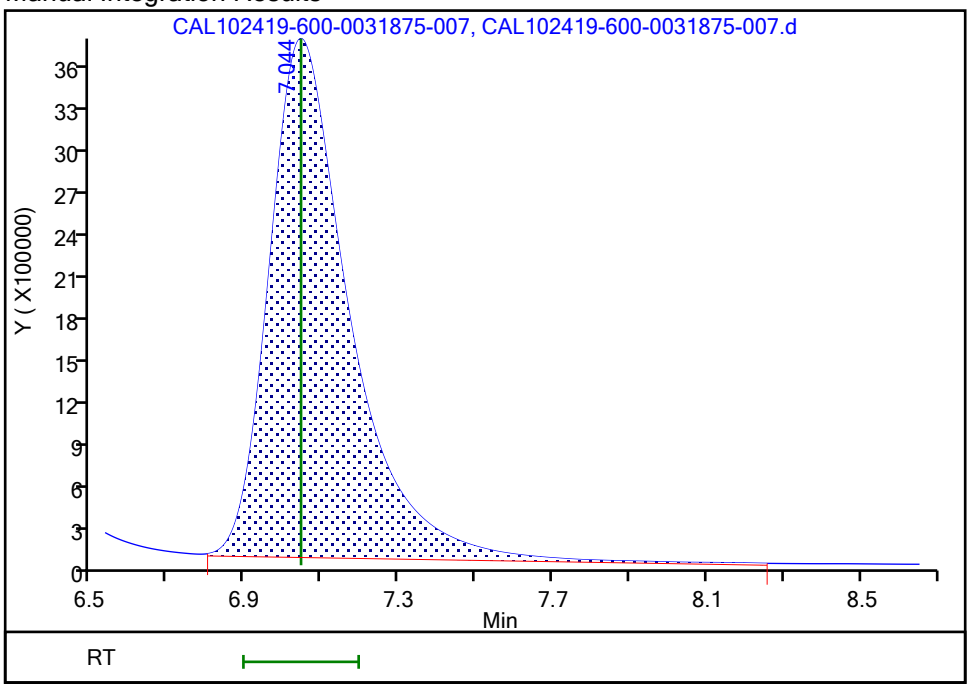

Reviewer: buschk, 25-Oct-2019 17:16:24

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-008.d				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	5		
Inject. Date:	24-Oct-2019 14:11:00	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	600-0031875-008				
Misc. Info.:	ic-5				
Operator ID:		Instrument ID:	CHWC17(IC)		
Sublist:	chrom-CHWC17(IC)*sub2				
Method:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CHWC17(IC).m				
Limit Group:	WC - IC_300_9056_28day				
Last Update:	25-Oct-2019 17:40:44	Calib Date:	24-Oct-2019 14:43:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d				
Column 1 :	AS-22 Dionex Lion Pac (2.00 mm)		Det: 040914-1		
Process Host:	CTX1001				

First Level Reviewer: reachs Date: 25-Oct-2019 10:57:53

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
7 Fluoride	2.217	2.217	0.000	94486907	2.00	1.97	M
2 Chloride	3.100	3.100	0.000	212682586	5.00	4.79	M
9 Nitrite as N	3.720	3.720	0.000	183730627	NC	NC	M
1 Bromide	4.414	4.414	0.000	29519583	2.00	2.12	M
3 Nitrate as N	4.910	4.910	0.000	251891705	NC	NC	M
5 Sulfate	7.064	7.064	0.000	134856727	5.00	4.45	M

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

ICCALSTD5_00045	Amount Added:	5.00	Units: mL	
ICCALSTD1_00045	Amount Added:	5.00	Units: mL	Run Reagent

Report Date: 25-Oct-2019 17:40:45 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-008.d

Injection Date: 24-Oct-2019 14:11:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: IC Worklist Smp#: 8

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_28day

Column: AS-22 Dionex Lion Pac (2.00 mm)

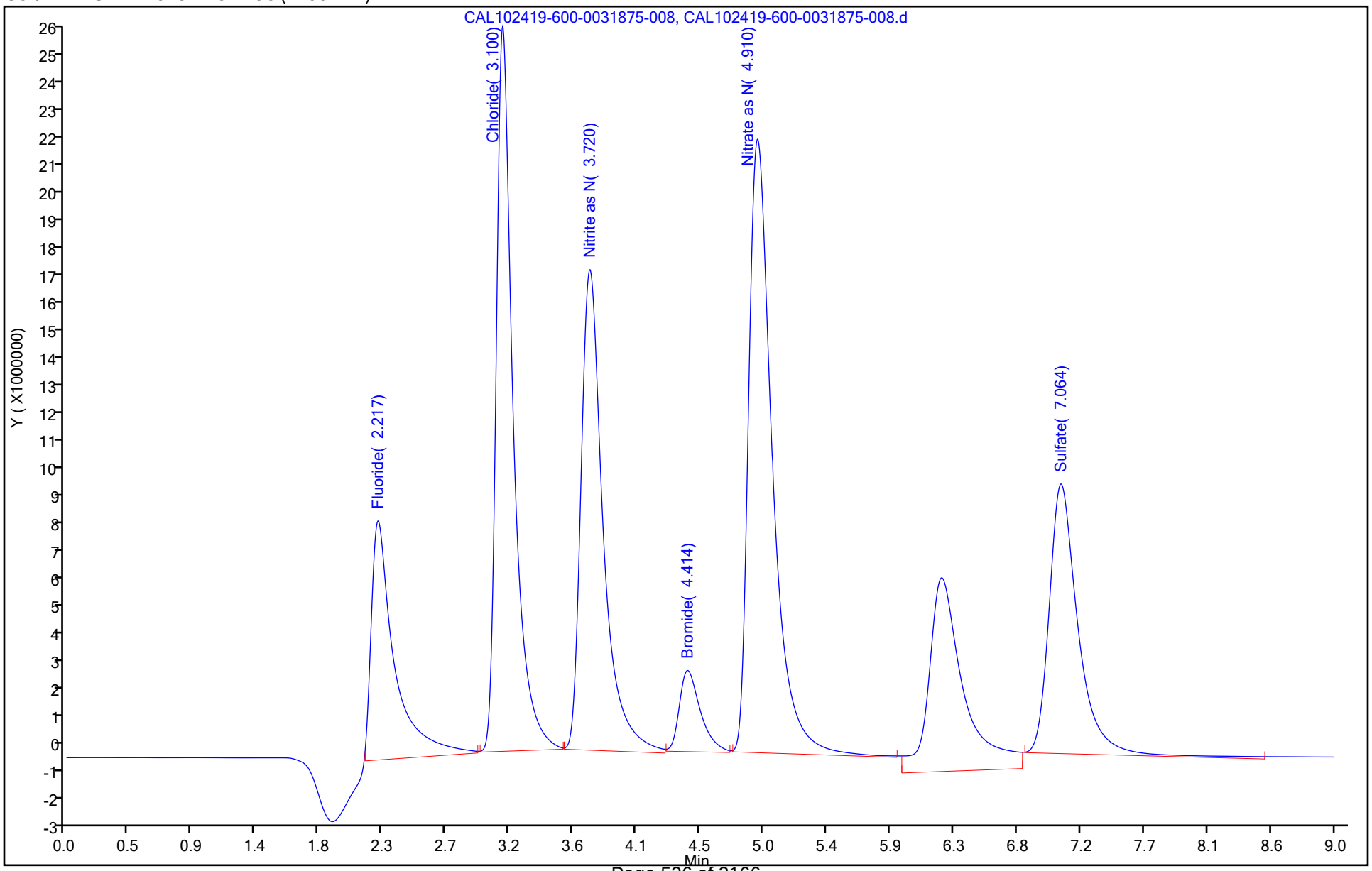

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-008.d				
Injection Date:	24-Oct-2019 14:11:00	Instrument ID:	CHWC17(IC)		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

7 Fluoride, CAS: 16984-48-8

Signal: 1

Processing Integration Results

RT: 2.22
Area: 153874338
Amount: 2.666818
Amount Units: ug/ml

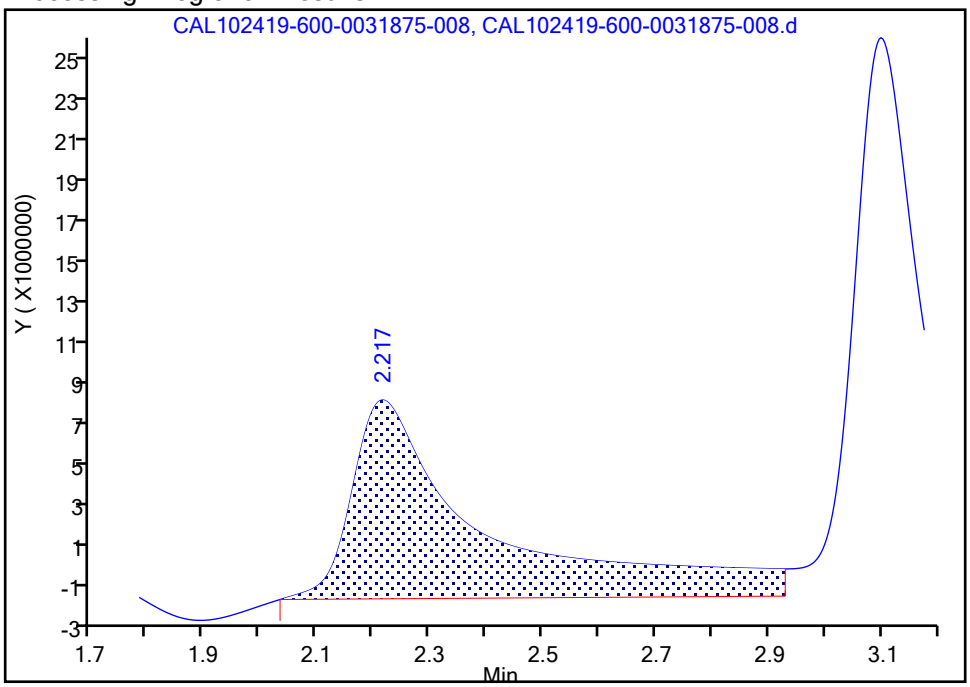

Manual Integration Results

RT: 2.22
Area: 94486907
Amount: 1.970767
Amount Units: ug/ml

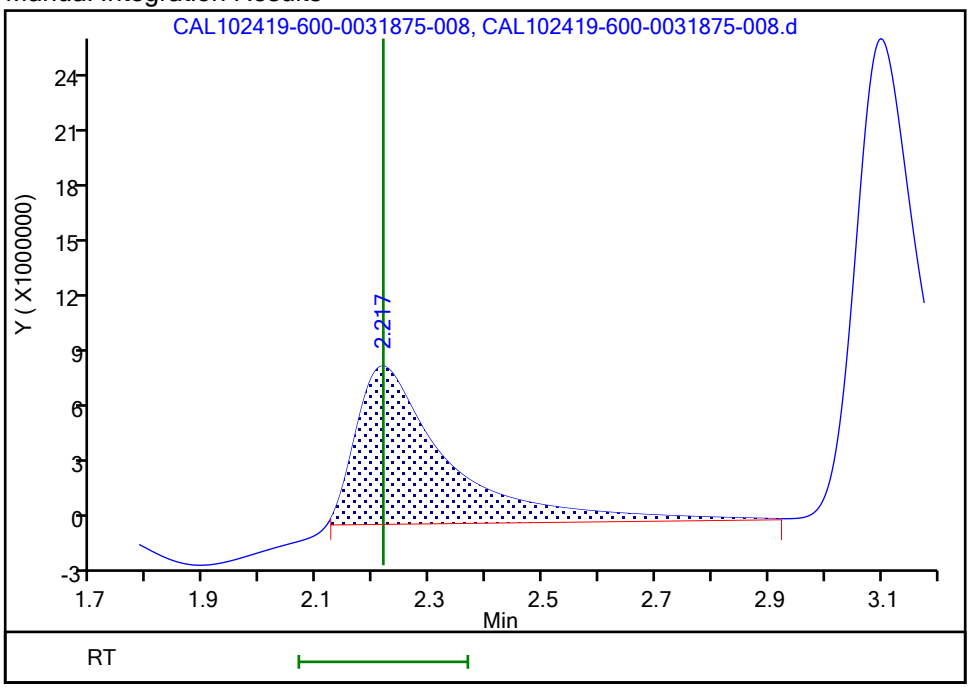

Reviewer: buschk, 25-Oct-2019 17:19:31

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-008.d				
Injection Date:	24-Oct-2019 14:11:00	Instrument ID:	CHWC17(IC)		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

2 Chloride, CAS: 16887-00-6

Signal: 1

Processing Integration Results

RT: 3.10
Area: 258444089
Amount: 5.453049
Amount Units: ug/ml

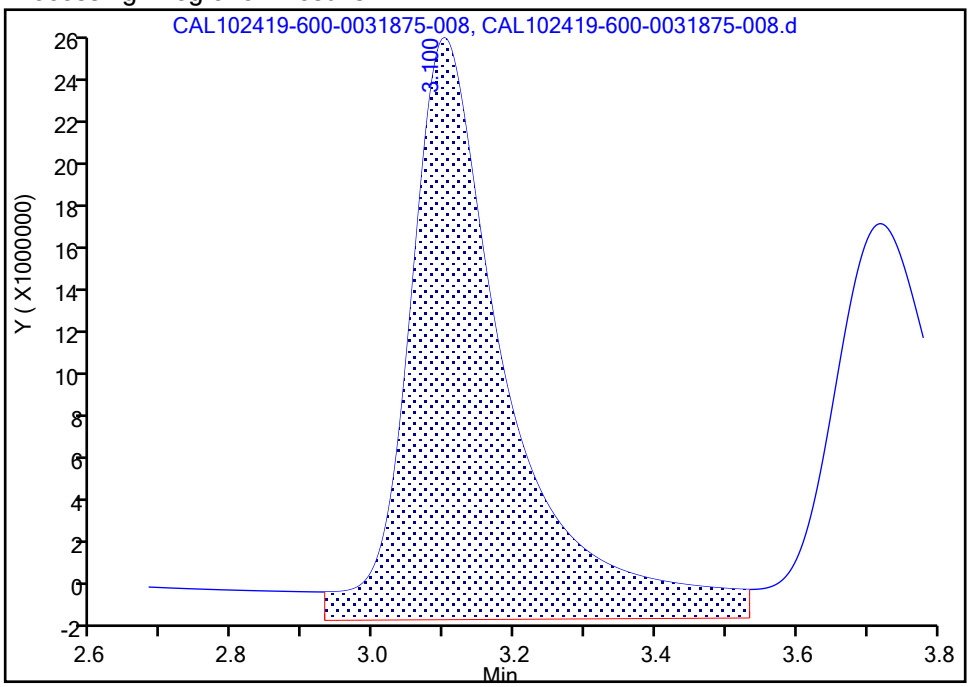

Manual Integration Results

RT: 3.10
Area: 212682586
Amount: 4.793414
Amount Units: ug/ml

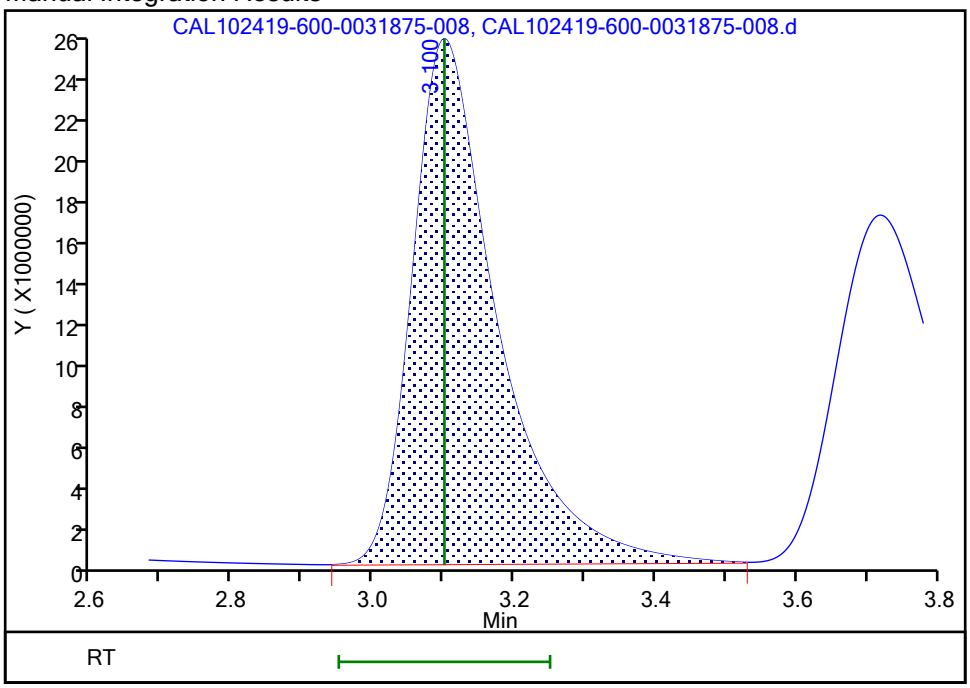

Reviewer: buschk, 25-Oct-2019 17:18:55

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-008.d				
Injection Date:	24-Oct-2019 14:11:00	Instrument ID:	CHWC17(IC)		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

1 Bromide, CAS: 24959-67-9

Signal: 1

Processing Integration Results

RT: 4.41
Area: 57249739
Amount: 2.855960
Amount Units: ug/ml

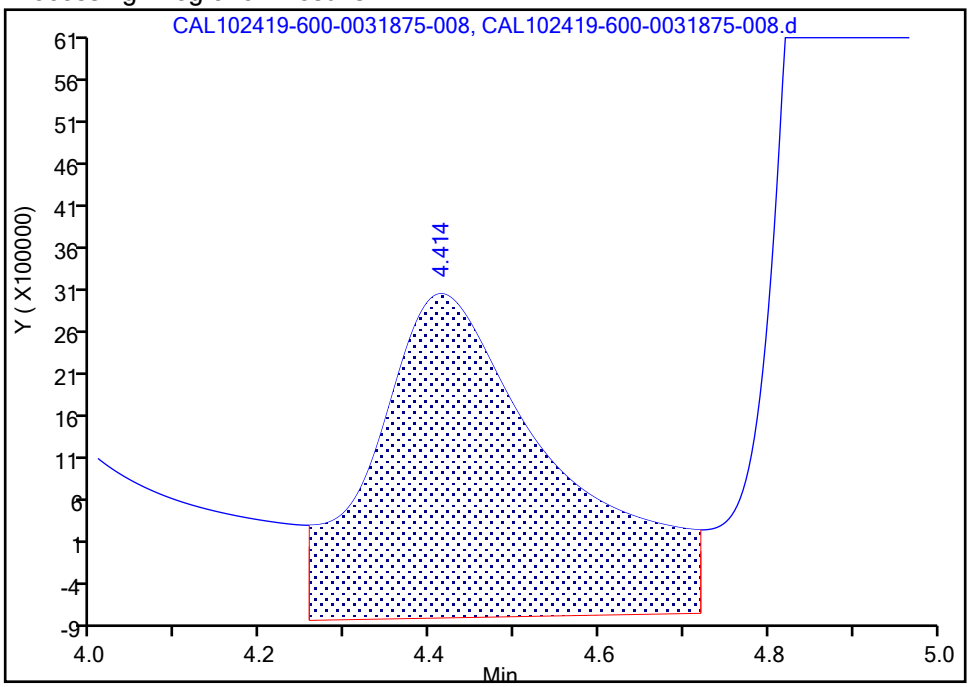

Manual Integration Results

RT: 4.41
Area: 29519583
Amount: 2.121352
Amount Units: ug/ml

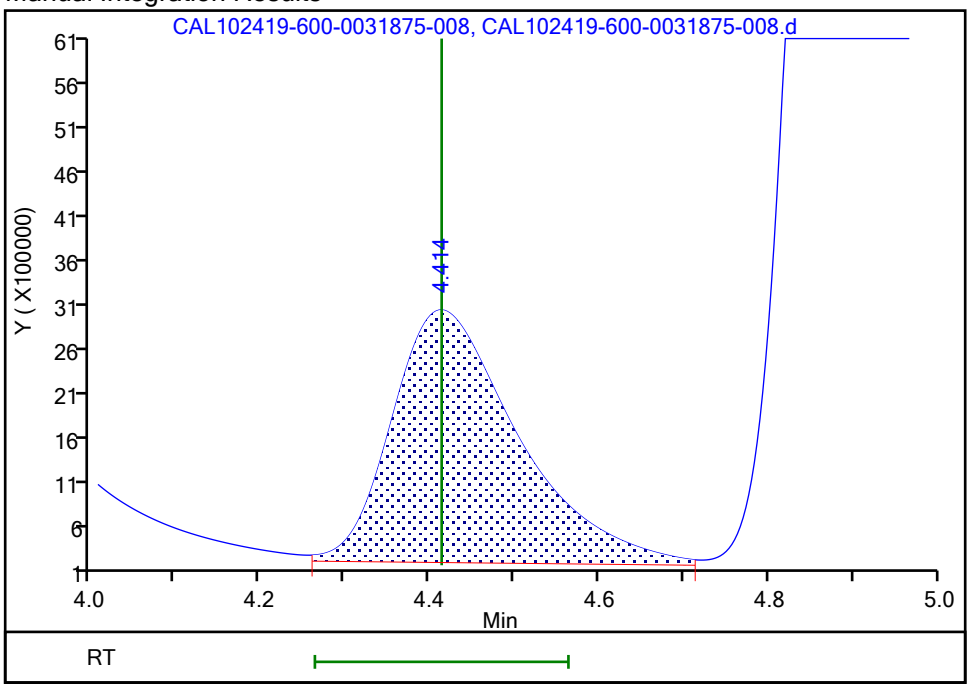

Reviewer: buschk, 25-Oct-2019 17:18:37

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-008.d				
Injection Date:	24-Oct-2019 14:11:00	Instrument ID:	CHWC17(IC)		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

5 Sulfate, CAS: 14808-79-8

Signal: 1

Processing Integration Results

RT: 7.06
Area: 166185729
Amount: 5.100226
Amount Units: ug/ml

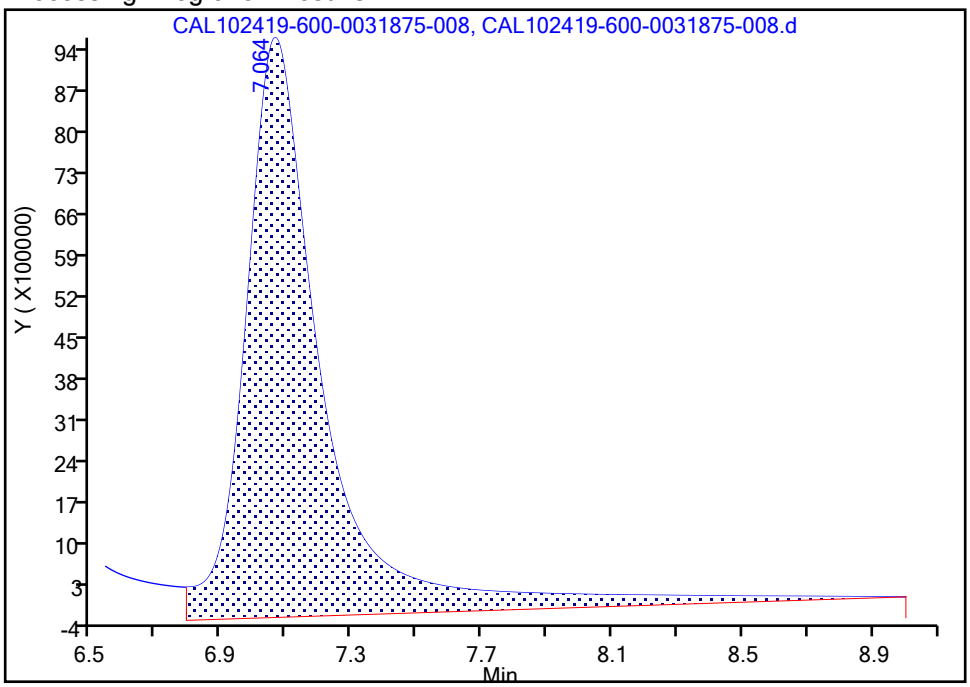

Manual Integration Results

RT: 7.06
Area: 134856727
Amount: 4.453203
Amount Units: ug/ml

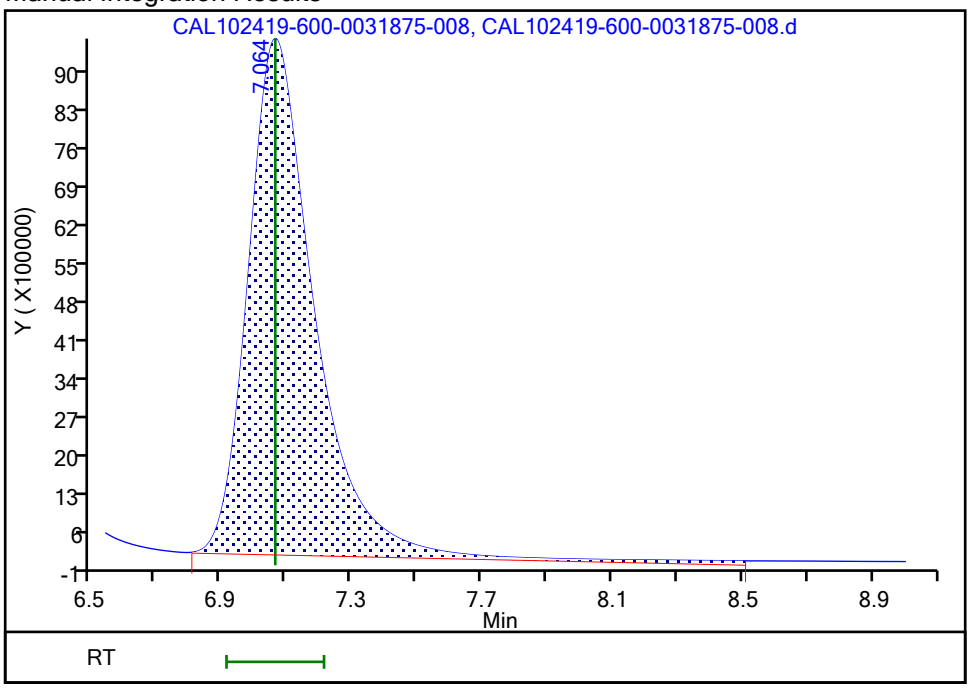

Reviewer: buschk, 25-Oct-2019 17:19:14

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-009.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 24-Oct-2019 14:21:00 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031875-009
Misc. Info.: ic-6
Operator ID: Instrument ID: CHWC17(IC)
Sublist: chrom-CHWC17(IC)*sub2

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 25-Oct-2019 17:40:45 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX1001

First Level Reviewer: reachs Date: 25-Oct-2019 11:00:31

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
7 Fluoride	2.221	2.221	0.000	248825932	5.00	4.88	M
2 Chloride	3.107	3.107	0.000	420287718	10.0	9.27	M
9 Nitrite as N	3.741	3.741	0.000	372114055	NC	NC	M
1 Bromide	4.421	4.421	0.000	69434021	5.00	5.00	M
3 Nitrate as N	4.904	4.904	0.000	529090925	NC	NC	M
5 Sulfate	7.081	7.081	0.000	280985134	10.0	9.10	M

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

ICCALSTD6_00041 Amount Added: 5.00 Units: mL
ICCALSTD1_00045 Amount Added: 5.00 Units: mL Run Reagent

Report Date: 25-Oct-2019 17:40:46 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-009.d

Injection Date: 24-Oct-2019 14:21:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: IC Worklist Smp#: 9

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_28day

Column: AS-22 Dionex Lion Pac (2.00 mm)

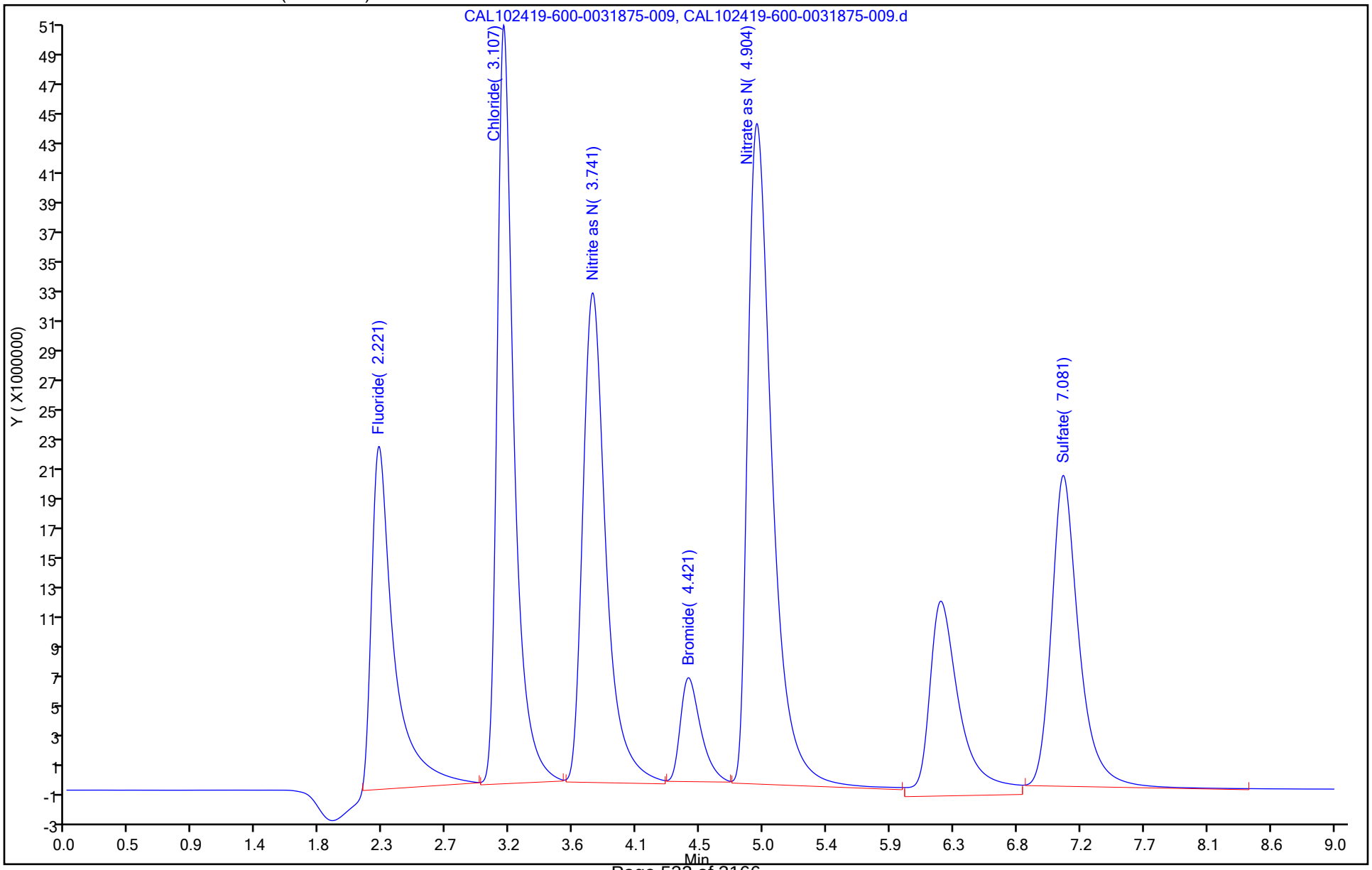

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-009.d				
Injection Date:	24-Oct-2019 14:21:00	Instrument ID:	CHWC17(IC)		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

7 Fluoride, CAS: 16984-48-8

Signal: 1

Processing Integration Results

RT: 2.22
Area: 313320112
Amount: 5.433208
Amount Units: ug/ml

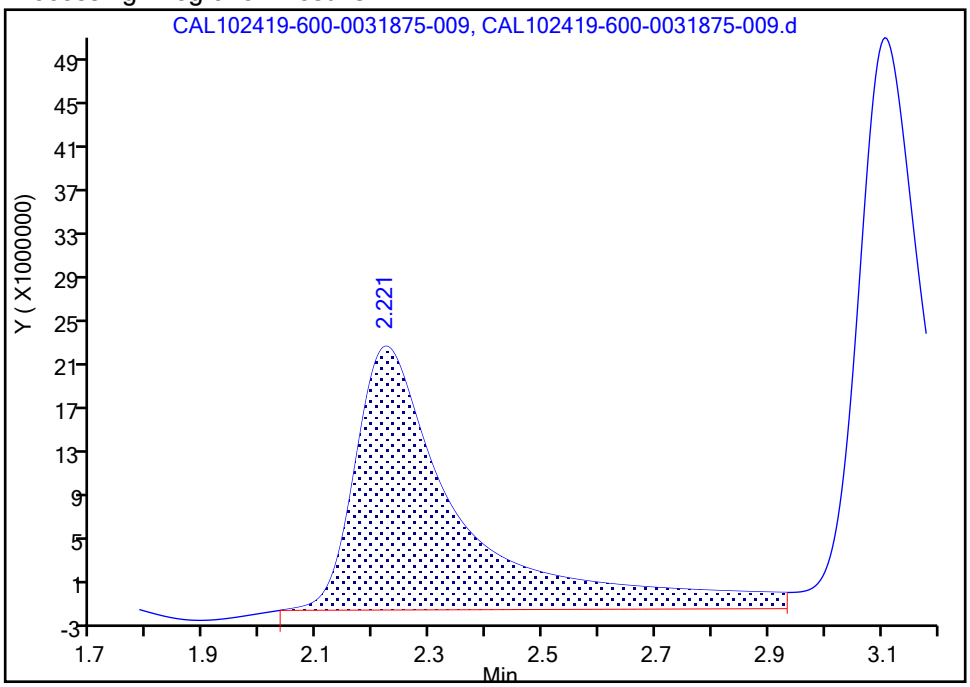

Manual Integration Results

RT: 2.22
Area: 248825932
Amount: 4.877408
Amount Units: ug/ml

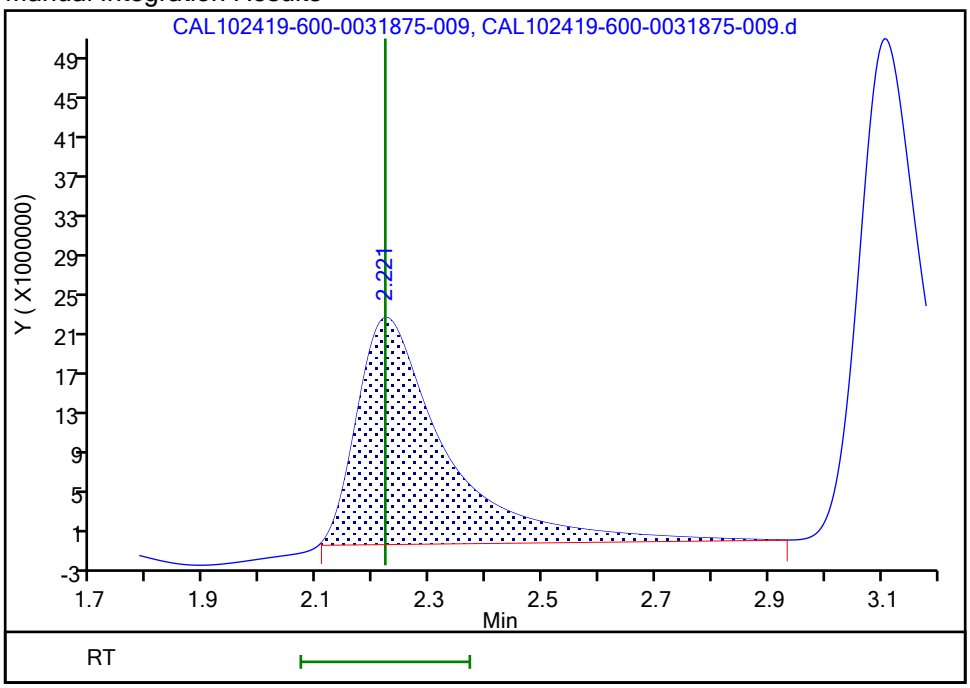

Reviewer: buschk, 25-Oct-2019 17:20:27

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-009.d				
Injection Date:	24-Oct-2019 14:21:00	Instrument ID:	CHWC17(IC)		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

2 Chloride, CAS: 16887-00-6

Signal: 1

Processing Integration Results

RT: 3.11
Area: 470549727
Amount: 9.886292
Amount Units: ug/ml

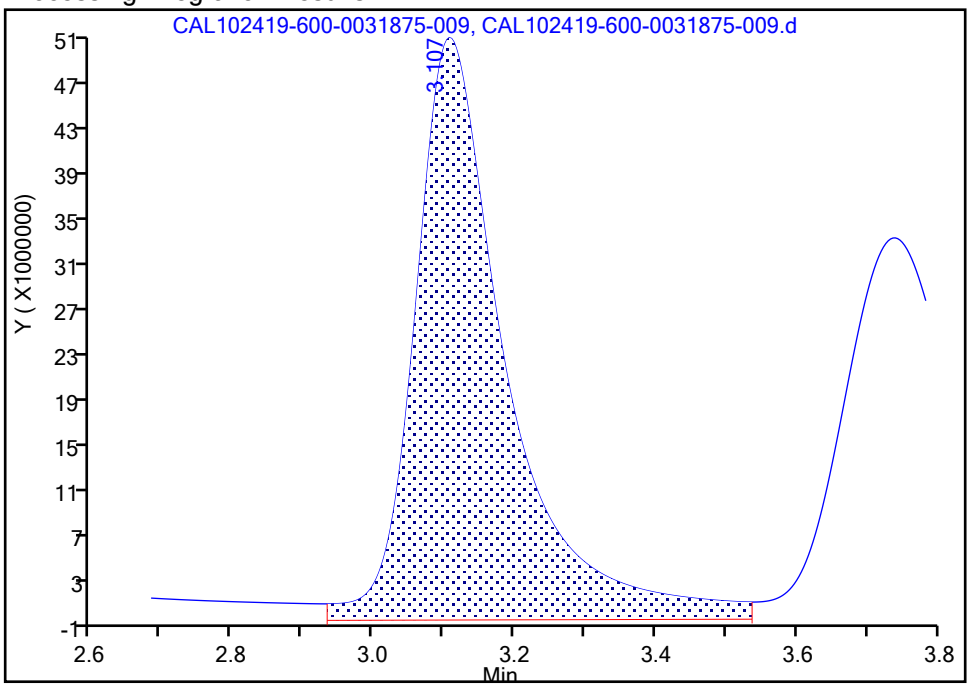

Manual Integration Results

RT: 3.11
Area: 420287718
Amount: 9.273639
Amount Units: ug/ml

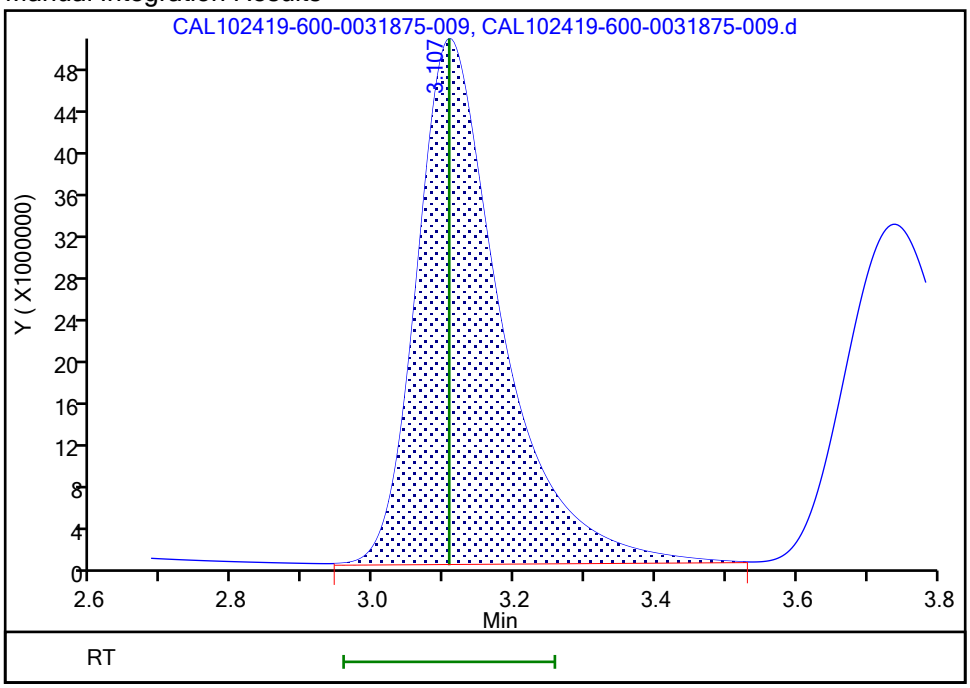

Reviewer: buschk, 25-Oct-2019 17:21:20
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-009.d				
Injection Date:	24-Oct-2019 14:21:00	Instrument ID:	CHWC17(IC)		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

1 Bromide, CAS: 24959-67-9

Signal: 1

Processing Integration Results

RT: 4.42
Area: 103838250
Amount: 5.374481
Amount Units: ug/ml

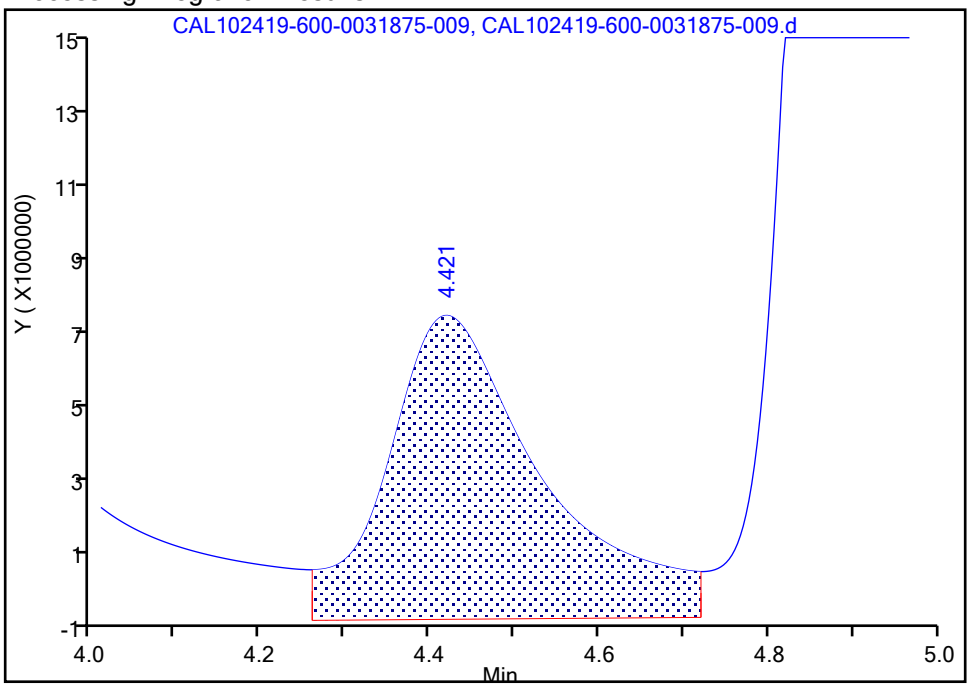

Manual Integration Results

RT: 4.42
Area: 69434021
Amount: 4.995947
Amount Units: ug/ml

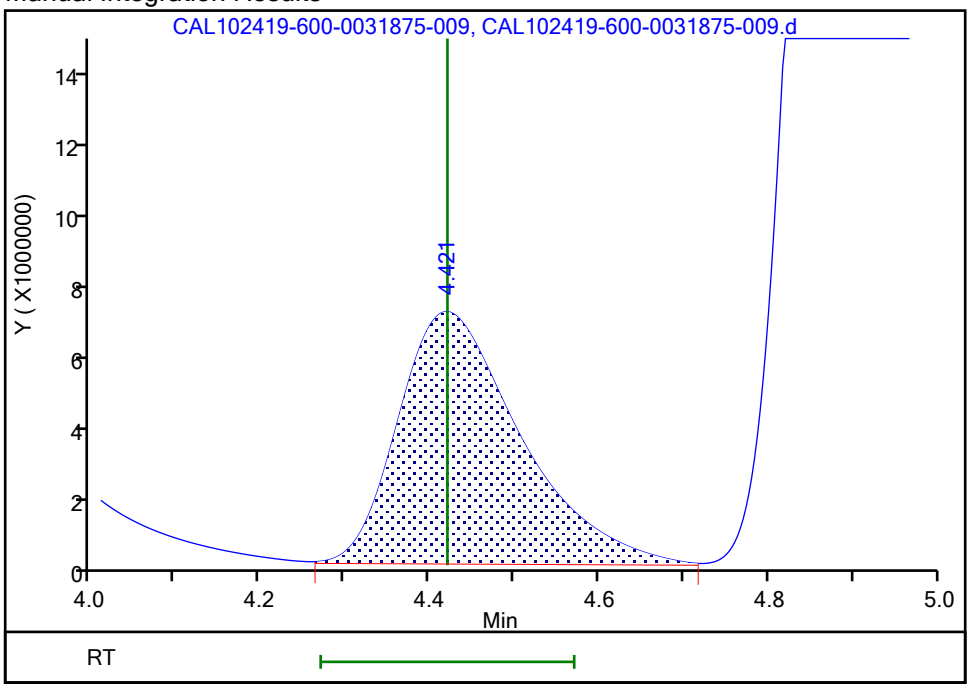

Reviewer: buschk, 25-Oct-2019 17:21:37

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-009.d				
Injection Date:	24-Oct-2019 14:21:00	Instrument ID:	CHWC17(IC)		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

5 Sulfate, CAS: 14808-79-8

Signal: 1

Processing Integration Results

RT: 7.08
Area: 312602532
Amount: 9.571676
Amount Units: ug/ml

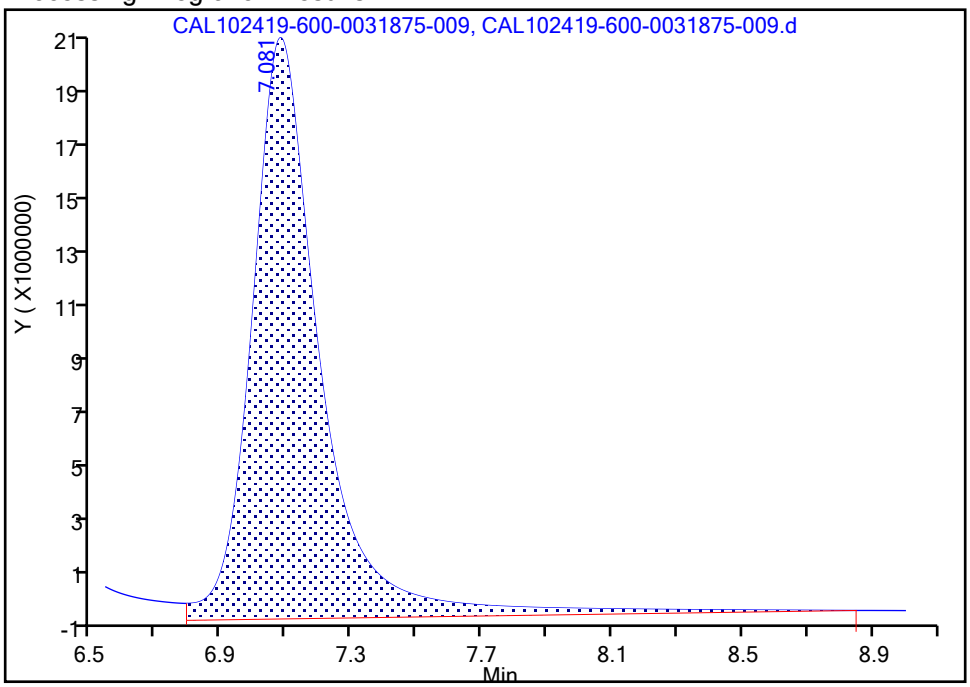

Manual Integration Results

RT: 7.08
Area: 280985134
Amount: 9.096149
Amount Units: ug/ml

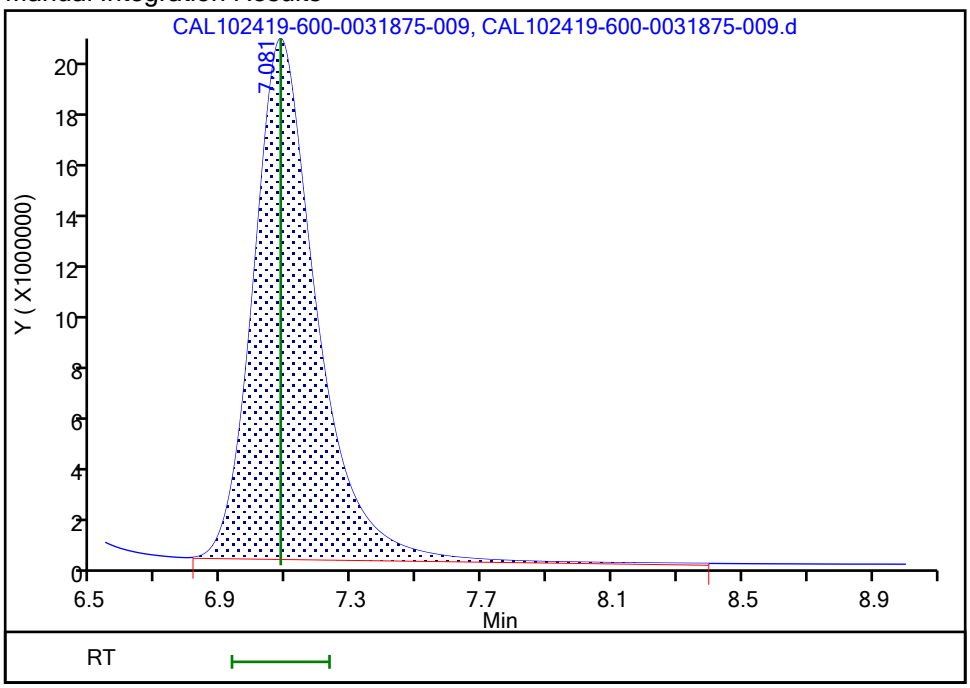

Reviewer: buschk, 25-Oct-2019 17:22:01

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-010.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 24-Oct-2019 14:32:00 ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031875-010
Misc. Info.: ic-7
Operator ID: Instrument ID: CHWC17(IC)
Sublist: chrom-CHWC17(IC)*sub2

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 25-Oct-2019 17:40:46 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX1001

First Level Reviewer: reachs Date: 25-Oct-2019 11:08:15

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.227	2.221	0.006	389994850	7.50	7.54	M
	2 Chloride	3.121	3.107	0.014	905105344	20.0	19.7	M
	9 Nitrite as N	3.764	3.741	0.023	745081277	NC	NC	M
	1 Bromide	4.421	4.421	0.000	108471759	7.50	7.81	M
	3 Nitrate as N	4.891	4.904	-0.013	1109127244	NC	NC	M
	5 Sulfate	7.114	7.081	0.033	609165306	20.0	19.5	M
S	8 Sulfate as Sulfur						19.5	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

ICCALSTD7_00044 Amount Added: 5.00 Units: mL
ICCALSTD1_00045 Amount Added: 5.00 Units: mL Run Reagent

Report Date: 25-Oct-2019 17:40:47 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-010.d

Injection Date: 24-Oct-2019 14:32:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: IC Worklist Smp#: 10

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_28day

Column: AS-22 Dionex Lion Pac (2.00 mm)

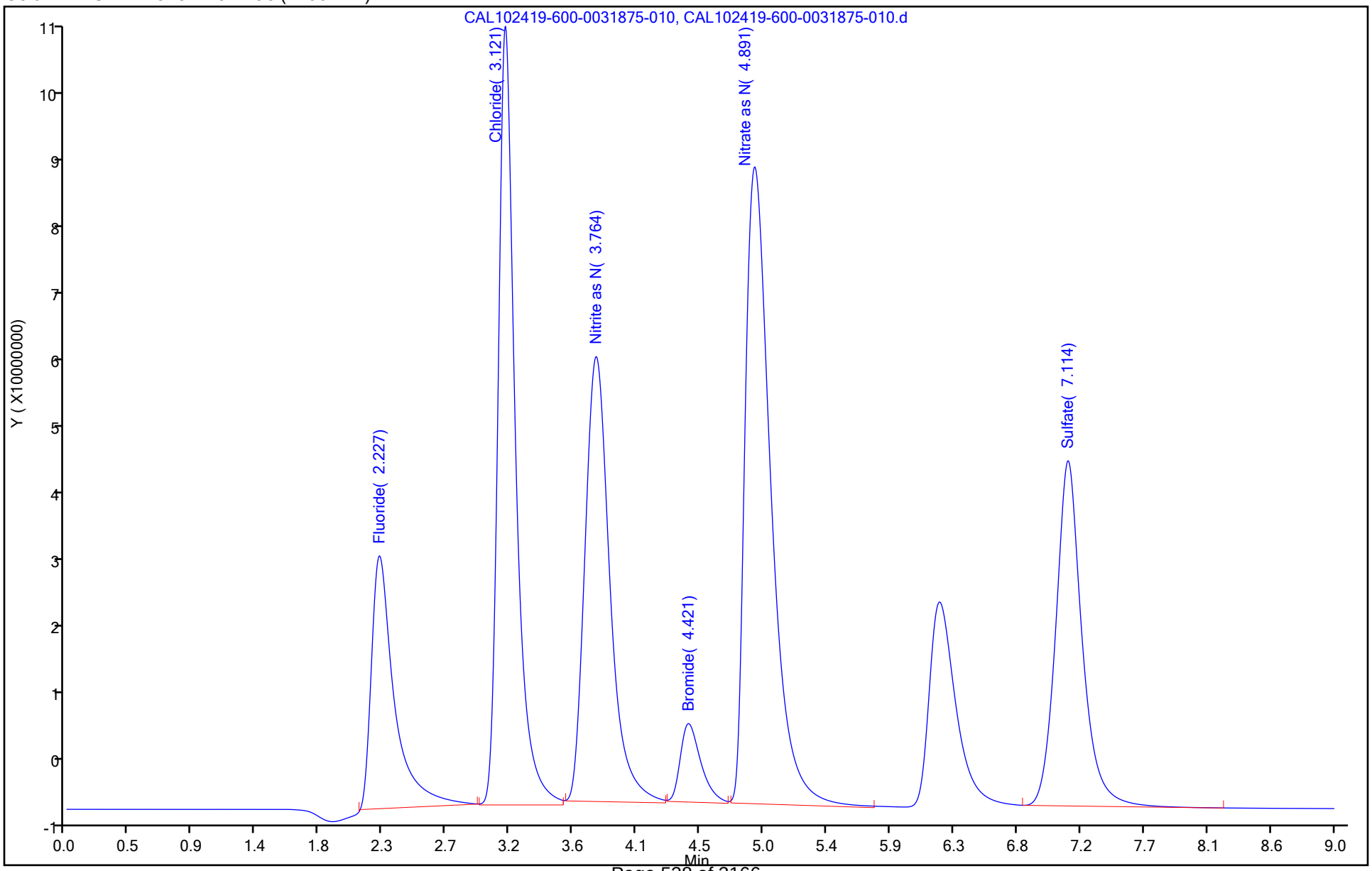

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-010.d				
Injection Date:	24-Oct-2019 14:32:00	Instrument ID:	CHWC17(IC)		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

7 Fluoride, CAS: 16984-48-8

Signal: 1

Processing Integration Results

RT: 2.23
Area: 451734333
Amount: 8.082444
Amount Units: ug/ml

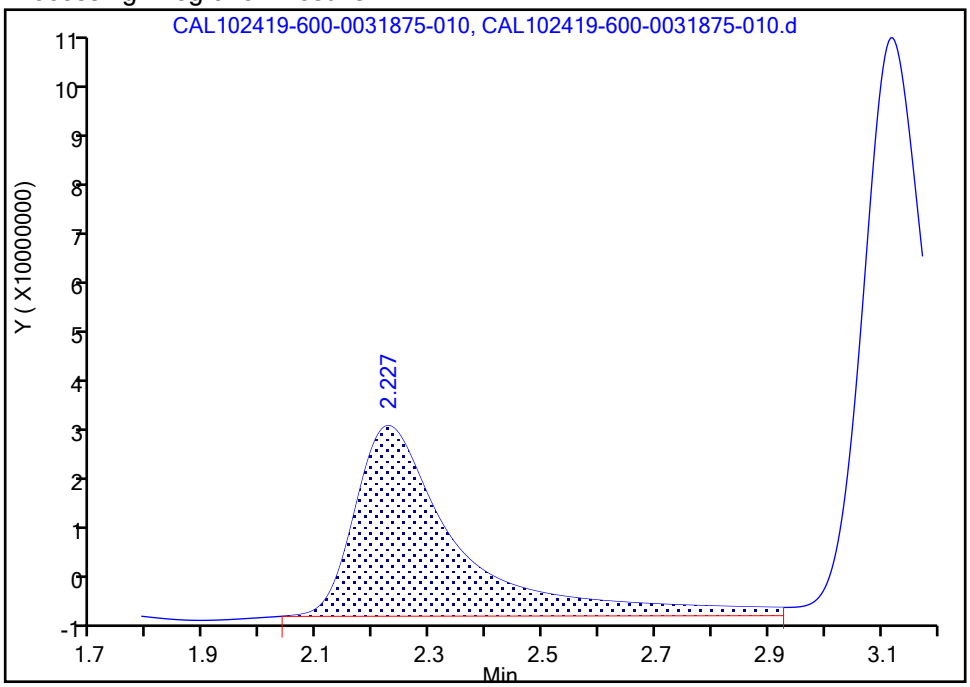

Manual Integration Results

RT: 2.23
Area: 389994850
Amount: 7.536018
Amount Units: ug/ml

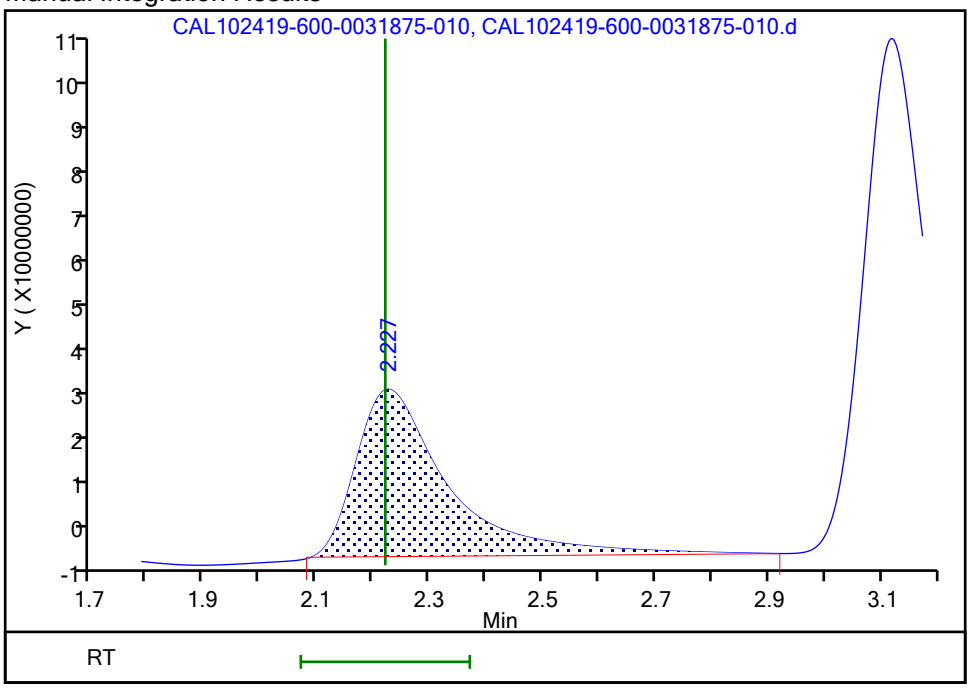

Reviewer: buschk, 25-Oct-2019 17:25:44

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-010.d				
Injection Date:	24-Oct-2019 14:32:00	Instrument ID:	CHWC17(IC)		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

2 Chloride, CAS: 16887-00-6

Signal: 1

Processing Integration Results

RT: 3.12
Area: 954977998
Amount: 20.091719
Amount Units: ug/ml

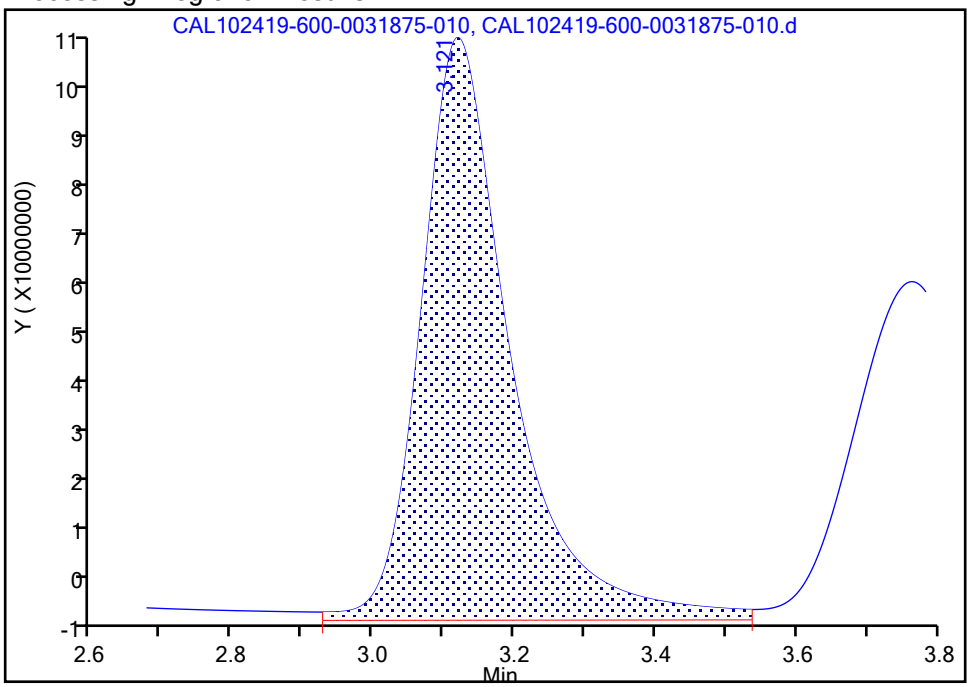

Manual Integration Results

RT: 3.12
Area: 905105344
Amount: 19.736250
Amount Units: ug/ml

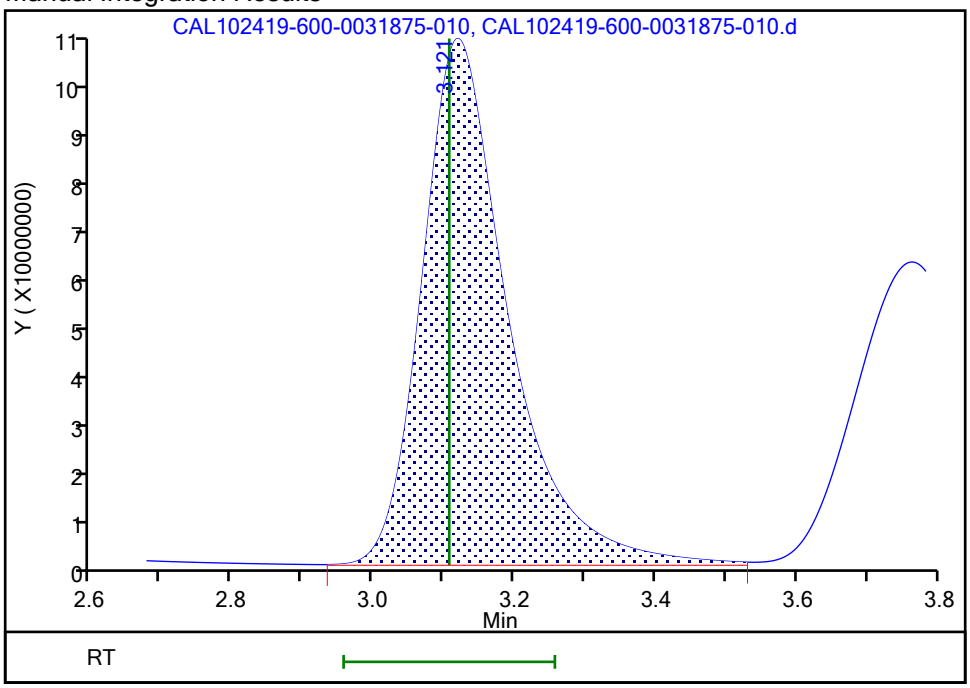

Reviewer: buschk, 25-Oct-2019 17:24:41
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-010.d				
Injection Date:	24-Oct-2019 14:32:00	Instrument ID:	CHWC17(IC)		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

1 Bromide, CAS: 24959-67-9

Signal: 1

Processing Integration Results

RT: 4.42
Area: 148688708
Amount: 8.205775
Amount Units: ug/ml

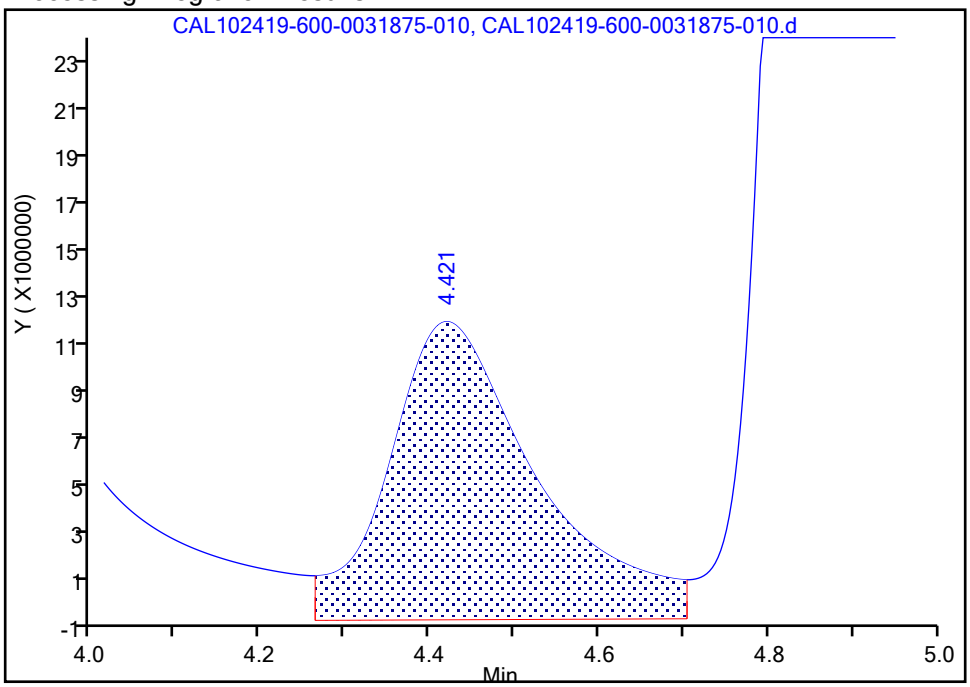

Manual Integration Results

RT: 4.42
Area: 108471759
Amount: 7.807402
Amount Units: ug/ml

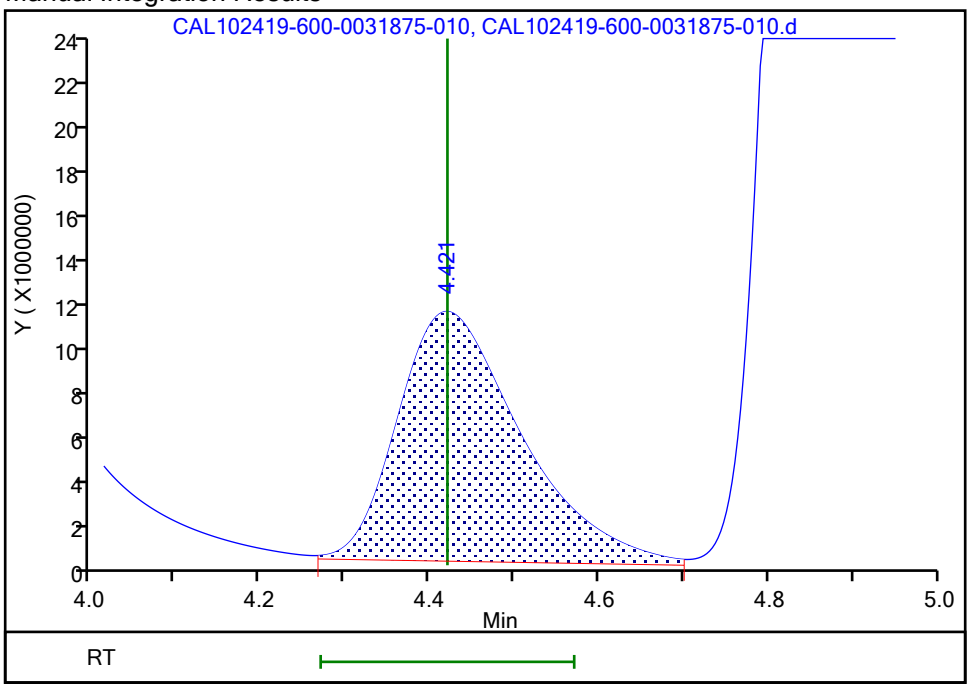

Reviewer: buschk, 25-Oct-2019 17:24:33

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-010.d				
Injection Date:	24-Oct-2019 14:32:00	Instrument ID:	CHWC17(IC)		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

5 Sulfate, CAS: 14808-79-8

Signal: 1

Processing Integration Results

RT: 7.11
Area: 654556387
Amount: 20.077372
Amount Units: ug/ml

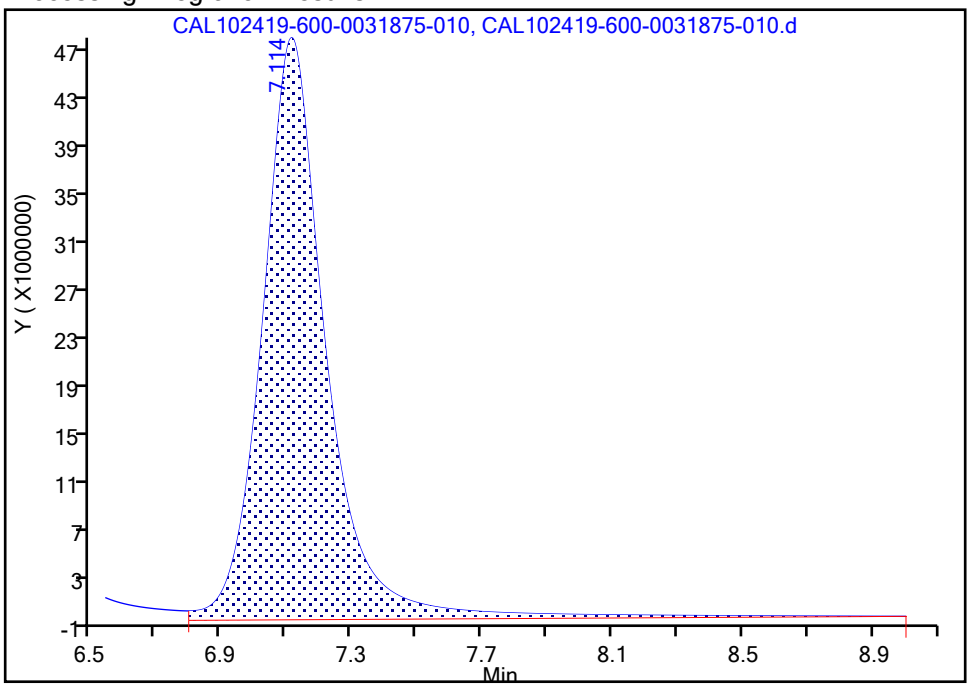

Manual Integration Results

RT: 7.11
Area: 609165306
Amount: 19.523436
Amount Units: ug/ml

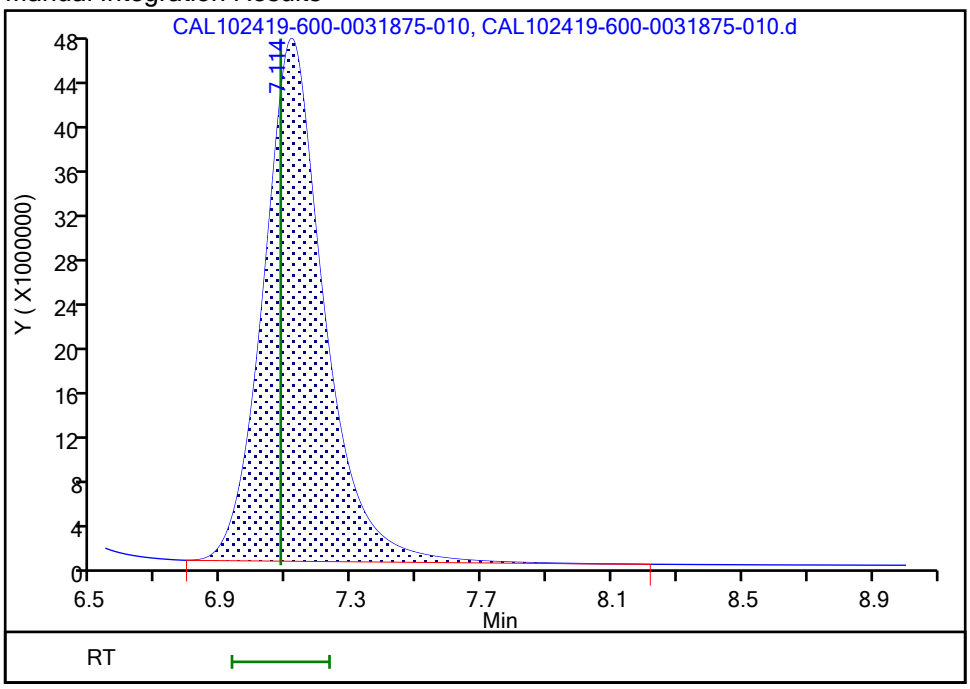

Reviewer: buschk, 25-Oct-2019 17:25:14
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 24-Oct-2019 14:43:00 ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031875-011
Misc. Info.: ic-8
Operator ID: Instrument ID: CHWC17(IC)
Sublist: chrom-CHWC17(IC)*sub2

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 25-Oct-2019 17:40:47 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX1001

First Level Reviewer: reachs Date: 25-Oct-2019 12:01:33

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.224	2.221	0.003	532819640	10.0	10.2	M
	2 Chloride	3.137	3.107	0.030	1906972252	40.0	41.4	M
	9 Nitrite as N	3.797	3.741	0.056	1470311210	NC	NC	M
	1 Bromide	4.417	4.421	-0.004	133886899	10.0	9.64	M
	3 Nitrate as N	4.864	4.904	-0.040	2375087667	NC	NC	M
	5 Sulfate	7.174	7.081	0.093	1316153403	40.0	42.0	M
S	8 Sulfate as Sulfur						42.0	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

ICCALSTD8_00032 Amount Added: 5.00 Units: mL
ICCALSTD1_00045 Amount Added: 5.00 Units: mL Run Reagent

Report Date: 25-Oct-2019 17:40:48 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Injection Date: 24-Oct-2019 14:43:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: IC Worklist Smp#: 11

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_28day

Column: AS-22 Dionex Lion Pac (2.00 mm)

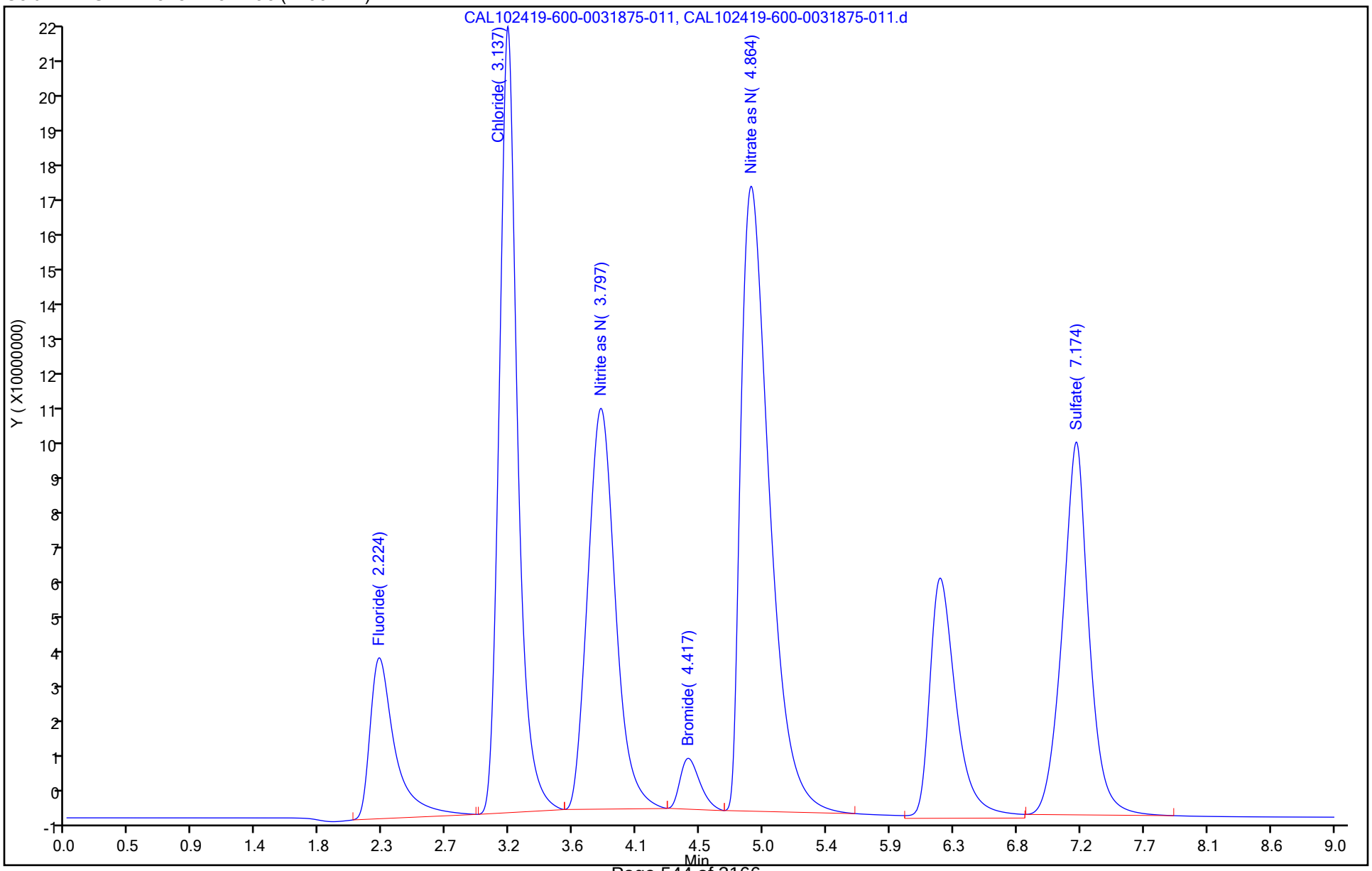

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d				
Injection Date:	24-Oct-2019 14:43:00	Instrument ID:	CHWC17(IC)		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

7 Fluoride, CAS: 16984-48-8

Signal: 1

Processing Integration Results

RT: 2.22
Area: 569500898
Amount: 10.606966
Amount Units: ug/ml

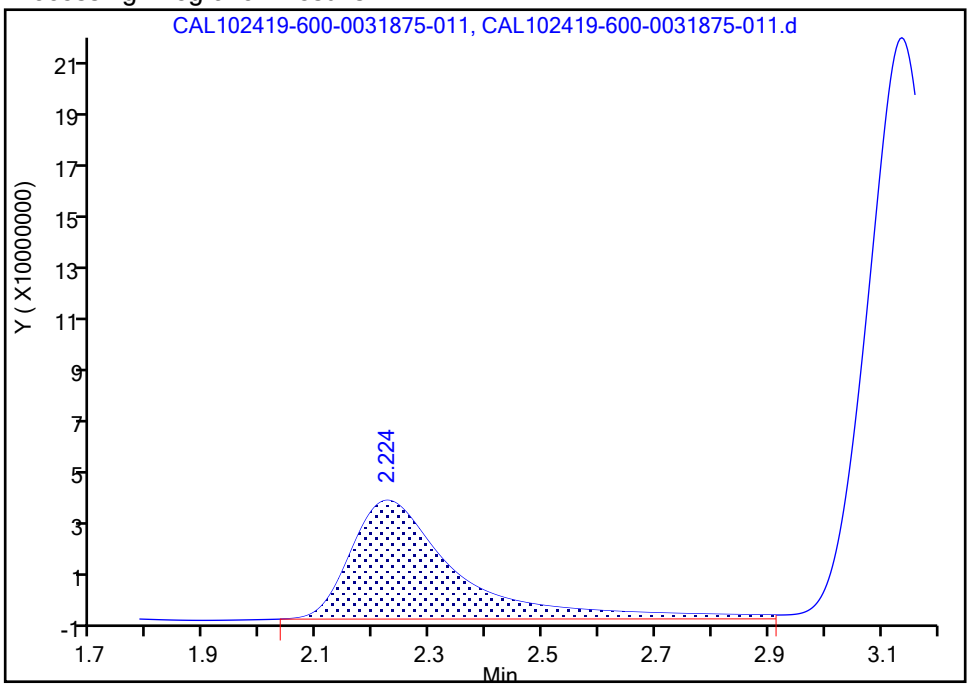

Manual Integration Results

RT: 2.22
Area: 532819640
Amount: 10.225813
Amount Units: ug/ml

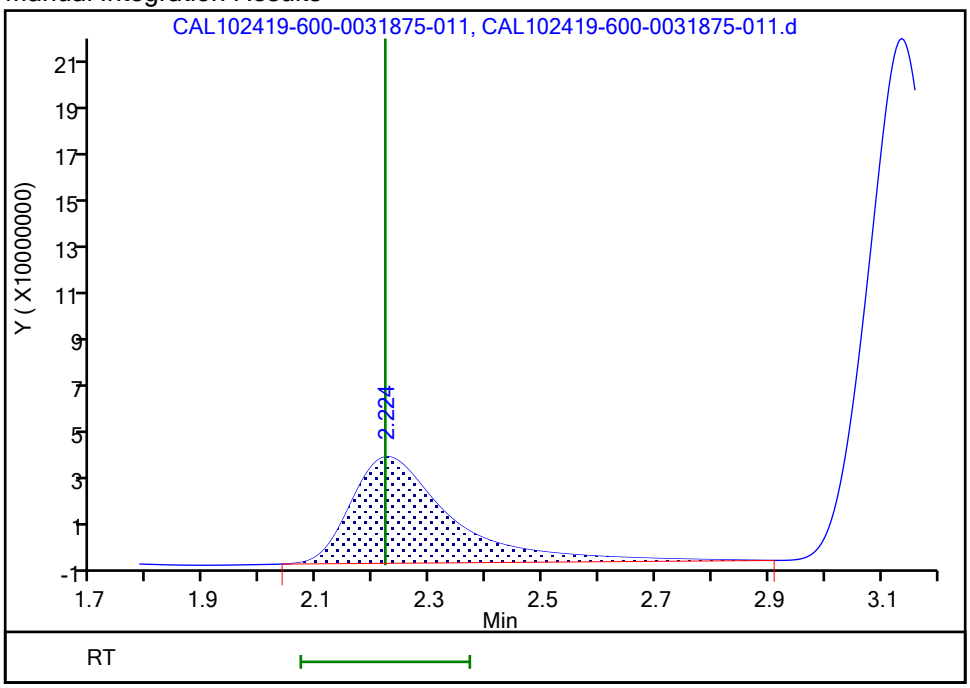

Reviewer: buschk, 25-Oct-2019 17:32:43

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d				
Injection Date:	24-Oct-2019 14:43:00	Instrument ID:	CHWC17(IC)		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

2 Chloride, CAS: 16887-00-6

Signal: 1

Processing Integration Results

RT: 3.14
Area: 1981838919
Amount: 42.030311
Amount Units: ug/ml

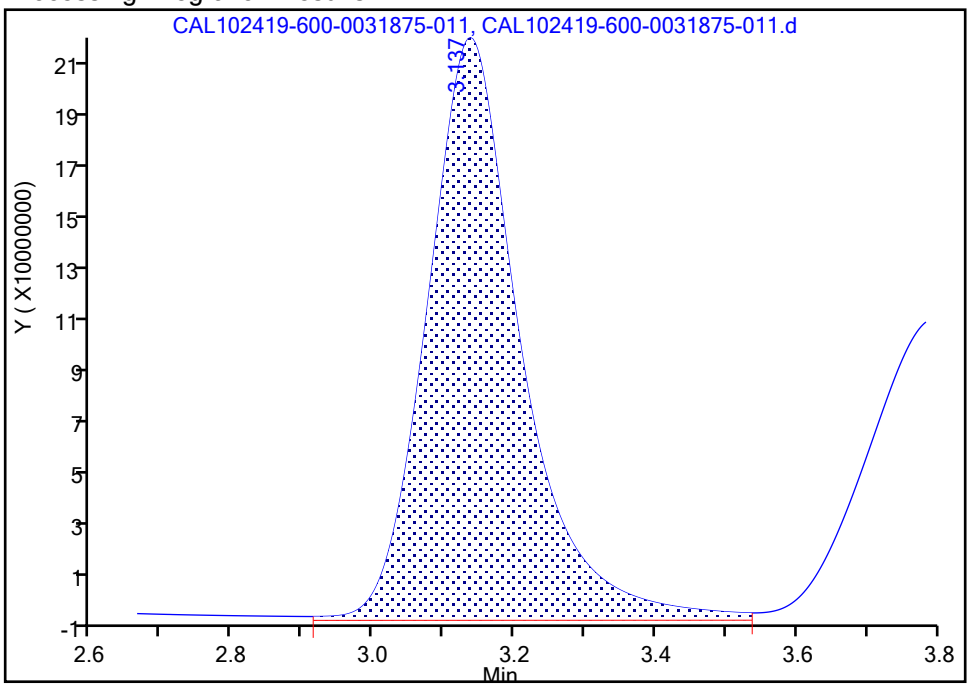

Manual Integration Results

RT: 3.14
Area: 1906972252
Amount: 41.357049
Amount Units: ug/ml

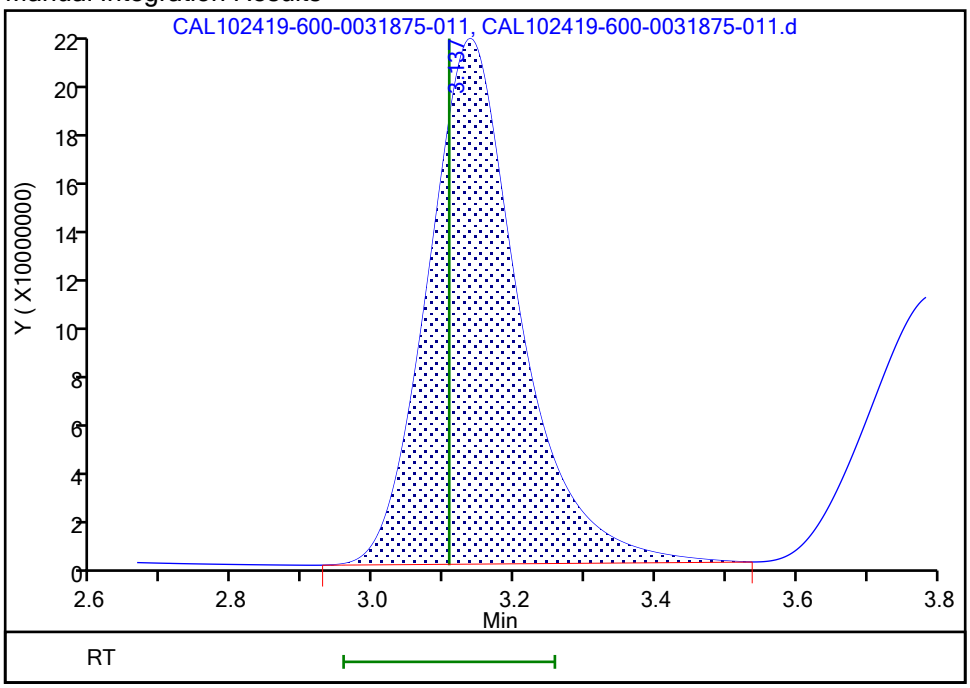

Reviewer: buschk, 25-Oct-2019 17:30:41

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d				
Injection Date:	24-Oct-2019 14:43:00	Instrument ID:	CHWC17(IC)		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

1 Bromide, CAS: 24959-67-9

Signal: 1

Processing Integration Results

RT: 4.42
Area: 195924576
Amount: 11.854857
Amount Units: ug/ml

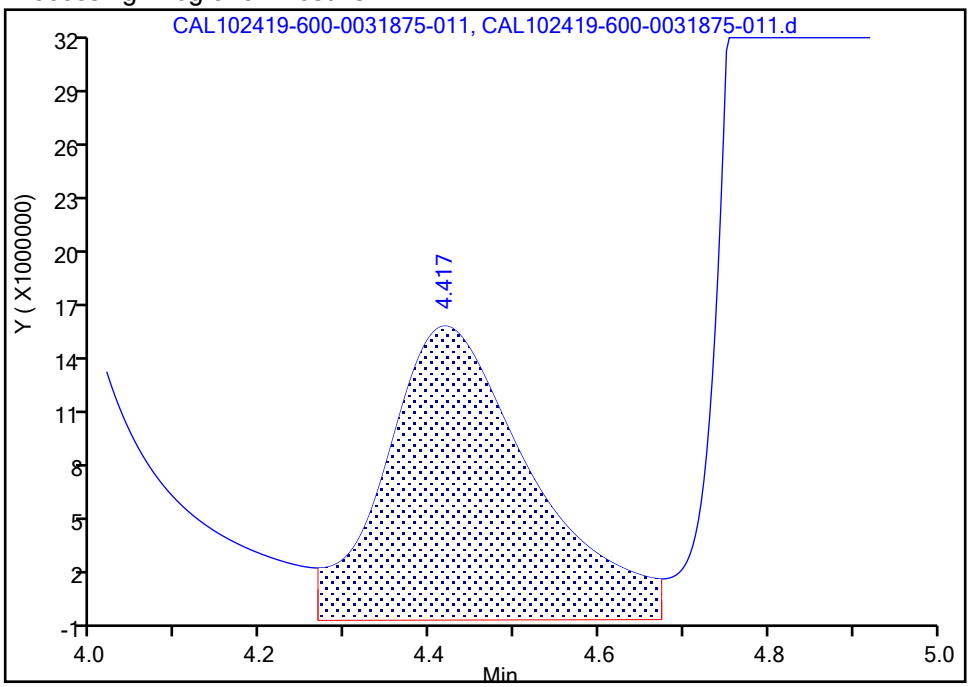

Manual Integration Results

RT: 4.42
Area: 133886899
Amount: 9.637773
Amount Units: ug/ml

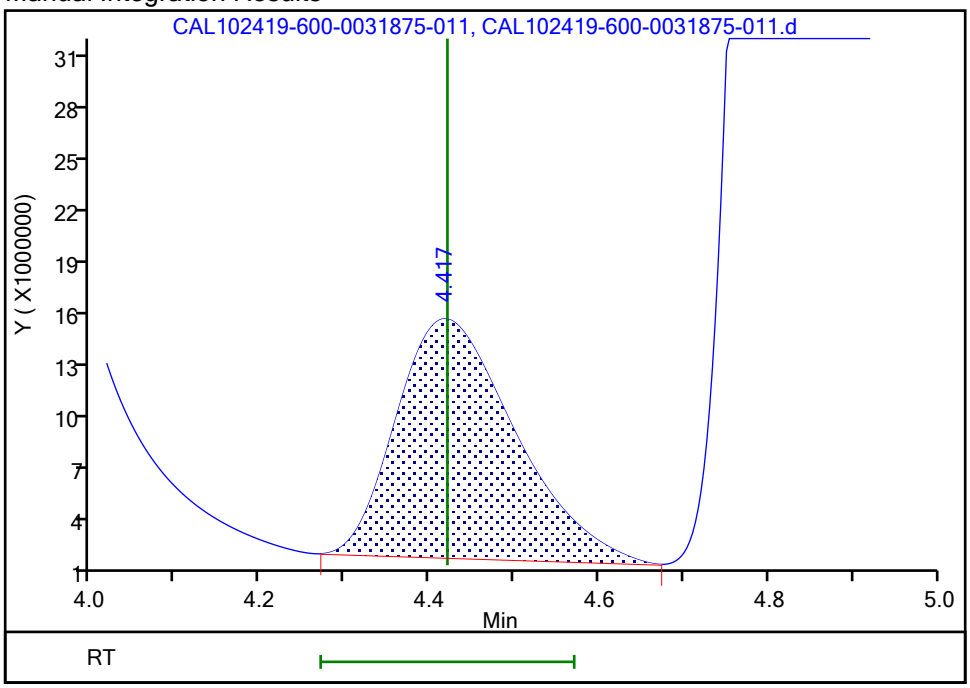

Reviewer: buschk, 25-Oct-2019 17:30:06

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d				
Injection Date:	24-Oct-2019 14:43:00	Instrument ID:	CHWC17(IC)		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

5 Sulfate, CAS: 14808-79-8

Signal: 1

Processing Integration Results

RT: 7.17
Area: 1375976933
Amount: 42.786294
Amount Units: ug/ml

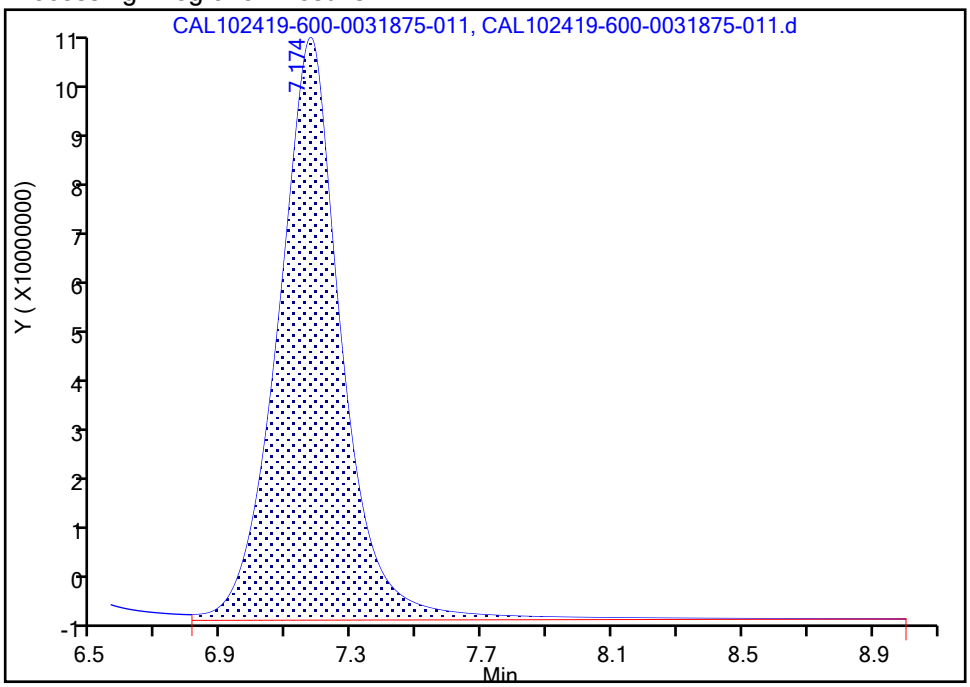

Manual Integration Results

RT: 7.17
Area: 1316153403
Amount: 41.986608
Amount Units: ug/ml

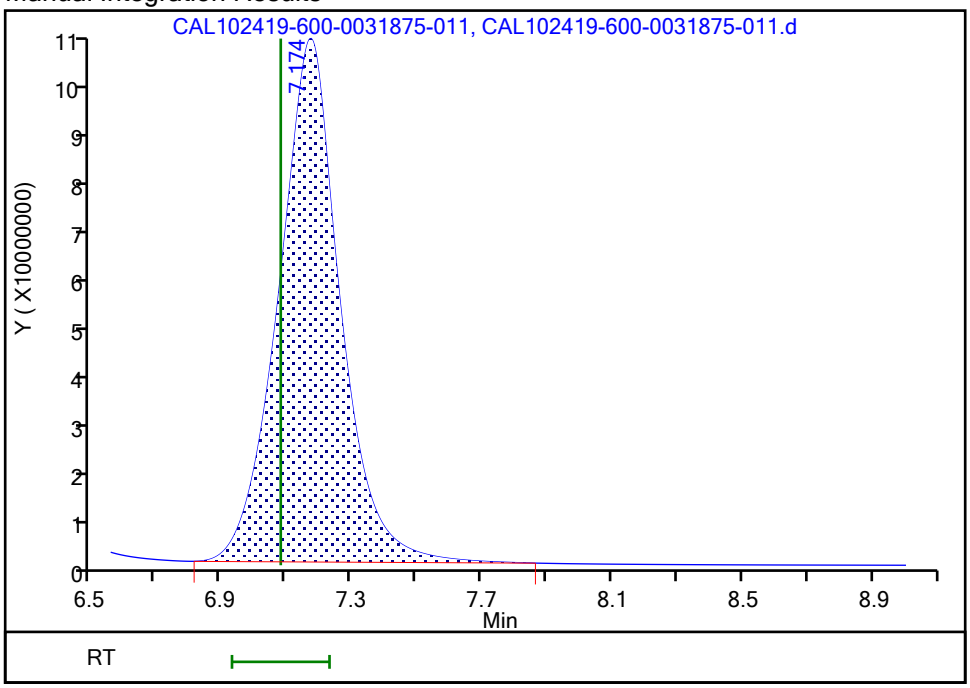

Reviewer: buschk, 25-Oct-2019 17:31:40

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1 Analy Batch No.: 278509

SDG No.:

Instrument ID: CHWC17(IC) GC Column: AS22 ID: 2(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/24/2019 13:38 Calibration End Date: 10/24/2019 14:43 Calibration ID: 16961

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-278509/5	CAL102419-600-0031875-005.d
Level 2	IC 600-278509/6	CAL102419-600-0031875-006.d
Level 3	IC 600-278509/7	CAL102419-600-0031875-007.d
Level 4	IC 600-278509/8	CAL102419-600-0031875-008.d
Level 5	IC 600-278509/9	CAL102419-600-0031875-009.d
Level 6	IC 600-278509/10	CAL102419-600-0031875-010.d
Level 7	IC 600-278509/11	CAL102419-600-0031875-011.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7				RT WINDOW	AVG RT
Nitrite as N	3.711	3.714	3.707	3.720	3.741	3.764	3.797				3.601 - 3.901	3.736
Nitrate as N	4.944	4.940	4.921	4.910	4.904	4.891	4.864				4.717 - 5.017	4.911

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1 Analy Batch No.: 278509

SDG No.:

Instrument ID: CHWC17(IC) GC Column: AS22 ID: 2(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/24/2019 13:38 Calibration End Date: 10/24/2019 14:43 Calibration ID: 16961

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-278509/5	CAL102419-600-0031875-005.d
Level 2	IC 600-278509/6	CAL102419-600-0031875-006.d
Level 3	IC 600-278509/7	CAL102419-600-0031875-007.d
Level 4	IC 600-278509/8	CAL102419-600-0031875-008.d
Level 5	IC 600-278509/9	CAL102419-600-0031875-009.d
Level 6	IC 600-278509/10	CAL102419-600-0031875-010.d
Level 7	IC 600-278509/11	CAL102419-600-0031875-011.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4		B	M1	M2								
Nitrite as N	69353880 74422811	64126154 74508128	64813894 73515561	73492251	Lin1	-2720998.1	74005915.9							1.0000		0.9900
Nitrate as N	91799945 105818185	86693084 110912724	86776235 118754383	100756682	Lin1	-11552795	114656884							0.9970		0.9900

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1 Analy Batch No.: 278509

SDG No.:

Instrument ID: CHWC17(IC) GC Column: AS22 ID: 2(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/24/2019 13:38 Calibration End Date: 10/24/2019 14:43 Calibration ID: 16961

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-278509/5	CAL102419-600-0031875-005.d
Level 2	IC 600-278509/6	CAL102419-600-0031875-006.d
Level 3	IC 600-278509/7	CAL102419-600-0031875-007.d
Level 4	IC 600-278509/8	CAL102419-600-0031875-008.d
Level 5	IC 600-278509/9	CAL102419-600-0031875-009.d
Level 6	IC 600-278509/10	CAL102419-600-0031875-010.d
Level 7	IC 600-278509/11	CAL102419-600-0031875-011.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Nitrite as N	Lin1	13870776 745081277	32063077 1470311210	64813894	183730627	372114055	0.200 10.0	0.500 20.0	1.00	2.50	5.00
Nitrate as N	Lin1	18359989 1109127244	43346542 2375087667	86776235	251891705	529090925	0.200 10.0	0.500 20.0	1.00	2.50	5.00

Curve Type Legend:
Lin1 = Linear 1/conc

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-005.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 24-Oct-2019 13:38:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031875-005
Misc. Info.: ic-2
Operator ID: Instrument ID: CHWC17(IC)
Sublist: chrom-CHWC17(IC)*sub2

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 25-Oct-2019 17:40:41 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX1001

First Level Reviewer: reachs Date: 25-Oct-2019 10:51:37

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.224	2.224	0.000	2846042	NC	NC	M
	2 Chloride	3.097	3.111	-0.014	14099201	NC	NC	
	9 Nitrite as N	3.711	3.751	-0.040	13870776	0.2000	0.2242	M
	1 Bromide	4.431	4.397	0.034	2932555	NC	NC	M
	3 Nitrate as N	4.944	4.867	0.077	18359989	0.2000	0.2609	M
	5 Sulfate	7.037	7.111	-0.074	10926359	NC	NC	M
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N						0.4851	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

ICCALSTD2_00052 Amount Added: 5.00 Units: mL
ICCALSTD1_00045 Amount Added: 5.00 Units: mL Run Reagent

Report Date: 25-Oct-2019 17:40:41 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-005.d				
Injection Date:	24-Oct-2019 13:38:00	Instrument ID:	CHWC17(IC)	Operator ID:	
Lims ID:	IC			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		

Column: AS-22 Dionex Lion Pac (2.00 mm)

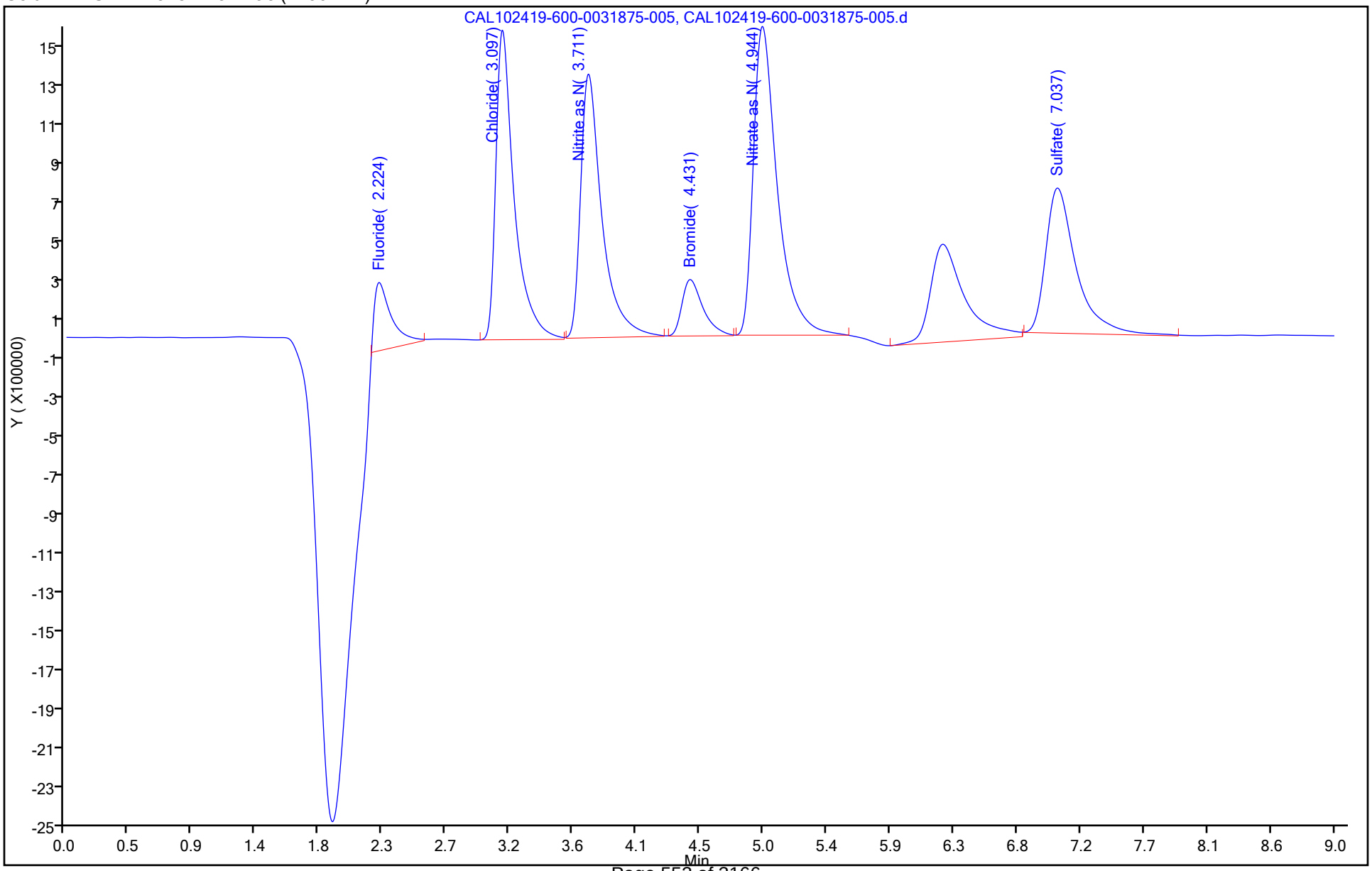

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-005.d				
Injection Date:	24-Oct-2019 13:38:00	Instrument ID:	CHWC17(IC)		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

9 Nitrite as N, CAS: 14797-65-0

Signal: 1

Processing Integration Results

RT: 3.71
Area: 14265221
Amount: 0.041971
Amount Units: ug/ml

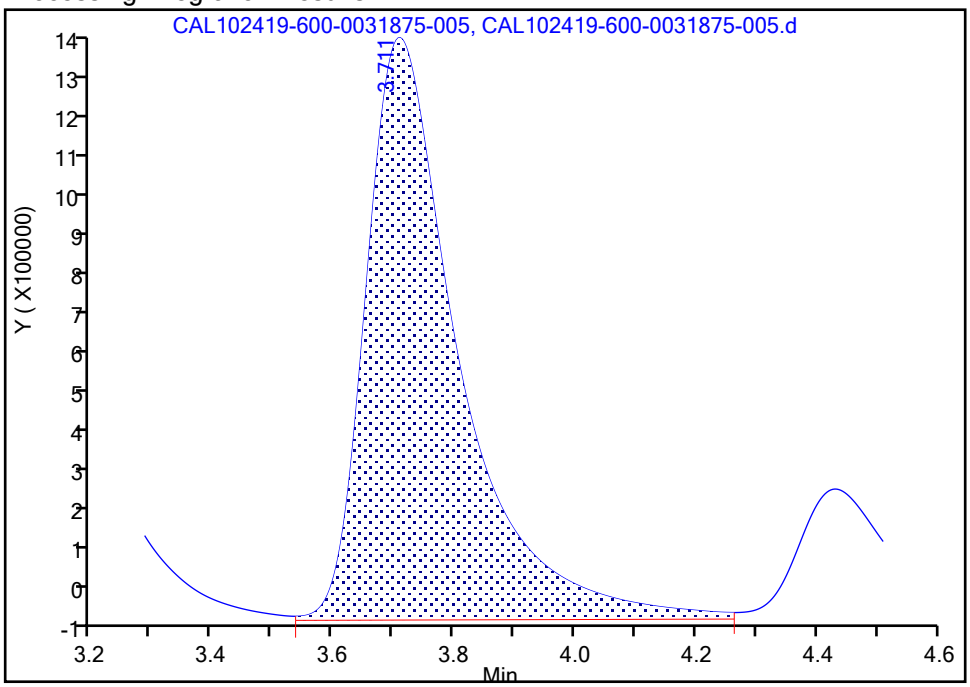

Manual Integration Results

RT: 3.71
Area: 13870776
Amount: 0.224195
Amount Units: ug/ml

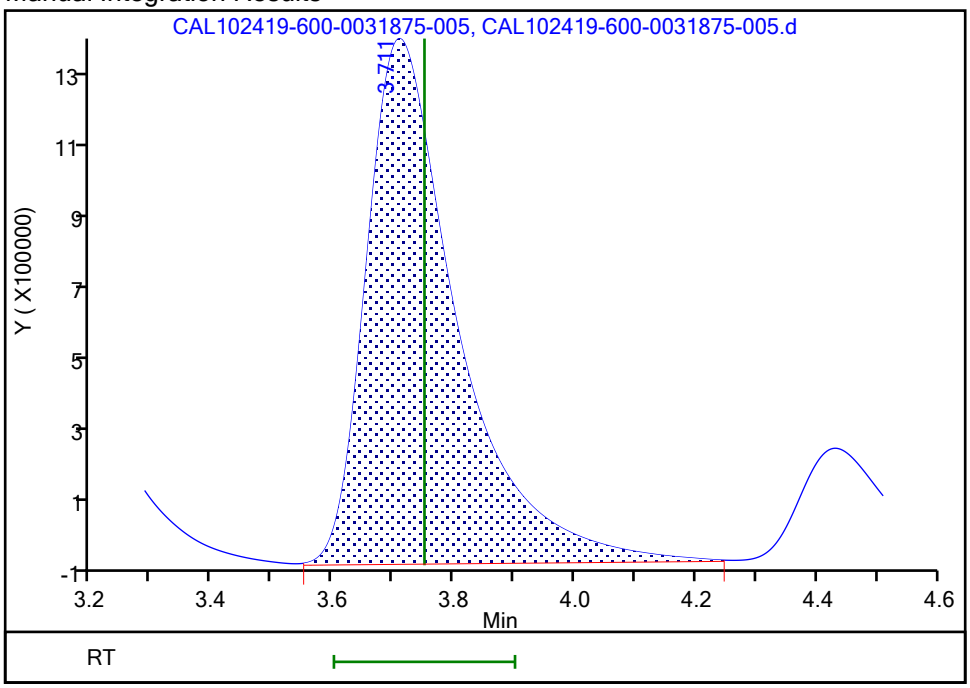

Reviewer: buschk, 25-Oct-2019 17:12:22
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-005.d				
Injection Date:	24-Oct-2019 13:38:00	Instrument ID:	CHWC17(IC)		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

3 Nitrate as N, CAS: 14797-55-8

Signal: 1

Processing Integration Results

RT: 4.94
Area: 20150323
Amount: 0.266838
Amount Units: ug/ml

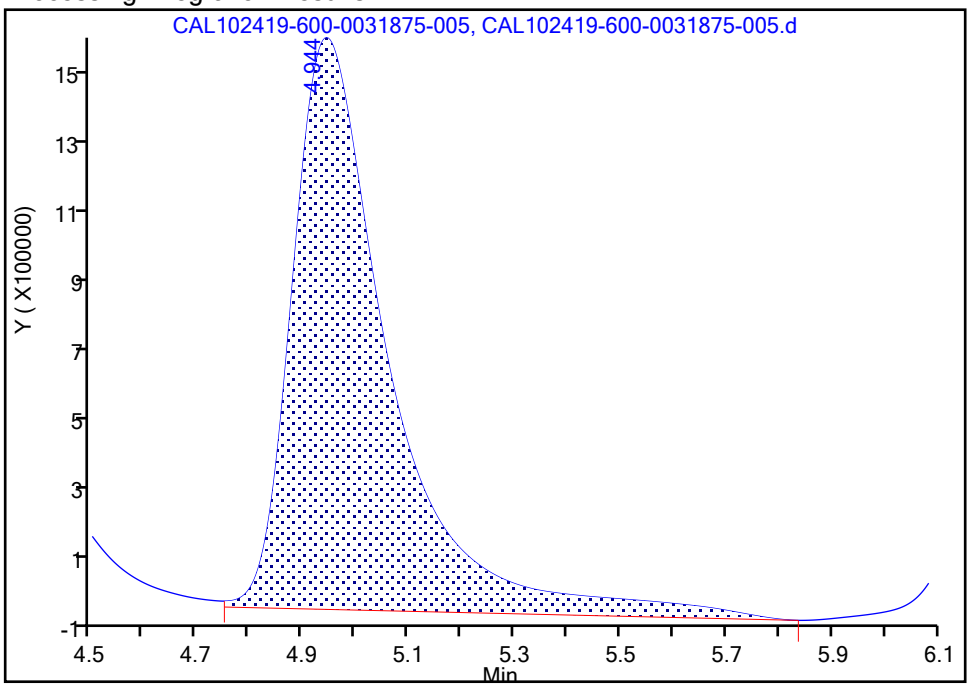

Manual Integration Results

RT: 4.94
Area: 18359989
Amount: 0.260890
Amount Units: ug/ml

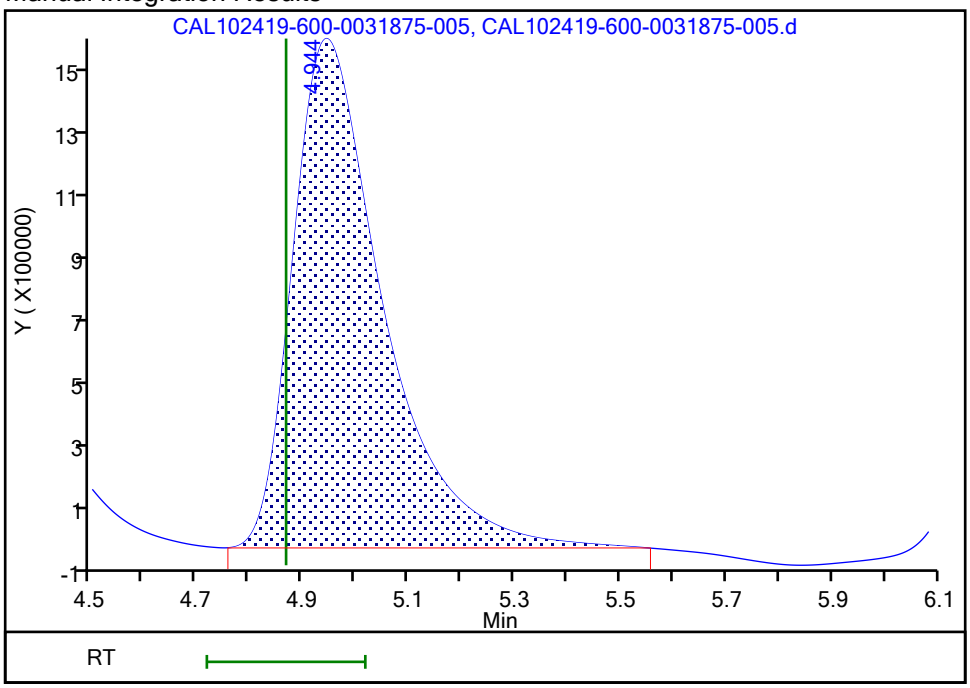

Reviewer: buschk, 25-Oct-2019 17:35:46

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-006.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 24-Oct-2019 13:49:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031875-006
Misc. Info.: ic-3
Operator ID: Instrument ID: CHWC17(IC)
Sublist: chrom-CHWC17(IC)*sub2

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 25-Oct-2019 17:40:42 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX1001

First Level Reviewer: reachs Date: 25-Oct-2019 10:54:40

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.214	2.224	-0.010	13317417	NC	NC	M
	2 Chloride	3.100	3.111	-0.011	32975730	NC	NC	M
	9 Nitrite as N	3.714	3.751	-0.037	32063077	0.5000	0.4700	M
	1 Bromide	4.430	4.397	0.033	6611191	NC	NC	M
	3 Nitrate as N	4.940	4.867	0.073	43346542	0.5000	0.4788	M
	5 Sulfate	7.044	7.111	-0.067	24441819	NC	NC	M
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N						0.9488	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

ICCALSTD3_00045 Amount Added: 5.00 Units: mL
ICCALSTD1_00045 Amount Added: 5.00 Units: mL Run Reagent

Report Date: 25-Oct-2019 17:40:42 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-006.d

Injection Date: 24-Oct-2019 13:49:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: IC Worklist Smp#: 6

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_48hr

Column: AS-22 Dionex Lion Pac (2.00 mm)

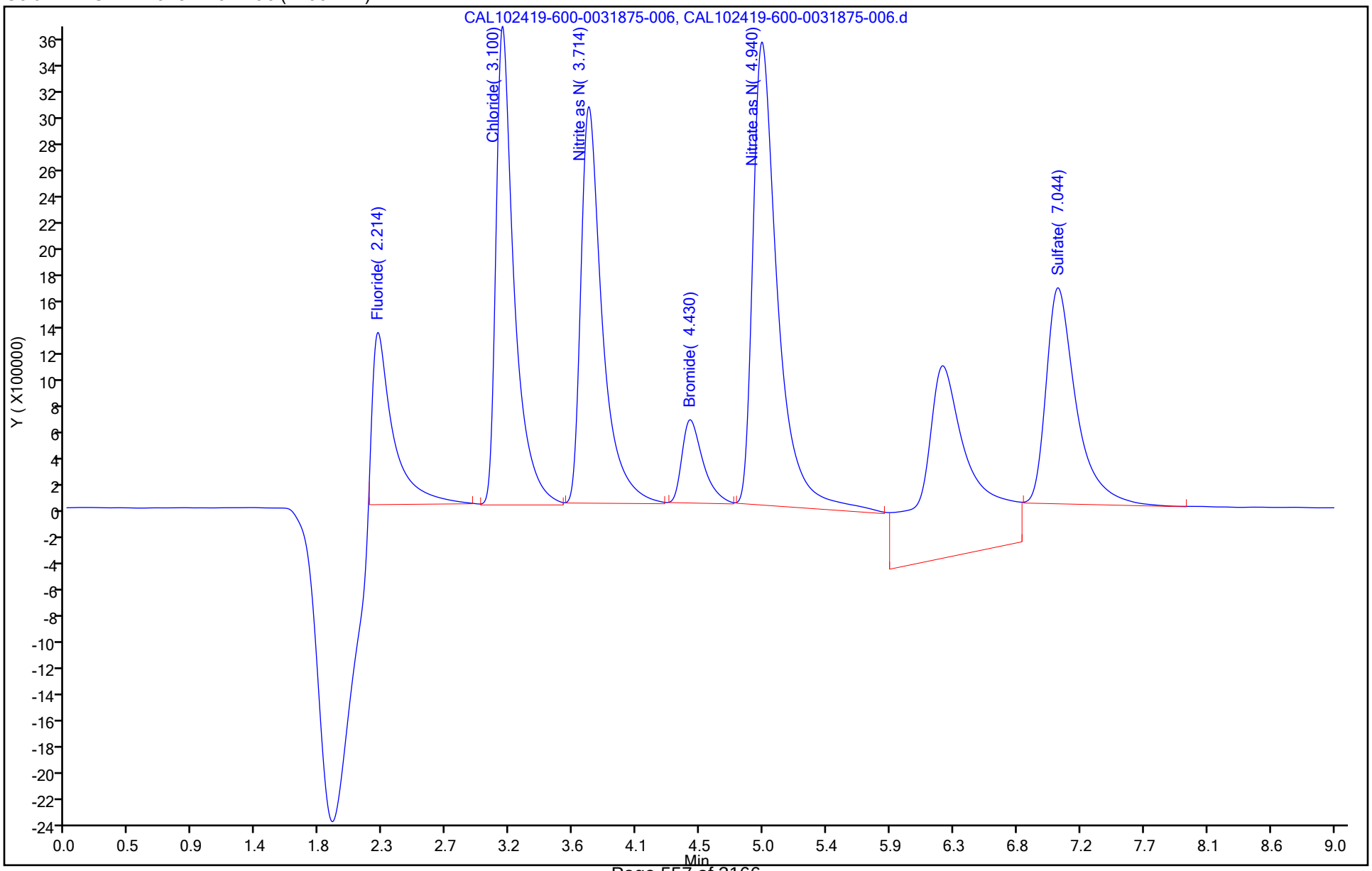

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-006.d				
Injection Date:	24-Oct-2019 13:49:00	Instrument ID:	CHWC17(IC)		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

9 Nitrite as N, CAS: 14797-65-0

Signal: 1

Processing Integration Results

RT: 3.71
Area: 72801342
Amount: 0.764847
Amount Units: ug/ml

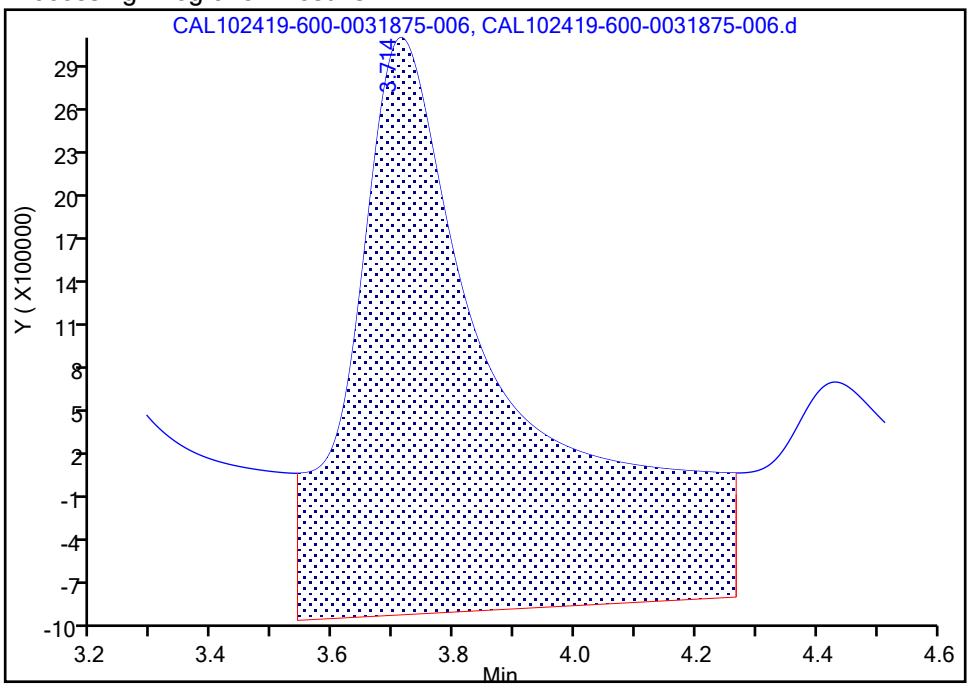

Manual Integration Results

RT: 3.71
Area: 32063077
Amount: 0.470017
Amount Units: ug/ml

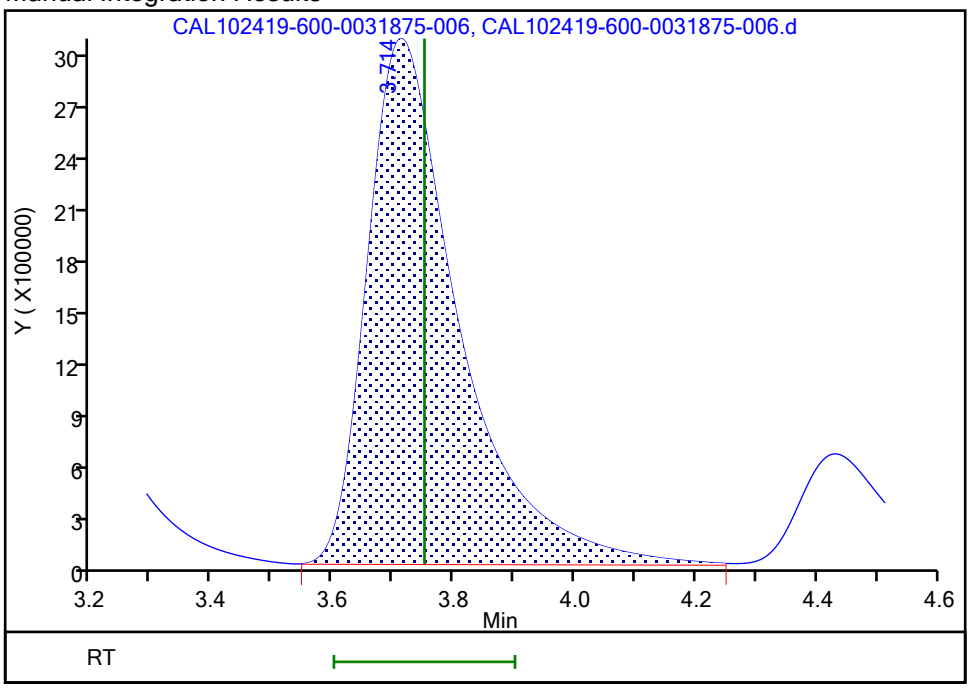

Reviewer: buschk, 25-Oct-2019 17:13:35

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-006.d				
Injection Date:	24-Oct-2019 13:49:00	Instrument ID:	CHWC17(IC)		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

3 Nitrate as N, CAS: 14797-55-8

Signal: 1

RT: 4.94
Area: 81808567
Amount: 0.649643
Amount Units: ug/ml

Processing Integration Results

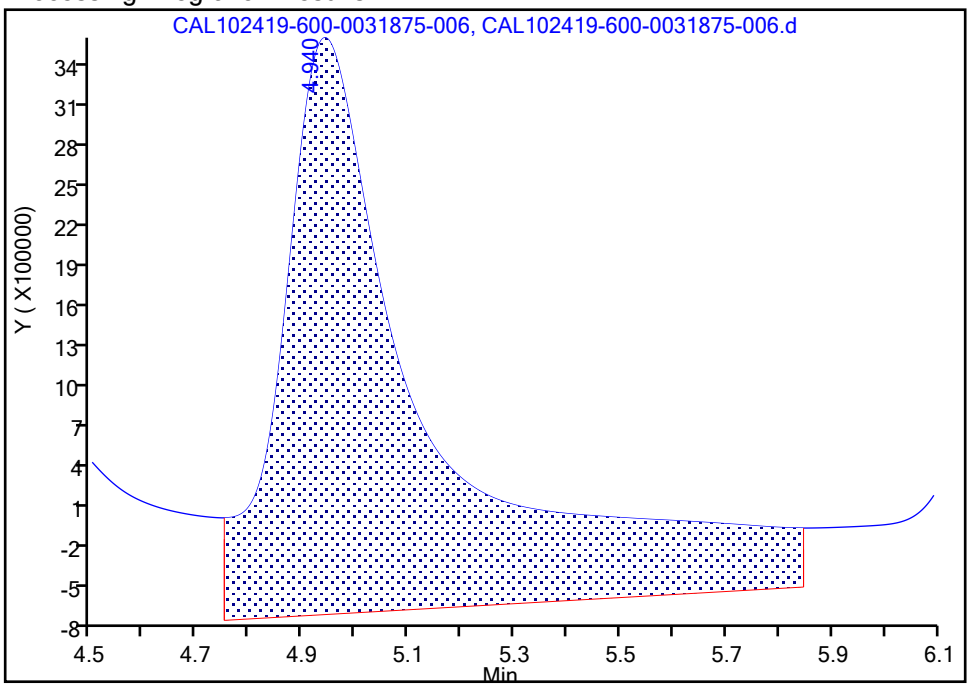

RT: 4.94
Area: 43346542
Amount: 0.478814
Amount Units: ug/ml

Manual Integration Results

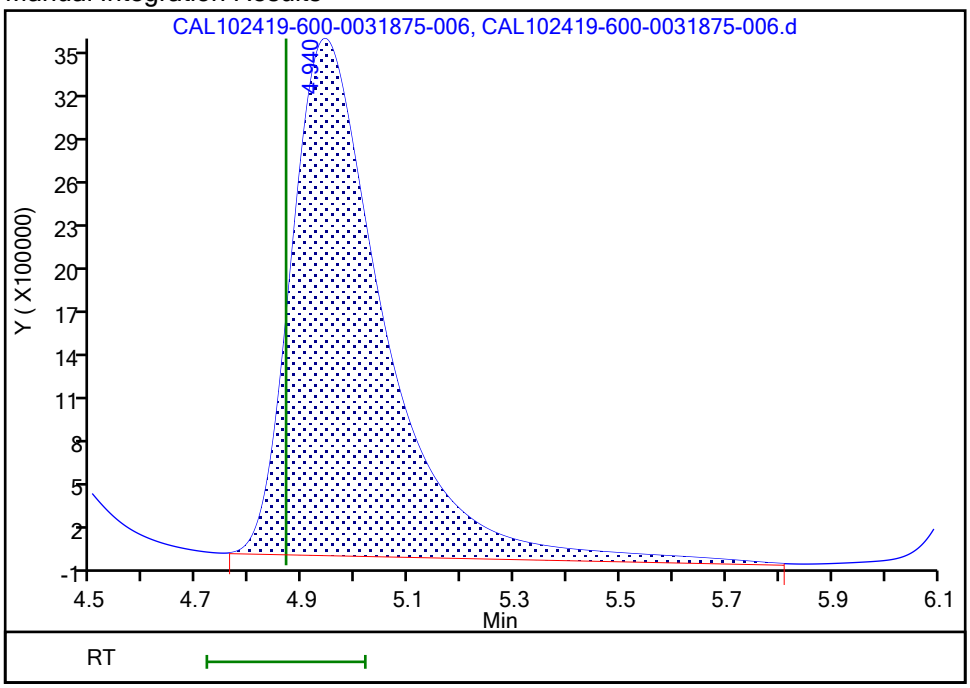

Reviewer: buschk, 25-Oct-2019 17:13:09
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-007.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 24-Oct-2019 14:00:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031875-007
Misc. Info.: ic-4
Operator ID: Instrument ID: CHWC17(IC)
Sublist: chrom-CHWC17(IC)*sub2

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 25-Oct-2019 17:40:43 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX1001

First Level Reviewer: reachs Date: 25-Oct-2019 10:56:20

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.211	2.211	0.000	37788096	NC	NC	M
	2 Chloride	3.094	3.094	0.000	74738807	NC	NC	M
	9 Nitrite as N	3.707	3.707	0.000	64813894	1.00	0.9126	M
	1 Bromide	4.417	4.417	0.000	13386009	NC	NC	M
	3 Nitrate as N	4.921	4.921	0.000	86776235	1.00	0.8576	M
	5 Sulfate	7.044	7.044	0.000	53871743	NC	NC	M
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N						1.77	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

ICCALSTD4_00044 Amount Added: 5.00 Units: mL
ICCALSTD1_00045 Amount Added: 5.00 Units: mL Run Reagent

Report Date: 25-Oct-2019 17:40:44 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-007.d

Injection Date: 24-Oct-2019 14:00:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: IC Worklist Smp#: 7

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_48hr

Column: AS-22 Dionex Lion Pac (2.00 mm)

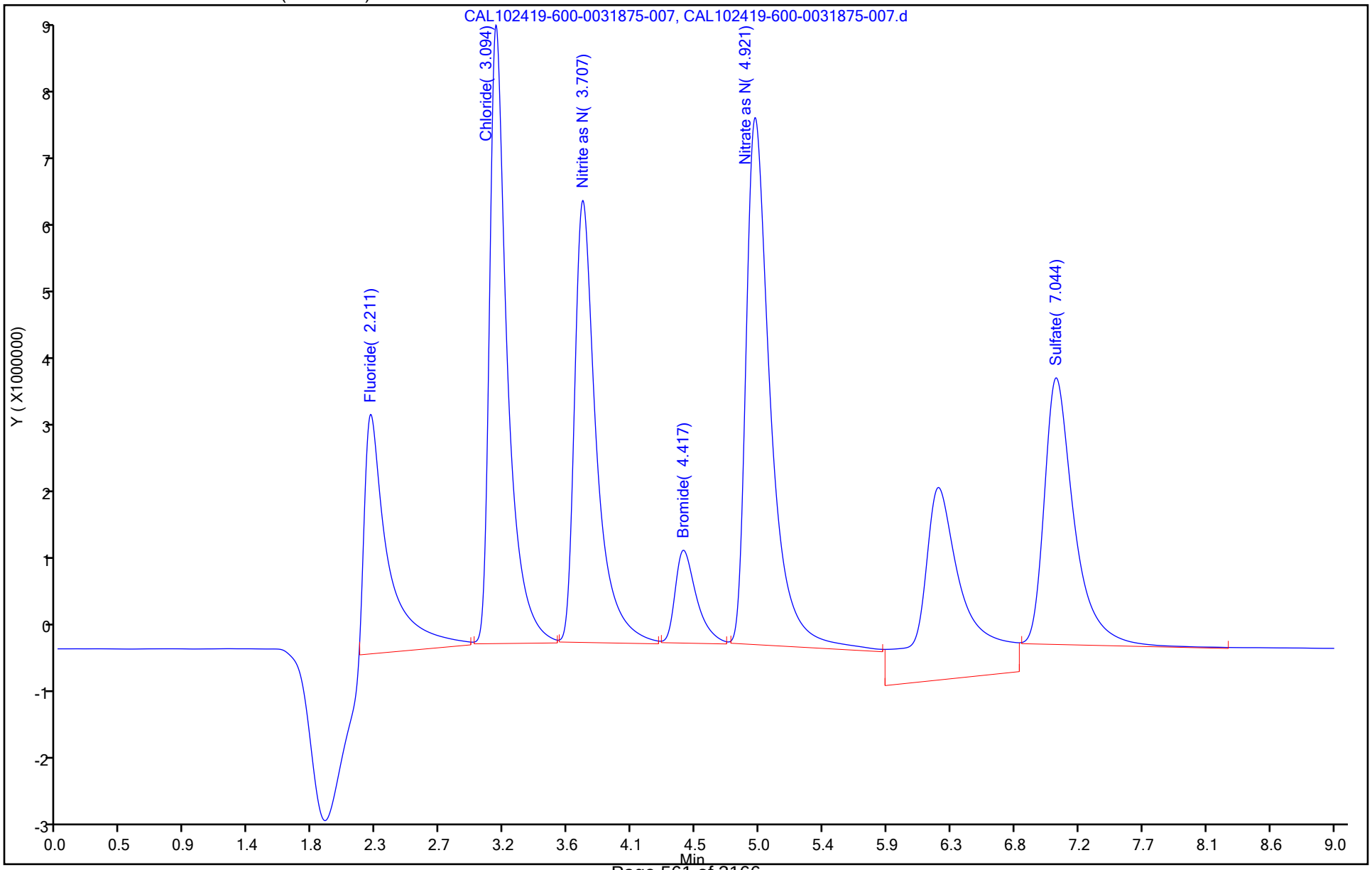

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-007.d				
Injection Date:	24-Oct-2019 14:00:00	Instrument ID:	CHWC17(IC)		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

9 Nitrite as N, CAS: 14797-65-0

Signal: 1

Processing Integration Results

RT: 3.71
Area: 107191893
Amount: 1.297767
Amount Units: ug/ml

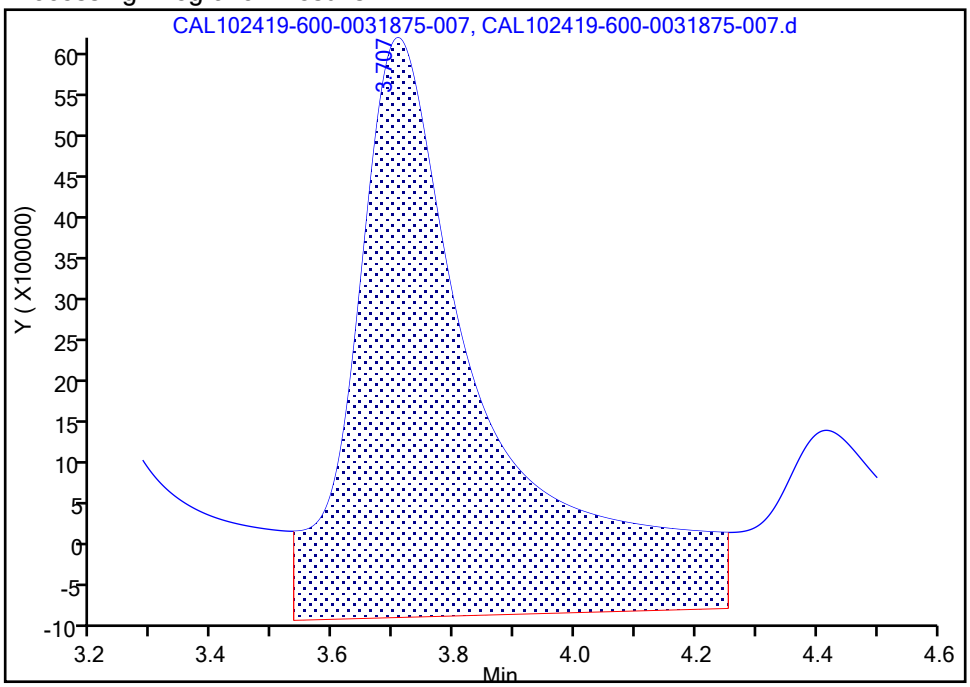

Manual Integration Results

RT: 3.71
Area: 64813894
Amount: 0.912561
Amount Units: ug/ml

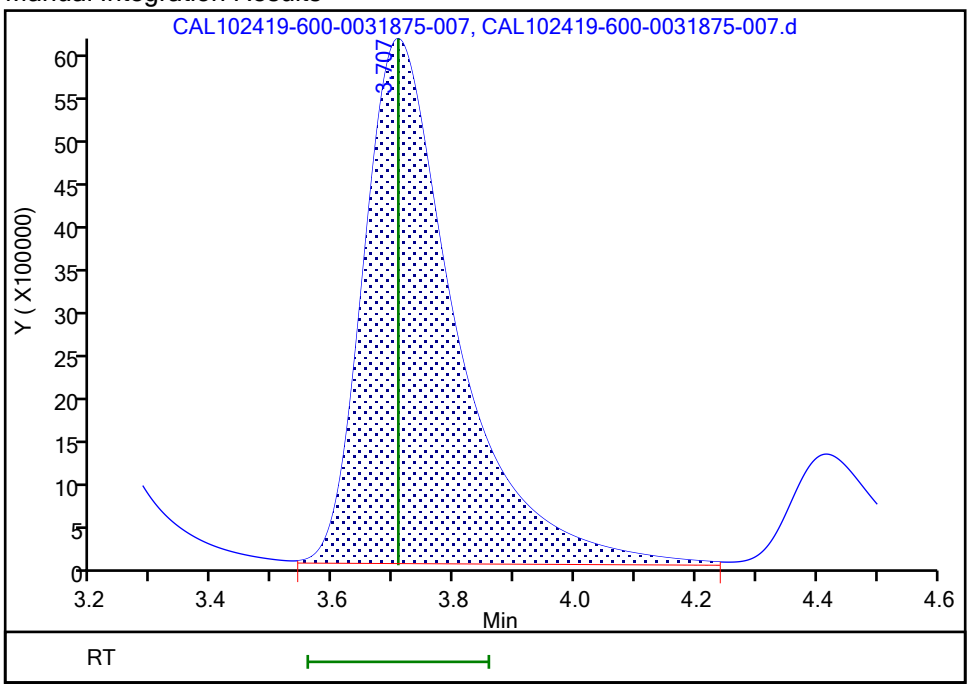

Reviewer: buschk, 25-Oct-2019 17:17:05
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-007.d				
Injection Date:	24-Oct-2019 14:00:00	Instrument ID:	CHWC17(IC)		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

3 Nitrate as N, CAS: 14797-55-8

Signal: 1

Processing Integration Results

RT: 4.92
Area: 129035686
Amount: 1.106982
Amount Units: ug/ml

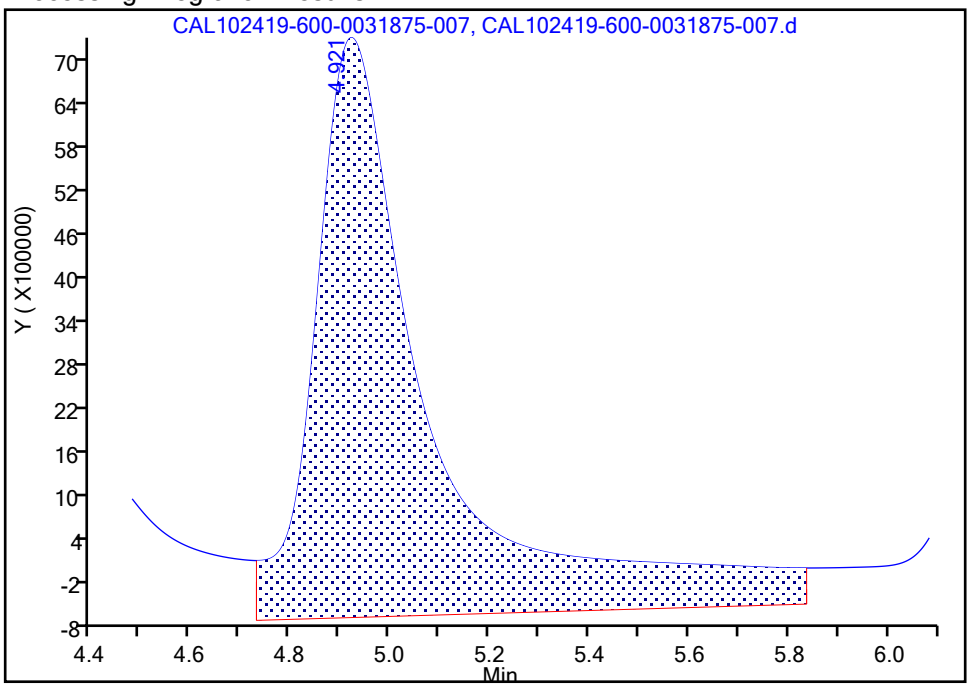

Manual Integration Results

RT: 4.92
Area: 86776235
Amount: 0.857594
Amount Units: ug/ml

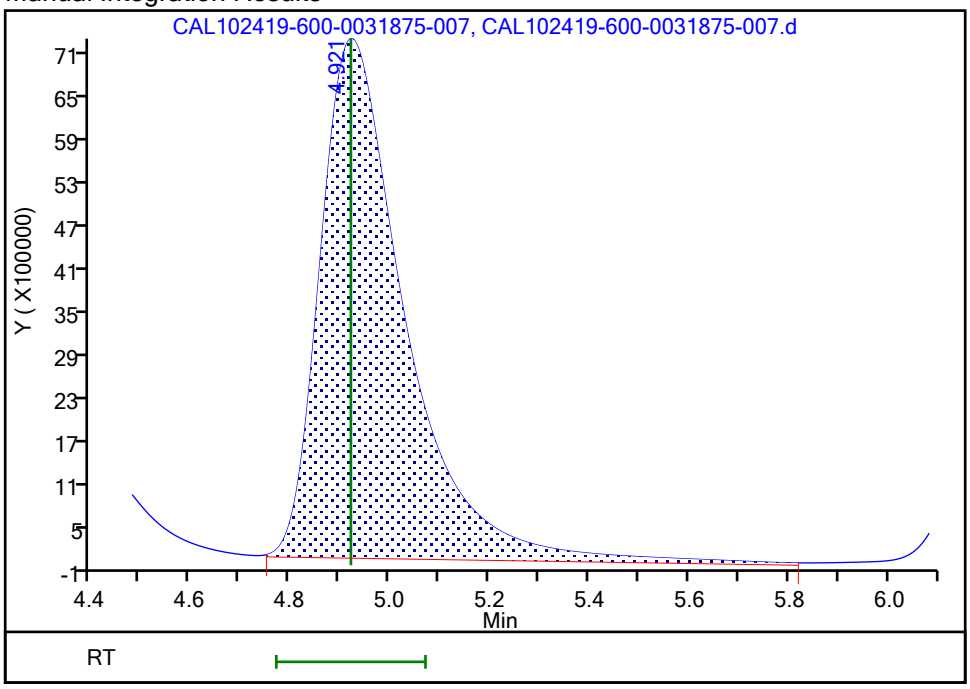

Reviewer: buschk, 25-Oct-2019 17:16:55

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-008.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 24-Oct-2019 14:11:00 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031875-008
Misc. Info.: ic-5
Operator ID: Instrument ID: CHWC17(IC)
Sublist: chrom-CHWC17(IC)*sub2

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 25-Oct-2019 17:40:44 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX1001

First Level Reviewer: reachs Date: 25-Oct-2019 10:57:53

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
7 Fluoride	2.217	2.217	0.000	94486907	NC	NC	M
2 Chloride	3.100	3.100	0.000	212682586	NC	NC	M
9 Nitrite as N	3.720	3.720	0.000	183730627	2.50	2.52	M
1 Bromide	4.414	4.414	0.000	29519583	NC	NC	M
3 Nitrate as N	4.910	4.910	0.000	251891705	2.50	2.30	M
5 Sulfate	7.064	7.064	0.000	134856727	NC	NC	M

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

ICCALSTD5_00045 Amount Added: 5.00 Units: mL
ICCALSTD1_00045 Amount Added: 5.00 Units: mL Run Reagent

Report Date: 25-Oct-2019 17:40:45 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-008.d

Injection Date: 24-Oct-2019 14:11:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: IC Worklist Smp#: 8

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_48hr

Column: AS-22 Dionex Lion Pac (2.00 mm)

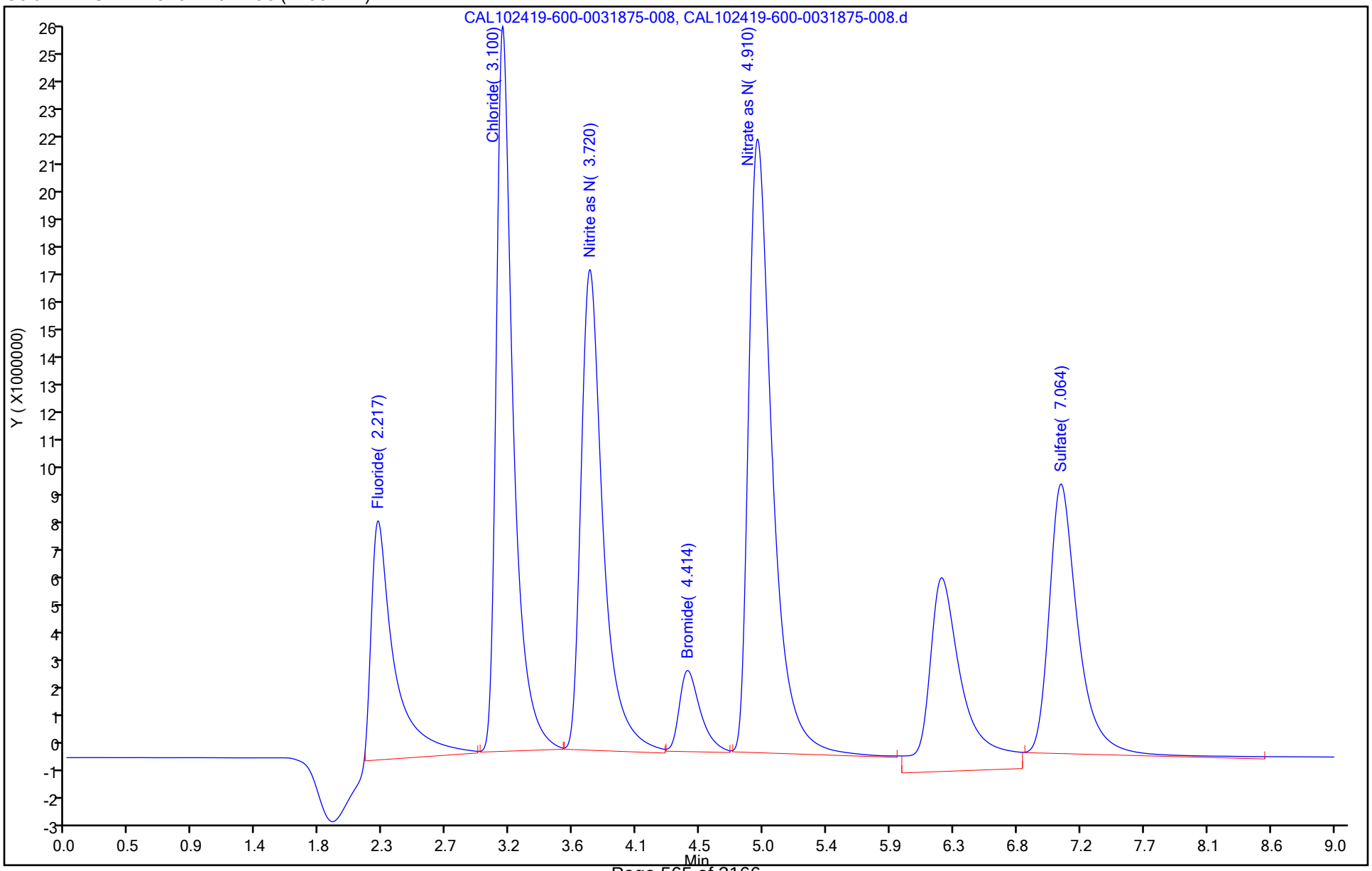

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-008.d				
Injection Date:	24-Oct-2019 14:11:00	Instrument ID:	CHWC17(IC)		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

9 Nitrite as N, CAS: 14797-65-0

Signal: 1

Processing Integration Results

RT: 3.72
Area: 232702050
Amount: 2.892850
Amount Units: ug/ml

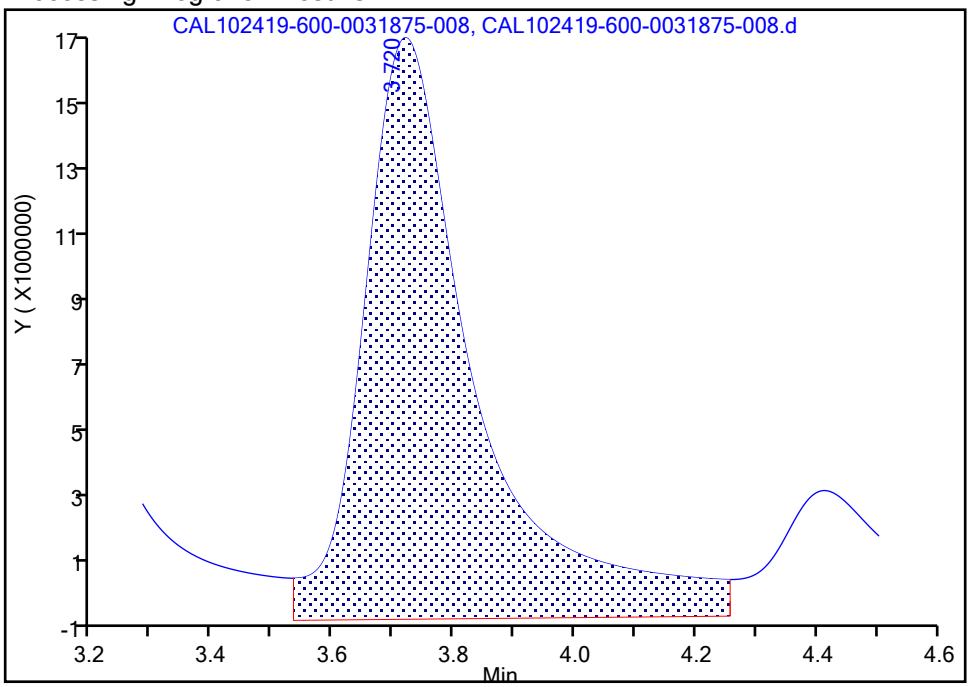

Manual Integration Results

RT: 3.72
Area: 183730627
Amount: 2.519415
Amount Units: ug/ml

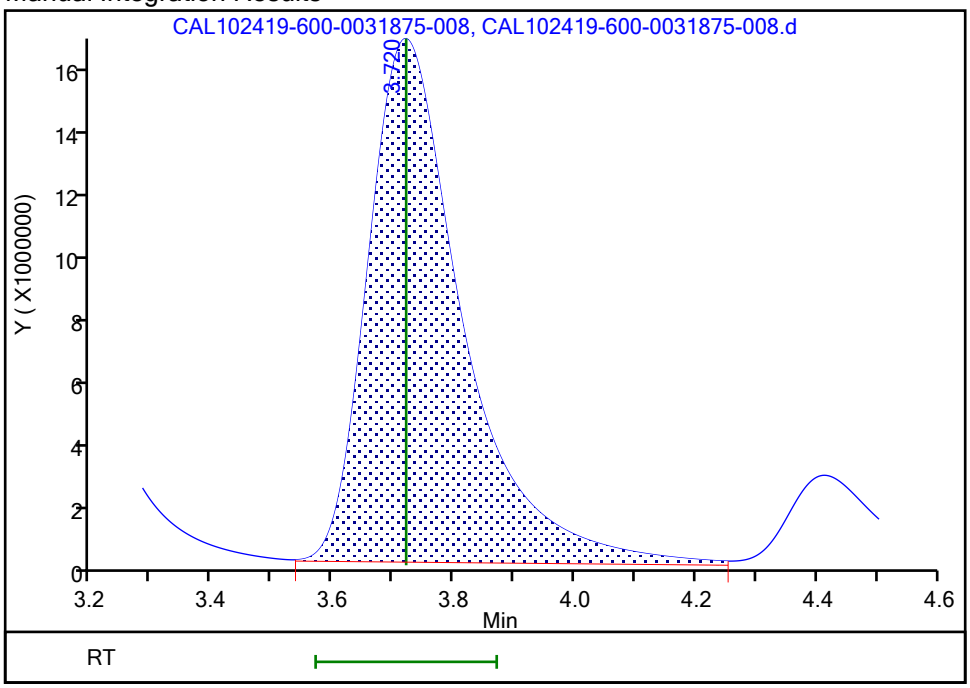

Reviewer: buschk, 25-Oct-2019 17:18:10

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-008.d				
Injection Date:	24-Oct-2019 14:11:00	Instrument ID:	CHWC17(IC)		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

3 Nitrate as N, CAS: 14797-55-8

Signal: 1

Processing Integration Results

RT: 4.91
Area: 306403916
Amount: 2.595401
Amount Units: ug/ml

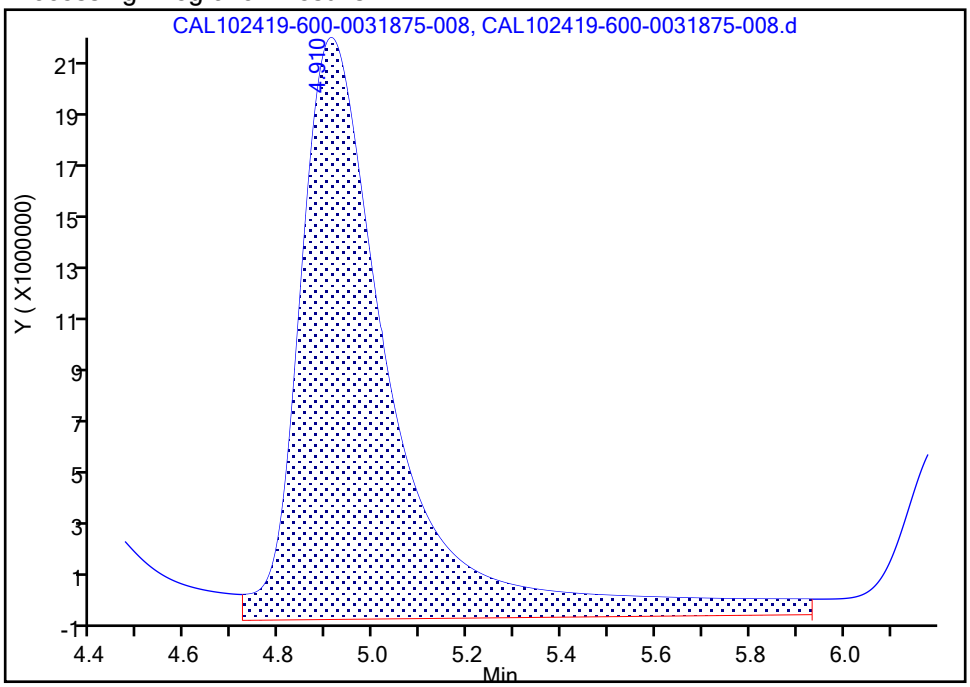

Manual Integration Results

RT: 4.91
Area: 251891705
Amount: 2.297677
Amount Units: ug/ml

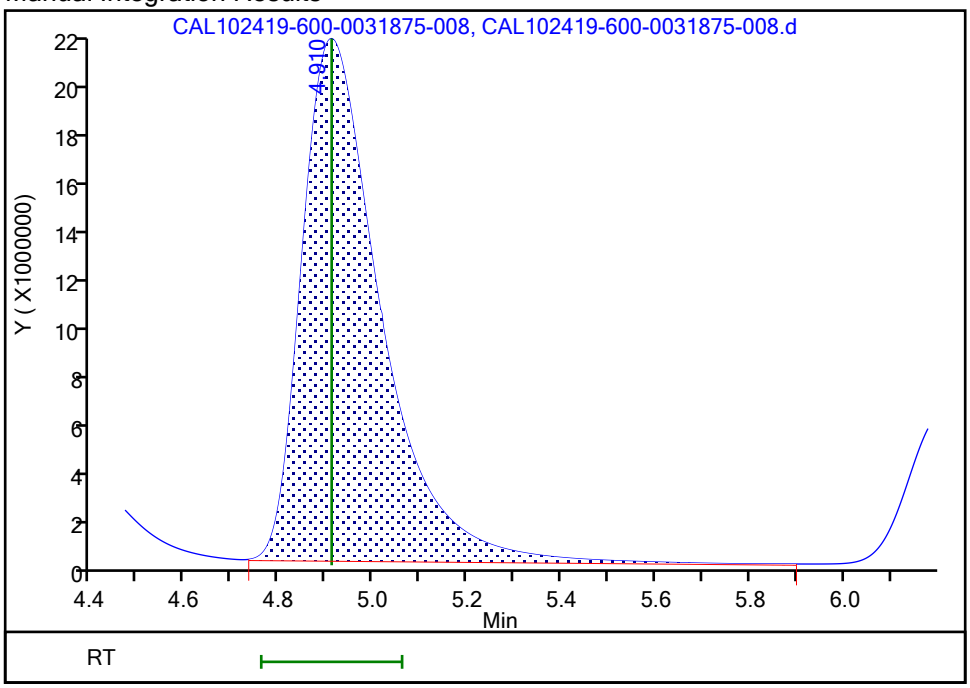

Reviewer: buschk, 25-Oct-2019 17:17:58

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-009.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 24-Oct-2019 14:21:00 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031875-009
Misc. Info.: ic-6
Operator ID: Instrument ID: CHWC17(IC)
Sublist: chrom-CHWC17(IC)*sub2

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 25-Oct-2019 17:40:45 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX1001

First Level Reviewer: reachs Date: 25-Oct-2019 11:00:31

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
7 Fluoride	2.221	2.221	0.000	248825932	NC	NC	M
2 Chloride	3.107	3.107	0.000	420287718	NC	NC	M
9 Nitrite as N	3.741	3.741	0.000	372114055	5.00	5.06	M
1 Bromide	4.421	4.421	0.000	69434021	NC	NC	M
3 Nitrate as N	4.904	4.904	0.000	529090925	5.00	4.72	M
5 Sulfate	7.081	7.081	0.000	280985134	NC	NC	M

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

ICCALSTD6_00041 Amount Added: 5.00 Units: mL
ICCALSTD1_00045 Amount Added: 5.00 Units: mL Run Reagent

Report Date: 25-Oct-2019 17:40:46 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-009.d

Injection Date: 24-Oct-2019 14:21:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: IC Worklist Smp#: 9

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_48hr

Column: AS-22 Dionex Lion Pac (2.00 mm)

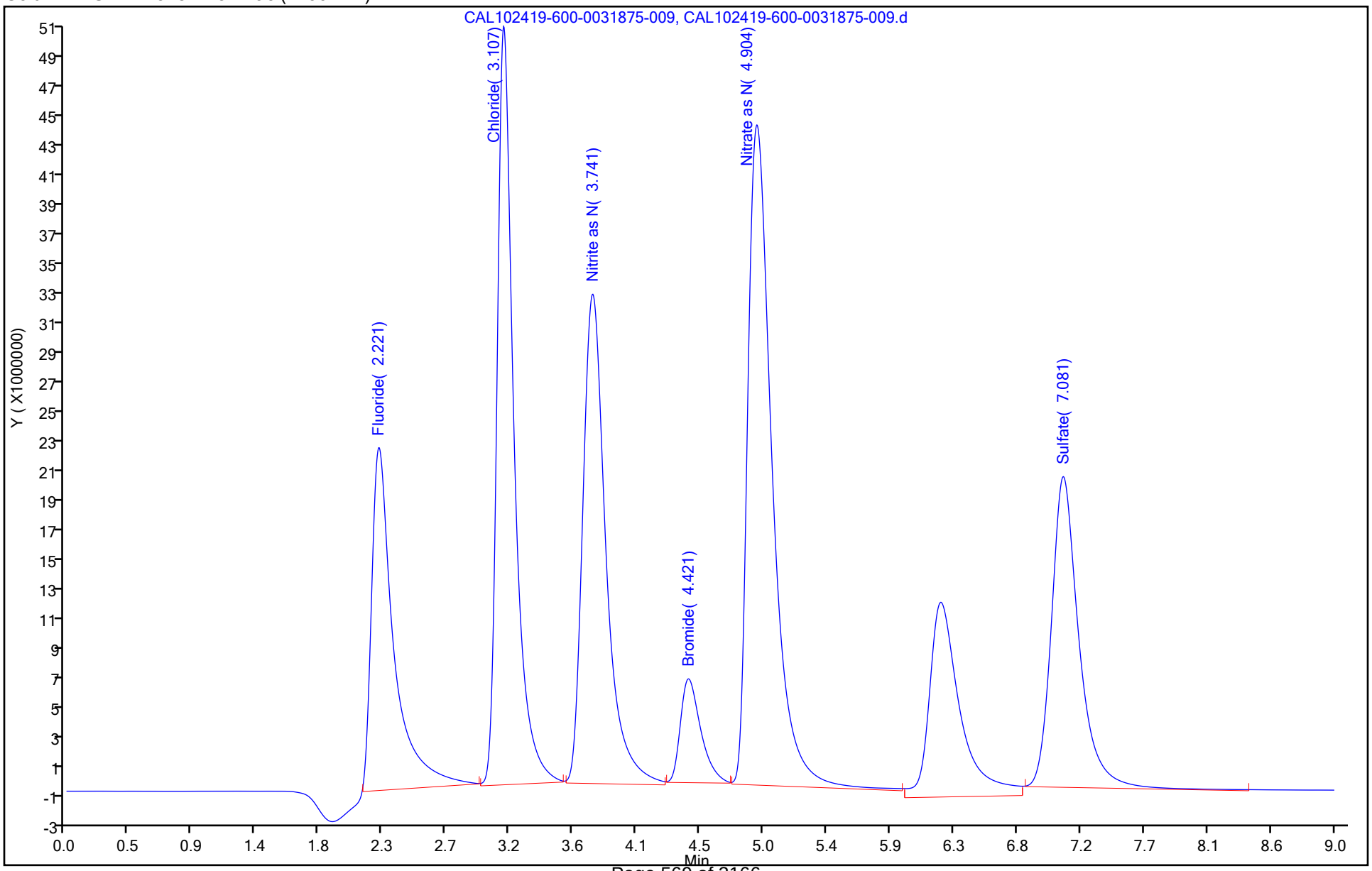

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-009.d				
Injection Date:	24-Oct-2019 14:21:00	Instrument ID:	CHWC17(IC)		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

9 Nitrite as N, CAS: 14797-65-0

Signal: 1

Processing Integration Results

RT: 3.74
Area: 427450506
Amount: 5.356187
Amount Units: ug/ml

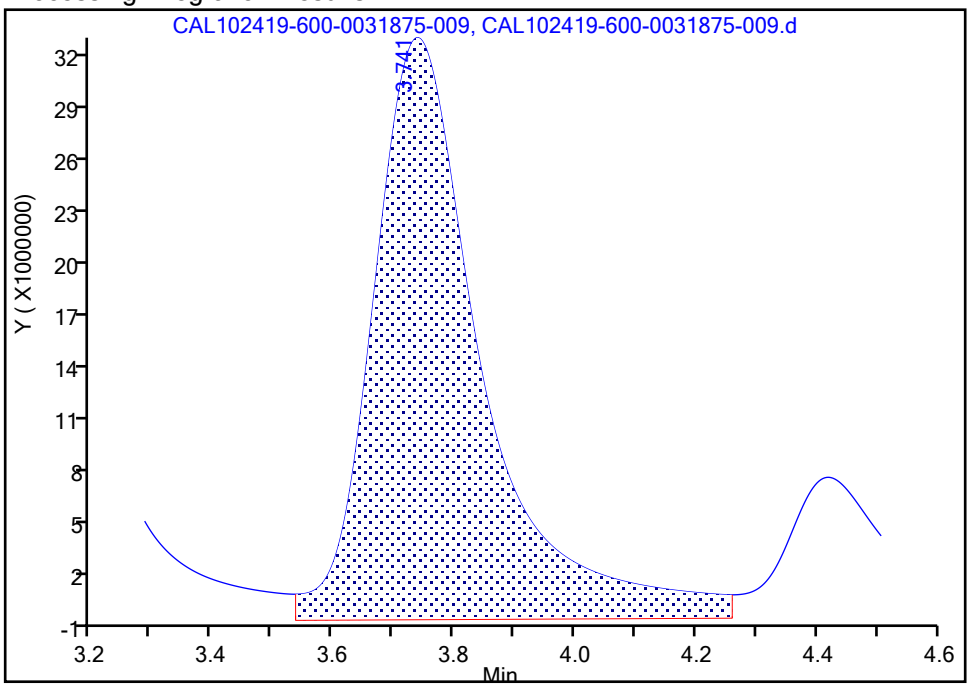

Manual Integration Results

RT: 3.74
Area: 372114055
Amount: 5.064934
Amount Units: ug/ml

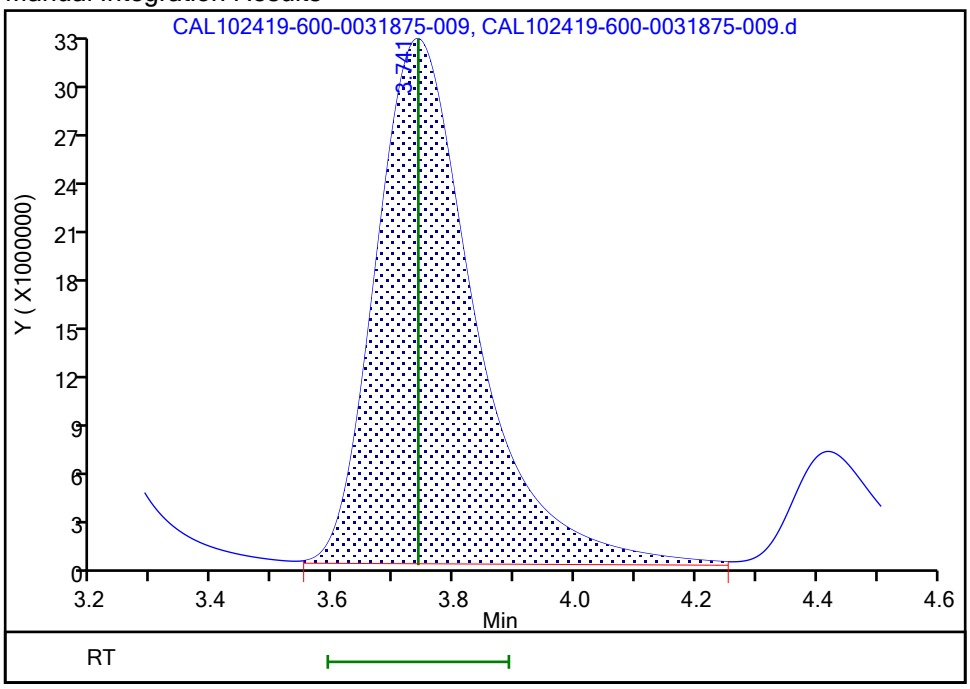

Reviewer: buschk, 25-Oct-2019 17:22:27

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-009.d				
Injection Date:	24-Oct-2019 14:21:00	Instrument ID:	CHWC17(IC)		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

3 Nitrate as N, CAS: 14797-55-8

Signal: 1

Processing Integration Results

RT: 4.90
Area: 587484884
Amount: 4.948368
Amount Units: ug/ml

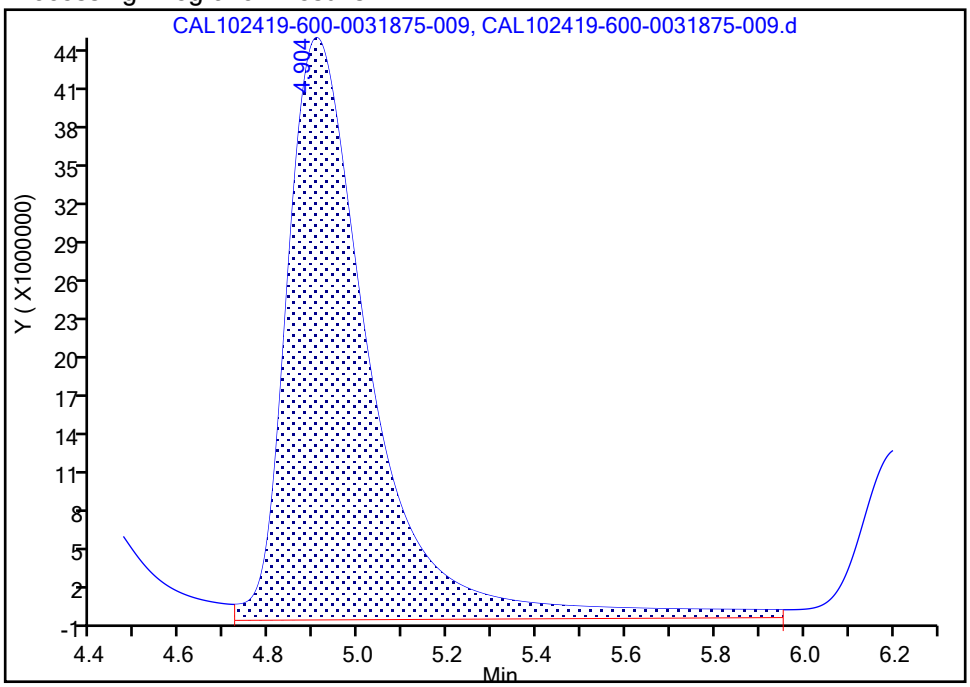

Manual Integration Results

RT: 4.90
Area: 529090925
Amount: 4.715318
Amount Units: ug/ml

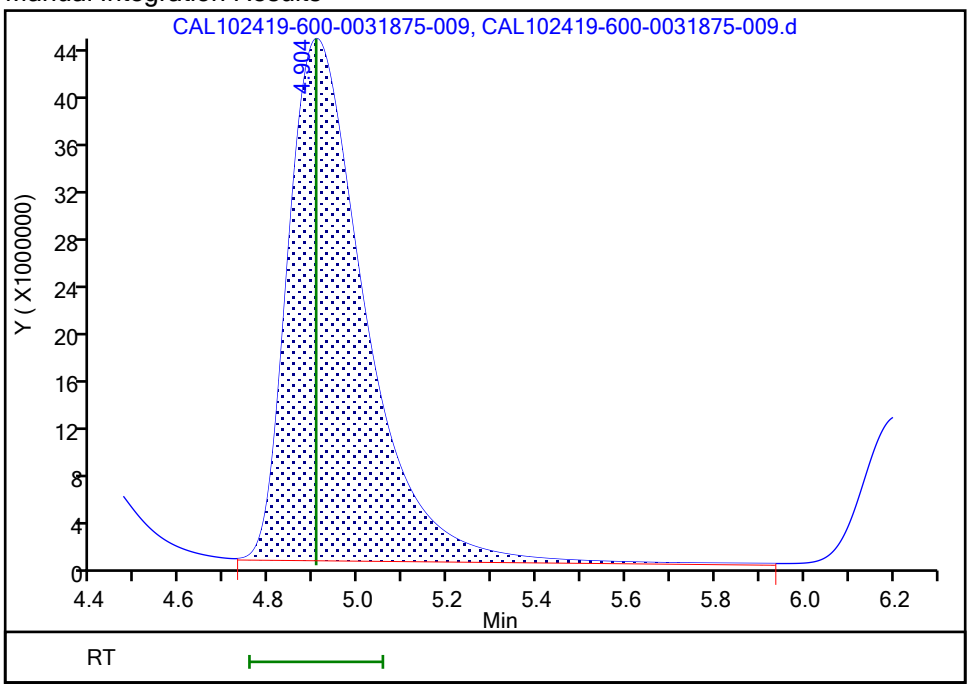

Reviewer: buschk, 25-Oct-2019 17:22:17
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-010.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 24-Oct-2019 14:32:00 ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031875-010
Misc. Info.: ic-7
Operator ID: Instrument ID: CHWC17(IC)
Sublist: chrom-CHWC17(IC)*sub2

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 25-Oct-2019 17:40:46 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX1001

First Level Reviewer: reachs Date: 25-Oct-2019 11:08:15

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.227	2.221	0.006	389994850	NC	NC	M
	2 Chloride	3.121	3.107	0.014	905105344	NC	NC	M
	9 Nitrite as N	3.764	3.741	0.023	745081277	10.0	10.1	M
	1 Bromide	4.421	4.421	0.000	108471759	NC	NC	M
	3 Nitrate as N	4.891	4.904	-0.013	1109127244	10.0	9.77	M
	5 Sulfate	7.114	7.081	0.033	609165306	NC	NC	M
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N						19.9	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

ICCALSTD7_00044 Amount Added: 5.00 Units: mL
ICCALSTD1_00045 Amount Added: 5.00 Units: mL Run Reagent

Report Date: 25-Oct-2019 17:40:47 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-010.d

Injection Date: 24-Oct-2019 14:32:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: IC Worklist Smp#: 10

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_48hr

Column: AS-22 Dionex Lion Pac (2.00 mm)

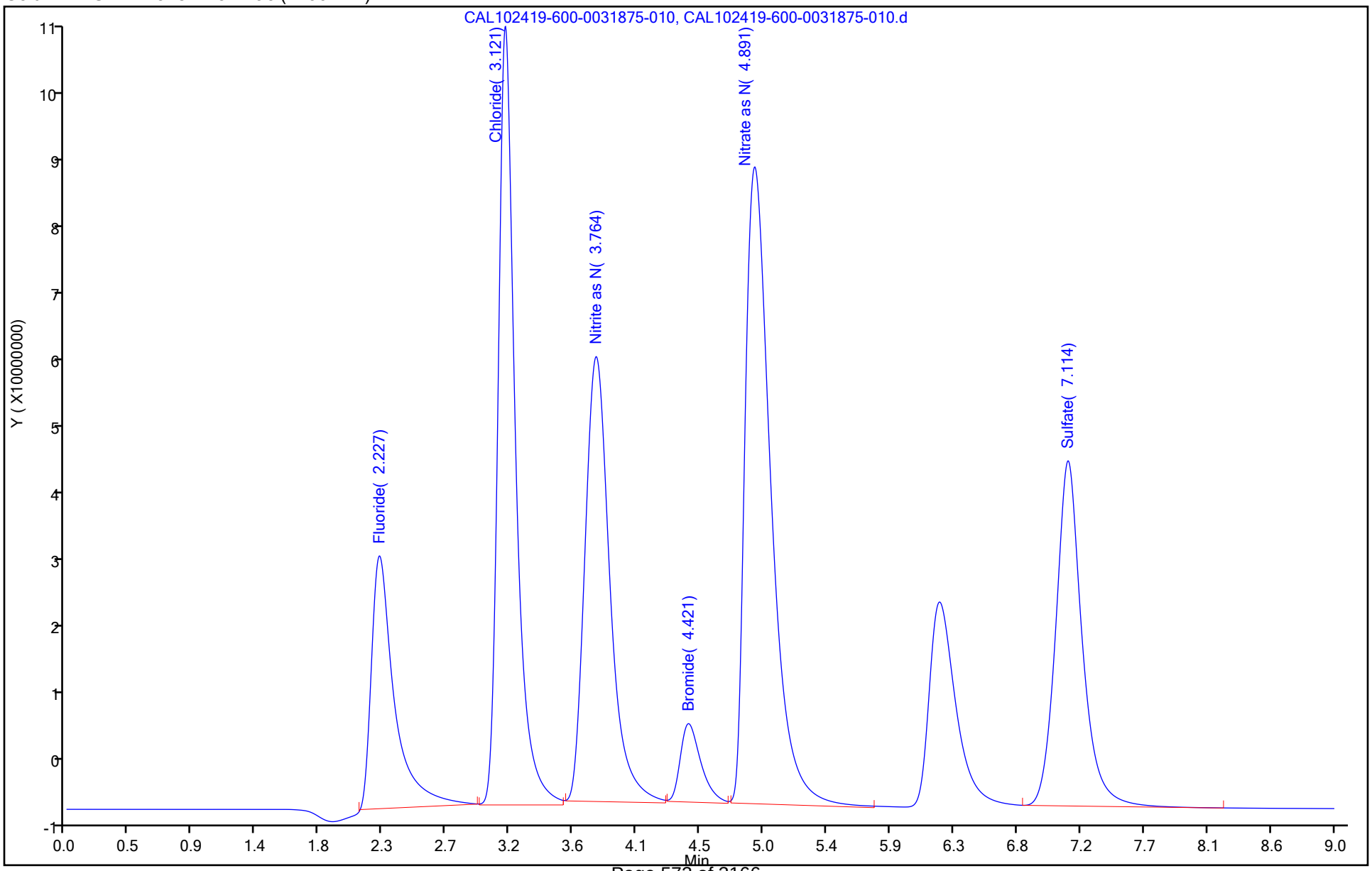

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-010.d				
Injection Date:	24-Oct-2019 14:32:00	Instrument ID:	CHWC17(IC)		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

9 Nitrite as N, CAS: 14797-65-0

Signal: 1

Processing Integration Results

RT: 3.76
Area: 818008294
Amount: 10.368709
Amount Units: ug/ml

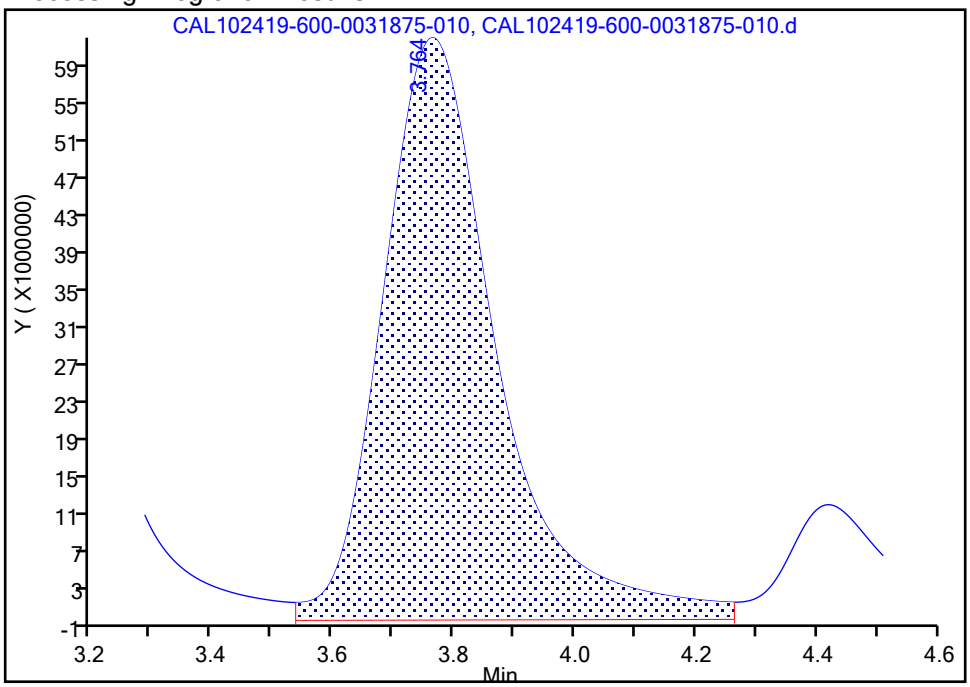

Manual Integration Results

RT: 3.76
Area: 745081277
Amount: 10.104628
Amount Units: ug/ml

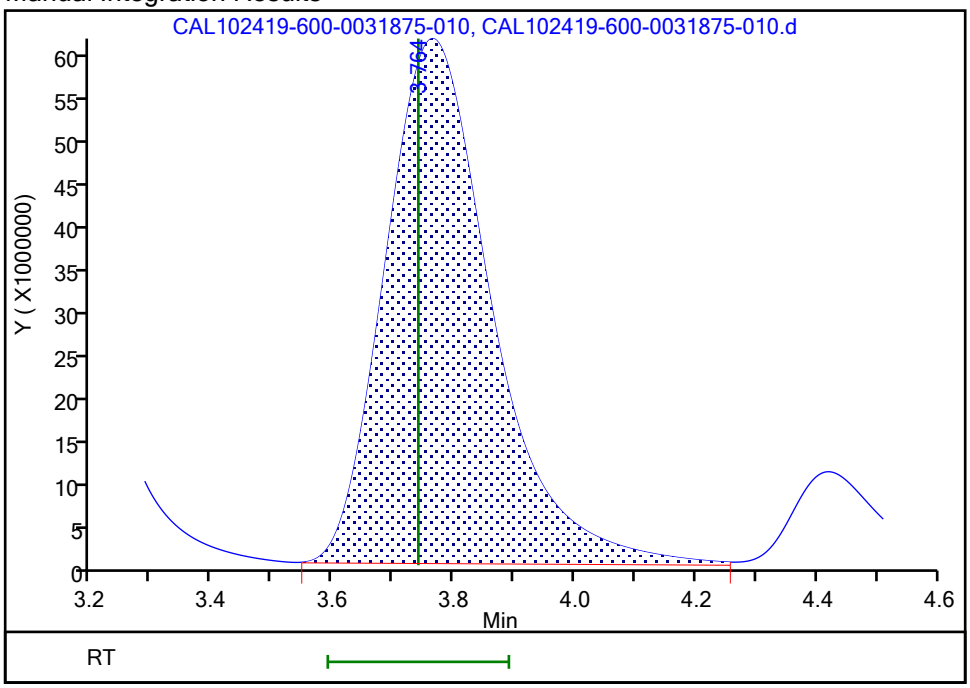

Reviewer: buschk, 25-Oct-2019 17:24:12
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-010.d				
Injection Date:	24-Oct-2019 14:32:00	Instrument ID:	CHWC17(IC)		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

3 Nitrate as N, CAS: 14797-55-8

Signal: 1

Processing Integration Results

RT: 4.89
Area: 1181746268
Amount: 9.966353
Amount Units: ug/ml

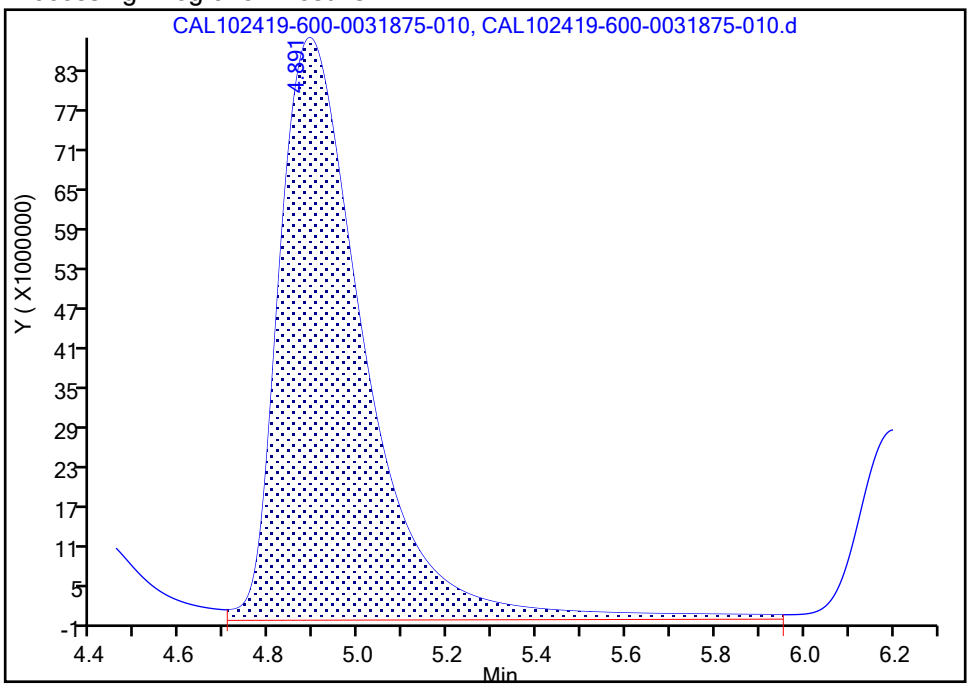

Manual Integration Results

RT: 4.89
Area: 1109127244
Amount: 9.774206
Amount Units: ug/ml

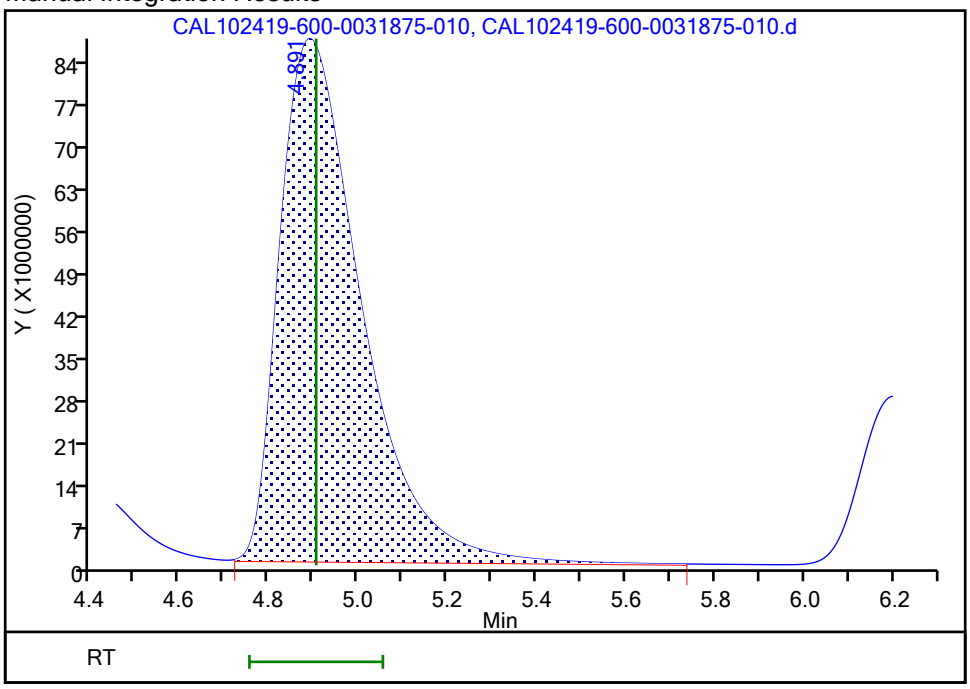

Reviewer: buschk, 25-Oct-2019 17:23:56

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 24-Oct-2019 14:43:00 ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031875-011
Misc. Info.: ic-8
Operator ID: Instrument ID: CHWC17(IC)
Sublist: chrom-CHWC17(IC)*sub2

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 25-Oct-2019 17:40:47 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX1001

First Level Reviewer: reachs Date: 25-Oct-2019 12:01:33

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.224	2.221	0.003	532819640	NC	NC	M
	2 Chloride	3.137	3.107	0.030	1906972252	NC	NC	M
	9 Nitrite as N	3.797	3.741	0.056	1470311210	20.0	19.9	M
	1 Bromide	4.417	4.421	-0.004	133886899	NC	NC	M
	3 Nitrate as N	4.864	4.904	-0.040	2375087667	20.0	20.8	M
	5 Sulfate	7.174	7.081	0.093	1316153403	NC	NC	M
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N						40.7	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

ICCALSTD8_00032 Amount Added: 5.00 Units: mL
ICCALSTD1_00045 Amount Added: 5.00 Units: mL Run Reagent

Report Date: 25-Oct-2019 17:40:48 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Injection Date: 24-Oct-2019 14:43:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: IC Worklist Smp#: 11

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_48hr

Column: AS-22 Dionex Lion Pac (2.00 mm)

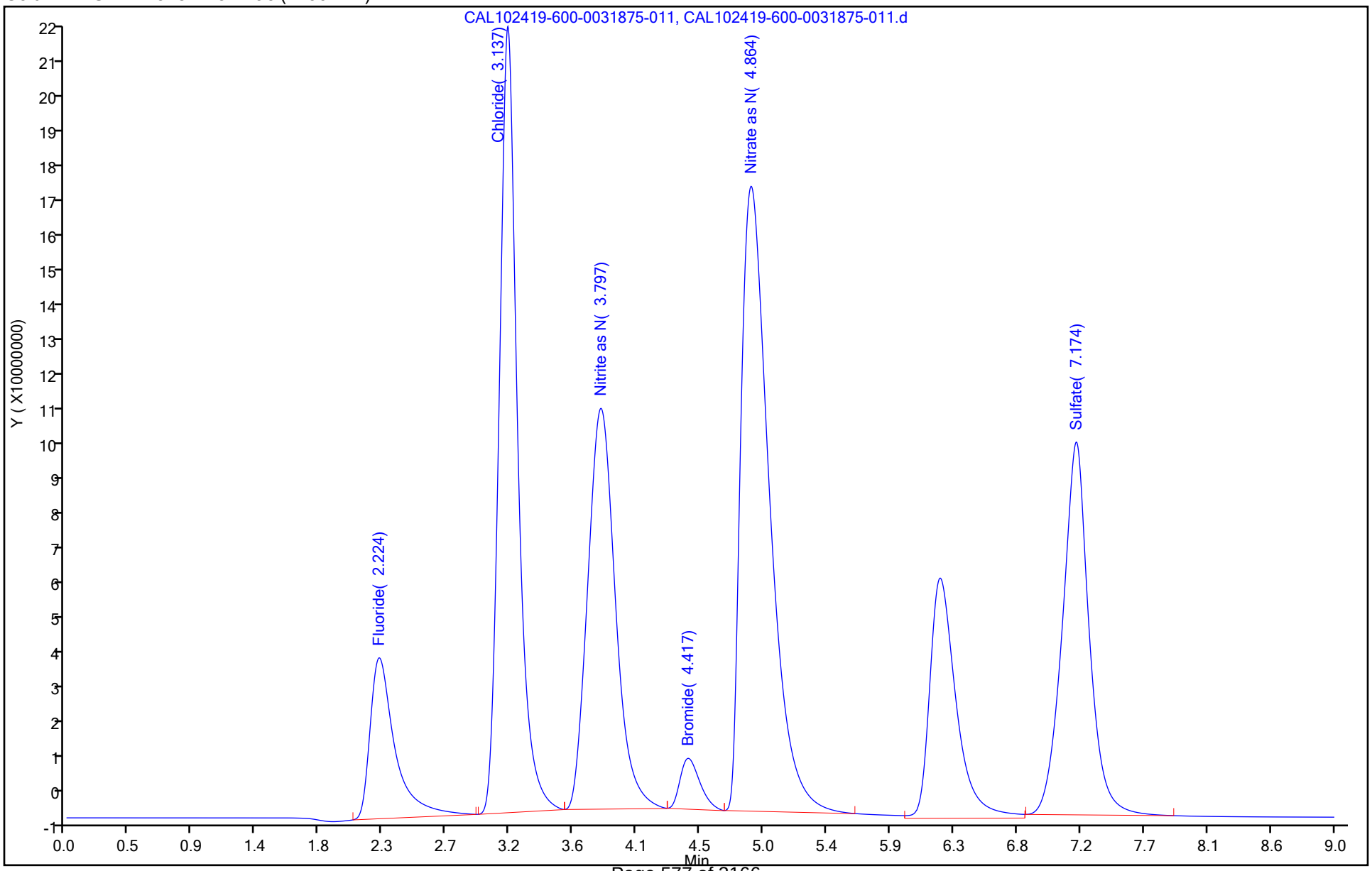

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d				
Injection Date:	24-Oct-2019 14:43:00	Instrument ID:	CHWC17(IC)		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

9 Nitrite as N, CAS: 14797-65-0

Signal: 1

Processing Integration Results

RT: 3.80
Area: 1590133537
Amount: 20.598228
Amount Units: ug/ml

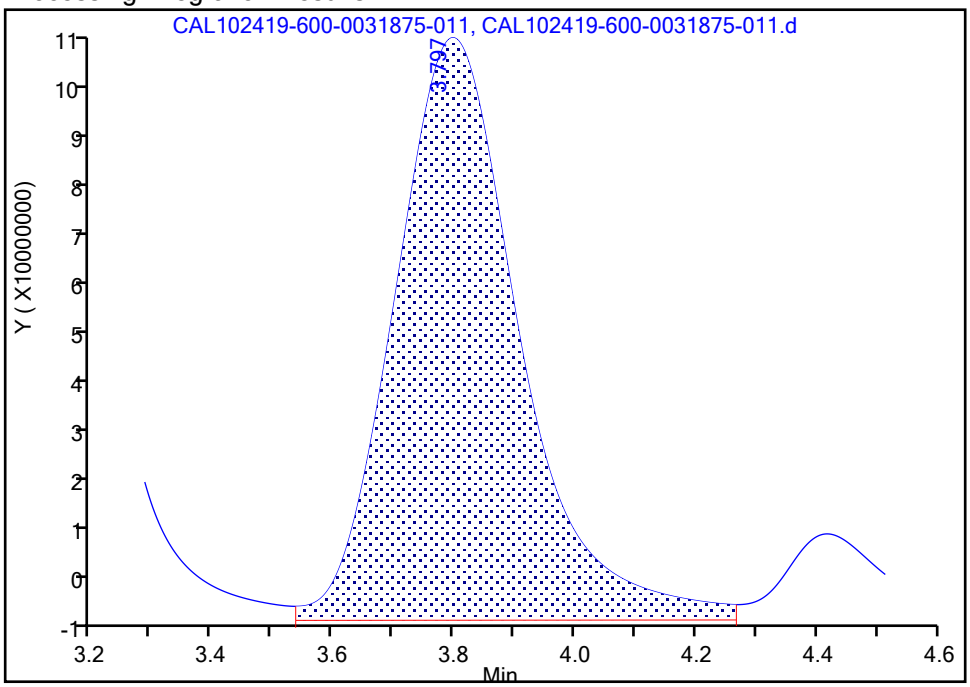

Manual Integration Results

RT: 3.80
Area: 1470311210
Amount: 19.904249
Amount Units: ug/ml

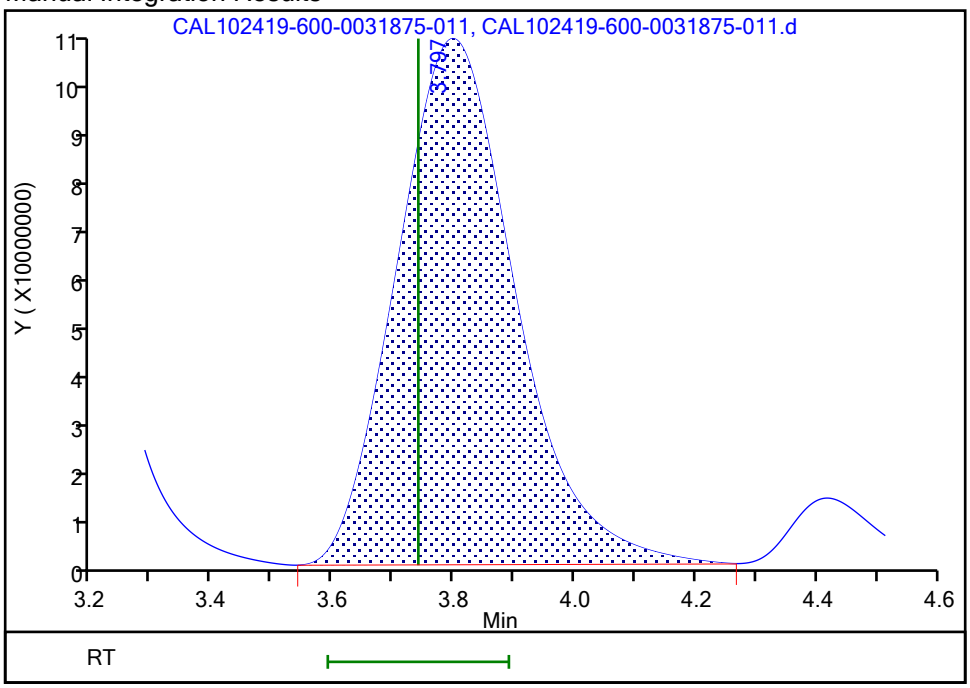

Reviewer: buschk, 25-Oct-2019 17:34:05
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d				
Injection Date:	24-Oct-2019 14:43:00	Instrument ID:	CHWC17(IC)		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

3 Nitrate as N, CAS: 14797-55-8

Signal: 1

Processing Integration Results

RT: 4.86
Area: 2494568217
Amount: 21.261997
Amount Units: ug/ml

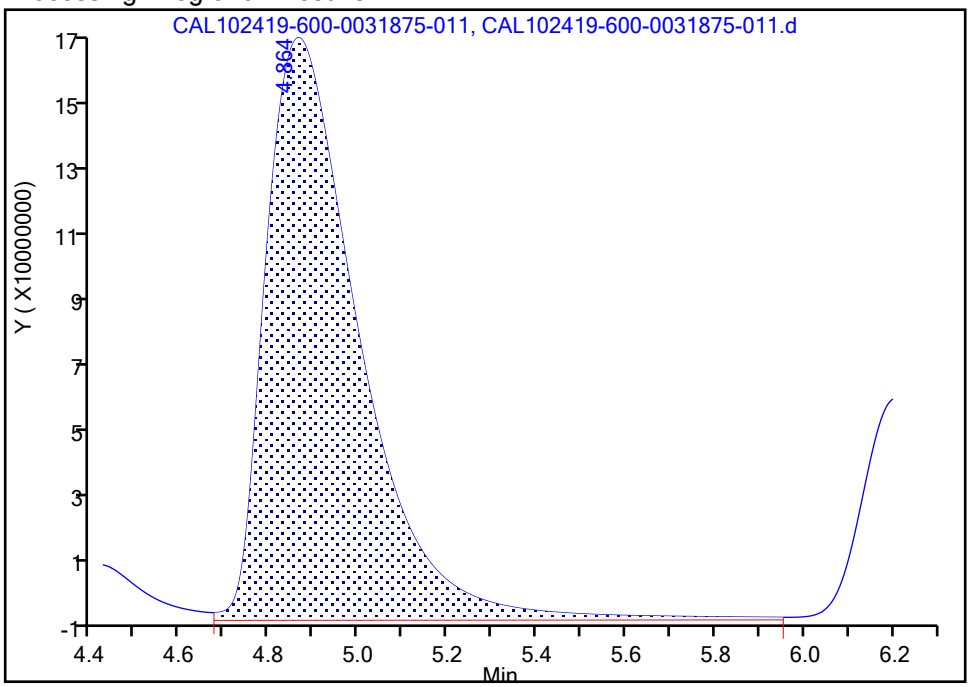

Manual Integration Results

RT: 4.86
Area: 2375087667
Amount: 20.815501
Amount Units: ug/ml

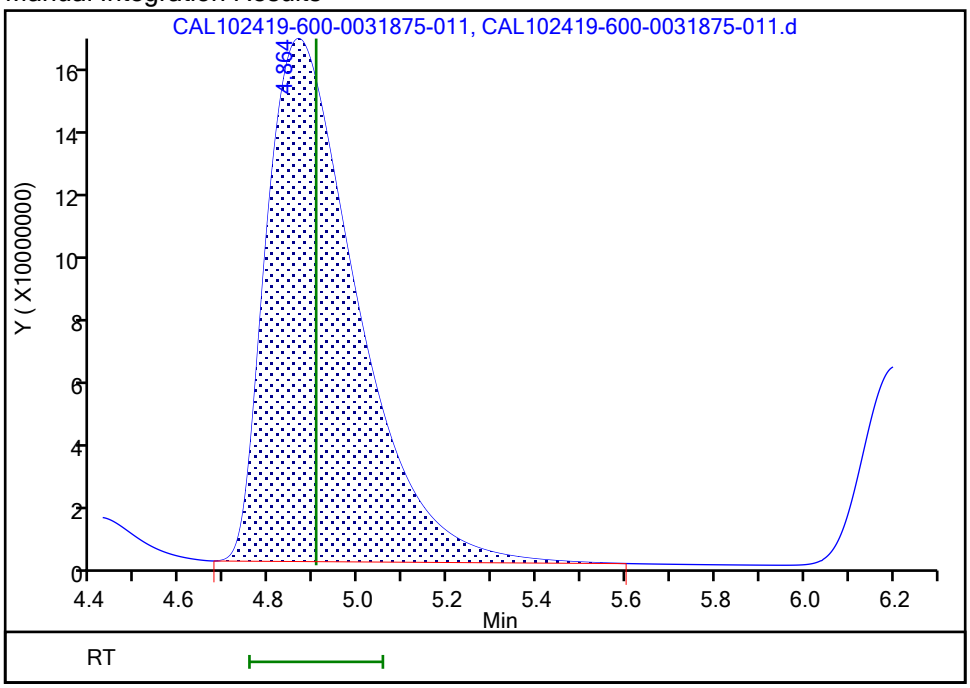

Reviewer: buschk, 25-Oct-2019 17:33:40

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-279165/2 Calibration Date: 11/01/2019 10:35

Instrument ID: CHWC11 Calib Start Date: 10/18/2019 16:34

GC Column: AS-18 ID: Calib End Date: 10/18/2019 18:57

Lab File ID: 110119-2.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin1		10768321		7.76	7.50	3.4	10.0
Chloride	Lin1		5317656		19.5	20.0	-2.6	10.0
Bromide	Lin1		1988391		7.41	7.50	-1.1	10.0
Sulfate	Lin1		3797249		19.4	20.0	-2.9	10.0

FORM VII 300.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-279165/2 Calibration Date: 11/01/2019 10:35

Instrument ID: CHWC11 Calib Start Date: 10/18/2019 16:34

GC Column: AS-18 ID: Calib End Date: 10/18/2019 18:57

Lab File ID: 110119-2.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	3.12	2.87	3.37
Chloride	4.84	4.59	5.09
Bromide	8.67	8.42	8.92
Sulfate	9.33	9.08	9.58

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20191031-32021.b\110119-2.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 01-Nov-2019 10:35:00 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032021-002
Operator ID: Instrument ID: CHWC11
Sublist: chrom-300_11*sub2

Method: \\chromna\Houston\ChromData\CHWC11\20191031-32021.b\300_11.m
Limit Group: WC - IC_300_9056_28day
Last Update: 04-Nov-2019 11:07:01 Calib Date: 18-Oct-2019 18:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d

Column 1 : Det: 040914-1
Process Host: CTX0335

First Level Reviewer: reachs Date: 01-Nov-2019 11:56:24

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
7 Fluoride	3.117	3.117	0.000	80762406	7.50	7.76	
2 Chloride	4.842	4.842	0.000	106353119	20.0	19.5	
9 Nitrite as N	6.017	6.017	0.000	124746067	NC	NC	
1 Bromide	8.667	8.667	0.000	14912930	7.50	7.41	
5 Sulfate	9.325	9.325	0.000	75944987	20.0	19.4	
3 Nitrate as N	10.042	10.042	0.000	128557107	NC	NC	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

CCV_00112 Amount Added: 5.00 Units: mL

Report Date: 04-Nov-2019 11:07:02 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191031-32021.b\110119-2.d				
Injection Date:	01-Nov-2019 10:35:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	CCV			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		

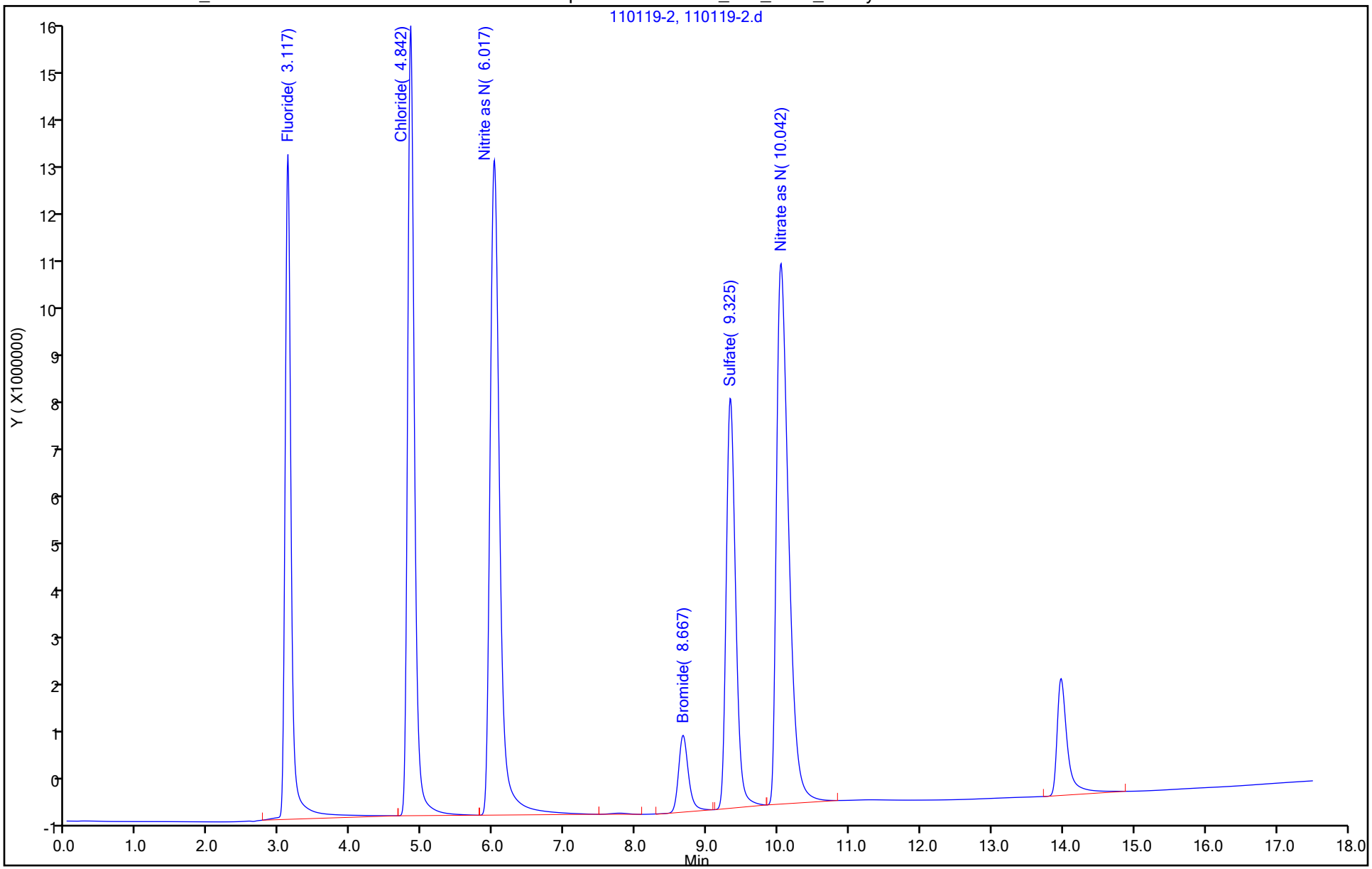

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-279166/2 Calibration Date: 11/01/2019 10:35

Instrument ID: CHWC11 Calib Start Date: 10/18/2019 16:34

GC Column: AS-18 ID: Calib End Date: 10/18/2019 18:57

Lab File ID: 110119-2.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitrite as N	Lin1		12474607		10.1	10.0	0.7	10.0
Nitrate as N	Lin1		12855711		9.73	10.0	-2.7	10.0

FORM VII 300.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-279166/2 Calibration Date: 11/01/2019 10:35

Instrument ID: CHWC11 Calib Start Date: 10/18/2019 16:34

GC Column: AS-18 ID: Calib End Date: 10/18/2019 18:57

Lab File ID: 110119-2.d

Analyte	RT	RT WINDOW	
		FROM	TO
Nitrite as N	6.02	5.77	6.27
Nitrate as N	10.04	9.79	10.29

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20191031-32021.b\110119-2.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 01-Nov-2019 10:35:00 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032021-002
Operator ID: Instrument ID: CHWC11
Sublist: chrom-300_11*sub2

Method: \\chromna\Houston\ChromData\CHWC11\20191031-32021.b\300_11.m
Limit Group: WC - IC_300_9056_48hr
Last Update: 04-Nov-2019 11:07:01 Calib Date: 18-Oct-2019 18:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d

Column 1 : Det: 040914-1
Process Host: CTX0335

First Level Reviewer: reachs Date: 01-Nov-2019 11:56:24

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
7 Fluoride	3.117	3.117	0.000	80762406	NC	NC	
2 Chloride	4.842	4.842	0.000	106353119	NC	NC	
9 Nitrite as N	6.017	6.017	0.000	124746067	10.0	10.1	
1 Bromide	8.667	8.667	0.000	14912930	NC	NC	
5 Sulfate	9.325	9.325	0.000	75944987	NC	NC	
3 Nitrate as N	10.042	10.042	0.000	128557107	10.0	9.73	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

CCV_00112 Amount Added: 5.00 Units: mL

Report Date: 04-Nov-2019 11:07:02 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191031-32021.b\110119-2.d				
Injection Date:	01-Nov-2019 10:35:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	CCV			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		

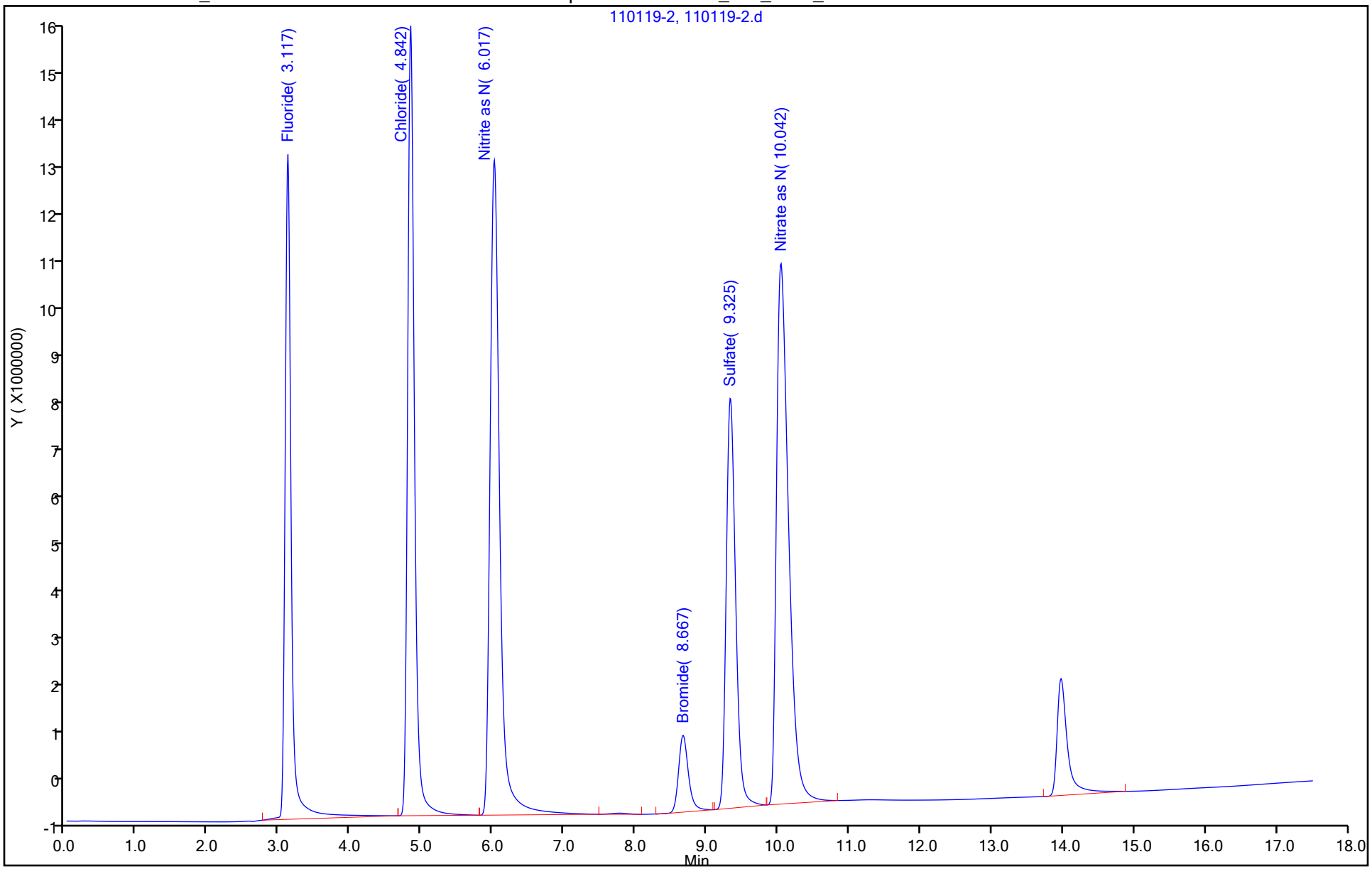

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-279165/14 Calibration Date: 11/01/2019 18:22

Instrument ID: CHWC11 Calib Start Date: 10/18/2019 16:34

GC Column: AS-18 ID: Calib End Date: 10/18/2019 18:57

Lab File ID: 110119-14.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin1		11404139		8.21	7.50	9.5	10.0
Chloride	Lin1		5814317		21.3	20.0	6.4	10.0
Bromide	Lin1		2211047		8.24	7.50	9.8	10.0
Sulfate	Lin1		4147056		21.2	20.0	6.0	10.0

FORM VII 300.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-279165/14 Calibration Date: 11/01/2019 18:22

Instrument ID: CHWC11 Calib Start Date: 10/18/2019 16:34

GC Column: AS-18 ID: Calib End Date: 10/18/2019 18:57

Lab File ID: 110119-14.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	3.12	2.87	3.37
Chloride	4.84	4.59	5.09
Bromide	8.65	8.42	8.92
Sulfate	9.36	9.08	9.58

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20191031-32021.b\110119-14.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 01-Nov-2019 18:22:00 ALS Bottle#: 0 Worklist Smp#: 14
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032021-014
Misc. Info.: 20573
Operator ID: Instrument ID: CHWC11
Sublist: chrom-300_11*sub2

Method: \\chromna\Houston\ChromData\CHWC11\20191031-32021.b\300_11.m
Limit Group: WC - IC_300_9056_28day
Last Update: 04-Nov-2019 11:07:18 Calib Date: 18-Oct-2019 18:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d

Column 1 : Det: 040914-1
Process Host: CTX0335

First Level Reviewer: reachs Date: 04-Nov-2019 10:53:33

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	3.117	3.117	0.000	85531044	7.50	8.21	M
	2 Chloride	4.842	4.842	0.000	116286342	20.0	21.3	
	9 Nitrite as N	6.009	6.017	-0.008	133351127	NC	NC	M
	1 Bromide	8.650	8.667	-0.017	16582854	7.50	8.24	M
	5 Sulfate	9.359	9.325	0.034	82941123	20.0	21.2	
	3 Nitrate as N	10.025	10.042	-0.017	139756947	NC	NC	M
S	8 Sulfate as Sulfur						21.2	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

CCV_00112 Amount Added: 5.00 Units: mL

Report Date: 04-Nov-2019 11:07:19 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191031-32021.b\110119-14.d				
Injection Date:	01-Nov-2019 18:22:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	CCV			Worklist Smp#:	14
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		

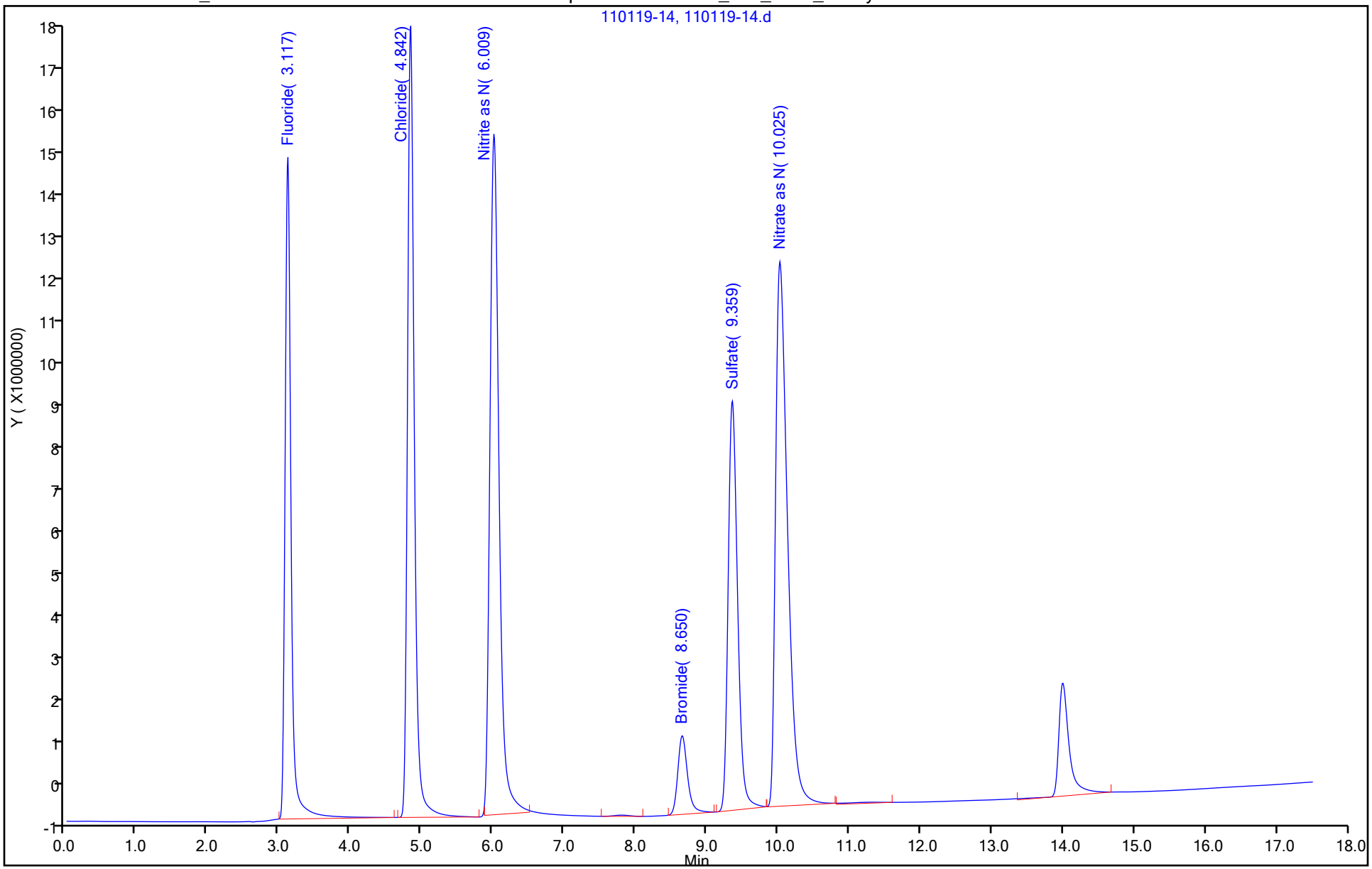

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191031-32021.b\110119-14.d				
Injection Date:	01-Nov-2019 18:22:00	Instrument ID:	CHWC11		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		
Column:		Detector	040914-1		

7 Fluoride, CAS: 16984-48-8

Signal: 1

Processing Integration Results

RT: 3.12
Area: 87645951
Amount: 8.413602
Amount Units: ug/ml

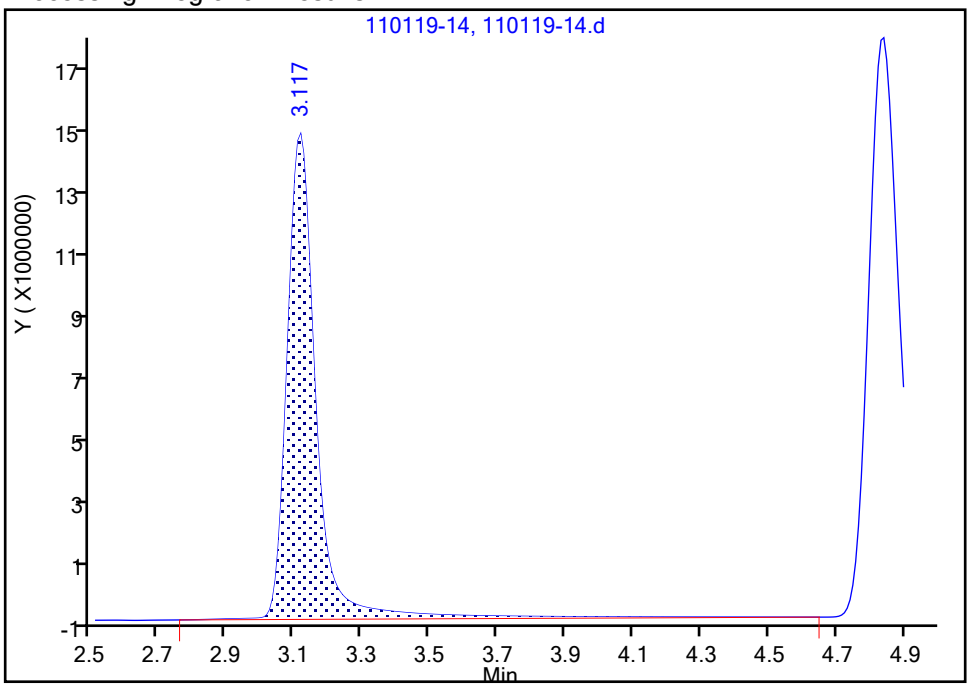

Manual Integration Results

RT: 3.12
Area: 85531044
Amount: 8.211609
Amount Units: ug/ml

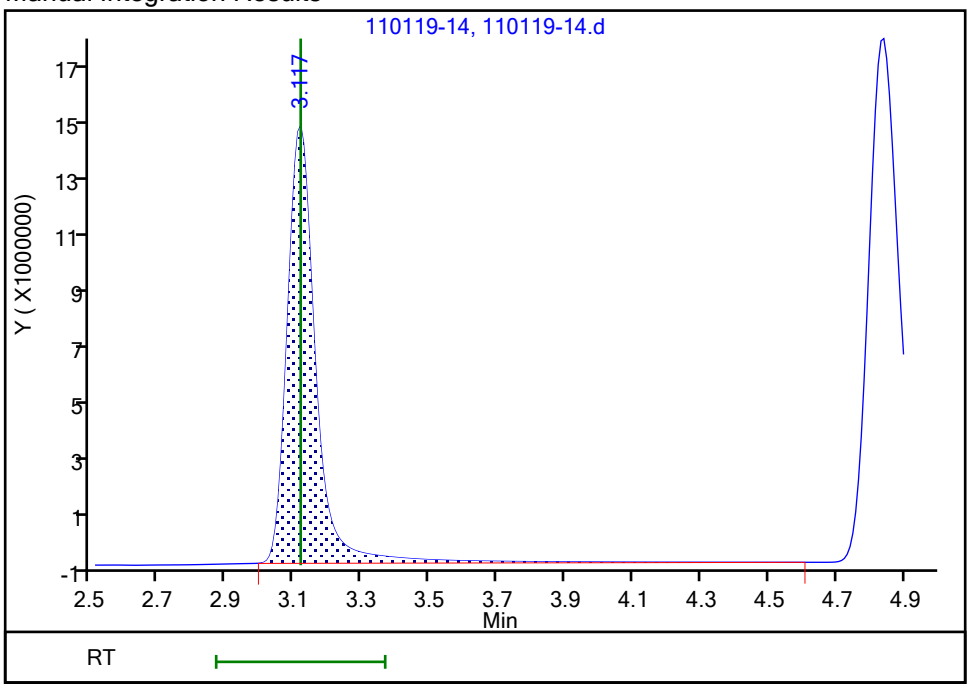

Reviewer: reachs, 04-Nov-2019 10:51:30

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191031-32021.b\110119-14.d				
Injection Date:	01-Nov-2019 18:22:00	Instrument ID:	CHWC11		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		
Column:		Detector	040914-1		

1 Bromide, CAS: 24959-67-9

Signal: 1

Processing Integration Results

RT: 8.65
Area: 16572059
Amount: 8.229925
Amount Units: ug/ml

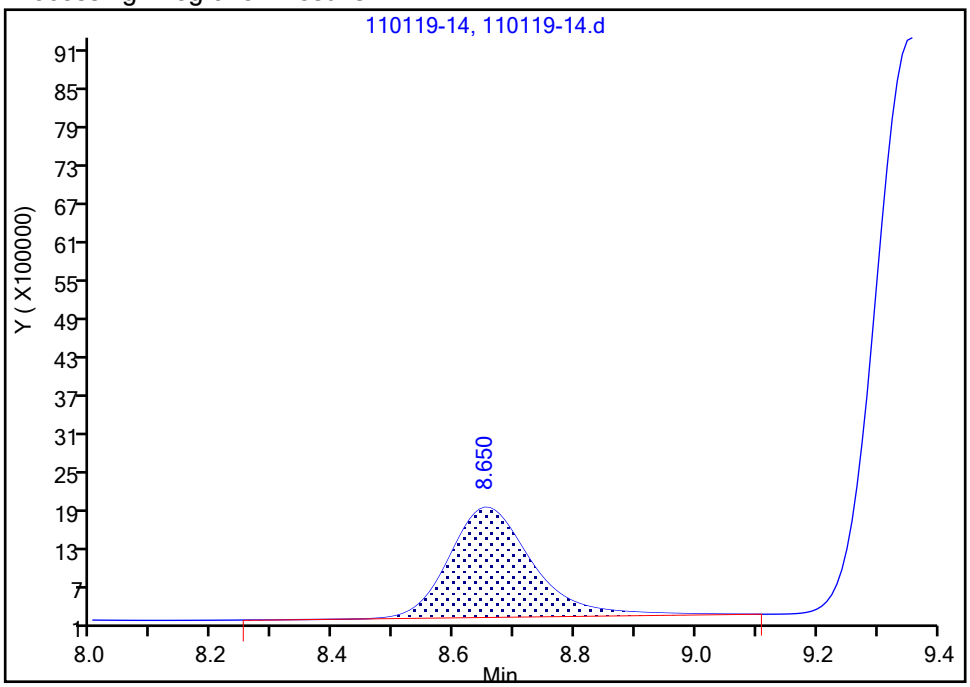

Manual Integration Results

RT: 8.65
Area: 16582854
Amount: 8.235232
Amount Units: ug/ml

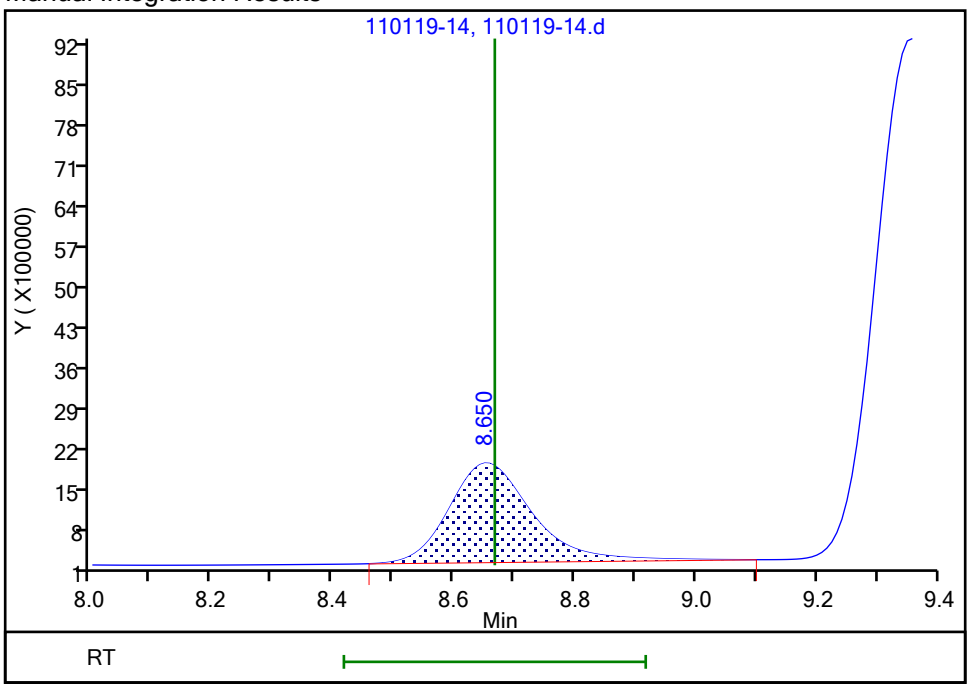

Reviewer: reachs, 04-Nov-2019 10:51:46

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-279166/14 Calibration Date: 11/01/2019 18:22

Instrument ID: CHWC11 Calib Start Date: 10/18/2019 16:34

GC Column: AS-18 ID: Calib End Date: 10/18/2019 18:57

Lab File ID: 110119-14.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitrite as N	Lin1		13335113		10.8	10.0	7.6	10.0
Nitrate as N	Lin1		13975695		10.6	10.0	5.7	10.0

FORM VII 300.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-279166/14 Calibration Date: 11/01/2019 18:22

Instrument ID: CHWC11 Calib Start Date: 10/18/2019 16:34

GC Column: AS-18 ID: Calib End Date: 10/18/2019 18:57

Lab File ID: 110119-14.d

Analyte	RT	RT WINDOW	
		FROM	TO
Nitrite as N	6.01	5.77	6.27
Nitrate as N	10.03	9.79	10.29

Form VII 300.0

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20191031-32021.b\110119-14.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 01-Nov-2019 18:22:00 ALS Bottle#: 0 Worklist Smp#: 14
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032021-014
Misc. Info.: 20573
Operator ID: Instrument ID: CHWC11
Sublist: chrom-300_11*sub2

Method: \\chromna\Houston\ChromData\CHWC11\20191031-32021.b\300_11.m
Limit Group: WC - IC_300_9056_48hr
Last Update: 04-Nov-2019 11:07:18 Calib Date: 18-Oct-2019 18:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d

Column 1 : Det: 040914-1
Process Host: CTX0335

First Level Reviewer: reachs Date: 04-Nov-2019 10:53:33

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	3.117	3.117	0.000	85531044	NC	NC	M
	2 Chloride	4.842	4.842	0.000	116286342	NC	NC	
	9 Nitrite as N	6.009	6.017	-0.008	133351127	10.0	10.8	M
	1 Bromide	8.650	8.667	-0.017	16582854	NC	NC	M
	5 Sulfate	9.359	9.325	0.034	82941123	NC	NC	
	3 Nitrate as N	10.025	10.042	-0.017	139756947	10.0	10.6	M
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N						21.3	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

CCV_00112 Amount Added: 5.00 Units: mL

Report Date: 04-Nov-2019 11:07:19 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191031-32021.b\110119-14.d				
Injection Date:	01-Nov-2019 18:22:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	CCV			Worklist Smp#:	14
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		

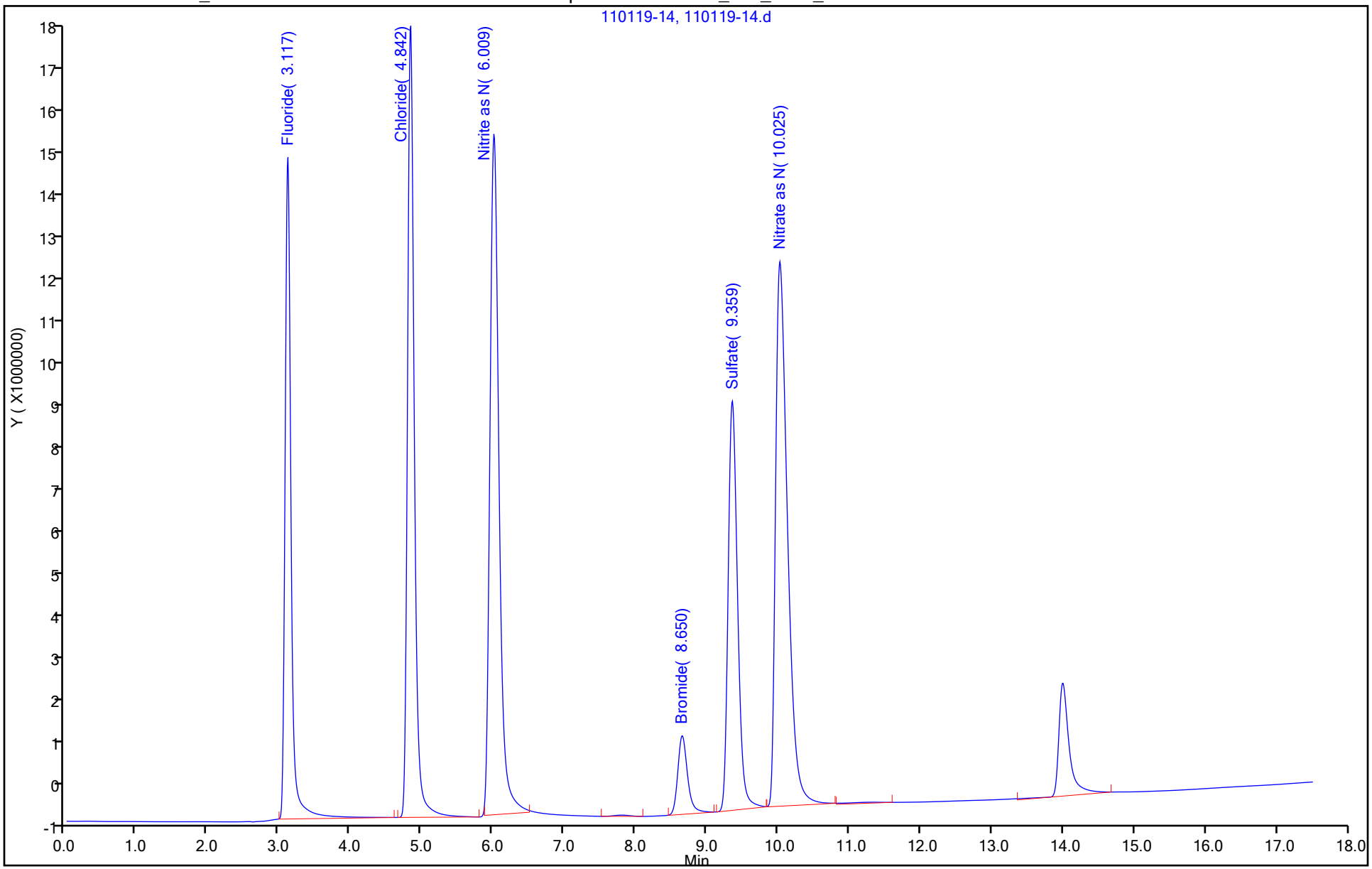

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191031-32021.b\110119-14.d				
Injection Date:	01-Nov-2019 18:22:00	Instrument ID:	CHWC11		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		
Column:		Detector	040914-1		

9 Nitrite as N, CAS: 14797-65-0

Signal: 1

Processing Integration Results

RT: 6.01
Area: 138400040
Amount: 11.161013
Amount Units: ug/ml

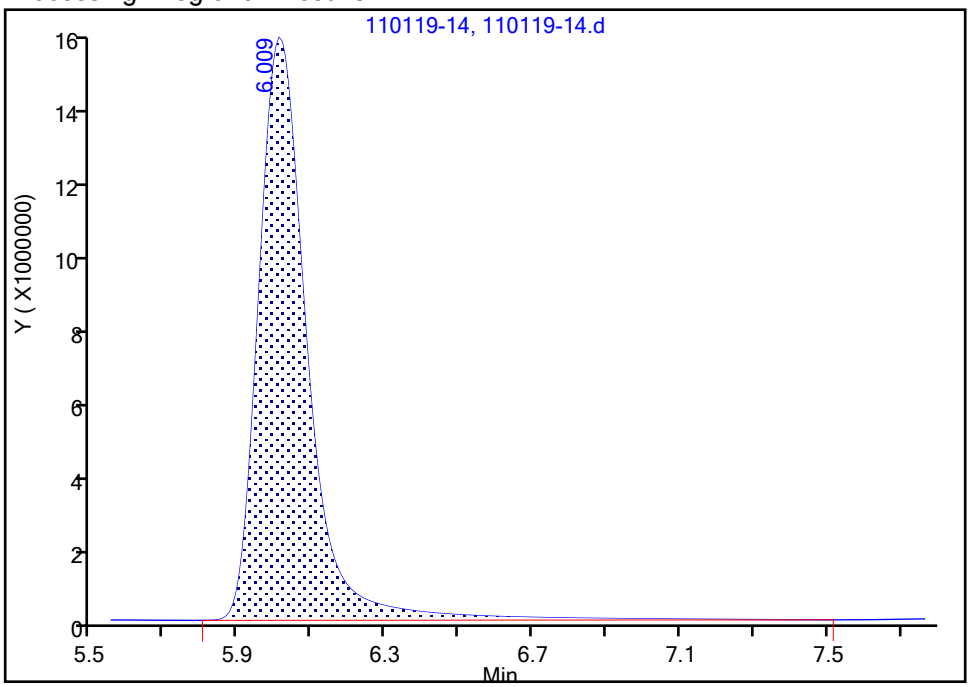

Manual Integration Results

RT: 6.01
Area: 133351127
Amount: 10.755869
Amount Units: ug/ml

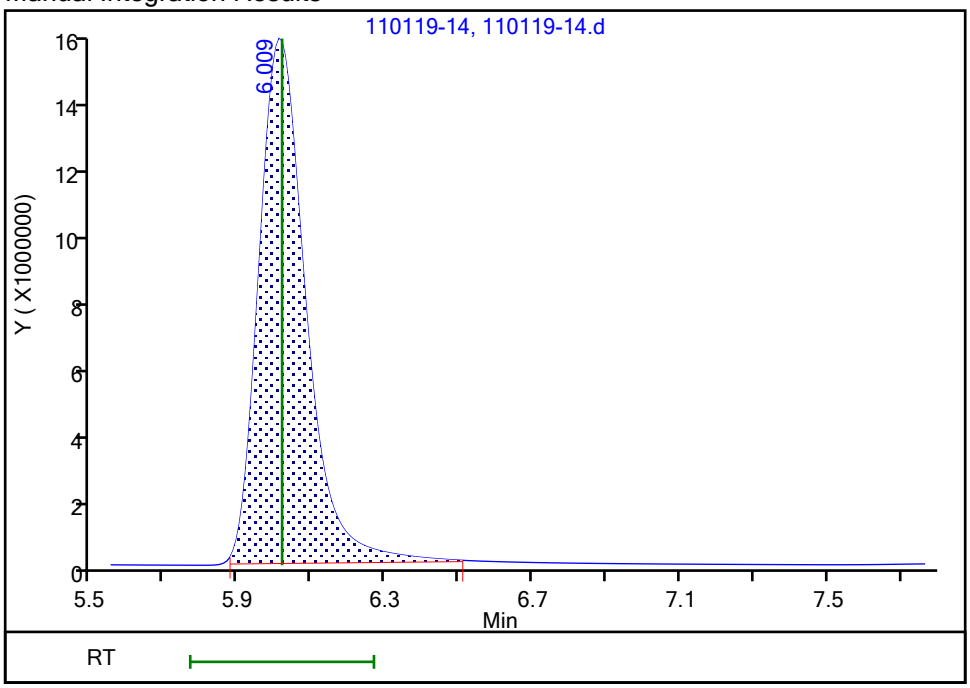

Reviewer: reachs, 04-Nov-2019 10:53:14

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191031-32021.b\110119-14.d				
Injection Date:	01-Nov-2019 18:22:00	Instrument ID:	CHWC11		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		
Column:		Detector	040914-1		

3 Nitrate as N, CAS: 14797-55-8

Signal: 1

Processing Integration Results

RT: 10.03
Area: 140407073
Amount: 10.620981
Amount Units: ug/ml

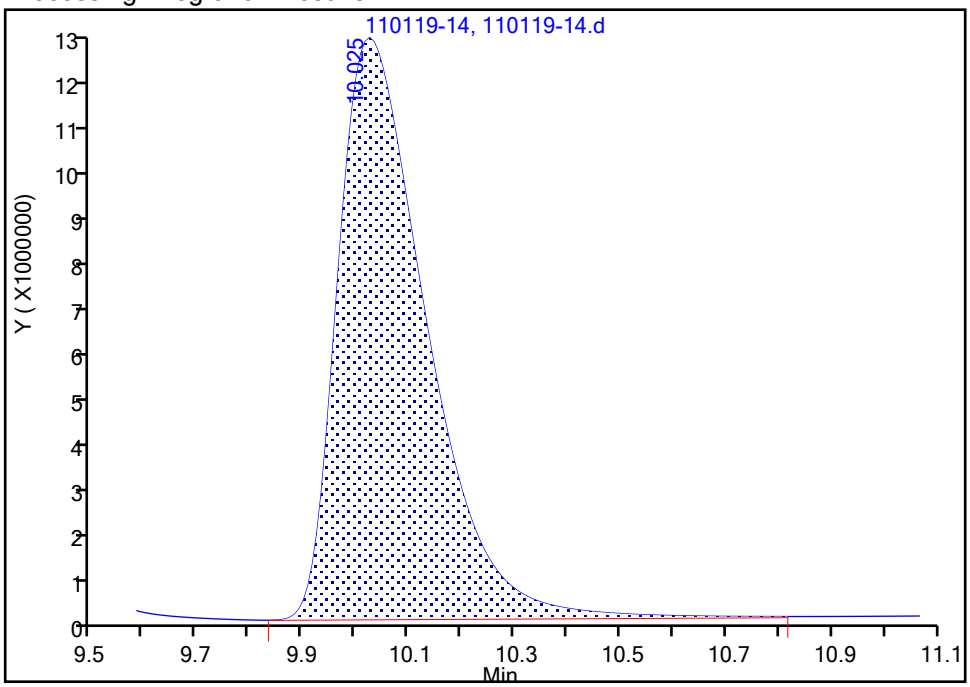

Manual Integration Results

RT: 10.03
Area: 139756947
Amount: 10.572065
Amount Units: ug/ml

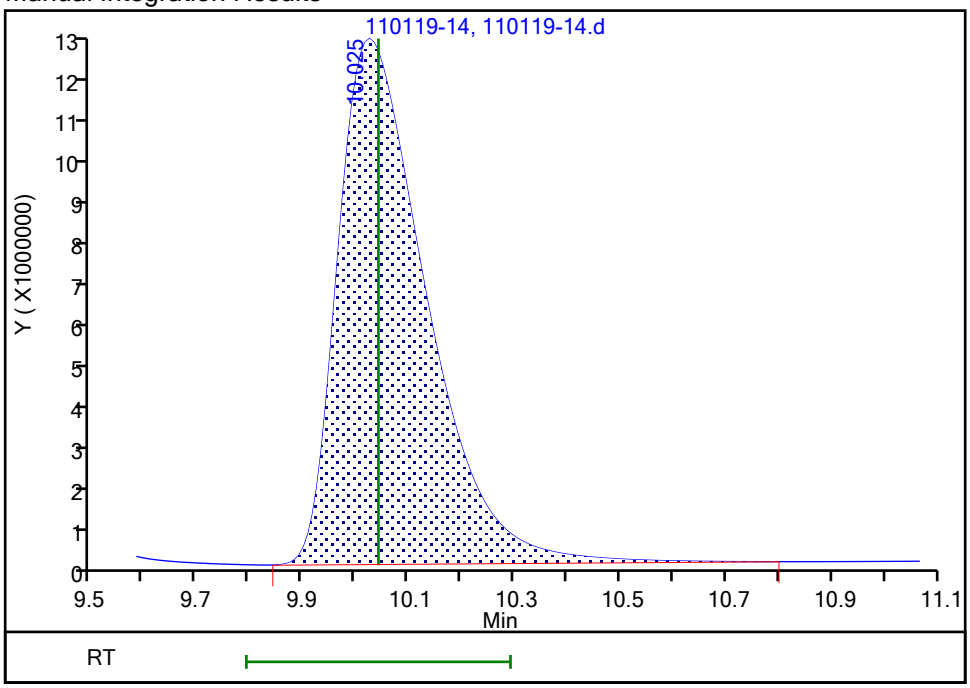

Reviewer: reachs, 04-Nov-2019 10:52:50

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-279165/26 Calibration Date: 11/01/2019 22:26

Instrument ID: CHWC11 Calib Start Date: 10/18/2019 16:34

GC Column: AS-18 ID: Calib End Date: 10/18/2019 18:57

Lab File ID: 110119-26.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin1		11298613		8.14	7.50	8.5	10.0
Chloride	Lin1		5658469		20.7	20.0	3.6	10.0
Bromide	Lin1		2155183		8.03	7.50	7.1	10.0
Sulfate	Lin1		4065800		20.8	20.0	3.9	10.0

FORM VII 300.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-279165/26 Calibration Date: 11/01/2019 22:26

Instrument ID: CHWC11 Calib Start Date: 10/18/2019 16:34

GC Column: AS-18 ID: Calib End Date: 10/18/2019 18:57

Lab File ID: 110119-26.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	3.12	2.87	3.37
Chloride	4.84	4.59	5.09
Bromide	8.66	8.42	8.92
Sulfate	9.34	9.08	9.58

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20191031-32021.b\110119-26.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 01-Nov-2019 22:26:00 ALS Bottle#: 0 Worklist Smp#: 26
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032021-026
Misc. Info.: 19280
Operator ID: Instrument ID: CHWC11
Sublist: chrom-300_11*sub2

Method: \\chromna\Houston\ChromData\CHWC11\20191031-32021.b\300_11.m
Limit Group: WC - IC_300_9056_28day
Last Update: 04-Nov-2019 11:07:29 Calib Date: 18-Oct-2019 18:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d

Column 1 : Det: 040914-1
Process Host: CTX0335

First Level Reviewer: reachs Date: 04-Nov-2019 10:58:12

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	3.117	3.117	0.000	84739600	7.50	8.14	
	2 Chloride	4.842	4.842	0.000	113169381	20.0	20.7	
	9 Nitrite as N	6.009	6.017	-0.008	134810434	NC	NC	
	1 Bromide	8.659	8.667	-0.008	16163873	7.50	8.03	M
	5 Sulfate	9.342	9.325	0.017	81315992	20.0	20.8	
	3 Nitrate as N	10.034	10.042	-0.008	138325924	NC	NC	
S	8 Sulfate as Sulfur						20.8	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

CCV_00112 Amount Added: 5.00 Units: mL

Report Date: 04-Nov-2019 11:07:29 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191031-32021.b\110119-26.d				
Injection Date:	01-Nov-2019 22:26:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	CCV			Worklist Smp#:	26
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		

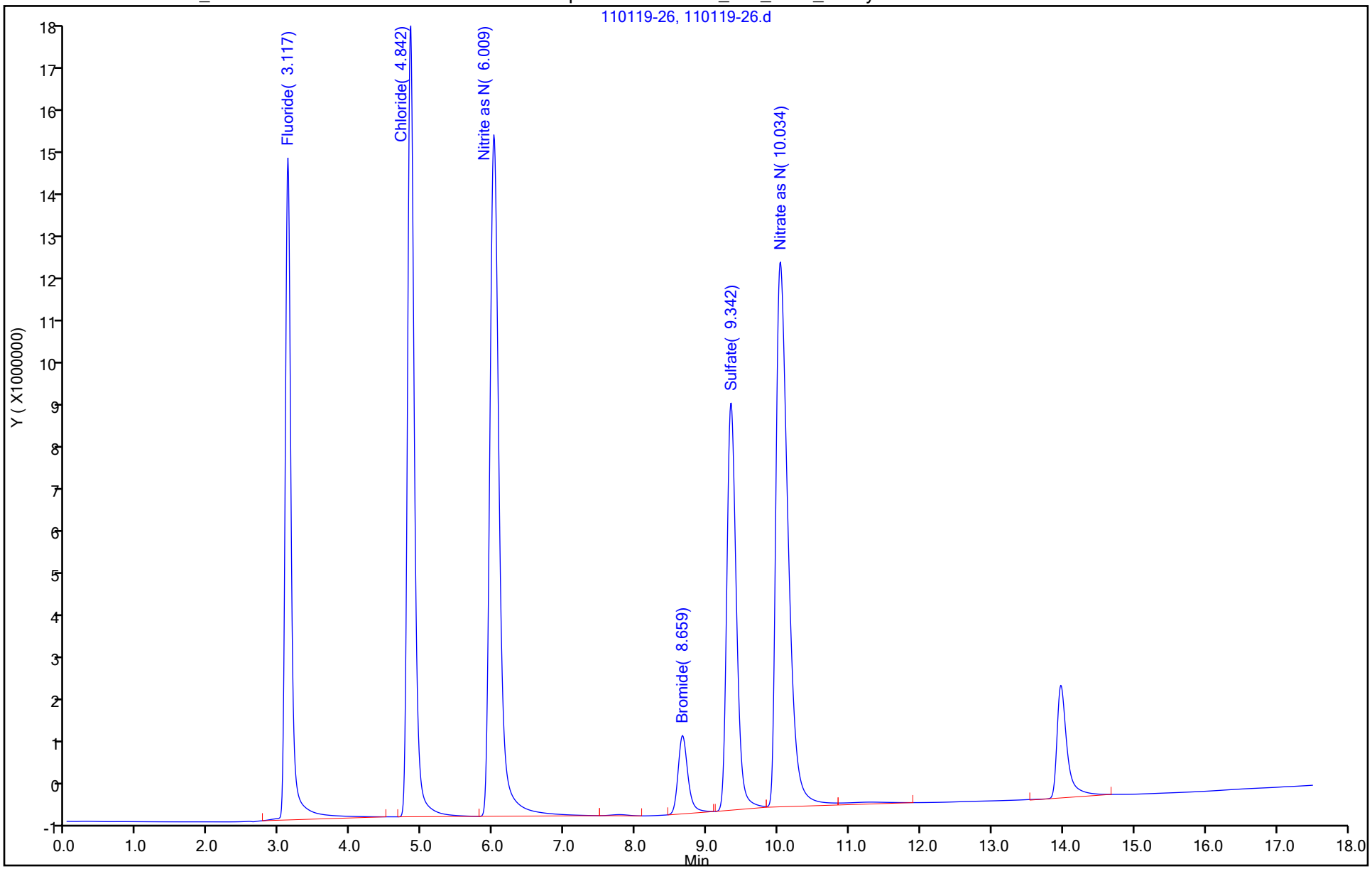

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191031-32021.b\110119-26.d				
Injection Date:	01-Nov-2019 22:26:00	Instrument ID:	CHWC11		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	26
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		
Column:		Detector	040914-1		

1 Bromide, CAS: 24959-67-9

Signal: 1

Processing Integration Results

RT: 8.66
Area: 16145473
Amount: 8.020214
Amount Units: ug/ml

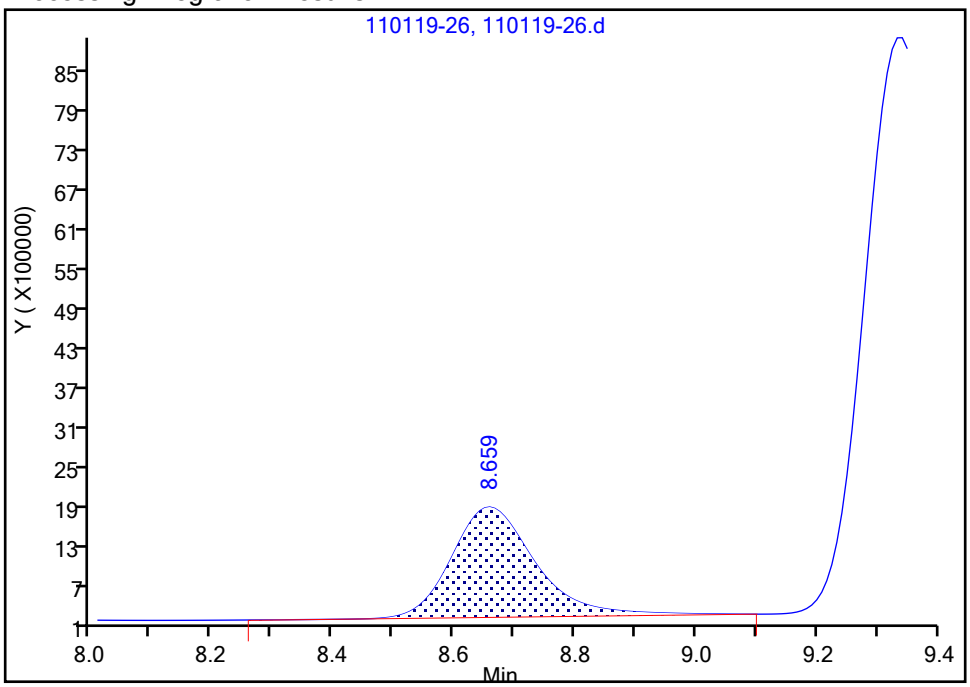

Manual Integration Results

RT: 8.66
Area: 16163873
Amount: 8.029260
Amount Units: ug/ml

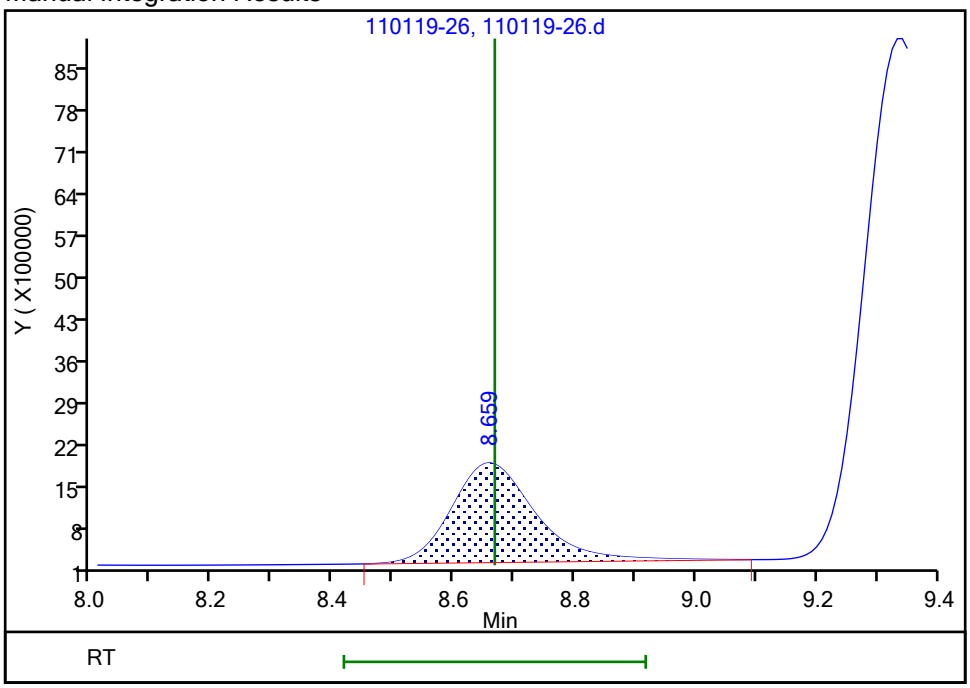

Reviewer: reachs, 04-Nov-2019 10:57:55

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-279268/2 Calibration Date: 11/04/2019 11:30

Instrument ID: CHWC11 Calib Start Date: 10/18/2019 16:34

GC Column: AS-18 ID: Calib End Date: 10/18/2019 18:57

Lab File ID: 110419-2.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin1		11011937		7.93	7.50	5.7	10.0
Chloride	Lin1		5726270		21.0	20.0	4.8	10.0
Bromide	Lin1		2104018		7.84	7.50	4.5	10.0
Sulfate	Lin1		4124701		21.1	20.0	5.4	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-279268/2 Calibration Date: 11/04/2019 11:30

Instrument ID: CHWC11 Calib Start Date: 10/18/2019 16:34

GC Column: AS-18 ID: Calib End Date: 10/18/2019 18:57

Lab File ID: 110419-2.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	3.13	2.88	3.38
Chloride	4.84	4.59	5.09
Bromide	8.65	8.40	8.90
Sulfate	9.31	9.06	9.56

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-2.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 04-Nov-2019 11:30:00 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032042-002
Operator ID: Instrument ID: CHWC11
Sublist: chrom-300_11*sub2

Method: \\chromna\Houston\ChromData\CHWC11\20191101-32042.b\300_11.m
Limit Group: WC - IC_300_9056_28day
Last Update: 05-Nov-2019 11:30:10 Calib Date: 18-Oct-2019 18:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d

Column 1 : Det: 040914-1
Process Host: CTX0336

First Level Reviewer: reachs Date: 04-Nov-2019 11:59:16

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
7 Fluoride	3.125	3.125	0.000	82589524	7.50	7.93	M
2 Chloride	4.842	4.842	0.000	114525404	20.0	21.0	
9 Nitrite as N	6.009	6.009	0.000	128341297	NC	NC	M
1 Bromide	8.650	8.650	0.000	15780132	7.50	7.84	M
5 Sulfate	9.309	9.309	0.000	82494029	20.0	21.1	
3 Nitrate as N	10.017	10.017	0.000	138512777	NC	NC	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

CCV_00112 Amount Added: 5.00 Units: mL

Report Date: 05-Nov-2019 11:30:11 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-2.d				
Injection Date:	04-Nov-2019 11:30:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	CCV			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		

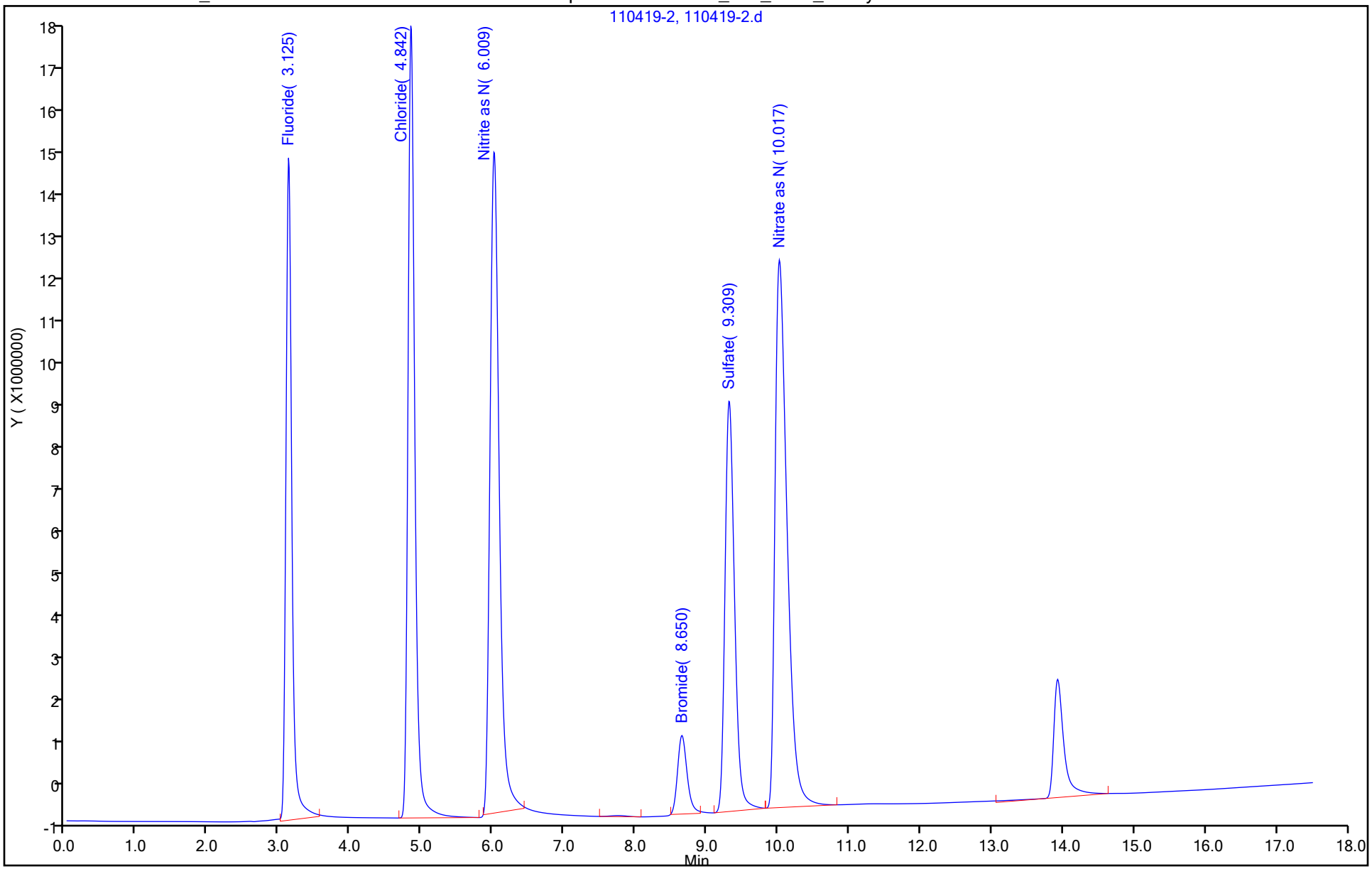

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-2.d				
Injection Date:	04-Nov-2019 11:30:00	Instrument ID:	CHWC11		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		
Column:		Detector	040914-1		

7 Fluoride, CAS: 16984-48-8

Signal: 1

Processing Integration Results

RT: 3.13
Area: 85926130
Amount: 8.249344
Amount Units: ug/ml

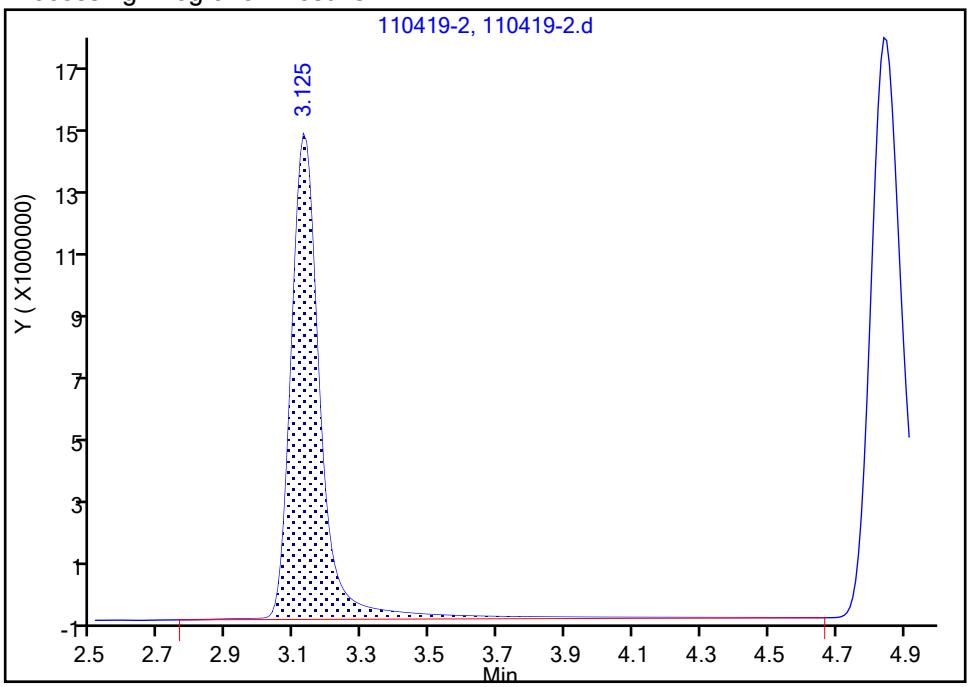

Manual Integration Results

RT: 3.13
Area: 82589524
Amount: 7.930668
Amount Units: ug/ml

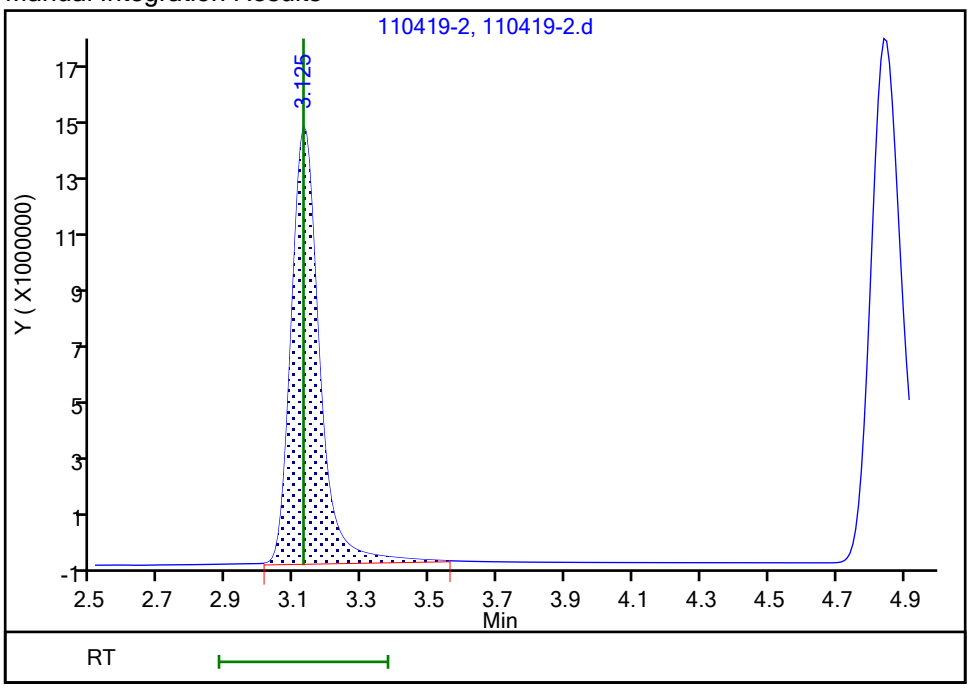

Reviewer: reachs, 04-Nov-2019 11:58:36

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-2.d				
Injection Date:	04-Nov-2019 11:30:00	Instrument ID:	CHWC11		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		
Column:		Detector	040914-1		

1 Bromide, CAS: 24959-67-9

Signal: 1

Processing Integration Results

RT: 8.65
Area: 16465899
Amount: 8.177737
Amount Units: ug/ml

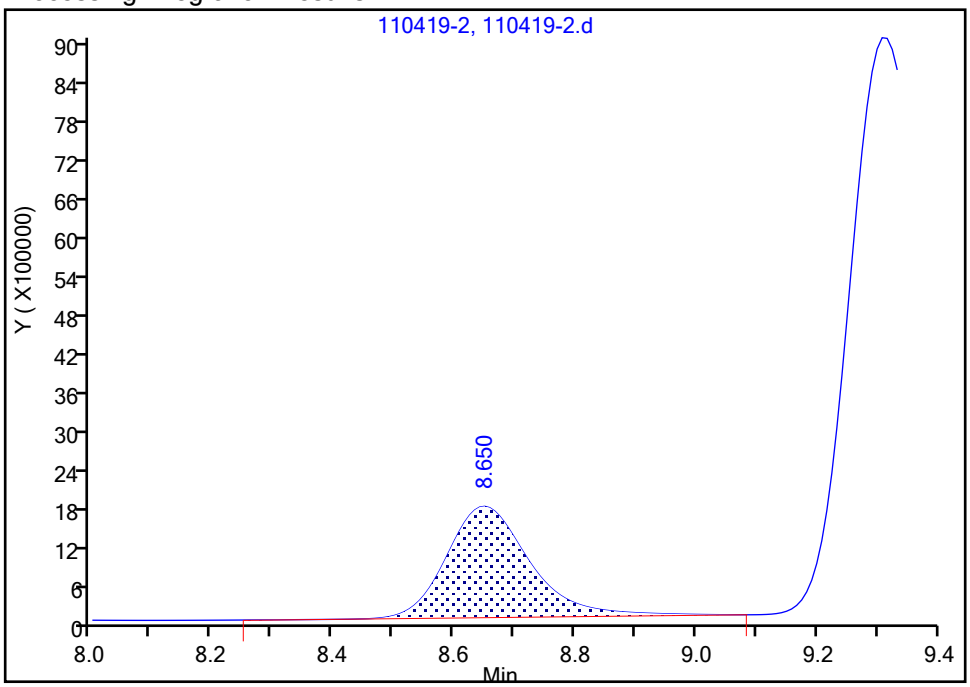

Manual Integration Results

RT: 8.65
Area: 15780132
Amount: 7.840611
Amount Units: ug/ml

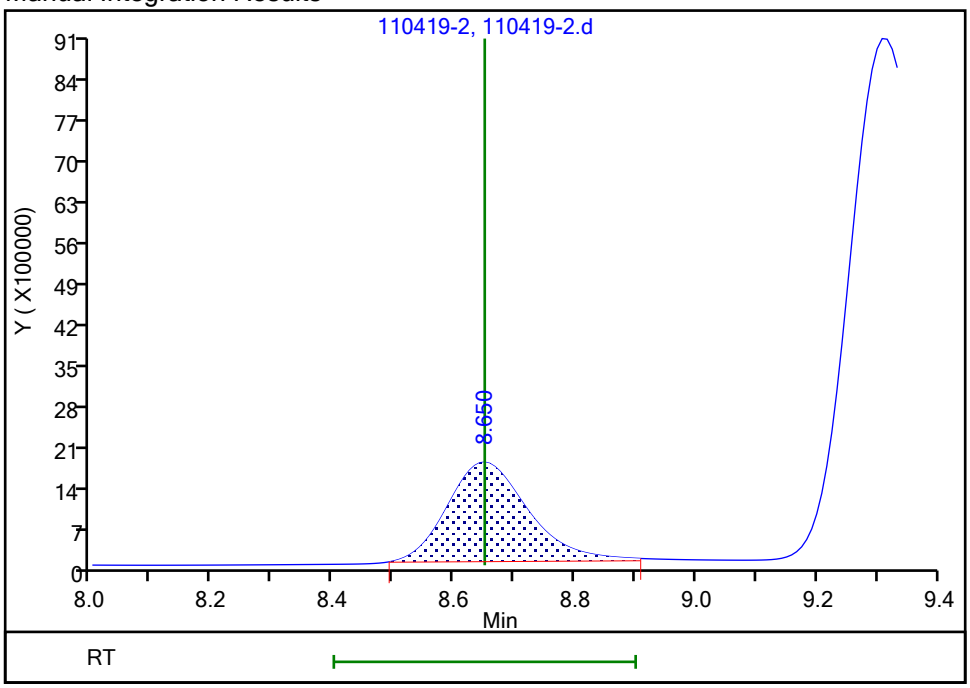

Reviewer: reachs, 04-Nov-2019 11:59:00

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-279269/2 Calibration Date: 11/04/2019 11:30

Instrument ID: CHWC11 Calib Start Date: 10/18/2019 16:34

GC Column: AS-18 ID: Calib End Date: 10/18/2019 18:57

Lab File ID: 110419-2.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitrite as N	Lin1		12834130		10.4	10.0	3.5	10.0
Nitrate as N	Lin1		13851278		10.5	10.0	4.8	10.0

FORM VII 300.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-279269/2 Calibration Date: 11/04/2019 11:30

Instrument ID: CHWC11 Calib Start Date: 10/18/2019 16:34

GC Column: AS-18 ID: Calib End Date: 10/18/2019 18:57

Lab File ID: 110419-2.d

Analyte	RT	RT WINDOW	
		FROM	TO
Nitrite as N	6.01	5.76	6.26
Nitrate as N	10.02	9.77	10.27

Form VII 300.0

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-2.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 04-Nov-2019 11:30:00 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032042-002
Operator ID: Instrument ID: CHWC11
Sublist: chrom-300_11*sub2

Method: \\chromna\Houston\ChromData\CHWC11\20191101-32042.b\300_11.m
Limit Group: WC - IC_300_9056_48hr
Last Update: 05-Nov-2019 11:30:10 Calib Date: 18-Oct-2019 18:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d

Column 1 : Det: 040914-1
Process Host: CTX0336

First Level Reviewer: reachs Date: 04-Nov-2019 11:59:16

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
7 Fluoride	3.125	3.125	0.000	82589524	NC	NC	M
2 Chloride	4.842	4.842	0.000	114525404	NC	NC	
9 Nitrite as N	6.009	6.009	0.000	128341297	10.0	10.4	M
1 Bromide	8.650	8.650	0.000	15780132	NC	NC	M
5 Sulfate	9.309	9.309	0.000	82494029	NC	NC	
3 Nitrate as N	10.017	10.017	0.000	138512777	10.0	10.5	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

CCV_00112 Amount Added: 5.00 Units: mL

Report Date: 05-Nov-2019 11:30:11 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-2.d				
Injection Date:	04-Nov-2019 11:30:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	CCV			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		

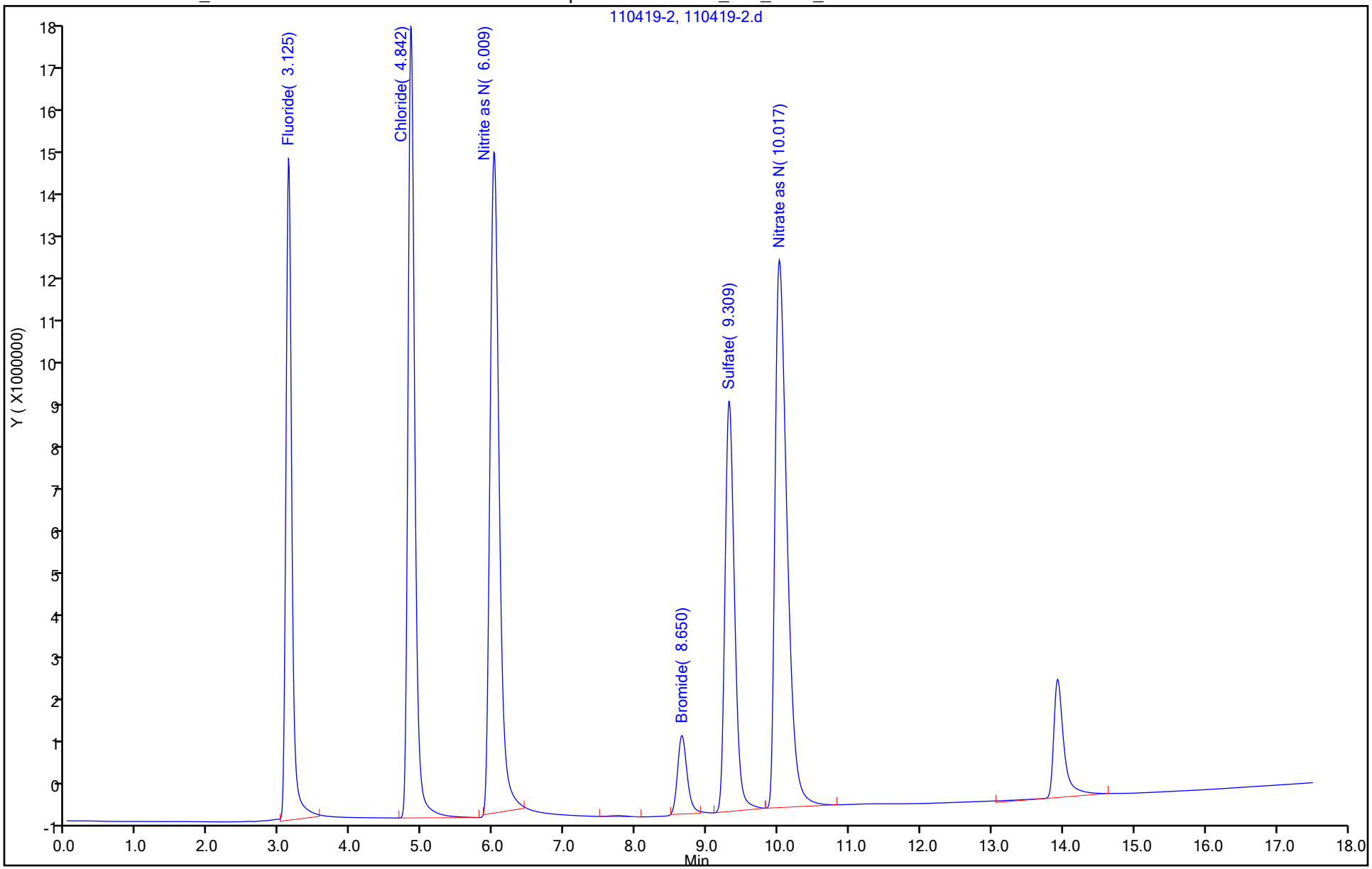

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-2.d				
Injection Date:	04-Nov-2019 11:30:00	Instrument ID:	CHWC11		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		
Column:		Detector	040914-1		

9 Nitrite as N, CAS: 14797-65-0

Signal: 1

Processing Integration Results

RT: 6.01
Area: 136474064
Amount: 11.006465
Amount Units: ug/ml

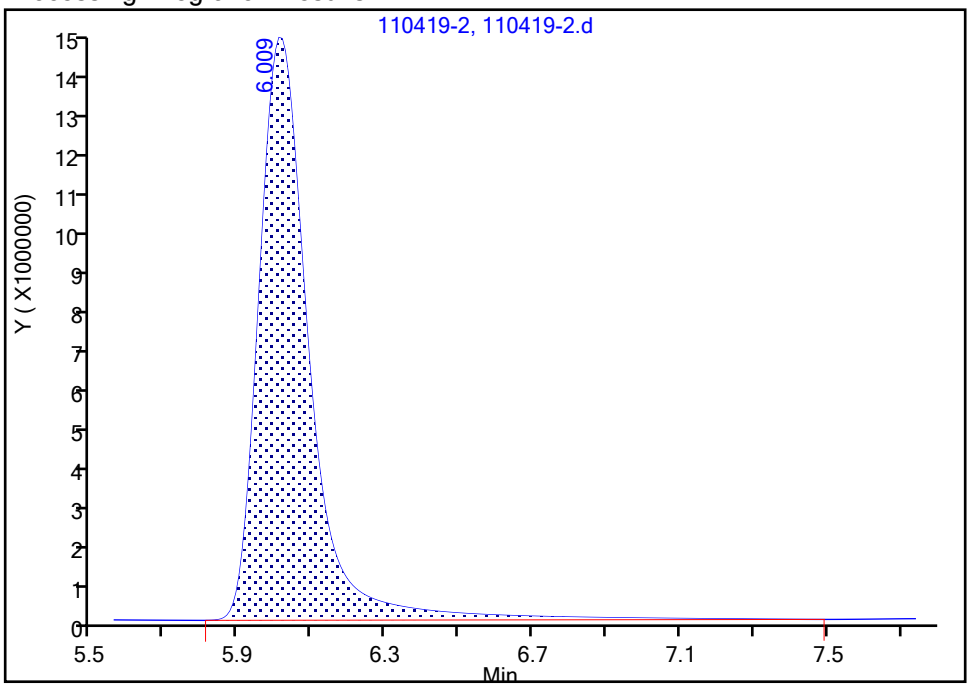

Manual Integration Results

RT: 6.01
Area: 128341297
Amount: 10.353861
Amount Units: ug/ml

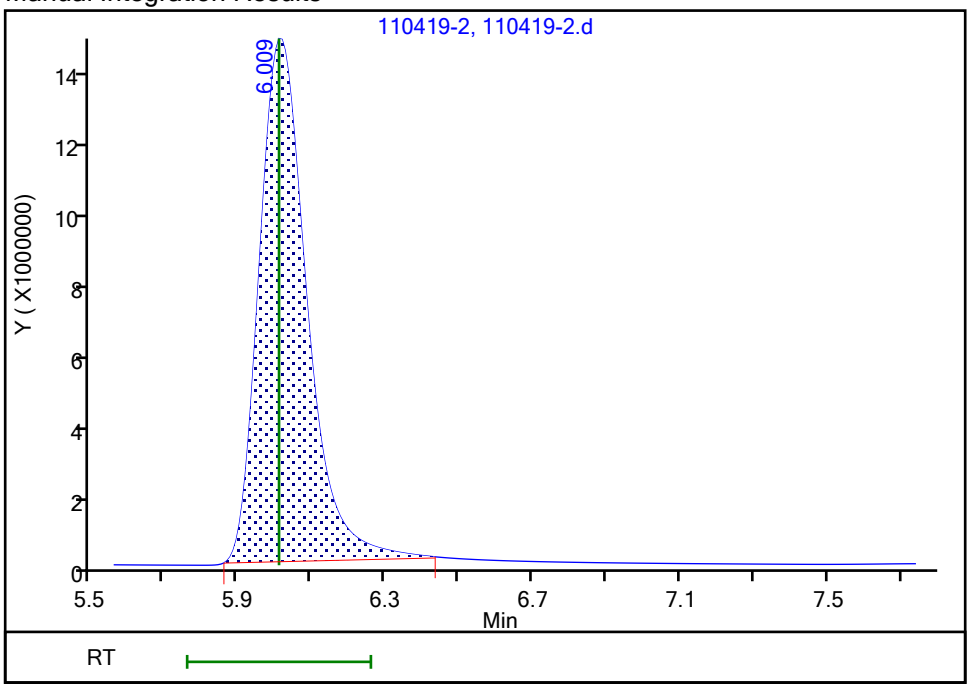

Reviewer: reachs, 04-Nov-2019 11:57:51
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-279268/14 Calibration Date: 11/04/2019 16:15

Instrument ID: CHWC11 Calib Start Date: 10/18/2019 16:34

GC Column: AS-18 ID: Calib End Date: 10/18/2019 18:57

Lab File ID: 110419-14.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin1		11234425		8.09	7.50	7.9	10.0
Chloride	Lin1		5671612		20.8	20.0	3.8	10.0
Bromide	Lin1		2160162		8.05	7.50	7.3	10.0
Sulfate	Lin1		4063315		20.8	20.0	3.8	10.0

FORM VII 300.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-279268/14 Calibration Date: 11/04/2019 16:15

Instrument ID: CHWC11 Calib Start Date: 10/18/2019 16:34

GC Column: AS-18 ID: Calib End Date: 10/18/2019 18:57

Lab File ID: 110419-14.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	3.13	2.88	3.38
Chloride	4.85	4.59	5.09
Bromide	8.65	8.40	8.90
Sulfate	9.30	9.06	9.56

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-14.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 04-Nov-2019 16:15:00 ALS Bottle#: 0 Worklist Smp#: 14
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032042-014
Misc. Info.: 31157
Operator ID: Instrument ID: CHWC11
Sublist: chrom-300_11*sub2

Method: \\chromna\Houston\ChromData\CHWC11\20191101-32042.b\300_11.m
Limit Group: WC - IC_300_9056_28day
Last Update: 05-Nov-2019 11:30:37 Calib Date: 18-Oct-2019 18:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d

Column 1 : Det: 040914-1
Process Host: CTX0336

First Level Reviewer: reachs Date: 05-Nov-2019 10:40:41

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	3.134	3.125	0.009	84258191	7.50	8.09	
	2 Chloride	4.850	4.842	0.008	113432240	20.0	20.8	
	9 Nitrite as N	6.017	6.009	0.008	134806485	NC	NC	M
	1 Bromide	8.650	8.650	0.000	16201213	7.50	8.05	
	5 Sulfate	9.300	9.309	-0.009	81266296	20.0	20.8	
	3 Nitrate as N	10.017	10.017	0.000	137732274	NC	NC	
S	8 Sulfate as Sulfur						20.8	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

CCV_00112 Amount Added: 5.00 Units: mL

Report Date: 05-Nov-2019 11:30:38 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-14.d				
Injection Date:	04-Nov-2019 16:15:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	CCV			Worklist Smp#:	14
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		

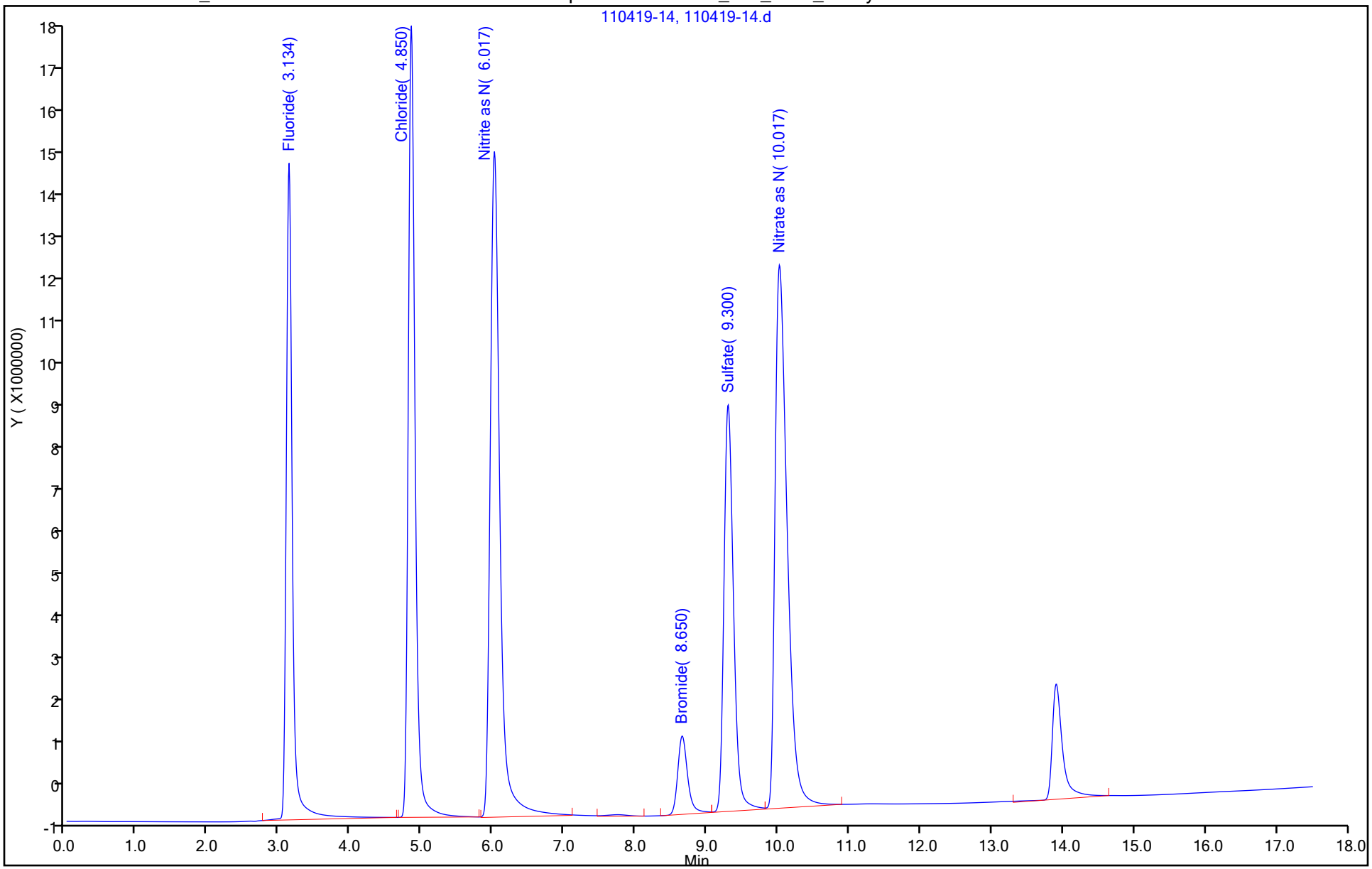

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-279269/14 Calibration Date: 11/04/2019 16:15

Instrument ID: CHWC11 Calib Start Date: 10/18/2019 16:34

GC Column: AS-18 ID: Calib End Date: 10/18/2019 18:57

Lab File ID: 110419-14.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitrite as N	Lin1		13480649		10.9	10.0	8.7	10.0
Nitrate as N	Lin1		13773227		10.4	10.0	4.2	10.0

FORM VII 300.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-279269/14 Calibration Date: 11/04/2019 16:15

Instrument ID: CHWC11 Calib Start Date: 10/18/2019 16:34

GC Column: AS-18 ID: Calib End Date: 10/18/2019 18:57

Lab File ID: 110419-14.d

Analyte	RT	RT WINDOW	
		FROM	TO
Nitrite as N	6.02	5.76	6.26
Nitrate as N	10.02	9.77	10.27

Form VII 300.0

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-14.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 04-Nov-2019 16:15:00 ALS Bottle#: 0 Worklist Smp#: 14
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032042-014
Misc. Info.: 31157
Operator ID: Instrument ID: CHWC11
Sublist: chrom-300_11*sub2

Method: \\chromna\Houston\ChromData\CHWC11\20191101-32042.b\300_11.m
Limit Group: WC - IC_300_9056_48hr
Last Update: 05-Nov-2019 11:30:37 Calib Date: 18-Oct-2019 18:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d

Column 1 : Det: 040914-1
Process Host: CTX0336

First Level Reviewer: reachs Date: 05-Nov-2019 10:40:41

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	3.134	3.125	0.009	84258191	NC	NC	
	2 Chloride	4.850	4.842	0.008	113432240	NC	NC	
	9 Nitrite as N	6.017	6.009	0.008	134806485	10.0	10.9	M
	1 Bromide	8.650	8.650	0.000	16201213	NC	NC	
	5 Sulfate	9.300	9.309	-0.009	81266296	NC	NC	
	3 Nitrate as N	10.017	10.017	0.000	137732274	10.0	10.4	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N						21.3	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

CCV_00112 Amount Added: 5.00 Units: mL

Report Date: 05-Nov-2019 11:30:39 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-14.d				
Injection Date:	04-Nov-2019 16:15:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	CCV			Worklist Smp#:	14
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		

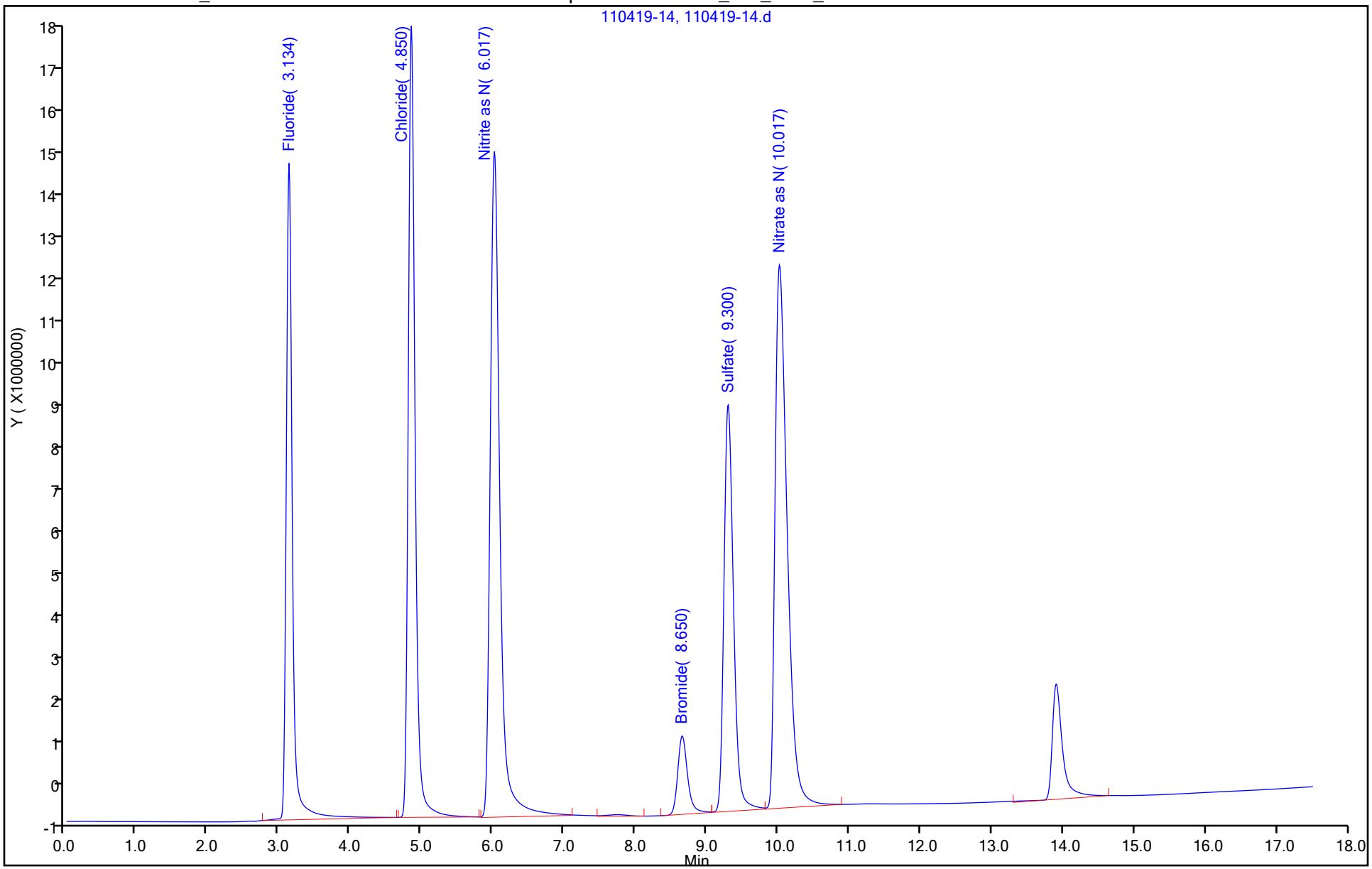

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-14.d				
Injection Date:	04-Nov-2019 16:15:00	Instrument ID:	CHWC11		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		
Column:		Detector	040914-1		

9 Nitrite as N, CAS: 14797-65-0

Signal: 1

Processing Integration Results

RT: 6.02
Area: 135690673
Amount: 10.943603
Amount Units: ug/ml

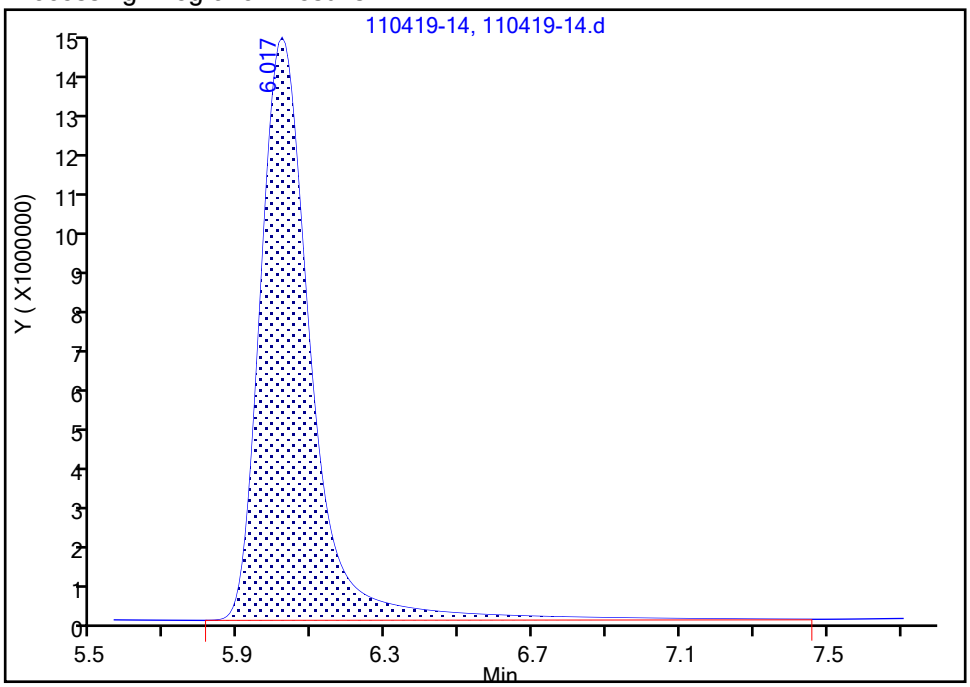

Manual Integration Results

RT: 6.02
Area: 134806485
Amount: 10.872652
Amount Units: ug/ml

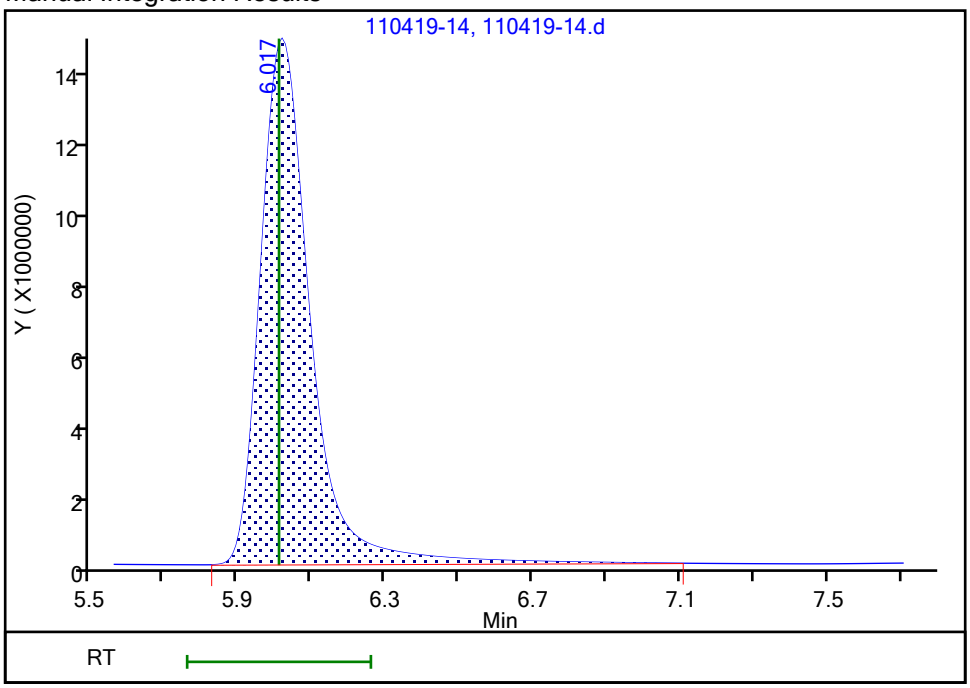

Reviewer: reachs, 05-Nov-2019 10:40:37

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-279269/26 Calibration Date: 11/04/2019 20:20

Instrument ID: CHWC11 Calib Start Date: 10/18/2019 16:34

GC Column: AS-18 ID: Calib End Date: 10/18/2019 18:57

Lab File ID: 110419-26.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitrite as N	Lin1		13601422		11.0	10.0	9.7	10.0
Nitrate as N	Lin1		13900164		10.5	10.0	5.2	10.0

FORM VII 300.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-279269/26 Calibration Date: 11/04/2019 20:20

Instrument ID: CHWC11 Calib Start Date: 10/18/2019 16:34

GC Column: AS-18 ID: Calib End Date: 10/18/2019 18:57

Lab File ID: 110419-26.d

Analyte	RT	RT WINDOW	
		FROM	TO
Nitrite as N	6.01	5.76	6.26
Nitrate as N	10.02	9.77	10.27

Form VII 300.0

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-26.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 04-Nov-2019 20:20:00 ALS Bottle#: 0 Worklist Smp#: 26
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032042-026
Misc. Info.: 30677
Operator ID: Instrument ID: CHWC11
Sublist: chrom-300_11*sub2

Method: \\chromna\Houston\ChromData\CHWC11\20191101-32042.b\300_11.m
Limit Group: WC - IC_300_9056_48hr
Last Update: 05-Nov-2019 11:31:00 Calib Date: 18-Oct-2019 18:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d

Column 1 : Det: 040914-1
Process Host: CTX0336

First Level Reviewer: reachs Date: 05-Nov-2019 10:45:25

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	3.125	3.125	0.000	84471026	NC	NC	
	2 Chloride	4.842	4.842	0.000	114205418	NC	NC	
	9 Nitrite as N	6.009	6.009	0.000	136014223	10.0	11.0	M
	1 Bromide	8.650	8.650	0.000	16412155	NC	NC	
	5 Sulfate	9.300	9.309	-0.009	81785342	NC	NC	
	3 Nitrate as N	10.017	10.017	0.000	139001640	10.0	10.5	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N						21.5	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

CCV_00112 Amount Added: 5.00 Units: mL

Report Date: 05-Nov-2019 11:31:01 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-26.d				
Injection Date:	04-Nov-2019 20:20:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	CCV			Worklist Smp#:	26
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		

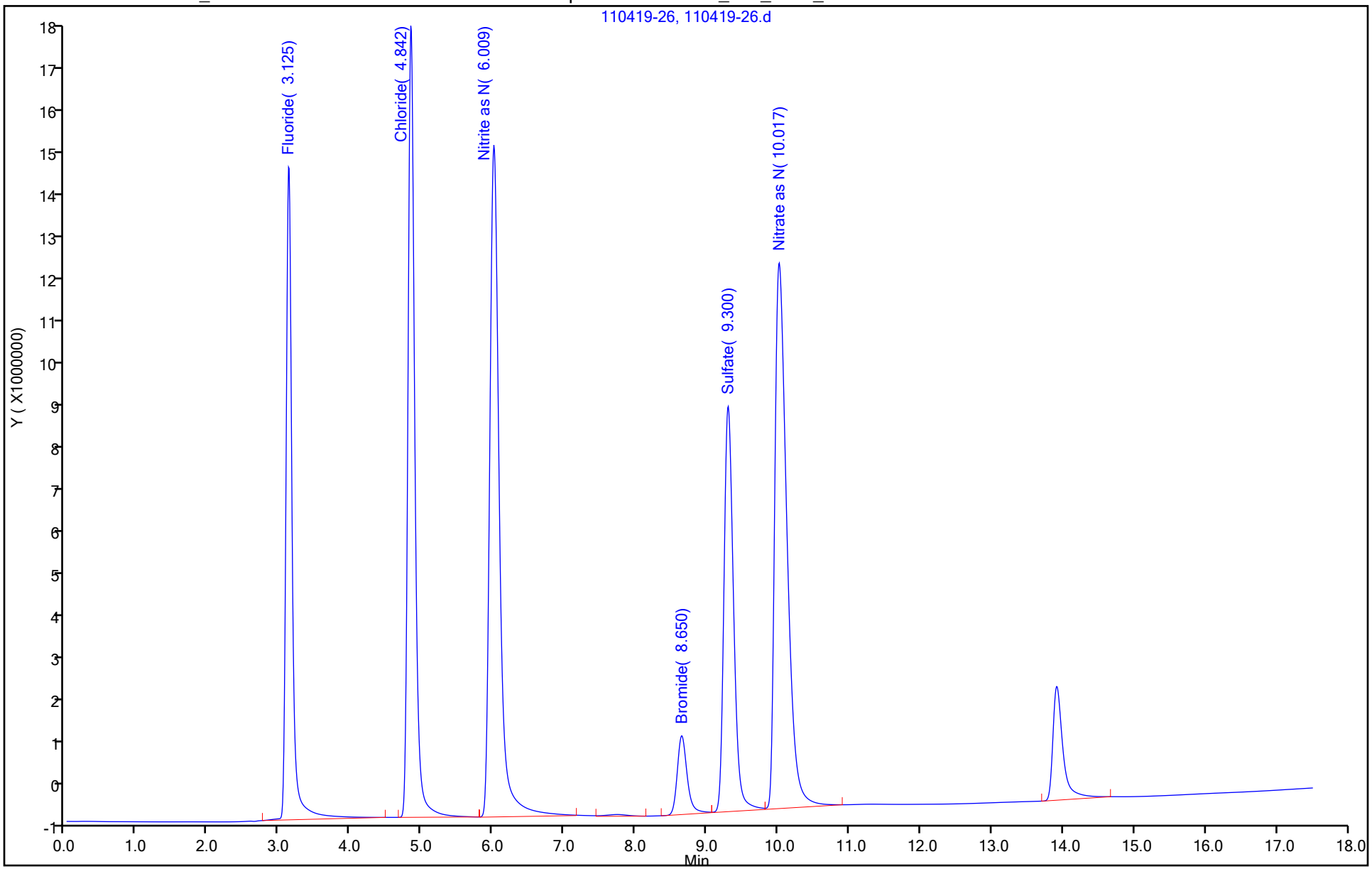

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-26.d				
Injection Date:	04-Nov-2019 20:20:00	Instrument ID:	CHWC11		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	26
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		
Column:		Detector	040914-1		

9 Nitrite as N, CAS: 14797-65-0

Signal: 1

Processing Integration Results

RT: 6.01
Area: 136898604
Amount: 11.040532
Amount Units: ug/ml

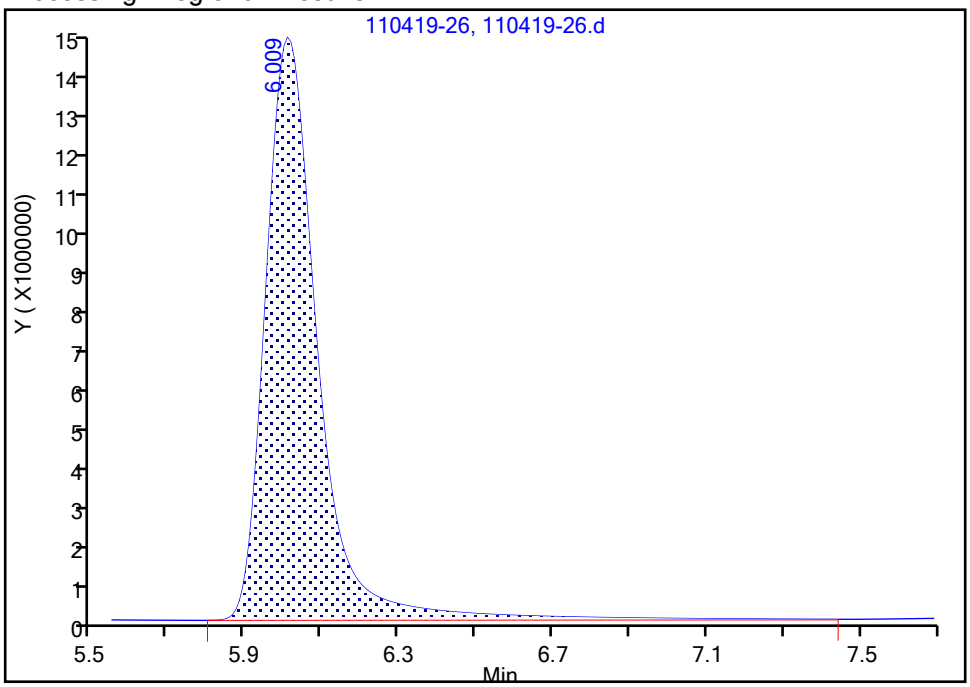

Manual Integration Results

RT: 6.01
Area: 136014223
Amount: 10.969566
Amount Units: ug/ml

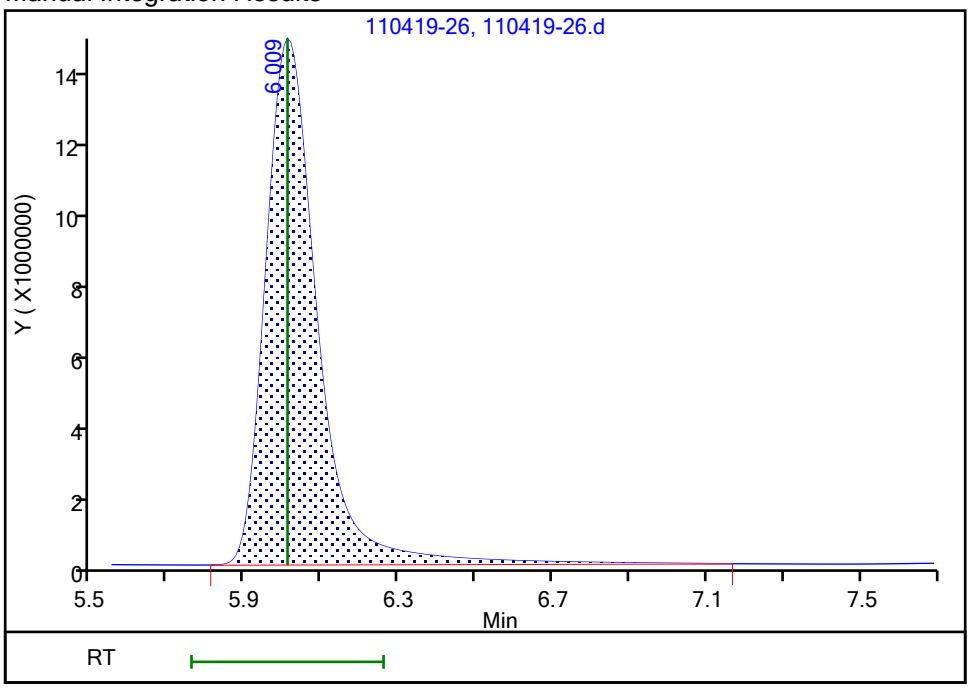

Reviewer: reachs, 05-Nov-2019 10:45:18

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-279269/38 Calibration Date: 11/05/2019 00:25

Instrument ID: CHWC11 Calib Start Date: 10/18/2019 16:34

GC Column: AS-18 ID: Calib End Date: 10/18/2019 18:57

Lab File ID: 110419-38.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitrite as N	Lin1		13619105		11.0	10.0	9.8	10.0
Nitrate as N	Lin1		13851898		10.5	10.0	4.8	10.0

FORM VII 300.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-279269/38 Calibration Date: 11/05/2019 00:25

Instrument ID: CHWC11 Calib Start Date: 10/18/2019 16:34

GC Column: AS-18 ID: Calib End Date: 10/18/2019 18:57

Lab File ID: 110419-38.d

Analyte	RT	RT WINDOW	
		FROM	TO
Nitrite as N	6.01	5.76	6.26
Nitrate as N	10.01	9.77	10.27

Form VII 300.0

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-38.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 05-Nov-2019 00:25:00 ALS Bottle#: 0 Worklist Smp#: 38
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032042-038
Misc. Info.: 31885
Operator ID: Instrument ID: CHWC11
Sublist: chrom-300_11*sub2

Method: \\chromna\Houston\ChromData\CHWC11\20191101-32042.b\300_11.m
Limit Group: WC - IC_300_9056_48hr
Last Update: 05-Nov-2019 11:31:25 Calib Date: 18-Oct-2019 18:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d

Column 1 : Det: 040914-1
Process Host: CTX0336

First Level Reviewer: reachs Date: 05-Nov-2019 10:56:29

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	3.125	3.125	0.000	83021375	NC	NC	M
	2 Chloride	4.842	4.842	0.000	114964154	NC	NC	
	9 Nitrite as N	6.009	6.009	0.000	136191054	10.0	11.0	M
	1 Bromide	8.642	8.650	-0.008	16372732	NC	NC	M
	5 Sulfate	9.300	9.309	-0.009	82305329	NC	NC	M
	3 Nitrate as N	10.009	10.017	-0.008	138518980	10.0	10.5	M
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N						21.5	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

CCV_00112 Amount Added: 5.00 Units: mL

Report Date: 05-Nov-2019 11:31:25 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-38.d				
Injection Date:	05-Nov-2019 00:25:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	CCV			Worklist Smp#:	38
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		

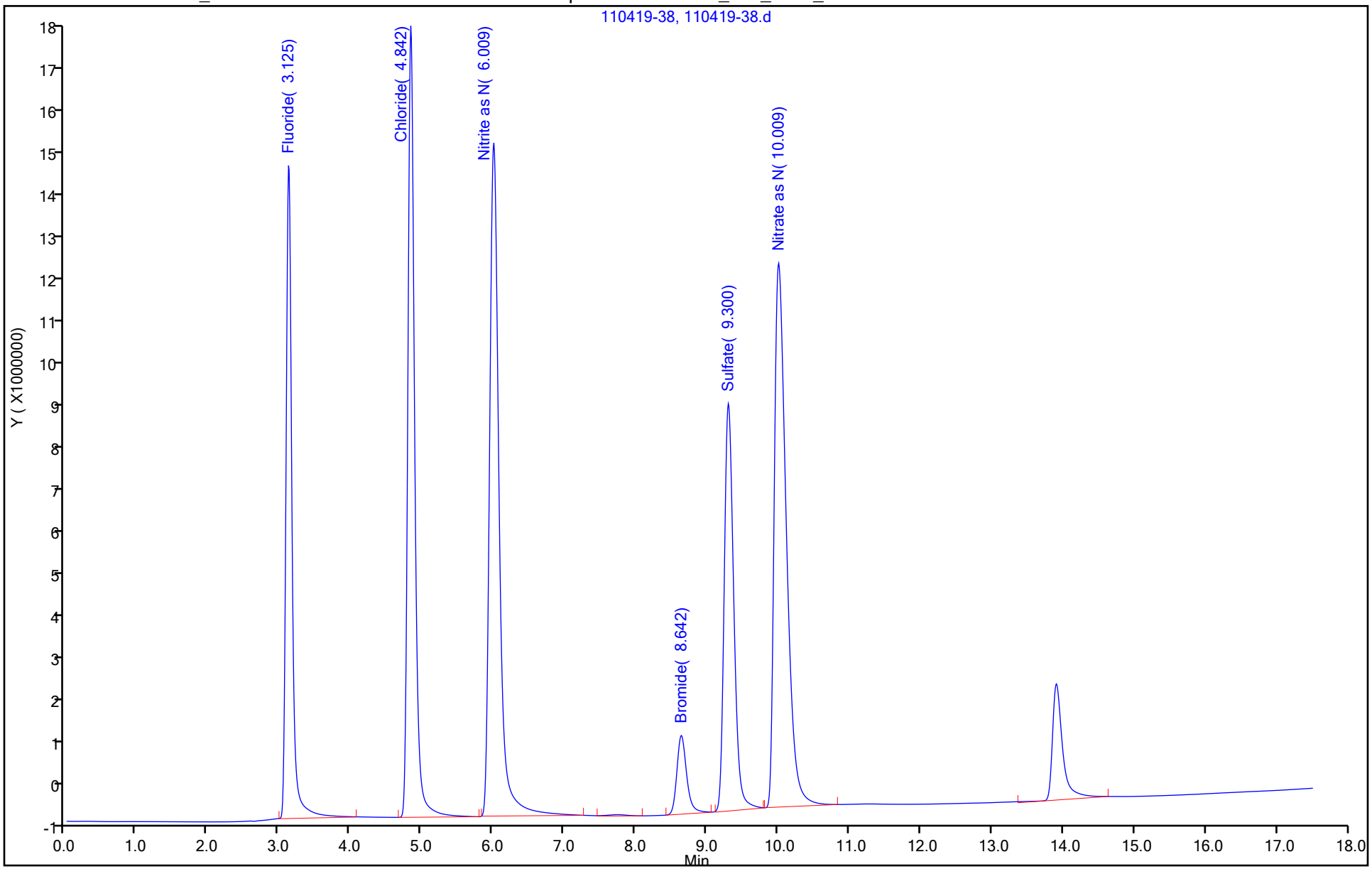

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-38.d				
Injection Date:	05-Nov-2019 00:25:00	Instrument ID:	CHWC11		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	38
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		
Column:		Detector	040914-1		

9 Nitrite as N, CAS: 14797-65-0

Signal: 1

Processing Integration Results

RT: 6.01
Area: 137614294
Amount: 11.097962
Amount Units: ug/ml

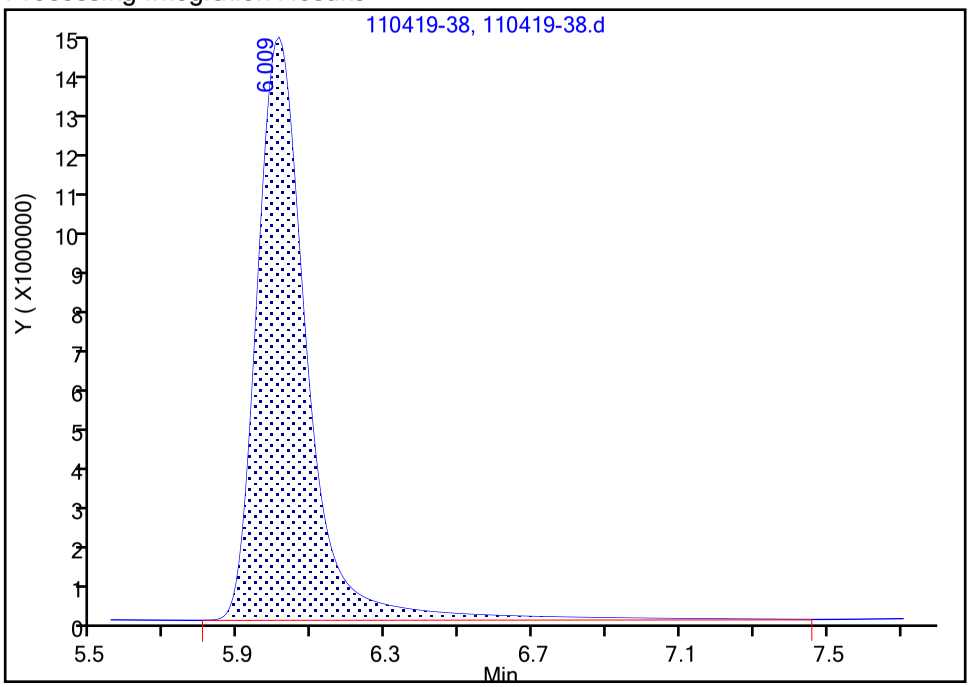

Manual Integration Results

RT: 6.01
Area: 136191054
Amount: 10.983756
Amount Units: ug/ml

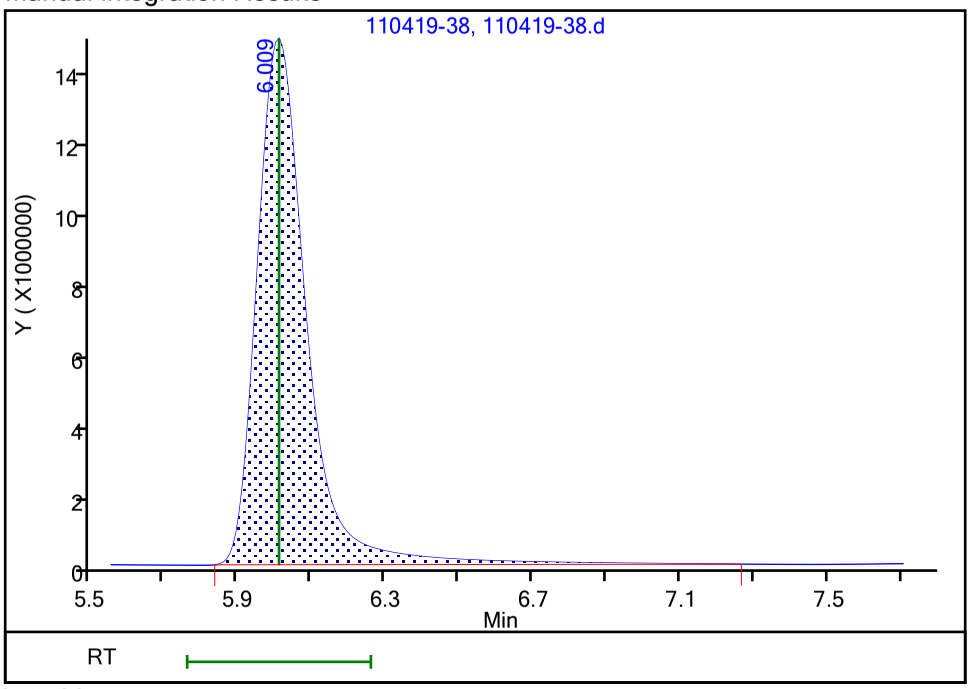

Reviewer: reachs, 05-Nov-2019 10:55:09

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-38.d				
Injection Date:	05-Nov-2019 00:25:00	Instrument ID:	CHWC11		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	38
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		
Column:		Detector	040914-1		

3 Nitrate as N, CAS: 14797-55-8

Signal: 1

Processing Integration Results

RT: 10.01
Area: 139261636
Amount: 10.534798
Amount Units: ug/ml

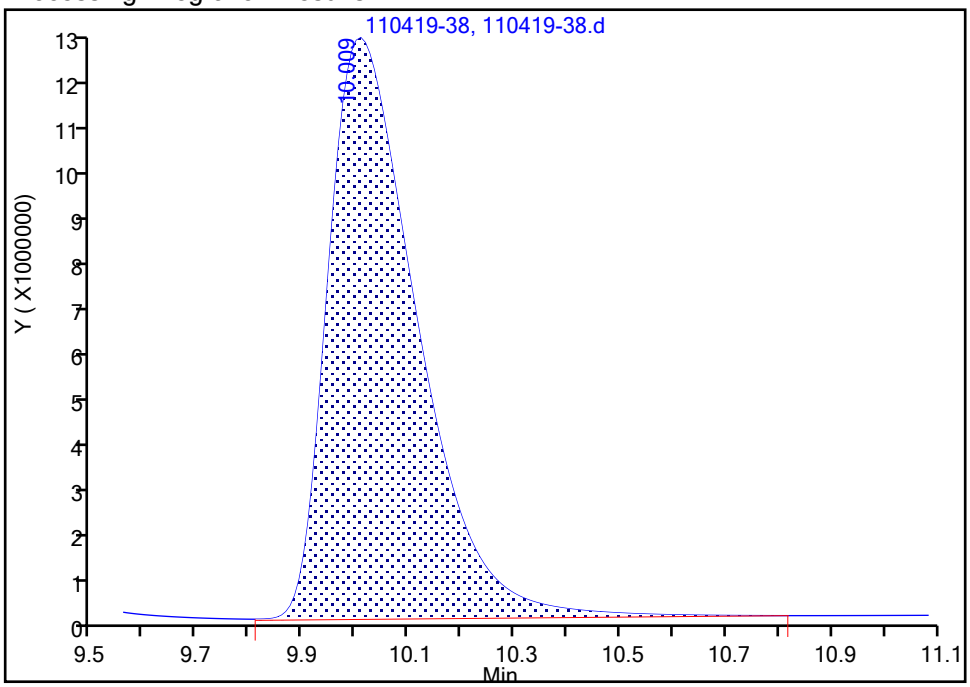

Manual Integration Results

RT: 10.01
Area: 138518980
Amount: 10.478920
Amount Units: ug/ml

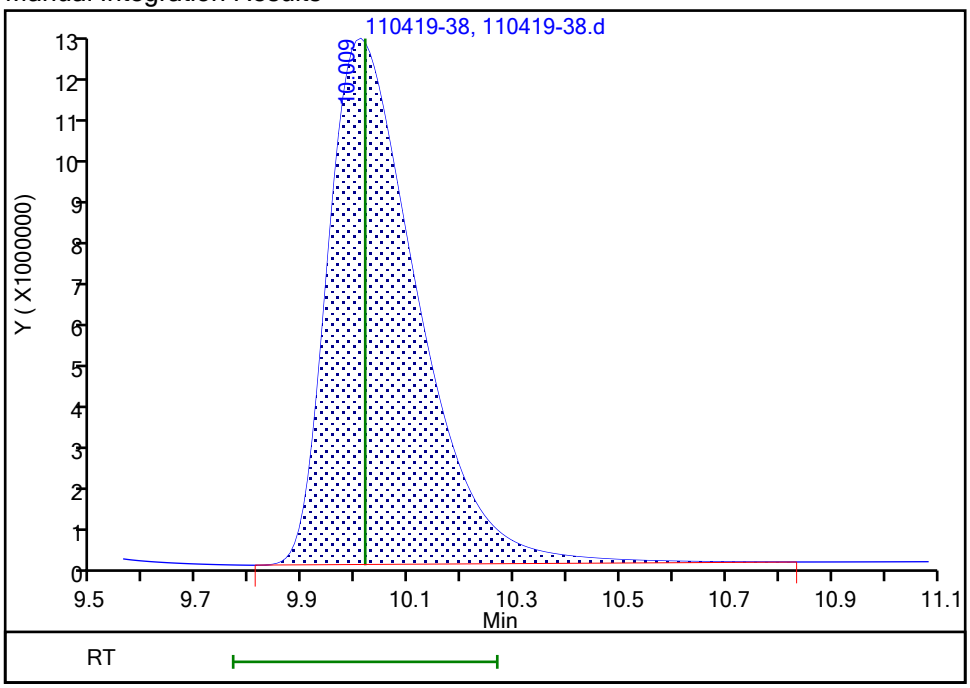

Reviewer: reachs, 05-Nov-2019 10:55:18

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-278776/4 Calibration Date: 10/29/2019 02:42

Instrument ID: CHWC17(IC) Calib Start Date: 10/24/2019 13:38

GC Column: AS22 ID: 2.00(mm) Calib End Date: 10/24/2019 14:43

Lab File ID: 102919-600-0031944-004.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin1		56053441		7.74	7.50	3.2	10.0
Chloride	Lin1		44758284		19.6	20.0	-2.1	10.0
Bromide	Lin1		14414516		7.96	7.50	6.1	10.0
Sulfate	Lin1		30503233		19.7	20.0	-1.6	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-278776/4 Calibration Date: 10/29/2019 02:42

Instrument ID: CHWC17(IC) Calib Start Date: 10/24/2019 13:38

GC Column: AS22 ID: 2.00(mm) Calib End Date: 10/24/2019 14:43

Lab File ID: 102919-600-0031944-004.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	2.24	2.09	2.39
Chloride	3.11	2.97	3.27
Bromide	4.38	4.25	4.55
Sulfate	7.08	6.95	7.25

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-004.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 29-Oct-2019 02:42:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031944-004
Misc. Info.: ccv
Operator ID: Instrument ID: CHWC17(IC)
Sublist: chrom-CHWC17(IC)*sub2

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 30-Oct-2019 12:43:28 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0337

First Level Reviewer: reachs Date: 29-Oct-2019 12:05:16

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.237	2.241	-0.004	420400804	7.50	7.74	M
	2 Chloride	3.111	3.121	-0.010	895165674	20.0	19.6	M
	9 Nitrite as N	3.747	3.761	-0.014	773262350	NC	NC	M
	1 Bromide	4.377	4.397	-0.020	108108871	7.50	7.96	Ma
	3 Nitrate as N	4.841	4.864	-0.023	1117706986	NC	NC	Ma
	5 Sulfate	7.081	7.101	-0.020	610064660	20.0	19.7	M
S	8 Sulfate as Sulfur						19.7	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

CCV_00112 Amount Added: 5.00 Units: mL

Report Date: 30-Oct-2019 12:43:29 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-004.d

Injection Date: 29-Oct-2019 02:42:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: CCV Worklist Smp#: 4

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_28day

Column: AS-22 Dionex Lion Pac (2.00 mm)

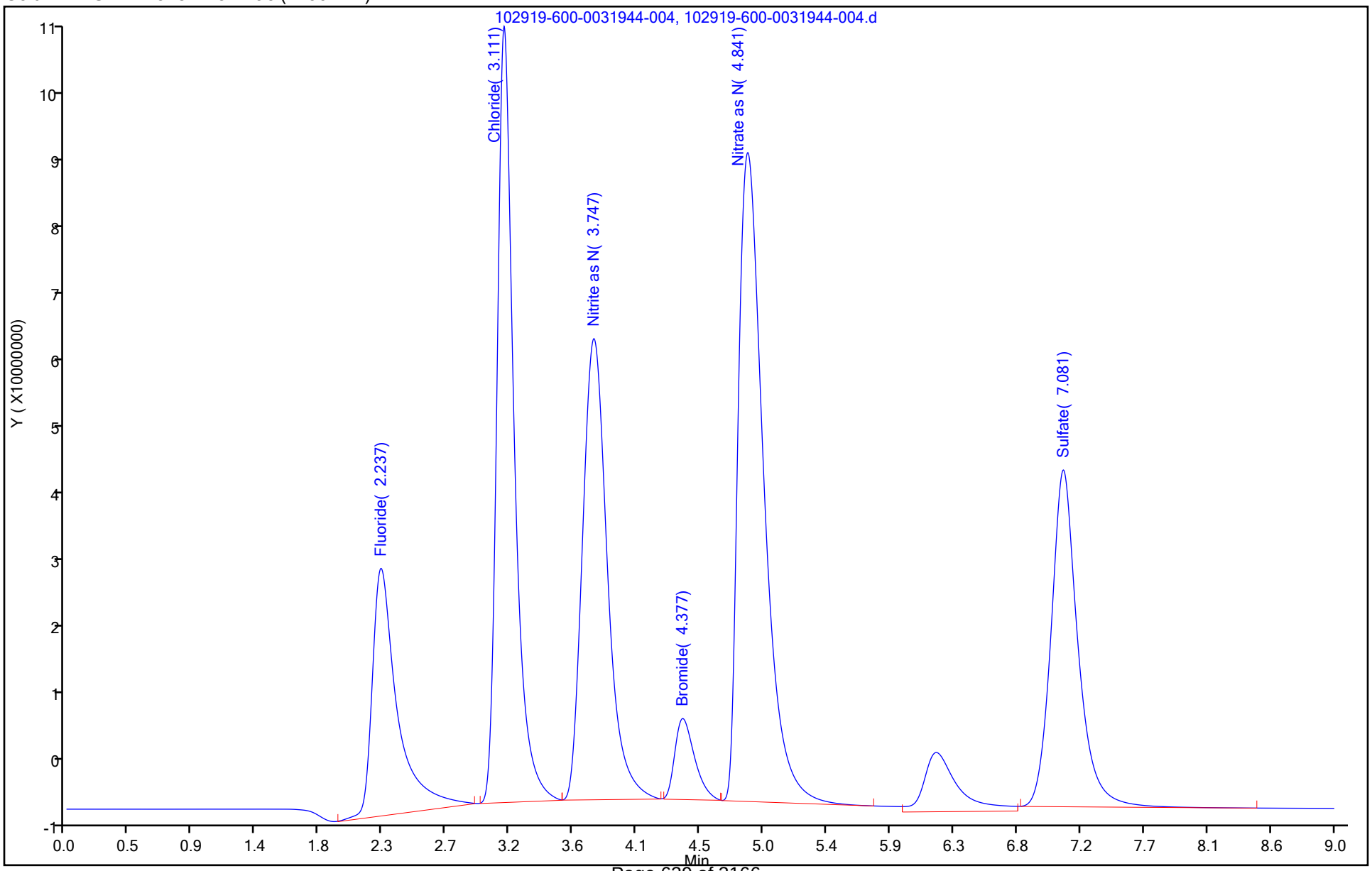

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-004.d				
Injection Date:	29-Oct-2019 02:42:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

7 Fluoride, CAS: 16984-48-8

Signal: 1

Processing Integration Results

RT: 2.24
Area: 452898397
Amount: 8.324910
Amount Units: ug/ml

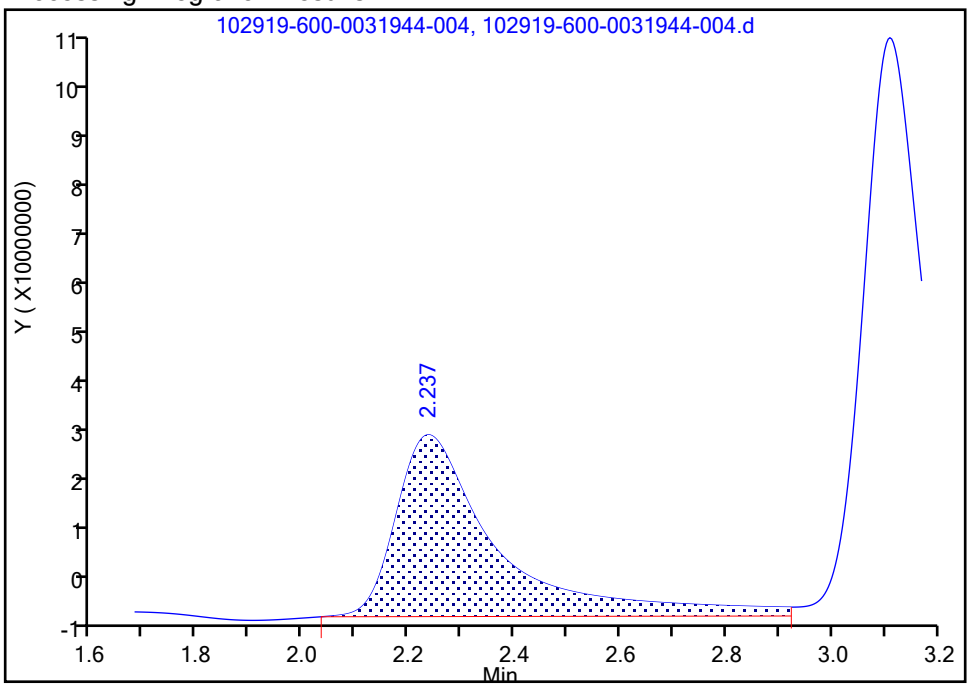

Manual Integration Results

RT: 2.24
Area: 420400804
Amount: 7.740344
Amount Units: ug/ml

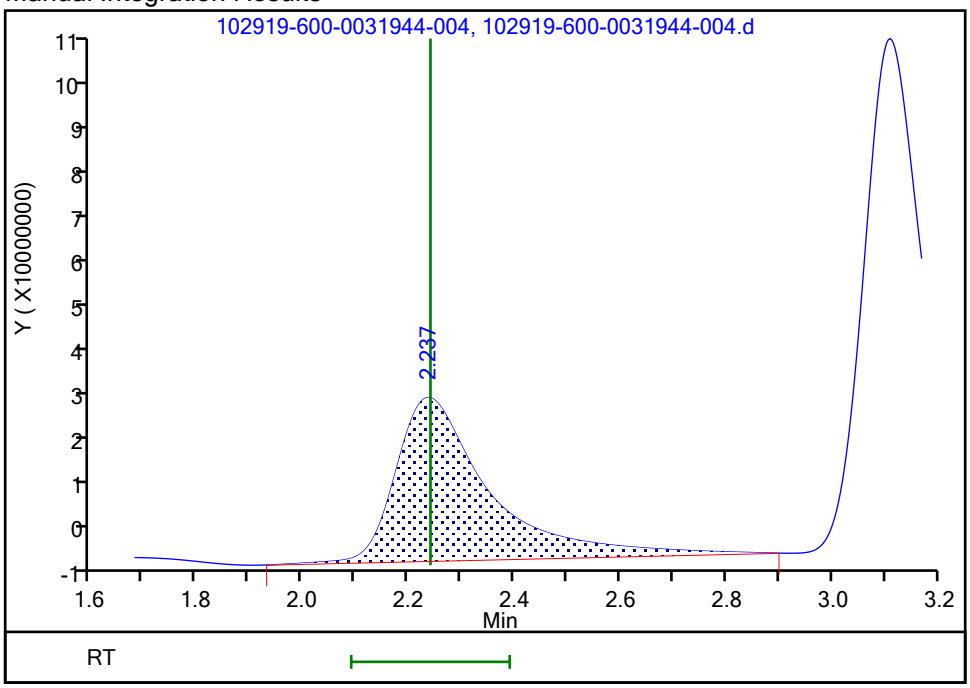

Reviewer: reachs, 29-Oct-2019 12:03:53

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-004.d				
Injection Date:	29-Oct-2019 02:42:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

2 Chloride, CAS: 16887-00-6

Signal: 1

Processing Integration Results

RT: 3.11
Area: 960372062
Amount: 21.000219
Amount Units: ug/ml

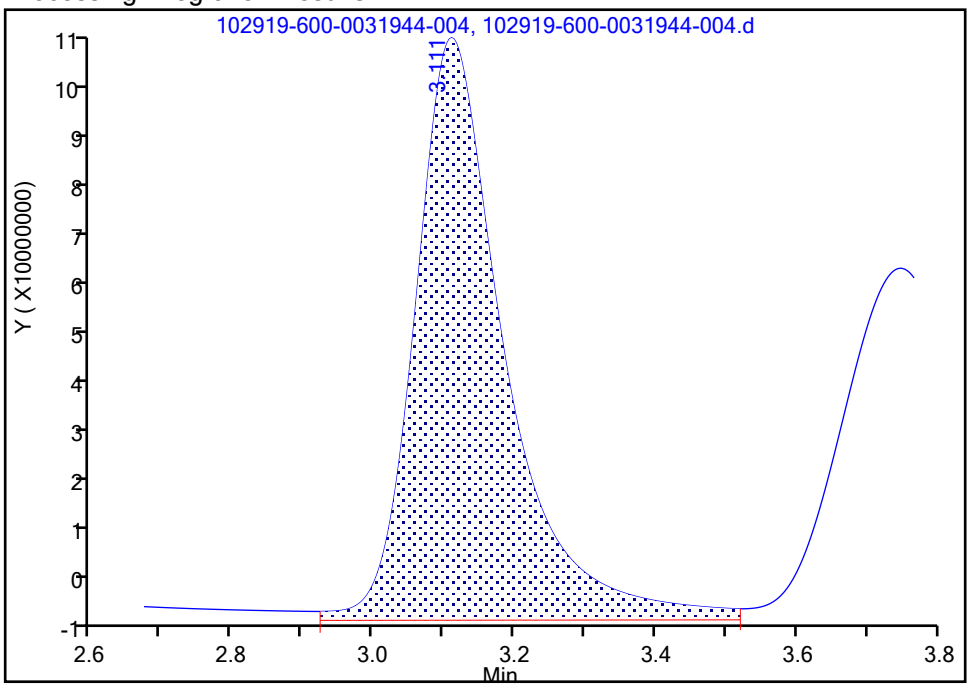

Manual Integration Results

RT: 3.11
Area: 895165674
Amount: 19.588550
Amount Units: ug/ml

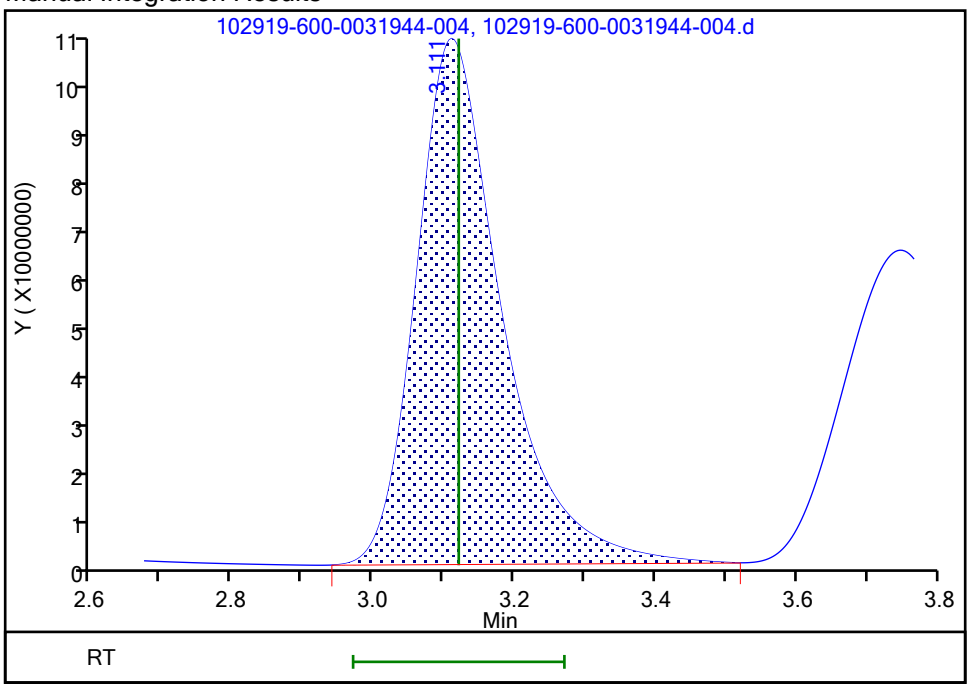

Reviewer: reachs, 29-Oct-2019 12:04:03

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-004.d				
Injection Date:	29-Oct-2019 02:42:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

1 Bromide, CAS: 24959-67-9

Signal: 1

Processing Integration Results

RT: 4.38
Area: 157764774
Amount: 11.620381
Amount Units: ug/ml

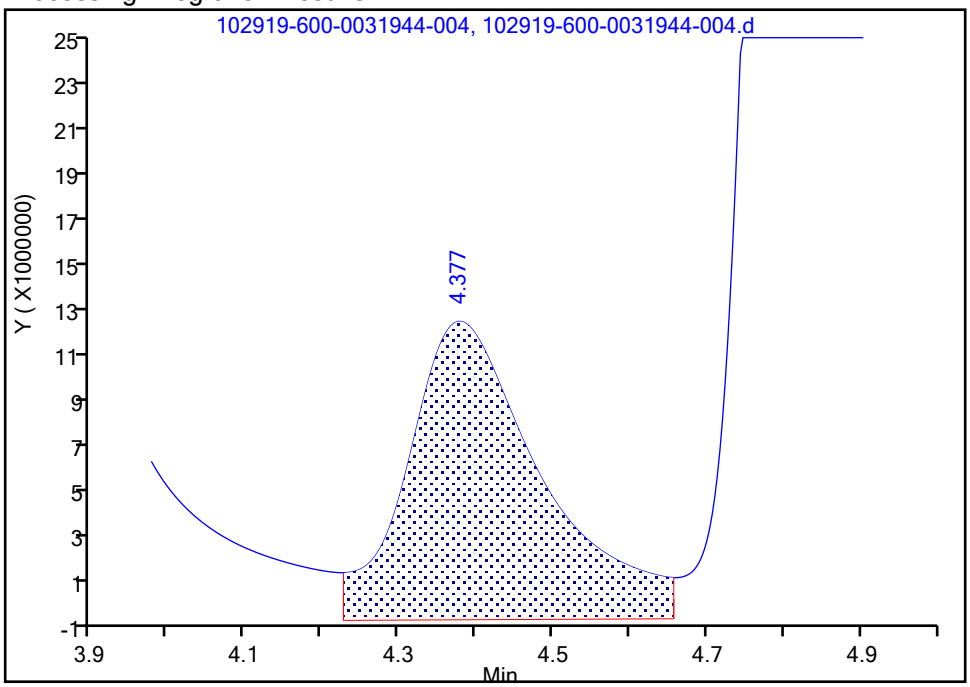

Manual Integration Results

RT: 4.38
Area: 108108871
Amount: 7.955209
Amount Units: ug/ml

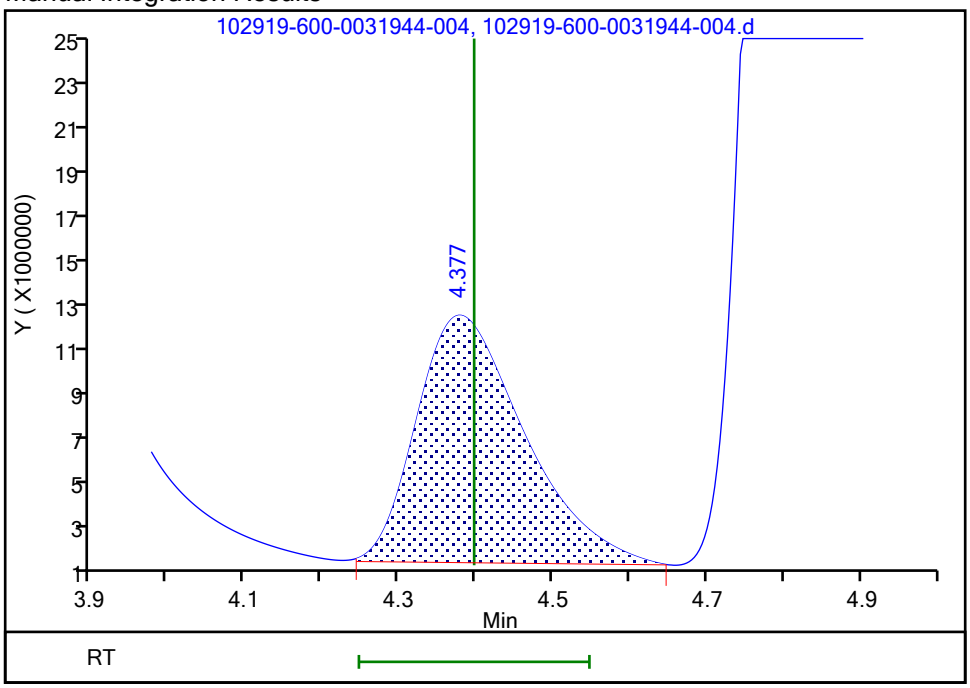

Reviewer: reachs, 30-Oct-2019 12:00:20

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-004.d				
Injection Date:	29-Oct-2019 02:42:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

5 Sulfate, CAS: 14808-79-8

Signal: 1

Processing Integration Results

RT: 7.08
Area: 650756396
Amount: 20.985284
Amount Units: ug/ml

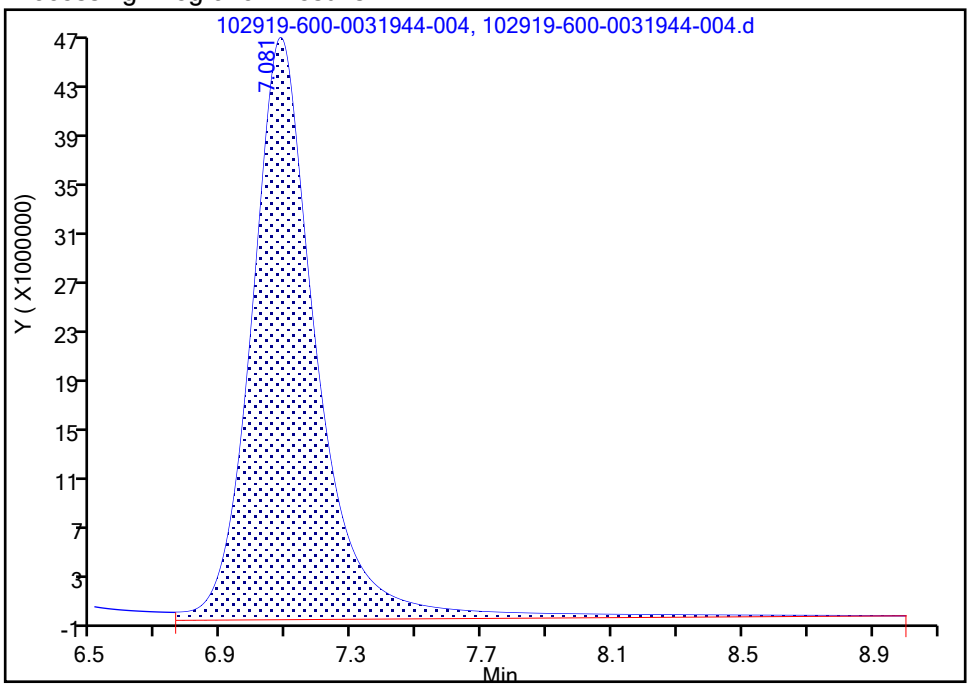

Manual Integration Results

RT: 7.08
Area: 610064660
Amount: 19.684170
Amount Units: ug/ml

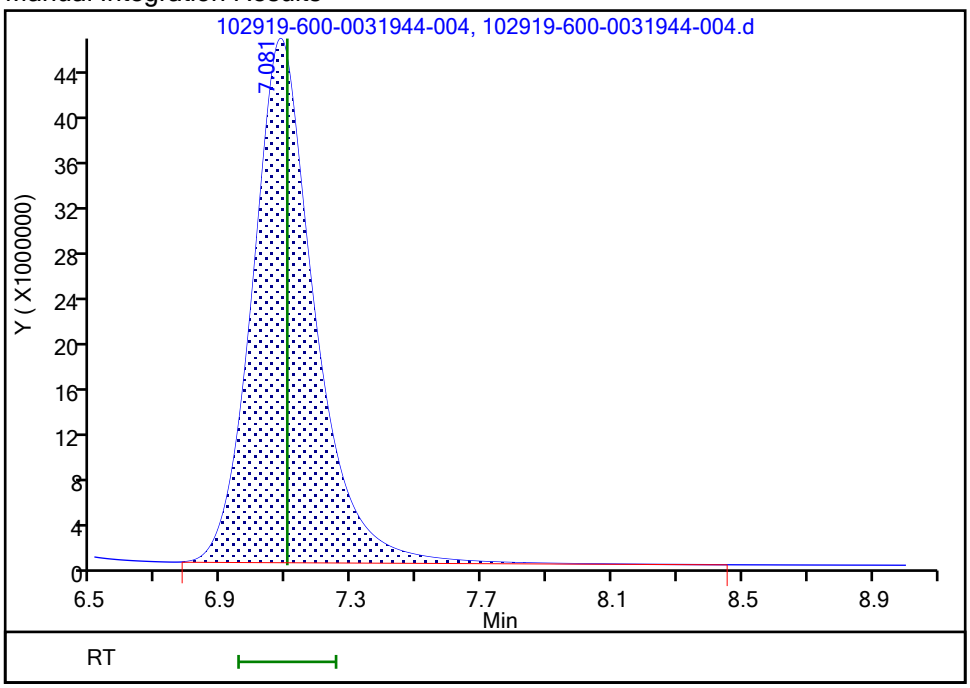

Reviewer: reachs, 29-Oct-2019 12:04:24

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-278777/4 Calibration Date: 10/29/2019 02:42

Instrument ID: CHWC17(IC) Calib Start Date: 10/24/2019 13:38

GC Column: AS22 ID: 2.00(mm) Calib End Date: 10/24/2019 14:43

Lab File ID: 102919-600-0031944-004.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitrite as N	Lin1		77326235		10.7	10.0	6.7	10.0
Nitrate as N	Lin1		111770699		9.62	10.0	-3.8	10.0

FORM VII 300.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-278777/4 Calibration Date: 10/29/2019 02:42

Instrument ID: CHWC17(IC) Calib Start Date: 10/24/2019 13:38

GC Column: AS22 ID: 2.00(mm) Calib End Date: 10/24/2019 14:43

Lab File ID: 102919-600-0031944-004.d

Analyte	RT	RT WINDOW	
		FROM	TO
Nitrite as N	3.75	3.61	3.91
Nitrate as N	4.84	4.71	5.01

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-004.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 29-Oct-2019 02:42:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031944-004
Misc. Info.: ccv
Operator ID: Instrument ID: CHWC17(IC)
Sublist: chrom-CHWC17(IC)*sub2

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 30-Oct-2019 12:43:28 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0337

First Level Reviewer: reachs Date: 29-Oct-2019 12:05:16

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.237	2.241	-0.004	420400804	NC	NC	M
	2 Chloride	3.111	3.121	-0.010	895165674	NC	NC	M
	9 Nitrite as N	3.747	3.761	-0.014	773262350	10.0	10.7	M
	1 Bromide	4.377	4.397	-0.020	108108871	NC	NC	Ma
	3 Nitrate as N	4.841	4.864	-0.023	1117706986	10.0	9.62	Ma
	5 Sulfate	7.081	7.101	-0.020	610064660	NC	NC	M
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N						20.3	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

CCV_00112 Amount Added: 5.00 Units: mL

Report Date: 30-Oct-2019 12:43:29 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-004.d

Injection Date: 29-Oct-2019 02:42:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: CCV Worklist Smp#: 4

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_48hr

Column: AS-22 Dionex Lion Pac (2.00 mm)

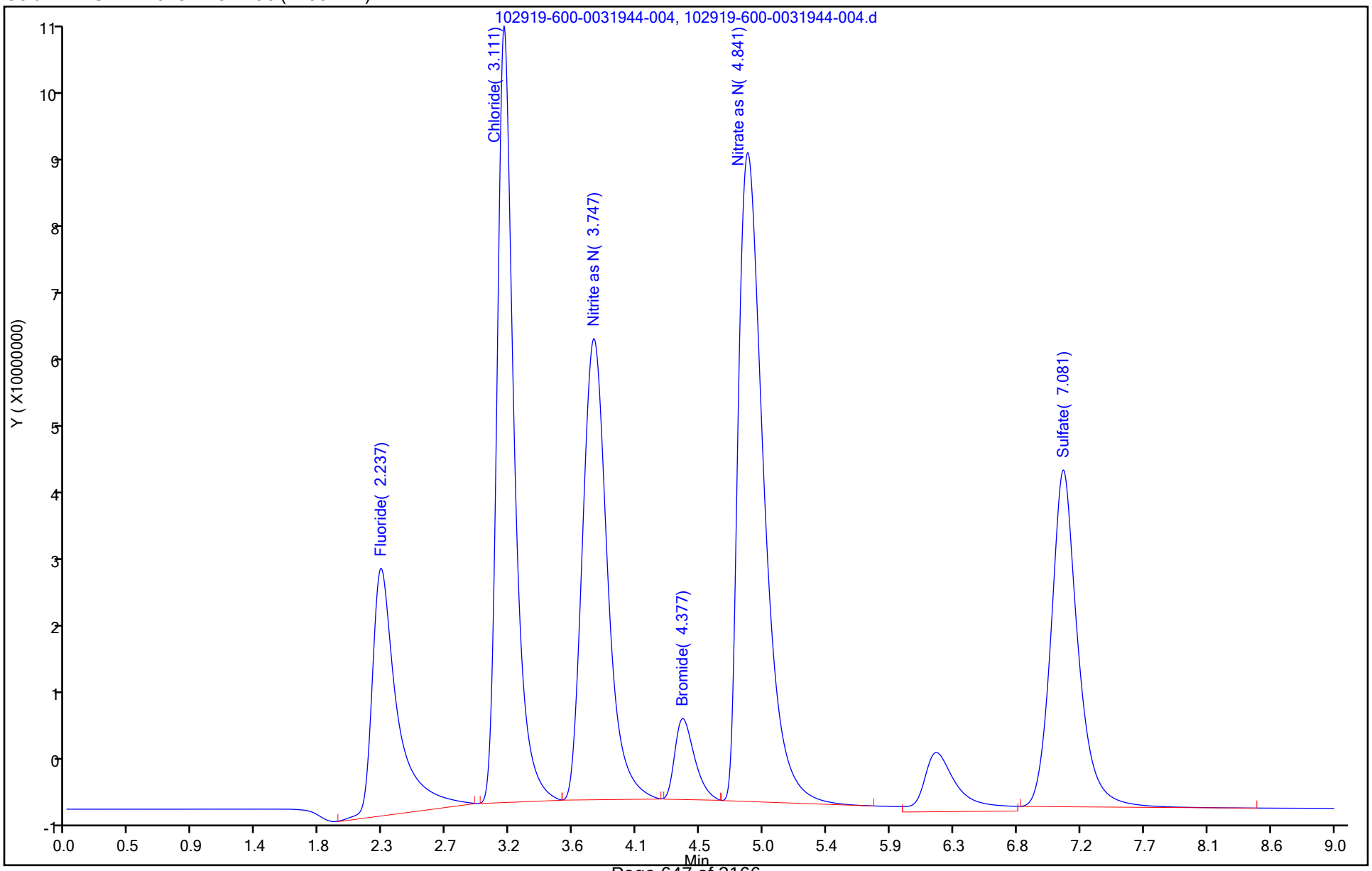

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-004.d				
Injection Date:	29-Oct-2019 02:42:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

9 Nitrite as N, CAS: 14797-65-0

Signal: 1

Processing Integration Results

RT: 3.75
Area: 859528919
Amount: 11.856244
Amount Units: ug/ml

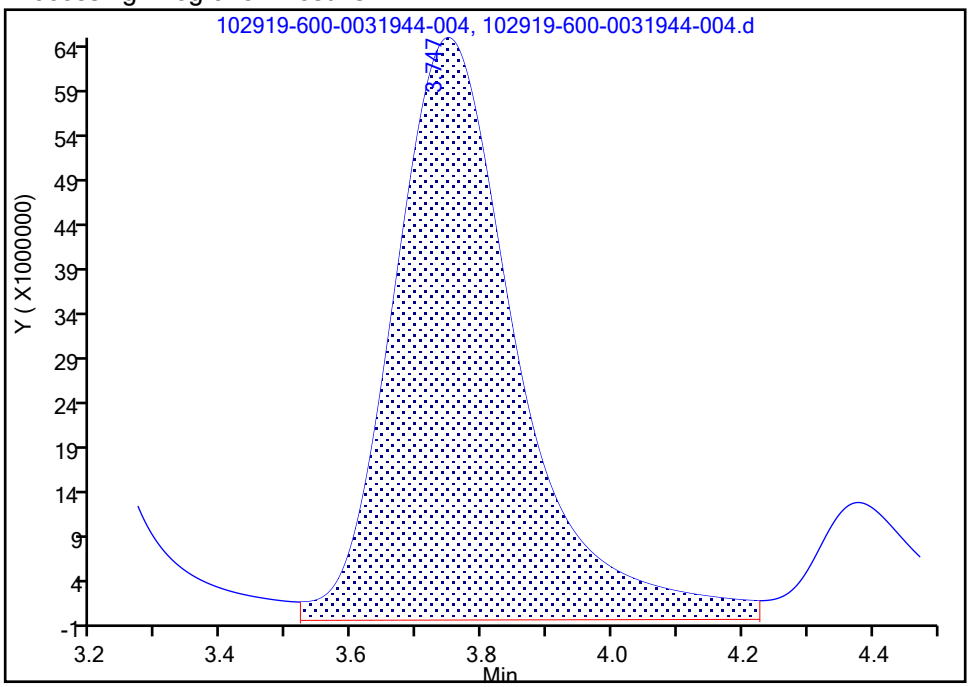

Manual Integration Results

RT: 3.75
Area: 773262350
Amount: 10.669805
Amount Units: ug/ml

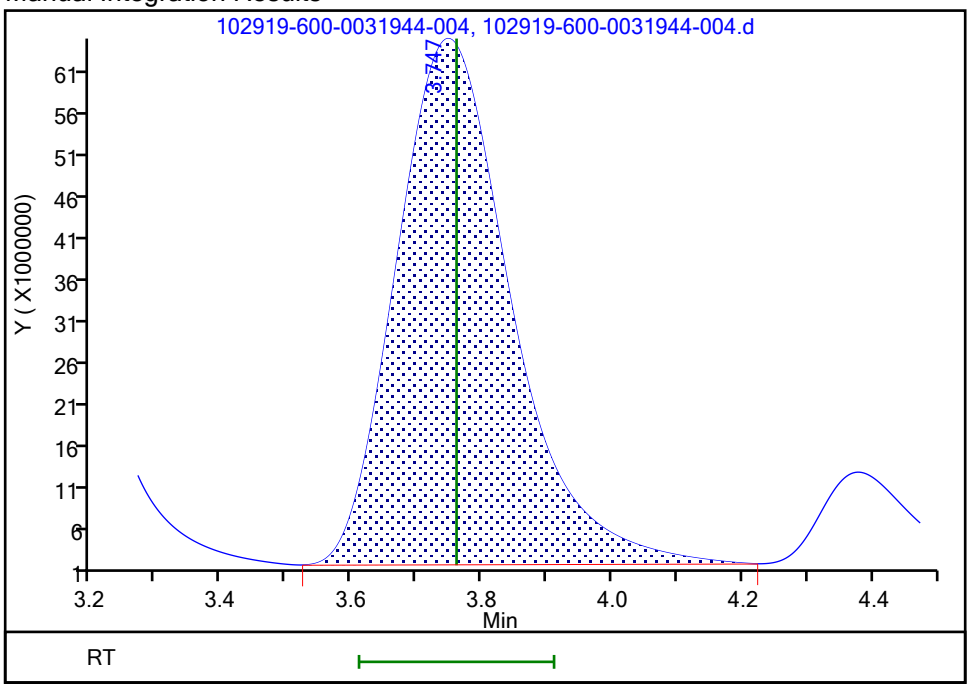

Reviewer: reachs, 29-Oct-2019 12:04:40

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-004.d				
Injection Date:	29-Oct-2019 02:42:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

3 Nitrate as N, CAS: 14797-55-8

Signal: 1

Processing Integration Results

RT: 4.84
Area: 1212277880
Amount: 10.427664
Amount Units: ug/ml

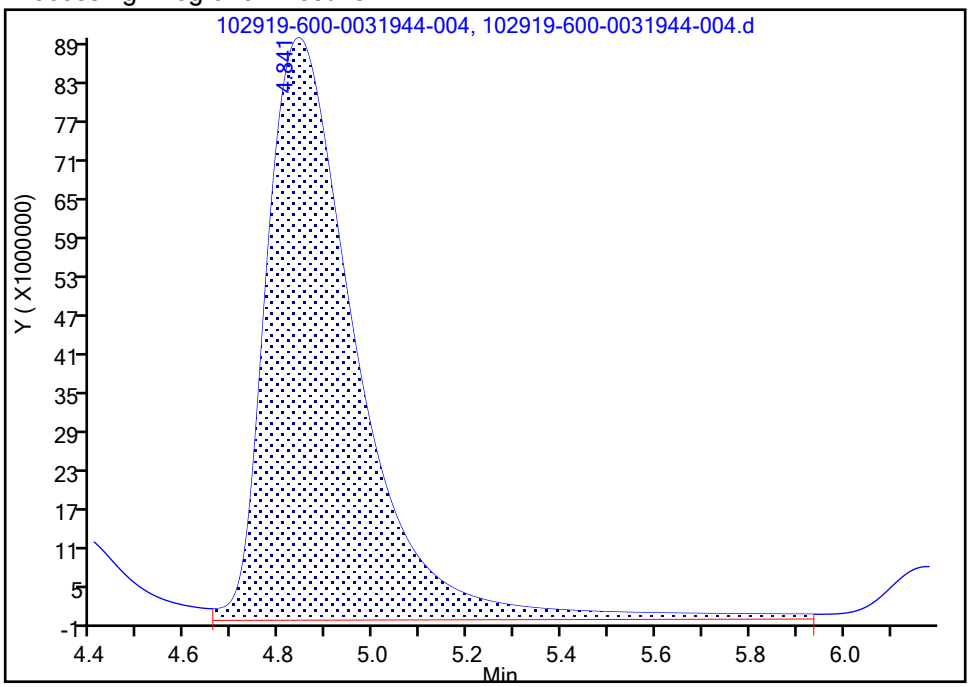

Manual Integration Results

RT: 4.84
Area: 1117706986
Amount: 9.623437
Amount Units: ug/ml

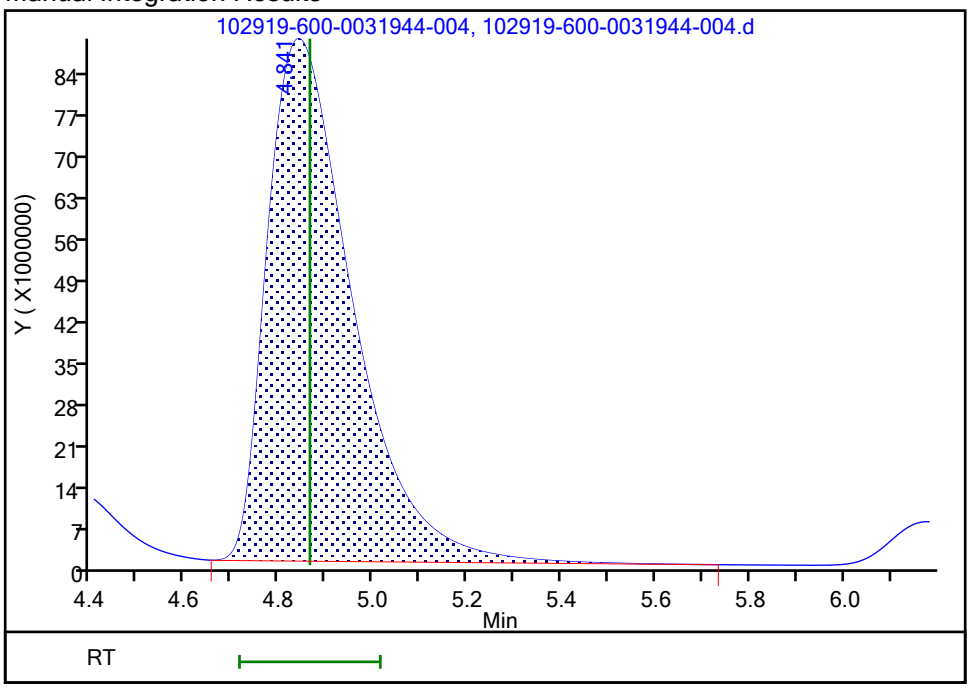

Reviewer: reachs, 30-Oct-2019 12:00:47

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Incomplete Integration

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-278776/16 Calibration Date: 10/29/2019 09:31

Instrument ID: CHWC17(IC) Calib Start Date: 10/24/2019 13:38

GC Column: AS22 ID: 2.00(mm) Calib End Date: 10/24/2019 14:43

Lab File ID: 102919-600-0031944-016.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin1		58963286		8.13	7.50	8.4	10.0
Chloride	Lin1		45066716		19.7	20.0	-1.4	10.0
Bromide	Lin1		14491108		8.00	7.50	6.6	10.0
Sulfate	Lin1		30514752		19.7	20.0	-1.5	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-278776/16 Calibration Date: 10/29/2019 09:31

Instrument ID: CHWC17(IC) Calib Start Date: 10/24/2019 13:38

GC Column: AS22 ID: 2.00(mm) Calib End Date: 10/24/2019 14:43

Lab File ID: 102919-600-0031944-016.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	2.23	2.09	2.39
Chloride	3.11	2.97	3.27
Bromide	4.38	4.25	4.55
Sulfate	7.06	6.95	7.25

Form VII 300.0

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-016.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 29-Oct-2019 09:31:00 ALS Bottle#: 0 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031944-016
Misc. Info.: ccv
Operator ID: Instrument ID: CHWC17(IC)
Sublist: chrom-CHWC17(IC)*sub2

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 30-Oct-2019 12:43:41 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0337

First Level Reviewer: reachs Date: 30-Oct-2019 12:09:54

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.234	2.241	-0.007	442224643	7.50	8.13	M
	2 Chloride	3.107	3.121	-0.014	901334323	20.0	19.7	M
	9 Nitrite as N	3.747	3.761	-0.014	777606699	NC	NC	M
	1 Bromide	4.377	4.397	-0.020	108683307	7.50	8.00	M
	3 Nitrate as N	4.837	4.864	-0.027	1127965188	NC	NC	M
	5 Sulfate	7.064	7.101	-0.037	610295036	20.0	19.7	M
S	8 Sulfate as Sulfur						19.7	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

CCV_00112 Amount Added: 5.00 Units: mL

Report Date: 30-Oct-2019 12:43:42 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-016.d

Injection Date: 29-Oct-2019 09:31:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: CCV Worklist Smp#: 16

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_28day

Column: AS-22 Dionex Lion Pac (2.00 mm)

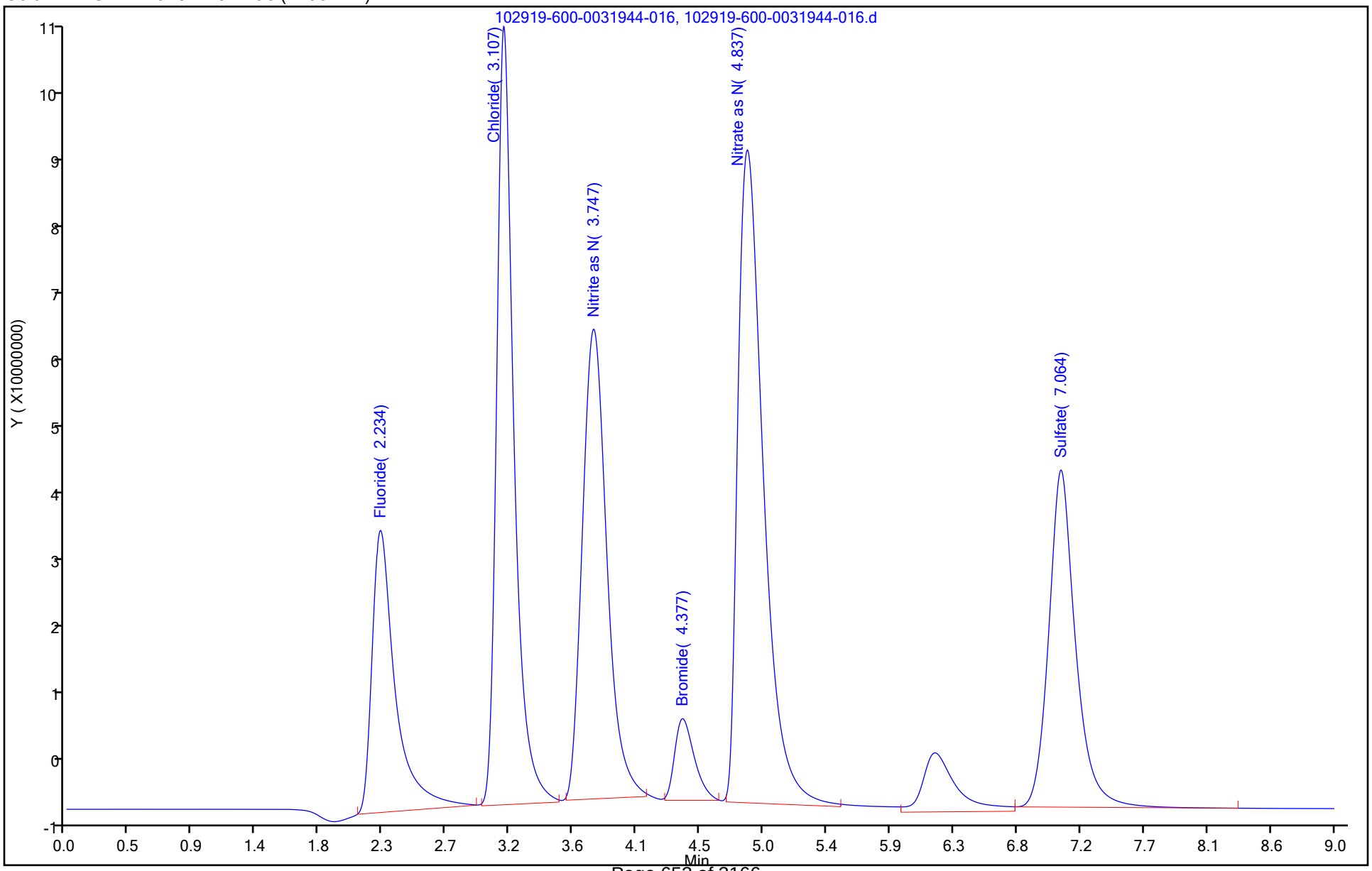

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-016.d				
Injection Date:	29-Oct-2019 09:31:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

7 Fluoride, CAS: 16984-48-8

Signal: 1

Processing Integration Results

RT: 2.23
Area: 487730690
Amount: 8.951473
Amount Units: ug/ml

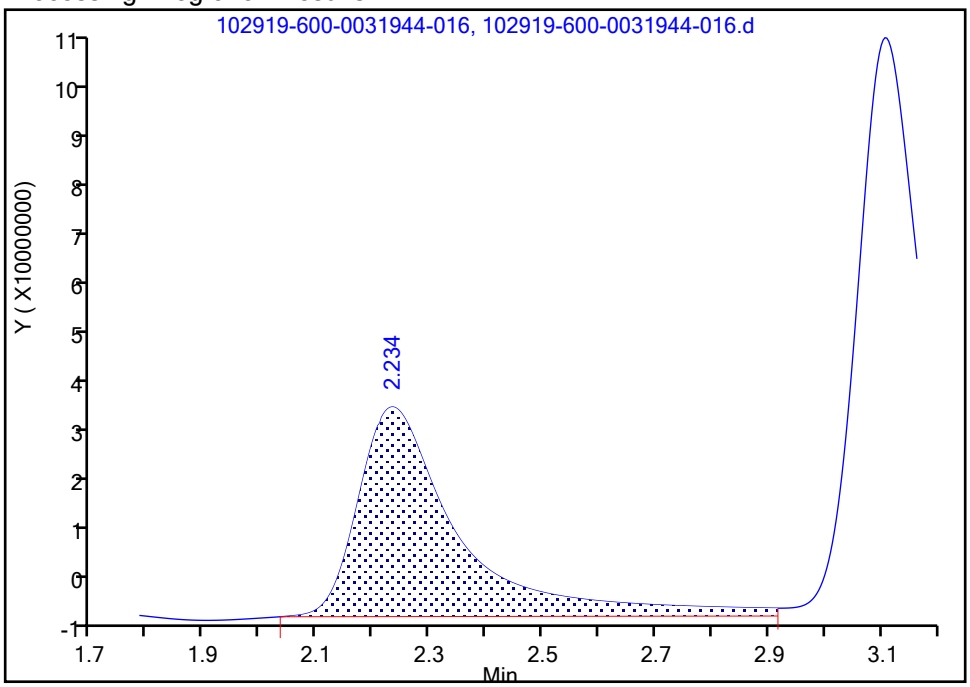

Manual Integration Results

RT: 2.23
Area: 442224643
Amount: 8.132911
Amount Units: ug/ml

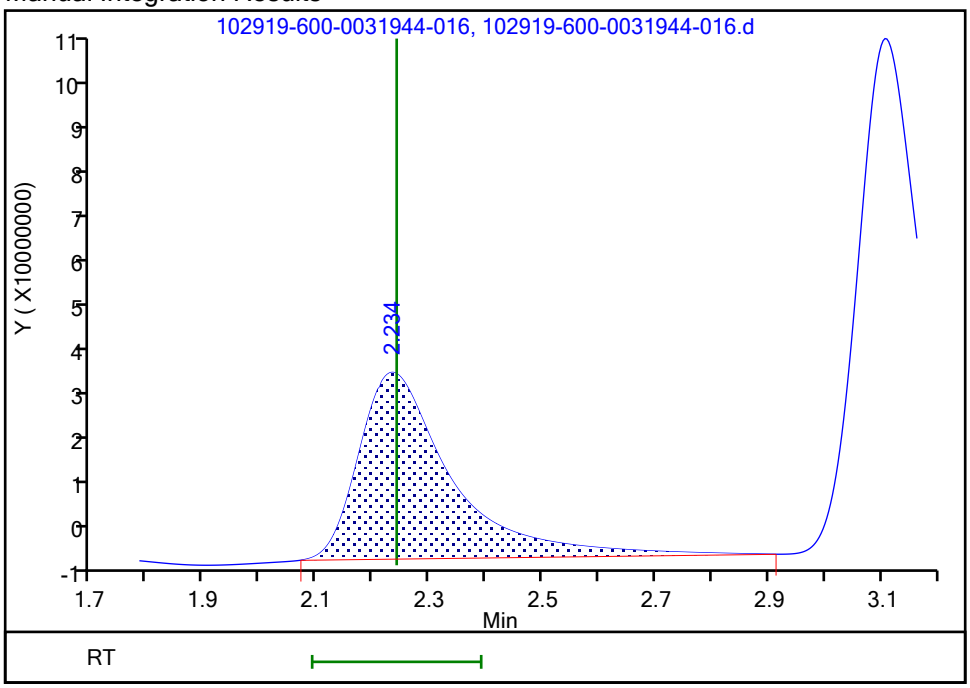

Reviewer: reachs, 30-Oct-2019 12:09:08

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-016.d				
Injection Date:	29-Oct-2019 09:31:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

2 Chloride, CAS: 16887-00-6

Signal: 1

Processing Integration Results

RT: 3.11
Area: 958044314
Amount: 20.949825
Amount Units: ug/ml

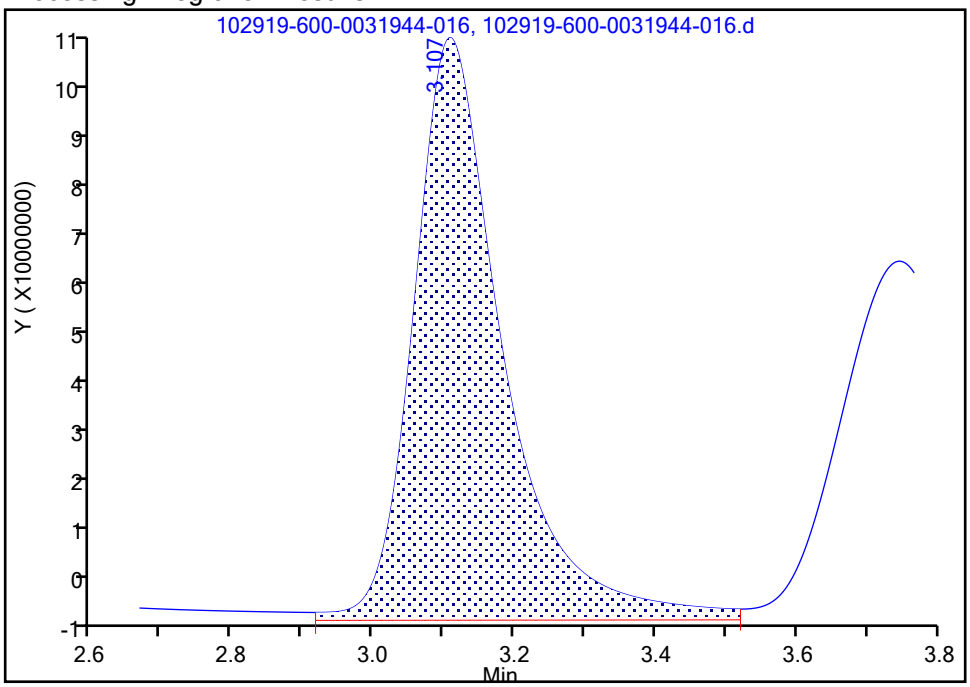

Manual Integration Results

RT: 3.11
Area: 901334323
Amount: 19.722097
Amount Units: ug/ml

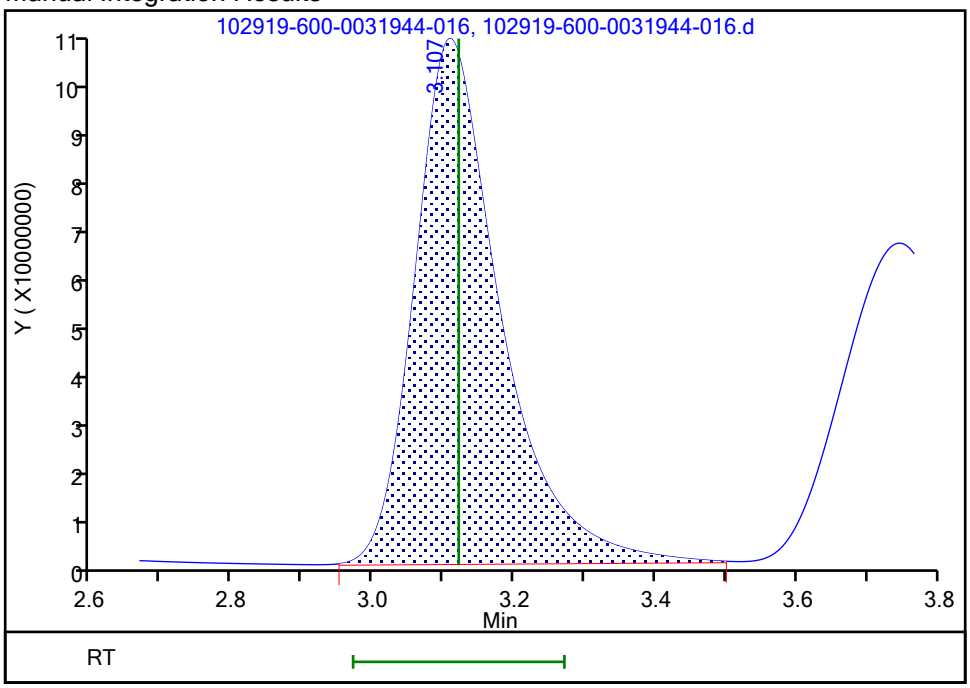

Reviewer: reachs, 30-Oct-2019 12:09:15
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-016.d				
Injection Date:	29-Oct-2019 09:31:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

1 Bromide, CAS: 24959-67-9

Signal: 1

RT: 4.38
Area: 157175540
Amount: 11.576889
Amount Units: ug/ml

Processing Integration Results

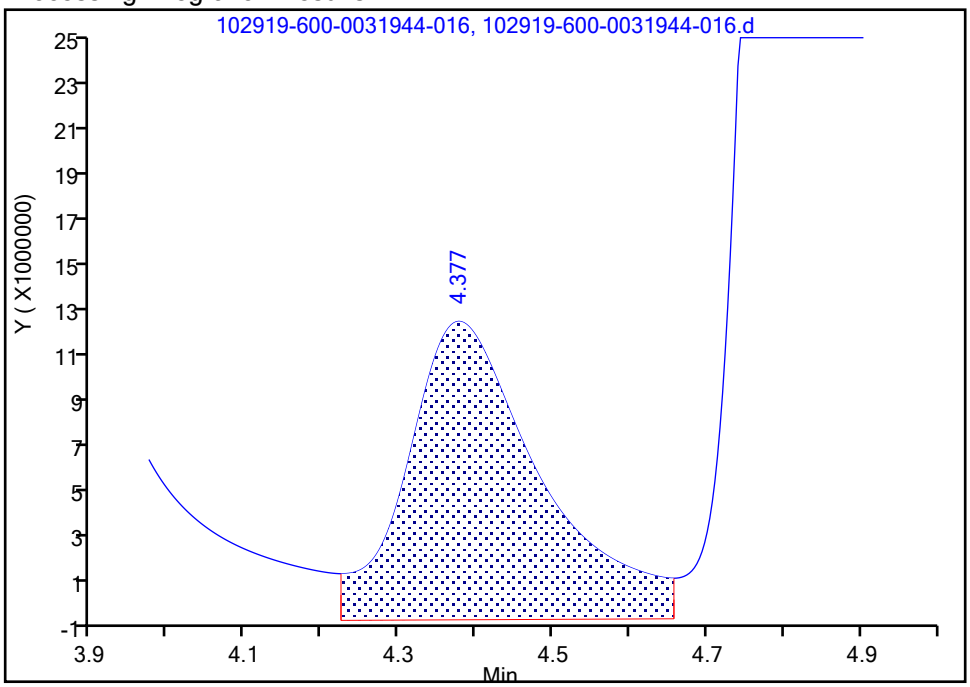

RT: 4.38
Area: 108683307
Amount: 7.997609
Amount Units: ug/ml

Manual Integration Results

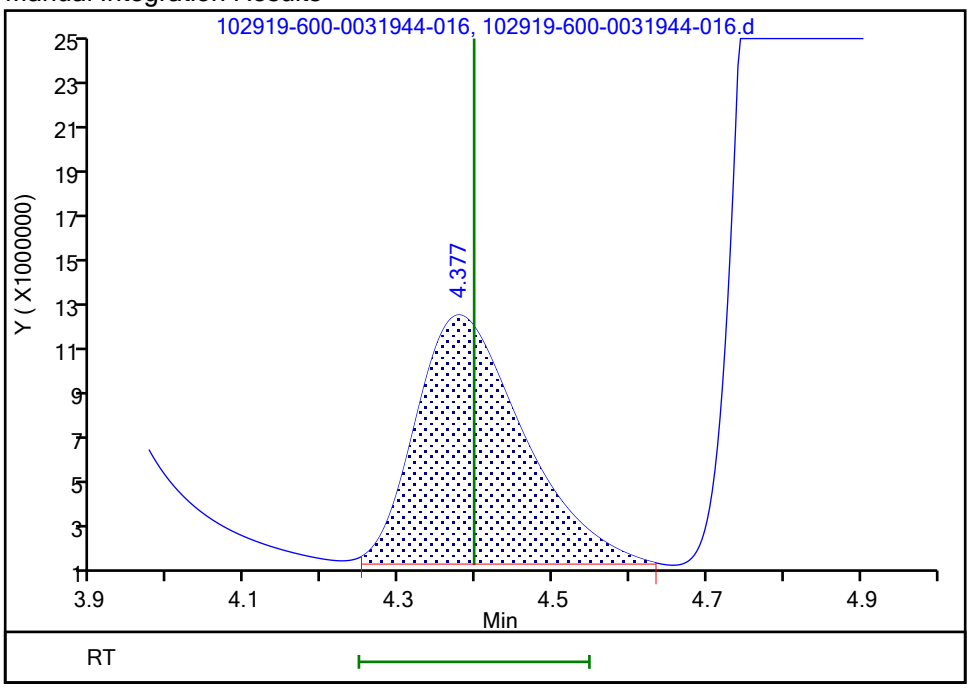

Reviewer: reachs, 30-Oct-2019 12:09:22
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-016.d				
Injection Date:	29-Oct-2019 09:31:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

5 Sulfate, CAS: 14808-79-8

Signal: 1

Processing Integration Results

RT: 7.06
Area: 649905297
Amount: 20.958070
Amount Units: ug/ml

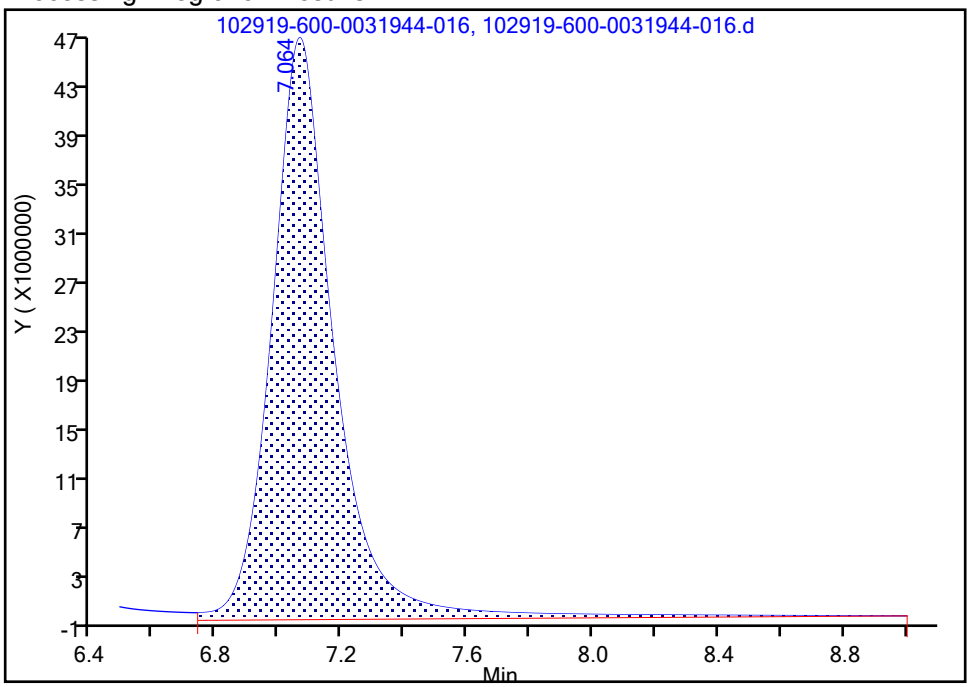

Manual Integration Results

RT: 7.06
Area: 610295036
Amount: 19.691536
Amount Units: ug/ml

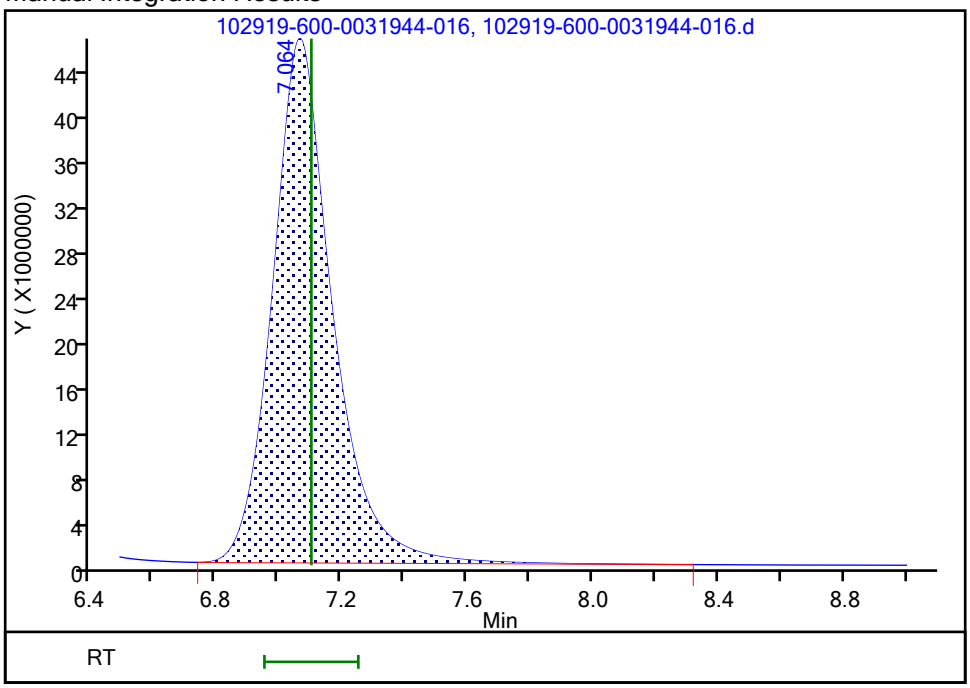

Reviewer: reachs, 30-Oct-2019 12:09:32

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-278777/16 Calibration Date: 10/29/2019 09:31

Instrument ID: CHWC17(IC) Calib Start Date: 10/24/2019 13:38

GC Column: AS22 ID: 2.00(mm) Calib End Date: 10/24/2019 14:43

Lab File ID: 102919-600-0031944-016.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitrite as N	Lin1		77760670		10.7	10.0	7.3	10.0
Nitrate as N	Lin1		112796519		9.71	10.0	-2.9	10.0

FORM VII 300.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-278777/16 Calibration Date: 10/29/2019 09:31

Instrument ID: CHWC17(IC) Calib Start Date: 10/24/2019 13:38

GC Column: AS22 ID: 2.00(mm) Calib End Date: 10/24/2019 14:43

Lab File ID: 102919-600-0031944-016.d

Analyte	RT	RT WINDOW	
		FROM	TO
Nitrite as N	3.75	3.61	3.91
Nitrate as N	4.84	4.71	5.01

Form VII 300.0

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-016.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 29-Oct-2019 09:31:00 ALS Bottle#: 0 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031944-016
Misc. Info.: ccv
Operator ID: Instrument ID: CHWC17(IC)
Sublist: chrom-CHWC17(IC)*sub2

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 30-Oct-2019 12:43:41 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0337

First Level Reviewer: reachs Date: 30-Oct-2019 12:09:54

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.234	2.241	-0.007	442224643	NC	NC	M
	2 Chloride	3.107	3.121	-0.014	901334323	NC	NC	M
	9 Nitrite as N	3.747	3.761	-0.014	777606699	10.0	10.7	M
	1 Bromide	4.377	4.397	-0.020	108683307	NC	NC	M
	3 Nitrate as N	4.837	4.864	-0.027	1127965188	10.0	9.71	M
	5 Sulfate	7.064	7.101	-0.037	610295036	NC	NC	M
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N						20.4	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

CCV_00112 Amount Added: 5.00 Units: mL

Report Date: 30-Oct-2019 12:43:42 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-016.d

Injection Date: 29-Oct-2019 09:31:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: CCV Worklist Smp#: 16

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_48hr

Column: AS-22 Dionex Lion Pac (2.00 mm)

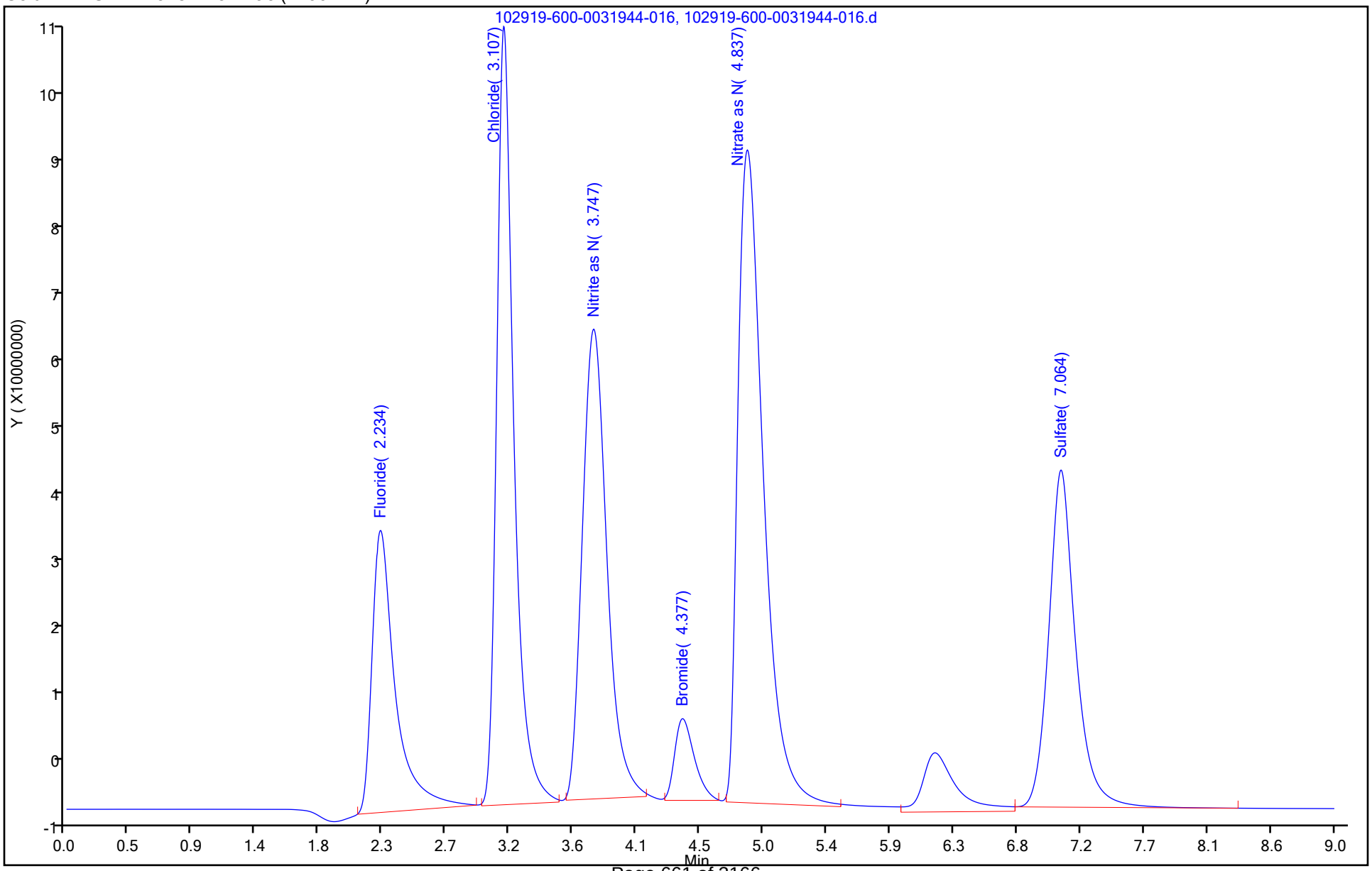

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-016.d				
Injection Date:	29-Oct-2019 09:31:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

9 Nitrite as N, CAS: 14797-65-0

Signal: 1

Processing Integration Results

RT: 3.75
Area: 872112916
Amount: 12.029314
Amount Units: ug/ml

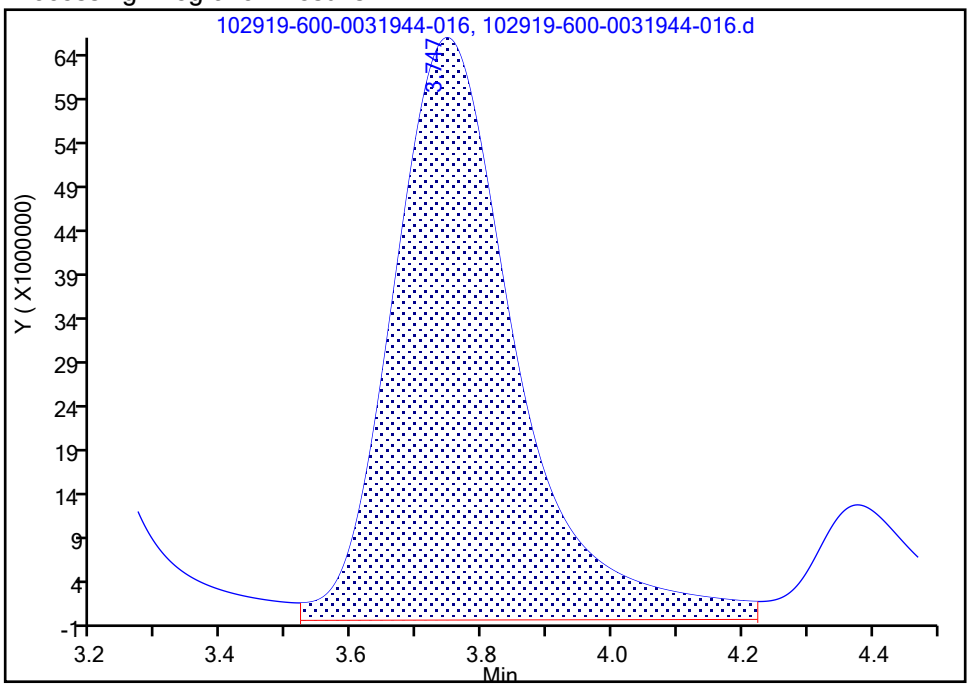

Manual Integration Results

RT: 3.75
Area: 777606699
Amount: 10.729554
Amount Units: ug/ml

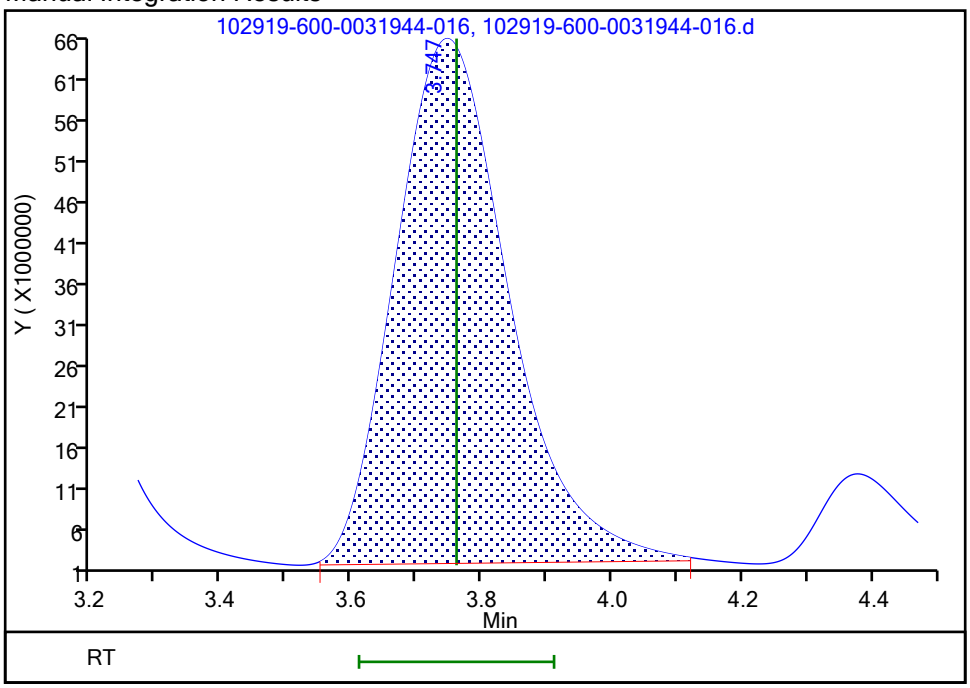

Reviewer: reachs, 30-Oct-2019 12:09:43

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-016.d				
Injection Date:	29-Oct-2019 09:31:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

3 Nitrate as N, CAS: 14797-55-8

Signal: 1

Processing Integration Results

RT: 4.84
Area: 1212852828
Amount: 10.432553
Amount Units: ug/ml

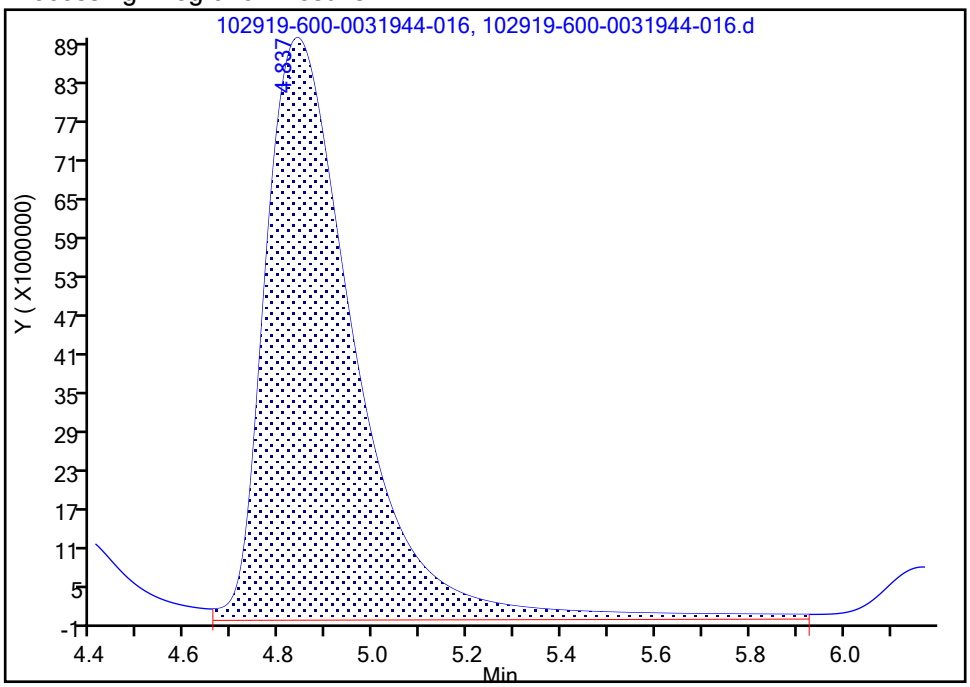

Manual Integration Results

RT: 4.84
Area: 1127965188
Amount: 9.710672
Amount Units: ug/ml

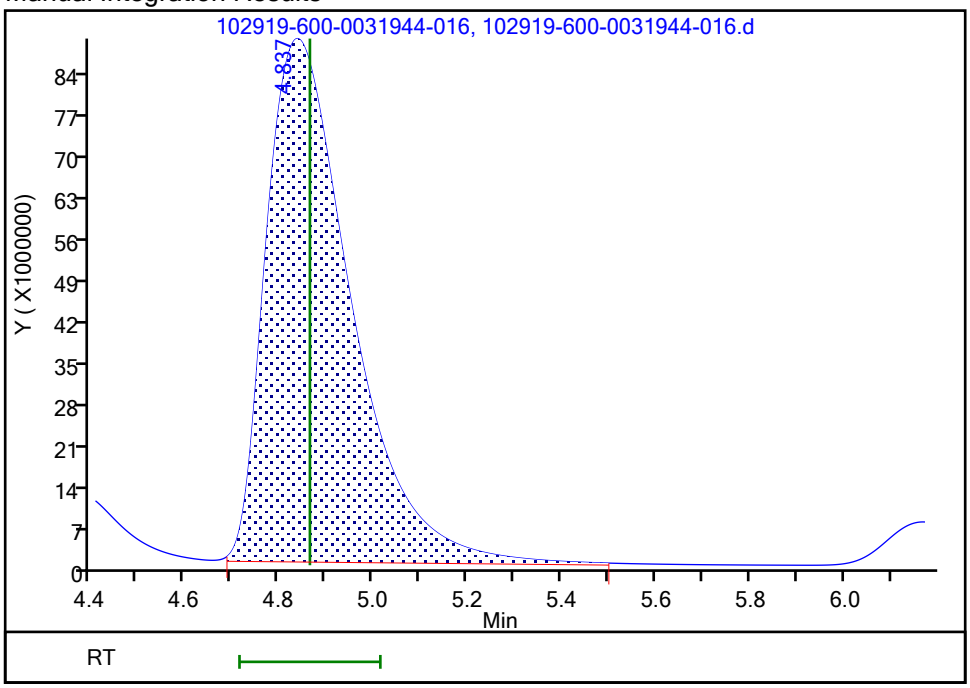

Reviewer: reachs, 30-Oct-2019 12:09:50

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-278901/4 Calibration Date: 10/30/2019 06:12

Instrument ID: CHWC17(IC) Calib Start Date: 10/24/2019 13:38

GC Column: AS22 ID: 2.00(mm) Calib End Date: 10/24/2019 14:43

Lab File ID: 103019-600-0031972-004.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin1		54715706		7.56	7.50	0.8	10.0
Chloride	Lin1		44795291		19.6	20.0	-2.0	10.0
Bromide	Lin1		14502957		8.00	7.50	6.7	10.0
Sulfate	Lin1		30635131		19.8	20.0	-1.2	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-278901/4 Calibration Date: 10/30/2019 06:12

Instrument ID: CHWC17(IC) Calib Start Date: 10/24/2019 13:38

GC Column: AS22 ID: 2.00(mm) Calib End Date: 10/24/2019 14:43

Lab File ID: 103019-600-0031972-004.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	2.23	2.09	2.39
Chloride	3.10	2.97	3.27
Bromide	4.36	4.25	4.55
Sulfate	7.05	6.95	7.25

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-004.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 30-Oct-2019 06:12:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031972-004
Misc. Info.: ccv
Operator ID: Instrument ID: CHWC17(IC)
Sublist: chrom-CHWC17(IC)*sub2

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 31-Oct-2019 12:35:10 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0305

First Level Reviewer: reachs Date: 30-Oct-2019 14:09:22

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.234	2.241	-0.007	410367794	7.50	7.56	M
	2 Chloride	3.104	3.121	-0.017	895905828	20.0	19.6	M
	9 Nitrite as N	3.737	3.761	-0.024	760968083	NC	NC	M
	1 Bromide	4.357	4.397	-0.040	108772181	7.50	8.00	M
	3 Nitrate as N	4.817	4.864	-0.047	1132114252	NC	NC	M
	5 Sulfate	7.051	7.101	-0.050	612702616	20.0	19.8	M
S	8 Sulfate as Sulfur						19.8	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

CCV_00112 Amount Added: 5.00 Units: mL

Report Date: 31-Oct-2019 12:35:12 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-004.d				
Injection Date:	30-Oct-2019 06:12:00	Instrument ID:	CHWC17(IC)	Operator ID:	
Lims ID:	CCV			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		

Column: AS-22 Dionex Lion Pac (2.00 mm)

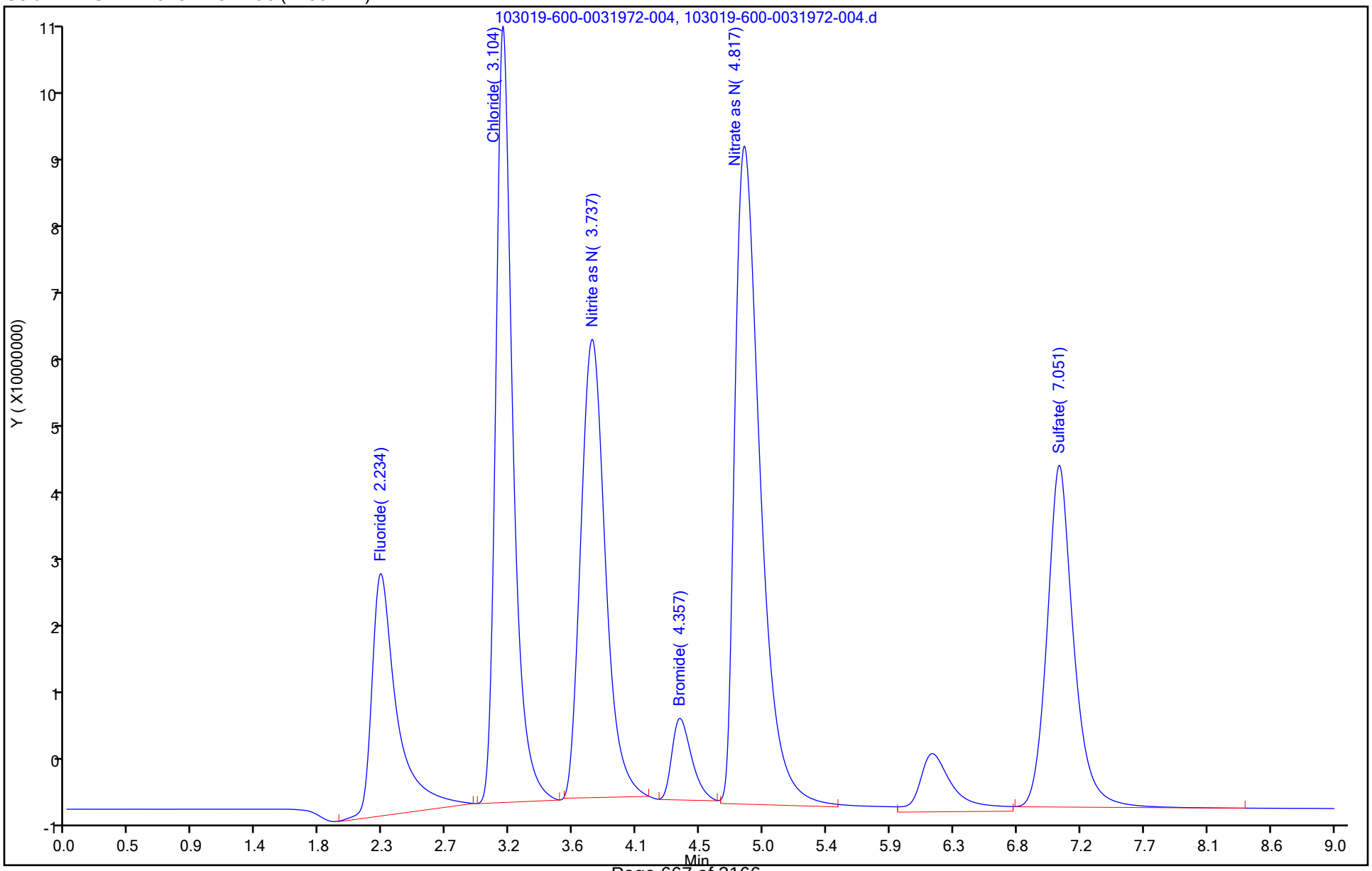

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-004.d				
Injection Date:	30-Oct-2019 06:12:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

7 Fluoride, CAS: 16984-48-8

Signal: 1

Processing Integration Results

RT: 2.23
Area: 443026529
Amount: 8.147335
Amount Units: ug/ml

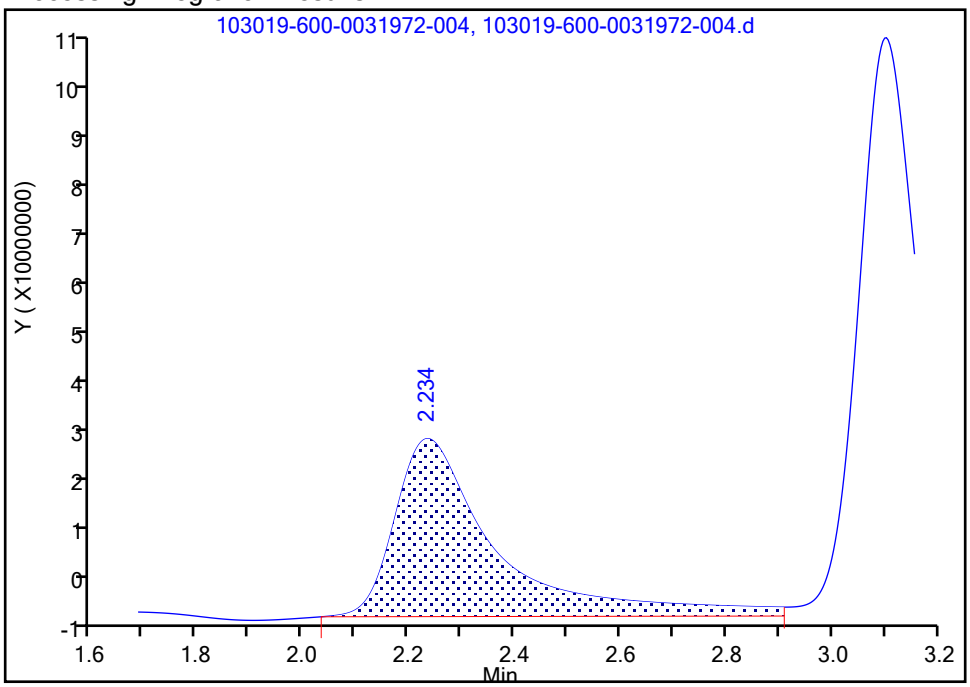

Manual Integration Results

RT: 2.23
Area: 410367794
Amount: 7.559870
Amount Units: ug/ml

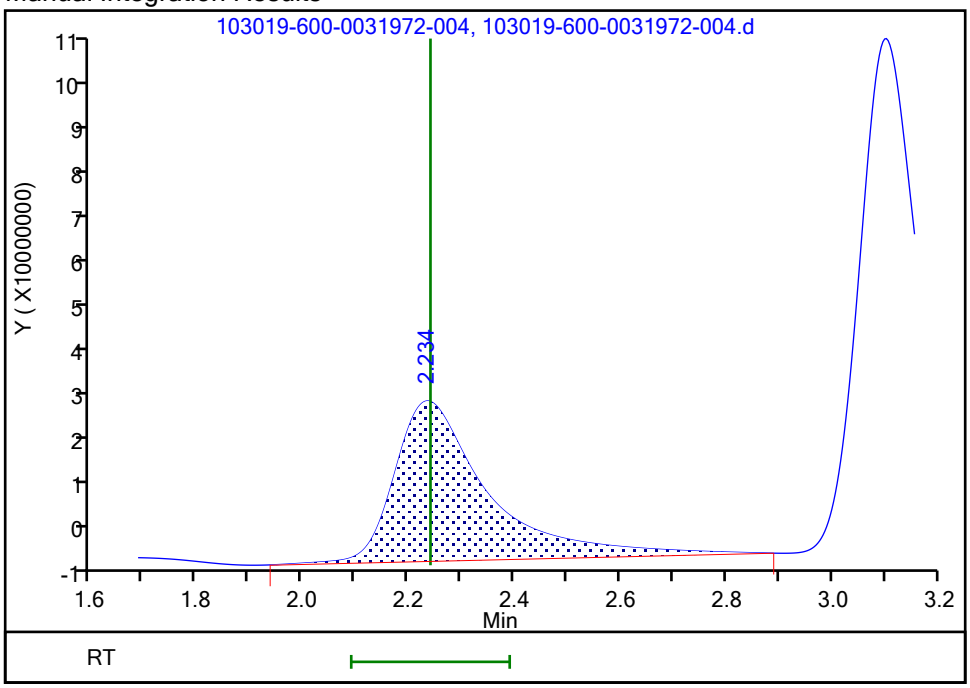

Reviewer: reachs, 30-Oct-2019 14:08:29

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-004.d				
Injection Date:	30-Oct-2019 06:12:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

2 Chloride, CAS: 16887-00-6

Signal: 1

Processing Integration Results

RT: 3.10
Area: 961318796
Amount: 21.020715
Amount Units: ug/ml

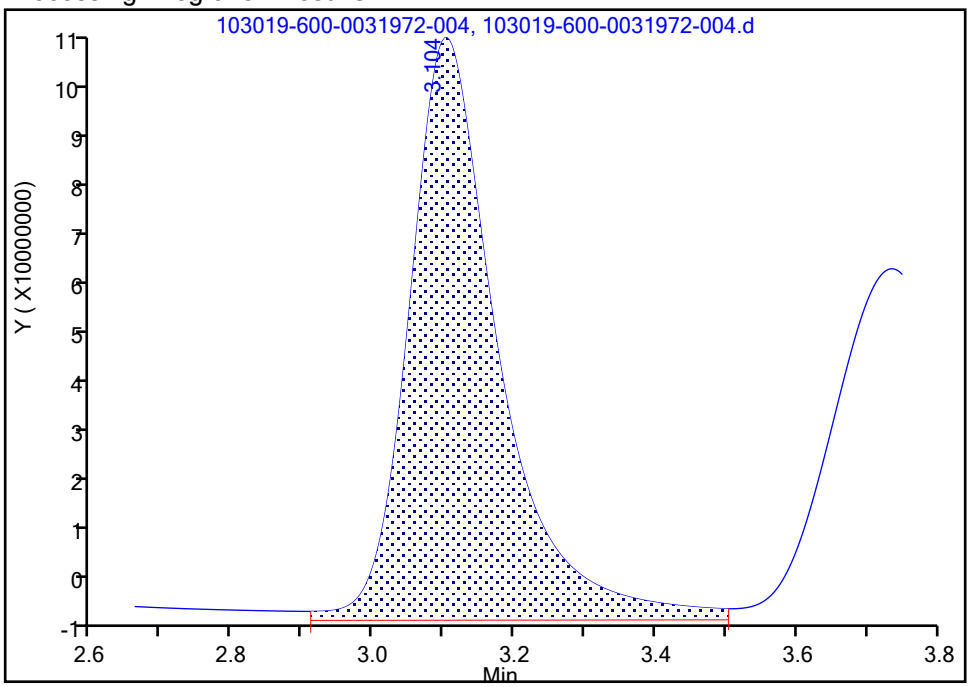

Manual Integration Results

RT: 3.10
Area: 895905828
Amount: 19.604574
Amount Units: ug/ml

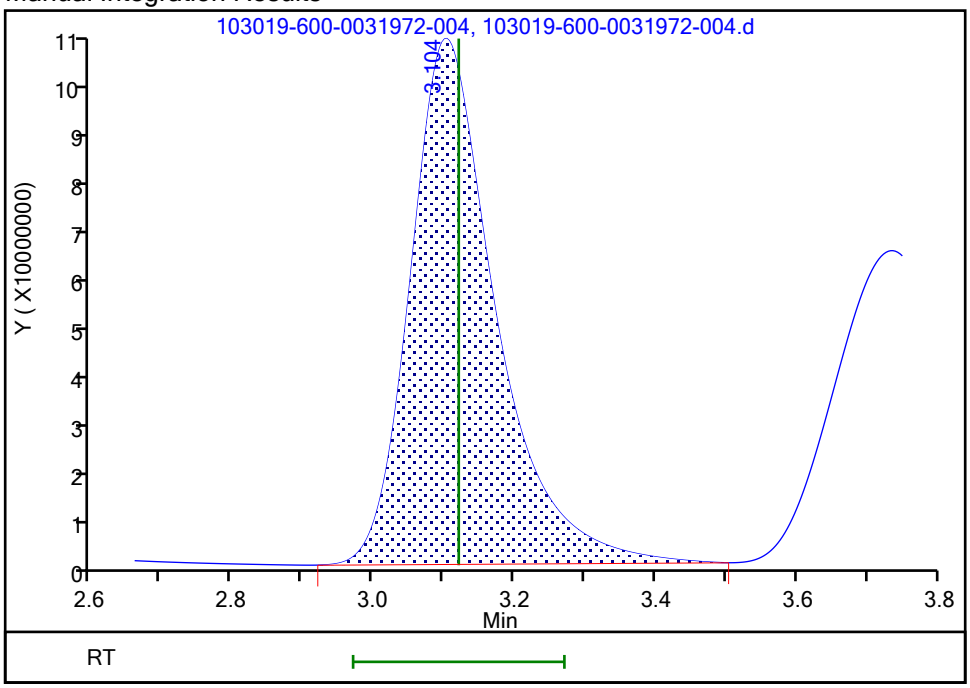

Reviewer: reachs, 30-Oct-2019 14:08:40

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-004.d				
Injection Date:	30-Oct-2019 06:12:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

1 Bromide, CAS: 24959-67-9

Signal: 1

Processing Integration Results

RT: 4.36
Area: 156905545
Amount: 11.556960
Amount Units: ug/ml

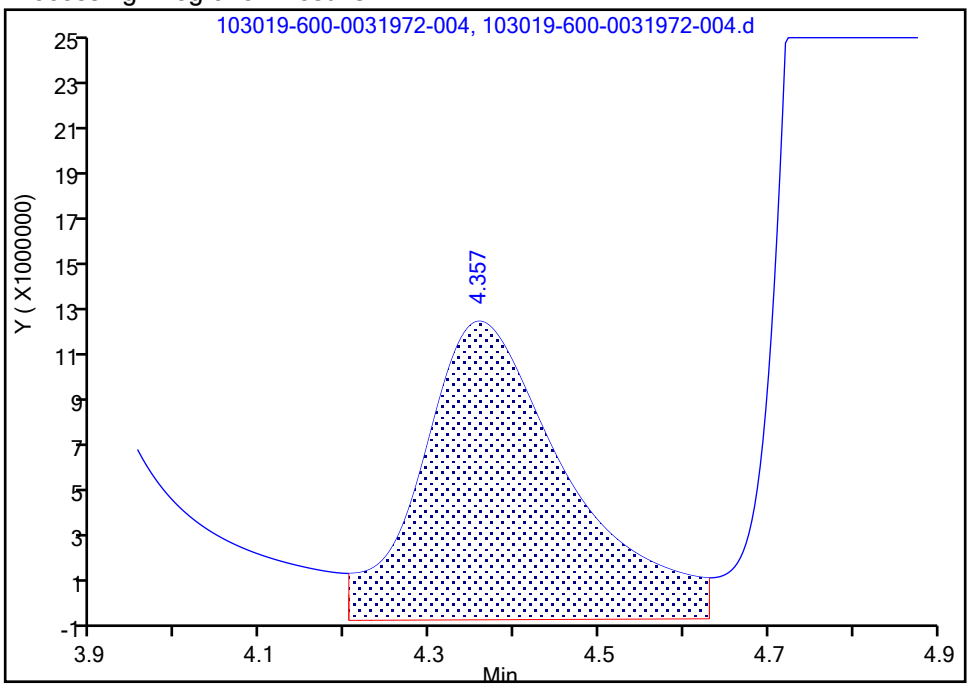

Manual Integration Results

RT: 4.36
Area: 108772181
Amount: 8.004169
Amount Units: ug/ml

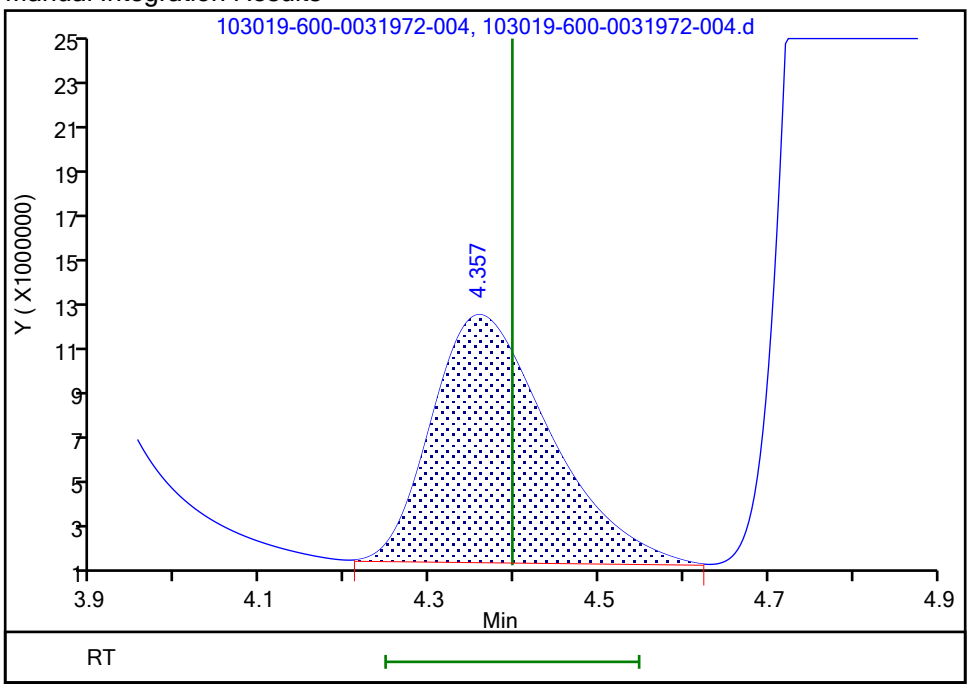

Reviewer: reachs, 30-Oct-2019 14:08:49

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-004.d				
Injection Date:	30-Oct-2019 06:12:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

5 Sulfate, CAS: 14808-79-8

Signal: 1

Processing Integration Results

RT: 7.05
Area: 652411402
Amount: 21.038203
Amount Units: ug/ml

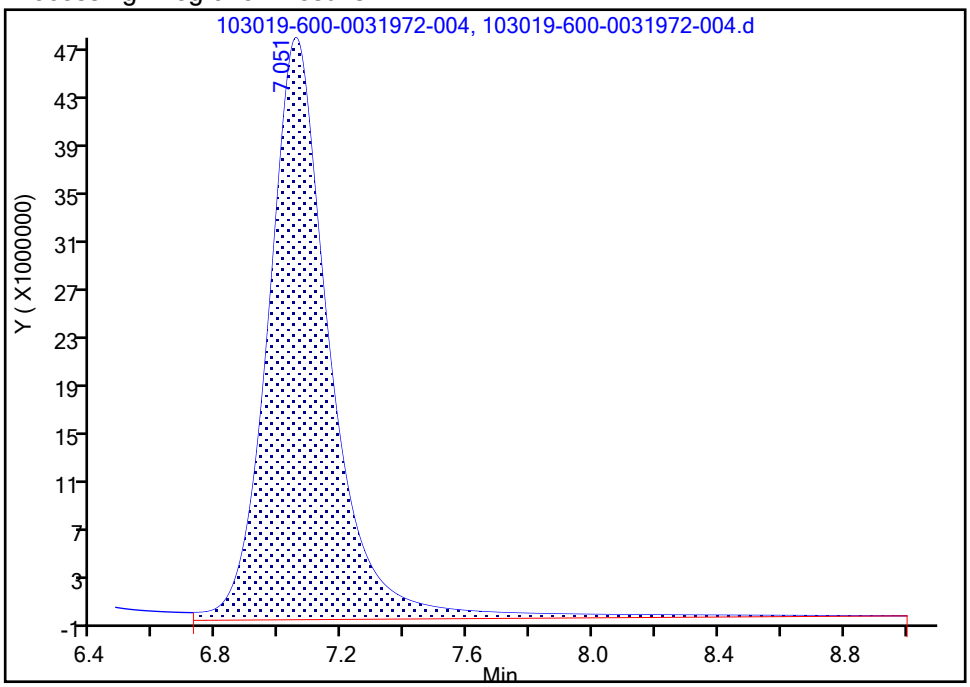

Manual Integration Results

RT: 7.05
Area: 612702616
Amount: 19.768518
Amount Units: ug/ml

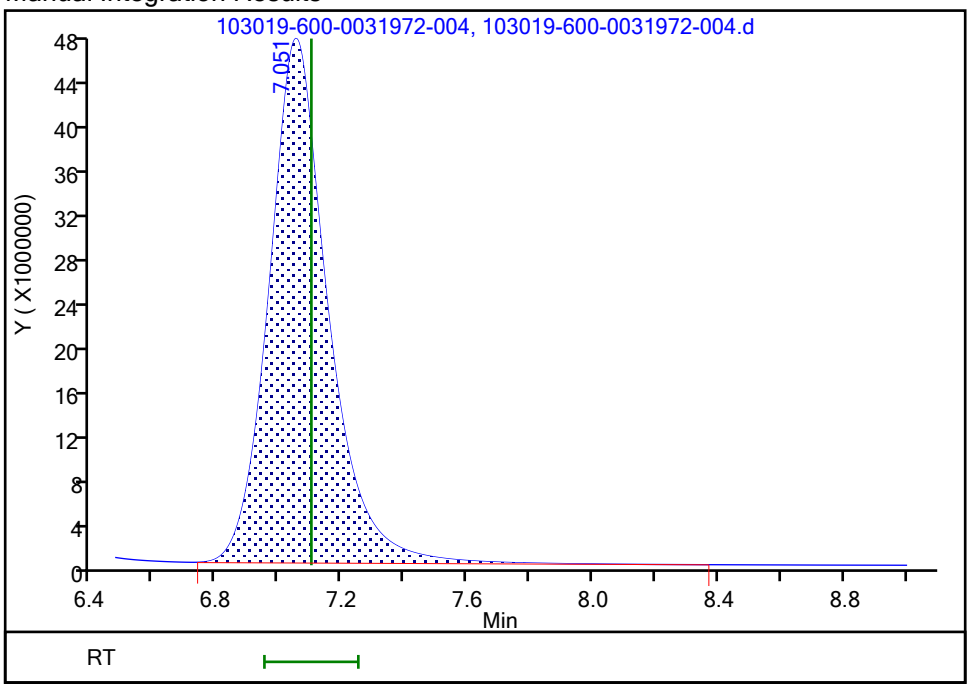

Reviewer: reachs, 30-Oct-2019 14:08:59

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-278902/4 Calibration Date: 10/30/2019 06:12

Instrument ID: CHWC17(IC) Calib Start Date: 10/24/2019 13:38

GC Column: AS22 ID: 2.00(mm) Calib End Date: 10/24/2019 14:43

Lab File ID: 103019-600-0031972-004.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitrite as N	Lin1		76096808		10.5	10.0	5.0	10.0
Nitrate as N	Lin1		113211425		9.75	10.0	-2.5	10.0

FORM VII 300.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-278902/4 Calibration Date: 10/30/2019 06:12

Instrument ID: CHWC17(IC) Calib Start Date: 10/24/2019 13:38

GC Column: AS22 ID: 2.00(mm) Calib End Date: 10/24/2019 14:43

Lab File ID: 103019-600-0031972-004.d

Analyte	RT	RT WINDOW	
		FROM	TO
Nitrite as N	3.74	3.61	3.91
Nitrate as N	4.82	4.71	5.01

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-004.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 30-Oct-2019 06:12:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031972-004
Misc. Info.: ccv
Operator ID: Instrument ID: CHWC17(IC)
Sublist: chrom-CHWC17(IC)*sub2

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 31-Oct-2019 12:35:10 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0305

First Level Reviewer: reachs Date: 30-Oct-2019 14:09:22

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.234	2.241	-0.007	410367794	NC	NC	M
	2 Chloride	3.104	3.121	-0.017	895905828	NC	NC	M
	9 Nitrite as N	3.737	3.761	-0.024	760968083	10.0	10.5	M
	1 Bromide	4.357	4.397	-0.040	108772181	NC	NC	M
	3 Nitrate as N	4.817	4.864	-0.047	1132114252	10.0	9.75	M
	5 Sulfate	7.051	7.101	-0.050	612702616	NC	NC	M
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N						20.2	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

CCV_00112 Amount Added: 5.00 Units: mL

Report Date: 31-Oct-2019 12:35:12 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-004.d				
Injection Date:	30-Oct-2019 06:12:00	Instrument ID:	CHWC17(IC)	Operator ID:	
Lims ID:	CCV			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		

Column: AS-22 Dionex Lion Pac (2.00 mm)

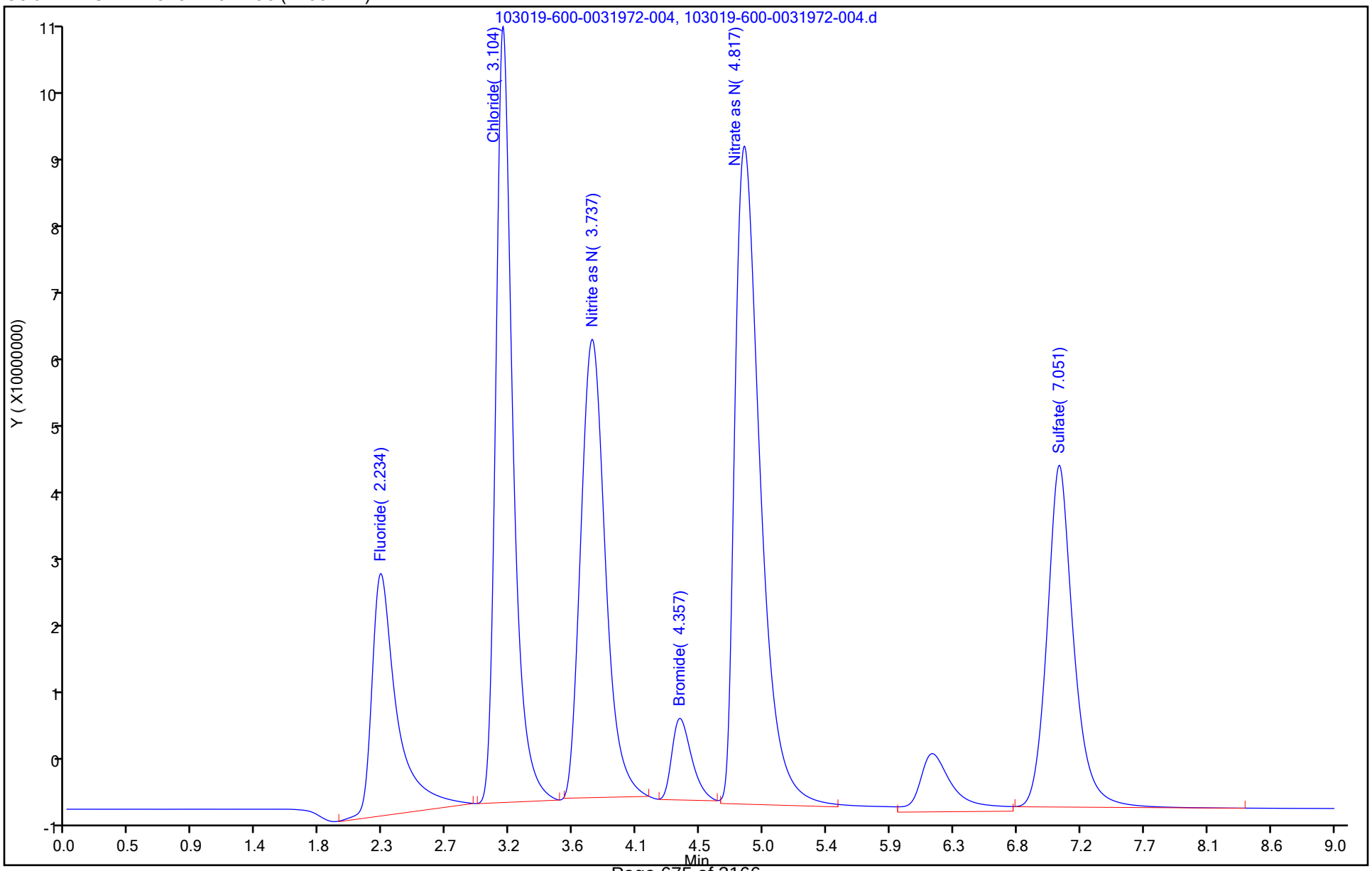

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-004.d				
Injection Date:	30-Oct-2019 06:12:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

9 Nitrite as N, CAS: 14797-65-0

Signal: 1

Processing Integration Results

RT: 3.74
Area: 859095600
Amount: 11.850285
Amount Units: ug/ml

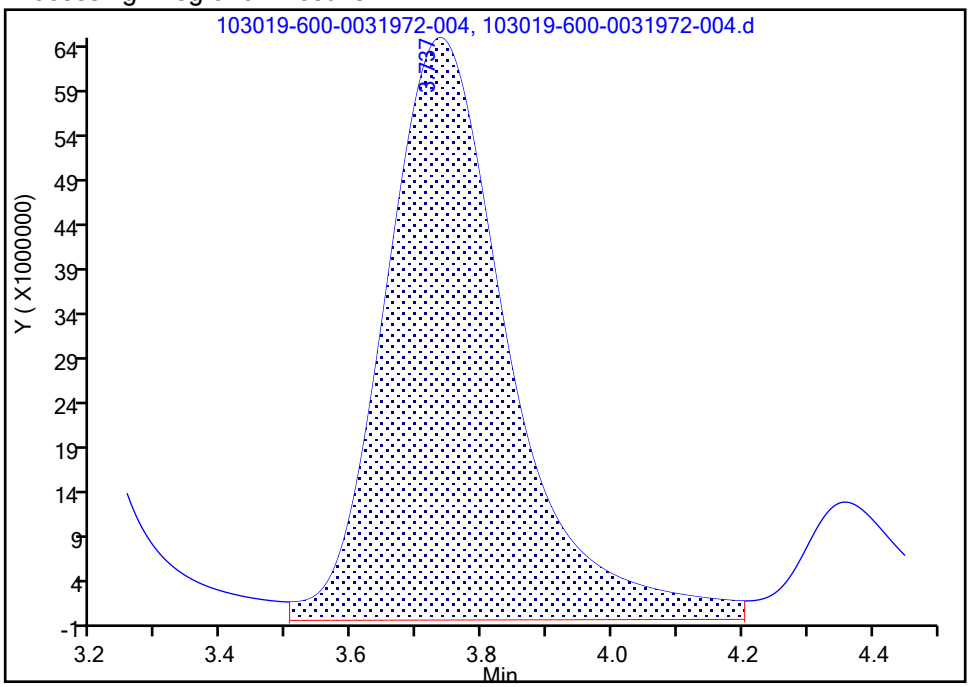

Manual Integration Results

RT: 3.74
Area: 760968083
Amount: 10.500720
Amount Units: ug/ml

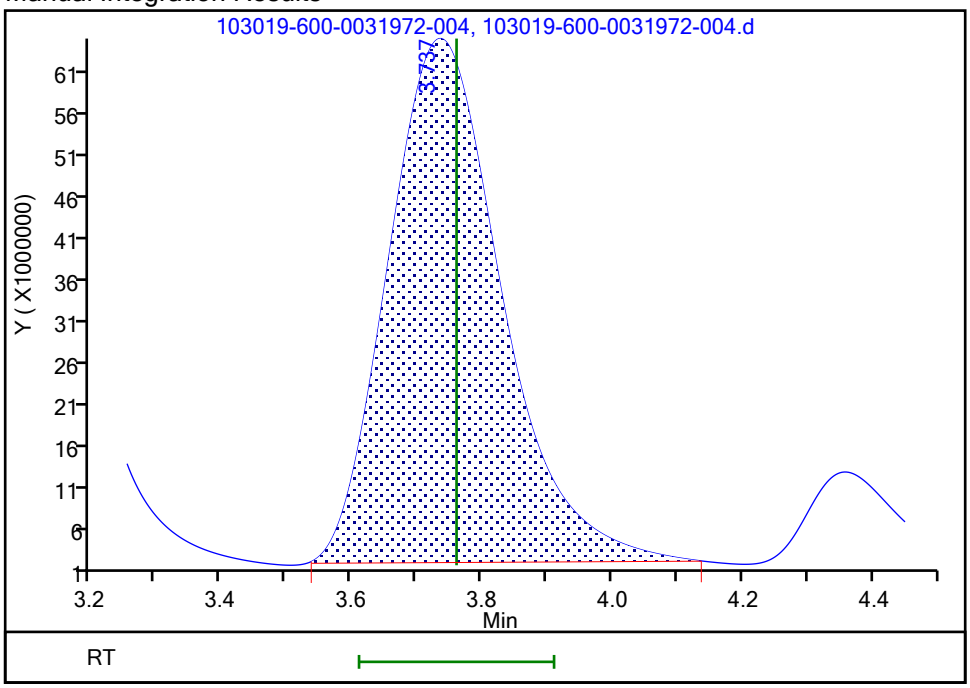

Reviewer: reachs, 30-Oct-2019 14:09:12

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-004.d				
Injection Date:	30-Oct-2019 06:12:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

3 Nitrate as N, CAS: 14797-55-8

Signal: 1

Processing Integration Results

RT: 4.82
Area: 1210570217
Amount: 10.413142
Amount Units: ug/ml

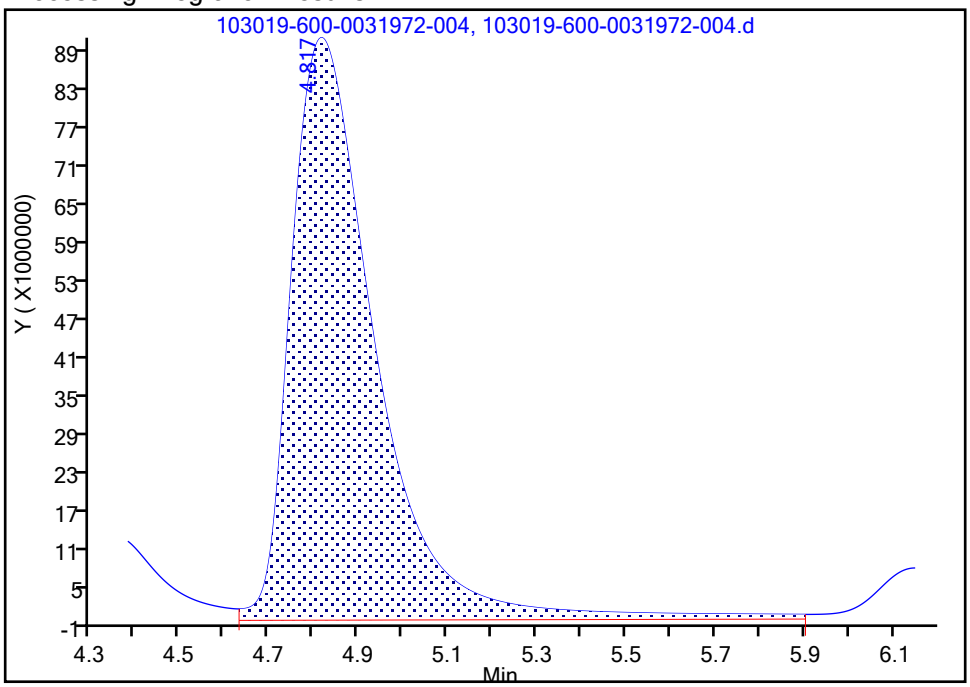

Manual Integration Results

RT: 4.82
Area: 1132114252
Amount: 9.745956
Amount Units: ug/ml

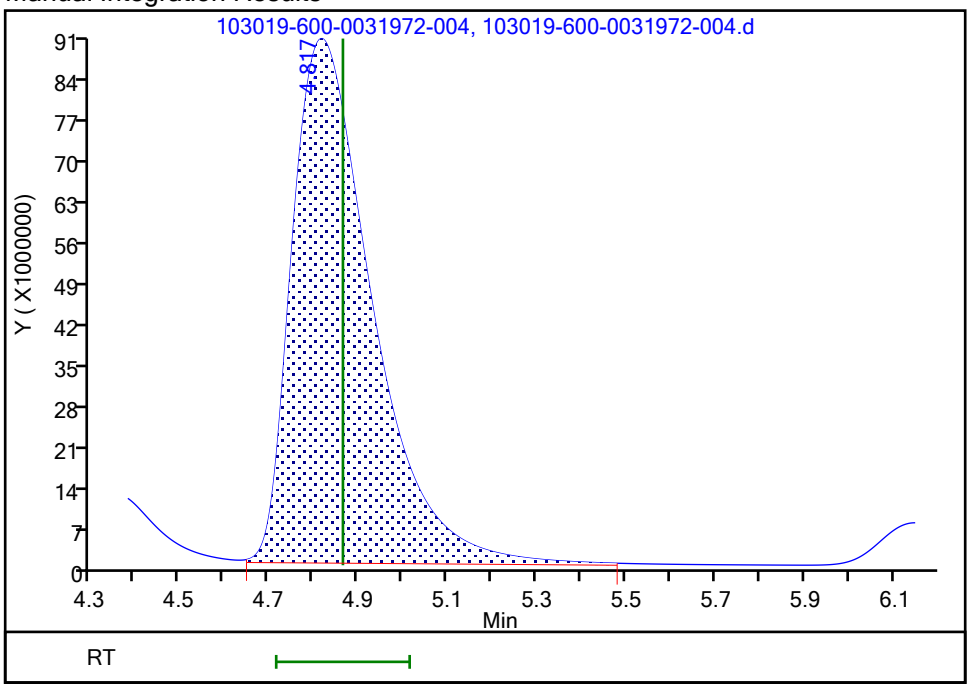

Reviewer: reachs, 30-Oct-2019 14:09:19
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-278901/16 Calibration Date: 10/30/2019 11:08

Instrument ID: CHWC17(IC) Calib Start Date: 10/24/2019 13:38

GC Column: AS22 ID: 2.00(mm) Calib End Date: 10/24/2019 14:43

Lab File ID: 103019-600-0031972-016.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin1		59503249		8.21	7.50	9.4	10.0
Chloride	Lin1		44363299		19.4	20.0	-2.9	10.0
Bromide	Lin1		14702927		8.11	7.50	8.2	10.0
Sulfate	Lin1		30388295		19.6	20.0	-1.9	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-278901/16 Calibration Date: 10/30/2019 11:08

Instrument ID: CHWC17(IC) Calib Start Date: 10/24/2019 13:38

GC Column: AS22 ID: 2.00(mm) Calib End Date: 10/24/2019 14:43

Lab File ID: 103019-600-0031972-016.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	2.22	2.09	2.39
Chloride	3.09	2.97	3.27
Bromide	4.34	4.25	4.55
Sulfate	7.04	6.95	7.25

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-016.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 30-Oct-2019 11:08:00 ALS Bottle#: 0 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031972-016
Misc. Info.: ccv
Operator ID: Instrument ID: CHWC17(IC)
Sublist: chrom-CHWC17(IC)*sub2

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 31-Oct-2019 12:35:33 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0305

First Level Reviewer: reachs Date: 31-Oct-2019 11:52:13

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.224	2.241	-0.017	446274364	7.50	8.21	M
	2 Chloride	3.091	3.121	-0.030	887265983	20.0	19.4	M
	9 Nitrite as N	3.721	3.761	-0.040	764425157	NC	NC	M
	1 Bromide	4.337	4.397	-0.060	110271951	7.50	8.11	M
	3 Nitrate as N	4.794	4.864	-0.070	1121916657	NC	NC	M
	5 Sulfate	7.037	7.101	-0.064	607765903	20.0	19.6	M
S	8 Sulfate as Sulfur						19.6	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

CCV_00112 Amount Added: 5.00 Units: mL

Report Date: 31-Oct-2019 12:35:33 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-016.d

Injection Date: 30-Oct-2019 11:08:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: CCV Worklist Smp#: 16

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_28day

Column: AS-22 Dionex Lion Pac (2.00 mm)

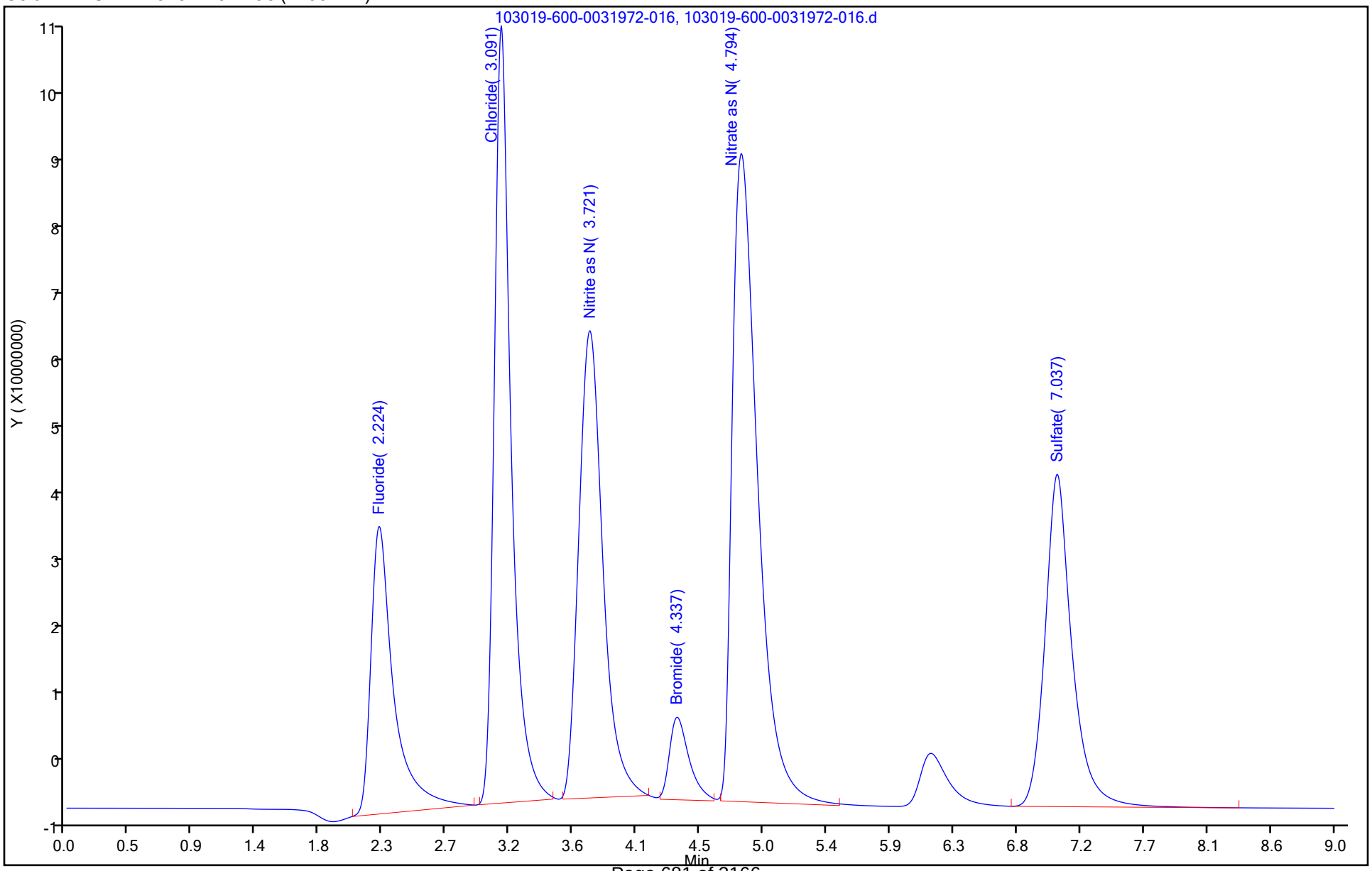

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-016.d				
Injection Date:	30-Oct-2019 11:08:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

7 Fluoride, CAS: 16984-48-8

Signal: 1

Processing Integration Results

RT: 2.22
Area: 483044699
Amount: 8.867181
Amount Units: ug/ml

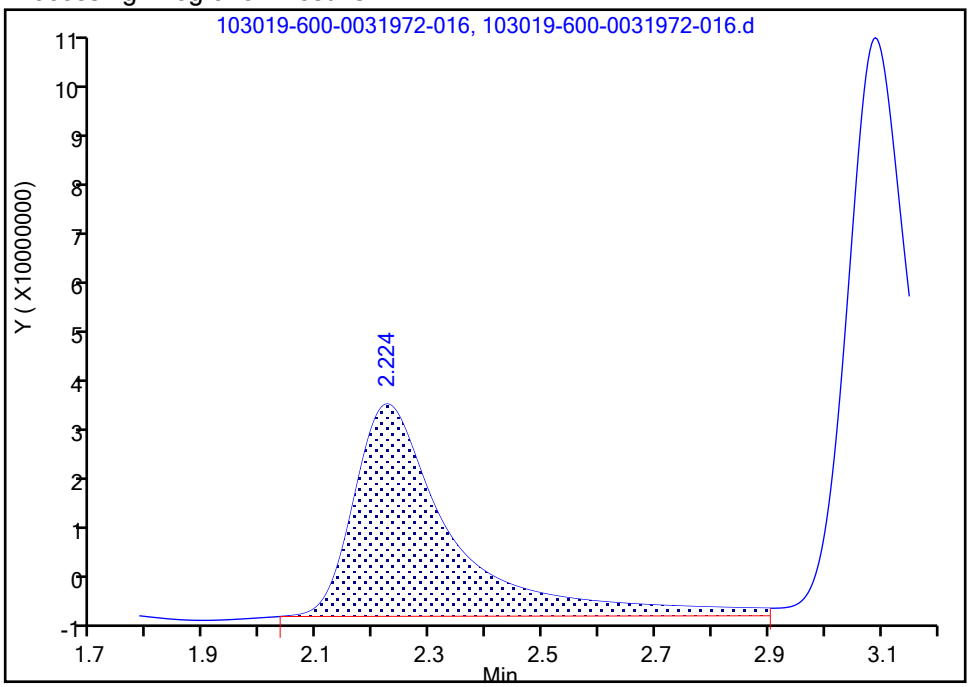

Manual Integration Results

RT: 2.22
Area: 446274364
Amount: 8.205757
Amount Units: ug/ml

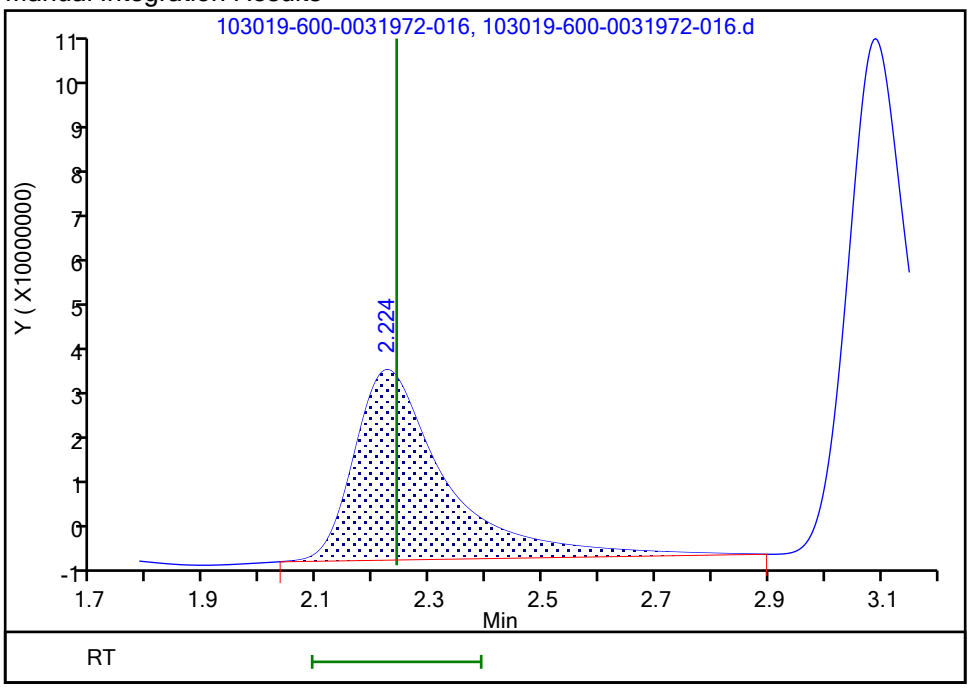

Reviewer: reachs, 31-Oct-2019 11:51:27

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-016.d				
Injection Date:	30-Oct-2019 11:08:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

2 Chloride, CAS: 16887-00-6

Signal: 1

Processing Integration Results

RT: 3.09
Area: 951762605
Amount: 20.813831
Amount Units: ug/ml

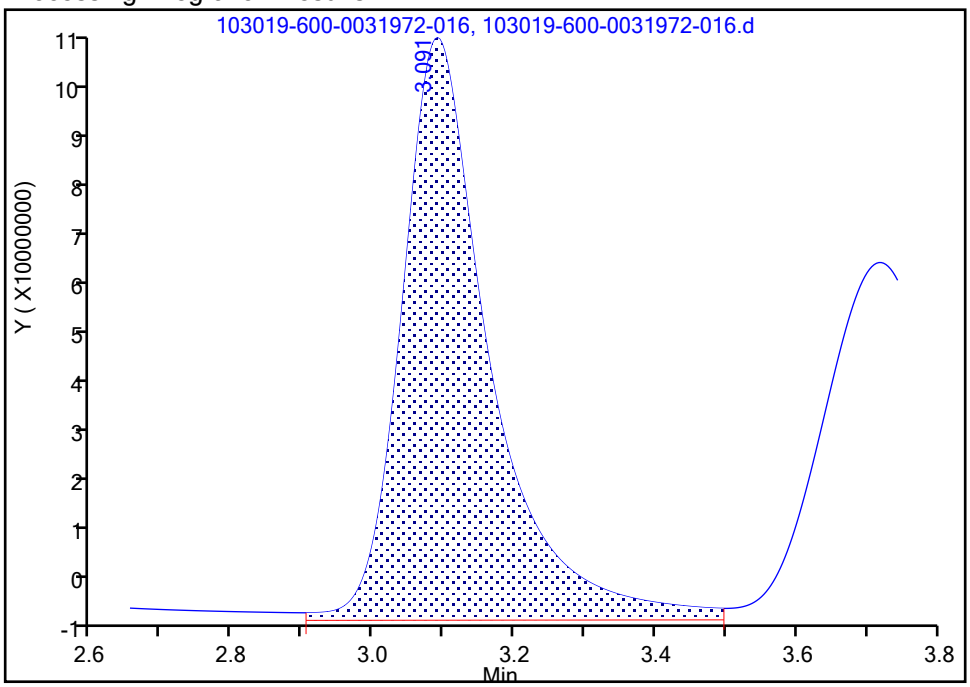

Manual Integration Results

RT: 3.09
Area: 887265983
Amount: 19.417528
Amount Units: ug/ml

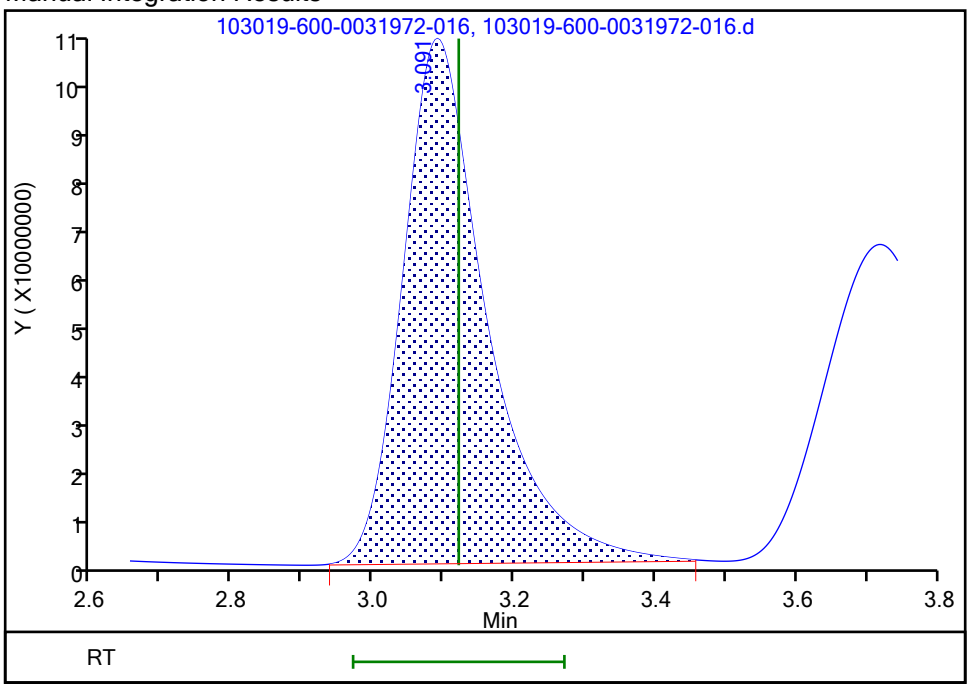

Reviewer: reachs, 31-Oct-2019 11:51:34

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-016.d				
Injection Date:	30-Oct-2019 11:08:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

1 Bromide, CAS: 24959-67-9

Signal: 1

Processing Integration Results

RT: 4.34
Area: 158673592
Amount: 11.687462
Amount Units: ug/ml

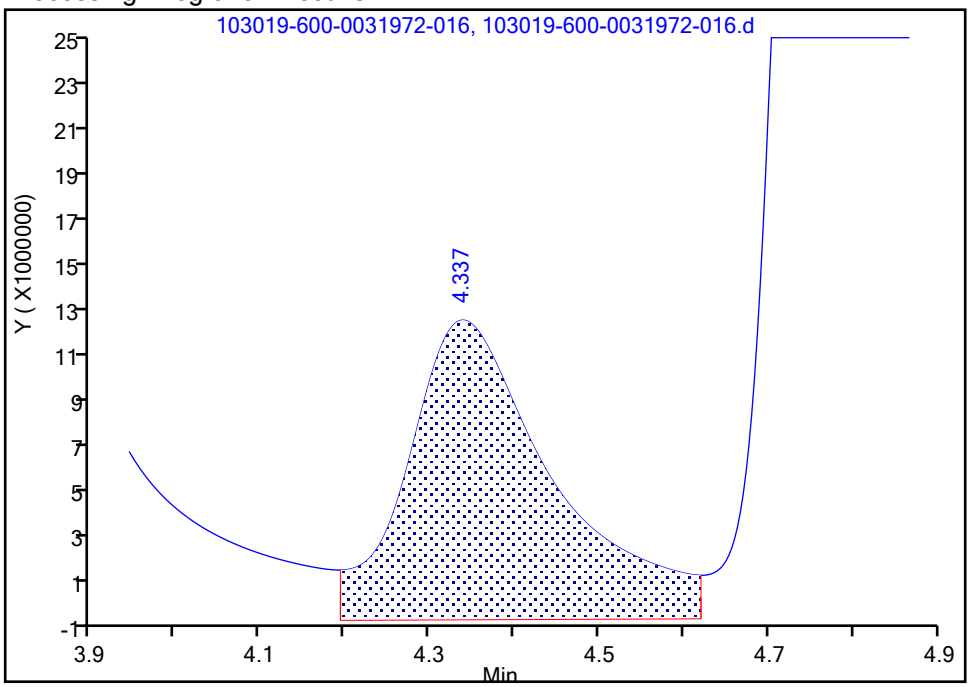

Manual Integration Results

RT: 4.34
Area: 110271951
Amount: 8.114869
Amount Units: ug/ml

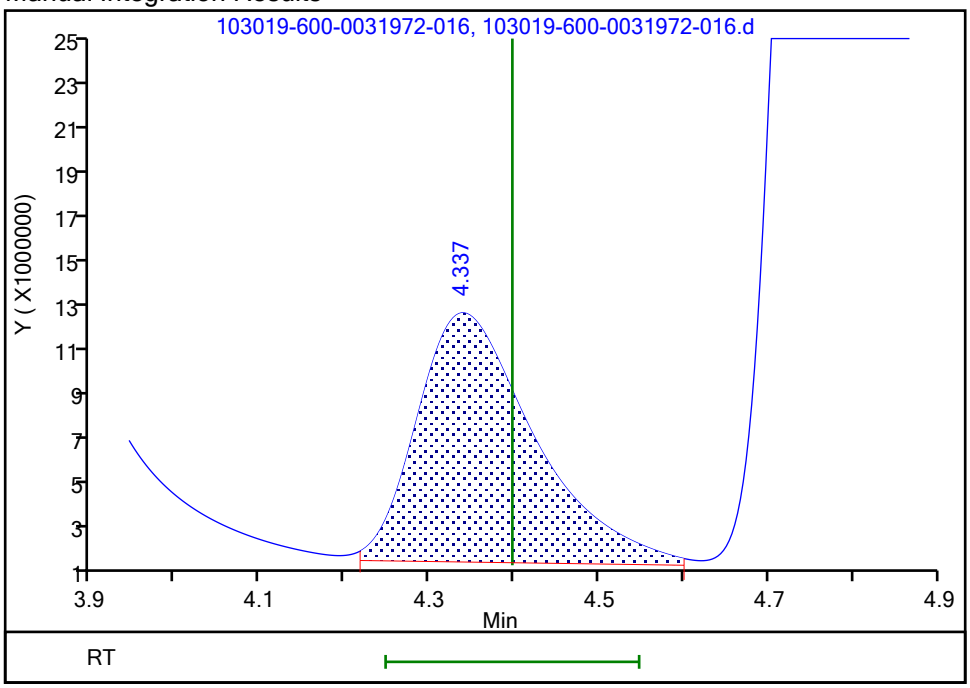

Reviewer: reachs, 31-Oct-2019 11:51:40
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-016.d				
Injection Date:	30-Oct-2019 11:08:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

5 Sulfate, CAS: 14808-79-8

Signal: 1

Processing Integration Results

RT: 7.04
Area: 649439499
Amount: 20.943176
Amount Units: ug/ml

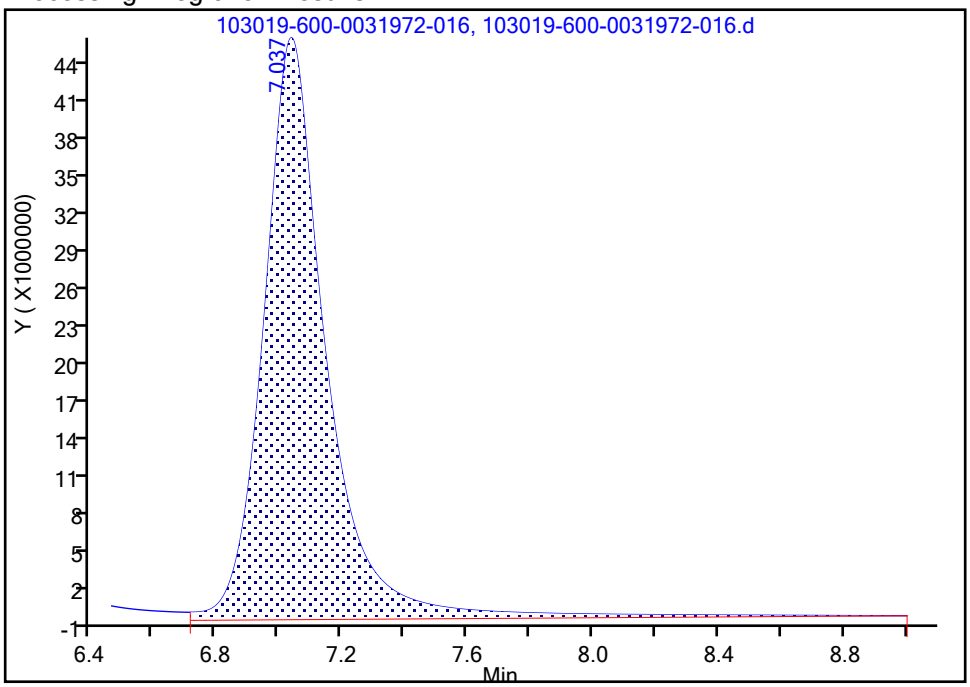

Manual Integration Results

RT: 7.04
Area: 607765903
Amount: 19.610667
Amount Units: ug/ml

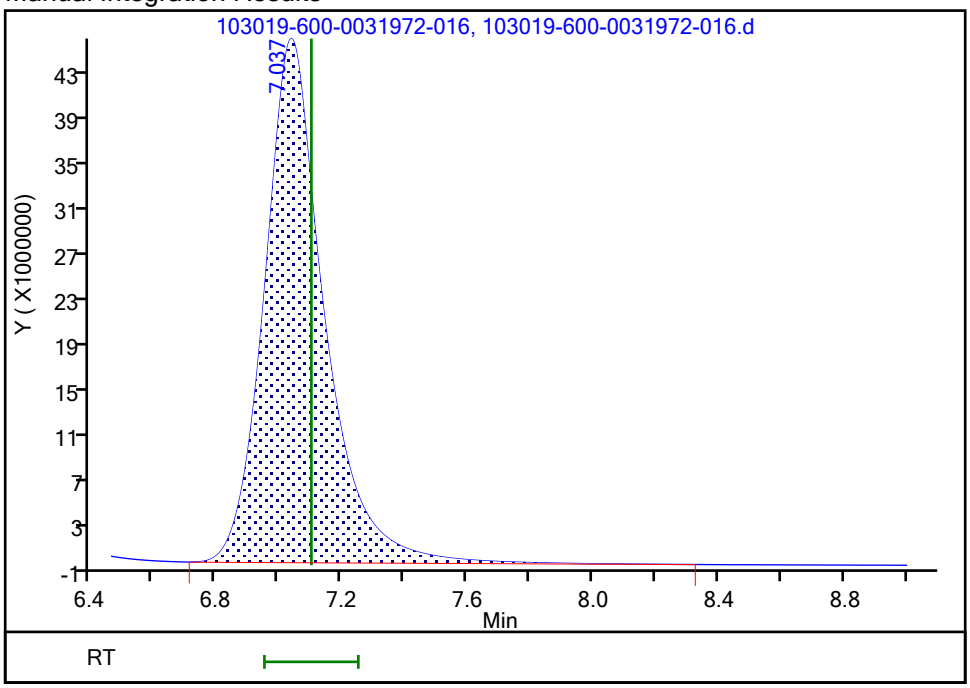

Reviewer: reachs, 31-Oct-2019 11:51:52

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-278902/16 Calibration Date: 10/30/2019 11:08

Instrument ID: CHWC17(IC) Calib Start Date: 10/24/2019 13:38

GC Column: AS22 ID: 2.00(mm) Calib End Date: 10/24/2019 14:43

Lab File ID: 103019-600-0031972-016.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitrite as N	Lin1		76442516		10.5	10.0	5.5	10.0
Nitrate as N	Lin1		112191666		9.66	10.0	-3.4	10.0

FORM VII 300.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-278902/16 Calibration Date: 10/30/2019 11:08

Instrument ID: CHWC17(IC) Calib Start Date: 10/24/2019 13:38

GC Column: AS22 ID: 2.00(mm) Calib End Date: 10/24/2019 14:43

Lab File ID: 103019-600-0031972-016.d

Analyte	RT	RT WINDOW	
		FROM	TO
Nitrite as N	3.72	3.61	3.91
Nitrate as N	4.79	4.71	5.01

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-016.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 30-Oct-2019 11:08:00 ALS Bottle#: 0 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031972-016
Misc. Info.: ccv
Operator ID: Instrument ID: CHWC17(IC)
Sublist: chrom-CHWC17(IC)*sub2

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 31-Oct-2019 12:35:33 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0305

First Level Reviewer: reachs Date: 31-Oct-2019 11:52:13

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.224	2.241	-0.017	446274364	NC	NC	M
	2 Chloride	3.091	3.121	-0.030	887265983	NC	NC	M
	9 Nitrite as N	3.721	3.761	-0.040	764425157	10.0	10.5	M
	1 Bromide	4.337	4.397	-0.060	110271951	NC	NC	M
	3 Nitrate as N	4.794	4.864	-0.070	1121916657	10.0	9.66	M
	5 Sulfate	7.037	7.101	-0.064	607765903	NC	NC	M
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N						20.2	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

CCV_00112 Amount Added: 5.00 Units: mL

Report Date: 31-Oct-2019 12:35:33 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-016.d

Injection Date: 30-Oct-2019 11:08:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: CCV Worklist Smp#: 16

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_48hr

Column: AS-22 Dionex Lion Pac (2.00 mm)

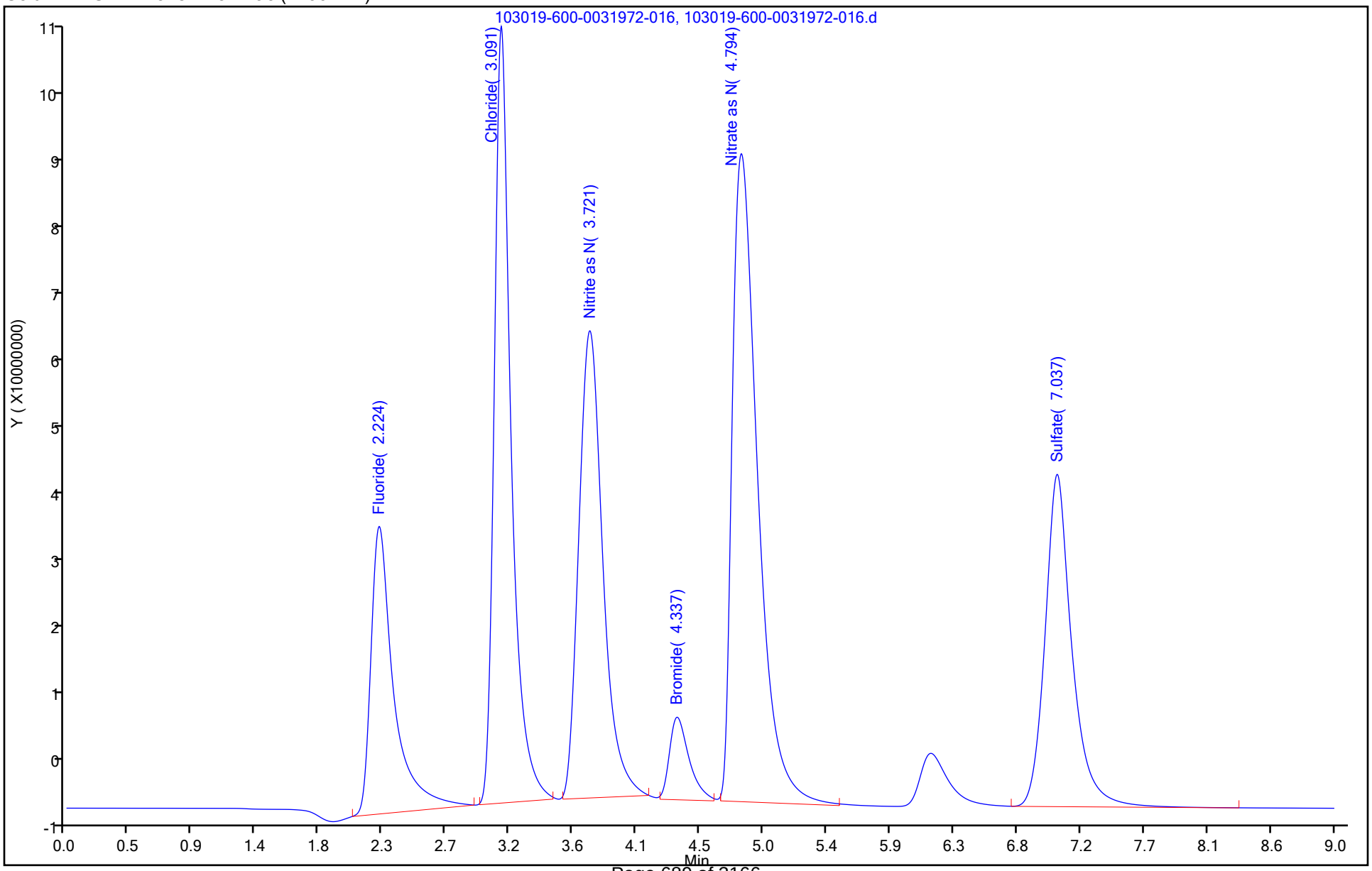

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-016.d				
Injection Date:	30-Oct-2019 11:08:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

9 Nitrite as N, CAS: 14797-65-0

Signal: 1

Processing Integration Results

RT: 3.72
Area: 862078167
Amount: 11.891304
Amount Units: ug/ml

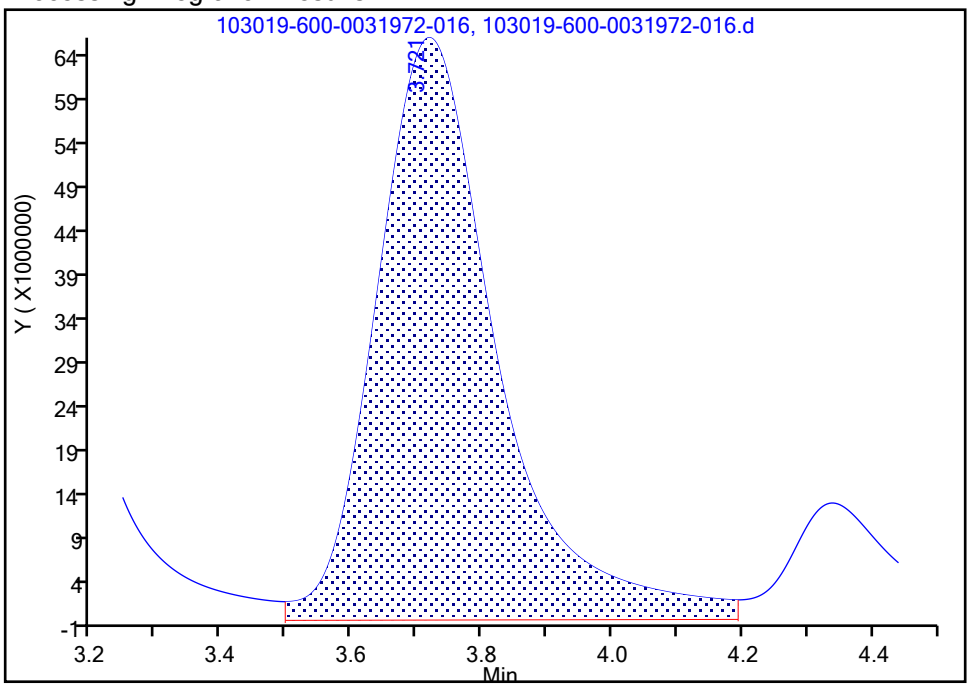

Manual Integration Results

RT: 3.72
Area: 764425157
Amount: 10.548266
Amount Units: ug/ml

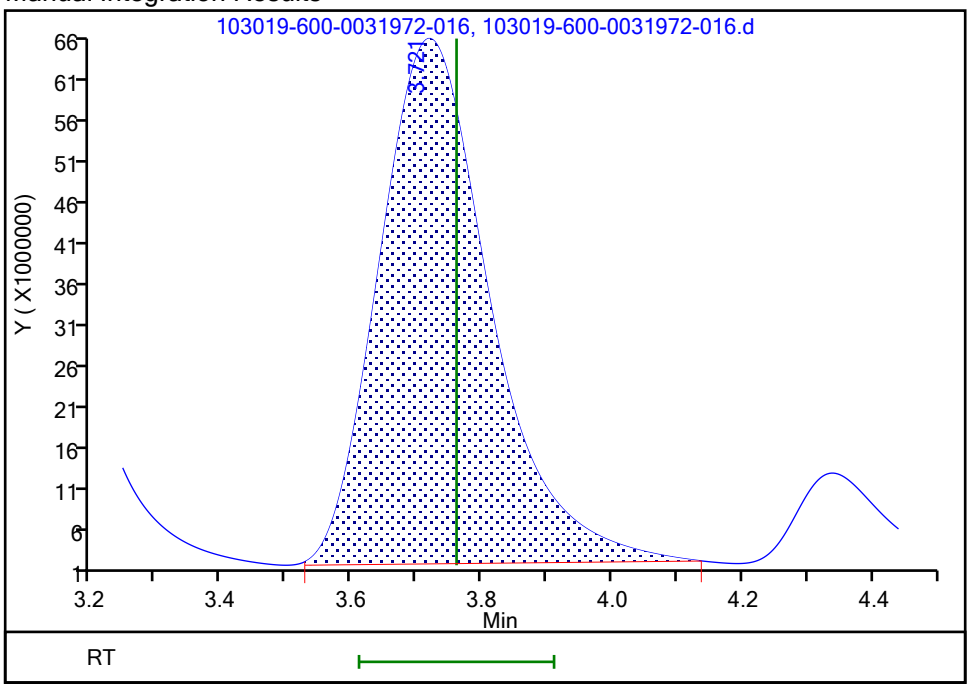

Reviewer: reachs, 31-Oct-2019 11:52:01

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-016.d				
Injection Date:	30-Oct-2019 11:08:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

3 Nitrate as N, CAS: 14797-55-8

Signal: 1

Processing Integration Results

RT: 4.79
Area: 1214228195
Amount: 10.444250
Amount Units: ug/ml

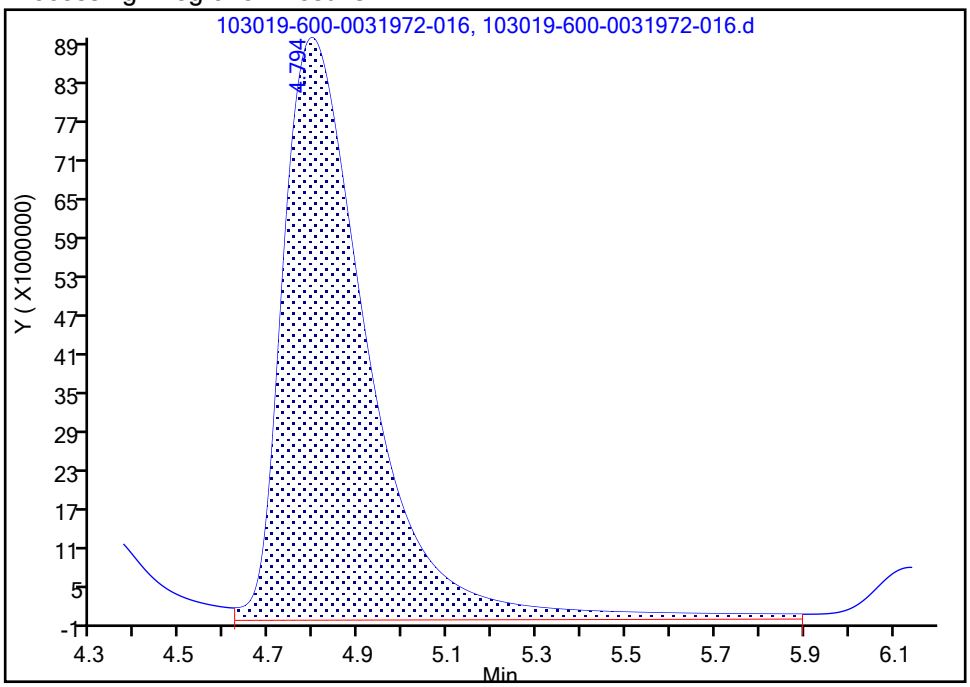

Manual Integration Results

RT: 4.79
Area: 1121916657
Amount: 9.659236
Amount Units: ug/ml

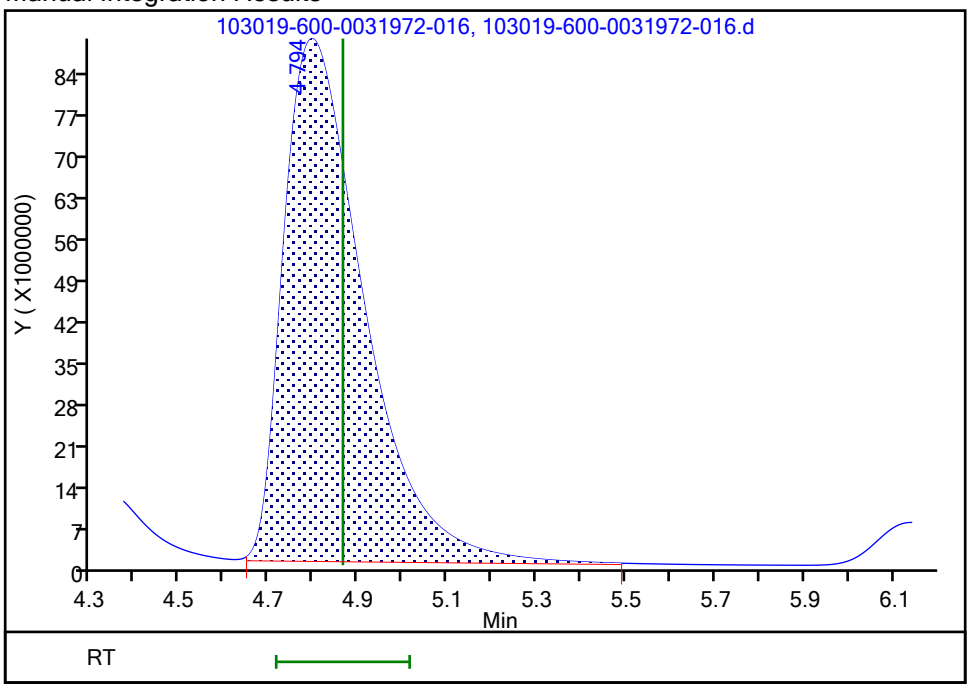

Reviewer: reachs, 31-Oct-2019 11:52:06
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-278901/28 Calibration Date: 10/30/2019 13:17

Instrument ID: CHWC17(IC) Calib Start Date: 10/24/2019 13:38

GC Column: AS22 ID: 2.00(mm) Calib End Date: 10/24/2019 14:43

Lab File ID: 103019-600-0031972-028.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin1		56699826		7.83	7.50	4.4	10.0
Chloride	Lin1		44280246		19.4	20.0	-3.1	10.0
Bromide	Lin1		14470439		7.99	7.50	6.5	10.0
Sulfate	Lin1		30101916		19.4	20.0	-2.9	10.0

FORM VII 300.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-278901/28 Calibration Date: 10/30/2019 13:17

Instrument ID: CHWC17(IC) Calib Start Date: 10/24/2019 13:38

GC Column: AS22 ID: 2.00(mm) Calib End Date: 10/24/2019 14:43

Lab File ID: 103019-600-0031972-028.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	2.23	2.09	2.39
Chloride	3.10	2.97	3.27
Bromide	4.36	4.25	4.55
Sulfate	7.04	6.95	7.25

Form VII 300.0

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-028.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 30-Oct-2019 13:17:00 ALS Bottle#: 0 Worklist Smp#: 28
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031972-028
Misc. Info.: ccv
Operator ID: Instrument ID: CHWC17(IC)
Sublist: chrom-CHWC17(IC)*sub2

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 31-Oct-2019 12:35:49 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0305

First Level Reviewer: reachs Date: 31-Oct-2019 12:05:04

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.231	2.241	-0.010	425248692	7.50	7.83	M
	2 Chloride	3.101	3.121	-0.020	885604925	20.0	19.4	M
	9 Nitrite as N	3.734	3.761	-0.027	778457811	NC	NC	M
	1 Bromide	4.361	4.397	-0.036	108528295	7.50	7.99	M
	3 Nitrate as N	4.817	4.864	-0.047	1130603248	NC	NC	M
	5 Sulfate	7.037	7.101	-0.064	602038323	20.0	19.4	M
S	8 Sulfate as Sulfur						19.4	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

CCV_00112 Amount Added: 5.00 Units: mL

Report Date: 31-Oct-2019 12:35:49 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-028.d

Injection Date: 30-Oct-2019 13:17:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: CCV Worklist Smp#: 28

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_28day

Column: AS-22 Dionex Lion Pac (2.00 mm)

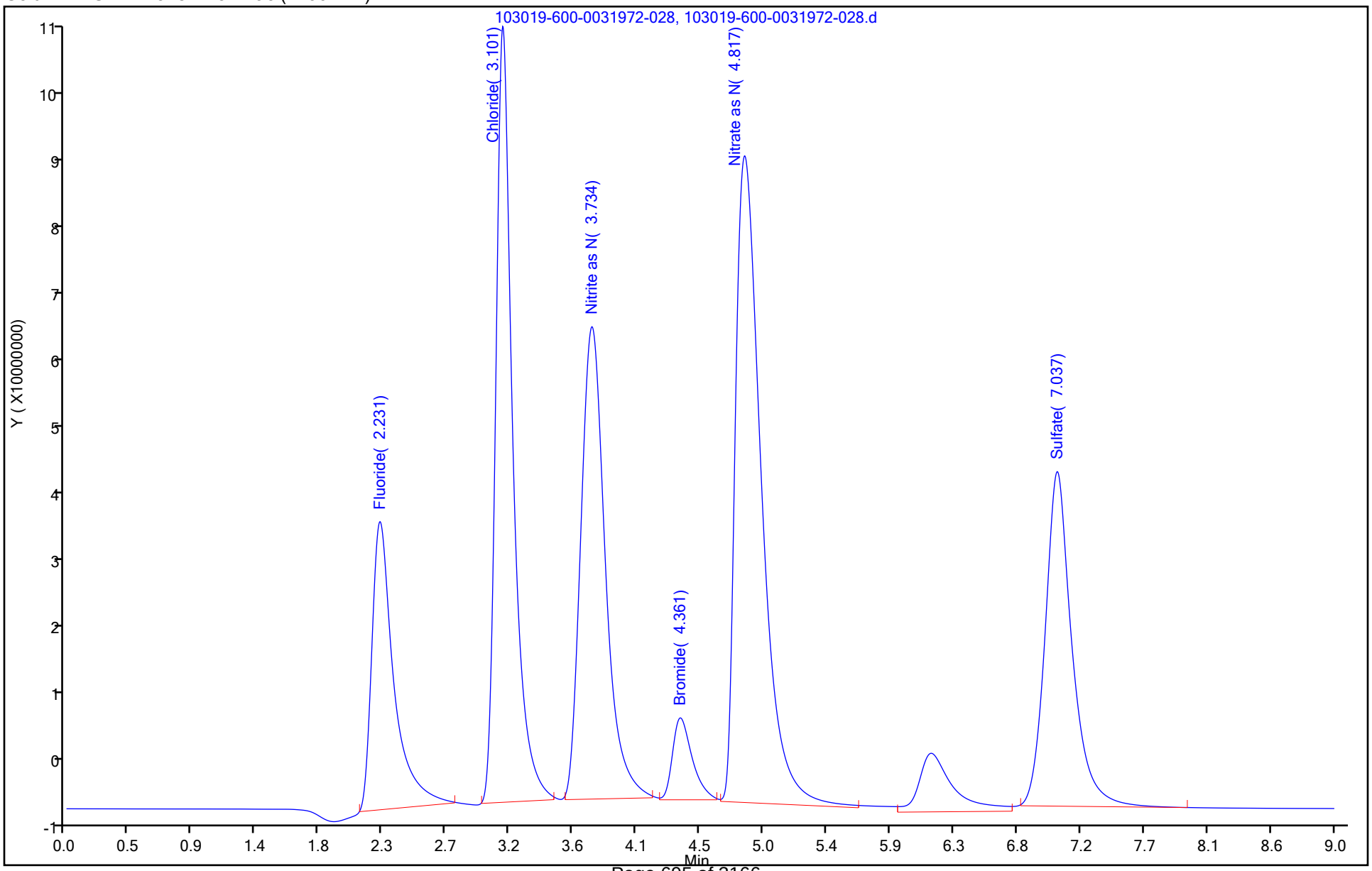

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-028.d				
Injection Date:	30-Oct-2019 13:17:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	28
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

7 Fluoride, CAS: 16984-48-8

Signal: 1

Processing Integration Results

RT: 2.23
Area: 490308502
Amount: 8.997842
Amount Units: ug/ml

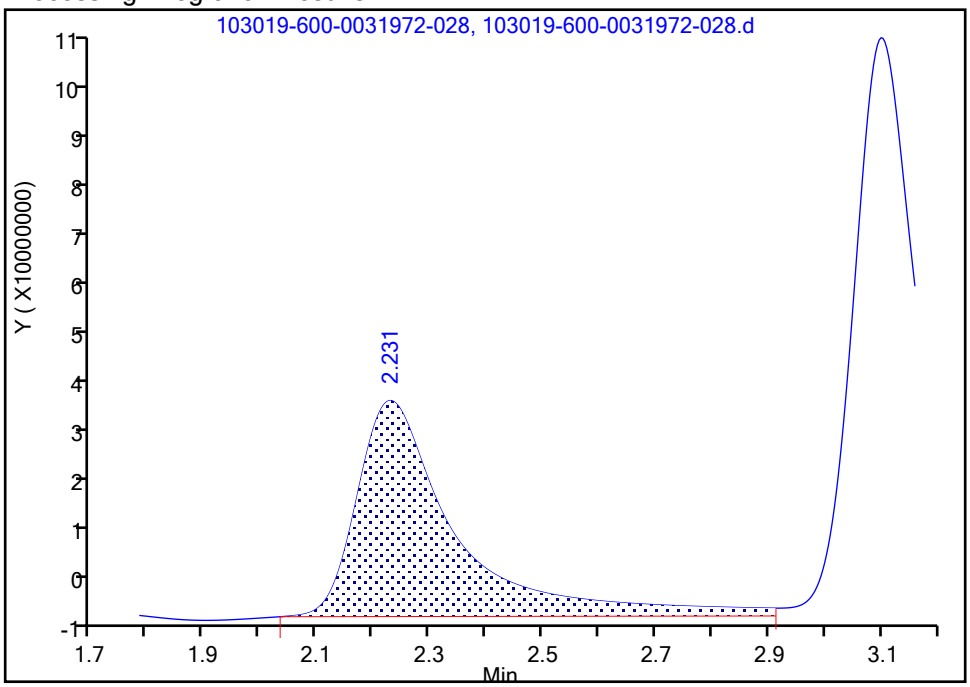

Manual Integration Results

RT: 2.23
Area: 425248692
Amount: 7.827547
Amount Units: ug/ml

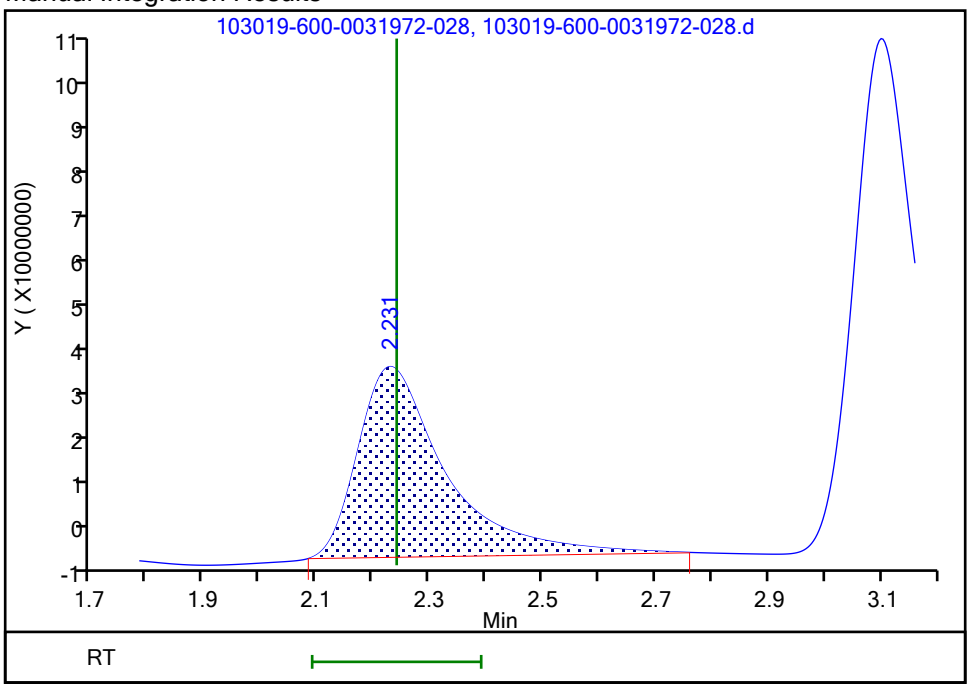

Reviewer: reachs, 31-Oct-2019 12:04:00

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-028.d				
Injection Date:	30-Oct-2019 13:17:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	28
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

2 Chloride, CAS: 16887-00-6

Signal: 1

Processing Integration Results

RT: 3.10
Area: 952949522
Amount: 20.839527
Amount Units: ug/ml

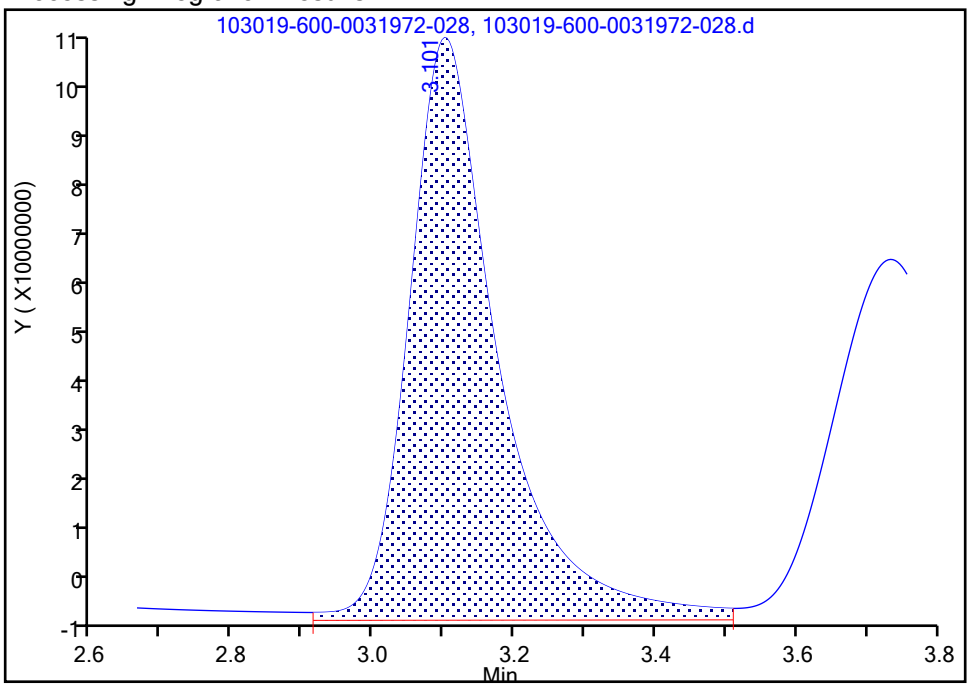

Manual Integration Results

RT: 3.10
Area: 885604925
Amount: 19.381567
Amount Units: ug/ml

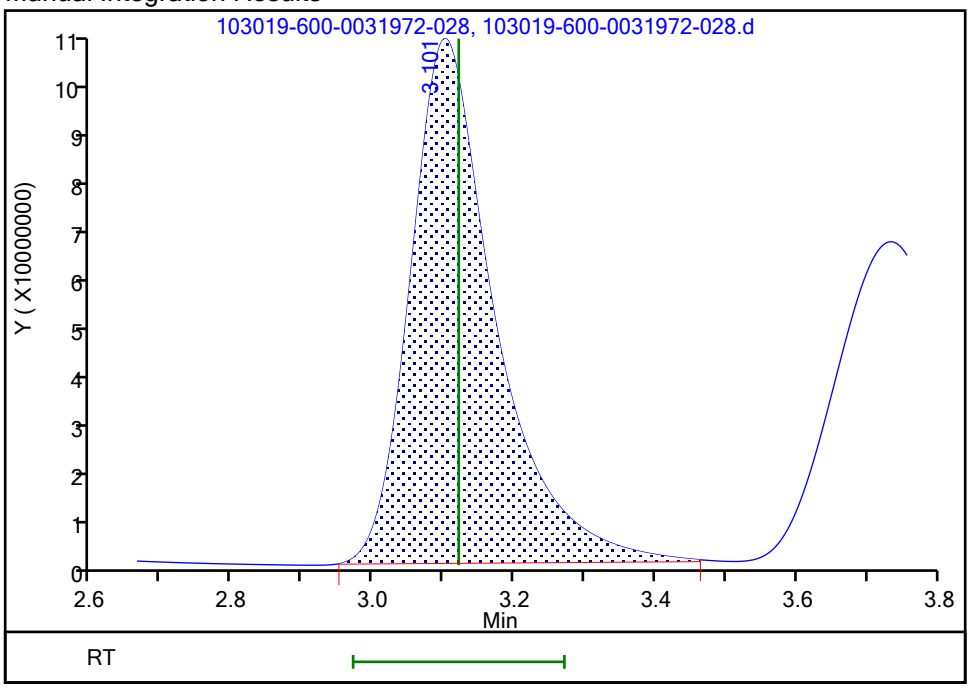

Reviewer: reachs, 31-Oct-2019 12:04:11
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-028.d				
Injection Date:	30-Oct-2019 13:17:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	28
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

1 Bromide, CAS: 24959-67-9

Signal: 1

Processing Integration Results

RT: 4.36
Area: 158064056
Amount: 11.642471
Amount Units: ug/ml

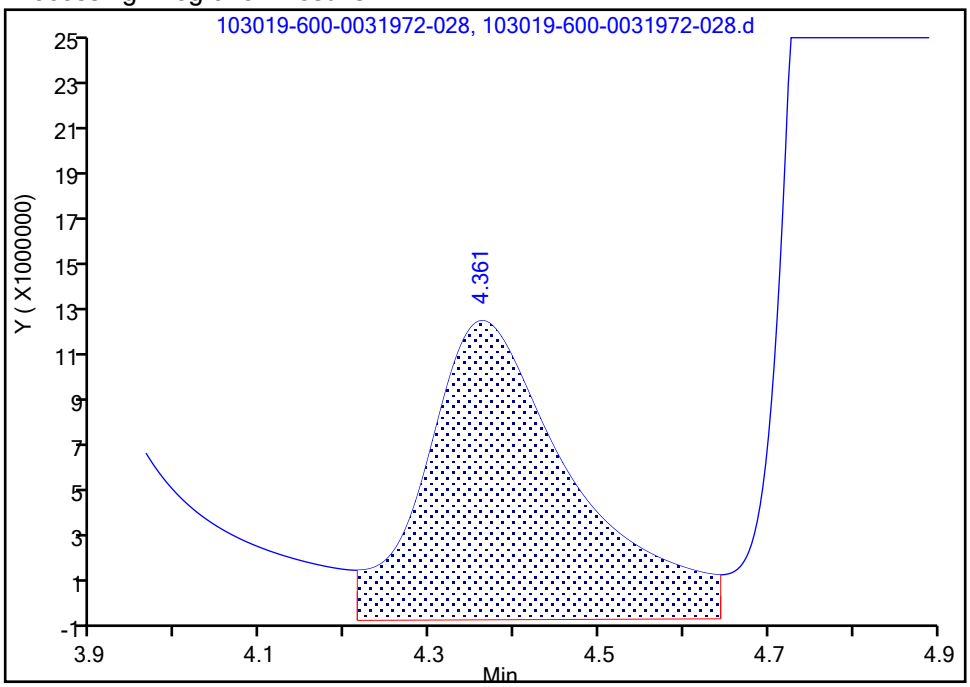

Manual Integration Results

RT: 4.36
Area: 108528295
Amount: 7.986167
Amount Units: ug/ml

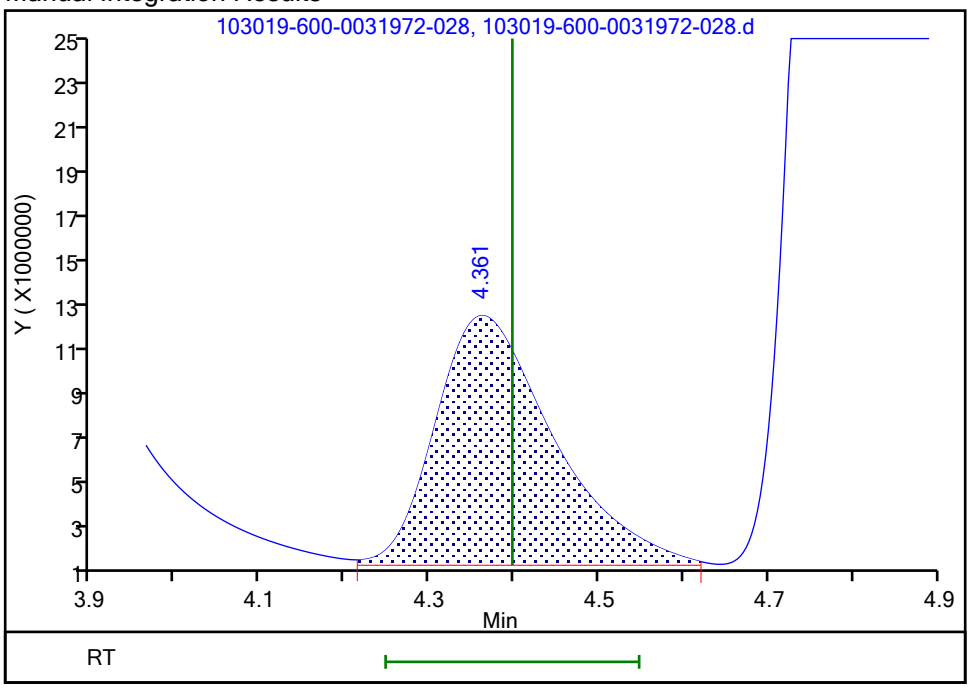

Reviewer: reachs, 31-Oct-2019 12:04:32
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-028.d				
Injection Date:	30-Oct-2019 13:17:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	28
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

5 Sulfate, CAS: 14808-79-8

Signal: 1

Processing Integration Results

RT: 7.04
Area: 649289462
Amount: 20.938379
Amount Units: ug/ml

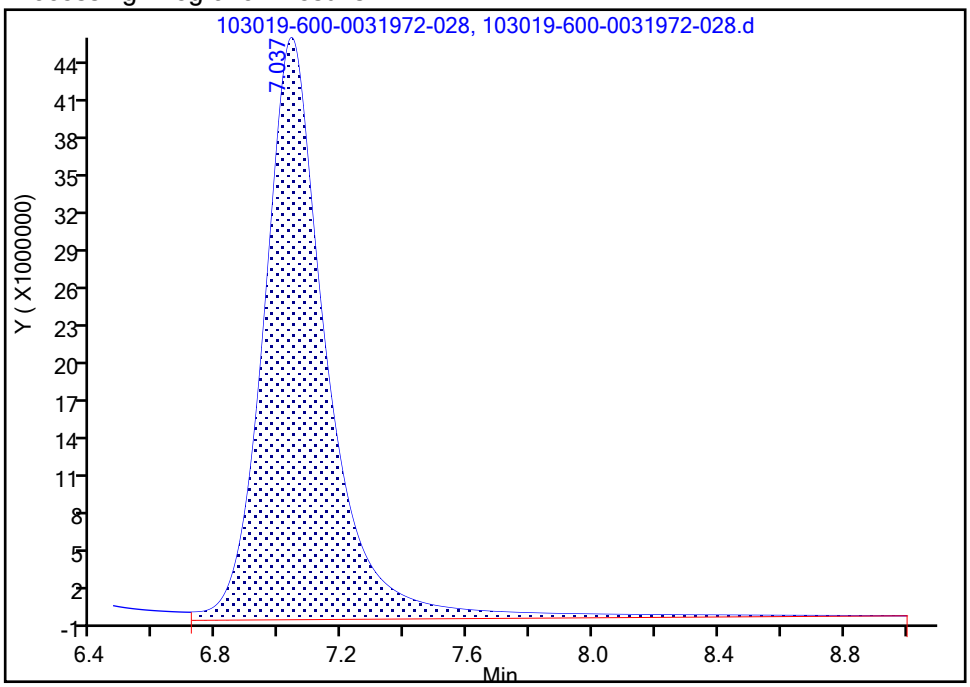

Manual Integration Results

RT: 7.04
Area: 602038323
Amount: 19.427529
Amount Units: ug/ml

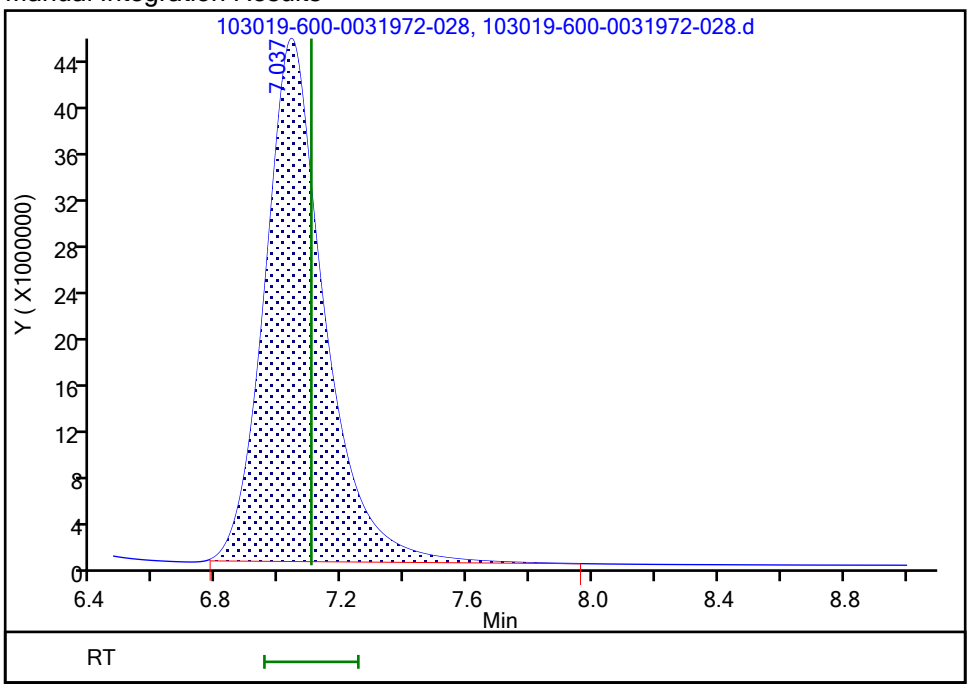

Reviewer: reachs, 31-Oct-2019 12:04:42

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-278902/28 Calibration Date: 10/30/2019 13:17

Instrument ID: CHWC17(IC) Calib Start Date: 10/24/2019 13:38

GC Column: AS22 ID: 2.00(mm) Calib End Date: 10/24/2019 14:43

Lab File ID: 103019-600-0031972-028.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitrite as N	Lin1		77845781		10.7	10.0	7.4	10.0
Nitrate as N	Lin1		113060325		9.73	10.0	-2.7	10.0

FORM VII 300.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-278902/28 Calibration Date: 10/30/2019 13:17

Instrument ID: CHWC17(IC) Calib Start Date: 10/24/2019 13:38

GC Column: AS22 ID: 2.00(mm) Calib End Date: 10/24/2019 14:43

Lab File ID: 103019-600-0031972-028.d

Analyte	RT	RT WINDOW	
		FROM	TO
Nitrite as N	3.73	3.61	3.91
Nitrate as N	4.82	4.71	5.01

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-028.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 30-Oct-2019 13:17:00 ALS Bottle#: 0 Worklist Smp#: 28
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031972-028
Misc. Info.: ccv
Operator ID: Instrument ID: CHWC17(IC)
Sublist: chrom-CHWC17(IC)*sub2

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 31-Oct-2019 12:35:49 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0305

First Level Reviewer: reachs Date: 31-Oct-2019 12:05:04

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.231	2.241	-0.010	425248692	NC	NC	M
	2 Chloride	3.101	3.121	-0.020	885604925	NC	NC	M
	9 Nitrite as N	3.734	3.761	-0.027	778457811	10.0	10.7	M
	1 Bromide	4.361	4.397	-0.036	108528295	NC	NC	M
	3 Nitrate as N	4.817	4.864	-0.047	1130603248	10.0	9.73	M
	5 Sulfate	7.037	7.101	-0.064	602038323	NC	NC	M
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N						20.5	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

CCV_00112 Amount Added: 5.00 Units: mL

Report Date: 31-Oct-2019 12:35:49 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-028.d

Injection Date: 30-Oct-2019 13:17:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: CCV Worklist Smp#: 28

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_48hr

Column: AS-22 Dionex Lion Pac (2.00 mm)

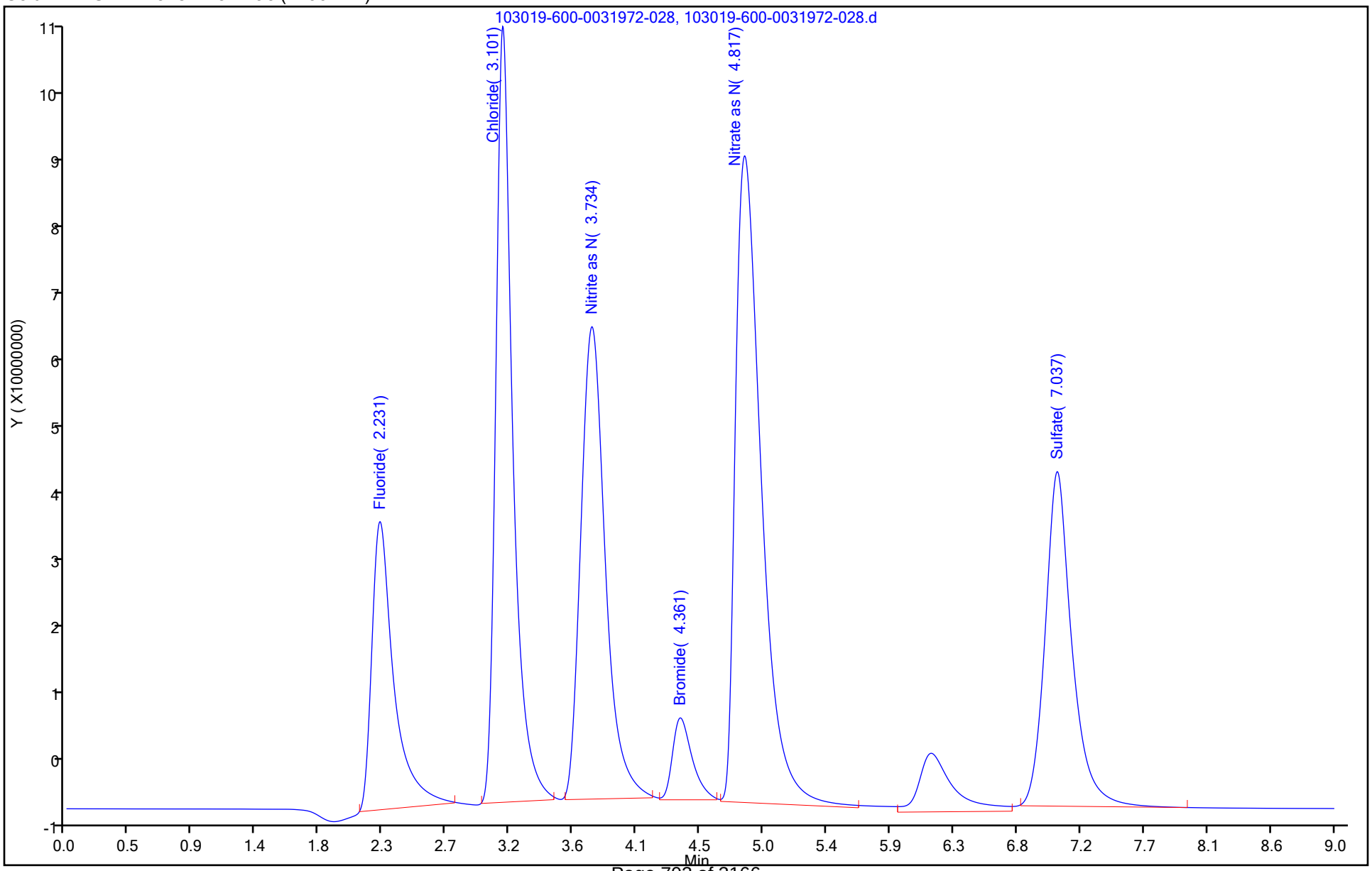

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-028.d				
Injection Date:	30-Oct-2019 13:17:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	28
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

9 Nitrite as N, CAS: 14797-65-0

Signal: 1

Processing Integration Results

RT: 3.73
Area: 870008536
Amount: 12.000372
Amount Units: ug/ml

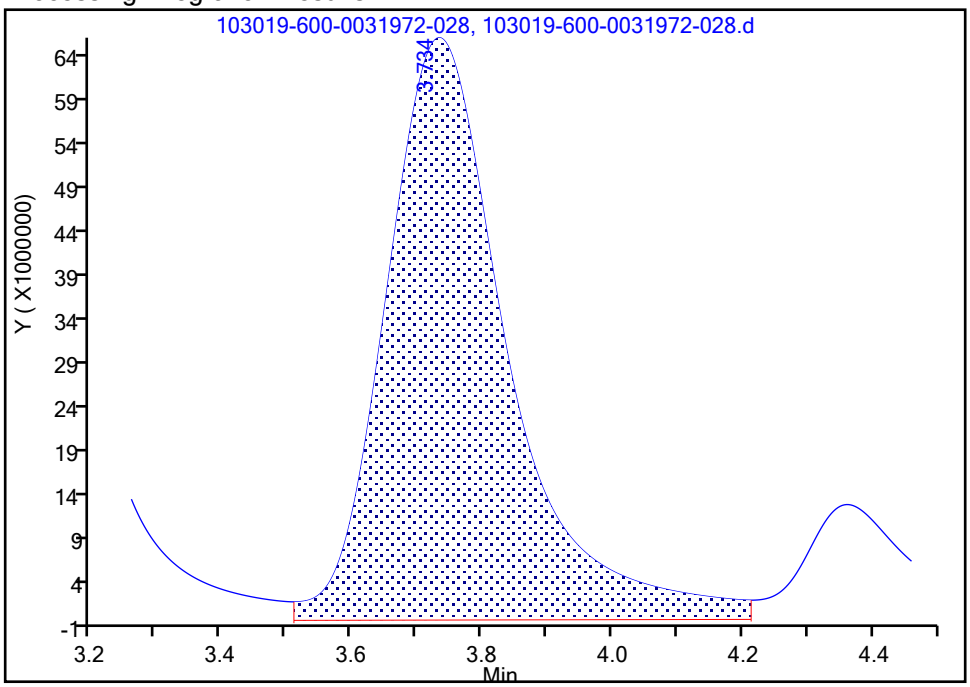

Manual Integration Results

RT: 3.73
Area: 778457811
Amount: 10.741259
Amount Units: ug/ml

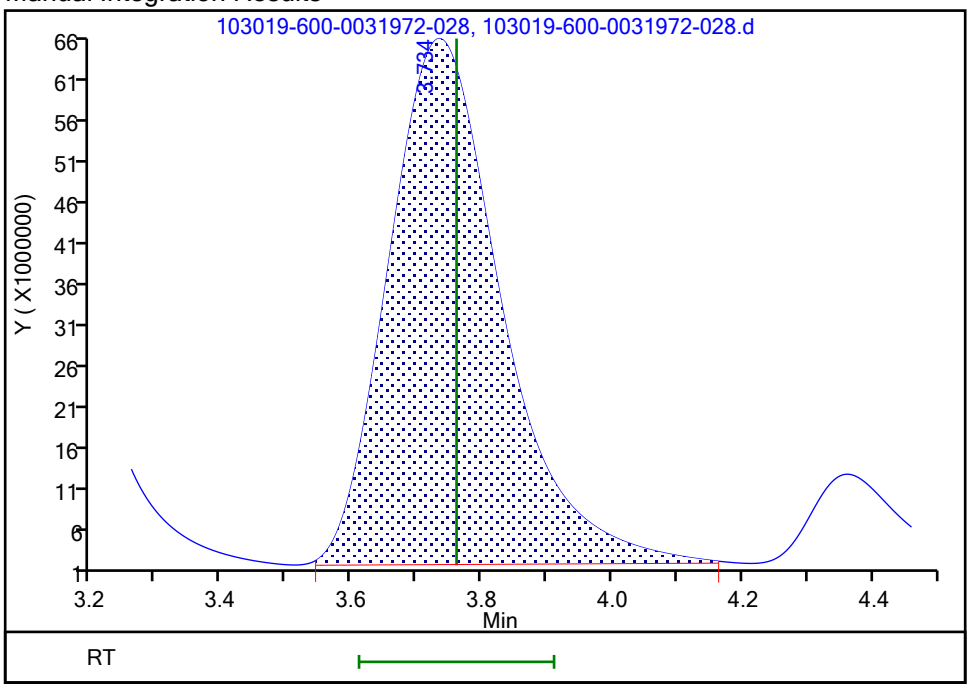

Reviewer: reachs, 31-Oct-2019 12:04:54

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-028.d				
Injection Date:	30-Oct-2019 13:17:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	28
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

3 Nitrate as N, CAS: 14797-55-8

Signal: 1

Processing Integration Results

RT: 4.82
Area: 1212660325
Amount: 10.430916
Amount Units: ug/ml

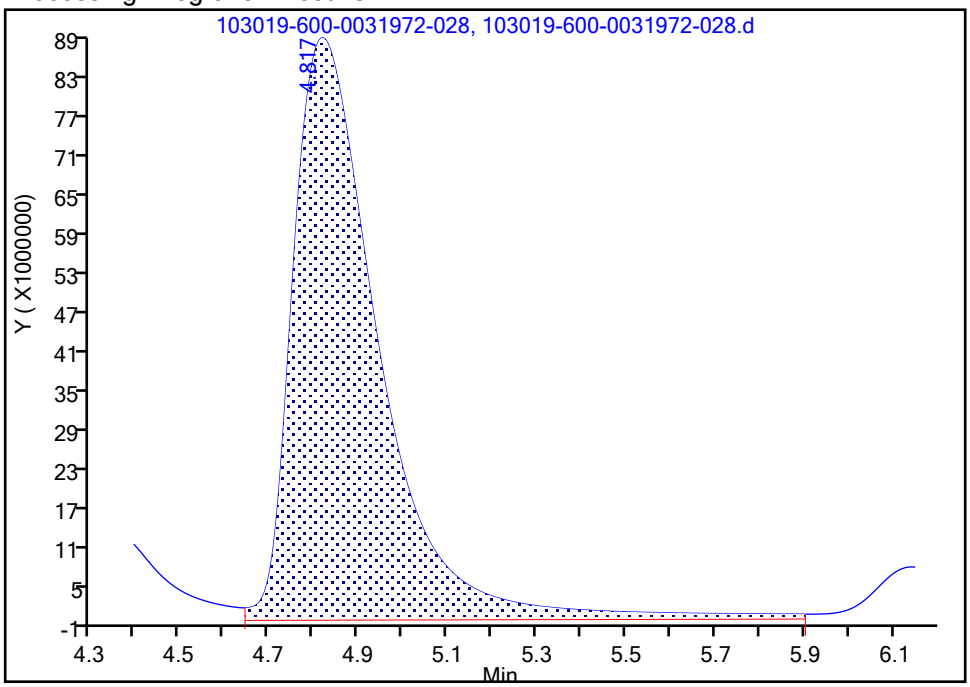

Manual Integration Results

RT: 4.82
Area: 1130603248
Amount: 9.733106
Amount Units: ug/ml

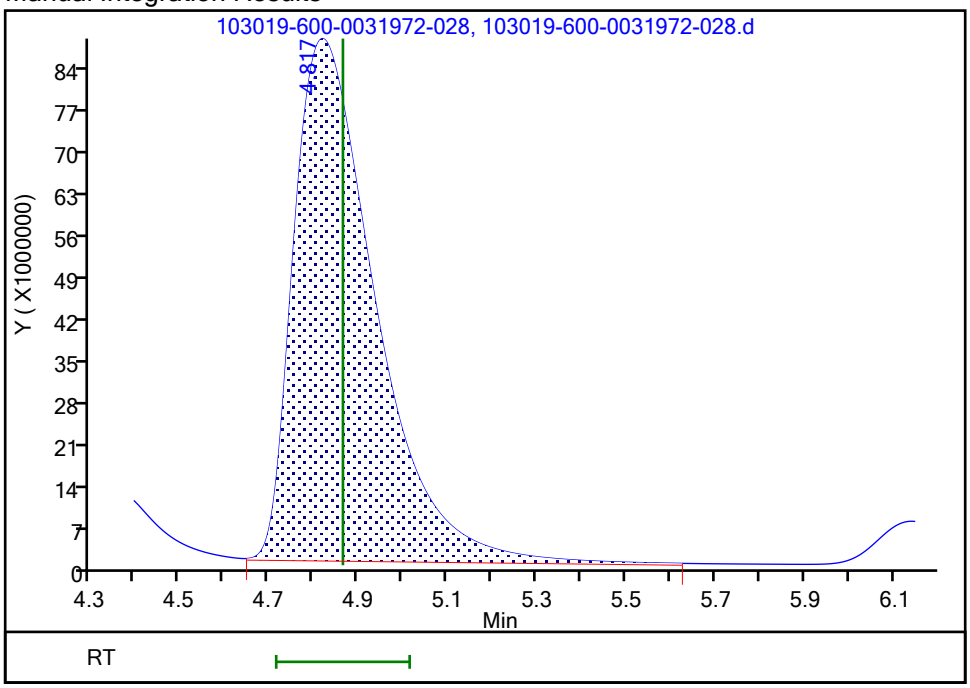

Reviewer: reachs, 31-Oct-2019 12:05:01
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-278901/40 Calibration Date: 10/30/2019 15:26

Instrument ID: CHWC17(IC) Calib Start Date: 10/24/2019 13:38

GC Column: AS22 ID: 2.00(mm) Calib End Date: 10/24/2019 14:43

Lab File ID: 103019-600-0031972-040.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin1		57868789		7.99	7.50	6.5	10.0
Chloride	Lin1		44877924		19.6	20.0	-1.8	10.0
Bromide	Lin1		14104769		7.78	7.50	3.8	10.0
Sulfate	Lin1		30572686		19.7	20.0	-1.4	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-278901/40 Calibration Date: 10/30/2019 15:26

Instrument ID: CHWC17(IC) Calib Start Date: 10/24/2019 13:38

GC Column: AS22 ID: 2.00(mm) Calib End Date: 10/24/2019 14:43

Lab File ID: 103019-600-0031972-040.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	2.23	2.09	2.39
Chloride	3.11	2.97	3.27
Bromide	4.38	4.25	4.55
Sulfate	7.03	6.95	7.25

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-040.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 30-Oct-2019 15:26:00 ALS Bottle#: 0 Worklist Smp#: 40
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031972-040
Misc. Info.: ccv
Operator ID: Instrument ID: CHWC17(IC)
Sublist: chrom-CHWC17(IC)*sub2

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 31-Oct-2019 12:36:02 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0305

First Level Reviewer: reachs Date: 31-Oct-2019 12:26:43

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.234	2.241	-0.007	434015915	7.50	7.99	M
	2 Chloride	3.111	3.121	-0.010	897558474	20.0	19.6	M
	9 Nitrite as N	3.747	3.761	-0.014	774517871	NC	NC	M
	1 Bromide	4.381	4.397	-0.016	105785766	7.50	7.78	M
	3 Nitrate as N	4.837	4.864	-0.027	1129012315	NC	NC	M
	5 Sulfate	7.031	7.101	-0.070	611453728	20.0	19.7	M
S	8 Sulfate as Sulfur						19.7	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

CCV_00112 Amount Added: 5.00 Units: mL

Report Date: 31-Oct-2019 12:36:02 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-040.d

Injection Date: 30-Oct-2019 15:26:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: CCV Worklist Smp#: 40

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_28day

Column: AS-22 Dionex Lion Pac (2.00 mm)

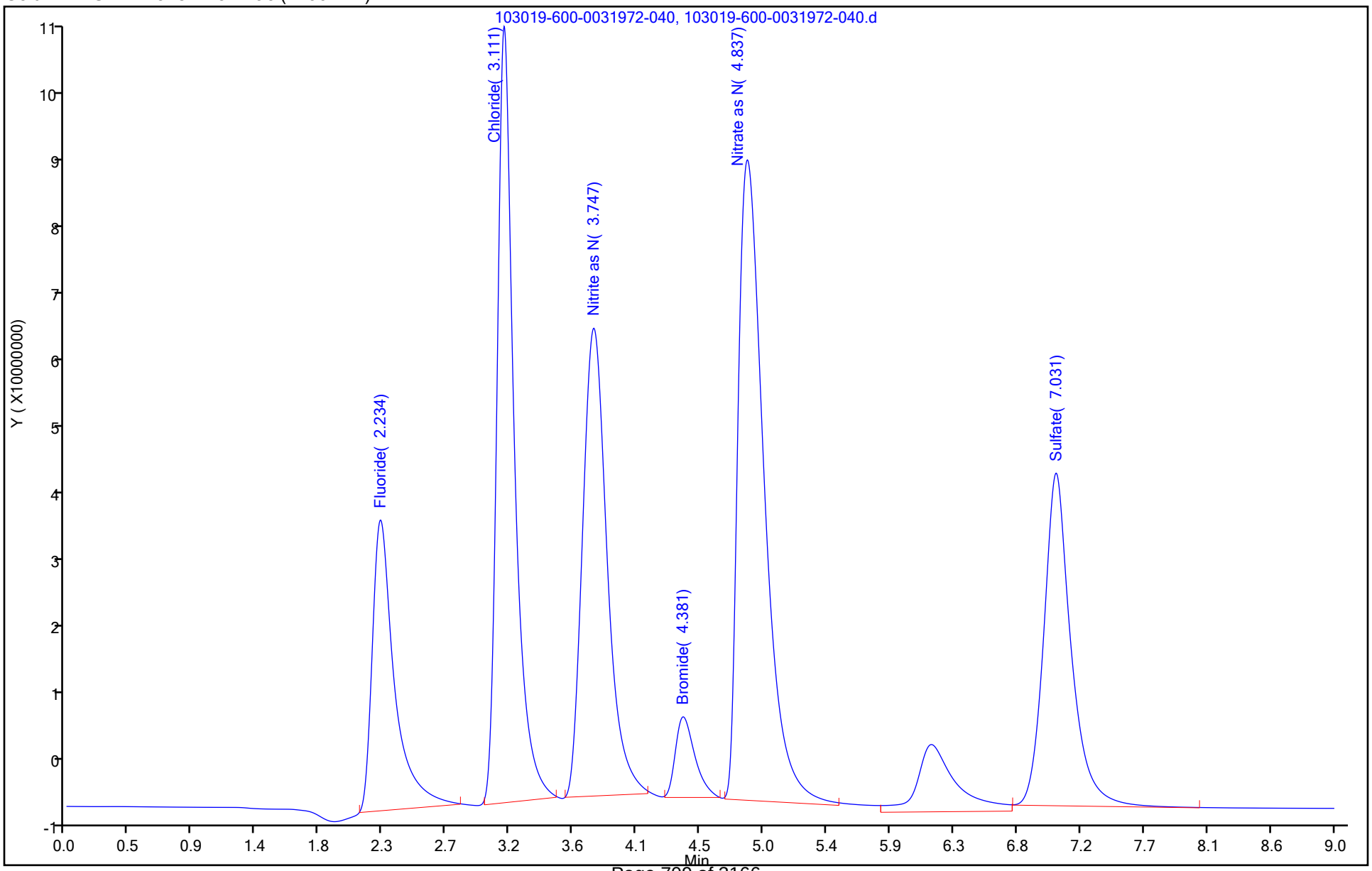

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-040.d				
Injection Date:	30-Oct-2019 15:26:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	40
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

7 Fluoride, CAS: 16984-48-8

Signal: 1

Processing Integration Results

RT: 2.23
Area: 492965329
Amount: 9.045633
Amount Units: ug/ml

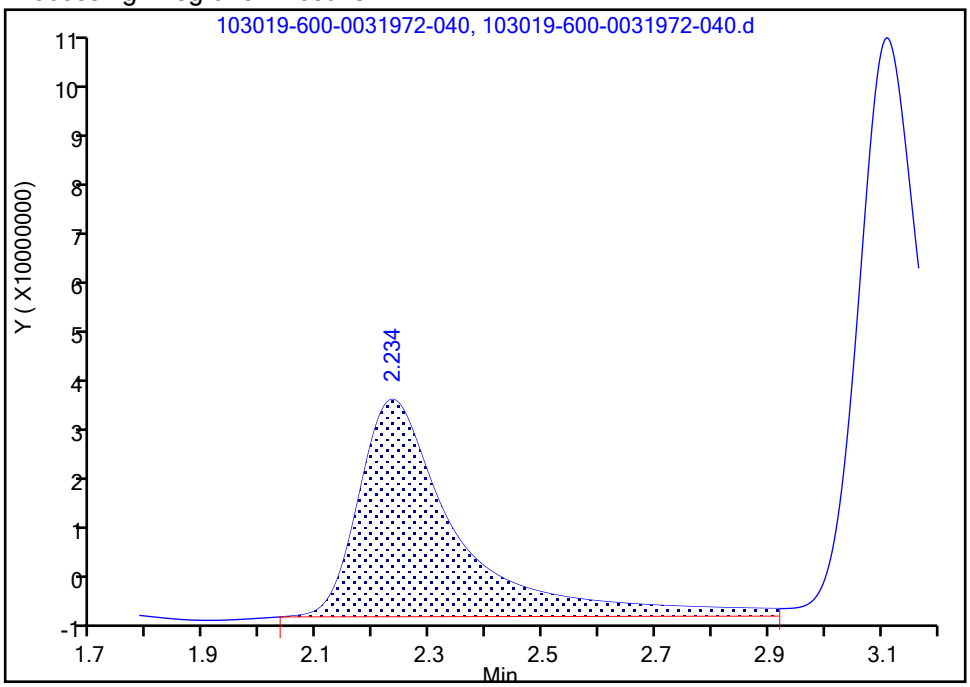

Manual Integration Results

RT: 2.23
Area: 434015915
Amount: 7.985252
Amount Units: ug/ml

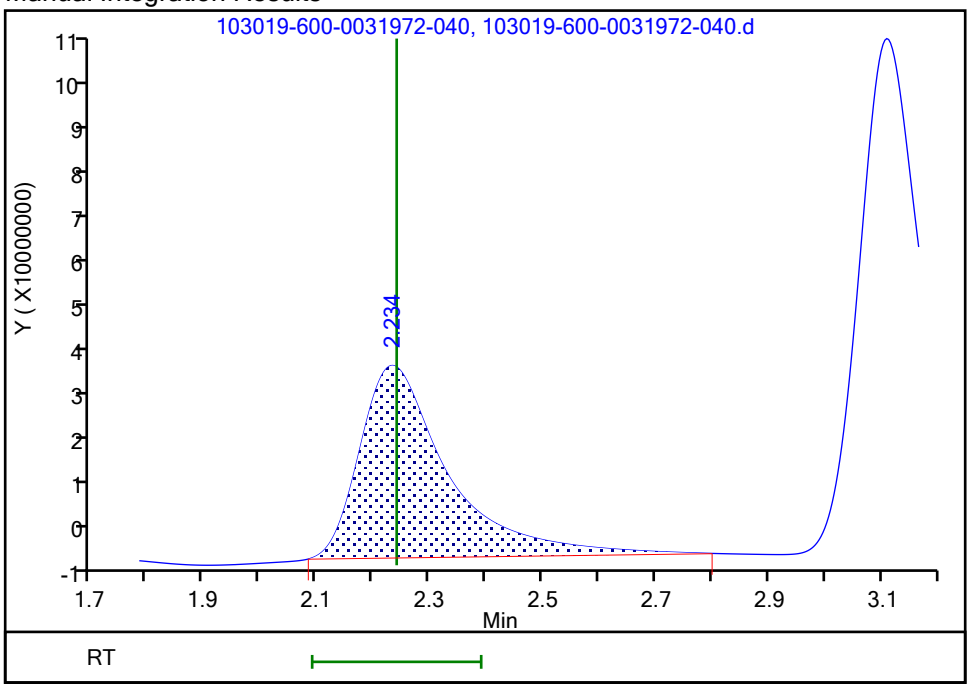

Reviewer: reachs, 31-Oct-2019 12:26:24
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-040.d				
Injection Date:	30-Oct-2019 15:26:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	40
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

2 Chloride, CAS: 16887-00-6

Signal: 1

Processing Integration Results

RT: 3.11
Area: 968625595
Amount: 21.178902
Amount Units: ug/ml

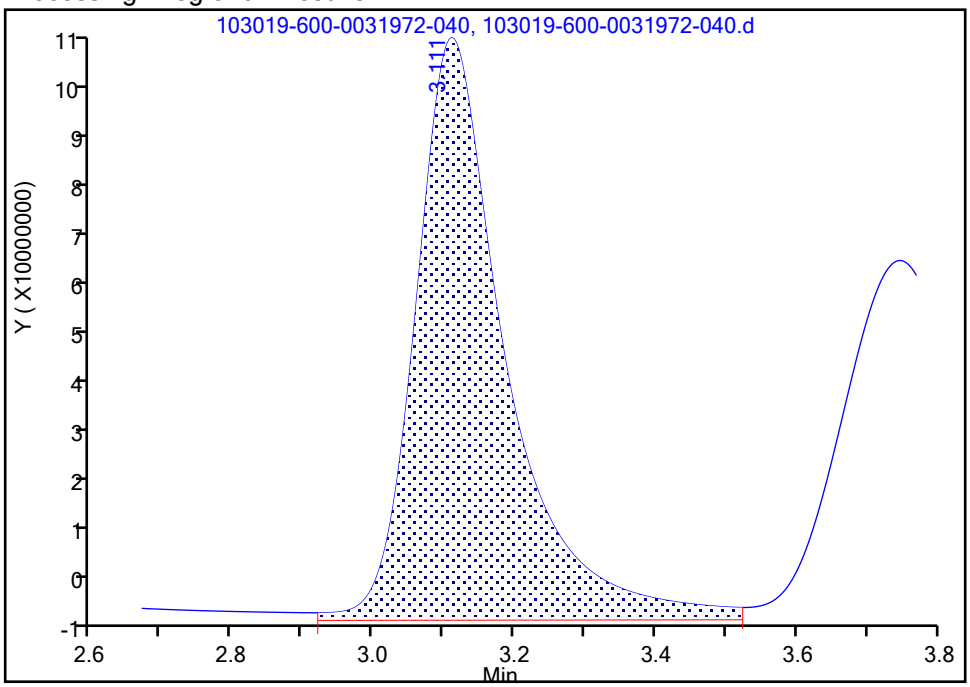

Manual Integration Results

RT: 3.11
Area: 897558474
Amount: 19.640352
Amount Units: ug/ml

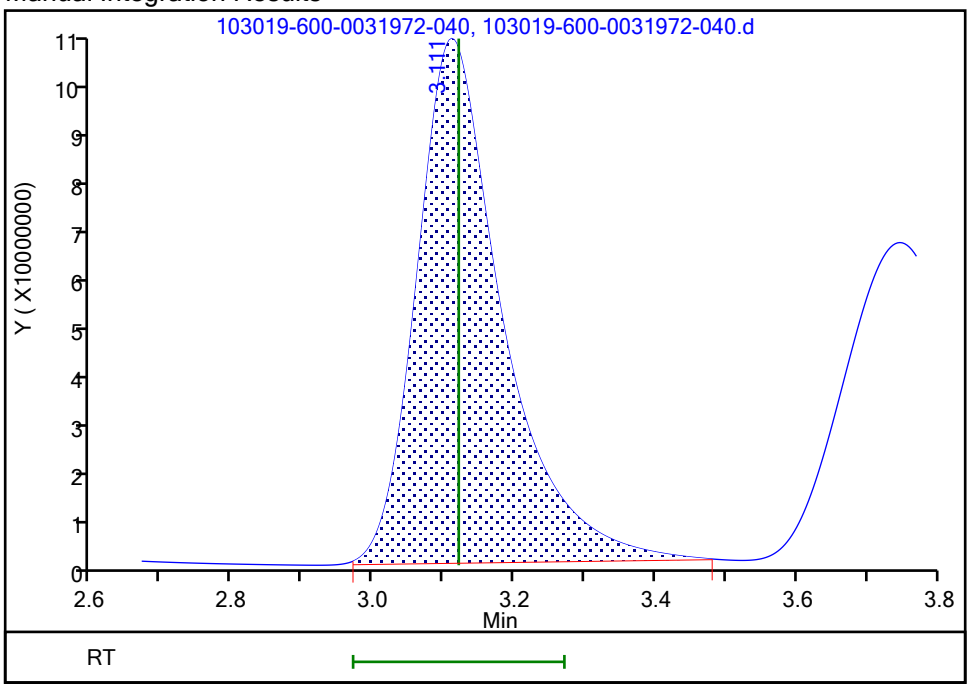

Reviewer: reachs, 31-Oct-2019 12:26:02
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-040.d				
Injection Date:	30-Oct-2019 15:26:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	40
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

1 Bromide, CAS: 24959-67-9

Signal: 1

Processing Integration Results

RT: 4.38
Area: 163408659
Amount: 12.036964
Amount Units: ug/ml

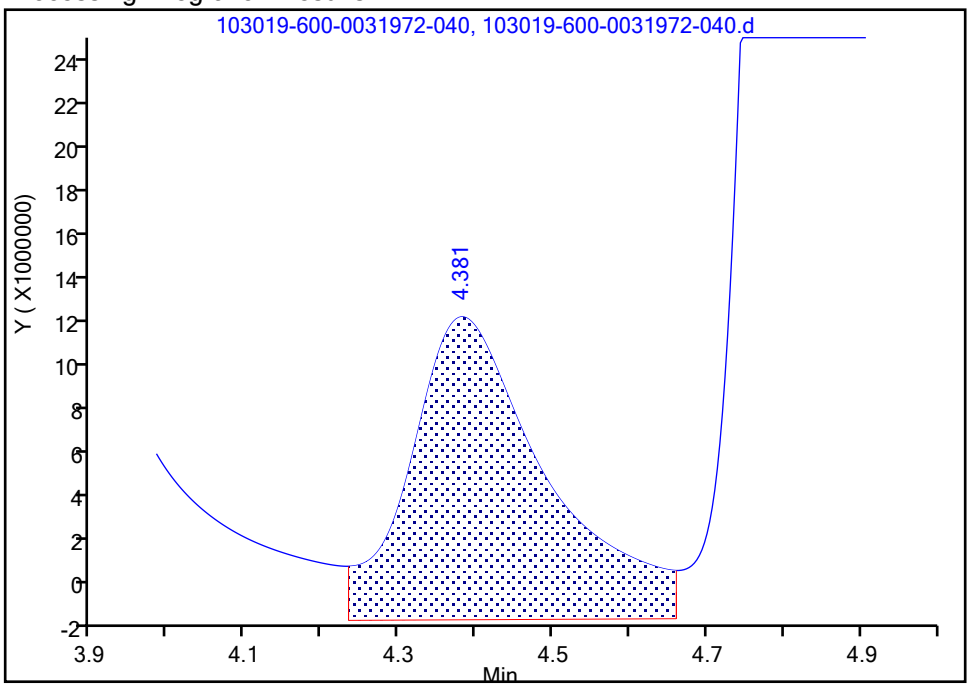

Manual Integration Results

RT: 4.38
Area: 105785766
Amount: 7.783737
Amount Units: ug/ml

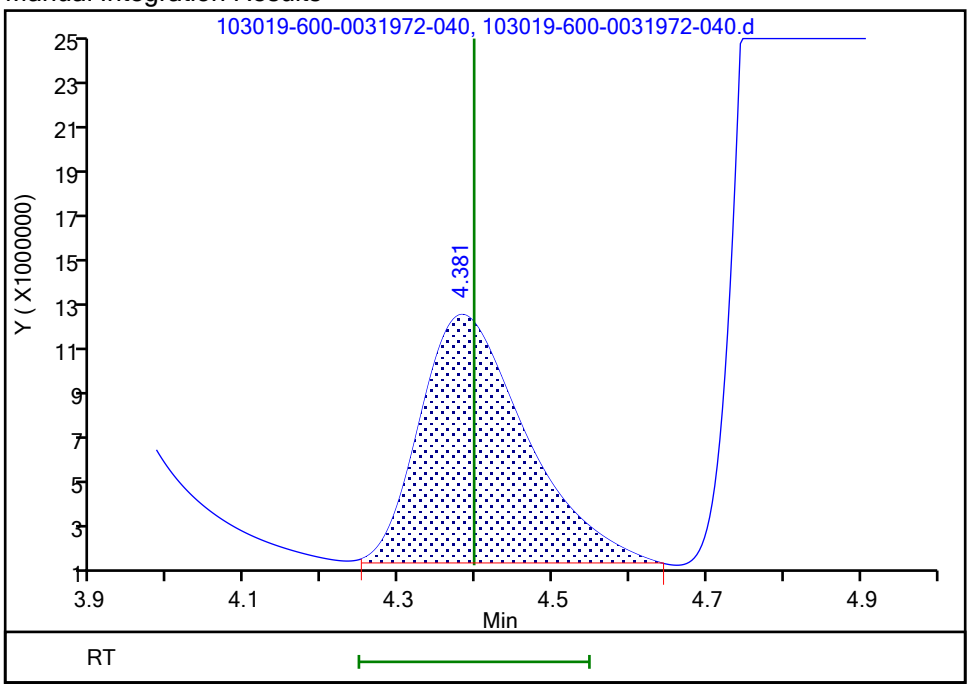

Reviewer: reachs, 31-Oct-2019 12:25:42
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-040.d				
Injection Date:	30-Oct-2019 15:26:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	40
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

5 Sulfate, CAS: 14808-79-8

Signal: 1

Processing Integration Results

RT: 7.03
Area: 659476885
Amount: 21.264121
Amount Units: ug/ml

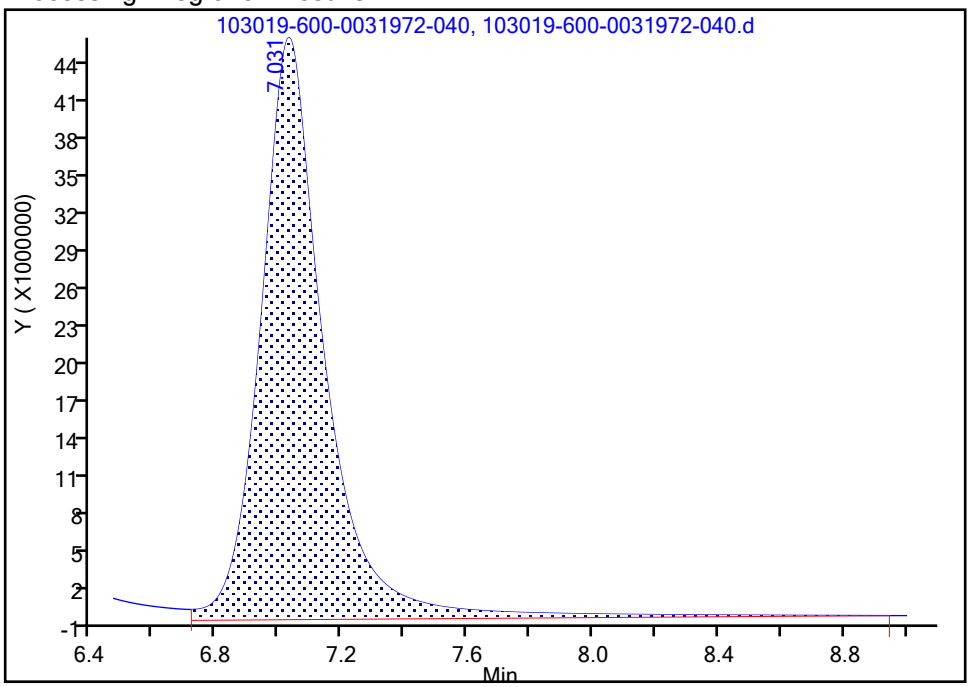

Manual Integration Results

RT: 7.03
Area: 611453728
Amount: 19.728585
Amount Units: ug/ml

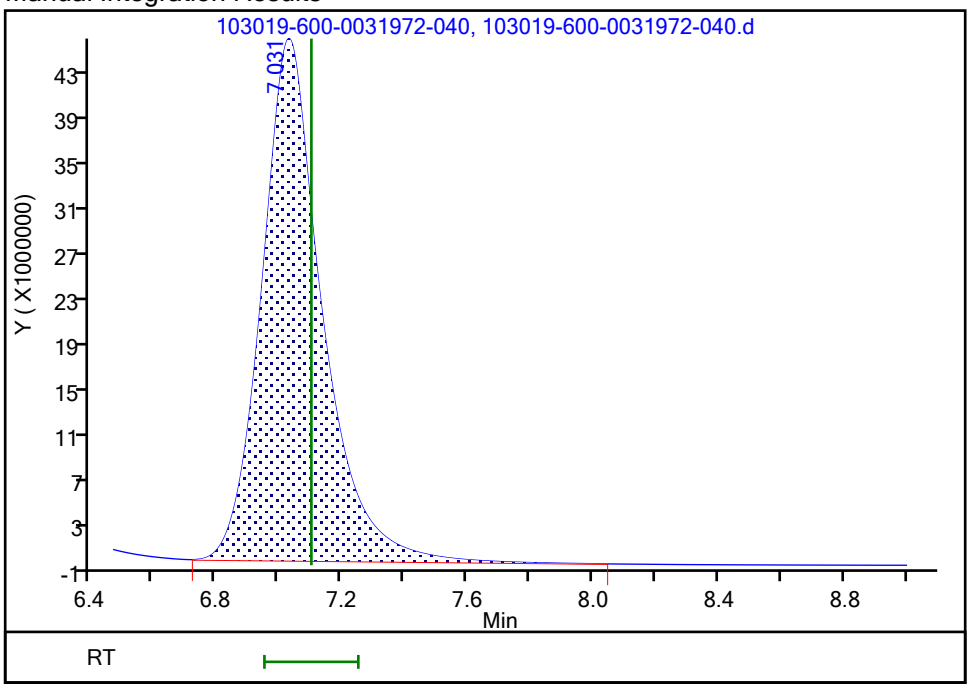

Reviewer: reachs, 31-Oct-2019 12:25:53

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-278902/40 Calibration Date: 10/30/2019 15:26

Instrument ID: CHWC17(IC) Calib Start Date: 10/24/2019 13:38

GC Column: AS22 ID: 2.00(mm) Calib End Date: 10/24/2019 14:43

Lab File ID: 103019-600-0031972-040.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitrite as N	Lin1		77451787		10.7	10.0	6.9	10.0
Nitrate as N	Lin1		112901232		9.72	10.0	-2.8	10.0

FORM VII 300.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-278902/40 Calibration Date: 10/30/2019 15:26

Instrument ID: CHWC17(IC) Calib Start Date: 10/24/2019 13:38

GC Column: AS22 ID: 2.00(mm) Calib End Date: 10/24/2019 14:43

Lab File ID: 103019-600-0031972-040.d

Analyte	RT	RT WINDOW	
		FROM	TO
Nitrite as N	3.75	3.61	3.91
Nitrate as N	4.84	4.71	5.01

Form VII 300.0

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-040.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 30-Oct-2019 15:26:00 ALS Bottle#: 0 Worklist Smp#: 40
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031972-040
Misc. Info.: ccv
Operator ID: Instrument ID: CHWC17(IC)
Sublist: chrom-CHWC17(IC)*sub2

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 31-Oct-2019 12:36:02 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0305

First Level Reviewer: reachs Date: 31-Oct-2019 12:26:43

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.234	2.241	-0.007	434015915	NC	NC	M
	2 Chloride	3.111	3.121	-0.010	897558474	NC	NC	M
	9 Nitrite as N	3.747	3.761	-0.014	774517871	10.0	10.7	M
	1 Bromide	4.381	4.397	-0.016	105785766	NC	NC	M
	3 Nitrate as N	4.837	4.864	-0.027	1129012315	10.0	9.72	M
	5 Sulfate	7.031	7.101	-0.070	611453728	NC	NC	M
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N						20.4	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

CCV_00112 Amount Added: 5.00 Units: mL

Report Date: 31-Oct-2019 12:36:02 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-040.d

Injection Date: 30-Oct-2019 15:26:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: CCV Worklist Smp#: 40

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_48hr

Column: AS-22 Dionex Lion Pac (2.00 mm)

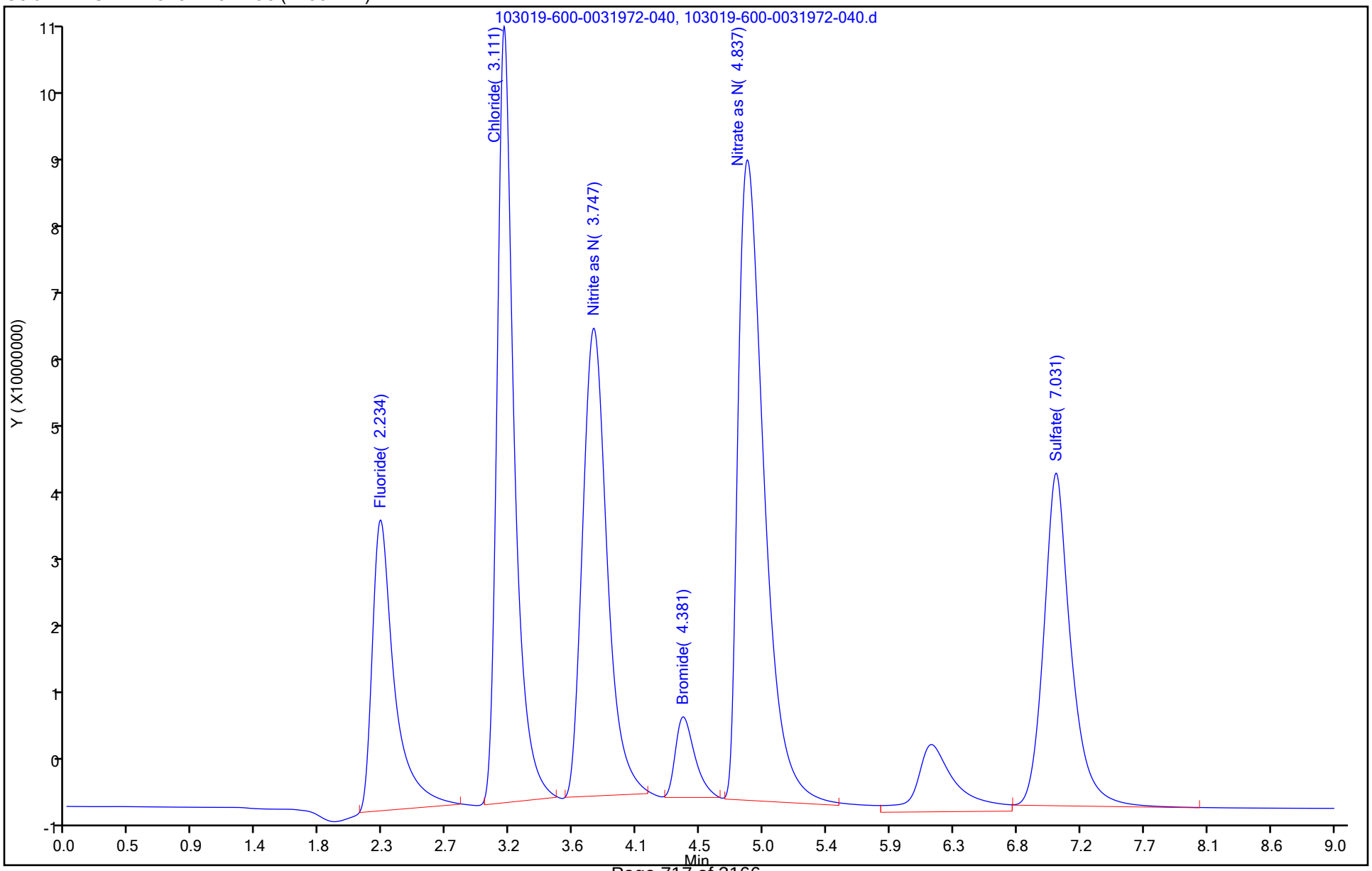

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-040.d				
Injection Date:	30-Oct-2019 15:26:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	40
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

9 Nitrite as N, CAS: 14797-65-0

Signal: 1

Processing Integration Results

RT: 3.75
Area: 886497505
Amount: 12.227148
Amount Units: ug/ml

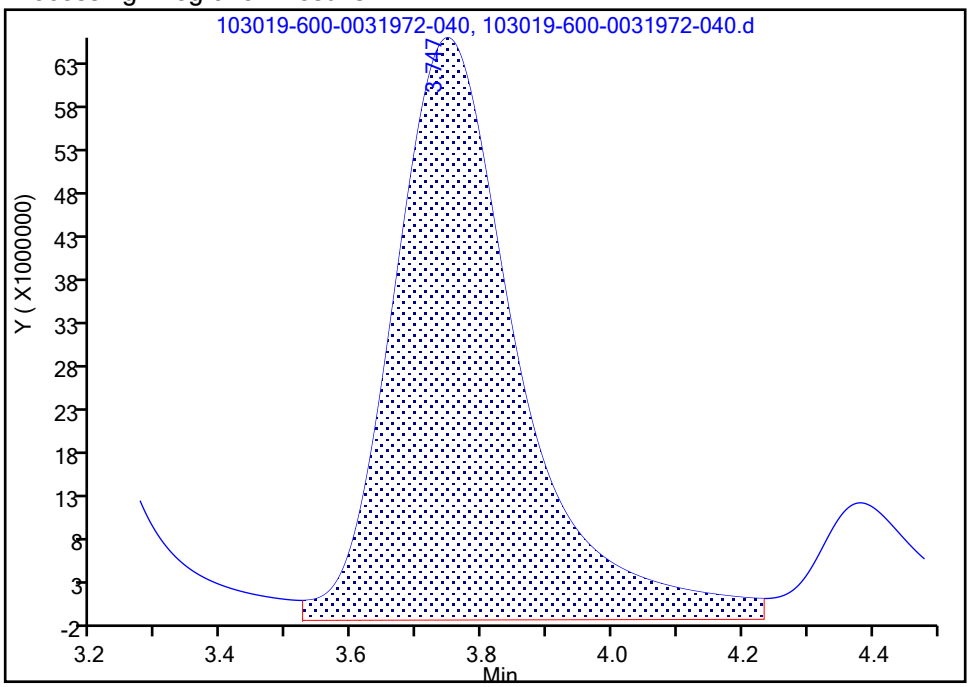

Manual Integration Results

RT: 3.75
Area: 774517871
Amount: 10.687073
Amount Units: ug/ml

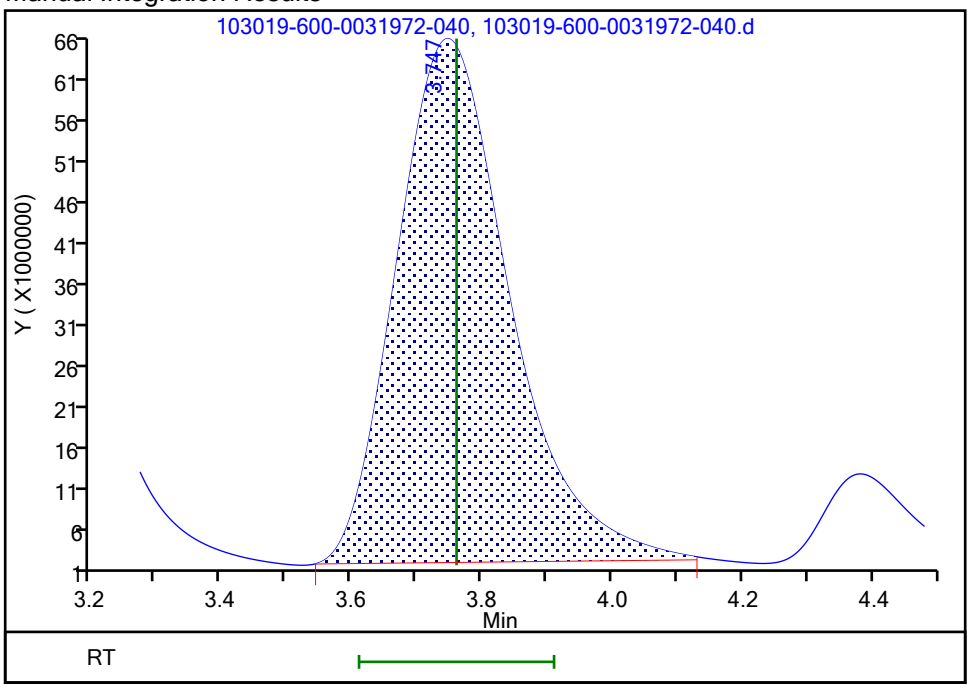

Reviewer: reachs, 31-Oct-2019 12:26:34

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-040.d				
Injection Date:	30-Oct-2019 15:26:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	40
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

3 Nitrate as N, CAS: 14797-55-8

Signal: 1

Processing Integration Results

RT: 4.84
Area: 1222754124
Amount: 10.516754
Amount Units: ug/ml

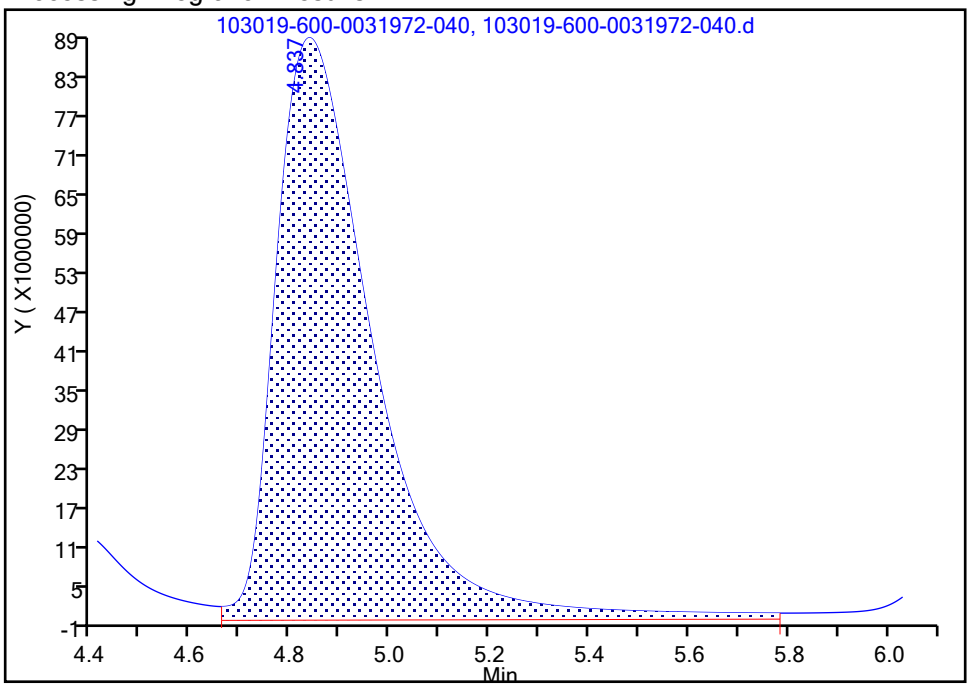

Manual Integration Results

RT: 4.84
Area: 1129012315
Amount: 9.719577
Amount Units: ug/ml

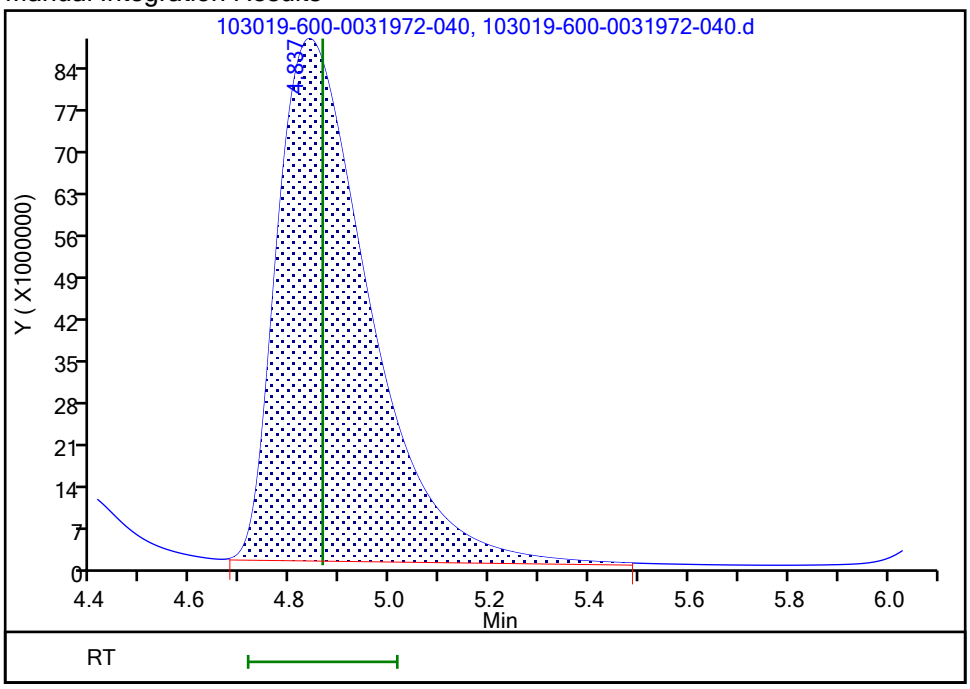

Reviewer: reachs, 31-Oct-2019 12:26:41
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-278901/48 Calibration Date: 10/30/2019 16:52

Instrument ID: CHWC17(IC) Calib Start Date: 10/24/2019 13:38

GC Column: AS22 ID: 2.00(mm) Calib End Date: 10/24/2019 14:43

Lab File ID: 103019-600-0031972-048.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin1		59395806		8.19	7.50	9.2	10.0
Chloride	Lin1		44703721		19.6	20.0	-2.2	10.0
Bromide	Lin1		14554201		8.03	7.50	7.1	10.0
Sulfate	Lin1		30726370		19.8	20.0	-0.9	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-278901/48 Calibration Date: 10/30/2019 16:52

Instrument ID: CHWC17(IC) Calib Start Date: 10/24/2019 13:38

GC Column: AS22 ID: 2.00(mm) Calib End Date: 10/24/2019 14:43

Lab File ID: 103019-600-0031972-048.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	2.23	2.09	2.39
Chloride	3.11	2.97	3.27
Bromide	4.39	4.25	4.55
Sulfate	7.02	6.95	7.25

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-048.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 30-Oct-2019 16:52:00 ALS Bottle#: 0 Worklist Smp#: 48
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031972-048
Misc. Info.: ccv
Operator ID: Instrument ID: CHWC17(IC)
Sublist: chrom-CHWC17(IC)*sub2

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 31-Oct-2019 12:36:09 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0305

First Level Reviewer: reachs Date: 31-Oct-2019 12:33:50

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.234	2.241	-0.007	445468545	7.50	8.19	M
	2 Chloride	3.114	3.121	-0.007	894074415	20.0	19.6	M
	9 Nitrite as N	3.754	3.761	-0.007	775512393	NC	NC	M
	1 Bromide	4.391	4.397	-0.006	109156507	7.50	8.03	M
	3 Nitrate as N	4.847	4.864	-0.017	1125647360	NC	NC	M
	5 Sulfate	7.024	7.101	-0.077	614527408	20.0	19.8	M
S	8 Sulfate as Sulfur						19.8	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

CCV_00112 Amount Added: 5.00 Units: mL

Report Date: 31-Oct-2019 12:36:09 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-048.d

Injection Date: 30-Oct-2019 16:52:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: CCV Worklist Smp#: 48

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_28day

Column: AS-22 Dionex Lion Pac (2.00 mm)

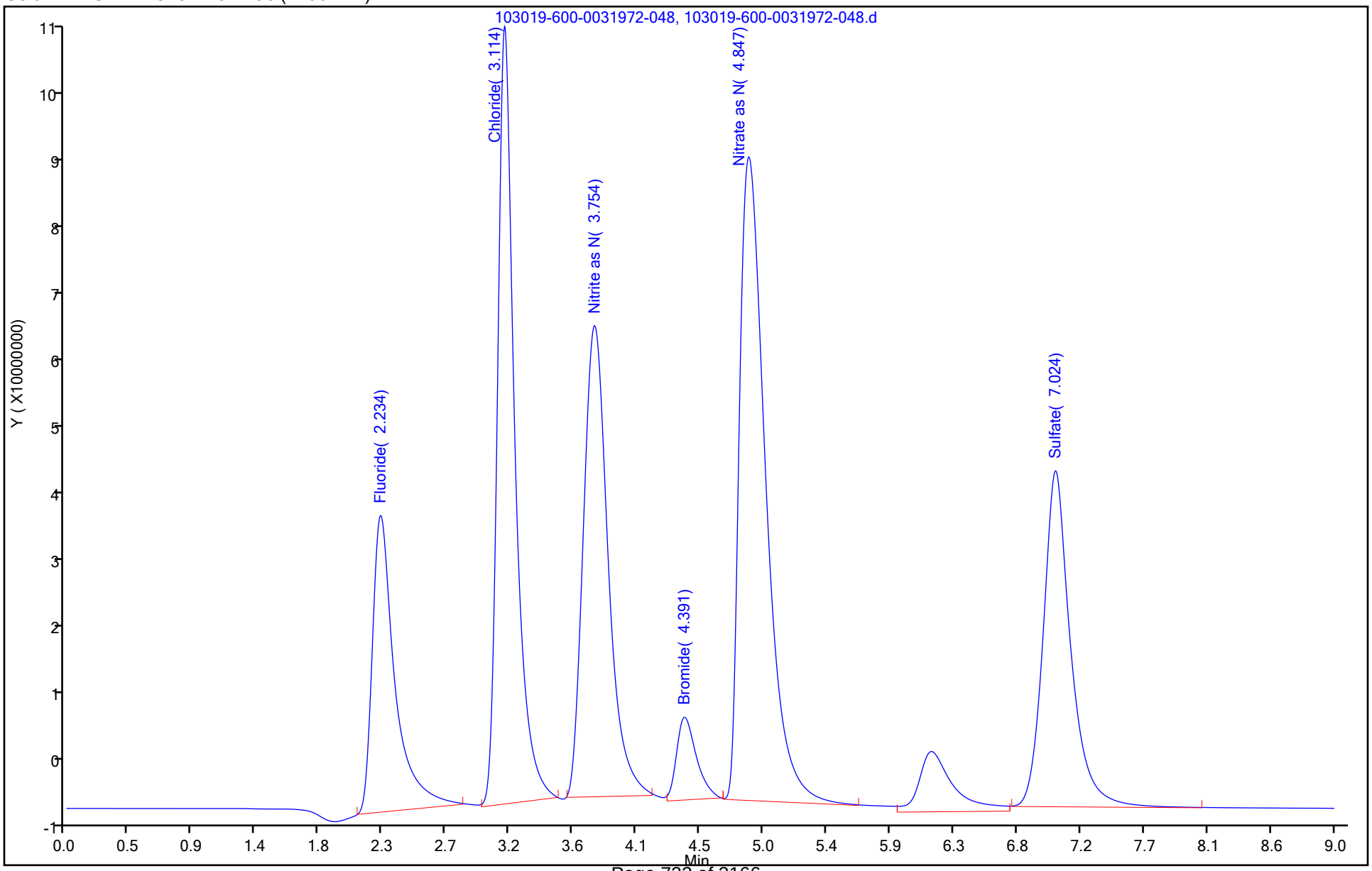

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-048.d				
Injection Date:	30-Oct-2019 16:52:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	48
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

7 Fluoride, CAS: 16984-48-8

Signal: 1

Processing Integration Results

RT: 2.23
Area: 498575700
Amount: 9.146553
Amount Units: ug/ml

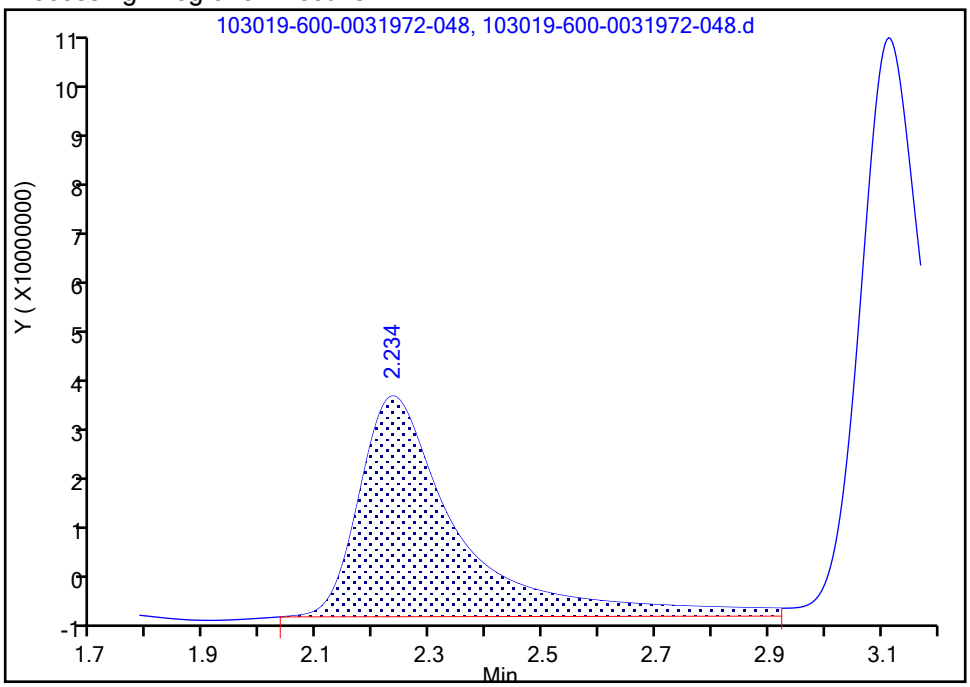

Manual Integration Results

RT: 2.23
Area: 445468545
Amount: 8.191262
Amount Units: ug/ml

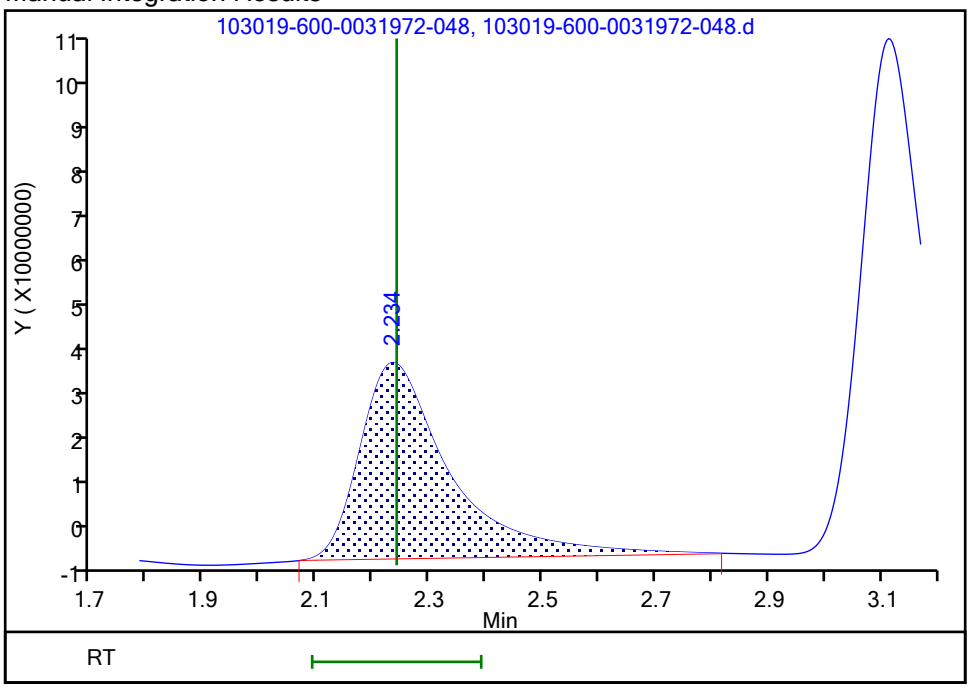

Reviewer: reachs, 31-Oct-2019 12:31:17
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-048.d				
Injection Date:	30-Oct-2019 16:52:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	48
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

2 Chloride, CAS: 16887-00-6

Signal: 1

Processing Integration Results

RT: 3.11
Area: 959537246
Amount: 20.982146
Amount Units: ug/ml

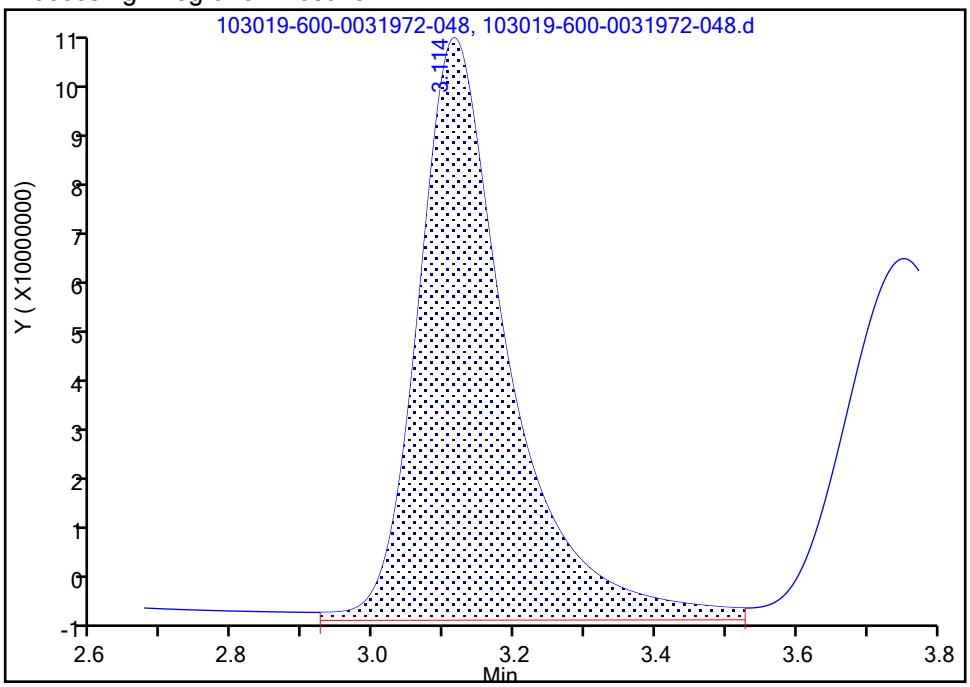

Manual Integration Results

RT: 3.11
Area: 894074415
Amount: 19.564925
Amount Units: ug/ml

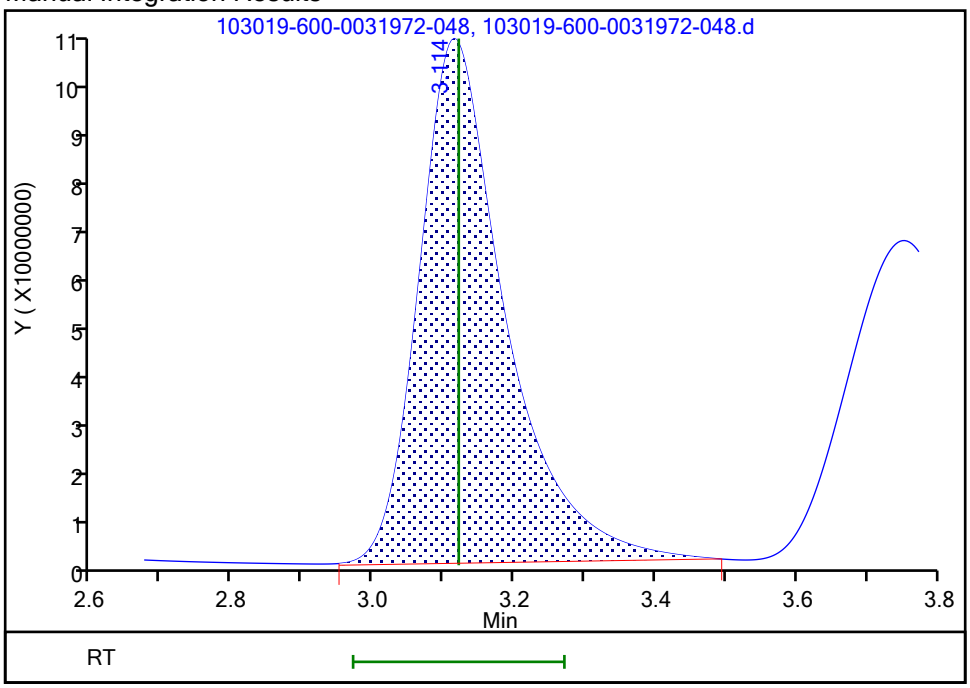

Reviewer: reachs, 31-Oct-2019 12:32:12
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-048.d				
Injection Date:	30-Oct-2019 16:52:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	48
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

1 Bromide, CAS: 24959-67-9

Signal: 1

Processing Integration Results

RT: 4.39
Area: 160165734
Amount: 11.797599
Amount Units: ug/ml

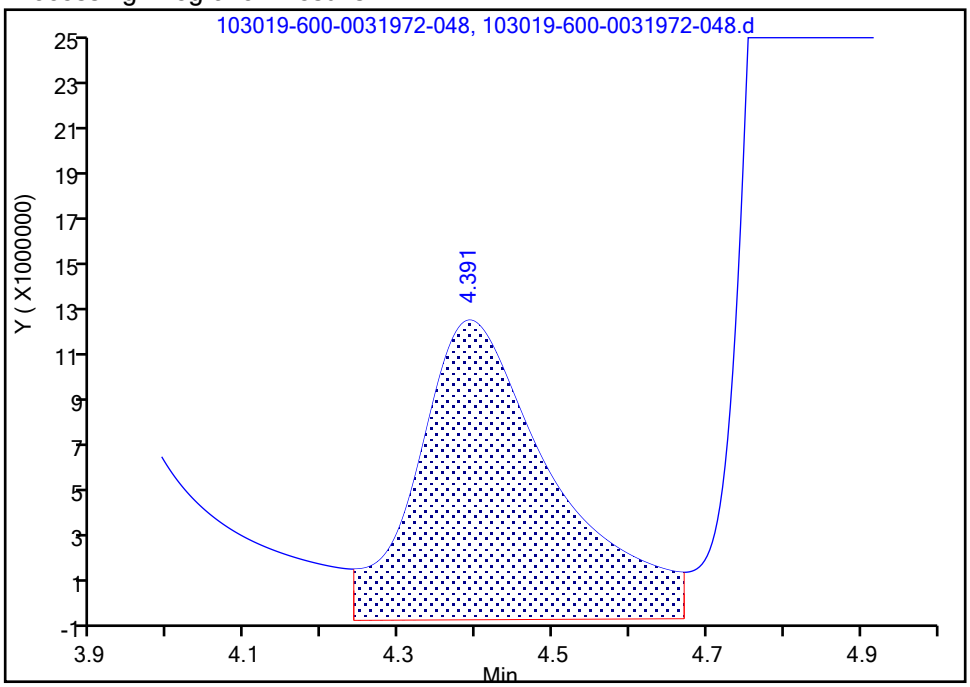

Manual Integration Results

RT: 4.39
Area: 109156507
Amount: 8.032536
Amount Units: ug/ml

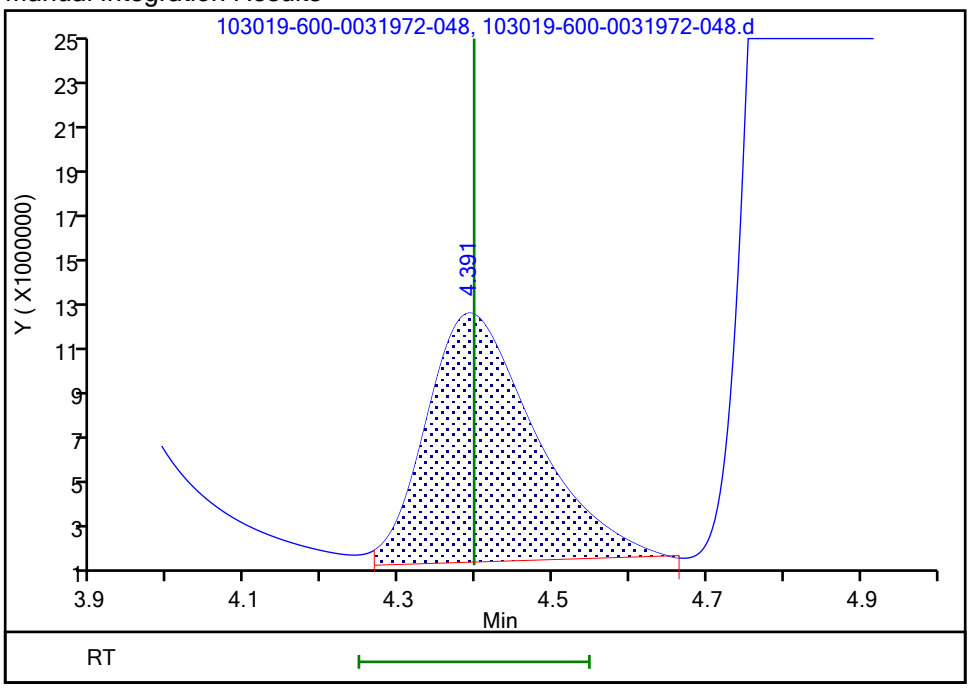

Reviewer: reachs, 31-Oct-2019 12:31:41
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-048.d				
Injection Date:	30-Oct-2019 16:52:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	48
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

5 Sulfate, CAS: 14808-79-8

Signal: 1

Processing Integration Results

RT: 7.02
Area: 656406701
Amount: 21.165952
Amount Units: ug/ml

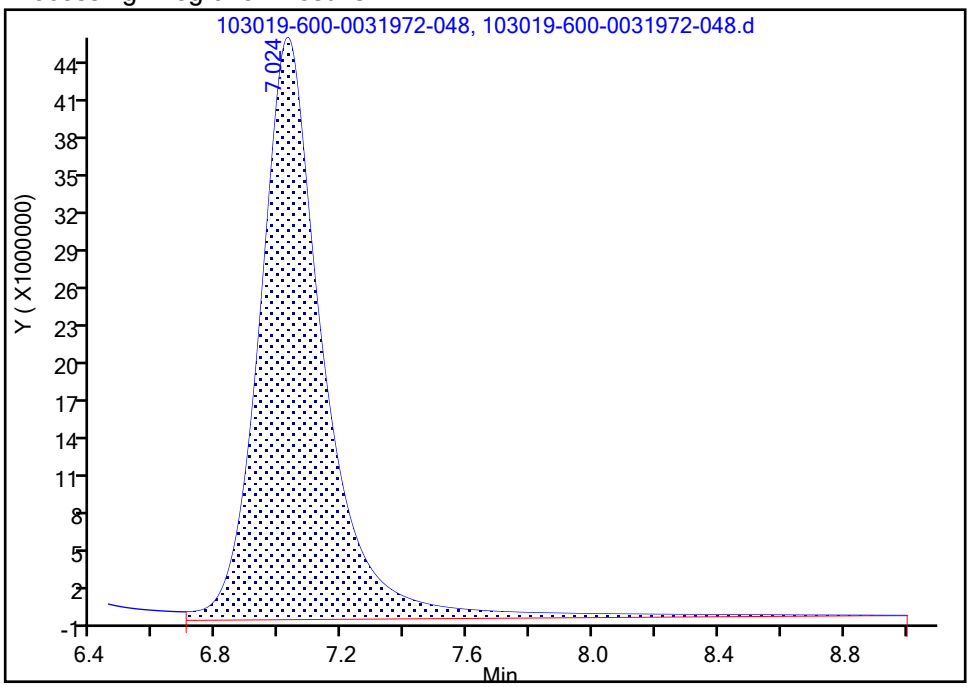

Manual Integration Results

RT: 7.02
Area: 614527408
Amount: 19.826866
Amount Units: ug/ml

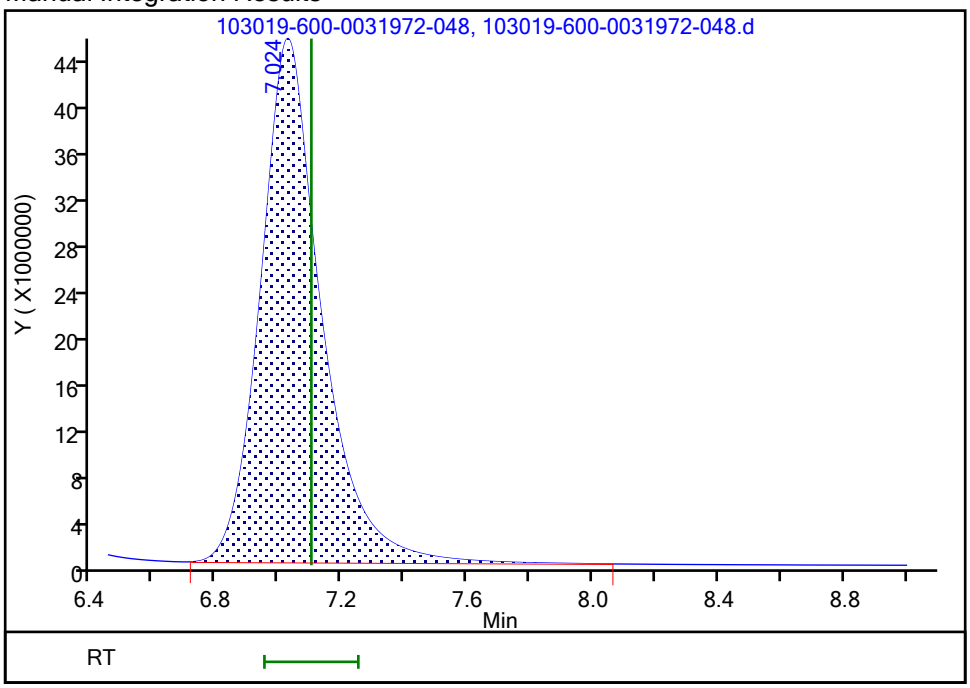

Reviewer: reachs, 31-Oct-2019 12:32:00
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-278902/48 Calibration Date: 10/30/2019 16:52

Instrument ID: CHWC17(IC) Calib Start Date: 10/24/2019 13:38

GC Column: AS22 ID: 2.00(mm) Calib End Date: 10/24/2019 14:43

Lab File ID: 103019-600-0031972-048.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitrite as N	Lin1		77551239		10.7	10.0	7.0	10.0
Nitrate as N	Lin1		112564736		9.69	10.0	-3.1	10.0

FORM VII 300.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-278902/48 Calibration Date: 10/30/2019 16:52

Instrument ID: CHWC17(IC) Calib Start Date: 10/24/2019 13:38

GC Column: AS22 ID: 2.00(mm) Calib End Date: 10/24/2019 14:43

Lab File ID: 103019-600-0031972-048.d

Analyte	RT	RT WINDOW	
		FROM	TO
Nitrite as N	3.75	3.61	3.91
Nitrate as N	4.85	4.71	5.01

Form VII 300.0

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-048.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 30-Oct-2019 16:52:00 ALS Bottle#: 0 Worklist Smp#: 48
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031972-048
Misc. Info.: ccv
Operator ID: Instrument ID: CHWC17(IC)
Sublist: chrom-CHWC17(IC)*sub2

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 31-Oct-2019 12:36:09 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0305

First Level Reviewer: reachs Date: 31-Oct-2019 12:33:50

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.234	2.241	-0.007	445468545	NC	NC	M
	2 Chloride	3.114	3.121	-0.007	894074415	NC	NC	M
	9 Nitrite as N	3.754	3.761	-0.007	775512393	10.0	10.7	M
	1 Bromide	4.391	4.397	-0.006	109156507	NC	NC	M
	3 Nitrate as N	4.847	4.864	-0.017	1125647360	10.0	9.69	M
	5 Sulfate	7.024	7.101	-0.077	614527408	NC	NC	M
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N						20.4	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

CCV_00112 Amount Added: 5.00 Units: mL

Report Date: 31-Oct-2019 12:36:09 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-048.d

Injection Date: 30-Oct-2019 16:52:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: CCV Worklist Smp#: 48

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_48hr

Column: AS-22 Dionex Lion Pac (2.00 mm)

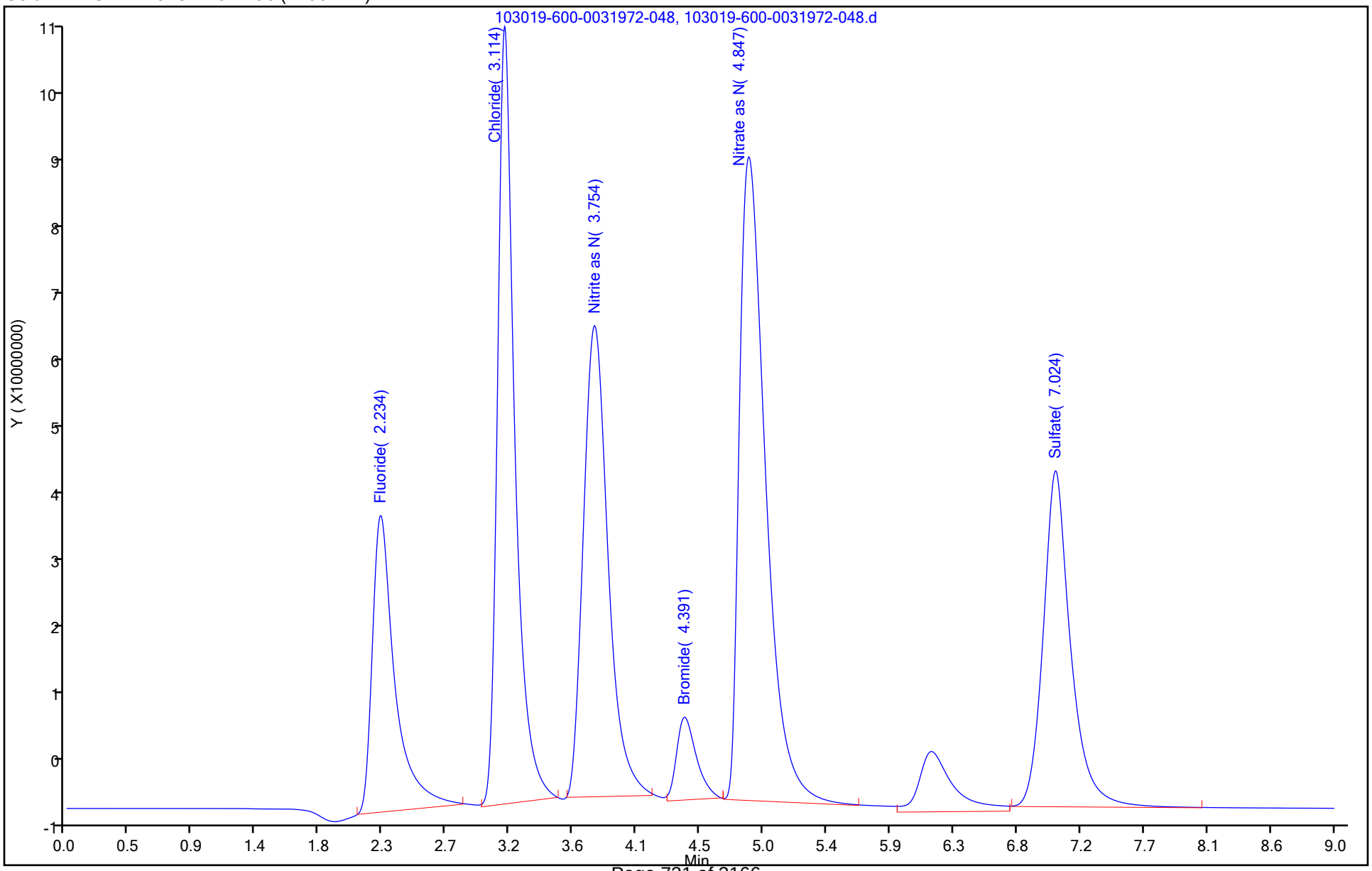

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-048.d				
Injection Date:	30-Oct-2019 16:52:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	48
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

9 Nitrite as N, CAS: 14797-65-0

Signal: 1

Processing Integration Results

RT: 3.75
Area: 880415280
Amount: 12.143498
Amount Units: ug/ml

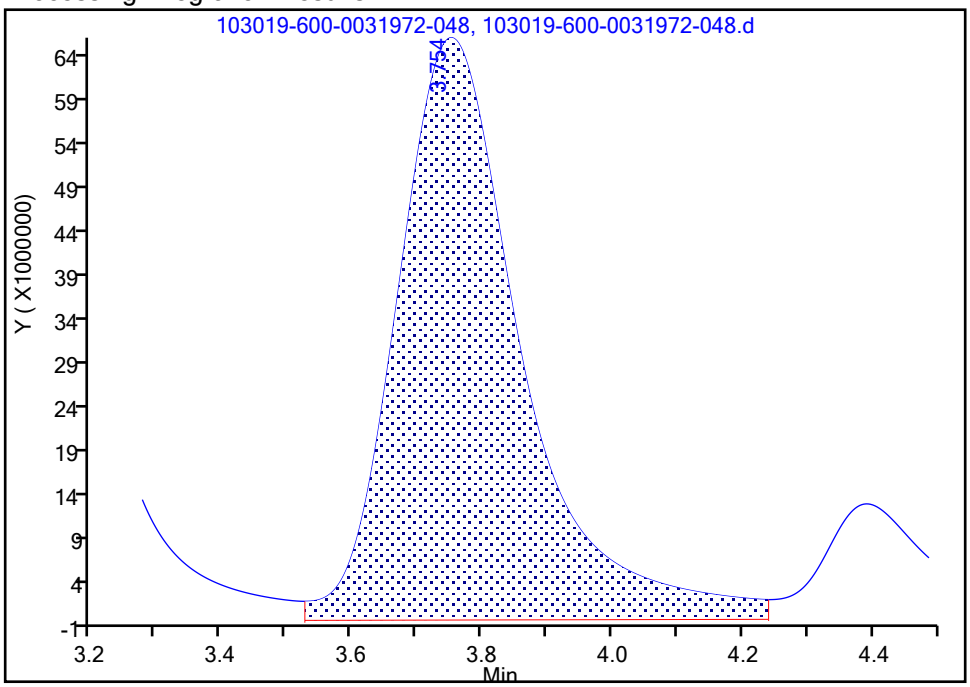

Manual Integration Results

RT: 3.75
Area: 775512393
Amount: 10.700751
Amount Units: ug/ml

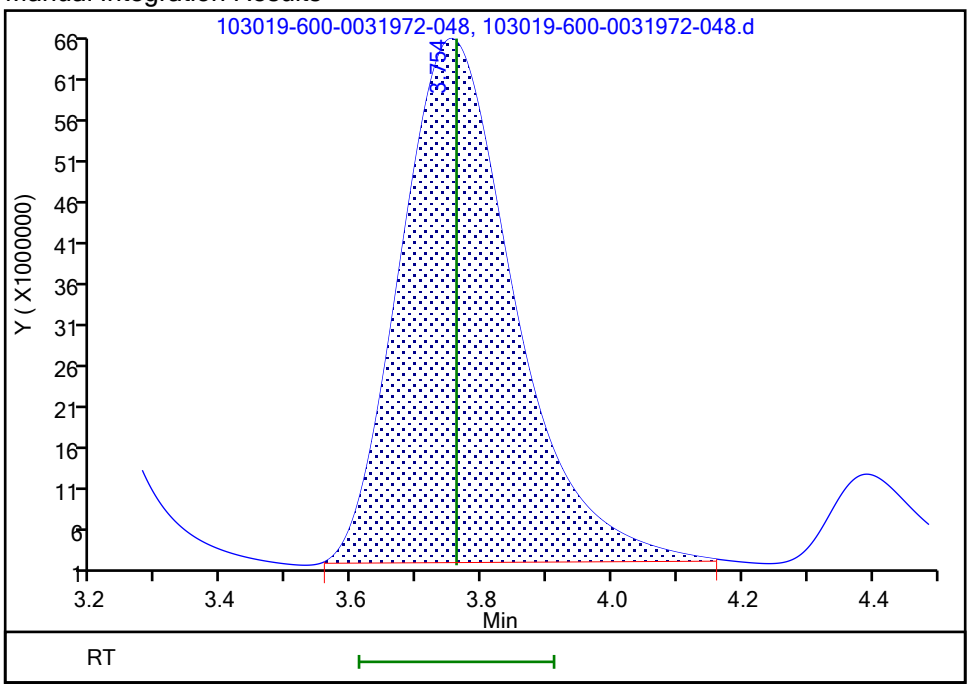

Reviewer: reachs, 31-Oct-2019 12:32:26

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-048.d				
Injection Date:	30-Oct-2019 16:52:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	48
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

3 Nitrate as N, CAS: 14797-55-8

Signal: 1

Processing Integration Results

RT: 4.85
Area: 1222383230
Amount: 10.513600
Amount Units: ug/ml

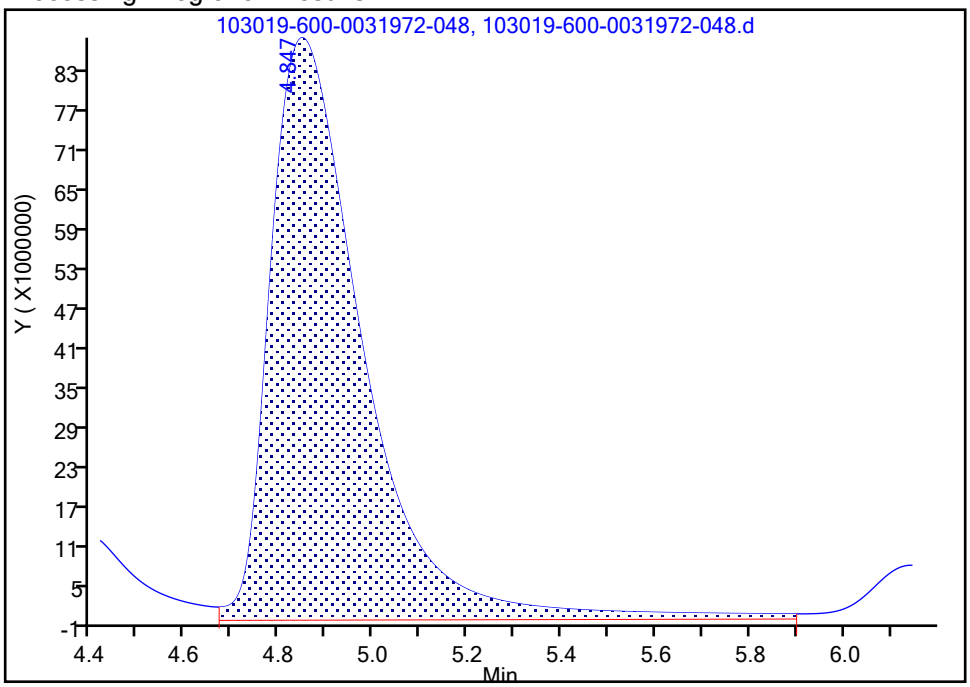

Manual Integration Results

RT: 4.85
Area: 1125647360
Amount: 9.690962
Amount Units: ug/ml

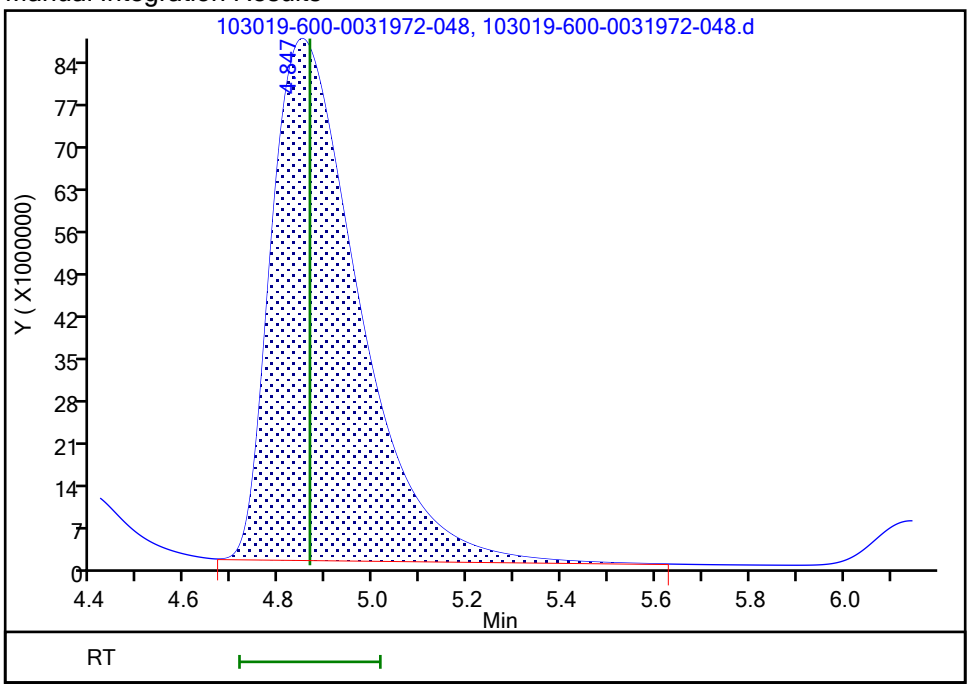

Reviewer: reachs, 31-Oct-2019 12:34:37

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-279038/4 Calibration Date: 10/31/2019 04:17

Instrument ID: CHWC17(IC) Calib Start Date: 10/24/2019 13:38

GC Column: AS22 ID: 2.00(mm) Calib End Date: 10/24/2019 14:43

Lab File ID: 103119-600-0032001-004.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin1		53797970		7.44	7.50	-0.9	10.0
Chloride	Lin1		44219690		19.4	20.0	-3.2	10.0
Bromide	Lin1		13705047		7.56	7.50	0.8	10.0
Sulfate	Lin1		30352560		19.6	20.0	-2.1	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-279038/4 Calibration Date: 10/31/2019 04:17

Instrument ID: CHWC17(IC) Calib Start Date: 10/24/2019 13:38

GC Column: AS22 ID: 2.00(mm) Calib End Date: 10/24/2019 14:43

Lab File ID: 103119-600-0032001-004.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	2.22	2.06	2.36
Chloride	3.10	2.92	3.22
Bromide	4.38	4.16	4.46
Sulfate	6.98	6.71	7.01

Form VII 300.0

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-004.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 31-Oct-2019 04:17:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032001-004
Misc. Info.: ccv
Operator ID: Instrument ID: CHWC17(IC)
Sublist: chrom-CHWC17(IC)*sub2

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 01-Nov-2019 13:34:16 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0332

First Level Reviewer: reachs Date: 31-Oct-2019 10:46:46

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.224	2.214	0.010	403484772	7.50	7.44	M
	2 Chloride	3.104	3.071	0.033	884393796	20.0	19.4	M
	9 Nitrite as N	3.740	3.694	0.046	756252779	NC	NC	M
	1 Bromide	4.384	4.314	0.070	102787855	7.50	7.56	M
	3 Nitrate as N	4.837	4.761	0.076	1116680500	NC	NC	M
	5 Sulfate	6.984	6.857	0.127	607051200	20.0	19.6	M
S	8 Sulfate as Sulfur						19.6	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

CCV_00112 Amount Added: 5.00 Units: mL

Report Date: 01-Nov-2019 13:34:17 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-004.d

Injection Date: 31-Oct-2019 04:17:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: CCV Worklist Smp#: 4

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_28day

Column: AS-22 Dionex Lion Pac (2.00 mm)

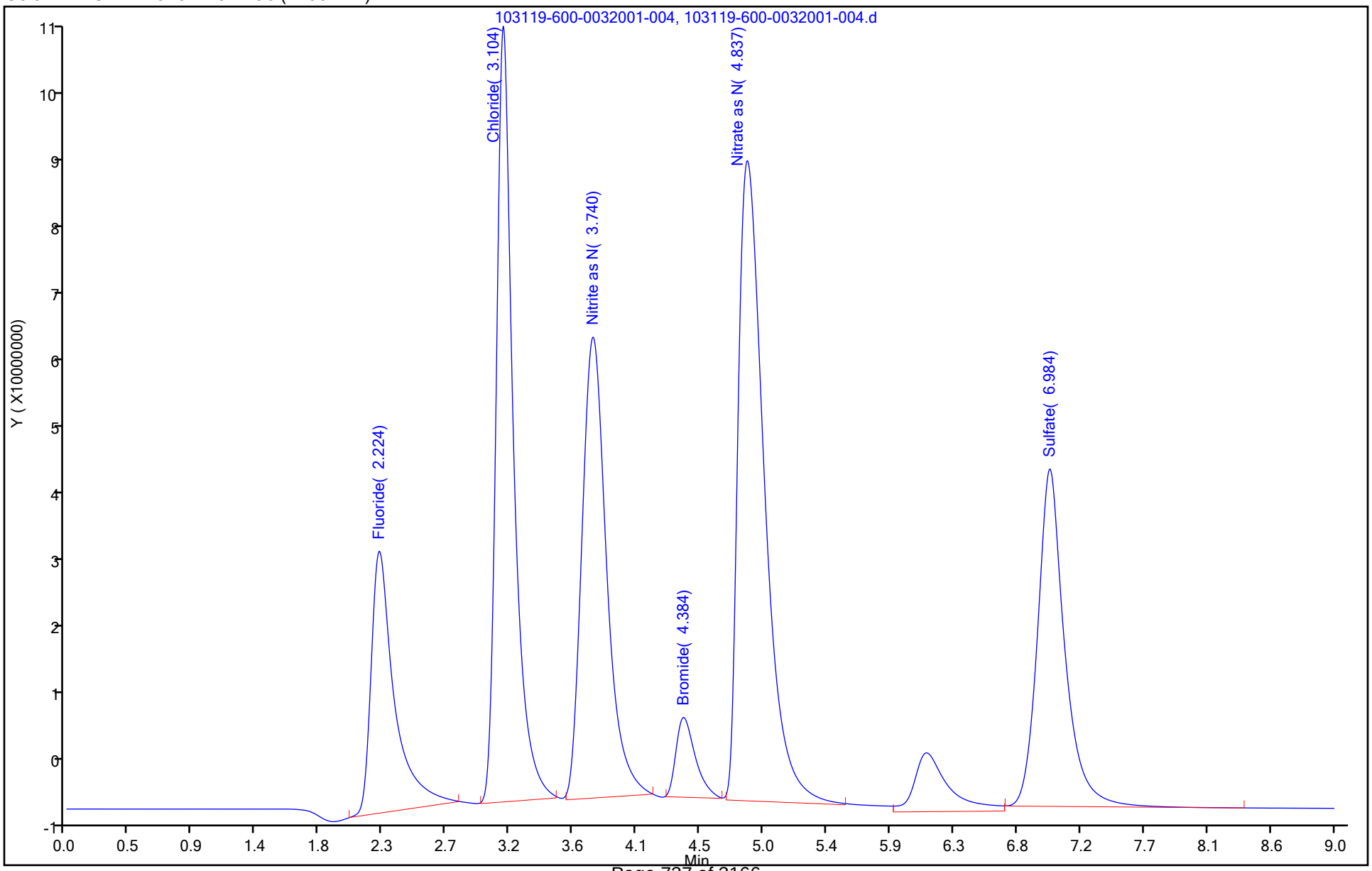

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-004.d				
Injection Date:	31-Oct-2019 04:17:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

7 Fluoride, CAS: 16984-48-8

Signal: 1

Processing Integration Results

RT: 2.22
Area: 457442731
Amount: 8.406653
Amount Units: ug/ml

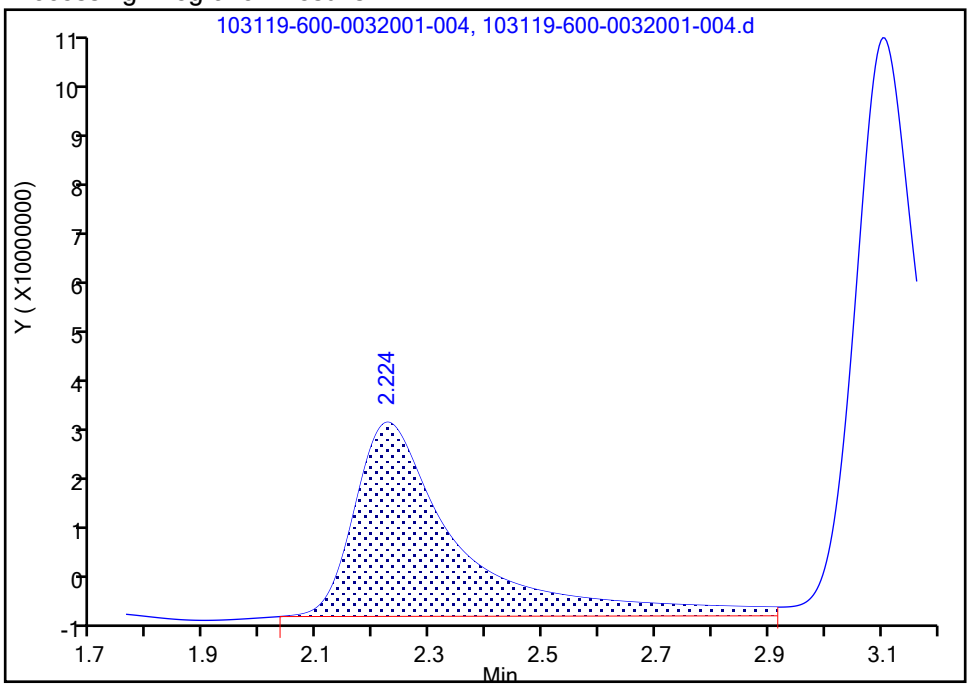

Manual Integration Results

RT: 2.22
Area: 403484772
Amount: 7.436058
Amount Units: ug/ml

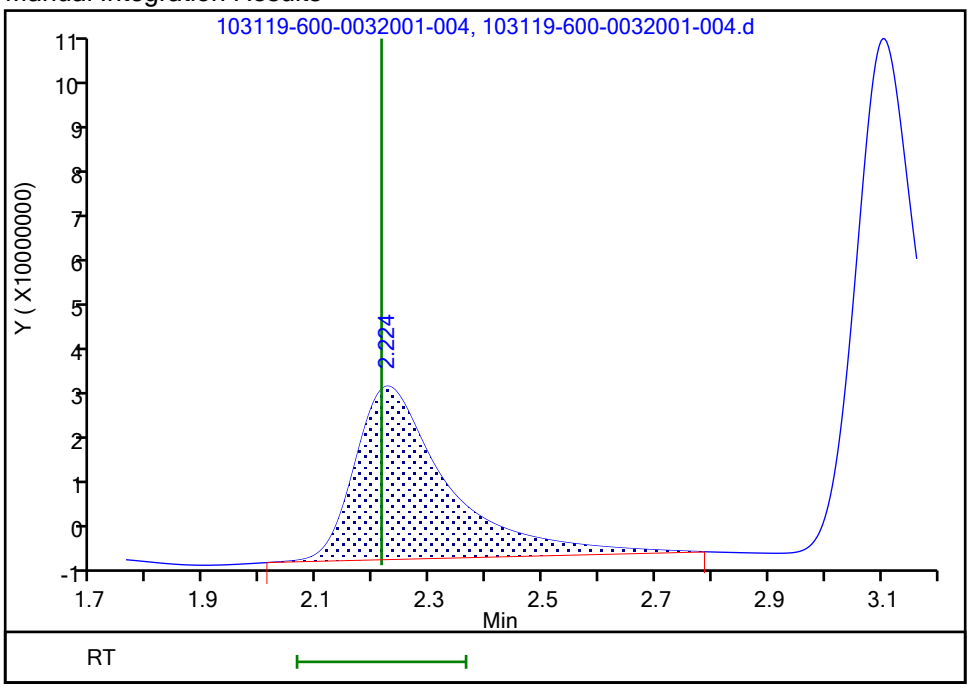

Reviewer: reachs, 31-Oct-2019 10:44:51

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-004.d				
Injection Date:	31-Oct-2019 04:17:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

2 Chloride, CAS: 16887-00-6

Signal: 1

Processing Integration Results

RT: 3.10
Area: 954377352
Amount: 20.870438
Amount Units: ug/ml

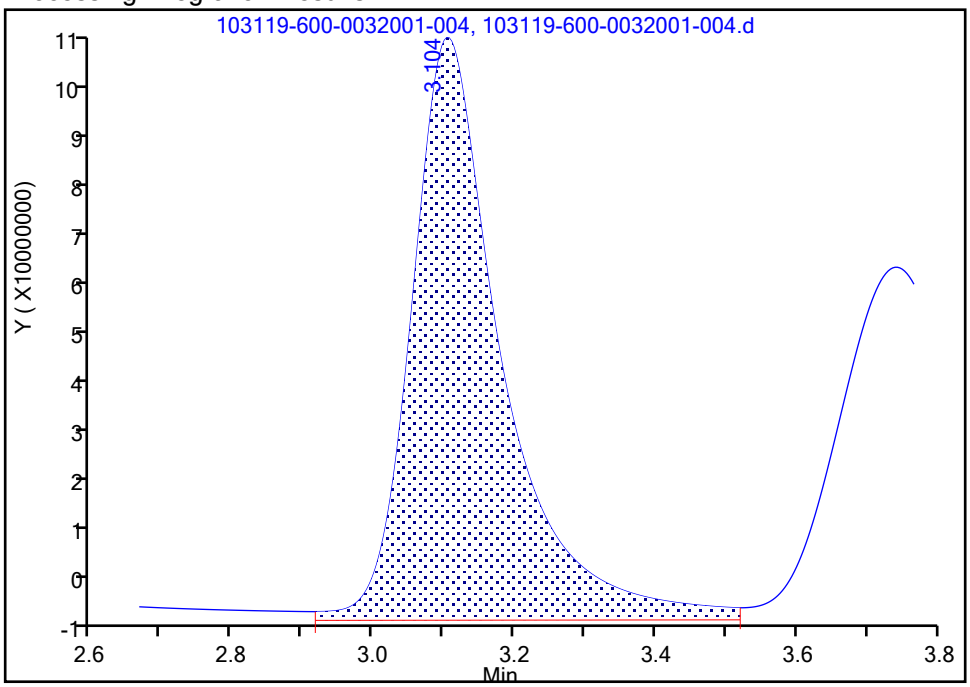

Manual Integration Results

RT: 3.10
Area: 884393796
Amount: 19.355347
Amount Units: ug/ml

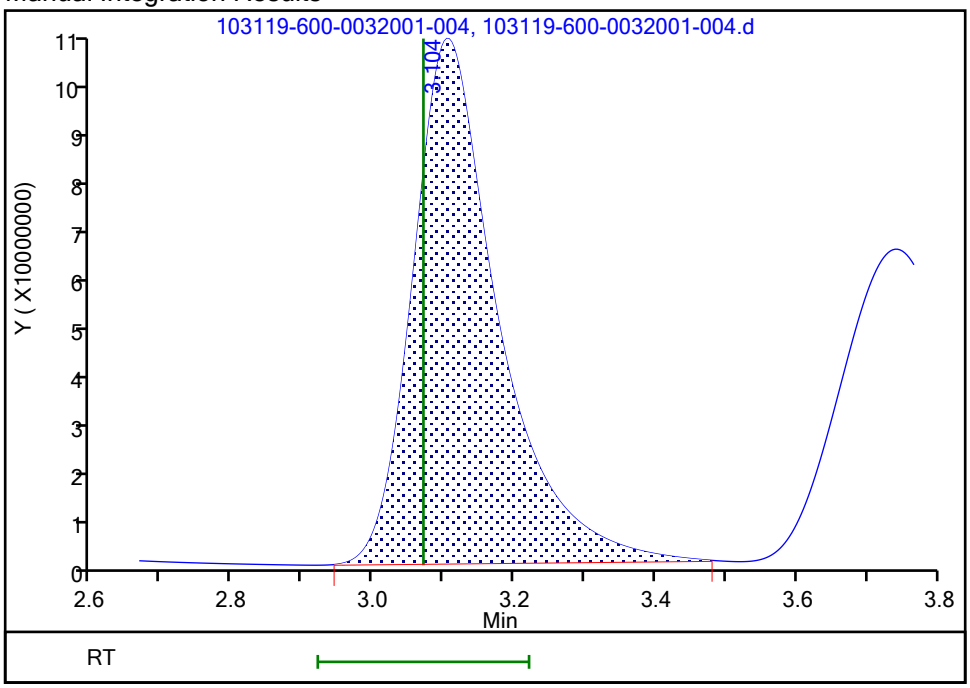

Reviewer: reachs, 31-Oct-2019 10:43:13

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-004.d				
Injection Date:	31-Oct-2019 04:17:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

1 Bromide, CAS: 24959-67-9

Signal: 1

Processing Integration Results

RT: 4.38
Area: 158254044
Amount: 11.656494
Amount Units: ug/ml

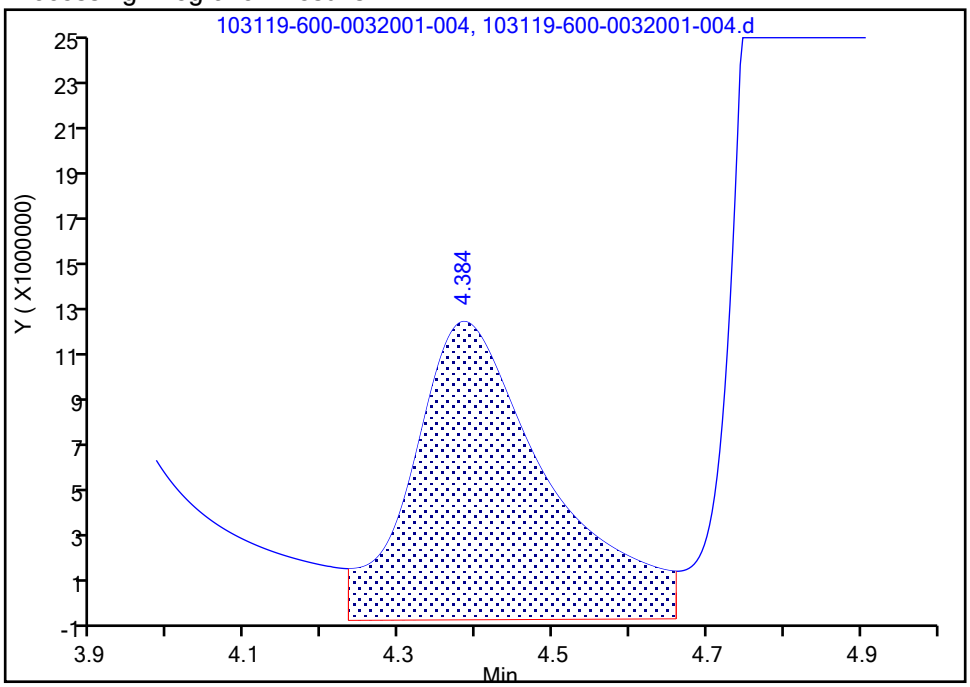

Manual Integration Results

RT: 4.38
Area: 102787855
Amount: 7.562457
Amount Units: ug/ml

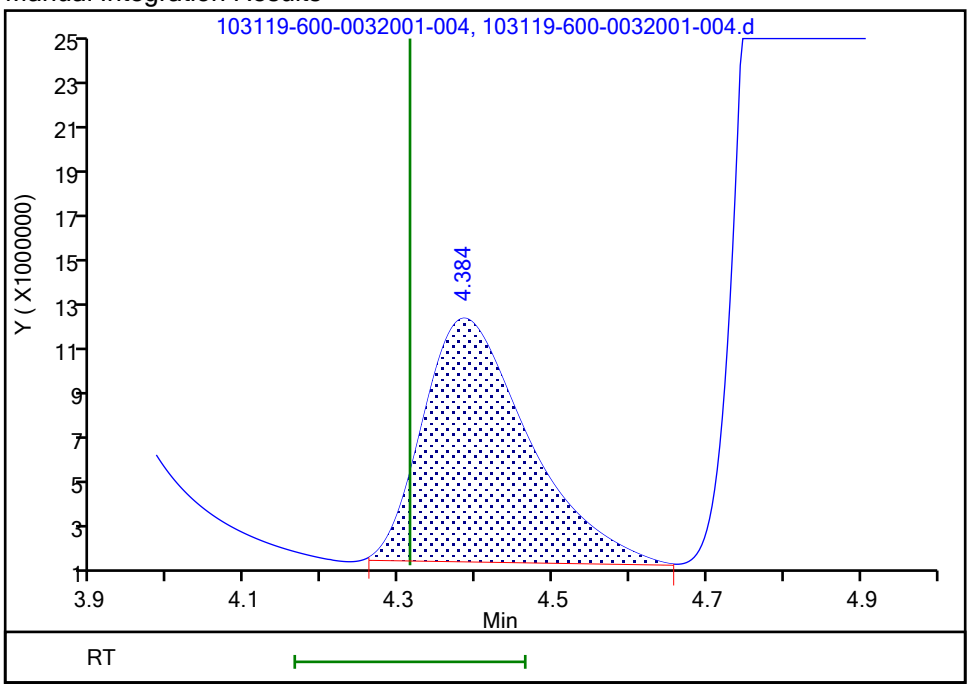

Reviewer: reachs, 31-Oct-2019 10:43:30

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-004.d				
Injection Date:	31-Oct-2019 04:17:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

5 Sulfate, CAS: 14808-79-8

Signal: 1

Processing Integration Results

RT: 6.98
Area: 652115900
Amount: 21.028754
Amount Units: ug/ml

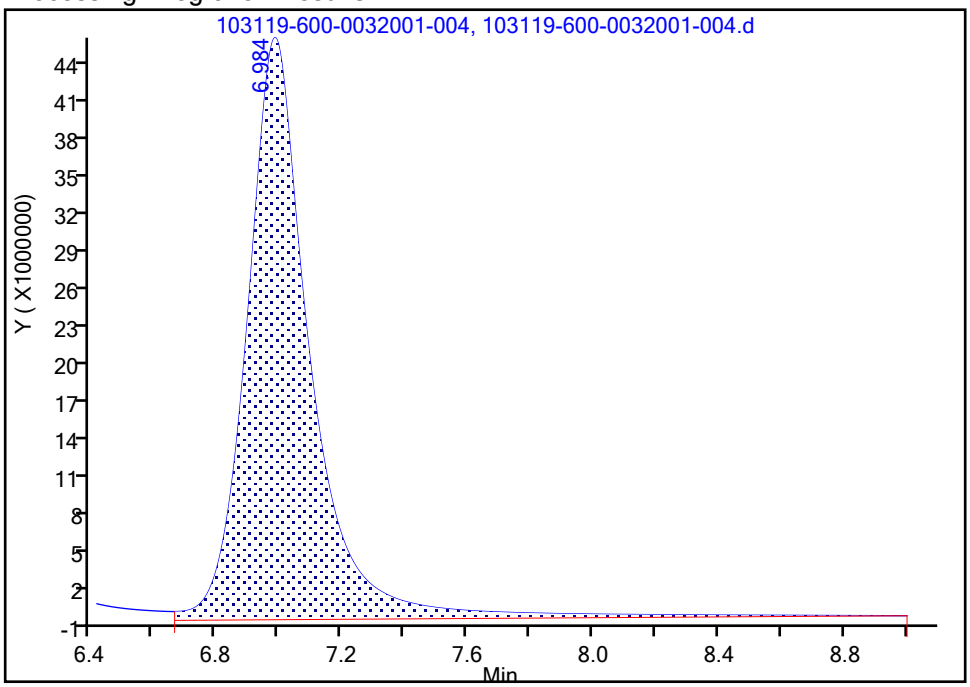

Manual Integration Results

RT: 6.98
Area: 607051200
Amount: 19.587815
Amount Units: ug/ml

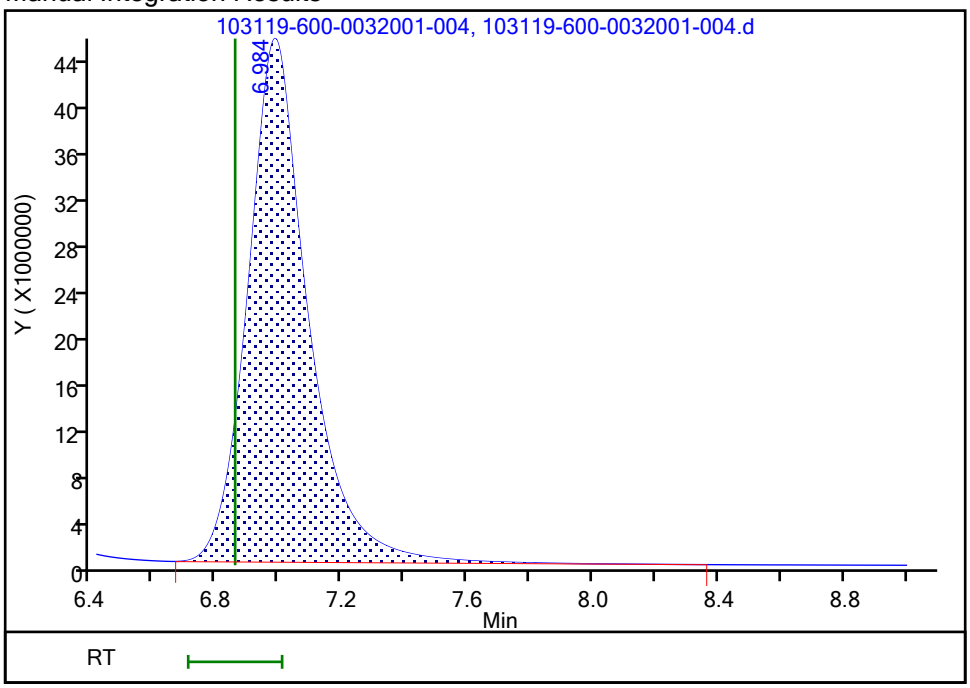

Reviewer: reachs, 31-Oct-2019 10:43:48

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-279039/4 Calibration Date: 10/31/2019 04:17

Instrument ID: CHWC17(IC) Calib Start Date: 10/24/2019 13:38

GC Column: AS22 ID: 2.00(mm) Calib End Date: 10/24/2019 14:43

Lab File ID: 103119-600-0032001-004.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitrite as N	Lin1		75625278		10.4	10.0	4.4	10.0
Nitrate as N	Lin1		111668050		9.61	10.0	-3.9	10.0

FORM VII 300.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-279039/4 Calibration Date: 10/31/2019 04:17

Instrument ID: CHWC17(IC) Calib Start Date: 10/24/2019 13:38

GC Column: AS22 ID: 2.00(mm) Calib End Date: 10/24/2019 14:43

Lab File ID: 103119-600-0032001-004.d

Analyte	RT	RT WINDOW	
		FROM	TO
Nitrite as N	3.74	3.54	3.84
Nitrate as N	4.84	4.61	4.91

Form VII 300.0

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-004.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 31-Oct-2019 04:17:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032001-004
Misc. Info.: ccv
Operator ID: Instrument ID: CHWC17(IC)
Sublist: chrom-CHWC17(IC)*sub2

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 01-Nov-2019 13:34:16 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0332

First Level Reviewer: reachs Date: 31-Oct-2019 10:46:46

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.224	2.214	0.010	403484772	NC	NC	M
	2 Chloride	3.104	3.071	0.033	884393796	NC	NC	M
	9 Nitrite as N	3.740	3.694	0.046	756252779	10.0	10.4	M
	1 Bromide	4.384	4.314	0.070	102787855	NC	NC	M
	3 Nitrate as N	4.837	4.761	0.076	1116680500	10.0	9.61	M
	5 Sulfate	6.984	6.857	0.127	607051200	NC	NC	M
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N						20.1	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

CCV_00112 Amount Added: 5.00 Units: mL

Report Date: 01-Nov-2019 13:34:17 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-004.d

Injection Date: 31-Oct-2019 04:17:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: CCV Worklist Smp#: 4

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_48hr

Column: AS-22 Dionex Lion Pac (2.00 mm)

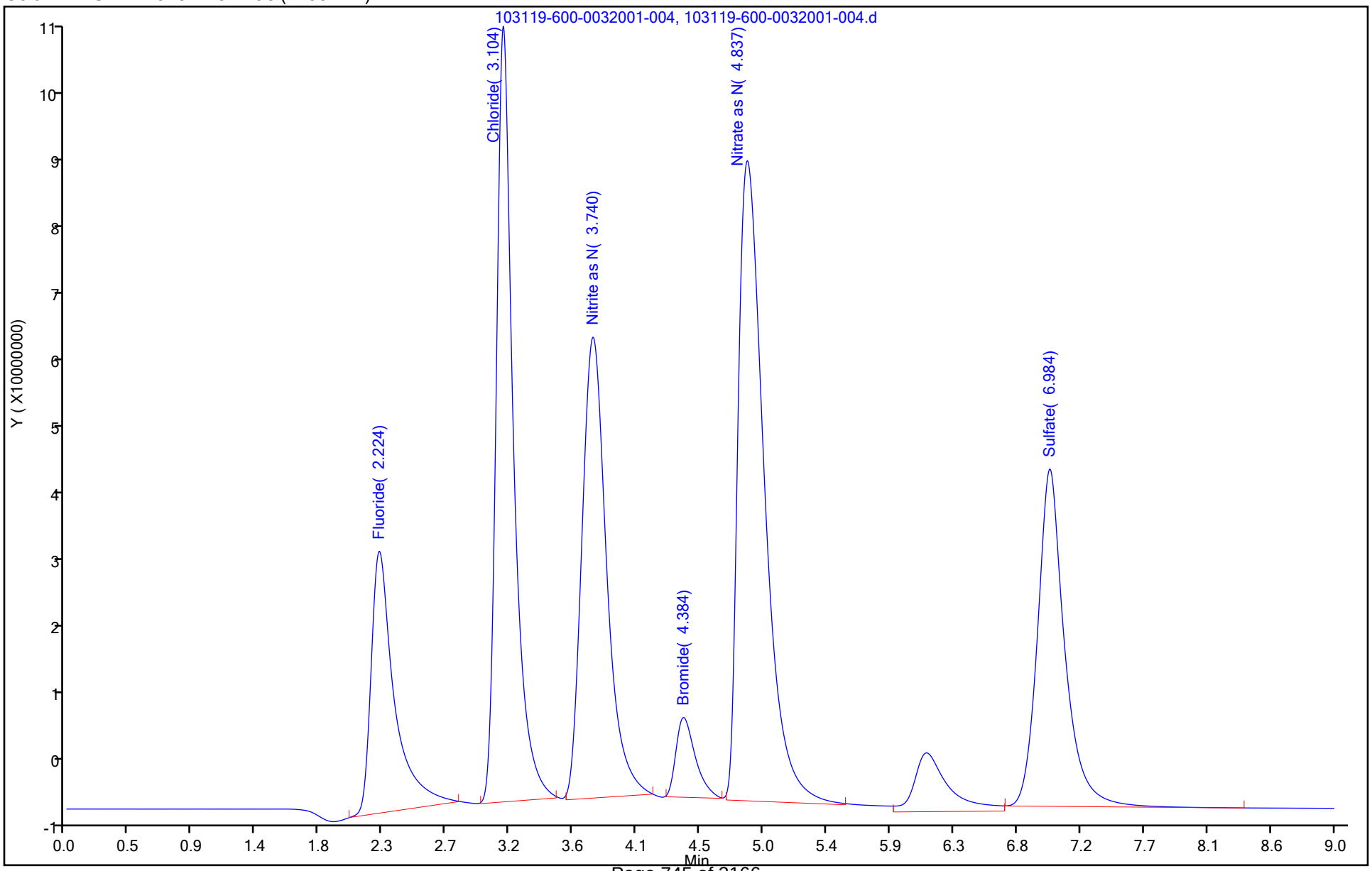

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-004.d				
Injection Date:	31-Oct-2019 04:17:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

9 Nitrite as N, CAS: 14797-65-0

Signal: 1

Processing Integration Results

RT: 3.74
Area: 856380135
Amount: 11.812938
Amount Units: ug/ml

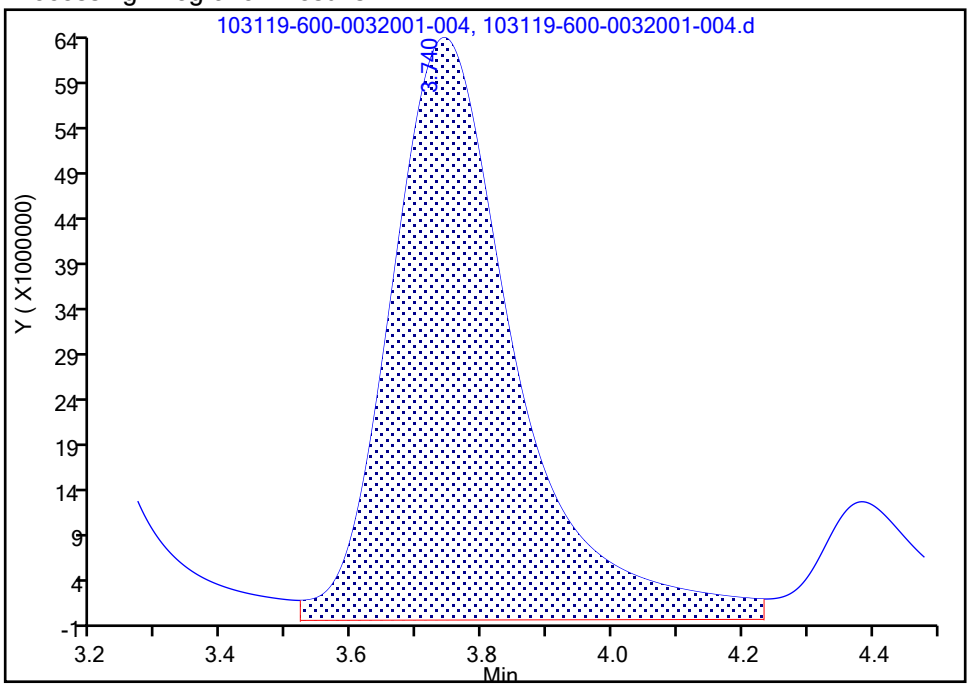

Manual Integration Results

RT: 3.74
Area: 756252779
Amount: 10.435870
Amount Units: ug/ml

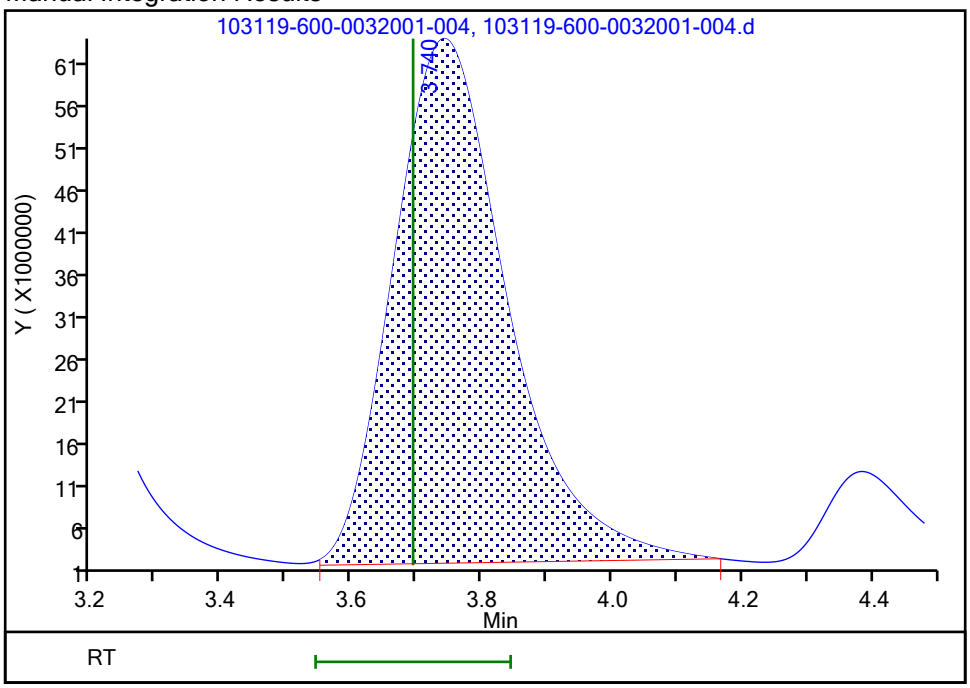

Reviewer: reachs, 31-Oct-2019 10:44:22

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-004.d				
Injection Date:	31-Oct-2019 04:17:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

3 Nitrate as N, CAS: 14797-55-8

Signal: 1

Processing Integration Results

RT: 4.84
Area: 1210686186
Amount: 10.414128
Amount Units: ug/ml

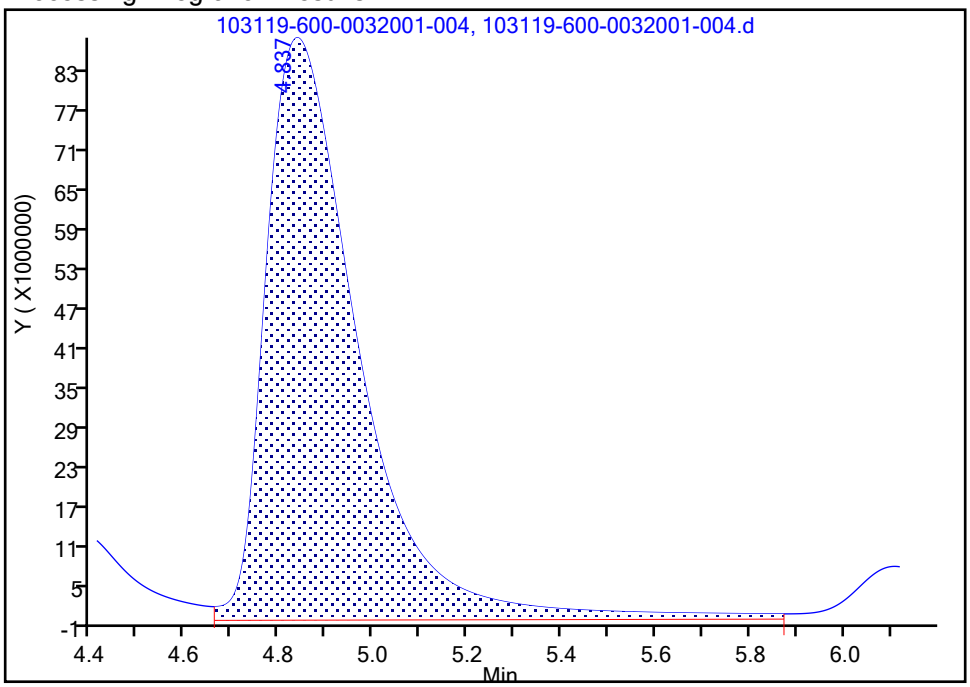

Manual Integration Results

RT: 4.84
Area: 1116680500
Amount: 9.614708
Amount Units: ug/ml

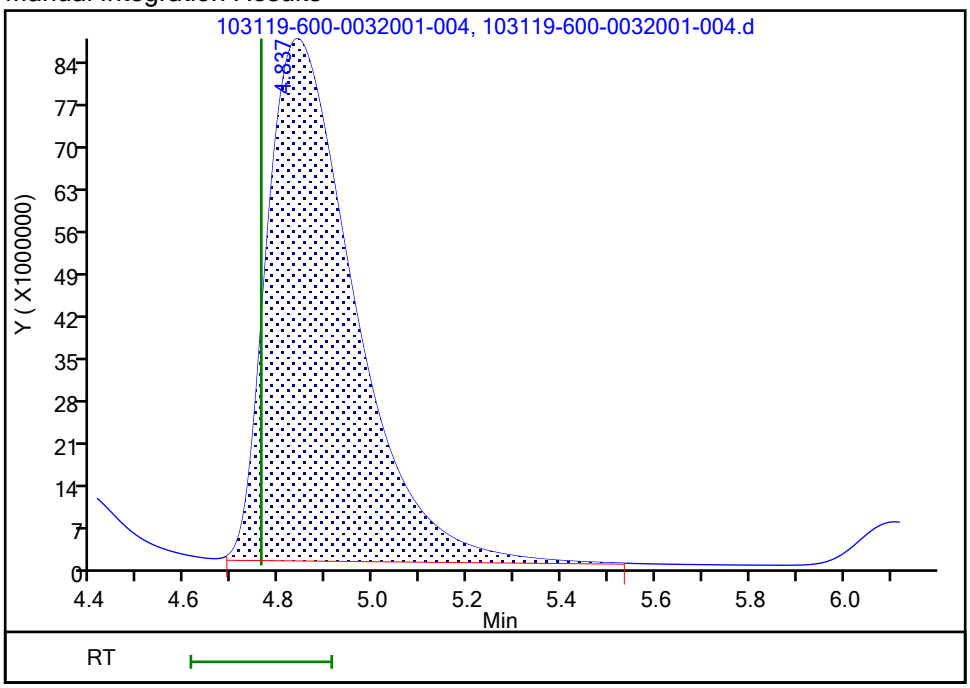

Reviewer: reachs, 31-Oct-2019 10:44:32

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-279038/16 Calibration Date: 10/31/2019 11:31

Instrument ID: CHWC17(IC) Calib Start Date: 10/24/2019 13:38

GC Column: AS22 ID: 2.00(mm) Calib End Date: 10/24/2019 14:43

Lab File ID: 103119-600-0032001-016.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin1		59069592		8.15	7.50	8.6	10.0
Chloride	Lin1		44145205		19.3	20.0	-3.4	10.0
Bromide	Lin1		14225922		7.85	7.50	4.7	10.0
Sulfate	Lin1		30407402		19.6	20.0	-1.9	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-279038/16 Calibration Date: 10/31/2019 11:31

Instrument ID: CHWC17(IC) Calib Start Date: 10/24/2019 13:38

GC Column: AS22 ID: 2.00(mm) Calib End Date: 10/24/2019 14:43

Lab File ID: 103119-600-0032001-016.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	2.20	2.06	2.36
Chloride	3.03	2.92	3.22
Bromide	4.23	4.16	4.46
Sulfate	6.83	6.71	7.01

Form VII 300.0

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-016.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 31-Oct-2019 11:31:00 ALS Bottle#: 0 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032001-016
Misc. Info.: ccv
Operator ID: Instrument ID: CHWC17(IC)
Sublist: chrom-CHWC17(IC)*sub2

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 01-Nov-2019 13:35:16 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0332

First Level Reviewer: reachs Date: 01-Nov-2019 12:22:55

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.197	2.214	-0.017	443021939	7.50	8.15	M
	2 Chloride	3.034	3.071	-0.037	882904096	20.0	19.3	M
	9 Nitrite as N	3.641	3.694	-0.053	754485372	NC	NC	M
	1 Bromide	4.234	4.314	-0.080	106694412	7.50	7.85	M
	3 Nitrate as N	4.677	4.761	-0.084	1120086309	NC	NC	M
	5 Sulfate	6.834	6.857	-0.023	608148037	20.0	19.6	M
S	8 Sulfate as Sulfur						19.6	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

CCV_00112 Amount Added: 5.00 Units: mL

Report Date: 01-Nov-2019 13:35:17 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-016.d

Injection Date:	31-Oct-2019 11:31:00	Instrument ID:	CHWC17(IC)	Operator ID:	
Lims ID:	CCV			Worklist Smp#:	16
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		

Column: AS-22 Dionex Lion Pac (2.00 mm)

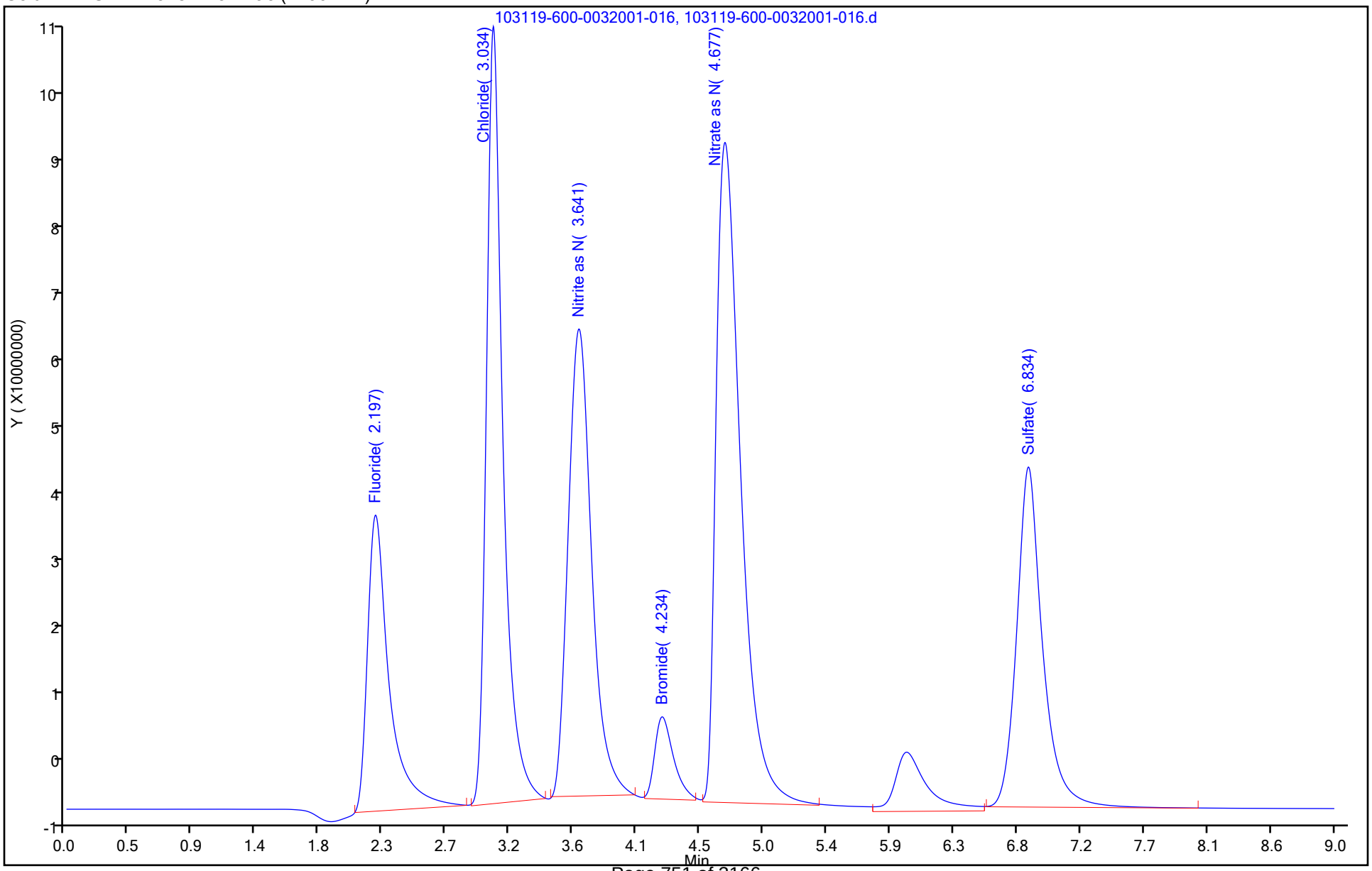

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-016.d				
Injection Date:	31-Oct-2019 11:31:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

7 Fluoride, CAS: 16984-48-8

Signal: 1

Processing Integration Results

RT: 2.20
Area: 481286964
Amount: 8.835563
Amount Units: ug/ml

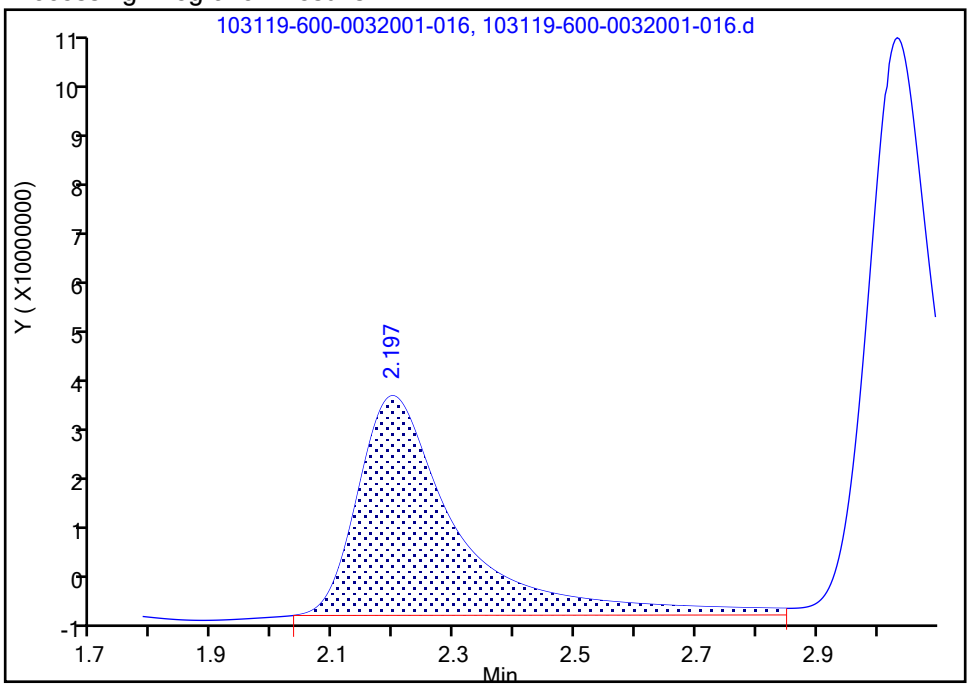

Manual Integration Results

RT: 2.20
Area: 443021939
Amount: 8.147252
Amount Units: ug/ml

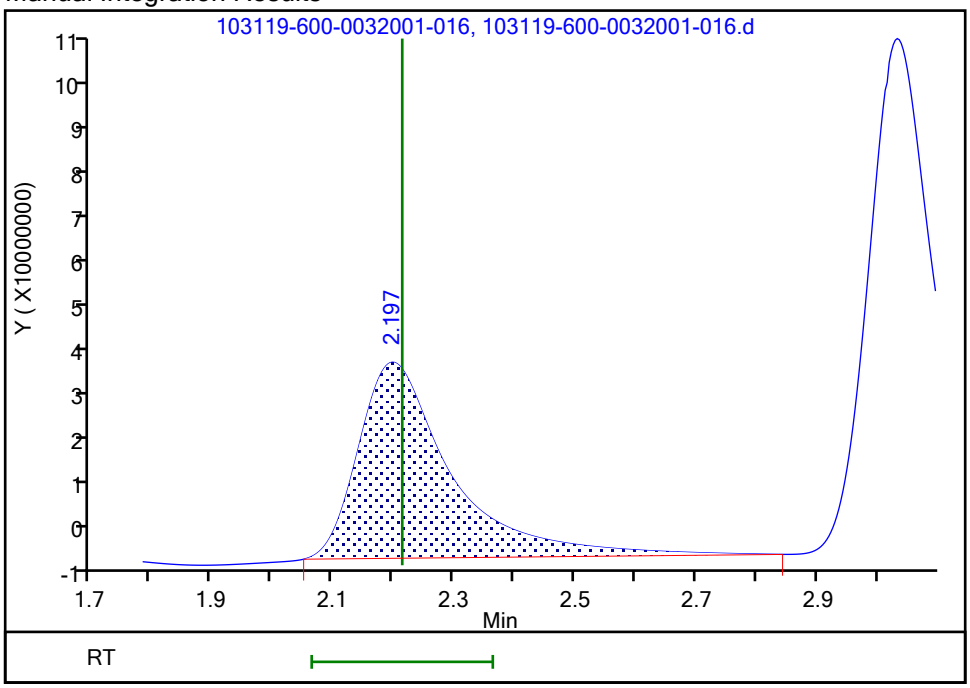

Reviewer: reachs, 01-Nov-2019 13:06:09
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-016.d				
Injection Date:	31-Oct-2019 11:31:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

2 Chloride, CAS: 16887-00-6

Signal: 1

Processing Integration Results

RT: 3.03
Area: 939446820
Amount: 20.547204
Amount Units: ug/ml

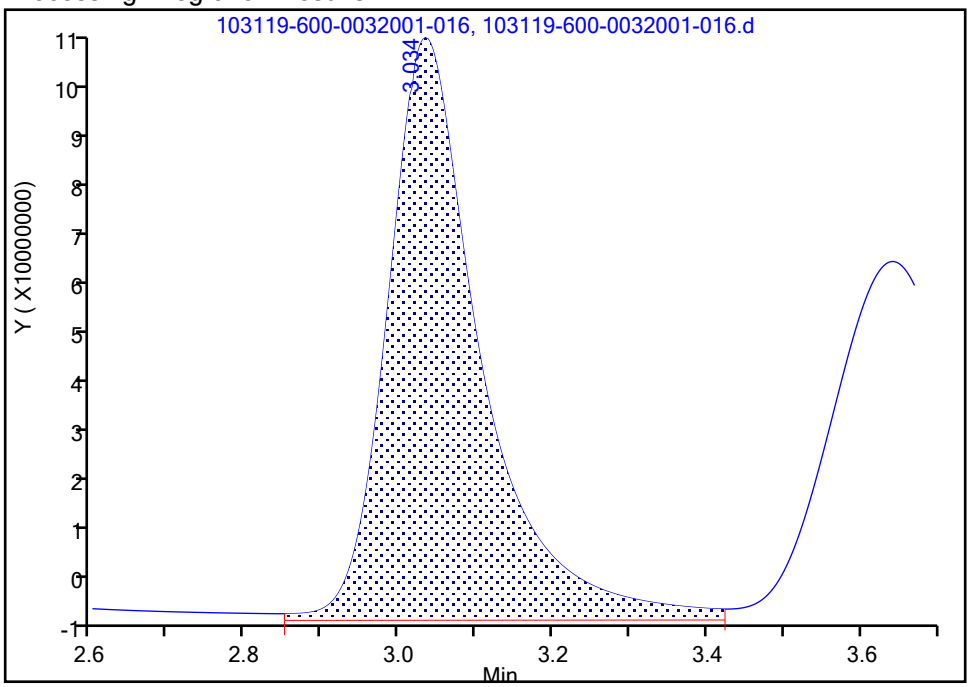

Manual Integration Results

RT: 3.03
Area: 882904096
Amount: 19.323096
Amount Units: ug/ml

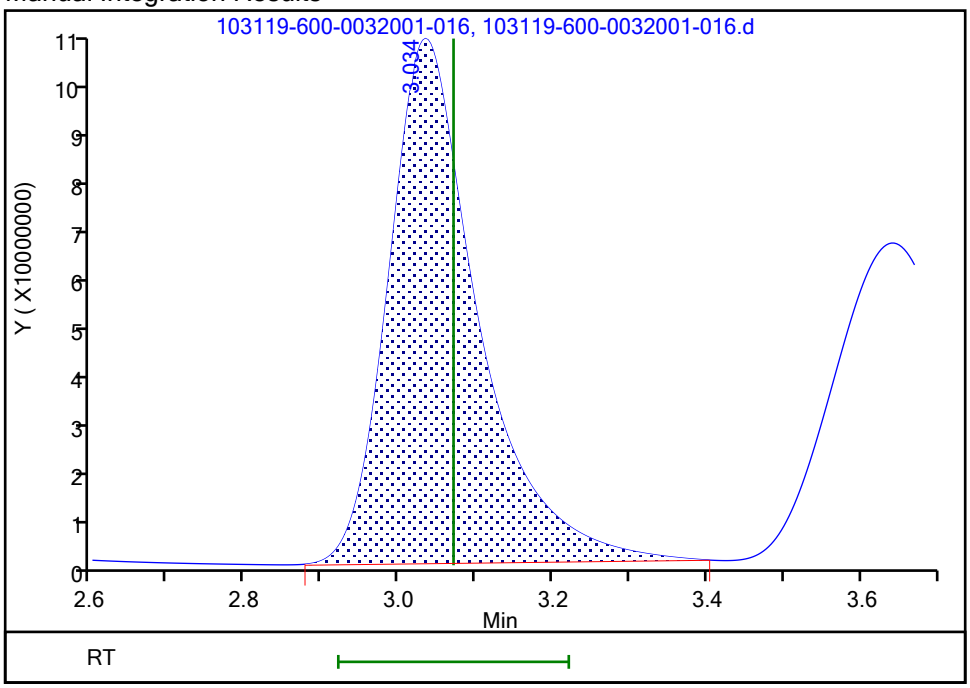

Reviewer: reachs, 01-Nov-2019 13:06:14

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-016.d				
Injection Date:	31-Oct-2019 11:31:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

1 Bromide, CAS: 24959-67-9

Signal: 1

Processing Integration Results

RT: 4.23
Area: 154342235
Amount: 11.367758
Amount Units: ug/ml

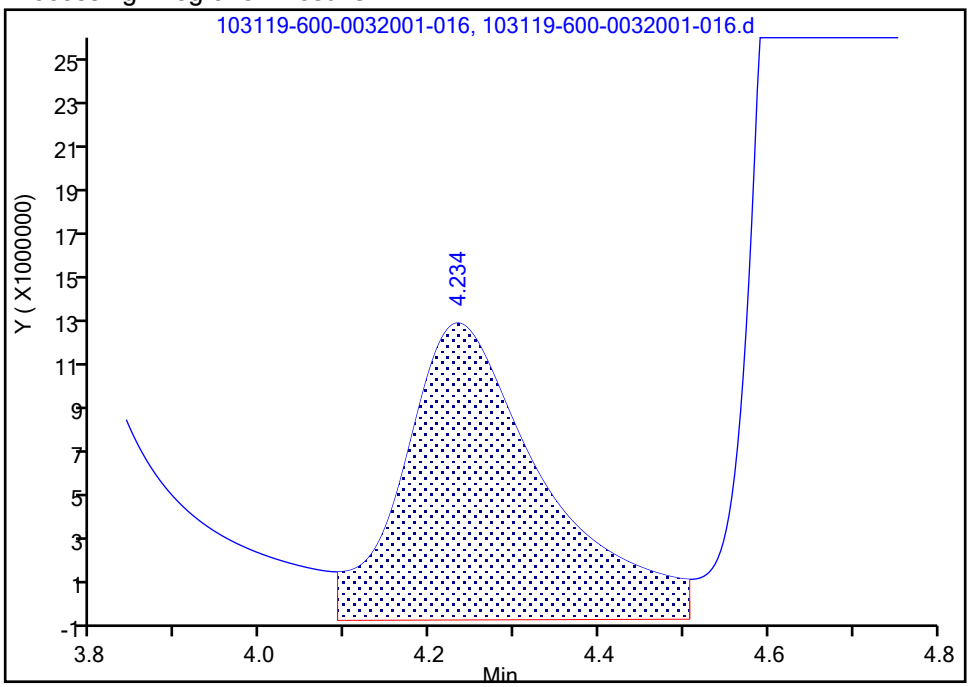

Manual Integration Results

RT: 4.23
Area: 106694412
Amount: 7.850806
Amount Units: ug/ml

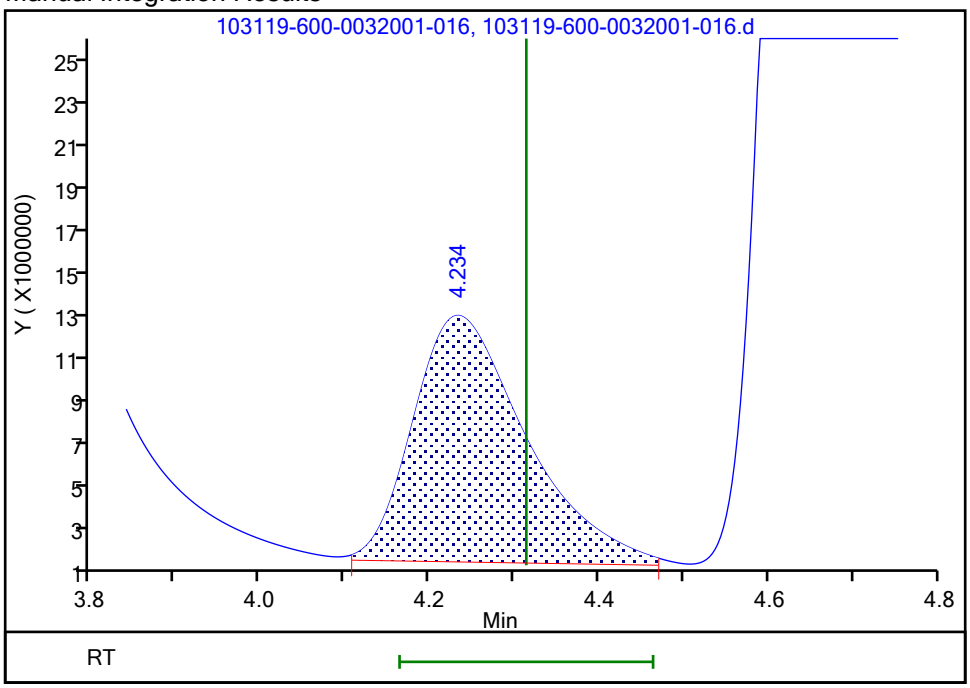

Reviewer: reachs, 01-Nov-2019 13:06:19
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-016.d				
Injection Date:	31-Oct-2019 11:31:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

5 Sulfate, CAS: 14808-79-8

Signal: 1

Processing Integration Results

RT: 6.83
Area: 648030553
Amount: 20.898125
Amount Units: ug/ml

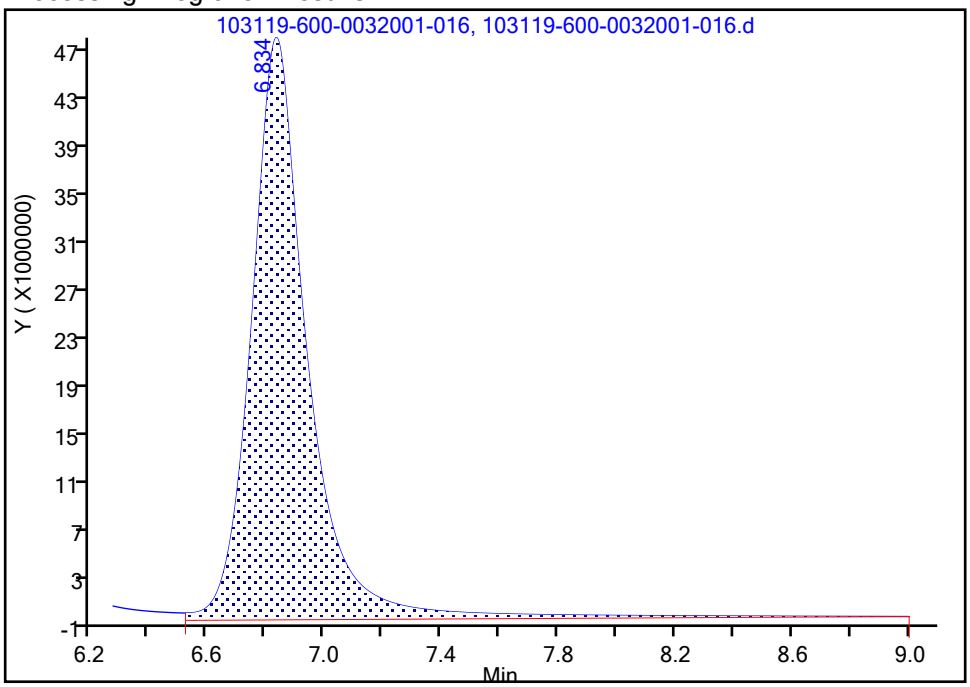

Manual Integration Results

RT: 6.83
Area: 608148037
Amount: 19.622886
Amount Units: ug/ml

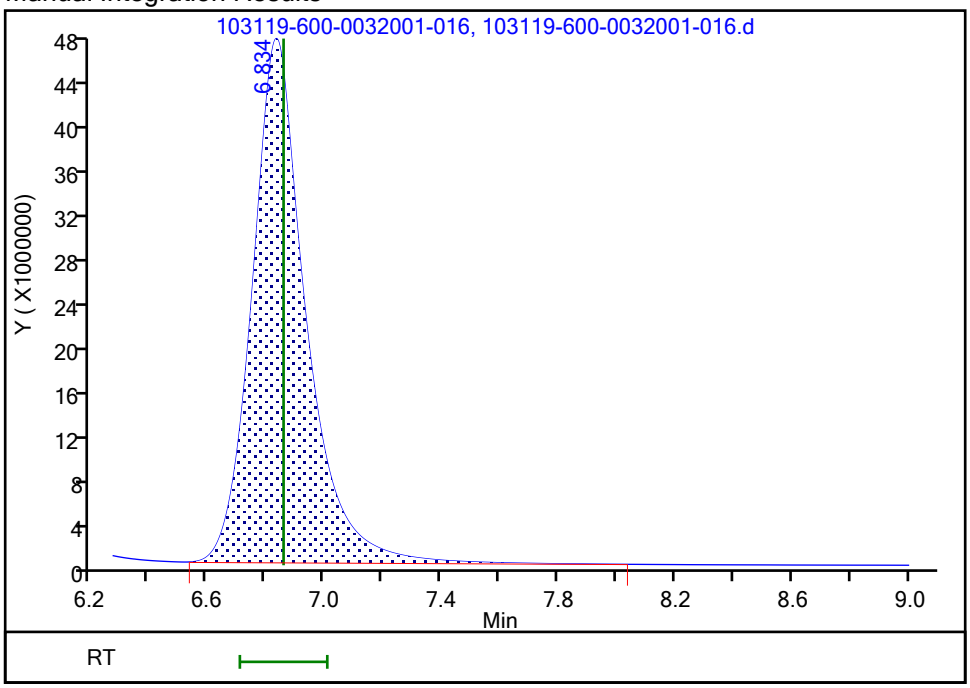

Reviewer: reachs, 01-Nov-2019 13:06:48

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-279039/16 Calibration Date: 10/31/2019 11:31

Instrument ID: CHWC17(IC) Calib Start Date: 10/24/2019 13:38

GC Column: AS22 ID: 2.00(mm) Calib End Date: 10/24/2019 14:43

Lab File ID: 103119-600-0032001-016.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitrite as N	Lin1		75448537		10.4	10.0	4.1	10.0
Nitrate as N	Lin1		112008631		9.64	10.0	-3.6	10.0

FORM VII 300.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-279039/16 Calibration Date: 10/31/2019 11:31

Instrument ID: CHWC17(IC) Calib Start Date: 10/24/2019 13:38

GC Column: AS22 ID: 2.00(mm) Calib End Date: 10/24/2019 14:43

Lab File ID: 103119-600-0032001-016.d

Analyte	RT	RT WINDOW	
		FROM	TO
Nitrite as N	3.64	3.54	3.84
Nitrate as N	4.68	4.61	4.91

Form VII 300.0

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-016.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 31-Oct-2019 11:31:00 ALS Bottle#: 0 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032001-016
Misc. Info.: ccv
Operator ID: Instrument ID: CHWC17(IC)
Sublist: chrom-CHWC17(IC)*sub2

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 01-Nov-2019 13:35:16 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0332

First Level Reviewer: reachs Date: 01-Nov-2019 12:22:55

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.197	2.214	-0.017	443021939	NC	NC	M
	2 Chloride	3.034	3.071	-0.037	882904096	NC	NC	M
	9 Nitrite as N	3.641	3.694	-0.053	754485372	10.0	10.4	M
	1 Bromide	4.234	4.314	-0.080	106694412	NC	NC	M
	3 Nitrate as N	4.677	4.761	-0.084	1120086309	10.0	9.64	M
	5 Sulfate	6.834	6.857	-0.023	608148037	NC	NC	M
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N						20.1	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

CCV_00112 Amount Added: 5.00 Units: mL

Report Date: 01-Nov-2019 13:35:18 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-016.d

Injection Date: 31-Oct-2019 11:31:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: CCV Worklist Smp#: 16

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_48hr

Column: AS-22 Dionex Lion Pac (2.00 mm)

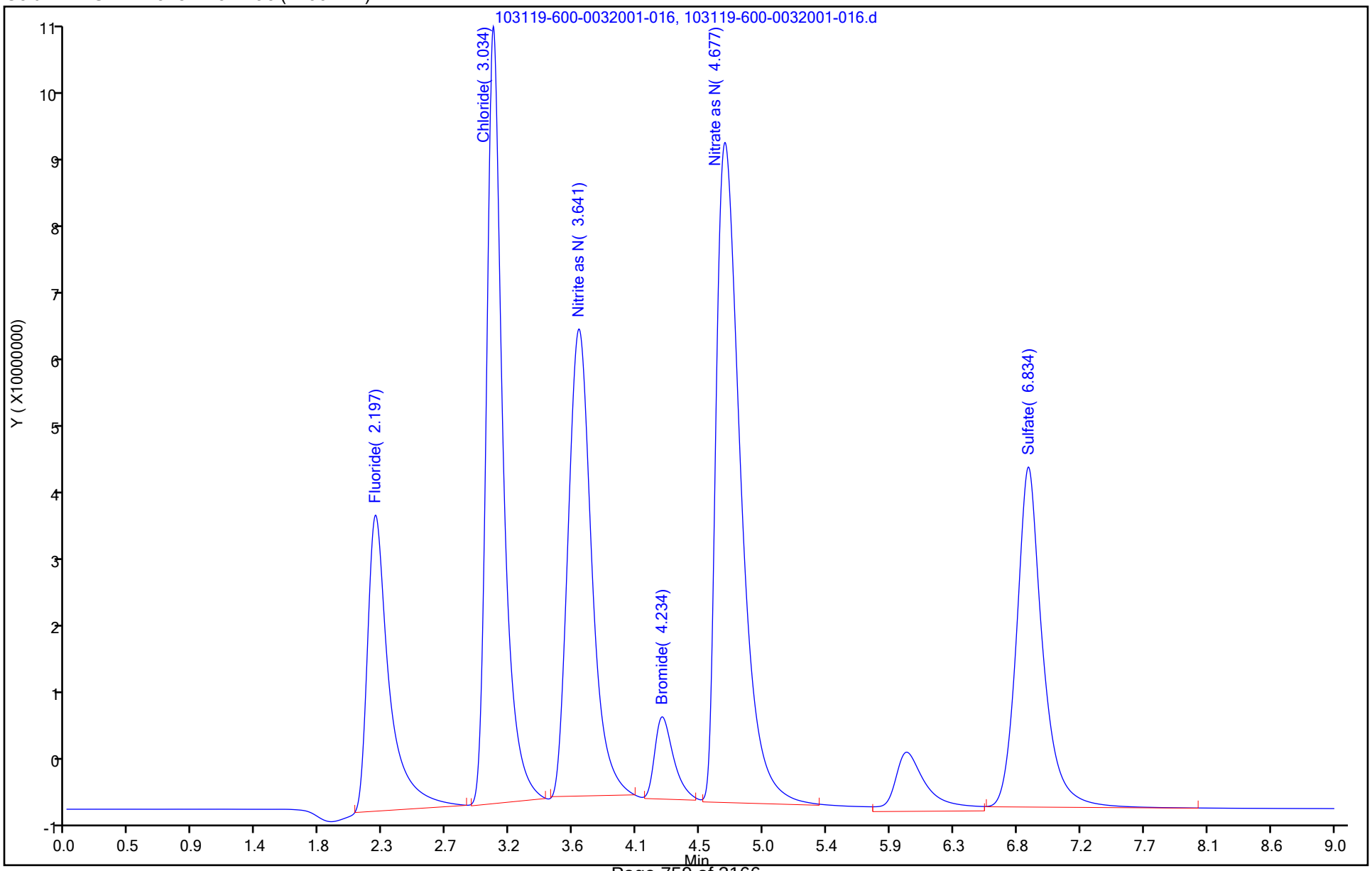

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-016.d				
Injection Date:	31-Oct-2019 11:31:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

9 Nitrite as N, CAS: 14797-65-0

Signal: 1

Processing Integration Results

RT: 3.64
Area: 852218945
Amount: 11.755709
Amount Units: ug/ml

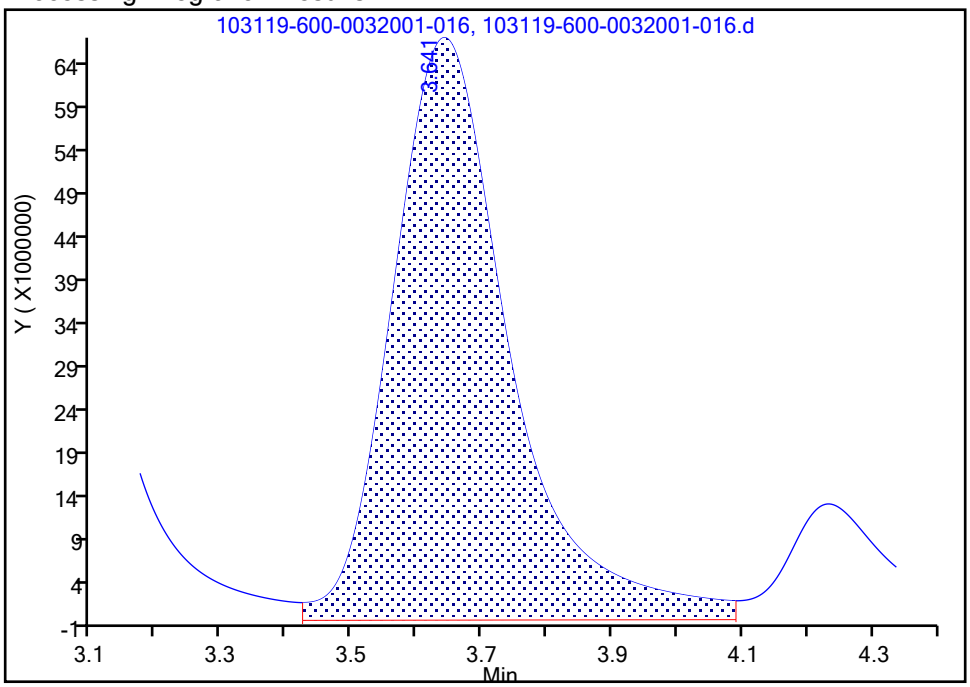

Manual Integration Results

RT: 3.64
Area: 754485372
Amount: 10.411562
Amount Units: ug/ml

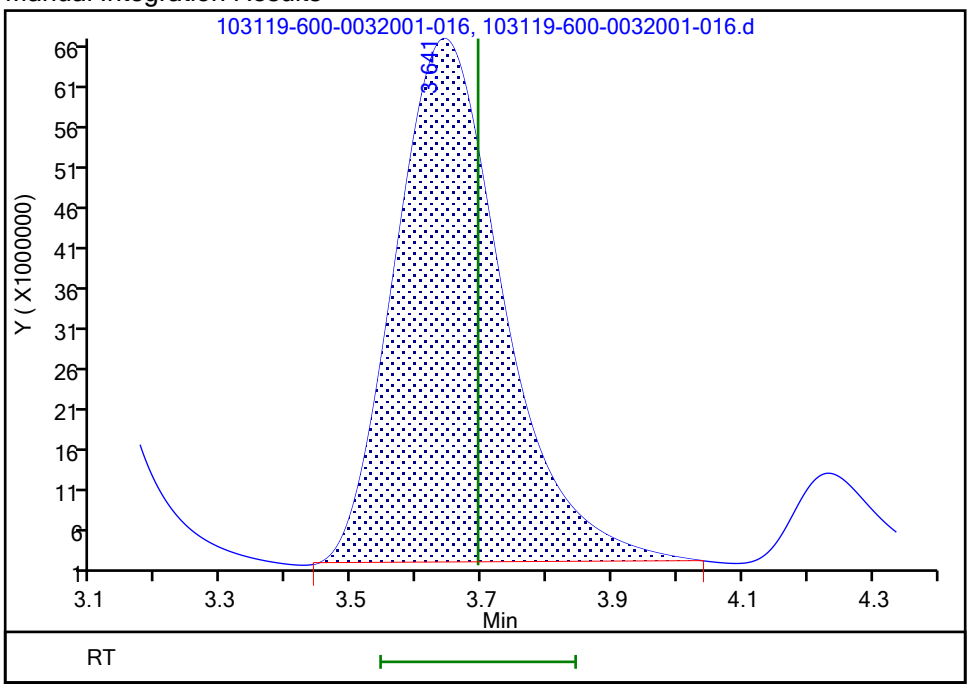

Reviewer: reachs, 01-Nov-2019 13:06:57

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-016.d				
Injection Date:	31-Oct-2019 11:31:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

3 Nitrate as N, CAS: 14797-55-8

Signal: 1

Processing Integration Results

RT: 4.68
Area: 1200696571
Amount: 10.329177
Amount Units: ug/ml

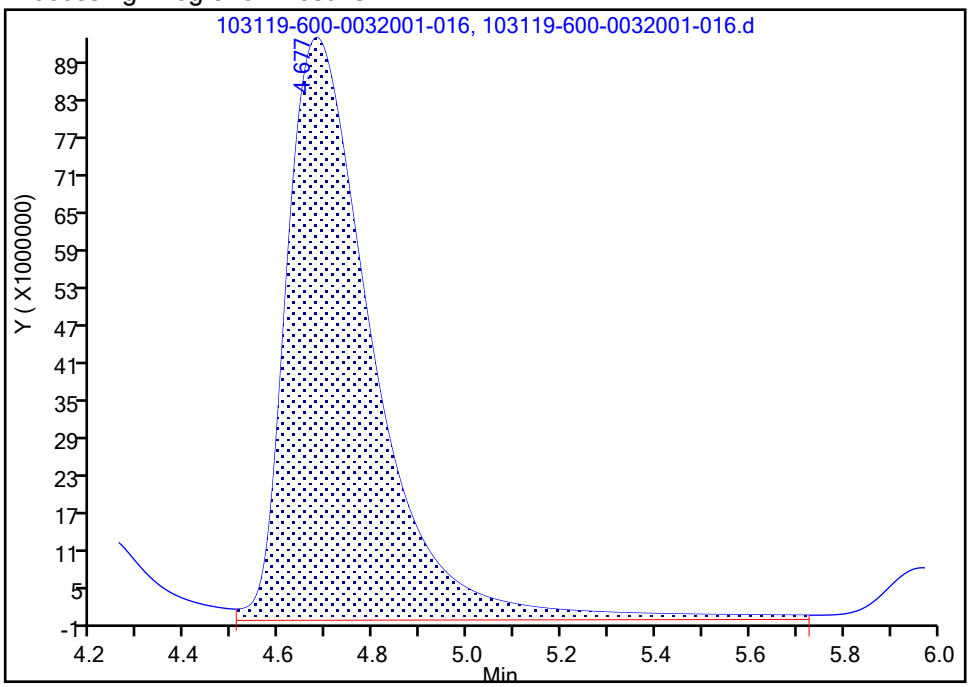

Manual Integration Results

RT: 4.68
Area: 1120086309
Amount: 9.643671
Amount Units: ug/ml

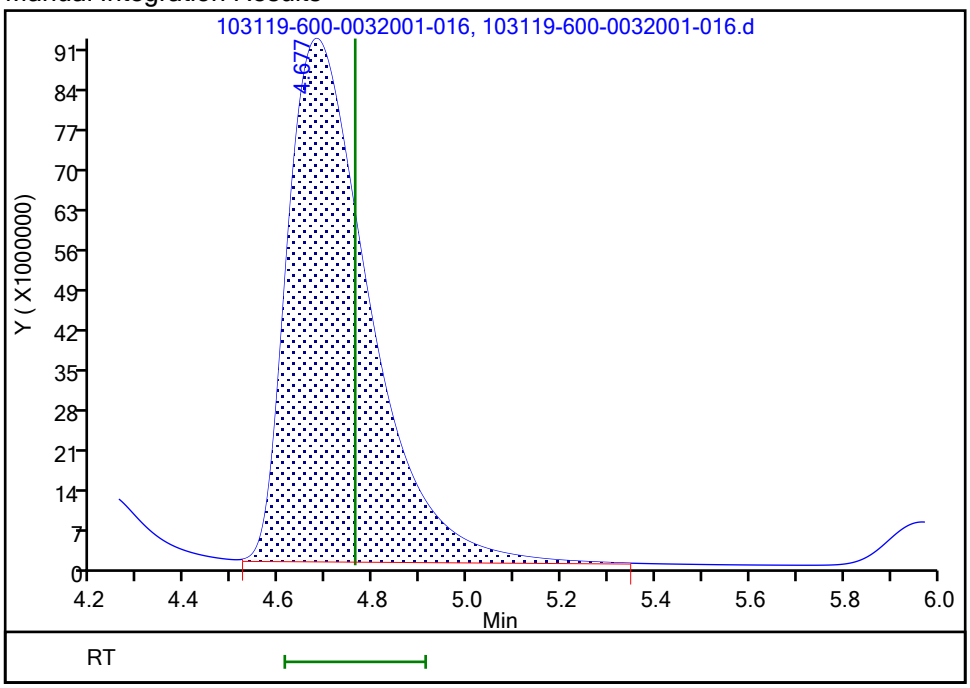

Reviewer: reachs, 01-Nov-2019 13:07:02

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-279038/28 Calibration Date: 10/31/2019 13:40

Instrument ID: CHWC17(IC) Calib Start Date: 10/24/2019 13:38

GC Column: AS22 ID: 2.00(mm) Calib End Date: 10/24/2019 14:43

Lab File ID: 103119-600-0032001-028.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin1		59463737		8.20	7.50	9.3	10.0
Chloride	Lin1		44439933		19.5	20.0	-2.7	10.0
Bromide	Lin1		13826919		7.63	7.50	1.7	10.0
Sulfate	Lin1		30658468		19.8	20.0	-1.1	10.0

FORM VII 300.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-279038/28 Calibration Date: 10/31/2019 13:40

Instrument ID: CHWC17(IC) Calib Start Date: 10/24/2019 13:38

GC Column: AS22 ID: 2.00(mm) Calib End Date: 10/24/2019 14:43

Lab File ID: 103119-600-0032001-028.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	2.20	2.06	2.36
Chloride	3.04	2.92	3.22
Bromide	4.25	4.16	4.46
Sulfate	6.85	6.71	7.01

Form VII 300.0

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-028.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 31-Oct-2019 13:40:00 ALS Bottle#: 0 Worklist Smp#: 28
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032001-028
Misc. Info.: ccv
Operator ID: Instrument ID: CHWC17(IC)
Sublist: chrom-CHWC17(IC)*sub2

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 01-Nov-2019 13:36:06 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0332

First Level Reviewer: reachs Date: 01-Nov-2019 12:35:55

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.204	2.214	-0.010	445978027	7.50	8.20	M
	2 Chloride	3.044	3.071	-0.027	888798653	20.0	19.5	M
	9 Nitrite as N	3.654	3.694	-0.040	769796449	NC	NC	M
	1 Bromide	4.247	4.314	-0.067	103701896	7.50	7.63	M
	3 Nitrate as N	4.694	4.761	-0.067	1119907655	NC	NC	M
	5 Sulfate	6.851	6.857	-0.006	613169366	20.0	19.8	M
S	8 Sulfate as Sulfur						19.8	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

CCV_00112 Amount Added: 5.00 Units: mL

Report Date: 01-Nov-2019 13:36:08 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-028.d

Injection Date: 31-Oct-2019 13:40:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: CCV Worklist Smp#: 28

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_28day

Column: AS-22 Dionex Lion Pac (2.00 mm)

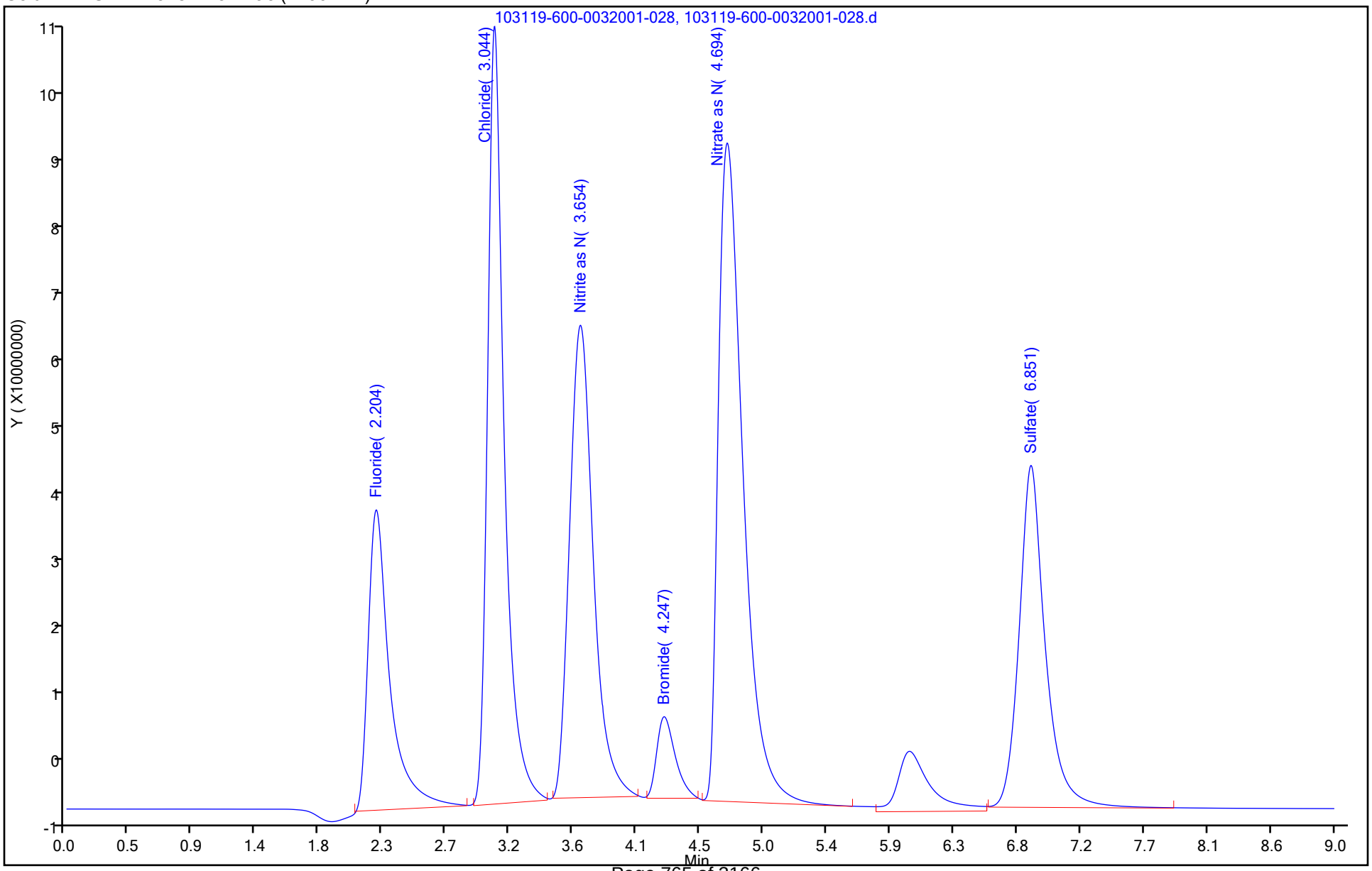

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-028.d				
Injection Date:	31-Oct-2019 13:40:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	28
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

7 Fluoride, CAS: 16984-48-8

Signal: 1

Processing Integration Results

RT: 2.20
Area: 490057264
Amount: 8.993323
Amount Units: ug/ml

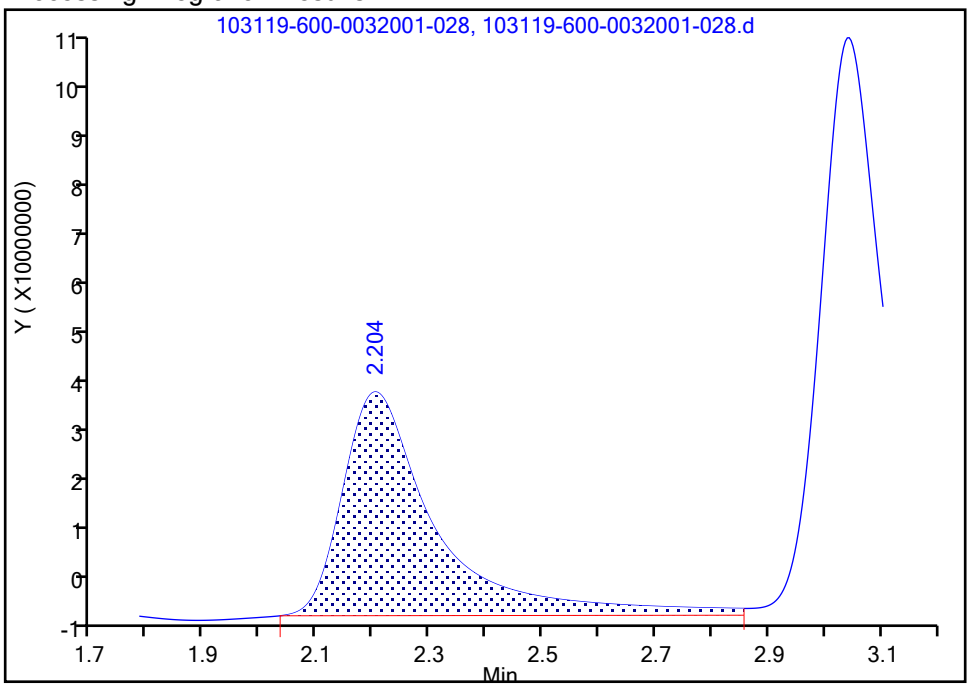

Manual Integration Results

RT: 2.20
Area: 445978027
Amount: 8.200426
Amount Units: ug/ml

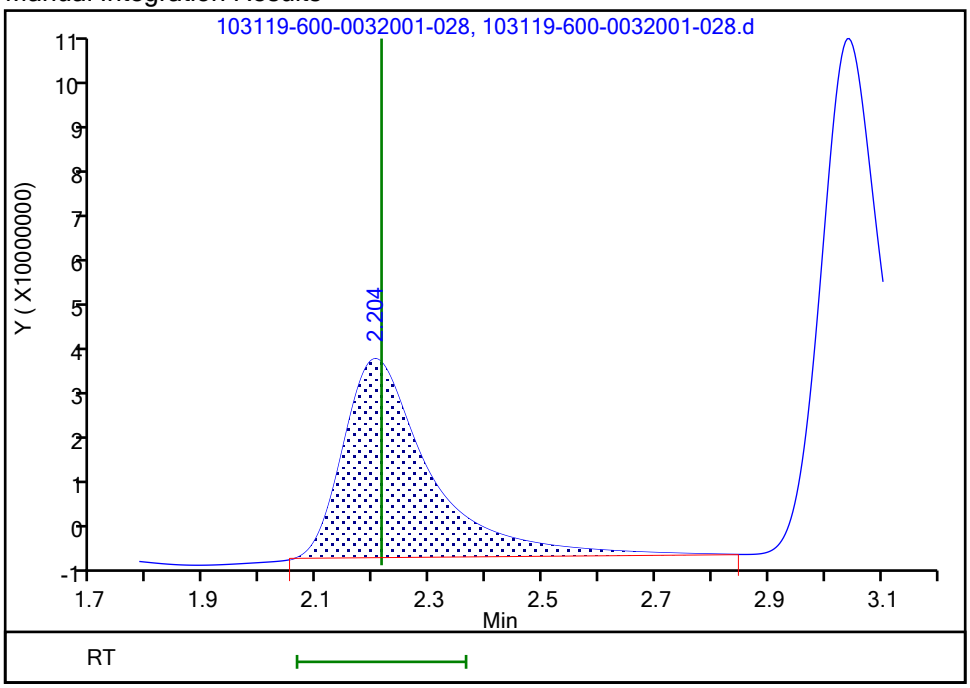

Reviewer: reachs, 01-Nov-2019 13:14:54

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-028.d				
Injection Date:	31-Oct-2019 13:40:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	28
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

2 Chloride, CAS: 16887-00-6

Signal: 1

Processing Integration Results

RT: 3.04
Area: 943813011
Amount: 20.641728
Amount Units: ug/ml

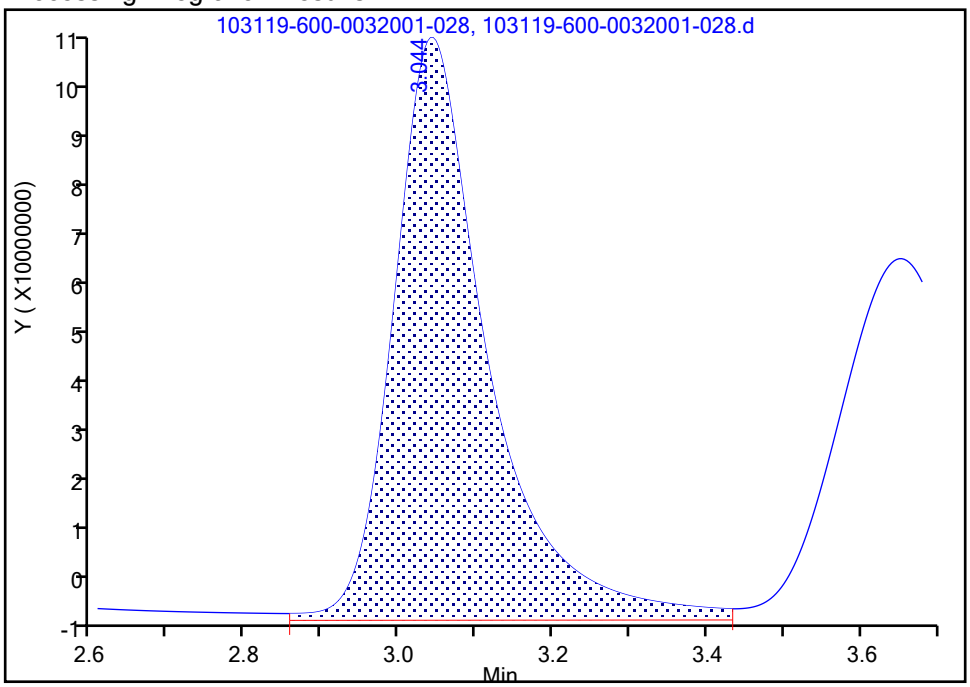

Manual Integration Results

RT: 3.04
Area: 888798653
Amount: 19.450709
Amount Units: ug/ml

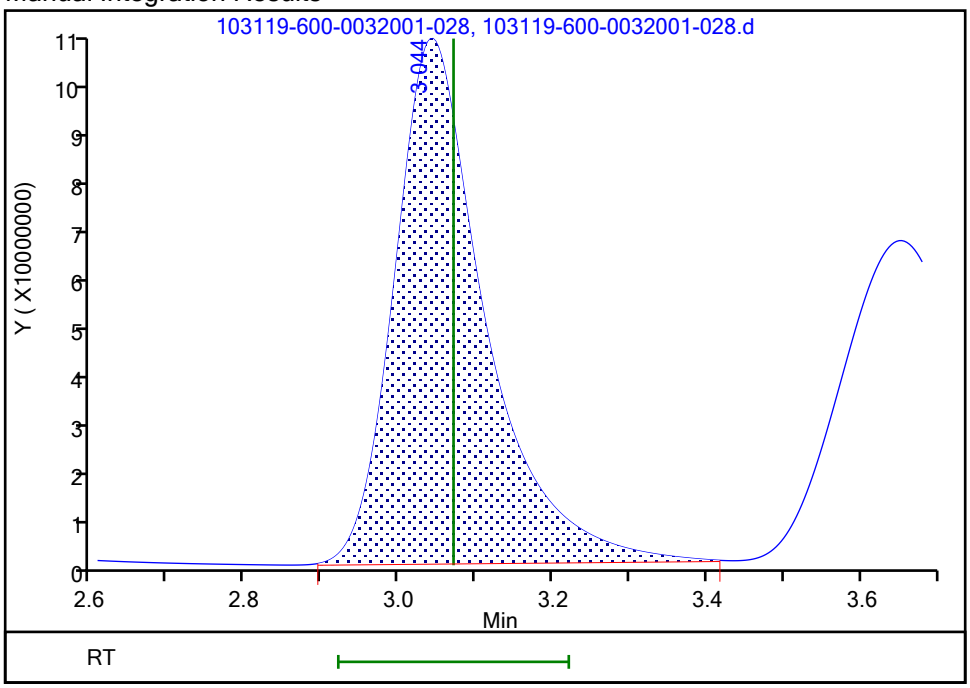

Reviewer: reachs, 01-Nov-2019 13:15:00

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-028.d				
Injection Date:	31-Oct-2019 13:40:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	28
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

1 Bromide, CAS: 24959-67-9

Signal: 1

Processing Integration Results

RT: 4.25
Area: 155845617
Amount: 11.478725
Amount Units: ug/ml

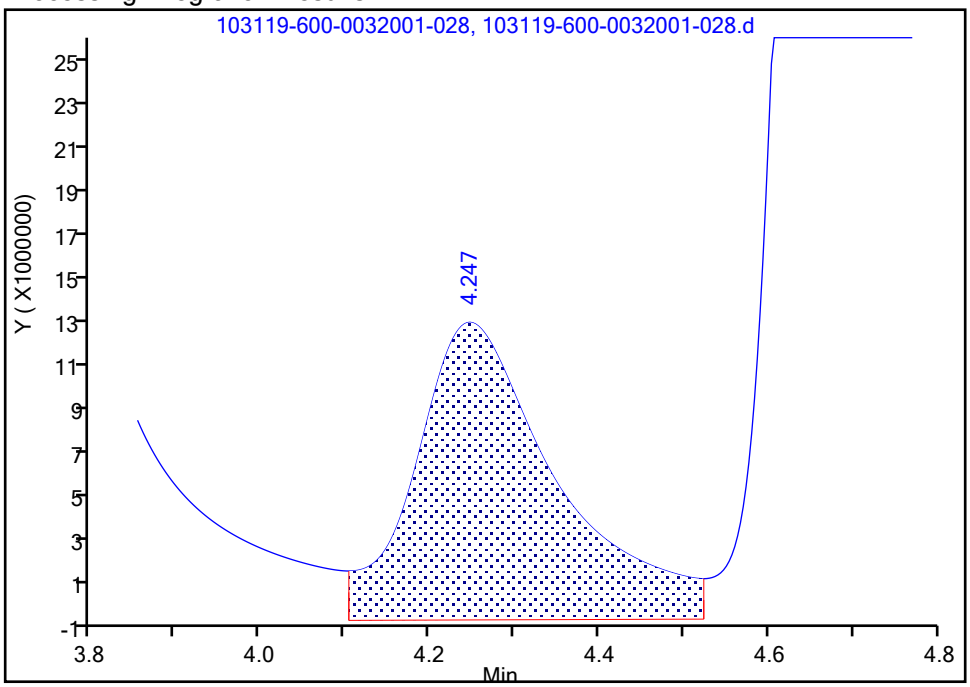

Manual Integration Results

RT: 4.25
Area: 103701896
Amount: 7.629924
Amount Units: ug/ml

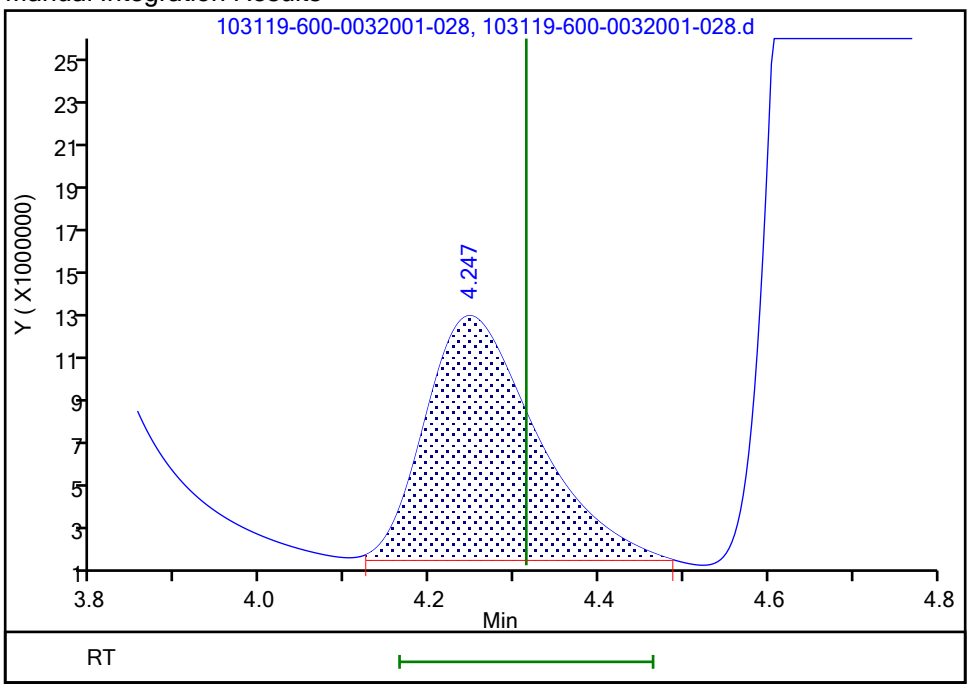

Reviewer: reachs, 01-Nov-2019 13:15:04
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-028.d				
Injection Date:	31-Oct-2019 13:40:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	28
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

5 Sulfate, CAS: 14808-79-8

Signal: 1

Processing Integration Results

RT: 6.85
Area: 651941933
Amount: 21.023191
Amount Units: ug/ml

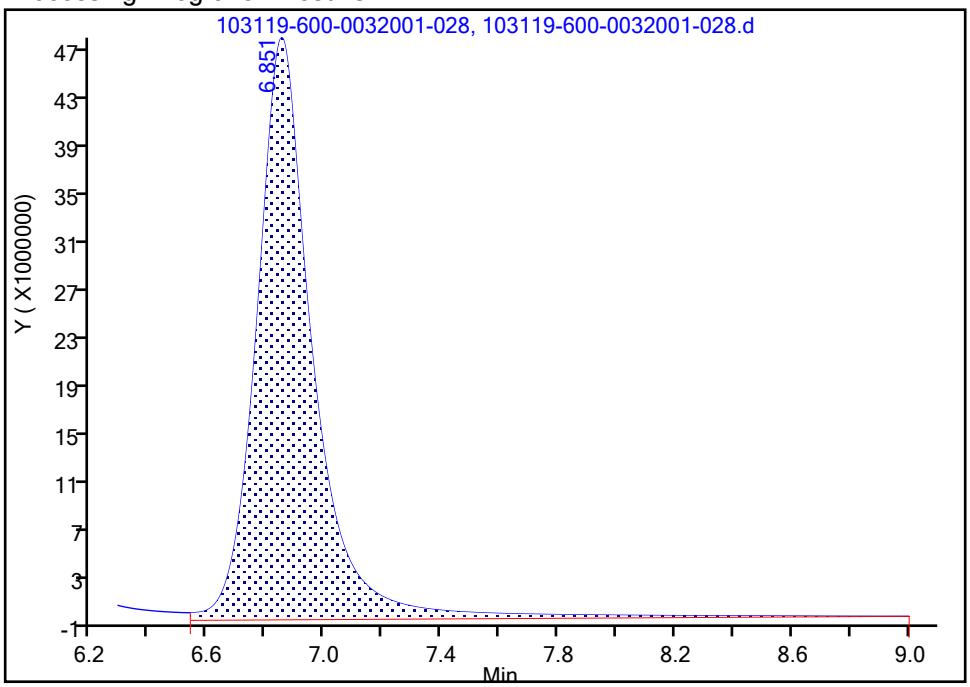

Manual Integration Results

RT: 6.85
Area: 613169366
Amount: 19.783443
Amount Units: ug/ml

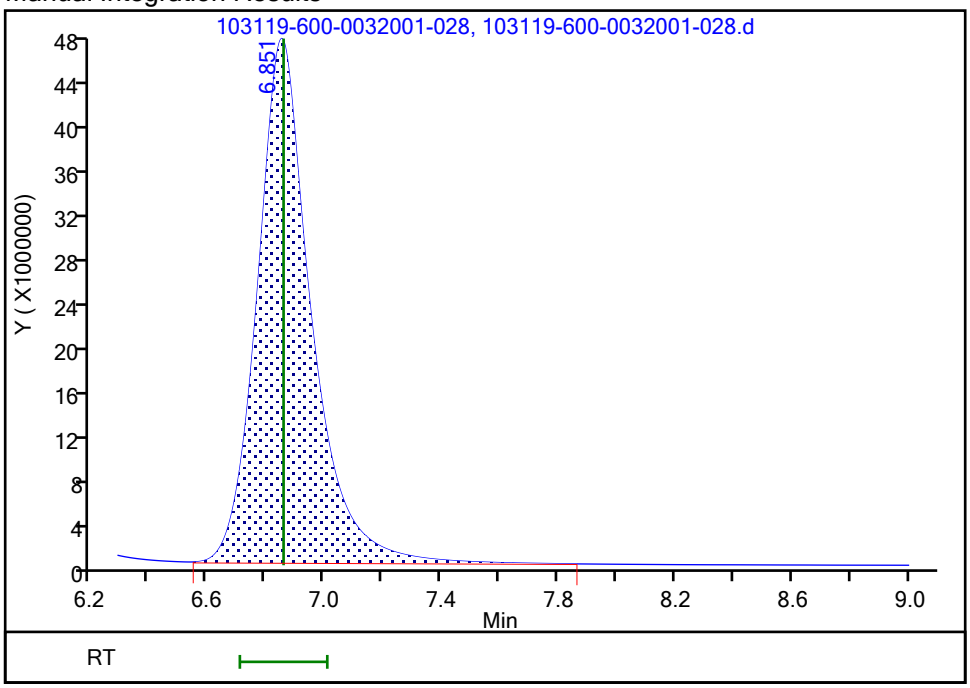

Reviewer: reachs, 01-Nov-2019 13:15:15

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-279039/28 Calibration Date: 10/31/2019 13:40

Instrument ID: CHWC17(IC) Calib Start Date: 10/24/2019 13:38

GC Column: AS22 ID: 2.00(mm) Calib End Date: 10/24/2019 14:43

Lab File ID: 103119-600-0032001-028.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitrite as N	Lin1		76979645		10.6	10.0	6.2	10.0
Nitrate as N	Lin1		111990766		9.64	10.0	-3.6	10.0

FORM VII 300.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 600-279039/28 Calibration Date: 10/31/2019 13:40

Instrument ID: CHWC17(IC) Calib Start Date: 10/24/2019 13:38

GC Column: AS22 ID: 2.00(mm) Calib End Date: 10/24/2019 14:43

Lab File ID: 103119-600-0032001-028.d

Analyte	RT	RT WINDOW	
		FROM	TO
Nitrite as N	3.65	3.54	3.84
Nitrate as N	4.69	4.61	4.91

Form VII 300.0

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-028.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 31-Oct-2019 13:40:00 ALS Bottle#: 0 Worklist Smp#: 28
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032001-028
Misc. Info.: ccv
Operator ID: Instrument ID: CHWC17(IC)
Sublist: chrom-CHWC17(IC)*sub2

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 01-Nov-2019 13:36:06 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0332

First Level Reviewer: reachs Date: 01-Nov-2019 12:35:55

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.204	2.214	-0.010	445978027	NC	NC	M
	2 Chloride	3.044	3.071	-0.027	888798653	NC	NC	M
	9 Nitrite as N	3.654	3.694	-0.040	769796449	10.0	10.6	M
	1 Bromide	4.247	4.314	-0.067	103701896	NC	NC	M
	3 Nitrate as N	4.694	4.761	-0.067	1119907655	10.0	9.64	M
	5 Sulfate	6.851	6.857	-0.006	613169366	NC	NC	M
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N						20.3	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

CCV_00112 Amount Added: 5.00 Units: mL

Report Date: 01-Nov-2019 13:36:09 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-028.d

Injection Date: 31-Oct-2019 13:40:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: CCV Worklist Smp#: 28

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_48hr

Column: AS-22 Dionex Lion Pac (2.00 mm)

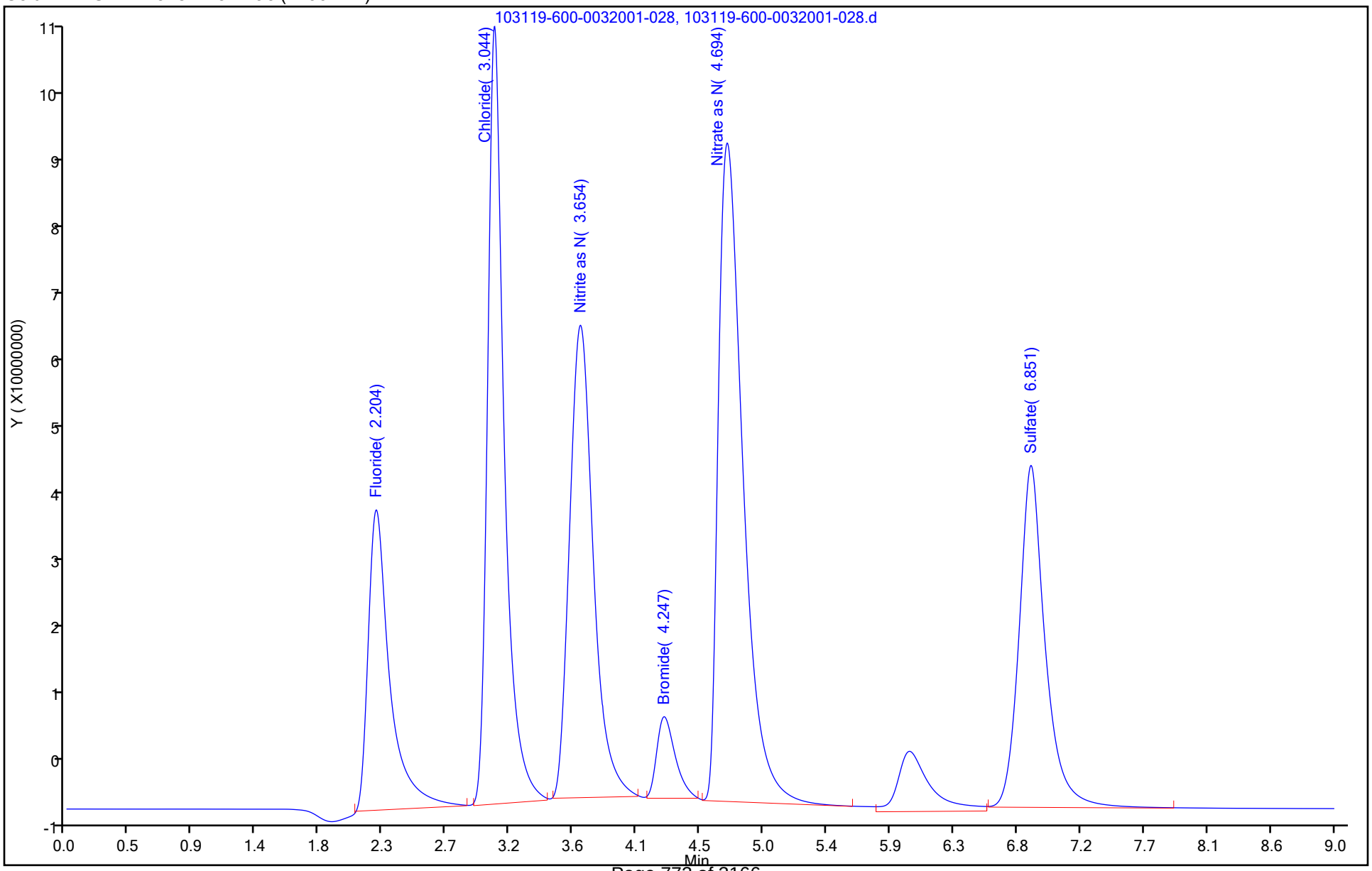

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-028.d				
Injection Date:	31-Oct-2019 13:40:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	28
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

9 Nitrite as N, CAS: 14797-65-0

Signal: 1

Processing Integration Results

RT: 3.65
Area: 861248926
Amount: 11.879900
Amount Units: ug/ml

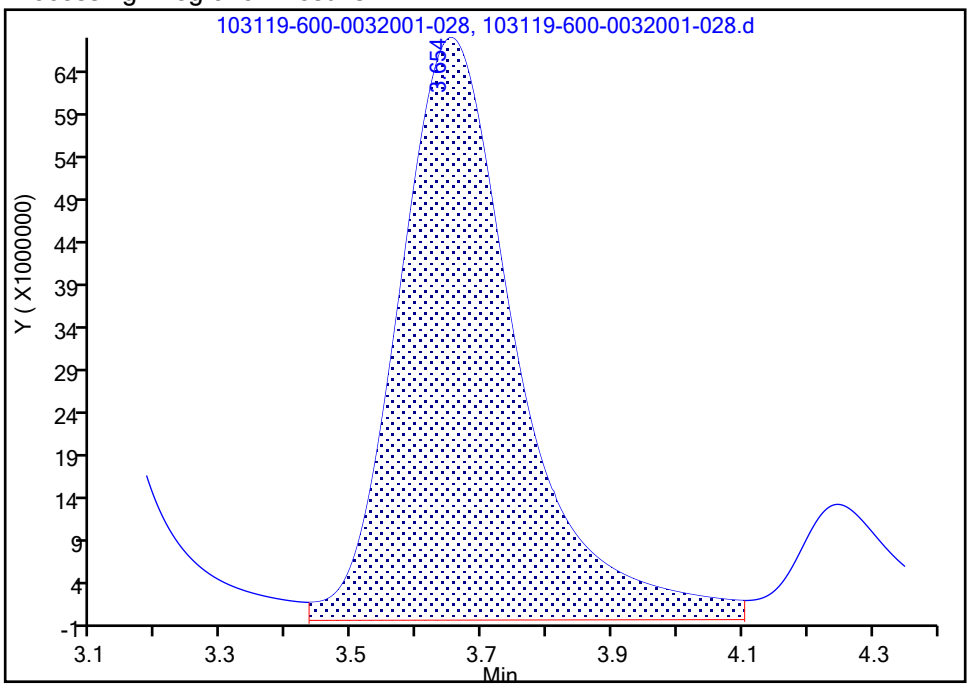

Manual Integration Results

RT: 3.65
Area: 769796449
Amount: 10.622138
Amount Units: ug/ml

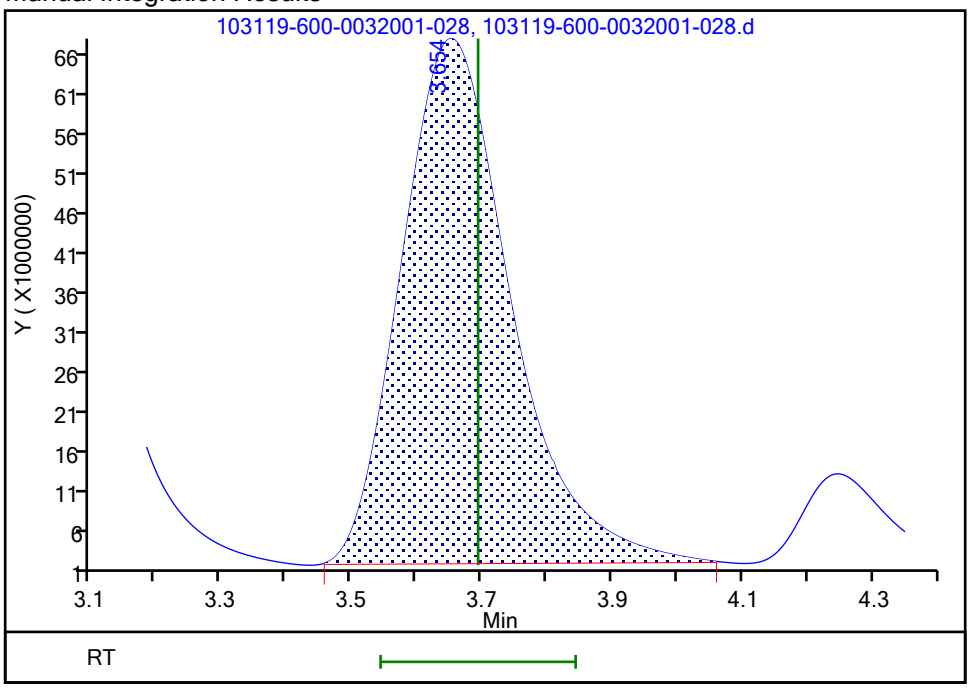

Reviewer: reachs, 01-Nov-2019 13:15:30

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-028.d				
Injection Date:	31-Oct-2019 13:40:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	28
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

3 Nitrate as N, CAS: 14797-55-8

Signal: 1

Processing Integration Results

RT: 4.69
Area: 1206774109
Amount: 10.380860
Amount Units: ug/ml

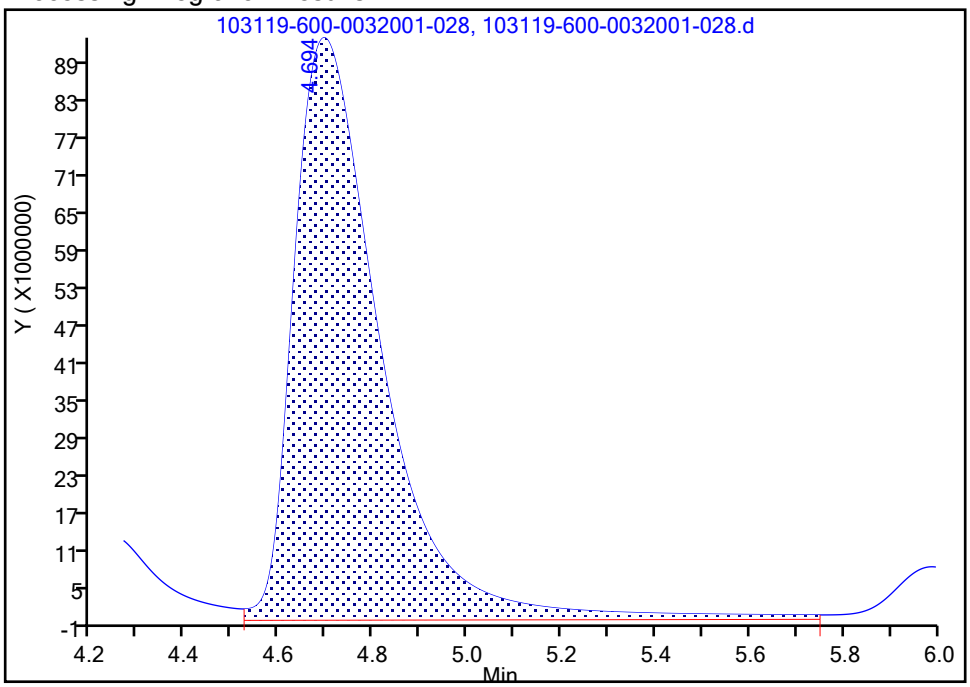

Manual Integration Results

RT: 4.69
Area: 1119907655
Amount: 9.642152
Amount Units: ug/ml

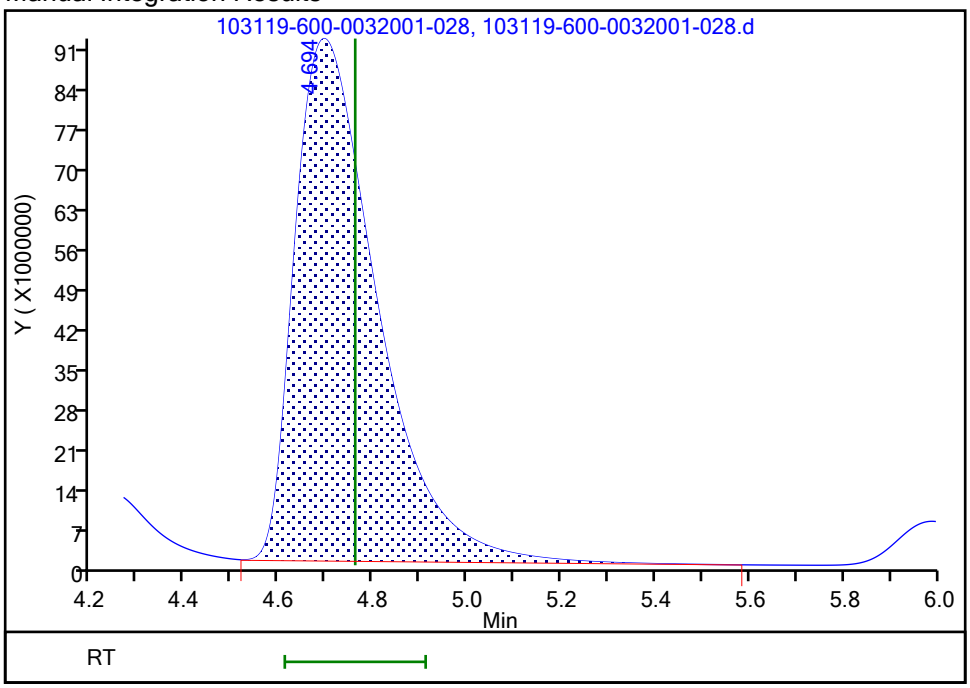

Reviewer: reachs, 01-Nov-2019 13:16:12

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-194690-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 600-278776/6
Matrix: Water
Lab File ID: 102919-600-0031944-006.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 10/29/2019 03:03
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS22 ID: 2(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 278776
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.40	0.10
16887-00-6	Chloride	0.237	J	0.40	0.053
14808-79-8	Sulfate	ND		0.50	0.096
16984-48-8	Fluoride	ND		0.20	0.060

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-006.d
Lims ID: MB
Client ID:
Sample Type: MB
Inject. Date: 29-Oct-2019 03:03:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031944-006
Misc. Info.: mb
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 30-Oct-2019 12:43:28 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0337

First Level Reviewer: reachs Date: 29-Oct-2019 12:06:01

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride		2.241				ND	
	2 Chloride	3.107	3.121	-0.014	1309882		0.2372	Ma
	9 Nitrite as N		3.761				ND	
	1 Bromide		4.397				ND	
	3 Nitrate as N		4.864				ND	
	4 Orthophosphate as P	7.054	7.044	0.010	246955		NC	
	5 Sulfate		7.101				ND	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated
a - User Assigned ID

Report Date: 30-Oct-2019 12:43:32 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-006.d

Injection Date: 29-Oct-2019 03:03:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: MB Worklist Smp#: 6

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_28day

Column: AS-22 Dionex Lion Pac (2.00 mm)

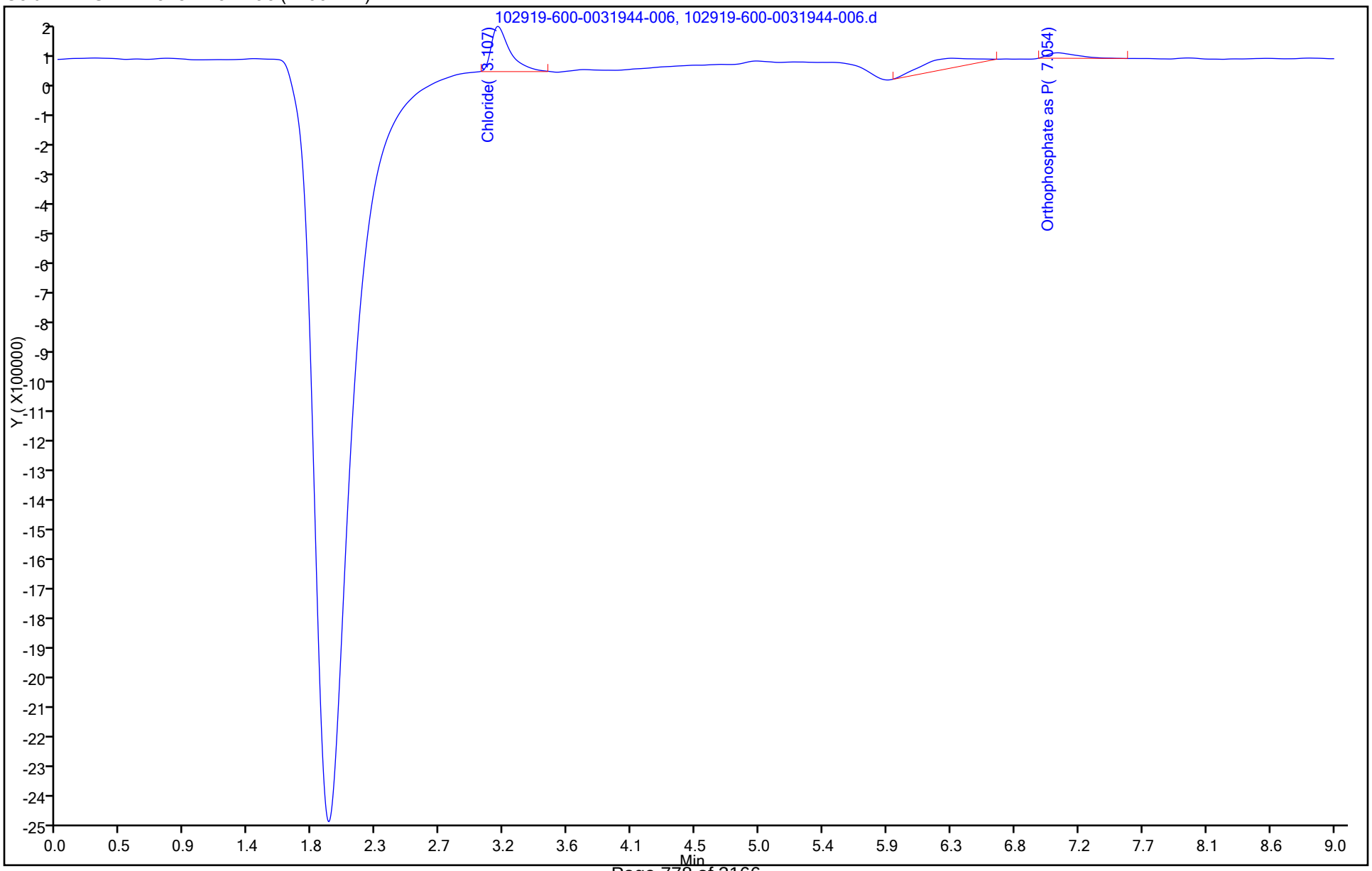

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-006.d				
Injection Date:	29-Oct-2019 03:03:00	Instrument ID:	CHWC17(IC)		
Lims ID:	MB				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

2 Chloride, CAS: 16887-00-6

Signal: 1

Processing Integration Results

RT: 3.11
Area: 55798214
Amount: 1.416875
Amount Units: ug/ml

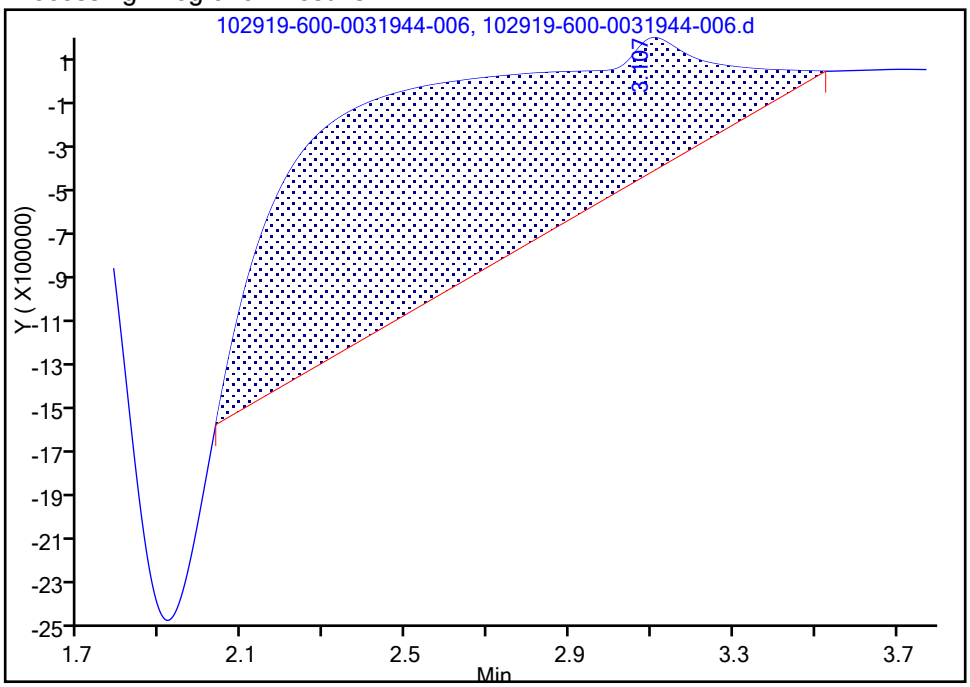

Manual Integration Results

RT: 3.11
Area: 1309882
Amount: 0.237244
Amount Units: ug/ml

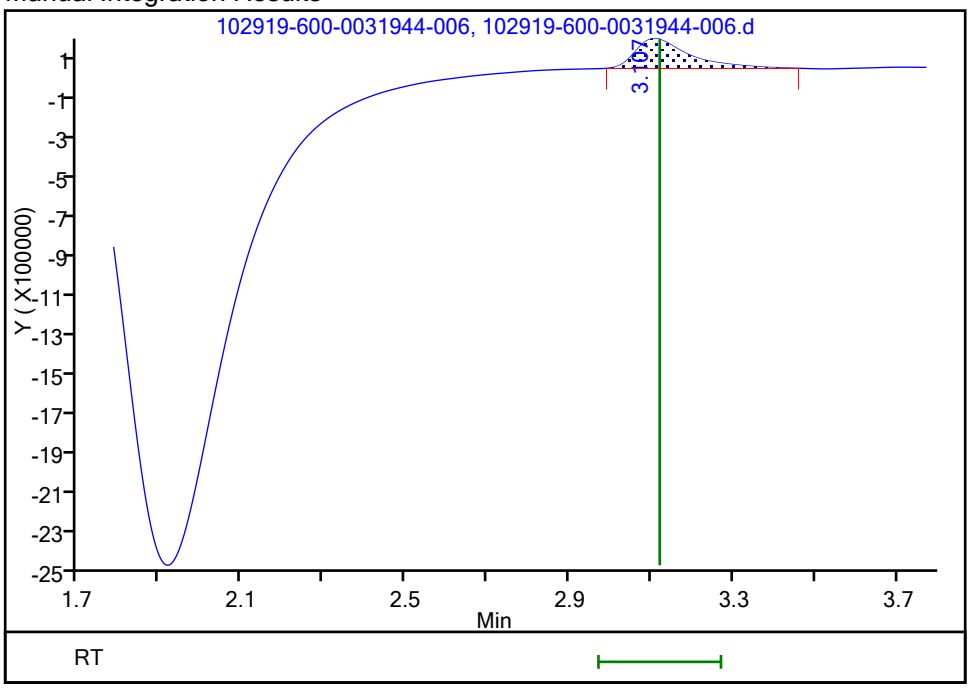

Reviewer: reachs, 29-Oct-2019 12:05:54

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-194690-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 600-278777/6
Matrix: Water
Lab File ID: 102919-600-0031944-006.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 10/29/2019 03:03
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS22 ID: 2(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 278777
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	ND		0.20	0.025
14797-65-0	Nitrite as N	ND		0.20	0.030

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-006.d
Lims ID: MB
Client ID:
Sample Type: MB
Inject. Date: 29-Oct-2019 03:03:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031944-006
Misc. Info.: mb
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 30-Oct-2019 12:43:28 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0337

First Level Reviewer: reachs Date: 29-Oct-2019 12:06:01

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride		2.241			ND		
	2 Chloride	3.107	3.121	-0.014	1309882		NC	Ma
	9 Nitrite as N		3.761			ND		
	1 Bromide		4.397			ND		
	3 Nitrate as N		4.864			ND		
	4 Orthophosphate as P	7.054	7.044	0.010	246955		NC	
	5 Sulfate		7.101			ND		
S	8 Sulfate as Sulfur		0.000			ND		
S	6 Nitrate Nitrite as N		0.000			ND		

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated
a - User Assigned ID

Report Date: 30-Oct-2019 12:43:32 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-006.d

Injection Date: 29-Oct-2019 03:03:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: MB Worklist Smp#: 6

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_48hr

Column: AS-22 Dionex Lion Pac (2.00 mm)

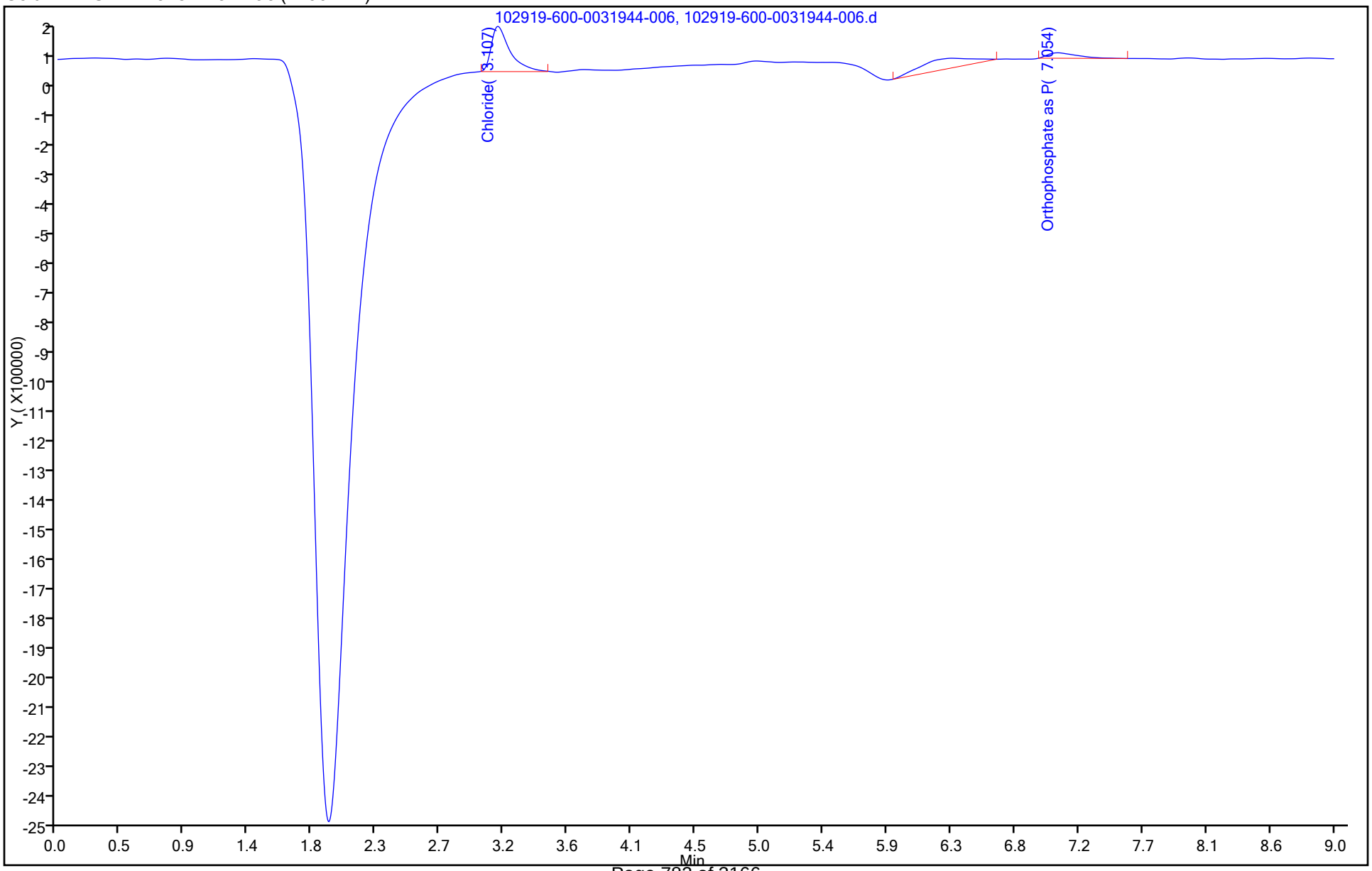

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 600-278901/6

Matrix: Water Lab File ID: 103019-600-0031972-006.d

Analysis Method: 300.0 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 10/30/2019 06:34

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS22 ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 278901 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.40	0.10
16887-00-6	Chloride	0.218	J	0.40	0.053
14808-79-8	Sulfate	ND		0.50	0.096
16984-48-8	Fluoride	ND		0.20	0.060

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-006.d
Lims ID: MB
Client ID:
Sample Type: MB
Inject. Date: 30-Oct-2019 06:34:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031972-006
Misc. Info.: mb
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 31-Oct-2019 12:35:10 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0305

First Level Reviewer: reachs Date: 30-Oct-2019 14:10:07

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride		2.241				ND	
	2 Chloride	3.084	3.121	-0.037	424731		0.2181	M
	9 Nitrite as N		3.761				ND	
	1 Bromide		4.397				ND	
	3 Nitrate as N		4.864				ND	
	4 Orthophosphate as P		7.044				ND	
	5 Sulfate		7.101				ND	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 31-Oct-2019 12:35:17 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-006.d

Injection Date: 30-Oct-2019 06:34:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: MB Worklist Smp#: 6

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_28day

Column: AS-22 Dionex Lion Pac (2.00 mm)

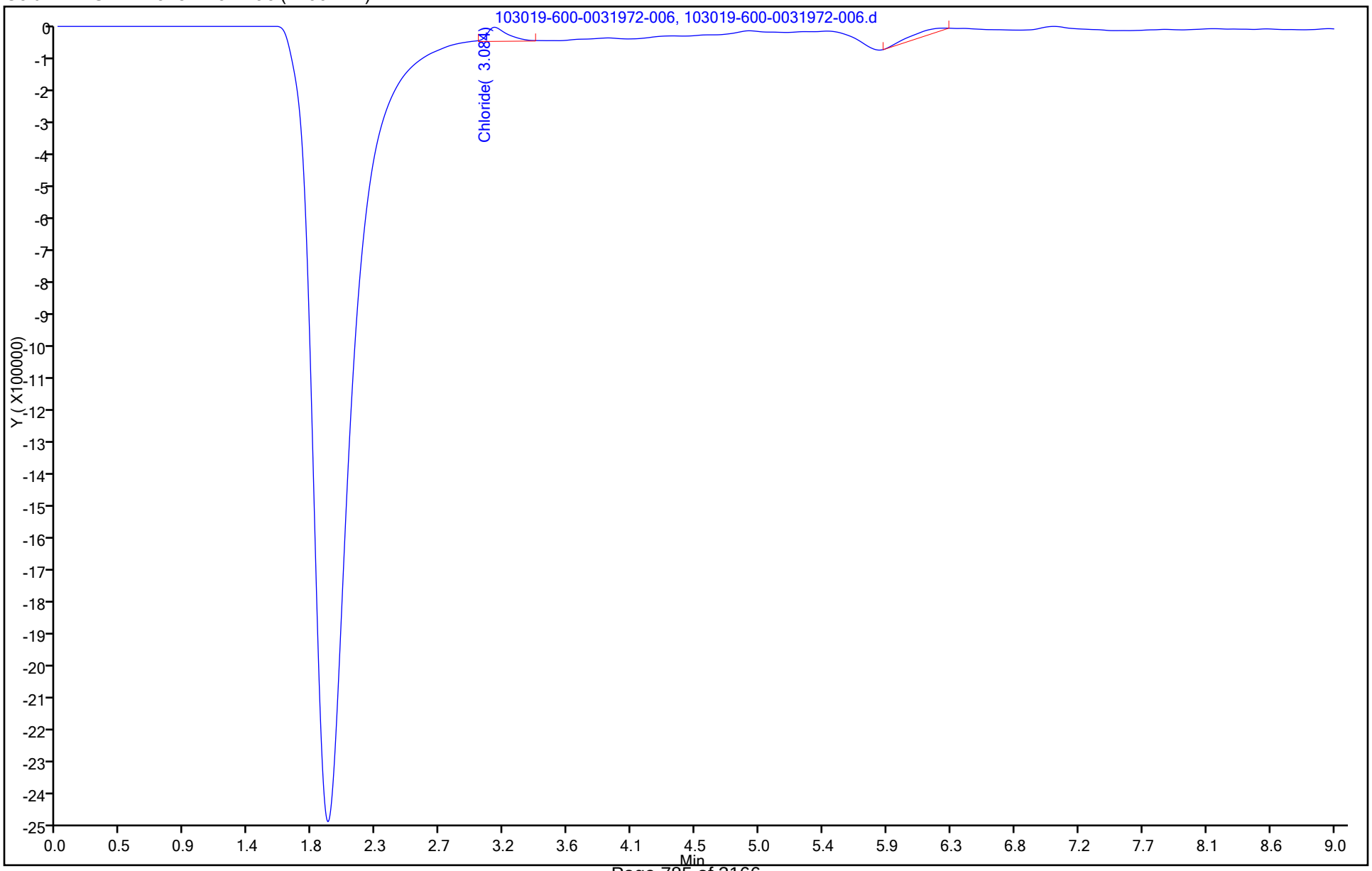

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-006.d				
Injection Date:	30-Oct-2019 06:34:00	Instrument ID:	CHWC17(IC)		
Lims ID:	MB				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

2 Chloride, CAS: 16887-00-6

Signal: 1

Processing Integration Results

RT: 3.08
Area: 49444296
Amount: 1.279318
Amount Units: ug/ml

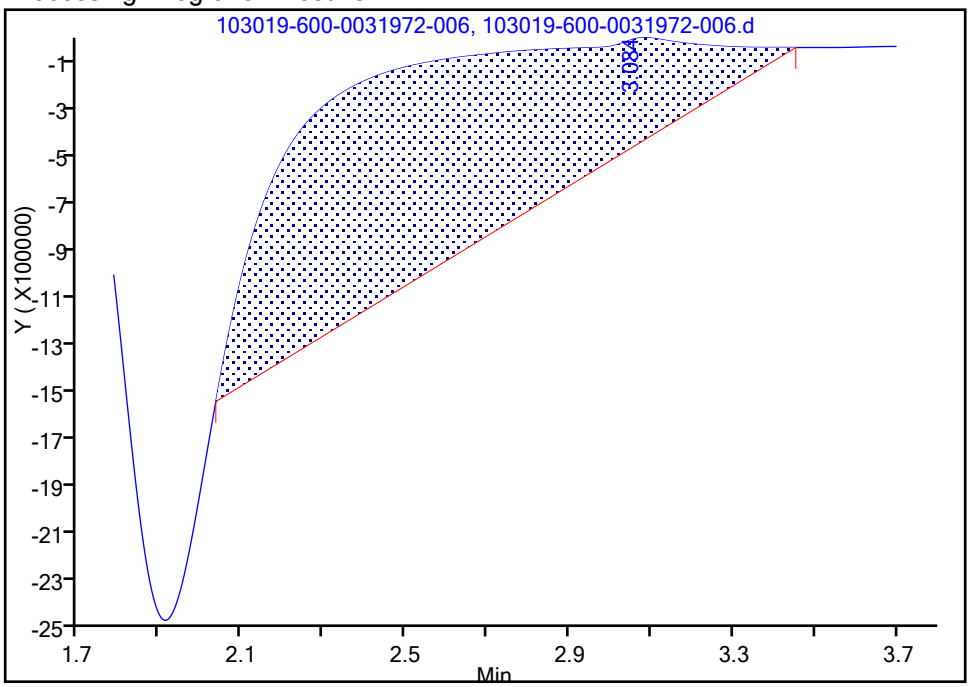

Manual Integration Results

RT: 3.08
Area: 424731
Amount: 0.218081
Amount Units: ug/ml

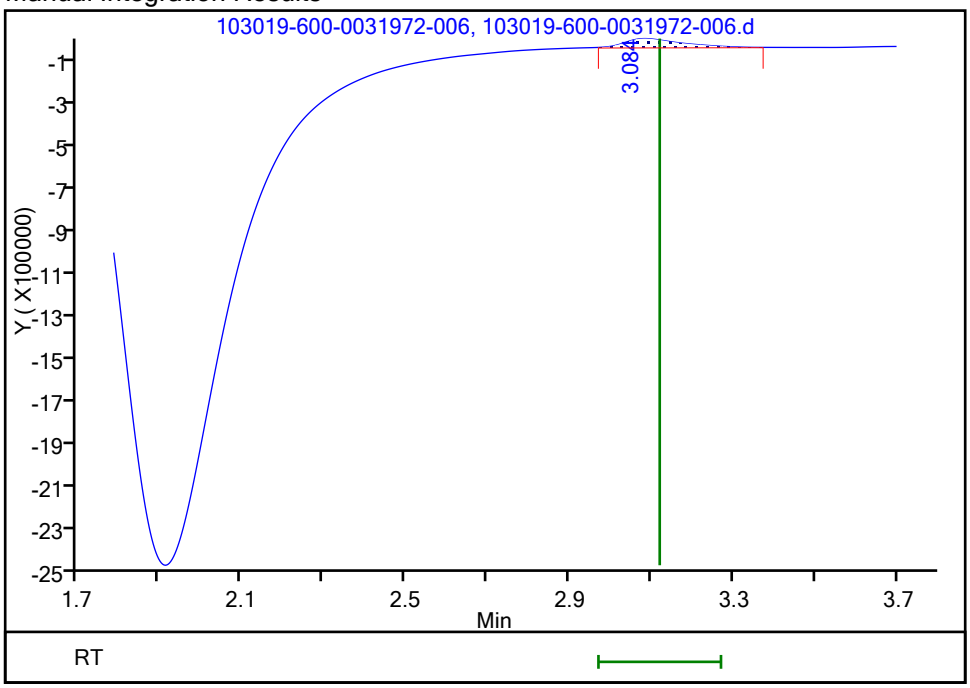

Reviewer: reachs, 30-Oct-2019 14:10:05

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-194690-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 600-278901/37
Matrix: Water
Lab File ID: 103019-600-0031972-037.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 10/30/2019 14:54
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS22 ID: 2(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 278901
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.40	0.10
16887-00-6	Chloride	0.266	J	0.40	0.053
14808-79-8	Sulfate	ND		0.50	0.096
16984-48-8	Fluoride	ND		0.20	0.060

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-037.d
Lims ID: MB
Client ID:
Sample Type: MB
Inject. Date: 30-Oct-2019 14:54:00 ALS Bottle#: 0 Worklist Smp#: 37
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031972-037
Misc. Info.: mb
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 31-Oct-2019 12:35:49 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0305

First Level Reviewer: reachs Date: 31-Oct-2019 12:18:22

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride		2.241				ND	
	2 Chloride	3.087	3.121	-0.034	2628025		0.2658	M
	9 Nitrite as N		3.761				ND	U
	1 Bromide		4.397				ND	
	3 Nitrate as N		4.864				ND	
	4 Orthophosphate as P		7.044				ND	
	5 Sulfate		7.101				ND	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Review Flags
M - Manually Integrated
U - Marked Undetected

Report Date: 31-Oct-2019 12:35:58 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-037.d

Injection Date: 30-Oct-2019 14:54:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: MB Worklist Smp#: 37

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_28day

Column: AS-22 Dionex Lion Pac (2.00 mm)

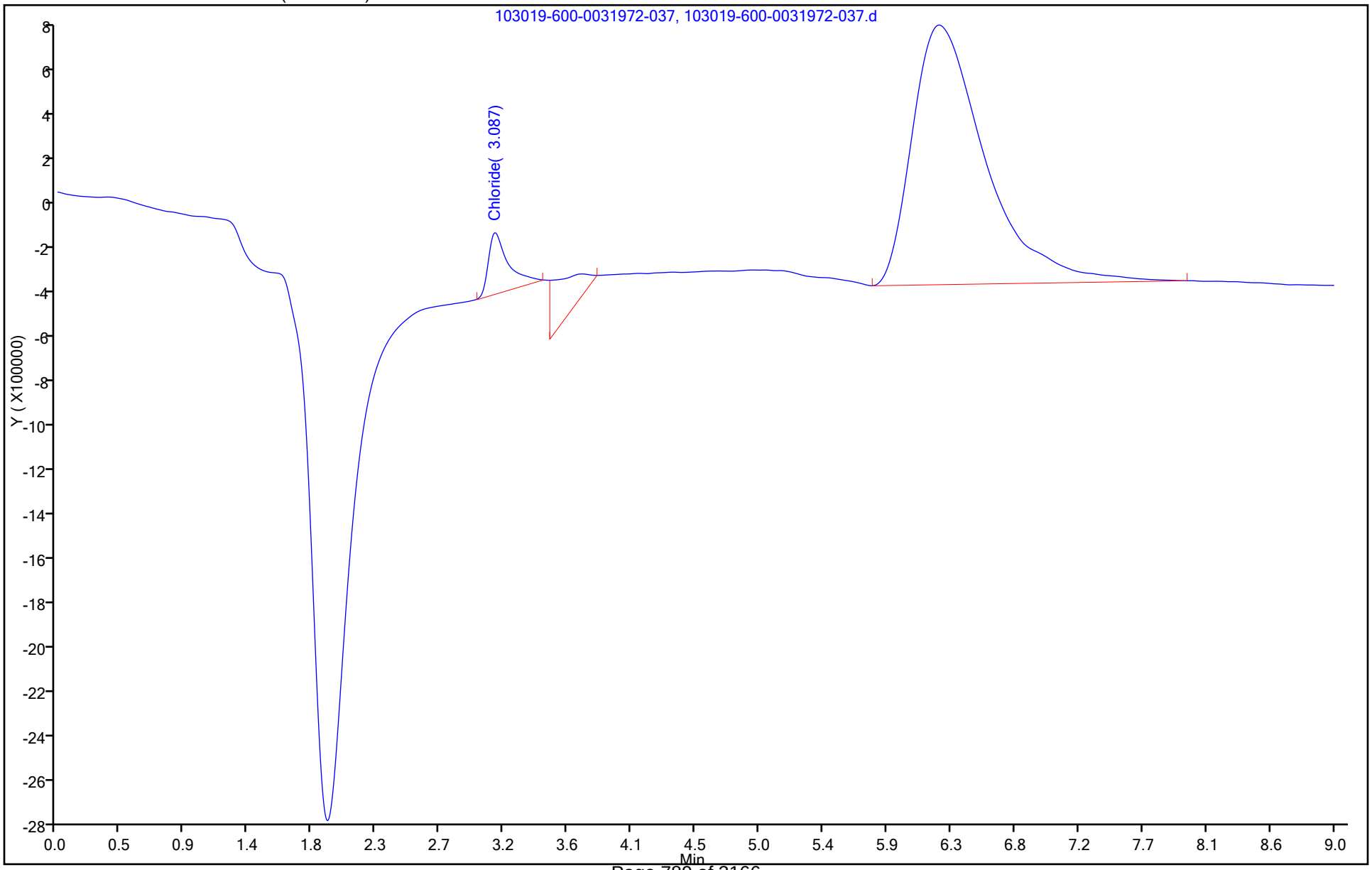

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-037.d				
Injection Date:	30-Oct-2019 14:54:00	Instrument ID:	CHWC17(IC)		
Lims ID:	MB				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	37
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

2 Chloride, CAS: 16887-00-6

Signal: 1

Processing Integration Results

RT: 3.09
Area: 58950634
Amount: 1.485123
Amount Units: ug/ml

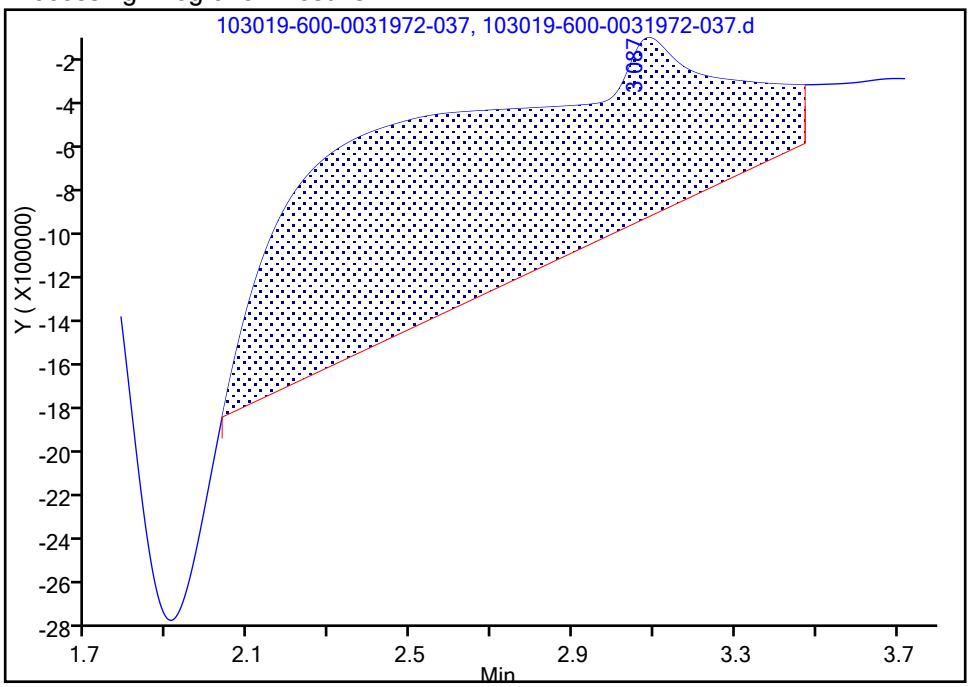

Manual Integration Results

RT: 3.09
Area: 2628025
Amount: 0.265781
Amount Units: ug/ml

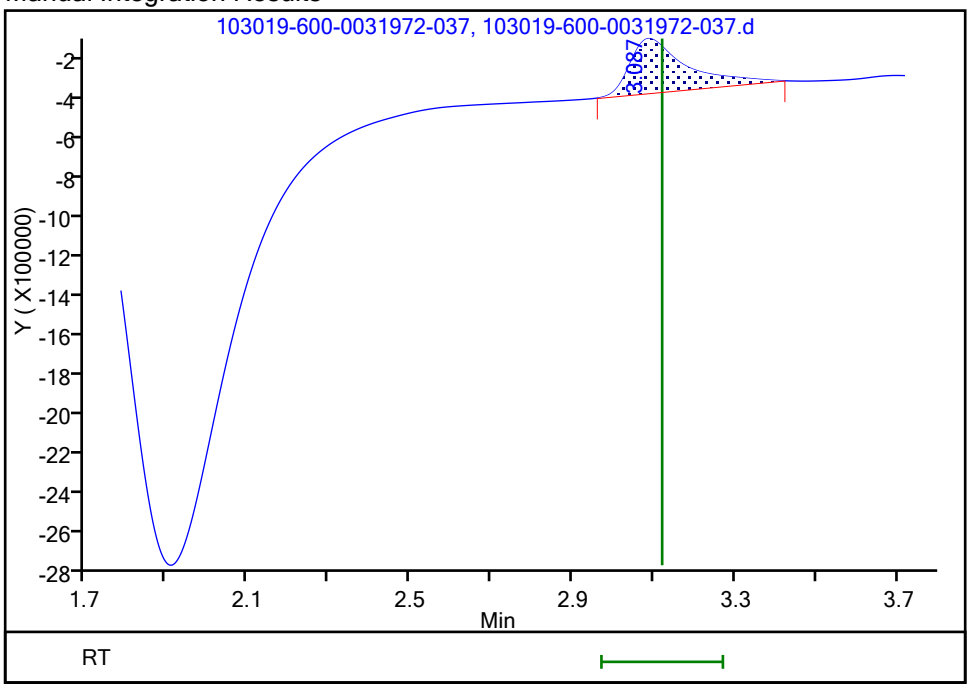

Reviewer: reachs, 31-Oct-2019 12:18:20

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-194690-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 600-278902/6
Matrix: Water
Lab File ID: 103019-600-0031972-006.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 10/30/2019 06:34
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS22 ID: 2(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 278902
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	ND		0.20	0.025
14797-65-0	Nitrite as N	ND		0.20	0.030

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-006.d
Lims ID: MB
Client ID:
Sample Type: MB
Inject. Date: 30-Oct-2019 06:34:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031972-006
Misc. Info.: mb
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 31-Oct-2019 12:35:10 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0305

First Level Reviewer: reachs Date: 30-Oct-2019 14:10:07

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride		2.241				ND	
	2 Chloride	3.084	3.121	-0.037	424731		NC	M
	9 Nitrite as N		3.761				ND	
	1 Bromide		4.397				ND	
	3 Nitrate as N		4.864				ND	
	4 Orthophosphate as P		7.044				ND	
	5 Sulfate		7.101				ND	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Report Date: 31-Oct-2019 12:35:17 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-006.d

Injection Date: 30-Oct-2019 06:34:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: MB Worklist Smp#: 6

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_48hr

Column: AS-22 Dionex Lion Pac (2.00 mm)

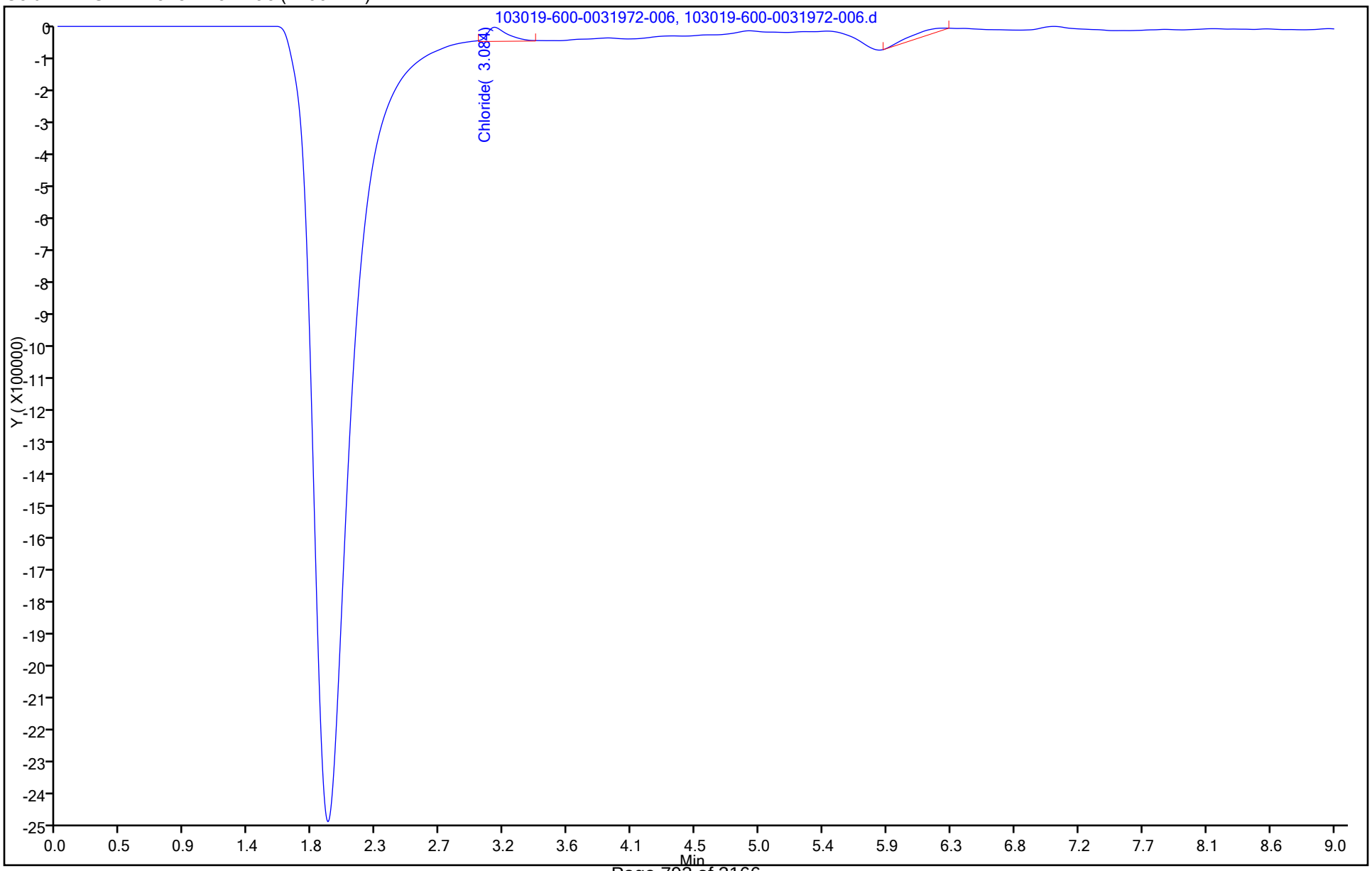

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 600-278902/37

Matrix: Water Lab File ID: 103019-600-0031972-037.d

Analysis Method: 300.0 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 10/30/2019 14:54

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS22 ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 278902 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	ND		0.20	0.025
14797-65-0	Nitrite as N	ND		0.20	0.030

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-037.d
Lims ID: MB
Client ID:
Sample Type: MB
Inject. Date: 30-Oct-2019 14:54:00 ALS Bottle#: 0 Worklist Smp#: 37
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031972-037
Misc. Info.: mb
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 31-Oct-2019 12:35:49 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0305

First Level Reviewer: reachs Date: 31-Oct-2019 12:18:22

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride		2.241				ND	
	2 Chloride	3.087	3.121	-0.034	2628025		NC	M
	9 Nitrite as N		3.761				ND	U
	1 Bromide		4.397				ND	
	3 Nitrate as N		4.864				ND	
	4 Orthophosphate as P		7.044				ND	
	5 Sulfate		7.101				ND	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated
U - Marked Undetected

Report Date: 31-Oct-2019 12:35:58 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-037.d

Injection Date: 30-Oct-2019 14:54:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: MB Worklist Smp#: 37

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_48hr

Column: AS-22 Dionex Lion Pac (2.00 mm)

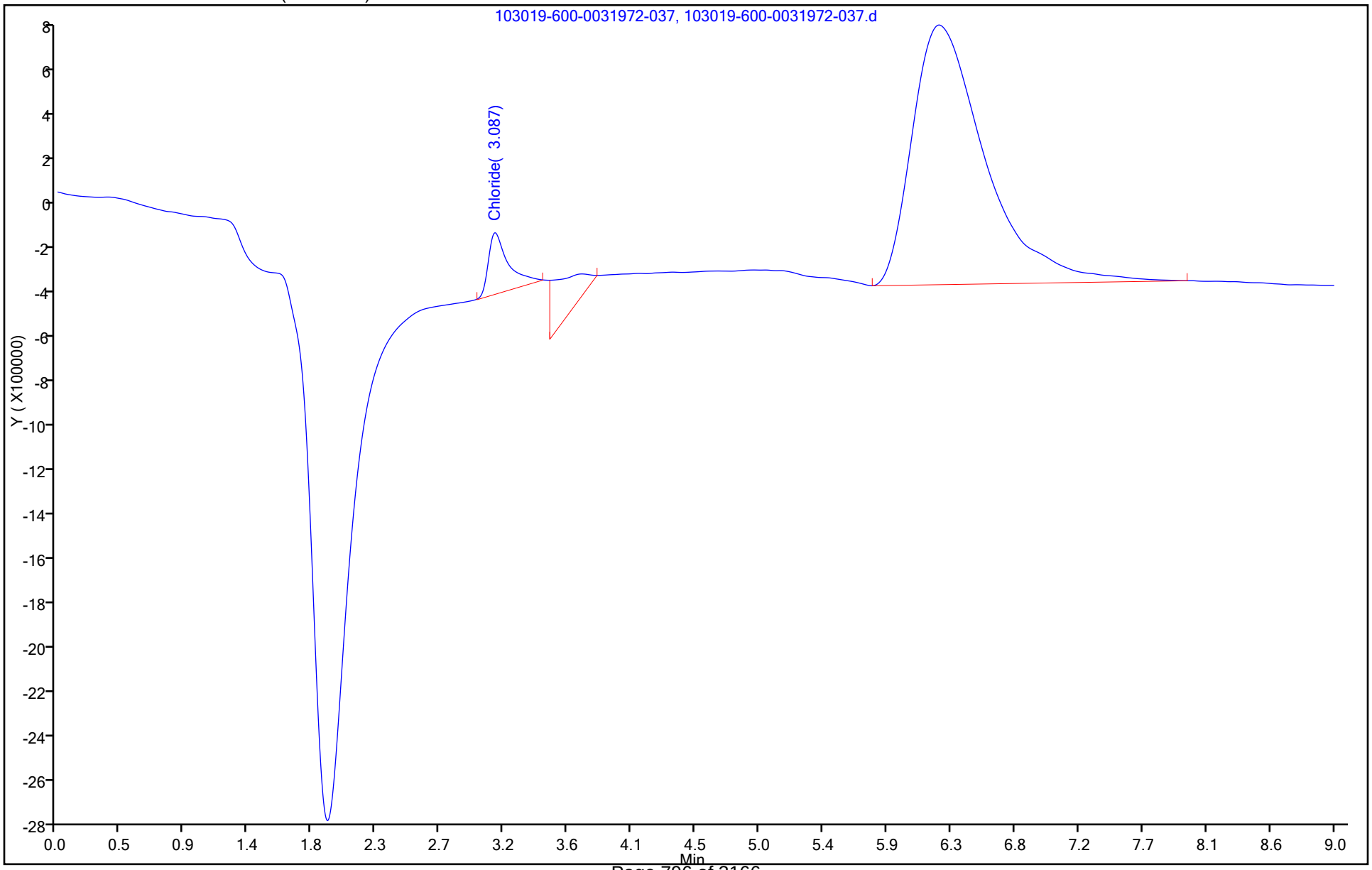

User Disabled Compound Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-037.d				
Injection Date:	30-Oct-2019 14:54:00	Instrument ID:	CHWC17(IC)		
Lims ID:	MB				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	37
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

9 Nitrite as N, CAS: 14797-65-0, Signal: 1

RT: 3.70
Response: 2678956
Amount: 0.071841

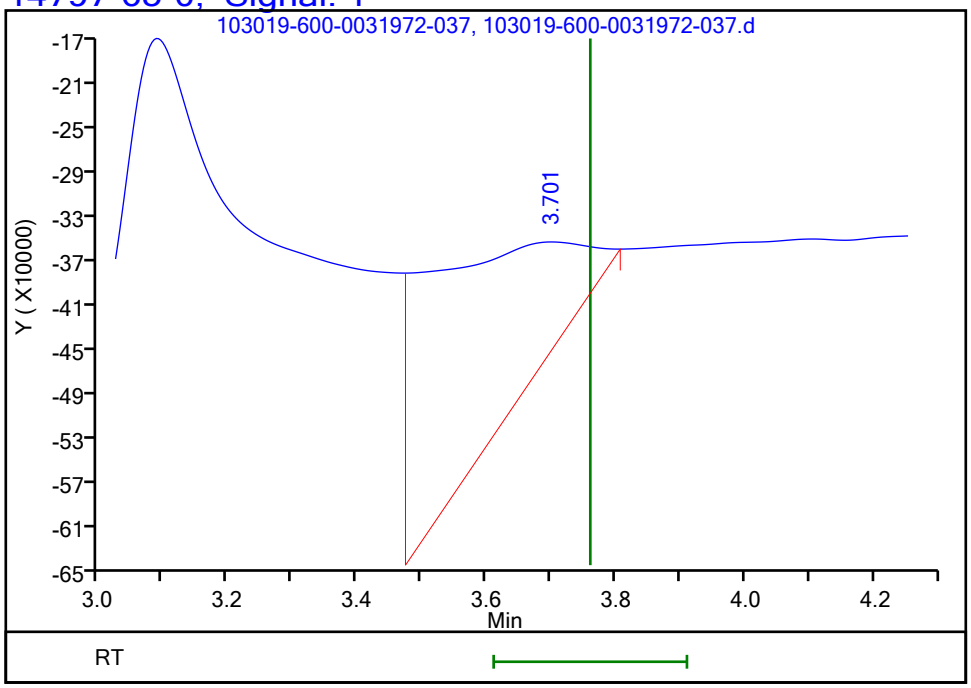

Reviewer: reachs, 31-Oct-2019 12:18:22
Audit Action: Manually Integrated Audit Reason:

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 600-279038/6

Matrix: Water Lab File ID: 103119-600-0032001-006.d

Analysis Method: 300.0 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 10/31/2019 04:38

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS22 ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 279038 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.40	0.10
16887-00-6	Chloride	0.221	J	0.40	0.053
14808-79-8	Sulfate	ND		0.50	0.096
16984-48-8	Fluoride	ND		0.20	0.060

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-006.d
Lims ID: MB
Client ID:
Sample Type: MB
Inject. Date: 31-Oct-2019 04:38:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032001-006
Misc. Info.: mb
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 01-Nov-2019 13:34:16 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0332

First Level Reviewer: reachs Date: 31-Oct-2019 10:54:17

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride		2.214				ND	
	2 Chloride	3.081	3.071	0.010	582320		0.2215	M
	9 Nitrite as N		3.694				ND	U
	1 Bromide		4.314				ND	
	3 Nitrate as N		4.761				ND	
	5 Sulfate		6.857				ND	
	4 Orthophosphate as P	6.911	7.044	-0.133	269882		NC	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated
U - Marked Undetected

Report Date: 01-Nov-2019 13:34:33 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-006.d

Injection Date: 31-Oct-2019 04:38:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: MB Worklist Smp#: 6

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_28day

Column: AS-22 Dionex Lion Pac (2.00 mm)

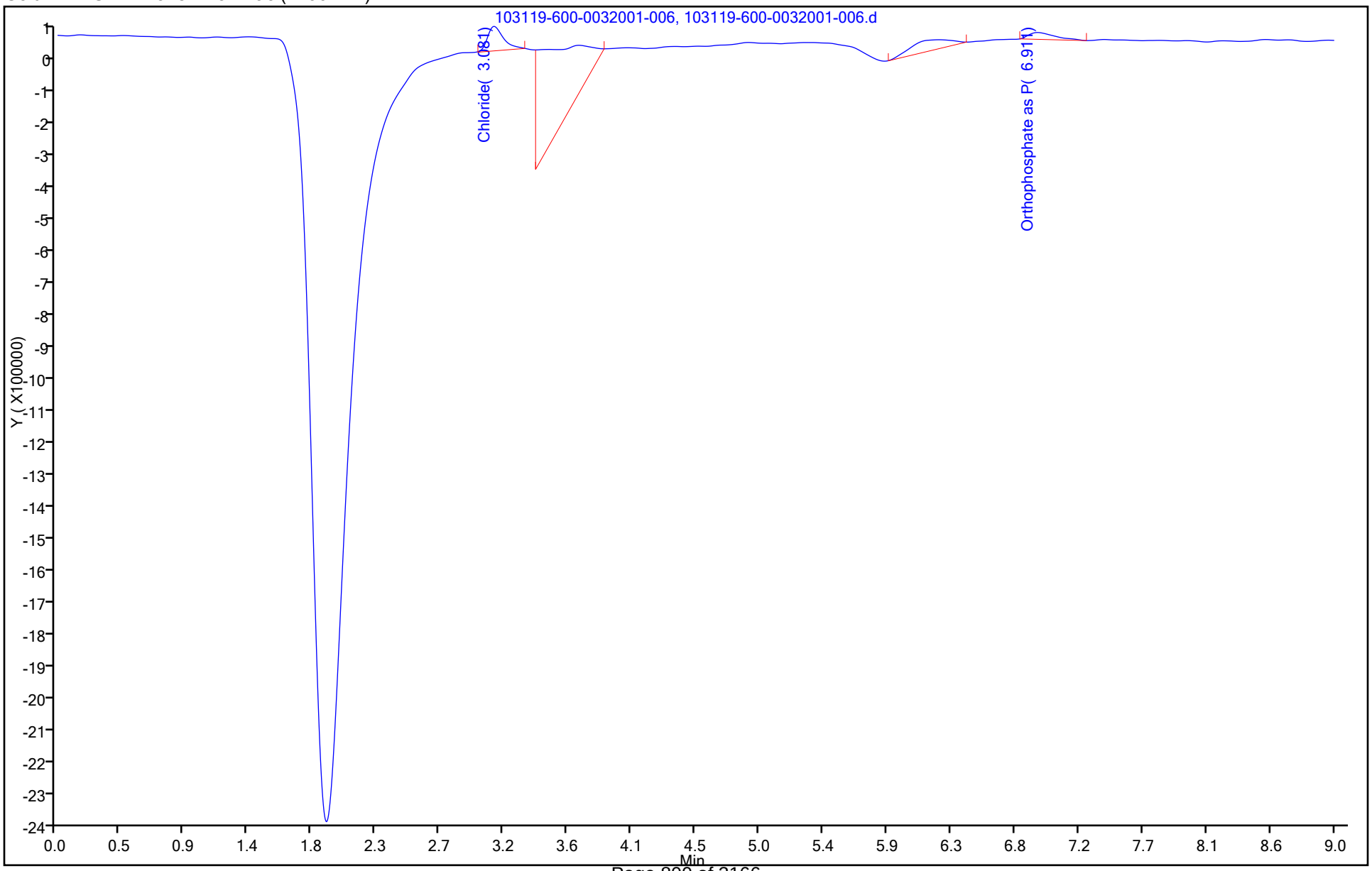

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-006.d				
Injection Date:	31-Oct-2019 04:38:00	Instrument ID:	CHWC17(IC)		
Lims ID:	MB				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

2 Chloride, CAS: 16887-00-6

Signal: 1

Processing Integration Results

RT: 3.08
Area: 58081504
Amount: 1.466307
Amount Units: ug/ml

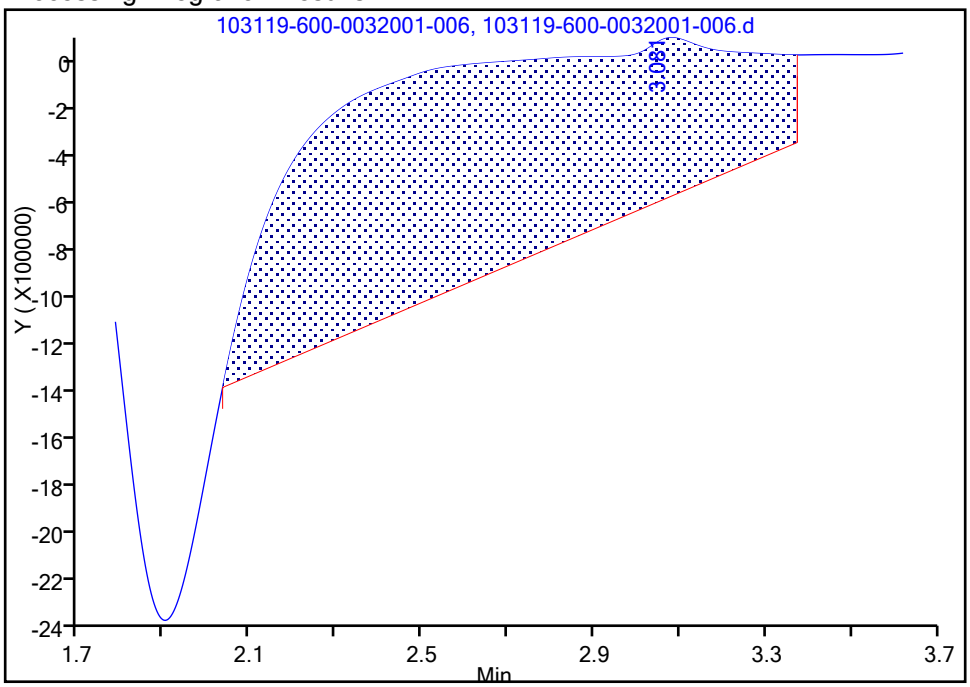

Manual Integration Results

RT: 3.08
Area: 582320
Amount: 0.221493
Amount Units: ug/ml

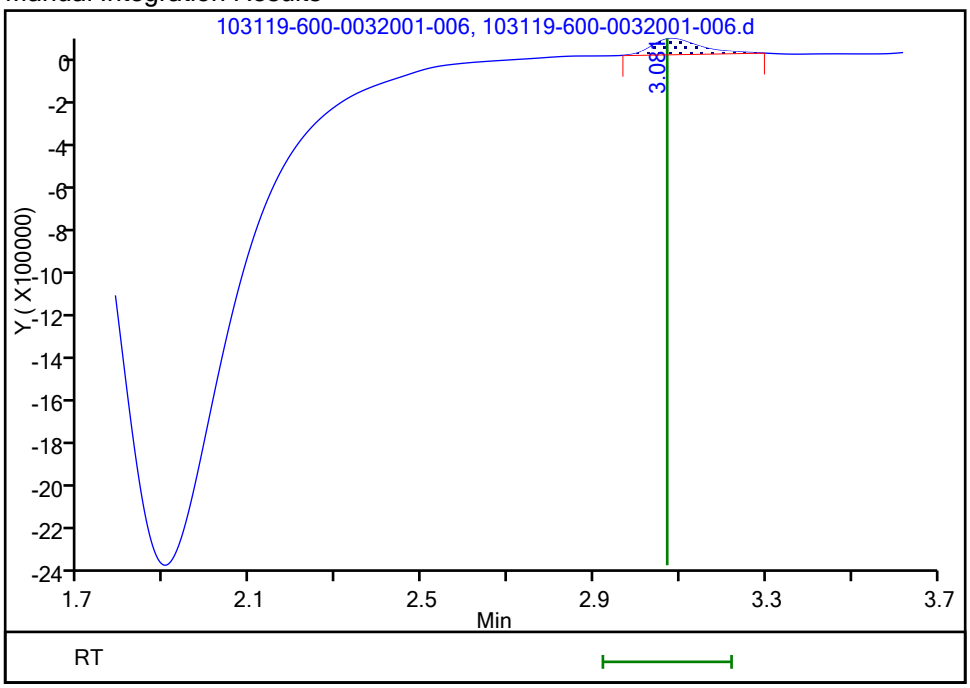

Reviewer: reachs, 31-Oct-2019 10:48:14

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 600-279039/6

Matrix: Water Lab File ID: 103119-600-0032001-006.d

Analysis Method: 300.0 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 10/31/2019 04:38

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS22 ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 279039 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	ND		0.20	0.025
14797-65-0	Nitrite as N	ND		0.20	0.030

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-006.d
Lims ID: MB
Client ID:
Sample Type: MB
Inject. Date: 31-Oct-2019 04:38:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032001-006
Misc. Info.: mb
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 01-Nov-2019 13:34:16 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0332

First Level Reviewer: reachs Date: 31-Oct-2019 10:54:17

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride		2.214			ND		
	2 Chloride	3.081	3.071	0.010	582320		NC	M
	9 Nitrite as N		3.694			ND		U
	1 Bromide		4.314			ND		
	3 Nitrate as N		4.761			ND		
	5 Sulfate		6.857			ND		
	4 Orthophosphate as P	6.911	7.044	-0.133	269882		NC	
S	8 Sulfate as Sulfur		0.000			ND		
S	6 Nitrate Nitrite as N		0.000			ND		

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated
U - Marked Undetected

Report Date: 01-Nov-2019 13:34:33 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-006.d

Injection Date: 31-Oct-2019 04:38:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: MB Worklist Smp#: 6

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_48hr

Column: AS-22 Dionex Lion Pac (2.00 mm)

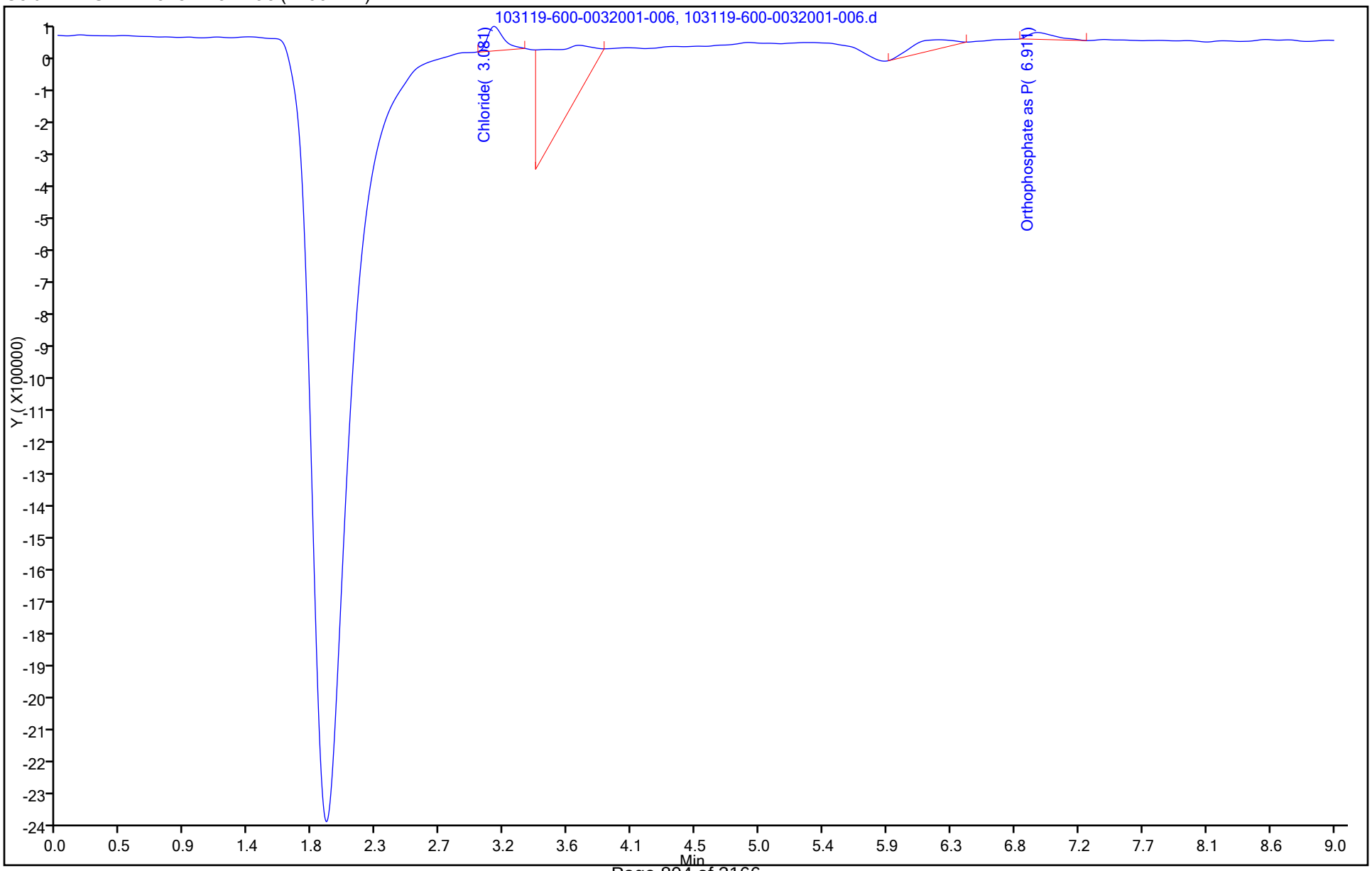

Report Date: 01-Nov-2019 13:34:33 Chrom Revision: 2.3 09-Oct-2019 11:13:36

User Disabled Compound Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-006.d				
Injection Date:	31-Oct-2019 04:38:00	Instrument ID:	CHWC17(IC)		
Lims ID:	MB				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

9 Nitrite as N, CAS: 14797-65-0, Signal: 1

RT: 3.68
Response: 5375386
Amount: 0.108925

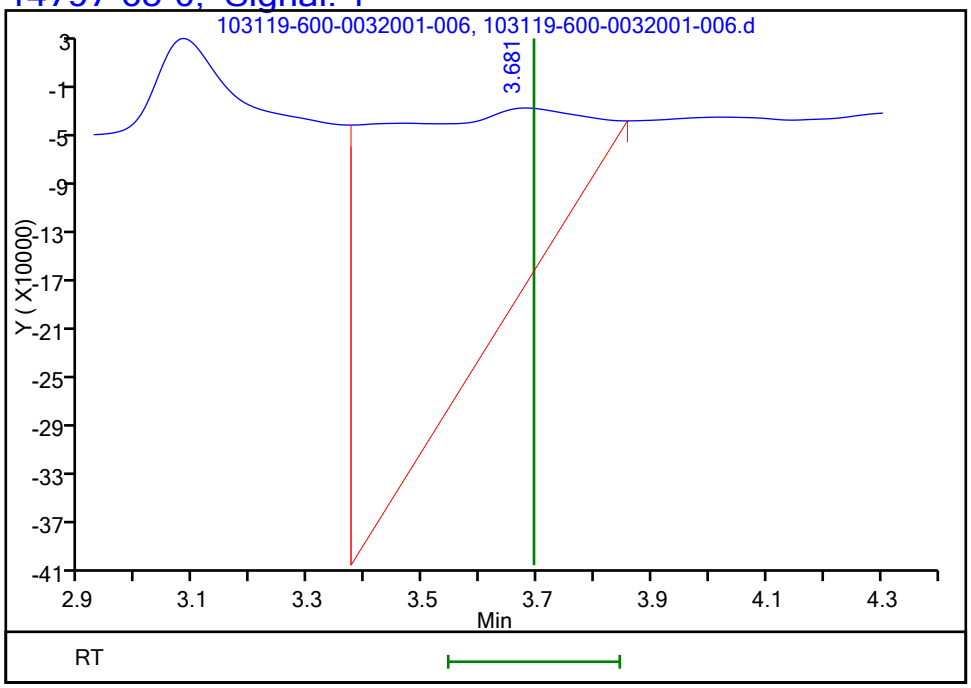

Reviewer: reachs, 31-Oct-2019 10:54:17

Audit Action: Manually Integrated Audit Reason:

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 600-279165/4

Matrix: Water Lab File ID: 110119-4.d

Analysis Method: 300.0 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 11/01/2019 11:16

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS-18 ID:

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 279165 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.40	0.10
16887-00-6	Chloride	ND		0.40	0.053
14808-79-8	Sulfate	ND		0.50	0.096
16984-48-8	Fluoride	ND		0.20	0.060

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20191031-32021.b\110119-4.d
Lims ID: MB
Client ID:
Sample Type: MB
Inject. Date: 01-Nov-2019 11:16:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032021-004
Operator ID: Instrument ID: CHWC11

Method: \\chromna\Houston\ChromData\CHWC11\20191031-32021.b\300_11.m
Limit Group: WC - IC_300_9056_28day
Last Update: 04-Nov-2019 11:07:01 Calib Date: 18-Oct-2019 18:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d

Column 1 : Det: 040914-1
Process Host: CTX0335

First Level Reviewer: reachs Date: 01-Nov-2019 12:01:02

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride		3.117				ND	
	2 Chloride		4.842				ND	U
	9 Nitrite as N		6.017				ND	
	1 Bromide		8.667				ND	
	5 Sulfate		9.325				ND	U
	3 Nitrate as N		10.042				ND	
	4 Orthophosphate as P		13.592				ND	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Review Flags
U - Marked Undetected

Report Date: 04-Nov-2019 11:07:06 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191031-32021.b\110119-4.d				
Injection Date:	01-Nov-2019 11:16:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	MB			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		

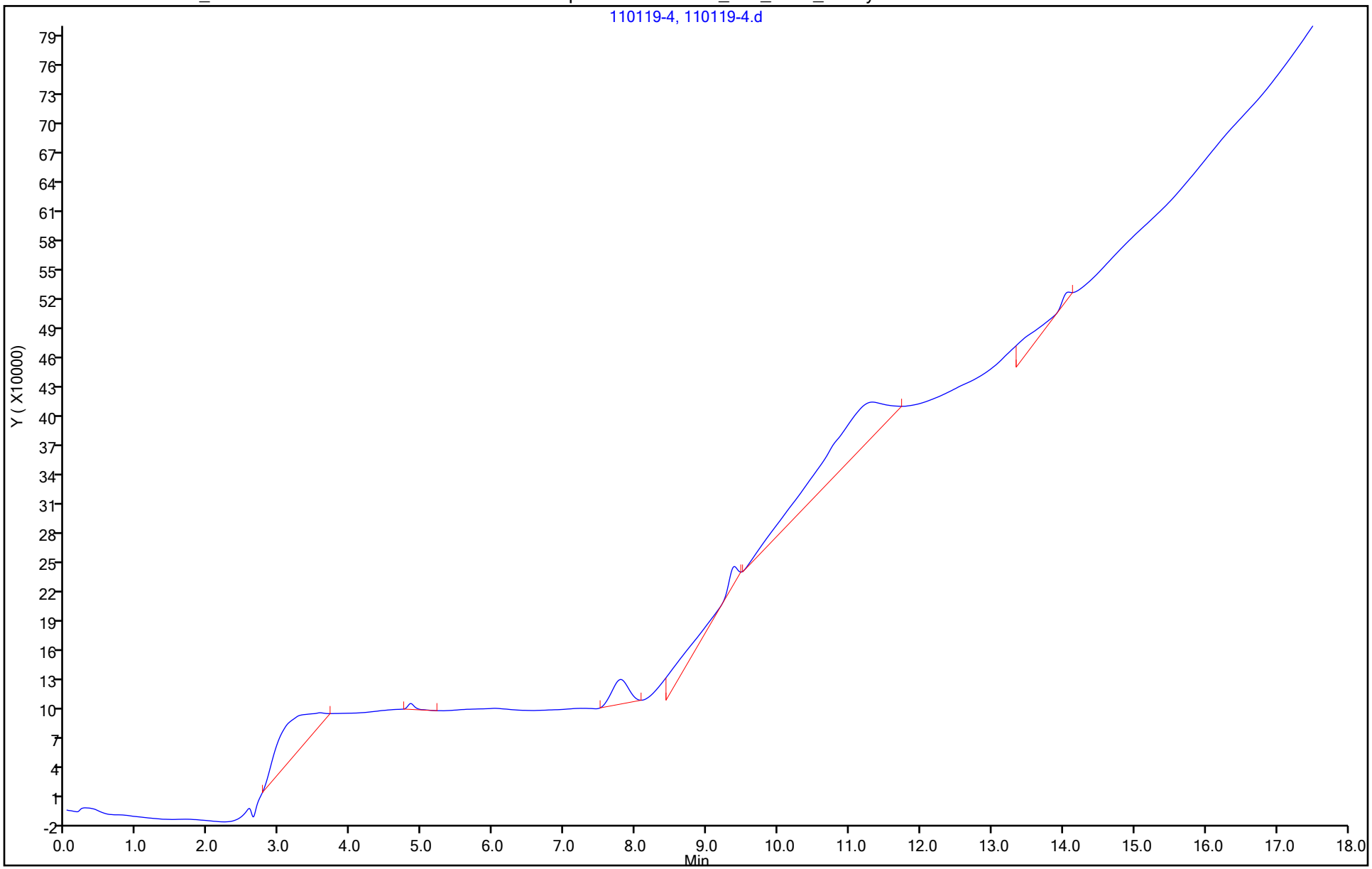

Report Date: 04-Nov-2019 11:07:06 Chrom Revision: 2.3 09-Oct-2019 11:13:36

User Disabled Compound Report

Eurofins TestAmerica, Houston

Data File: \\chromna\Houston\ChromData\CHWC11\20191031-32021.b\110119-4.d

Injection Date: 01-Nov-2019 11:16:00 Instrument ID: CHWC11

Lims ID: MB

Client ID:

Operator ID: ALS Bottle#: 0 Worklist Smp#: 4

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: 300_11 Limit Group: WC - IC_300_9056_28day

Column: Detector 040914-1

2 Chloride, CAS: 16887-00-6, Signal: 1

RT: 4.84

Response: 40578

Amount: 0.162385

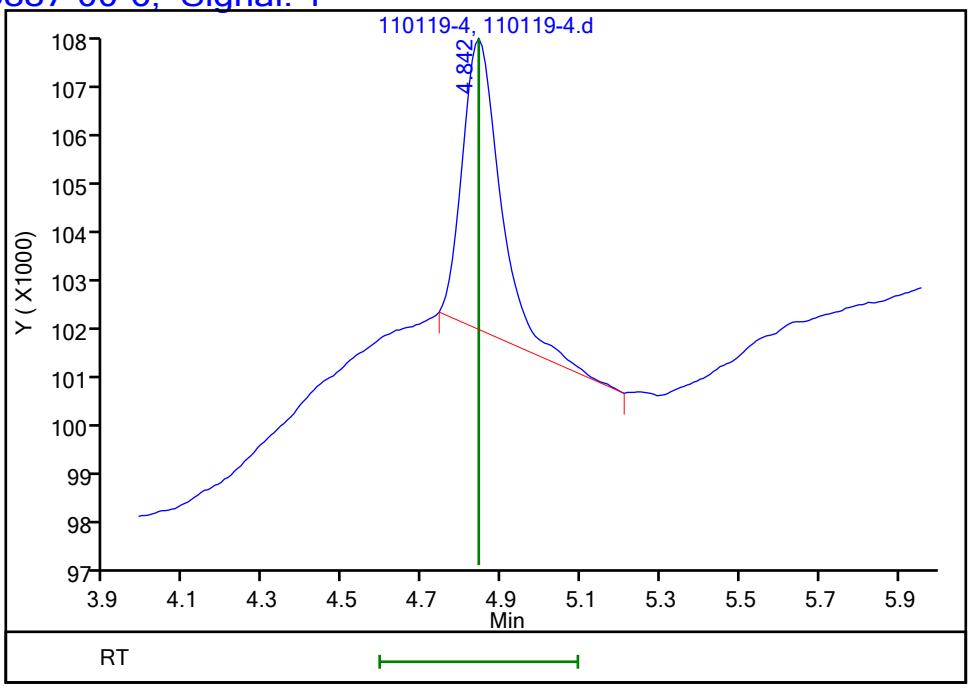

Reviewer: reachs, 01-Nov-2019 12:01:02

Audit Action: Manually Integrated Audit Reason:

User Disabled Compound Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191031-32021.b\110119-4.d				
Injection Date:	01-Nov-2019 11:16:00	Instrument ID:	CHWC11		
Lims ID:	MB				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		
Column:		Detector	040914-1		

5 Sulfate, CAS: 14808-79-8, Signal: 1

RT: 9.38
Response: 656433
Amount: 0.305208

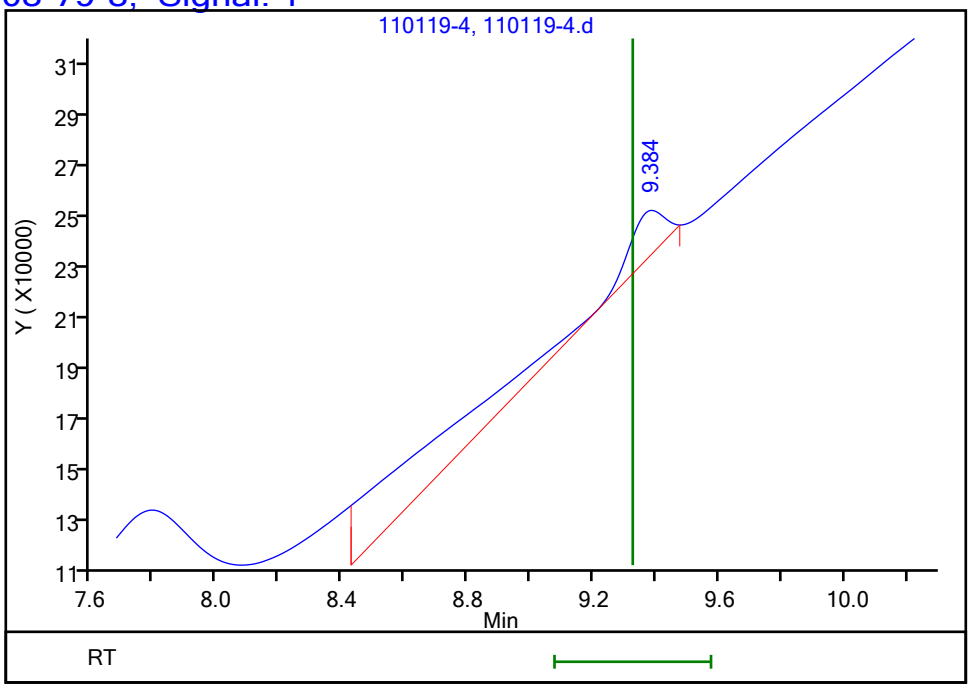

Reviewer: reachs, 01-Nov-2019 12:01:02
Audit Action: Manually Integrated Audit Reason:

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 600-279268/4

Matrix: Water Lab File ID: 110419-4.d

Analysis Method: 300.0 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 11/04/2019 12:11

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS-18 ID:

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 279268 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.40	0.10
16887-00-6	Chloride	ND		0.40	0.053
14808-79-8	Sulfate	ND		0.50	0.096
16984-48-8	Fluoride	ND		0.20	0.060

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-4.d
Lims ID: MB
Client ID:
Sample Type: MB
Inject. Date: 04-Nov-2019 12:11:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032042-004
Operator ID: Instrument ID: CHWC11

Method: \\chromna\Houston\ChromData\CHWC11\20191101-32042.b\300_11.m
Limit Group: WC - IC_300_9056_28day
Last Update: 05-Nov-2019 11:30:10 Calib Date: 18-Oct-2019 18:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d

Column 1 : Det: 040914-1
Process Host: CTX0336

First Level Reviewer: reachs Date: 05-Nov-2019 10:23:27

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride		3.125				ND	U
	2 Chloride		4.842				ND	U
	9 Nitrite as N		6.009				ND	
	1 Bromide		8.650				ND	
	5 Sulfate		9.309				ND	U
	3 Nitrate as N		10.017				ND	
	4 Orthophosphate as P		13.592				ND	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Review Flags
U - Marked Undetected

Report Date: 05-Nov-2019 11:30:15 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-4.d				
Injection Date:	04-Nov-2019 12:11:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	MB			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		

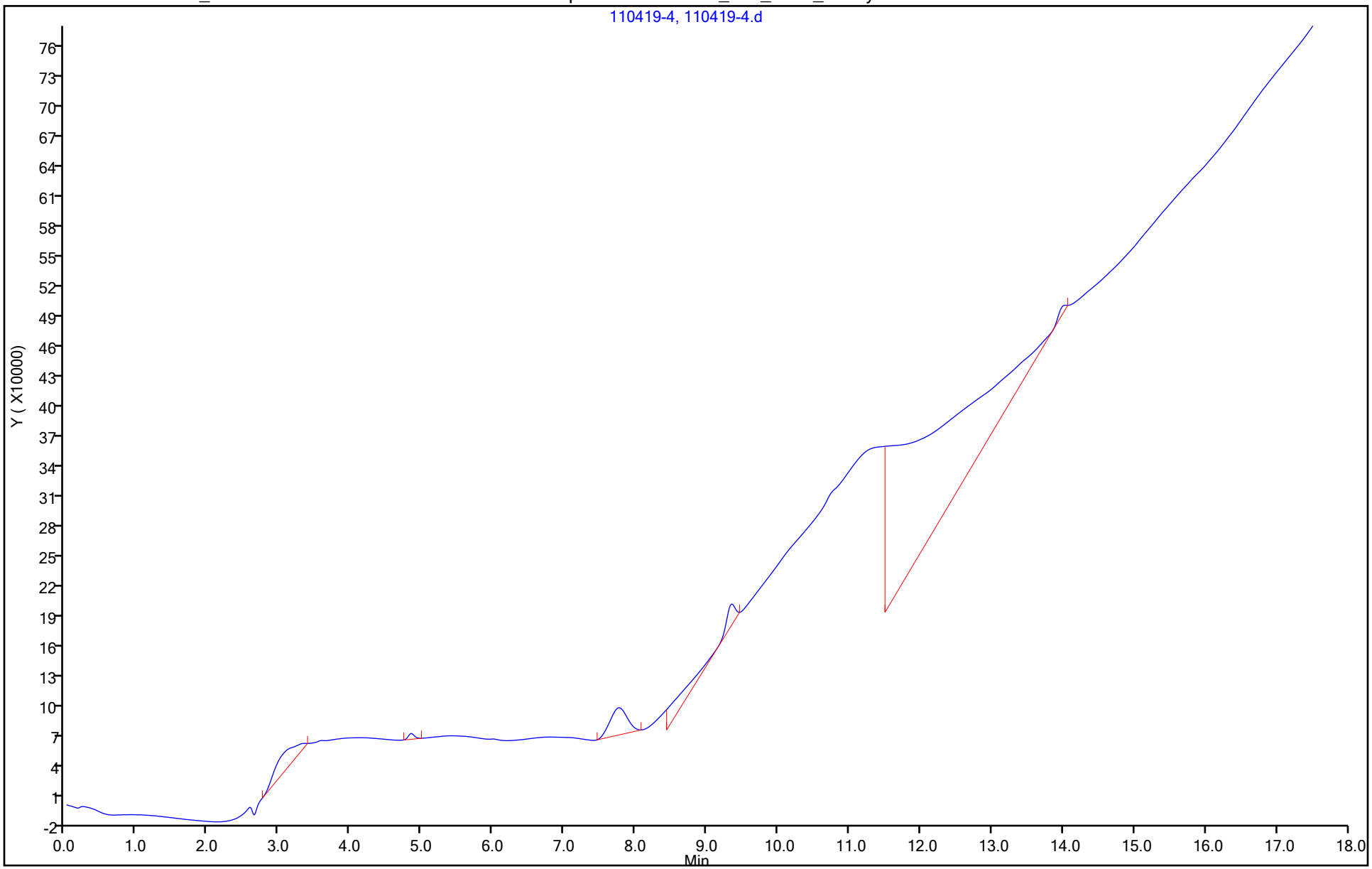

User Disabled Compound Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-4.d				
Injection Date:	04-Nov-2019 12:11:00	Instrument ID:	CHWC11		
Lims ID:	MB				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		
Column:		Detector	040914-1		

2 Chloride, CAS: 16887-00-6, Signal: 1

RT: 4.85
Response: 34242
Amount: 0.161233

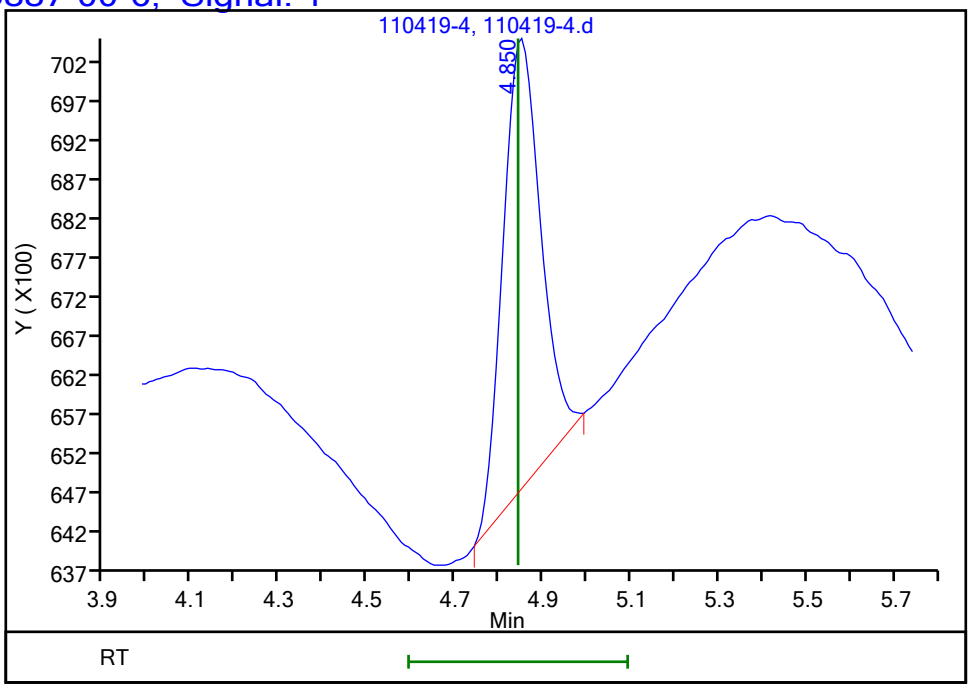

Reviewer: reachs, 05-Nov-2019 10:23:27
Audit Action: Manually Integrated Audit Reason:

User Disabled Compound Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-4.d				
Injection Date:	04-Nov-2019 12:11:00	Instrument ID:	CHWC11		
Lims ID:	MB				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		
Column:		Detector	040914-1		

5 Sulfate, CAS: 14808-79-8, Signal: 1

RT: 9.35
Response: 553974
Amount: 0.279198

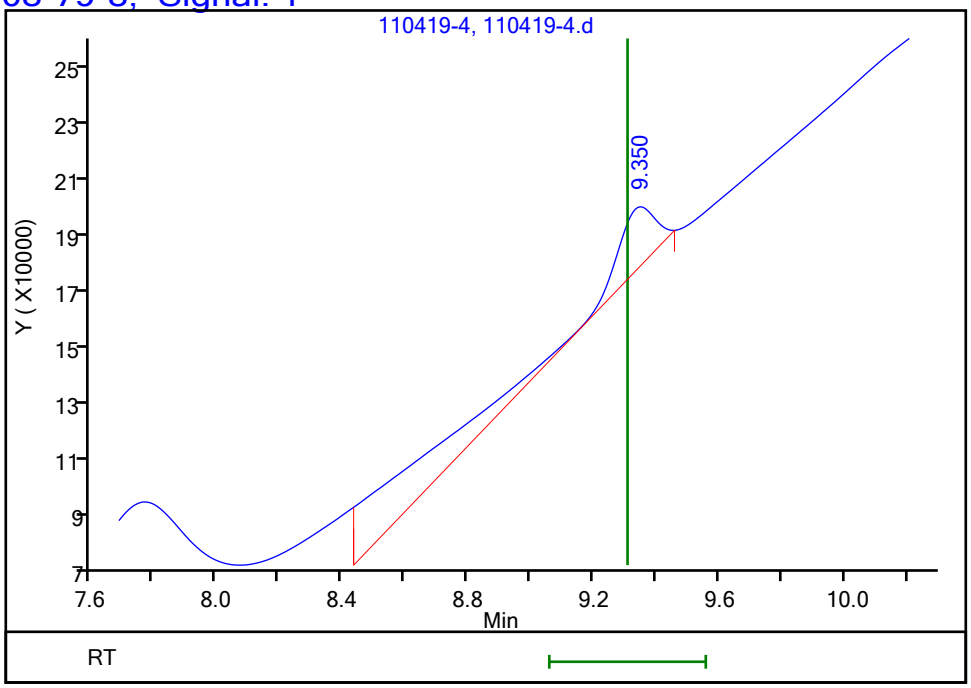

Reviewer: reachs, 05-Nov-2019 10:23:27
Audit Action: Manually Integrated Audit Reason:

User Disabled Compound Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-4.d				
Injection Date:	04-Nov-2019 12:11:00	Instrument ID:	CHWC11		
Lims ID:	MB				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		
Column:		Detector	040914-1		

7 Fluoride, CAS: 16984-48-8, Signal: 1

RT: 3.35
Response: 408789
Amount: 0.081663

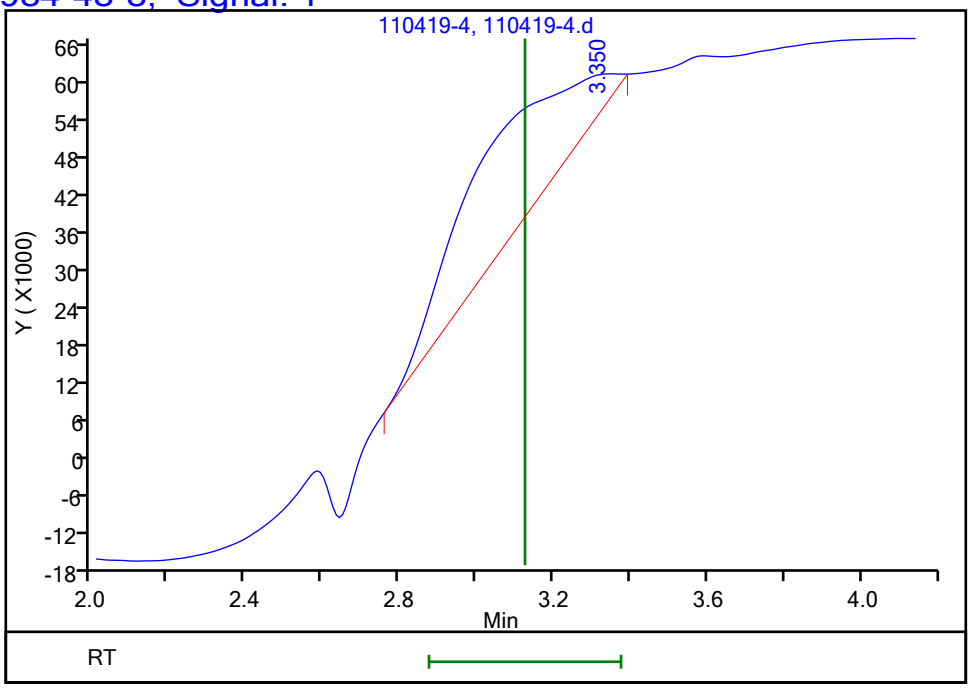

Reviewer: reachs, 05-Nov-2019 10:23:27
Audit Action: Manually Integrated Audit Reason:

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 600-279269/35

Matrix: Water Lab File ID: 110419-35.d

Analysis Method: 300.0 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 11/04/2019 23:24

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS-18 ID:

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 279269 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	ND		0.20	0.025
14797-65-0	Nitrite as N	ND		0.20	0.030

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-35.d
Lims ID: MB
Client ID:
Sample Type: MB
Inject. Date: 04-Nov-2019 23:24:00 ALS Bottle#: 0 Worklist Smp#: 35
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032042-035
Misc. Info.: 26643
Operator ID: Instrument ID: CHWC11

Method: \\chromna\Houston\ChromData\CHWC11\20191101-32042.b\300_11.m
Limit Group: WC - IC_300_9056_48hr
Last Update: 05-Nov-2019 11:31:00 Calib Date: 18-Oct-2019 18:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d

Column 1 : Det: 040914-1
Process Host: CTX0336

First Level Reviewer: reachs Date: 05-Nov-2019 10:49:57

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride		3.125				ND	U
	2 Chloride	4.850	4.842	0.008	32878		NC	
	9 Nitrite as N		6.009				ND	
	1 Bromide		8.650				ND	
	5 Sulfate		9.309				ND	U
	3 Nitrate as N		10.017				ND	
	4 Orthophosphate as P		13.592				ND	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
U - Marked Undetected

Report Date: 05-Nov-2019 11:31:18 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-35.d				
Injection Date:	04-Nov-2019 23:24:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	MB			Worklist Smp#:	35
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		

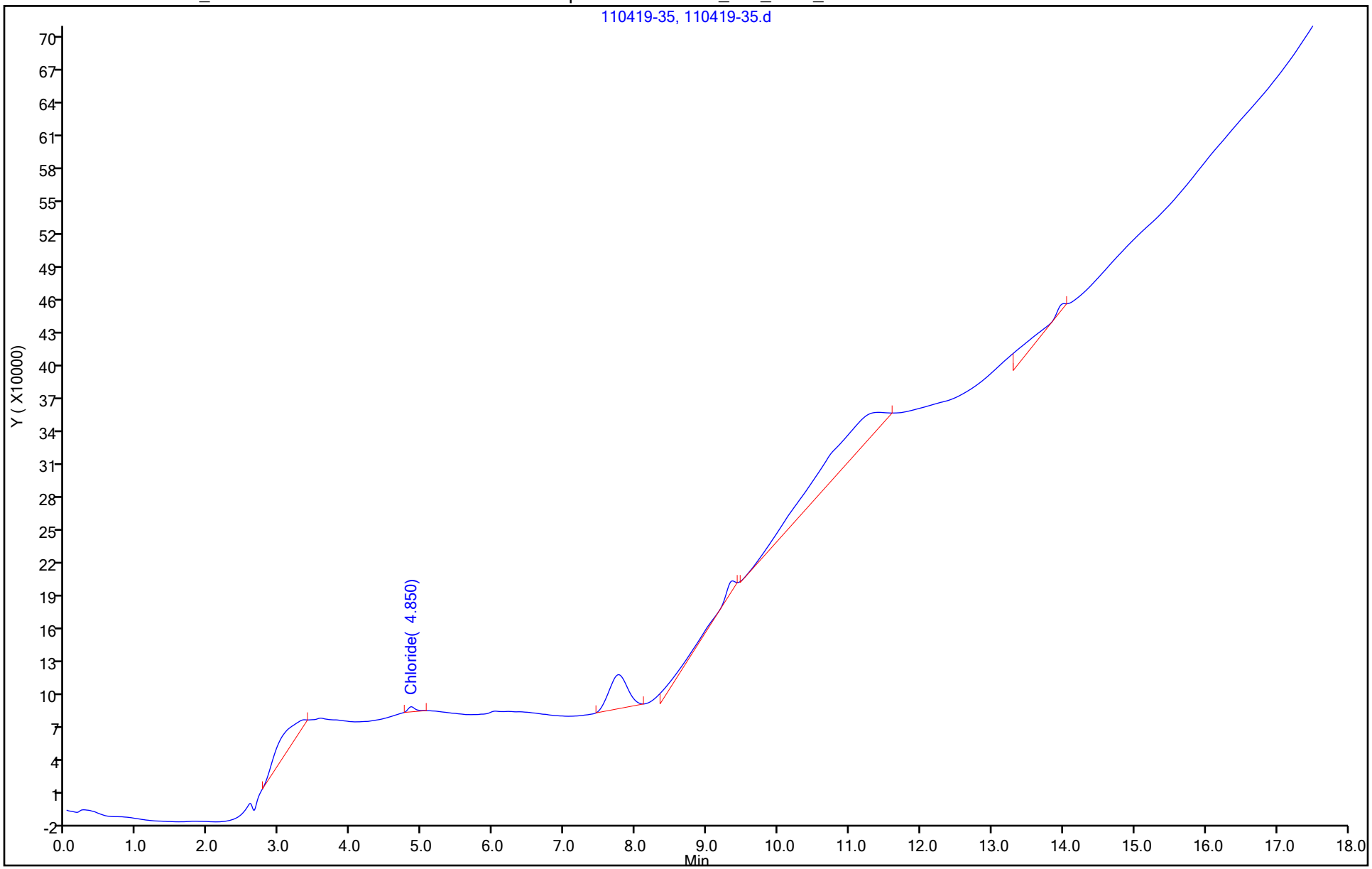

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-194690-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 600-278776/5
Matrix: Water
Lab File ID: 102919-600-0031944-005.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 10/29/2019 02:53
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS22 ID: 2(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 278776
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.40	0.10
16887-00-6	Chloride	ND		0.40	0.053
14808-79-8	Sulfate	ND		0.50	0.096
16984-48-8	Fluoride	ND		0.20	0.060

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-005.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 29-Oct-2019 02:53:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031944-005
Misc. Info.: ccb
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 30-Oct-2019 12:43:28 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0337

First Level Reviewer: reachs Date: 29-Oct-2019 12:05:28

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride		2.241				ND	
	2 Chloride		3.121				ND	U
	9 Nitrite as N		3.761				ND	
	1 Bromide		4.397				ND	
	3 Nitrate as N		4.864				ND	
	4 Orthophosphate as P		7.044				ND	
	5 Sulfate		7.101				ND	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Review Flags

U - Marked Undetected

Report Date: 30-Oct-2019 12:43:31 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-005.d

Injection Date: 29-Oct-2019 02:53:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: CCB Worklist Smp#: 5

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_28day

Column: AS-22 Dionex Lion Pac (2.00 mm)

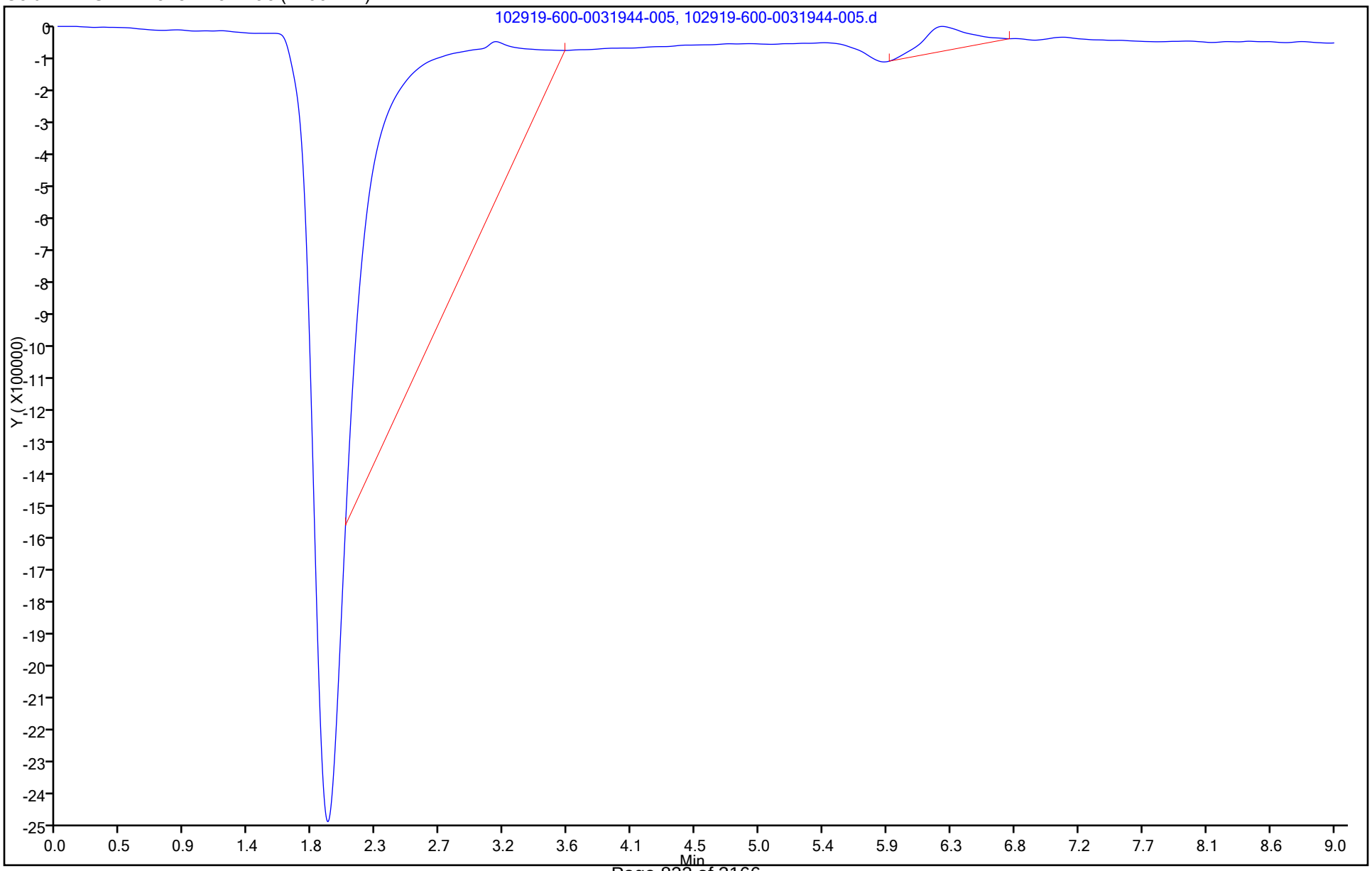

Report Date: 30-Oct-2019 12:43:31 Chrom Revision: 2.3 09-Oct-2019 11:13:36

User Disabled Compound Report

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-005.d

Injection Date: 29-Oct-2019 02:53:00 Instrument ID: CHWC17(IC)

Lims ID: CCB

Client ID:

Operator ID: ALS Bottle#: 0 Worklist Smp#: 5

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_28day

Column: AS-22 Dionex Lion Pac (2.00 mm) Detector 040914-1

2 Chloride, CAS: 16887-00-6, Signal: 1

RT: 3.09

Response: 54840816

Amount: 1.396148

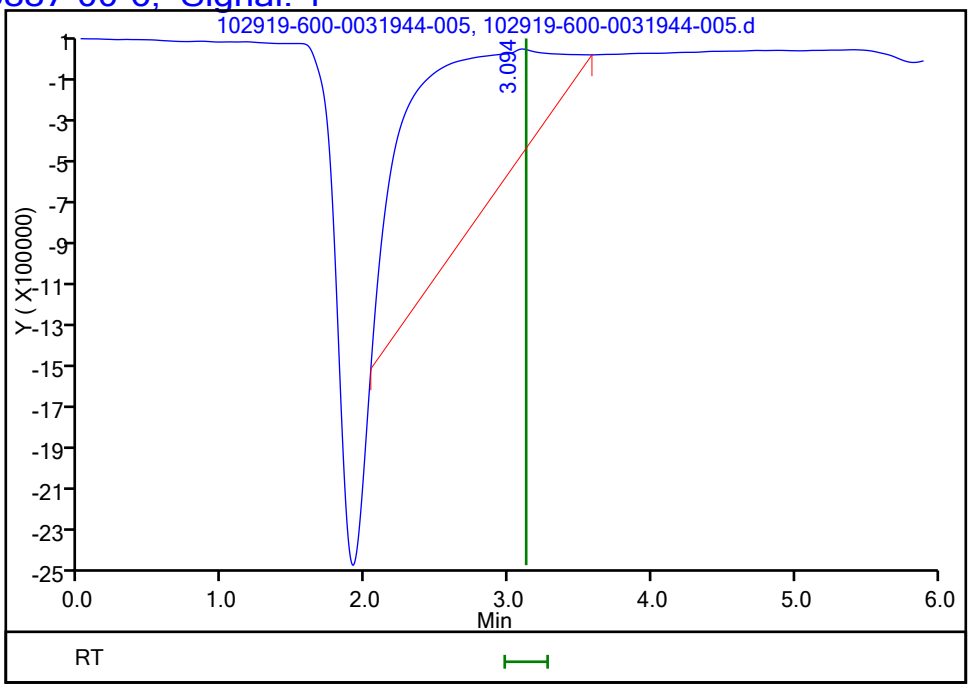

Reviewer: reachs, 29-Oct-2019 12:05:28

Audit Action: Manually Integrated Audit Reason:

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-194690-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 600-278776/17
Matrix: Water
Lab File ID: 102919-600-0031944-017.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 10/29/2019 09:41
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS22 ID: 2(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 278776
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.40	0.10
16887-00-6	Chloride	0.218	J	0.40	0.053
14808-79-8	Sulfate	ND		0.50	0.096
16984-48-8	Fluoride	ND		0.20	0.060

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-017.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 29-Oct-2019 09:41:00 ALS Bottle#: 0 Worklist Smp#: 17
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031944-017
Misc. Info.: ccb
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 30-Oct-2019 12:43:41 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0337

First Level Reviewer: reachs Date: 30-Oct-2019 12:10:17

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride		2.241				ND	
	2 Chloride	3.084	3.121	-0.037	442644		0.2185	M
	9 Nitrite as N		3.761				ND	
	1 Bromide		4.397				ND	
	3 Nitrate as N		4.864				ND	
	4 Orthophosphate as P		7.044				ND	
	5 Sulfate		7.101				ND	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 30-Oct-2019 12:43:43 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-017.d

Injection Date: 29-Oct-2019 09:41:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: CCB Worklist Smp#: 17

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_28day

Column: AS-22 Dionex Lion Pac (2.00 mm)

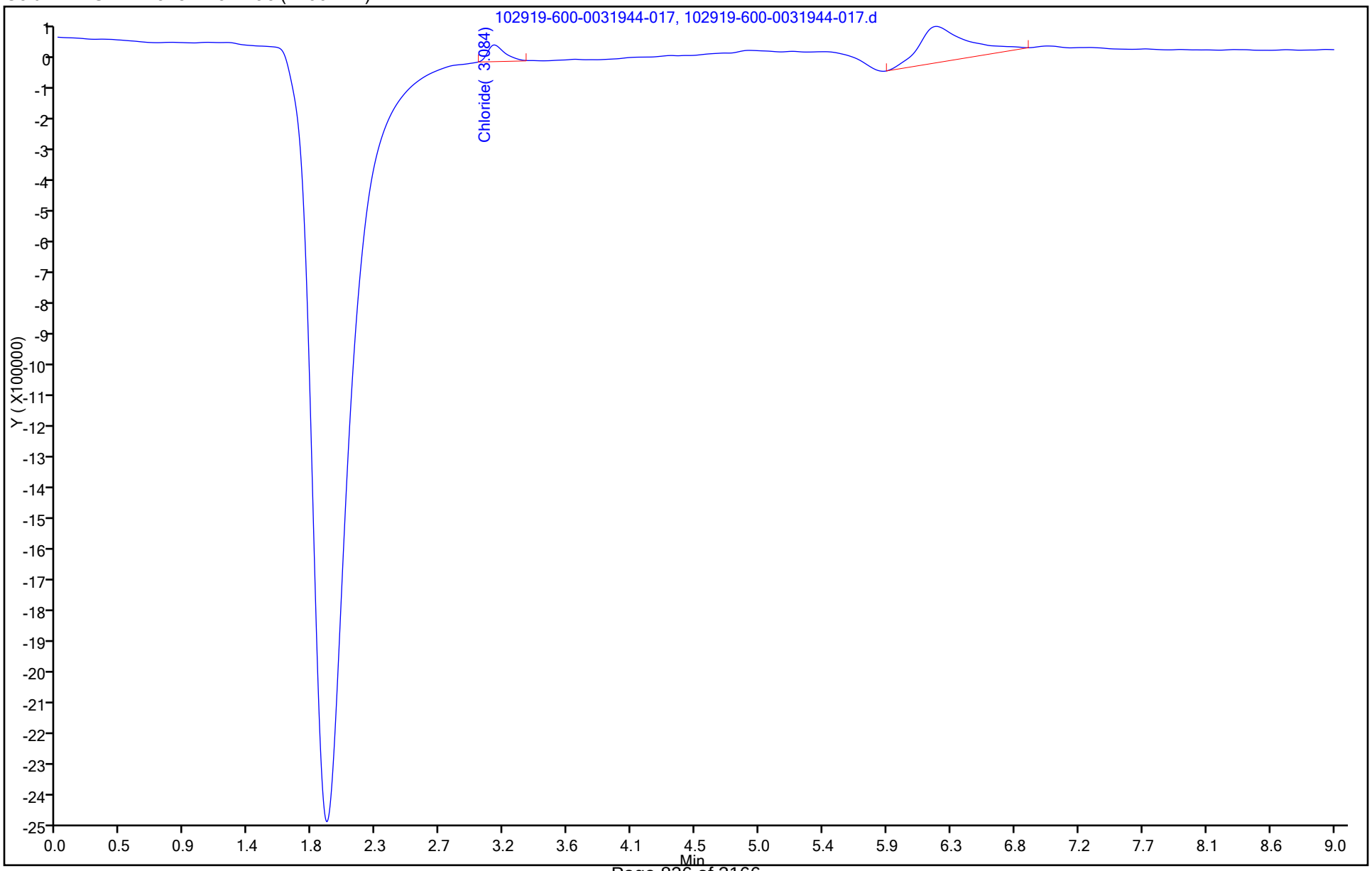

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-017.d				
Injection Date:	29-Oct-2019 09:41:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCB				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	17
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

2 Chloride, CAS: 16887-00-6

Signal: 1

Processing Integration Results

RT: 3.08
Area: 41820195
Amount: 1.114262
Amount Units: ug/ml

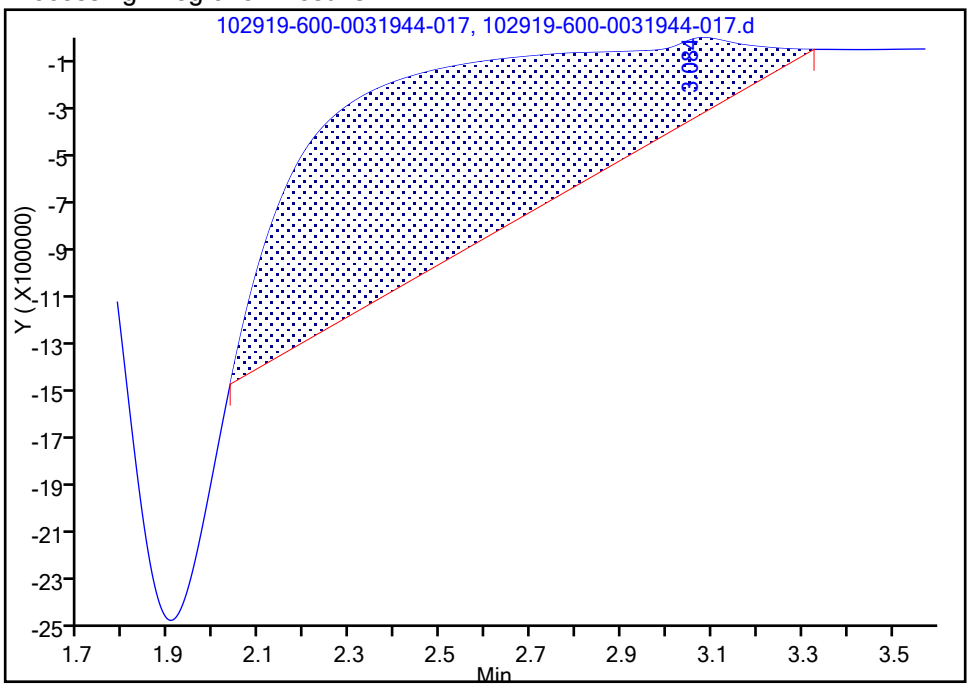

Manual Integration Results

RT: 3.08
Area: 442644
Amount: 0.218469
Amount Units: ug/ml

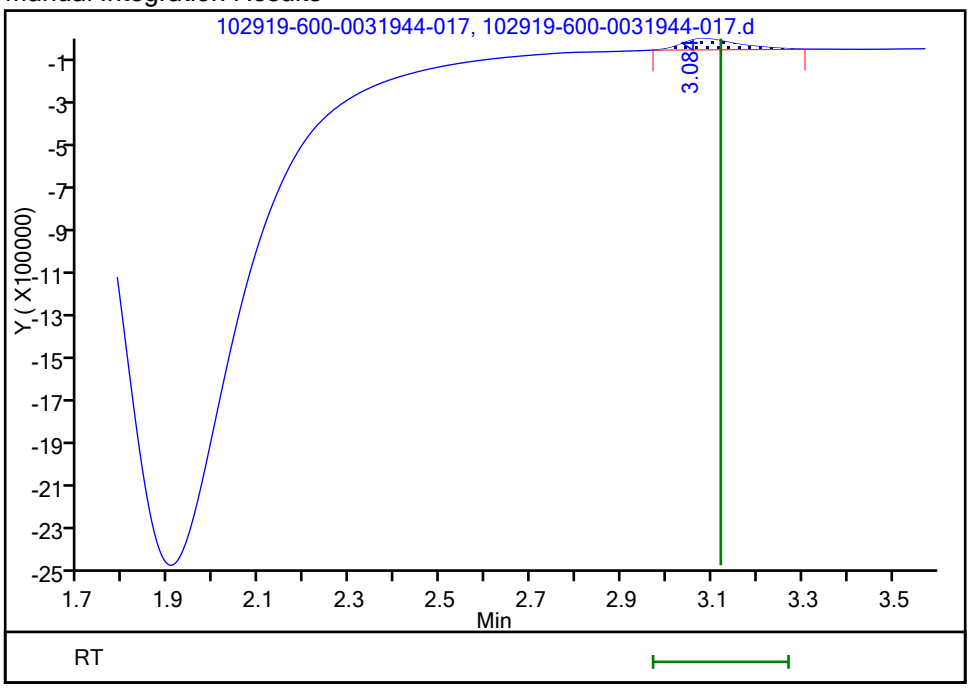

Reviewer: reachs, 30-Oct-2019 12:10:12

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-194690-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 600-278777/5
Matrix: Water
Lab File ID: 102919-600-0031944-005.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 10/29/2019 02:53
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS22 ID: 2(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 278777
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	ND		0.20	0.025
14797-65-0	Nitrite as N	ND		0.20	0.030

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-005.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 29-Oct-2019 02:53:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031944-005
Misc. Info.: ccb
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 30-Oct-2019 12:43:28 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0337

First Level Reviewer: reachs Date: 29-Oct-2019 12:05:28

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride		2.241				ND	
	2 Chloride		3.121				ND	U
	9 Nitrite as N		3.761				ND	
	1 Bromide		4.397				ND	
	3 Nitrate as N		4.864				ND	
	4 Orthophosphate as P		7.044				ND	
	5 Sulfate		7.101				ND	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Review Flags

U - Marked Undetected

Report Date: 30-Oct-2019 12:43:31 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-005.d

Injection Date: 29-Oct-2019 02:53:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: CCB Worklist Smp#: 5

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_48hr

Column: AS-22 Dionex Lion Pac (2.00 mm)

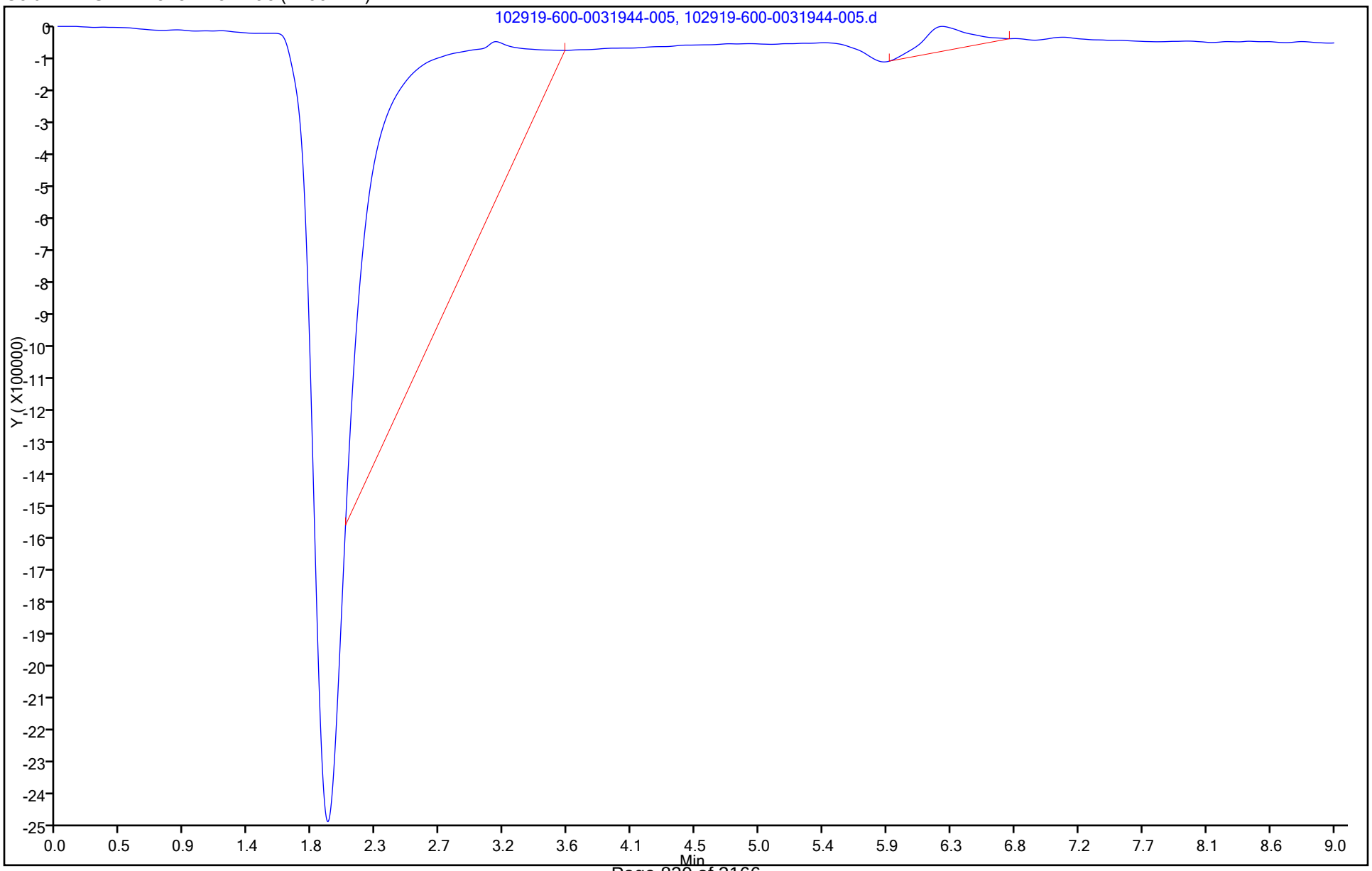

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-194690-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 600-278777/17
Matrix: Water
Lab File ID: 102919-600-0031944-017.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 10/29/2019 09:41
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS22 ID: 2(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 278777
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	ND		0.20	0.025
14797-65-0	Nitrite as N	ND		0.20	0.030

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-017.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 29-Oct-2019 09:41:00 ALS Bottle#: 0 Worklist Smp#: 17
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031944-017
Misc. Info.: ccb
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 30-Oct-2019 12:43:41 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0337

First Level Reviewer: reachs Date: 30-Oct-2019 12:10:17

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride		2.241				ND	
	2 Chloride	3.084	3.121	-0.037	442644		NC	M
	9 Nitrite as N		3.761				ND	
	1 Bromide		4.397				ND	
	3 Nitrate as N		4.864				ND	
	4 Orthophosphate as P		7.044				ND	
	5 Sulfate		7.101				ND	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Report Date: 30-Oct-2019 12:43:43 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-017.d

Injection Date: 29-Oct-2019 09:41:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: CCB Worklist Smp#: 17

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_48hr

Column: AS-22 Dionex Lion Pac (2.00 mm)

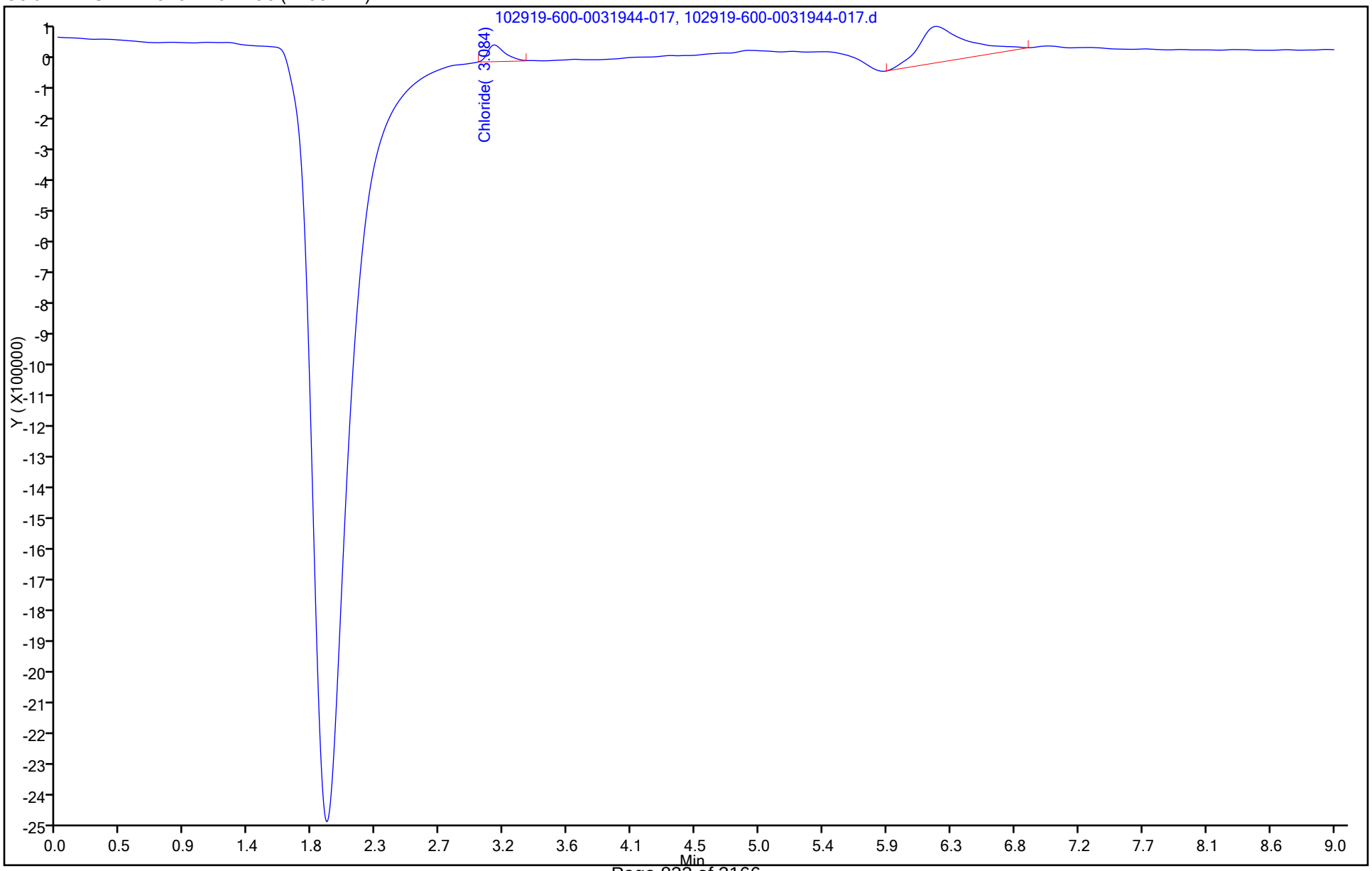

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-194690-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 600-278901/5
Matrix: Water
Lab File ID: 103019-600-0031972-005.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 10/30/2019 06:23
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS22 ID: 2(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 278901
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.40	0.10
16887-00-6	Chloride	0.234	J	0.40	0.053
14808-79-8	Sulfate	ND		0.50	0.096
16984-48-8	Fluoride	ND		0.20	0.060

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-005.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 30-Oct-2019 06:23:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031972-005
Misc. Info.: ccb
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 31-Oct-2019 12:35:10 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0305

First Level Reviewer: reachs Date: 30-Oct-2019 14:09:50

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride		2.241				ND	
	2 Chloride	3.084	3.121	-0.037	1150155		0.2338	M
	9 Nitrite as N		3.761				ND	
	1 Bromide		4.397				ND	
	3 Nitrate as N	4.884	4.864	0.020	102668		NC	
	4 Orthophosphate as P		7.044				ND	
	5 Sulfate		7.101				ND	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Report Date: 31-Oct-2019 12:35:15 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-005.d				
Injection Date:	30-Oct-2019 06:23:00	Instrument ID:	CHWC17(IC)	Operator ID:	
Lims ID:	CCB			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		

Column: AS-22 Dionex Lion Pac (2.00 mm)

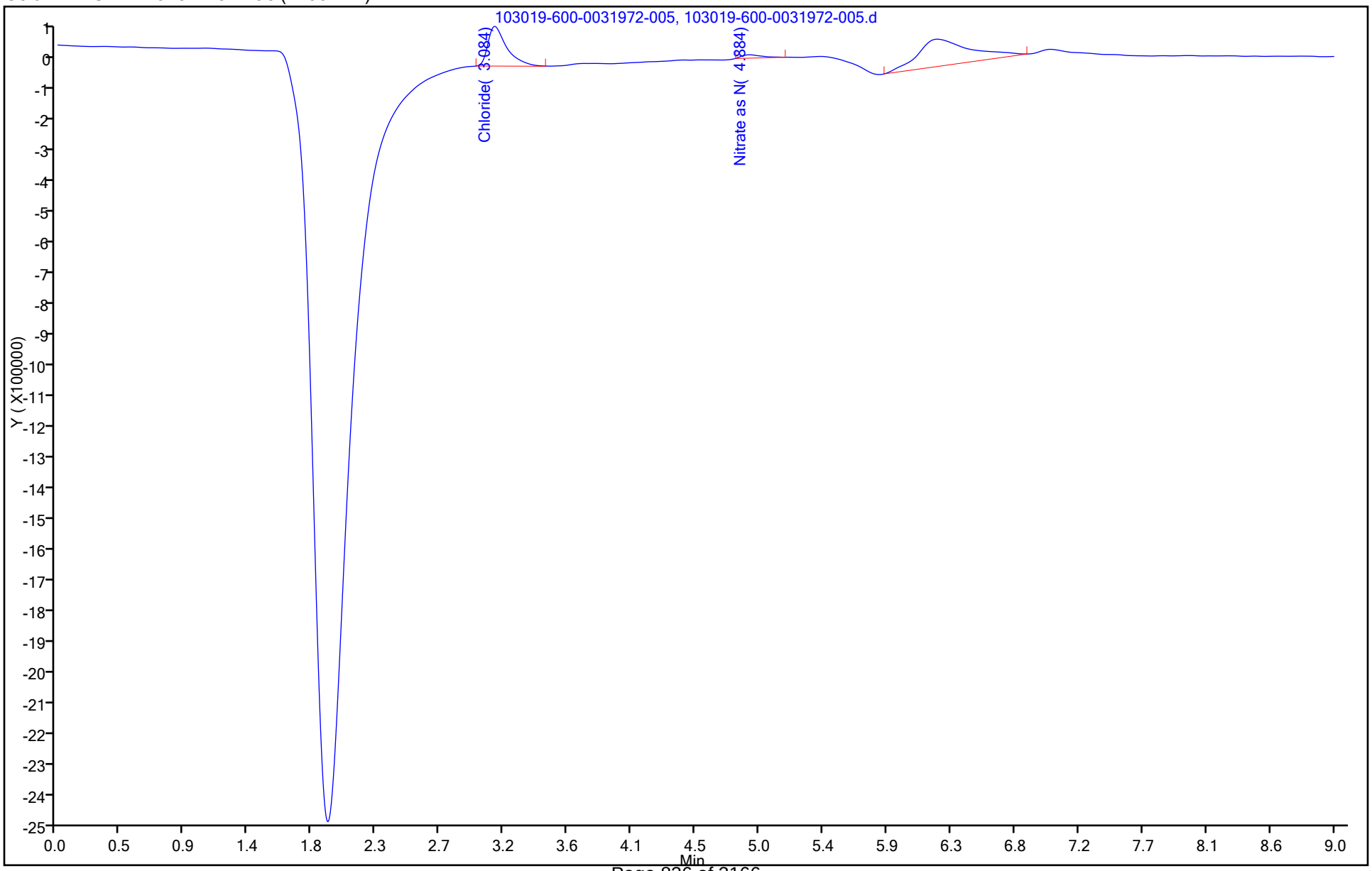

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-005.d				
Injection Date:	30-Oct-2019 06:23:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCB				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

2 Chloride, CAS: 16887-00-6

Signal: 1

Processing Integration Results

RT: 3.08
Area: 51335626
Amount: 1.320264
Amount Units: ug/ml

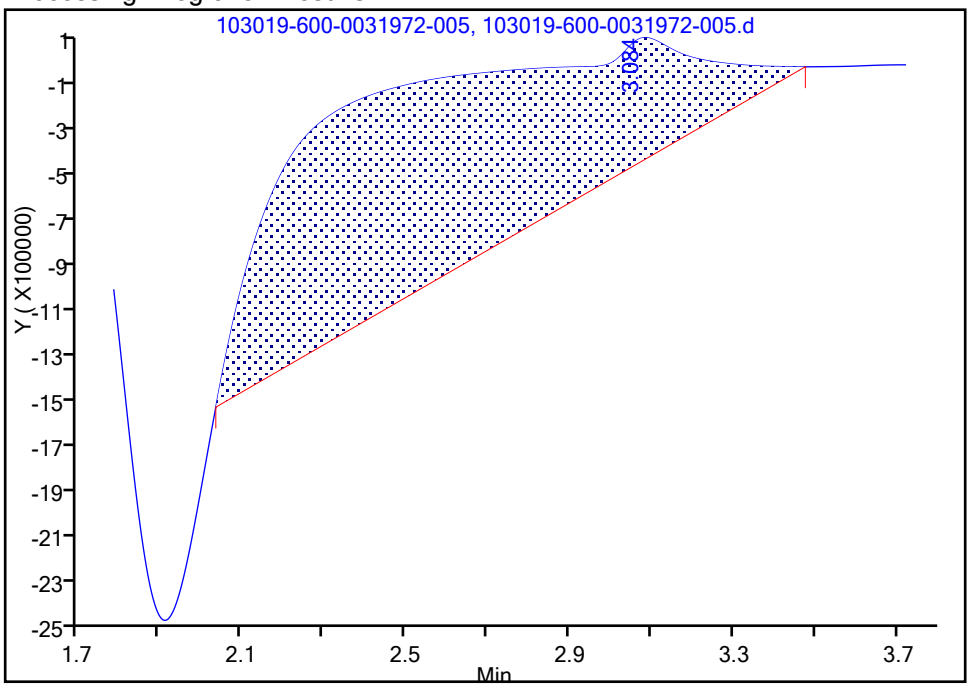

Manual Integration Results

RT: 3.08
Area: 1150155
Amount: 0.233786
Amount Units: ug/ml

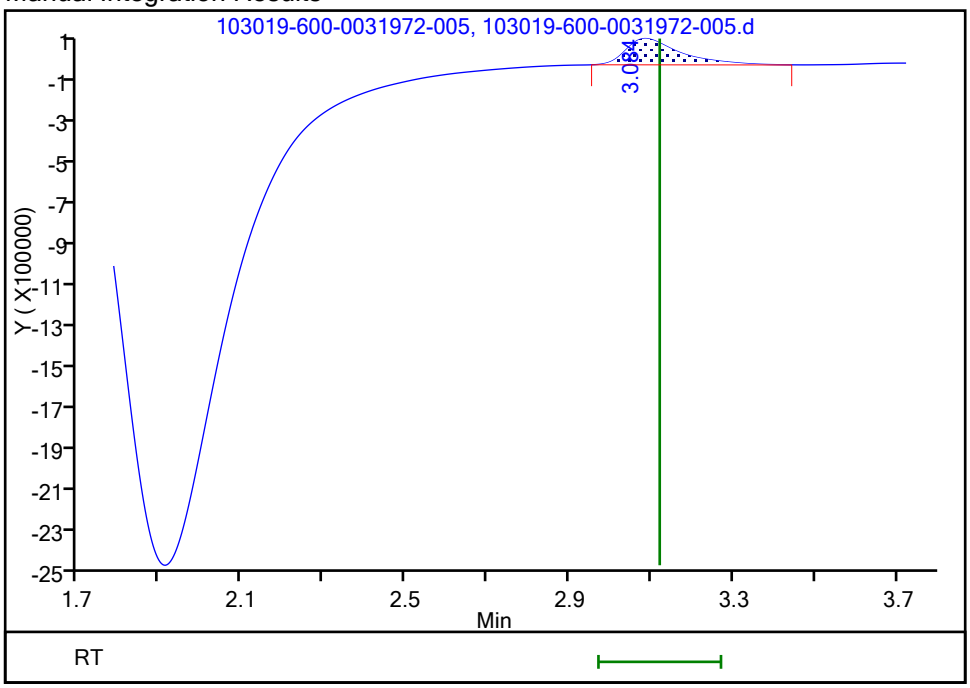

Reviewer: reachs, 30-Oct-2019 14:09:42

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-194690-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 600-278901/17
Matrix: Water
Lab File ID: 103019-600-0031972-017.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 10/30/2019 11:19
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS22 ID: 2(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 278901
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.40	0.10
16887-00-6	Chloride	0.219	J	0.40	0.053
14808-79-8	Sulfate	ND		0.50	0.096
16984-48-8	Fluoride	ND		0.20	0.060

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-017.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 30-Oct-2019 11:19:00 ALS Bottle#: 0 Worklist Smp#: 17
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031972-017
Misc. Info.: ccb
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 31-Oct-2019 12:35:33 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0305

First Level Reviewer: reachs Date: 31-Oct-2019 11:52:32

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride		2.241				ND	
	2 Chloride	3.071	3.121	-0.050	489432		0.2195	M
	9 Nitrite as N		3.761				ND	
	1 Bromide		4.397				ND	
	3 Nitrate as N		4.864				ND	
	4 Orthophosphate as P		7.044				ND	
	5 Sulfate		7.101				ND	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 31-Oct-2019 12:35:35 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-017.d				
Injection Date:	30-Oct-2019 11:19:00	Instrument ID:	CHWC17(IC)	Operator ID:	
Lims ID:	CCB			Worklist Smp#:	17
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		

Column: AS-22 Dionex Lion Pac (2.00 mm)

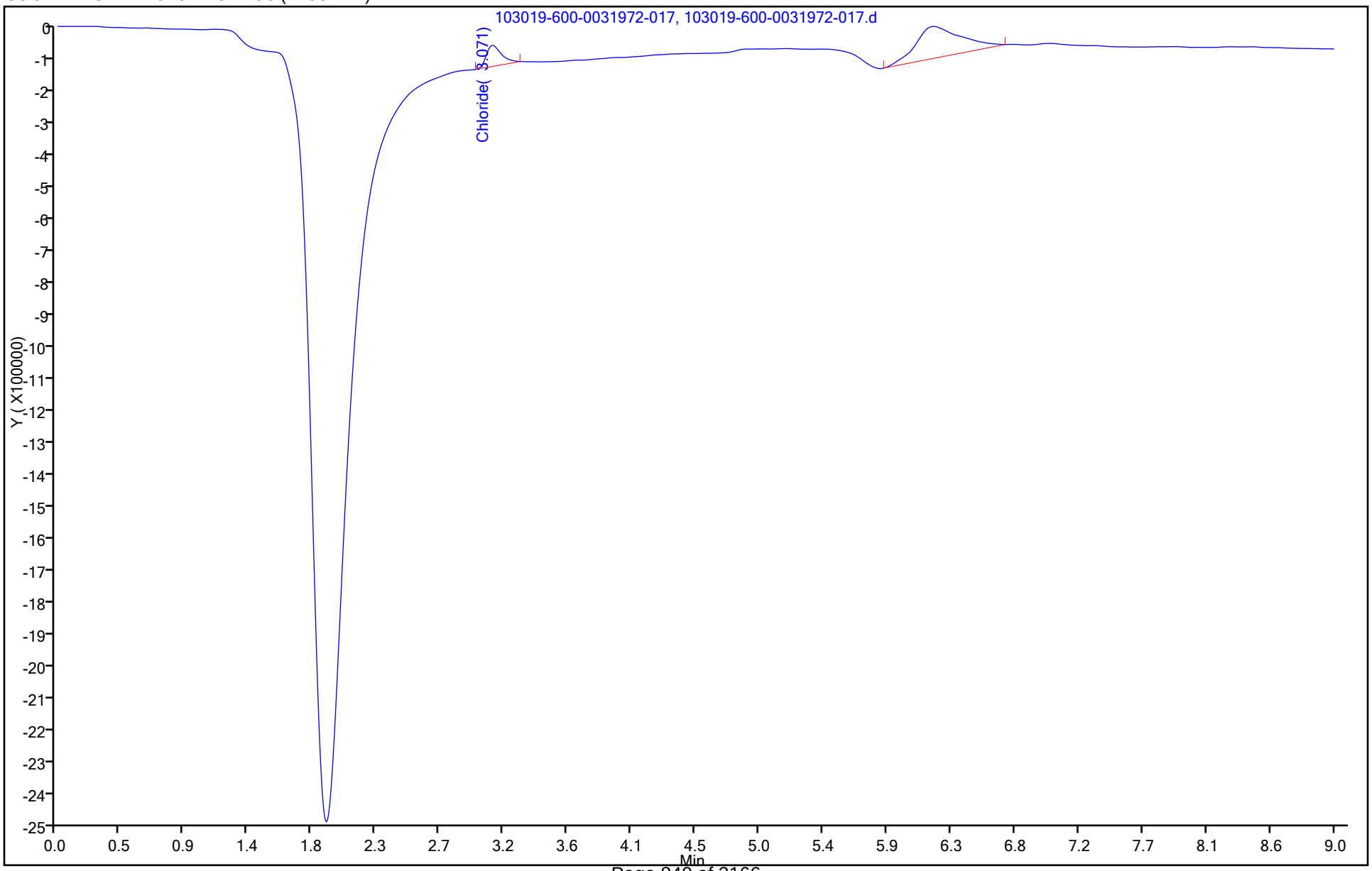

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-017.d				
Injection Date:	30-Oct-2019 11:19:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCB				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	17
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

2 Chloride, CAS: 16887-00-6

Signal: 1

Processing Integration Results

RT: 3.07
Area: 41265426
Amount: 1.102251
Amount Units: ug/ml

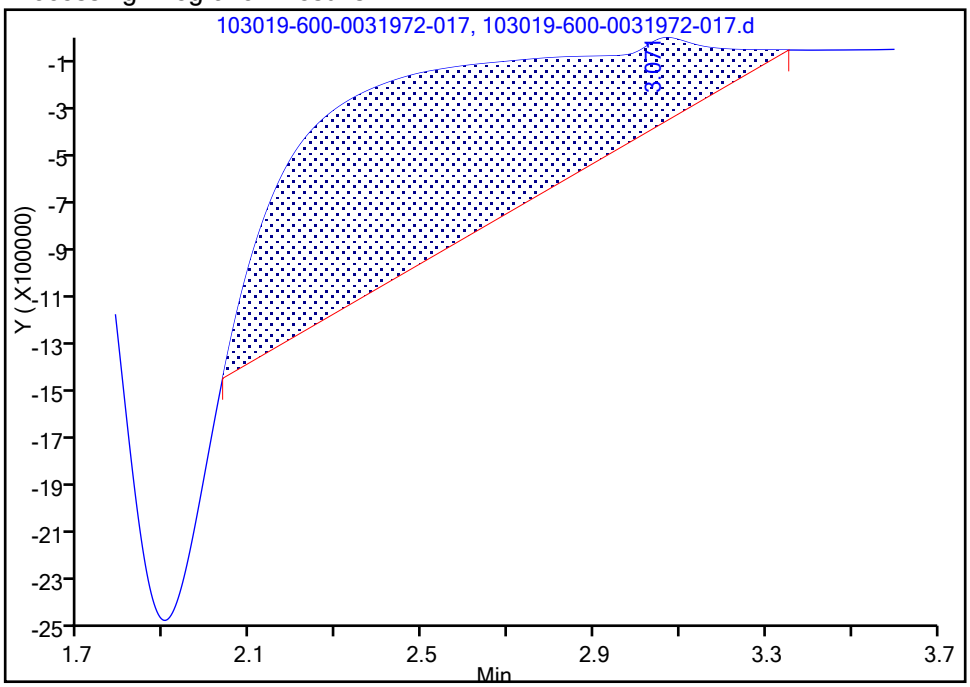

Manual Integration Results

RT: 3.07
Area: 489432
Amount: 0.219482
Amount Units: ug/ml

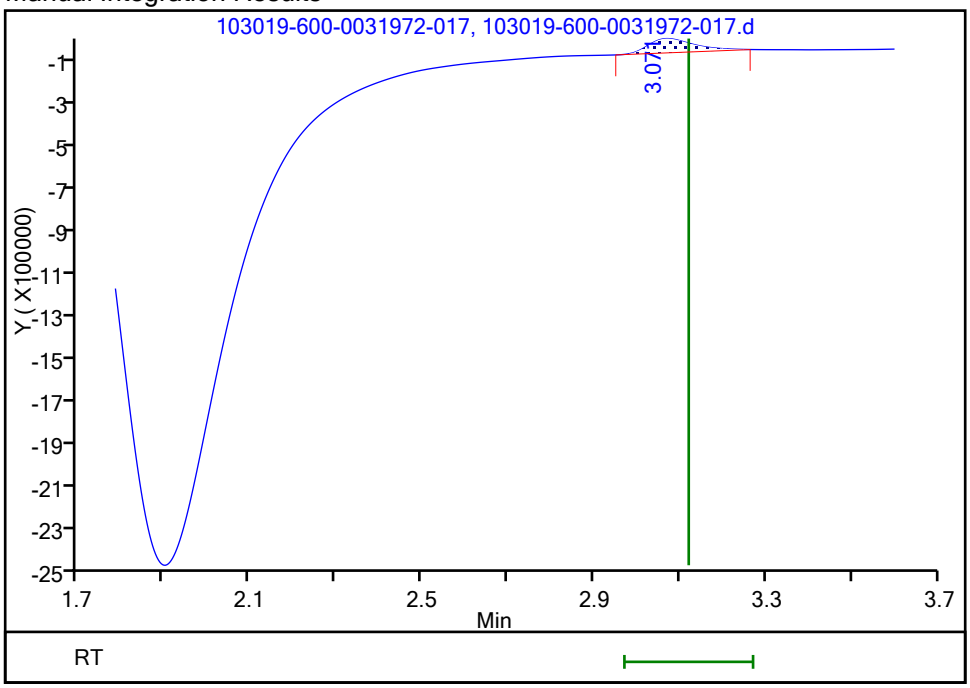

Reviewer: reachs, 31-Oct-2019 11:52:28

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-194690-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 600-278901/29
Matrix: Water
Lab File ID: 103019-600-0031972-029.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 10/30/2019 13:28
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS22 ID: 2(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 278901
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.40	0.10
16887-00-6	Chloride	0.216	J	0.40	0.053
14808-79-8	Sulfate	ND		0.50	0.096
16984-48-8	Fluoride	ND		0.20	0.060

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-029.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 30-Oct-2019 13:28:00 ALS Bottle#: 0 Worklist Smp#: 29
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031972-029
Misc. Info.: ccb
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 31-Oct-2019 12:35:49 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0305

First Level Reviewer: reachs Date: 31-Oct-2019 12:05:36

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride		2.241				ND	
	2 Chloride	3.081	3.121	-0.040	323508		0.2159	M
	9 Nitrite as N		3.761				ND	
	1 Bromide		4.397				ND	
	3 Nitrate as N		4.864				ND	
	4 Orthophosphate as P		7.044				ND	
	5 Sulfate		7.101				ND	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 31-Oct-2019 12:35:50 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-029.d

Injection Date: 30-Oct-2019 13:28:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: CCB Worklist Smp#: 29

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_28day

Column: AS-22 Dionex Lion Pac (2.00 mm)

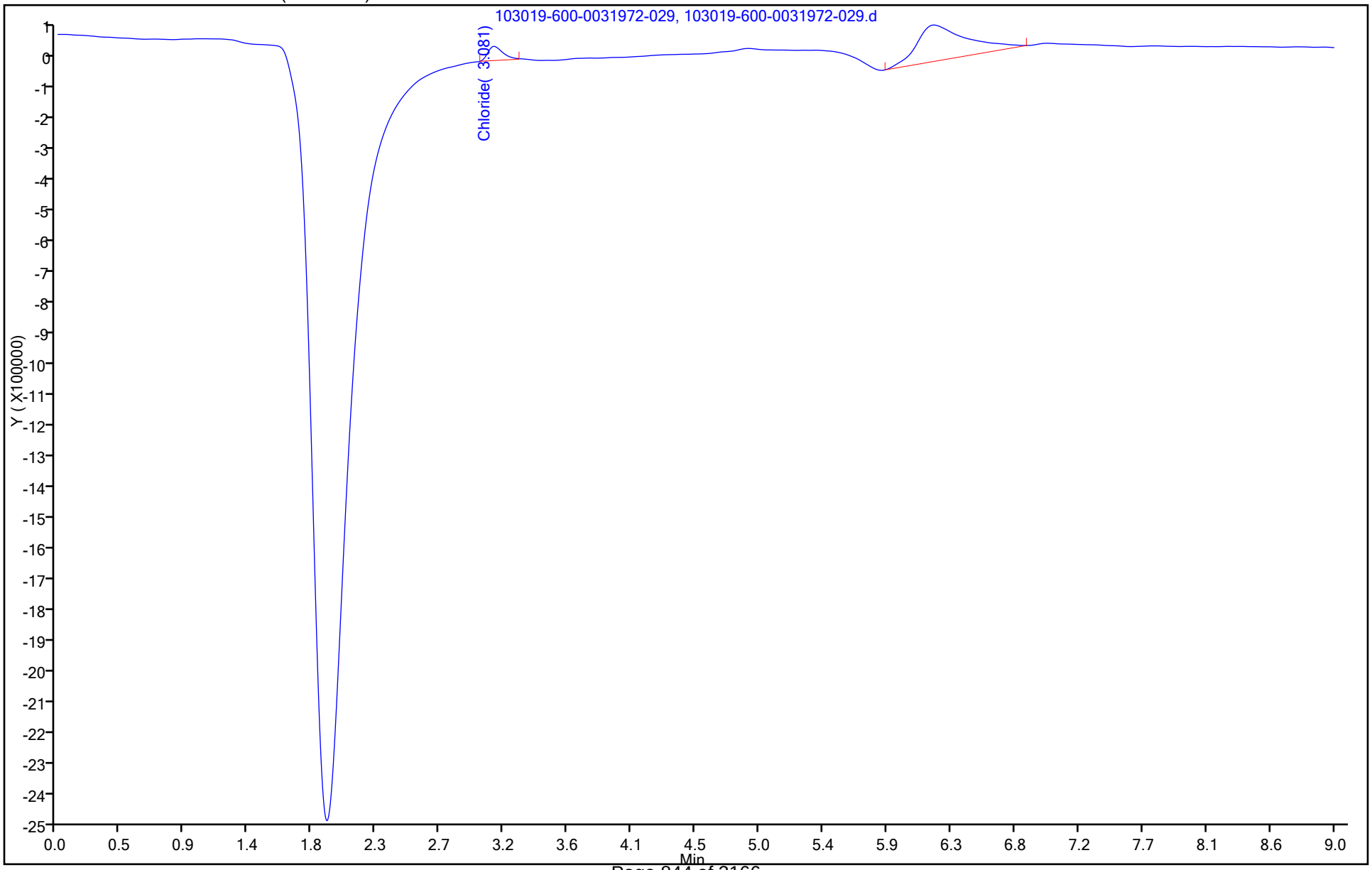

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-029.d				
Injection Date:	30-Oct-2019 13:28:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCB				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	29
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

2 Chloride, CAS: 16887-00-6

Signal: 1

Processing Integration Results

RT: 3.08
Area: 45415522
Amount: 1.192098
Amount Units: ug/ml

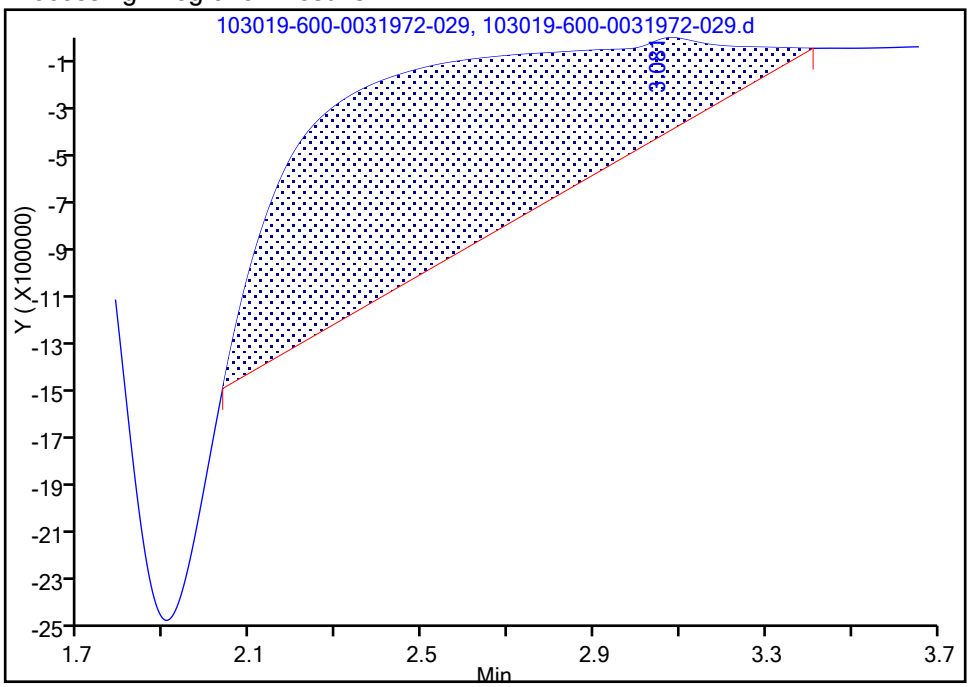

Manual Integration Results

RT: 3.08
Area: 323508
Amount: 0.215890
Amount Units: ug/ml

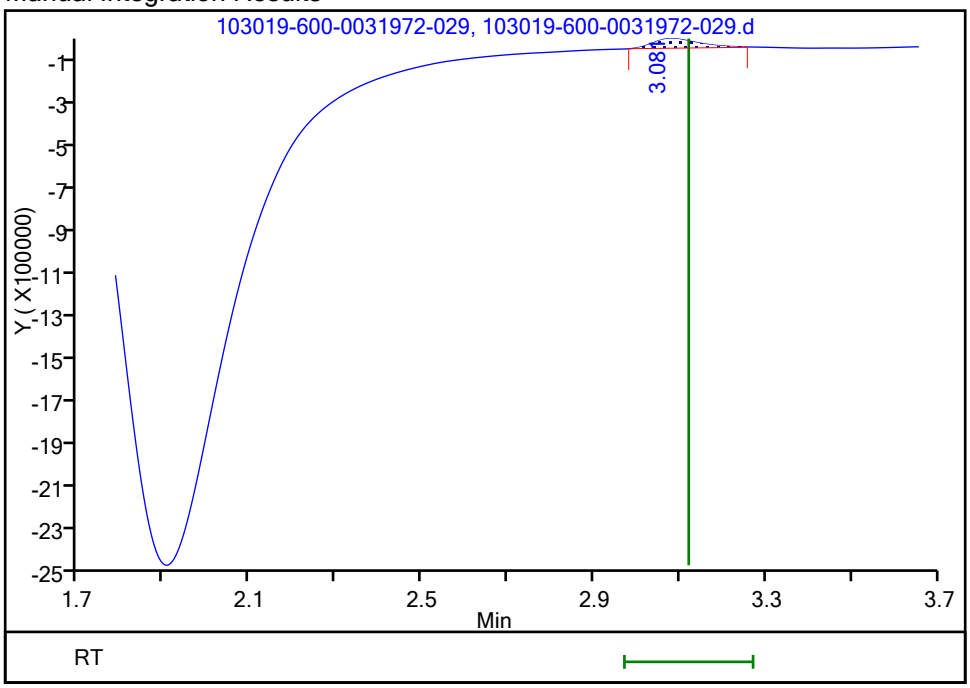

Reviewer: reachs, 31-Oct-2019 12:05:32

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: Lab Sample ID: CCB 600-278901/41

Matrix: Water Lab File ID: 103019-600-0031972-041.d

Analysis Method: 300.0 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 10/30/2019 15:37

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS22 ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 278901 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.40	0.10
16887-00-6	Chloride	0.226	J	0.40	0.053
14808-79-8	Sulfate	ND		0.50	0.096
16984-48-8	Fluoride	ND		0.20	0.060

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-041.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 30-Oct-2019 15:37:00 ALS Bottle#: 0 Worklist Smp#: 41
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031972-041
Misc. Info.: ccb
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 31-Oct-2019 12:36:02 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0305

First Level Reviewer: reachs Date: 31-Oct-2019 12:27:10

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride		2.241				ND	
	2 Chloride	3.094	3.121	-0.027	790778		0.2260	M
	9 Nitrite as N		3.761				ND	
	1 Bromide		4.397				ND	
	3 Nitrate as N		4.864				ND	
	4 Orthophosphate as P		7.044				ND	
	5 Sulfate		7.101				ND	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 31-Oct-2019 12:36:03 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-041.d

Injection Date: 30-Oct-2019 15:37:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: CCB Worklist Smp#: 41

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_28day

Column: AS-22 Dionex Lion Pac (2.00 mm)

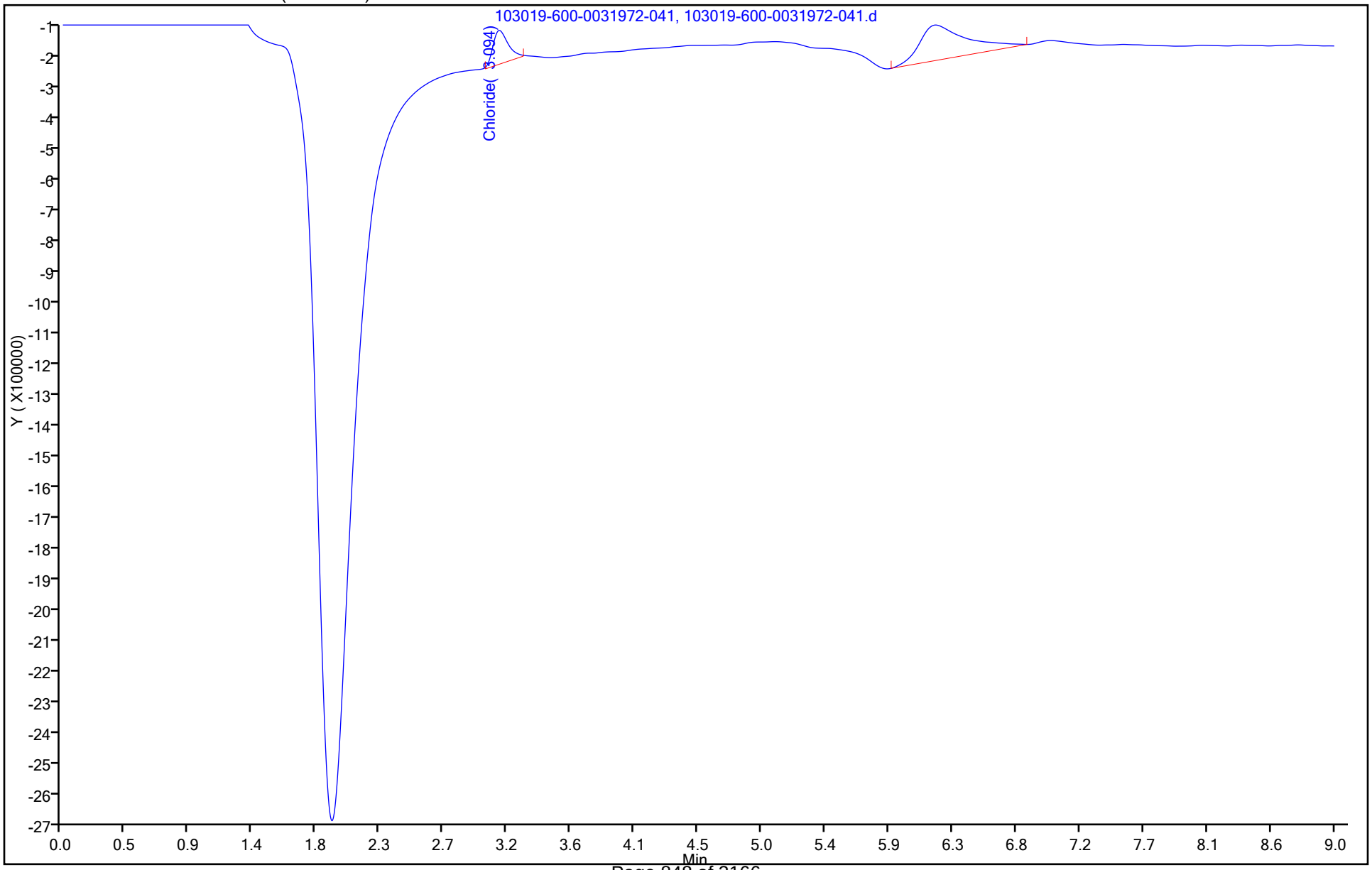

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-041.d				
Injection Date:	30-Oct-2019 15:37:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCB				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	41
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

2 Chloride, CAS: 16887-00-6

Signal: 1

Processing Integration Results

RT: 3.09
Area: 49139678
Amount: 1.272723
Amount Units: ug/ml

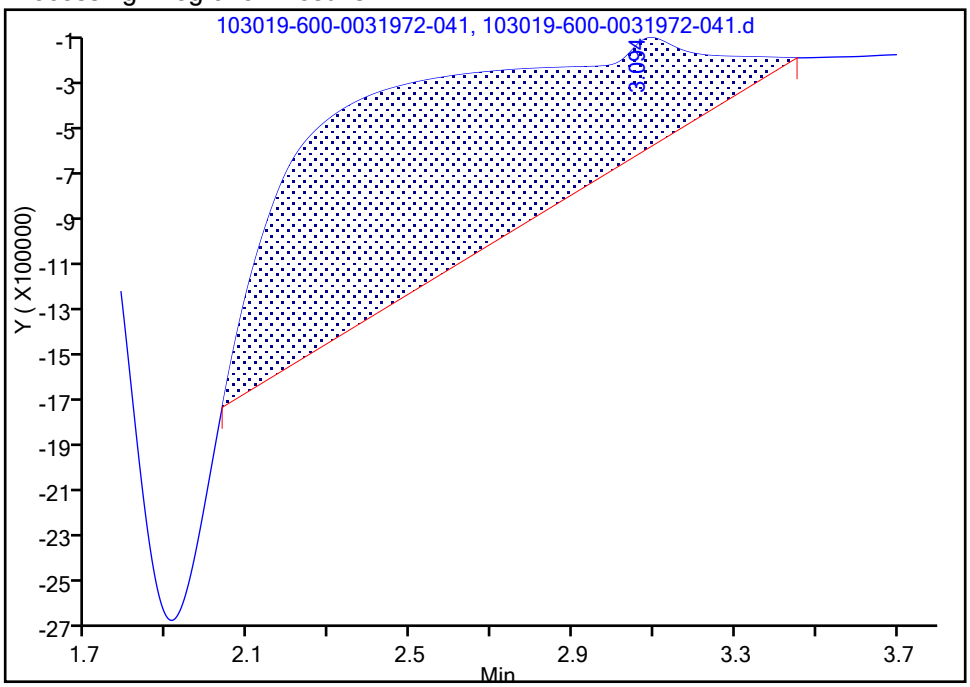

Manual Integration Results

RT: 3.09
Area: 790778
Amount: 0.226006
Amount Units: ug/ml

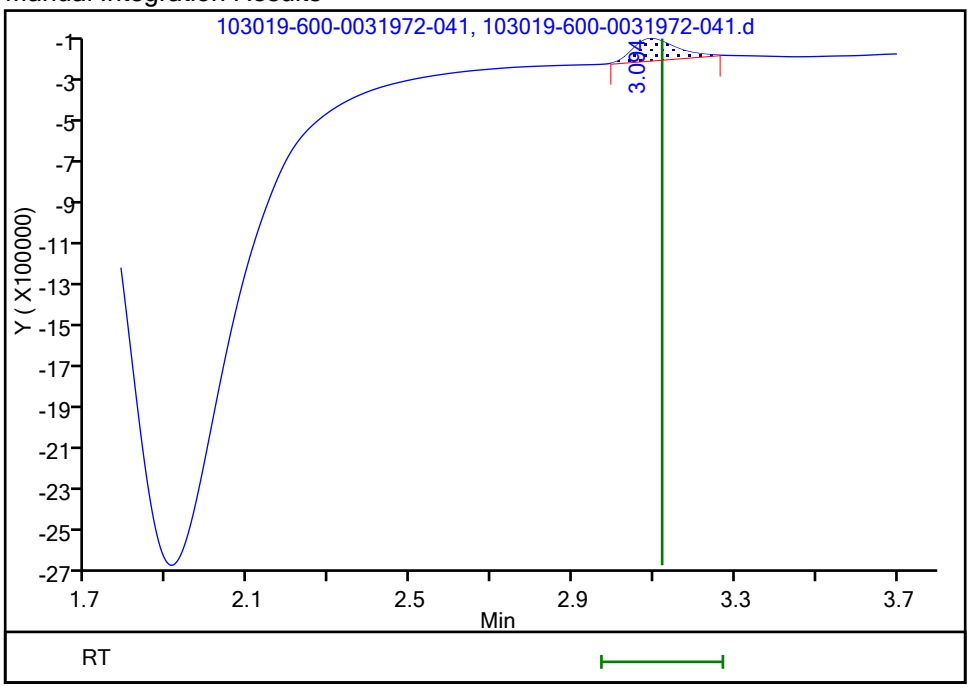

Reviewer: reachs, 31-Oct-2019 12:27:05

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-194690-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 600-278901/49
Matrix: Water
Lab File ID: 103019-600-0031972-049.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 10/30/2019 17:03
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS22 ID: 2(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 278901
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.40	0.10
16887-00-6	Chloride	0.219	J	0.40	0.053
14808-79-8	Sulfate	ND		0.50	0.096
16984-48-8	Fluoride	ND		0.20	0.060

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-049.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 30-Oct-2019 17:03:00 ALS Bottle#: 0 Worklist Smp#: 49
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031972-049
Misc. Info.: ccb
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 31-Oct-2019 12:36:09 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0305

First Level Reviewer: reachs Date: 31-Oct-2019 12:34:21

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride		2.241				ND	
	2 Chloride	3.097	3.121	-0.024	476324		0.2192	M
	9 Nitrite as N		3.761				ND	
	1 Bromide		4.397				ND	
	3 Nitrate as N		4.864				ND	
	4 Orthophosphate as P		7.044				ND	
	5 Sulfate		7.101				ND	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 31-Oct-2019 12:36:10 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-049.d

Injection Date: 30-Oct-2019 17:03:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: CCB Worklist Smp#: 49

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_28day

Column: AS-22 Dionex Lion Pac (2.00 mm)

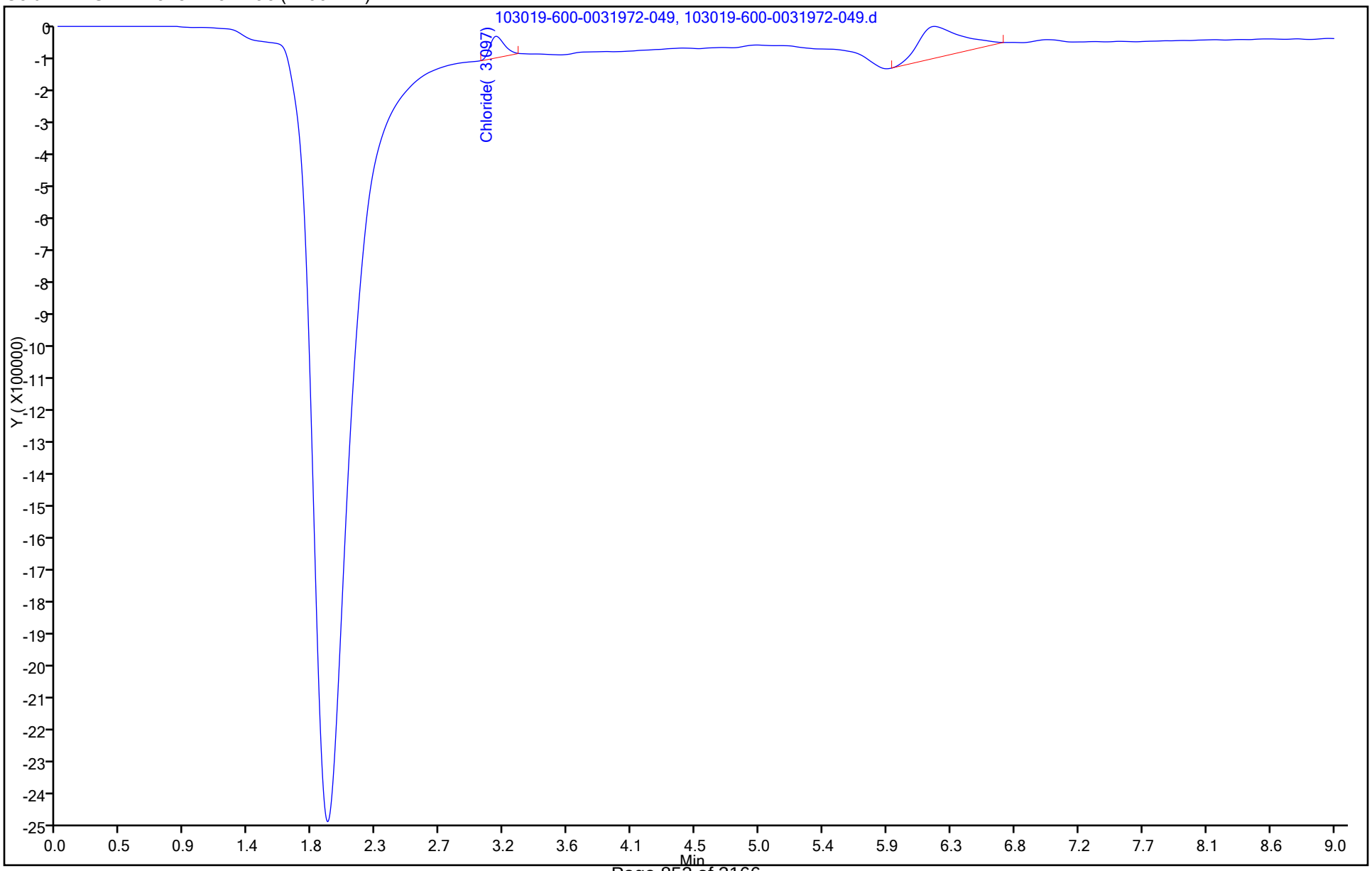

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-049.d				
Injection Date:	30-Oct-2019 17:03:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCB				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	49
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

2 Chloride, CAS: 16887-00-6

Signal: 1

Processing Integration Results

RT: 3.10
Area: 44579697
Amount: 1.174003
Amount Units: ug/ml

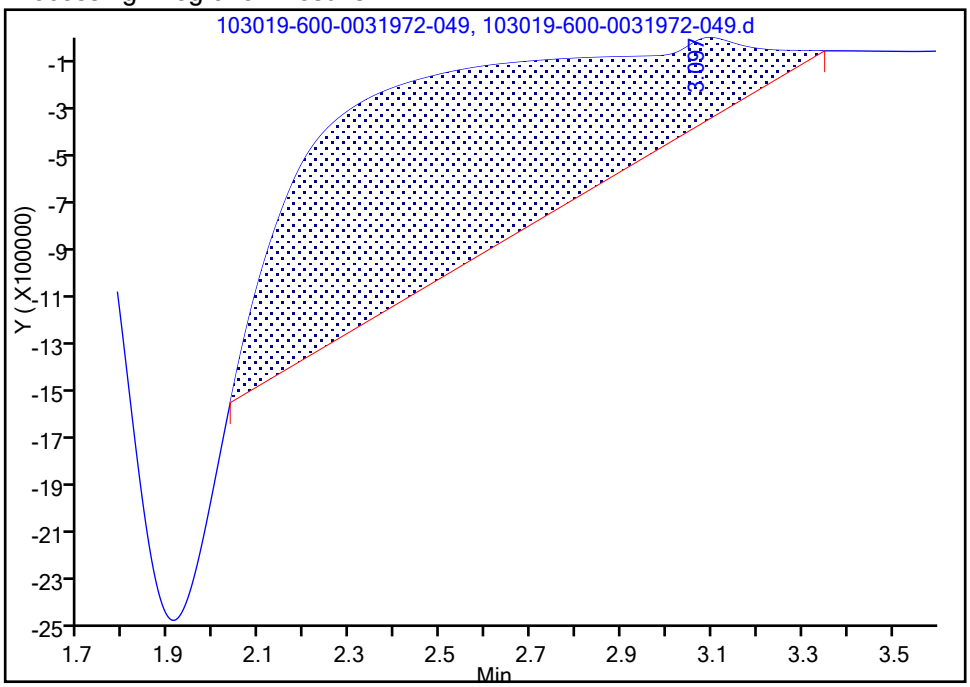

Manual Integration Results

RT: 3.10
Area: 476324
Amount: 0.219198
Amount Units: ug/ml

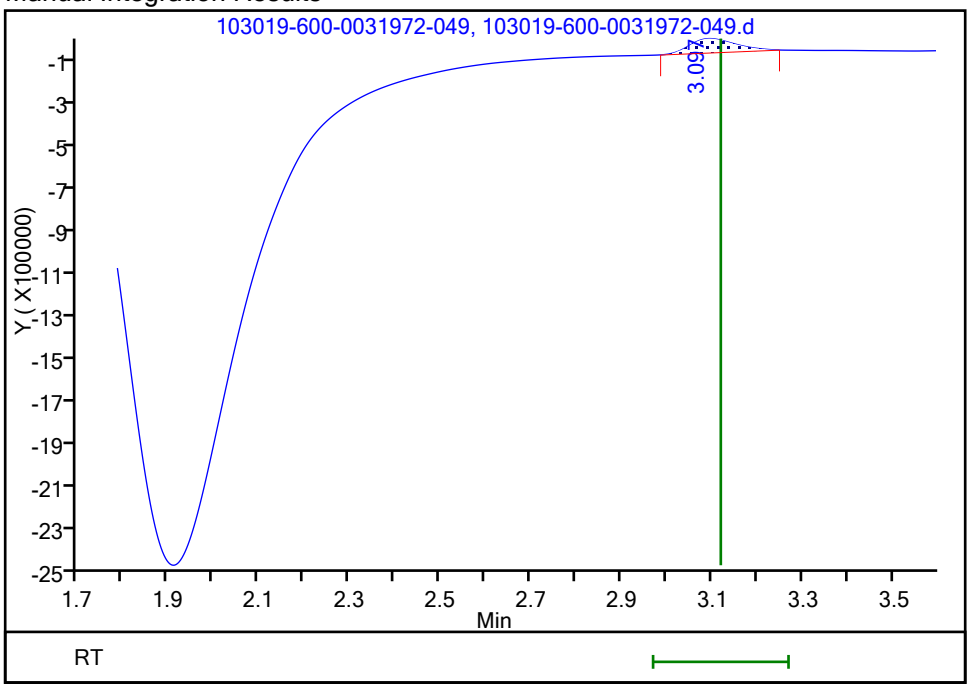

Reviewer: reachs, 31-Oct-2019 12:34:15

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-194690-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 600-278902/5
Matrix: Water
Lab File ID: 103019-600-0031972-005.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 10/30/2019 06:23
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS22 ID: 2(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 278902
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	0.119	J	0.20	0.025
14797-65-0	Nitrite as N	ND		0.20	0.030

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-005.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 30-Oct-2019 06:23:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031972-005
Misc. Info.: ccb
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 31-Oct-2019 12:35:10 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0305

First Level Reviewer: reachs Date: 30-Oct-2019 14:09:50

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride		2.241				ND	
	2 Chloride	3.084	3.121	-0.037	1150155		NC	M
	9 Nitrite as N		3.761				ND	
	1 Bromide		4.397				ND	
	3 Nitrate as N	4.884	4.864	0.020	102668		0.1194	
	4 Orthophosphate as P		7.044				ND	
	5 Sulfate		7.101				ND	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N						0.1194	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Report Date: 31-Oct-2019 12:35:15 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-005.d

Injection Date: 30-Oct-2019 06:23:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: CCB Worklist Smp#: 5

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_48hr

Column: AS-22 Dionex Lion Pac (2.00 mm)

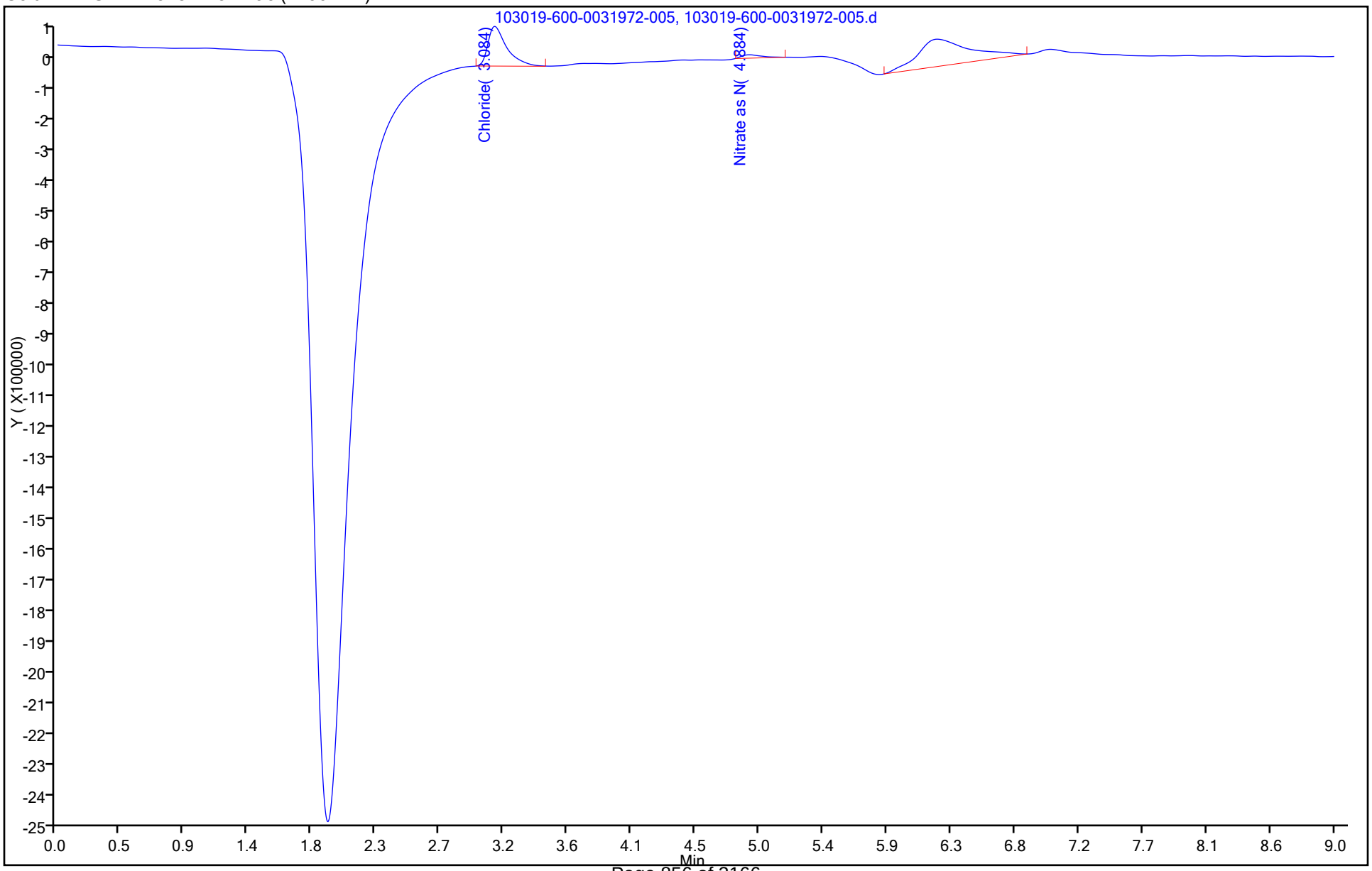

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-194690-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 600-278902/17
Matrix: Water
Lab File ID: 103019-600-0031972-017.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 10/30/2019 11:19
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS22 ID: 2(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 278902
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	ND		0.20	0.025
14797-65-0	Nitrite as N	ND		0.20	0.030

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-017.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 30-Oct-2019 11:19:00 ALS Bottle#: 0 Worklist Smp#: 17
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031972-017
Misc. Info.: ccb
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 31-Oct-2019 12:35:33 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0305

First Level Reviewer: reachs Date: 31-Oct-2019 11:52:32

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride		2.241				ND	
	2 Chloride	3.071	3.121	-0.050	489432		NC	M
	9 Nitrite as N		3.761				ND	
	1 Bromide		4.397				ND	
	3 Nitrate as N		4.864				ND	
	4 Orthophosphate as P		7.044				ND	
	5 Sulfate		7.101				ND	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Report Date: 31-Oct-2019 12:35:35 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-017.d

Injection Date: 30-Oct-2019 11:19:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: CCB Worklist Smp#: 17

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_48hr

Column: AS-22 Dionex Lion Pac (2.00 mm)

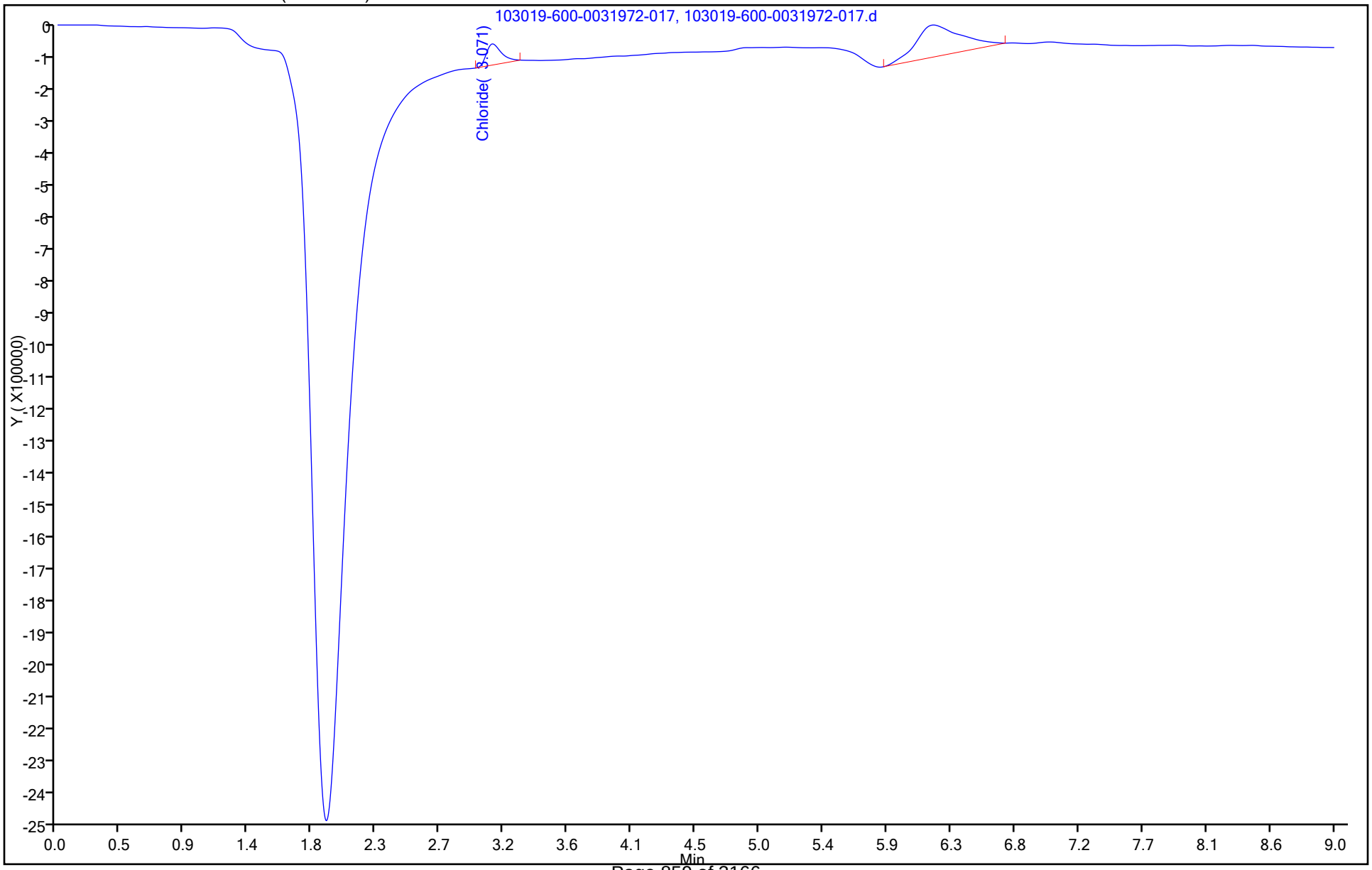

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-194690-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 600-278902/29
Matrix: Water
Lab File ID: 103019-600-0031972-029.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 10/30/2019 13:28
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS22 ID: 2(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 278902
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	ND		0.20	0.025
14797-65-0	Nitrite as N	ND		0.20	0.030

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-029.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 30-Oct-2019 13:28:00 ALS Bottle#: 0 Worklist Smp#: 29
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031972-029
Misc. Info.: ccb
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 31-Oct-2019 12:35:49 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0305

First Level Reviewer: reachs Date: 31-Oct-2019 12:05:36

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride		2.241				ND	
	2 Chloride	3.081	3.121	-0.040	323508		NC	M
	9 Nitrite as N		3.761				ND	
	1 Bromide		4.397				ND	
	3 Nitrate as N		4.864				ND	
	4 Orthophosphate as P		7.044				ND	
	5 Sulfate		7.101				ND	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Report Date: 31-Oct-2019 12:35:51 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-029.d

Injection Date: 30-Oct-2019 13:28:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: CCB Worklist Smp#: 29

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_48hr

Column: AS-22 Dionex Lion Pac (2.00 mm)

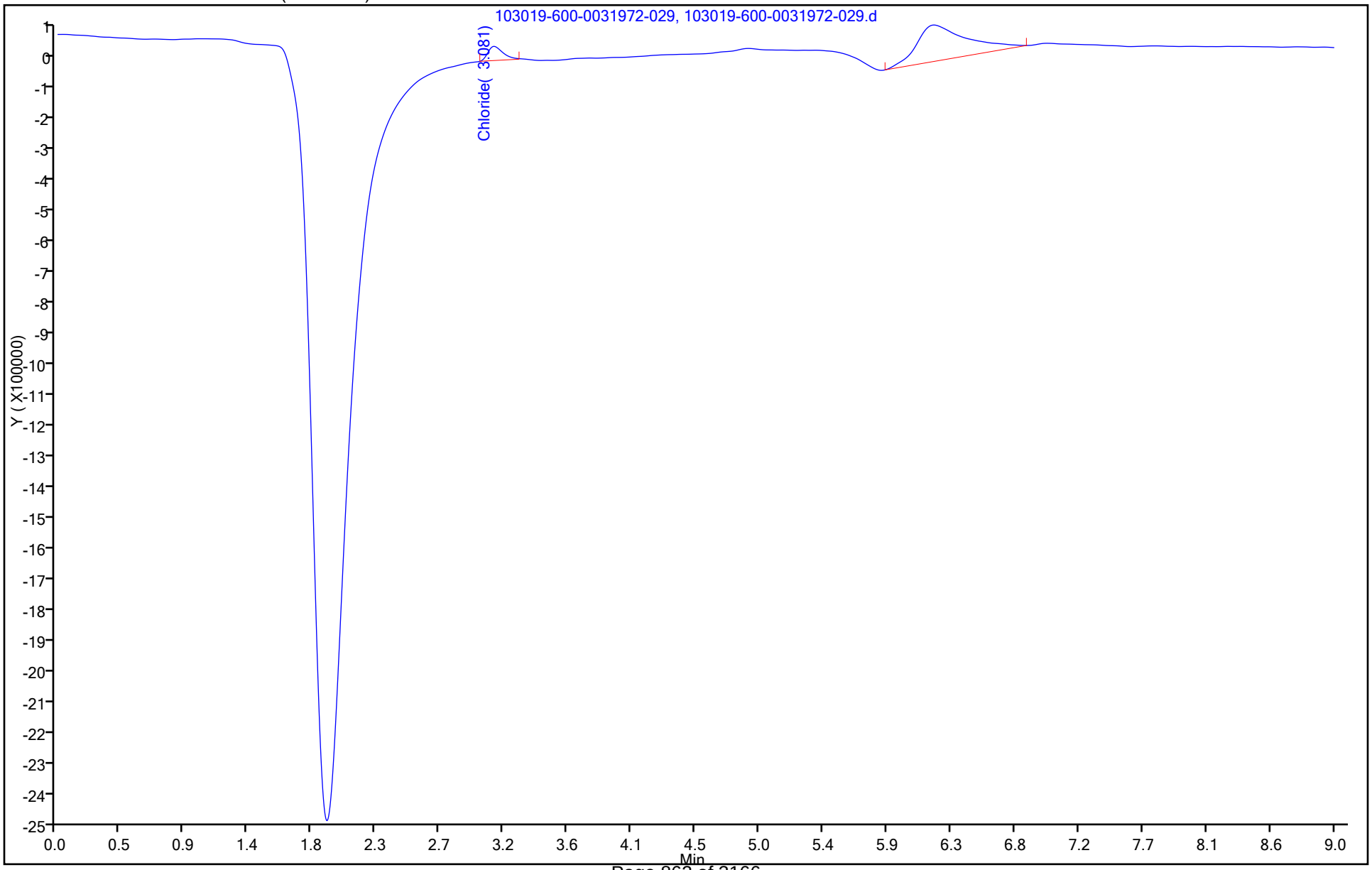

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-194690-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 600-278902/41
Matrix: Water
Lab File ID: 103019-600-0031972-041.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 10/30/2019 15:37
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS22 ID: 2(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 278902
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	ND		0.20	0.025
14797-65-0	Nitrite as N	ND		0.20	0.030

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-041.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 30-Oct-2019 15:37:00 ALS Bottle#: 0 Worklist Smp#: 41
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031972-041
Misc. Info.: ccb
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 31-Oct-2019 12:36:02 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0305

First Level Reviewer: reachs Date: 31-Oct-2019 12:27:10

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride		2.241				ND	
	2 Chloride	3.094	3.121	-0.027	790778		NC	M
	9 Nitrite as N		3.761				ND	
	1 Bromide		4.397				ND	
	3 Nitrate as N		4.864				ND	
	4 Orthophosphate as P		7.044				ND	
	5 Sulfate		7.101				ND	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Report Date: 31-Oct-2019 12:36:03 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-041.d

Injection Date: 30-Oct-2019 15:37:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: CCB Worklist Smp#: 41

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_48hr

Column: AS-22 Dionex Lion Pac (2.00 mm)

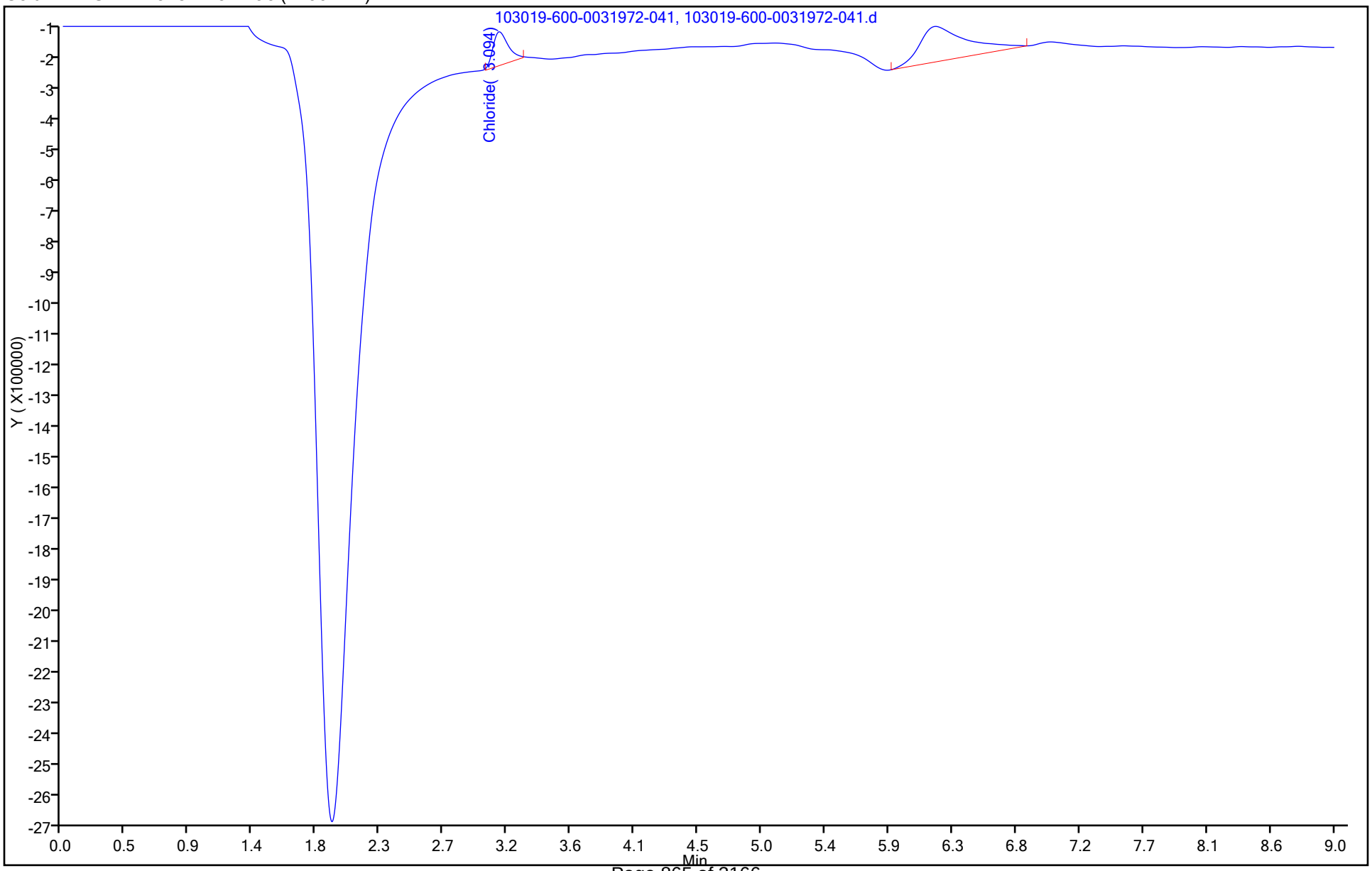

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-194690-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 600-278902/49
Matrix: Water
Lab File ID: 103019-600-0031972-049.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 10/30/2019 17:03
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS22 ID: 2(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 278902
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	ND		0.20	0.025
14797-65-0	Nitrite as N	ND		0.20	0.030

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-049.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 30-Oct-2019 17:03:00 ALS Bottle#: 0 Worklist Smp#: 49
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031972-049
Misc. Info.: ccb
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 31-Oct-2019 12:36:09 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0305

First Level Reviewer: reachs Date: 31-Oct-2019 12:34:21

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride		2.241				ND	
	2 Chloride	3.097	3.121	-0.024	476324		NC	M
	9 Nitrite as N		3.761				ND	
	1 Bromide		4.397				ND	
	3 Nitrate as N		4.864				ND	
	4 Orthophosphate as P		7.044				ND	
	5 Sulfate		7.101				ND	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Report Date: 31-Oct-2019 12:36:10 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-049.d

Injection Date: 30-Oct-2019 17:03:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: CCB Worklist Smp#: 49

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_48hr

Column: AS-22 Dionex Lion Pac (2.00 mm)

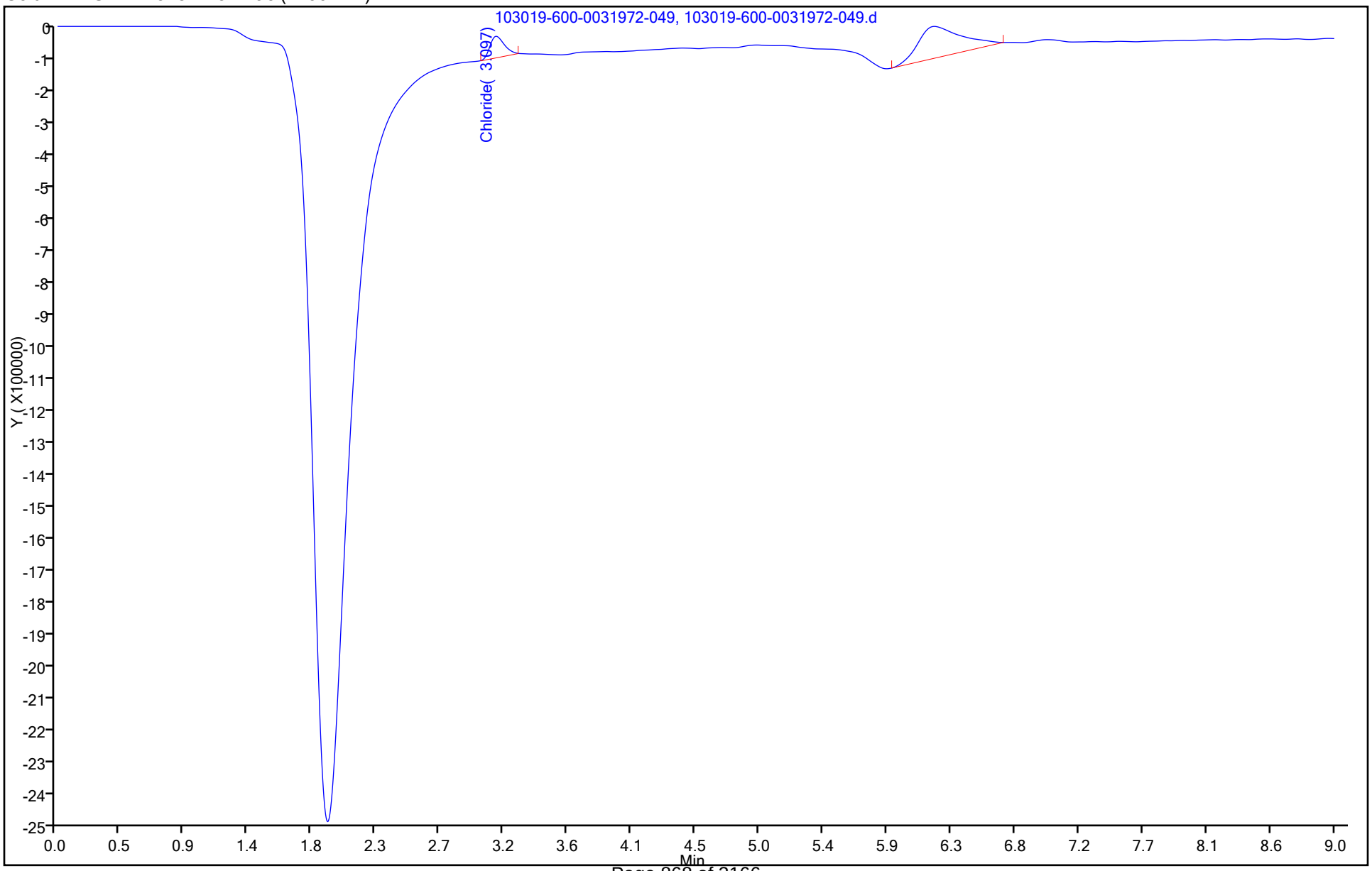

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: Lab Sample ID: CCB 600-279038/5

Matrix: Water Lab File ID: 103119-600-0032001-005.d

Analysis Method: 300.0 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 10/31/2019 04:27

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS22 ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 279038 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.40	0.10
16887-00-6	Chloride	0.213	J	0.40	0.053
14808-79-8	Sulfate	ND		0.50	0.096
16984-48-8	Fluoride	ND		0.20	0.060

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-005.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 31-Oct-2019 04:27:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032001-005
Misc. Info.: ccb
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 01-Nov-2019 13:34:16 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0332

First Level Reviewer: reachs Date: 31-Oct-2019 10:47:36

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride		2.214				ND	
	2 Chloride	3.081	3.071	0.010	180932		0.2128	Ma
	9 Nitrite as N		3.694				ND	
	1 Bromide		4.314				ND	
	3 Nitrate as N		4.761				ND	
	5 Sulfate		6.857				ND	
	4 Orthophosphate as P		7.044				ND	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Review Flags
M - Manually Integrated
a - User Assigned ID

Report Date: 01-Nov-2019 13:34:27 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-005.d				
Injection Date:	31-Oct-2019 04:27:00	Instrument ID:	CHWC17(IC)	Operator ID:	
Lims ID:	CCB			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		

Column: AS-22 Dionex Lion Pac (2.00 mm)

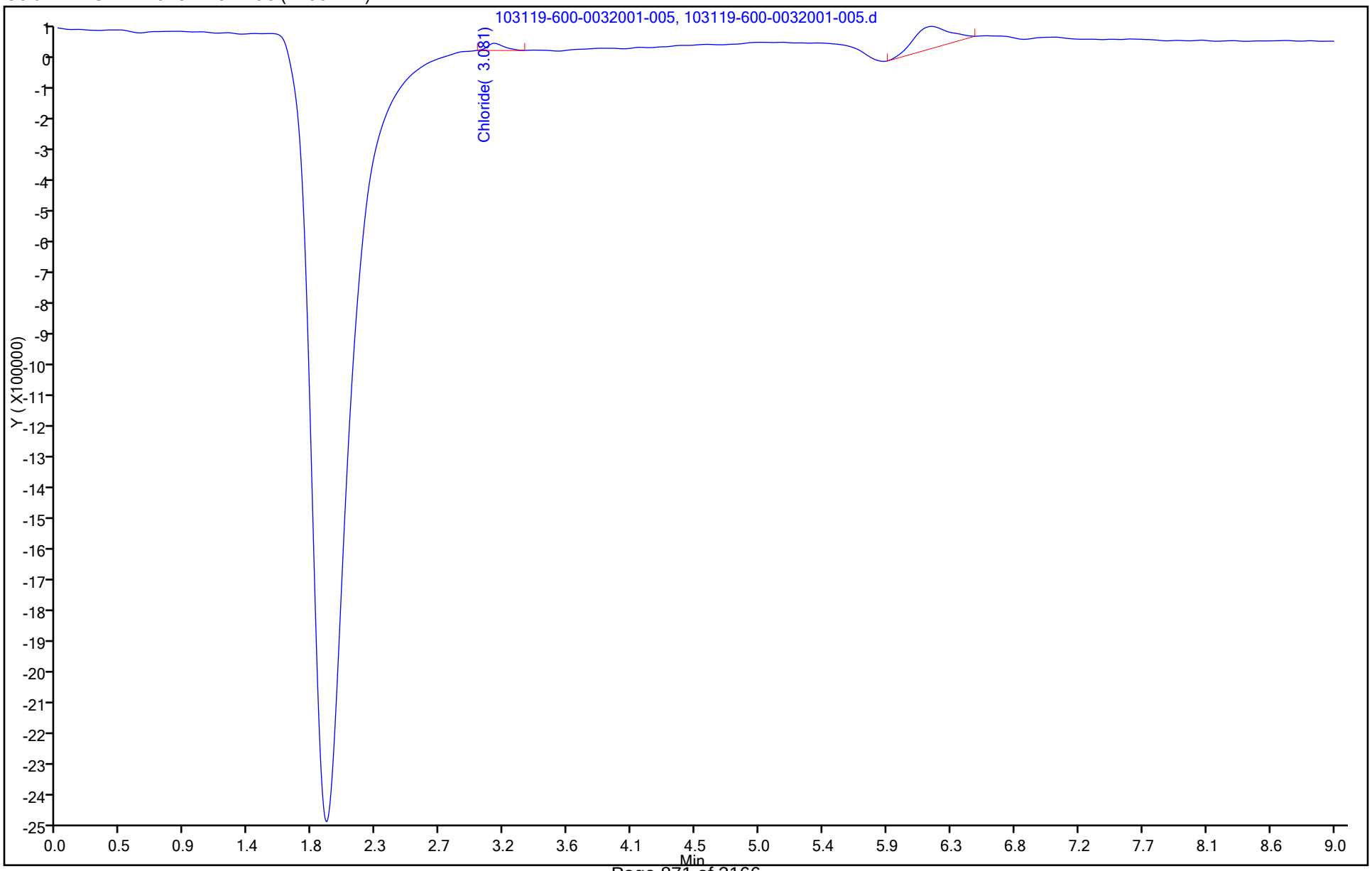

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-005.d				
Injection Date:	31-Oct-2019 04:27:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCB				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

2 Chloride, CAS: 16887-00-6

Signal: 1

RT: 3.08
Area: 40105575
Amount: 1.077141
Amount Units: ug/ml

Processing Integration Results

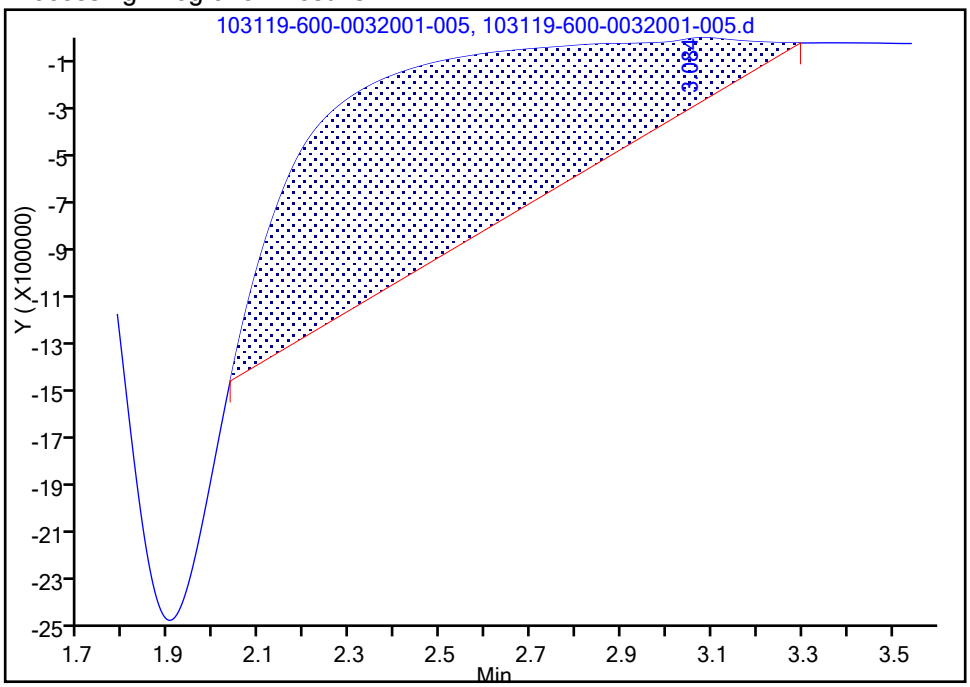

RT: 3.08
Area: 180932
Amount: 0.212803
Amount Units: ug/ml

Manual Integration Results

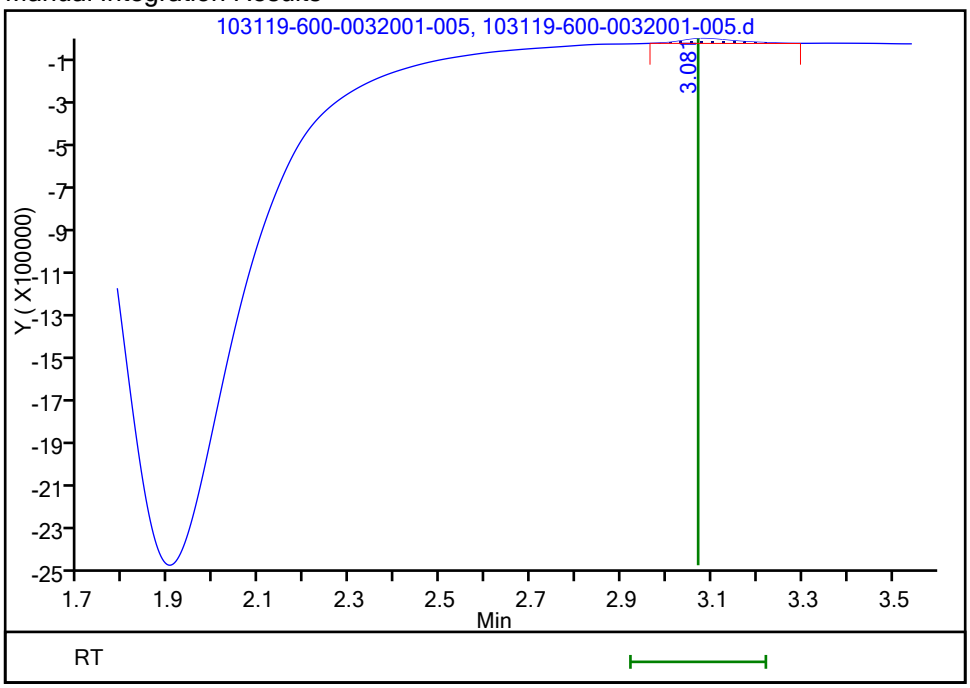

Reviewer: reachs, 01-Nov-2019 12:01:51
Audit Action: Manually Integrated/Assigned Compound ID Audit Reason:

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: Lab Sample ID: CCB 600-279038/17

Matrix: Water Lab File ID: 103119-600-0032001-017.d

Analysis Method: 300.0 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 10/31/2019 11:41

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS22 ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 279038 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.40	0.10
16887-00-6	Chloride	0.216	J	0.40	0.053
14808-79-8	Sulfate	ND		0.50	0.096
16984-48-8	Fluoride	ND		0.20	0.060

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-017.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 31-Oct-2019 11:41:00 ALS Bottle#: 0 Worklist Smp#: 17
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032001-017
Misc. Info.: ccb
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 01-Nov-2019 13:35:16 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0332

First Level Reviewer: reachs Date: 01-Nov-2019 12:23:21

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride		2.214				ND	
	2 Chloride	3.011	3.071	-0.060	346709		0.2164	Ma
	9 Nitrite as N		3.694				ND	
	1 Bromide		4.314				ND	
	3 Nitrate as N		4.761				ND	
	5 Sulfate		6.857				ND	
	4 Orthophosphate as P		7.044				ND	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Review Flags
M - Manually Integrated
a - User Assigned ID

Report Date: 01-Nov-2019 13:35:22 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-017.d

Injection Date: 31-Oct-2019 11:41:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: CCB Worklist Smp#: 17

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_28day

Column: AS-22 Dionex Lion Pac (2.00 mm)

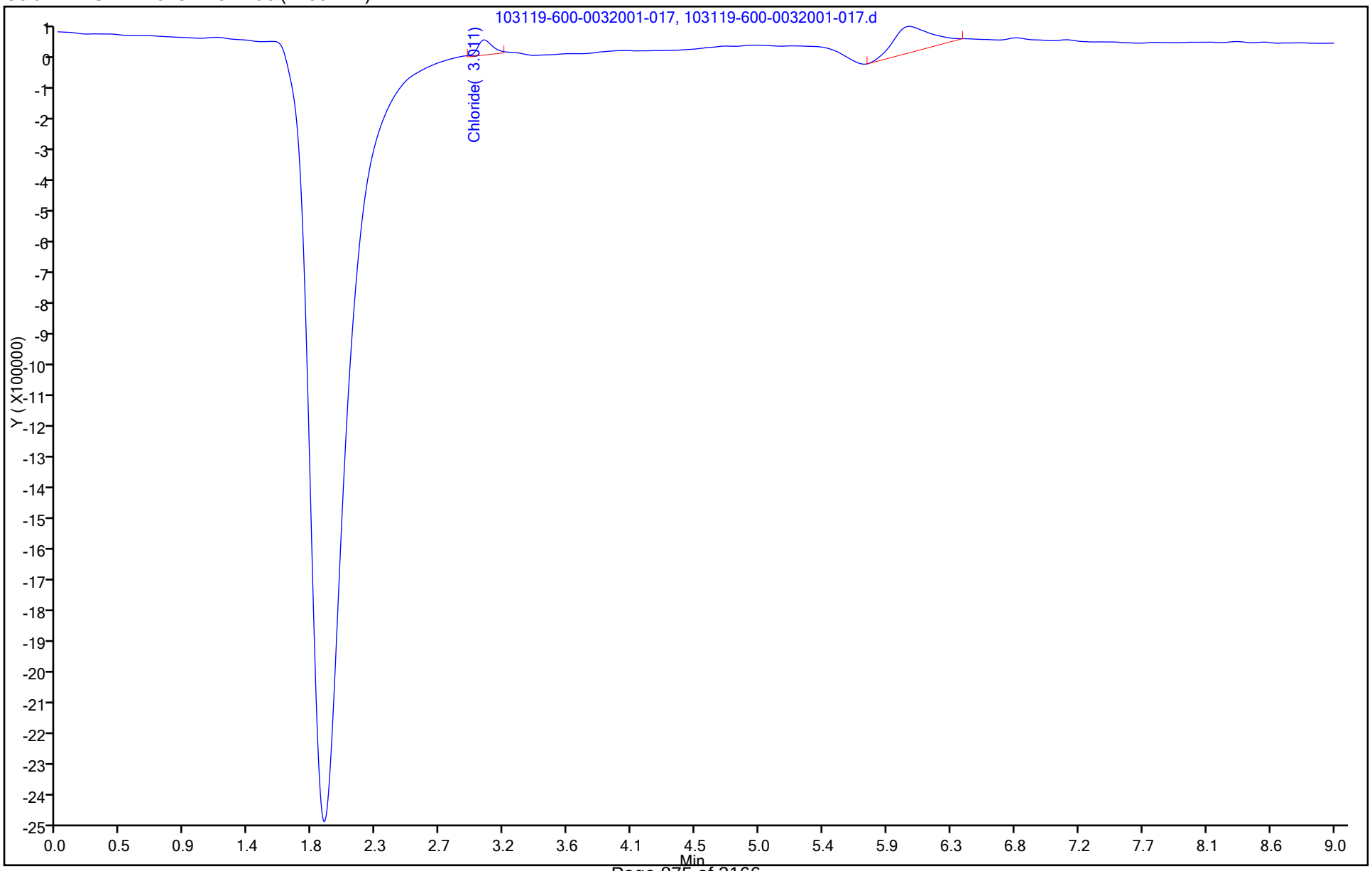

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-017.d				
Injection Date:	31-Oct-2019 11:41:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCB				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	17
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

2 Chloride, CAS: 16887-00-6

Signal: 1

Processing Integration Results

RT: 3.01
Area: 38483877
Amount: 1.042033
Amount Units: ug/ml

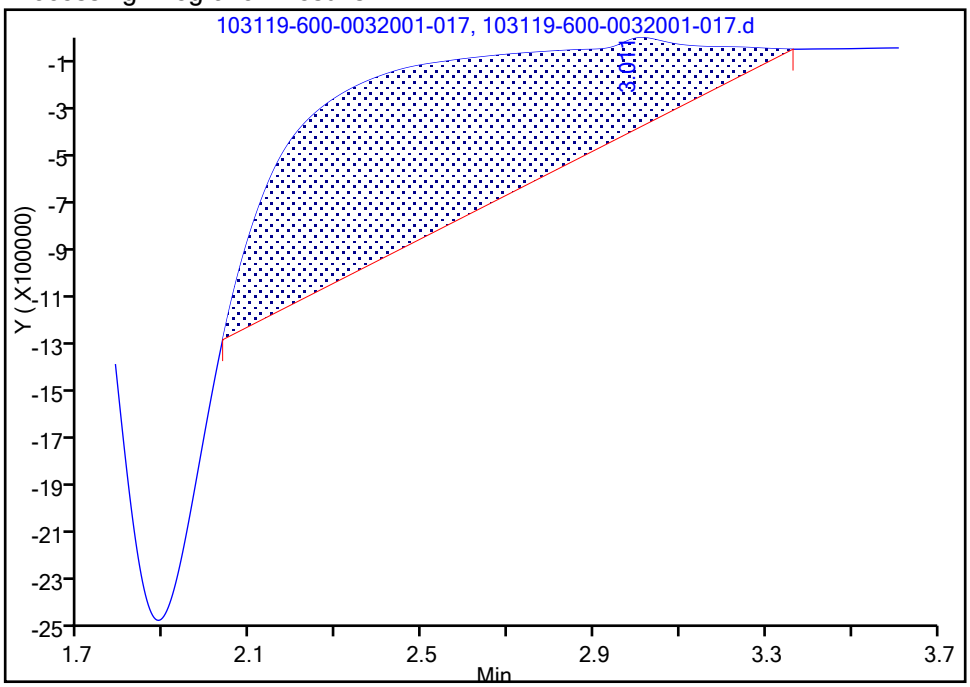

Manual Integration Results

RT: 3.01
Area: 346709
Amount: 0.216392
Amount Units: ug/ml

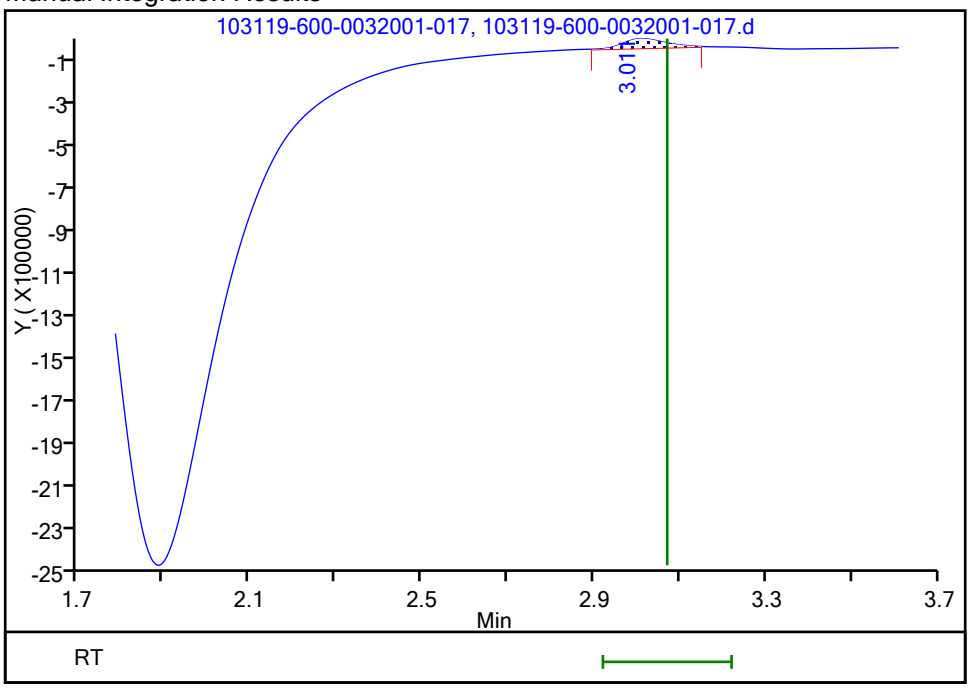

Reviewer: reachs, 01-Nov-2019 12:23:15

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: Lab Sample ID: CCB 600-279038/29

Matrix: Water Lab File ID: 103119-600-0032001-029.d

Analysis Method: 300.0 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 10/31/2019 13:51

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS22 ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 279038 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.40	0.10
16887-00-6	Chloride	0.219	J	0.40	0.053
14808-79-8	Sulfate	ND		0.50	0.096
16984-48-8	Fluoride	ND		0.20	0.060

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-029.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 31-Oct-2019 13:51:00 ALS Bottle#: 0 Worklist Smp#: 29
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032001-029
Misc. Info.: ccb
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 01-Nov-2019 13:36:06 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0332

First Level Reviewer: reachs Date: 01-Nov-2019 12:36:15

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride		2.214				ND	
	2 Chloride	3.021	3.071	-0.050	451800		0.2187	M
	9 Nitrite as N		3.694				ND	
	1 Bromide		4.314				ND	
	3 Nitrate as N		4.761				ND	
	5 Sulfate		6.857				ND	
	4 Orthophosphate as P		7.044				ND	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 01-Nov-2019 13:36:14 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-029.d

Injection Date: 31-Oct-2019 13:51:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: CCB Worklist Smp#: 29

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_28day

Column: AS-22 Dionex Lion Pac (2.00 mm)

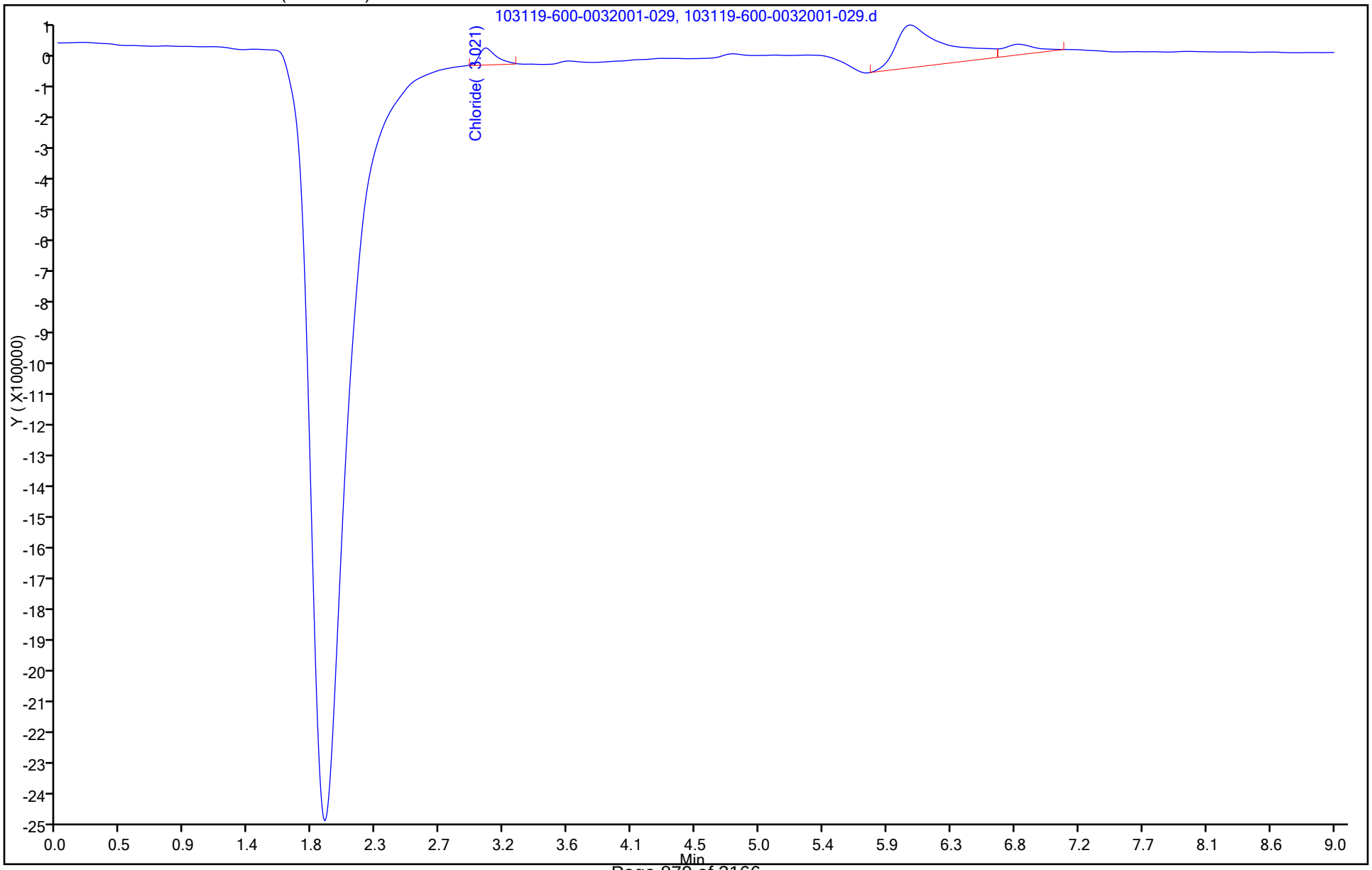

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-029.d				
Injection Date:	31-Oct-2019 13:51:00	Instrument ID:	CHWC17(IC)		
Lims ID:	CCB				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	29
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

2 Chloride, CAS: 16887-00-6

Signal: 1

RT: 3.02
Area: 37686897
Amount: 1.024779
Amount Units: ug/ml

Processing Integration Results

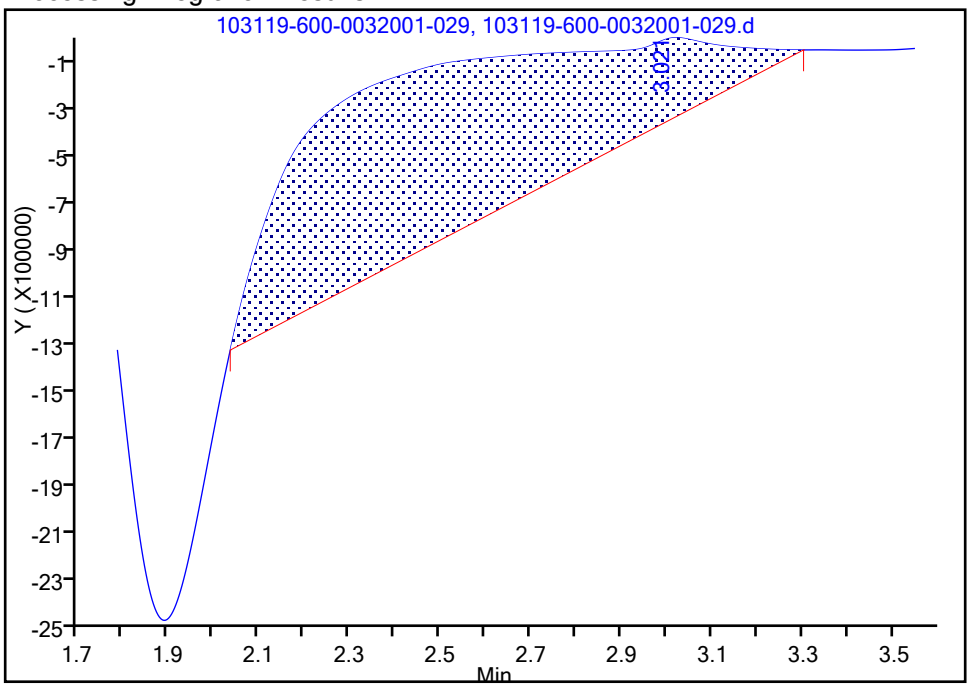

RT: 3.02
Area: 451800
Amount: 0.218667
Amount Units: ug/ml

Manual Integration Results

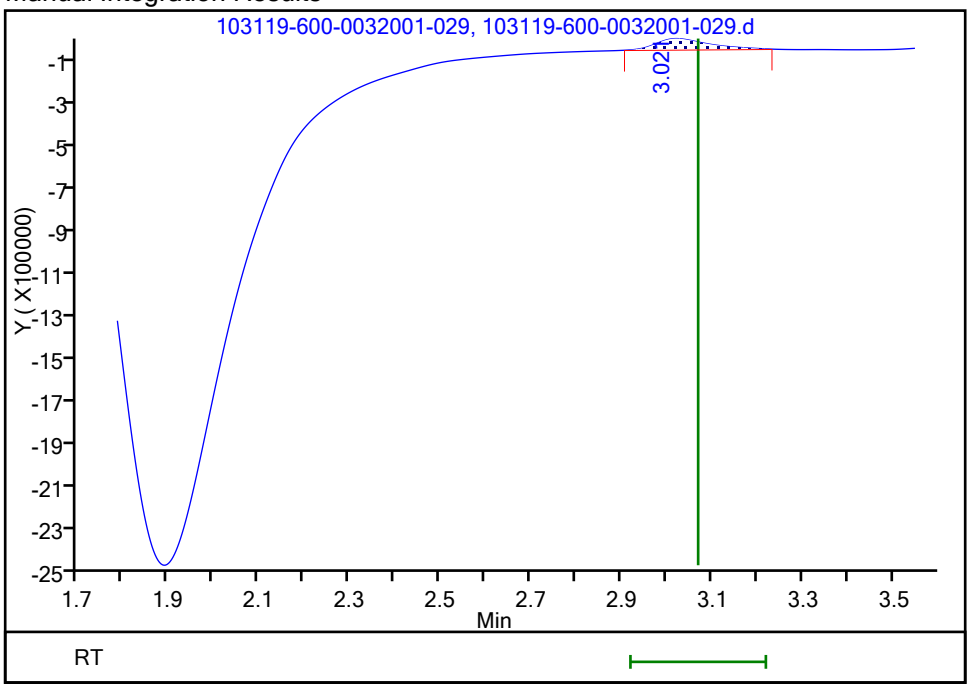

Reviewer: reachs, 01-Nov-2019 12:36:12
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-194690-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 600-279039/5
Matrix: Water
Lab File ID: 103119-600-0032001-005.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 10/31/2019 04:27
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS22 ID: 2(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 279039
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	ND		0.20	0.025
14797-65-0	Nitrite as N	ND		0.20	0.030

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-005.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 31-Oct-2019 04:27:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032001-005
Misc. Info.: ccb
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 01-Nov-2019 13:34:16 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0332

First Level Reviewer: reachs Date: 31-Oct-2019 10:47:36

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride		2.214				ND	
	2 Chloride	3.081	3.071	0.010	180932		NC	Ma
	9 Nitrite as N		3.694				ND	
	1 Bromide		4.314				ND	
	3 Nitrate as N		4.761				ND	
	5 Sulfate		6.857				ND	
	4 Orthophosphate as P		7.044				ND	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated
a - User Assigned ID

Report Date: 01-Nov-2019 13:34:26 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-005.d

Injection Date: 31-Oct-2019 04:27:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: CCB Worklist Smp#: 5

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_48hr

Column: AS-22 Dionex Lion Pac (2.00 mm)

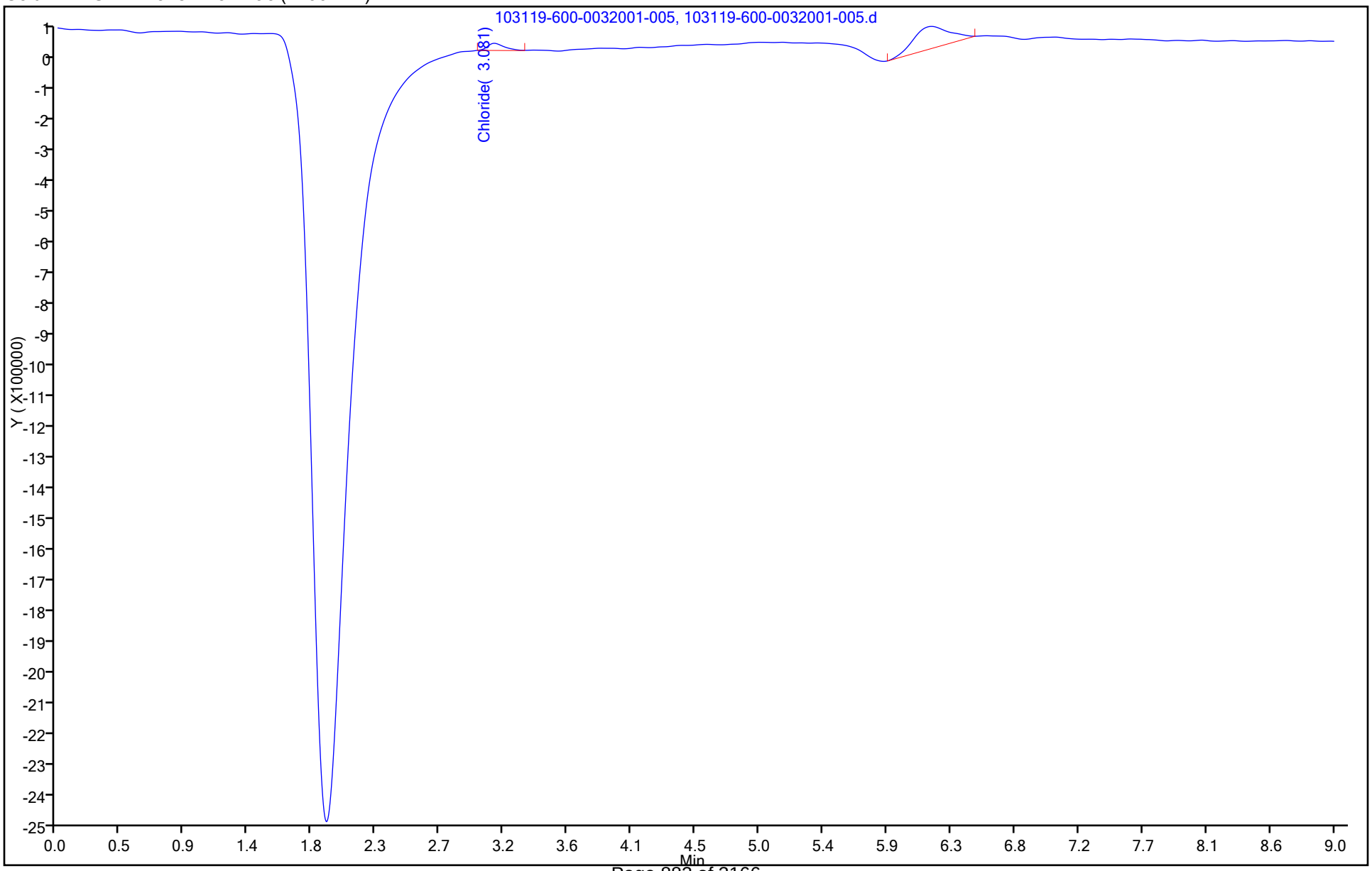

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-194690-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 600-279039/17
Matrix: Water
Lab File ID: 103119-600-0032001-017.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 10/31/2019 11:41
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS22 ID: 2(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 279039
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	ND		0.20	0.025
14797-65-0	Nitrite as N	ND		0.20	0.030

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-017.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 31-Oct-2019 11:41:00 ALS Bottle#: 0 Worklist Smp#: 17
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032001-017
Misc. Info.: ccb
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 01-Nov-2019 13:35:16 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0332

First Level Reviewer: reachs Date: 01-Nov-2019 12:23:21

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride		2.214				ND	
	2 Chloride	3.011	3.071	-0.060	346709		NC	Ma
	9 Nitrite as N		3.694				ND	
	1 Bromide		4.314				ND	
	3 Nitrate as N		4.761				ND	
	5 Sulfate		6.857				ND	
	4 Orthophosphate as P		7.044				ND	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated
a - User Assigned ID

Report Date: 01-Nov-2019 13:35:22 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-017.d

Injection Date: 31-Oct-2019 11:41:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: CCB Worklist Smp#: 17

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_48hr

Column: AS-22 Dionex Lion Pac (2.00 mm)

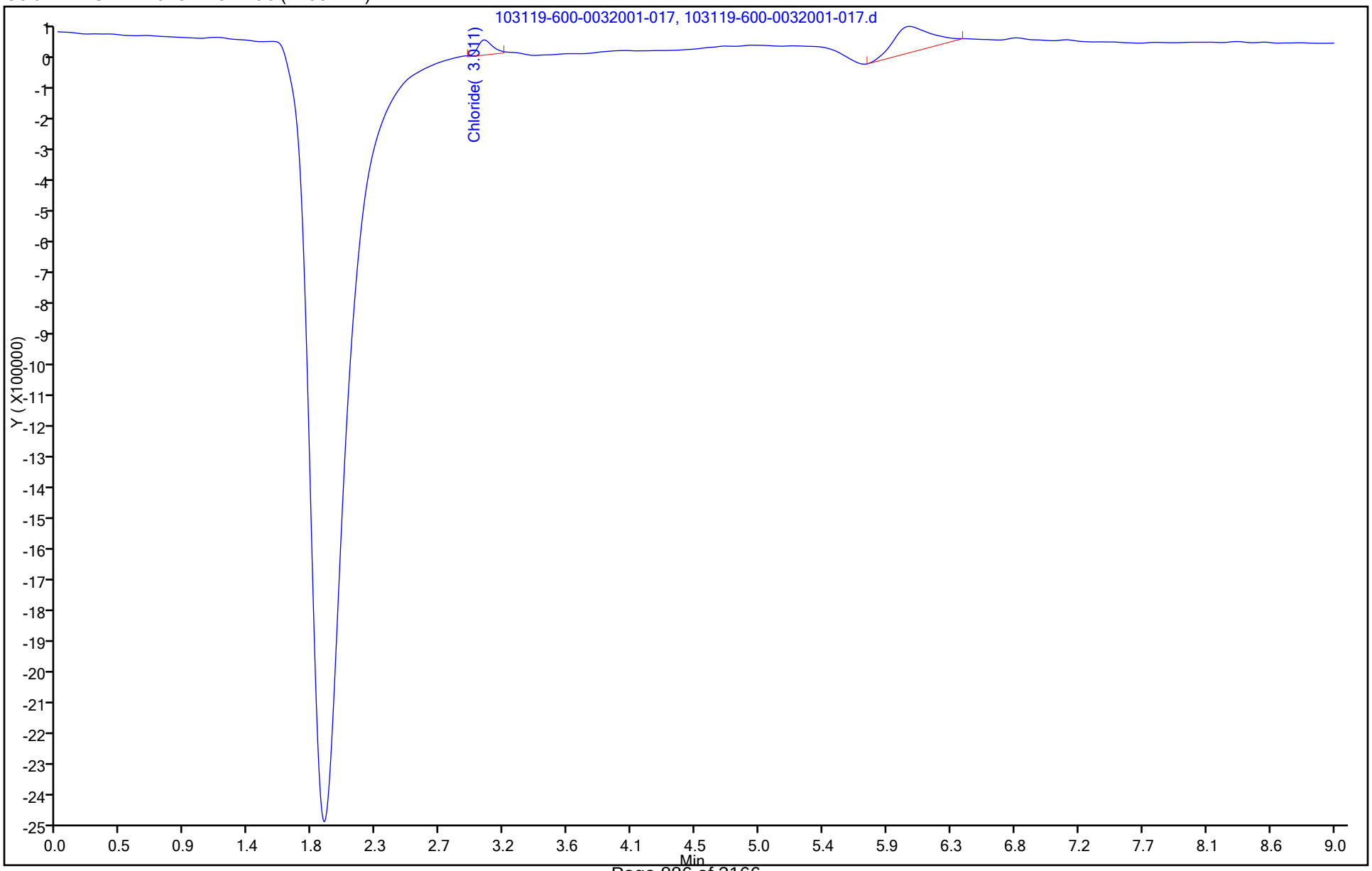

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-194690-1
SDG No.:
Client Sample ID:
Lab Sample ID: CCB 600-279039/29
Matrix: Water
Lab File ID: 103119-600-0032001-029.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 10/31/2019 13:51
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS22 ID: 2(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 279039
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	ND		0.20	0.025
14797-65-0	Nitrite as N	ND		0.20	0.030

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-029.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 31-Oct-2019 13:51:00 ALS Bottle#: 0 Worklist Smp#: 29
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032001-029
Misc. Info.: ccb
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 01-Nov-2019 13:36:06 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0332

First Level Reviewer: reachs Date: 01-Nov-2019 12:36:15

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride		2.214				ND	
	2 Chloride	3.021	3.071	-0.050	451800		NC	M
	9 Nitrite as N		3.694				ND	
	1 Bromide		4.314				ND	
	3 Nitrate as N		4.761				ND	
	5 Sulfate		6.857				ND	
	4 Orthophosphate as P		7.044				ND	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Report Date: 01-Nov-2019 13:36:15 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-029.d

Injection Date: 31-Oct-2019 13:51:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: CCB Worklist Smp#: 29

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_48hr

Column: AS-22 Dionex Lion Pac (2.00 mm)

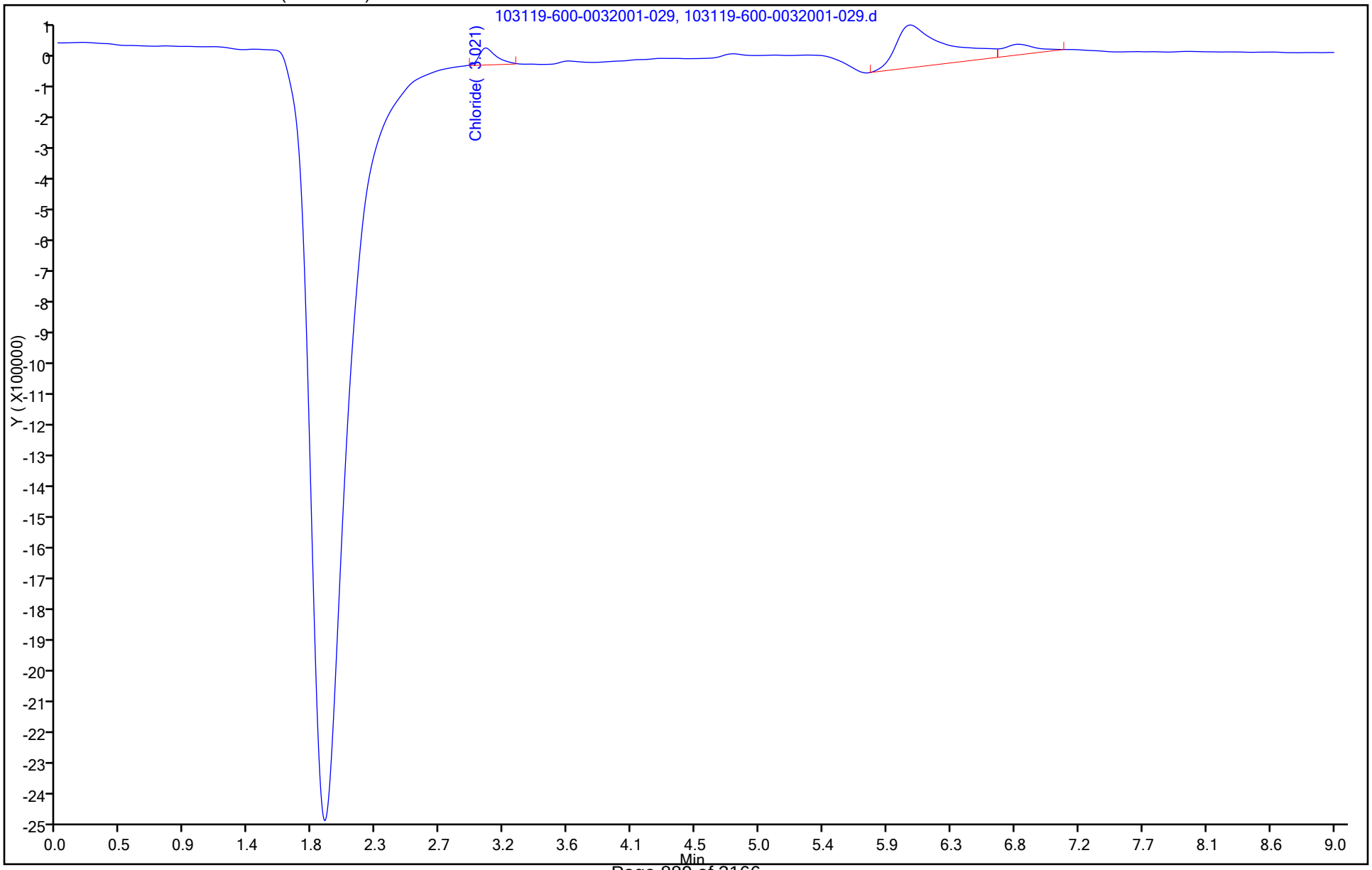

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: Lab Sample ID: CCB 600-279165/3

Matrix: Water Lab File ID: 110119-3.d

Analysis Method: 300.0 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 11/01/2019 10:56

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS-18 ID:

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 279165 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.40	0.10
16887-00-6	Chloride	ND		0.40	0.053
14808-79-8	Sulfate	ND		0.50	0.096
16984-48-8	Fluoride	ND		0.20	0.060

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20191031-32021.b\110119-3.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 01-Nov-2019 10:56:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032021-003
Operator ID: Instrument ID: CHWC11

Method: \\chromna\Houston\ChromData\CHWC11\20191031-32021.b\300_11.m
Limit Group: WC - IC_300_9056_28day
Last Update: 04-Nov-2019 11:07:01 Calib Date: 18-Oct-2019 18:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d

Column 1 : Det: 040914-1
Process Host: CTX0335

First Level Reviewer: reachs Date: 01-Nov-2019 11:56:32

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride		3.117				ND	
	2 Chloride		4.842				ND	U
	9 Nitrite as N		6.017				ND	
	1 Bromide		8.667				ND	
	5 Sulfate		9.325				ND	
	3 Nitrate as N		10.042				ND	
	4 Orthophosphate as P		13.592				ND	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Review Flags
U - Marked Undetected

Report Date: 04-Nov-2019 11:07:05 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191031-32021.b\110119-3.d				
Injection Date:	01-Nov-2019 10:56:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	CCB			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		

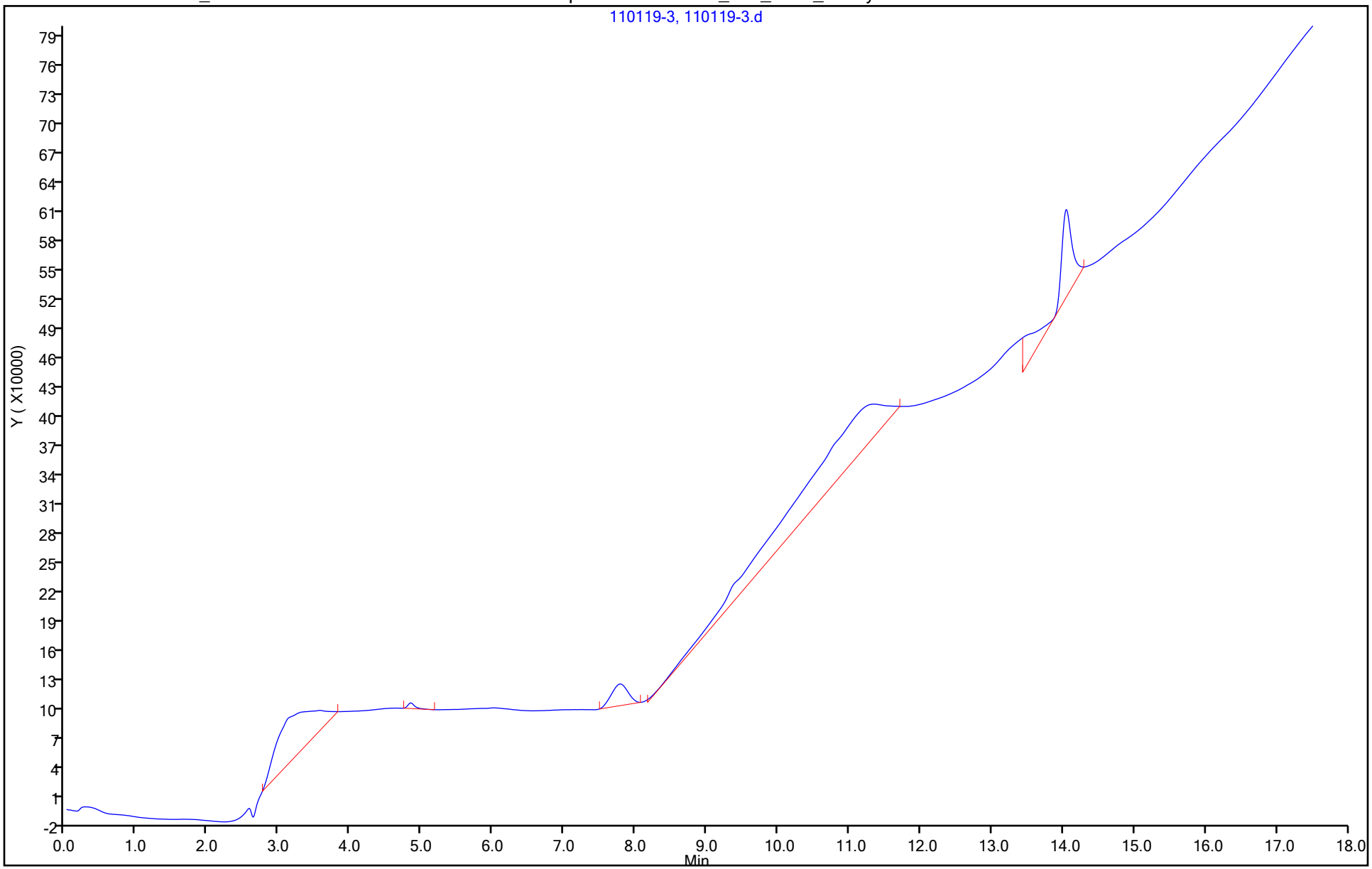

User Disabled Compound Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191031-32021.b\110119-3.d				
Injection Date:	01-Nov-2019 10:56:00	Instrument ID:	CHWC11		
Lims ID:	CCB				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		
Column:		Detector	040914-1		

2 Chloride, CAS: 16887-00-6, Signal: 1

RT: 4.84
Response: 38604
Amount: 0.162026

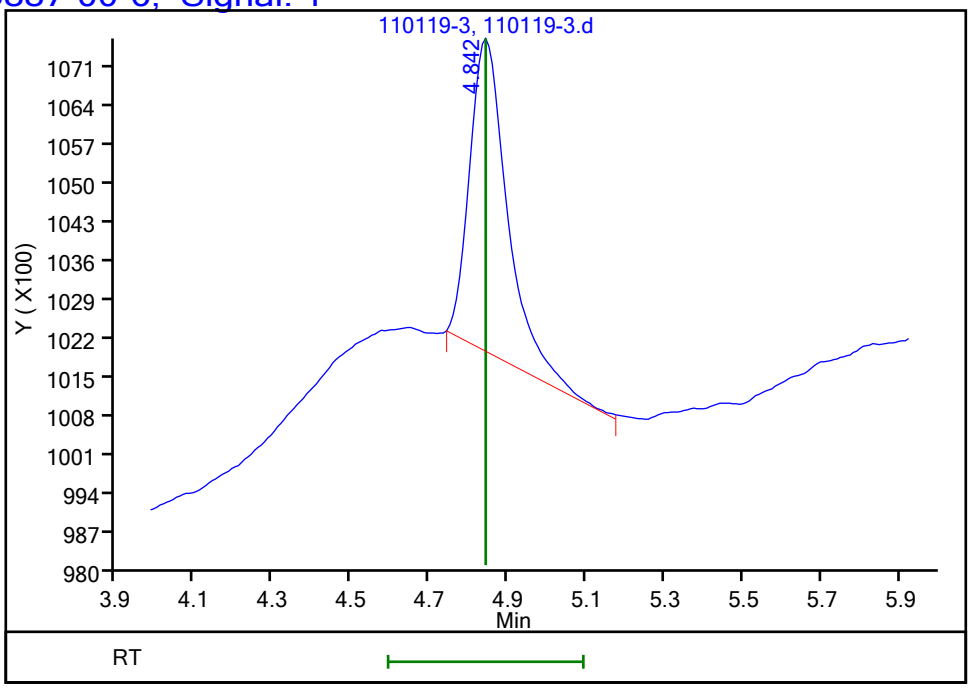

Reviewer: reachs, 01-Nov-2019 11:56:32
Audit Action: Manually Integrated Audit Reason:

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: Lab Sample ID: CCB 600-279165/15

Matrix: Water Lab File ID: 110119-15.d

Analysis Method: 300.0 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 11/01/2019 18:42

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS-18 ID:

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 279165 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.40	0.10
16887-00-6	Chloride	ND		0.40	0.053
14808-79-8	Sulfate	ND		0.50	0.096
16984-48-8	Fluoride	ND		0.20	0.060

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20191031-32021.b\110119-15.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 01-Nov-2019 18:42:00 ALS Bottle#: 0 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032021-015
Misc. Info.: 21241
Operator ID: Instrument ID: CHWC11

Method: \\chromna\Houston\ChromData\CHWC11\20191031-32021.b\300_11.m
Limit Group: WC - IC_300_9056_28day
Last Update: 04-Nov-2019 11:07:18 Calib Date: 18-Oct-2019 18:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d

Column 1 : Det: 040914-1
Process Host: CTX0335

First Level Reviewer: reachs Date: 04-Nov-2019 10:53:44

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride		3.117				ND	
	2 Chloride		4.842				ND	U
	9 Nitrite as N		6.017				ND	
	1 Bromide		8.667				ND	
	5 Sulfate		9.325				ND	
	3 Nitrate as N		10.042				ND	
	4 Orthophosphate as P		13.592				ND	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Review Flags

U - Marked Undetected

Report Date: 04-Nov-2019 11:07:20 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191031-32021.b\110119-15.d				
Injection Date:	01-Nov-2019 18:42:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	CCB			Worklist Smp#:	15
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		

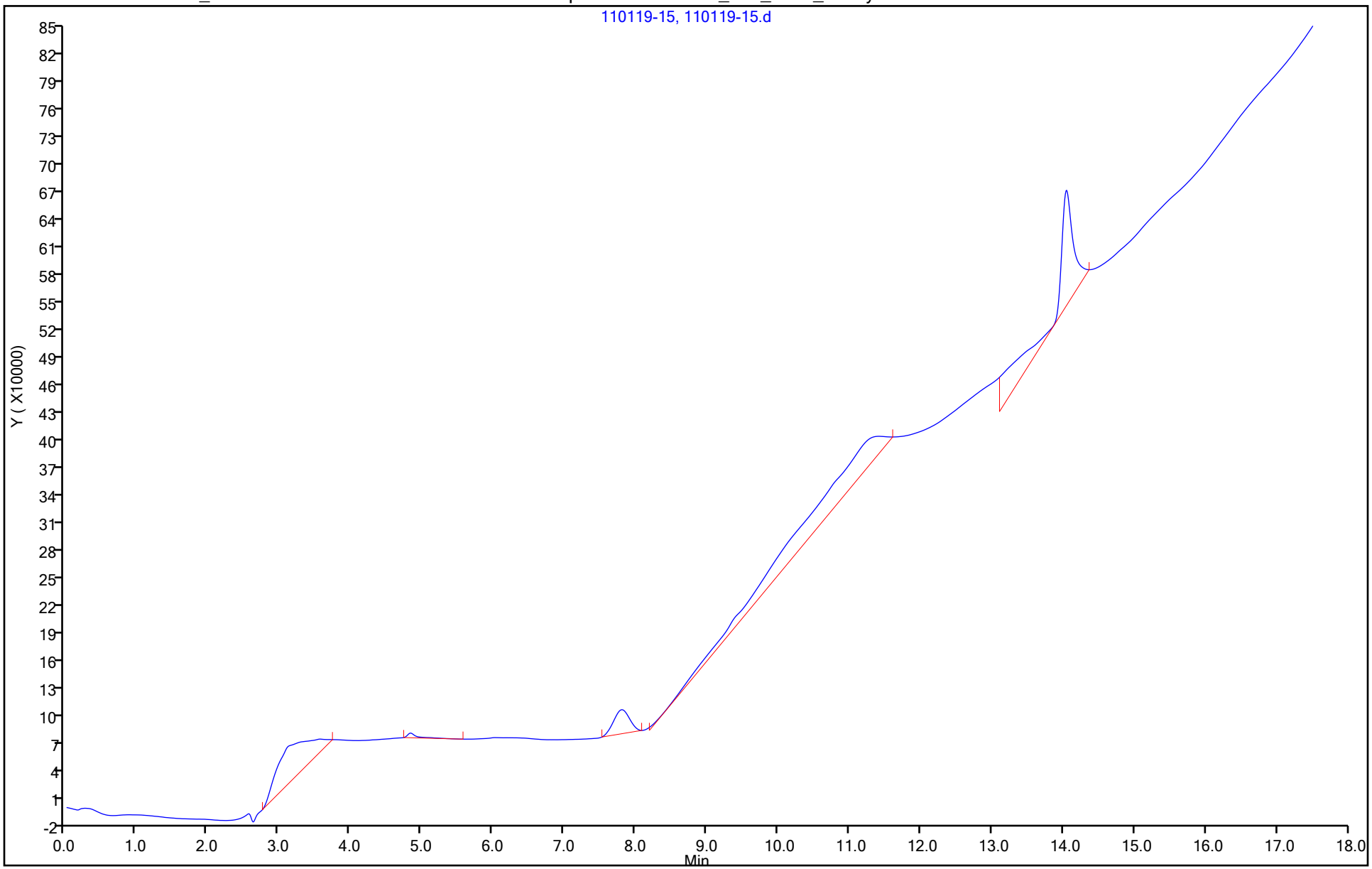

User Disabled Compound Report

Eurofins TestAmerica, Houston

Data File: \\chromna\Houston\ChromData\CHWC11\20191031-32021.b\110119-15.d
Injection Date: 01-Nov-2019 18:42:00 Instrument ID: CHWC11
Lims ID: CCB
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 300_11 Limit Group: WC - IC_300_9056_28day
Column: Detector 040914-1

2 Chloride, CAS: 16887-00-6, Signal: 1

RT: 4.84
Response: 47558
Amount: 0.163653

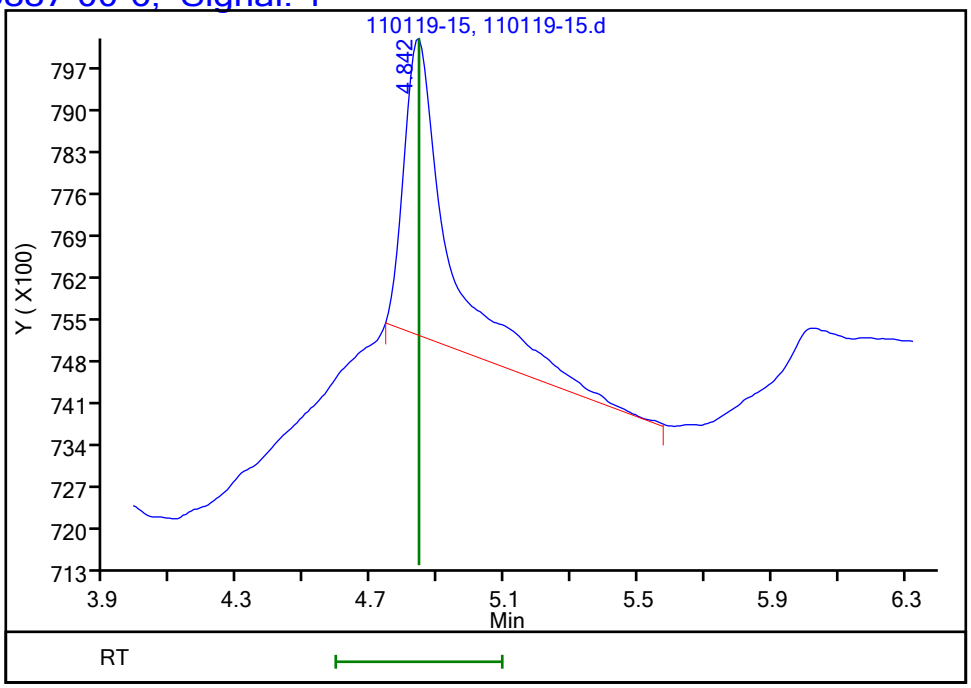

Reviewer: reachs, 04-Nov-2019 10:53:44
Audit Action: Manually Integrated Audit Reason:

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: Lab Sample ID: CCB 600-279165/27

Matrix: Water Lab File ID: 110119-27.d

Analysis Method: 300.0 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 11/01/2019 22:47

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS-18 ID:

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 279165 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.40	0.10
16887-00-6	Chloride	ND		0.40	0.053
14808-79-8	Sulfate	ND		0.50	0.096
16984-48-8	Fluoride	ND		0.20	0.060

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20191031-32021.b\110119-27.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 01-Nov-2019 22:47:00 ALS Bottle#: 0 Worklist Smp#: 27
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032021-027
Misc. Info.: 15176
Operator ID: Instrument ID: CHWC11

Method: \\chromna\Houston\ChromData\CHWC11\20191031-32021.b\300_11.m
Limit Group: WC - IC_300_9056_28day
Last Update: 04-Nov-2019 11:07:29 Calib Date: 18-Oct-2019 18:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d

Column 1 : Det: 040914-1
Process Host: CTX0335

First Level Reviewer: reachs Date: 04-Nov-2019 10:58:25

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride		3.117				ND	
	2 Chloride		4.842				ND	U
	9 Nitrite as N		6.017				ND	
	1 Bromide		8.667				ND	
	5 Sulfate		9.325				ND	
	3 Nitrate as N		10.042				ND	
	4 Orthophosphate as P		13.592				ND	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Review Flags

U - Marked Undetected

Report Date: 04-Nov-2019 11:07:30 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191031-32021.b\110119-27.d				
Injection Date:	01-Nov-2019 22:47:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	CCB			Worklist Smp#:	27
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		

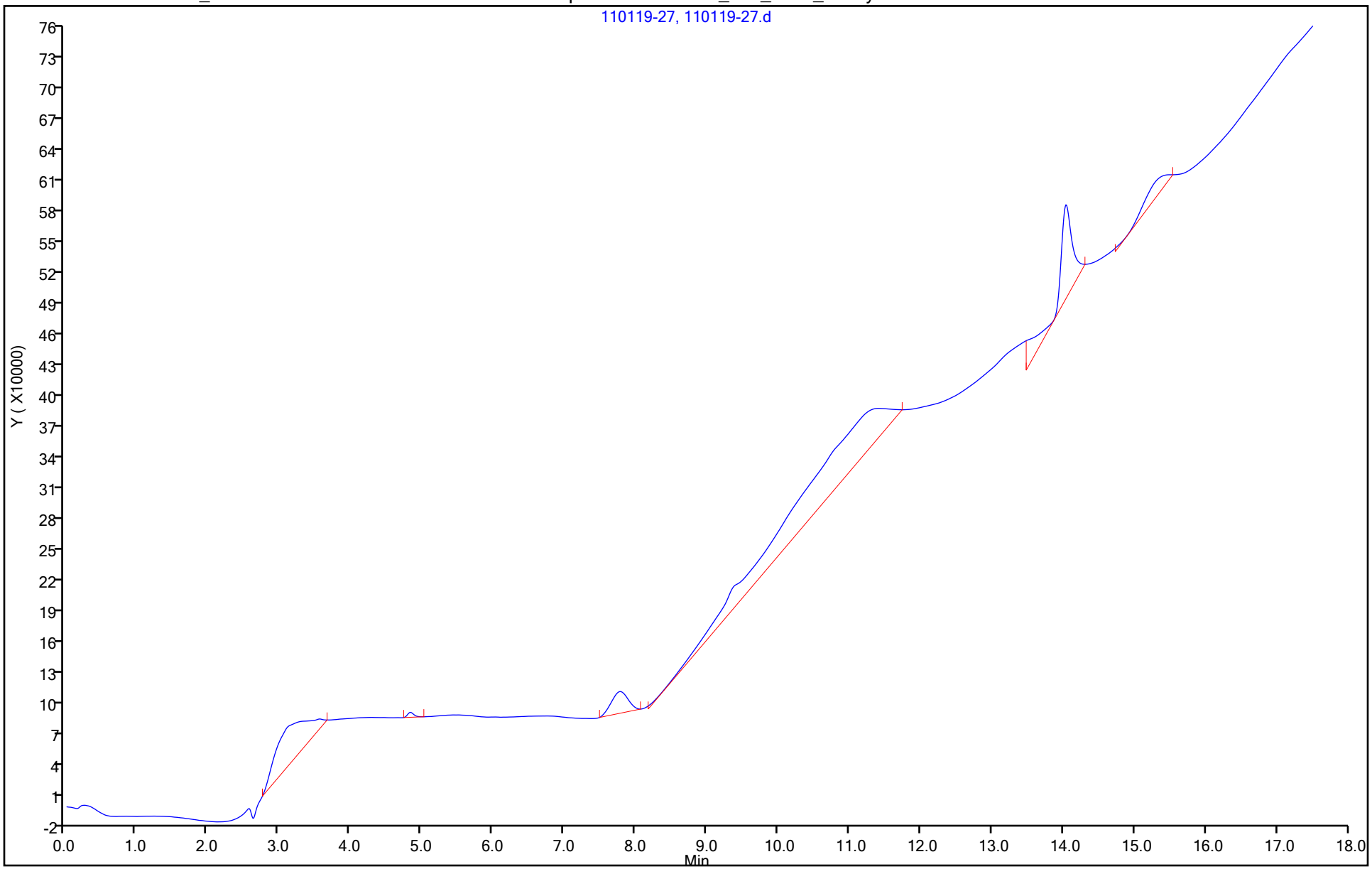

User Disabled Compound Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191031-32021.b\110119-27.d				
Injection Date:	01-Nov-2019 22:47:00	Instrument ID:	CHWC11		
Lims ID:	CCB				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	27
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		
Column:		Detector	040914-1		

2 Chloride, CAS: 16887-00-6, Signal: 1

RT: 4.83
Response: 29469
Amount: 0.160366

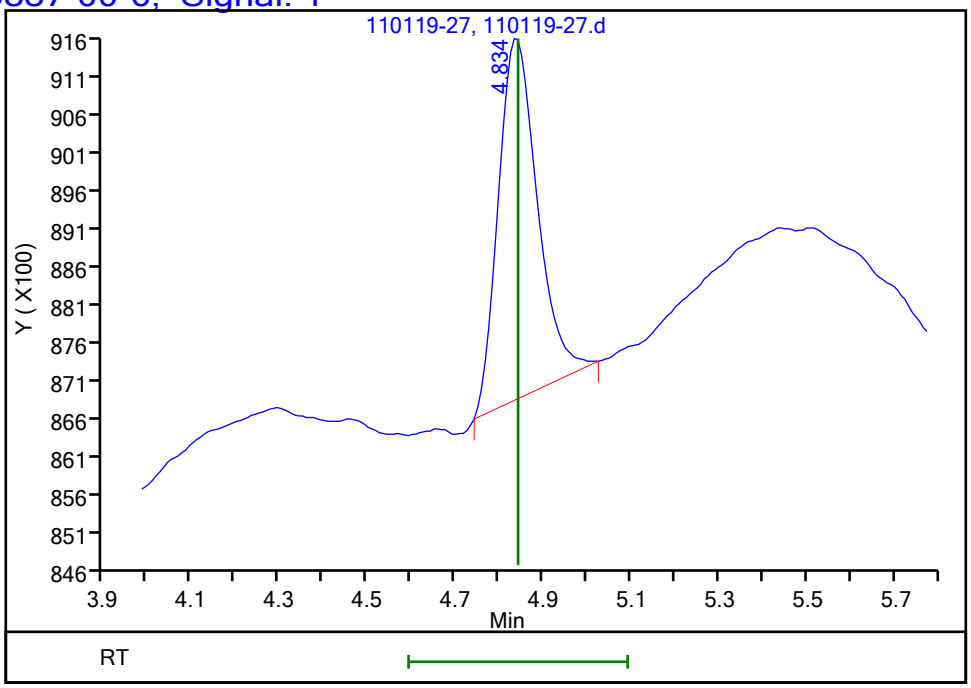

Reviewer: reachs, 04-Nov-2019 10:58:25
Audit Action: Manually Integrated Audit Reason:

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: Lab Sample ID: CCB 600-279166/3

Matrix: Water Lab File ID: 110119-3.d

Analysis Method: 300.0 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 11/01/2019 10:56

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS-18 ID:

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 279166 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	ND		0.20	0.025
14797-65-0	Nitrite as N	ND		0.20	0.030

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20191031-32021.b\110119-3.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 01-Nov-2019 10:56:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032021-003
Operator ID: Instrument ID: CHWC11

Method: \\chromna\Houston\ChromData\CHWC11\20191031-32021.b\300_11.m
Limit Group: WC - IC_300_9056_48hr
Last Update: 04-Nov-2019 11:07:01 Calib Date: 18-Oct-2019 18:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d

Column 1 : Det: 040914-1
Process Host: CTX0335

First Level Reviewer: reachs Date: 01-Nov-2019 11:56:32

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride		3.117				ND	
	2 Chloride		4.842				ND	U
	9 Nitrite as N		6.017				ND	
	1 Bromide		8.667				ND	
	5 Sulfate		9.325				ND	
	3 Nitrate as N		10.042				ND	
	4 Orthophosphate as P		13.592				ND	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Review Flags
U - Marked Undetected

Report Date: 04-Nov-2019 11:07:05 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191031-32021.b\110119-3.d				
Injection Date:	01-Nov-2019 10:56:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	CCB			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		

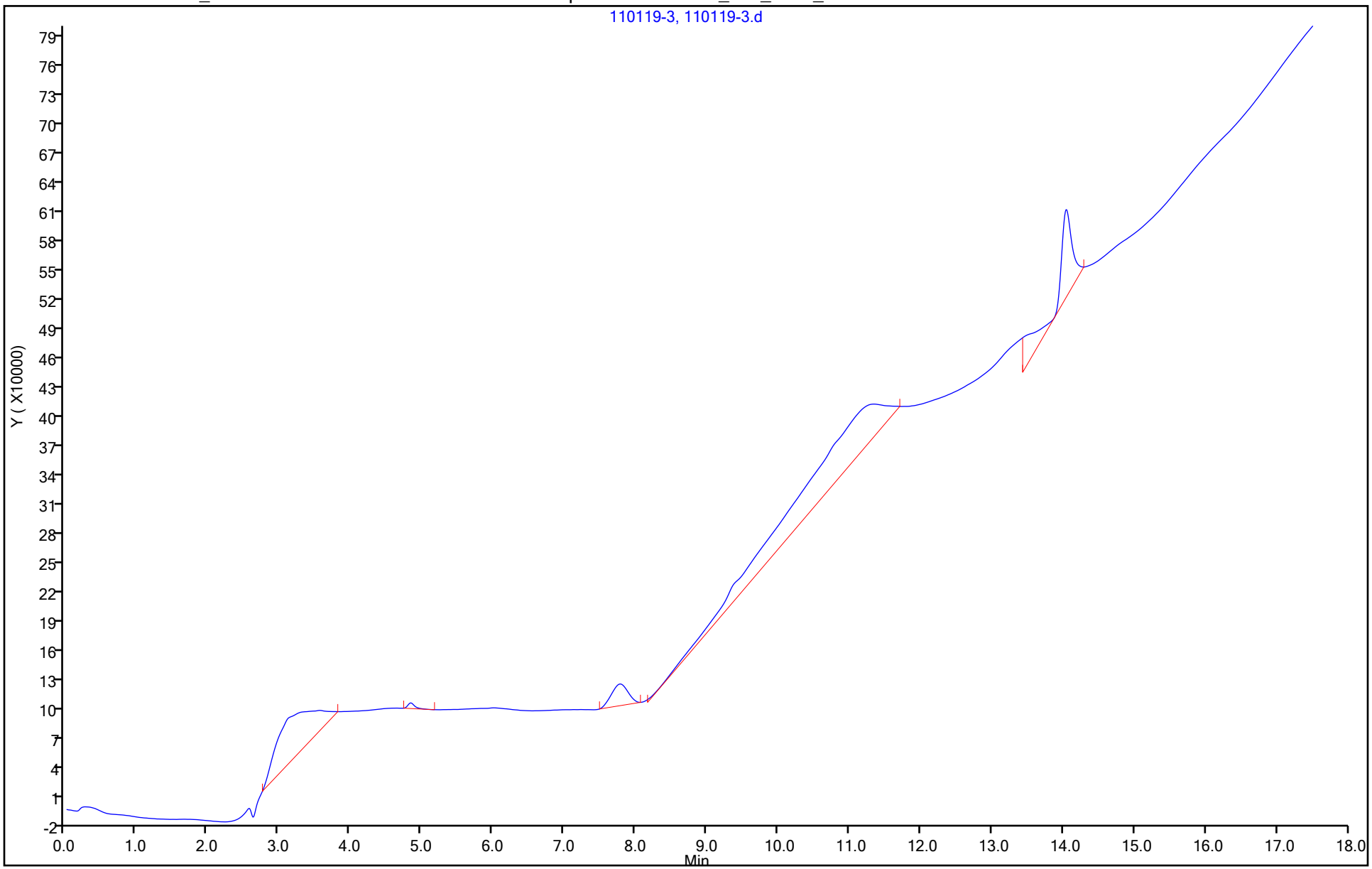

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: Lab Sample ID: CCB 600-279166/15

Matrix: Water Lab File ID: 110119-15.d

Analysis Method: 300.0 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 11/01/2019 18:42

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS-18 ID:

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 279166 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	ND		0.20	0.025
14797-65-0	Nitrite as N	ND		0.20	0.030

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20191031-32021.b\110119-15.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 01-Nov-2019 18:42:00 ALS Bottle#: 0 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032021-015
Misc. Info.: 21241
Operator ID: Instrument ID: CHWC11

Method: \\chromna\Houston\ChromData\CHWC11\20191031-32021.b\300_11.m
Limit Group: WC - IC_300_9056_48hr
Last Update: 04-Nov-2019 11:07:18 Calib Date: 18-Oct-2019 18:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d

Column 1 : Det: 040914-1
Process Host: CTX0335

First Level Reviewer: reachs Date: 04-Nov-2019 10:53:44

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride		3.117				ND	
	2 Chloride		4.842				ND	U
	9 Nitrite as N		6.017				ND	
	1 Bromide		8.667				ND	
	5 Sulfate		9.325				ND	
	3 Nitrate as N		10.042				ND	
	4 Orthophosphate as P		13.592				ND	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Review Flags

U - Marked Undetected

Report Date: 04-Nov-2019 11:07:20 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191031-32021.b\110119-15.d				
Injection Date:	01-Nov-2019 18:42:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	CCB			Worklist Smp#:	15
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		

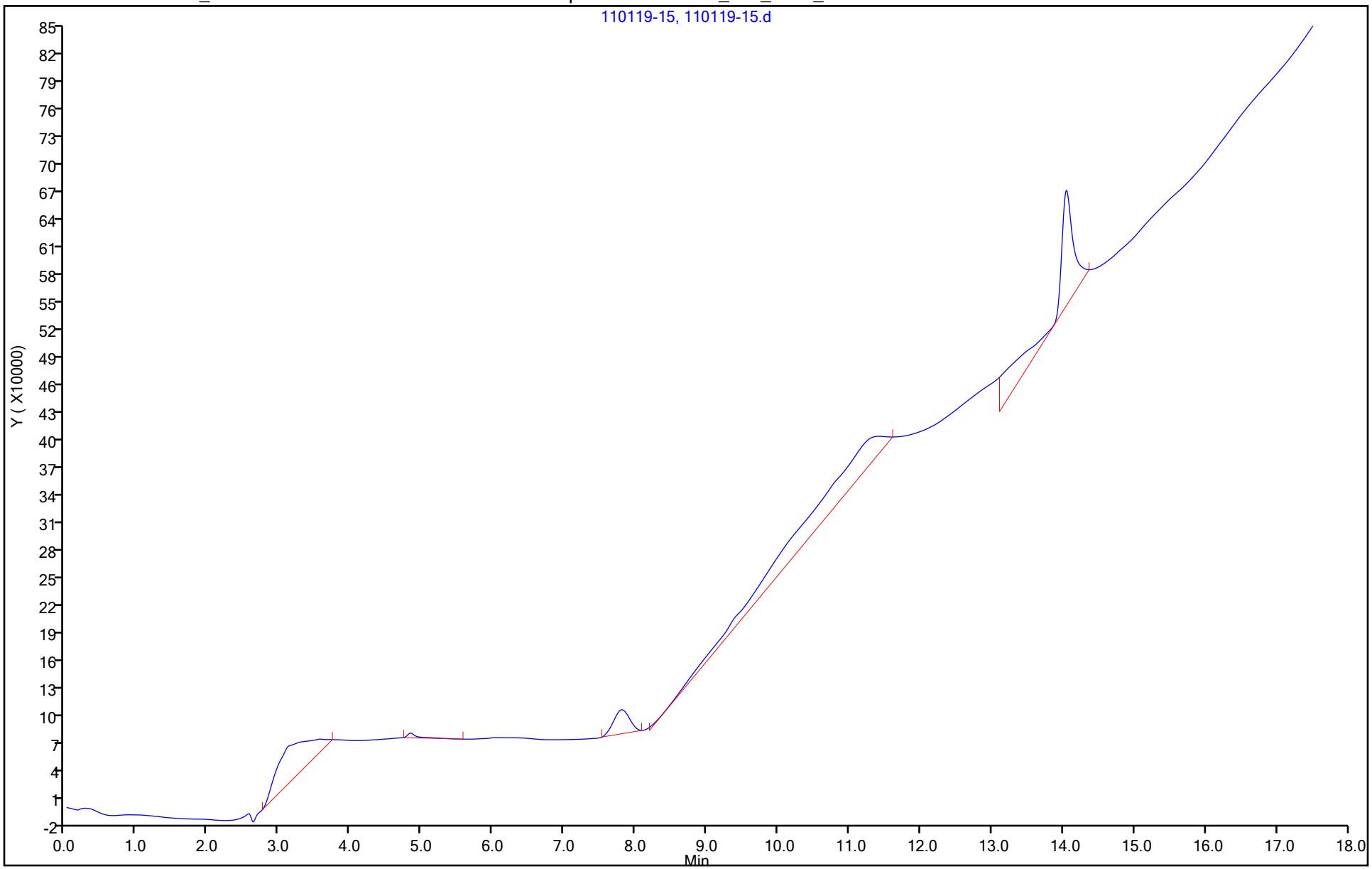

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: Lab Sample ID: CCB 600-279268/3

Matrix: Water Lab File ID: 110419-3.d

Analysis Method: 300.0 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 11/04/2019 11:51

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS-18 ID:

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 279268 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.40	0.10
16887-00-6	Chloride	ND		0.40	0.053
14808-79-8	Sulfate	ND		0.50	0.096
16984-48-8	Fluoride	ND		0.20	0.060

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-3.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 04-Nov-2019 11:51:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032042-003
Operator ID: Instrument ID: CHWC11

Method: \\chromna\Houston\ChromData\CHWC11\20191101-32042.b\300_11.m
Limit Group: WC - IC_300_9056_28day
Last Update: 05-Nov-2019 11:30:10 Calib Date: 18-Oct-2019 18:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d

Column 1 : Det: 040914-1
Process Host: CTX0336

First Level Reviewer: reachs Date: 05-Nov-2019 10:23:09

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride		3.125				ND	U
	2 Chloride		4.842				ND	
	9 Nitrite as N		6.009				ND	
	1 Bromide		8.650				ND	
	5 Sulfate		9.309				ND	
	3 Nitrate as N		10.017				ND	
	4 Orthophosphate as P		13.592				ND	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Review Flags
U - Marked Undetected

Report Date: 05-Nov-2019 11:30:13 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-3.d				
Injection Date:	04-Nov-2019 11:51:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	CCB			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		

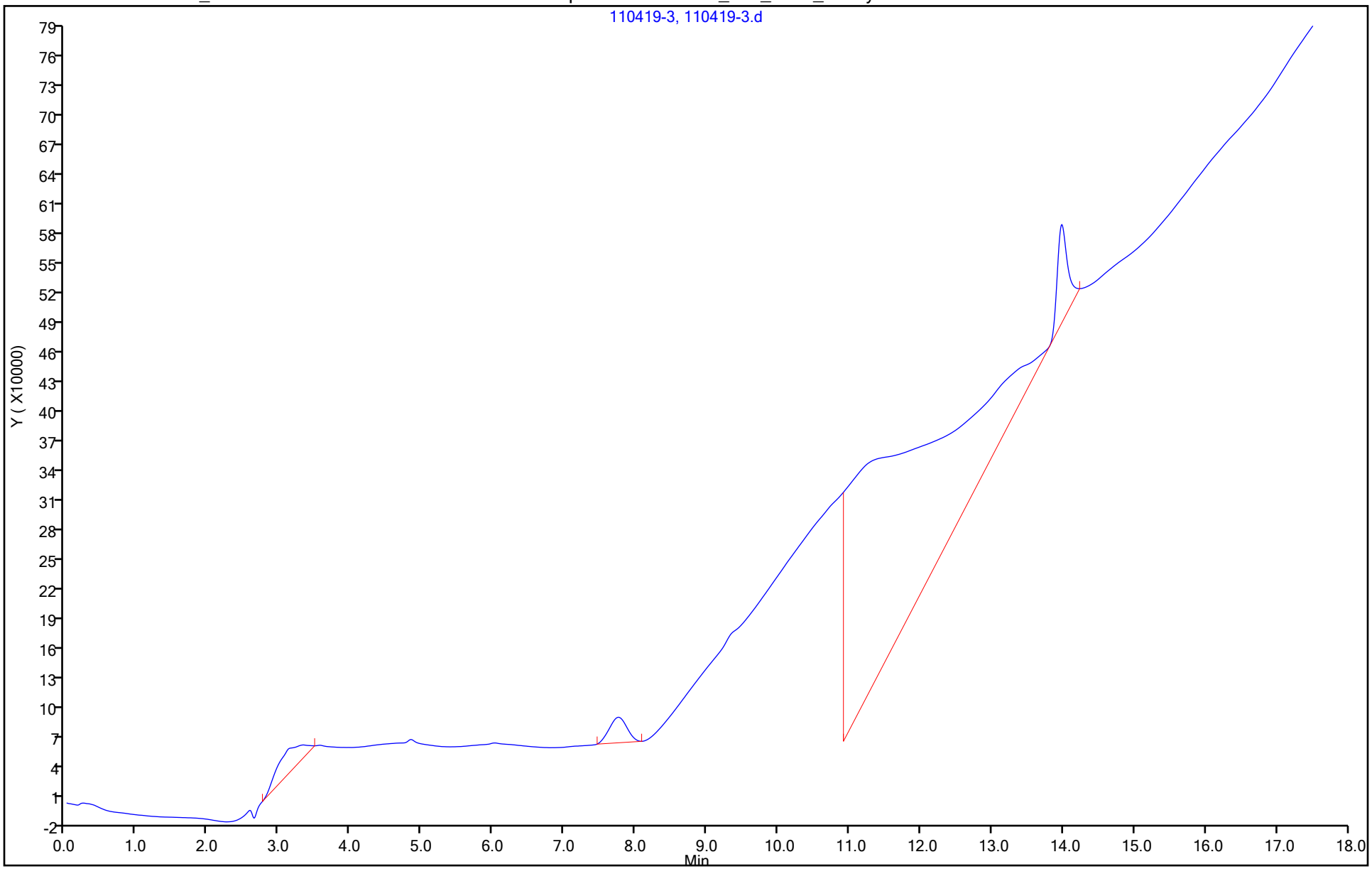

User Disabled Compound Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-3.d				
Injection Date:	04-Nov-2019 11:51:00	Instrument ID:	CHWC11		
Lims ID:	CCB				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		
Column:		Detector	040914-1		

7 Fluoride, CAS: 16984-48-8, Signal: 1

RT: 3.33
Response: 612328
Amount: 0.101103

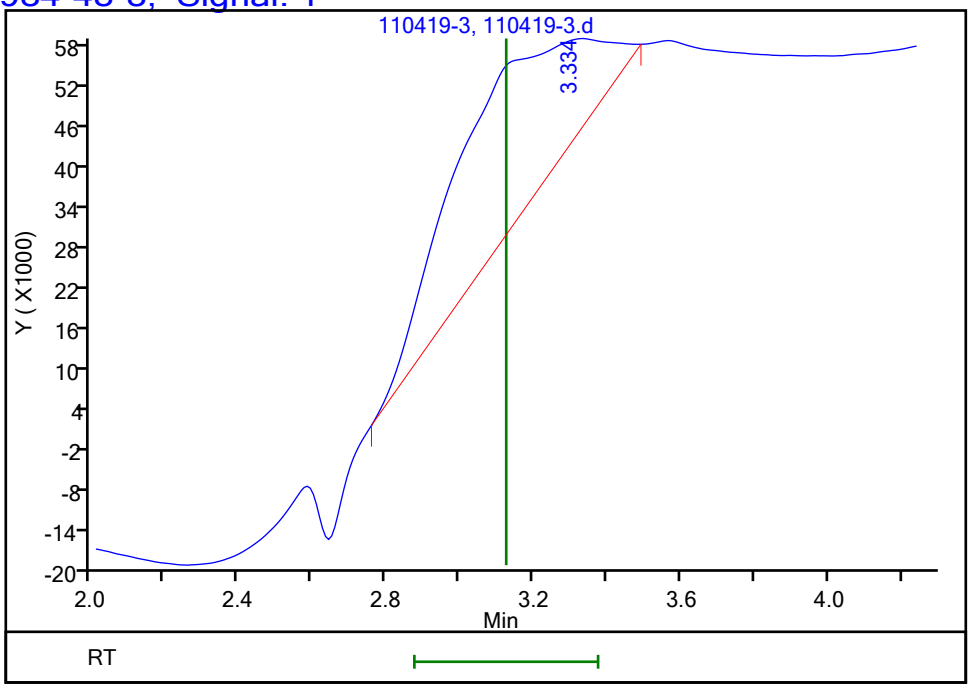

Reviewer: reachs, 05-Nov-2019 10:23:09
Audit Action: Manually Integrated Audit Reason:

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: Lab Sample ID: CCB 600-279268/15

Matrix: Water Lab File ID: 110419-15.d

Analysis Method: 300.0 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 11/04/2019 16:35

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS-18 ID:

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 279268 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.40	0.10
16887-00-6	Chloride	0.162	J	0.40	0.053
14808-79-8	Sulfate	ND		0.50	0.096
16984-48-8	Fluoride	ND		0.20	0.060

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-15.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 04-Nov-2019 16:35:00 ALS Bottle#: 0 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032042-015
Misc. Info.: 4604
Operator ID: Instrument ID: CHWC11

Method: \\chromna\Houston\ChromData\CHWC11\20191101-32042.b\300_11.m
Limit Group: WC - IC_300_9056_28day
Last Update: 05-Nov-2019 11:30:37 Calib Date: 18-Oct-2019 18:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d

Column 1 : Det: 040914-1
Process Host: CTX0336

First Level Reviewer: reachs Date: 05-Nov-2019 10:40:54

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride		3.125				ND	
	2 Chloride	4.850	4.842	0.008	38452		0.1620	
	9 Nitrite as N		6.009				ND	
	1 Bromide		8.650				ND	
	5 Sulfate		9.309				ND	
	3 Nitrate as N		10.017				ND	
	4 Orthophosphate as P		13.592				ND	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N		0.000				ND	

Report Date: 05-Nov-2019 11:30:41 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-15.d				
Injection Date:	04-Nov-2019 16:35:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	CCB			Worklist Smp#:	15
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		

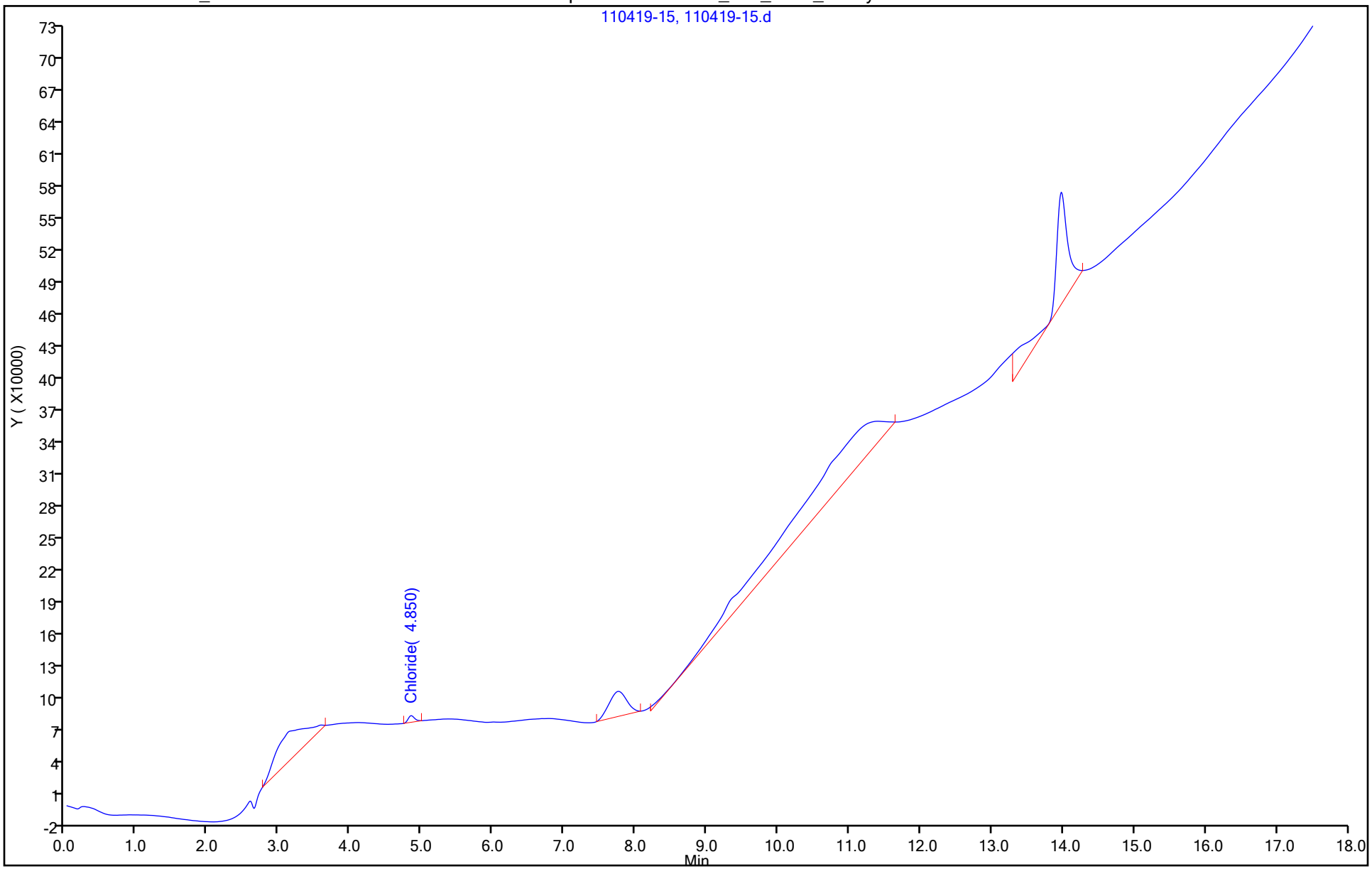

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: Lab Sample ID: CCB 600-279269/3

Matrix: Water Lab File ID: 110419-3.d

Analysis Method: 300.0 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 11/04/2019 11:51

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS-18 ID:

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 279269 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	ND		0.20	0.025
14797-65-0	Nitrite as N	ND		0.20	0.030

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-3.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 04-Nov-2019 11:51:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032042-003
Operator ID: Instrument ID: CHWC11

Method: \\chromna\Houston\ChromData\CHWC11\20191101-32042.b\300_11.m
Limit Group: WC - IC_300_9056_48hr
Last Update: 05-Nov-2019 11:30:10 Calib Date: 18-Oct-2019 18:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d

Column 1 : Det: 040914-1
Process Host: CTX0336

First Level Reviewer: reachs Date: 05-Nov-2019 10:23:09

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride		3.125				ND	U
	2 Chloride		4.842				ND	
	9 Nitrite as N		6.009				ND	
	1 Bromide		8.650				ND	
	5 Sulfate		9.309				ND	
	3 Nitrate as N		10.017				ND	
	4 Orthophosphate as P		13.592				ND	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Review Flags
U - Marked Undetected

Report Date: 05-Nov-2019 11:30:13 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-3.d				
Injection Date:	04-Nov-2019 11:51:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	CCB			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		

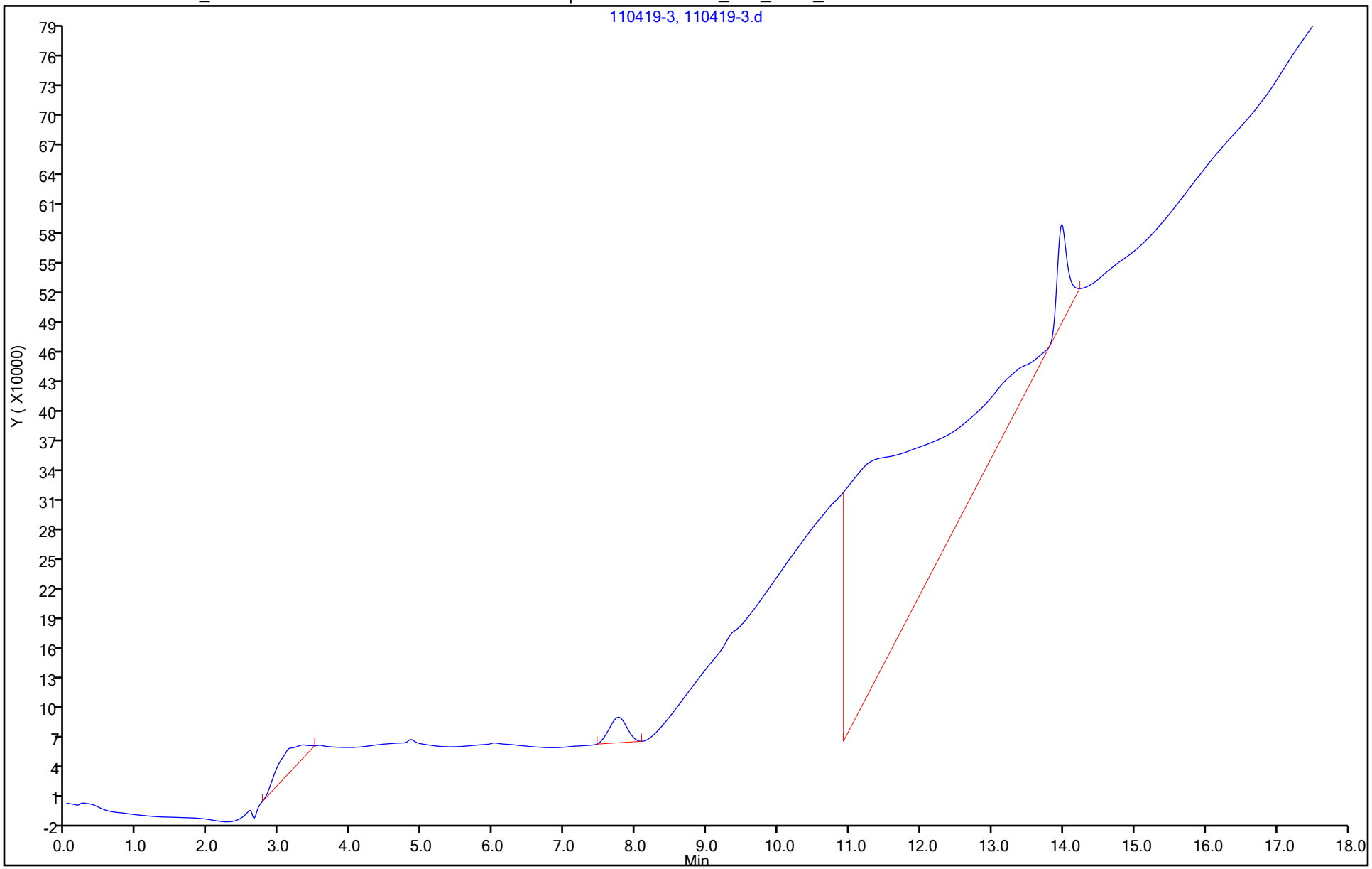

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: Lab Sample ID: CCB 600-279269/15

Matrix: Water Lab File ID: 110419-15.d

Analysis Method: 300.0 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 11/04/2019 16:35

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS-18 ID:

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 279269 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	ND		0.20	0.025
14797-65-0	Nitrite as N	ND		0.20	0.030

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-15.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 04-Nov-2019 16:35:00 ALS Bottle#: 0 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032042-015
Misc. Info.: 4604
Operator ID: Instrument ID: CHWC11

Method: \\chromna\Houston\ChromData\CHWC11\20191101-32042.b\300_11.m
Limit Group: WC - IC_300_9056_48hr
Last Update: 05-Nov-2019 11:30:37 Calib Date: 18-Oct-2019 18:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d

Column 1 : Det: 040914-1
Process Host: CTX0336

First Level Reviewer: reachs Date: 05-Nov-2019 10:40:54

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride		3.125				ND	
	2 Chloride	4.850	4.842	0.008	38452			NC
	9 Nitrite as N		6.009				ND	
	1 Bromide		8.650				ND	
	5 Sulfate		9.309				ND	
	3 Nitrate as N		10.017				ND	
	4 Orthophosphate as P		13.592				ND	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Report Date: 05-Nov-2019 11:30:41 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-15.d				
Injection Date:	04-Nov-2019 16:35:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	CCB			Worklist Smp#:	15
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		

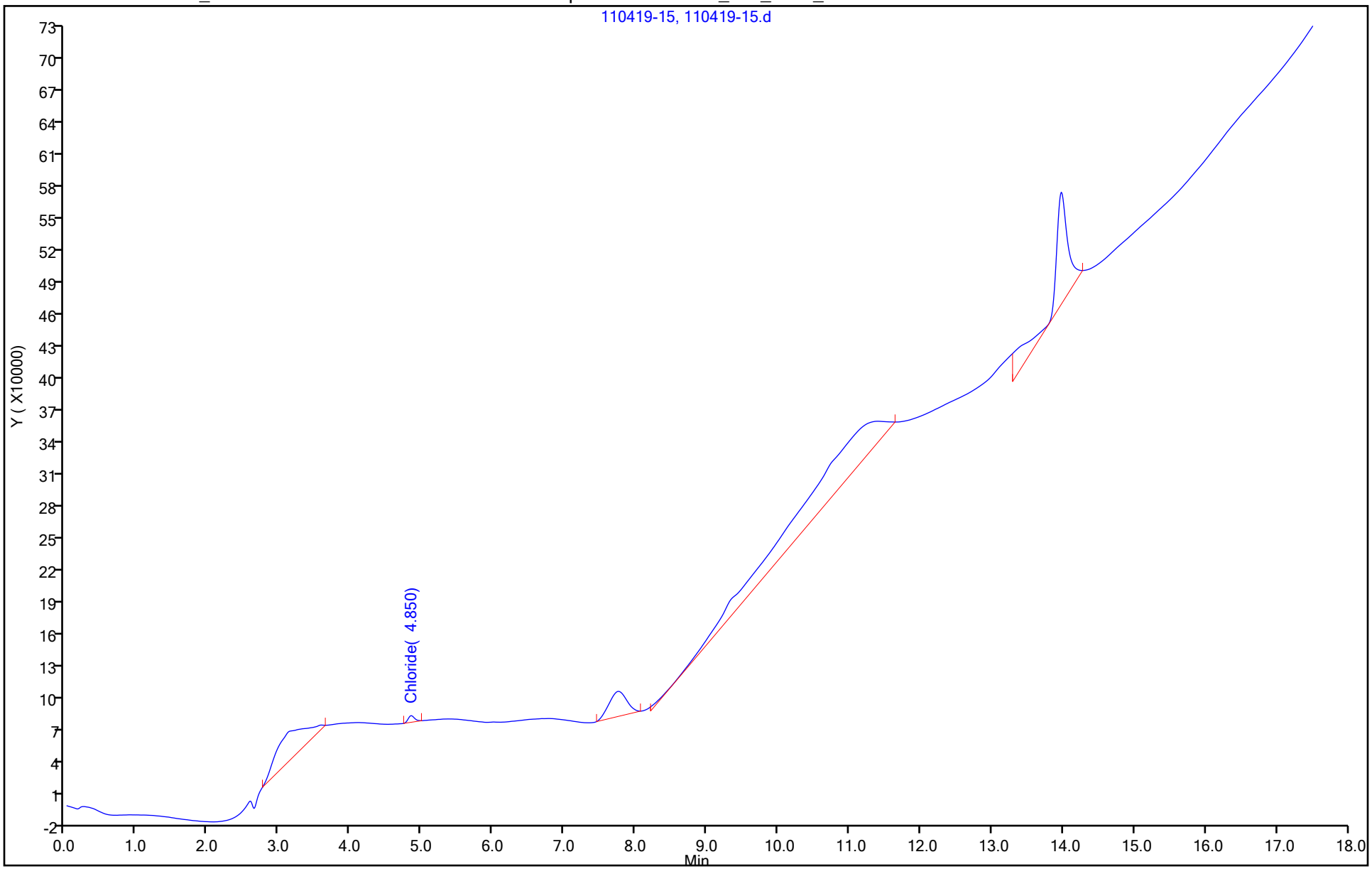

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: Lab Sample ID: CCB 600-279269/27

Matrix: Water Lab File ID: 110419-27.d

Analysis Method: 300.0 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 11/04/2019 20:40

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS-18 ID:

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 279269 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	ND		0.20	0.025
14797-65-0	Nitrite as N	ND		0.20	0.030

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-27.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 04-Nov-2019 20:40:00 ALS Bottle#: 0 Worklist Smp#: 27
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032042-027
Misc. Info.: 786
Operator ID: Instrument ID: CHWC11

Method: \\chromna\Houston\ChromData\CHWC11\20191101-32042.b\300_11.m
Limit Group: WC - IC_300_9056_48hr
Last Update: 05-Nov-2019 11:31:00 Calib Date: 18-Oct-2019 18:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d

Column 1 : Det: 040914-1
Process Host: CTX0336

First Level Reviewer: reachs Date: 05-Nov-2019 10:45:35

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	3.159	3.125	0.034	138377		NC	
	2 Chloride	4.842	4.842	0.000	47190		NC	
	9 Nitrite as N		6.009				ND	
	1 Bromide		8.650				ND	
	5 Sulfate		9.309				ND	
	3 Nitrate as N		10.017				ND	
	4 Orthophosphate as P		13.592				ND	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Report Date: 05-Nov-2019 11:31:05 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-27.d				
Injection Date:	04-Nov-2019 20:40:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	CCB			Worklist Smp#:	27
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		

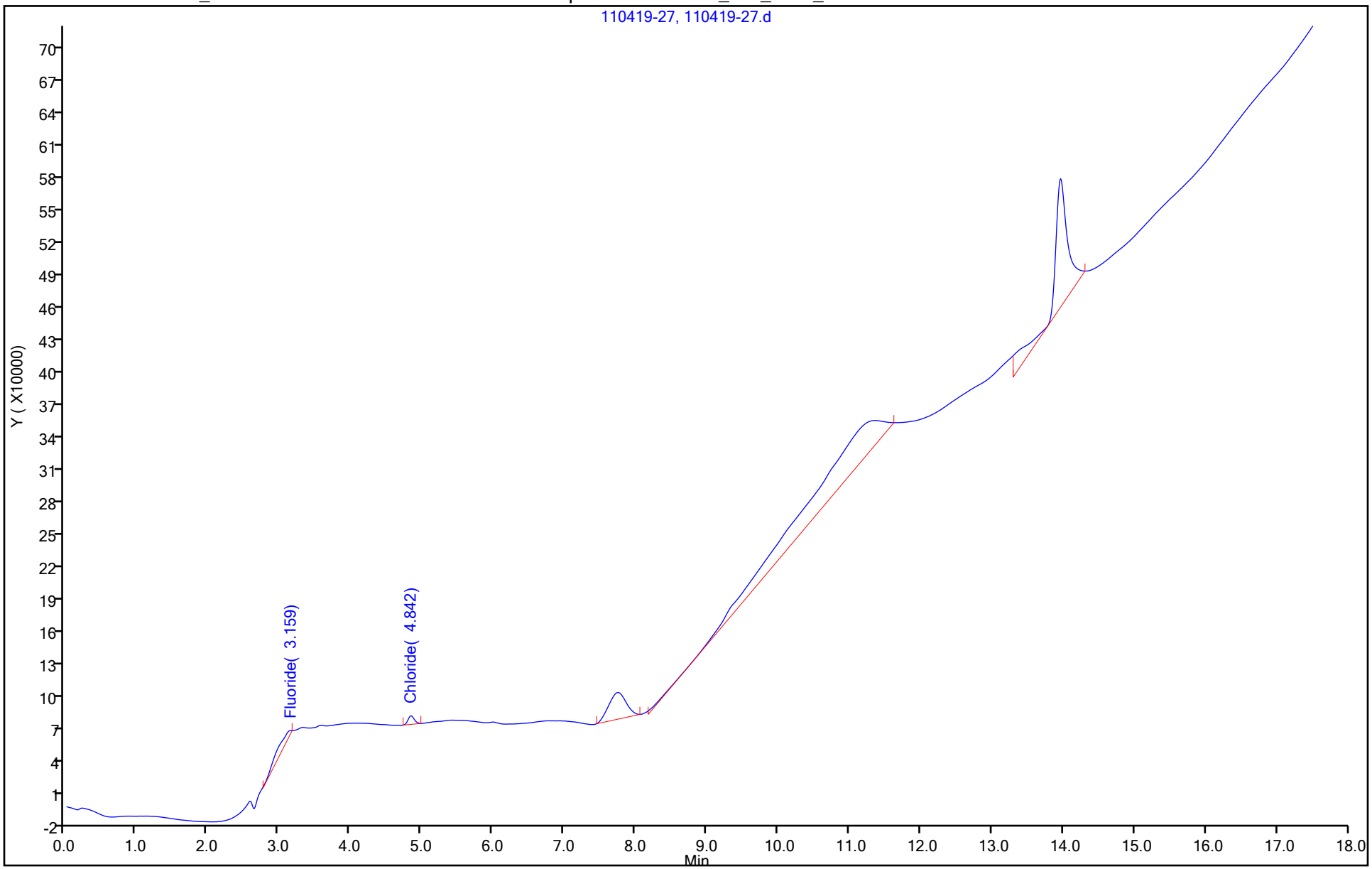

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: Lab Sample ID: CCB 600-279269/39

Matrix: Water Lab File ID: 110419-39.d

Analysis Method: 300.0 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 11/05/2019 00:45

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS-18 ID:

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 279269 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	ND		0.20	0.025
14797-65-0	Nitrite as N	ND		0.20	0.030

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-39.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 05-Nov-2019 00:45:00 ALS Bottle#: 0 Worklist Smp#: 39
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032042-039
Misc. Info.: 1221
Operator ID: Instrument ID: CHWC11

Method: \\chromna\Houston\ChromData\CHWC11\20191101-32042.b\300_11.m
Limit Group: WC - IC_300_9056_48hr
Last Update: 05-Nov-2019 11:31:25 Calib Date: 18-Oct-2019 18:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d

Column 1 : Det: 040914-1
Process Host: CTX0336

First Level Reviewer: reachs Date: 05-Nov-2019 10:56:59

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride		3.125				ND	U
	2 Chloride	4.842	4.842	0.000	61645		NC	
	9 Nitrite as N		6.009				ND	
	1 Bromide		8.650				ND	
	5 Sulfate		9.309				ND	U
	3 Nitrate as N		10.017				ND	
	4 Orthophosphate as P		13.592				ND	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
U - Marked Undetected

Report Date: 05-Nov-2019 11:31:28 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-39.d				
Injection Date:	05-Nov-2019 00:45:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	CCB			Worklist Smp#:	39
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		

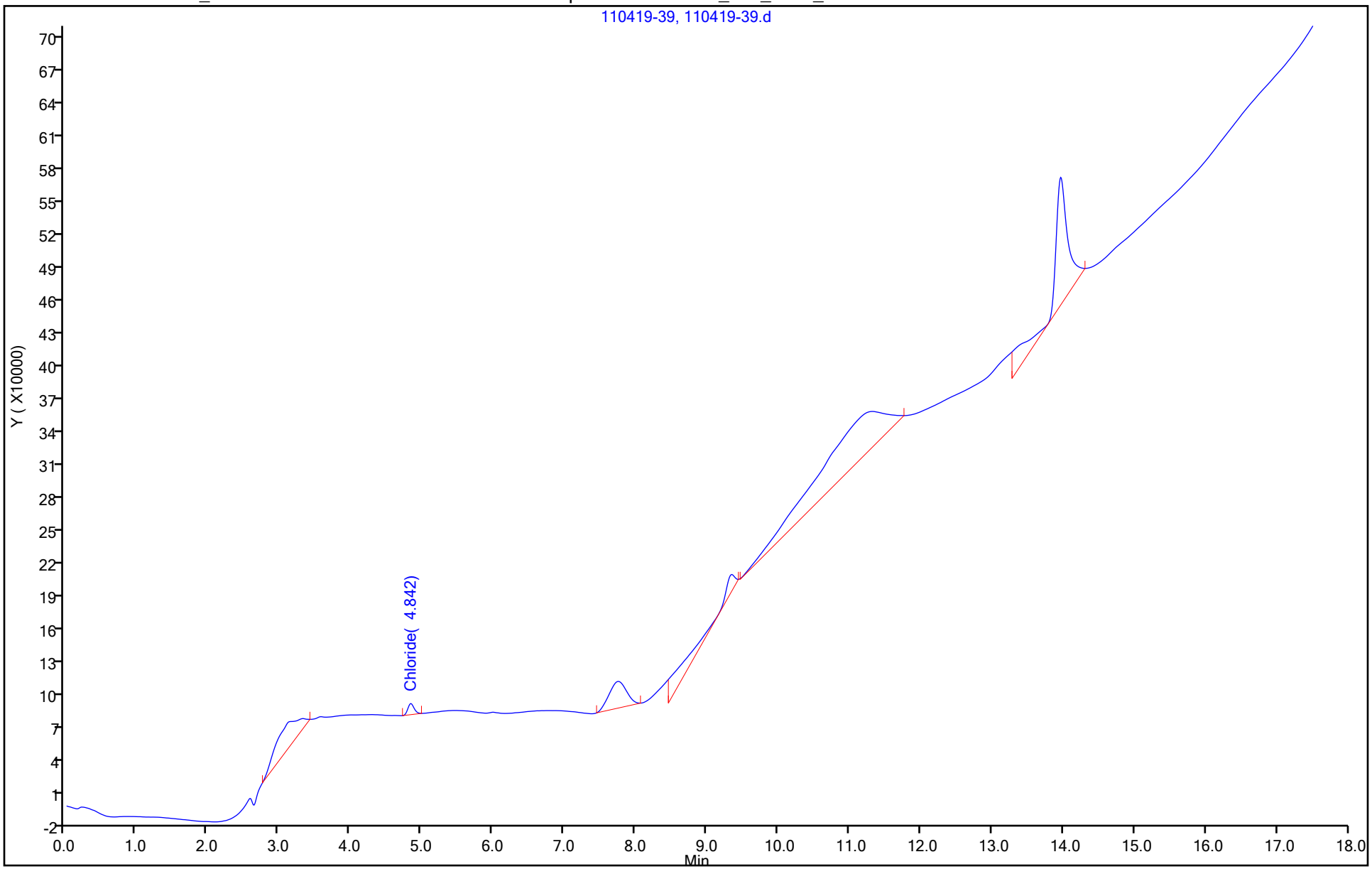

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-194690-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 600-278776/7
Matrix: Water
Lab File ID: 102919-600-0031944-007.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 10/29/2019 03:14
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS22 ID: 2(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 278776
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	7.55		0.40	0.10
16887-00-6	Chloride	19.5		0.40	0.053
14808-79-8	Sulfate	19.6		0.50	0.096
16984-48-8	Fluoride	7.71		0.20	0.060

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-007.d
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 29-Oct-2019 03:14:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031944-007
Misc. Info.: lcs
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 30-Oct-2019 12:43:28 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0337

First Level Reviewer: reachs Date: 29-Oct-2019 12:09:33

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.241	2.241	0.000	418809889	7.50	7.71	M
	2 Chloride	3.121	3.121	0.000	892244422	20.0	19.5	M
	9 Nitrite as N	3.761	3.761	0.000	756988166	NC	NC	M
	1 Bromide	4.397	4.397	0.000	102621362	7.50	7.55	M
	3 Nitrate as N	4.864	4.864	0.000	1124503382	NC	NC	M
	5 Sulfate	7.101	7.101	0.000	608684845	20.0	19.6	M
S	6 Nitrate Nitrite as N		0.000			10.0	ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

ICV/LCS_00108 Amount Added: 5.00 Units: mL

Report Date: 30-Oct-2019 12:43:34 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-007.d

Injection Date: 29-Oct-2019 03:14:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: LCS Worklist Smp#: 7

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_28day

Column: AS-22 Dionex Lion Pac (2.00 mm)

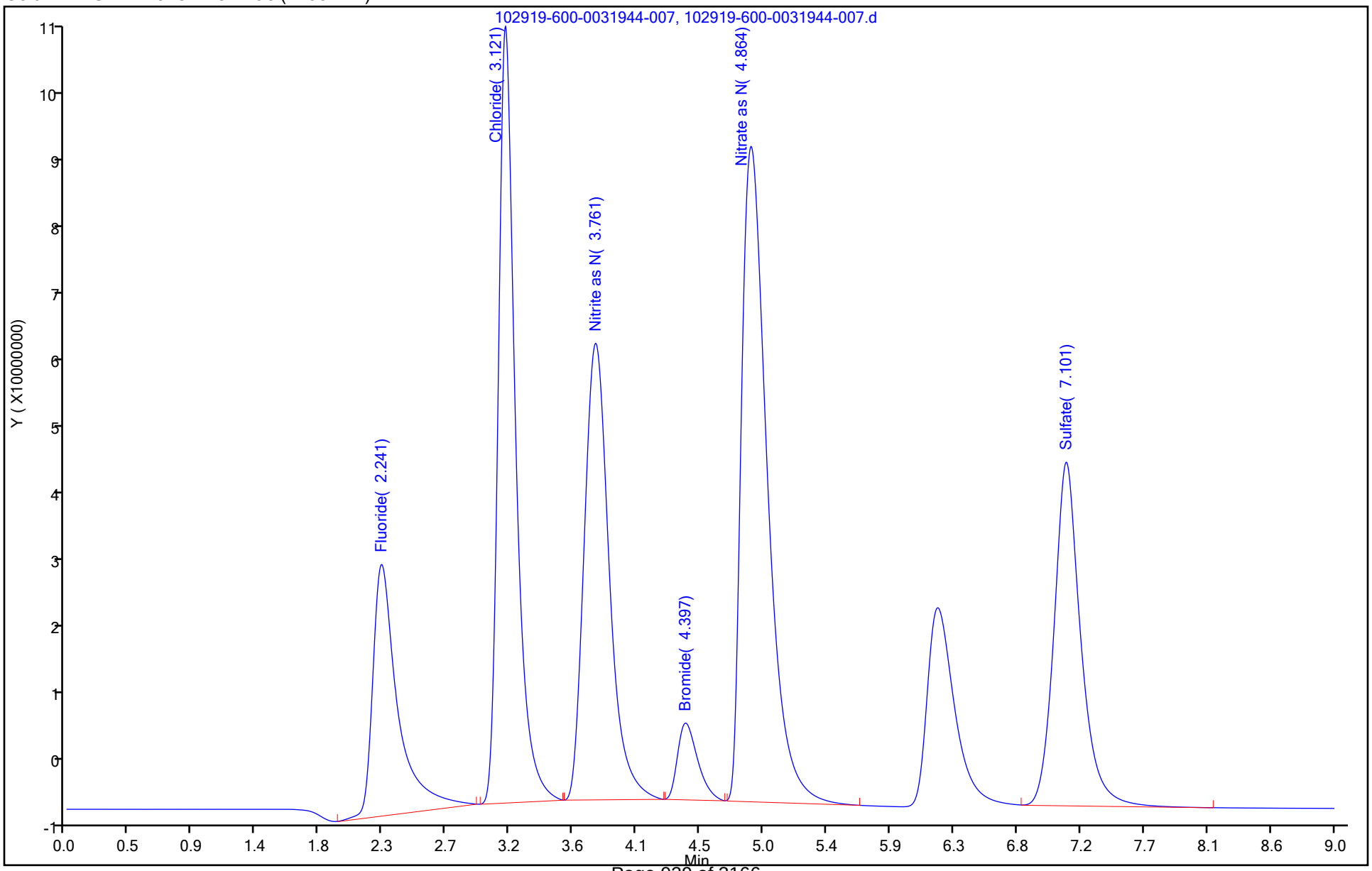

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-007.d				
Injection Date:	29-Oct-2019 03:14:00	Instrument ID:	CHWC17(IC)		
Lims ID:	LCS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

1 Bromide, CAS: 24959-67-9

Signal: 1

Processing Integration Results

RT: 4.40
Area: 151649104
Amount: 11.168975
Amount Units: ug/ml

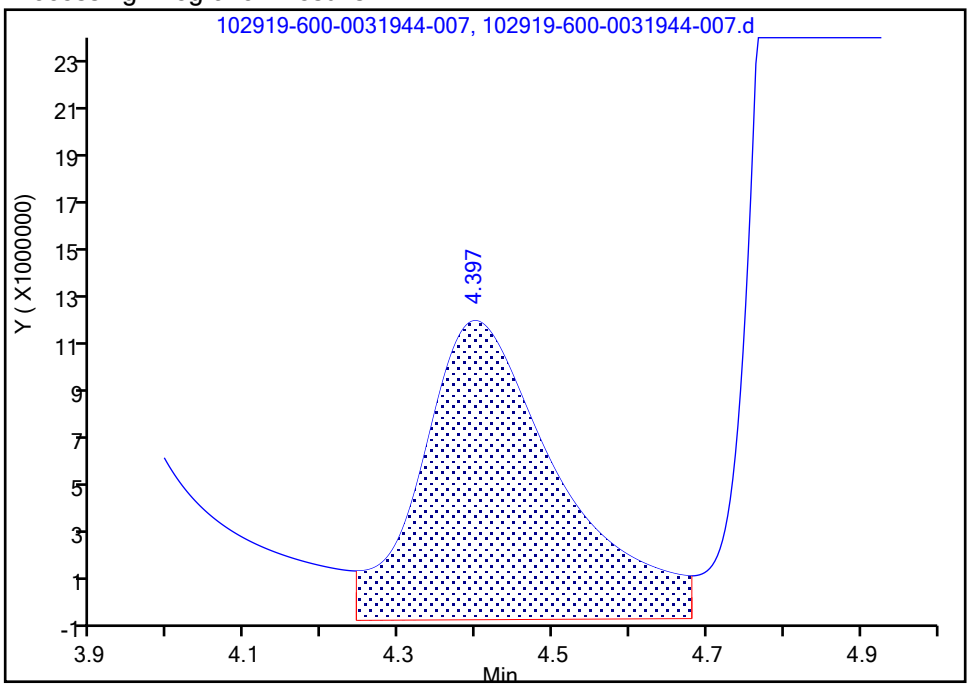

Manual Integration Results

RT: 4.40
Area: 102621362
Amount: 7.550168
Amount Units: ug/ml

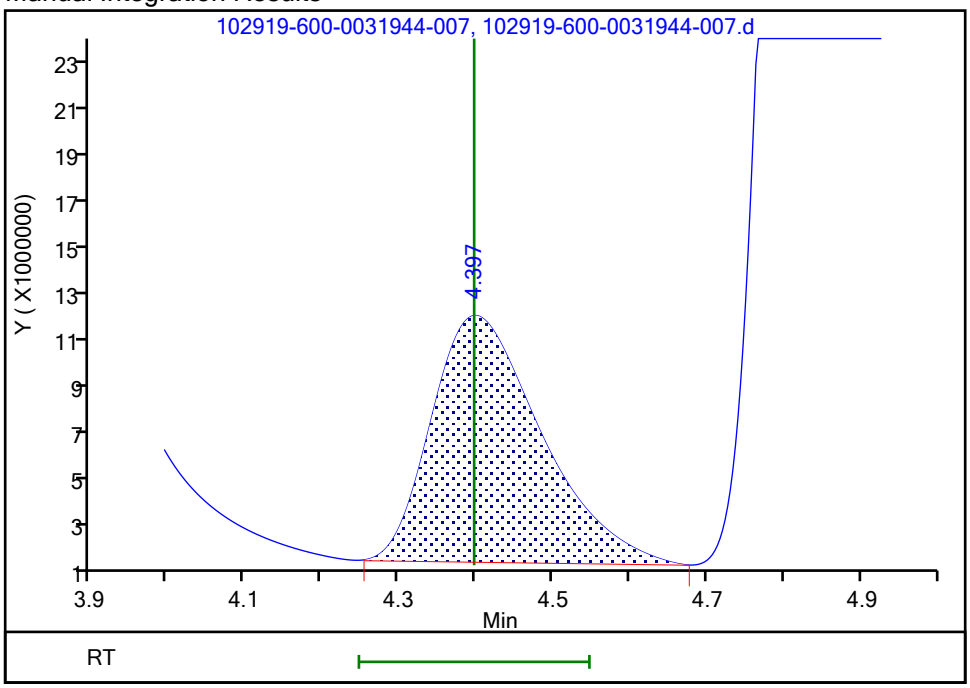

Reviewer: reachs, 29-Oct-2019 12:08:46
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-007.d				
Injection Date:	29-Oct-2019 03:14:00	Instrument ID:	CHWC17(IC)		
Lims ID:	LCS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

2 Chloride, CAS: 16887-00-6

Signal: 1

Processing Integration Results

RT: 3.12
Area: 956810272
Amount: 20.923109
Amount Units: ug/ml

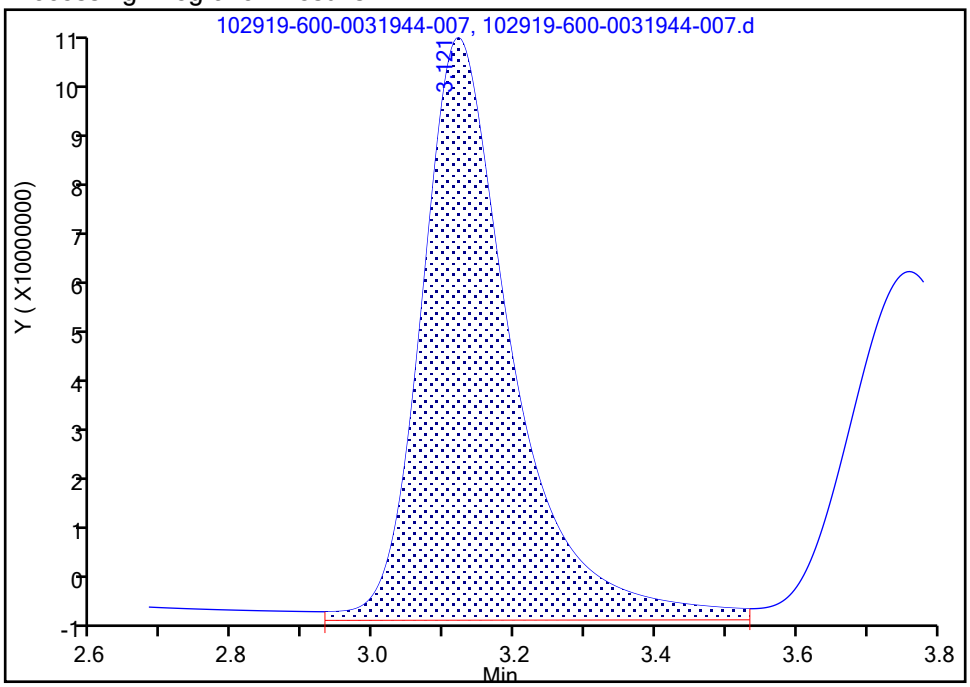

Manual Integration Results

RT: 3.12
Area: 892244422
Amount: 19.525307
Amount Units: ug/ml

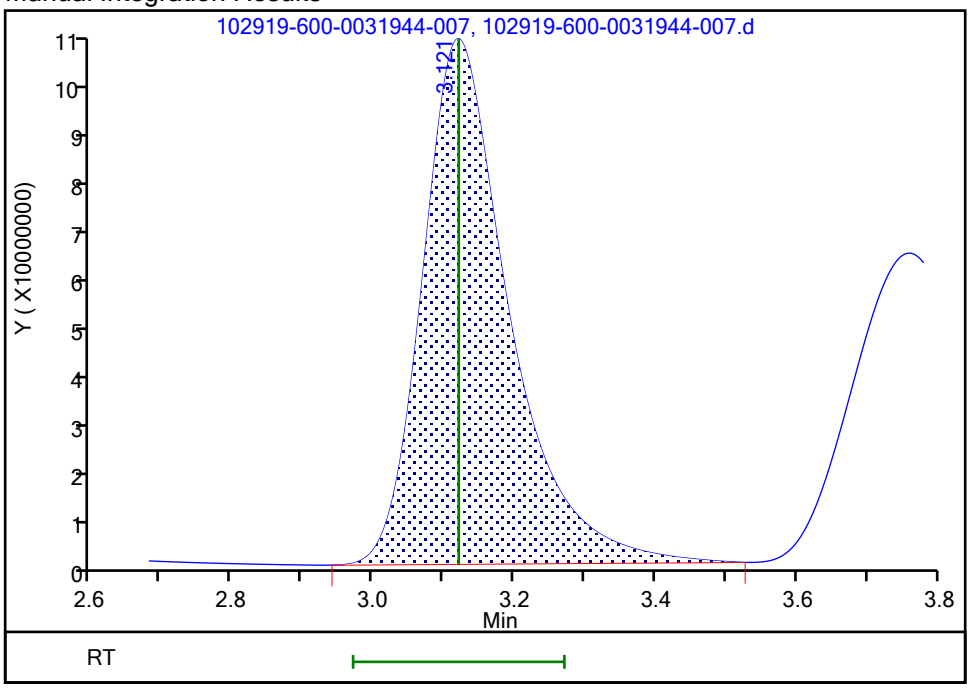

Reviewer: reachs, 29-Oct-2019 12:08:36
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-007.d				
Injection Date:	29-Oct-2019 03:14:00	Instrument ID:	CHWC17(IC)		
Lims ID:	LCS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

5 Sulfate, CAS: 14808-79-8

Signal: 1

Processing Integration Results

RT: 7.10
Area: 655534679
Amount: 21.138069
Amount Units: ug/ml

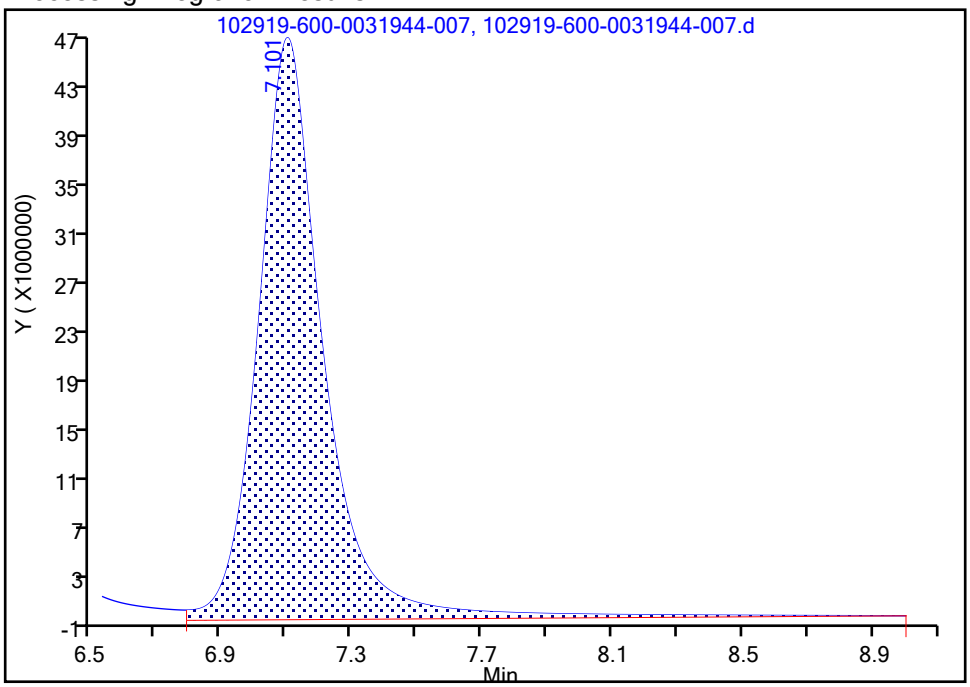

Manual Integration Results

RT: 7.10
Area: 608684845
Amount: 19.640050
Amount Units: ug/ml

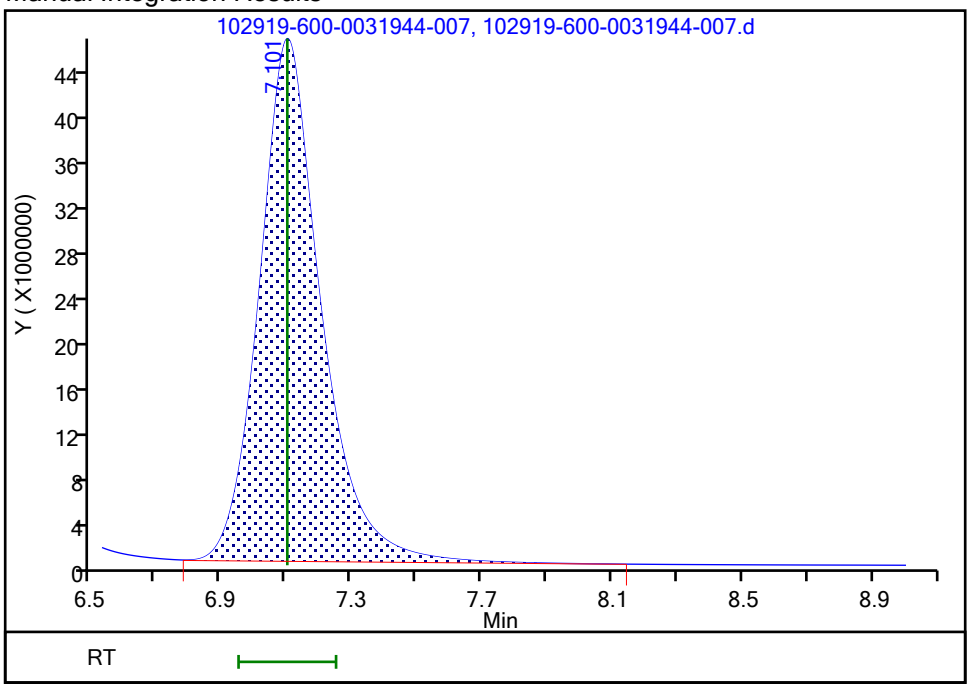

Reviewer: reachs, 29-Oct-2019 12:08:56

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-007.d				
Injection Date:	29-Oct-2019 03:14:00	Instrument ID:	CHWC17(IC)		
Lims ID:	LCS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

7 Fluoride, CAS: 16984-48-8

Signal: 1

Processing Integration Results

RT: 2.24
Area: 451197888
Amount: 8.294321
Amount Units: ug/ml

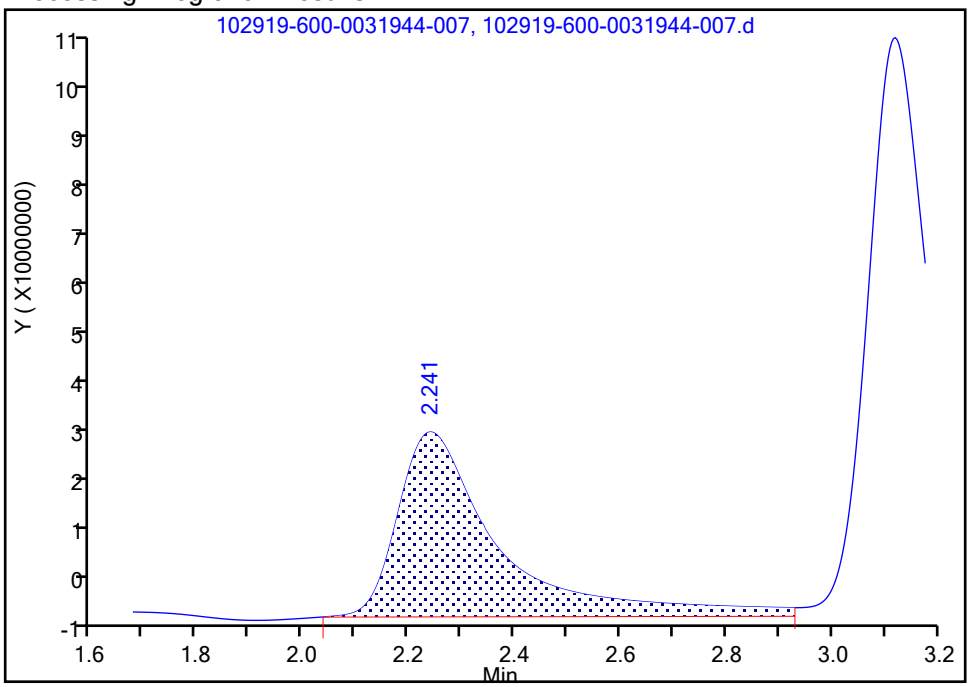

Manual Integration Results

RT: 2.24
Area: 418809889
Amount: 7.711726
Amount Units: ug/ml

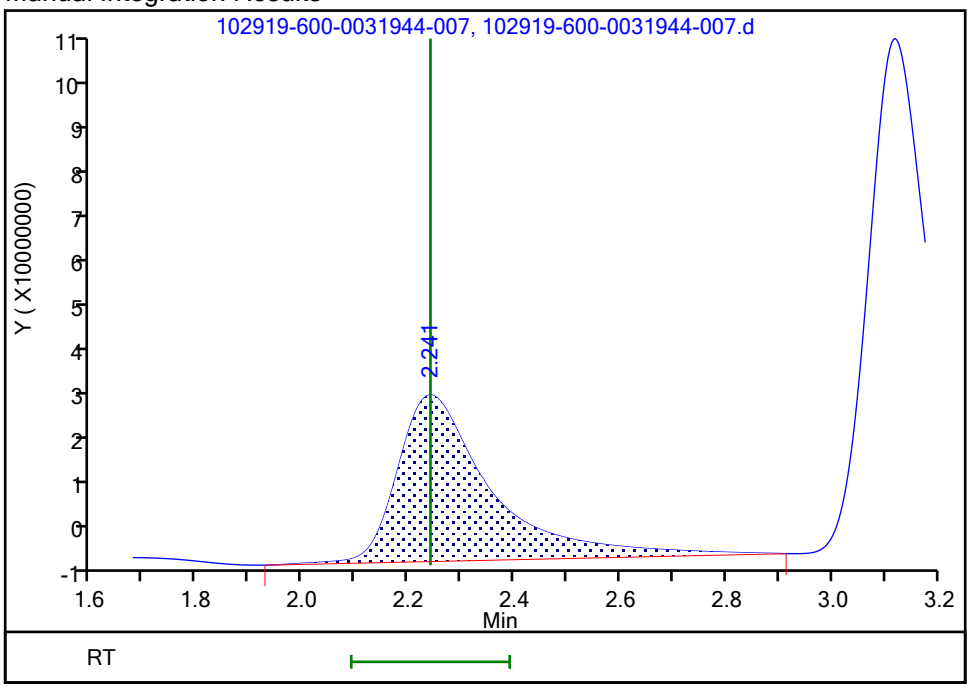

Reviewer: reachs, 29-Oct-2019 12:08:26

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 600-278777/7

Matrix: Water Lab File ID: 102919-600-0031944-007.d

Analysis Method: 300.0 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 10/29/2019 03:14

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS22 ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 278777 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	9.68		0.20	0.025
14797-65-0	Nitrite as N	10.4		0.20	0.030

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-007.d
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 29-Oct-2019 03:14:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031944-007
Misc. Info.: lcs
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 30-Oct-2019 12:43:28 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0337

First Level Reviewer: reachs Date: 29-Oct-2019 12:09:33

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.241	2.241	0.000	418809889	NC	NC	M
	2 Chloride	3.121	3.121	0.000	892244422	NC	NC	M
	9 Nitrite as N	3.761	3.761	0.000	756988166	10.0	10.4	M
	1 Bromide	4.397	4.397	0.000	102621362	NC	NC	M
	3 Nitrate as N	4.864	4.864	0.000	1124503382	10.0	9.68	M
	5 Sulfate	7.101	7.101	0.000	608684845	NC	NC	M
S	6 Nitrate Nitrite as N					10.0	20.1	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

ICV/LCS_00108 Amount Added: 5.00 Units: mL

Report Date: 30-Oct-2019 12:43:34 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-007.d

Injection Date: 29-Oct-2019 03:14:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: LCS Worklist Smp#: 7

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_48hr

Column: AS-22 Dionex Lion Pac (2.00 mm)

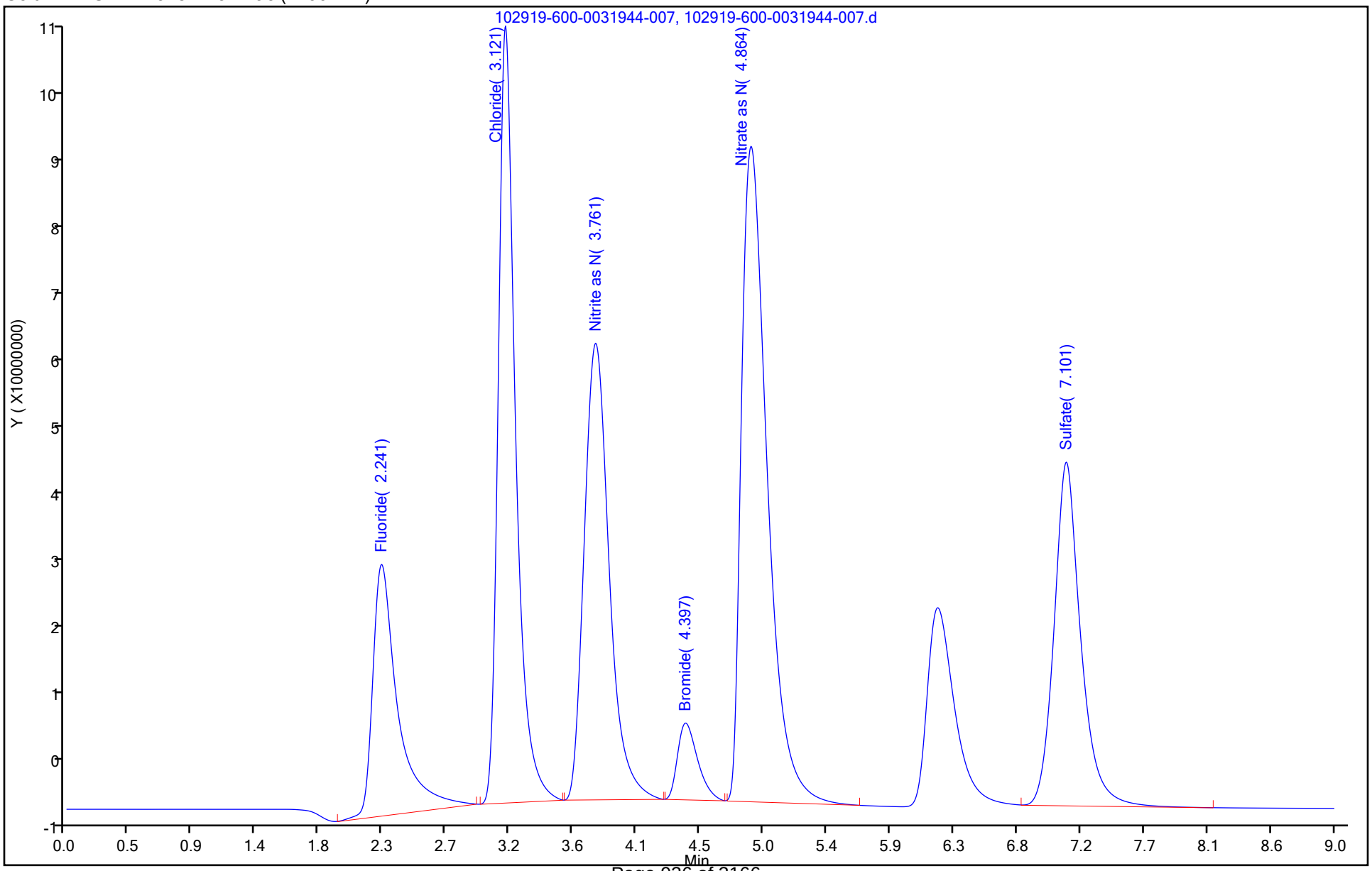

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-007.d				
Injection Date:	29-Oct-2019 03:14:00	Instrument ID:	CHWC17(IC)		
Lims ID:	LCS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

3 Nitrate as N, CAS: 14797-55-8

Signal: 1

Processing Integration Results

RT: 4.86
Area: 1216633682
Amount: 10.464706
Amount Units: ug/ml

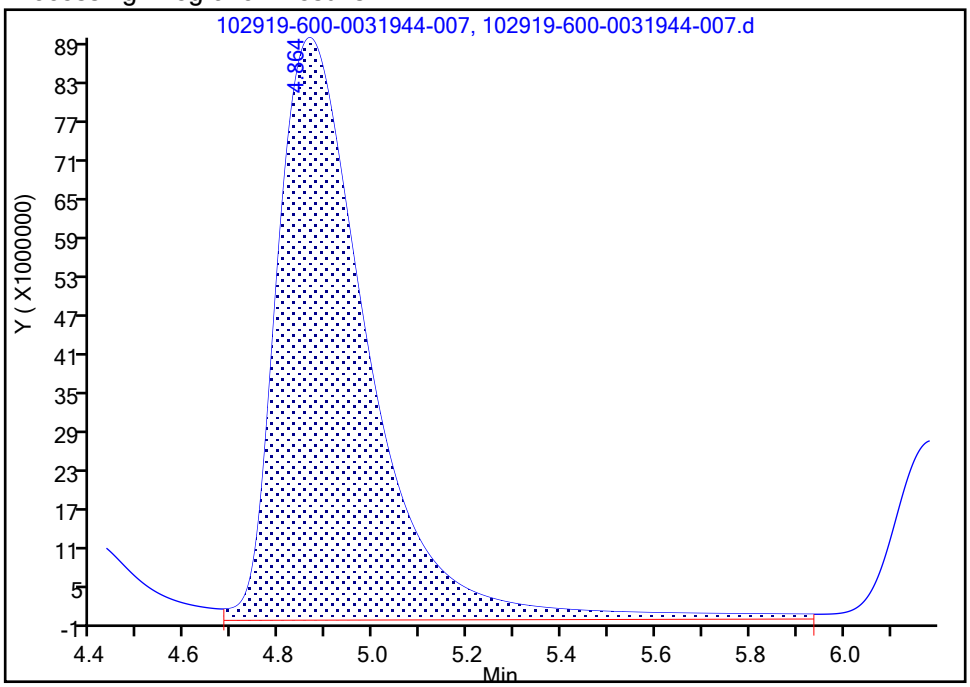

Manual Integration Results

RT: 4.86
Area: 1124503382
Amount: 9.681233
Amount Units: ug/ml

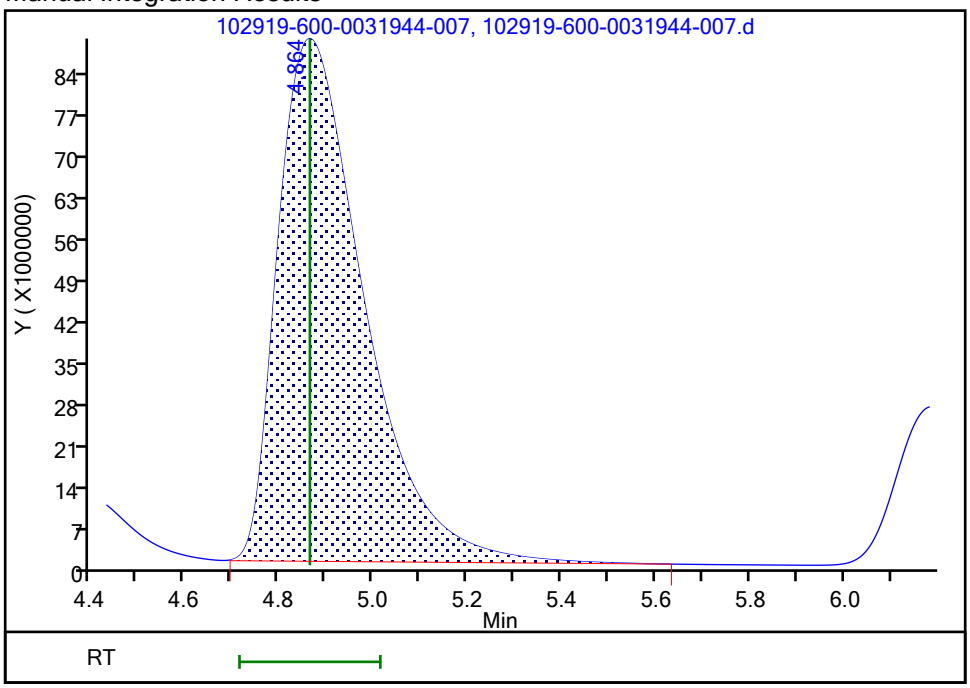

Reviewer: reachs, 29-Oct-2019 12:09:24

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-007.d				
Injection Date:	29-Oct-2019 03:14:00	Instrument ID:	CHWC17(IC)		
Lims ID:	LCS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

9 Nitrite as N, CAS: 14797-65-0

Signal: 1

Processing Integration Results

RT: 3.76
Area: 842751238
Amount: 11.625498
Amount Units: ug/ml

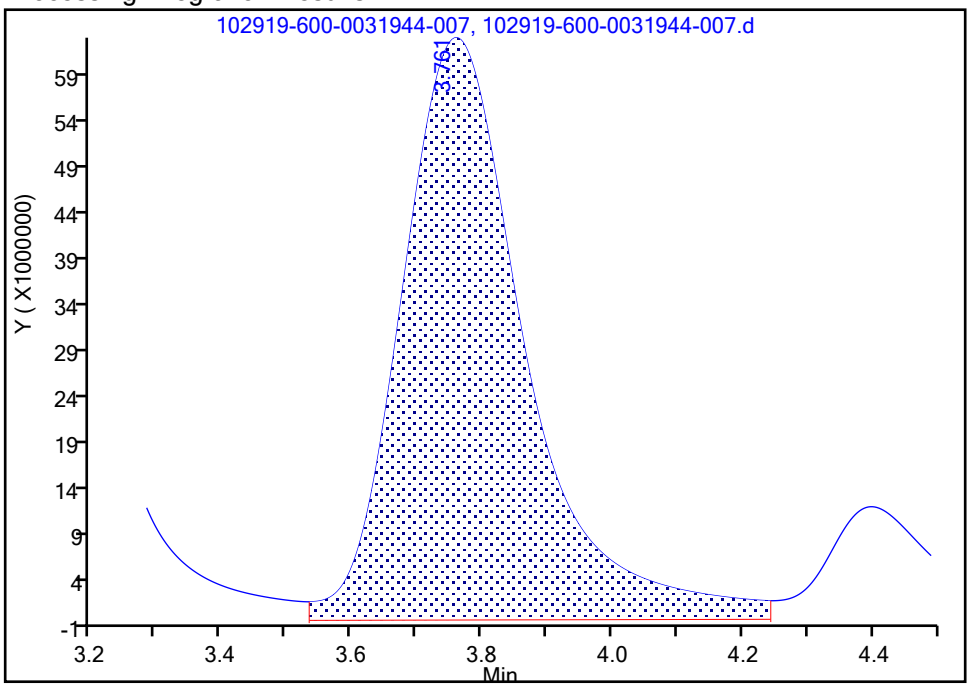

Manual Integration Results

RT: 3.76
Area: 756988166
Amount: 10.445984
Amount Units: ug/ml

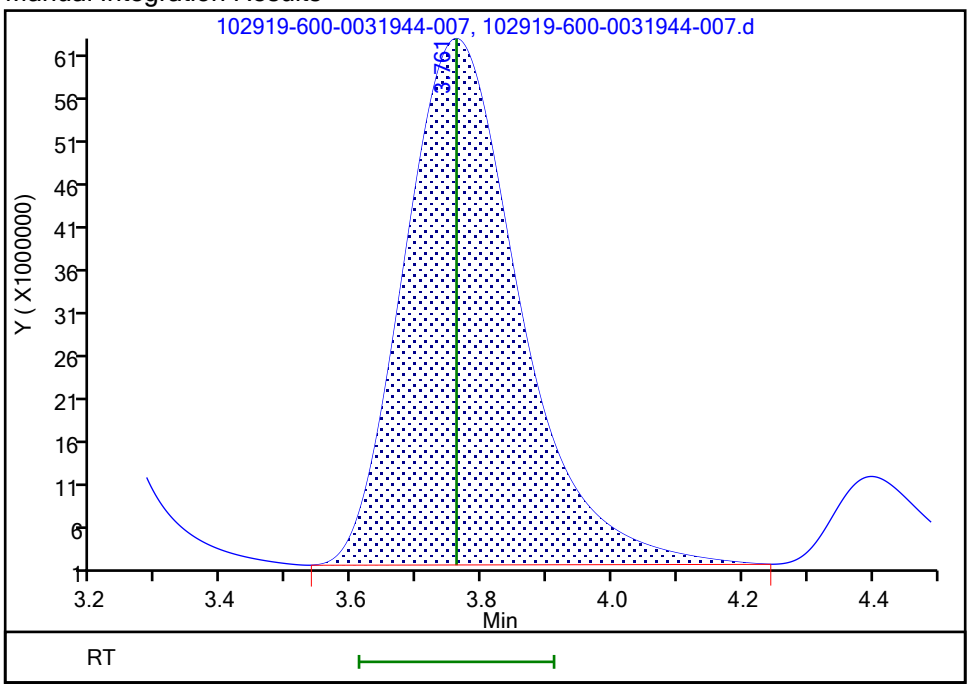

Reviewer: reachs, 29-Oct-2019 12:09:14

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 600-278901/7

Matrix: Water Lab File ID: 103019-600-0031972-007.d

Analysis Method: 300.0 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 10/30/2019 06:45

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS22 ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 278901 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	7.56		0.40	0.10
16887-00-6	Chloride	19.6		0.40	0.053
14808-79-8	Sulfate	19.6		0.50	0.096
16984-48-8	Fluoride	7.71		0.20	0.060

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-007.d
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 30-Oct-2019 06:45:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031972-007
Misc. Info.: lcs
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 31-Oct-2019 12:35:10 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0305

First Level Reviewer: reachs Date: 30-Oct-2019 14:11:27

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.234	2.241	-0.007	418868260	7.50	7.71	M
	2 Chloride	3.101	3.121	-0.020	893684572	20.0	19.6	M
	9 Nitrite as N	3.731	3.761	-0.030	754966200	NC	NC	M
	1 Bromide	4.351	4.397	-0.046	102706991	7.50	7.56	M
	3 Nitrate as N	4.811	4.864	-0.053	1129189841	NC	NC	M
	5 Sulfate	7.061	7.101	-0.040	608423509	20.0	19.6	M
S	6 Nitrate Nitrite as N		0.000			10.0	ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

ICV/LCS_00108 Amount Added: 5.00 Units: mL

Report Date: 31-Oct-2019 12:35:20 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-007.d

Injection Date: 30-Oct-2019 06:45:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: LCS Worklist Smp#: 7

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_28day

Column: AS-22 Dionex Lion Pac (2.00 mm)

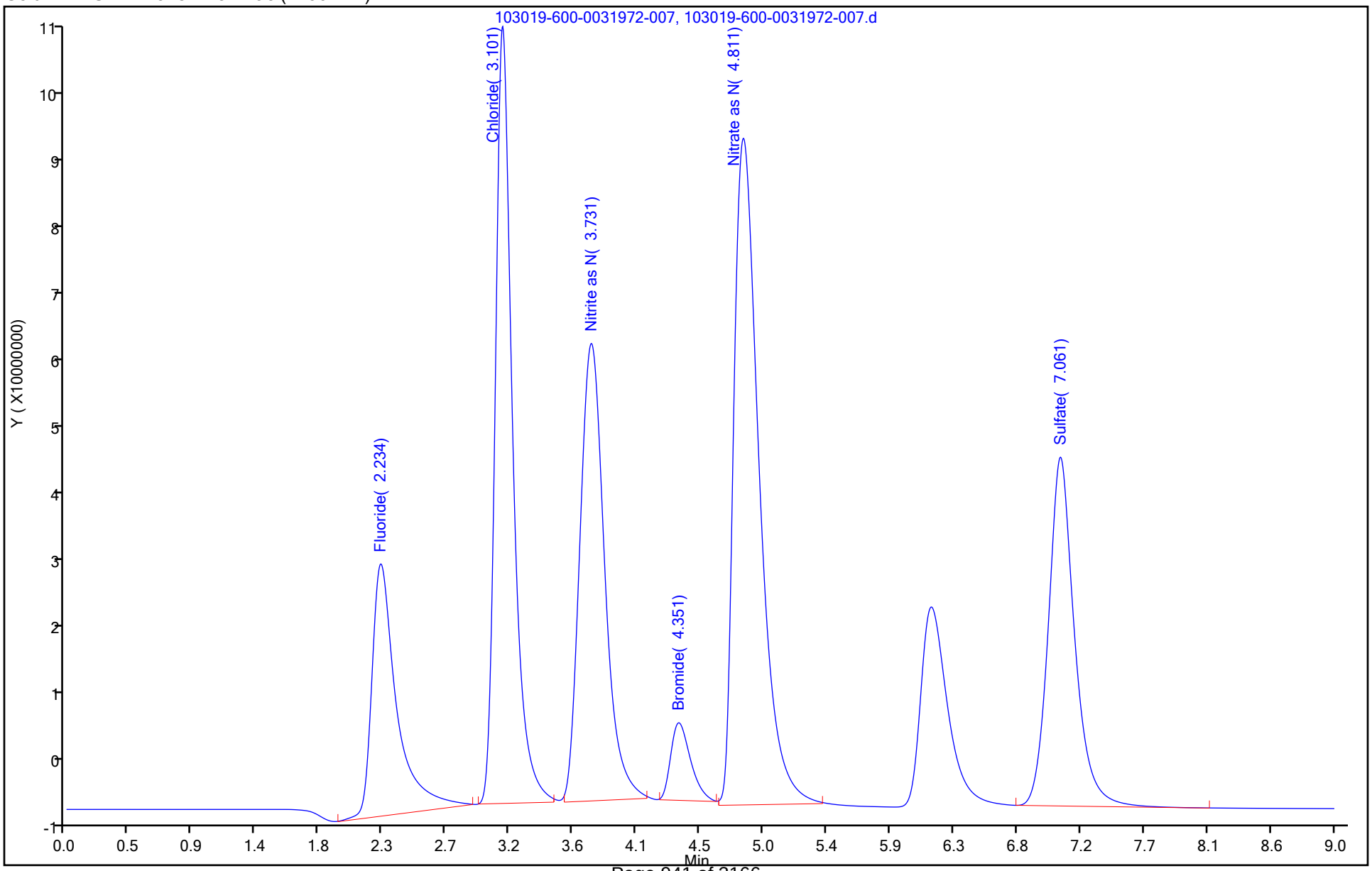

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-007.d				
Injection Date:	30-Oct-2019 06:45:00	Instrument ID:	CHWC17(IC)		
Lims ID:	LCS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

1 Bromide, CAS: 24959-67-9

Signal: 1

Processing Integration Results

RT: 4.35
Area: 149377472
Amount: 11.001302
Amount Units: ug/ml

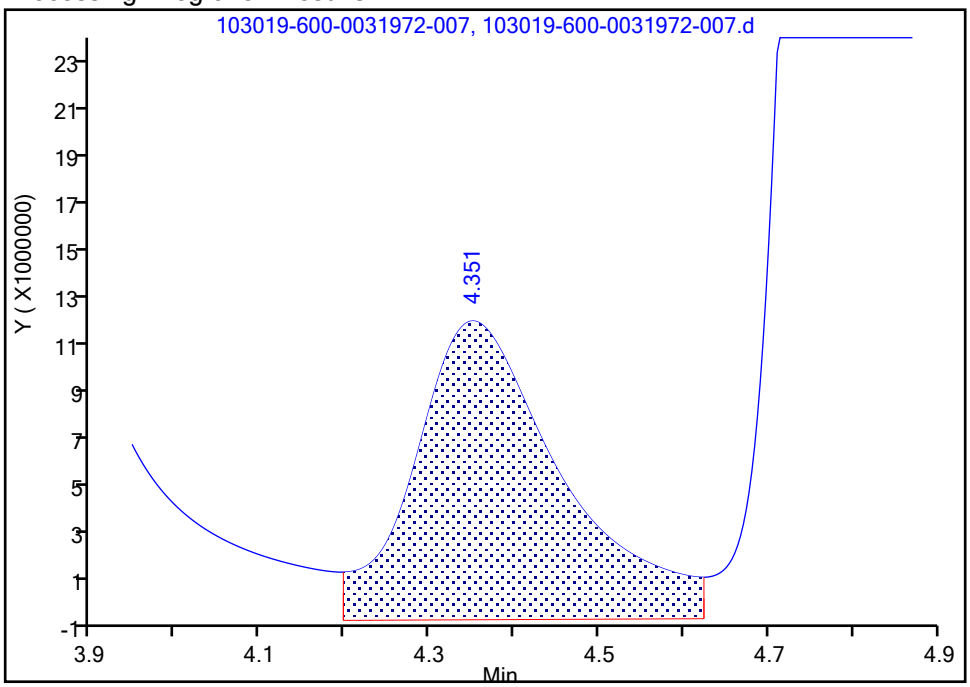

Manual Integration Results

RT: 4.35
Area: 102706991
Amount: 7.556489
Amount Units: ug/ml

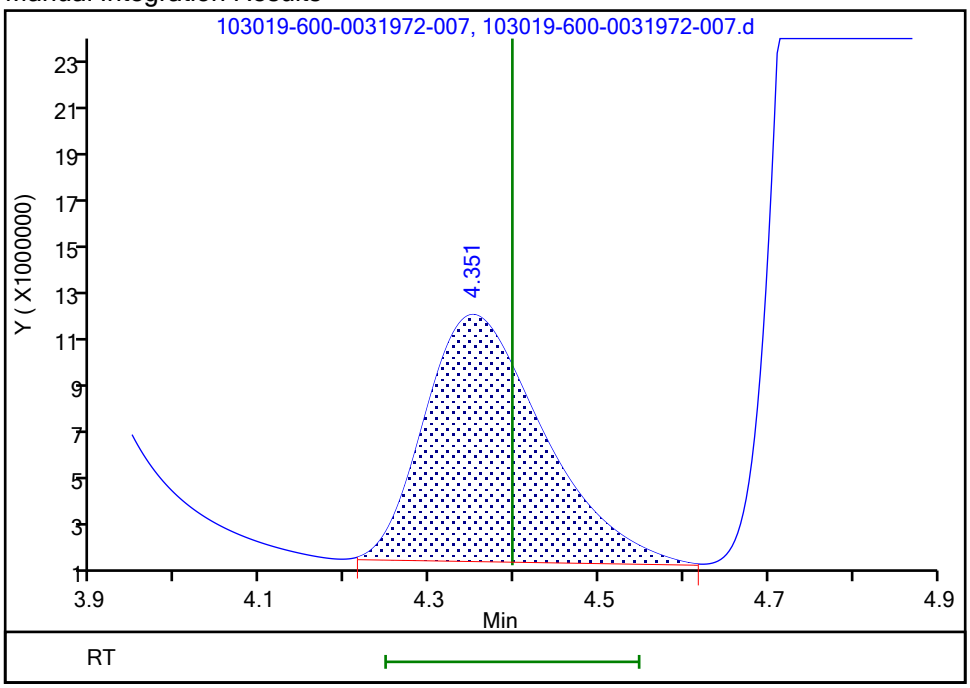

Reviewer: reachs, 30-Oct-2019 14:10:34
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-007.d				
Injection Date:	30-Oct-2019 06:45:00	Instrument ID:	CHWC17(IC)		
Lims ID:	LCS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

2 Chloride, CAS: 16887-00-6

Signal: 1

Processing Integration Results

RT: 3.10
Area: 954224217
Amount: 20.867123
Amount Units: ug/ml

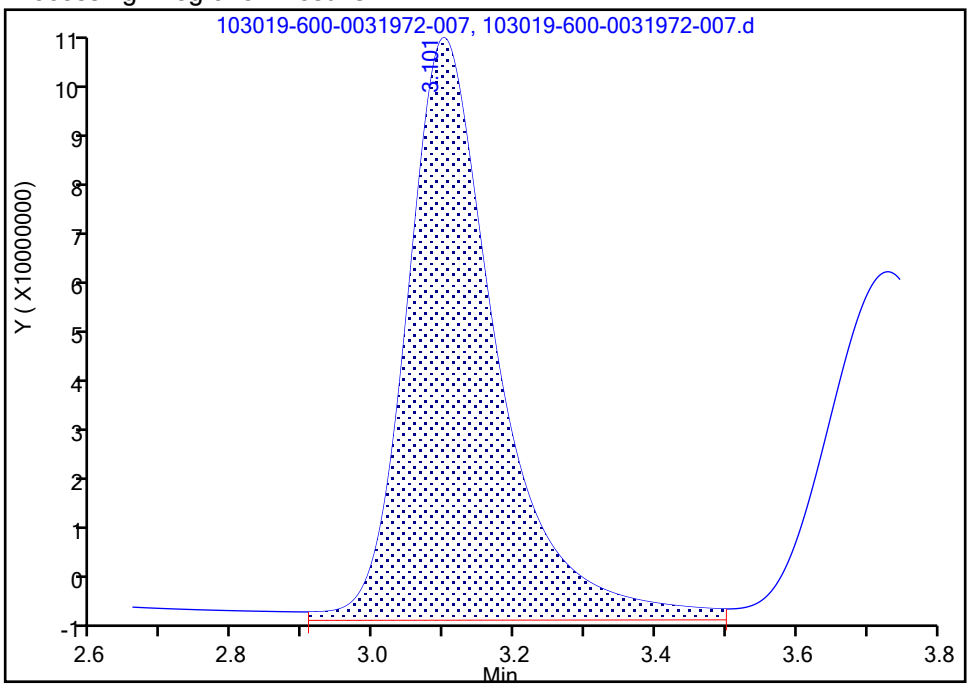

Manual Integration Results

RT: 3.10
Area: 893684572
Amount: 19.556485
Amount Units: ug/ml

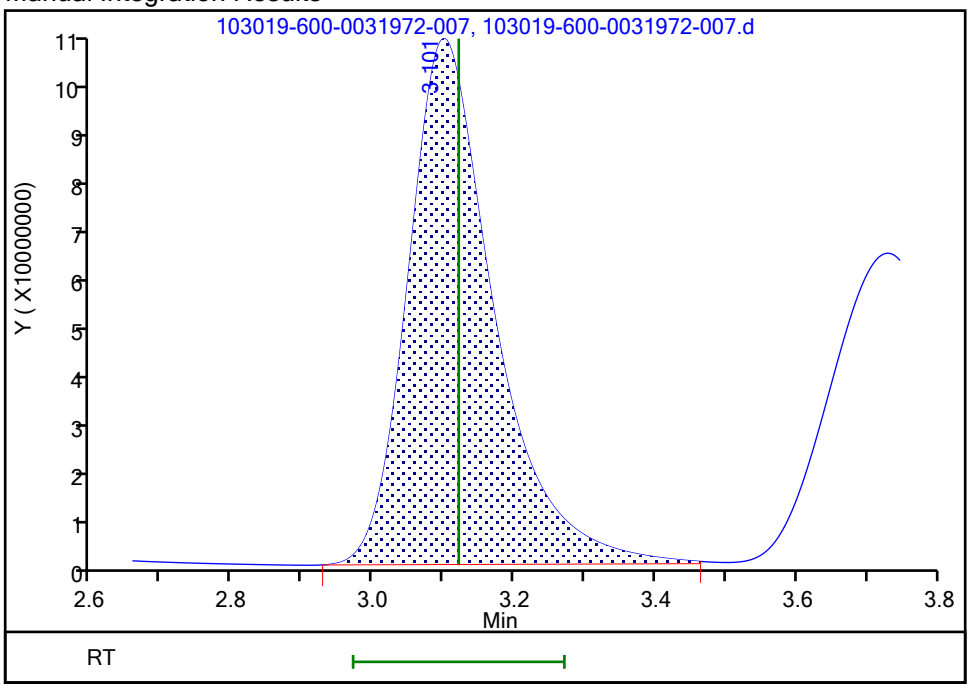

Reviewer: reachs, 30-Oct-2019 14:10:25
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-007.d				
Injection Date:	30-Oct-2019 06:45:00	Instrument ID:	CHWC17(IC)		
Lims ID:	LCS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

5 Sulfate, CAS: 14808-79-8

Signal: 1

Processing Integration Results

RT: 7.06
Area: 656159208
Amount: 21.158038
Amount Units: ug/ml

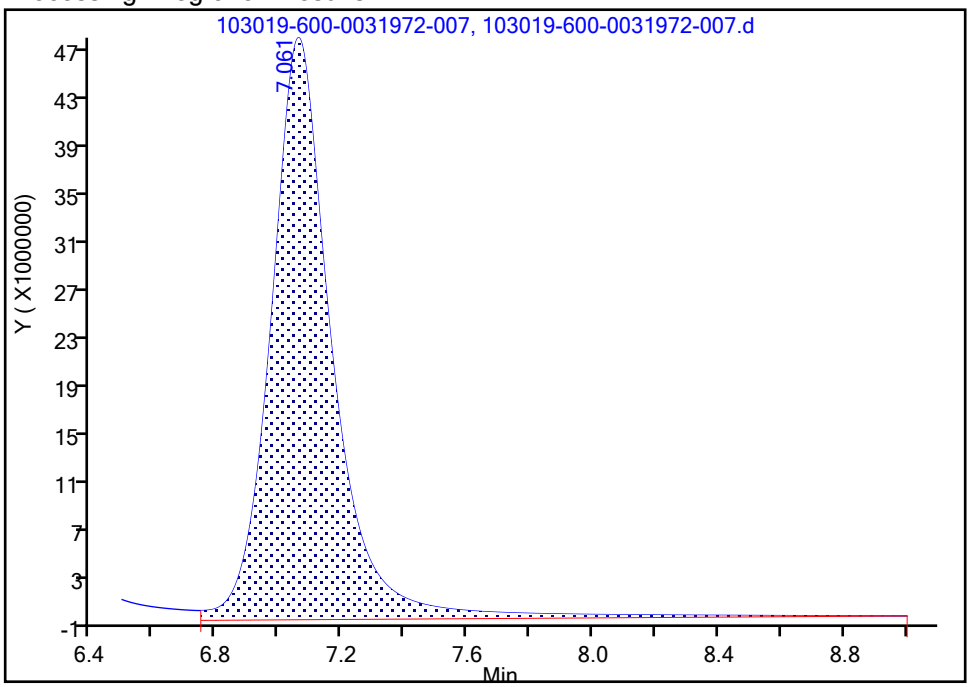

Manual Integration Results

RT: 7.06
Area: 608423509
Amount: 19.631694
Amount Units: ug/ml

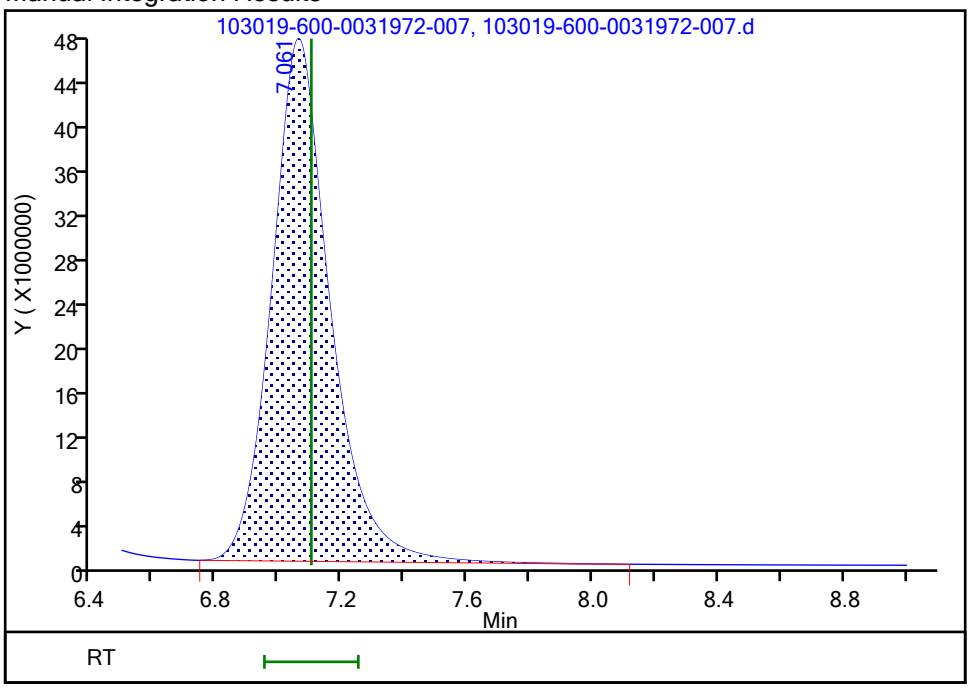

Reviewer: reachs, 30-Oct-2019 14:10:51

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-007.d				
Injection Date:	30-Oct-2019 06:45:00	Instrument ID:	CHWC17(IC)		
Lims ID:	LCS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

7 Fluoride, CAS: 16984-48-8

Signal: 1

Processing Integration Results

RT: 2.23
Area: 449037454
Amount: 8.255459
Amount Units: ug/ml

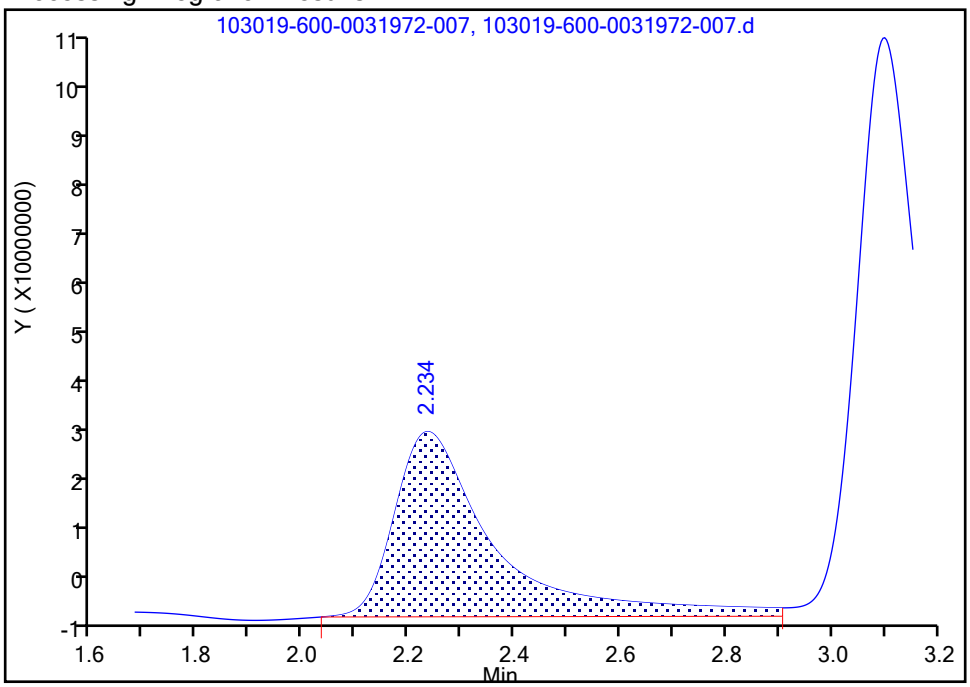

Manual Integration Results

RT: 2.23
Area: 418868260
Amount: 7.712776
Amount Units: ug/ml

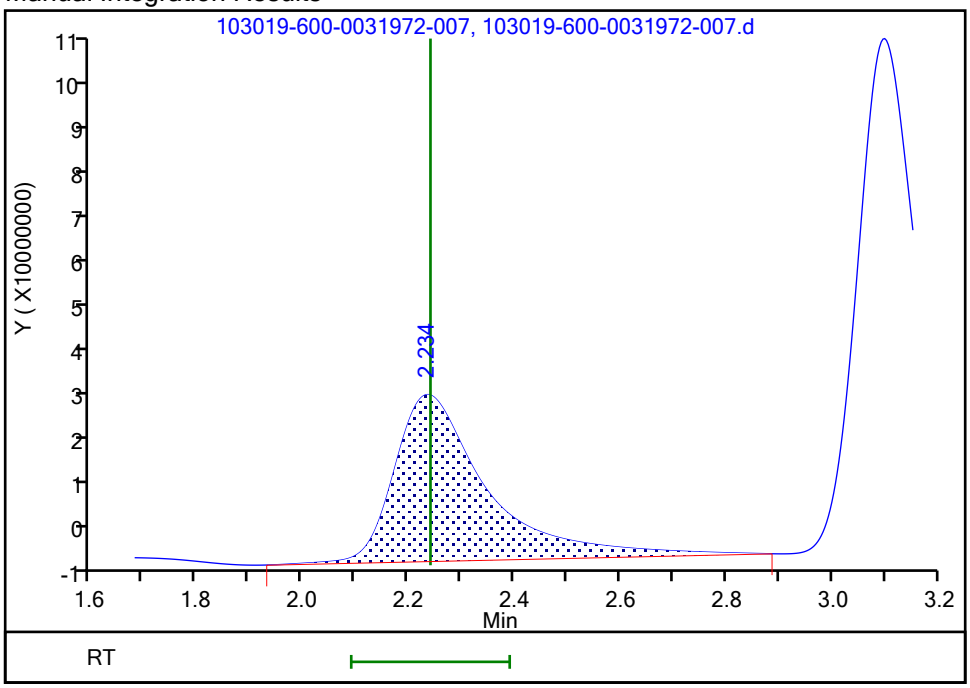

Reviewer: reachs, 30-Oct-2019 14:10:19

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 600-278901/38

Matrix: Water Lab File ID: 103019-600-0031972-038.d

Analysis Method: 300.0 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 10/30/2019 15:05

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS22 ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 278901 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	7.67		0.40	0.10
16887-00-6	Chloride	19.3		0.40	0.053
14808-79-8	Sulfate	19.7		0.50	0.096
16984-48-8	Fluoride	8.04		0.20	0.060

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-038.d
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 30-Oct-2019 15:05:00 ALS Bottle#: 0 Worklist Smp#: 38
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031972-038
Misc. Info.: lcs
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 31-Oct-2019 12:35:49 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0305

First Level Reviewer: reachs Date: 31-Oct-2019 12:19:33

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.230	2.241	-0.011	436828614	7.50	8.04	M
	2 Chloride	3.107	3.121	-0.014	882903577	20.0	19.3	M
	9 Nitrite as N	3.740	3.761	-0.021	761056163	NC	NC	M
	1 Bromide	4.377	4.397	-0.020	104255555	7.50	7.67	M
	3 Nitrate as N	4.837	4.864	-0.027	1113899053	NC	NC	M
	5 Sulfate	7.034	7.101	-0.067	609505487	20.0	19.7	M
S	6 Nitrate Nitrite as N		0.000			10.0	ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

ICV/LCS_00108 Amount Added: 5.00 Units: mL

Report Date: 31-Oct-2019 12:35:59 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-038.d

Injection Date: 30-Oct-2019 15:05:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: LCS Worklist Smp#: 38

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_28day

Column: AS-22 Dionex Lion Pac (2.00 mm)

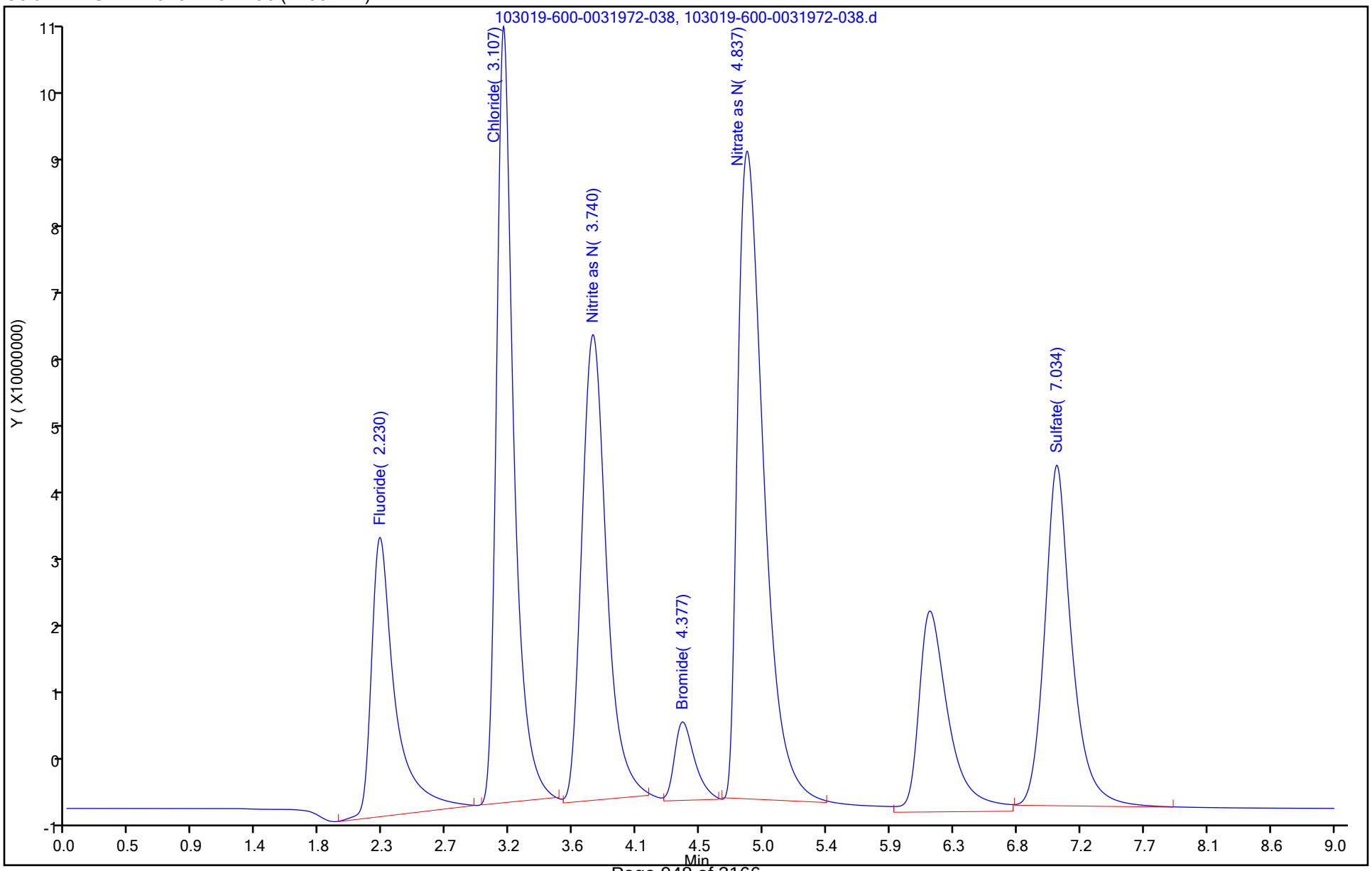

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-038.d				
Injection Date:	30-Oct-2019 15:05:00	Instrument ID:	CHWC17(IC)		
Lims ID:	LCS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	38
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

1 Bromide, CAS: 24959-67-9

Signal: 1

Processing Integration Results

RT: 4.38
Area: 152703446
Amount: 11.246797
Amount Units: ug/ml

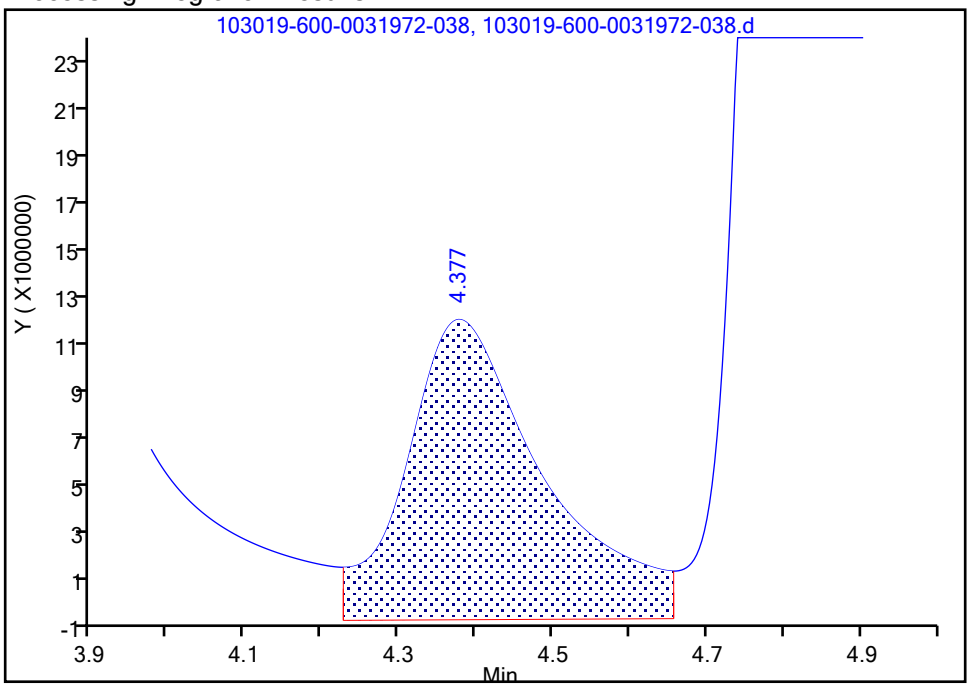

Manual Integration Results

RT: 4.38
Area: 104255555
Amount: 7.670790
Amount Units: ug/ml

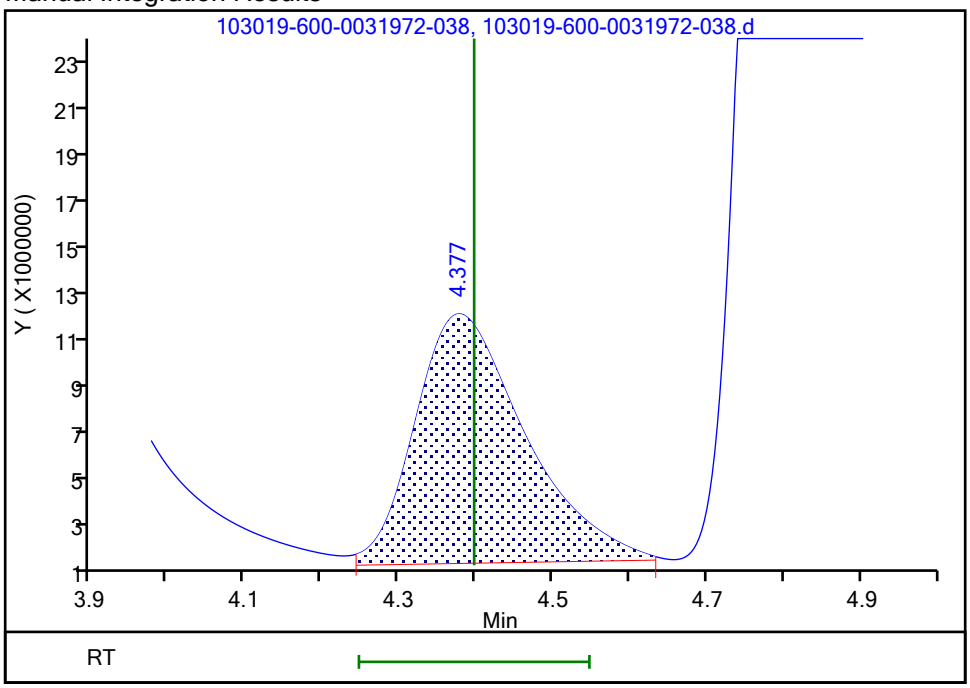

Reviewer: reachs, 31-Oct-2019 12:19:05

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-038.d				
Injection Date:	30-Oct-2019 15:05:00	Instrument ID:	CHWC17(IC)		
Lims ID:	LCS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	38
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

2 Chloride, CAS: 16887-00-6

Signal: 1

Processing Integration Results

RT: 3.11
Area: 952049448
Amount: 20.820041
Amount Units: ug/ml

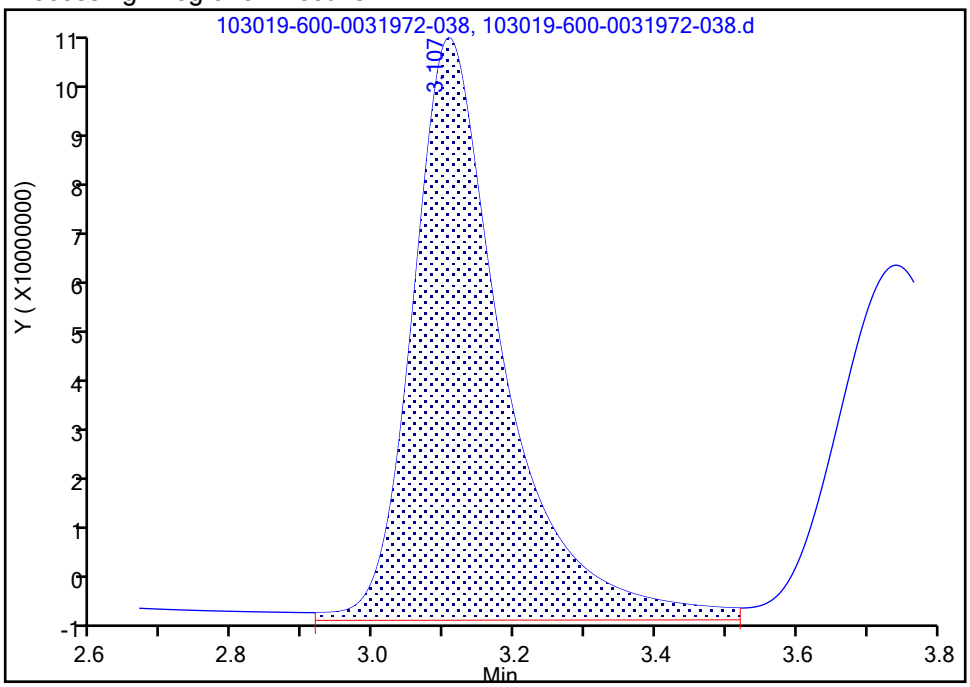

Manual Integration Results

RT: 3.11
Area: 882903577
Amount: 19.323085
Amount Units: ug/ml

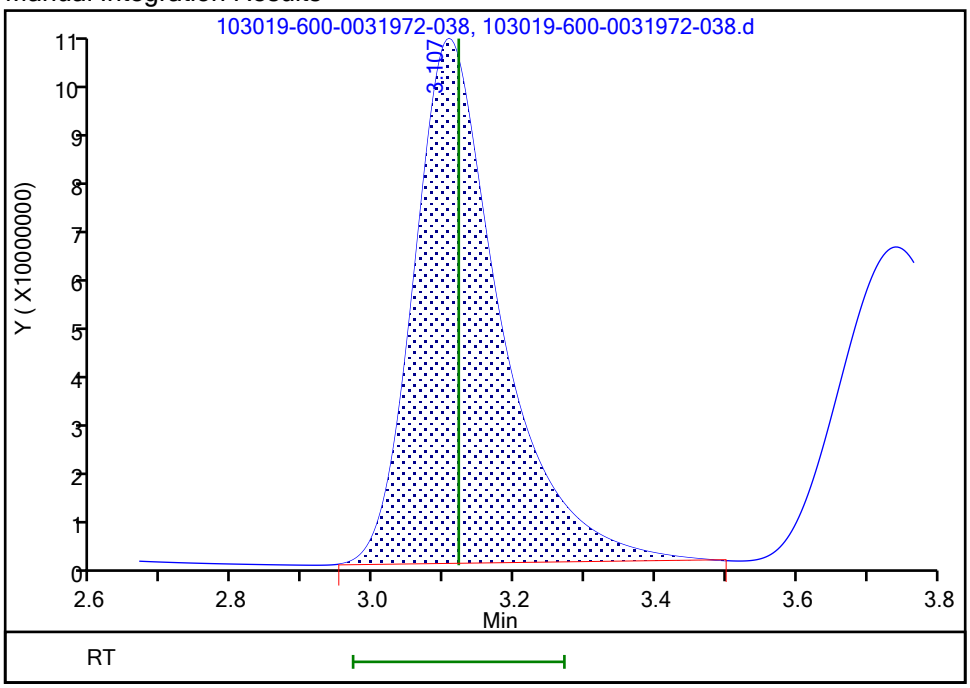

Reviewer: reachs, 31-Oct-2019 12:18:58

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-038.d				
Injection Date:	30-Oct-2019 15:05:00	Instrument ID:	CHWC17(IC)		
Lims ID:	LCS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	38
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

5 Sulfate, CAS: 14808-79-8

Signal: 1

Processing Integration Results

RT: 7.03
Area: 659812396
Amount: 21.274849
Amount Units: ug/ml

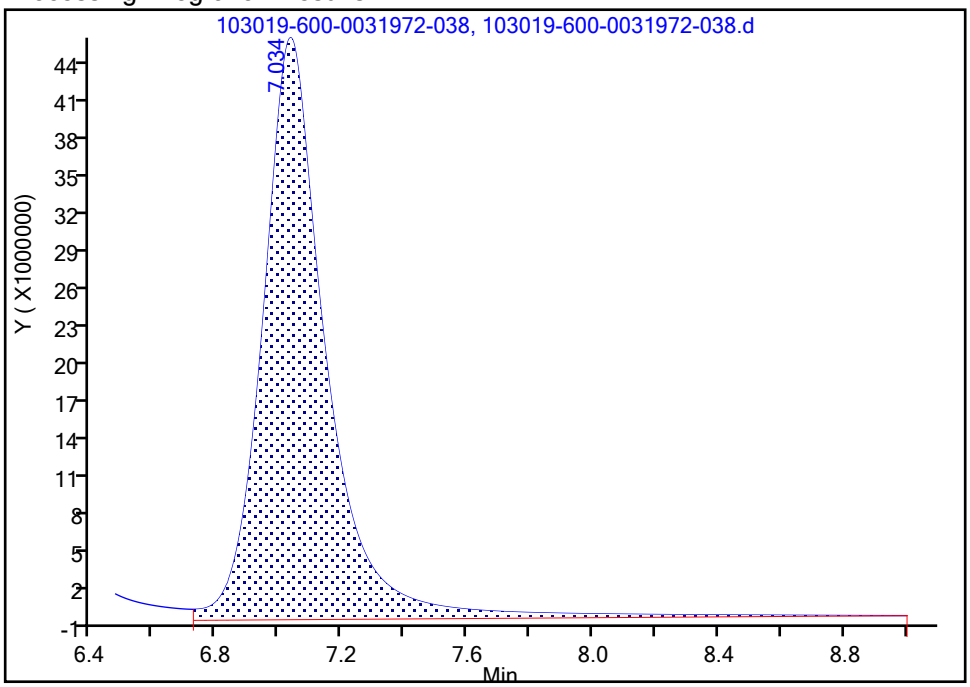

Manual Integration Results

RT: 7.03
Area: 609505487
Amount: 19.666290
Amount Units: ug/ml

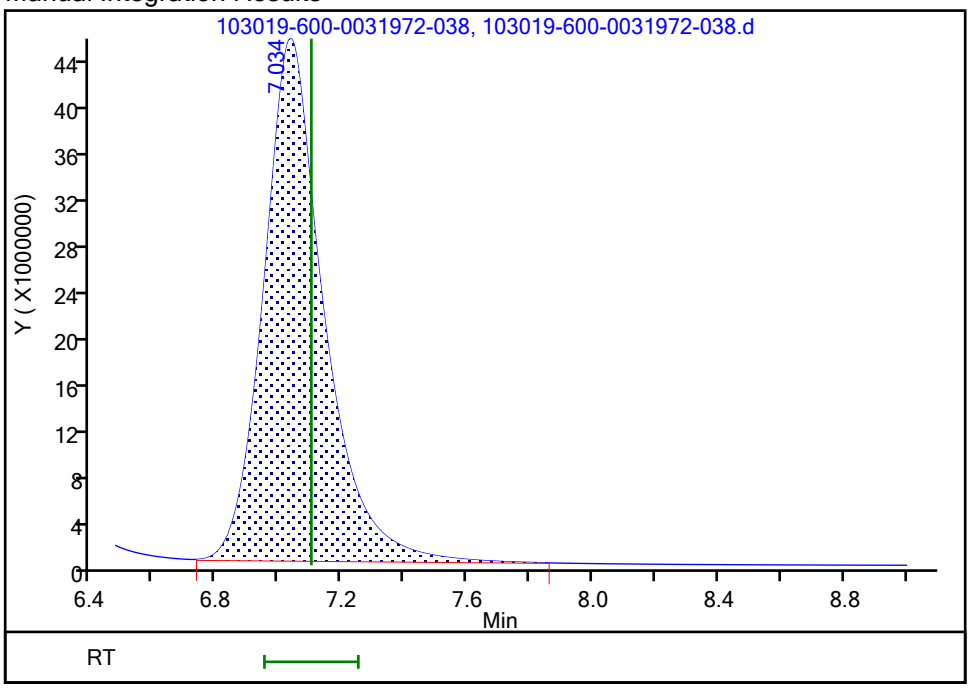

Reviewer: reachs, 31-Oct-2019 12:19:14

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-038.d				
Injection Date:	30-Oct-2019 15:05:00	Instrument ID:	CHWC17(IC)		
Lims ID:	LCS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	38
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

7 Fluoride, CAS: 16984-48-8

Signal: 1

Processing Integration Results

RT: 2.23
Area: 463085511
Amount: 8.508156
Amount Units: ug/ml

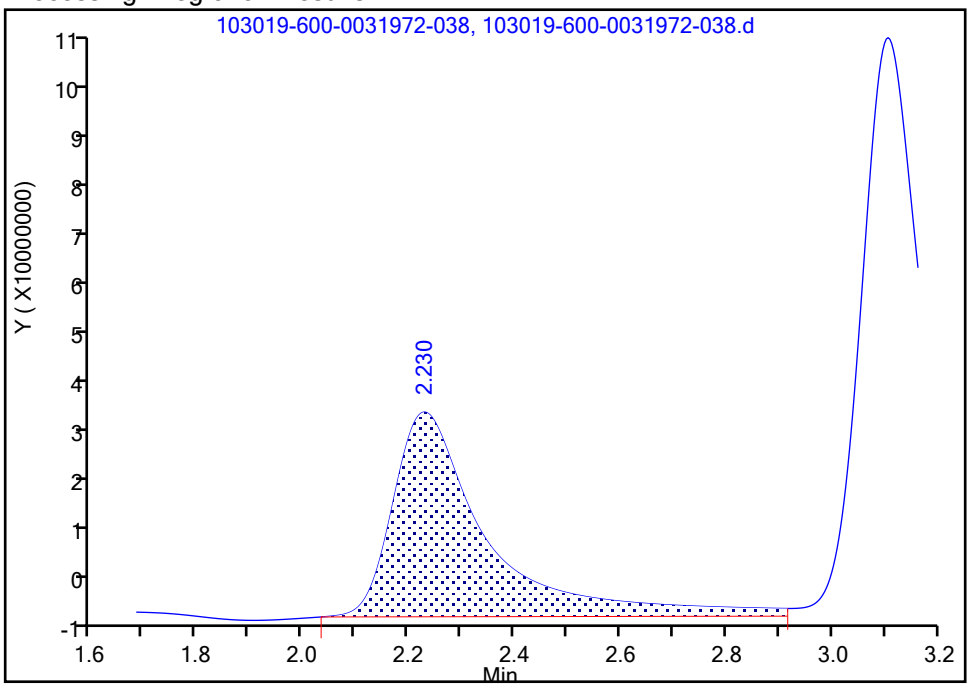

Manual Integration Results

RT: 2.23
Area: 436828614
Amount: 8.035847
Amount Units: ug/ml

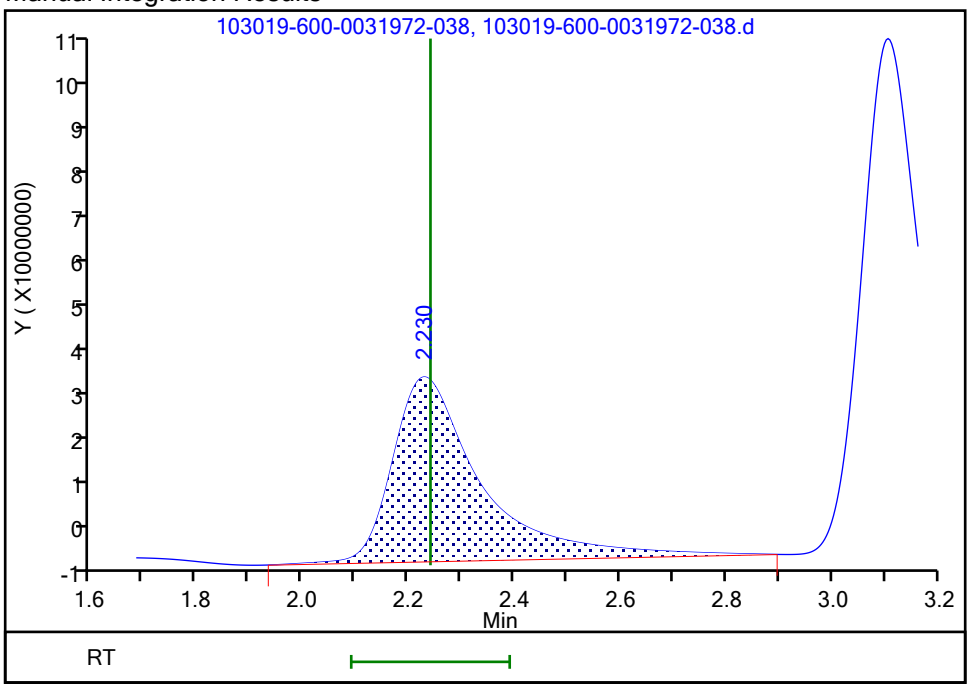

Reviewer: reachs, 31-Oct-2019 12:18:51

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 600-278902/7

Matrix: Water Lab File ID: 103019-600-0031972-007.d

Analysis Method: 300.0 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 10/30/2019 06:45

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS22 ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 278902 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	9.72		0.20	0.025
14797-65-0	Nitrite as N	10.4		0.20	0.030

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-007.d
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 30-Oct-2019 06:45:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031972-007
Misc. Info.: lcs
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 31-Oct-2019 12:35:10 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0305

First Level Reviewer: reachs Date: 30-Oct-2019 14:11:27

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.234	2.241	-0.007	418868260	NC	NC	M
	2 Chloride	3.101	3.121	-0.020	893684572	NC	NC	M
	9 Nitrite as N	3.731	3.761	-0.030	754966200	10.0	10.4	M
	1 Bromide	4.351	4.397	-0.046	102706991	NC	NC	M
	3 Nitrate as N	4.811	4.864	-0.053	1129189841	10.0	9.72	M
	5 Sulfate	7.061	7.101	-0.040	608423509	NC	NC	M
S	6 Nitrate Nitrite as N					10.0	20.1	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

ICV/LCS_00108 Amount Added: 5.00 Units: mL

Report Date: 31-Oct-2019 12:35:19 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-007.d

Injection Date: 30-Oct-2019 06:45:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: LCS Worklist Smp#: 7

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_48hr

Column: AS-22 Dionex Lion Pac (2.00 mm)

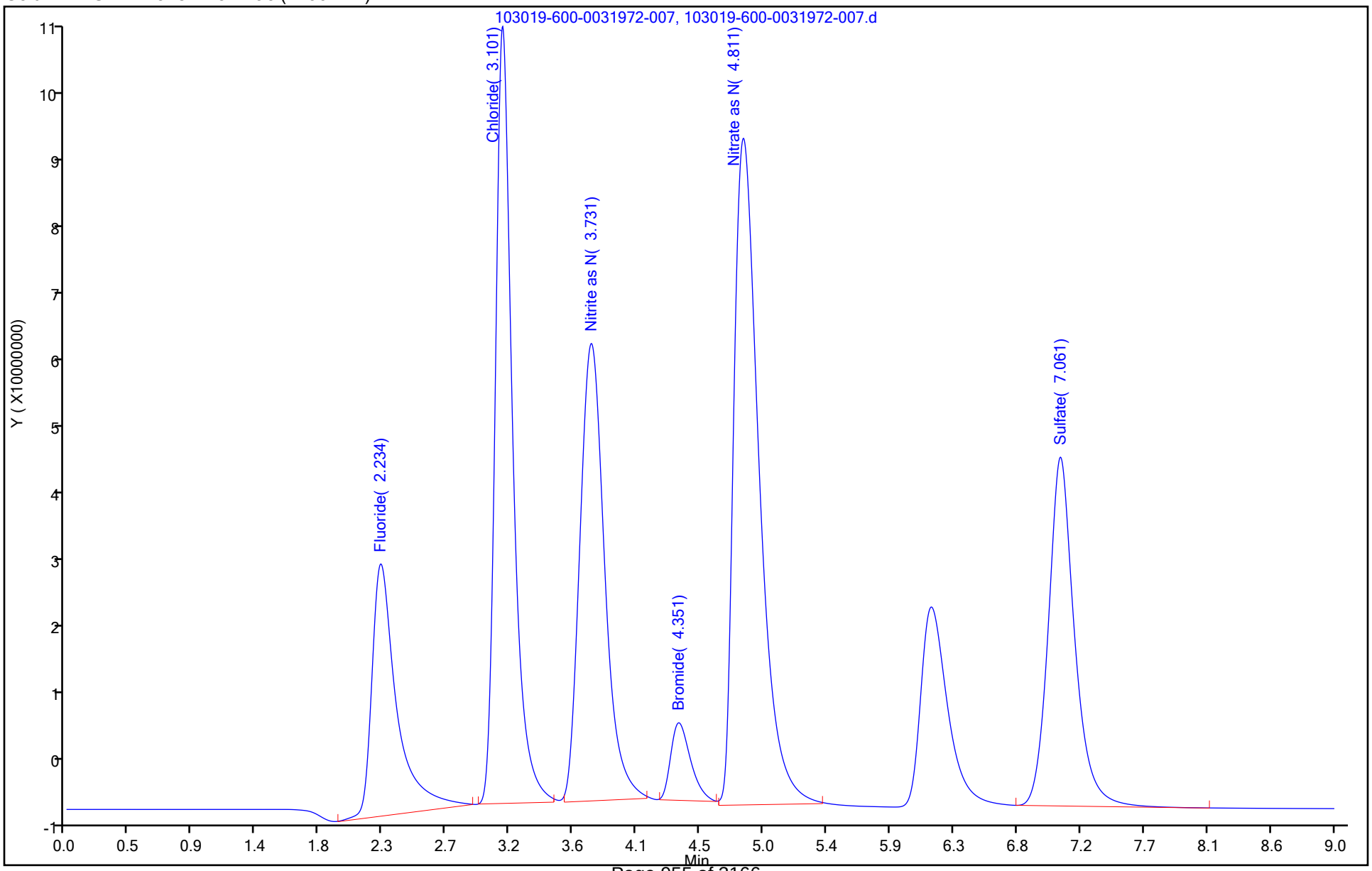

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-007.d				
Injection Date:	30-Oct-2019 06:45:00	Instrument ID:	CHWC17(IC)		
Lims ID:	LCS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

3 Nitrate as N, CAS: 14797-55-8

Signal: 1

Processing Integration Results

RT: 4.81
Area: 1212094362
Amount: 10.426103
Amount Units: ug/ml

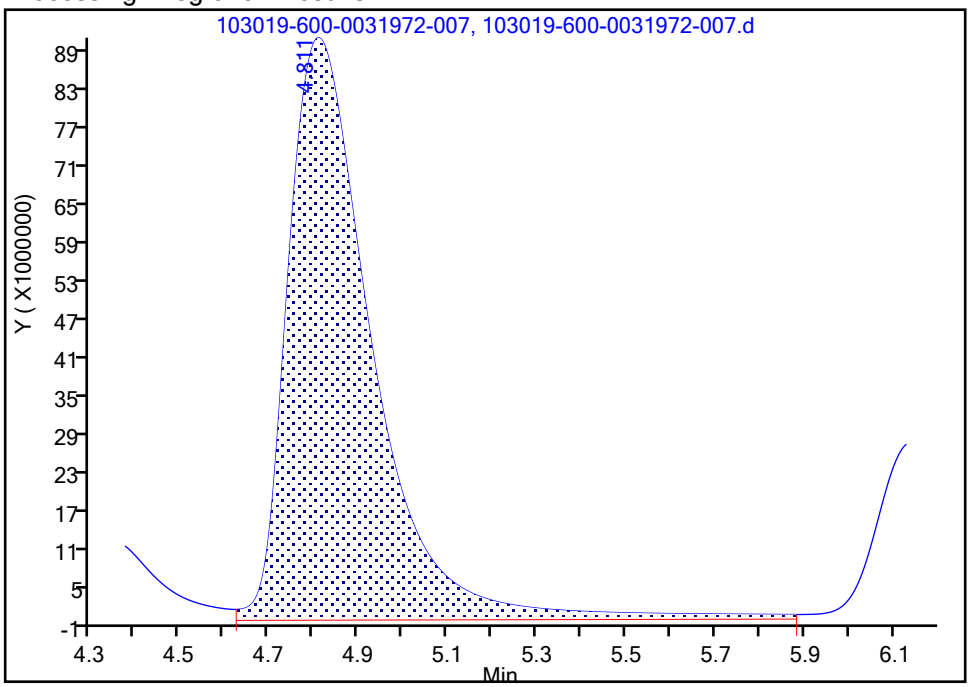

Manual Integration Results

RT: 4.81
Area: 1129189841
Amount: 9.721087
Amount Units: ug/ml

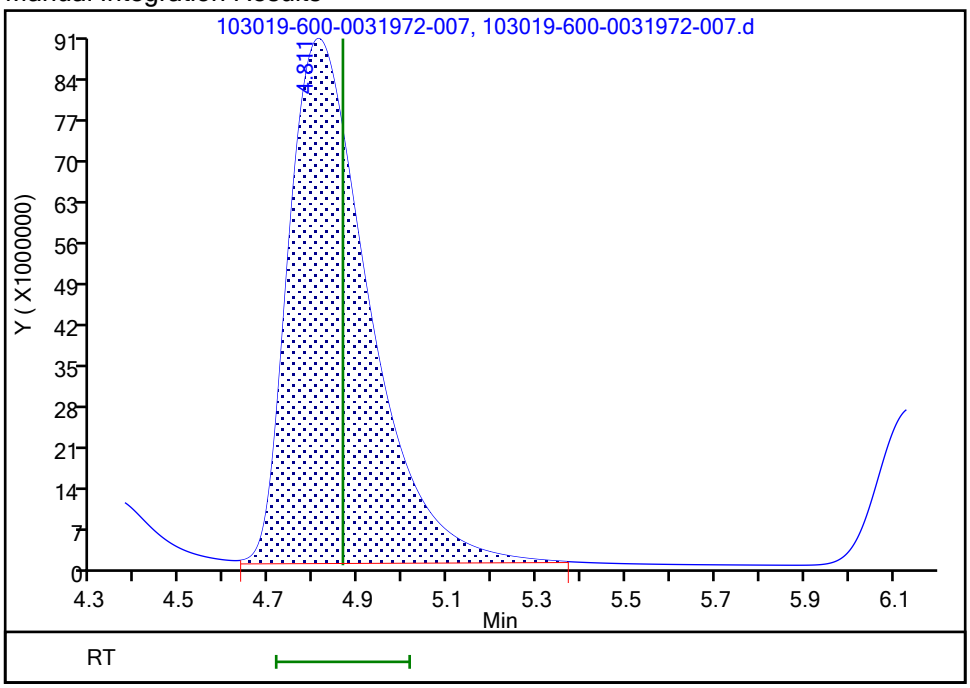

Reviewer: reachs, 30-Oct-2019 14:11:20

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-007.d				
Injection Date:	30-Oct-2019 06:45:00	Instrument ID:	CHWC17(IC)		
Lims ID:	LCS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

9 Nitrite as N, CAS: 14797-65-0

Signal: 1

Processing Integration Results

RT: 3.73
Area: 838330284
Amount: 11.564696
Amount Units: ug/ml

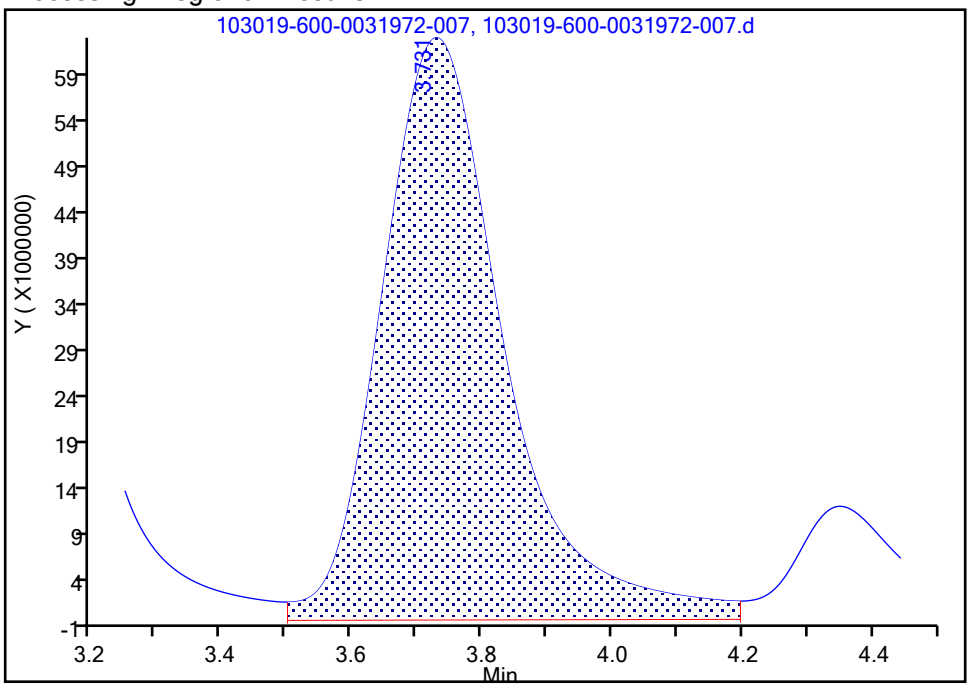

Manual Integration Results

RT: 3.73
Area: 754966200
Amount: 10.418175
Amount Units: ug/ml

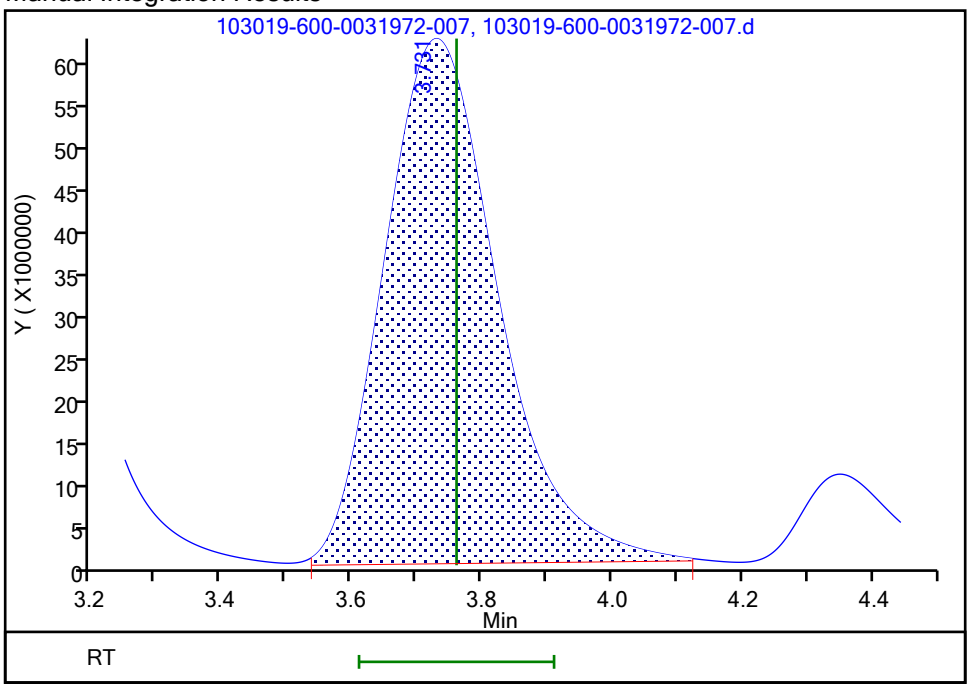

Reviewer: reachs, 30-Oct-2019 14:11:05

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-194690-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 600-278902/38
Matrix: Water
Lab File ID: 103019-600-0031972-038.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 10/30/2019 15:05
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS22 ID: 2(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 278902
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	9.59		0.20	0.025
14797-65-0	Nitrite as N	10.5		0.20	0.030

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-038.d
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 30-Oct-2019 15:05:00 ALS Bottle#: 0 Worklist Smp#: 38
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031972-038
Misc. Info.: lcs
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 31-Oct-2019 12:35:49 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0305

First Level Reviewer: reachs Date: 31-Oct-2019 12:19:33

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.230	2.241	-0.011	436828614	NC	NC	M
	2 Chloride	3.107	3.121	-0.014	882903577	NC	NC	M
	9 Nitrite as N	3.740	3.761	-0.021	761056163	10.0	10.5	M
	1 Bromide	4.377	4.397	-0.020	104255555	NC	NC	M
	3 Nitrate as N	4.837	4.864	-0.027	1113899053	10.0	9.59	M
	5 Sulfate	7.034	7.101	-0.067	609505487	NC	NC	M
S	6 Nitrate Nitrite as N					10.0	20.1	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

ICV/LCS_00108 Amount Added: 5.00 Units: mL

Report Date: 31-Oct-2019 12:35:59 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-038.d

Injection Date: 30-Oct-2019 15:05:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: LCS Worklist Smp#: 38

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_48hr

Column: AS-22 Dionex Lion Pac (2.00 mm)

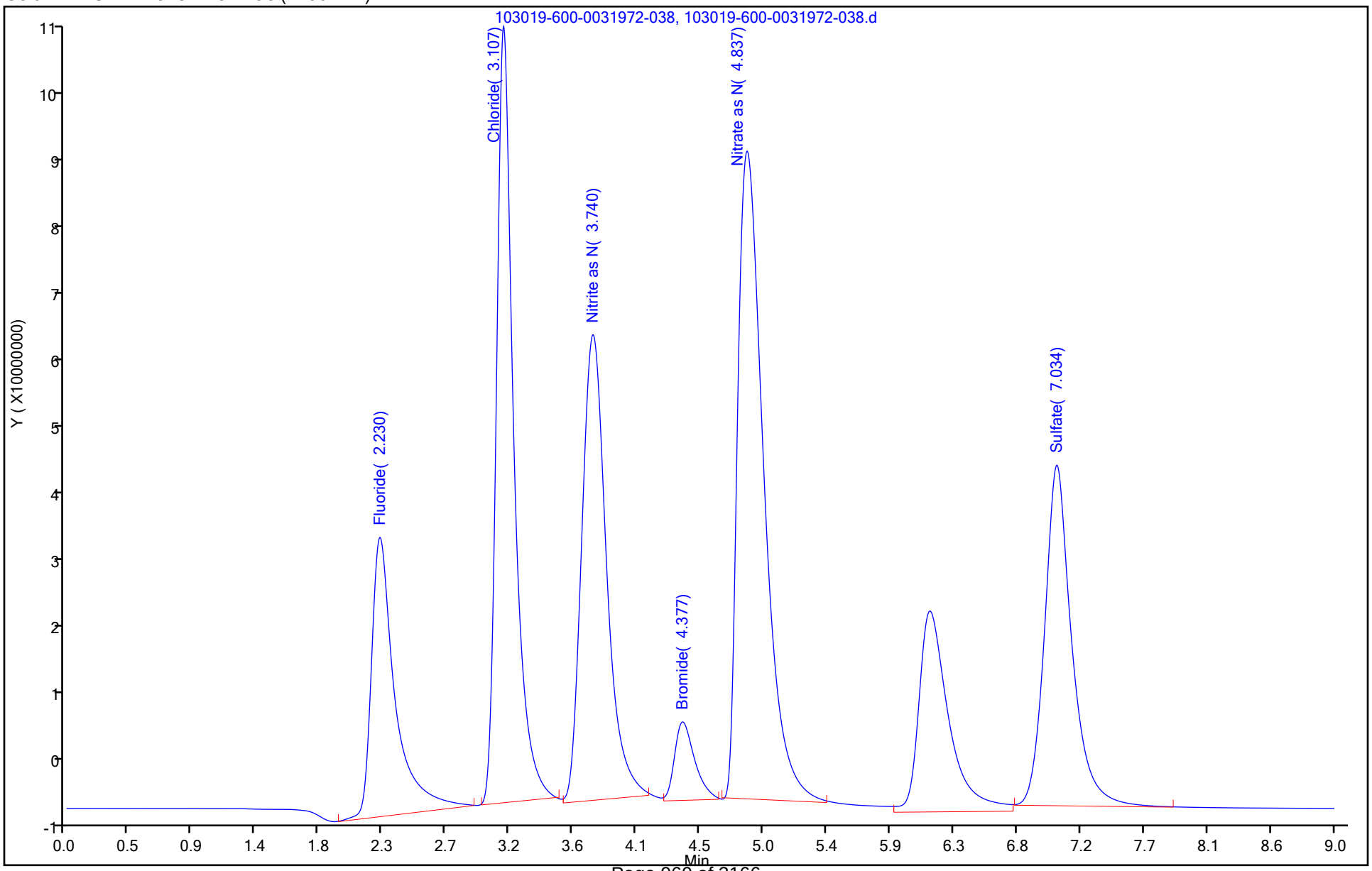

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-038.d				
Injection Date:	30-Oct-2019 15:05:00	Instrument ID:	CHWC17(IC)		
Lims ID:	LCS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	38
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

3 Nitrate as N, CAS: 14797-55-8

Signal: 1

RT: 4.84
Area: 1221830691
Amount: 10.508901
Amount Units: ug/ml

Processing Integration Results

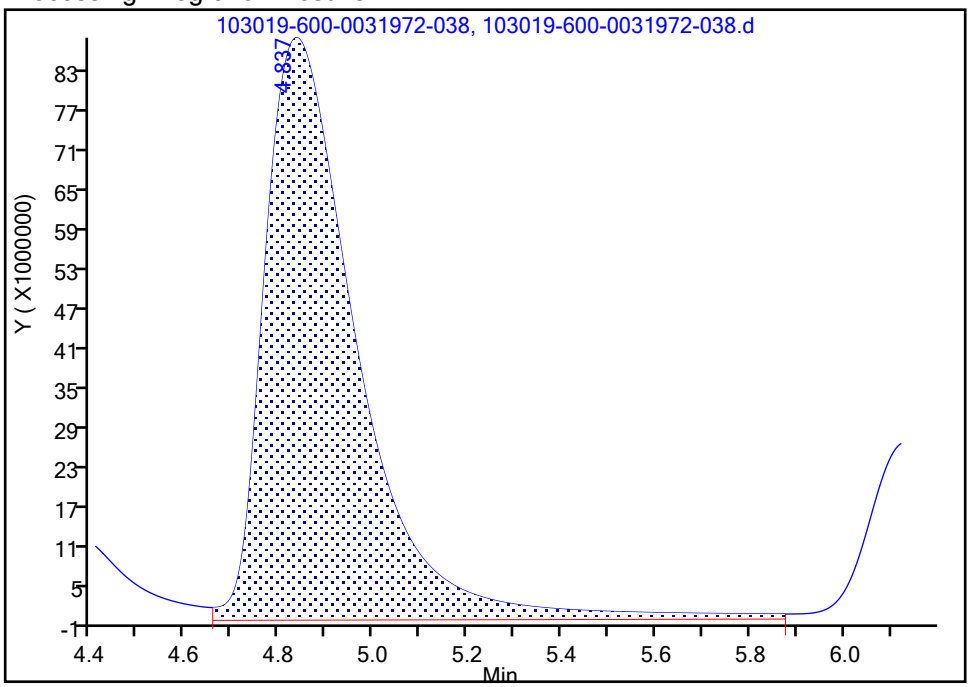

RT: 4.84
Area: 1113899053
Amount: 9.591055
Amount Units: ug/ml

Manual Integration Results

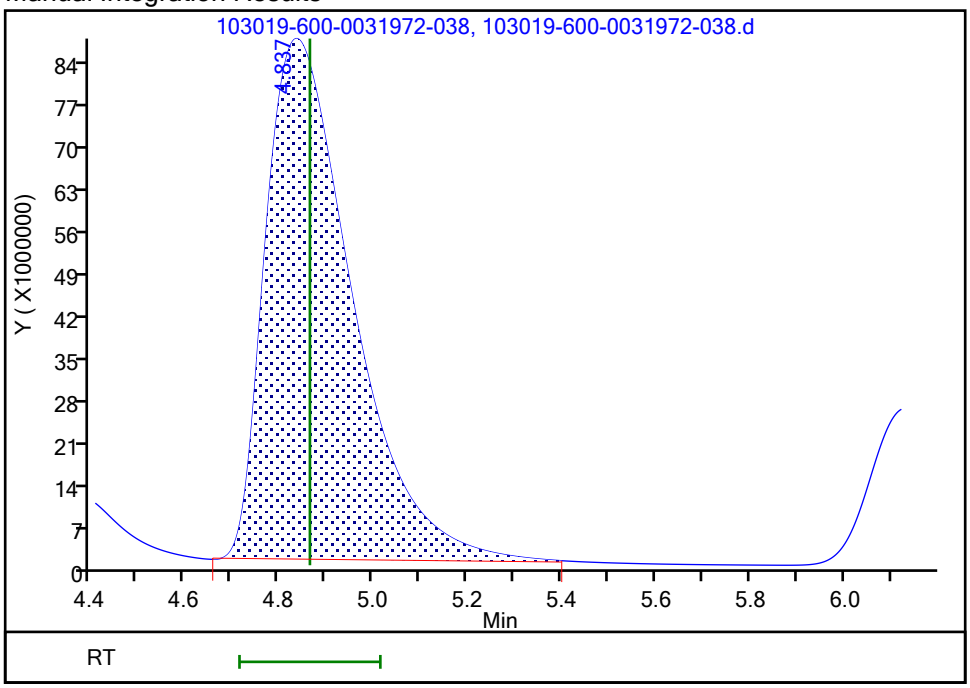

Reviewer: reachs, 31-Oct-2019 12:19:29
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191029-31972.b\103019-600-0031972-038.d				
Injection Date:	30-Oct-2019 15:05:00	Instrument ID:	CHWC17(IC)		
Lims ID:	LCS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	38
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

9 Nitrite as N, CAS: 14797-65-0

Signal: 1

Processing Integration Results

RT: 3.74
Area: 851390787
Amount: 11.744319
Amount Units: ug/ml

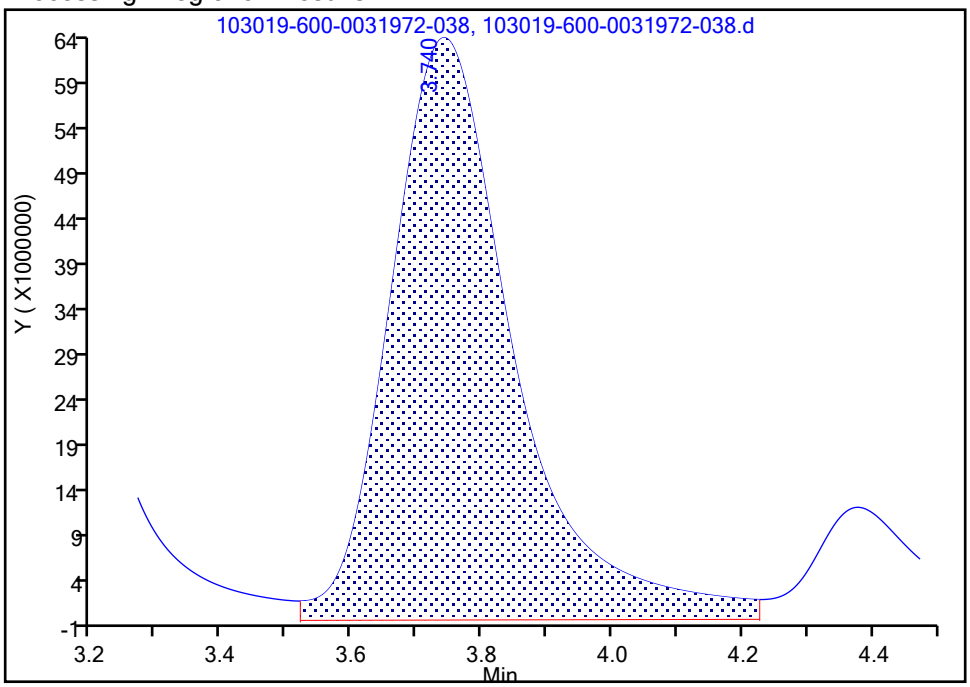

Manual Integration Results

RT: 3.74
Area: 761056163
Amount: 10.501932
Amount Units: ug/ml

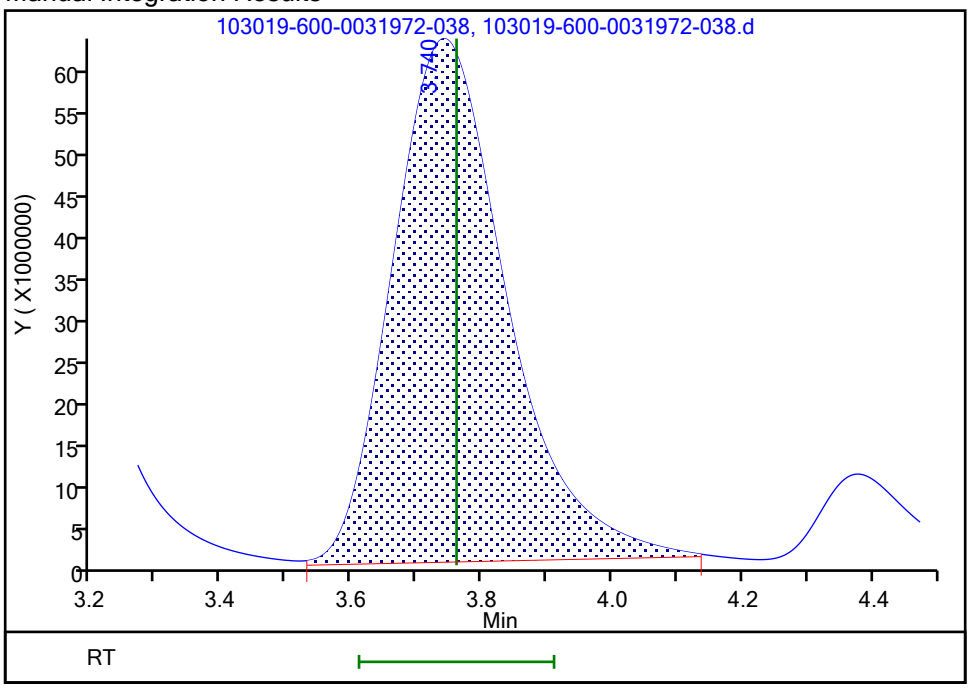

Reviewer: reachs, 31-Oct-2019 12:19:23

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-194690-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 600-279038/7
Matrix: Water
Lab File ID: 103119-600-0032001-007.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 10/31/2019 04:49
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS22 ID: 2(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 279038
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	7.19		0.40	0.10
16887-00-6	Chloride	19.5		0.40	0.053
14808-79-8	Sulfate	19.6		0.50	0.096
16984-48-8	Fluoride	7.70		0.20	0.060

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-007.d
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 31-Oct-2019 04:49:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032001-007
Misc. Info.: lcs
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 01-Nov-2019 13:34:16 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0332

First Level Reviewer: reachs Date: 01-Nov-2019 12:03:48

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.224	2.214	0.010	418425460	7.50	7.70	M
	2 Chloride	3.101	3.071	0.030	892300756	20.0	19.5	M
	9 Nitrite as N	3.737	3.694	0.043	736060678	NC	NC	M
	1 Bromide	4.377	4.314	0.063	97763934	7.50	7.19	M
	3 Nitrate as N	4.834	4.761	0.073	1117456691	NC	NC	M
	5 Sulfate	6.991	6.857	0.134	607680451	20.0	19.6	M
S	6 Nitrate Nitrite as N		0.000			10.0	ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

ICV/LCS_00108 Amount Added: 5.00 Units: mL

Report Date: 01-Nov-2019 13:34:39 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-007.d

Injection Date: 31-Oct-2019 04:49:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: LCS Worklist Smp#: 7

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_28day

Column: AS-22 Dionex Lion Pac (2.00 mm)

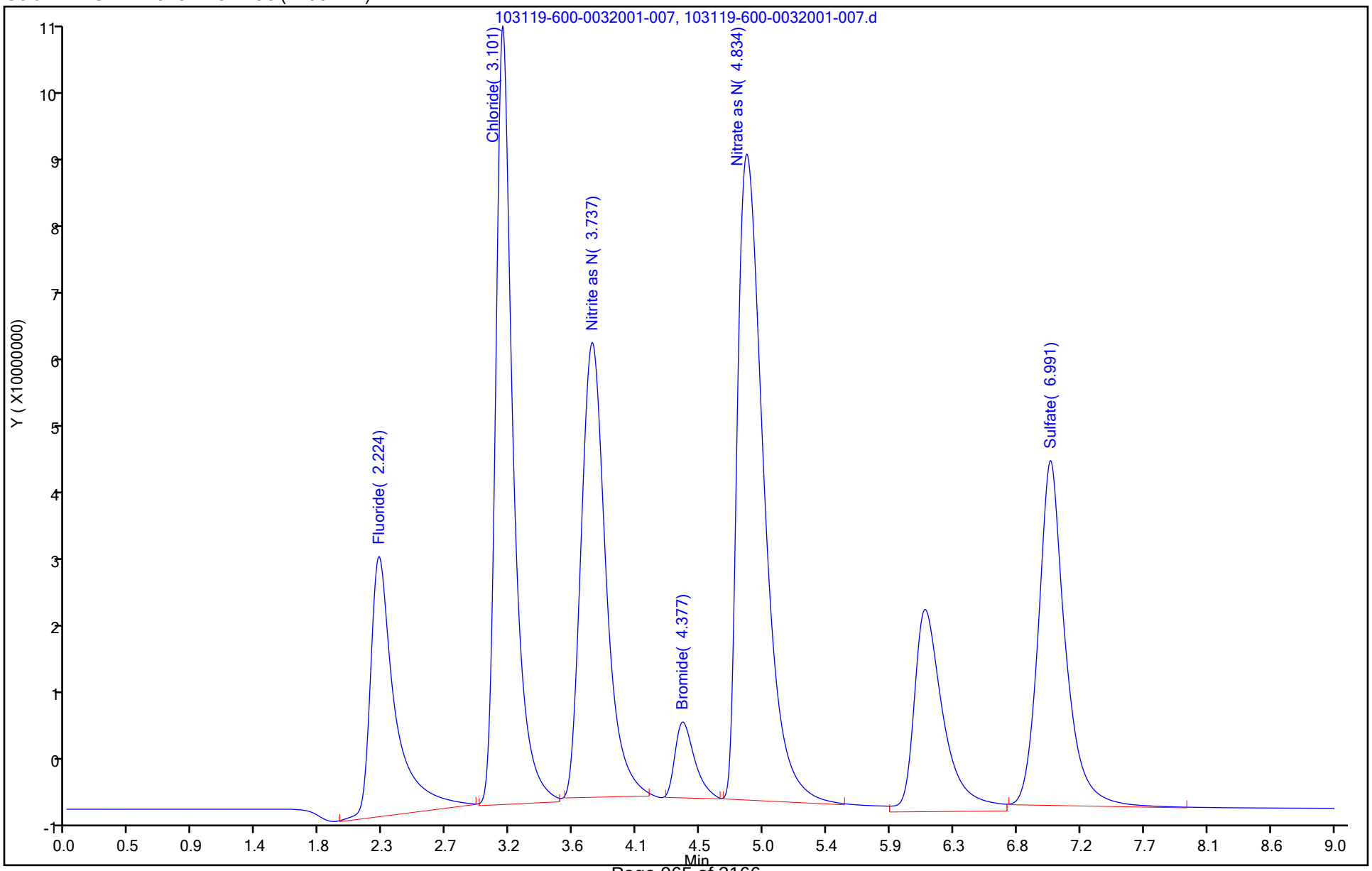

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-007.d				
Injection Date:	31-Oct-2019 04:49:00	Instrument ID:	CHWC17(IC)		
Lims ID:	LCS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

1 Bromide, CAS: 24959-67-9

Signal: 1

Processing Integration Results

RT: 4.38
Area: 150591999
Amount: 11.090948
Amount Units: ug/ml

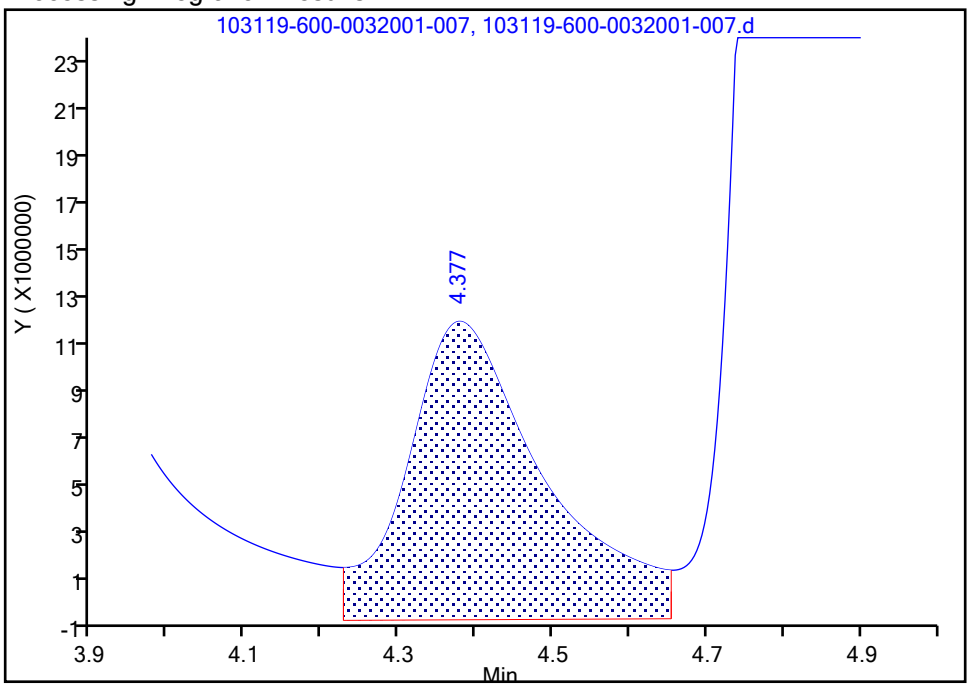

Manual Integration Results

RT: 4.38
Area: 97763934
Amount: 7.191635
Amount Units: ug/ml

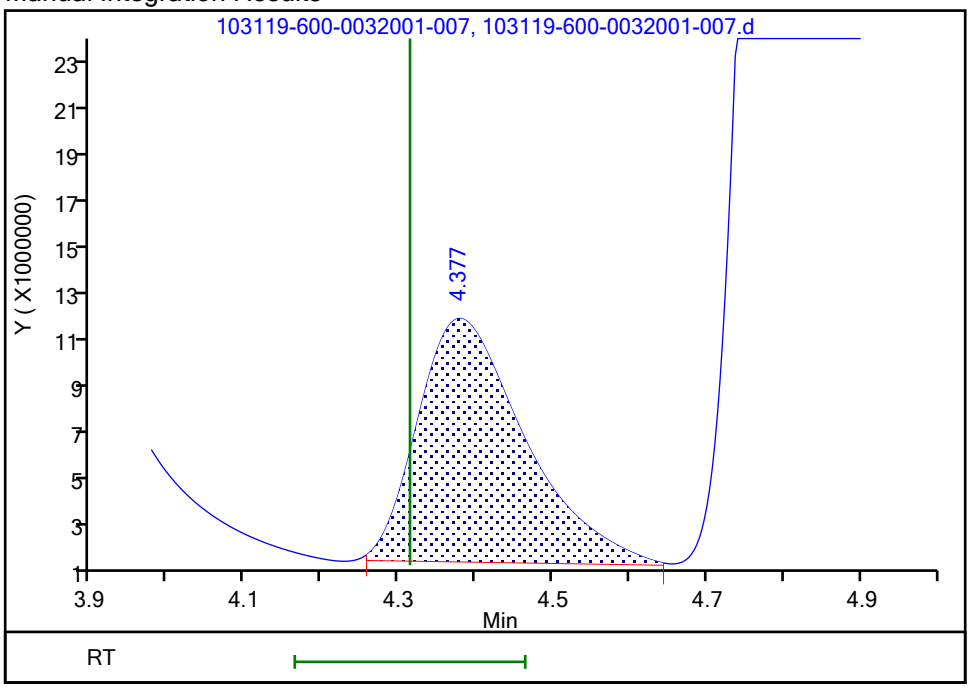

Reviewer: reachs, 01-Nov-2019 12:03:15
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-007.d				
Injection Date:	31-Oct-2019 04:49:00	Instrument ID:	CHWC17(IC)		
Lims ID:	LCS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

2 Chloride, CAS: 16887-00-6

Signal: 1

Processing Integration Results

RT: 3.10
Area: 947142372
Amount: 20.713807
Amount Units: ug/ml

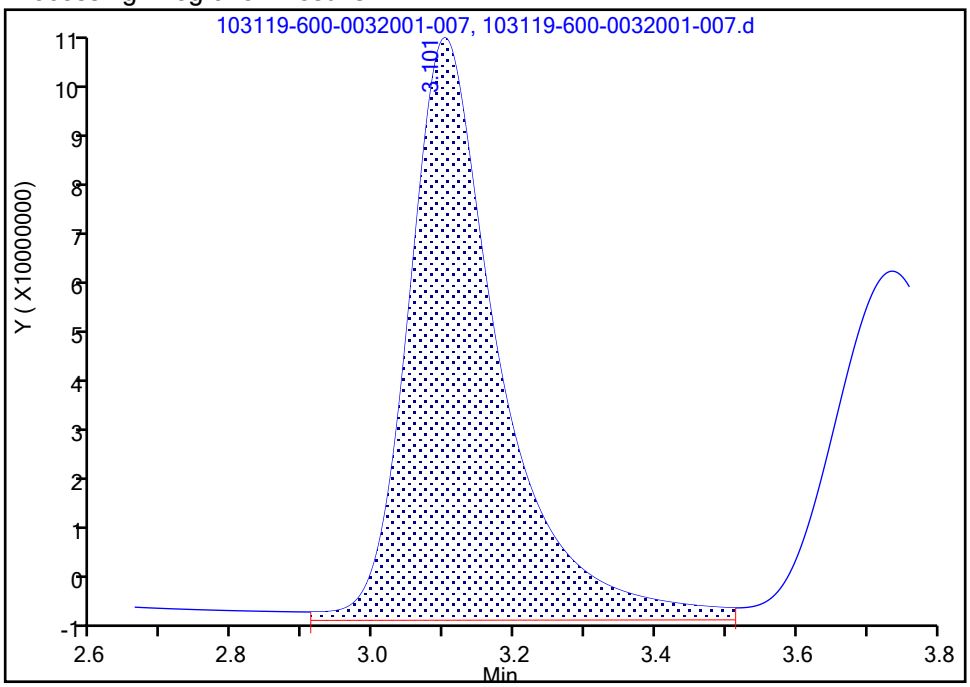

Manual Integration Results

RT: 3.10
Area: 892300756
Amount: 19.526527
Amount Units: ug/ml

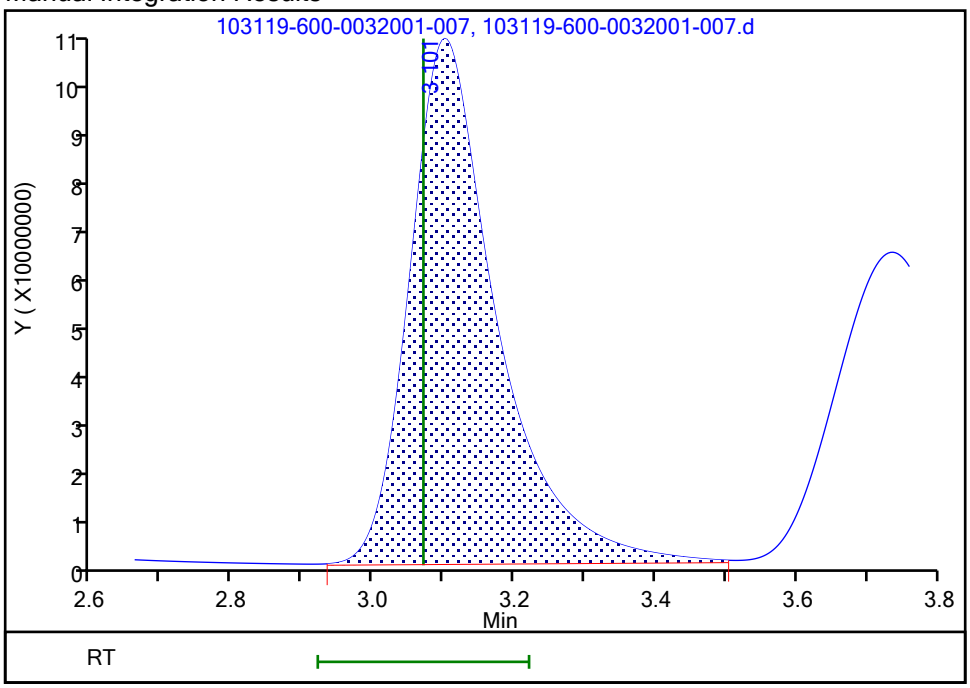

Reviewer: reachs, 01-Nov-2019 12:03:09
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-007.d				
Injection Date:	31-Oct-2019 04:49:00	Instrument ID:	CHWC17(IC)		
Lims ID:	LCS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

5 Sulfate, CAS: 14808-79-8

Signal: 1

Processing Integration Results

RT: 6.99
Area: 657184592
Amount: 21.190825
Amount Units: ug/ml

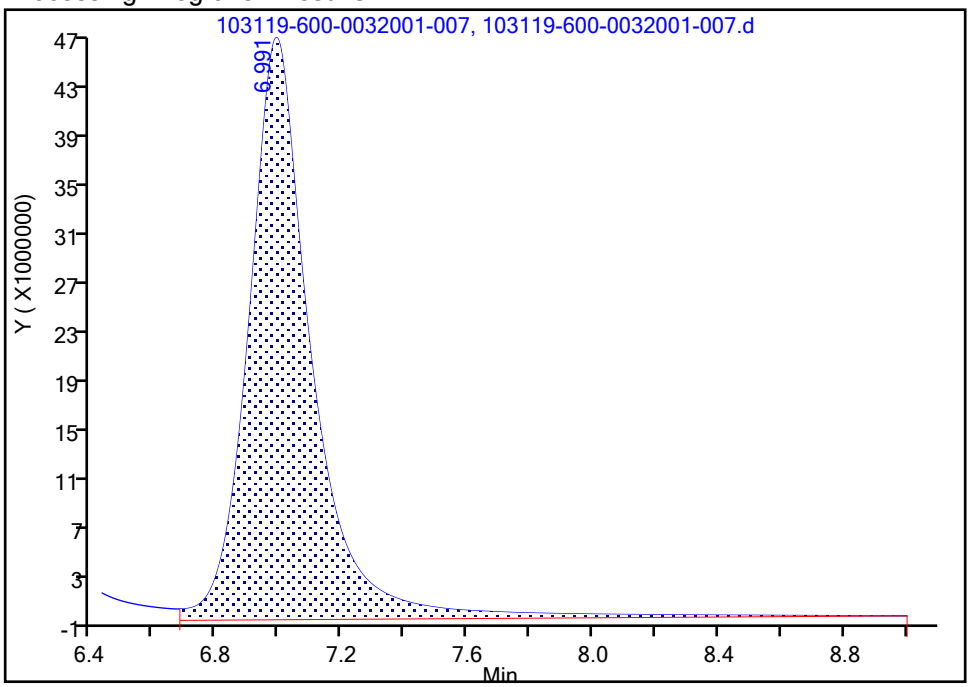

Manual Integration Results

RT: 6.99
Area: 607680451
Amount: 19.607935
Amount Units: ug/ml

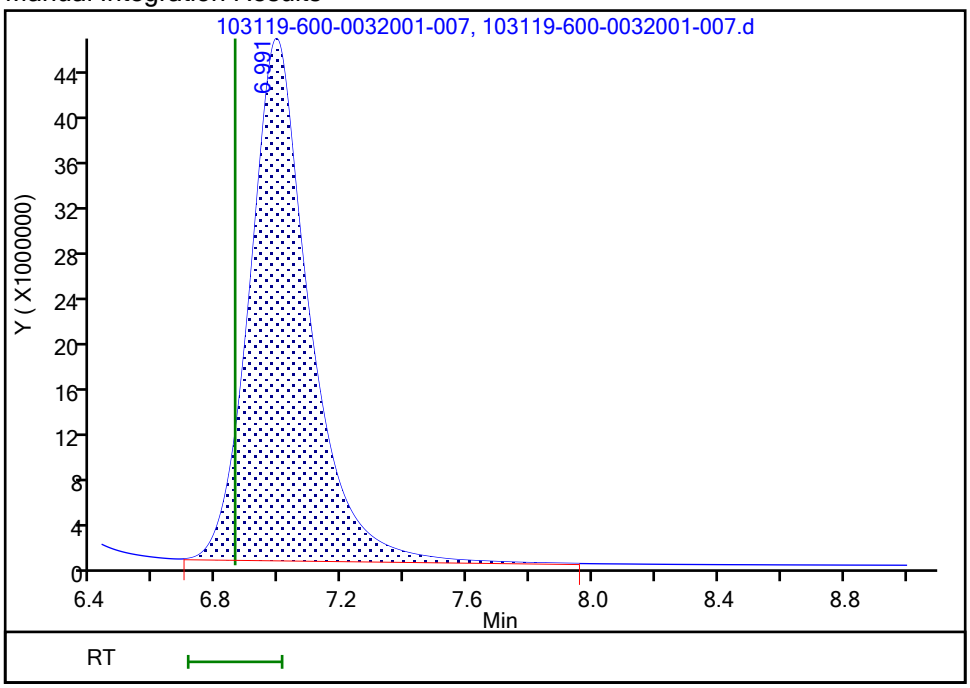

Reviewer: reachs, 01-Nov-2019 12:03:32

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-007.d				
Injection Date:	31-Oct-2019 04:49:00	Instrument ID:	CHWC17(IC)		
Lims ID:	LCS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

7 Fluoride, CAS: 16984-48-8

Signal: 1

Processing Integration Results

RT: 2.22
Area: 442704163
Amount: 8.141536
Amount Units: ug/ml

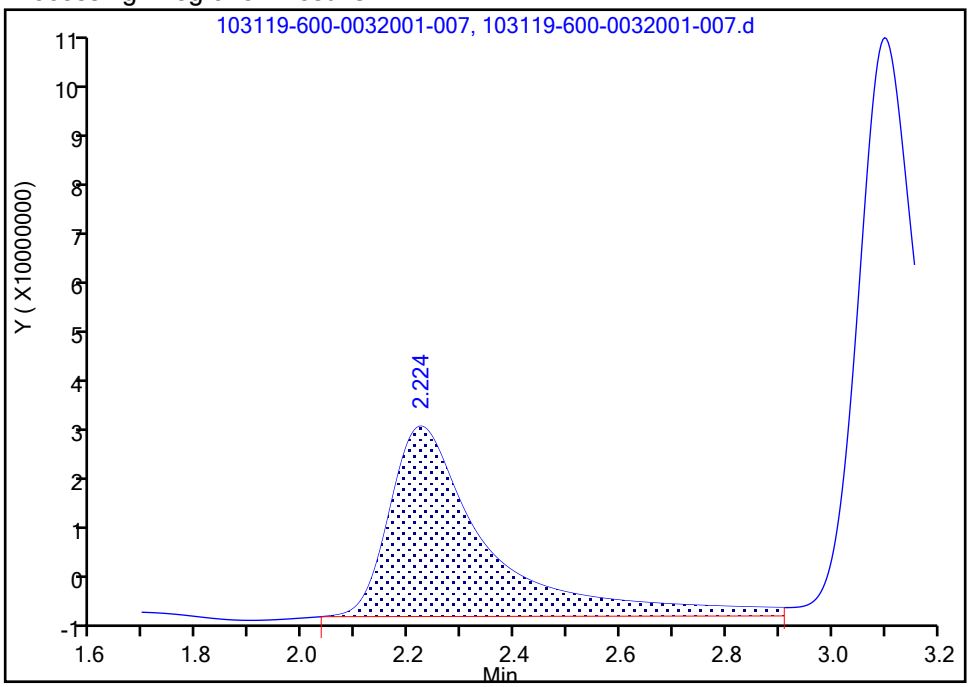

Manual Integration Results

RT: 2.22
Area: 418425460
Amount: 7.704811
Amount Units: ug/ml

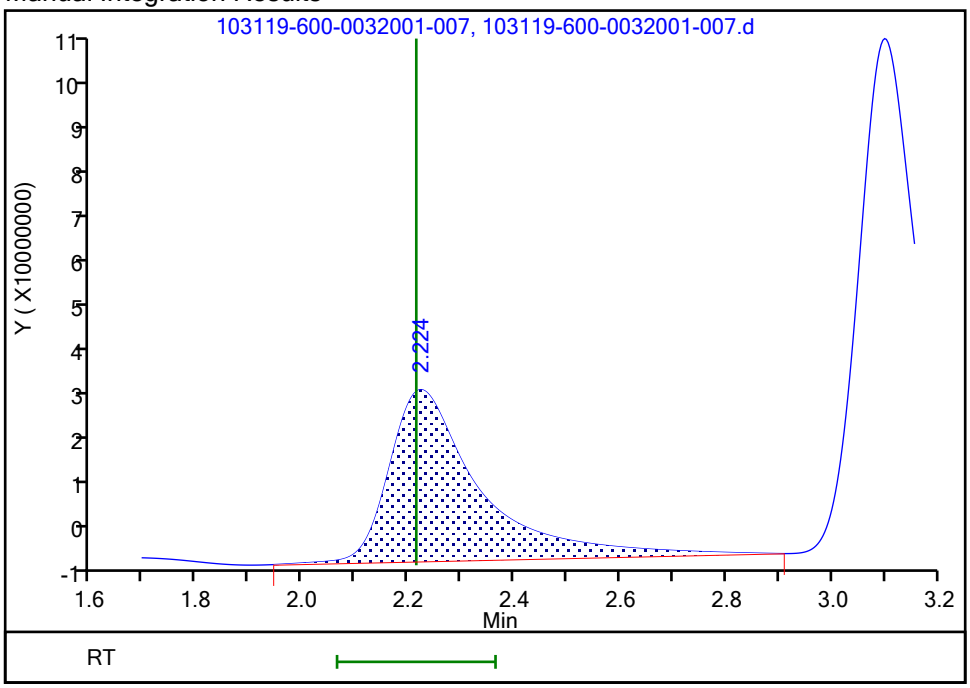

Reviewer: reachs, 01-Nov-2019 12:03:01

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-194690-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 600-279039/7
Matrix: Water
Lab File ID: 103119-600-0032001-007.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 10/31/2019 04:49
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS22 ID: 2(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 279039
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	9.62		0.20	0.025
14797-65-0	Nitrite as N	10.2		0.20	0.030

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-007.d
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 31-Oct-2019 04:49:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032001-007
Misc. Info.: lcs
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 01-Nov-2019 13:34:16 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0332

First Level Reviewer: reachs Date: 01-Nov-2019 12:03:48

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.224	2.214	0.010	418425460	NC	NC	M
	2 Chloride	3.101	3.071	0.030	892300756	NC	NC	M
	9 Nitrite as N	3.737	3.694	0.043	736060678	10.0	10.2	M
	1 Bromide	4.377	4.314	0.063	97763934	NC	NC	M
	3 Nitrate as N	4.834	4.761	0.073	1117456691	10.0	9.62	M
	5 Sulfate	6.991	6.857	0.134	607680451	NC	NC	M
S	6 Nitrate Nitrite as N					10.0	19.8	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

ICV/LCS_00108 Amount Added: 5.00 Units: mL

Report Date: 01-Nov-2019 13:34:39 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-007.d

Injection Date: 31-Oct-2019 04:49:00 Instrument ID: CHWC17(IC) Operator ID:

Lims ID: LCS Worklist Smp#: 7

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: CHWC17(IC) Limit Group: WC - IC_300_9056_48hr

Column: AS-22 Dionex Lion Pac (2.00 mm)

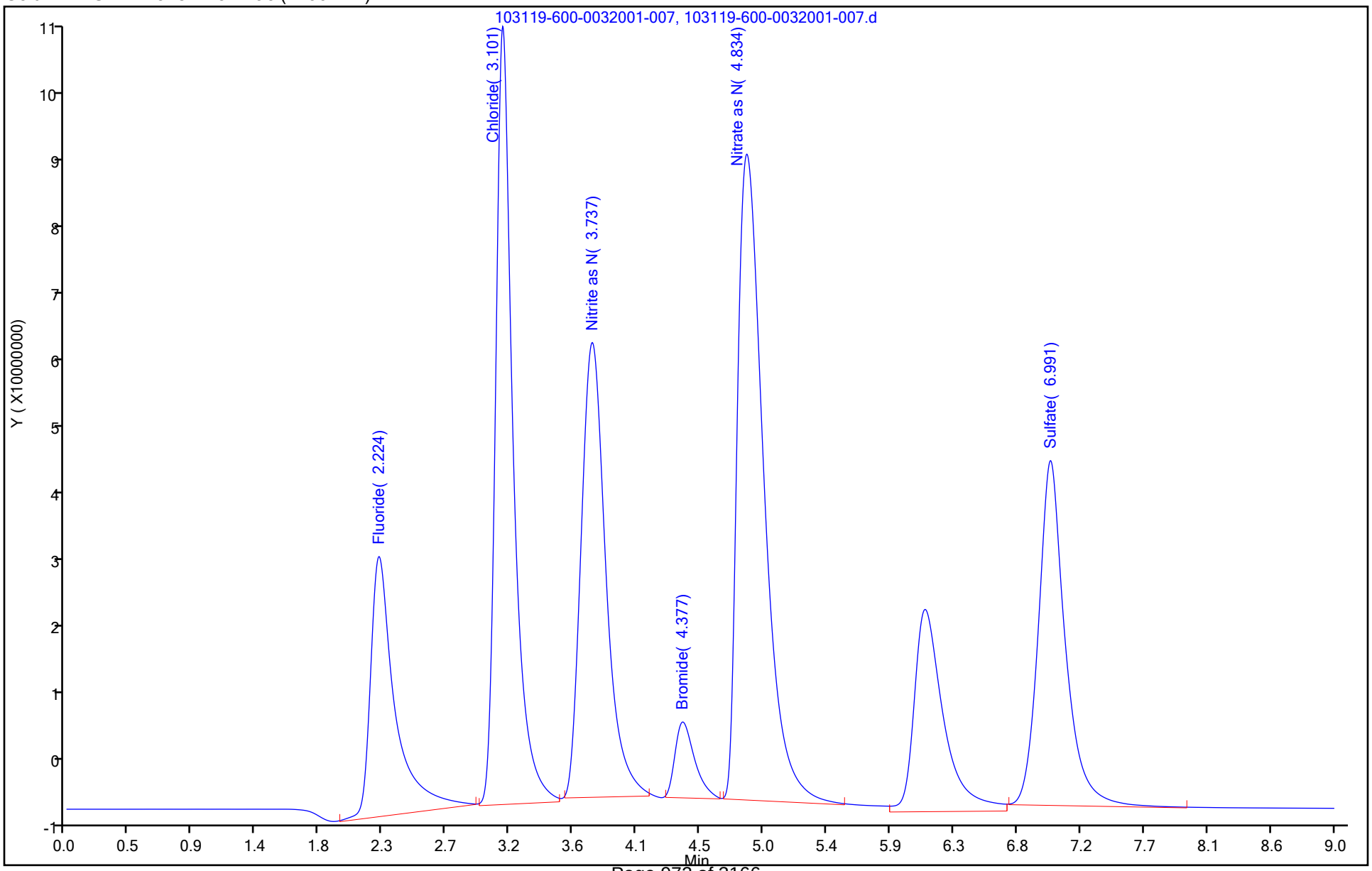

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-007.d				
Injection Date:	31-Oct-2019 04:49:00	Instrument ID:	CHWC17(IC)		
Lims ID:	LCS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

3 Nitrate as N, CAS: 14797-55-8

Signal: 1

Processing Integration Results

RT: 4.83
Area: 1211946389
Amount: 10.424845
Amount Units: ug/ml

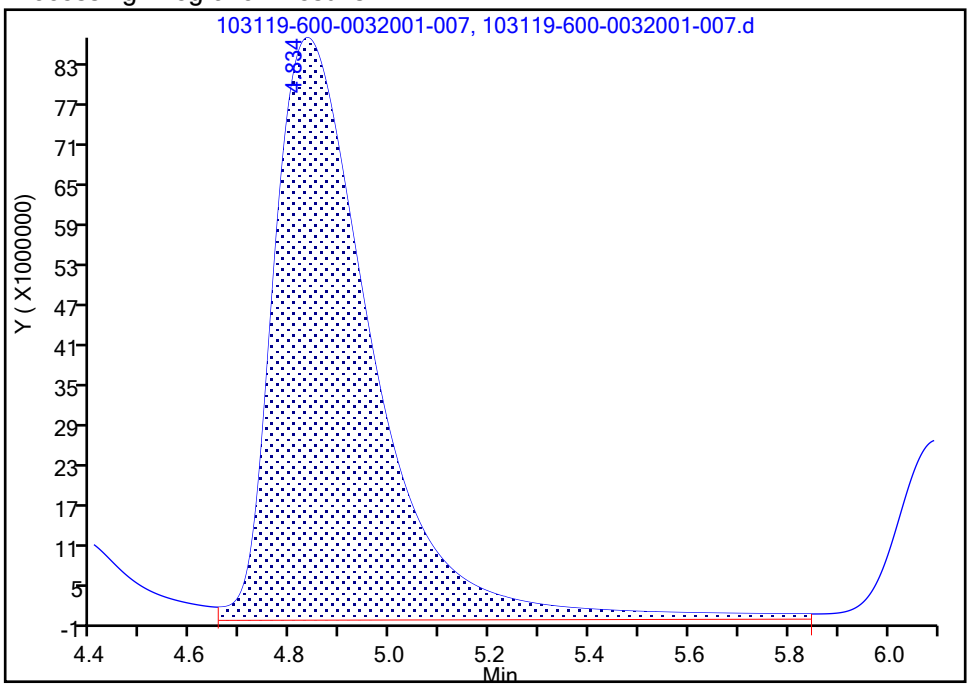

Manual Integration Results

RT: 4.83
Area: 1117456691
Amount: 9.621309
Amount Units: ug/ml

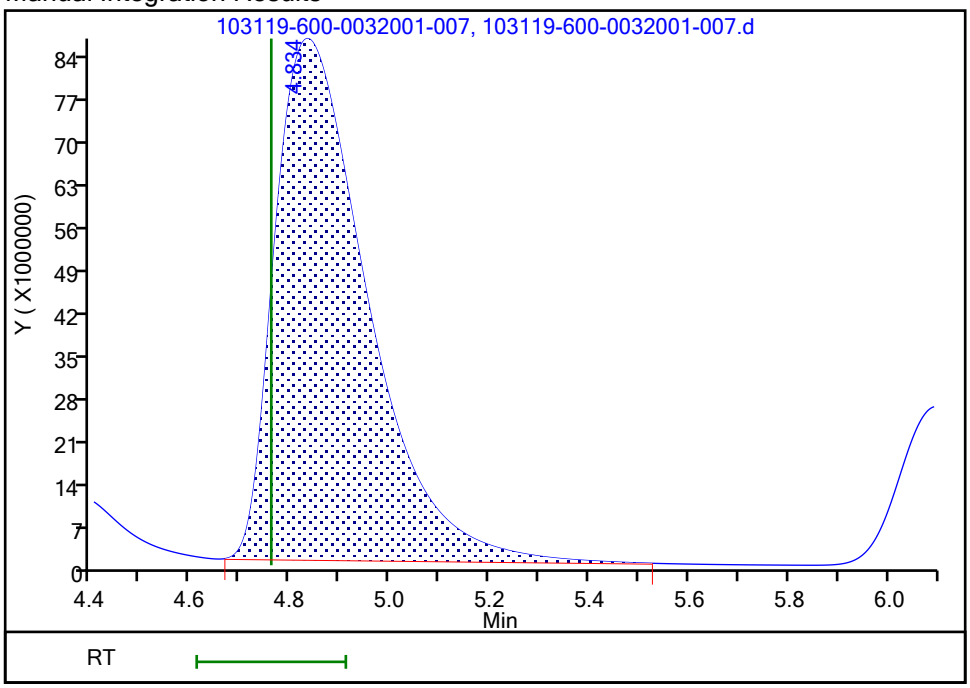

Reviewer: reachs, 01-Nov-2019 12:03:46

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-007.d				
Injection Date:	31-Oct-2019 04:49:00	Instrument ID:	CHWC17(IC)		
Lims ID:	LCS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

9 Nitrite as N, CAS: 14797-65-0

Signal: 1

Processing Integration Results

RT: 3.74
Area: 834984639
Amount: 11.518682
Amount Units: ug/ml

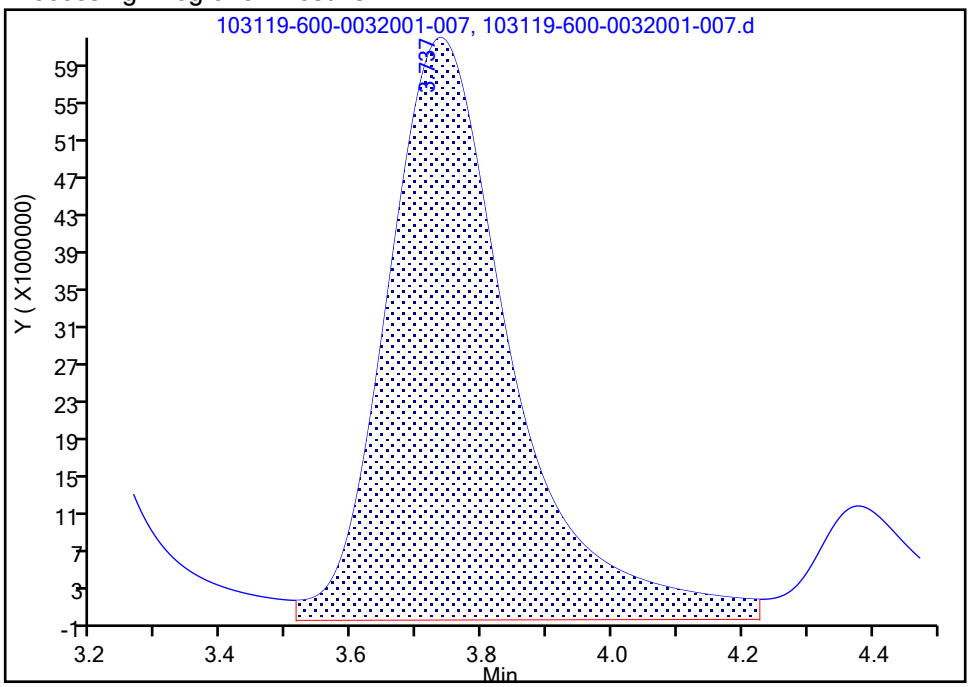

Manual Integration Results

RT: 3.74
Area: 736060678
Amount: 10.158164
Amount Units: ug/ml

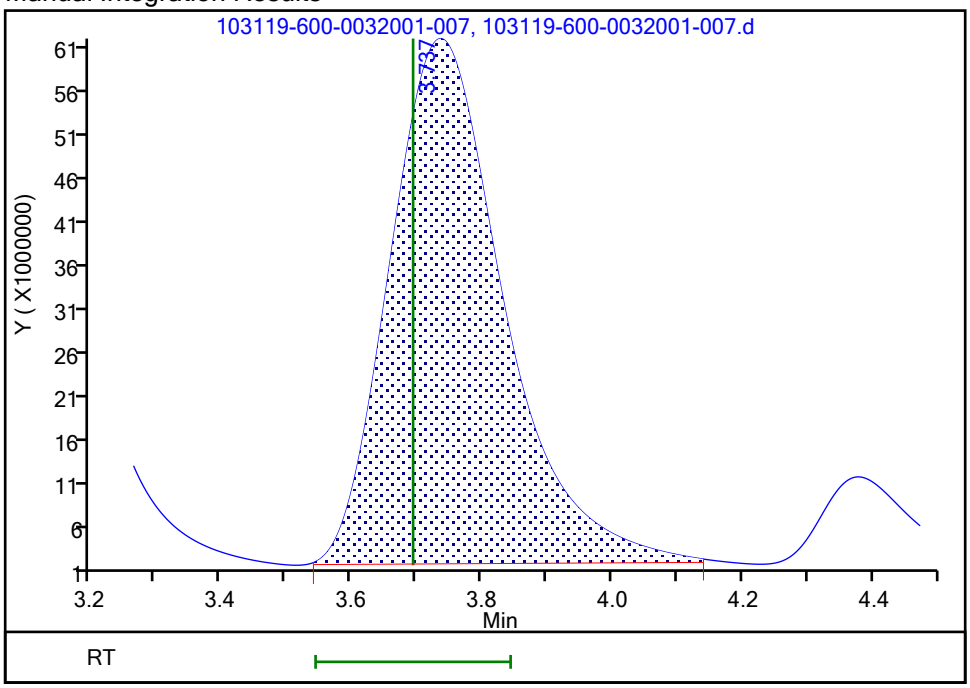

Reviewer: reachs, 01-Nov-2019 12:03:40

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 600-279165/5

Matrix: Water Lab File ID: 110119-5.d

Analysis Method: 300.0 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 11/01/2019 11:37

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS-18 ID:

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 279165 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	7.31		0.40	0.10
16887-00-6	Chloride	19.9		0.40	0.053
14808-79-8	Sulfate	20.1		0.50	0.096
16984-48-8	Fluoride	7.59		0.20	0.060

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20191031-32021.b\110119-5.d
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 01-Nov-2019 11:37:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032021-005
Operator ID: Instrument ID: CHWC11

Method: \\chromna\Houston\ChromData\CHWC11\20191031-32021.b\300_11.m
Limit Group: WC - IC_300_9056_28day
Last Update: 04-Nov-2019 11:07:01 Calib Date: 18-Oct-2019 18:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d

Column 1 : Det: 040914-1
Process Host: CTX0335

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
7 Fluoride	3.117	3.117	0.000	79005491	7.50	7.59	
2 Chloride	4.842	4.842	0.000	108816557	20.0	19.9	
9 Nitrite as N	6.017	6.017	0.000	125839719	NC	NC	
1 Bromide	8.659	8.667	-0.008	14696469	7.50	7.31	
5 Sulfate	9.342	9.325	0.017	78437550	20.0	20.1	
3 Nitrate as N	10.034	10.042	-0.008	133941473	NC	NC	
S 6 Nitrate Nitrite as N		0.000			10.0	ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

ICV/LCS_00108 Amount Added: 5.00 Units: mL

Report Date: 04-Nov-2019 11:07:08 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191031-32021.b\110119-5.d				
Injection Date:	01-Nov-2019 11:37:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	LCS			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		

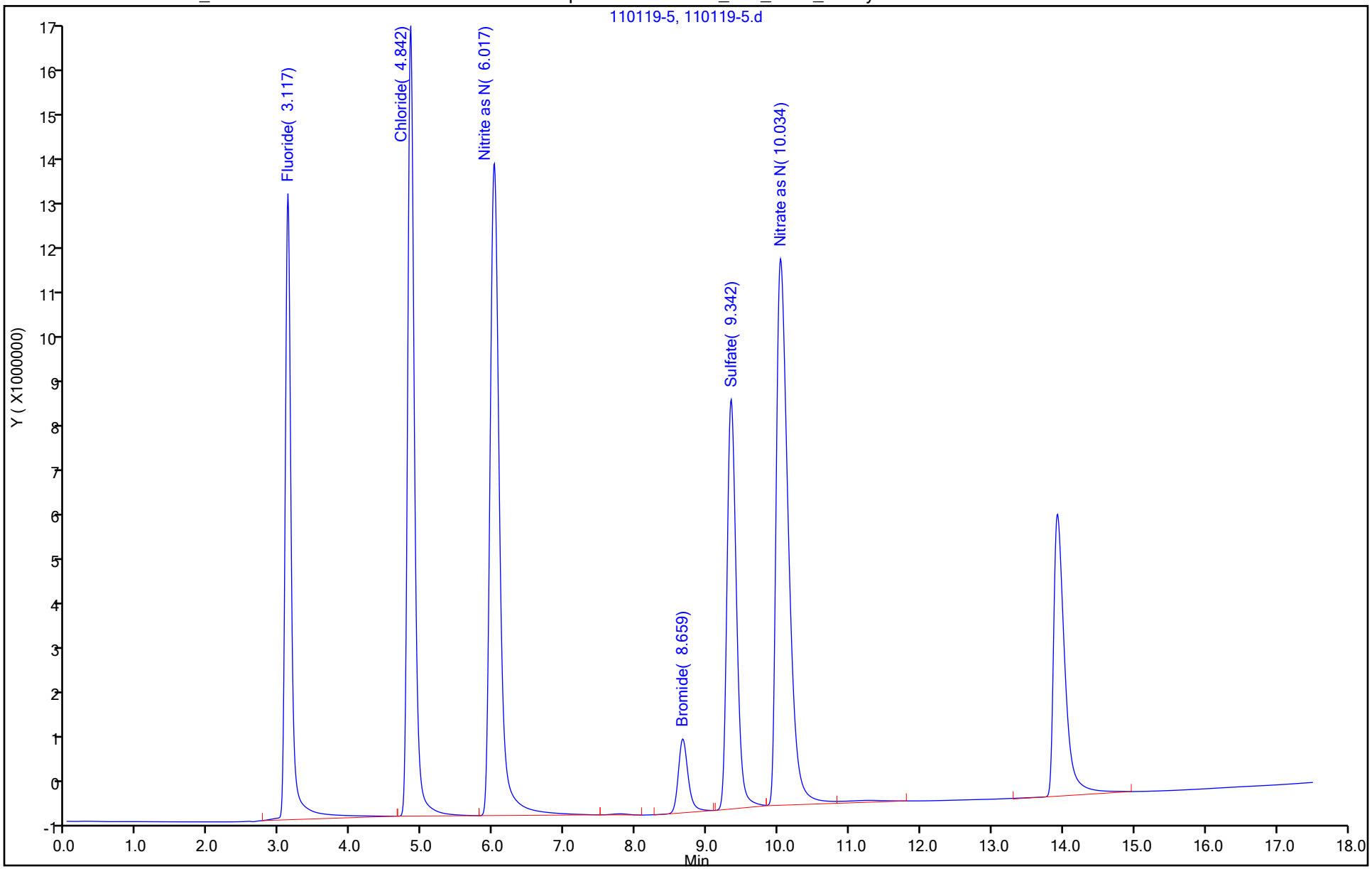

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 600-279268/5

Matrix: Water Lab File ID: 110419-5.d

Analysis Method: 300.0 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 11/04/2019 12:31

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS-18 ID:

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 279268 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	7.73		0.40	0.10
16887-00-6	Chloride	20.8		0.40	0.053
14808-79-8	Sulfate	20.8		0.50	0.096
16984-48-8	Fluoride	7.75		0.20	0.060

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-5.d
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 04-Nov-2019 12:31:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032042-005
Operator ID: Instrument ID: CHWC11

Method: \\chromna\Houston\ChromData\CHWC11\20191101-32042.b\300_11.m
Limit Group: WC - IC_300_9056_28day
Last Update: 05-Nov-2019 11:30:10 Calib Date: 18-Oct-2019 18:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d

Column 1 : Det: 040914-1
Process Host: CTX0336

First Level Reviewer: reachs Date: 04-Nov-2019 13:31:55

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
7 Fluoride	3.125	3.125	0.000	80728371	7.50	7.75	
2 Chloride	4.850	4.842	0.008	113638219	20.0	20.8	
9 Nitrite as N	6.017	6.009	0.008	133208587	NC	NC	
1 Bromide	8.650	8.650	0.000	15559843	7.50	7.73	M
5 Sulfate	9.309	9.309	0.000	81401877	20.0	20.8	Ma
3 Nitrate as N	10.017	10.017	0.000	139824331	NC	NC	
S 6 Nitrate Nitrite as N		0.000			10.0	ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

ICV/LCS_00108 Amount Added: 5.00 Units: mL

Report Date: 05-Nov-2019 11:30:19 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-5.d				
Injection Date:	04-Nov-2019 12:31:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	LCS			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		

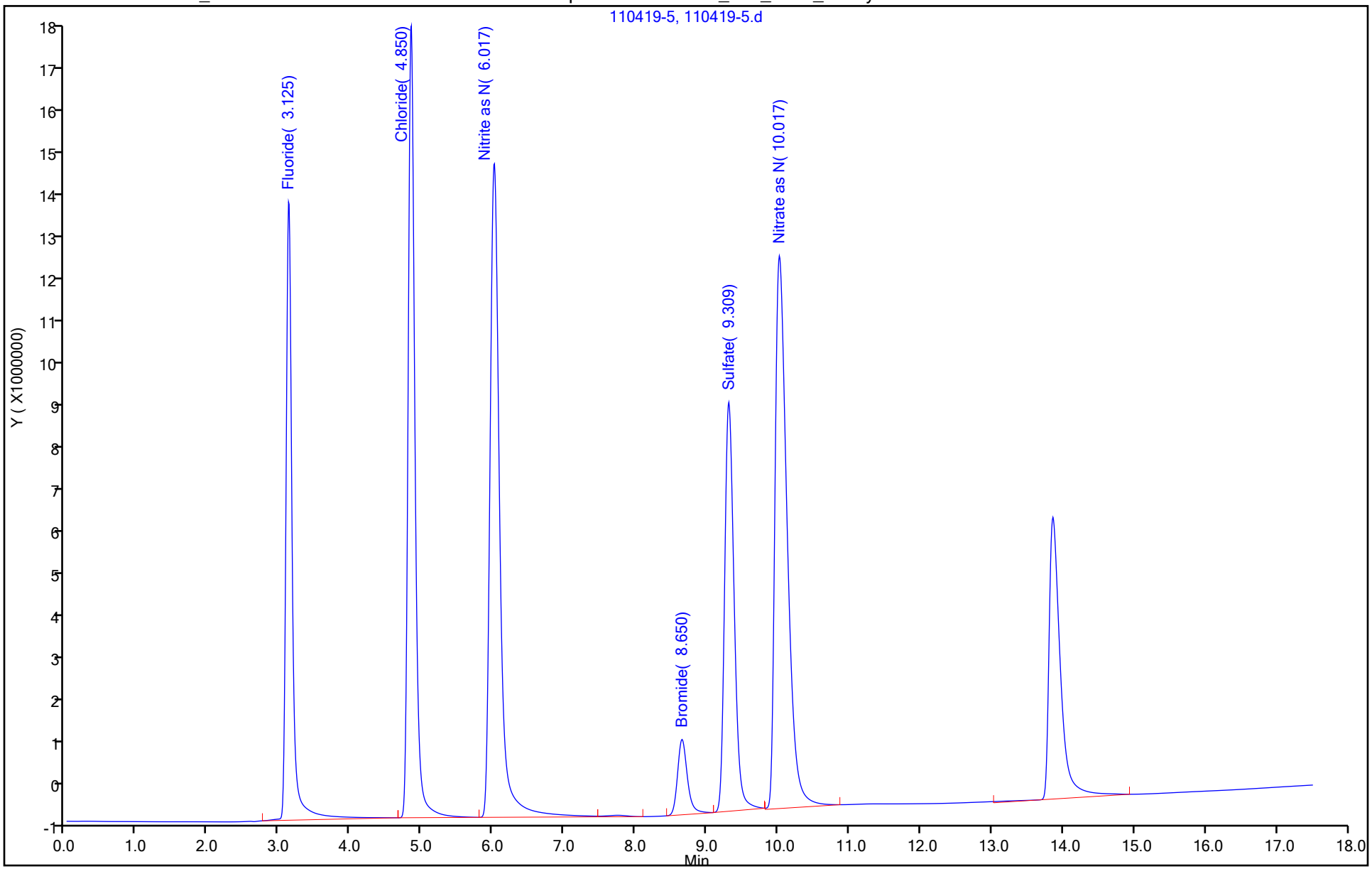

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-5.d				
Injection Date:	04-Nov-2019 12:31:00	Instrument ID:	CHWC11		
Lims ID:	LCS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		
Column:		Detector	040914-1		

1 Bromide, CAS: 24959-67-9

Signal: 1

RT: 8.65
Area: 15597309
Amount: 7.750735
Amount Units: ug/ml

Processing Integration Results

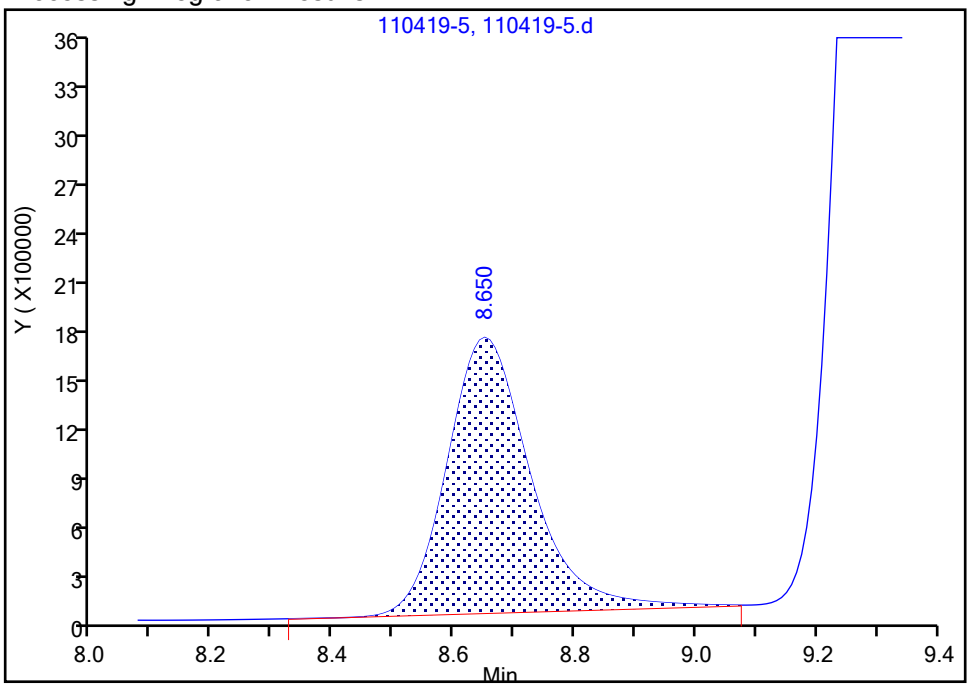

RT: 8.65
Area: 15559843
Amount: 7.732317
Amount Units: ug/ml

Manual Integration Results

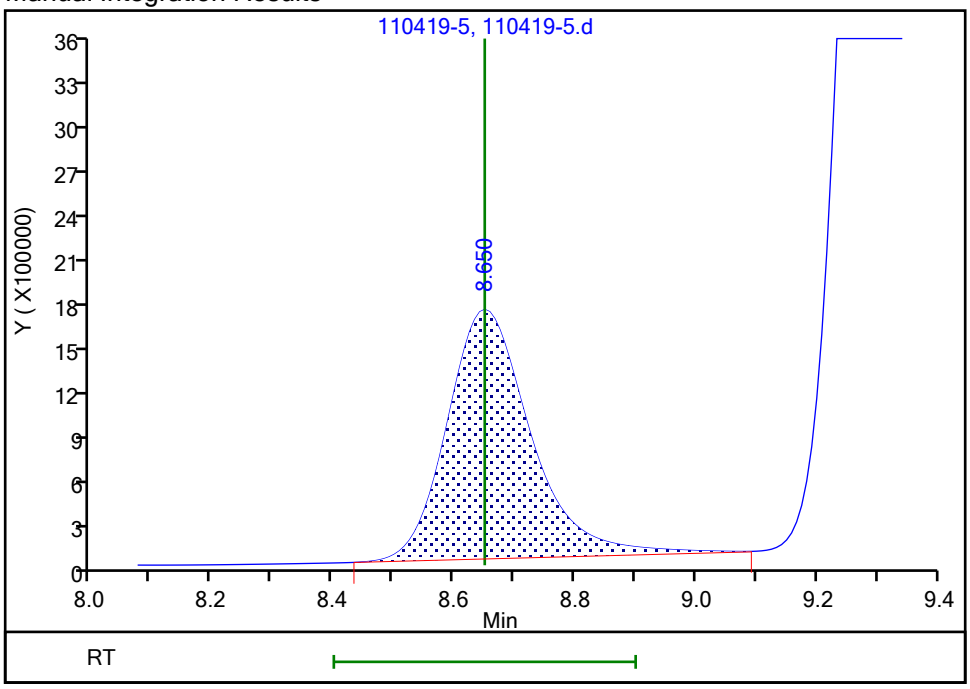

Reviewer: reachs, 04-Nov-2019 13:31:17
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-5.d				
Injection Date:	04-Nov-2019 12:31:00	Instrument ID:	CHWC11		
Lims ID:	LCS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		
Column:		Detector	040914-1		

5 Sulfate, CAS: 14808-79-8

Signal: 1

Processing Integration Results

RT: 9.31
Area: 82053854
Amount: 20.969183
Amount Units: ug/ml

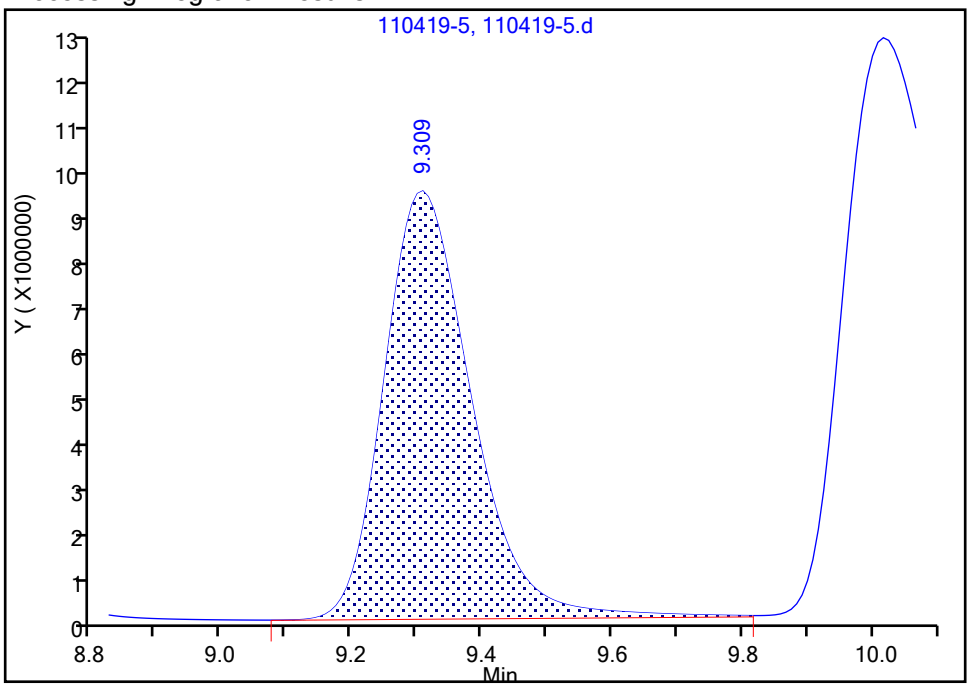

Manual Integration Results

RT: 9.31
Area: 81401877
Amount: 20.803669
Amount Units: ug/ml

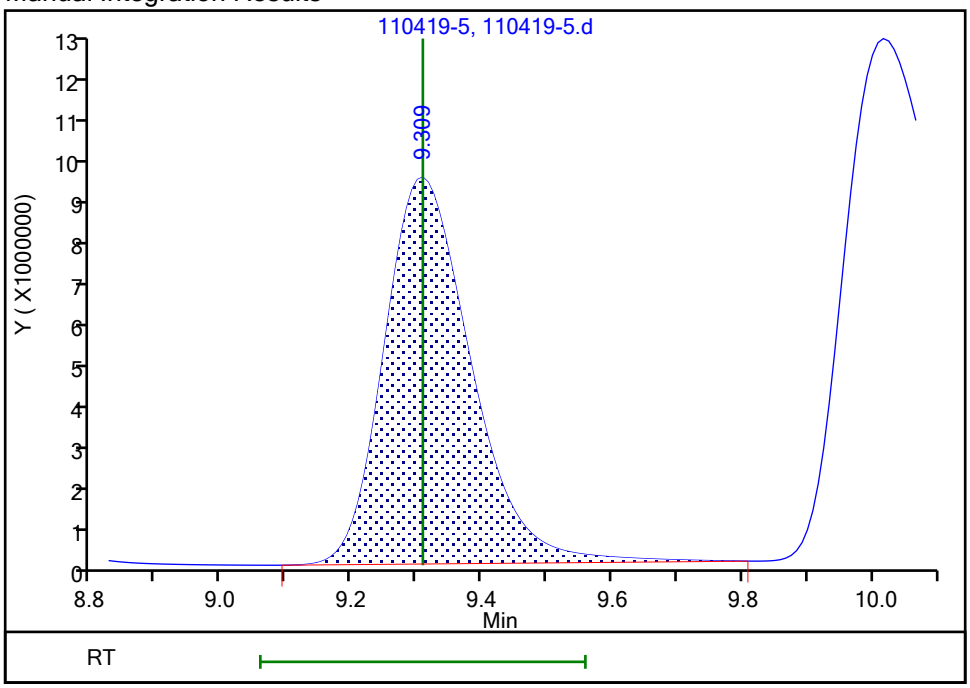

Reviewer: reachs, 04-Nov-2019 13:31:43

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 600-279269/36

Matrix: Water Lab File ID: 110419-36.d

Analysis Method: 300.0 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 11/04/2019 23:44

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS-18 ID:

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 279269 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	10.6		0.20	0.025
14797-65-0	Nitrite as N	10.7		0.20	0.030

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-36.d
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 04-Nov-2019 23:44:00 ALS Bottle#: 0 Worklist Smp#: 36
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032042-036
Misc. Info.: 18881
Operator ID: Instrument ID: CHWC11

Method: \\chromna\Houston\ChromData\CHWC11\20191101-32042.b\300_11.m
Limit Group: WC - IC_300_9056_48hr
Last Update: 05-Nov-2019 11:31:00 Calib Date: 18-Oct-2019 18:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20191018-31755.b\CAL101819-9.d

Column 1 : Det: 040914-1
Process Host: CTX0336

First Level Reviewer: reachs Date: 05-Nov-2019 10:50:38

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
7 Fluoride	3.125	3.125	0.000	81030097	NC	NC	
2 Chloride	4.842	4.842	0.000	114604198	NC	NC	
9 Nitrite as N	6.009	6.009	0.000	132748030	10.0	10.7	M
1 Bromide	8.642	8.650	-0.008	15572920	NC	NC	
5 Sulfate	9.300	9.309	-0.009	82751016	NC	NC	
3 Nitrate as N	10.009	10.017	-0.008	140244198	10.0	10.6	
S 6 Nitrate Nitrite as N					10.0	21.3	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

ICV/LCS_00108 Amount Added: 5.00 Units: mL

Report Date: 05-Nov-2019 11:31:19 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-36.d				
Injection Date:	04-Nov-2019 23:44:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	LCS			Worklist Smp#:	36
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		

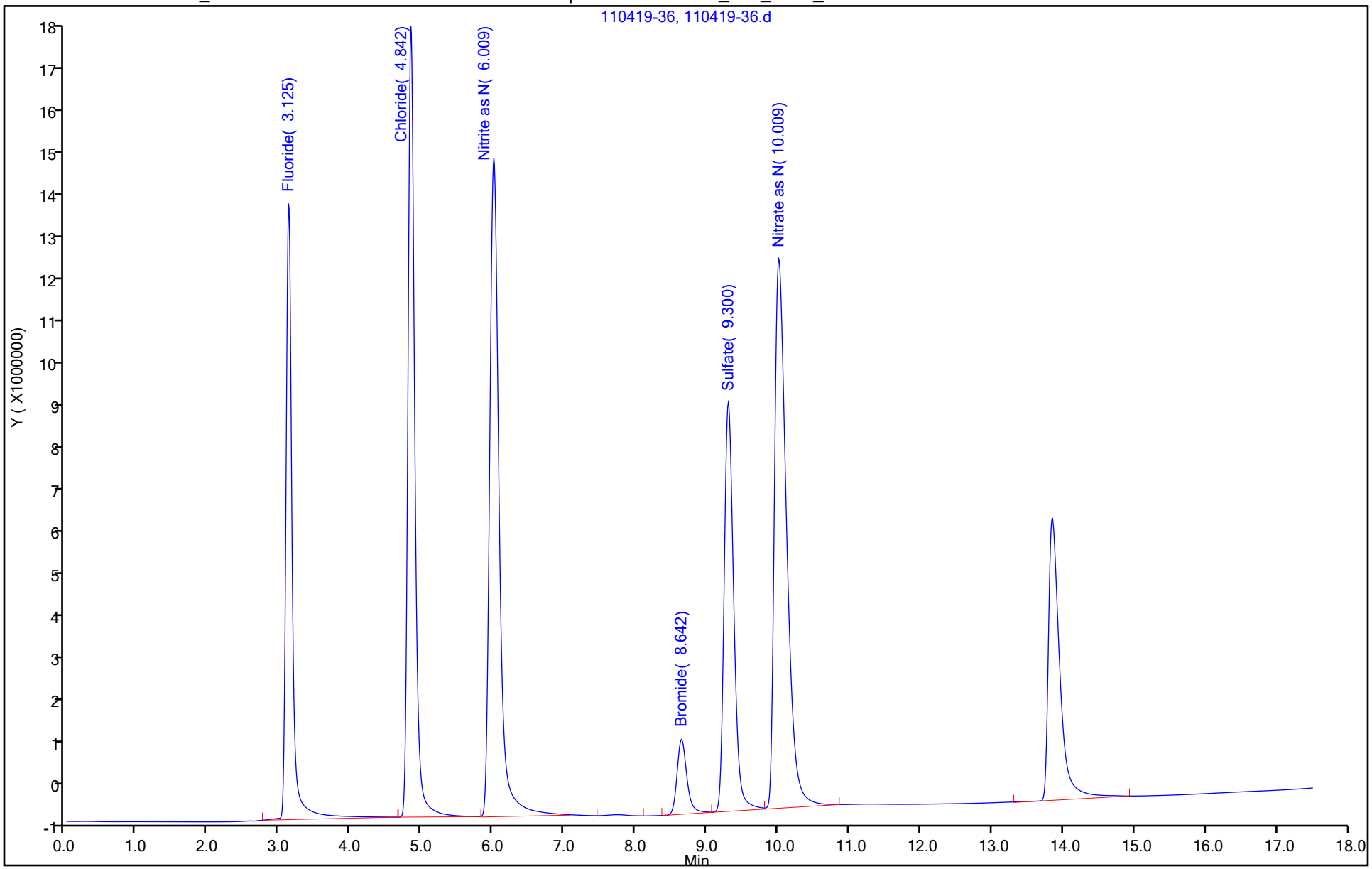

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20191101-32042.b\110419-36.d				
Injection Date:	04-Nov-2019 23:44:00	Instrument ID:	CHWC11		
Lims ID:	LCS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	36
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		
Column:		Detector	040914-1		

9 Nitrite as N, CAS: 14797-65-0

Signal: 1

Processing Integration Results

RT: 6.01
Area: 133756475
Amount: 10.788396
Amount Units: ug/ml

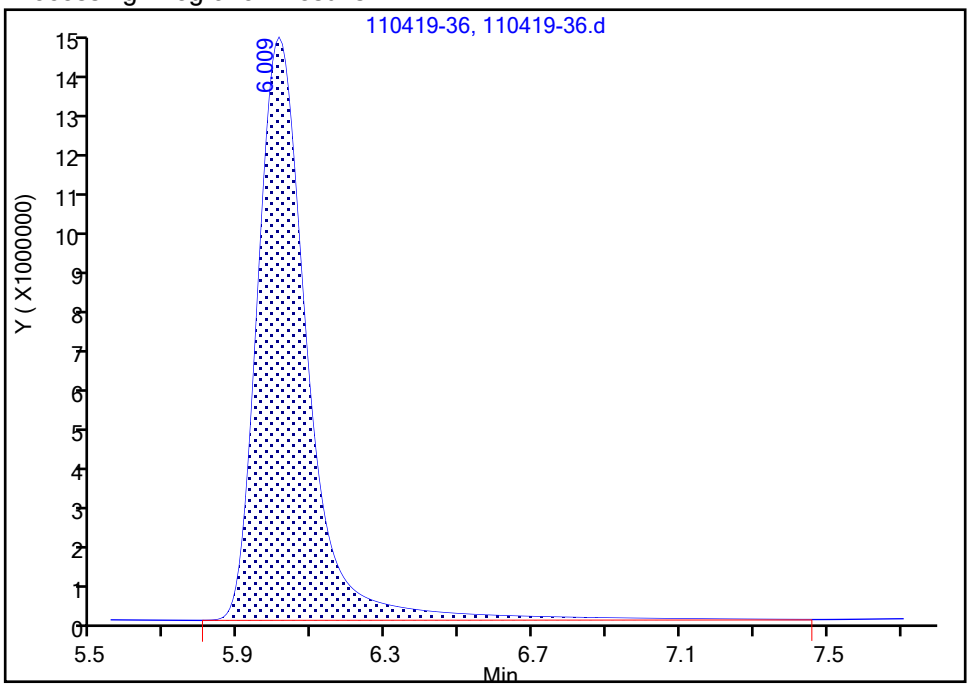

Manual Integration Results

RT: 6.01
Area: 132748030
Amount: 10.707474
Amount Units: ug/ml

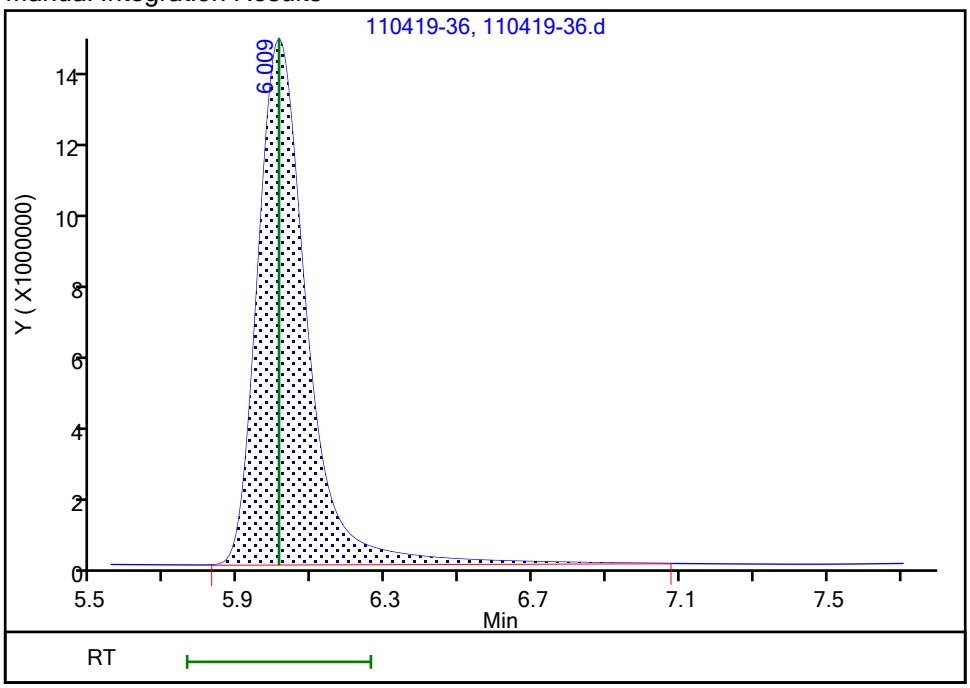

Reviewer: reachs, 05-Nov-2019 10:50:30

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: FEFF 1 MS Lab Sample ID: 600-194690-3 MS

Matrix: Water Lab File ID: 103119-600-0032001-011.d

Analysis Method: 300.0 Date Collected: 10/26/2019 12:45

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 10/31/2019 10:10

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS22 ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 279038 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	5.68		0.40	0.10
16984-48-8	Fluoride	1.38		0.20	0.060

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-011.d
Lims ID: 600-194690-A-3 MS
Client ID:
Sample Type: MS
Inject. Date: 31-Oct-2019 10:10:00 ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032001-011
Misc. Info.: 600-194690-a-3 ms
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 01-Nov-2019 13:34:16 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0332

First Level Reviewer: reachs Date: 01-Nov-2019 12:13:58

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.154	2.214	-0.060	66772951	2.00	1.38	
	2 Chloride	3.407	3.071	0.336	31118411400	10.0	673.9	Ea
	9 Nitrite as N		3.694			ND	ND	
	1 Bromide	4.484	4.314	0.170	77296632	2.00	5.68	
	3 Nitrate as N	5.034	4.761	0.273	432193173	NC	NC	a
	5 Sulfate	7.077	6.857	0.220	2047785807	10.0	65.7	E
	4 Orthophosphate as P		7.044				ND	
S	8 Sulfate as Sulfur						65.7	
S	6 Nitrate Nitrite as N		0.000			2.00	ND	

QC Flag Legend

Processing Flags
- NC - Not Calibrated
- ND - Not Detected or Marked ND
- E - Exceeded Maximum Amount

Review Flags
- a - User Assigned ID

Reagents:

ICSMS_00118 Amount Added: 0.25 Units: mL
ICSMS_00119 Amount Added: 0.25 Units: mL

Report Date: 01-Nov-2019 13:34:55 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-011.d				
Injection Date:	31-Oct-2019 10:10:00	Instrument ID:	CHWC17(IC)	Operator ID:	
Lims ID:	600-194690-A-3 MS			Worklist Smp#:	11
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		

Column: AS-22 Dionex Lion Pac (2.00 mm)

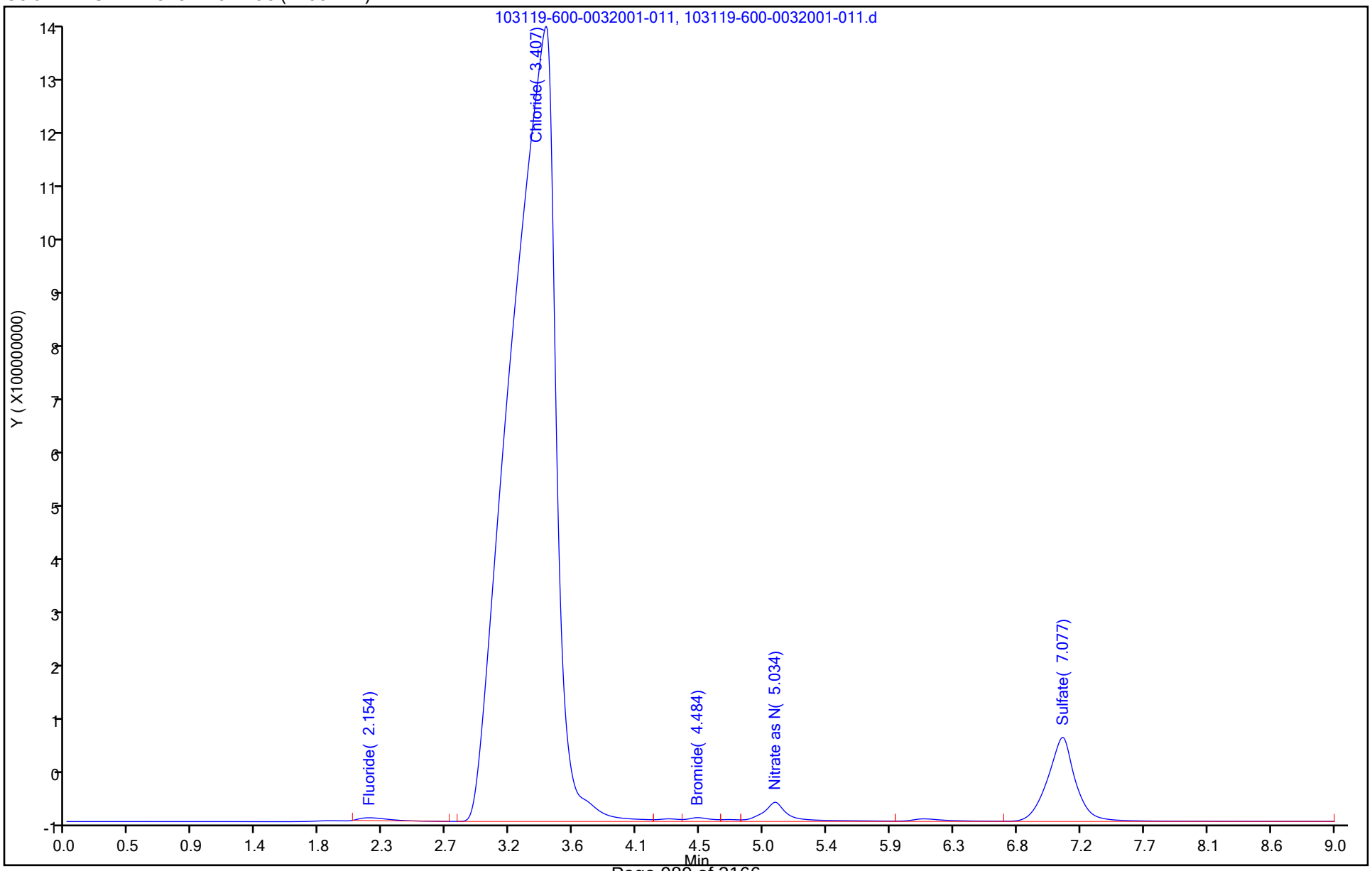

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: FEFF 1 MS Lab Sample ID: 600-194690-3 MS

Matrix: Water Lab File ID: 103119-600-0032001-011.d

Analysis Method: 300.0 Date Collected: 10/26/2019 12:45

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 10/31/2019 10:10

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS22 ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 279039 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	3.79		0.20	0.025
14797-65-0	Nitrite as N	ND		0.20	0.030

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-011.d
Lims ID: 600-194690-A-3 MS
Client ID:
Sample Type: MS
Inject. Date: 31-Oct-2019 10:10:00 ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032001-011
Misc. Info.: 600-194690-a-3 ms
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 01-Nov-2019 13:34:16 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0332

First Level Reviewer: reachs Date: 01-Nov-2019 12:13:58

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.154	2.214	-0.060	66772951	NC	NC	
	2 Chloride	3.407	3.071	0.336	31118411400	NC	NC	a
	9 Nitrite as N		3.694			ND	ND	
	1 Bromide	4.484	4.314	0.170	77296632	NC	NC	
	3 Nitrate as N	5.034	4.761	0.273	432193173	2.00	3.79	a
	5 Sulfate	7.077	6.857	0.220	2047785807	NC	NC	
	4 Orthophosphate as P		7.044				ND	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N					2.00	3.79	

QC Flag Legend

Processing Flags
NC - Not Calibrated
ND - Not Detected or Marked ND
Review Flags
a - User Assigned ID

Reagents:

ICSMS_00118 Amount Added: 0.25 Units: mL
ICSMS_00119 Amount Added: 0.25 Units: mL

Report Date: 01-Nov-2019 13:34:55 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-011.d				
Injection Date:	31-Oct-2019 10:10:00	Instrument ID:	CHWC17(IC)	Operator ID:	
Lims ID:	600-194690-A-3 MS			Worklist Smp#:	11
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		

Column: AS-22 Dionex Lion Pac (2.00 mm)

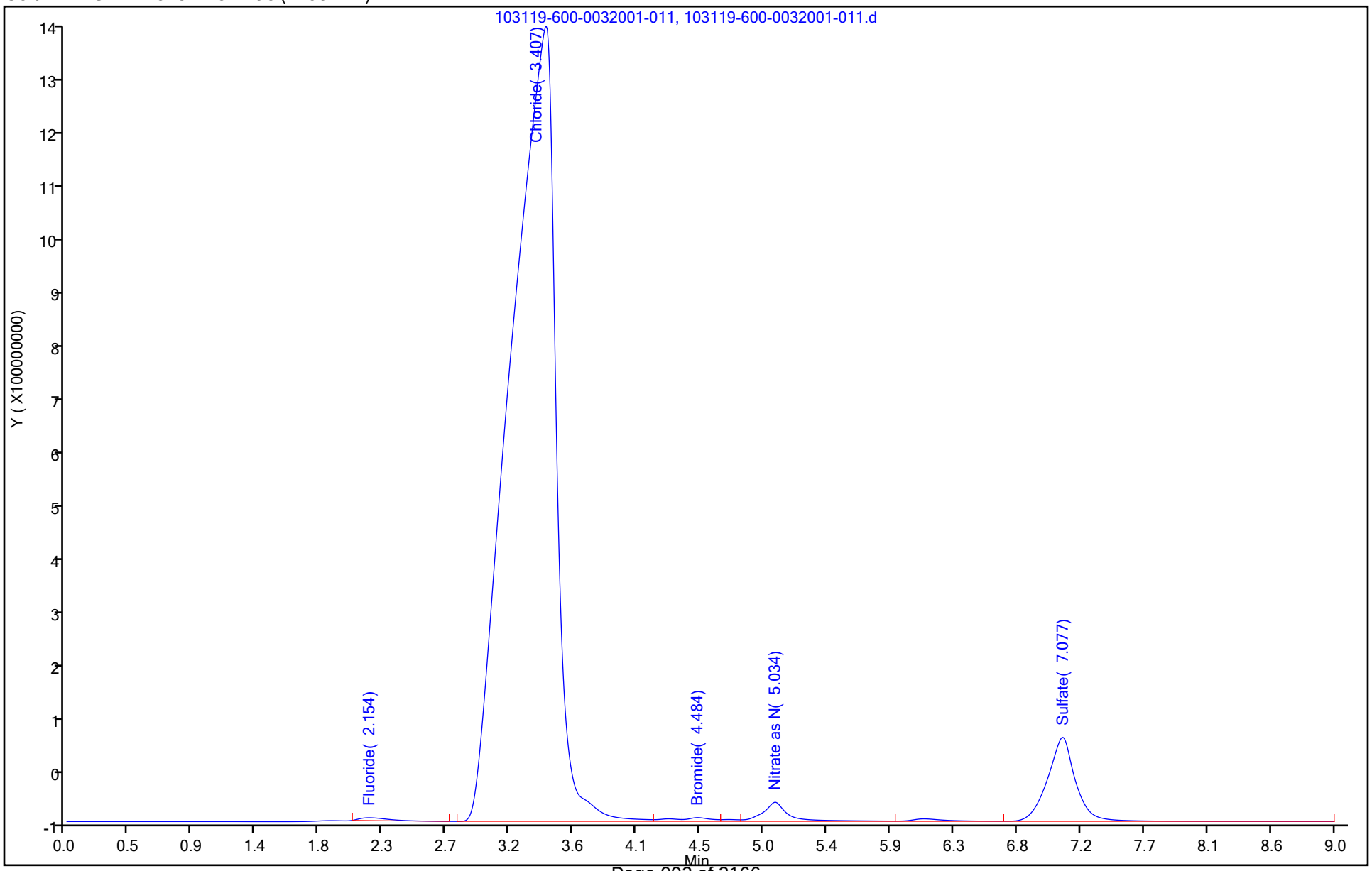

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-011.d				
Injection Date:	31-Oct-2019 10:10:00	Instrument ID:	CHWC17(IC)		
Lims ID:	600-194690-A-3 MS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

3 Nitrate as N, CAS: 14797-55-8

Signal: 1

Not Detected
Expected RT: 4.76

Processing Integration Results

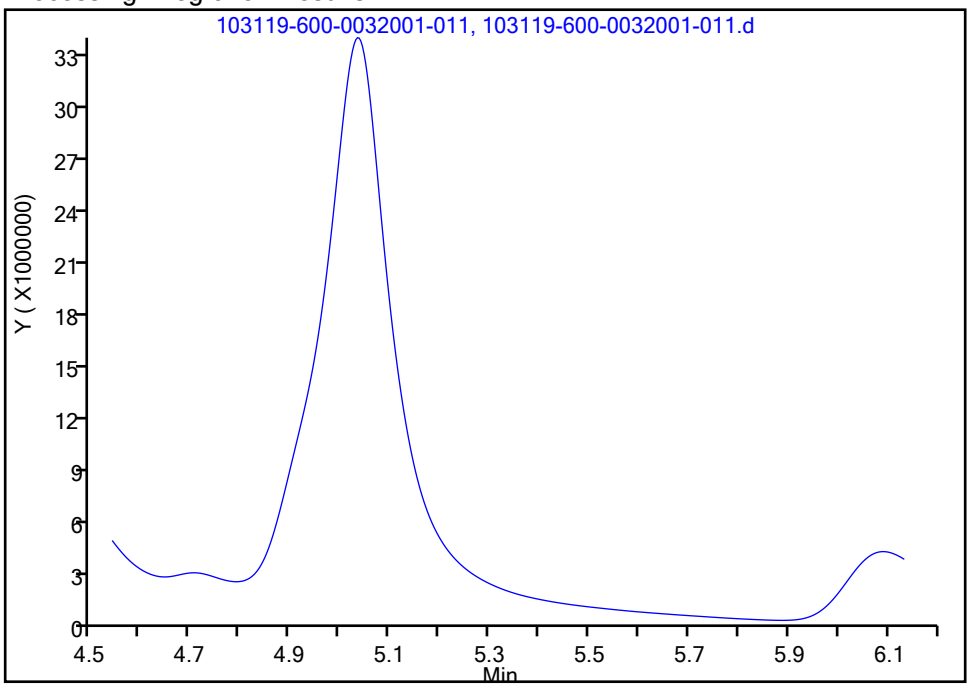

Manual Integration Results

RT: 5.03
Area: 432193173
Amount: 3.793856
Amount Units: ug/ml

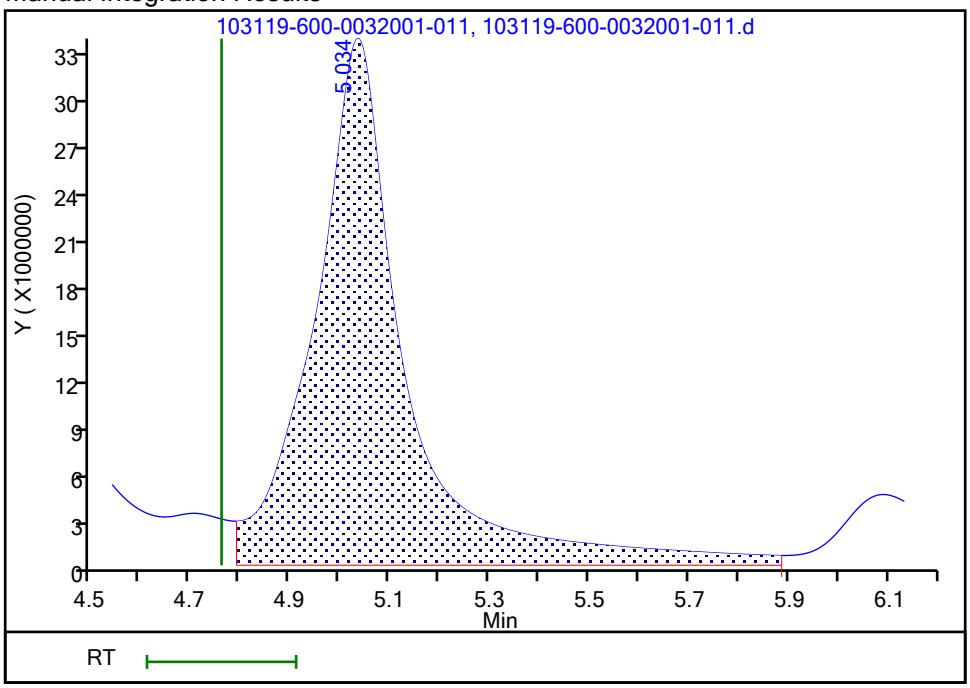

Reviewer: reachs, 01-Nov-2019 12:13:45
Audit Action: Assigned Compound ID Audit Reason:

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-194690-1
SDG No.:
Client Sample ID: INF 4 MS
Lab Sample ID: 600-194690-10 MS
Matrix: Water
Lab File ID: 102919-600-0031944-012.d
Analysis Method: 300.0
Date Collected: 10/25/2019 20:50
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 10/29/2019 08:00
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS22 ID: 2(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 278776
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	2.65		0.40	0.10
16887-00-6	Chloride	635		0.40	0.053
14808-79-8	Sulfate	61.8		0.50	0.096
16984-48-8	Fluoride	1.65		0.20	0.060

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-012.d
Lims ID: 600-194690-F-10 MS
Client ID: INF 4
Sample Type: MS
Inject. Date: 29-Oct-2019 08:00:00 ALS Bottle#: 0 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031944-012
Misc. Info.: 600-194690-f-10 ms
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 30-Oct-2019 12:43:28 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0337

First Level Reviewer: reachs Date: 30-Oct-2019 12:06:36

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.181	2.241	-0.060	81982150	2.00	1.65	
	2 Chloride	3.447	3.121	0.326	29342869442	10.0	635.5	Ea
	9 Nitrite as N		3.761			ND	ND	
	1 Bromide	4.374	4.397	-0.023	36283187	2.00	2.65	
	3 Nitrate as N		4.864			ND	ND	
	4 Orthophosphate as P		7.044				ND	
	5 Sulfate	7.174	7.101	0.073	1925863777	10.0	61.8	E
S	8 Sulfate as Sulfur						61.8	
S	6 Nitrate Nitrite as N		0.000			2.00	ND	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND
E - Exceeded Maximum Amount
Review Flags
a - User Assigned ID

Reagents:

ICSMS_00116 Amount Added: 0.25 Units: mL
ICSMS_00117 Amount Added: 0.25 Units: mL

Report Date: 30-Oct-2019 12:43:38 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-012.d				
Injection Date:	29-Oct-2019 08:00:00	Instrument ID:	CHWC17(IC)	Operator ID:	
Lims ID:	600-194690-F-10 MS			Worklist Smp#:	12
Client ID:	INF 4				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		

Column: AS-22 Dionex Lion Pac (2.00 mm)

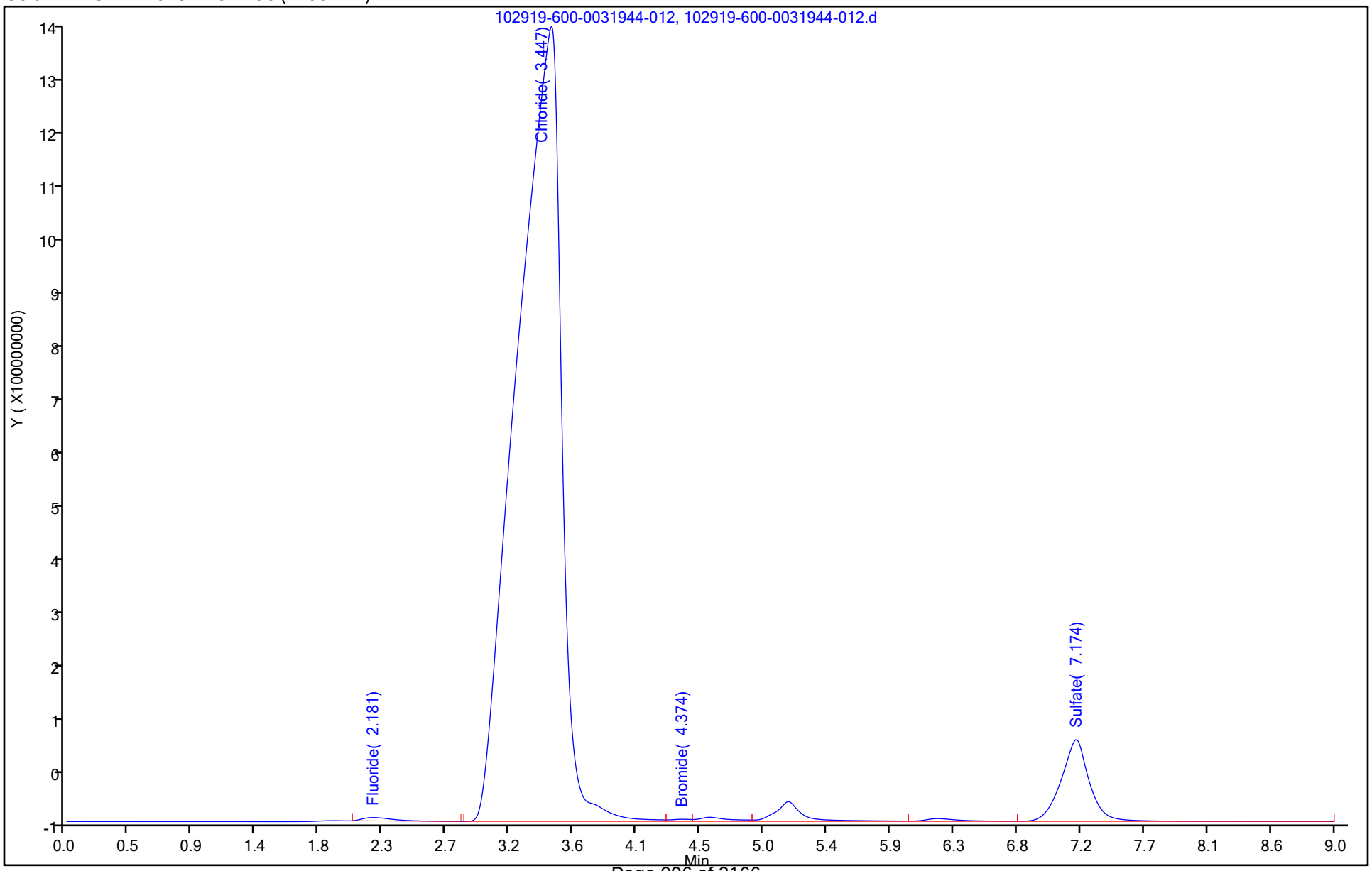

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-012.d				
Injection Date:	29-Oct-2019 08:00:00	Instrument ID:	CHWC17(IC)		
Lims ID:	600-194690-F-10 MS				
Client ID:	INF 4				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	12
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

2 Chloride, CAS: 16887-00-6

Signal: 1

Not Detected
Expected RT: 3.12

Processing Integration Results

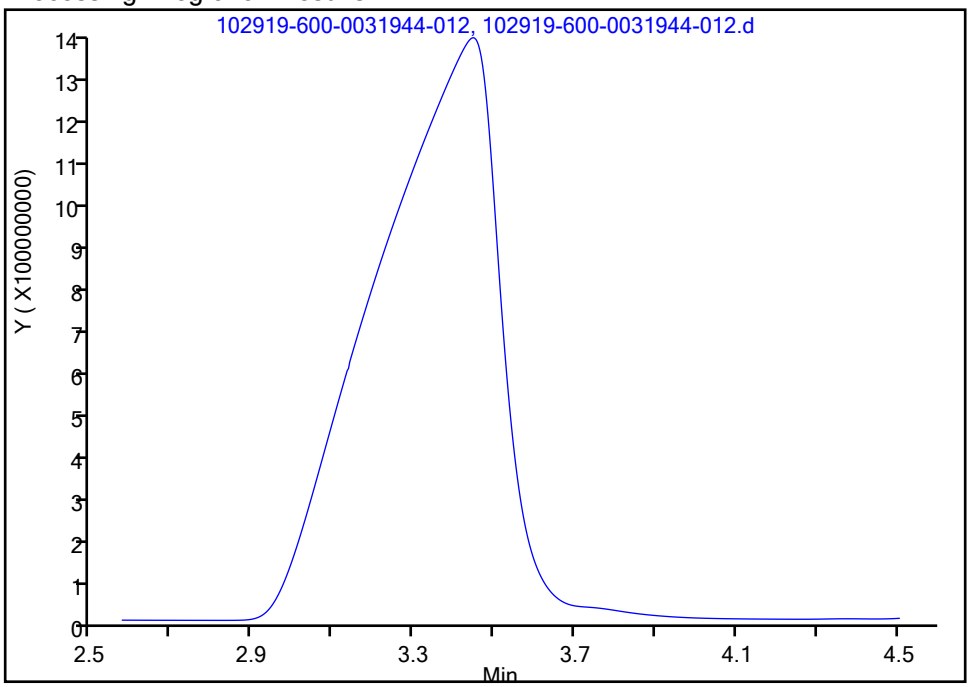

RT: 3.45
Area: 29342869442
Amount: 635.4600
Amount Units: ug/ml

Manual Integration Results

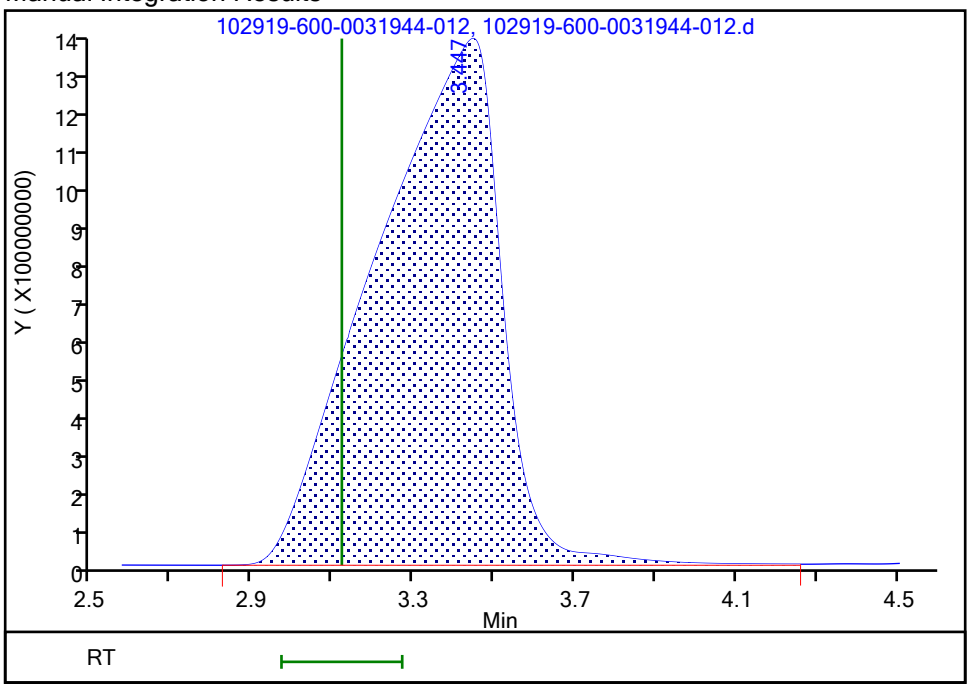

Reviewer: reachs, 30-Oct-2019 12:06:27
Audit Action: Assigned Compound ID Audit Reason:

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: INF 4 MS Lab Sample ID: 600-194690-10 MS

Matrix: Water Lab File ID: 102919-600-0031944-012.d

Analysis Method: 300.0 Date Collected: 10/25/2019 20:50

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 10/29/2019 08:00

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS22 ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 278777 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	ND		0.20	0.025
14797-65-0	Nitrite as N	ND		0.20	0.030

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-012.d
Lims ID: 600-194690-F-10 MS
Client ID: INF 4
Sample Type: MS
Inject. Date: 29-Oct-2019 08:00:00 ALS Bottle#: 0 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031944-012
Misc. Info.: 600-194690-f-10 ms
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 30-Oct-2019 12:43:28 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0337

First Level Reviewer: reachs Date: 30-Oct-2019 12:06:36

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.181	2.241	-0.060	81982150	NC	NC	
	2 Chloride	3.447	3.121	0.326	29342869442	NC	NC	a
	9 Nitrite as N		3.761			ND	ND	
	1 Bromide	4.374	4.397	-0.023	36283187	NC	NC	
	3 Nitrate as N		4.864			ND	ND	
	4 Orthophosphate as P		7.044				ND	
	5 Sulfate	7.174	7.101	0.073	1925863777	NC	NC	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N		0.000			2.00	ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
ND - Not Detected or Marked ND
Review Flags
a - User Assigned ID

Reagents:

ICSMS_00116 Amount Added: 0.25 Units: mL
ICSMS_00117 Amount Added: 0.25 Units: mL

Report Date: 30-Oct-2019 12:43:39 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-012.d				
Injection Date:	29-Oct-2019 08:00:00	Instrument ID:	CHWC17(IC)	Operator ID:	
Lims ID:	600-194690-F-10 MS			Worklist Smp#:	12
Client ID:	INF 4				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		

Column: AS-22 Dionex Lion Pac (2.00 mm)

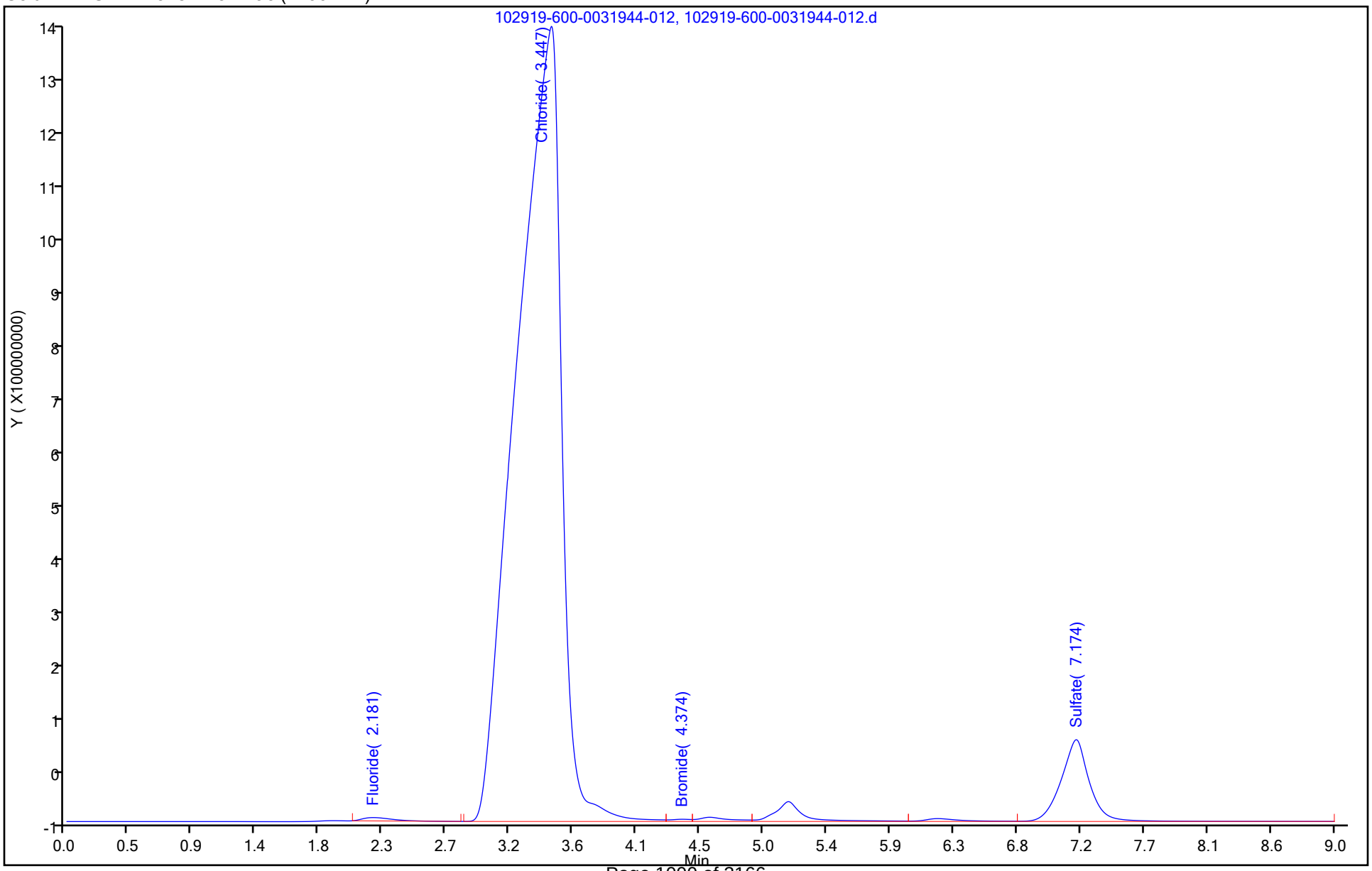

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: FEFF 1 MSD Lab Sample ID: 600-194690-3 MSD

Matrix: Water Lab File ID: 103119-600-0032001-012.d

Analysis Method: 300.0 Date Collected: 10/26/2019 12:45

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 10/31/2019 10:21

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS22 ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 279038 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	5.67		0.40	0.10
16984-48-8	Fluoride	1.43		0.20	0.060

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-012.d
Lims ID: 600-194690-A-3 MSD
Client ID:
Sample Type: MSD
Inject. Date: 31-Oct-2019 10:21:00 ALS Bottle#: 0 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032001-012
Misc. Info.: 600-194690-a-3 msd
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 01-Nov-2019 13:34:16 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0332

First Level Reviewer: reachs Date: 01-Nov-2019 12:14:17

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.154	2.214	-0.060	69589939	2.00	1.43	
	2 Chloride	3.411	3.071	0.340	31078572344	10.0	673.0	Ea
	9 Nitrite as N		3.694			ND	ND	
	1 Bromide	4.484	4.314	0.170	77210249	2.00	5.67	
	3 Nitrate as N	5.037	4.761	0.276	433917434	NC	NC	a
	5 Sulfate	7.077	6.857	0.220	2053840961	10.0	65.8	E
	4 Orthophosphate as P		7.044				ND	
S	8 Sulfate as Sulfur						65.8	
S	6 Nitrate Nitrite as N		0.000			2.00	ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
ND - Not Detected or Marked ND
E - Exceeded Maximum Amount
Review Flags
a - User Assigned ID

Reagents:

ICSMS_00118 Amount Added: 0.25 Units: mL
ICSMS_00119 Amount Added: 0.25 Units: mL

Report Date: 01-Nov-2019 13:34:59 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-012.d				
Injection Date:	31-Oct-2019 10:21:00	Instrument ID:	CHWC17(IC)	Operator ID:	
Lims ID:	600-194690-A-3 MSD			Worklist Smp#:	12
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		

Column: AS-22 Dionex Lion Pac (2.00 mm)

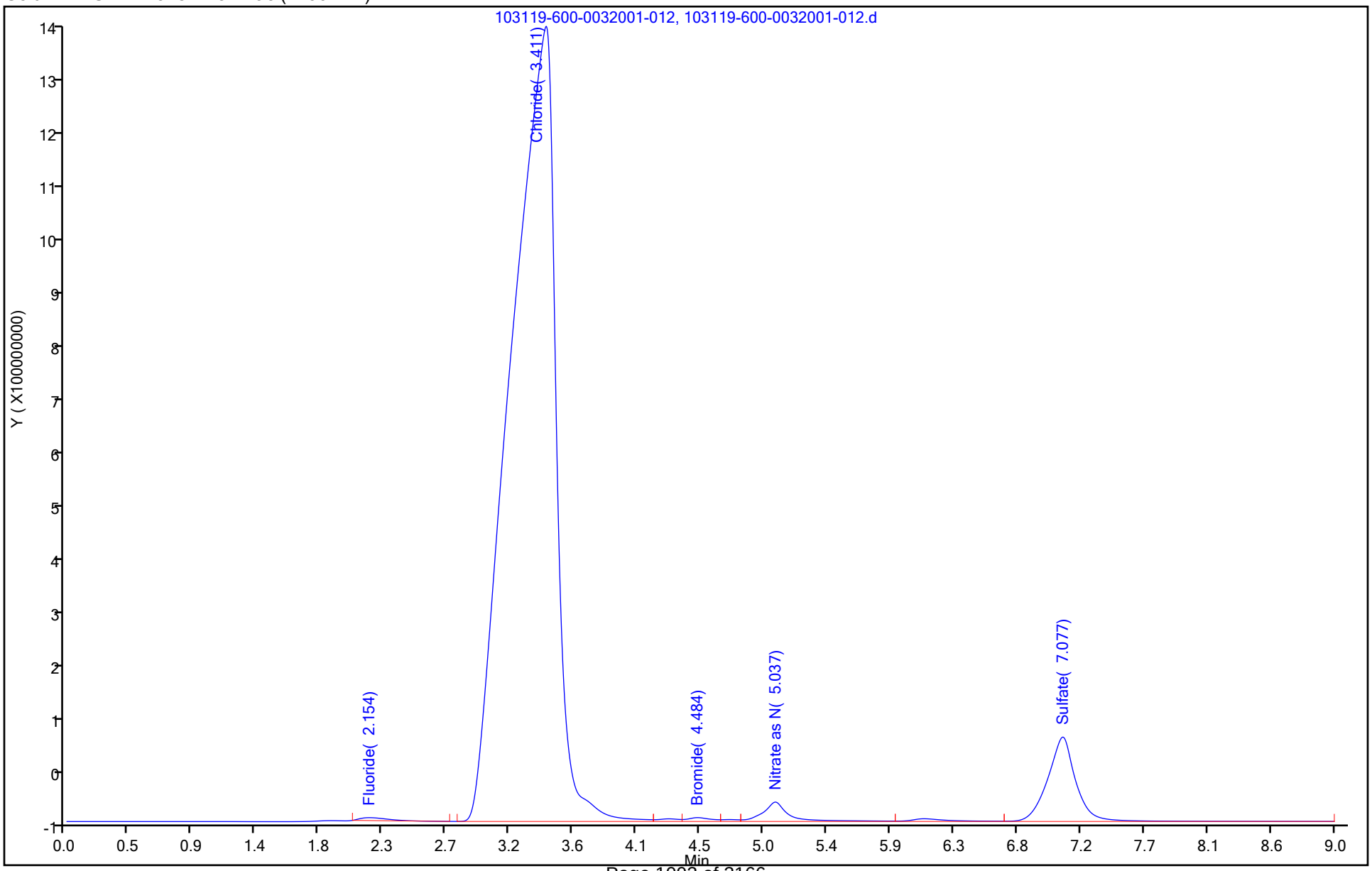

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: FEFF 1 MSD Lab Sample ID: 600-194690-3 MSD

Matrix: Water Lab File ID: 103119-600-0032001-012.d

Analysis Method: 300.0 Date Collected: 10/26/2019 12:45

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 10/31/2019 10:21

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS22 ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 279039 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	3.81		0.20	0.025
14797-65-0	Nitrite as N	ND		0.20	0.030

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-012.d
Lims ID: 600-194690-A-3 MSD
Client ID:
Sample Type: MSD
Inject. Date: 31-Oct-2019 10:21:00 ALS Bottle#: 0 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0032001-012
Misc. Info.: 600-194690-a-3 msd
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 01-Nov-2019 13:34:16 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0332

First Level Reviewer: reachs Date: 01-Nov-2019 12:14:17

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.154	2.214	-0.060	69589939	NC	NC	
	2 Chloride	3.411	3.071	0.340	31078572344	NC	NC	a
	9 Nitrite as N		3.694			ND	ND	
	1 Bromide	4.484	4.314	0.170	77210249	NC	NC	
	3 Nitrate as N	5.037	4.761	0.276	433917434	2.00	3.81	a
	5 Sulfate	7.077	6.857	0.220	2053840961	NC	NC	
	4 Orthophosphate as P		7.044				ND	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N					2.00	3.81	

QC Flag Legend

Processing Flags
NC - Not Calibrated
ND - Not Detected or Marked ND
Review Flags
a - User Assigned ID

Reagents:

ICSMS_00118 Amount Added: 0.25 Units: mL
ICSMS_00119 Amount Added: 0.25 Units: mL

Report Date: 01-Nov-2019 13:34:59 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-012.d				
Injection Date:	31-Oct-2019 10:21:00	Instrument ID:	CHWC17(IC)	Operator ID:	
Lims ID:	600-194690-A-3 MSD			Worklist Smp#:	12
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		

Column: AS-22 Dionex Lion Pac (2.00 mm)

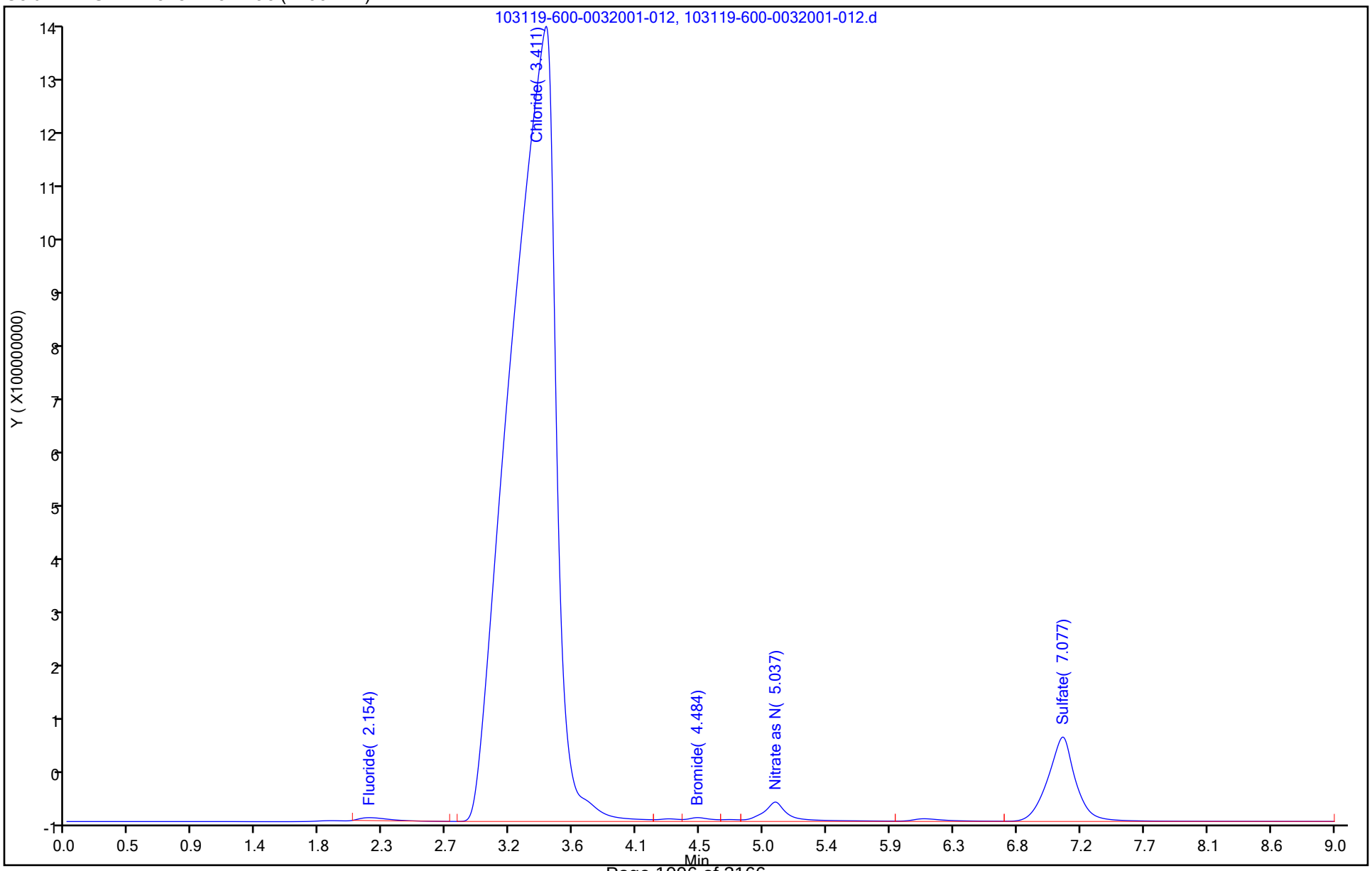

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191030-32001.b\103119-600-0032001-012.d				
Injection Date:	31-Oct-2019 10:21:00	Instrument ID:	CHWC17(IC)		
Lims ID:	600-194690-A-3 MSD				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	12
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

3 Nitrate as N, CAS: 14797-55-8

Signal: 1

Not Detected
Expected RT: 4.76

Processing Integration Results

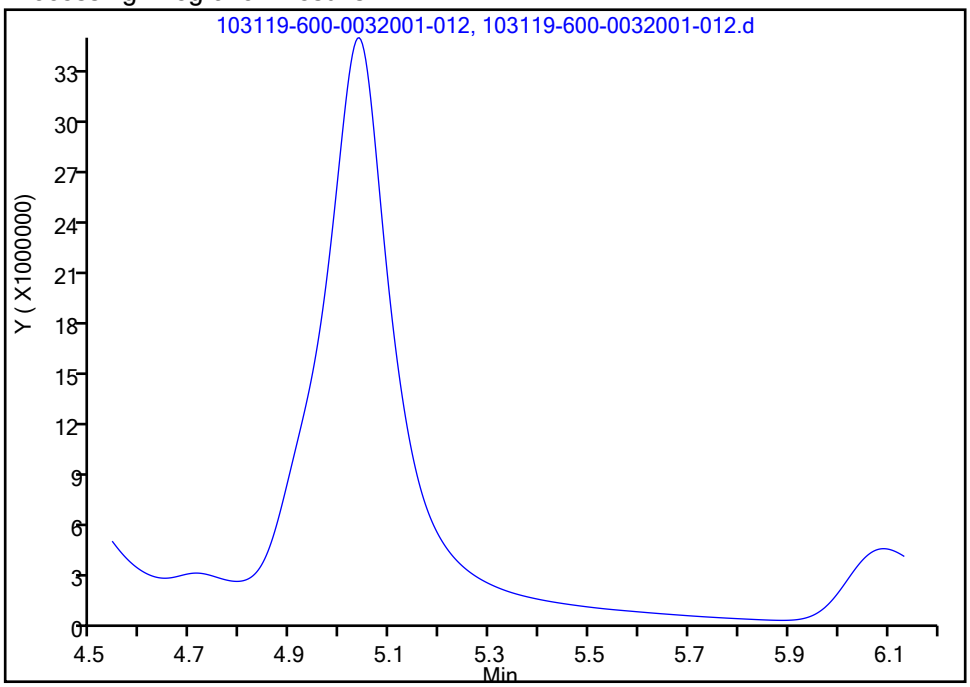

RT: 5.04
Area: 433917434
Amount: 3.808519
Amount Units: ug/ml

Manual Integration Results

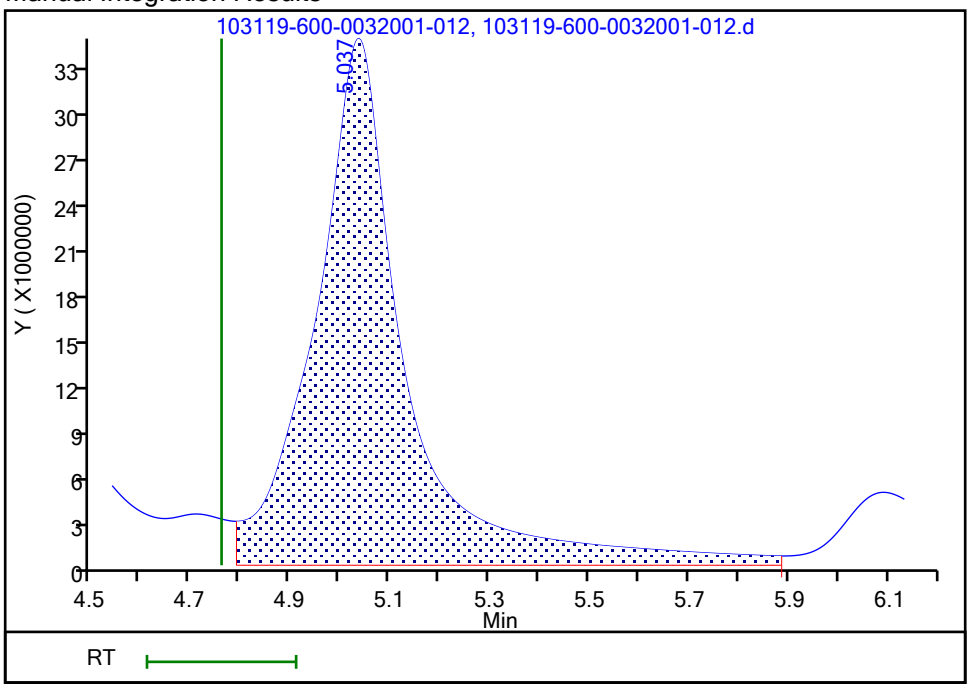

Reviewer: reachs, 01-Nov-2019 12:14:13
Audit Action: Assigned Compound ID Audit Reason:

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: INF 4 MSD Lab Sample ID: 600-194690-10 MSD

Matrix: Water Lab File ID: 102919-600-0031944-013.d

Analysis Method: 300.0 Date Collected: 10/25/2019 20:50

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 10/29/2019 08:10

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS22 ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 278776 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	2.66		0.40	0.10
16887-00-6	Chloride	635		0.40	0.053
14808-79-8	Sulfate	61.9		0.50	0.096
16984-48-8	Fluoride	1.66		0.20	0.060

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-013.d
Lims ID: 600-194690-F-10 MSD
Client ID: INF 4
Sample Type: MSD
Inject. Date: 29-Oct-2019 08:10:00 ALS Bottle#: 0 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031944-013
Misc. Info.: 600-194690-f-10 msd
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_28day
Last Update: 30-Oct-2019 12:43:28 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0337

First Level Reviewer: reachs Date: 30-Oct-2019 12:06:48

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.181	2.241	-0.060	82276220	2.00	1.66	
	2 Chloride	3.444	3.121	0.323	29329925082	10.0	635.2	Ea
	9 Nitrite as N		3.761			ND	ND	
	1 Bromide	4.364	4.397	-0.033	36318523	2.00	2.66	
	3 Nitrate as N		4.864			ND	ND	
	4 Orthophosphate as P		7.044				ND	
	5 Sulfate	7.171	7.101	0.070	1930420035	10.0	61.9	E
S	8 Sulfate as Sulfur						61.9	
S	6 Nitrate Nitrite as N		0.000			2.00	ND	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND
E - Exceeded Maximum Amount
Review Flags
a - User Assigned ID

Reagents:

ICSMS_00116 Amount Added: 0.25 Units: mL
ICSMS_00117 Amount Added: 0.25 Units: mL

Report Date: 30-Oct-2019 12:43:39 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-013.d				
Injection Date:	29-Oct-2019 08:10:00	Instrument ID:	CHWC17(IC)	Operator ID:	
Lims ID:	600-194690-F-10 MSD			Worklist Smp#:	13
Client ID:	INF 4				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		

Column: AS-22 Dionex Lion Pac (2.00 mm)

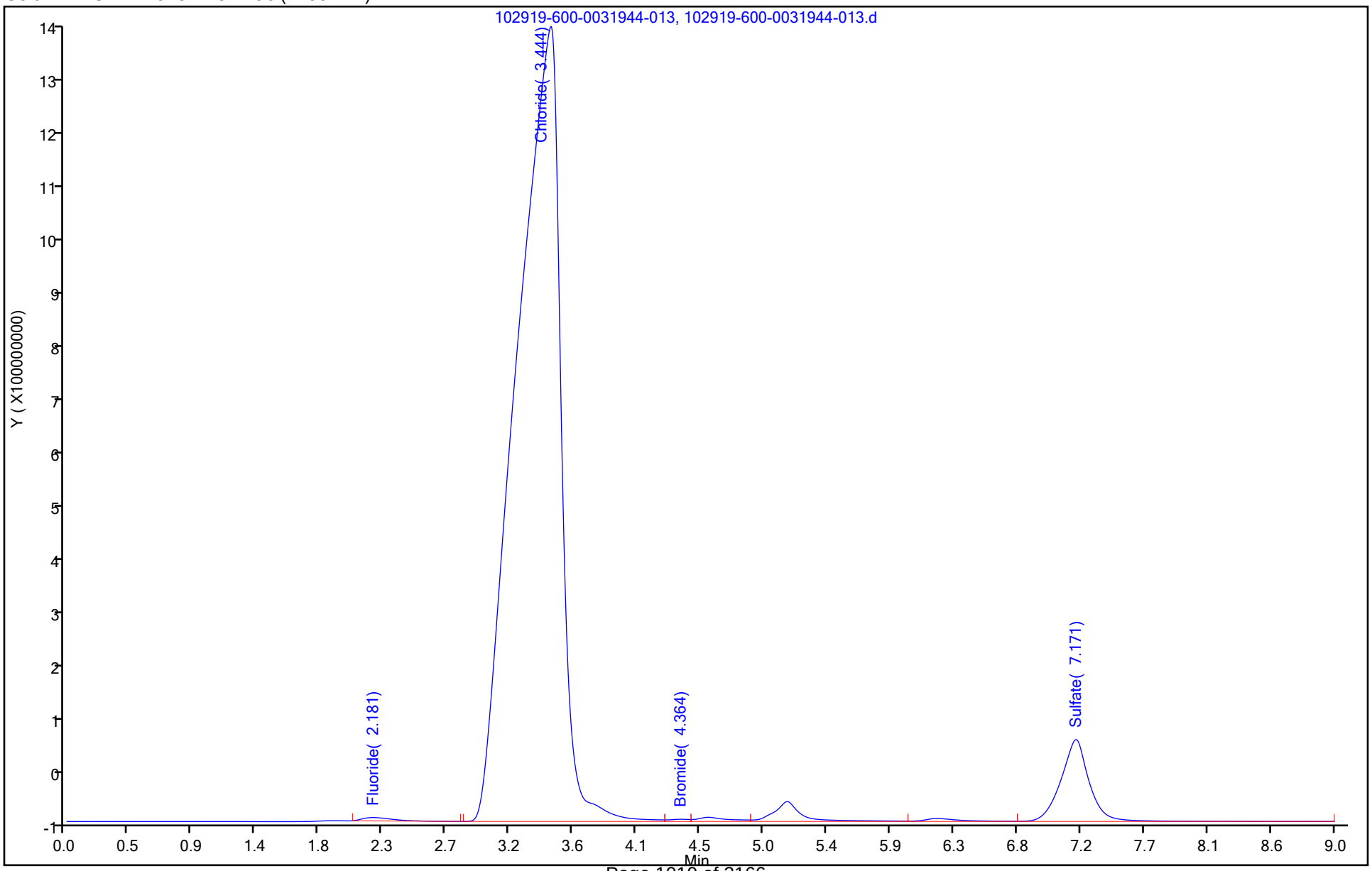

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-013.d				
Injection Date:	29-Oct-2019 08:10:00	Instrument ID:	CHWC17(IC)		
Lims ID:	600-194690-F-10 MSD				
Client ID:	INF 4				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_28day		
Column:	AS-22 Dionex Lion Pac (2.00 mm)	Detector	040914-1		

2 Chloride, CAS: 16887-00-6

Signal: 1

Not Detected
Expected RT: 3.12

Processing Integration Results

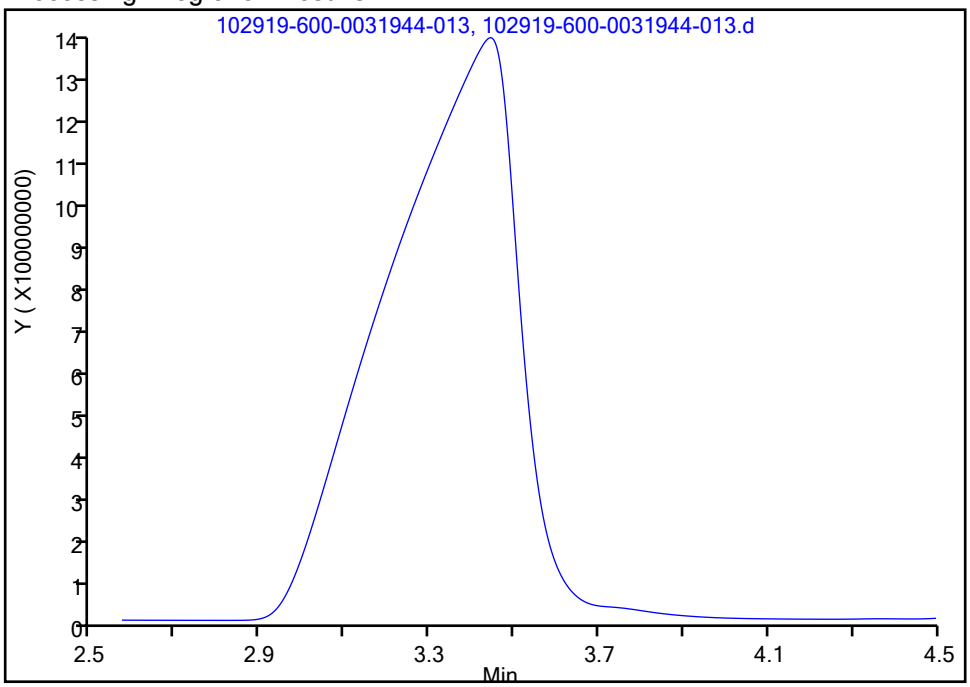

RT: 3.44
Area: 29329925082
Amount: 635.1797
Amount Units: ug/ml

Manual Integration Results

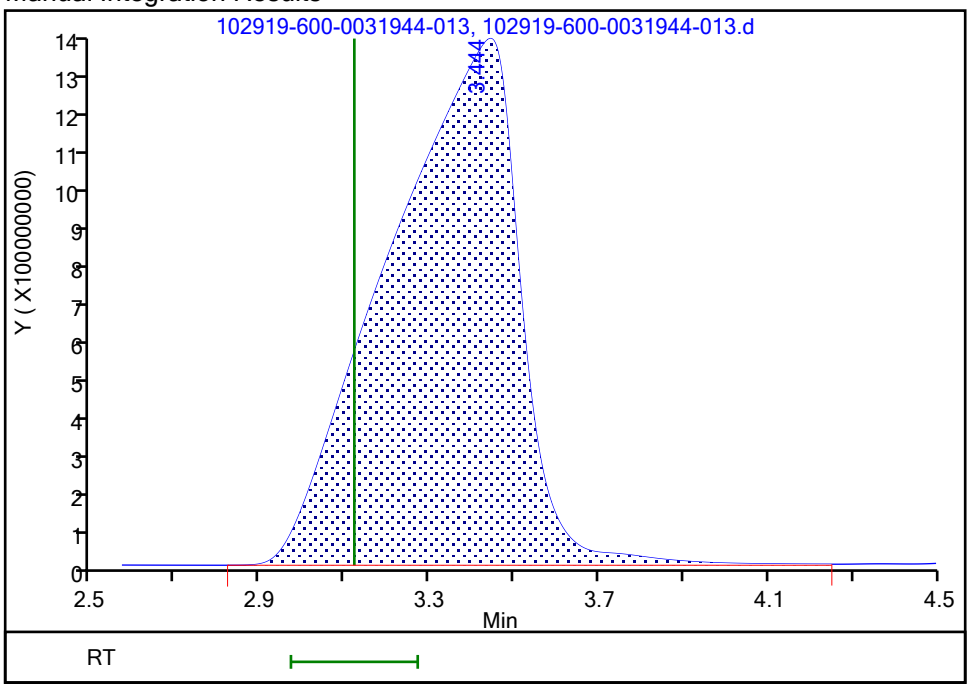

Reviewer: reachs, 30-Oct-2019 12:06:46
Audit Action: Assigned Compound ID Audit Reason:

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Client Sample ID: INF 4 MSD Lab Sample ID: 600-194690-10 MSD

Matrix: Water Lab File ID: 102919-600-0031944-013.d

Analysis Method: 300.0 Date Collected: 10/25/2019 20:50

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 10/29/2019 08:10

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS22 ID: 2(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 278777 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	ND		0.20	0.025
14797-65-0	Nitrite as N	ND		0.20	0.030

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-013.d
Lims ID: 600-194690-F-10 MSD
Client ID: INF 4
Sample Type: MSD
Inject. Date: 29-Oct-2019 08:10:00 ALS Bottle#: 0 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031944-013
Misc. Info.: 600-194690-f-10 msd
Operator ID: Instrument ID: CHWC17(IC)

Method: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\CHWC17(IC).m
Limit Group: WC - IC_300_9056_48hr
Last Update: 30-Oct-2019 12:43:28 Calib Date: 24-Oct-2019 14:43:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHWC17(IC)\20191024-31875.b\CAL102419-600-0031875-011.d

Column 1 : AS-22 Dionex Lion Pac (2.00 mm) Det: 040914-1
Process Host: CTX0337

First Level Reviewer: reachs Date: 30-Oct-2019 12:06:48

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	2.181	2.241	-0.060	82276220	NC	NC	
	2 Chloride	3.444	3.121	0.323	29329925082	NC	NC	a
	9 Nitrite as N		3.761			ND	ND	
	1 Bromide	4.364	4.397	-0.033	36318523	NC	NC	
	3 Nitrate as N		4.864			ND	ND	
	4 Orthophosphate as P		7.044				ND	
	5 Sulfate	7.171	7.101	0.070	1930420035	NC	NC	
S	8 Sulfate as Sulfur		0.000				ND	
S	6 Nitrate Nitrite as N		0.000			2.00	ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
ND - Not Detected or Marked ND
Review Flags
a - User Assigned ID

Reagents:

ICSMS_00116 Amount Added: 0.25 Units: mL
ICSMS_00117 Amount Added: 0.25 Units: mL

Report Date: 30-Oct-2019 12:43:39 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Houston

Data File:	\\ChromNA\Houston\ChromData\CHWC17(IC)\20191028-31944.b\102919-600-0031944-013.d				
Injection Date:	29-Oct-2019 08:10:00	Instrument ID:	CHWC17(IC)	Operator ID:	
Lims ID:	600-194690-F-10 MSD			Worklist Smp#:	13
Client ID:	INF 4				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	CHWC17(IC)	Limit Group:	WC - IC_300_9056_48hr		

Column: AS-22 Dionex Lion Pac (2.00 mm)

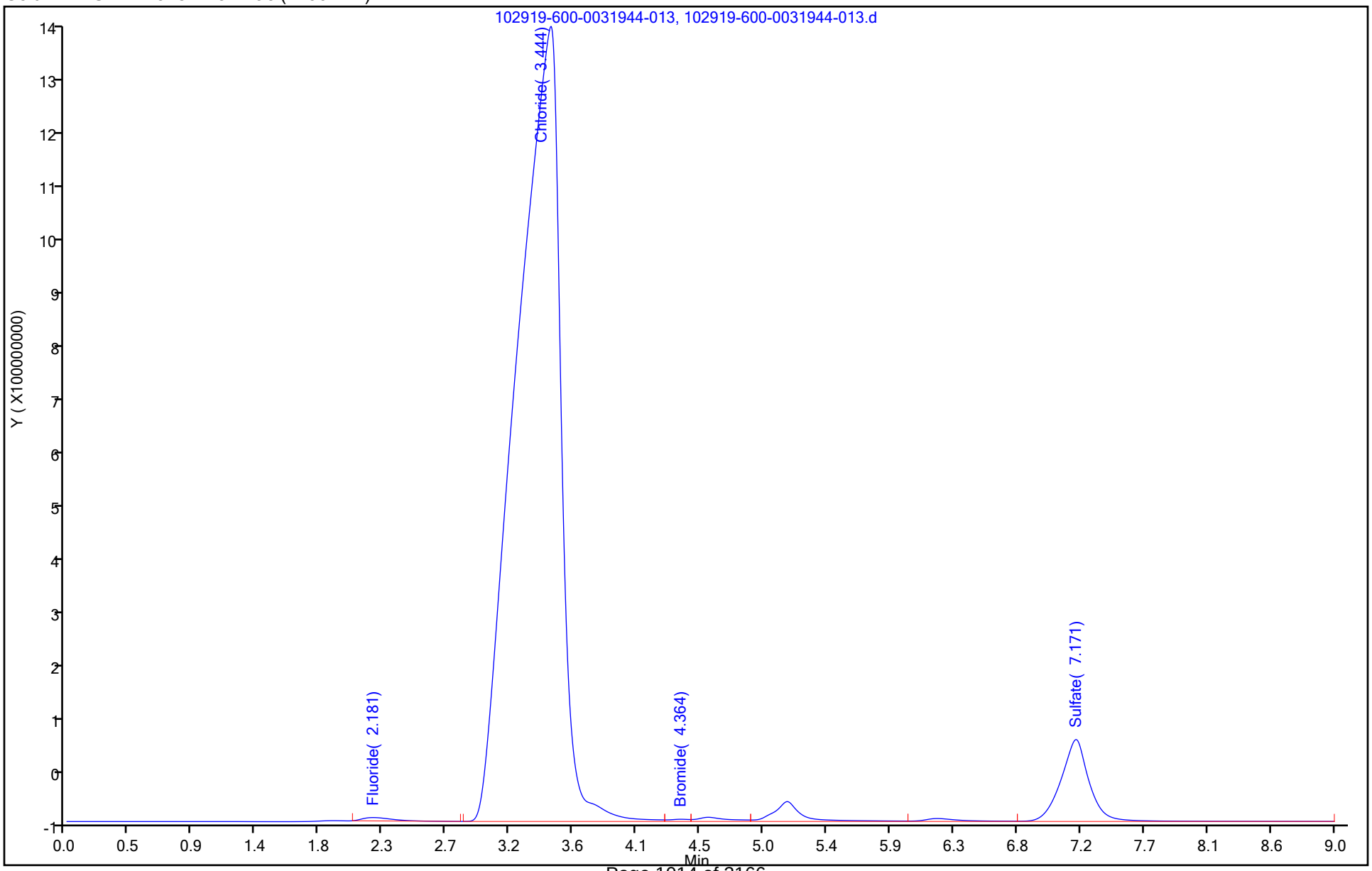

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC11 Start Date: 10/18/2019 16:34

Analysis Batch Number: 277958 End Date: 10/18/2019 19:38

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 600-277958/2		10/18/2019 16:34	1		AS-18
IC 600-277958/3		10/18/2019 16:55	1	CAL101819-3.d	AS-18
IC 600-277958/4		10/18/2019 17:15	1	CAL101819-4.d	AS-18
IC 600-277958/5		10/18/2019 17:36	1	CAL101819-5.d	AS-18
IC 600-277958/6		10/18/2019 17:56	1	CAL101819-6.d	AS-18
IC 600-277958/7		10/18/2019 18:16	1	CAL101819-7.d	AS-18
IC 600-277958/8		10/18/2019 18:37	1		AS-18
IC 600-277958/9		10/18/2019 18:57	1	CAL101819-9.d	AS-18
ICV 600-277958/10		10/18/2019 19:18	1		AS-18
ICB 600-277958/11		10/18/2019 19:38	1		AS-18

300.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC11 Start Date: 10/18/2019 16:34

Analysis Batch Number: 277959 End Date: 10/18/2019 19:38

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 600-277959/2		10/18/2019 16:34	1		AS-18
IC 600-277959/3		10/18/2019 16:55	1	CAL101819-3.d	AS-18
IC 600-277959/4		10/18/2019 17:15	1	CAL101819-4.d	AS-18
IC 600-277959/5		10/18/2019 17:36	1	CAL101819-5.d	AS-18
IC 600-277959/6		10/18/2019 17:56	1	CAL101819-6.d	AS-18
IC 600-277959/7		10/18/2019 18:16	1	CAL101819-7.d	AS-18
IC 600-277959/8		10/18/2019 18:37	1		AS-18
IC 600-277959/9		10/18/2019 18:57	1	CAL101819-9.d	AS-18
ICV 600-277959/10		10/18/2019 19:18	1		AS-18
ICB 600-277959/11		10/18/2019 19:38	1		AS-18

300.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC17(IC) Start Date: 10/24/2019 13:27

Analysis Batch Number: 278508 End Date: 10/24/2019 15:04

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 600-278508/4		10/24/2019 13:27	1		AS22 2(mm)
IC 600-278508/5		10/24/2019 13:38	1	CAL102419-600-0 031875-005.d	AS22 2(mm)
IC 600-278508/6		10/24/2019 13:49	1	CAL102419-600-0 031875-006.d	AS22 2(mm)
IC 600-278508/7		10/24/2019 14:00	1	CAL102419-600-0 031875-007.d	AS22 2(mm)
IC 600-278508/8		10/24/2019 14:11	1	CAL102419-600-0 031875-008.d	AS22 2(mm)
IC 600-278508/9		10/24/2019 14:21	1	CAL102419-600-0 031875-009.d	AS22 2(mm)
IC 600-278508/10		10/24/2019 14:32	1	CAL102419-600-0 031875-010.d	AS22 2(mm)
IC 600-278508/11		10/24/2019 14:43	1	CAL102419-600-0 031875-011.d	AS22 2(mm)
ICV 600-278508/12		10/24/2019 14:54	1		AS22 2(mm)
ICB 600-278508/13		10/24/2019 15:04	1		AS22 2(mm)

300.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC17(IC) Start Date: 10/24/2019 13:27

Analysis Batch Number: 278509 End Date: 10/24/2019 15:04

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 600-278509/4		10/24/2019 13:27	1		AS22 2(mm)
IC 600-278509/5		10/24/2019 13:38	1	CAL102419-600-0 031875-005.d	AS22 2(mm)
IC 600-278509/6		10/24/2019 13:49	1	CAL102419-600-0 031875-006.d	AS22 2(mm)
IC 600-278509/7		10/24/2019 14:00	1	CAL102419-600-0 031875-007.d	AS22 2(mm)
IC 600-278509/8		10/24/2019 14:11	1	CAL102419-600-0 031875-008.d	AS22 2(mm)
IC 600-278509/9		10/24/2019 14:21	1	CAL102419-600-0 031875-009.d	AS22 2(mm)
IC 600-278509/10		10/24/2019 14:32	1	CAL102419-600-0 031875-010.d	AS22 2(mm)
IC 600-278509/11		10/24/2019 14:43	1	CAL102419-600-0 031875-011.d	AS22 2(mm)
ICV 600-278509/12		10/24/2019 14:54	1		AS22 2(mm)
ICB 600-278509/13		10/24/2019 15:04	1		AS22 2(mm)

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC17(IC) Start Date: 10/29/2019 02:42

Analysis Batch Number: 278776 End Date: 10/29/2019 15:08

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 600-278776/4		10/29/2019 02:42	1	102919-600-0031 944-004.d	AS22 2(mm)
CCB 600-278776/5		10/29/2019 02:53	1	102919-600-0031 944-005.d	AS22 2(mm)
MB 600-278776/6		10/29/2019 03:03	1	102919-600-0031 944-006.d	AS22 2(mm)
LCS 600-278776/7		10/29/2019 03:14	1	102919-600-0031 944-007.d	AS22 2(mm)
ZZZZZ		10/29/2019 07:17	100		AS22 2(mm)
ZZZZZ		10/29/2019 07:27	1		AS22 2(mm)
600-194690-8		10/29/2019 07:38	1	102919-600-0031 944-010.d	AS22 2(mm)
600-194690-10		10/29/2019 07:49	1	102919-600-0031 944-011.d	AS22 2(mm)
600-194690-10 MS		10/29/2019 08:00	1	102919-600-0031 944-012.d	AS22 2(mm)
600-194690-10 MSD		10/29/2019 08:10	1	102919-600-0031 944-013.d	AS22 2(mm)
ZZZZZ		10/29/2019 09:09	1		AS22 2(mm)
ZZZZZ		10/29/2019 09:20	1		AS22 2(mm)
CCV 600-278776/16		10/29/2019 09:31	1	102919-600-0031 944-016.d	AS22 2(mm)
CCB 600-278776/17		10/29/2019 09:41	1	102919-600-0031 944-017.d	AS22 2(mm)
ZZZZZ		10/29/2019 09:52	1		AS22 2(mm)
ZZZZZ		10/29/2019 10:06	20		AS22 2(mm)
ZZZZZ		10/29/2019 10:17	1		AS22 2(mm)
ZZZZZ		10/29/2019 10:27	20		AS22 2(mm)
ZZZZZ		10/29/2019 10:38	1		AS22 2(mm)
ZZZZZ		10/29/2019 10:49	20		AS22 2(mm)
ZZZZZ		10/29/2019 11:00	20		AS22 2(mm)
ZZZZZ		10/29/2019 11:10	20		AS22 2(mm)
ZZZZZ		10/29/2019 11:21	5000		AS22 2(mm)
ZZZZZ		10/29/2019 11:32	5000		AS22 2(mm)
CCV 600-278776/28		10/29/2019 11:43	1		AS22 2(mm)
CCB 600-278776/29		10/29/2019 11:53	1		AS22 2(mm)
ZZZZZ		10/29/2019 12:04	20		AS22 2(mm)
ZZZZZ		10/29/2019 12:15	20		AS22 2(mm)
ZZZZZ		10/29/2019 12:26	20		AS22 2(mm)
ZZZZZ		10/29/2019 12:37	20		AS22 2(mm)
ZZZZZ		10/29/2019 12:48	1		AS22 2(mm)
ZZZZZ		10/29/2019 12:58	1		AS22 2(mm)
ZZZZZ		10/29/2019 13:09	1		AS22 2(mm)
ZZZZZ		10/29/2019 13:20	1		AS22 2(mm)
ZZZZZ		10/29/2019 13:31	1		AS22 2(mm)
ZZZZZ		10/29/2019 13:41	1		AS22 2(mm)
CCV 600-278776/40		10/29/2019 13:52	1		AS22 2(mm)
CCB 600-278776/41		10/29/2019 14:03	1		AS22 2(mm)
ZZZZZ		10/29/2019 14:14	1		AS22 2(mm)
ZZZZZ		10/29/2019 14:25	10		AS22 2(mm)
ZZZZZ		10/29/2019 14:35	10		AS22 2(mm)

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HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC17(IC) Start Date: 10/29/2019 02:42

Analysis Batch Number: 278776 End Date: 10/29/2019 15:08

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		10/29/2019 14:46	10		AS22 2(mm)
CCV 600-278776/46		10/29/2019 14:57	1		AS22 2(mm)
CCB 600-278776/47		10/29/2019 15:08	1		AS22 2(mm)

300.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC17(IC) Start Date: 10/29/2019 02:42

Analysis Batch Number: 278777 End Date: 10/29/2019 15:08

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 600-278777/4		10/29/2019 02:42	1	102919-600-0031 944-004.d	AS22 2(mm)
CCB 600-278777/5		10/29/2019 02:53	1	102919-600-0031 944-005.d	AS22 2(mm)
MB 600-278777/6		10/29/2019 03:03	1	102919-600-0031 944-006.d	AS22 2(mm)
LCS 600-278777/7		10/29/2019 03:14	1	102919-600-0031 944-007.d	AS22 2(mm)
ZZZZZ		10/29/2019 07:17	100		AS22 2(mm)
ZZZZZ		10/29/2019 07:27	1		AS22 2(mm)
600-194690-8		10/29/2019 07:38	1	102919-600-0031 944-010.d	AS22 2(mm)
600-194690-10		10/29/2019 07:49	1	102919-600-0031 944-011.d	AS22 2(mm)
600-194690-10 MS		10/29/2019 08:00	1	102919-600-0031 944-012.d	AS22 2(mm)
600-194690-10 MSD		10/29/2019 08:10	1	102919-600-0031 944-013.d	AS22 2(mm)
ZZZZZ		10/29/2019 09:09	1		AS22 2(mm)
ZZZZZ		10/29/2019 09:20	1		AS22 2(mm)
CCV 600-278777/16		10/29/2019 09:31	1	102919-600-0031 944-016.d	AS22 2(mm)
CCB 600-278777/17		10/29/2019 09:41	1	102919-600-0031 944-017.d	AS22 2(mm)
ZZZZZ		10/29/2019 09:52	1		AS22 2(mm)
ZZZZZ		10/29/2019 12:48	1		AS22 2(mm)
ZZZZZ		10/29/2019 12:58	1		AS22 2(mm)
ZZZZZ		10/29/2019 13:09	1		AS22 2(mm)
ZZZZZ		10/29/2019 13:20	1		AS22 2(mm)
ZZZZZ		10/29/2019 13:31	1		AS22 2(mm)
ZZZZZ		10/29/2019 13:41	1		AS22 2(mm)
CCV 600-278777/40		10/29/2019 13:52	1		AS22 2(mm)
CCB 600-278777/41		10/29/2019 14:03	1		AS22 2(mm)
ZZZZZ		10/29/2019 14:14	1		AS22 2(mm)
ZZZZZ		10/29/2019 14:25	10		AS22 2(mm)
ZZZZZ		10/29/2019 14:35	10		AS22 2(mm)
ZZZZZ		10/29/2019 14:46	10		AS22 2(mm)
CCV 600-278777/46		10/29/2019 14:57	1		AS22 2(mm)
CCB 600-278777/47		10/29/2019 15:08	1		AS22 2(mm)

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC17(IC) Start Date: 10/30/2019 06:12

Analysis Batch Number: 278901 End Date: 10/30/2019 17:03

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 600-278901/4		10/30/2019 06:12	1	103019-600-0031 972-004.d	AS22 2(mm)
CCB 600-278901/5		10/30/2019 06:23	1	103019-600-0031 972-005.d	AS22 2(mm)
MB 600-278901/6		10/30/2019 06:34	1	103019-600-0031 972-006.d	AS22 2(mm)
LCS 600-278901/7		10/30/2019 06:45	1	103019-600-0031 972-007.d	AS22 2(mm)
ZZZZZ		10/30/2019 09:42	1		AS22 2(mm)
ZZZZZ		10/30/2019 09:52	1		AS22 2(mm)
ZZZZZ		10/30/2019 10:03	1		AS22 2(mm)
ZZZZZ		10/30/2019 10:14	1		AS22 2(mm)
ZZZZZ		10/30/2019 10:25	1		AS22 2(mm)
ZZZZZ		10/30/2019 10:36	1		AS22 2(mm)
ZZZZZ		10/30/2019 10:46	1		AS22 2(mm)
ZZZZZ		10/30/2019 10:57	1		AS22 2(mm)
CCV 600-278901/16		10/30/2019 11:08	1	103019-600-0031 972-016.d	AS22 2(mm)
CCB 600-278901/17		10/30/2019 11:19	1	103019-600-0031 972-017.d	AS22 2(mm)
ZZZZZ		10/30/2019 11:29	1		AS22 2(mm)
ZZZZZ		10/30/2019 11:40	1		AS22 2(mm)
ZZZZZ		10/30/2019 11:51	1		AS22 2(mm)
600-194690-8		10/30/2019 12:02	20	103019-600-0031 972-021.d	AS22 2(mm)
600-194690-10		10/30/2019 12:12	20	103019-600-0031 972-022.d	AS22 2(mm)
ZZZZZ		10/30/2019 12:23	100		AS22 2(mm)
ZZZZZ		10/30/2019 12:55	1		AS22 2(mm)
ZZZZZ		10/30/2019 13:06	1		AS22 2(mm)
CCV 600-278901/28		10/30/2019 13:17	1	103019-600-0031 972-028.d	AS22 2(mm)
CCB 600-278901/29		10/30/2019 13:28	1	103019-600-0031 972-029.d	AS22 2(mm)
ZZZZZ		10/30/2019 13:38	1		AS22 2(mm)
ZZZZZ		10/30/2019 13:49	1		AS22 2(mm)
600-194690-1		10/30/2019 14:00	1	103019-600-0031 972-032.d	AS22 2(mm)
ZZZZZ		10/30/2019 14:11	1		AS22 2(mm)
ZZZZZ		10/30/2019 14:22	1		AS22 2(mm)
ZZZZZ		10/30/2019 14:32	1		AS22 2(mm)
ZZZZZ		10/30/2019 14:43	1		AS22 2(mm)
MB 600-278901/37		10/30/2019 14:54	1	103019-600-0031 972-037.d	AS22 2(mm)
LCS 600-278901/38		10/30/2019 15:05	1	103019-600-0031 972-038.d	AS22 2(mm)
ZZZZZ		10/30/2019 15:15	1		AS22 2(mm)
CCV 600-278901/40		10/30/2019 15:26	1	103019-600-0031 972-040.d	AS22 2(mm)
CCB 600-278901/41		10/30/2019 15:37	1	103019-600-0031 972-041.d	AS22 2(mm)
ZZZZZ		10/30/2019 15:48	1		AS22 2(mm)
ZZZZZ		10/30/2019 15:58	1		AS22 2(mm)

300.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC17(IC) Start Date: 10/30/2019 06:12

Analysis Batch Number: 278901 End Date: 10/30/2019 17:03

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		10/30/2019 16:09	1		AS22 2(mm)
ZZZZZ		10/30/2019 16:20	1		AS22 2(mm)
ZZZZZ		10/30/2019 16:31	1		AS22 2(mm)
ZZZZZ		10/30/2019 16:42	20		AS22 2(mm)
CCV 600-278901/48		10/30/2019 16:52	1	103019-600-0031 972-048.d	AS22 2(mm)
CCB 600-278901/49		10/30/2019 17:03	1	103019-600-0031 972-049.d	AS22 2(mm)

300.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC17(IC) Start Date: 10/30/2019 06:12

Analysis Batch Number: 278902 End Date: 10/30/2019 17:03

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 600-278902/4		10/30/2019 06:12	1	103019-600-0031 972-004.d	AS22 2(mm)
CCB 600-278902/5		10/30/2019 06:23	1	103019-600-0031 972-005.d	AS22 2(mm)
MB 600-278902/6		10/30/2019 06:34	1	103019-600-0031 972-006.d	AS22 2(mm)
LCS 600-278902/7		10/30/2019 06:45	1	103019-600-0031 972-007.d	AS22 2(mm)
ZZZZZ		10/30/2019 09:42	1		AS22 2(mm)
ZZZZZ		10/30/2019 09:52	1		AS22 2(mm)
ZZZZZ		10/30/2019 10:03	1		AS22 2(mm)
ZZZZZ		10/30/2019 10:14	1		AS22 2(mm)
ZZZZZ		10/30/2019 10:25	1		AS22 2(mm)
ZZZZZ		10/30/2019 10:36	1		AS22 2(mm)
ZZZZZ		10/30/2019 10:46	1		AS22 2(mm)
ZZZZZ		10/30/2019 10:57	1		AS22 2(mm)
CCV 600-278902/16		10/30/2019 11:08	1	103019-600-0031 972-016.d	AS22 2(mm)
CCB 600-278902/17		10/30/2019 11:19	1	103019-600-0031 972-017.d	AS22 2(mm)
ZZZZZ		10/30/2019 11:29	1		AS22 2(mm)
ZZZZZ		10/30/2019 11:40	1		AS22 2(mm)
ZZZZZ		10/30/2019 11:51	1		AS22 2(mm)
600-194690-8		10/30/2019 12:02	20	103019-600-0031 972-021.d	AS22 2(mm)
600-194690-10		10/30/2019 12:12	20	103019-600-0031 972-022.d	AS22 2(mm)
ZZZZZ		10/30/2019 12:23	100		AS22 2(mm)
ZZZZZ		10/30/2019 12:34	1		AS22 2(mm)
ZZZZZ		10/30/2019 12:45	1		AS22 2(mm)
ZZZZZ		10/30/2019 12:55	1		AS22 2(mm)
ZZZZZ		10/30/2019 13:06	1		AS22 2(mm)
CCV 600-278902/28		10/30/2019 13:17	1	103019-600-0031 972-028.d	AS22 2(mm)
CCB 600-278902/29		10/30/2019 13:28	1	103019-600-0031 972-029.d	AS22 2(mm)
ZZZZZ		10/30/2019 13:38	1		AS22 2(mm)
ZZZZZ		10/30/2019 13:49	1		AS22 2(mm)
600-194690-1		10/30/2019 14:00	1	103019-600-0031 972-032.d	AS22 2(mm)
ZZZZZ		10/30/2019 14:11	1		AS22 2(mm)
ZZZZZ		10/30/2019 14:22	1		AS22 2(mm)
ZZZZZ		10/30/2019 14:32	1		AS22 2(mm)
ZZZZZ		10/30/2019 14:43	1		AS22 2(mm)
MB 600-278902/37		10/30/2019 14:54	1	103019-600-0031 972-037.d	AS22 2(mm)
LCS 600-278902/38		10/30/2019 15:05	1	103019-600-0031 972-038.d	AS22 2(mm)
ZZZZZ		10/30/2019 15:15	1		AS22 2(mm)
CCV 600-278902/40		10/30/2019 15:26	1	103019-600-0031 972-040.d	AS22 2(mm)
CCB 600-278902/41		10/30/2019 15:37	1	103019-600-0031 972-041.d	AS22 2(mm)

300.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC17(IC) Start Date: 10/30/2019 06:12

Analysis Batch Number: 278902 End Date: 10/30/2019 17:03

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		10/30/2019 15:48	1		AS22 2(mm)
ZZZZZ		10/30/2019 15:58	1		AS22 2(mm)
ZZZZZ		10/30/2019 16:09	1		AS22 2(mm)
ZZZZZ		10/30/2019 16:20	1		AS22 2(mm)
CCV 600-278902/48		10/30/2019 16:52	1	103019-600-0031 972-048.d	AS22 2(mm)
CCB 600-278902/49		10/30/2019 17:03	1	103019-600-0031 972-049.d	AS22 2(mm)

300.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC17(IC) Start Date: 10/31/2019 04:17

Analysis Batch Number: 279038 End Date: 10/31/2019 15:49

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 600-279038/4		10/31/2019 04:17	1	103119-600-0032 001-004.d	AS22 2(mm)
CCB 600-279038/5		10/31/2019 04:27	1	103119-600-0032 001-005.d	AS22 2(mm)
MB 600-279038/6		10/31/2019 04:38	1	103119-600-0032 001-006.d	AS22 2(mm)
LCS 600-279038/7		10/31/2019 04:49	1	103119-600-0032 001-007.d	AS22 2(mm)
ZZZZZ		10/31/2019 05:40	10		AS22 2(mm)
ZZZZZ		10/31/2019 05:51	10		AS22 2(mm)
600-194690-3		10/31/2019 10:00	1	103119-600-0032 001-010.d	AS22 2(mm)
600-194690-3 MS		10/31/2019 10:10	1	103119-600-0032 001-011.d	AS22 2(mm)
600-194690-3 MSD		10/31/2019 10:21	1	103119-600-0032 001-012.d	AS22 2(mm)
ZZZZZ		10/31/2019 10:32	1		AS22 2(mm)
ZZZZZ		10/31/2019 10:43	20		AS22 2(mm)
ZZZZZ		10/31/2019 10:53	50		AS22 2(mm)
CCV 600-279038/16		10/31/2019 11:31	1	103119-600-0032 001-016.d	AS22 2(mm)
CCB 600-279038/17		10/31/2019 11:41	1	103119-600-0032 001-017.d	AS22 2(mm)
ZZZZZ		10/31/2019 11:52	20		AS22 2(mm)
ZZZZZ		10/31/2019 12:03	20		AS22 2(mm)
600-194690-1		10/31/2019 12:14	20	103119-600-0032 001-020.d	AS22 2(mm)
ZZZZZ		10/31/2019 12:25	50		AS22 2(mm)
ZZZZZ		10/31/2019 12:35	50		AS22 2(mm)
ZZZZZ		10/31/2019 12:46	50		AS22 2(mm)
ZZZZZ		10/31/2019 12:57	50		AS22 2(mm)
ZZZZZ		10/31/2019 13:08	50		AS22 2(mm)
ZZZZZ		10/31/2019 13:18	50		AS22 2(mm)
ZZZZZ		10/31/2019 13:29	50		AS22 2(mm)
CCV 600-279038/28		10/31/2019 13:40	1	103119-600-0032 001-028.d	AS22 2(mm)
CCB 600-279038/29		10/31/2019 13:51	1	103119-600-0032 001-029.d	AS22 2(mm)
ZZZZZ		10/31/2019 14:01	1		AS22 2(mm)
ZZZZZ		10/31/2019 14:12	1		AS22 2(mm)
ZZZZZ		10/31/2019 14:23	1		AS22 2(mm)
ZZZZZ		10/31/2019 14:34	1		AS22 2(mm)
ZZZZZ		10/31/2019 14:44	1		AS22 2(mm)
ZZZZZ		10/31/2019 14:55	1		AS22 2(mm)
ZZZZZ		10/31/2019 15:06	2		AS22 2(mm)
ZZZZZ		10/31/2019 15:17	2		AS22 2(mm)
ZZZZZ		10/31/2019 15:27	2		AS22 2(mm)
CCV 600-279038/39		10/31/2019 15:38	1		AS22 2(mm)
CCB 600-279038/40		10/31/2019 15:49	1		AS22 2(mm)

300.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC17(IC) Start Date: 10/31/2019 04:17

Analysis Batch Number: 279039 End Date: 10/31/2019 15:49

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 600-279039/4		10/31/2019 04:17	1	103119-600-0032 001-004.d	AS22 2(mm)
CCB 600-279039/5		10/31/2019 04:27	1	103119-600-0032 001-005.d	AS22 2(mm)
MB 600-279039/6		10/31/2019 04:38	1	103119-600-0032 001-006.d	AS22 2(mm)
LCS 600-279039/7		10/31/2019 04:49	1	103119-600-0032 001-007.d	AS22 2(mm)
600-194690-3		10/31/2019 10:00	1	103119-600-0032 001-010.d	AS22 2(mm)
600-194690-3 MS		10/31/2019 10:10	1	103119-600-0032 001-011.d	AS22 2(mm)
600-194690-3 MSD		10/31/2019 10:21	1	103119-600-0032 001-012.d	AS22 2(mm)
ZZZZZ		10/31/2019 10:32	1		AS22 2(mm)
ZZZZZ		10/31/2019 10:43	20		AS22 2(mm)
ZZZZZ		10/31/2019 10:53	50		AS22 2(mm)
CCV 600-279039/16		10/31/2019 11:31	1	103119-600-0032 001-016.d	AS22 2(mm)
CCB 600-279039/17		10/31/2019 11:41	1	103119-600-0032 001-017.d	AS22 2(mm)
ZZZZZ		10/31/2019 11:52	20		AS22 2(mm)
ZZZZZ		10/31/2019 12:03	20		AS22 2(mm)
600-194690-1		10/31/2019 12:14	20	103119-600-0032 001-020.d	AS22 2(mm)
ZZZZZ		10/31/2019 12:25	50		AS22 2(mm)
ZZZZZ		10/31/2019 12:35	50		AS22 2(mm)
ZZZZZ		10/31/2019 12:46	50		AS22 2(mm)
ZZZZZ		10/31/2019 12:57	50		AS22 2(mm)
ZZZZZ		10/31/2019 13:08	50		AS22 2(mm)
ZZZZZ		10/31/2019 13:18	50		AS22 2(mm)
ZZZZZ		10/31/2019 13:29	50		AS22 2(mm)
CCV 600-279039/28		10/31/2019 13:40	1	103119-600-0032 001-028.d	AS22 2(mm)
CCB 600-279039/29		10/31/2019 13:51	1	103119-600-0032 001-029.d	AS22 2(mm)
ZZZZZ		10/31/2019 14:01	1		AS22 2(mm)
ZZZZZ		10/31/2019 14:12	1		AS22 2(mm)
ZZZZZ		10/31/2019 14:23	1		AS22 2(mm)
ZZZZZ		10/31/2019 14:34	1		AS22 2(mm)
CCV 600-279039/39		10/31/2019 15:38	1		AS22 2(mm)
CCB 600-279039/40		10/31/2019 15:49	1		AS22 2(mm)

300.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC11 Start Date: 11/01/2019 10:35

Analysis Batch Number: 279165 End Date: 11/02/2019 06:16

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 600-279165/2		11/01/2019 10:35	1	110119-2.d	AS-18
CCB 600-279165/3		11/01/2019 10:56	1	110119-3.d	AS-18
MB 600-279165/4		11/01/2019 11:16	1	110119-4.d	AS-18
LCS 600-279165/5		11/01/2019 11:37	1	110119-5.d	AS-18
ZZZZZ		11/01/2019 15:39	1		AS-18
ZZZZZ		11/01/2019 15:59	1		AS-18
ZZZZZ		11/01/2019 16:19	1		AS-18
600-194690-3		11/01/2019 16:39	20	110119-9.d	AS-18
ZZZZZ		11/01/2019 17:00	20		AS-18
ZZZZZ		11/01/2019 17:20	20		AS-18
ZZZZZ		11/01/2019 17:41	20		AS-18
ZZZZZ		11/01/2019 18:01	20		AS-18
CCV 600-279165/14		11/01/2019 18:22	1	110119-14.d	AS-18
CCB 600-279165/15		11/01/2019 18:42	1	110119-15.d	AS-18
ZZZZZ		11/01/2019 19:02	20		AS-18
ZZZZZ		11/01/2019 19:23	20		AS-18
ZZZZZ		11/01/2019 19:43	1		AS-18
ZZZZZ		11/01/2019 20:04	20		AS-18
ZZZZZ		11/01/2019 20:24	20		AS-18
ZZZZZ		11/01/2019 20:44	20		AS-18
ZZZZZ		11/01/2019 21:05	20		AS-18
ZZZZZ		11/01/2019 21:25	20		AS-18
ZZZZZ		11/01/2019 21:46	20		AS-18
ZZZZZ		11/01/2019 22:06	5		AS-18
CCV 600-279165/26		11/01/2019 22:26	1	110119-26.d	AS-18
CCB 600-279165/27		11/01/2019 22:47	1	110119-27.d	AS-18
ZZZZZ		11/01/2019 23:07	5		AS-18
ZZZZZ		11/01/2019 23:28	1		AS-18
ZZZZZ		11/01/2019 23:48	2		AS-18
ZZZZZ		11/02/2019 00:09	10		AS-18
ZZZZZ		11/02/2019 00:29	20		AS-18
ZZZZZ		11/02/2019 00:49	20		AS-18
ZZZZZ		11/02/2019 01:10	2		AS-18
ZZZZZ		11/02/2019 01:30	1		AS-18
ZZZZZ		11/02/2019 01:51	1		AS-18
ZZZZZ		11/02/2019 02:11	20		AS-18
CCV 600-279165/38		11/02/2019 02:31	1		AS-18
CCB 600-279165/39		11/02/2019 02:52	1		AS-18
ZZZZZ		11/02/2019 03:12	2		AS-18
ZZZZZ		11/02/2019 03:33	2		AS-18
ZZZZZ		11/02/2019 03:53	2		AS-18
ZZZZZ		11/02/2019 04:13	20		AS-18
ZZZZZ		11/02/2019 04:34	5		AS-18
ZZZZZ		11/02/2019 04:54	5		AS-18
ZZZZZ		11/02/2019 05:15	20		AS-18

300.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC11 Start Date: 11/01/2019 10:35

Analysis Batch Number: 279165 End Date: 11/02/2019 06:16

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		11/02/2019 05:35	100		AS-18
CCV 600-279165/48		11/02/2019 05:56	1		AS-18
CCB 600-279165/49		11/02/2019 06:16	1		AS-18

300.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC11 Start Date: 11/01/2019 10:35

Analysis Batch Number: 279166 End Date: 11/01/2019 22:47

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 600-279166/2		11/01/2019 10:35	1	110119-2.d	AS-18
CCB 600-279166/3		11/01/2019 10:56	1	110119-3.d	AS-18
ZZZZZ		11/01/2019 15:39	1		AS-18
ZZZZZ		11/01/2019 15:59	1		AS-18
ZZZZZ		11/01/2019 16:19	1		AS-18
600-194690-3		11/01/2019 16:39	20	110119-9.d	AS-18
ZZZZZ		11/01/2019 17:00	20		AS-18
ZZZZZ		11/01/2019 17:20	20		AS-18
ZZZZZ		11/01/2019 17:41	20		AS-18
CCV 600-279166/14		11/01/2019 18:22	1	110119-14.d	AS-18
CCB 600-279166/15		11/01/2019 18:42	1	110119-15.d	AS-18
CCV 600-279166/26		11/01/2019 22:26	1		AS-18
CCB 600-279166/27		11/01/2019 22:47	1		AS-18

300.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC11 Start Date: 11/04/2019 11:30

Analysis Batch Number: 279268 End Date: 11/05/2019 04:09

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 600-279268/2		11/04/2019 11:30	1	110419-2.d	AS-18
CCB 600-279268/3		11/04/2019 11:51	1	110419-3.d	AS-18
MB 600-279268/4		11/04/2019 12:11	1	110419-4.d	AS-18
LCS 600-279268/5		11/04/2019 12:31	1	110419-5.d	AS-18
600-194690-3		11/04/2019 13:32	50	110419-6.d	AS-18
ZZZZZ		11/04/2019 13:52	1		AS-18
ZZZZZ		11/04/2019 14:12	1		AS-18
ZZZZZ		11/04/2019 14:33	1		AS-18
ZZZZZ		11/04/2019 14:53	1		AS-18
ZZZZZ		11/04/2019 15:14	20		AS-18
ZZZZZ		11/04/2019 15:34	500		AS-18
ZZZZZ		11/04/2019 15:54	50		AS-18
CCV 600-279268/14		11/04/2019 16:15	1	110419-14.d	AS-18
CCB 600-279268/15		11/04/2019 16:35	1	110419-15.d	AS-18
ZZZZZ		11/04/2019 16:56	20		AS-18
ZZZZZ		11/04/2019 17:16	20		AS-18
ZZZZZ		11/04/2019 17:37	20		AS-18
ZZZZZ		11/04/2019 17:57	100		AS-18
ZZZZZ		11/04/2019 18:17	100		AS-18
ZZZZZ		11/04/2019 18:38	100		AS-18
ZZZZZ		11/04/2019 18:58	10		AS-18
ZZZZZ		11/04/2019 19:19	50		AS-18
ZZZZZ		11/04/2019 19:39	500		AS-18
ZZZZZ		11/04/2019 19:59	2		AS-18
CCV 600-279268/26		11/04/2019 20:20	1		AS-18
CCB 600-279268/27		11/04/2019 20:40	1		AS-18
ZZZZZ		11/04/2019 21:01	100		AS-18
ZZZZZ		11/04/2019 21:21	100		AS-18
ZZZZZ		11/04/2019 21:41	100		AS-18
ZZZZZ		11/04/2019 22:02	500		AS-18
ZZZZZ		11/04/2019 22:22	1		AS-18
ZZZZZ		11/04/2019 23:03	10		AS-18
ZZZZZ		11/04/2019 23:24	1		AS-18
ZZZZZ		11/04/2019 23:44	1		AS-18
ZZZZZ		11/05/2019 00:04	1000		AS-18
CCV 600-279268/38		11/05/2019 00:25	1		AS-18
CCB 600-279268/39		11/05/2019 00:45	1		AS-18
ZZZZZ		11/05/2019 01:06	500		AS-18
ZZZZZ		11/05/2019 01:26	2		AS-18
ZZZZZ		11/05/2019 01:46	2		AS-18
ZZZZZ		11/05/2019 02:07	2		AS-18
ZZZZZ		11/05/2019 02:27	5		AS-18
ZZZZZ		11/05/2019 02:48	5		AS-18
ZZZZZ		11/05/2019 03:08	5		AS-18
ZZZZZ		11/05/2019 03:28	20		AS-18

300.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC11 Start Date: 11/04/2019 11:30

Analysis Batch Number: 279268 End Date: 11/05/2019 04:09

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 600-279268/48		11/05/2019 03:49	1		AS-18
CCB 600-279268/49		11/05/2019 04:09	1		AS-18

300.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: CHWC11 Start Date: 11/04/2019 11:30

Analysis Batch Number: 279269 End Date: 11/05/2019 02:07

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 600-279269/2		11/04/2019 11:30	1	110419-2.d	AS-18
CCB 600-279269/3		11/04/2019 11:51	1	110419-3.d	AS-18
600-194690-3		11/04/2019 13:32	50	110419-6.d	AS-18
CCV 600-279269/14		11/04/2019 16:15	1	110419-14.d	AS-18
CCB 600-279269/15		11/04/2019 16:35	1	110419-15.d	AS-18
CCV 600-279269/26		11/04/2019 20:20	1	110419-26.d	AS-18
CCB 600-279269/27		11/04/2019 20:40	1	110419-27.d	AS-18
ZZZZZ		11/04/2019 22:22	1		AS-18
ZZZZZ		11/04/2019 22:43	1		AS-18
MB 600-279269/35		11/04/2019 23:24	1	110419-35.d	AS-18
LCS 600-279269/36		11/04/2019 23:44	1	110419-36.d	AS-18
CCV 600-279269/38		11/05/2019 00:25	1	110419-38.d	AS-18
CCB 600-279269/39		11/05/2019 00:45	1	110419-39.d	AS-18
ZZZZZ		11/05/2019 01:26	2		AS-18
ZZZZZ		11/05/2019 01:46	2		AS-18
ZZZZZ		11/05/2019 02:07	2		AS-18

300.0

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 278776 Batch Start Date: 10/29/19 02:42 Batch Analyst: Reach, Shrey K

Batch Method: 300.0 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	CCV 00112	ICSMS 00116	ICSMS 00117	ICV/LCS 00108	
CCV 600-278776/4		300.0		5 mL	5 mL				
CCB 600-278776/5		300.0		5 mL					
MB 600-278776/6		300.0		5 mL					
LCS 600-278776/7		300.0		5 mL				5 mL	
600-194690-G-8	INF 3	300.0	T	5 mL					
600-194690-F-10	INF 4	300.0	T	5 mL					
600-194690-F-10 MS	INF 4	300.0	T	5 mL		0.25 mL	0.25 mL		
600-194690-F-10 MSD	INF 4	300.0	T	5 mL		0.25 mL	0.25 mL		
CCV 600-278776/16		300.0		5 mL	5 mL				
CCB 600-278776/17		300.0		5 mL					

Batch Notes	
Eluent 1 ID	190808
Filter ID	16905223

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 278777 Batch Start Date: 10/29/19 02:42 Batch Analyst: Reach, Shrey K

Batch Method: 300.0 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	CCV 00112	ICSMS 00116	ICSMS 00117	ICV/LCS 00108	
CCV 600-278777/4		300.0		5 mL	5 mL				
CCB 600-278777/5		300.0		5 mL					
MB 600-278777/6		300.0		5 mL					
LCS 600-278777/7		300.0		5 mL				5 mL	
600-194690-G-8	INF 3	300.0	T	5 mL					
600-194690-F-10	INF 4	300.0	T	5 mL					
600-194690-F-10 MS	INF 4	300.0	T	5 mL		0.25 mL	0.25 mL		
600-194690-F-10 MSD	INF 4	300.0	T	5 mL		0.25 mL	0.25 mL		
CCV 600-278777/16		300.0		5 mL	5 mL				
CCB 600-278777/17		300.0		5 mL					

Batch Notes	
Eluent 1 ID	190808
Filter ID	16905223

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 278901 Batch Start Date: 10/30/19 06:12 Batch Analyst: Reach, Shrey K

Batch Method: 300.0 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	CCV 00112	ICV/LCS 00108			
CCV 600-278901/4		300.0		5 mL	5 mL				
CCB 600-278901/5		300.0		5 mL					
MB 600-278901/6		300.0		5 mL					
LCS 600-278901/7		300.0		5 mL		5 mL			
CCV 600-278901/16		300.0		5 mL	5 mL				
CCB 600-278901/17		300.0		5 mL					
600-194690-G-8	INF 3	300.0	T	5 mL					
600-194690-F-10	INF 4	300.0	T	5 mL					
CCV 600-278901/28		300.0		5 mL	5 mL				
CCB 600-278901/29		300.0		5 mL					
600-194690-E-1	1. CEFF	300.0	T	5 mL					
MB 600-278901/37		300.0		5 mL					
LCS 600-278901/38		300.0		5 mL		5 mL			
CCV 600-278901/40		300.0		5 mL	5 mL				
CCB 600-278901/41		300.0		5 mL					
CCV 600-278901/48		300.0		5 mL	5 mL				
CCB 600-278901/49		300.0		5 mL					

Batch Notes	
Eluent 1 ID	190808
Filter ID	16905223

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 278902 Batch Start Date: 10/30/19 06:12 Batch Analyst: Reach, Shrey K

Batch Method: 300.0 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	CCV 00112	ICV/LCS 00108			
CCV 600-278902/4		300.0		5 mL	5 mL				
CCB 600-278902/5		300.0		5 mL					
MB 600-278902/6		300.0		5 mL					
LCS 600-278902/7		300.0		5 mL		5 mL			
CCV 600-278902/16		300.0		5 mL	5 mL				
CCB 600-278902/17		300.0		5 mL					
600-194690-G-8	INF 3	300.0	T	5 mL					
600-194690-F-10	INF 4	300.0	T	5 mL					
CCV 600-278902/28		300.0		5 mL	5 mL				
CCB 600-278902/29		300.0		5 mL					
600-194690-E-1	1. CEFF	300.0	T	5 mL					
MB 600-278902/37		300.0		5 mL					
LCS 600-278902/38		300.0		5 mL		5 mL			
CCV 600-278902/40		300.0		5 mL	5 mL				
CCB 600-278902/41		300.0		5 mL					
CCV 600-278902/48		300.0		5 mL	5 mL				
CCB 600-278902/49		300.0		5 mL					

Batch Notes	
Eluent 1 ID	190808
Filter ID	16905223

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 279038 Batch Start Date: 10/31/19 04:17 Batch Analyst: Reach, Shrey K

Batch Method: 300.0 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	CCV 00112	ICSMS 00118	ICSMS 00119	ICV/LCS 00108	
CCV 600-279038/4		300.0		5 mL	5 mL				
CCB 600-279038/5		300.0		5 mL					
MB 600-279038/6		300.0		5 mL					
LCS 600-279038/7		300.0		5 mL				5 mL	
600-194690-A-3	FEFF 1	300.0	T	5 mL					
600-194690-A-3 MS	FEFF 1	300.0	T	5 mL		0.25 mL	0.25 mL		
600-194690-A-3 MSD	FEFF 1	300.0	T	5 mL		0.25 mL	0.25 mL		
CCV 600-279038/16		300.0		5 mL	5 mL				
CCB 600-279038/17		300.0		5 mL					
600-194690-E-1	1. CEFF	300.0	T	5 mL					
CCV 600-279038/28		300.0		5 mL	5 mL				
CCB 600-279038/29		300.0		5 mL					

Batch Notes	
Eluent 1 ID	190808
Filter ID	16905223

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 279039 Batch Start Date: 10/31/19 04:17 Batch Analyst: Reach, Shrey K

Batch Method: 300.0 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	CCV 00112	ICSMS 00118	ICSMS 00119	ICV/LCS 00108	
CCV 600-279039/4		300.0		5 mL	5 mL				
CCB 600-279039/5		300.0		5 mL					
MB 600-279039/6		300.0		5 mL					
LCS 600-279039/7		300.0		5 mL				5 mL	
600-194690-A-3	FEFF 1	300.0	T	5 mL					
600-194690-A-3 MS	FEFF 1	300.0	T	5 mL		0.25 mL	0.25 mL		
600-194690-A-3 MSD	FEFF 1	300.0	T	5 mL		0.25 mL	0.25 mL		
CCV 600-279039/16		300.0		5 mL	5 mL				
CCB 600-279039/17		300.0		5 mL					
600-194690-E-1	1. CEFF	300.0	T	5 mL					
CCV 600-279039/28		300.0		5 mL	5 mL				
CCB 600-279039/29		300.0		5 mL					

Batch Notes	
Eluent 1 ID	190808
Filter ID	16905223

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 279165 Batch Start Date: 11/01/19 10:35 Batch Analyst: Reach, Shrey K

Batch Method: 300.0 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	CCV 00112	ICV/LCS 00108			
CCV 600-279165/2		300.0		5 mL	5 mL				
CCB 600-279165/3		300.0		5 mL					
MB 600-279165/4		300.0		5 mL					
LCS 600-279165/5		300.0		5 mL		5 mL			
600-194690-A-3	FEFF 1	300.0	T	5 mL					
CCV 600-279165/14		300.0		5 mL	5 mL				
CCB 600-279165/15		300.0		5 mL					
CCV 600-279165/26		300.0		5 mL	5 mL				
CCB 600-279165/27		300.0		5 mL					

Batch Notes	
Eluent 1 ID	190951941012
Filter ID	16905223

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 279166 Batch Start Date: 11/01/19 10:35 Batch Analyst: Reach, Shrey K

Batch Method: 300.0 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	CCV 00112				
CCV 600-279166/2		300.0		5 mL	5 mL				
CCB 600-279166/3		300.0		5 mL					
600-194690-A-3	FEFF 1	300.0	T	5 mL					
CCV 600-279166/14		300.0		5 mL	5 mL				
CCB 600-279166/15		300.0		5 mL					

Batch Notes	
Eluent 1 ID	190951941012
Filter ID	16905223

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 279268 Batch Start Date: 11/04/19 11:30 Batch Analyst: Reach, Shrey K

Batch Method: 300.0 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	CCV 00112	ICV/LCS 00108			
CCV 600-279268/2		300.0		5 mL	5 mL				
CCB 600-279268/3		300.0		5 mL					
MB 600-279268/4		300.0		5 mL					
LCS 600-279268/5		300.0		5 mL		5 mL			
600-194690-A-3	FEFF 1	300.0	T	5 mL					
CCV 600-279268/14		300.0		5 mL	5 mL				
CCB 600-279268/15		300.0		5 mL					

Batch Notes	
Eluent 1 ID	190951941012
Filter ID	16988990

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 279269 Batch Start Date: 11/04/19 11:30 Batch Analyst: Reach, Shrey K

Batch Method: 300.0 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	CCV 00112	ICV/LCS 00108			
CCV 600-279269/2		300.0		5 mL	5 mL				
CCB 600-279269/3		300.0		5 mL					
600-194690-A-3	FEFF 1	300.0	T	5 mL					
CCV 600-279269/14		300.0		5 mL	5 mL				
CCB 600-279269/15		300.0		5 mL					
CCV 600-279269/26		300.0		5 mL	5 mL				
CCB 600-279269/27		300.0		5 mL					
MB 600-279269/35		300.0		5 mL					
LCS 600-279269/36		300.0		5 mL		5 mL			
CCV 600-279269/38		300.0		5 mL	5 mL				
CCB 600-279269/39		300.0		5 mL					

Batch Notes	
Eluent 1 ID	190951941012
Filter ID	146988990

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Method 1613B

Dioxins and Furans (HRGC/HRMS) by Method 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCDD #	37TCDD #
INF 3 DL	600-194690-8 DL	38	94
INF 4 DL	600-194690-10 DL	32	92
INF 4 - DISSOLVED MS DL	600-194690-11 MS DL	28 q	89
INF 4 - DISSOLVED MSD DL	600-194690-11 MSD DL	28	96

	QC LIMITS
TCDD = 13C-2,3,7,8-TCDD	25-164
37TCDD = 37Cl4-2,3,7,8-TCDD	35-197

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCDF #	TCDD #	37TCDD #	PeCDF #	PeCF #	PeCDD #	HxCDF #	HxDF #
	LCS 320-335248/2-A	59	65	100	61	67	67	71	68

	QC LIMITS
TCDF = 13C-2,3,7,8-TCDF	22-152
TCDD = 13C-2,3,7,8-TCDD	20-175
37TCDD = 37Cl4-2,3,7,8-TCDD	31-191
PeCDF = 13C-1,2,3,7,8-PeCDF	21-192
PeCF = 13C-2,3,4,7,8-PeCDF	13-328
PeCDD = 13C-1,2,3,7,8-PeCDD	21-227
HxCDF = 13C-1,2,3,4,7,8-HxCDF	19-202
HxDF = 13C-1,2,3,6,7,8-HxCDF	21-159

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	13CHxCF #	HxCDD #	HxDD #	HxCF #	HpCDF #	HpCDD #	HpCDF2 #	OCDD #
	LCS 320-335248/2-A	68	75	68	67	58	61	61	50

	QC LIMITS
13CHxCF = 13C-2,3,4,6,7,8-HxCDF	22-176
HxCDD = 13C-1,2,3,4,7,8-HxCDD	21-193
HxDD = 13C-1,2,3,6,7,8-HxCDD	25-163
HxCF = 13C-1,2,3,7,8,9-HxCDF	17-205
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF	21-158
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD	26-166
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF	20-186
OCDD = 13C-OCDD	13-199

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-225 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCDF #	37TCDD #
1. CEFF RA	600-194690-1 RA	61	93
INF 3 RA	600-194690-8 RA	56	104
INF 3 - DISSOLVED RA	600-194690-9 RA	61	104
INF 4 RA	600-194690-10 RA	52	86
INF 4 - DISSOLVED RA	600-194690-11 RA	68	105
INF 4 - DISSOLVED MS RA	600-194690-11 MS RA	67	110
INF 4 - DISSOLVED MSD RA	600-194690-11 MSD RA	40	97

	QC LIMITS
TCDF = 13C-2,3,7,8-TCDF	24-169
37TCDD = 37Cl4-2,3,7,8-TCDD	35-197

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCDF #	37TCDD #	PeCDF #	PeCF #	PeCDD #	HxCDF #	HxDF #	13CHxCF #
INF 3	600-194690-8	39	100	38	40	37	32	29	30
INF 4	600-194690-10	34	92	30	31	29	25 *	23 *	24 *

	QC LIMITS
TCDF = 13C-2,3,7,8-TCDF	24-169
37TCDD = 37Cl4-2,3,7,8-TCDD	35-197
PeCDF = 13C-1,2,3,7,8-PeCDF	24-185
PeCF = 13C-2,3,4,7,8-PeCDF	21-178
PeCDD = 13C-1,2,3,7,8-PeCDD	25-181
HxCDF = 13C-1,2,3,4,7,8-HxCDF	26-152
HxDF = 13C-1,2,3,6,7,8-HxCDF	26-123
13CHxCF = 13C-2,3,4,6,7,8-HxCDF	28-136

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	HxCDD #	HxDD #	HxCF #	HpCDF #	HpCDD #	HpCDF2 #	OCDD #
INF 3	600-194690-8	31 *	28	32	20 *	23	26	17
INF 4	600-194690-10	25 *	22 *	26 *	16 *	19 *	21 *	14 *

	QC LIMITS
HxCDD = 13C-1,2,3,4,7,8-HxCDD	32-141
HxDD = 13C-1,2,3,6,7,8-HxCDD	28-130
HxCF = 13C-1,2,3,7,8,9-HxCDF	29-147
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF	28-143
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD	23-140
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF	26-138
OCDD = 13C-OCDD	17-157

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCDF #	TCDD #	37TCDD #	PeCDF #	PeCF #	PeCDD #	HxCDF #	HxDF #
1. CEFF	600-194690-1	52	56	91	53	57	55	60	59
FEFF 1	600-194690-3	52	59	98	54	60	58	63	60
INF 3 - DISSOLVED	600-194690-9	48	51	99	48	51	48	49	45
INF 4 - DISSOLVED	600-194690-11	57	62	96	61	66	64	69	66
	MB 320-335248/1-A	48	53	96	49	53	51	54	53
INF 4 - DISSOLVED MS	600-194690-11 MS	27	24 *	92	28	31	29	22 *	19 *
INF 4 - DISSOLVED MSD	600-194690-11 MSD	27	24 *	99	25	27	25	22 *	20 *

	QC LIMITS
TCDF = 13C-2,3,7,8-TCDF	24-169
TCDD = 13C-2,3,7,8-TCDD	25-164
37TCDD = 37Cl4-2,3,7,8-TCDD	35-197
PeCDF = 13C-1,2,3,7,8-PeCDF	24-185
PeCF = 13C-2,3,4,7,8-PeCDF	21-178
PeCDD = 13C-1,2,3,7,8-PeCDD	25-181
HxCDF = 13C-1,2,3,4,7,8-HxCDF	26-152
HxDF = 13C-1,2,3,6,7,8-HxCDF	26-123

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	13CHxCF #	HxCDD #	HxDD #	HxCF #	HpCDF #	HpCDD #	HpCDF2 #	OCDD #
1. CEFF	600-194690-1	57	59	59	56	48	50	51	40
FEFF 1	600-194690-3	60	62	62	58	51	55	55	45
INF 3 - DISSOLVED	600-194690-9	45	47	45	47	34	36	39	27
INF 4 - DISSOLVED	600-194690-11	65	70	65	64	53	55	56	46
	MB 320-335248/1-A	52	55	53	51	41	43	43	32
INF 4 - DISSOLVED MS	600-194690-11 MS	19 *	21 *	19 *	21 *	13 *	15 *	17 *	13 *
INF 4 - DISSOLVED MSD	600-194690-11 MSD	20 *	22 *	19 *	21 *	14 *	17 *	17 *	14 *

	QC LIMITS
13CHxCF = 13C-2,3,4,6,7,8-HxCDF	28-136
HxCDD = 13C-1,2,3,4,7,8-HxCDD	32-141
HxDD = 13C-1,2,3,6,7,8-HxCDD	28-130
HxCF = 13C-1,2,3,7,8,9-HxCDF	29-147
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF	28-143
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD	23-140
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF	26-138
OCDD = 13C-OCDD	17-157

Column to be used to flag recovery values

FORM II 1613B

FORM III
DIOXIN LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 05NO19B10D5_5.d

Lab ID: LCS 320-335248/2-A Client ID:

COMPOUND	SPIKE ADDED (pg/L)	LCS CONCENTRATION (pg/L)	LCS % REC	QC LIMITS REC	#
2,3,7,8-TCDD	200	195	98	67-158	
2,3,7,8-TCDF	200	214	107	75-158	
1,2,3,7,8-PeCDD	1000	1110	111	70-142	
1,2,3,7,8-PeCDF	1000	1090	109	80-134	
2,3,4,7,8-PeCDF	1000	1030	103	68-160	
1,2,3,4,7,8-HxCDD	1000	1020	102	70-164	
1,2,3,6,7,8-HxCDD	1000	1090	109	76-134	
1,2,3,7,8,9-HxCDD	1000	1030	103	64-162	
1,2,3,4,7,8-HxCDF	1000	1030	103	72-134	
1,2,3,6,7,8-HxCDF	1000	1090	109	84-130	
1,2,3,7,8,9-HxCDF	1000	1080	108	78-130	
2,3,4,6,7,8-HxCDF	1000	1080	108	70-156	
1,2,3,4,6,7,8-HpCDD	1000	1180	118	70-140	
1,2,3,4,6,7,8-HpCDF	1000	1080	108	82-122	
1,2,3,4,7,8,9-HpCDF	1000	1020	102	78-138	
OCDD	2000	3050	153	78-144	*
OCDF	2000	2180	109	63-170	
13C-2,3,7,8-TCDD	2000	1300	65	20-175	
13C-2,3,7,8-TCDF	2000	1180	59	22-152	
13C-1,2,3,7,8-PeCDD	2000	1330	67	21-227	
13C-1,2,3,7,8-PeCDF	2000	1230	61	21-192	
13C-2,3,4,7,8-PeCDF	2000	1340	67	13-328	
13C-1,2,3,4,7,8-HxCDD	2000	1500	75	21-193	
13C-1,2,3,6,7,8-HxCDD	2000	1360	68	25-163	
13C-1,2,3,4,7,8-HxCDF	2000	1430	71	19-202	
13C-1,2,3,6,7,8-HxCDF	2000	1370	68	21-159	
13C-1,2,3,7,8,9-HxCDF	2000	1340	67	17-205	
13C-2,3,4,6,7,8-HxCDF	2000	1370	68	22-176	
13C-1,2,3,4,6,7,8-HpCDD	2000	1220	61	26-166	
13C-1,2,3,4,6,7,8-HpCDF	2000	1160	58	21-158	
13C-1,2,3,4,7,8,9-HpCDF	2000	1210	61	20-186	
13C-OCDD	4000	1980	50	13-199	

Column to be used to flag recovery and RPD values

FORM III 1613B

FORM III
DIOXIN MATRIX SPIKE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 05NO19B10D5_12.d

Lab ID: 600-194690-11 MS Client ID: INF 4 - DISSOLVED MS

COMPOUND	SPIKE ADDED (pg/L)	SAMPLE CONCENTRATION (pg/L)	MS CONCENTRATION (pg/L)	MS % REC	QC LIMITS REC	#
1,2,3,7,8-PeCDD	981	3.0 J	1570	160	70-142	F1
1,2,3,7,8-PeCDF	981	20 J	6500	661	80-134	F1
2,3,4,7,8-PeCDF	981	11 J	4120	419	68-160	F1
1,2,3,4,7,8-HxCDD	981	3.1 J	1110	112	70-164	
1,2,3,6,7,8-HxCDD	981	2.1 J	1090	111	76-134	
1,2,3,7,8,9-HxCDD	981	1.7 J	1010	103	64-162	
1,2,3,4,7,8-HxCDF	981	31 J	8830	897	72-134	F1
1,2,3,6,7,8-HxCDF	981	9.8 J	2830	288	84-130	F1
1,2,3,7,8,9-HxCDF	981	4.8 J	1170	118	78-130	
2,3,4,6,7,8-HxCDF	981	2.8 J	1300	132	70-156	
1,2,3,4,6,7,8-HpCDD	981	27 J	2350	237	70-140	F1
1,2,3,4,6,7,8-HpCDF	981	12 J	2730	277	82-122	F1
1,2,3,4,7,8,9-HpCDF	981	4.9 J	1670	170	78-138	F1
OCDD	1960	280	18000	904	78-144	F1
OCDF	1960	11 J	2910	147	63-170	
13C-2,3,7,8-TCDD	1960	1300	463	24	25-164	*
13C-2,3,7,8-TCDF	1960	1200	534	27	24-169	
13C-1,2,3,7,8-PeCDD	1960	1300	570	29	25-181	
13C-1,2,3,7,8-PeCDF	1960	1200	540	28	24-185	
13C-2,3,4,7,8-PeCDF	1960	1300	616	31	21-178	
13C-1,2,3,4,7,8-HxCDD	1960	1400	407	21	32-141	*
13C-1,2,3,6,7,8-HxCDD	1960	1300	374	19	28-130	*
13C-1,2,3,4,7,8-HxCDF	1960	1400	430	22	26-152	*
13C-1,2,3,6,7,8-HxCDF	1960	1300	381	19	26-123	*
13C-1,2,3,7,8,9-HxCDF	1960	1300	416	21	29-147	*
13C-2,3,4,6,7,8-HxCDF	1960	1300	380	19	28-136	*
13C-1,2,3,4,6,7,8-HpCDD	1960	1100	300	15	23-140	*
13C-1,2,3,4,6,7,8-HpCDF	1960	1100	252	13	28-143	*
13C-1,2,3,4,7,8,9-HpCDF	1960	1100	328	17	26-138	*
13C-OCDD	3920	1900	492	13	17-157	*

Column to be used to flag recovery and RPD values

FORM III 1613B

FORM III
DIOXIN MATRIX SPIKE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 07NO19A11D2_009.d

Lab ID: 600-194690-11 MS RA Client ID: INF 4 - DISSOLVED MS RA

COMPOUND	SPIKE ADDED (pg/L)	SAMPLE CONCENTRATION (pg/L)	MS CONCENTRATION (pg/L)	MS % REC	QC LIMITS REC	#
2,3,7,8-TCDF	196	540	107000	54002	75-158	F1
13C-2,3,7,8-TCDF	1960	1400	1310	67	24-169	

Column to be used to flag recovery and RPD values

FORM III 1613B

FORM III
DIOXIN MATRIX SPIKE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 07no19adfs1_11.d

Lab ID: 600-194690-11 MS DL Client ID: INF 4 - DISSOLVED MS DL

COMPOUND	SPIKE ADDED (pg/L)	SAMPLE CONCENTRATION (pg/L)	MS CONCENTRATION (pg/L)	MS % REC	QC LIMITS REC	#
2,3,7,8-TCDD	196	150	40900	20781	67-158	F1
13C-2,3,7,8-TCDD	1960	1300	550	28	25-164	q

Column to be used to flag recovery and RPD values

FORM III 1613B

FORM III
DIOXIN MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 05NO19B10D5_13.d

Lab ID: 600-194690-11 MSD Client ID: INF 4 - DISSOLVED MSD

COMPOUND	SPIKE ADDED (pg/L)	MSD CONCENTRATION (pg/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
1,2,3,7,8-PeCDD	1020	1330	130	17	50	70-142	
1,2,3,7,8-PeCDF	1020	3630	354	57	50	80-134	F1 F2
2,3,4,7,8-PeCDF	1020	2550	249	47	50	68-160	F1
1,2,3,4,7,8-HxCDD	1020	1030	101	7	50	70-164	
1,2,3,6,7,8-HxCDD	1020	1110	109	2	50	76-134	
1,2,3,7,8,9-HxCDD	1020	980	96	3	50	64-162	
1,2,3,4,7,8-HxCDF	1020	4240	413	70	50	72-134	F1 F2
1,2,3,6,7,8-HxCDF	1020	1920	188	38	50	84-130	F1
1,2,3,7,8,9-HxCDF	1020	1060	104	9	50	78-130	
2,3,4,6,7,8-HxCDF	1020	1160	114	11	50	70-156	
1,2,3,4,6,7,8-HpCDD	1020	1700	164	32	50	70-140	F1
1,2,3,4,6,7,8-HpCDF	1020	1830	179	39	50	82-122	F1
1,2,3,4,7,8,9-HpCDF	1020	1330	130	23	50	78-138	
OCDD	2040	11100	530	48	50	78-144	F1
OCDF	2040	2450	120	17	50	63-170	
13C-2,3,7,8-TCDD	2040	481	24			25-164	*
13C-2,3,7,8-TCDF	2040	542	27			24-169	
13C-1,2,3,7,8-PeCDD	2040	514	25			25-181	
13C-1,2,3,7,8-PeCDF	2040	508	25			24-185	
13C-2,3,4,7,8-PeCDF	2040	557	27			21-178	
13C-1,2,3,4,7,8-HxCDD	2040	449	22			32-141	*
13C-1,2,3,6,7,8-HxCDD	2040	395	19			28-130	*
13C-1,2,3,4,7,8-HxCDF	2040	450	22			26-152	*
13C-1,2,3,6,7,8-HxCDF	2040	405	20			26-123	*
13C-1,2,3,7,8,9-HxCDF	2040	431	21			29-147	*
13C-2,3,4,6,7,8-HxCDF	2040	408	20			28-136	*
13C-1,2,3,4,6,7,8-HpCDD	2040	345	17			23-140	*
13C-1,2,3,4,6,7,8-HpCDF	2040	277	14			28-143	*
13C-1,2,3,4,7,8,9-HpCDF	2040	352	17			26-138	*
13C-OCDD	4070	580	14			17-157	*

Column to be used to flag recovery and RPD values

FORM III 1613B

FORM III
DIOXIN MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 07NO19A11D2_010.d

Lab ID: 600-194690-11 MSD RA Client ID: INF 4 - DISSOLVED MSD RA

COMPOUND	SPIKE ADDED (pg/L)	MSD CONCENTRATION (pg/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
2,3,7,8-TCDF	204	66300	32281	47	50	75-158	F1
13C-2,3,7,8-TCDF	2040	818	40			24-169	

Column to be used to flag recovery and RPD values

FORM III 1613B

FORM III
DIOXIN MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 07no19adfs1_12.d

Lab ID: 600-194690-11 MSD DL Client ID: INF 4 - DISSOLVED MSD DL

COMPOUND	SPIKE ADDED (pg/L)	MSD CONCENTRATION (pg/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
2,3,7,8-TCDD	204	20000	9745	69	50	67-158	F1 F2
13C-2,3,7,8-TCDD	2040	566	28			25-164	

Column to be used to flag recovery and RPD values

FORM III 1613B

FORM IV
DIOXIN METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Lab File ID: 05NO19B10D5_4.d Lab Sample ID: MB 320-335248/1-A

Matrix: Water Date Extracted: 11/01/2019 08:11

Instrument ID: 10D5 Date Analyzed: 11/05/2019 21:50

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 320-335248/2-A	05NO19B10D5_5.d	11/05/2019 22:36
1. CEFF	600-194690-1	05NO19B10D5_6.d	11/05/2019 23:22
FEFF 1	600-194690-3	05NO19B10D5_7.d	11/06/2019 00:08
INF 3	600-194690-8	05NO19B10D5_8.d	11/06/2019 00:54
INF 3 - DISSOLVED	600-194690-9	05NO19B10D5_9.d	11/06/2019 01:40
INF 4	600-194690-10	05NO19B10D5_10.d	11/06/2019 02:26
INF 4 - DISSOLVED	600-194690-11	05NO19B10D5_11.d	11/06/2019 03:12
INF 4 - DISSOLVED MS	600-194690-11 MS	05NO19B10D5_12.d	11/06/2019 03:58
INF 4 - DISSOLVED MSD	600-194690-11 MSD	05NO19B10D5_13.d	11/06/2019 04:44
1. CEFF RA	600-194690-1 RA	07NO19A11D2_004.d	11/07/2019 16:53
INF 3 RA	600-194690-8 RA	07NO19A11D2_005.d	11/07/2019 17:32
INF 3 - DISSOLVED RA	600-194690-9 RA	07NO19A11D2_006.d	11/07/2019 18:10
INF 4 RA	600-194690-10 RA	07NO19A11D2_007.d	11/07/2019 18:49
INF 4 - DISSOLVED RA	600-194690-11 RA	07NO19A11D2_008.d	11/07/2019 19:27
INF 4 - DISSOLVED MS RA	600-194690-11 MS RA	07NO19A11D2_009.d	11/07/2019 20:05
INF 4 - DISSOLVED MSD RA	600-194690-11 MSD RA	07NO19A11D2_010.d	11/07/2019 20:44
INF 3 DL	600-194690-8 DL	07no19adfs1_9.d	11/07/2019 21:41
INF 4 DL	600-194690-10 DL	07no19adfs1_10.d	11/07/2019 22:29
INF 4 - DISSOLVED MS DL	600-194690-11 MS DL	07no19adfs1_11.d	11/07/2019 23:17
INF 4 - DISSOLVED MSD DL	600-194690-11 MSD DL	07no19adfs1_12.d	11/08/2019 00:05

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 600-194690-1
SDG No.:
Client Sample ID: 1. CEFF
Lab Sample ID: 600-194690-1
Matrix: Water
Lab File ID: 05NO19B10D5_6.d
Analysis Method: 1613B
Date Collected: 10/25/2019 19:25
Extract. Method: 1613B
Date Extracted: 11/01/2019 08:11
Sample wt/vol: 1038.2(mL)
Date Analyzed: 11/05/2019 23:22
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 336302
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	13		9.6	0.69
40321-76-4	1,2,3,7,8-PeCDD	ND		48	0.94
57117-41-6	1,2,3,7,8-PeCDF	2.5	J	48	0.62
57117-31-4	2,3,4,7,8-PeCDF	ND		48	0.65
39227-28-6	1,2,3,4,7,8-HxCDD	2.6	J B	48	0.66
57653-85-7	1,2,3,6,7,8-HxCDD	1.6	J	48	0.67
19408-74-3	1,2,3,7,8,9-HxCDD	1.4	J B q	48	0.60
70648-26-9	1,2,3,4,7,8-HxCDF	3.9	J	48	0.91
57117-44-9	1,2,3,6,7,8-HxCDF	1.7	J	48	0.79
72918-21-9	1,2,3,7,8,9-HxCDF	2.0	J B	48	0.55
60851-34-5	2,3,4,6,7,8-HxCDF	1.2	J B	48	0.54
35822-46-9	1,2,3,4,6,7,8-HpCDD	4.9	J	48	0.71
67562-39-4	1,2,3,4,6,7,8-HpCDF	2.9	J B	48	0.53
55673-89-7	1,2,3,4,7,8,9-HpCDF	1.4	J B q	48	0.70
3268-87-9	OCDD	44	J B *	96	1.2
39001-02-0	OCDF	6.4	J B	96	0.93
41903-57-5	Total TCDD	13		9.6	0.69
30402-14-3	Total TCDF	68	B q	9.6	0.64
36088-22-9	Total PeCDD	ND		48	0.94
30402-15-4	Total PeCDF	2.5	J	48	0.63
34465-46-8	Total HxCDD	5.6	J B q	48	0.65
55684-94-1	Total HxCDF	8.8	J B	48	0.70
37871-00-4	Total HpCDD	8.2	J	48	0.71
38998-75-3	Total HpCDF	4.3	J B q	48	0.62

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Client Sample ID: 1. CEFF Lab Sample ID: 600-194690-1

Matrix: Water Lab File ID: 05NO19B10D5_6.d

Analysis Method: 1613B Date Collected: 10/25/2019 19:25

Extract. Method: 1613B Date Extracted: 11/01/2019 08:11

Sample wt/vol: 1038.2(mL) Date Analyzed: 11/05/2019 23:22

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 336302 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	56		25-164
89059-46-1	13C-2,3,7,8-TCDF	52		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	55		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	53		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	57		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	59		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	59		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	60		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	59		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	56		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	57		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	50		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	48		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	51		26-138
114423-97-1	13C-OCDD	40		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	91		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_6.d
Lims ID: 600-194690-C-1-A
Client ID: 1. CEFF
Sample Type: Client
Inject. Date: 05-Nov-2019 23:22:26 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 600-194690-C-1-A 600-194690-C-1-A
Misc. Info.: 05NO19B10D5
Operator ID: ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 08-Nov-2019 08:52:40 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0328

First Level Reviewer: arghestanis Date: 06-Nov-2019 08:06:03

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.245	92675449	0.79	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.761	68748137	0.78	1.4384	51.6	51.6	0.1123	0.1123	51.57	
2,3,7,8-TCDF	16.777	1420205	0.81	1.0507	1.966	1.966	0.0330	0.0330		
A Non-2,3,7,8-sub-TCDF	16.459	1136888	0.77	1.0507	1.612	1.574	0.0330	0.8529		RQ
S Total TCDF					3.578	3.540	0.0330	0.0330		RQ
D 13C-2,3,7,8-TCDD	17.427	49916270	0.78	0.9533	56.5	56.5	0.1704	0.1704	56.50	
2,3,7,8-TCDD	17.442	378775	0.79	1.1064	0.6858	0.6858	0.0359	0.0359		
$ 37Cl4-2,3,7,8-TCDD	17.442	41184935		1.2224	36.4	36.4	0.0383	0.0383	90.89	
A Non-2,3,7,8-sub-TCDD	16.890						0.0359	0.0359		
S Total TCDD					0.6858	0.6858	0.0359	0.0359		
D 13C-1,2,3,7,8-PeCDF	21.513	50843131	1.54	1.0286	53.3	53.3	0.1666	0.1666	53.34	
1,2,3,7,8-PeCDF	21.540	71938	1.35	1.0822	0.1307	0.1307	0.0320	0.0320		
D 13C-2,3,4,7,8-PeCDF	22.781	51986873	1.55	0.9827	57.1	57.1	0.1743	0.1743	57.09	
2,3,4,7,8-PeCDF	22.808						0.0337	0.0337		
A F1 PeCDFs	19.158						0.0284	0.0284		
A Non-2,3,7,8-sub-PeCDF	22.128						0.0329	0.0329		
S Total PeCDF					0.1307	0.1307	0.0329	0.0329		
D 13C-1,2,3,7,8-PeCDD	23.449	37886255	1.58	0.7481	54.6	54.6	0.0824	0.0824	54.65	
1,2,3,7,8-PeCDD	23.476						0.0488	0.0488		
A Non-2,3,7,8-sub-PeCDD	22.406						0.0488	0.0488		
S Total PeCDD							0.0488	0.0488		
D 13C-1,2,3,4,7,8-HxCDF	29.520	42791515	0.52	1.1520	60.3	60.3	0.3171	0.3171	60.31	
1,2,3,4,7,8-HxCDF	29.546	104240	1.37	1.1973	0.2035	0.2035	0.0473	0.0473		M
D 13C-1,2,3,6,7,8-HxCDF	29.813	44978812	0.52	1.2434	58.7	58.7	0.2938	0.2938	58.74	
1,2,3,6,7,8-HxCDF	29.839	47486	1.08	1.1807	0.0894	0.0894	0.0412	0.0412		Ma
D 13C-2,3,4,6,7,8-HxCDF	30.904	41295873	0.51	1.1720	57.2	57.2	0.3117	0.3117	57.22	
2,3,4,6,7,8-HxCDF	30.944	30091	1.40	1.2116	0.0601	0.0601	0.0280	0.0280		M
D 13C-1,2,3,7,8,9-HxCDF	31.836	36468987	0.51	1.0655	55.6	55.6	0.3428	0.3428	55.58	
1,2,3,7,8,9-HxCDF	31.862	47802	1.26	1.2451	0.1053	0.1053	0.0284	0.0284		M
A Non-2,3,7,8-sub-HxCDF	29.354						0.0345	0.0345		U
S Total HxCDF					0.4583	0.4583	0.0362	0.0362		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.636	61585328	1.27	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.143	28427610	1.27	0.7812	59.1	59.1	0.3012	0.3012	59.09	
1,2,3,4,7,8-HxCDD	31.170	41933	1.41	1.1088	0.1330	0.1330	0.0343	0.0343		M
D 13C-1,2,3,6,7,8-HxCDD	31.263	33578074	1.27	0.9175	59.4	59.4	0.2565	0.2565	59.43	
1,2,3,6,7,8-HxCDD	31.303	31001	1.10	1.0814	0.0854	0.0854	0.0349	0.0349		Ma
1,2,3,7,8,9-HxCDD	31.649	27052	1.24	1.2123	0.0860	0.0720	0.0313	0.0313		RQM
A Non-2,3,7,8-sub-HxCDD	29.926						0.0334	0.0334		
S Total HxCDD					0.3044	0.2904	0.0335	0.0335		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	33.394	25596149	0.43	0.8628	48.2	48.2	0.6514	0.6514	48.17	
1,2,3,4,6,7,8-HpCDF	33.405	60423	1.01	1.5555	0.1518	0.1518	0.0276	0.0276		M
D 13C-1,2,3,4,7,8,9-HpCDF	34.451	25059039	0.43	0.7991	50.9	50.9	0.7033	0.7033	50.92	
1,2,3,4,7,8,9-HpCDF	34.451	25660	1.04	1.3862	0.0891	0.0739	0.0366	0.0366		RQM
A Non-2,3,7,8-sub-HpCDF	33.922						0.0316	0.0316		
S Total HpCDF					0.2409	0.2256	0.0321	0.0321		RQ
D 13C-1,2,3,4,6,7,8-HpCDD	34.171	27071063	1.03	0.8739	50.3	50.3	0.3145	0.3145	50.30	
1,2,3,4,6,7,8-HpCDD	34.183	63930	0.92	0.9316	0.2535	0.2535	0.0370	0.0370		M
A Non-2,3,7,8-sub-HpCDD	34.038	43597	1.14	0.9316	0.1729	0.1729	0.0370	0.1729		M
S Total HpCDD					0.4264	0.4264	0.0370	0.0370		
D 13C-OCDD	36.450	38365475	0.89	0.7744	80.4	80.4	0.0921	0.0921	40.22	
OCDF	36.546	80627	0.96	1.2596	0.3337	0.3337	0.0482	0.0482		
OCDD	36.462	466205	0.89	1.0621	2.288	2.288	0.0642	0.0642		M

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_6.d
Lims ID: 600-194690-C-1-A
Client ID: 1. CEFF
Sample Type: Client
Inject. Date: 05-Nov-2019 23:22:26 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 600-194690-C-1-A 600-194690-C-1-A
Misc. Info.: 05NO19B10D5
Operator ID: ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 08-Nov-2019 08:52:40 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0328

First Level Reviewer: arghestanis Date: 06-Nov-2019 08:06:03

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.245	17.230	1		40818835	10456070	7082	17705	1476		
333.9339	17.245	17.230	1		51856614	13218907	8300	20750	1593	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.761	16.761	0	0.972	30193118	7422467	8673	21682	856		
317.9389	16.761	16.761	0	0.972	38555019	9491989	6622	16555	1433	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.777	16.761	1	1.001	633404	152507	1235	3087	123		
305.8987	16.777	16.761	1	1.001	786801	182159	1113	2782	164	0.81(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											RQ
303.9016	15.431	16.459	-62	0.921	19659	5704	1235	3087	5		
305.8987	15.446	16.459	-61	0.922	32802	6484	1113	2782	6	0.60(0.65-0.89)	
	Empc Correction				25531	7407	1113	2782	7		
303.9016	15.688	16.459	-46	0.936	37502	6858	1235	3087	6		
305.8987	15.688	16.459	-46	0.936	47177	10514	1113	2782	9	0.79(0.65-0.89)	
303.9016	15.915	16.459	-33	0.949	31375	8332	1235	3087	7		
305.8987	15.915	16.459	-33	0.949	41902	8260	1113	2782	7	0.75(0.65-0.89)	
303.9016	16.142	16.459	-19	0.963	41255	8490	1235	3087	7		
305.8987	16.142	16.459	-19	0.963	60378	12343	1113	2782	11	0.68(0.65-0.89)	
303.9016	16.414	16.459	-3	0.979	274693	66696	1235	3087	54		
305.8987	16.414	16.459	-3	0.979	341376	78128	1113	2782	70	0.80(0.65-0.89)	
303.9016	17.185	16.459	43	1.025	72404	10956	1235	3087	9		
	Empc Correction				52323	10123	1235	3087	8		
305.8987	17.185	16.459	43	1.025	67952	13147	1113	2782	12	1.07(0.65-0.89)	
303.9016	18.500	16.459	122	1.104	40367	9044	1235	3087	7		
305.8987	18.500	16.459	122	1.104	55398	11546	1113	2782	10	0.73(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDD											
331.9368	17.427	17.427	0	1.011	21840565	5225925	7082	17705	738		
333.9339	17.427	17.427	0	1.011	28075705	6709760	8300	20750	808	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.442	17.427	1	1.001	166783	35819	1118	2795	32		
321.8936	17.442	17.427	1	1.001	211992	47242	776	1940	61	0.79(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.442	17.442	0	1.011	41184935	9652739	4438	11095	2175		
A Non-2,3,7,8-sub-TCDD											
319.8965	16.890						1118	2795			
321.8936	16.890						776	1940			
13C-1,2,3,7,8-PeCDF											
351.9000	21.513	21.513	0	1.247	30787092	5515590	9490	23725	581		
353.8970	21.513	21.513	0	1.247	20056039	3640686	6734	16835	541	1.54(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.540	21.527	1	1.001	41279	7678	544	1360	14		
341.8567	21.540	21.527	1	1.001	30659	4890	726	1815	7	1.35(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	22.781	22.781	0	1.321	31573267	5145736	9490	23725	542		
353.8970	22.781	22.781	0	1.321	20413606	3386727	6734	16835	503	1.55(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.795						544	1360			
341.8567	22.795						726	1815			
A F1 PeCDFs											
339.8597	19.158						412	1030			
341.8567	19.158						685	1712			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.128						544	1360			
341.8567	22.128						726	1815			
13C-1,2,3,7,8-PeCDD											
367.8949	23.449	23.463	-1	1.360	23221751	3593116	3445	8612	1043		
369.8919	23.463	23.463	0	1.361	14664504	2310912	2394	5985	965	1.58(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.476						675	1687			
357.8516	23.476						369	922			
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.406						675	1687			
357.8516	22.406						369	922			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.520	29.533	-1	0.933	14591260	1680807	6744	16860	249		
385.8610	29.520	29.533	-1	0.933	28200255	3179587	12696	31740	250	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											M
373.8208	29.546	29.533	1	1.001	60331	7127	609	1522	12		
375.8178	29.560	29.533	2	1.001	43909	6146	493	1232	12	1.37(1.05-1.43)	M
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.813	29.813	0	0.942	15317694	1900786	6744	16860	282		
385.8610	29.813	29.813	0	0.942	29661118	3766590	12696	31740	297	0.52(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,6,7,8-HxCDF											Ma
373.8208	29.839	29.826	1	1.001	24661	3753	609	1522	6		M
375.8178	29.826	29.826	0	1.000	22825	3156	493	1232	6	1.08(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	30.904	30.904	0	0.977	13924135	2719045	6744	16860	403		
385.8610	30.904	30.904	0	0.977	27371738	5407882	12696	31740	426	0.51(0.43-0.59)	
2,3,4,6,7,8-HxCDF											M
373.8208	30.944	30.917	2	1.001	17574	3634	609	1522	6		
375.8178	30.931	30.917	1	1.001	12517	2905	493	1232	6	1.40(1.05-1.43)	M
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.836	31.836	0	1.006	12322925	2653767	6744	16860	394		
385.8610	31.836	31.836	0	1.006	24146062	5141217	12696	31740	405	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											M
373.8208	31.862	31.849	1	1.001	26632	6130	609	1522	10		M
375.8178	31.849	31.849	0	1.000	21170	5645	493	1232	11	1.26(1.05-1.43)	M
A Non-2,3,7,8-sub-HxCDF											U
373.8208	29.354						609	1522			
375.8178	29.354						493	1232			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.636	31.636	0		34418922	7458049	6911	17277	1079		
403.8529	31.636	31.636	0		27166406	5846703	5611	14027	1042	1.27(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.143	31.143	0	0.984	15906799	3671890	6911	17277	531		
403.8529	31.143	31.143	0	0.984	12520811	2914611	5611	14027	519	1.27(1.05-1.43)	
1,2,3,4,7,8-HxCDD											M
389.8157	31.170	31.144	2	1.001	24519	5408	524	1310	10		M
391.8127	31.170	31.144	2	1.001	17414	3689	478	1195	8	1.41(1.05-1.43)	M
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.263	31.263	0	0.988	18796419	3705063	6911	17277	536		
403.8529	31.263	31.263	0	0.988	14781655	2923278	5611	14027	521	1.27(1.05-1.43)	
1,2,3,6,7,8-HxCDD											Ma
389.8157	31.303	31.277	2	1.001	16257	2301	524	1310	4		M
391.8127	31.263	31.277	-1	1.000	14744	2507	478	1195	5	1.10(1.05-1.43)	
1,2,3,7,8,9-HxCDD											RQM
389.8157	31.649	31.649	0	1.016	20241	3146	524	1310	6		M
	Empc Correction				14975	2705	524	1310	5		
391.8127	31.663	31.649	1	1.017	12077	2182	478	1195	5	1.68(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	29.926						524	1310			
391.8127	29.926						478	1195			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.394	33.393	0	1.056	7656326	2275750	8681	21702	262		
419.8220	33.394	33.393	0	1.056	17939823	5268974	21227	53067	248	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											M
407.7818	33.405	33.394	1	1.000	30433	9929	778	1945	13		M
409.7789	33.394	33.394	0	1.000	29990	7718	518	1295	15	1.01(0.88-1.20)	M

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.451	34.451	0	1.089	7580528	1944073	8681	21702	224		
419.8220	34.451	34.451	0	1.089	17478511	4442681	21227	53067	209	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											RQM
407.7818	34.451	34.451	0	1.000	13082	4670	778	1945	6		M
409.7789	34.451	34.451	0	1.000	17884	5181	518	1295	10	0.73(0.88-1.20)	
	Empc Correction				12578	4490	518	1295	9		
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.922						778	1945			
409.7789	33.922						518	1295			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.171	34.171	0	1.080	13759732	3728259	6320	15800	590		
437.8140	34.171	34.171	0	1.080	13311331	3624403	8306	20765	436	1.03(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											M
423.7766	34.183	34.172	1	1.000	30600	7285	513	1282	14		M
425.7737	34.171	34.172	0	1.000	33330	8925	501	1252	18	0.92(0.88-1.20)	M
A Non-2,3,7,8-sub-HpCDD											M
423.7766	33.637	34.038	-24	0.984	23255	6894	513	1282	13		
425.7737	33.637	34.038	-24	0.984	20342	6744	501	1252	13	1.14(0.88-1.20)	M
13C-OCDD											
469.7779	36.450	36.462	-1	1.152	18091687	3859790	1515	3787	2548		
471.7750	36.450	36.462	-1	1.152	20273788	4369305	2279	5697	1917	0.89(0.76-1.02)	
OCDF											
441.7428	36.546	36.546	0	1.003	39434	7783	412	1030	19		
443.7399	36.546	36.546	0	1.003	41193	10458	587	1467	18	0.96(0.76-1.02)	
OCDD											M
457.7377	36.462	36.462	0	1.000	219925	48706	561	1402	87		M
459.7348	36.462	36.462	0	1.000	246280	54537	561	1402	97	0.89(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

U - Marked Undetected

a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_6.d
Lims ID: 600-194690-C-1-A
Client ID: 1. CEFF
Inject. Date: 05-Nov-2019 23:22:26 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 6

Non-2,3,7,8-sub-TCDF, RT: 16.459

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.051	D 13C-2,3,7,8-TCDF	100.000	68748137	16914456

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.051		100.000	68748137	16914456

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
15.431	19659	5704	32802	6484	0.0726	0.60	RQ
15.431	19659	5704	25531	7407	0.0626		Empc Correction
15.688	37502	6858	47177	10514	0.1172	0.79	
15.915	31375	8332	41902	8260	0.1014	0.75	
16.142	41255	8490	60378	12343	0.1407	0.68	
16.414	274693	66696	341376	78128	0.8529	0.80	
17.185	72404	10956	67952	13147	0.1943	1.07	RQ
17.185	52323	10123	67952	13147	0.1665		Empc Correction
18.500	40367	9044	55398	11546	0.1326	0.73	
Signal Totals:							
	497174	115247	639714	141345			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1164240	256502				0.80	RQ
	1136888	256592					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.612 = (1164240 * 100.000) / (68748137 * 1.051)
Empc Amount: 1.574 = (1136888 * 100.000) / (68748137 * 1.051)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_6.d
Lims ID: 600-194690-C-1-A
Client ID: 1. CEFF
Inject. Date: 05-Nov-2019 23:22:26 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 6

Non-2,3,7,8-sub-HxCDF, RT: 29.354

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.197	D 13C-1,2,3,4,7,8-HxCDF	100.000	42791515	4860394
1,2,3,6,7,8-HxCDF	1.181	D 13C-1,2,3,6,7,8-HxCDF	100.000	44978812	5667376
2,3,4,6,7,8-HxCDF	1.212	D 13C-2,3,4,6,7,8-HxCDF	100.000	41295873	8126927
1,2,3,7,8,9-HxCDF	1.245	D 13C-1,2,3,7,8,9-HxCDF	100.000	36468987	7794984

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.209		100.000	41383796	6612420

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags

Compound is Marked ND

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_6.d
Lims ID: 600-194690-C-1-A
Client ID: 1. CEFF
Inject. Date: 05-Nov-2019 23:22:26 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 6

Non-2,3,7,8-sub-HpCDD, RT: 34.038

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.932	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	27071063	7352662

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.932		100.000	27071063	7352662

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
33.637	23255	6894	20342	6744	0.1729	1.14	M
Signal Totals:							
	23255	6894	20342	6744			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	43597	13638				1.14	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.1729 = (43597 * 100.000) / (27071063 * 0.932)

QC Flag Legend

Review Flags
M - Manually Integrated

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_6.d				
Injection Date:	05-Nov-2019 23:22:26	Instrument ID:	10D5		
Lims ID:	600-194690-C-1-A	Lab Sample ID:	320-194690-1		
Client ID:	1. CEFF				
Operator ID:	ALM	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDF, CAS: 70648-26-9

Signal: 2

Processing Integration Results

RT: 29.56
Area: 66734
Amount: 0.248001
Amount Units: pg/ul

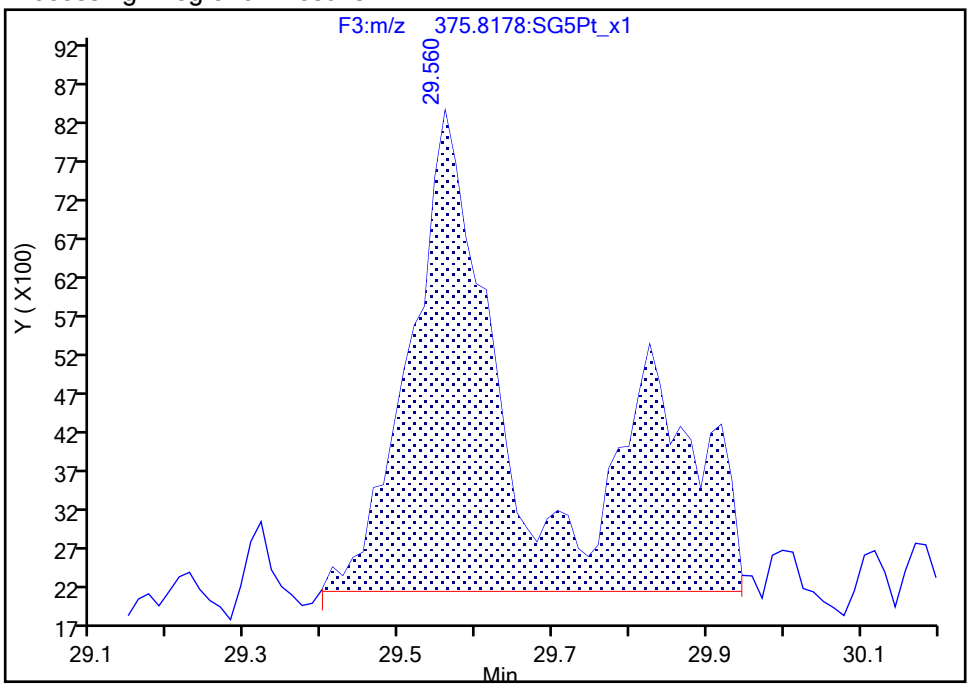

Manual Integration Results

RT: 29.56
Area: 43909
Amount: 0.203452
Amount Units: pg/ul

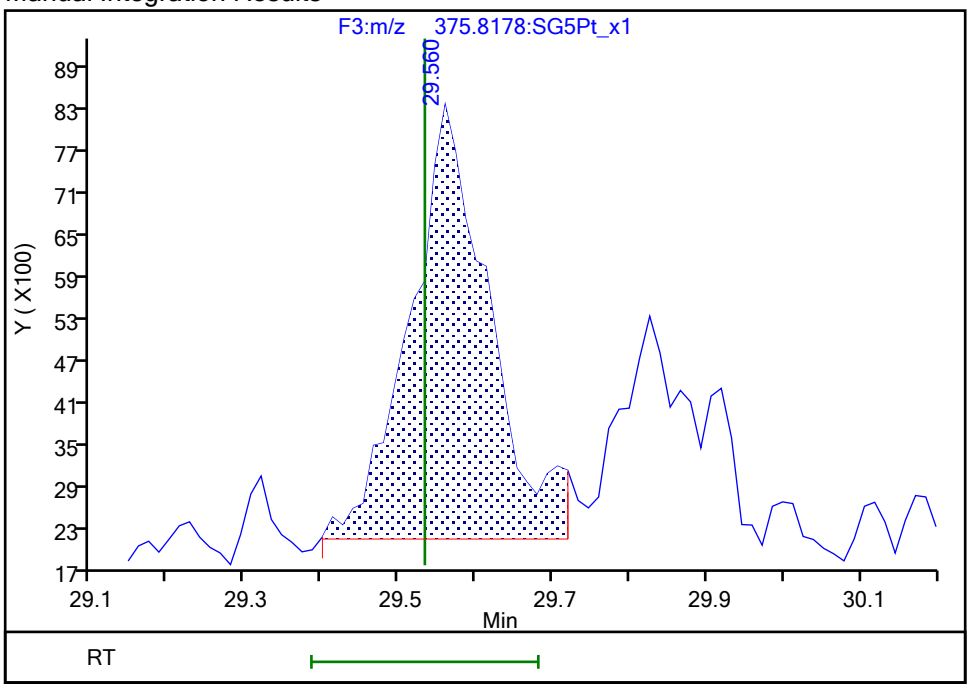

Reviewer: dadunj, 08-Nov-2019 08:45:06

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_6.d				
Injection Date:	05-Nov-2019 23:22:26	Instrument ID:	10D5		
Lims ID:	600-194690-C-1-A	Lab Sample ID:	320-194690-1		
Client ID:	1. CEFF				
Operator ID:	ALM	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDF, CAS: 57117-44-9

Signal: 1

Not Detected
Expected RT: 29.83

Processing Integration Results

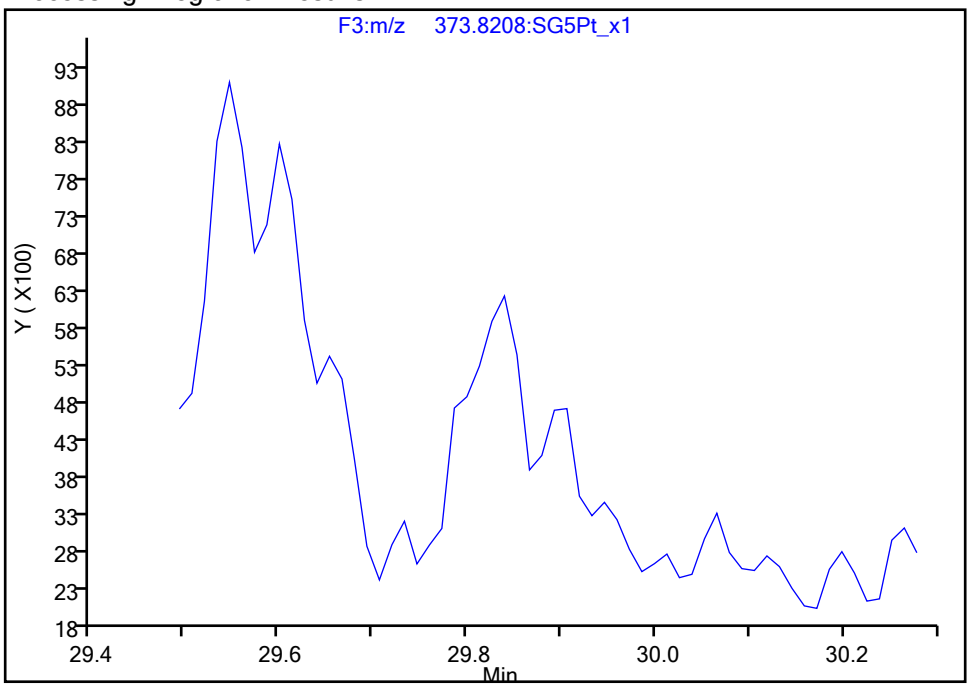

RT: 29.84
Area: 24661
Amount: 0.089420
Amount Units: pg/ul

Manual Integration Results

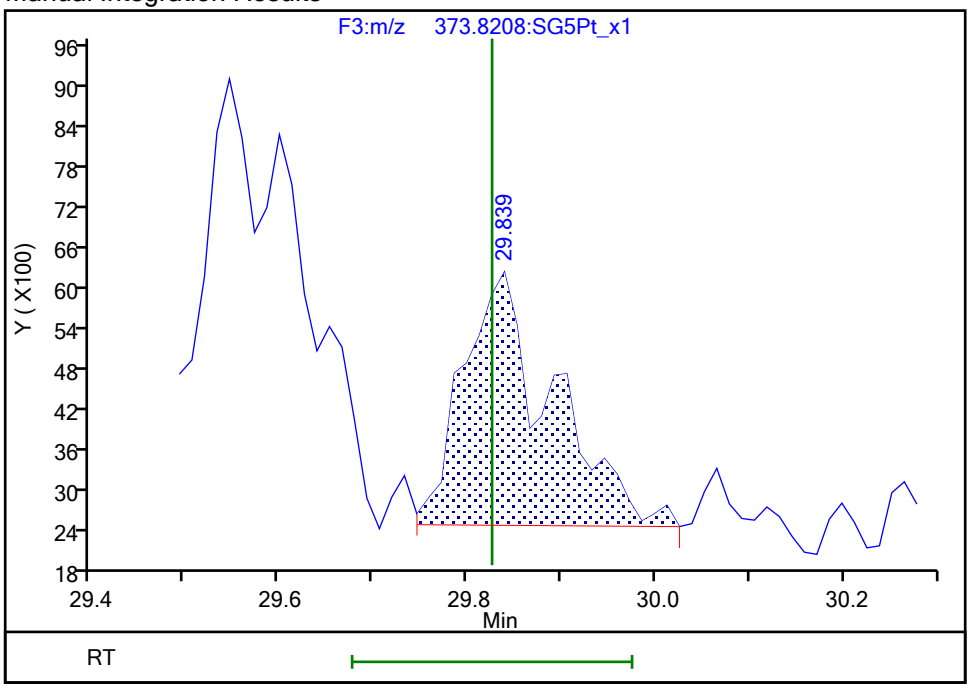

Reviewer: dadunj, 08-Nov-2019 08:45:55
Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_6.d				
Injection Date:	05-Nov-2019 23:22:26	Instrument ID:	10D5		
Lims ID:	600-194690-C-1-A	Lab Sample ID:	320-194690-1		
Client ID:	1. CEFF				
Operator ID:	ALM	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

2,3,4,6,7,8-HxCDF, CAS: 60851-34-5

Signal: 2

Processing Integration Results

RT: 30.93
Area: 16588
Amount: 0.068278
Amount Units: pg/ul

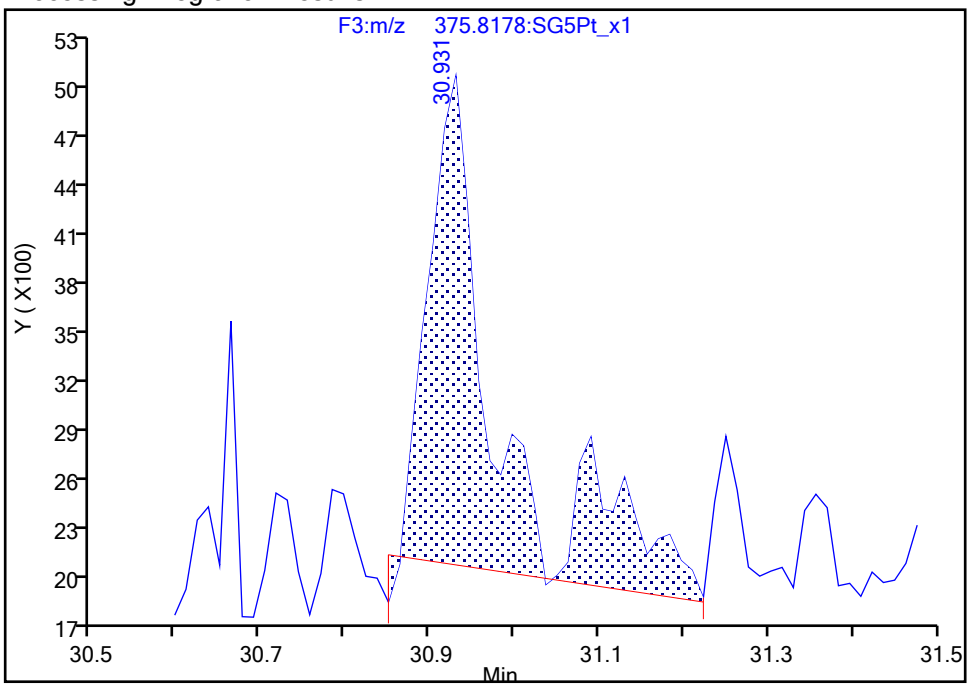

Manual Integration Results

RT: 30.93
Area: 12517
Amount: 0.060142
Amount Units: pg/ul

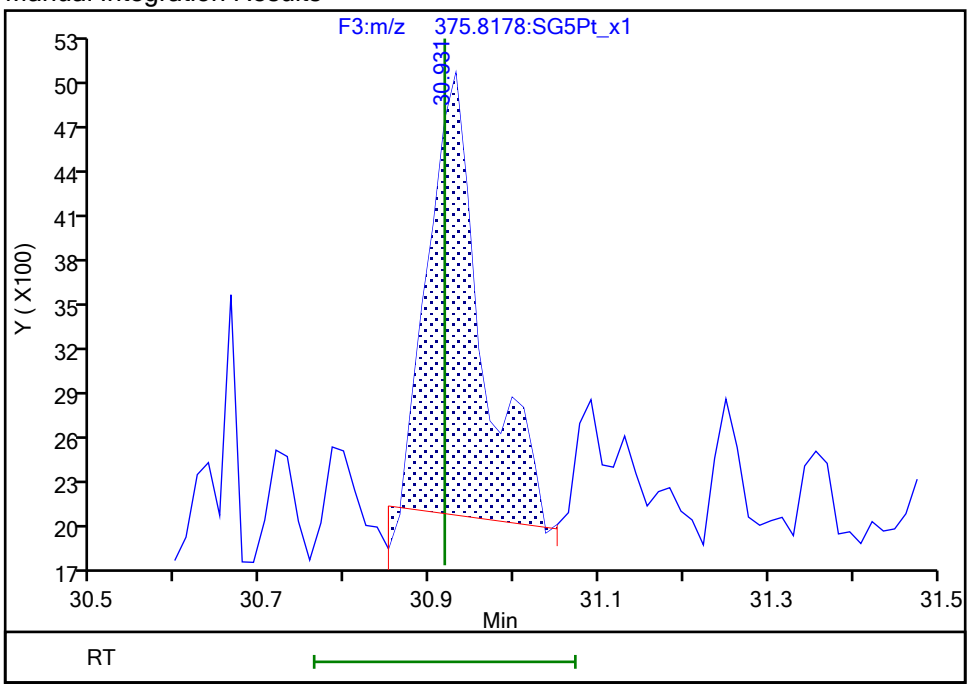

Reviewer: dadunj, 08-Nov-2019 08:46:00

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_6.d				
Injection Date:	05-Nov-2019 23:22:26	Instrument ID:	10D5		
Lims ID:	600-194690-C-1-A	Lab Sample ID:	320-194690-1		
Client ID:	1. CEFF				
Operator ID:	ALM	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 1

Processing Integration Results

RT: 31.86
Area: 32588
Amount: 0.133902
Amount Units: pg/ul

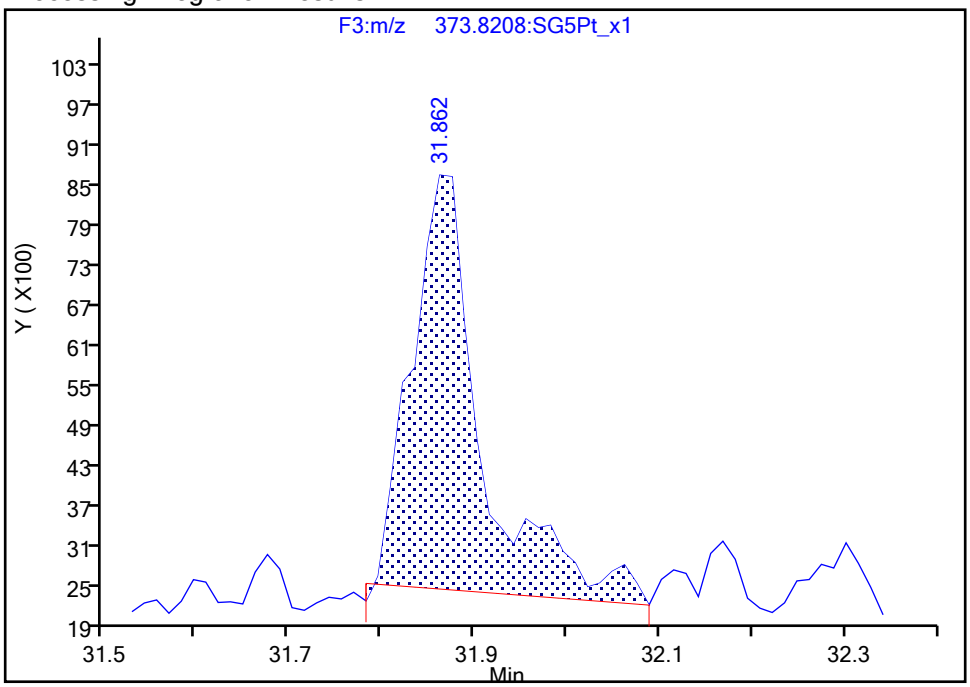

Manual Integration Results

RT: 31.86
Area: 26632
Amount: 0.105271
Amount Units: pg/ul

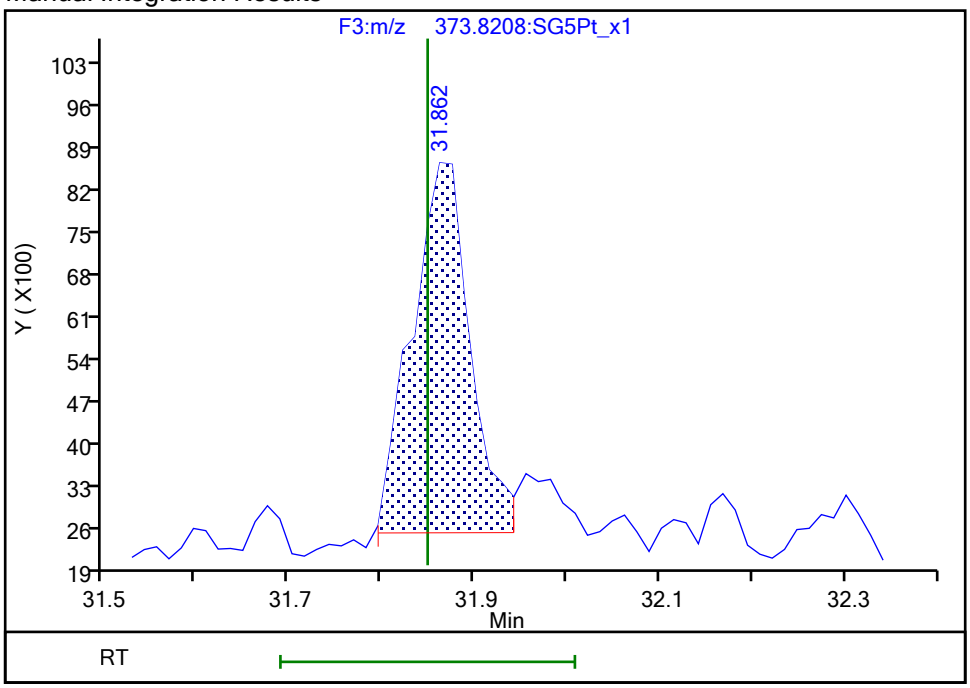

Reviewer: dadunj, 08-Nov-2019 08:46:17

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_6.d				
Injection Date:	05-Nov-2019 23:22:26	Instrument ID:	10D5		
Lims ID:	600-194690-C-1-A	Lab Sample ID:	320-194690-1		
Client ID:	1. CEFF				
Operator ID:	ALM	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 2

Processing Integration Results

RT: 31.85
Area: 28215
Amount: 0.133902
Amount Units: pg/ul

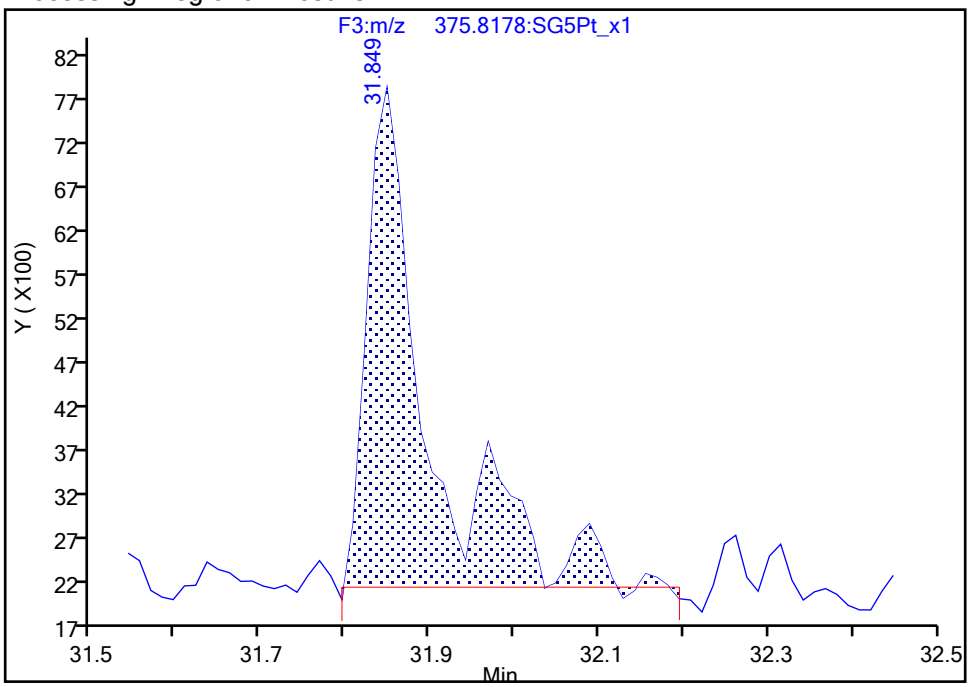

Manual Integration Results

RT: 31.85
Area: 21170
Amount: 0.105271
Amount Units: pg/ul

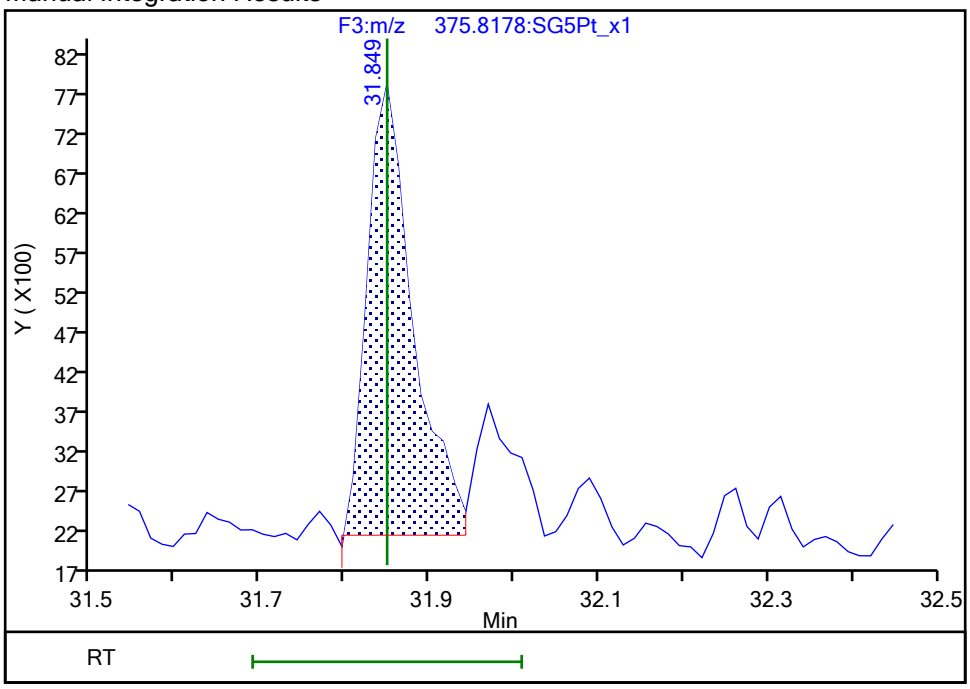

Reviewer: dadunj, 08-Nov-2019 08:46:19

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_6.d				
Injection Date:	05-Nov-2019 23:22:26	Instrument ID:	10D5		
Lims ID:	600-194690-C-1-A	Lab Sample ID:	320-194690-1		
Client ID:	1. CEFF				
Operator ID:	ALM	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 1

Processing Integration Results

RT: 31.17
Area: 40777
Amount: 0.231361
Amount Units: pg/ul

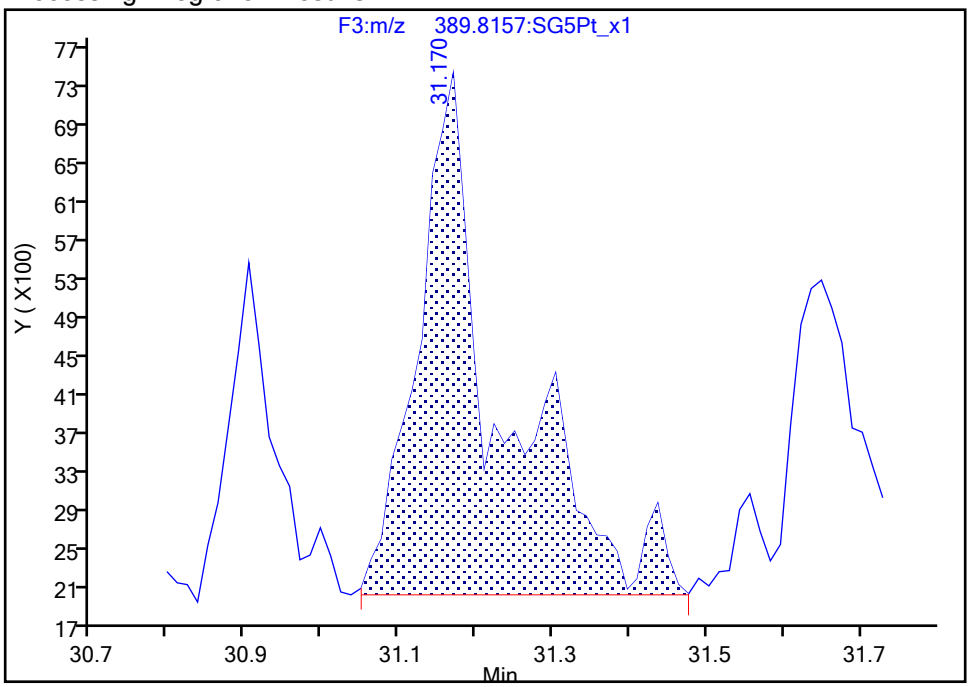

Manual Integration Results

RT: 31.17
Area: 24519
Amount: 0.133034
Amount Units: pg/ul

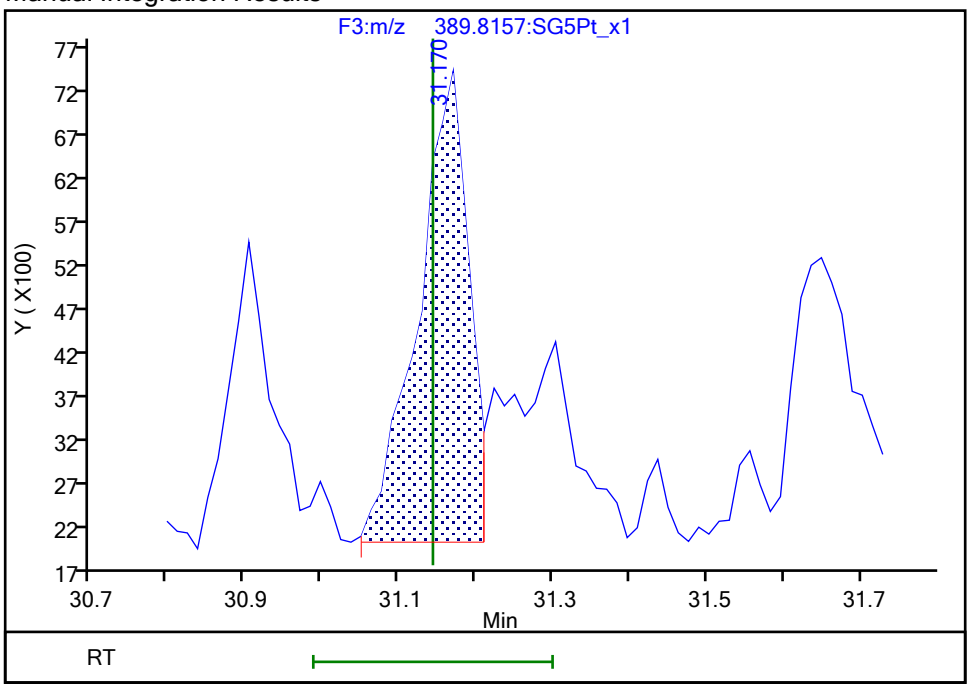

Reviewer: dadunj, 08-Nov-2019 08:50:29

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_6.d				
Injection Date:	05-Nov-2019 23:22:26	Instrument ID:	10D5		
Lims ID:	600-194690-C-1-A	Lab Sample ID:	320-194690-1		
Client ID:	1. CEFF				
Operator ID:	ALM	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 2

Processing Integration Results

RT: 31.17
Area: 32149
Amount: 0.231361
Amount Units: pg/ul

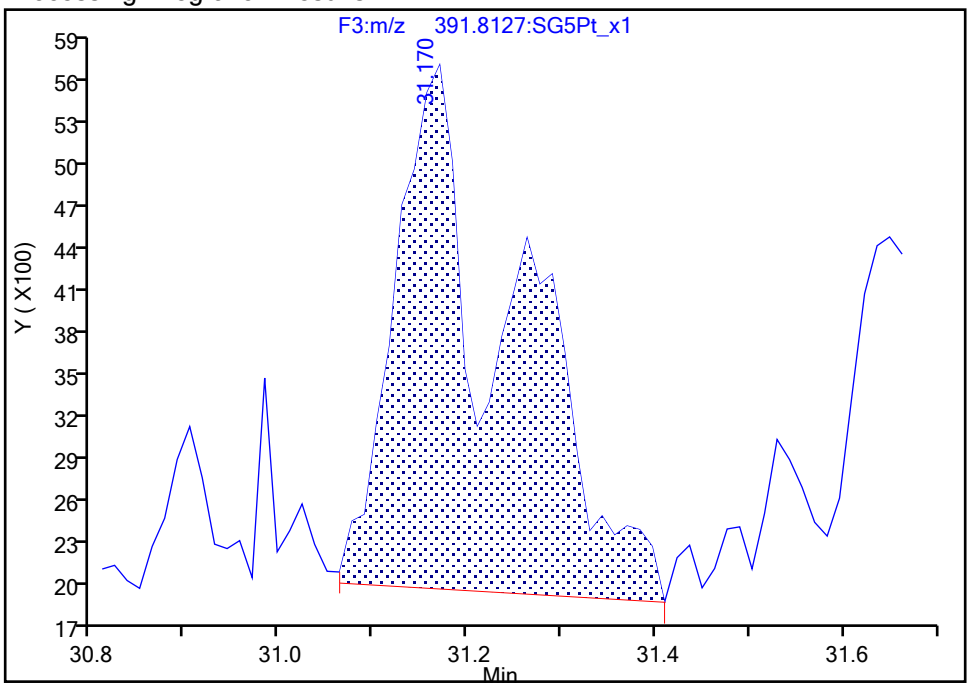

Manual Integration Results

RT: 31.17
Area: 17414
Amount: 0.133034
Amount Units: pg/ul

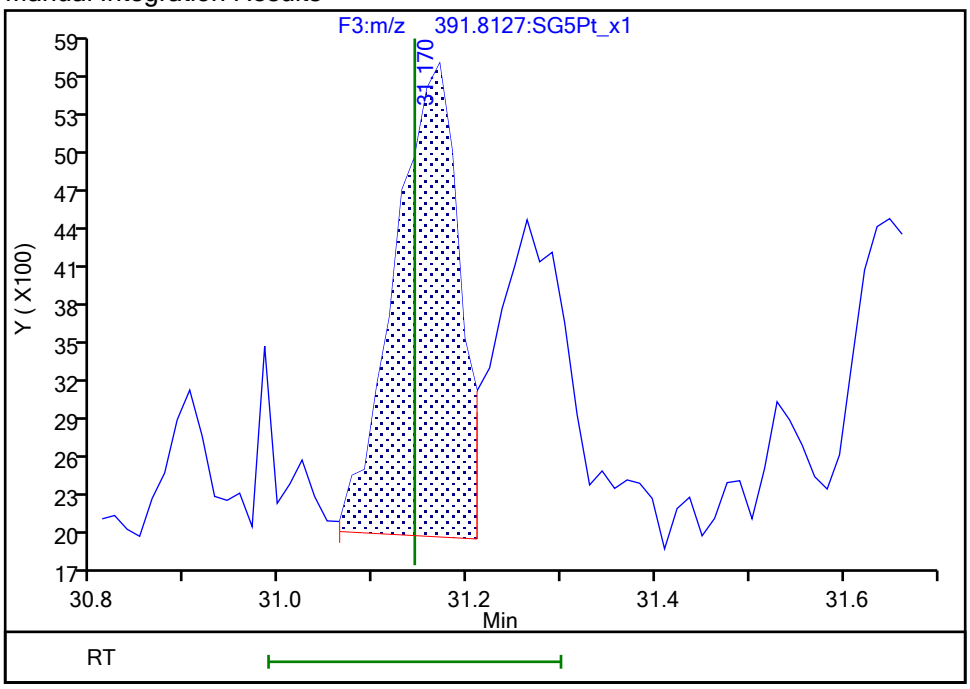

Reviewer: dadunj, 08-Nov-2019 08:50:31

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_6.d				
Injection Date:	05-Nov-2019 23:22:26	Instrument ID:	10D5		
Lims ID:	600-194690-C-1-A	Lab Sample ID:	320-194690-1		
Client ID:	1. CEFF				
Operator ID:	ALM	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 2

Processing Integration Results

RT: 31.17
Area: 32149
Amount: 0.200833
Amount Units: pg/ul

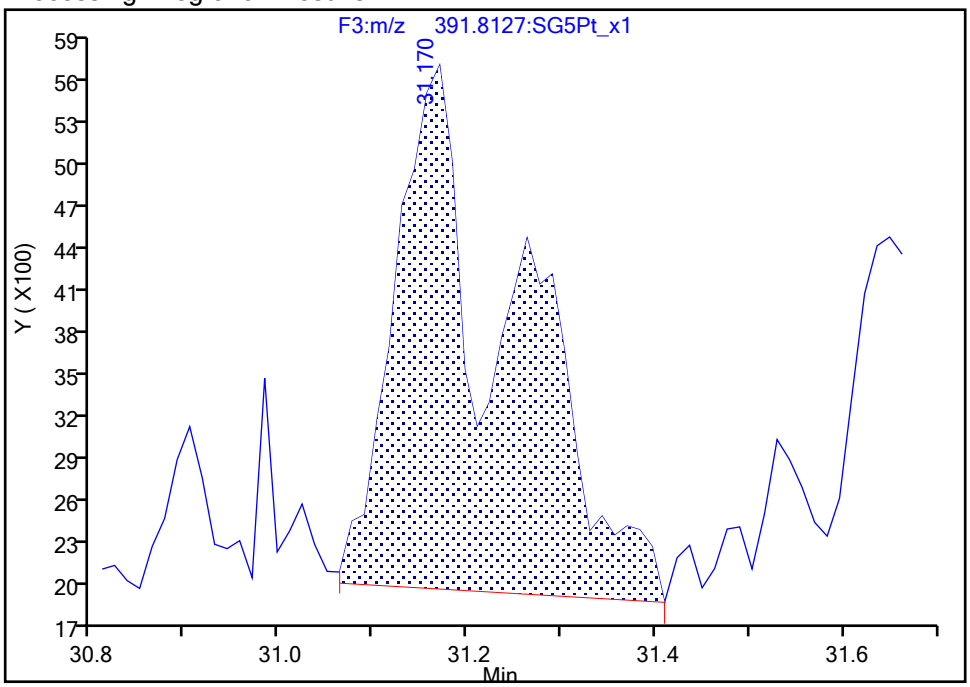

Manual Integration Results

RT: 31.26
Area: 14744
Amount: 0.085374
Amount Units: pg/ul

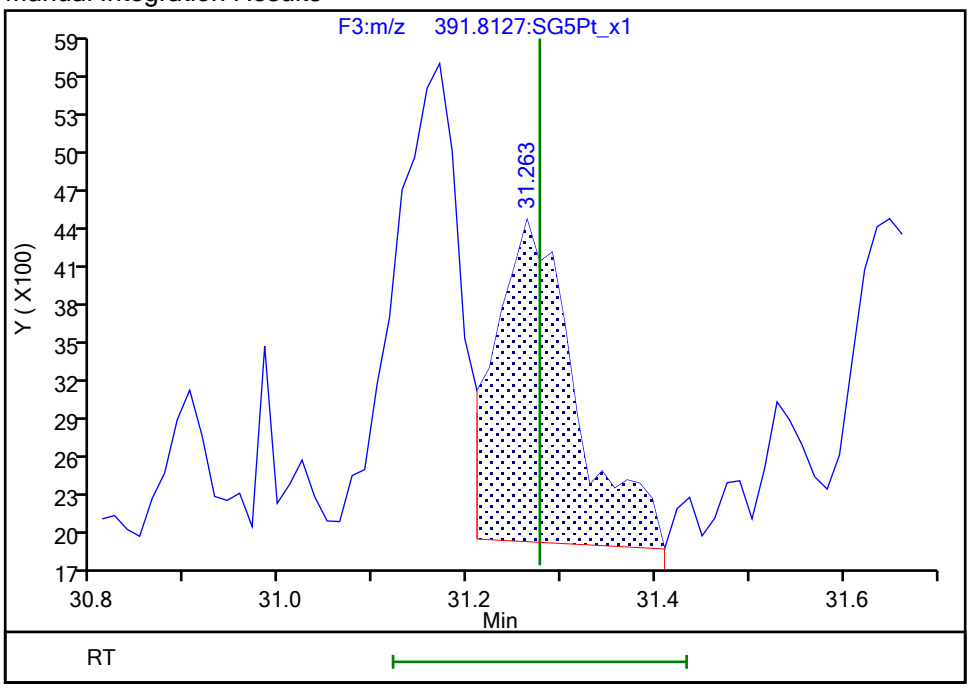

Reviewer: dadunj, 08-Nov-2019 08:50:35

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_6.d				
Injection Date:	05-Nov-2019 23:22:26	Instrument ID:	10D5		
Lims ID:	600-194690-C-1-A	Lab Sample ID:	320-194690-1		
Client ID:	1. CEFF				
Operator ID:	ALM	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 3

RT: 31.17
Area: 72926
Amount: 0.200833
Amount Units: pg/ul

Processing Integration Results

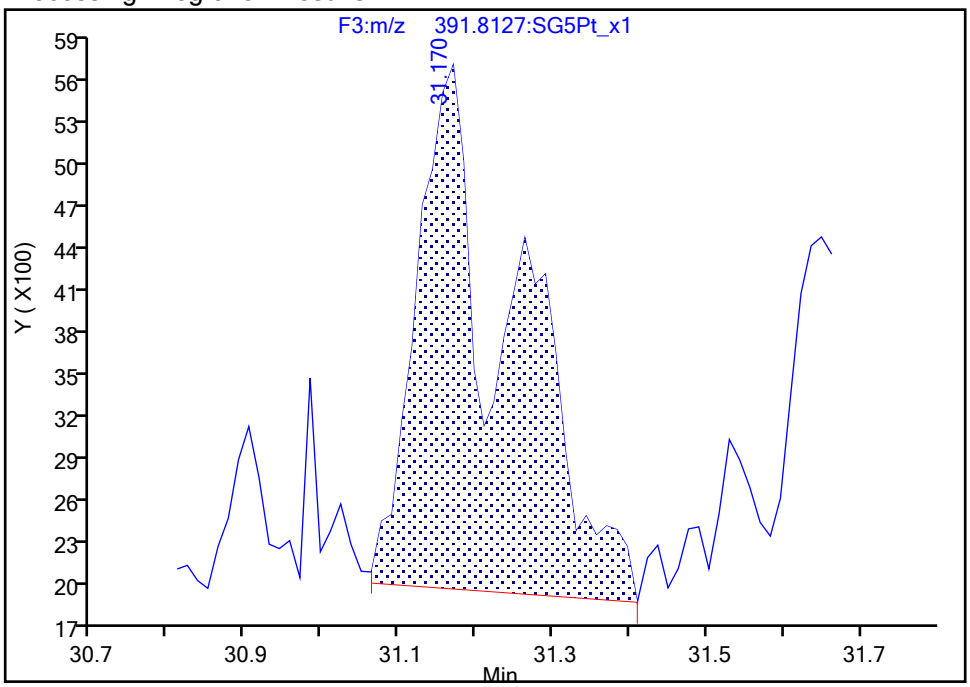

Manual Integration Results

RT: 31.30
Area: 31001
Amount: 0.085374
Amount Units: pg/ul
Reviewer: dadunj, 08-Nov-2019 08:50:35
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_6.d				
Injection Date:	05-Nov-2019 23:22:26	Instrument ID:	10D5		
Lims ID:	600-194690-C-1-A	Lab Sample ID:	320-194690-1		
Client ID:	1. CEFF				
Operator ID:	ALM	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 1

Processing Integration Results

RT: 31.17
Area: 40777
Amount: 0.200833
Amount Units: pg/ul

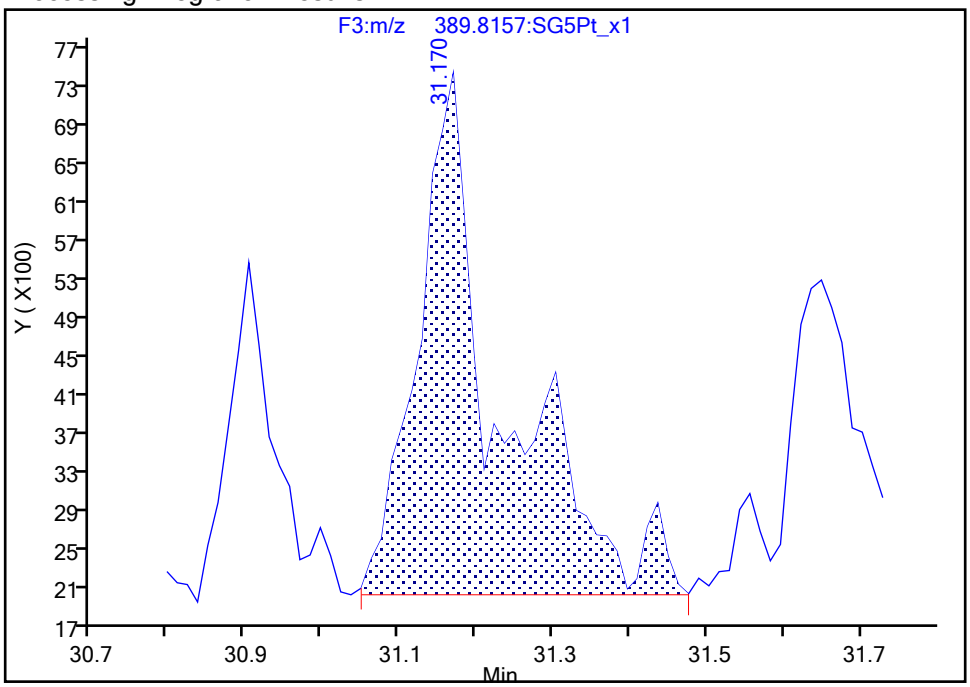

Manual Integration Results

RT: 31.30
Area: 16257
Amount: 0.085374
Amount Units: pg/ul

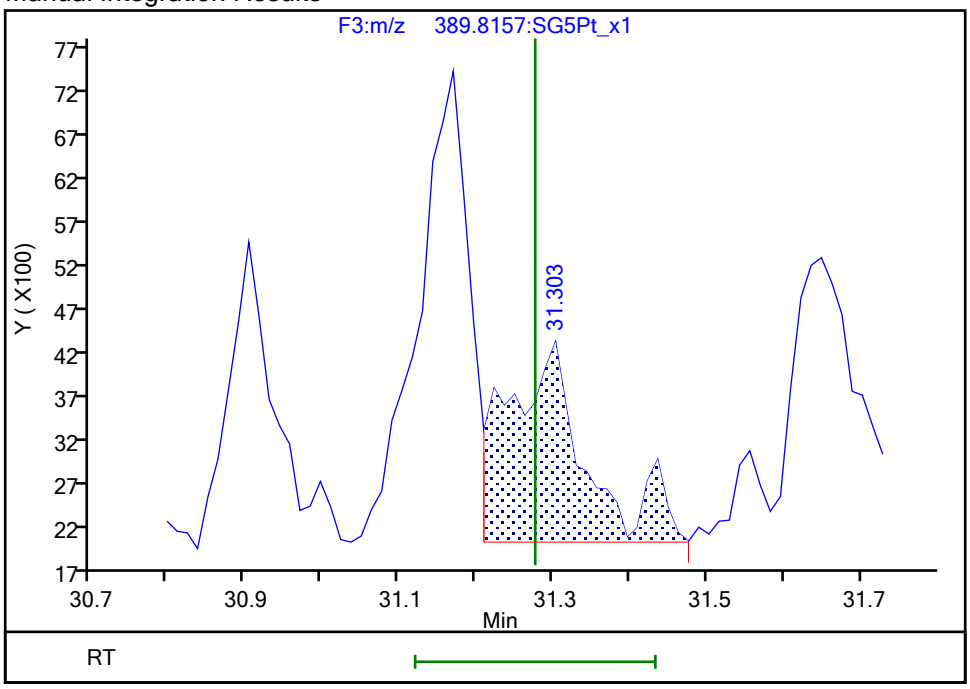

Reviewer: dadunj, 08-Nov-2019 08:50:36

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_6.d				
Injection Date:	05-Nov-2019 23:22:26	Instrument ID:	10D5		
Lims ID:	600-194690-C-1-A	Lab Sample ID:	320-194690-1		
Client ID:	1. CEFF				
Operator ID:	ALM	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 1

Processing Integration Results

RT: 31.65
Area: 30713
Amount: 0.113849
Amount Units: pg/ul

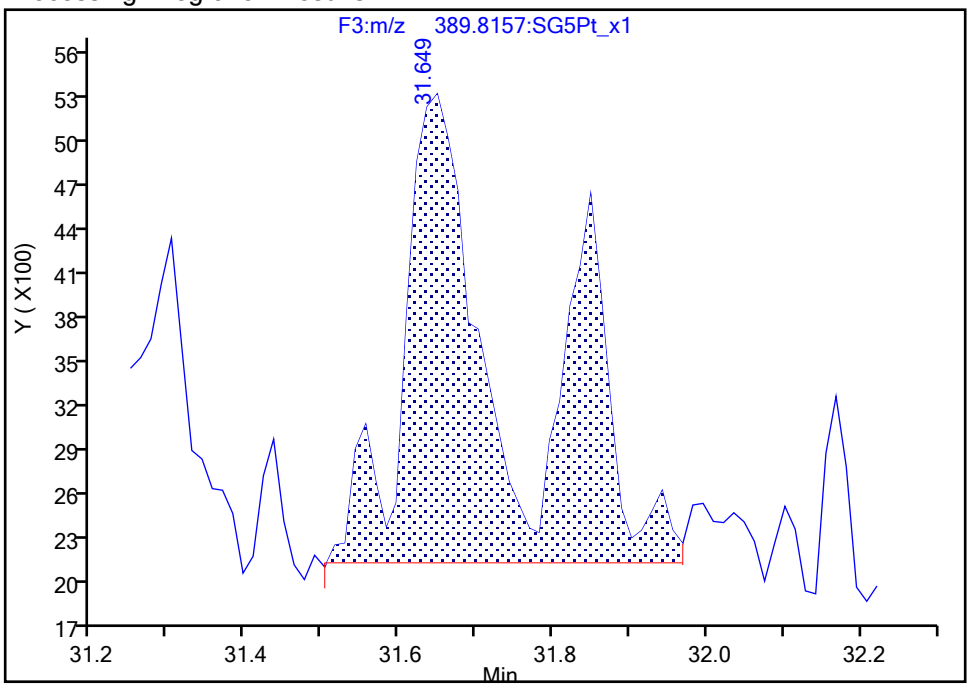

Manual Integration Results

RT: 31.65
Area: 20241
Amount: 0.085987
Amount Units: pg/ul

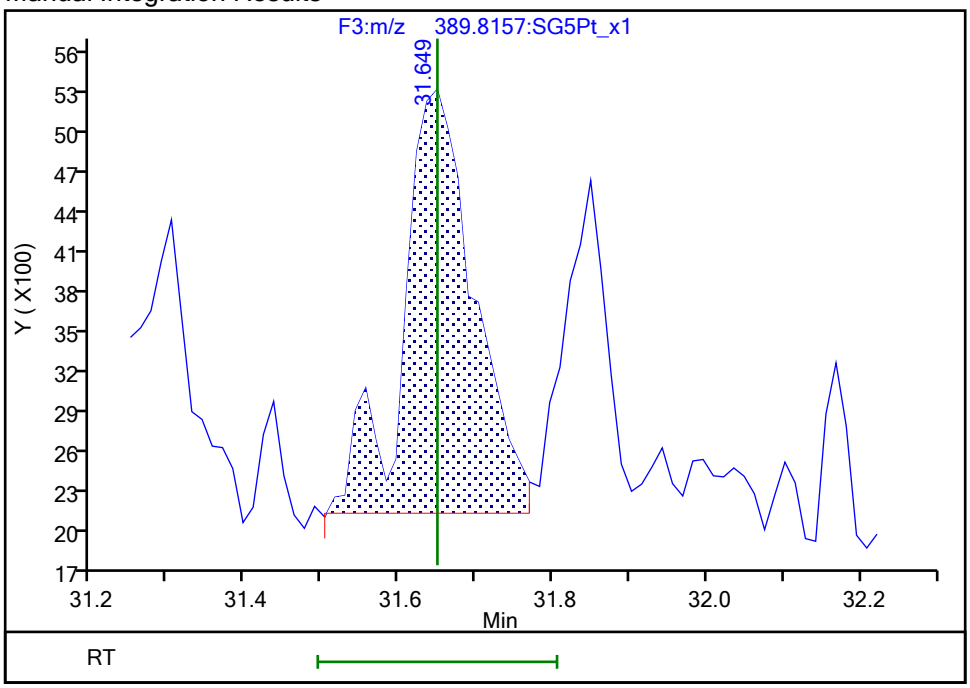

Reviewer: dadunj, 08-Nov-2019 08:50:41

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_6.d				
Injection Date:	05-Nov-2019 23:22:26	Instrument ID:	10D5		
Lims ID:	600-194690-C-1-A	Lab Sample ID:	320-194690-1		
Client ID:	1. CEFF				
Operator ID:	ALM	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 1

Processing Integration Results

RT: 33.41
Area: 31526
Amount: 0.159830
Amount Units: pg/ul

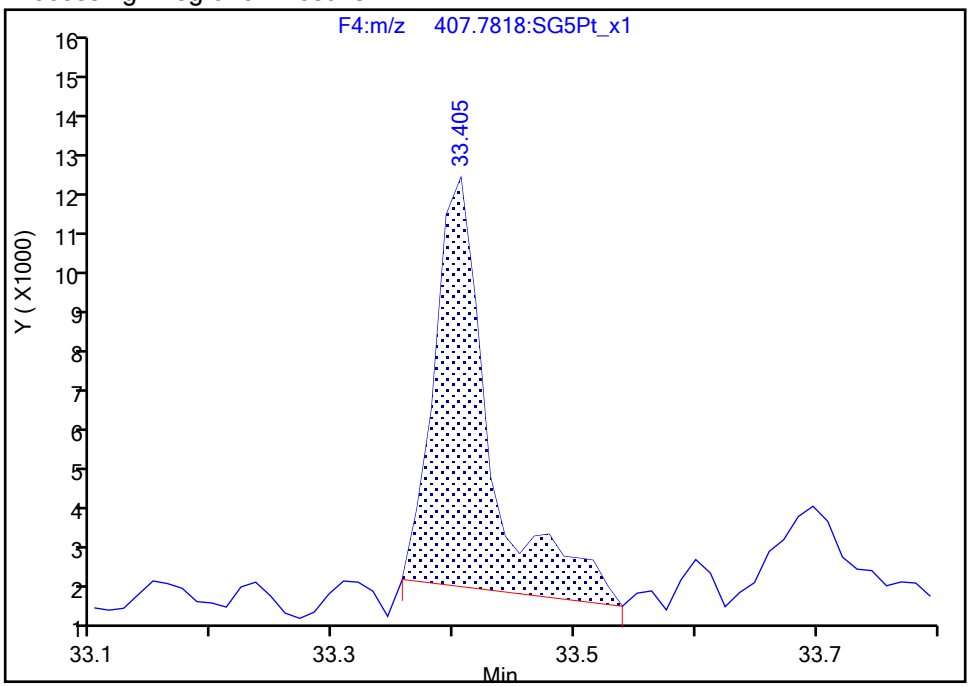

Manual Integration Results

RT: 33.41
Area: 30433
Amount: 0.151755
Amount Units: pg/ul

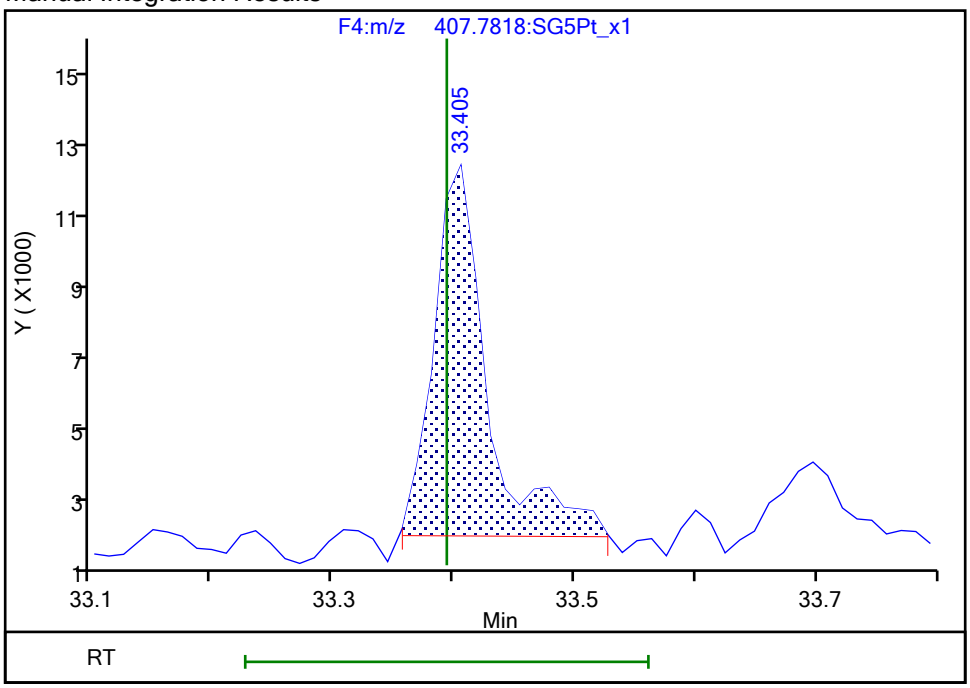

Reviewer: dadunj, 08-Nov-2019 08:50:55

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_6.d				
Injection Date:	05-Nov-2019 23:22:26	Instrument ID:	10D5		
Lims ID:	600-194690-C-1-A	Lab Sample ID:	320-194690-1		
Client ID:	1. CEFF				
Operator ID:	ALM	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 2

Processing Integration Results

RT: 33.39
Area: 32112
Amount: 0.159830
Amount Units: pg/ul

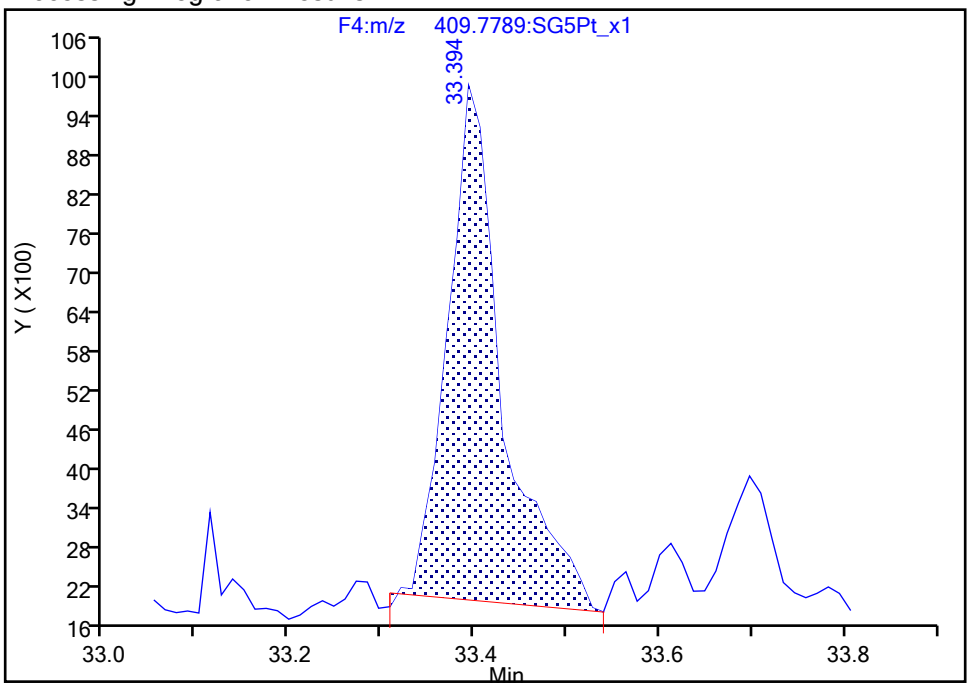

Manual Integration Results

RT: 33.39
Area: 29990
Amount: 0.151755
Amount Units: pg/ul

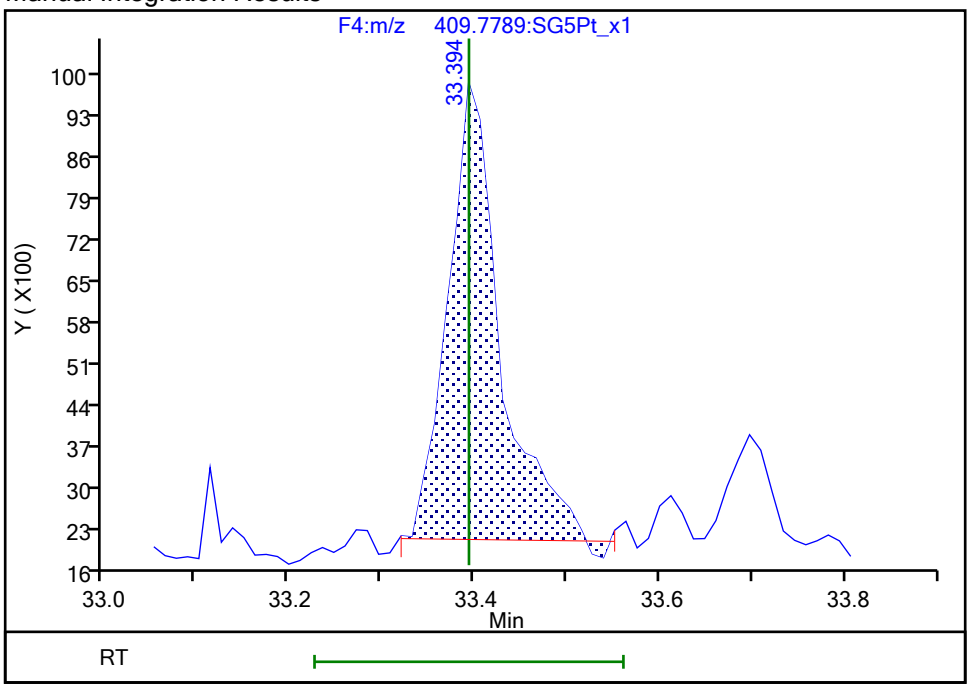

Reviewer: dadunj, 08-Nov-2019 08:51:01

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_6.d				
Injection Date:	05-Nov-2019 23:22:26	Instrument ID:	10D5		
Lims ID:	600-194690-C-1-A	Lab Sample ID:	320-194690-1		
Client ID:	1. CEFF				
Operator ID:	ALM	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,7,8,9-HpCDF, CAS: 55673-89-7

Signal: 1

Processing Integration Results

RT: 34.45
Area: 13332
Amount: 0.089861
Amount Units: pg/ul

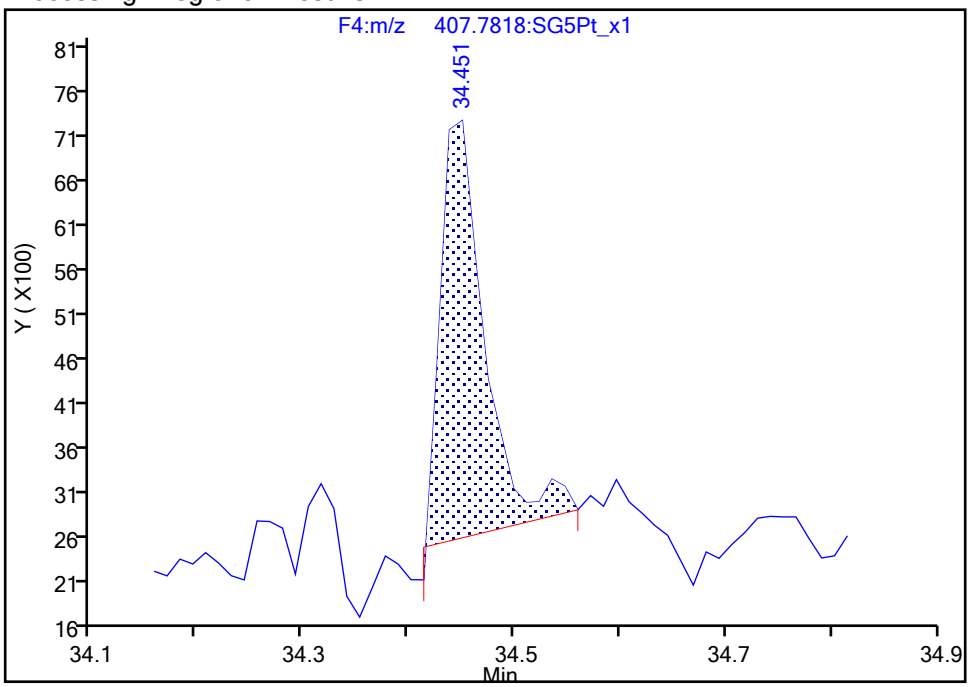

Manual Integration Results

RT: 34.45
Area: 13082
Amount: 0.089141
Amount Units: pg/ul

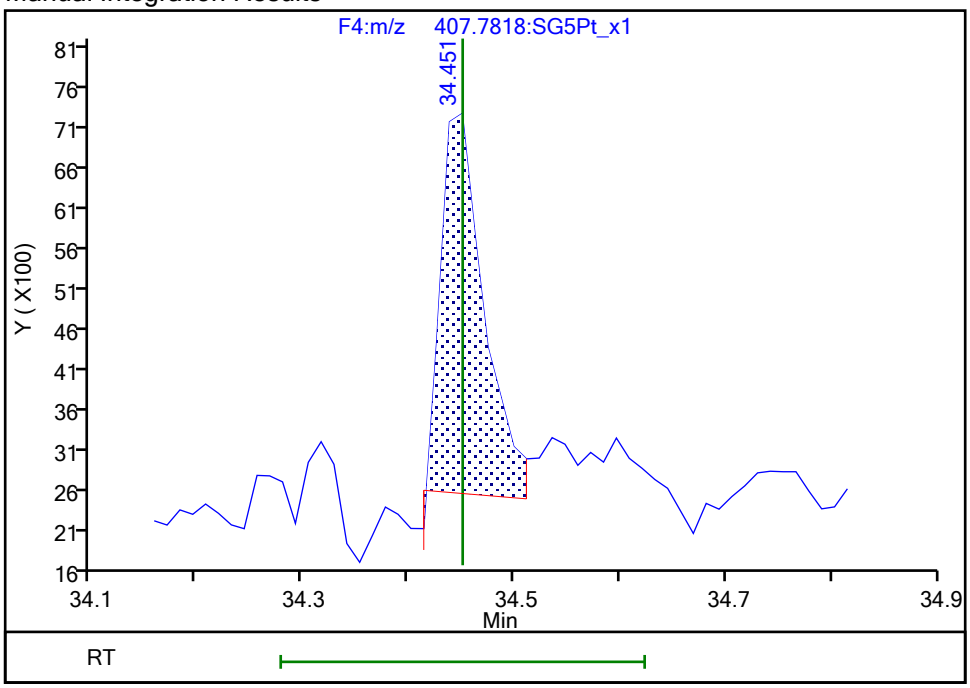

Reviewer: dadunj, 08-Nov-2019 08:51:11

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_6.d				
Injection Date:	05-Nov-2019 23:22:26	Instrument ID:	10D5		
Lims ID:	600-194690-C-1-A	Lab Sample ID:	320-194690-1		
Client ID:	1. CEFF				
Operator ID:	ALM	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 1

Processing Integration Results

RT: 34.18
Area: 38875
Amount: 0.291221
Amount Units: pg/ul

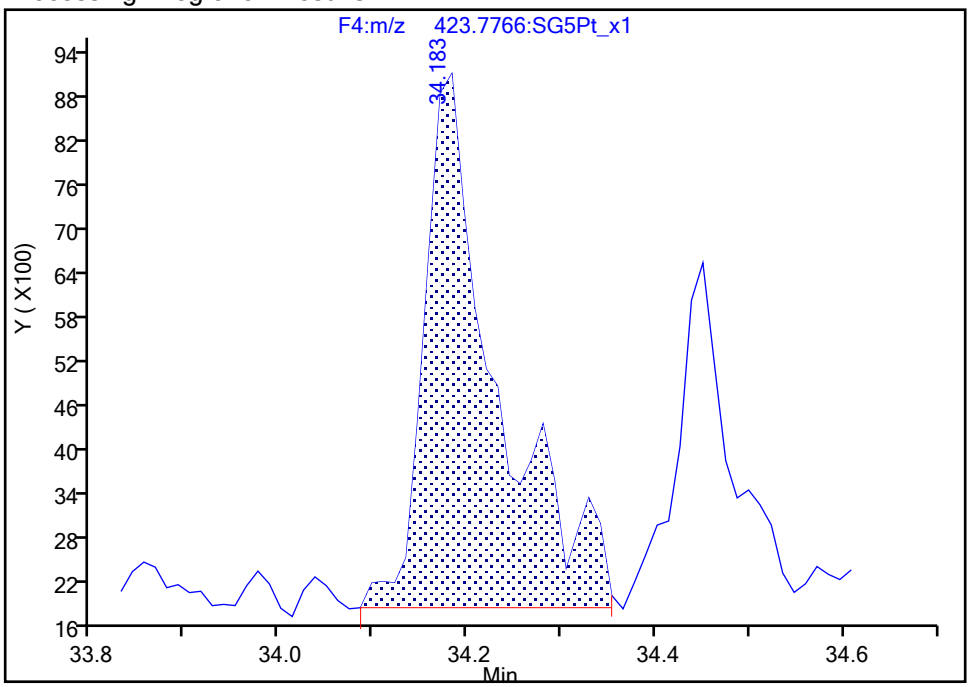

Manual Integration Results

RT: 34.18
Area: 30600
Amount: 0.253496
Amount Units: pg/ul

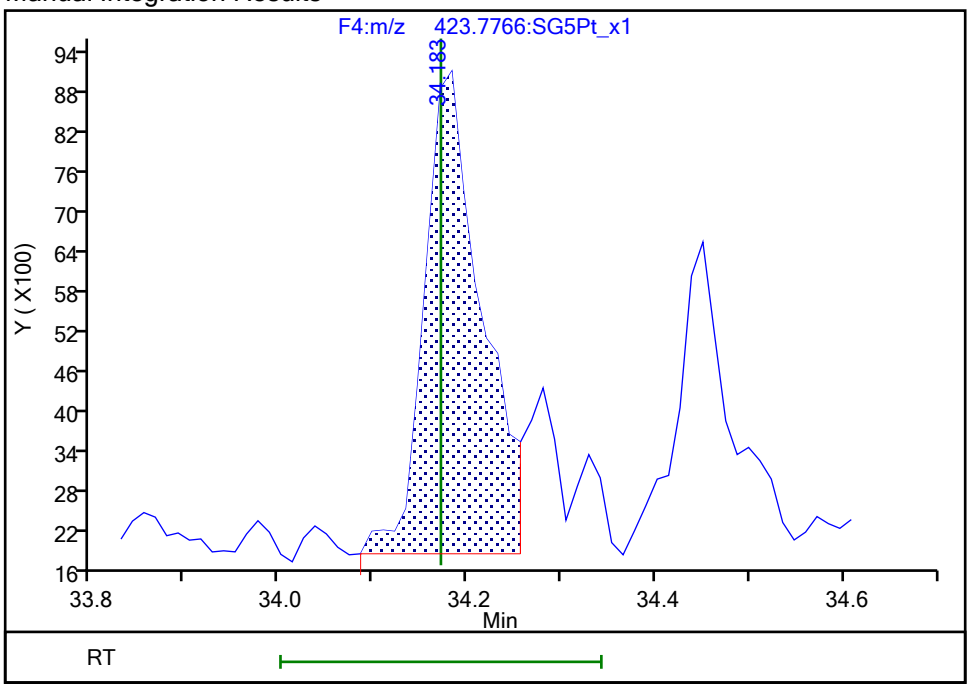

Reviewer: dadunj, 08-Nov-2019 08:51:24

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_6.d				
Injection Date:	05-Nov-2019 23:22:26	Instrument ID:	10D5		
Lims ID:	600-194690-C-1-A	Lab Sample ID:	320-194690-1		
Client ID:	1. CEFF				
Operator ID:	ALM	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 2

Processing Integration Results

RT: 34.17
Area: 34569
Amount: 0.291221
Amount Units: pg/ul

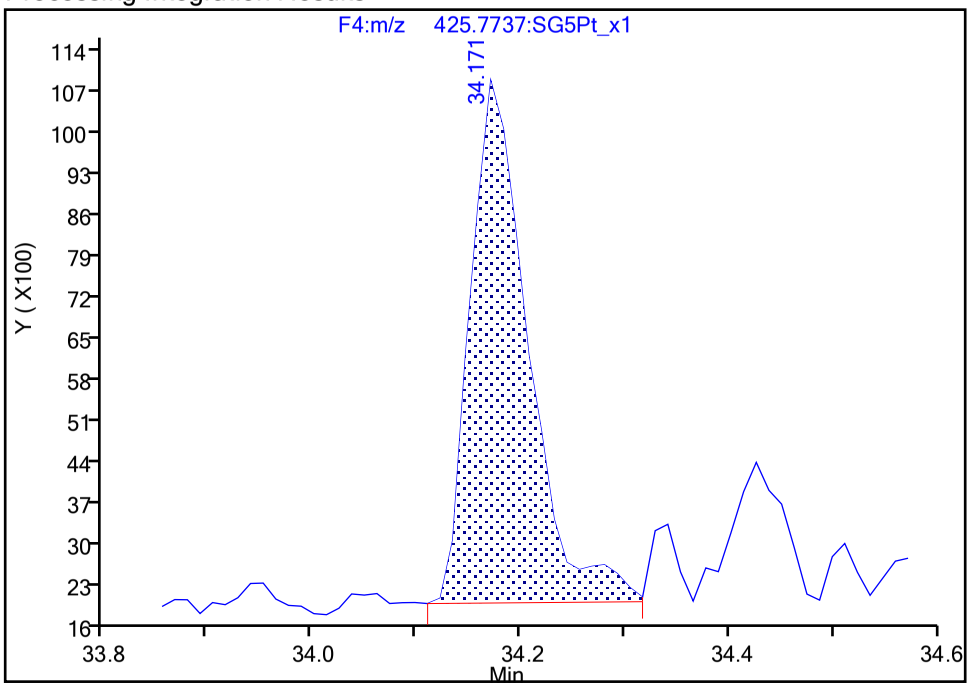

Manual Integration Results

RT: 34.17
Area: 33330
Amount: 0.253496
Amount Units: pg/ul

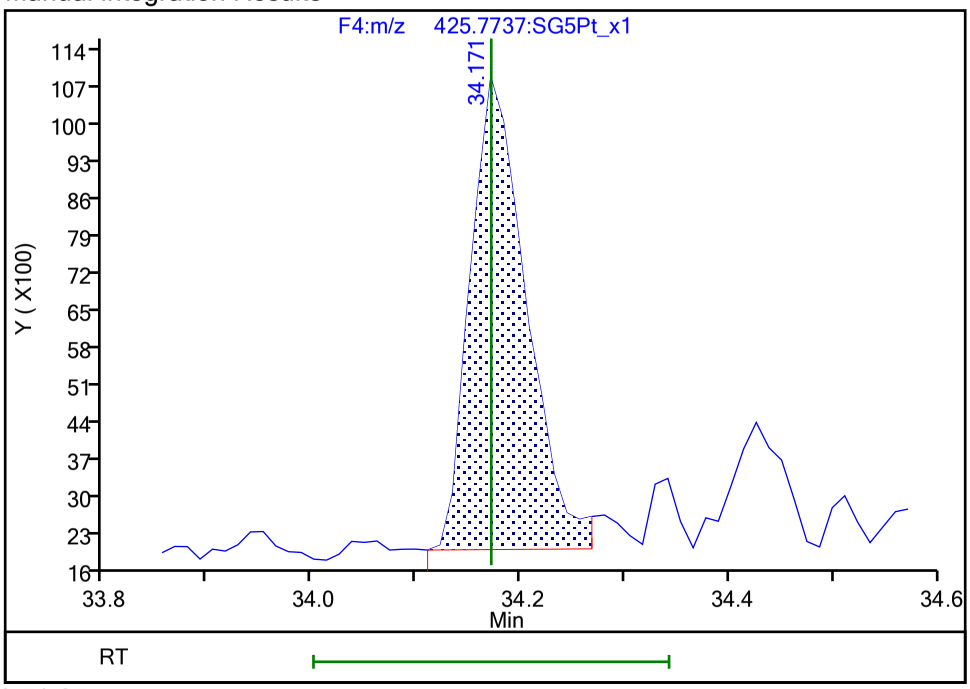

Reviewer: dadunj, 08-Nov-2019 08:51:25

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_6.d				
Injection Date:	05-Nov-2019 23:22:26	Instrument ID:	10D5		
Lims ID:	600-194690-C-1-A	Lab Sample ID:	320-194690-1		
Client ID:	1. CEFF				
Operator ID:	ALM	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

Non-2,3,7,8-sub-HpCDD, Signal: 2, m/z: 425.7737, RT: (33.59- 34.49)

Signal: 2

Processing Integration Results

RT = 33.637 Area = 23008

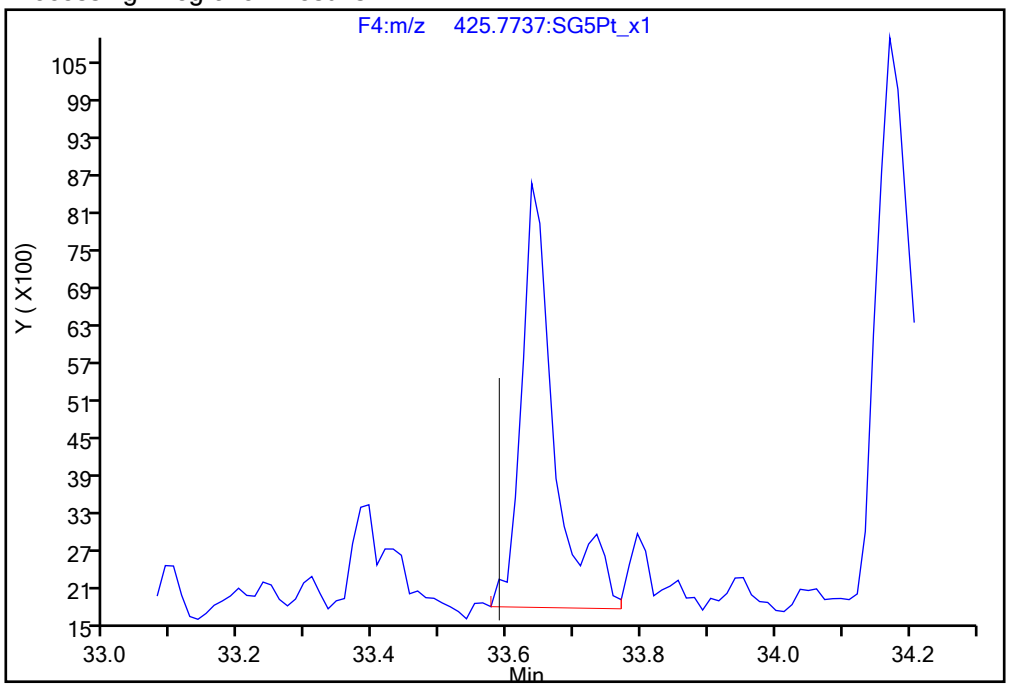

Manual Integration Results

RT = 33.637 Area = 20342 M

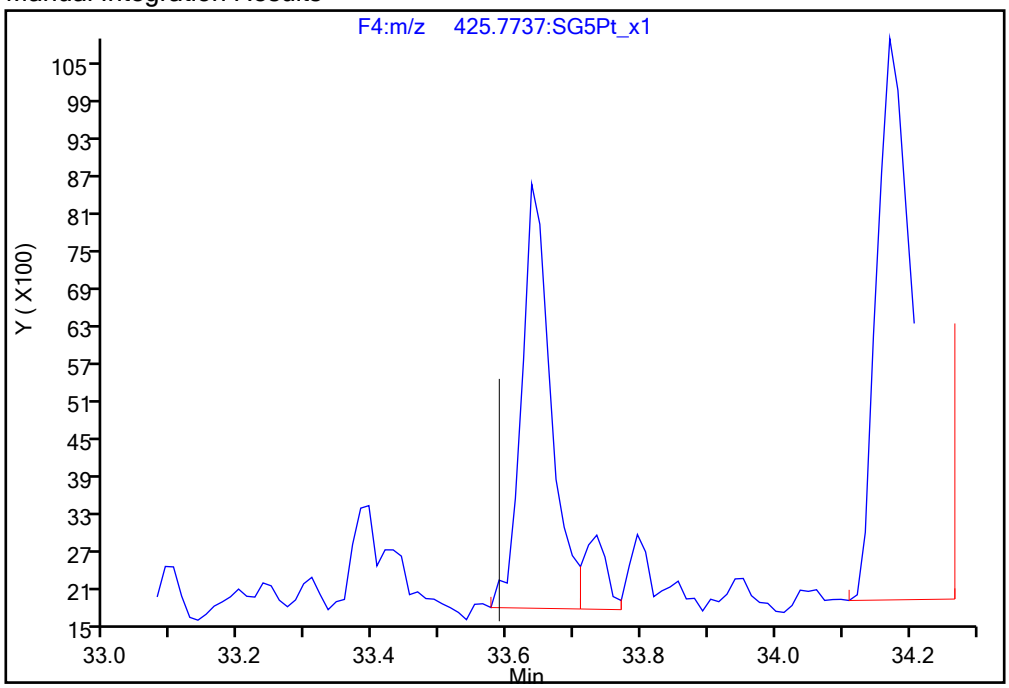

Reviewer: dadunj, 08-Nov-2019 08:51:37

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_6.d				
Injection Date:	05-Nov-2019 23:22:26	Instrument ID:	10D5		
Lims ID:	600-194690-C-1-A	Lab Sample ID:	320-194690-1		
Client ID:	1. CEFF				
Operator ID:	ALM	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5:HRSIR		

OCDD, CAS: 3268-87-9

Signal: 1

Processing Integration Results

RT: 36.46
Area: 230360
Amount: 2.339514
Amount Units: pg/ul

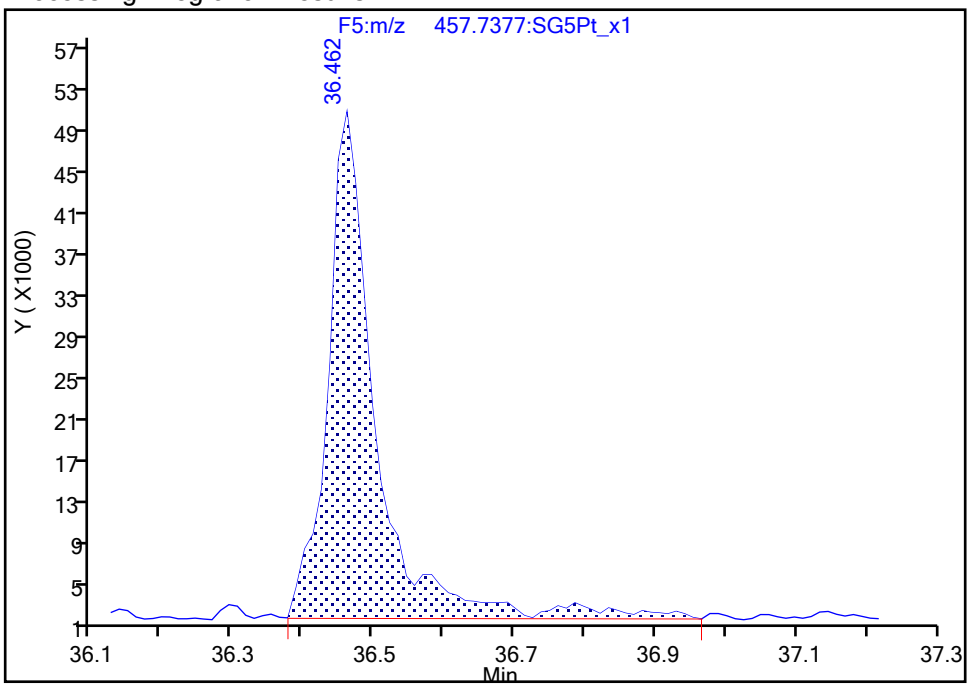

Manual Integration Results

RT: 36.46
Area: 219925
Amount: 2.288295
Amount Units: pg/ul

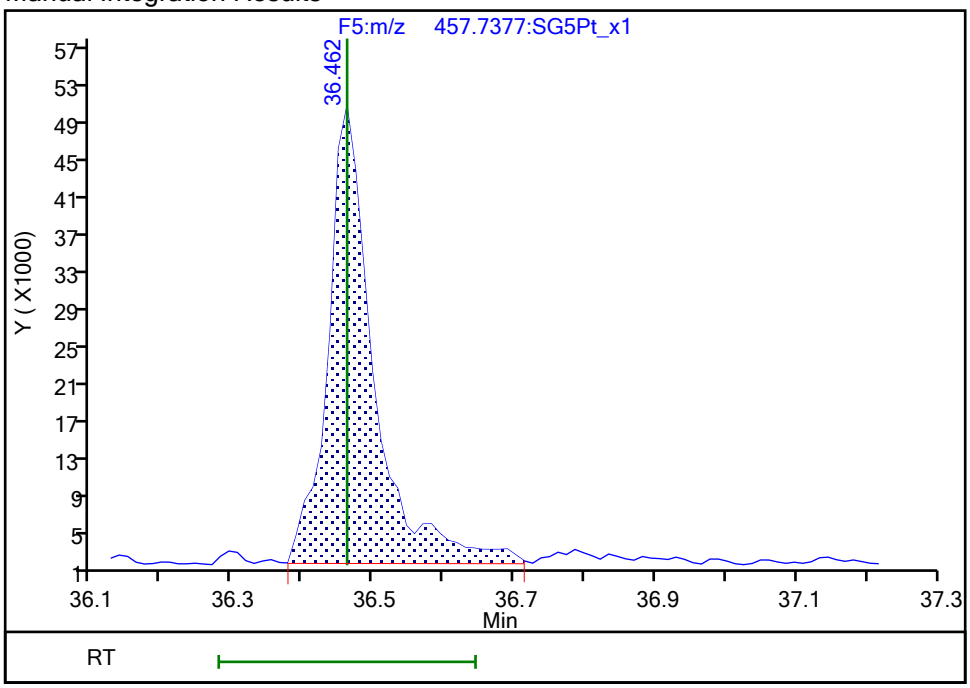

Reviewer: dadunj, 08-Nov-2019 08:51:46

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 08-Nov-2019 08:52:42 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_6.d		
Injection Date:	05-Nov-2019 23:22:26	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	1. CEFF		
Worklist#:	336302	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

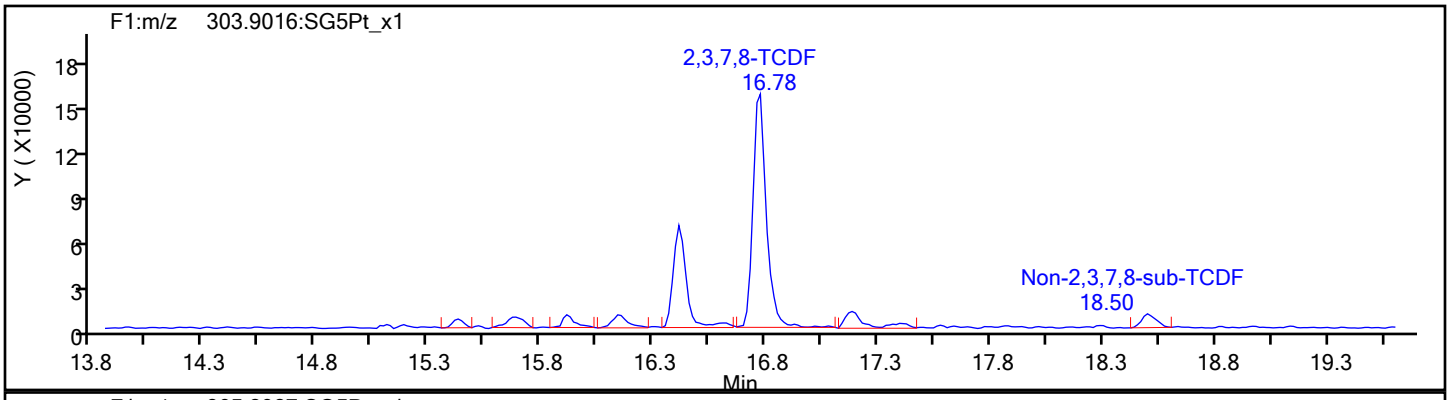

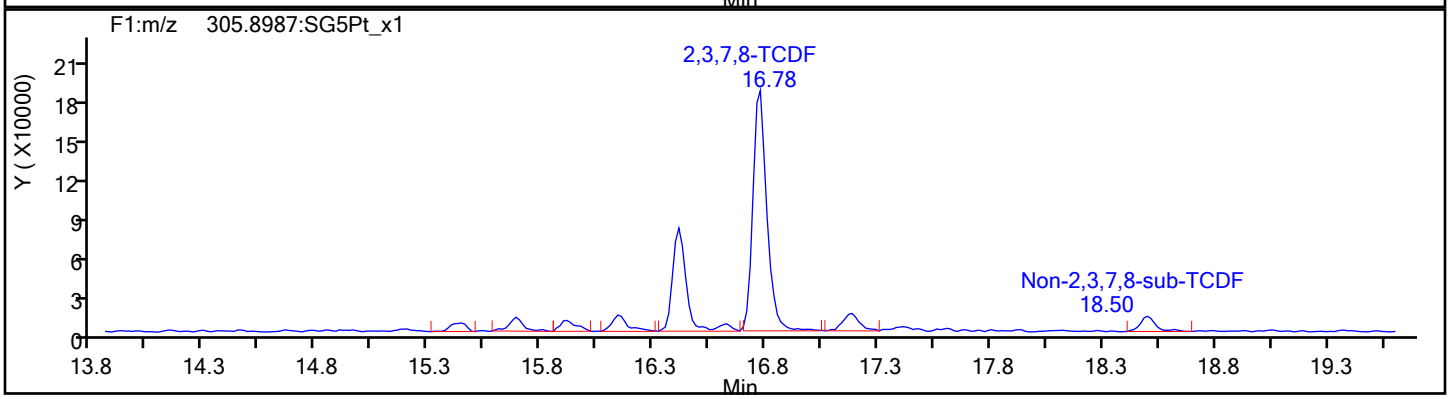

TCDF Standards

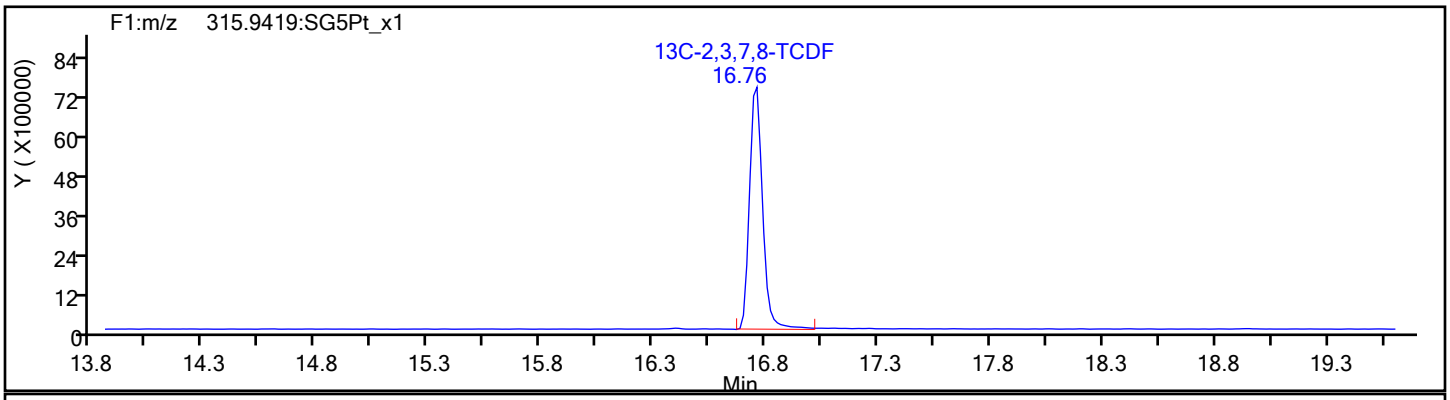

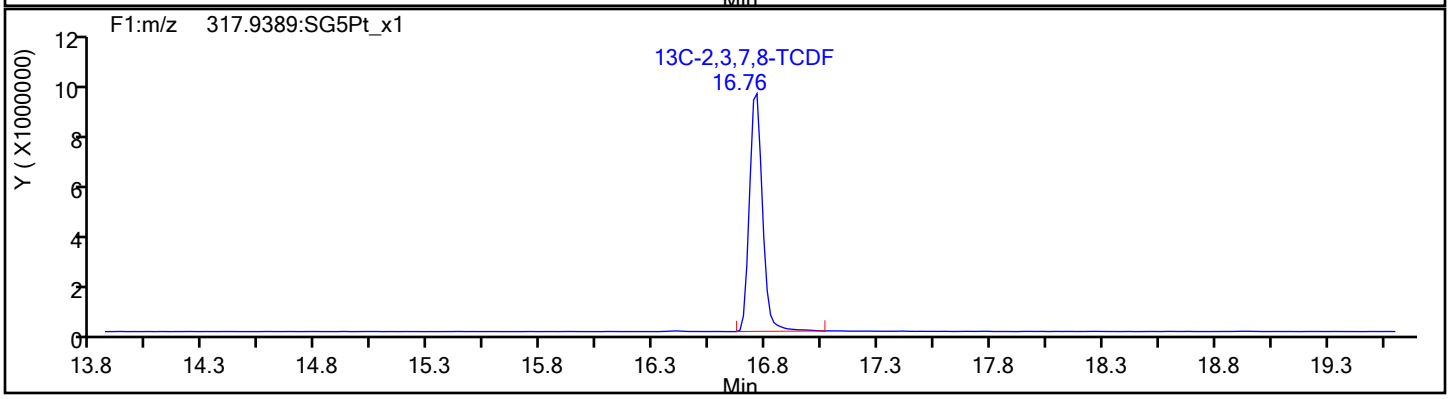

Report Date: 08-Nov-2019 08:52:42 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_6.d		
Injection Date:	05-Nov-2019 23:22:26	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	1. CEFF		
Worklist#:	336302	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

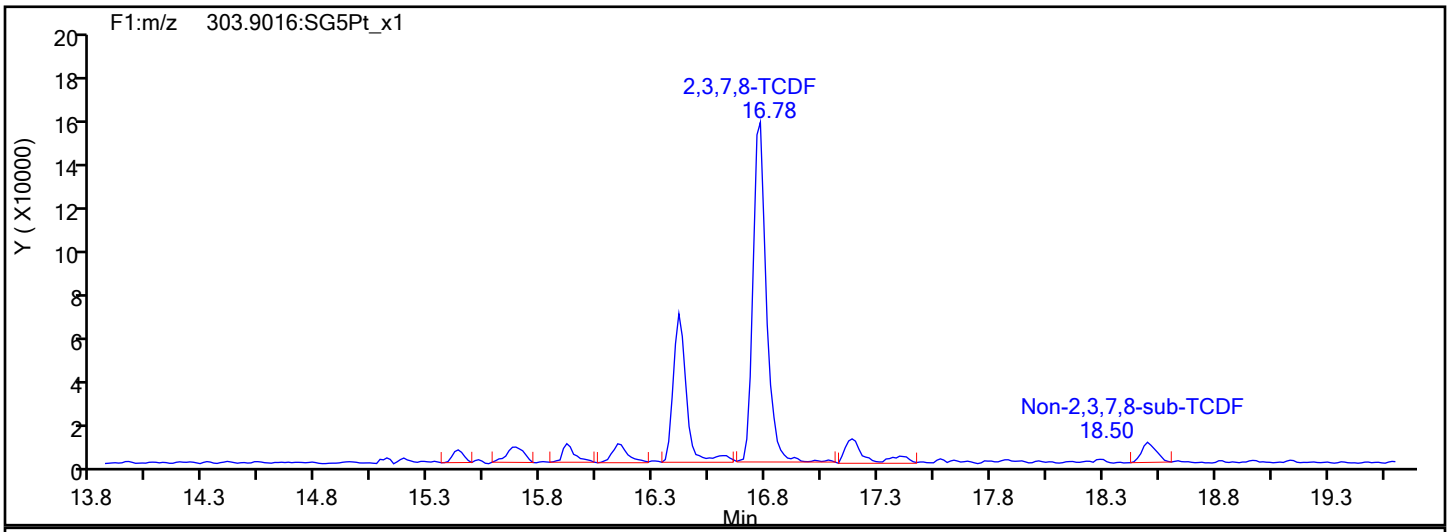

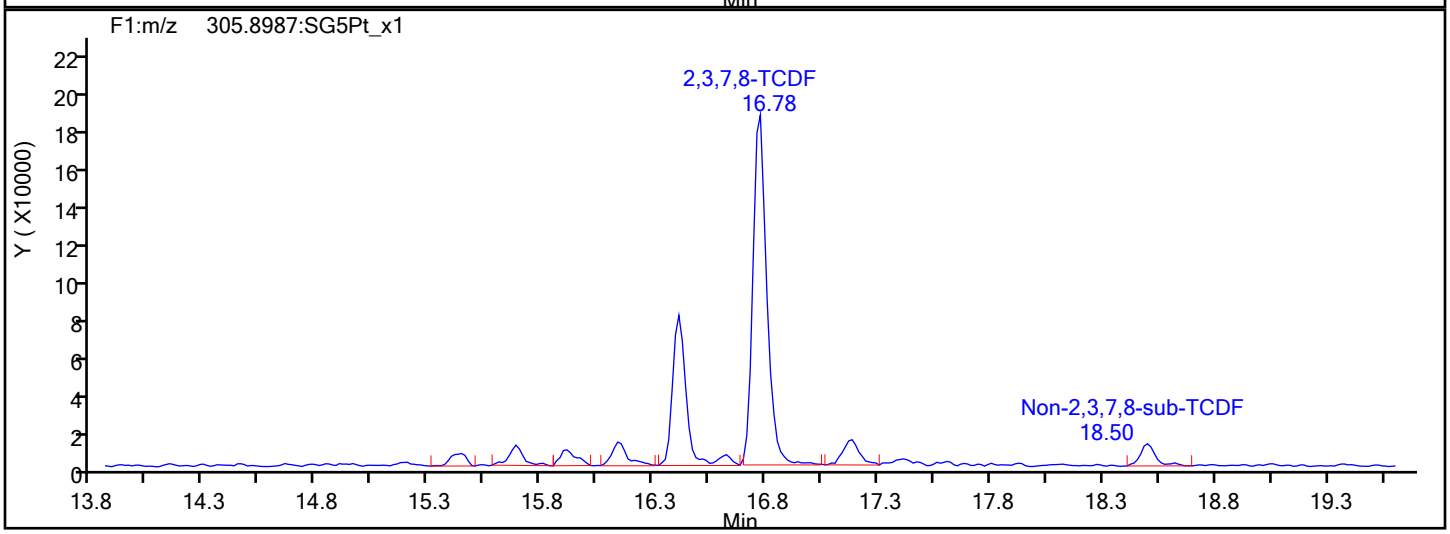

TCDF Interference Mass

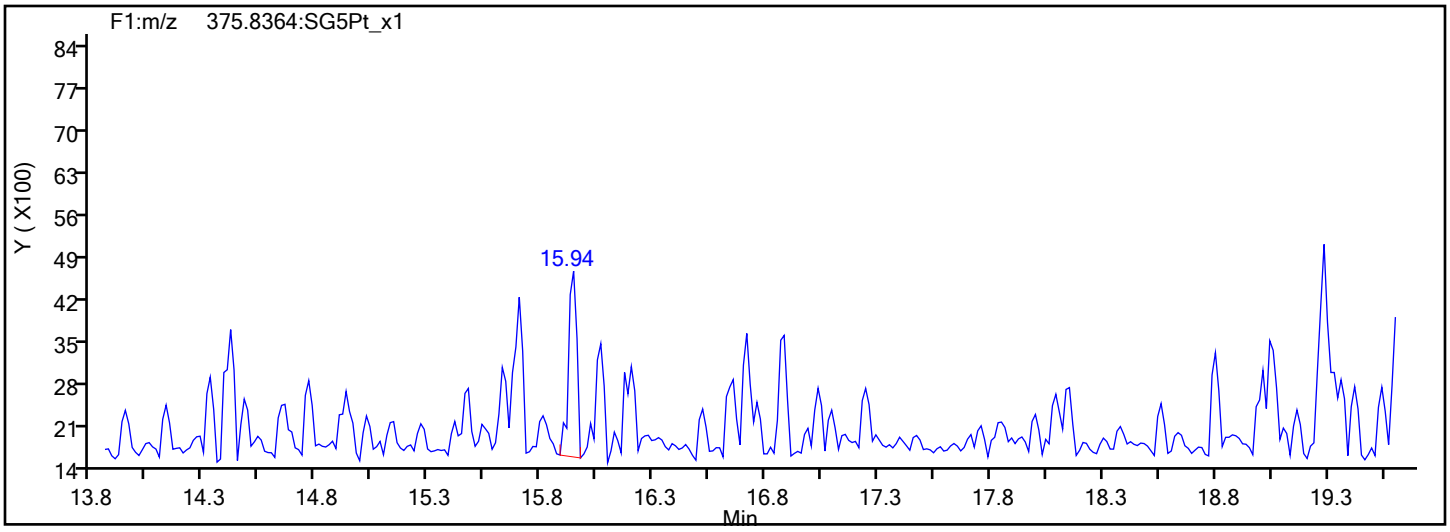

Report Date: 08-Nov-2019 08:52:42 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_6.d		
Injection Date:	05-Nov-2019 23:22:26	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	1. CEFF		
Worklist#:	336302	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

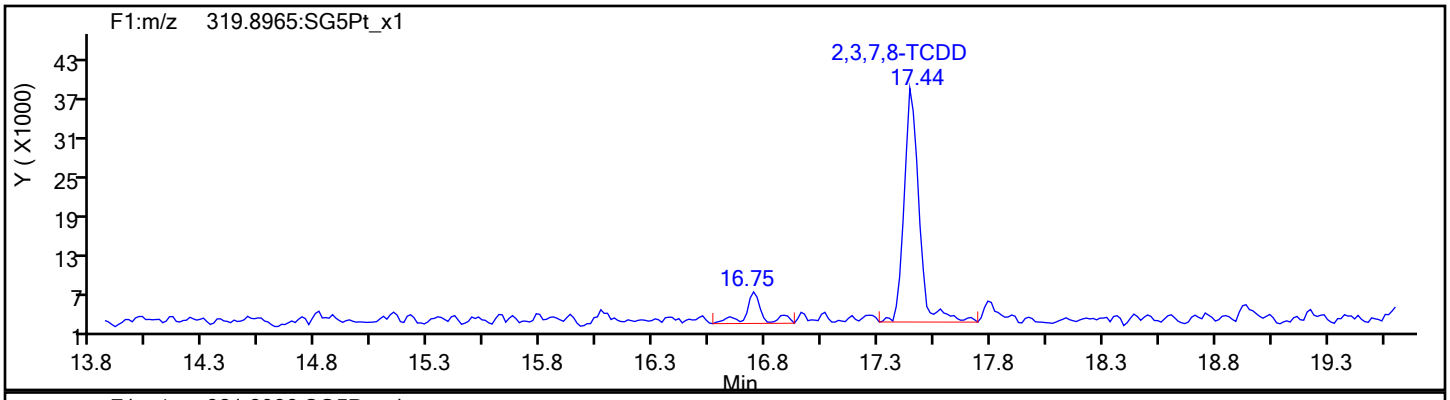

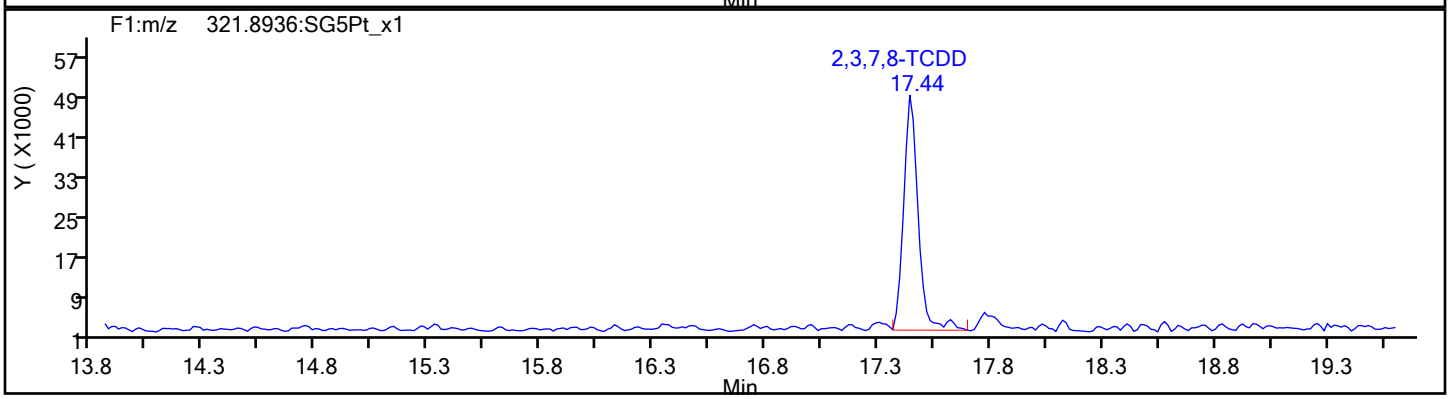

TCDD Standards

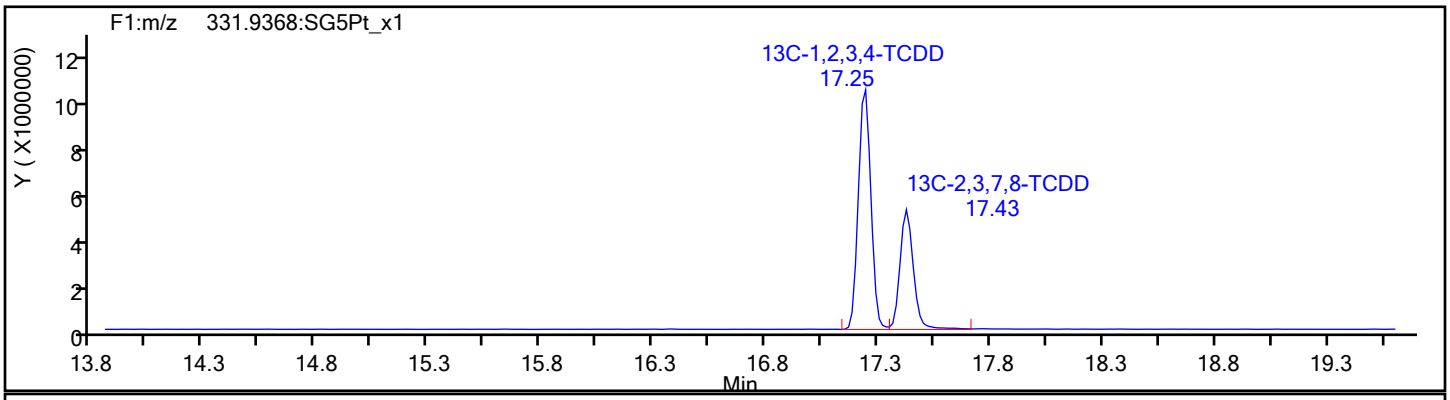

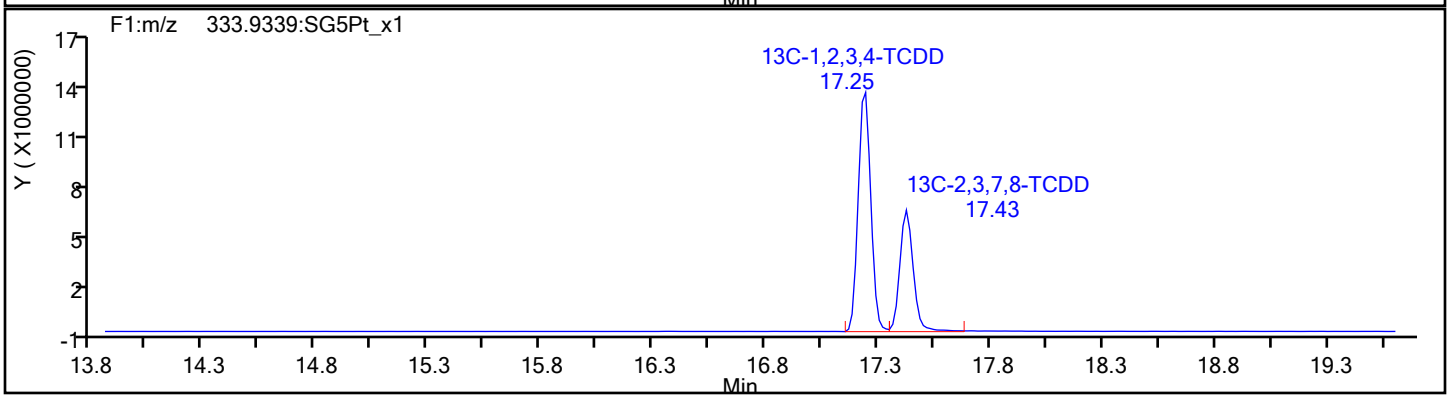

Report Date: 08-Nov-2019 08:52:42 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_6.d		
Injection Date:	05-Nov-2019 23:22:26	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	1. CEFF		
Worklist#:	336302	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

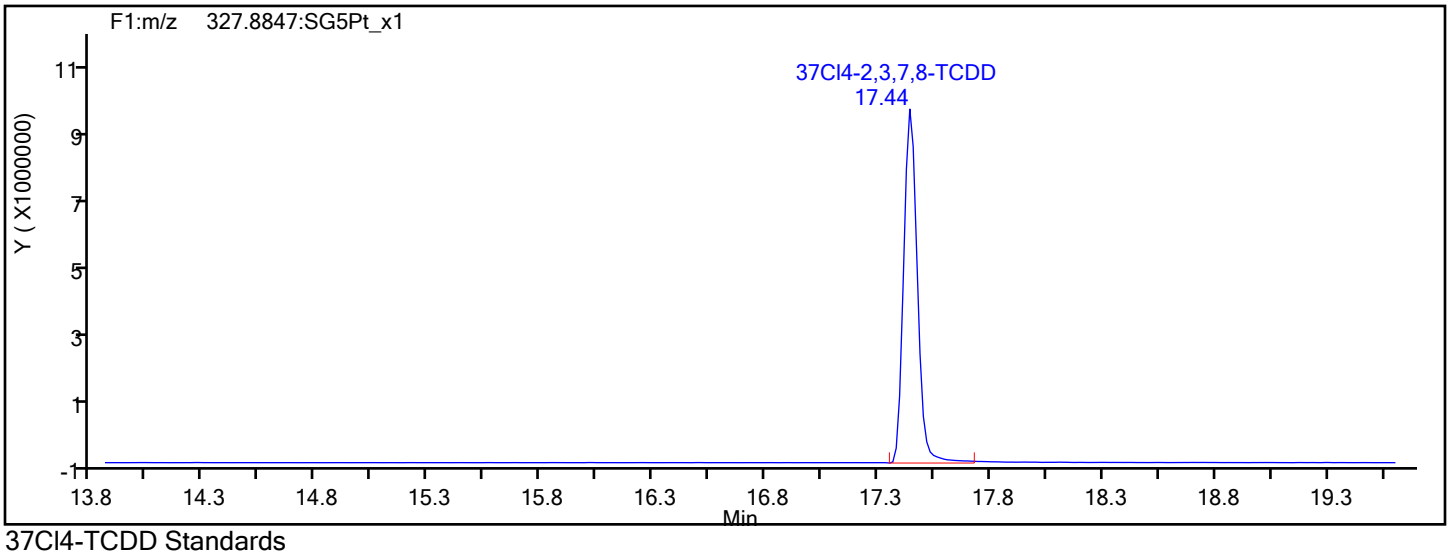

37Cl4-TCDD Standards

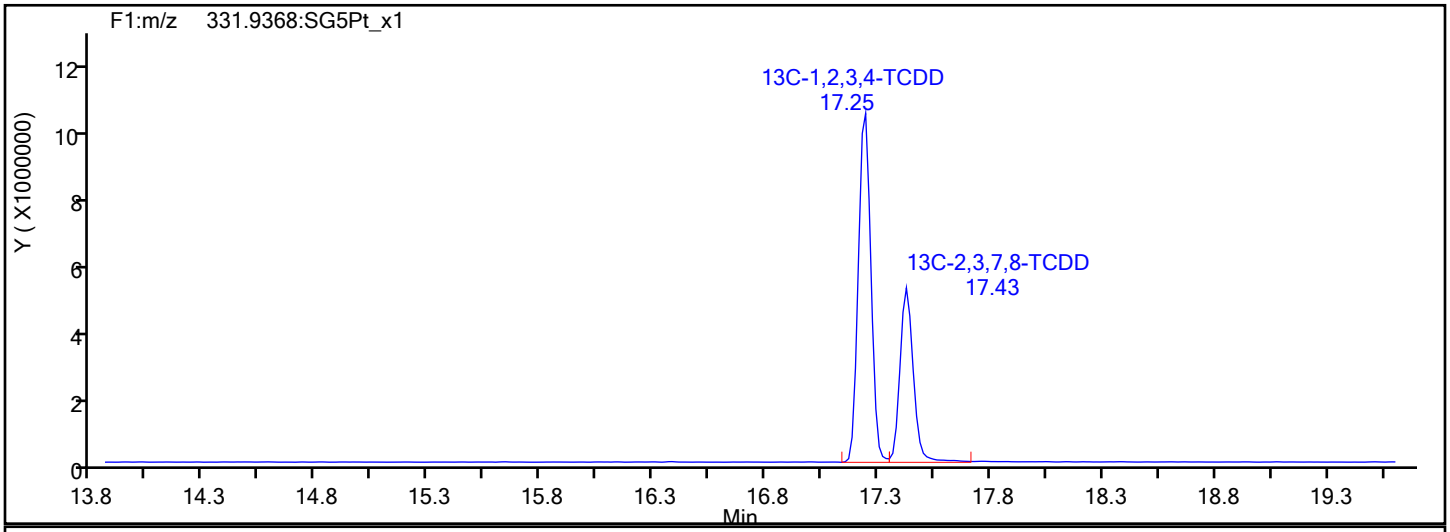

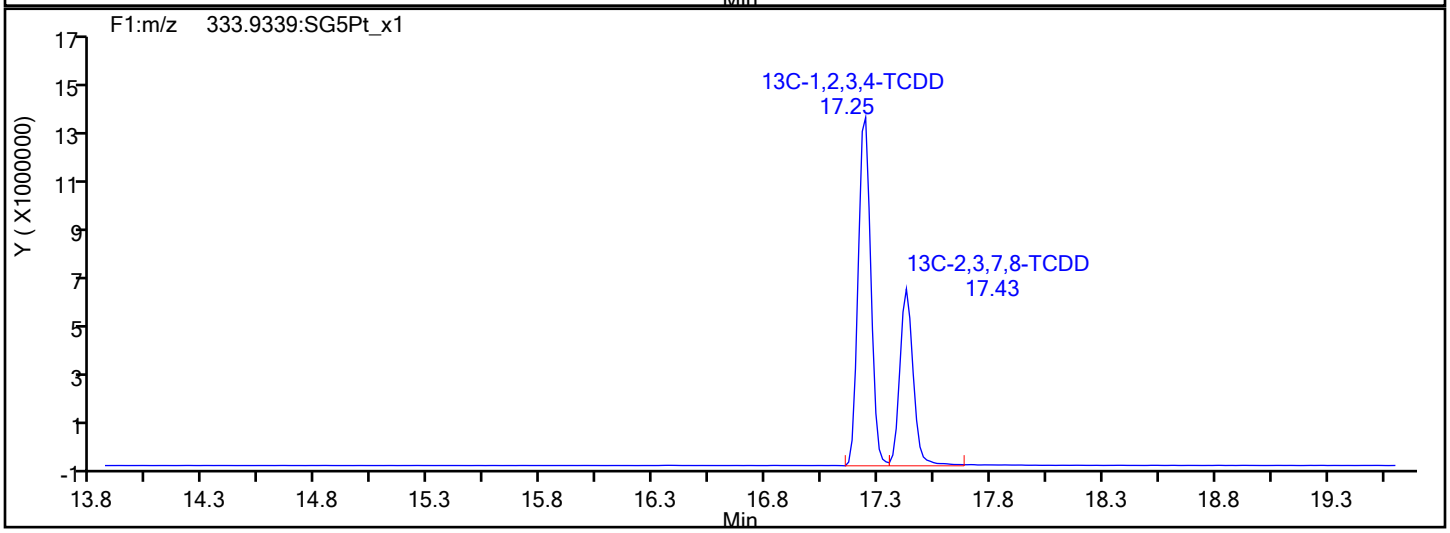

Report Date: 08-Nov-2019 08:52:42 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_6.d		
Injection Date:	05-Nov-2019 23:22:26	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	1. CEFF		
Worklist#:	336302	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

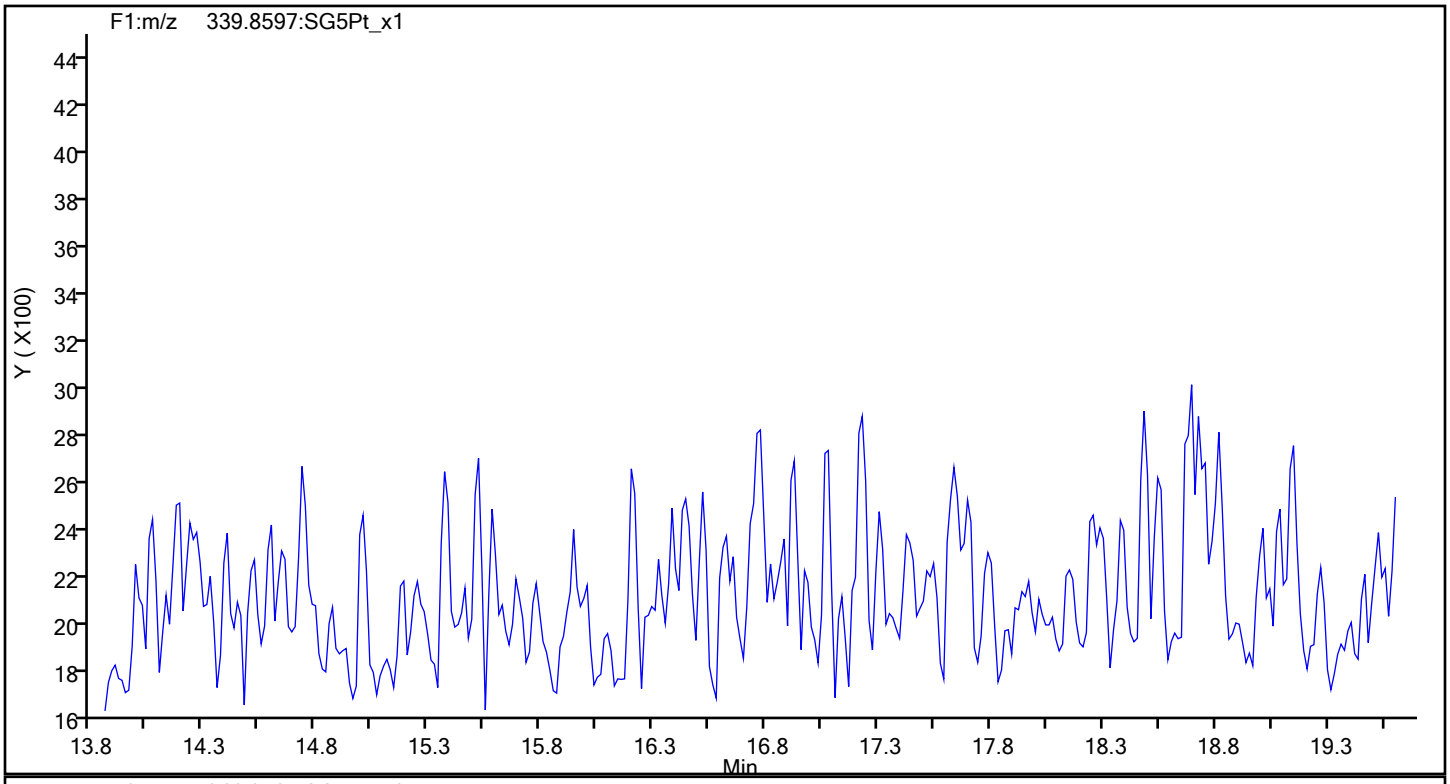

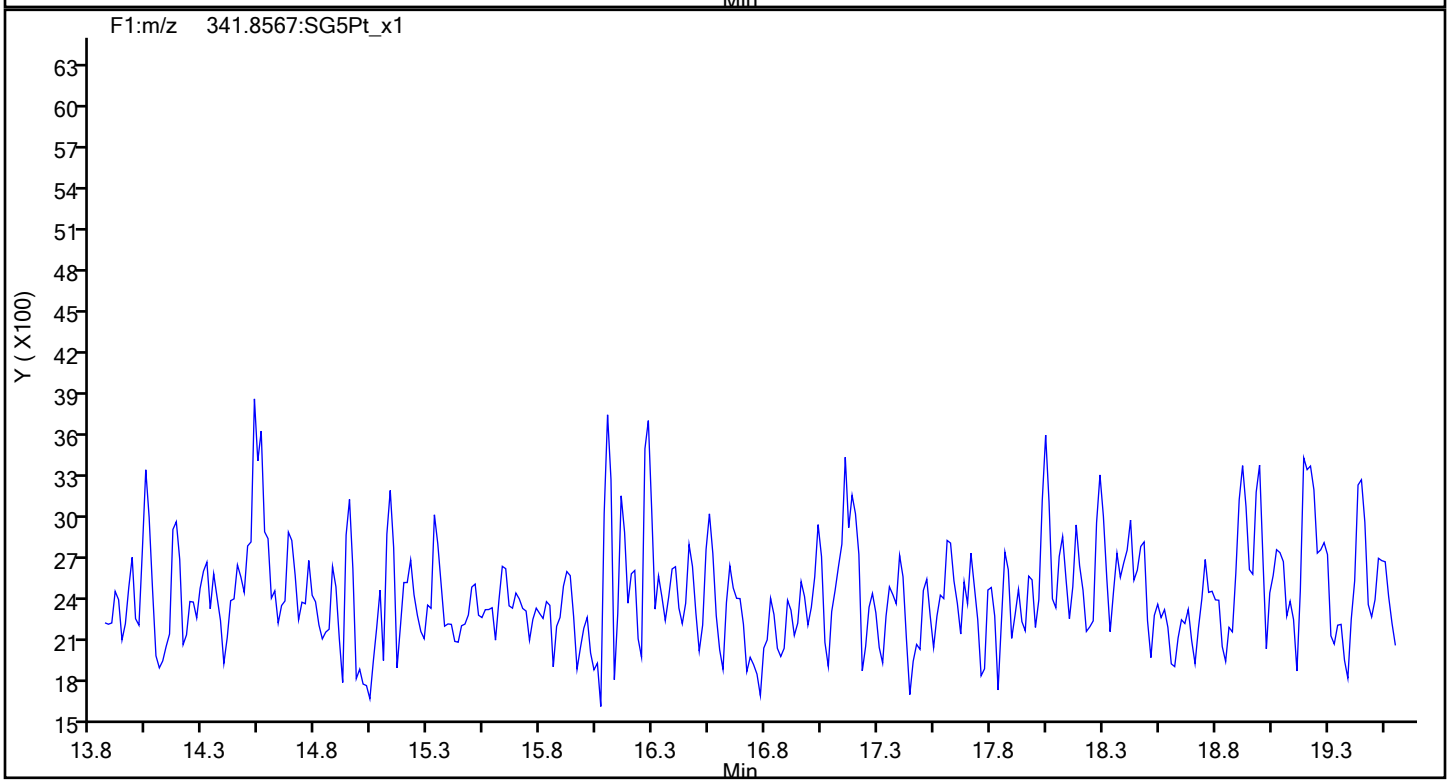

Report Date: 08-Nov-2019 08:52:42 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_6.d		
Injection Date:	05-Nov-2019 23:22:26	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	1. CEFF		
Worklist#:	336302	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

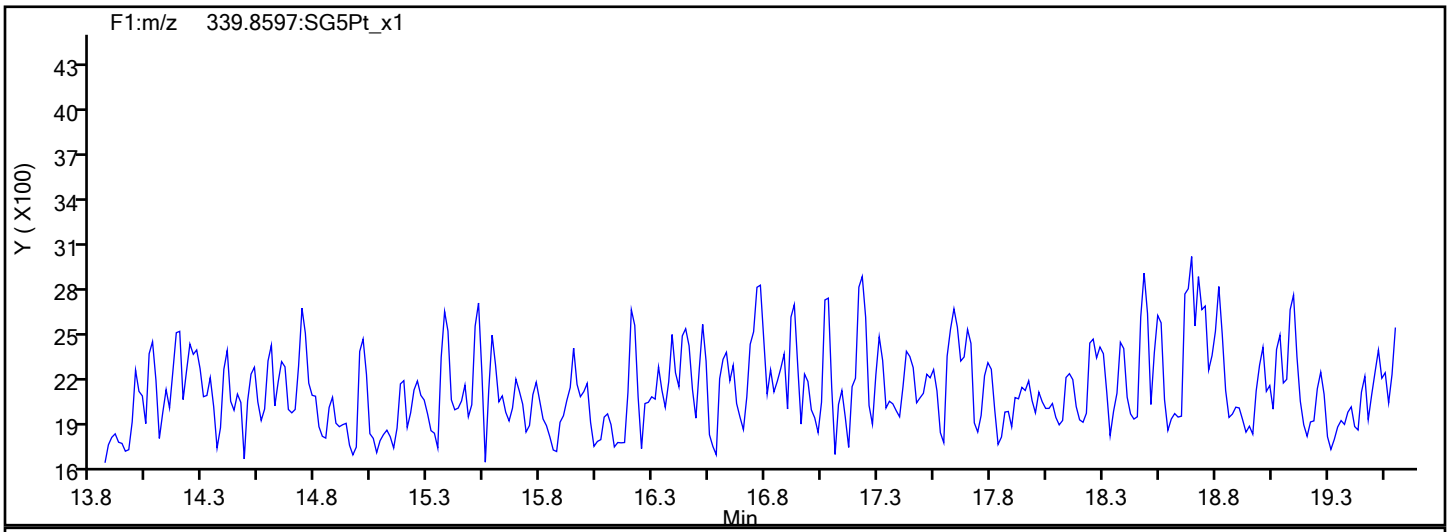

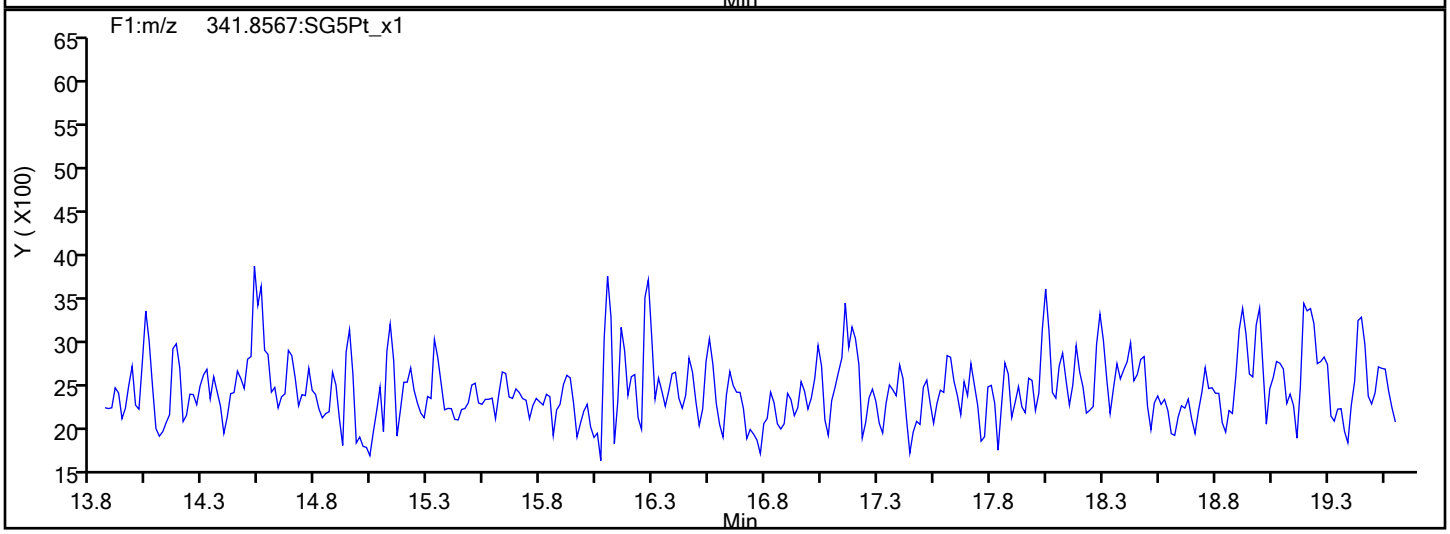

F1 PeCDFs Interference Mass

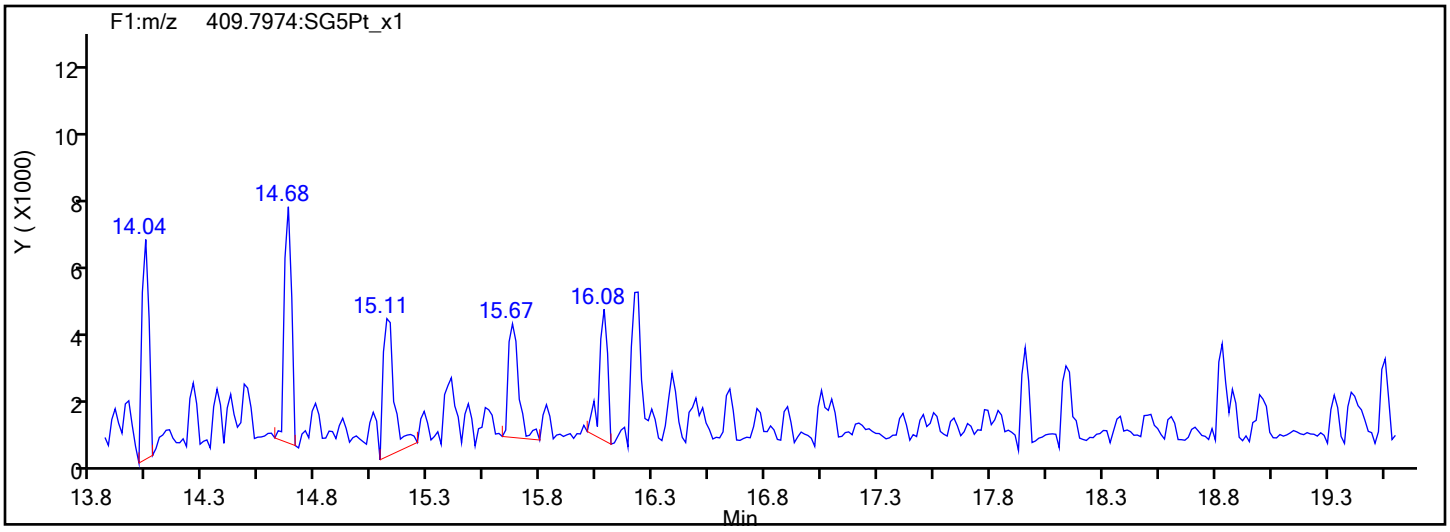

Report Date: 08-Nov-2019 08:52:42 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_6.d		
Injection Date:	05-Nov-2019 23:22:26	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	1. CEFF		
Worklist#:	336302	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

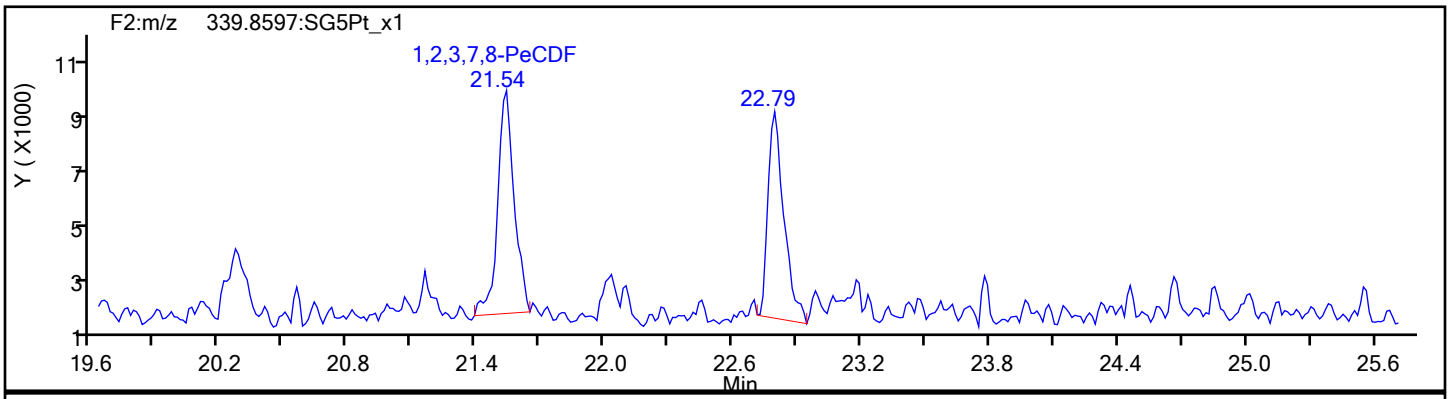

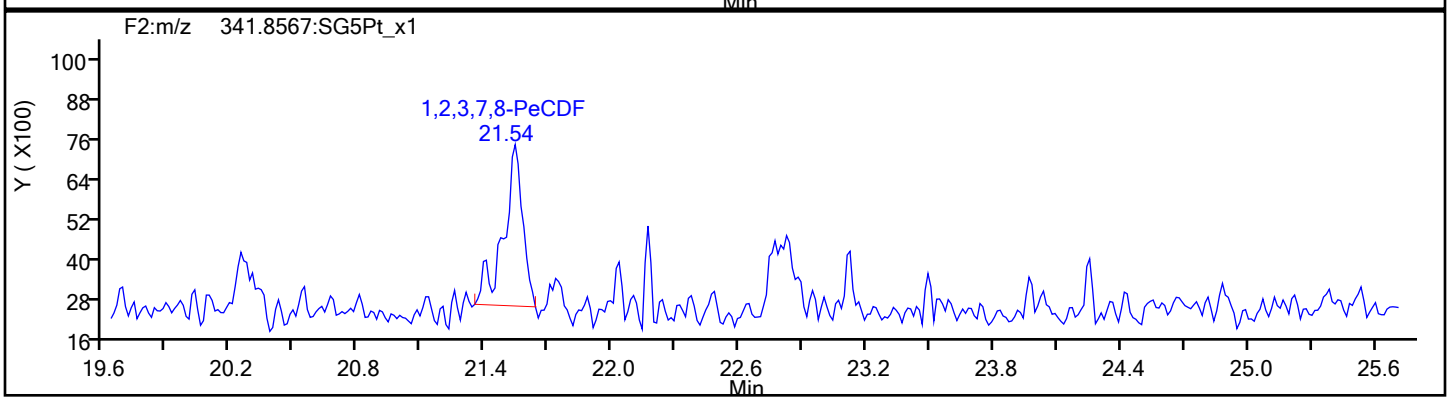

PeCDF Standards

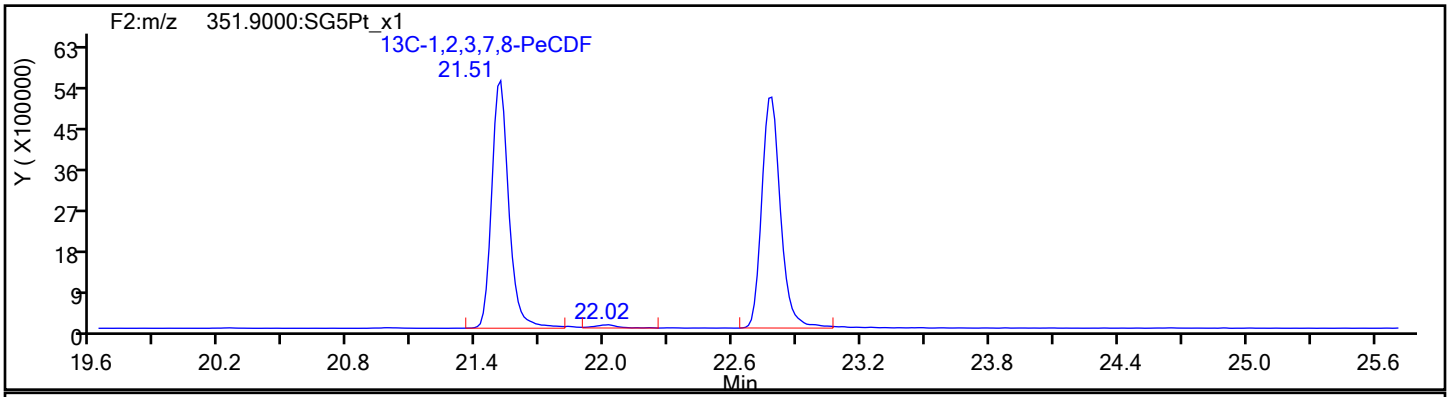

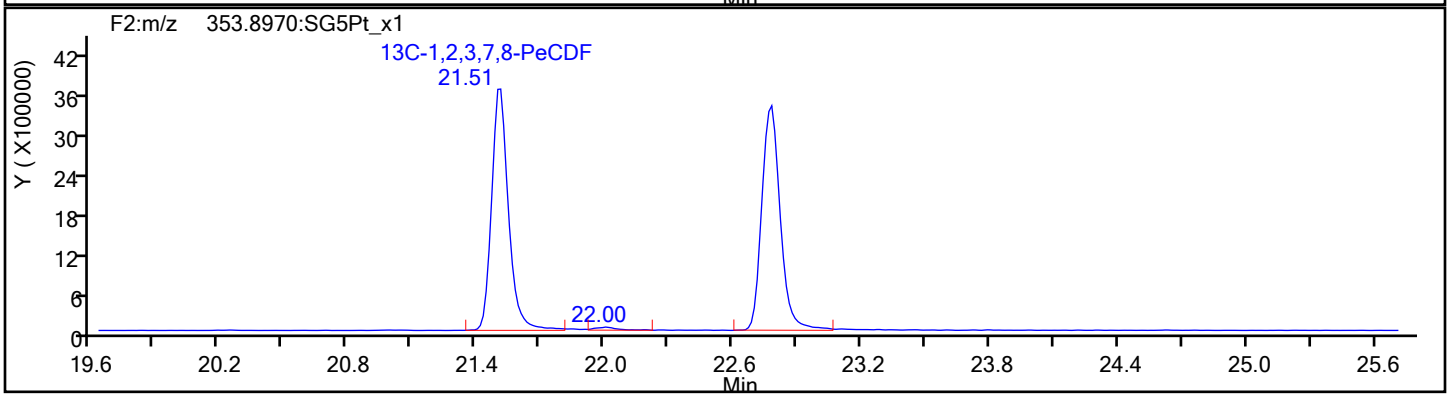

Report Date: 08-Nov-2019 08:52:42 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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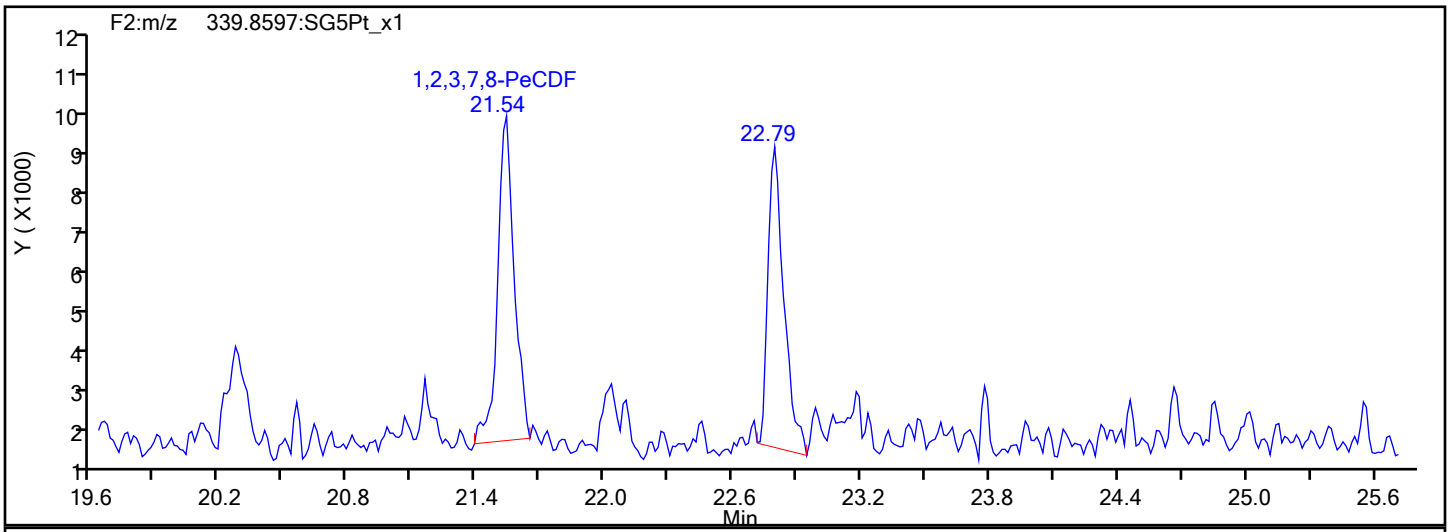

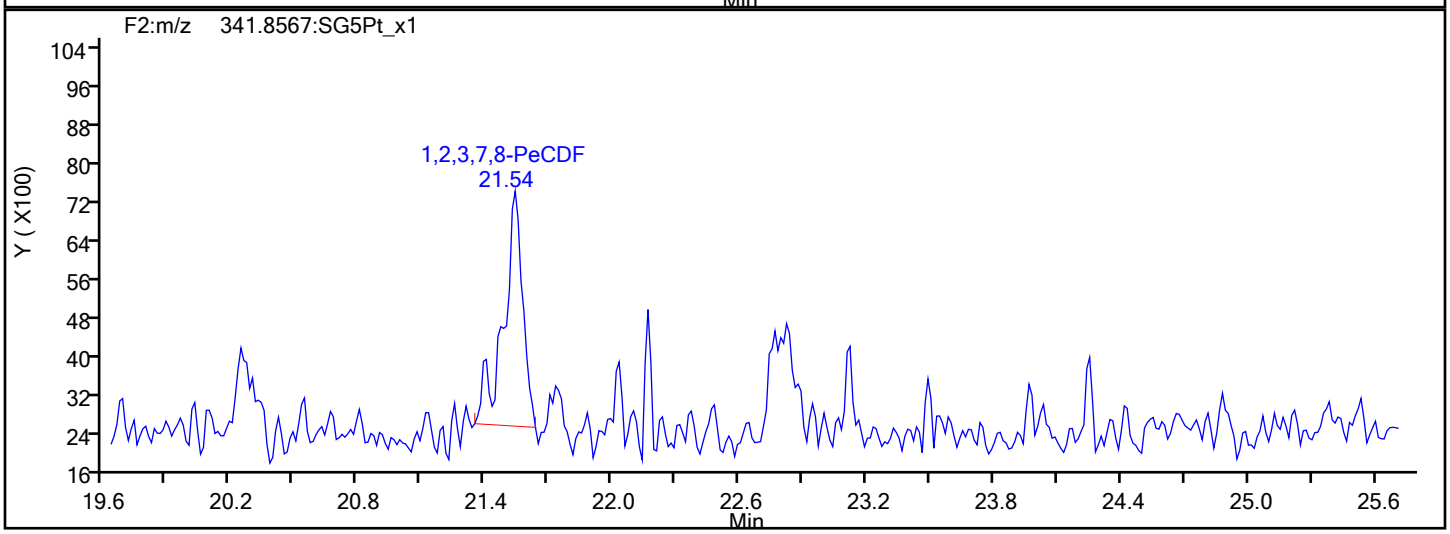

PeCDF Interference Mass

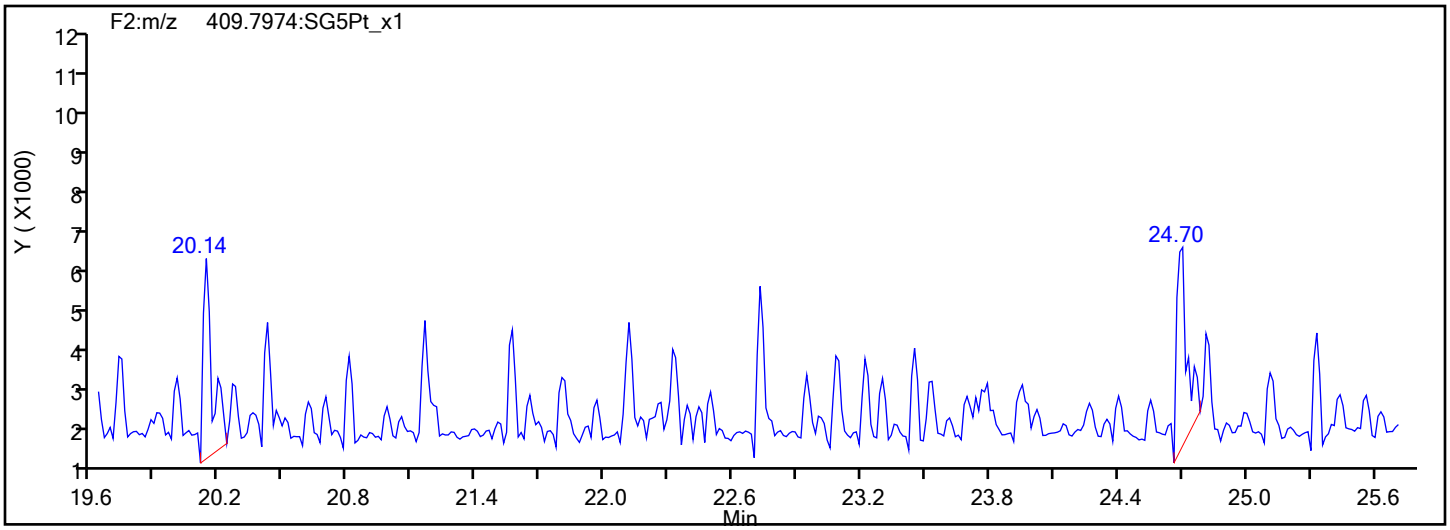

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Eurofins TestAmerica, Sacramento

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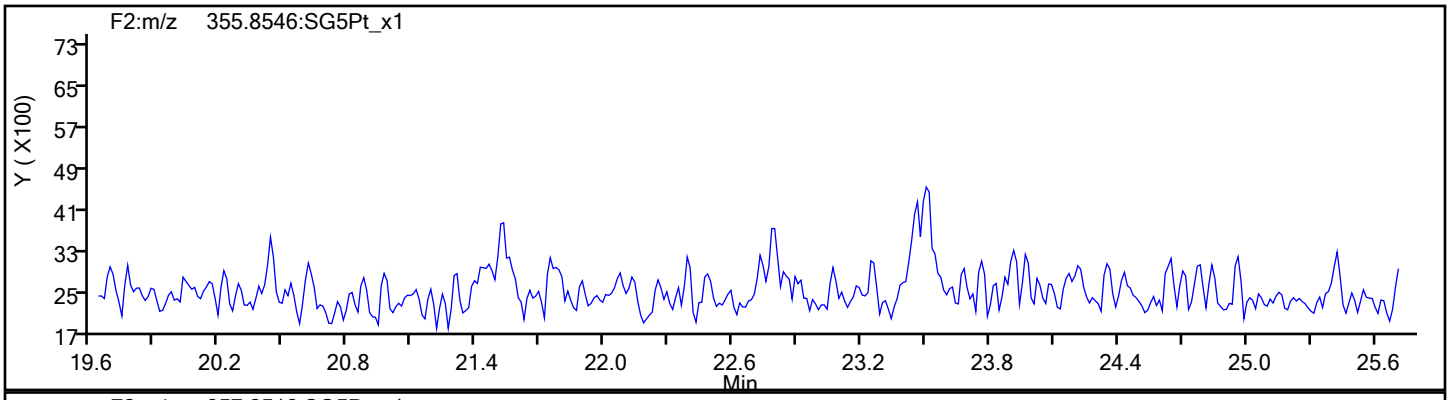

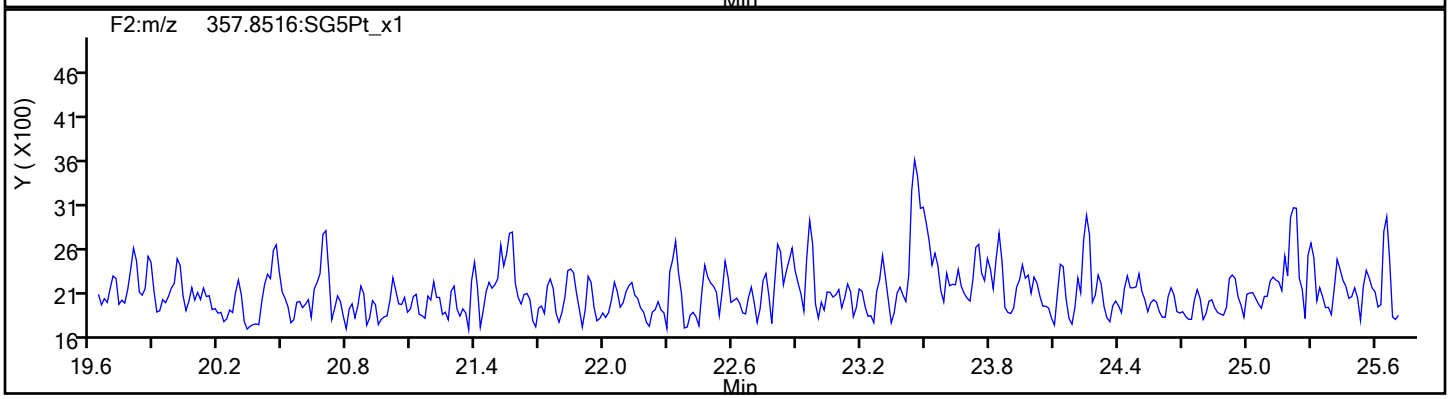

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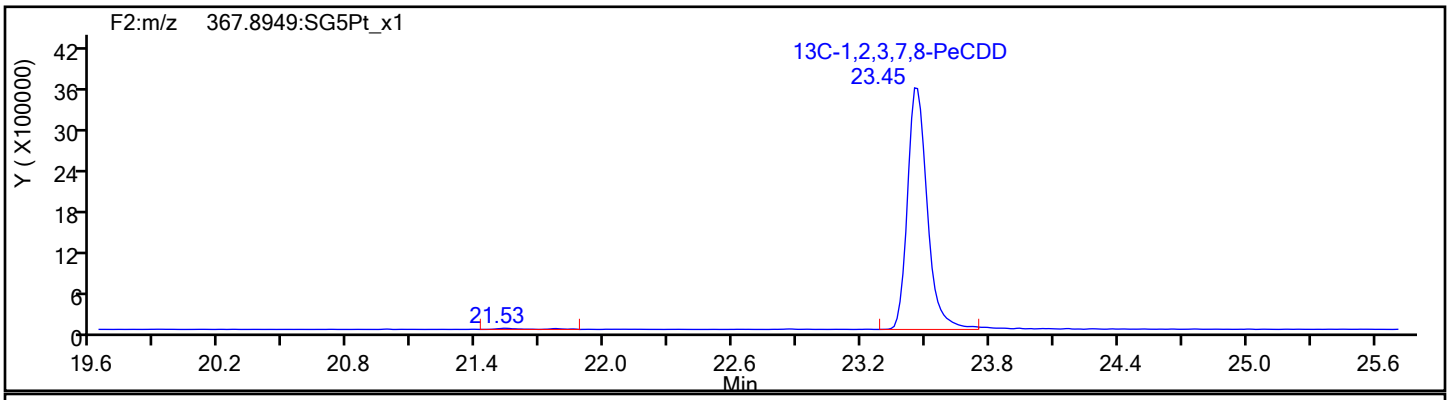

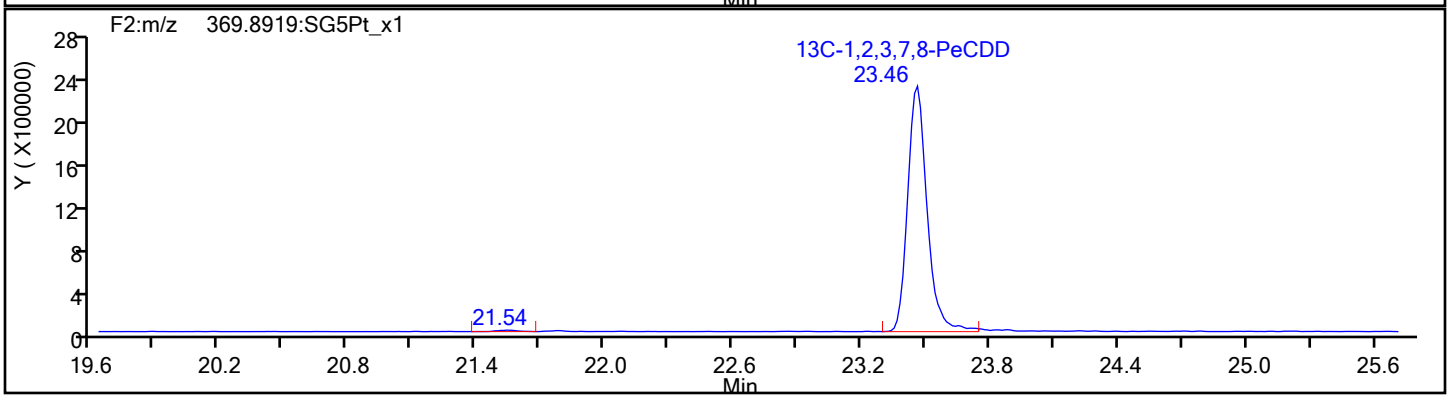

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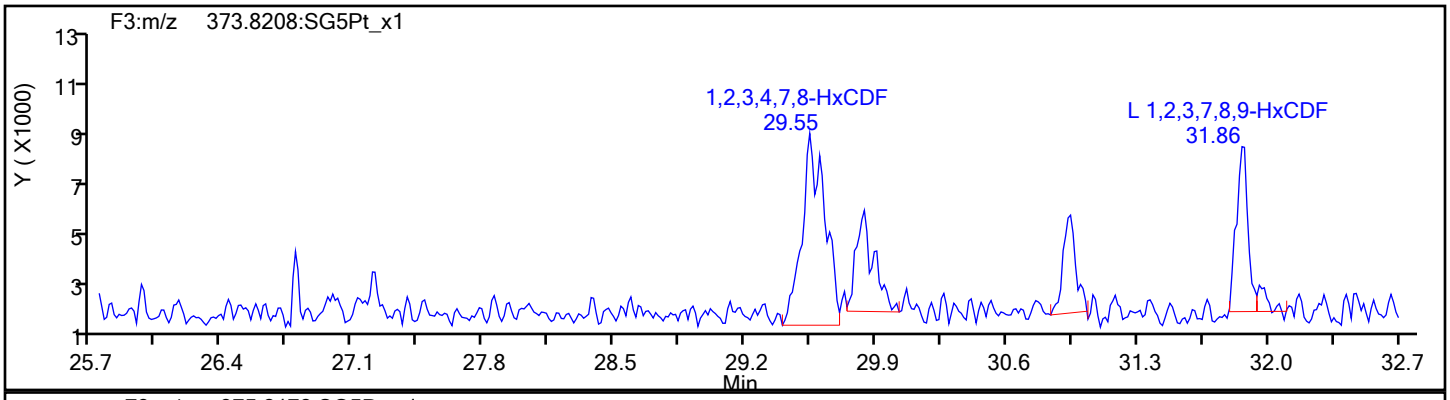

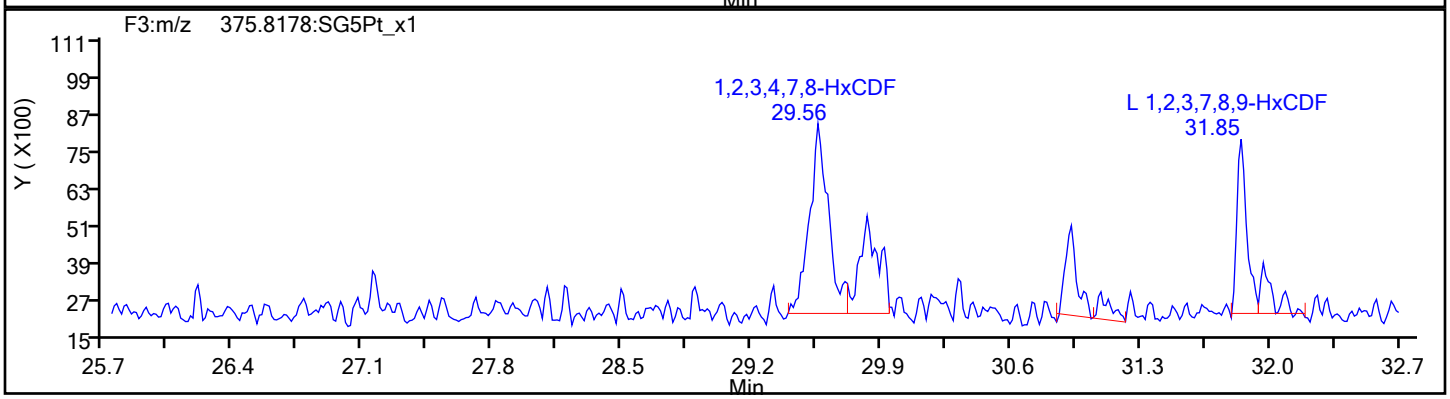

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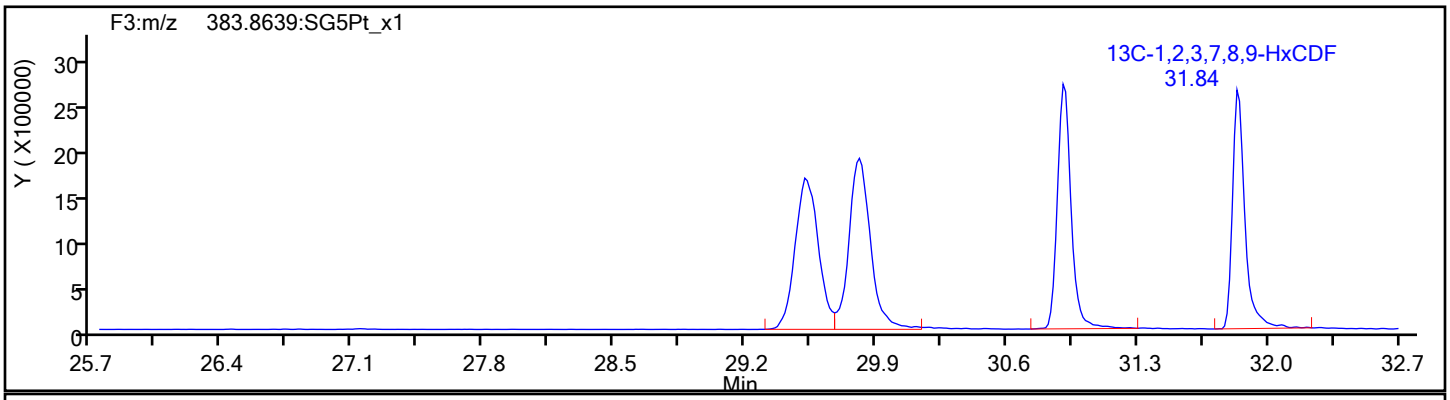

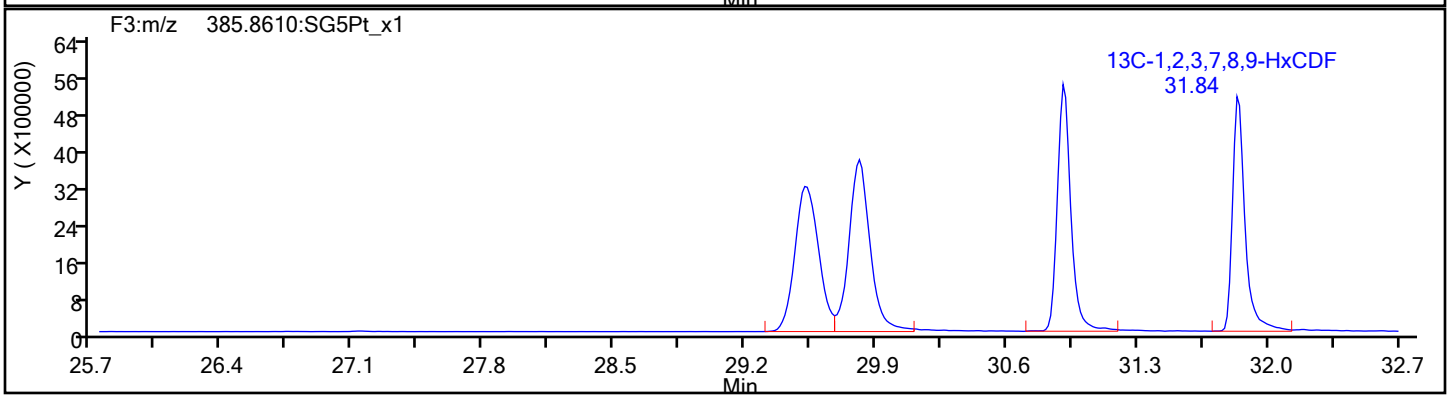

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Eurofins TestAmerica, Sacramento

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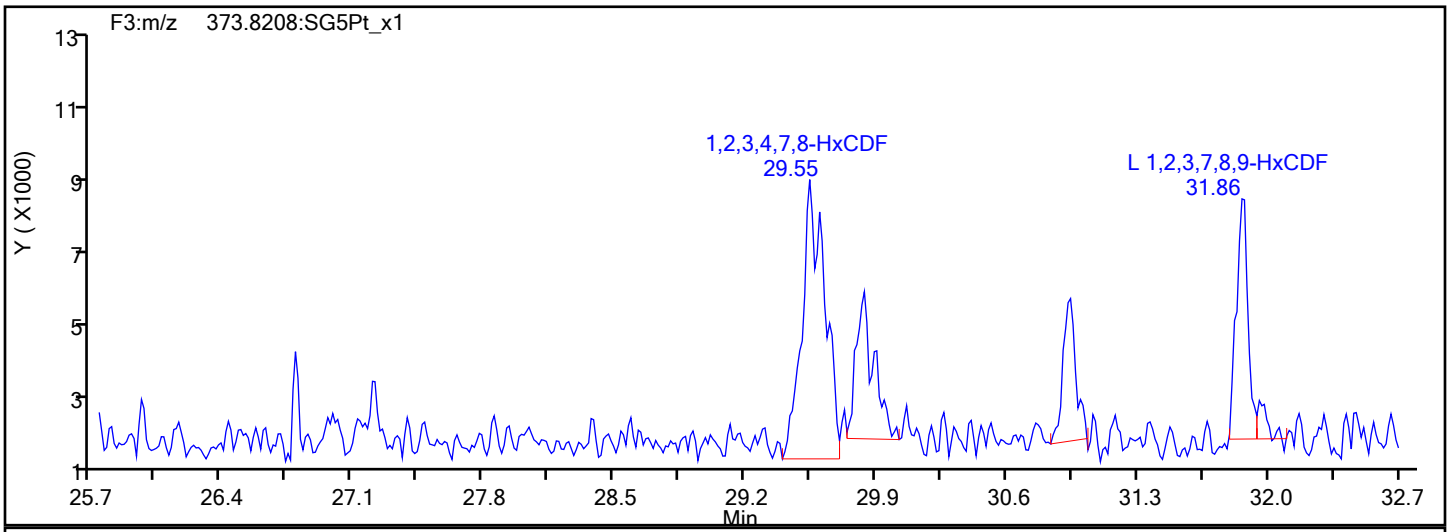

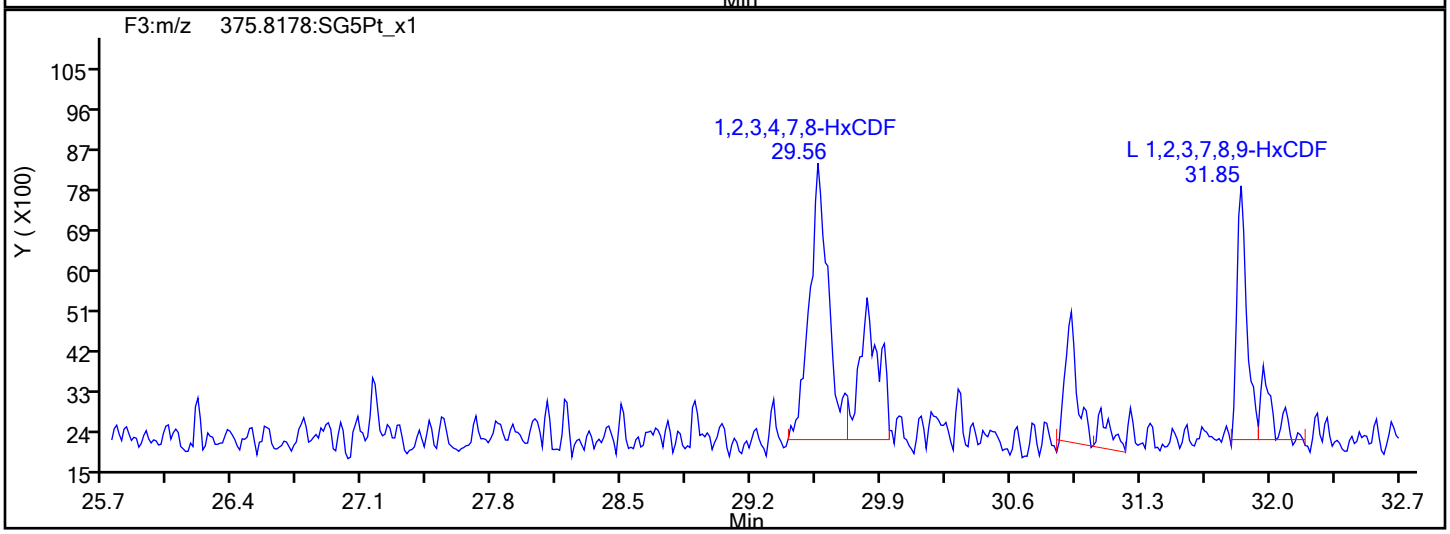

HxCDF Interference Mass

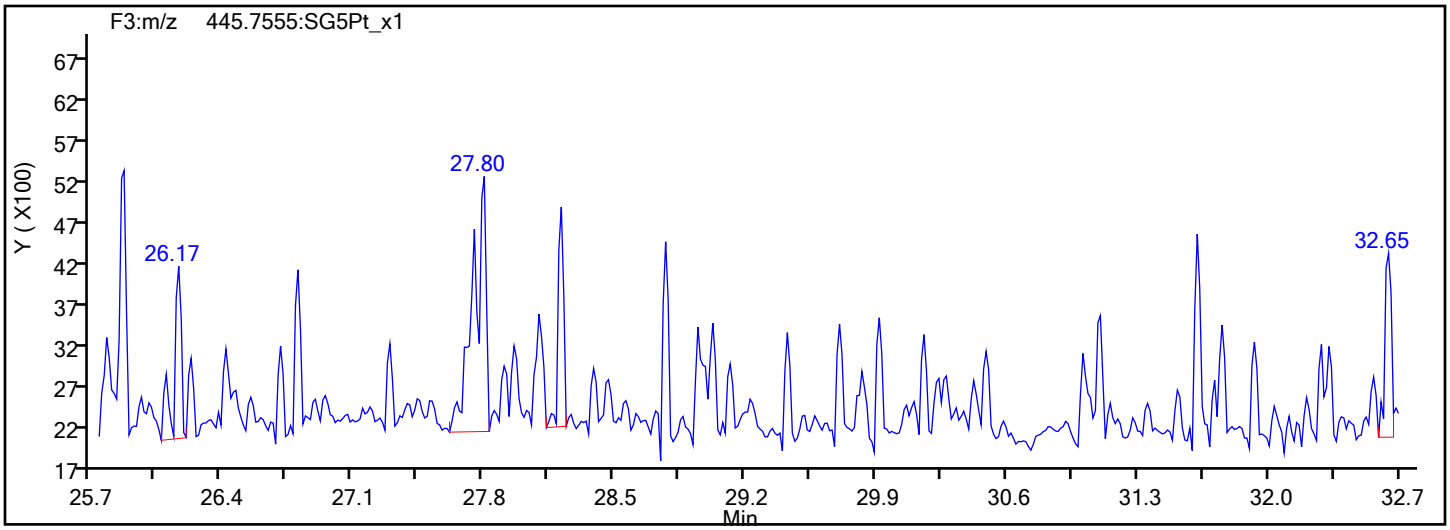

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Eurofins TestAmerica, Sacramento

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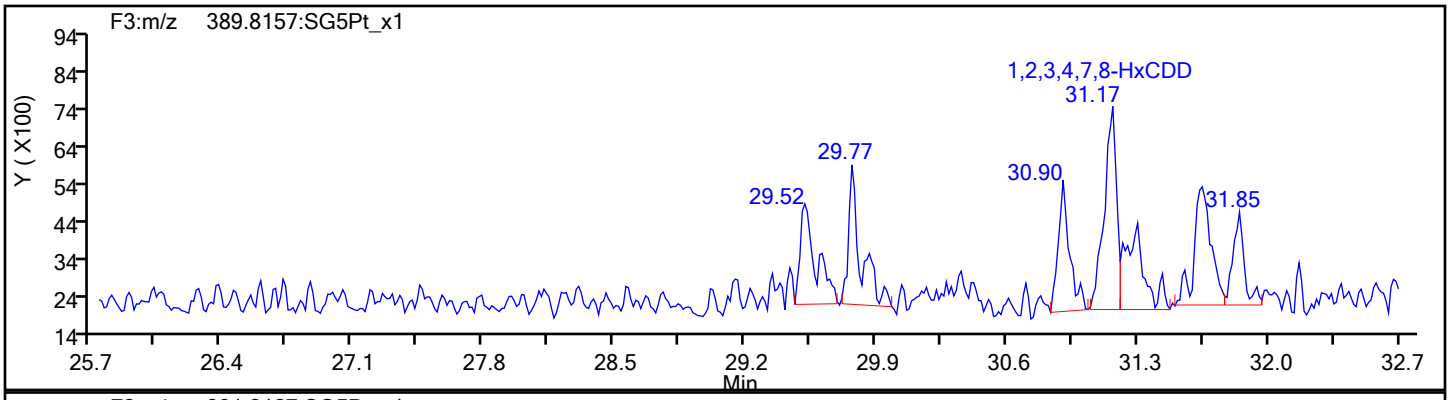

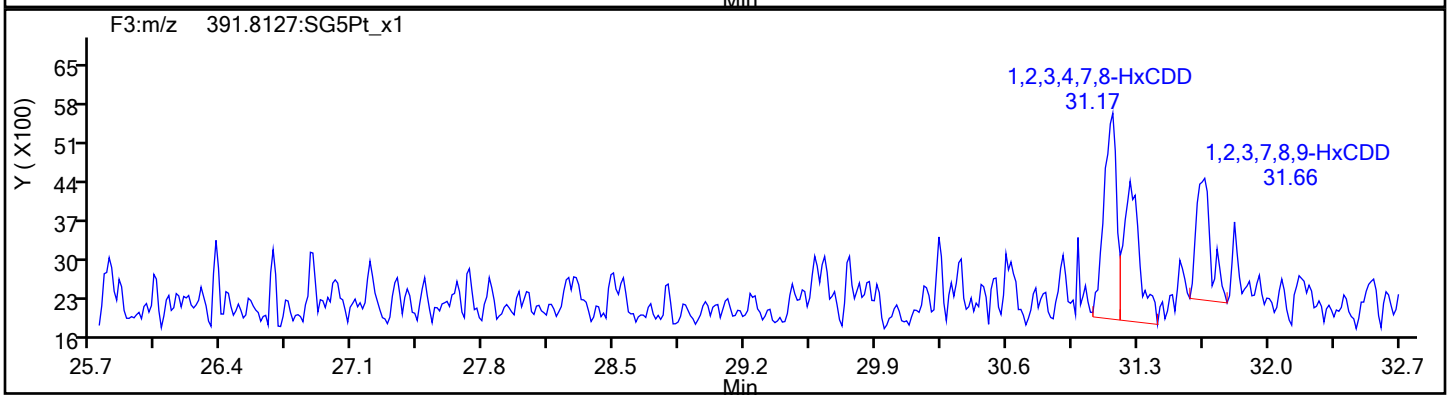

HxCDD Standards

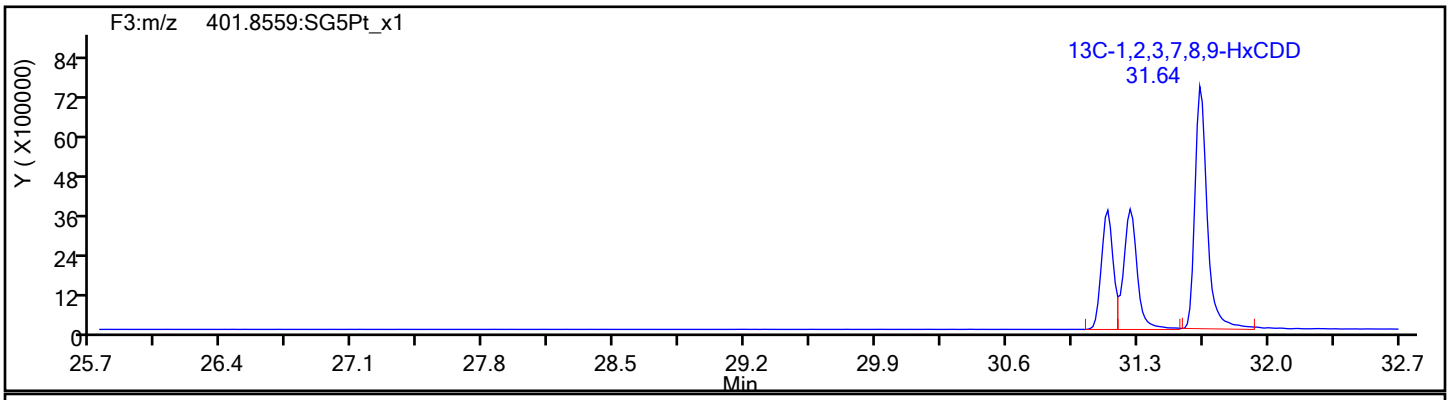

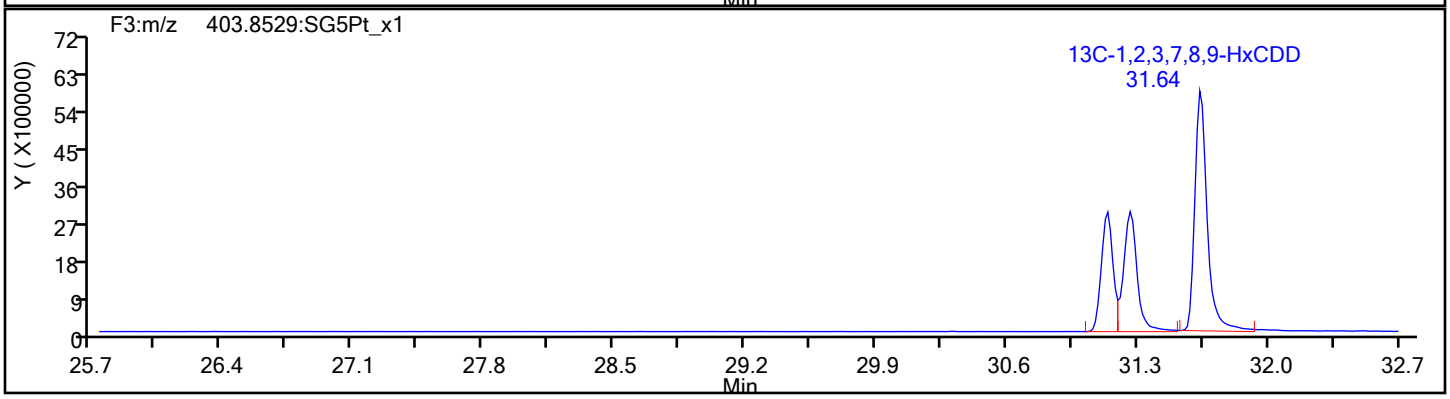

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Eurofins TestAmerica, Sacramento

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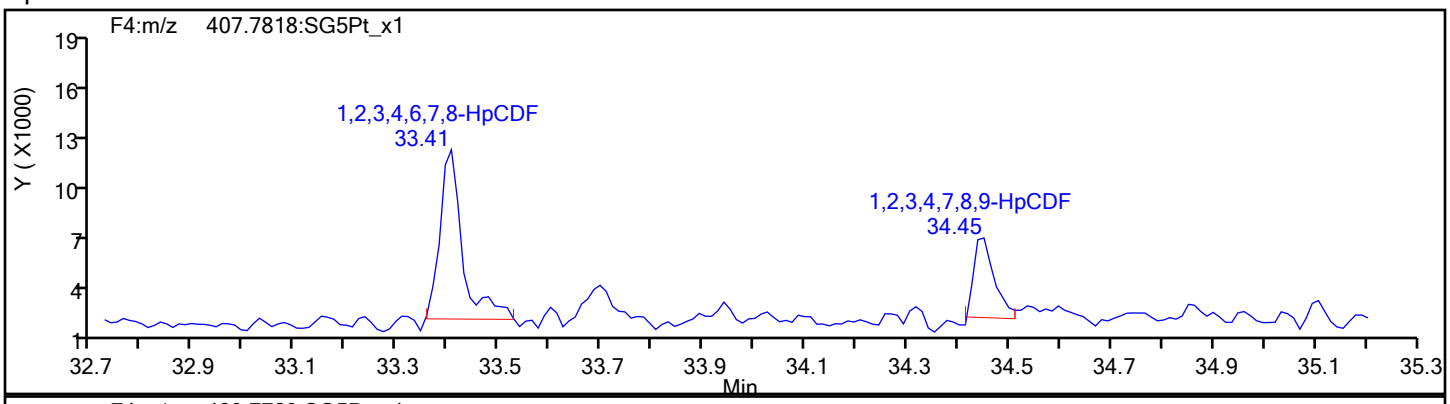

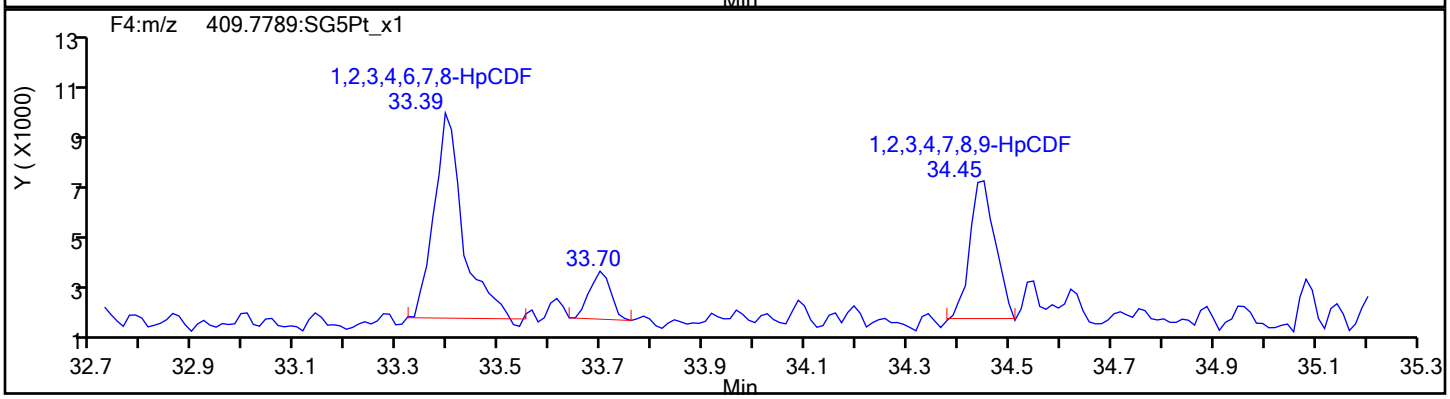

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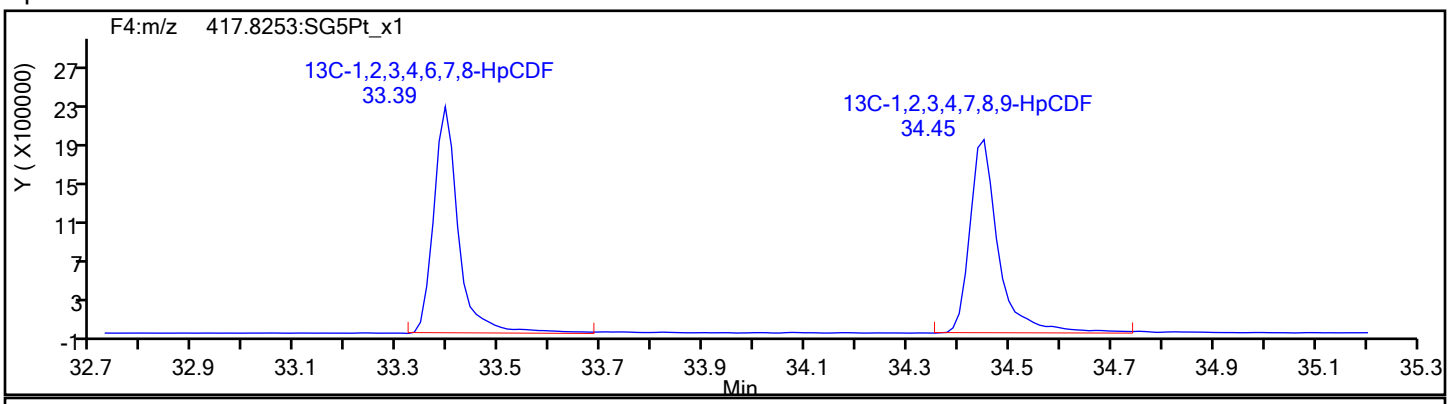

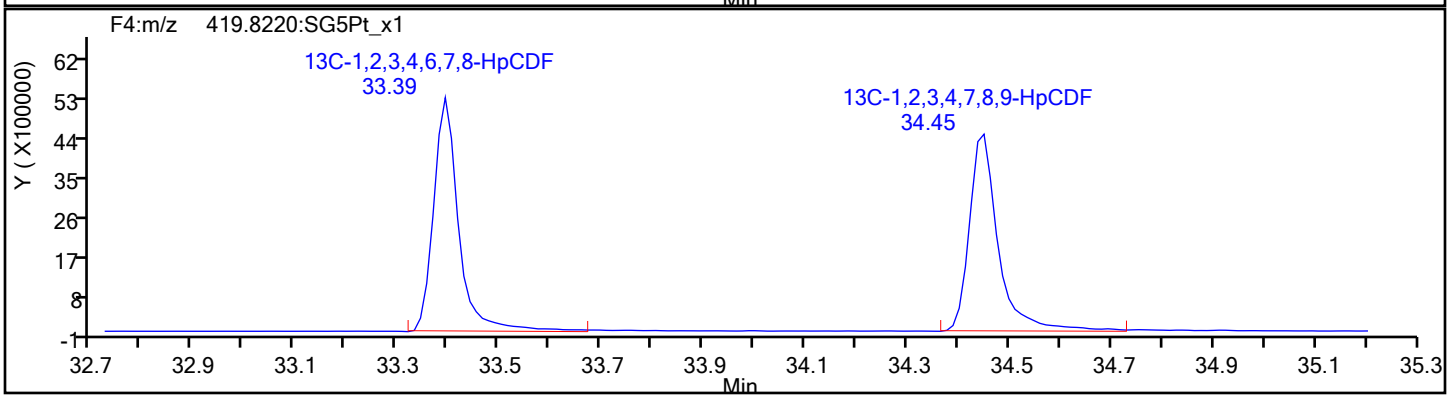

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Eurofins TestAmerica, Sacramento

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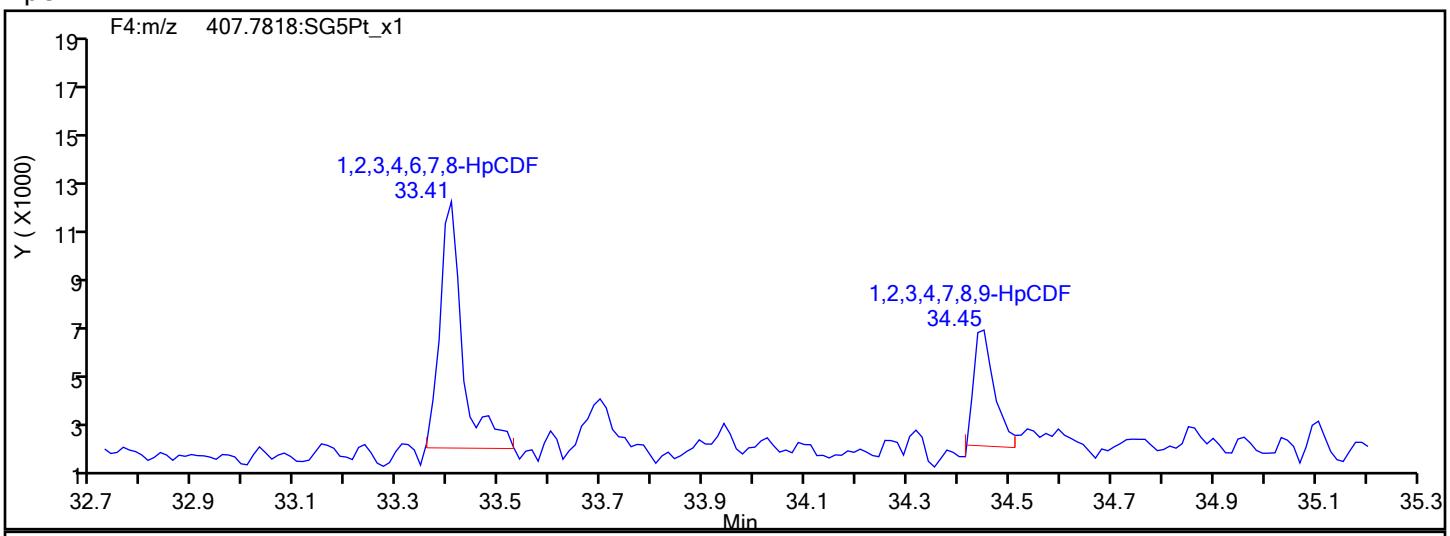

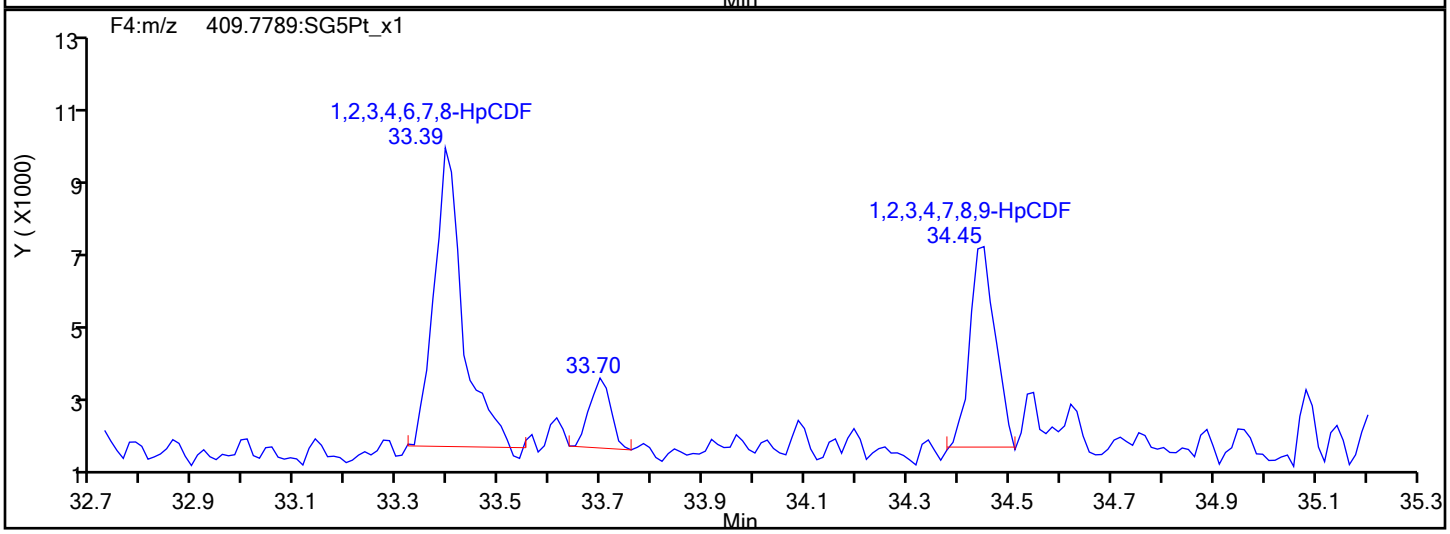

HpCDF Interference Mass

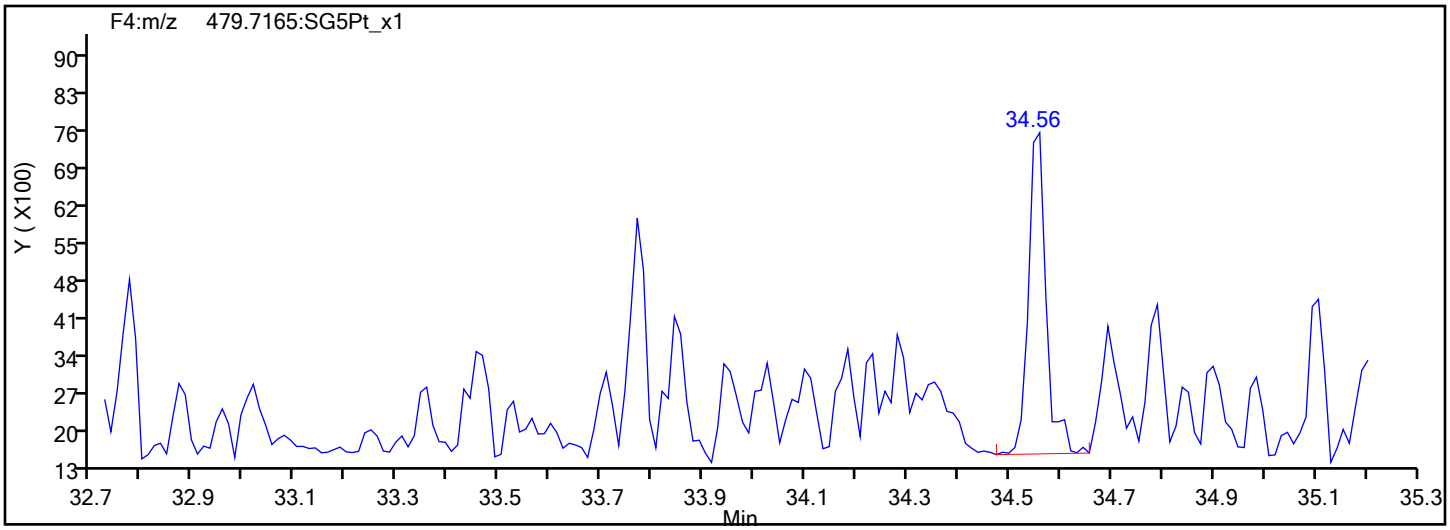

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Eurofins TestAmerica, Sacramento

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HpCDD

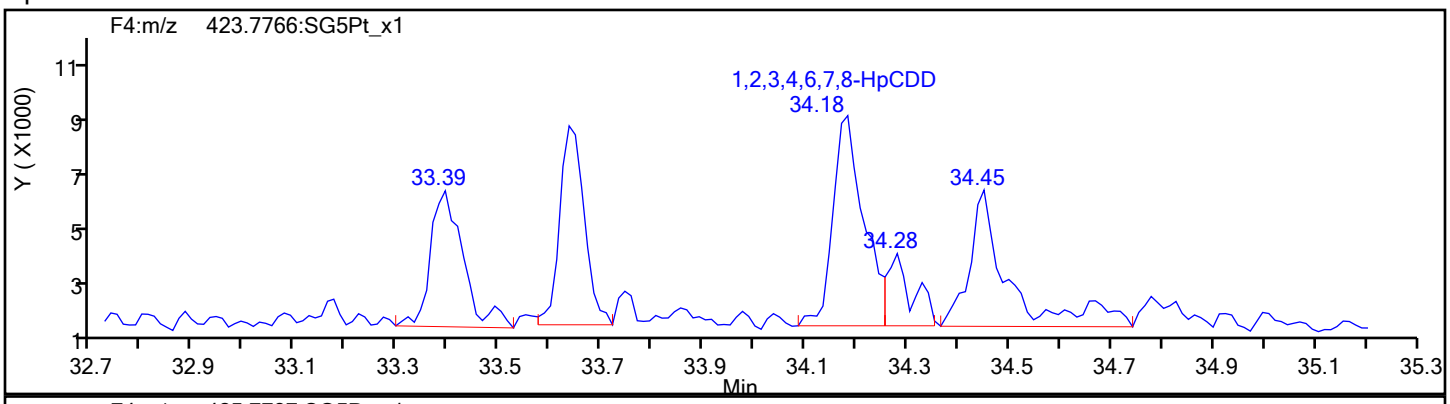

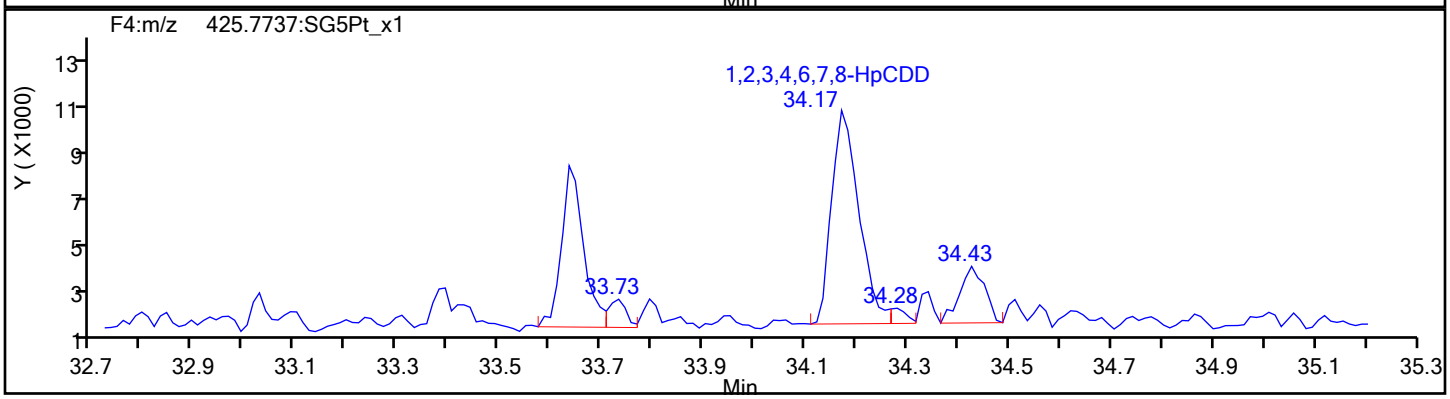

HpCDD Standards

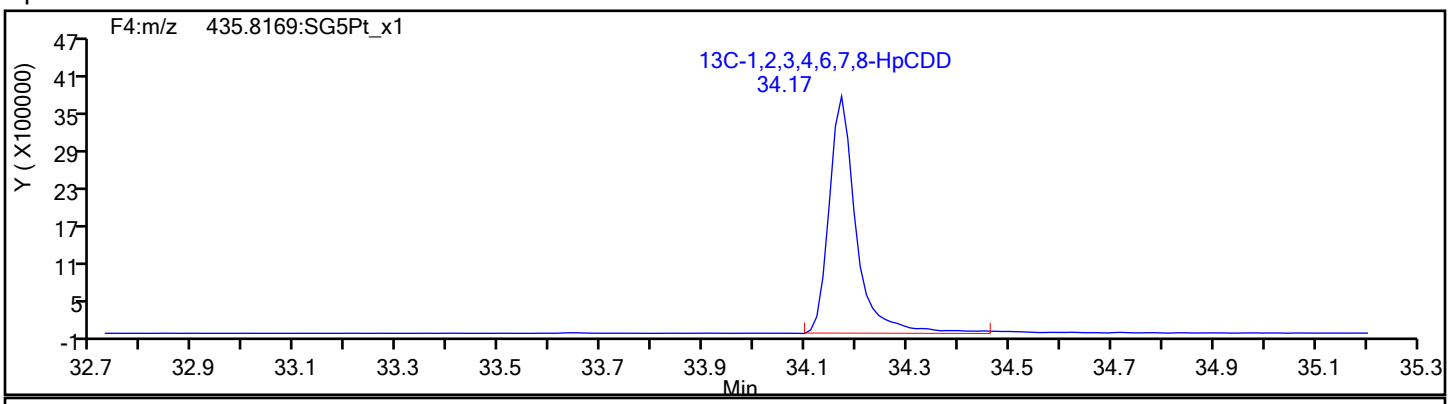

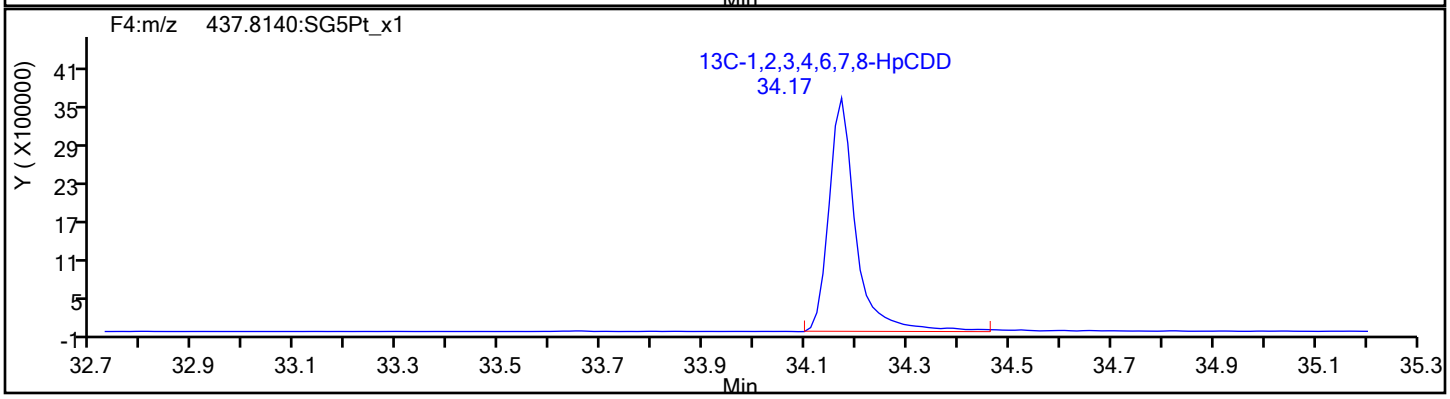

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Eurofins TestAmerica, Sacramento

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OCDF

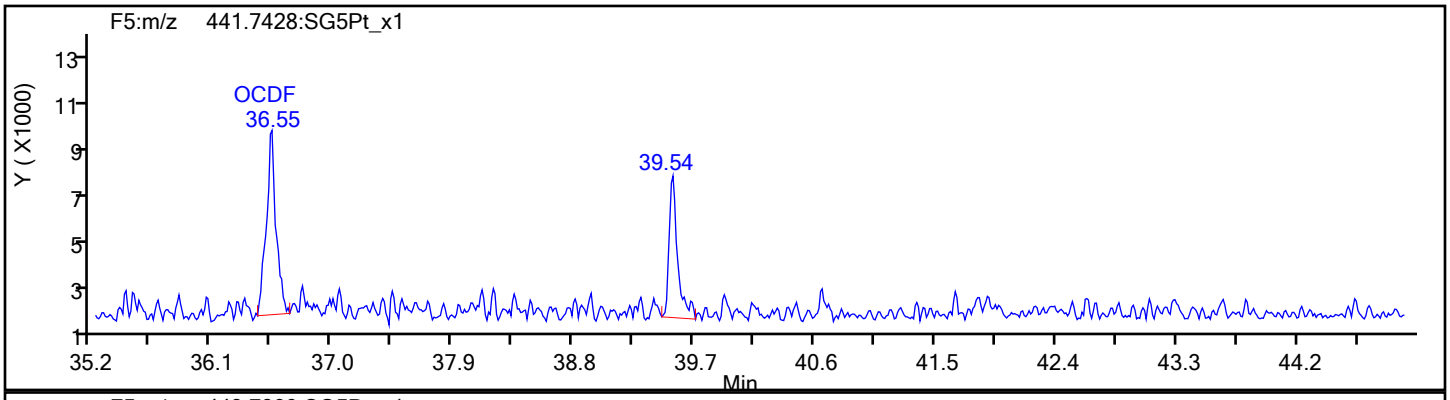

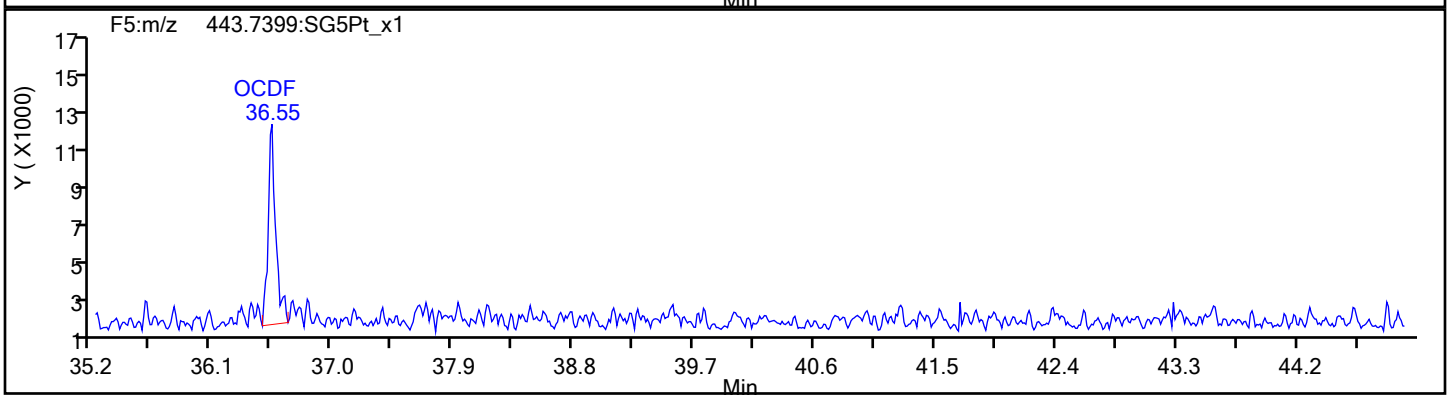

OCDF Standards

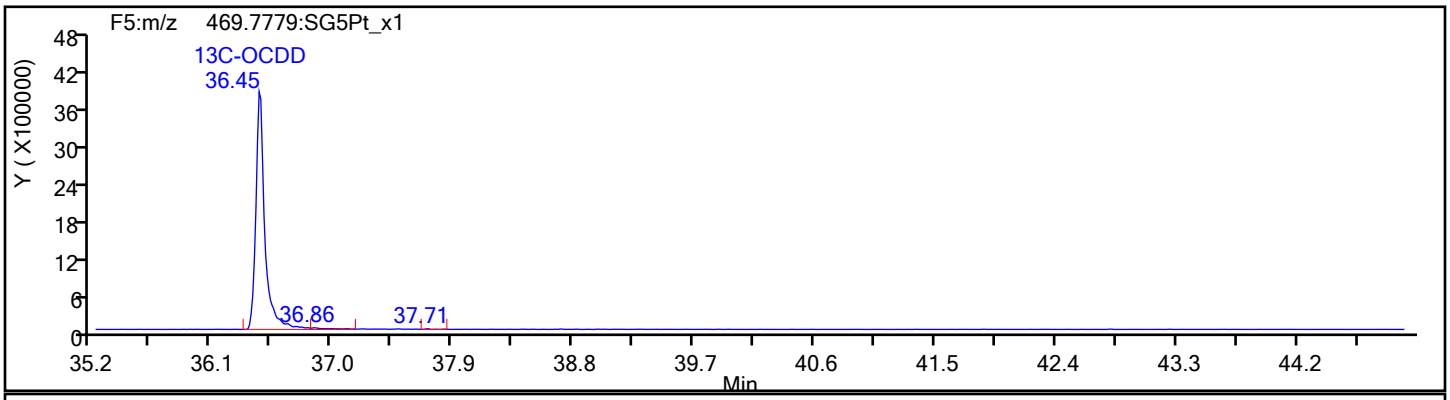

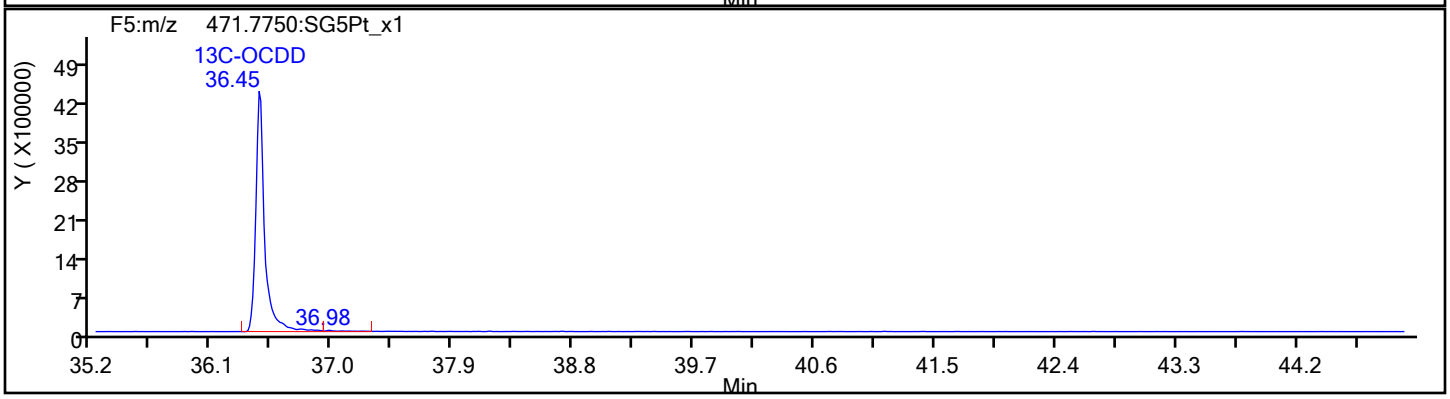

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Eurofins TestAmerica, Sacramento

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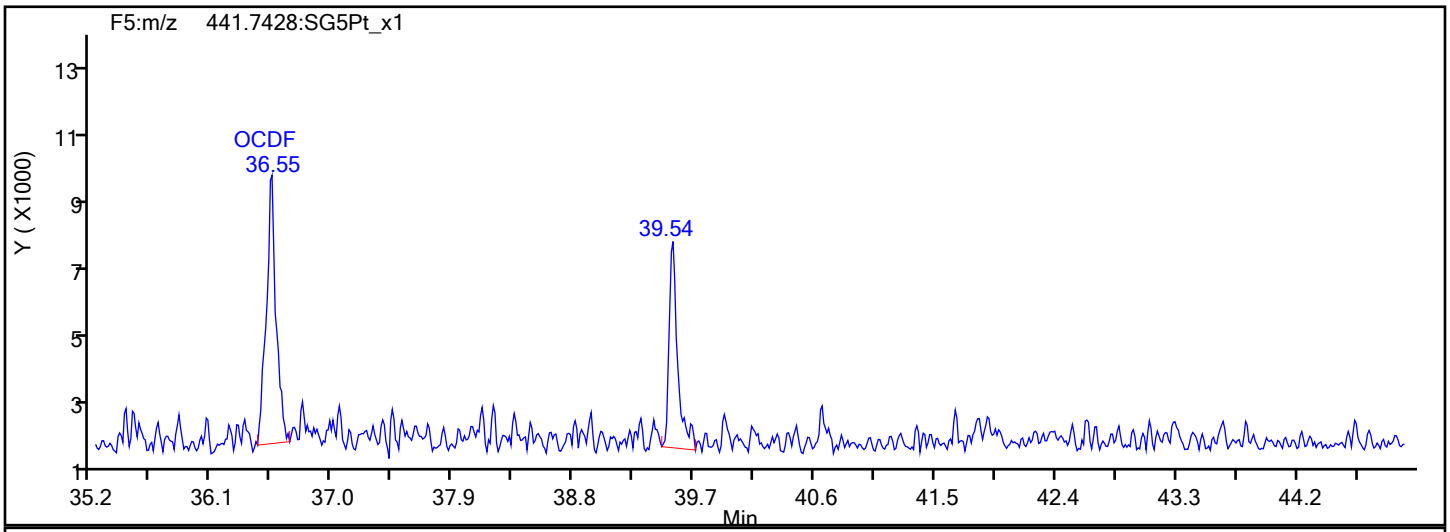

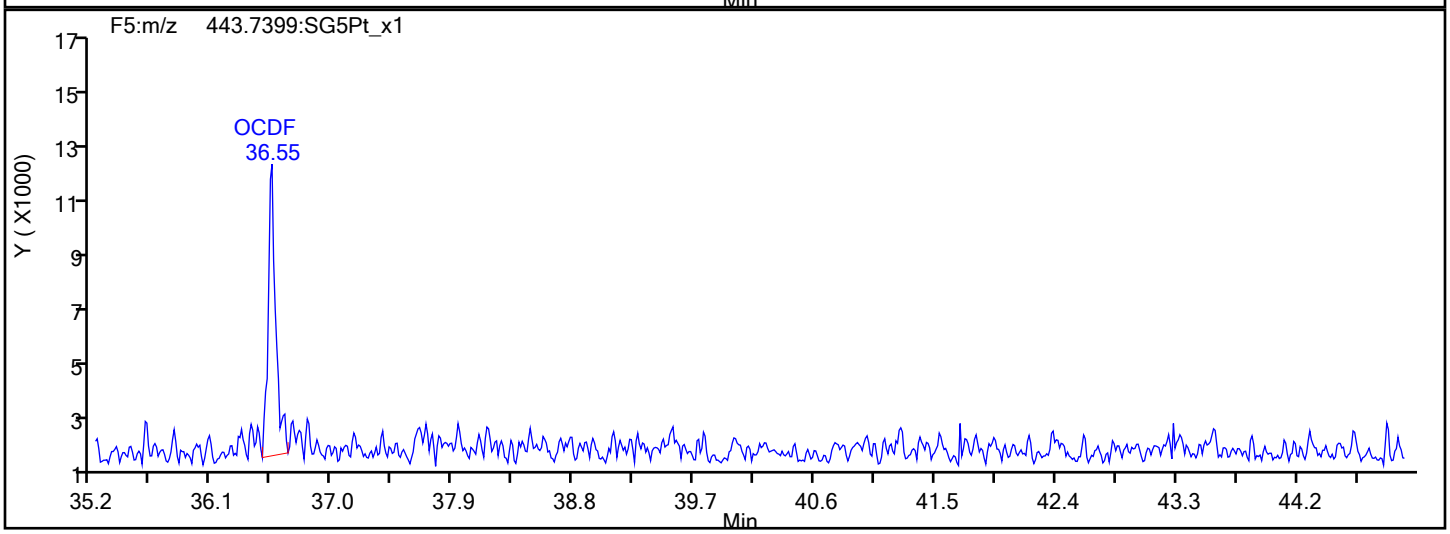

OCDF Interference Mass

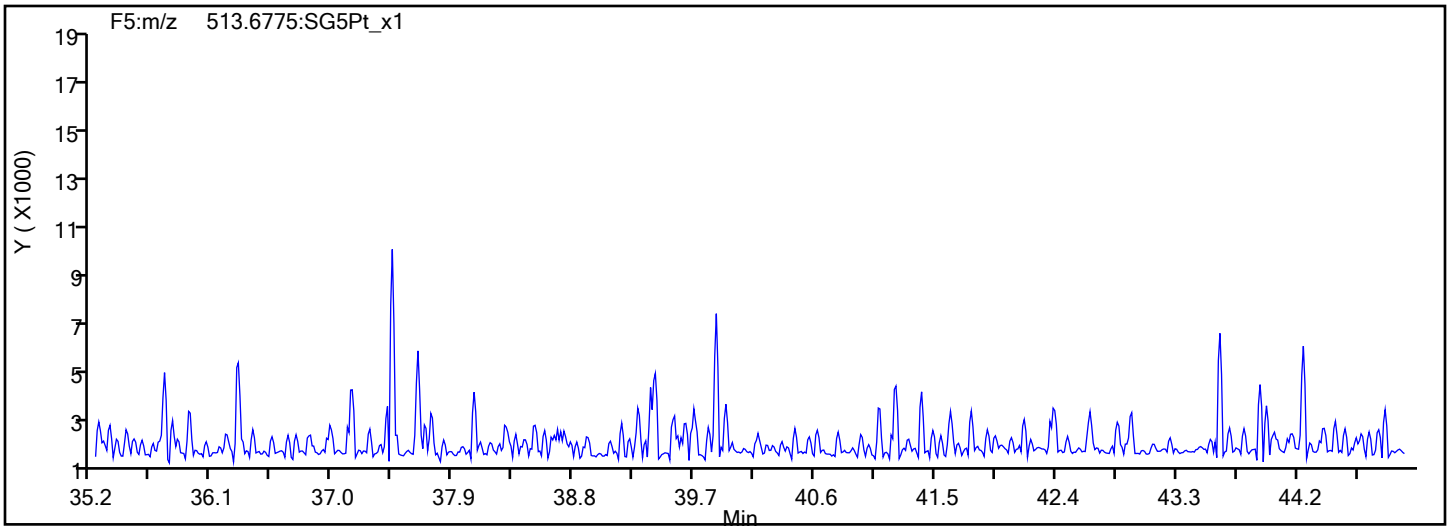

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Eurofins TestAmerica, Sacramento

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OCDD

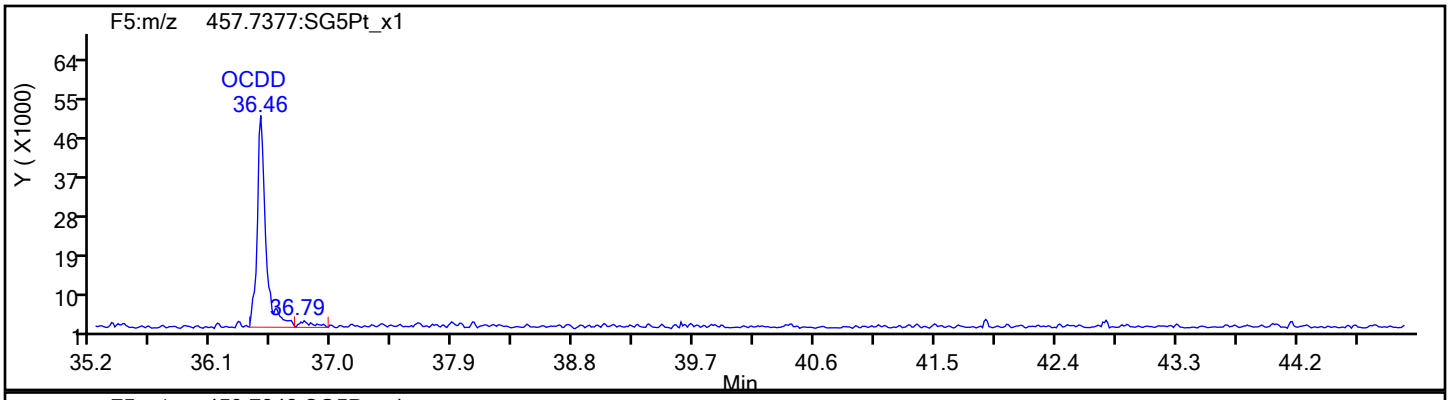

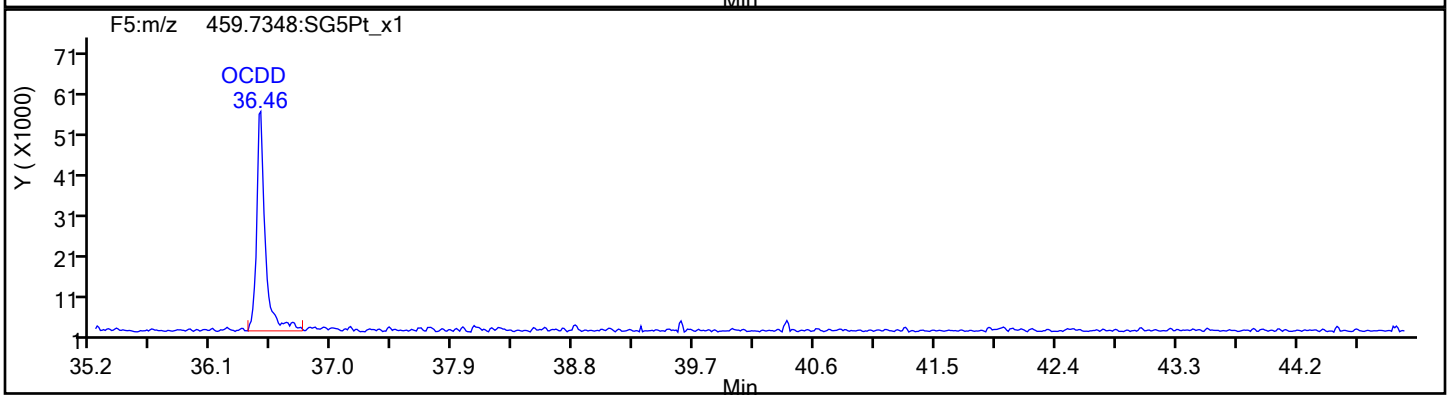

OCDD Standards

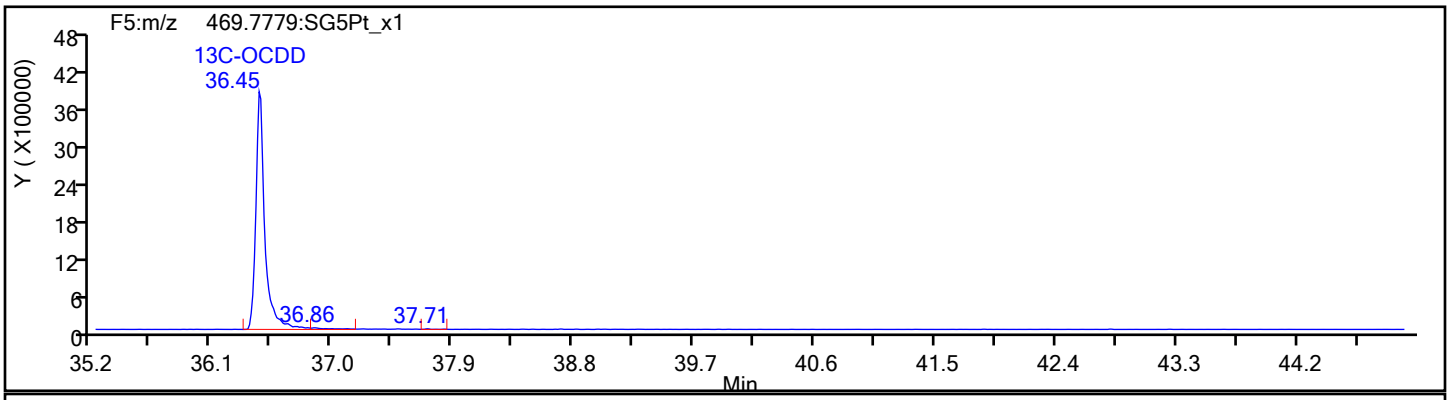

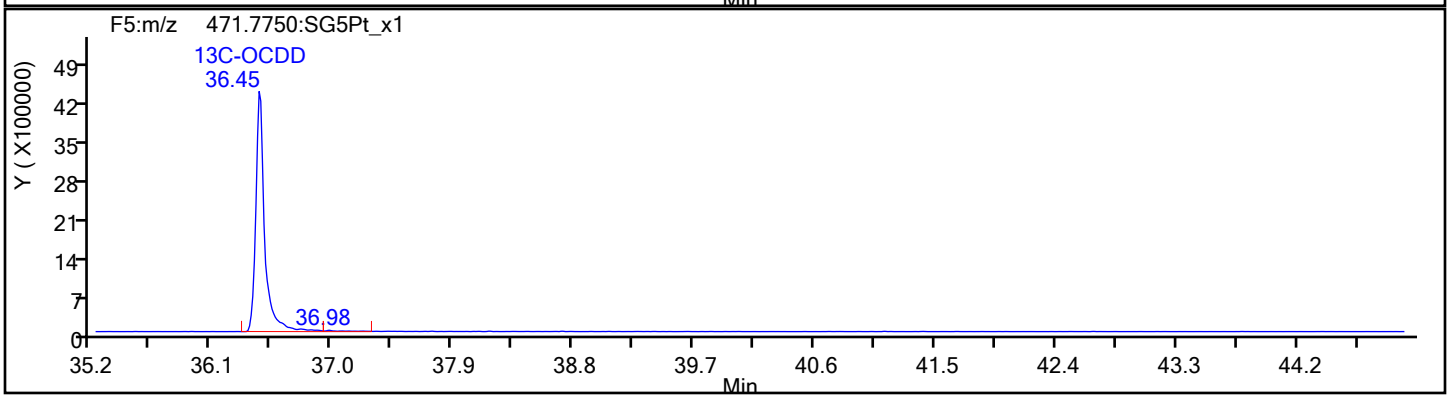

Report Date: 08-Nov-2019 08:52:42 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_6.d		
Injection Date:	05-Nov-2019 23:22:26	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	1. CEFF		
Worklist#:	336302	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

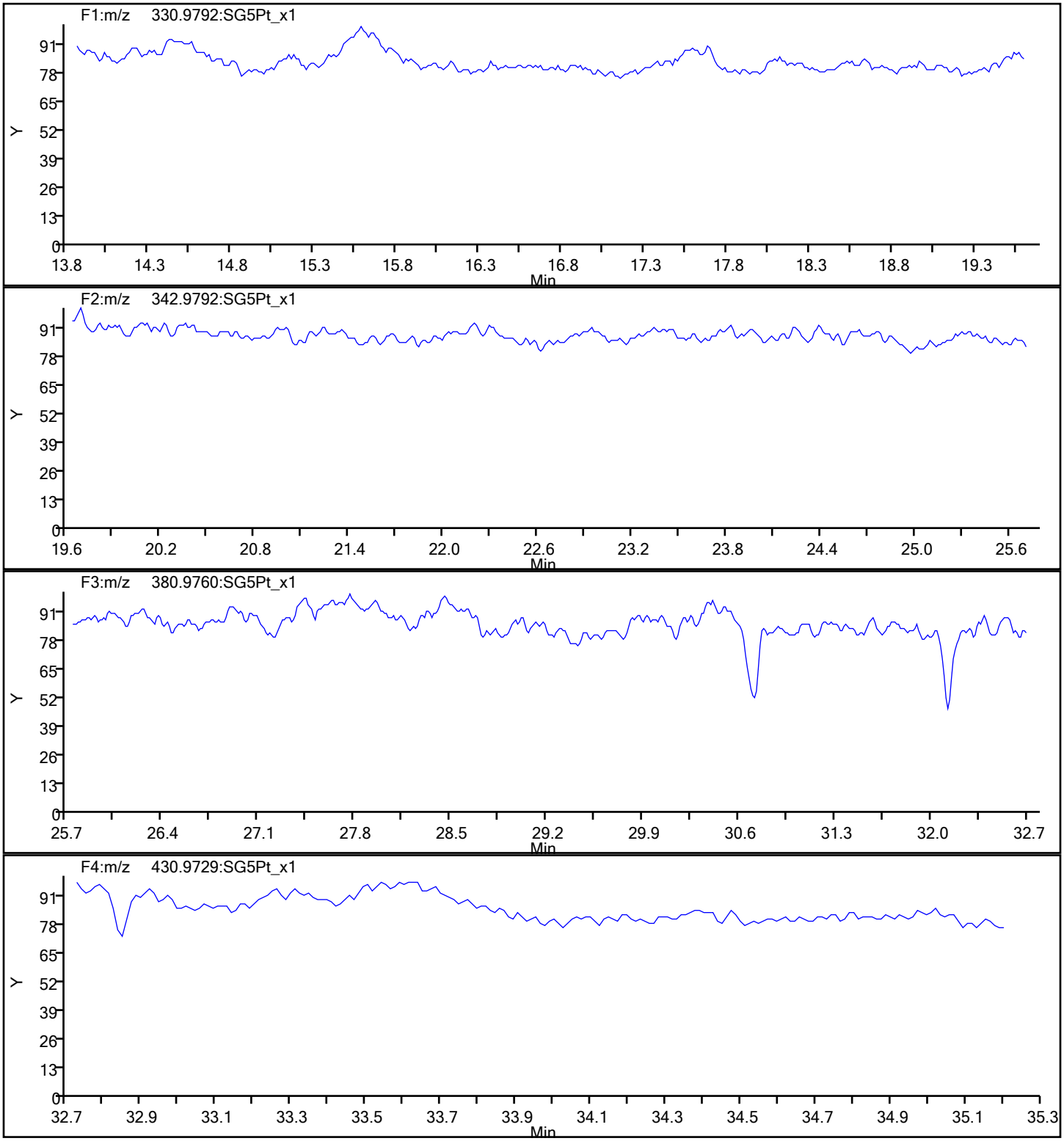

Report Date: 08-Nov-2019 08:52:42 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_6.d		
Injection Date:	05-Nov-2019 23:22:26	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	1. CEFF		
Worklist#:	336302	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

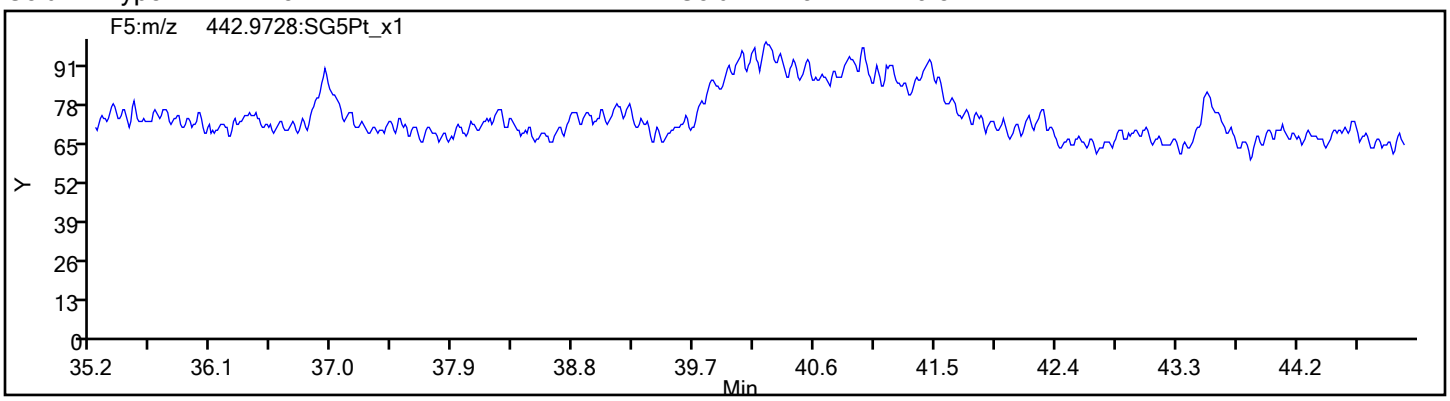

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 600-194690-1
SDG No.:
Client Sample ID: 1. CEFF RA
Lab Sample ID: 600-194690-1 RA
Matrix: Water
Lab File ID: 07NO19A11D2_004.d
Analysis Method: 1613B
Date Collected: 10/25/2019 19:25
Extract. Method: 1613B
Date Extracted: 11/01/2019 08:11
Sample wt/vol: 1038.2(mL)
Date Analyzed: 11/07/2019 16:53
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 336810
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
51207-31-9	2,3,7,8-TCDF	37	B	9.6	1.1

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
89059-46-1	13C-2,3,7,8-TCDF	61		24-169

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	93		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_004.d
Lims ID: 600-194690-C-1-A
Client ID: 1. CEFF
Sample Type: Client
Inject. Date: 07-Nov-2019 16:53:52 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 600-194690-C-1-A
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20191107-86281.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 08-Nov-2019 11:07:13 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0309

First Level Reviewer: stephensk Date: 08-Nov-2019 10:58:55

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.393	149779475	0.76	1.1E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.560	121702978	0.81	1.3379	60.7	60.7	0.2339	0.2339	60.73	
2,3,7,8-TCDF	16.587	1984625	0.82	0.8389	1.944	1.944	0.0580	0.0580		
D 13C-2,3,7,8-TCDD	15.105	81262617	0.78	0.9388	57.8	57.8	0.2946	0.2946	57.79	
2,3,7,8-TCDD	15.119	679635	0.65	1.1538	0.7249	0.7249	0.0908	0.0908		M
$ 37Cl4-2,3,7,8-TCDD	15.133	66016356		1.1816	37.3	37.3	0.0447	0.0447	93.25	
S Total 2378-Chlorinated							0.000100	0.000100		

QC Flag Legend

Review Flags
M - Manually Integrated

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_004.d
Lims ID: 600-194690-C-1-A
Client ID: 1. CEFF
Sample Type: Client
Inject. Date: 07-Nov-2019 16:53:52 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 600-194690-C-1-A
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20191107-86281.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 08-Nov-2019 11:07:13 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0309

First Level Reviewer: stephensk Date: 08-Nov-2019 10:58:55

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.393	15.378	1		64652016	15233953	22251	55627	685		
333.9339	15.393	15.378	1		85127459	20351169	17111	42777	1189	0.76(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.560	16.560	0	1.076	54427580	11575780	26745	66862	433		
317.9389	16.560	16.560	0	1.076	67275398	14314741	17804	44510	804	0.81(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.587	16.571	1	1.002	895502	180097	1945	4862	93		
305.8987	16.587	16.571	1	1.002	1089123	242301	3095	7737	78	0.82(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.105	15.092	0	0.981	35727293	8817562	22251	55627	396		
333.9339	15.105	15.092	0	0.981	45535324	10944471	17111	42777	640	0.78(0.65-0.89)	
2,3,7,8-TCDD											M
319.8965	15.119	15.117	0	1.001	268823	54853	4874	12185	11		M
321.8936	15.133	15.117	1	1.002	410812	96239	3404	8510	28	0.65(0.65-0.89)	M
37Cl4-2,3,7,8-TCDD											
327.8840	15.133	15.117	1	0.983	66016356	15076826	7525	18812	2004		

Total 2378-Chlorinated Dioxins & Furans
0.0 0

QC Flag Legend

Review Flags
M - Manually Integrated

Report Date: 08-Nov-2019 11:07:37 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_004.d		
Injection Date:	07-Nov-2019 16:53:52	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	1. CEFF		
Worklist#:	336810	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

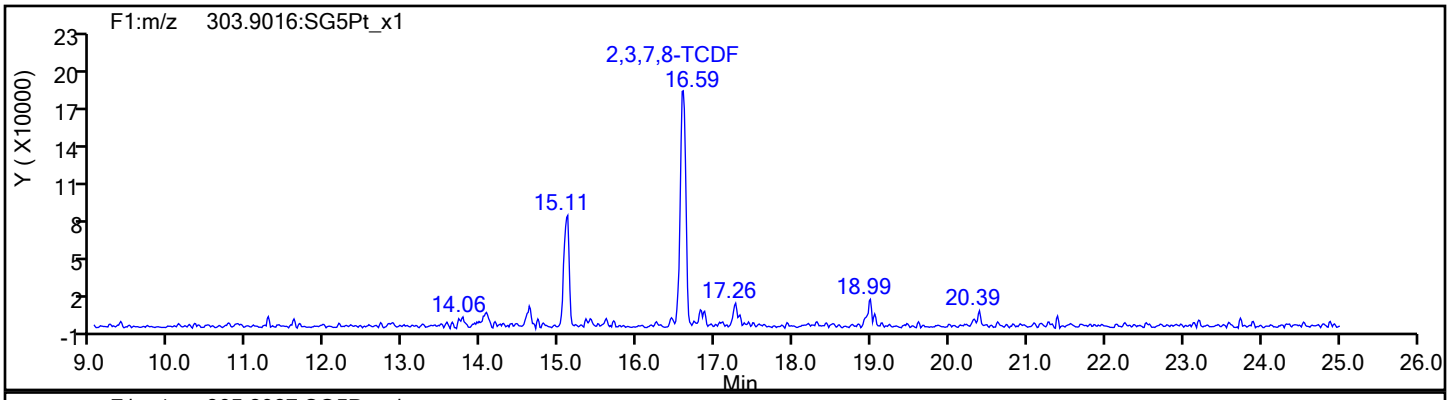

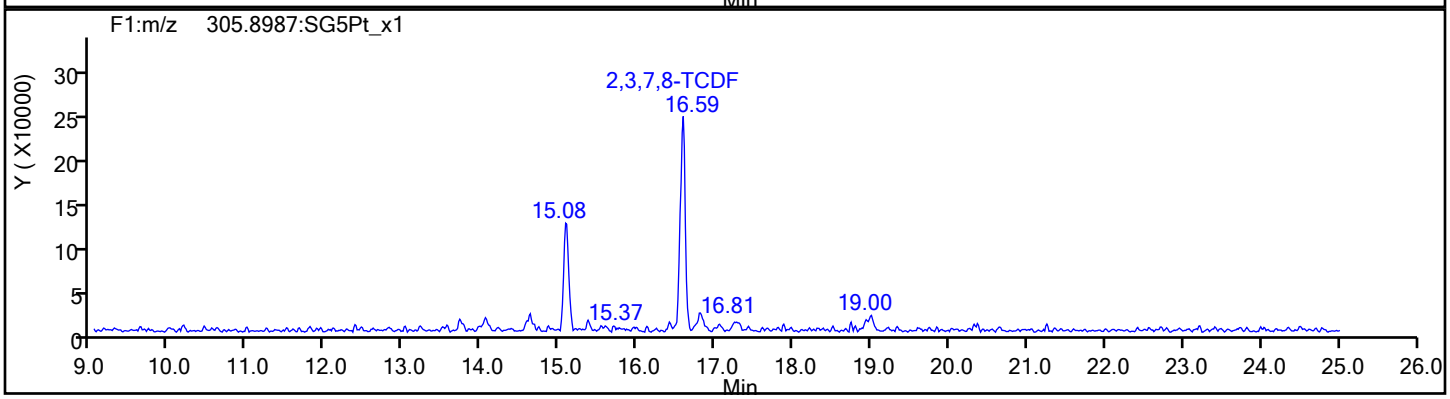

TCDF Standards

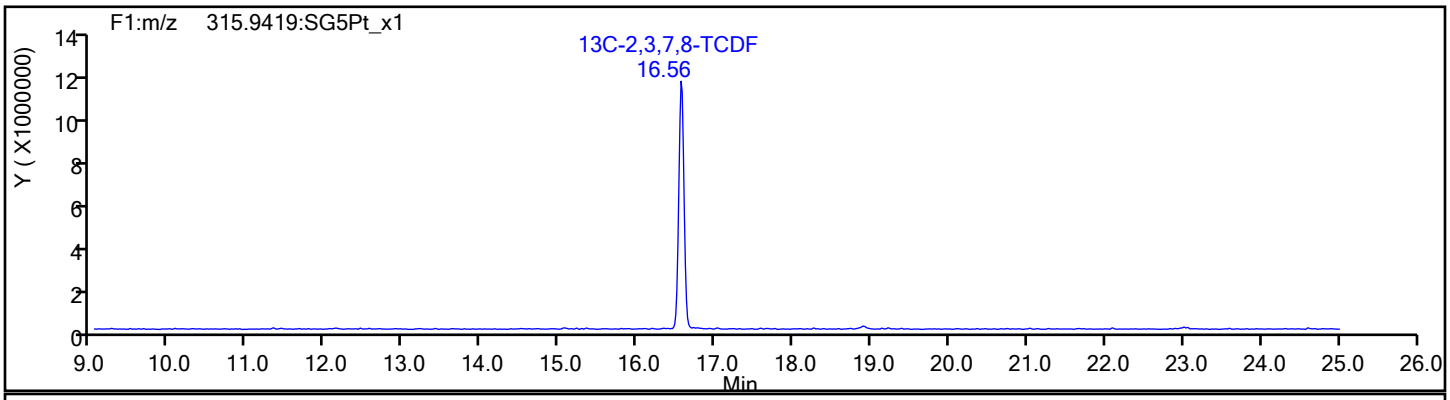

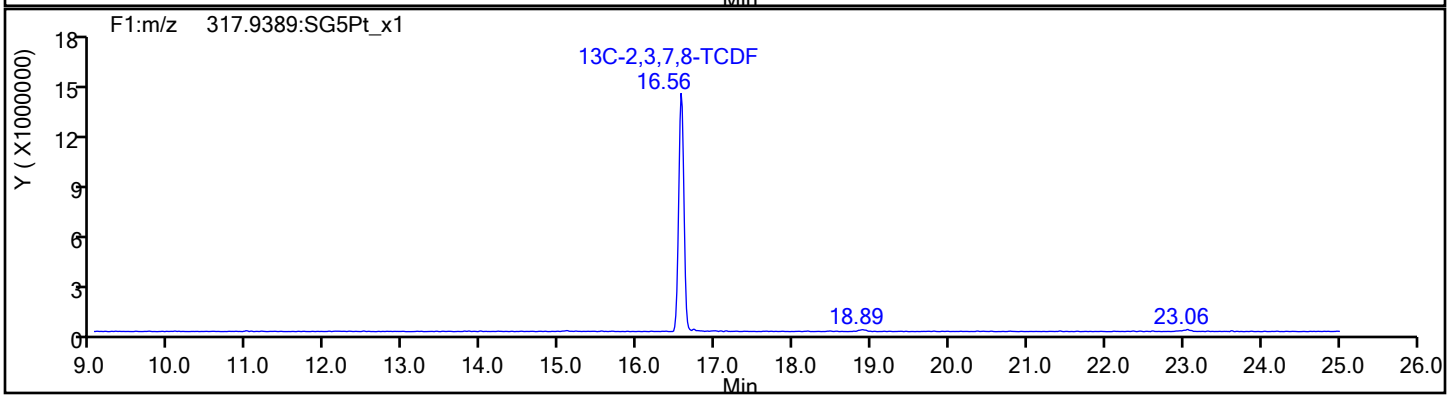

Report Date: 08-Nov-2019 11:07:37 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_004.d		
Injection Date:	07-Nov-2019 16:53:52	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	1. CEFF		
Worklist#:	336810	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

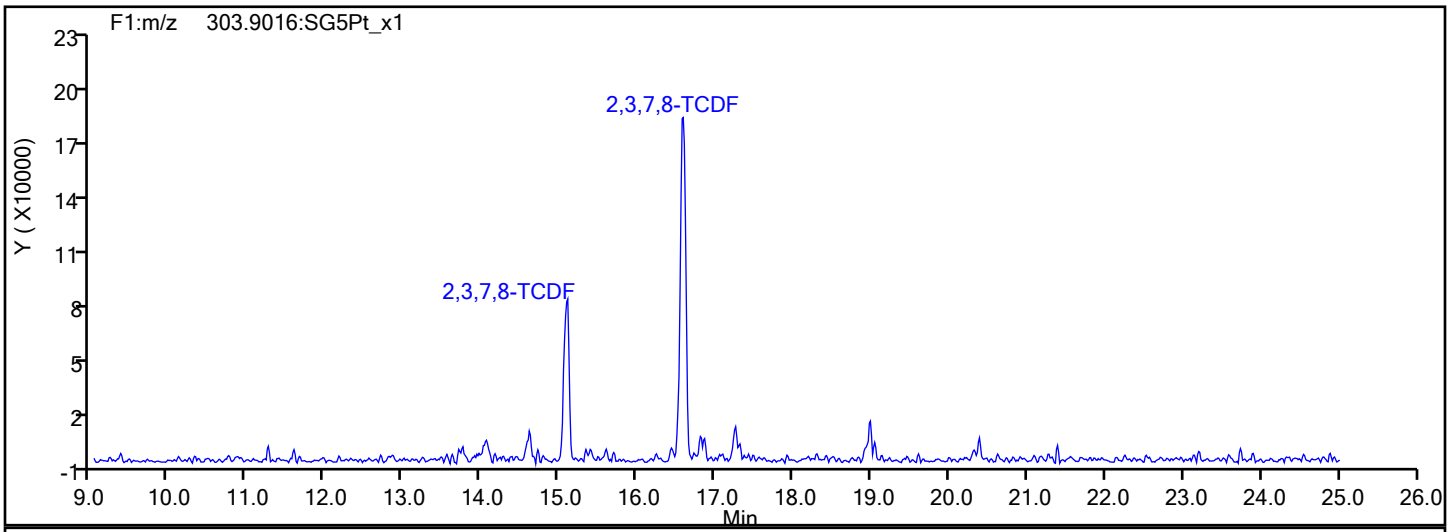

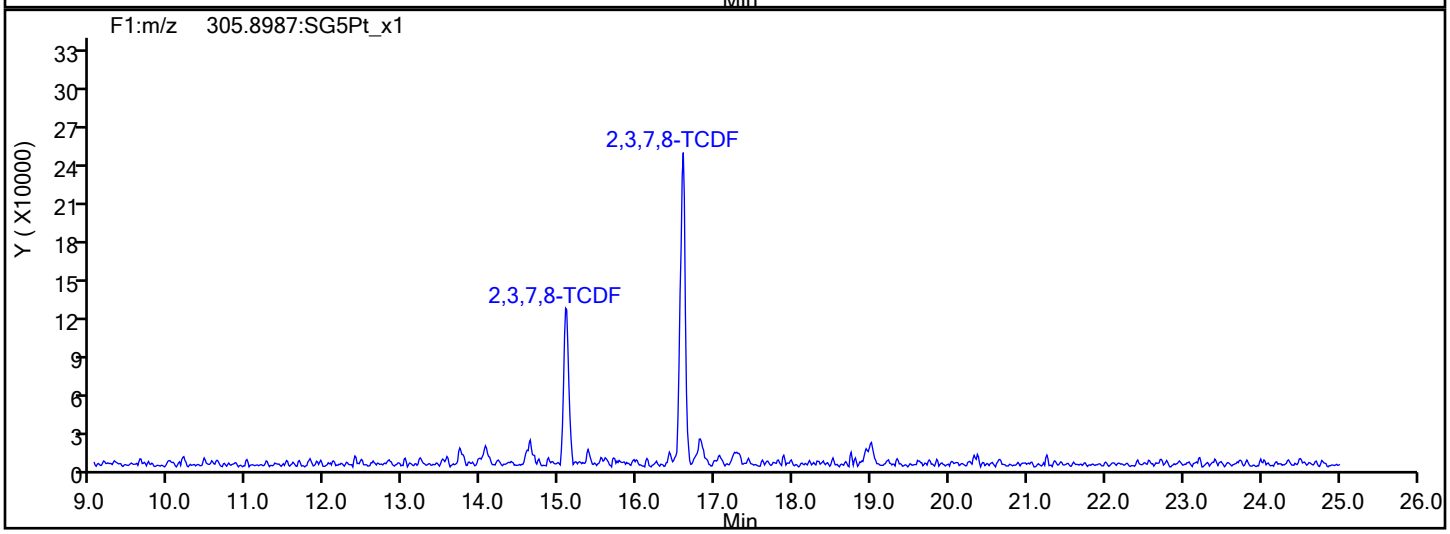

TCDF Interference Mass

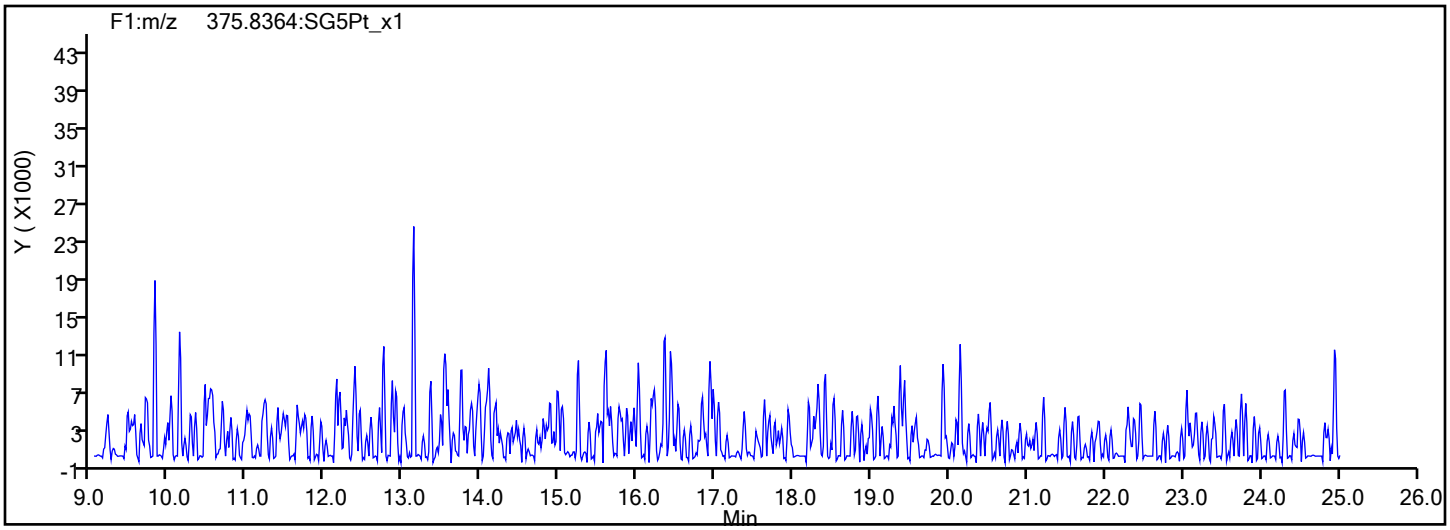

Report Date: 08-Nov-2019 11:07:37 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_004.d		
Injection Date:	07-Nov-2019 16:53:52	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	1. CEFF		
Worklist#:	336810	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

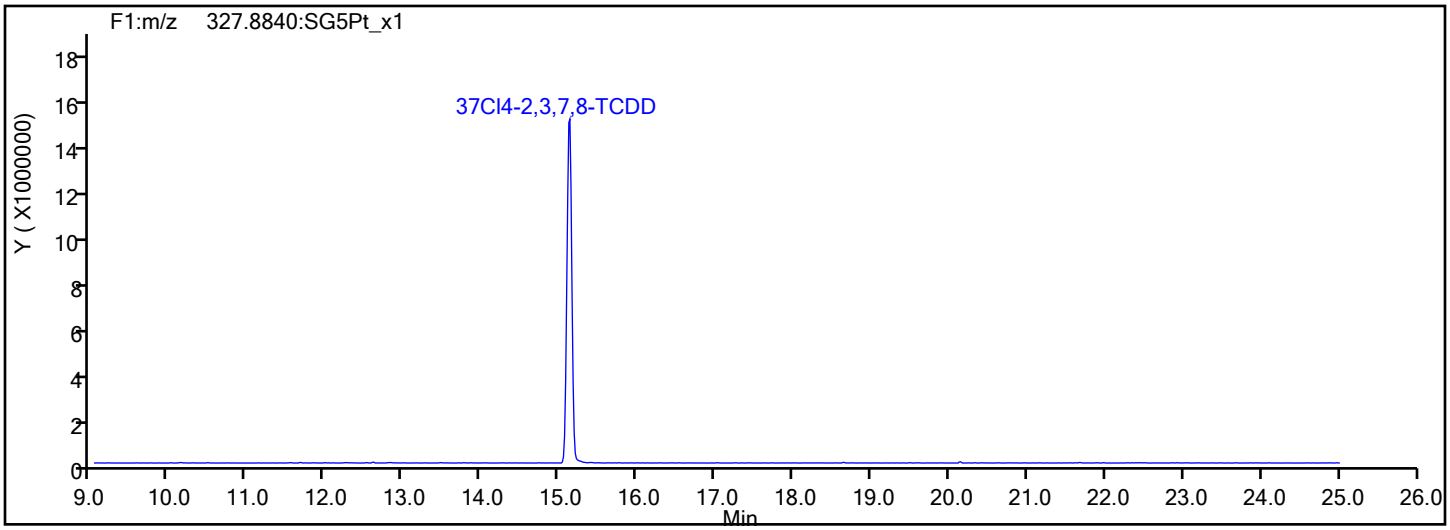

37Cl4-TCDD Standards

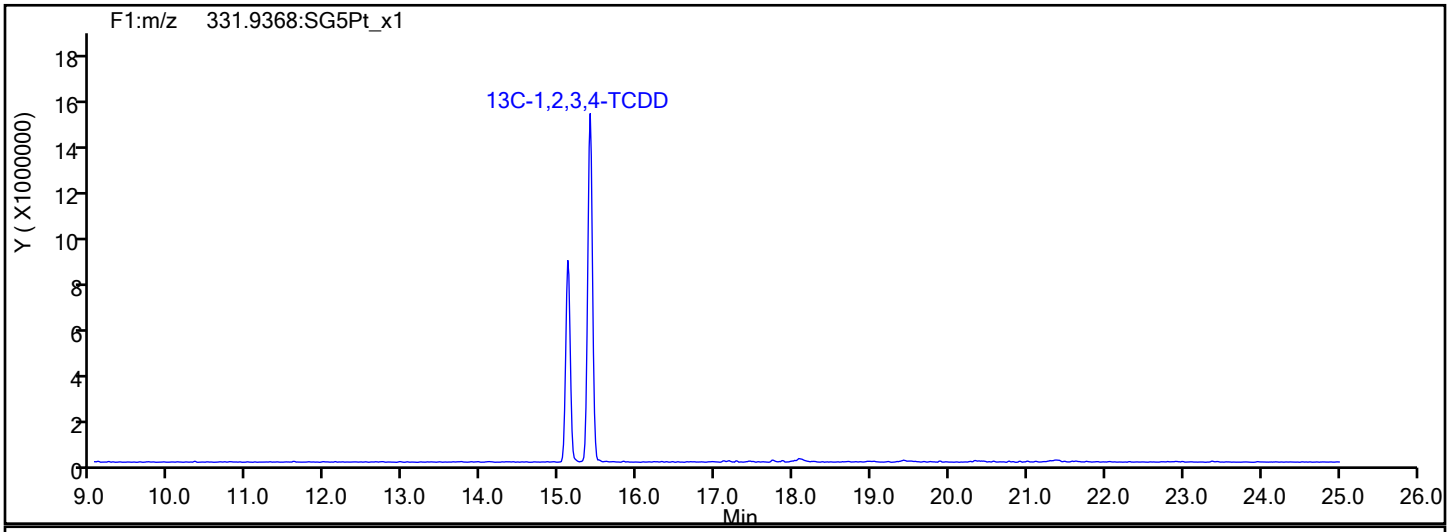

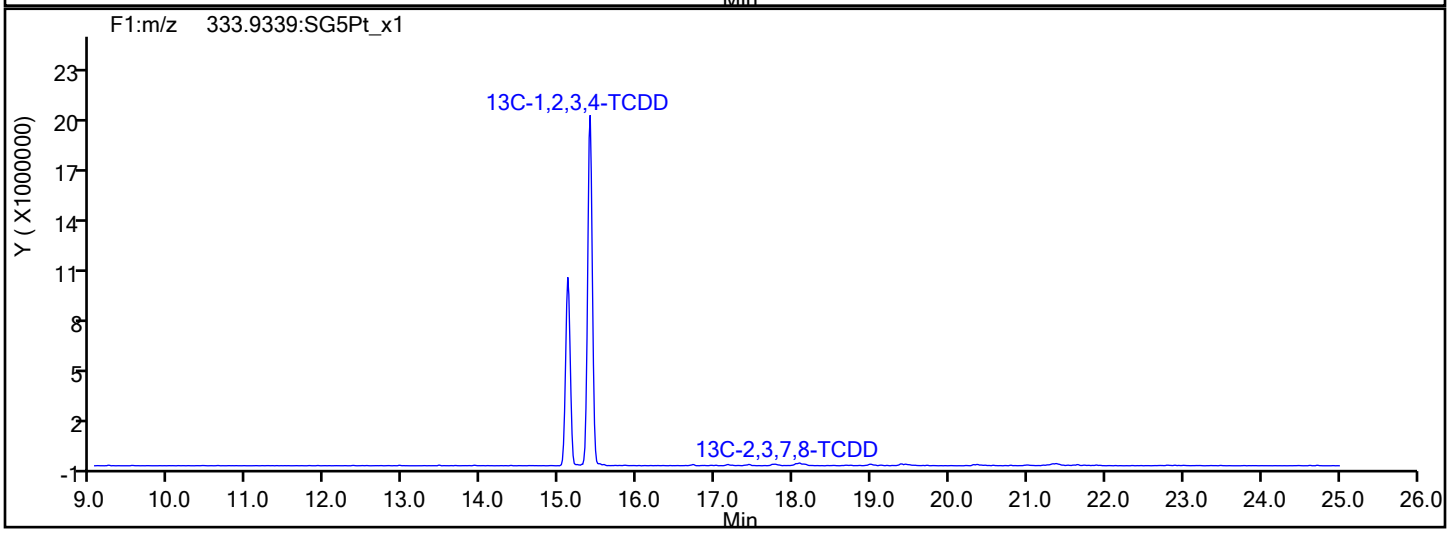

Report Date: 08-Nov-2019 11:07:37 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_004.d		
Injection Date:	07-Nov-2019 16:53:52	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	1. CEFF		
Worklist#:	336810	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm

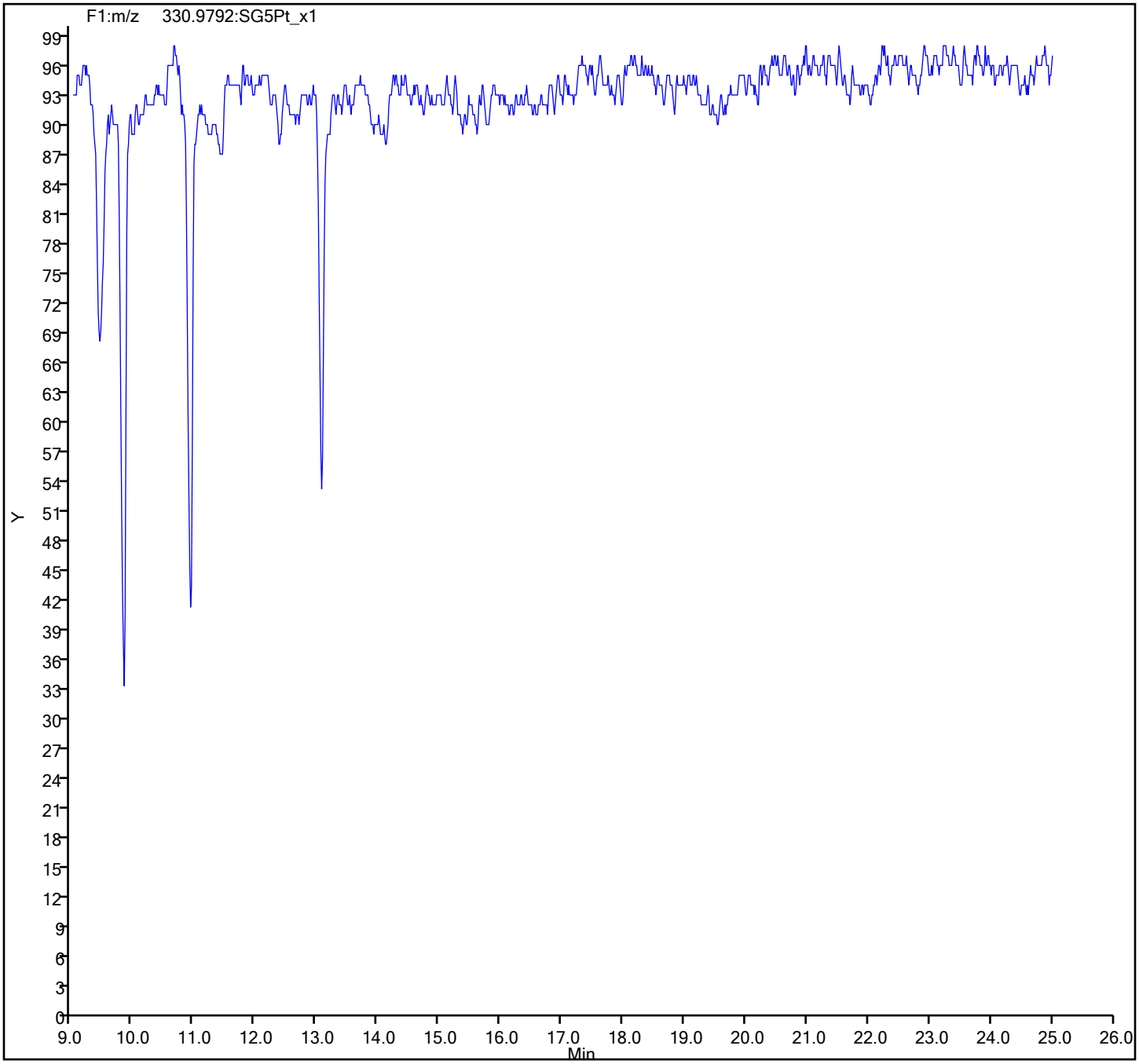

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 600-194690-1
SDG No.:
Client Sample ID: FEFF 1
Lab Sample ID: 600-194690-3
Matrix: Water
Lab File ID: 05NO19B10D5_7.d
Analysis Method: 1613B
Date Collected: 10/26/2019 12:45
Extract. Method: 1613B
Date Extracted: 11/01/2019 08:11
Sample wt/vol: 1004.8(mL)
Date Analyzed: 11/06/2019 00:08
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 336302
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	3.2	J q	10	0.66
51207-31-9	2,3,7,8-TCDF	7.1	J B	10	0.50
40321-76-4	1,2,3,7,8-PeCDD	ND		50	0.99
57117-41-6	1,2,3,7,8-PeCDF	1.5	J	50	0.65
57117-31-4	2,3,4,7,8-PeCDF	ND		50	0.63
39227-28-6	1,2,3,4,7,8-HxCDD	ND		50	0.83
57653-85-7	1,2,3,6,7,8-HxCDD	ND		50	0.79
19408-74-3	1,2,3,7,8,9-HxCDD	ND		50	0.73
70648-26-9	1,2,3,4,7,8-HxCDF	1.6	J	50	0.88
57117-44-9	1,2,3,6,7,8-HxCDF	ND		50	0.77
72918-21-9	1,2,3,7,8,9-HxCDF	ND		50	0.52
60851-34-5	2,3,4,6,7,8-HxCDF	ND		50	0.52
35822-46-9	1,2,3,4,6,7,8-HpCDD	6.7	J	50	0.83
67562-39-4	1,2,3,4,6,7,8-HpCDF	1.9	J B q	50	0.99
55673-89-7	1,2,3,4,7,8,9-HpCDF	ND		50	1.3
3268-87-9	OCDD	44	J B *	100	1.1
39001-02-0	OCDF	5.5	J B q	100	1.1
41903-57-5	Total TCDD	3.2	J q	10	0.66
30402-14-3	Total TCDF	11	B q	10	0.50
36088-22-9	Total PeCDD	ND		50	0.99
30402-15-4	Total PeCDF	1.5	J	50	0.64
34465-46-8	Total HxCDD	ND		50	0.83
55684-94-1	Total HxCDF	1.6	J B	50	0.67
37871-00-4	Total HpCDD	13	J	50	0.83
38998-75-3	Total HpCDF	1.9	J B q	50	1.1

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Client Sample ID: FEFF 1 Lab Sample ID: 600-194690-3

Matrix: Water Lab File ID: 05NO19B10D5_7.d

Analysis Method: 1613B Date Collected: 10/26/2019 12:45

Extract. Method: 1613B Date Extracted: 11/01/2019 08:11

Sample wt/vol: 1004.8(mL) Date Analyzed: 11/06/2019 00:08

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 336302 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	59		25-164
89059-46-1	13C-2,3,7,8-TCDF	52		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	58		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	54		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	60		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	62		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	62		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	63		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	60		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	58		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	60		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	55		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	51		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	55		26-138
114423-97-1	13C-OCDD	45		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	98		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_7.d
Lims ID: 600-194690-C-3-A
Client ID: FEFF 1
Sample Type: Client
Inject. Date: 06-Nov-2019 00:08:25 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 600-194690-C-3-A 600-194690-C-3-A
Misc. Info.: 05NO19B10D5
Operator ID: ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 08-Nov-2019 08:55:10 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0328

First Level Reviewer: arghestanis Date: 06-Nov-2019 08:06:32

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.245	90535742	0.77	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.761	67153018	0.79	1.4384	51.6	51.6	0.1436	0.1436	51.57	
2,3,7,8-TCDF	16.777	250891	0.86	1.0507	0.3556	0.3556	0.0249	0.0249		
A Non-2,3,7,8-sub-TCDF	16.459	154310	0.77	1.0507	0.2301	0.2187	0.0249	0.1615		RQ
S Total TCDF					0.5856	0.5743	0.0249	0.0249		RQ
D 13C-2,3,7,8-TCDD	17.442	50617075	0.76	0.9533	58.6	58.6	0.2965	0.2965	58.64	
2,3,7,8-TCDD	17.457	88660	0.77	1.1064	0.1881	0.1583	0.0333	0.0333		RQM
$ 37Cl4-2,3,7,8-TCDD	17.457	43276136		1.2224	39.1	39.1	0.0646	0.0646	97.76	
A Non-2,3,7,8-sub-TCDD	16.890						0.0333	0.0333		U
S Total TCDD					0.1881	0.1583	0.0333	0.0333		RQ
D 13C-1,2,3,7,8-PeCDF	21.527	50319157	1.53	1.0286	54.0	54.0	0.1800	0.1800	54.03	
1,2,3,7,8-PeCDF	21.513	41748	1.63	1.0822	0.0767	0.0767	0.0324	0.0324		M
D 13C-2,3,4,7,8-PeCDF	22.795	53490097	1.56	0.9827	60.1	60.1	0.1884	0.1884	60.12	
2,3,4,7,8-PeCDF	22.808						0.0317	0.0317		
A F1 PeCDFs	19.158						0.0324	0.0324		
A Non-2,3,7,8-sub-PeCDF	22.128						0.0321	0.0321		
S Total PeCDF					0.0767	0.0767	0.0321	0.0321		
D 13C-1,2,3,7,8-PeCDD	23.477	39354313	1.57	0.7481	58.1	58.1	0.1174	0.1174	58.11	
1,2,3,7,8-PeCDD	23.476						0.0497	0.0497		
A Non-2,3,7,8-sub-PeCDD	22.406						0.0497	0.0497		
S Total PeCDD							0.0497	0.0497		
D 13C-1,2,3,4,7,8-HxCDF	29.533	44932344	0.51	1.1520	62.8	62.8	0.3161	0.3161	62.80	
1,2,3,4,7,8-HxCDF	29.573	43184	1.05	1.1973	0.0803	0.0803	0.0442	0.0442		M
D 13C-1,2,3,6,7,8-HxCDF	29.826	46647878	0.51	1.2434	60.4	60.4	0.2928	0.2928	60.41	
1,2,3,6,7,8-HxCDF	29.826						0.0389	0.0389		
D 13C-2,3,4,6,7,8-HxCDF	30.917	43531994	0.52	1.1720	59.8	59.8	0.3107	0.3107	59.81	
2,3,4,6,7,8-HxCDF	30.917						0.0261	0.0261		
D 13C-1,2,3,7,8,9-HxCDF	31.849	38708118	0.53	1.0655	58.5	58.5	0.3418	0.3418	58.50	
1,2,3,7,8,9-HxCDF	31.862						0.0259	0.0259		
A Non-2,3,7,8-sub-HxCDF	29.354						0.0321	0.0321		U
S Total HxCDF					0.0803	0.0803	0.0338	0.0338		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.649	62103977	1.27	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.157	30284164	1.27	0.7812	62.4	62.4	0.2900	0.2900	62.42	
1,2,3,4,7,8-HxCDD	31.144						0.0415	0.0415		
D 13C-1,2,3,6,7,8-HxCDD	31.277	35312981	1.26	0.9175	62.0	62.0	0.2470	0.2470	61.98	
1,2,3,6,7,8-HxCDD	31.277						0.0399	0.0399		
1,2,3,7,8,9-HxCDD	31.663						0.0368	0.0368		
A Non-2,3,7,8-sub-HxCDD	29.926						0.0393	0.0393		
S Total HxCDD							0.0415	0.0415		
D 13C-1,2,3,4,6,7,8-HpCDF	33.406	27143724	0.42	0.8628	50.7	50.7	0.6972	0.6972	50.66	
1,2,3,4,6,7,8-HpCDF	33.418	39486	1.04	1.5555	0.1037	0.0935	0.0498	0.0498		RQM
D 13C-1,2,3,4,7,8,9-HpCDF	34.451	27426406	0.43	0.7991	55.3	55.3	0.7527	0.7527	55.27	
1,2,3,4,7,8,9-HpCDF	34.451						0.0637	0.0637		
A Non-2,3,7,8-sub-HpCDF	33.922						0.0561	0.0561		
S Total HpCDF					0.1037	0.0935	0.0567	0.0567		RQ
D 13C-1,2,3,4,6,7,8-HpCDD	34.183	29606567	1.03	0.8739	54.6	54.6	0.3026	0.3026	54.55	
1,2,3,4,6,7,8-HpCDD	34.196	92507	1.01	0.9316	0.3354	0.3354	0.0417	0.0417		
A Non-2,3,7,8-sub-HpCDD	34.038	92732	1.00	0.9316	0.3362	0.3362	0.0417	0.3362		M
S Total HpCDD					0.6716	0.6716	0.0417	0.0417		
D 13C-OCDD	36.462	42807985	0.87	0.7744	89.0	89.0	0.0936	0.0936	44.51	
OCDF	36.546	74297	0.89	1.2596	0.2991	0.2756	0.0574	0.0574		RQ
OCDD	36.462	498870	0.91	1.0621	2.195	2.195	0.0559	0.0559		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_7.d
Lims ID: 600-194690-C-3-A
Client ID: FEFF 1
Sample Type: Client
Inject. Date: 06-Nov-2019 00:08:25 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 600-194690-C-3-A 600-194690-C-3-A
Misc. Info.: 05NO19B10D5
Operator ID: ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 08-Nov-2019 08:55:10 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0328

First Level Reviewer: arghestanis Date: 06-Nov-2019 08:06:32

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.245	17.230	1		39405140	9980527	9589	23972	1041		
333.9339	17.245	17.230	1		51130602	12922438	16310	40775	792	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.761	16.761	0	0.972	29597738	7220356	8915	22287	810		
317.9389	16.761	16.761	0	0.972	37555280	9213719	10003	25007	921	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.777	16.761	1	1.001	116049	22361	575	1437	39		
305.8987	16.777	16.761	1	1.001	134842	32071	1148	2870	28	0.86(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											RQ
303.9016	16.217	16.459	-14	0.968	17571	2870	575	1437	5		
305.8987	16.157	16.459	-18	0.964	30844	5479	1148	2870	5	0.57(0.65-0.89)	
	Empc Correction				22819	3727	1148	2870	3		
303.9016	16.429	16.459	-2	0.980	52727	12424	575	1437	22		
305.8987	16.414	16.459	-3	0.979	61193	13854	1148	2870	12	0.86(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.442	17.427	1	1.011	21900958	5192788	9589	23972	542		
333.9339	17.442	17.427	1	1.011	28716117	6770020	16310	40775	415	0.76(0.65-0.89)	
2,3,7,8-TCDD											RQM
319.8965	17.457	17.427	2	1.001	38570	8974	1098	2745	8		M
321.8936	17.457	17.427	2	1.001	66764	15296	667	1667	23	0.58(0.65-0.89)	M
	Empc Correction				50090	11654	667	1667	17		
37Cl4-2,3,7,8-TCDD											
327.8847	17.457	17.442	1	1.012	43276136	10457951	7230	18075	1446		

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-TCDD											U
319.8965	16.890						1098	2745			
321.8936	16.890						667	1667			
13C-1,2,3,7,8-PeCDF											
351.9000	21.527	21.513	1	1.248	30466633	5344467	10268	25670	520		
353.8970	21.527	21.513	1	1.248	19852524	3423304	6693	16732	511	1.53(1.32-1.78)	
1,2,3,7,8-PeCDF											M
339.8597	21.513	21.527	-1	0.999	25877	3697	517	1292	7		M
341.8567	21.540	21.527	1	1.001	15871	3217	713	1782	5	1.63(1.32-1.78)	M
13C-2,3,4,7,8-PeCDF											
351.9000	22.795	22.781	1	1.322	32616162	5366202	10268	25670	523		
353.8970	22.795	22.781	1	1.322	20873935	3417398	6693	16732	511	1.56(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.795						517	1292			
341.8567	22.795						713	1782			
A F1 PeCDFs											
339.8597	19.158						478	1195			
341.8567	19.158						765	1912			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.128						517	1292			
341.8567	22.128						713	1782			
13C-1,2,3,7,8-PeCDD											
367.8949	23.477	23.463	1	1.361	24045406	3673518	4498	11245	817		
369.8919	23.477	23.463	1	1.361	15308907	2403558	3546	8865	678	1.57(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.476						610	1525			
357.8516	23.476						483	1207			
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.406						610	1525			
357.8516	22.406						483	1207			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.533	29.533	0	0.933	15209682	1725376	7074	17685	244		
385.8610	29.546	29.533	1	0.934	29722662	3343706	12691	31727	263	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											M
373.8208	29.573	29.533	2	1.001	22112	4192	588	1470	7		M
375.8178	29.600	29.533	4	1.002	21072	2537	486	1215	5	1.05(1.05-1.43)	M
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.826	29.813	1	0.942	15849385	2005112	7074	17685	283		
385.8610	29.826	29.813	1	0.942	30798493	3838592	12691	31727	302	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	29.826						588	1470			
375.8178	29.826						486	1215			
13C-2,3,4,6,7,8-HxCDF											
383.8639	30.917	30.904	1	0.977	14942124	2929672	7074	17685	414		
385.8610	30.917	30.904	1	0.977	28589870	5550033	12691	31727	437	0.52(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,6,7,8-HxCDF											
373.8208	30.917						588	1470			
375.8178	30.917						486	1215			
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.849	31.836	1	1.006	13390975	2922679	7074	17685	413		
385.8610	31.849	31.836	1	1.006	25317143	5397100	12691	31727	425	0.53(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.849						588	1470			
375.8178	31.849						486	1215			
A Non-2,3,7,8-sub-HxCDF											U
373.8208	29.354						588	1470			
375.8178	29.354						486	1215			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.649	31.636	1		34790338	7619281	6955	17387	1096		
403.8529	31.649	31.636	1		27313639	5950979	5344	13360	1114	1.27(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.157	31.143	1	0.984	16936046	3716193	6955	17387	534		
403.8529	31.144	31.143	0	0.984	13348118	2927607	5344	13360	548	1.27(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.144						550	1375			
391.8127	31.144						673	1682			
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.277	31.263	1	0.988	19674620	3944818	6955	17387	567		
403.8529	31.277	31.263	1	0.988	15638361	3133592	5344	13360	586	1.26(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.277						550	1375			
391.8127	31.277						673	1682			
1,2,3,7,8,9-HxCDD											
389.8157	31.649						550	1375			
391.8127	31.649						673	1682			
A Non-2,3,7,8-sub-HxCDD											
389.8157	29.926						550	1375			
391.8127	29.926						673	1682			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.406	33.393	1	1.055	8054085	2357316	9832	24580	240		
419.8220	33.406	33.393	1	1.055	19089639	5424550	22817	57042	238	0.42(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											RQM
407.7818	33.418	33.394	1	1.000	24442	7145	1909	4772	4		M
	Empc Correction				20130	5665	1909	4772	3		
409.7789	33.418	33.394	1	1.000	19356	5448	503	1257	11	1.26(0.88-1.20)	M
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.451	34.451	0	1.089	8266998	2088050	9832	24580	212		
419.8220	34.451	34.451	0	1.089	19159408	4745026	22817	57042	208	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.451						1909	4772			
409.7789	34.451						503	1257			

Report Date: 08-Nov-2019 08:55:11 Chrom Revision: 2.3 31-Oct-2019 20:21:30
Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_7.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.922						1909	4772			
409.7789	33.922						503	1257			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.183	34.171	1	1.080	15019332	3940466	7706	19265	511		
437.8140	34.183	34.171	1	1.080	14587235	3819256	6650	16625	574	1.03(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.196	34.172	1	1.000	46519	12767	636	1590	20		
425.7737	34.196	34.172	1	1.000	45988	11956	570	1425	21	1.01(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											M
423.7766	33.661	34.038	-23	0.985	46339	13592	636	1590	21		M
425.7737	33.661	34.038	-23	0.985	46393	12713	570	1425	22	1.00(0.88-1.20)	
13C-OCDD											
469.7779	36.462	36.462	0	1.152	19889722	4235302	1892	4730	2239		
471.7750	36.462	36.462	0	1.152	22918263	4934160	2044	5110	2414	0.87(0.76-1.02)	
OCDF											RQ
441.7428	36.546	36.546	0	1.002	41328	7855	524	1310	15		
	Empc Correction				34986	6105	524	1310	12		
443.7399	36.546	36.546	0	1.002	39311	6860	801	2002	9	1.05(0.76-1.02)	
OCDD											
457.7377	36.462	36.462	0	1.000	237639	44841	549	1372	82		
459.7348	36.462	36.462	0	1.000	261231	54792	540	1350	101	0.91(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

U - Marked Undetected

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_7.d
Lims ID: 600-194690-C-3-A
Client ID: FEFF 1
Inject. Date: 06-Nov-2019 00:08:25 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 7

Non-2,3,7,8-sub-TCDF, RT: 16.459

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.051	D 13C-2,3,7,8-TCDF	100.000	67153018	16434075

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.051		100.000	67153018	16434075

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
16.217	17571	2870	30844	5479	0.0686	0.57	RQ
16.217	17571	2870	22819	3727	0.0572		Empc Correction
16.429	52727	12424	61193	13854	0.1615	0.86	
Signal Totals:							
	70298	15294	84012	17581			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	162335	34627				0.76	RQ
	154310	32875					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.2301 = (162335 * 100.000) / (67153018 * 1.051)
Empc Amount: 0.2187 = (154310 * 100.000) / (67153018 * 1.051)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_7.d
Lims ID: 600-194690-C-3-A
Client ID: FEFF 1
Inject. Date: 06-Nov-2019 00:08:25 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 7

Non-2,3,7,8-sub-TCDD, RT: 16.890

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.106	D 13C-2,3,7,8-TCDD	100.000	50617075	11962808

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.106		100.000	50617075	11962808

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags

Compound is Marked ND

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_7.d
Lims ID: 600-194690-C-3-A
Client ID: FEFF 1
Inject. Date: 06-Nov-2019 00:08:25 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 7

Non-2,3,7,8-sub-HxCDF, RT: 29.354

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.197	D 13C-1,2,3,4,7,8-HxCDF	100.000	44932344	5069082
1,2,3,6,7,8-HxCDF	1.181	D 13C-1,2,3,6,7,8-HxCDF	100.000	46647878	5843704
2,3,4,6,7,8-HxCDF	1.212	D 13C-2,3,4,6,7,8-HxCDF	100.000	43531994	8479705
1,2,3,7,8,9-HxCDF	1.245	D 13C-1,2,3,7,8,9-HxCDF	100.000	38708118	8319779

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.209		100.000	43455083	6928067

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags

Compound is Marked ND

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Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_7.d
Lims ID: 600-194690-C-3-A
Client ID: FEFF 1
Inject. Date: 06-Nov-2019 00:08:25 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 7

Non-2,3,7,8-sub-HpCDD, RT: 34.038

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.932	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	29606567	7759722

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.932		100.000	29606567	7759722

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
33.661	46339	13592	46393	12713	0.3362	1.00	M
Signal Totals:							
	46339	13592	46393	12713			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	92732	26305				1.00	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.3362 = (92732 * 100.000) / (29606567 * 0.932)

QC Flag Legend

Review Flags
M - Manually Integrated

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_7.d				
Injection Date:	06-Nov-2019 00:08:25	Instrument ID:	10D5		
Lims ID:	600-194690-C-3-A	Lab Sample ID:	320-194690-3		
Client ID:	FEFF 1				
Operator ID:	ALM	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDD, CAS: 1746-01-6

Signal: 1

Processing Integration Results

RT: 17.46
Area: 45464
Amount: 0.206017
Amount Units: pg/ul

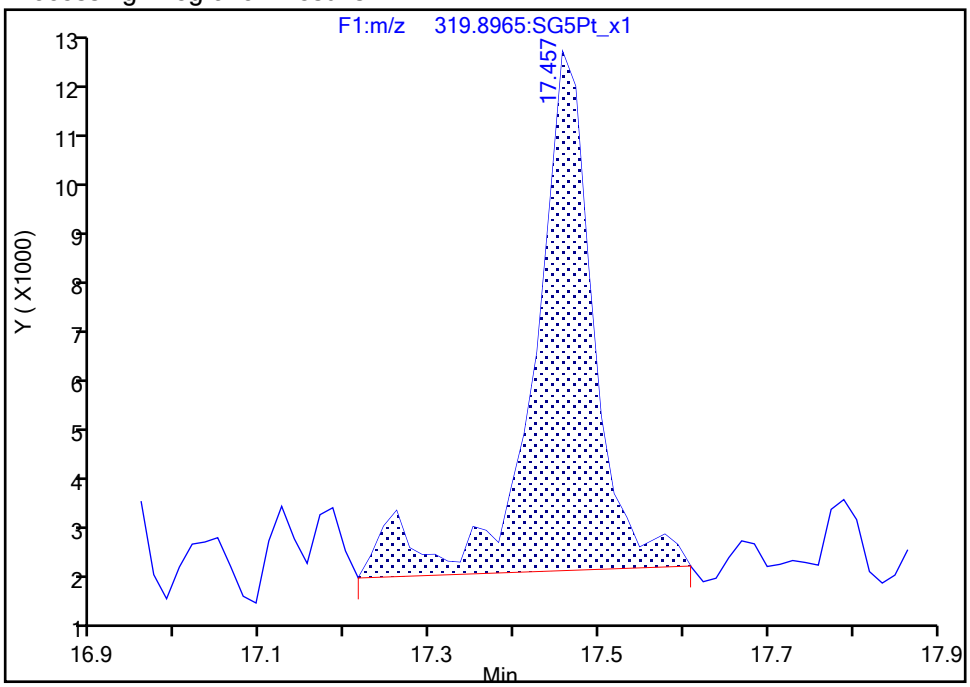

Manual Integration Results

RT: 17.46
Area: 38570
Amount: 0.188086
Amount Units: pg/ul

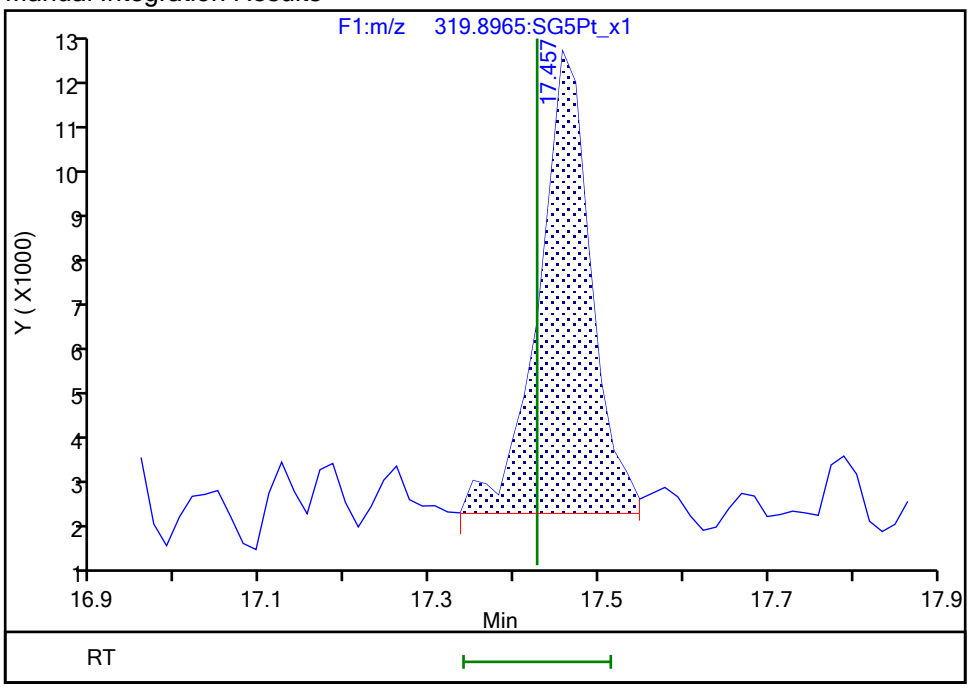

Reviewer: dadunj, 08-Nov-2019 08:53:14

Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_7.d				
Injection Date:	06-Nov-2019 00:08:25	Instrument ID:	10D5		
Lims ID:	600-194690-C-3-A	Lab Sample ID:	320-194690-3		
Client ID:	FEFF 1				
Operator ID:	ALM	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDD, CAS: 1746-01-6

Signal: 2

Processing Integration Results

RT: 17.46
Area: 69912
Amount: 0.206017
Amount Units: pg/ul

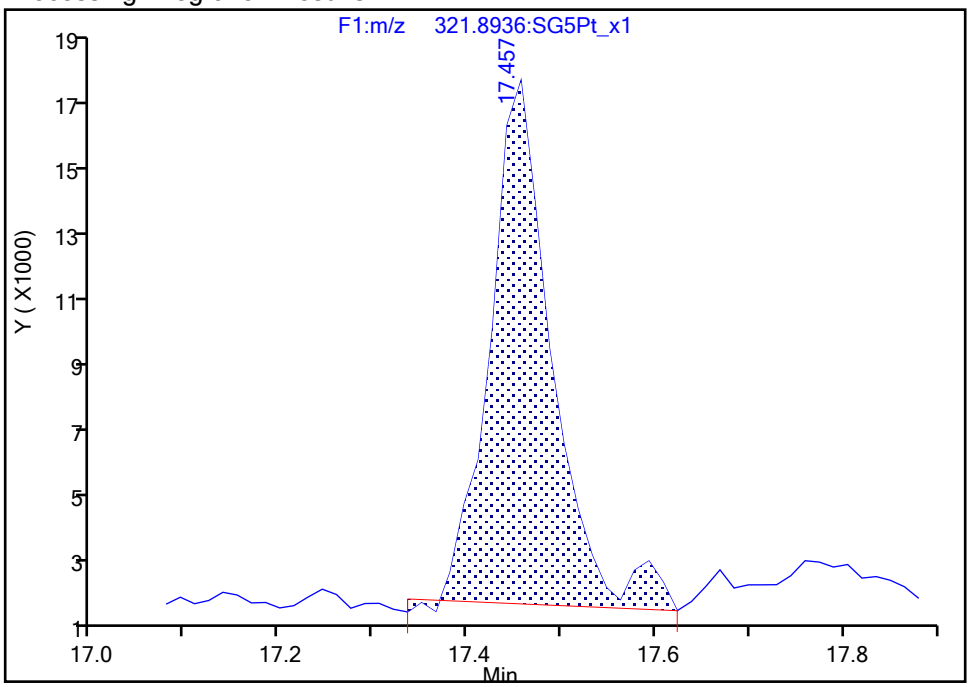

Manual Integration Results

RT: 17.46
Area: 66764
Amount: 0.188086
Amount Units: pg/ul

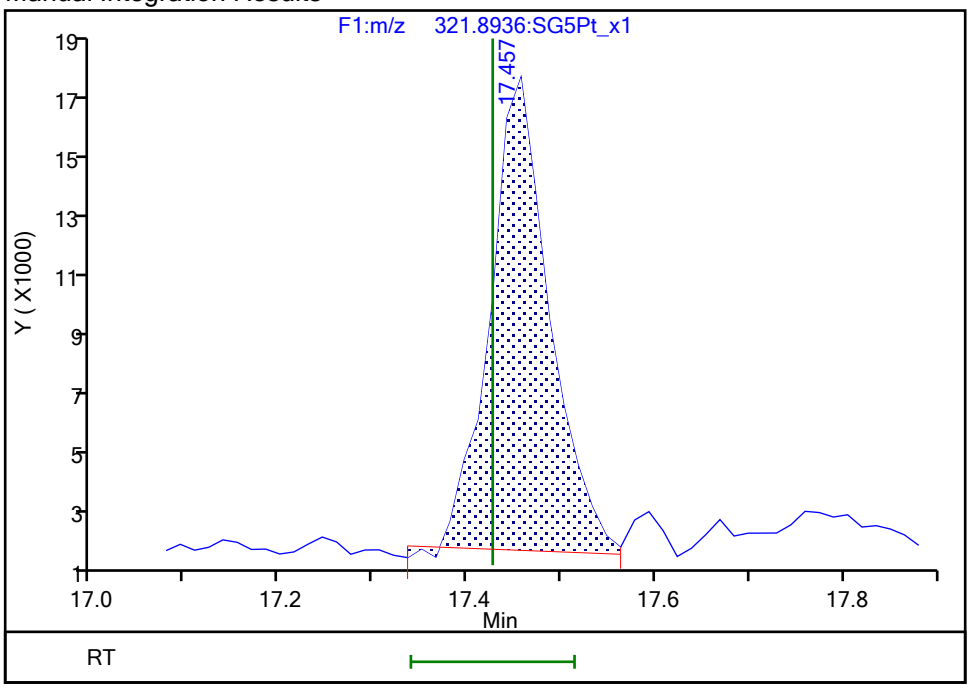

Reviewer: dadunj, 08-Nov-2019 08:53:15

Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_7.d				
Injection Date:	06-Nov-2019 00:08:25	Instrument ID:	10D5		
Lims ID:	600-194690-C-3-A	Lab Sample ID:	320-194690-3		
Client ID:	FEFF 1				
Operator ID:	ALM	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

1,2,3,7,8-PeCDF, CAS: 57117-41-6

Signal: 1

Processing Integration Results

RT: 21.51
Area: 28522
Amount: 0.085305
Amount Units: pg/ul

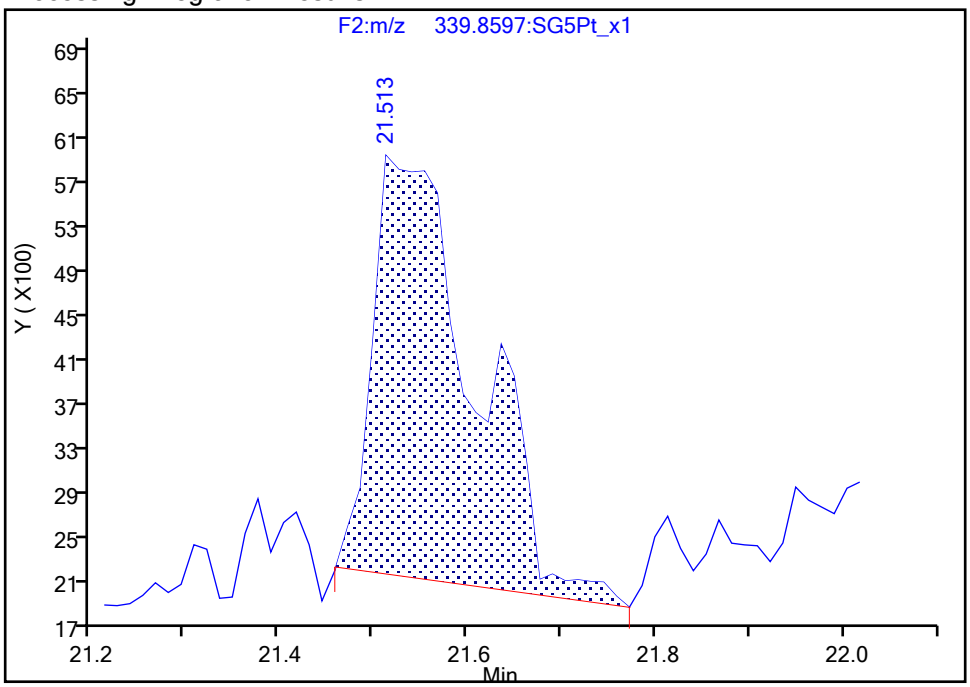

Manual Integration Results

RT: 21.51
Area: 25877
Amount: 0.076661
Amount Units: pg/ul

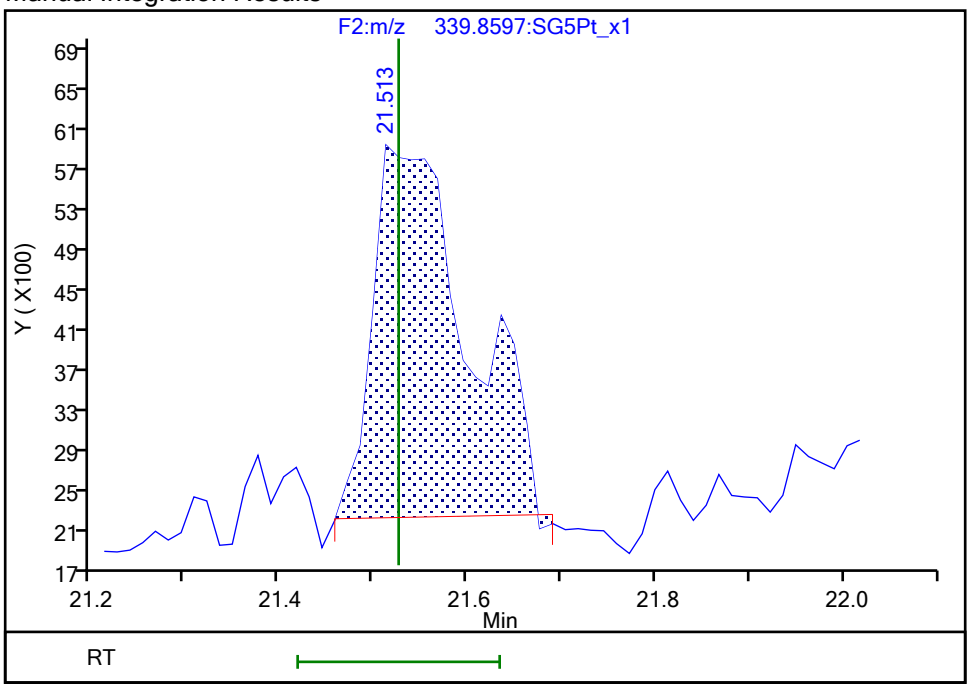

Reviewer: dadunj, 08-Nov-2019 08:53:28

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_7.d				
Injection Date:	06-Nov-2019 00:08:25	Instrument ID:	10D5		
Lims ID:	600-194690-C-3-A	Lab Sample ID:	320-194690-3		
Client ID:	FEFF 1				
Operator ID:	ALM	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

1,2,3,7,8-PeCDF, CAS: 57117-41-6

Signal: 2

Processing Integration Results

RT: 21.54
Area: 17933
Amount: 0.085305
Amount Units: pg/ul

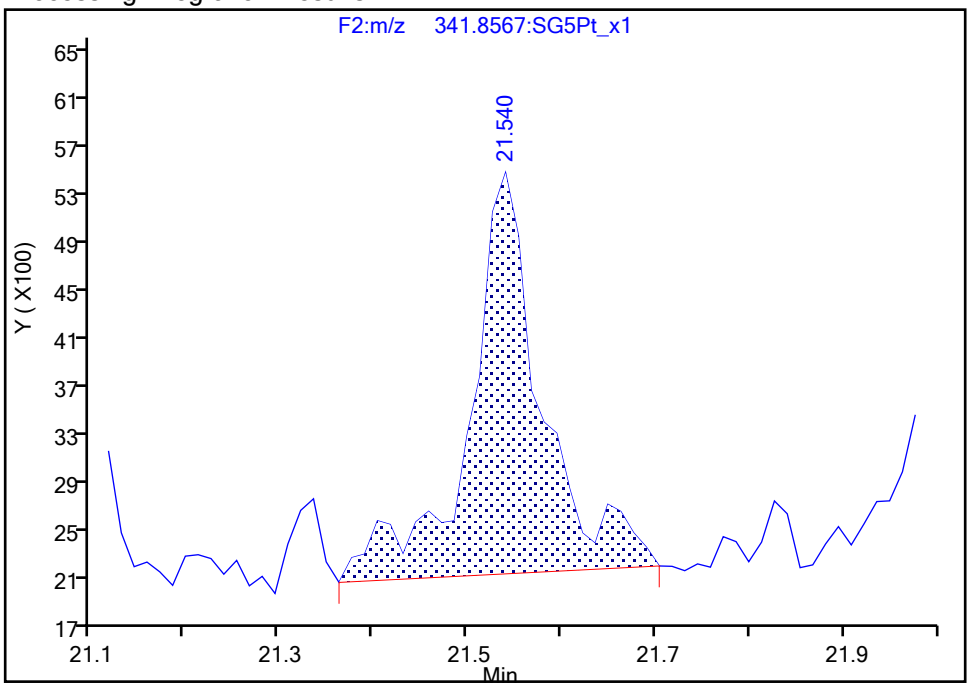

Manual Integration Results

RT: 21.54
Area: 15871
Amount: 0.076661
Amount Units: pg/ul

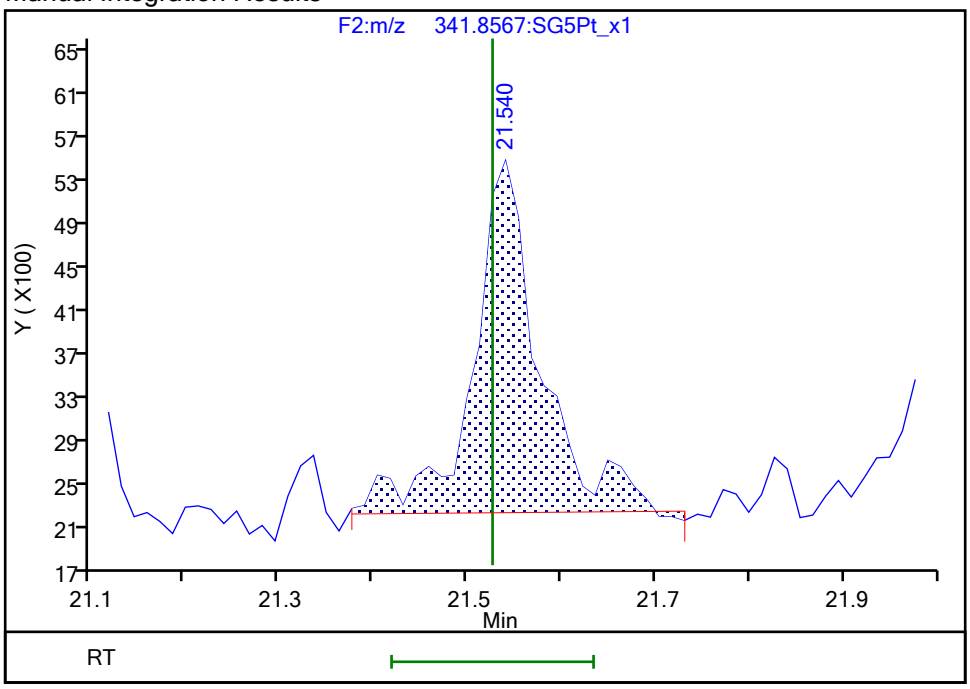

Reviewer: dadunj, 08-Nov-2019 08:53:32

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_7.d				
Injection Date:	06-Nov-2019 00:08:25	Instrument ID:	10D5		
Lims ID:	600-194690-C-3-A	Lab Sample ID:	320-194690-3		
Client ID:	FEFF 1				
Operator ID:	ALM	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDF, CAS: 70648-26-9

Signal: 1

Processing Integration Results

RT: 29.57
Area: 33829
Amount: 0.124218
Amount Units: pg/ul

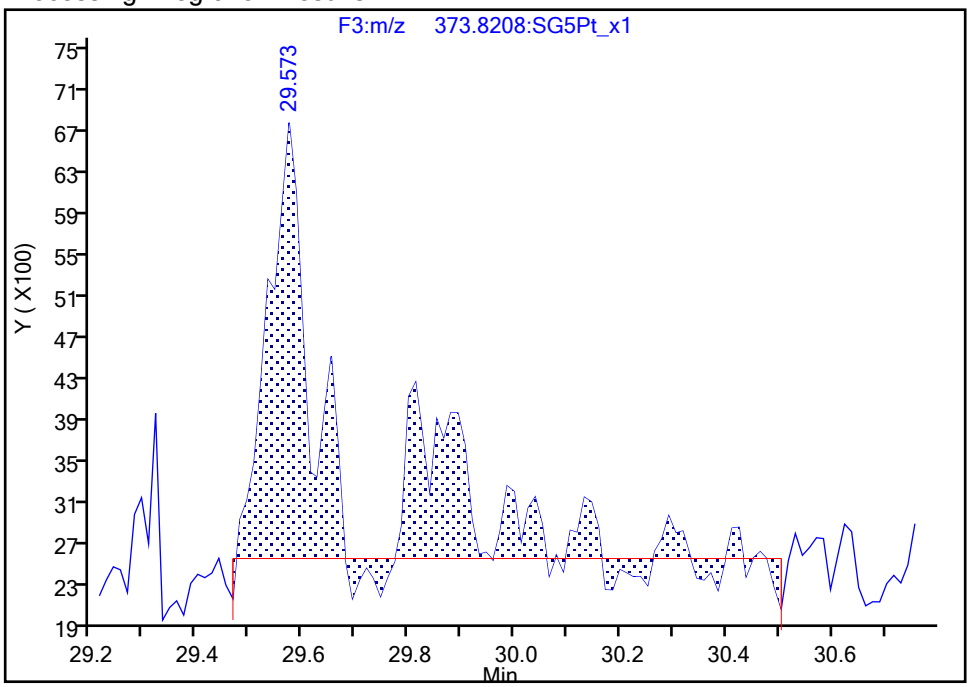

Manual Integration Results

RT: 29.57
Area: 22112
Amount: 0.080269
Amount Units: pg/ul

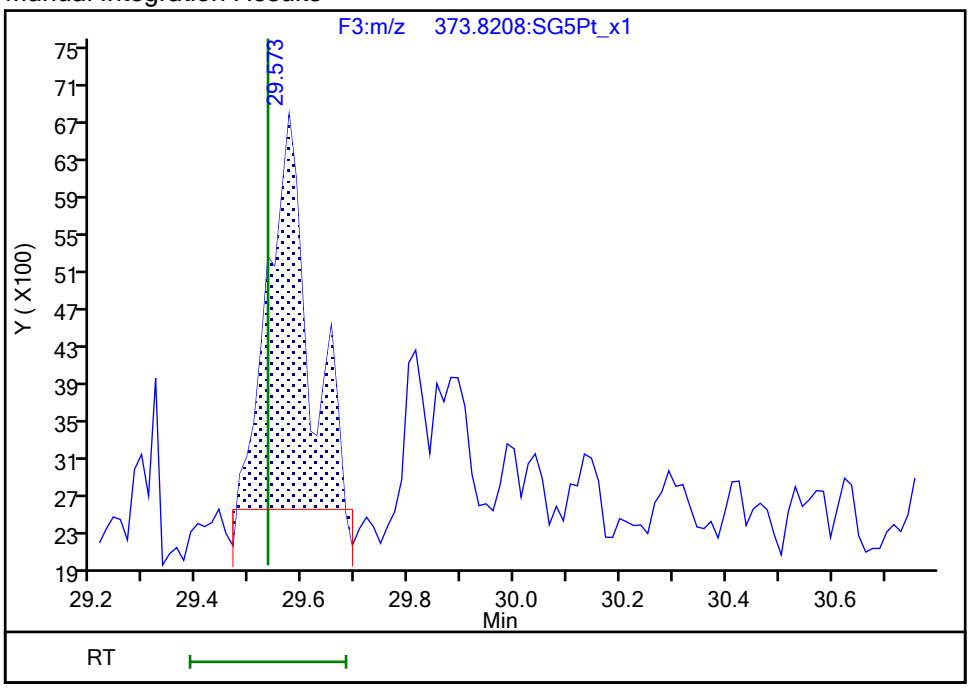

Reviewer: dadunj, 08-Nov-2019 08:53:46

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_7.d				
Injection Date:	06-Nov-2019 00:08:25	Instrument ID:	10D5		
Lims ID:	600-194690-C-3-A	Lab Sample ID:	320-194690-3		
Client ID:	FEFF 1				
Operator ID:	ALM	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDF, CAS: 70648-26-9

Signal: 2

Processing Integration Results

RT: 29.60
Area: 32999
Amount: 0.124218
Amount Units: pg/ul

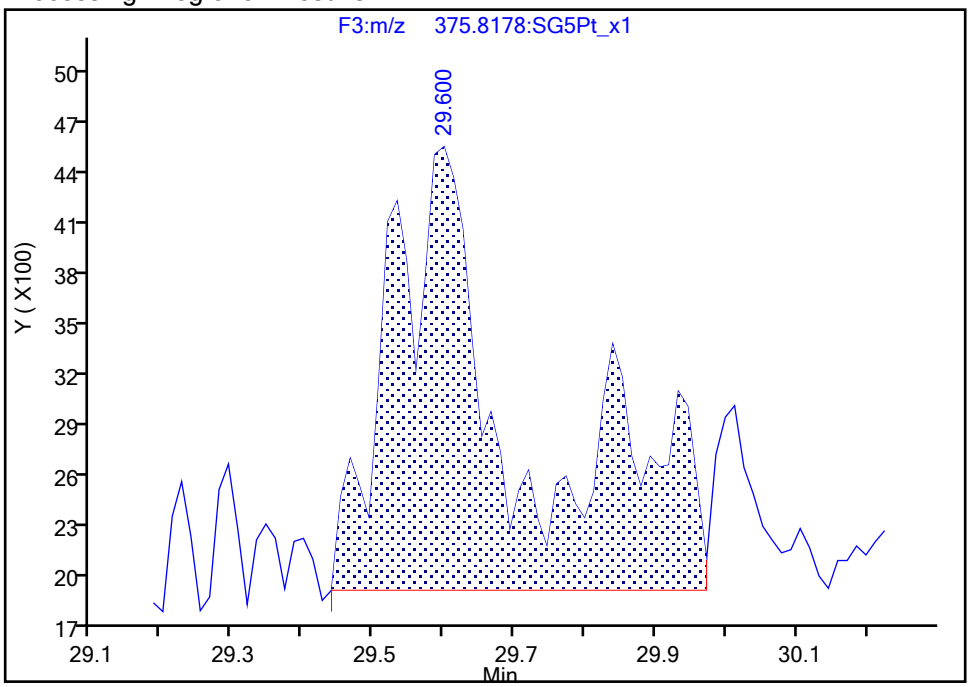

Manual Integration Results

RT: 29.60
Area: 21072
Amount: 0.080269
Amount Units: pg/ul

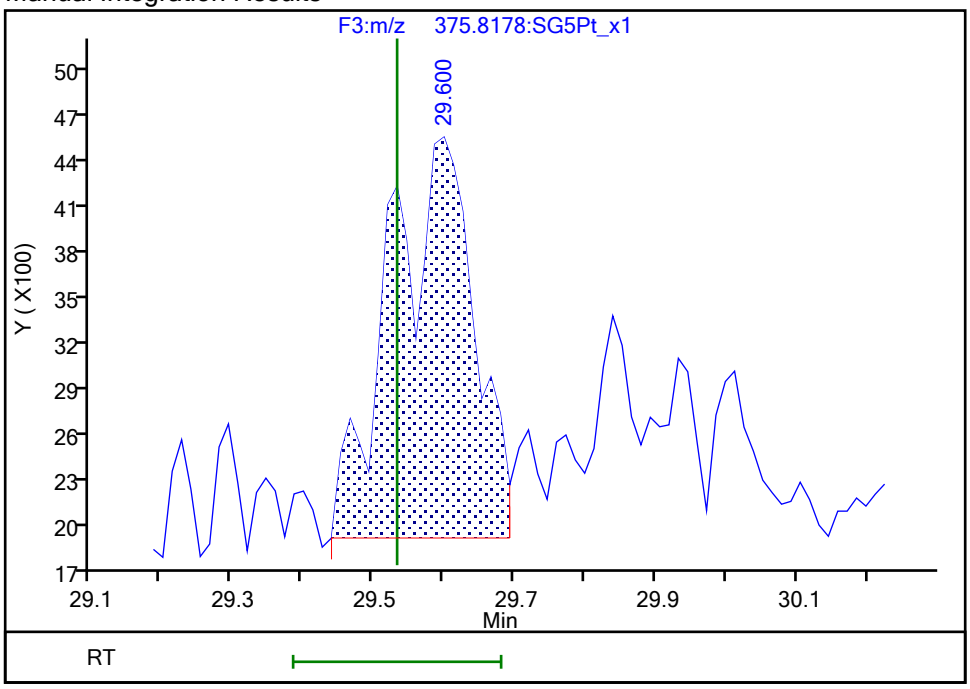

Reviewer: dadunj, 08-Nov-2019 08:53:48

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_7.d				
Injection Date:	06-Nov-2019 00:08:25	Instrument ID:	10D5		
Lims ID:	600-194690-C-3-A	Lab Sample ID:	320-194690-3		
Client ID:	FEFF 1				
Operator ID:	ALM	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 1

Processing Integration Results

RT: 33.42
Area: 40190
Amount: 0.147151
Amount Units: pg/ul

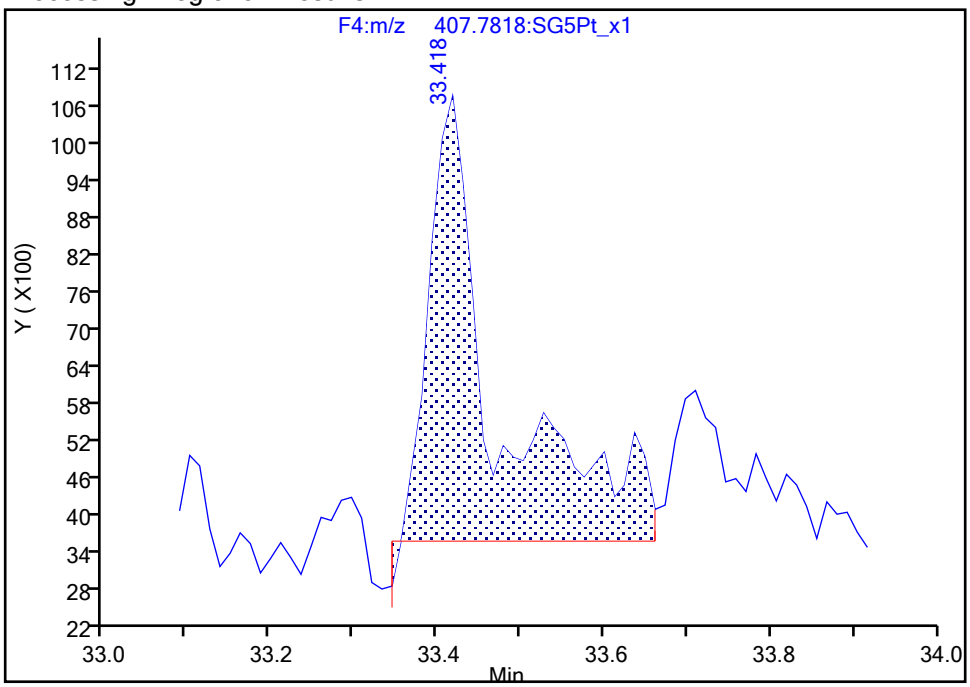

Manual Integration Results

RT: 33.42
Area: 24442
Amount: 0.103729
Amount Units: pg/ul

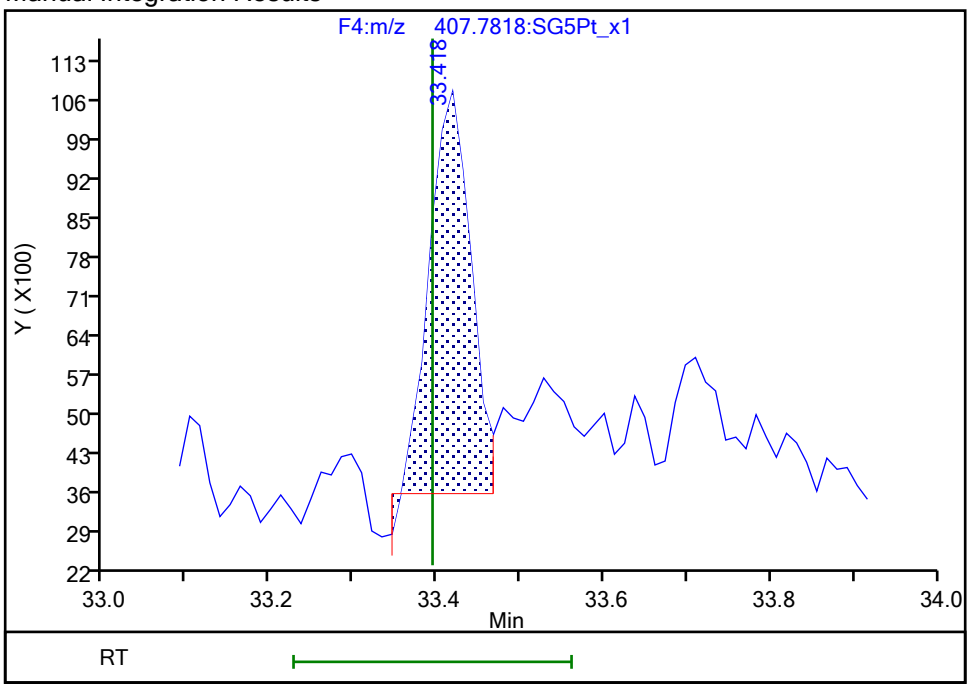

Reviewer: dadunj, 08-Nov-2019 08:54:12

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_7.d				
Injection Date:	06-Nov-2019 00:08:25	Instrument ID:	10D5		
Lims ID:	600-194690-C-3-A	Lab Sample ID:	320-194690-3		
Client ID:	FEFF 1				
Operator ID:	ALM	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 2

Processing Integration Results

RT: 33.42
Area: 21942
Amount: 0.147151
Amount Units: pg/ul

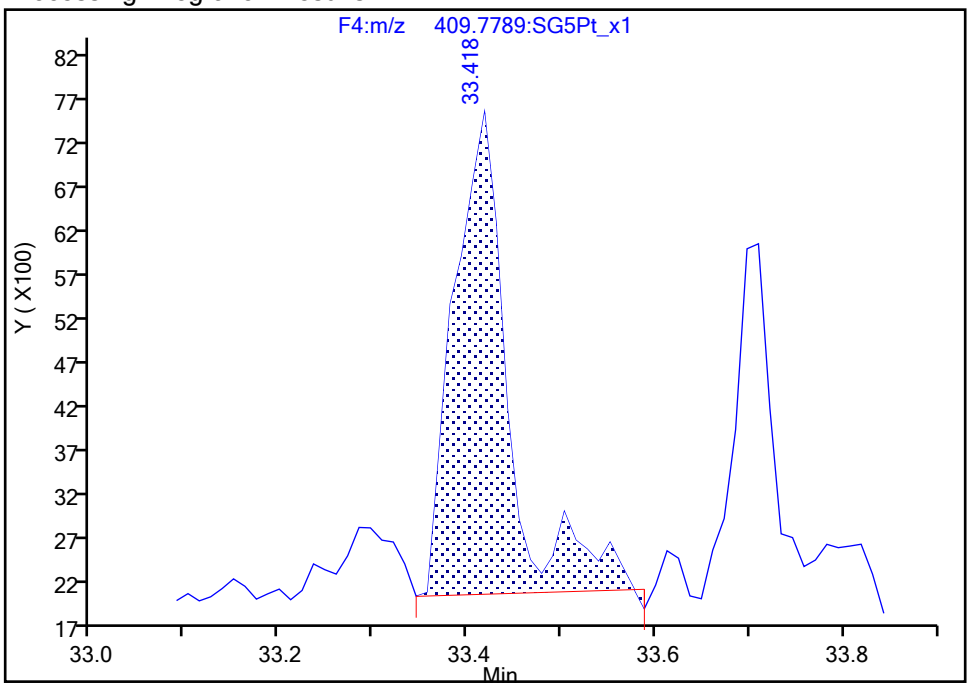

Manual Integration Results

RT: 33.42
Area: 19356
Amount: 0.103729
Amount Units: pg/ul

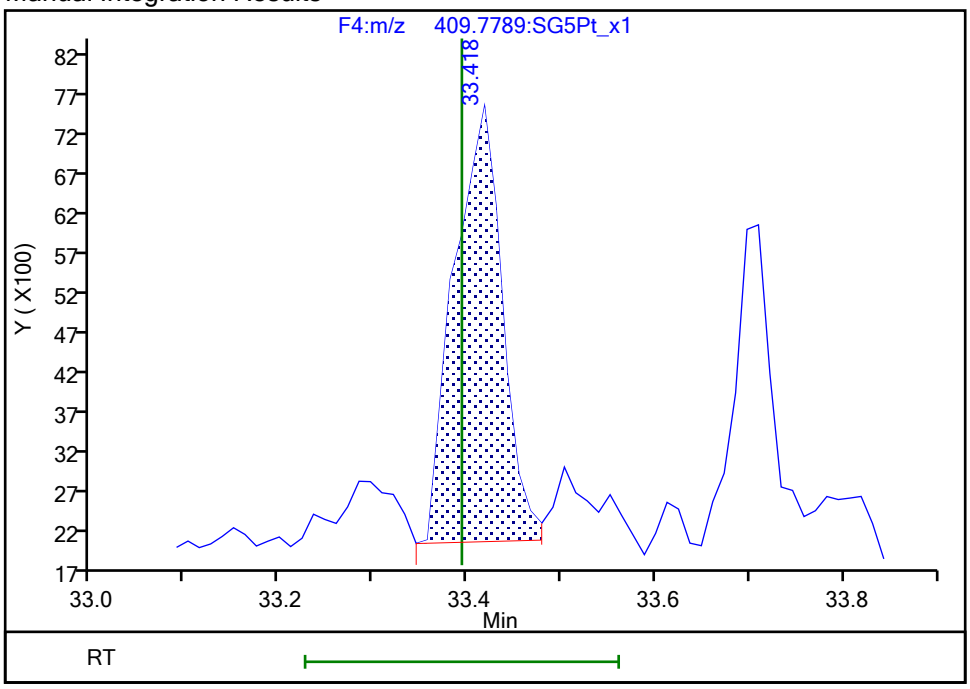

Reviewer: dadunj, 08-Nov-2019 08:54:14

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_7.d				
Injection Date:	06-Nov-2019 00:08:25	Instrument ID:	10D5		
Lims ID:	600-194690-C-3-A	Lab Sample ID:	320-194690-3		
Client ID:	FEFF 1				
Operator ID:	ALM	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

Non-2,3,7,8-sub-HpCDD, Signal: 1, m/z: 423.7766, RT: (33.59- 34.49)

Signal: 1

Processing Integration Results

RT = 33.661 Area = 49151

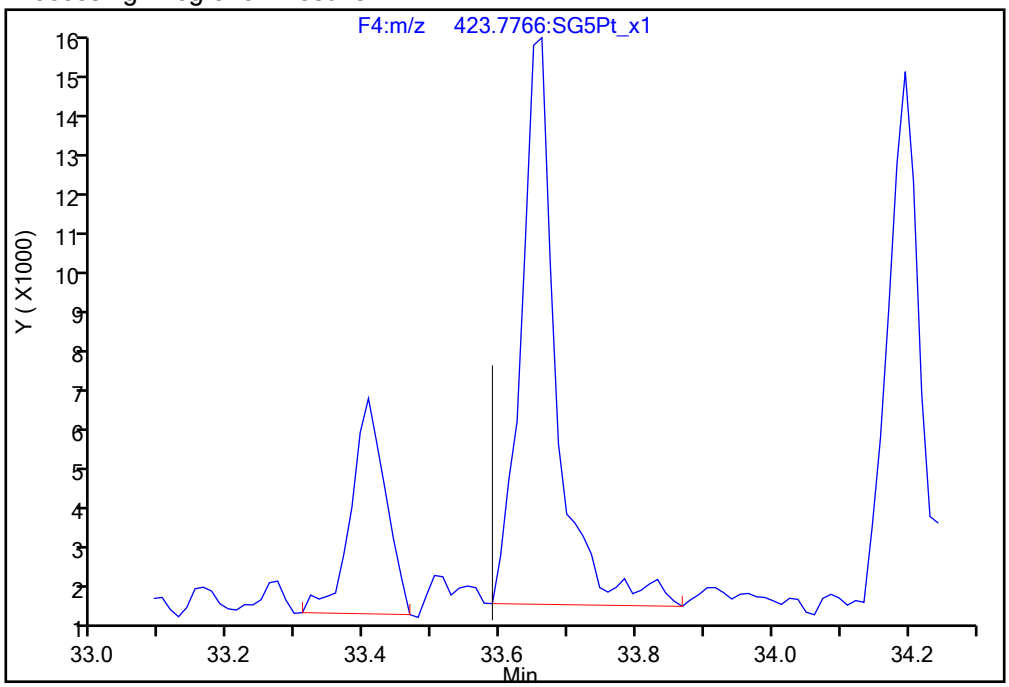

Manual Integration Results

RT = 33.661 Area = 46339 M

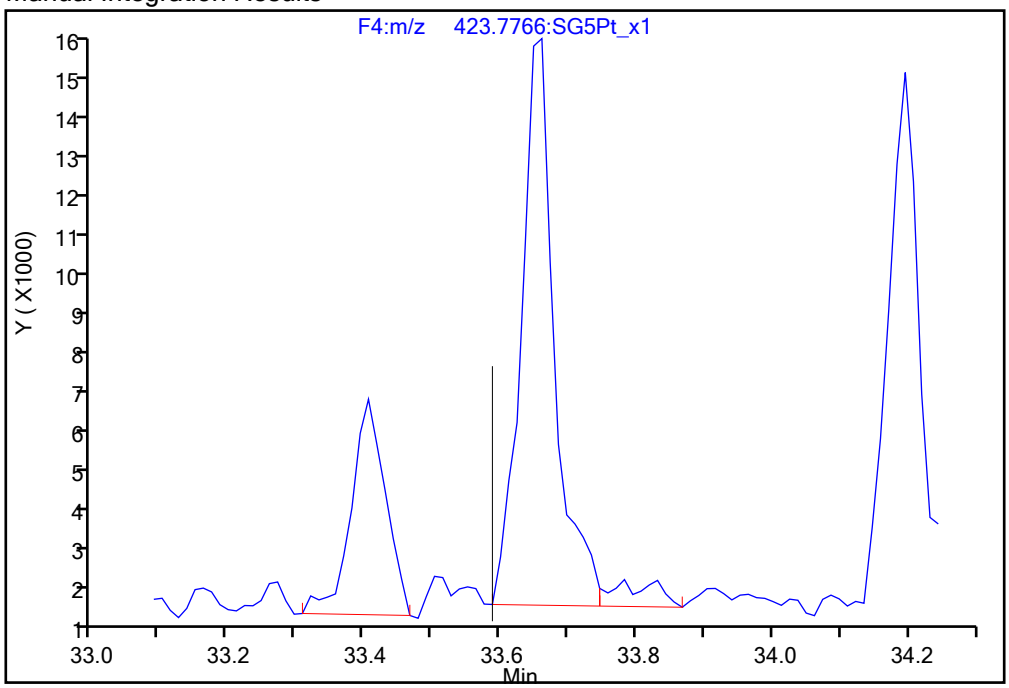

Reviewer: dadunj, 08-Nov-2019 08:54:22

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 08-Nov-2019 08:55:11 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_7.d		
Injection Date:	06-Nov-2019 00:08:25	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	FEFF 1		
Worklist#:	336302	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

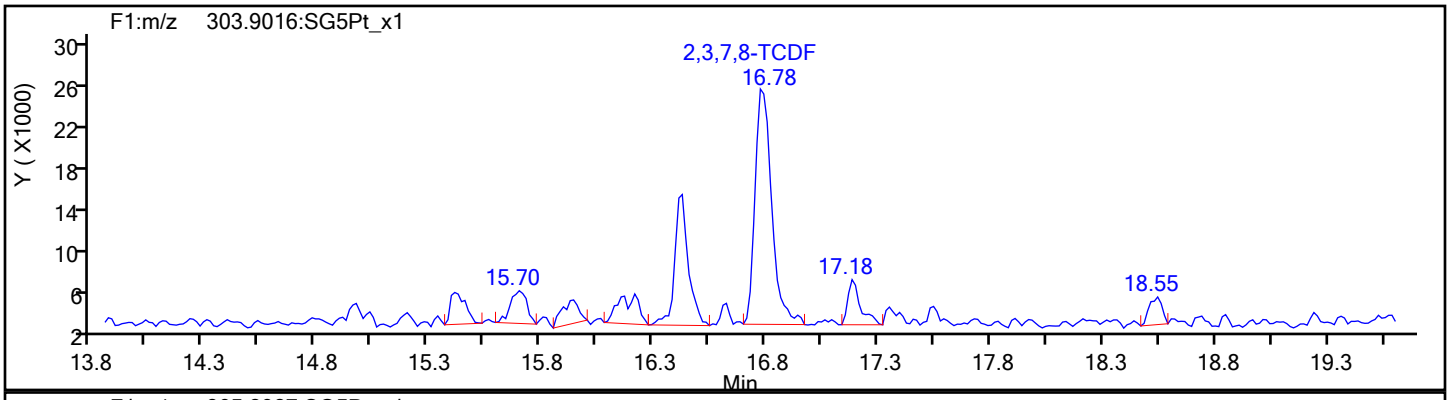

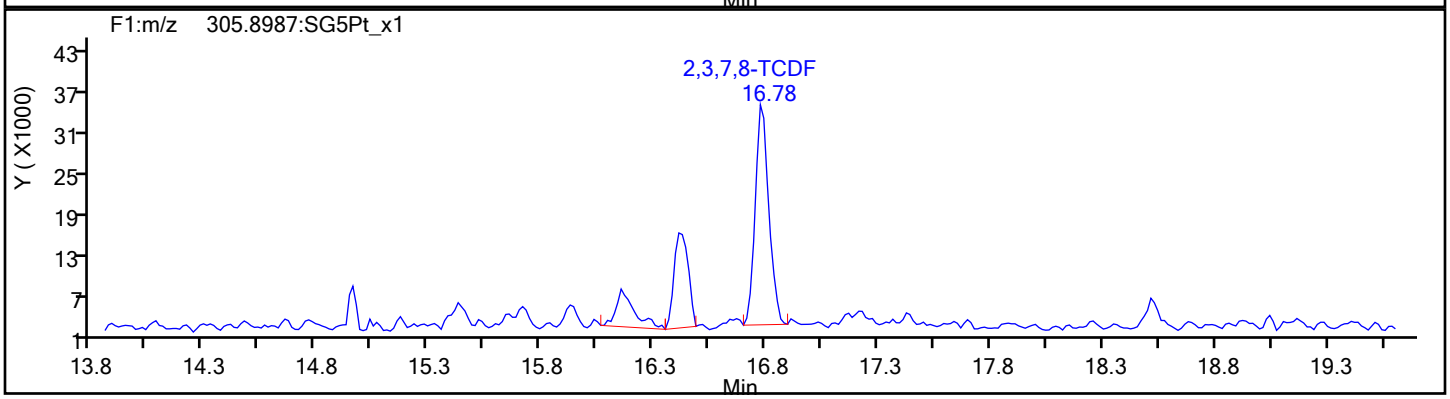

TCDF Standards

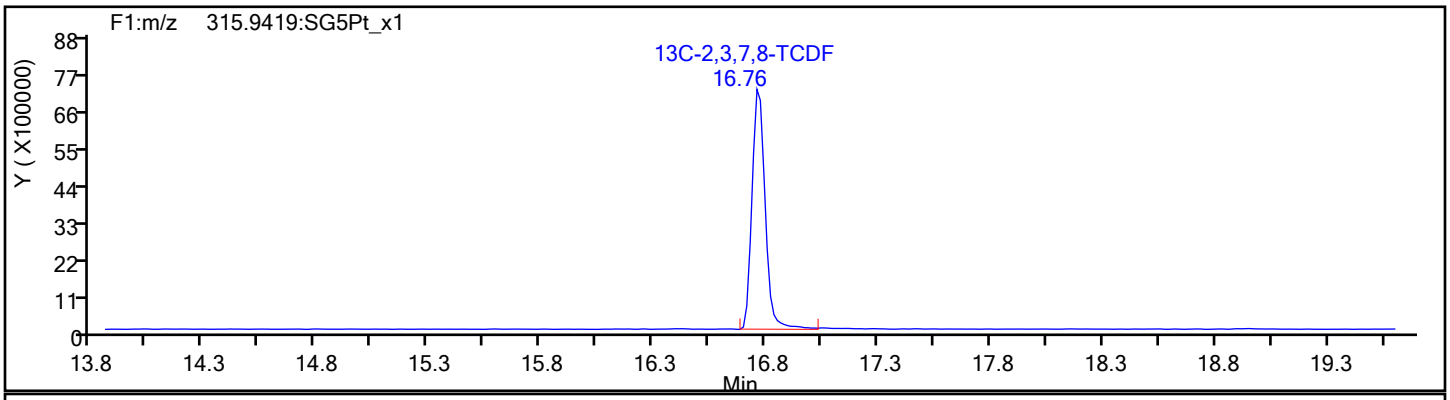

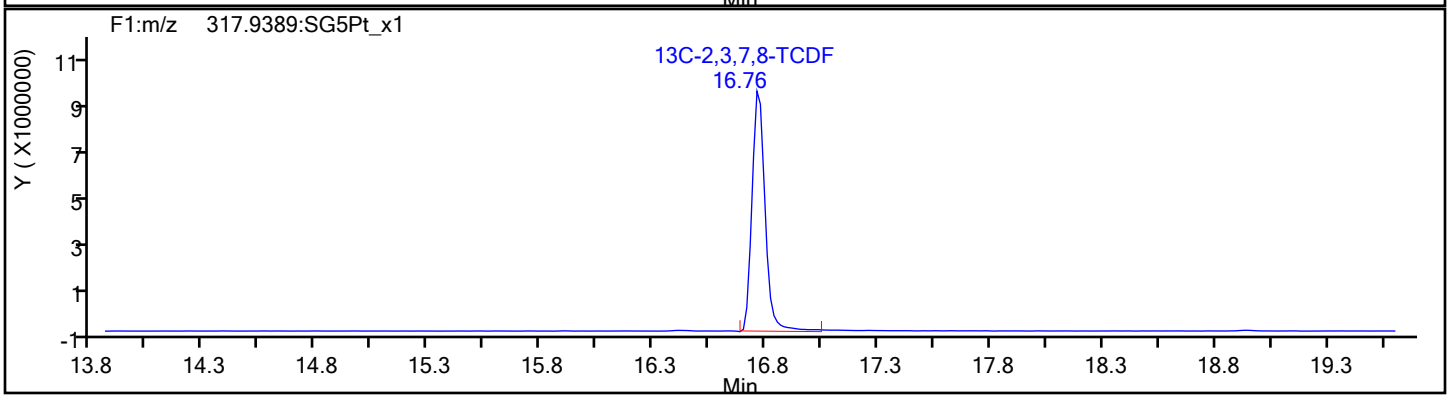

Report Date: 08-Nov-2019 08:55:11 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_7.d		
Injection Date:	06-Nov-2019 00:08:25	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	FEFF 1		
Worklist#:	336302	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

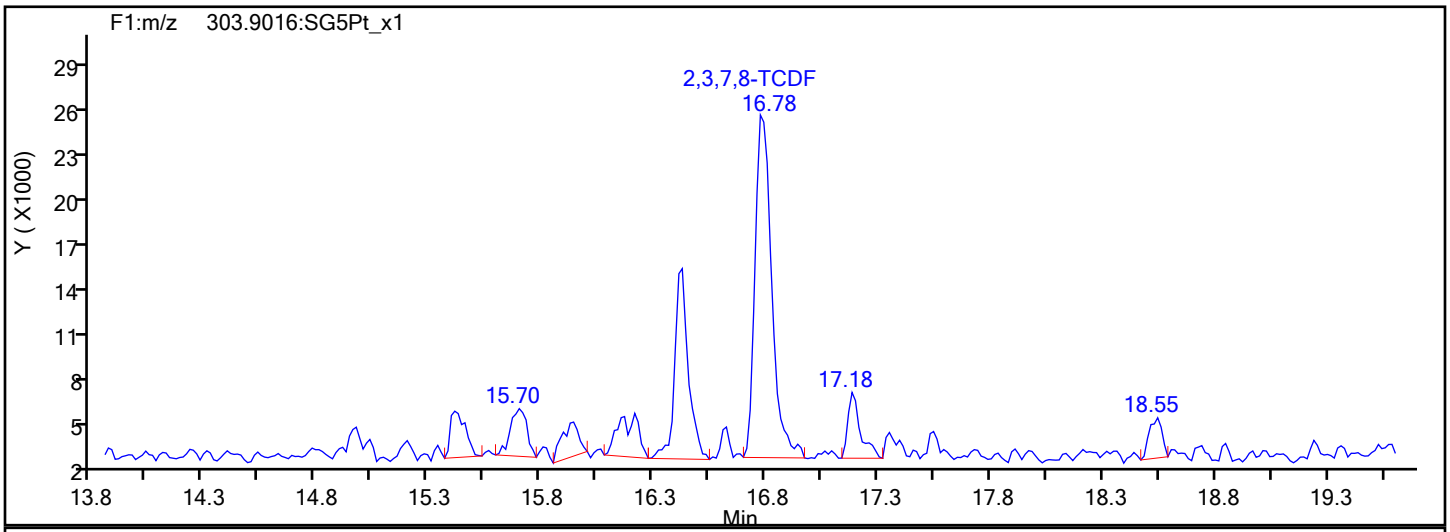

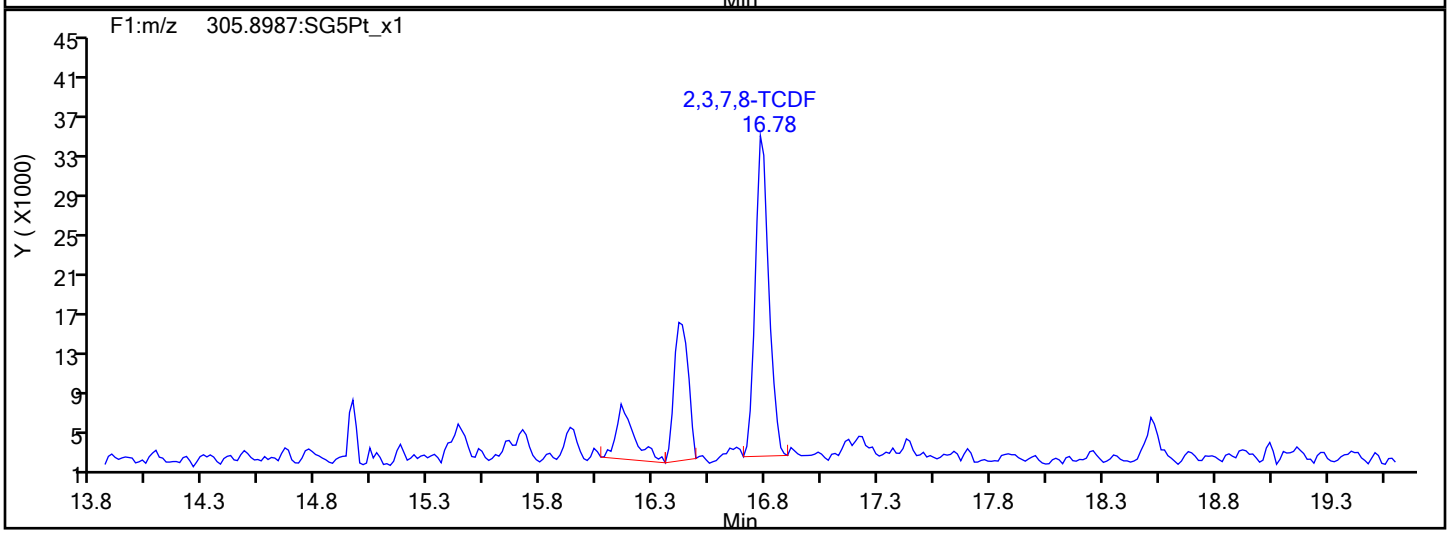

TCDF Interference Mass

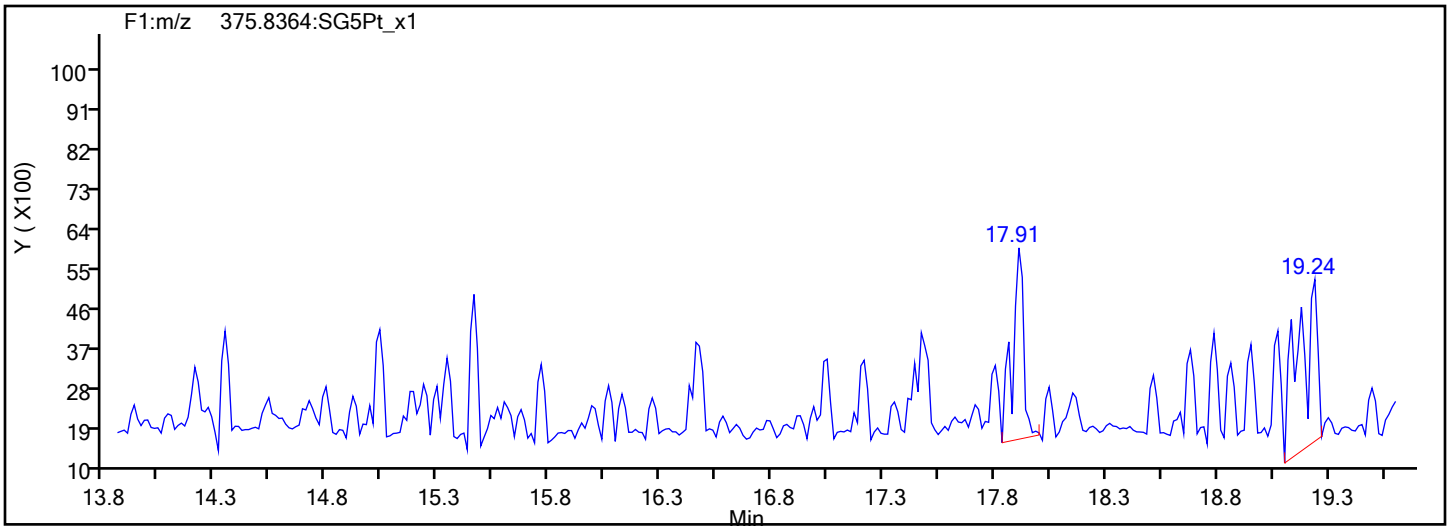

Report Date: 08-Nov-2019 08:55:11 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_7.d		
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Client ID:	FEFF 1		
Worklist#:	336302	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

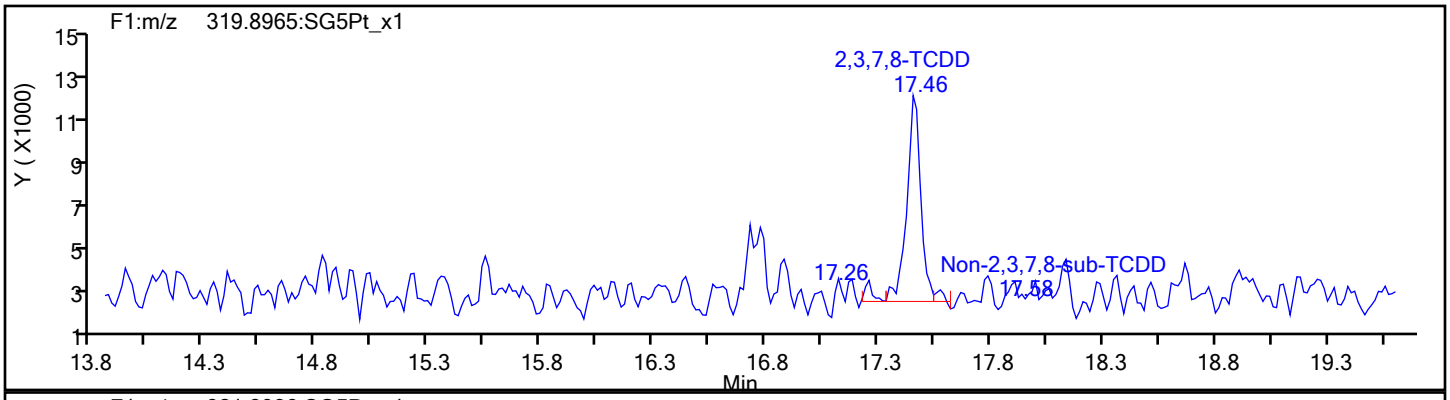

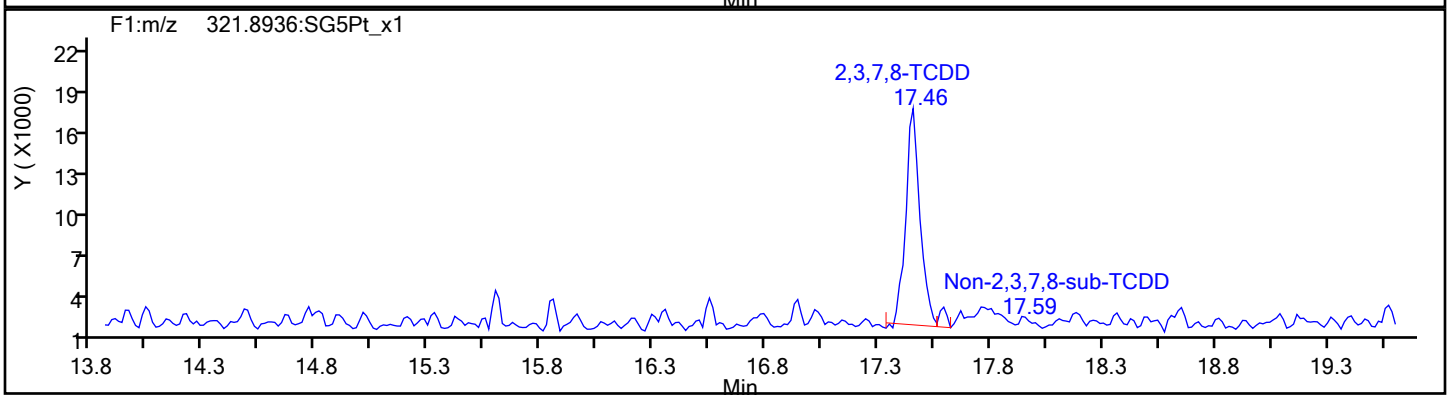

TCDD Standards

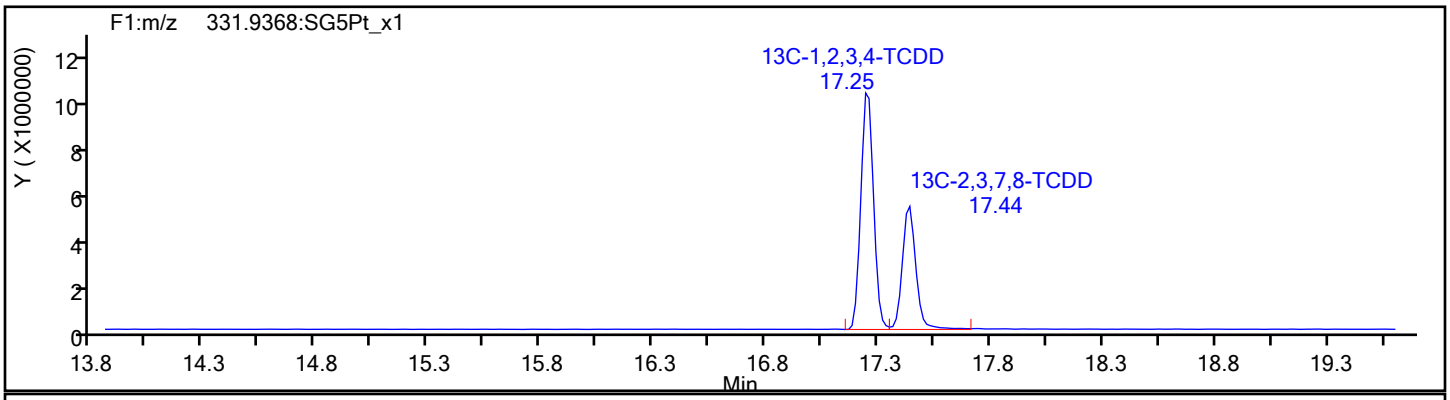

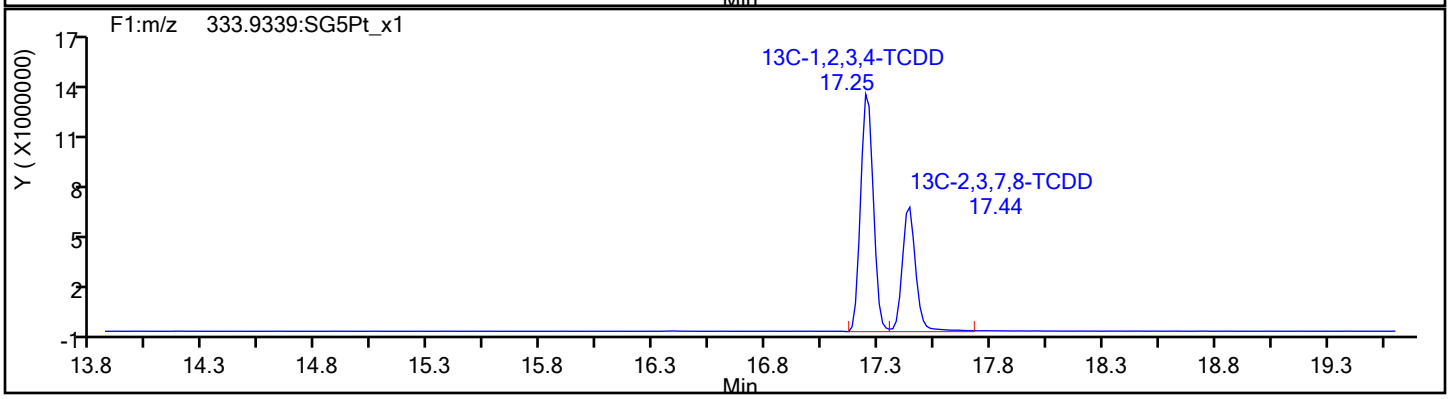

Report Date: 08-Nov-2019 08:55:11 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

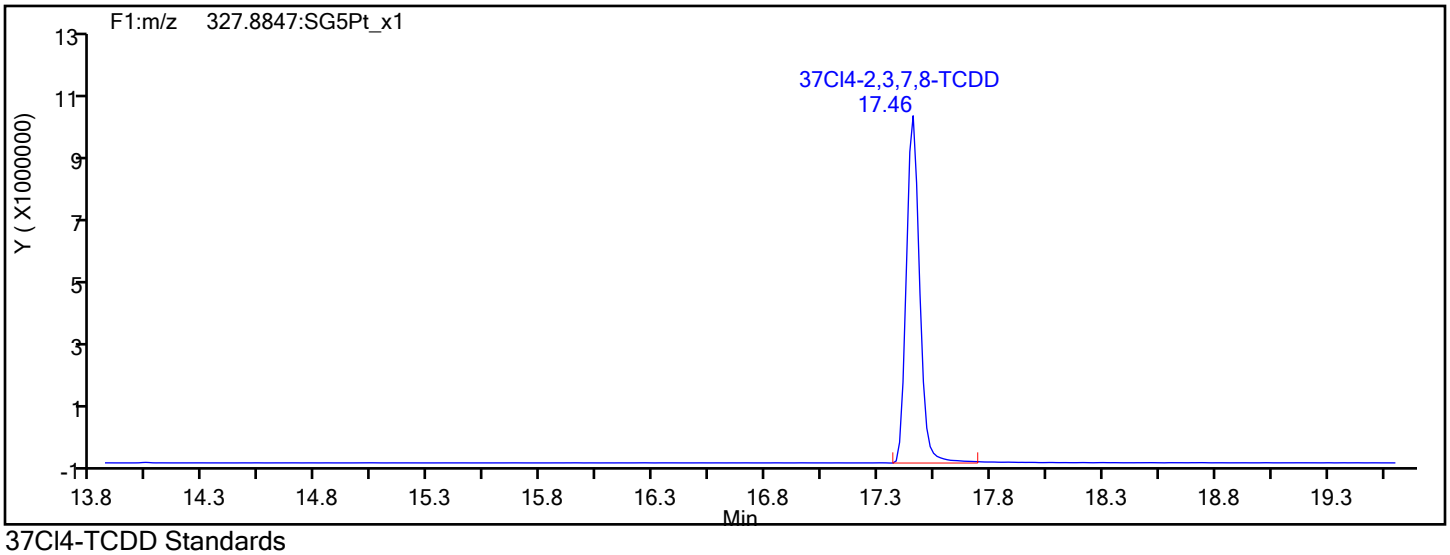

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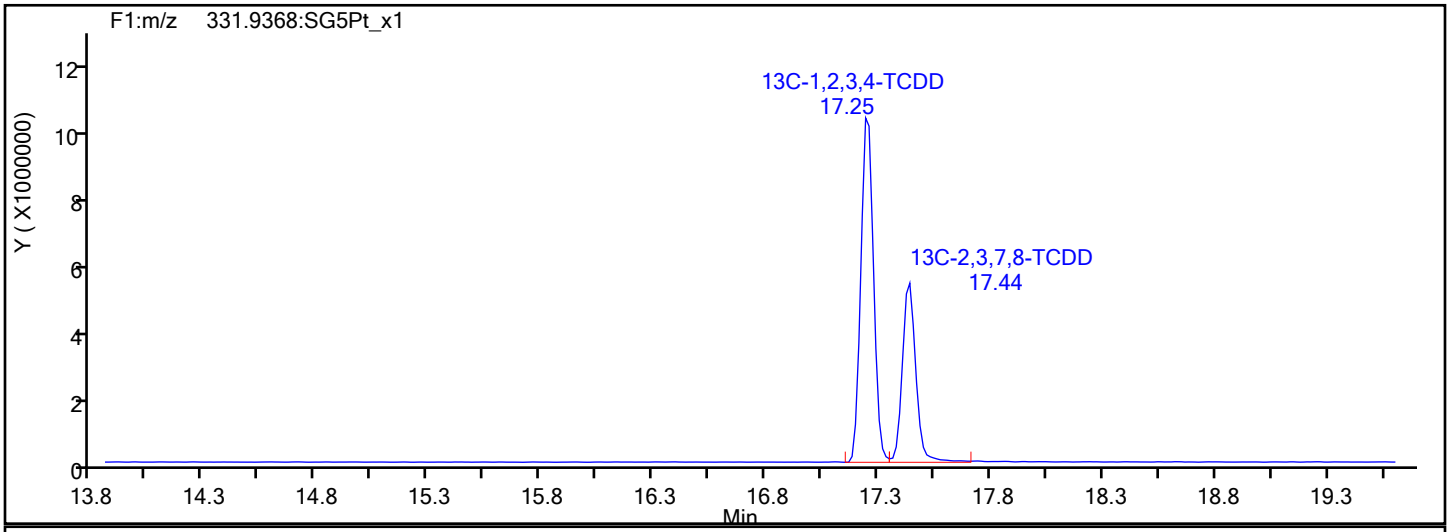

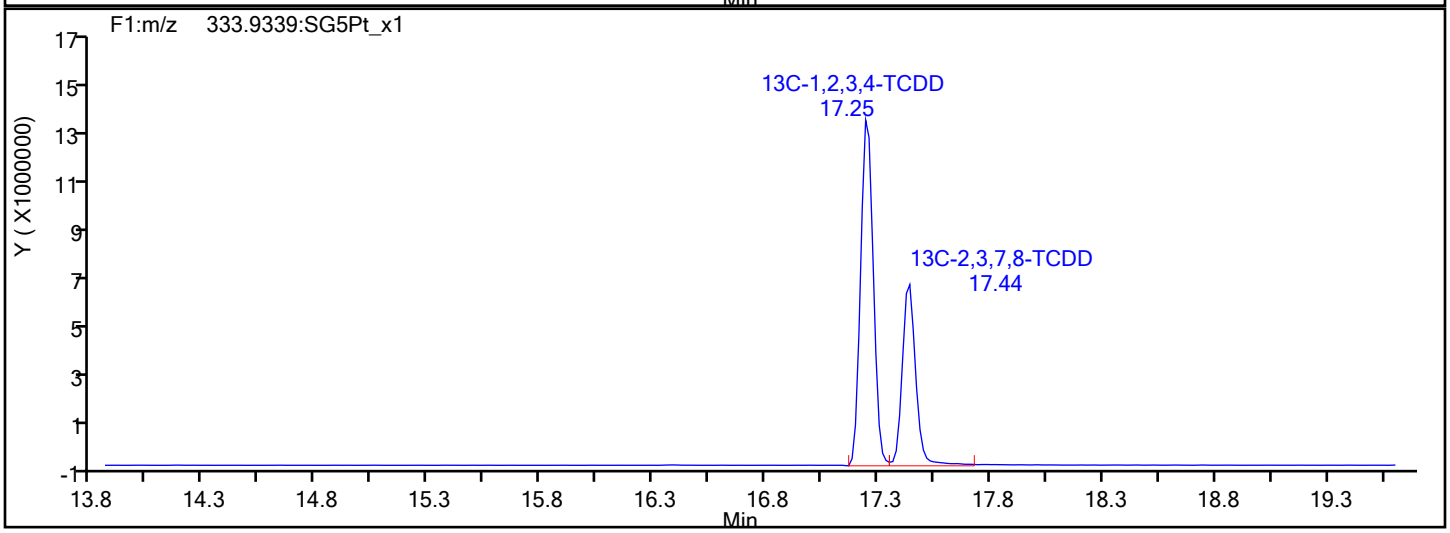

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

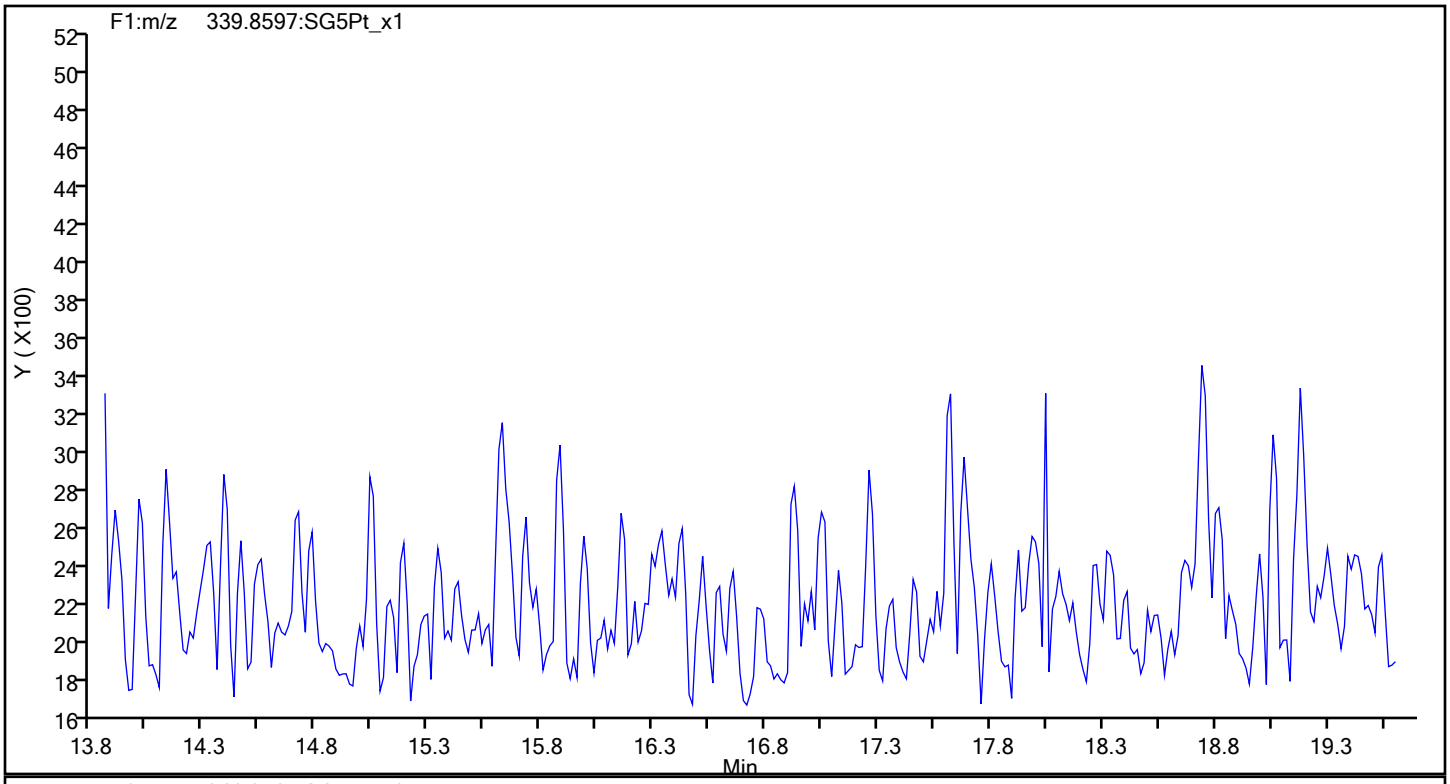

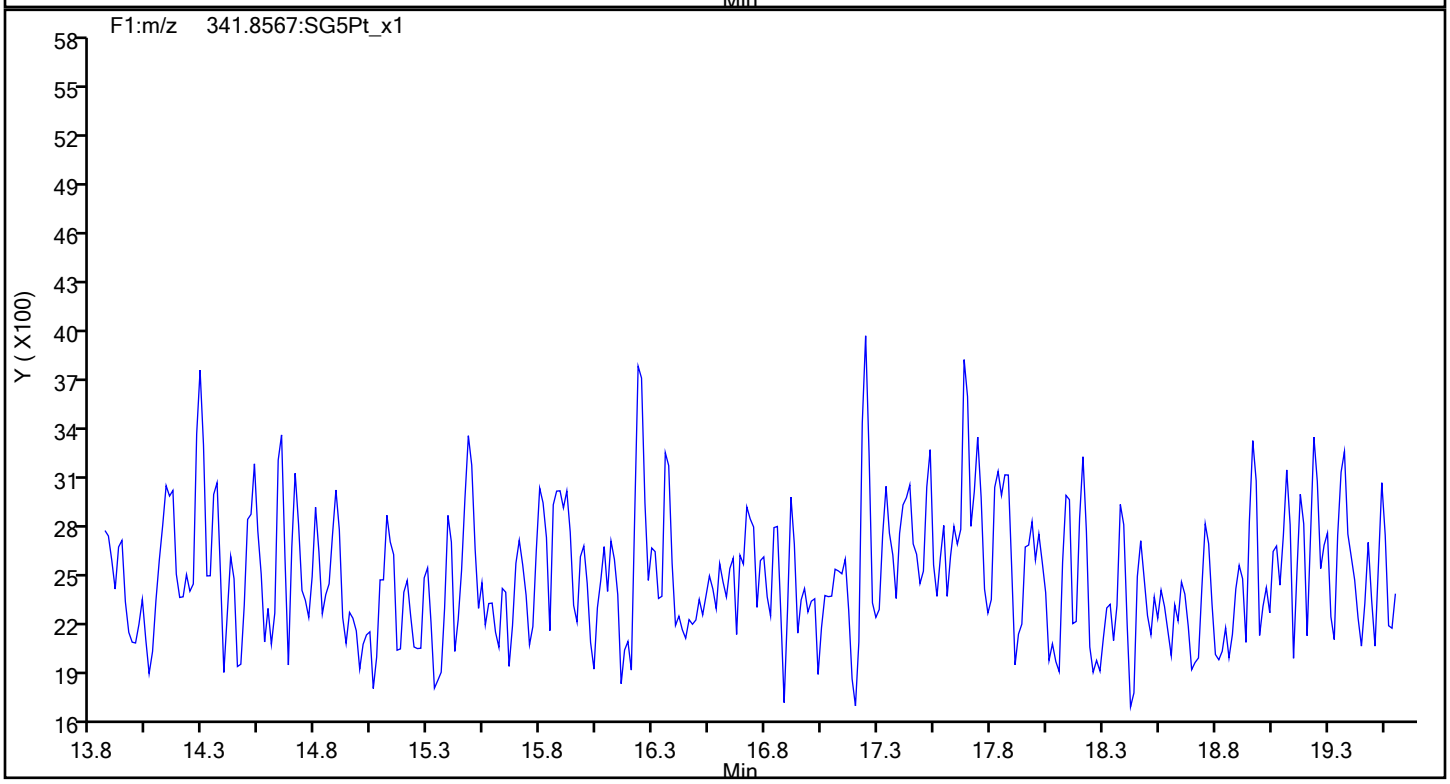

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

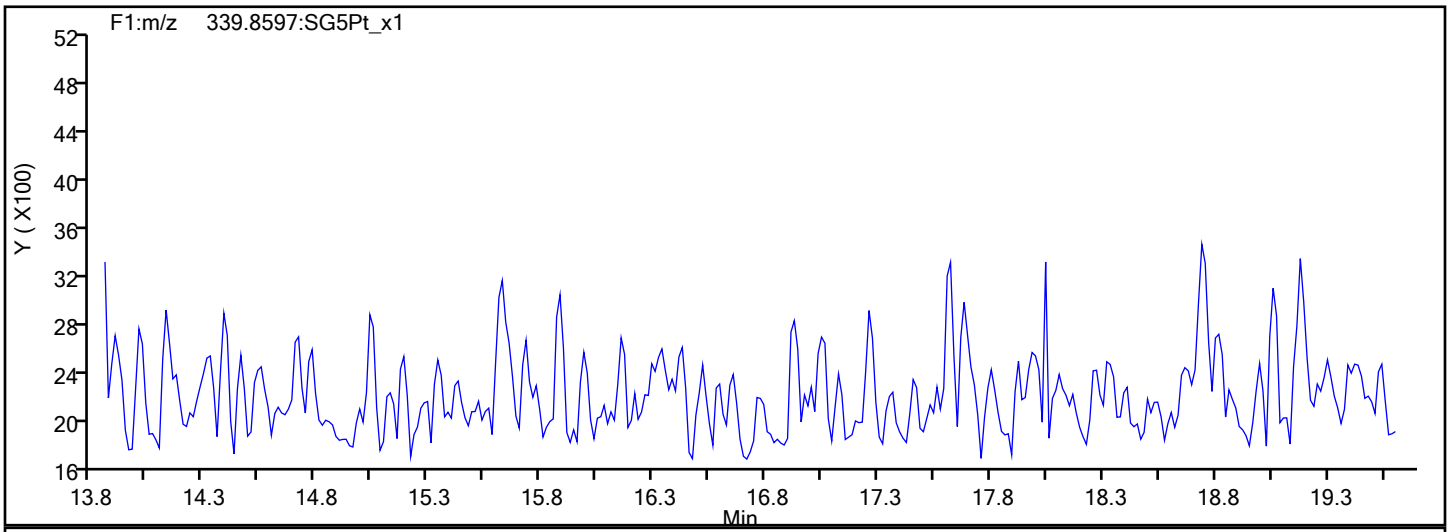

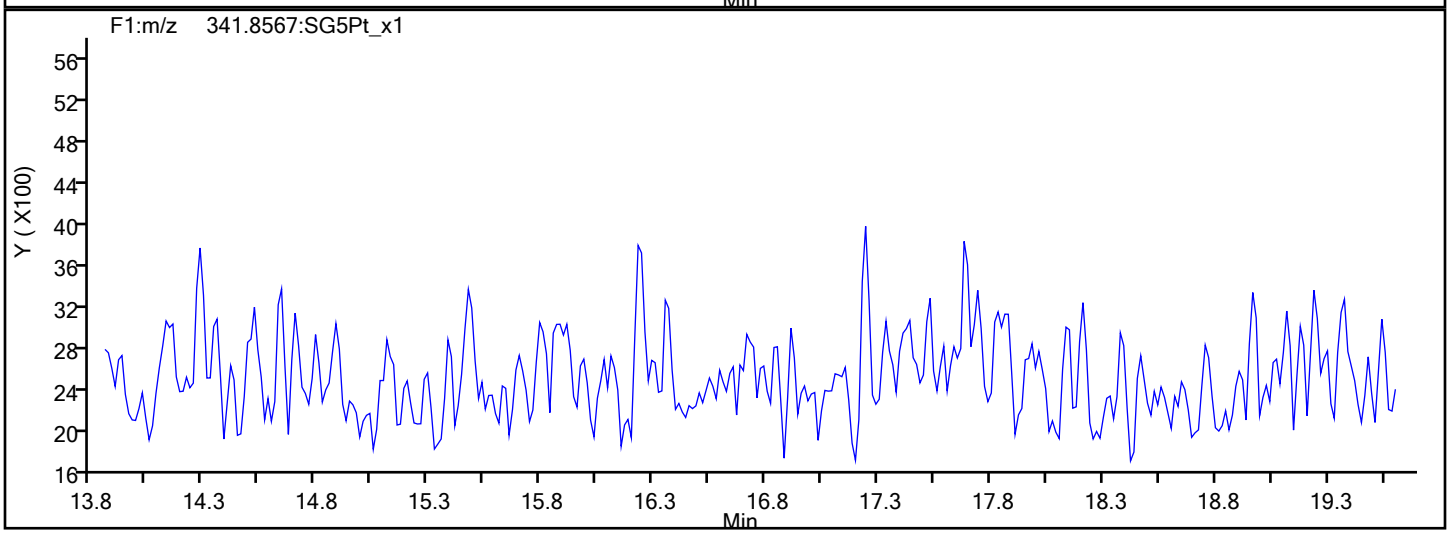

F1 PeCDFs Interference Mass

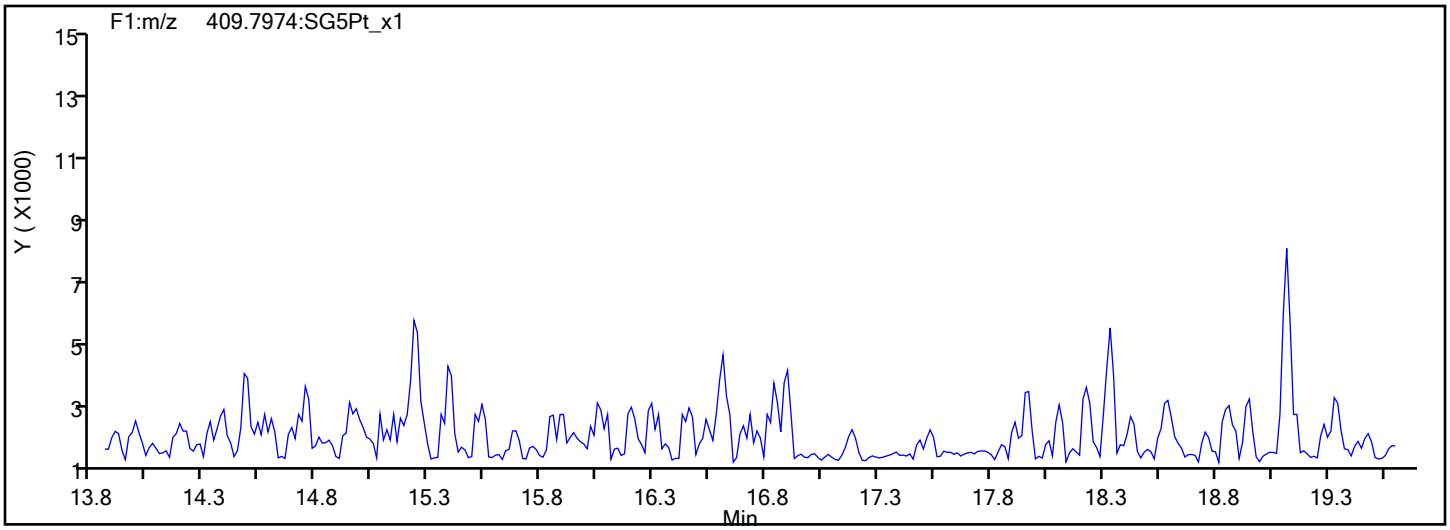

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Eurofins TestAmerica, Sacramento

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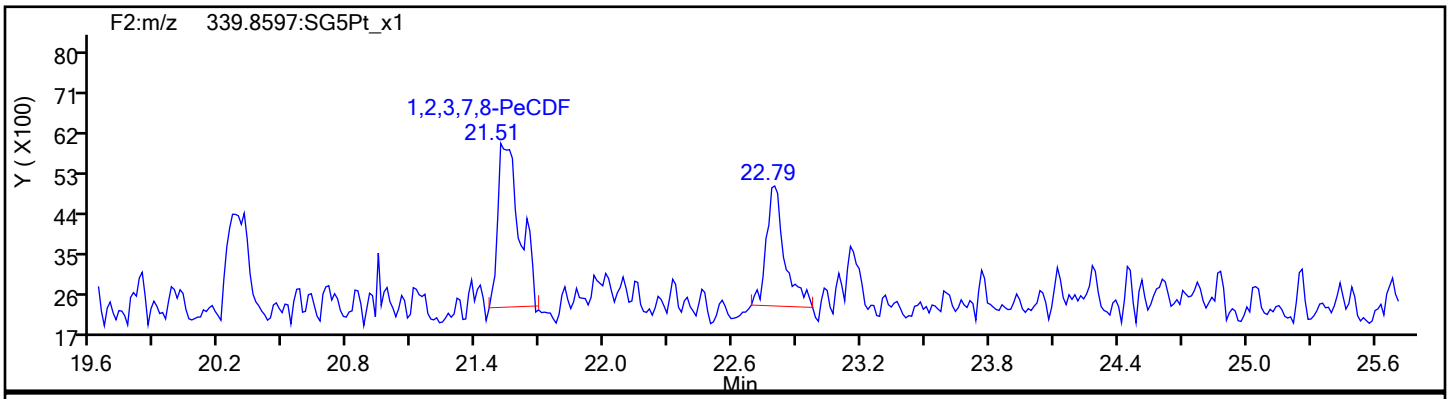

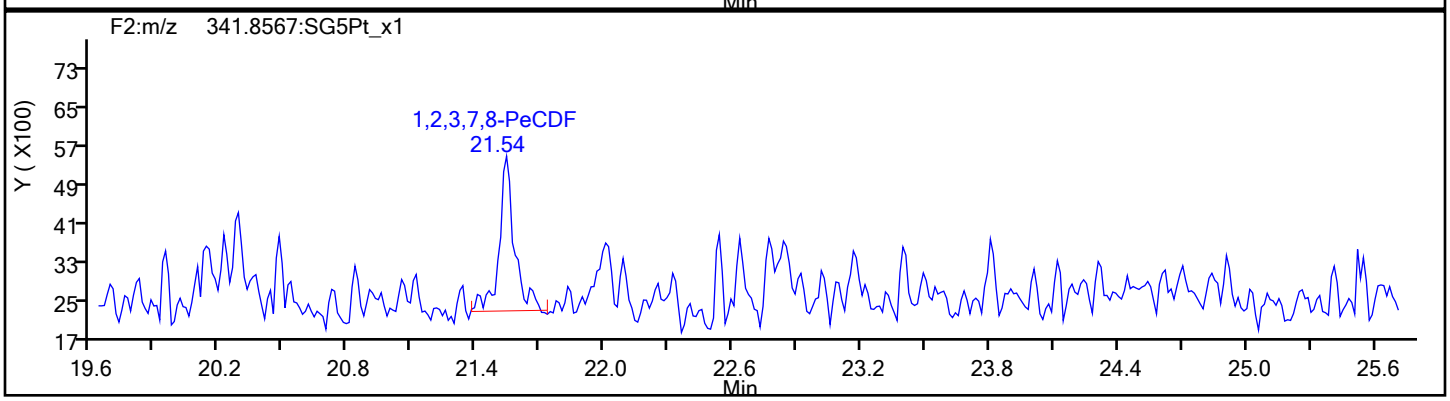

PeCDF Standards

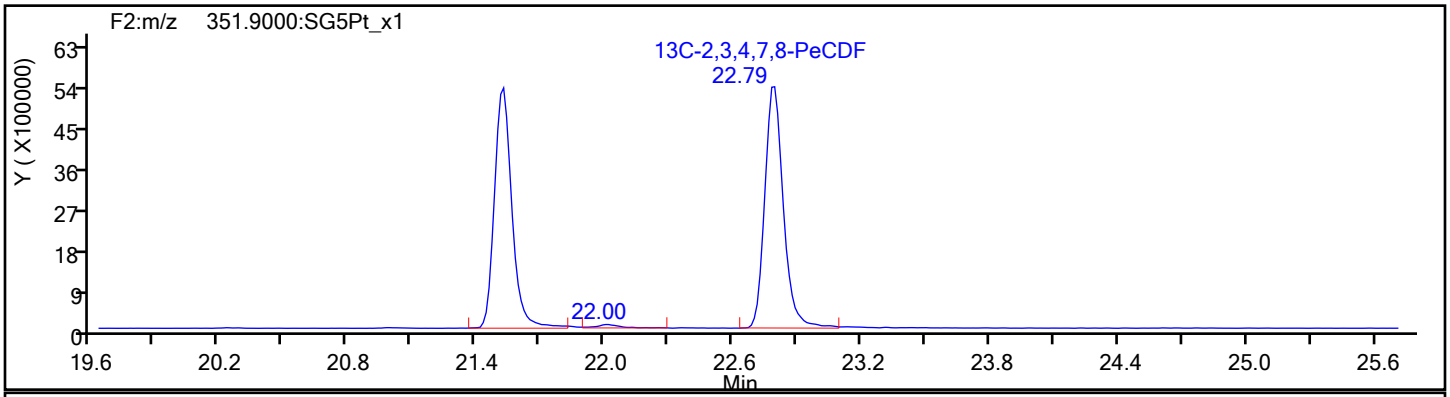

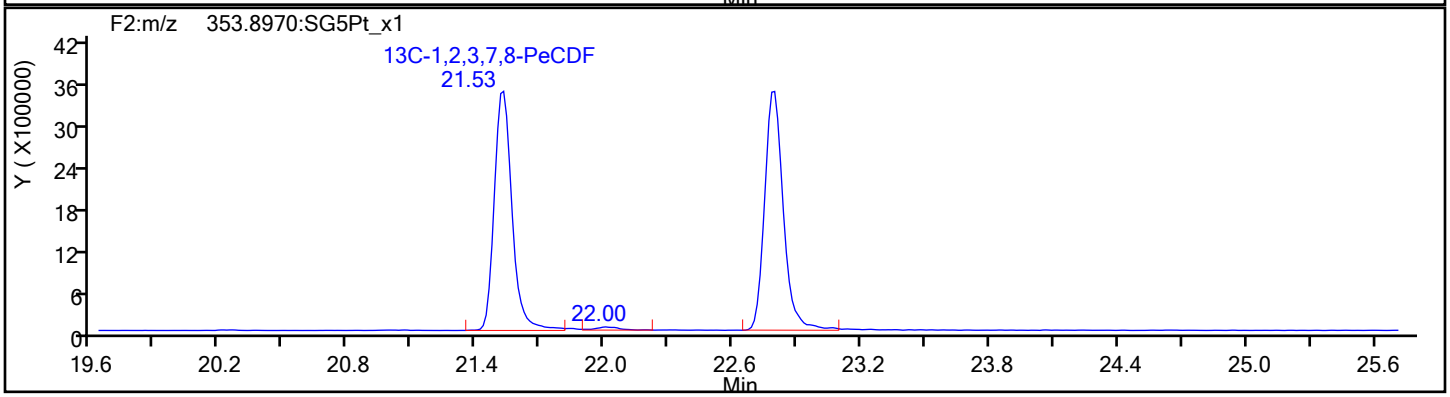

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Eurofins TestAmerica, Sacramento

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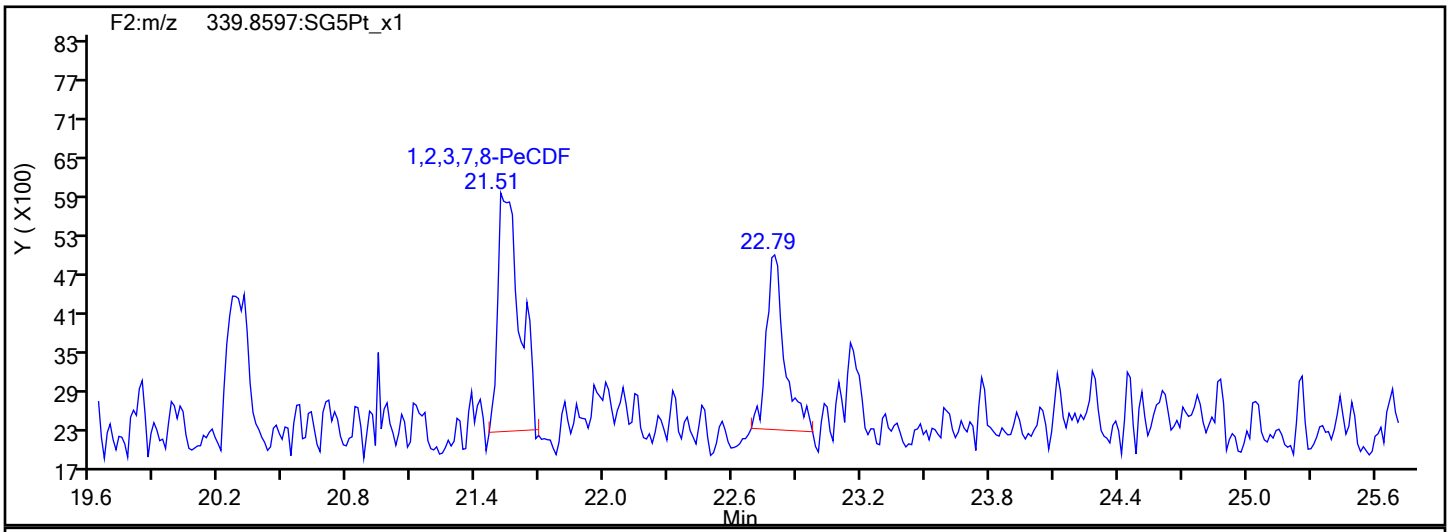

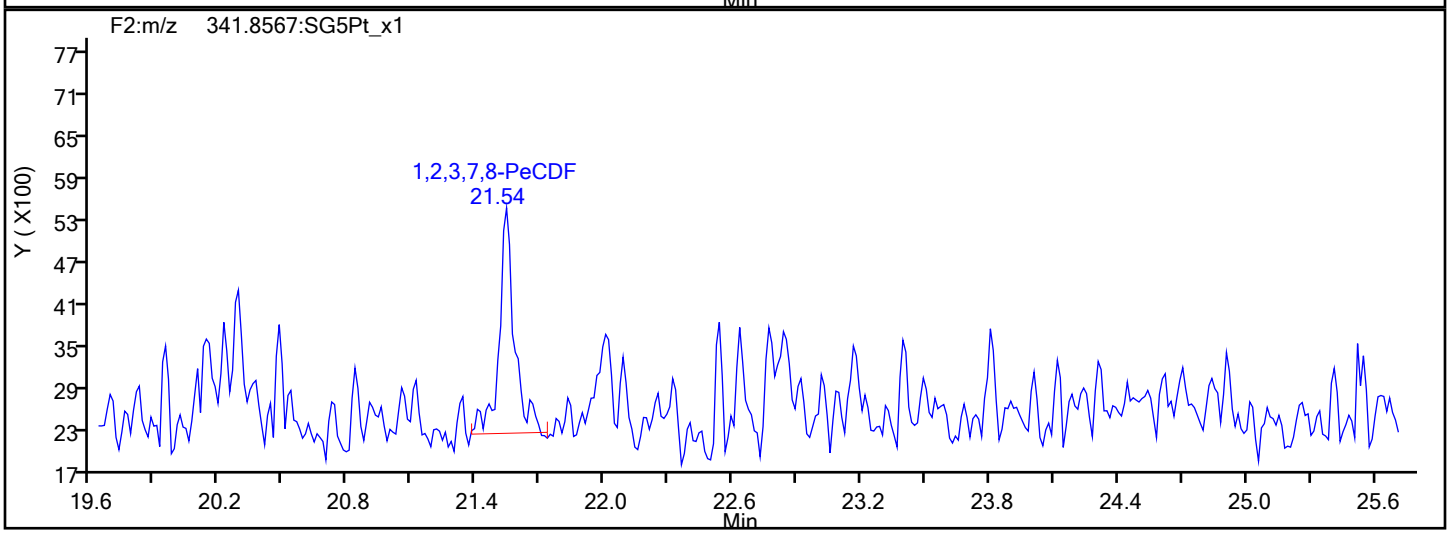

PeCDF Interference Mass

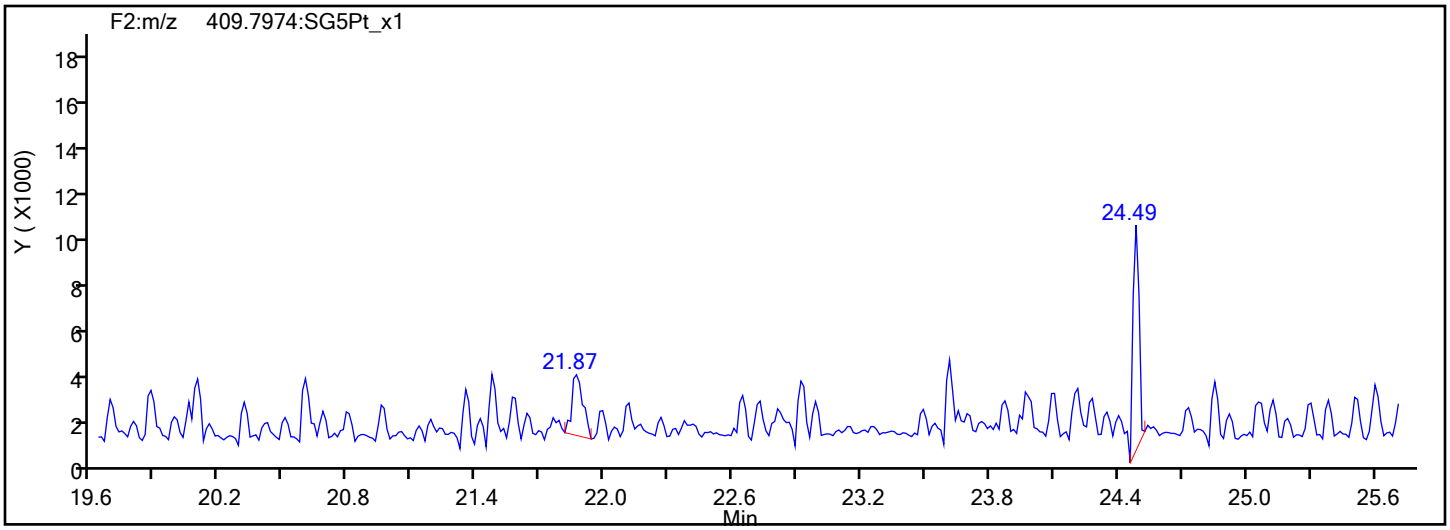

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Eurofins TestAmerica, Sacramento

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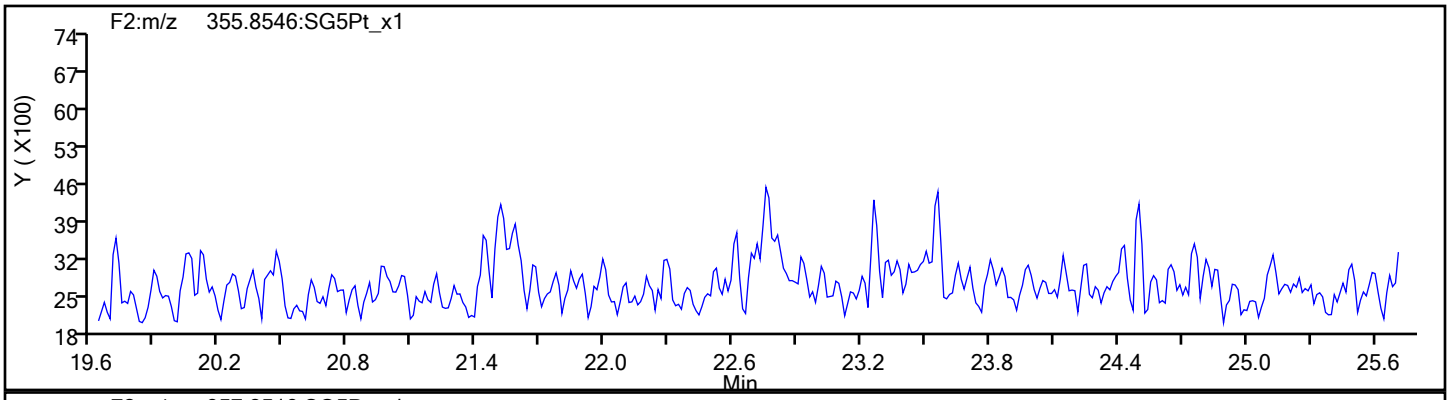

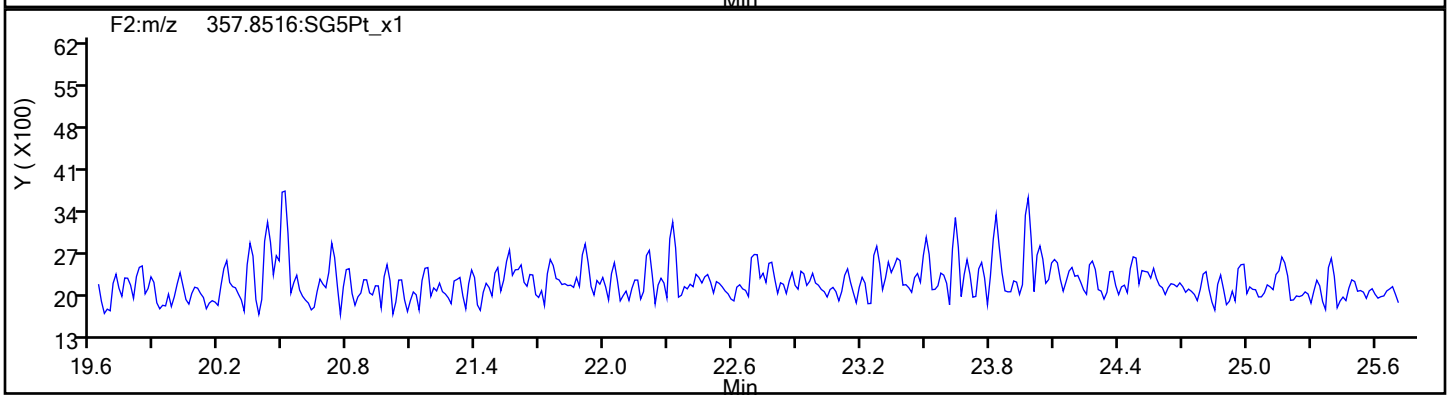

PeCDD Standards

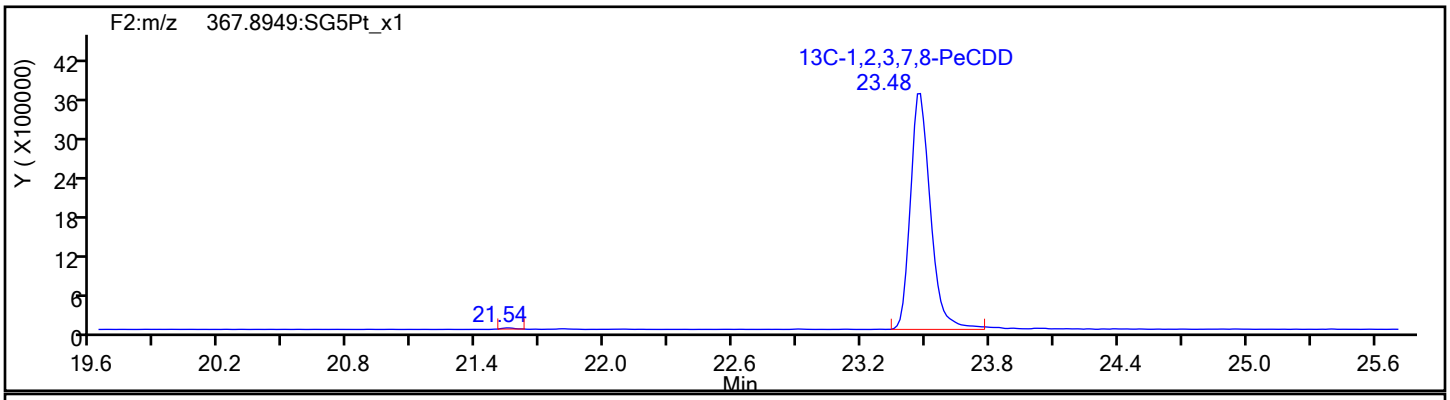

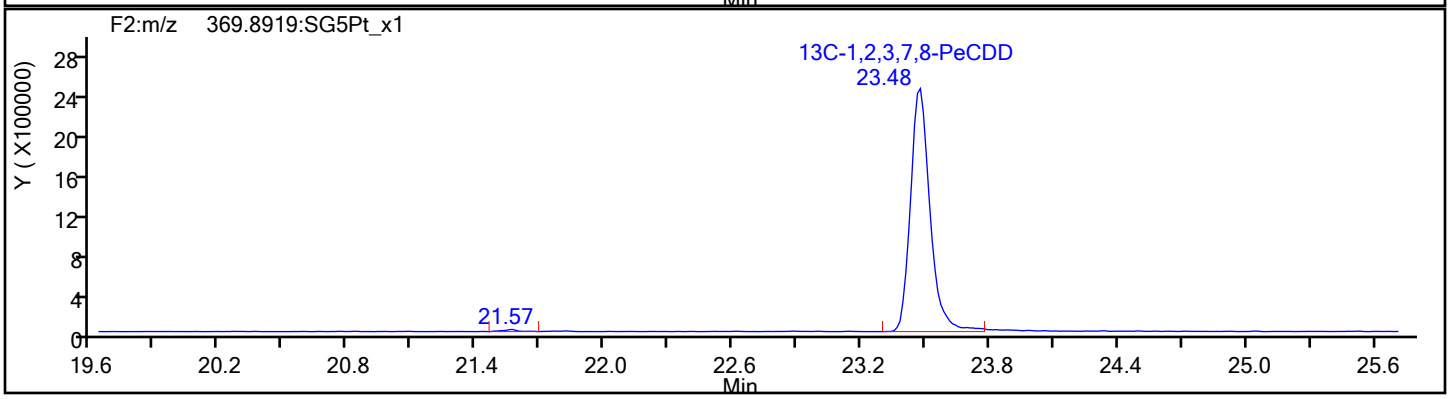

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Eurofins TestAmerica, Sacramento

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HxCDF

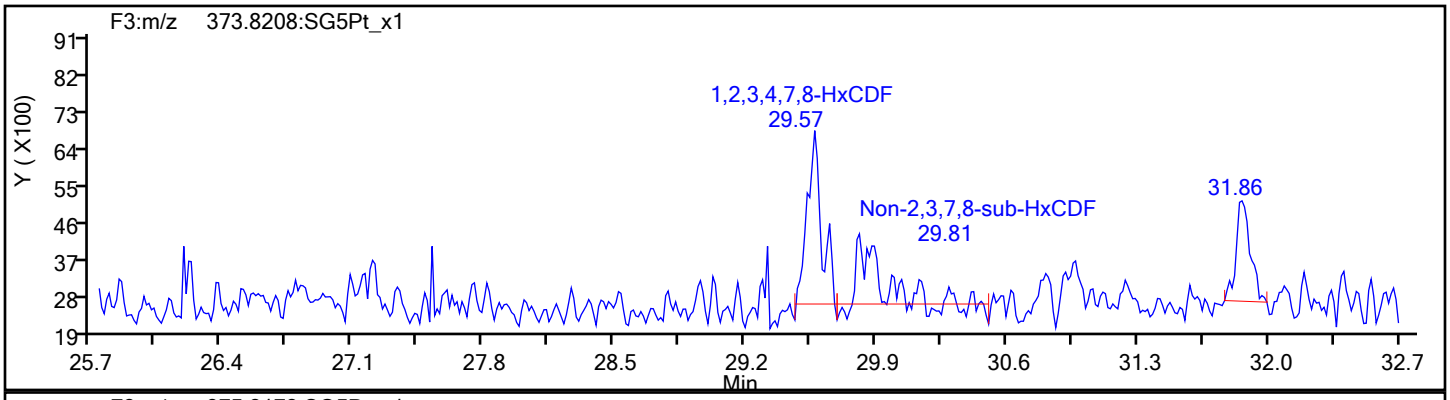

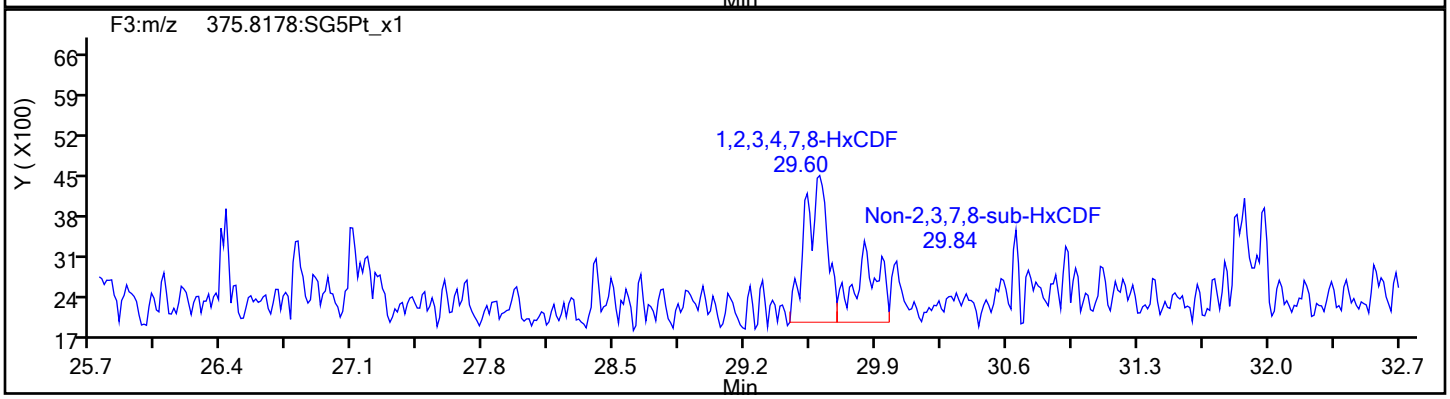

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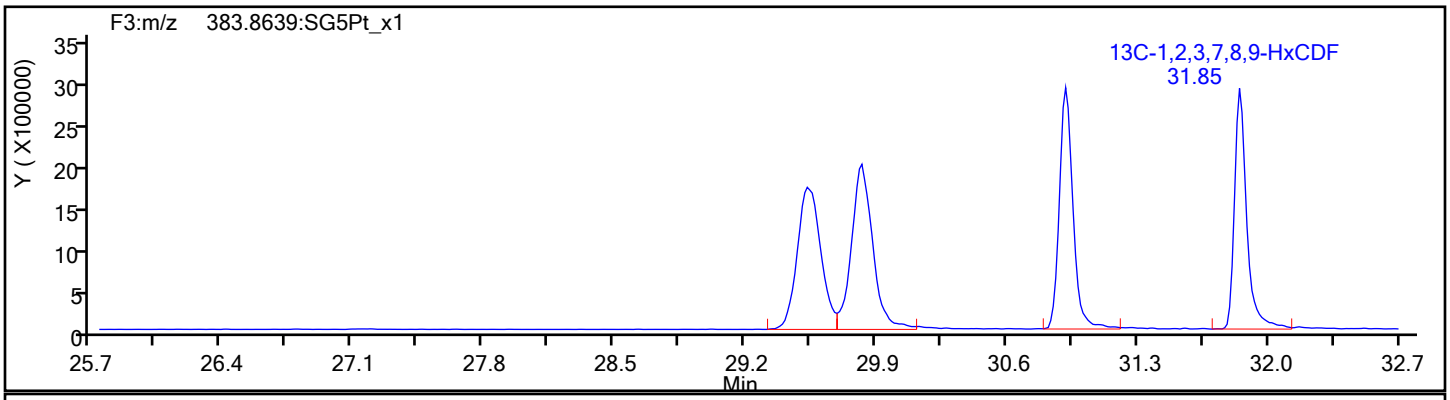

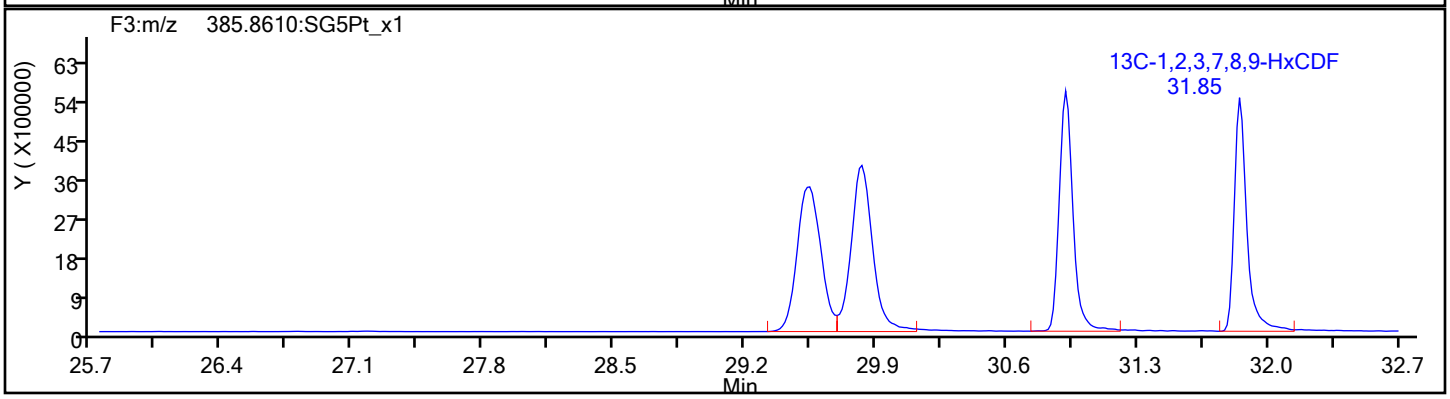

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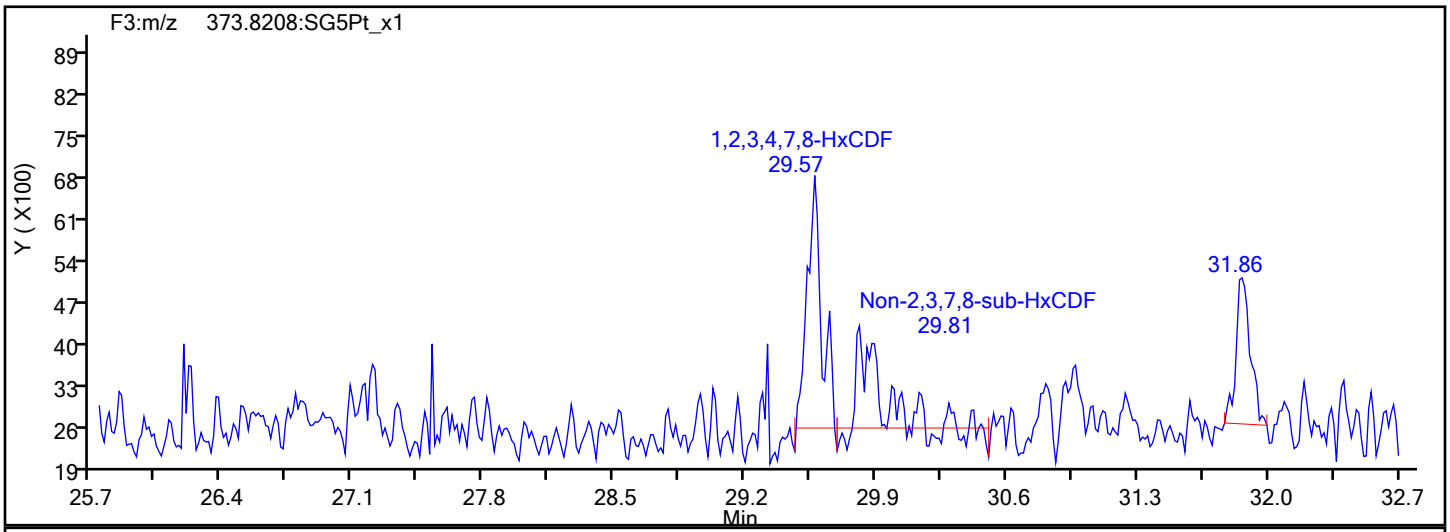

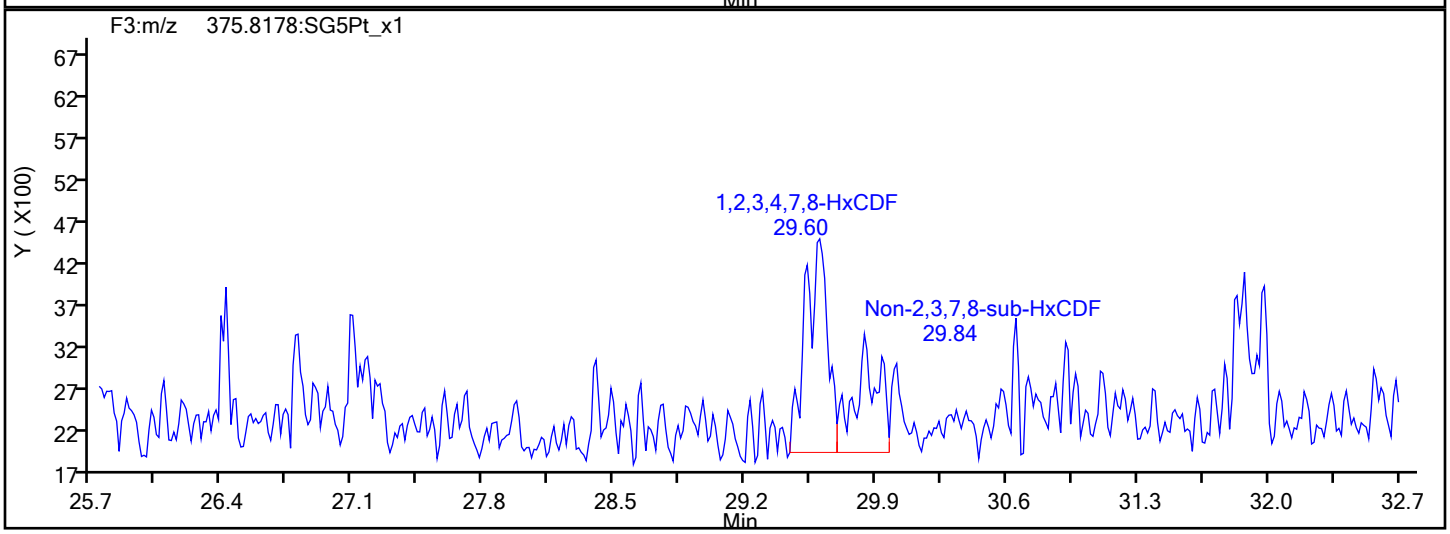

HxCDF Interference Mass

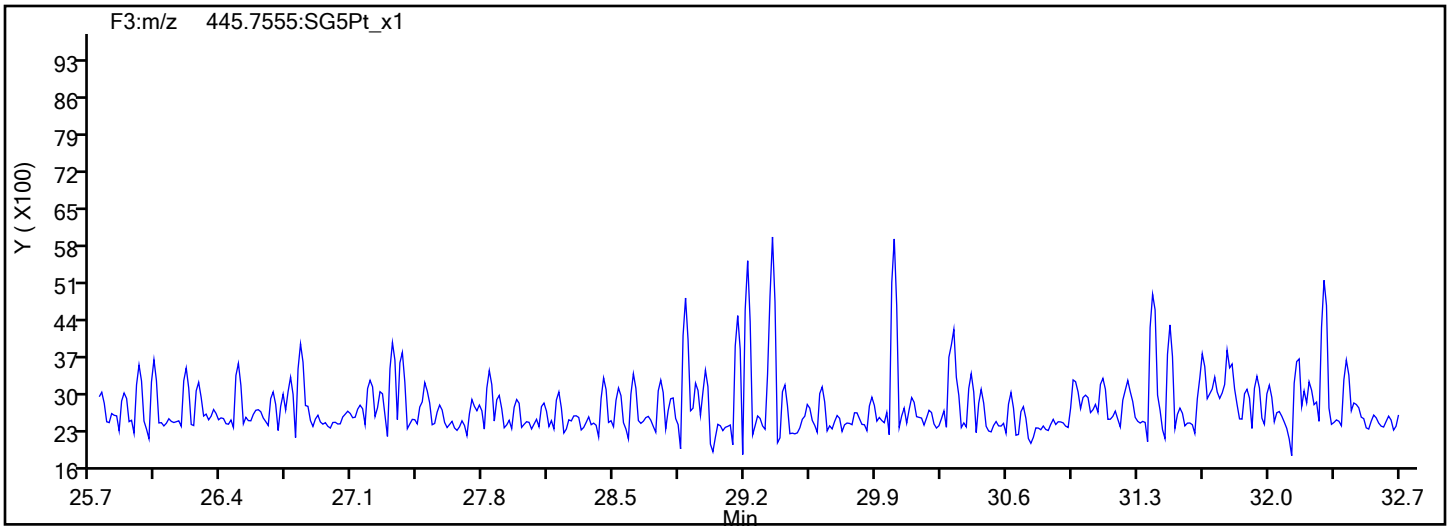

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Eurofins TestAmerica, Sacramento

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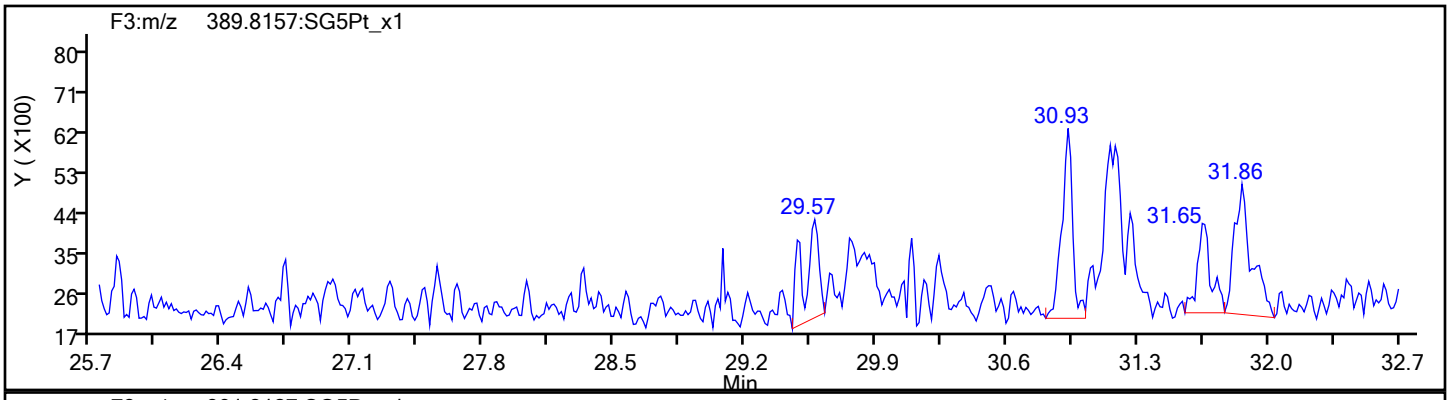

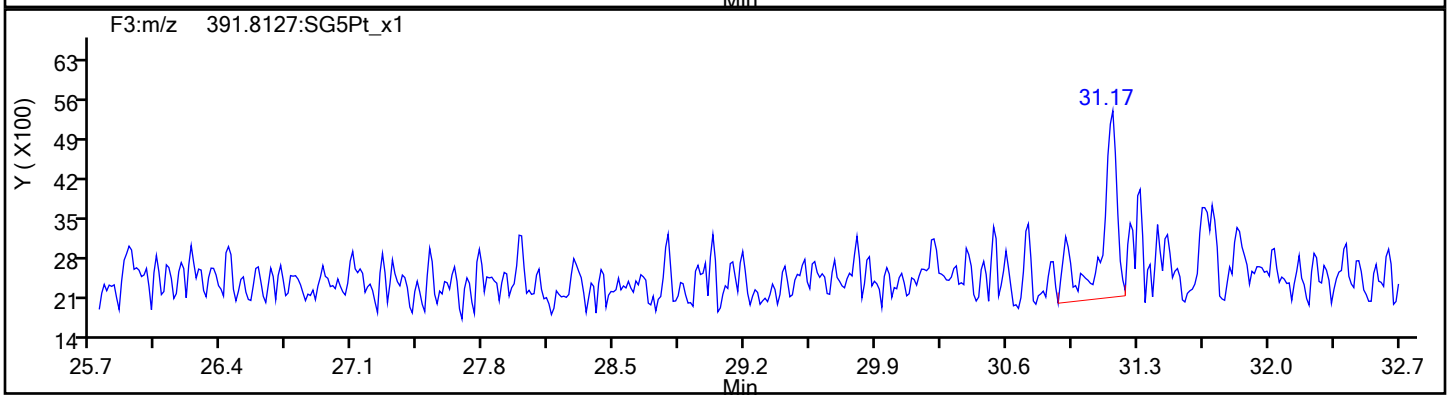

HxCDD Standards

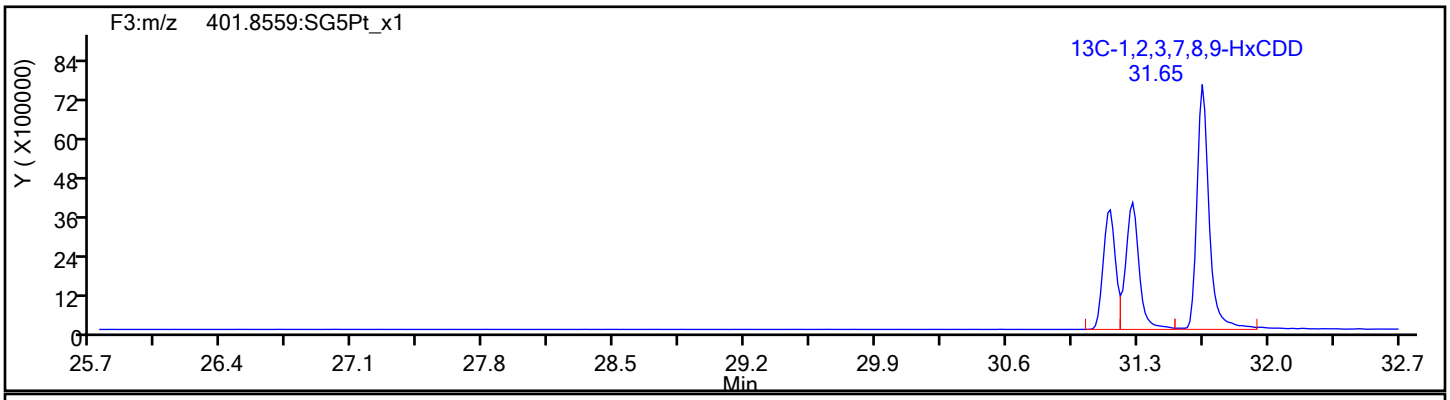

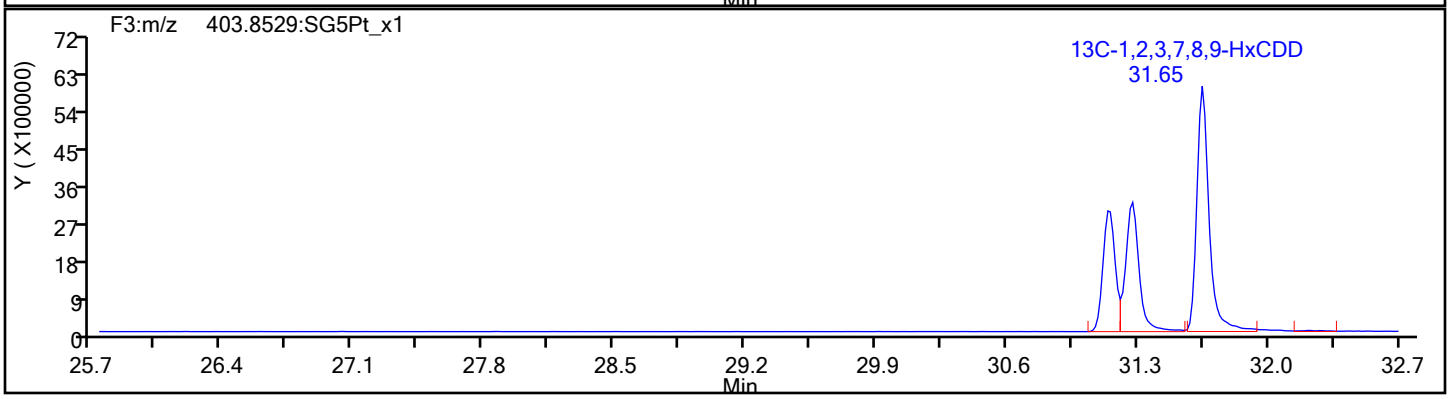

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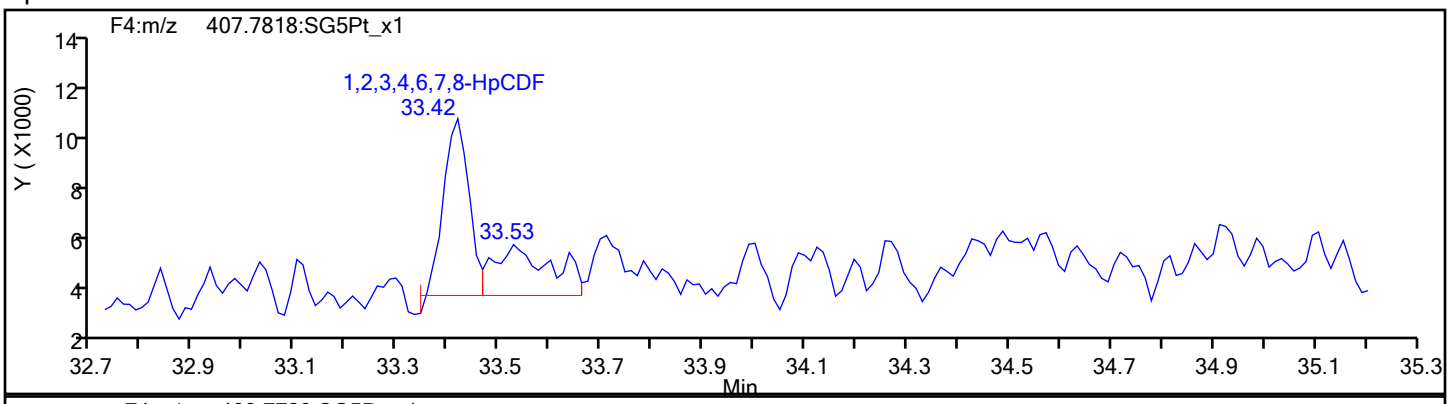

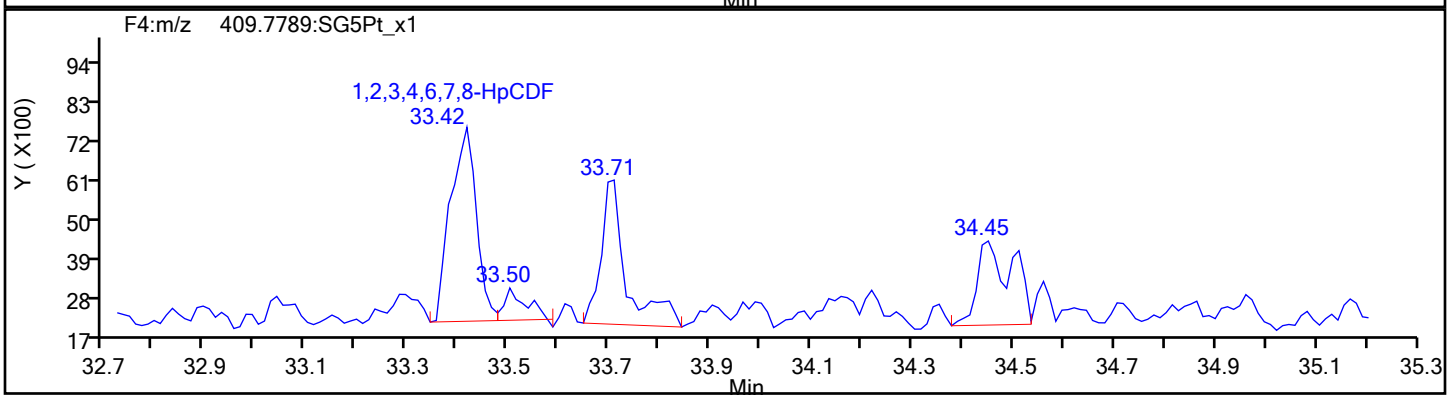

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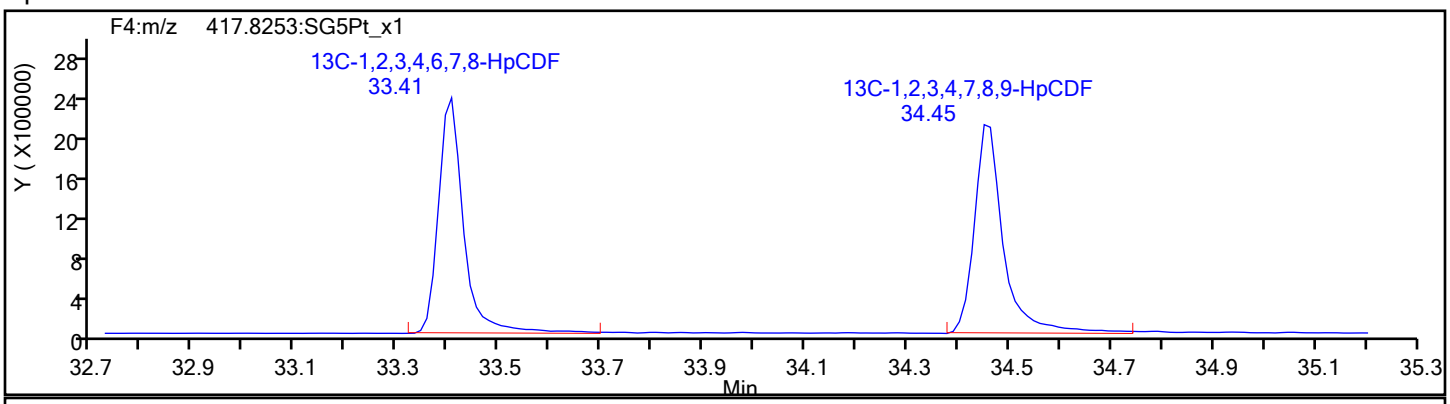

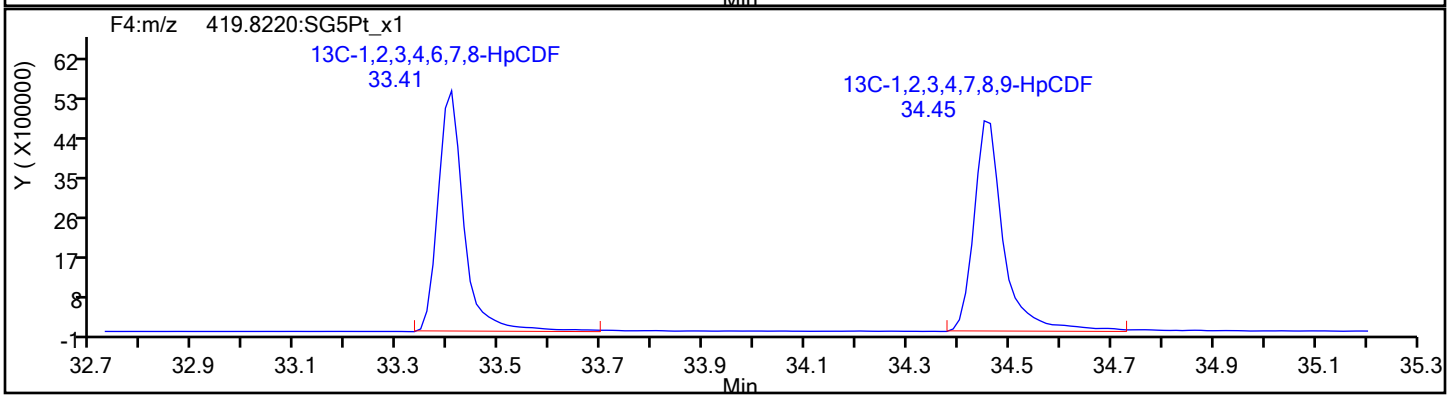

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Eurofins TestAmerica, Sacramento

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HpCDF

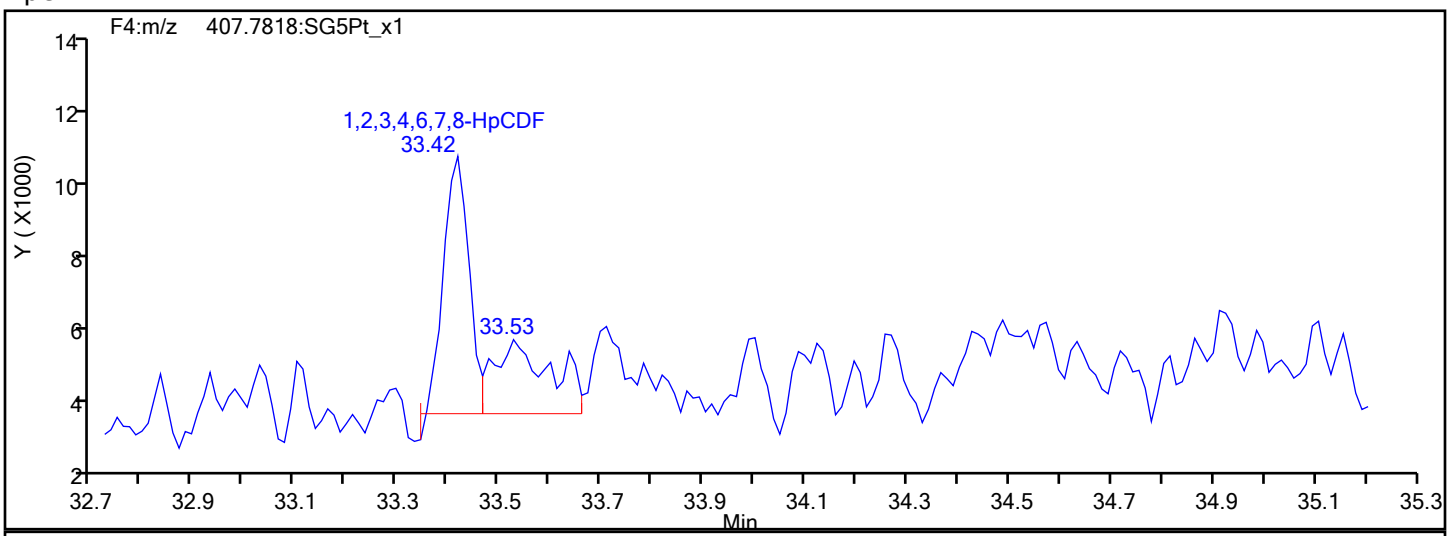

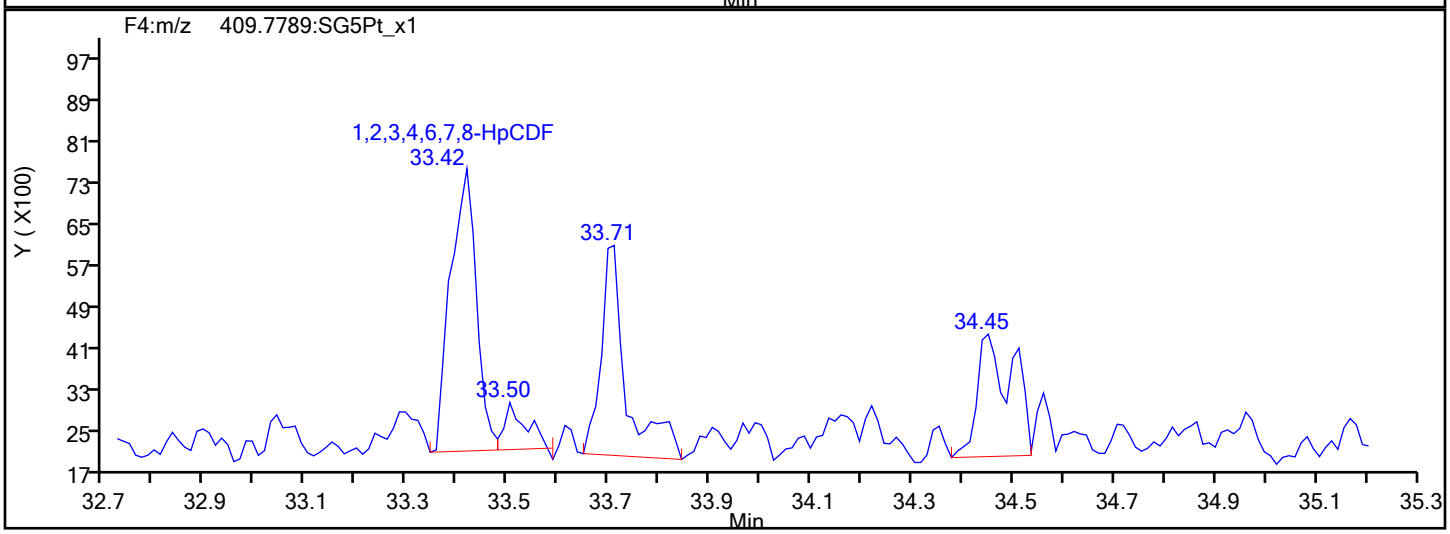

HpCDF Interference Mass

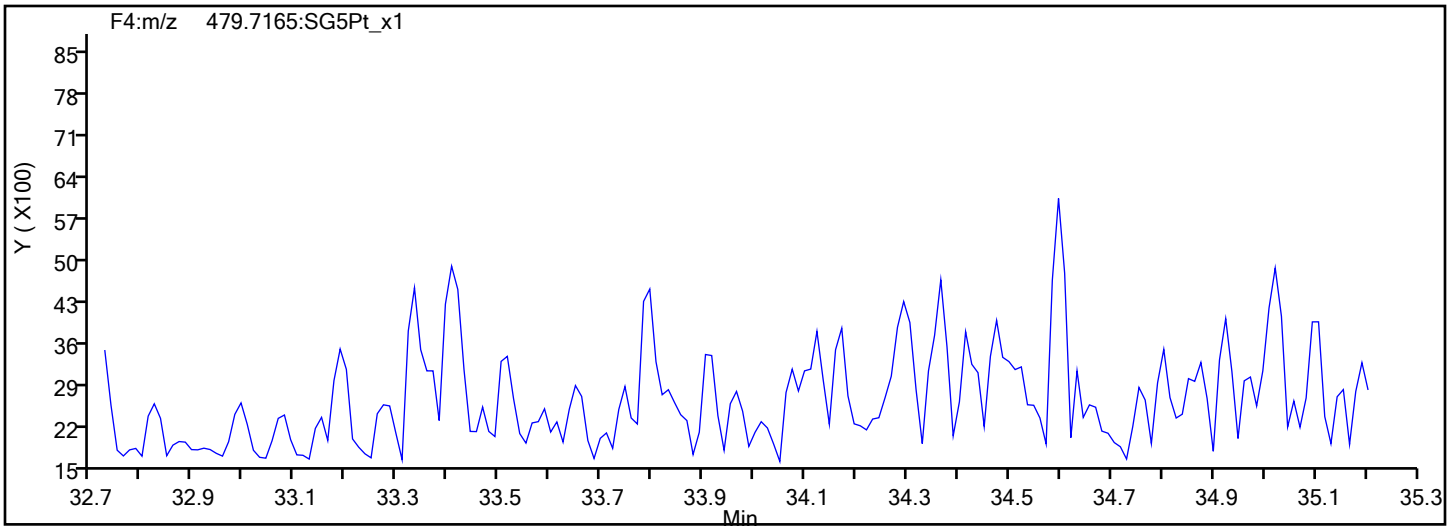

Report Date: 08-Nov-2019 08:55:11 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_7.d		
Injection Date:	06-Nov-2019 00:08:25	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	FEFF 1		
Worklist#:	336302	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

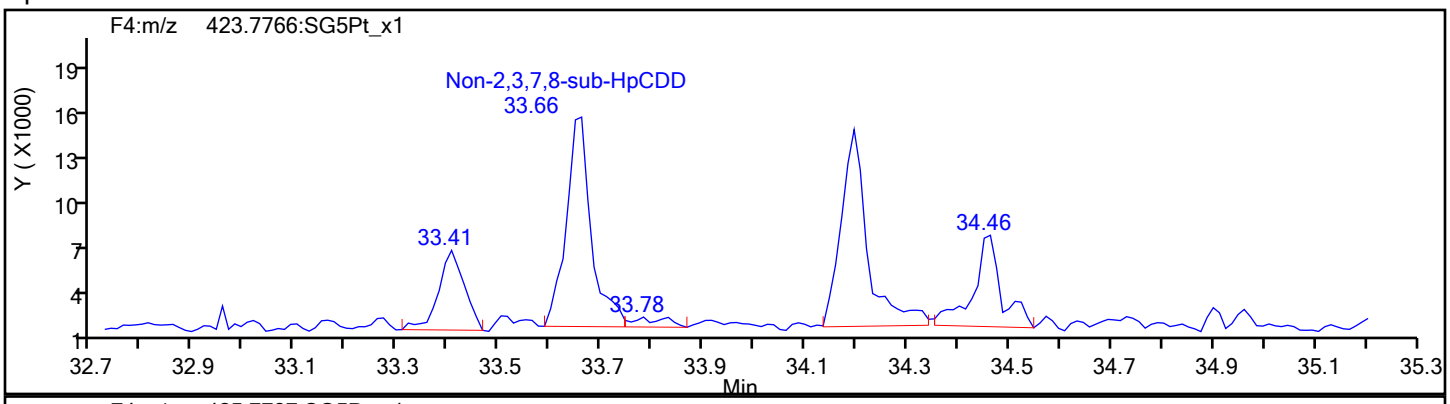

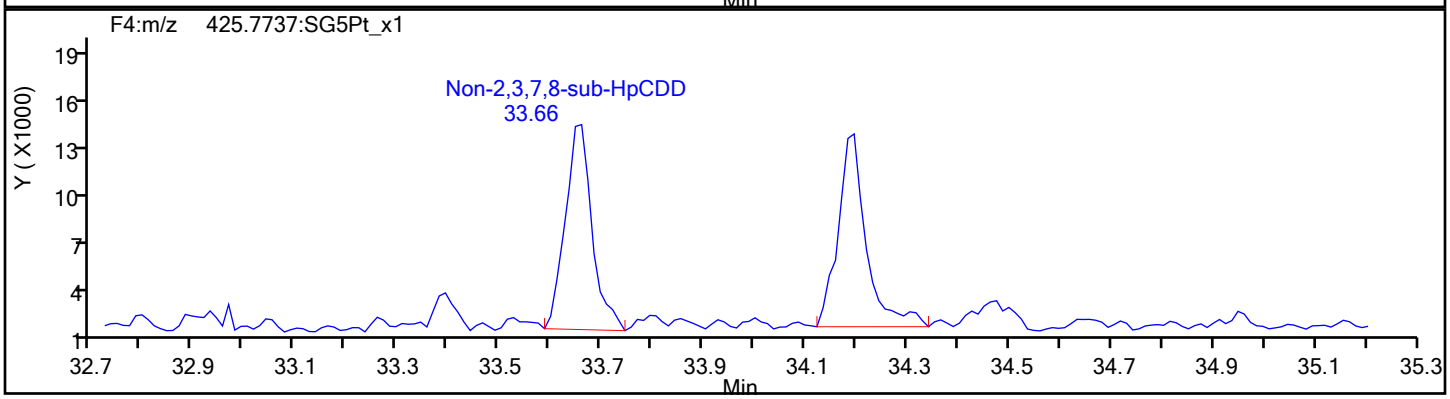

HpCDD Standards

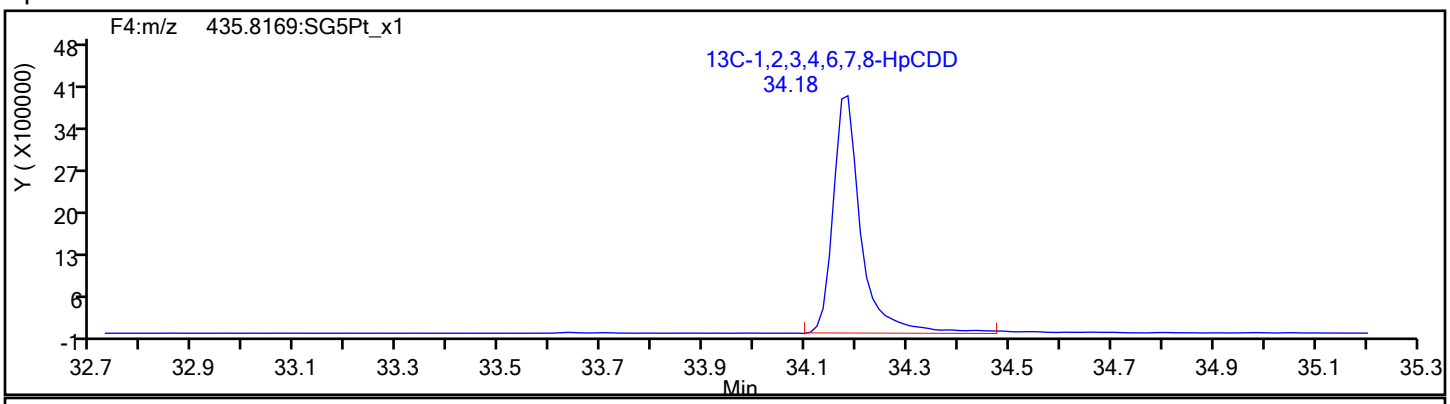

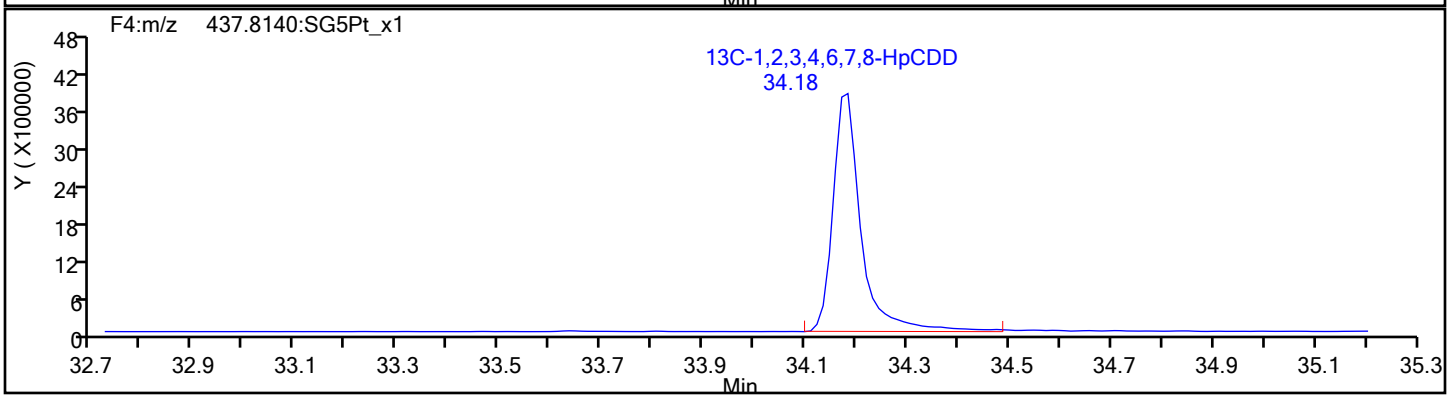

Report Date: 08-Nov-2019 08:55:11 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_7.d		
Injection Date:	06-Nov-2019 00:08:25	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	FEFF 1		
Worklist#:	336302	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

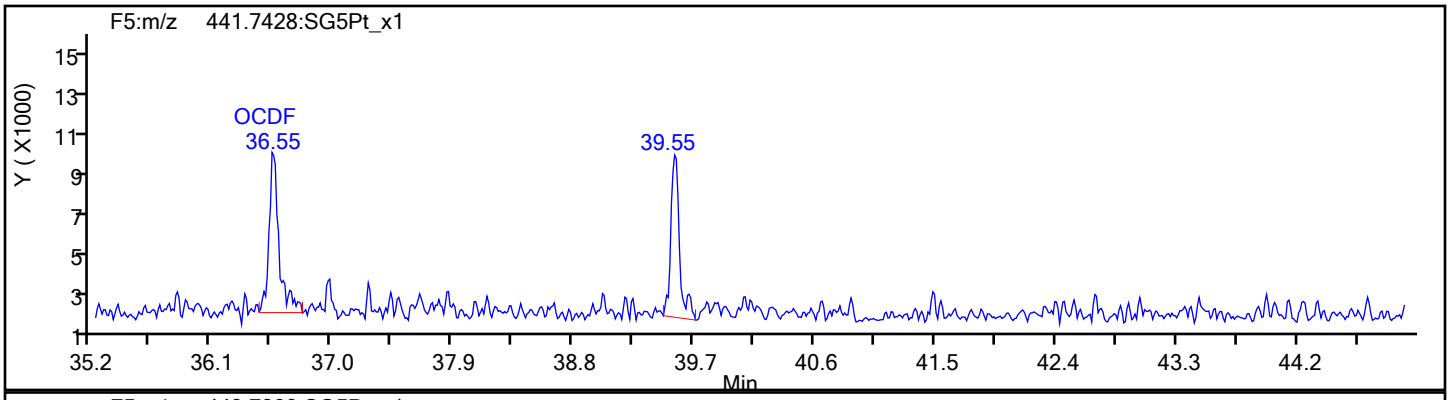

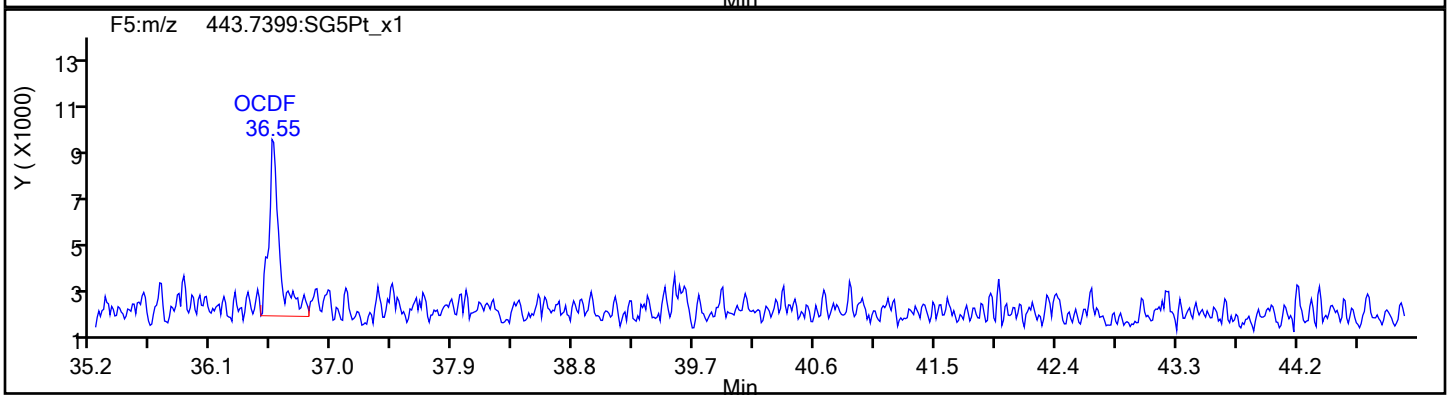

OCDF Standards

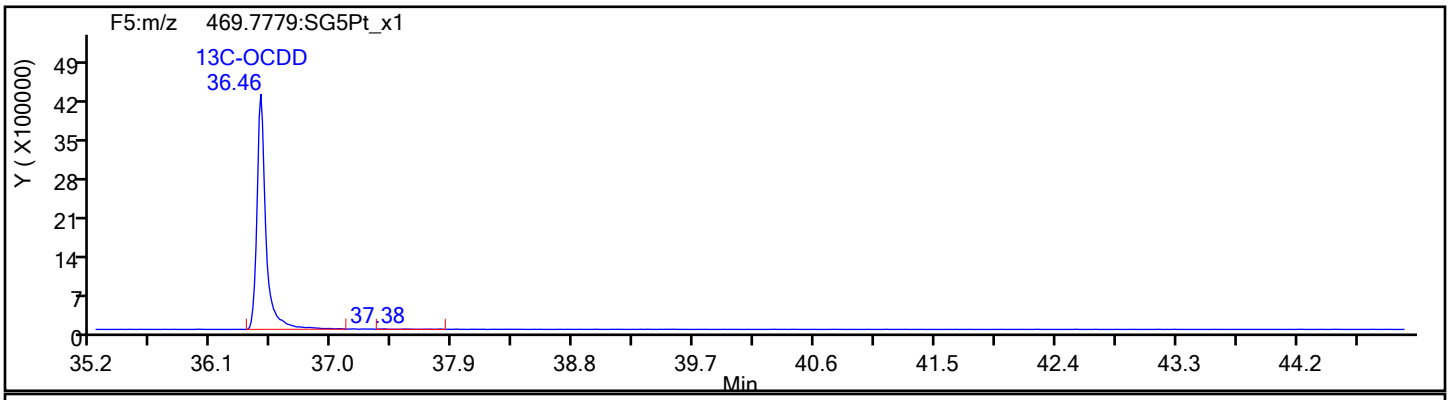

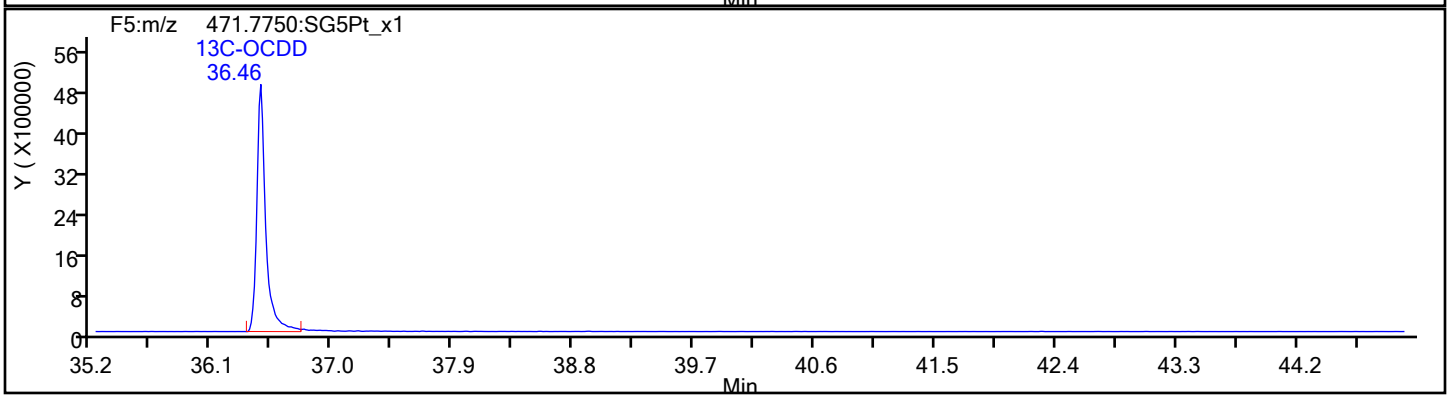

Report Date: 08-Nov-2019 08:55:11 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_7.d		
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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	FEFF 1		
Worklist#:	336302	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

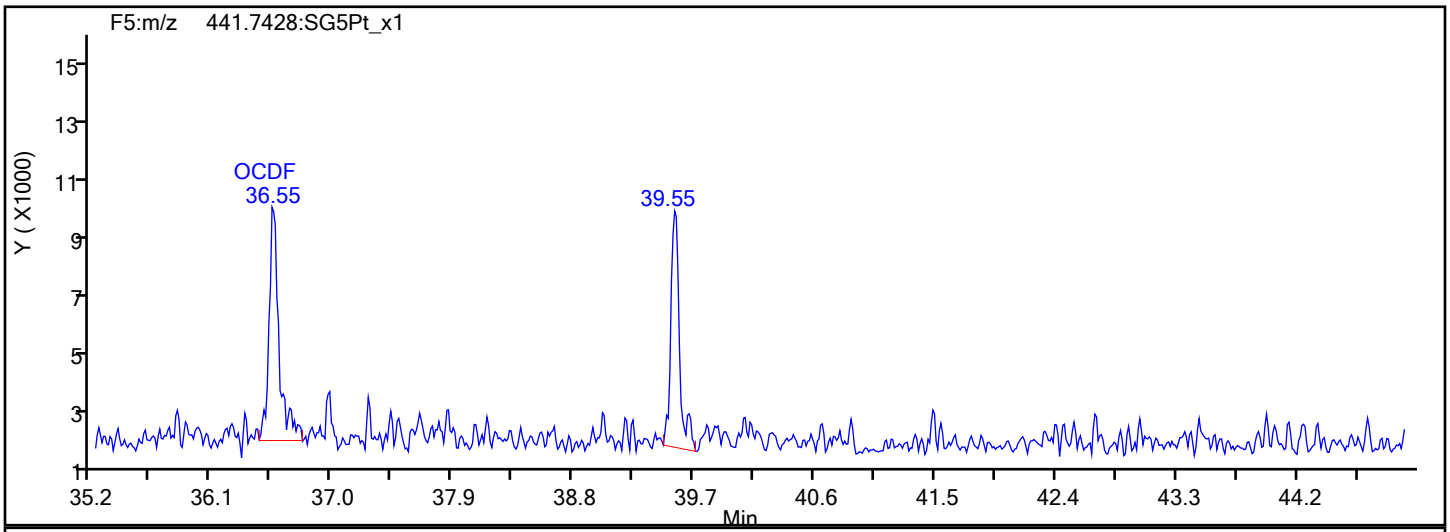

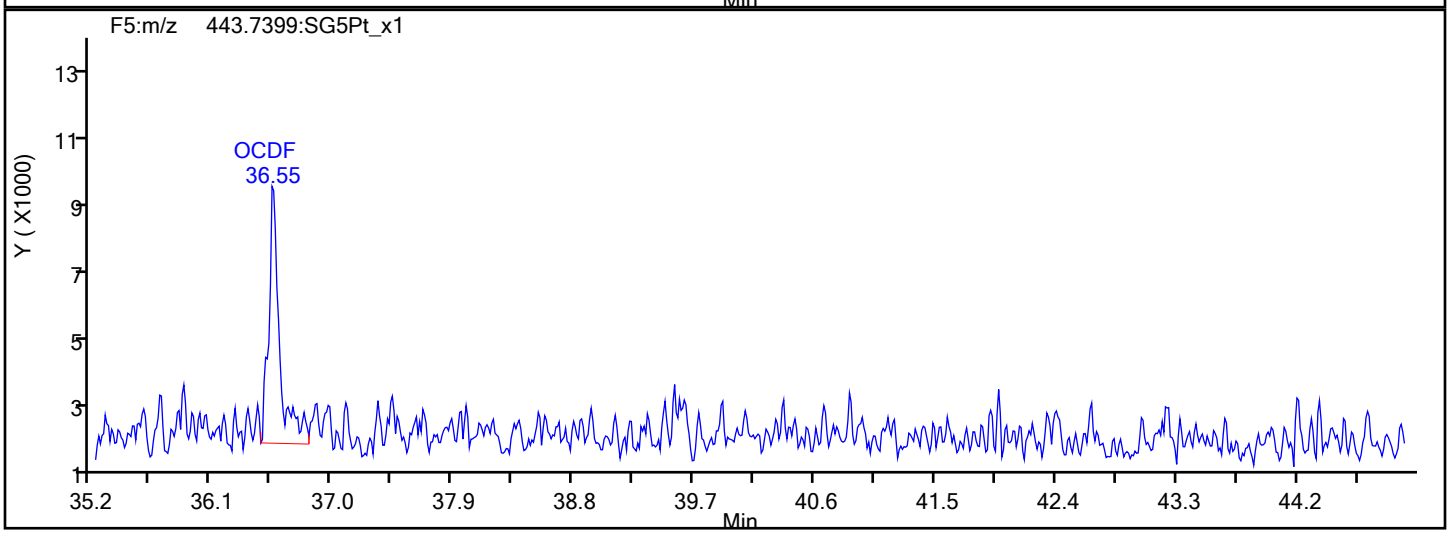

OCDF Interference Mass

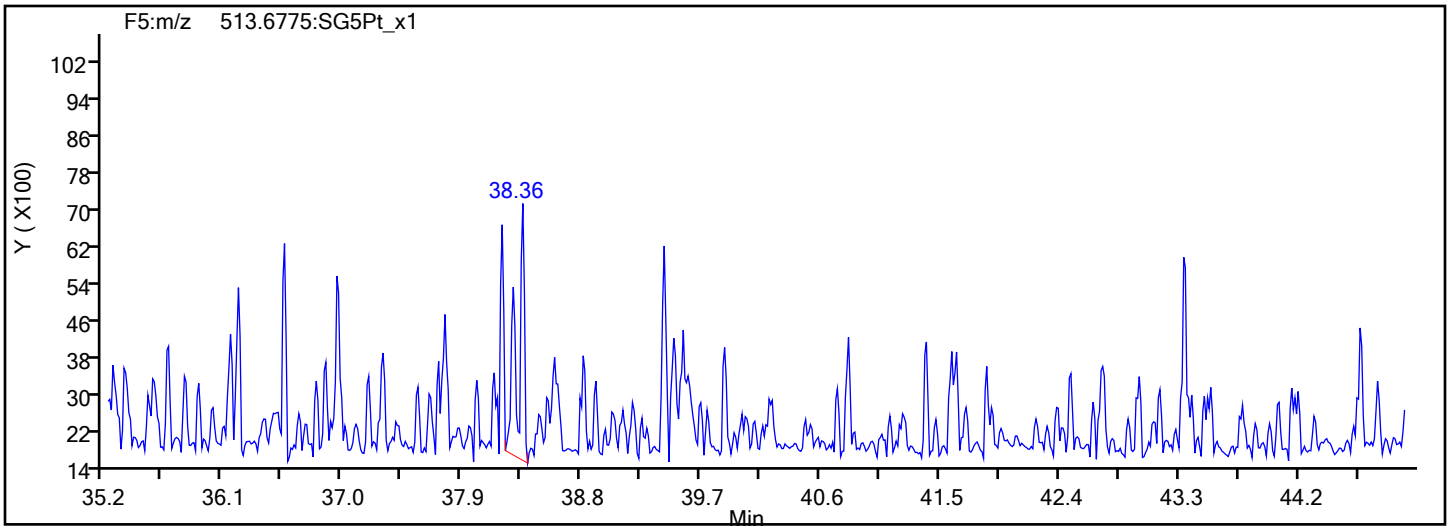

Report Date: 08-Nov-2019 08:55:11 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_7.d		
Injection Date:	06-Nov-2019 00:08:25	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	FEFF 1		
Worklist#:	336302	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

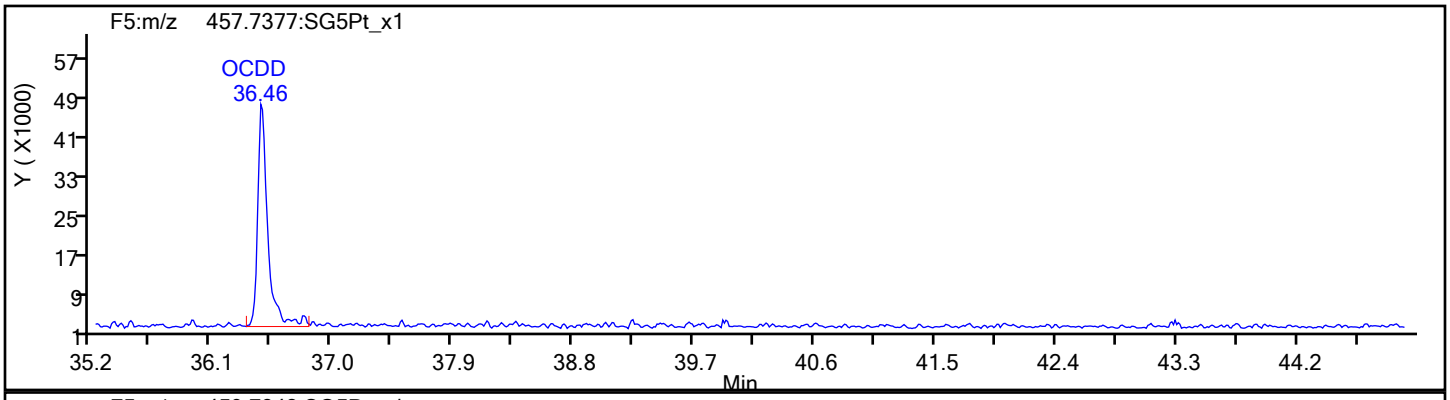

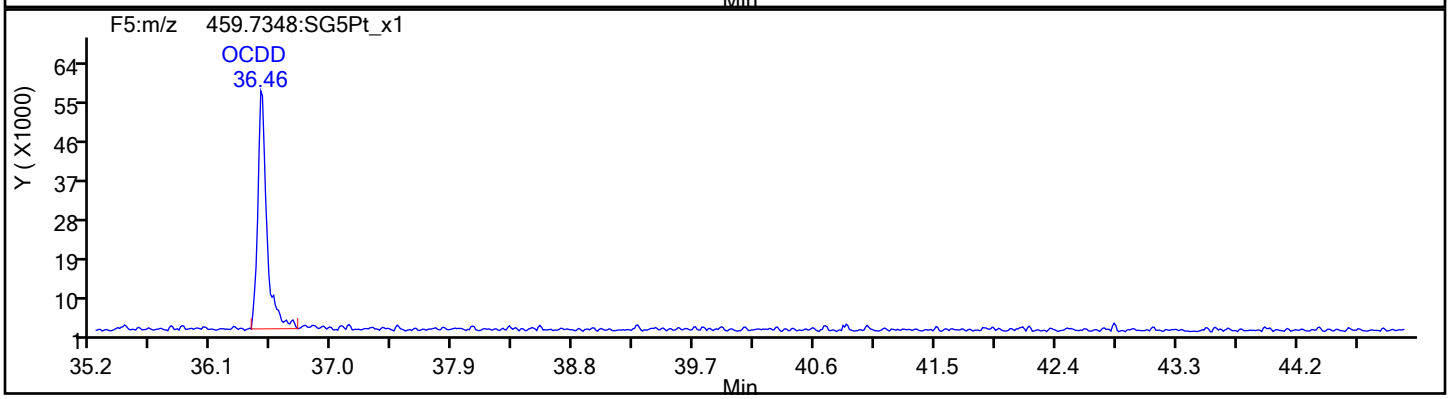

OCDD Standards

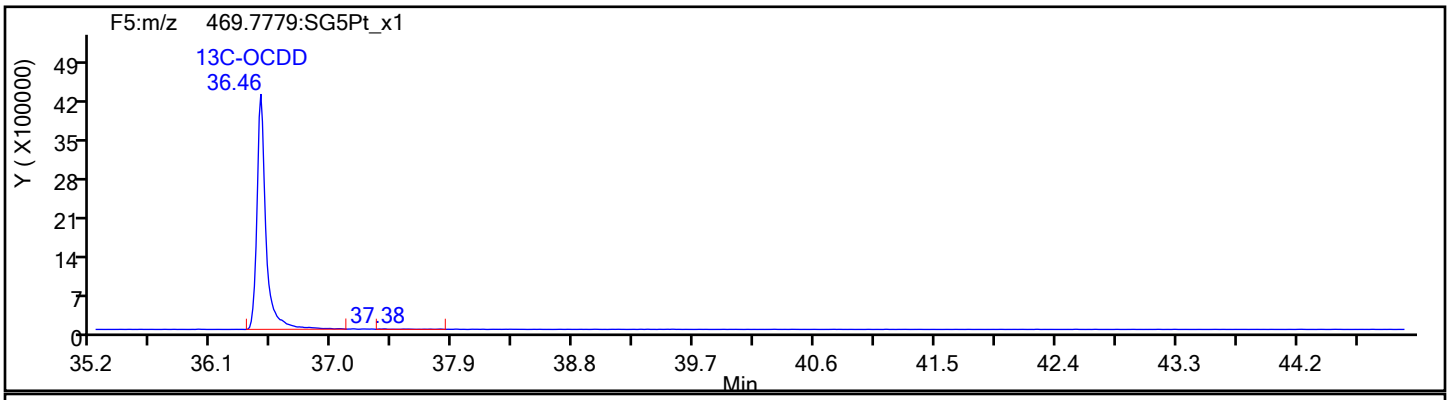

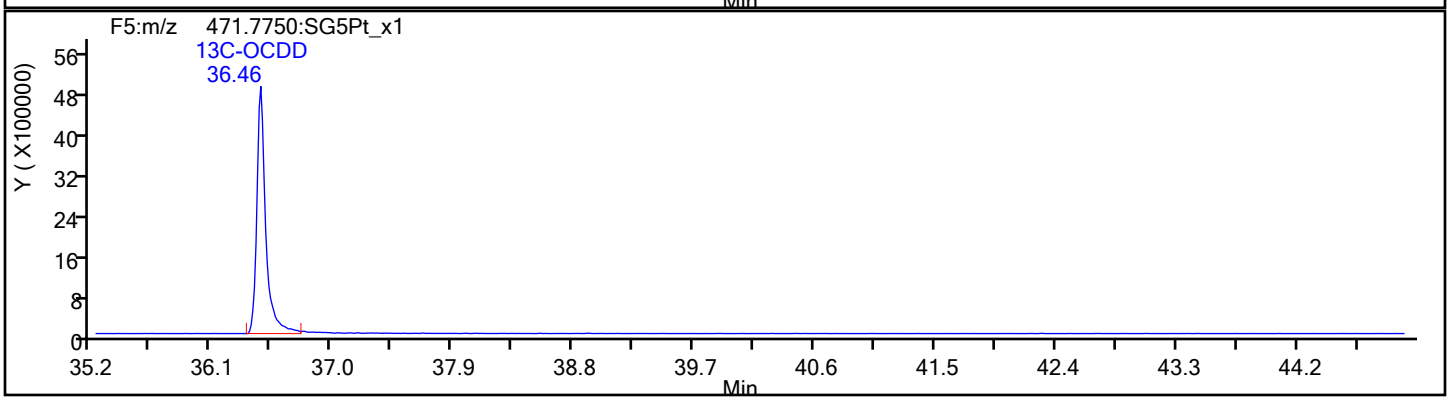

Report Date: 08-Nov-2019 08:55:11 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_7.d		
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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	FEFF 1		
Worklist#:	336302	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

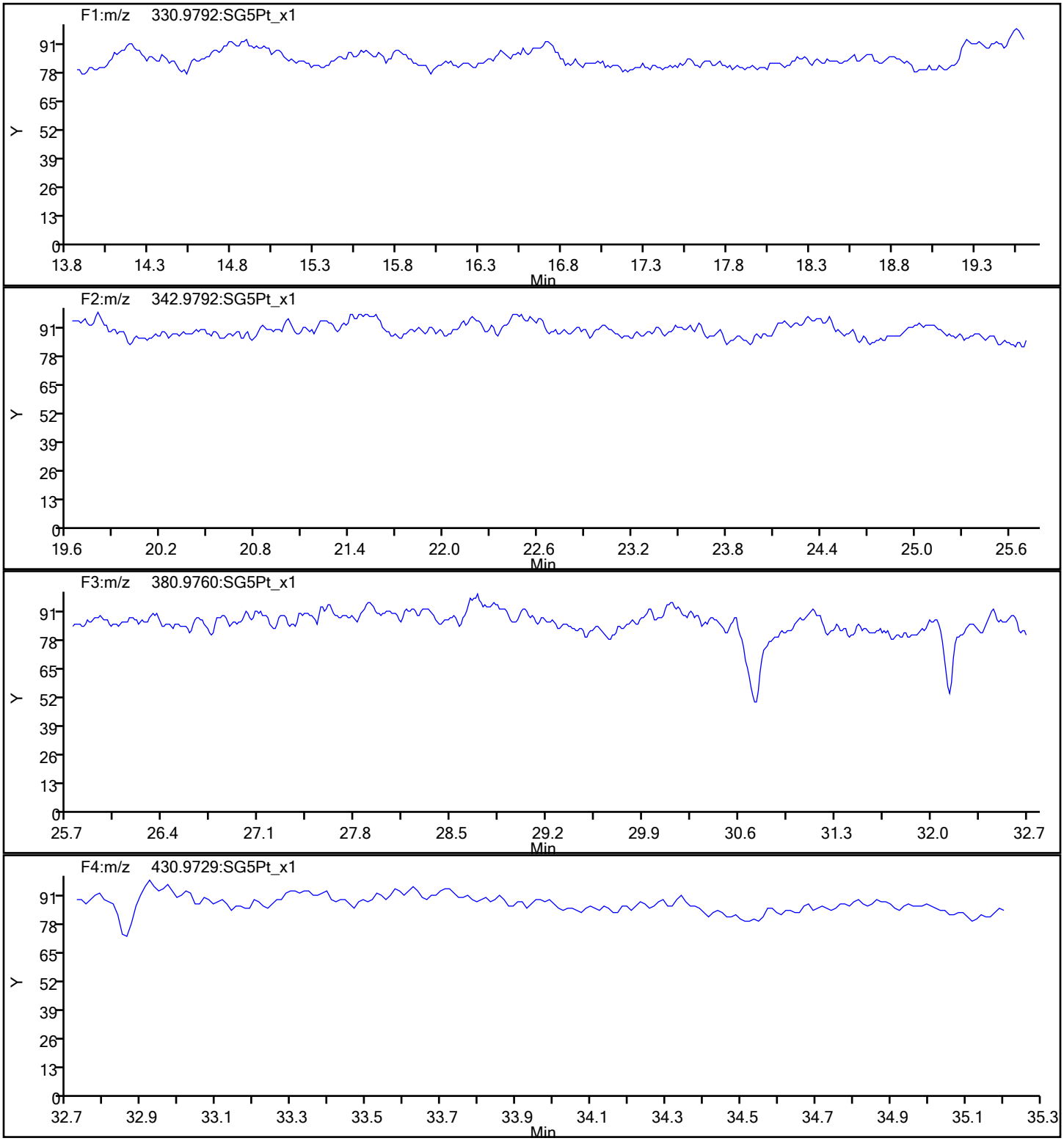

Report Date: 08-Nov-2019 08:55:11 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_7.d		
Injection Date:	06-Nov-2019 00:08:25	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	FEFF 1		
Worklist#:	336302	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

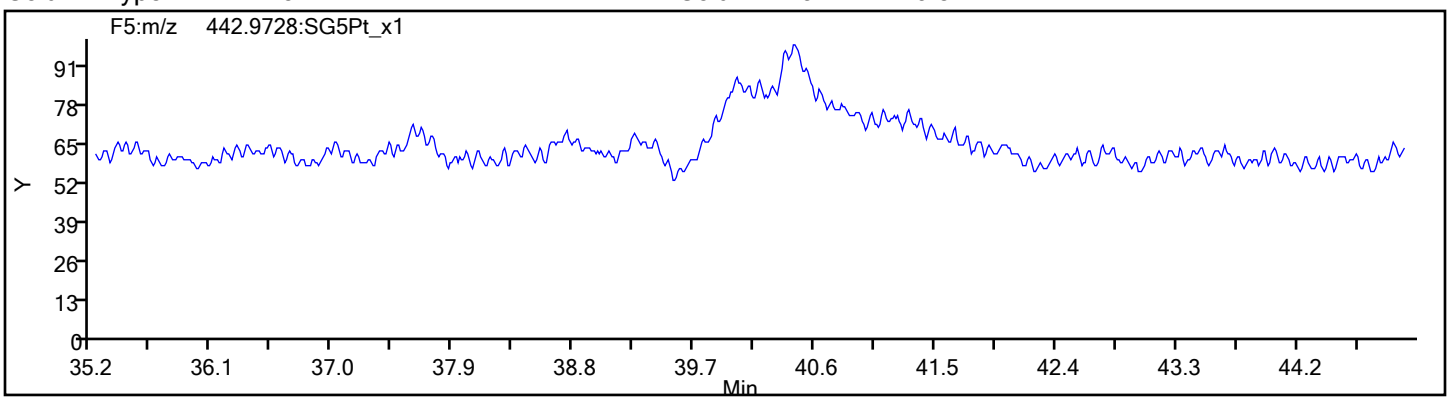

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 600-194690-1
SDG No.:
Client Sample ID: INF 3
Lab Sample ID: 600-194690-8
Matrix: Water
Lab File ID: 05NO19B10D5_8.d
Analysis Method: 1613B
Date Collected: 10/25/2019 13:30
Extract. Method: 1613B
Date Extracted: 11/01/2019 08:11
Sample wt/vol: 995.6(mL)
Date Analyzed: 11/06/2019 00:54
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 336302
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
40321-76-4	1,2,3,7,8-PeCDD	160		50	4.8
57117-41-6	1,2,3,7,8-PeCDF	2100		50	15
57117-31-4	2,3,4,7,8-PeCDF	1200		50	15
39227-28-6	1,2,3,4,7,8-HxCDD	11	J B q	50	2.1
57653-85-7	1,2,3,6,7,8-HxCDD	30	J	50	2.2
19408-74-3	1,2,3,7,8,9-HxCDD	18	J B	50	2.0
70648-26-9	1,2,3,4,7,8-HxCDF	3100		50	10
57117-44-9	1,2,3,6,7,8-HxCDF	790		50	9.0
72918-21-9	1,2,3,7,8,9-HxCDF	53	B	50	5.3
60851-34-5	2,3,4,6,7,8-HxCDF	93	B	50	6.0
35822-46-9	1,2,3,4,6,7,8-HpCDD	840		50	14
67562-39-4	1,2,3,4,6,7,8-HpCDF	880	B	50	9.7
55673-89-7	1,2,3,4,7,8,9-HpCDF	320	B	50	11
3268-87-9	OCDD	15000	B *	100	11
39001-02-0	OCDF	590	B	100	3.2
30402-14-3	Total TCDF	100000	G B	270	270
36088-22-9	Total PeCDD	190	q	50	4.8
30402-15-4	Total PeCDF	5000	q	50	15
34465-46-8	Total HxCDD	260	q B	50	2.1
55684-94-1	Total HxCDF	4600	B q	50	7.6
37871-00-4	Total HpCDD	2000		50	14
38998-75-3	Total HpCDF	1600	B	50	10

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Client Sample ID: INF 3 Lab Sample ID: 600-194690-8

Matrix: Water Lab File ID: 05NO19B10D5_8.d

Analysis Method: 1613B Date Collected: 10/25/2019 13:30

Extract. Method: 1613B Date Extracted: 11/01/2019 08:11

Sample wt/vol: 995.6(mL) Date Analyzed: 11/06/2019 00:54

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 336302 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
89059-46-1	13C-2,3,7,8-TCDF	39		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	37		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	38		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	40		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	31	*	32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	28		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	32		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	29		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	32		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	30		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	23		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	20	*	28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	26		26-138
114423-97-1	13C-OCDD	17		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	100		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_8.d
Lims ID: 600-194690-C-8-A
Client ID: INF 3
Sample Type: Client
Inject. Date: 06-Nov-2019 00:54:22 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 600-194690-C-8-A 600-194690-C-8-A
Misc. Info.: 05NO19B10D5
Operator ID: ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 10-Nov-2019 09:24:10 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: krenns Date: 10-Nov-2019 09:24:10

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.291	89073644	0.77	9.6E+05	100.0	100.0				a
D 13C-2,3,7,8-TCDF	16.792	50196509	0.79	1.4384	39.2	39.2	0.3798	0.3798	39.18	
2,3,7,8-TCDF	16.807	1501522045	0.78	1.0507	2846.9	2846.9	13.2	13.2		E
A Non-2,3,7,8-sub-TCDF	16.459	1149762648	0.77	1.0507	2179.9	2179.9	13.2	1319.5		a
S Total TCDF					5026.8	5026.8	13.2	13.2		
D 13C-2,3,7,8-TCDD	17.472	31513457	0.77	0.9533	37.1	37.1	0.5578	0.5578	37.11	
2,3,7,8-TCDD	17.487	312773816	0.80	1.1064	897.1	897.1	2.395	2.395		E
$ 37Cl4-2,3,7,8-TCDD	17.487	43399576		1.2224	39.9	39.9	0.2173	0.2173	99.65	
A Non-2,3,7,8-sub-TCDD	16.890	31013759	0.80	1.1064	88.9	88.9	2.395	79.6		
S Total TCDD					986.0	986.0	2.395	2.395		
D 13C-1,2,3,7,8-PeCDF	21.567	34658982	1.57	1.0286	37.8	37.8	0.1268	0.1268	37.83	
1,2,3,7,8-PeCDF	21.581	38373015	1.60	1.0822	102.3	102.3	0.7454	0.7454		
D 13C-2,3,4,7,8-PeCDF	22.822	34956638	1.53	0.9827	39.9	39.9	0.1327	0.1327	39.94	
2,3,4,7,8-PeCDF	22.850	22496363	1.60	1.1032	58.3	58.3	0.7449	0.7449		
A F1 PeCDFs	19.158	431654	1.53	1.0927	1.135	1.135	0.0617	1.135		
A Non-2,3,7,8-sub-PeCDF	22.128	33981253	1.55	1.0927	89.6	89.3	0.7451	36.4		RQ
S Total PeCDF					251.4	251.1	0.7451	0.7451		RQ
D 13C-1,2,3,7,8-PeCDD	23.504	24382250	1.58	0.7481	36.6	36.6	0.1241	0.1241	36.59	
1,2,3,7,8-PeCDD	23.518	1768593	1.52	0.9050	8.015	8.015	0.2365	0.2365		M
A Non-2,3,7,8-sub-PeCDD	22.406	333617	1.55	0.9050	4.622	1.512	0.2365	0.993		RQ
S Total PeCDD					12.6	9.527	0.2365	0.2365		RQ
D 13C-1,2,3,4,7,8-HxCDF	29.547	24259703	0.51	1.1520	31.6	31.6	0.1533	0.1533	31.55	
1,2,3,4,7,8-HxCDF	29.587	44813121	1.26	1.1973	154.3	154.3	0.5116	0.5116		
D 13C-1,2,3,6,7,8-HxCDF	29.826	24074768	0.51	1.2434	29.0	29.0	0.1420	0.1420	29.01	
1,2,3,6,7,8-HxCDF	29.866	11194664	1.28	1.1807	39.4	39.4	0.4460	0.4460		
D 13C-2,3,4,6,7,8-HxCDF	30.918	23346068	0.51	1.1720	29.9	29.9	0.1507	0.1507	29.85	
2,3,4,6,7,8-HxCDF	30.931	1316117	1.26	1.2116	4.653	4.653	0.2982	0.2982		
D 13C-1,2,3,7,8,9-HxCDF	31.849	22869980	0.50	1.0655	32.2	32.2	0.1658	0.1658	32.16	
1,2,3,7,8,9-HxCDF	31.863	744593	1.39	1.2451	2.615	2.615	0.2652	0.2652		
A Non-2,3,7,8-sub-HxCDF	29.354	8045212	1.24	1.2087	28.3	28.2	0.3548	10.7		RQ

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					229.2	229.1	0.3802	0.3802		RQ
* 13C-1,2,3,7,8,9-HxCDD	31.650	66734725	1.26	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.144	16055097	1.26	0.7812	30.8	30.8	0.1865	0.1865	30.80	
1,2,3,4,7,8-HxCDD	31.157	94656	1.24	1.1088	0.5948	0.5317	0.1062	0.1062		RQ
D 13C-1,2,3,6,7,8-HxCDD	31.277	17169861	1.20	0.9175	28.0	28.0	0.1588	0.1588	28.04	
1,2,3,6,7,8-HxCDD	31.290	274598	1.14	1.0814	1.479	1.479	0.1116	0.1116		
1,2,3,7,8,9-HxCDD	31.663	176336	1.20	1.2123	0.8756	0.8756	0.0984	0.0984		M
A Non-2,3,7,8-sub-HxCDD	29.926	1872821	1.27	1.1342	9.940	9.940	0.1051	5.859		M
S Total HxCDD					12.9	12.8	0.1054	0.1054		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	33.394	11801287	0.42	0.8628	20.5	20.5	0.3054	0.3054	20.50	
1,2,3,4,6,7,8-HpCDF	33.406	8055541	1.04	1.5555	43.9	43.9	0.4827	0.4827		M
D 13C-1,2,3,4,7,8,9-HpCDF	34.451	13757365	0.43	0.7991	25.8	25.8	0.3297	0.3297	25.80	
1,2,3,4,7,8,9-HpCDF	34.463	2992745	1.09	1.3862	15.7	15.7	0.5248	0.5248		
A Non-2,3,7,8-sub-HpCDF	33.922	4044999	1.06	1.4709	21.5	21.5	0.5024	21.5		
S Total HpCDF					81.1	81.1	0.5037	0.5037		
D 13C-1,2,3,4,6,7,8-HpCDD	34.172	13161418	1.05	0.8739	22.6	22.6	0.1472	0.1472	22.57	
1,2,3,4,6,7,8-HpCDD	34.184	5106498	1.04	0.9316	41.6	41.6	0.6772	0.6772		
A Non-2,3,7,8-sub-HpCDD	34.038	7355136	1.05	0.9316	60.0	60.0	0.6772	60.0		
S Total HpCDD					101.6	101.6	0.6772	0.6772		
D 13C-OCDD	36.451	17322344	0.90	0.7744	33.5	33.5	0.0880	0.0880	16.76	
OCDF	36.546	3214582	0.88	1.2596	29.5	29.5	0.1579	0.1579		
OCDD	36.463	70896245	0.87	1.0621	770.7	770.7	0.5233	0.5233		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- E - Exceeded Maximum Amount
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_8.d
Lims ID: 600-194690-C-8-A
Client ID: INF 3
Sample Type: Client
Inject. Date: 06-Nov-2019 00:54:22 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 600-194690-C-8-A 600-194690-C-8-A
Misc. Info.: 05NO19B10D5
Operator ID: ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 10-Nov-2019 09:24:10 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: krenns Date: 10-Nov-2019 09:24:10

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											a
331.9368	17.291	17.230	4		38861061	8941413	19441	48602	460		a
333.9339	17.291	17.230	4		50212583	11441028	23916	59790	478	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.792	16.761	2	0.971	22211411	6010072	21777	54442	276		
317.9389	16.792	16.761	2	0.971	27985098	7528215	22763	56907	331	0.79(0.65-0.89)	
2,3,7,8-TCDF											E
303.9016	16.807	16.761	3	1.001	657820219	171092018	390079	975197	439		
305.8987	16.807	16.761	3	1.001	843701826	217183159	361931	904827	600	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											a
303.9016	15.461	16.459	-60	0.921	19180193	5489860	390079	975197	14		
305.8987	15.461	16.459	-60	0.921	24639537	6964865	361931	904827	19	0.78(0.65-0.89)	
303.9016	15.718	16.459	-44	0.936	24754617	4731562	390079	975197	12		
305.8987	15.718	16.459	-44	0.936	31679364	6034944	361931	904827	17	0.78(0.65-0.89)	
303.9016	15.945	16.459	-31	0.950	20518100	5469706	390079	975197	14		
305.8987	15.945	16.459	-31	0.950	26345473	6982794	361931	904827	19	0.78(0.65-0.89)	
303.9016	16.172	16.459	-17	0.963	31312960	7808015	390079	975197	20		
305.8987	16.172	16.459	-17	0.963	40400590	9914769	361931	904827	27	0.78(0.65-0.89)	
303.9016	16.429	16.459	-2	0.978	304754736	80202317	390079	975197	206		
305.8987	16.429	16.459	-2	0.978	391204622	103243515	361931	904827	285	0.78(0.65-0.89)	
303.9016	16.640	16.459	11	0.991	10405664	2641575	390079	975197	7		
305.8987	16.640	16.459	11	0.991	15218277	3620884	361931	904827	10	0.68(0.65-0.89)	
303.9016	17.215	16.459	45	1.025	41844190	10817934	390079	975197	28		
305.8987	17.215	16.459	45	1.025	54981613	13747026	361931	904827	38	0.76(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
303.9016	18.530	16.459	124	1.104	48997939	11592758	390079	975197	30		a
305.8987	18.530	16.459	124	1.104	63524773	14988850	361931	904827	41	0.77(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.472	17.427	3	1.010	13676961	3720337	19441	48602	191		
333.9339	17.472	17.427	3	1.010	17836496	4912651	23916	59790	205	0.77(0.65-0.89)	
2,3,7,8-TCDD											E
319.8965	17.487	17.427	4	1.001	138554023	37294622	54471	136177	685		
321.8936	17.487	17.427	4	1.001	174219793	47060890	37017	92542	1271	0.80(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.487	17.442	3	1.011	43399576	11692028	21656	54140	540		
A Non-2,3,7,8-sub-TCDD											
319.8965	17.381	16.890	29	0.995	1408497	409543	54471	136177	8		
321.8936	17.381	16.890	29	0.995	1854736	544984	37017	92542	15	0.76(0.65-0.89)	
319.8965	17.820	16.890	56	1.020	12400936	2812338	54471	136177	52		
321.8936	17.820	16.890	56	1.020	15349590	3422484	37017	92542	92	0.81(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	21.567	21.513	3	1.247	21188047	3817313	6562	16405	582		
353.8970	21.567	21.513	3	1.247	13470935	2447248	4073	10182	601	1.57(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.581	21.527	3	1.001	23627235	4178989	12220	30550	342		
341.8567	21.581	21.527	3	1.001	14745780	2631423	7994	19985	329	1.60(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	22.822	22.781	2	1.320	21159245	3705786	6562	16405	565		
353.8970	22.822	22.781	2	1.320	13797393	2444043	4073	10182	600	1.53(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.850	22.795	3	1.001	13848264	2473518	12220	30550	202		
341.8567	22.850	22.795	3	1.001	8648099	1533513	7994	19985	192	1.60(1.32-1.78)	
A F1 PeCDFs											
339.8597	18.833	19.158	-19	0.873	260977	59139	719	1797	82		
341.8567	18.833	19.158	-19	0.873	170677	41909	956	2390	44	1.53(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	20.299	22.128	-110	0.941	8475394	1803778	12220	30550	148		
341.8567	20.299	22.128	-110	0.941	5363623	1124421	7994	19985	141	1.58(1.32-1.78)	
339.8597	21.090	22.128	-62	0.978	761892	93377	12220	30550	8		
	Empc Correction				660551	88751	12220	30550	7		
341.8567	21.090	22.128	-62	0.978	426162	57259	7994	19985	7	1.79(1.32-1.78)	
339.8597	21.458	22.128	-40	0.995	1442581	339230	12220	30550	28		
341.8567	21.458	22.128	-40	0.995	943696	212457	7994	19985	27	1.53(1.32-1.78)	
339.8597	22.072	22.128	-3	1.023	5675450	1069156	12220	30550	87		
341.8567	22.072	22.128	-3	1.023	3558134	682015	7994	19985	85	1.60(1.32-1.78)	
339.8597	23.163	22.128	62	1.074	3595464	585014	12220	30550	48		
341.8567	23.163	22.128	62	1.074	2297229	373413	7994	19985	47	1.57(1.32-1.78)	
339.8597	24.677	22.128	153	1.144	930978	144973	12220	30550	12		
341.8567	24.677	22.128	153	1.144	611991	96691	7994	19985	12	1.52(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDD											
367.8949	23.504	23.463	2	1.359	14929832	2457077	4435	11087	554		
369.8919	23.504	23.463	2	1.359	9452418	1581479	3137	7842	504	1.58(1.32-1.78)	
1,2,3,7,8-PeCDD											M
355.8546	23.518	23.476	2	1.001	1065665	178367	1592	3980	112		M
357.8516	23.531	23.476	3	1.001	702928	120816	1866	4665	65	1.52(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											RQ
355.8546	20.490	22.406	-115	0.872	69654	13242	1592	3980	8		
357.8516	20.490	22.406	-115	0.872	731214	157818	1866	4665	85	0.10(1.32-1.78)	
	Empc Correction				44938	8543	1866	4665	5		
355.8546	21.622	22.406	-47	0.920	129245	24655	1592	3980	15		
357.8516	21.636	22.406	-46	0.921	89780	15172	1866	4665	8	1.44(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.547	29.533	1	0.934	8158772	948572	4215	10537	225		
385.8610	29.560	29.533	2	0.934	16100931	1858923	6621	16552	281	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.587	29.533	3	1.001	24953661	3004143	3849	9622	780		
375.8178	29.587	29.533	3	1.001	19859460	2387859	3030	7575	788	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.826	29.813	1	0.942	8151229	1079053	4215	10537	256		
385.8610	29.840	29.813	2	0.943	15923539	2186595	6621	16552	330	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	29.866	29.826	2	1.001	6276714	843395	3849	9622	219		
375.8178	29.853	29.826	2	1.001	4917950	642960	3030	7575	212	1.28(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	30.918	30.904	1	0.977	7897959	1577376	4215	10537	374		
385.8610	30.918	30.904	1	0.977	15448109	3182952	6621	16552	481	0.51(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	30.931	30.917	1	1.000	734280	142081	3849	9622	37		
375.8178	30.944	30.917	2	1.001	581837	114507	3030	7575	38	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.849	31.836	1	1.006	7642823	1717539	4215	10537	407		
385.8610	31.849	31.836	1	1.006	15227157	3490156	6621	16552	527	0.50(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.863	31.849	1	1.000	432755	112799	3849	9622	29		
375.8178	31.863	31.849	1	1.000	311838	95743	3030	7575	32	1.39(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											RQ
373.8208	26.831	29.354	-151	0.908	184008	26609	3849	9622	7		
	Empc Correction				148586	27063	3849	9622	7		
375.8178	26.831	29.354	-151	0.908	119828	21825	3030	7575	7	1.54(1.05-1.43)	
373.8208	27.204	29.354	-129	0.921	1530171	213574	3849	9622	55		
375.8178	27.204	29.354	-129	0.921	1226010	172349	3030	7575	57	1.25(1.05-1.43)	
373.8208	28.455	29.354	-54	0.963	1115429	139006	3849	9622	36		
375.8178	28.455	29.354	-54	0.963	849529	118480	3030	7575	39	1.31(1.05-1.43)	
373.8208	31.956	29.354	156	1.082	1698234	432017	3849	9622	112		
375.8178	31.956	29.354	156	1.082	1357425	327915	3030	7575	108	1.25(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.650	31.636	1		37147466	8488541	4836	12090	1755		
403.8529	31.650	31.636	1		29587259	6848879	4104	10260	1669	1.26(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.144	31.143	0	0.984	8952402	2095421	4836	12090	433		
403.8529	31.144	31.143	0	0.984	7102695	1601552	4104	10260	390	1.26(1.05-1.43)	
1,2,3,4,7,8-HxCDD											RQ
389.8157	31.157	31.144	1	1.000	52399	11551	1016	2540	11		
391.8127	31.157	31.144	1	1.000	53479	12650	726	1815	17	0.98(1.05-1.43)	
	Empc Correction				42257	9315	726	1815	13		
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.277	31.263	1	0.988	9368939	1975341	4836	12090	408		
403.8529	31.277	31.263	1	0.988	7800922	1632318	4104	10260	398	1.20(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.290	31.277	1	1.000	146053	31200	1016	2540	31		
391.8127	31.290	31.277	1	1.000	128545	24427	726	1815	34	1.14(1.05-1.43)	
1,2,3,7,8,9-HxCDD											M
389.8157	31.663	31.649	1	1.017	96320	22157	1016	2540	22		M
391.8127	31.663	31.649	1	1.017	80016	19421	726	1815	27	1.20(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											M
389.8157	28.336	29.926	-95	0.906	615802	74653	1016	2540	73		
391.8127	28.309	29.926	-97	0.905	488192	59004	726	1815	81	1.26(1.05-1.43)	
389.8157	29.680	29.926	-15	0.949	55236	6097	1016	2540	6		
391.8127	29.706	29.926	-13	0.950	44690	6677	726	1815	9	1.24(1.05-1.43)	
389.8157	30.226	29.926	18	0.966	375655	57057	1016	2540	56		
391.8127	30.226	29.926	18	0.966	293246	47930	726	1815	66	1.28(1.05-1.43)	M
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.394	33.393	0	1.055	3484733	1043080	5085	12712	205		
419.8220	33.394	33.393	0	1.055	8316554	2490369	11078	27695	225	0.42(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											M
407.7818	33.406	33.394	1	1.000	4115507	1244562	5800	14500	215		M
409.7789	33.406	33.394	1	1.000	3940034	1181876	4812	12030	246	1.04(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.451	34.451	0	1.089	4160041	1103084	5085	12712	217		
419.8220	34.451	34.451	0	1.089	9597324	2543628	11078	27695	230	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.463	34.451	1	1.000	1558268	408830	5800	14500	70		
409.7789	34.451	34.451	0	1.000	1434477	380723	4812	12030	79	1.09(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.697	33.922	-13	1.009	2081282	586105	5800	14500	101		
409.7789	33.697	33.922	-13	1.009	1963717	550819	4812	12030	114	1.06(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.172	34.171	0	1.080	6752973	1868382	3969	9922	471		
437.8140	34.172	34.171	0	1.080	6408445	1710328	3922	9805	436	1.05(0.88-1.20)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.184	34.172	1	1.000	2599111	707858	4670	11675	152		
425.7737	34.184	34.172	1	1.000	2507387	670412	4361	10902	154	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.649	34.038	-23	0.985	3772904	1124913	4670	11675	241		
425.7737	33.637	34.038	-24	0.984	3582232	1058805	4361	10902	243	1.05(0.88-1.20)	
13C-OCDD											
469.7779	36.451	36.462	-1	1.152	8186764	1909659	2632	6580	726		
471.7750	36.451	36.462	-1	1.152	9135580	2128987	1547	3867	1376	0.90(0.76-1.02)	
OCDF											
441.7428	36.546	36.546	0	1.003	1505596	339660	693	1732	490		
443.7399	36.534	36.546	-1	1.002	1708986	403505	914	2285	441	0.88(0.76-1.02)	
OCDD											
457.7377	36.463	36.462	0	1.000	33033754	7642726	2335	5837	3273		
459.7348	36.463	36.462	0	1.000	37862491	8536545	2154	5385	3963	0.87(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

E - Exceeded Maximum Amount

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_8.d
Lims ID: 600-194690-C-8-A
Client ID: INF 3
Inject. Date: 06-Nov-2019 00:54:22 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 8

Non-2,3,7,8-sub-TCDF, RT: 16.459

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.051	D 13C-2,3,7,8-TCDF	100.000	50196509	13538287

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.051		100.000	50196509	13538287

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
15.461	19180193	5489860	24639537	6964865	83.1	0.78	
15.718	24754617	4731562	31679364	6034944	107.0	0.78	
15.945	20518100	5469706	26345473	6982794	88.9	0.78	
16.172	31312960	7808015	40400590	9914769	136.0	0.78	
16.429	304754736	80202317	391204622	103243515	1319.5	0.78	
16.640	10405664	2641575	15218277	3620884	48.6	0.68	
17.215	41844190	10817934	54981613	13747026	183.6	0.76	
18.530	48997939	11592758	63524773	14988850	213.3	0.77	a
Signal Totals:							
	501768399	128753727	647994249	165497647			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1149762648	294251374				0.77	a

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 2179.9 = (1149762648 * 100.000) / (50196509 * 1.051)

QC Flag Legend

Review Flags
a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_8.d
Lims ID: 600-194690-C-8-A
Client ID: INF 3
Inject. Date: 06-Nov-2019 00:54:22 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 8

Non-2,3,7,8-sub-TCDD, RT: 16.890

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.106	D 13C-2,3,7,8-TCDD	100.000	31513457	8632988

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.106		100.000	31513457	8632988

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
17.381	1408497	409543	1854736	544984	9.36	0.76	
17.820	12400936	2812338	15349590	3422484	79.6	0.81	
Signal Totals:							
	13809433	3221881	17204326	3967468			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	31013759	7189349				0.80	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 88.949 = (31013759 * 100.000) / (31513457 * 1.106)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_8.d
Lims ID: 600-194690-C-8-A
Client ID: INF 3
Inject. Date: 06-Nov-2019 00:54:22 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 8

F1 PeCDFs, RT: 19.158

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.082	D 13C-1,2,3,7,8-PeCDF	100.000	34658982	6264561
2,3,4,7,8-PeCDF	1.103	D 13C-2,3,4,7,8-PeCDF	100.000	34956638	6149829

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.093		100.000	34807810	6207195

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
18.833	260977	59139	170677	41909	1.13	1.53	
Signal Totals:							
	260977	59139	170677	41909			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	431654	101048				1.53	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.135 = (431654 * 100.000) / (34807810 * 1.093)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_8.d
Lims ID: 600-194690-C-8-A
Client ID: INF 3
Inject. Date: 06-Nov-2019 00:54:22 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 8

Non-2,3,7,8-sub-PeCDF, RT: 22.128

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.082	D 13C-1,2,3,7,8-PeCDF	100.000	34658982	6264561
2,3,4,7,8-PeCDF	1.103	D 13C-2,3,4,7,8-PeCDF	100.000	34956638	6149829

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.093		100.000	34807810	6207195

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
20.299	8475394	1803778	5363623	1124421	36.4	1.58	
21.090	761892	93377	426162	57259	3.12	1.79	RQ
21.090	660551	88751	426162	57259	2.86		Empc Correction
21.458	1442581	339230	943696	212457	6.27	1.53	
22.072	5675450	1069156	3558134	682015	24.3	1.60	
23.163	3595464	585014	2297229	373413	15.5	1.57	
24.677	930978	144973	611991	96691	4.06	1.52	
Signal Totals:							
	20780418	4030902	13200835	2546256			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	34082594	6581784				1.58	RQ
	33981253	6577158					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 89.608 = (34082594 * 100.000) / (34807810 * 1.093)
Empc Amount: 89.341 = (33981253 * 100.000) / (34807810 * 1.093)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Report Date: 10-Nov-2019 09:24:11 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_8.d
Lims ID: 600-194690-C-8-A
Client ID: INF 3
Inject. Date: 06-Nov-2019 00:54:22 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 8

Non-2,3,7,8-sub-PeCDD, RT: 22.406

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDD	0.905	D 13C-1,2,3,7,8-PeCDD	100.000	24382250	4038556

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.905		100.000	24382250	4038556

Sum the Uncalibrated Results

RT	355.8546 Area	355.8546 Height	357.8516 Area	357.8516 Height	Amount	Ratio	Flags
20.490	69654	13242	731214	157818	3.63	0.10	RQ
20.490	69654	13242	44938	8543	0.5193		Empc Correction
21.622	129245	24655	89780	15172	0.99	1.44	
Signal Totals:							
	198899	37897	134718	23715			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1019893	210887				0.24	RQ
	333617	61612					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 4.622 = (1019893 * 100.000) / (24382250 * 0.905)
Empc Amount: 1.512 = (333617 * 100.000) / (24382250 * 0.905)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_8.d
Lims ID: 600-194690-C-8-A
Client ID: INF 3
Inject. Date: 06-Nov-2019 00:54:22 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 8

Non-2,3,7,8-sub-HxCDF, RT: 29.354

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.197	D 13C-1,2,3,4,7,8-HxCDF	100.000	24259703	2807495
1,2,3,6,7,8-HxCDF	1.181	D 13C-1,2,3,6,7,8-HxCDF	100.000	24074768	3265648
2,3,4,6,7,8-HxCDF	1.212	D 13C-2,3,4,6,7,8-HxCDF	100.000	23346068	4760328
1,2,3,7,8,9-HxCDF	1.245	D 13C-1,2,3,7,8,9-HxCDF	100.000	22869980	5207695

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.209		100.000	23637629	4010291

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
26.831	184008	26609	119828	21825	1.06	1.54	RQ
26.831	148586	27063	119828	21825	0.9395		Empc Correction
27.204	1530171	213574	1226010	172349	9.65	1.25	
28.455	1115429	139006	849529	118480	6.88	1.31	
31.956	1698234	432017	1357425	327915	10.7	1.25	
Signal Totals:							
	4492420	811660	3552792	640569			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	8080634	1451775				1.27	RQ
	8045212	1452229					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 28.283 = (8080634 * 100.000) / (23637629 * 1.209)
Empc Amount: 28.159 = (8045212 * 100.000) / (23637629 * 1.209)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_8.d
Lims ID: 600-194690-C-8-A
Client ID: INF 3
Inject. Date: 06-Nov-2019 00:54:22 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 8

Non-2,3,7,8-sub-HxCDD, RT: 29.926

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.109	D 13C-1,2,3,4,7,8-HxCDD	100.000	16055097	3696973
1,2,3,6,7,8-HxCDD	1.081	D 13C-1,2,3,6,7,8-HxCDD	100.000	17169861	3607659
1,2,3,7,8,9-HxCDD	1.212				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.134		100.000	16612479	3652316

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
28.336	615802	74653	488192	59004	5.86	1.26	
29.680	55236	6097	44690	6677	0.5304	1.24	
30.226	375655	57057	293246	47930	3.55	1.28	M
Signal Totals:							
	1046693	137807	826128	113611			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1872821	251418				1.27	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 9.940 = (1872821 * 100.000) / (16612479 * 1.134)

QC Flag Legend

Review Flags
M - Manually Integrated

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_8.d
Lims ID: 600-194690-C-8-A
Client ID: INF 3
Inject. Date: 06-Nov-2019 00:54:22 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 8

Non-2,3,7,8-sub-HpCDF, RT: 33.922

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.556	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	11801287	3533449
1,2,3,4,7,8,9-HpCDF	1.386	D 13C-1,2,3,4,7,8,9-HpCDF	100.000	13757365	3646712

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.471		100.000	12779326	3590080

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
33.697	2081282	586105	1963717	550819	21.5	1.06	
Signal Totals:							
	2081282	586105	1963717	550819			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	4044999	1136924				1.06	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 21.519 = (4044999 * 100.000) / (12779326 * 1.471)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_8.d
Lims ID: 600-194690-C-8-A
Client ID: INF 3
Inject. Date: 06-Nov-2019 00:54:22 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 8

Non-2,3,7,8-sub-HpCDD, RT: 34.038

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.932	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	13161418	3578710

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.932		100.000	13161418	3578710

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
33.649	3772904	1124913	3582232	1058805	60.0	1.05	
Signal Totals:							
	3772904	1124913	3582232	1058805			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	7355136	2183718				1.05	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 59.987 = (7355136 * 100.000) / (13161418 * 0.932)

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_8.d				
Injection Date:	06-Nov-2019 00:54:22	Instrument ID:	10D5		
Lims ID:	600-194690-C-8-A	Lab Sample ID:	320-194690-8		
Client ID:	INF 3				
Operator ID:	ALM	ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

1,2,3,7,8-PeCDD, CAS: 40321-76-4

Signal: 1

Processing Integration Results

RT: 23.52
Area: 1077295
Amount: 8.067397
Amount Units: pg/ul

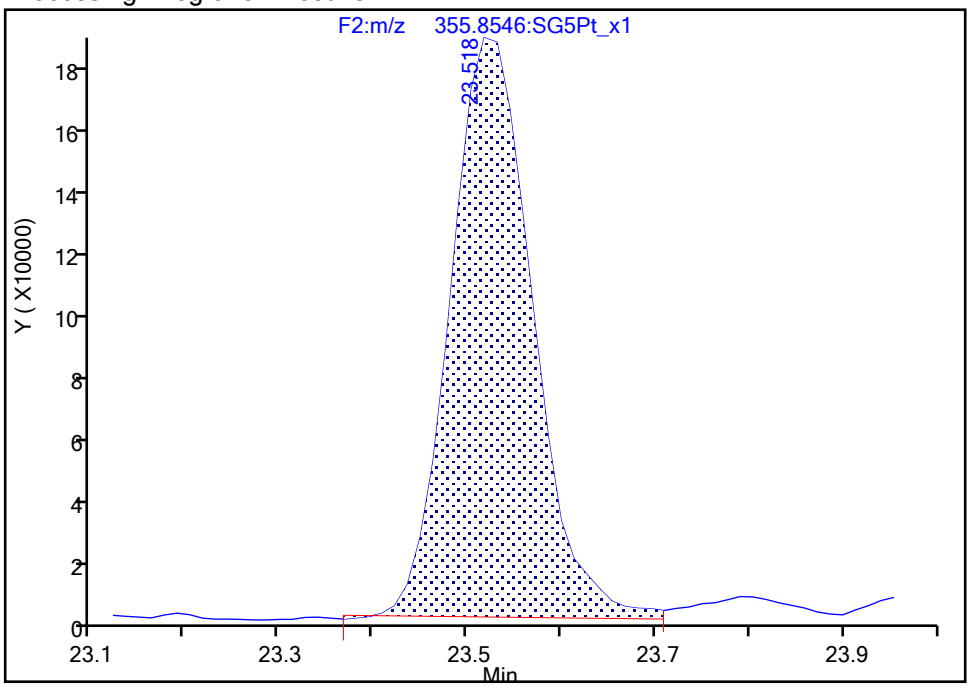

Manual Integration Results

RT: 23.52
Area: 1065665
Amount: 8.014694
Amount Units: pg/ul

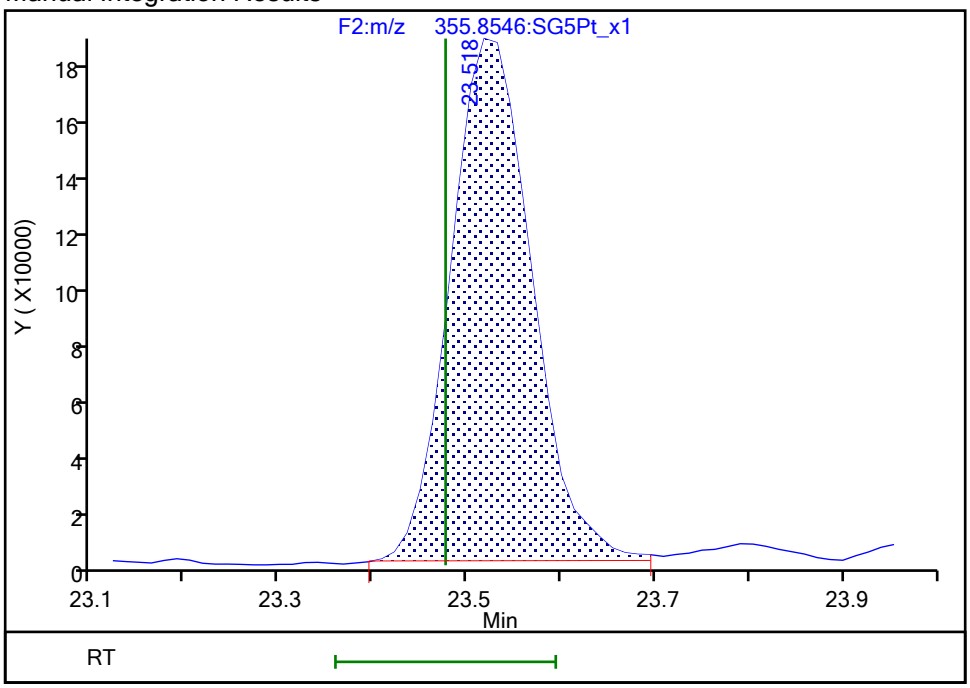

Reviewer: dadunj, 08-Nov-2019 08:56:43

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_8.d				
Injection Date:	06-Nov-2019 00:54:22	Instrument ID:	10D5		
Lims ID:	600-194690-C-8-A	Lab Sample ID:	320-194690-8		
Client ID:	INF 3				
Operator ID:	ALM	ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 1

Processing Integration Results

RT: 31.66
Area: 108651
Amount: 0.936806
Amount Units: pg/ul

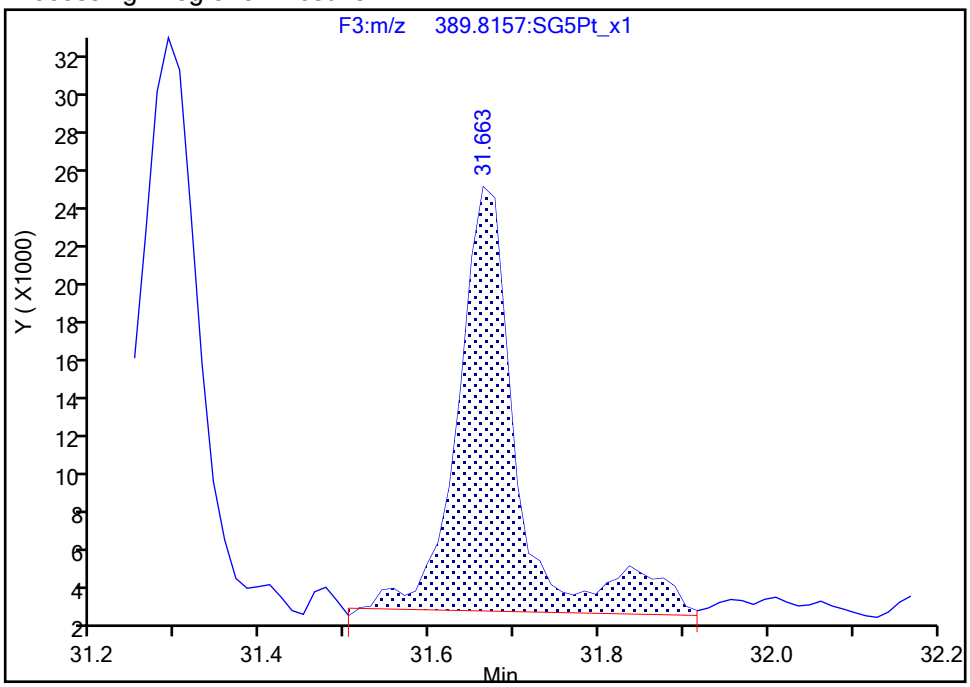

Manual Integration Results

RT: 31.66
Area: 96320
Amount: 0.875578
Amount Units: pg/ul

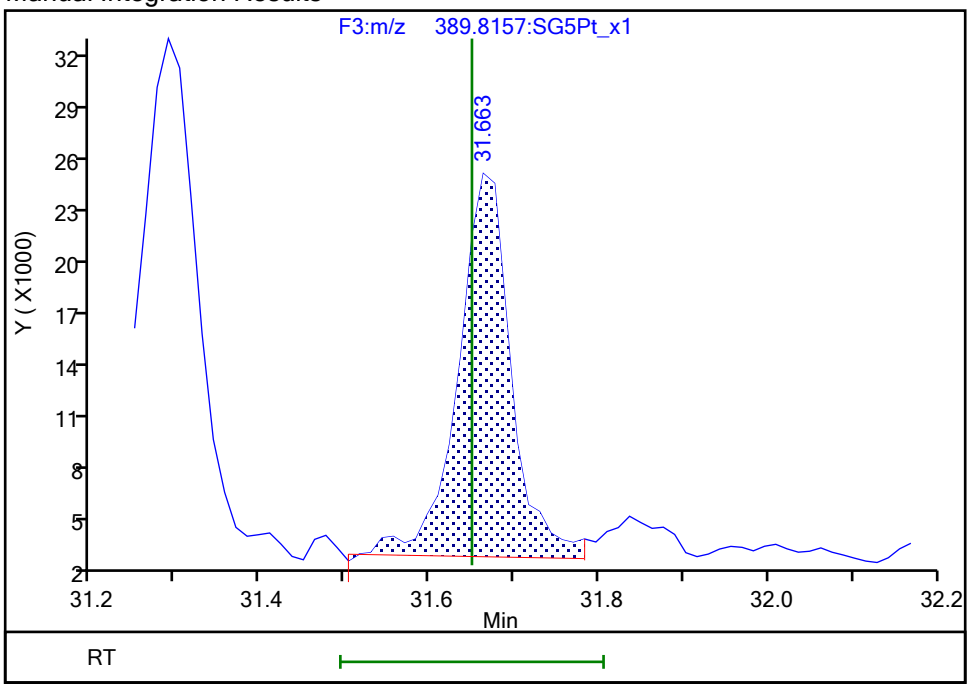

Reviewer: dadunj, 08-Nov-2019 08:57:18

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_8.d				
Injection Date:	06-Nov-2019 00:54:22	Instrument ID:	10D5		
Lims ID:	600-194690-C-8-A	Lab Sample ID:	320-194690-8		
Client ID:	INF 3				
Operator ID:	ALM	ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

Non-2,3,7,8-sub-HxCDD, Signal: 2, m/z: 391.8127, RT: (28.23- 31.63)

Signal: 2

Processing Integration Results

RT = 30.226 Area = 321281

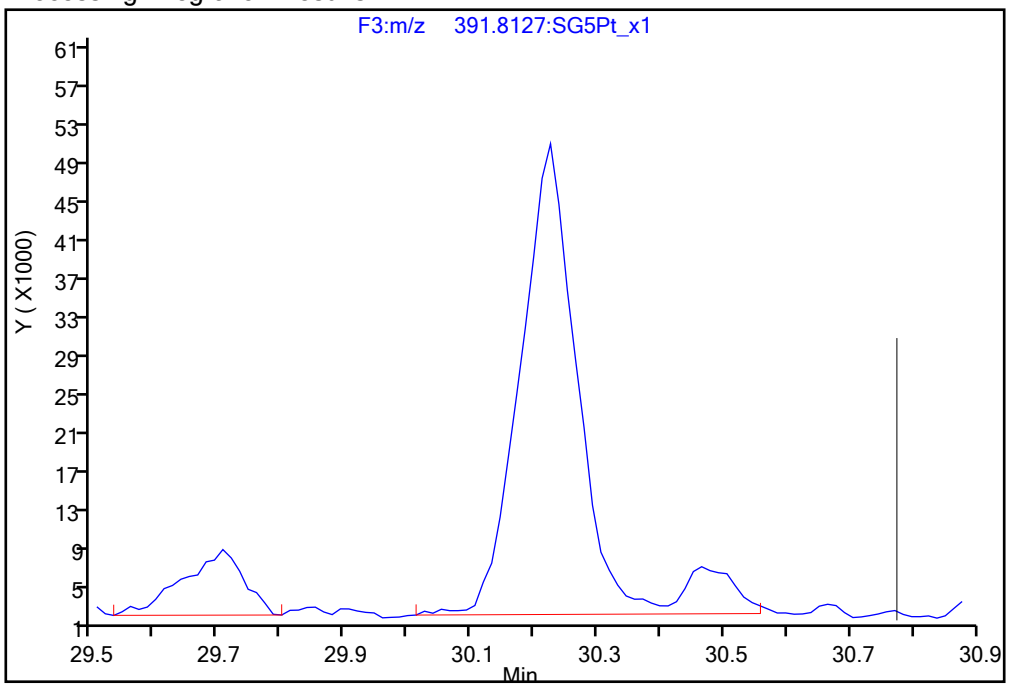

Manual Integration Results

RT = 30.226 Area = 293246 M

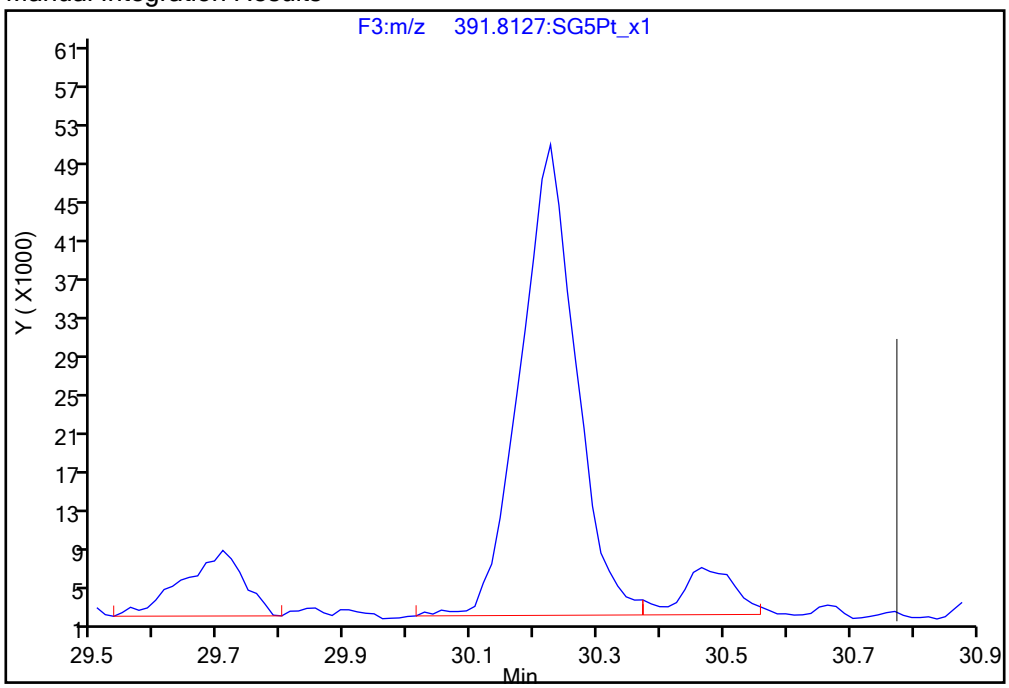

Reviewer: dadunj, 08-Nov-2019 08:57:22

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_8.d				
Injection Date:	06-Nov-2019 00:54:22	Instrument ID:	10D5		
Lims ID:	600-194690-C-8-A	Lab Sample ID:	320-194690-8		
Client ID:	INF 3				
Operator ID:	ALM	ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 1

Processing Integration Results

RT: 33.41
Area: 4177320
Amount: 44.218210
Amount Units: pg/ul

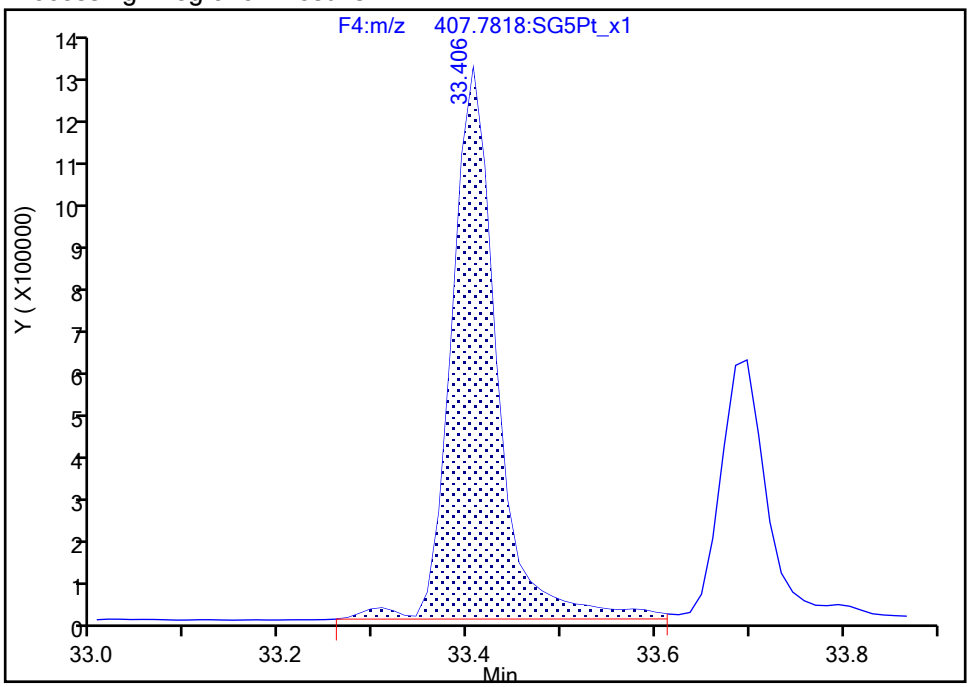

Manual Integration Results

RT: 33.41
Area: 4115507
Amount: 43.881492
Amount Units: pg/ul

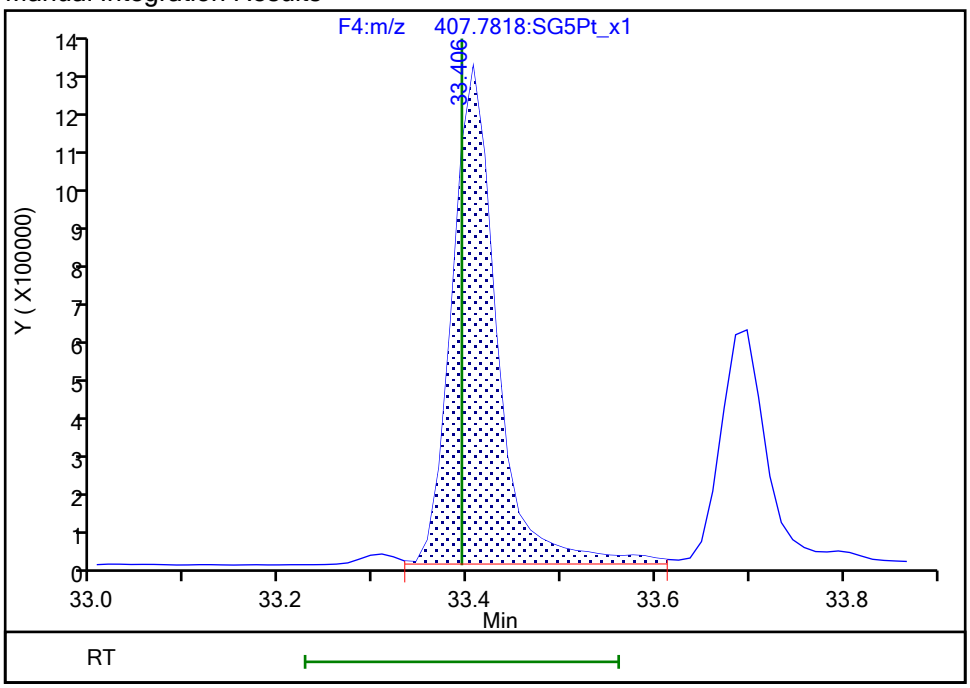

Reviewer: dadunj, 08-Nov-2019 08:57:27

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 10-Nov-2019 09:24:11 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Client ID:	INF 3		
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TCDF

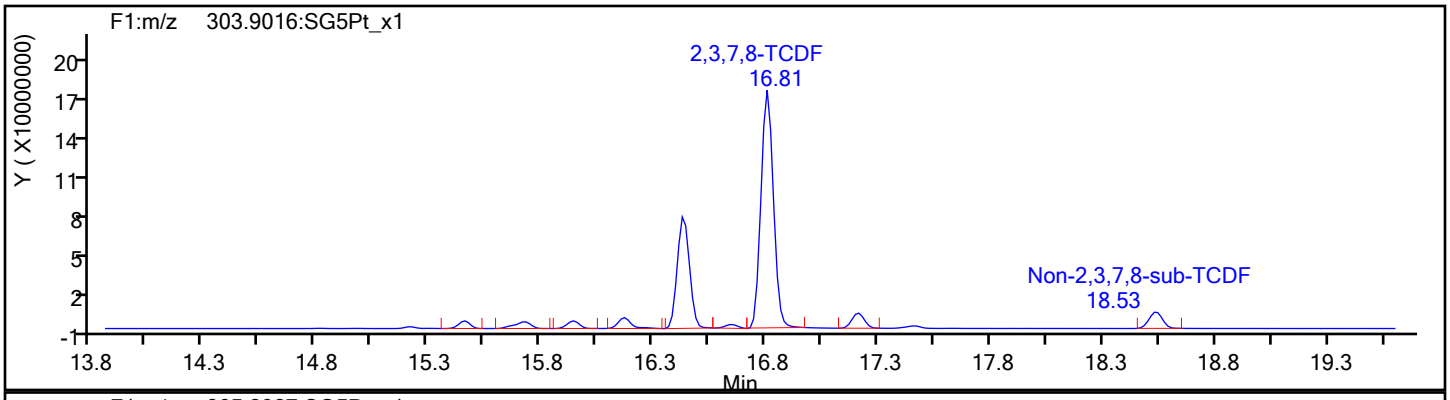

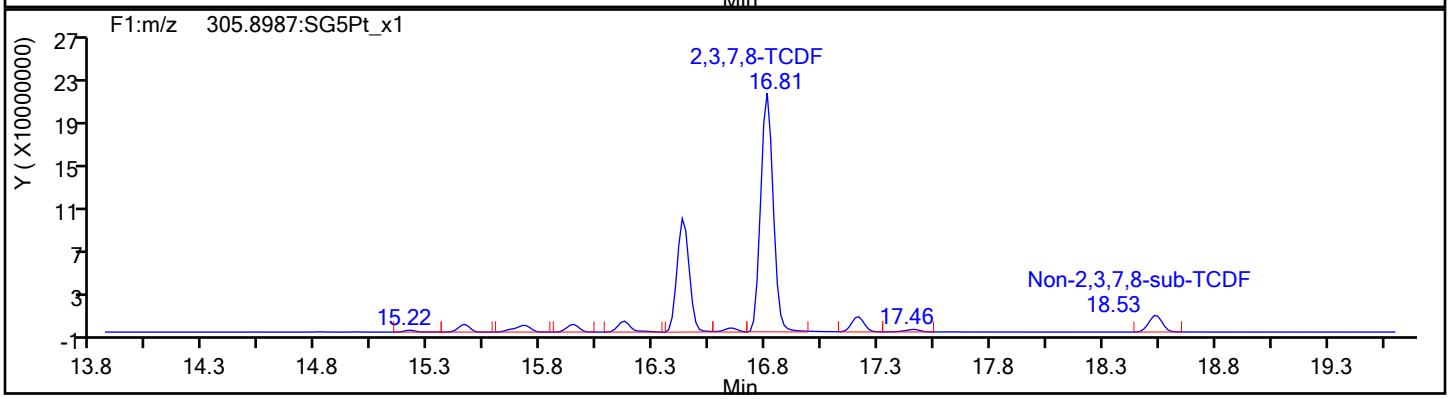

TCDF Standards

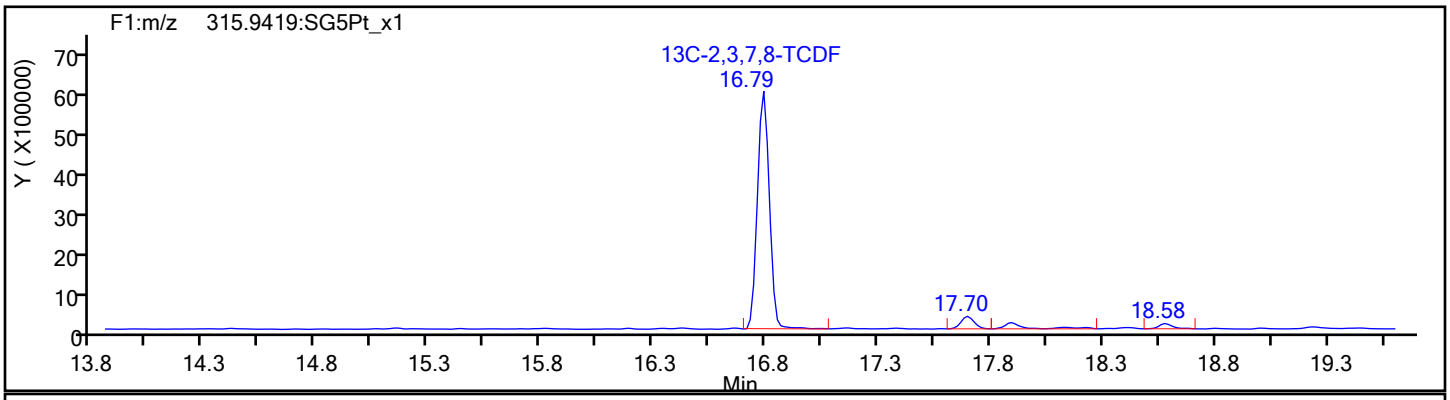

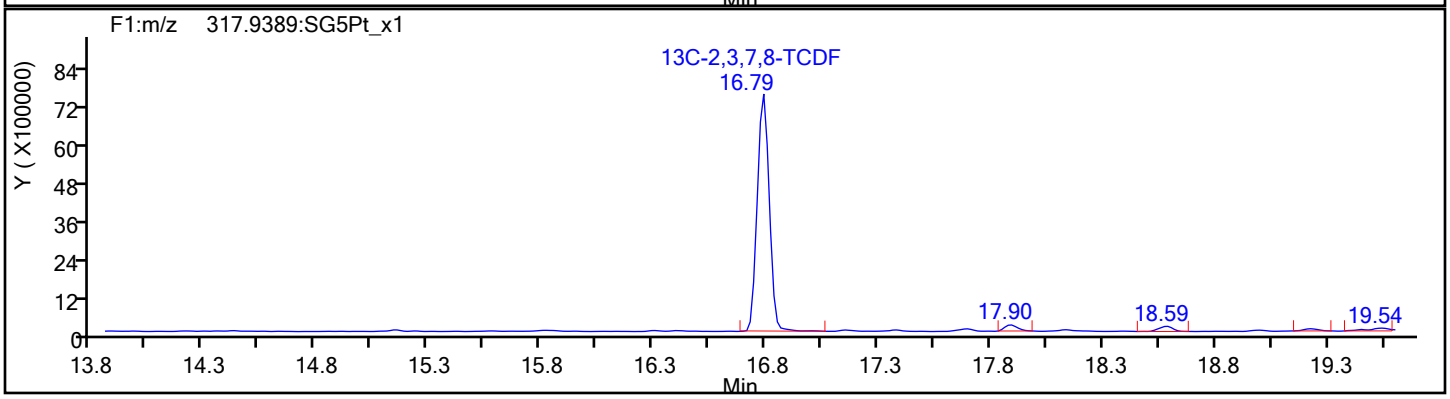

Report Date: 10-Nov-2019 09:24:11 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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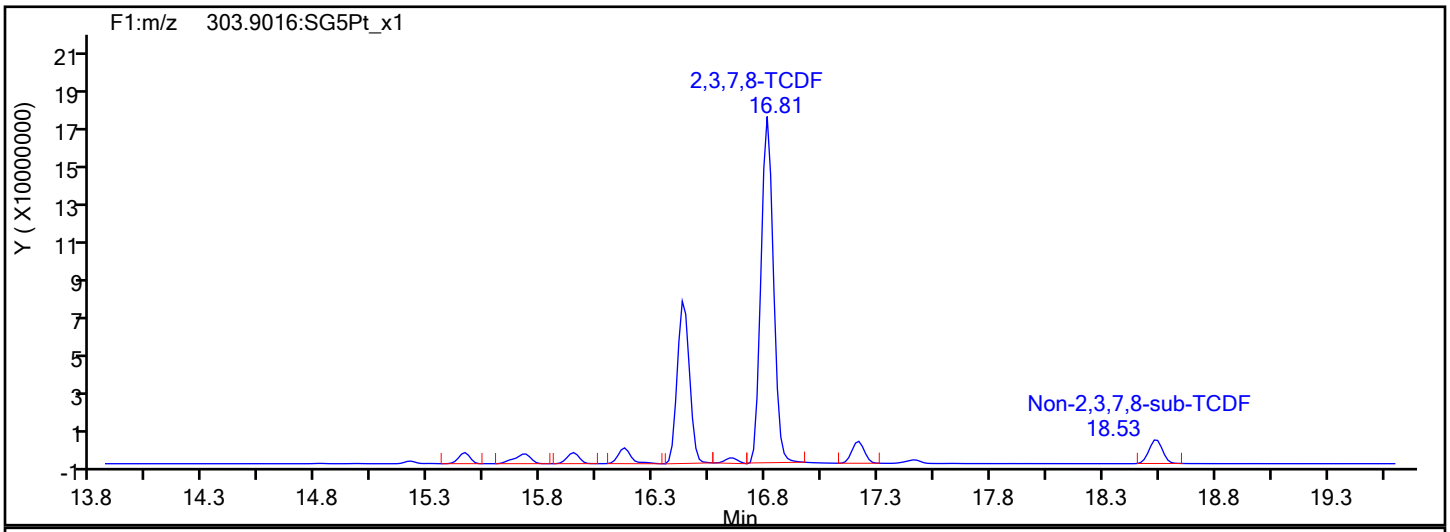

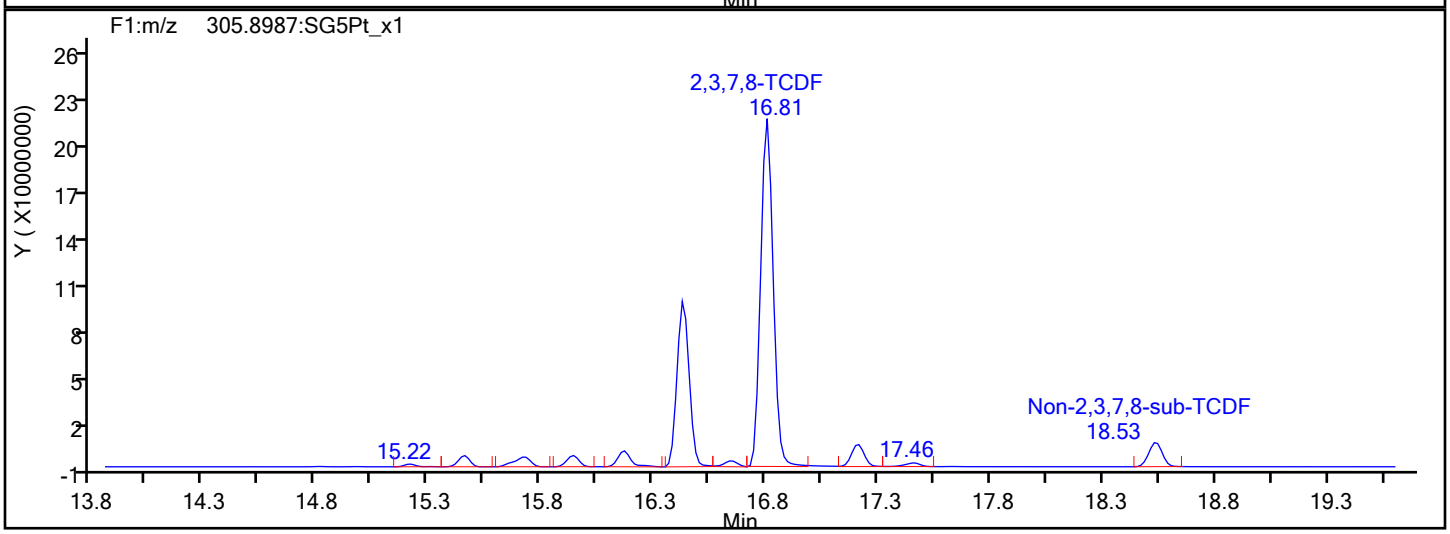

TCDF Interference Mass

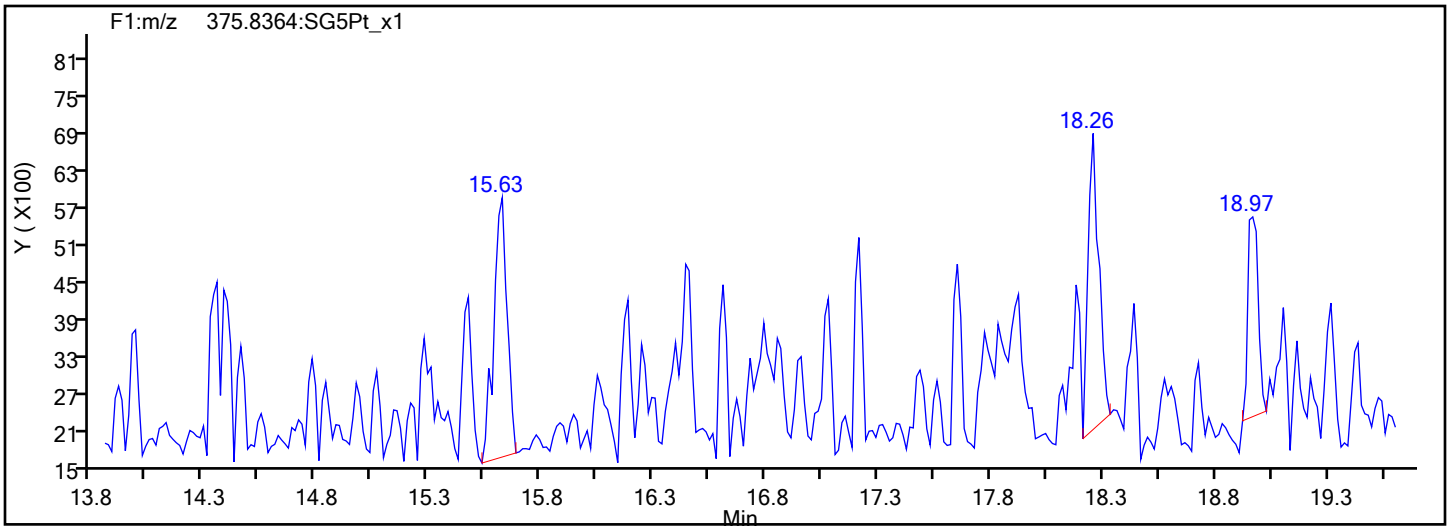

Report Date: 10-Nov-2019 09:24:11 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

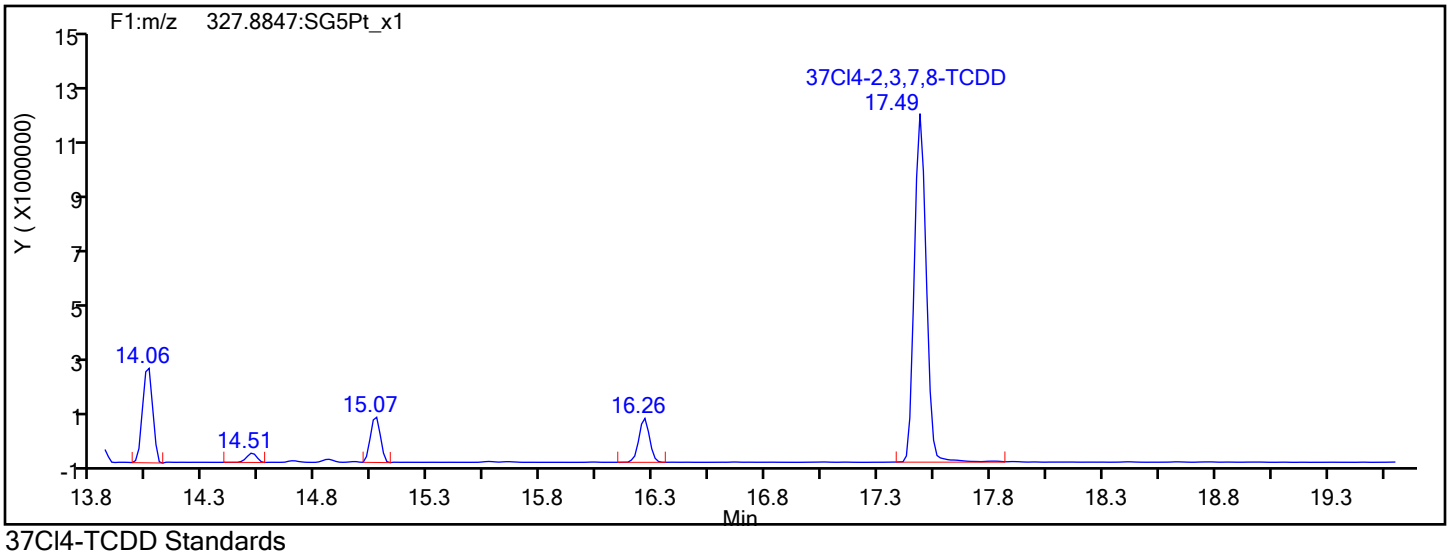

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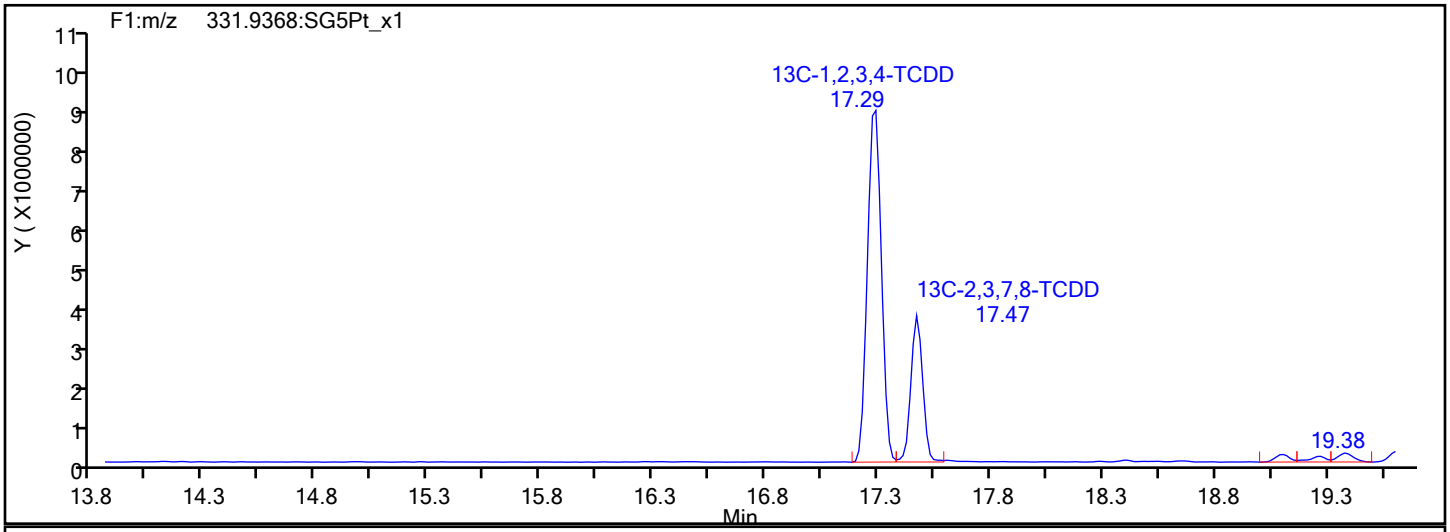

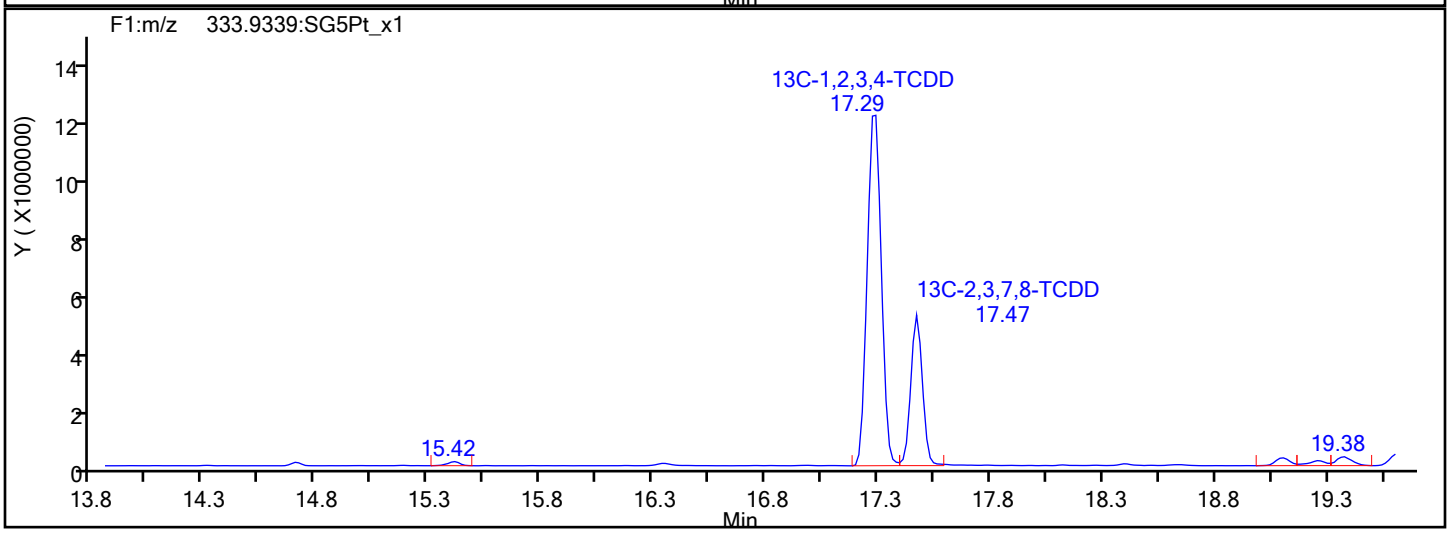

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

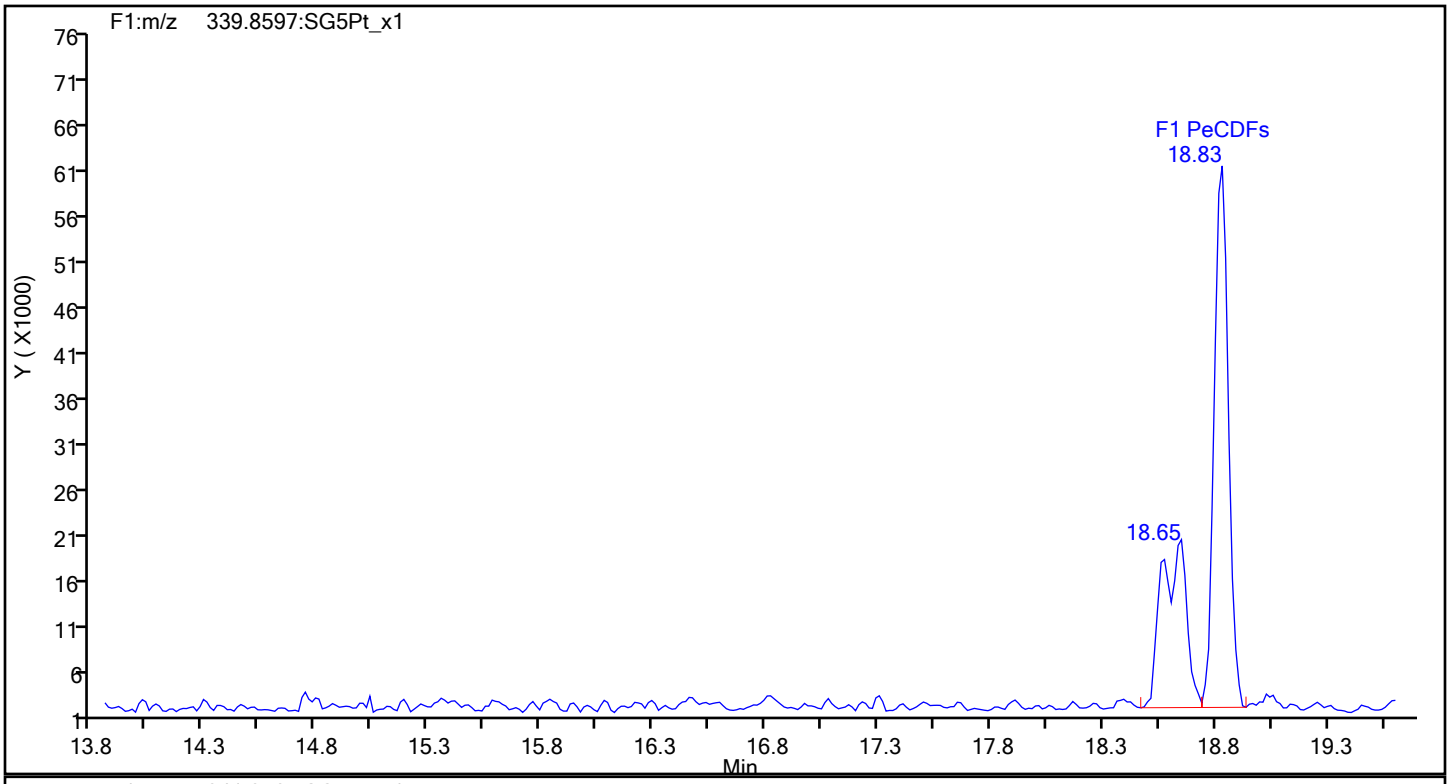

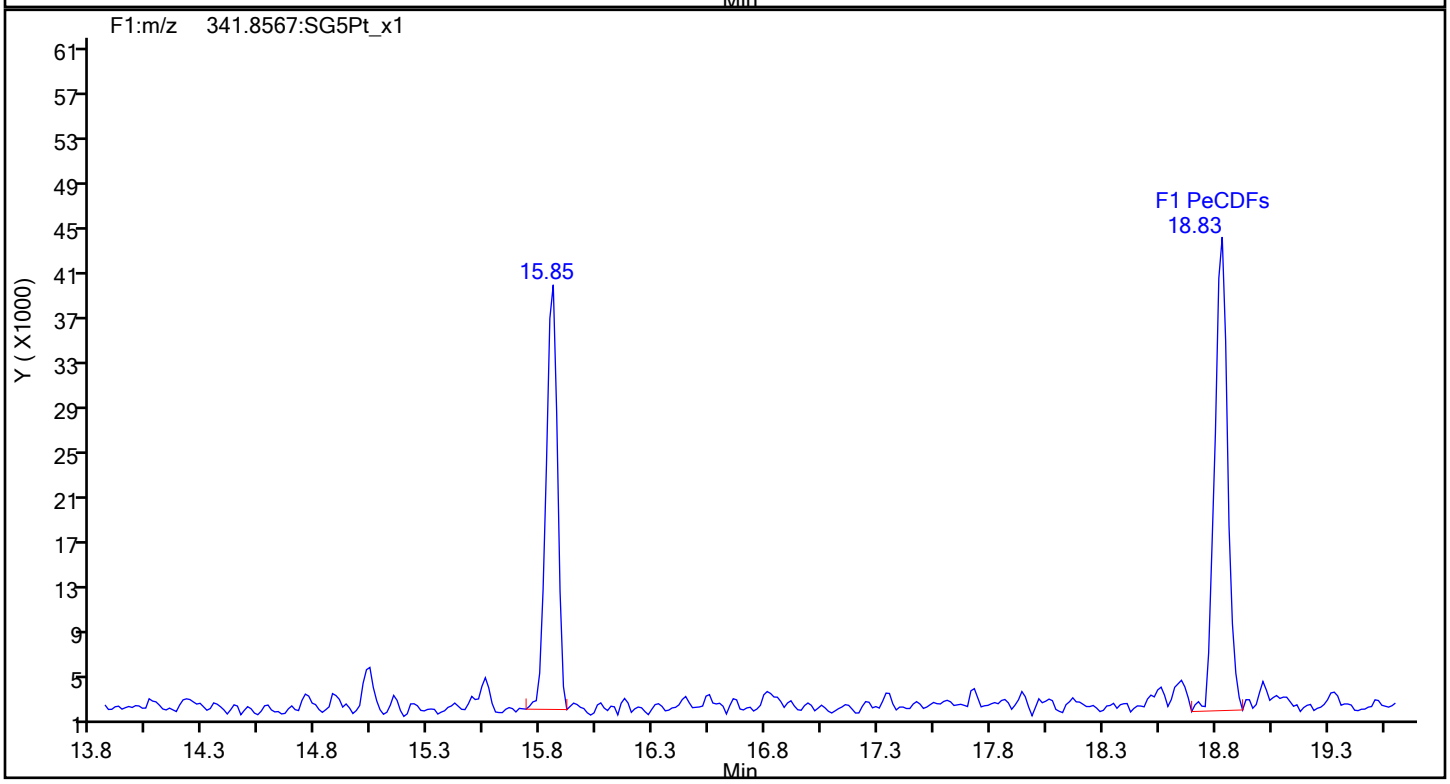

Report Date: 10-Nov-2019 09:24:11 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

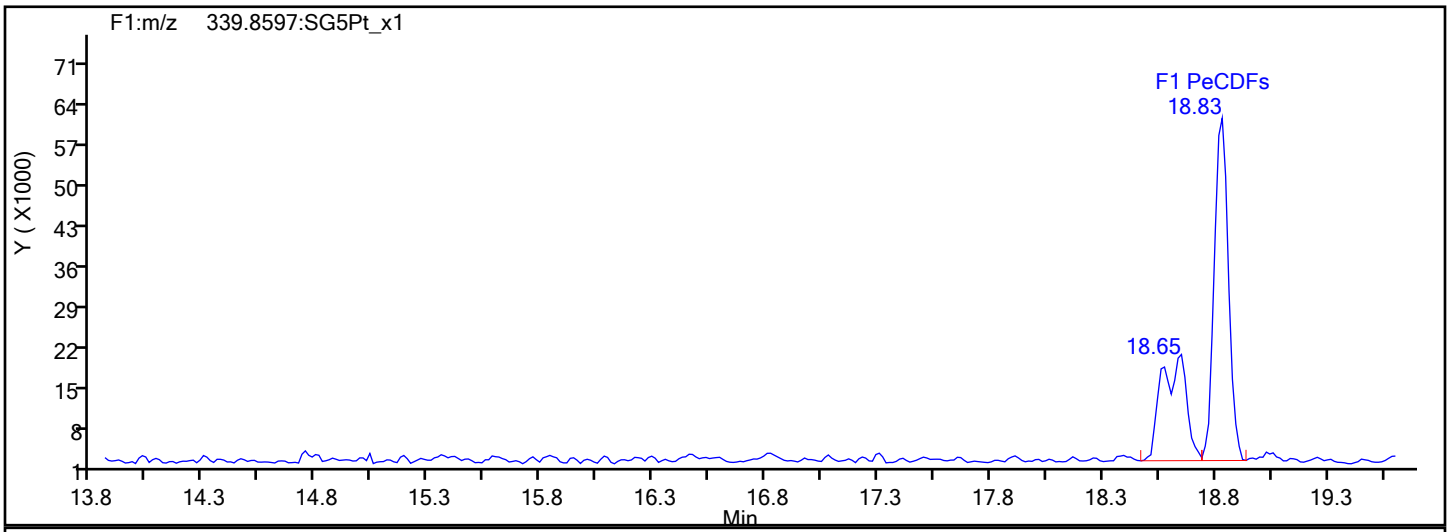

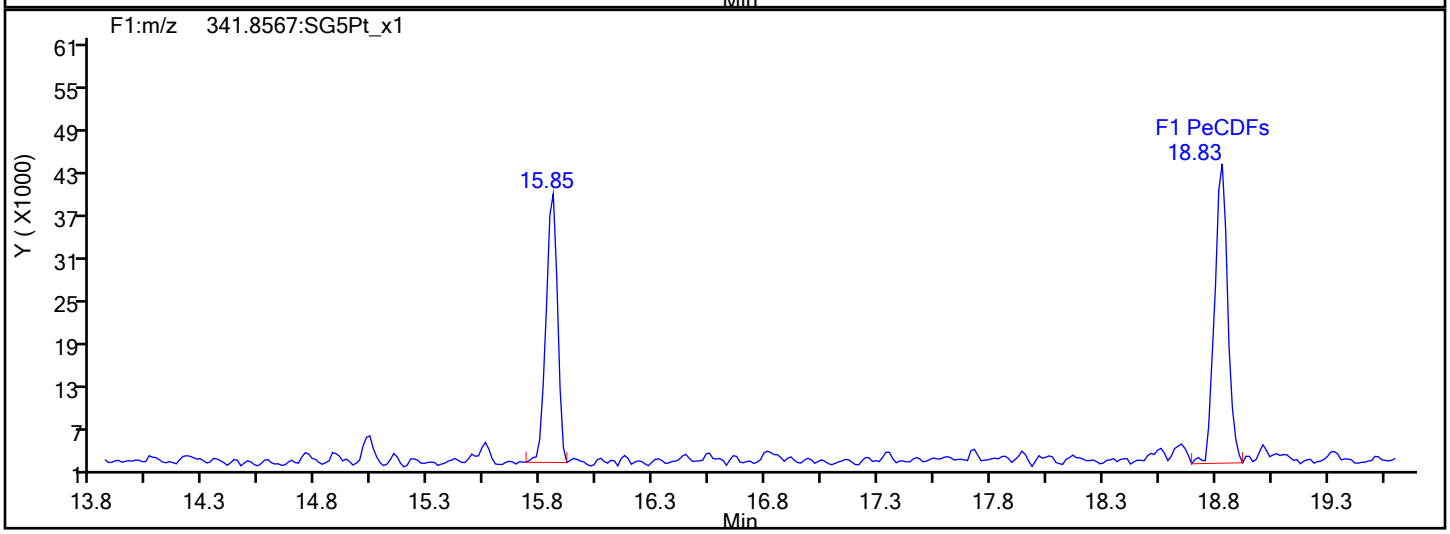

F1 PeCDFs Interference Mass

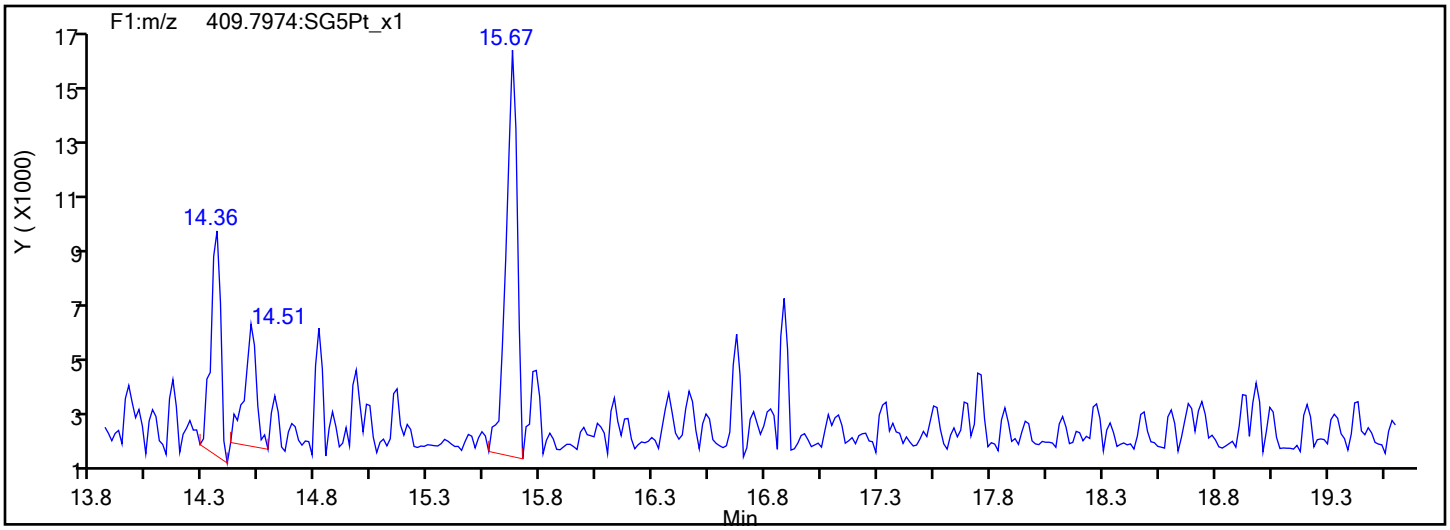

Report Date: 10-Nov-2019 09:24:11 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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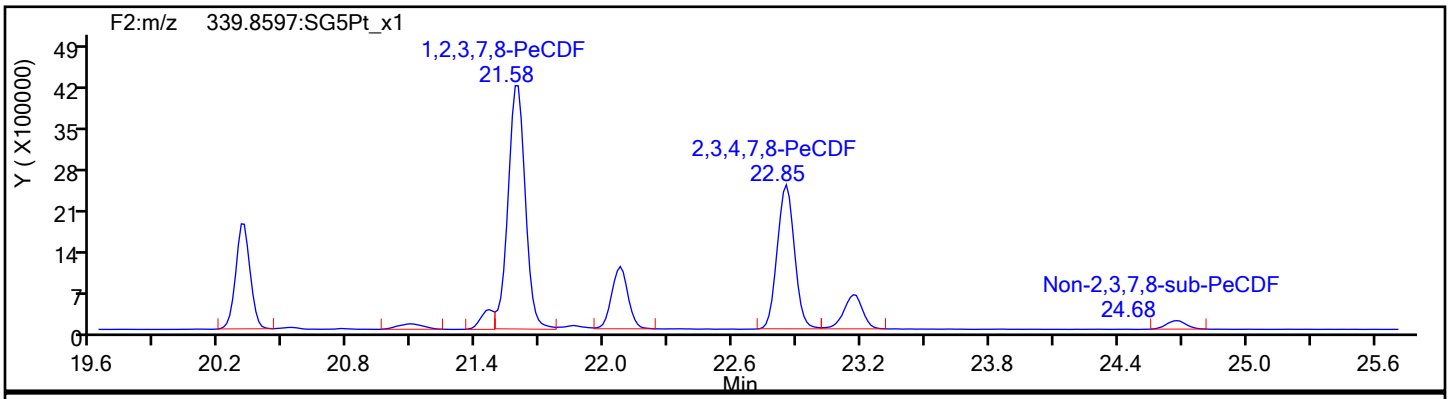

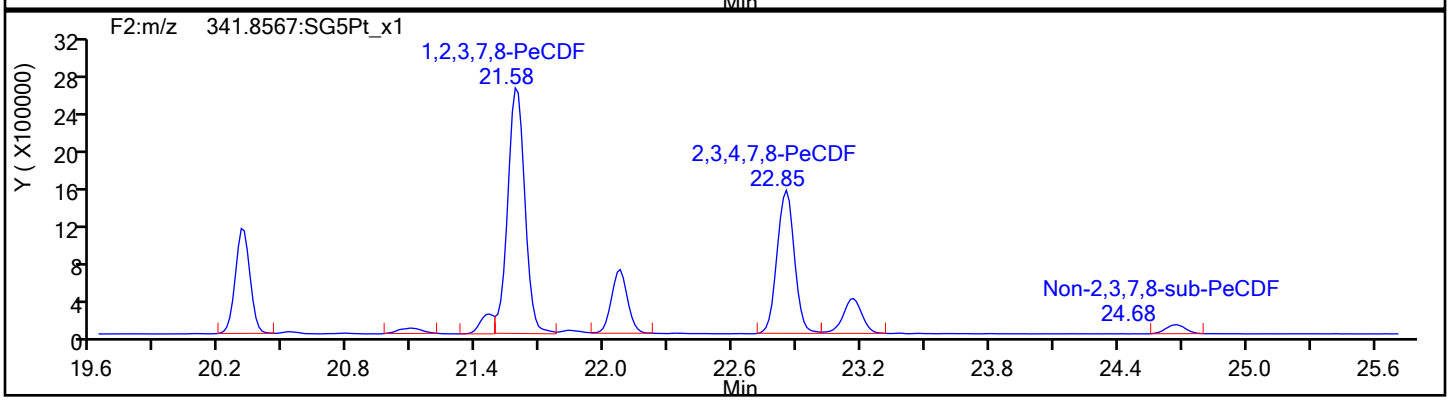

PeCDF Standards

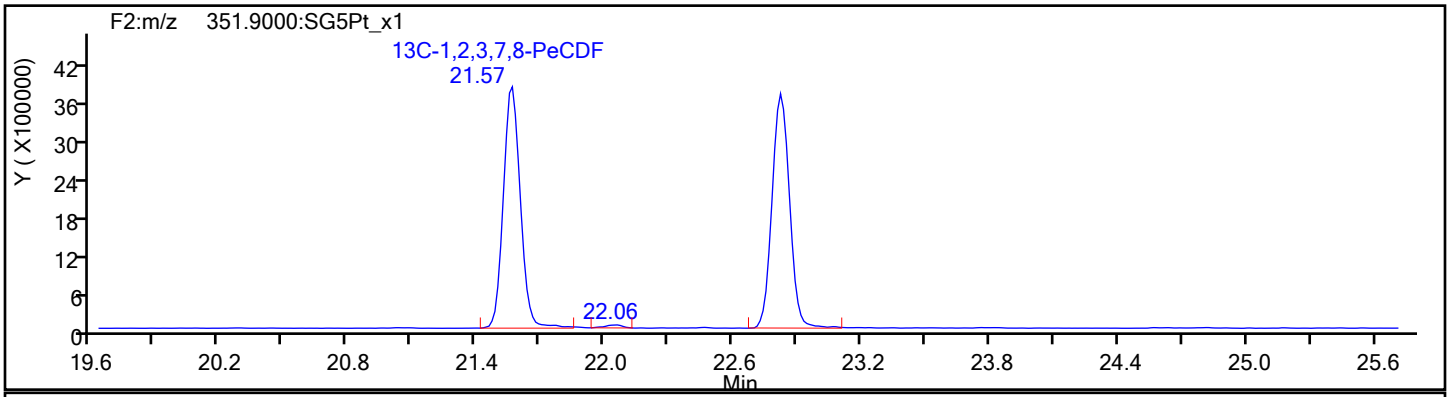

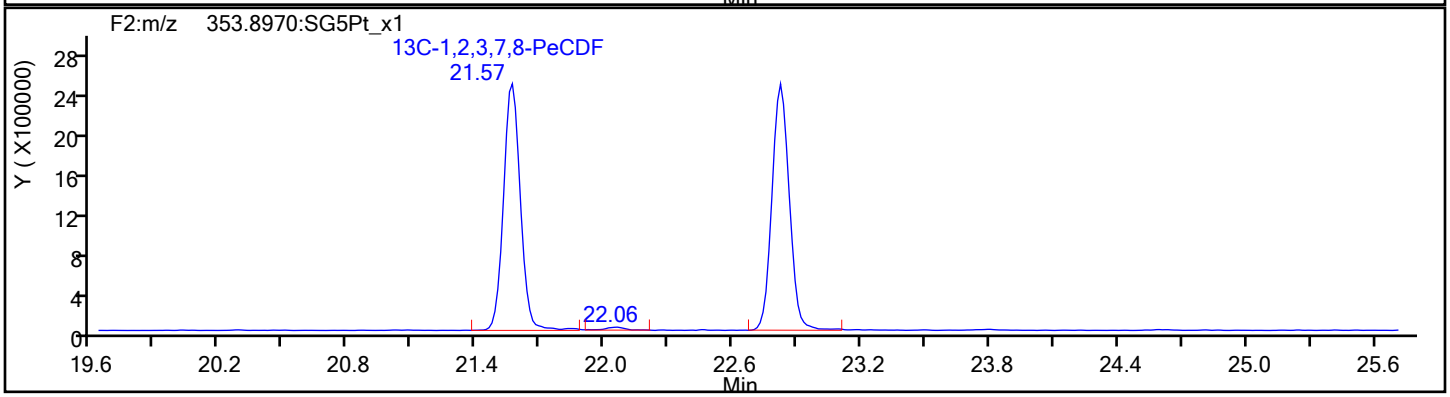

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Eurofins TestAmerica, Sacramento

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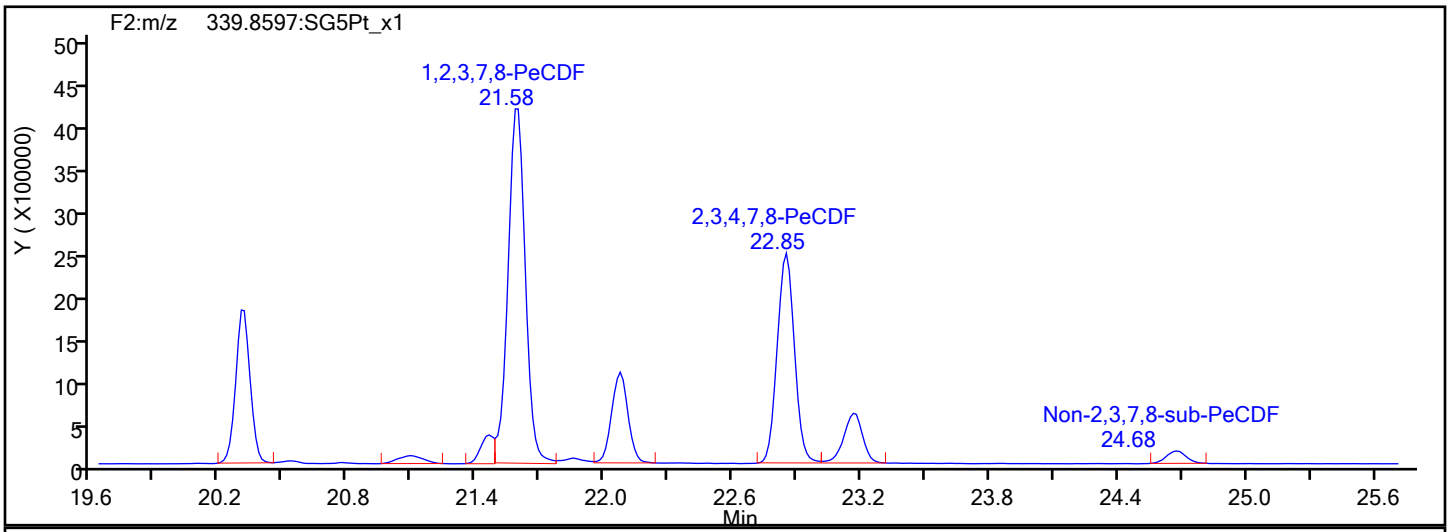

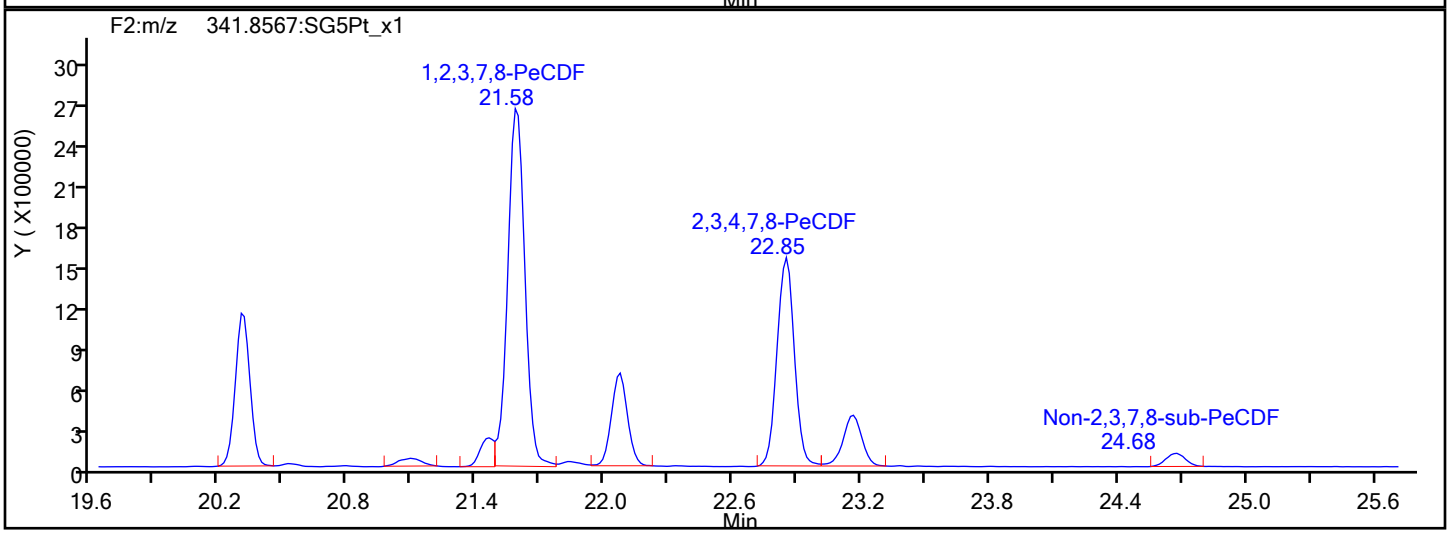

PeCDF Interference Mass

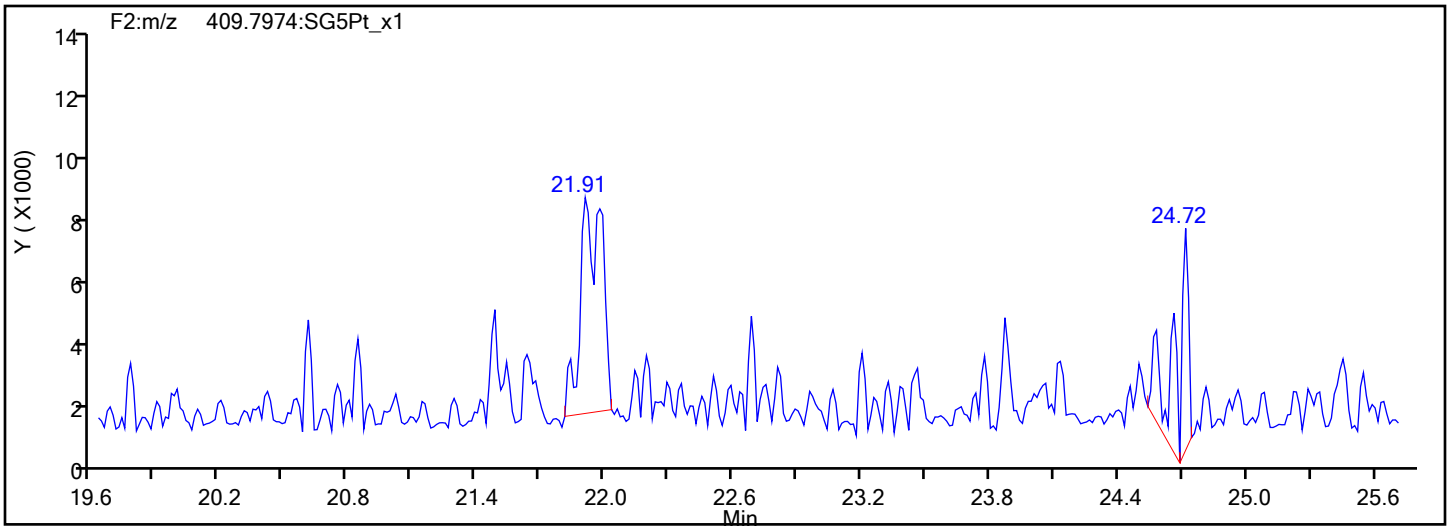

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Eurofins TestAmerica, Sacramento

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PeCDD

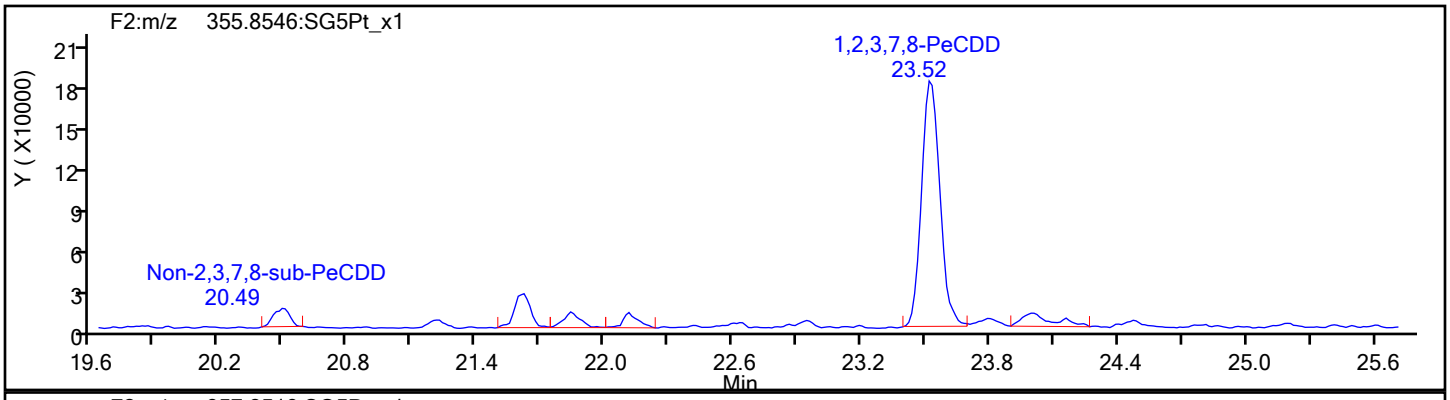

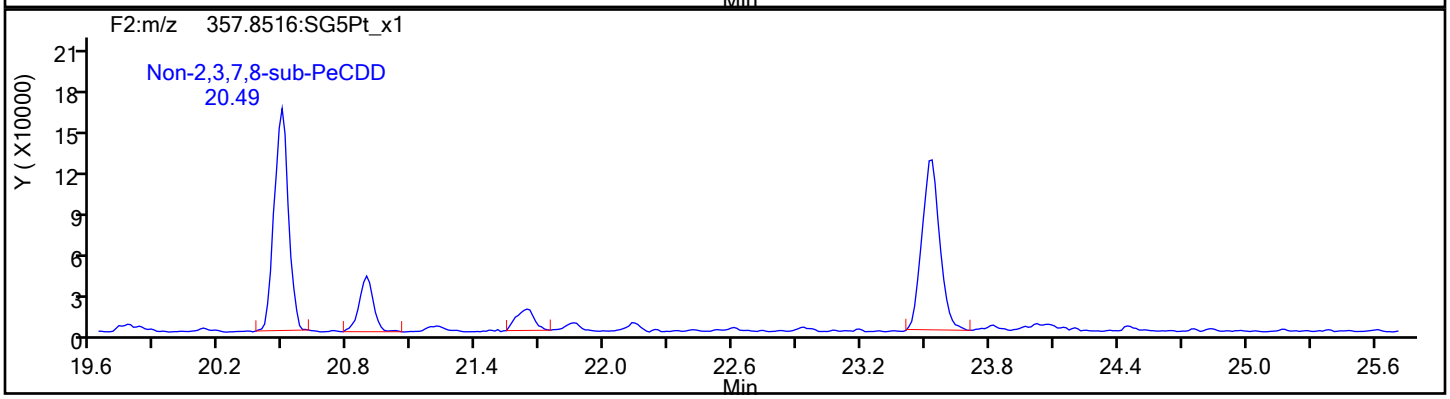

PeCDD Standards

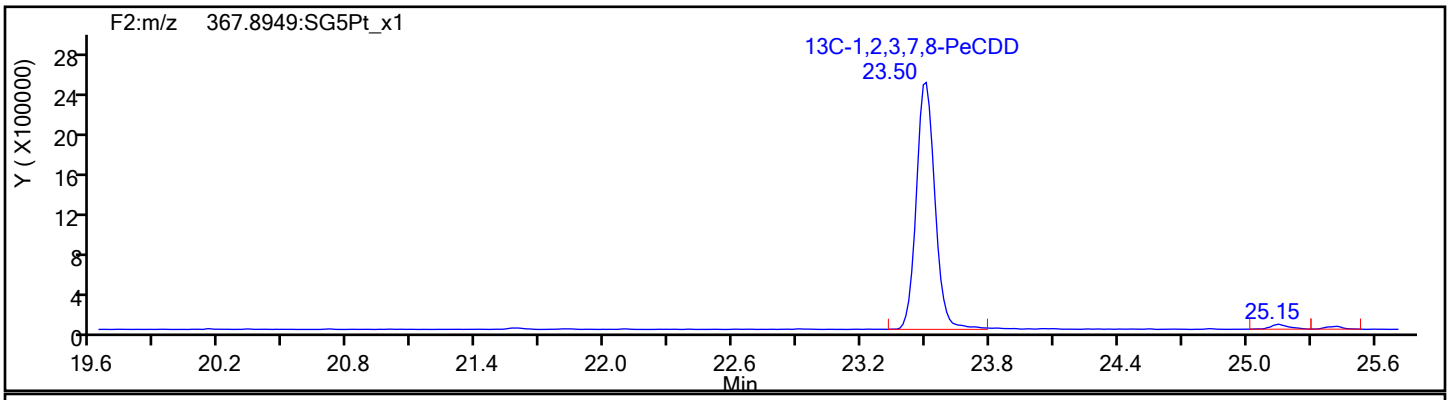

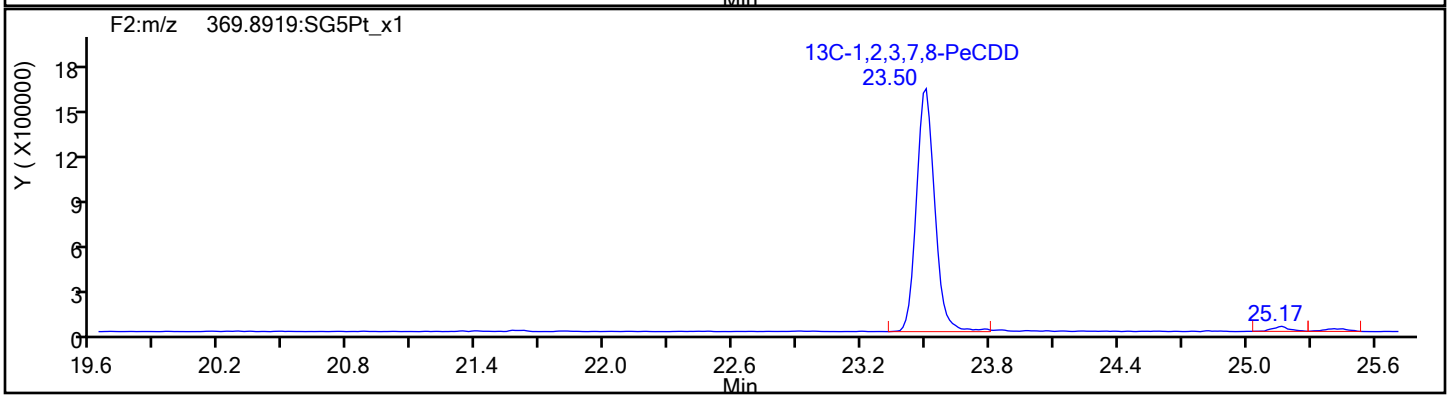

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Eurofins TestAmerica, Sacramento

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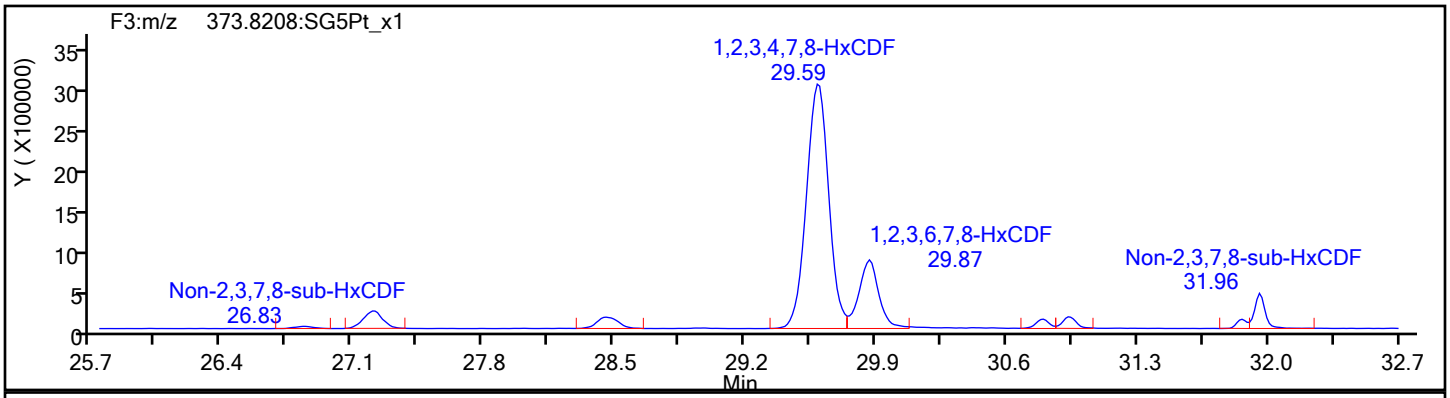

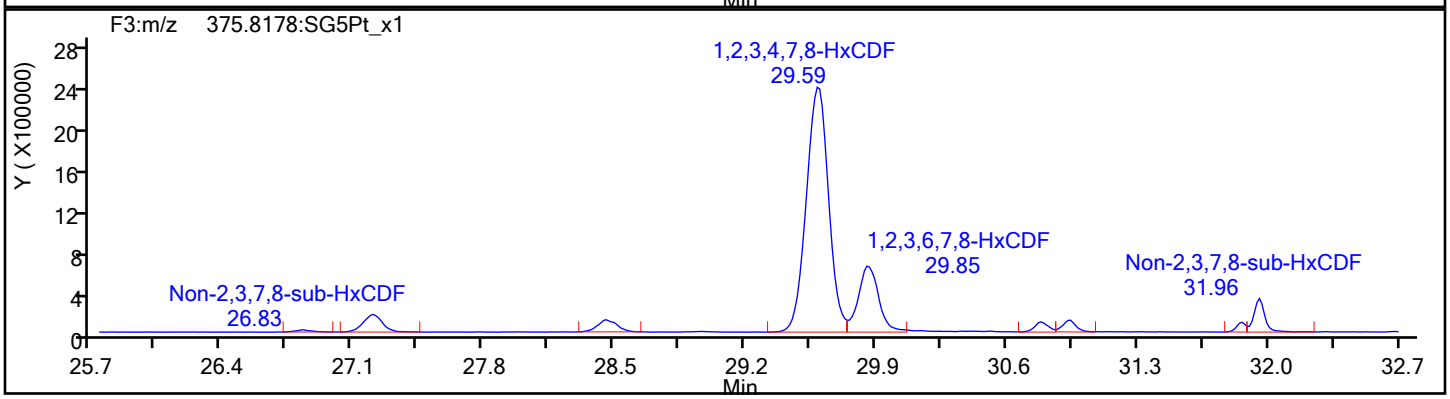

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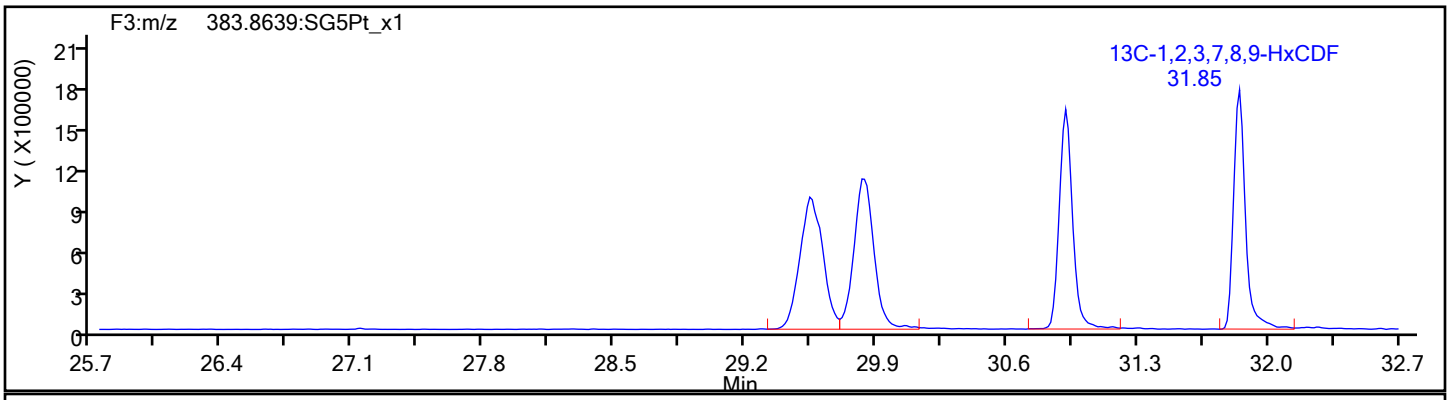

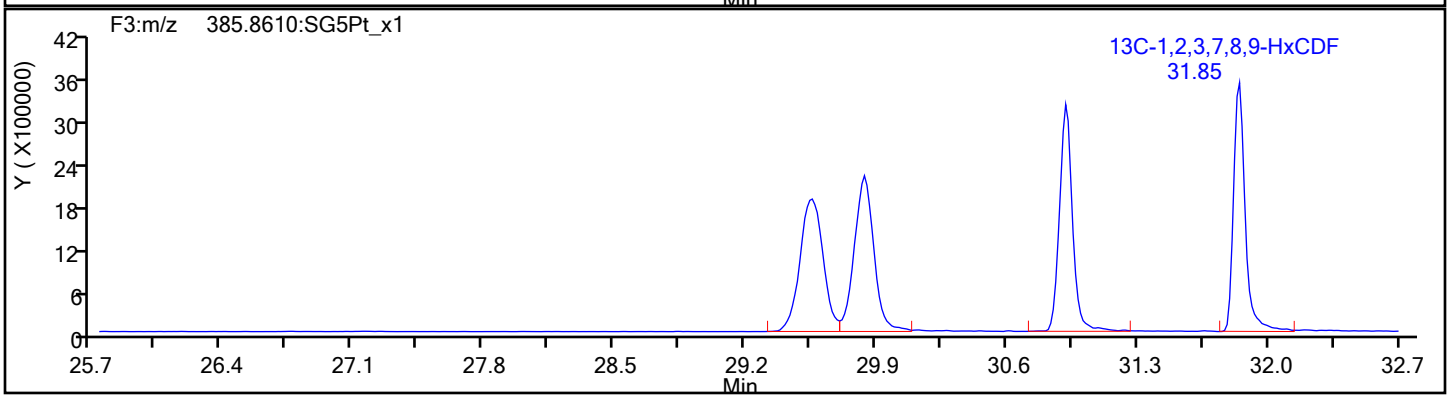

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Eurofins TestAmerica, Sacramento

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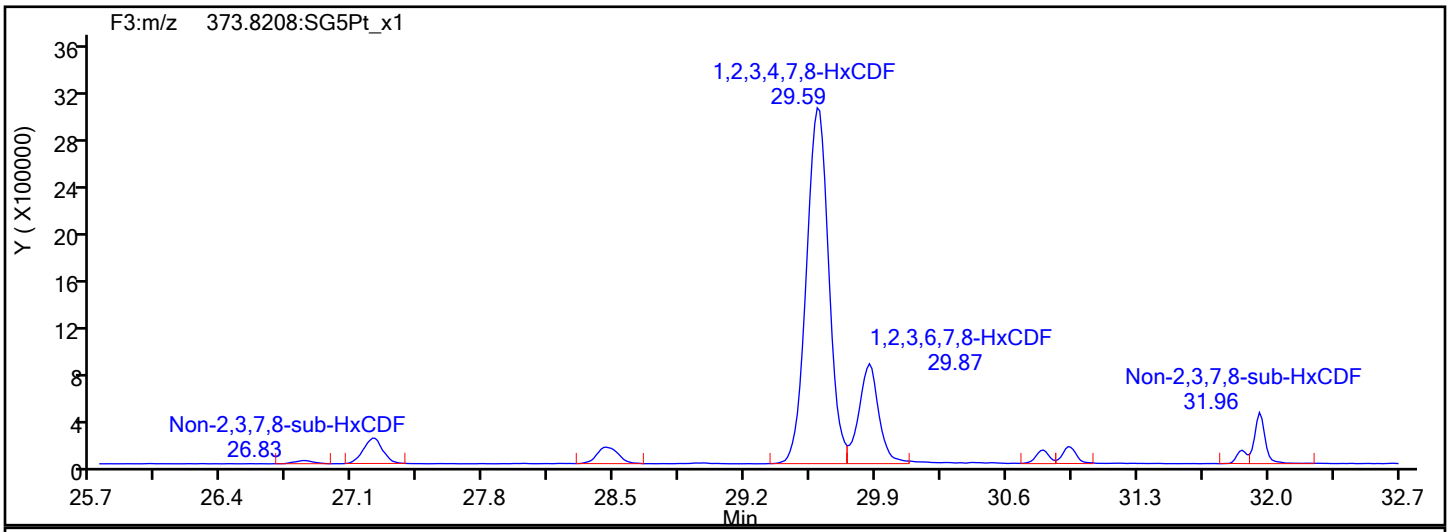

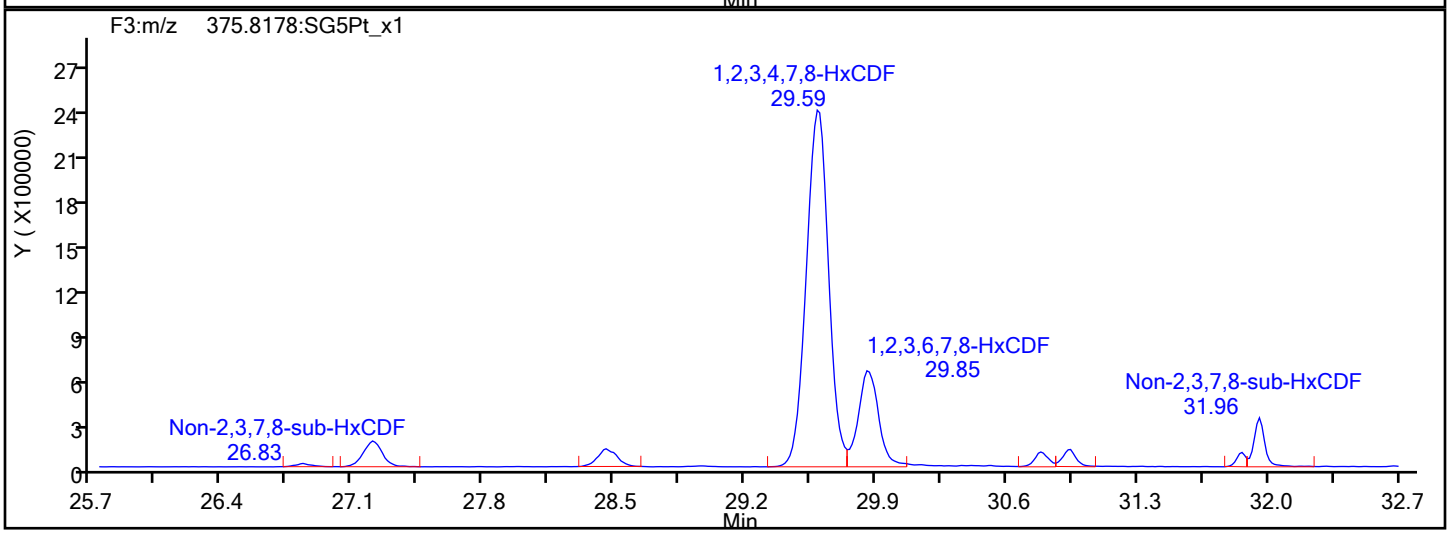

HxCDF Interference Mass

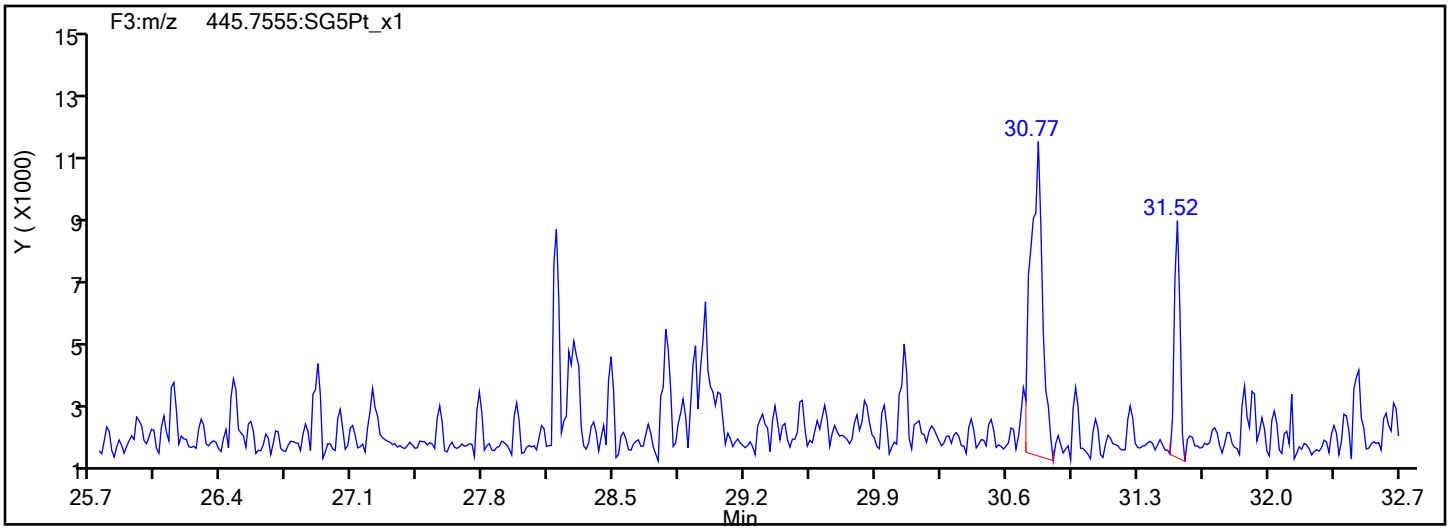

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Eurofins TestAmerica, Sacramento

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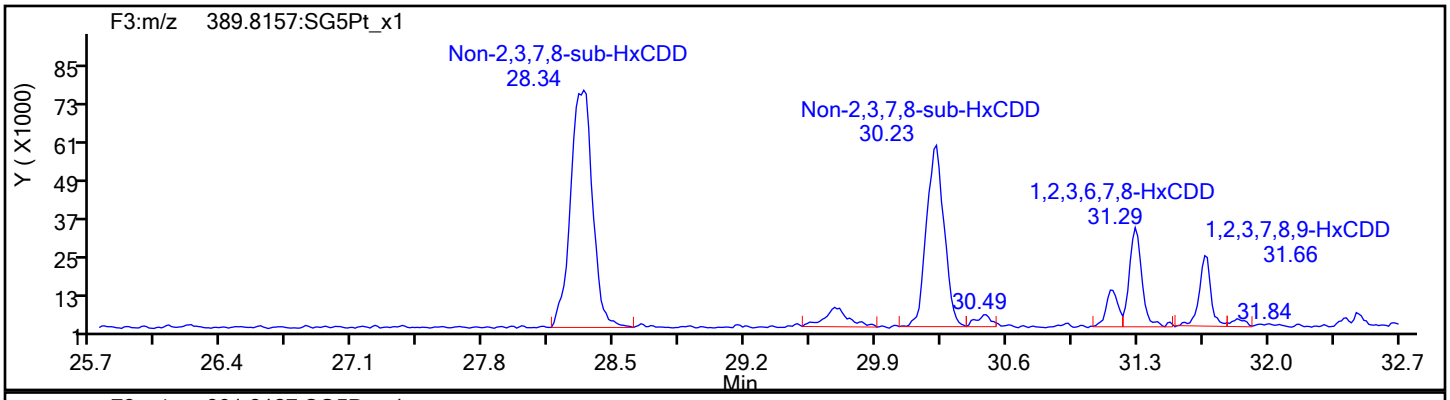

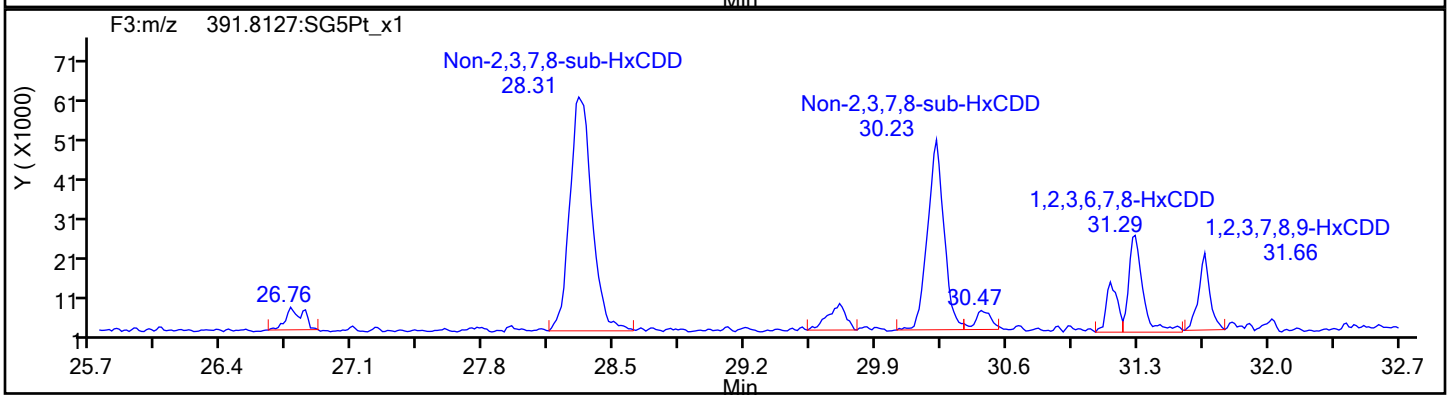

HxCDD Standards

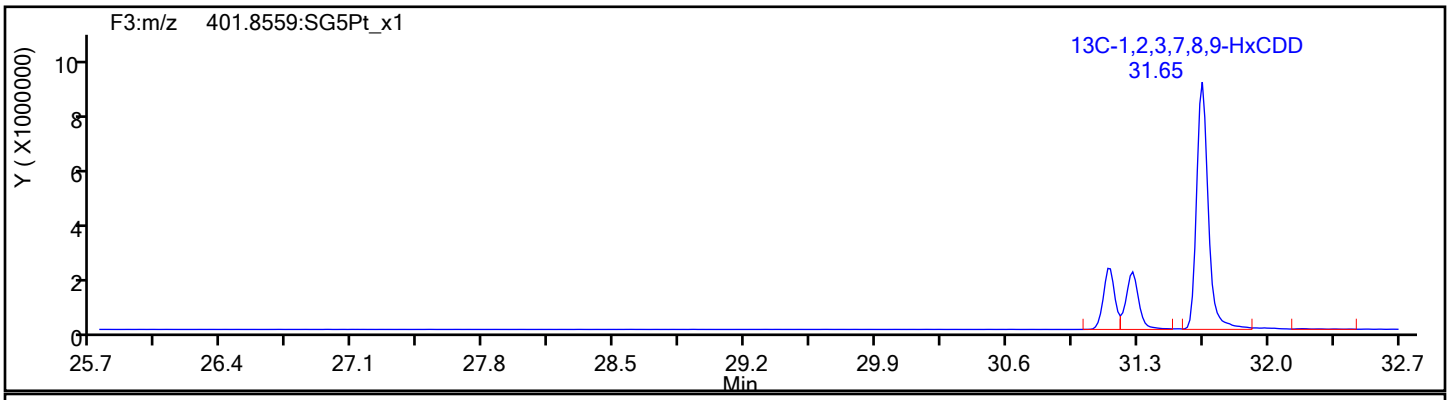

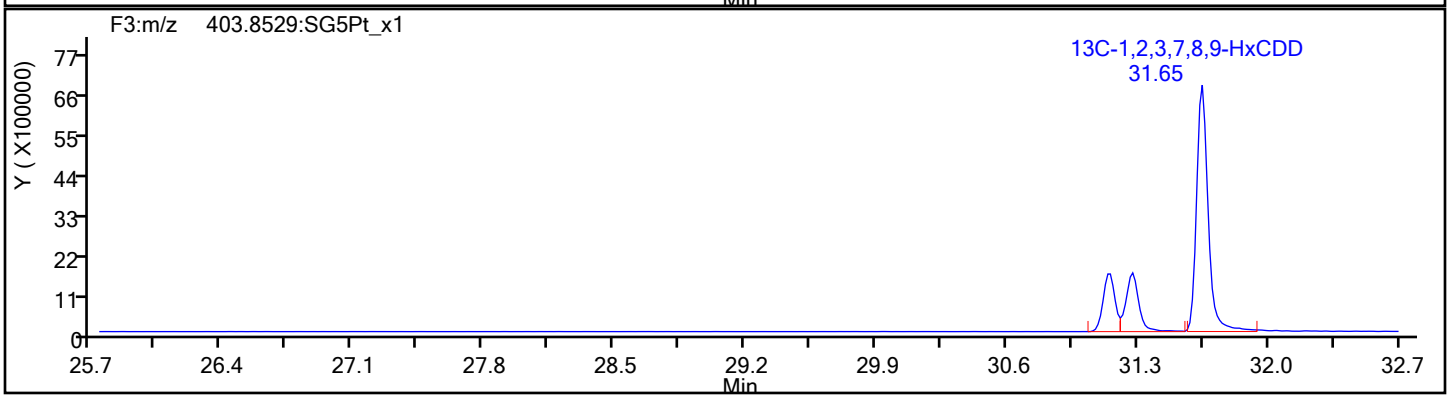

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Eurofins TestAmerica, Sacramento

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HpCDF

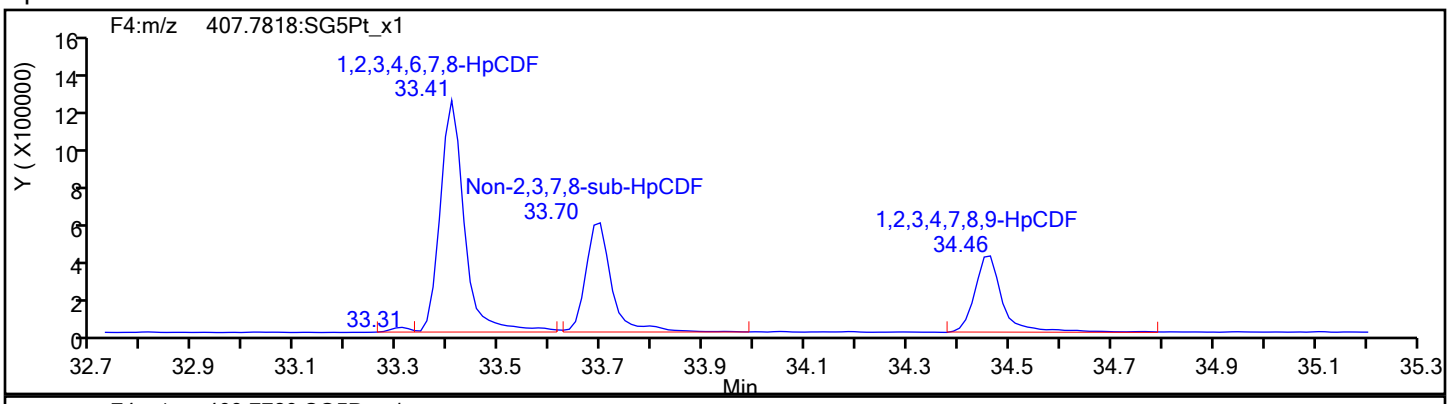

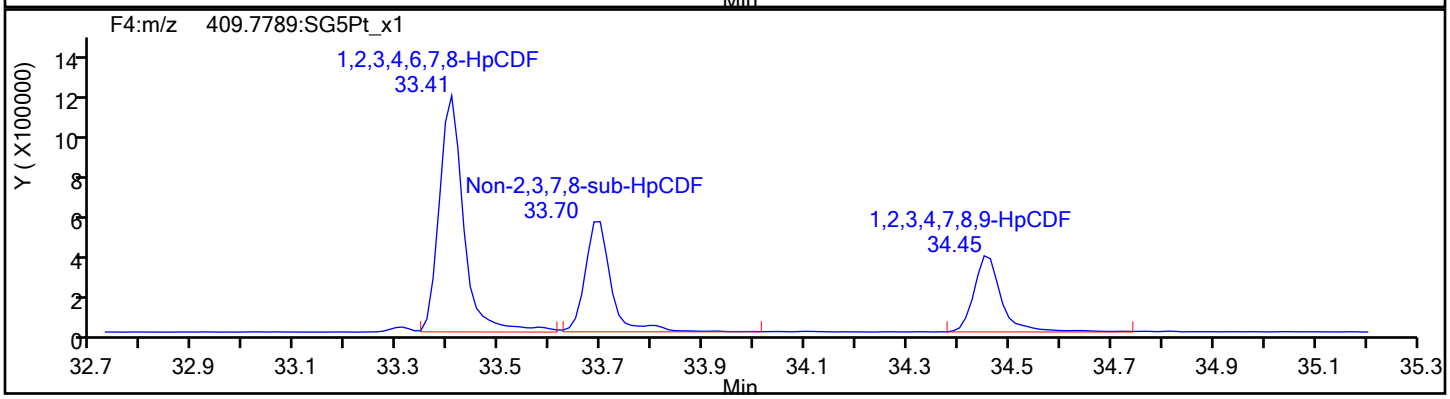

HpCDF Standards

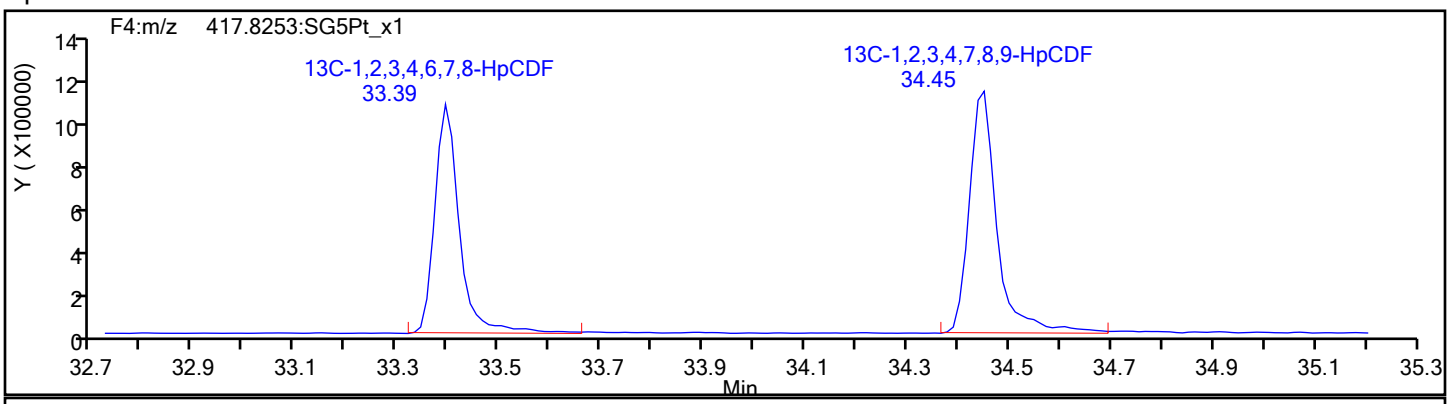

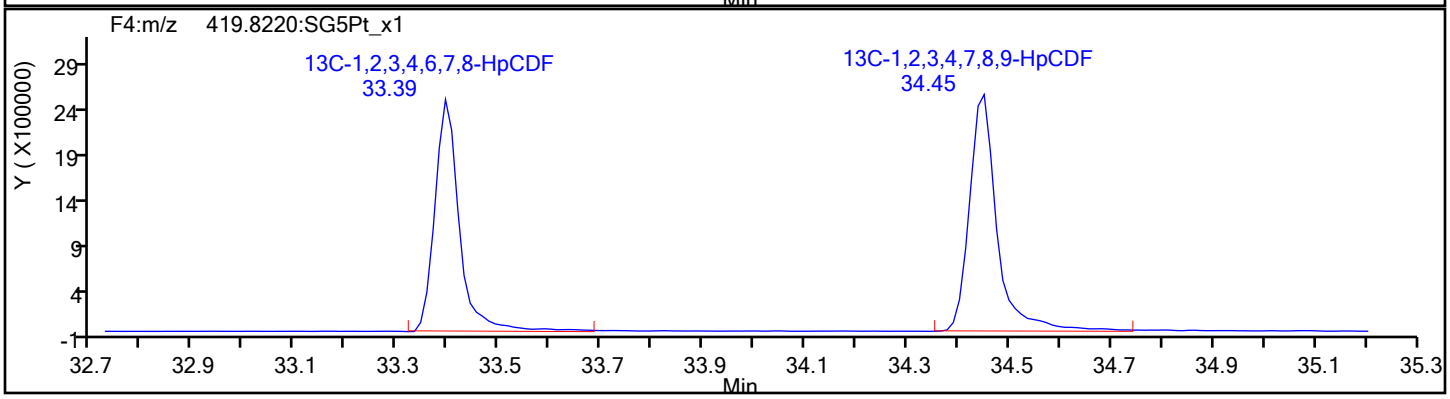

Report Date: 10-Nov-2019 09:24:12 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 3		
Worklist#:	336302	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

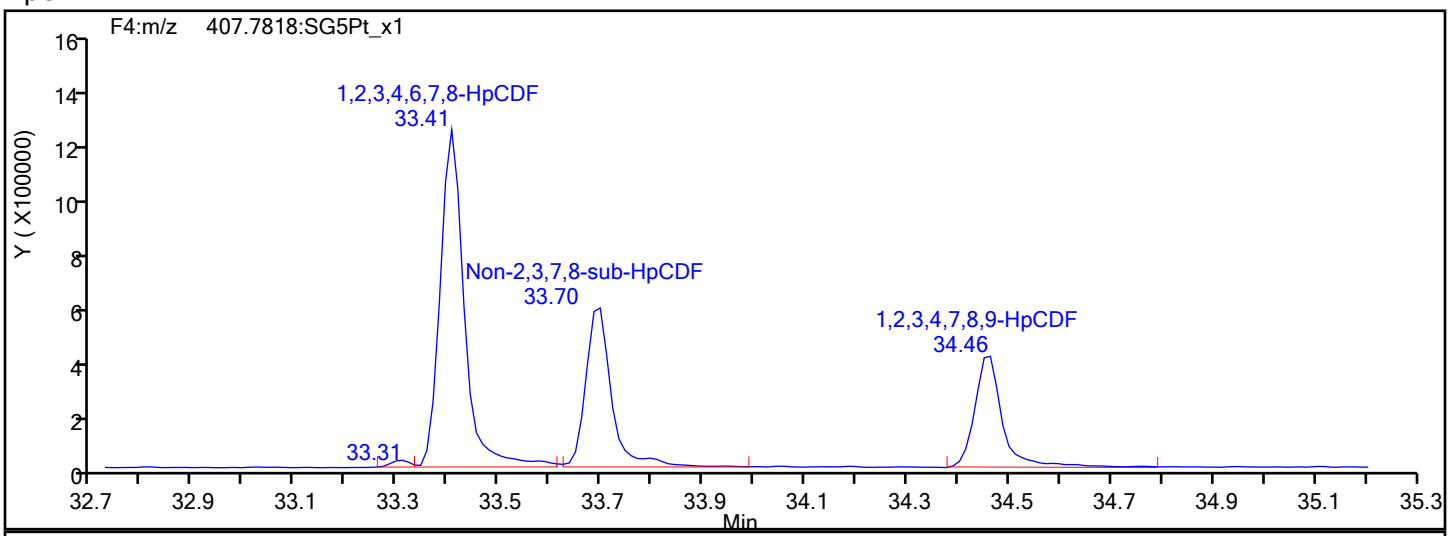

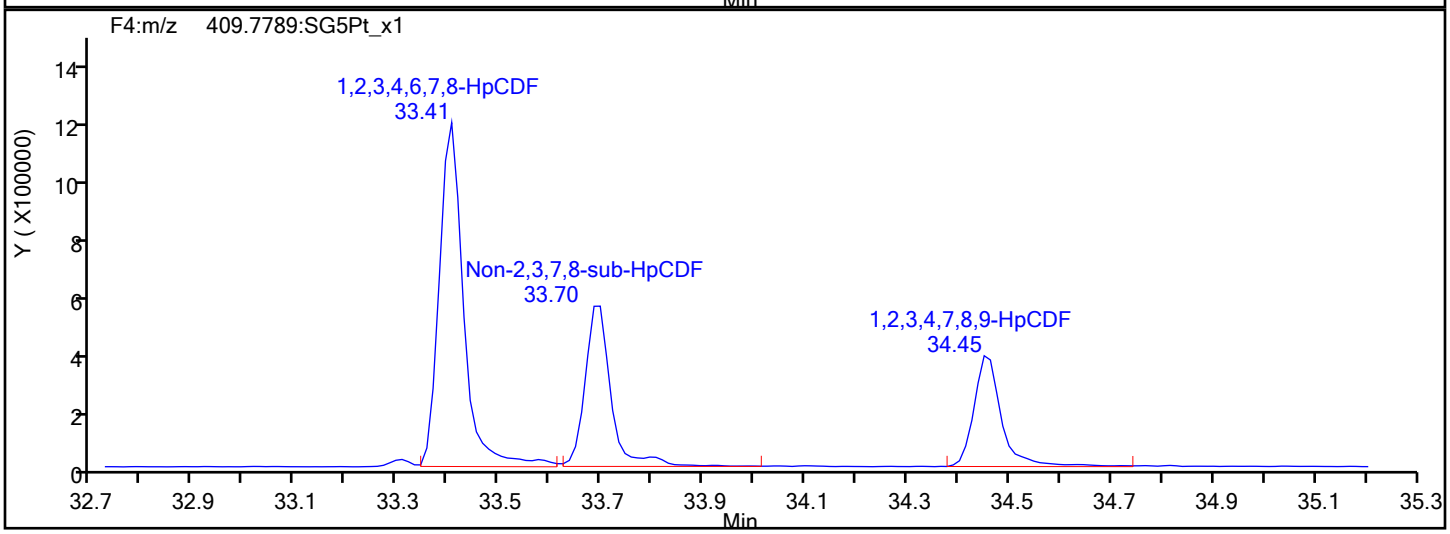

HpCDF Interference Mass

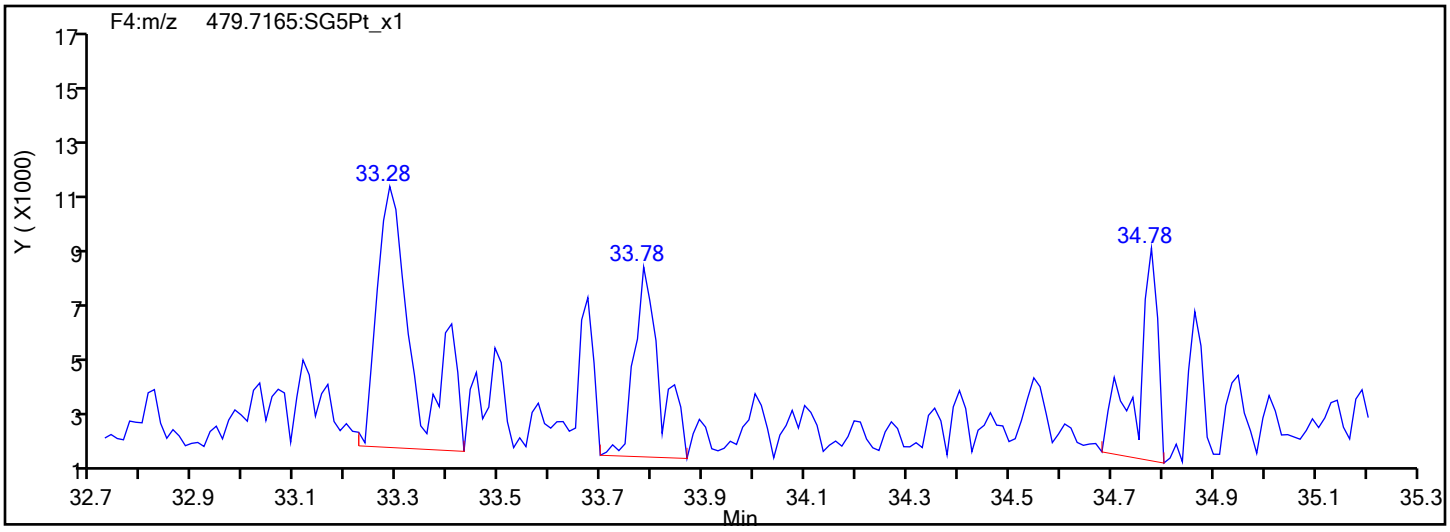

Report Date: 10-Nov-2019 09:24:12 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_8.d		
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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 3		
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HpCDD

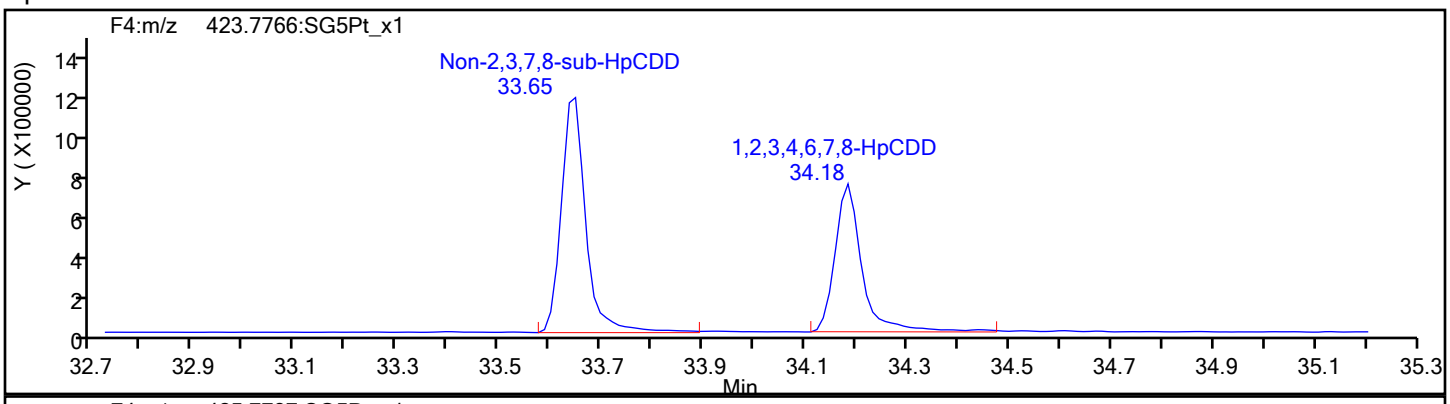

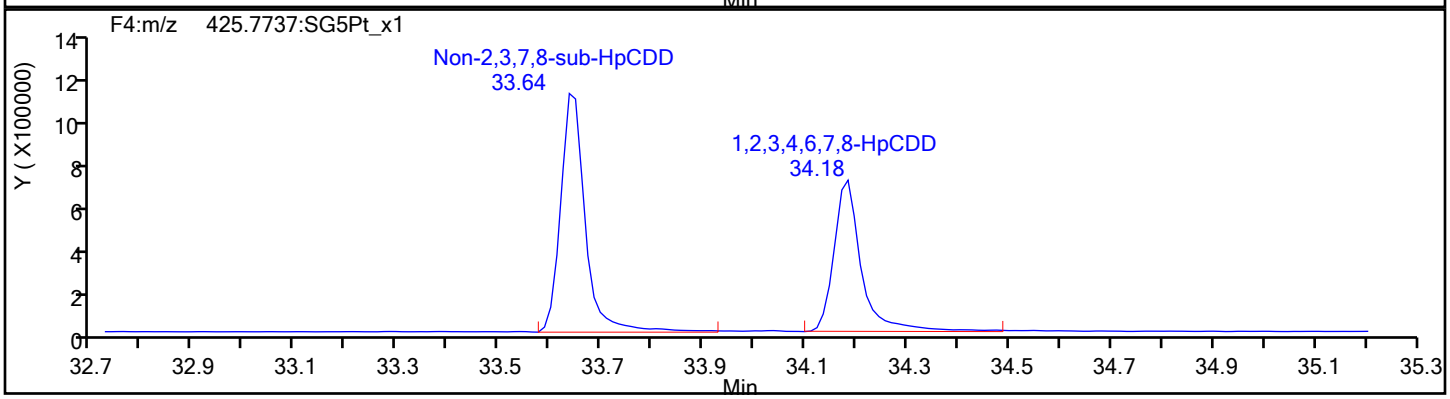

HpCDD Standards

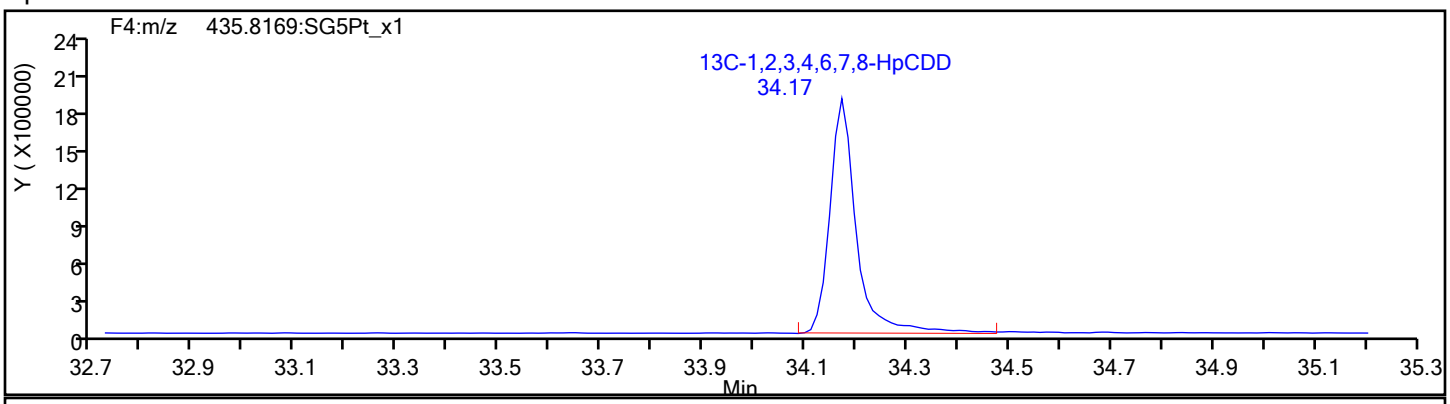

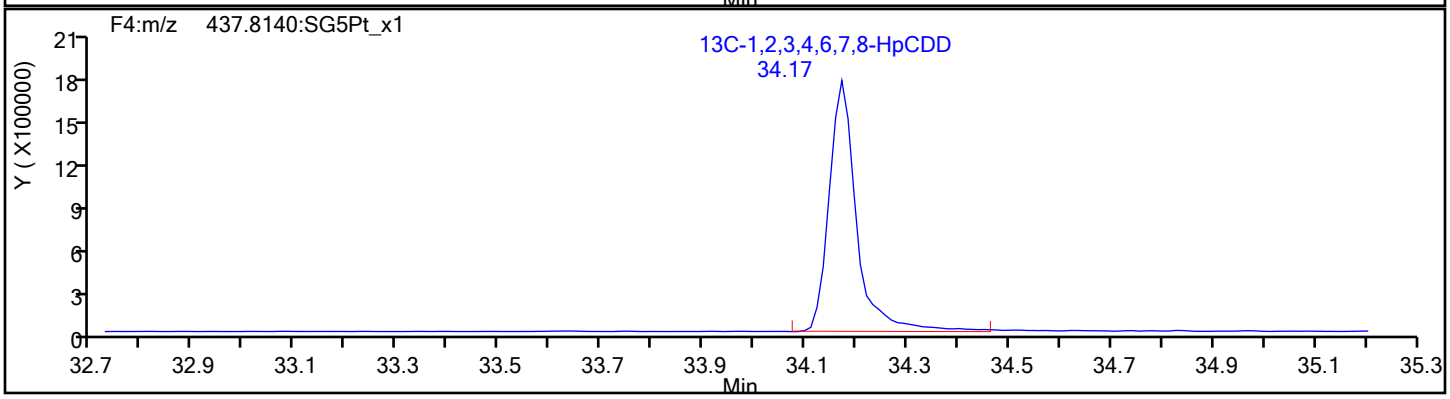

Report Date: 10-Nov-2019 09:24:12 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_8.d		
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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 3		
Worklist#:	336302	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

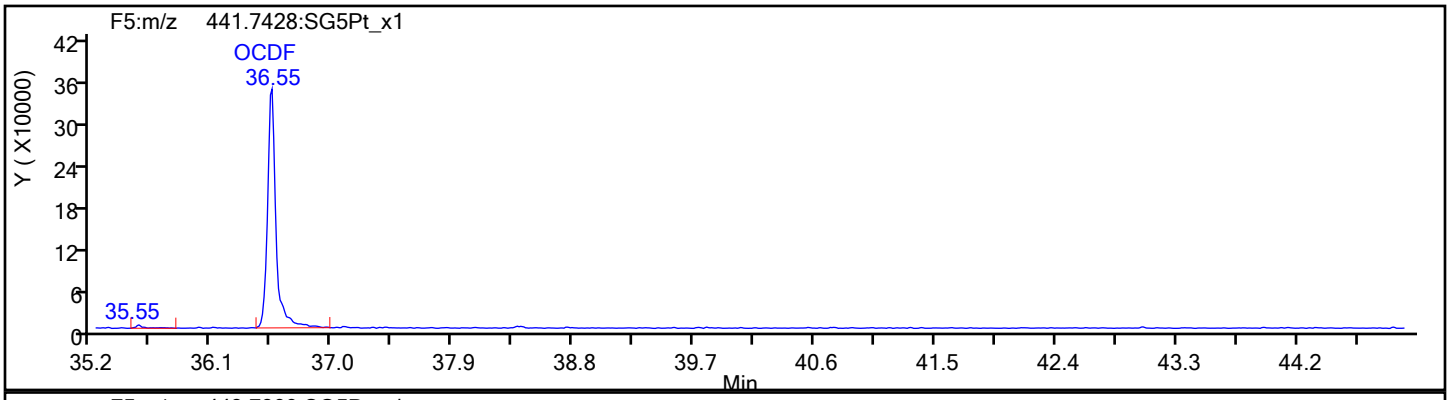

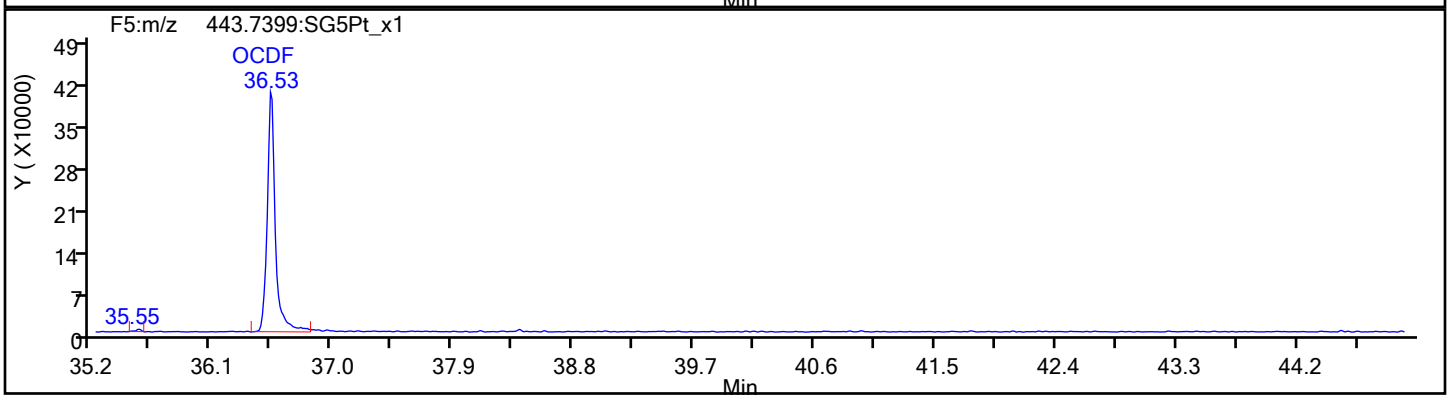

OCDF Standards

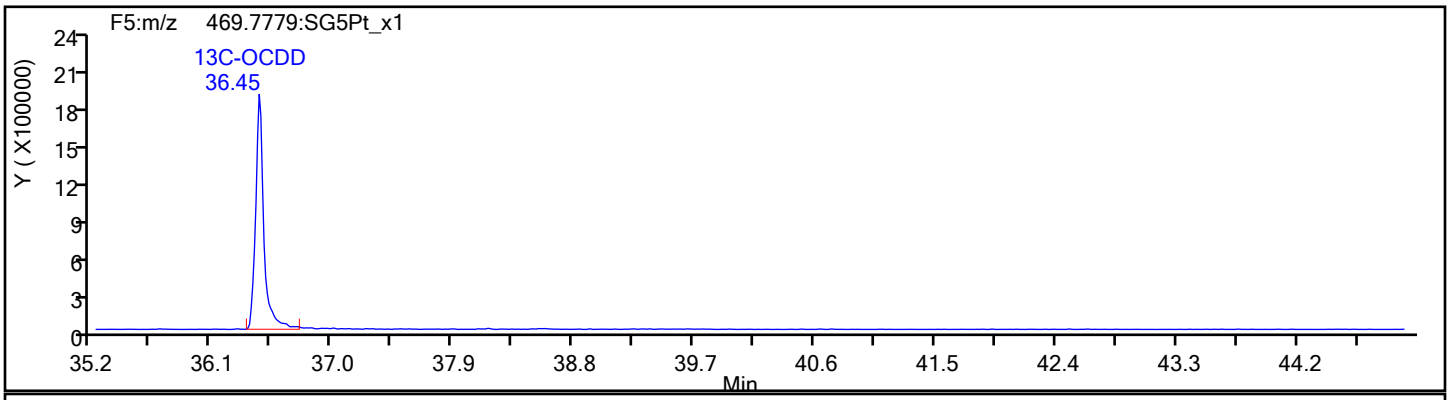

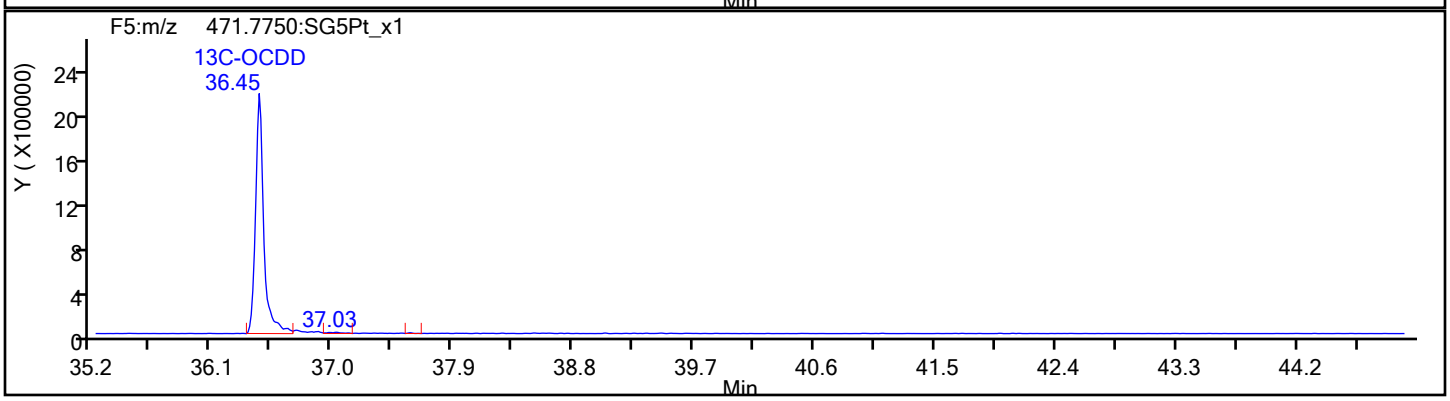

Report Date: 10-Nov-2019 09:24:12 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_8.d		
Injection Date:	06-Nov-2019 00:54:22	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 3		
Worklist#:	336302	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

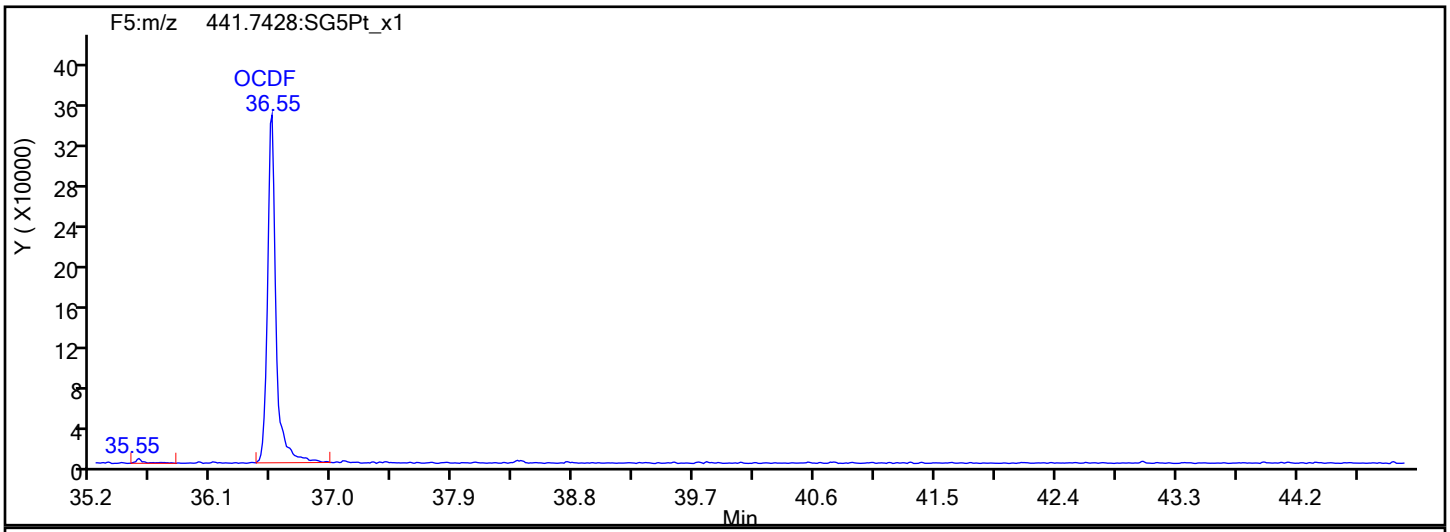

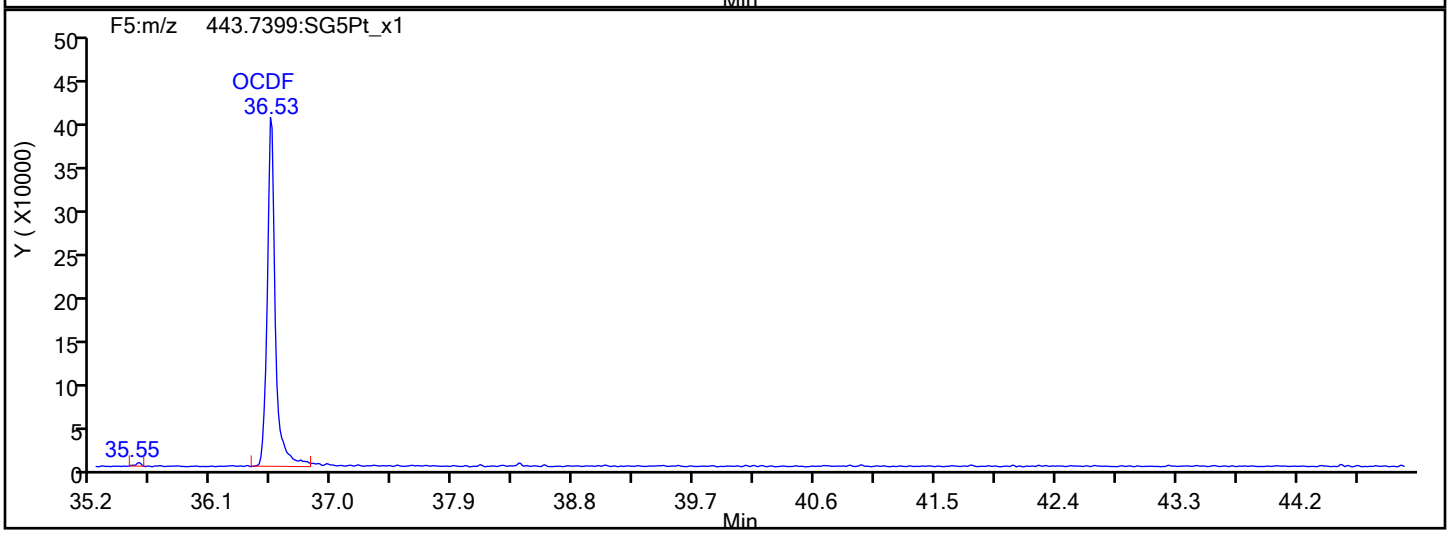

OCDF Interference Mass

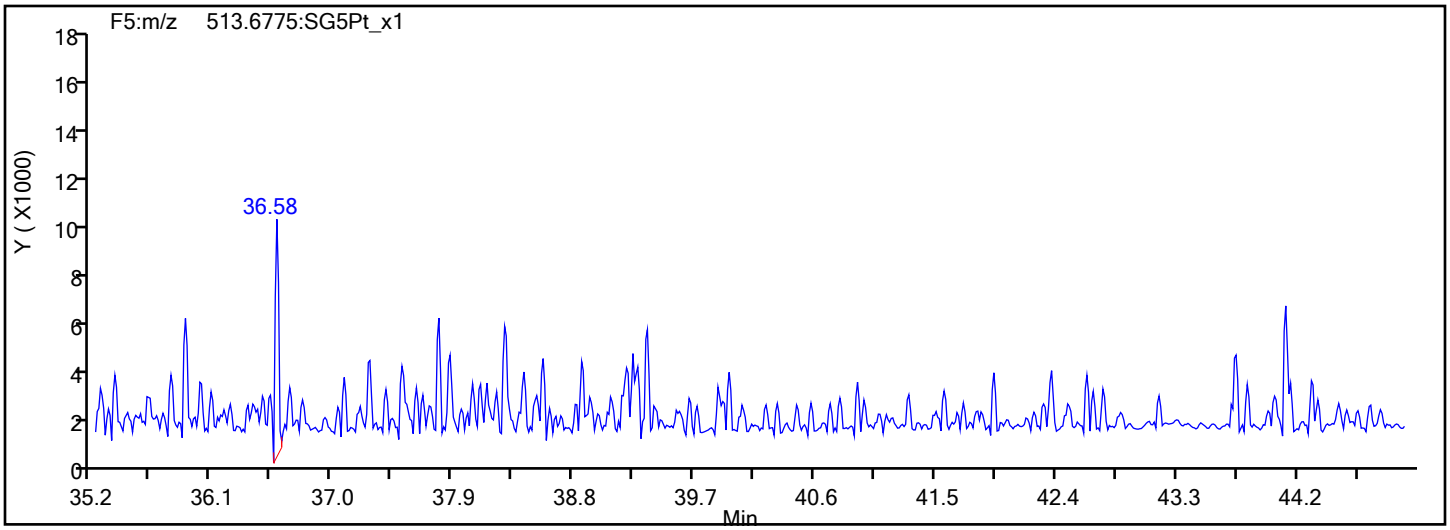

Report Date: 10-Nov-2019 09:24:12 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_8.d		
Injection Date:	06-Nov-2019 00:54:22	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 3		
Worklist#:	336302	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

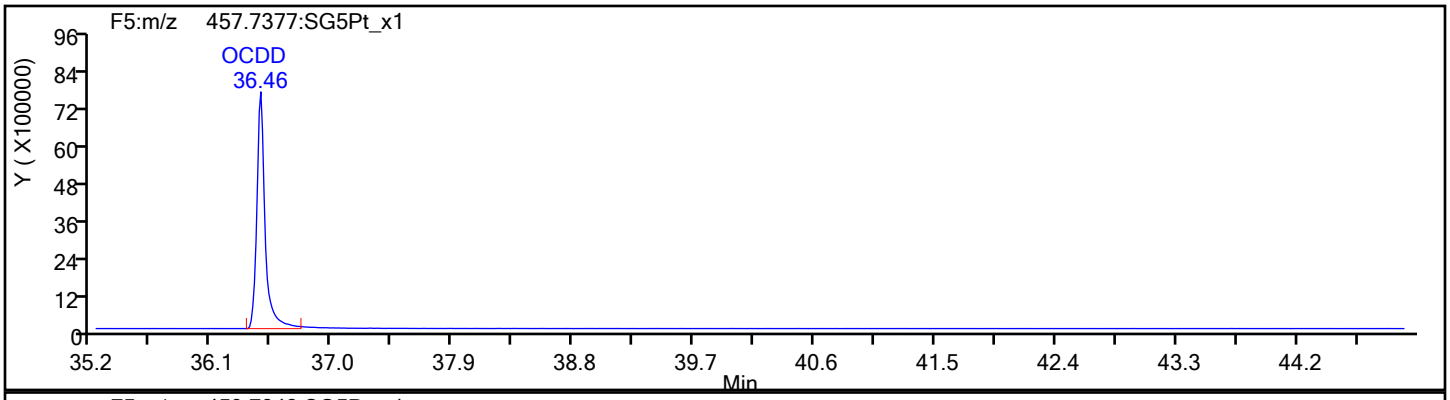

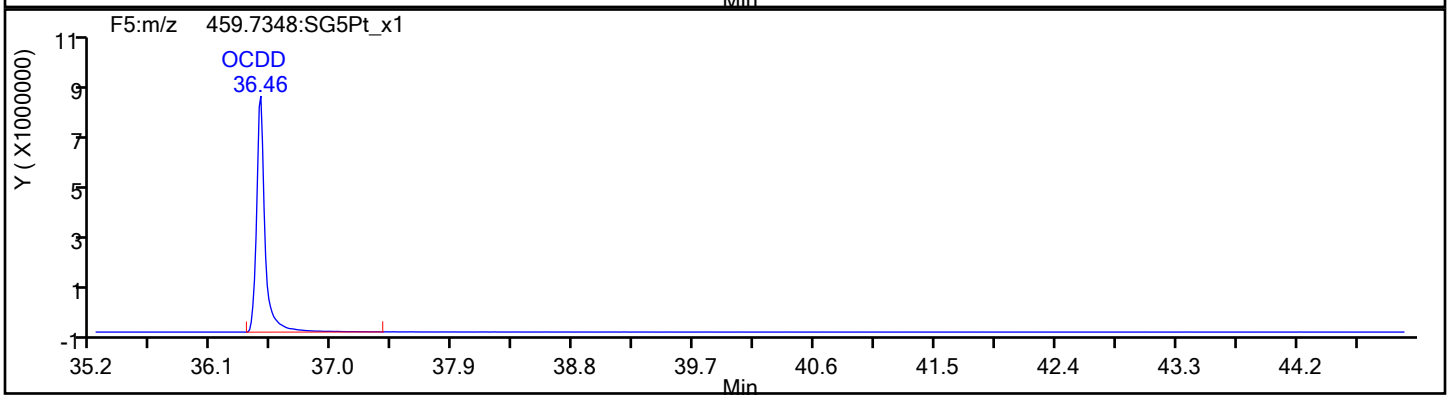

OCDD Standards

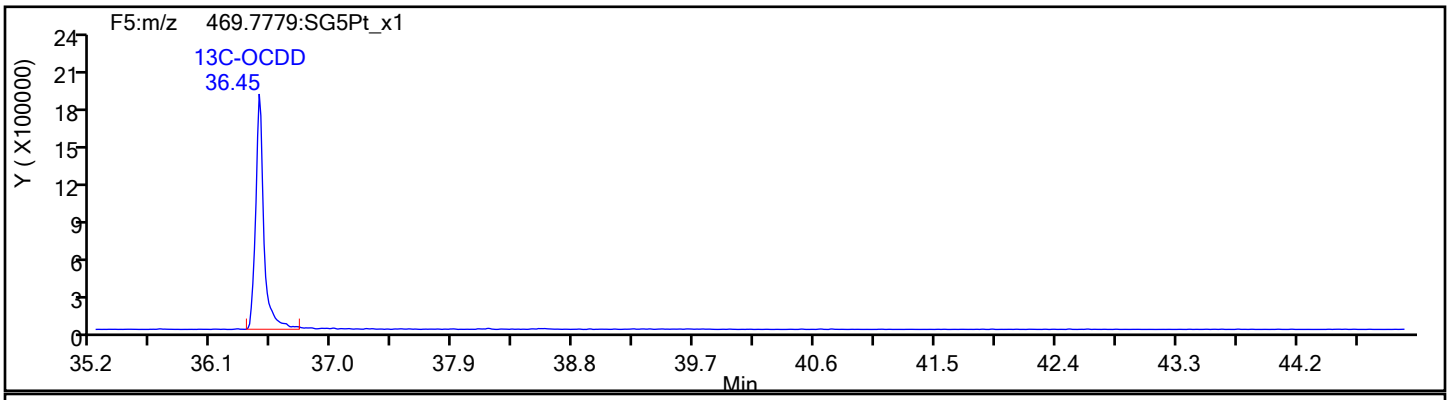

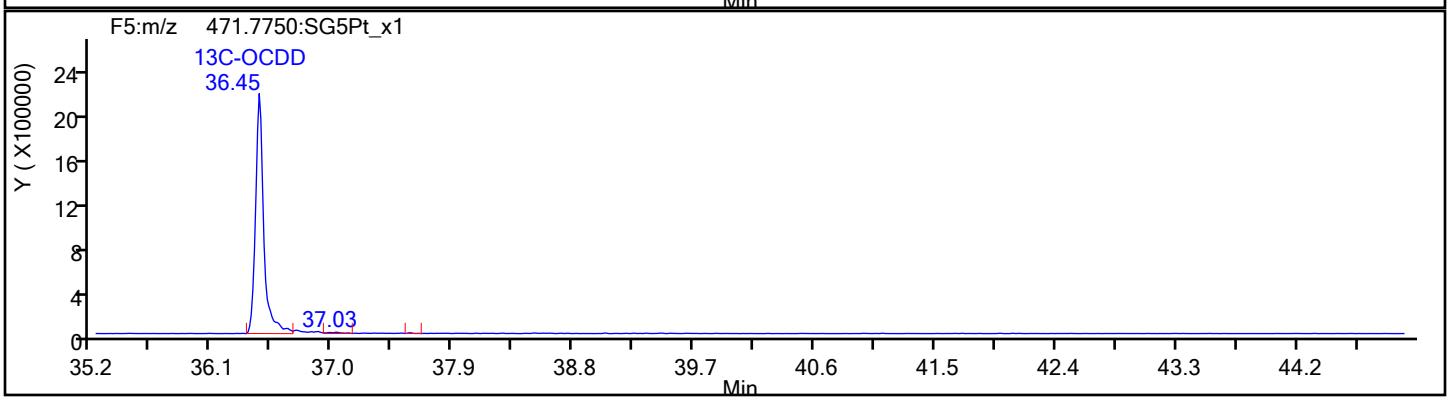

Report Date: 10-Nov-2019 09:24:12 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_8.d		
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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 3		
Worklist#:	336302	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

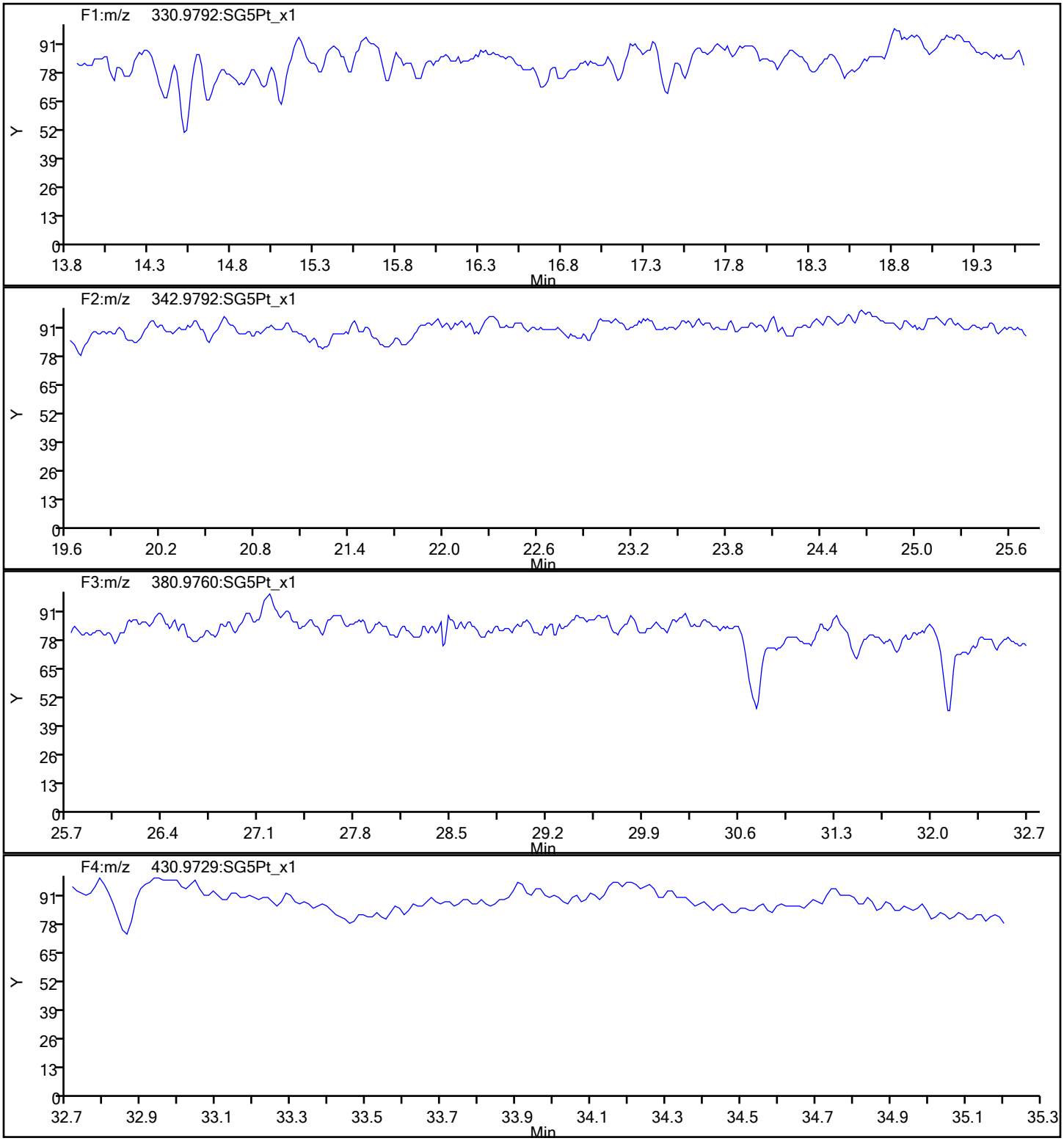

Report Date: 10-Nov-2019 09:24:12 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_8.d		
Injection Date:	06-Nov-2019 00:54:22	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 3		
Worklist#:	336302	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

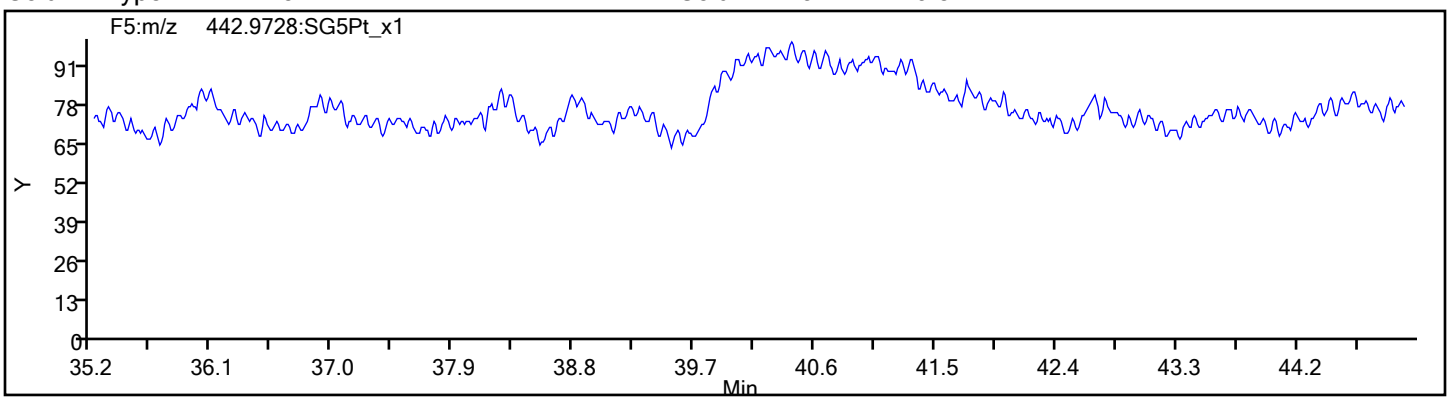

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 600-194690-1
SDG No.:
Client Sample ID: INF 3 RA
Lab Sample ID: 600-194690-8 RA
Matrix: Water
Lab File ID: 07NO19A11D2_005.d
Analysis Method: 1613B
Date Collected: 10/25/2019 13:30
Extract. Method: 1613B
Date Extracted: 11/01/2019 08:11
Sample wt/vol: 995.6(mL)
Date Analyzed: 11/07/2019 17:32
Con. Extract Vol.: 20(uL)
Dilution Factor: 20
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 336810
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
51207-31-9	2,3,7,8-TCDF	50000	B	200	76

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
89059-46-1	13C-2,3,7,8-TCDF	56		24-169

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	104		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_005.d
Lims ID: 600-194690-C-8-A
Client ID: INF 3
Sample Type: Client
Inject. Date: 07-Nov-2019 17:32:18 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 20.0000
Sample Info: 600-194690-C-8-A (20X)
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20191107-86281.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 08-Nov-2019 11:07:13 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0309

First Level Reviewer: stephensk Date: 08-Nov-2019 10:59:07

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.392	6975372	0.69	1.1E+06	5.000	5.000				
D 13C-2,3,7,8-TCDF	16.558	5221902	0.67	1.3379	2.798	2.798	0.3039	0.3039	55.95	
2,3,7,8-TCDF	16.572	109366689	0.79	0.8389	124.8	124.8	0.1890	0.1890		
D 13C-2,3,7,8-TCDD	15.104	2156686	0.77	0.9388	1.647	1.647	0.7936	0.7936	32.93	
2,3,7,8-TCDD	15.132	26707511	0.76	1.1538	53.7	53.7	0.2119	0.2119		
$ 37Cl4-2,3,7,8-TCDD	15.118	3426276		1.1816	2.078	2.078	0.0392	0.0392	104	
S Total 2378-Chlorinated							0.000100	0.000100		

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_005.d
Lims ID: 600-194690-C-8-A
Client ID: INF 3
Sample Type: Client
Inject. Date: 07-Nov-2019 17:32:18 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 20.0000
Sample Info: 600-194690-C-8-A (20X)
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20191107-86281.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 08-Nov-2019 11:07:13 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0309

First Level Reviewer: stephensk Date: 08-Nov-2019 10:59:07

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.392	15.378	1		2856853	641488	45735	114337	14		
333.9339	15.392	15.378	1		4118519	911495	46830	117075	19	0.69(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.558	16.560	0	1.076	2092620	387308	29857	74642	13		
317.9389	16.558	16.560	0	1.076	3129282	536967	20659	51647	26	0.67(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.572	16.571	0	1.001	48147221	10275297	5110	12775	2011		
305.8987	16.572	16.571	0	1.001	61219468	13424883	6614	16535	2030	0.79(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.104	15.092	0	0.981	935973	287218	45735	114337	6		
333.9339	15.104	15.092	0	0.981	1220713	313928	46830	117075	7	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.132	15.117	1	1.002	11535752	2680771	6121	15302	438		
321.8936	15.118	15.117	0	1.001	15171759	3598941	5636	14090	639	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.118	15.117	0	0.982	3426276	804423	5748	14370	140		

Total 2378-Chlorinated Dioxins & Furans
0.0 0

Report Date: 08-Nov-2019 11:07:38 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_005.d		
Injection Date:	07-Nov-2019 17:32:18	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 3		
Worklist#:	336810	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

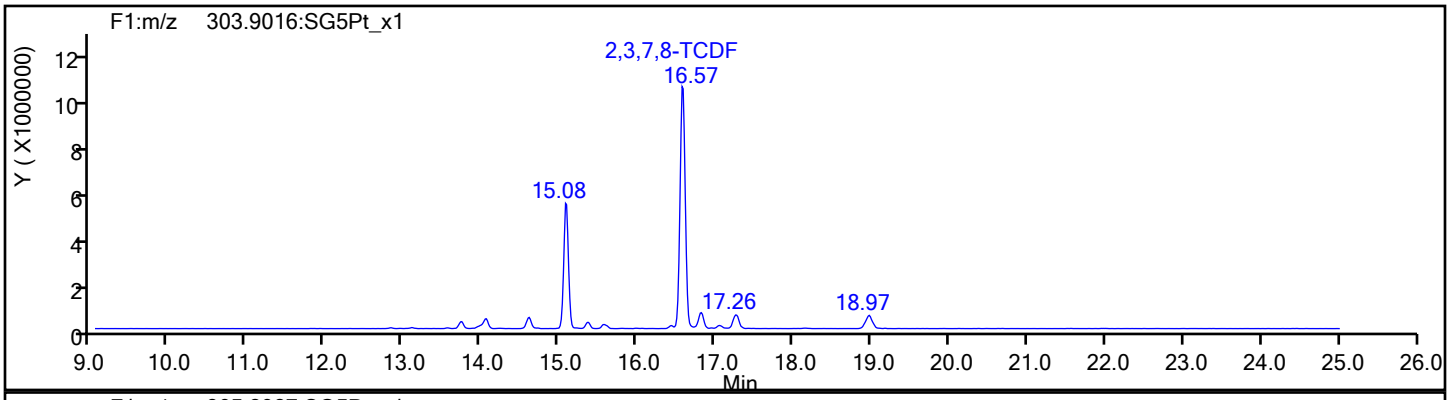

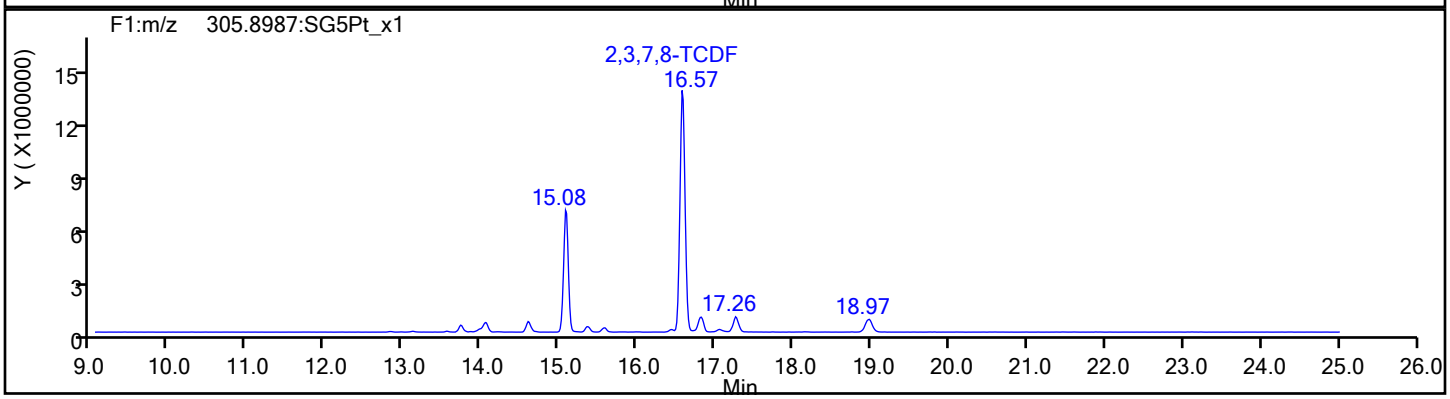

TCDF Standards

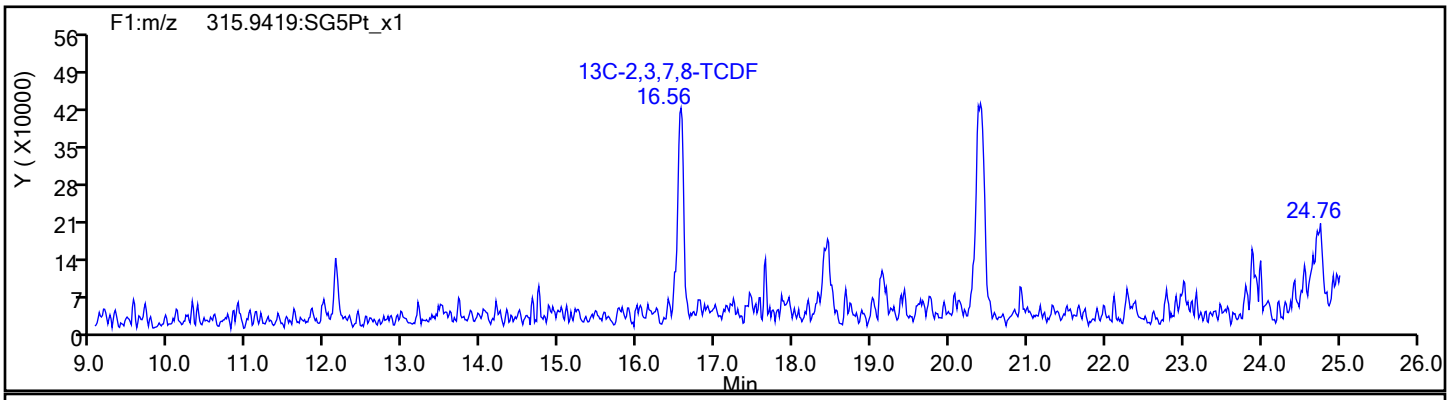

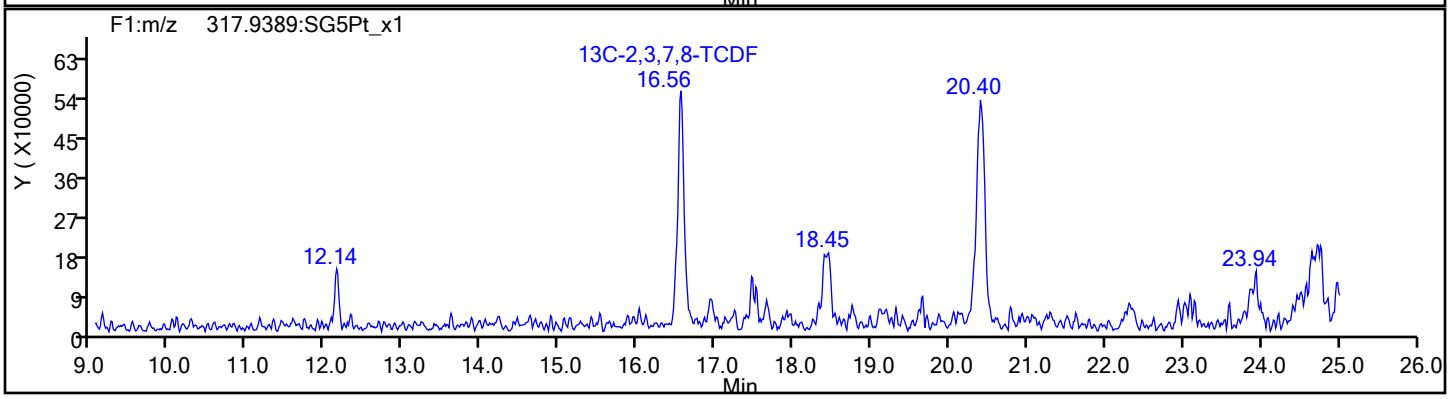

Report Date: 08-Nov-2019 11:07:39 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_005.d		
Injection Date:	07-Nov-2019 17:32:18	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 3		
Worklist#:	336810	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

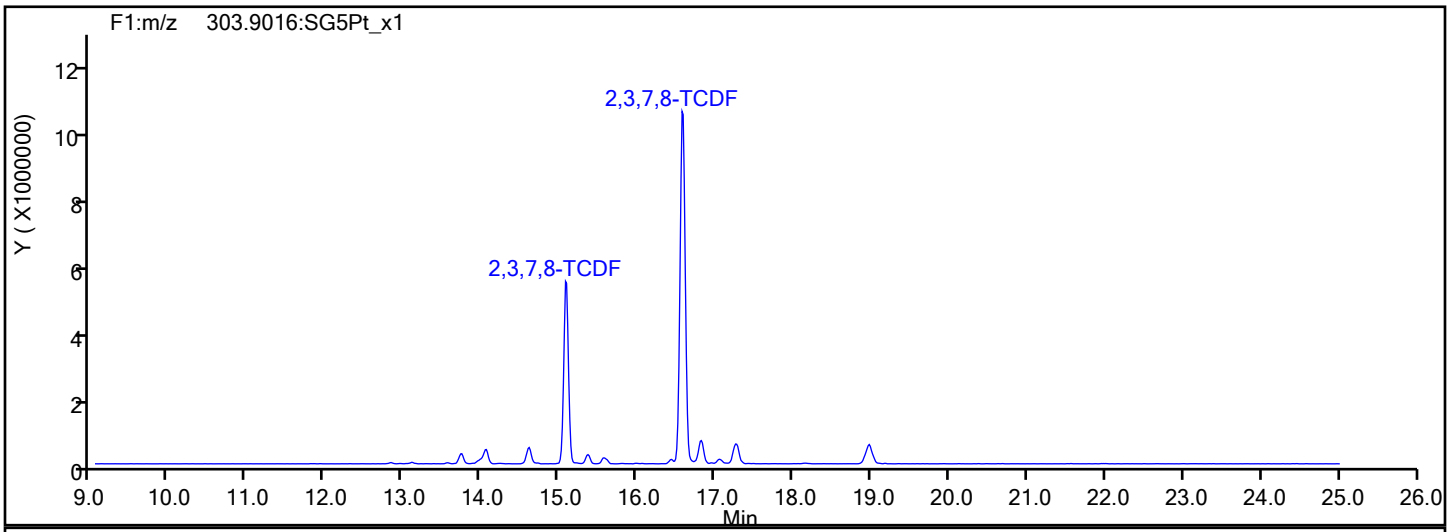

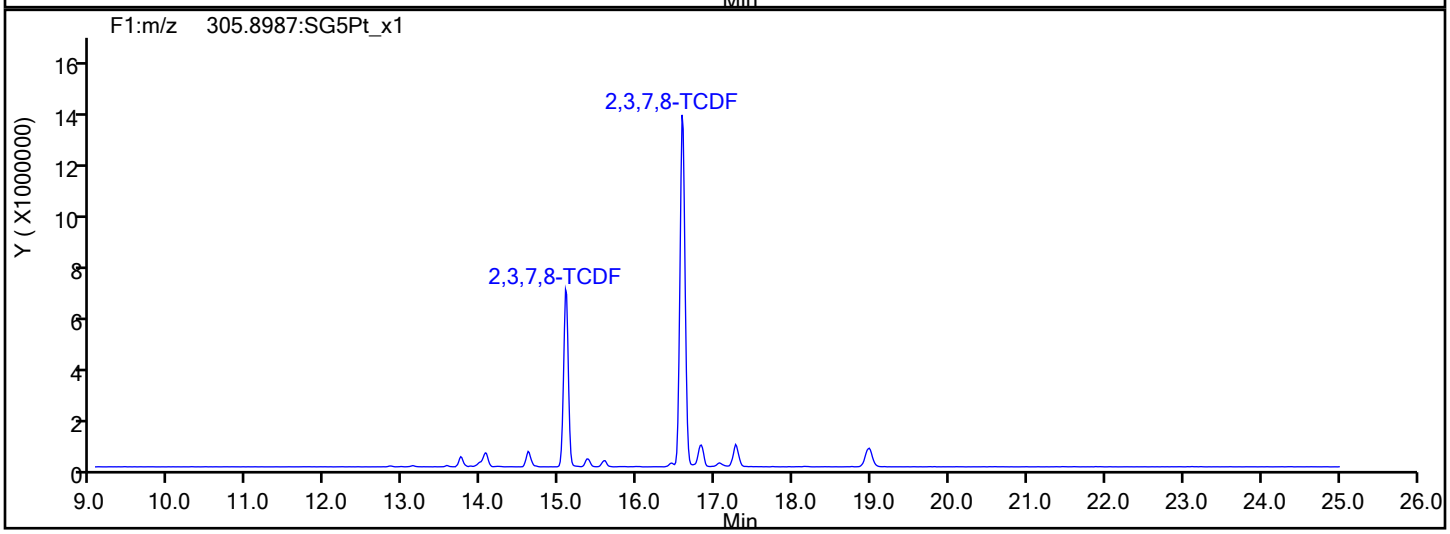

TCDF Interference Mass

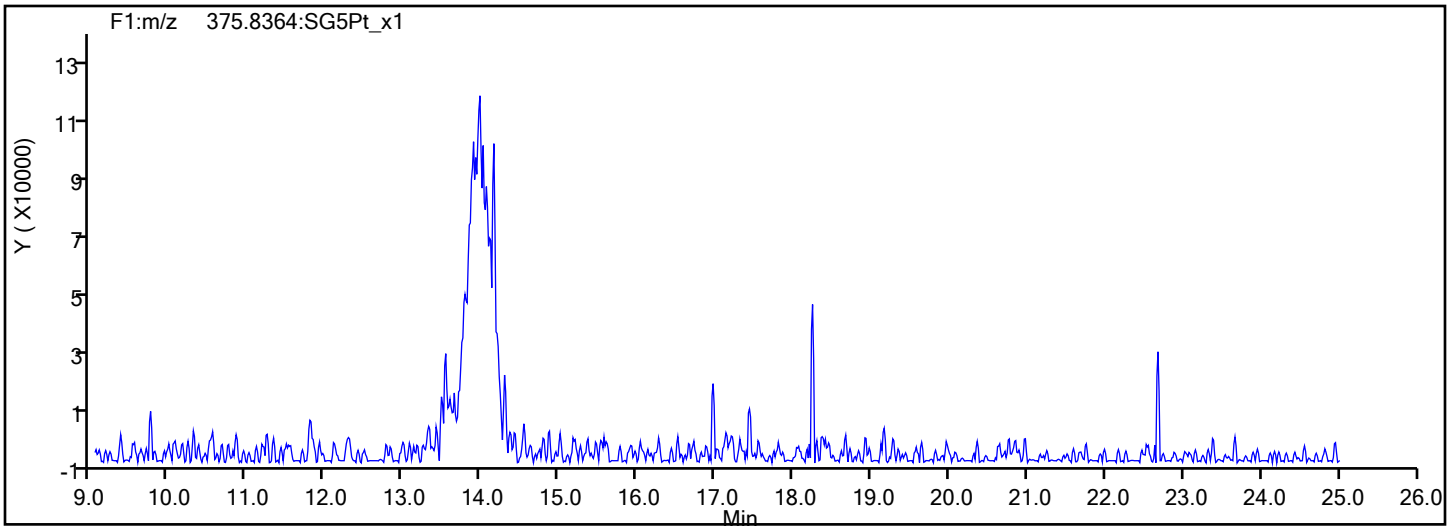

Report Date: 08-Nov-2019 11:07:39 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_005.d		
Injection Date:	07-Nov-2019 17:32:18	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 3		
Worklist#:	336810	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

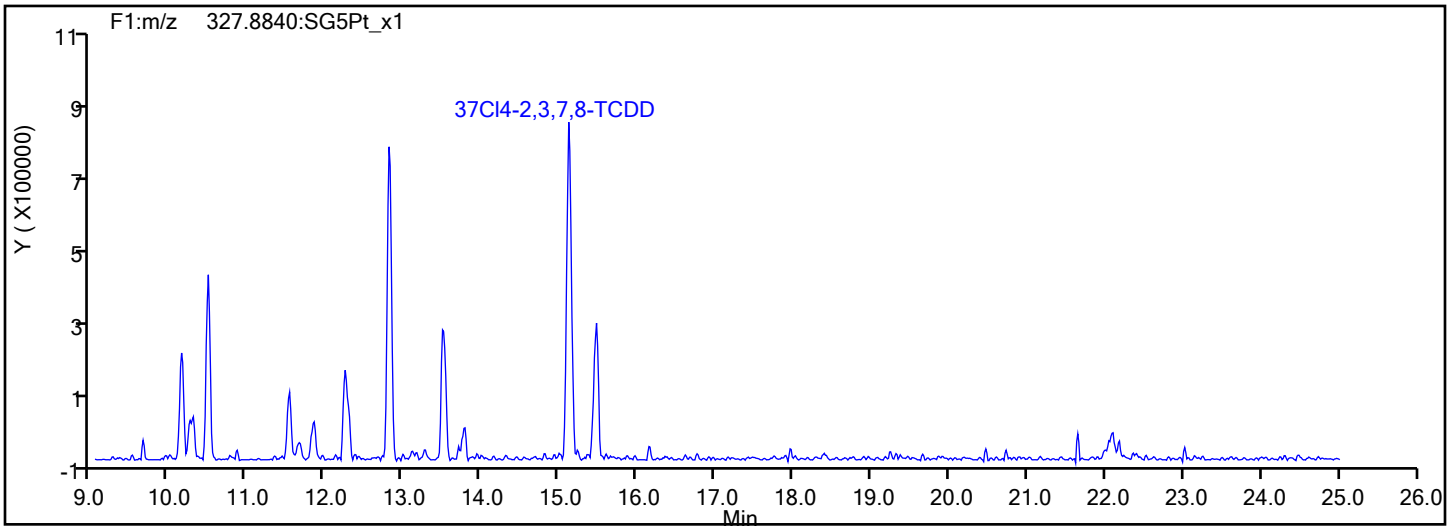

37Cl4-TCDD Standards

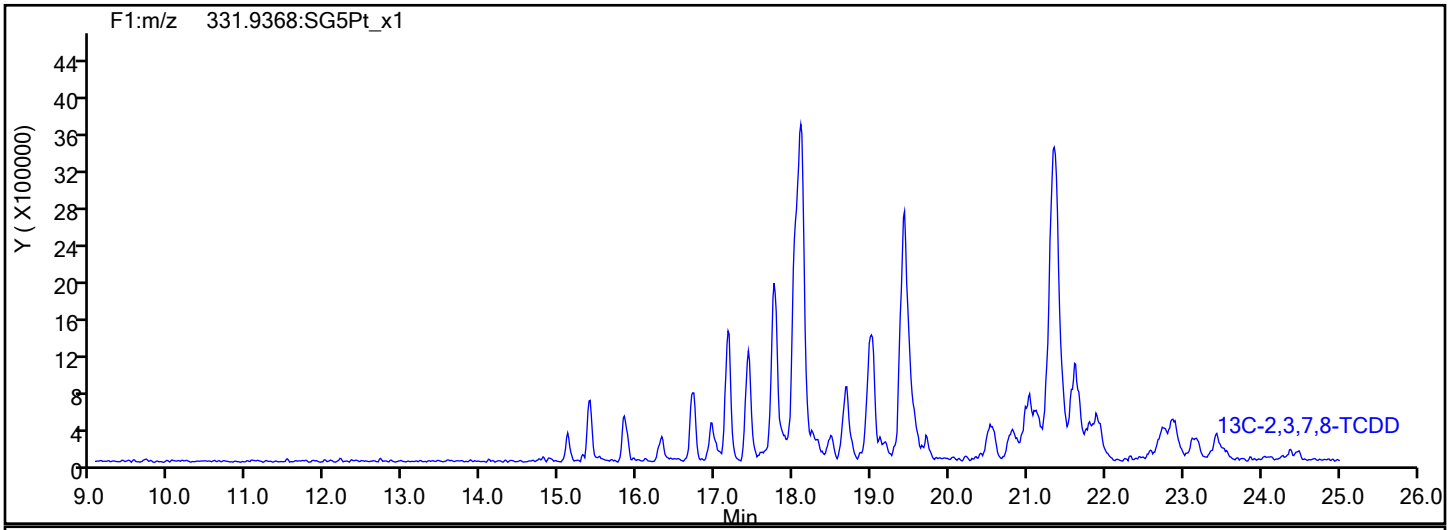

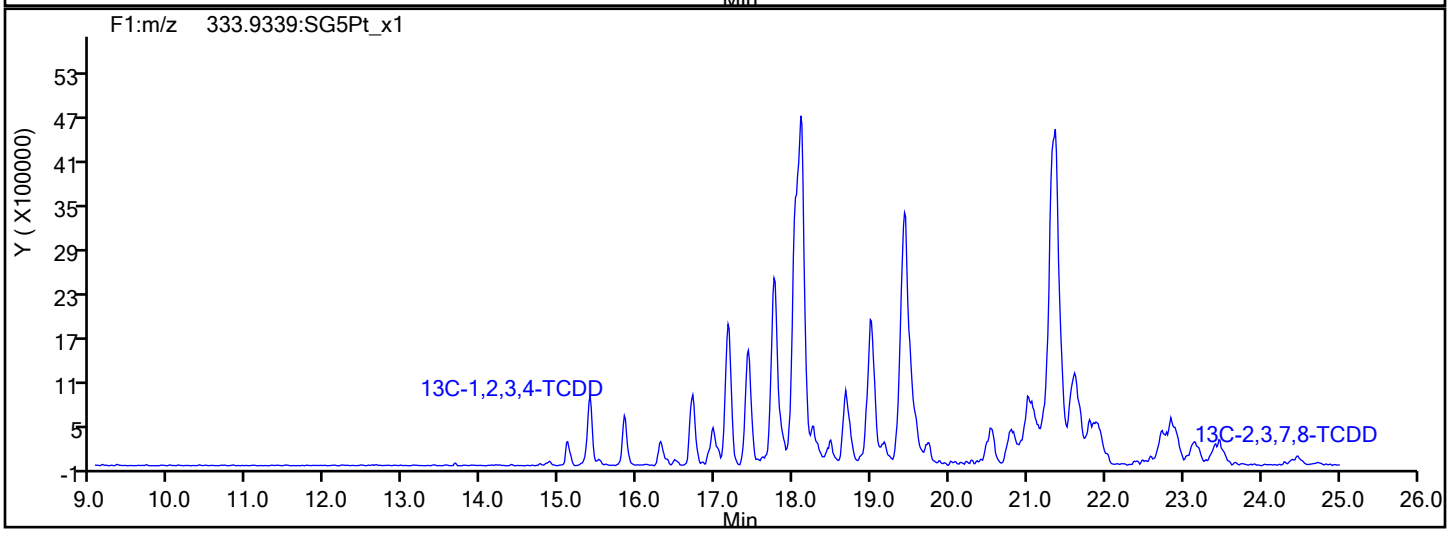

Report Date: 08-Nov-2019 11:07:39 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_005.d		
Injection Date:	07-Nov-2019 17:32:18	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 3		
Worklist#:	336810	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

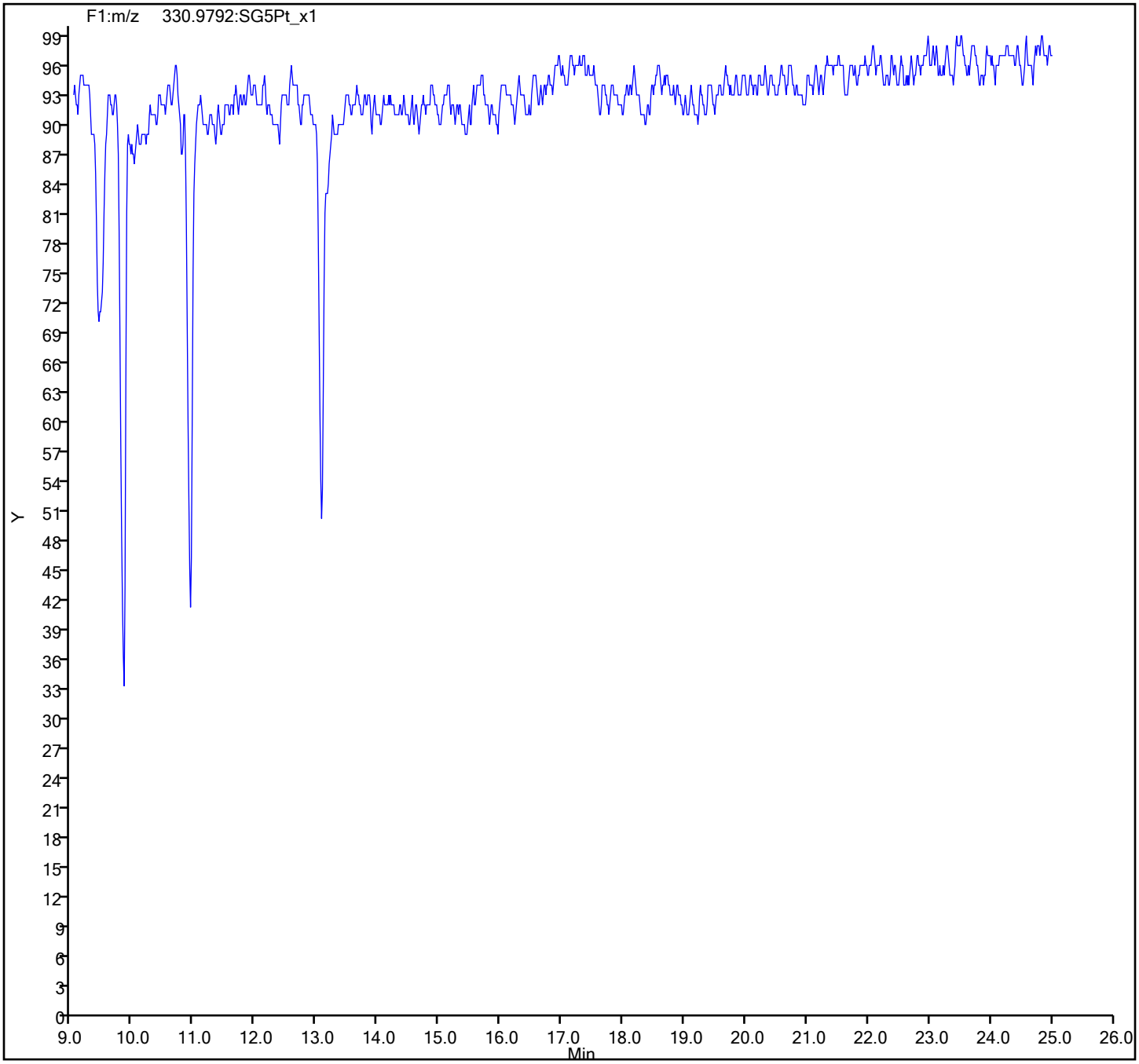

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Client Sample ID: INF 3 DL Lab Sample ID: 600-194690-8 DL

Matrix: Water Lab File ID: 07no19adfs1_9.d

Analysis Method: 1613B Date Collected: 10/25/2019 13:30

Extract. Method: 1613B Date Extracted: 11/01/2019 08:11

Sample wt/vol: 995.6(mL) Date Analyzed: 11/07/2019 21:41

Con. Extract Vol.: 20(uL) Dilution Factor: 20

Injection Volume: 1(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 336838 Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	18000		200	77
41903-57-5	Total TCDD	20000		200	77

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	38		25-164

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	94		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_9.d
Lims ID: 600-194690-C-8-A
Client ID: INF 3
Sample Type: Client
Inject. Date: 07-Nov-2019 21:41:00 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 20.0000
Sample Info: 600-194690-C-8-A (20x)
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\Dioxin_DFS1.m
Limit Group: HR - 1613B - ICAL
Last Update: 11-Nov-2019 10:25:47 Calib Date: 19-Oct-2019 00:02:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.07 :22.11)
Process Host: CTX0323

First Level Reviewer: shardaa Date: 08-Nov-2019 13:16:11

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	20.365	222013	0.80	5.2E+04	5.000	5.000				
D 13C-2,3,7,8-TCDF	19.432	147176	0.83	1.6096	2.059	2.059	0.2233	0.2233	41.18	Ma
2,3,7,8-TCDF	19.449	3944059	0.73	1.2332	108.7	108.7	0.2530	0.2530		
A Non-2,3,7,8-sub-TCDF	19.029	2803205	0.75	1.2332	77.2	77.2	0.2530	44.6		M
S Total TCDF					185.9	185.9	0.2530	0.2530		
D 13C-2,3,7,8-TCDD	20.710	84525	0.85	0.9984	1.907	1.907	0.2054	0.2054	38.13	
2,3,7,8-TCDD	20.754	916974	0.79	1.1988	45.2	45.2	0.1924	0.1924		M
$ 37Cl4-2,3,7,8-TCDD	20.762	120580		1.4510	1.872	1.872	0.0172	0.0172	93.58	
A Non-2,3,7,8-sub-TCDD	19.859	74853	0.75	1.1988	3.694	3.694	0.1924	3.694		
S Total TCDD					48.9	48.9	0.1924	0.1924		
D 13C-1,2,3,7,8-PeCDF	26.492	112025	1.62	1.3678	1.845	1.845	0.0172	0.0172	36.89	
1,2,3,7,8-PeCDF	26.517	114719	1.62	1.1689	4.380	4.380	0.0721	0.0721		M
D 13C-2,3,4,7,8-PeCDF	27.959	105634	1.44	1.3045	1.824	1.824	0.0180	0.0180	36.47	
2,3,4,7,8-PeCDF	27.984	67935	1.65	1.1861	2.711	2.711	0.0796	0.0796		
A F1 PeCDFs	23.991						0.0255	0.0255		
A Non-2,3,7,8-sub-PeCDF	27.400	100598	1.58	1.1775	3.925	3.925	0.0756	1.657		Ma
S Total PeCDF					11.0	11.0	0.0758	0.0758		
D 13C-1,2,3,7,8-PeCDD	28.764	52440	1.55	0.8292	1.591	1.424	0.0301	0.0301	31.82	RQ
1,2,3,7,8-PeCDD	28.790	5920	1.74	1.1200	0.4511	0.4511	0.0909	0.0909		
A Non-2,3,7,8-sub-PeCDD	27.590						0.0909	0.0909		
S Total PeCDD					0.4511	0.4511	0.0909	0.0909		
D 13C-1,2,3,4,7,8-HxCDF	34.346	81348	0.51	1.1700	1.507	1.507	0.0217	0.0217	30.14	
1,2,3,4,7,8-HxCDF	34.363	141112	1.21	1.3021	6.661	6.661	0.0595	0.0595		
D 13C-1,2,3,6,7,8-HxCDF	34.531	85166	0.49	1.3168	1.402	1.402	0.0192	0.0192	28.04	
1,2,3,6,7,8-HxCDF	34.548	38389	1.24	1.2907	1.746	1.746	0.0583	0.0583		
D 13C-2,3,4,6,7,8-HxCDF	35.420	83753	0.52	1.2873	1.410	1.410	0.0197	0.0197	28.21	
2,3,4,6,7,8-HxCDF	35.436						0.0495	0.0495		
D 13C-1,2,3,7,8,9-HxCDF	36.351	82452	0.57	1.1987	1.491	1.491	0.0211	0.0211	29.82	
1,2,3,7,8,9-HxCDF	36.477	10477	1.23	1.3329	0.4767	0.4767	0.0455	0.0455		M
A Non-2,3,7,8-sub-HxCDF	34.417	15116	1.25	1.3074	0.6950	0.6950	0.0526	0.4103		
S Total HxCDF					9.579	9.579	0.0532	0.0532		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	36.150	230651	1.33	5.8E+04	5.000	5.000				
D 13C-1,2,3,4,7,8-HxCDD	35.638	56516	1.33	0.8364	1.465	1.465	0.0430	0.0430	29.30	
1,2,3,4,7,8-HxCDD	35.654						0.0598	0.0598		
D 13C-1,2,3,6,7,8-HxCDD	35.772	60859	1.26	0.9040	1.459	1.459	0.0398	0.0398	29.19	
1,2,3,6,7,8-HxCDD	35.780						0.0588	0.0588		
1,2,3,7,8,9-HxCDD	36.166						0.0552	0.0552		
A Non-2,3,7,8-sub-HxCDD	34.853	5573	1.24	1.1769	0.4644	0.4034	0.0579	0.2496		RQ
S Total HxCDD					0.4644	0.4034	0.0580	0.0580		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	38.225	54835	0.45	0.9689	1.227	1.227	0.0907	0.0907	24.54	
1,2,3,4,6,7,8-HpCDF	38.242	36240	1.01	1.6176	2.043	2.043	0.0718	0.0718		
D 13C-1,2,3,4,7,8,9-HpCDF	39.508	74181	0.47	0.9231	1.742	1.742	0.0952	0.0952	34.84	
1,2,3,4,7,8,9-HpCDF	39.516	15068	1.12	1.4672	0.6922	0.6922	0.0531	0.0531		M
A Non-2,3,7,8-sub-HpCDF	38.871	18110	0.93	1.5424	0.9101	0.9101	0.0605	0.9101		
S Total HpCDF					3.645	3.645	0.0624	0.0624		
D 13C-1,2,3,4,6,7,8-HpCDD	39.198	63102	1.11	0.9114	1.501	1.501	0.0323	0.0323	30.02	
1,2,3,4,6,7,8-HpCDD	39.214	27619	1.09	1.1237	1.948	1.948	0.0502	0.0502		
A Non-2,3,7,8-sub-HpCDD	39.134	34881	1.04	1.1237	2.460	2.460	0.0502	2.460		
S Total HpCDD					4.407	4.407	0.0502	0.0502		
D 13C-OCDD	41.634	81702	0.88	0.6272	2.824	2.824	0.0859	0.0859	28.24	
OCDF	41.727	16878	0.94	1.5416	1.340	1.340	0.0897	0.0897		
OCDD	41.642	316939	0.89	1.1855	32.7	32.7	0.1269	0.1269		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_9.d
Lims ID: 600-194690-C-8-A
Client ID: INF 3
Sample Type: Client
Inject. Date: 07-Nov-2019 21:41:00 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 20.0000
Sample Info: 600-194690-C-8-A (20x)
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\Dioxin_DFS1.m
Limit Group: HR - 1613B - ICAL
Last Update: 11-Nov-2019 10:25:47 Calib Date: 19-Oct-2019 00:02:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.07 :22.11)
Process Host: CTX0323

First Level Reviewer: shardaa Date: 08-Nov-2019 13:16:11

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	20.365	20.333	2		98912	15088	463	1157	33		
333.9338	20.356	20.333	1		123101	18928	95	237	199	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											Ma
315.9419	19.432	19.392	2	0.954	66686	9725	681	1702	14		M
317.9389	19.406	19.392	1	0.953	80490	13628	297	742	46	0.83(0.65-0.89)	a
2,3,7,8-TCDF											
303.9016	19.449	19.495	-3	1.001	1660762	255000	141	352	1809		
305.8987	19.449	19.495	-3	1.001	2283297	353590	442	1105	800	0.73(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											M
303.9016	17.003	19.029	-121	0.875	44551	8212	141	352	58		
305.8987	17.003	19.029	-121	0.875	57546	10891	442	1105	25	0.77(0.65-0.89)	
303.9016	17.470	19.029	-93	0.899	51655	8715	141	352	62		M
305.8987	17.461	19.029	-94	0.899	64698	11544	442	1105	26	0.80(0.65-0.89)	
303.9016	17.902	19.029	-67	0.921	51605	6435	141	352	46		
305.8987	17.893	19.029	-68	0.921	66569	8887	442	1105	20	0.78(0.65-0.89)	
303.9016	18.256	19.029	-46	0.940	74123	11064	141	352	78		
305.8987	18.256	19.029	-46	0.940	98519	15153	442	1105	34	0.75(0.65-0.89)	
303.9016	18.749	19.029	-17	0.965	686284	113064	141	352	802		
305.8987	18.749	19.029	-17	0.965	931019	153628	442	1105	348	0.74(0.65-0.89)	
303.9016	19.146	19.029	7	0.985	32460	4875	141	352	35		
305.8987	19.146	19.029	7	0.985	37384	6135	442	1105	14	0.87(0.65-0.89)	
303.9016	20.218	19.029	71	1.040	109645	15412	141	352	109		
305.8987	20.209	19.029	71	1.040	142471	22384	442	1105	51	0.77(0.65-0.89)	
303.9016	20.607	19.029	94	1.060	24816	3423	141	352	24		
305.8987	20.633	19.029	96	1.062	29127	4117	442	1105	9	0.85(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
303.9016	22.680	19.029	219	1.167	126877	17361	141	352	123		
305.8987	22.680	19.029	219	1.167	173856	23302	442	1105	53	0.73(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	20.710	20.696	1	1.017	38951	5662	463	1157	12		
333.9338	20.736	20.696	2	1.018	45574	7127	95	237	75	0.85(0.65-0.89)	
2,3,7,8-TCDD											M
319.8965	20.754	20.783	-2	1.002	405089	57783	172	430	336		M
321.8936	20.754	20.783	-2	1.002	511885	75307	64	160	1177	0.79(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	20.762	20.788	-2	1.020	120580	18422	68	170	271		
A Non-2,3,7,8-sub-TCDD											
319.8965	21.402	19.859	92	1.033	32179	4411	172	430	26		
321.8936	21.410	19.859	93	1.034	42674	6454	64	160	101	0.75(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	26.492	26.471	1	1.301	69199	12544	37	92	339		
353.8970	26.492	26.471	1	1.301	42826	8055	27	67	298	1.62(1.32-1.78)	
1,2,3,7,8-PeCDF											M
339.8597	26.517	26.488	2	1.001	71007	13300	54	135	246		M
341.8567	26.517	26.488	2	1.001	43712	8074	85	212	95	1.62(1.32-1.78)	M
13C-2,3,4,7,8-PeCDF											
351.9000	27.959	27.939	1	1.373	62283	10475	37	92	283		
353.8970	27.976	27.939	2	1.374	43351	7907	27	67	293	1.44(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	27.984	27.964	1	1.001	42291	6779	54	135	126		
341.8567	27.993	27.964	2	1.001	25644	4238	85	212	50	1.65(1.32-1.78)	
A F1 PeCDFs											
339.8597	23.991						3	7			
341.8567	23.991						44	110			
A Non-2,3,7,8-sub-PeCDF											Ma
339.8597	25.091	27.400	-138	0.947	25965	5168	54	135	96		
341.8567	25.091	27.400	-138	0.947	16506	3183	85	212	37	1.57(1.32-1.78)	
339.8597	26.425	27.400	-58	0.997	5778	1358	54	135	25		M
341.8567	26.374	27.400	-61	0.996	3368	778	85	212	9	1.72(1.32-1.78)	
339.8597	27.095	27.400	-18	1.023	18165	3059	54	135	57		
341.8567	27.087	27.400	-19	1.022	11882	2033	85	212	24	1.53(1.32-1.78)	
339.8597	28.328	27.400	56	1.069	11770	1841	54	135	34		
341.8567	28.320	27.400	55	1.069	7164	1157	85	212	14	1.64(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											RQ
367.8949	28.764	28.727	2	1.412	38018	6435	41	102	157		
	Empc Correction				31875	5779	41	102	141		
369.8919	28.756	28.727	2	1.412	20565	3729	27	67	138	1.85(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	28.790	28.752	2	1.001	3757	678	64	160	11		
357.8516	28.756	28.752	0	1.000	2163	371	19	47	20	1.74(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-PeCDD											
355.8546	27.590						64	160			
357.8516	27.590						19	47			
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.346	34.326	1	0.950	27618	5654	31	77	182		
385.8610	34.338	34.326	1	0.950	53730	11902	88	220	135	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.363	34.343	1	1.000	77309	17153	69	172	249		
375.8178	34.363	34.343	1	1.000	63803	13896	40	100	347	1.21(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	34.531	34.503	2	0.955	28114	5461	31	77	176		
385.8610	34.523	34.503	1	0.955	57052	12616	88	220	143	0.49(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	34.548	34.519	2	1.000	21239	4158	69	172	60		
375.8178	34.539	34.519	1	1.000	17150	3540	40	100	89	1.24(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	35.420	35.392	2	0.980	28490	7002	31	77	226		
385.8610	35.412	35.392	1	0.980	55263	14089	88	220	160	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	35.408						69	172			
375.8178	35.408						40	100			
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.351	36.340	1	1.006	29873	8478	31	77	273		
385.8610	36.351	36.340	1	1.006	52579	13935	88	220	158	0.57(0.43-0.59)	
1,2,3,7,8,9-HxCDF											M
373.8208	36.477	36.348	8	1.003	5785	1596	69	172	23		
375.8178	36.468	36.348	7	1.003	4692	1210	40	100	30	1.23(1.05-1.43)	M
A Non-2,3,7,8-sub-HxCDF											
373.8208	32.686	34.417	-104	0.952	4786	977	69	172	14		
375.8178	32.686	34.417	-104	0.952	4138	724	40	100	18	1.16(1.05-1.43)	
373.8208	33.658	34.417	-45	0.980	3613	801	69	172	12		
375.8178	33.667	34.417	-45	0.980	2579	593	40	100	15	1.40(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	36.150	36.130	1		131692	33617	82	205	410		
403.8529	36.150	36.130	1		98959	25005	87	217	287	1.33(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	35.638	35.627	1	0.986	32220	8753	82	205	107		
403.8529	35.646	35.627	1	0.986	24296	6366	87	217	73	1.33(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	35.643						38	95			
391.8127	35.643						47	117			
13C-1,2,3,6,7,8-HxCDD											
401.8559	35.772	35.752	1	0.990	33987	8716	82	205	106		
403.8529	35.764	35.752	1	0.989	26872	7296	87	217	84	1.26(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,6,7,8-HxCDD											
389.8158	35.761						38	95			
391.8127	35.761						47	117			
1,2,3,7,8,9-HxCDD											
389.8158	36.147						38	95			
391.8127	36.147						47	117			
A Non-2,3,7,8-sub-HxCDD											RQ
389.8158	33.600	34.853	-75	0.939	1909	459	38	95	12		
391.8127	33.575	34.853	-77	0.939	2036	347	47	117	7	0.94(1.05-1.43)	
	Empc Correction				1539	370	47	117	8		
389.8158	34.816	34.853	-2	0.973	1521	308	38	95	8		
	Empc Correction				1176	348	38	95	9		
391.8127	34.816	34.853	-2	0.973	949	281	47	117	6	1.60(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.225	38.213	1	1.057	16888	5444	293	732	19		
419.8220	38.233	38.213	1	1.058	37947	12932	119	297	109	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.242	38.229	1	1.000	18251	5987	133	332	45		
409.7788	38.242	38.229	1	1.000	17989	6210	38	95	163	1.01(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	39.508	39.497	1	1.093	23851	9234	293	732	32		
419.8220	39.508	39.497	1	1.093	50330	18185	119	297	153	0.47(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											M
407.7817	39.516	39.513	0	1.000	7970	2769	133	332	21		M
409.7788	39.516	39.513	0	1.000	7098	2610	38	95	69	1.12(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7817	38.619	38.871	-15	1.010	8723	3126	133	332	24		
409.7788	38.610	38.871	-16	1.010	9387	3278	38	95	86	0.93(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.198	39.187	1	1.084	33188	11240	92	230	122		
437.8140	39.198	39.187	1	1.084	29914	10474	46	115	228	1.11(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7767	39.214	39.202	1	1.000	14410	5086	60	150	85		
425.7737	39.206	39.202	0	1.000	13209	4575	38	95	120	1.09(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7767	38.560	39.134	-34	0.984	17765	5909	60	150	98		
425.7737	38.560	39.134	-34	0.984	17116	5915	38	95	156	1.04(0.88-1.20)	
13C-OCDD											
469.7780	41.634	41.624	1	1.152	38317	13288	169	422	79		
471.7750	41.626	41.624	0	1.151	43385	13973	84	210	166	0.88(0.76-1.02)	
OCDF											
441.7428	41.727	41.717	1	1.002	8193	2563	55	137	47		
443.7399	41.727	41.717	1	1.002	8685	2992	96	240	31	0.94(0.76-1.02)	
OCDD											
457.7377	41.642	41.633	1	1.000	149022	51094	72	180	710		
459.7348	41.642	41.633	1	1.000	167917	57123	92	230	621	0.89(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_9.d
Lims ID: 600-194690-C-8-A
Client ID: INF 3
Inject. Date: 07-Nov-2019 21:41:00 Dil. Factor: 20.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 336838 Lims Sample ID: 8

Non-2,3,7,8-sub-TCDF, RT: 19.029

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.233	D 13C-2,3,7,8-TCDF	100.000	147176	23353

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.233		5.000	147176	23353

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
17.003	44551	8212	57546	10891	2.81	0.77	
17.470	51655	8715	64698	11544	3.21	0.80	M
17.902	51605	6435	66569	8887	3.26	0.78	
18.256	74123	11064	98519	15153	4.76	0.75	
18.749	686284	113064	931019	153628	44.6	0.74	
19.146	32460	4875	37384	6135	1.92	0.87	
20.218	109645	15412	142471	22384	6.95	0.77	
20.607	24816	3423	29127	4117	1.49	0.85	
22.680	126877	17361	173856	23302	8.28	0.73	
Signal Totals:							
	1202016	188561	1601189	256041			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2803205	444602				0.75	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 77.222 = (2803205 * 5.000) / (147176 * 1.233)

QC Flag Legend

Review Flags
M - Manually Integrated

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_9.d
Lims ID: 600-194690-C-8-A
Client ID: INF 3
Inject. Date: 07-Nov-2019 21:41:00 Dil. Factor: 20.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 336838 Lims Sample ID: 8

Non-2,3,7,8-sub-TCDD, RT: 19.859

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.199	D 13C-2,3,7,8-TCDD	100.000	84525	12789

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.199		5.000	84525	12789

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
21.402	32179	4411	42674	6454	3.69	0.75	
Signal Totals:							
	32179	4411	42674	6454			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	74853	10865				0.75	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 3.694 = (74853 * 5.000) / (84525 * 1.199)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_9.d
Lims ID: 600-194690-C-8-A
Client ID: INF 3
Inject. Date: 07-Nov-2019 21:41:00 Dil. Factor: 20.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 336838 Lims Sample ID: 8

Non-2,3,7,8-sub-PeCDF, RT: 27.400

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.169	D 13C-1,2,3,7,8-PeCDF	100.000	112025	20599
2,3,4,7,8-PeCDF	1.186	D 13C-2,3,4,7,8-PeCDF	100.000	105634	18382

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.178		5.000	108829	19490

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
25.091	25965	5168	16506	3183	1.66	1.57	
26.425	5778	1358	3368	778	0.3569	1.72	Ma
27.095	18165	3059	11882	2033	1.17	1.53	
28.328	11770	1841	7164	1157	0.7388	1.64	
Signal Totals:							
	61678	11426	38920	7151			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	100598	18577				1.58	Ma

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 3.925 = (100598 * 5.000) / (108829 * 1.178)

QC Flag Legend

Review Flags
M - Manually Integrated
a - User Assigned ID

Report Date: 11-Nov-2019 10:25:56 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_9.d		
Lims ID:	600-194690-C-8-A		
Client ID:	INF 3		
Inject. Date:	07-Nov-2019 21:41:00	Dil. Factor:	20.0000
Sample Type:	Client Sample		
Instrument ID:	DFS 1	Operator:	Xcalibur_System
Lims Batch ID:	336838	Lims Sample ID:	8

Non-2,3,7,8-sub-HxCDF, RT: 34.417

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.302	D 13C-1,2,3,4,7,8-HxCDF	100.000	81348	17556
1,2,3,6,7,8-HxCDF	1.291	D 13C-1,2,3,6,7,8-HxCDF	100.000	85166	18077
2,3,4,6,7,8-HxCDF	1.304	D 13C-2,3,4,6,7,8-HxCDF	100.000	83753	21091
1,2,3,7,8,9-HxCDF	1.333	D 13C-1,2,3,7,8,9-HxCDF	100.000	82452	22413

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.307		5.000	83179	19784

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
32.686	4786	977	4138	724	0.4103	1.16	
33.658	3613	801	2579	593	0.2847	1.40	
Signal Totals:							
	8399	1778	6717	1317			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	15116	3095				1.25	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)

Quant By: Area

Amount: 0.6950 = (15116 * 5.000) / (83179 * 1.307)

Report Date: 11-Nov-2019 10:25:56 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_9.d		
Lims ID:	600-194690-C-8-A		
Client ID:	INF 3		
Inject. Date:	07-Nov-2019 21:41:00	Dil. Factor:	20.0000
Sample Type:	Client Sample		
Instrument ID:	DFS 1	Operator:	Xcalibur_System
Lims Batch ID:	336838	Lims Sample ID:	8

Non-2,3,7,8-sub-HxCDD, RT: 34.853

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.172	D 13C-1,2,3,4,7,8-HxCDD	100.000	56516	15119
1,2,3,6,7,8-HxCDD	1.126	D 13C-1,2,3,6,7,8-HxCDD	100.000	60859	16012
1,2,3,7,8,9-HxCDD	1.233				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.177		5.000	58687	15565

Sum the Uncalibrated Results

RT	389.8158 Area	389.8158 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
33.600	1909	459	2036	347	0.2856	0.94	RQ
33.600	1909	459	1539	370	0.2496		Empc Correction
34.816	1521	308	949	281	0.1788	1.60	RQ
34.816	1176	348	949	281	0.1538		Empc Correction
Signal Totals:							
	3085	807	2488	651			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	6415	1395				1.15	RQ
	5573	1458					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)

Quant By: Area

Amount: 0.4644 = (6415 * 5.000) / (58687 * 1.177)

Empc Amount: 0.4034 = (5573 * 5.000) / (58687 * 1.177)

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_9.d		
Lims ID:	600-194690-C-8-A		
Client ID:	INF 3		
Inject. Date:	07-Nov-2019 21:41:00	Dil. Factor:	20.0000
Sample Type:	Client Sample		
Instrument ID:	DFS 1	Operator:	Xcalibur_System
Lims Batch ID:	336838	Lims Sample ID:	8

Non-2,3,7,8-sub-HpCDF, RT: 38.871

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.618	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	54835	18376
1,2,3,4,7,8,9-HpCDF	1.467	D 13C-1,2,3,4,7,8,9-HpCDF	100.000	74181	27419

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.542		5.000	64508	22897

Sum the Uncalibrated Results

RT	407.7817 Area	407.7817 Height	409.7788 Area	409.7788 Height	Amount	Ratio	Flags
38.619	8723	3126	9387	3278	0.9101	0.93	
Signal Totals:							
	8723	3126	9387	3278			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	18110	6404				0.93	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.9101 = (18110 * 5.000) / (64508 * 1.542)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_9.d
Lims ID: 600-194690-C-8-A
Client ID: INF 3
Inject. Date: 07-Nov-2019 21:41:00 Dil. Factor: 20.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 336838 Lims Sample ID: 8

Non-2,3,7,8-sub-HpCDD, RT: 39.134

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.124	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	63102	21714

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.124		5.000	63102	21714

Sum the Uncalibrated Results

RT	423.7767 Area	423.7767 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
38.560	17765	5909	17116	5915	2.46	1.04	
Signal Totals:							
	17765	5909	17116	5915			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	34881	11824				1.04	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 2.460 = (34881 * 5.000) / (63102 * 1.124)

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_9.d				
Injection Date:	07-Nov-2019 21:41:00	Instrument ID:	DFS 1		
Lims ID:	600-194690-C-8-A	Lab Sample ID:	320-194690-8		
Client ID:	INF 3				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1(14.07 :22.11)		

2,3,7,8-TCDD, CAS: 1746-01-6

Signal: 1

Processing Integration Results

RT: 20.75
Area: 408275
Amount: 45.404133
Amount Units: pg/ul

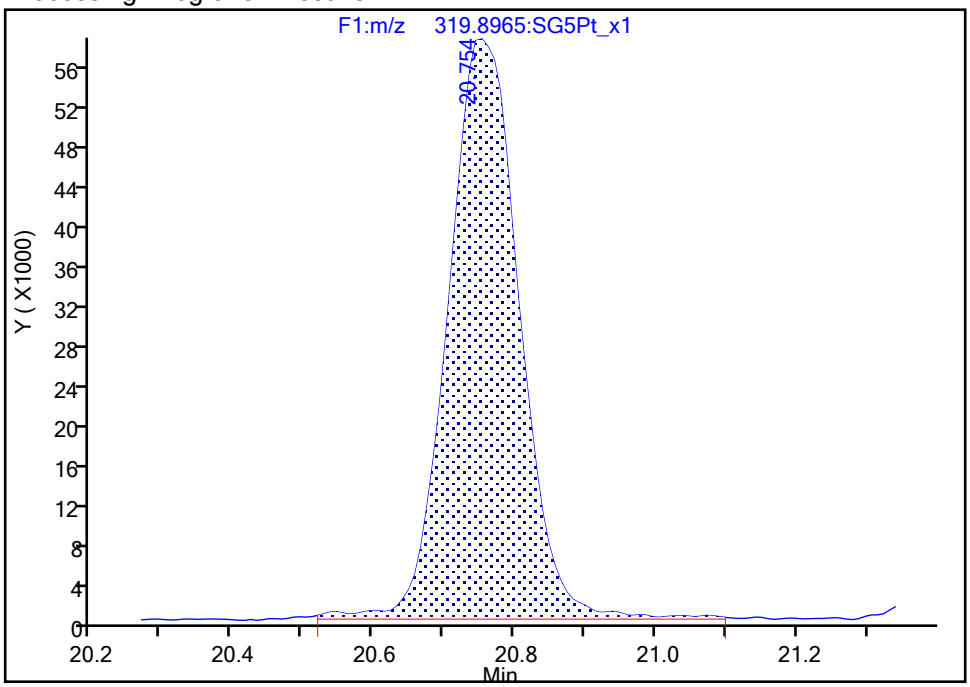

Manual Integration Results

RT: 20.75
Area: 405089
Amount: 45.246924
Amount Units: pg/ul

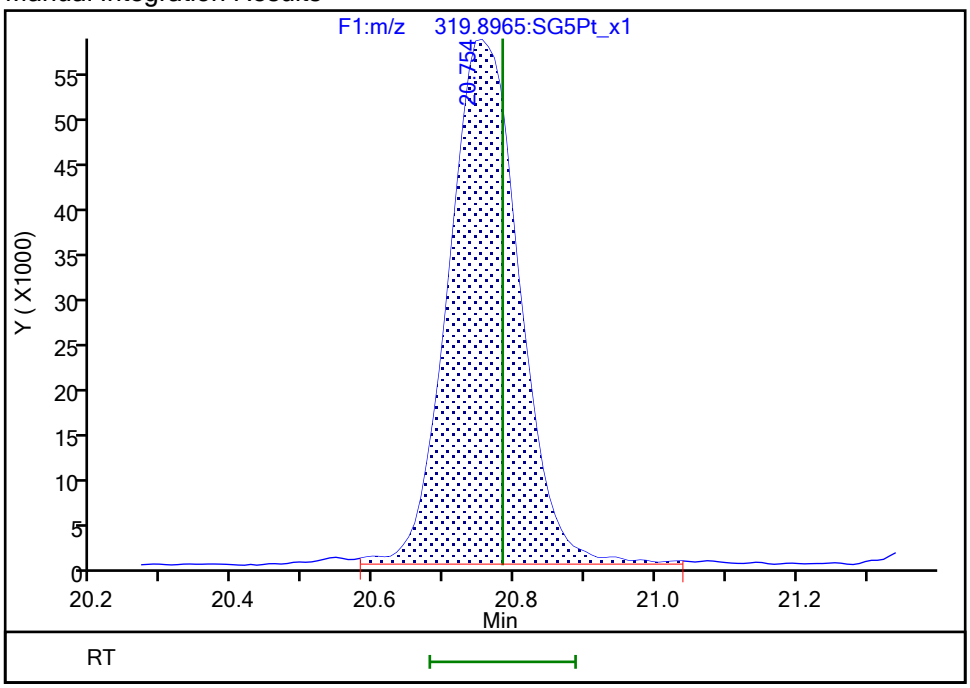

Reviewer: dadunj, 11-Nov-2019 10:22:50

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 11-Nov-2019 10:25:57 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_9.d		
Injection Date:	07-Nov-2019 21:41:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 3		
Worklist#:	336838	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

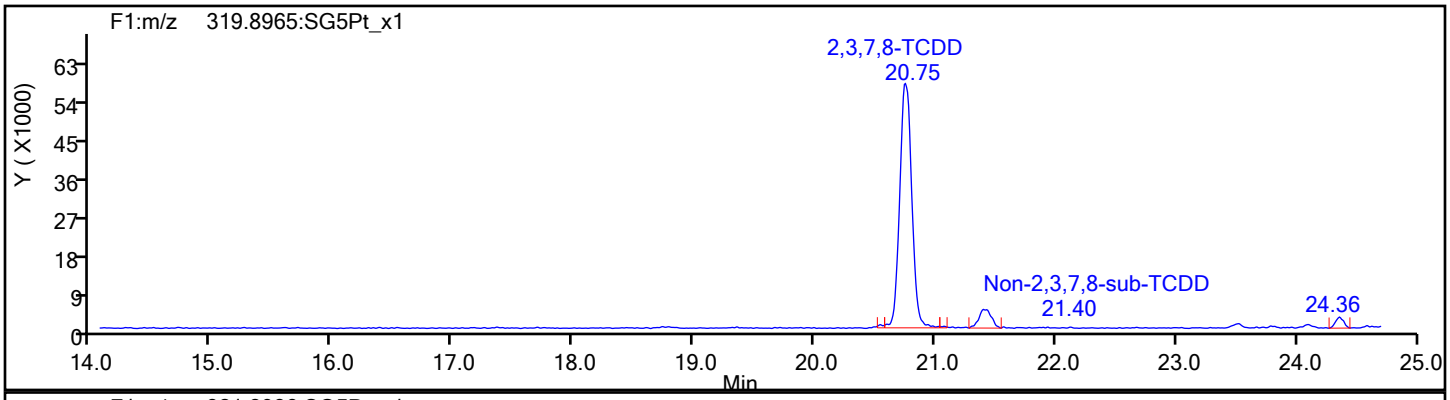

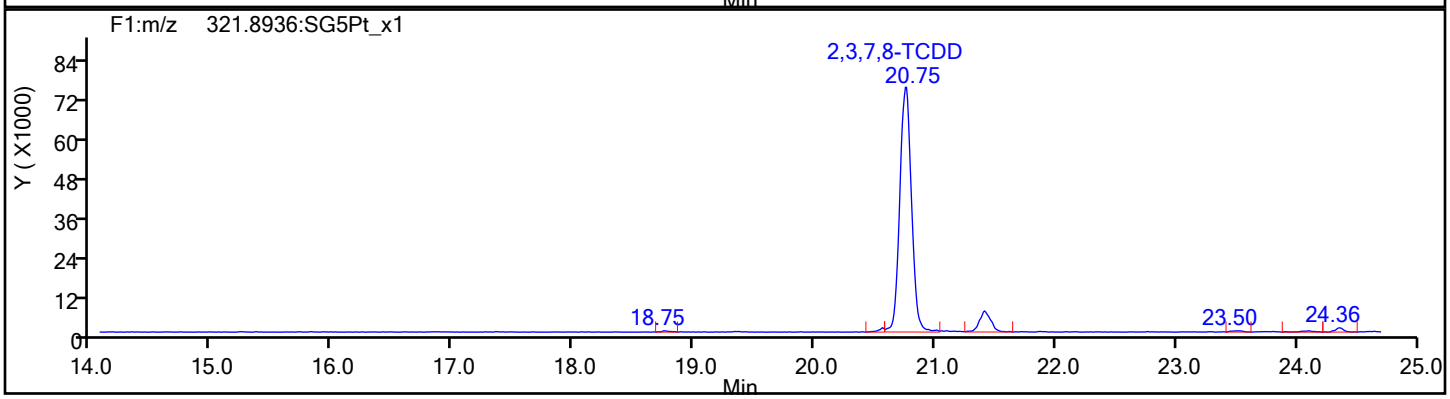

TCDD Standards

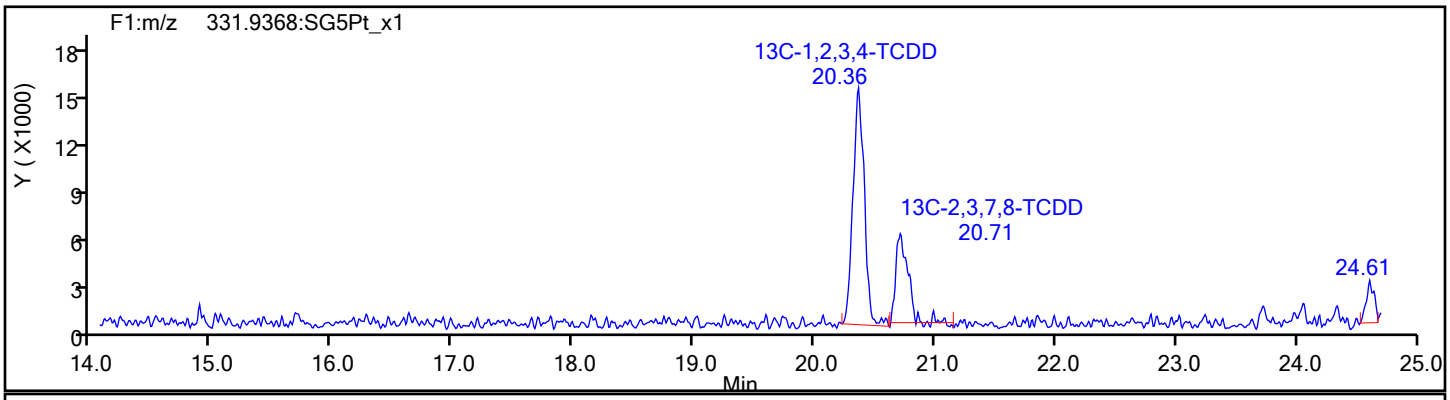

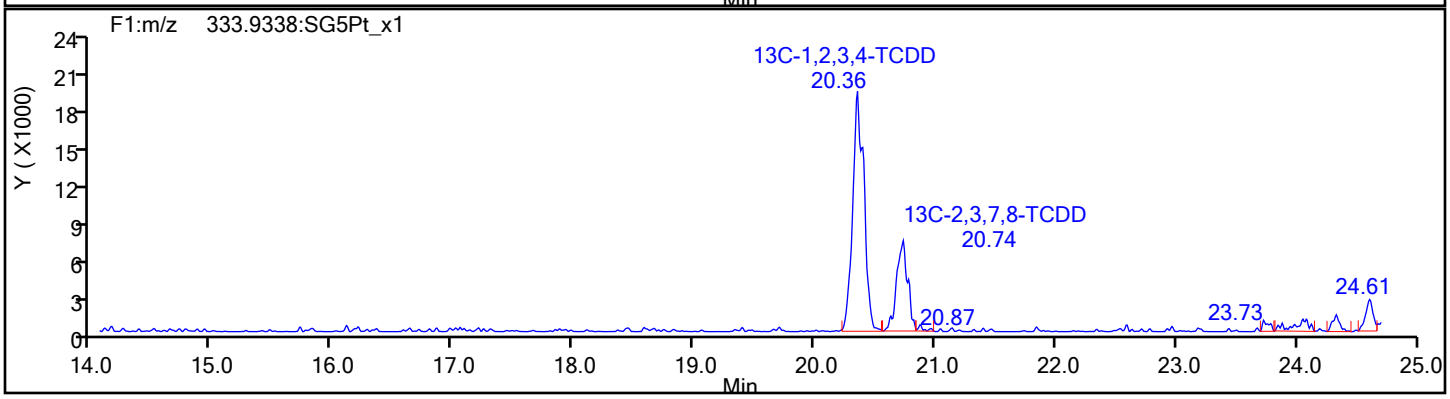

Report Date: 11-Nov-2019 10:25:57 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_9.d		
Injection Date:	07-Nov-2019 21:41:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 3		
Worklist#:	336838	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

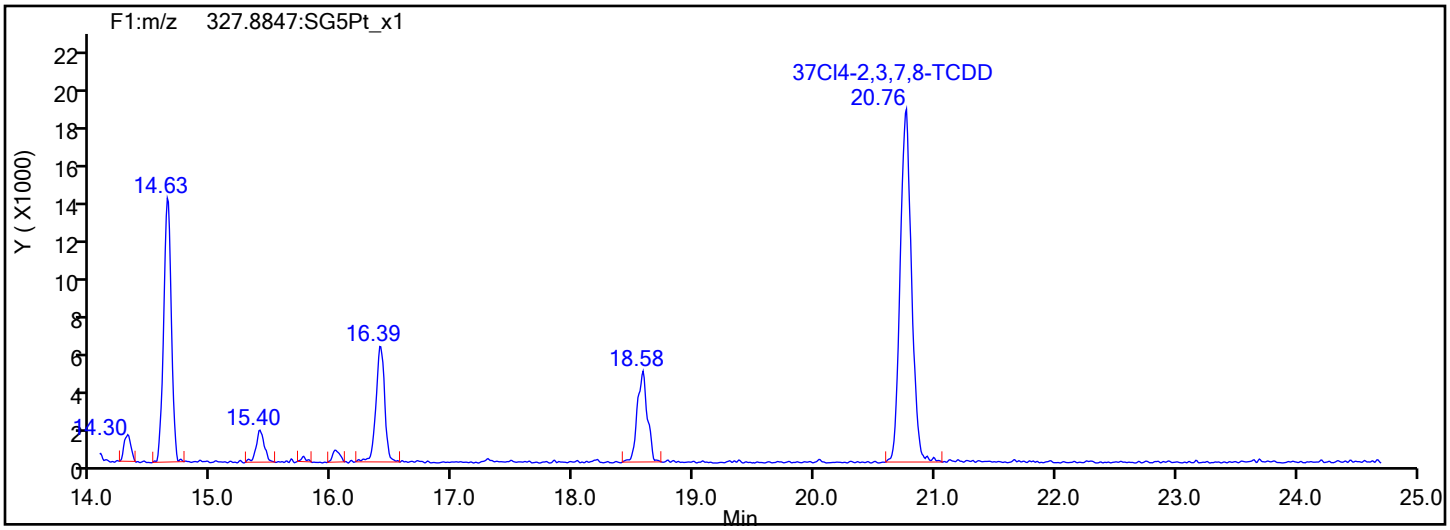

37Cl4-TCDD Standards

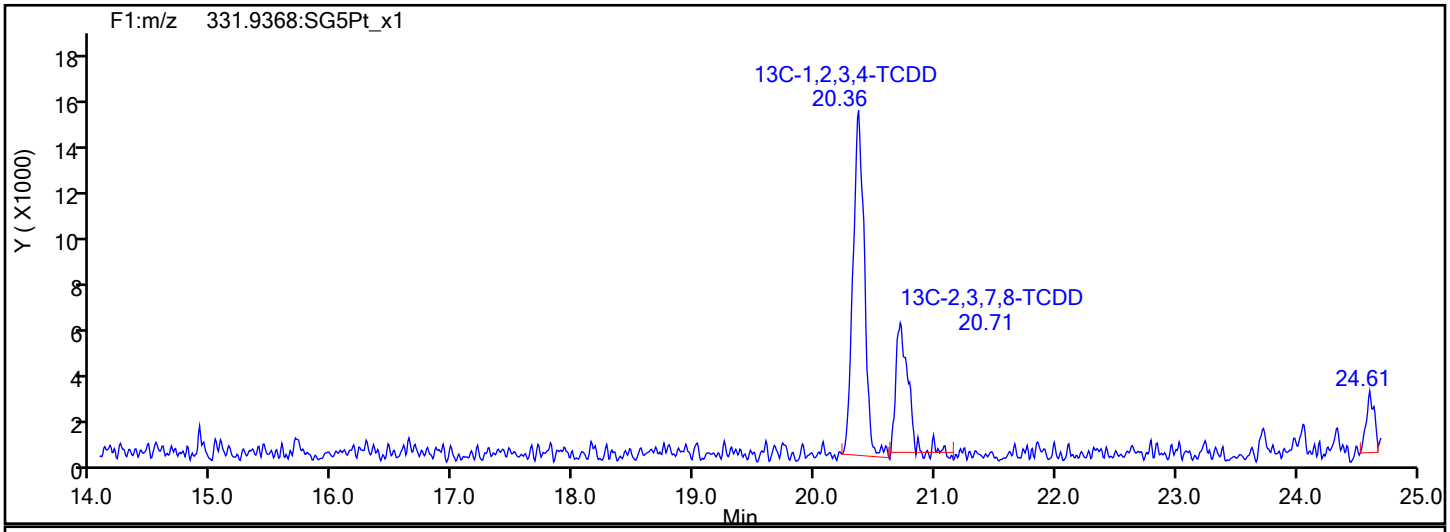

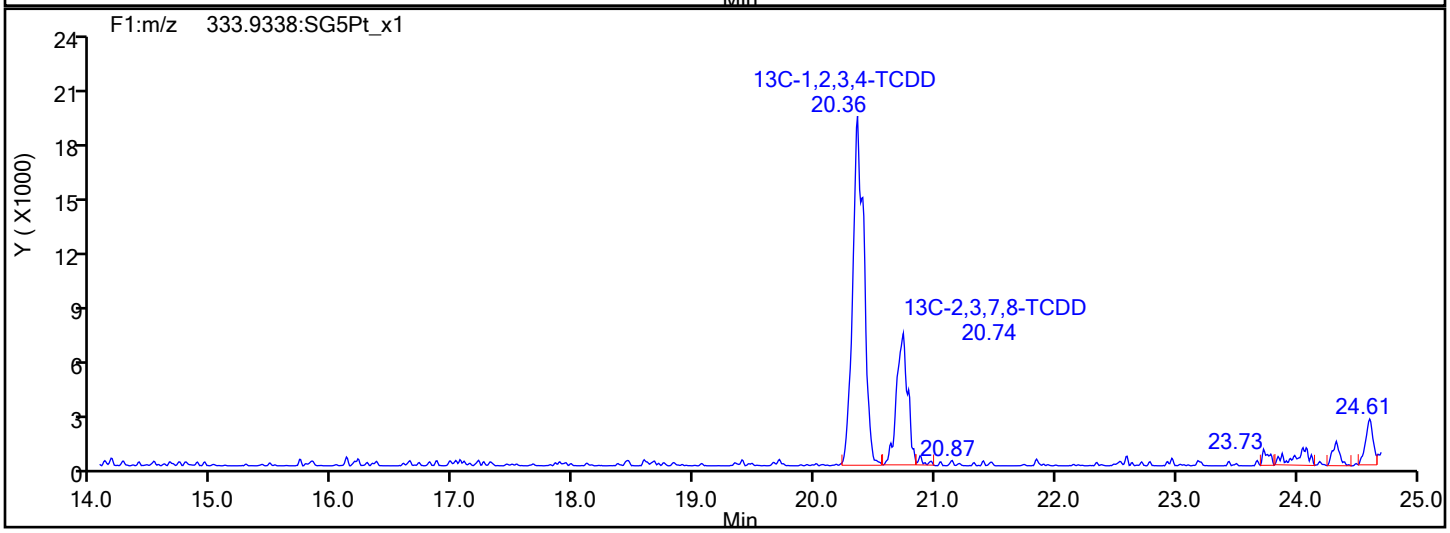

Report Date: 11-Nov-2019 10:25:58 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_9.d		
Injection Date:	07-Nov-2019 21:41:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 3		
Worklist#:	336838	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

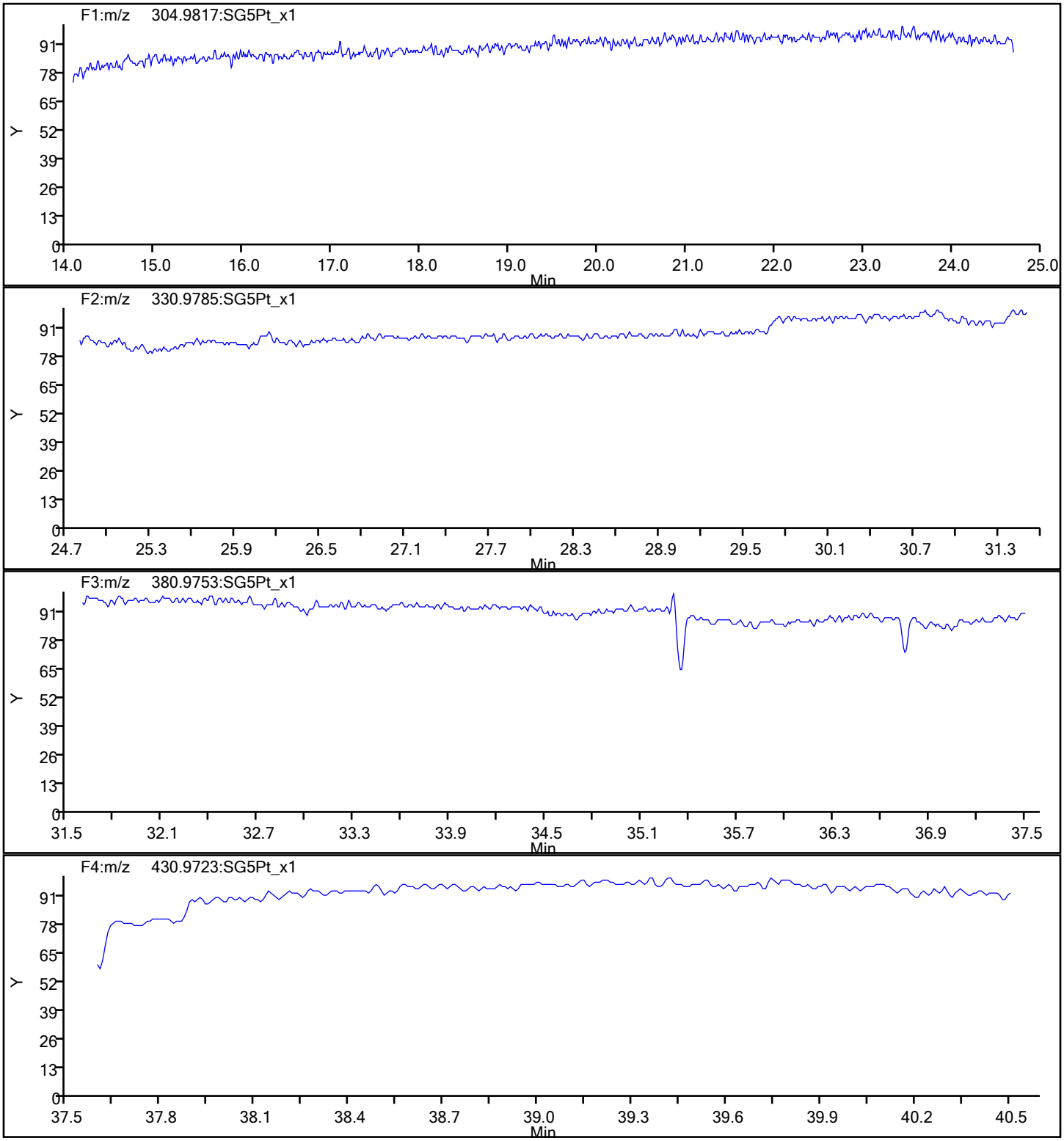

Report Date: 11-Nov-2019 10:25:58 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_9.d		
Injection Date:	07-Nov-2019 21:41:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 3		
Worklist#:	336838	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

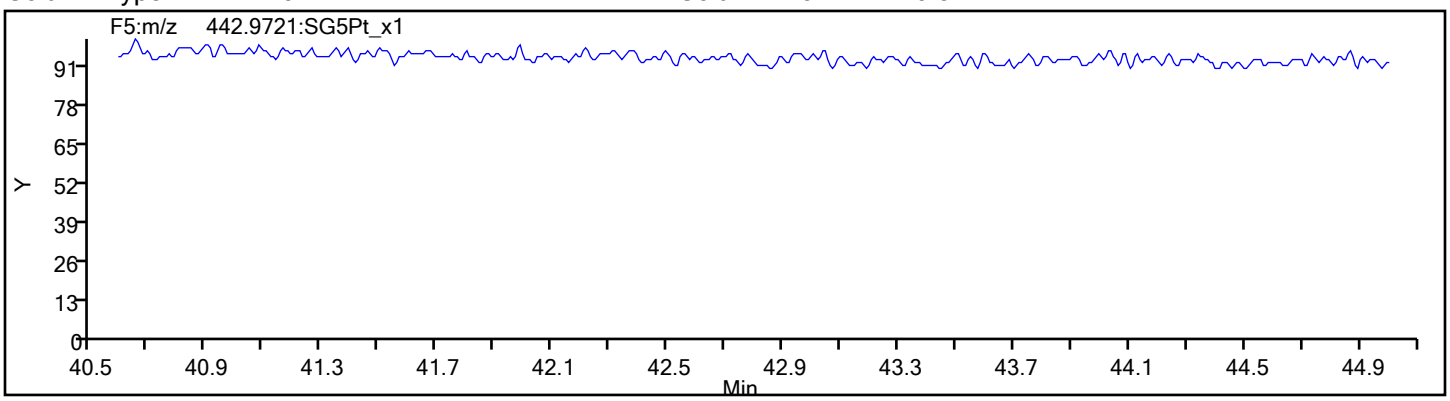

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 600-194690-1
SDG No.:
Client Sample ID: INF 3 - DISSOLVED
Lab Sample ID: 600-194690-9
Matrix: Water
Lab File ID: 05NO19B10D5_9.d
Analysis Method: 1613B
Date Collected: 10/25/2019 13:30
Extract. Method: 1613B
Date Extracted: 11/01/2019 08:11
Sample wt/vol: 998.7(mL)
Date Analyzed: 11/06/2019 01:40
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 336302
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	3800	G	14	14
40321-76-4	1,2,3,7,8-PeCDD	40	J	50	1.9
57117-41-6	1,2,3,7,8-PeCDF	450		50	4.1
57117-31-4	2,3,4,7,8-PeCDF	250		50	4.3
39227-28-6	1,2,3,4,7,8-HxCDD	4.6	J B	50	1.3
57653-85-7	1,2,3,6,7,8-HxCDD	6.7	J q	50	1.4
19408-74-3	1,2,3,7,8,9-HxCDD	5.7	J B	50	1.2
70648-26-9	1,2,3,4,7,8-HxCDF	750		50	5.0
57117-44-9	1,2,3,6,7,8-HxCDF	190		50	4.5
72918-21-9	1,2,3,7,8,9-HxCDF	14	J B	50	2.8
60851-34-5	2,3,4,6,7,8-HxCDF	23	J B	50	3.1
35822-46-9	1,2,3,4,6,7,8-HpCDD	250		50	4.5
67562-39-4	1,2,3,4,6,7,8-HpCDF	240	B	50	3.0
55673-89-7	1,2,3,4,7,8,9-HpCDF	88	B	50	3.2
3268-87-9	OCDD	5400	B *	100	4.7
39001-02-0	OCDF	170	B	100	1.9
41903-57-5	Total TCDD	4000	G	14	14
30402-14-3	Total TCDF	21000	G B	44	44
36088-22-9	Total PeCDD	51	q	50	1.9
30402-15-4	Total PeCDF	1100		50	4.2
34465-46-8	Total HxCDD	74	q B	50	1.3
55684-94-1	Total HxCDF	1100	B	50	3.8
37871-00-4	Total HpCDD	630		50	4.5
38998-75-3	Total HpCDF	430	B	50	3.1

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Client Sample ID: INF 3 - DISSOLVED Lab Sample ID: 600-194690-9

Matrix: Water Lab File ID: 05NO19B10D5_9.d

Analysis Method: 1613B Date Collected: 10/25/2019 13:30

Extract. Method: 1613B Date Extracted: 11/01/2019 08:11

Sample wt/vol: 998.7(mL) Date Analyzed: 11/06/2019 01:40

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 336302 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	51		25-164
89059-46-1	13C-2,3,7,8-TCDF	48		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	48		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	48		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	51		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	47		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	45		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	49		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	45		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	47		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	45		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	36		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	34		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	39		26-138
114423-97-1	13C-OCDD	27		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	99		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_9.d
Lims ID: 600-194690-B-9-A
Client ID: INF 3 - DISSOLVED
Sample Type: Client
Inject. Date: 06-Nov-2019 01:40:22 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 600-194690-B-9-A 600-194690-B-9-A
Misc. Info.: 05NO19B10D5
Operator ID: ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 10-Nov-2019 09:24:34 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: arghestanis Date: 06-Nov-2019 08:12:53

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.260	83473444	0.78	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.777	57319908	0.78	1.4384	47.7	47.7	0.2062	0.2062	47.74	
2,3,7,8-TCDF	16.792	356154897	0.79	1.0507	591.3	591.3	2.197	2.197		E
A Non-2,3,7,8-sub-TCDF	16.459	267394393	0.78	1.0507	444.0	444.0	2.197	249.4		a
S Total TCDF					1035.3	1035.3	2.197	2.197		
D 13C-2,3,7,8-TCDD	17.442	40471245	0.76	0.9533	50.9	50.9	0.3329	0.3329	50.86	
2,3,7,8-TCDD	17.457	83895375	0.80	1.1064	187.4	187.4	0.7069	0.7069		
$ 37Cl4-2,3,7,8-TCDD	17.457	40602564		1.2224	39.8	39.8	0.2823	0.2823	99.48	
A Non-2,3,7,8-sub-TCDD	16.890	6470778	0.75	1.1064	14.5	14.5	0.7069	12.9		
S Total TCDD					201.8	201.8	0.7069	0.7069		
D 13C-1,2,3,7,8-PeCDF	21.527	41129478	1.57	1.0286	47.9	47.9	0.1324	0.1324	47.90	
1,2,3,7,8-PeCDF	21.554	9970081	1.58	1.0822	22.4	22.4	0.2049	0.2049		
D 13C-2,3,4,7,8-PeCDF	22.795	41572816	1.57	0.9827	50.7	50.7	0.1385	0.1385	50.68	
2,3,4,7,8-PeCDF	22.822	5748497	1.64	1.1032	12.5	12.5	0.2129	0.2129		
A F1 PeCDFs	19.158	173728	1.39	1.0927	0.3845	0.3845	0.0507	0.3845		M
A Non-2,3,7,8-sub-PeCDF	22.128	9017715	1.58	1.0927	20.0	20.0	0.2088	8.610		
S Total PeCDF					55.3	55.3	0.2089	0.2089		
D 13C-1,2,3,7,8-PeCDD	23.477	29983623	1.57	0.7481	48.0	48.0	0.0867	0.0867	48.02	
1,2,3,7,8-PeCDD	23.517	538960	1.43	0.9050	1.986	1.986	0.0971	0.0971		
A Non-2,3,7,8-sub-PeCDD	22.406	158184	1.55	0.9050	2.969	0.5829	0.0971	0.2743		RQ
S Total PeCDD					4.955	2.569	0.0971	0.0971		RQ
D 13C-1,2,3,4,7,8-HxCDF	29.546	31660617	0.52	1.1520	49.1	49.1	0.2179	0.2179	49.09	
1,2,3,4,7,8-HxCDF	29.586	14256646	1.25	1.1973	37.6	37.6	0.2490	0.2490		
D 13C-1,2,3,6,7,8-HxCDF	29.826	31365215	0.53	1.2434	45.1	45.1	0.2019	0.2019	45.06	
1,2,3,6,7,8-HxCDF	29.866	3593726	1.24	1.1807	9.704	9.704	0.2226	0.2226		
D 13C-2,3,4,6,7,8-HxCDF	30.917	29436170	0.52	1.1720	44.9	44.9	0.2142	0.2142	44.87	
2,3,4,6,7,8-HxCDF	30.931	402245	1.36	1.2116	1.128	1.128	0.1533	0.1533		
D 13C-1,2,3,7,8,9-HxCDF	31.849	27833109	0.51	1.0655	46.7	46.7	0.2356	0.2356	46.66	
1,2,3,7,8,9-HxCDF	31.862	242006	1.20	1.2451	0.6983	0.6983	0.1399	0.1399		Ma
A Non-2,3,7,8-sub-HxCDF	29.354	2362707	1.34	1.2087	6.500	6.500	0.1810	2.547		Ma

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					55.6	55.6	0.1912	0.1912		
* 13C-1,2,3,7,8,9-HxCDD	31.649	55983740	1.25	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.157	20766030	1.26	0.7812	47.5	47.5	0.2362	0.2362	47.48	
1,2,3,4,7,8-HxCDD	31.184	52609	1.10	1.1088	0.2285	0.2285	0.0661	0.0661		Ma
D 13C-1,2,3,6,7,8-HxCDD	31.277	22875202	1.24	0.9175	44.5	44.5	0.2011	0.2011	44.54	
1,2,3,6,7,8-HxCDD	31.303	82399	1.24	1.0814	0.3614	0.3331	0.0688	0.0688		RQM
1,2,3,7,8,9-HxCDD	31.663	75324	1.23	1.2123	0.2847	0.2847	0.0609	0.0609		
A Non-2,3,7,8-sub-HxCDD	29.926	710224	1.14	1.1342	2.870	2.870	0.0651	1.935		
S Total HxCDD					3.744	3.716	0.0653	0.0653		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	33.394	16228454	0.42	0.8628	33.6	33.6	0.5029	0.5029	33.60	
1,2,3,4,6,7,8-HpCDF	33.406	3003545	1.07	1.5555	11.9	11.9	0.1474	0.1474		
D 13C-1,2,3,4,7,8,9-HpCDF	34.451	17480363	0.44	0.7991	39.1	39.1	0.5430	0.5430	39.08	
1,2,3,4,7,8,9-HpCDF	34.463	1069639	1.02	1.3862	4.414	4.414	0.1613	0.1613		
A Non-2,3,7,8-sub-HpCDF	33.922	1337142	1.08	1.4709	5.394	5.394	0.1539	5.394		Ma
S Total HpCDF					21.7	21.7	0.1544	0.1544		
D 13C-1,2,3,4,6,7,8-HpCDD	34.171	17405406	1.00	0.8739	35.6	35.6	0.2264	0.2264	35.58	
1,2,3,4,6,7,8-HpCDD	34.183	2010271	1.05	0.9316	12.4	12.4	0.2264	0.2264		
A Non-2,3,7,8-sub-HpCDD	34.038	3086996	1.06	0.9316	19.0	19.0	0.2264	19.0		
S Total HpCDD					31.4	31.4	0.2264	0.2264		
D 13C-OCDD	36.462	23663469	0.87	0.7744	54.6	54.6	0.1137	0.1137	27.29	
OCDF	36.546	1270458	0.84	1.2596	8.525	8.525	0.0936	0.0936		
OCDD	36.462	33793499	0.91	1.0621	268.9	268.9	0.2360	0.2360		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- E - Exceeded Maximum Amount
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_9.d
Lims ID: 600-194690-B-9-A
Client ID: INF 3 - DISSOLVED
Sample Type: Client
Inject. Date: 06-Nov-2019 01:40:22 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 600-194690-B-9-A 600-194690-B-9-A
Misc. Info.: 05NO19B10D5
Operator ID: ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 10-Nov-2019 09:24:34 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: arghestanis Date: 06-Nov-2019 08:12:53

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.260	17.230	2		36605372	9402762	11629	29072	809		
333.9339	17.260	17.230	2		46868072	11940786	15466	38665	772	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.777	16.761	1	0.972	25102795	6416329	11924	29810	538		
317.9389	16.777	16.761	1	0.972	32217113	8063331	13394	33485	602	0.78(0.65-0.89)	
2,3,7,8-TCDF											E
303.9016	16.792	16.761	2	1.001	156649090	38390907	43529	108822	882		
305.8987	16.792	16.761	2	1.001	199505807	48392818	90195	225487	537	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											a
303.9016	15.446	16.459	-61	0.921	5863494	1670089	43529	108822	38		
305.8987	15.446	16.459	-61	0.921	7538911	2156628	90195	225487	24	0.78(0.65-0.89)	
303.9016	15.703	16.459	-45	0.936	7466383	1601387	43529	108822	37		
305.8987	15.703	16.459	-45	0.936	9573739	2049880	90195	225487	23	0.78(0.65-0.89)	
303.9016	15.930	16.459	-32	0.950	5352423	1436331	43529	108822	33		
305.8987	15.930	16.459	-32	0.950	6950607	1841211	90195	225487	20	0.77(0.65-0.89)	
303.9016	16.157	16.459	-18	0.963	7079376	1640208	43529	108822	38		
305.8987	16.157	16.459	-18	0.963	8904121	2099178	90195	225487	23	0.80(0.65-0.89)	
303.9016	16.414	16.459	-3	0.978	65892756	17035931	43529	108822	391		
305.8987	16.414	16.459	-3	0.978	84312285	22101033	90195	225487	245	0.78(0.65-0.89)	
303.9016	16.625	16.459	10	0.991	2969533	760019	43529	108822	17		
305.8987	16.625	16.459	10	0.991	3912547	1014319	90195	225487	11	0.76(0.65-0.89)	
303.9016	17.185	16.459	43	1.024	10014559	2462386	43529	108822	57		
305.8987	17.185	16.459	43	1.024	12917396	3166818	90195	225487	35	0.78(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
303.9016	17.427	16.459	58	1.039	2182655	517312	43529	108822	12		
305.8987	17.427	16.459	58	1.039	2689215	643124	90195	225487	7	0.81(0.65-0.89)	
303.9016	18.515	16.459	123	1.104	10397390	2429531	43529	108822	56		a
305.8987	18.515	16.459	123	1.104	13377003	3109913	90195	225487	34	0.78(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.442	17.427	1	1.011	17463167	4270458	11629	29072	367		
333.9339	17.442	17.427	1	1.011	23008078	5651413	15466	38665	365	0.76(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.457	17.427	2	1.001	37232511	9065361	18865	47162	481		
321.8936	17.457	17.427	2	1.001	46662864	11482320	12177	30442	943	0.80(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.457	17.442	1	1.011	40602564	9947035	29457	73642	338		
A Non-2,3,7,8-sub-TCDD											
319.8965	17.351	16.890	28	0.995	317909	98413	18865	47162	5		
321.8936	17.351	16.890	28	0.995	386095	116356	12177	30442	10	0.82(0.65-0.89)	
319.8965	17.805	16.890	55	1.021	2462245	592142	18865	47162	31		
321.8936	17.805	16.890	55	1.021	3304529	748716	12177	30442	61	0.75(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	21.527	21.513	1	1.247	25098790	4579140	6981	17452	656		
353.8970	21.527	21.513	1	1.247	16030688	2988282	4642	11605	644	1.57(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.554	21.527	2	1.001	6111599	1097581	4031	10077	272		
341.8567	21.554	21.527	2	1.001	3858482	696161	2682	6705	260	1.58(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	22.795	22.781	1	1.321	25390590	4354196	6981	17452	624		
353.8970	22.795	22.781	1	1.321	16182226	2790994	4642	11605	601	1.57(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.822	22.795	2	1.001	3570701	625689	4031	10077	155		
341.8567	22.822	22.795	2	1.001	2177796	385016	2682	6705	144	1.64(1.32-1.78)	
A F1 PeCDFs											M
339.8597	18.803	19.158	-21	0.873	101022	23792	825	2062	29		M
341.8567	18.803	19.158	-21	0.873	72706	19660	805	2012	24	1.39(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDF											
339.8597	20.286	22.128	-110	0.942	2384116	483065	4031	10077	120		
341.8567	20.286	22.128	-110	0.942	1506331	297919	2682	6705	111	1.58(1.32-1.78)	
339.8597	21.431	22.128	-42	0.996	436122	104663	4031	10077	26		
341.8567	21.431	22.128	-42	0.996	288378	65874	2682	6705	25	1.51(1.32-1.78)	
339.8597	22.045	22.128	-5	1.024	1599759	272976	4031	10077	68		
341.8567	22.045	22.128	-5	1.024	1025785	185787	2682	6705	69	1.56(1.32-1.78)	
339.8597	23.136	22.128	60	1.075	862259	133058	4031	10077	33		
341.8567	23.136	22.128	60	1.075	521560	85027	2682	6705	32	1.65(1.32-1.78)	
339.8597	24.663	22.128	152	1.146	240587	36969	4031	10077	9		
341.8567	24.663	22.128	152	1.146	152818	25594	2682	6705	10	1.57(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDD											
367.8949	23.477	23.463	1	1.360	18329458	2947458	3351	8377	880		
369.8919	23.477	23.463	1	1.360	11654165	1781066	2188	5470	814	1.57(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.517	23.476	2	1.002	317233	51824	806	2015	64		
357.8516	23.517	23.476	2	1.002	221727	34378	856	2140	40	1.43(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											RQ
355.8546	20.477	22.406	-116	0.872	31478	6647	806	2015	8		
357.8516	20.463	22.406	-116	0.872	648086	135688	856	2140	159	0.05(1.32-1.78)	
	Empc Correction				20308	4288	856	2140	5		
355.8546	21.581	22.406	-49	0.919	45252	7740	806	2015	10		
357.8516	21.636	22.406	-46	0.922	48811	8257	856	2140	10	0.93(1.32-1.78)	
	Empc Correction				29194	4993	856	2140	6		
355.8546	21.827	22.406	-35	0.930	19078	4504	806	2015	6		
357.8516	21.827	22.406	-35	0.930	12874	3396	856	2140	4	1.48(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.546	29.533	1	0.934	10828725	1244126	4808	12020	259		
385.8610	29.546	29.533	1	0.934	20831892	2386702	7846	19615	304	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.586	29.533	3	1.001	7919278	925510	1947	4867	475		
375.8178	29.586	29.533	3	1.001	6337368	742102	2383	5957	311	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.826	29.813	1	0.942	10880190	1439117	4808	12020	299		
385.8610	29.826	29.813	1	0.942	20485025	2679044	7846	19615	341	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	29.866	29.826	2	1.001	1991814	249014	1947	4867	128		
375.8178	29.853	29.826	2	1.001	1601912	205156	2383	5957	86	1.24(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	30.917	30.904	1	0.977	10104026	2034385	4808	12020	423		
385.8610	30.917	30.904	1	0.977	19332144	3792730	7846	19615	483	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	30.931	30.917	1	1.000	231547	47103	1947	4867	24		
375.8178	30.931	30.917	1	1.000	170698	32657	2383	5957	14	1.36(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.849	31.836	1	1.006	9458718	2148153	4808	12020	447		
385.8610	31.849	31.836	1	1.006	18374391	4065660	7846	19615	518	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											Ma
373.8208	31.862	31.849	1	1.000	131820	35469	1947	4867	18		M
375.8178	31.862	31.849	1	1.000	110186	26777	2383	5957	11	1.20(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											Ma
373.8208	27.191	29.354	-130	0.920	530945	71676	1947	4867	37		
375.8178	27.177	29.354	-130	0.920	394784	53142	2383	5957	22	1.34(1.05-1.43)	
373.8208	28.455	29.354	-54	0.963	341504	42647	1947	4867	22		
375.8178	28.442	29.354	-55	0.963	251915	31117	2383	5957	13	1.36(1.05-1.43)	
373.8208	31.956	29.354	156	1.082	480529	115990	1947	4867	60		M
375.8178	31.956	29.354	156	1.082	363030	88870	2383	5957	37	1.32(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.649	31.636	1		31104193	7009344	5016	12540	1397		
403.8529	31.649	31.636	1		24879547	5590744	4283	10707	1305	1.25(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.157	31.143	1	0.984	11574614	2597499	5016	12540	518		
403.8529	31.157	31.143	1	0.984	9191416	2094721	4283	10707	489	1.26(1.05-1.43)	
1,2,3,4,7,8-HxCDD											Ma
389.8157	31.184	31.144	2	1.001	27575	5914	688	1720	9		M
391.8127	31.170	31.144	2	1.000	25034	6125	687	1717	9	1.10(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.277	31.263	1	0.988	12663911	2532272	5016	12540	505		
403.8529	31.277	31.263	1	0.988	10211291	2085091	4283	10707	487	1.24(1.05-1.43)	
1,2,3,6,7,8-HxCDD											RQM
389.8157	31.303	31.277	2	1.001	45614	8949	688	1720	13		M
391.8127	31.303	31.277	2	1.001	43779	10036	687	1717	15	1.04(1.05-1.43)	
	Empc Correction				36785	7216	687	1717	11		
1,2,3,7,8,9-HxCDD											
389.8157	31.663	31.649	1	1.016	41561	7419	688	1720	11		
391.8127	31.663	31.649	1	1.016	33763	6239	687	1717	9	1.23(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	28.335	29.926	-95	0.906	250272	27786	688	1720	40		
391.8127	28.322	29.926	-96	0.906	228504	28409	687	1717	41	1.10(1.05-1.43)	
389.8157	30.212	29.926	17	0.966	127436	19608	688	1720	29		
391.8127	30.199	29.926	16	0.966	104012	15859	687	1717	23	1.23(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.394	33.393	0	1.055	4830065	1440072	6349	15872	227		
419.8220	33.394	33.393	0	1.055	11398389	3281494	15519	38797	211	0.42(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.406	33.394	1	1.000	1551909	470364	1992	4980	236		
409.7789	33.406	33.394	1	1.000	1451636	420878	2338	5845	180	1.07(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.451	34.451	0	1.089	5382924	1507004	6349	15872	237		
419.8220	34.451	34.451	0	1.089	12097439	3333570	15519	38797	215	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.463	34.451	1	1.000	539696	144749	1992	4980	73		
409.7789	34.463	34.451	1	1.000	529943	141052	2338	5845	60	1.02(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											Ma
407.7818	33.697	33.922	-13	1.009	694157	218288	1992	4980	110		
409.7789	33.697	33.922	-13	1.009	642985	196737	2338	5845	84	1.08(0.88-1.20)	M
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.171	34.171	0	1.080	8711011	2350044	5274	13185	446		
437.8140	34.171	34.171	0	1.080	8694395	2331051	4696	11740	496	1.00(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.183	34.172	1	1.000	1028544	270468	2164	5410	125		
425.7737	34.183	34.172	1	1.000	981727	279659	1786	4465	157	1.05(0.88-1.20)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.649	34.038	-23	0.985	1591797	481165	2164	5410	222		
425.7737	33.649	34.038	-23	0.985	1495199	445447	1786	4465	249	1.06(0.88-1.20)	
13C-OCDD											
469.7779	36.462	36.462	0	1.152	10985867	2593565	2486	6215	1043		
471.7750	36.462	36.462	0	1.152	12677602	3015836	1953	4882	1544	0.87(0.76-1.02)	
OCDF											
441.7428	36.546	36.546	0	1.002	581780	144904	552	1380	263		
443.7399	36.546	36.546	0	1.002	688678	158307	771	1927	205	0.84(0.76-1.02)	
OCDD											
457.7377	36.462	36.462	0	1.000	16089440	3762697	1295	3237	2906		
459.7348	36.462	36.462	0	1.000	17704059	4209531	1517	3792	2775	0.91(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

E - Exceeded Maximum Amount

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_9.d
Lims ID: 600-194690-B-9-A
Client ID: INF 3 - DISSOLVED
Inject. Date: 06-Nov-2019 01:40:22 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 9

Non-2,3,7,8-sub-TCDF, RT: 16.459

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.051	D 13C-2,3,7,8-TCDF	100.000	57319908	14479660

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.051		100.000	57319908	14479660

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
15.446	5863494	1670089	7538911	2156628	22.3	0.78	
15.703	7466383	1601387	9573739	2049880	28.3	0.78	
15.930	5352423	1436331	6950607	1841211	20.4	0.77	
16.157	7079376	1640208	8904121	2099178	26.5	0.80	
16.414	65892756	17035931	84312285	22101033	249.4	0.78	
16.625	2969533	760019	3912547	1014319	11.4	0.76	
17.185	10014559	2462386	12917396	3166818	38.1	0.78	
17.427	2182655	517312	2689215	643124	8.09	0.81	
18.515	10397390	2429531	13377003	3109913	39.5	0.78	a
Signal Totals:							
	117218569	29553194	150175824	38182104			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	267394393	67735298				0.78	a

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 443.972 = (267394393 * 100.000) / (57319908 * 1.051)

QC Flag Legend

Review Flags
a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_9.d
Lims ID: 600-194690-B-9-A
Client ID: INF 3 - DISSOLVED
Inject. Date: 06-Nov-2019 01:40:22 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 9

Non-2,3,7,8-sub-TCDD, RT: 16.890

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.106	D 13C-2,3,7,8-TCDD	100.000	40471245	9921871

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.106		100.000	40471245	9921871

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
17.351	317909	98413	386095	116356	1.57	0.82	
17.805	2462245	592142	3304529	748716	12.9	0.75	
Signal Totals:							
	2780154	690555	3690624	865072			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	6470778	1555627				0.75	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 14.451 = (6470778 * 100.000) / (40471245 * 1.106)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_9.d
Lims ID: 600-194690-B-9-A
Client ID: INF 3 - DISSOLVED
Inject. Date: 06-Nov-2019 01:40:22 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 9

F1 PeCDFs, RT: 19.158

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.082	D 13C-1,2,3,7,8-PeCDF	100.000	41129478	7567422
2,3,4,7,8-PeCDF	1.103	D 13C-2,3,4,7,8-PeCDF	100.000	41572816	7145190

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.093		100.000	41351147	7356306

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
18.803	101022	23792	72706	19660	0.3845	1.39	M
Signal Totals:							
	101022	23792	72706	19660			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	173728	43452				1.39	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.3845 = (173728 * 100.000) / (41351147 * 1.093)

QC Flag Legend

Review Flags
M - Manually Integrated

Report Date: 10-Nov-2019 09:24:35 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_9.d
Lims ID: 600-194690-B-9-A
Client ID: INF 3 - DISSOLVED
Inject. Date: 06-Nov-2019 01:40:22 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 9

Non-2,3,7,8-sub-PeCDF, RT: 22.128

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.082	D 13C-1,2,3,7,8-PeCDF	100.000	41129478	7567422
2,3,4,7,8-PeCDF	1.103	D 13C-2,3,4,7,8-PeCDF	100.000	41572816	7145190

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.093		100.000	41351147	7356306

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
20.286	2384116	483065	1506331	297919	8.61	1.58	
21.431	436122	104663	288378	65874	1.60	1.51	
22.045	1599759	272976	1025785	185787	5.81	1.56	
23.136	862259	133058	521560	85027	3.06	1.65	
24.663	240587	36969	152818	25594	0.8706	1.57	
Signal Totals:							
	5522843	1030731	3494872	660201			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	9017715	1690932				1.58	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 19.957 = (9017715 * 100.000) / (41351147 * 1.093)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_9.d
Lims ID: 600-194690-B-9-A
Client ID: INF 3 - DISSOLVED
Inject. Date: 06-Nov-2019 01:40:22 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 9

Non-2,3,7,8-sub-PeCDD, RT: 22.406

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDD	0.905	D 13C-1,2,3,7,8-PeCDD	100.000	29983623	4728524

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.905		100.000	29983623	4728524

Sum the Uncalibrated Results

RT	355.8546 Area	355.8546 Height	357.8516 Area	357.8516 Height	Amount	Ratio	Flags
20.477	31478	6647	648086	135688	2.50	0.05	RQ
20.477	31478	6647	20308	4288	0.1908		Empc Correction
21.581	45252	7740	48811	8257	0.3466	0.93	RQ
21.581	45252	7740	29194	4993	0.2743		Empc Correction
21.827	19078	4504	12874	3396	0.1177	1.48	
Signal Totals:							
	95808	18891	62376	12677			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	805579	166232				0.13	RQ
	158184	31568					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 2.969 = (805579 * 100.000) / (29983623 * 0.905)
Empc Amount: 0.5829 = (158184 * 100.000) / (29983623 * 0.905)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_9.d
Lims ID: 600-194690-B-9-A
Client ID: INF 3 - DISSOLVED
Inject. Date: 06-Nov-2019 01:40:22 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 9

Non-2,3,7,8-sub-HxCDF, RT: 29.354

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.197	D 13C-1,2,3,4,7,8-HxCDF	100.000	31660617	3630828
1,2,3,6,7,8-HxCDF	1.181	D 13C-1,2,3,6,7,8-HxCDF	100.000	31365215	4118161
2,3,4,6,7,8-HxCDF	1.212	D 13C-2,3,4,6,7,8-HxCDF	100.000	29436170	5827115
1,2,3,7,8,9-HxCDF	1.245	D 13C-1,2,3,7,8,9-HxCDF	100.000	27833109	6213813

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.209		100.000	30073777	4947479

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
27.191	530945	71676	394784	53142	2.55	1.34	
28.455	341504	42647	251915	31117	1.63	1.36	
31.956	480529	115990	363030	88870	2.32	1.32	Ma
Signal Totals:							
	1352978	230313	1009729	173129			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2362707	403442				1.34	Ma

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 6.500 = (2362707 * 100.000) / (30073777 * 1.209)

QC Flag Legend

Review Flags
M - Manually Integrated
a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_9.d
Lims ID: 600-194690-B-9-A
Client ID: INF 3 - DISSOLVED
Inject. Date: 06-Nov-2019 01:40:22 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 9

Non-2,3,7,8-sub-HxCDD, RT: 29.926

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.109	D 13C-1,2,3,4,7,8-HxCDD	100.000	20766030	4692220
1,2,3,6,7,8-HxCDD	1.081	D 13C-1,2,3,6,7,8-HxCDD	100.000	22875202	4617363
1,2,3,7,8,9-HxCDD	1.212				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.134		100.000	21820616	4654791

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
28.335	250272	27786	228504	28409	1.93	1.10	
30.212	127436	19608	104012	15859	0.9352	1.23	
Signal Totals:							
	377708	47394	332516	44268			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	710224	91662				1.14	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 2.870 = (710224 * 100.000) / (21820616 * 1.134)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_9.d
Lims ID: 600-194690-B-9-A
Client ID: INF 3 - DISSOLVED
Inject. Date: 06-Nov-2019 01:40:22 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 9

Non-2,3,7,8-sub-HpCDF, RT: 33.922

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.556	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	16228454	4721566
1,2,3,4,7,8,9-HpCDF	1.386	D 13C-1,2,3,4,7,8,9-HpCDF	100.000	17480363	4840574

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.471		100.000	16854408	4781070

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
33.697	694157	218288	642985	196737	5.39	1.08	M
Signal Totals:							
	694157	218288	642985	196737			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1337142	415025				1.08	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 5.394 = (1337142 * 100.000) / (16854408 * 1.471)

QC Flag Legend

Review Flags
M - Manually Integrated

Report Date: 10-Nov-2019 09:24:35 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_9.d
Lims ID: 600-194690-B-9-A
Client ID: INF 3 - DISSOLVED
Inject. Date: 06-Nov-2019 01:40:22 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 9

Non-2,3,7,8-sub-HpCDD, RT: 34.038

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.932	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	17405406	4681095

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.932		100.000	17405406	4681095

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
33.649	1591797	481165	1495199	445447	19.0	1.06	
Signal Totals:							
	1591797	481165	1495199	445447			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	3086996	926612				1.06	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 19.038 = (3086996 * 100.000) / (17405406 * 0.932)

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_9.d				
Injection Date:	06-Nov-2019 01:40:22	Instrument ID:	10D5		
Lims ID:	600-194690-B-9-A	Lab Sample ID:	320-194690-9		
Client ID:	INF 3 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

F1 PeCDFs, Signal: 1, m/z: 339.8597, RT: (18.71- 19.60)

Signal: 1

Processing Integration Results

RT = 18.803 Area = 110374

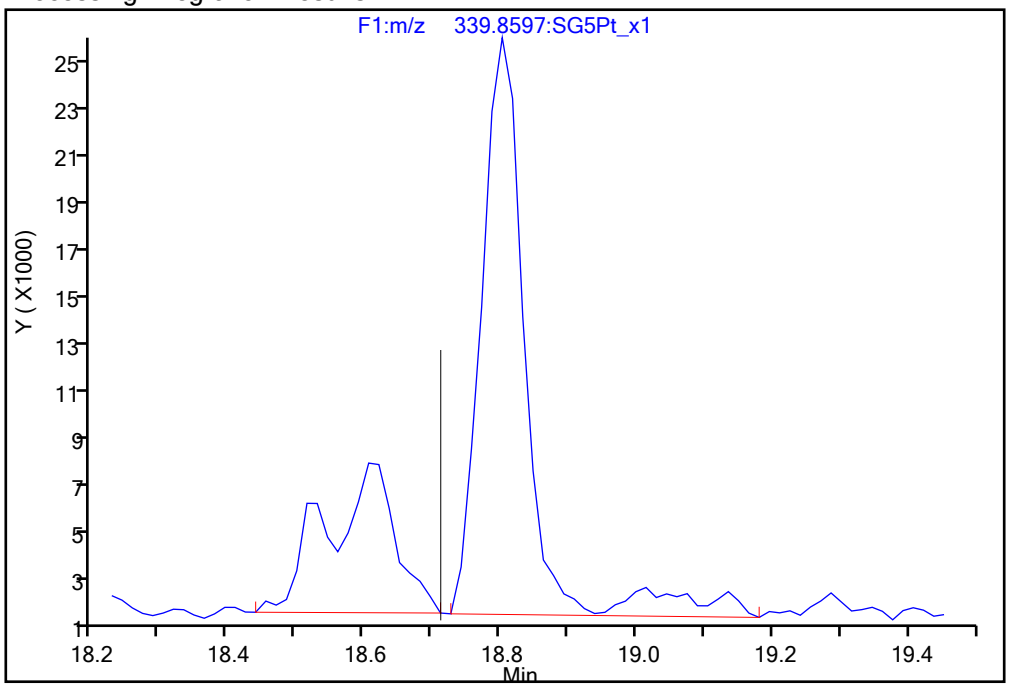

Manual Integration Results

RT = 18.803 Area = 101022 M

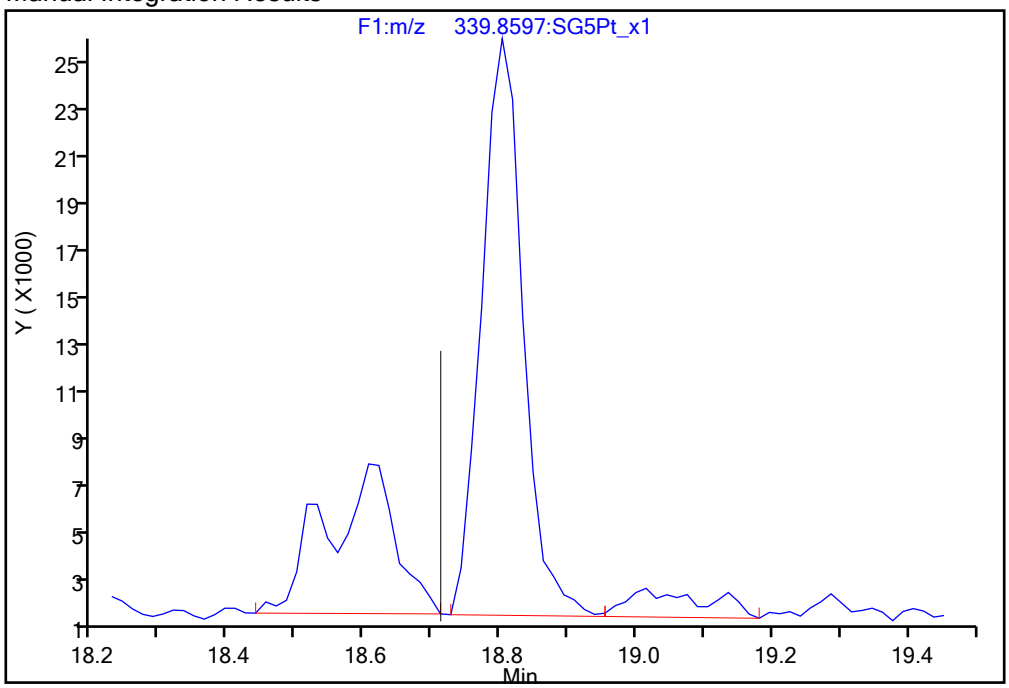

Reviewer: dadunj, 08-Nov-2019 08:59:48

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_9.d				
Injection Date:	06-Nov-2019 01:40:22	Instrument ID:	10D5		
Lims ID:	600-194690-B-9-A	Lab Sample ID:	320-194690-9		
Client ID:	INF 3 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 2

Processing Integration Results

RT: 31.96
Area: 363030
Amount: 2.814483
Amount Units: pg/ul

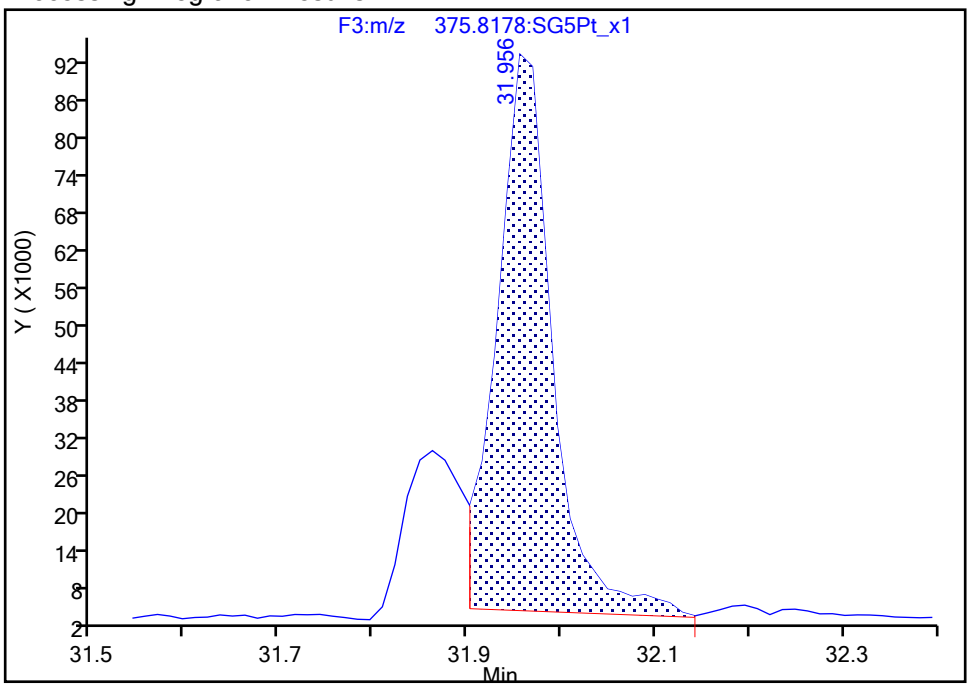

Manual Integration Results

RT: 31.86
Area: 110186
Amount: 0.698314
Amount Units: pg/ul

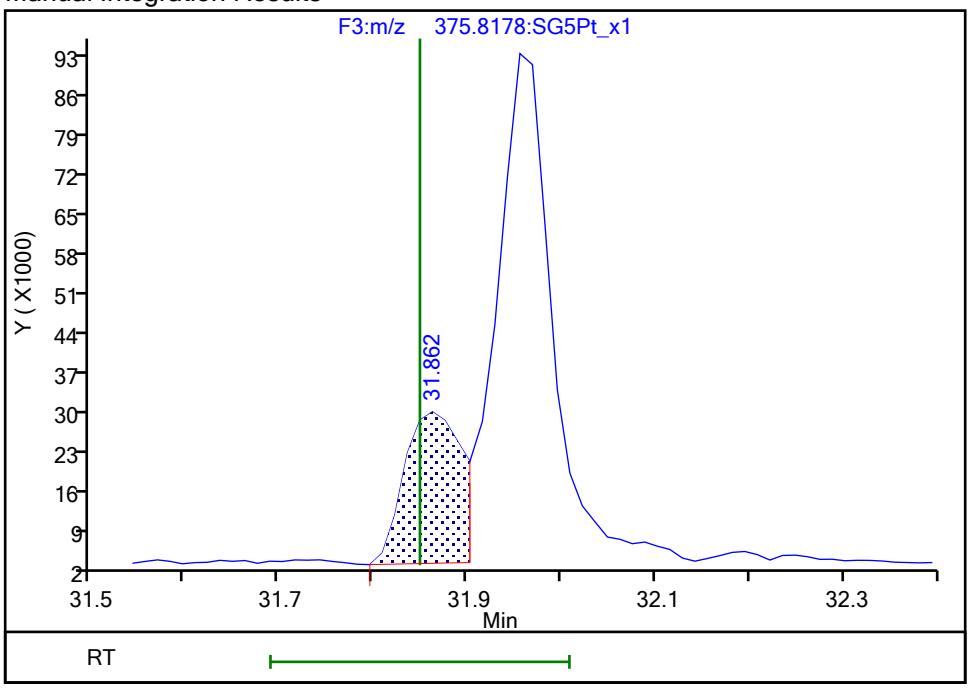

Reviewer: dadunj, 08-Nov-2019 09:00:29

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_9.d				
Injection Date:	06-Nov-2019 01:40:22	Instrument ID:	10D5		
Lims ID:	600-194690-B-9-A	Lab Sample ID:	320-194690-9		
Client ID:	INF 3 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 3

Processing Integration Results

RT: 31.96
Area: 975380
Amount: 2.814483
Amount Units: pg/ul

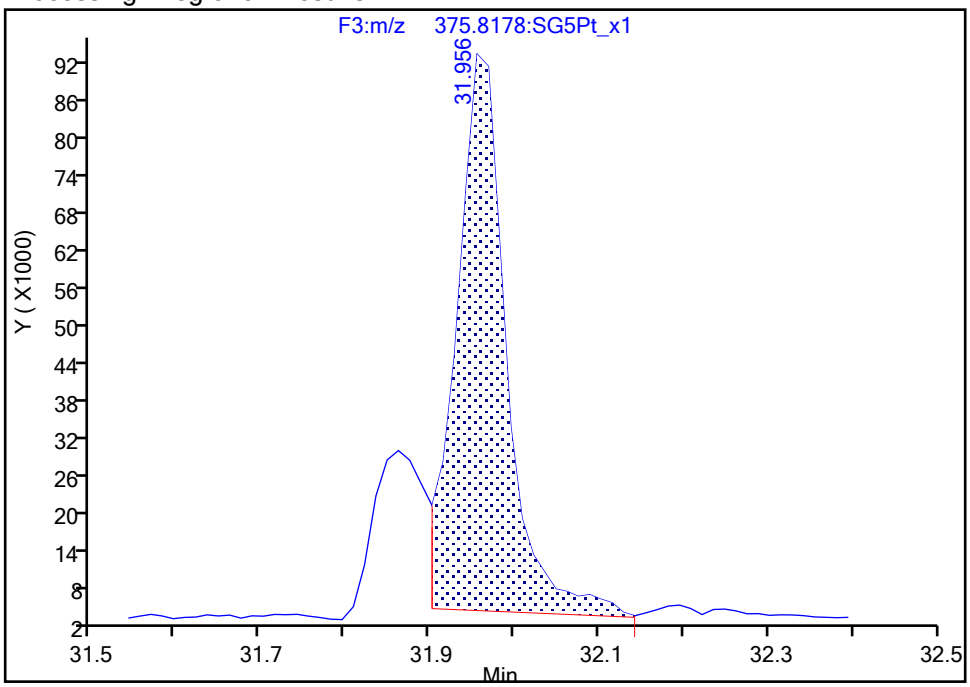

Manual Integration Results

RT: 31.86
Area: 242006
Amount: 0.698314
Amount Units: pg/ul
Reviewer: dadunj, 08-Nov-2019 09:00:29
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_9.d				
Injection Date:	06-Nov-2019 01:40:22	Instrument ID:	10D5		
Lims ID:	600-194690-B-9-A	Lab Sample ID:	320-194690-9		
Client ID:	INF 3 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 1

Processing Integration Results

RT: 31.96
Area: 612350
Amount: 2.814483
Amount Units: pg/ul

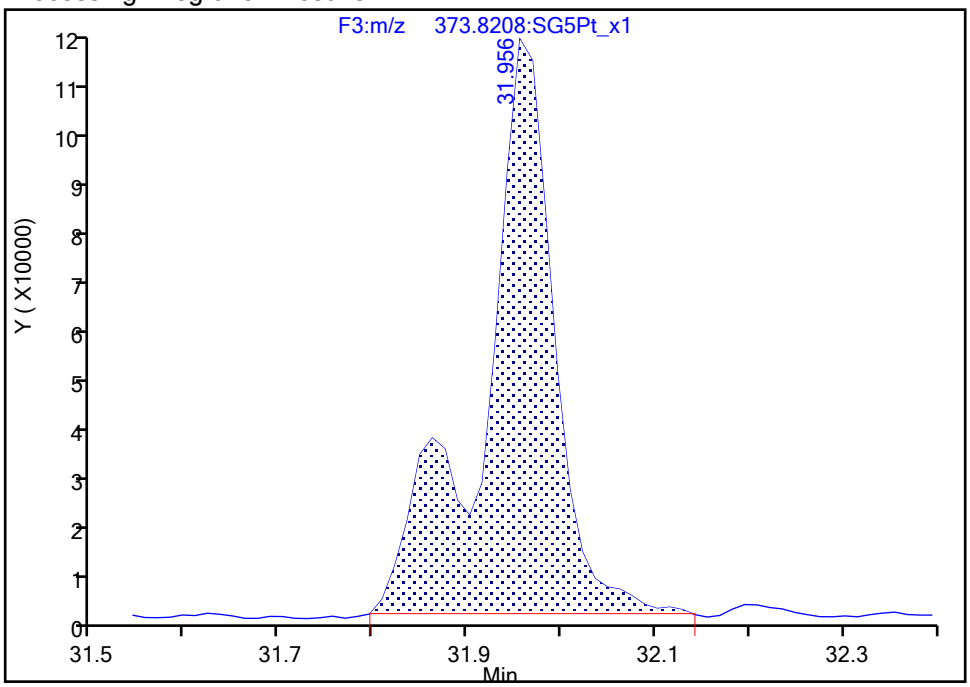

Manual Integration Results

RT: 31.86
Area: 131820
Amount: 0.698314
Amount Units: pg/ul

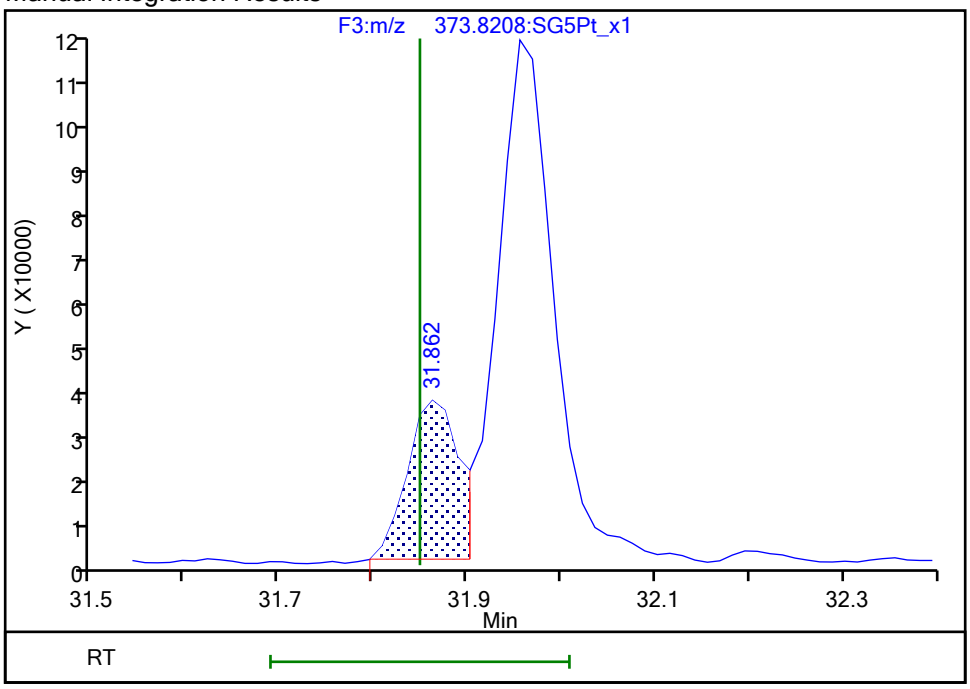

Reviewer: dadunj, 08-Nov-2019 09:00:30

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_9.d				
Injection Date:	06-Nov-2019 01:40:22	Instrument ID:	10D5		
Lims ID:	600-194690-B-9-A	Lab Sample ID:	320-194690-9		
Client ID:	INF 3 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

Non-2,3,7,8-sub-HxCDF, Signal: 1, m/z: 373.8208, RT: (26.73- 31.97)

Signal: 1

Processing Integration Results

RT = 31.956 Area = 612350

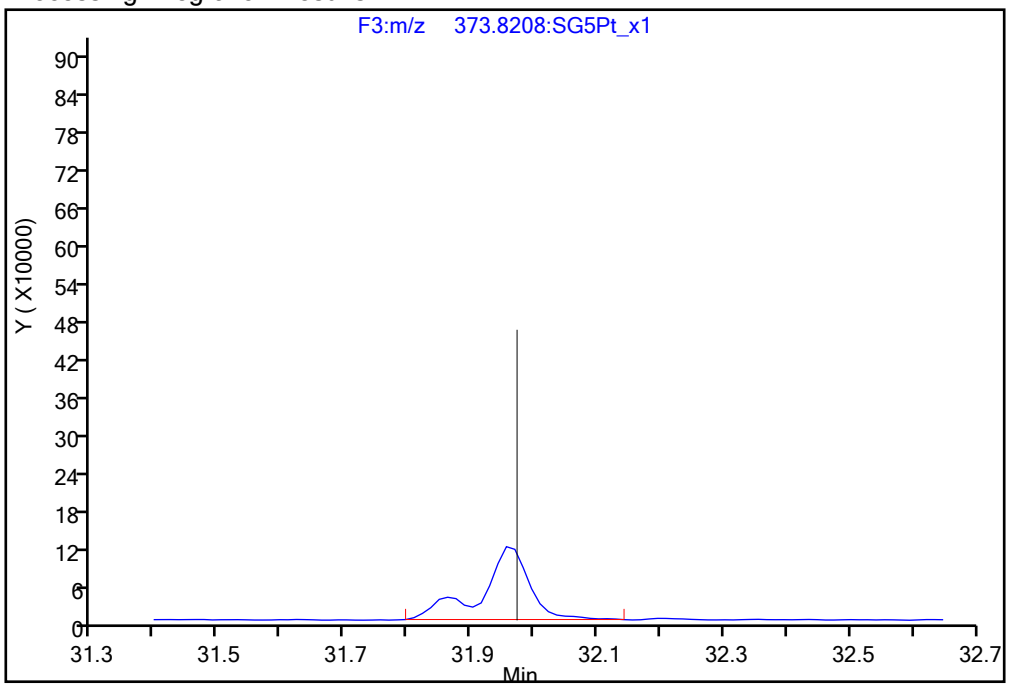

Manual Integration Results

RT = 31.956 Area = 480529 M

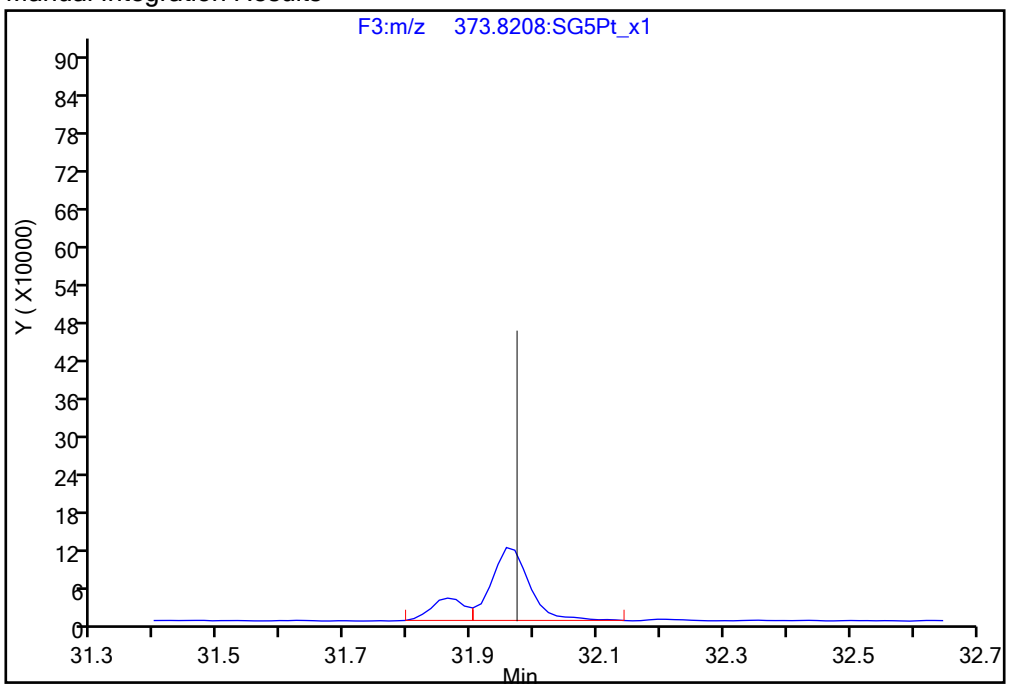

Reviewer: dadunj, 08-Nov-2019 09:00:39

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_9.d				
Injection Date:	06-Nov-2019 01:40:22	Instrument ID:	10D5		
Lims ID:	600-194690-B-9-A	Lab Sample ID:	320-194690-9		
Client ID:	INF 3 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 2

Processing Integration Results

RT: 31.30
Area: 43779
Amount: 0.508023
Amount Units: pg/ul

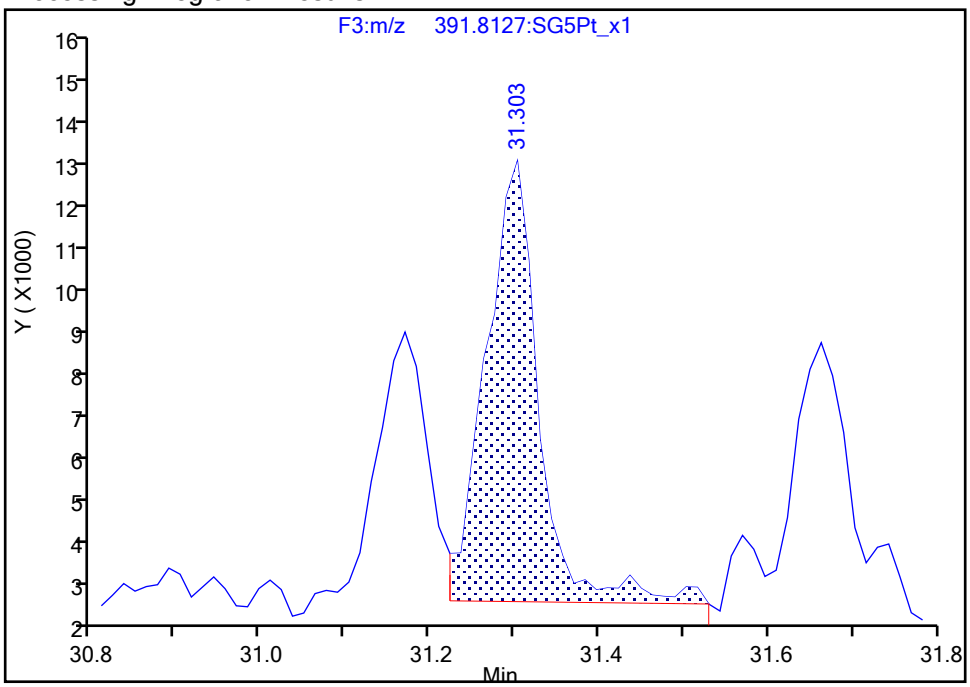

Manual Integration Results

RT: 31.17
Area: 25034
Amount: 0.228483
Amount Units: pg/ul

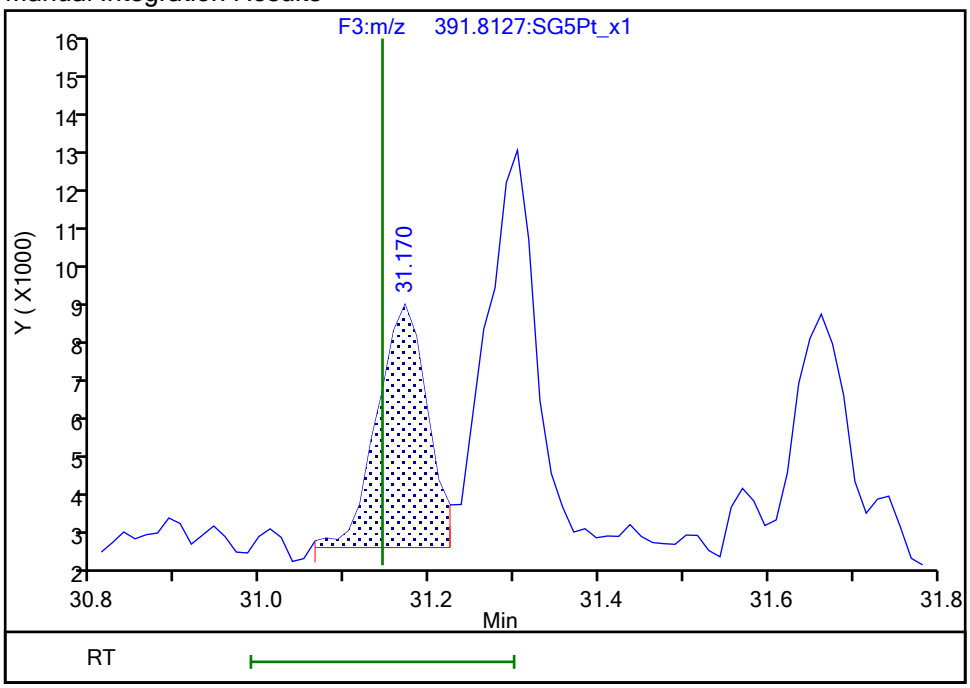

Reviewer: dadunj, 08-Nov-2019 09:00:51

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_9.d				
Injection Date:	06-Nov-2019 01:40:22	Instrument ID:	10D5		
Lims ID:	600-194690-B-9-A	Lab Sample ID:	320-194690-9		
Client ID:	INF 3 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 3

Processing Integration Results

RT: 31.30
Area: 116974
Amount: 0.508023
Amount Units: pg/ul

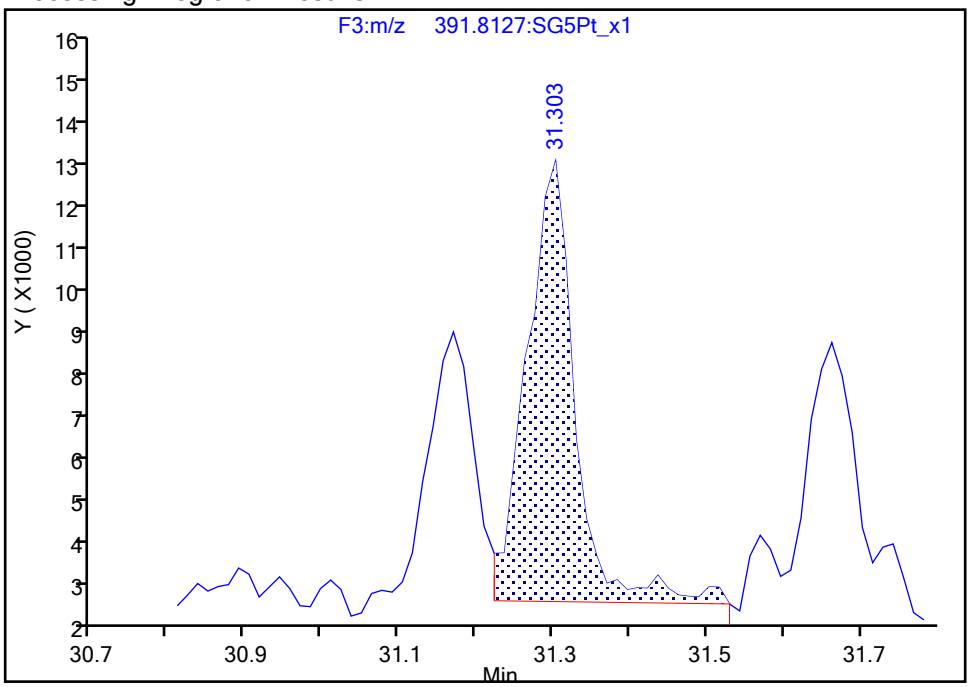

Manual Integration Results

RT: 31.18
Area: 52609
Amount: 0.228483
Amount Units: pg/ul
Reviewer: dadunj, 08-Nov-2019 09:00:51
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_9.d				
Injection Date:	06-Nov-2019 01:40:22	Instrument ID:	10D5		
Lims ID:	600-194690-B-9-A	Lab Sample ID:	320-194690-9		
Client ID:	INF 3 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 1

Processing Integration Results

RT: 31.30
Area: 73195
Amount: 0.508023
Amount Units: pg/ul

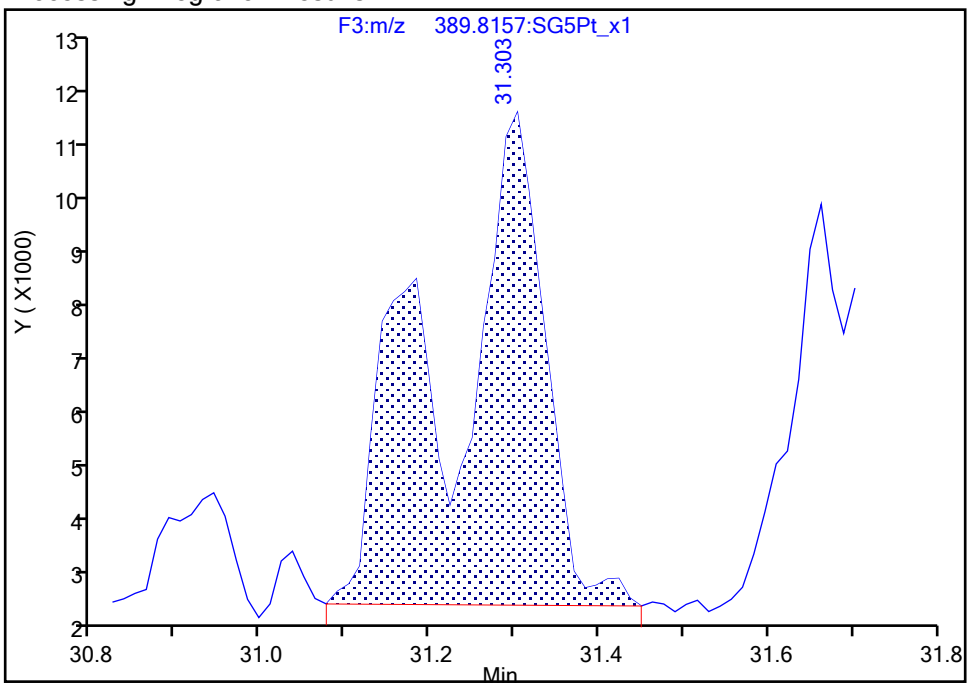

Manual Integration Results

RT: 31.18
Area: 27575
Amount: 0.228483
Amount Units: pg/ul

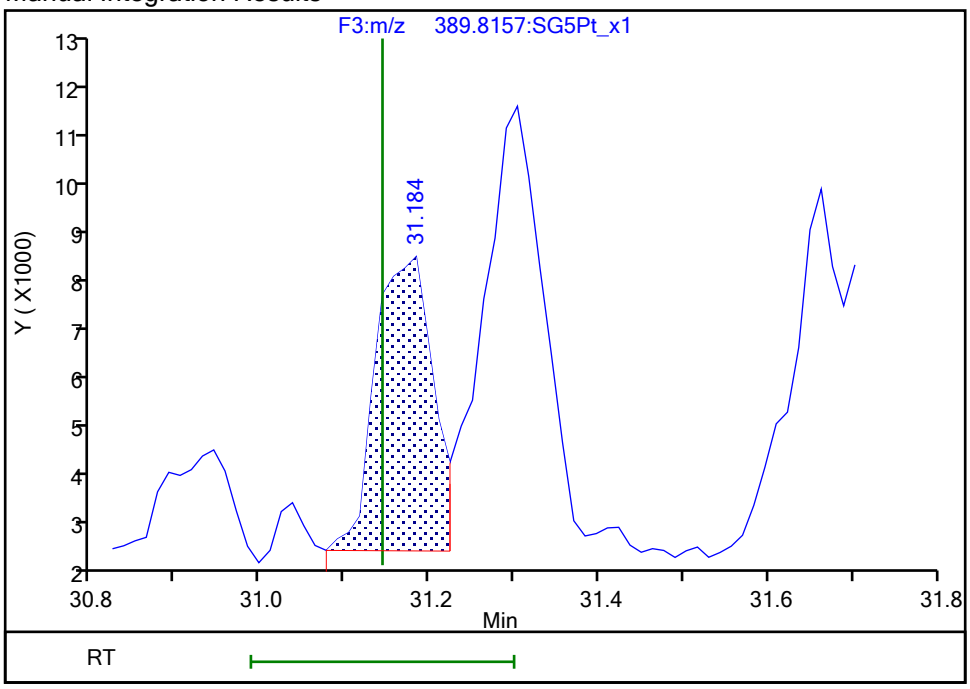

Reviewer: dadunj, 08-Nov-2019 09:00:52

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_9.d				
Injection Date:	06-Nov-2019 01:40:22	Instrument ID:	10D5		
Lims ID:	600-194690-B-9-A	Lab Sample ID:	320-194690-9		
Client ID:	INF 3 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 1

Processing Integration Results

RT: 31.30
Area: 73195
Amount: 0.472860
Amount Units: pg/ul

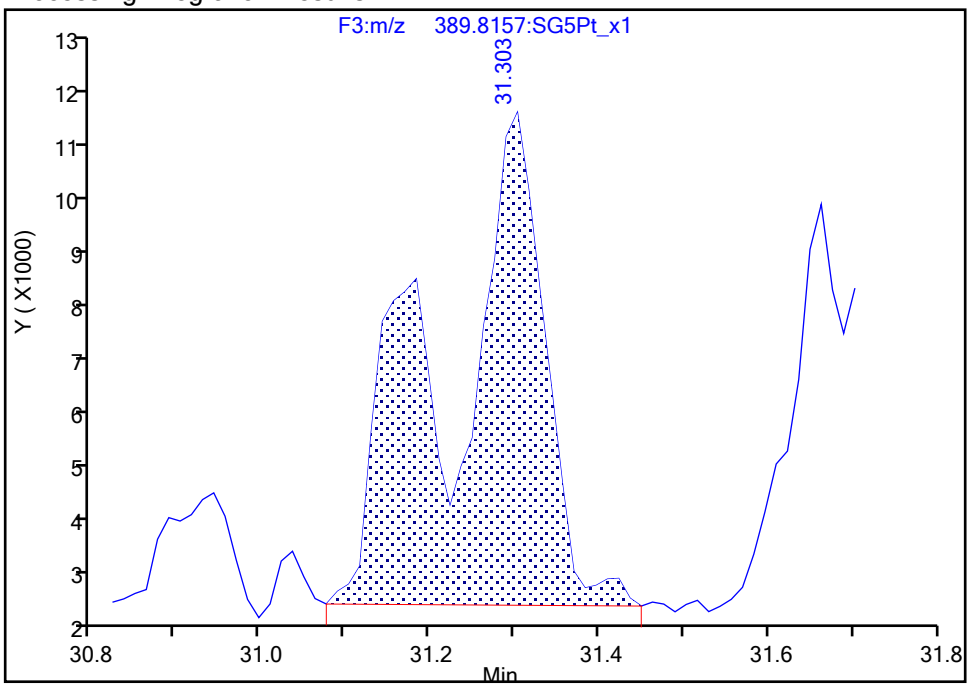

Manual Integration Results

RT: 31.30
Area: 45614
Amount: 0.361365
Amount Units: pg/ul

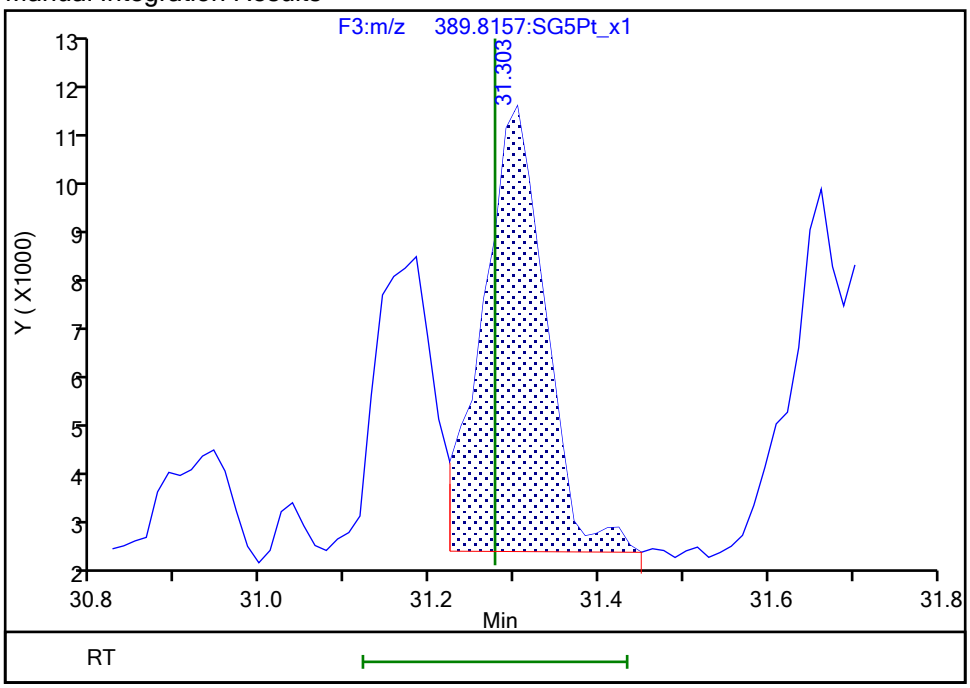

Reviewer: dadunj, 08-Nov-2019 09:00:46

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_9.d				
Injection Date:	06-Nov-2019 01:40:22	Instrument ID:	10D5		
Lims ID:	600-194690-B-9-A	Lab Sample ID:	320-194690-9		
Client ID:	INF 3 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

Non-2,3,7,8-sub-HpCDF, Signal: 2, m/z: 409.7789, RT: (33.36- 34.48)

Signal: 2

Processing Integration Results

RT = 33.697 Area = 731786

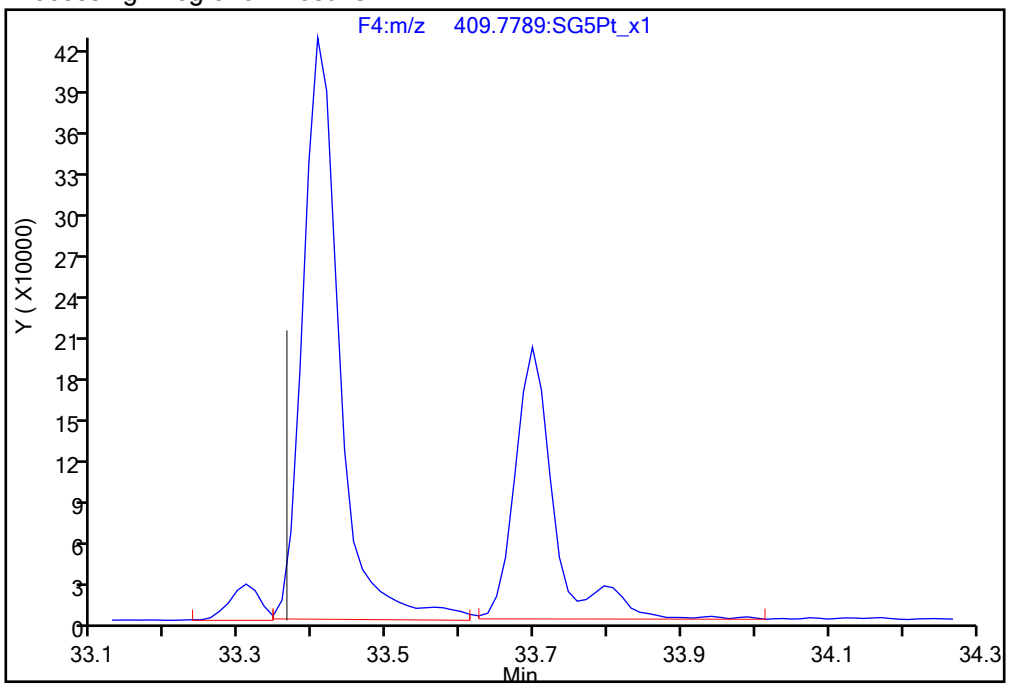

Manual Integration Results

RT = 33.697 Area = 642985 M

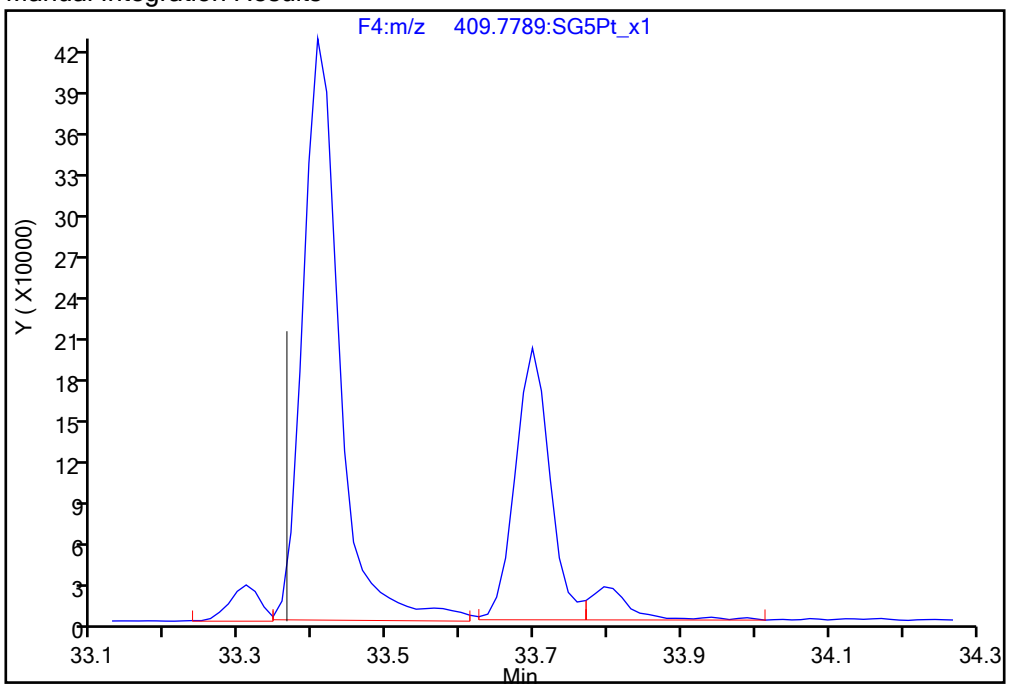

Reviewer: dadunj, 08-Nov-2019 09:01:03

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 10-Nov-2019 09:24:35 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_9.d		
Injection Date:	06-Nov-2019 01:40:22	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 3 - DISSOLVED		
Worklist#:	336302	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

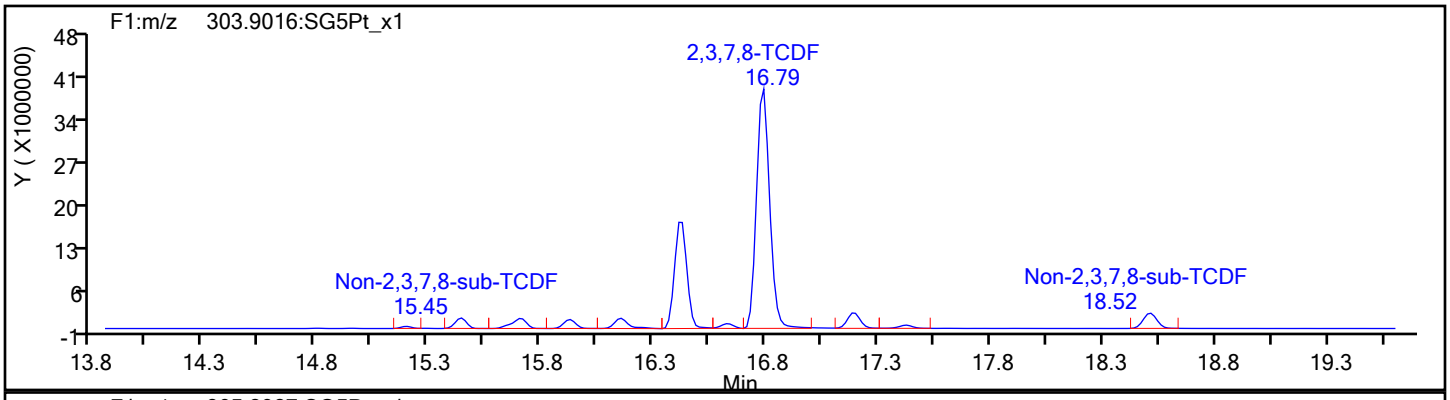

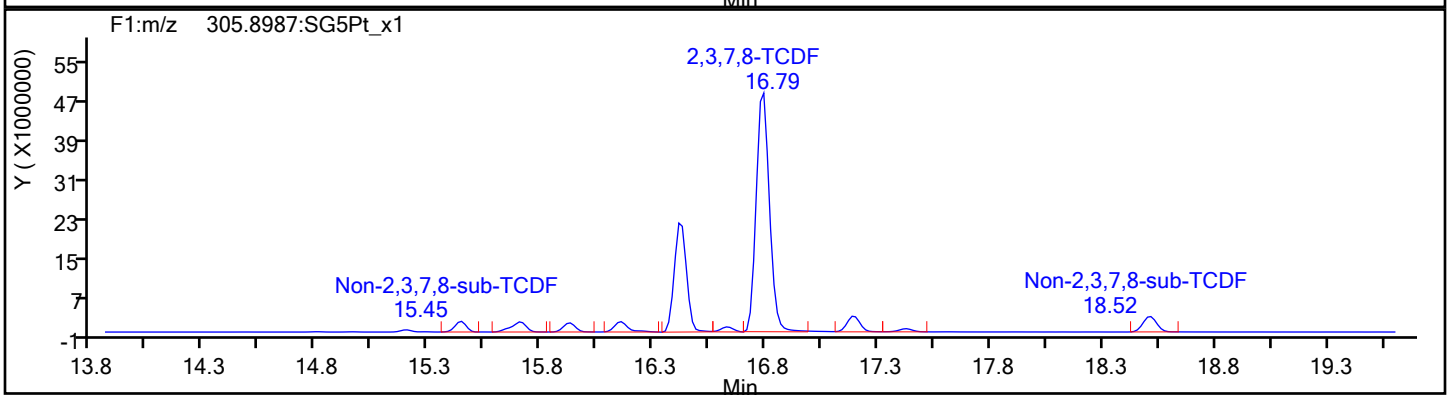

TCDF Standards

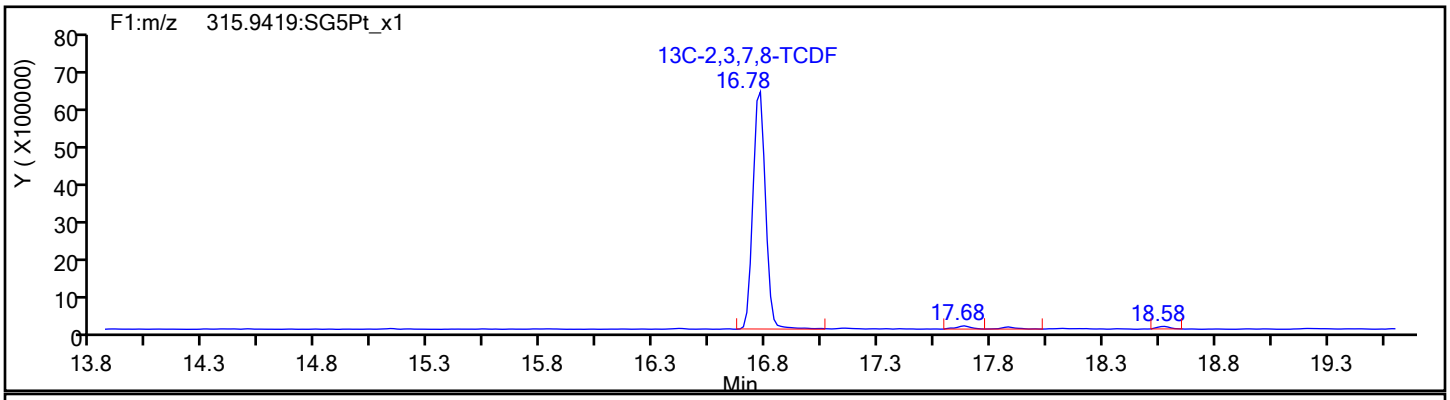

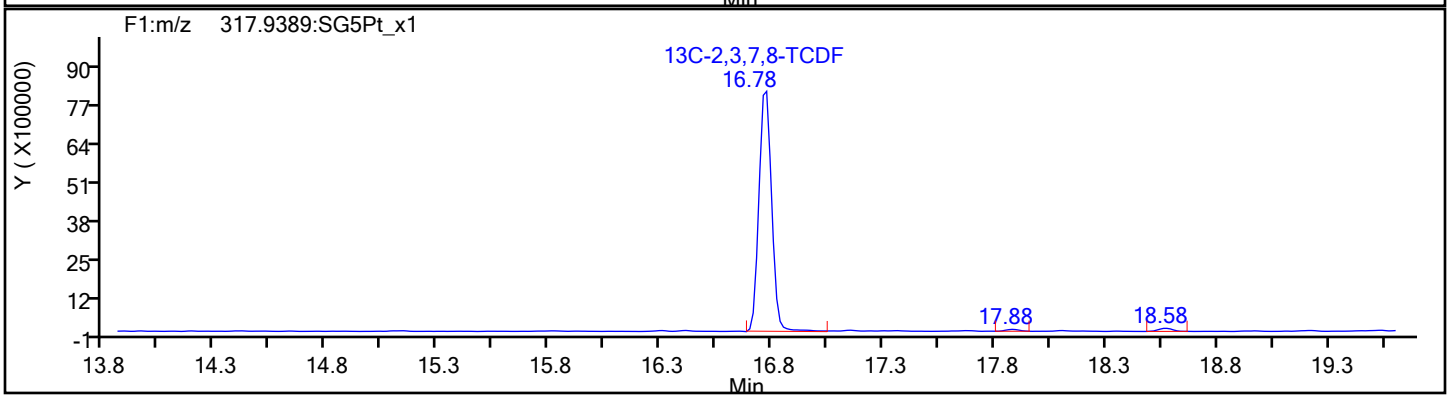

Report Date: 10-Nov-2019 09:24:35 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_9.d		
Injection Date:	06-Nov-2019 01:40:22	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 3 - DISSOLVED		
Worklist#:	336302	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

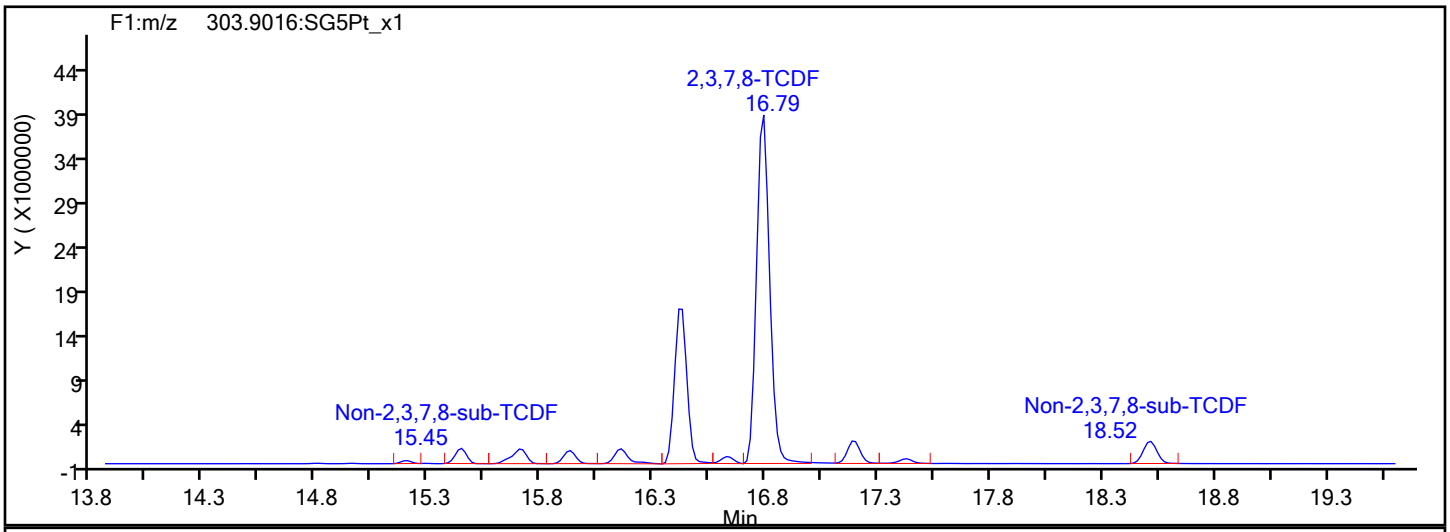

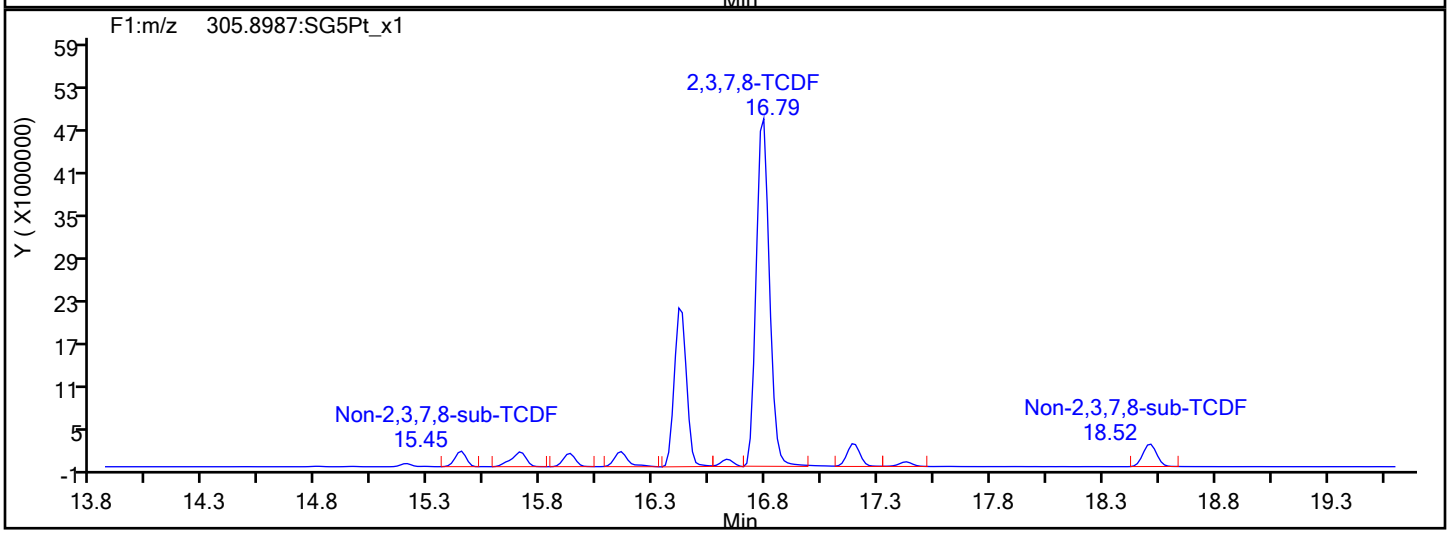

TCDF Interference Mass

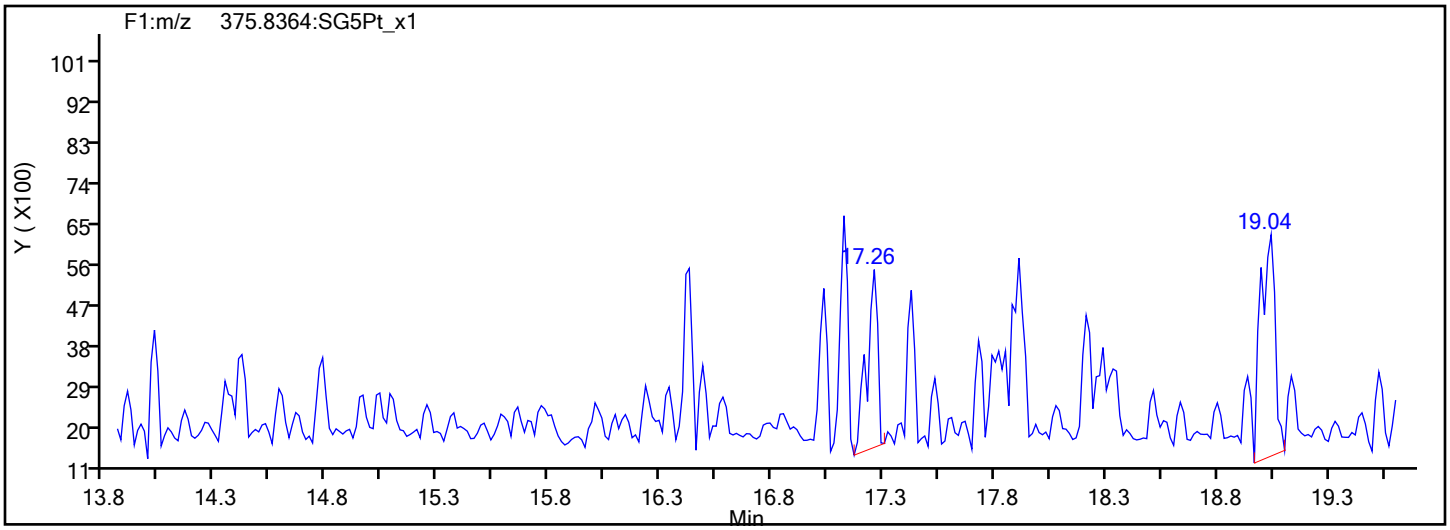

Report Date: 10-Nov-2019 09:24:35 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_9.d		
Injection Date:	06-Nov-2019 01:40:22	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 3 - DISSOLVED		
Worklist#:	336302	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

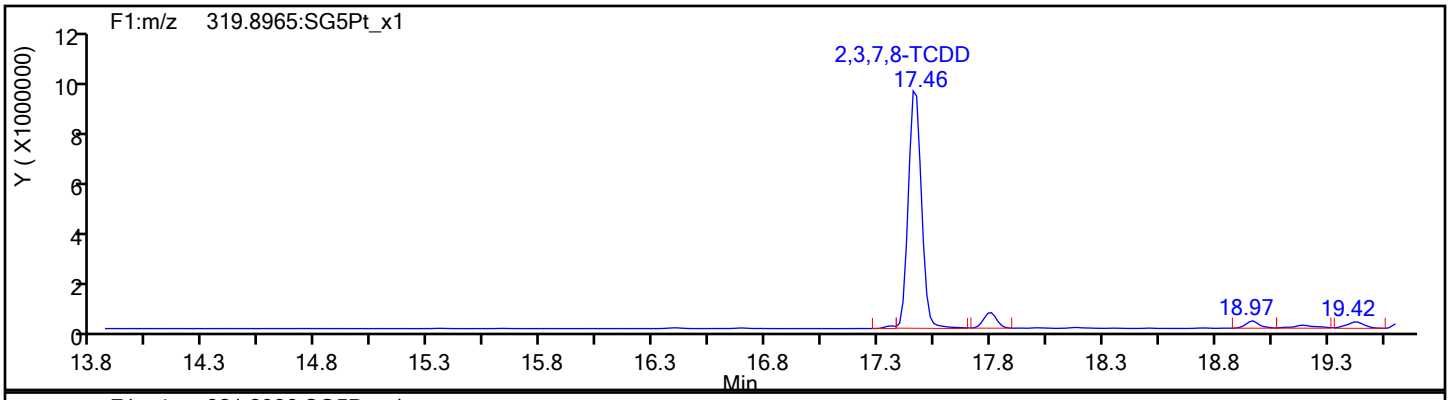

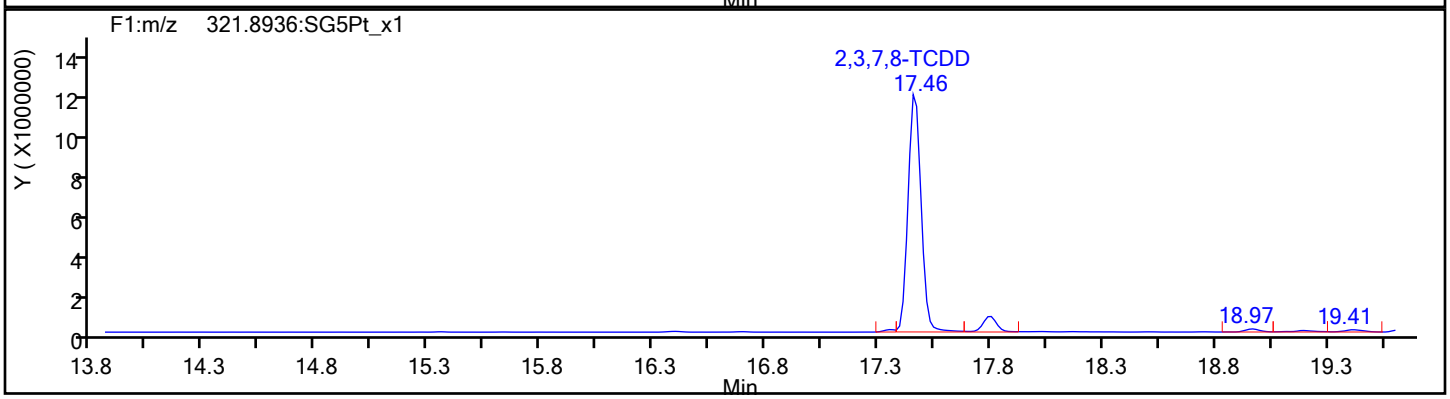

TCDD Standards

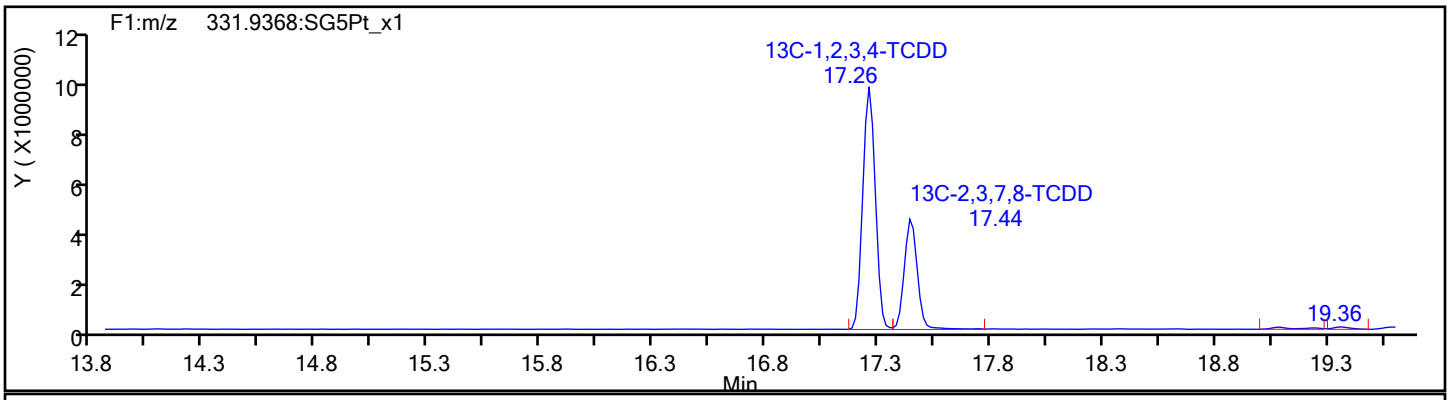

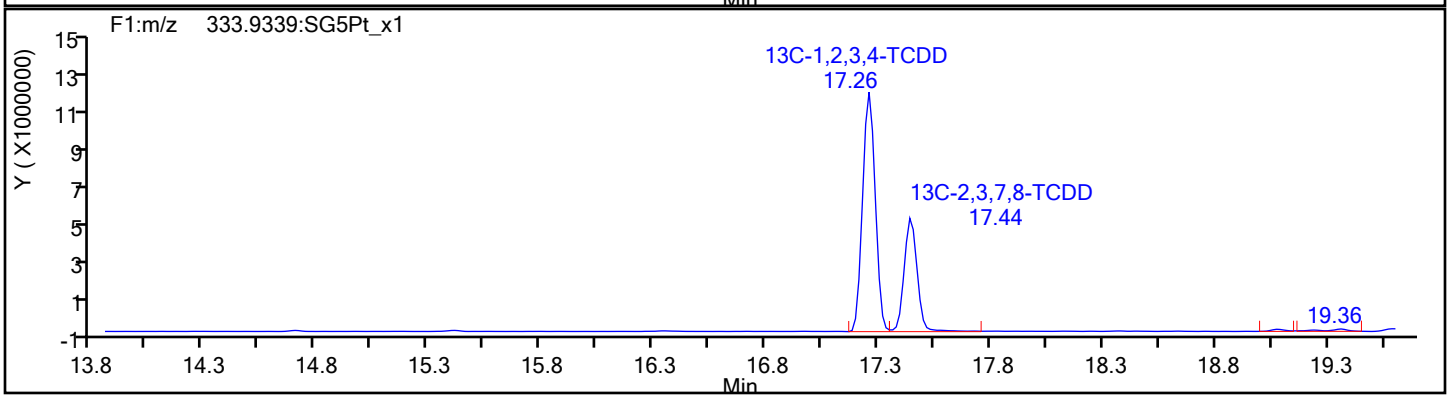

Report Date: 10-Nov-2019 09:24:35 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_9.d		
Injection Date:	06-Nov-2019 01:40:22	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 3 - DISSOLVED		
Worklist#:	336302	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

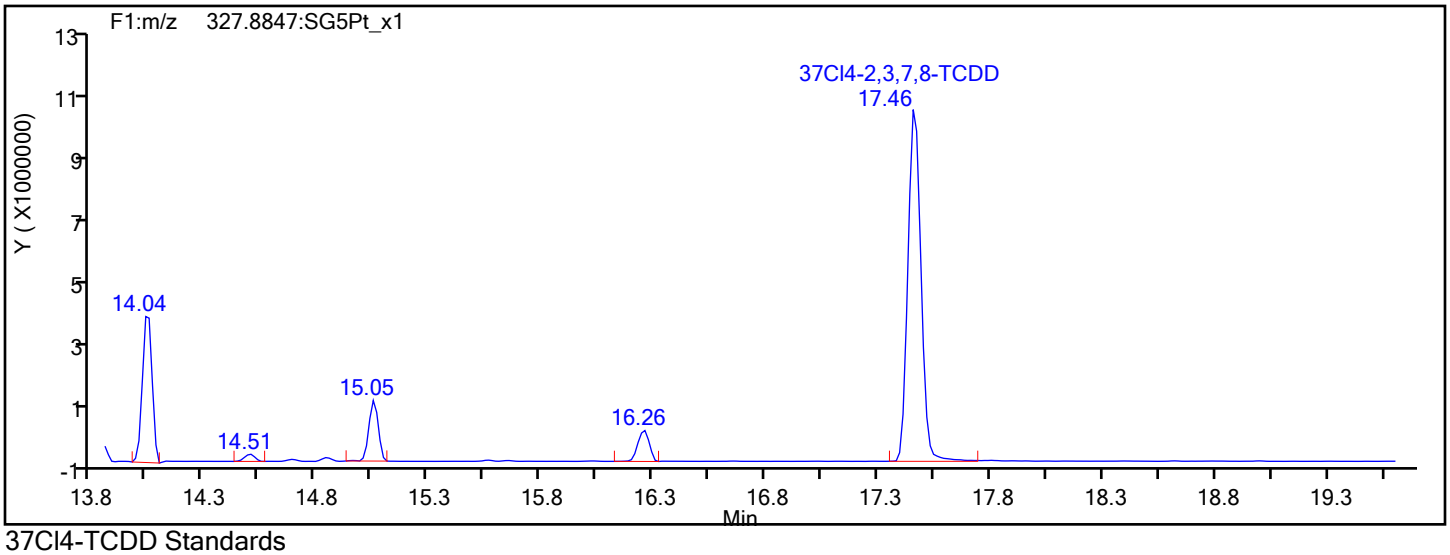

37Cl4-TCDD Standards

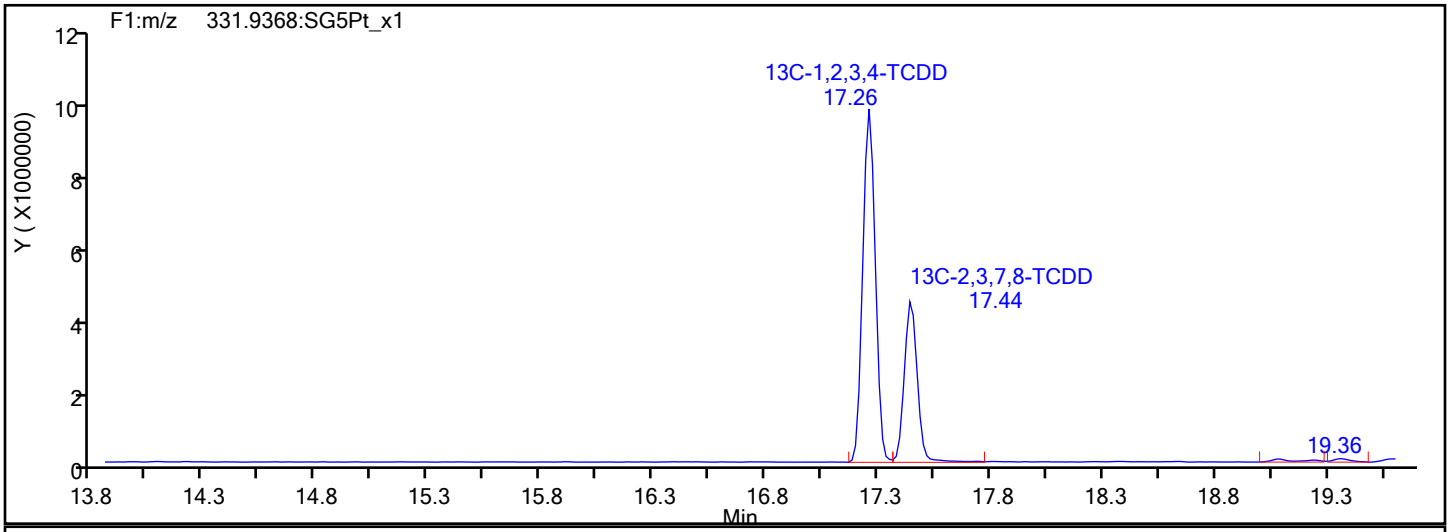

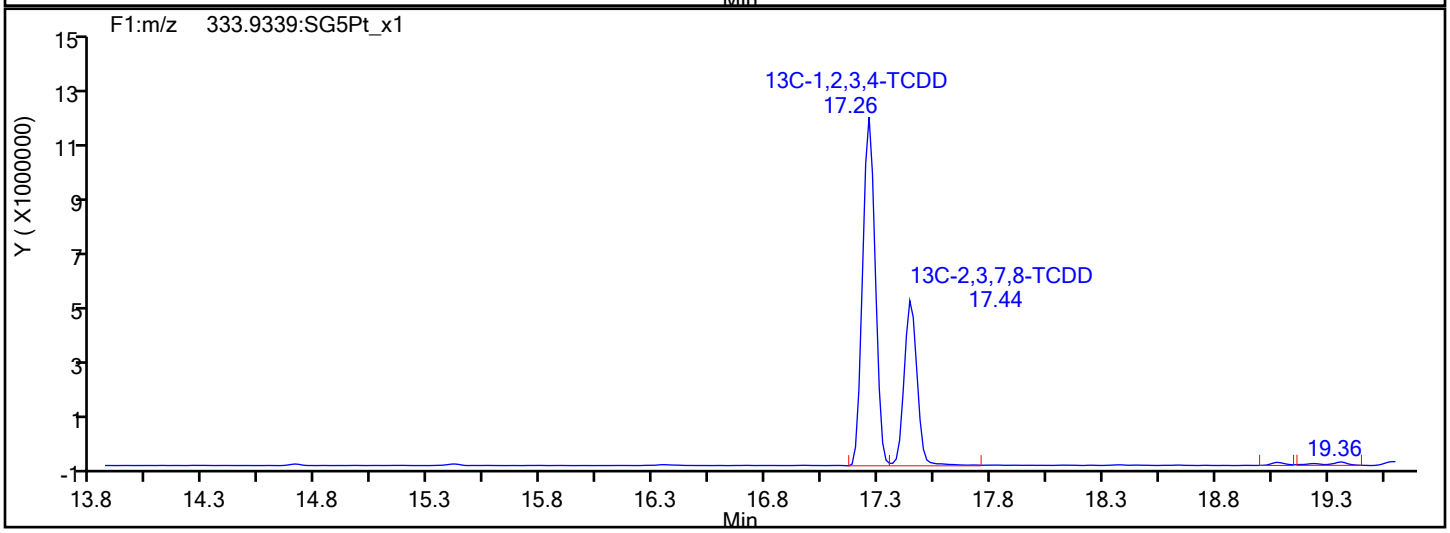

Report Date: 10-Nov-2019 09:24:35 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_9.d		
Injection Date:	06-Nov-2019 01:40:22	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 3 - DISSOLVED		
Worklist#:	336302	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

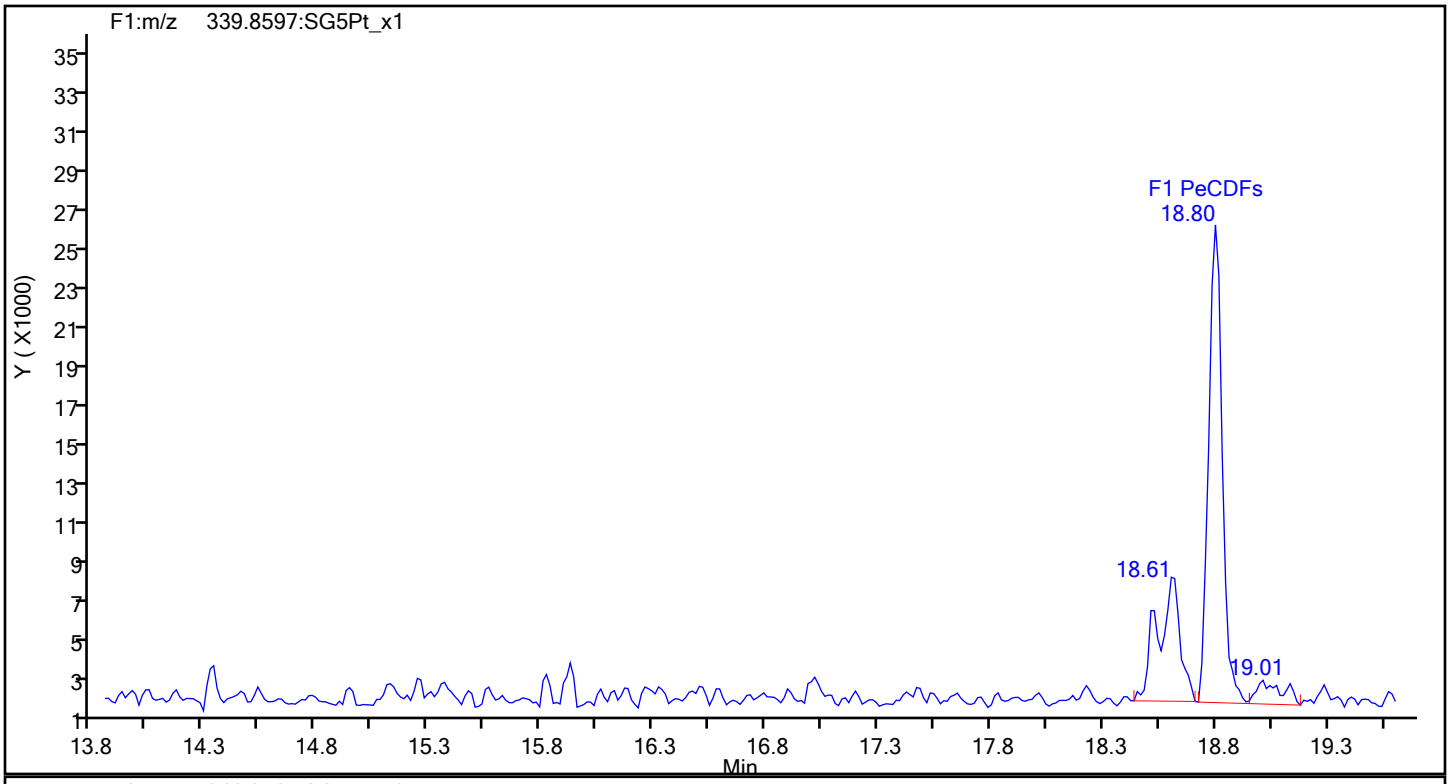

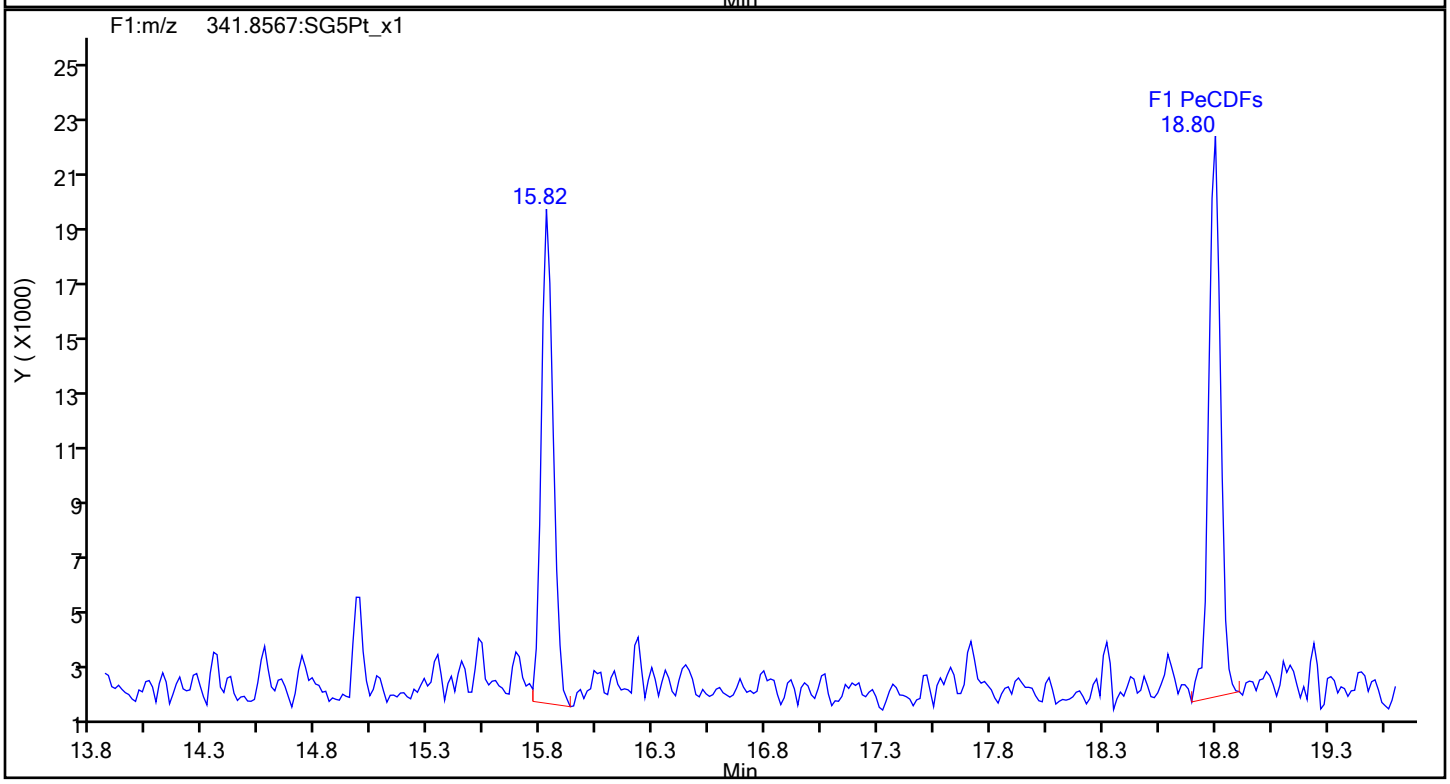

Report Date: 10-Nov-2019 09:24:35 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_9.d		
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Worklist#:	336302	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

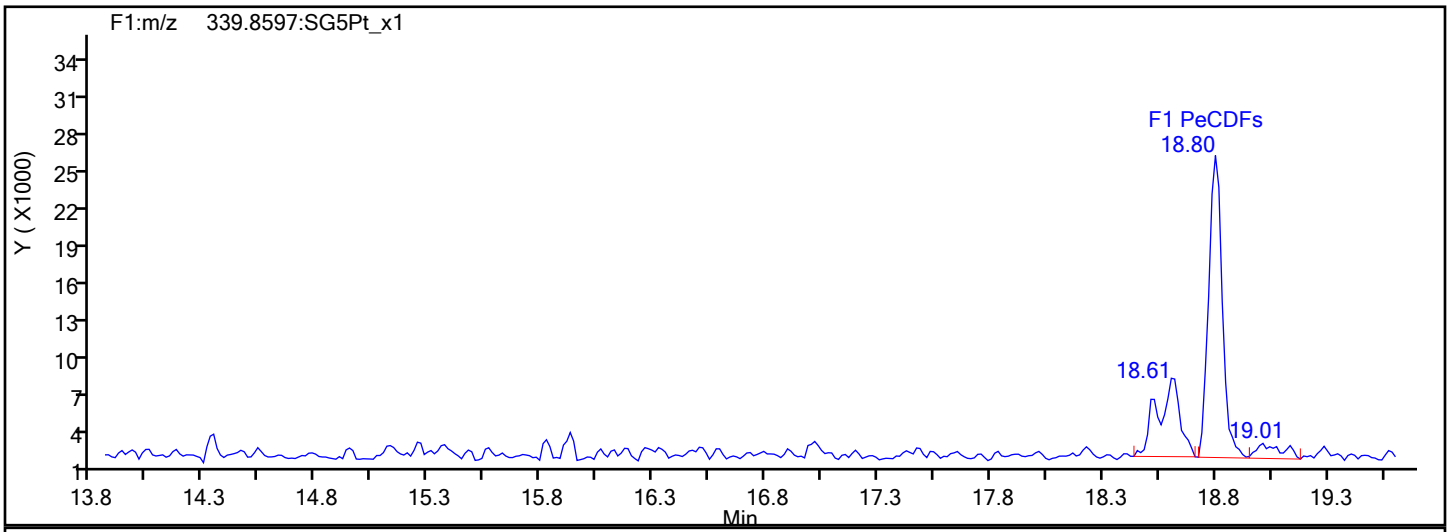

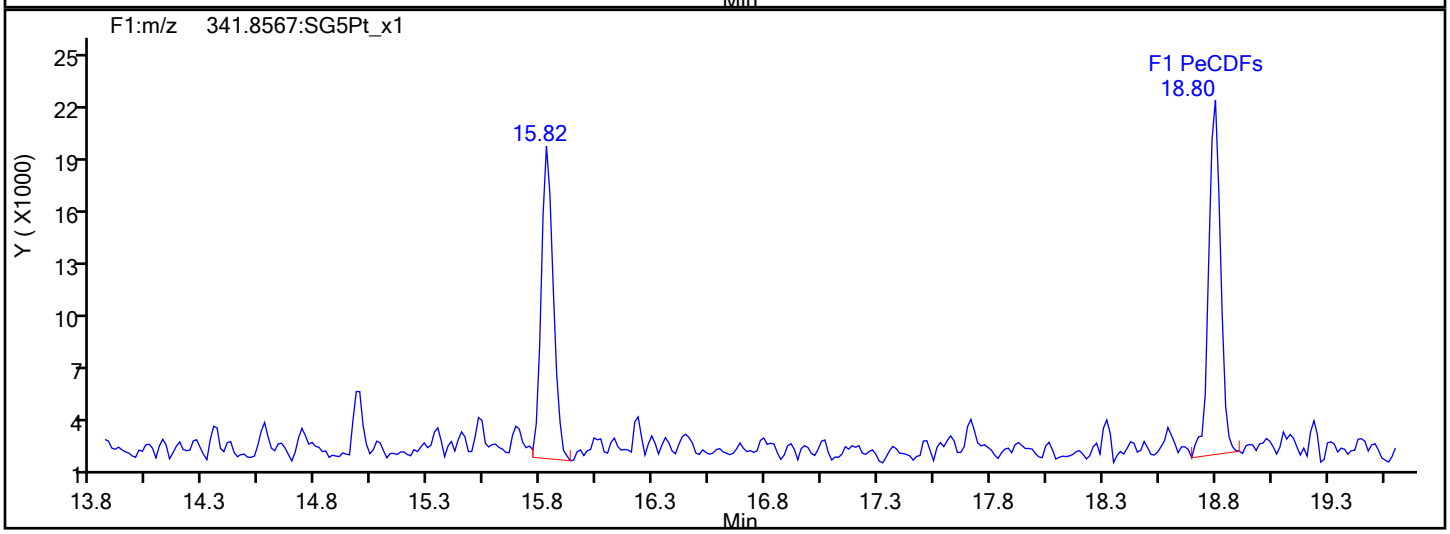

F1 PeCDFs Interference Mass

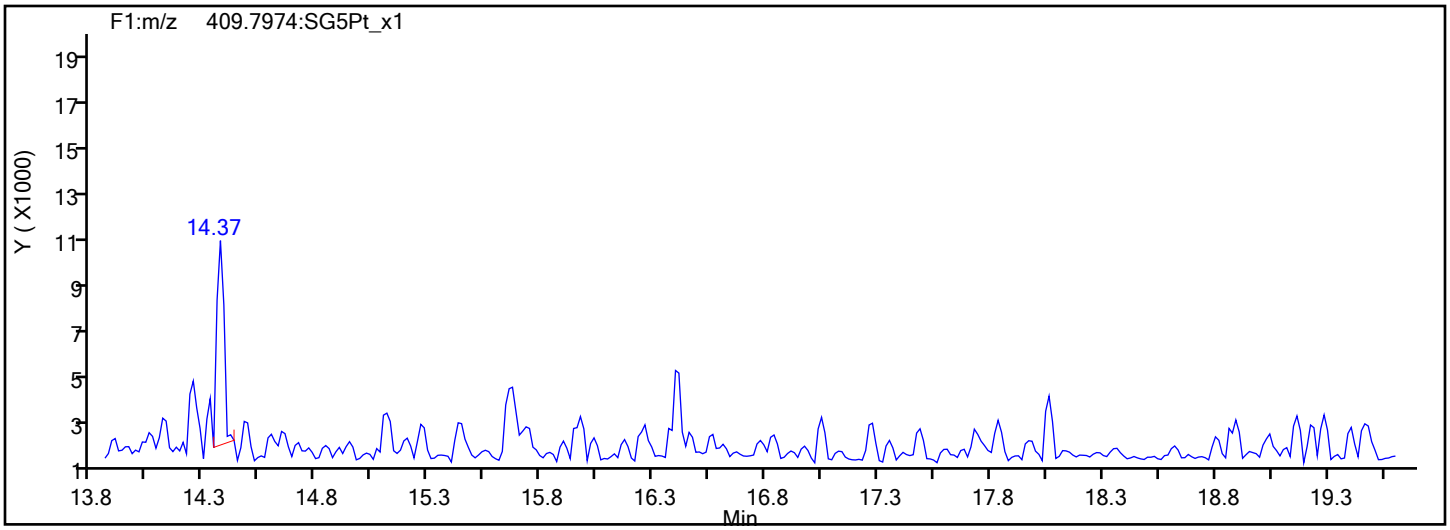

Report Date: 10-Nov-2019 09:24:35 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_9.d		
Injection Date:	06-Nov-2019 01:40:22	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Worklist#:	336302	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

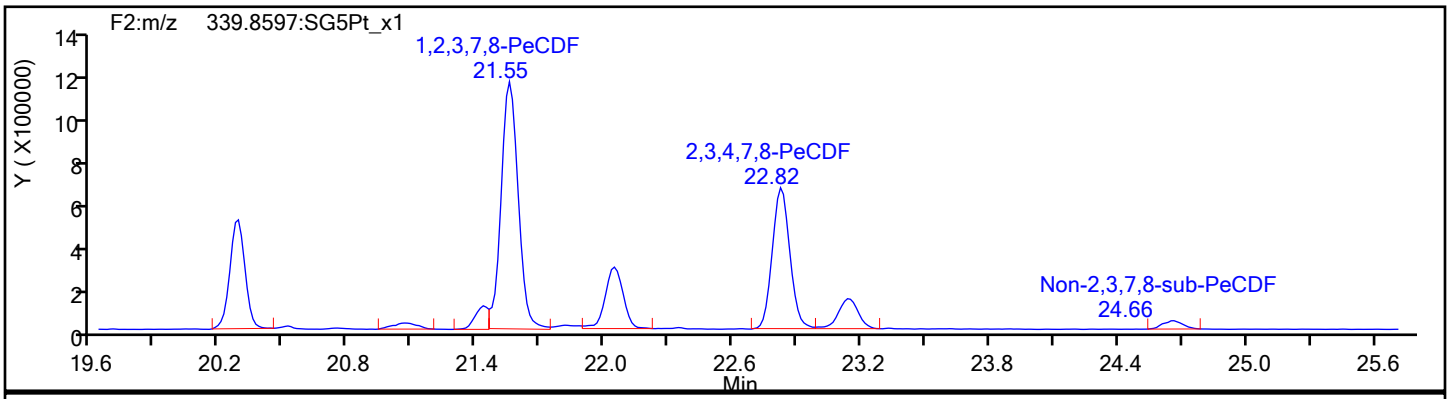

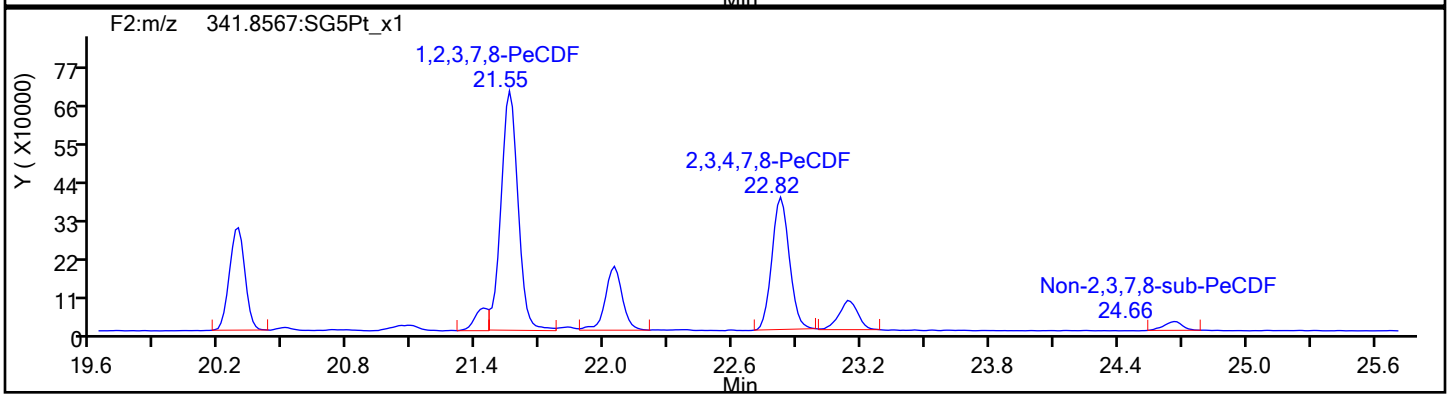

PeCDF Standards

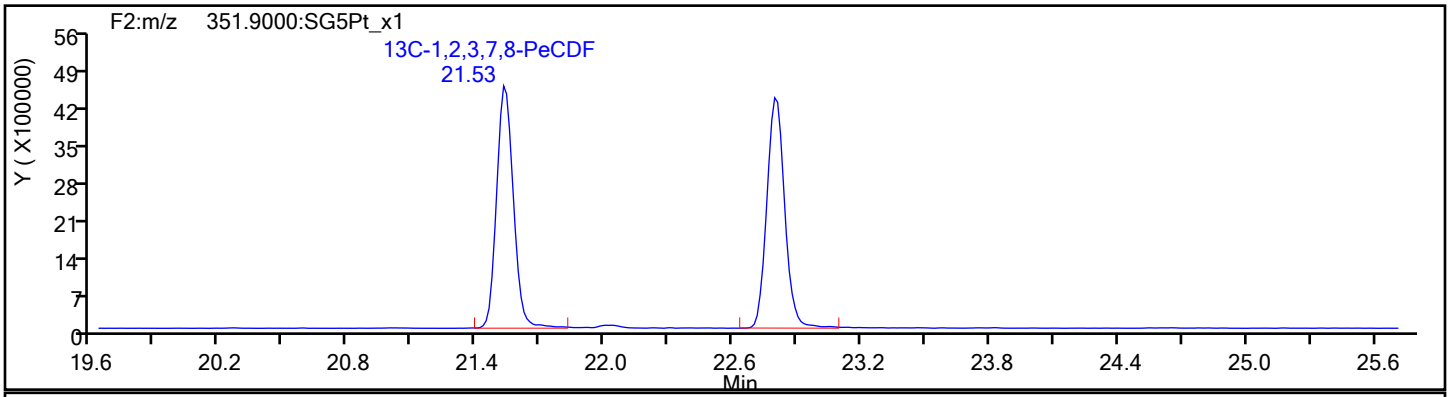

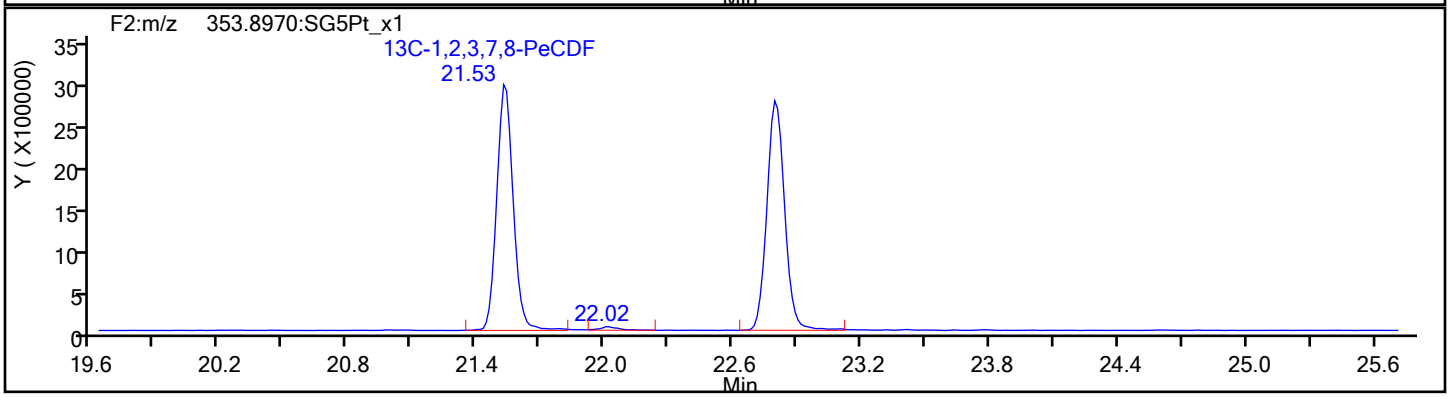

Report Date: 10-Nov-2019 09:24:35 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_9.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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PeCDF

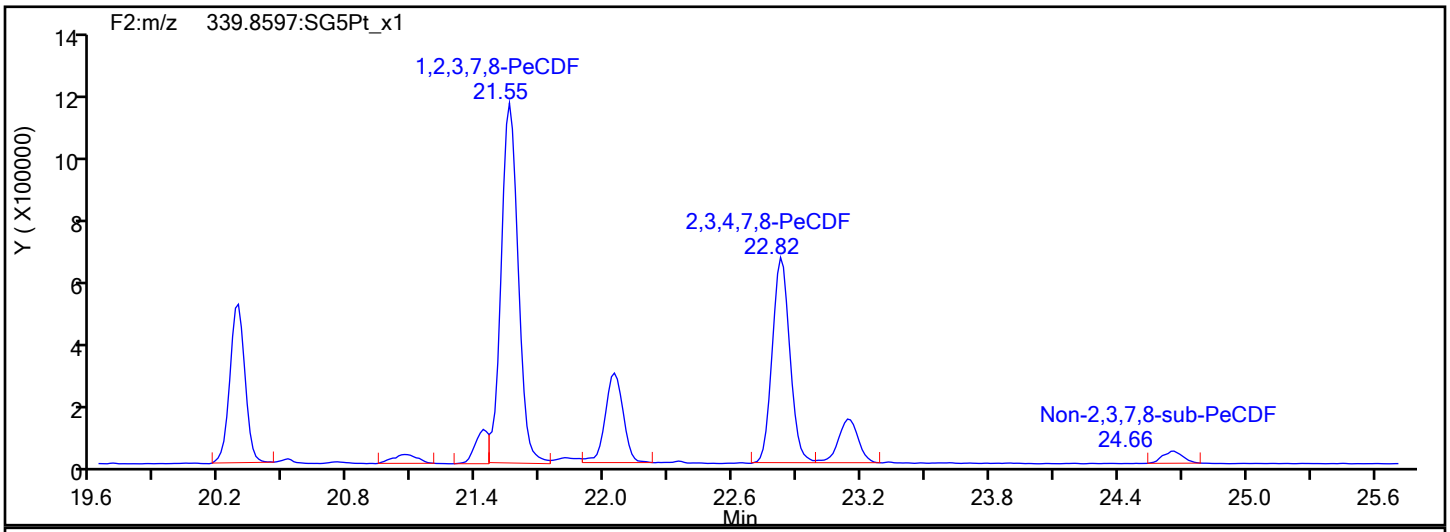

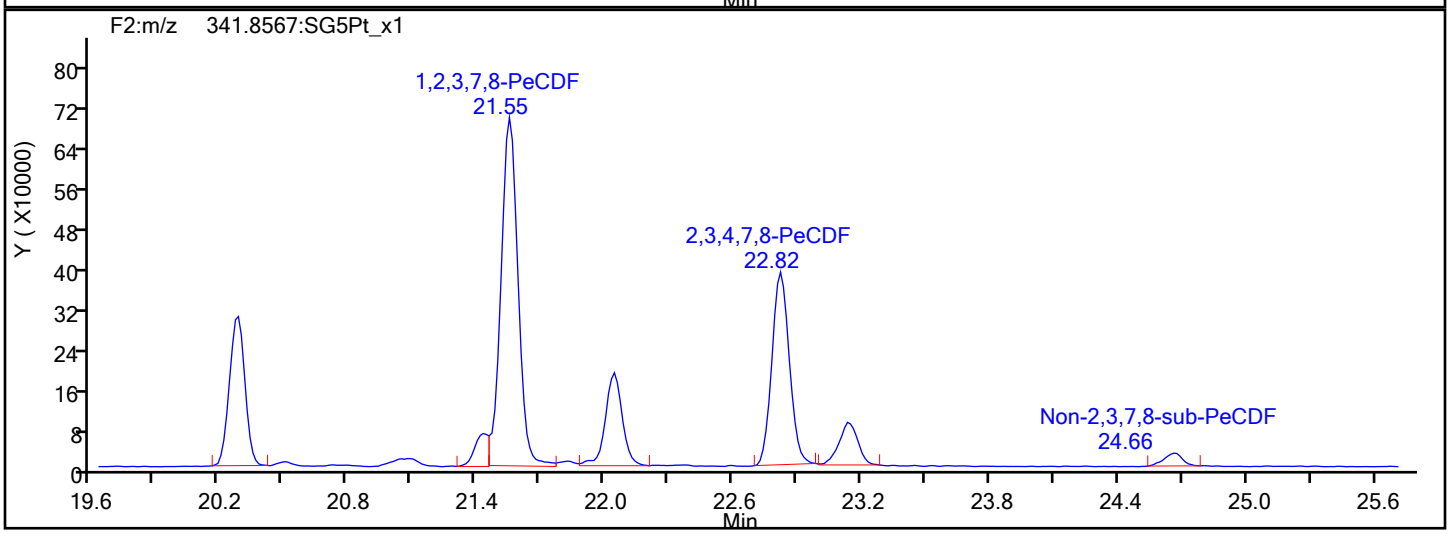

PeCDF Interference Mass

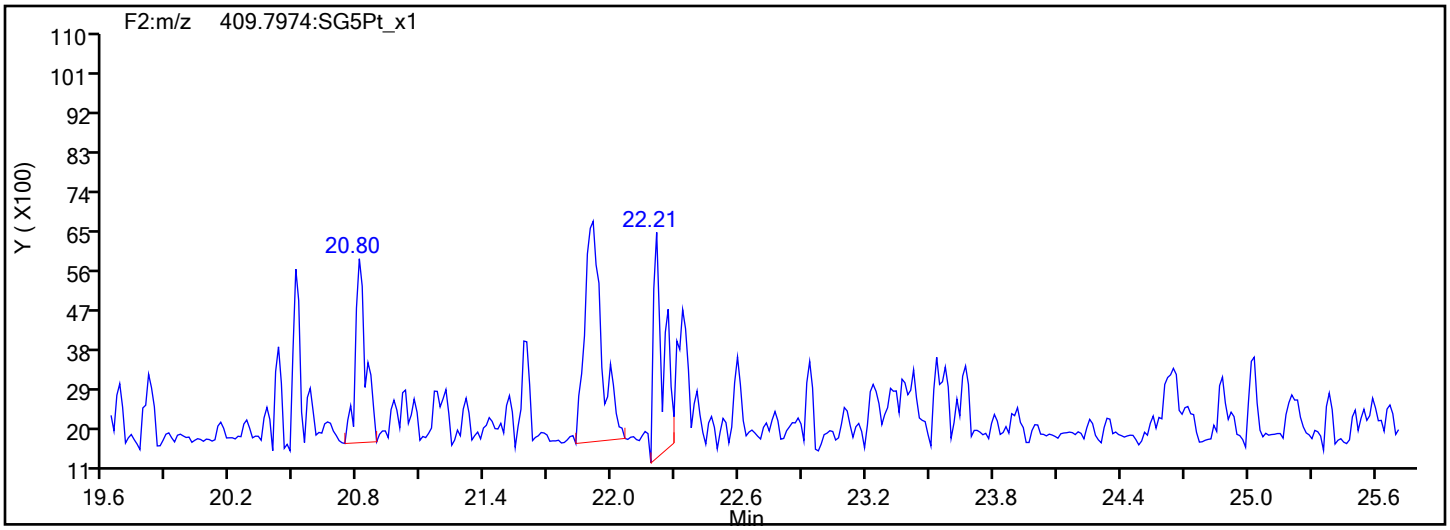

Report Date: 10-Nov-2019 09:24:35 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_9.d		
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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

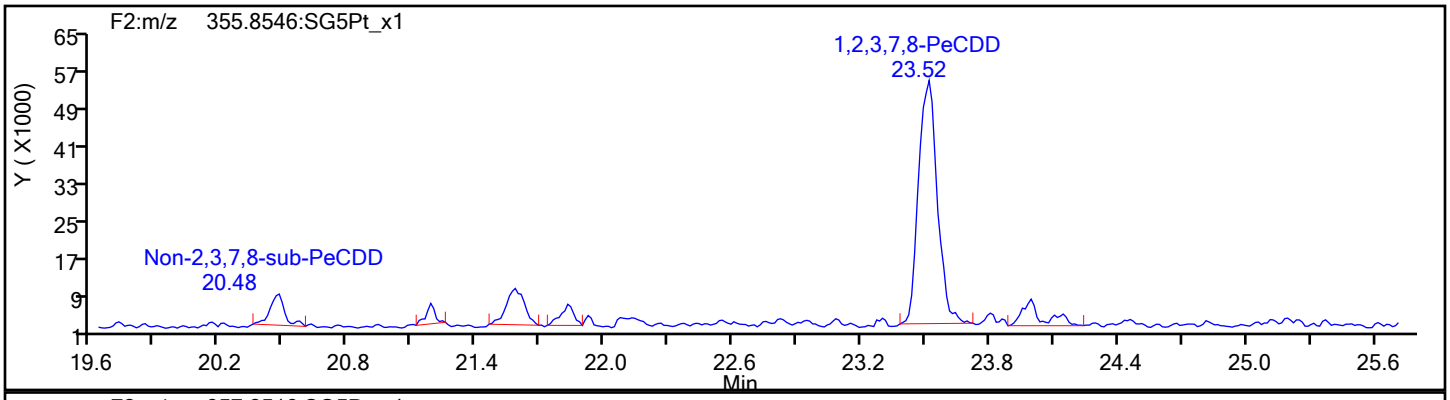

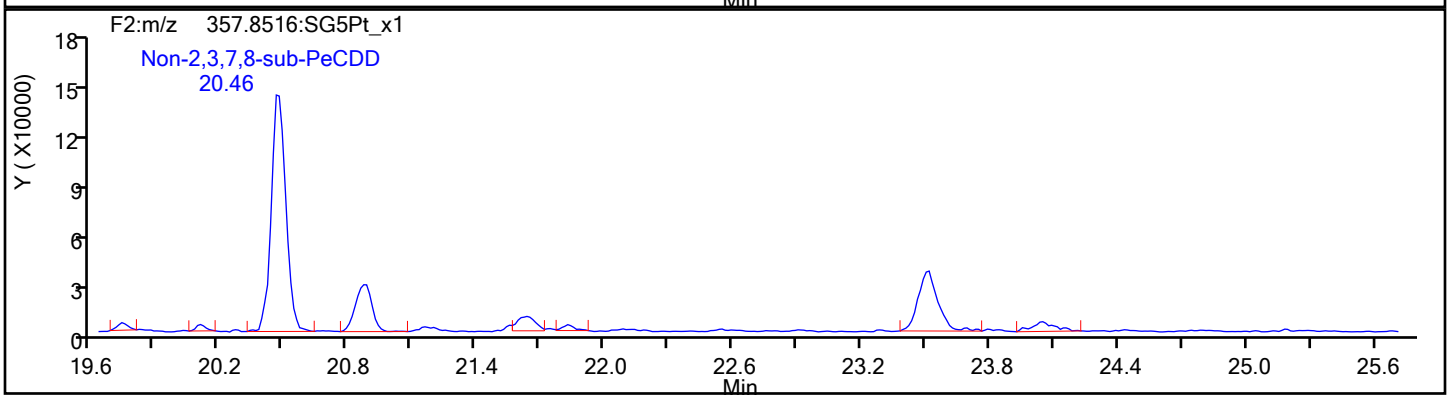

PeCDD Standards

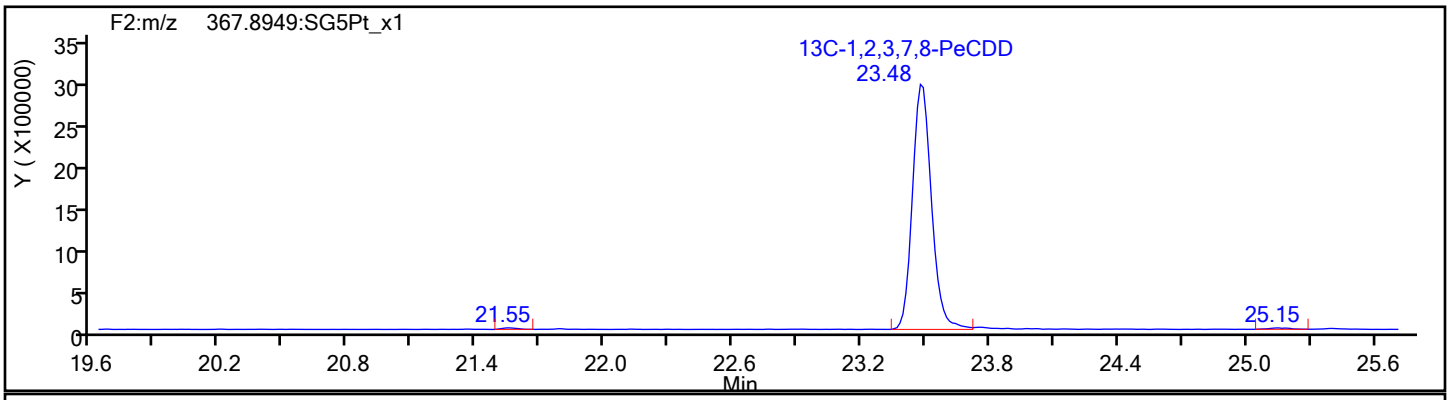

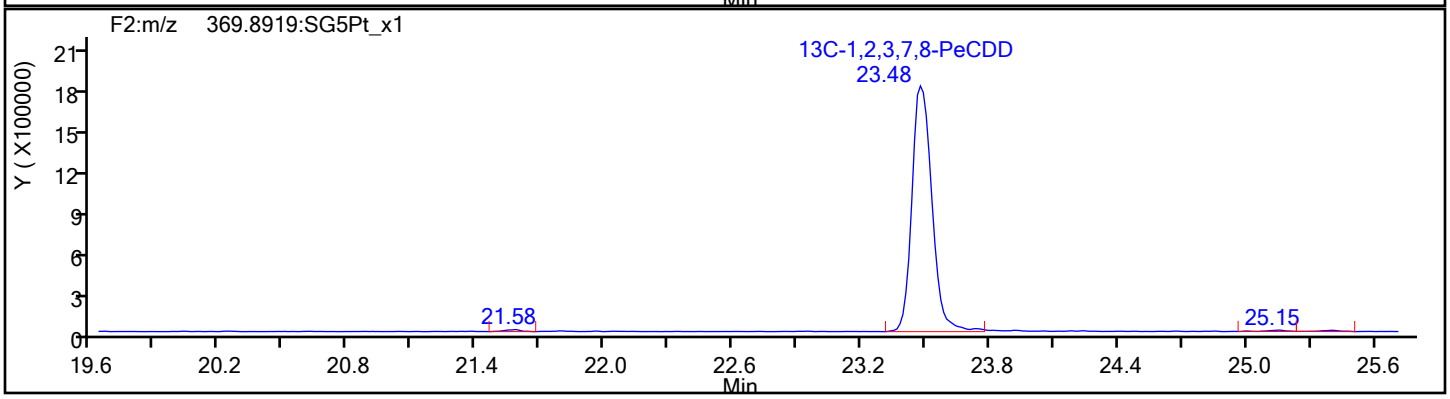

Report Date: 10-Nov-2019 09:24:35 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_9.d		
Injection Date:	06-Nov-2019 01:40:22	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 3 - DISSOLVED		
Worklist#:	336302	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

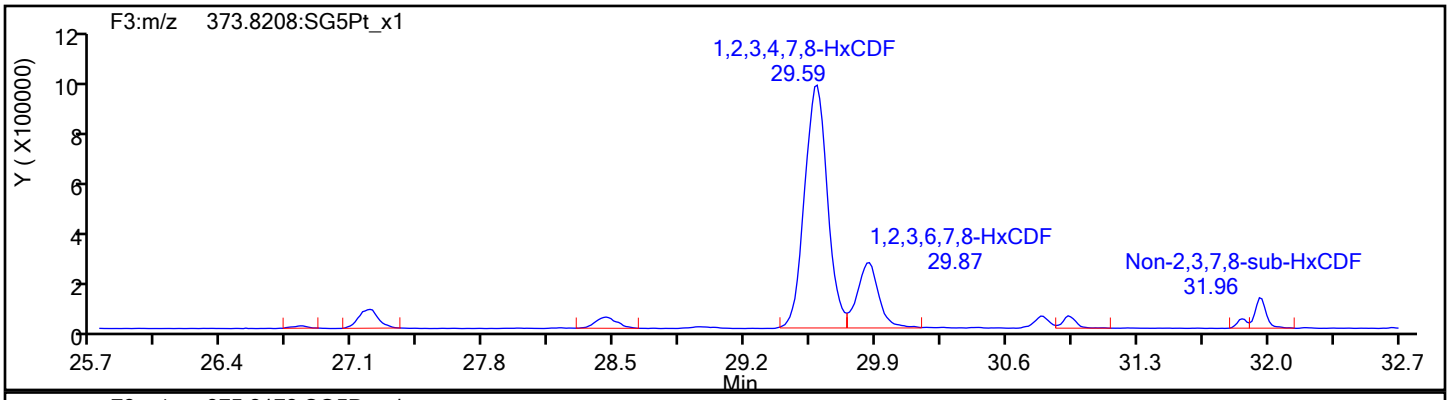

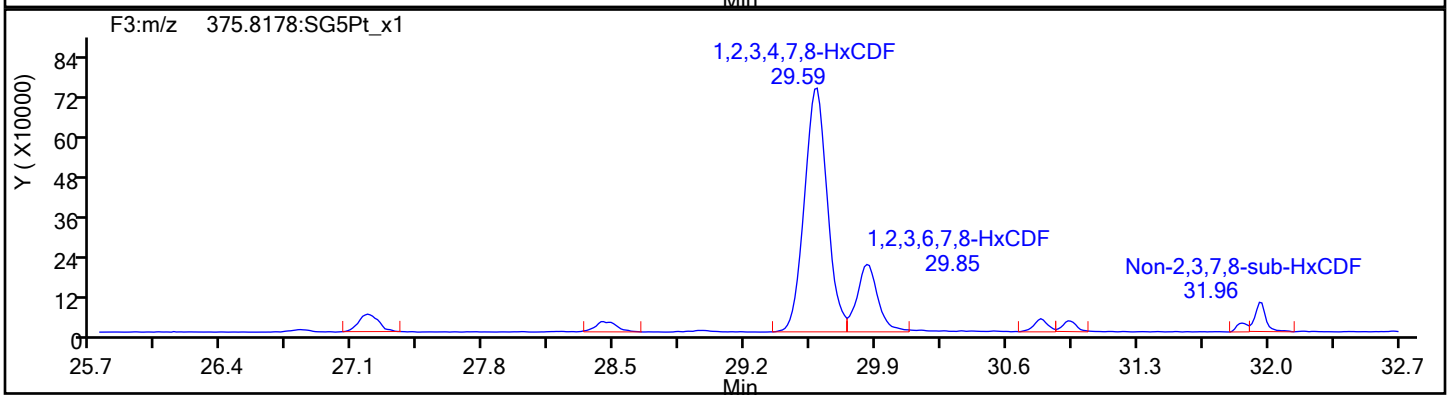

HxCDF Standards

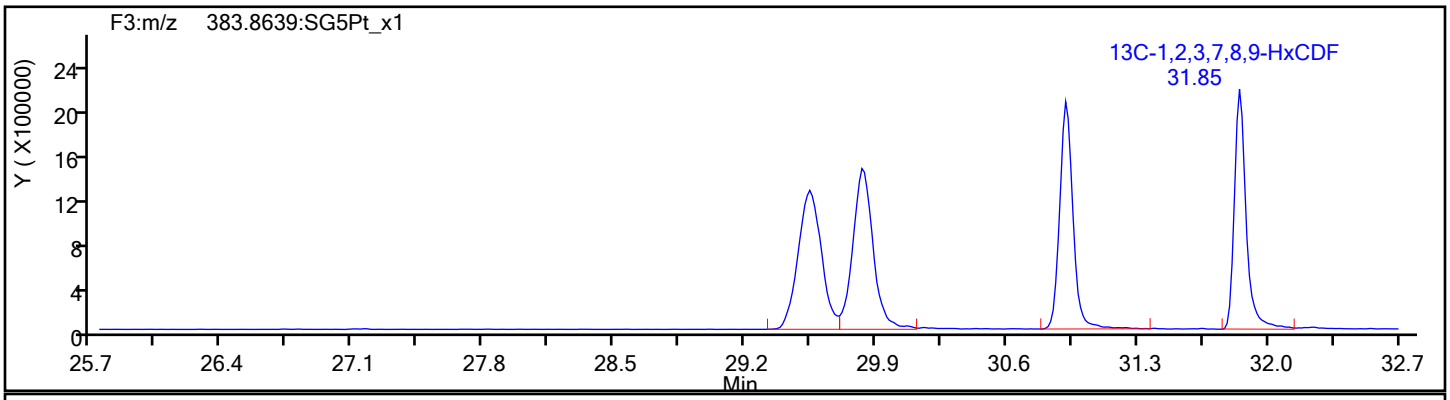

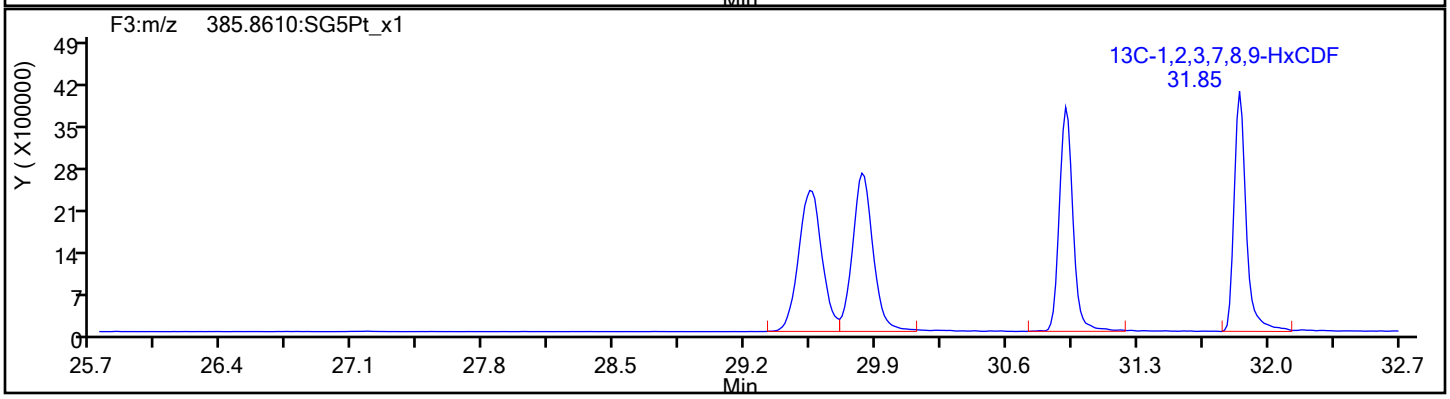

Report Date: 10-Nov-2019 09:24:35 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 3 - DISSOLVED		
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Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

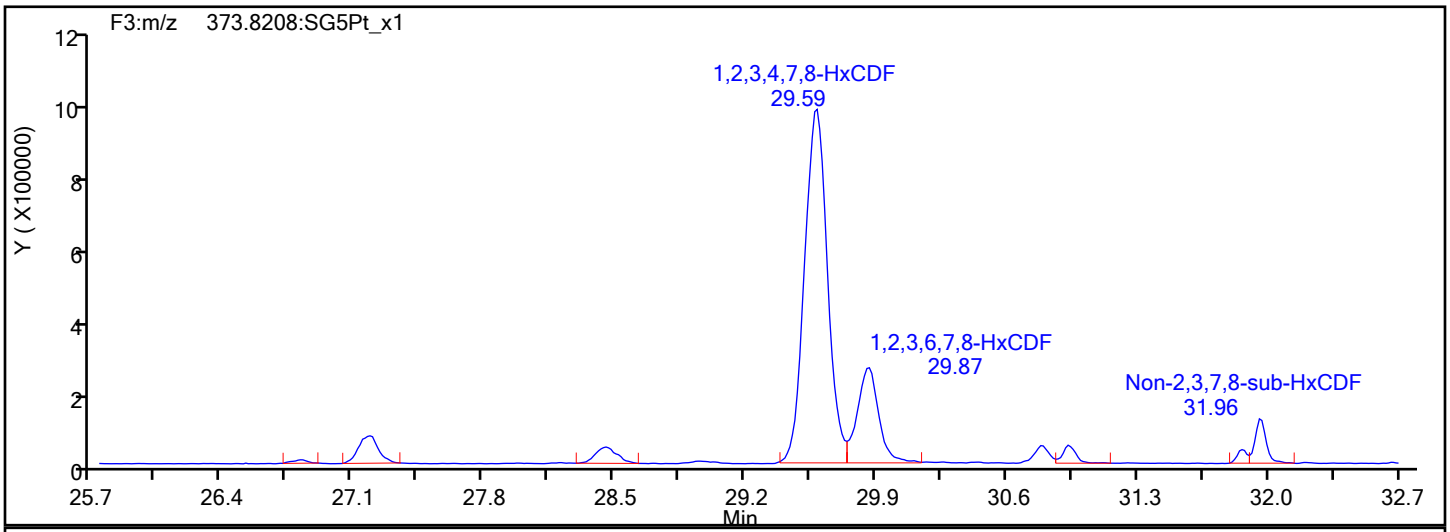

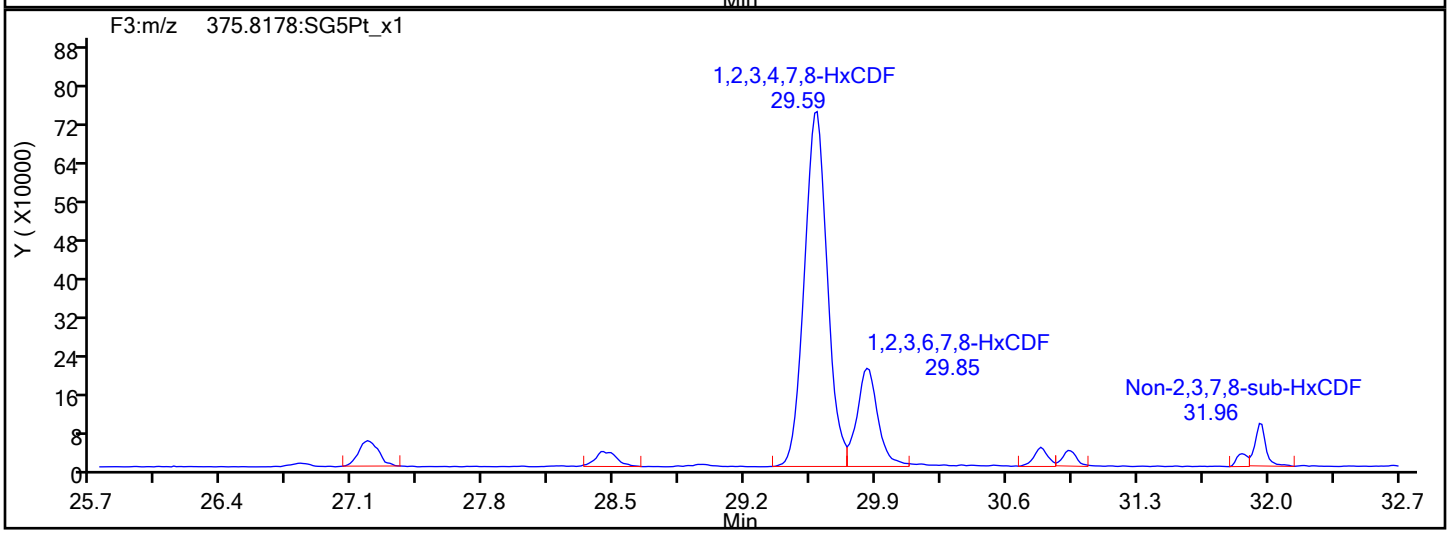

HxCDF Interference Mass

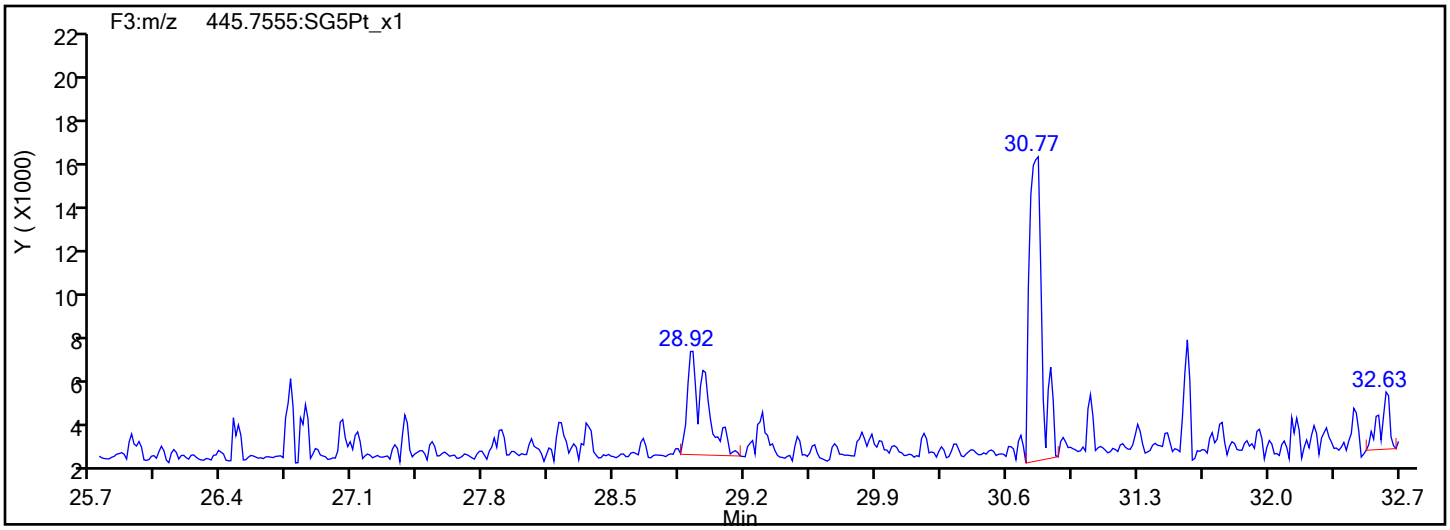

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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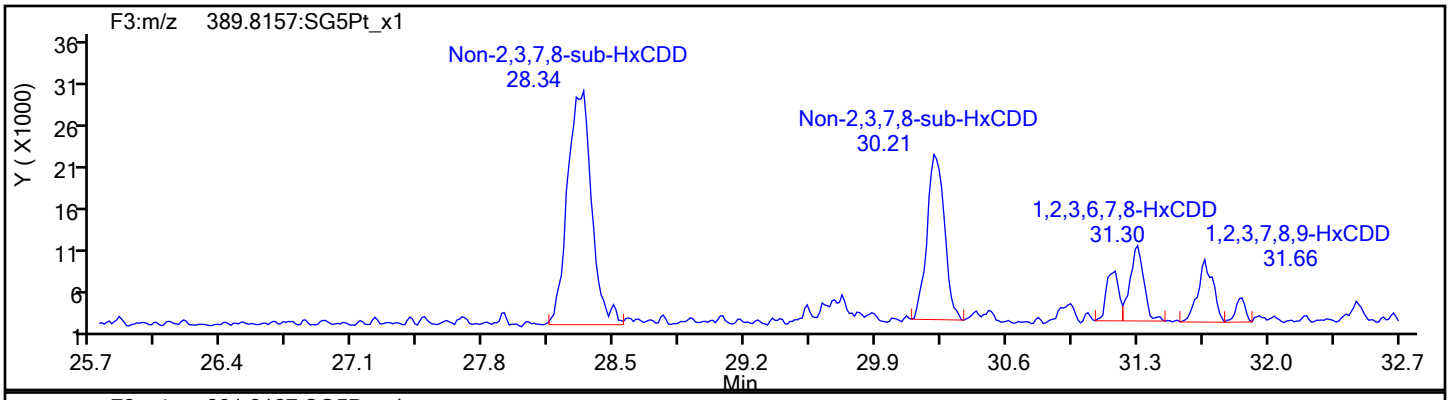

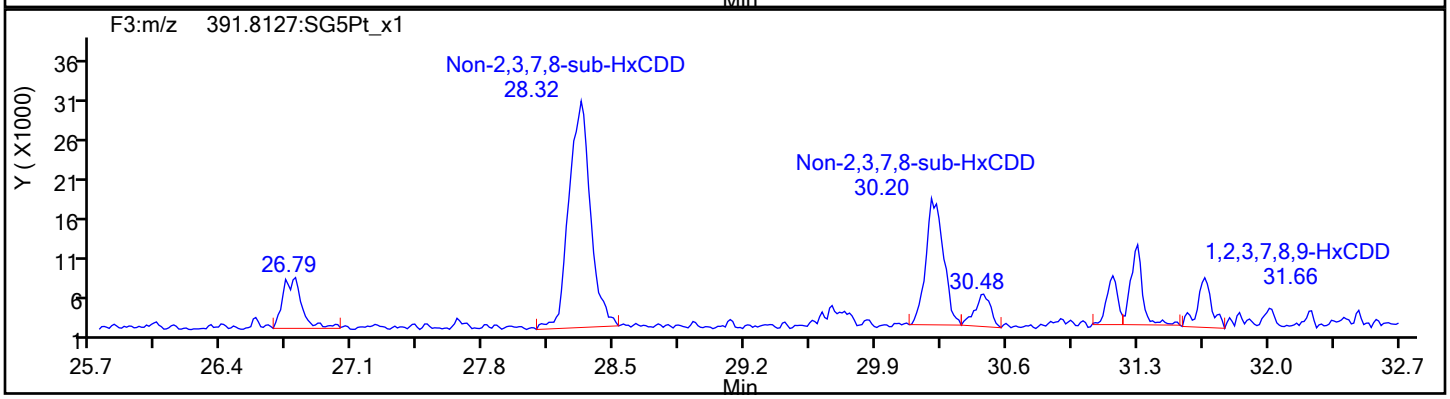

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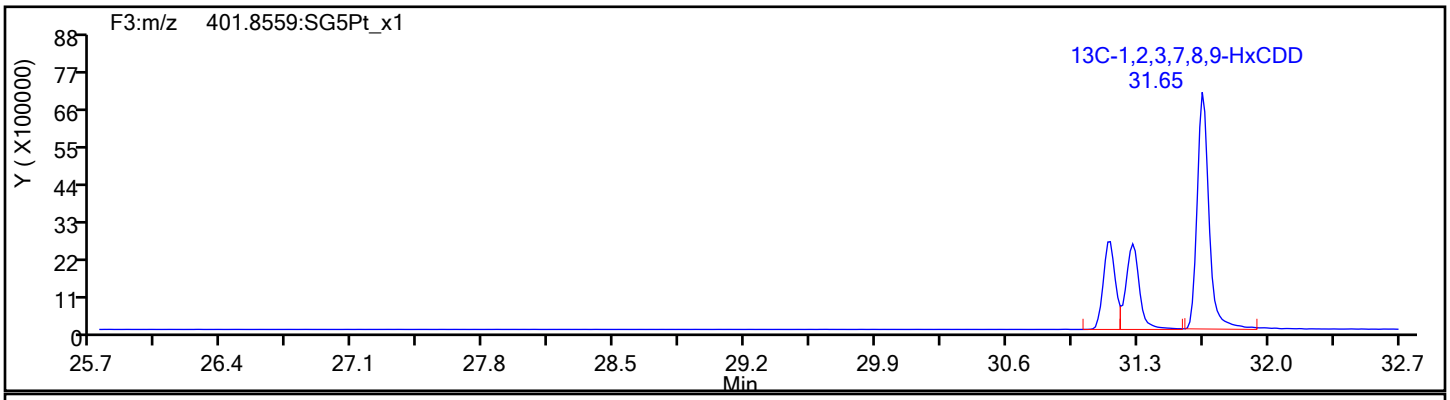

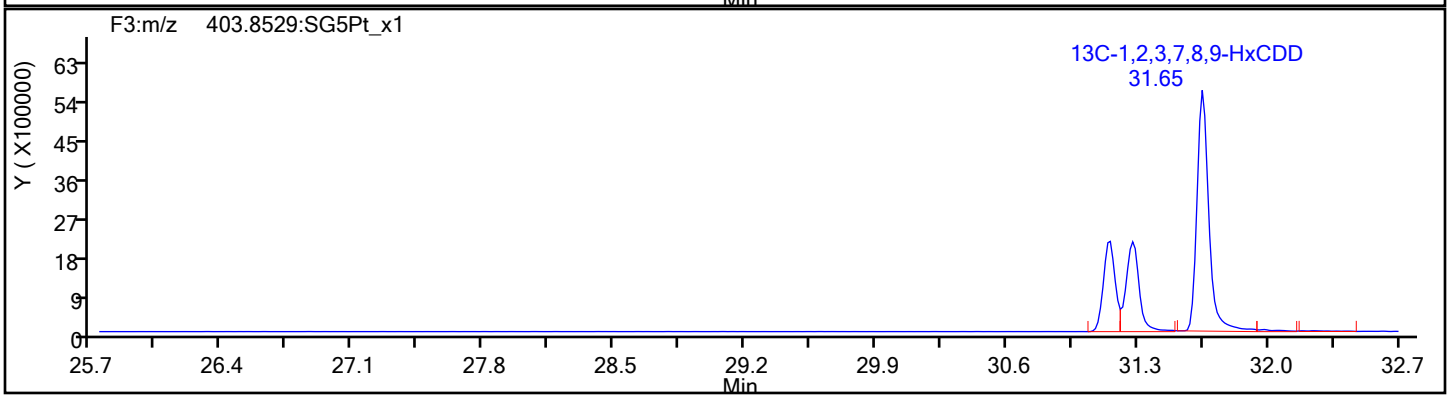

Report Date: 10-Nov-2019 09:24:36 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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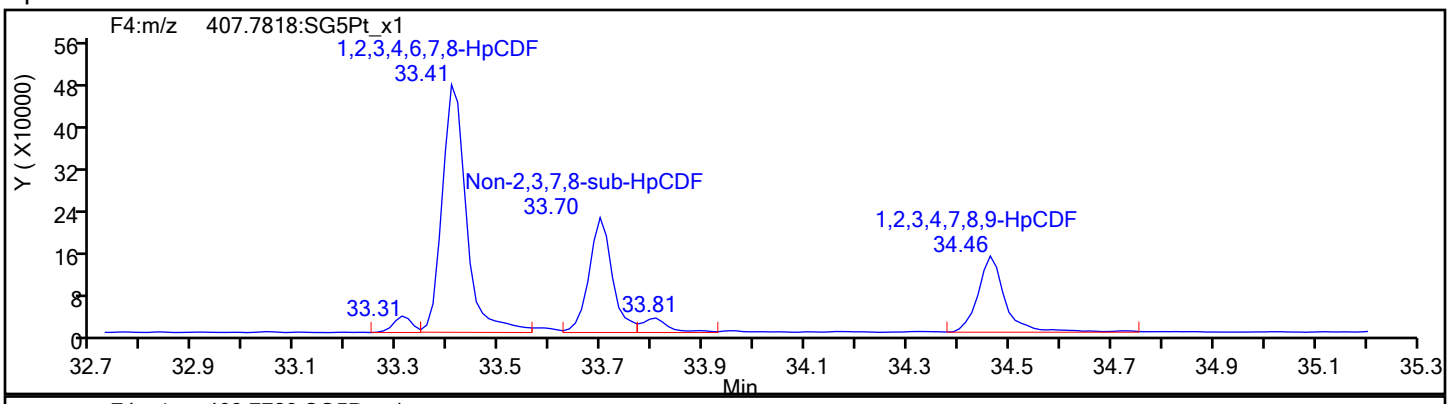

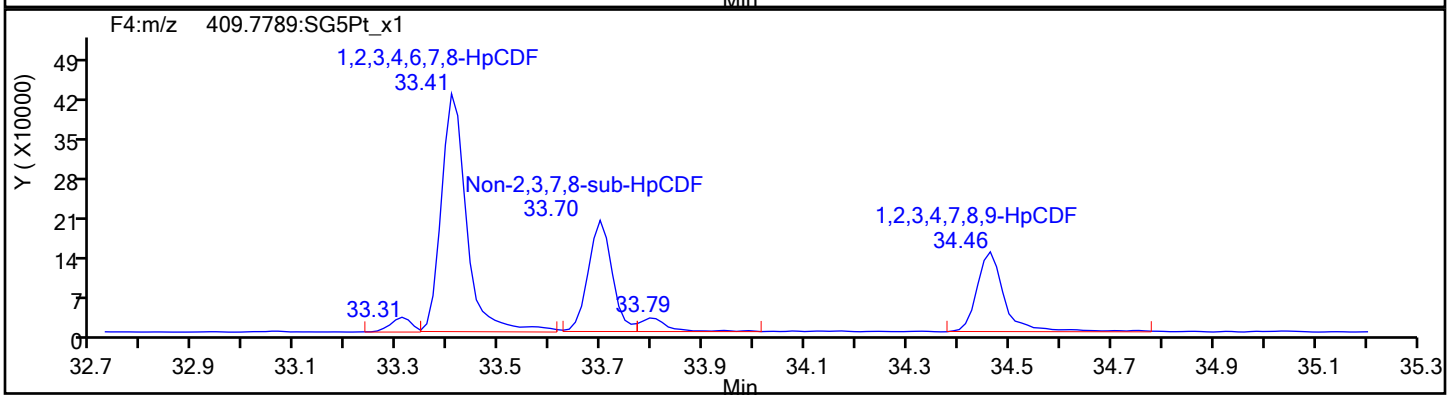

HpCDF Standards

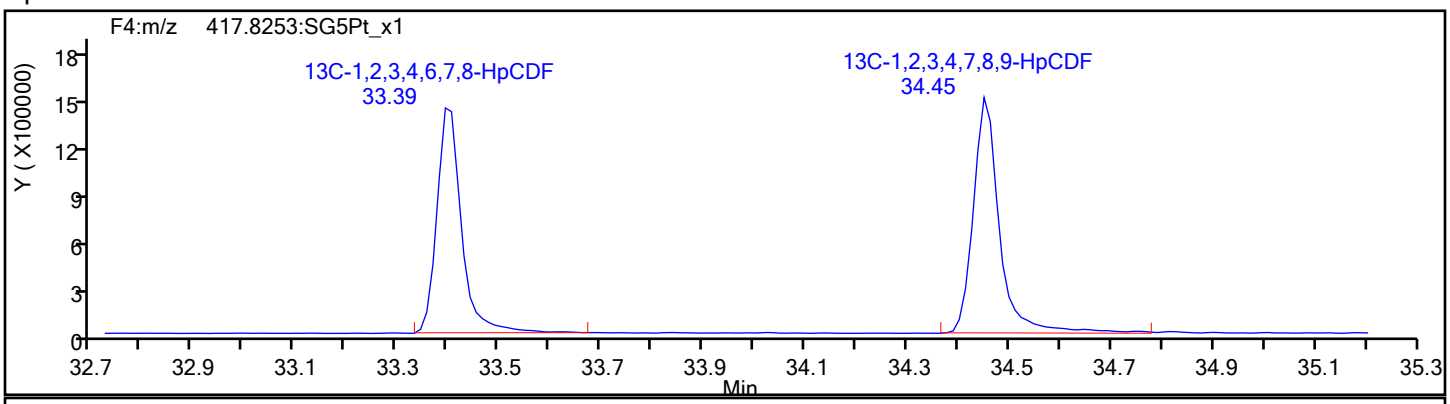

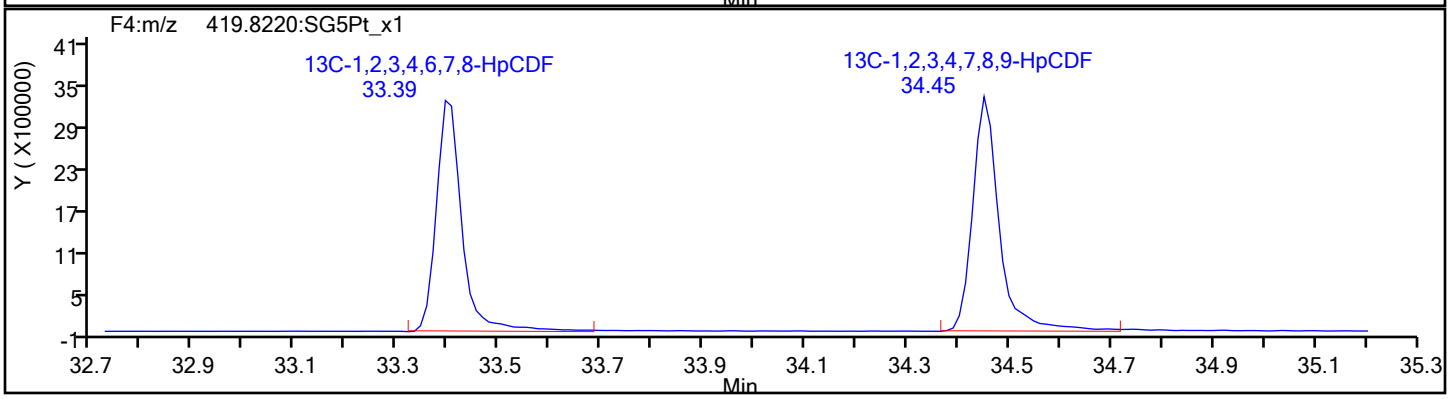

Report Date: 10-Nov-2019 09:24:36 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 3 - DISSOLVED		
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HpCDF

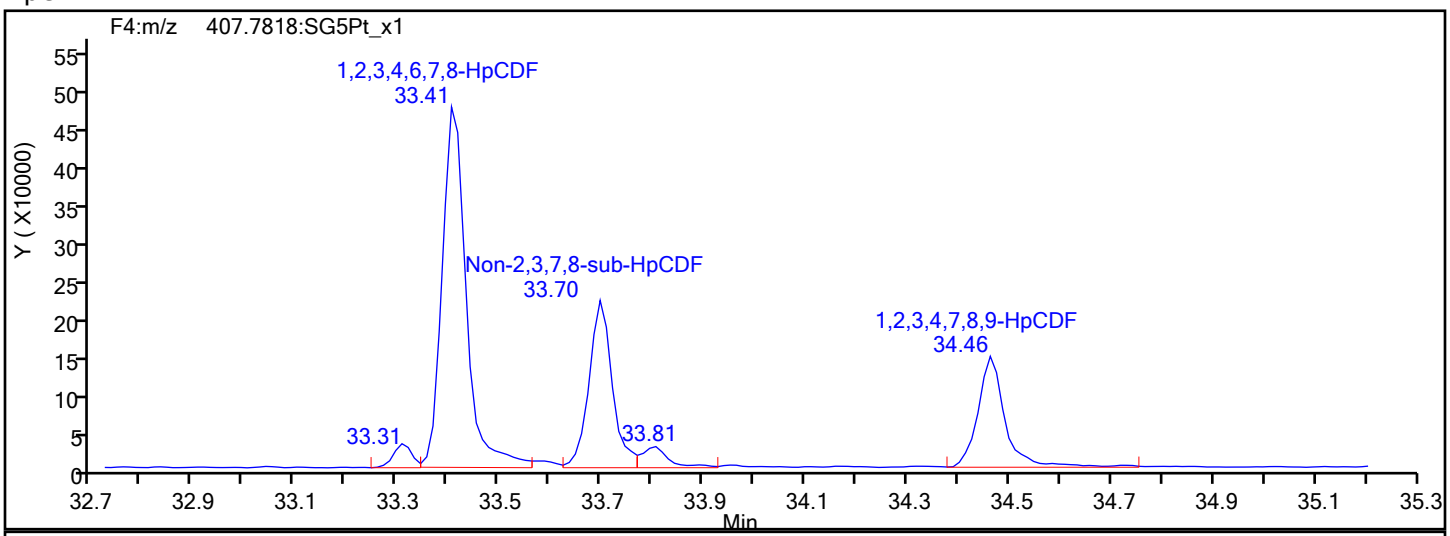

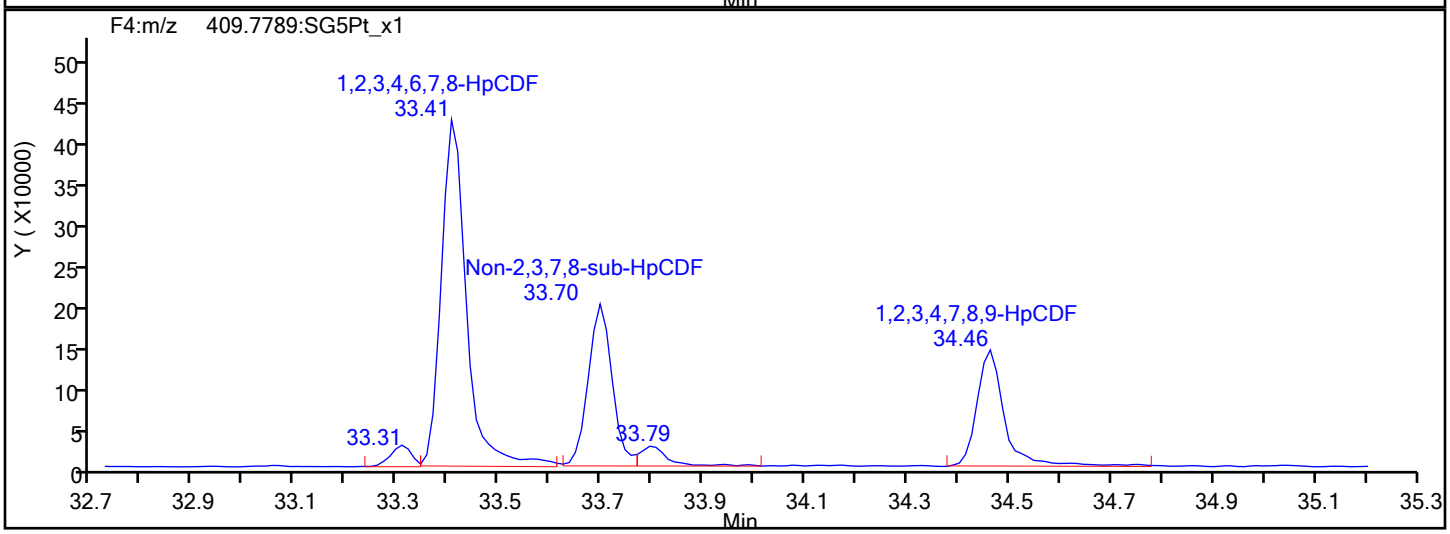

HpCDF Interference Mass

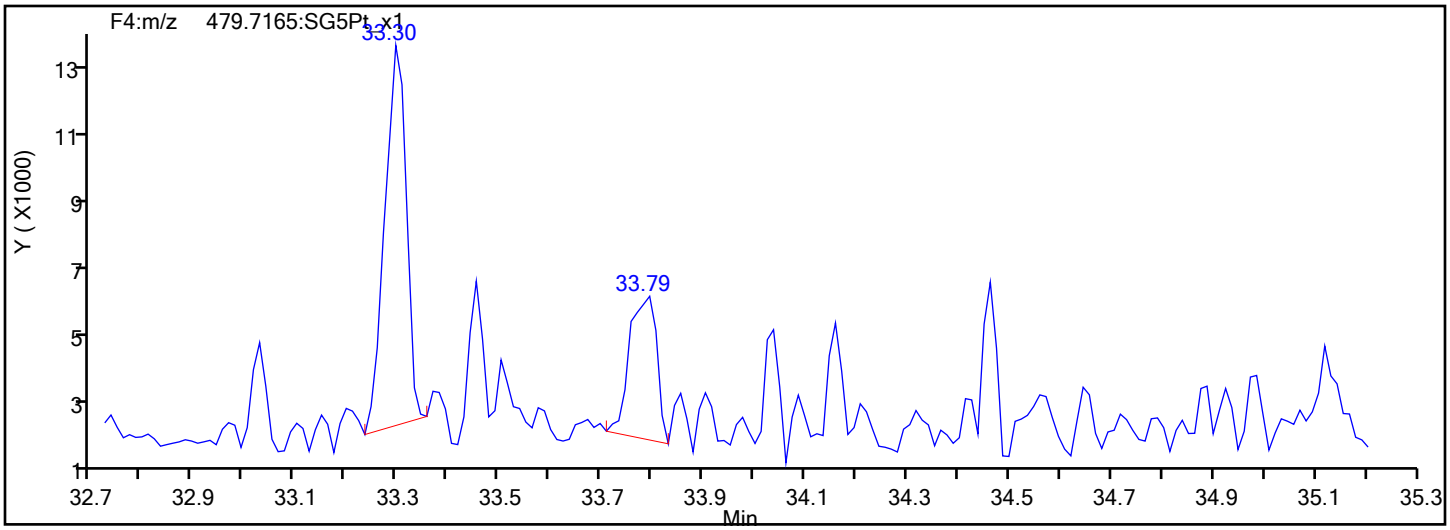

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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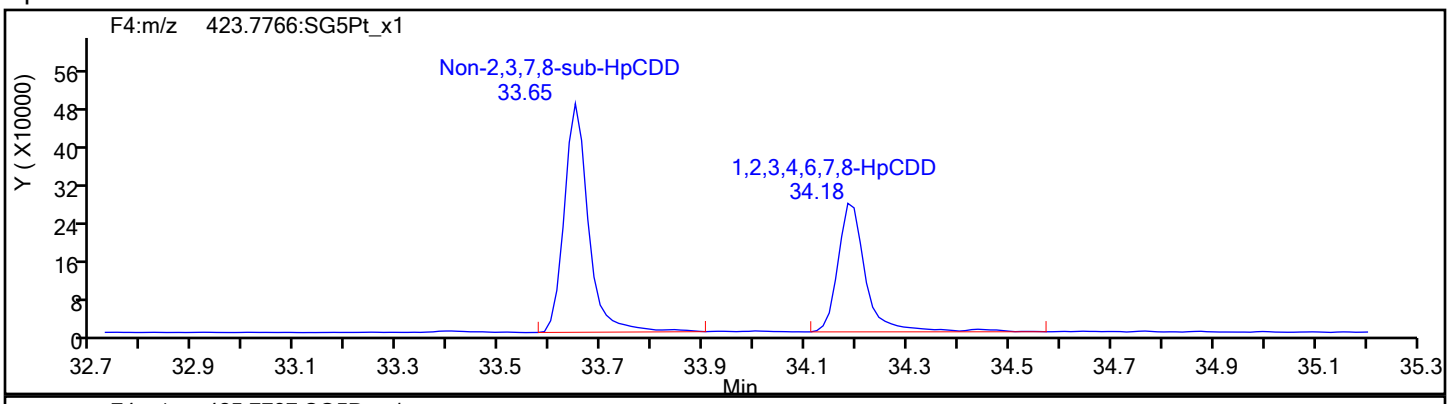

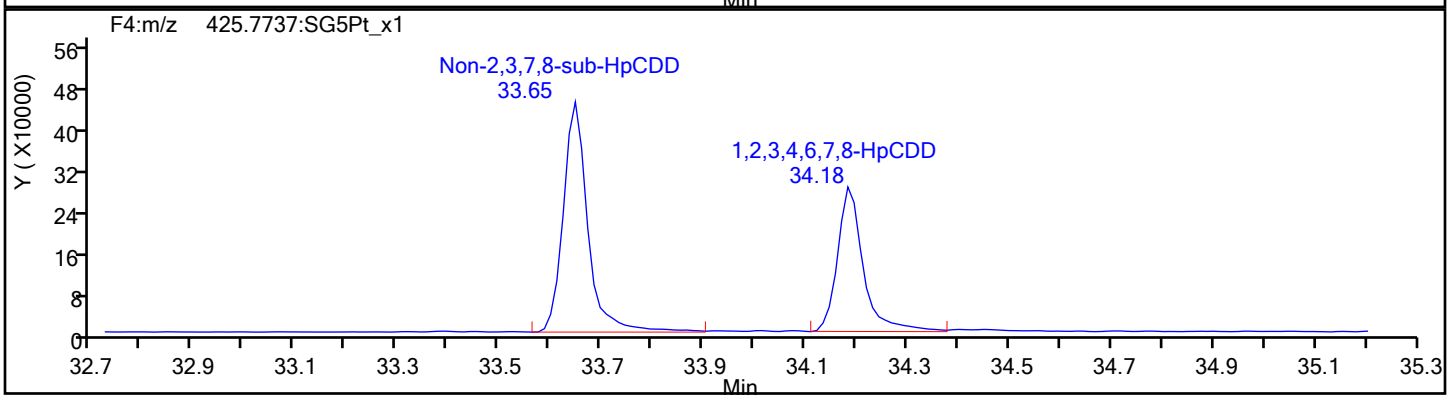

HpCDD Standards

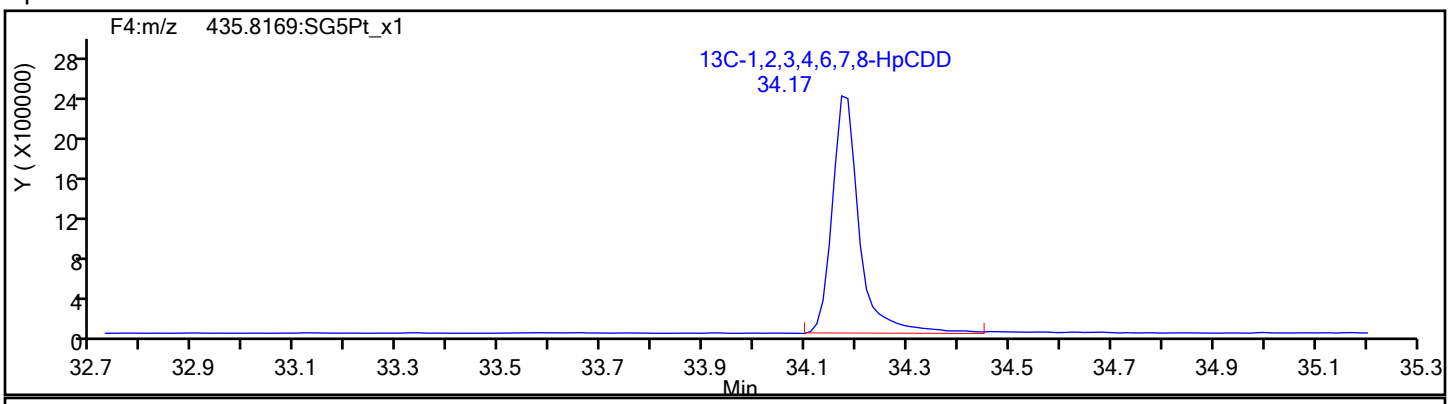

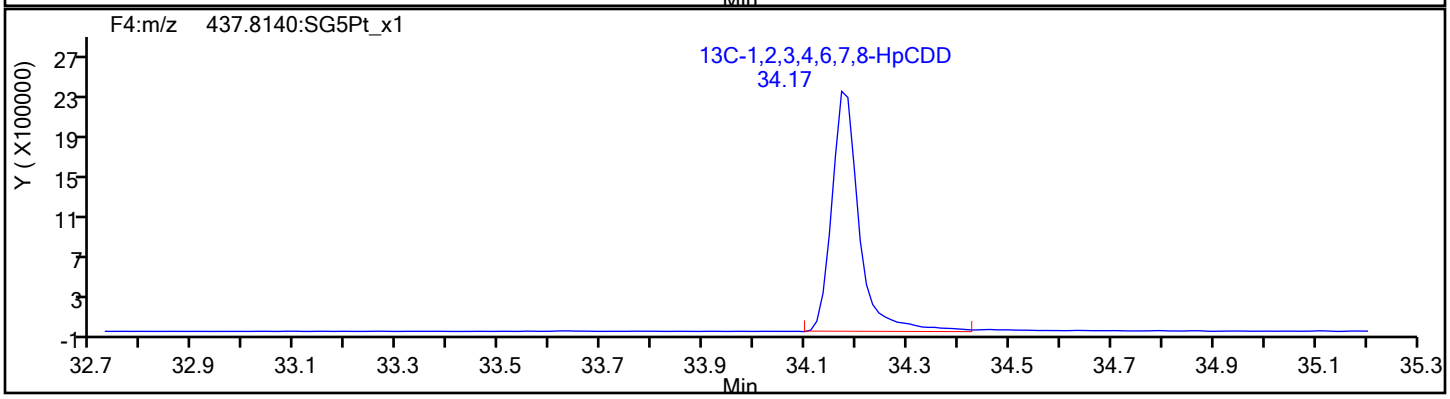

Report Date: 10-Nov-2019 09:24:36 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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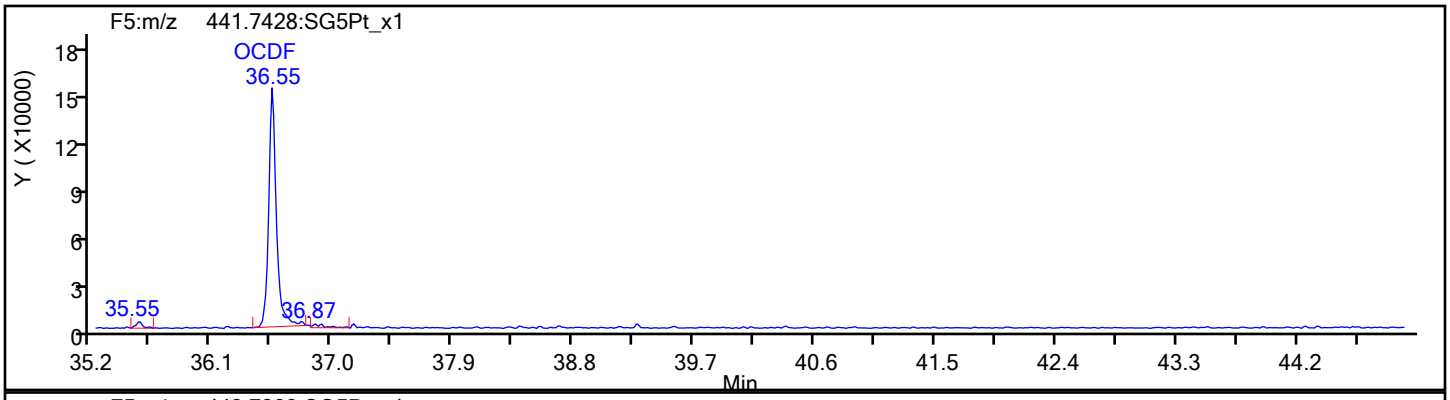

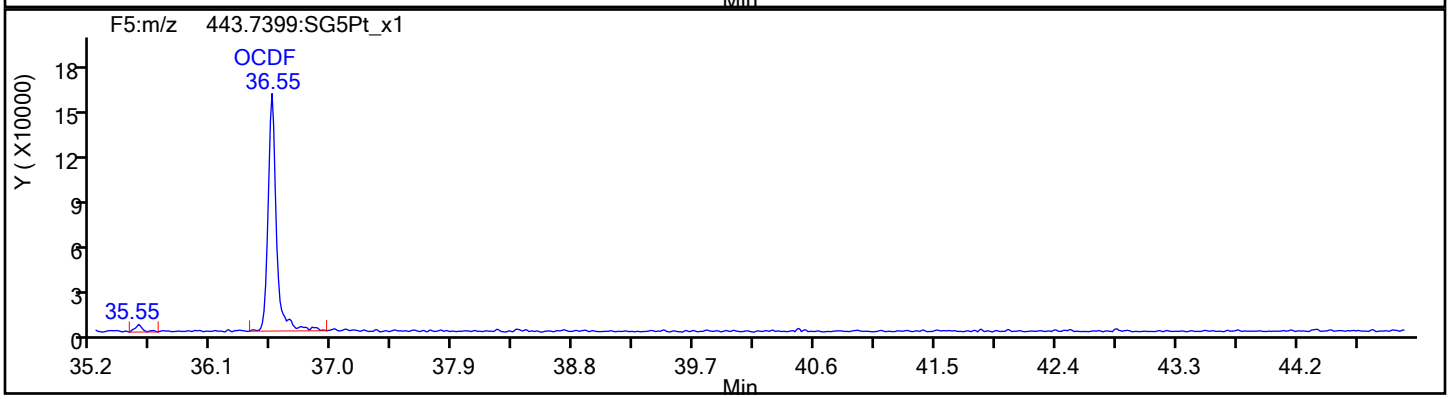

OCDF Standards

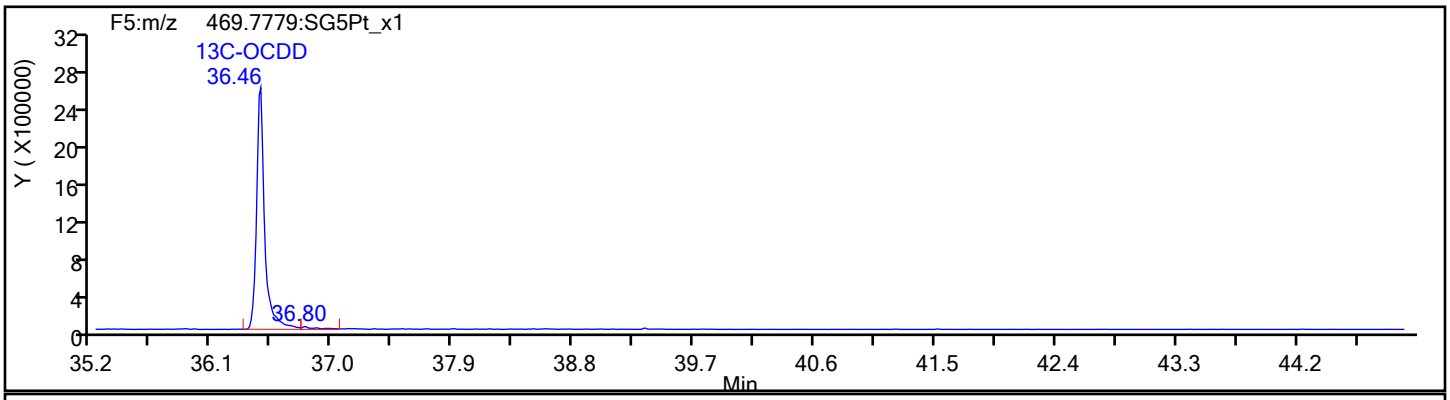

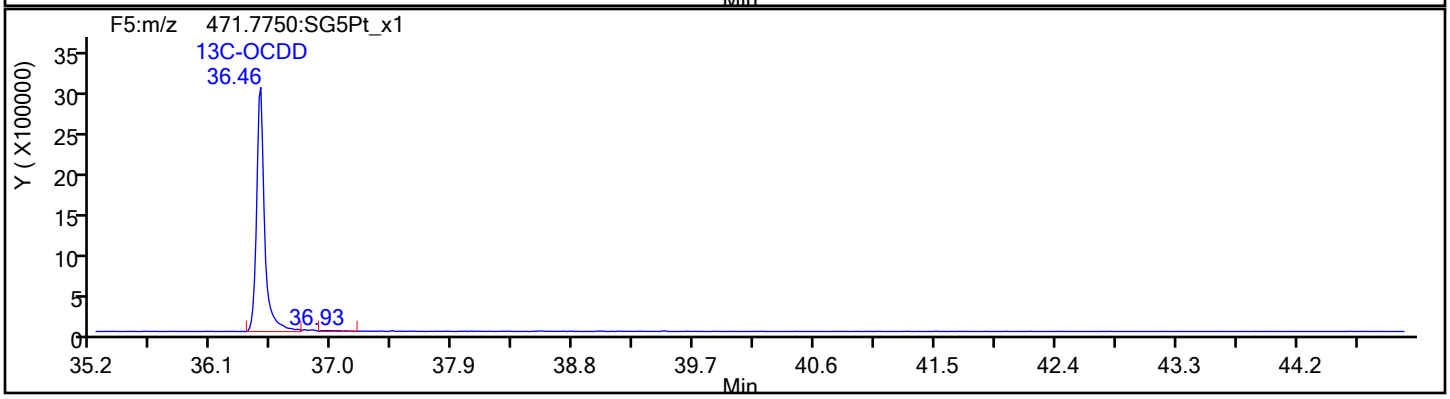

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Eurofins TestAmerica, Sacramento

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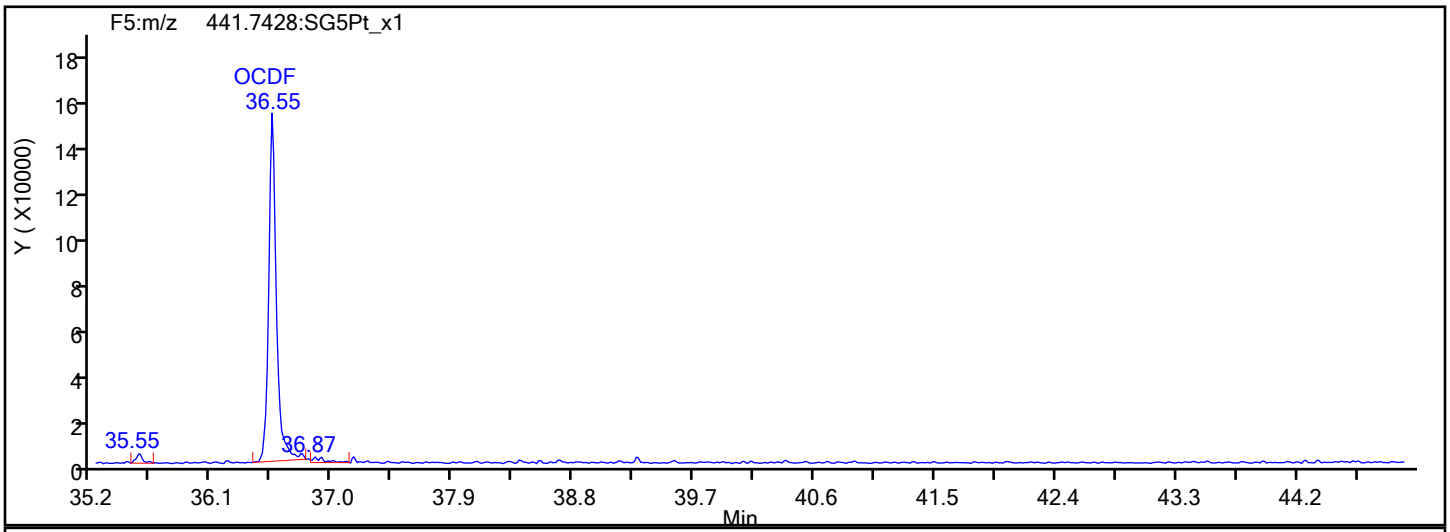

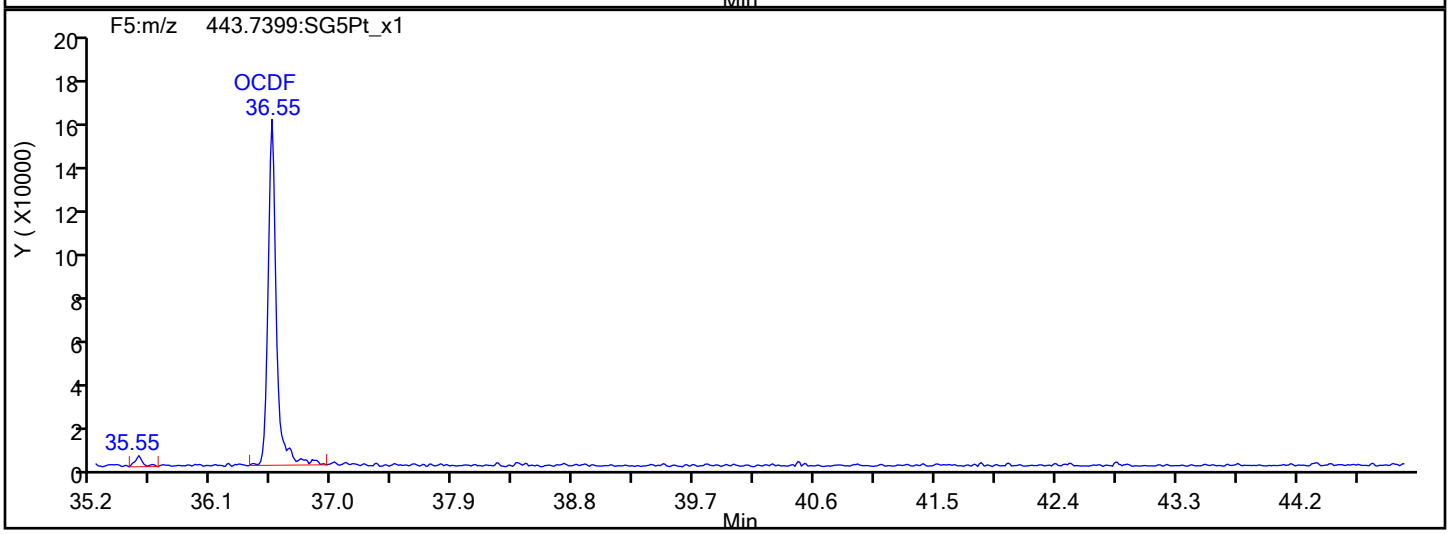

OCDF Interference Mass

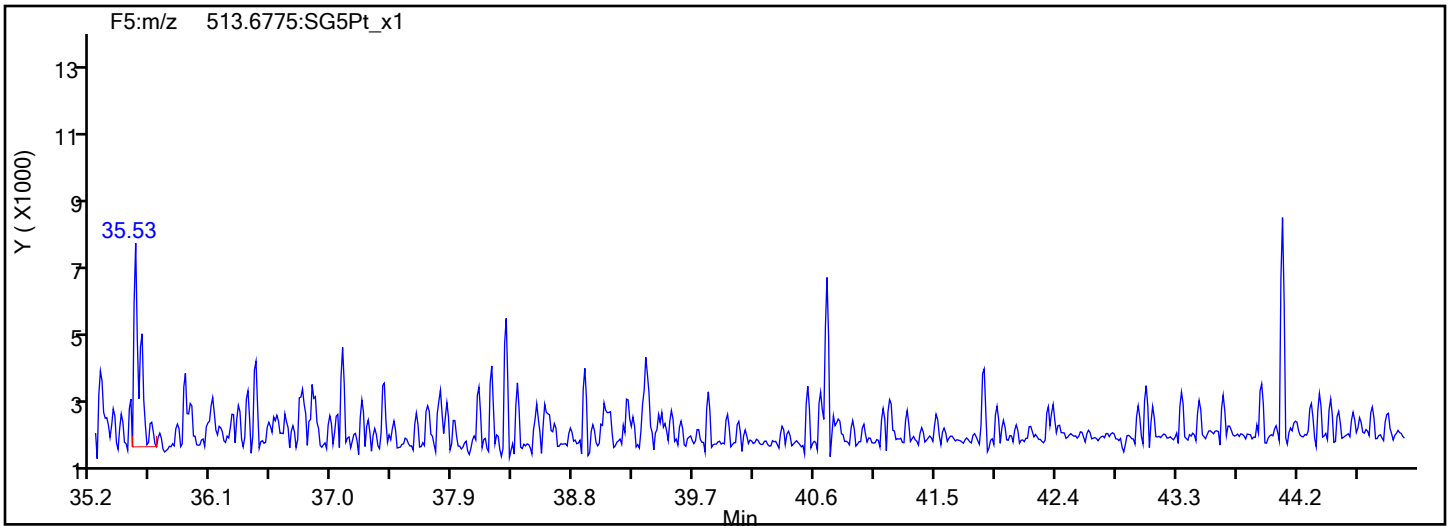

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Worklist#:	336302	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

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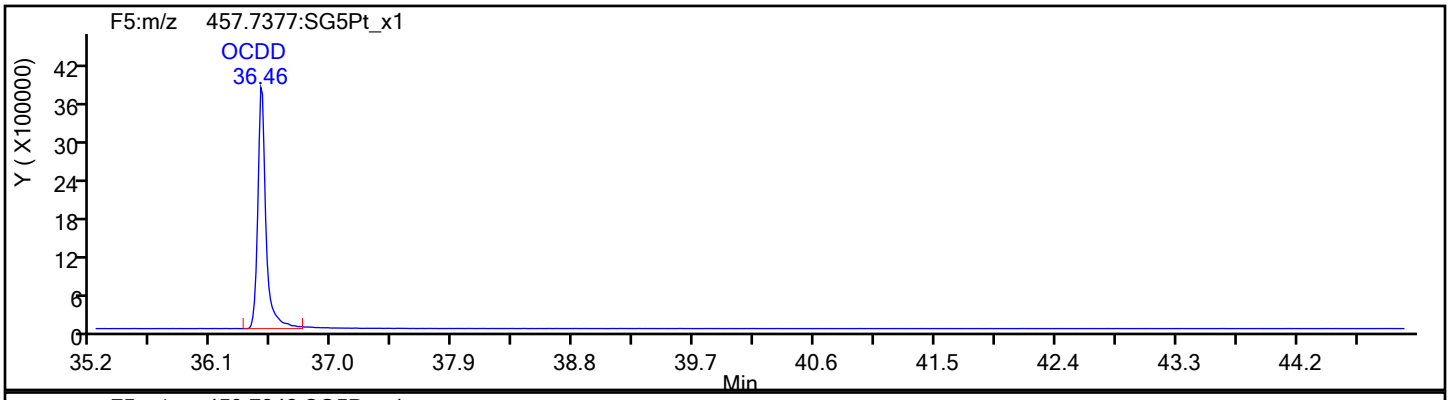

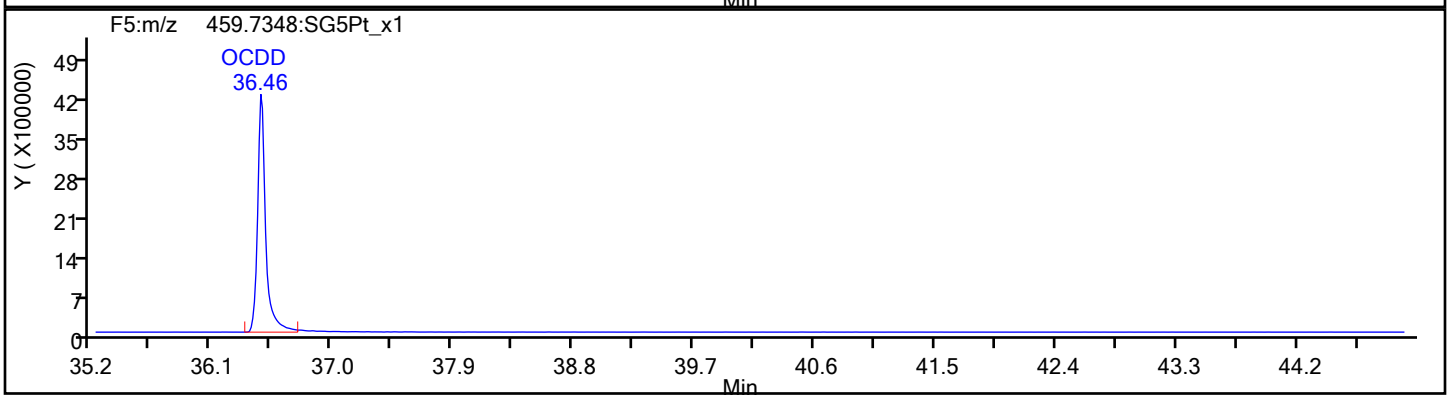

OCDD Standards

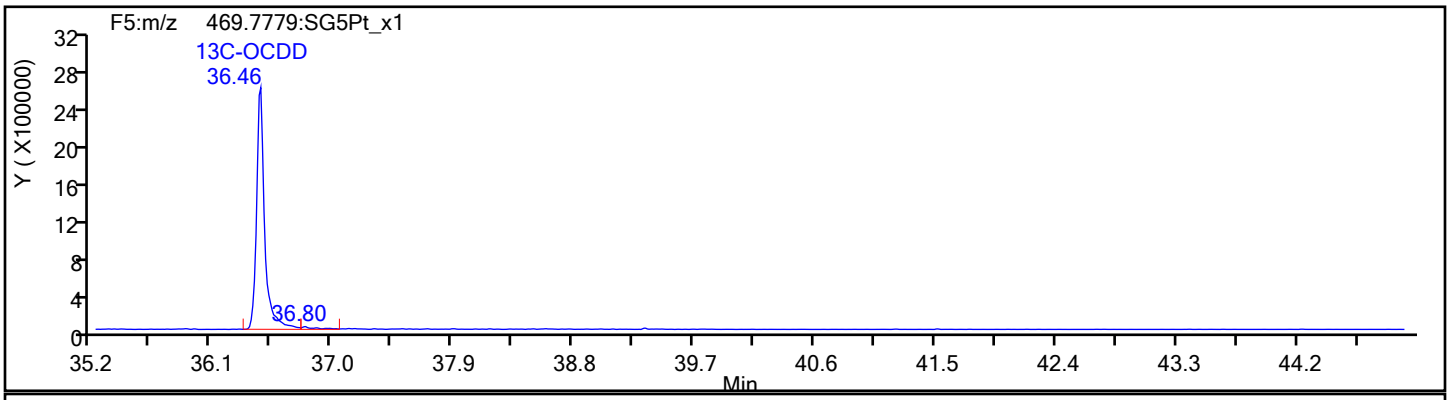

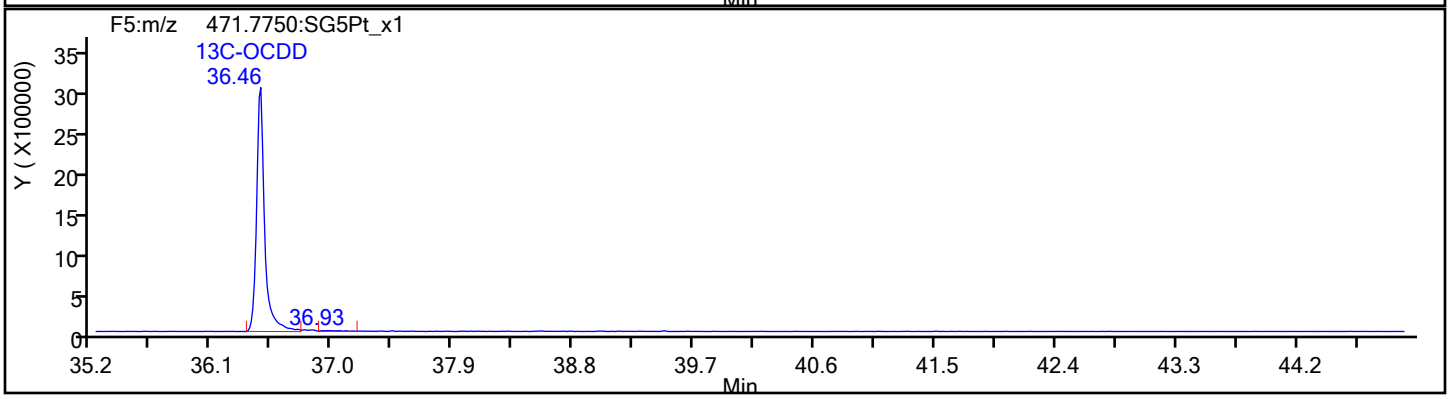

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Eurofins TestAmerica, Sacramento

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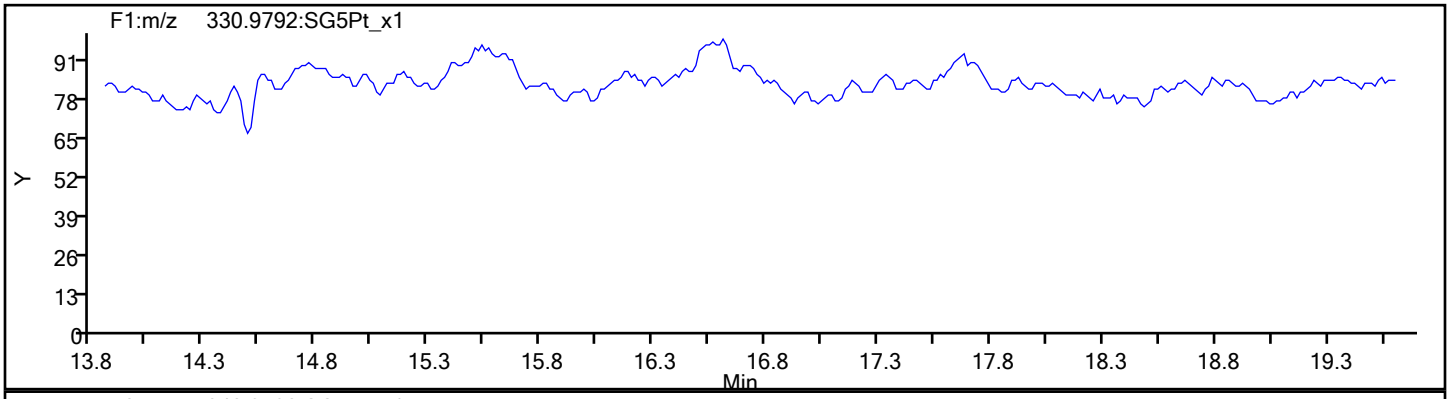

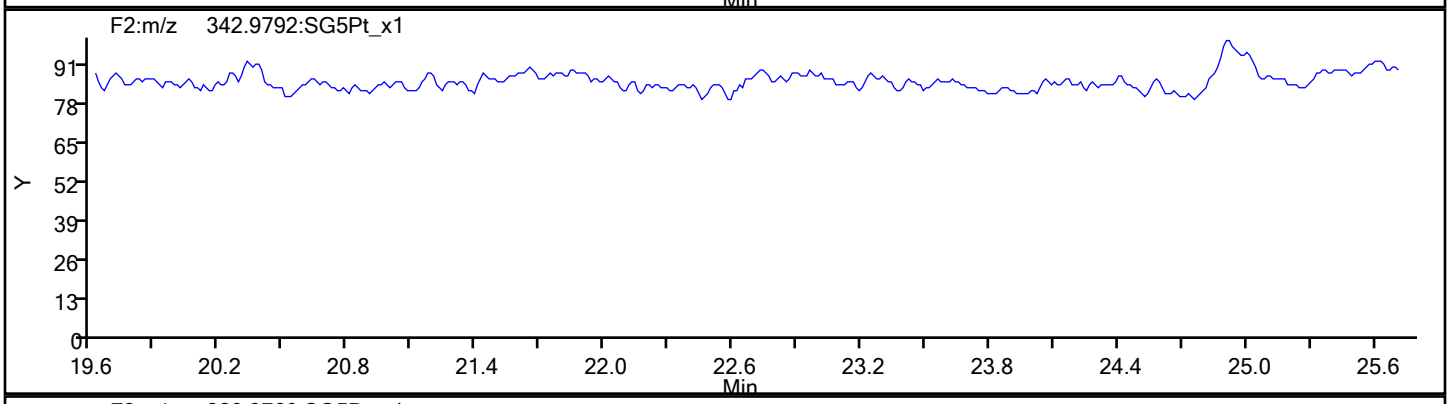

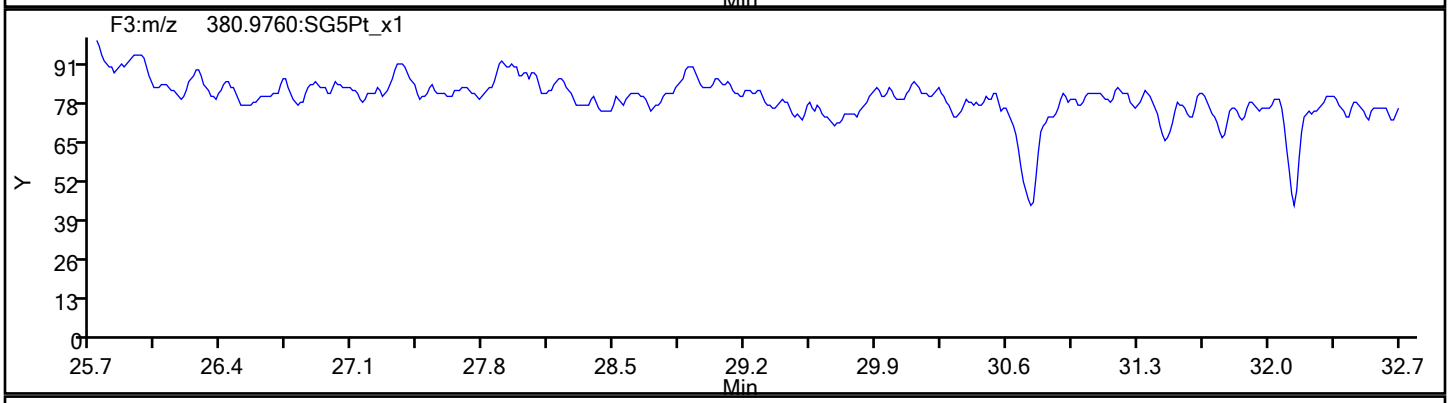

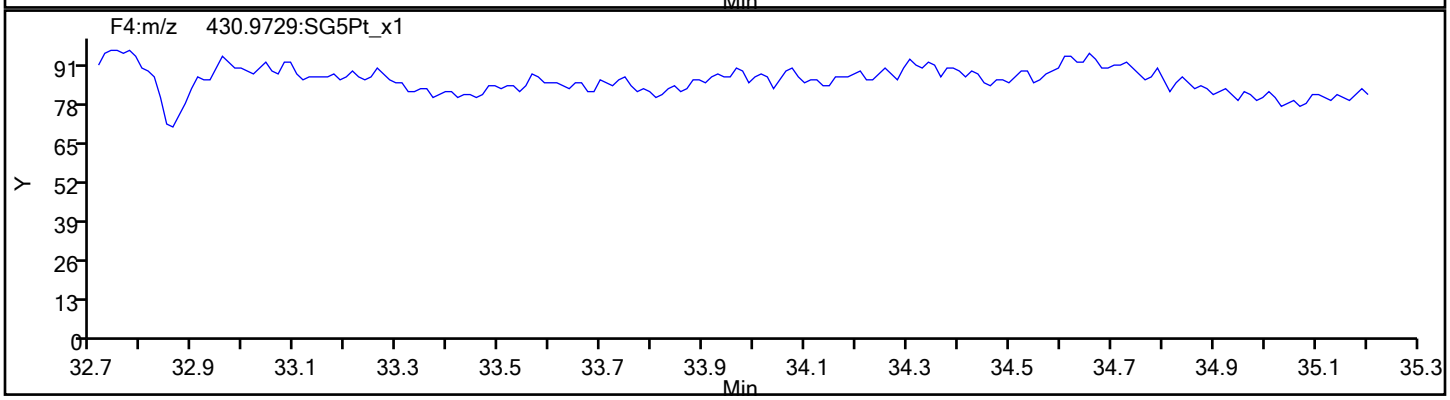

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Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 3 - DISSOLVED		
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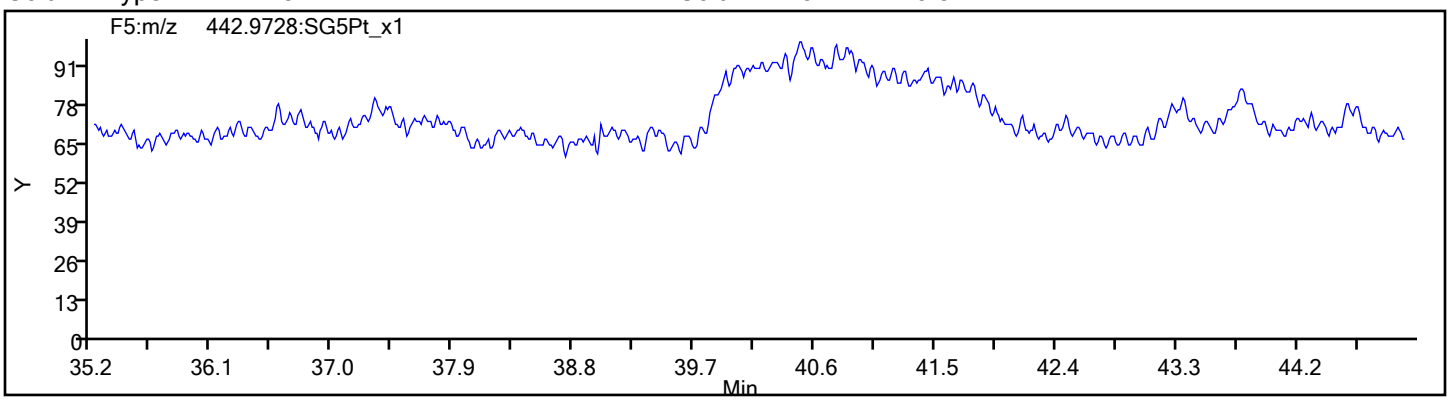

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Client Sample ID: INF 3 - DISSOLVED RA Lab Sample ID: 600-194690-9 RA

Matrix: Water Lab File ID: 07NO19A11D2_006.d

Analysis Method: 1613B Date Collected: 10/25/2019 13:30

Extract. Method: 1613B Date Extracted: 11/01/2019 08:11

Sample wt/vol: 998.7(mL) Date Analyzed: 11/07/2019 18:10

Con. Extract Vol.: 20(uL) Dilution Factor: 5

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 336810 Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
51207-31-9	2,3,7,8-TCDF	11000	B	50	28

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
89059-46-1	13C-2,3,7,8-TCDF	61		24-169

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	104		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_006.d
Lims ID: 600-194690-B-9-A
Client ID: INF 3 - DISSOLVED
Sample Type: Client
Inject. Date: 07-Nov-2019 18:10:40 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 5.0000
Sample Info: 600-194690-B-9-A (5X)
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20191107-86281.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 08-Nov-2019 11:07:13 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0309

First Level Reviewer: messecara Date: 07-Nov-2019 23:32:20

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.383	11326550	0.70	1.1E+06	20.0	20.0				
D 13C-2,3,7,8-TCDF	16.577	9229182	0.75	1.3379	12.2	12.2	0.6683	0.6683	60.90	
2,3,7,8-TCDF	16.591	43158842	0.78	0.8389	111.5	111.5	0.2820	0.2820		
D 13C-2,3,7,8-TCDD	15.109	5298174	0.72	0.9388	9.965	9.965	1.764	1.764	49.83	
2,3,7,8-TCDD	15.136	12427008	0.81	1.1538	40.7	40.7	0.3584	0.3584		
$ 37Cl4-2,3,7,8-TCDD	15.123	5576218		1.1816	8.333	8.333	0.1480	0.1480	104	
S Total 2378-Chlorinated							0.000100	0.000100		

Report Date: 08-Nov-2019 11:07:40 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_006.d
Lims ID: 600-194690-B-9-A
Client ID: INF 3 - DISSOLVED
Sample Type: Client
Inject. Date: 07-Nov-2019 18:10:40 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 5.0000
Sample Info: 600-194690-B-9-A (5X)
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20191107-86281.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 08-Nov-2019 11:07:13 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0309

First Level Reviewer: messecara Date: 07-Nov-2019 23:32:20

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.383	15.378	0		4660335	1024630	37662	94155	27		
333.9339	15.397	15.378	1		6666215	1442131	44042	110105	33	0.70(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.577	16.560	1	1.078	3964855	770530	26083	65207	30		
317.9389	16.577	16.560	1	1.078	5264327	1038239	18029	45072	58	0.75(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.591	16.571	1	1.001	18961249	3991150	3890	9725	1026		
305.8987	16.591	16.571	1	1.001	24197593	5126521	4668	11670	1098	0.78(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.109	15.092	0	0.982	2226608	531359	37662	94155	14		
333.9339	15.109	15.092	0	0.982	3071566	664139	44042	110105	15	0.72(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.136	15.117	1	1.002	5562238	1240239	5824	14560	213		
321.8936	15.123	15.117	0	1.001	6864770	1565629	4063	10157	385	0.81(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.123	15.117	0	0.983	5576218	1323831	8629	21572	153		

Total 2378-Chlorinated Dioxins & Furans
0.0 0

Report Date: 08-Nov-2019 11:07:40 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_006.d		
Injection Date:	07-Nov-2019 18:10:40	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 3 - DISSOLVED		
Worklist#:	336810	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

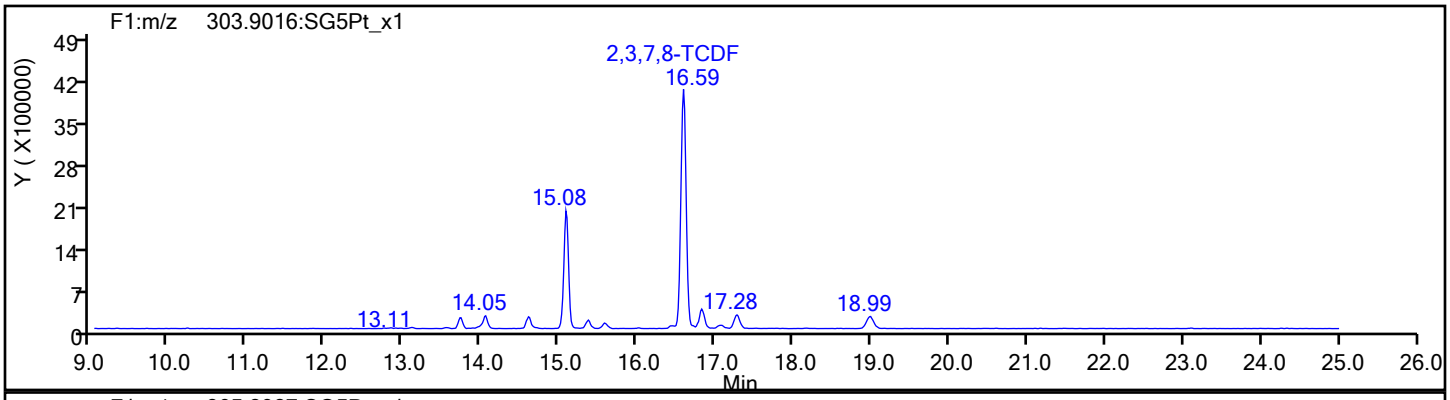

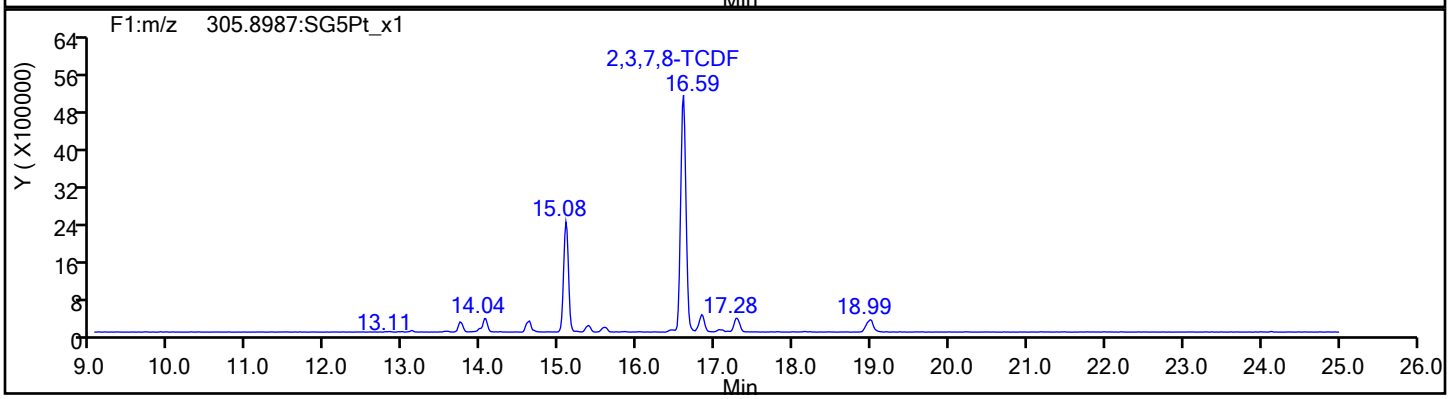

TCDF Standards

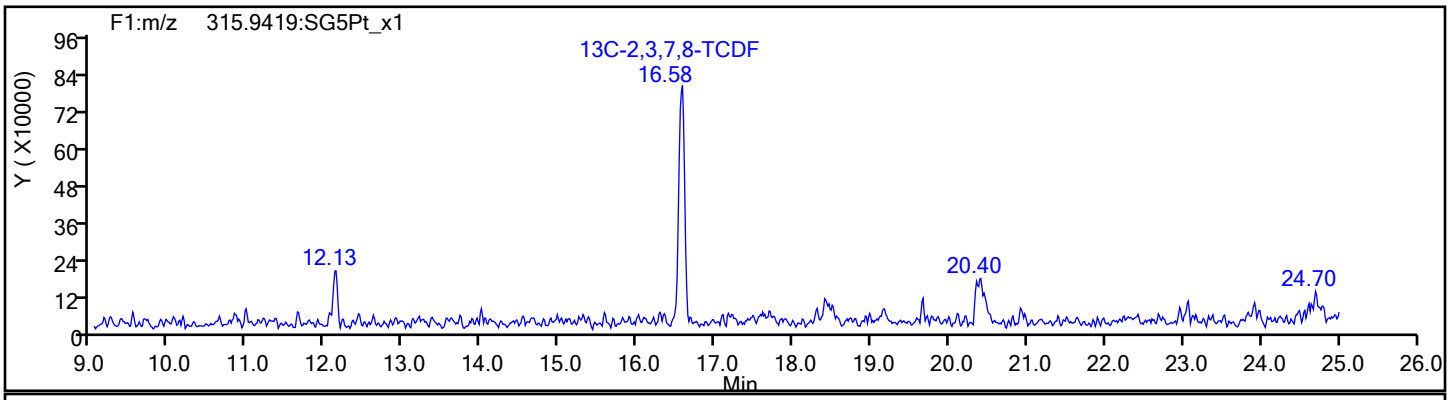

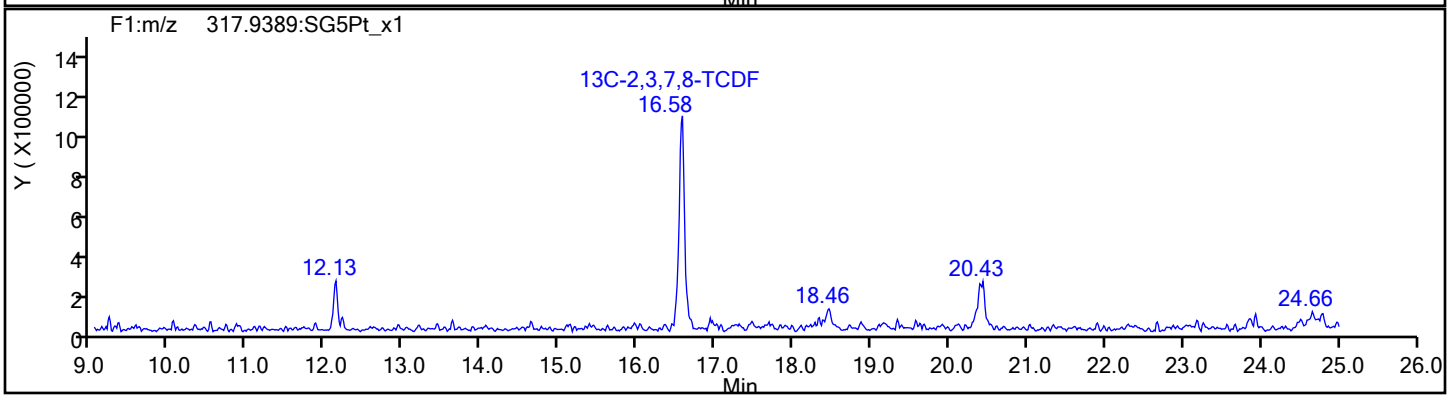

Report Date: 08-Nov-2019 11:07:40 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_006.d		
Injection Date:	07-Nov-2019 18:10:40	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 3 - DISSOLVED		
Worklist#:	336810	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

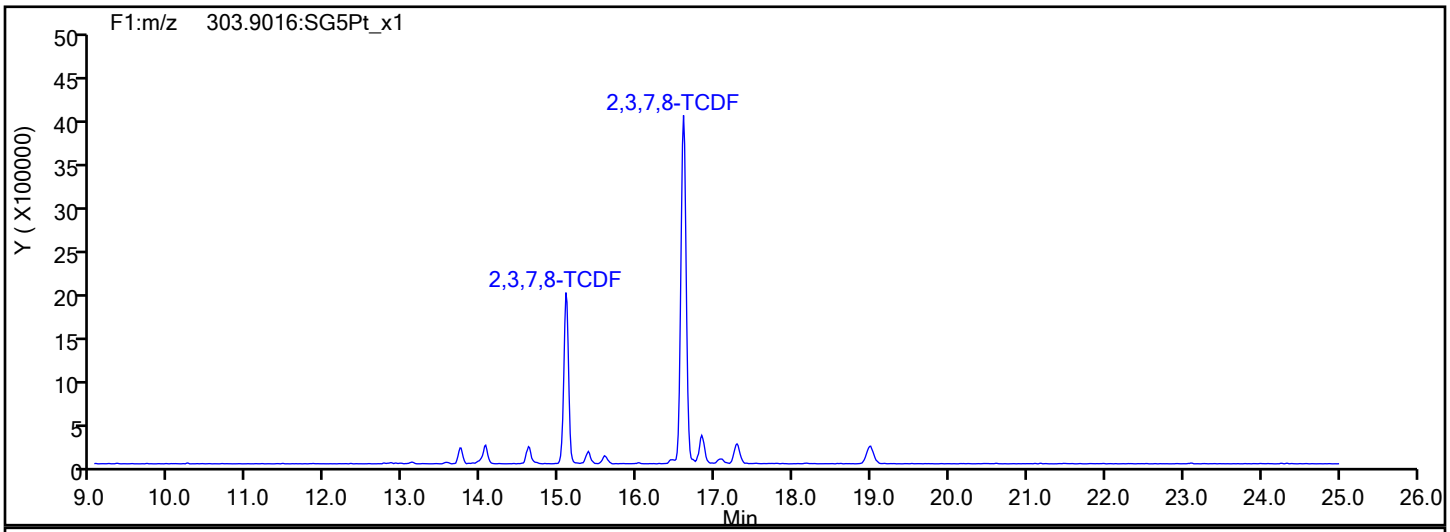

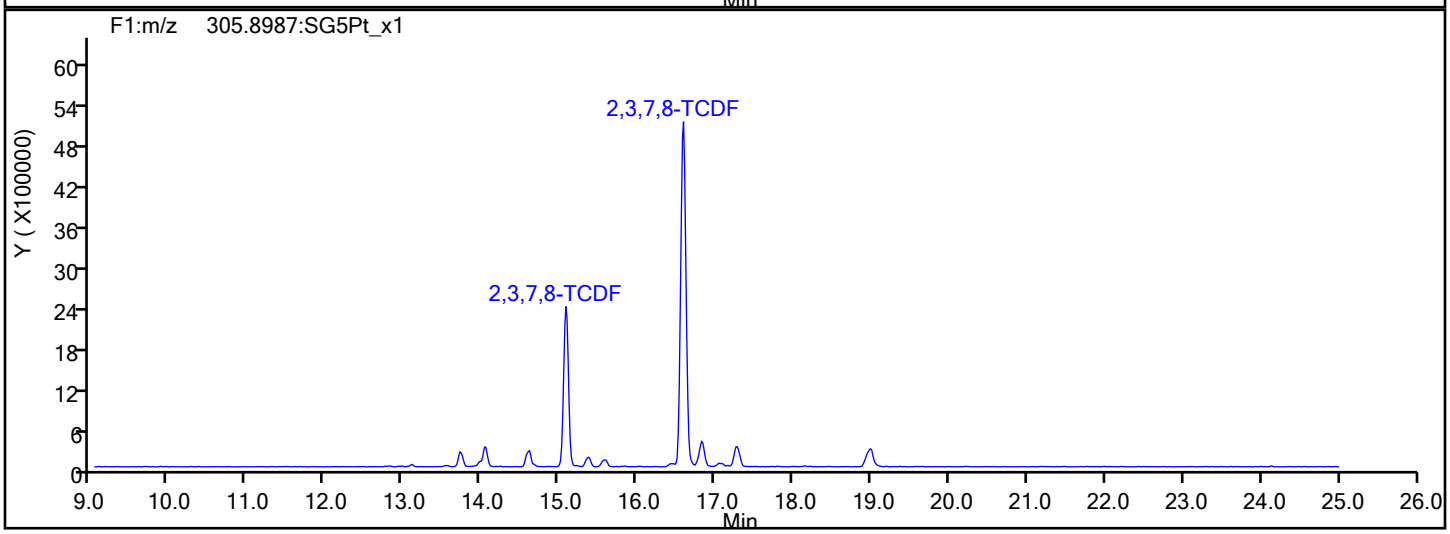

TCDF Interference Mass

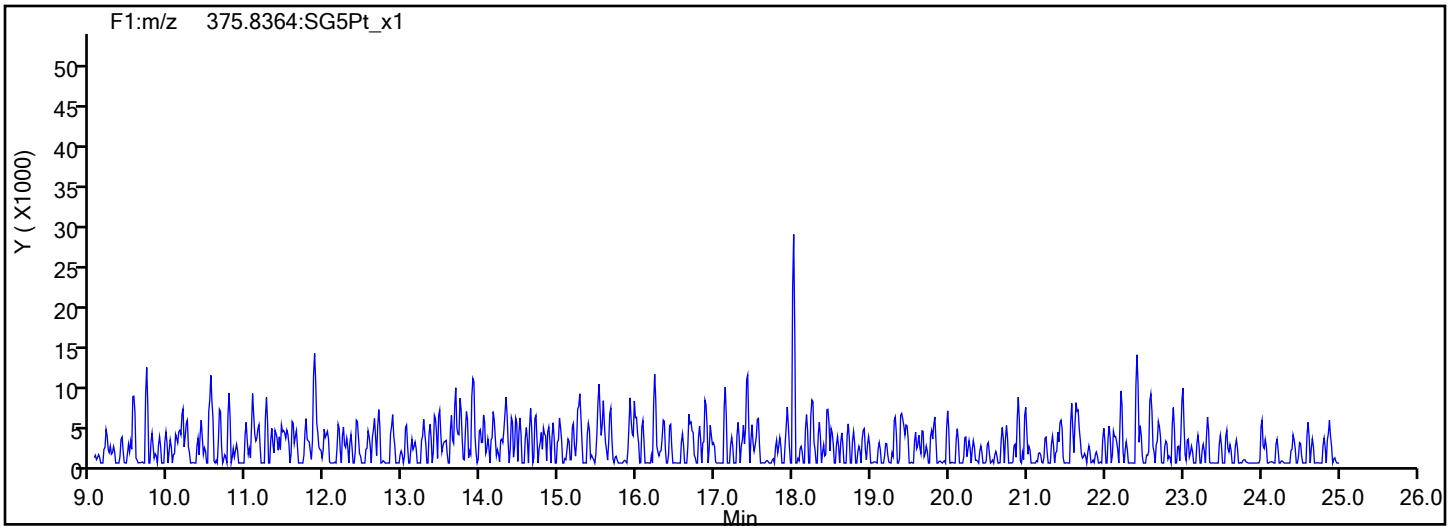

Report Date: 08-Nov-2019 11:07:40 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_006.d		
Injection Date:	07-Nov-2019 18:10:40	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 3 - DISSOLVED		
Worklist#:	336810	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

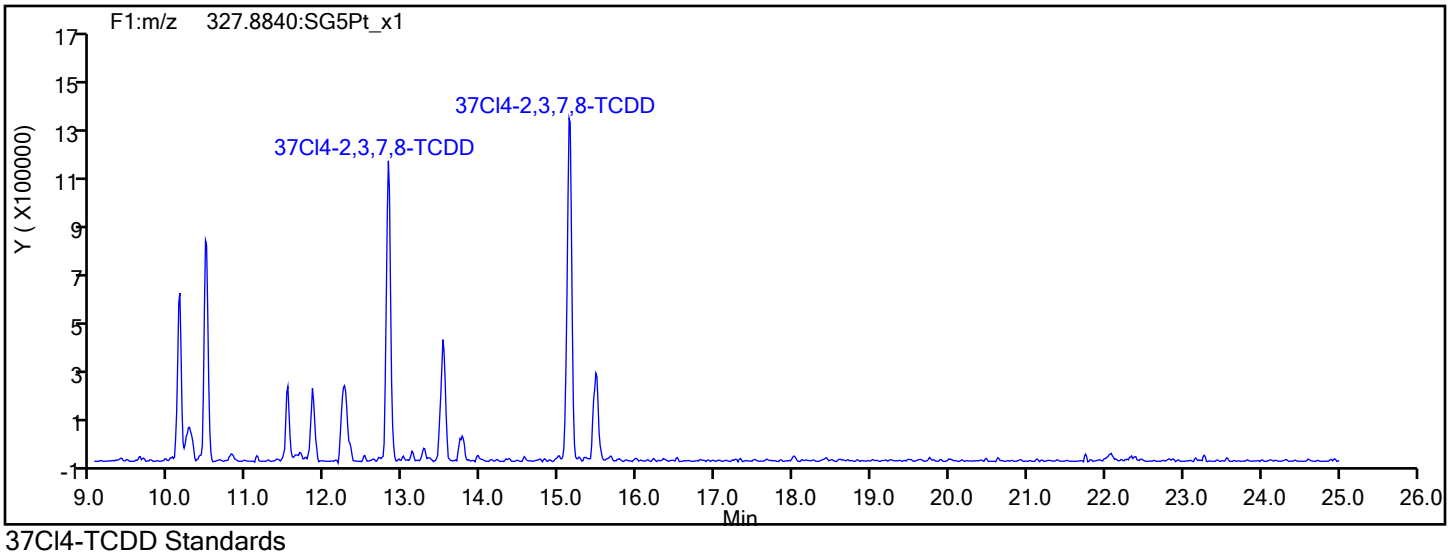

37Cl4-TCDD Standards

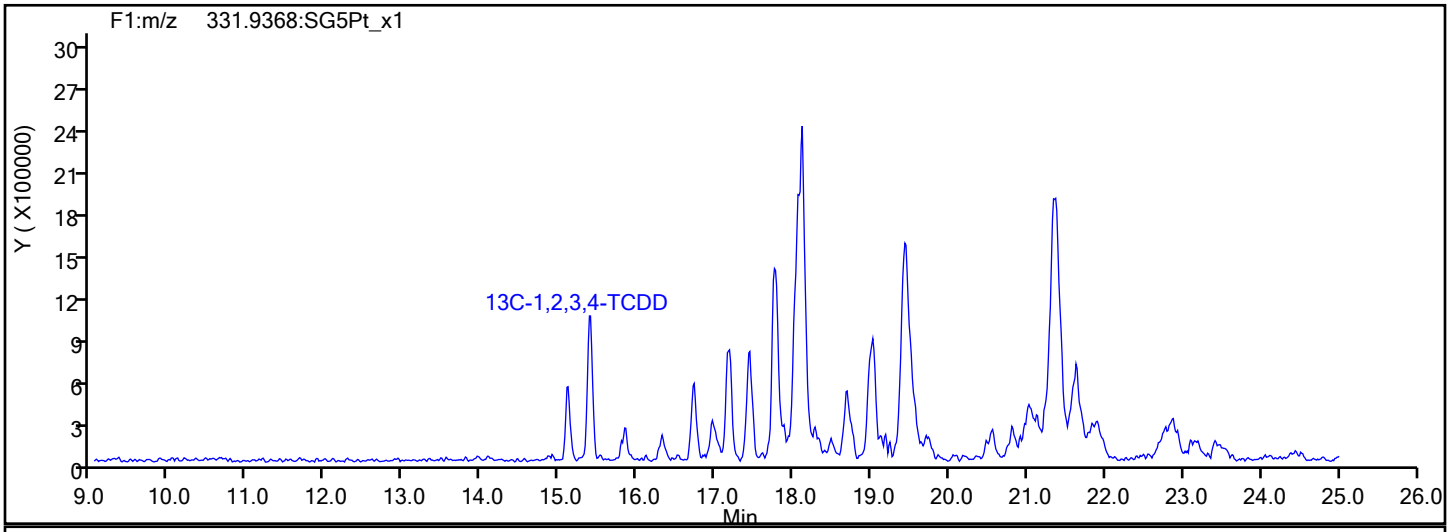

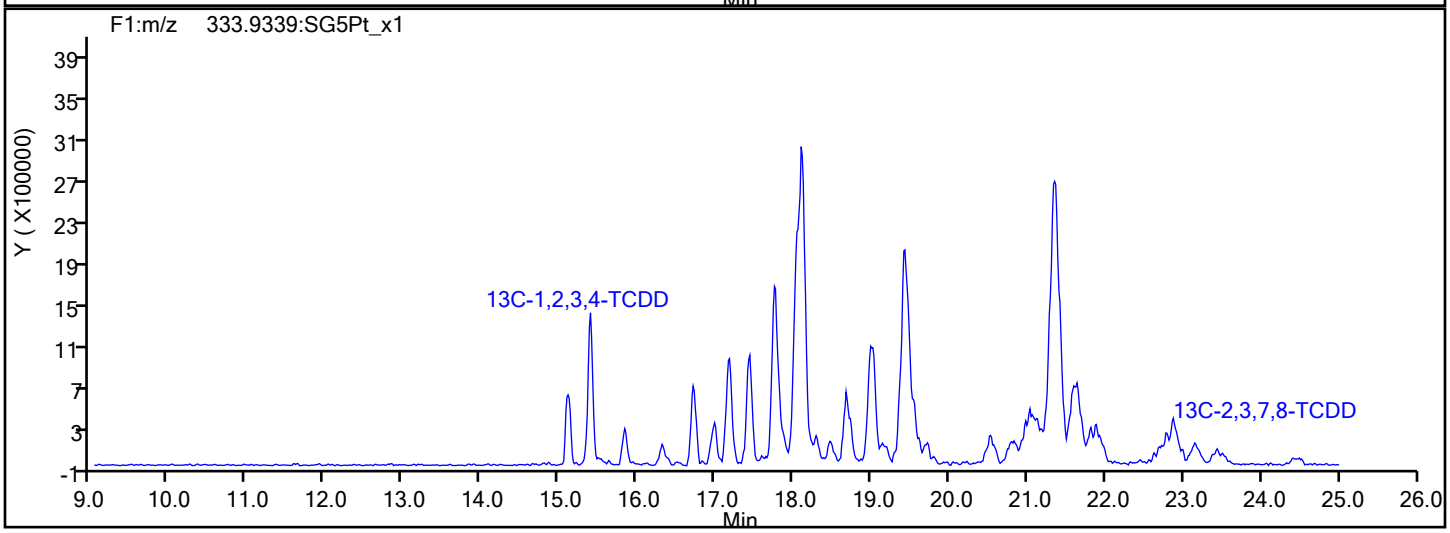

Report Date: 08-Nov-2019 11:07:40 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_006.d		
Injection Date:	07-Nov-2019 18:10:40	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 3 - DISSOLVED		
Worklist#:	336810	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

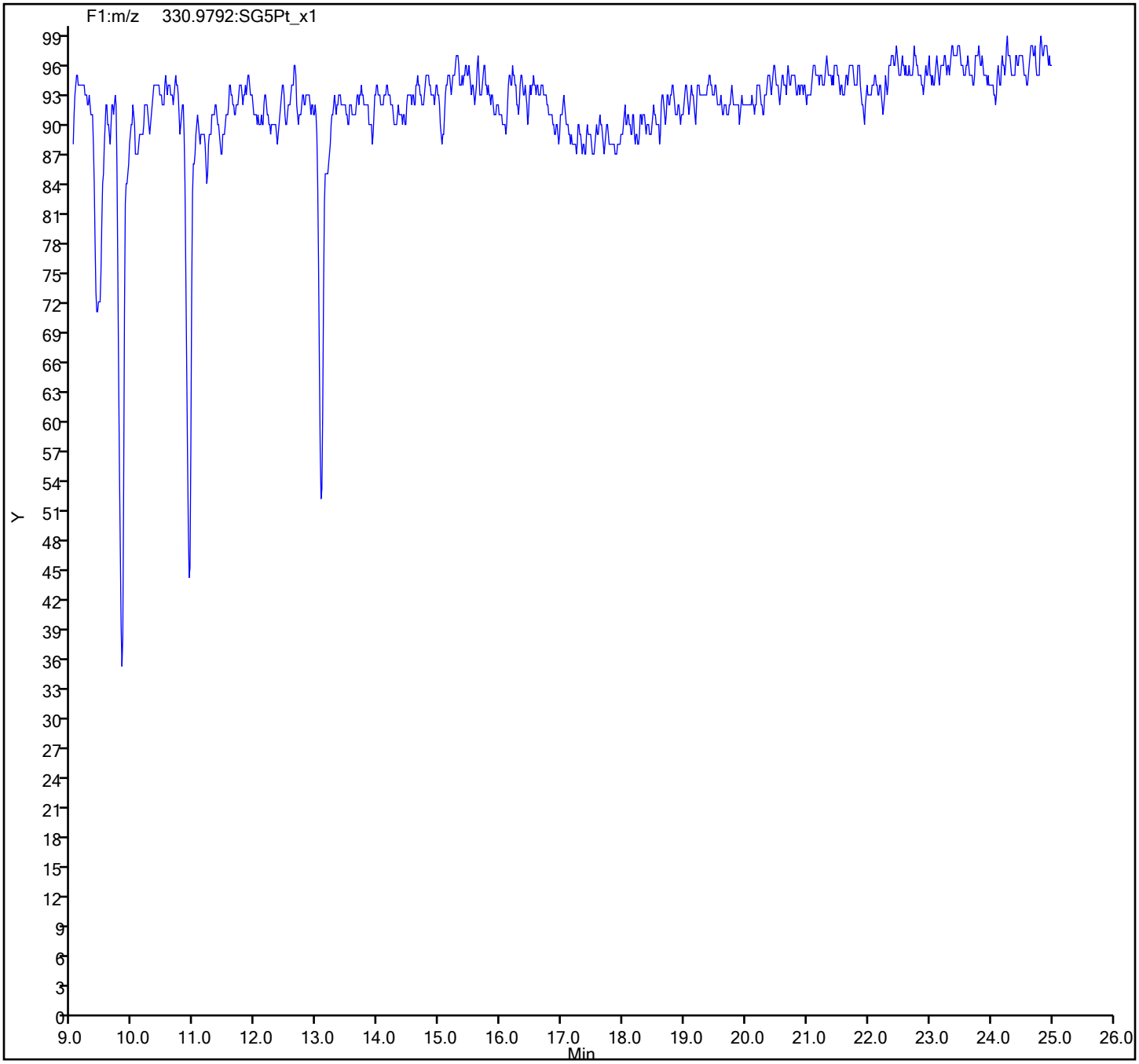

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 600-194690-1
SDG No.:
Client Sample ID: INF 4
Lab Sample ID: 600-194690-10
Matrix: Water
Lab File ID: 05NO19B10D5_10.d
Analysis Method: 1613B
Date Collected: 10/25/2019 20:50
Extract. Method: 1613B
Date Extracted: 11/01/2019 08:11
Sample wt/vol: 978(mL)
Date Analyzed: 11/06/2019 02:26
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 336302
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
40321-76-4	1,2,3,7,8-PeCDD	130		51	6.1
57117-41-6	1,2,3,7,8-PeCDF	1900		51	17
57117-31-4	2,3,4,7,8-PeCDF	1100		51	17
39227-28-6	1,2,3,4,7,8-HxCDD	4.9	J B	51	2.5
57653-85-7	1,2,3,6,7,8-HxCDD	20	J	51	2.7
19408-74-3	1,2,3,7,8,9-HxCDD	8.5	J B	51	2.4
70648-26-9	1,2,3,4,7,8-HxCDF	2500		51	11
57117-44-9	1,2,3,6,7,8-HxCDF	650		51	10
72918-21-9	1,2,3,7,8,9-HxCDF	40	J B	51	6.0
60851-34-5	2,3,4,6,7,8-HxCDF	73	B	51	7.0
35822-46-9	1,2,3,4,6,7,8-HpCDD	540		51	7.6
67562-39-4	1,2,3,4,6,7,8-HpCDF	600	B	51	6.2
55673-89-7	1,2,3,4,7,8,9-HpCDF	240	B	51	6.1
3268-87-9	OCDD	8800	B *	100	8.7
39001-02-0	OCDF	370	B	100	4.2
30402-14-3	Total TCDF	100000	G B	240	240
36088-22-9	Total PeCDD	160	q	51	6.1
30402-15-4	Total PeCDF	4600		51	17
34465-46-8	Total HxCDD	180	B	51	2.6
55684-94-1	Total HxCDF	3800	B q	51	8.7
37871-00-4	Total HpCDD	1300		51	7.6
38998-75-3	Total HpCDF	1100	B	51	6.1

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Client Sample ID: INF 4 Lab Sample ID: 600-194690-10

Matrix: Water Lab File ID: 05NO19B10D5_10.d

Analysis Method: 1613B Date Collected: 10/25/2019 20:50

Extract. Method: 1613B Date Extracted: 11/01/2019 08:11

Sample wt/vol: 978(mL) Date Analyzed: 11/06/2019 02:26

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 336302 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
89059-46-1	13C-2,3,7,8-TCDF	34		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	29		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	30		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	31		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	25	*	32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	22	*	28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	25	*	26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	23	*	26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	26	*	29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	24	*	28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	19	*	23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	16	*	28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	21	*	26-138
114423-97-1	13C-OCDD	14	*	17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	92		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_10.d
Lims ID: 600-194690-B-10-A
Client ID: INF 4
Sample Type: Client
Inject. Date: 06-Nov-2019 02:26:21 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 600-194690-B-10-A 600-194690-B-10-A
Misc. Info.: 05NO19B10D5
Operator ID: ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 10-Nov-2019 09:26:52 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: dadunj Date: 08-Nov-2019 09:05:46

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.291	82480380	0.77	9.6E+05	100.0	100.0				a
D 13C-2,3,7,8-TCDF	16.807	40339180	0.79	1.4384	34.0	34.0	0.4746	0.4746	34.00	
2,3,7,8-TCDF	16.822	1187449801	0.78	1.0507	2801.5	2801.5	11.5	11.5		E
A Non-2,3,7,8-sub-TCDF	16.459	902652360	0.78	1.0507	2129.6	2129.6	11.5	1228.8		a
S Total TCDF					4931.2	4931.2	11.5	11.5		
D 13C-2,3,7,8-TCDD	17.487	22125862	0.78	0.9533	28.1	28.1	0.6612	0.6612	28.14	
2,3,7,8-TCDD	17.502	198618893	0.80	1.1064	811.3	811.3	2.408	2.408		E
$ 37Cl4-2,3,7,8-TCDD	17.502	37262975		1.2224	37.0	37.0	1.032	1.032	92.40	
A Non-2,3,7,8-sub-TCDD	16.890	22287353	0.77	1.1064	91.0	91.0	2.408	81.5		
S Total TCDD					902.4	902.4	2.408	2.408		
D 13C-1,2,3,7,8-PeCDF	21.581	25141023	1.55	1.0286	29.6	29.6	0.1146	0.1146	29.63	
1,2,3,7,8-PeCDF	21.595	25385739	1.59	1.0822	93.3	93.3	0.8114	0.8114		
D 13C-2,3,4,7,8-PeCDF	22.836	24811679	1.60	0.9827	30.6	30.6	0.1199	0.1199	30.61	
2,3,4,7,8-PeCDF	22.863	14318376	1.61	1.1032	52.3	52.3	0.8264	0.8264		
A F1 PeCDFs	19.158	316990	1.51	1.0927	1.161	1.161	0.0834	1.161		
A Non-2,3,7,8-sub-PeCDF	22.128	21072785	1.59	1.0927	77.2	77.2	0.8187	31.7		M
S Total PeCDF					224.0	224.0	0.8189	0.8189		
D 13C-1,2,3,7,8-PeCDD	23.518	18054124	1.57	0.7481	29.3	29.3	0.1035	0.1035	29.26	
1,2,3,7,8-PeCDD	23.531	1071143	1.64	0.9050	6.555	6.555	0.2980	0.2980		
A Non-2,3,7,8-sub-PeCDD	22.406	204555	1.55	0.9050	16.4	1.252	0.2980	0.7506		RQ
S Total PeCDD					22.9	7.807	0.2980	0.2980		RQ
D 13C-1,2,3,4,7,8-HxCDF	29.573	16898318	0.52	1.1520	24.7	24.7	0.1317	0.1317	24.71	
1,2,3,4,7,8-HxCDF	29.613	25107731	1.27	1.1973	124.1	124.1	0.5621	0.5621		
D 13C-1,2,3,6,7,8-HxCDF	29.853	16915496	0.51	1.2434	22.9	22.9	0.1220	0.1220	22.92	
1,2,3,6,7,8-HxCDF	29.879	6323306	1.29	1.1807	31.7	31.7	0.5076	0.5076		
D 13C-2,3,4,6,7,8-HxCDF	30.931	16747326	0.53	1.1720	24.1	24.1	0.1294	0.1294	24.07	
2,3,4,6,7,8-HxCDF	30.944	728852	1.27	1.2116	3.592	3.592	0.3444	0.3444		
D 13C-1,2,3,7,8,9-HxCDF	31.849	16445661	0.53	1.0655	26.0	26.0	0.1424	0.1424	26.00	
1,2,3,7,8,9-HxCDF	31.876	398041	1.19	1.2451	1.944	1.944	0.2916	0.2916		
A Non-2,3,7,8-sub-HxCDF	29.354	4770378	1.24	1.2087	23.7	23.6	0.3985	10.0		RQ

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					185.0	184.9	0.4264	0.4264		RQ
* 13C-1,2,3,7,8,9-HxCDD	31.663	59357585	1.23	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.157	11525913	1.29	0.7812	24.9	24.9	0.1875	0.1875	24.86	
1,2,3,4,7,8-HxCDD	31.170	30592	1.06	1.1088	0.2394	0.2394	0.1243	0.1243		M
D 13C-1,2,3,6,7,8-HxCDD	31.290	11879819	1.29	0.9175	21.8	21.8	0.1597	0.1597	21.81	
1,2,3,6,7,8-HxCDD	31.304	125831	1.11	1.0814	0.9795	0.9795	0.1335	0.1335		Ma
1,2,3,7,8,9-HxCDD	31.663	59180	1.06	1.2123	0.4171	0.4171	0.1163	0.1163		
A Non-2,3,7,8-sub-HxCDD	29.926	940654	1.10	1.1342	7.087	7.087	0.1244	4.448		
S Total HxCDD					8.723	8.723	0.1247	0.1247		
D 13C-1,2,3,4,6,7,8-HpCDF	33.394	8064925	0.44	0.8628	15.7	15.7	0.2427	0.2427	15.75	
1,2,3,4,6,7,8-HpCDF	33.406	3697791	1.05	1.5555	29.5	29.5	0.3037	0.3037		
D 13C-1,2,3,4,7,8,9-HpCDF	34.451	9975504	0.43	0.7991	21.0	21.0	0.2621	0.2621	21.03	
1,2,3,4,7,8,9-HpCDF	34.463	1615069	1.13	1.3862	11.7	11.7	0.2972	0.2972		
A Non-2,3,7,8-sub-HpCDF	33.922	1976344	1.03	1.4709	14.9	14.9	0.2992	14.9		
S Total HpCDF					56.1	56.1	0.3004	0.3004		
D 13C-1,2,3,4,6,7,8-HpCDD	34.172	9747071	1.04	0.8739	18.8	18.8	0.1111	0.1111	18.79	
1,2,3,4,6,7,8-HpCDD	34.184	2384951	1.02	0.9316	26.3	26.3	0.3721	0.3721		
A Non-2,3,7,8-sub-HpCDD	34.038	3378528	1.04	0.9316	37.2	37.2	0.3721	37.2		
S Total HpCDD					63.5	63.5	0.3721	0.3721		
D 13C-OCDD	36.451	12526810	0.89	0.7744	27.3	27.3	0.1018	0.1018	13.63	
OCDF	36.546	1438679	0.91	1.2596	18.2	18.2	0.2076	0.2076		
OCDD	36.463	28675110	0.90	1.0621	431.1	431.1	0.4244	0.4244		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- E - Exceeded Maximum Amount
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_10.d
Lims ID: 600-194690-B-10-A
Client ID: INF 4
Sample Type: Client
Inject. Date: 06-Nov-2019 02:26:21 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 600-194690-B-10-A 600-194690-B-10-A
Misc. Info.: 05NO19B10D5
Operator ID: ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 10-Nov-2019 09:26:52 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: dadunj Date: 08-Nov-2019 09:05:46

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											a
331.9368	17.291	17.230	4		35799062	8452816	21893	54732	386		a
333.9339	17.291	17.230	4		46681318	10903647	26913	67282	405	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.807	16.761	3	0.972	17803507	4808926	21297	53242	226		
317.9389	16.807	16.761	3	0.972	22535673	6104641	31553	78882	193	0.79(0.65-0.89)	
2,3,7,8-TCDF											E
303.9016	16.822	16.761	4	1.001	521889311	133614571	268310	670775	498		
305.8987	16.822	16.761	4	1.001	665560490	168999278	259405	648512	651	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											a
303.9016	15.476	16.459	-59	0.921	16304187	4597863	268310	670775	17		
305.8987	15.476	16.459	-59	0.921	21104024	5892159	259405	648512	23	0.77(0.65-0.89)	
303.9016	15.733	16.459	-43	0.936	19076634	3552471	268310	670775	13		
305.8987	15.733	16.459	-43	0.936	24297800	4604177	259405	648512	18	0.79(0.65-0.89)	
303.9016	15.960	16.459	-30	0.950	14871633	3875616	268310	670775	14		
305.8987	15.960	16.459	-30	0.950	19213484	5034102	259405	648512	19	0.77(0.65-0.89)	
303.9016	16.187	16.459	-16	0.963	23409024	5782218	268310	670775	22		
305.8987	16.187	16.459	-16	0.963	30349144	7297337	259405	648512	28	0.77(0.65-0.89)	
303.9016	16.444	16.459	-1	0.978	229501481	60503039	268310	670775	225		
305.8987	16.444	16.459	-1	0.978	291340235	77021754	259405	648512	297	0.79(0.65-0.89)	
303.9016	16.656	16.459	12	0.991	9330473	2259056	268310	670775	8		
305.8987	16.656	16.459	12	0.991	12048966	2929273	259405	648512	11	0.77(0.65-0.89)	
303.9016	17.230	16.459	46	1.025	33709067	8447682	268310	670775	31		
305.8987	17.215	16.459	45	1.024	42900996	10709380	259405	648512	41	0.79(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
303.9016	17.472	16.459	61	1.040	7021921	1598117	268310	670775	6		
305.8987	17.472	16.459	61	1.040	8994287	1983844	259405	648512	8	0.78(0.65-0.89)	
303.9016	18.545	16.459	125	1.103	43595587	10592089	268310	670775	39		a
305.8987	18.545	16.459	125	1.103	55583417	13507179	259405	648512	52	0.78(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.487	17.427	4	1.011	9709313	2566206	21893	54732	117		
333.9339	17.487	17.427	4	1.011	12416549	3364832	26913	67282	125	0.78(0.65-0.89)	
2,3,7,8-TCDD											E
319.8965	17.502	17.427	5	1.001	87984863	23326310	36770	91925	634		
321.8936	17.502	17.427	5	1.001	110634030	29250285	26442	66105	1106	0.80(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.502	17.442	4	1.012	37262975	9802612	97718	244295	100		
A Non-2,3,7,8-sub-TCDD											
319.8965	17.396	16.890	30	0.995	1060532	298670	36770	91925	8		
321.8936	17.396	16.890	30	0.995	1285906	356380	26442	66105	13	0.82(0.65-0.89)	
319.8965	17.820	16.890	56	1.019	8663115	2002951	36770	91925	54		
321.8936	17.820	16.890	56	1.019	11277800	2582164	26442	66105	98	0.77(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	21.581	21.513	4	1.248	15299464	2783371	5426	13565	513		
353.8970	21.581	21.513	4	1.248	9841559	1751632	3698	9245	474	1.55(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.595	21.527	4	1.001	15580290	2860935	9650	24125	296		
341.8567	21.595	21.527	4	1.001	9805449	1835828	6279	15697	292	1.59(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	22.836	22.781	3	1.321	15278507	2701624	5426	13565	498		
353.8970	22.836	22.781	3	1.321	9533172	1666535	3698	9245	451	1.60(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.863	22.795	4	1.001	8840023	1560254	9650	24125	162		
341.8567	22.850	22.795	3	1.001	5478353	973836	6279	15697	155	1.61(1.32-1.78)	
A F1 PeCDFs											
339.8597	18.833	19.158	-19	0.873	190558	43325	831	2077	52		
341.8567	18.848	19.158	-19	0.873	126432	27876	791	1977	35	1.51(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDF											M
339.8597	20.313	22.128	-109	0.941	5321492	1129850	9650	24125	117		
341.8567	20.313	22.128	-109	0.941	3323875	688481	6279	15697	110	1.60(1.32-1.78)	
339.8597	21.104	22.128	-61	0.978	433121	52507	9650	24125	5		
341.8567	21.104	22.128	-61	0.978	309925	36909	6279	15697	6	1.40(1.32-1.78)	
339.8597	21.472	22.128	-39	0.995	1003027	230501	9650	24125	24		
341.8567	21.472	22.128	-39	0.995	647378	155038	6279	15697	25	1.55(1.32-1.78)	
339.8597	22.086	22.128	-3	1.023	3581953	666613	9650	24125	69		
341.8567	22.072	22.128	-3	1.023	2248465	415382	6279	15697	66	1.59(1.32-1.78)	M
339.8597	23.177	22.128	63	1.074	2603097	443593	9650	24125	46		
341.8567	23.177	22.128	63	1.074	1600452	271215	6279	15697	43	1.63(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDD											
367.8949	23.518	23.463	3	1.360	11026128	1864634	3387	8467	551		
369.8919	23.518	23.463	3	1.360	7027996	1169019	2609	6522	448	1.57(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.531	23.476	3	1.001	664993	115248	1303	3257	88		
357.8516	23.531	23.476	3	1.001	406150	71883	1970	4925	36	1.64(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											RQ
355.8546	20.490	22.406	-115	0.871	49792	10663	1303	3257	8		
357.8516	20.490	22.406	-115	0.871	2457782	540513	1970	4925	274	0.02(1.32-1.78)	
	Empc Correction				32123	6879	1970	4925	3		
355.8546	21.622	22.406	-47	0.919	74546	14049	1303	3257	11		
357.8516	21.663	22.406	-45	0.921	91538	15445	1970	4925	8	0.81(1.32-1.78)	
	Empc Correction				48094	9063	1970	4925	5		
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.573	29.533	2	0.934	5810965	709357	3795	9487	187		
385.8610	29.587	29.533	3	0.934	11087353	1338459	4417	11042	303	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.613	29.533	5	1.001	14027230	1712908	3004	7510	570		
375.8178	29.613	29.533	5	1.001	11080501	1353472	2509	6272	539	1.27(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.853	29.813	2	0.943	5709185	771528	3795	9487	203		
385.8610	29.853	29.813	2	0.943	11206311	1528133	4417	11042	346	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	29.879	29.826	3	1.001	3565498	465085	3004	7510	155		
375.8178	29.879	29.826	3	1.001	2757808	367687	2509	6272	147	1.29(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	30.931	30.904	2	0.977	5770744	1151010	3795	9487	303		
385.8610	30.931	30.904	2	0.977	10976582	2152037	4417	11042	487	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	30.944	30.917	2	1.000	408103	76088	3004	7510	25		
375.8178	30.944	30.917	2	1.000	320749	66314	2509	6272	26	1.27(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.849	31.836	1	1.006	5671375	1344476	3795	9487	354		
385.8610	31.849	31.836	1	1.006	10774286	2450858	4417	11042	555	0.53(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.876	31.849	2	1.001	216009	58768	3004	7510	20		
375.8178	31.863	31.849	1	1.000	182032	51789	2509	6272	21	1.19(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											RQ
373.8208	26.831	29.354	-151	0.907	85971	13234	3004	7510	4		
	Empc Correction				61181	11316	3004	7510	4		
375.8178	26.858	29.354	-149	0.908	49340	9126	2509	6272	4	1.74(1.05-1.43)	
373.8208	27.218	29.354	-128	0.920	828357	114934	3004	7510	38		
375.8178	27.218	29.354	-128	0.920	644409	92371	2509	6272	37	1.29(1.05-1.43)	
373.8208	28.482	29.354	-52	0.963	656762	79374	3004	7510	26		
375.8178	28.469	29.354	-53	0.963	506600	64841	2509	6272	26	1.30(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
373.8208	31.969	29.354	157	1.081	1129139	274020	3004	7510	91		
375.8178	31.956	29.354	156	1.081	894590	208207	2509	6272	83	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.663	31.636	2		32796257	7480582	3887	9717	1925		
403.8529	31.663	31.636	2		26561328	6053022	4043	10107	1497	1.23(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.157	31.143	1	0.984	6499436	1488659	3887	9717	383		
403.8529	31.157	31.143	1	0.984	5026477	1148617	4043	10107	284	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											M
389.8157	31.170	31.144	2	1.000	15773	4066	802	2005	5		M
391.8127	31.170	31.144	2	1.000	14819	4110	652	1630	6	1.06(1.05-1.43)	M
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.290	31.263	2	0.988	6683854	1370626	3887	9717	353		
403.8529	31.277	31.263	1	0.988	5195965	1146494	4043	10107	284	1.29(1.05-1.43)	
1,2,3,6,7,8-HxCDD											Ma
389.8157	31.304	31.277	2	1.000	66336	13573	802	2005	17		M
391.8127	31.290	31.277	1	1.000	59495	12229	652	1630	19	1.11(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.663	31.649	1	1.016	30419	5943	802	2005	7		
391.8127	31.663	31.649	1	1.016	28761	7755	652	1630	12	1.06(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	28.322	29.926	-96	0.905	313097	37916	802	2005	47		
391.8127	28.349	29.926	-94	0.906	277344	33854	652	1630	52	1.13(1.05-1.43)	
389.8157	30.239	29.926	19	0.966	179061	28717	802	2005	36		
391.8127	30.226	29.926	18	0.966	171152	23697	652	1630	36	1.05(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.394	33.393	0	1.055	2465288	741913	3283	8207	226		
419.8220	33.394	33.393	0	1.055	5599637	1741105	8054	20135	216	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.406	33.394	1	1.000	1895532	598230	2587	6467	231		
409.7789	33.406	33.394	1	1.000	1802259	572541	2106	5265	272	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.451	34.451	0	1.088	2979399	864249	3283	8207	263		
419.8220	34.451	34.451	0	1.088	6996105	1983828	8054	20135	246	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.463	34.451	1	1.000	857984	237388	2587	6467	92		
409.7789	34.463	34.451	1	1.000	757085	207154	2106	5265	98	1.13(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.698	33.922	-13	1.009	1002956	325124	2587	6467	126		
409.7789	33.698	33.922	-13	1.009	973388	308979	2106	5265	147	1.03(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.172	34.171	0	1.079	4972145	1423651	3045	7612	468		
437.8140	34.172	34.171	0	1.079	4774926	1382070	2213	5532	625	1.04(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.184	34.172	1	1.000	1204852	346293	2004	5010	173		
425.7737	34.184	34.172	1	1.000	1180099	340032	1886	4715	180	1.02(0.88-1.20)	

Report Date: 10-Nov-2019 09:26:53 Chrom Revision: 2.3 31-Oct-2019 20:21:30
Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_10.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.649	34.038	-23	0.985	1720861	529554	2004	5010	264		
425.7737	33.649	34.038	-23	0.985	1657667	520192	1886	4715	276	1.04(0.88-1.20)	
13C-OCDD											
469.7779	36.451	36.462	-1	1.151	5891203	1457648	2718	6795	536		
471.7750	36.451	36.462	-1	1.151	6635607	1580558	1550	3875	1020	0.89(0.76-1.02)	
OCDF											
441.7428	36.546	36.546	0	1.003	684325	166211	627	1567	265		
443.7399	36.546	36.546	0	1.003	754354	179382	962	2405	186	0.91(0.76-1.02)	
OCDD											
457.7377	36.463	36.462	0	1.000	13547356	3376688	1283	3207	2632		
459.7348	36.463	36.462	0	1.000	15127754	3699481	1456	3640	2541	0.90(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

E - Exceeded Maximum Amount

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_10.d
Lims ID: 600-194690-B-10-A
Client ID: INF 4
Inject. Date: 06-Nov-2019 02:26:21 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 10

Non-2,3,7,8-sub-TCDF, RT: 16.459

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.051	D 13C-2,3,7,8-TCDF	100.000	40339180	10913567

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.051		100.000	40339180	10913567

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
15.476	16304187	4597863	21104024	5892159	88.3	0.77	
15.733	19076634	3552471	24297800	4604177	102.3	0.79	
15.960	14871633	3875616	19213484	5034102	80.4	0.77	
16.187	23409024	5782218	30349144	7297337	126.8	0.77	
16.444	229501481	60503039	291340235	77021754	1228.8	0.79	
16.656	9330473	2259056	12048966	2929273	50.4	0.77	
17.230	33709067	8447682	42900996	10709380	180.7	0.79	
17.472	7021921	1598117	8994287	1983844	37.8	0.78	
18.545	43595587	10592089	55583417	13507179	234.0	0.78	a
Signal Totals:							
	396820007	101208151	505832353	128979205			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	902652360	230187356				0.78	a

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 2129.6 = (902652360 * 100.000) / (40339180 * 1.051)

QC Flag Legend

Review Flags
a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_10.d
Lims ID: 600-194690-B-10-A
Client ID: INF 4
Inject. Date: 06-Nov-2019 02:26:21 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 10

Non-2,3,7,8-sub-TCDD, RT: 16.890

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.106	D 13C-2,3,7,8-TCDD	100.000	22125862	5931038

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.106		100.000	22125862	5931038

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
17.396	1060532	298670	1285906	356380	9.59	0.82	
17.820	8663115	2002951	11277800	2582164	81.5	0.77	
Signal Totals:							
	9723647	2301621	12563706	2938544			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	22287353	5240165				0.77	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 91.042 = (22287353 * 100.000) / (22125862 * 1.106)

Report Date: 10-Nov-2019 09:26:53 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_10.d
Lims ID: 600-194690-B-10-A
Client ID: INF 4
Inject. Date: 06-Nov-2019 02:26:21 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 10

F1 PeCDFs, RT: 19.158

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.082	D 13C-1,2,3,7,8-PeCDF	100.000	25141023	4535003
2,3,4,7,8-PeCDF	1.103	D 13C-2,3,4,7,8-PeCDF	100.000	24811679	4368159

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.093		100.000	24976351	4451581

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
18.833	190558	43325	126432	27876	1.16	1.51	
Signal Totals:							
	190558	43325	126432	27876			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	316990	71201				1.51	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.161 = (316990 * 100.000) / (24976351 * 1.093)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_10.d
Lims ID: 600-194690-B-10-A
Client ID: INF 4
Inject. Date: 06-Nov-2019 02:26:21 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 10

Non-2,3,7,8-sub-PeCDF, RT: 22.128

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.082	D 13C-1,2,3,7,8-PeCDF	100.000	25141023	4535003
2,3,4,7,8-PeCDF	1.103	D 13C-2,3,4,7,8-PeCDF	100.000	24811679	4368159

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.093		100.000	24976351	4451581

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
20.313	5321492	1129850	3323875	688481	31.7	1.60	
21.104	433121	52507	309925	36909	2.72	1.40	
21.472	1003027	230501	647378	155038	6.05	1.55	
22.086	3581953	666613	2248465	415382	21.4	1.59	M
23.177	2603097	443593	1600452	271215	15.4	1.63	
Signal Totals:							
	12942690	2523064	8130095	1567025			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	21072785	4090089				1.59	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 77.212 = (21072785 * 100.000) / (24976351 * 1.093)

QC Flag Legend

Review Flags
M - Manually Integrated

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_10.d
Lims ID: 600-194690-B-10-A
Client ID: INF 4
Inject. Date: 06-Nov-2019 02:26:21 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 10

Non-2,3,7,8-sub-PeCDD, RT: 22.406

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDD	0.905	D 13C-1,2,3,7,8-PeCDD	100.000	18054124	3033653

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.905		100.000	18054124	3033653

Sum the Uncalibrated Results

RT	355.8546 Area	355.8546 Height	357.8516 Area	357.8516 Height	Amount	Ratio	Flags
20.490	49792	10663	2457782	540513	15.3	0.02	RQ
20.490	49792	10663	32123	6879	0.5013		Empc Correction
21.622	74546	14049	91538	15445	1.02	0.81	RQ
21.622	74546	14049	48094	9063	0.7506		Empc Correction
Signal Totals:							
	124338	24712	80217	15942			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2673658	580670				0.05	RQ
	204555	40654					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 16.363 = (2673658 * 100.000) / (18054124 * 0.905)
Empc Amount: 1.252 = (204555 * 100.000) / (18054124 * 0.905)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_10.d
Lims ID: 600-194690-B-10-A
Client ID: INF 4
Inject. Date: 06-Nov-2019 02:26:21 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 10

Non-2,3,7,8-sub-HxCDF, RT: 29.354

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.197	D 13C-1,2,3,4,7,8-HxCDF	100.000	16898318	2047816
1,2,3,6,7,8-HxCDF	1.181	D 13C-1,2,3,6,7,8-HxCDF	100.000	16915496	2299661
2,3,4,6,7,8-HxCDF	1.212	D 13C-2,3,4,6,7,8-HxCDF	100.000	16747326	3303047
1,2,3,7,8,9-HxCDF	1.245	D 13C-1,2,3,7,8,9-HxCDF	100.000	16445661	3795334

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.209		100.000	16751700	2861464

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
26.831	85971	13234	49340	9126	0.6683	1.74	RQ
26.831	61181	11316	49340	9126	0.5459		Empc Correction
27.218	828357	114934	644409	92371	7.27	1.29	
28.482	656762	79374	506600	64841	5.75	1.30	
31.969	1129139	274020	894590	208207	10.0	1.26	
Signal Totals:							
	2675439	479644	2094939	374545			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	4795168	856107				1.29	RQ
	4770378	854189					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 23.683 = (4795168 * 100.000) / (16751700 * 1.209)
Empc Amount: 23.560 = (4770378 * 100.000) / (16751700 * 1.209)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_10.d
Lims ID: 600-194690-B-10-A
Client ID: INF 4
Inject. Date: 06-Nov-2019 02:26:21 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 10

Non-2,3,7,8-sub-HxCDD, RT: 29.926

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.109	D 13C-1,2,3,4,7,8-HxCDD	100.000	11525913	2637276
1,2,3,6,7,8-HxCDD	1.081	D 13C-1,2,3,6,7,8-HxCDD	100.000	11879819	2517120
1,2,3,7,8,9-HxCDD	1.212				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.134		100.000	11702866	2577198

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
28.322	313097	37916	277344	33854	4.45	1.13	
30.239	179061	28717	171152	23697	2.64	1.05	
Signal Totals:							
	492158	66633	448496	57551			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	940654	124184				1.10	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 7.087 = (940654 * 100.000) / (11702866 * 1.134)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_10.d
Lims ID: 600-194690-B-10-A
Client ID: INF 4
Inject. Date: 06-Nov-2019 02:26:21 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 10

Non-2,3,7,8-sub-HpCDF, RT: 33.922

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.556	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	8064925	2483018
1,2,3,4,7,8,9-HpCDF	1.386	D 13C-1,2,3,4,7,8,9-HpCDF	100.000	9975504	2848077

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.471		100.000	9020214	2665547

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
33.698	1002956	325124	973388	308979	14.9	1.03	
Signal Totals:							
	1002956	325124	973388	308979			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1976344	634103				1.03	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 14.896 = (1976344 * 100.000) / (9020214 * 1.471)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_10.d
Lims ID: 600-194690-B-10-A
Client ID: INF 4
Inject. Date: 06-Nov-2019 02:26:21 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 10

Non-2,3,7,8-sub-HpCDD, RT: 34.038

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.932	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	9747071	2805721

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.932		100.000	9747071	2805721

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
33.649	1720861	529554	1657667	520192	37.2	1.04	
Signal Totals:							
	1720861	529554	1657667	520192			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	3378528	1049746				1.04	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 37.207 = (3378528 * 100.000) / (9747071 * 0.932)

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_10.d				
Injection Date:	06-Nov-2019 02:26:21	Instrument ID:	10D5		
Lims ID:	600-194690-B-10-A	Lab Sample ID:	320-194690-10		
Client ID:	INF 4				
Operator ID:	ALM	ALS Bottle#:	10	Worklist Smp#:	10
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

Non-2,3,7,8-sub-PeCDF, Signal: 2, m/z: 341.8567, RT: (19.62- 24.64)

Signal: 2

Processing Integration Results

RT = 22.072 Area = 2388968

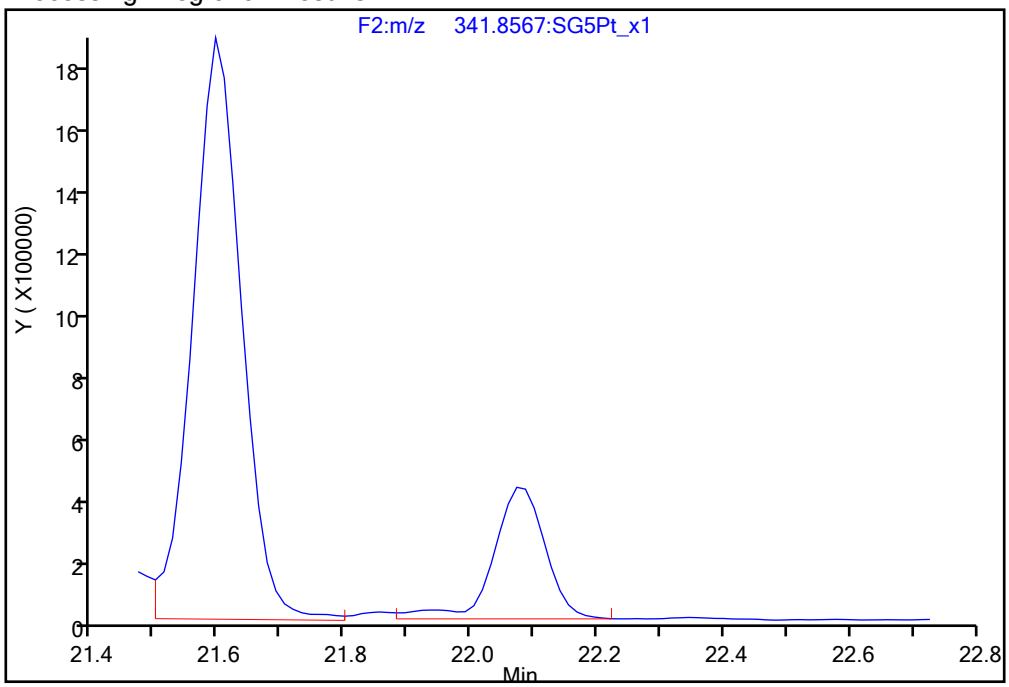

Manual Integration Results

RT = 22.072 Area = 2248465 M

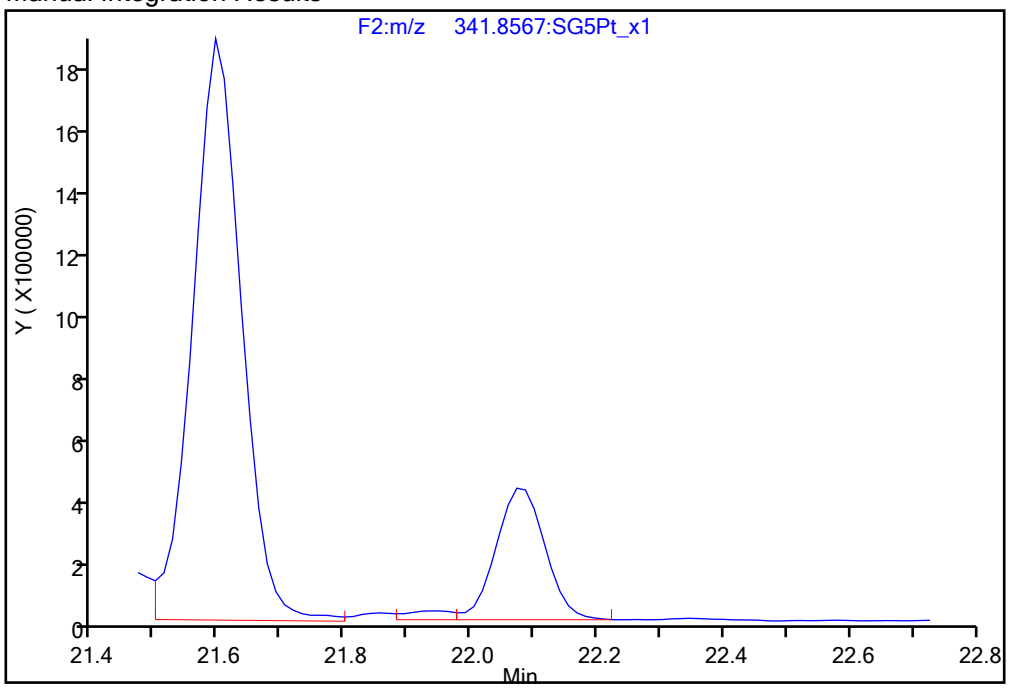

Reviewer: dadunj, 08-Nov-2019 09:03:28

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_10.d				
Injection Date:	06-Nov-2019 02:26:21	Instrument ID:	10D5		
Lims ID:	600-194690-B-10-A	Lab Sample ID:	320-194690-10		
Client ID:	INF 4				
Operator ID:	ALM	ALS Bottle#:	10	Worklist Smp#:	10
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 1

Processing Integration Results

RT: 31.30
Area: 82122
Amount: 1.224086
Amount Units: pg/ul

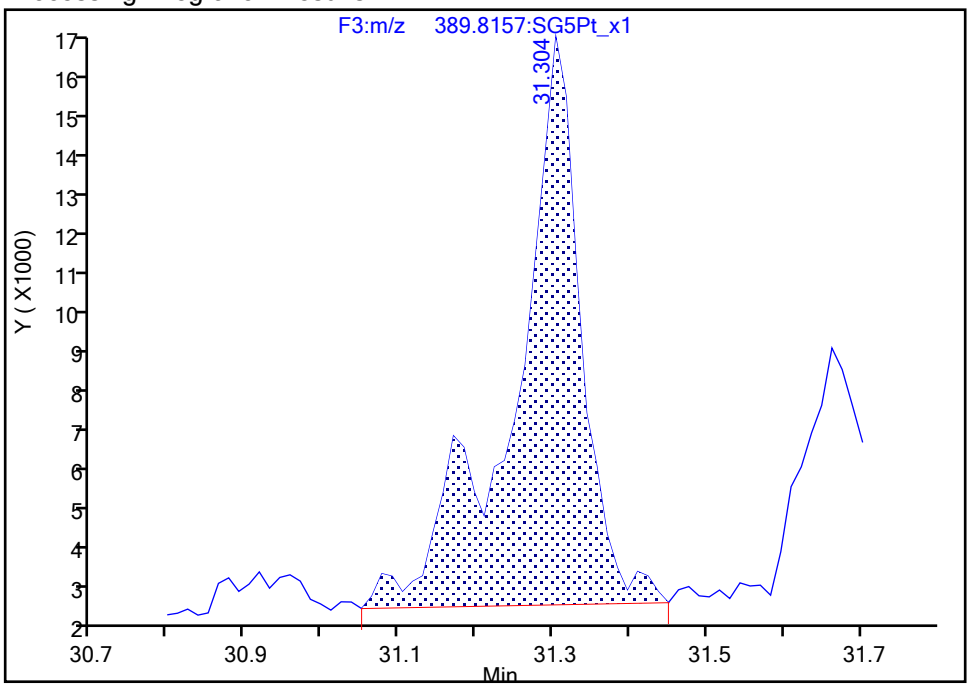

Manual Integration Results

RT: 31.17
Area: 15773
Amount: 0.239376
Amount Units: pg/ul

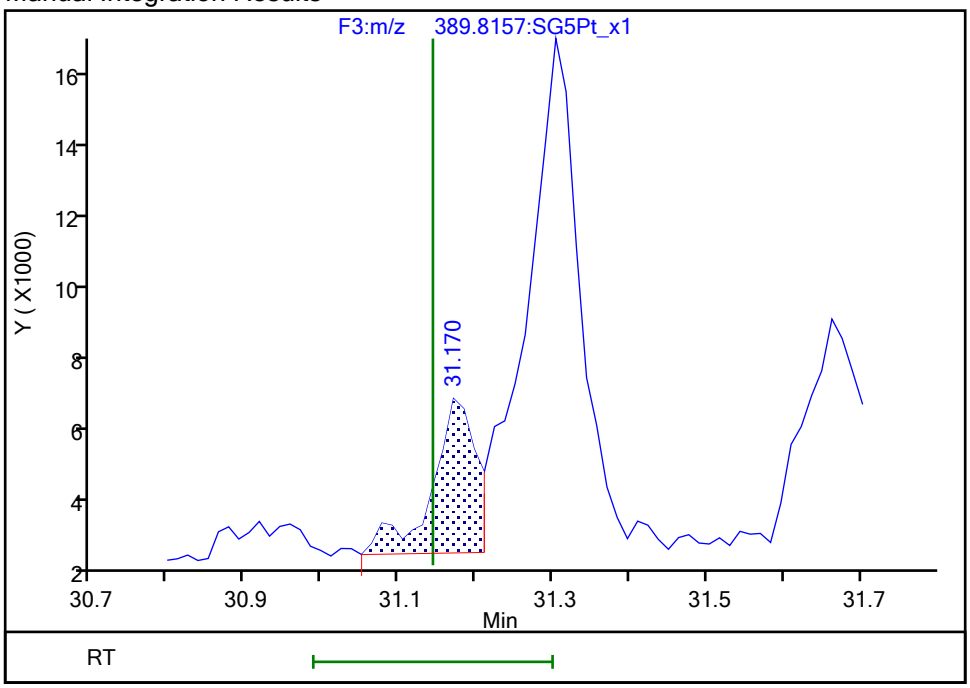

Reviewer: dadunj, 08-Nov-2019 09:04:13

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_10.d				
Injection Date:	06-Nov-2019 02:26:21	Instrument ID:	10D5		
Lims ID:	600-194690-B-10-A	Lab Sample ID:	320-194690-10		
Client ID:	INF 4				
Operator ID:	ALM	ALS Bottle#:	10	Worklist Smp#:	10
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 2

Processing Integration Results

RT: 31.29
Area: 74315
Amount: 1.224086
Amount Units: pg/ul

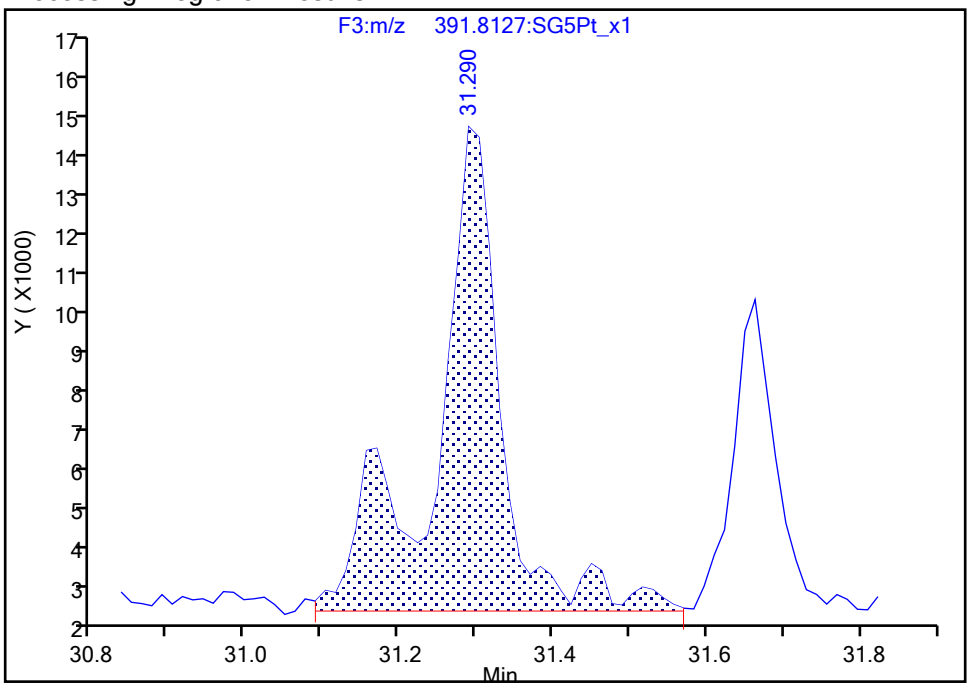

Manual Integration Results

RT: 31.17
Area: 14819
Amount: 0.239376
Amount Units: pg/ul

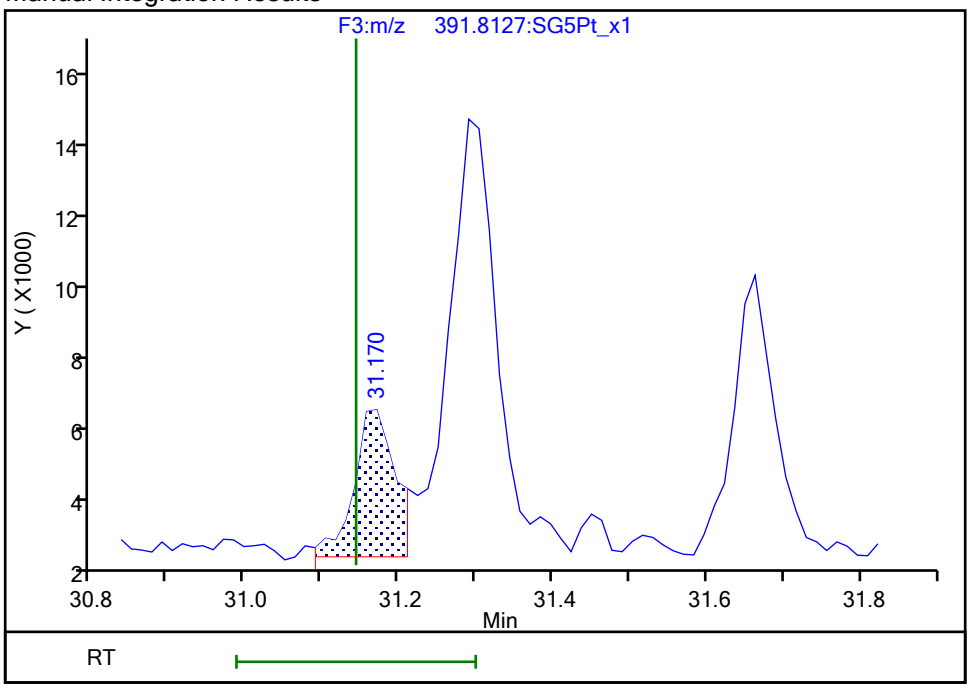

Reviewer: dadunj, 08-Nov-2019 09:04:18

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_10.d				
Injection Date:	06-Nov-2019 02:26:21	Instrument ID:	10D5		
Lims ID:	600-194690-B-10-A	Lab Sample ID:	320-194690-10		
Client ID:	INF 4				
Operator ID:	ALM	ALS Bottle#:	10	Worklist Smp#:	10
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 2

Processing Integration Results

RT: 31.29
Area: 74315
Amount: 1.217693
Amount Units: pg/ul

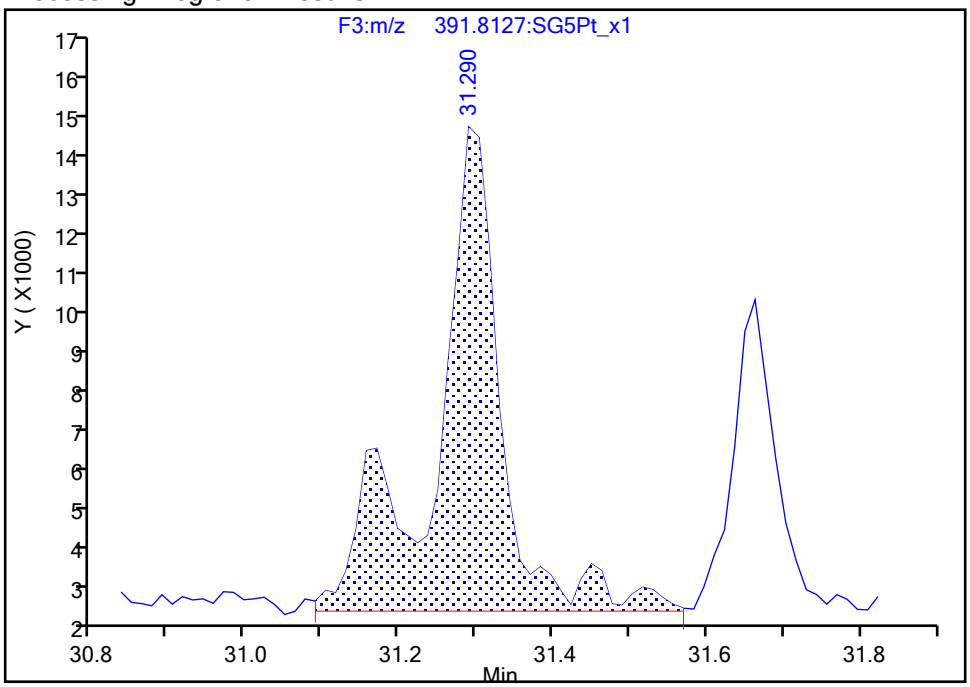

Manual Integration Results

RT: 31.29
Area: 59495
Amount: 0.979458
Amount Units: pg/ul

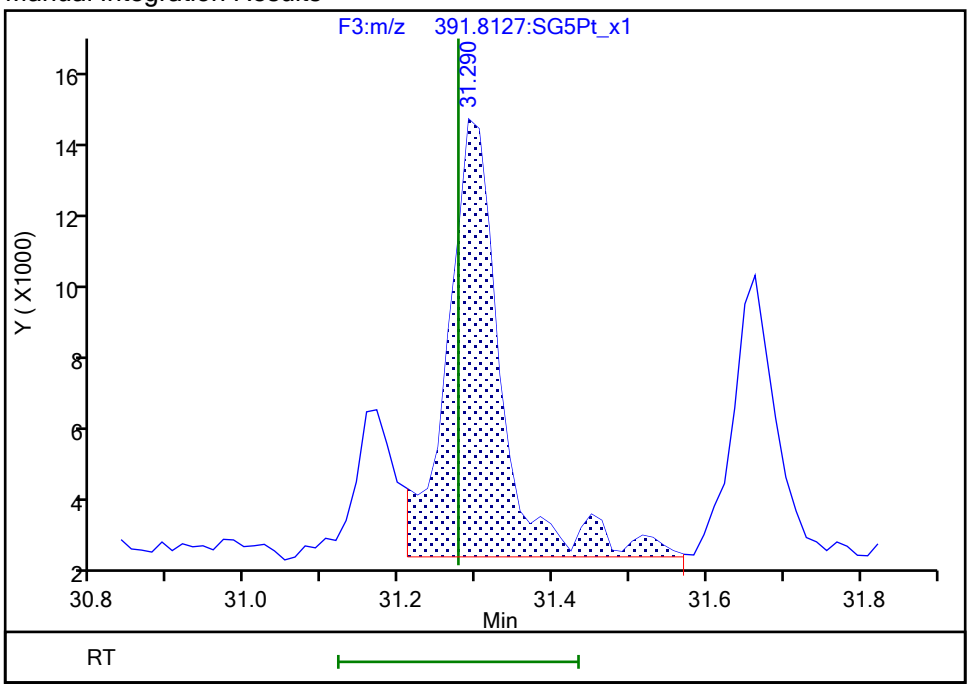

Reviewer: dadunj, 08-Nov-2019 09:04:21

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_10.d				
Injection Date:	06-Nov-2019 02:26:21	Instrument ID:	10D5		
Lims ID:	600-194690-B-10-A	Lab Sample ID:	320-194690-10		
Client ID:	INF 4				
Operator ID:	ALM	ALS Bottle#:	10	Worklist Smp#:	10
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 3

Processing Integration Results

RT: 31.30
Area: 156437
Amount: 1.217693
Amount Units: pg/ul

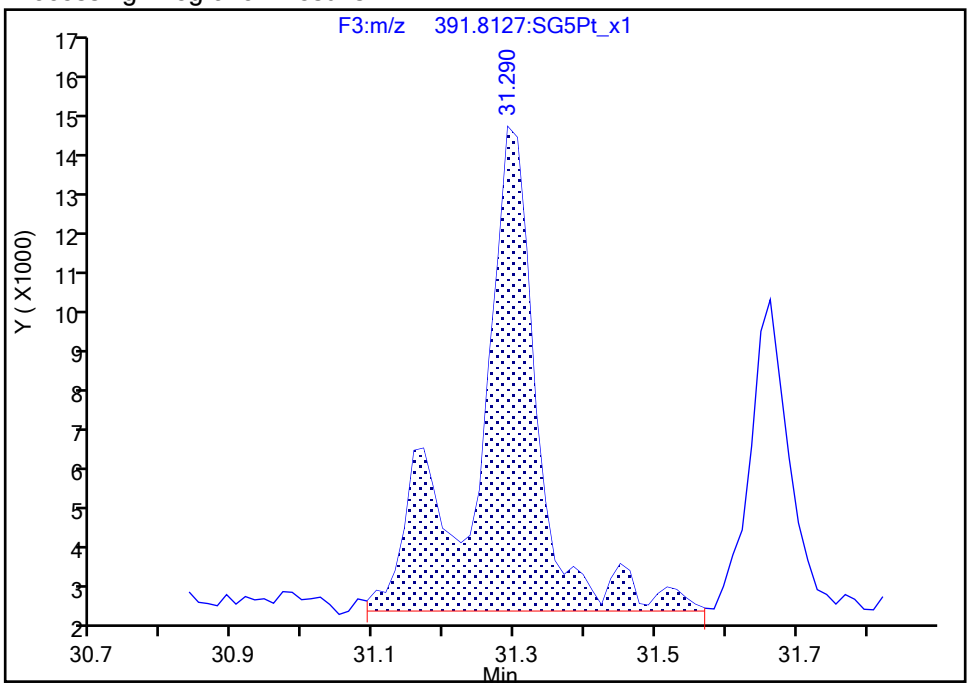

Manual Integration Results

RT: 31.30
Area: 125831
Amount: 0.979458
Amount Units: pg/ul
Reviewer: dadunj, 08-Nov-2019 09:04:21
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_10.d				
Injection Date:	06-Nov-2019 02:26:21	Instrument ID:	10D5		
Lims ID:	600-194690-B-10-A	Lab Sample ID:	320-194690-10		
Client ID:	INF 4				
Operator ID:	ALM	ALS Bottle#:	10	Worklist Smp#:	10
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 1

Processing Integration Results

RT: 31.30
Area: 82122
Amount: 1.217693
Amount Units: pg/ul

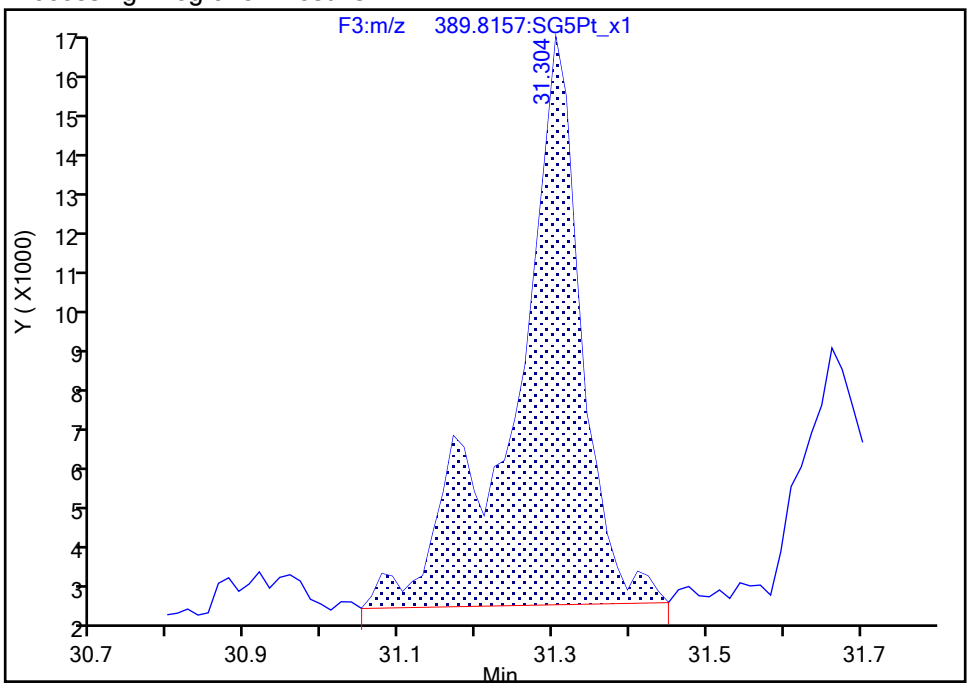

Manual Integration Results

RT: 31.30
Area: 66336
Amount: 0.979458
Amount Units: pg/ul

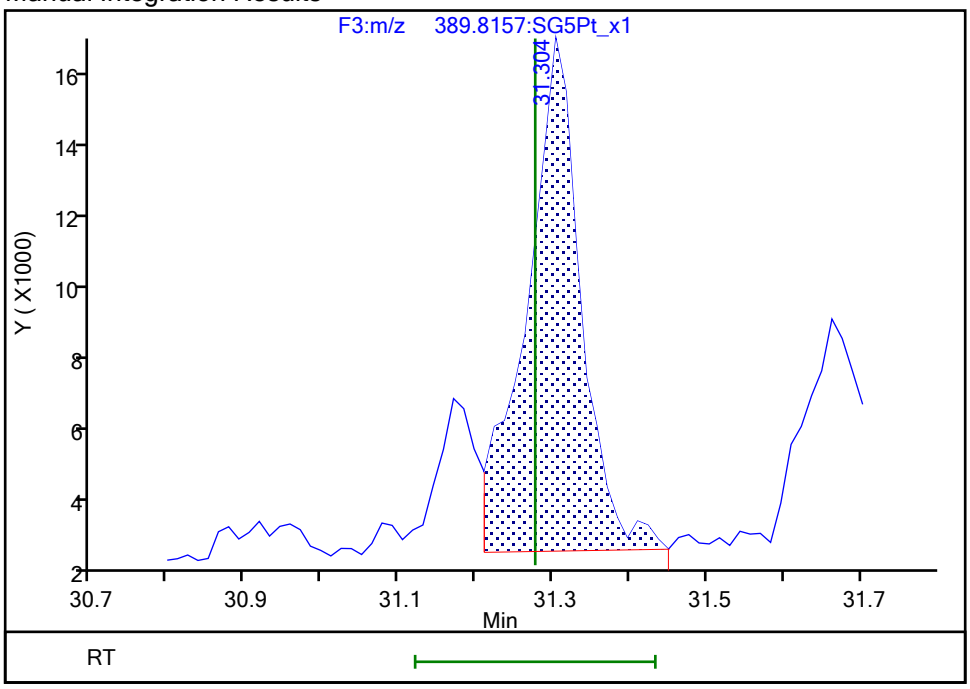

Reviewer: dadunj, 08-Nov-2019 09:04:23

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Report Date: 10-Nov-2019 09:26:53 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_10.d		
Injection Date:	06-Nov-2019 02:26:21	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4		
Worklist#:	336302	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

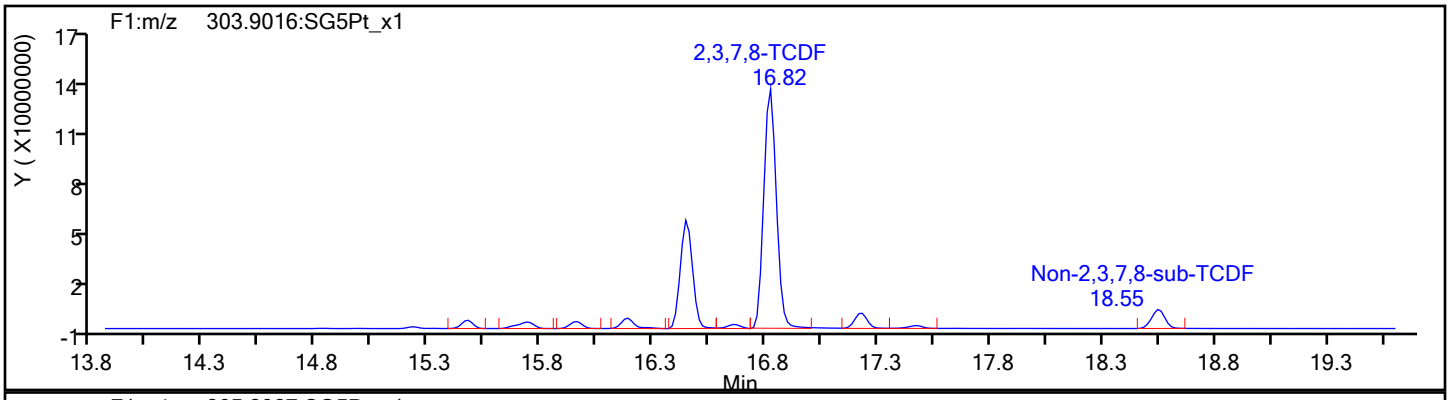

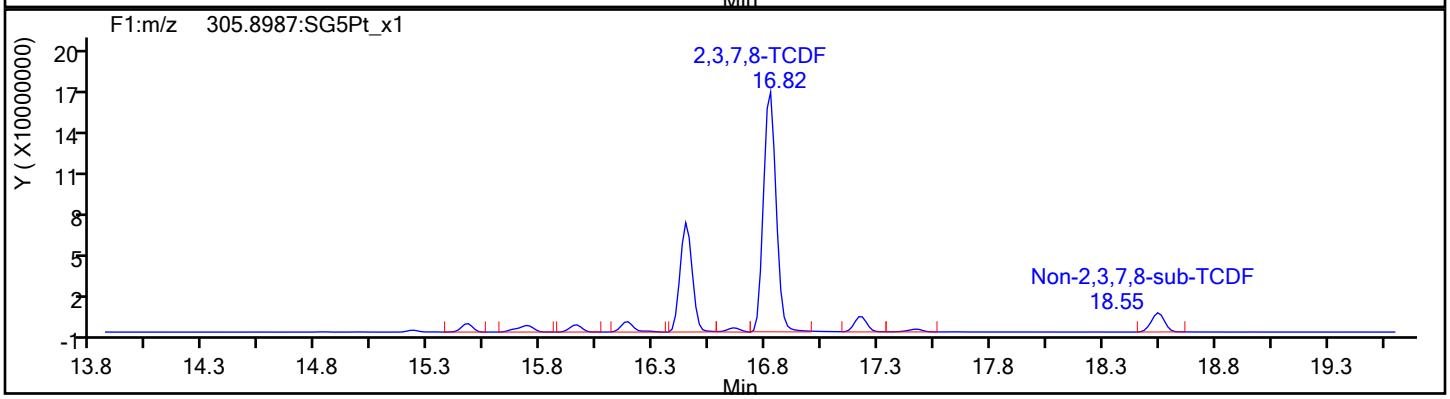

TCDF Standards

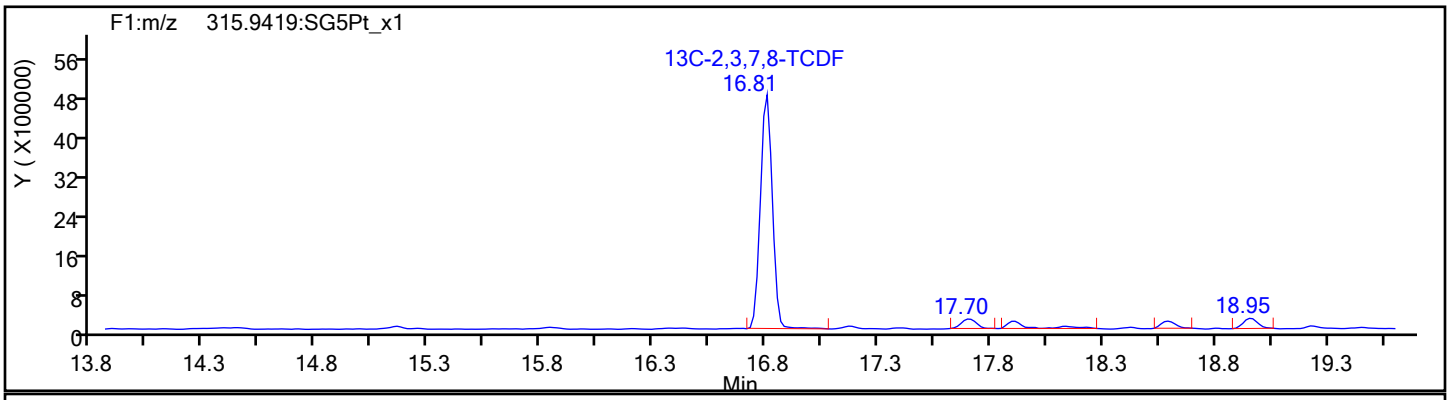

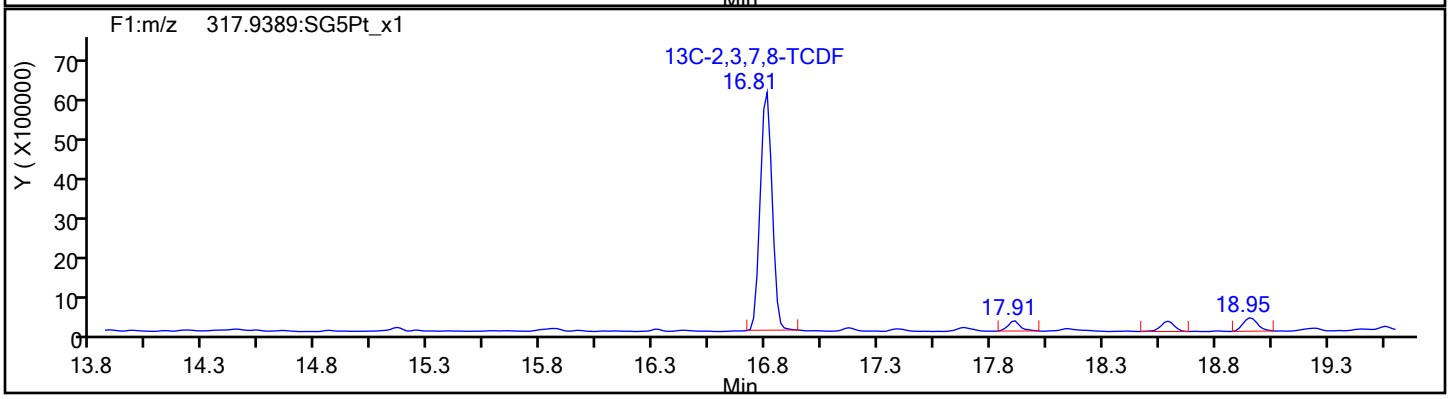

Report Date: 10-Nov-2019 09:26:53 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_10.d		
Injection Date:	06-Nov-2019 02:26:21	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4		
Worklist#:	336302	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

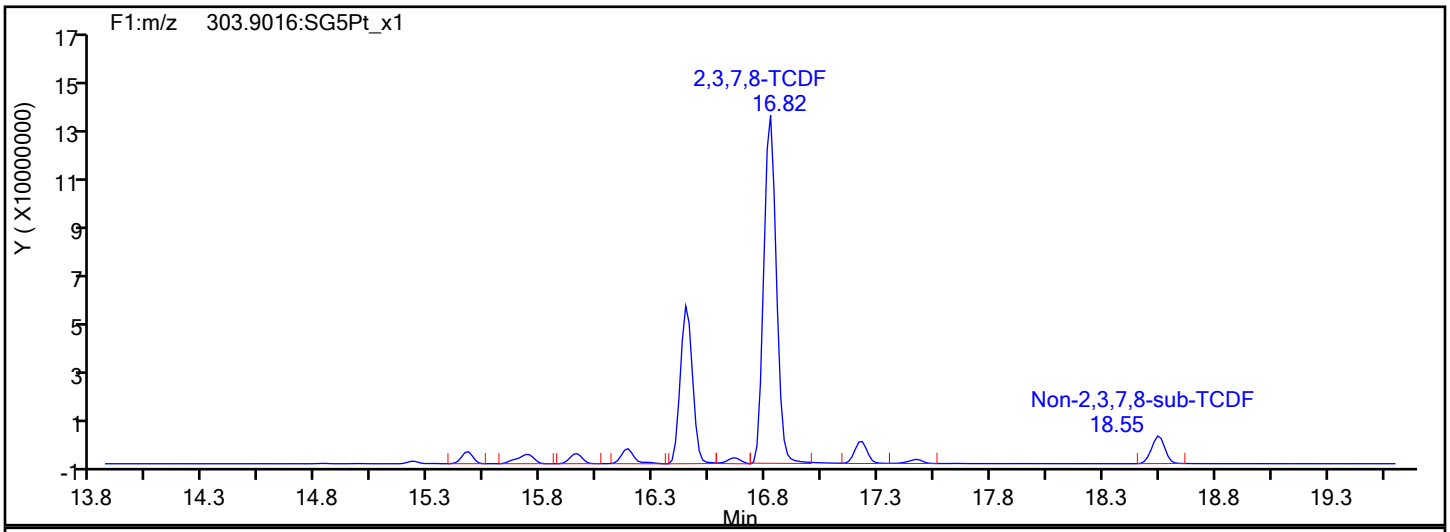

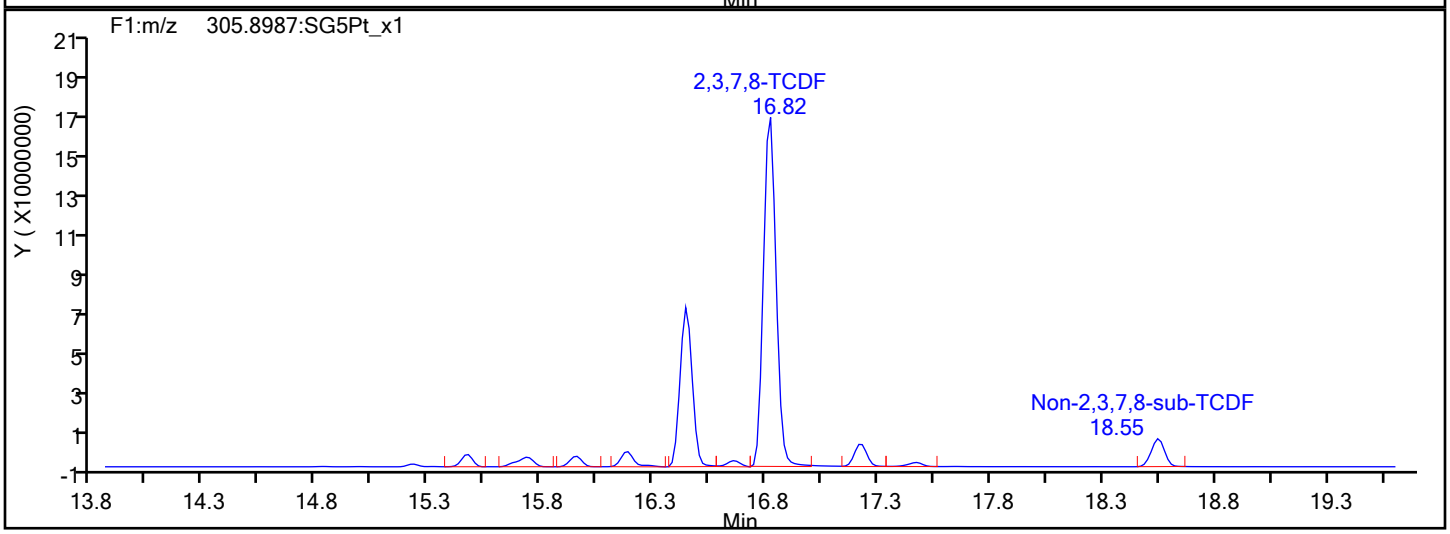

TCDF Interference Mass

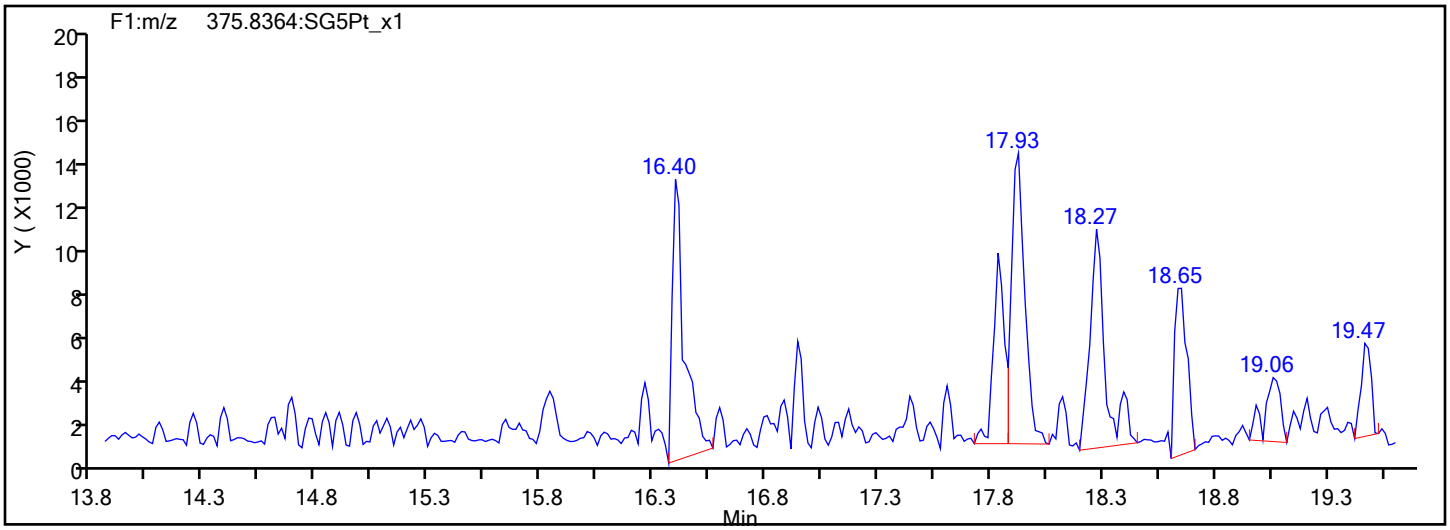

Report Date: 10-Nov-2019 09:26:53 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_10.d		
Injection Date:	06-Nov-2019 02:26:21	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4		
Worklist#:	336302	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

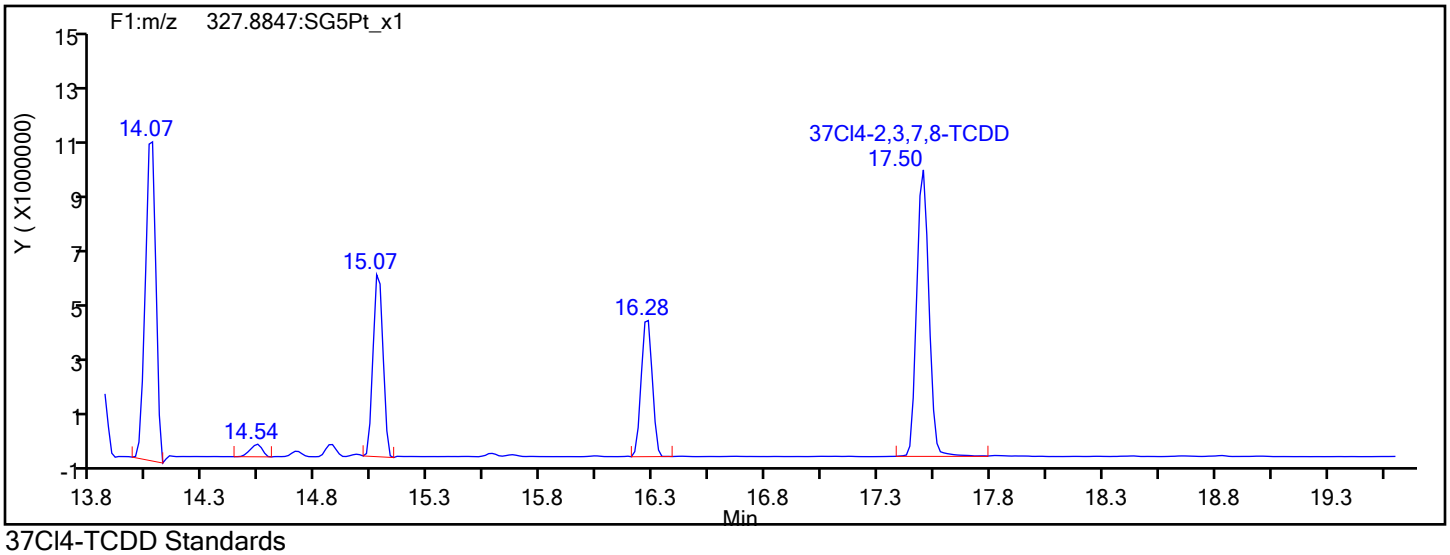

37Cl4-TCDD Standards

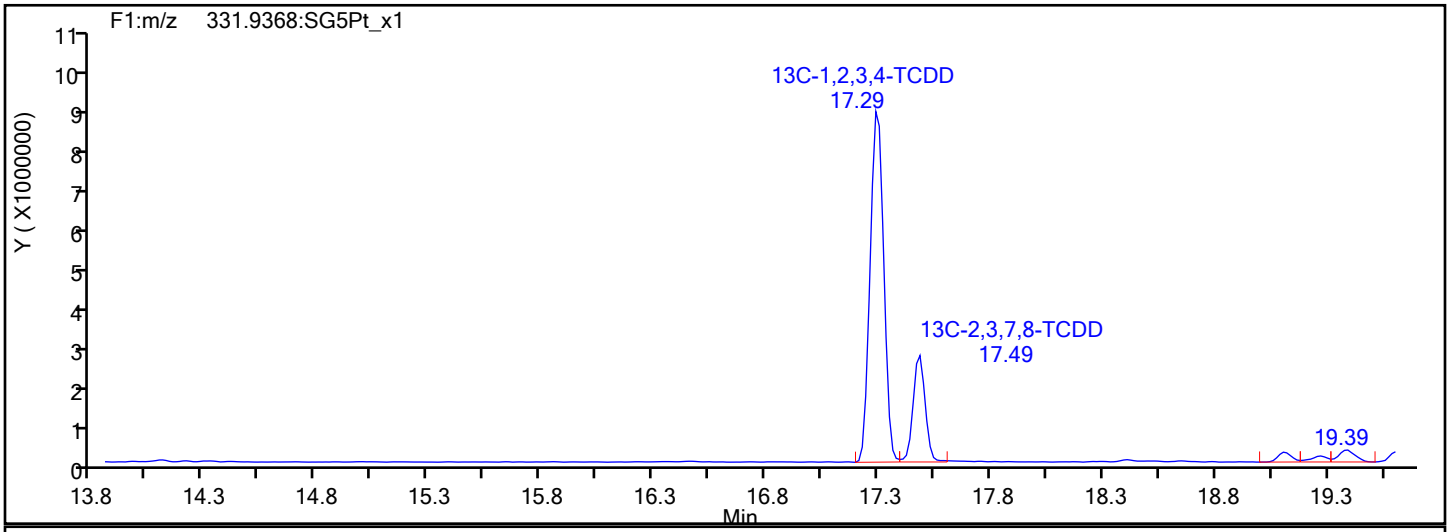

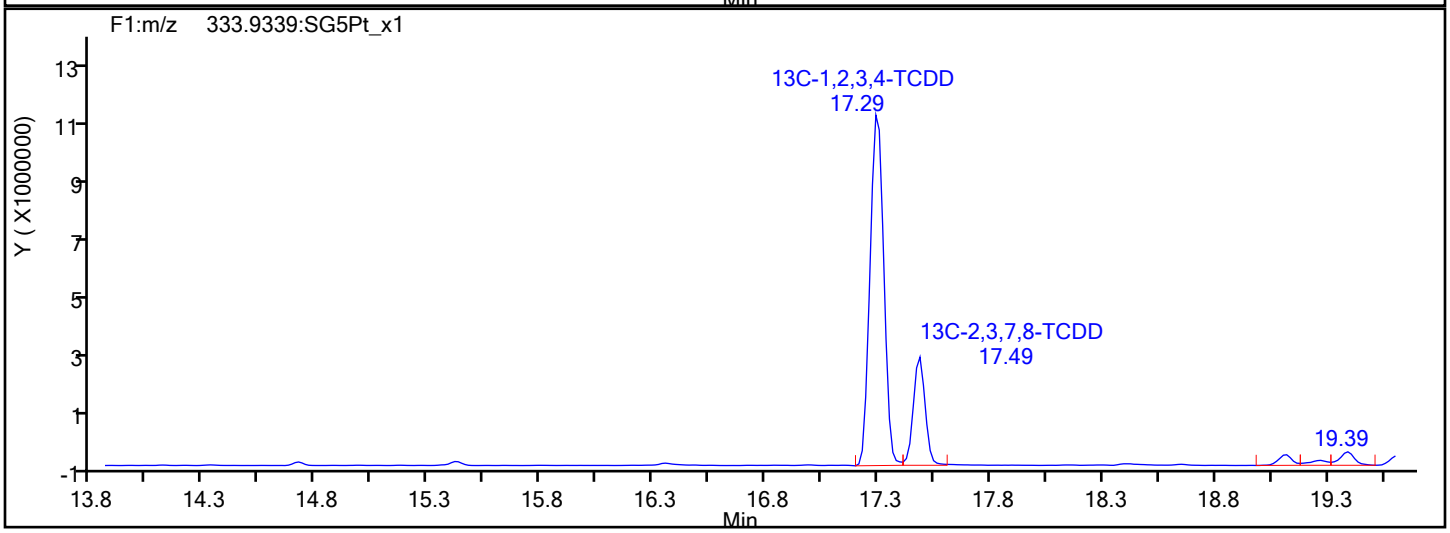

Report Date: 10-Nov-2019 09:26:53 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_10.d		
Injection Date:	06-Nov-2019 02:26:21	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4		
Worklist#:	336302	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

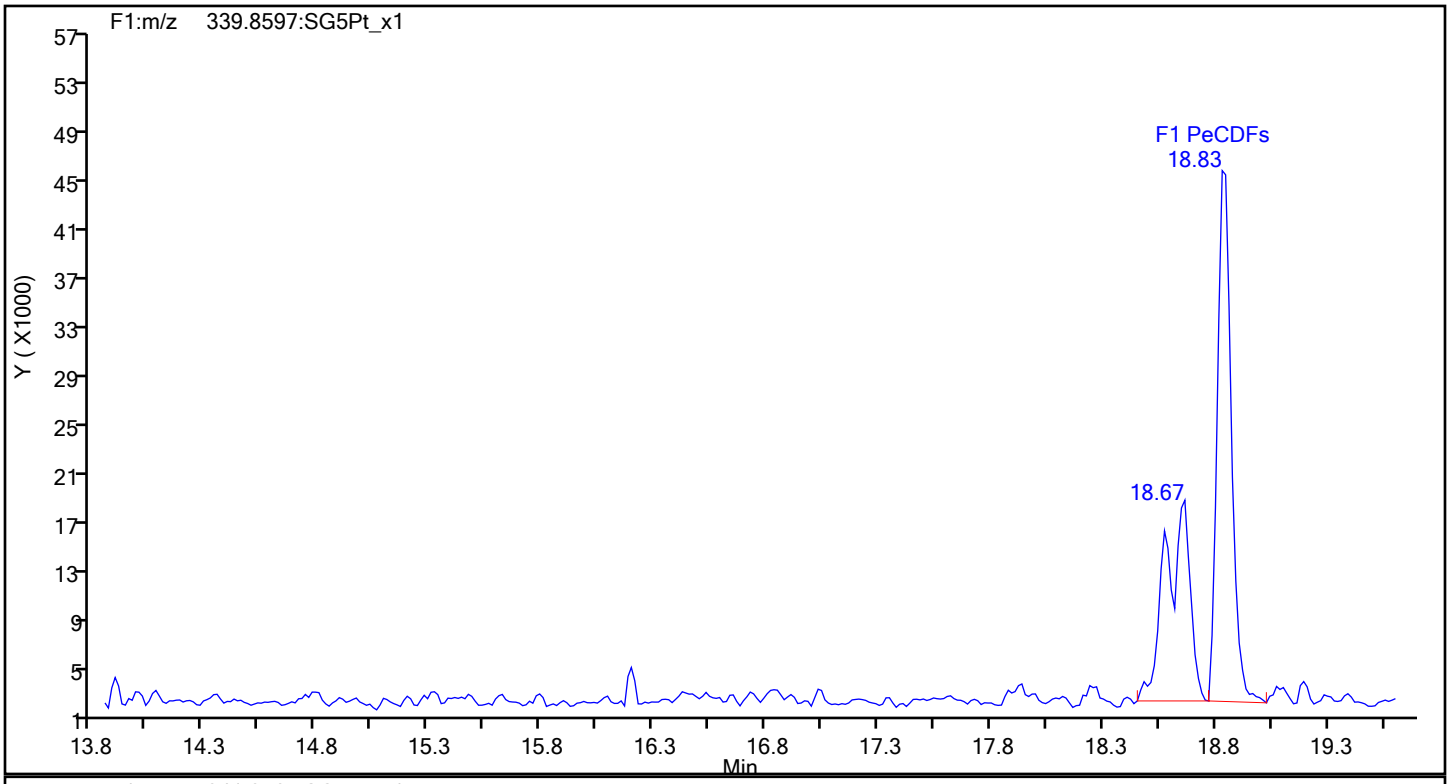

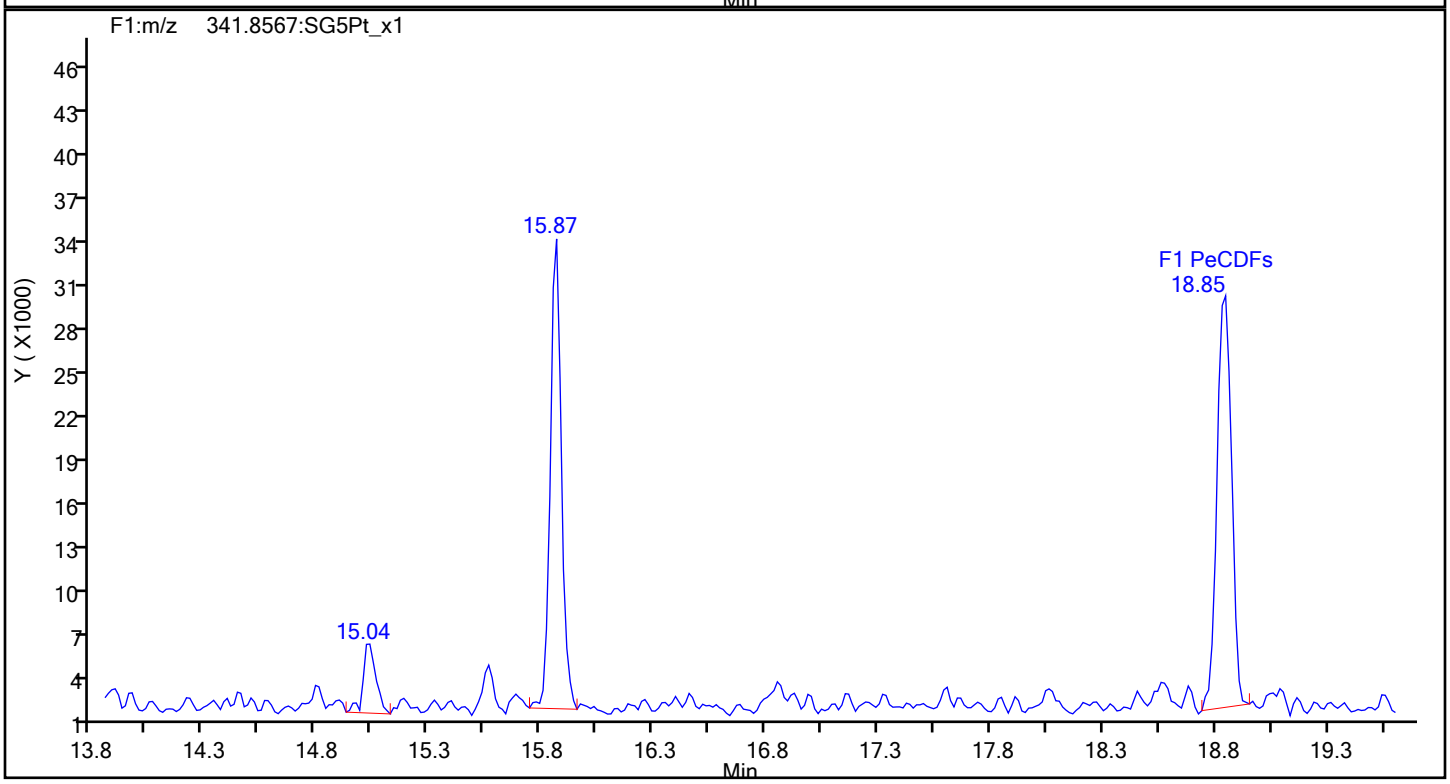

Report Date: 10-Nov-2019 09:26:53 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_10.d		
Injection Date:	06-Nov-2019 02:26:21	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4		
Worklist#:	336302	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

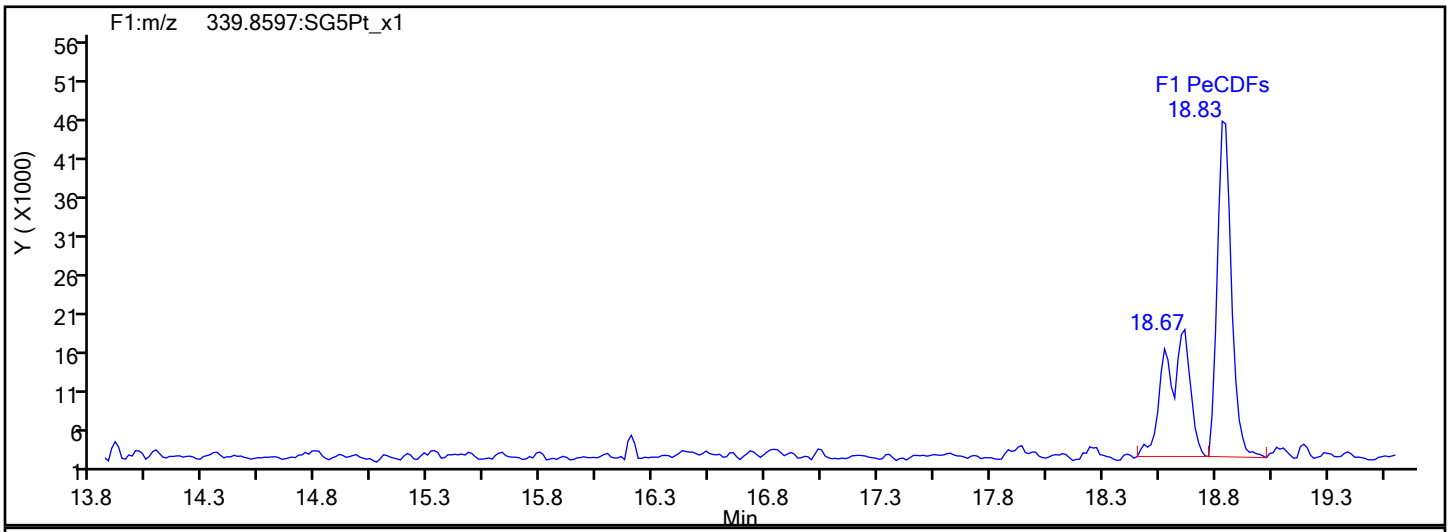

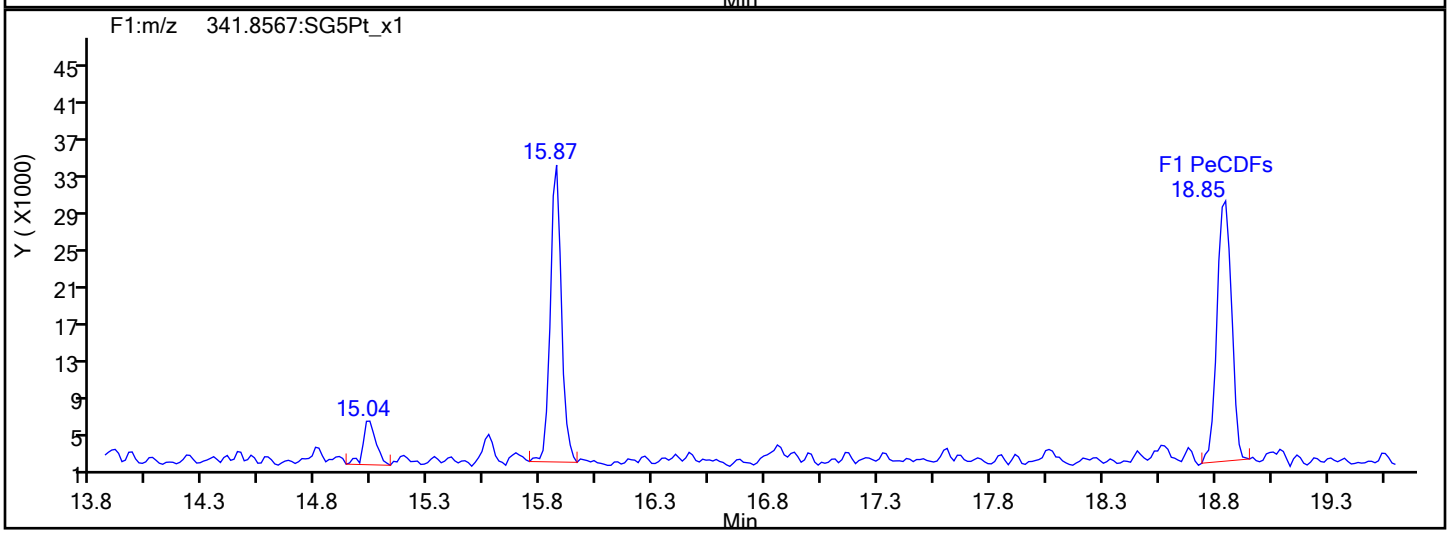

F1 PeCDFs Interference Mass

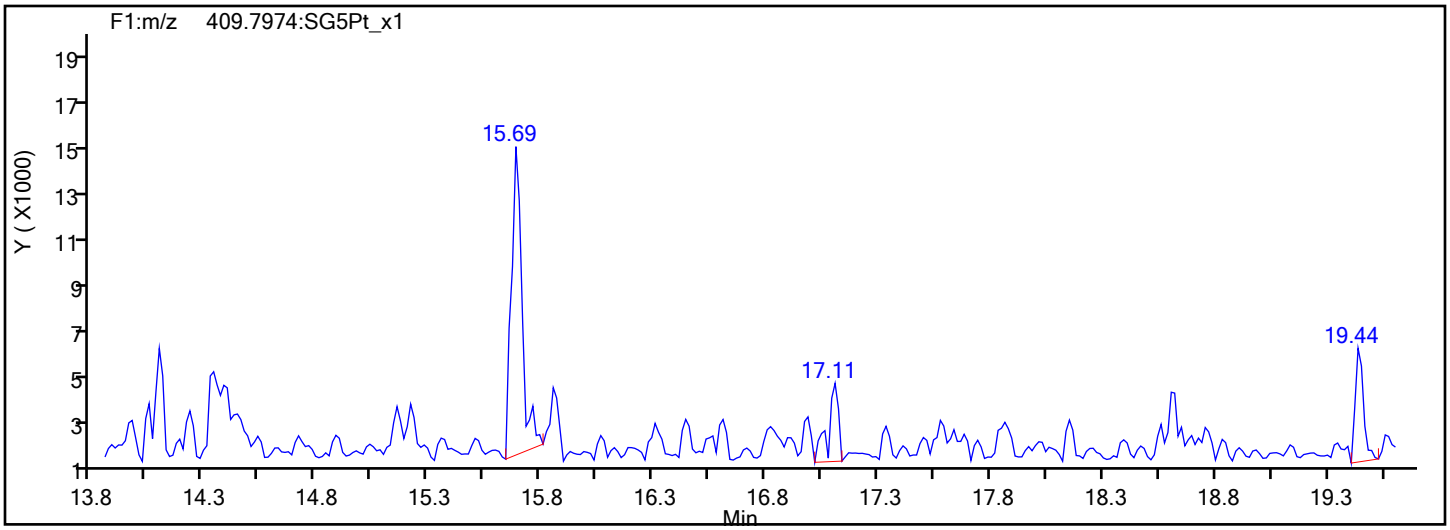

Report Date: 10-Nov-2019 09:26:53 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_10.d		
Injection Date:	06-Nov-2019 02:26:21	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4		
Worklist#:	336302	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

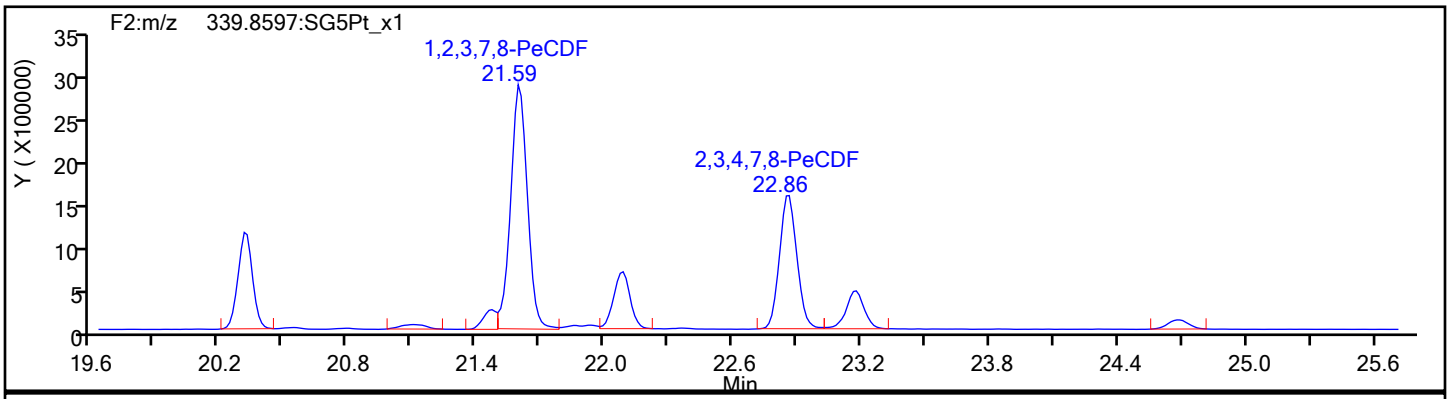

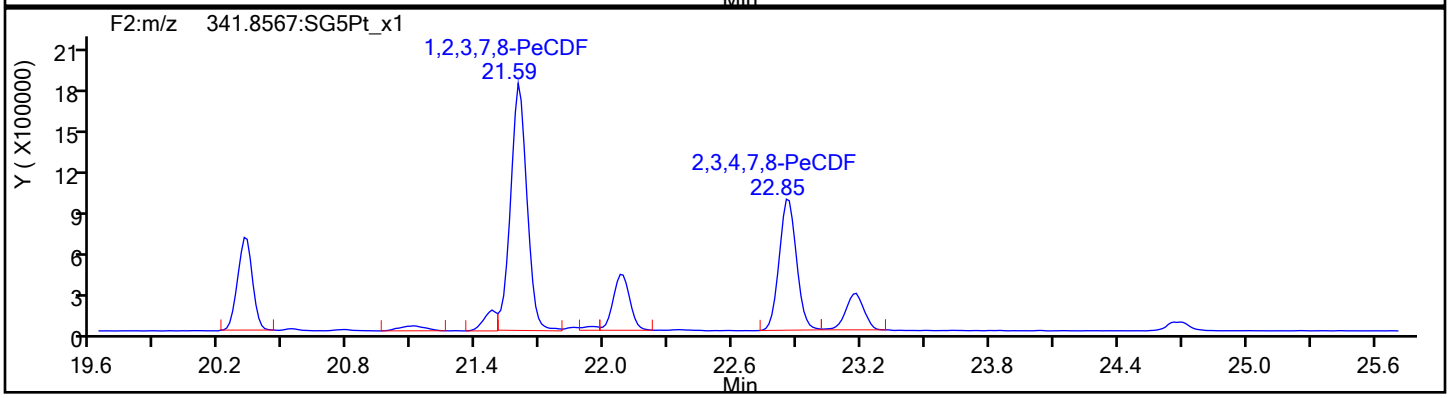

PeCDF Standards

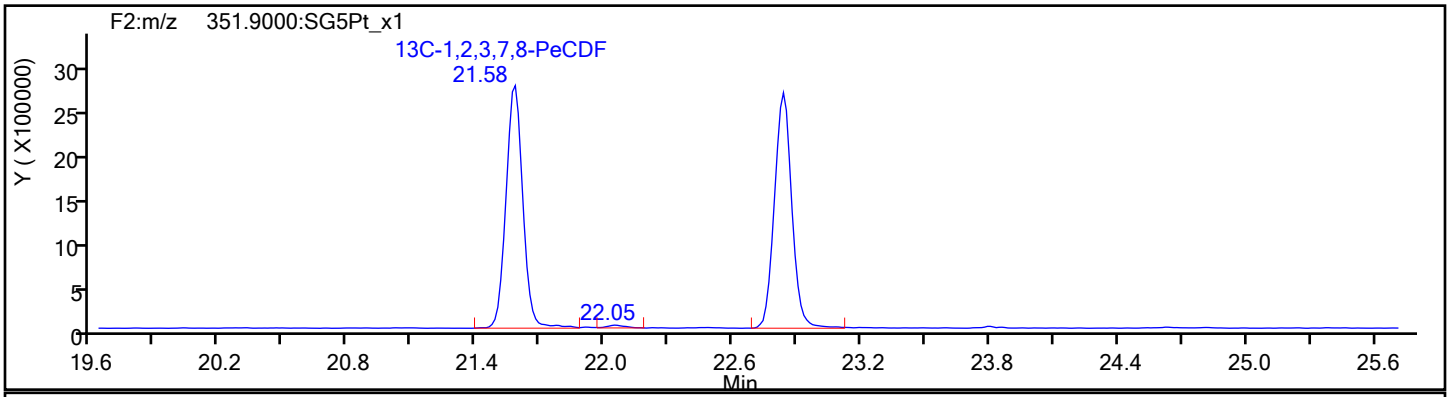

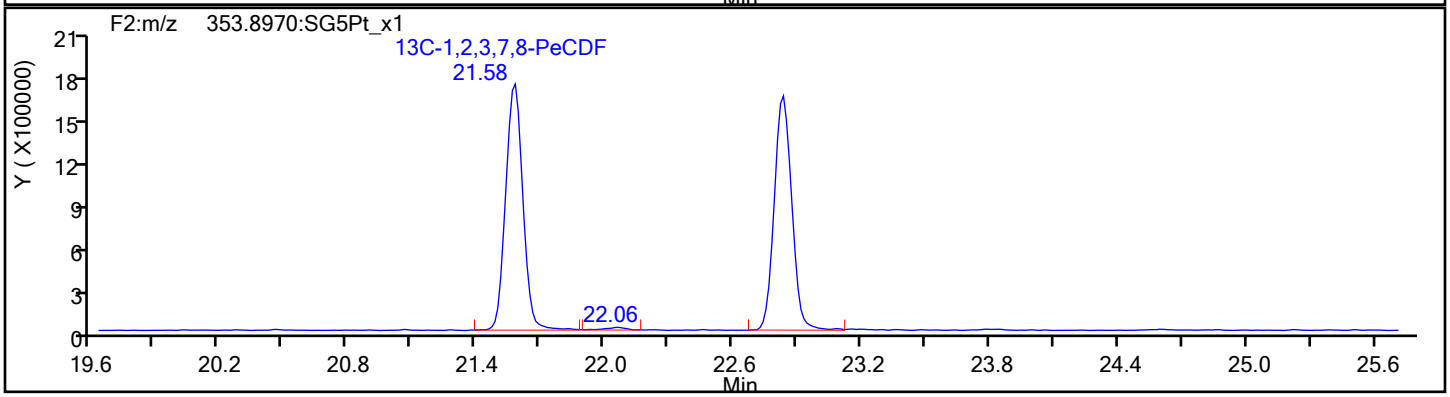

Report Date: 10-Nov-2019 09:26:53 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_10.d		
Injection Date:	06-Nov-2019 02:26:21	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4		
Worklist#:	336302	Sample Line#:	10
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PeCDF

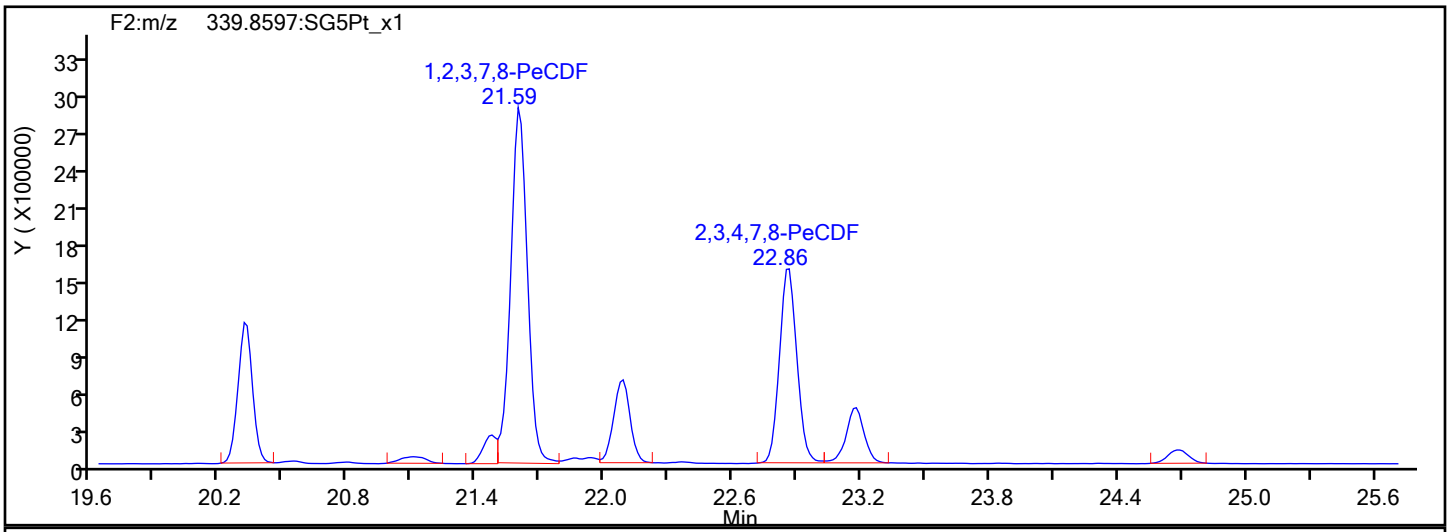

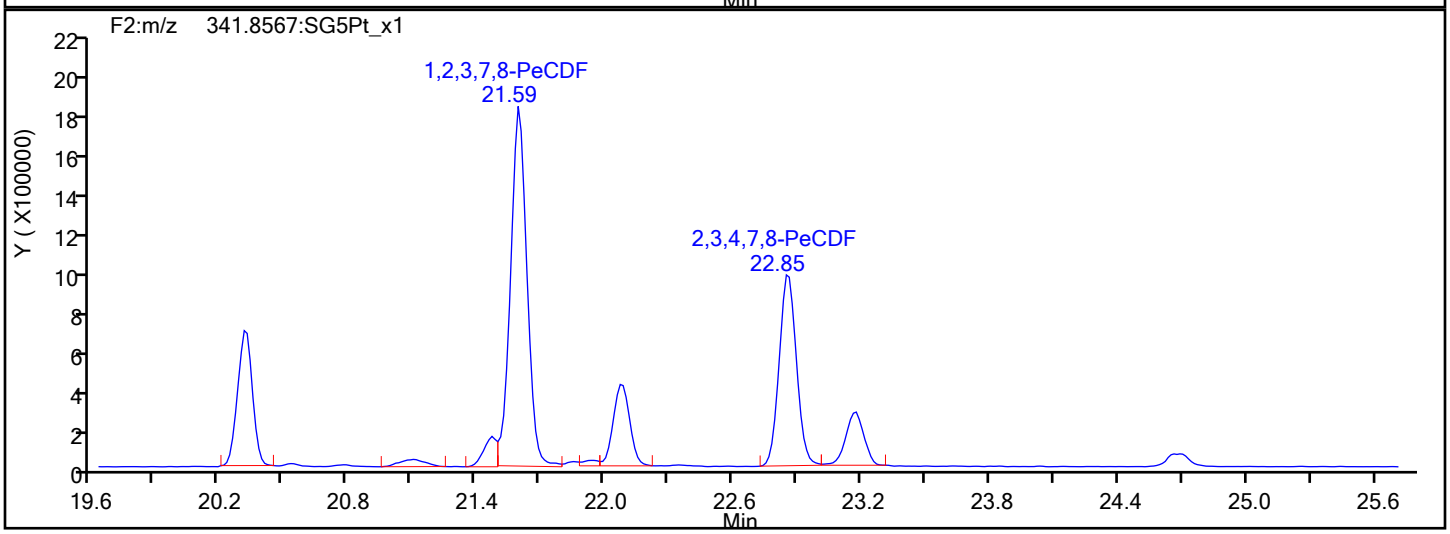

PeCDF Interference Mass

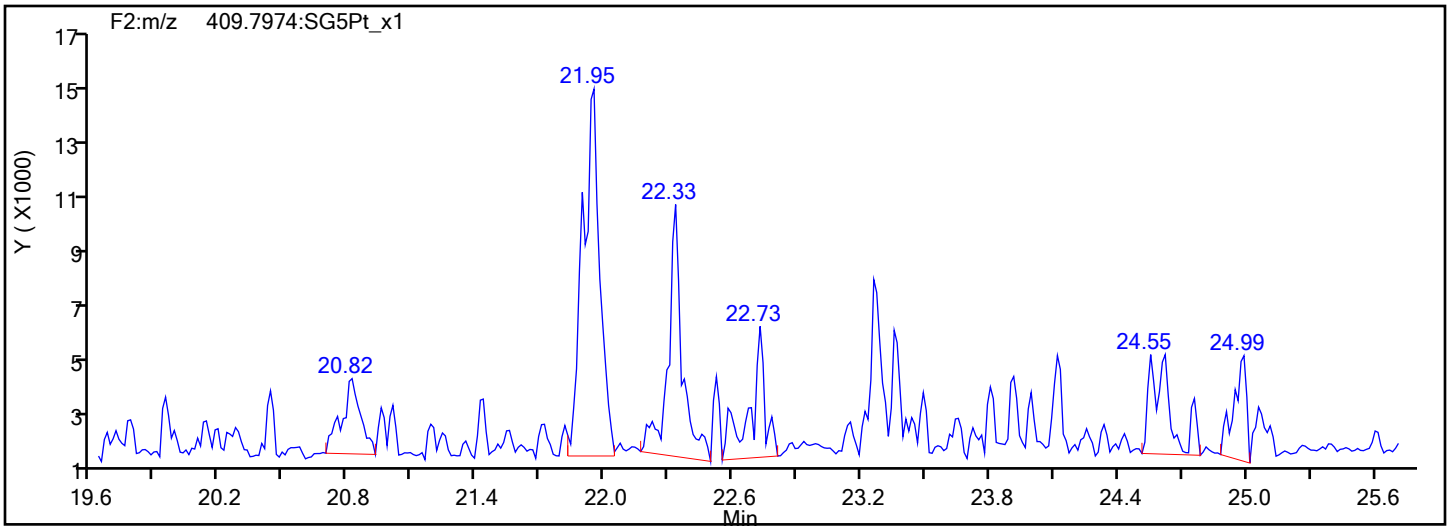

Report Date: 10-Nov-2019 09:26:53 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_10.d		
Injection Date:	06-Nov-2019 02:26:21	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4		
Worklist#:	336302	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

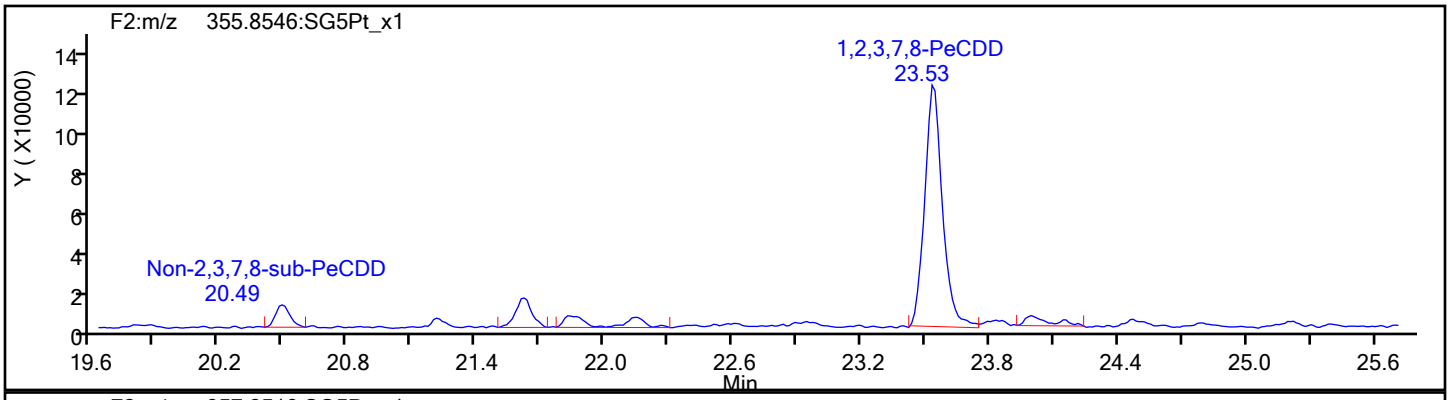

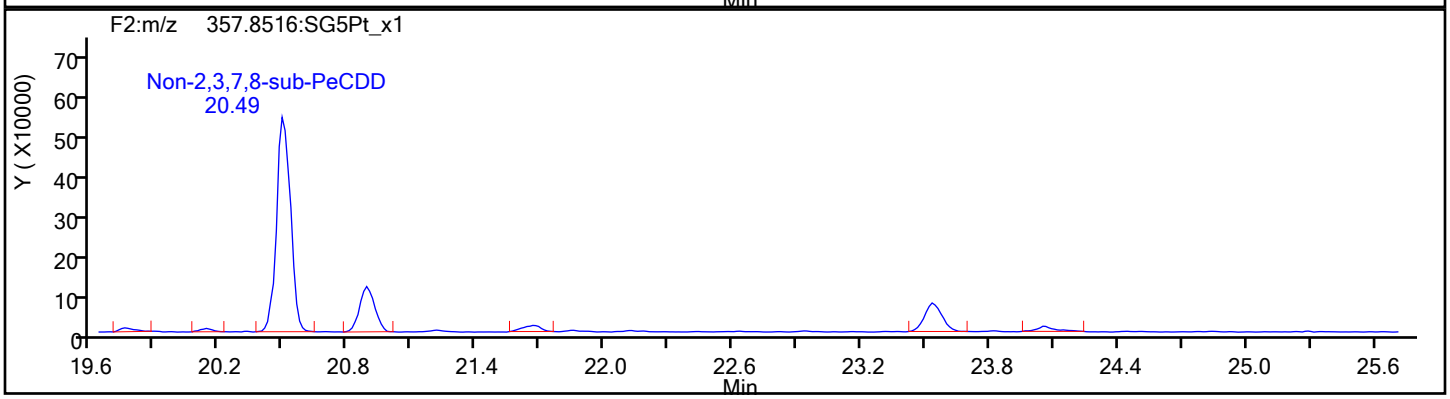

PeCDD Standards

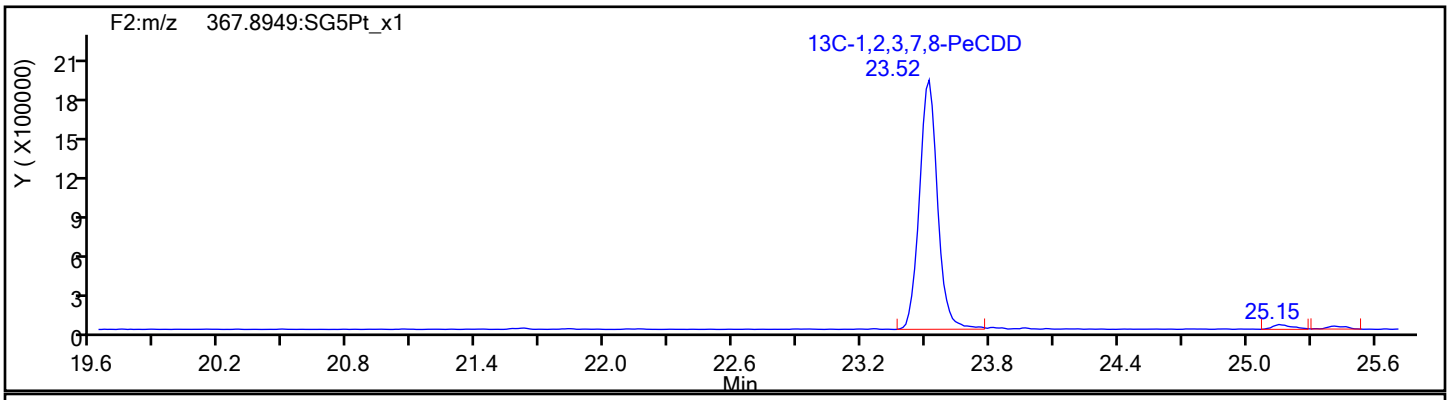

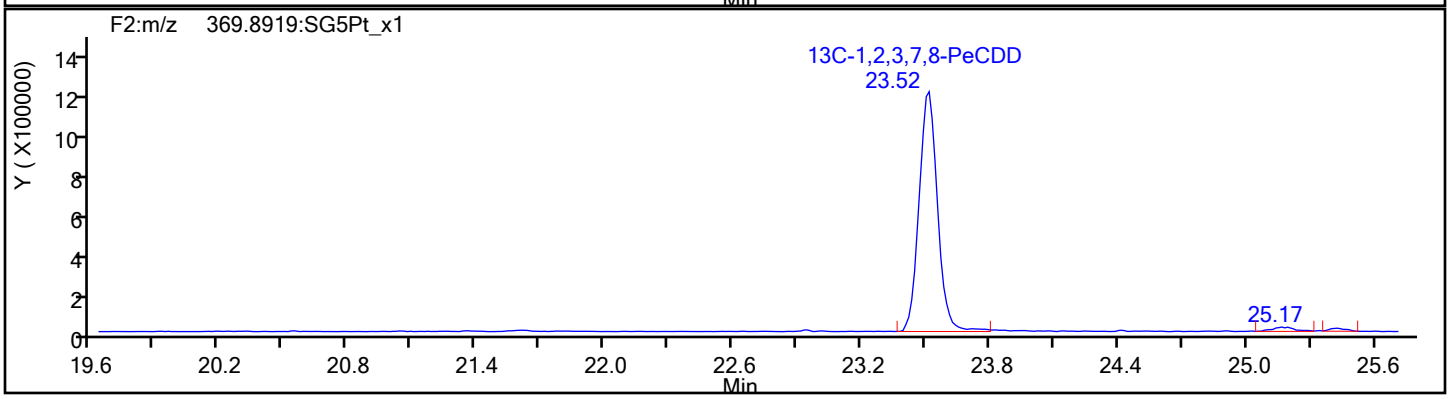

Report Date: 10-Nov-2019 09:26:53 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_10.d		
Injection Date:	06-Nov-2019 02:26:21	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4		
Worklist#:	336302	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

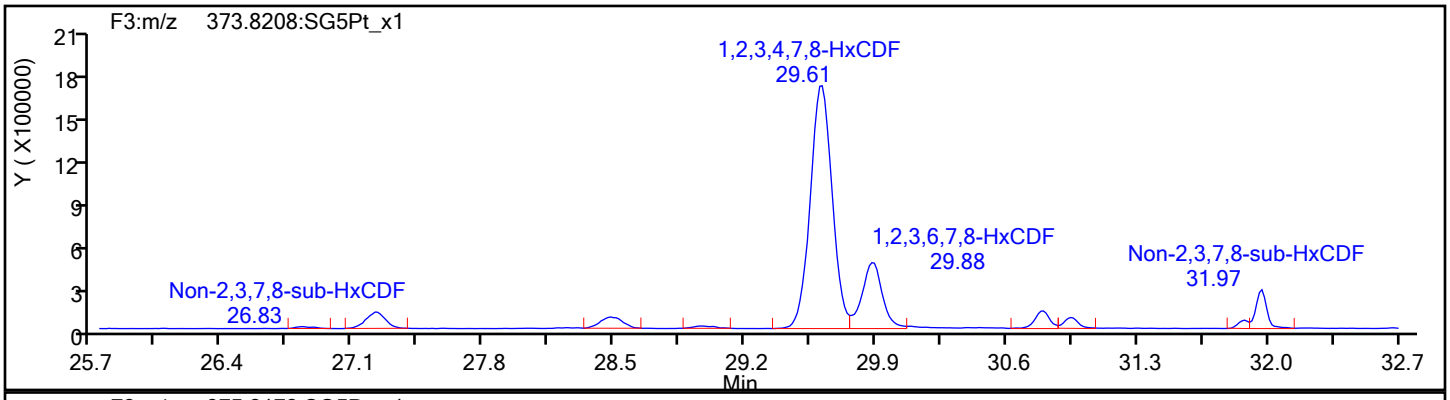

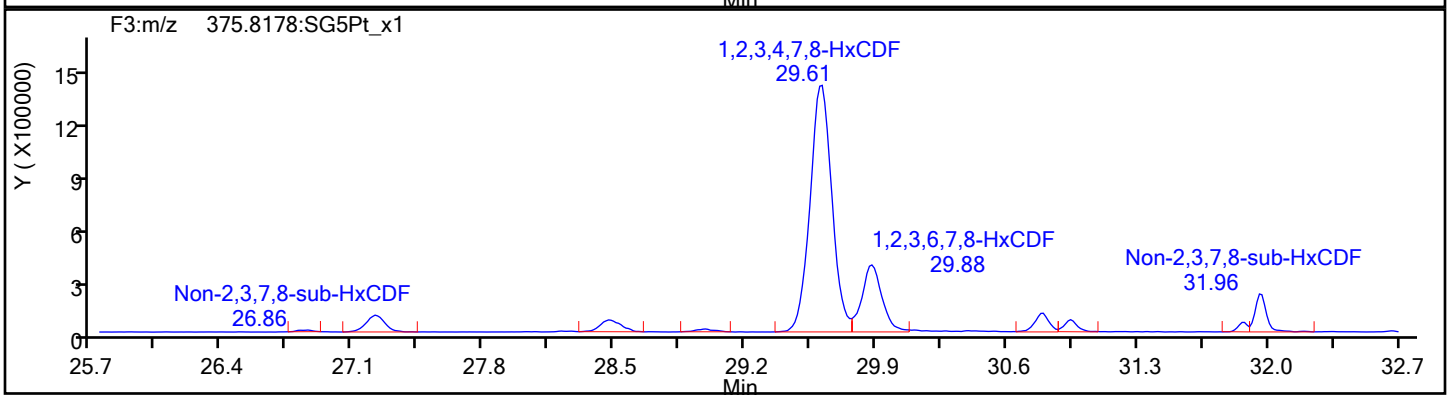

HxCDF Standards

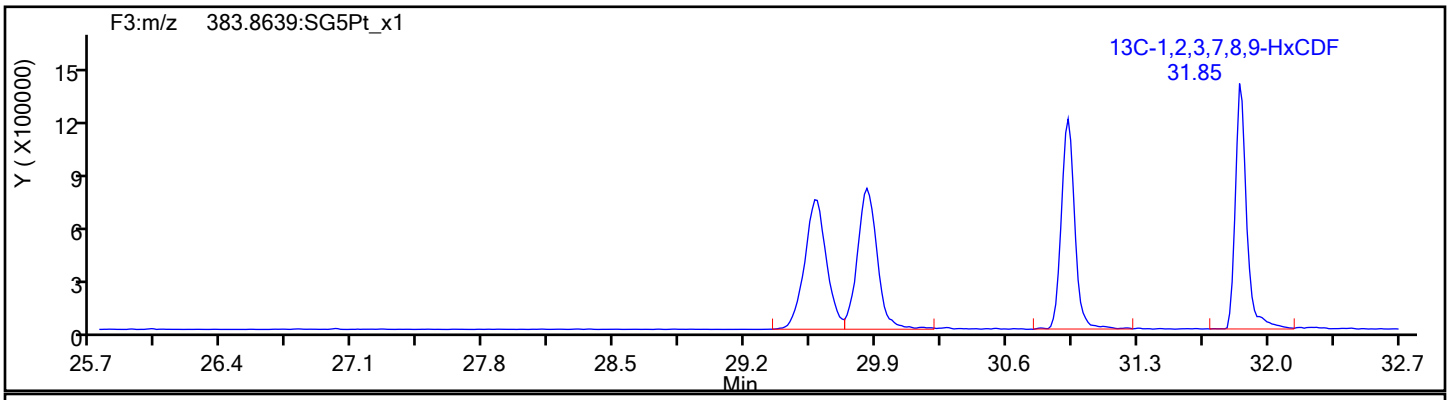

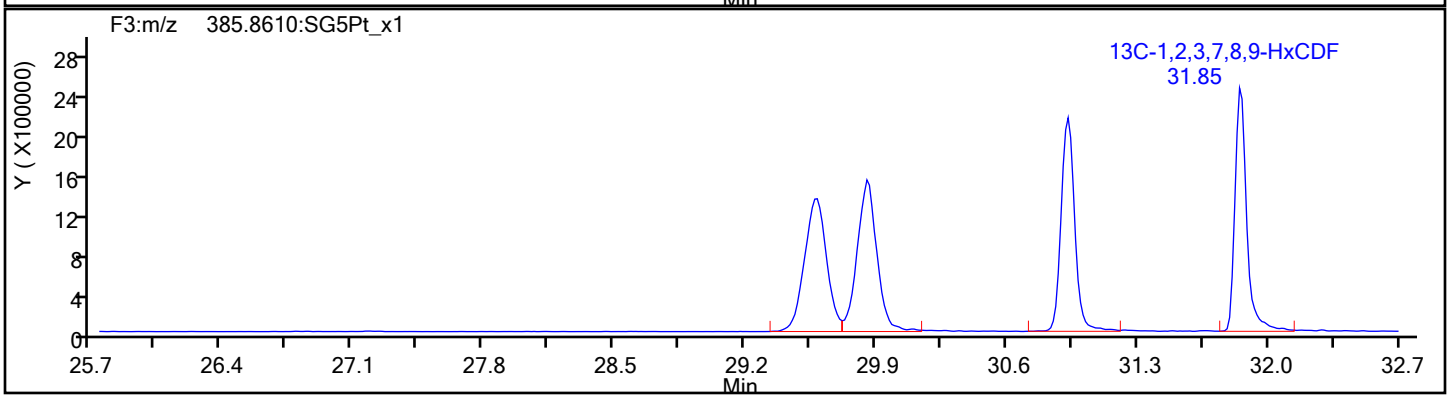

Report Date: 10-Nov-2019 09:26:53 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_10.d		
Injection Date:	06-Nov-2019 02:26:21	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4		
Worklist#:	336302	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

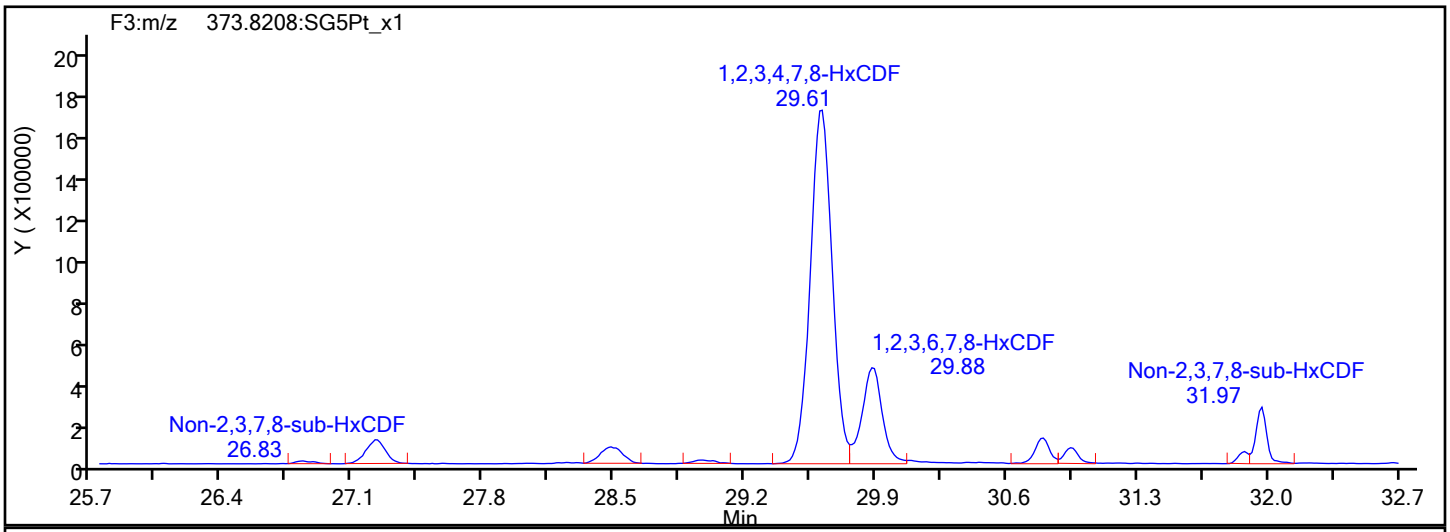

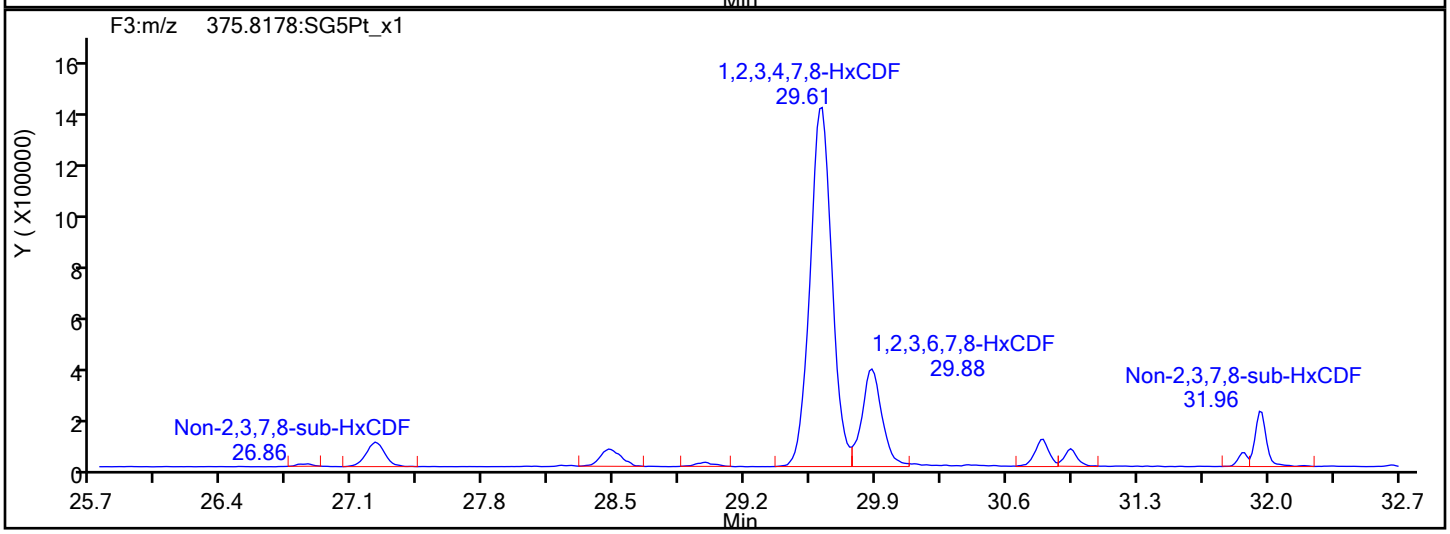

HxCDF Interference Mass

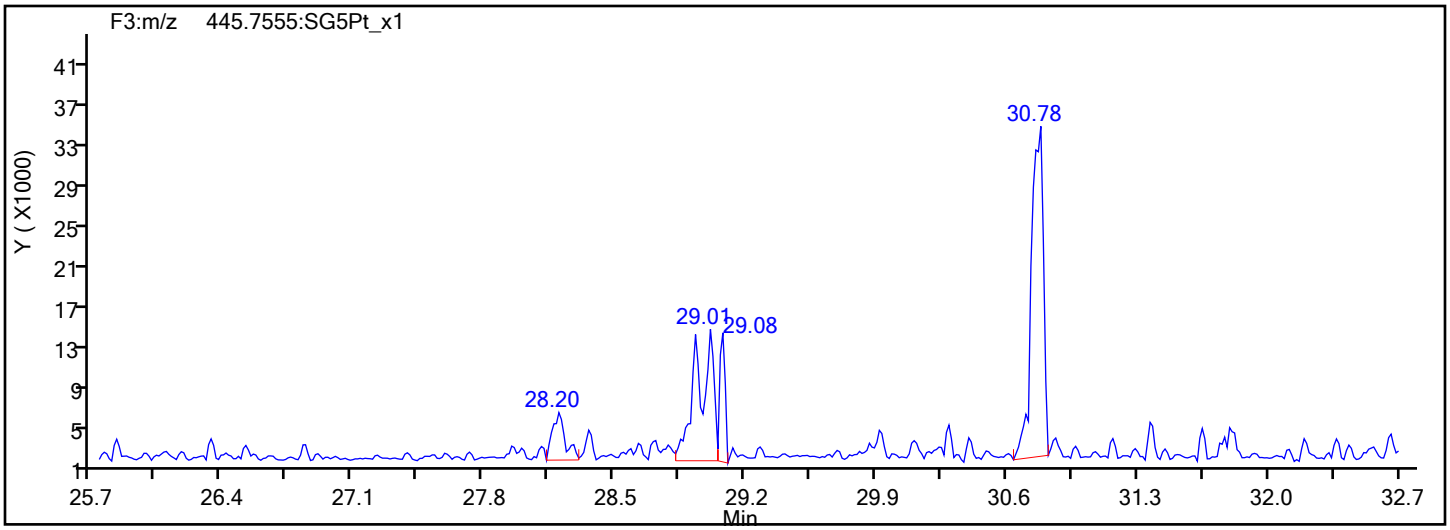

Report Date: 10-Nov-2019 09:26:53 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_10.d		
Injection Date:	06-Nov-2019 02:26:21	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4		
Worklist#:	336302	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDD

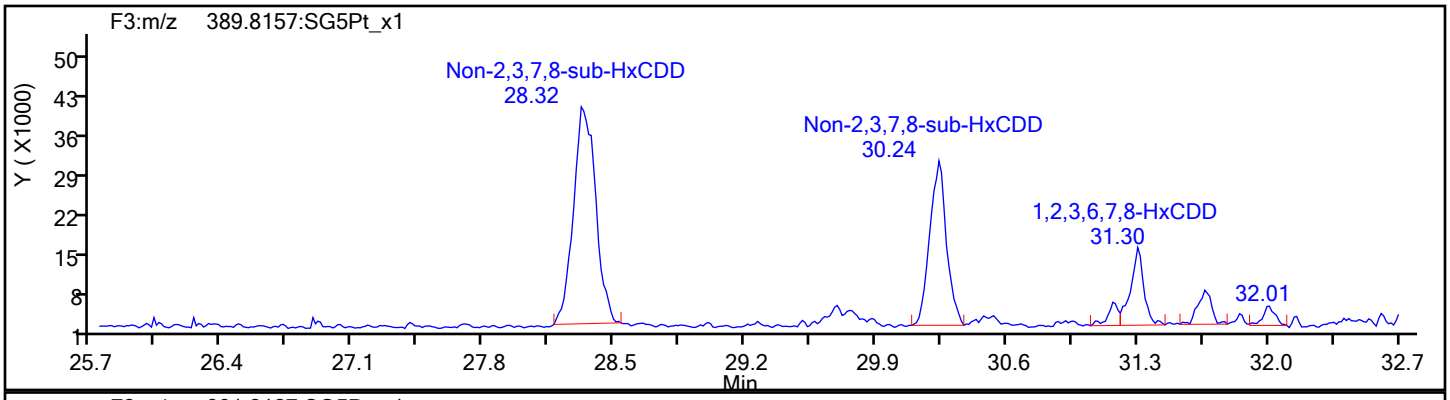

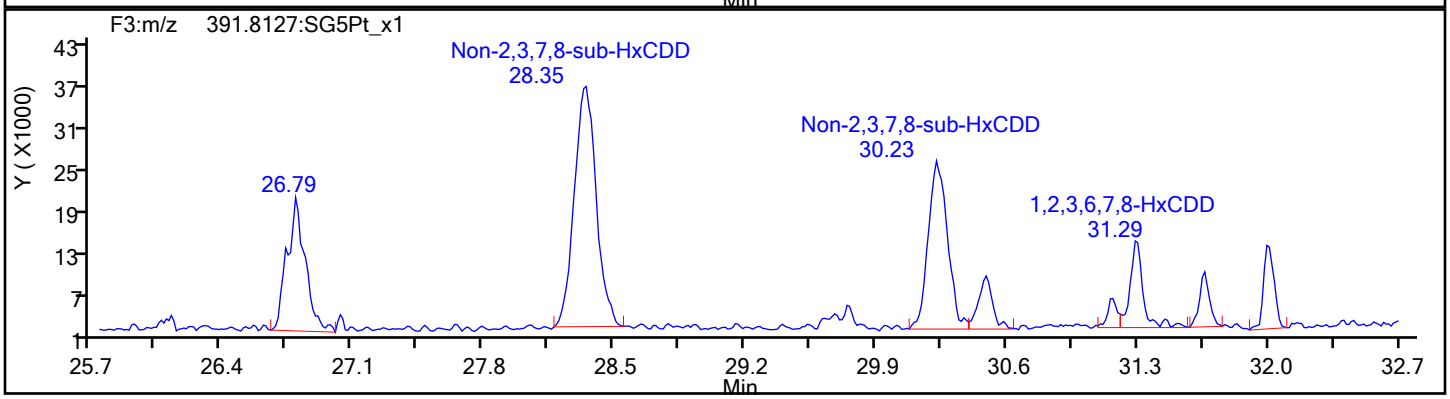

HxCDD Standards

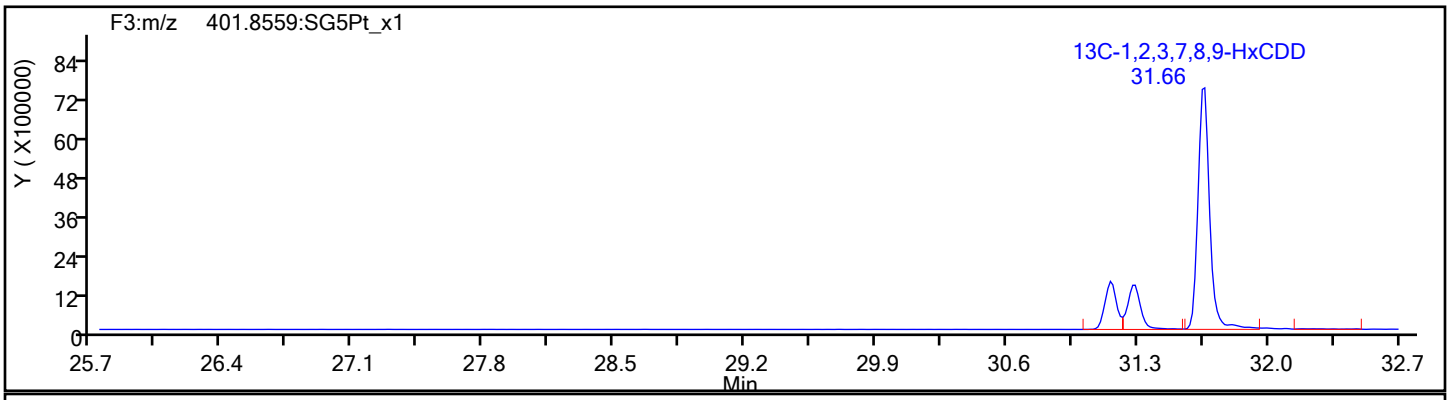

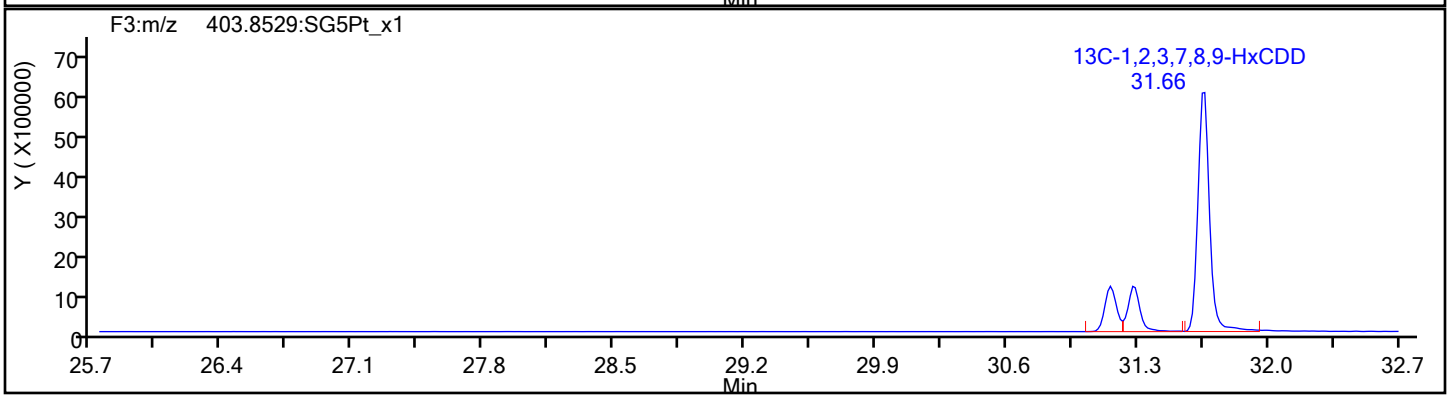

Report Date: 10-Nov-2019 09:26:53 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_10.d		
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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4		
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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

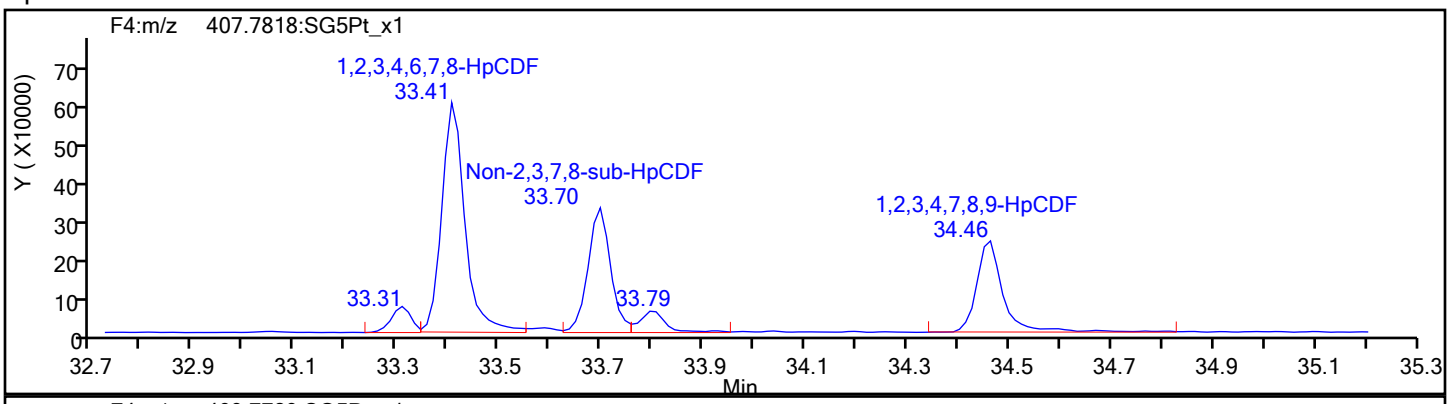

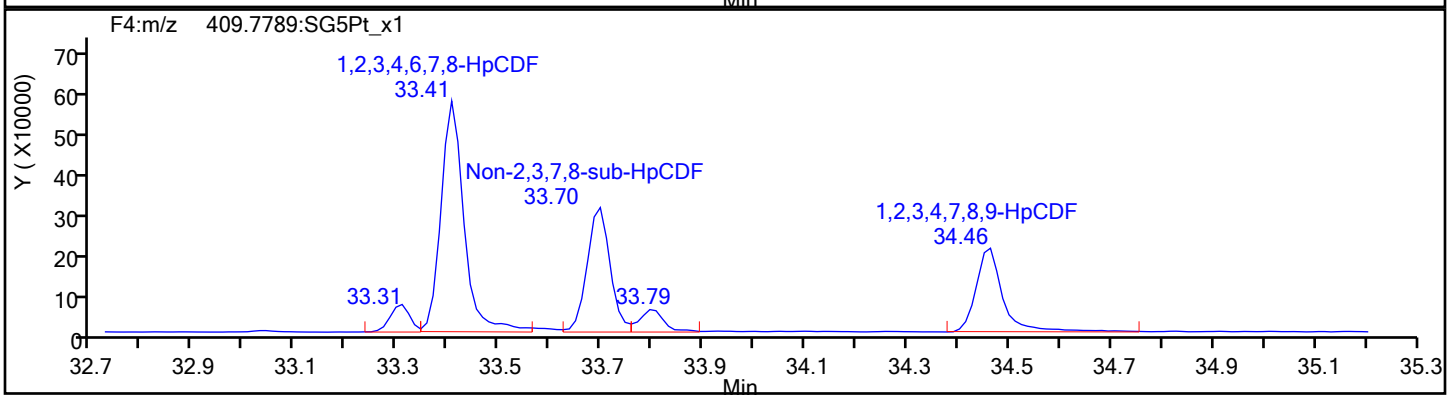

HpCDF Standards

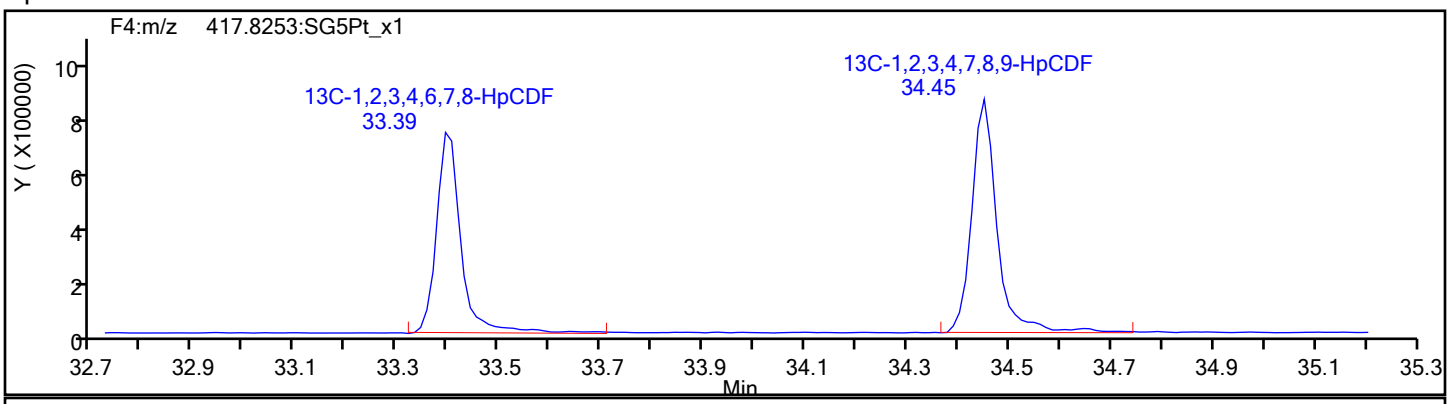

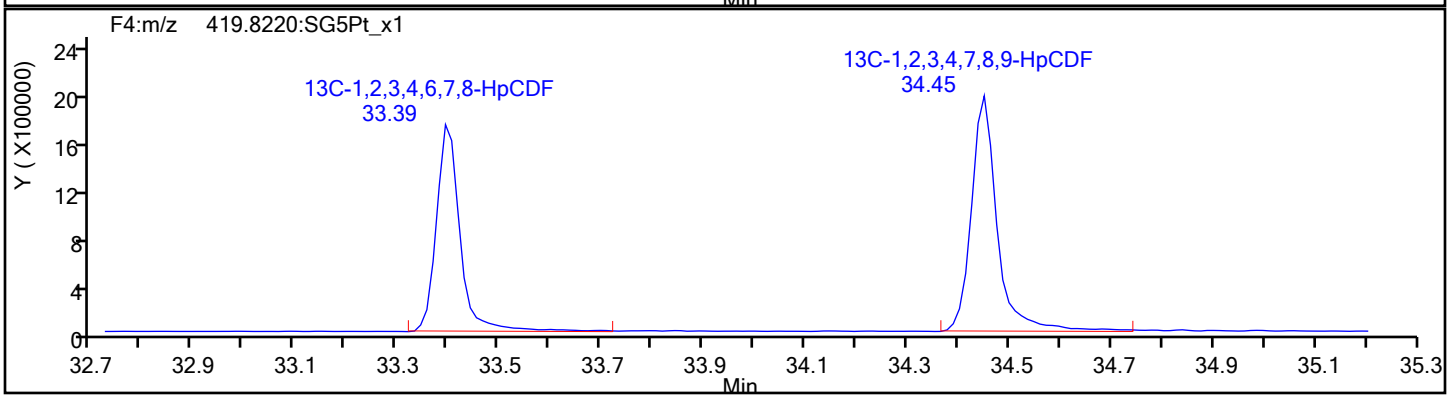

Report Date: 10-Nov-2019 09:26:53 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_10.d		
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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4		
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HpCDF

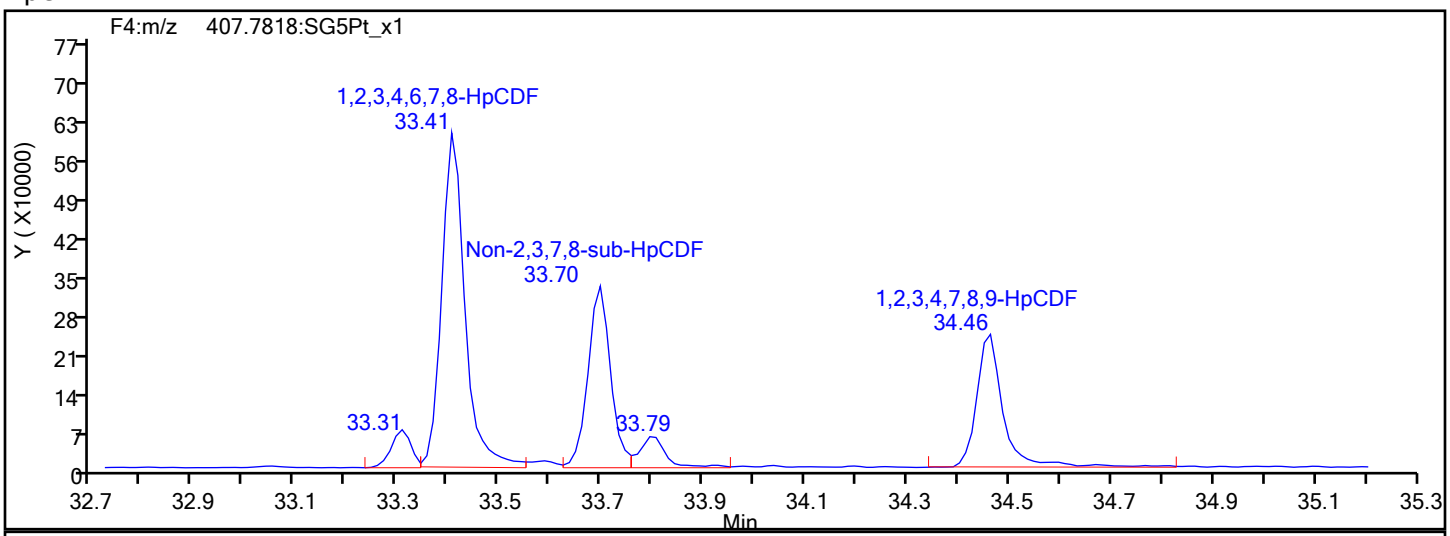

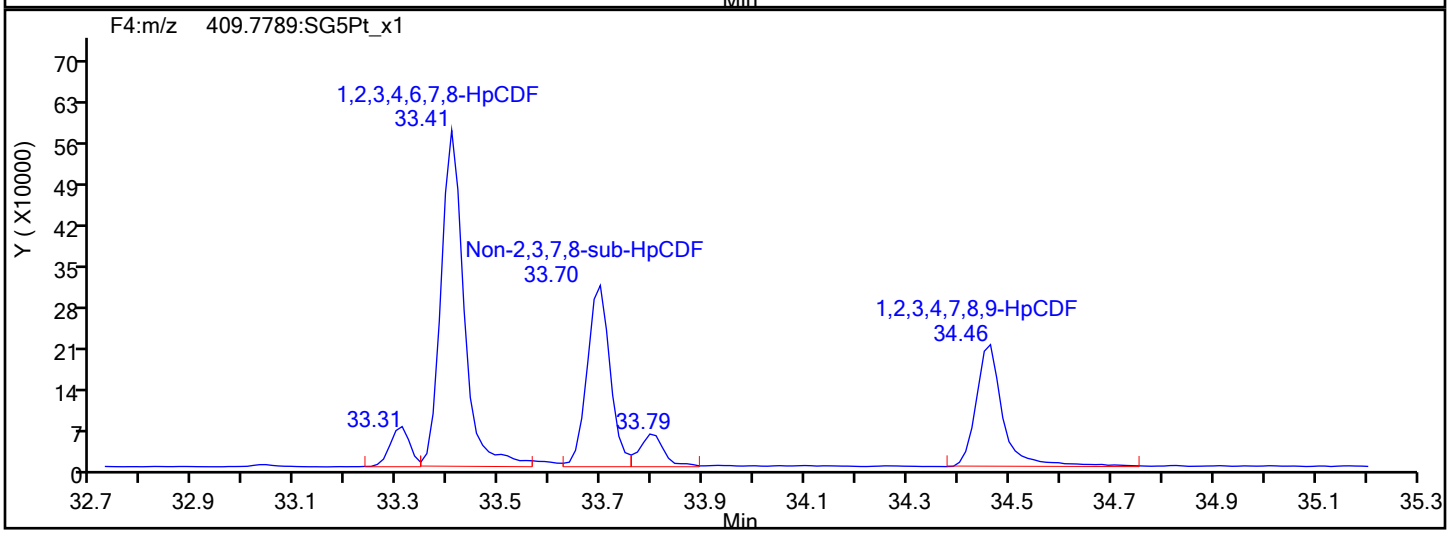

HpCDF Interference Mass

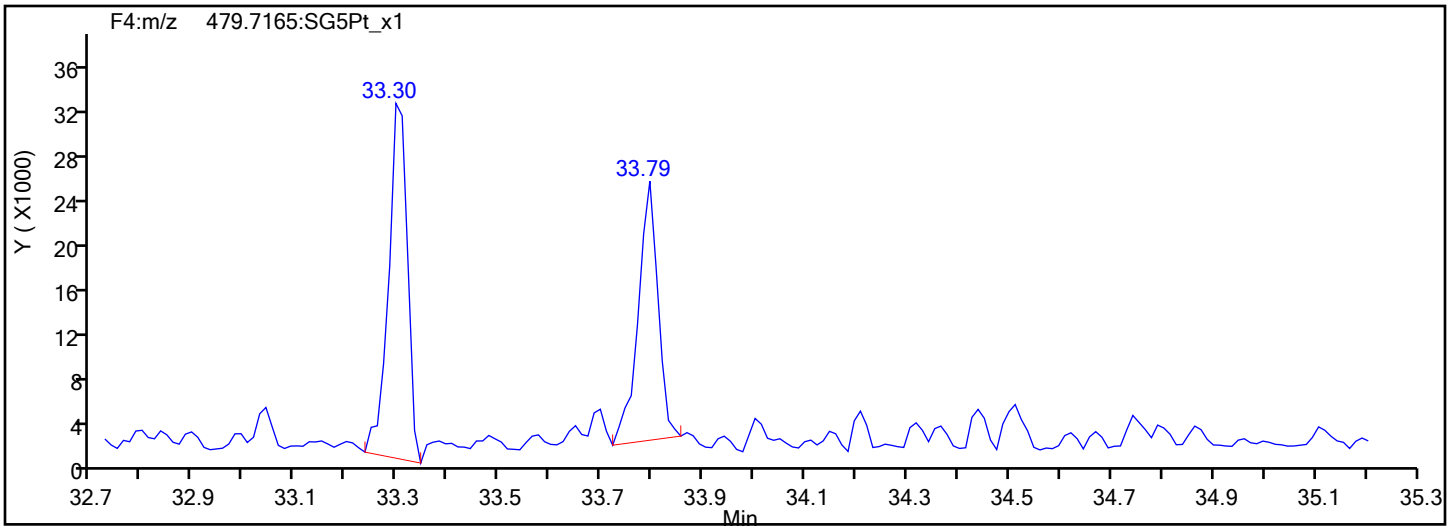

Report Date: 10-Nov-2019 09:26:53 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_10.d		
Injection Date:	06-Nov-2019 02:26:21	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4		
Worklist#:	336302	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

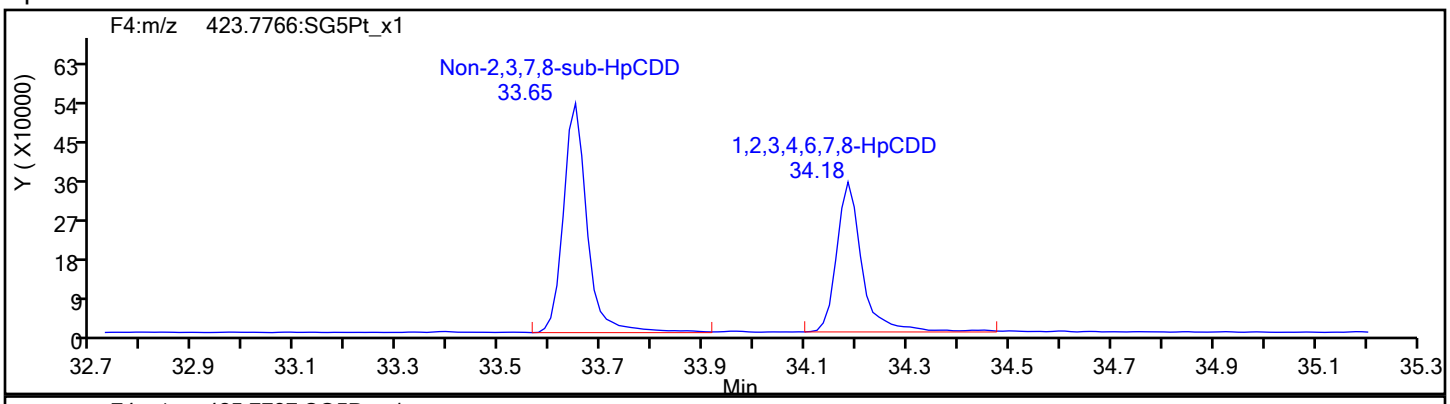

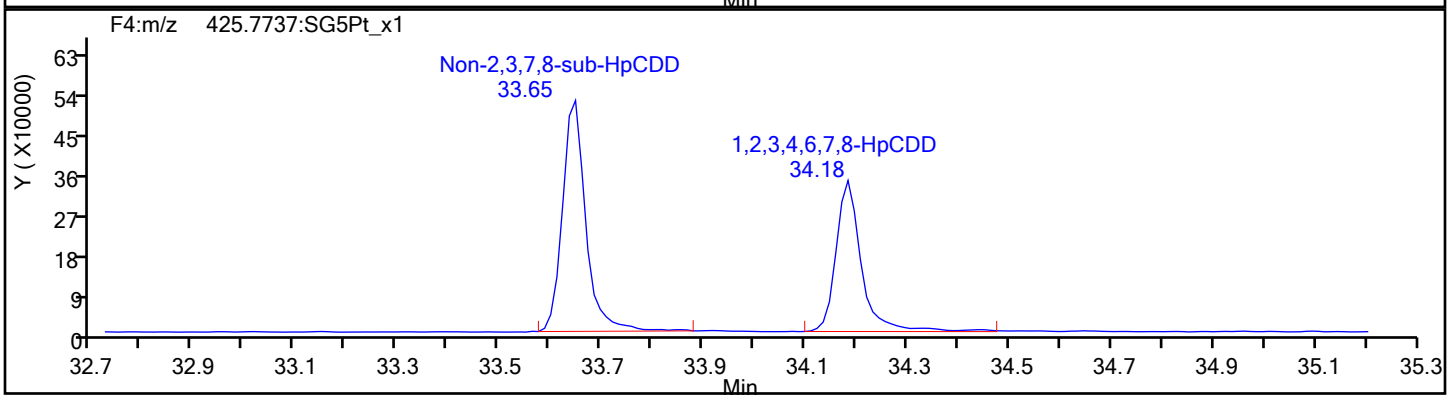

HpCDD Standards

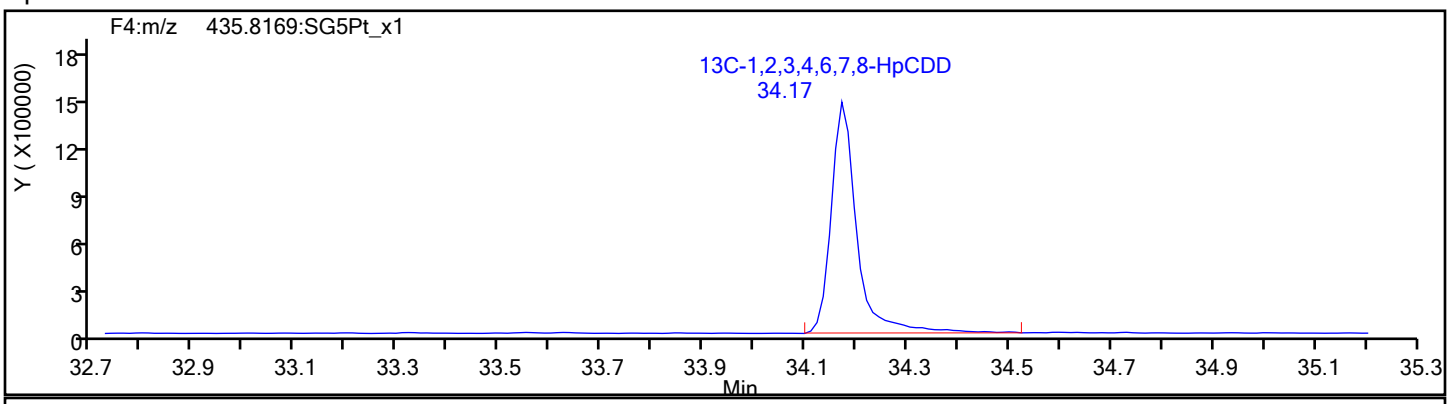

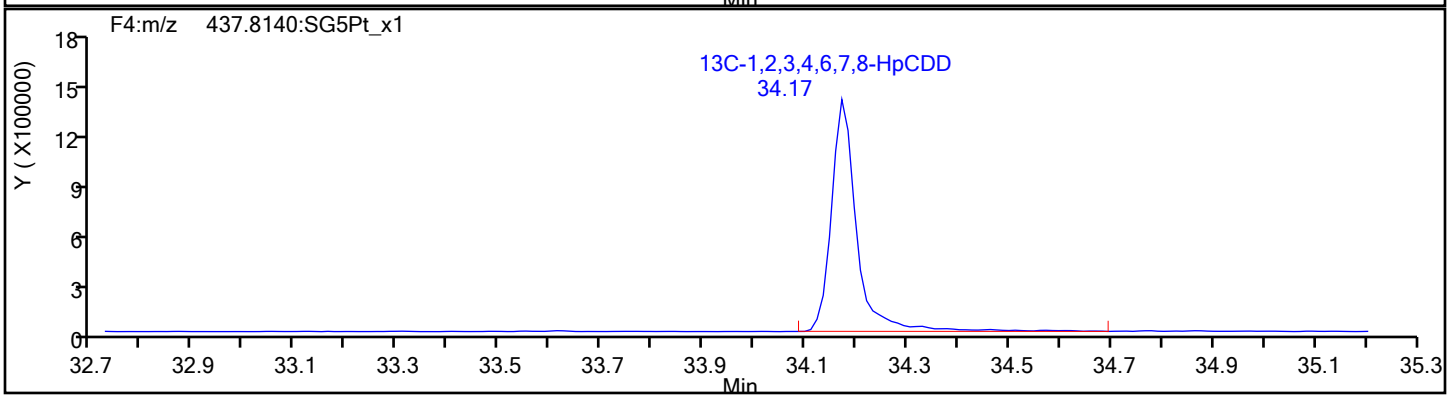

Report Date: 10-Nov-2019 09:26:53 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_10.d		
Injection Date:	06-Nov-2019 02:26:21	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4		
Worklist#:	336302	Sample Line#:	10
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OCDF

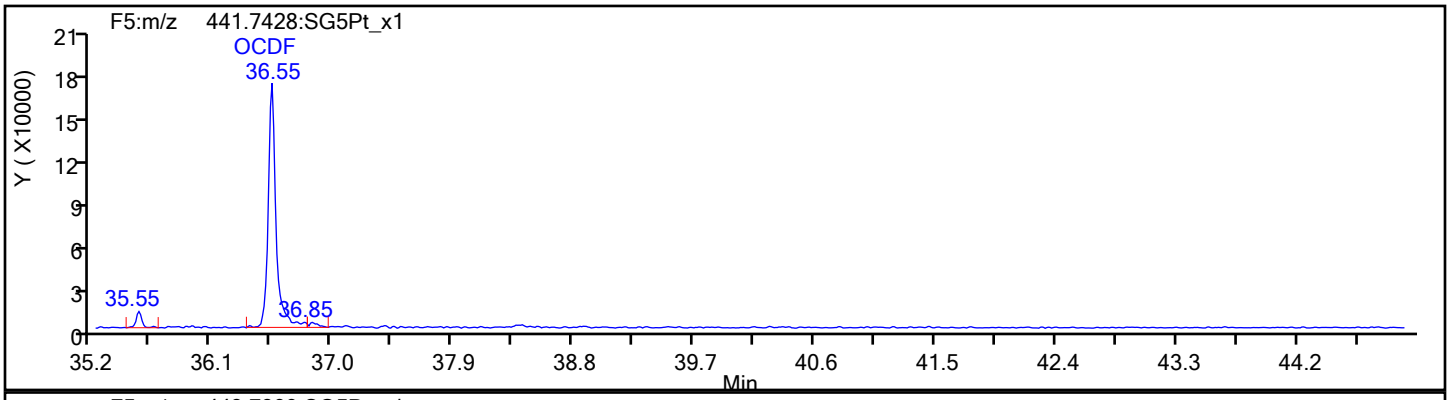

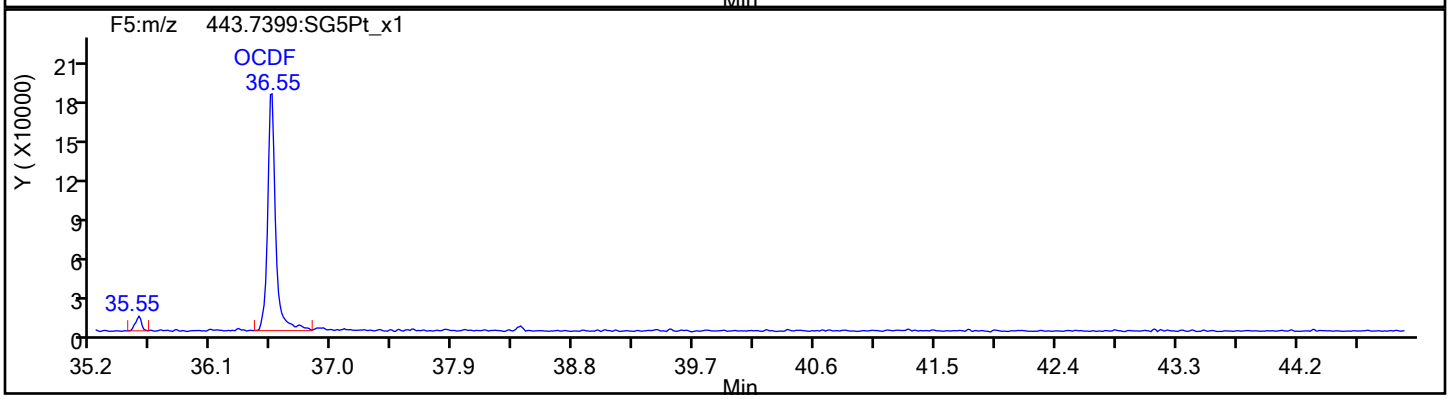

OCDF Standards

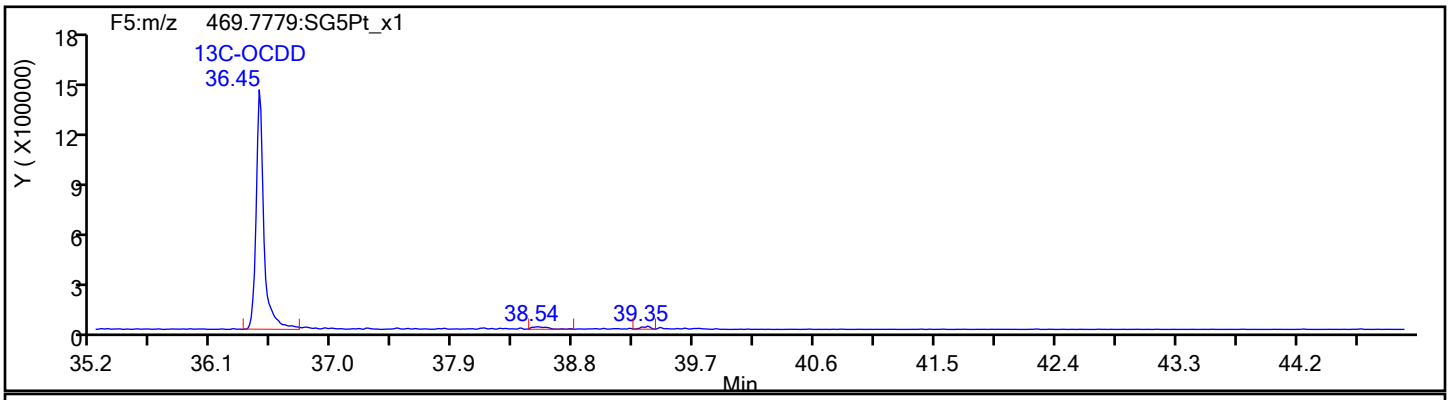

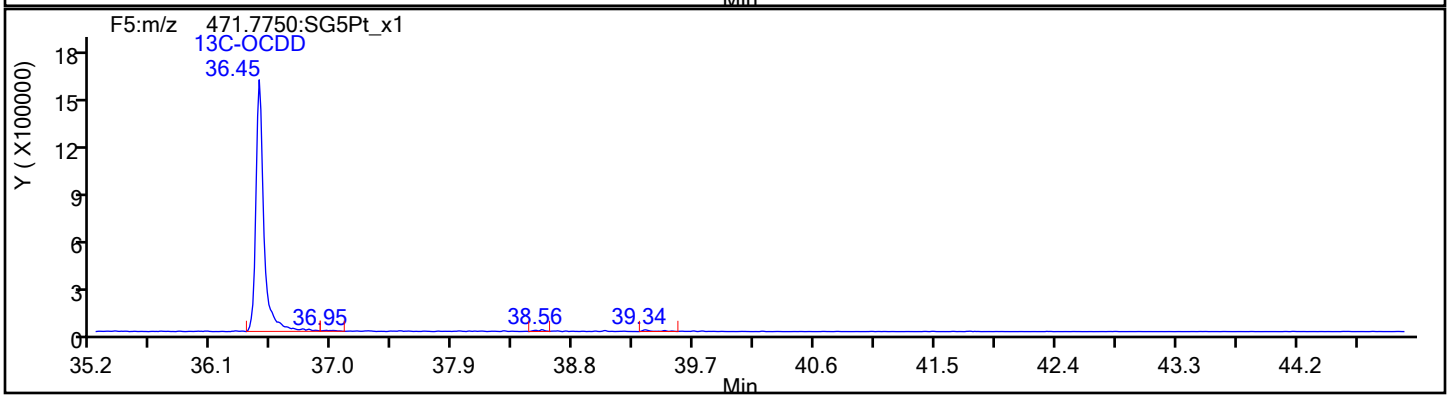

Report Date: 10-Nov-2019 09:26:53 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_10.d		
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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4		
Worklist#:	336302	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

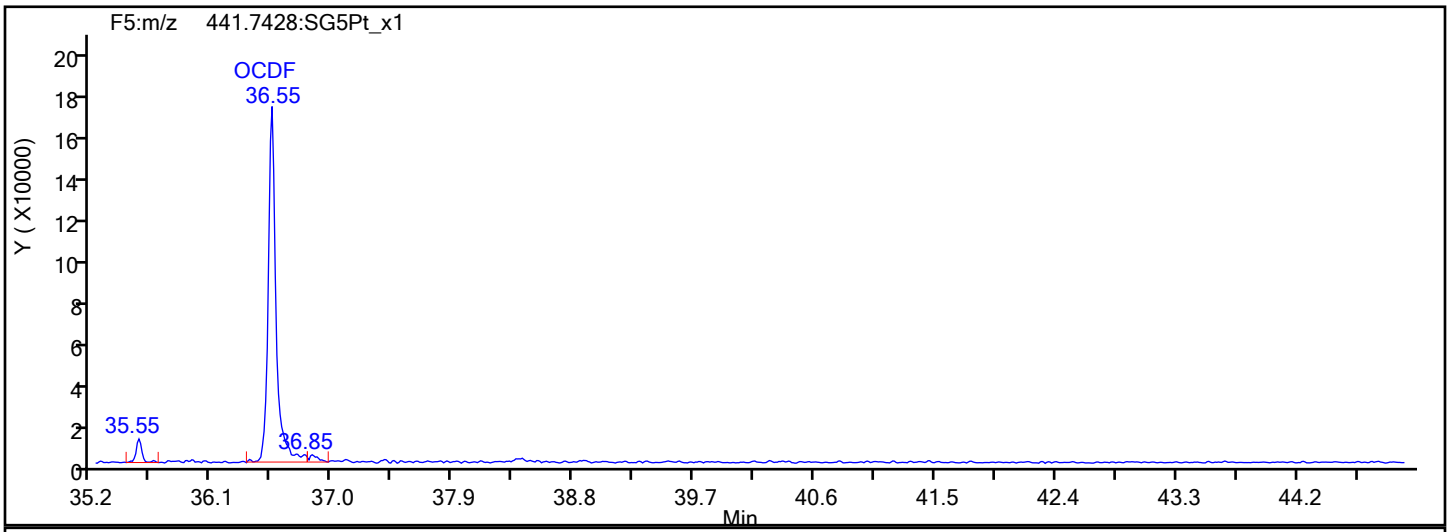

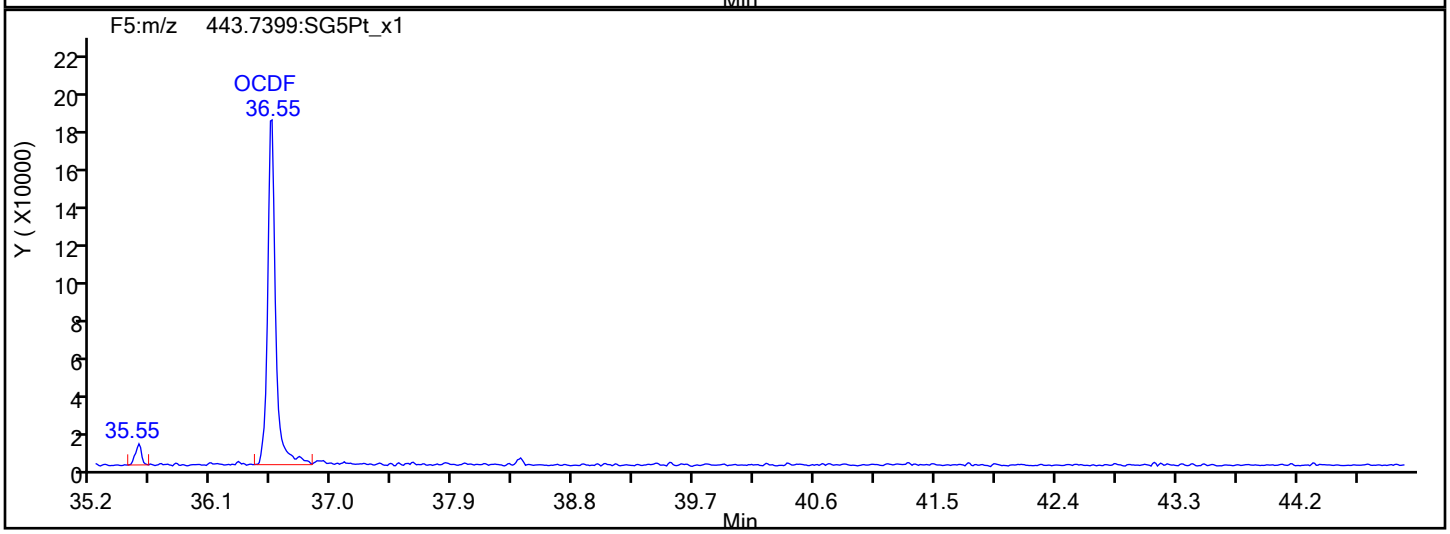

OCDF Interference Mass

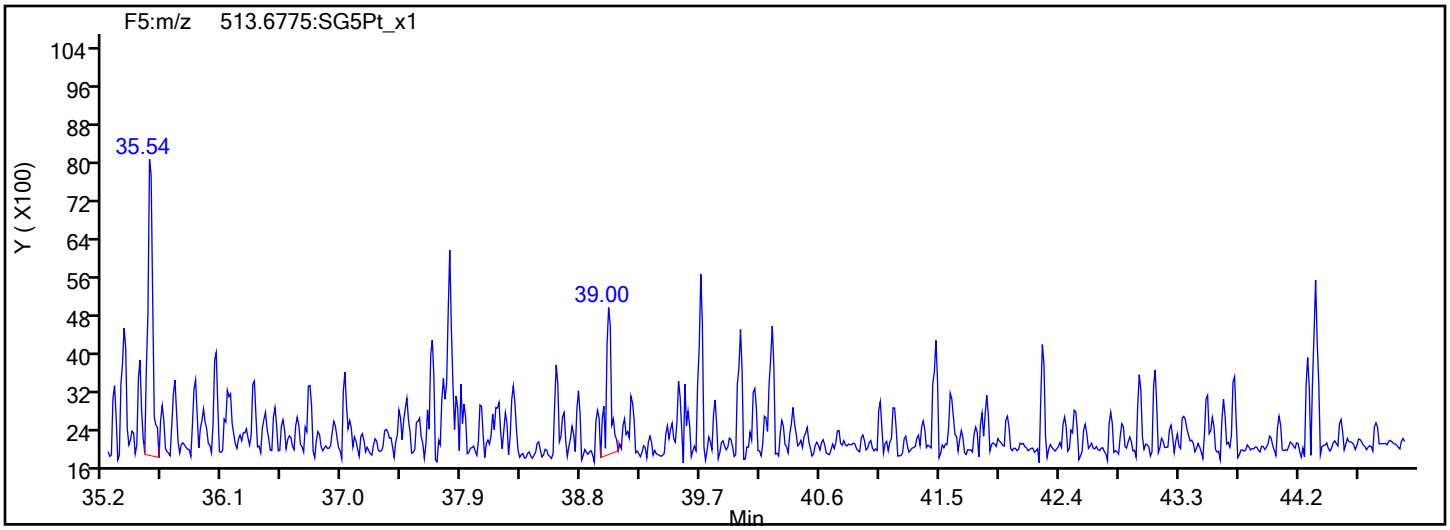

Report Date: 10-Nov-2019 09:26:53 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_10.d		
Injection Date:	06-Nov-2019 02:26:21	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4		
Worklist#:	336302	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

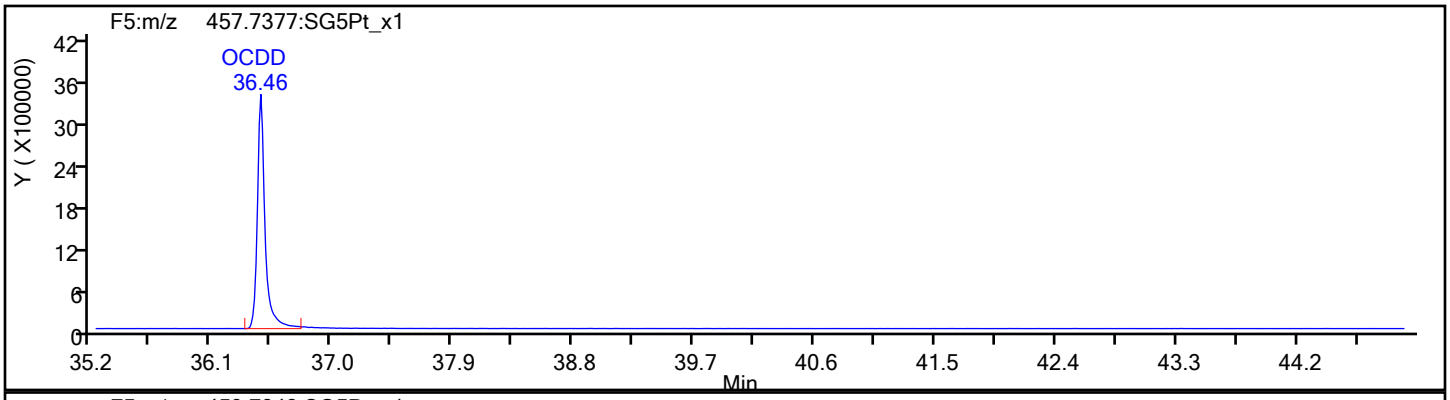

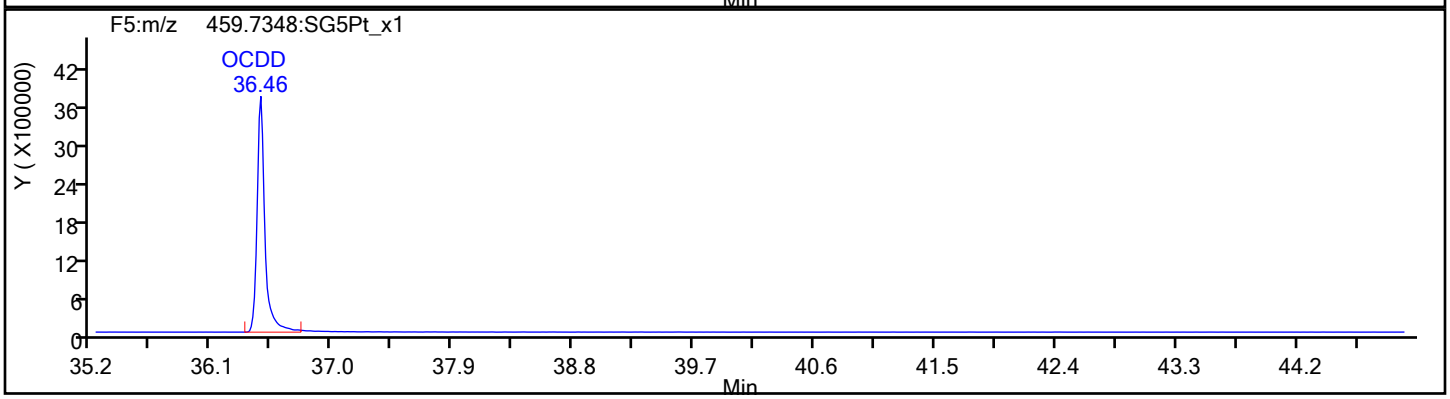

OCDD Standards

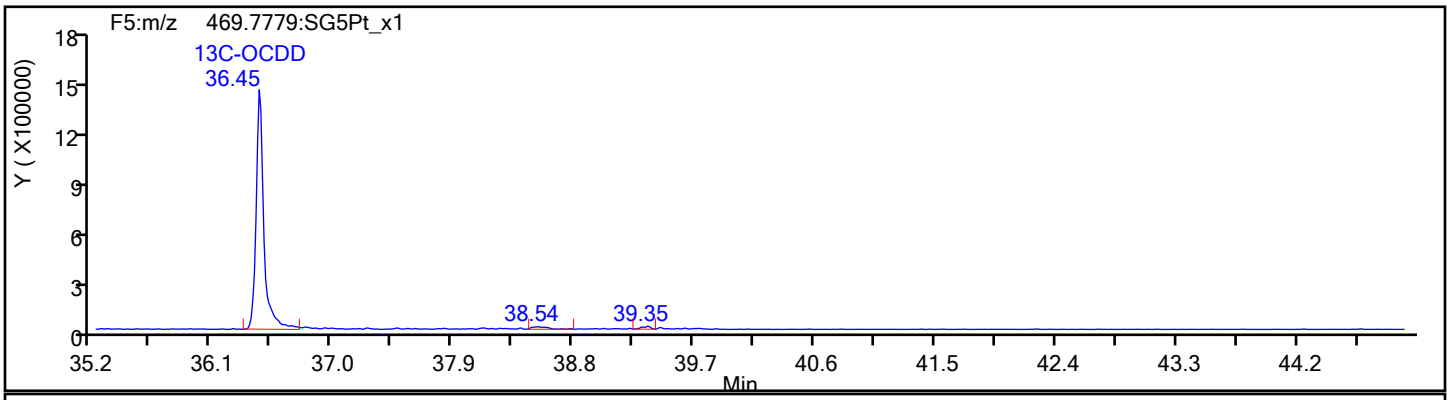

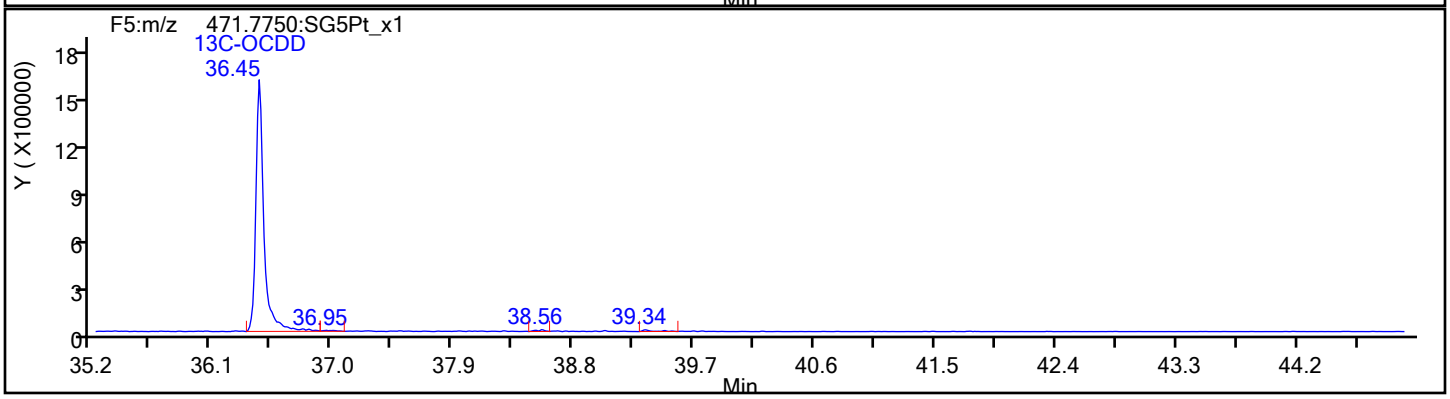

Report Date: 10-Nov-2019 09:26:53 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_10.d		
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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4		
Worklist#:	336302	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

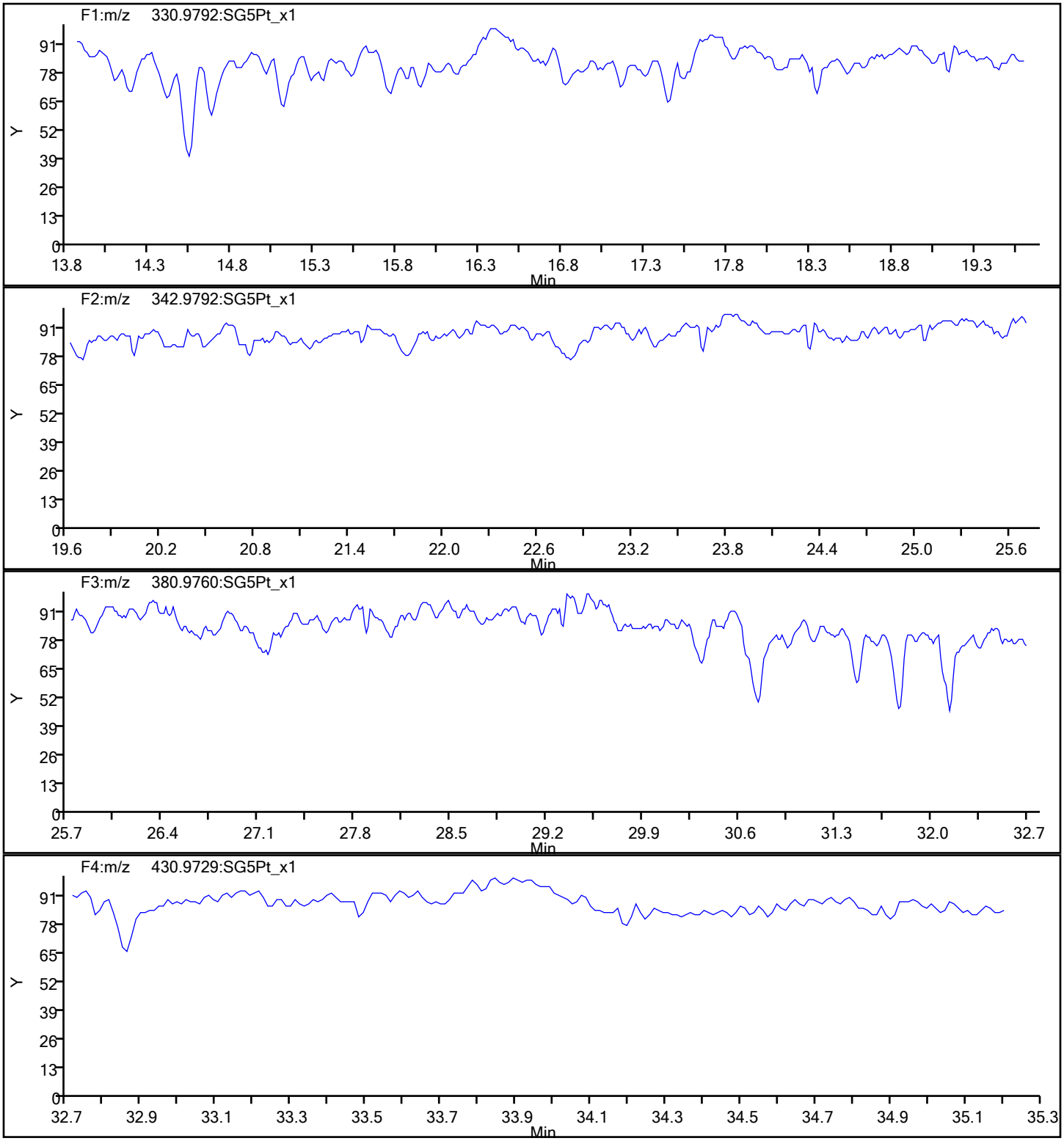

Report Date: 10-Nov-2019 09:26:53 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_10.d		
Injection Date:	06-Nov-2019 02:26:21	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4		
Worklist#:	336302	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

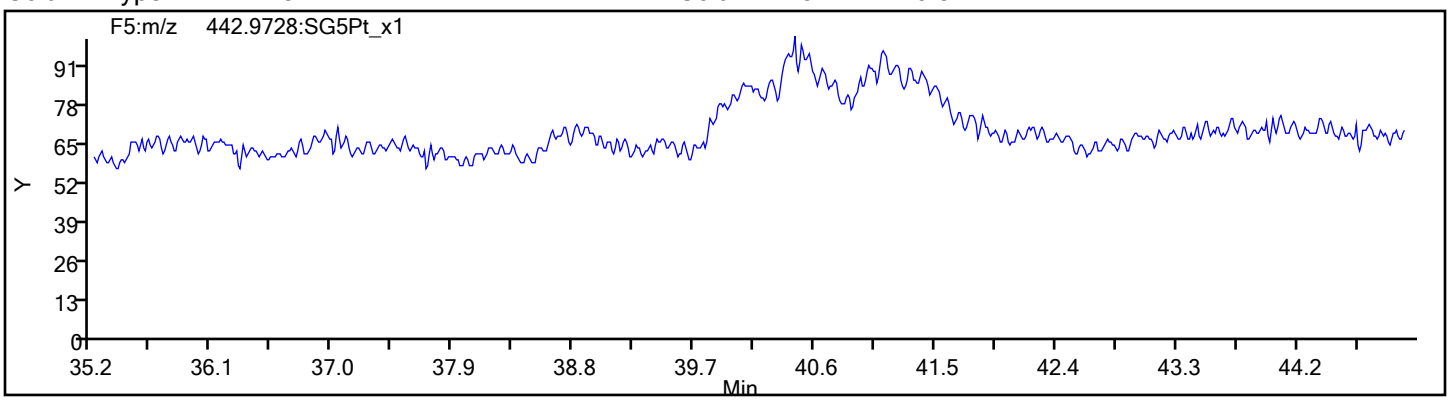

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 600-194690-1
SDG No.:
Client Sample ID: INF 4 RA
Lab Sample ID: 600-194690-10 RA
Matrix: Water
Lab File ID: 07NO19A11D2_007.d
Analysis Method: 1613B
Date Collected: 10/25/2019 20:50
Extract. Method: 1613B
Date Extracted: 11/01/2019 08:11
Sample wt/vol: 978(mL)
Date Analyzed: 11/07/2019 18:49
Con. Extract Vol.: 20(uL)
Dilution Factor: 20
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 336810
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
51207-31-9	2,3,7,8-TCDF	46000	B	200	61

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
89059-46-1	13C-2,3,7,8-TCDF	52		24-169

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	86		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_007.d
Lims ID: 600-194690-B-10-A
Client ID: INF 4
Sample Type: Client
Inject. Date: 07-Nov-2019 18:49:02 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 20.0000
Sample Info: 600-194690-B-10-A (20X)
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20191107-86281.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 08-Nov-2019 11:07:13 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0309

First Level Reviewer: stephensk Date: 08-Nov-2019 11:05:27

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.393	7460009	0.83	1.1E+06	5.000	5.000				
D 13C-2,3,7,8-TCDF	16.559	5162906	0.76	1.3379	2.586	2.586	0.3057	0.3057	51.73	
2,3,7,8-TCDF	16.586	98204548	0.79	0.8389	113.4	113.4	0.1480	0.1480		
D 13C-2,3,7,8-TCDD	15.105	1836712	0.83	0.9388	1.311	1.311	0.5648	0.5648	26.23	M
2,3,7,8-TCDD	15.132	17773240	0.74	1.1538	41.9	41.9	0.2577	0.2577		
$ 37Cl4-2,3,7,8-TCDD	15.118	3018257		1.1816	1.712	1.712	0.0501	0.0501	85.60	
S Total 2378-Chlorinated							0.000100	0.000100		

QC Flag Legend

Review Flags
M - Manually Integrated

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_007.d
Lims ID: 600-194690-B-10-A
Client ID: INF 4
Sample Type: Client
Inject. Date: 07-Nov-2019 18:49:02 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 20.0000
Sample Info: 600-194690-B-10-A (20X)
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20191107-86281.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 08-Nov-2019 11:07:13 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0309

First Level Reviewer: stephensk Date: 08-Nov-2019 11:05:27

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.393	15.378	1		3375191	753327	39374	98435	19		
333.9339	15.393	15.378	1		4084818	936979	32331	80827	29	0.83(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.559	16.560	0	1.076	2228932	467393	30387	75967	15		
317.9389	16.559	16.560	0	1.076	2933974	544648	24927	62317	22	0.76(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.586	16.571	1	1.002	43284063	9308425	4333	10832	2148		
305.8987	16.586	16.571	1	1.002	54920485	11625509	5719	14297	2033	0.79(0.65-0.89)	
13C-2,3,7,8-TCDD											M
331.9368	15.105	15.092	0	0.981	830777	220984	39374	98435	6		M
333.9339	15.105	15.092	0	0.981	1005935	212431	32331	80827	7	0.83(0.65-0.89)	M
2,3,7,8-TCDD											
319.8965	15.132	15.117	1	1.002	7584798	1771548	5449	13622	325		
321.8936	15.118	15.117	0	1.001	10188442	2404706	4860	12150	495	0.74(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.118	15.117	0	0.982	3018257	670381	8009	20022	84		

Total 2378-Chlorinated Dioxins & Furans
0.0 0

QC Flag Legend

Review Flags
M - Manually Integrated

Report Date: 08-Nov-2019 11:07:42 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_007.d		
Injection Date:	07-Nov-2019 18:49:02	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4		
Worklist#:	336810	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

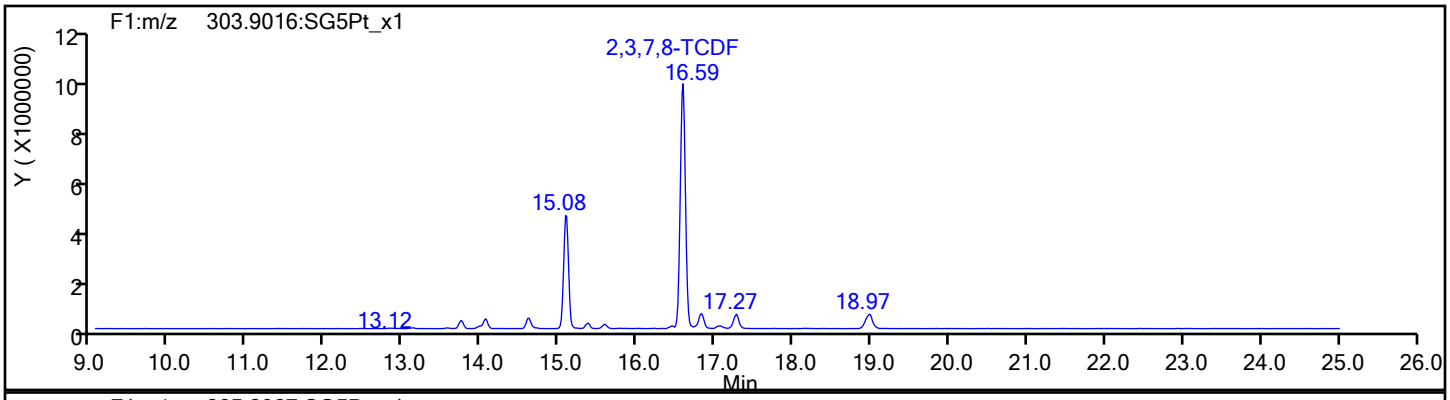

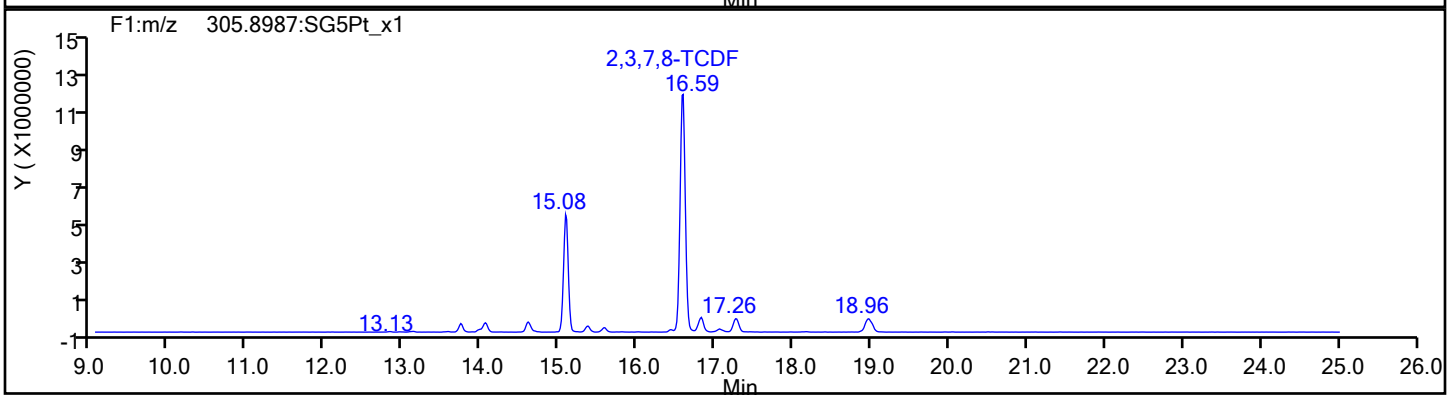

TCDF Standards

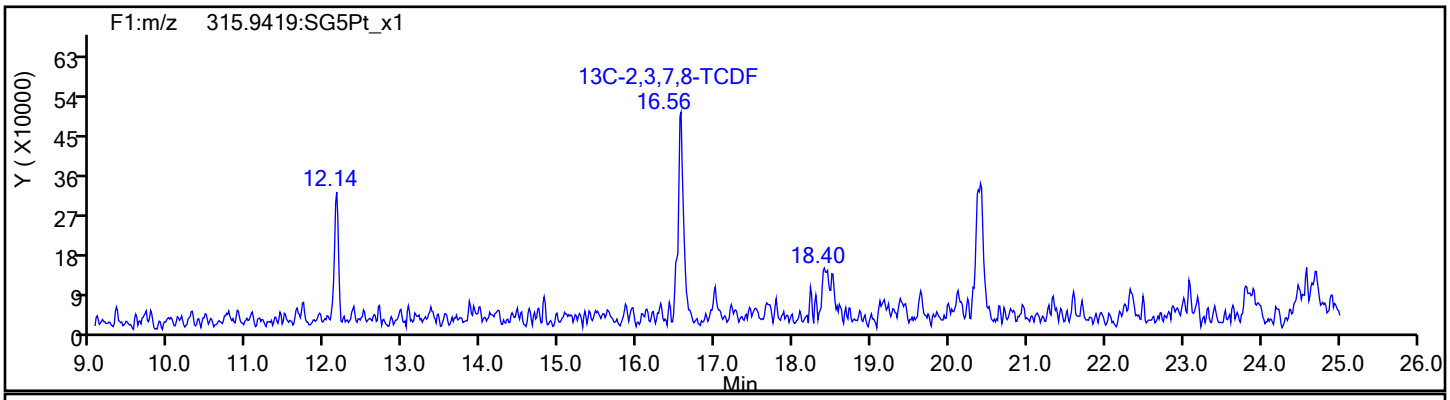

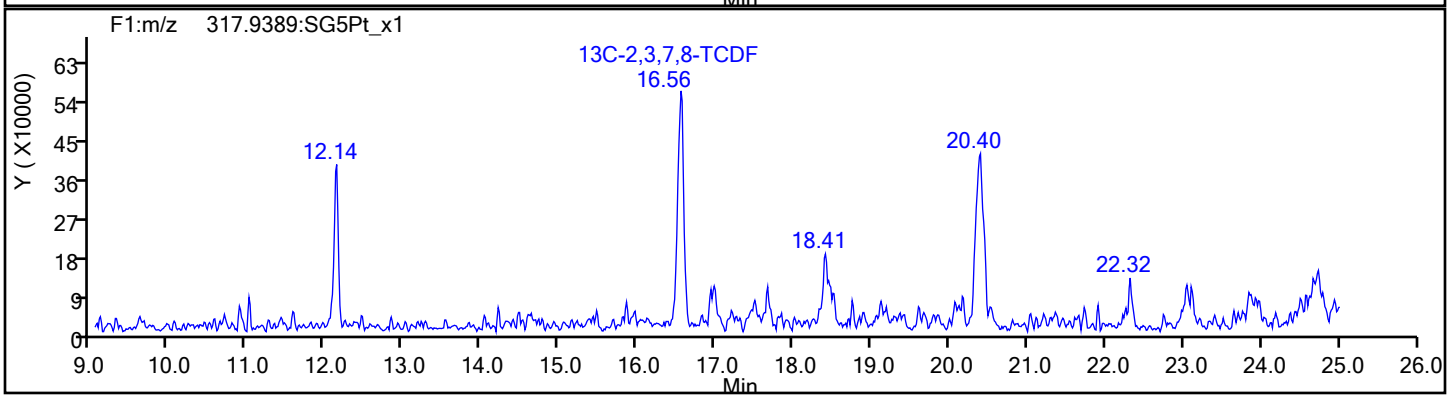

Report Date: 08-Nov-2019 11:07:42 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_007.d		
Injection Date:	07-Nov-2019 18:49:02	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4		
Worklist#:	336810	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

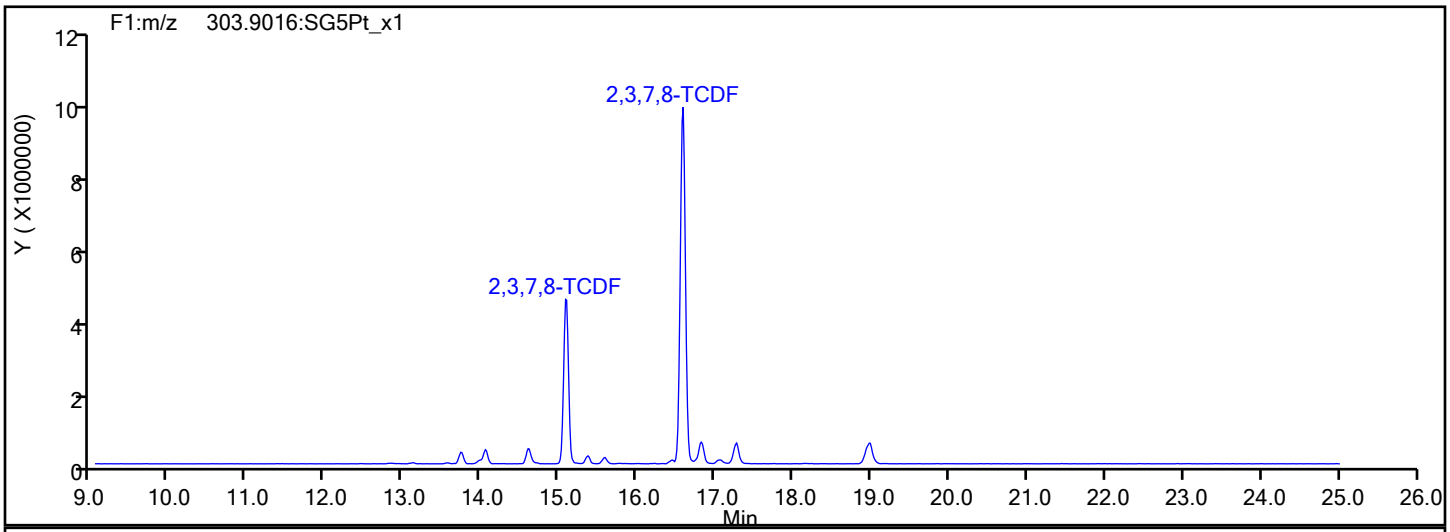

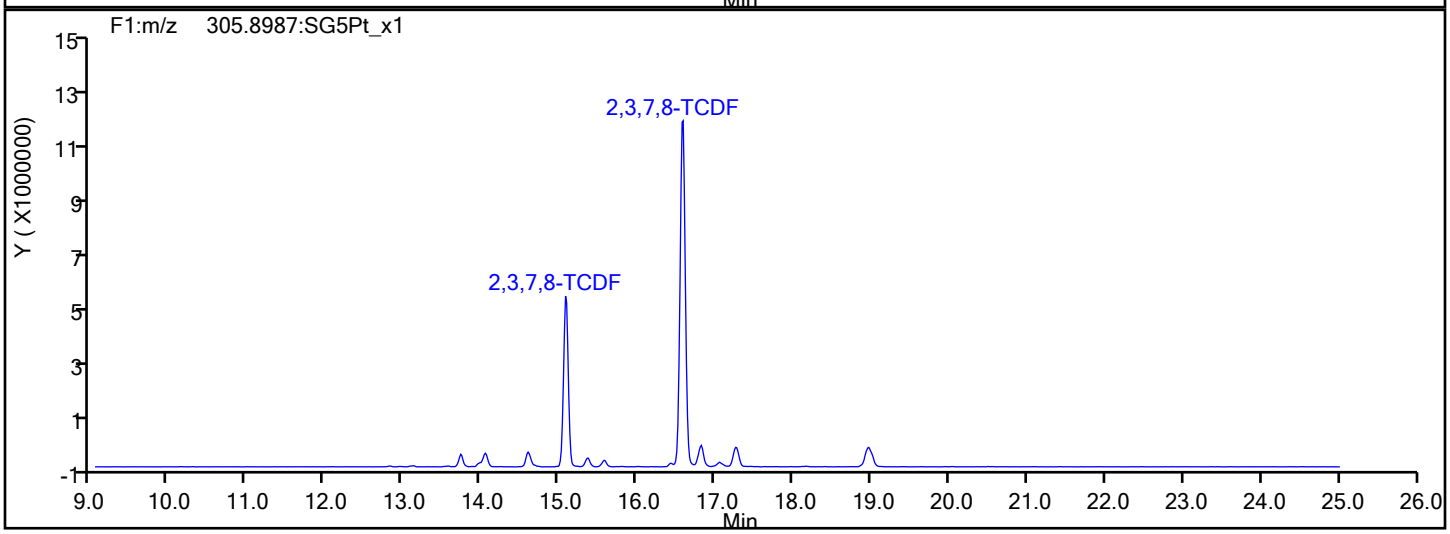

TCDF Interference Mass

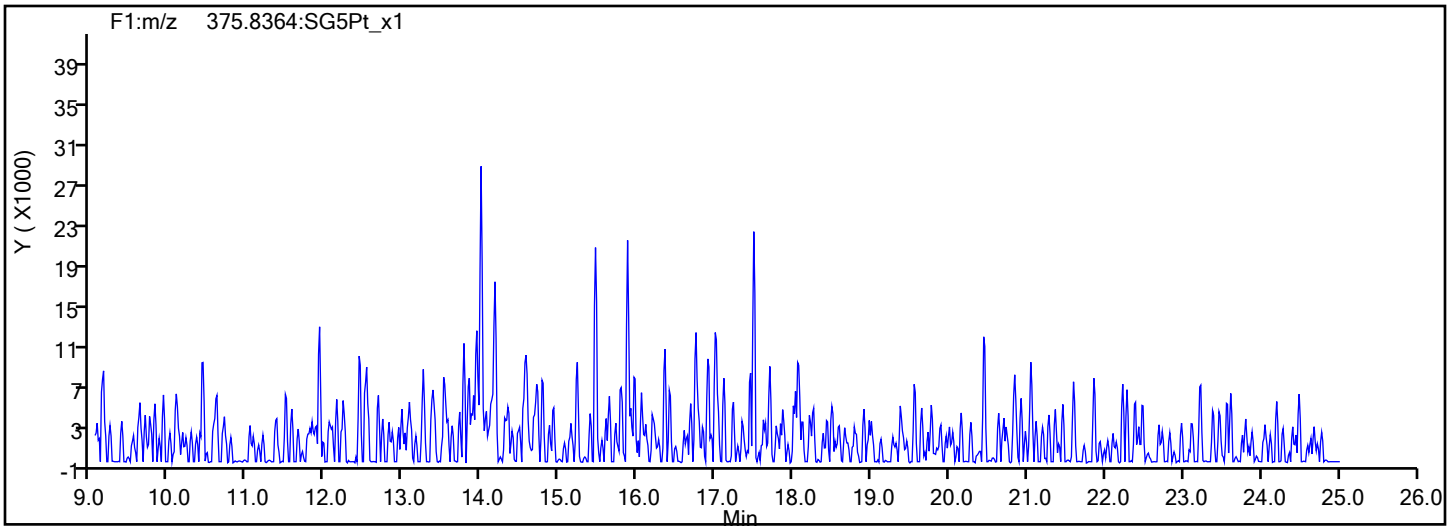

Report Date: 08-Nov-2019 11:07:42 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_007.d		
Injection Date:	07-Nov-2019 18:49:02	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4		
Worklist#:	336810	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

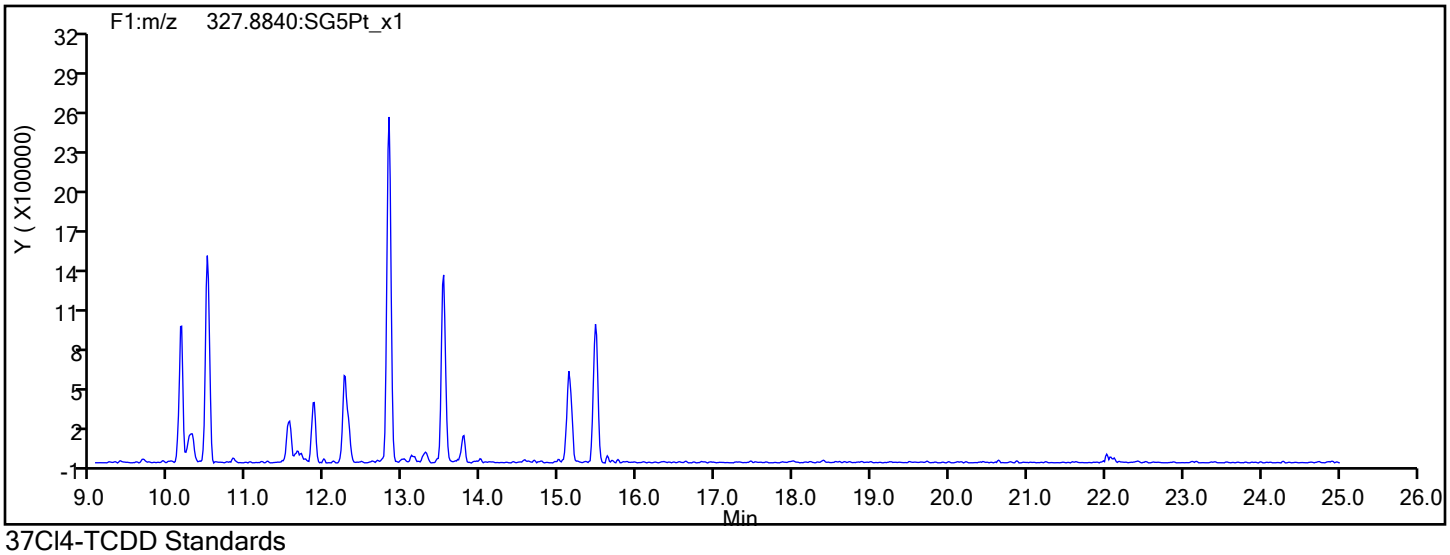

37Cl4-TCDD Standards

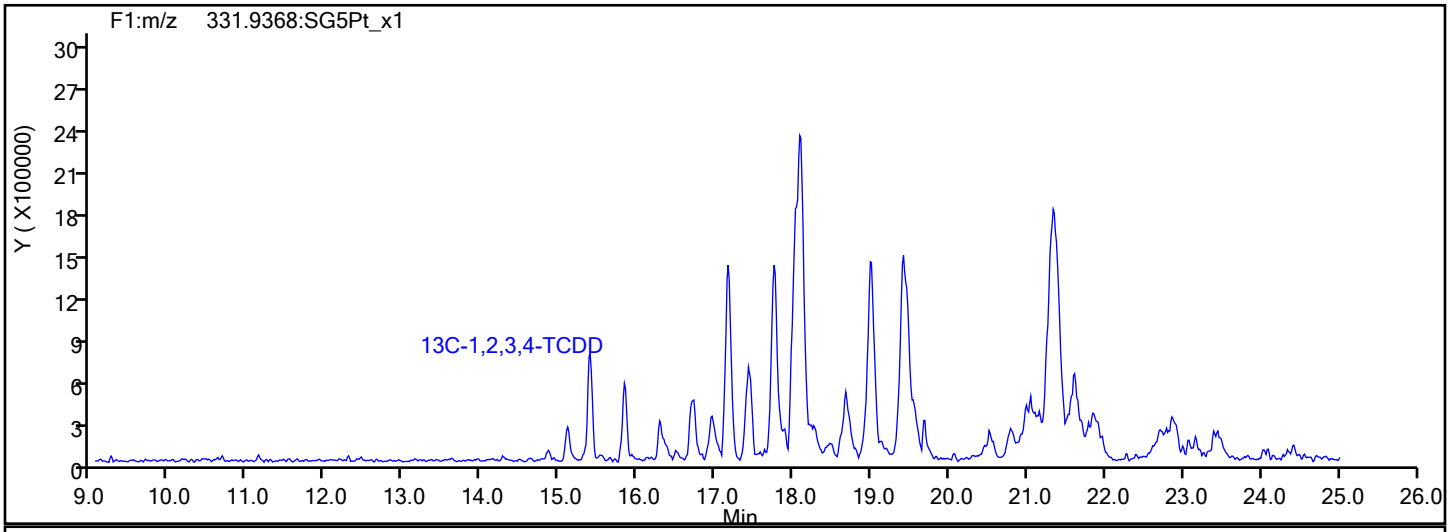

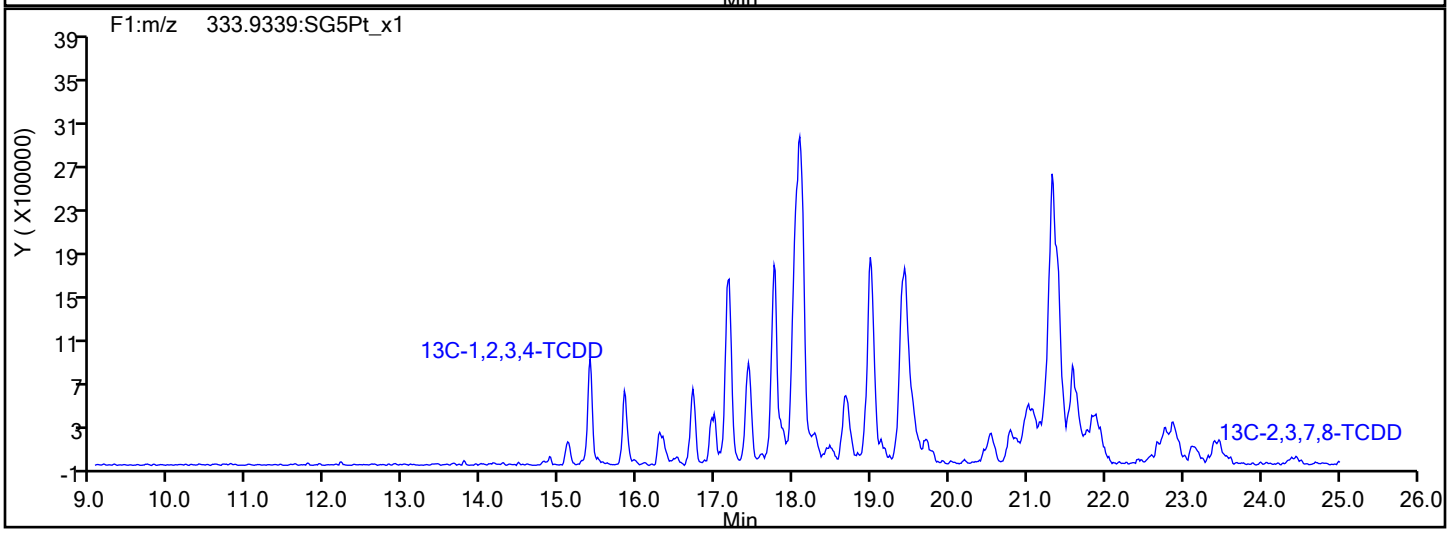

Report Date: 08-Nov-2019 11:07:42 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_007.d		
Injection Date:	07-Nov-2019 18:49:02	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4		
Worklist#:	336810	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

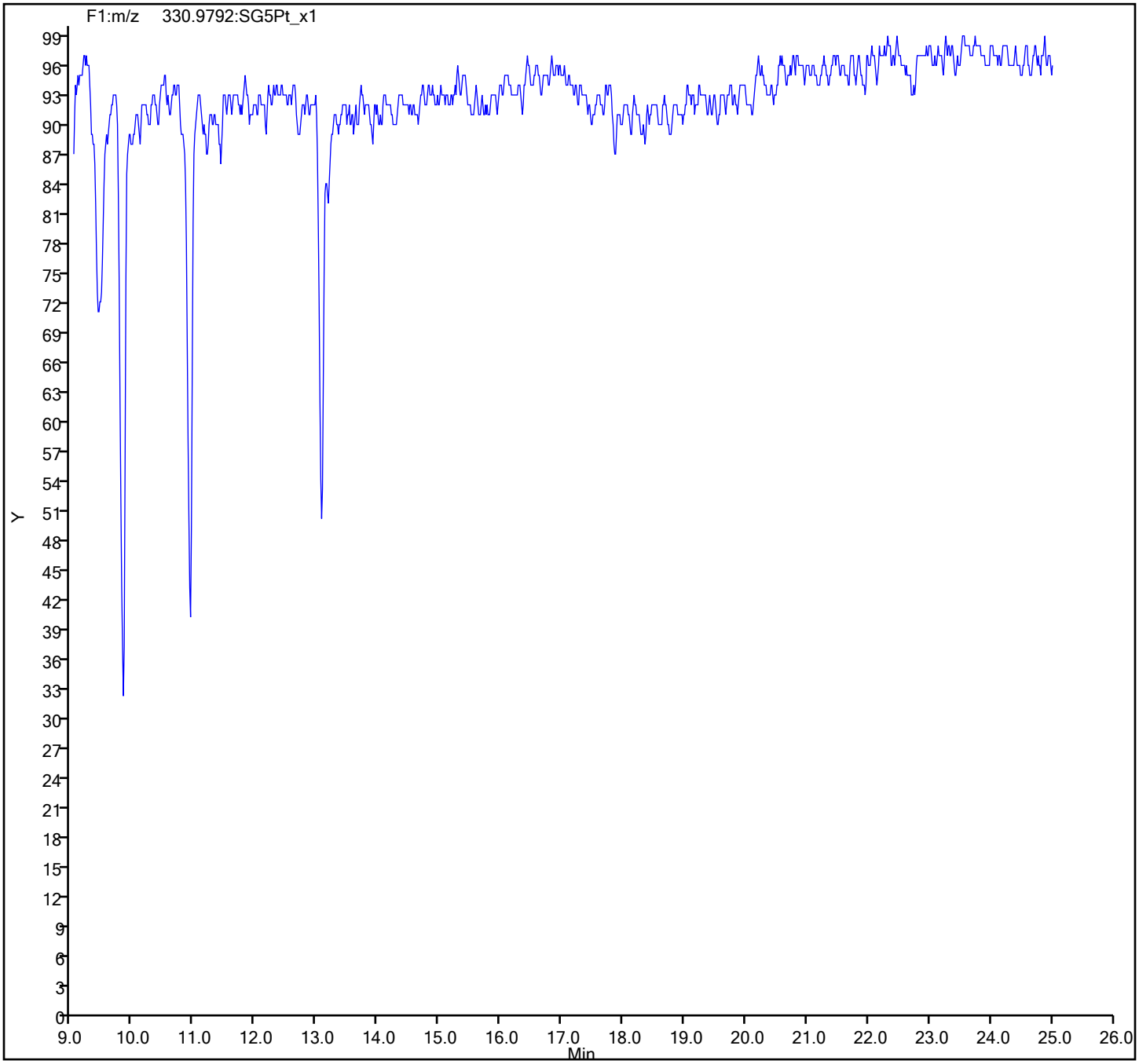

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Client Sample ID: INF 4 DL Lab Sample ID: 600-194690-10 DL

Matrix: Water Lab File ID: 07no19adfs1_10.d

Analysis Method: 1613B Date Collected: 10/25/2019 20:50

Extract. Method: 1613B Date Extracted: 11/01/2019 08:11

Sample wt/vol: 978(mL) Date Analyzed: 11/07/2019 22:29

Con. Extract Vol.: 20(uL) Dilution Factor: 20

Injection Volume: 1(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 336838 Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	15000		200	73
41903-57-5	Total TCDD	16000		200	73

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	32		25-164

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	92		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_10.d
Lims ID: 600-194690-B-10-A
Client ID: INF 4
Sample Type: Client
Inject. Date: 07-Nov-2019 22:29:00 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 20.0000
Sample Info: 600-194690-B-10-A (20x)
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\Dioxin_DFS1.m
Limit Group: HR - 1613B - ICAL
Last Update: 11-Nov-2019 10:32:54 Calib Date: 19-Oct-2019 00:02:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.07 :22.11)
Process Host: CTX0323

First Level Reviewer: shardaa Date: 08-Nov-2019 13:16:45

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	20.354	233852	0.83	5.2E+04	5.000	5.000				
D 13C-2,3,7,8-TCDF	19.412	137279	0.81	1.6096	1.824	1.824	0.2195	0.2195	36.47	
2,3,7,8-TCDF	19.438	3140854	0.73	1.2332	92.8	92.8	0.2205	0.2205		
A Non-2,3,7,8-sub-TCDF	19.029	2290620	0.71	1.2332	67.7	67.7	0.2205	38.1		
S Total TCDF					160.4	160.4	0.2205	0.2205		
D 13C-2,3,7,8-TCDD	20.734	74131	0.76	0.9984	1.588	1.588	0.1845	0.1845	31.75	
2,3,7,8-TCDD	20.760	636416	0.77	1.1988	35.8	35.8	0.1782	0.1782		
$ 37Cl4-2,3,7,8-TCDD	20.751	124300		1.4510	1.832	1.832	0.0279	0.0279	91.58	
A Non-2,3,7,8-sub-TCDD	19.859	68311	0.75	1.1988	3.843	3.843	0.1782	3.386		
S Total TCDD					39.6	39.6	0.1782	0.1782		
D 13C-1,2,3,7,8-PeCDF	26.499	91549	1.59	1.3678	1.431	1.431	0.0155	0.0155	28.62	
1,2,3,7,8-PeCDF	26.516	86251	1.53	1.1689	4.030	4.030	0.0836	0.0836		M
D 13C-2,3,4,7,8-PeCDF	27.958	88114	1.58	1.3045	1.444	1.444	0.0162	0.0162	28.88	
2,3,4,7,8-PeCDF	27.992	47221	1.68	1.1861	2.259	2.259	0.0815	0.0815		
A F1 PeCDFs	23.991						0.0346	0.0346		
A Non-2,3,7,8-sub-PeCDF	27.400	69698	1.63	1.1775	3.295	3.295	0.0825	1.287		Ma
S Total PeCDF					9.584	9.584	0.0826	0.0826		
D 13C-1,2,3,7,8-PeCDD	28.738	50953	1.72	0.8292	1.314	1.314	0.0307	0.0307	26.28	
1,2,3,7,8-PeCDD	28.752						0.1085	0.1085		
A Non-2,3,7,8-sub-PeCDD	27.590						0.1085	0.1085		
S Total PeCDD							0.1085	0.1085		
D 13C-1,2,3,4,7,8-HxCDF	34.330	59753	0.51	1.1700	1.114	1.114	0.0208	0.0208	22.28	
1,2,3,4,7,8-HxCDF	34.363	89915	1.22	1.3021	5.778	5.778	0.0908	0.0908		
D 13C-1,2,3,6,7,8-HxCDF	34.531	66669	0.57	1.3168	1.105	1.105	0.0184	0.0184	22.09	
1,2,3,6,7,8-HxCDF	34.531	23375	1.22	1.2907	1.358	1.358	0.0797	0.0797		
D 13C-2,3,4,6,7,8-HxCDF	35.395	69925	0.47	1.2873	1.185	1.185	0.0189	0.0189	23.70	
2,3,4,6,7,8-HxCDF	35.420	3561	1.41	1.3039	0.1953	0.1953	0.0646	0.0646		
D 13C-1,2,3,7,8,9-HxCDF	36.351	66470	0.51	1.1987	1.210	1.210	0.0203	0.0203	24.19	
1,2,3,7,8,9-HxCDF	36.468						0.0612	0.0612		U
A Non-2,3,7,8-sub-HxCDF	34.417						0.0723	0.3126		U
S Total HxCDF					7.332	7.332	0.0741	0.0741		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	36.149	229179	1.23	5.8E+04	5.000	5.000				
D 13C-1,2,3,4,7,8-HxCDD	35.630	46229	1.32	0.8364	1.206	1.206	0.0473	0.0473	24.12	
1,2,3,4,7,8-HxCDD	35.643						0.0749	0.0749		
D 13C-1,2,3,6,7,8-HxCDD	35.772	45078	1.20	0.9040	1.088	1.088	0.0438	0.0438	21.76	
1,2,3,6,7,8-HxCDD	35.761						0.0862	0.0862		
1,2,3,7,8,9-HxCDD	36.147						0.0748	0.0748		
A Non-2,3,7,8-sub-HxCDD	34.853						0.0783	0.0783		
S Total HxCDD							0.0862	0.0862		
D 13C-1,2,3,4,6,7,8-HpCDF	38.224	45176	0.47	0.9689	1.017	1.017	0.0815	0.0815	20.35	
1,2,3,4,6,7,8-HpCDF	38.232	18065	0.88	1.6176	1.236	1.236	0.0857	0.0857		M
D 13C-1,2,3,4,7,8,9-HpCDF	39.507	55058	0.42	0.9231	1.301	1.301	0.0855	0.0855	26.03	
1,2,3,4,7,8,9-HpCDF	39.507	8465	1.17	1.4672	0.5239	0.5239	0.0643	0.0643		
A Non-2,3,7,8-sub-HpCDF	38.871	10606	0.89	1.5424	0.6860	0.6860	0.0728	0.6860		
S Total HpCDF					2.446	2.446	0.0750	0.0750		
D 13C-1,2,3,4,6,7,8-HpCDD	39.197	49952	1.09	0.9114	1.196	1.196	0.0269	0.0269	23.91	
1,2,3,4,6,7,8-HpCDD	39.205	14371	1.14	1.1237	1.280	1.280	0.0457	0.0457		
A Non-2,3,7,8-sub-HpCDD	39.134	19393	1.00	1.1237	1.727	1.727	0.0457	1.727		a
S Total HpCDD					3.008	3.008	0.0457	0.0457		
D 13C-OCDD	41.634	73338	1.02	0.6272	2.551	2.551	0.0846	0.0846	25.51	
OCDF	41.727	9297	0.89	1.5416	0.9890	0.8223	0.1067	0.1067		RQ
OCDD	41.642	168626	0.89	1.1855	19.4	19.4	0.1228	0.1228		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_10.d
Lims ID: 600-194690-B-10-A
Client ID: INF 4
Sample Type: Client
Inject. Date: 07-Nov-2019 22:29:00 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 20.0000
Sample Info: 600-194690-B-10-A (20x)
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\Dioxin_DFS1.m
Limit Group: HR - 1613B - ICAL
Last Update: 11-Nov-2019 10:32:54 Calib Date: 19-Oct-2019 00:02:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.07 :22.11)
Process Host: CTX0323

First Level Reviewer: shardaa Date: 08-Nov-2019 13:16:45

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	20.354	20.333	1		105887	17882	487	1217	37		
333.9338	20.354	20.333	1		127965	20392	77	192	265	0.83(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.412	19.392	1	0.954	61356	10029	798	1995	13		
317.9389	19.420	19.392	2	0.954	75923	12675	284	710	45	0.81(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	19.438	19.495	-3	1.001	1323830	195498	290	725	674		
305.8987	19.446	19.495	-3	1.002	1817024	269070	204	510	1319	0.73(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.009	19.029	-121	0.876	36660	6644	290	725	23		
305.8987	17.000	19.029	-121	0.876	55643	10308	204	510	51	0.66(0.65-0.89)	
303.9016	17.467	19.029	-94	0.900	50279	6707	290	725	23		
305.8987	17.476	19.029	-93	0.900	70494	9306	204	510	46	0.71(0.65-0.89)	
303.9016	17.882	19.029	-69	0.921	38735	5348	290	725	18		
305.8987	17.882	19.029	-69	0.921	55387	7274	204	510	36	0.70(0.65-0.89)	
303.9016	18.262	19.029	-46	0.941	55515	8014	290	725	28		
305.8987	18.254	19.029	-46	0.940	78673	12232	204	510	60	0.71(0.65-0.89)	
303.9016	18.755	19.029	-16	0.966	545925	90451	290	725	312		
305.8987	18.746	19.029	-17	0.966	745502	123305	204	510	604	0.73(0.65-0.89)	
303.9016	19.135	19.029	6	0.986	23102	4166	290	725	14		
305.8987	19.135	19.029	6	0.986	34343	5332	204	510	26	0.67(0.65-0.89)	
303.9016	20.207	19.029	71	1.041	82804	13053	290	725	45		
305.8987	20.215	19.029	71	1.041	115043	17349	204	510	85	0.72(0.65-0.89)	
303.9016	20.622	19.029	95	1.062	18372	2701	290	725	9		
305.8987	20.630	19.029	96	1.063	28116	3903	204	510	19	0.65(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
303.9016	22.678	19.029	219	1.168	103403	14401	290	725	50		
305.8987	22.661	19.029	218	1.167	152624	19851	204	510	97	0.68(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	20.734	20.696	2	1.019	32121	4511	487	1217	9		
333.9338	20.751	20.696	3	1.020	42010	7190	77	192	93	0.76(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	20.760	20.783	-1	1.001	276430	41409	144	360	288		
321.8936	20.751	20.783	-2	1.001	359986	54435	56	140	972	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	20.751	20.788	-2	1.020	124300	18293	124	310	148		
A Non-2,3,7,8-sub-TCDD											
319.8965	20.570	19.859	43	0.992	3601	744	144	360	5		
321.8936	20.552	19.859	42	0.991	4523	854	56	140	15	0.80(0.65-0.89)	
319.8965	21.417	19.859	93	1.033	25743	3912	144	360	27		
321.8936	21.408	19.859	93	1.033	34444	5318	56	140	95	0.75(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	26.499	26.471	2	1.302	56200	10178	21	52	485		
353.8970	26.499	26.471	2	1.302	35349	6288	44	110	143	1.59(1.32-1.78)	
1,2,3,7,8-PeCDF											M
339.8597	26.516	26.488	2	1.001	52104	9367	40	100	234		
341.8567	26.516	26.488	2	1.001	34147	5963	89	222	67	1.53(1.32-1.78)	M
13C-2,3,4,7,8-PeCDF											
351.9000	27.958	27.939	1	1.374	53989	9814	21	52	467		
353.8970	27.967	27.939	2	1.374	34125	6850	44	110	156	1.58(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	27.992	27.964	2	1.001	29579	4623	40	100	116		
341.8567	27.983	27.964	1	1.001	17642	2926	89	222	33	1.68(1.32-1.78)	
A F1 PeCDFs											
339.8597	23.991						3	7			
341.8567	23.991						51	127			
A Non-2,3,7,8-sub-PeCDF											Ma
339.8597	25.081	27.400	-139	0.946	16755	3222	40	100	81		
341.8567	25.081	27.400	-139	0.946	10475	2003	89	222	23	1.60(1.32-1.78)	
339.8597	26.373	27.400	-61	0.995	3499	946	40	100	24		M
341.8567	26.398	27.400	-60	0.996	2050	604	89	222	7	1.71(1.32-1.78)	
339.8597	27.078	27.400	-19	1.022	13484	2371	40	100	59		
341.8567	27.103	27.400	-18	1.023	8320	1365	89	222	15	1.62(1.32-1.78)	
339.8597	28.319	27.400	55	1.069	9430	1570	40	100	39		
341.8567	28.302	27.400	54	1.068	5685	947	89	222	11	1.66(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	28.738	28.727	1	1.412	32253	6025	46	115	131		
369.8919	28.730	28.727	0	1.412	18700	3106	32	80	97	1.72(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	28.752						62	155			
357.8516	28.752						27	67			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-PeCDD											
355.8546	27.590						62	155			
357.8516	27.590						27	67			
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.330	34.326	0	0.950	20209	4255	35	87	122		
385.8610	34.338	34.326	1	0.950	39544	8087	86	215	94	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.363	34.343	1	1.001	49486	10690	68	170	157		
375.8178	34.363	34.343	1	1.001	40429	8946	49	122	183	1.22(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	34.531	34.503	2	0.955	24131	4490	35	87	128		
385.8610	34.523	34.503	1	0.955	42538	9698	86	215	113	0.57(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	34.531	34.519	1	1.000	12859	2847	68	170	42		
375.8178	34.548	34.519	2	1.000	10516	2231	49	122	46	1.22(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	35.395	35.392	0	0.979	22382	5467	35	87	156		
385.8610	35.403	35.392	1	0.979	47543	11872	86	215	138	0.47(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	35.420	35.408	1	1.001	2084	524	68	170	8		
375.8178	35.428	35.408	1	1.001	1477	340	49	122	7	1.41(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.351	36.340	1	1.006	22502	6164	35	87	176		
385.8610	36.351	36.340	1	1.006	43968	11731	86	215	136	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											U
373.8208	36.348						68	170			
375.8178	36.348						49	122			
A Non-2,3,7,8-sub-HxCDF											U
373.8208	34.417	34.417	0	1.003	3087	599	68	170			
375.8178	34.417	34.417	0	1.003	2283	670	49	122		1.35(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	36.149	36.130	1		126237	35082	108	270	325		
403.8529	36.149	36.130	1		102942	27096	89	222	304	1.23(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	35.630	35.627	0	0.986	26294	6871	108	270	64		
403.8529	35.630	35.627	0	0.986	19935	5776	89	222	65	1.32(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	35.643						39	97			
391.8127	35.643						50	125			
13C-1,2,3,6,7,8-HxCDD											
401.8559	35.772	35.752	1	0.990	24630	6211	108	270	58		
403.8529	35.764	35.752	1	0.989	20448	5230	89	222	59	1.20(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8158	35.761						39	97			
391.8127	35.761						50	125			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDD											
389.8158	36.147						39	97			
391.8127	36.147						50	125			
A Non-2,3,7,8-sub-HxCDD											
389.8158	34.853						39	97			
391.8127	34.853						50	125			
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.224	38.213	1	1.057	14413	4743	264	660	18		
419.8220	38.224	38.213	1	1.057	30763	9944	129	322	77	0.47(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											M
407.7817	38.232	38.229	0	1.000	8478	2899	130	325	22		M
409.7788	38.232	38.229	0	1.000	9587	3185	33	82	97	0.88(0.88-1.20)	M
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	39.507	39.497	1	1.093	16226	6674	264	660	25		
419.8220	39.507	39.497	1	1.093	38832	14890	129	322	115	0.42(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.507	39.513	0	1.000	4571	1724	130	325	13		
409.7788	39.516	39.513	0	1.000	3894	1482	33	82	45	1.17(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7817	38.610	38.871	-16	1.010	5001	1894	130	325	15		
409.7788	38.610	38.871	-16	1.010	5605	1962	33	82	59	0.89(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.197	39.187	1	1.084	26043	9404	74	185	127		
437.8140	39.197	39.187	1	1.084	23909	8614	48	120	179	1.09(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7767	39.205	39.202	0	1.000	7644	2701	44	110	61		
425.7737	39.205	39.202	0	1.000	6727	2446	30	75	82	1.14(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											a
423.7767	38.551	39.134	-35	0.984	9687	3300	44	110	75		a
425.7737	38.551	39.134	-35	0.984	9706	3365	30	75	112	1.00(0.88-1.20)	
13C-OCDD											
469.7780	41.634	41.624	1	1.152	36984	12252	186	465	66		
471.7750	41.634	41.624	1	1.152	36354	11447	78	195	147	1.02(0.76-1.02)	
OCDF											RQ
441.7428	41.727	41.717	1	1.002	4378	1482	52	130	29		
443.7399	41.718	41.717	0	1.002	6803	1919	104	260	18	0.64(0.76-1.02)	
	Empc Correction				4919	1665	104	260	16		
OCDD											
457.7377	41.642	41.633	1	1.000	79322	26266	61	152	431		
459.7348	41.642	41.633	1	1.000	89304	29661	77	192	385	0.89(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

U - Marked Undetected

a - User Assigned ID

Report Date: 11-Nov-2019 10:32:56 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_10.d		
Lims ID:	600-194690-B-10-A		
Client ID:	INF 4		
Inject. Date:	07-Nov-2019 22:29:00	Dil. Factor:	20.0000
Sample Type:	Client Sample		
Instrument ID:	DFS 1	Operator:	Xcalibur_System
Lims Batch ID:	336838	Lims Sample ID:	9

Non-2,3,7,8-sub-TCDF, RT: 19.029

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.233	D 13C-2,3,7,8-TCDF	100.000	137279	22704

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.233		5.000	137279	22704

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
17.009	36660	6644	55643	10308	2.73	0.66	
17.467	50279	6707	70494	9306	3.57	0.71	
17.882	38735	5348	55387	7274	2.78	0.70	
18.262	55515	8014	78673	12232	3.96	0.71	
18.755	545925	90451	745502	123305	38.1	0.73	
19.135	23102	4166	34343	5332	1.70	0.67	
20.207	82804	13053	115043	17349	5.84	0.72	
20.622	18372	2701	28116	3903	1.37	0.65	
22.678	103403	14401	152624	19851	7.56	0.68	
Signal Totals:							
	954795	151485	1335825	208860			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2290620	360345				0.71	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)

Quant By: Area

Amount: 67.651 = (2290620 * 5.000) / (137279 * 1.233)

Report Date: 11-Nov-2019 10:32:56 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_10.d		
Lims ID:	600-194690-B-10-A		
Client ID:	INF 4		
Inject. Date:	07-Nov-2019 22:29:00	Dil. Factor:	20.0000
Sample Type:	Client Sample		
Instrument ID:	DFS 1	Operator:	Xcalibur_System
Lims Batch ID:	336838	Lims Sample ID:	9

Non-2,3,7,8-sub-TCDD, RT: 19.859

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.199	D 13C-2,3,7,8-TCDD	100.000	74131	11701

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.199		5.000	74131	11701

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
20.570	3601	744	4523	854	0.4571	0.80	
21.417	25743	3912	34444	5318	3.39	0.75	
Signal Totals:							
	29344	4656	38967	6172			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	68311	10828				0.75	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)

Quant By: Area

Amount: 3.843 = (68311 * 5.000) / (74131 * 1.199)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_10.d
Lims ID: 600-194690-B-10-A
Client ID: INF 4
Inject. Date: 07-Nov-2019 22:29:00 Dil. Factor: 20.0000
Sample Type: Client Sample
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 336838 Lims Sample ID: 9

Non-2,3,7,8-sub-PeCDF, RT: 27.400

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.169	D 13C-1,2,3,7,8-PeCDF	100.000	91549	16466
2,3,4,7,8-PeCDF	1.186	D 13C-2,3,4,7,8-PeCDF	100.000	88114	16664

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.178		5.000	89831	16565

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
25.081	16755	3222	10475	2003	1.29	1.60	
26.373	3499	946	2050	604	0.2623	1.71	Ma
27.078	13484	2371	8320	1365	1.03	1.62	
28.319	9430	1570	5685	947	0.7145	1.66	
Signal Totals:							
	43168	8109	26530	4919			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	69698	13028				1.63	Ma

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 3.295 = (69698 * 5.000) / (89831 * 1.178)

QC Flag Legend

Review Flags
M - Manually Integrated
a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_10.d		
Lims ID:	600-194690-B-10-A		
Client ID:	INF 4		
Inject. Date:	07-Nov-2019 22:29:00	Dil. Factor:	20.0000
Sample Type:	Client Sample		
Instrument ID:	DFS 1	Operator:	Xcalibur_System
Lims Batch ID:	336838	Lims Sample ID:	9

Non-2,3,7,8-sub-HxCDF, RT: 34.417

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.302	D 13C-1,2,3,4,7,8-HxCDF	100.000	59753	12342
1,2,3,6,7,8-HxCDF	1.291	D 13C-1,2,3,6,7,8-HxCDF	100.000	66669	14188
2,3,4,6,7,8-HxCDF	1.304	D 13C-2,3,4,6,7,8-HxCDF	100.000	69925	17339
1,2,3,7,8,9-HxCDF	1.333	D 13C-1,2,3,7,8,9-HxCDF	100.000	66470	17895

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.307		5.000	65704	15441

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
35.311	3087	599	2283	670	0.3126	1.35	

Compound is Marked ND

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_10.d		
Lims ID:	600-194690-B-10-A		
Client ID:	INF 4		
Inject. Date:	07-Nov-2019 22:29:00	Dil. Factor:	20.0000
Sample Type:	Client Sample		
Instrument ID:	DFS 1	Operator:	Xcalibur_System
Lims Batch ID:	336838	Lims Sample ID:	9

Non-2,3,7,8-sub-HpCDF, RT: 38.871

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.618	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	45176	14687
1,2,3,4,7,8,9-HpCDF	1.467	D 13C-1,2,3,4,7,8,9-HpCDF	100.000	55058	21564

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.542		5.000	50117	18125

Sum the Uncalibrated Results

RT	407.7817 Area	407.7817 Height	409.7788 Area	409.7788 Height	Amount	Ratio	Flags
38.610	5001	1894	5605	1962	0.6860	0.89	
Signal Totals:							
	5001	1894	5605	1962			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	10606	3856				0.89	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.6860 = (10606 * 5.000) / (50117 * 1.542)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_10.d		
Lims ID:	600-194690-B-10-A		
Client ID:	INF 4		
Inject. Date:	07-Nov-2019 22:29:00	Dil. Factor:	20.0000
Sample Type:	Client Sample		
Instrument ID:	DFS 1	Operator:	Xcalibur_System
Lims Batch ID:	336838	Lims Sample ID:	9

Non-2,3,7,8-sub-HpCDD, RT: 39.134

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.124	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	49952	18018

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.124		5.000	49952	18018

Sum the Uncalibrated Results

RT	423.7767 Area	423.7767 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
38.551	9687	3300	9706	3365	1.73	1.00	a
Signal Totals:							
	9687	3300	9706	3365			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	19393	6665				1.00	a

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.727 = (19393 * 5.000) / (49952 * 1.124)

QC Flag Legend

Review Flags
a - User Assigned ID

Report Date: 11-Nov-2019 10:32:57 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_10.d		
Injection Date:	07-Nov-2019 22:29:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4		
Worklist#:	336838	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

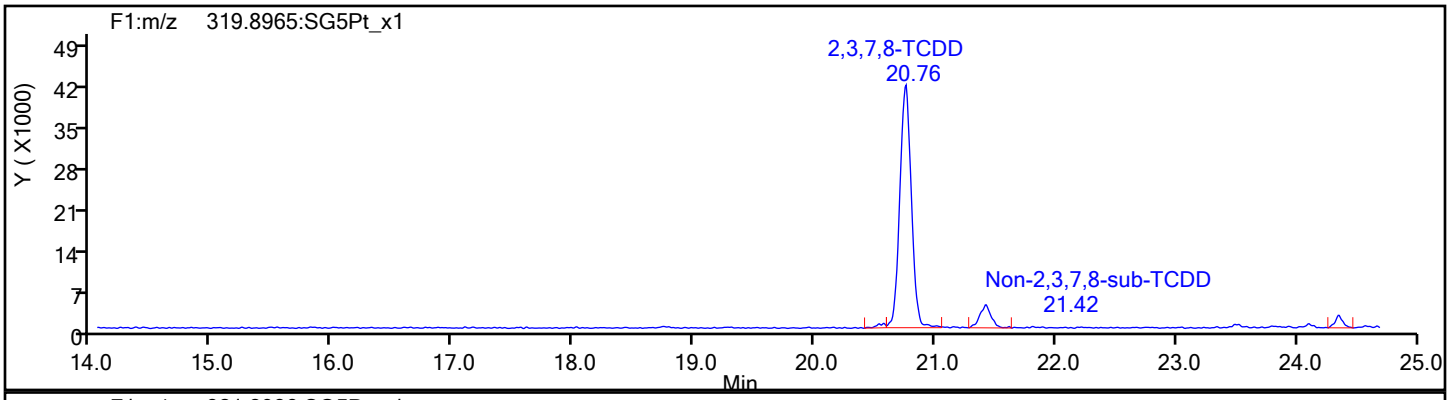

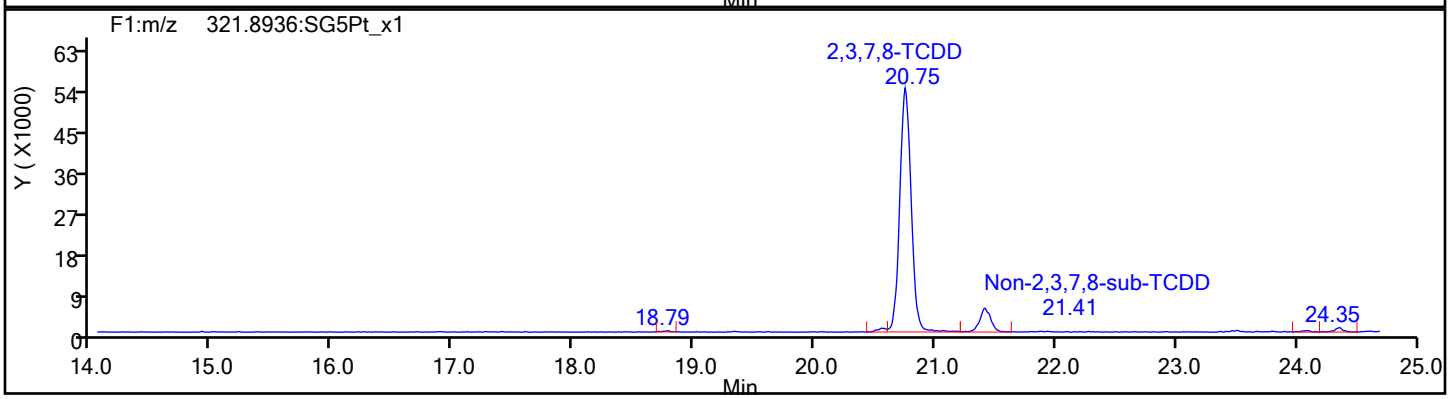

TCDD Standards

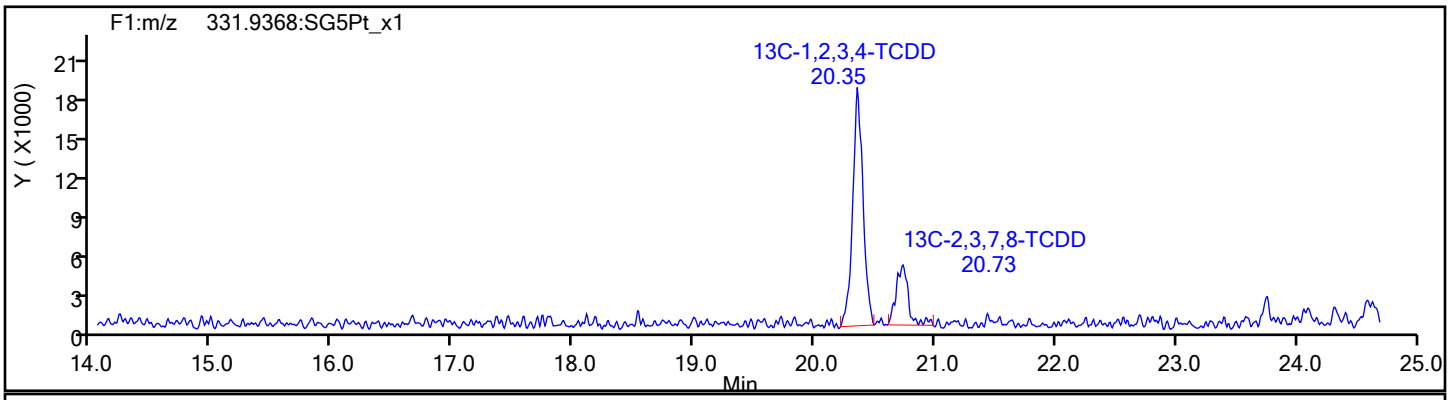

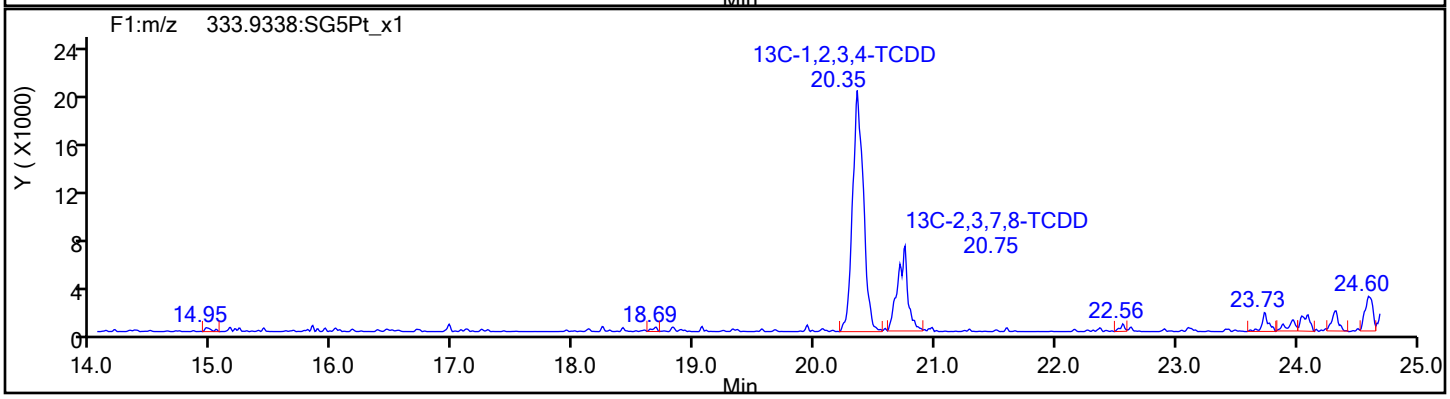

Report Date: 11-Nov-2019 10:32:57 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_10.d		
Injection Date:	07-Nov-2019 22:29:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4		
Worklist#:	336838	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

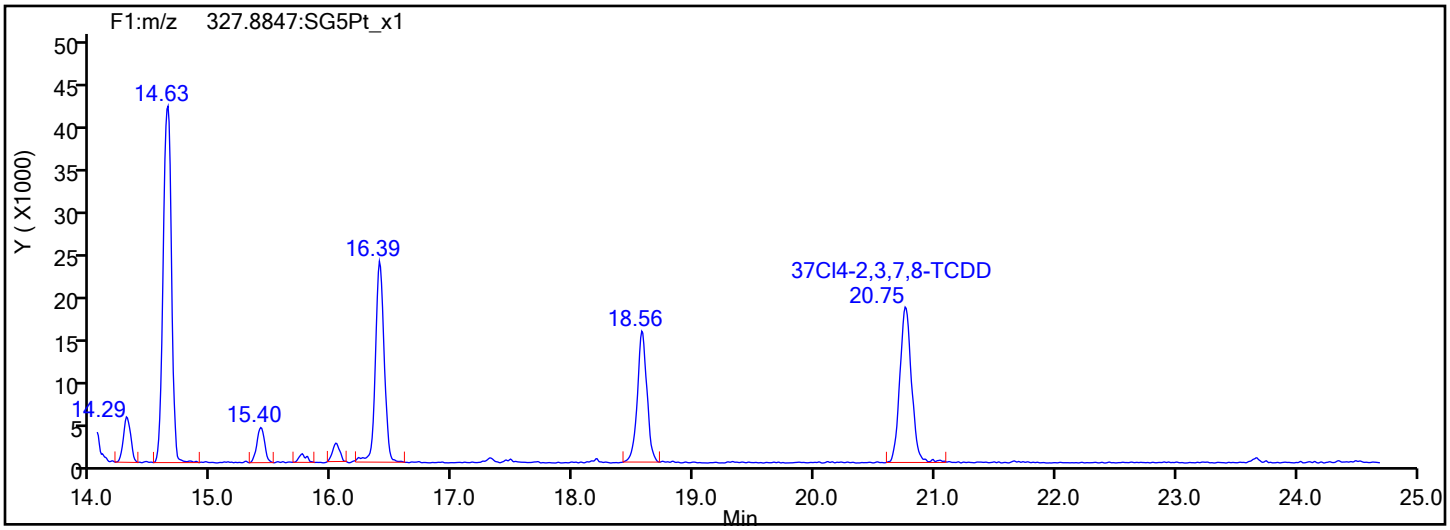

37Cl4-TCDD Standards

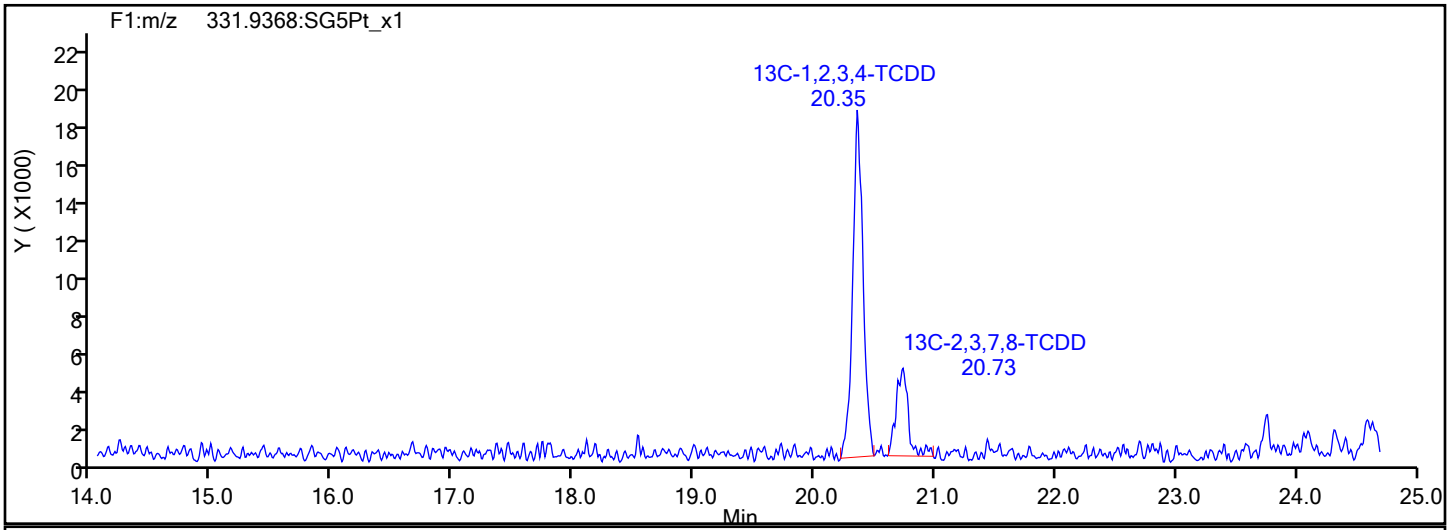

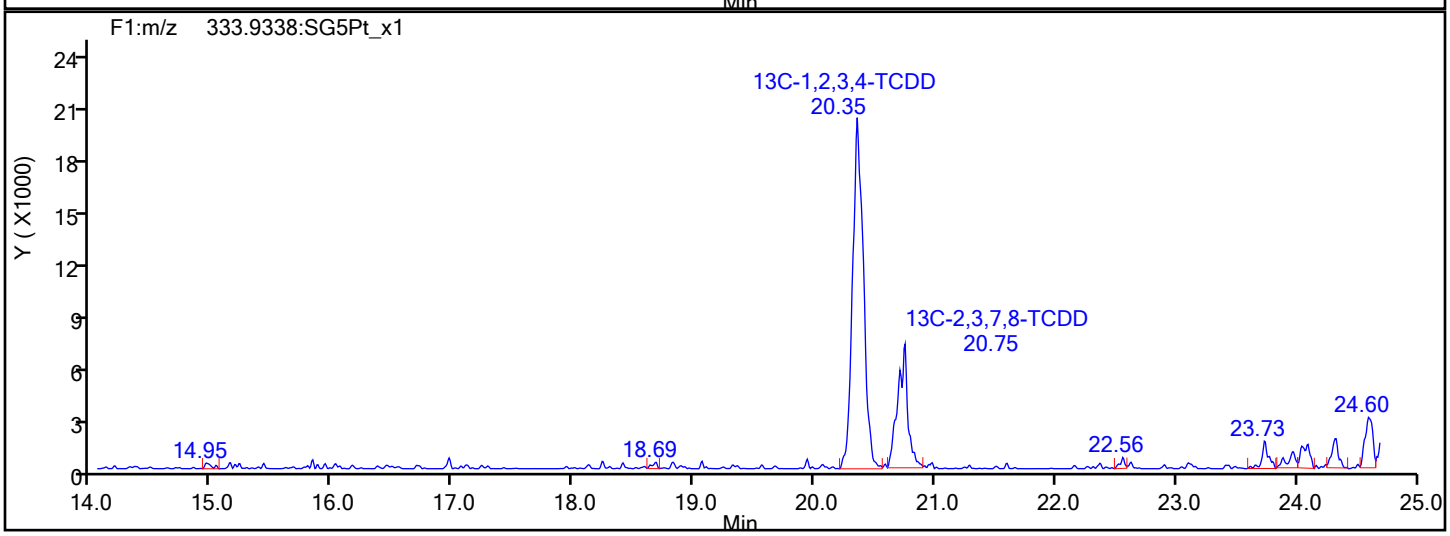

Report Date: 11-Nov-2019 10:32:58 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_10.d		
Injection Date:	07-Nov-2019 22:29:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4		
Worklist#:	336838	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

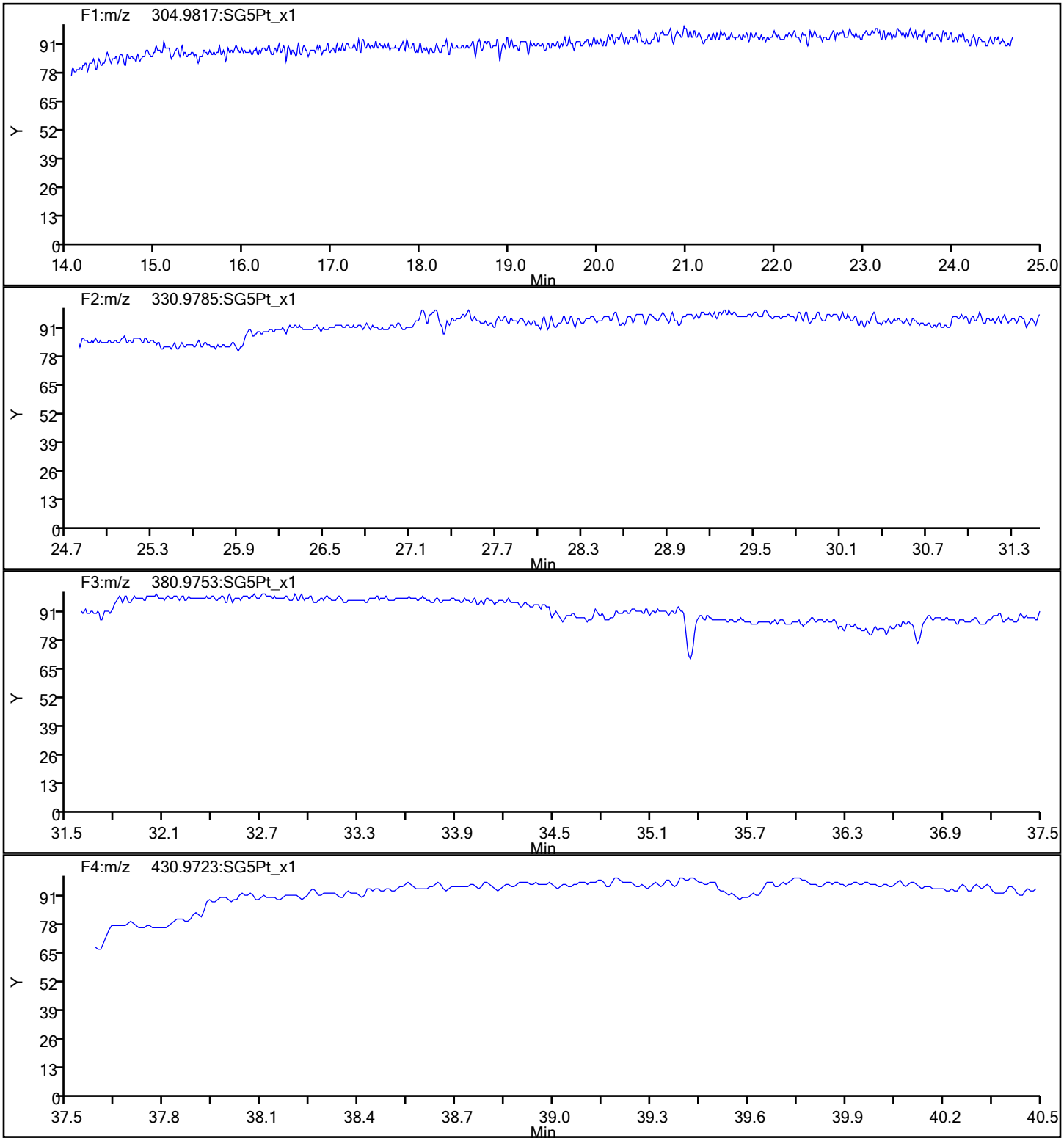

Report Date: 11-Nov-2019 10:32:58 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_10.d		
Injection Date:	07-Nov-2019 22:29:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4		
Worklist#:	336838	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

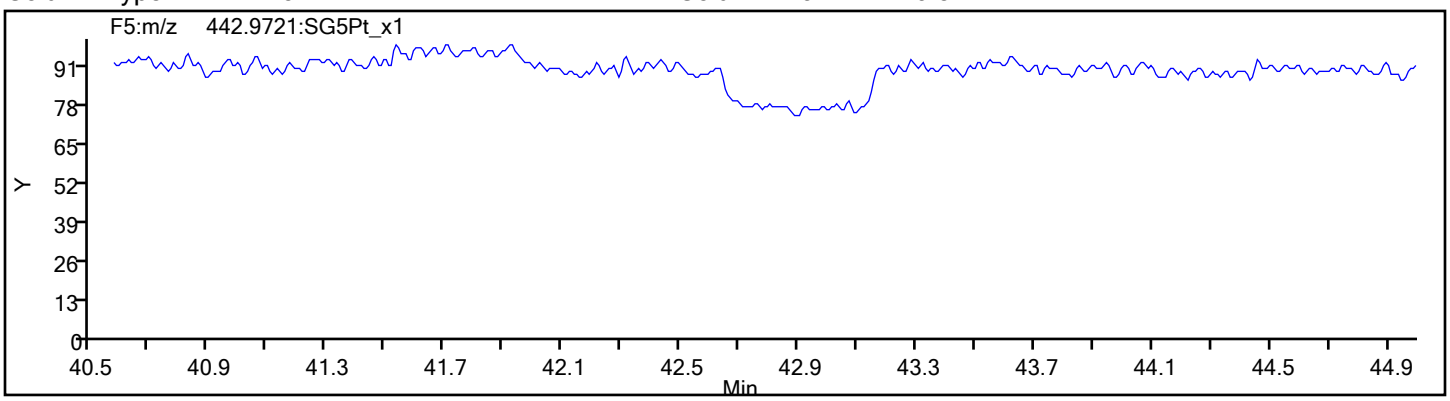

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Client Sample ID: INF 4 - DISSOLVED Lab Sample ID: 600-194690-11

Matrix: Water Lab File ID: 05NO19B10D5_11.d

Analysis Method: 1613B Date Collected: 10/26/2019 22:10

Extract. Method: 1613B Date Extracted: 11/01/2019 08:11

Sample wt/vol: 982.8(mL) Date Analyzed: 11/06/2019 03:12

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 336302 Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	150	F2 F1	10	1.2
40321-76-4	1,2,3,7,8-PeCDD	3.0	J F1 q	51	0.75
57117-41-6	1,2,3,7,8-PeCDF	20	J F1 F2	51	0.68
57117-31-4	2,3,4,7,8-PeCDF	11	J F1	51	0.72
39227-28-6	1,2,3,4,7,8-HxCDD	3.1	J B	51	0.60
57653-85-7	1,2,3,6,7,8-HxCDD	2.1	J	51	0.61
19408-74-3	1,2,3,7,8,9-HxCDD	1.7	J q B	51	0.54
70648-26-9	1,2,3,4,7,8-HxCDF	31	J F1 F2	51	0.99
57117-44-9	1,2,3,6,7,8-HxCDF	9.8	J F1	51	0.90
72918-21-9	1,2,3,7,8,9-HxCDF	4.8	J B	51	0.59
60851-34-5	2,3,4,6,7,8-HxCDF	2.8	J B	51	0.61
35822-46-9	1,2,3,4,6,7,8-HpCDD	27	J F1	51	1.2
67562-39-4	1,2,3,4,6,7,8-HpCDF	12	J B F1	51	0.54
55673-89-7	1,2,3,4,7,8,9-HpCDF	4.9	J B F1	51	0.71
3268-87-9	OCDD	280	B F1 F2 *	100	1.2
39001-02-0	OCDF	11	J B	100	0.87
41903-57-5	Total TCDD	170		10	1.2
30402-14-3	Total TCDF	920	B	10	3.1
36088-22-9	Total PeCDD	3.0	J q	51	0.75
30402-15-4	Total PeCDF	44	J	51	0.70
34465-46-8	Total HxCDD	6.9	J q B	51	0.58
55684-94-1	Total HxCDF	48	J B	51	0.77
37871-00-4	Total HpCDD	51		51	1.2
38998-75-3	Total HpCDF	20	J q B	51	0.63

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Client Sample ID: INF 4 - DISSOLVED Lab Sample ID: 600-194690-11

Matrix: Water Lab File ID: 05NO19B10D5_11.d

Analysis Method: 1613B Date Collected: 10/26/2019 22:10

Extract. Method: 1613B Date Extracted: 11/01/2019 08:11

Sample wt/vol: 982.8(mL) Date Analyzed: 11/06/2019 03:12

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 336302 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	62		25-164
89059-46-1	13C-2,3,7,8-TCDF	57		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	64		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	61		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	66		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	70		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	65		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	69		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	66		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	64		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	65		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	55		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	53		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	56		26-138
114423-97-1	13C-OCDD	46		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	96		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_11.d
Lims ID: 600-194690-A-11-A
Client ID: INF 4 - DISSOLVED
Sample Type: Client
Inject. Date: 06-Nov-2019 03:12:20 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 600-194690-A-11-A 600-194690-A-11-A
Misc. Info.: 05NO19B10D5
Operator ID: ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 08-Nov-2019 09:14:20 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0328

First Level Reviewer: arghestanis Date: 06-Nov-2019 08:32:54

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.245	93030799	0.78	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.761	76558857	0.79	1.4384	57.2	57.2	0.1396	0.1396	57.21	
2,3,7,8-TCDF	16.777	21100854	0.79	1.0507	26.2	26.2	0.1512	0.1512		
A Non-2,3,7,8-sub-TCDF	16.459	15359810	0.77	1.0507	19.1	19.1	0.1512	11.0		Ma
S Total TCDF					45.3	45.3	0.1512	0.1512		
D 13C-2,3,7,8-TCDD	17.427	54676863	0.77	0.9533	61.6	61.6	0.1688	0.1688	61.65	
2,3,7,8-TCDD	17.442	4578099	0.77	1.1064	7.568	7.568	0.0584	0.0584		
$ 37Cl4-2,3,7,8-TCDD	17.442	43662498		1.2224	38.4	38.4	0.0647	0.0647	95.99	
A Non-2,3,7,8-sub-TCDD	16.890	367216	0.88	1.1064	0.6070	0.6070	0.0584	0.6070		
S Total TCDD					8.175	8.175	0.0584	0.0584		
D 13C-1,2,3,7,8-PeCDF	21.513	58763691	1.58	1.0286	61.4	61.4	0.1637	0.1637	61.41	
1,2,3,7,8-PeCDF	21.527	639869	1.66	1.0822	1.006	1.006	0.0332	0.0332		M
D 13C-2,3,4,7,8-PeCDF	22.781	60242603	1.58	0.9827	65.9	65.9	0.1713	0.1713	65.90	
2,3,4,7,8-PeCDF	22.795	375515	1.52	1.1032	0.5650	0.5650	0.0352	0.0352		
A F1 PeCDFs	19.158						0.0219	0.0219		
A Non-2,3,7,8-sub-PeCDF	22.128	384538	1.63	1.0927	0.5914	0.5914	0.0342	0.3565		
S Total PeCDF					2.163	2.163	0.0342	0.0342		
D 13C-1,2,3,7,8-PeCDD	23.463	44697993	1.55	0.7481	64.2	64.2	0.0870	0.0870	64.23	
1,2,3,7,8-PeCDD	23.476	59250	1.55	0.9050	0.1726	0.1465	0.0370	0.0370		RQ
A Non-2,3,7,8-sub-PeCDD	22.406						0.0370	0.0370		
S Total PeCDD					0.1726	0.1465	0.0370	0.0370		RQ
D 13C-1,2,3,4,7,8-HxCDF	29.533	49949994	0.52	1.1520	69.0	69.0	0.3114	0.3114	68.95	
1,2,3,4,7,8-HxCDF	29.586	913580	1.21	1.1973	1.528	1.528	0.0486	0.0486		Ma
D 13C-1,2,3,6,7,8-HxCDF	29.813	51761250	0.52	1.2434	66.2	66.2	0.2885	0.2885	66.20	
1,2,3,6,7,8-HxCDF	29.839	294190	1.29	1.1807	0.4814	0.4814	0.0441	0.0441		Ma
D 13C-2,3,4,6,7,8-HxCDF	30.904	47915189	0.52	1.1720	65.0	65.0	0.3061	0.3061	65.02	
2,3,4,6,7,8-HxCDF	30.931	78875	1.29	1.2116	0.1359	0.1359	0.0300	0.0300		
D 13C-1,2,3,7,8,9-HxCDF	31.836	42710296	0.52	1.0655	63.8	63.8	0.3367	0.3367	63.75	
1,2,3,7,8,9-HxCDF	31.955	126363	1.15	1.2451	0.2376	0.2376	0.0292	0.0292		
A Non-2,3,7,8-sub-HxCDF	29.354						0.0362	0.0711		U

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					2.382	2.382	0.0380	0.0380		
* 13C-1,2,3,7,8,9-HxCDD	31.636	62880215	1.26	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.144	34535310	1.33	0.7812	70.3	70.3	0.2681	0.2681	70.30	
1,2,3,4,7,8-HxCDD	31.157	59059	1.34	1.1088	0.1542	0.1542	0.0293	0.0293		M
D 13C-1,2,3,6,7,8-HxCDD	31.263	37318055	1.19	0.9175	64.7	64.7	0.2282	0.2282	64.69	
1,2,3,6,7,8-HxCDD	31.290	41672	1.22	1.0814	0.1033	0.1033	0.0300	0.0300		Ma
1,2,3,7,8,9-HxCDD	31.649	36437	1.24	1.2123	0.0960	0.0837	0.0268	0.0268		RQ
A Non-2,3,7,8-sub-HxCDD	29.926						0.0286	0.0286		
S Total HxCDD					0.3535	0.3412	0.0287	0.0287		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	33.394	28851664	0.44	0.8628	53.2	53.2	0.6210	0.6210	53.18	
1,2,3,4,6,7,8-HpCDF	33.406	259852	1.12	1.5555	0.5790	0.5790	0.0267	0.0267		M
D 13C-1,2,3,4,7,8,9-HpCDF	34.451	28266751	0.44	0.7991	56.3	56.3	0.6705	0.6705	56.26	
1,2,3,4,7,8,9-HpCDF	34.451	94378	1.03	1.3862	0.2409	0.2409	0.0349	0.0349		M
A Non-2,3,7,8-sub-HpCDF	33.922	69635	1.04	1.4709	0.1854	0.1658	0.0304	0.1658		RQ
S Total HpCDF					1.005	0.9856	0.0308	0.0308		RQ
D 13C-1,2,3,4,6,7,8-HpCDD	34.171	30343190	1.04	0.8739	55.2	55.2	0.3585	0.3585	55.22	
1,2,3,4,6,7,8-HpCDD	34.183	379224	1.00	0.9316	1.342	1.342	0.0583	0.0583		M
A Non-2,3,7,8-sub-HpCDD	34.038	328589	1.11	0.9316	1.162	1.162	0.0583	1.162		M
S Total HpCDD					2.504	2.504	0.0583	0.0583		
D 13C-OCDD	36.450	44371457	0.89	0.7744	91.1	91.1	0.1557	0.1557	45.56	
OCDF	36.546	150083	0.83	1.2596	0.5371	0.5371	0.0427	0.0427		
OCDD	36.462	3189148	0.89	1.0621	13.5	13.5	0.0584	0.0584		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_11.d
Lims ID: 600-194690-A-11-A
Client ID: INF 4 - DISSOLVED
Sample Type: Client
Inject. Date: 06-Nov-2019 03:12:20 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 600-194690-A-11-A 600-194690-A-11-A
Misc. Info.: 05NO19B10D5
Operator ID: ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 08-Nov-2019 09:14:20 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0328

First Level Reviewer: arghestanis Date: 06-Nov-2019 08:32:54

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.245	17.230	1		40848837	10569517	7366	18415	1435		
333.9339	17.245	17.230	1		52181962	13356062	8032	20080	1663	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.761	16.761	0	0.972	33733588	8436937	9075	22687	930		
317.9389	16.761	16.761	0	0.972	42825269	10704592	10146	25365	1055	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.777	16.761	1	1.001	9280596	2242021	4994	12485	449		
305.8987	16.777	16.761	1	1.001	11820258	2812746	7171	17927	392	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											Ma
303.9016	15.431	16.459	-62	0.921	285248	80730	4994	12485	16		M
305.8987	15.431	16.459	-62	0.921	344433	92630	7171	17927	13	0.83(0.65-0.89)	
303.9016	15.703	16.459	-45	0.937	391438	86908	4994	12485	17		M
305.8987	15.703	16.459	-45	0.937	481522	106549	7171	17927	15	0.81(0.65-0.89)	
303.9016	15.915	16.459	-33	0.949	295057	78803	4994	12485	16		
305.8987	15.915	16.459	-33	0.949	379910	101350	7171	17927	14	0.78(0.65-0.89)	
303.9016	16.142	16.459	-19	0.963	393185	90731	4994	12485	18		
305.8987	16.142	16.459	-19	0.963	542293	120894	7171	17927	17	0.73(0.65-0.89)	
303.9016	16.414	16.459	-3	0.979	3833001	1003435	4994	12485	201		
305.8987	16.414	16.459	-3	0.979	5025670	1336677	7171	17927	186	0.76(0.65-0.89)	
303.9016	16.610	16.459	9	0.991	173231	40355	4994	12485	8		
305.8987	16.610	16.459	9	0.991	236665	59510	7171	17927	8	0.73(0.65-0.89)	
303.9016	17.185	16.459	43	1.025	617294	141206	4994	12485	28		
305.8987	17.185	16.459	43	1.025	763880	175263	7171	17927	24	0.81(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
303.9016	17.412	16.459	57	1.039	118429	27354	4994	12485	5		
305.8987	17.412	16.459	57	1.039	149286	32449	7171	17927	5	0.79(0.65-0.89)	M
303.9016	18.500	16.459	122	1.104	571562	129367	4994	12485	26		
305.8987	18.500	16.459	122	1.104	757706	175388	7171	17927	24	0.75(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.427	17.427	0	1.011	23806943	5734282	7366	18415	778		
333.9339	17.427	17.427	0	1.011	30869920	7281667	8032	20080	907	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.442	17.427	1	1.001	1995603	469194	1953	4882	240		
321.8936	17.442	17.427	1	1.001	2582496	623313	1412	3530	441	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.442	17.442	0	1.011	43662498	10418062	7575	18937	1375		
A Non-2,3,7,8-sub-TCDD											
319.8965	17.789	16.890	54	1.021	171504	37417	1953	4882	19		
321.8936	17.789	16.890	54	1.021	195712	41580	1412	3530	29	0.88(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	21.513	21.513	0	1.247	35954058	6526619	9589	23972	681		
353.8970	21.513	21.513	0	1.247	22809633	4238053	6521	16302	650	1.58(1.32-1.78)	
1,2,3,7,8-PeCDF											M
339.8597	21.527	21.527	0	1.001	399614	67769	675	1687	100		M
341.8567	21.527	21.527	0	1.001	240255	42607	873	2182	49	1.66(1.32-1.78)	M
13C-2,3,4,7,8-PeCDF											
351.9000	22.781	22.781	0	1.321	36911797	6191956	9589	23972	646		
353.8970	22.781	22.781	0	1.321	23330806	3782175	6521	16302	580	1.58(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.795	22.795	0	1.001	226353	36007	675	1687	53		
341.8567	22.795	22.795	0	1.001	149162	24301	873	2182	28	1.52(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.158						386	965			
341.8567	19.158						608	1520			
A Non-2,3,7,8-sub-PeCDF											
339.8597	20.272	22.128	-111	0.942	147843	29238	675	1687	43		
341.8567	20.258	22.128	-112	0.942	83987	17920	873	2182	21	1.76(1.32-1.78)	
339.8597	22.017	22.128	-7	1.023	90727	15430	675	1687	23		
341.8567	22.017	22.128	-7	1.023	61981	10023	873	2182	11	1.46(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.463	23.463	0	1.361	27180906	4270786	4091	10227	1044		
369.8919	23.463	23.463	0	1.361	17517087	2783647	2140	5350	1301	1.55(1.32-1.78)	
1,2,3,7,8-PeCDD											RQ
355.8546	23.476	23.476	0	1.001	36015	5276	576	1440	9		
357.8516	23.490	23.476	1	1.001	33815	5322	370	925	14	1.07(1.32-1.78)	
	Empc Correction				23235	3403	370	925	9		
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.406						576	1440			
357.8516	22.406						370	925			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.533	29.533	0	0.934	17117972	1954027	6618	16545	295		
385.8610	29.533	29.533	0	0.934	32832022	3804873	12872	32180	296	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											Ma
373.8208	29.586	29.533	3	1.002	500732	55065	820	2050	67		M
375.8178	29.573	29.533	2	1.001	412848	45259	521	1302	87	1.21(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.813	29.813	0	0.942	17646579	2168930	6618	16545	328		
385.8610	29.813	29.813	0	0.942	34114671	4269008	12872	32180	332	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											Ma
373.8208	29.839	29.826	1	1.001	165694	20239	820	2050	25		M
375.8178	29.839	29.826	1	1.001	128496	16626	521	1302	32	1.29(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	30.904	30.904	0	0.977	16440469	3182417	6618	16545	481		
385.8610	30.904	30.904	0	0.977	31474720	6042430	12872	32180	469	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	30.931	30.917	1	1.001	44444	7788	820	2050	9		
375.8178	30.944	30.917	2	1.001	34431	6170	521	1302	12	1.29(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.836	31.836	0	1.006	14582471	3156868	6618	16545	477		
385.8610	31.836	31.836	0	1.006	28127825	6073999	12872	32180	472	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.955	31.849	6	1.004	67641	7881	820	2050	10		
375.8178	31.889	31.849	2	1.002	58722	6263	521	1302	12	1.15(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											U
373.8208	28.482	29.354	-52	0.964	24261	5091	820	2050	6		
375.8178	28.402	29.354	-57	0.962	17053	2417	521	1302	5	1.42(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.636	31.636	0		35009375	7602504	6483	16207	1173		
403.8529	31.636	31.636	0		27870840	5978853	4893	12232	1222	1.26(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.144	31.143	0	0.984	19703745	4181558	6483	16207	645		
403.8529	31.144	31.143	0	0.984	14831565	3361263	4893	12232	687	1.33(1.05-1.43)	
1,2,3,4,7,8-HxCDD											M
389.8157	31.157	31.144	1	1.000	33821	5720	470	1175	12		M
391.8127	31.157	31.144	1	1.000	25238	5721	511	1277	11	1.34(1.05-1.43)	M
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.263	31.263	0	0.988	20287862	4183516	6483	16207	645		
403.8529	31.263	31.263	0	0.988	17030193	3380968	4893	12232	691	1.19(1.05-1.43)	
1,2,3,6,7,8-HxCDD											Ma
389.8157	31.290	31.277	1	1.001	22934	4935	470	1175	11		M
391.8127	31.263	31.277	-1	1.000	18738	4053	511	1277	8	1.22(1.05-1.43)	
1,2,3,7,8,9-HxCDD											RQ
389.8157	31.649	31.649	0	1.016	20171	4035	470	1175	9		
391.8127	31.636	31.649	-1	1.016	21657	5796	511	1277	11	0.93(1.05-1.43)	
	Empc Correction				16266	3254	511	1277	6		

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-HxCDD											
389.8157	29.926						470	1175			
391.8127	29.926						511	1277			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.394	33.393	0	1.056	8787908	2632110	9091	22727	290		
419.8220	33.394	33.393	0	1.056	20063756	5913672	20014	50035	295	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											M
407.7818	33.406	33.394	1	1.000	137562	41165	855	2137	48		M
409.7789	33.406	33.394	1	1.000	122290	33751	563	1407	60	1.12(0.88-1.20)	M
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.451	34.451	0	1.089	8581096	2270266	9091	22727	250		
419.8220	34.451	34.451	0	1.089	19685655	5050299	20014	50035	252	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											M
407.7818	34.451	34.451	0	1.000	47877	12490	855	2137	15		M
409.7789	34.451	34.451	0	1.000	46501	11344	563	1407	20	1.03(0.88-1.20)	M
A Non-2,3,7,8-sub-HpCDF											RQ
407.7818	33.697	33.922	-13	1.009	43745	12271	855	2137	14		
	Empc Correction				35500	9524	855	2137	11		
409.7789	33.685	33.922	-14	1.009	34135	9158	563	1407	16	1.28(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.171	34.171	0	1.080	15471413	4292164	9376	23440	458		
437.8140	34.171	34.171	0	1.080	14871777	4113037	7642	19105	538	1.04(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											M
423.7766	34.183	34.172	1	1.000	189259	53005	1034	2585	51		M
425.7737	34.183	34.172	1	1.000	189965	48895	793	1982	62	1.00(0.88-1.20)	M
A Non-2,3,7,8-sub-HpCDD											M
423.7766	33.649	34.038	-23	0.985	172985	44308	1034	2585	43		M
425.7737	33.649	34.038	-23	0.985	155604	46164	793	1982	58	1.11(0.88-1.20)	
13C-OCDD											
469.7779	36.450	36.462	-1	1.152	20881771	4650651	3470	8675	1340		
471.7750	36.450	36.462	-1	1.152	23489686	5085049	3081	7702	1650	0.89(0.76-1.02)	
OCDF											
441.7428	36.546	36.546	0	1.003	68007	16849	456	1140	37		
443.7399	36.546	36.546	0	1.003	82076	18054	591	1477	31	0.83(0.76-1.02)	
OCDD											
457.7377	36.462	36.462	0	1.000	1504670	333732	634	1585	526		
459.7348	36.462	36.462	0	1.000	1684478	362580	573	1432	633	0.89(0.76-1.02)	

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_11.d
Lims ID: 600-194690-A-11-A
Client ID: INF 4 - DISSOLVED
Inject. Date: 06-Nov-2019 03:12:20 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 11

Non-2,3,7,8-sub-TCDF, RT: 16.459

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.051	D 13C-2,3,7,8-TCDF	100.000	76558857	19141529

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.051		100.000	76558857	19141529

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
15.431	285248	80730	344433	92630	0.7828	0.83	Ma
15.703	391438	86908	481522	106549	1.09	0.81	M
15.915	295057	78803	379910	101350	0.8391	0.78	
16.142	393185	90731	542293	120894	1.16	0.73	
16.414	3833001	1003435	5025670	1336677	11.0	0.76	
16.610	173231	40355	236665	59510	0.5095	0.73	
17.185	617294	141206	763880	175263	1.72	0.81	
17.412	118429	27354	149286	32449	0.3328	0.79	M
18.500	571562	129367	757706	175388	1.65	0.75	
Signal Totals:							
	6678445	1678889	8681365	2200710			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	15359810	3879599				0.77	Ma

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 19.094 = (15359810 * 100.000) / (76558857 * 1.051)

QC Flag Legend

Review Flags
M - Manually Integrated
a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_11.d
Lims ID: 600-194690-A-11-A
Client ID: INF 4 - DISSOLVED
Inject. Date: 06-Nov-2019 03:12:20 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 11

Non-2,3,7,8-sub-TCDD, RT: 16.890

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.106	D 13C-2,3,7,8-TCDD	100.000	54676863	13015949

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.106		100.000	54676863	13015949

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
17.789	171504	37417	195712	41580	0.6070	0.88	
Signal Totals:							
	171504	37417	195712	41580			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	367216	78997				0.88	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.6070 = (367216 * 100.000) / (54676863 * 1.106)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_11.d
Lims ID: 600-194690-A-11-A
Client ID: INF 4 - DISSOLVED
Inject. Date: 06-Nov-2019 03:12:20 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 11

Non-2,3,7,8-sub-PeCDF, RT: 22.128

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.082	D 13C-1,2,3,7,8-PeCDF	100.000	58763691	10764672
2,3,4,7,8-PeCDF	1.103	D 13C-2,3,4,7,8-PeCDF	100.000	60242603	9974131

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.093		100.000	59503147	10369401

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
20.272	147843	29238	83987	17920	0.3565	1.76	
22.017	90727	15430	61981	10023	0.2349	1.46	
Signal Totals:							
	238570	44668	145968	27943			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	384538	72611				1.63	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.5914 = (384538 * 100.000) / (59503147 * 1.093)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_11.d
Lims ID: 600-194690-A-11-A
Client ID: INF 4 - DISSOLVED
Inject. Date: 06-Nov-2019 03:12:20 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 11

Non-2,3,7,8-sub-HxCDF, RT: 29.354

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.197	D 13C-1,2,3,4,7,8-HxCDF	100.000	49949994	5758900
1,2,3,6,7,8-HxCDF	1.181	D 13C-1,2,3,6,7,8-HxCDF	100.000	51761250	6437938
2,3,4,6,7,8-HxCDF	1.212	D 13C-2,3,4,6,7,8-HxCDF	100.000	47915189	9224847
1,2,3,7,8,9-HxCDF	1.245	D 13C-1,2,3,7,8,9-HxCDF	100.000	42710296	9230867

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.209		100.000	48084182	7663138

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
28.482	24261	5091	17053	2417	0.0711	1.42	

Compound is Marked ND

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_11.d		
Lims ID:	600-194690-A-11-A		
Client ID:	INF 4 - DISSOLVED		
Inject. Date:	06-Nov-2019 03:12:20	Dil. Factor:	1.0000
Sample Type:	Client Sample		
Instrument ID:	10D5	Operator:	ALM
Lims Batch ID:	336302	Lims Sample ID:	11

Non-2,3,7,8-sub-HpCDF, RT: 33.922

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.556	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	28851664	8545782
1,2,3,4,7,8,9-HpCDF	1.386	D 13C-1,2,3,4,7,8,9-HpCDF	100.000	28266751	7320565

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.471		100.000	28559207	7933173

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
33.697	43745	12271	34135	9158	0.1854	1.28	RQ
33.697	35500	9524	34135	9158	0.1658		Empc Correction
Signal Totals:							
	35500	9524	34135	9158			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	77880	21429				1.28	RQ
	69635	18682					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.1854 = (77880 * 100.000) / (28559207 * 1.471)
Empc Amount: 0.1658 = (69635 * 100.000) / (28559207 * 1.471)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_11.d
Lims ID: 600-194690-A-11-A
Client ID: INF 4 - DISSOLVED
Inject. Date: 06-Nov-2019 03:12:20 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 11

Non-2,3,7,8-sub-HpCDD, RT: 34.038

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.932	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	30343190	8405201

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.932		100.000	30343190	8405201

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
33.649	172985	44308	155604	46164	1.16	1.11	M
Signal Totals:							
	172985	44308	155604	46164			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	328589	90472				1.11	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.162 = (328589 * 100.000) / (30343190 * 0.932)

QC Flag Legend

Review Flags
M - Manually Integrated

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_11.d				
Injection Date:	06-Nov-2019 03:12:20	Instrument ID:	10D5		
Lims ID:	600-194690-A-11-A	Lab Sample ID:	320-194690-11		
Client ID:	INF 4 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

Non-2,3,7,8-sub-TCDF, Signal: 1, m/z: 303.9016, RT: (14.42- 18.50)

Signal: 1

Processing Integration Results

RT = 15.431 Area = 287095

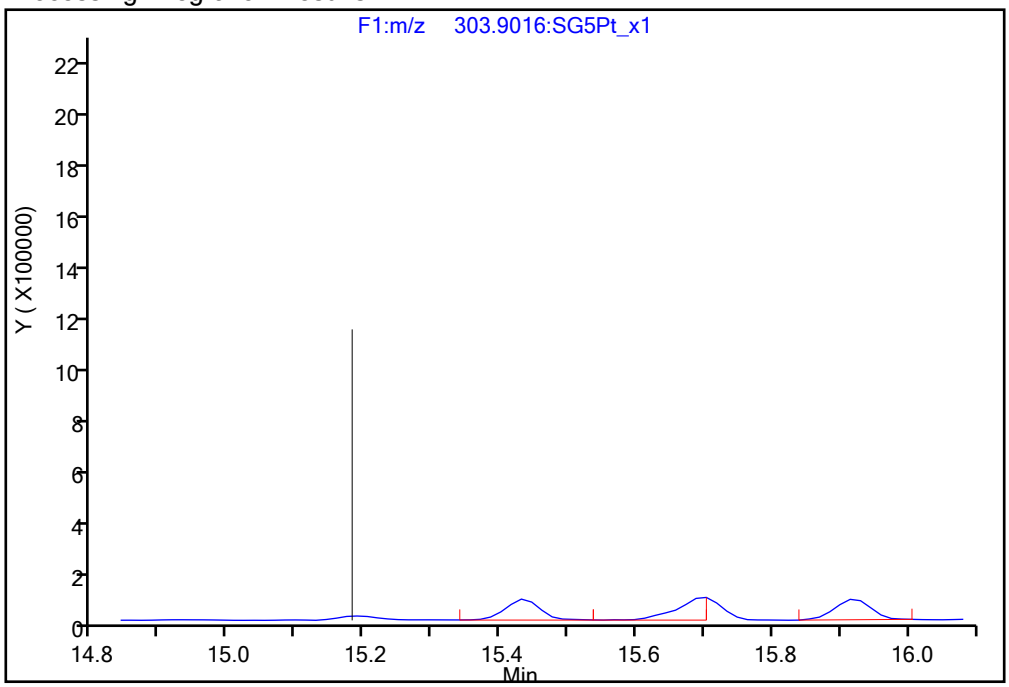

Manual Integration Results

RT = 15.431 Area = 285248 M

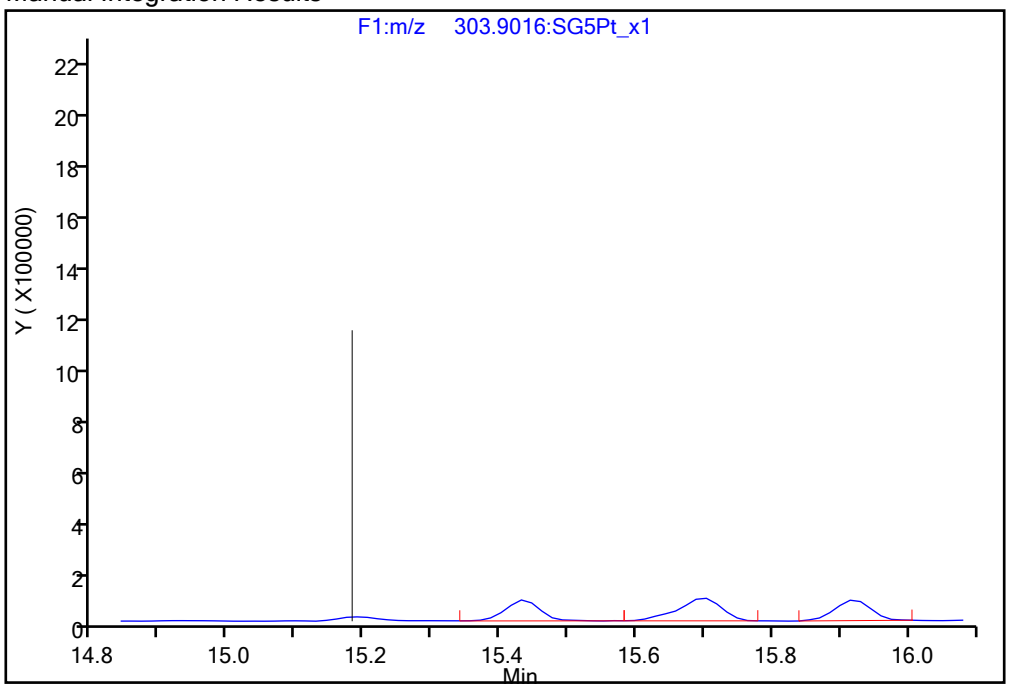

Reviewer: dadunj, 08-Nov-2019 09:10:08

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_11.d				
Injection Date:	06-Nov-2019 03:12:20	Instrument ID:	10D5		
Lims ID:	600-194690-A-11-A	Lab Sample ID:	320-194690-11		
Client ID:	INF 4 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

Non-2,3,7,8-sub-TCDF, Signal: 1, m/z: 303.9016, RT: (14.42- 18.50)

Signal: 1

Processing Integration Results

RT = 15.688 Area = 256476

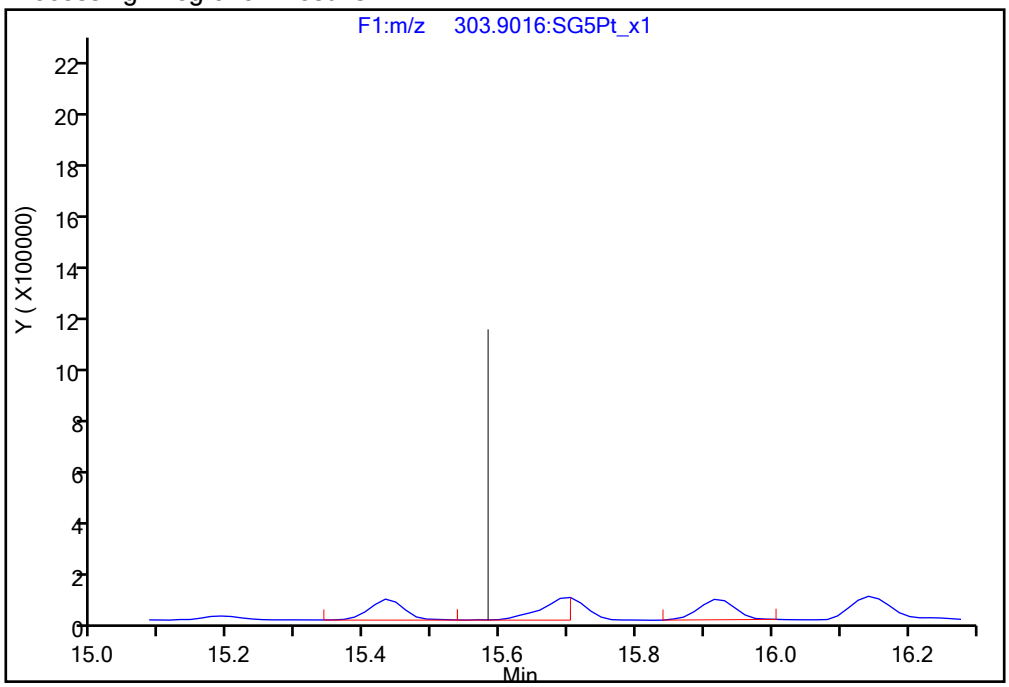

Manual Integration Results

RT = 15.703 Area = 391438 M

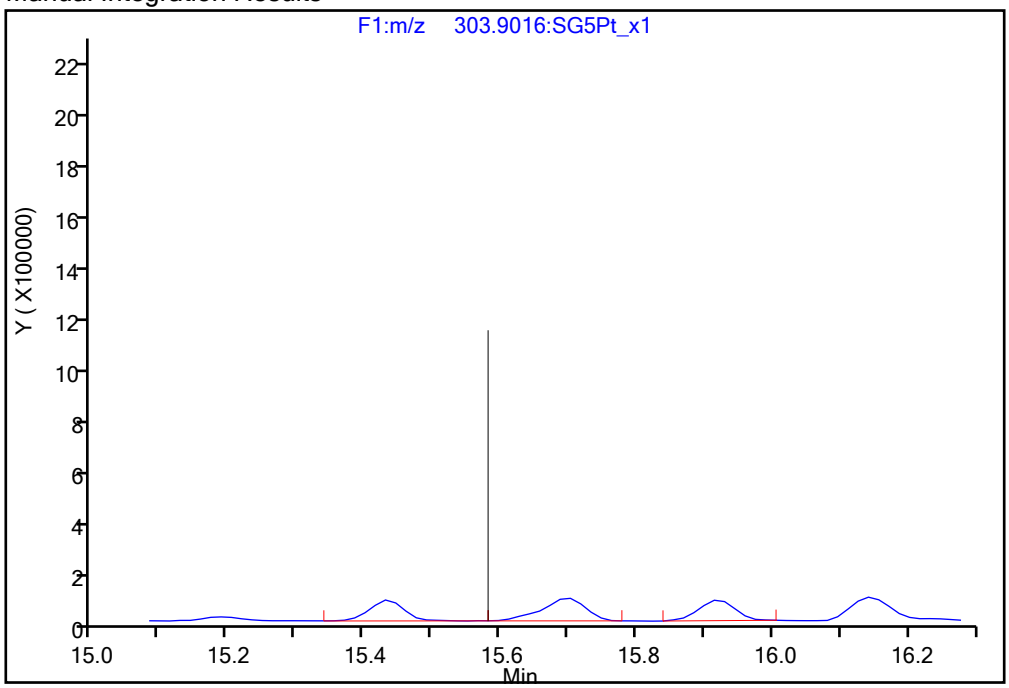

Reviewer: dadunj, 08-Nov-2019 09:10:08

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_11.d				
Injection Date:	06-Nov-2019 03:12:20	Instrument ID:	10D5		
Lims ID:	600-194690-A-11-A	Lab Sample ID:	320-194690-11		
Client ID:	INF 4 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

Non-2,3,7,8-sub-TCDF, Signal: 2, m/z: 305.8987, RT: (14.42- 18.50)

Signal: 2

Processing Integration Results

RT = 17.396 Area = 84590

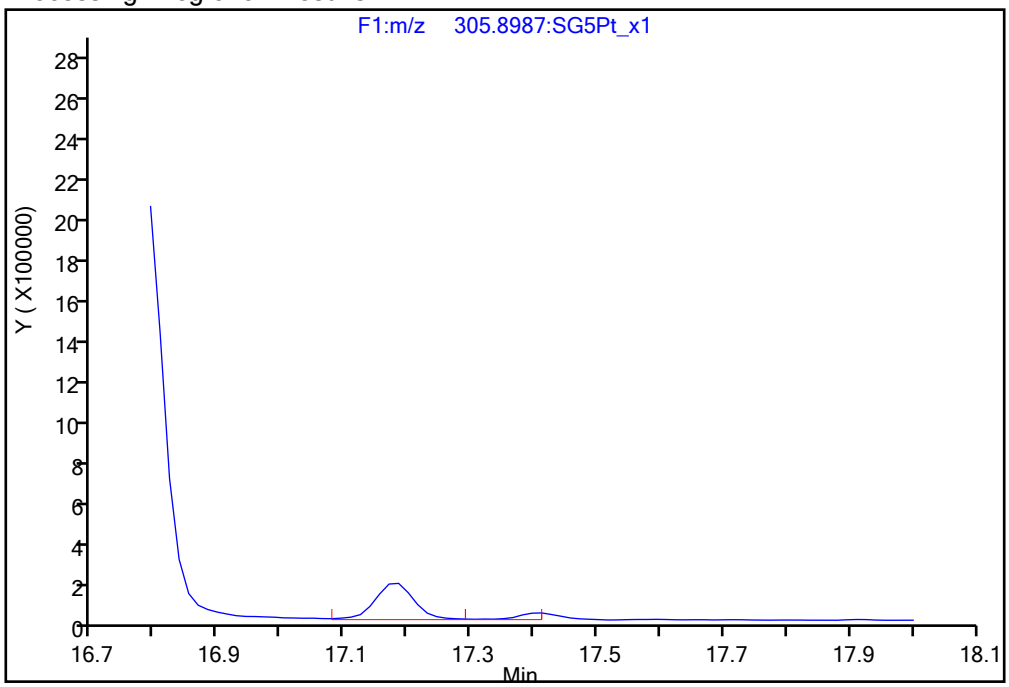

Manual Integration Results

RT = 17.412 Area = 149286 M

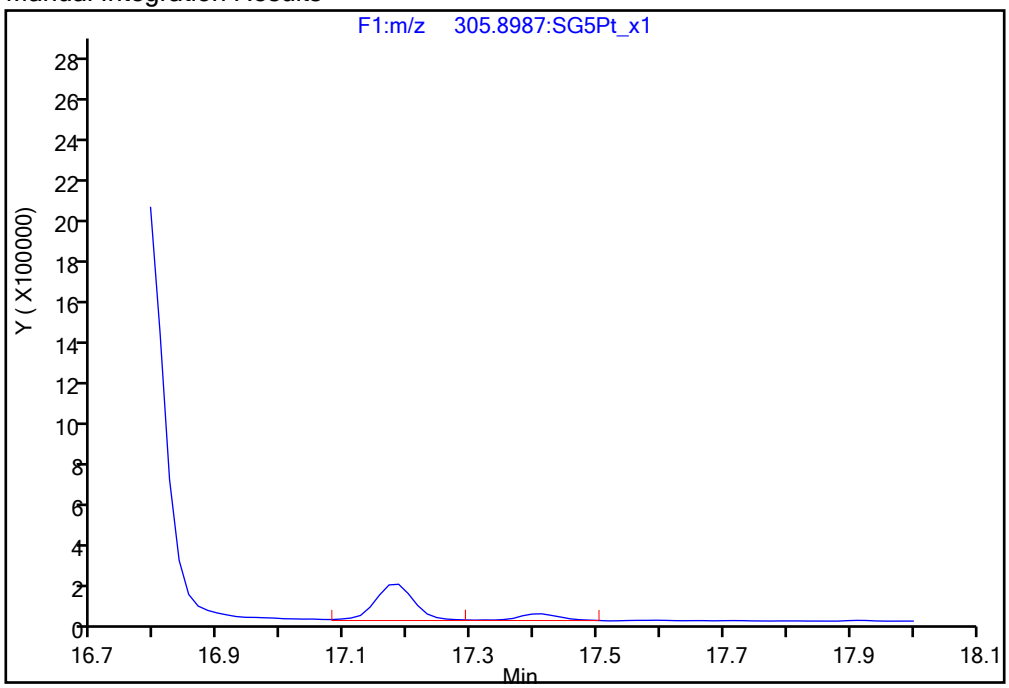

Reviewer: dadunj, 08-Nov-2019 09:09:47

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_11.d				
Injection Date:	06-Nov-2019 03:12:20	Instrument ID:	10D5		
Lims ID:	600-194690-A-11-A	Lab Sample ID:	320-194690-11		
Client ID:	INF 4 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

1,2,3,7,8-PeCDF, CAS: 57117-41-6

Signal: 2

Processing Integration Results

RT: 21.53
Area: 228319
Amount: 0.968755
Amount Units: pg/ul

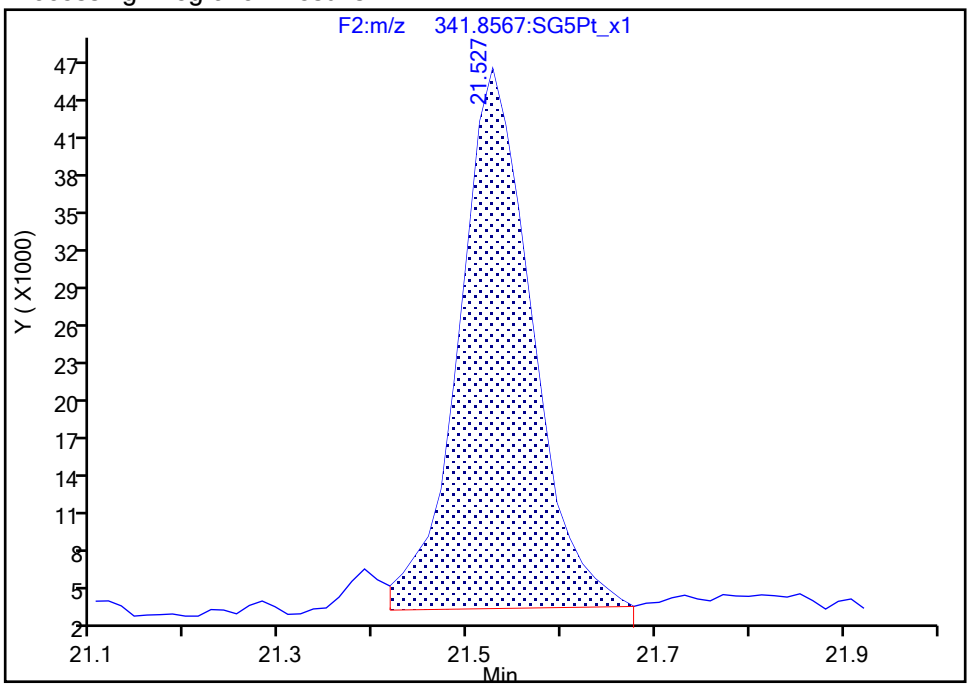

Manual Integration Results

RT: 21.53
Area: 240255
Amount: 1.006136
Amount Units: pg/ul

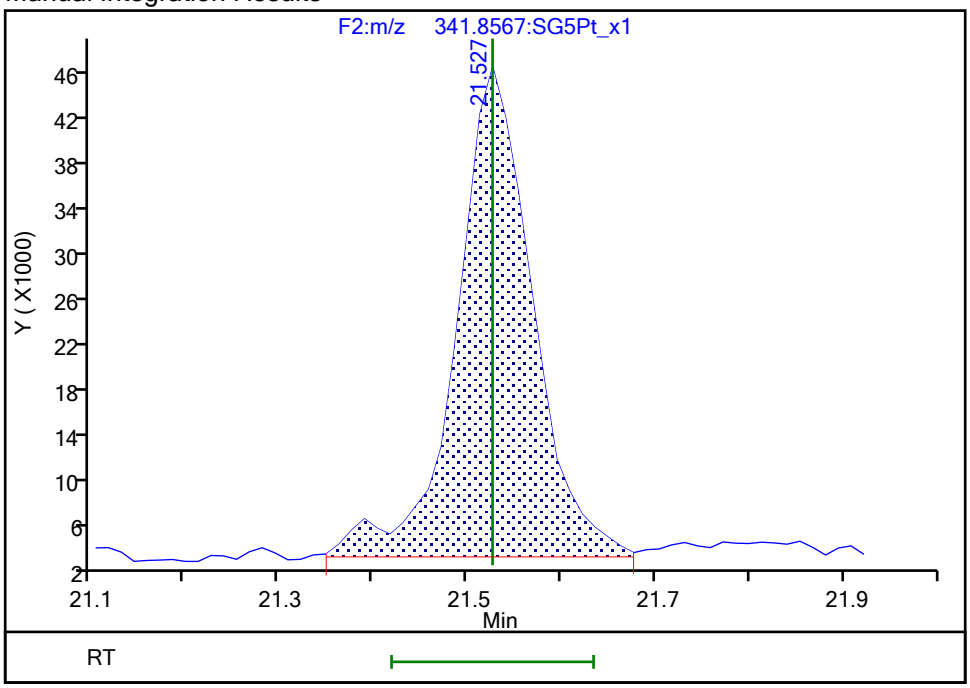

Reviewer: dadunj, 08-Nov-2019 09:10:56

Audit Action: Manually Integrated Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_11.d				
Injection Date:	06-Nov-2019 03:12:20	Instrument ID:	10D5		
Lims ID:	600-194690-A-11-A	Lab Sample ID:	320-194690-11		
Client ID:	INF 4 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

1,2,3,7,8-PeCDF, CAS: 57117-41-6

Signal: 1

Processing Integration Results

RT: 21.53
Area: 387777
Amount: 0.968755
Amount Units: pg/ul

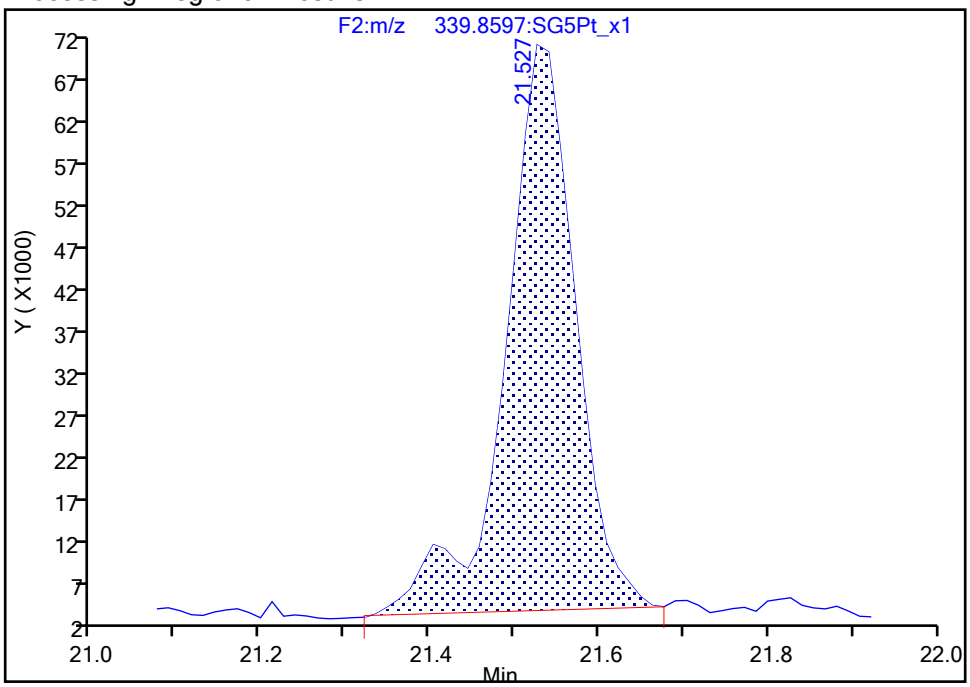

Manual Integration Results

RT: 21.53
Area: 399614
Amount: 1.006136
Amount Units: pg/ul

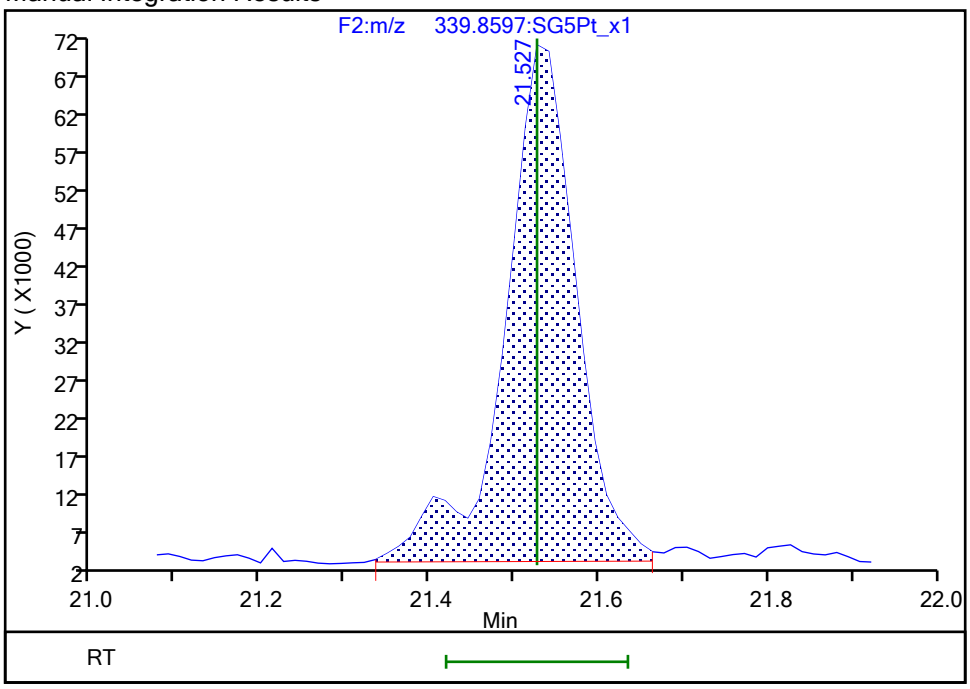

Reviewer: dadunj, 08-Nov-2019 09:11:01

Audit Action: Manually Integrated Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_11.d				
Injection Date:	06-Nov-2019 03:12:20	Instrument ID:	10D5		
Lims ID:	600-194690-A-11-A	Lab Sample ID:	320-194690-11		
Client ID:	INF 4 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDF, CAS: 70648-26-9

Signal: 2

Processing Integration Results

RT: 29.57
Area: 412848
Amount: 1.509935
Amount Units: pg/ul

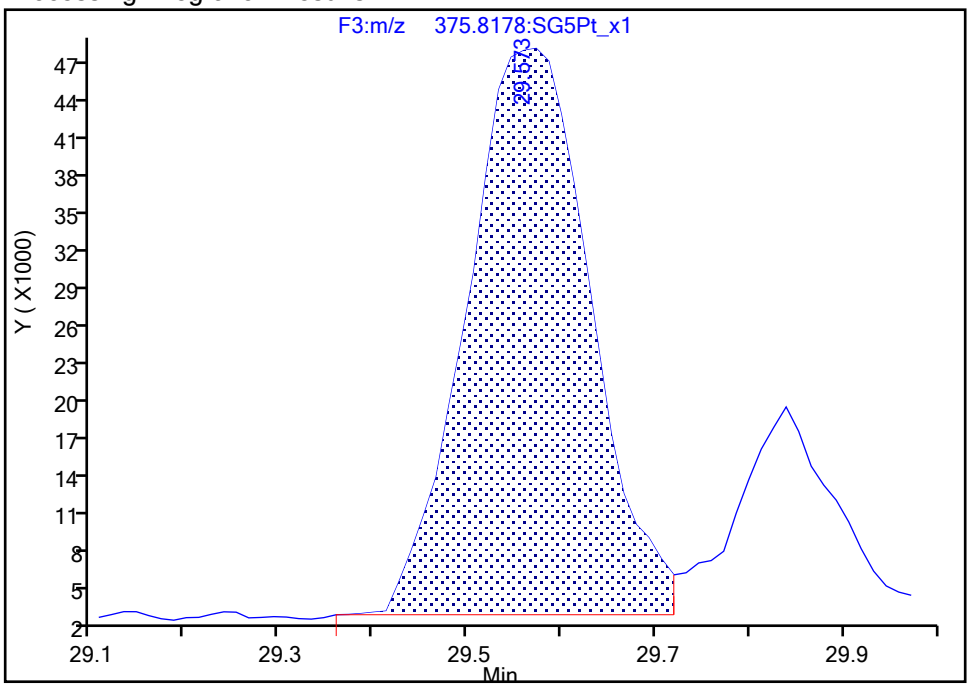

Manual Integration Results

RT: 29.57
Area: 412848
Amount: 1.527550
Amount Units: pg/ul

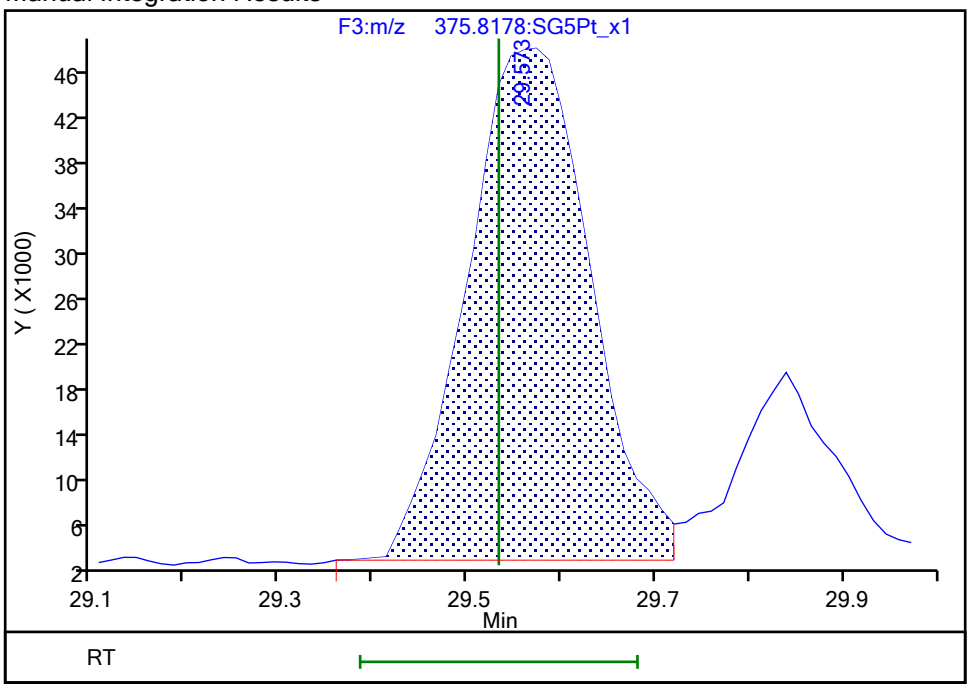

Reviewer: dadunj, 08-Nov-2019 09:11:51

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_11.d				
Injection Date:	06-Nov-2019 03:12:20	Instrument ID:	10D5		
Lims ID:	600-194690-A-11-A	Lab Sample ID:	320-194690-11		
Client ID:	INF 4 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDF, CAS: 70648-26-9

Signal: 3

Processing Integration Results

RT: 29.59
Area: 903045
Amount: 1.509935
Amount Units: pg/ul

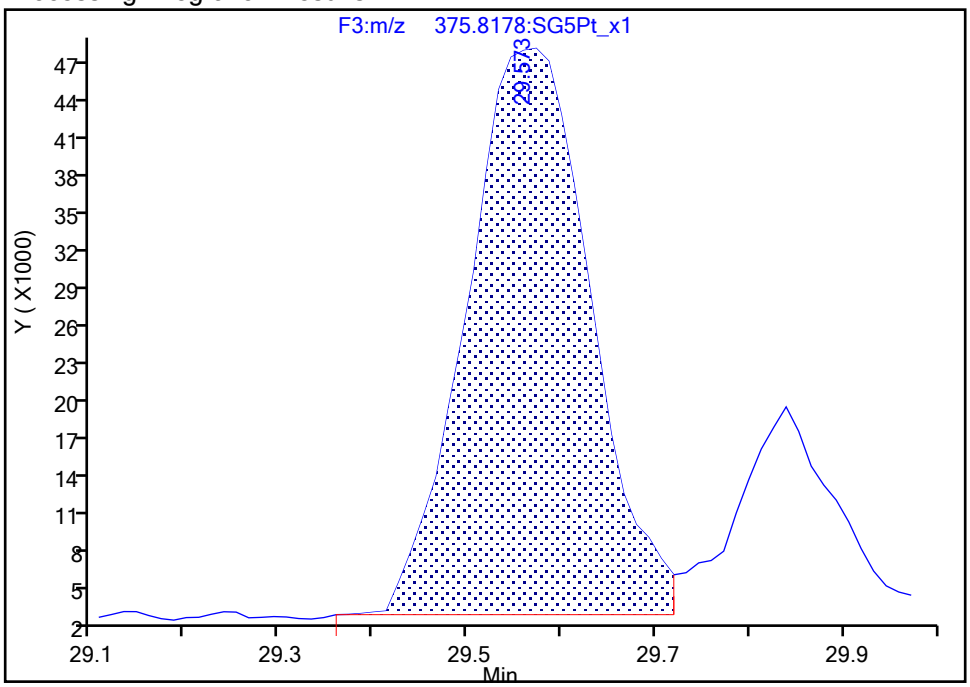

Manual Integration Results

RT: 29.59
Area: 913580
Amount: 1.527550
Amount Units: pg/ul
Reviewer: dadunj, 08-Nov-2019 09:11:51
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_11.d				
Injection Date:	06-Nov-2019 03:12:20	Instrument ID:	10D5		
Lims ID:	600-194690-A-11-A	Lab Sample ID:	320-194690-11		
Client ID:	INF 4 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDF, CAS: 70648-26-9

Signal: 1

Processing Integration Results

RT: 29.59
Area: 490197
Amount: 1.509935
Amount Units: pg/ul

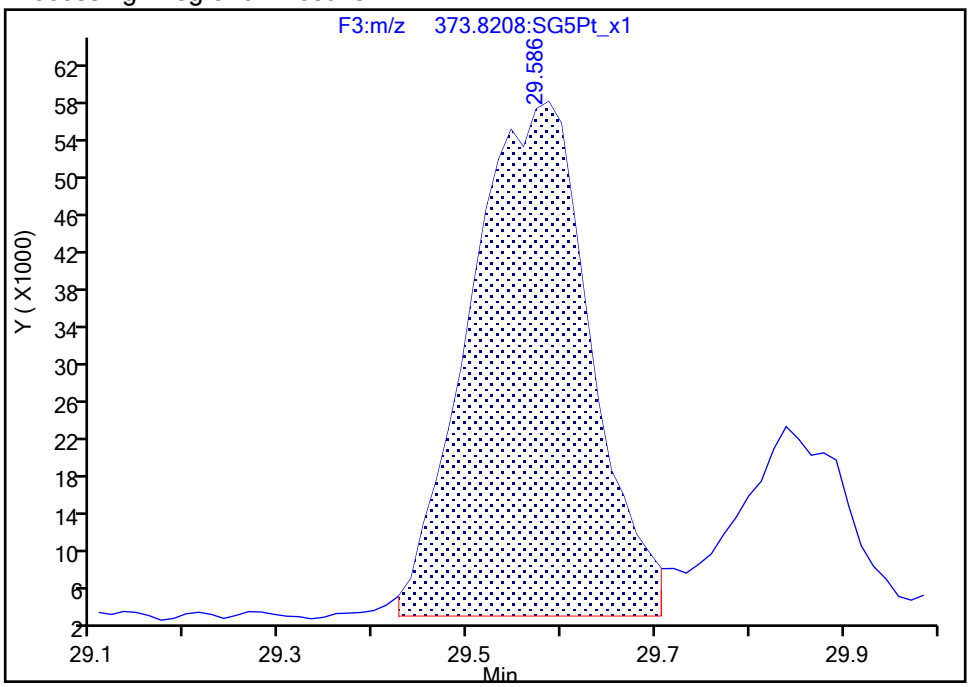

Manual Integration Results

RT: 29.59
Area: 500732
Amount: 1.527550
Amount Units: pg/ul

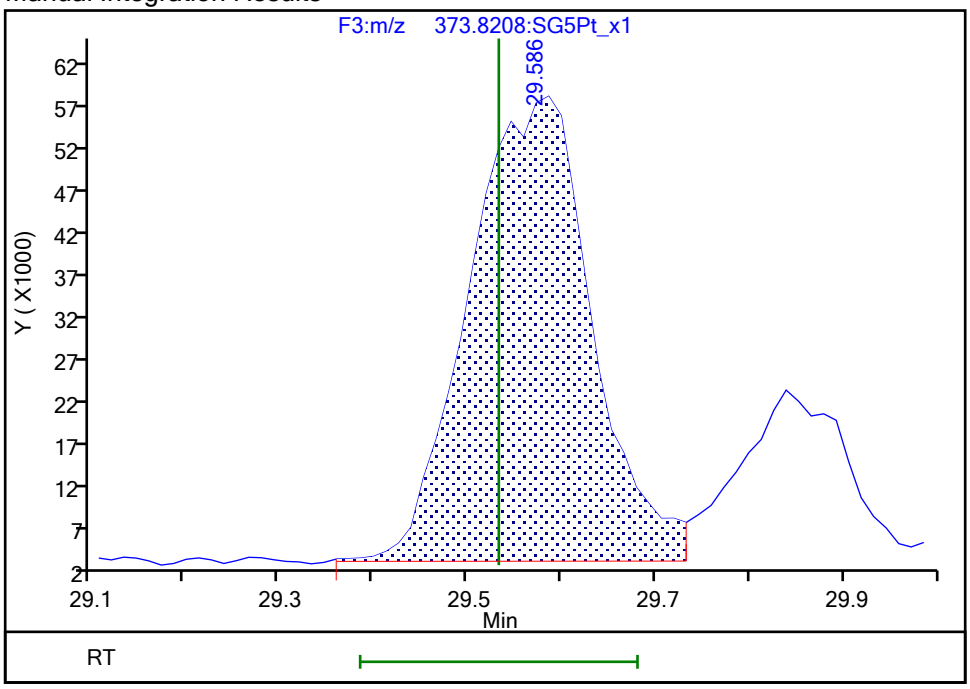

Reviewer: dadunj, 08-Nov-2019 09:11:52

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_11.d				
Injection Date:	06-Nov-2019 03:12:20	Instrument ID:	10D5		
Lims ID:	600-194690-A-11-A	Lab Sample ID:	320-194690-11		
Client ID:	INF 4 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDF, CAS: 57117-44-9

Signal: 2

Processing Integration Results

RT: 29.84
Area: 128496
Amount: 0.490602
Amount Units: pg/ul

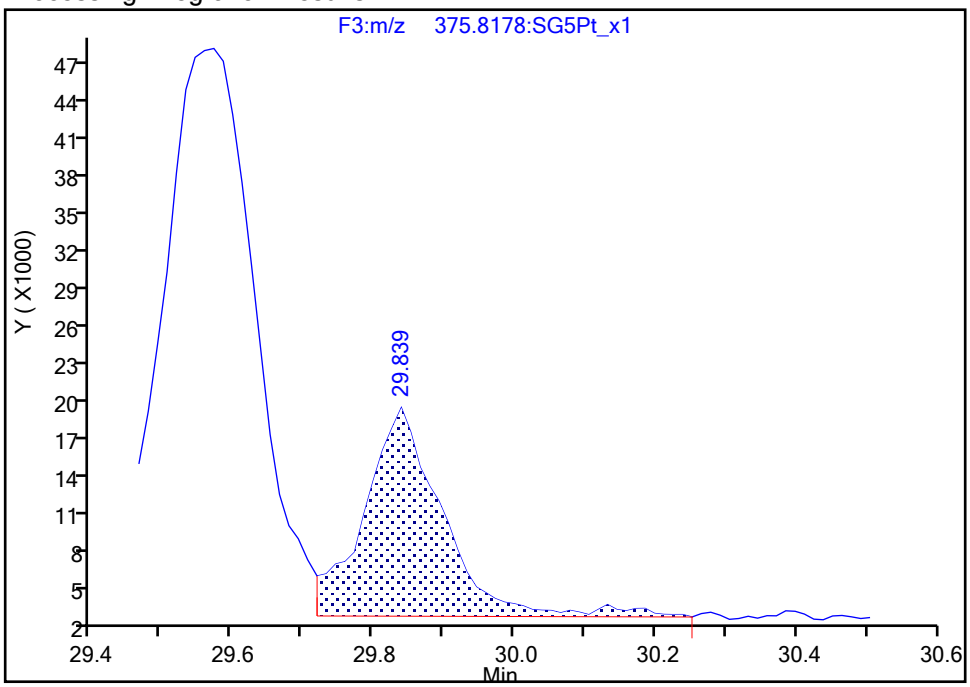

Manual Integration Results

RT: 29.84
Area: 128496
Amount: 0.481391
Amount Units: pg/ul

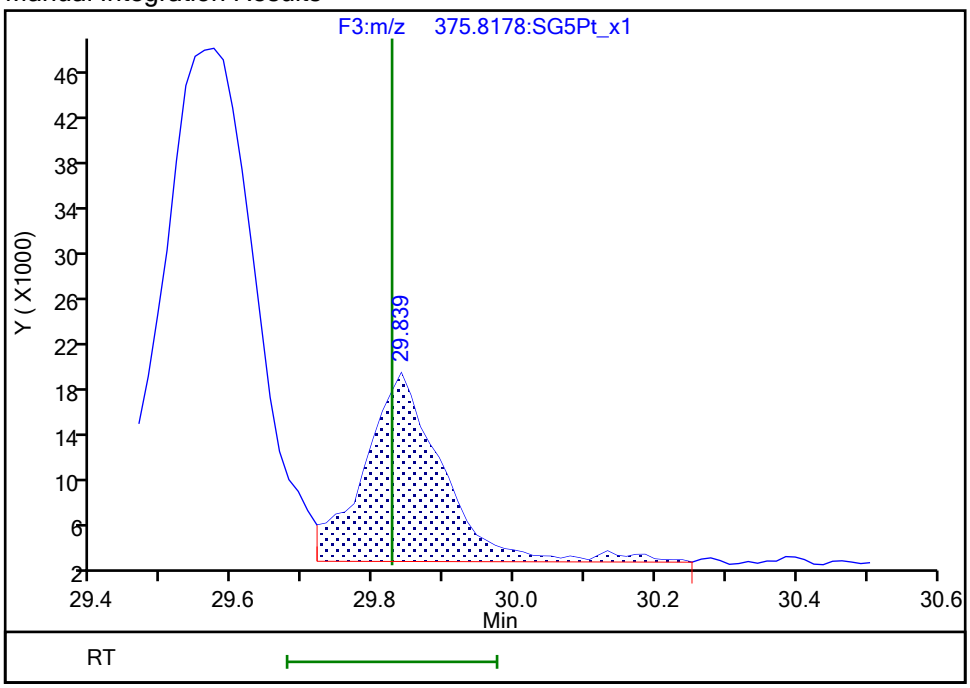

Reviewer: dadunj, 08-Nov-2019 09:11:56

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_11.d				
Injection Date:	06-Nov-2019 03:12:20	Instrument ID:	10D5		
Lims ID:	600-194690-A-11-A	Lab Sample ID:	320-194690-11		
Client ID:	INF 4 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDF, CAS: 57117-44-9

Signal: 3

Processing Integration Results

RT: 29.84
Area: 299819
Amount: 0.490602
Amount Units: pg/ul

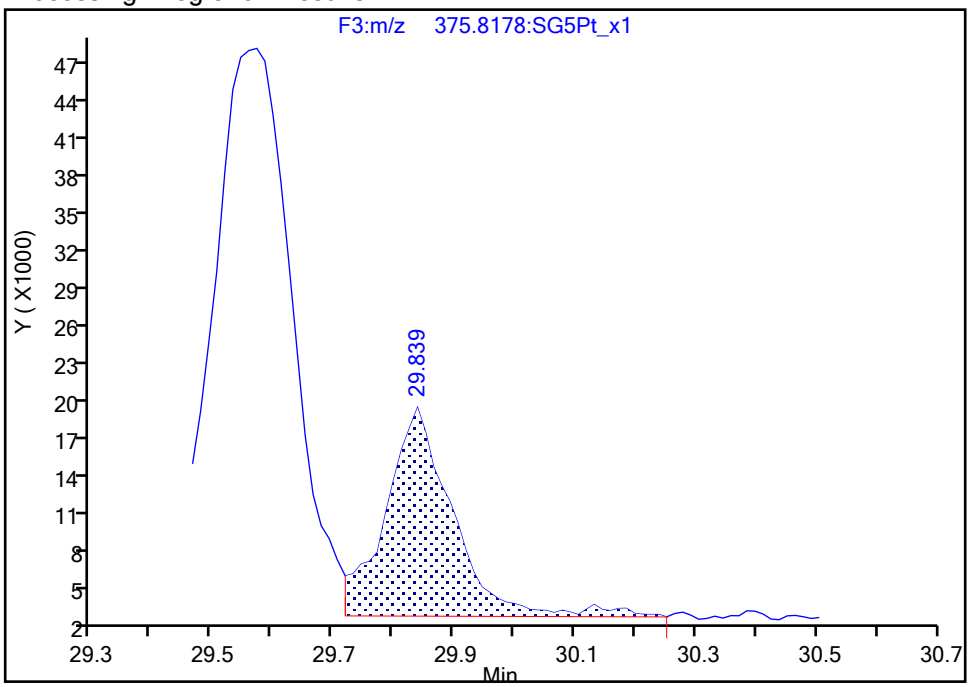

Manual Integration Results

RT: 29.84
Area: 294190
Amount: 0.481391
Amount Units: pg/ul
Reviewer: dadunj, 08-Nov-2019 09:11:56
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_11.d				
Injection Date:	06-Nov-2019 03:12:20	Instrument ID:	10D5		
Lims ID:	600-194690-A-11-A	Lab Sample ID:	320-194690-11		
Client ID:	INF 4 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDF, CAS: 57117-44-9

Signal: 1

Processing Integration Results

RT: 29.84
Area: 171323
Amount: 0.490602
Amount Units: pg/ul

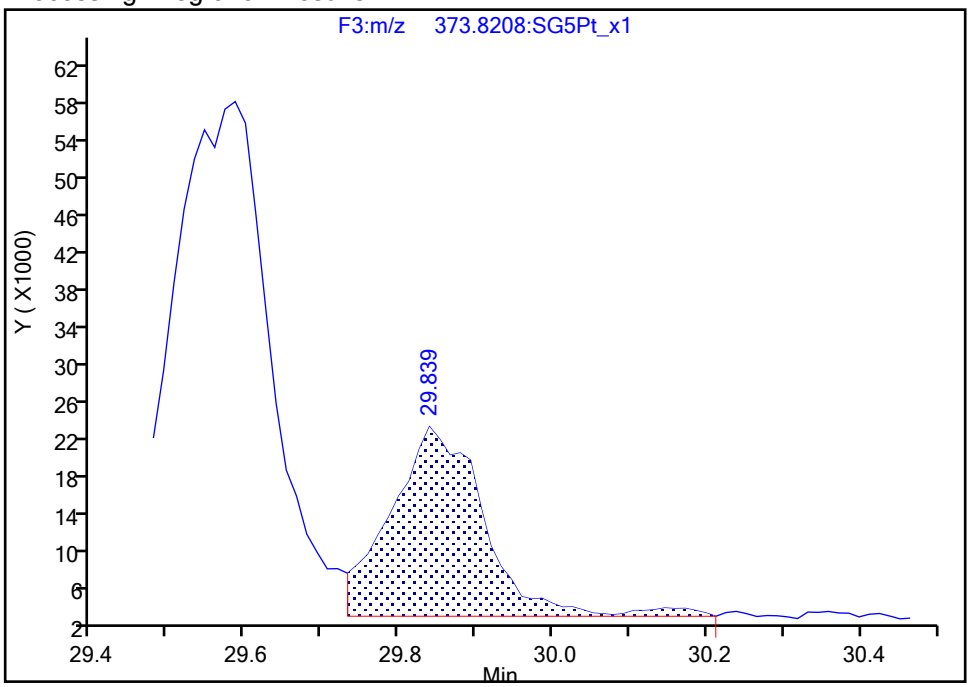

Manual Integration Results

RT: 29.84
Area: 165694
Amount: 0.481391
Amount Units: pg/ul

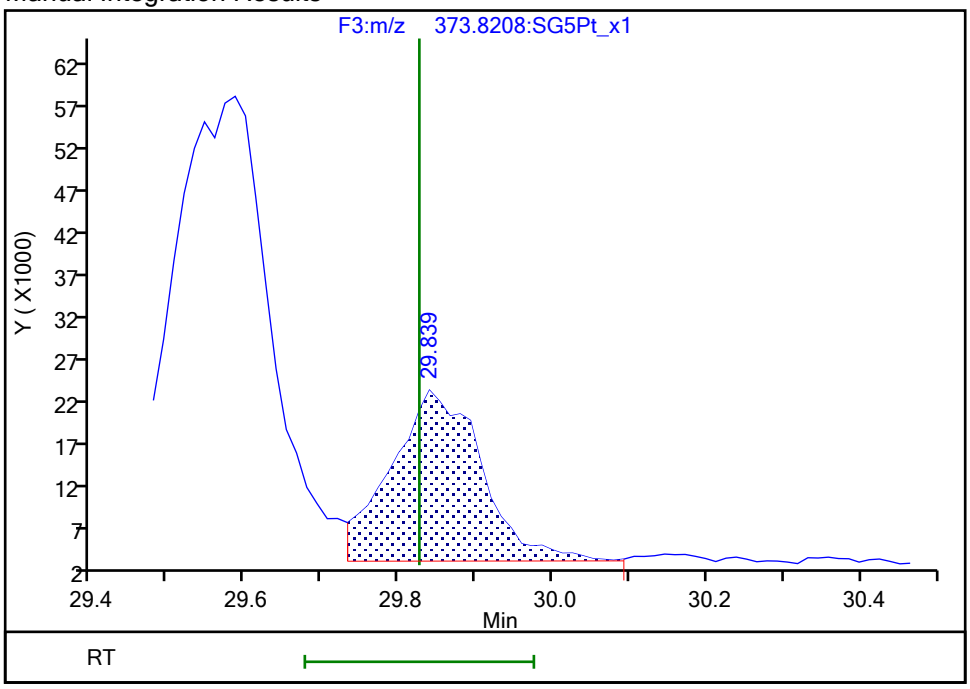

Reviewer: dadunj, 08-Nov-2019 09:11:58

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_11.d				
Injection Date:	06-Nov-2019 03:12:20	Instrument ID:	10D5		
Lims ID:	600-194690-A-11-A	Lab Sample ID:	320-194690-11		
Client ID:	INF 4 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 1

Processing Integration Results

RT: 31.16
Area: 56755
Amount: 0.263082
Amount Units: pg/ul

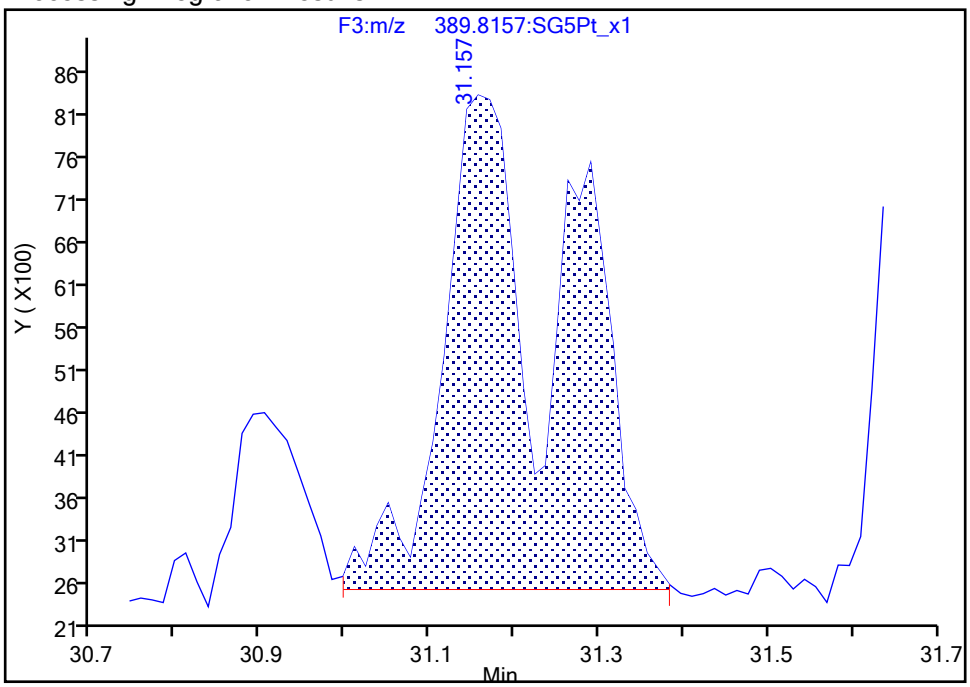

Manual Integration Results

RT: 31.16
Area: 33821
Amount: 0.154231
Amount Units: pg/ul

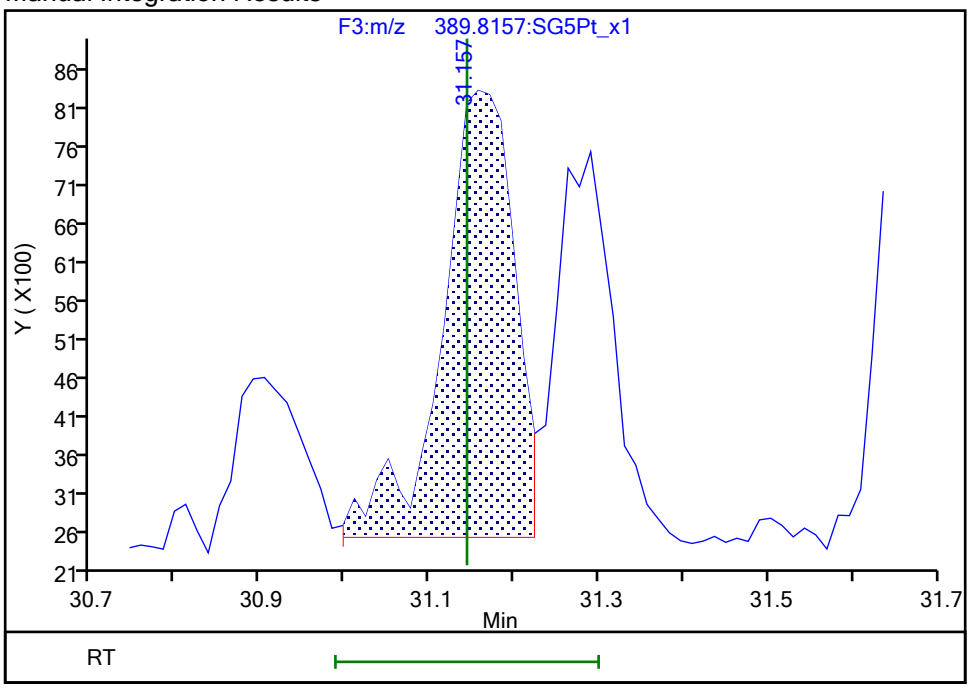

Reviewer: dadunj, 08-Nov-2019 09:12:12

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_11.d				
Injection Date:	06-Nov-2019 03:12:20	Instrument ID:	10D5		
Lims ID:	600-194690-A-11-A	Lab Sample ID:	320-194690-11		
Client ID:	INF 4 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 2

Processing Integration Results

RT: 31.16
Area: 43986
Amount: 0.263082
Amount Units: pg/ul

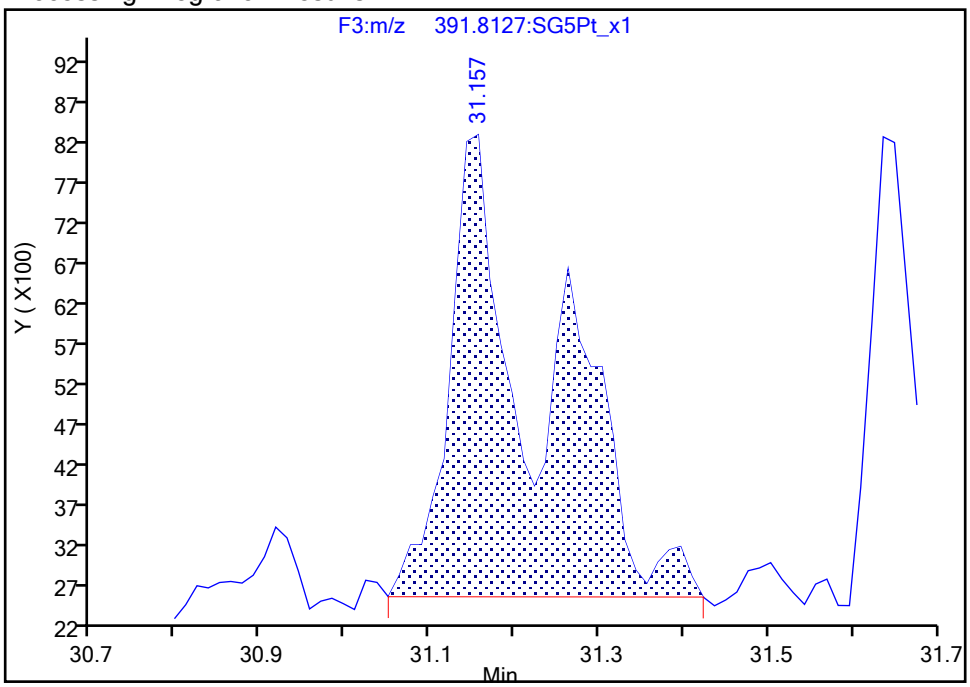

Manual Integration Results

RT: 31.16
Area: 25238
Amount: 0.154231
Amount Units: pg/ul

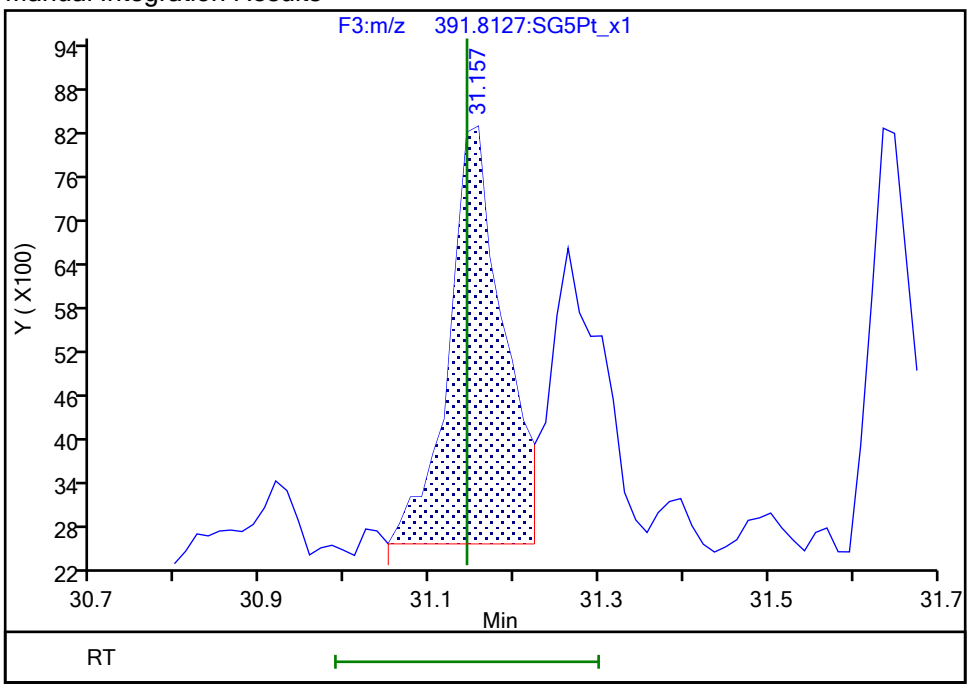

Reviewer: dadunj, 08-Nov-2019 09:12:14

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_11.d				
Injection Date:	06-Nov-2019 03:12:20	Instrument ID:	10D5		
Lims ID:	600-194690-A-11-A	Lab Sample ID:	320-194690-11		
Client ID:	INF 4 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 2

Processing Integration Results

RT: 31.16
Area: 43986
Amount: 0.249629
Amount Units: pg/ul

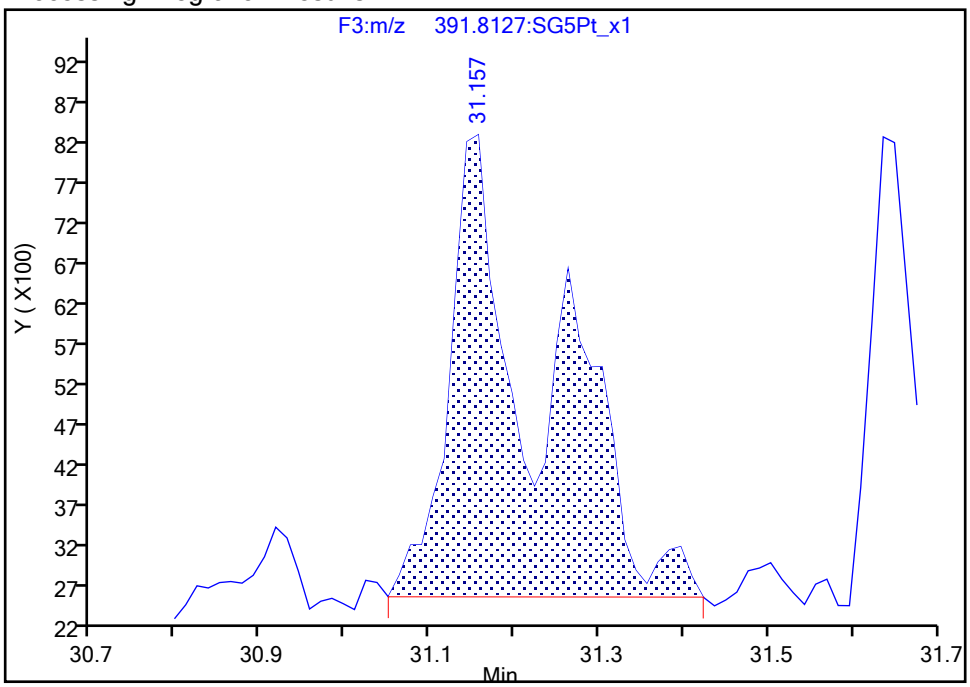

Manual Integration Results

RT: 31.26
Area: 18738
Amount: 0.103260
Amount Units: pg/ul

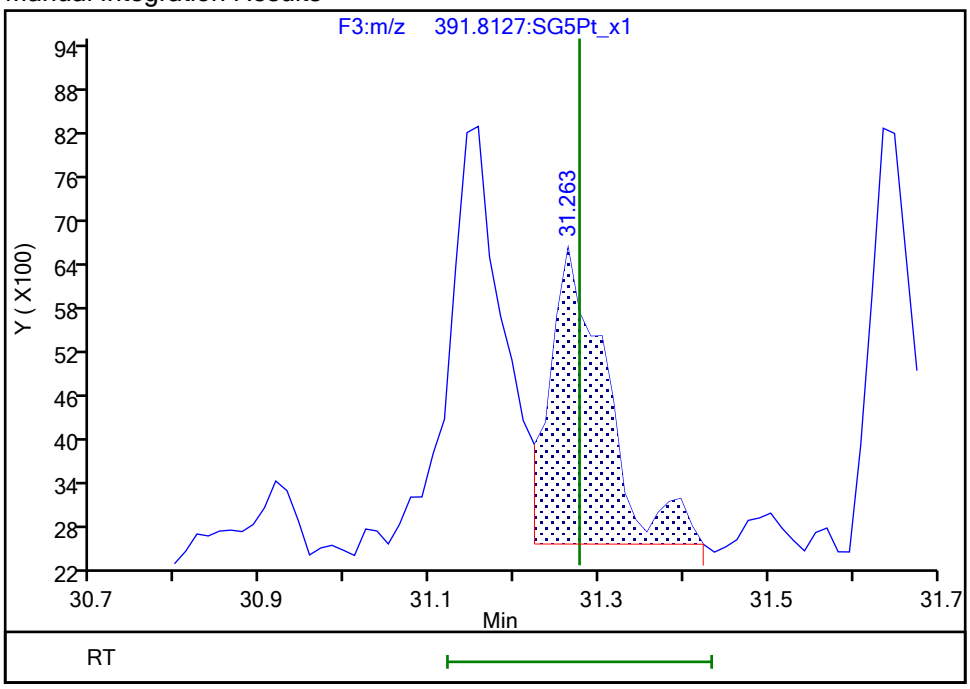

Reviewer: dadunj, 08-Nov-2019 09:12:17
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_11.d				
Injection Date:	06-Nov-2019 03:12:20	Instrument ID:	10D5		
Lims ID:	600-194690-A-11-A	Lab Sample ID:	320-194690-11		
Client ID:	INF 4 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 3

Processing Integration Results

RT: 31.16
Area: 100741
Amount: 0.249629
Amount Units: pg/ul

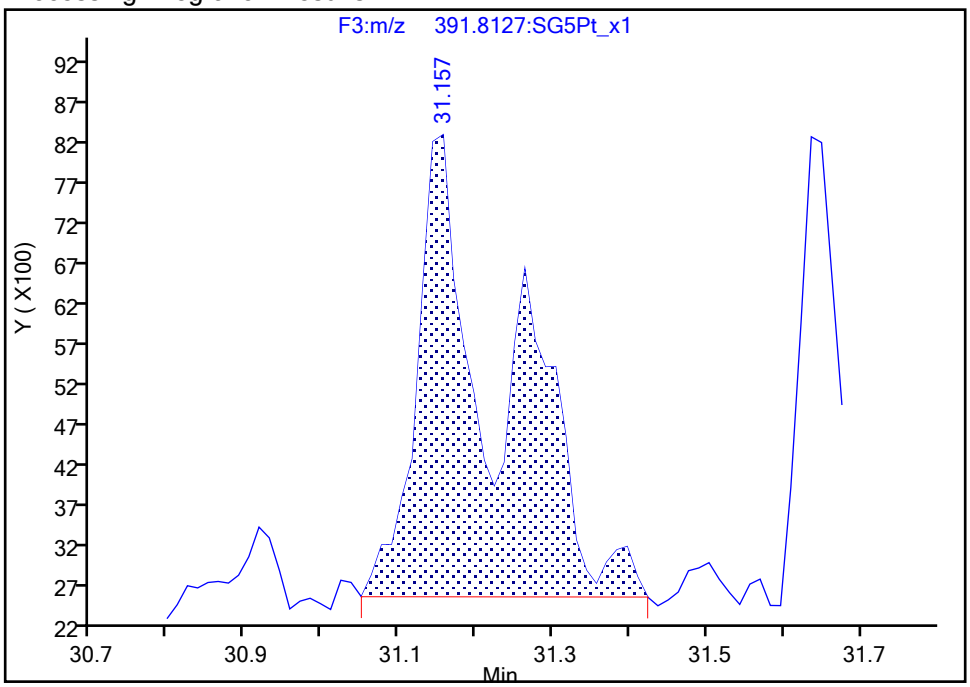

Manual Integration Results

RT: 31.29
Area: 41672
Amount: 0.103260
Amount Units: pg/ul
Reviewer: dadunj, 08-Nov-2019 09:12:17
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_11.d				
Injection Date:	06-Nov-2019 03:12:20	Instrument ID:	10D5		
Lims ID:	600-194690-A-11-A	Lab Sample ID:	320-194690-11		
Client ID:	INF 4 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 1

Processing Integration Results

RT: 31.16
Area: 56755
Amount: 0.249629
Amount Units: pg/ul

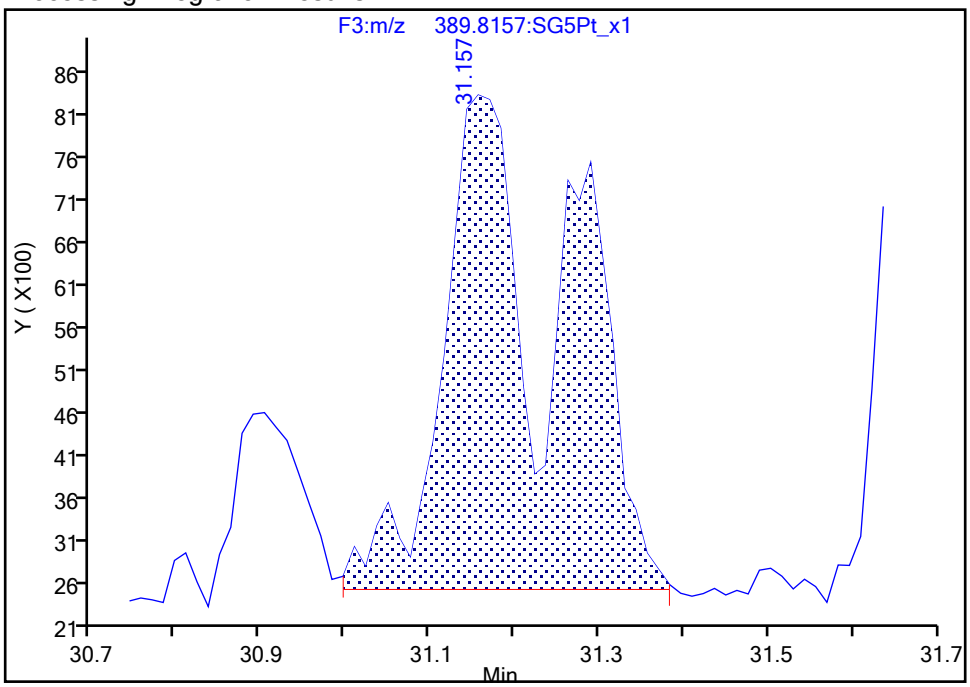

Manual Integration Results

RT: 31.29
Area: 22934
Amount: 0.103260
Amount Units: pg/ul

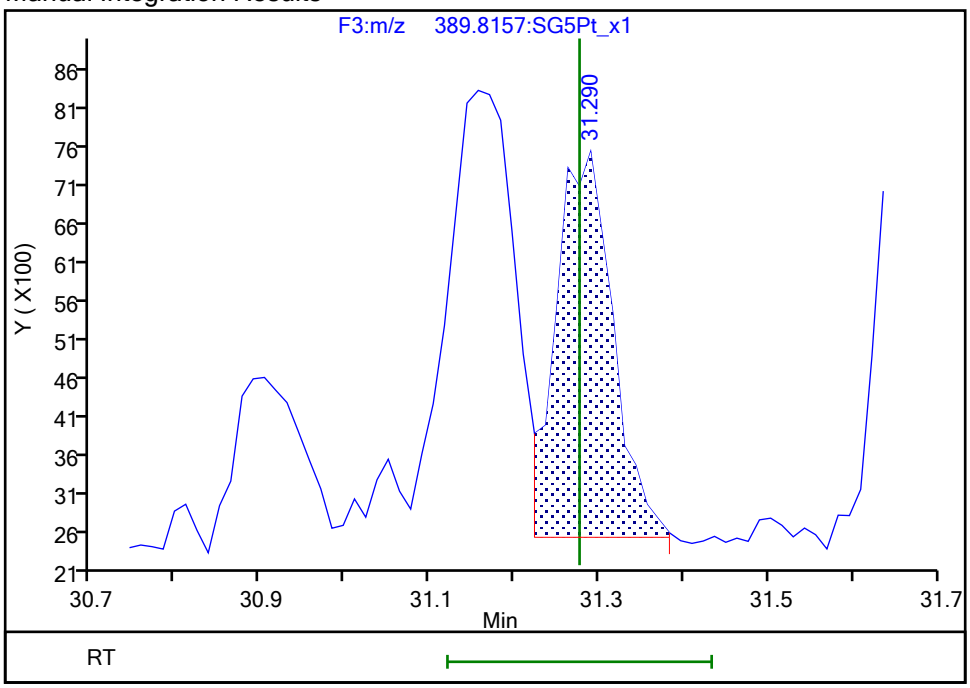

Reviewer: dadunj, 08-Nov-2019 09:12:18

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_11.d				
Injection Date:	06-Nov-2019 03:12:20	Instrument ID:	10D5		
Lims ID:	600-194690-A-11-A	Lab Sample ID:	320-194690-11		
Client ID:	INF 4 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 2

Processing Integration Results

RT: 33.41
Area: 121451
Amount: 0.590657
Amount Units: pg/ul

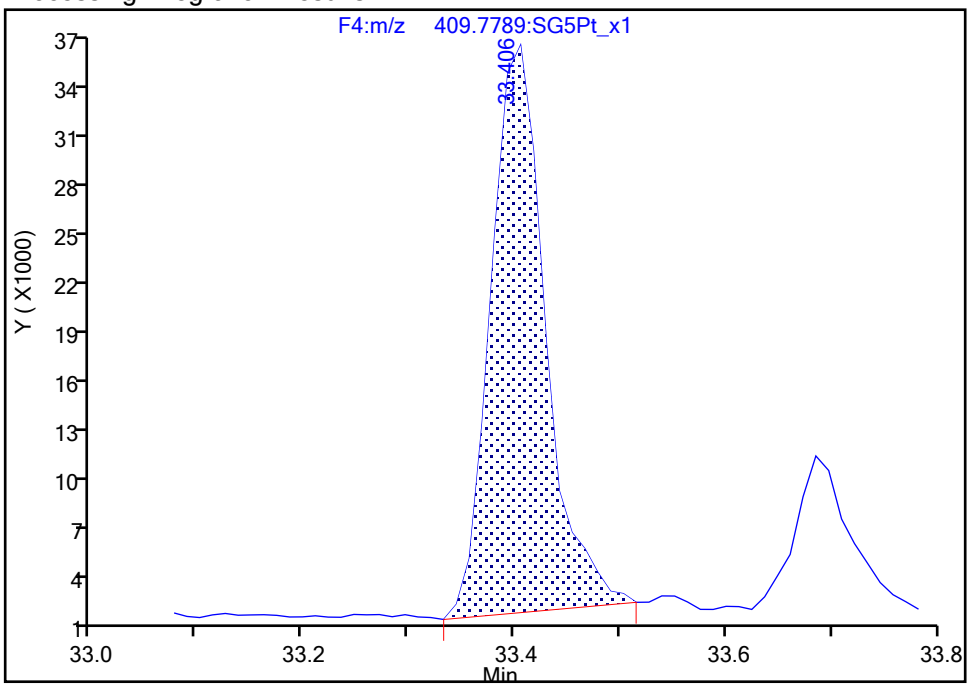

Manual Integration Results

RT: 33.41
Area: 122290
Amount: 0.578990
Amount Units: pg/ul

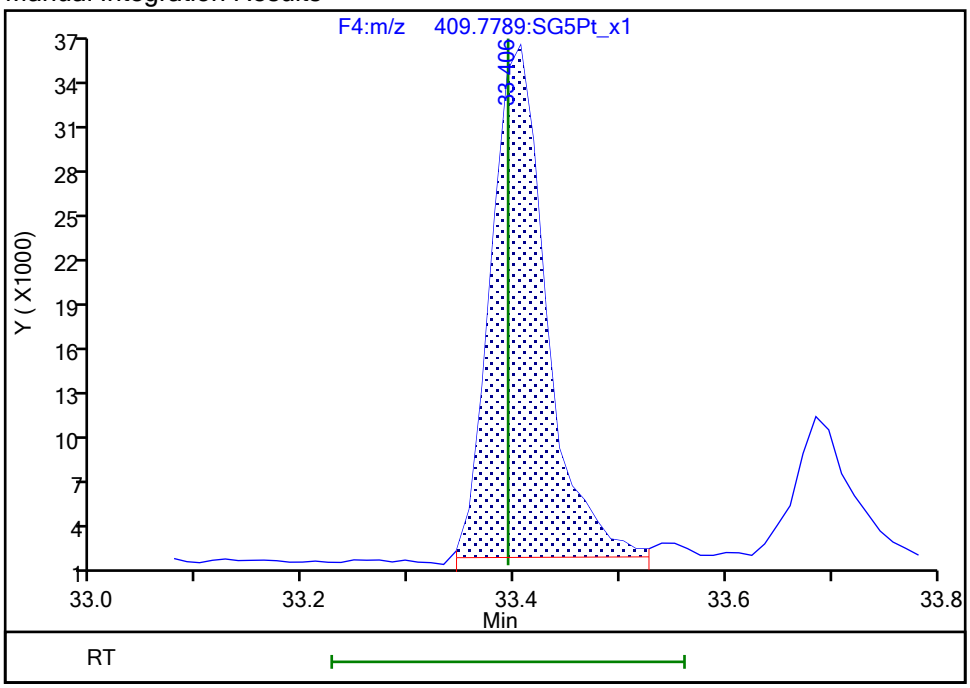

Reviewer: dadunj, 08-Nov-2019 09:12:34

Audit Action: Manually Integrated Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_11.d				
Injection Date:	06-Nov-2019 03:12:20	Instrument ID:	10D5		
Lims ID:	600-194690-A-11-A	Lab Sample ID:	320-194690-11		
Client ID:	INF 4 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 1

Processing Integration Results

RT: 33.41
Area: 143637
Amount: 0.590657
Amount Units: pg/ul

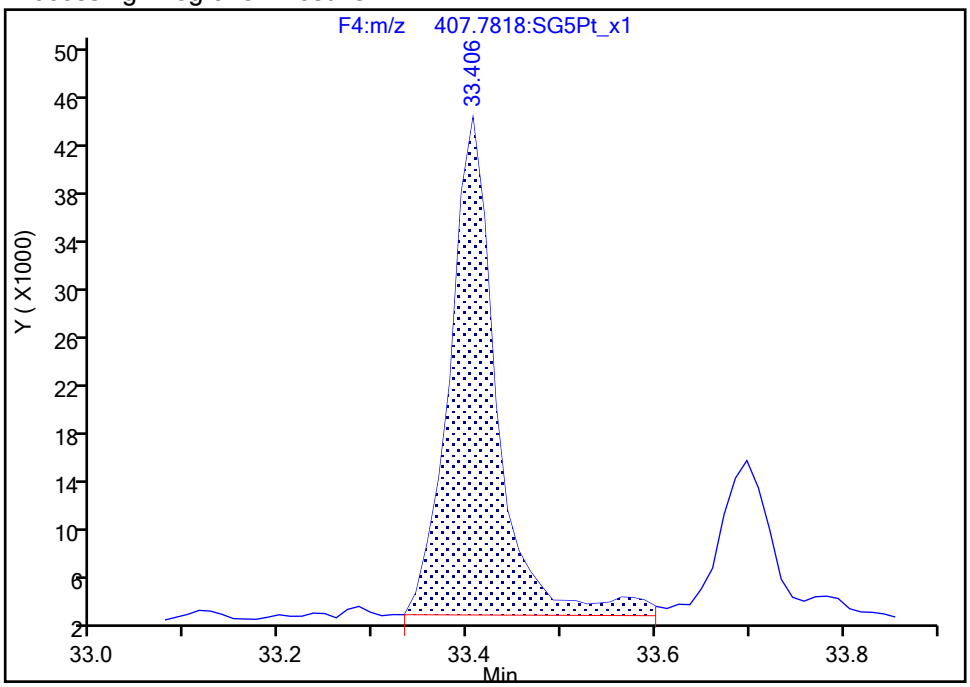

Manual Integration Results

RT: 33.41
Area: 137562
Amount: 0.578990
Amount Units: pg/ul

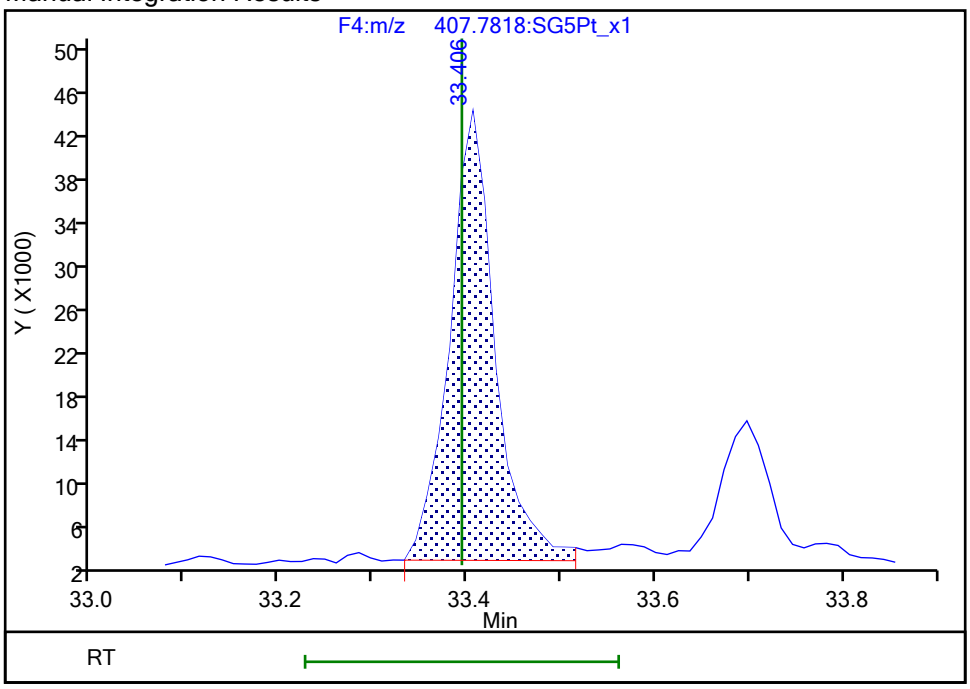

Reviewer: dadunj, 08-Nov-2019 09:12:34

Audit Action: Manually Integrated Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_11.d				
Injection Date:	06-Nov-2019 03:12:20	Instrument ID:	10D5		
Lims ID:	600-194690-A-11-A	Lab Sample ID:	320-194690-11		
Client ID:	INF 4 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,7,8,9-HpCDF, CAS: 55673-89-7

Signal: 2

Processing Integration Results

RT: 34.45
Area: 49946
Amount: 0.261663
Amount Units: pg/ul

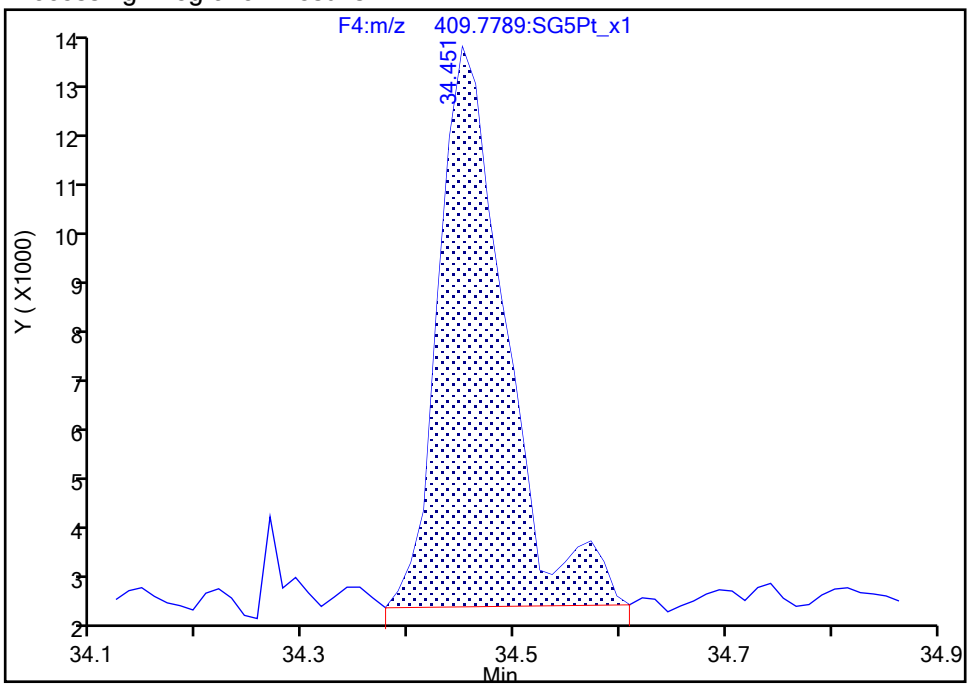

Manual Integration Results

RT: 34.45
Area: 46501
Amount: 0.240854
Amount Units: pg/ul

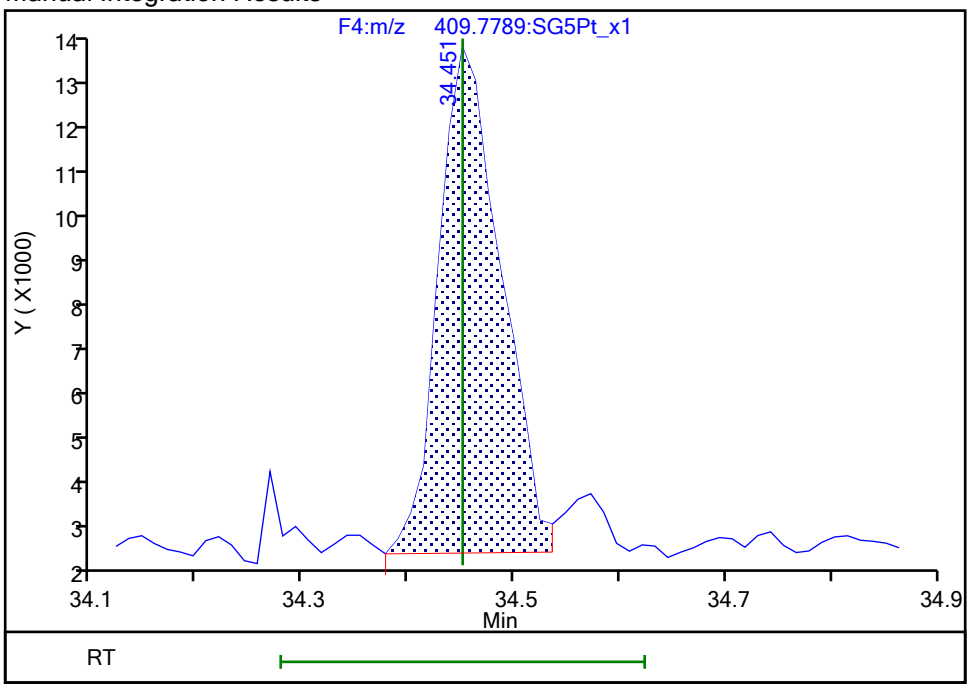

Reviewer: dadunj, 08-Nov-2019 09:12:43

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_11.d				
Injection Date:	06-Nov-2019 03:12:20	Instrument ID:	10D5		
Lims ID:	600-194690-A-11-A	Lab Sample ID:	320-194690-11		
Client ID:	INF 4 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,7,8,9-HpCDF, CAS: 55673-89-7

Signal: 1

Processing Integration Results

RT: 34.45
Area: 52586
Amount: 0.261663
Amount Units: pg/ul

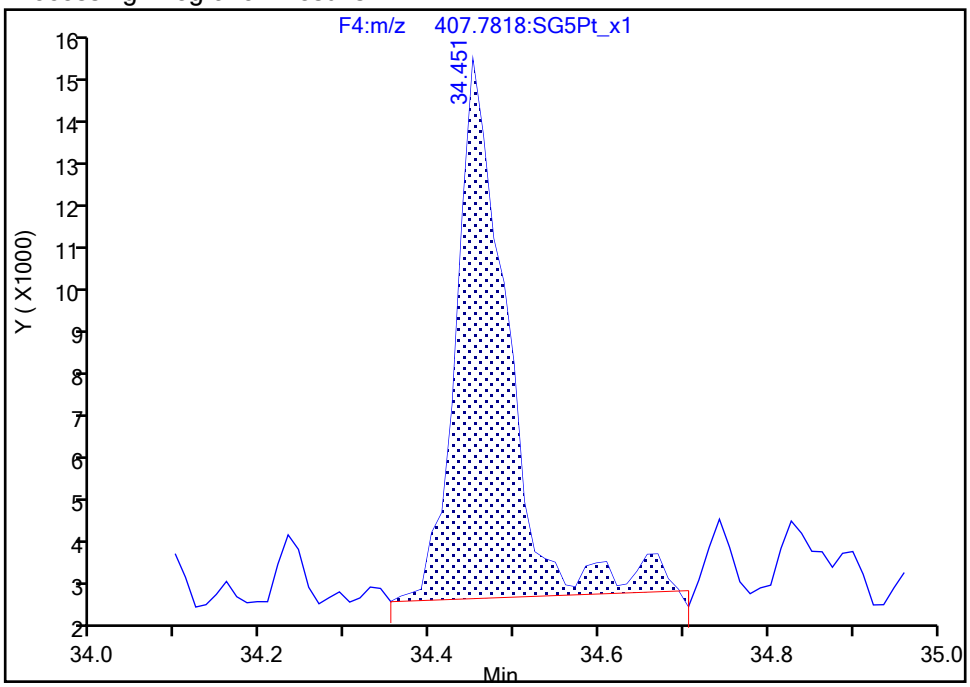

Manual Integration Results

RT: 34.45
Area: 47877
Amount: 0.240854
Amount Units: pg/ul

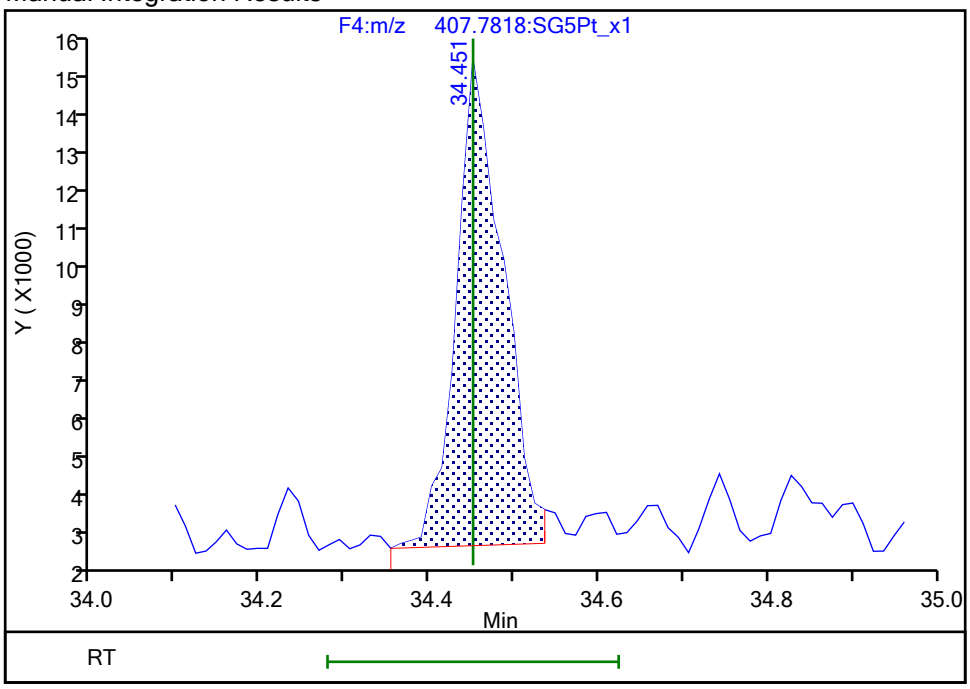

Reviewer: dadunj, 08-Nov-2019 09:12:44

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_11.d				
Injection Date:	06-Nov-2019 03:12:20	Instrument ID:	10D5		
Lims ID:	600-194690-A-11-A	Lab Sample ID:	320-194690-11		
Client ID:	INF 4 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 1

Processing Integration Results

RT: 34.18
Area: 212716
Amount: 1.462855
Amount Units: pg/ul

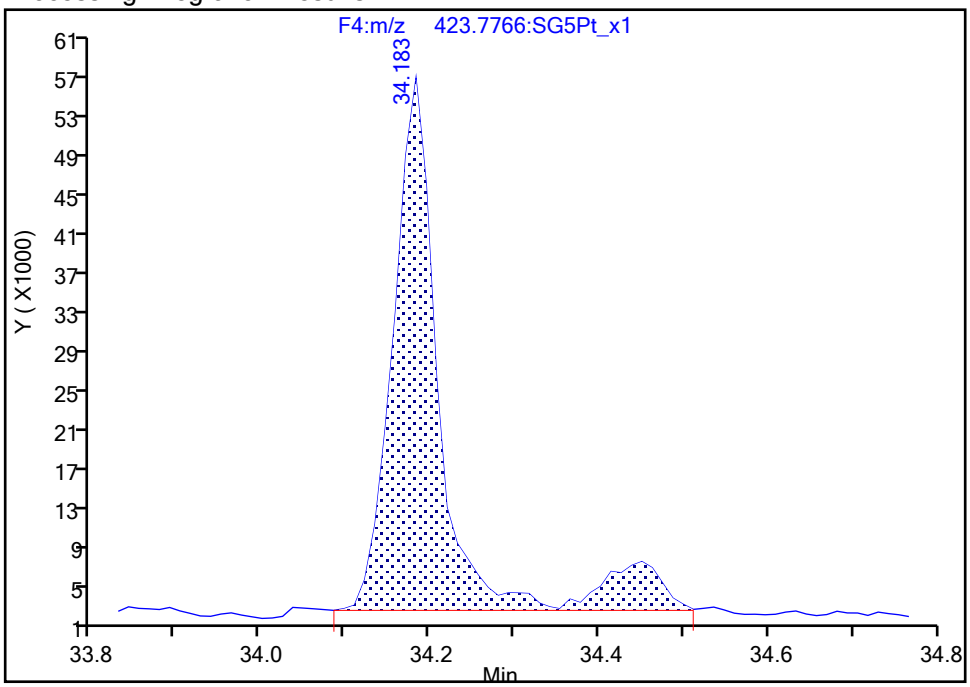

Manual Integration Results

RT: 34.18
Area: 189259
Amount: 1.341547
Amount Units: pg/ul

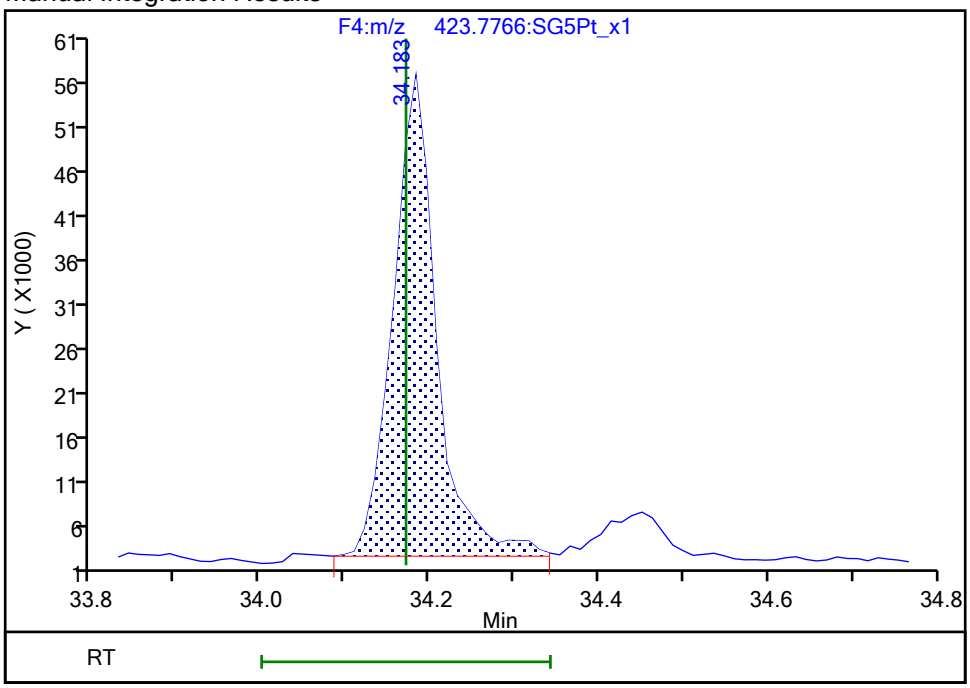

Reviewer: dadunj, 08-Nov-2019 09:12:51

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_11.d				
Injection Date:	06-Nov-2019 03:12:20	Instrument ID:	10D5		
Lims ID:	600-194690-A-11-A	Lab Sample ID:	320-194690-11		
Client ID:	INF 4 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 2

Processing Integration Results

RT: 34.18
Area: 200799
Amount: 1.462855
Amount Units: pg/ul

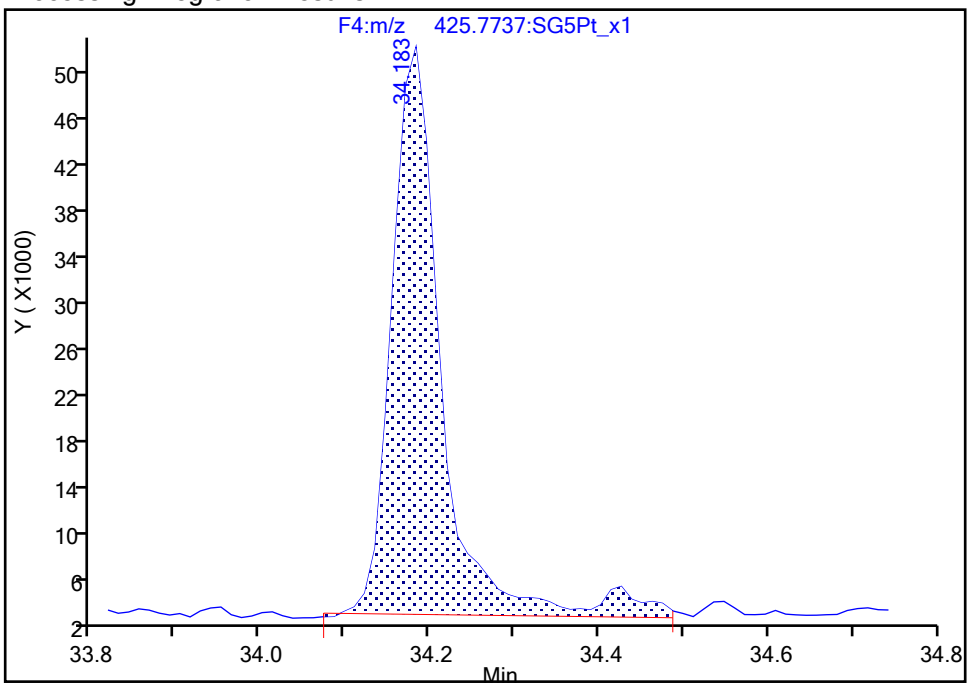

Manual Integration Results

RT: 34.18
Area: 189965
Amount: 1.341547
Amount Units: pg/ul

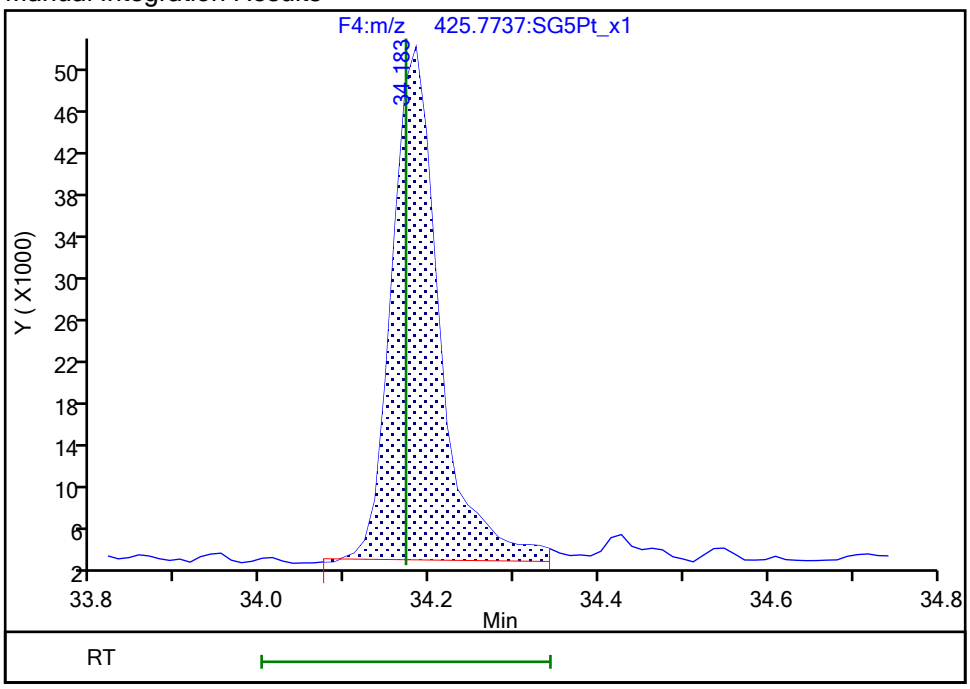

Reviewer: dadunj, 08-Nov-2019 09:12:54

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_11.d				
Injection Date:	06-Nov-2019 03:12:20	Instrument ID:	10D5		
Lims ID:	600-194690-A-11-A	Lab Sample ID:	320-194690-11		
Client ID:	INF 4 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

Non-2,3,7,8-sub-HpCDD, Signal: 1, m/z: 423.7766, RT: (33.59- 34.49)

Signal: 1

Processing Integration Results

RT = 33.649 Area = 179075

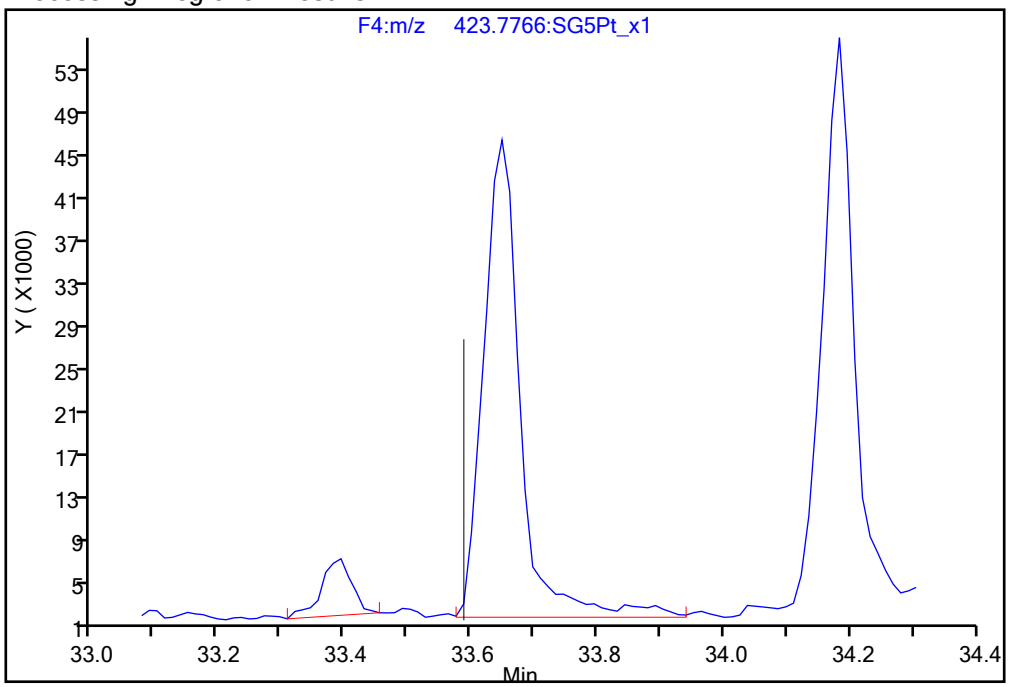

Manual Integration Results

RT = 33.649 Area = 172985 M

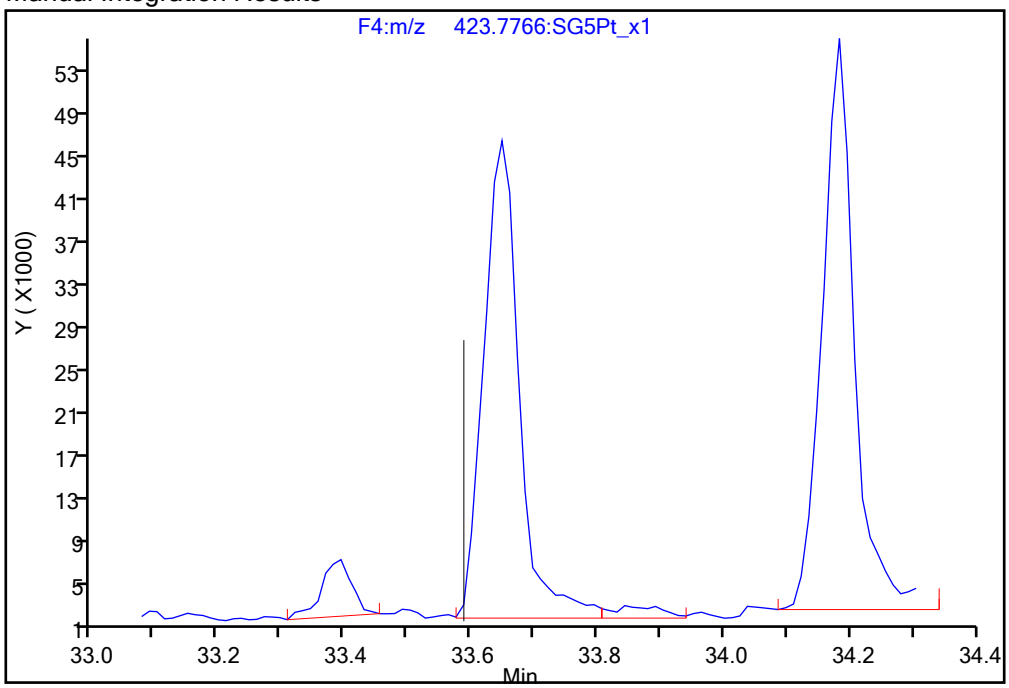

Reviewer: dadunj, 08-Nov-2019 09:12:58

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 08-Nov-2019 09:14:43 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_11.d		
Injection Date:	06-Nov-2019 03:12:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336302	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

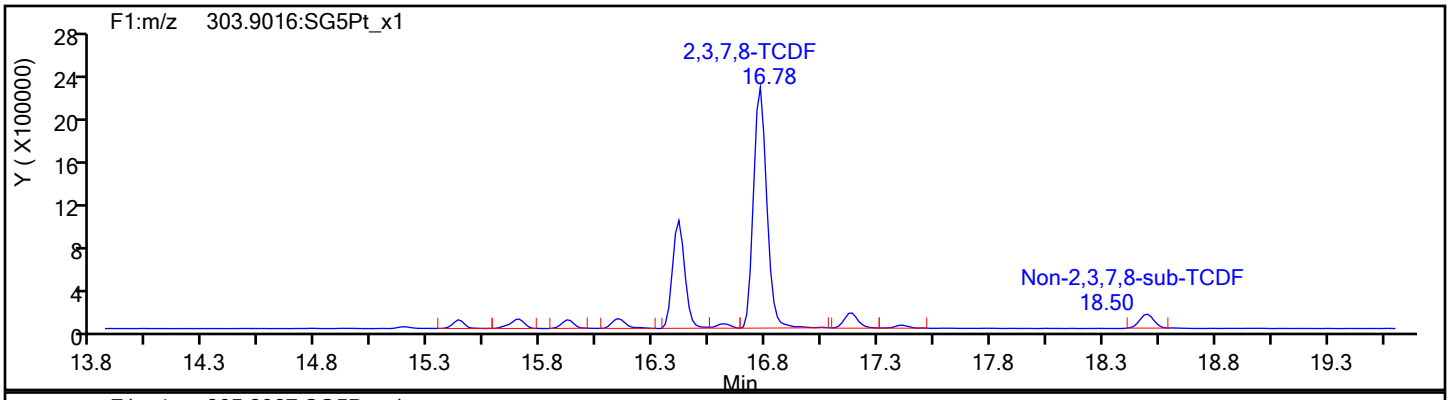

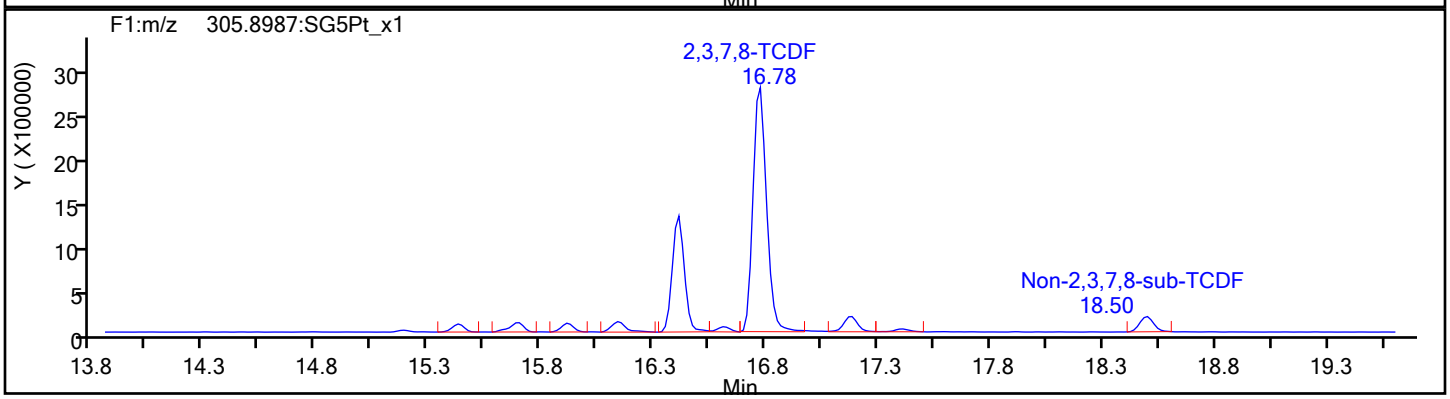

TCDF Standards

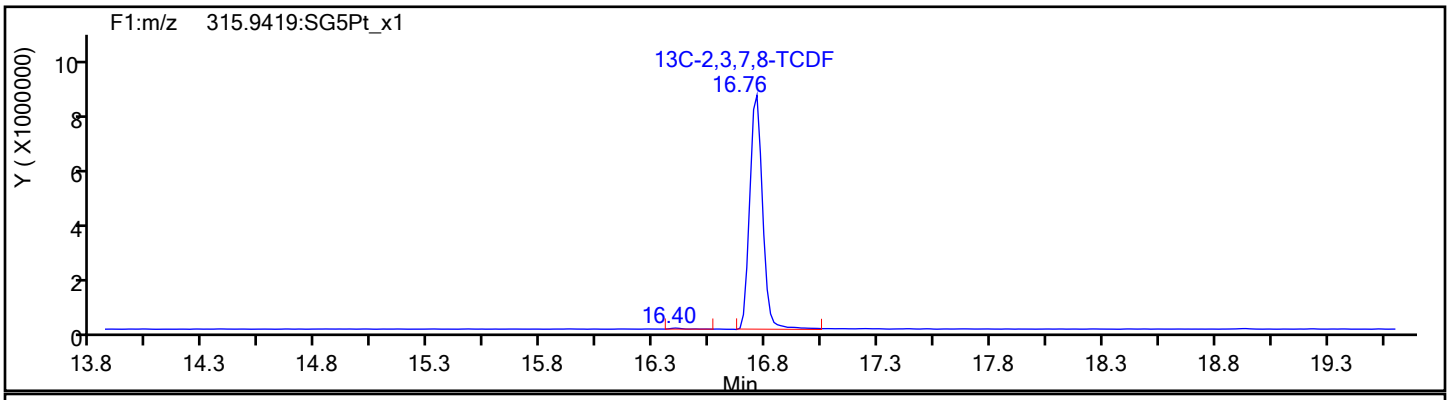

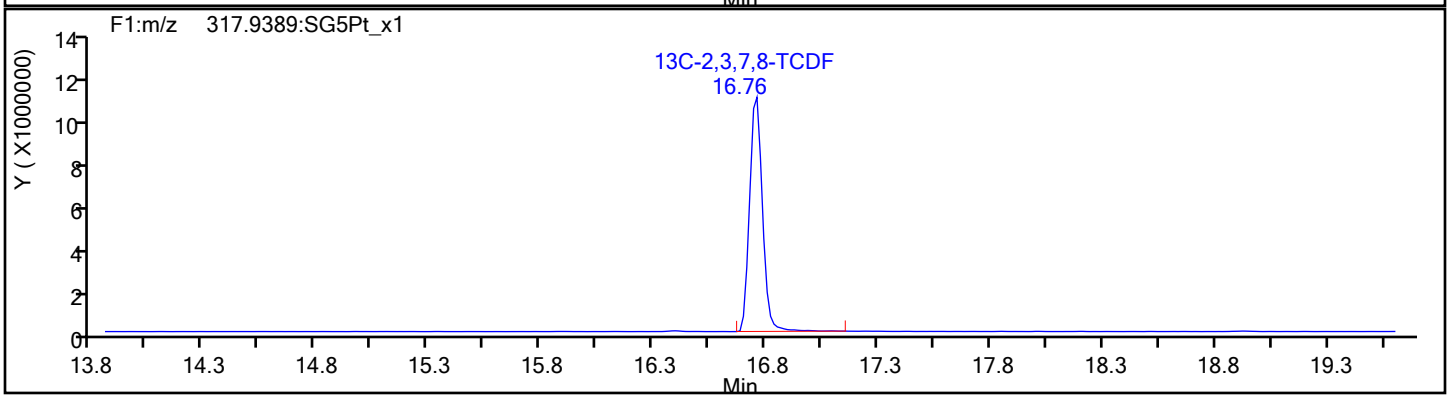

Report Date: 08-Nov-2019 09:14:43 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_11.d		
Injection Date:	06-Nov-2019 03:12:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336302	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

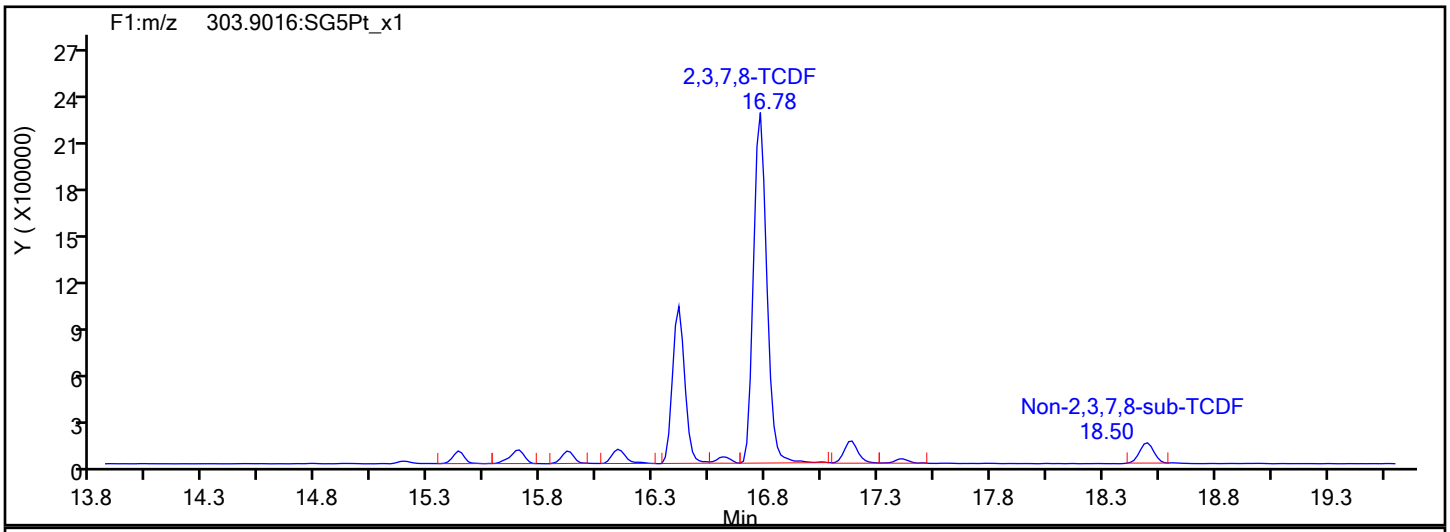

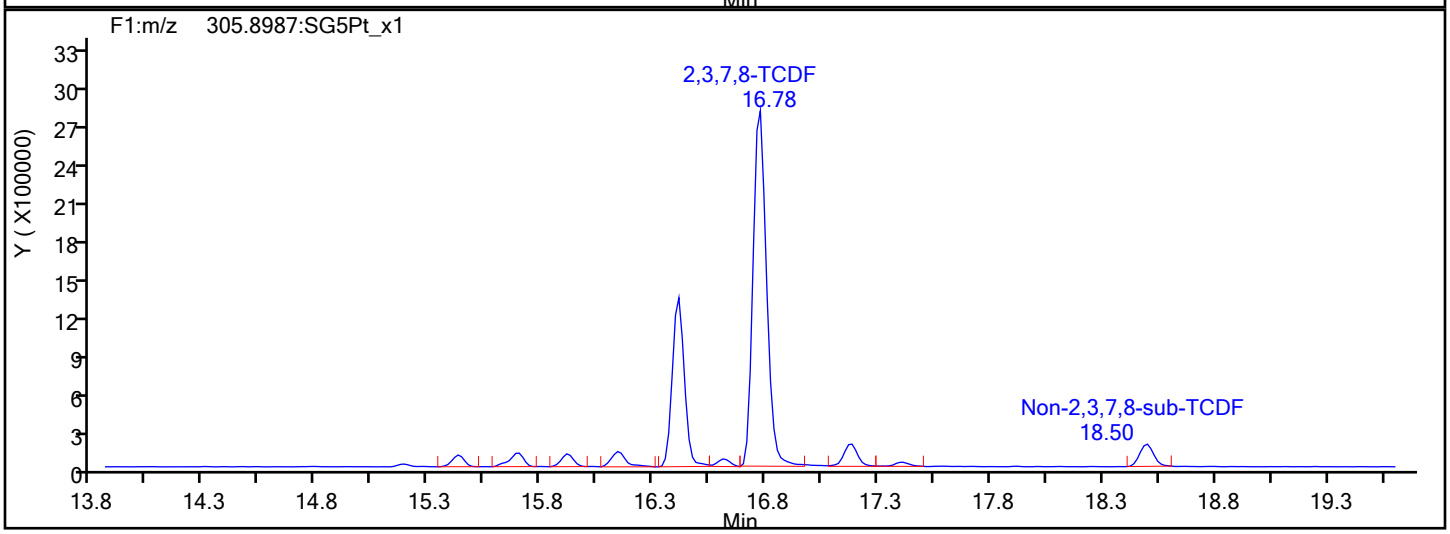

TCDF Interference Mass

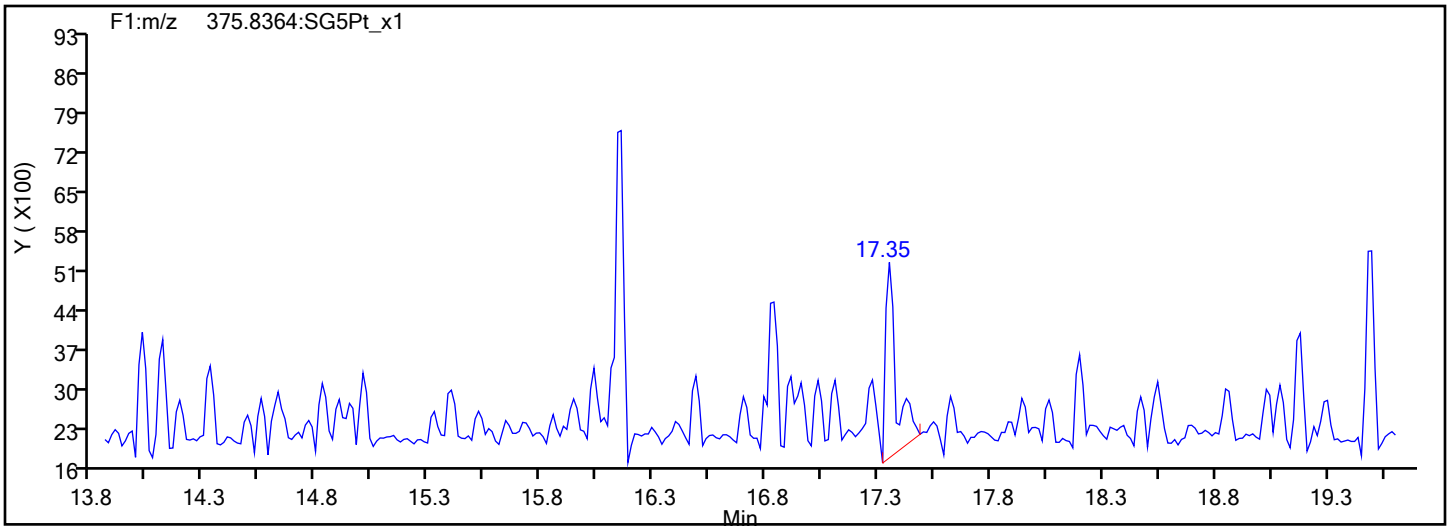

Report Date: 08-Nov-2019 09:14:43 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_11.d		
Injection Date:	06-Nov-2019 03:12:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336302	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

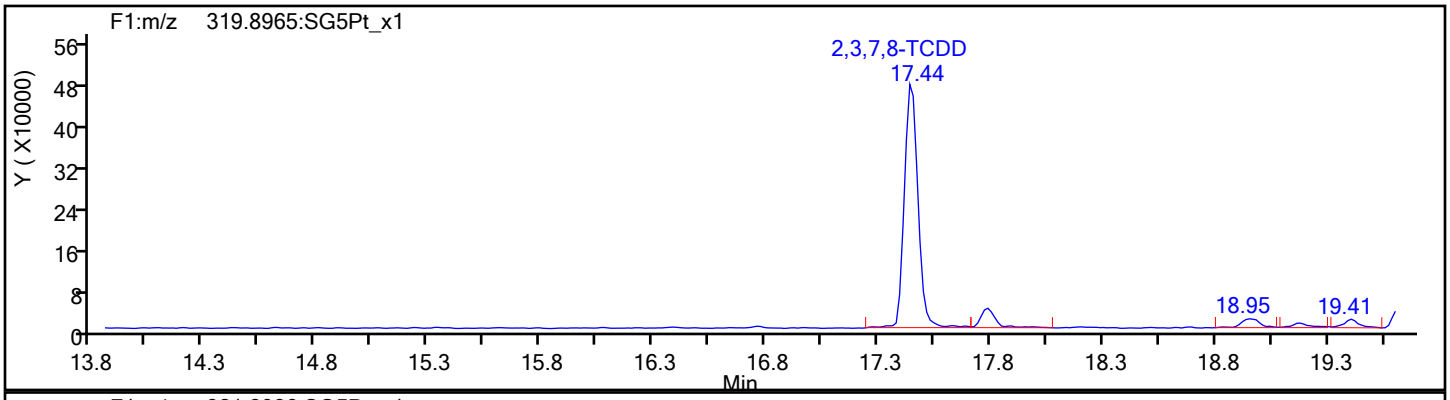

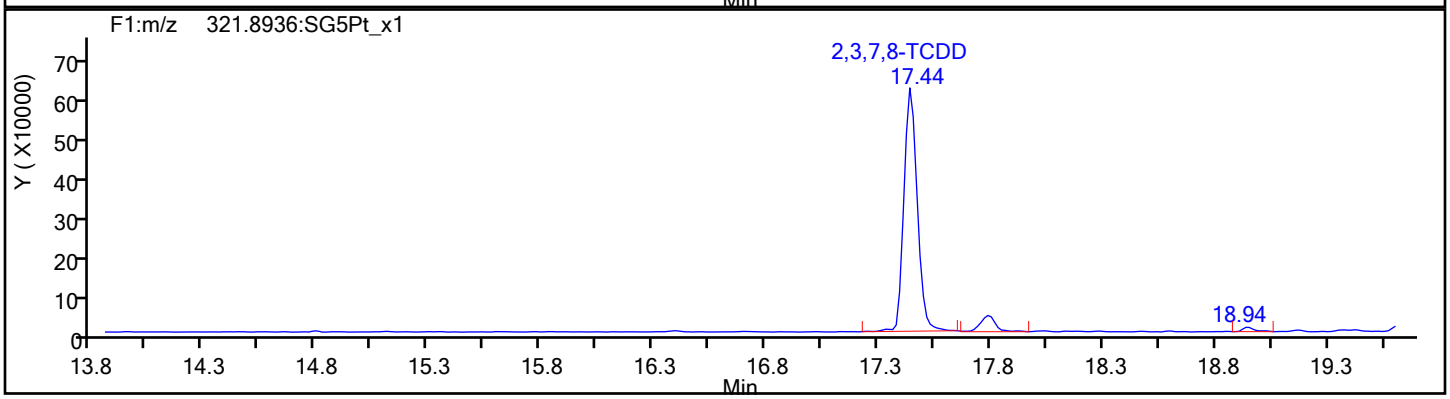

TCDD Standards

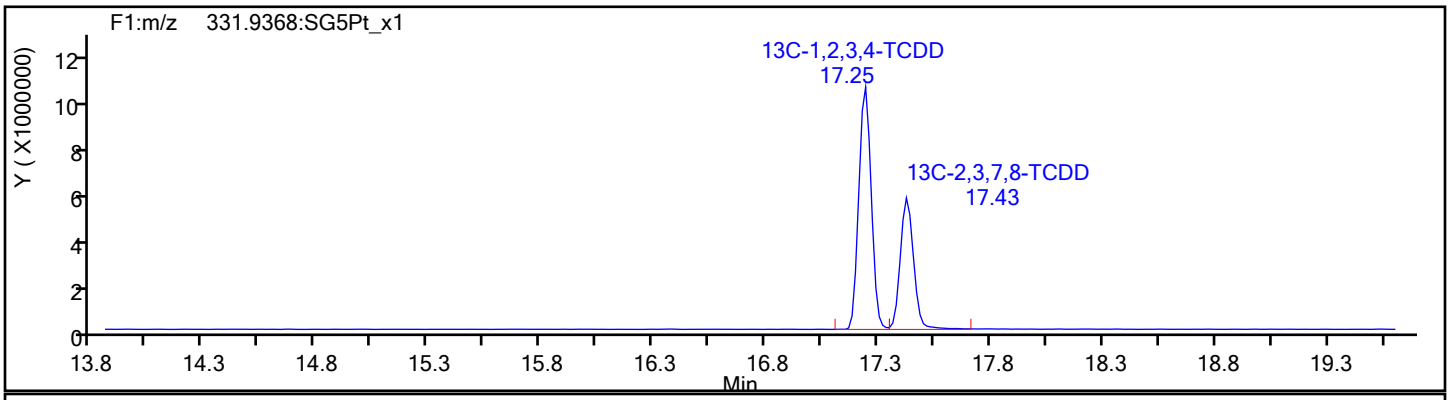

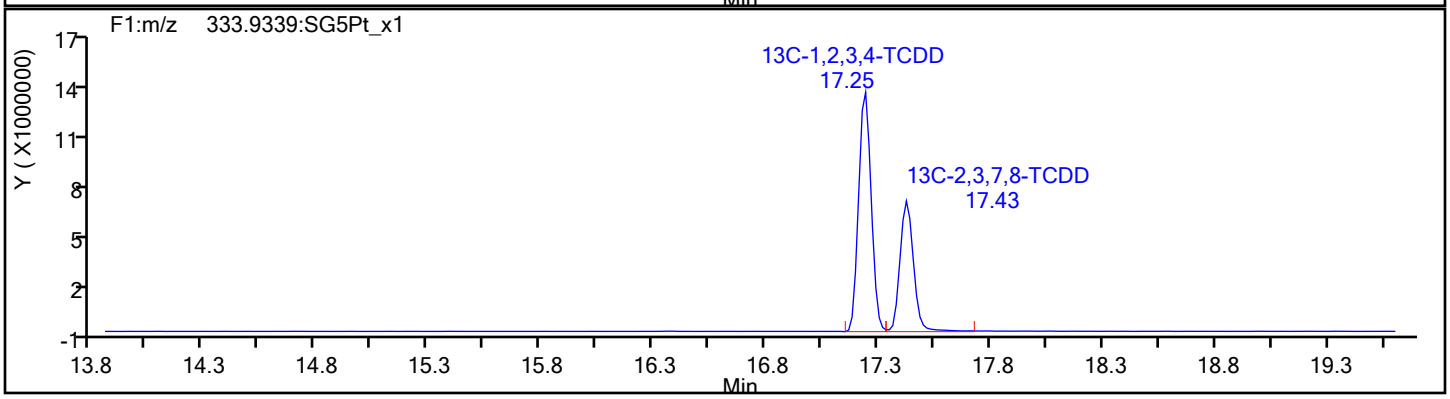

Report Date: 08-Nov-2019 09:14:43 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_11.d		
Injection Date:	06-Nov-2019 03:12:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336302	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

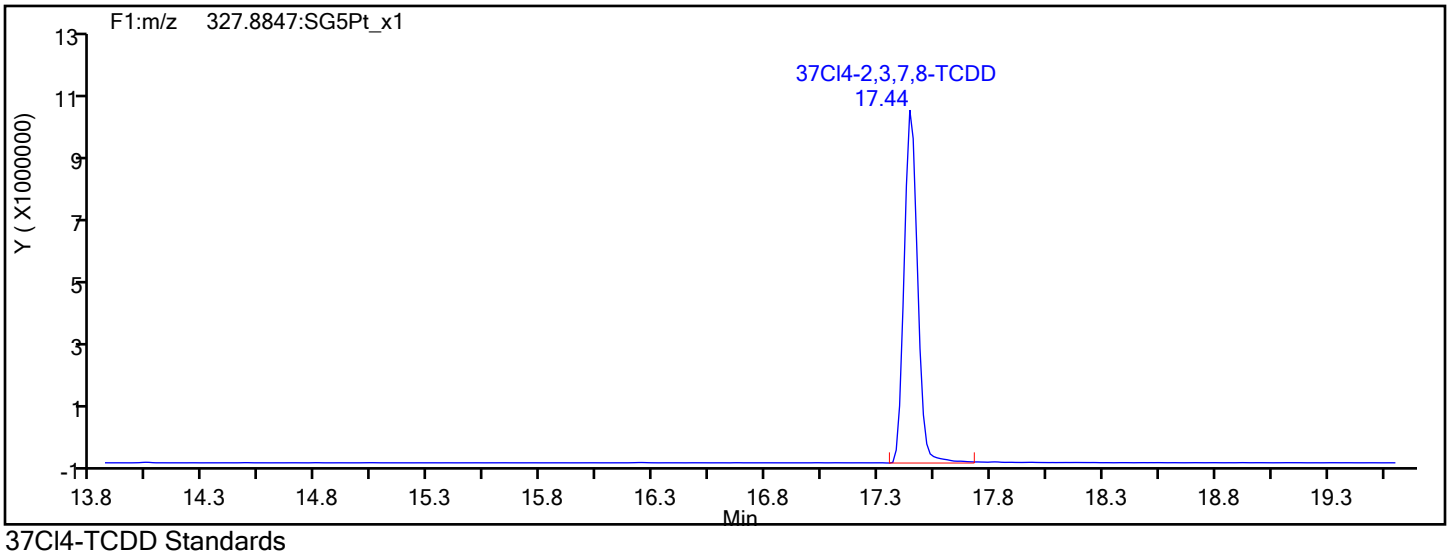

37Cl4-TCDD Standards

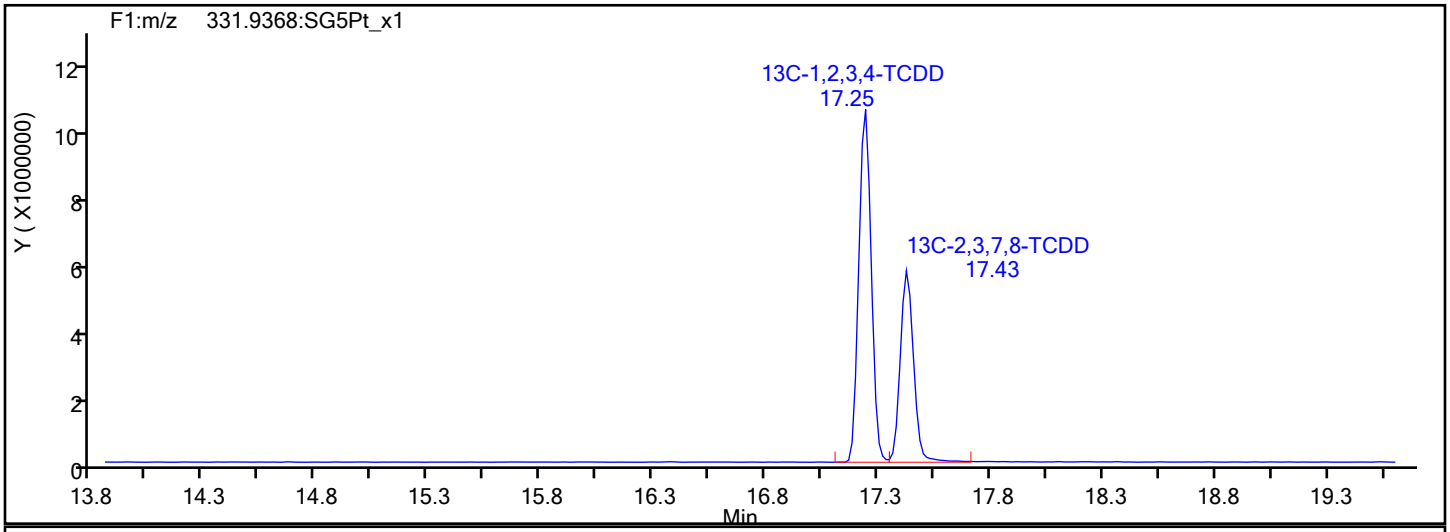

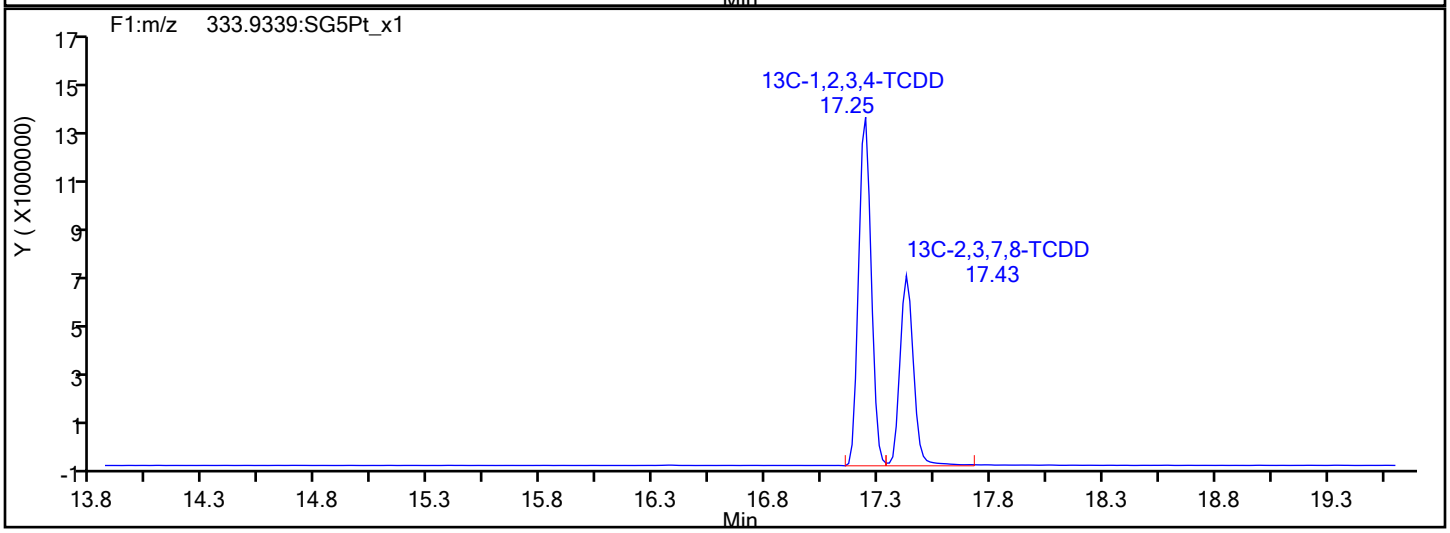

Report Date: 08-Nov-2019 09:14:43 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_11.d		
Injection Date:	06-Nov-2019 03:12:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336302	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

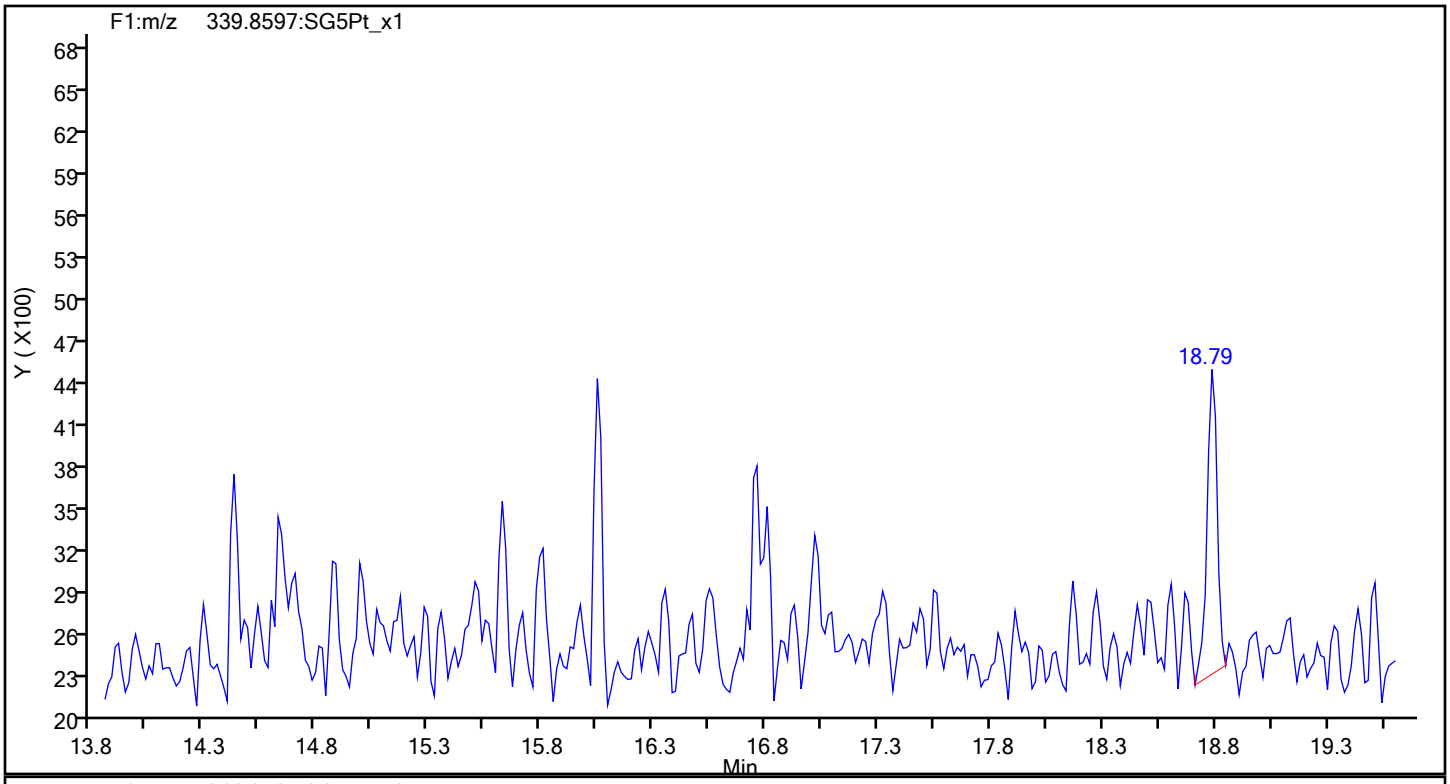

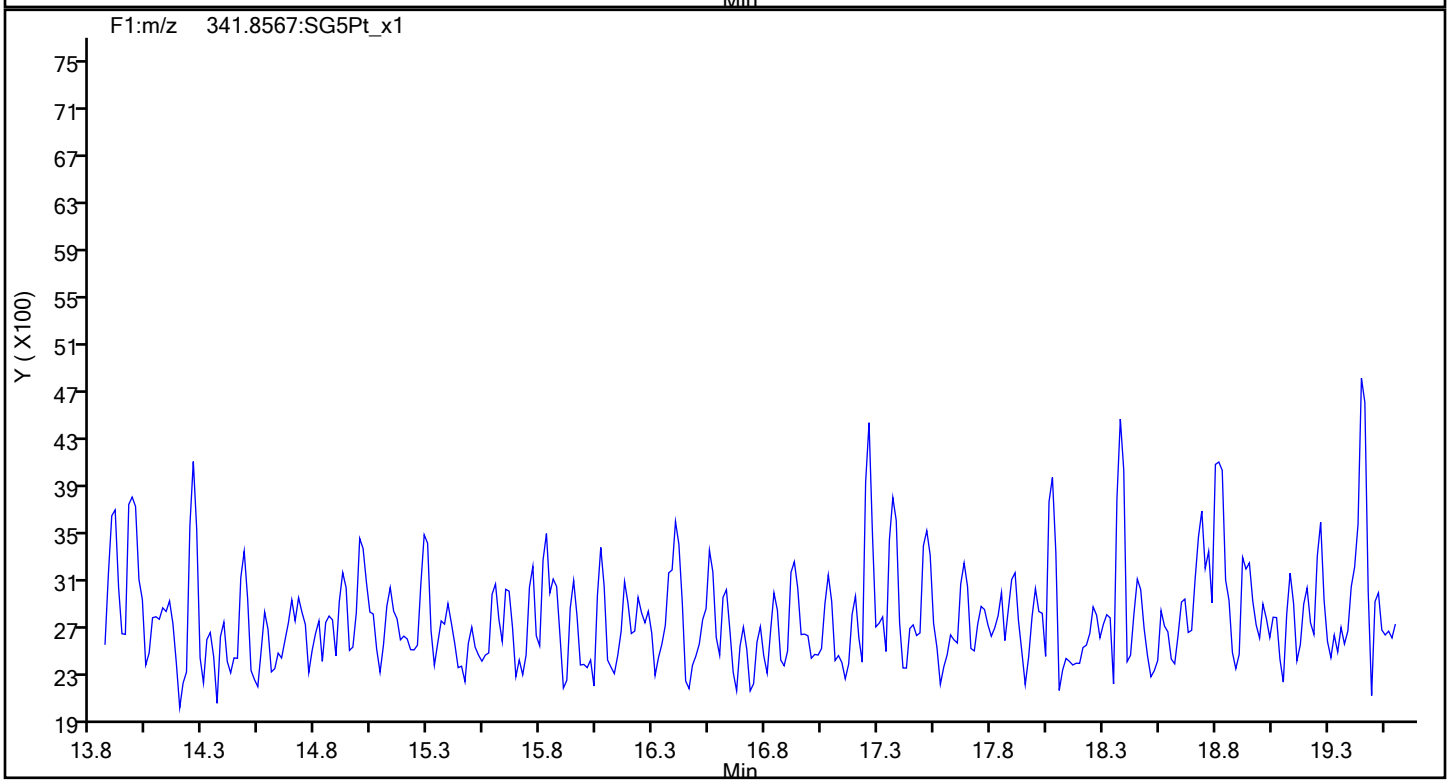

Report Date: 08-Nov-2019 09:14:43 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

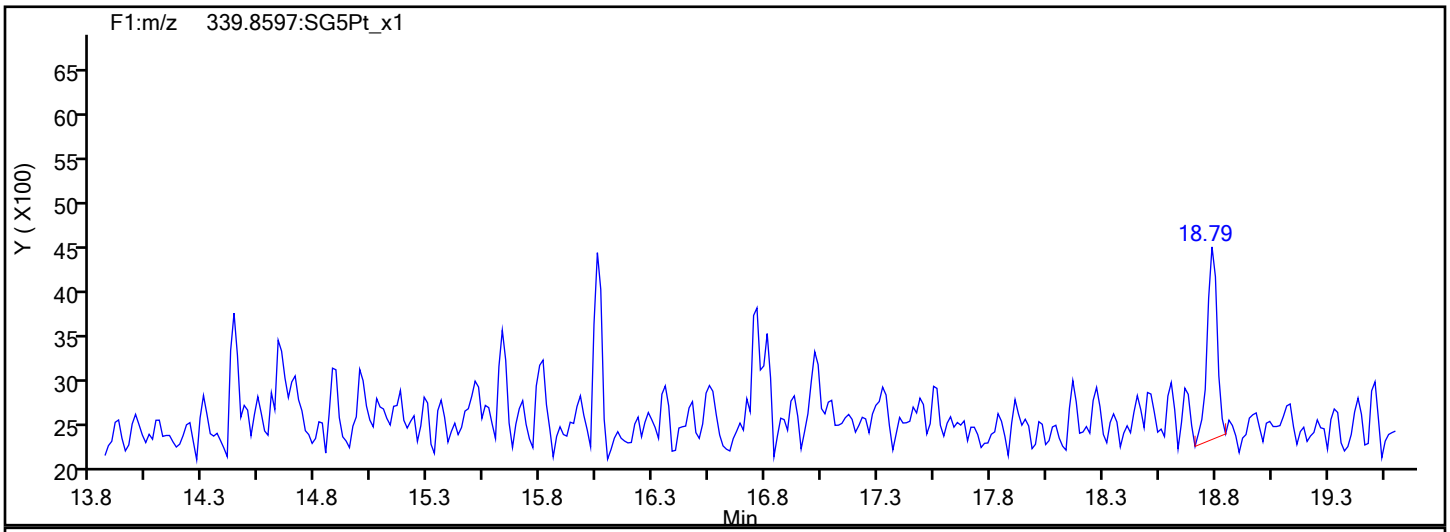

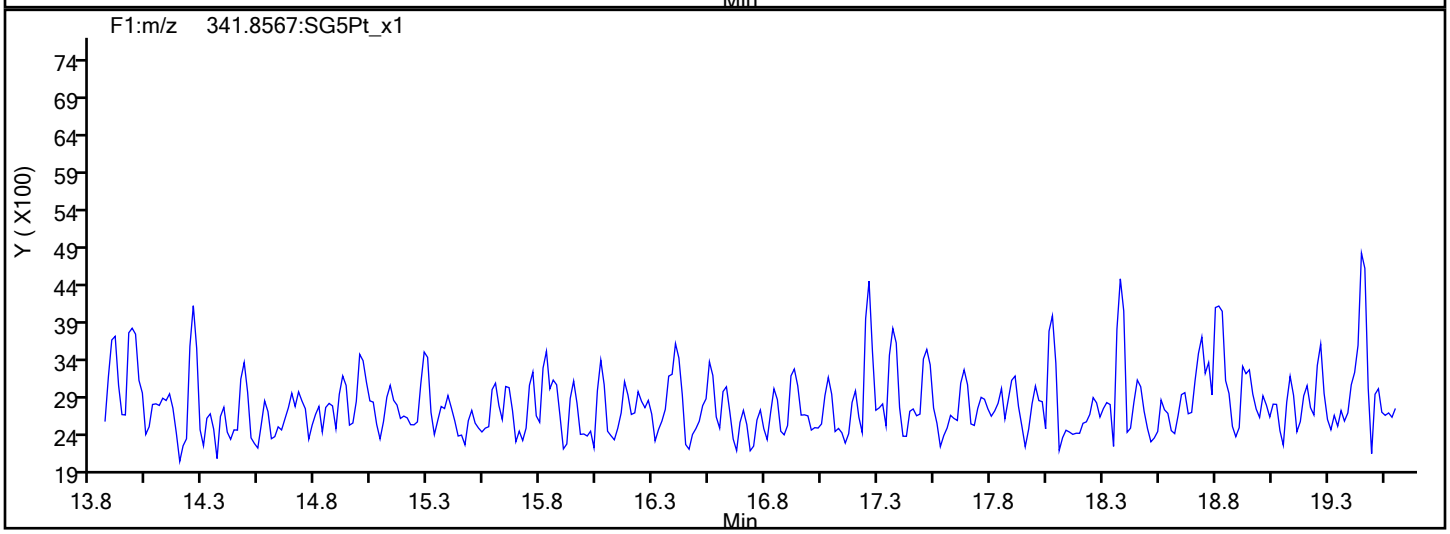

F1 PeCDFs Interference Mass

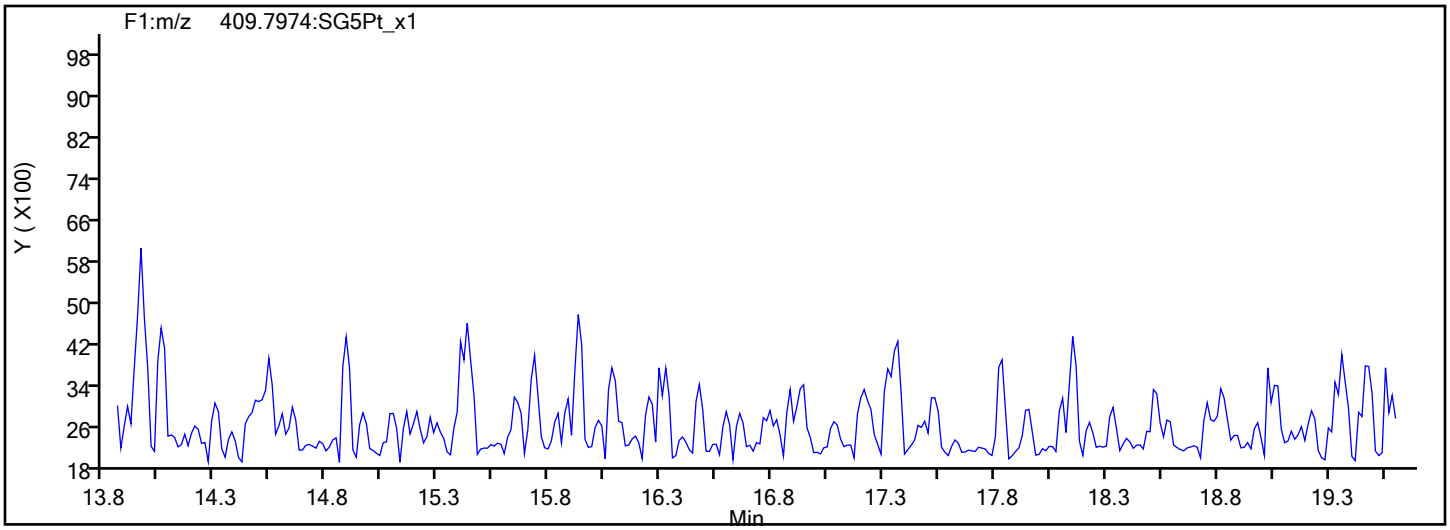

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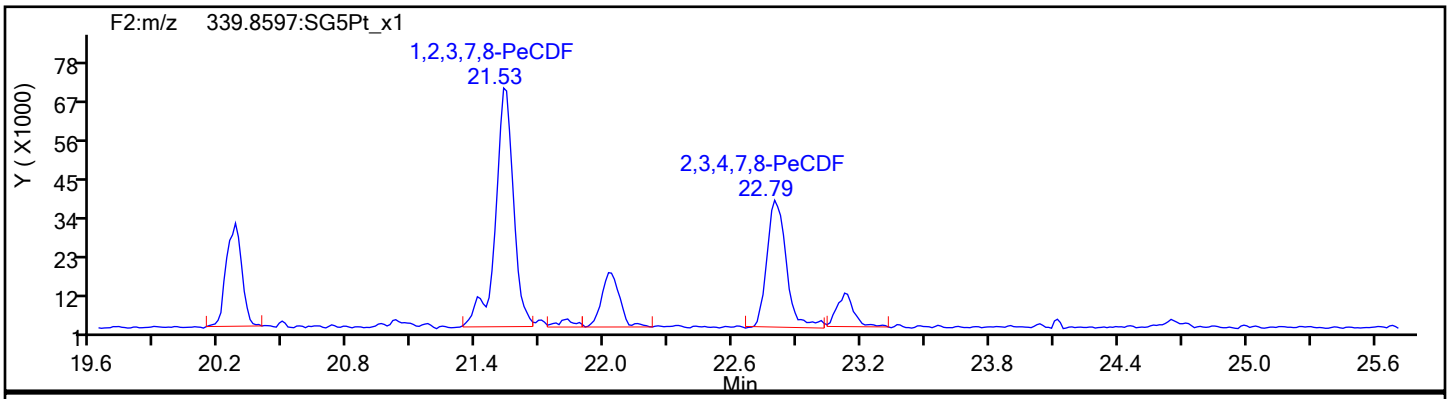

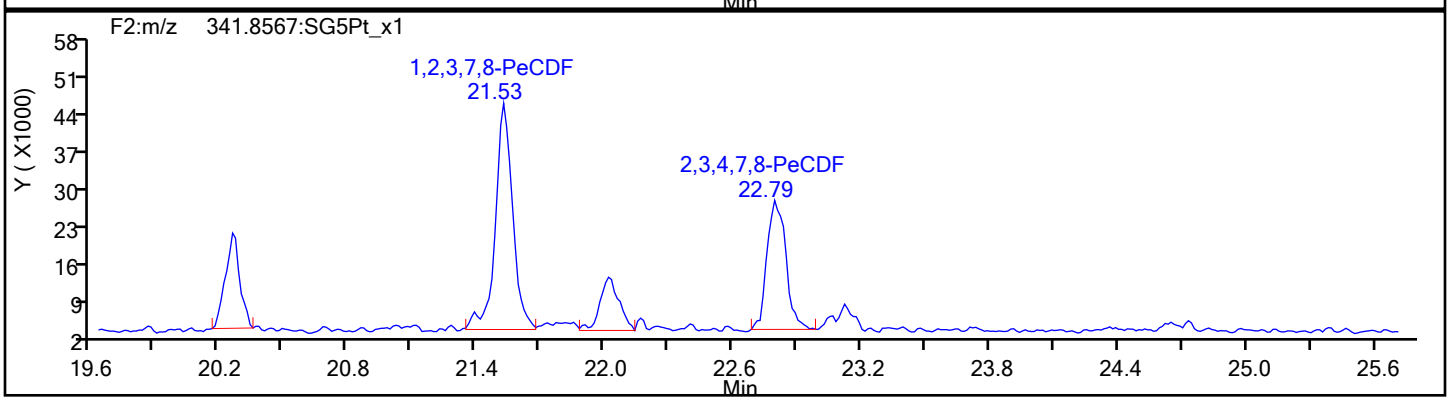

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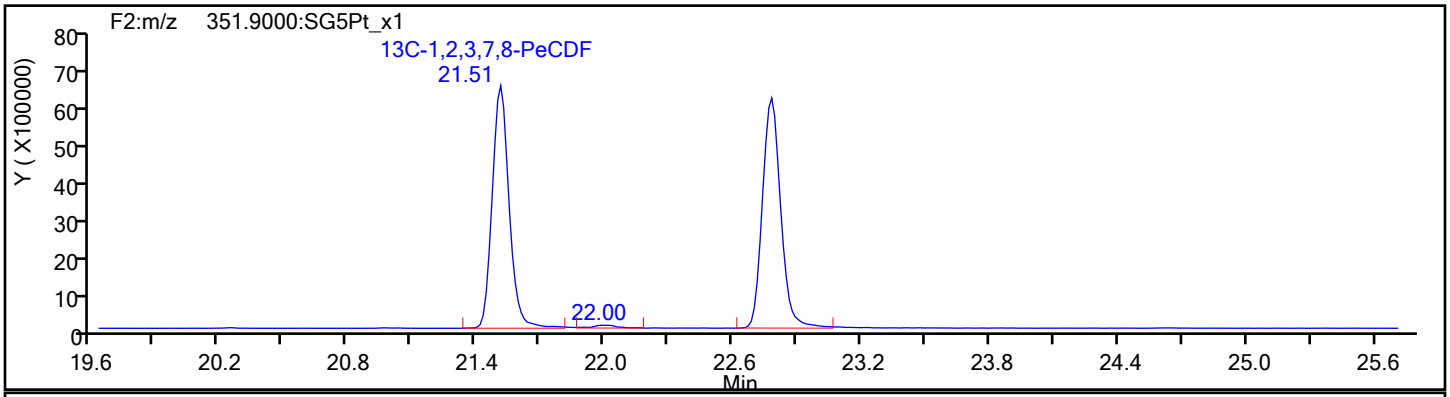

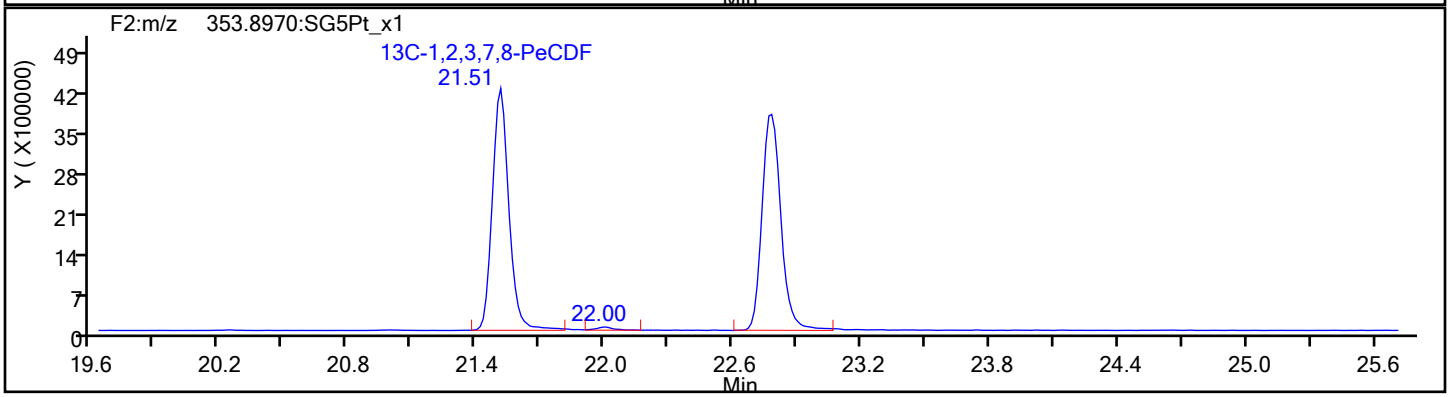

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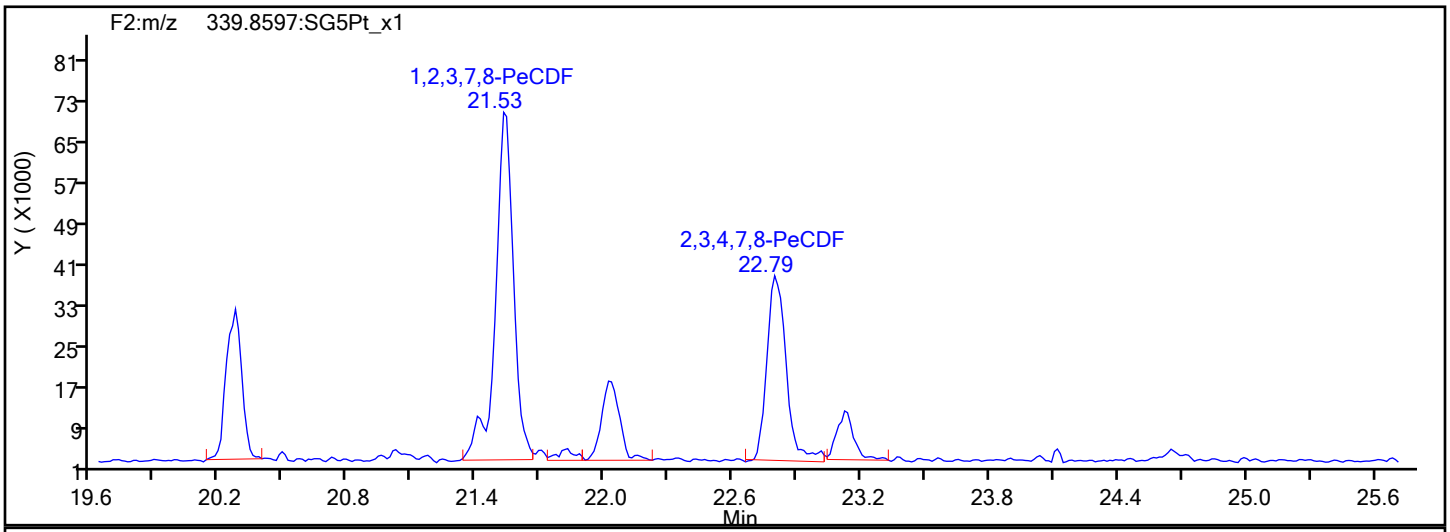

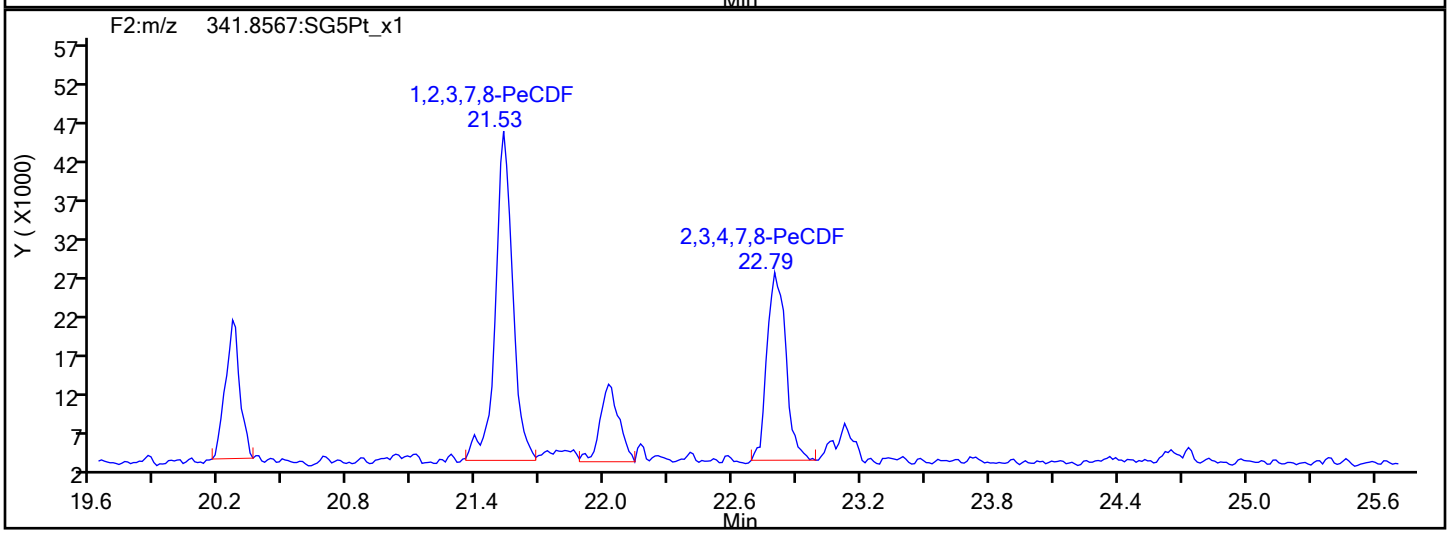

PeCDF Interference Mass

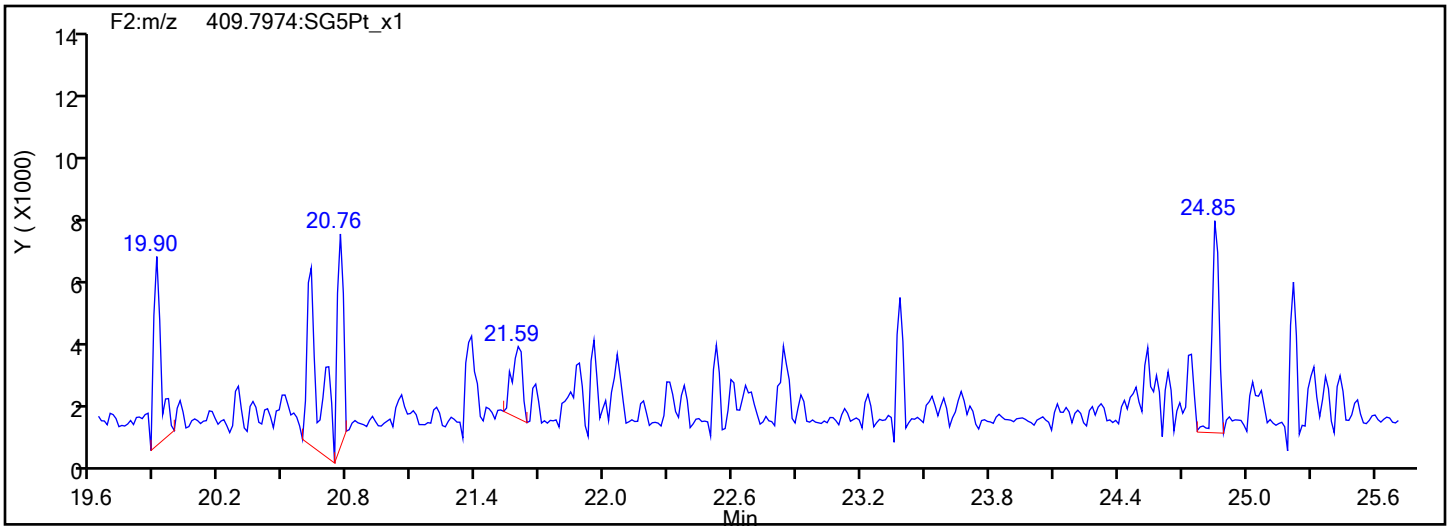

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Eurofins TestAmerica, Sacramento

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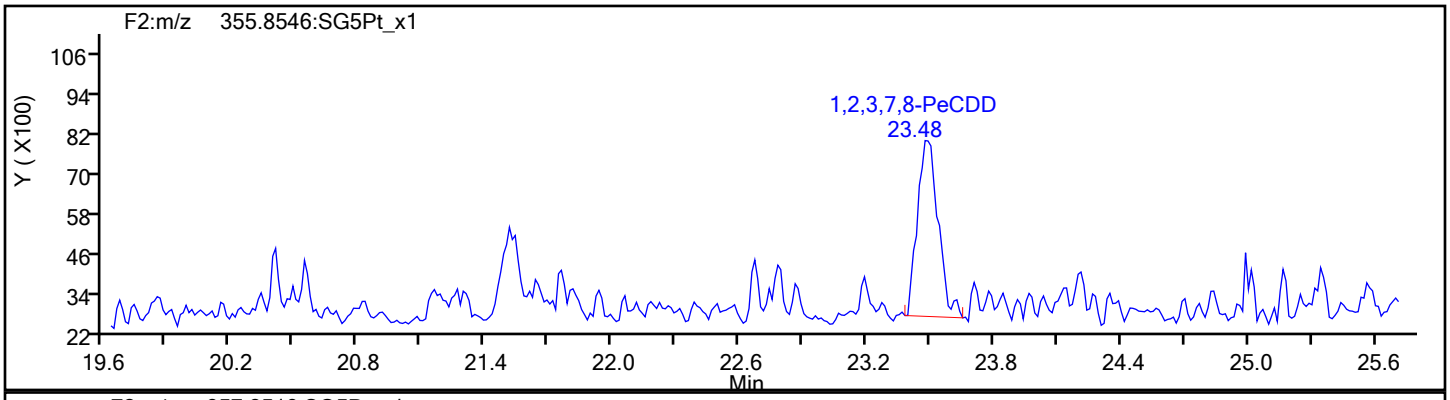

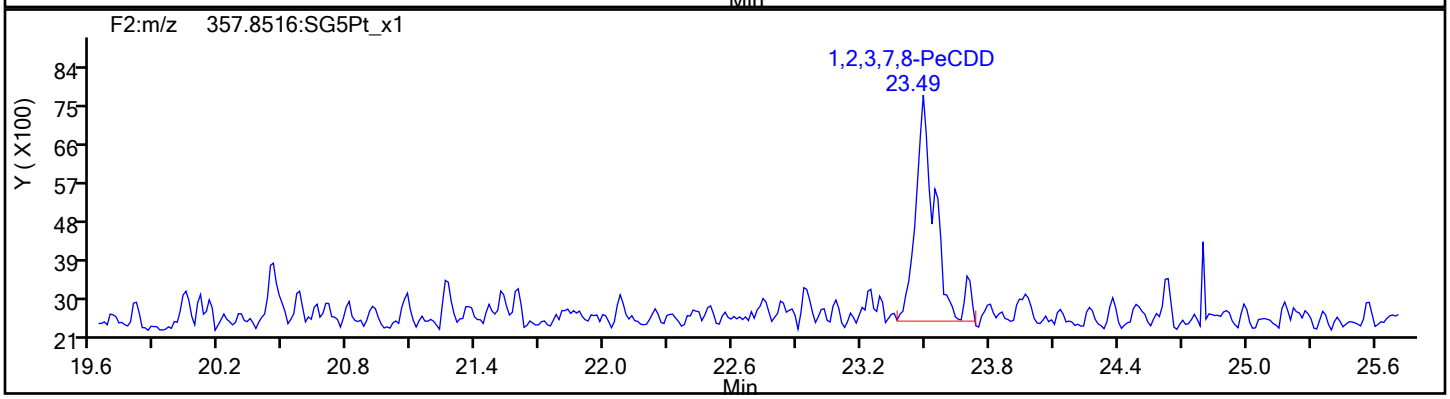

PeCDD Standards

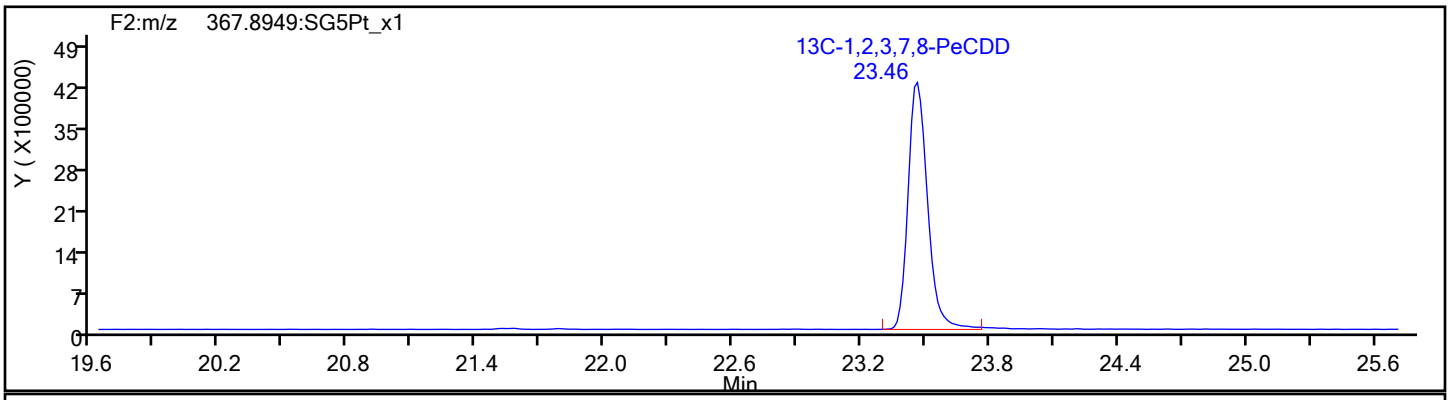

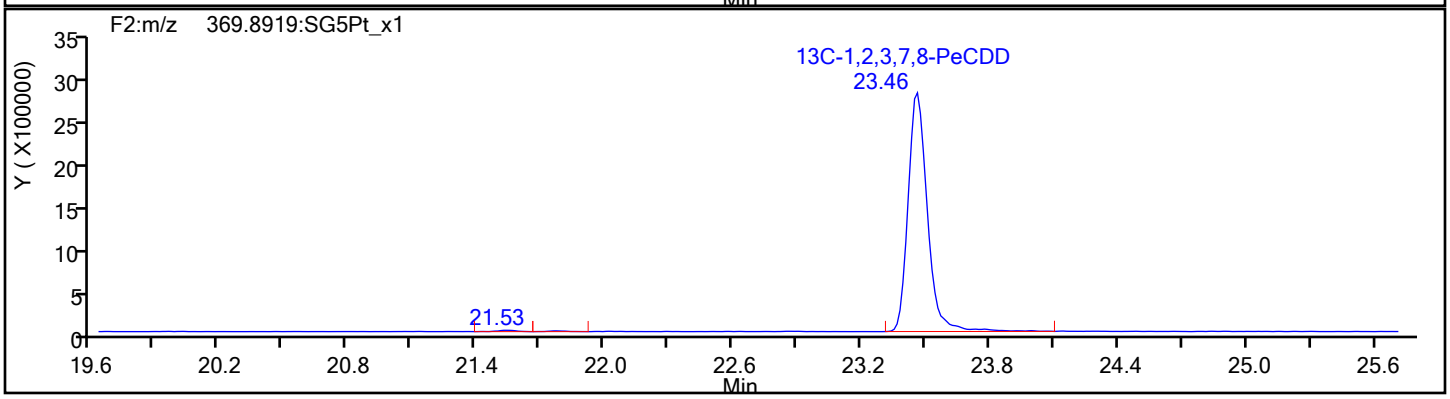

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Eurofins TestAmerica, Sacramento

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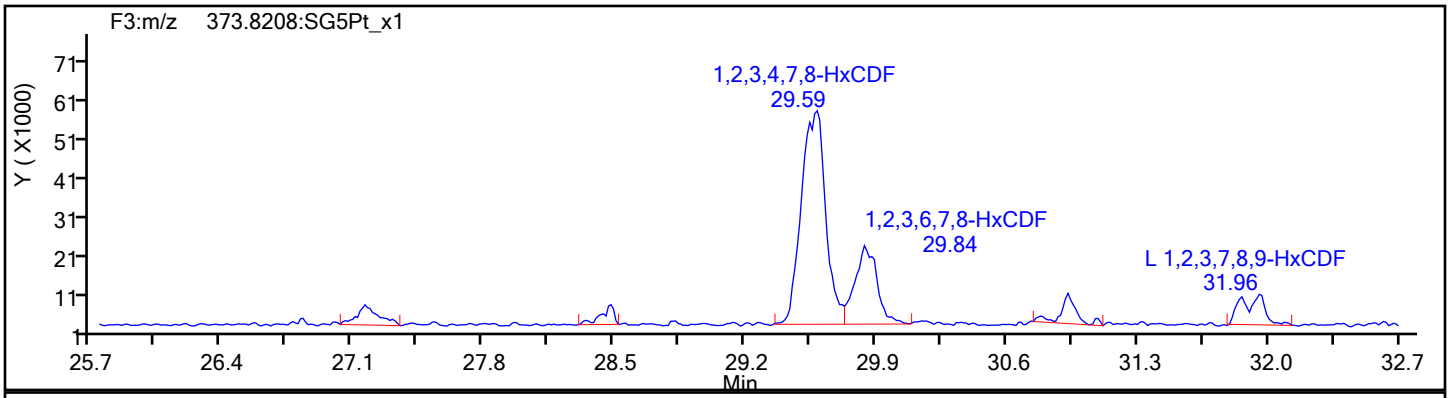

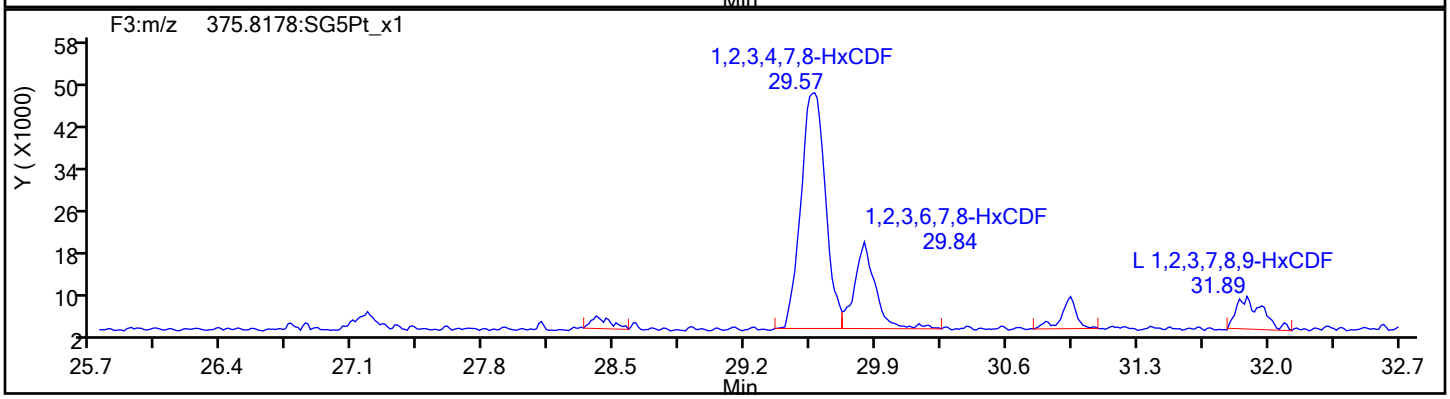

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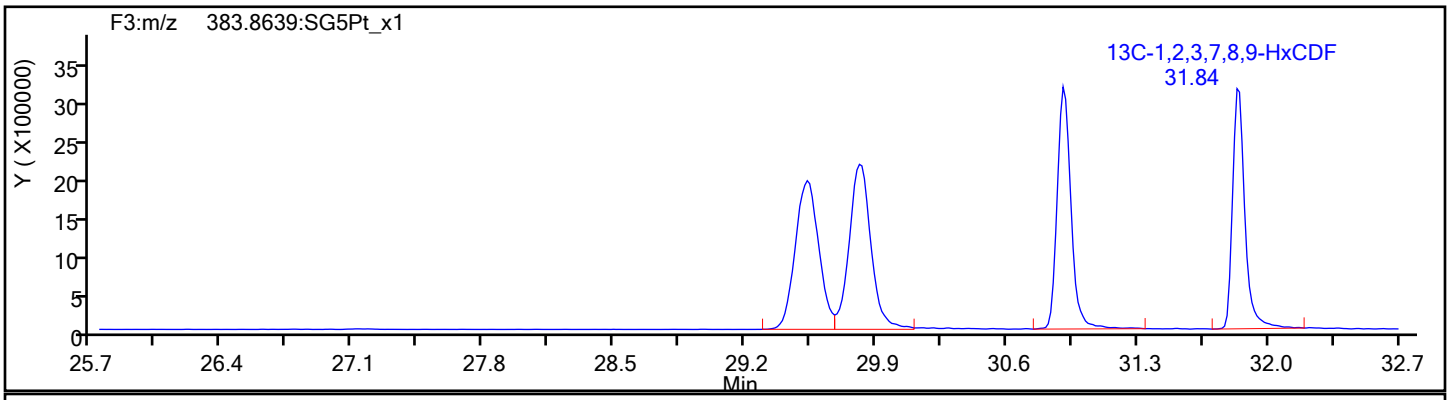

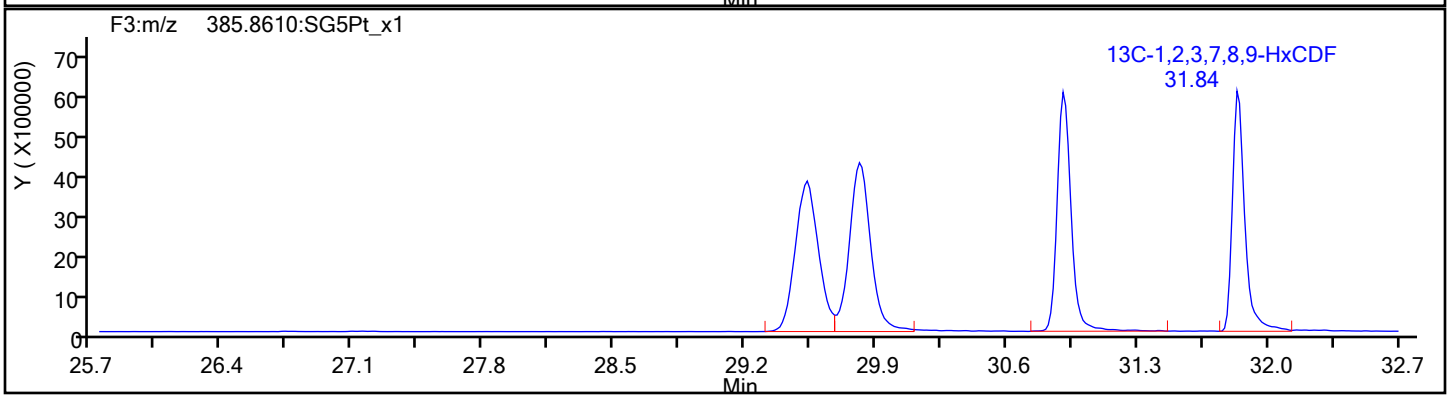

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Eurofins TestAmerica, Sacramento

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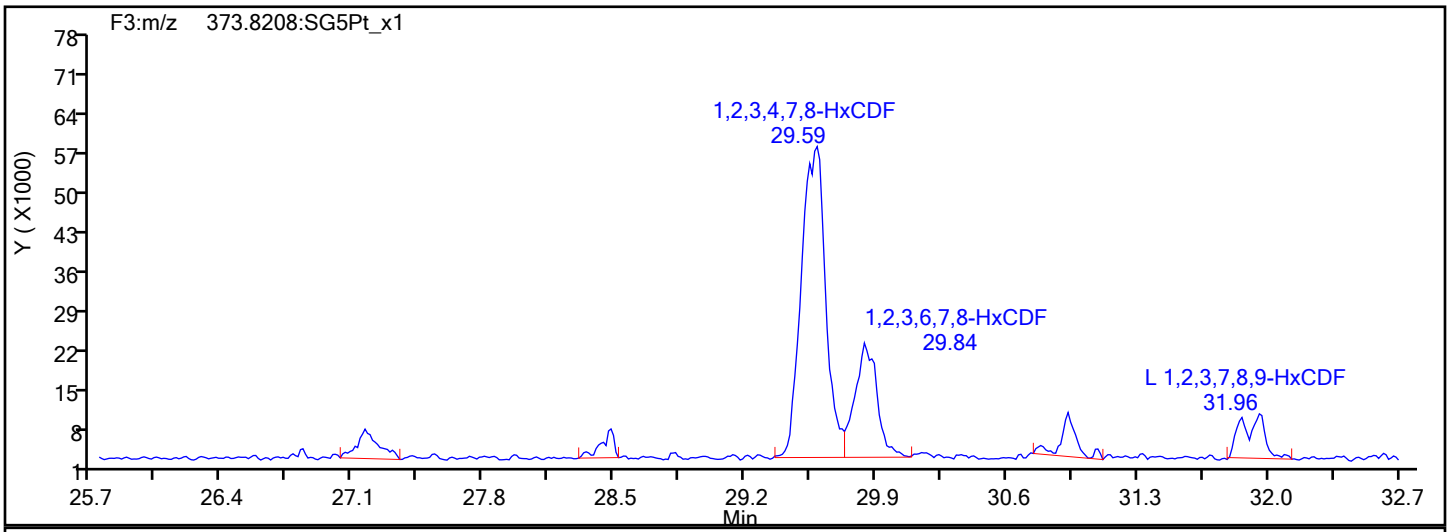

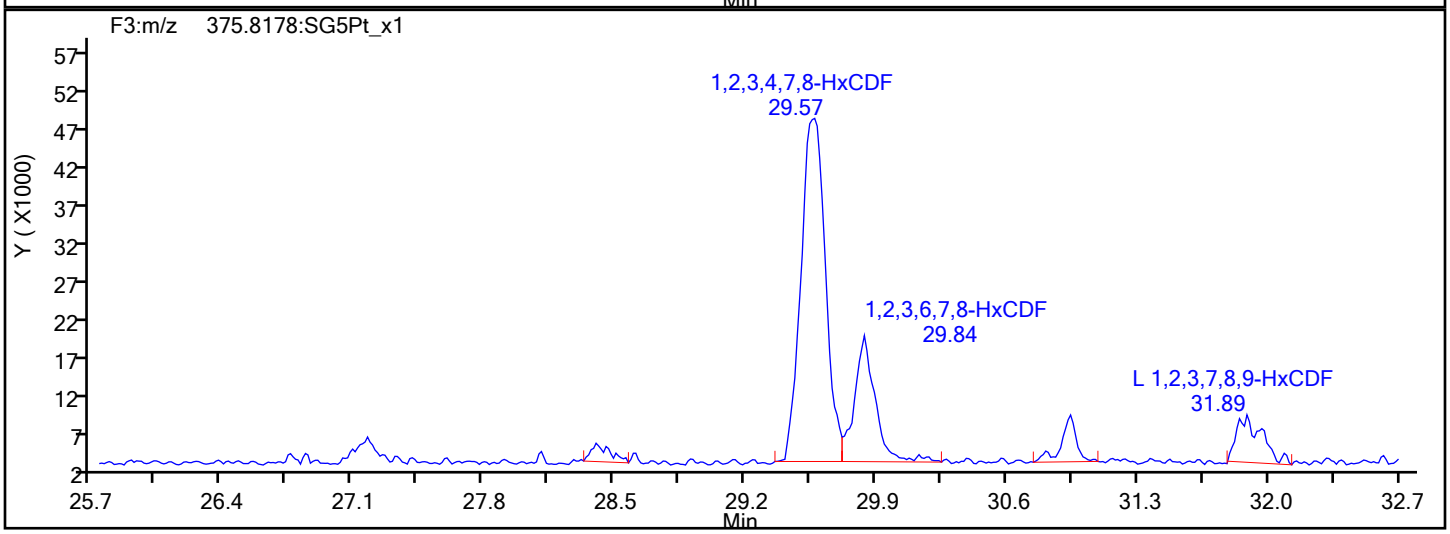

HxCDF Interference Mass

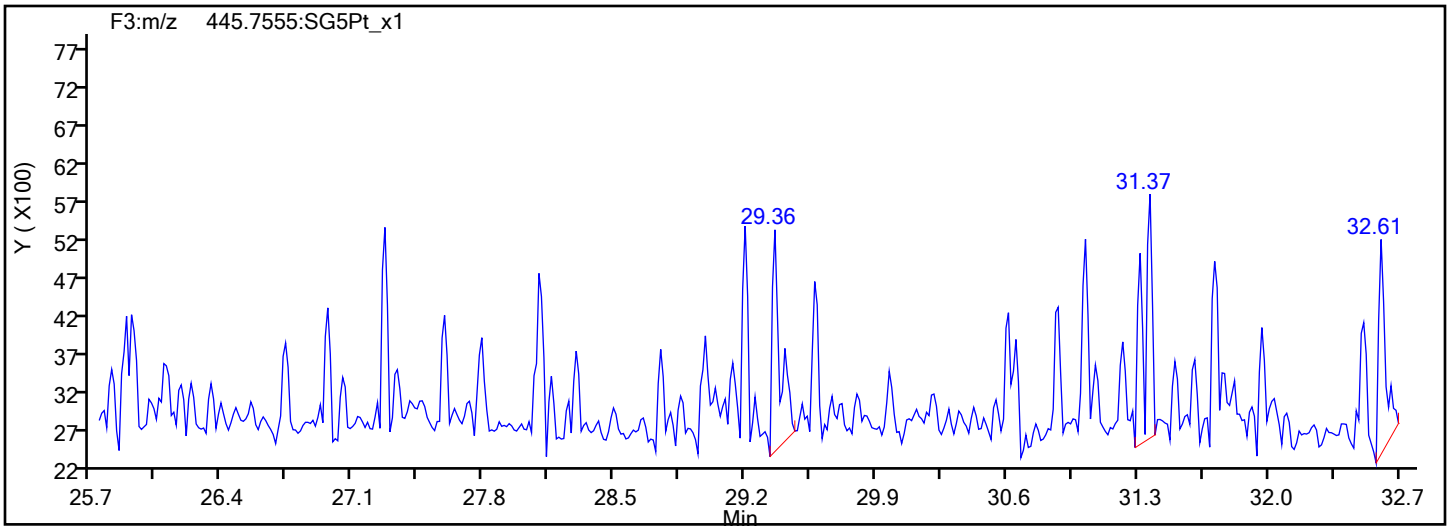

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Eurofins TestAmerica, Sacramento

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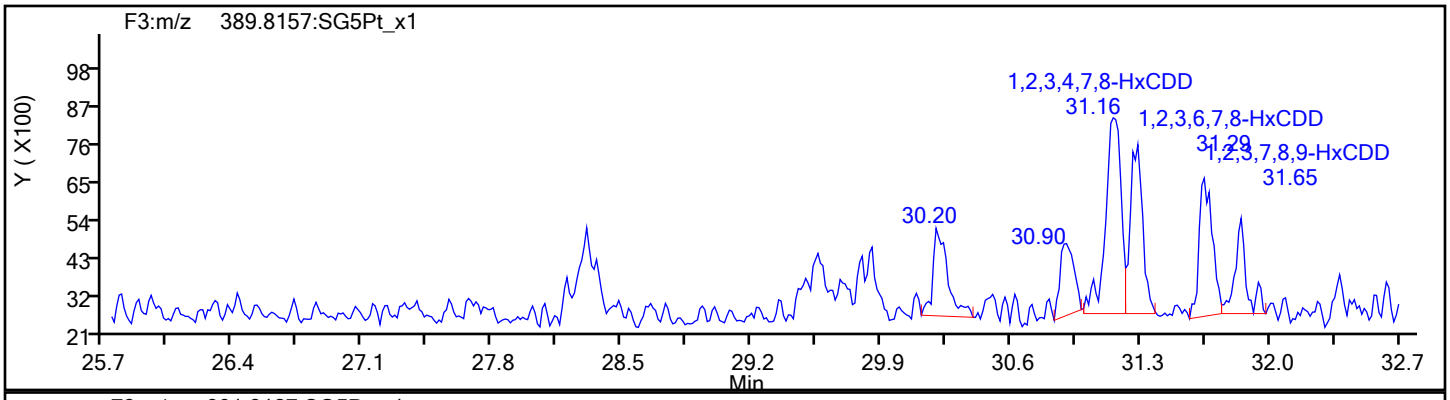

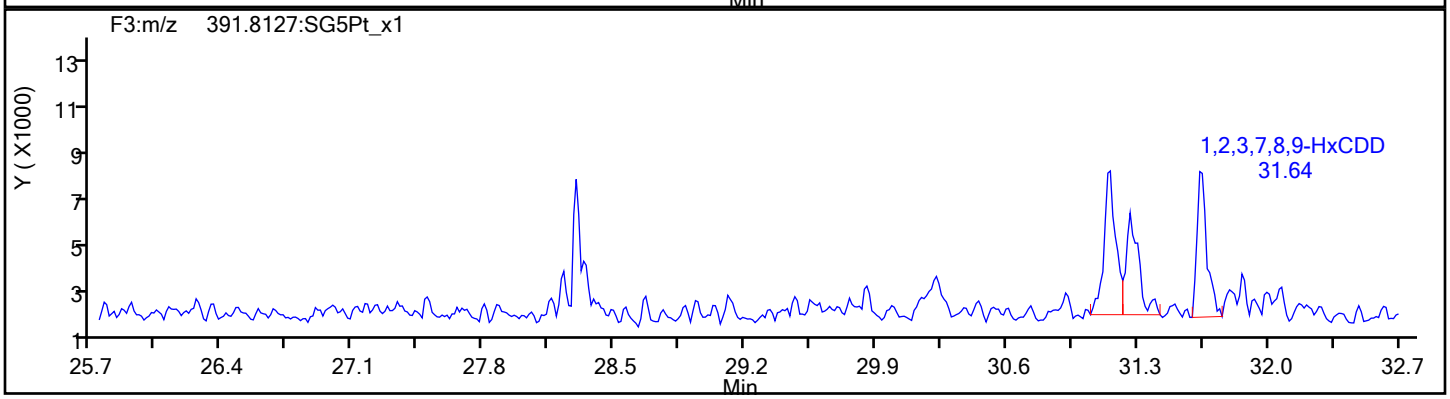

HxCDD Standards

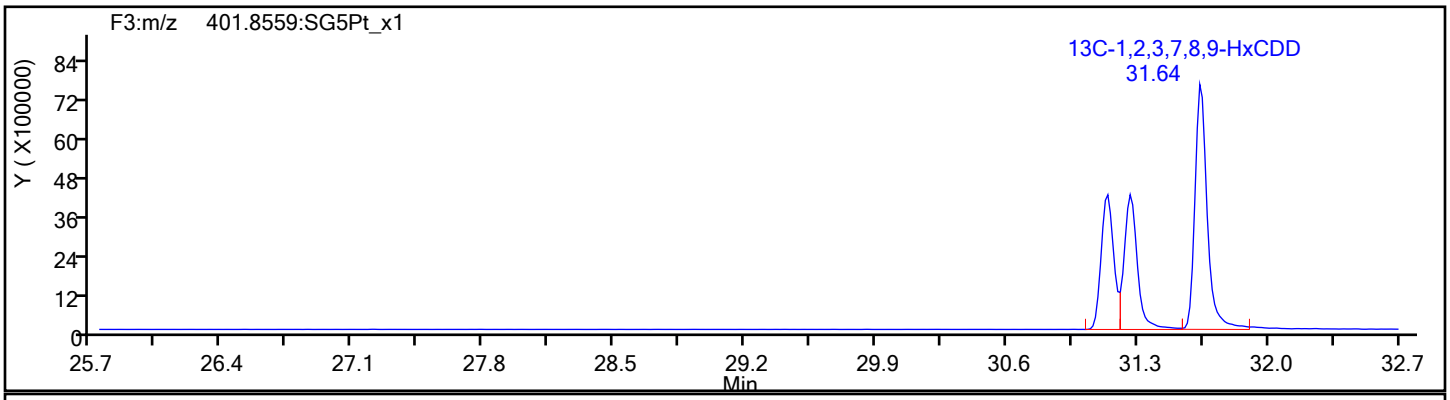

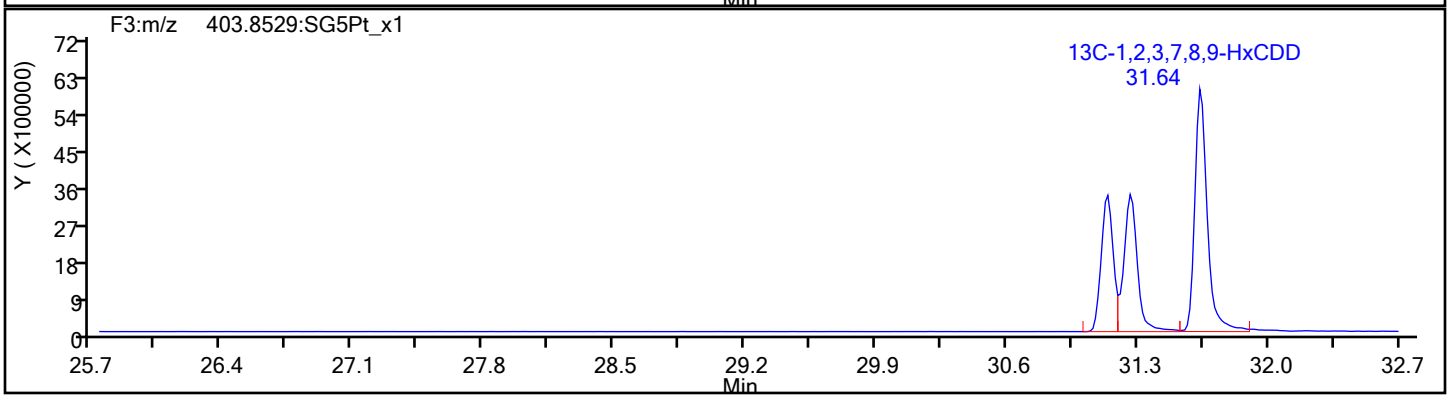

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Eurofins TestAmerica, Sacramento

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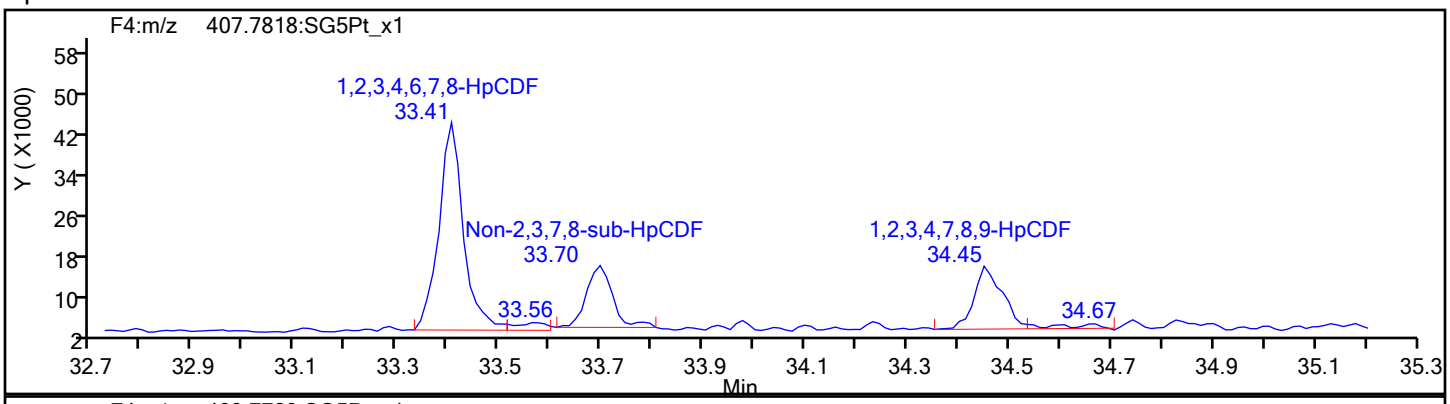

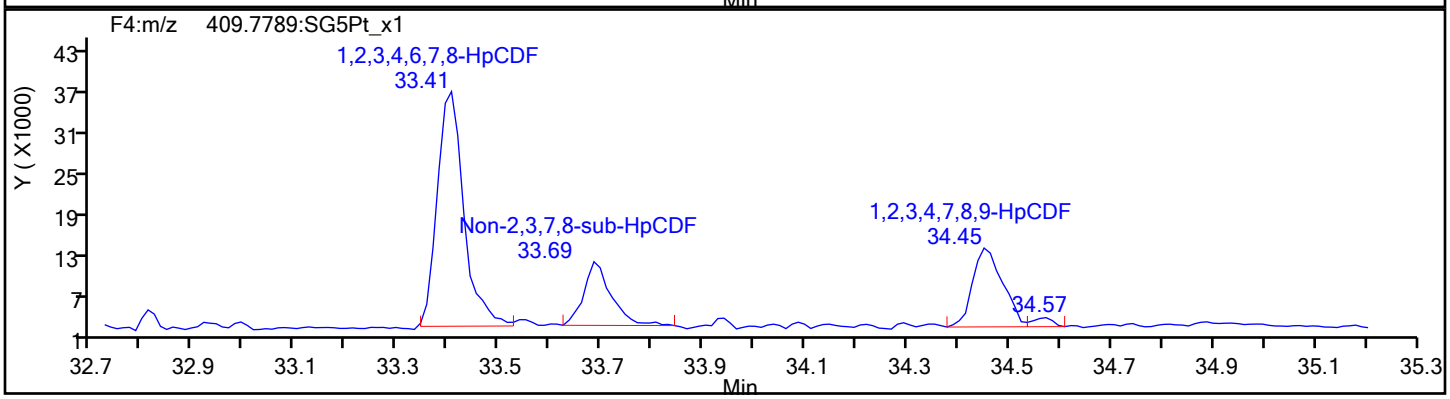

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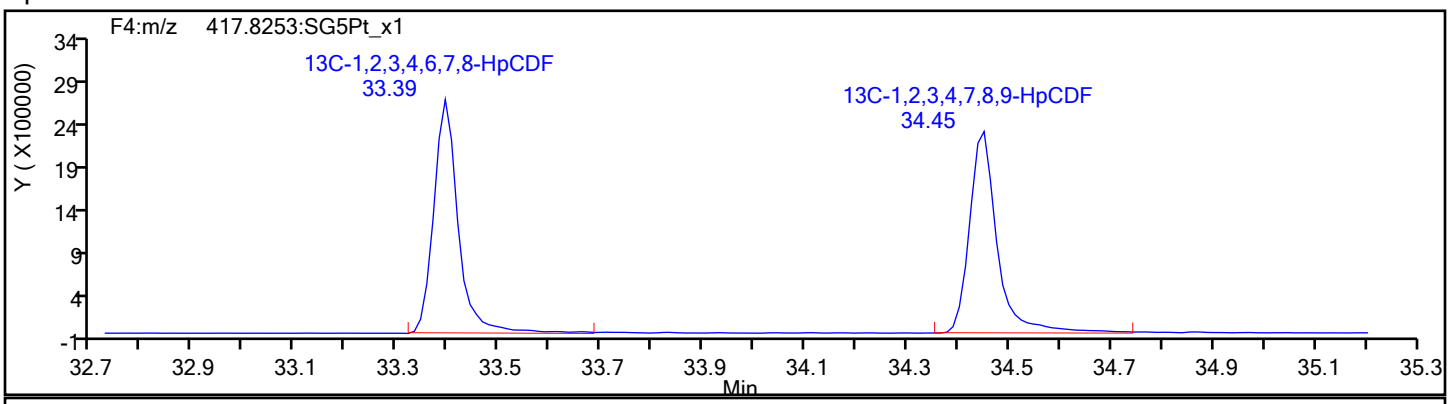

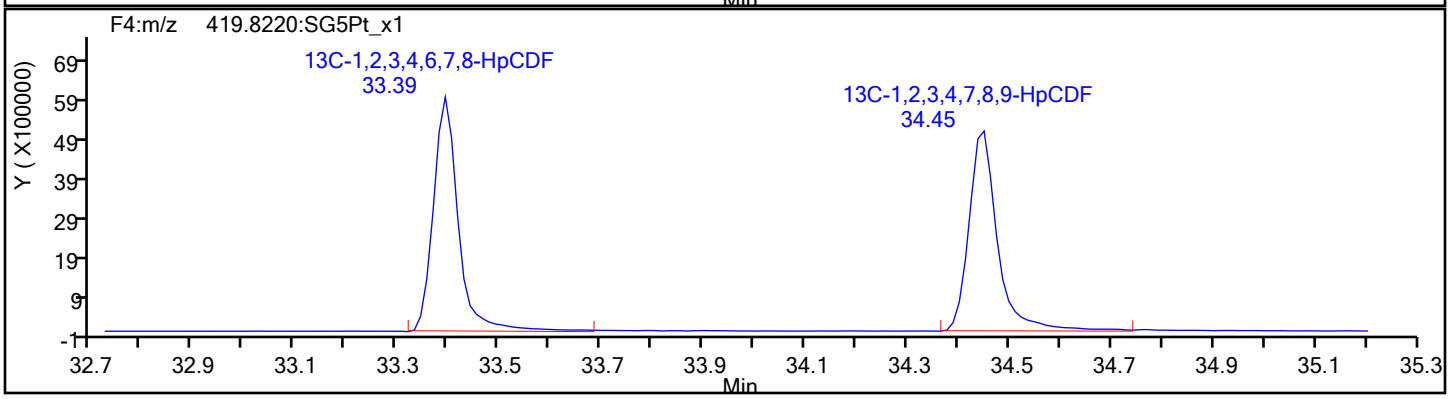

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Eurofins TestAmerica, Sacramento

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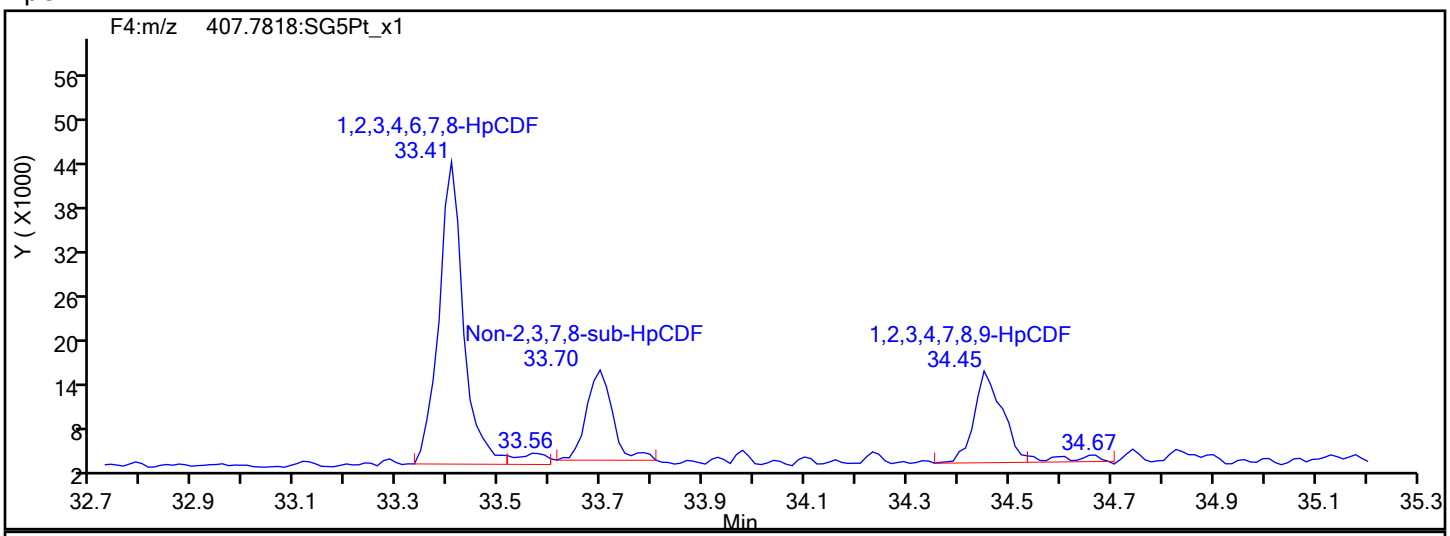

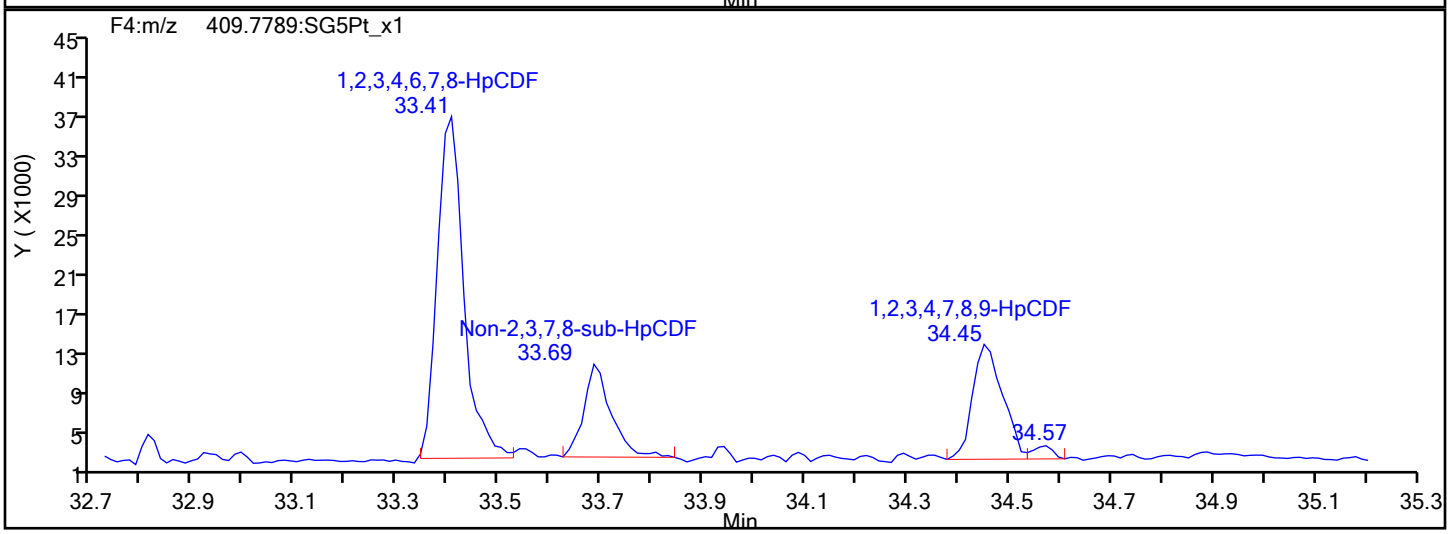

HpCDF Interference Mass

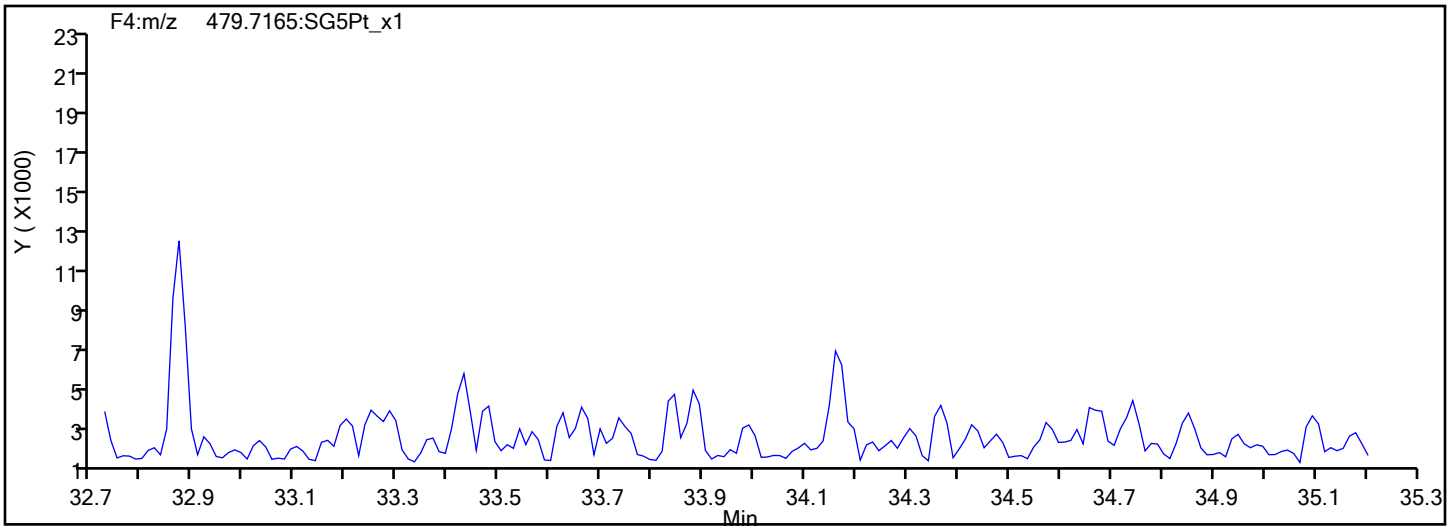

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Eurofins TestAmerica, Sacramento

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HpCDD

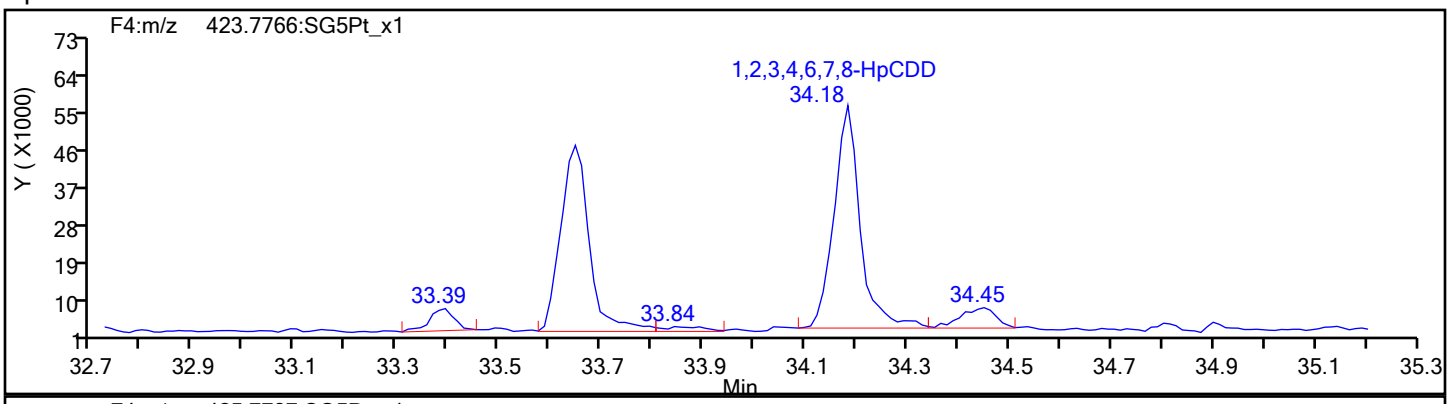

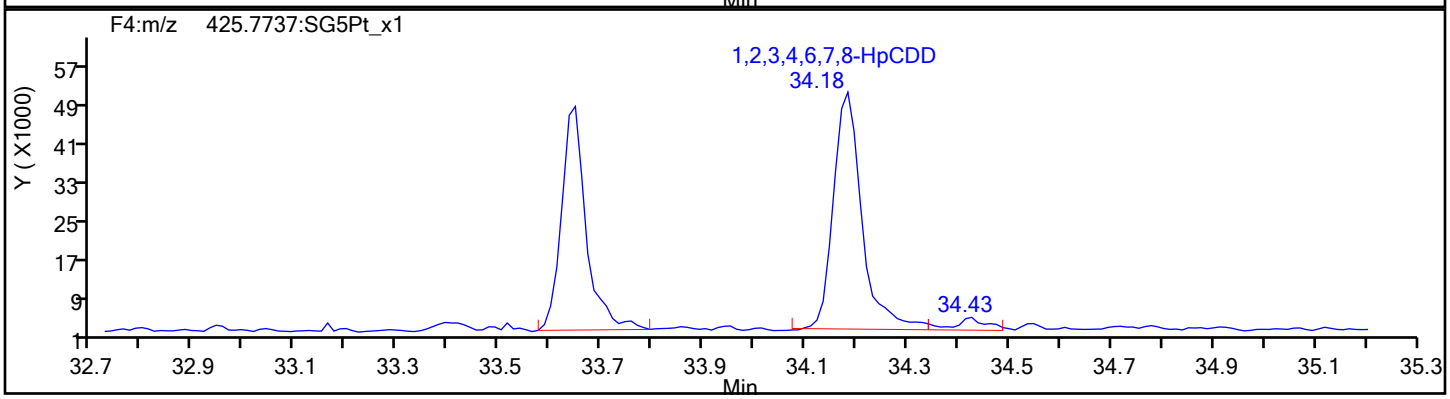

HpCDD Standards

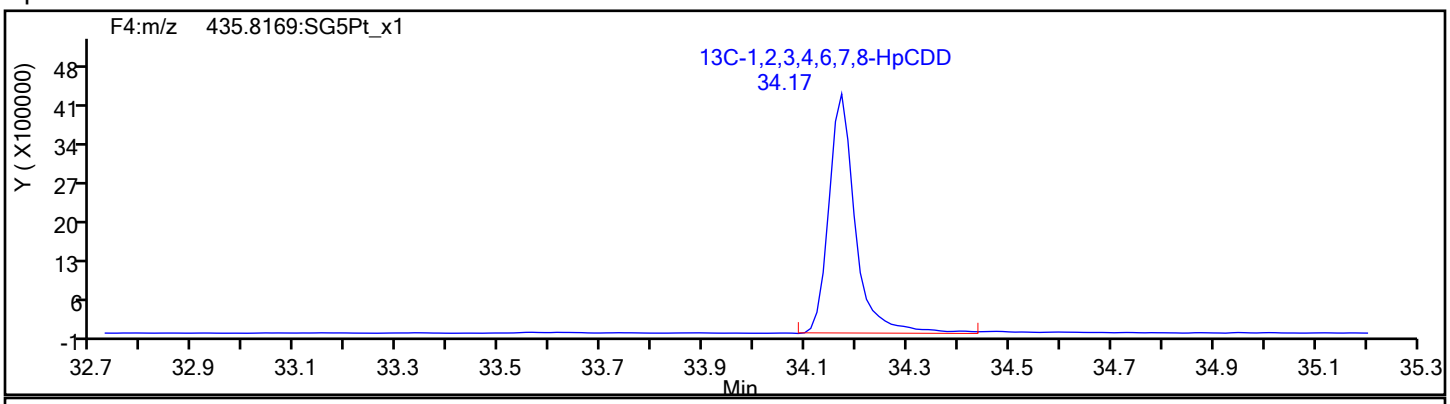

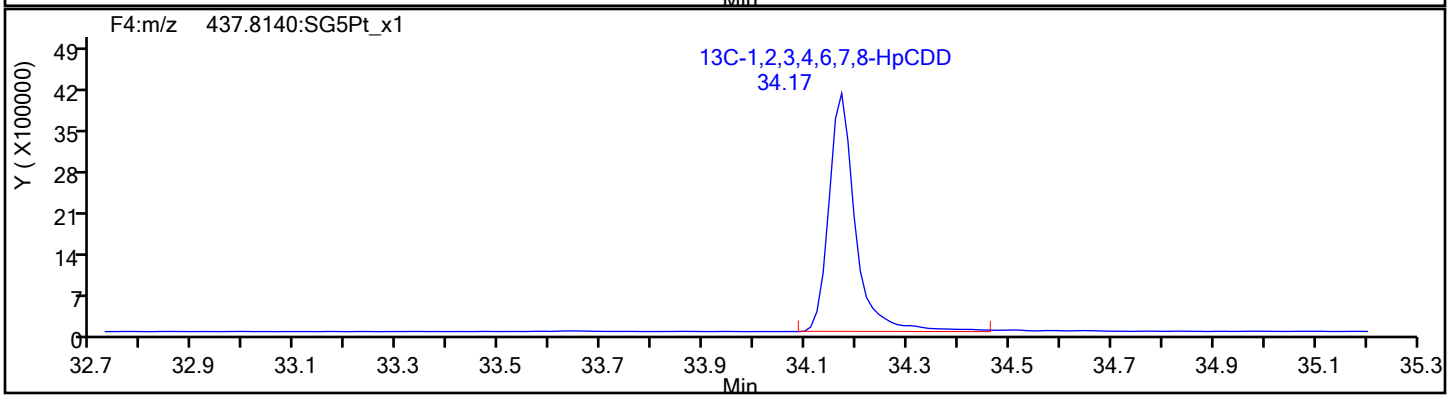

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Eurofins TestAmerica, Sacramento

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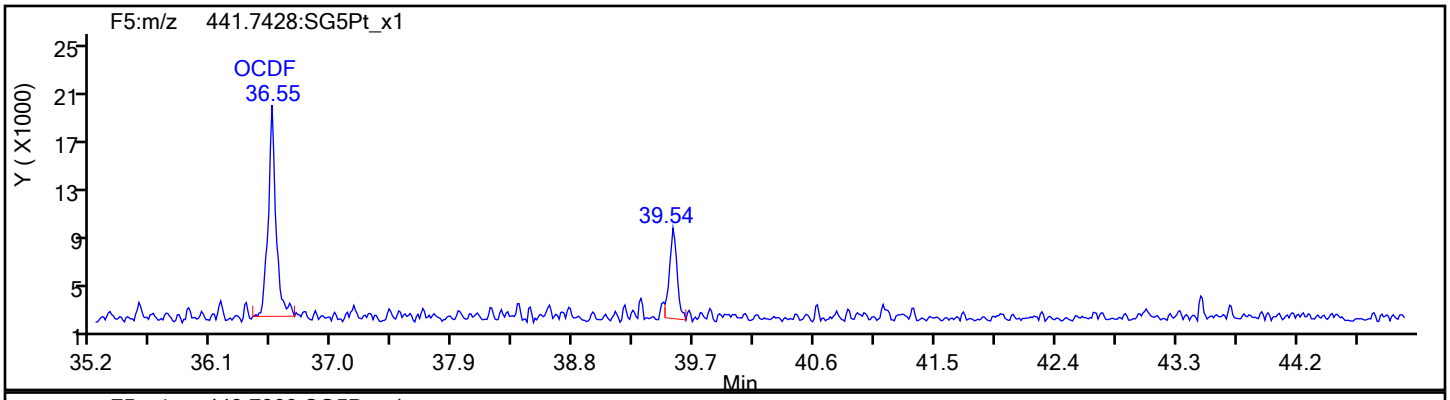

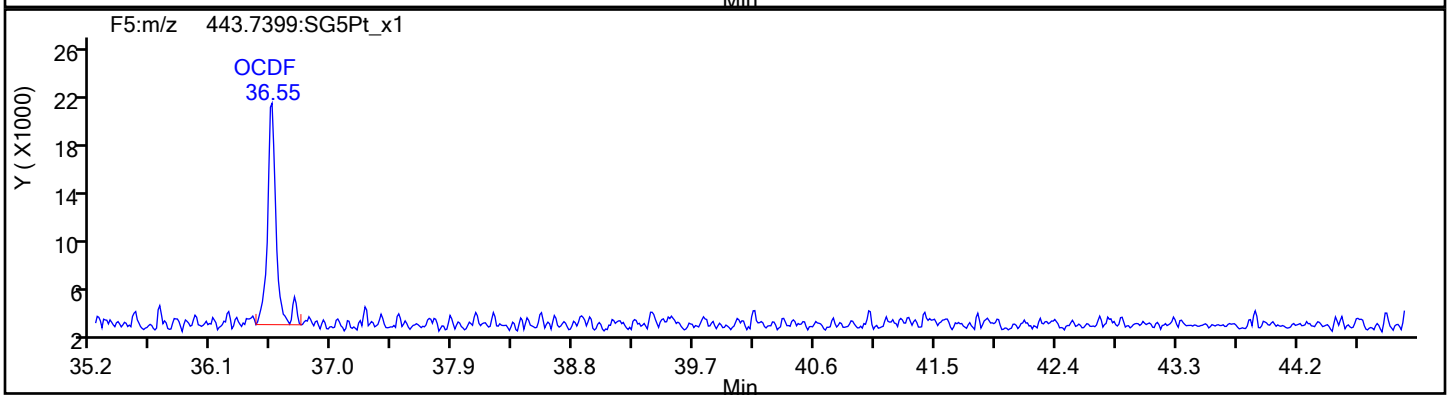

OCDF Standards

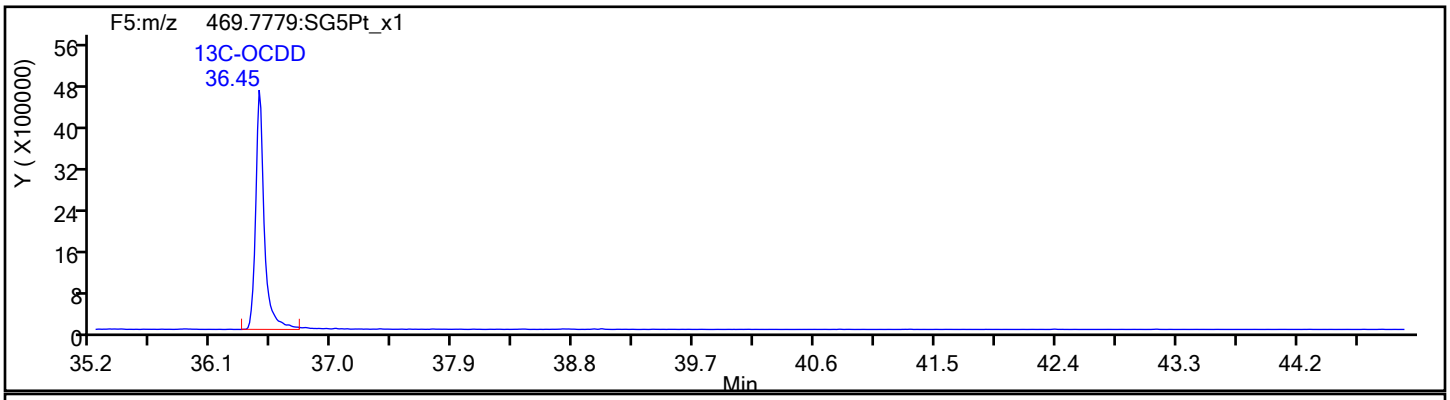

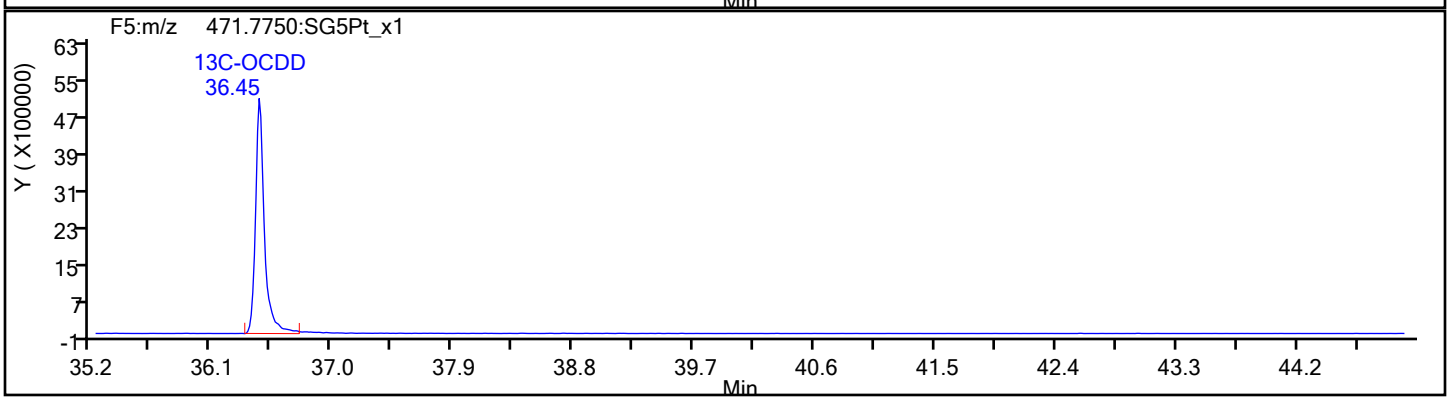

Report Date: 08-Nov-2019 09:14:44 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_11.d		
Injection Date:	06-Nov-2019 03:12:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336302	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

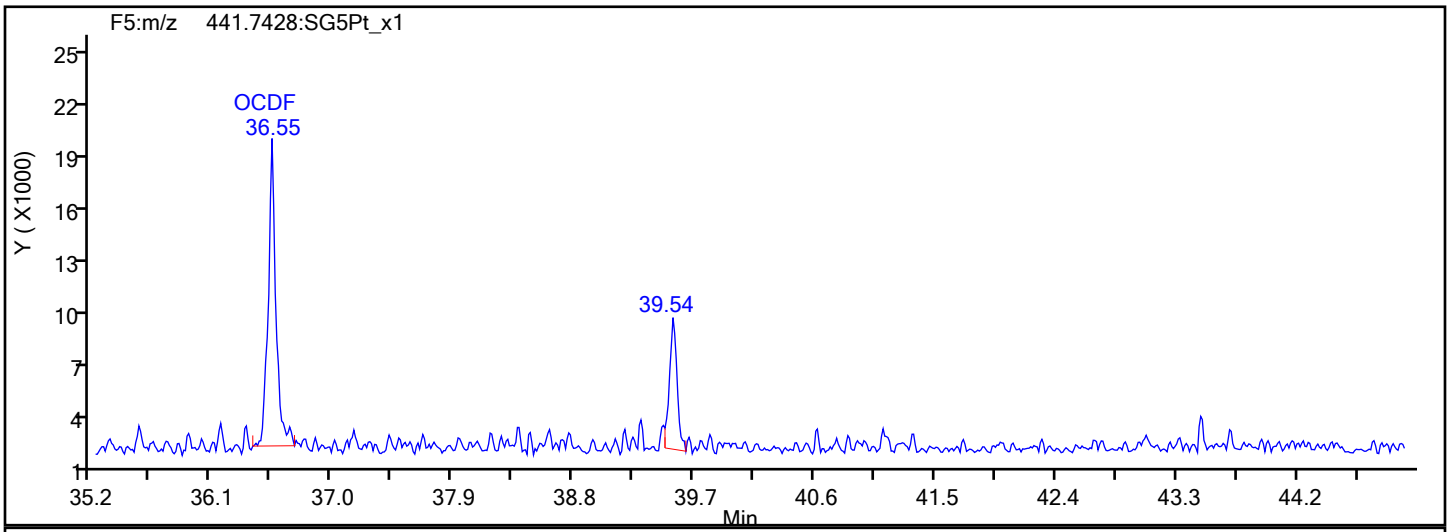

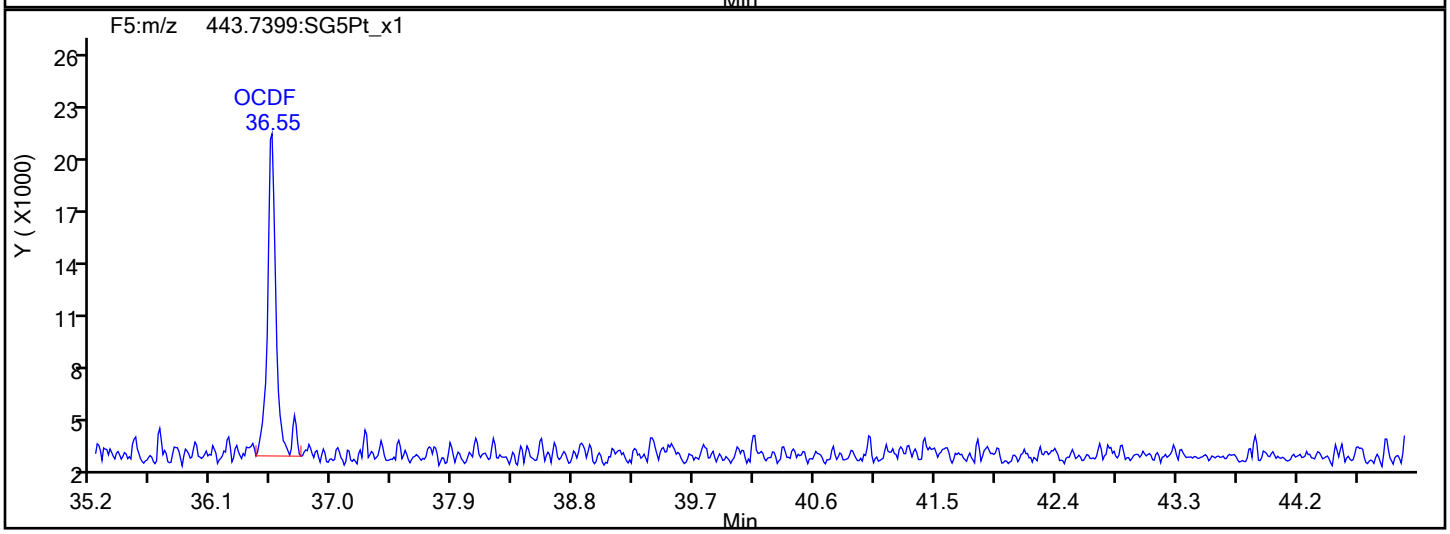

OCDF Interference Mass

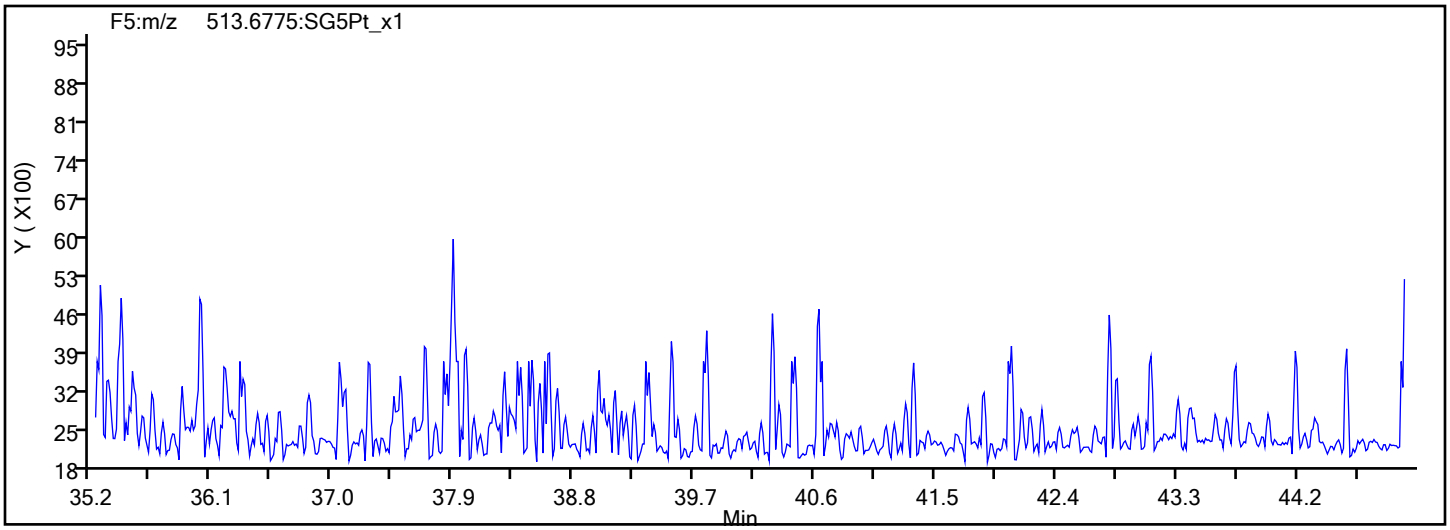

Report Date: 08-Nov-2019 09:14:44 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_11.d		
Injection Date:	06-Nov-2019 03:12:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336302	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

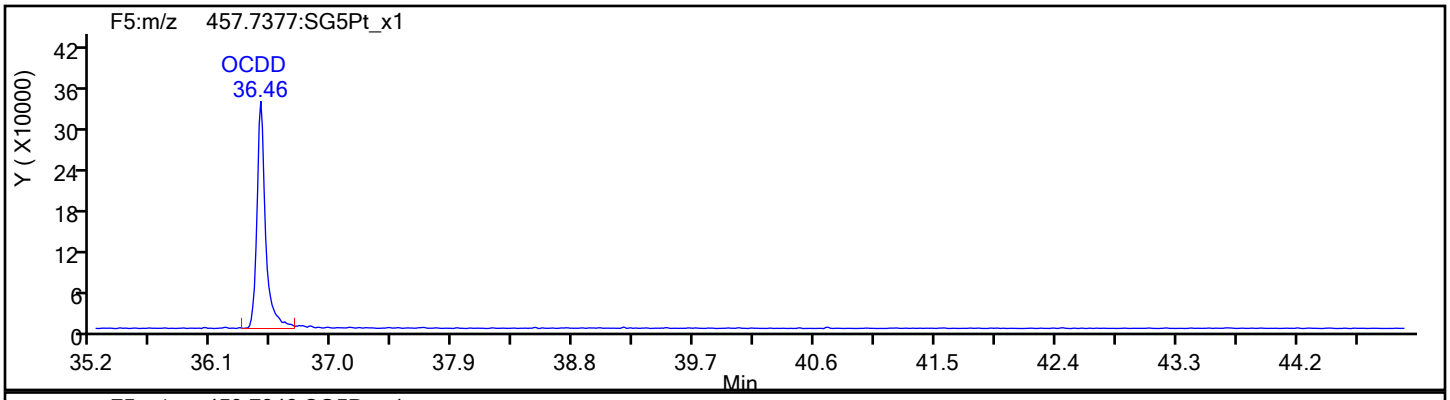

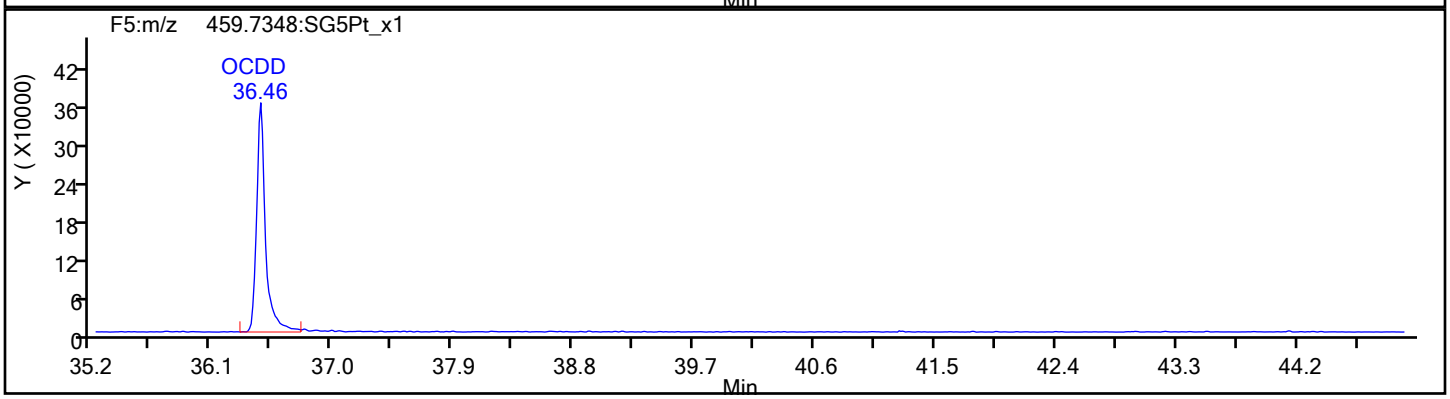

OCDD Standards

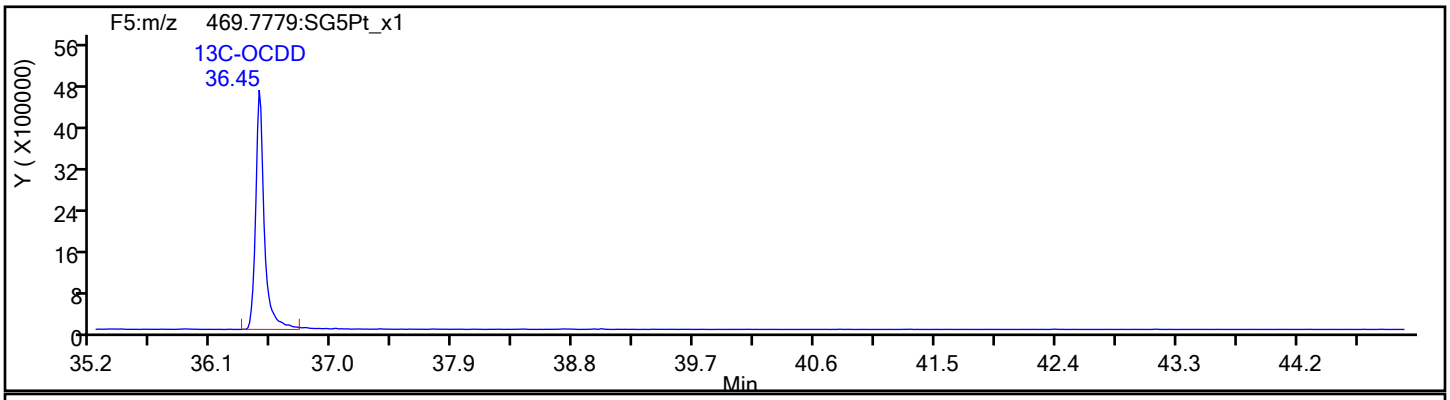

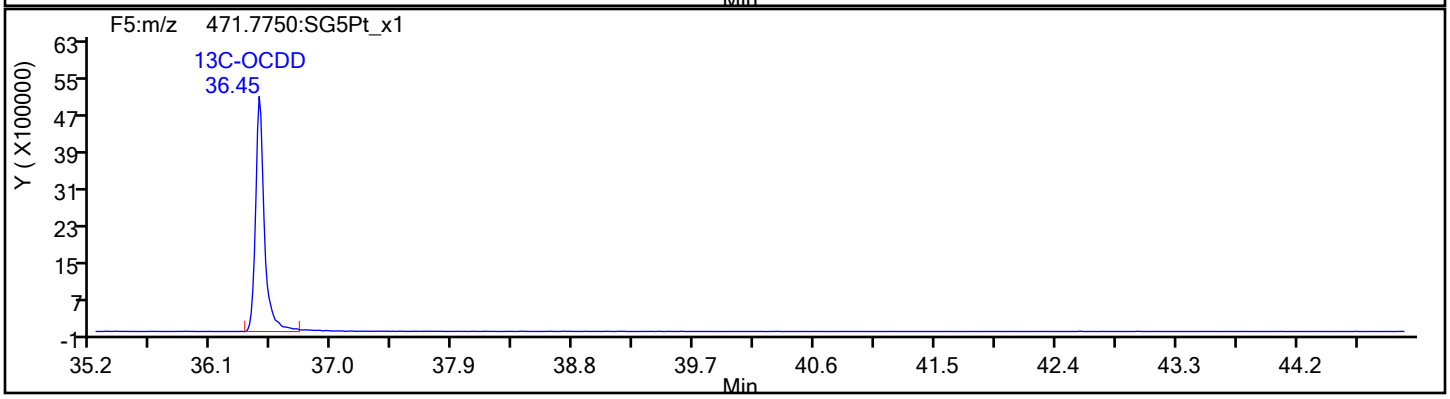

Report Date: 08-Nov-2019 09:14:44 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_11.d		
Injection Date:	06-Nov-2019 03:12:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336302	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm

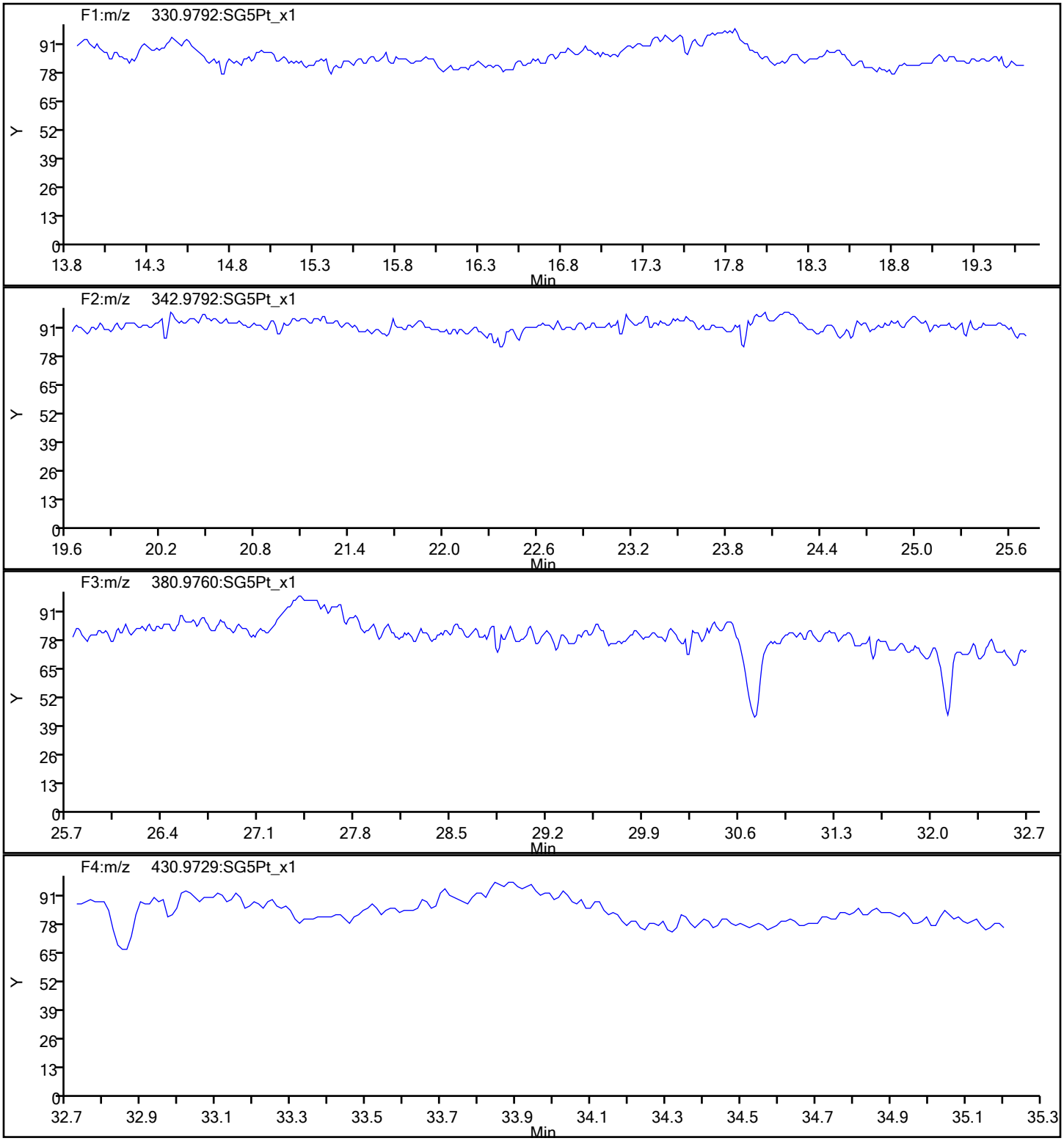

Report Date: 08-Nov-2019 09:14:44 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_11.d		
Injection Date:	06-Nov-2019 03:12:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336302	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm

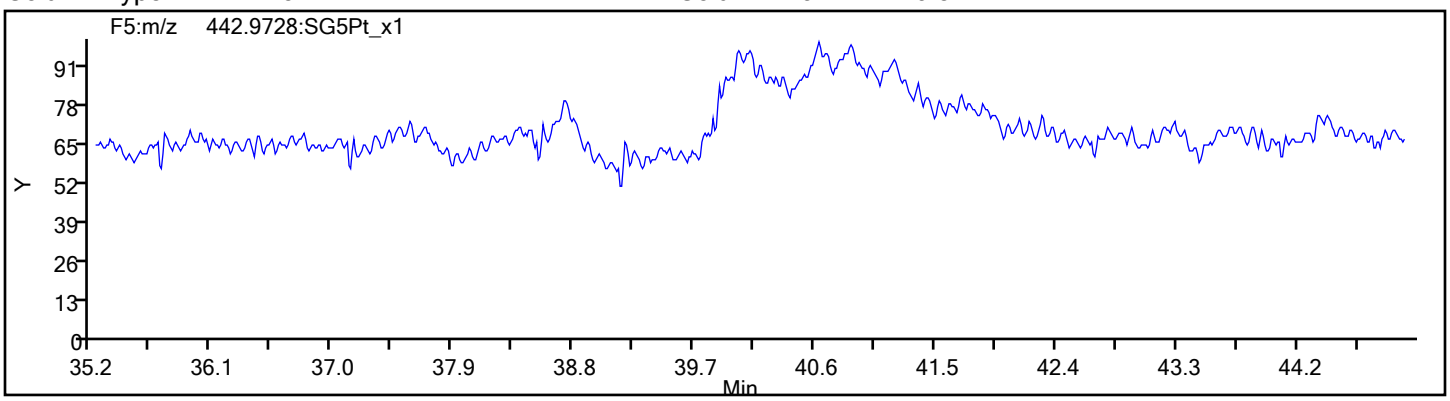

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Client Sample ID: INF 4 - DISSOLVED RA Lab Sample ID: 600-194690-11 RA

Matrix: Water Lab File ID: 07NO19A11D2_008.d

Analysis Method: 1613B Date Collected: 10/26/2019 22:10

Extract. Method: 1613B Date Extracted: 11/01/2019 08:11

Sample wt/vol: 982.8(mL) Date Analyzed: 11/07/2019 19:27

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 336810 Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
51207-31-9	2,3,7,8-TCDF	540	F1 B	10	1.2

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
89059-46-1	13C-2,3,7,8-TCDF	68		24-169

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	105		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_008.d
Lims ID: 600-194690-A-11-A
Client ID: INF 4 - DISSOLVED
Sample Type: Client
Inject. Date: 07-Nov-2019 19:27:24 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 600-194690-A-11-A
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20191107-86281.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 08-Nov-2019 11:07:13 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0309

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.381	151434550	0.79	1.1E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.547	137104866	0.80	1.3379	67.7	67.7	0.2729	0.2729	67.67	
2,3,7,8-TCDF	16.575	30514321	0.76	0.8389	26.5	26.5	0.0582	0.0582		
D 13C-2,3,7,8-TCDD	15.093	90820783	0.76	0.9388	63.9	63.9	0.7694	0.7694	63.88	
2,3,7,8-TCDD	15.121	8616365	0.77	1.1538	8.223	8.223	0.0978	0.0978		
$ 37Cl4-2,3,7,8-TCDD	15.121	75402311		1.1816	42.1	42.1	0.0427	0.0427	105	
S Total 2378-Chlorinated							0.000100	0.000100		

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_008.d
Lims ID: 600-194690-A-11-A
Client ID: INF 4 - DISSOLVED
Sample Type: Client
Inject. Date: 07-Nov-2019 19:27:24 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 600-194690-A-11-A
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20191107-86281.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 08-Nov-2019 11:07:13 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0309

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.381	15.378	0		67030486	16298685	52526	131315	310		
333.9339	15.381	15.378	0		84404064	20051269	52507	131267	382	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.547	16.560	-1	1.076	60990399	13061640	30870	77175	423		
317.9389	16.547	16.560	-1	1.076	76114467	16203257	22228	55570	729	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.575	16.571	0	1.002	13200801	2700740	2361	5902	1144		
305.8987	16.575	16.571	0	1.002	17313520	3644047	3354	8385	1086	0.76(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.093	15.092	-1	0.981	39117647	9706709	52526	131315	185		
333.9339	15.093	15.092	-1	0.981	51703136	12227902	52507	131267	233	0.76(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.121	15.117	0	1.002	3756040	890566	5612	14030	159		
321.8936	15.121	15.117	0	1.002	4860325	1109696	4284	10710	259	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.121	15.117	0	0.983	75402311	18007171	7340	18350	2453		

Total 2378-Chlorinated Dioxins & Furans
0.0 0

Report Date: 08-Nov-2019 11:07:43 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_008.d		
Injection Date:	07-Nov-2019 19:27:24	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336810	Sample Line#:	8
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

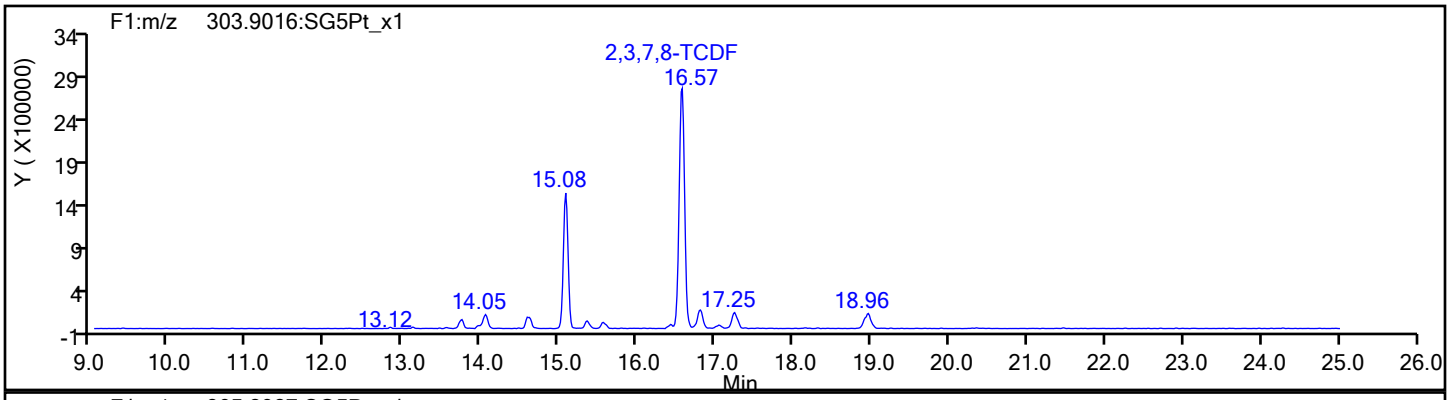

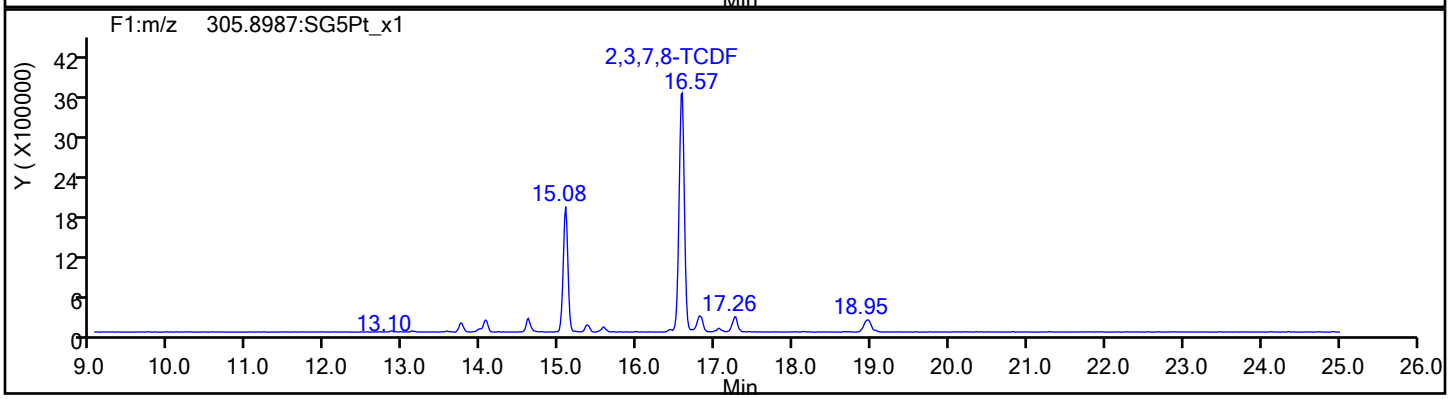

TCDF Standards

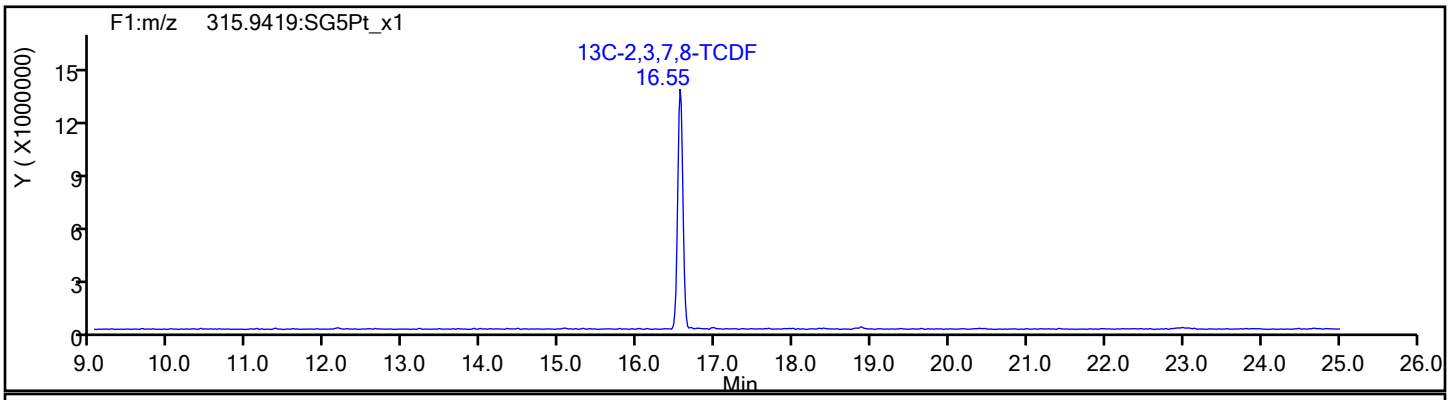

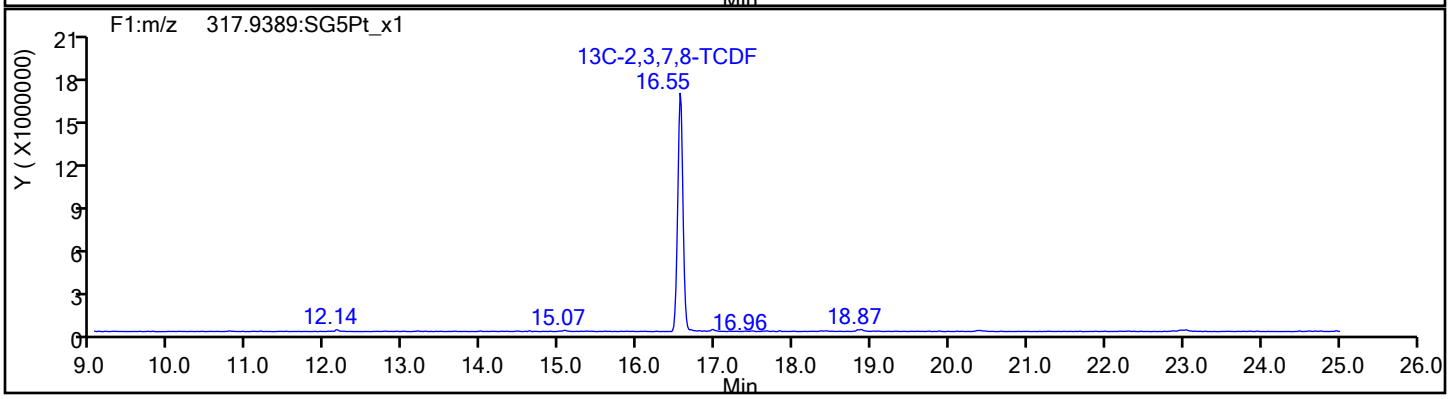

Report Date: 08-Nov-2019 11:07:43 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_008.d		
Injection Date:	07-Nov-2019 19:27:24	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336810	Sample Line#:	8
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

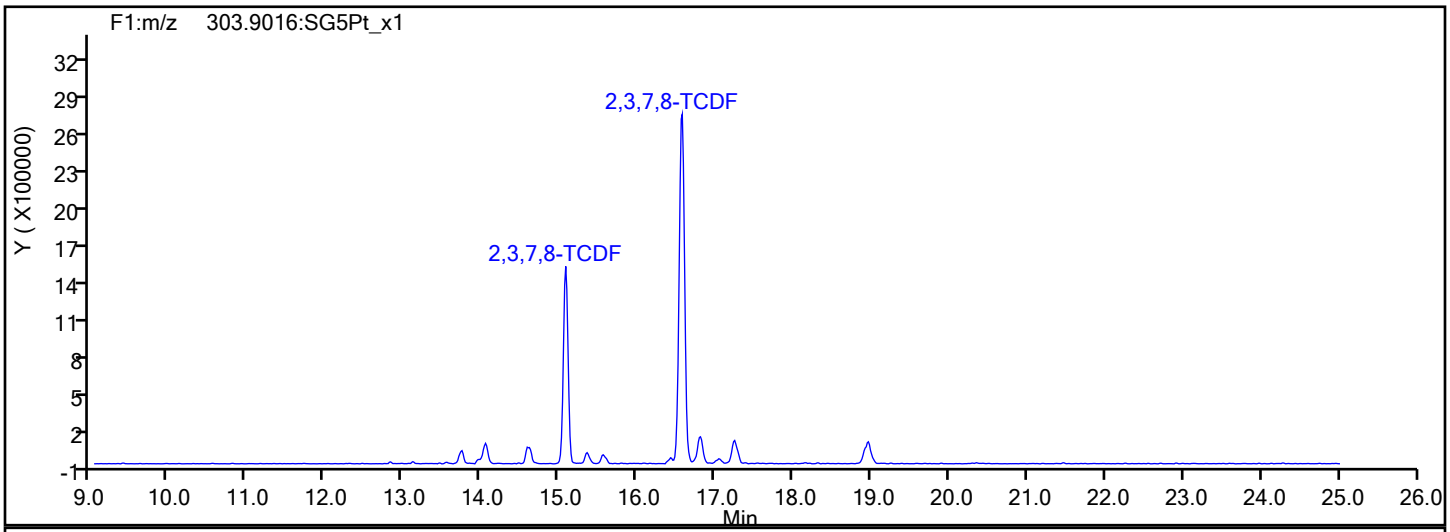

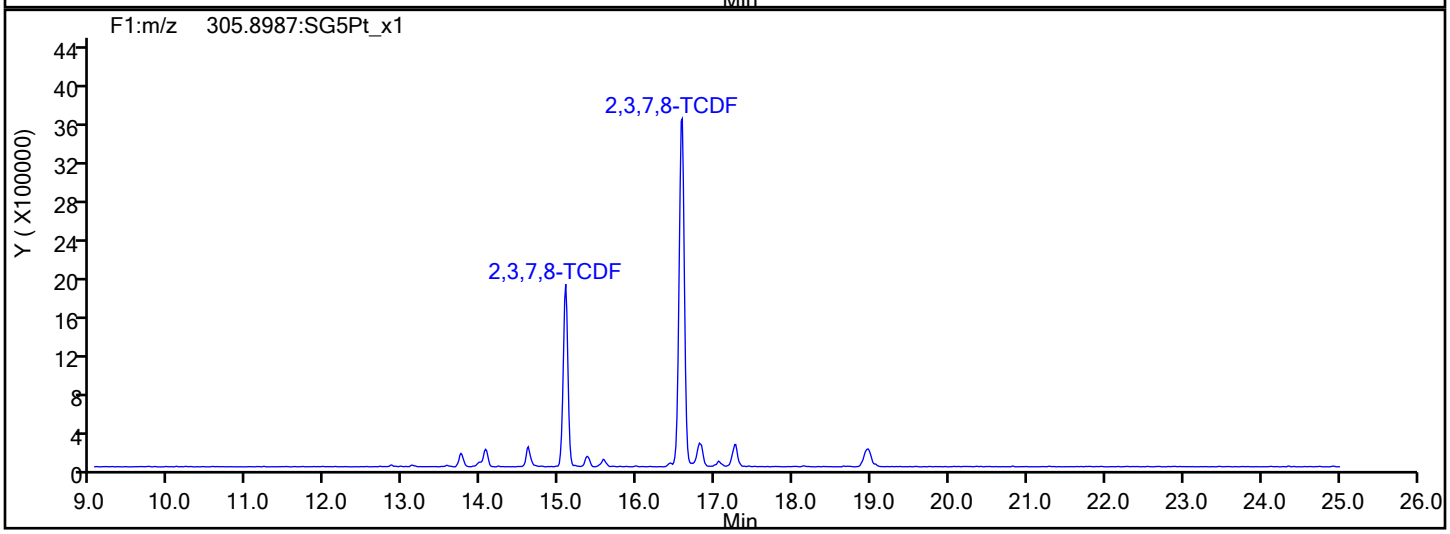

TCDF Interference Mass

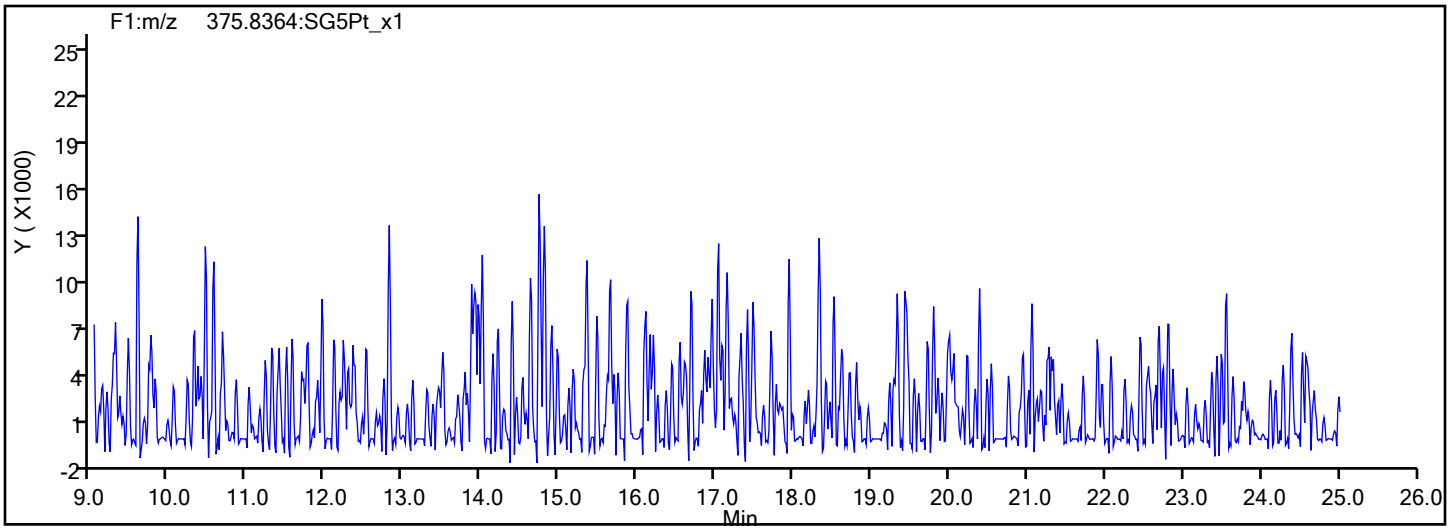

Report Date: 08-Nov-2019 11:07:43 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_008.d		
Injection Date:	07-Nov-2019 19:27:24	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336810	Sample Line#:	8
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

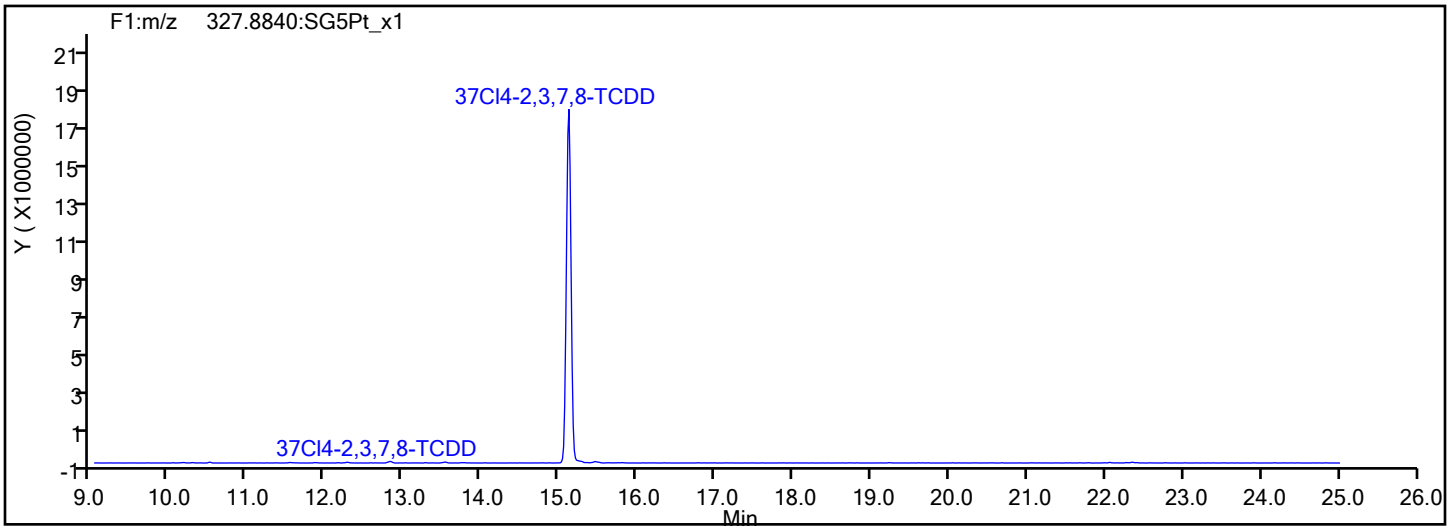

37Cl4-TCDD Standards

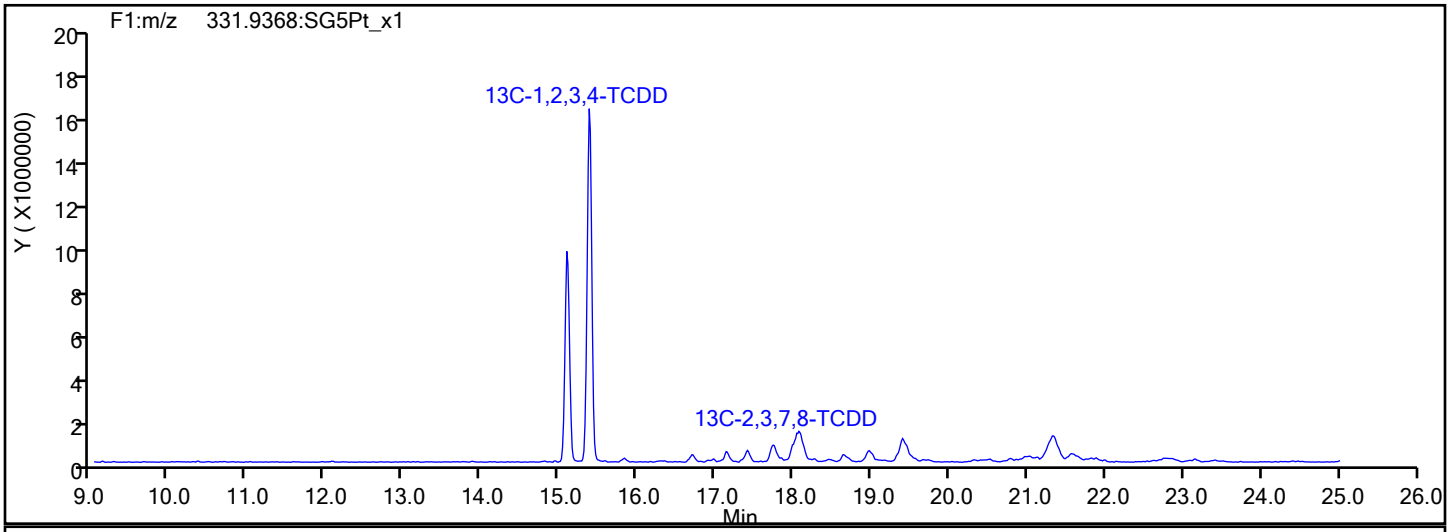

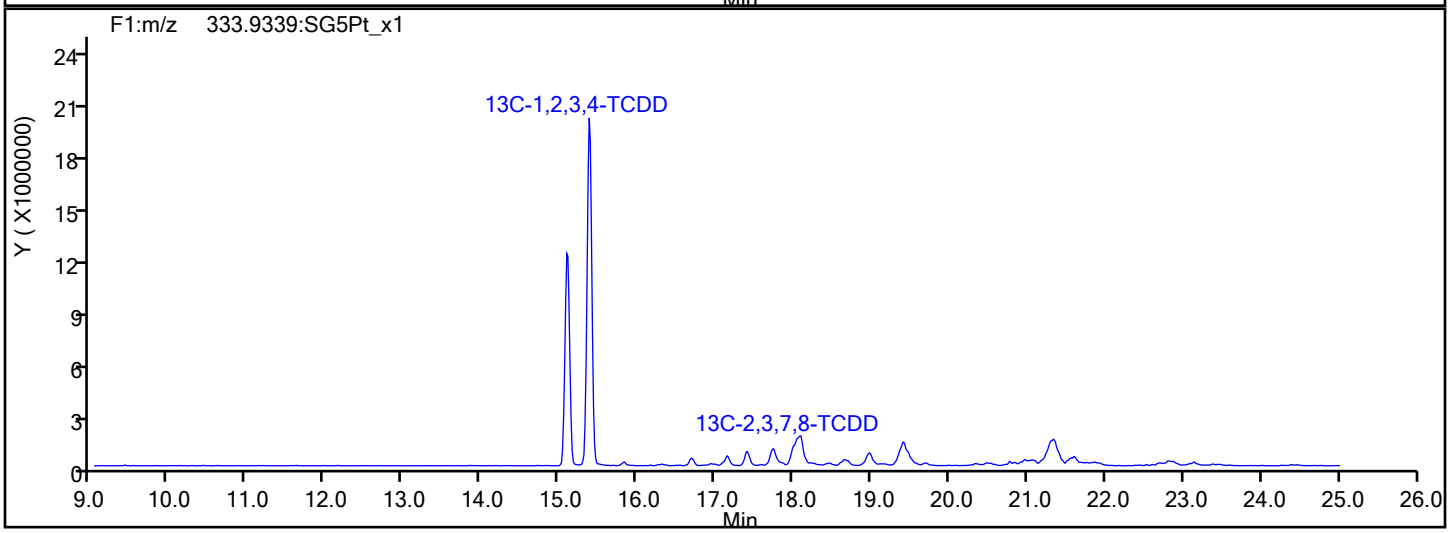

Report Date: 08-Nov-2019 11:07:43 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_008.d		
Injection Date:	07-Nov-2019 19:27:24	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336810	Sample Line#:	8
Column Type:	DB-225	Column Dia:	0.32 mm

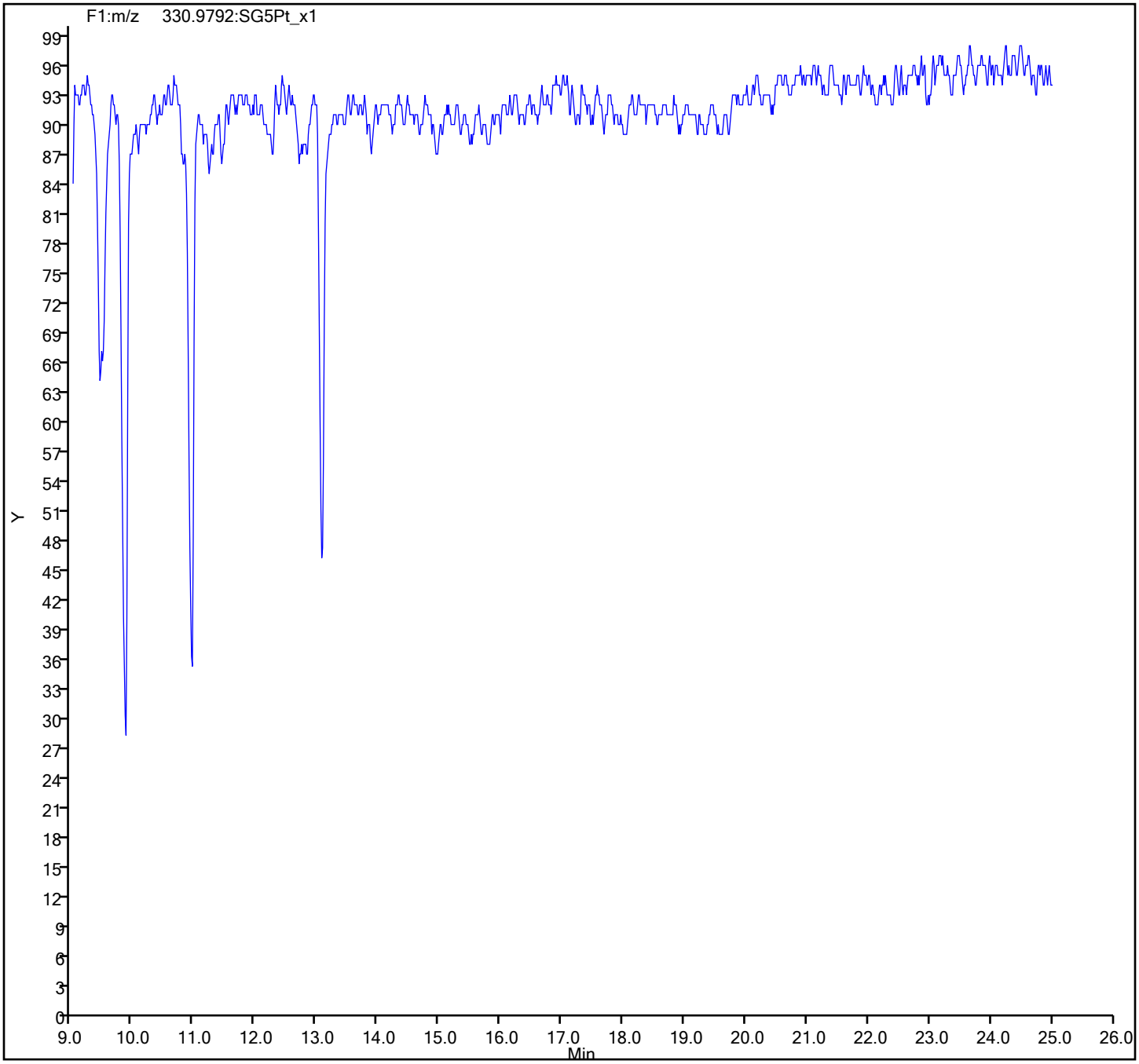

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1 Analy Batch No.: 324128

SDG No.:

Instrument ID: 10D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 13:03 Calibration End Date: 09/17/2019 16:55 Calibration ID: 47423

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-324128/3	17SE1910D5_3.d
Level 2	IC 320-324128/4	17SE1910D5_4.d
Level 3	IC 320-324128/7	17SE1910D5_7.d
Level 4	IC 320-324128/6	17SE1910D5_6.d
Level 5	IC 320-324128/8	17SE1910D5_8.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
2,3,7,8-TCDF	1.0712	1.1022	0.9929	1.0616	1.0257	AveID		1.0507				4.0		20.0			
2,3,7,8-TCDD	1.1677	1.1266	1.0239	1.1261	1.0877	AveID		1.1064				4.9		20.0			
1,2,3,7,8-PeCDF	1.0011	1.1601	1.0432	1.1331	1.0737	AveID		1.0822				6.0		20.0			
2,3,4,7,8-PeCDF	0.9626	1.1888	1.0864	1.1728	1.1054	AveID		1.1032				8.1		20.0			
1,2,3,7,8-PeCDD	0.8594	0.9576	0.8670	0.9410	0.9001	AveID		0.9050				4.8		20.0			
1,2,3,4,7,8-HxCDF	1.1004	1.2643	1.1561	1.2645	1.2013	AveID		1.1973				5.9		20.0			
1,2,3,6,7,8-HxCDF	1.0669	1.2704	1.1534	1.2334	1.1792	AveID		1.1807				6.6		20.0			
2,3,4,6,7,8-HxCDF	1.1327	1.2683	1.1855	1.2657	1.2056	AveID		1.2116				4.7		20.0			
1,2,3,4,7,8-HxCDD	1.0497	1.1313	1.0762	1.1585	1.1282	AveID		1.1088				4.0		20.0			
1,2,3,6,7,8-HxCDD	1.0225	1.1526	1.0496	1.1177	1.0648	AveID		1.0814				4.9		20.0			
1,2,3,7,8,9-HxCDD	1.1542	1.3138	1.1887	1.2433	1.1615	AveID		1.2123				5.5		20.0			
1,2,3,7,8,9-HxCDF	1.2253	1.2976	1.2100	1.2716	1.2212	AveID		1.2451				3.0		20.0			
1,2,3,4,6,7,8-HpCDF	1.5175	1.6415	1.5201	1.5867	1.5119	AveID		1.5555				3.7		20.0			
1,2,3,4,6,7,8-HpCDD	0.8498	0.9887	0.9182	0.9754	0.9258	AveID		0.9316				5.9		20.0			
1,2,3,4,7,8,9-HpCDF	1.2548	1.4796	1.3480	1.4704	1.3785	AveID		1.3862				6.7		20.0			
OCDD	0.9991	1.1715	1.0189	1.0914	1.0295	AveID		1.0621				6.6		20.0			
OCDF	1.1420	1.3314	1.2399	1.3172	1.2675	AveID		1.2596				6.0		20.0			
13C-2,3,7,8-TCDF	1.4608	1.4445	1.4059	1.4451	1.4357	Ave		1.4384				1.4		35.0			
13C-2,3,7,8-TCDD	0.9625	0.9452	0.9420	0.9578	0.9591	Ave		0.9533				1.0		35.0			
13C-1,2,3,7,8-PeCDF	1.0011	0.9736	1.0018	1.0725	1.0941	Ave		1.0286				5.0		35.0			
13C-2,3,4,7,8-PeCDF	0.9468	0.9409	0.9284	1.0290	1.0682	Ave		0.9827				6.3		35.0			
13C-1,2,3,7,8-PeCDD	0.7126	0.6892	0.7253	0.7912	0.8222	Ave		0.7481				7.5		35.0			
13C-1,2,3,4,7,8-HxCDF	1.1695	1.1696	1.1139	1.1554	1.1519	Ave		1.1520				2.0		35.0			
13C-1,2,3,6,7,8-HxCDF	1.2574	1.2360	1.2152	1.2646	1.2439	Ave		1.2434				1.6		35.0			
13C-2,3,4,6,7,8-HxCDF	1.1808	1.1525	1.1326	1.1890	1.2049	Ave		1.1720				2.5		35.0			
13C-1,2,3,4,7,8-HxCDD	0.7524	0.7624	0.7637	0.8053	0.8223	Ave		0.7812				3.9		35.0			
13C-1,2,3,6,7,8-HxCDD	0.8902	0.8874	0.9034	0.9518	0.9544	Ave		0.9175				3.6		35.0			
13C-1,2,3,7,8,9-HxCDF	1.0743	1.0692	1.0512	1.0728	1.0598	Ave		1.0655				0.9		35.0			
13C-1,2,3,4,6,7,8-HpCDF	0.8693	0.8034	0.8768	0.8898	0.8745	Ave		0.8628				3.9		35.0			
13C-1,2,3,4,6,7,8-HpCDD	0.8645	0.8231	0.8669	0.9030	0.9118	Ave		0.8739				4.0		35.0			
13C-1,2,3,4,7,8,9-HpCDF	0.8125	0.7593	0.7819	0.8143	0.8272	Ave		0.7991				3.5		35.0			
13C-OCDD	0.7944	0.6967	0.7385	0.7965	0.8457	Ave		0.7744				7.4		35.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1 Analy Batch No.: 324128

SDG No.:

Instrument ID: 10D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 13:03 Calibration End Date: 09/17/2019 16:55 Calibration ID: 47423

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
37Cl4-2,3,7,8-TCDD	1.1192	1.2125	1.2082	1.2900	1.2821	Ave		1.2224				5.7					

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1 Analy Batch No.: 324128

SDG No.:

Instrument ID: 10D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 13:03 Calibration End Date: 09/17/2019 16:55 Calibration ID: 47423

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-324128/3	17SE1910D5_3.d
Level 2	IC 320-324128/4	17SE1910D5_4.d
Level 3	IC 320-324128/7	17SE1910D5_7.d
Level 4	IC 320-324128/6	17SE1910D5_6.d
Level 5	IC 320-324128/8	17SE1910D5_8.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (PG/UL)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
2,3,7,8-TCDF		AveID	172042	1529056	16312729	83942362	462672519	0.500	2.00	10.0	40.0	200
2,3,7,8-TCDD		AveID	123575	1022744	11272193	59019056	327747086	0.500	2.00	10.0	40.0	200
1,2,3,7,8-PeCDF		AveID	550940	5424212	61060330	332470884	1845377073	2.50	10.0	50.0	200	1000
2,3,4,7,8-PeCDF		AveID	501008	5371777	58935693	330153847	1854754260	2.50	10.0	50.0	200	1000
1,2,3,7,8-PeCDD		AveID	336661	3169429	36740998	203688899	1162563715	2.50	10.0	50.0	200	1000
1,2,3,4,7,8-HxCDF		AveID	452083	4604517	51431784	291651831	1688948701	2.50	10.0	50.0	200	1000
1,2,3,6,7,8-HxCDF		AveID	471238	4889511	55977084	311373058	1790437956	2.50	10.0	50.0	200	1000
2,3,4,6,7,8-HxCDF		AveID	469856	4551517	53626165	300428448	1773083873	2.50	10.0	50.0	200	1000
1,2,3,4,7,8-HxCDD		AveID	277444	2685740	32825472	186227471	1132407299	2.50	10.0	50.0	200	1000
1,2,3,6,7,8-HxCDD		AveID	319747	3184984	37867080	212361866	1240444751	2.50	10.0	50.0	200	1000
1,2,3,7,8,9-HxCDD		AveID	333001	3374687	39571199	218049333	1259477463	2.50	10.0	50.0	200	1000
1,2,3,7,8,9-HxCDF		AveID	462420	4319986	50802364	272303395	1579646001	2.50	10.0	50.0	200	1000
1,2,3,4,6,7,8-HpCDF		AveID	463407	4106440	53230505	281845286	1613842335	2.50	10.0	50.0	200	1000
1,2,3,4,6,7,8-HpCDD		AveID	258090	2534205	31792117	175833007	1030391820	2.50	10.0	50.0	200	1000
1,2,3,4,7,8,9-HpCDF		AveID	358162	3498041	42098592	239010564	1391884877	2.50	10.0	50.0	200	1000
OCDD		AveID	557610	5082981	60102277	347055077	2125514466	5.00	20.0	100	400	2000
OCDF		AveID	637327	5776792	73138090	418862104	2616959337	5.00	20.0	100	400	2000
13C-2,3,7,8-TCDF	13CTC	Ave	32121801	69364385	164292495	197671153	225533576	100	100	100	100	100
13C-2,3,7,8-TCDD	13CTC	Ave	21165335	45389691	110088290	131023361	150666513	100	100	100	100	100
13C-1,2,3,7,8-PeCDF	13CTC	Ave	22013977	46755351	117067384	146707284	171862914	100	100	100	100	100
13C-2,3,4,7,8-PeCDF	13CTC	Ave	20818900	45184985	108494277	140755634	167797734	100	100	100	100	100
13C-1,2,3,7,8-PeCDD	13CTC	Ave	15668897	33098301	84755636	108225317	129152474	100	100	100	100	100
13C-1,2,3,4,7,8-HxCDF	13CHx	Ave	16433122	36418536	88972191	115322048	140595624	100	100	100	100	100
13C-1,2,3,6,7,8-HxCDF	13CHx	Ave	17668349	38486861	97064883	126224651	151833452	100	100	100	100	100
13C-2,3,4,6,7,8-HxCDF	13CHx	Ave	16591902	35886090	90467566	118677202	147071003	100	100	100	100	100
13C-1,2,3,4,7,8-HxCDD	13CHx	Ave	10572054	23739455	61001305	80372897	100374877	100	100	100	100	100
13C-1,2,3,6,7,8-HxCDD	13CHx	Ave	12508423	27633426	72157657	95002970	116499868	100	100	100	100	100
13C-1,2,3,7,8,9-HxCDF	13CHx	Ave	15096147	33293009	83967924	107073331	129353689	100	100	100	100	100
13C-1,2,3,4,6,7,8-HpCDF	13CHx	Ave	12214839	25015698	70034446	88816288	106743815	100	100	100	100	100
13C-1,2,3,4,6,7,8-HpCDD	13CHx	Ave	12148019	25630510	69249272	90130025	111298169	100	100	100	100	100
13C-1,2,3,4,7,8,9-HpCDF	13CHx	Ave	11417456	23641905	62459777	81274920	100973962	100	100	100	100	100
13C-OCDD	13CHx	Ave	22323676	43388861	117978202	158997965	206464776	200	200	200	200	200
37Cl4-2,3,7,8-TCDD	13CTC	Ave	123050	1164531	11295580	70585275	402794059	0.500	2.00	8.00	40.0	200

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1 Analy Batch No.: 324128

SDG No.:

Instrument ID: 10D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 13:03 Calibration End Date: 09/17/2019 16:55 Calibration ID: 47423

Curve Type Legend:

Ave = Average ISTD
AveID = Average isotope dilution

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #
1	17SE1910D5_1	WDM HRDXNCP_00038	WDM 091719	Tray01:1	---	
2	17SE1910D5_2	Solvent Blank C-14	SB 091719	Tray01:3	---	
3	17SE1910D5_3	CS-2 HRDXNL2_00027	IC 091719	Tray01:4	Dioxin	
4	17SE1910D5_4	CS-3 HRDXNL3_00025	IC 091719A	Tray01:5	Dioxin	
5	17SE1910D5_5	Mis-inject (wrong standard)	Mis-inject (wrong standard)	Tray01:2	Dioxin	
6	17SE1910D5_6	CS-5 HRDXNL5_00028	IC 091719C	Tray01:6	Dioxin	
7	17SE1910D5_7	CS-4 HRDXNL4_00084	IC 091719B	Tray01:2	Dioxin	
8	17SE1910D5_8	CS-6 HRDXNL6_00024	IC 091719D	Tray01:7	Dioxin	
9	17SE1910D5_9	Solvent Blank C-14	SB 091719A	Tray01:3	---	
10	17SE1910D5_10	ICV HRDXNIC_00042	ICV 091719	Tray01:8	Dioxin	
11	17SE1910D5_11	Solvent Blank C-14	SB 091619A	Tray01:3	---	
12	17SE1910D5_12	WDM HRDXNCP_00038	WDM 091719A	Tray01:1	---	
13	17SE1910D5_13	CS-4 HRDXNL4_00084	CCV 091719	Tray01:2	Dioxin	
14	17SE1910D5_14	Solvent Blank C-14	SB 091719B	Tray01:3	---	
15	17SE1910D5_15	MB 320-521530/1-A	MB 320-521530/1-A	Tray01:15	8290/Solid	50
16	17SE1910D5_16	LCS 320-521530/2-A	LCS 320-521530/2-A	Tray01:16	8290/Solid	
17	17SE1910D5_17	320-53987-E-2-A	320-53987-E-2-A	Tray01:17	8290/Solid	
18	17SE1910D5_18	320-53987-E-3-A	320-53987-E-3-A	Tray01:18	8290/Solid	
19	17SE1910D5_19	320-53988-E-2-A	320-53988-E-2-A	Tray01:19	8290/Solid	
20	17SE1910D5_20	320-53989-E-2-A	320-53989-E-2-A	Tray01:20	8290/Solid	
21	17SE1910D5_21	320-53989-E-3-A	320-53989-E-3-A	Tray01:21	8290/Solid	
22	17SE1910D5_22	320-53989-E-4-A	320-53989-E-4-A	Tray01:22	8290/Solid	
23	17SE1910D5_23	320-53989-E-5-A	320-53989-E-5-A	Tray01:23	8290/Solid	
24	17SE1910D5_24	Solvent Blank C-14	SB 091619C	Tray01:3	---	
25	17SE1910D5_25	CS-4 HRDXNL4_00084	CCV 091719A	Tray01:2	Dioxin	
26	17SE1910D5_26	WDM HRDXNCP_00038	WDM 091719B	Tray01:1	---	
27	17SE1910D5_27	Solvent Blank C-14	SB 091719D	Tray01:3	---	
28	17SE1910D5_28	320-53989-E-6-A	320-53989-E-6-A	Tray01:29	8290/Solid	50
29	17SE1910D5_29	320-53989-E-7-A	320-53989-E-7-A	Tray01:30	8290/Solid	
30	17SE1910D5_30	320-53989-E-8-A	320-53989-E-8-A	Tray01:31	8290/Solid	
31	17SE1910D5_31	320-53989-E-9-A	320-53989-E-9-A	Tray01:32	8290/Solid	
32	17SE1910D5_32	320-53989-E-10-A	320-53989-E-10-A	Tray01:33	8290/Solid	
33	17SE1910D5_33	320-53989-E-11-A	320-53989-E-11-A	Tray01:34	8290/Solid	
34	17SE1910D5_34	320-53989-E-12-A	320-53989-E-12-A	Tray01:35	8290/Solid	
35	17SE1910D5_35	320-53989-E-13-A	320-53989-E-13-A	Tray01:36	8290/Solid	
36	17SE1910D5_36	320-53989-E-14-A	320-53989-E-14-A	Tray01:37	8290/Solid	
37	17SE1910D5_37	Solvent Blank C-14	SB 091619E	Tray01:3	---	
38	17SE1910D5_38	CS-4 HRDXNL4_00084	CCV 091719B	Tray01:2	Dioxin	
39	17SE1910D5_39	WDM HRDXNCP_00038	WDM 091719C	Tray01:1	---	
40	17SE1910D5_40	Solvent Blank C-14	SB 091719F	Tray01:3	---	

Logfile checked
09/18/19 SMA

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed: Tuesday, September 17, 2019 11:25:01 Pacific Daylight Time

M 292.9824 R 12824

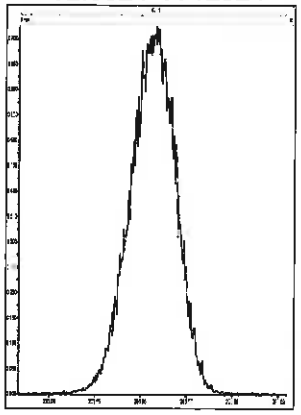

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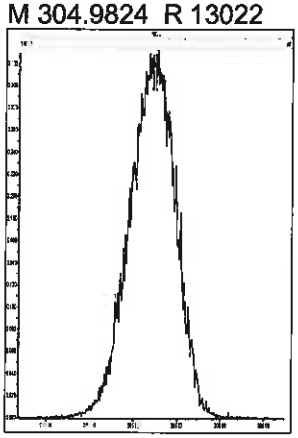

M 318.9792 R 12690

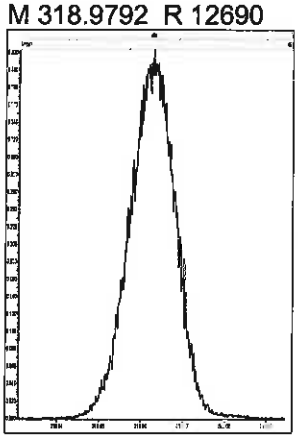

M 330.9792 R 12694

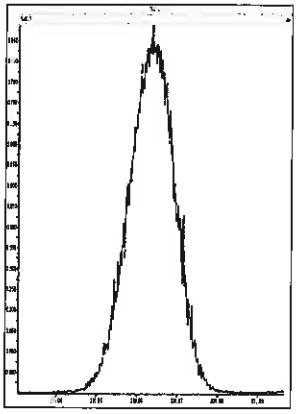

M 342.9792 R 13090

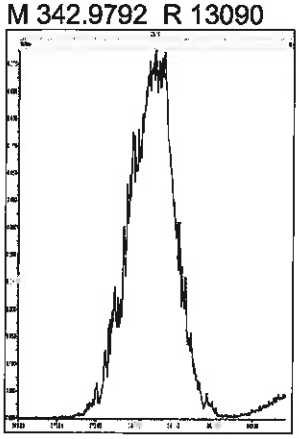

M 354.9792 R 12499

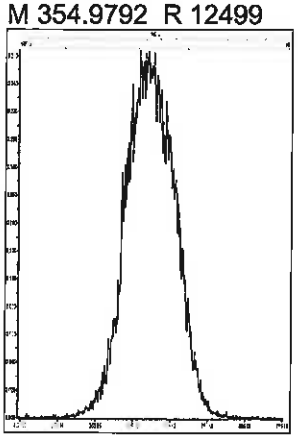

M 366.9792 R 11902

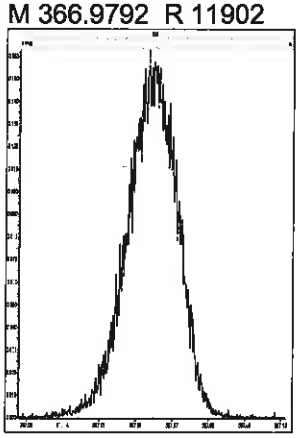

M 380.9760 R 11789

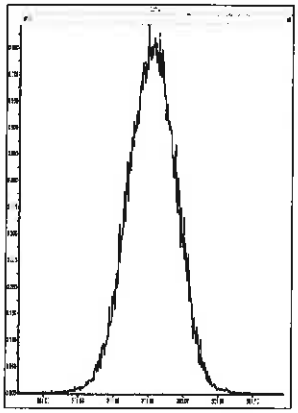

M 392.9760 R 12018

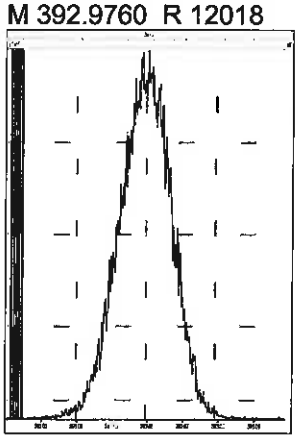

M 404.9760 R 11626

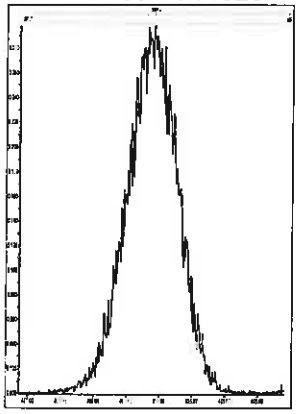

M 416.9760 R 11958

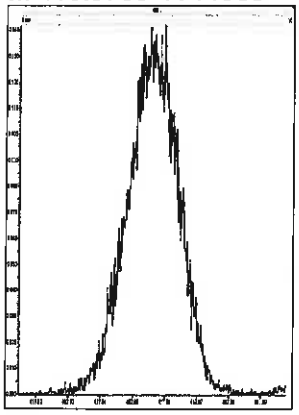

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 2 @ 200 (ppm)

Printed: Tuesday, September 17, 2019 11:25:25 Pacific Daylight Time

M 318.9792 R 13513

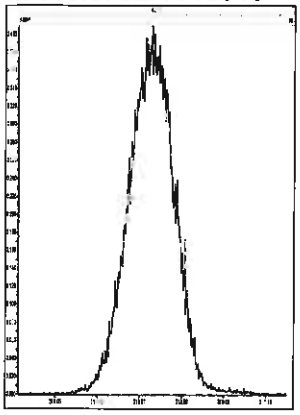

M 330.9792 R 12694

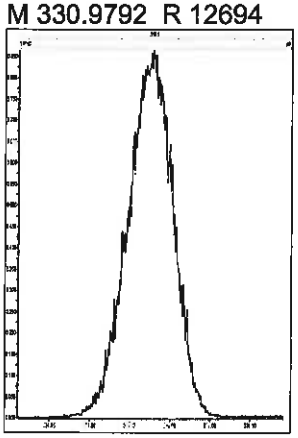

M 342.9792 R 12949

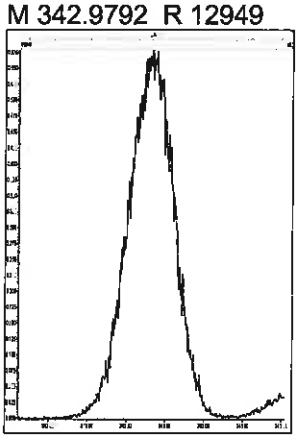

M 354.9792 R 13021

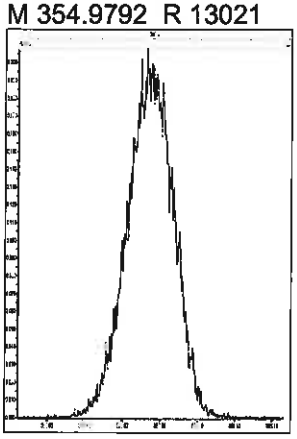

M 366.9792 R 12824

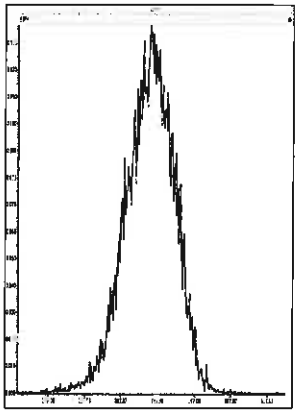

M 380.9760 R 12687

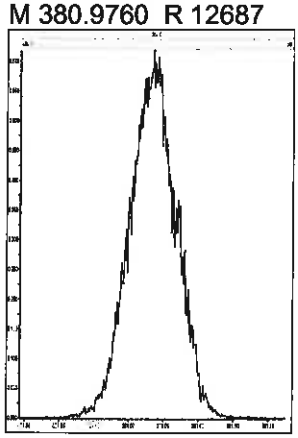

M 392.9760 R 12558

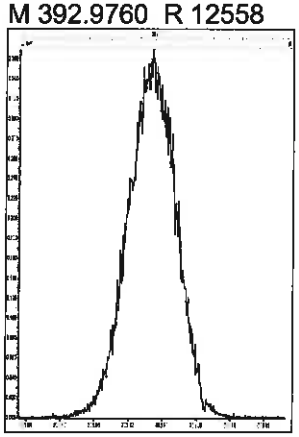

M 404.9760 R 11740

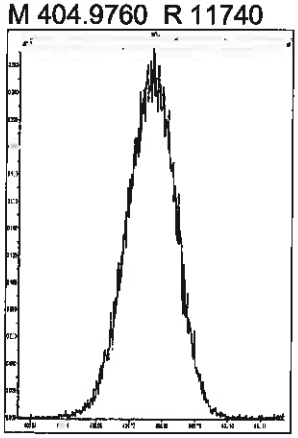

M 416.9760 R 11906

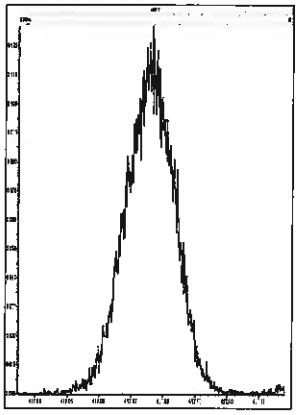

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

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M 366.9792 R 13089

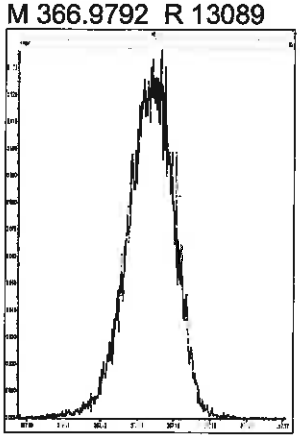

M 380.9760 R 12561

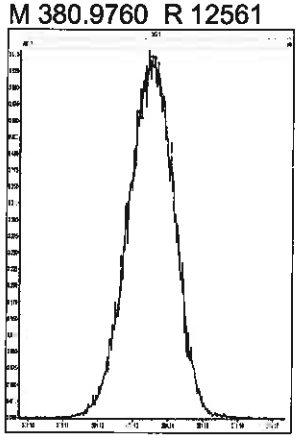

M 392.9760 R 12497

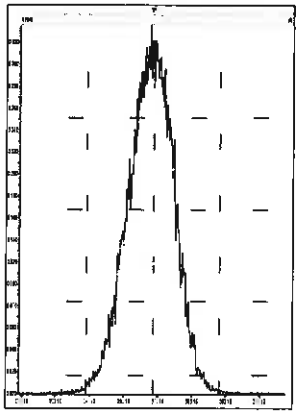

M 404.9760 R 12690

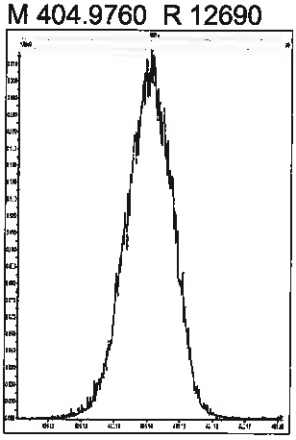

M 416.9760 R 12689

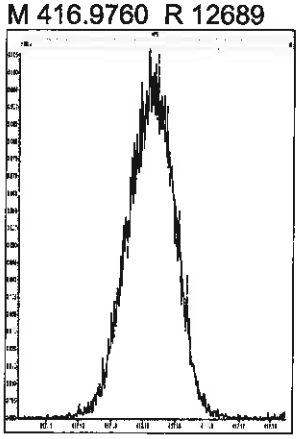

M 430.9728 R 12197

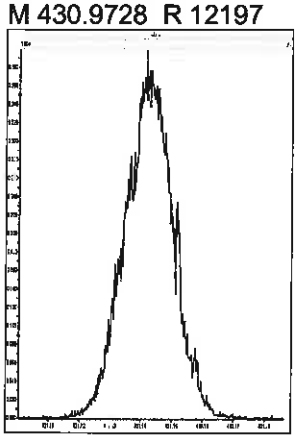

M 442.9728 R 12132

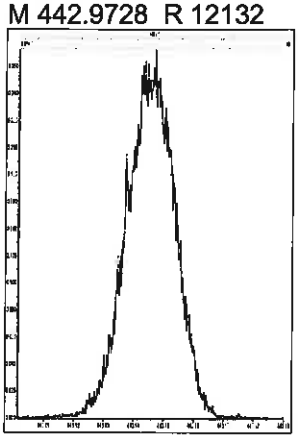

M 454.9728 R 12194

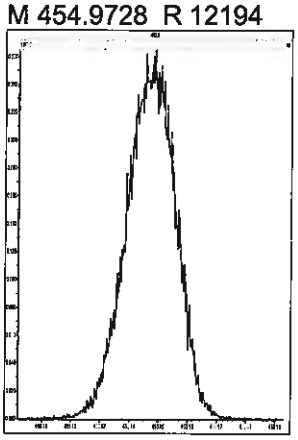

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 4 @ 200 (ppm)

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M 380.9760 R 12621

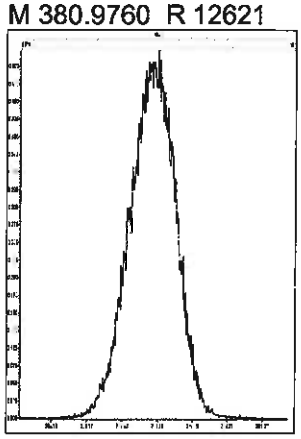

M 392.9760 R 12561

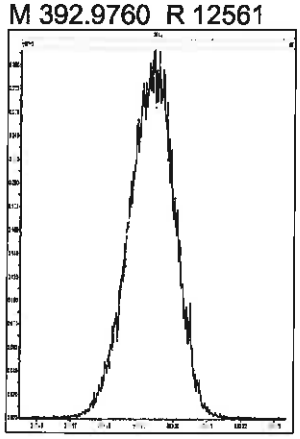

M 404.9760 R 12950

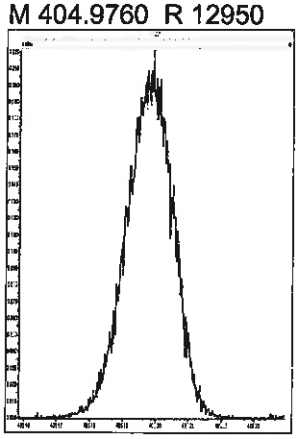

M 416.9760 R 12887

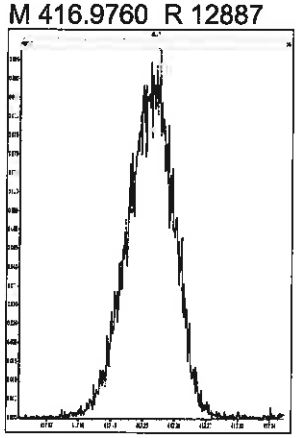

M 430.9728 R 11961

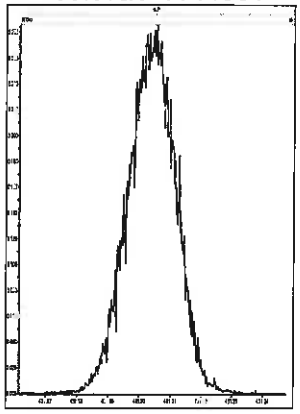

M 442.9728 R 12134

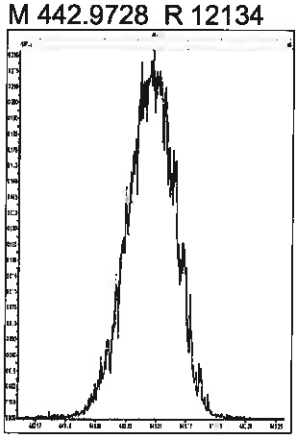

M 454.9728 R 12074

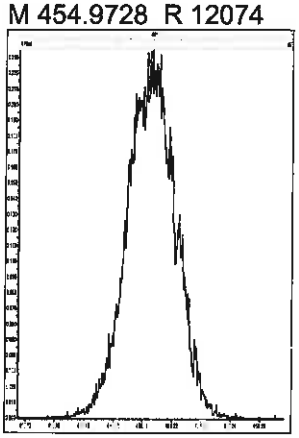

M 466.9728 R 12254

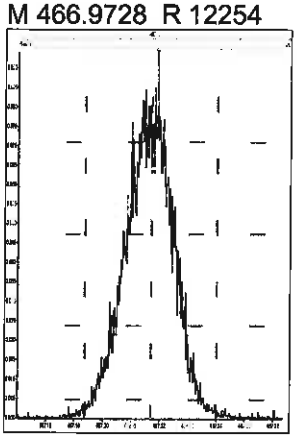

M 480.9696 R 12193

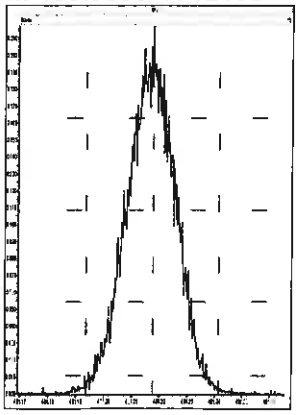

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 5 @ 200 (ppm)

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M 380.9760 R 13158

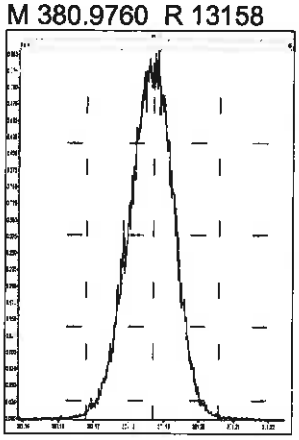

M 392.9760 R 12819

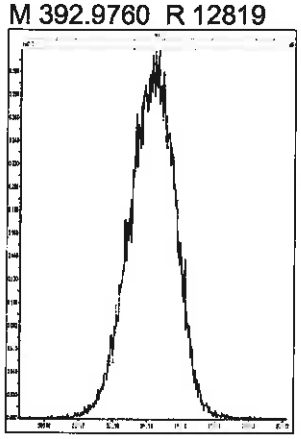

M 404.9760 R 12373

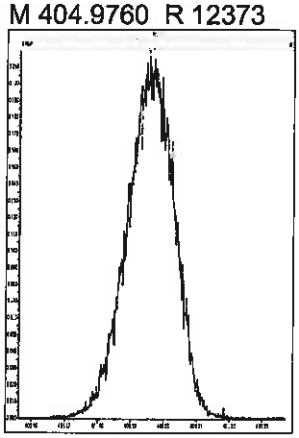

M 416.9760 R 12563

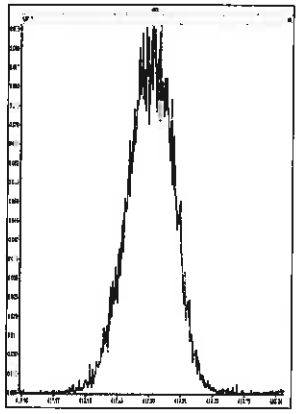

M 430.9728 R 12886

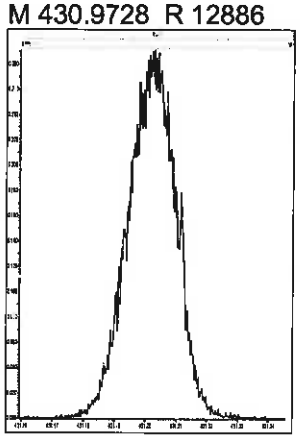

M 442.9728 R 12436

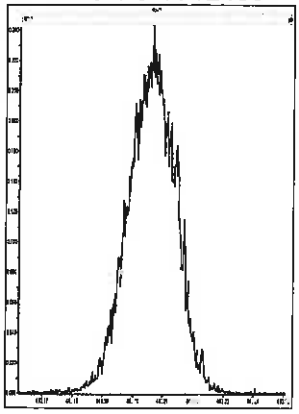

M 454.9728 R 12954

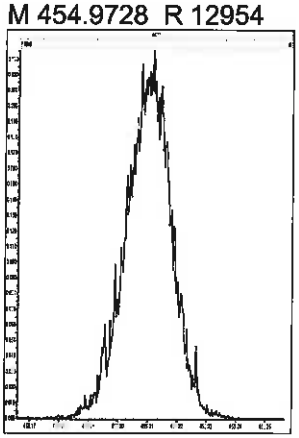

M 466.9728 R 12375

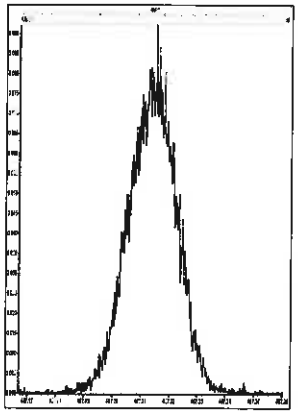

M 480.9696 R 12018

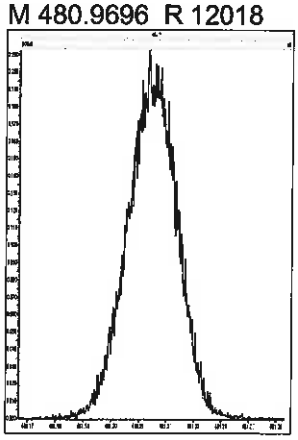

M 492.9696 R 11738

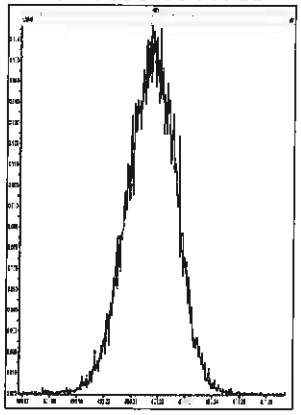

M 504.9696 R 11682

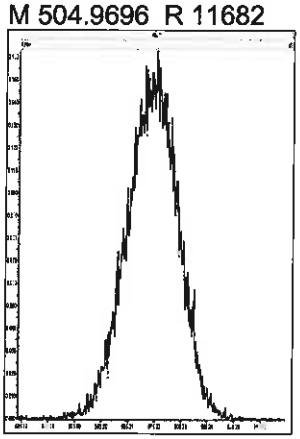

M 516.9697 R 11903

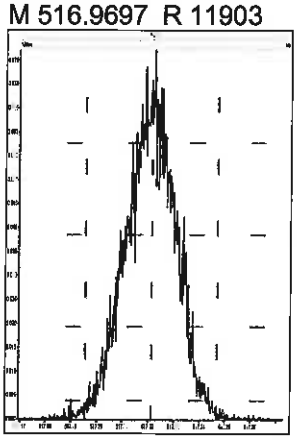

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M 292.9824 R 12757

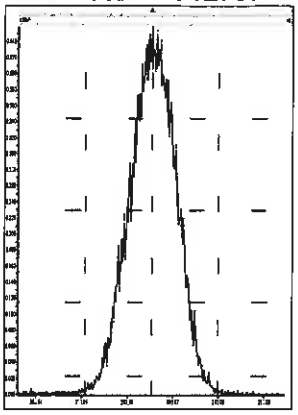

M 304.9824 R 13054

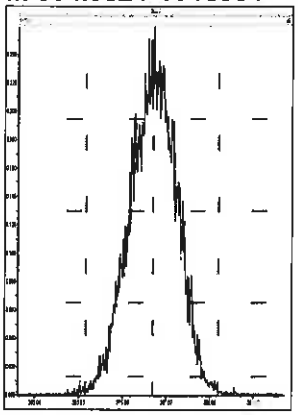

M 318.9792 R 12440

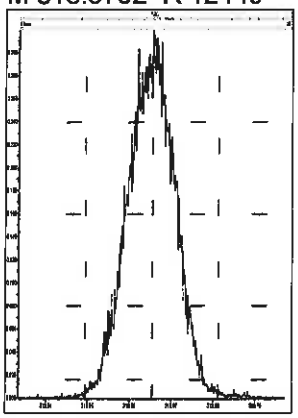

M 330.9792 R 12107

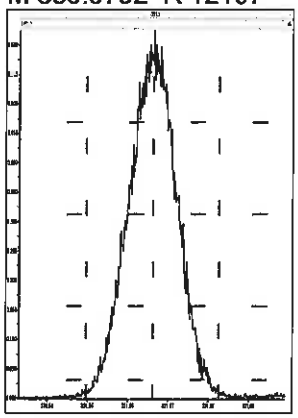

M 342.9792 R 12081

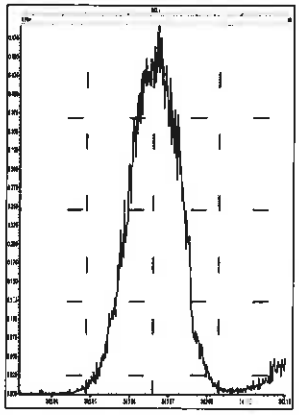

M 354.9792 R 11936

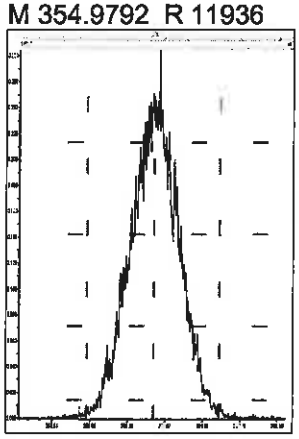

M 366.9792 R 11921

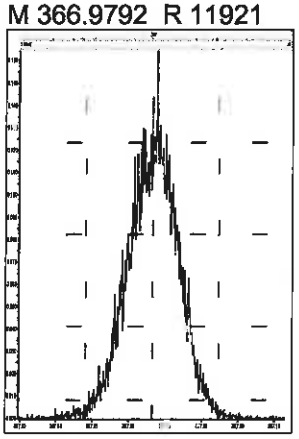

M 380.9760 R 11363

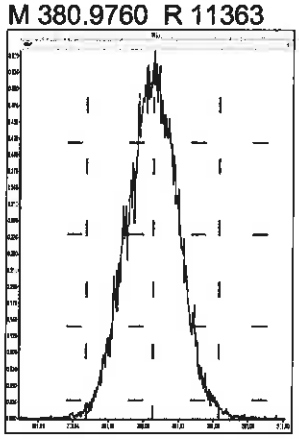

M 392.9760 R 11063

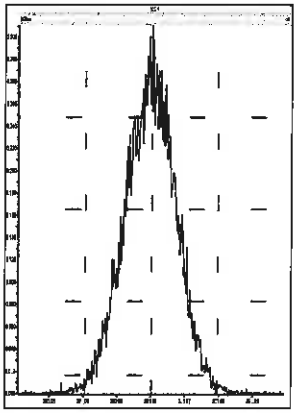

M 404.9760 R 11365

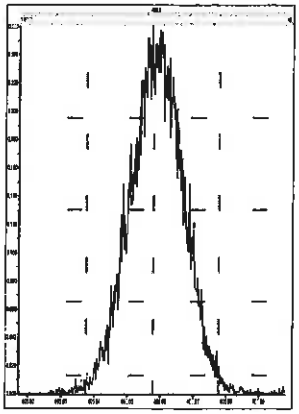

M 416.9760 R 11462

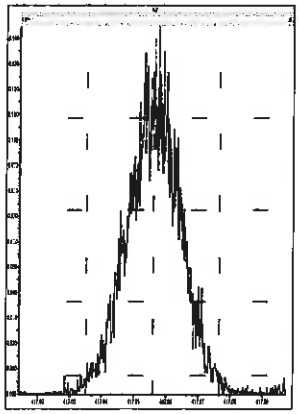

M 318.9792 R 13074

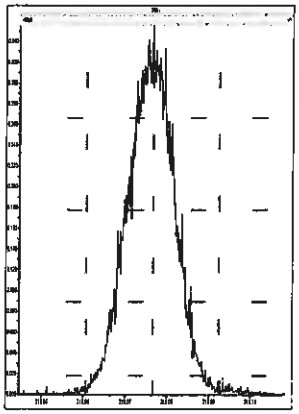

M 330.9792 R 12691

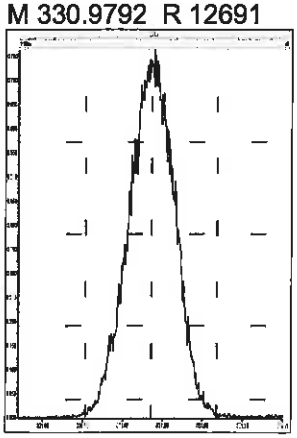

M 342.9792 R 12406

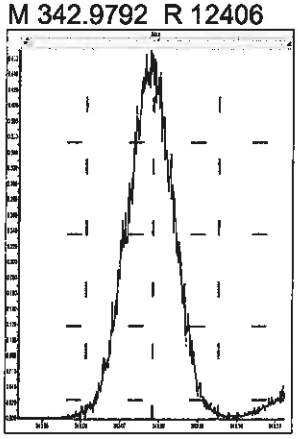

M 354.9792 R 12194

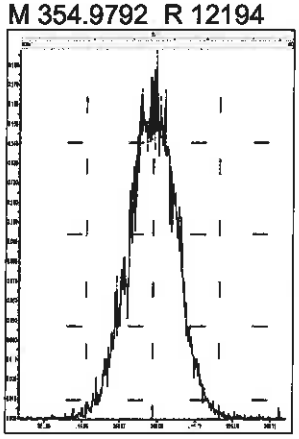

M 366.9792 R 12510

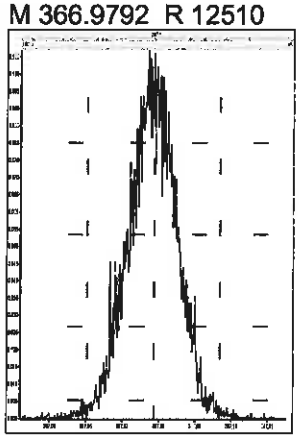

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M 380.9760 R 11961

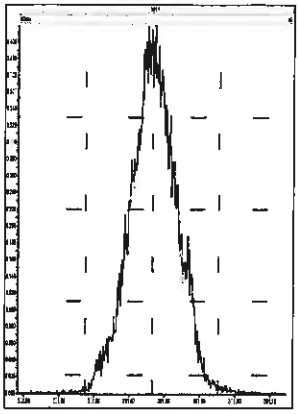

M 392.9760 R 11769

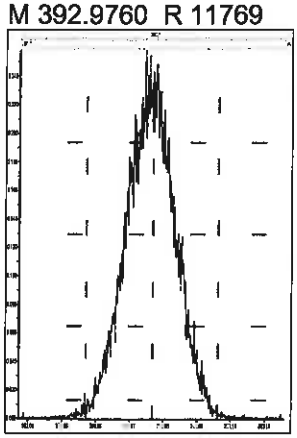

M 404.9760 R 11932

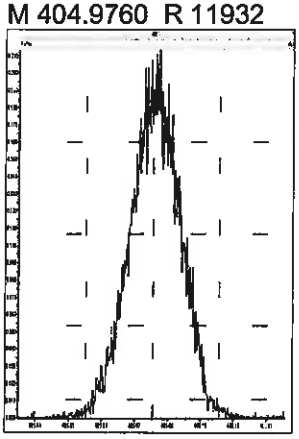

M 416.9760 R 11934

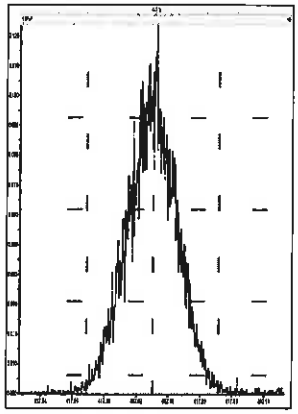

M 366.9792 R 12255

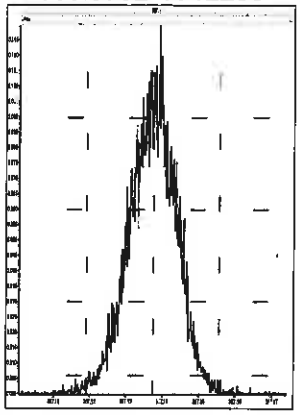

M 380.9760 R 12501

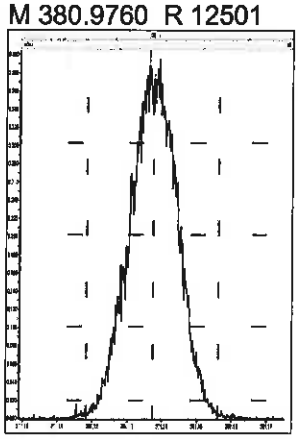

M 392.9760 R 12676

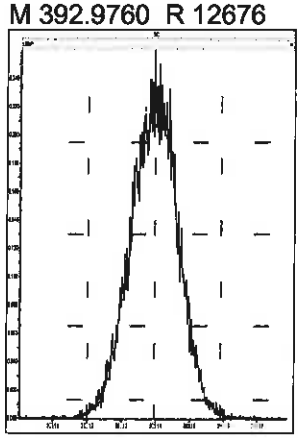

M 404.9760 R 12468

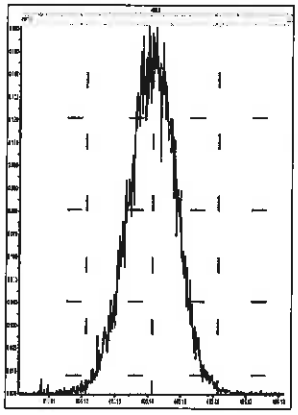

M 416.9760 R 12167

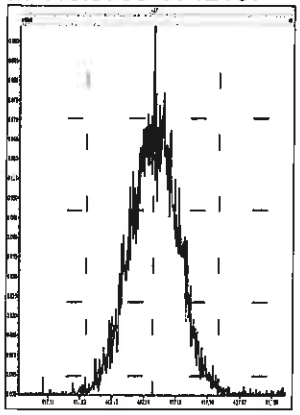

M 430.9728 R 11971

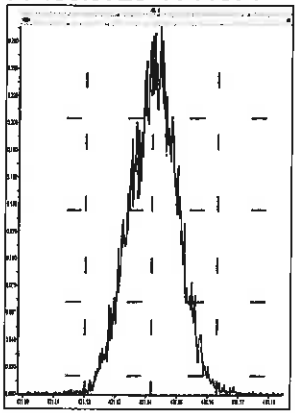

M 442.9728 R 11991

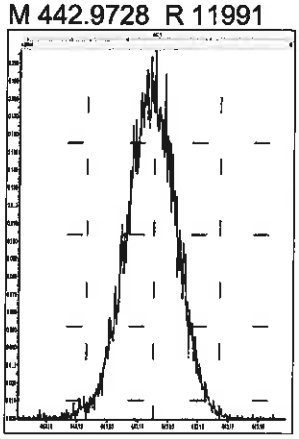

M 454.9728 R 12140

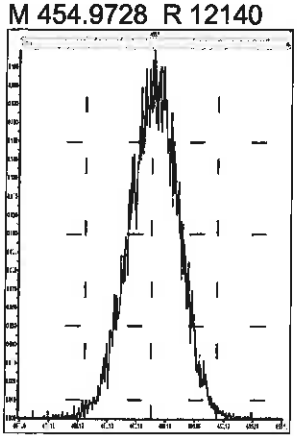

M 380.9760 R 12376

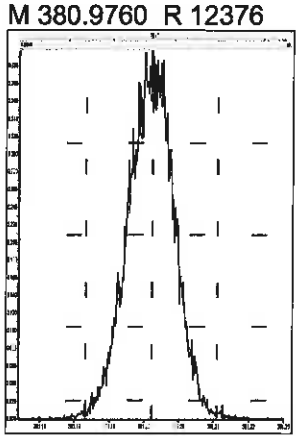

M 392.9760 R 12530

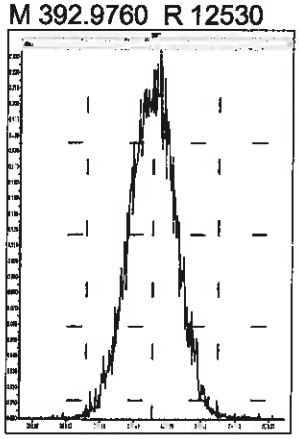

M 404.9760 R 12410

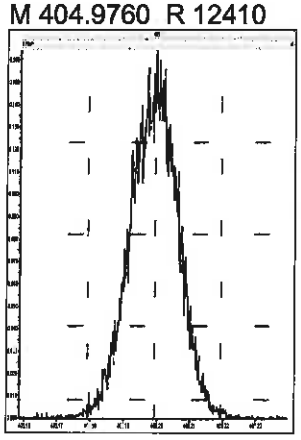

M 416.9760 R 13257

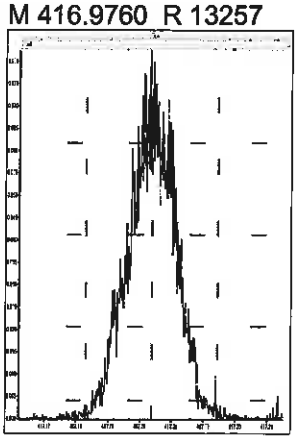

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M 430.9728 R 12118

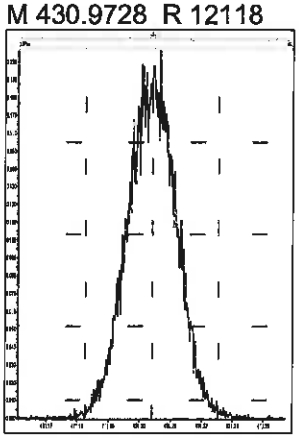

M 442.9728 R 12408

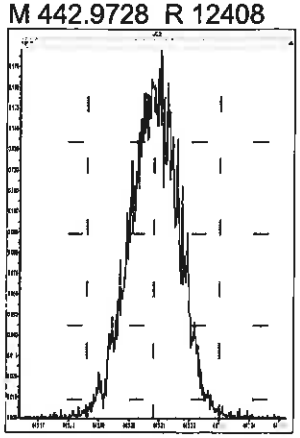

M 454.9728 R 12564

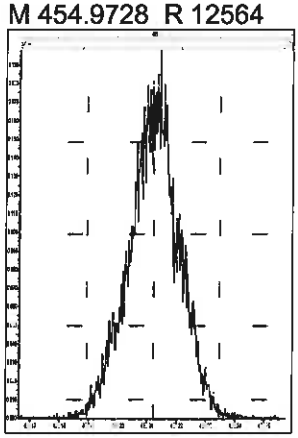

M 466.9728 R 13333

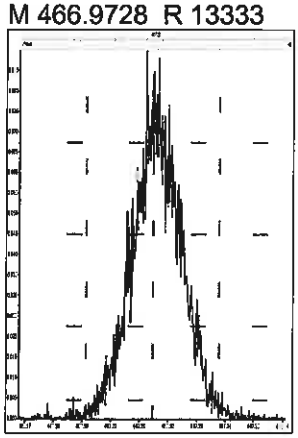

M 480.9696 R 11886

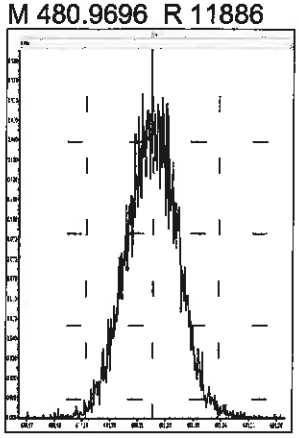

M 380.9760 R 12531

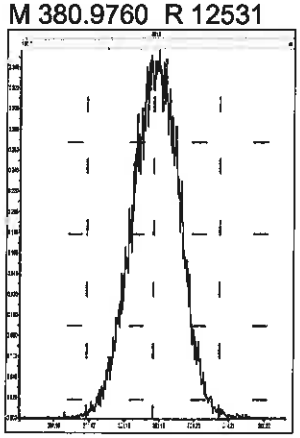

M 392.9760 R 12445

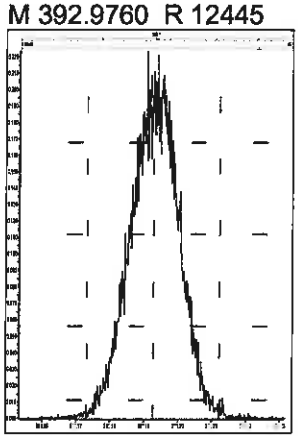

M 404.9760 R 12577

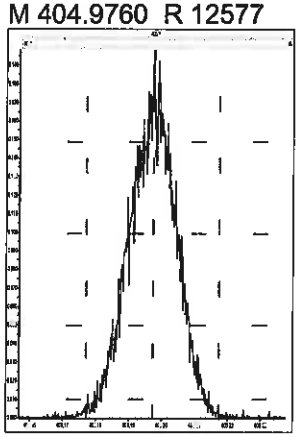

M 416.9760 R 12658

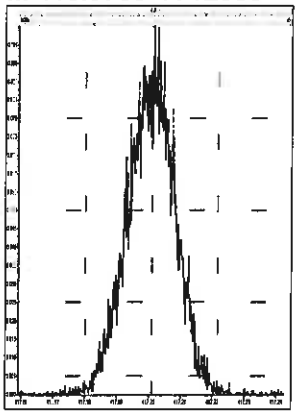

M 430.9728 R 12167

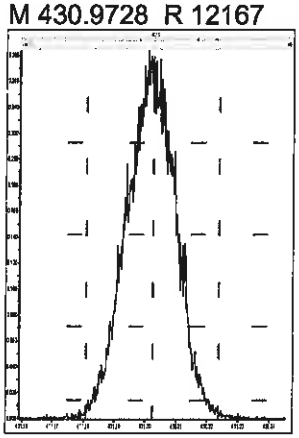

M 442.9728 R 12199

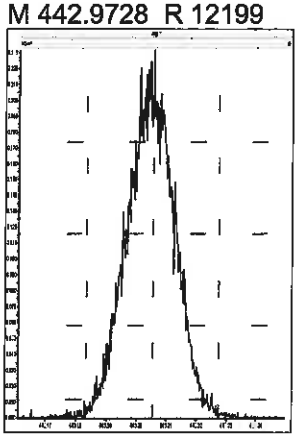

M 454.9728 R 12347

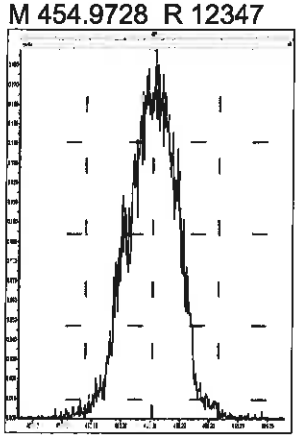

M 466.9728 R 12105

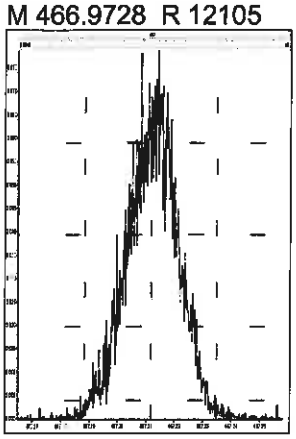

M 480.9696 R 11712

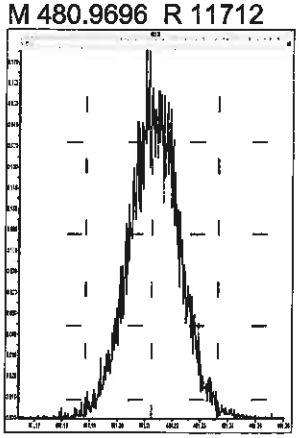

M 492.9696 R 11769

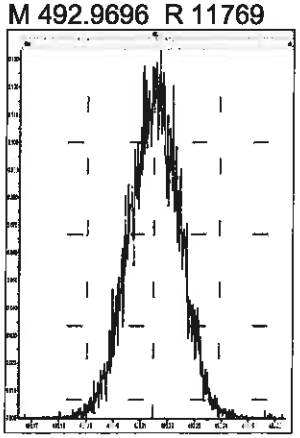

M 504.9696 R 11683

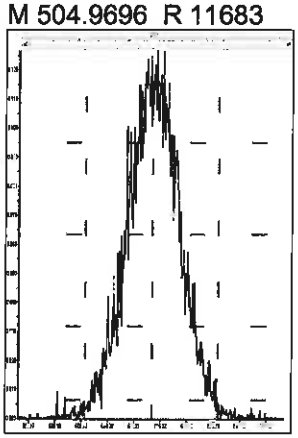

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M 516.9697 R 12766

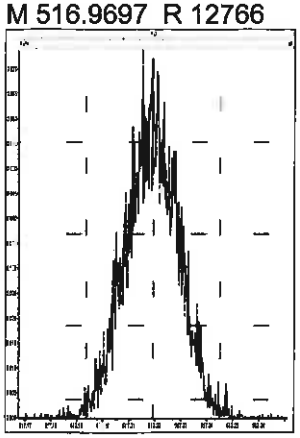

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 17-Sep-2019 13:03:20 ALS Bottle#: 4 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719 CS-2 HRDXNL2_00027
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:08 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:04:52

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.300	21989821	0.79	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.801	32121801	0.77	1.4384	101.6	101.6	0.4773	0.4773	102	
2,3,7,8-TCDF	16.816	172042	0.74	1.0507	0.5097	0.5097	0.0449	0.0449	102	
S Total TCDF					0.5097	0.5097	0.0449	0.0449		
D 13C-2,3,7,8-TCDD	17.481	21165335	0.76	0.9533	101.0	101.0	0.3928	0.3928	101	
$ 37Cl4-2,3,7,8-TCDD	17.496	123050		1.2224	0.4578	0.4578	0.0312	0.0312	91.55	
2,3,7,8-TCDD	17.481	123575	0.80	1.1064	0.5277	0.5277	0.0804	0.0804	106	n
S Total TCDD					0.5277	0.5277	0.0804	0.0804		
D 13C-1,2,3,7,8-PeCDF	21.631	22013977	1.60	1.0286	97.3	97.3	0.2946	0.2946	97.33	
1,2,3,7,8-PeCDF	21.659	550940	1.70	1.0822	2.312	2.312	0.0703	0.0703	92.50	
D 13C-2,3,4,7,8-PeCDF	22.927	20818900	1.62	0.9827	96.3	96.3	0.3084	0.3084	96.35	
2,3,4,7,8-PeCDF	22.940	501008	1.61	1.1032	2.181	2.181	0.0759	0.0759	87.26	
S Total PeCDF					4.494	4.494	0.0731	0.0731		
D 13C-1,2,3,7,8-PeCDD	23.622	15668897	1.56	0.7481	95.3	95.3	0.2373	0.2373	95.25	
1,2,3,7,8-PeCDD	23.649	336661	1.69	0.9050	2.374	2.374	0.1036	0.1036	94.96	
S Total PeCDD					2.374	2.374	0.1036	0.1036		
D 13C-1,2,3,4,7,8-HxCDF	29.749	16433122	0.52	1.1520	101.5	101.5	0.6239	0.6239	102	
1,2,3,4,7,8-HxCDF	29.789	452083	1.14	1.1973	2.298	2.298	0.1101	0.1101	91.91	
D 13C-1,2,3,6,7,8-HxCDF	30.015	17668349	0.51	1.2434	101.1	101.1	0.5781	0.5781	101	
1,2,3,6,7,8-HxCDF	30.028	471238	1.23	1.1807	2.259	2.259	0.0922	0.0922	90.36	
D 13C-2,3,4,6,7,8-HxCDF	31.040	16591902	0.51	1.1720	100.8	100.8	0.6133	0.6133	101	
2,3,4,6,7,8-HxCDF	31.053	469856	1.22	1.2116	2.337	2.337	0.0626	0.0626	93.49	
D 13C-1,2,3,7,8,9-HxCDF	31.932	15096147	0.51	1.0655	100.8	100.8	0.6746	0.6746	101	
1,2,3,7,8,9-HxCDF	31.945	462420	1.18	1.2451	2.460	2.460	0.0606	0.0606	98.40	
S Total HxCDF					9.354	9.354	0.0814	0.0814		
* 13C-1,2,3,7,8,9-HxCDD	31.745	14051438	1.31	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.253	10572054	1.29	0.7812	96.3	96.3	0.6394	0.6394	96.31	
1,2,3,4,7,8-HxCDD	31.266	277444	1.10	1.1088	2.367	2.367	0.0800	0.0800	94.67	
D 13C-1,2,3,6,7,8-HxCDD	31.372	12508423	1.30	0.9175	97.0	97.0	0.5444	0.5444	97.03	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.399	319747	1.23	1.0814	2.364	2.364	0.0780	0.0780	94.55	
1,2,3,7,8,9-HxCDD	31.758	333001	1.05	1.2123	2.380	2.380	0.0713	0.0713	95.21	a
S Total HxCDD					7.111	7.111	0.0764	0.0764		
D 13C-1,2,3,4,6,7,8-HpCDF	33.447	12214839	0.45	0.8628	100.8	100.8	2.432	2.432	101	
1,2,3,4,6,7,8-HpCDF	33.459	463407	1.08	1.5555	2.439	2.439	0.0665	0.0665	97.56	
D 13C-1,2,3,4,7,8,9-HpCDF	34.492	11417456	0.43	0.7991	101.7	101.7	2.626	2.626	102	
1,2,3,4,7,8,9-HpCDF	34.504	358162	1.15	1.3862	2.263	2.263	0.0888	0.0888	90.52	
S Total HpCDF					4.702	4.702	0.0776	0.0776		
D 13C-1,2,3,4,6,7,8-HpCDD	34.225	12148019	1.04	0.8739	98.9	98.9	1.265	1.265	98.93	
1,2,3,4,6,7,8-HpCDD	34.225	258090	1.02	0.9316	2.281	2.281	0.0675	0.0675	91.22	
S Total HpCDD					2.281	2.281	0.0675	0.0675		
D 13C-OCDD	36.481	22323676	0.90	0.7744	205.2	205.2	0.5053	0.5053	103	
OCDF	36.576	637327	0.85	1.2596	4.533	4.533	0.0809	0.0809	90.66	
OCDD	36.493	557610	0.87	1.0621	4.704	4.704	0.0841	0.0841	94.07	

QC Flag Legend

Processing Flags
n - Failed Sig-To-Noise Test
Review Flags
a - User Assigned ID

Reagents:

HRDXNL2_00027 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 17-Sep-2019 13:03:20 ALS Bottle#: 4 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719 CS-2 HRDXNL2_00027
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:08 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:04:52

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.300	17.303	0		9690887	2505804	5138	12845	488		
333.9339	17.300	17.303	0		12298934	3113659	3280	8200	949	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.801	16.810	-1	0.971	14016338	3733692	11470	28675	326		
317.9389	16.801	16.810	-1	0.971	18105463	4683284	3963	9907	1182	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.816	16.825	-1	1.001	73063	16422	605	1512	27		
305.8987	16.816	16.825	-1	1.001	98979	22949	985	2462	23	0.74(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.481	17.490	-1	1.010	9130723	2237743	5138	12845	436		
333.9339	17.481	17.490	-1	1.010	12034612	3027581	3280	8200	923	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.496	17.505	-1	1.011	123050	30762	856	2140	36		
2,3,7,8-TCDD											n
319.8965	17.481	17.505	-1	1.000	55077	9940	1181	2952	8		
321.8936	17.496	17.505	-1	1.001	68498	15008	693	1732	22	0.80(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	21.631	21.637	0	1.250	13538943	2446204	3736	9340	655		
353.8970	21.631	21.637	0	1.250	8475034	1535096	3076	7690	499	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.659	21.661	0	1.001	346537	63107	477	1192	132		
341.8567	21.659	21.661	0	1.001	204403	36937	734	1835	50	1.70(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	22.927	22.932	0	1.325	12876171	2247350	3736	9340	602		
353.8970	22.927	22.932	0	1.325	7942729	1369022	3076	7690	445	1.62(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.940	22.954	-1	1.001	309291	49872	477	1192	105		
341.8567	22.940	22.954	-1	1.001	191717	32344	734	1835	44	1.61(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.622	23.625	0	1.365	9559667	1575307	2284	5710	690		
369.8919	23.622	23.625	0	1.365	6109230	995410	1706	4265	583	1.56(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.649	23.649	0	1.001	211682	31533	616	1540	51		
357.8516	23.636	23.649	-1	1.001	124979	21165	348	870	61	1.69(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.749	29.754	0	0.937	5613748	749447	3310	8275	226		
385.8610	29.749	29.754	0	0.937	10819374	1402669	5959	14897	235	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.789	29.789	0	1.001	240484	35863	546	1365	66		
375.8178	29.762	29.789	-2	1.000	211599	28700	589	1472	49	1.14(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.015	30.015	0	0.945	5969557	865919	3310	8275	262		
385.8610	30.002	30.015	-1	0.945	11698792	1738856	5959	14897	292	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.028	30.039	-1	1.000	259918	40834	546	1365	75		
375.8178	30.028	30.039	-1	1.000	211320	30654	589	1472	52	1.23(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.040	31.043	0	0.978	5612853	1245433	3310	8275	376		
385.8610	31.040	31.043	0	0.978	10979049	2494852	5959	14897	419	0.51(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.053	31.059	0	1.000	257999	59556	546	1365	109		
375.8178	31.053	31.059	0	1.000	211857	47785	589	1472	81	1.22(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.932	31.942	-1	1.006	5127023	1276569	3310	8275	386		
385.8610	31.932	31.942	-1	1.006	9969124	2483754	5959	14897	417	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.945	31.956	-1	1.000	250582	59386	546	1365	109		
375.8178	31.945	31.956	-1	1.000	211838	48028	589	1472	82	1.18(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.745	31.748	0		7962026	1846184	3652	9130	506		
403.8529	31.745	31.748	0		6089412	1377609	2789	6972	494	1.31(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.253	31.261	0	0.984	5953058	1483942	3652	9130	406		
403.8529	31.253	31.261	0	0.984	4618996	1187991	2789	6972	426	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.266	31.280	-1	1.000	145178	36647	426	1065	86		
391.8127	31.266	31.280	-1	1.000	132266	35409	522	1305	68	1.10(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.372	31.383	-1	0.988	7061273	1582952	3652	9130	433		
403.8529	31.372	31.383	-1	0.988	5447150	1228199	2789	6972	440	1.30(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.399	31.402	0	1.001	176287	43996	426	1065	103		
391.8127	31.399	31.402	0	1.001	143460	32388	522	1305	62	1.23(1.05-1.43)	
1,2,3,7,8,9-HxCDD											a
389.8157	31.758	31.761	0	1.016	170841	43295	426	1065	102		a
391.8127	31.745	31.761	-1	1.016	162160	33233	522	1305	64	1.05(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.447	33.457	-1	1.054	3779241	1261566	6785	16962	186		
419.8220	33.447	33.457	-1	1.054	8435598	2721447	20272	50680	134	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.459	33.469	-1	1.000	240121	76906	736	1840	104		
409.7789	33.459	33.469	-1	1.000	223286	71700	913	2282	79	1.08(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.492	34.502	-1	1.087	3454300	1028385	6785	16962	152		
419.8220	34.492	34.502	-1	1.087	7963156	2321827	20272	50680	115	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.504	34.509	0	1.000	191761	54375	736	1840	74		
409.7789	34.504	34.509	0	1.000	166401	51183	913	2282	56	1.15(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.225	34.227	0	1.078	6191349	1869122	6907	17267	271		
437.8140	34.213	34.227	-1	1.078	5956670	1788163	7344	18360	243	1.04(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.225	34.235	-1	1.000	130161	41792	539	1347	78		
425.7737	34.225	34.235	-1	1.000	127929	39414	381	952	103	1.02(0.88-1.20)	
13C-OCDD											
469.7779	36.481	36.486	0	1.149	10560642	2745879	1937	4842	1418		
471.7750	36.481	36.486	0	1.149	11763034	3056374	3109	7772	983	0.90(0.76-1.02)	
OCDF											
441.7428	36.576	36.581	0	1.003	292923	77485	428	1070	181		
443.7399	36.564	36.581	-1	1.002	344404	90221	754	1885	120	0.85(0.76-1.02)	
OCDD											
457.7377	36.493	36.497	0	1.000	259867	66125	554	1385	119		
459.7348	36.481	36.497	-1	1.000	297743	73262	482	1205	152	0.87(0.76-1.02)	

QC Flag Legend

Processing Flags

n - Failed Sig-To-Noise Test

Review Flags

a - User Assigned ID

Reagents:

HRDXNL2_00027 Amount Added: 1.00 Units: mL

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d				
Injection Date:	17-Sep-2019 13:03:20	Instrument ID:	10D5		
Lims ID:	IC				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 2

Processing Integration Results

RT: 31.75
Area: 162160
Amount: 2.380231
Amount Units: pg/ul

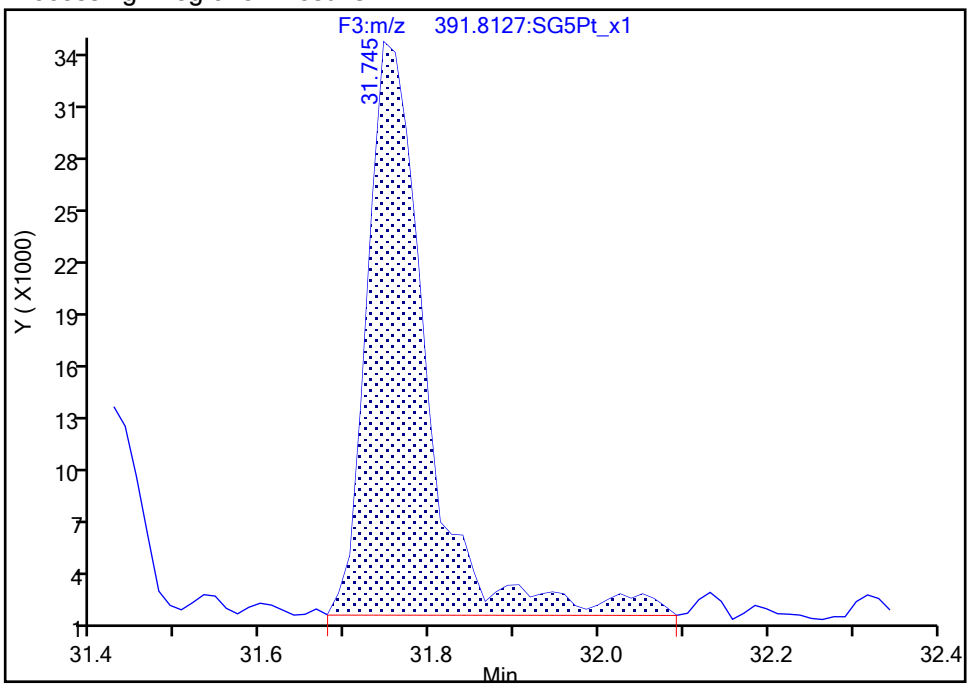

Manual Integration Results

RT: 31.75
Area: 162160
Amount: 2.380231
Amount Units: pg/ul

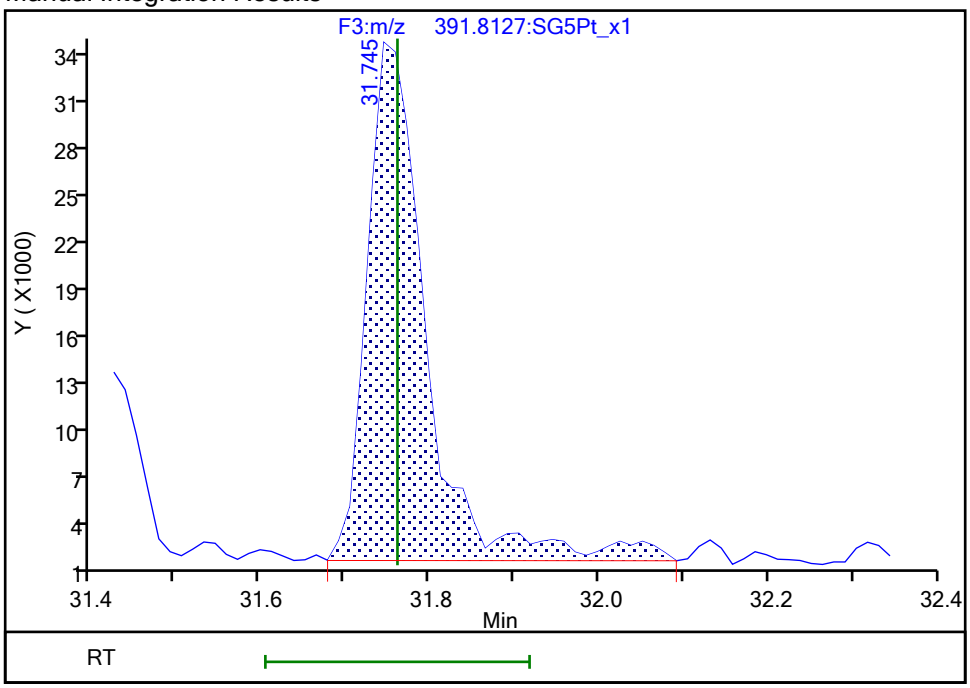

Reviewer: shardaa, 17-Sep-2019 18:02:41

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d				
Injection Date:	17-Sep-2019 13:03:20	Instrument ID:	10D5		
Lims ID:	IC				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 3

RT: 31.76
Area: 333001
Amount: 2.380231
Amount Units: pg/ul

Processing Integration Results

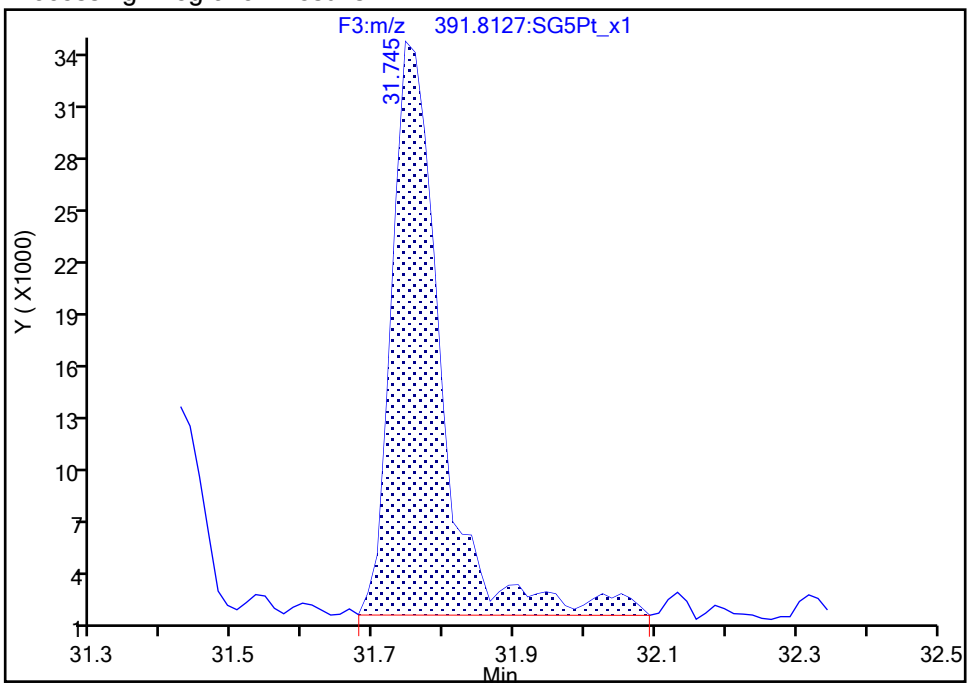

Manual Integration Results

RT: 31.76
Area: 333001
Amount: 2.380231
Amount Units: pg/ul
Reviewer: shardaa, 17-Sep-2019 18:02:41
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d				
Injection Date:	17-Sep-2019 13:03:20	Instrument ID:	10D5		
Lims ID:	IC				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 1

Processing Integration Results

RT: 31.76
Area: 170841
Amount: 2.380231
Amount Units: pg/ul

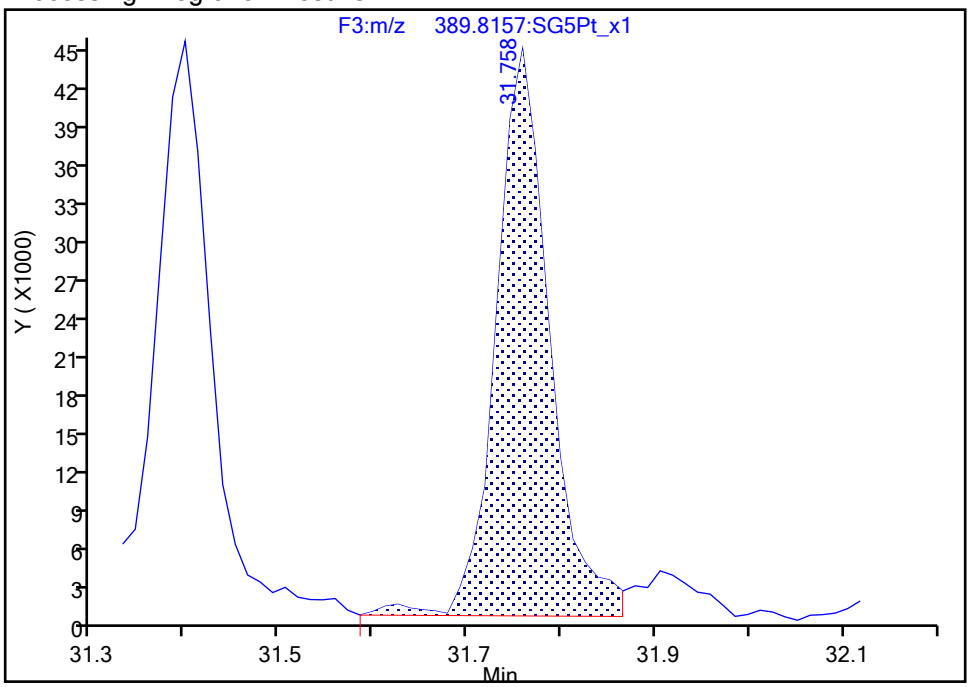

Manual Integration Results

RT: 31.76
Area: 170841
Amount: 2.380231
Amount Units: pg/ul

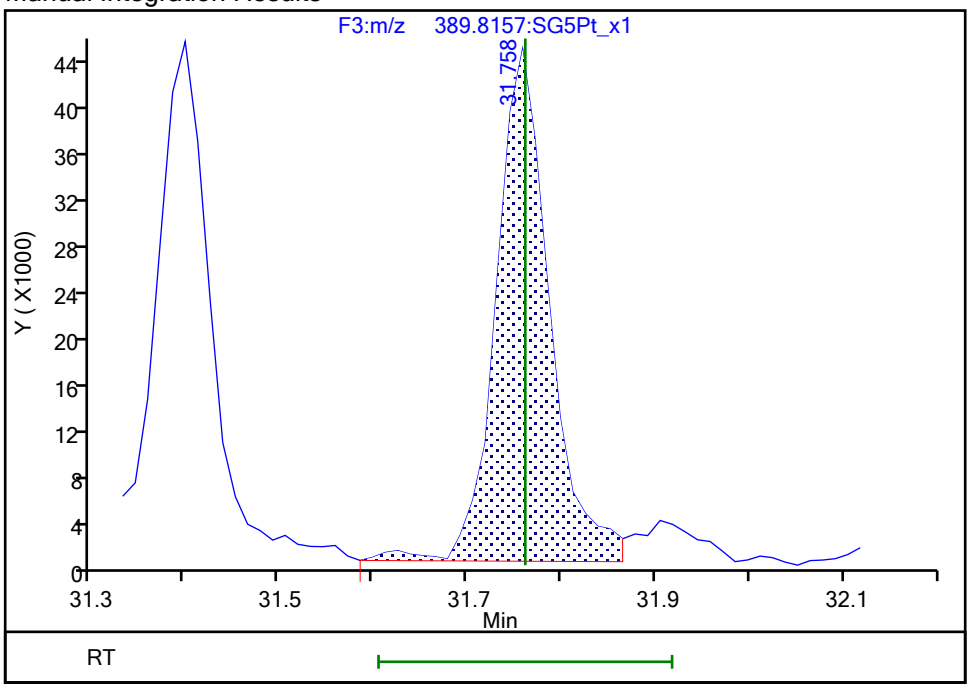

Reviewer: shardaa, 17-Sep-2019 18:02:44

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
Injection Date:	17-Sep-2019 13:03:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

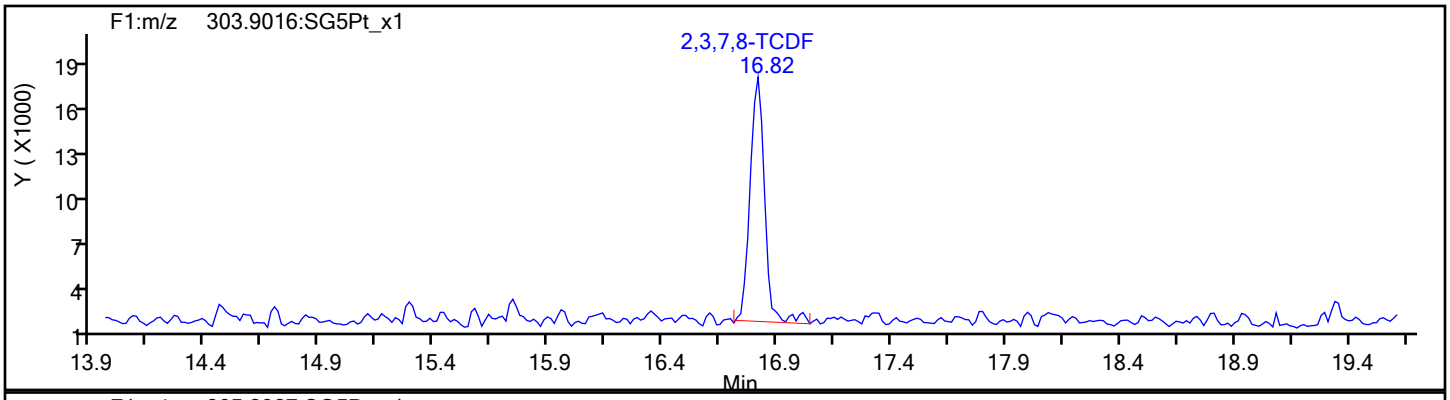

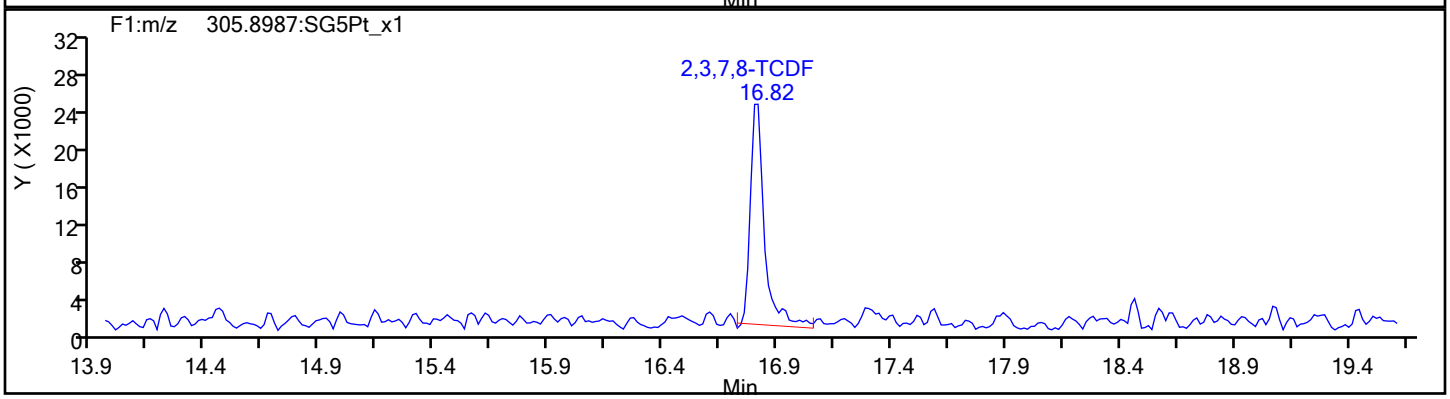

TCDF Standards

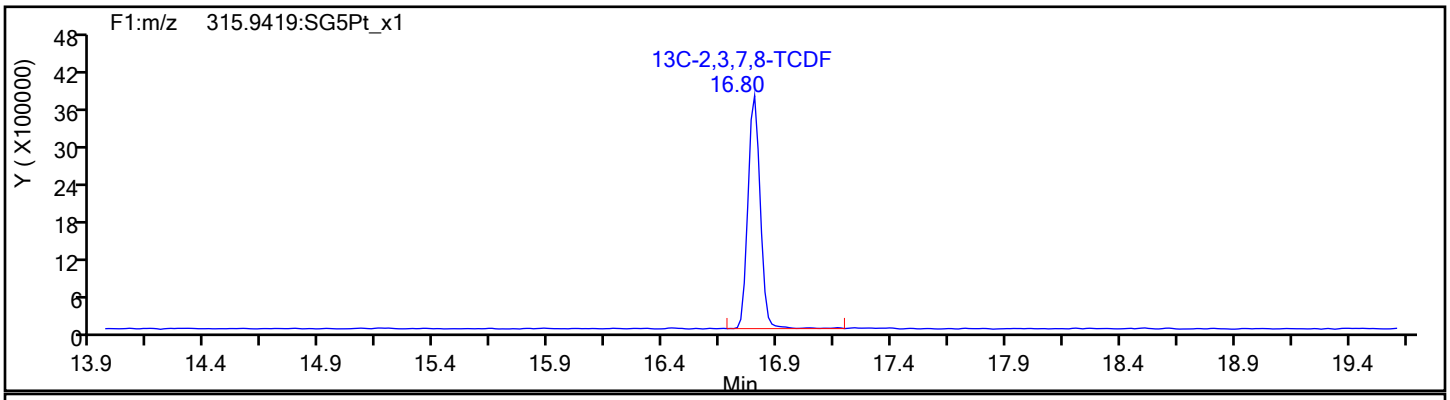

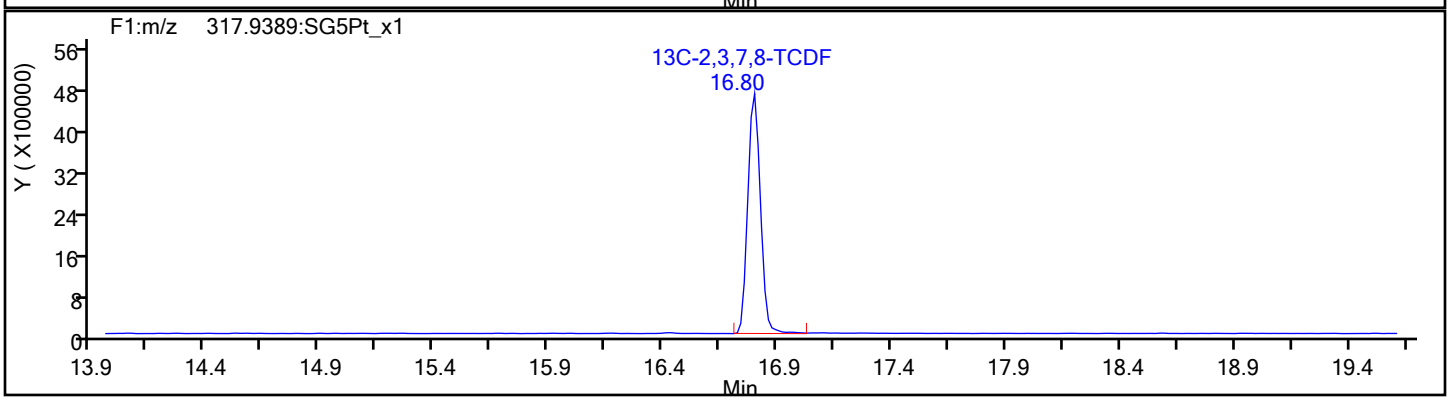

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
Injection Date:	17-Sep-2019 13:03:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

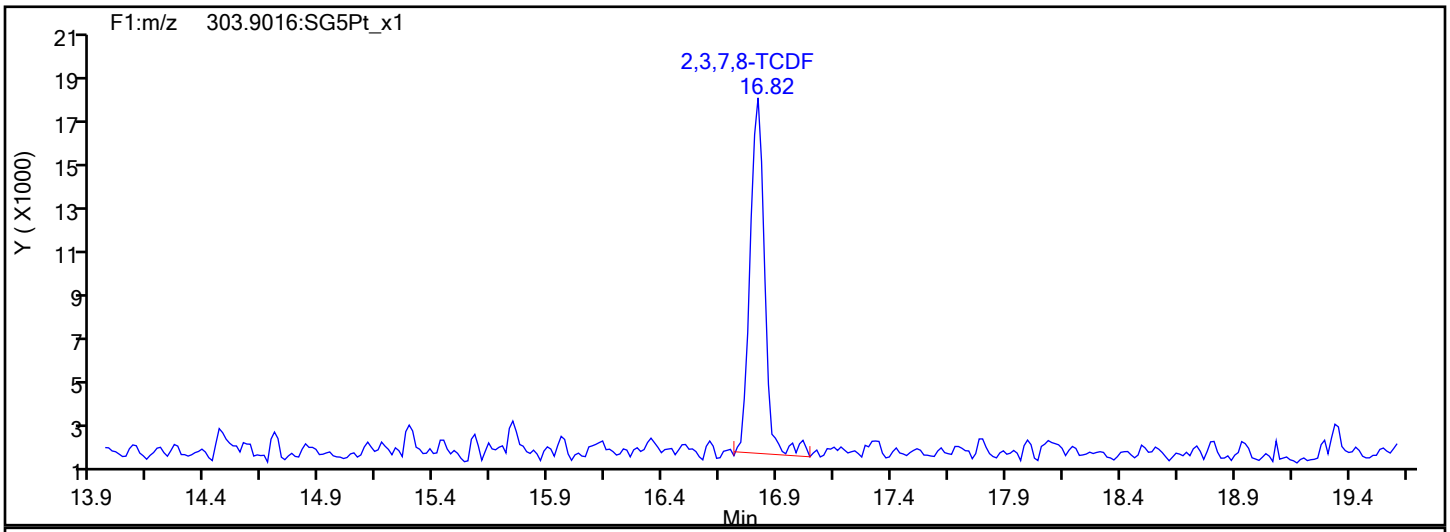

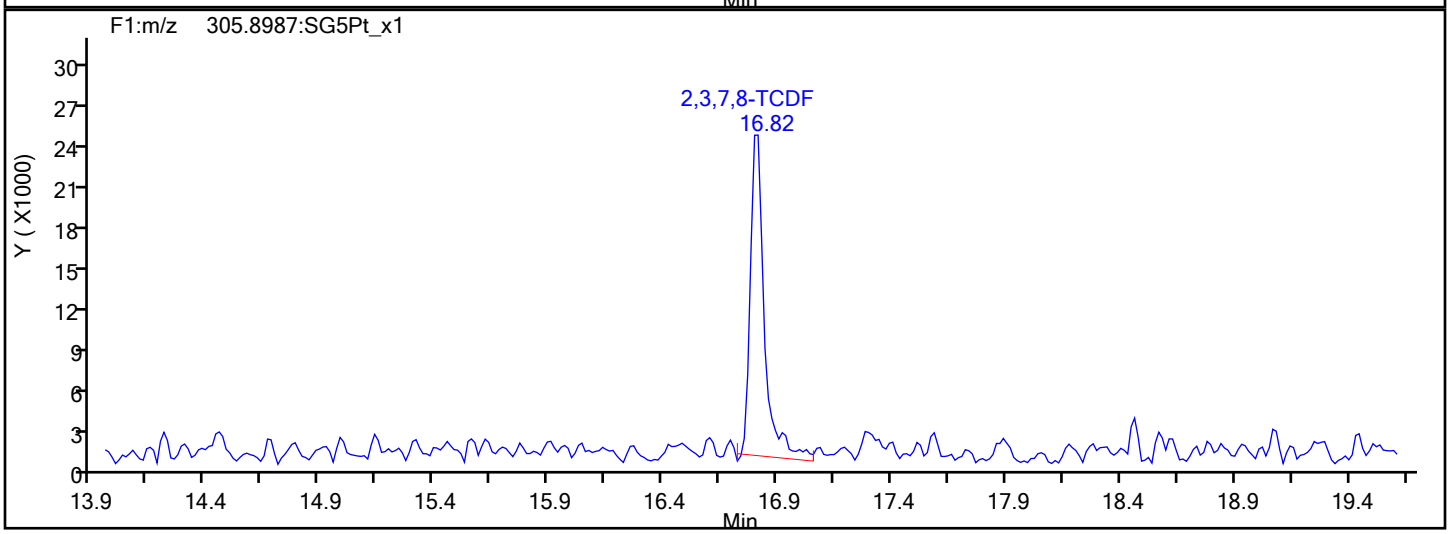

TCDF Interference Mass

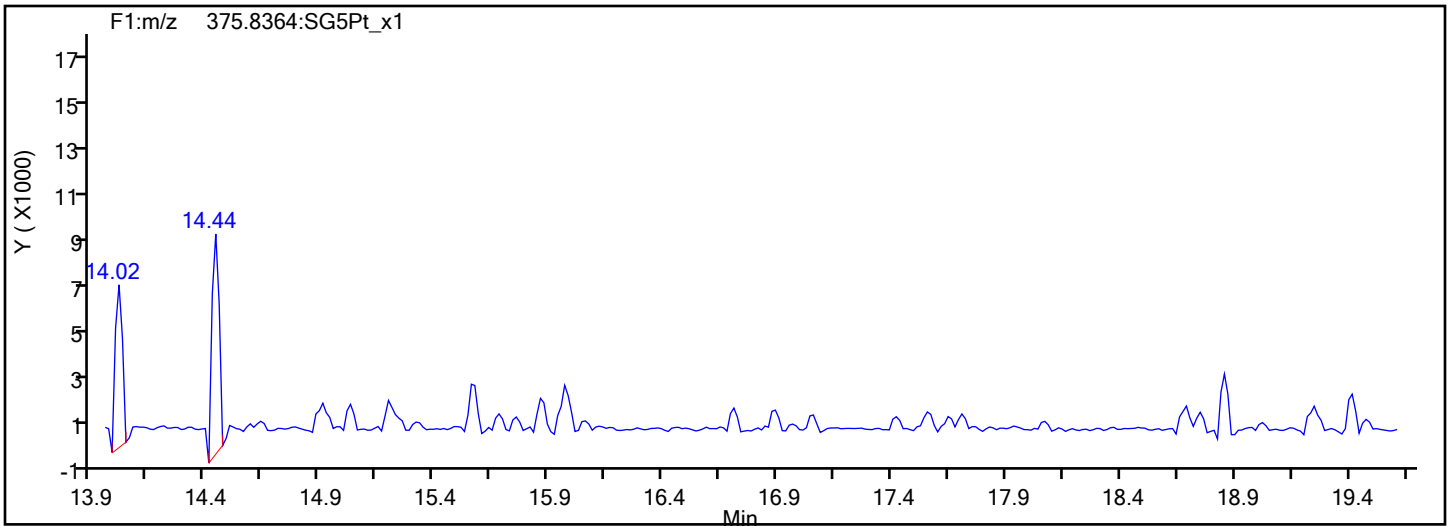

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
Injection Date:	17-Sep-2019 13:03:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

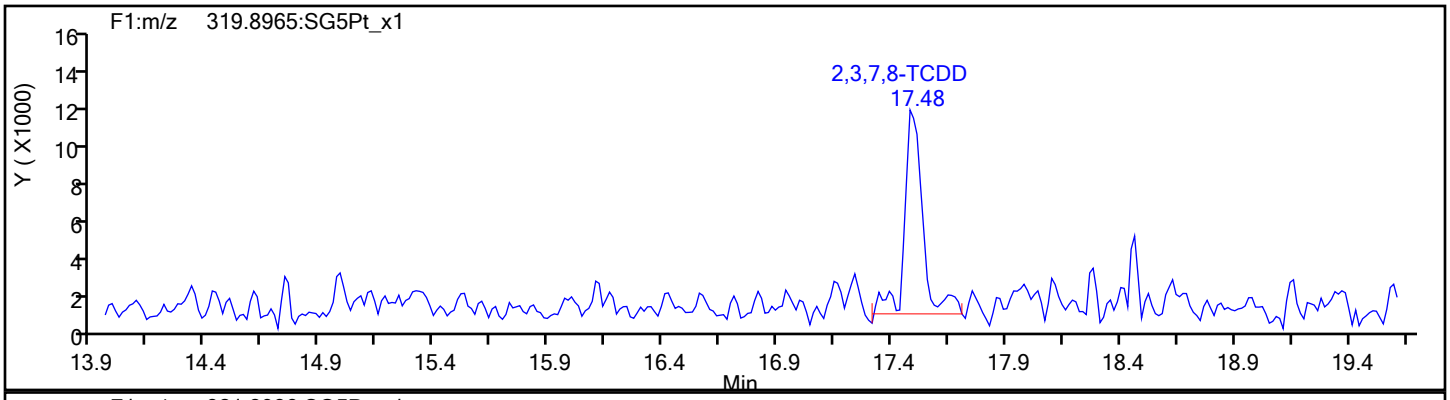

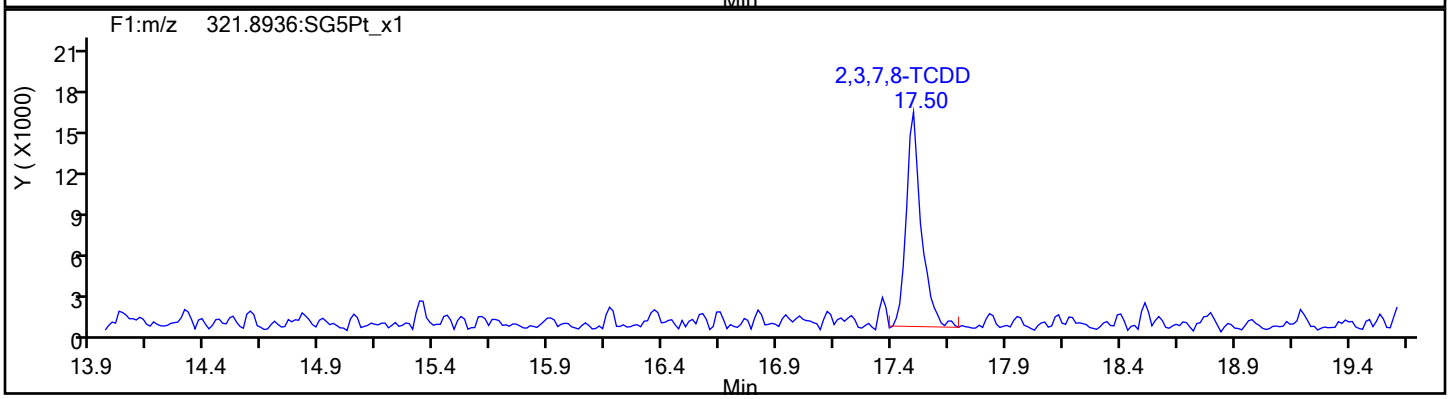

TCDD Standards

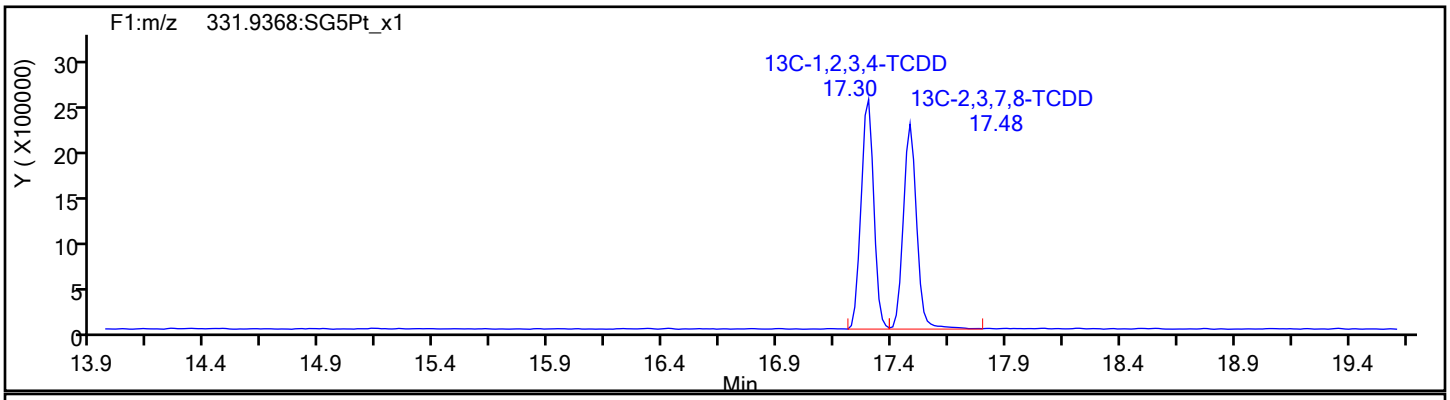

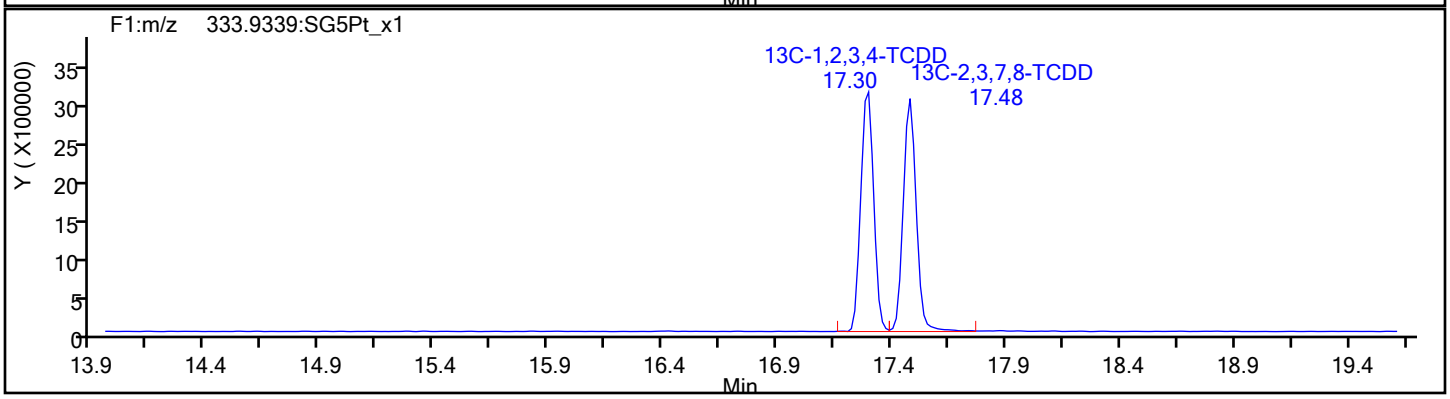

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
Injection Date:	17-Sep-2019 13:03:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

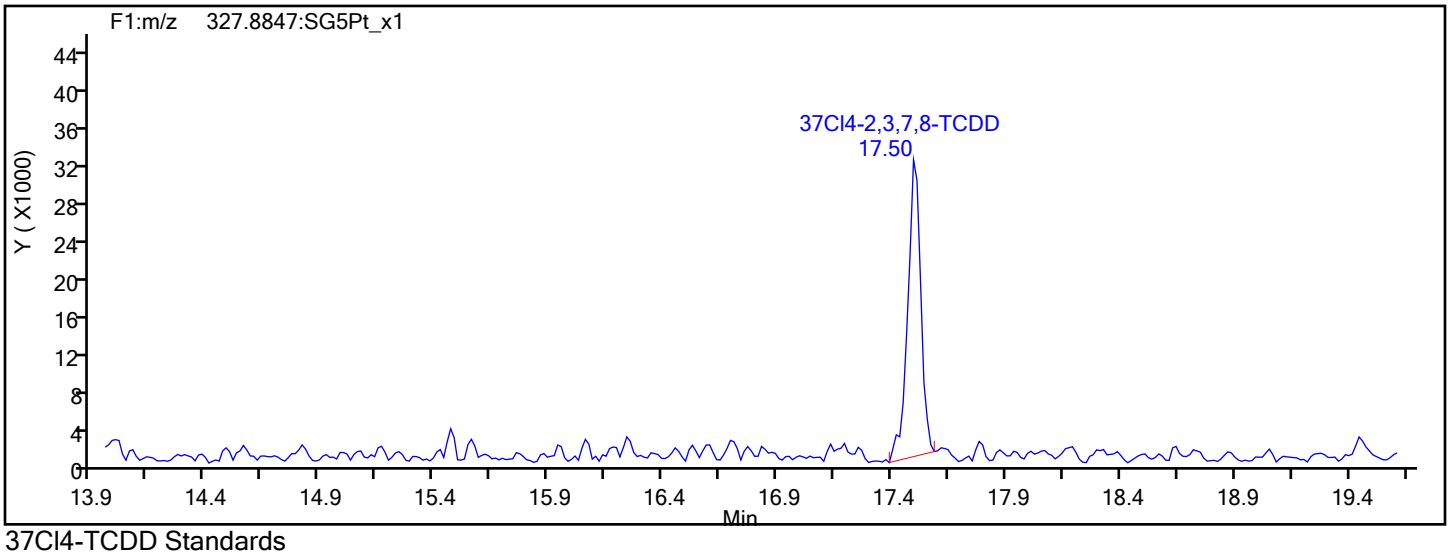

37Cl4-TCDD Standards

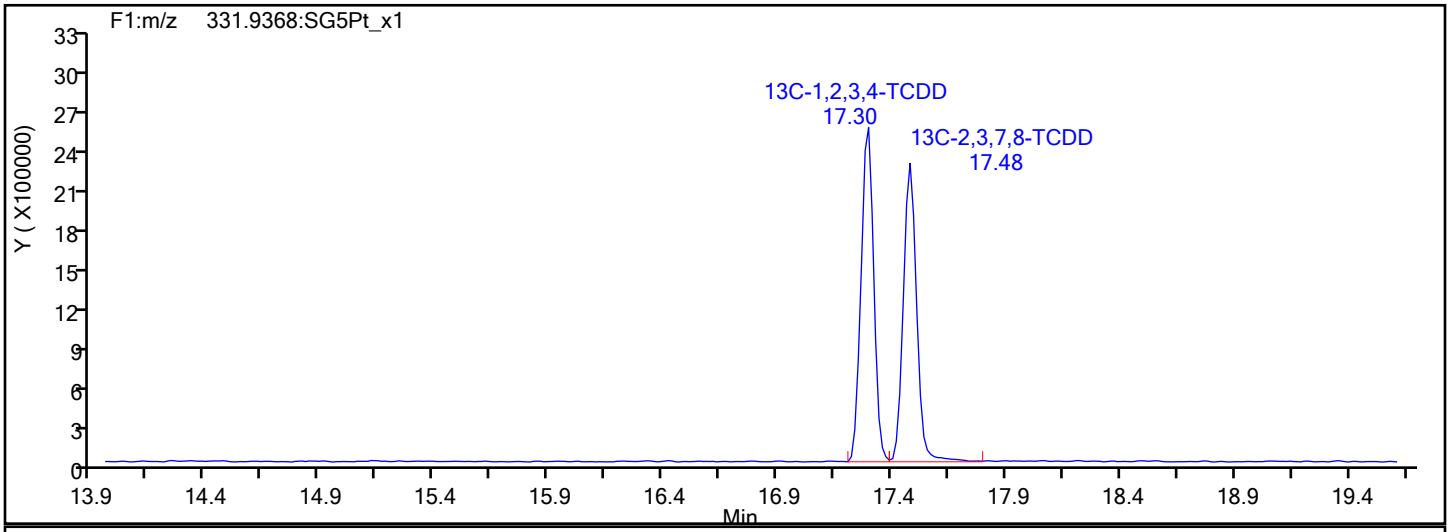

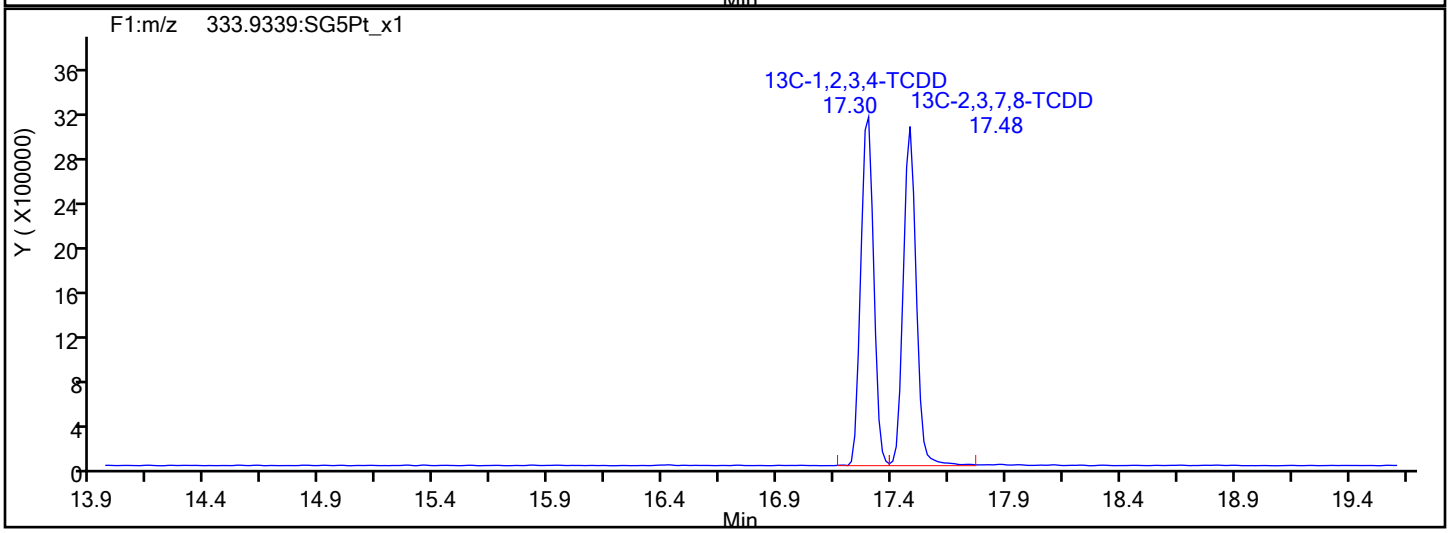

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

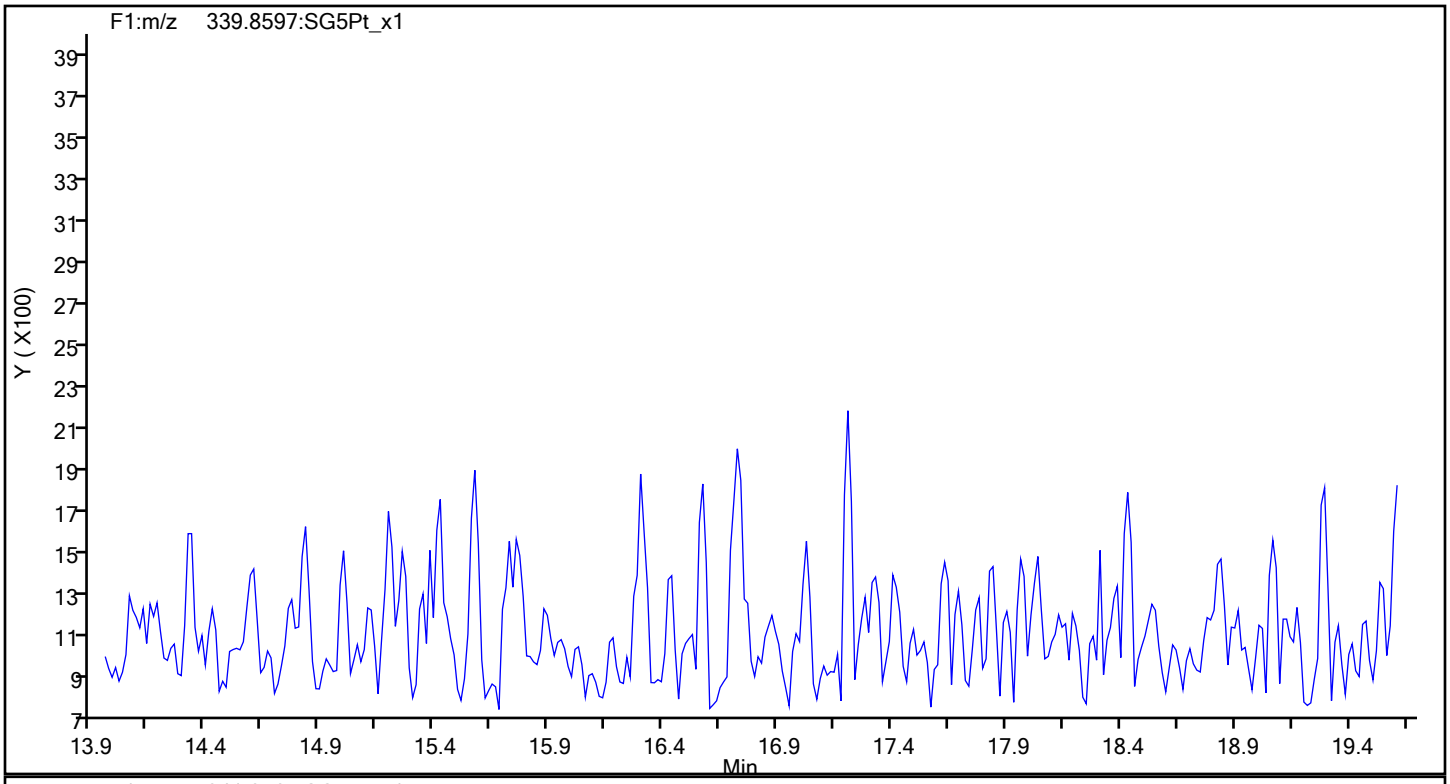

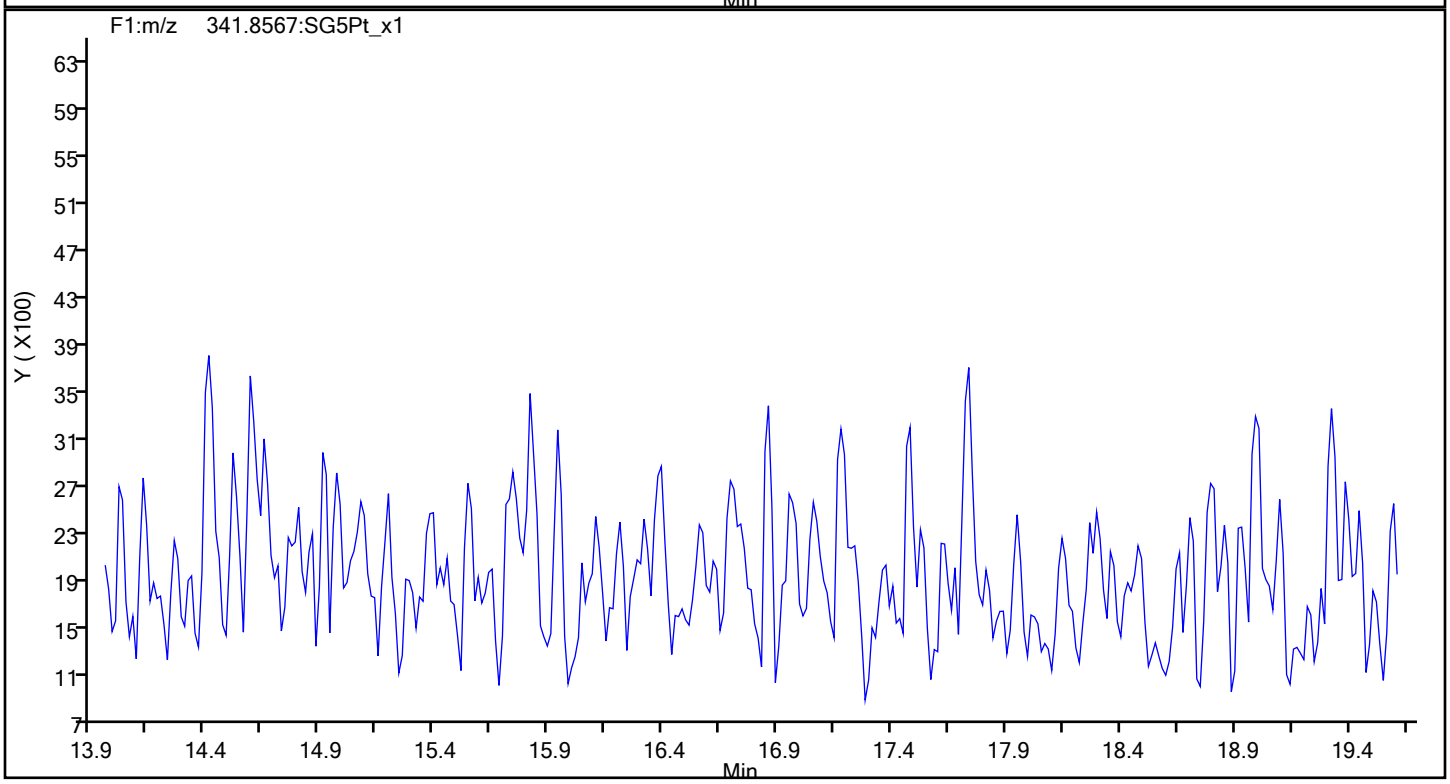

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F1 PeCDFs

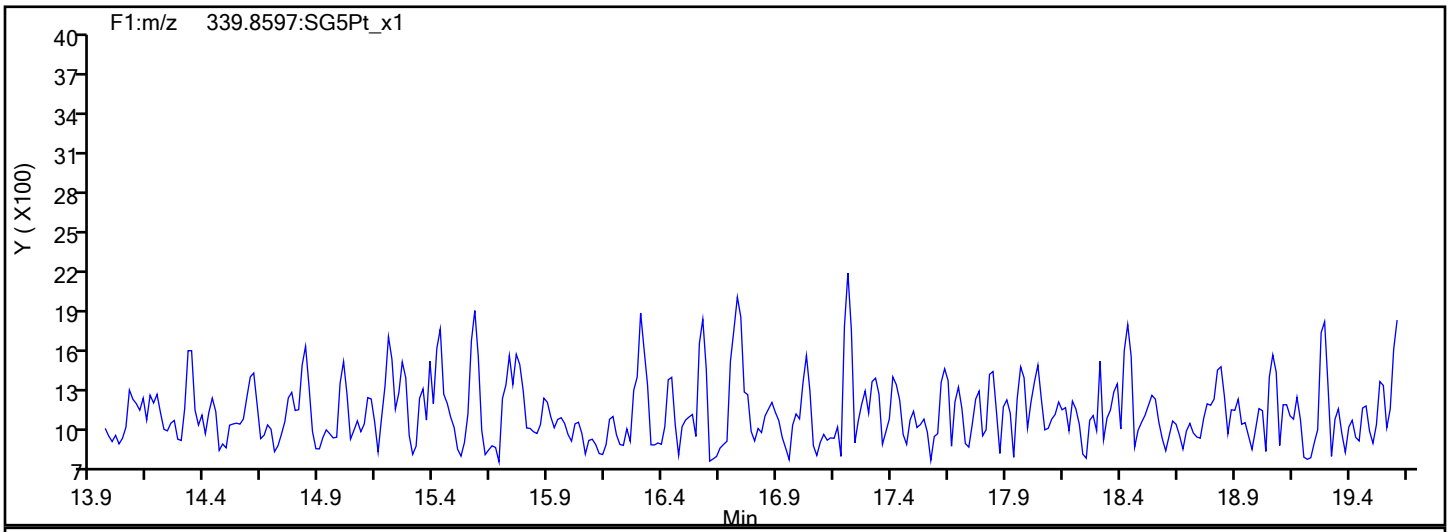

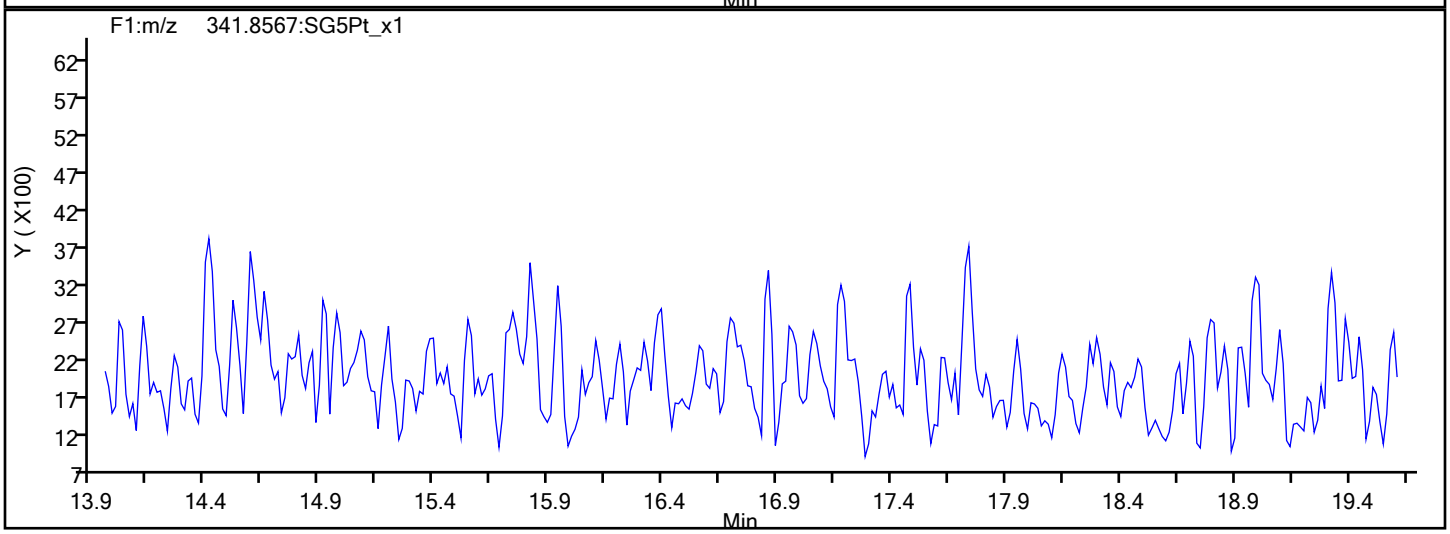

F1 PeCDFs Interference Mass

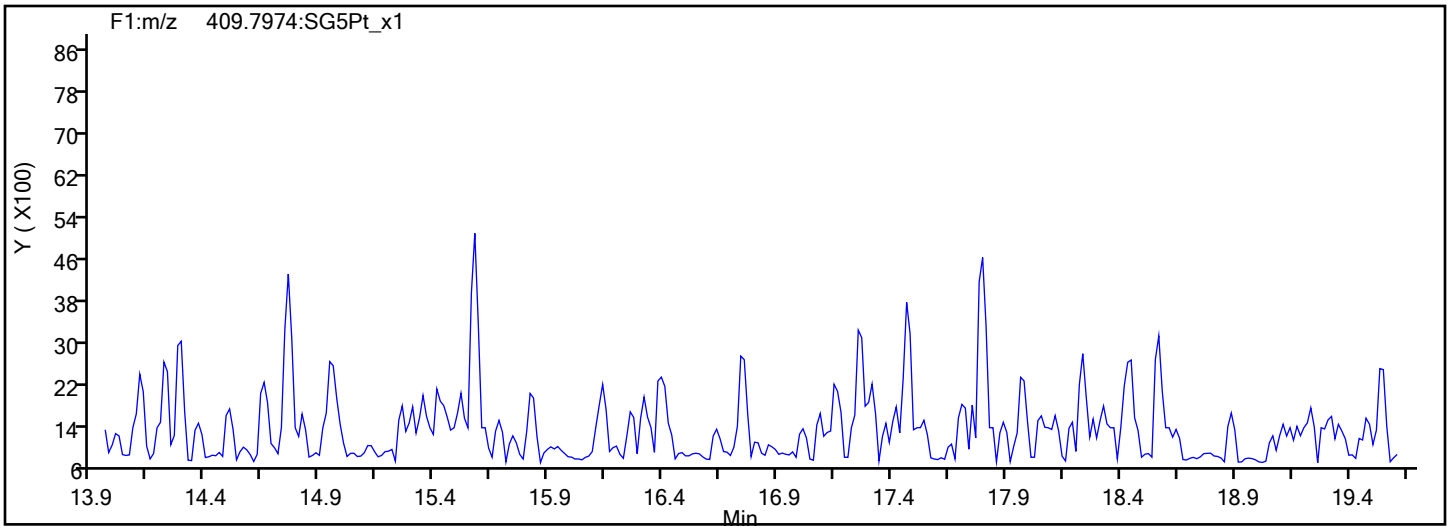

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Eurofins TestAmerica, Sacramento

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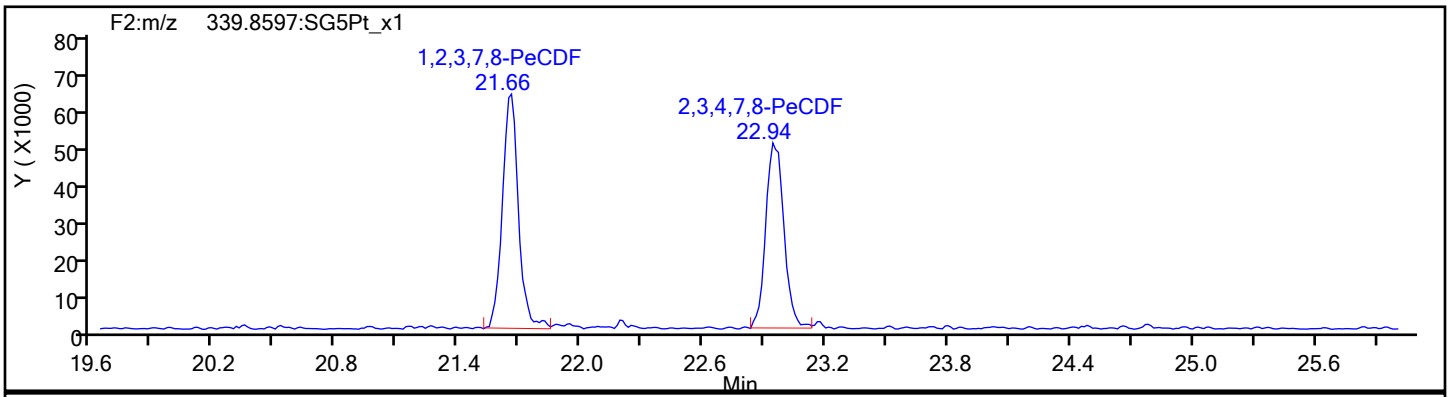

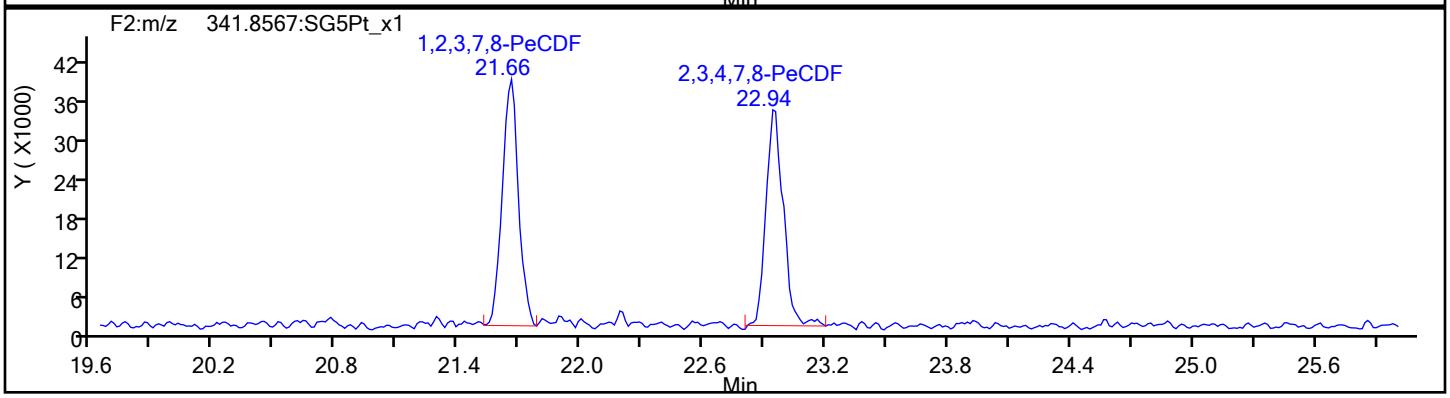

PeCDF Standards

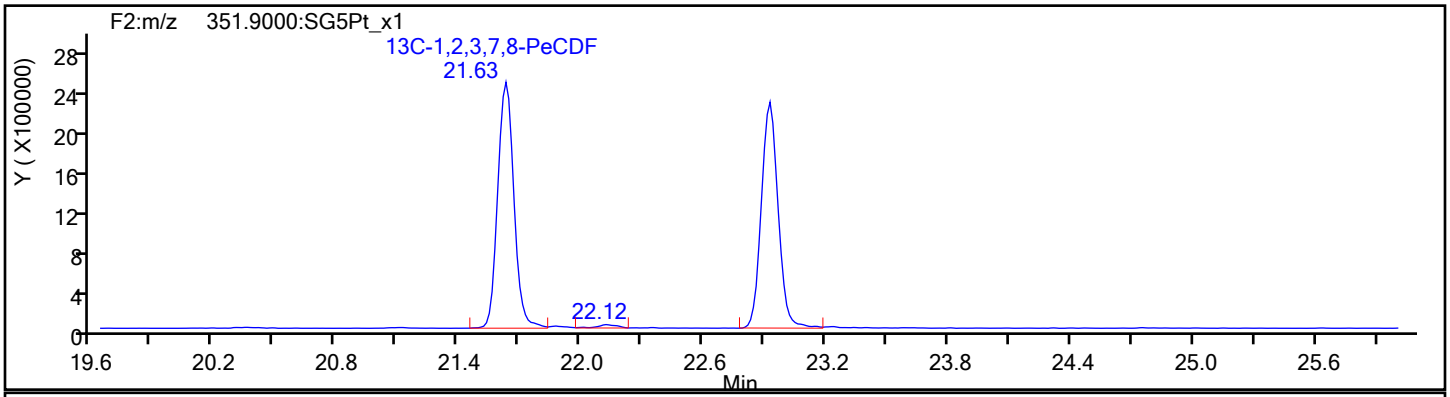

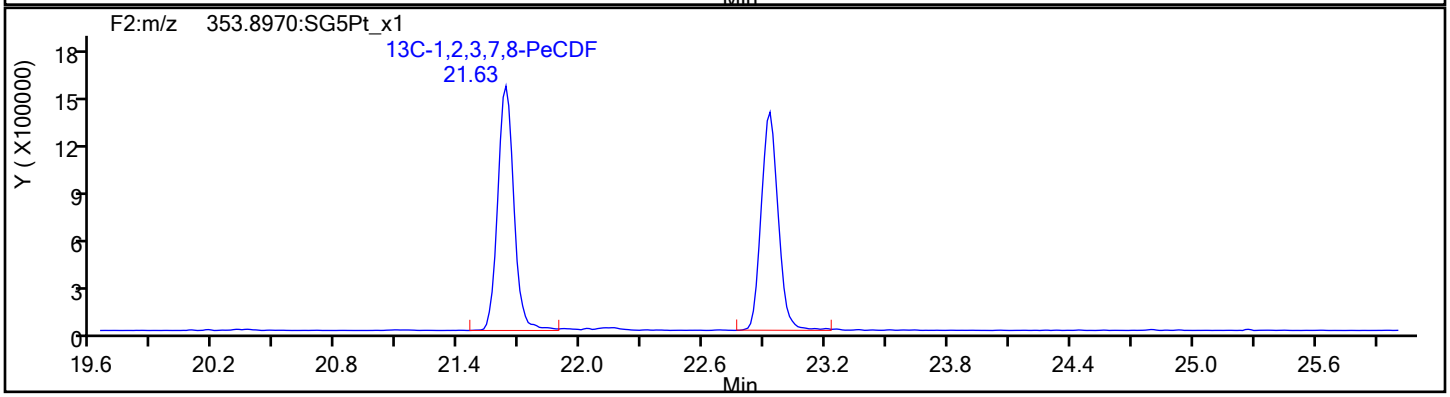

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Eurofins TestAmerica, Sacramento

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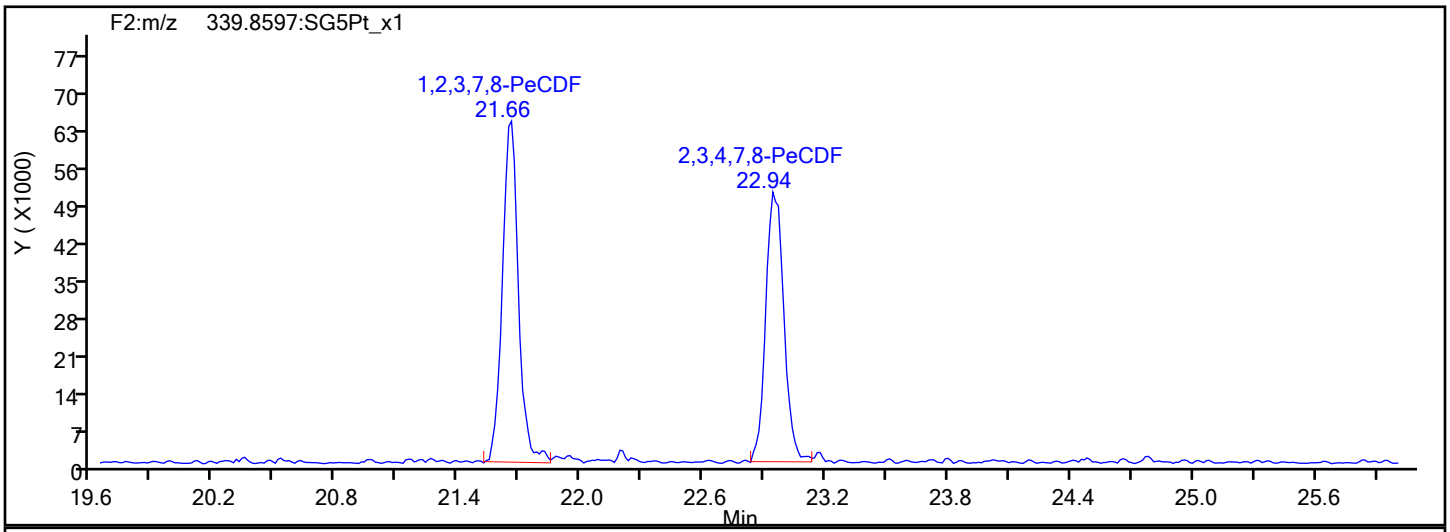

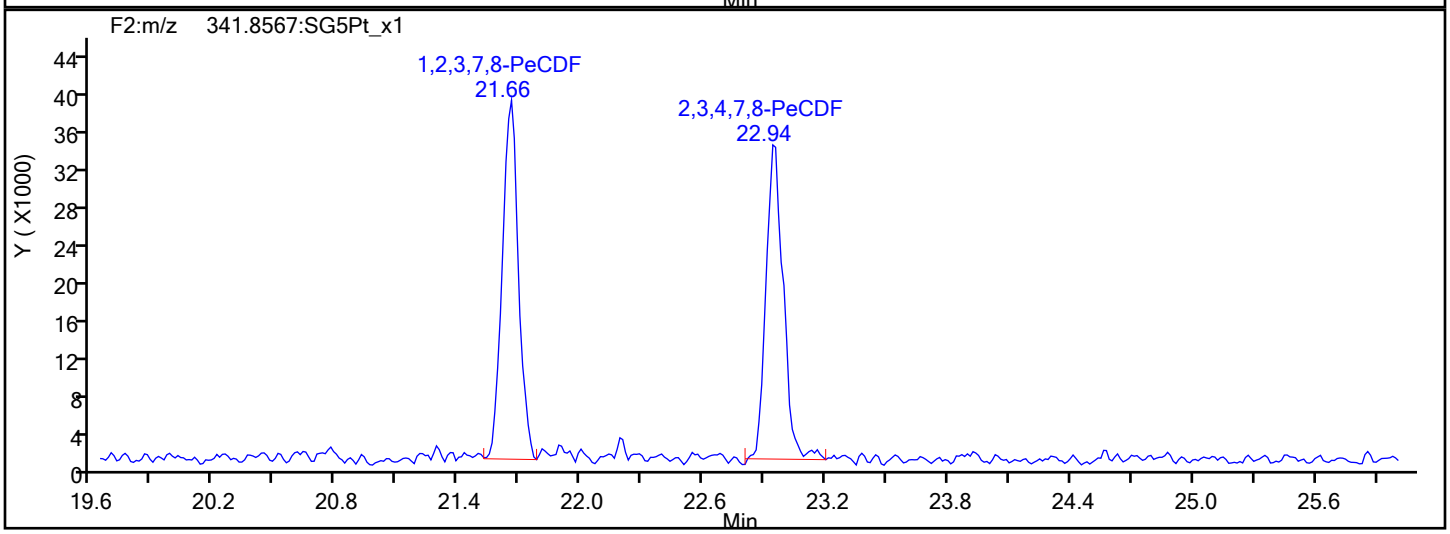

PeCDF Interference Mass

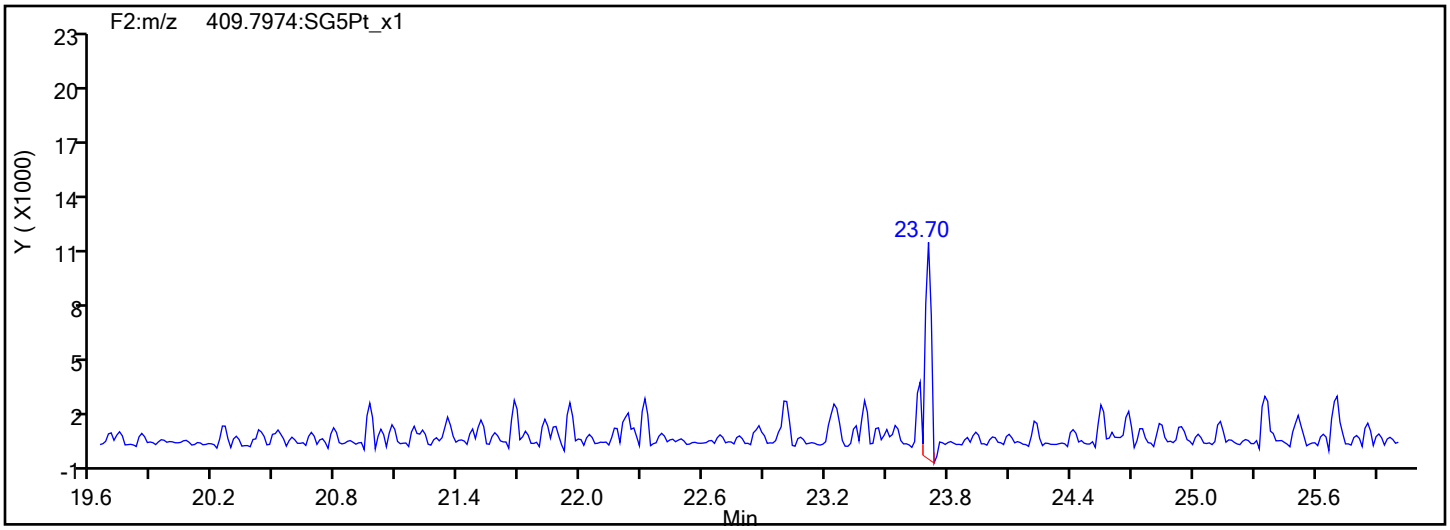

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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PeCDD

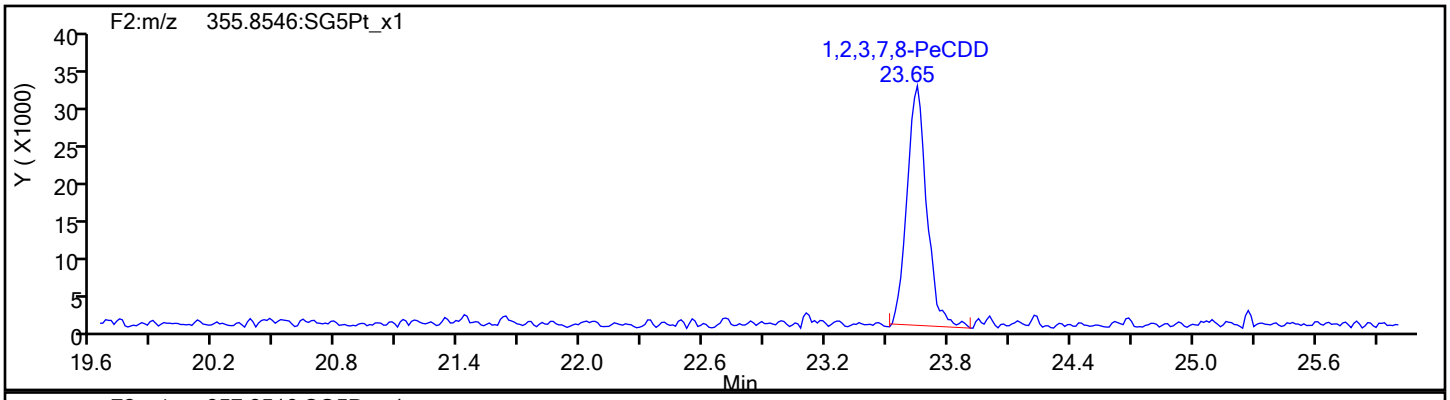

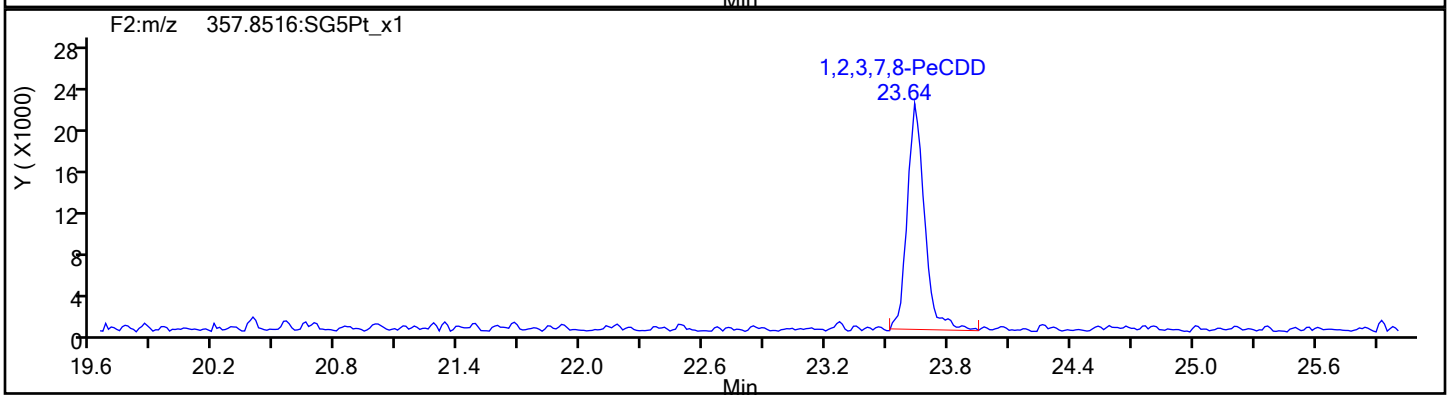

PeCDD Standards

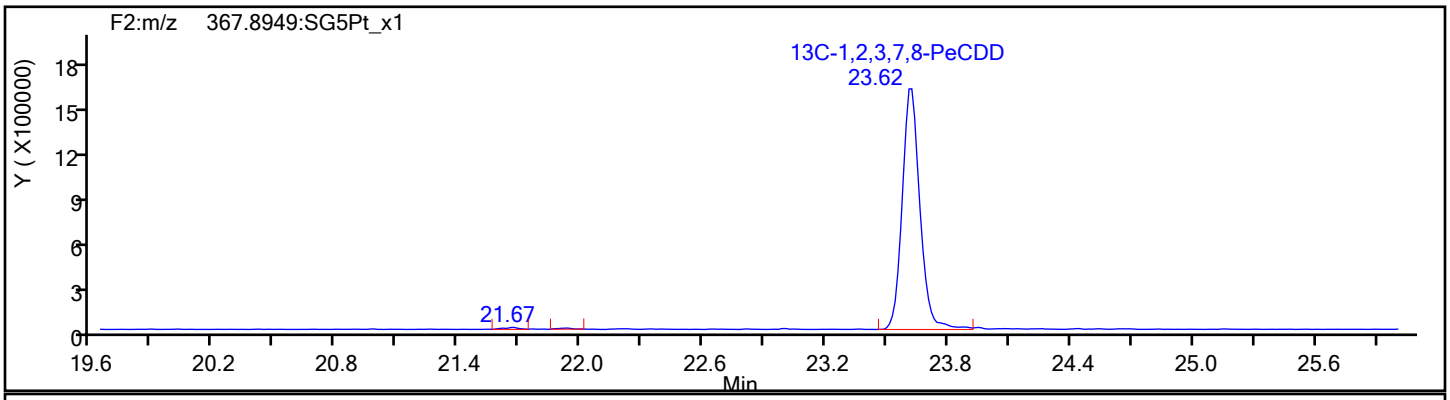

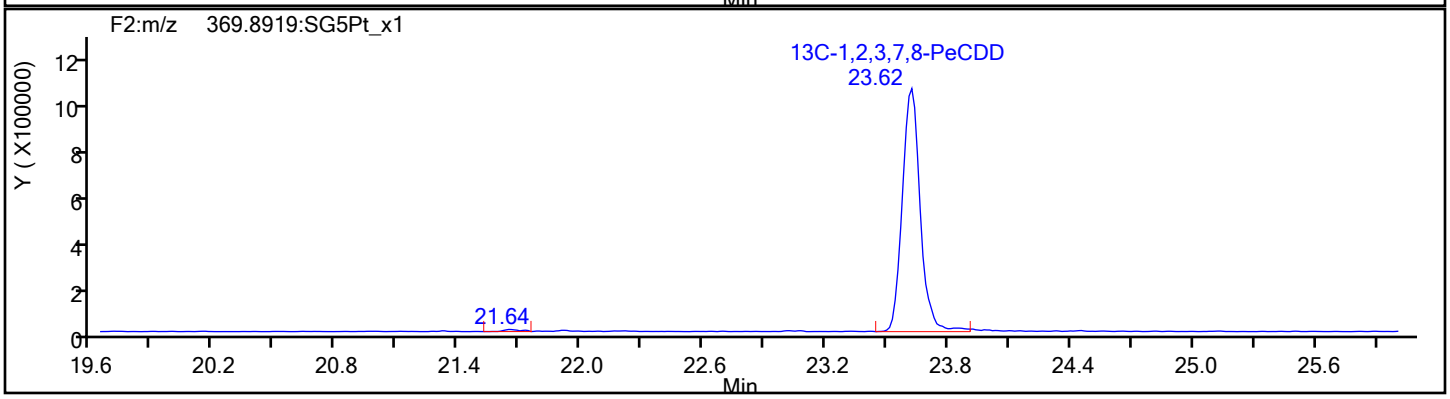

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Eurofins TestAmerica, Sacramento

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HxCDF

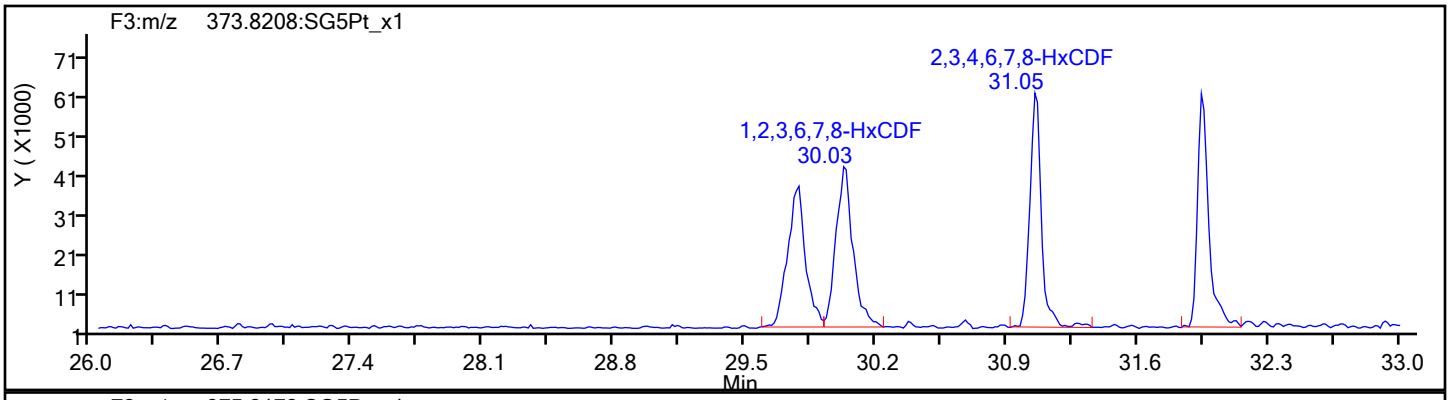

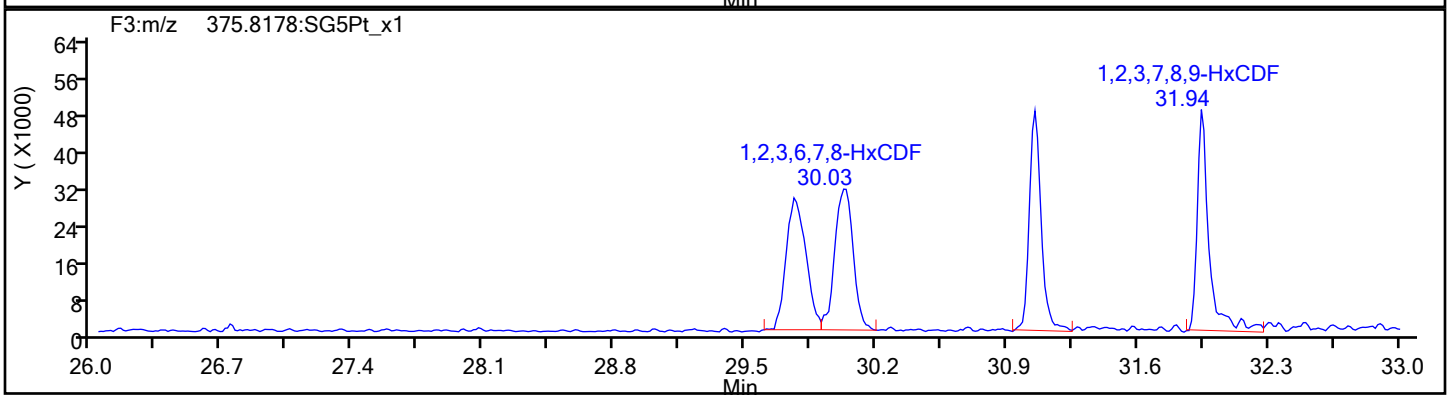

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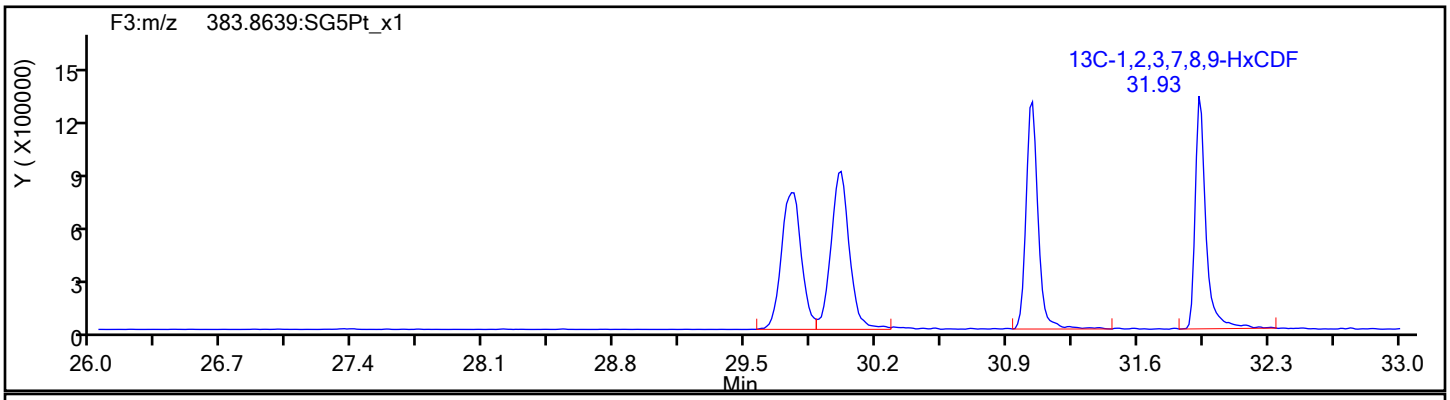

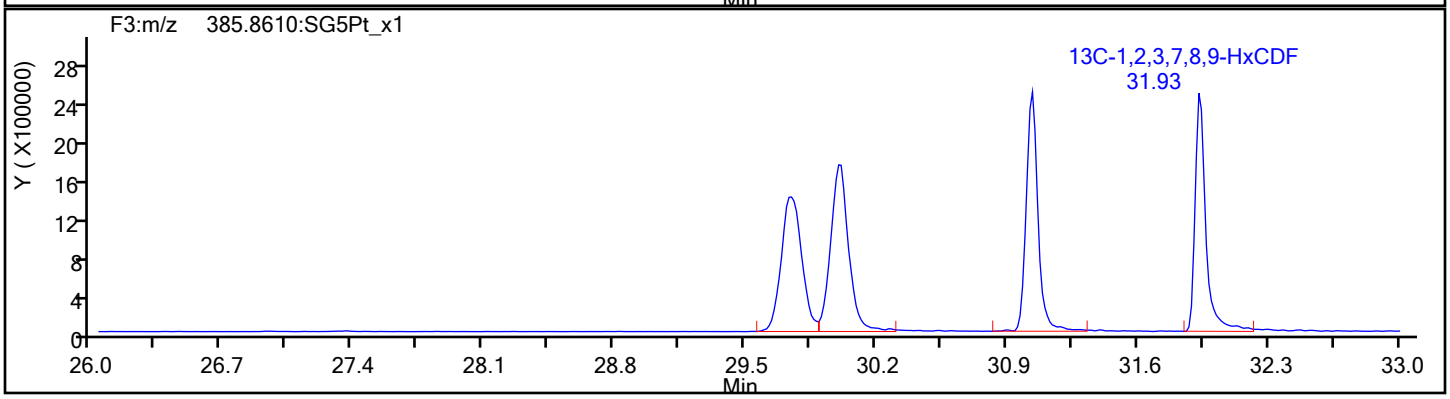

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Eurofins TestAmerica, Sacramento

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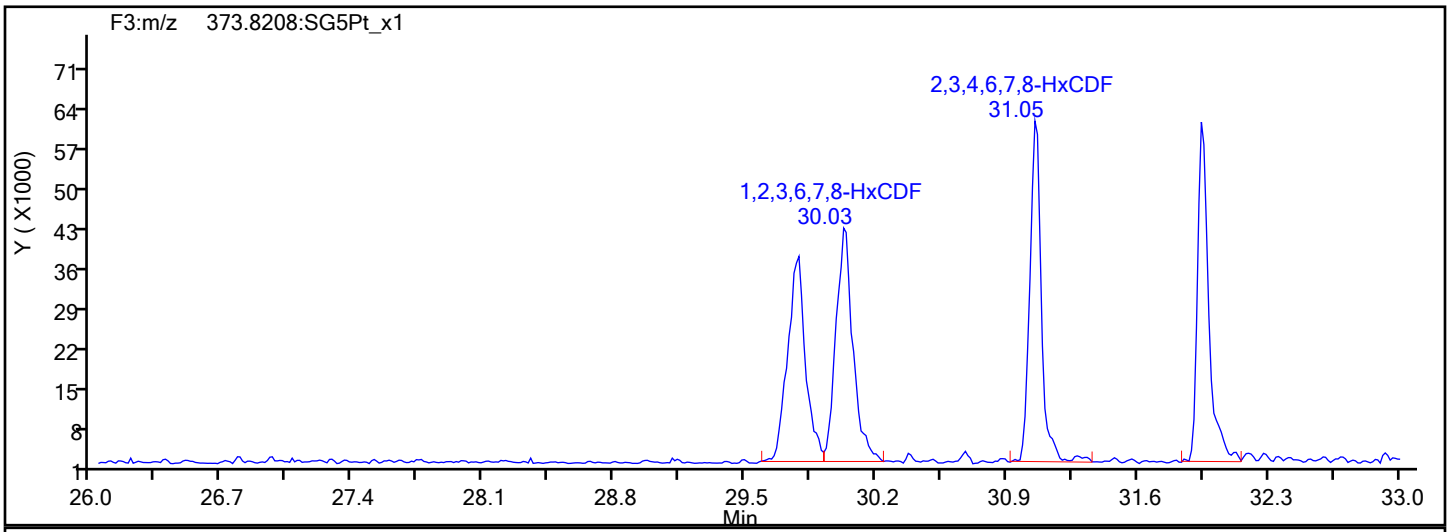

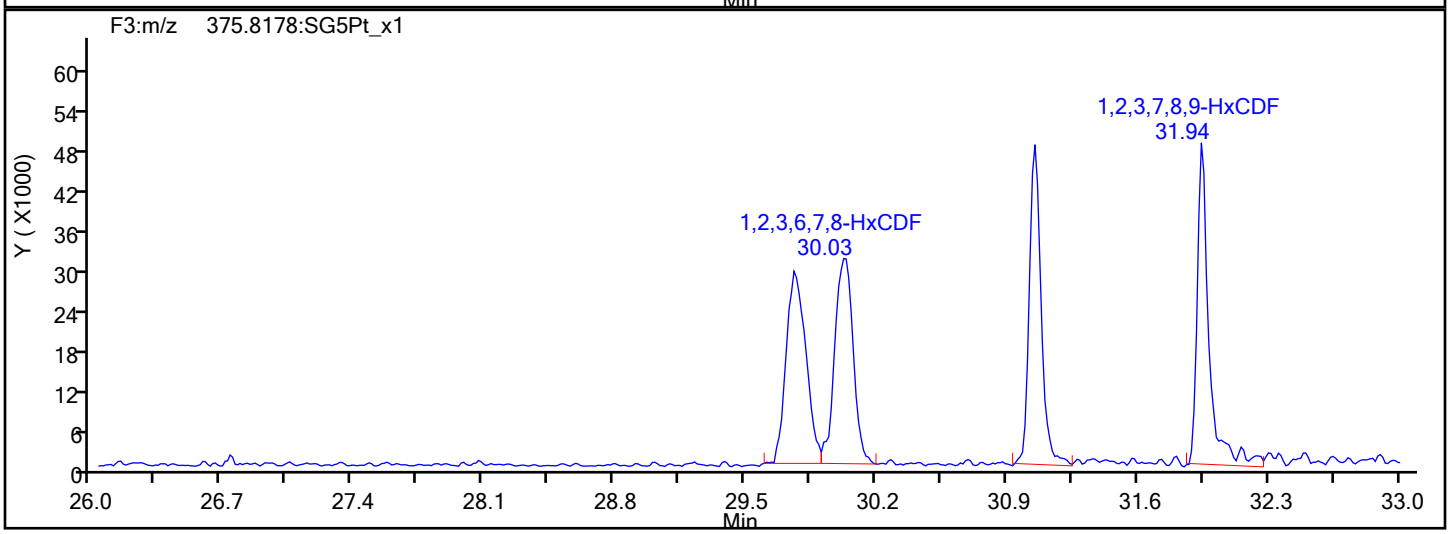

HxCDF Interference Mass

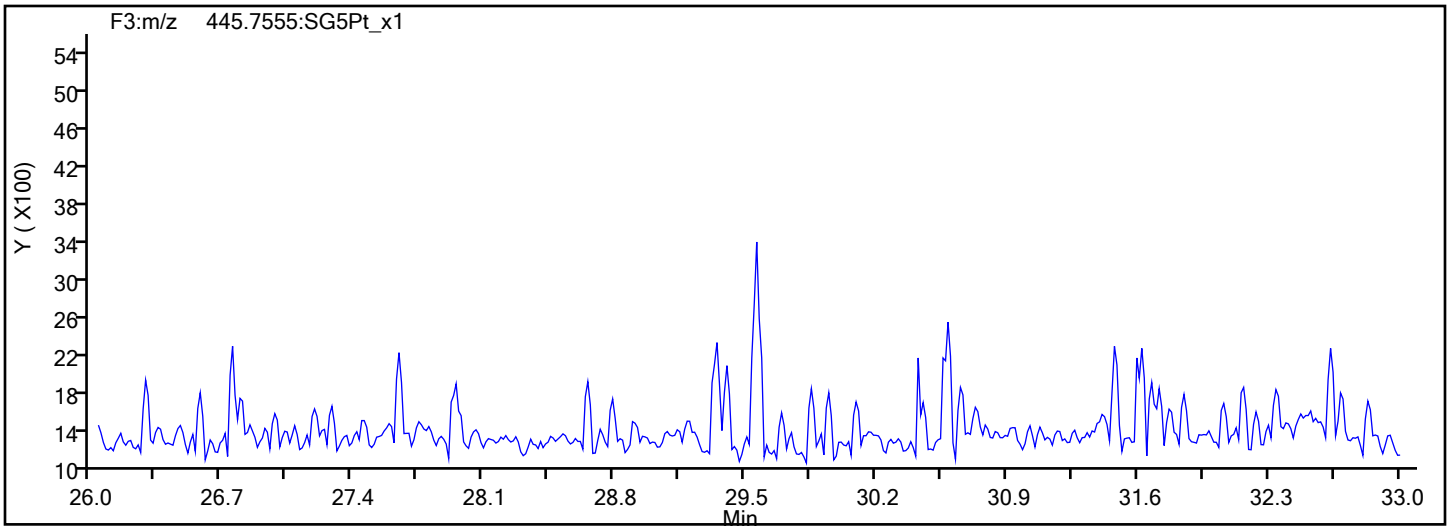

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Eurofins TestAmerica, Sacramento

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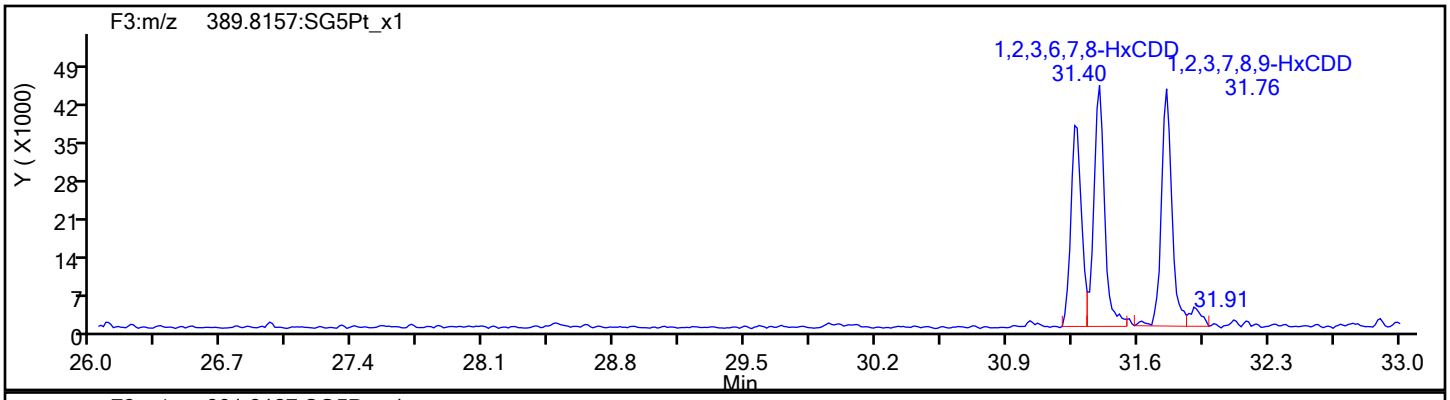

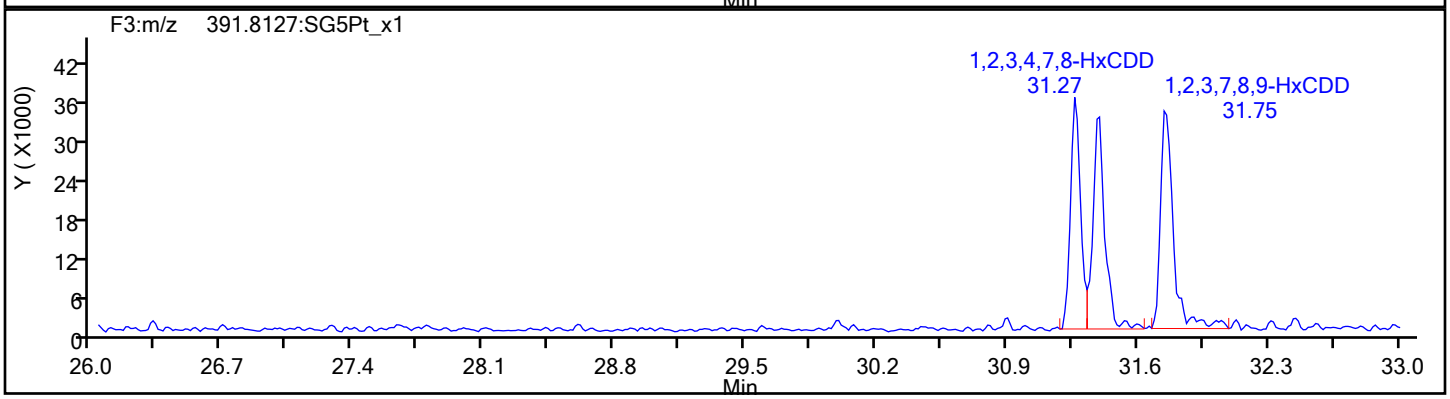

HxCDD Standards

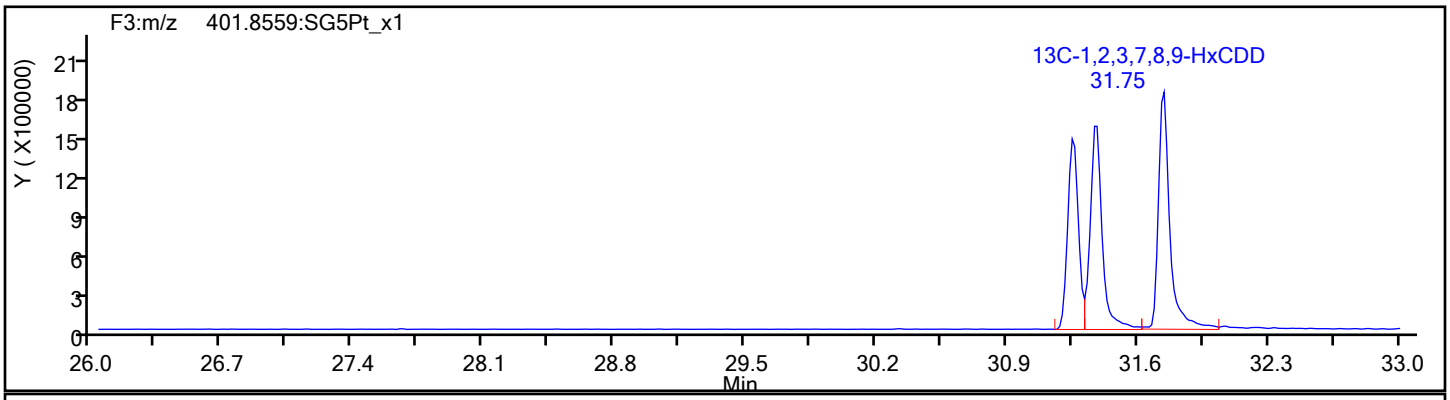

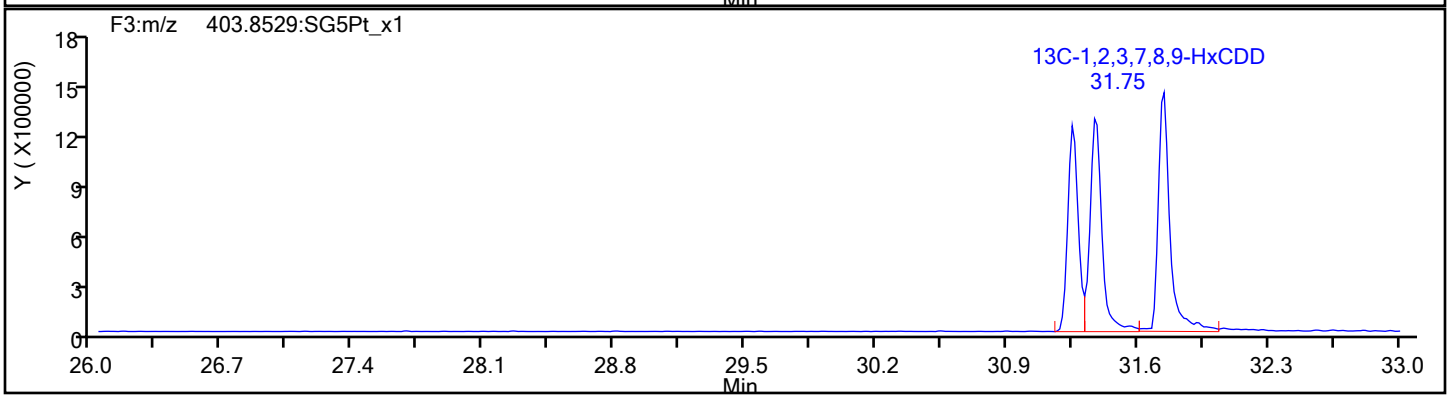

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Eurofins TestAmerica, Sacramento

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HpCDF

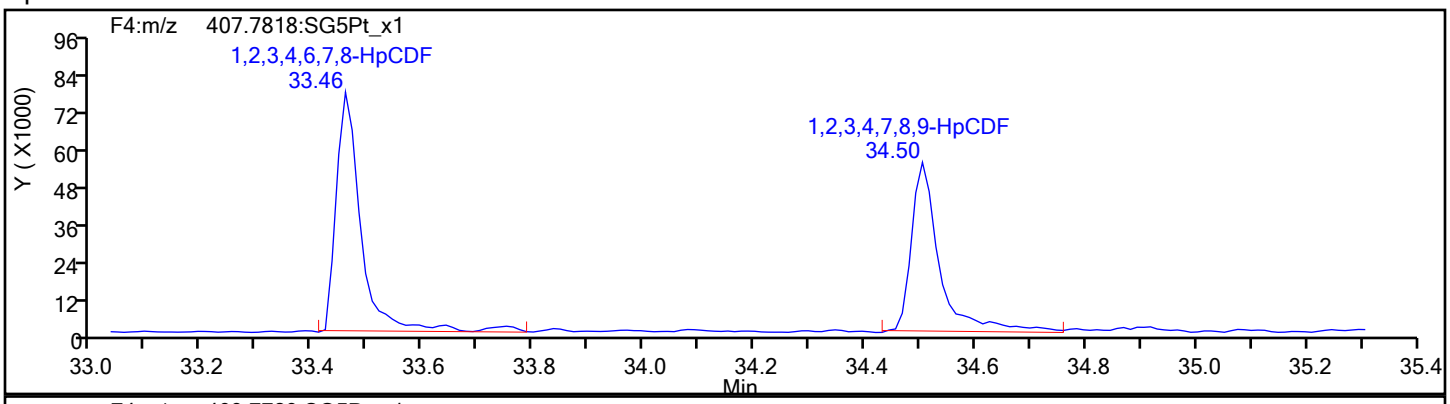

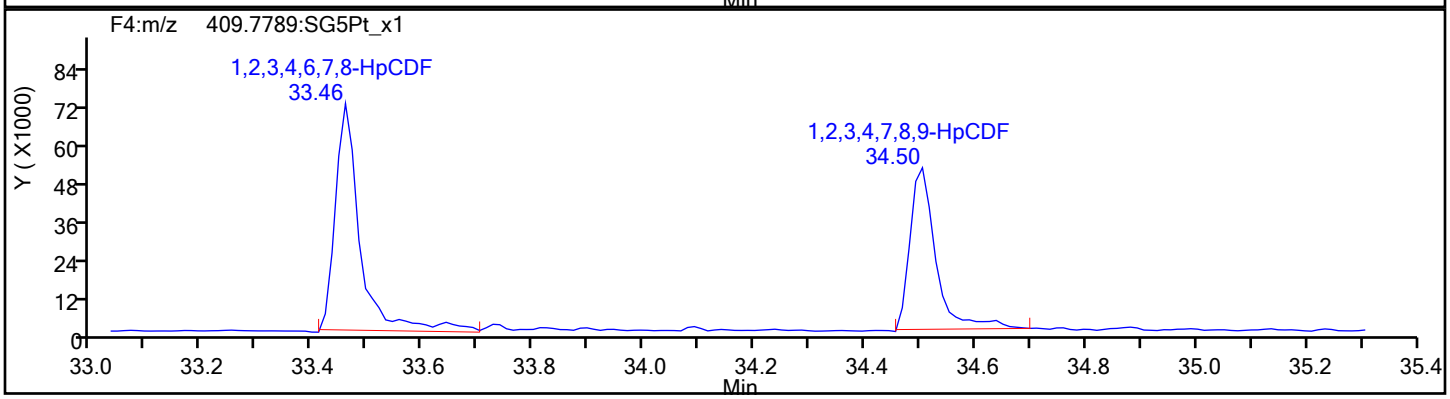

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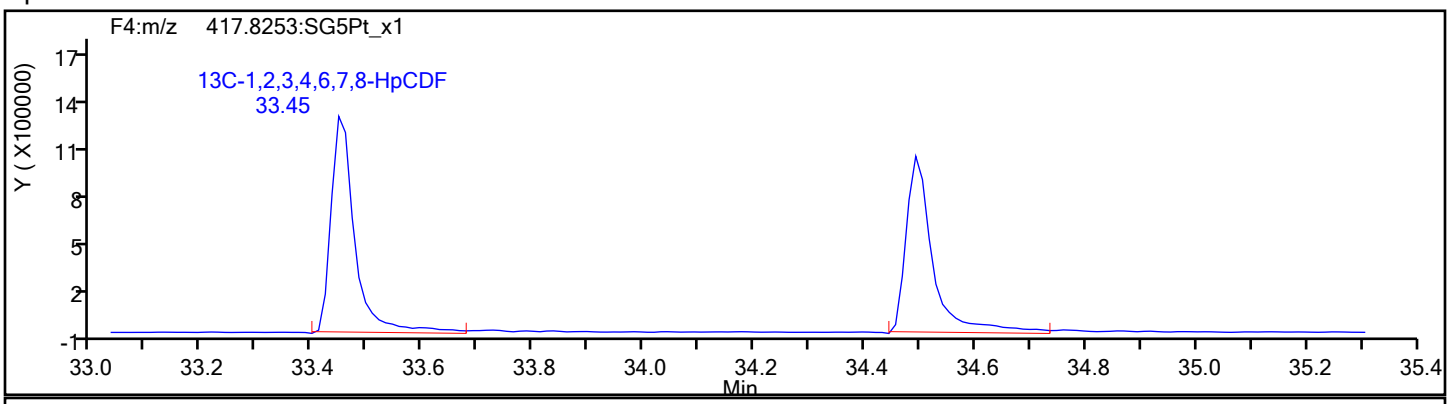

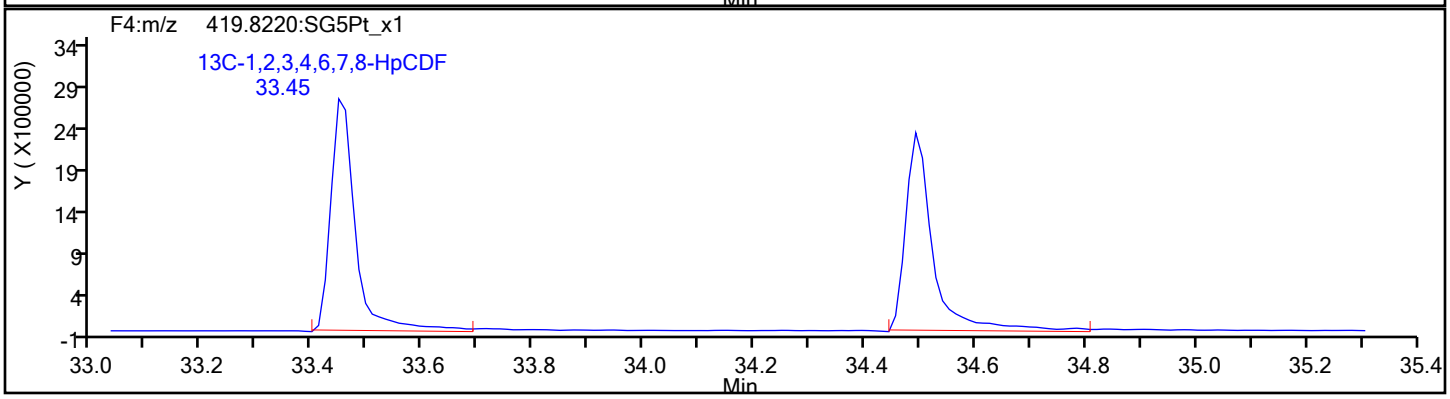

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Eurofins TestAmerica, Sacramento

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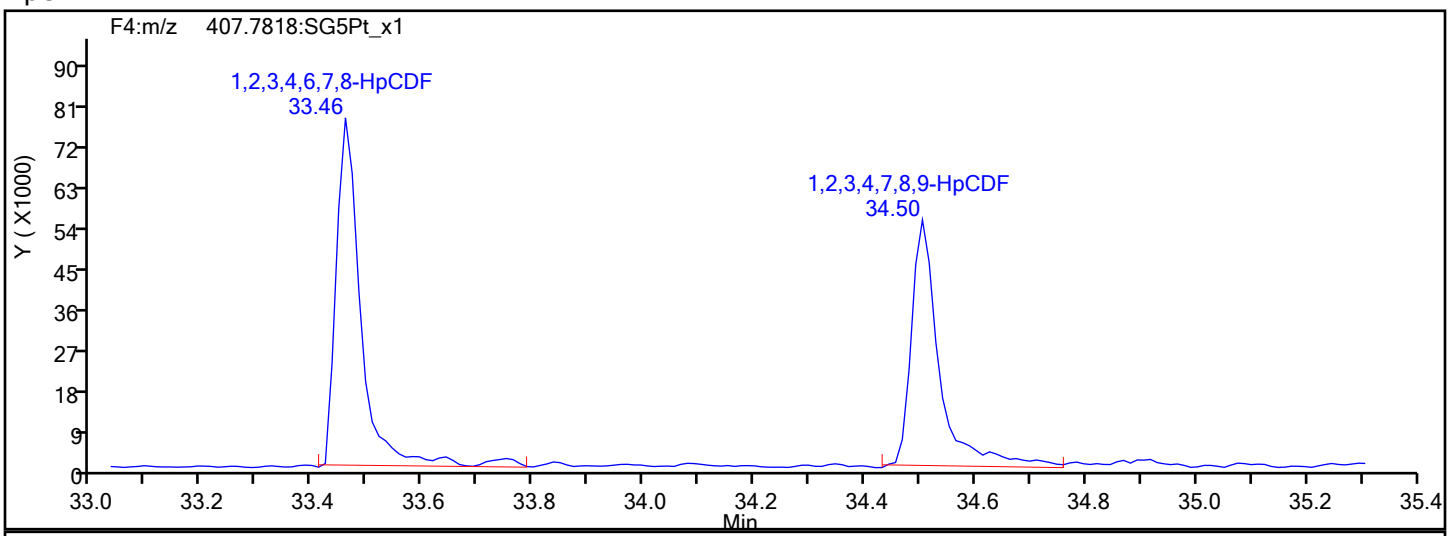

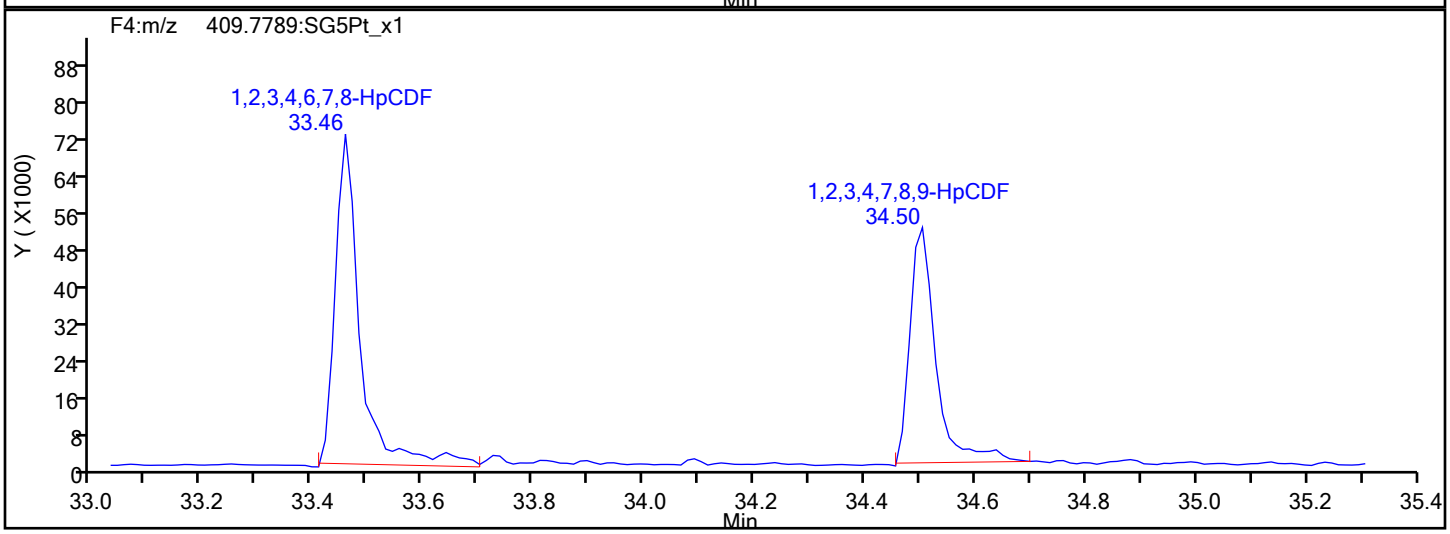

HpCDF Interference Mass

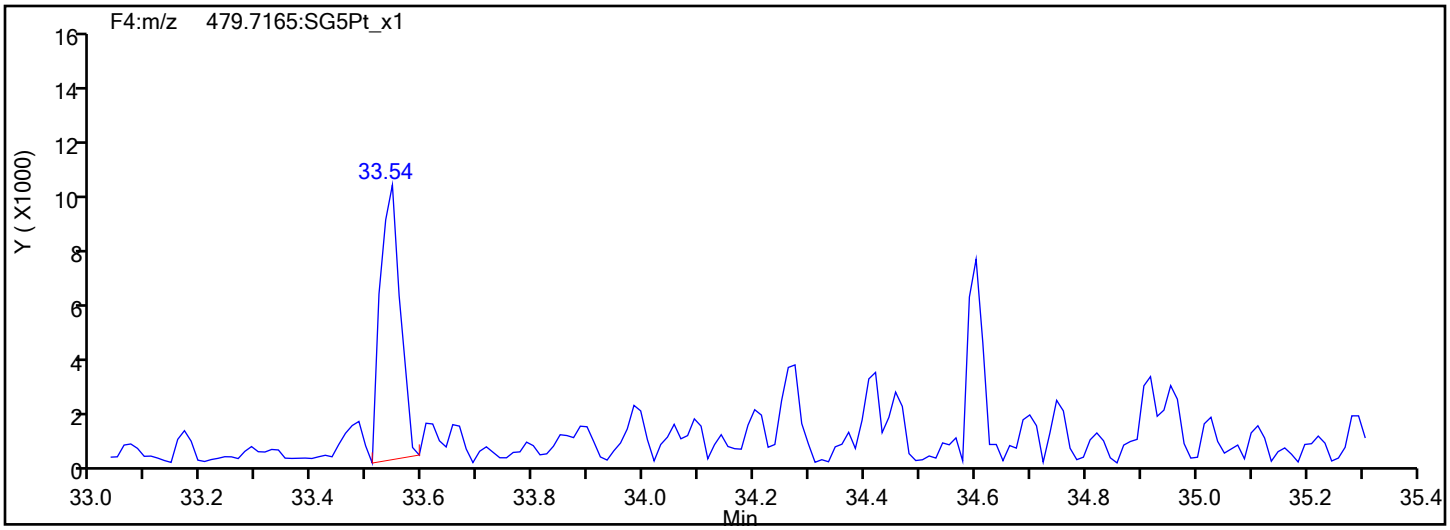

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Eurofins TestAmerica, Sacramento

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HpCDD

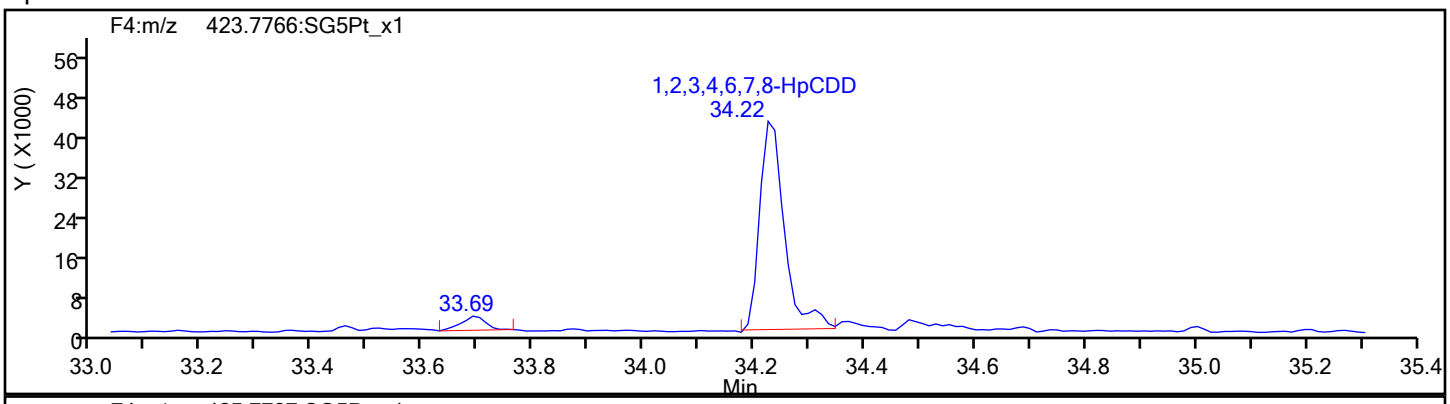

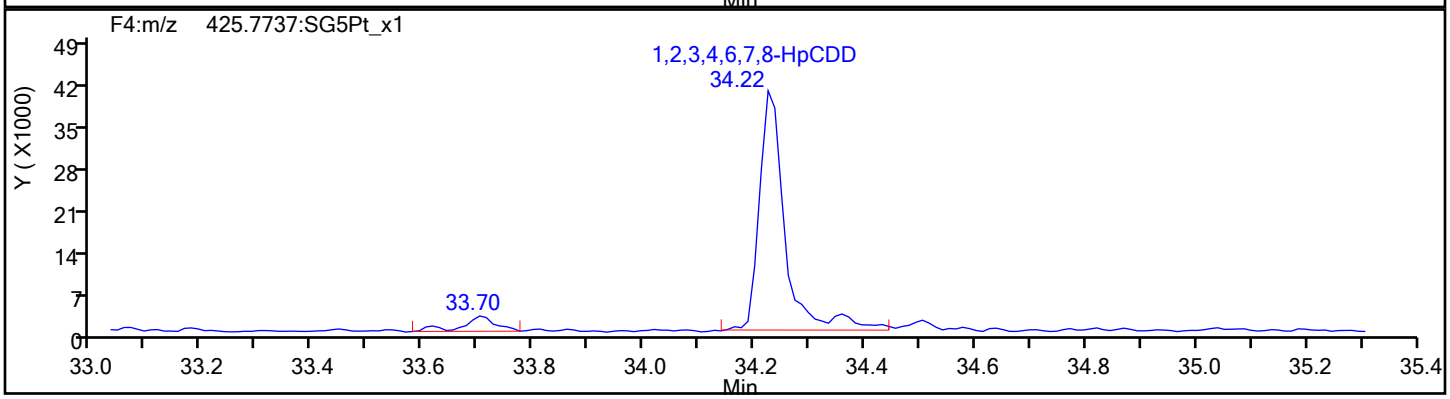

HpCDD Standards

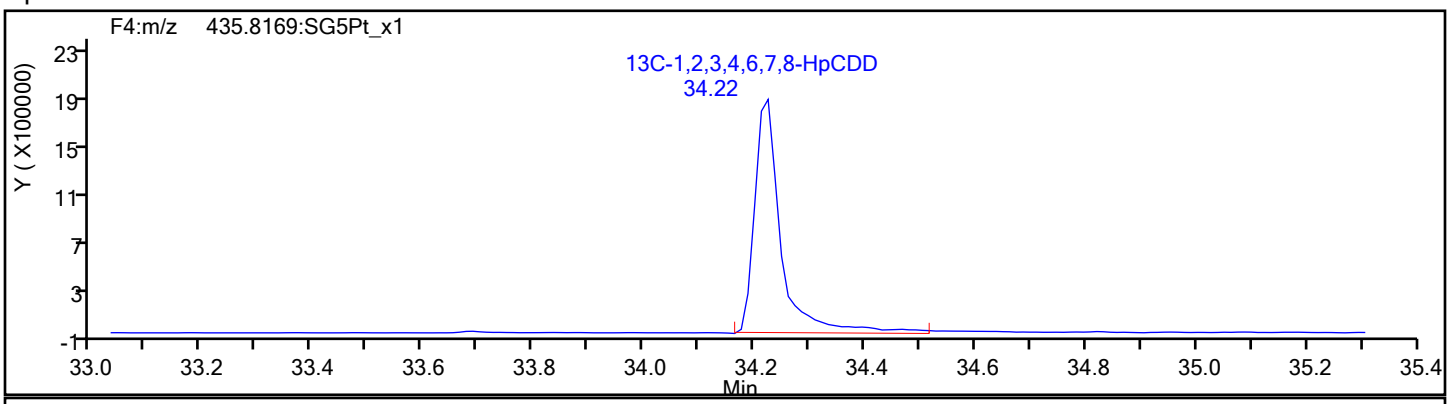

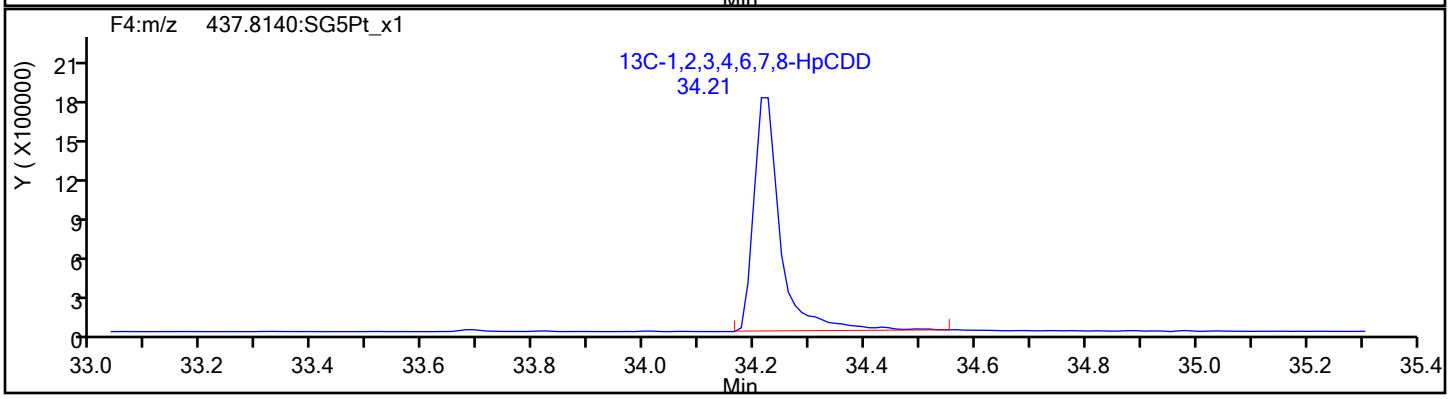

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
Injection Date:	17-Sep-2019 13:03:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

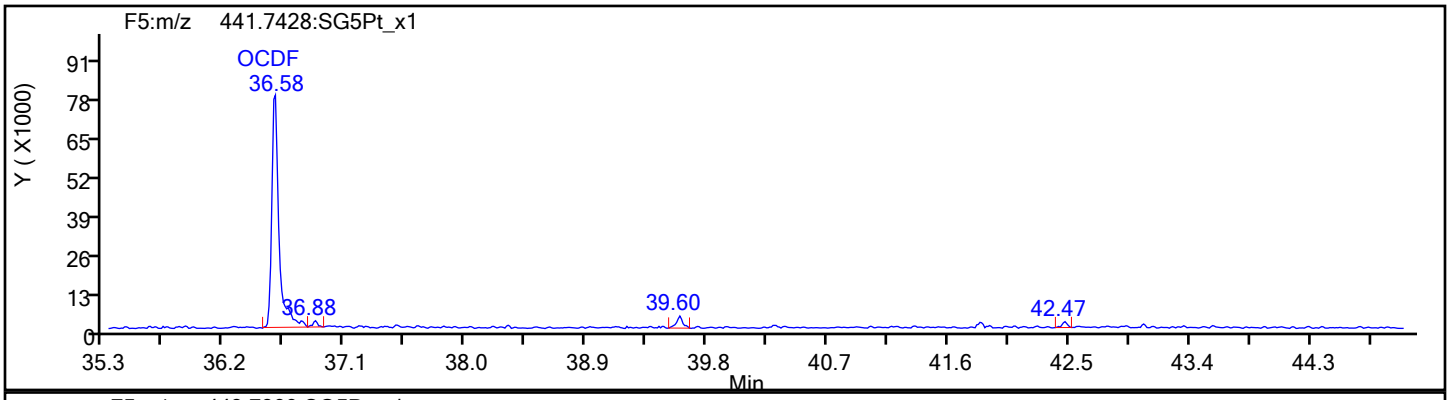

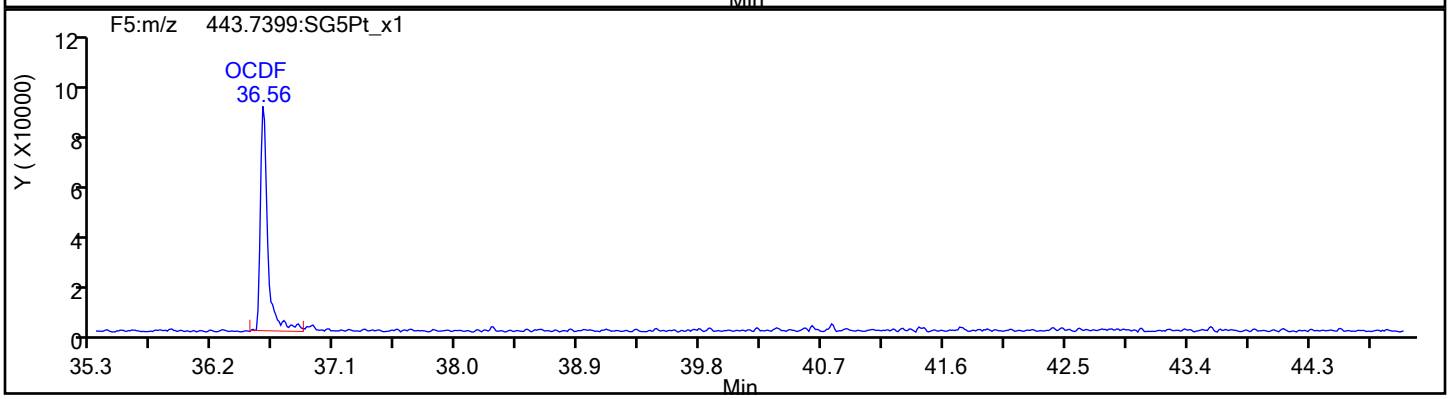

OCDF Standards

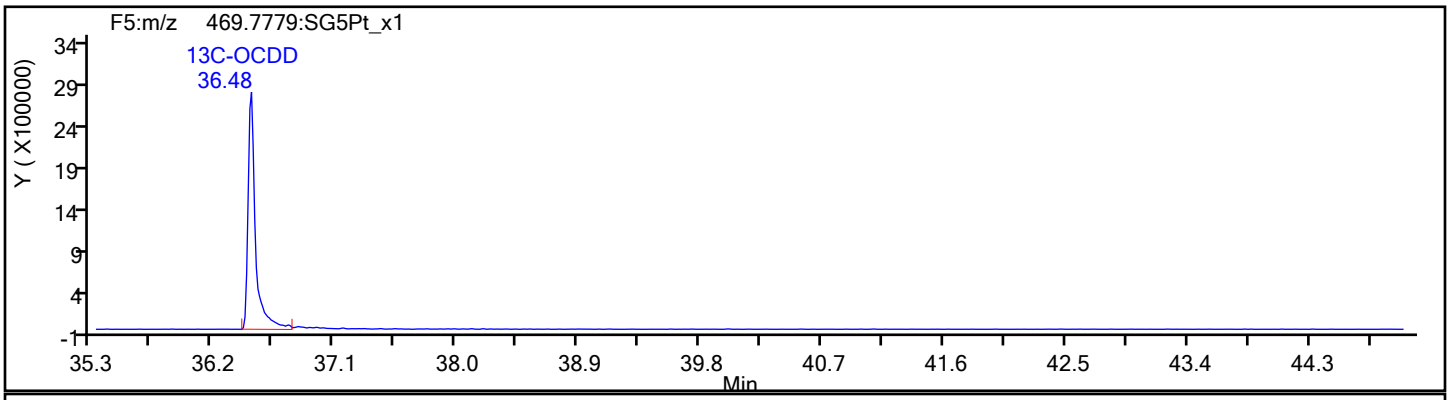

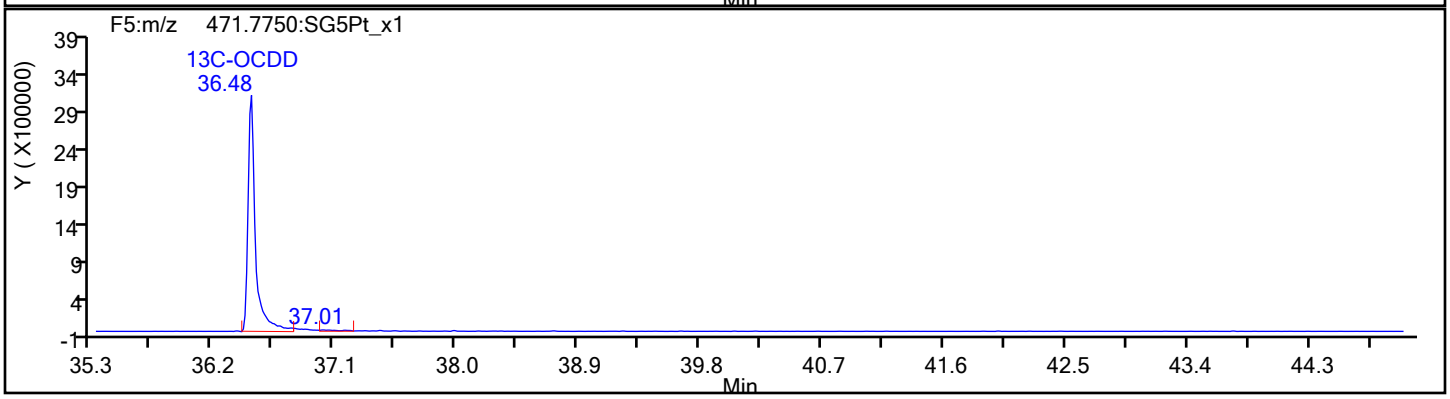

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
Injection Date:	17-Sep-2019 13:03:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

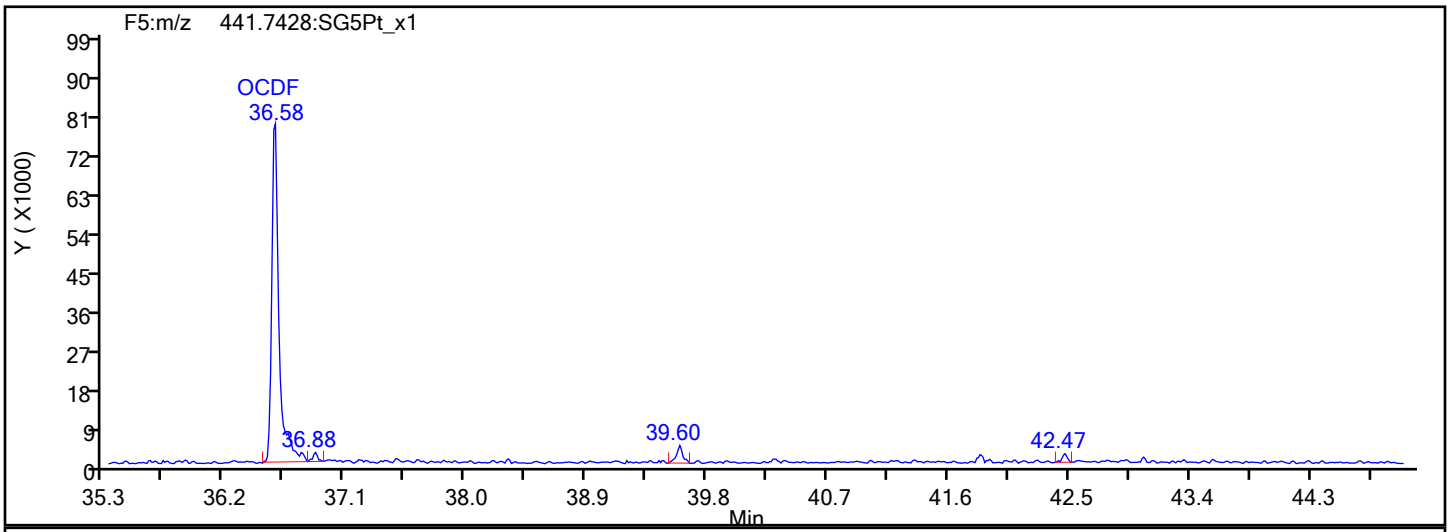

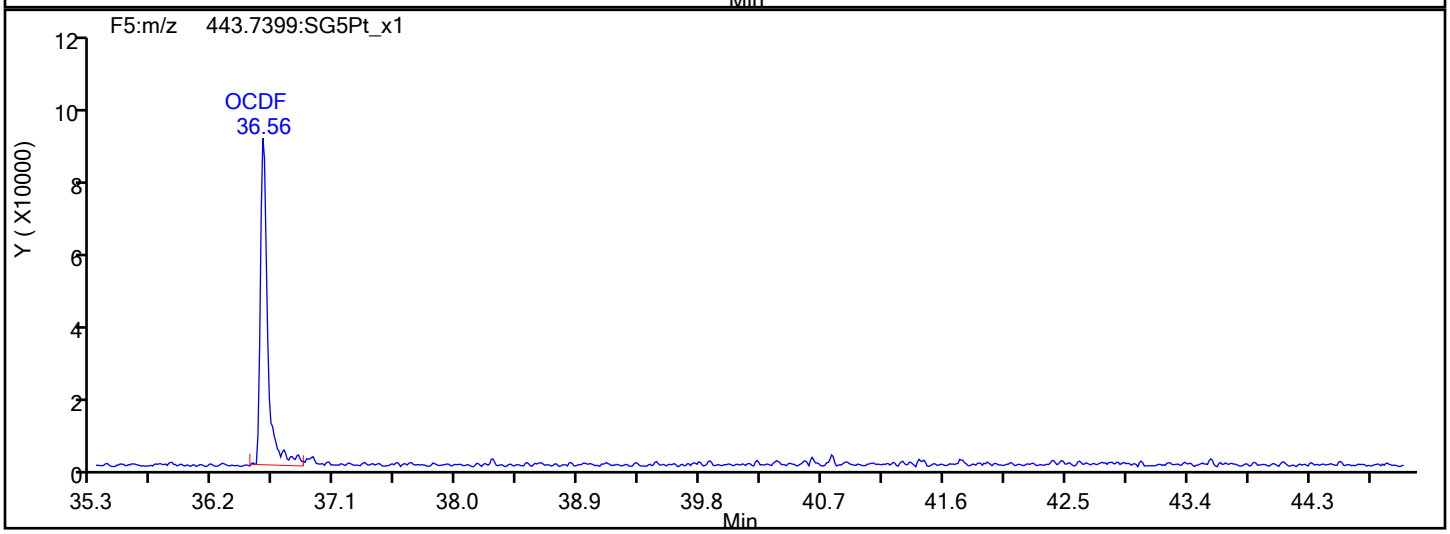

OCDF Interference Mass

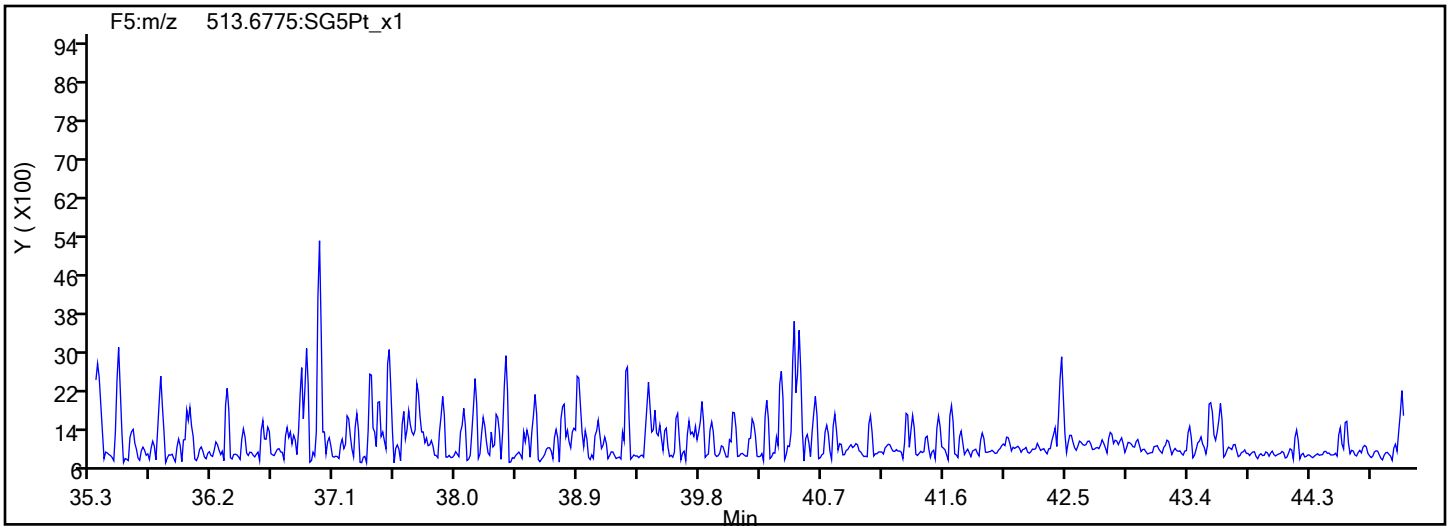

Report Date: 18-Sep-2019 10:22:16 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
Injection Date:	17-Sep-2019 13:03:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

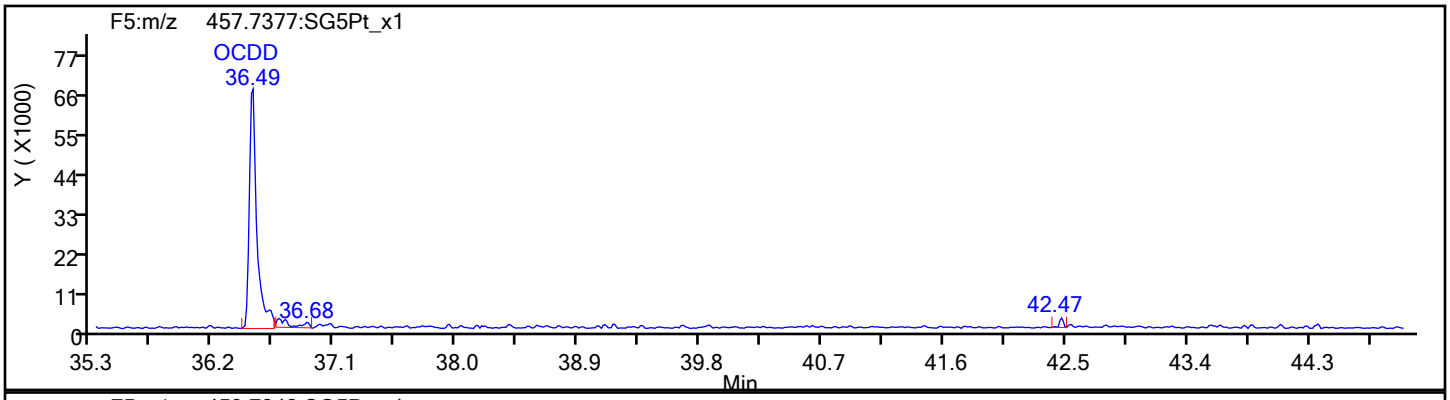

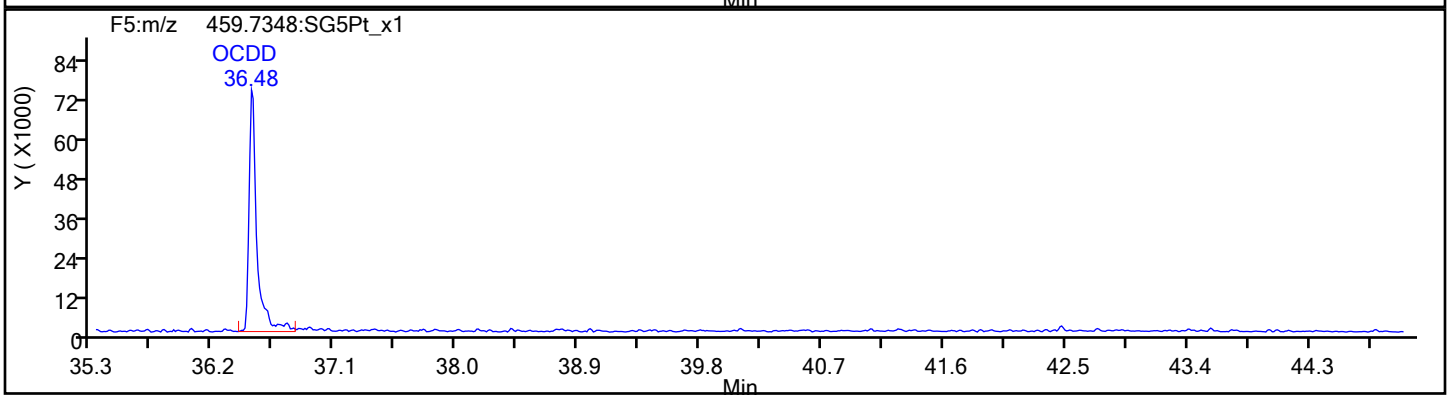

OCDD Standards

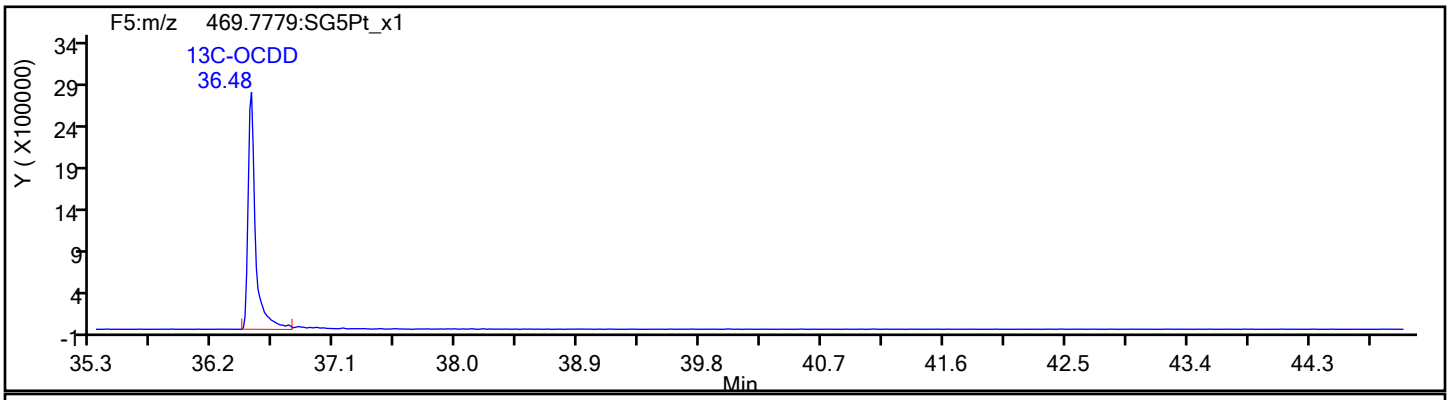

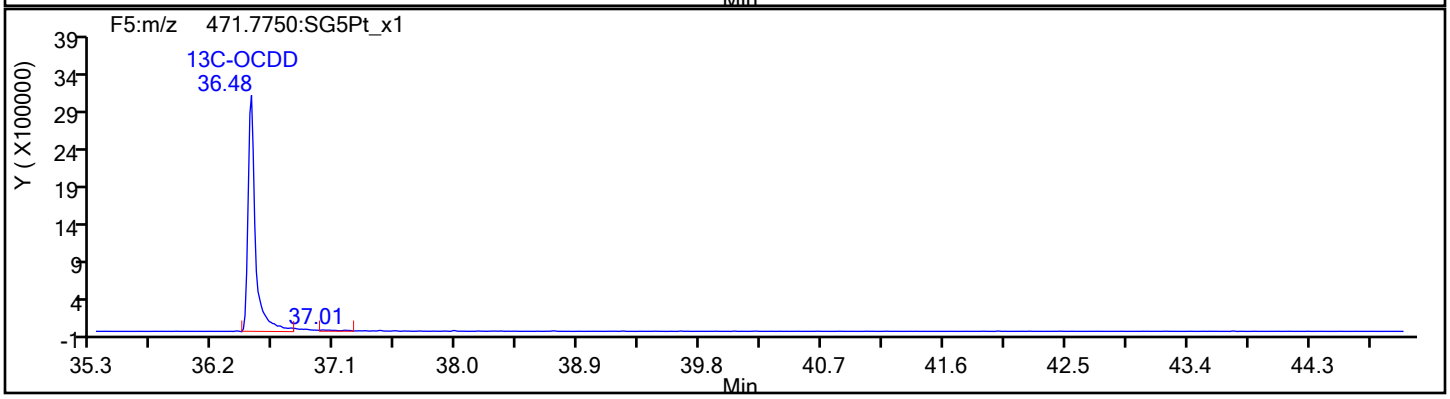

Report Date: 18-Sep-2019 10:22:16 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
Injection Date:	17-Sep-2019 13:03:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

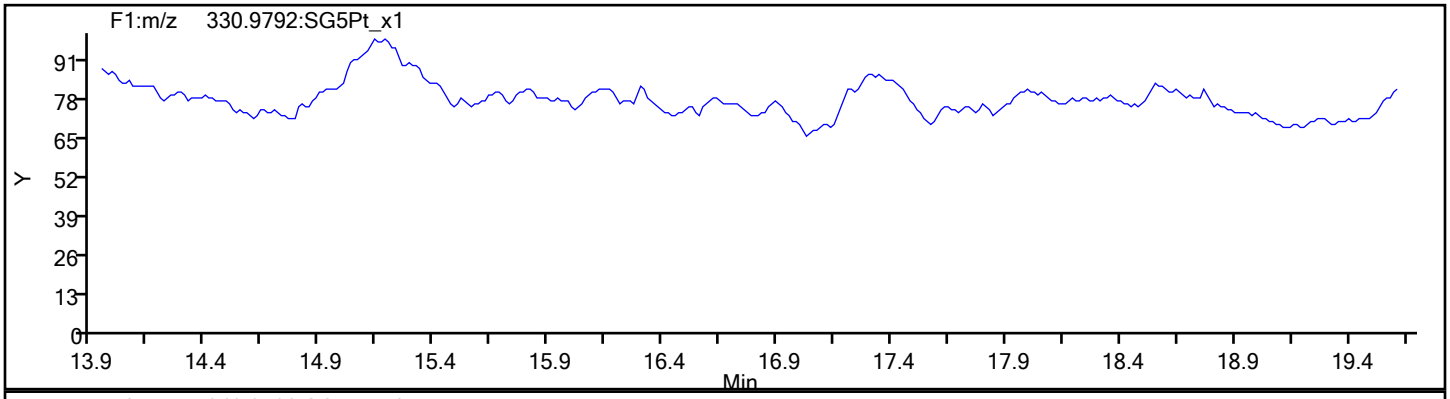

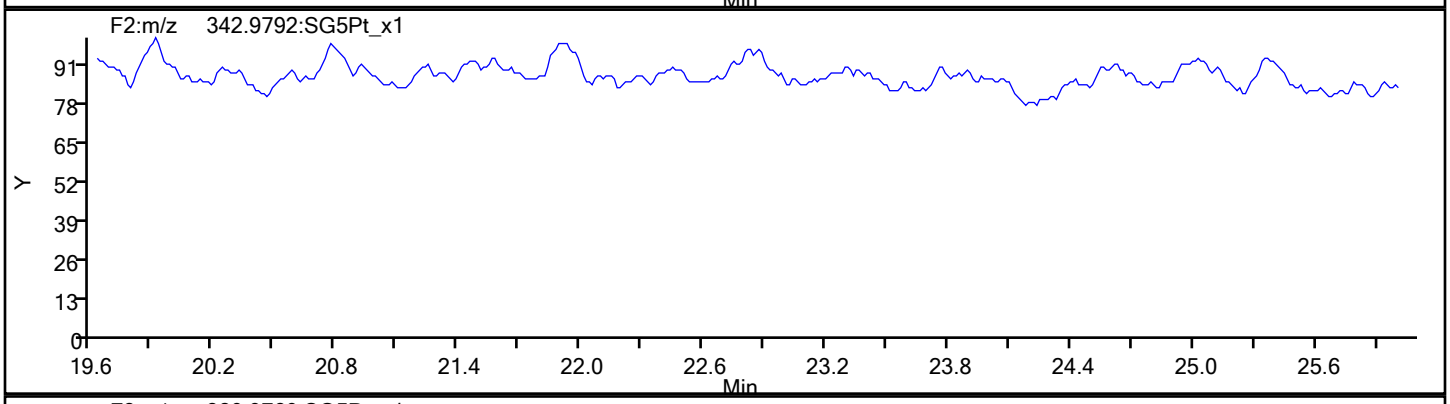

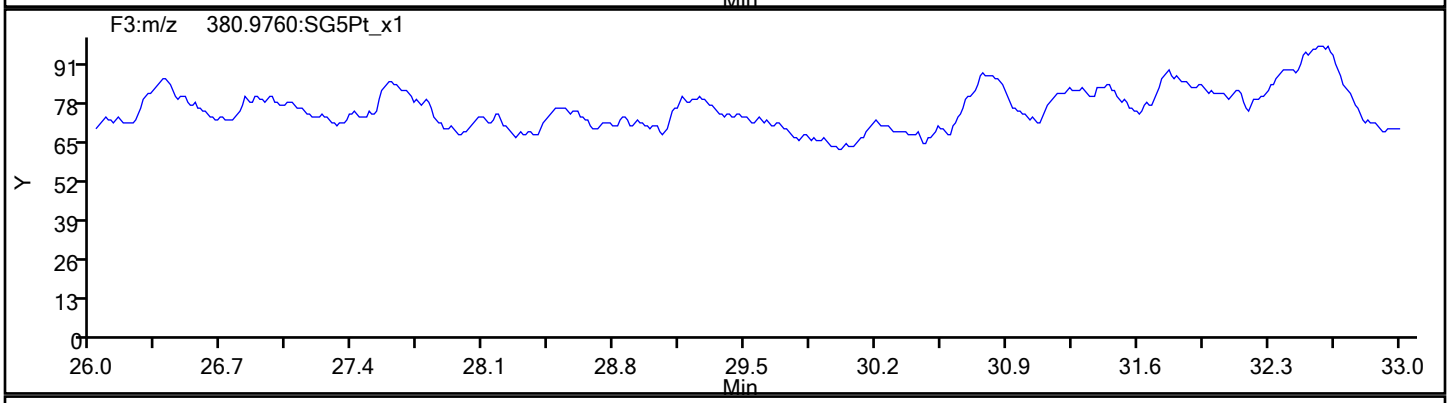

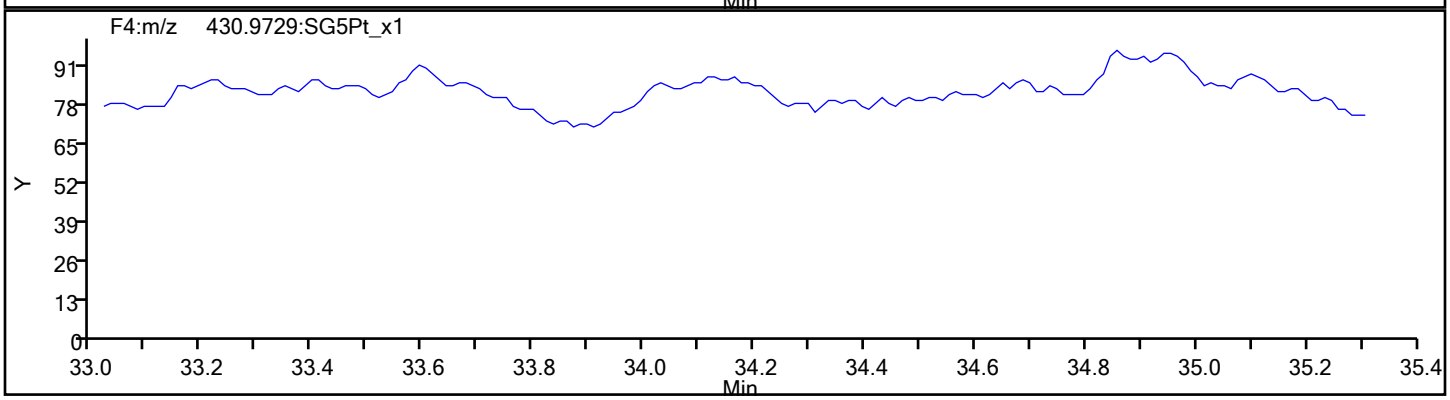

Report Date: 18-Sep-2019 10:22:16 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
Injection Date:	17-Sep-2019 13:03:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

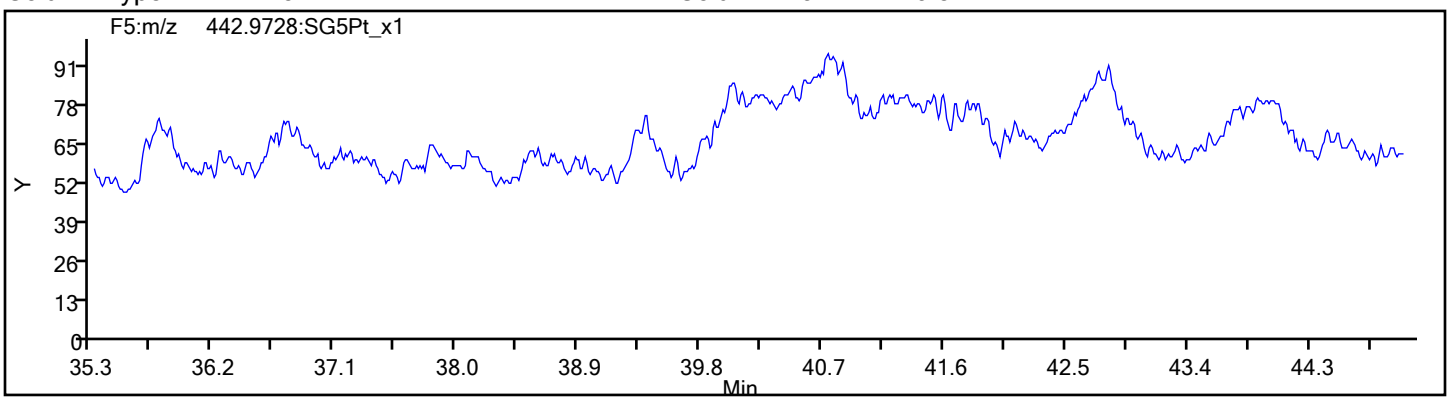

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 17-Sep-2019 13:49:24 ALS Bottle#: 5 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719A CS-3 HRDXNL3_00025
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:19 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:05:30

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.300	48020971	0.78	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.816	69364385	0.79	1.4384	100.4	100.4	0.2642	0.2642	100	
2,3,7,8-TCDF	16.831	1529056	0.76	1.0507	2.098	2.098	0.0285	0.0285	105	
S Total TCDF					2.098	2.098	0.0285	0.0285		
D 13C-2,3,7,8-TCDD	17.497	45389691	0.78	0.9533	99.1	99.1	0.2368	0.2368	99.15	
$ 37Cl4-2,3,7,8-TCDD	17.511	1164531		1.2224	1.984	1.984	0.0211	0.0211	99.19	
2,3,7,8-TCDD	17.511	1022744	0.76	1.1064	2.037	2.037	0.0433	0.0433	102	
S Total TCDD					2.037	2.037	0.0433	0.0433		
D 13C-1,2,3,7,8-PeCDF	21.631	46755351	1.61	1.0286	94.7	94.7	0.2555	0.2555	94.66	
1,2,3,7,8-PeCDF	21.659	5424212	1.59	1.0822	10.7	10.7	0.0895	0.0895	107	
D 13C-2,3,4,7,8-PeCDF	22.927	45184985	1.62	0.9827	95.8	95.8	0.2675	0.2675	95.76	
2,3,4,7,8-PeCDF	22.954	5371777	1.62	1.1032	10.8	10.8	0.0948	0.0948	108	
S Total PeCDF					21.5	21.5	0.0922	0.0922		
D 13C-1,2,3,7,8-PeCDD	23.622	33098301	1.55	0.7481	92.1	92.1	0.1767	0.1767	92.14	
1,2,3,7,8-PeCDD	23.636	3169429	1.60	0.9050	10.6	10.6	0.0951	0.0951	106	
S Total PeCDD					10.6	10.6	0.0951	0.0951		
D 13C-1,2,3,4,7,8-HxCDF	29.736	36418536	0.52	1.1520	101.5	101.5	0.5052	0.5052	102	
1,2,3,4,7,8-HxCDF	29.775	4604517	1.28	1.1973	10.6	10.6	0.1137	0.1137	106	
D 13C-1,2,3,6,7,8-HxCDF	30.002	38486861	0.53	1.2434	99.4	99.4	0.4681	0.4681	99.40	
1,2,3,6,7,8-HxCDF	30.028	4889511	1.24	1.1807	10.8	10.8	0.0994	0.0994	108	
D 13C-2,3,4,6,7,8-HxCDF	31.040	35886090	0.52	1.1720	98.3	98.3	0.4966	0.4966	98.34	
2,3,4,6,7,8-HxCDF	31.053	4551517	1.24	1.2116	10.5	10.5	0.0696	0.0696	105	
D 13C-1,2,3,7,8,9-HxCDF	31.945	33293009	0.51	1.0655	100.4	100.4	0.5463	0.5463	100	
1,2,3,7,8,9-HxCDF	31.958	4319986	1.26	1.2451	10.4	10.4	0.0644	0.0644	104	
S Total HxCDF					42.2	42.2	0.0868	0.0868		
* 13C-1,2,3,7,8,9-HxCDD	31.746	31138249	1.26	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.253	23739455	1.30	0.7812	97.6	97.6	0.5185	0.5185	97.59	
1,2,3,4,7,8-HxCDD	31.280	2685740	1.29	1.1088	10.2	10.2	0.0768	0.0768	102	
D 13C-1,2,3,6,7,8-HxCDD	31.386	27633426	1.27	0.9175	96.7	96.7	0.4415	0.4415	96.73	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.399	3184984	1.24	1.0814	10.7	10.7	0.0746	0.0746	107	
1,2,3,7,8,9-HxCDD	31.759	3374687	1.23	1.2123	10.8	10.8	0.0684	0.0684	108	
S Total HxCDD					31.7	31.7	0.0733	0.0733		
D 13C-1,2,3,4,6,7,8-HpCDF	33.459	25015698	0.45	0.8628	93.1	93.1	1.693	1.693	93.12	
1,2,3,4,6,7,8-HpCDF	33.472	4106440	1.02	1.5555	10.6	10.6	0.1585	0.1585	106	
D 13C-1,2,3,4,7,8,9-HpCDF	34.505	23641905	0.45	0.7991	95.0	95.0	1.828	1.828	95.02	
1,2,3,4,7,8,9-HpCDF	34.517	3498041	1.02	1.3862	10.7	10.7	0.2064	0.2064	107	
S Total HpCDF					21.2	21.2	0.1824	0.1824		
D 13C-1,2,3,4,6,7,8-HpCDD	34.225	25630510	1.05	0.8739	94.2	94.2	0.7704	0.7704	94.19	
1,2,3,4,6,7,8-HpCDD	34.237	2534205	1.08	0.9316	10.6	10.6	0.1098	0.1098	106	
S Total HpCDD					10.6	10.6	0.1098	0.1098		
D 13C-OCDD	36.481	43388861	0.89	0.7744	179.9	179.9	0.3226	0.3226	89.97	
OCDF	36.576	5776792	0.88	1.2596	21.1	21.1	0.0659	0.0659	106	
OCDD	36.493	5082981	0.91	1.0621	22.1	22.1	0.0435	0.0435	110	

Reagents:

HRDXNL3_00025 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 17-Sep-2019 13:49:24 ALS Bottle#: 5 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719A CS-3 HRDXNL3_00025
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:19 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:05:30

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.300	17.303	0		20974964	5440414	6907	17267	788		
333.9339	17.300	17.303	0		27046007	7081542	4401	11002	1609	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.816	16.810	0	0.972	30651979	7996237	9530	23825	839		
317.9389	16.816	16.810	0	0.972	38712406	9934901	9507	23767	1045	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.831	16.825	0	1.001	662231	175822	896	2240	196		
305.8987	16.816	16.825	-1	1.000	866825	219868	1254	3135	175	0.76(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.497	17.490	0	1.011	19932104	4784387	6907	17267	693		
333.9339	17.497	17.490	0	1.011	25457587	6033501	4401	11002	1371	0.78(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.511	17.505	0	1.012	1164531	282528	1292	3230	219		
2,3,7,8-TCDD											
319.8965	17.511	17.505	0	1.001	441524	105506	1328	3320	79		
321.8936	17.511	17.505	0	1.001	581220	143982	745	1862	193	0.76(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	21.631	21.637	0	1.250	28830075	5337132	7805	19512	684		
353.8970	21.631	21.637	0	1.250	17925276	3287495	5360	13400	613	1.61(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.659	21.661	0	1.001	3332281	606608	1384	3460	438		
341.8567	21.659	21.661	0	1.001	2091931	384200	1956	4890	196	1.59(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	22.927	22.932	0	1.325	27936496	4963352	7805	19512	636		
353.8970	22.927	22.932	0	1.325	17248489	3016941	5360	13400	563	1.62(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.954	22.954	0	1.001	3318716	579906	1384	3460	419		
341.8567	22.954	22.954	0	1.001	2053061	350098	1956	4890	179	1.62(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.622	23.625	0	1.365	20140801	3312973	3677	9192	901		
369.8919	23.622	23.625	0	1.365	12957500	2145657	2944	7360	729	1.55(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.636	23.649	-1	1.001	1948199	306163	1167	2917	262		
357.8516	23.636	23.649	-1	1.001	1221230	203548	713	1782	285	1.60(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.736	29.754	-1	0.937	12434463	1670692	6140	15350	272		
385.8610	29.736	29.754	-1	0.937	23984073	3285602	11505	28762	286	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.775	29.789	-1	1.001	2582089	364887	1448	3620	252		
375.8178	29.775	29.789	-1	1.001	2022428	279399	1250	3125	224	1.28(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.002	30.015	-1	0.945	13305598	1990616	6140	15350	324		
385.8610	30.002	30.015	-1	0.945	25181263	3755911	11505	28762	326	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.028	30.039	-1	1.001	2703771	385416	1448	3620	266		
375.8178	30.028	30.039	-1	1.001	2185740	311020	1250	3125	249	1.24(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.040	31.043	0	0.978	12200251	2715531	6140	15350	442		
385.8610	31.040	31.043	0	0.978	23685839	5277600	11505	28762	459	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.053	31.059	0	1.000	2519385	561452	1448	3620	388		
375.8178	31.053	31.059	0	1.000	2032132	450929	1250	3125	361	1.24(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.945	31.942	0	1.006	11294314	2854603	6140	15350	465		
385.8610	31.945	31.942	0	1.006	21998695	5560445	11505	28762	483	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.958	31.956	0	1.000	2410054	592393	1448	3620	409		
375.8178	31.958	31.956	0	1.000	1909932	473961	1250	3125	379	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.746	31.748	0		17348498	4270052	6927	17317	616		
403.8529	31.746	31.748	0		13789751	3309146	5354	13385	618	1.26(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.253	31.261	0	0.984	13398901	3308138	6927	17317	478		
403.8529	31.266	31.261	0	0.985	10340554	2572354	5354	13385	480	1.30(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.280	31.280	0	1.001	1512390	375482	976	2440	385		
391.8127	31.280	31.280	0	1.001	1173350	295553	1027	2567	288	1.29(1.05-1.43)	

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Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.386	31.383	0	0.989	15440618	3468444	6927	17317	501		
403.8529	31.386	31.383	0	0.989	12192808	2735657	5354	13385	511	1.27(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.399	31.402	0	1.000	1761134	403725	976	2440	414		
391.8127	31.399	31.402	0	1.000	1423850	307508	1027	2567	299	1.24(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.759	31.761	0	1.016	1859918	455161	976	2440	466		
391.8127	31.759	31.761	0	1.016	1514769	367872	1027	2567	358	1.23(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.459	33.457	0	1.054	7716742	2566124	14405	36012	178		
419.8220	33.459	33.457	0	1.054	17298956	5707303	29871	74677	191	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.472	33.469	0	1.000	2075359	698893	3992	9980	175		
409.7789	33.472	33.469	0	1.000	2031081	642835	4168	10420	154	1.02(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.505	34.502	0	1.087	7363985	2239195	14405	36012	155		
419.8220	34.505	34.502	0	1.087	16277920	4892131	29871	74677	164	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.517	34.509	0	1.000	1766633	514034	3992	9980	129		
409.7789	34.505	34.509	0	1.000	1731408	520165	4168	10420	125	1.02(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.225	34.227	0	1.078	13114345	4054784	9475	23687	428		
437.8140	34.225	34.227	0	1.078	12516165	3859079	10936	27340	353	1.05(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.237	34.235	0	1.000	1317899	403714	1570	3925	257		
425.7737	34.237	34.235	0	1.000	1216306	375677	1669	4172	225	1.08(0.88-1.20)	
13C-OCDD											
469.7779	36.481	36.486	0	1.149	20384484	5322735	3975	9937	1339		
471.7750	36.481	36.486	0	1.149	23004377	6112123	3599	8997	1698	0.89(0.76-1.02)	
OCDF											
441.7428	36.576	36.581	0	1.003	2698881	719825	815	2037	883		
443.7399	36.576	36.581	0	1.003	3077911	834185	1083	2707	770	0.88(0.76-1.02)	
OCDD											
457.7377	36.493	36.497	0	1.000	2421846	617373	541	1352	1141		
459.7348	36.493	36.497	0	1.000	2661135	682611	516	1290	1323	0.91(0.76-1.02)	

Reagents:

HRDXNL3_00025 Amount Added: 1.00 Units: mL

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Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d		
Injection Date:	17-Sep-2019 13:49:24	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

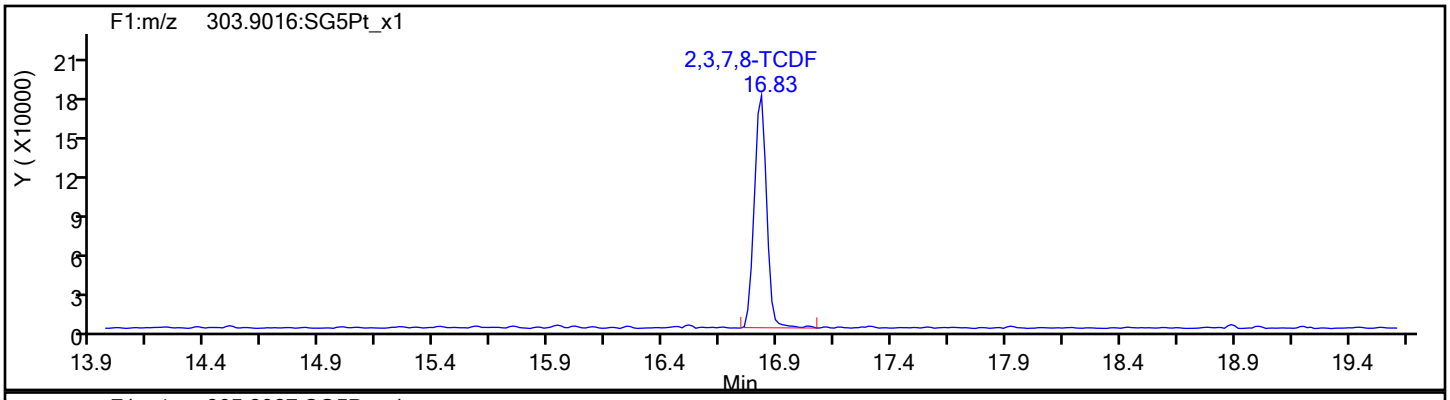

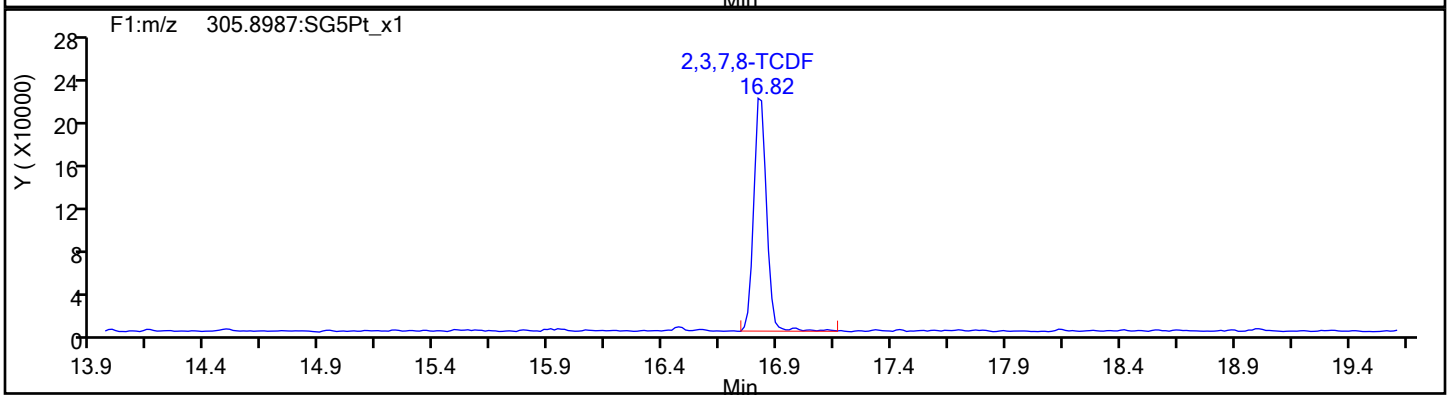

TCDF Standards

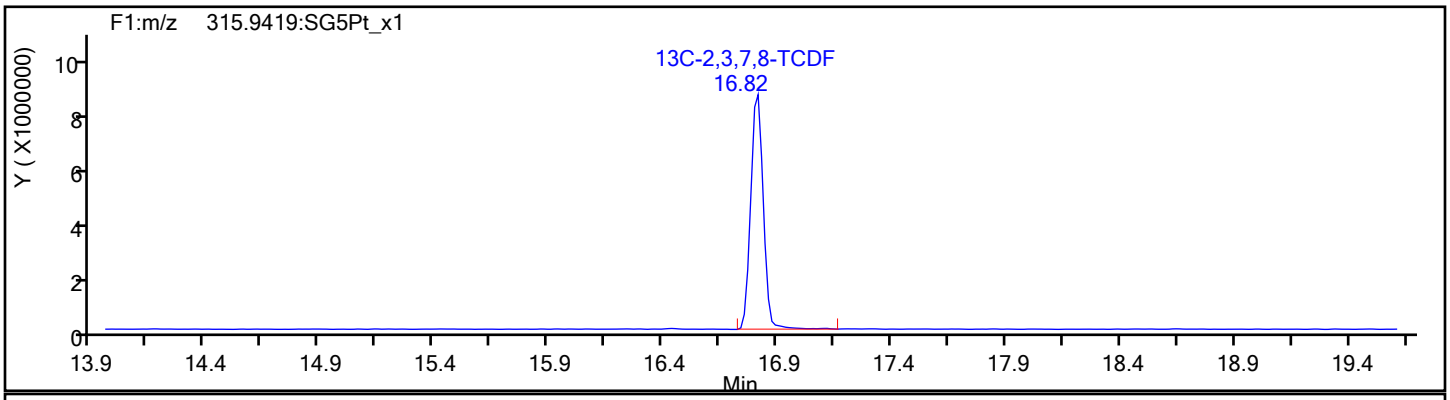

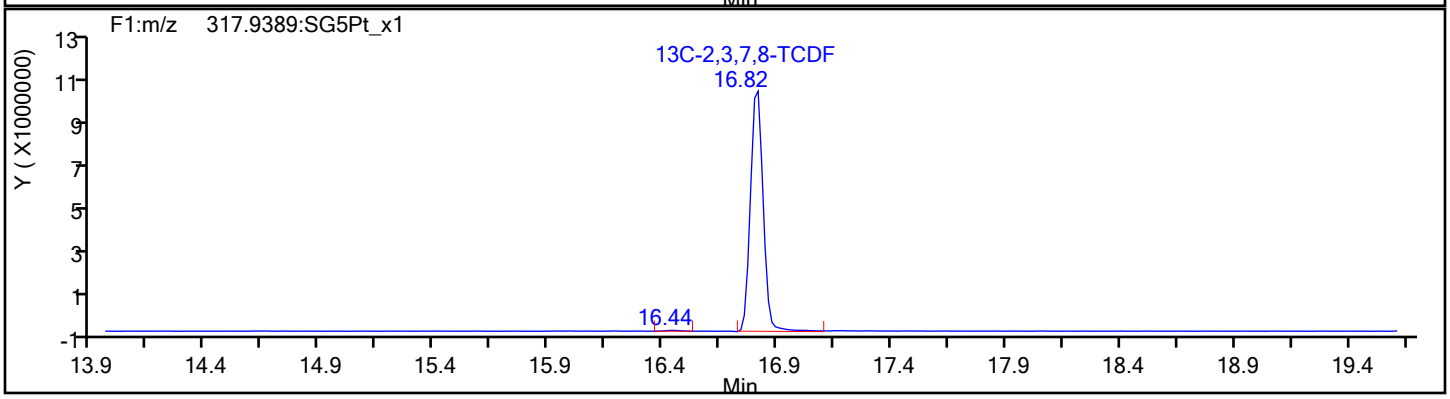

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

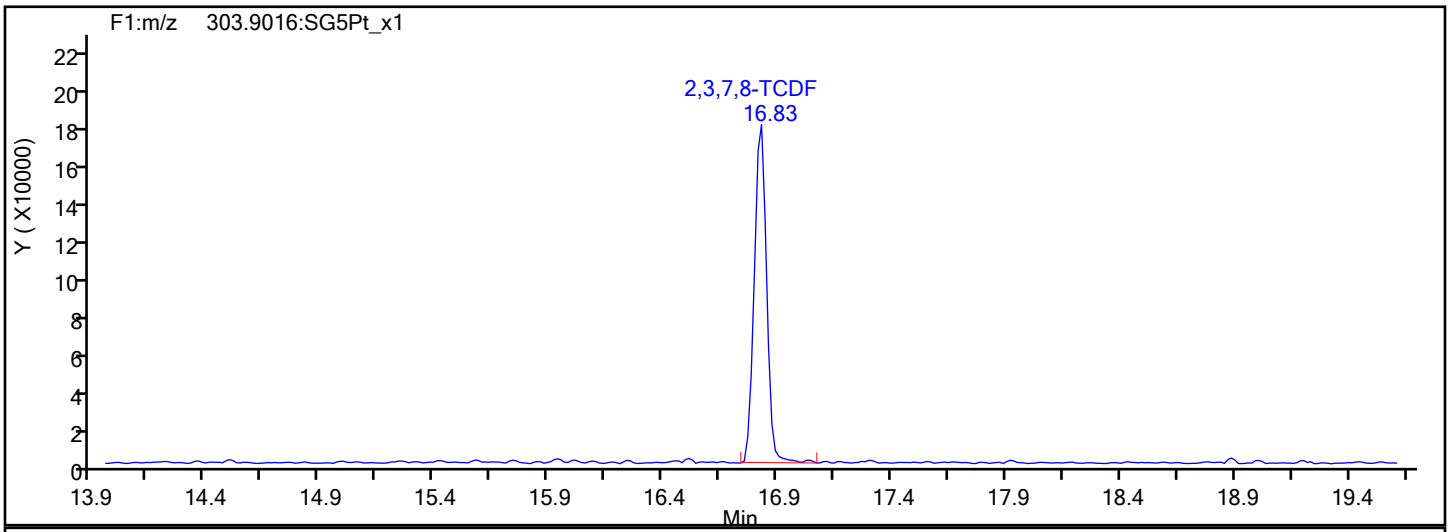

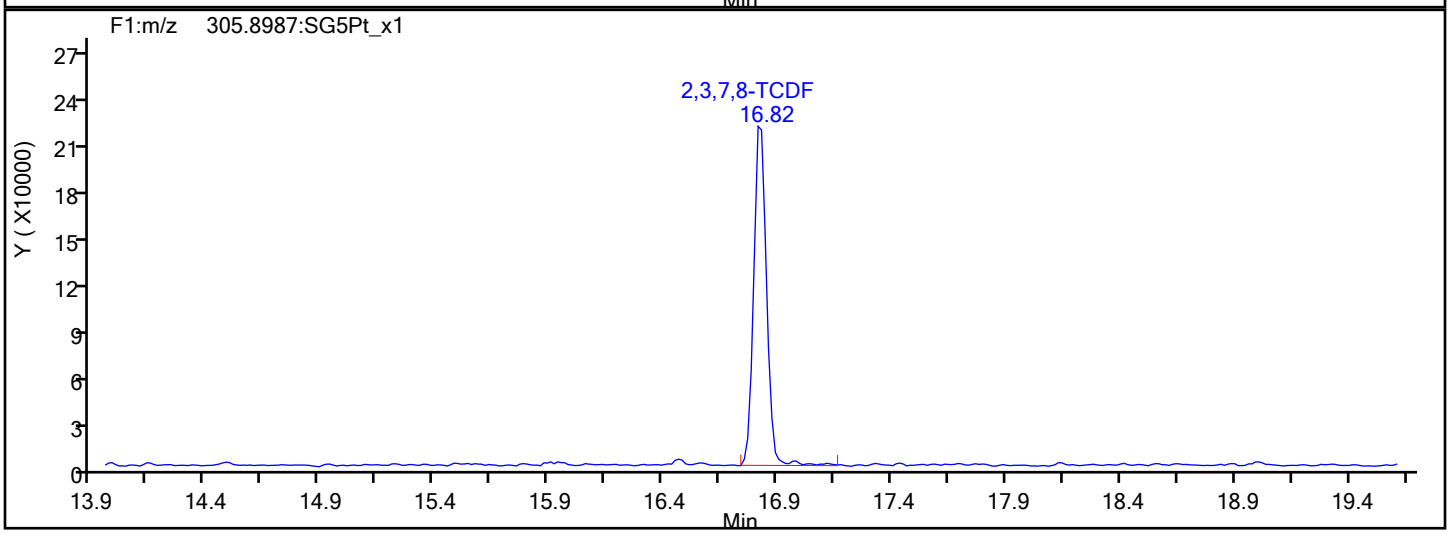

TCDF Interference Mass

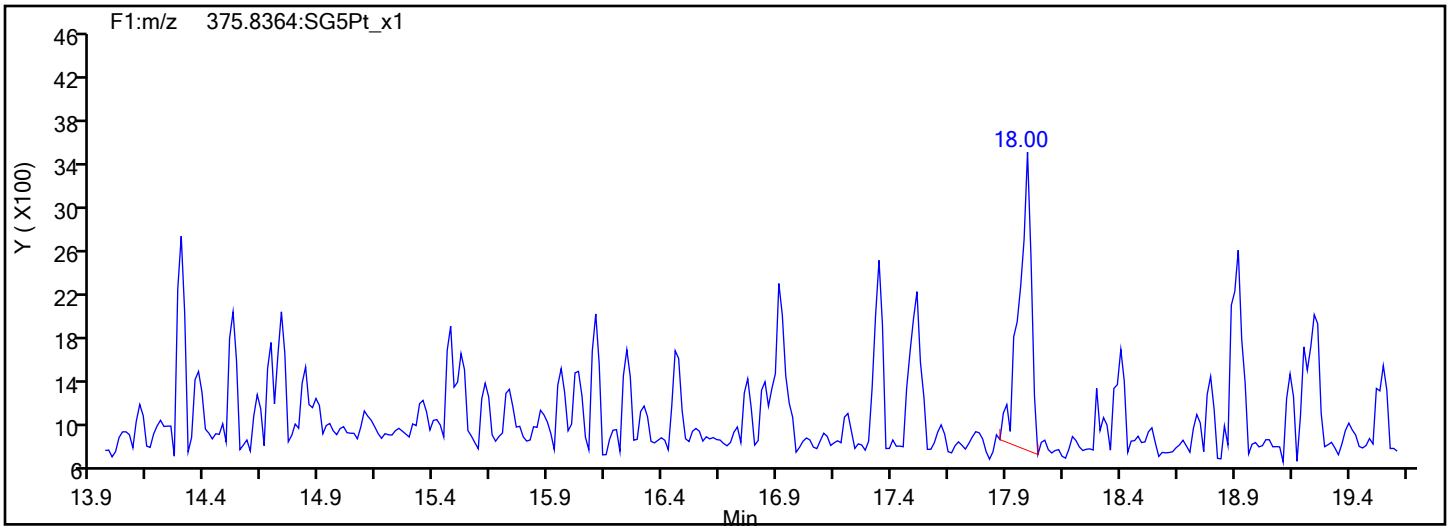

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

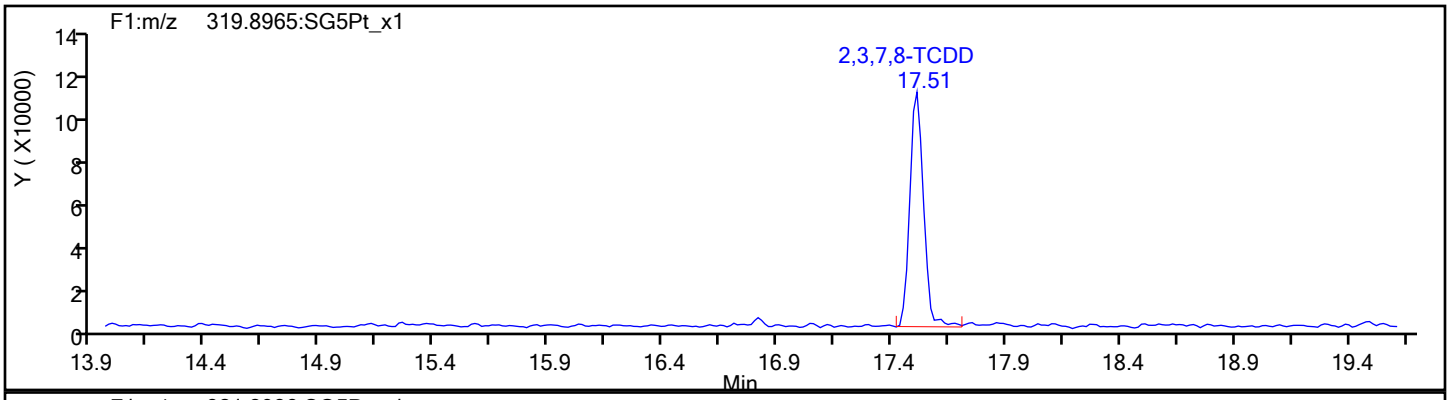

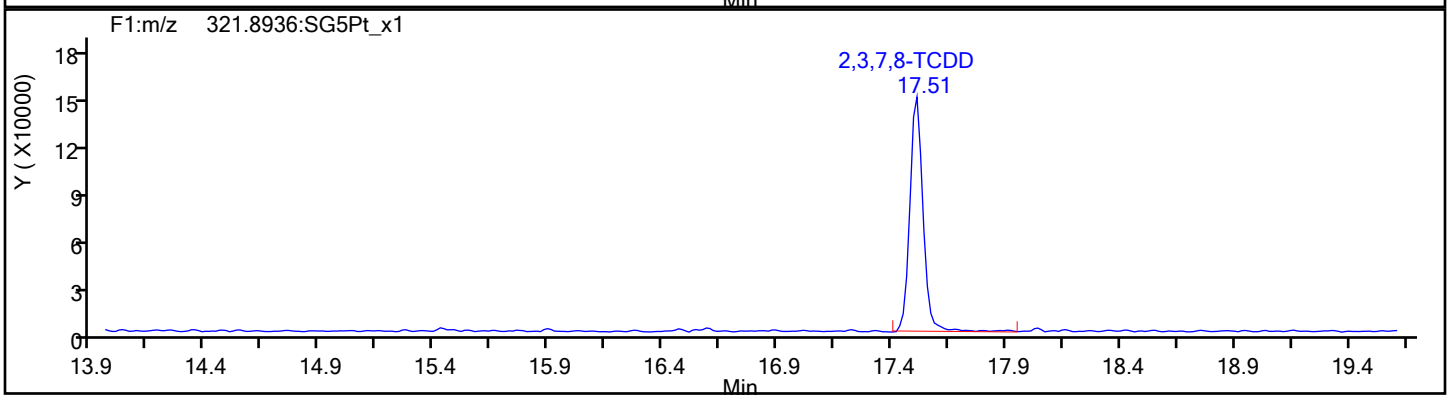

TCDD Standards

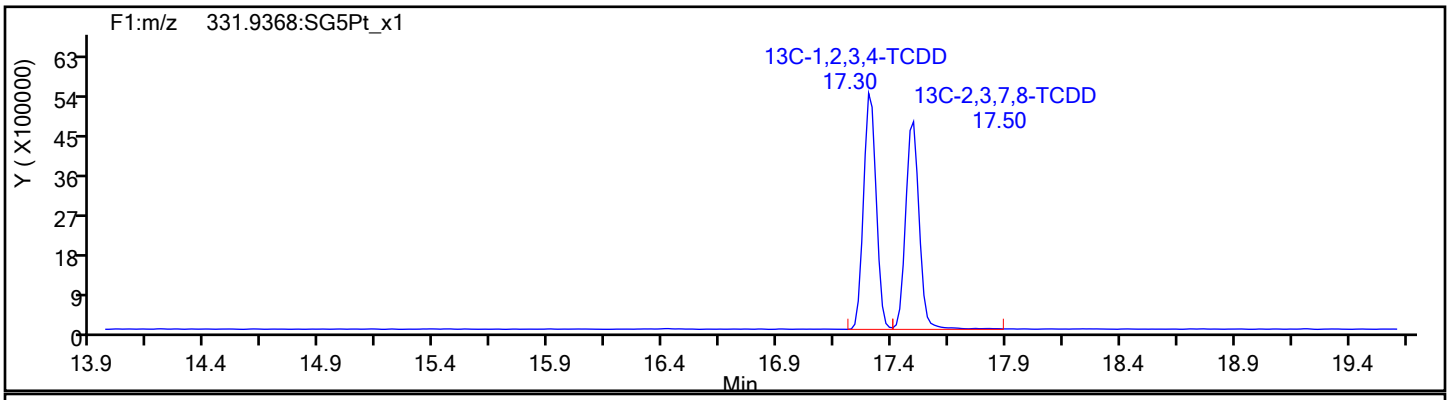

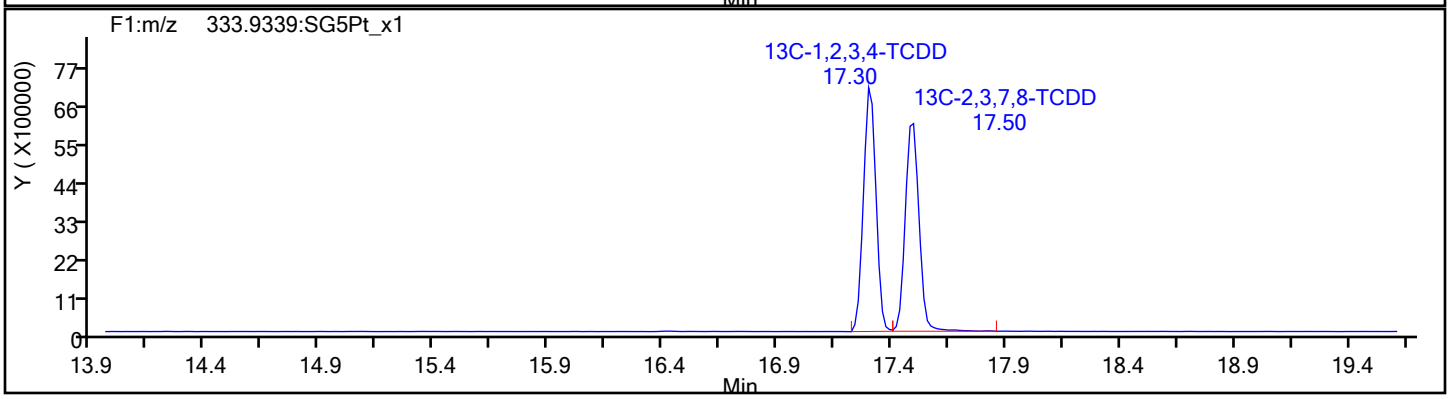

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

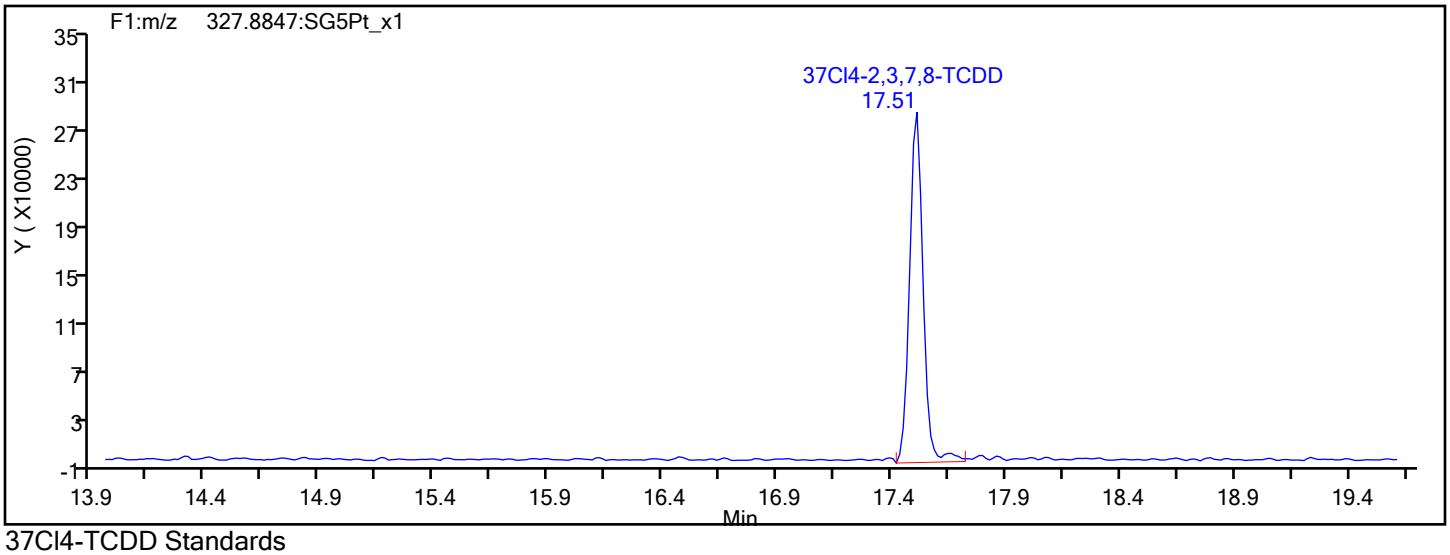

37Cl4-TCDD Standards

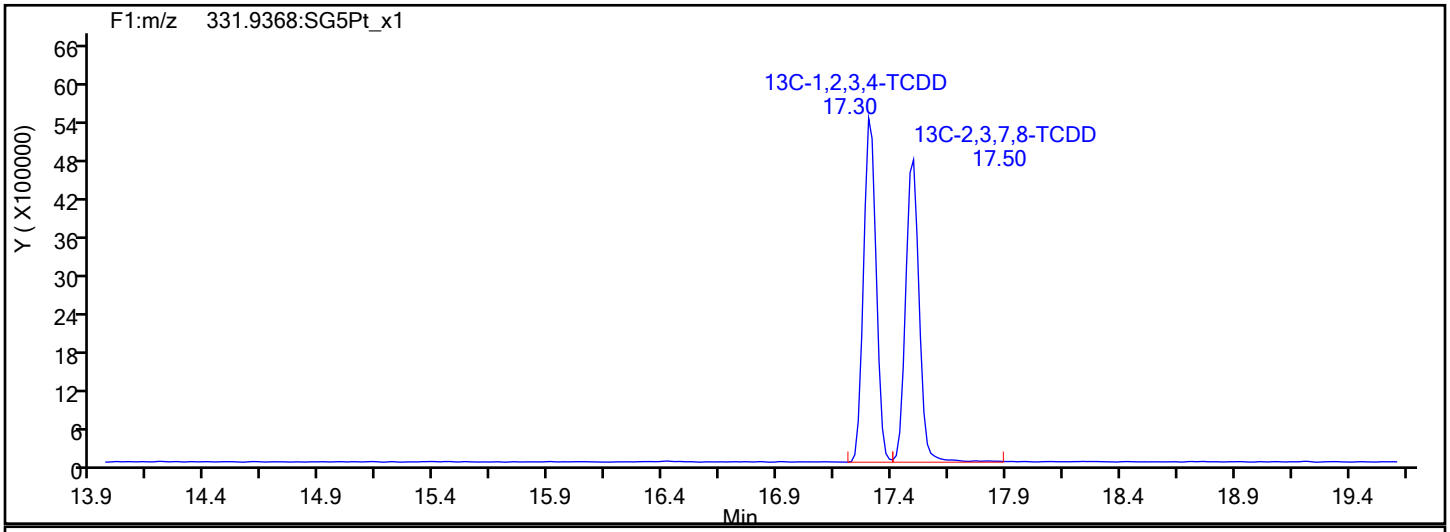

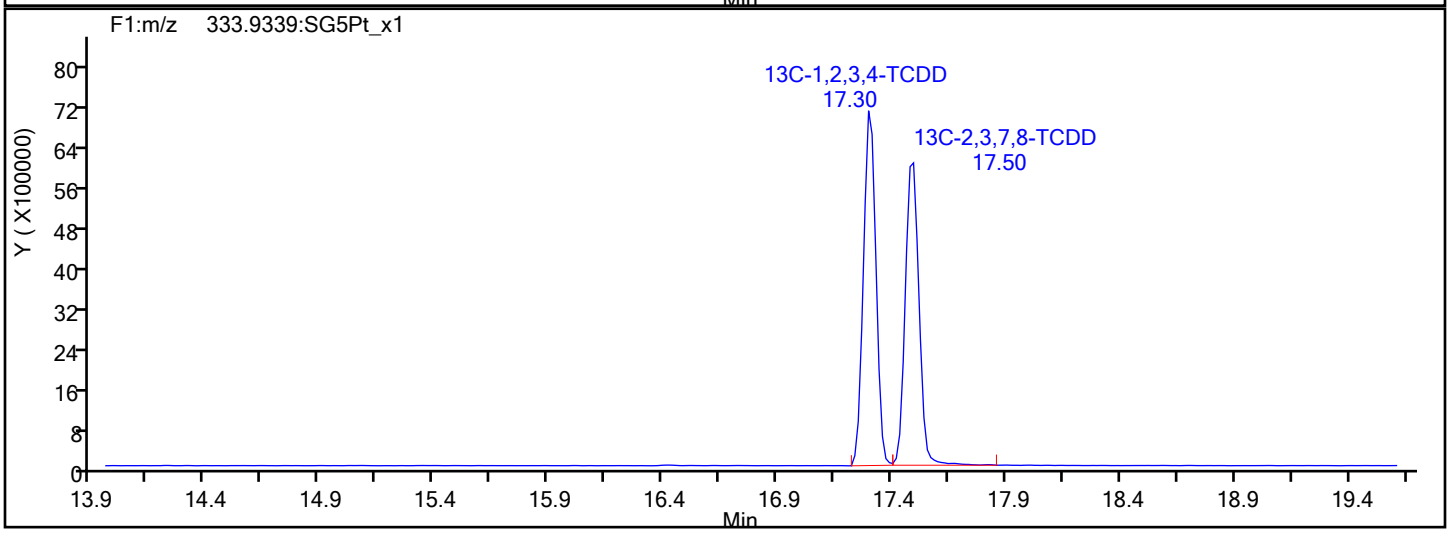

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

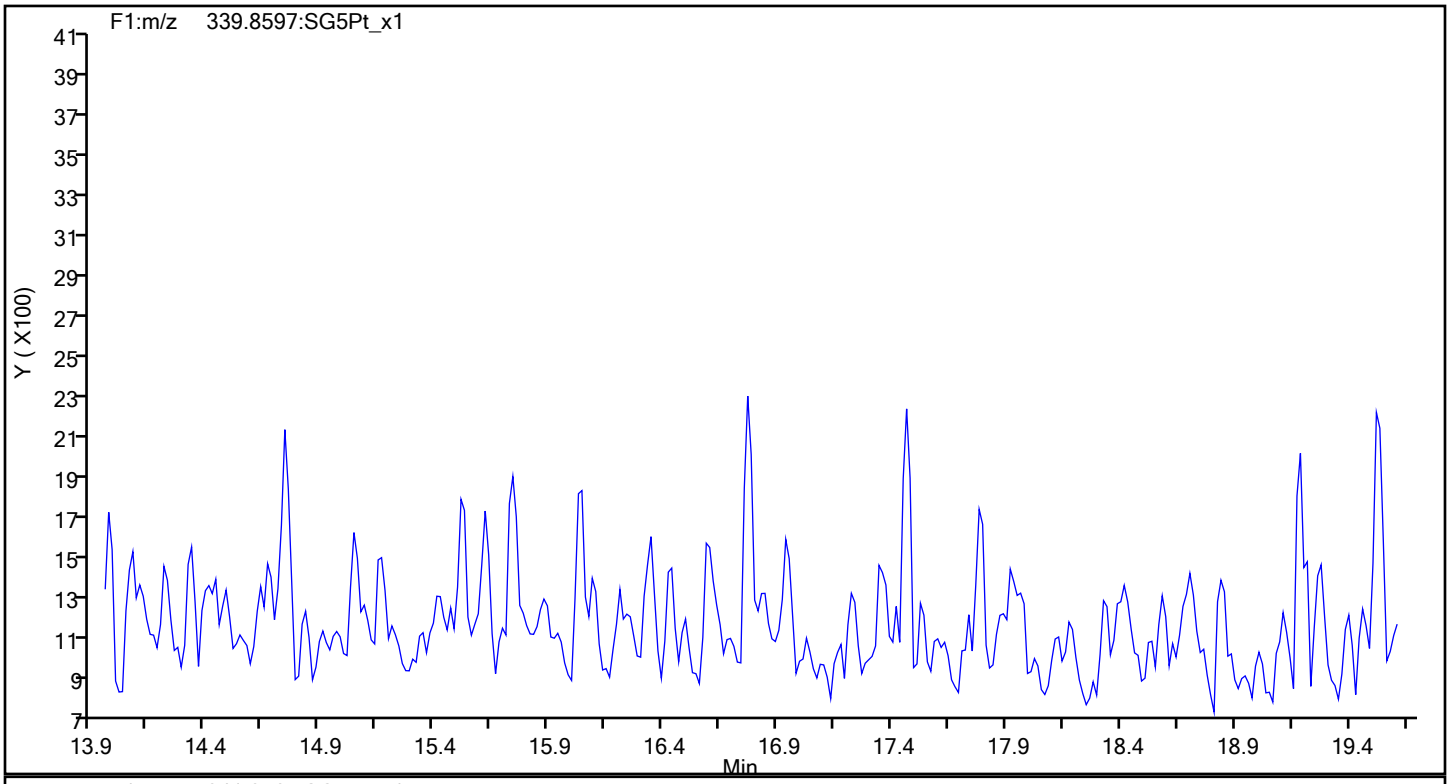

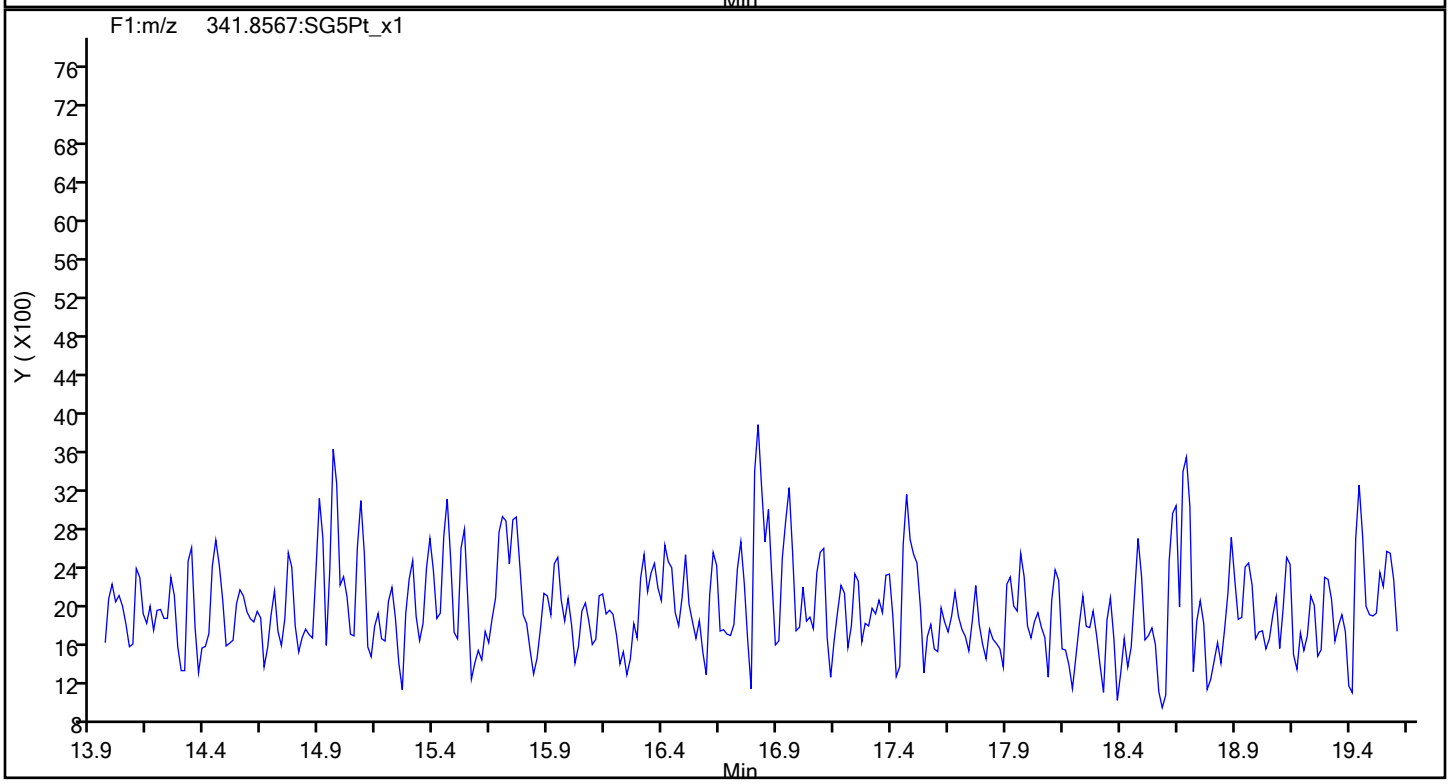

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

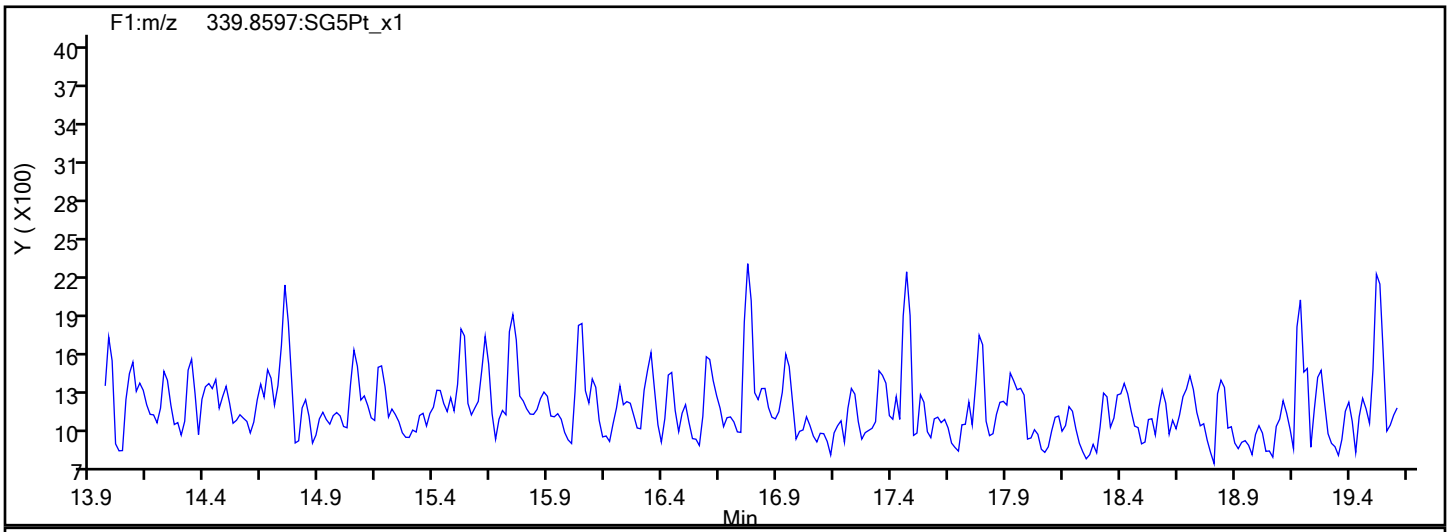

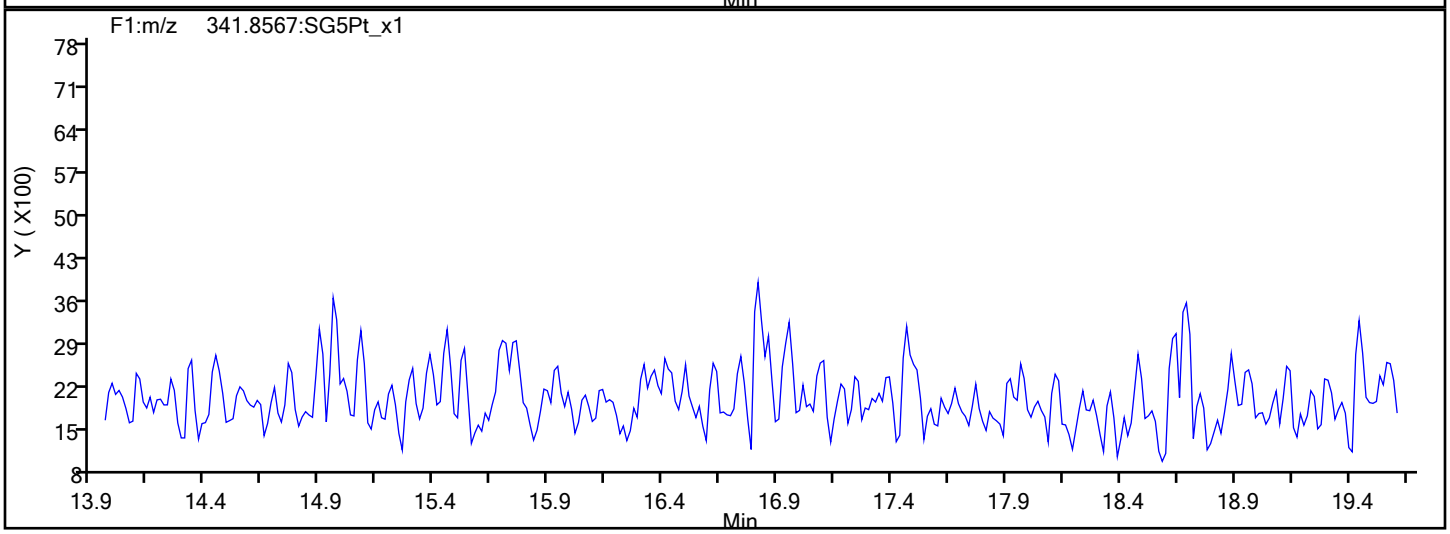

F1 PeCDFs Interference Mass

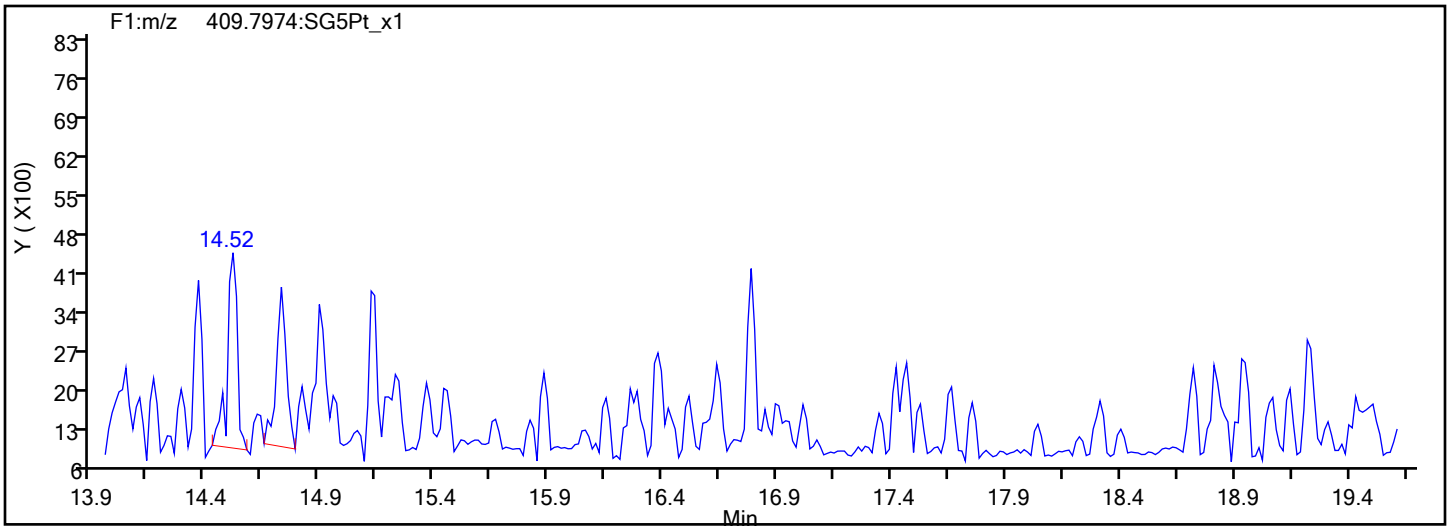

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

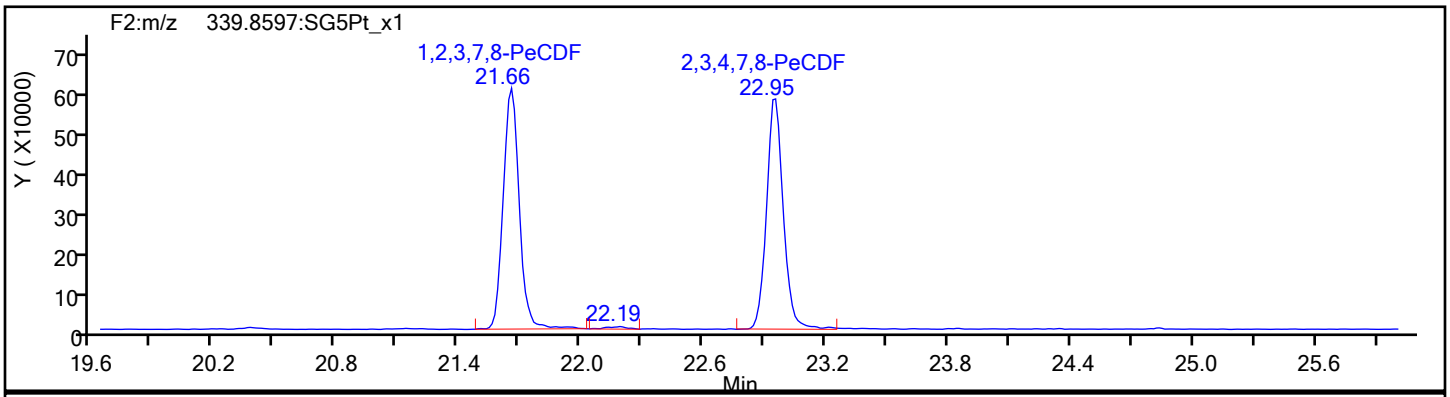

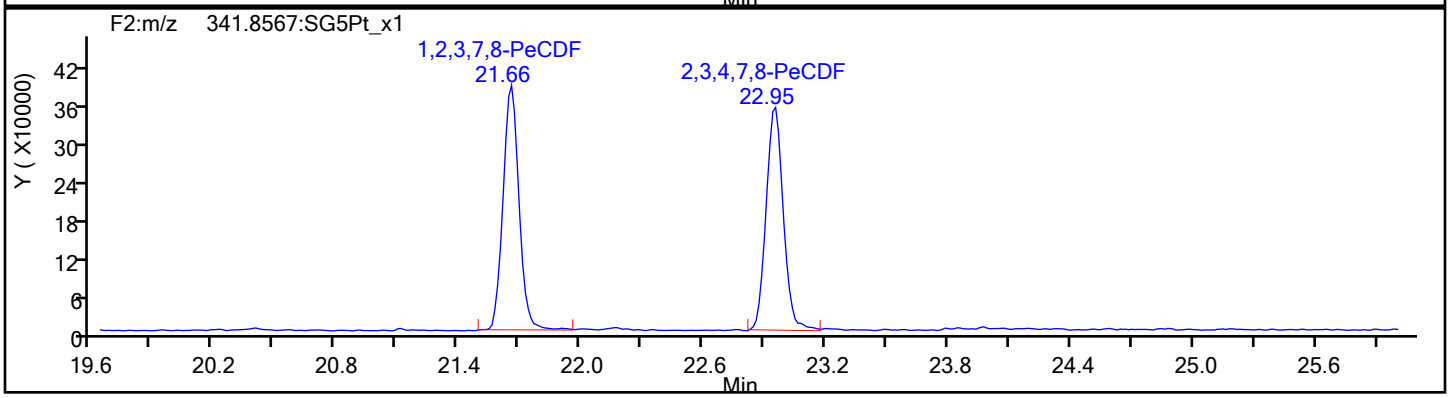

PeCDF Standards

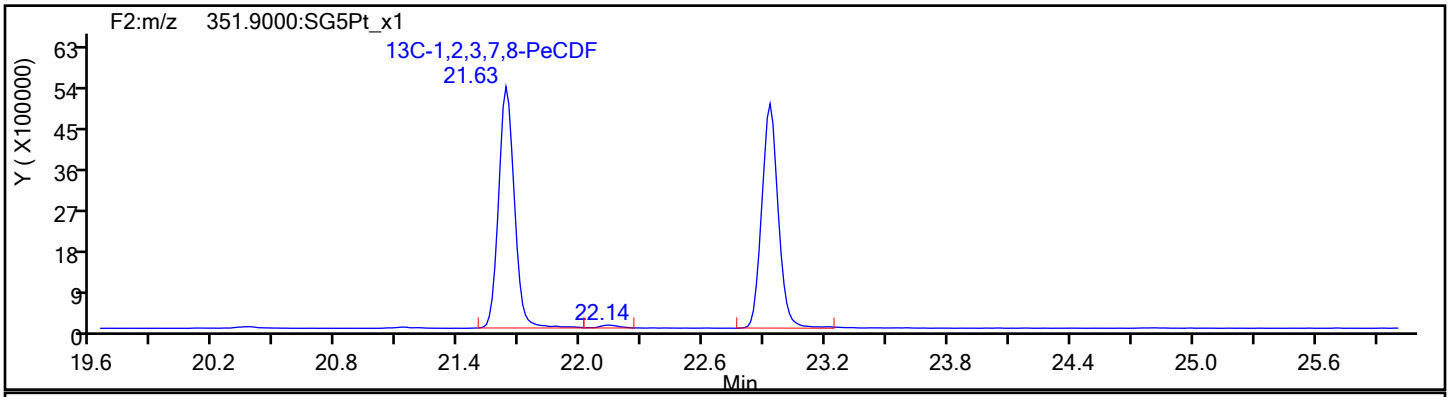

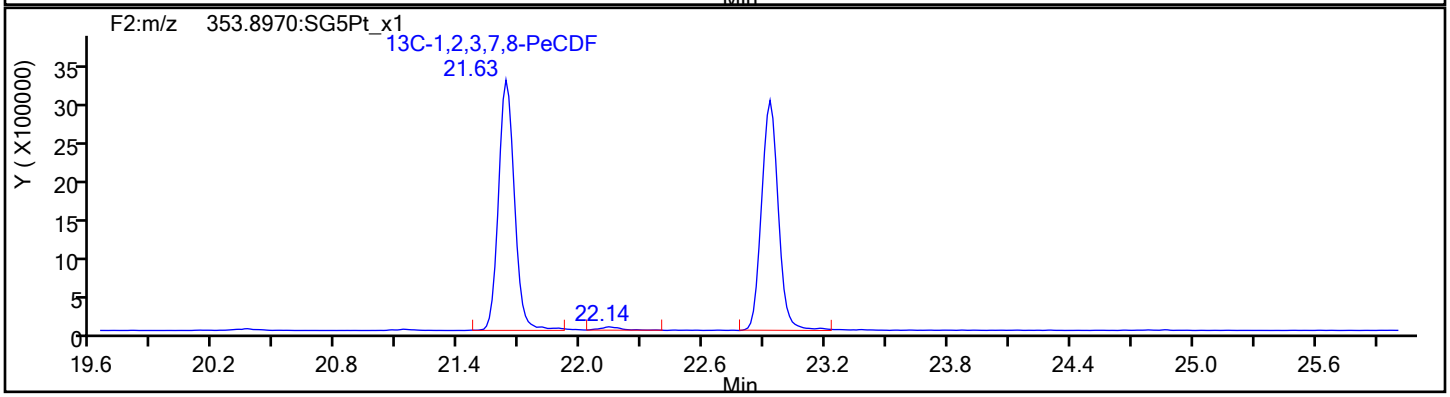

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Eurofins TestAmerica, Sacramento

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PeCDF

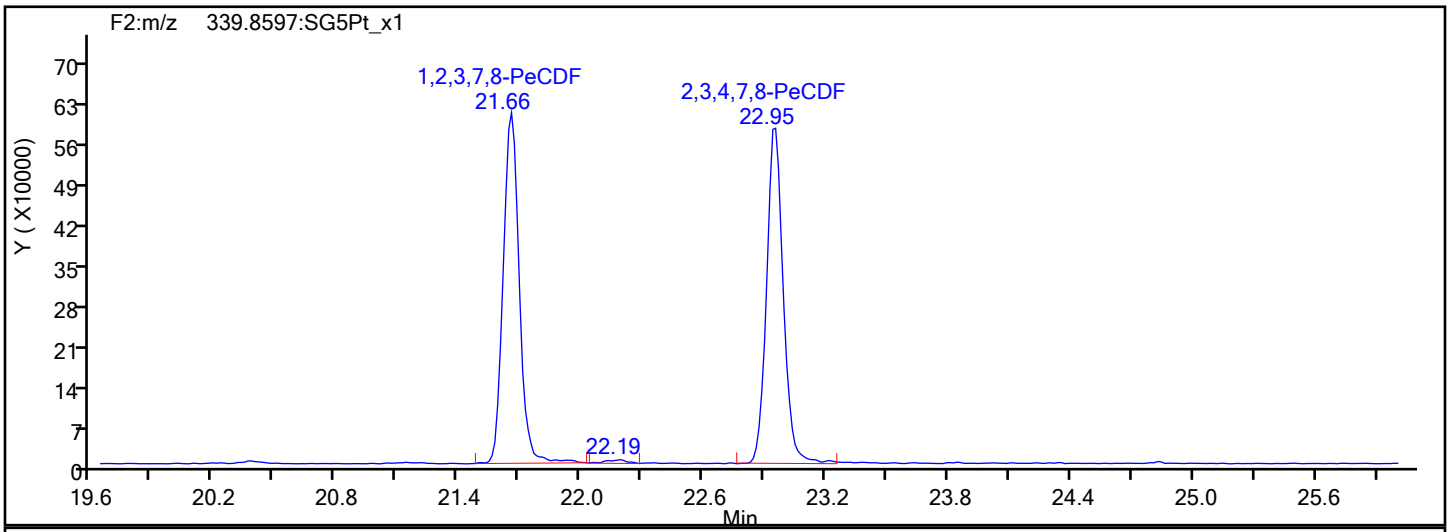

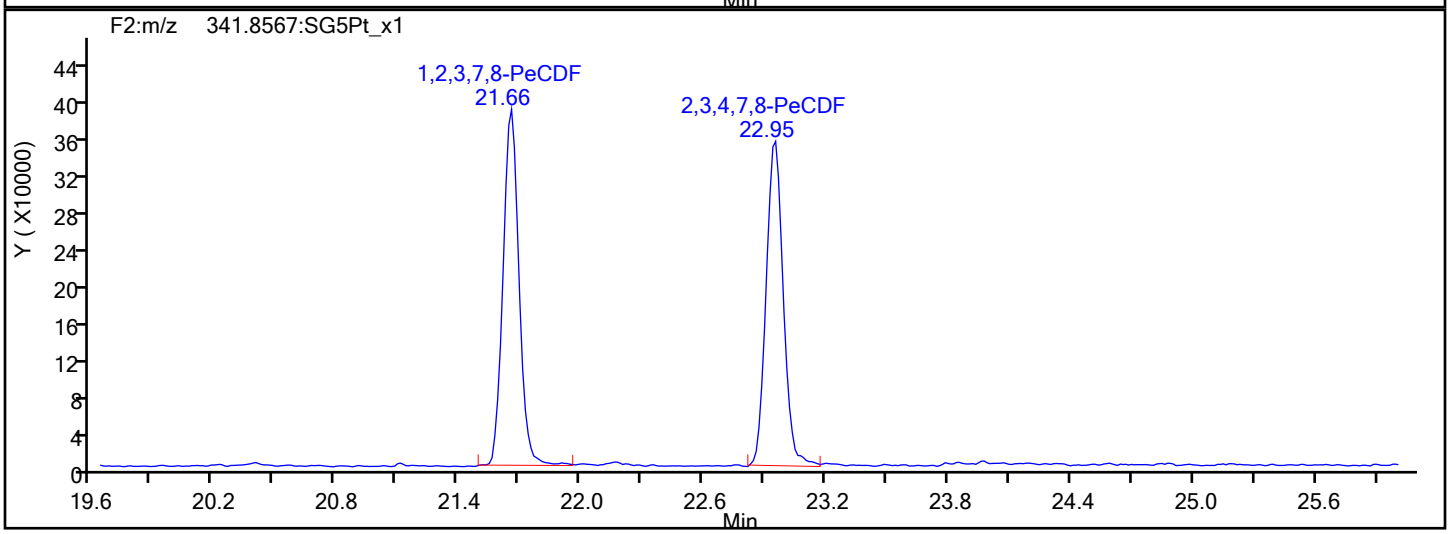

PeCDF Interference Mass

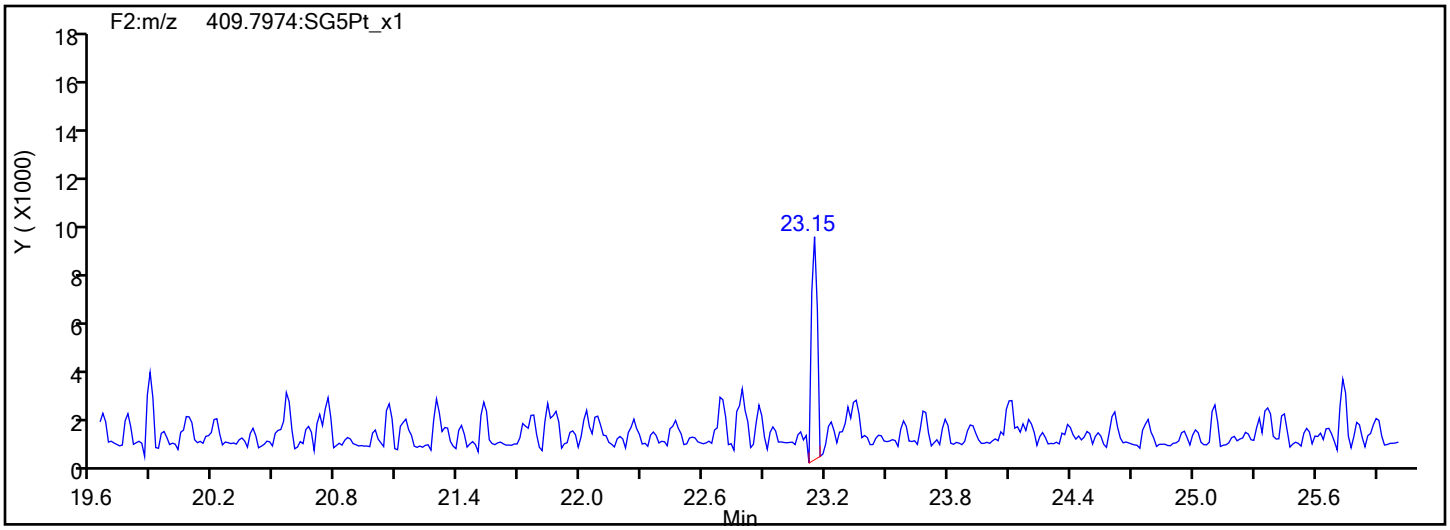

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Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

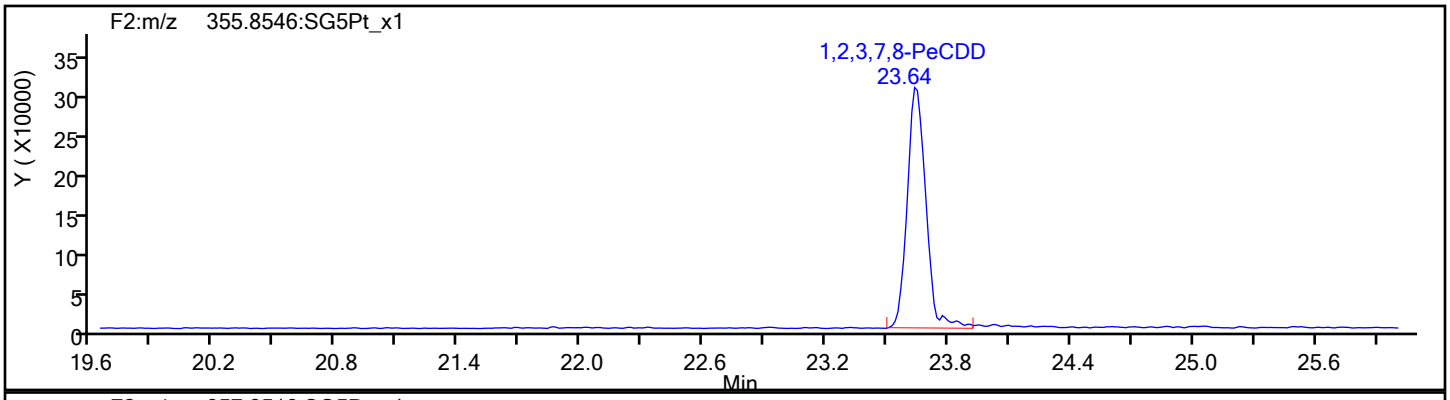

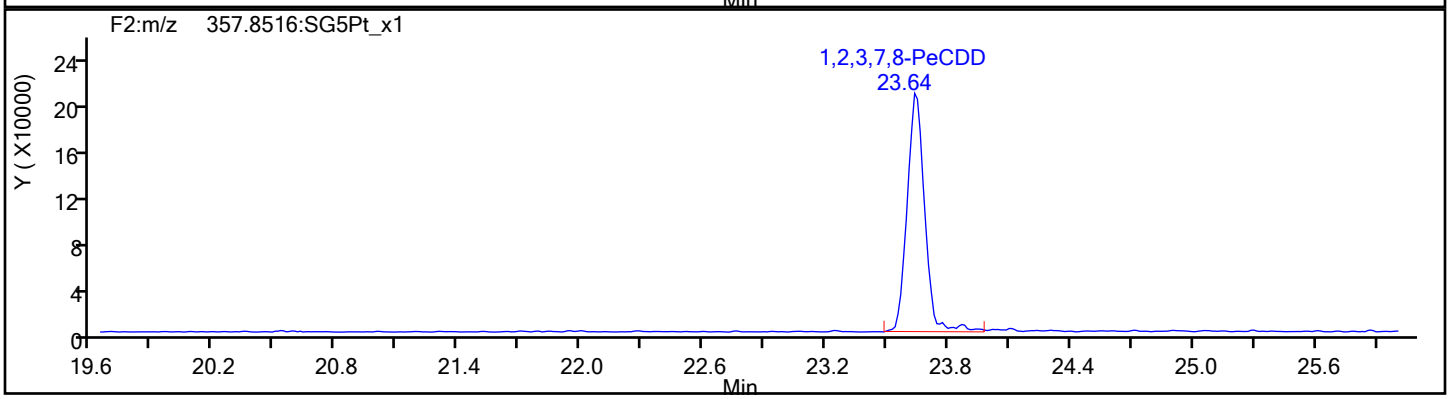

PeCDD Standards

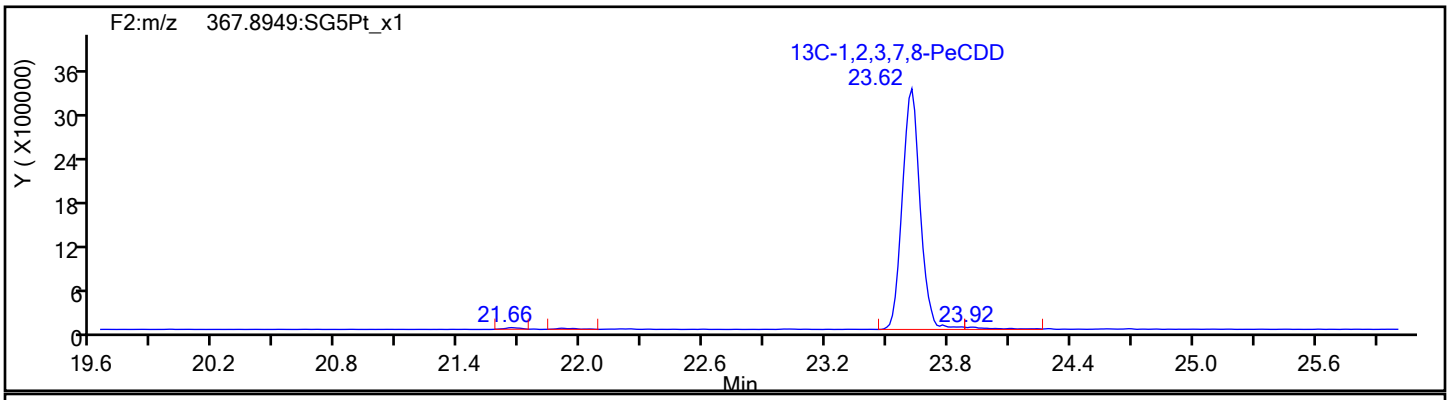

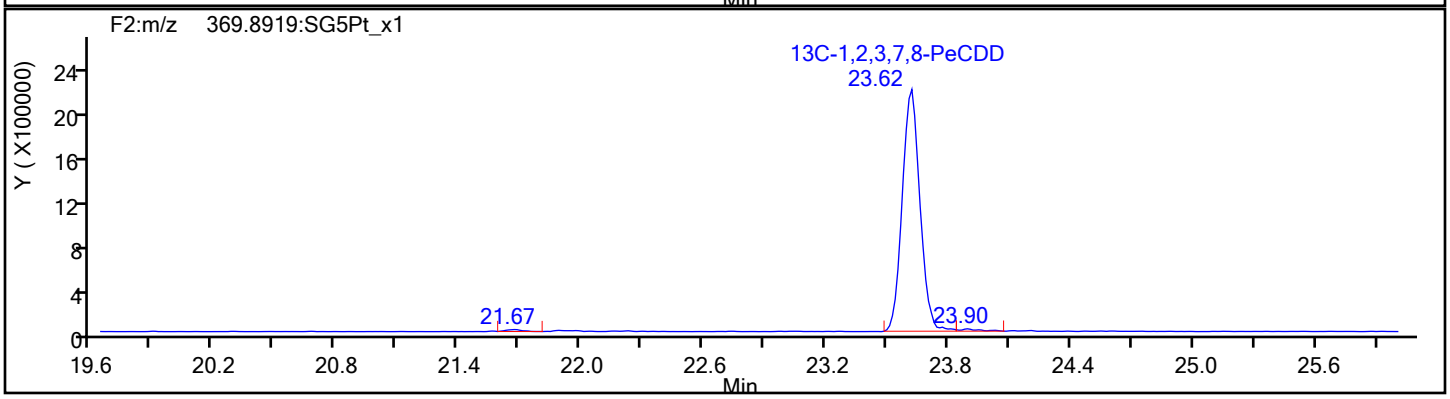

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

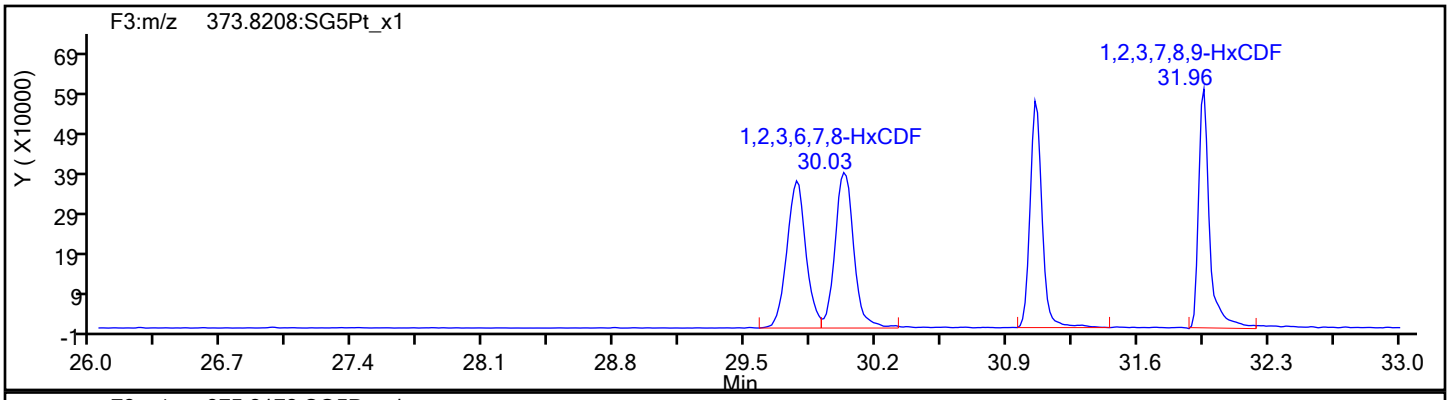

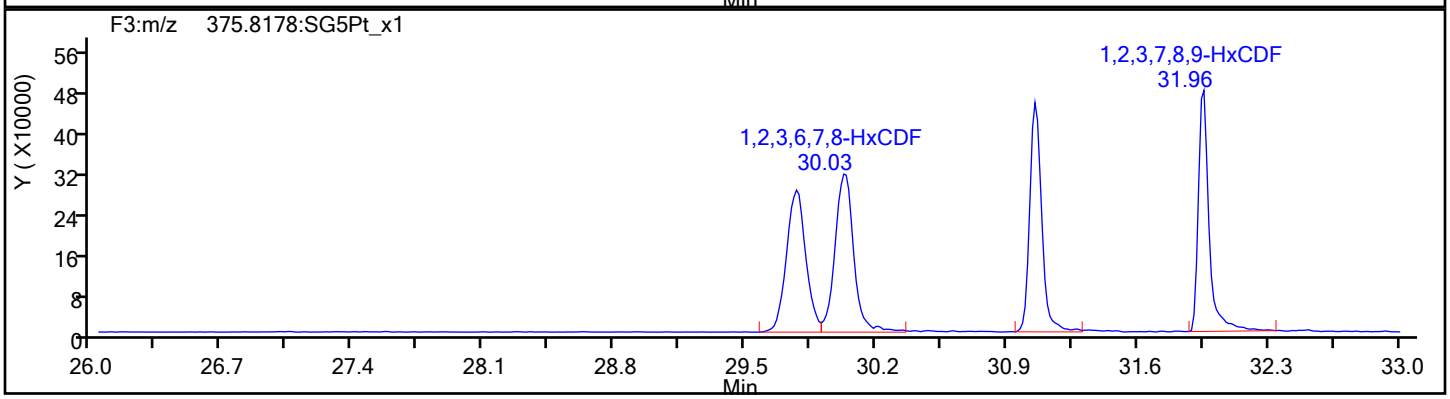

HxCDF Standards

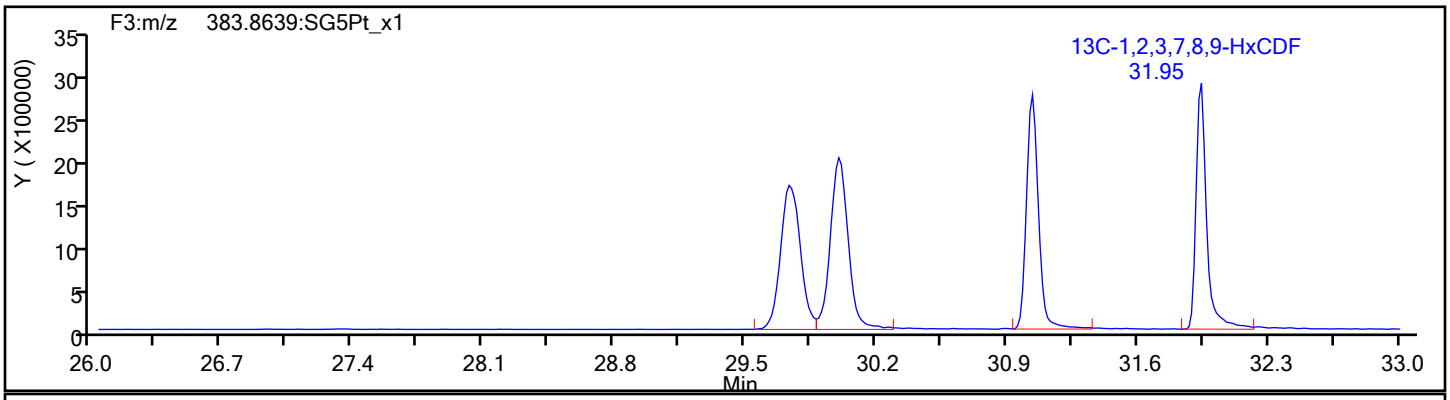

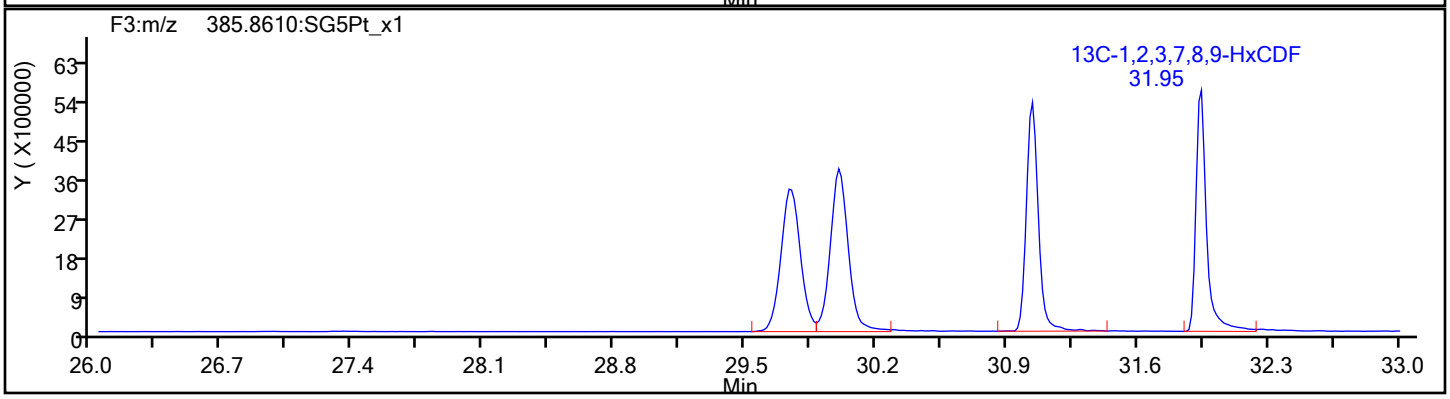

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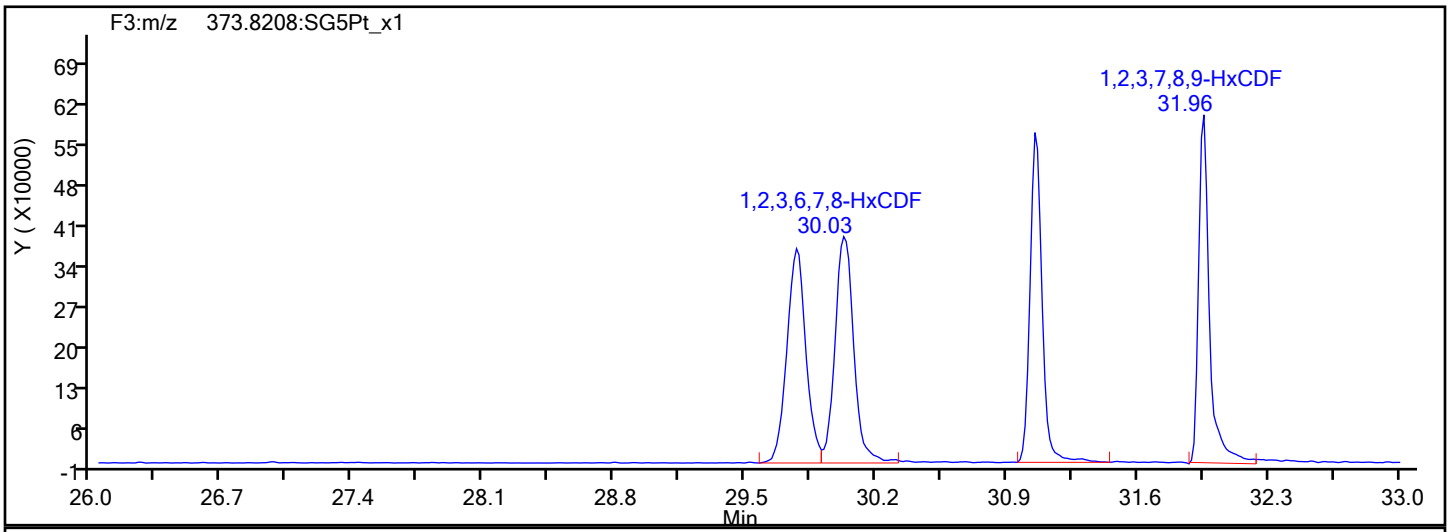

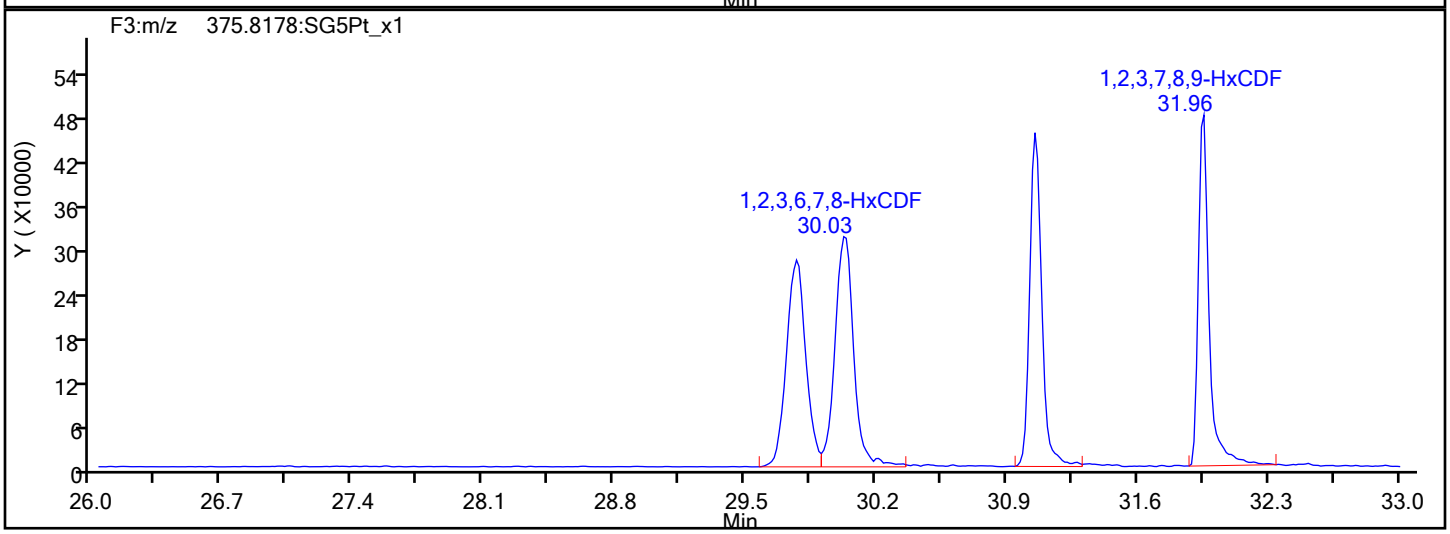

HxCDF Interference Mass

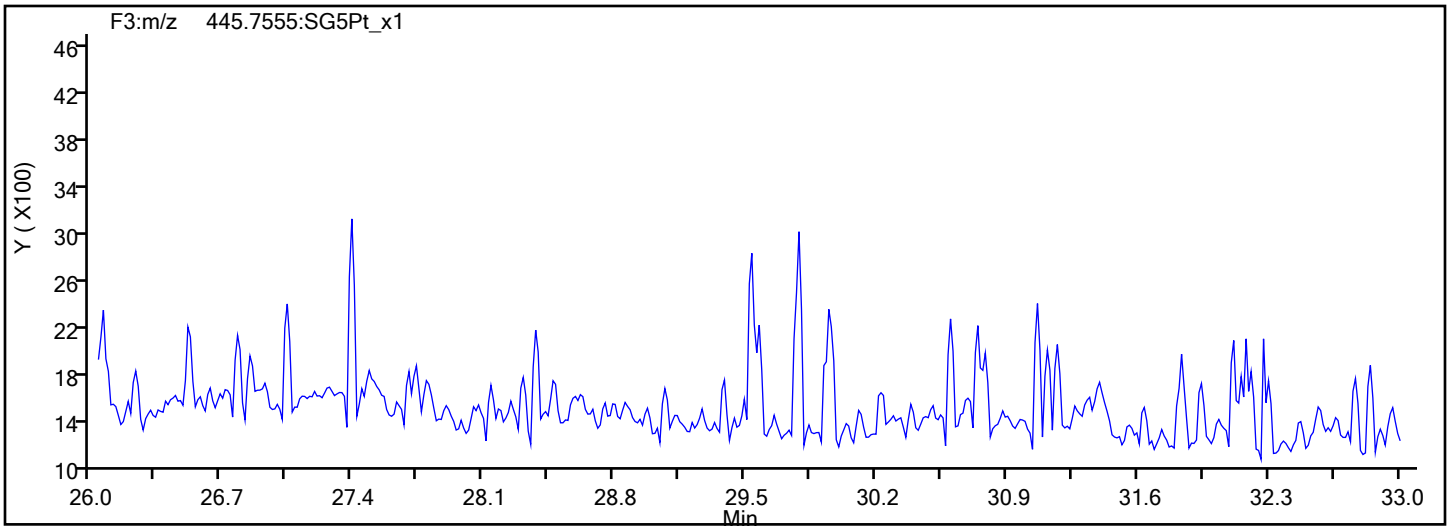

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Eurofins TestAmerica, Sacramento

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HxCDD

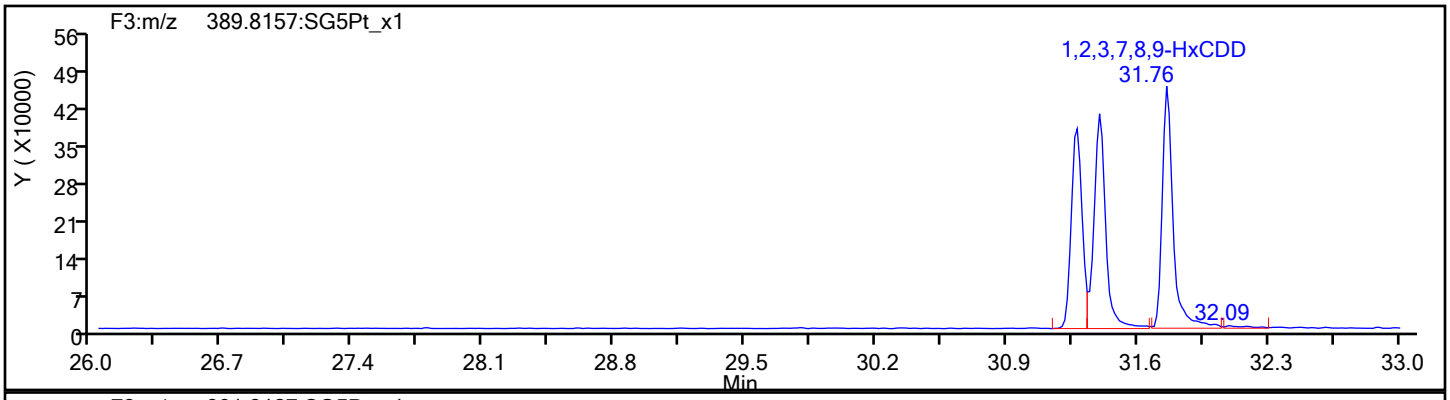

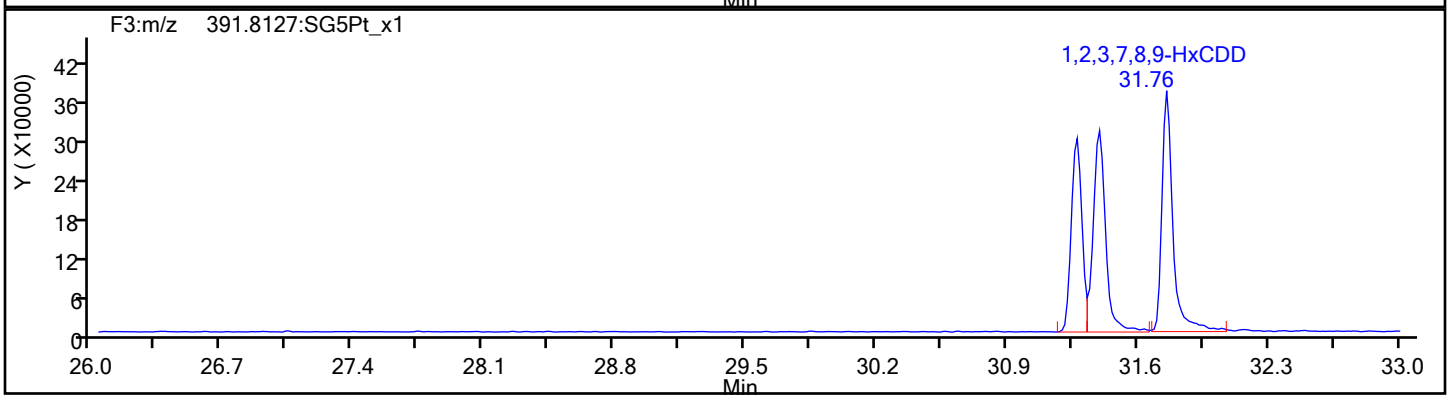

HxCDD Standards

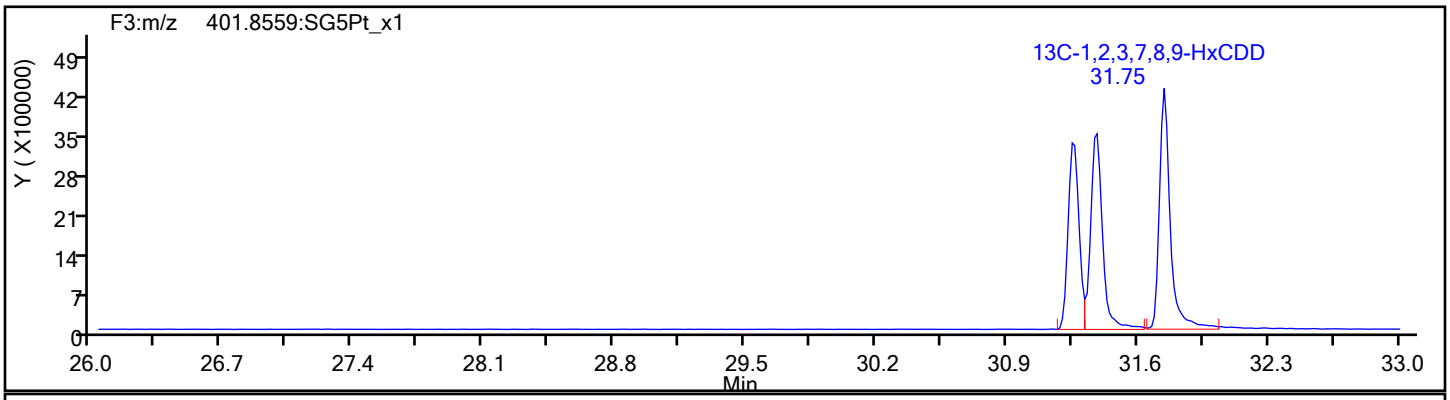

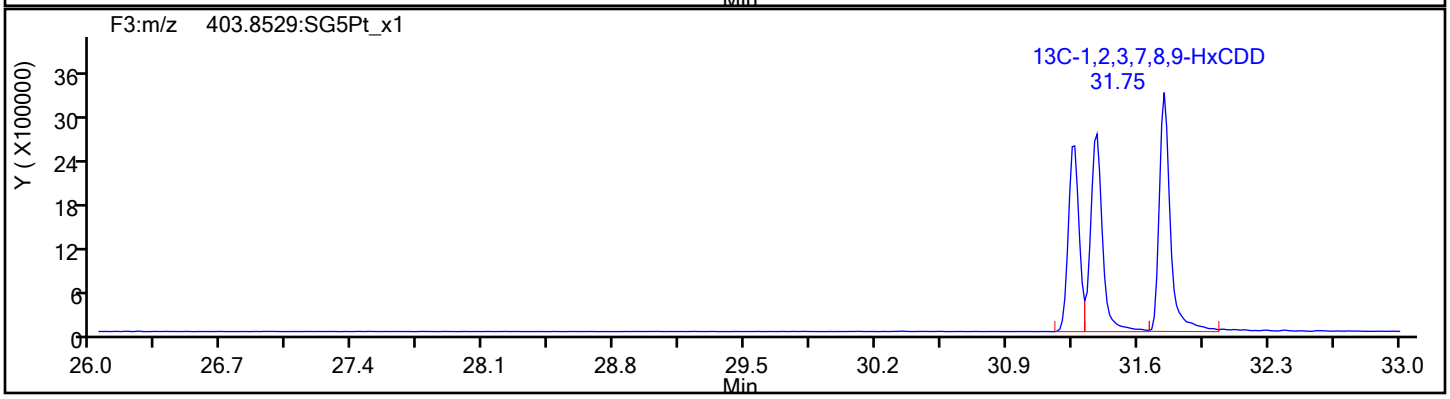

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Eurofins TestAmerica, Sacramento

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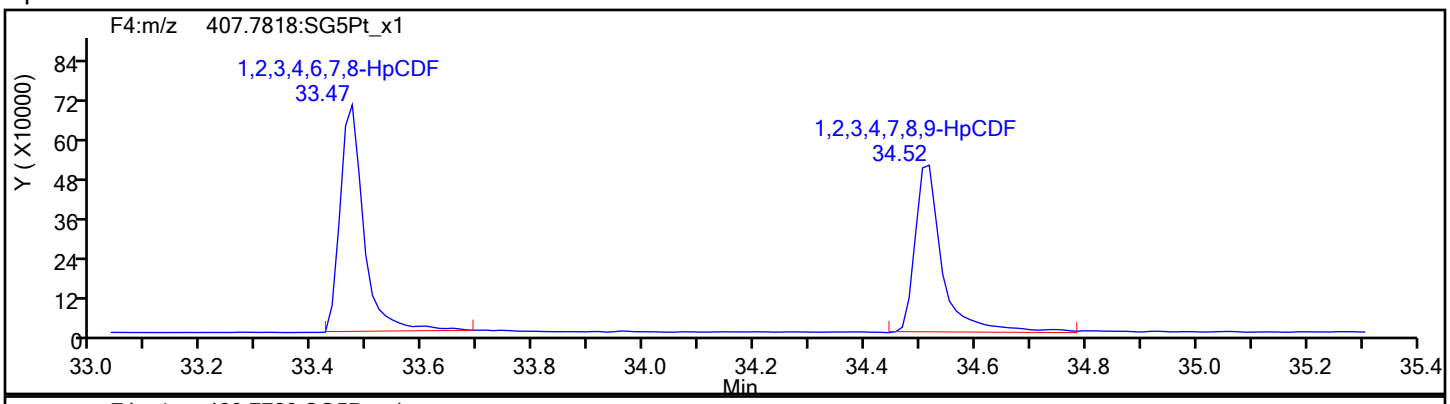

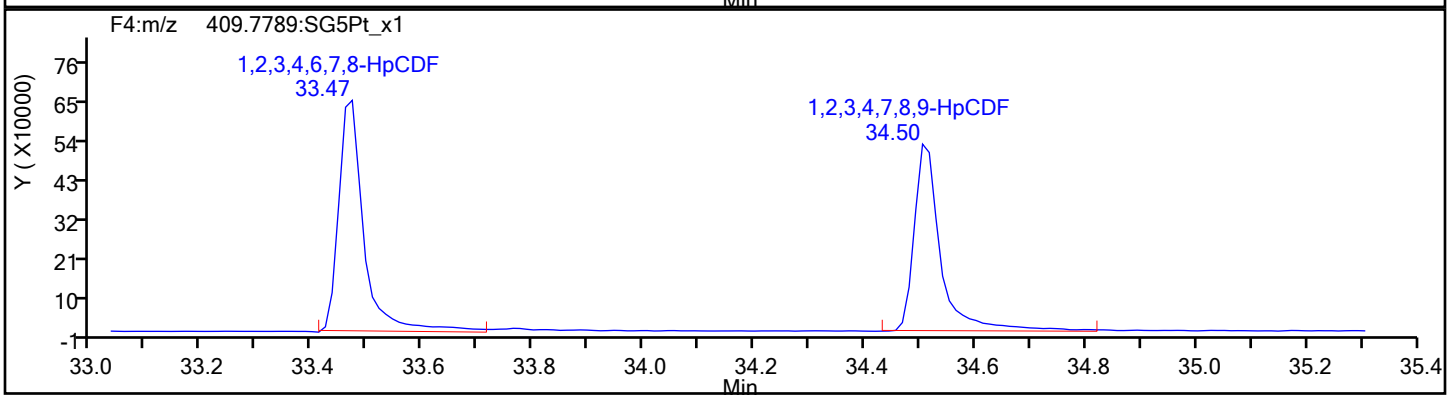

HpCDF Standards

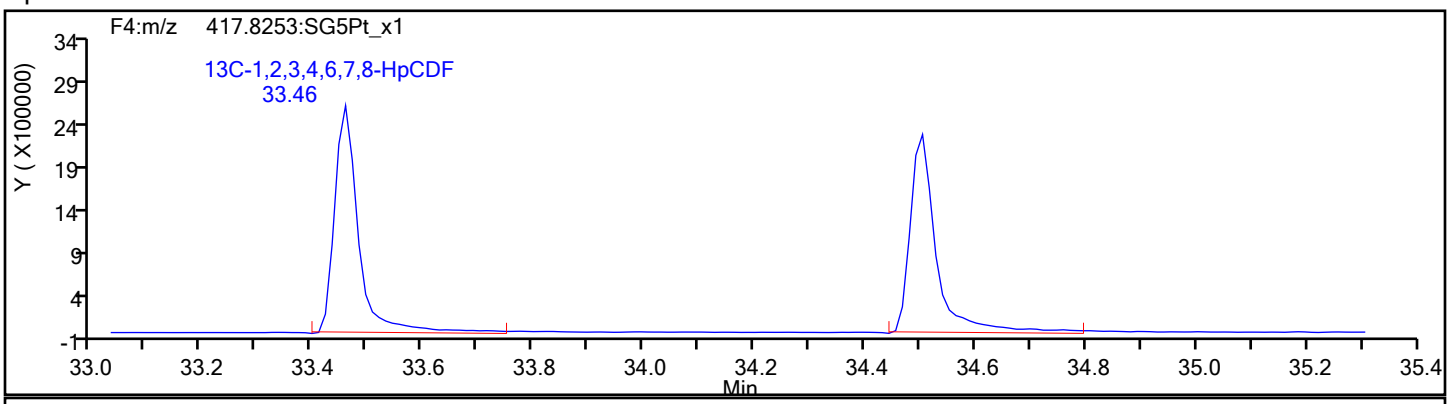

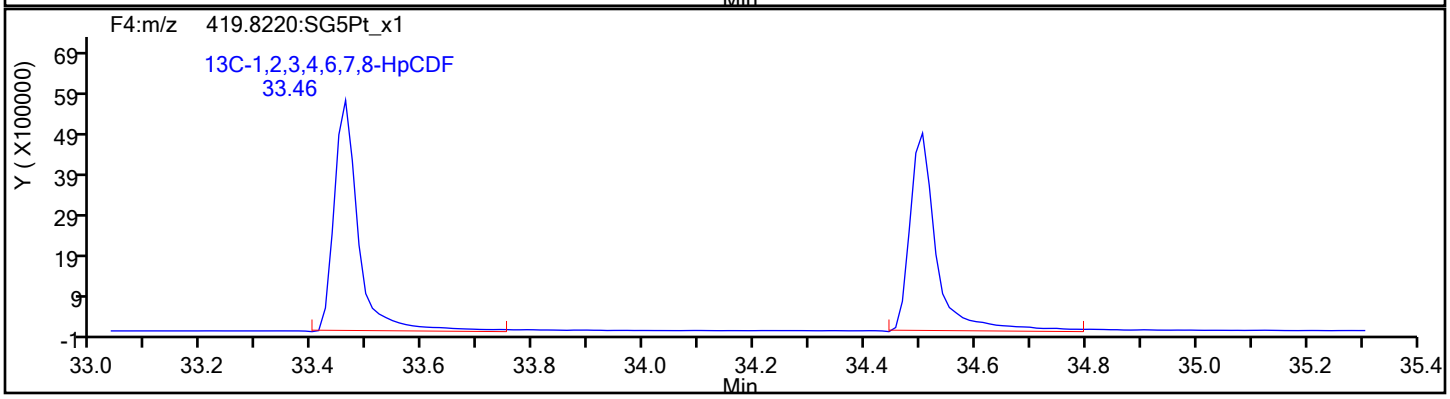

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Eurofins TestAmerica, Sacramento

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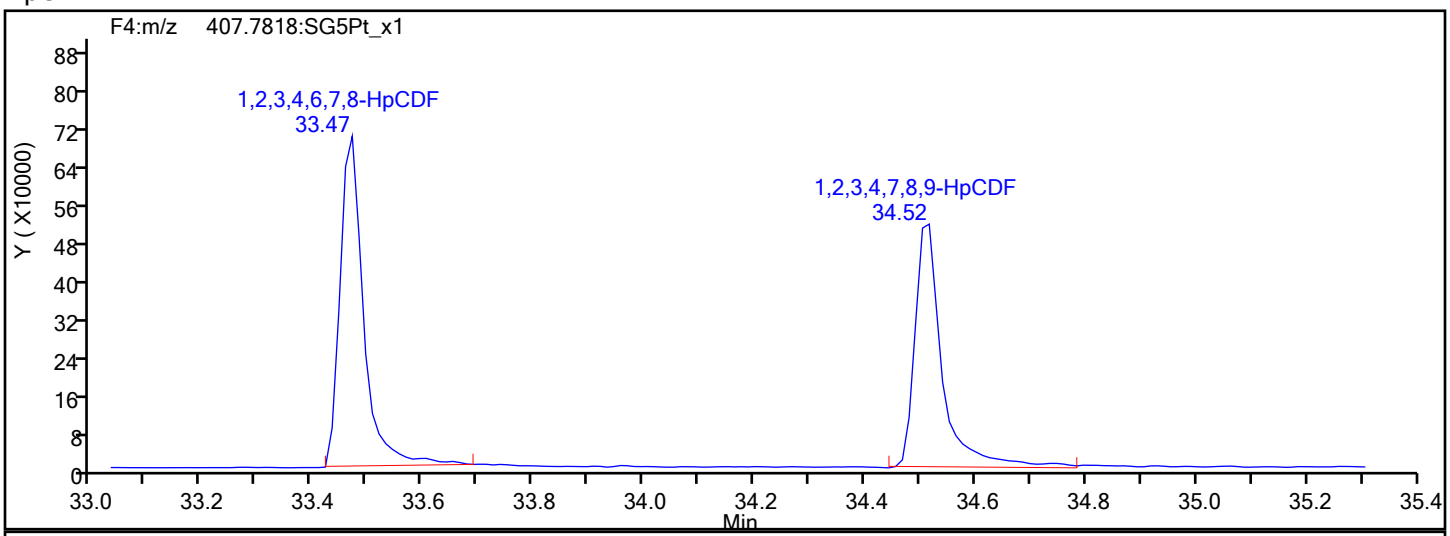

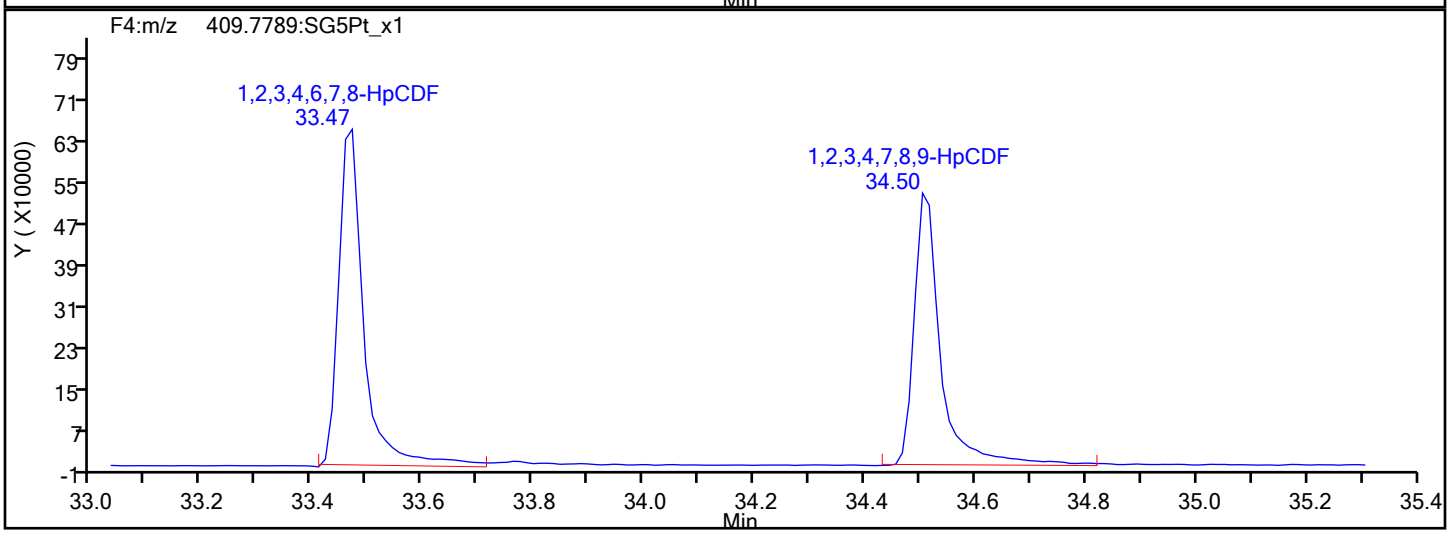

HpCDF Interference Mass

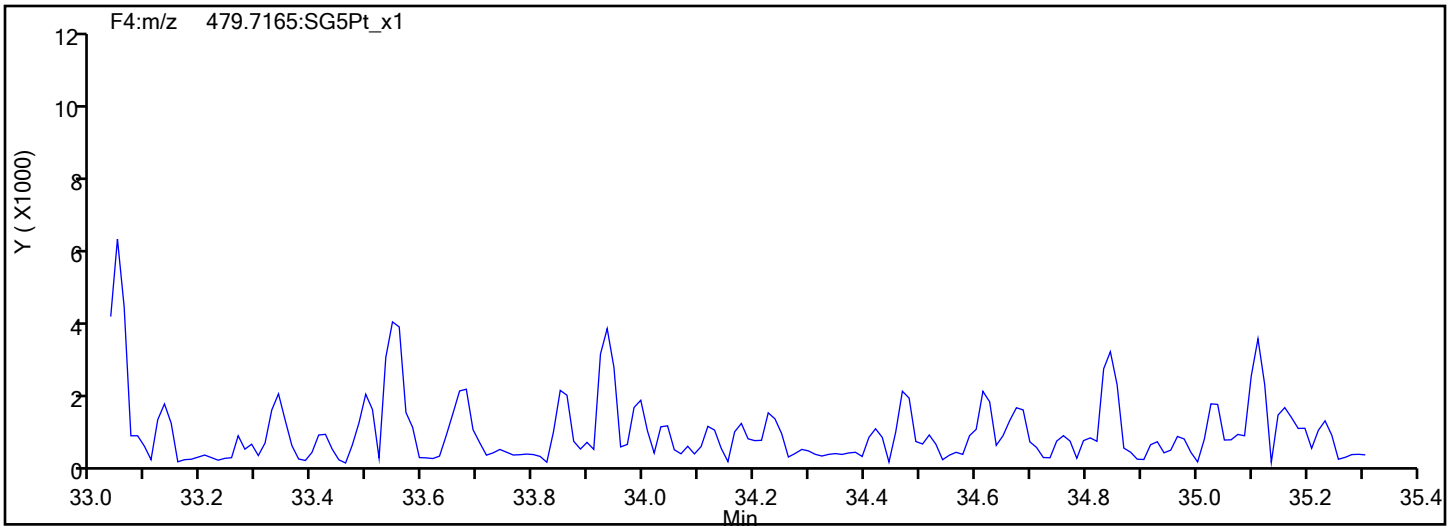

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Eurofins TestAmerica, Sacramento

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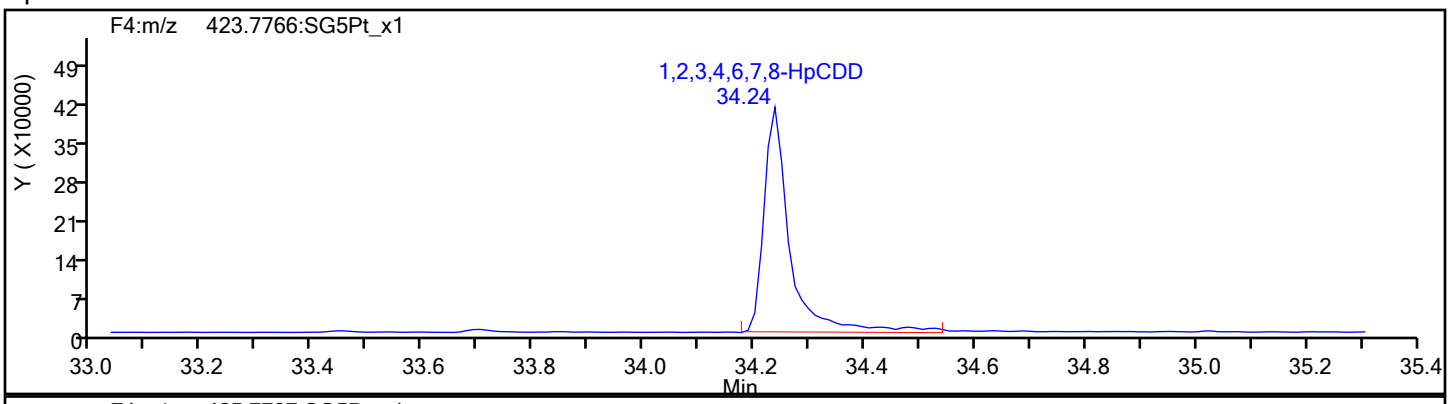

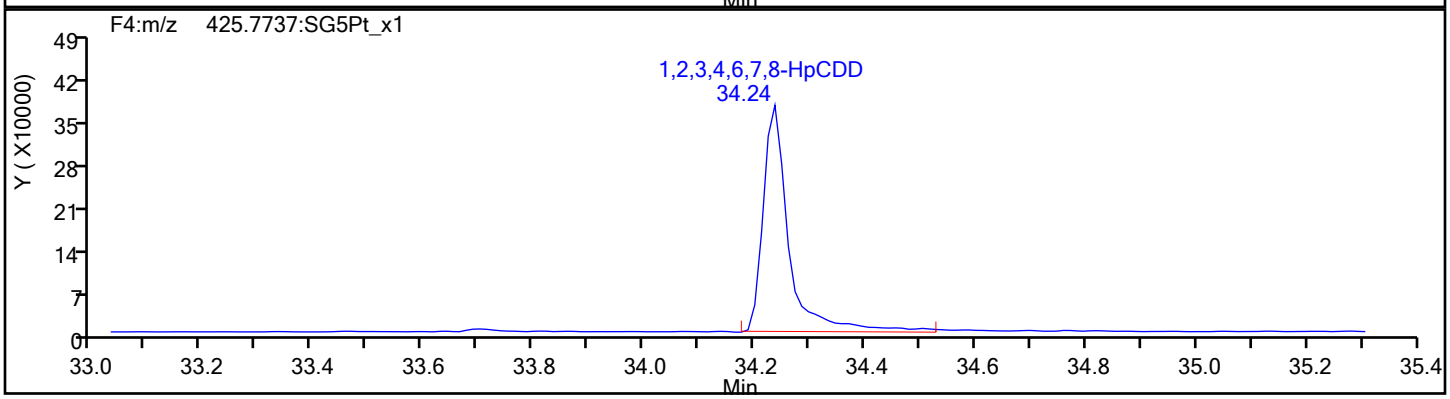

HpCDD Standards

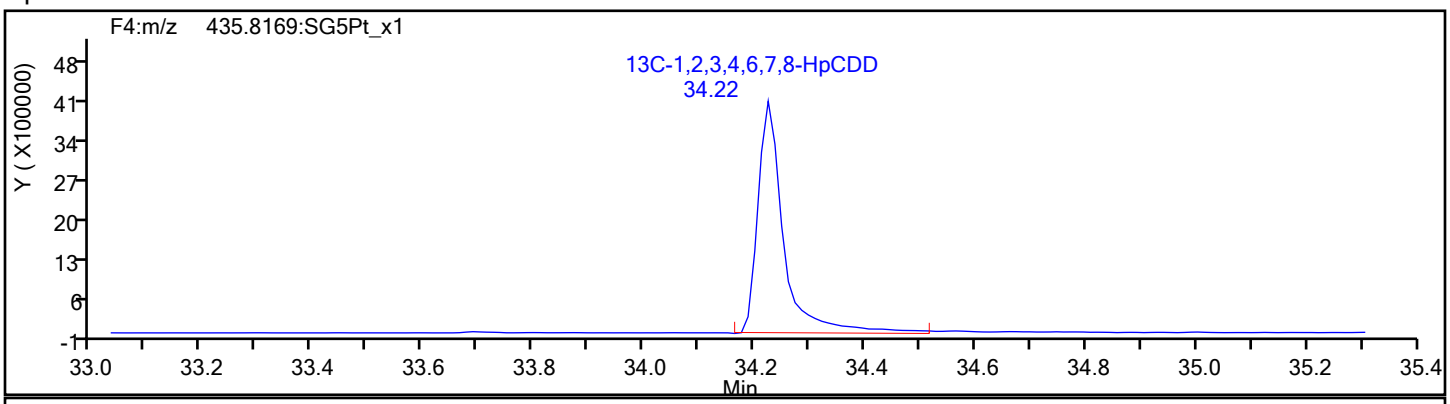

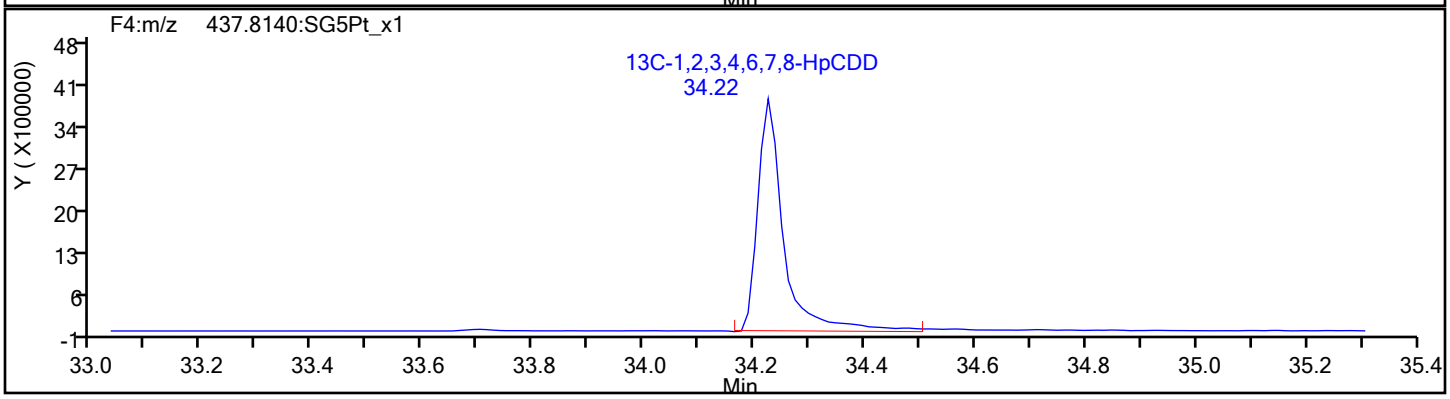

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Eurofins TestAmerica, Sacramento

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OCDF

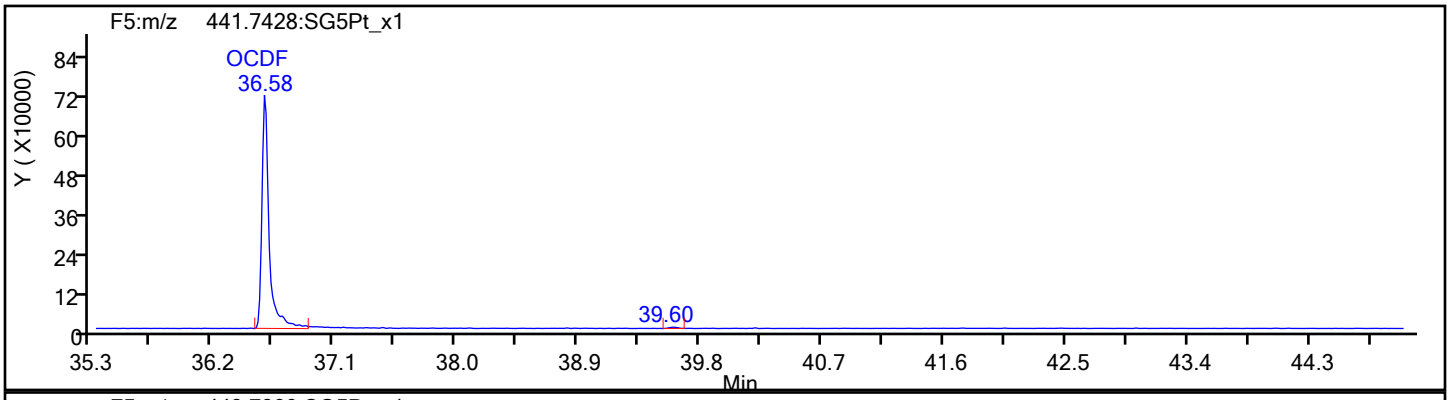

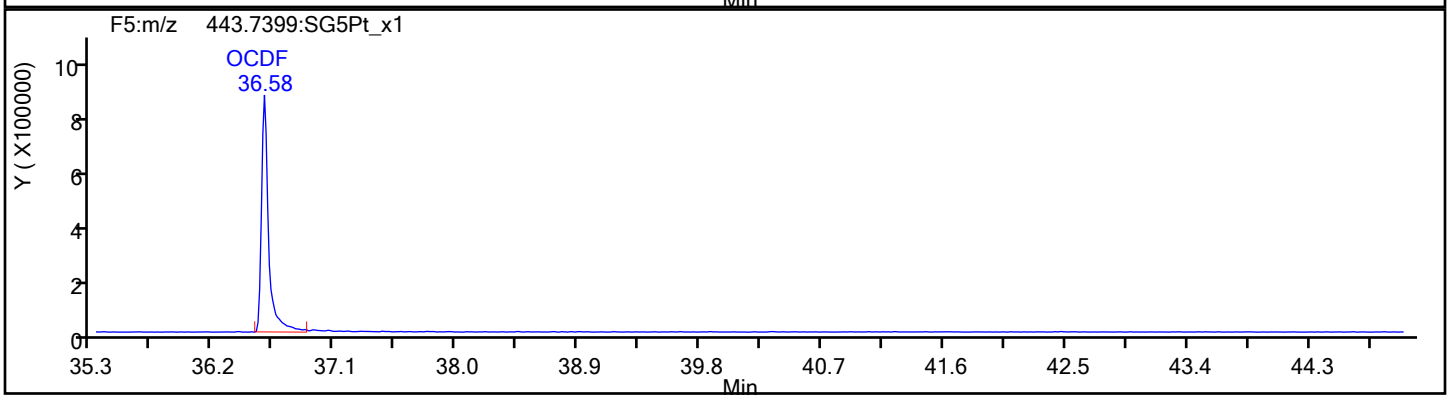

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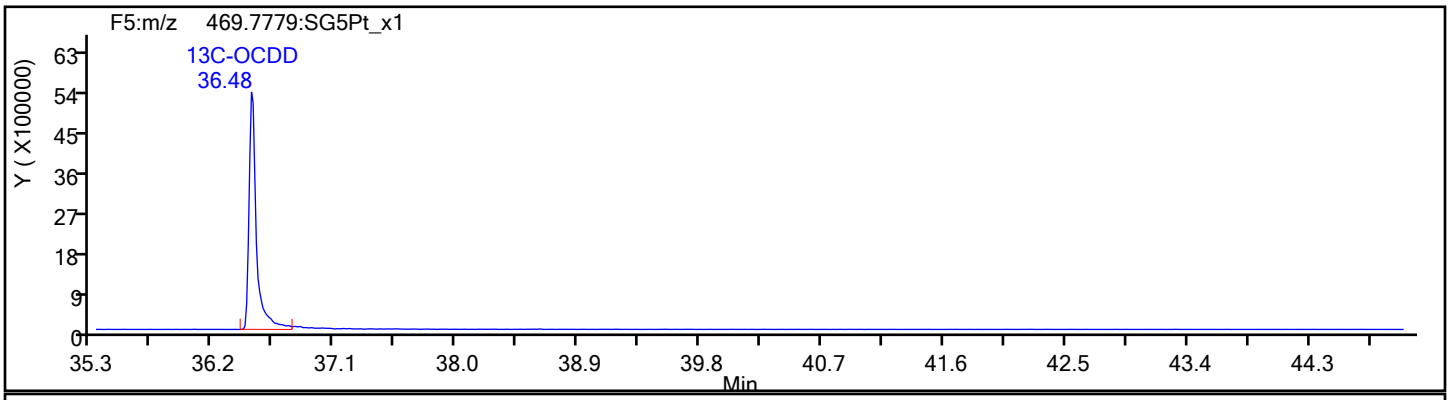

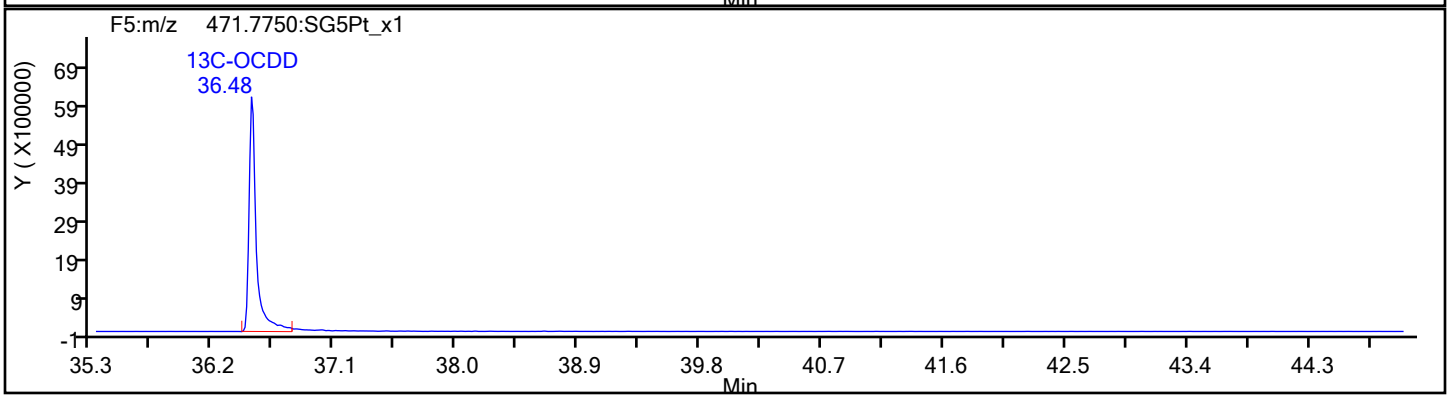

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Eurofins TestAmerica, Sacramento

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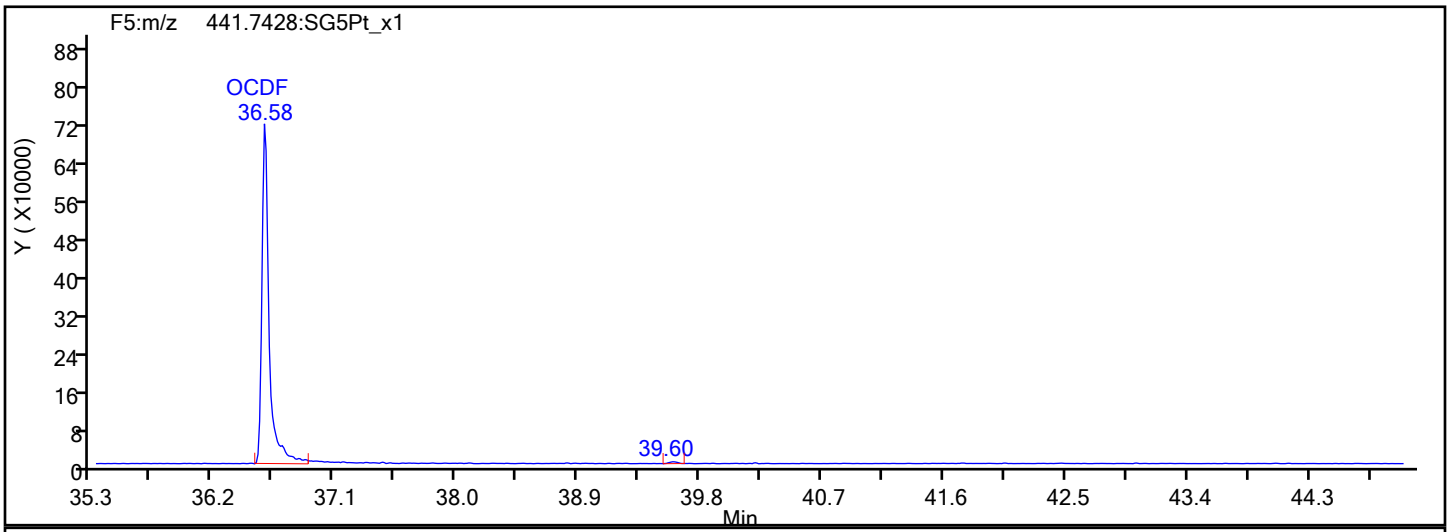

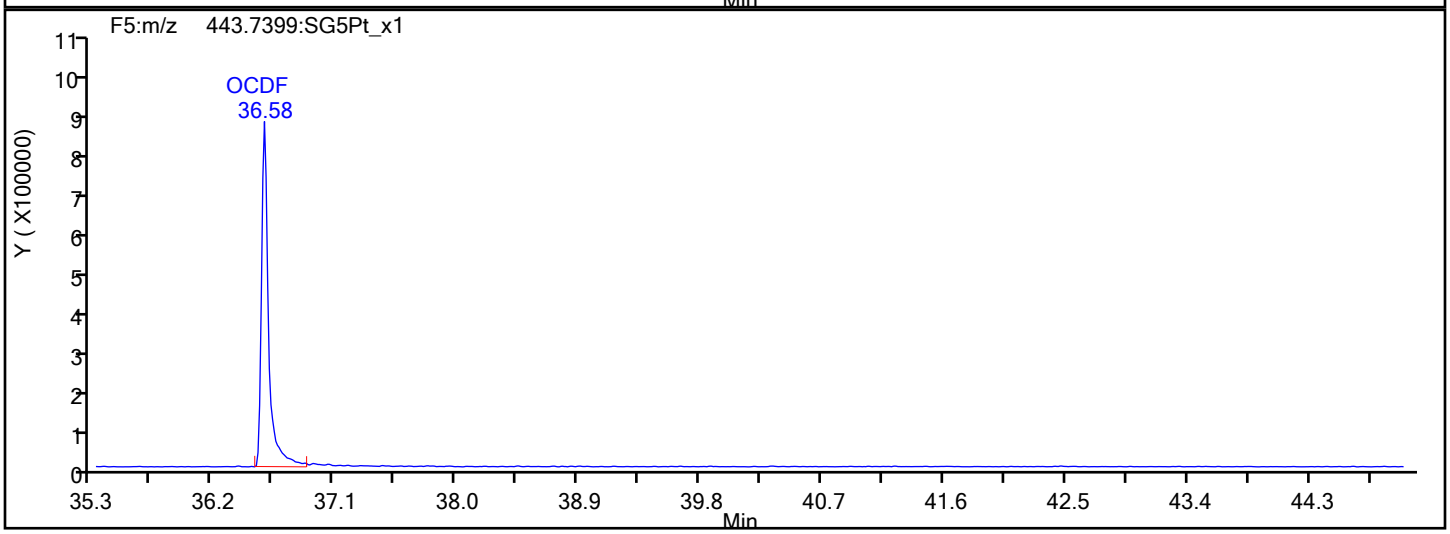

OCDF Interference Mass

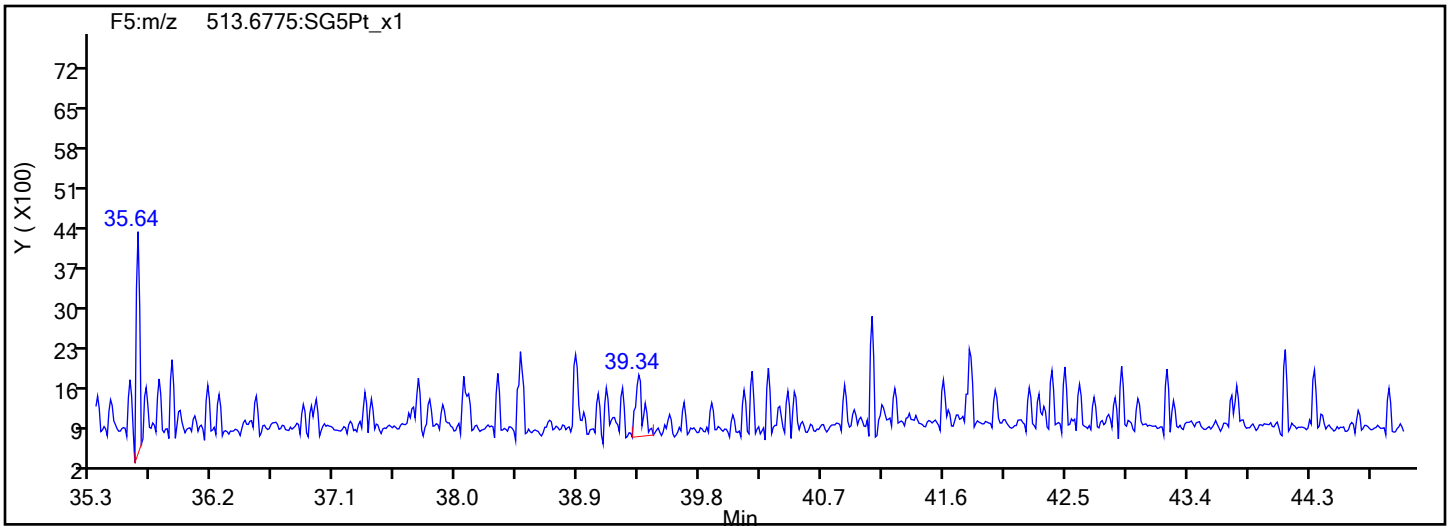

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Eurofins TestAmerica, Sacramento

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OCDD

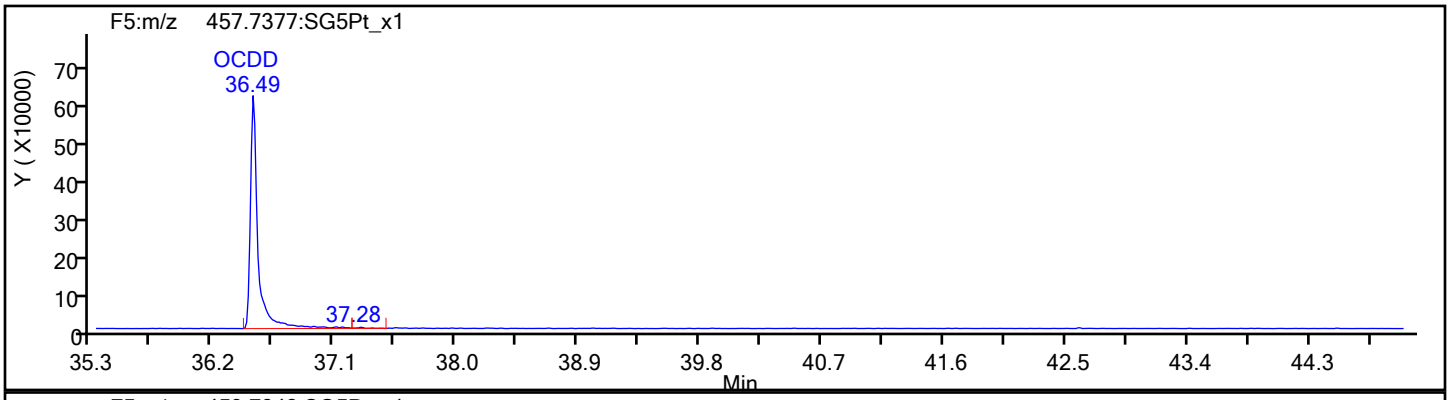

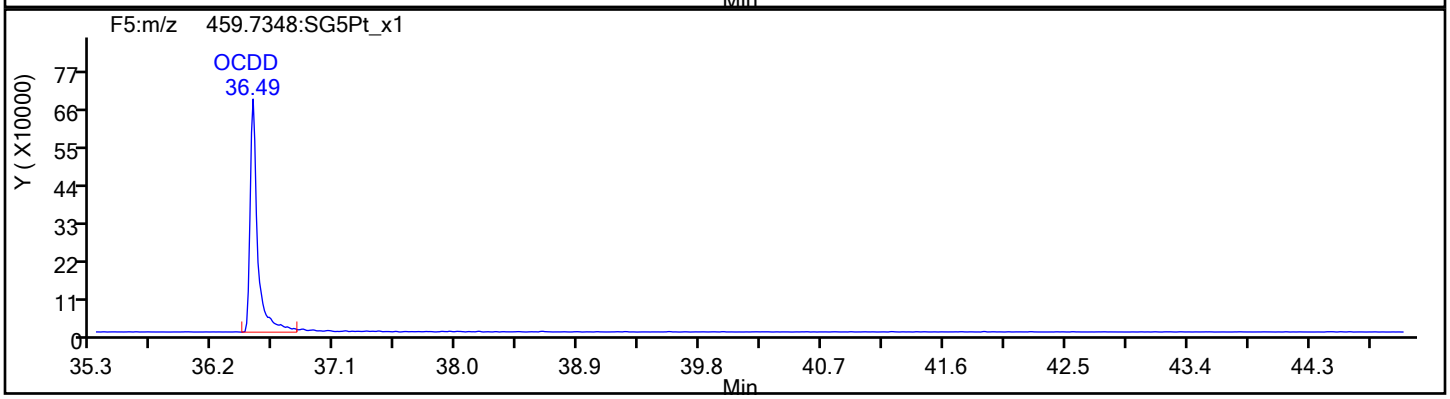

OCDD Standards

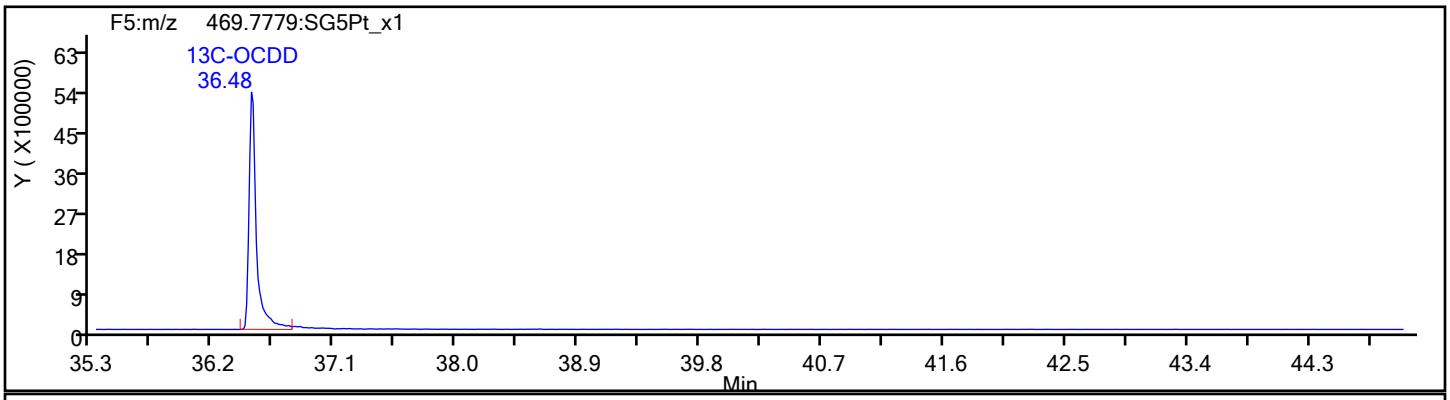

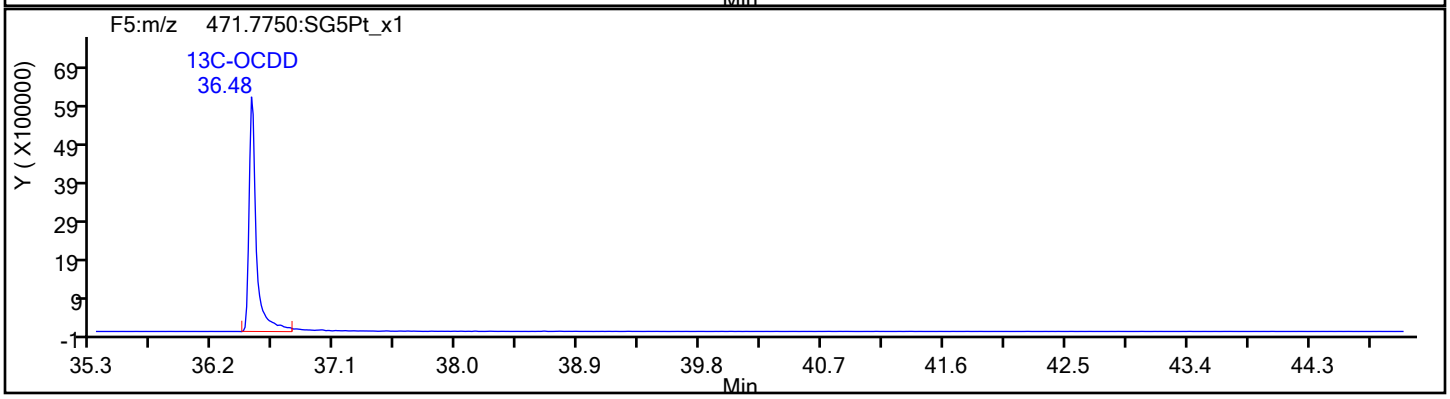

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Eurofins TestAmerica, Sacramento

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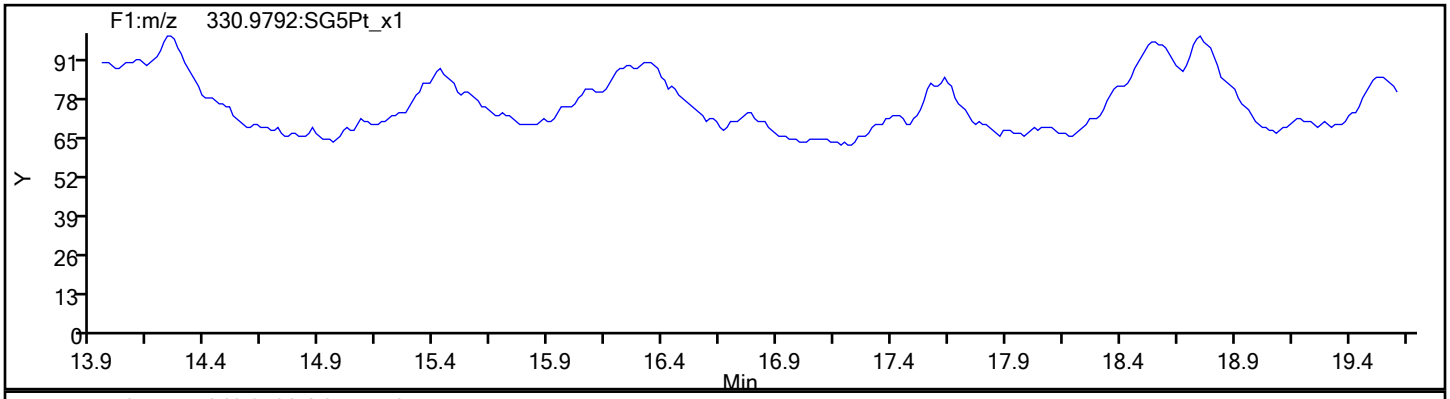

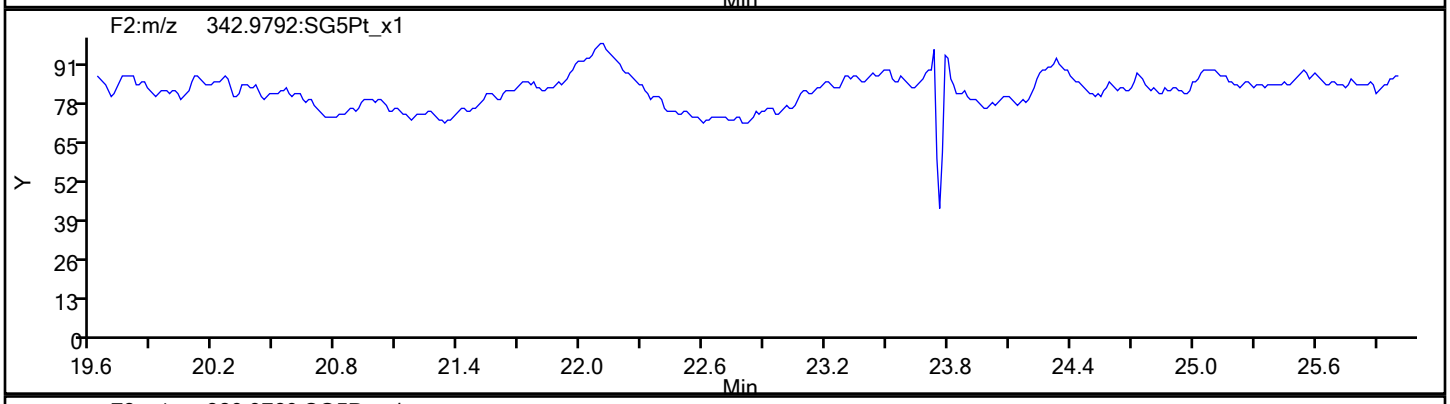

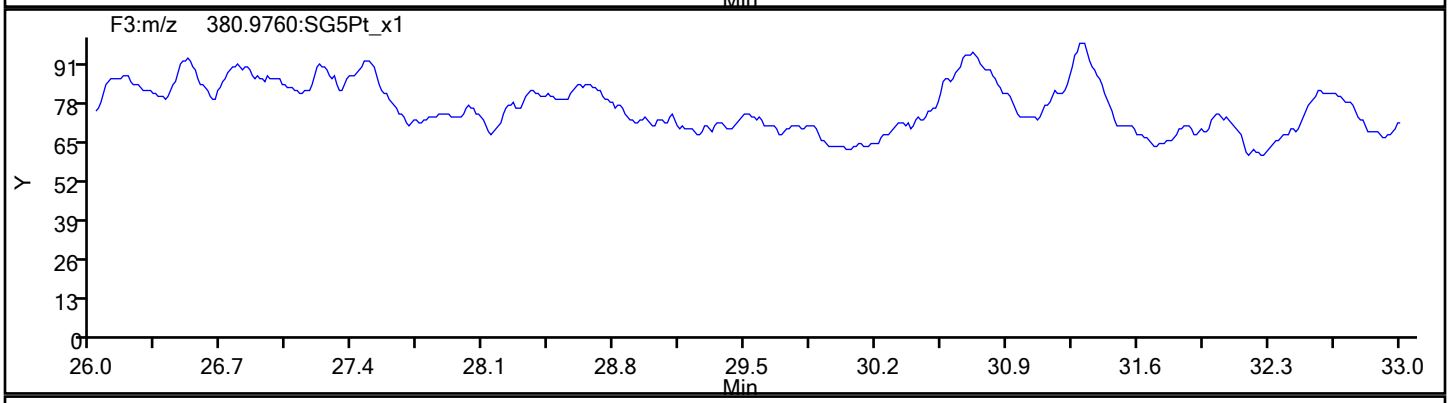

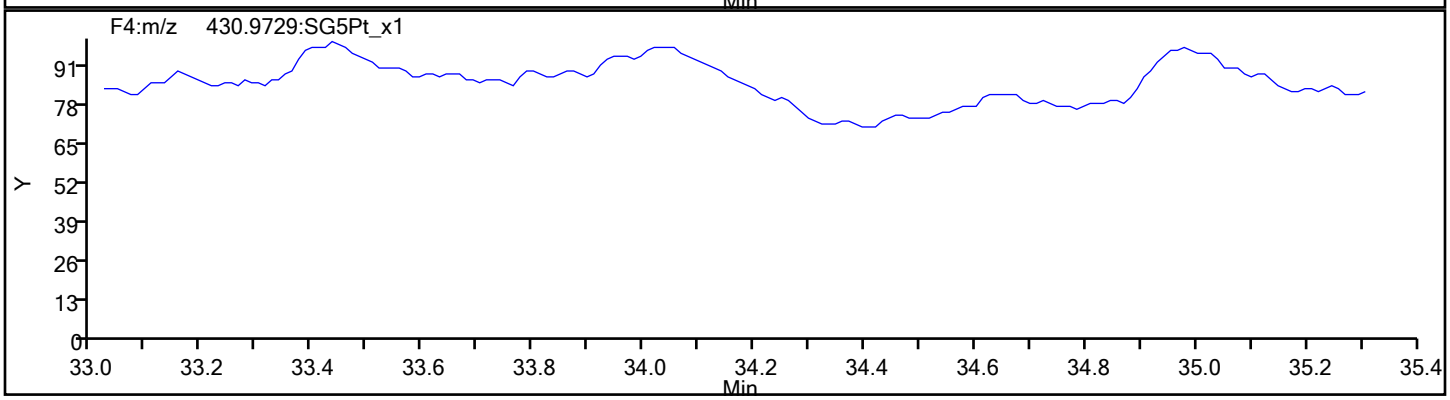

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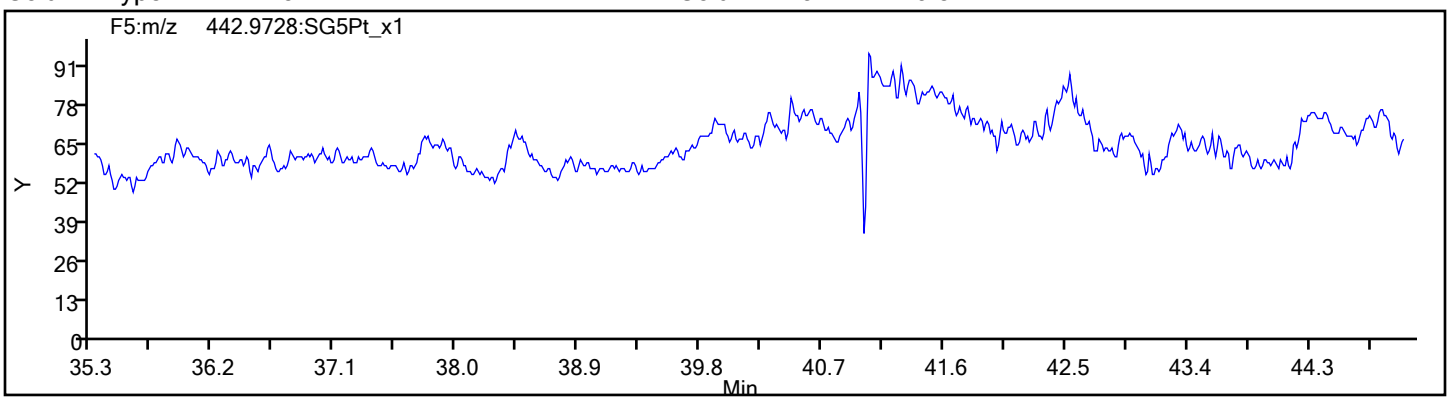

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

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Client ID:
Sample Type: IC Calib Level: 5
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Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719C CS-5 HRDXNL5_00028
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:28 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:06:18

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.315	136791650	0.77	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.816	197671153	0.80	1.4384	100.5	100.5	0.1444	0.1444	100	
2,3,7,8-TCDF	16.831	83942362	0.79	1.0507	40.4	40.4	0.0684	0.0684	101	
S Total TCDF					40.4	40.4	0.0684	0.0684		
D 13C-2,3,7,8-TCDD	17.496	131023361	0.76	0.9533	100.5	100.5	0.1754	0.1754	100	
$ 37Cl4-2,3,7,8-TCDD	17.511	70585275		1.2224	42.2	42.2	0.0502	0.0502	106	
2,3,7,8-TCDD	17.511	59019056	0.79	1.1064	40.7	40.7	0.0423	0.0423	102	
S Total TCDD					40.7	40.7	0.0423	0.0423		
D 13C-1,2,3,7,8-PeCDF	21.645	146707284	1.60	1.0286	104.3	104.3	0.2271	0.2271	104	
1,2,3,7,8-PeCDF	21.672	332470884	1.58	1.0822	209.4	209.4	0.5823	0.5823	105	
D 13C-2,3,4,7,8-PeCDF	22.940	140755634	1.62	0.9827	104.7	104.7	0.2377	0.2377	105	
2,3,4,7,8-PeCDF	22.968	330153847	1.57	1.1032	212.6	212.6	0.6510	0.6510	106	
S Total PeCDF					422.0	422.0	0.6166	0.6166		
D 13C-1,2,3,7,8-PeCDD	23.636	108225317	1.55	0.7481	105.8	105.8	0.1282	0.1282	106	
1,2,3,7,8-PeCDD	23.663	203688899	1.58	0.9050	208.0	208.0	0.2341	0.2341	104	
S Total PeCDD					208.0	208.0	0.2341	0.2341		
D 13C-1,2,3,4,7,8-HxCDF	29.762	115322048	0.51	1.1520	100.3	100.3	0.4565	0.4565	100	
1,2,3,4,7,8-HxCDF	29.802	291651831	1.26	1.1973	211.2	211.2	1.539	1.539	106	
D 13C-1,2,3,6,7,8-HxCDF	30.028	126224651	0.53	1.2434	101.7	101.7	0.4229	0.4229	102	
1,2,3,6,7,8-HxCDF	30.055	311373058	1.26	1.1807	208.9	208.9	1.338	1.338	104	
D 13C-2,3,4,6,7,8-HxCDF	31.053	118677202	0.52	1.1720	101.5	101.5	0.4487	0.4487	101	
2,3,4,6,7,8-HxCDF	31.067	300428448	1.26	1.2116	208.9	208.9	0.9123	0.9123	104	
D 13C-1,2,3,7,8,9-HxCDF	31.945	107073331	0.52	1.0655	100.7	100.7	0.4935	0.4935	101	
1,2,3,7,8,9-HxCDF	31.958	272303395	1.26	1.2451	204.2	204.2	0.8892	0.8892	102	
S Total HxCDF					833.3	833.3	1.170	1.170		
* 13C-1,2,3,7,8,9-HxCDD	31.759	99810625	1.29	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.266	80372897	1.29	0.7812	103.1	103.1	0.3822	0.3822	103	
1,2,3,4,7,8-HxCDD	31.293	186227471	1.26	1.1088	209.0	209.0	0.6104	0.6104	104	
D 13C-1,2,3,6,7,8-HxCDD	31.386	95002970	1.27	0.9175	103.7	103.7	0.3254	0.3254	104	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.413	212361866	1.27	1.0814	206.7	206.7	0.5785	0.5785	103	
1,2,3,7,8,9-HxCDD	31.772	218049333	1.25	1.2123	205.1	205.1	0.5363	0.5363	103	
S Total HxCDD					620.8	620.8	0.5751	0.5751		
D 13C-1,2,3,4,6,7,8-HpCDF	33.459	88816288	0.46	0.8628	103.1	103.1	2.079	2.079	103	
1,2,3,4,6,7,8-HpCDF	33.472	281845286	1.05	1.5555	204.0	204.0	3.635	3.635	102	
D 13C-1,2,3,4,7,8,9-HpCDF	34.504	81274920	0.45	0.7991	101.9	101.9	2.245	2.245	102	
1,2,3,4,7,8,9-HpCDF	34.516	239010564	1.05	1.3862	212.1	212.1	4.800	4.800	106	
S Total HpCDF					416.1	416.1	4.218	4.218		
D 13C-1,2,3,4,6,7,8-HpCDD	34.237	90130025	1.04	0.8739	103.3	103.3	1.148	1.148	103	
1,2,3,4,6,7,8-HpCDD	34.237	175833007	1.05	0.9316	209.4	209.4	2.167	2.167	105	
S Total HpCDD					209.4	209.4	2.167	2.167		
D 13C-OCDD	36.493	158997965	0.88	0.7744	205.7	205.7	0.3551	0.3551	103	
OCDF	36.589	418862104	0.89	1.2596	418.3	418.3	0.4537	0.4537	105	
OCDD	36.505	347055077	0.89	1.0621	411.0	411.0	0.6571	0.6571	103	

Reagents:

HRDXNL5_00028 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_6.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 17-Sep-2019 15:21:22 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719C CS-5 HRDXNL5_00028
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:28 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:06:18

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.315	17.303	1		59594664	15287135	9225	23062	1657		
333.9339	17.315	17.303	1		77196986	19734133	14193	35482	1390	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.816	16.810	0	0.971	87712948	23127802	13754	34385	1682		
317.9389	16.816	16.810	0	0.971	109958205	28845594	15339	38347	1881	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.831	16.825	0	1.001	36949180	9674667	6043	15107	1601		
305.8987	16.831	16.825	0	1.001	46993182	12302542	8902	22255	1382	0.79(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.496	17.490	0	1.010	56708135	13975530	9225	23062	1515		
333.9339	17.496	17.490	0	1.010	74315226	18338786	14193	35482	1292	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.511	17.505	0	1.011	70585275	17605066	8592	21480	2049		
2,3,7,8-TCDD											
319.8965	17.511	17.505	0	1.001	26067676	6503532	2993	7482	2173		
321.8936	17.511	17.505	0	1.001	32951380	8185513	3053	7632	2681	0.79(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	21.645	21.637	0	1.250	90246004	16955643	19974	49935	849		
353.8970	21.645	21.637	0	1.250	56461280	10556577	12749	31872	828	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.672	21.661	1	1.001	203793856	37432282	42262	105655	886		
341.8567	21.672	21.661	1	1.001	128677028	23626725	27084	67710	872	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	22.940	22.932	0	1.325	87007765	14859467	19974	49935	744		
353.8970	22.940	22.932	0	1.325	53747869	9280455	12749	31872	728	1.62(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.968	22.954	1	1.001	201570262	34626412	42262	105655	819		
341.8567	22.968	22.954	1	1.001	128583585	22276079	27084	67710	822	1.57(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.636	23.625	1	1.365	65730378	10862933	7904	19760	1374		
369.8919	23.636	23.625	1	1.365	42494939	6954914	5526	13815	1259	1.55(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.663	23.649	1	1.001	124750517	20269910	9274	23185	2186		
357.8516	23.663	23.649	1	1.001	78938382	12735405	5825	14562	2186	1.58(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.762	29.754	0	0.937	39196947	5461495	18152	45380	301		
385.8610	29.762	29.754	0	0.937	76125101	10409265	31962	79905	326	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.802	29.789	1	1.001	162403041	22433624	65844	164610	341		
375.8178	29.789	29.789	0	1.001	129248790	17859839	51149	127872	349	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.028	30.015	1	0.946	43639188	6387099	18152	45380	352		
385.8610	30.028	30.015	1	0.946	82585463	12130808	31962	79905	380	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.055	30.039	1	1.001	173687895	26264182	65844	164610	399		
375.8178	30.055	30.039	1	1.001	137685163	20987234	51149	127872	410	1.26(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.053	31.043	1	0.978	40788407	9120663	18152	45380	502		
385.8610	31.053	31.043	1	0.978	77888795	17340792	31962	79905	543	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.067	31.059	0	1.000	167309786	37576842	65844	164610	571		
375.8178	31.067	31.059	0	1.000	133118662	29904554	51149	127872	585	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.945	31.942	0	1.006	36791830	9139865	18152	45380	504		
385.8610	31.945	31.942	0	1.006	70281501	17276995	31962	79905	541	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.958	31.956	0	1.000	151855406	36977671	65844	164610	562		
375.8178	31.958	31.956	0	1.000	120447989	30006929	51149	127872	587	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.759	31.748	1		56270617	13452314	14607	36517	921		
403.8529	31.759	31.748	1		43540008	10372903	13848	34620	749	1.29(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.266	31.261	0	0.984	45227277	11150175	14607	36517	763		
403.8529	31.266	31.261	0	0.984	35145620	8735365	13848	34620	631	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.293	31.280	1	1.001	103691748	26080947	29902	74755	872		
391.8127	31.279	31.280	0	1.000	82535723	20584143	23933	59832	860	1.26(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.386	31.383	0	0.988	53174636	12056504	14607	36517	825		
403.8529	31.386	31.383	0	0.988	41828334	9455739	13848	34620	683	1.27(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.413	31.402	1	1.001	118924223	27338827	29902	74755	914		
391.8127	31.413	31.402	1	1.001	93437643	21365407	23933	59832	893	1.27(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.772	31.761	1	1.016	121151996	28954994	29902	74755	968		
391.8127	31.772	31.761	1	1.016	96897337	23073240	23933	59832	964	1.25(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.459	33.457	0	1.054	28029452	9006809	51228	128070	176		
419.8220	33.459	33.457	0	1.054	60786836	19574017	119701	299252	164	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.472	33.469	0	1.000	144194629	47922295	320097	800242	150		
409.7789	33.472	33.469	0	1.000	137650657	45921753	326367	815917	141	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.504	34.502	0	1.086	25205698	7508483	51228	128070	147		
419.8220	34.504	34.502	0	1.086	56069222	16780818	119701	299252	140	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.516	34.509	0	1.000	122343291	36942029	320097	800242	115		
409.7789	34.516	34.509	0	1.000	116667273	34848749	326367	815917	107	1.05(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.237	34.227	1	1.078	45952113	13244990	41516	103790	319		
437.8140	34.225	34.227	0	1.078	44177912	12813430	54131	135327	237	1.04(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.237	34.235	0	1.000	90154256	26778982	103826	259565	258		
425.7737	34.237	34.235	0	1.000	85678751	25940196	106590	266475	243	1.05(0.88-1.20)	
13C-OCDD											
469.7779	36.493	36.486	0	1.149	74572520	18801270	9864	24660	1906		
471.7750	36.493	36.486	0	1.149	84425445	21269549	16343	40857	1301	0.88(0.76-1.02)	
OCDF											
441.7428	36.589	36.581	0	1.003	197544150	51410039	20935	52337	2456		
443.7399	36.589	36.581	0	1.003	221317954	56864509	24864	62160	2287	0.89(0.76-1.02)	
OCDD											
457.7377	36.505	36.497	0	1.000	163350934	40607331	33690	84225	1205		
459.7348	36.505	36.497	0	1.000	183704143	44957614	22242	55605	2021	0.89(0.76-1.02)	

Reagents:

HRDXNL5_00028 Amount Added: 1.00 Units: mL

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_6.d		
Injection Date:	17-Sep-2019 15:21:22	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

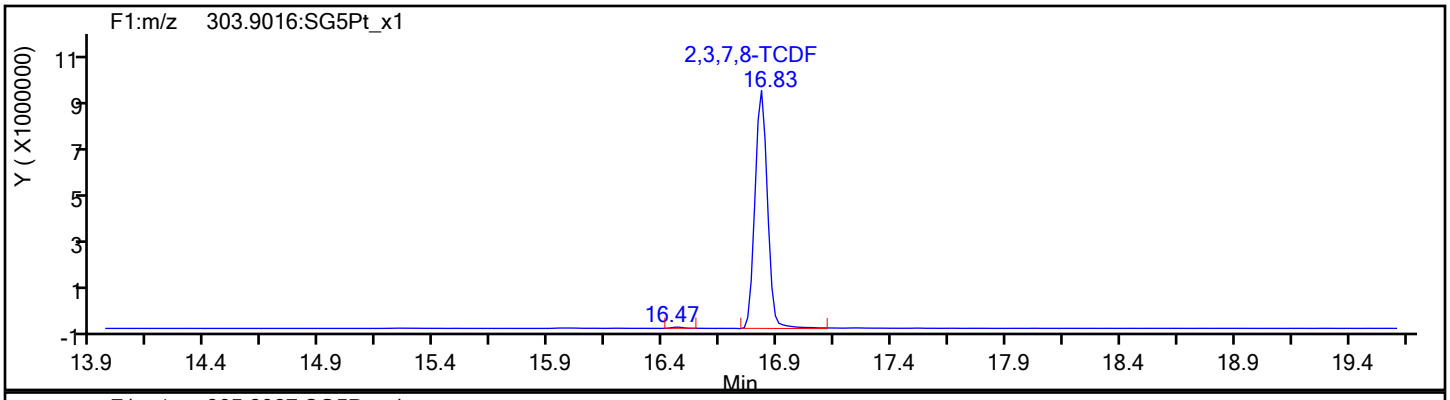

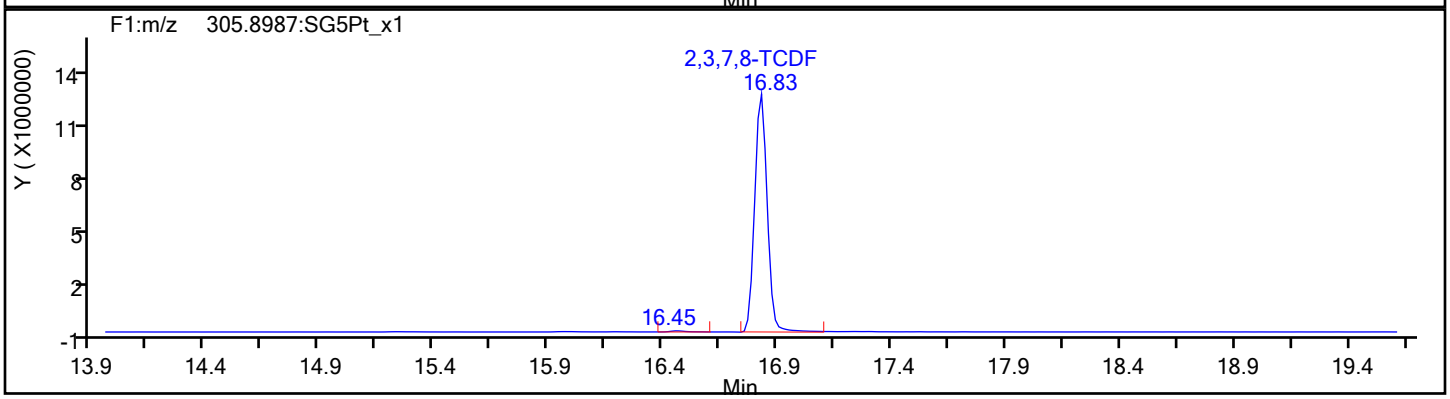

TCDF Standards

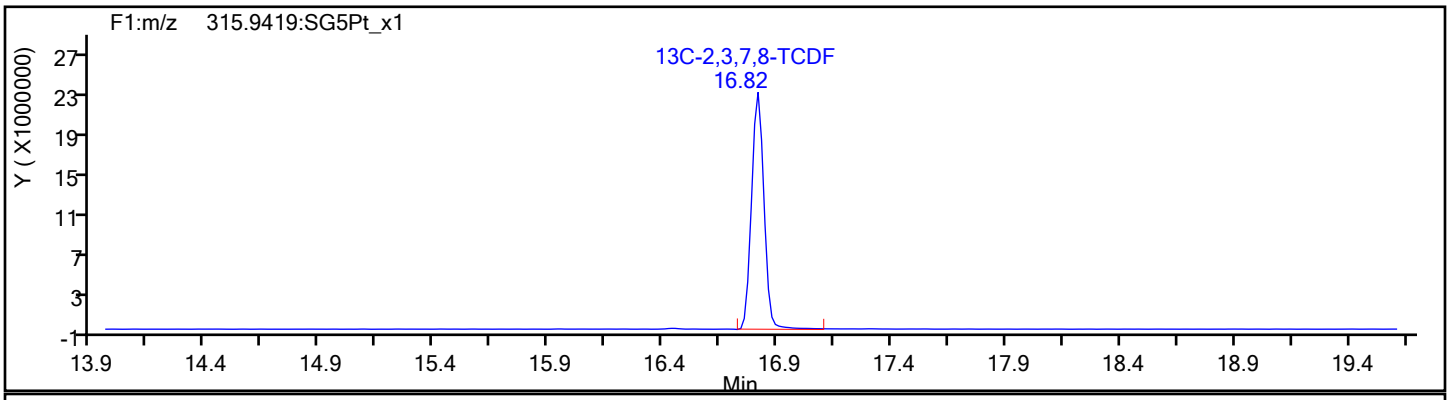

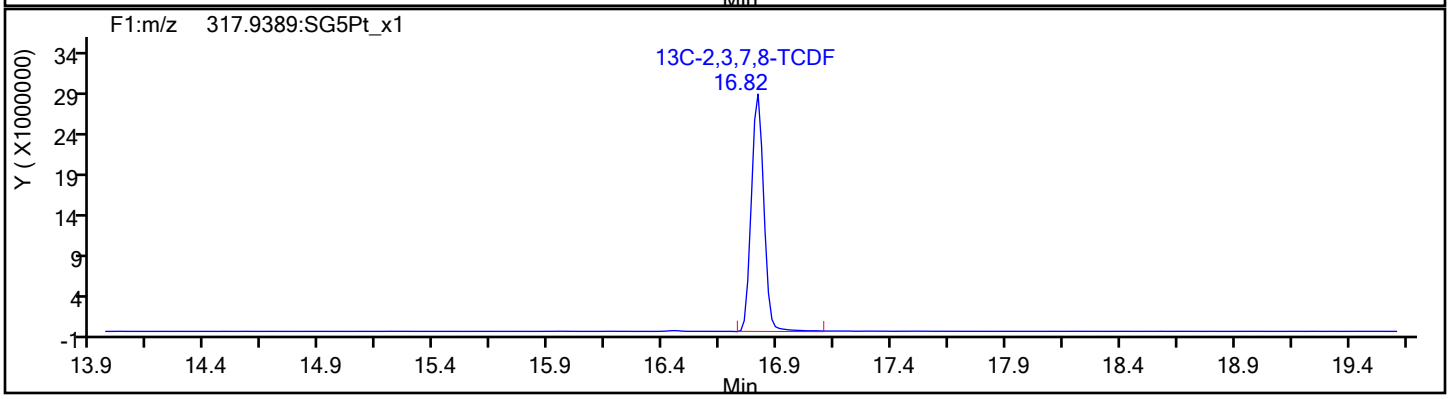

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_6.d		
Injection Date:	17-Sep-2019 15:21:22	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

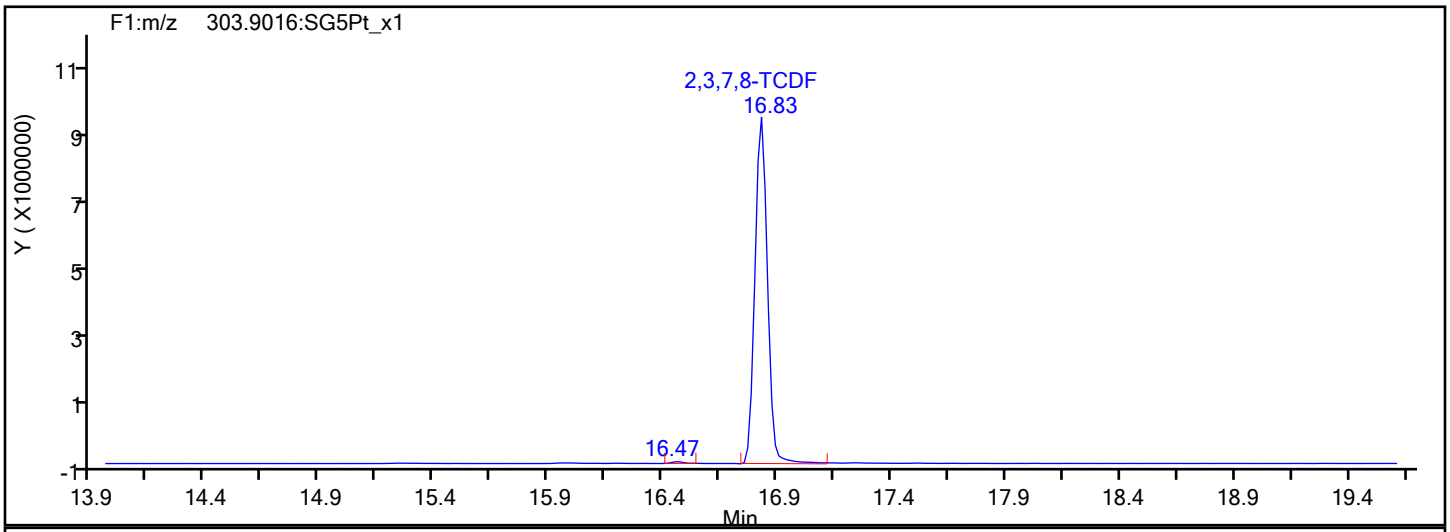

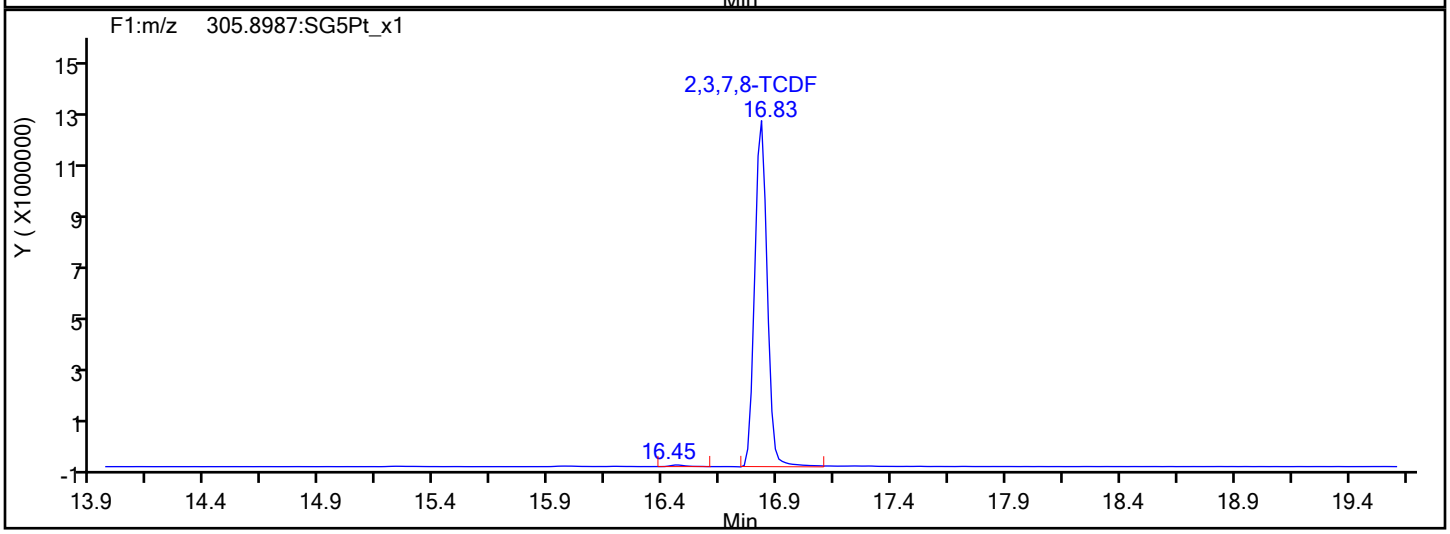

TCDF Interference Mass

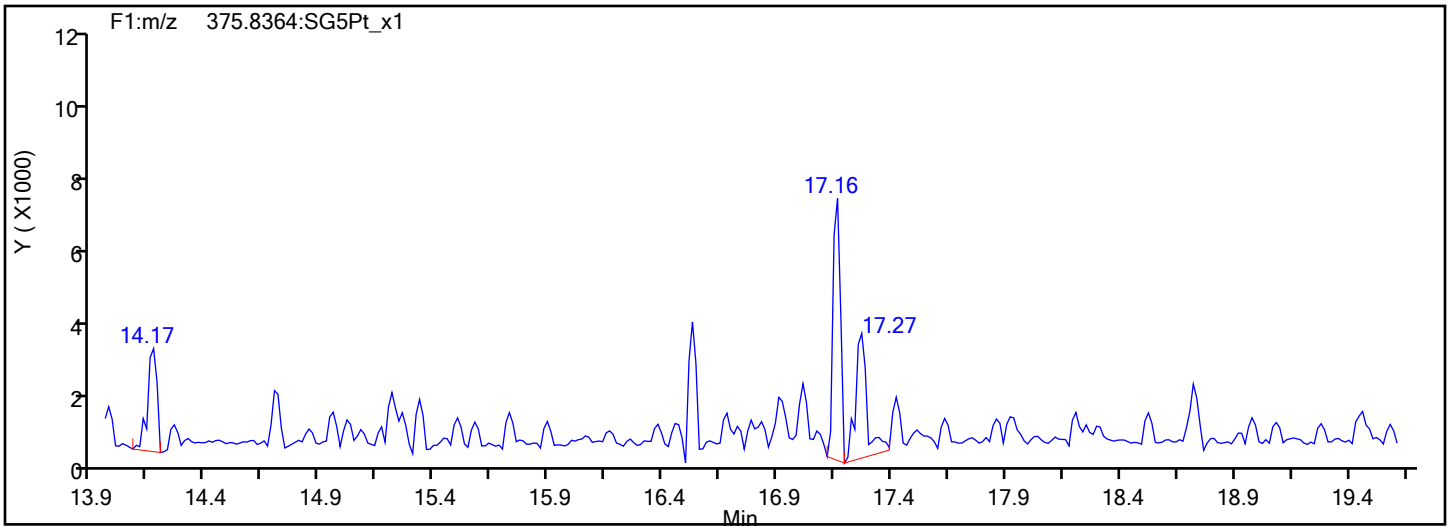

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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TCDD

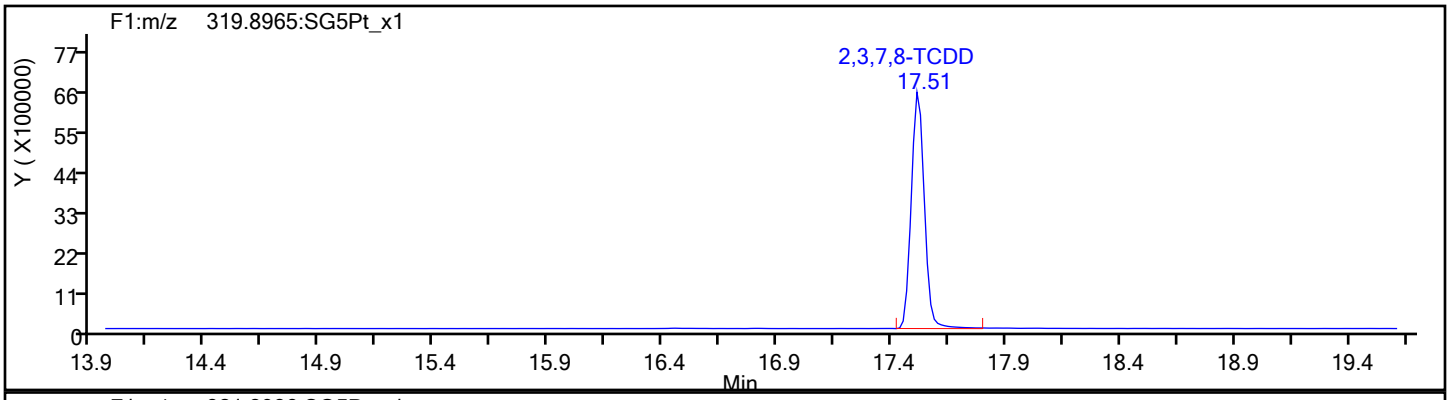

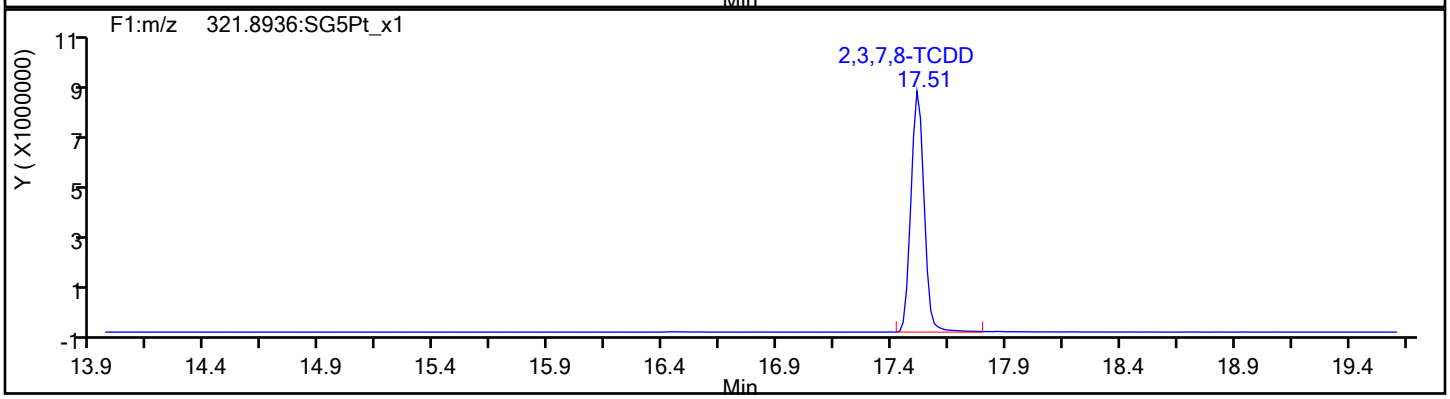

TCDD Standards

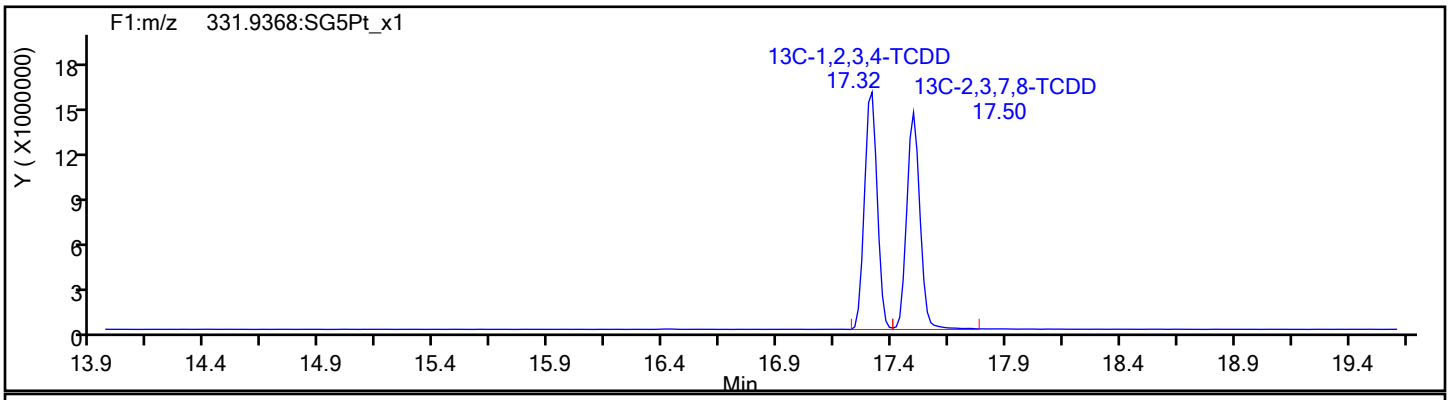

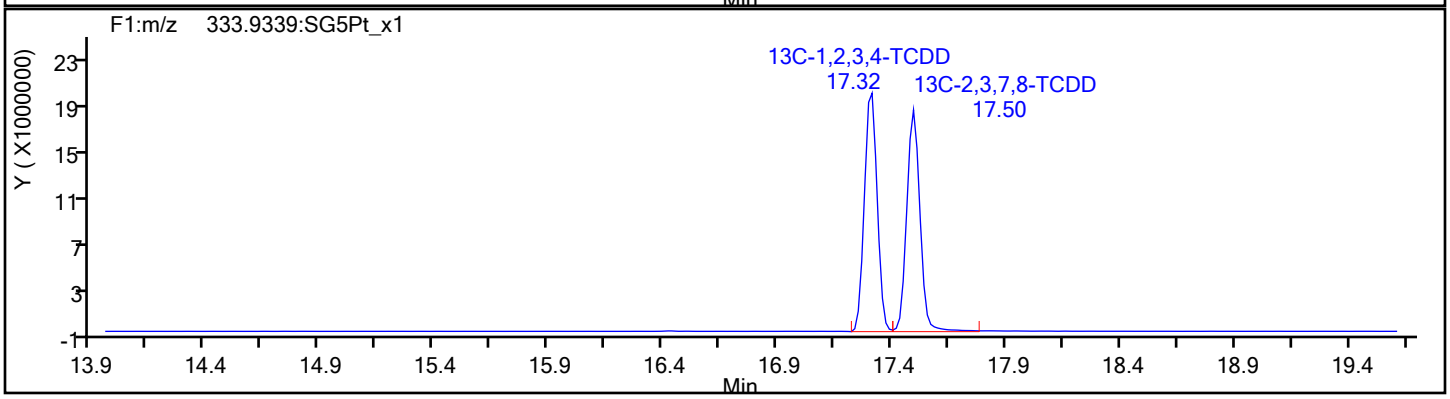

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

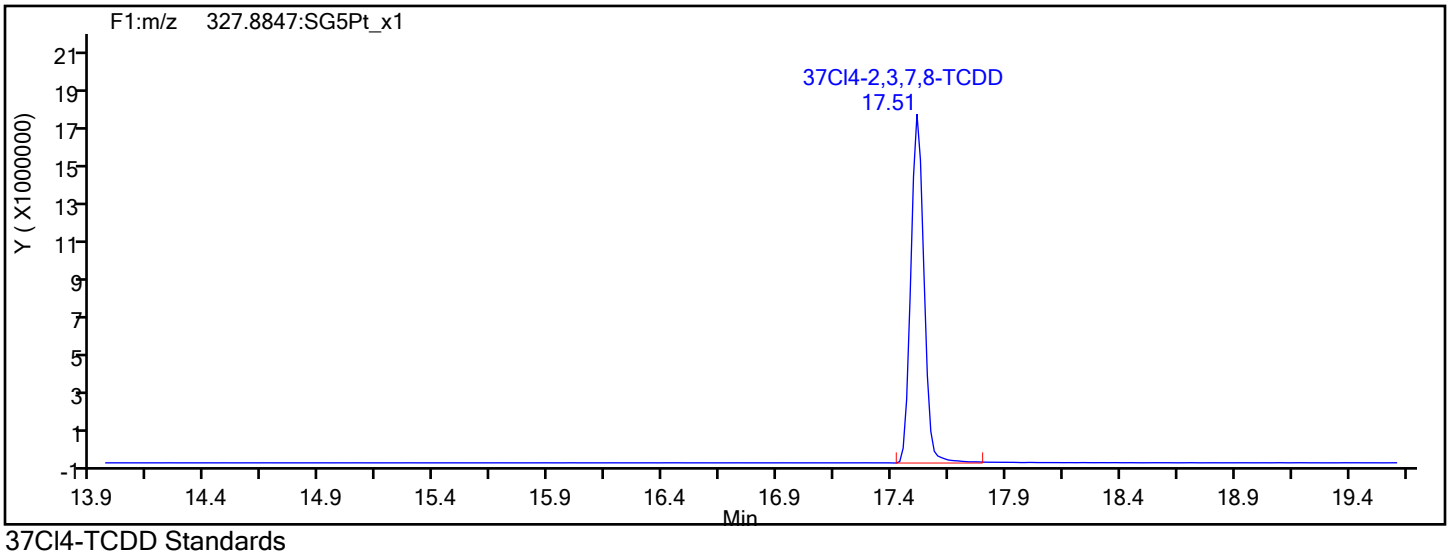

37Cl4-TCDD Standards

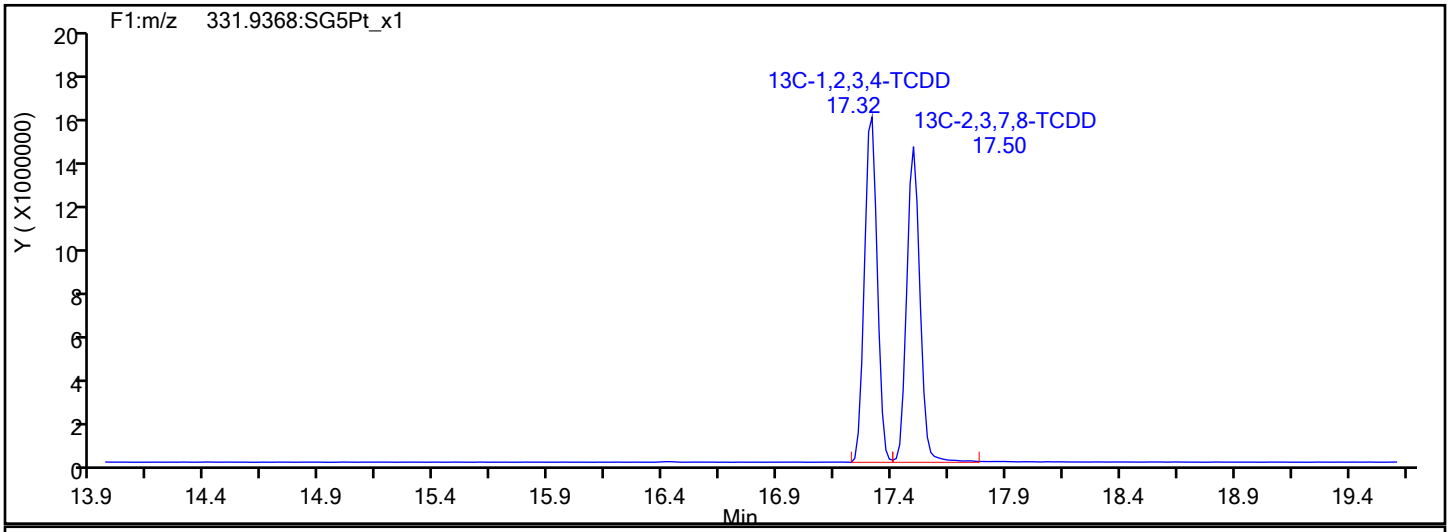

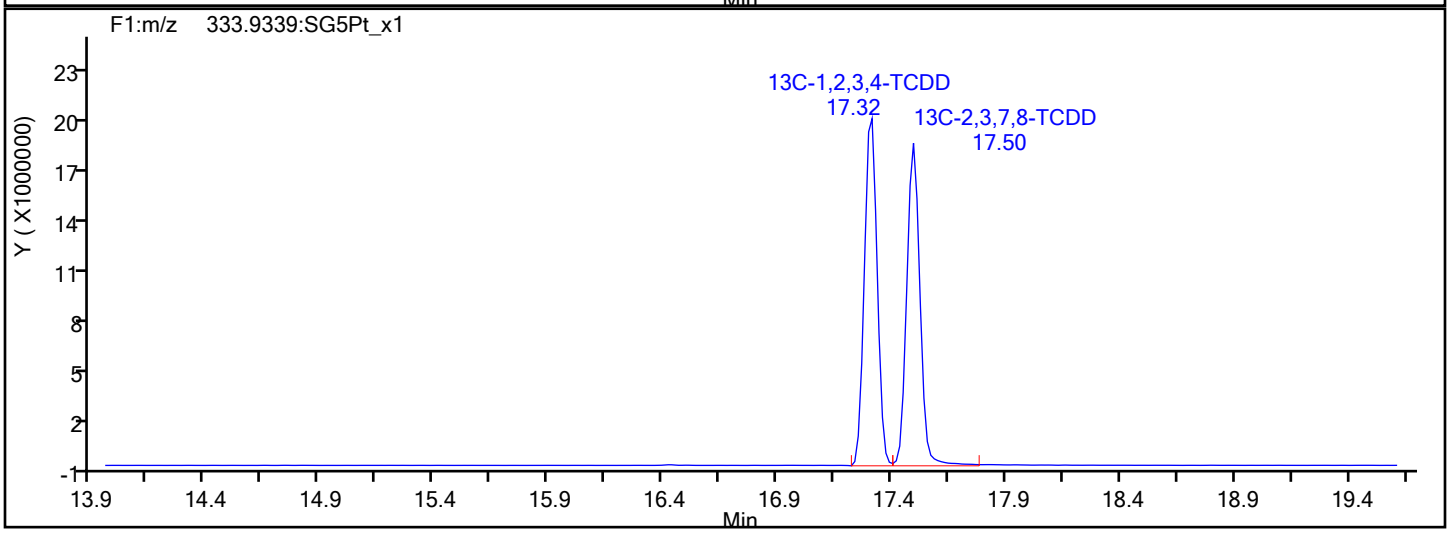

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

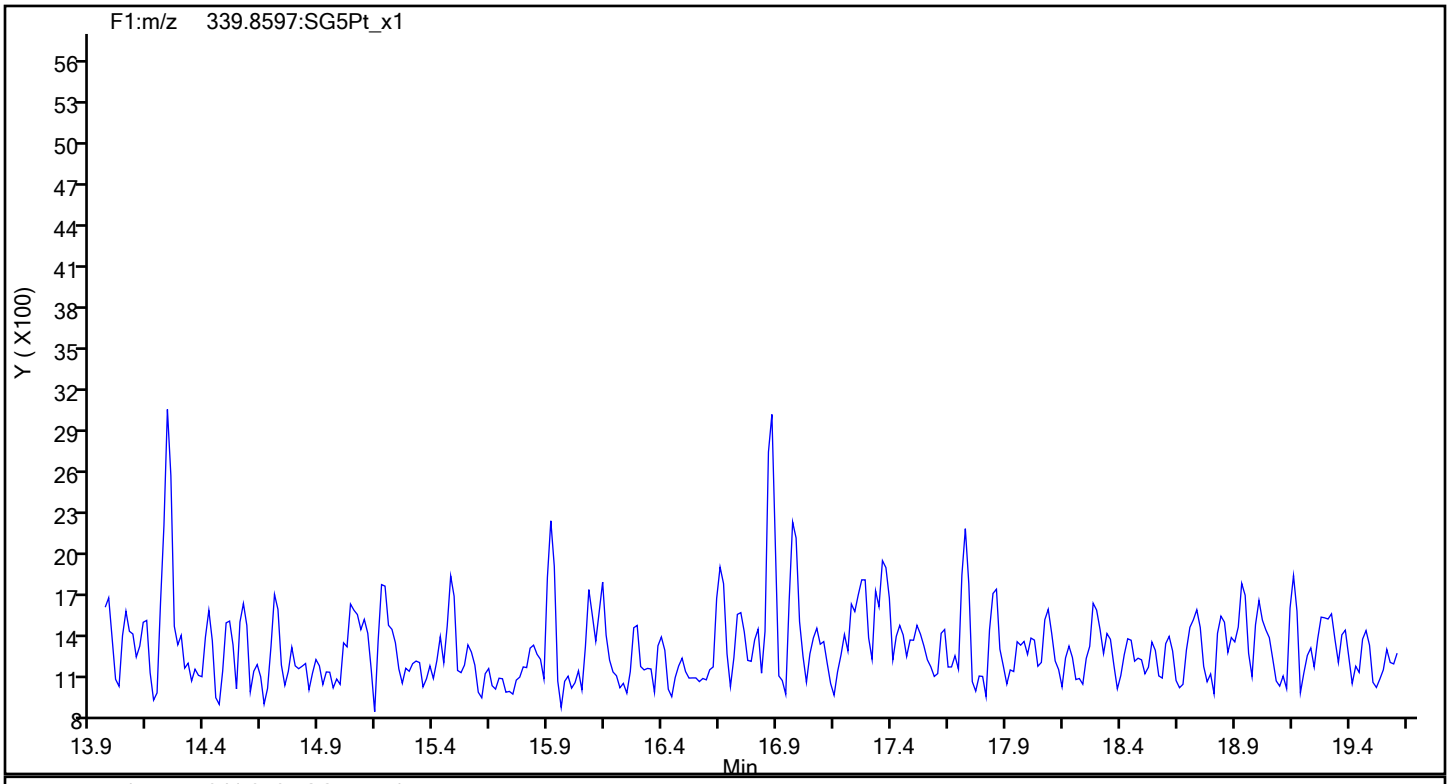

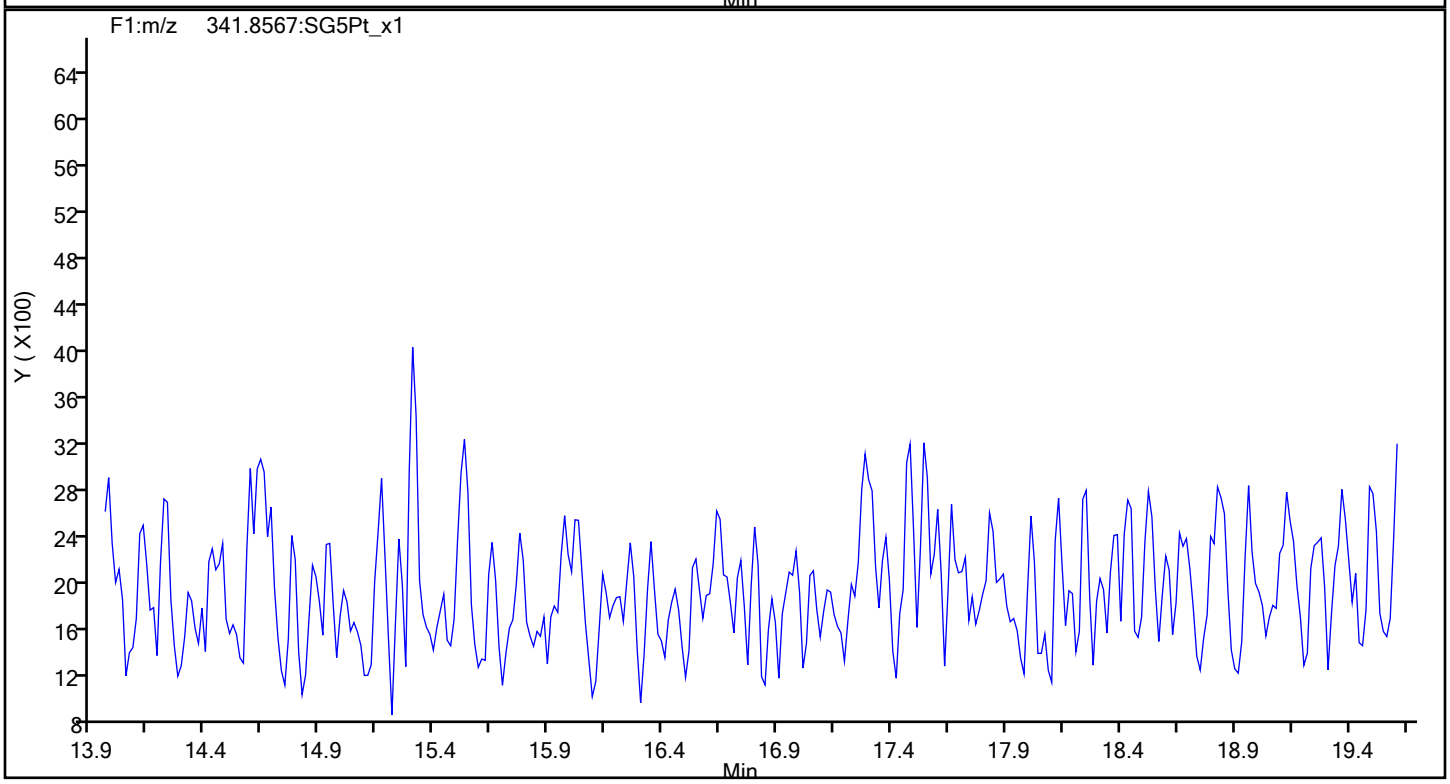

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

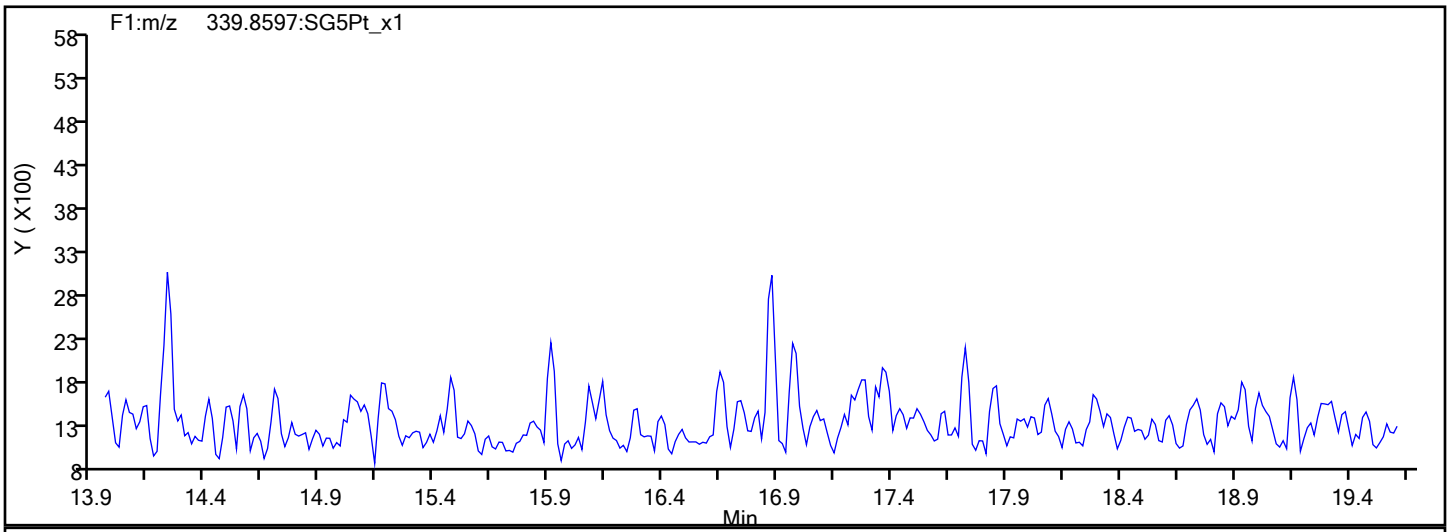

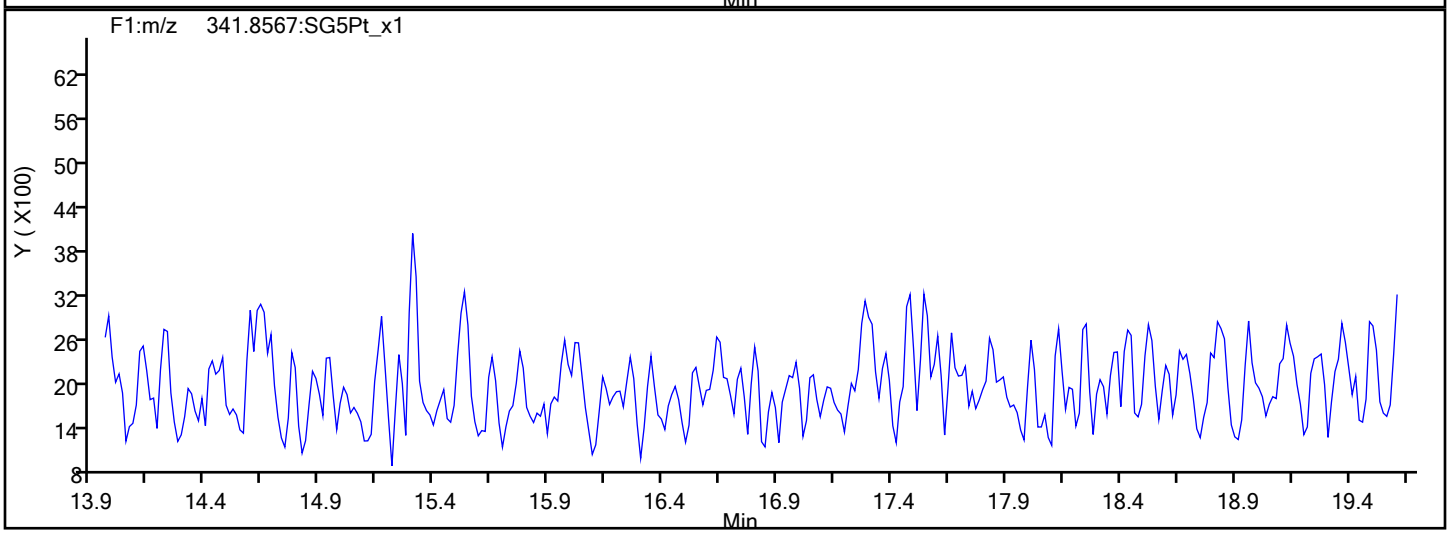

F1 PeCDFs Interference Mass

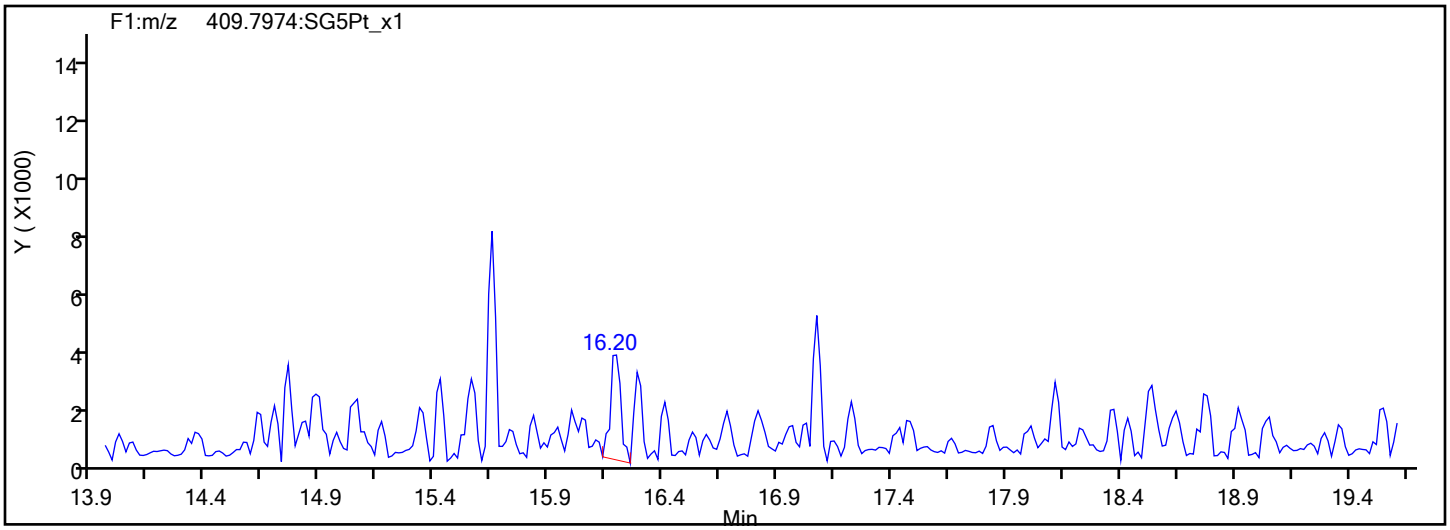

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Eurofins TestAmerica, Sacramento

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PeCDF

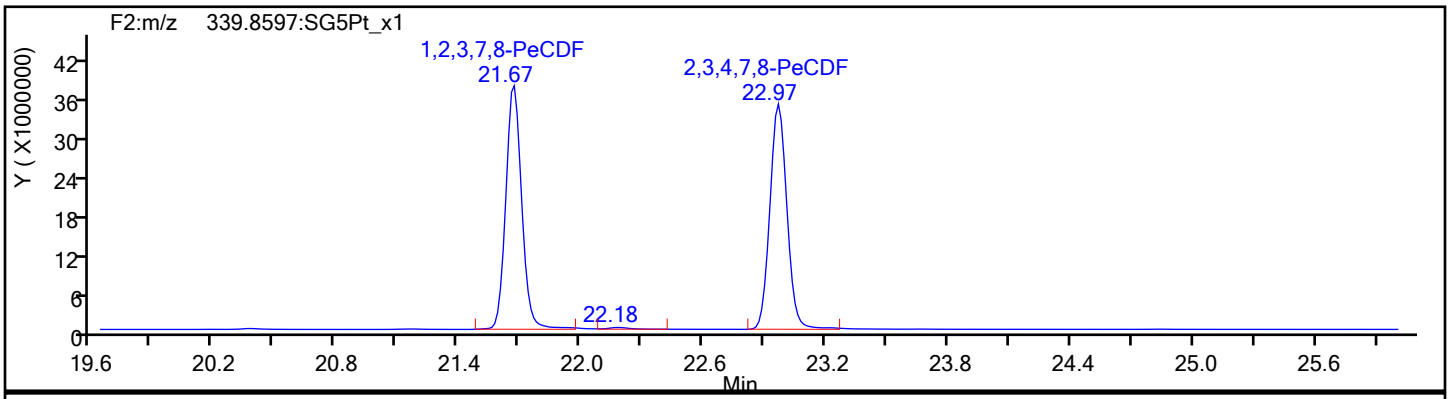

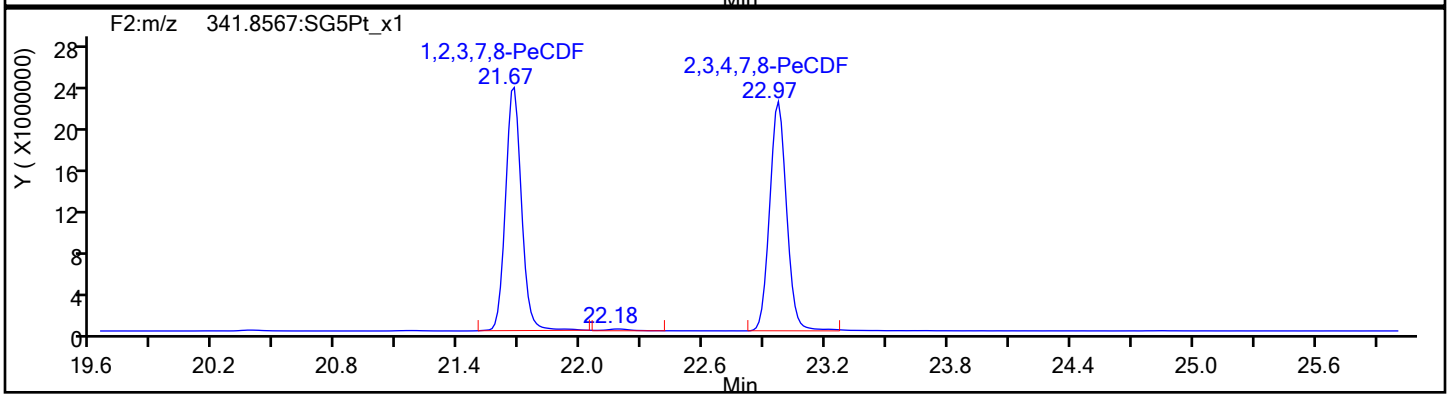

PeCDF Standards

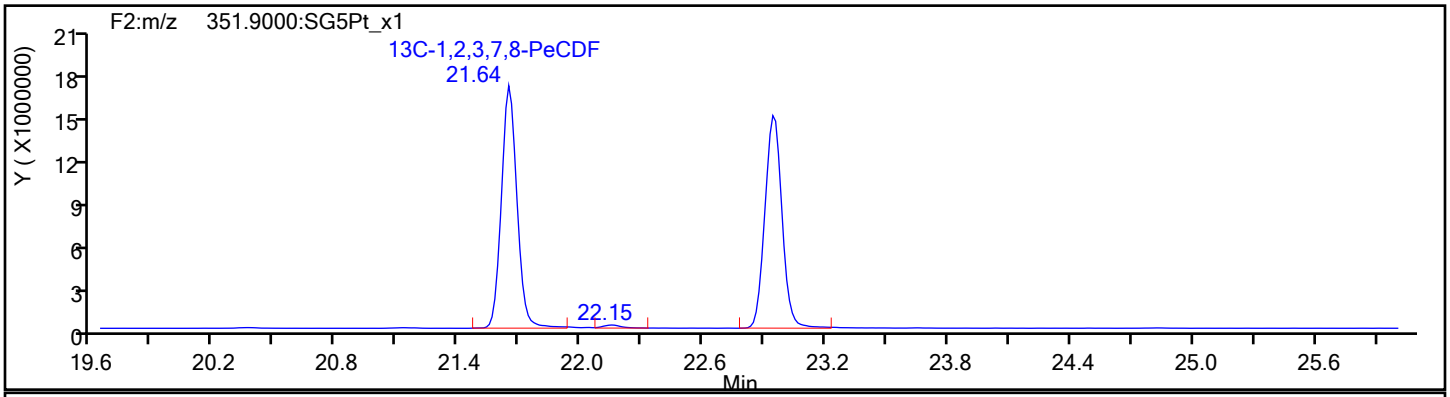

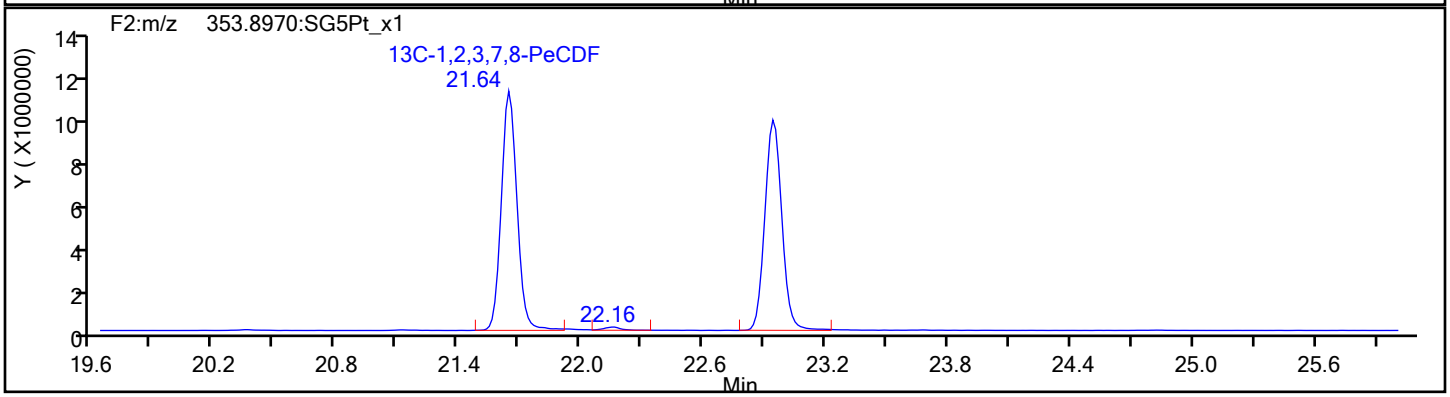

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Eurofins TestAmerica, Sacramento

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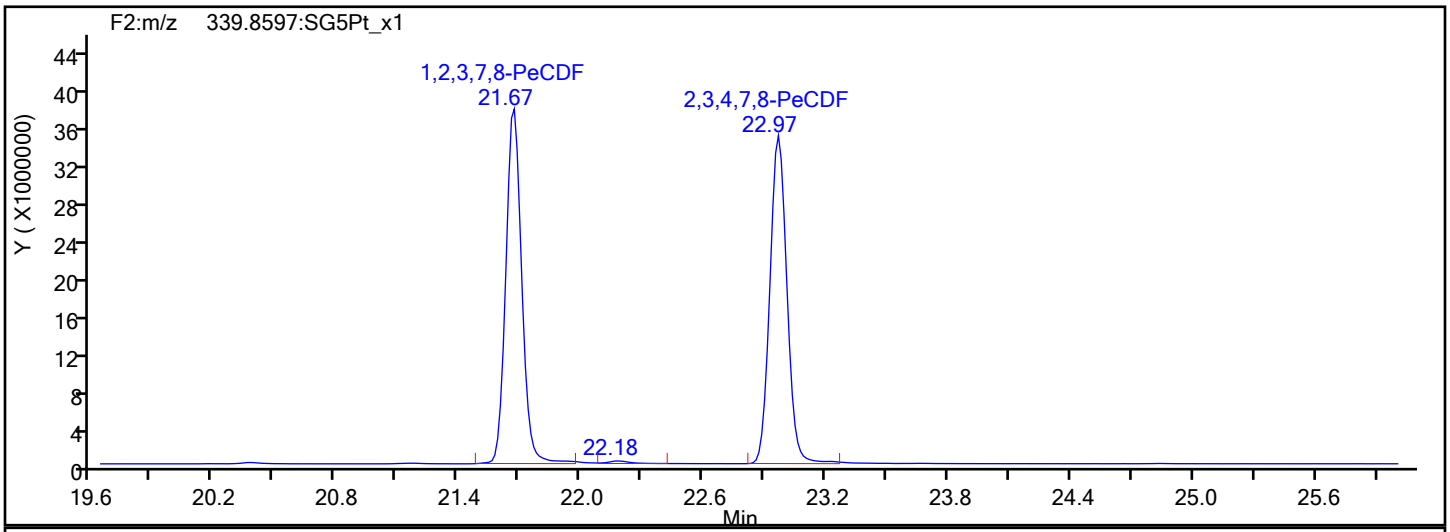

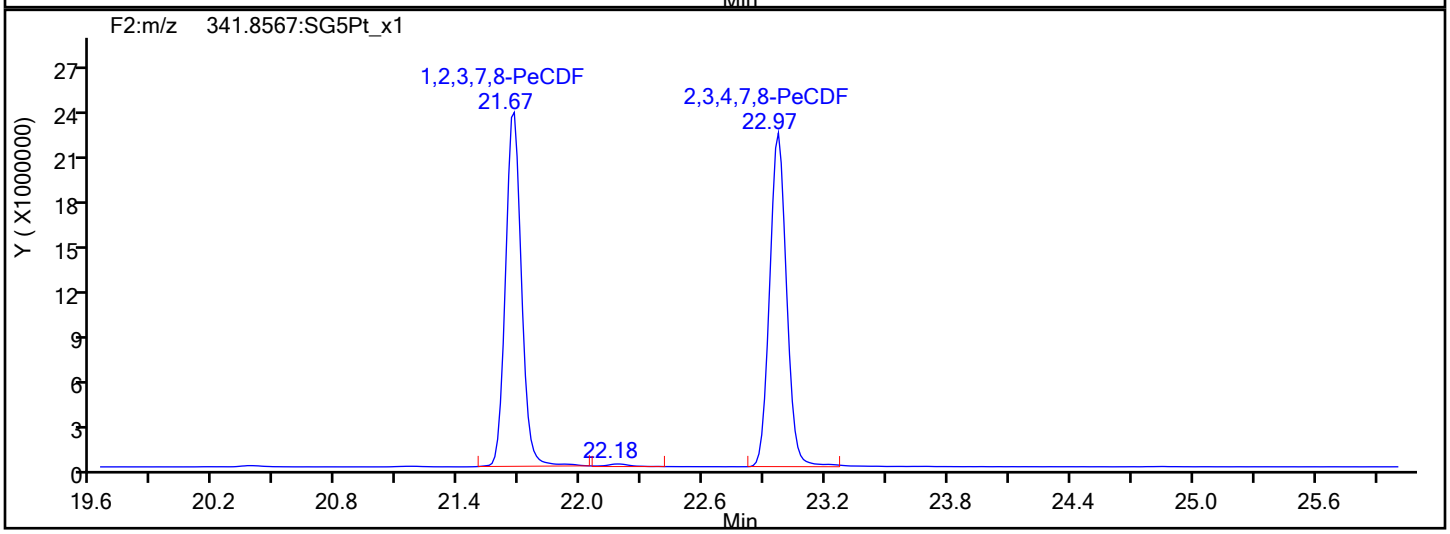

PeCDF Interference Mass

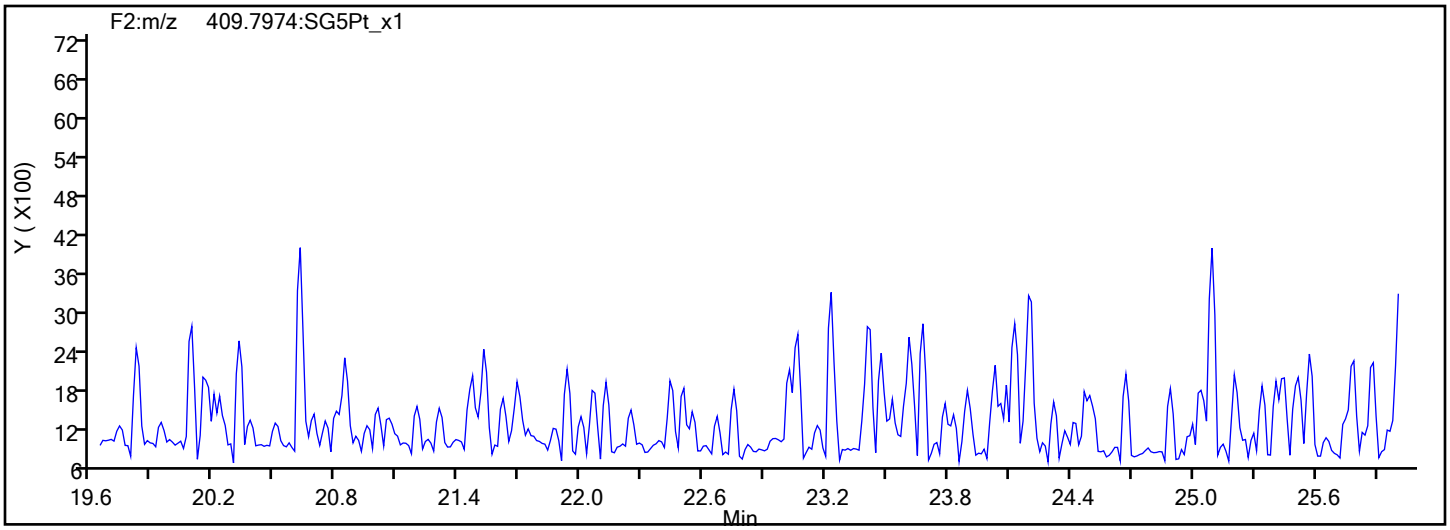

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Eurofins TestAmerica, Sacramento

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PeCDD

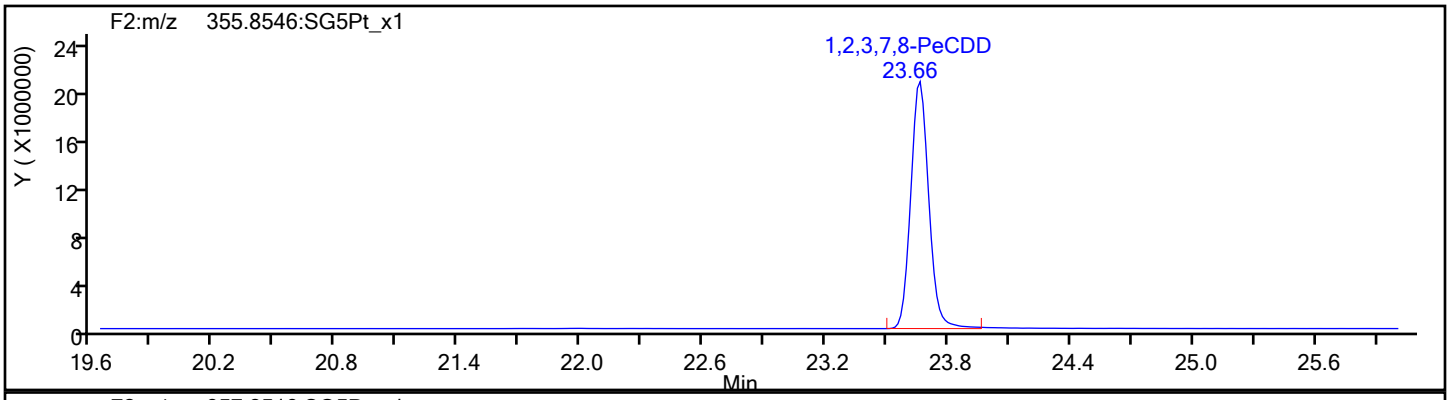

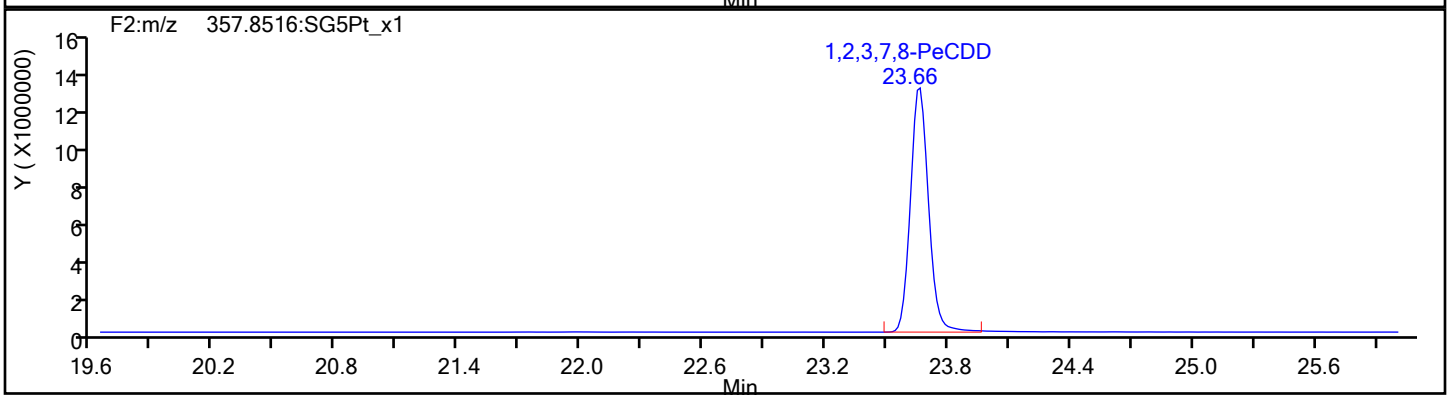

PeCDD Standards

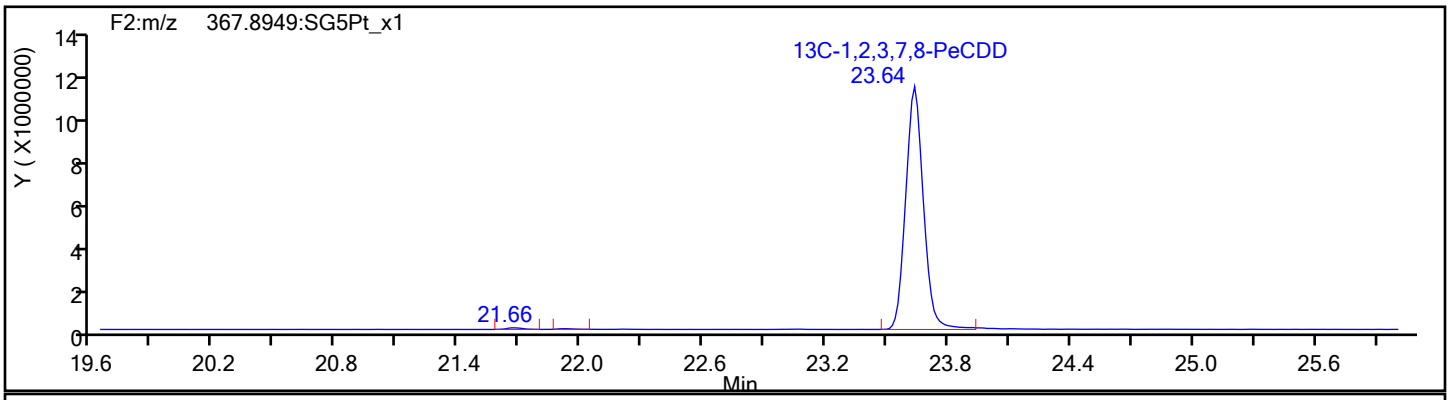

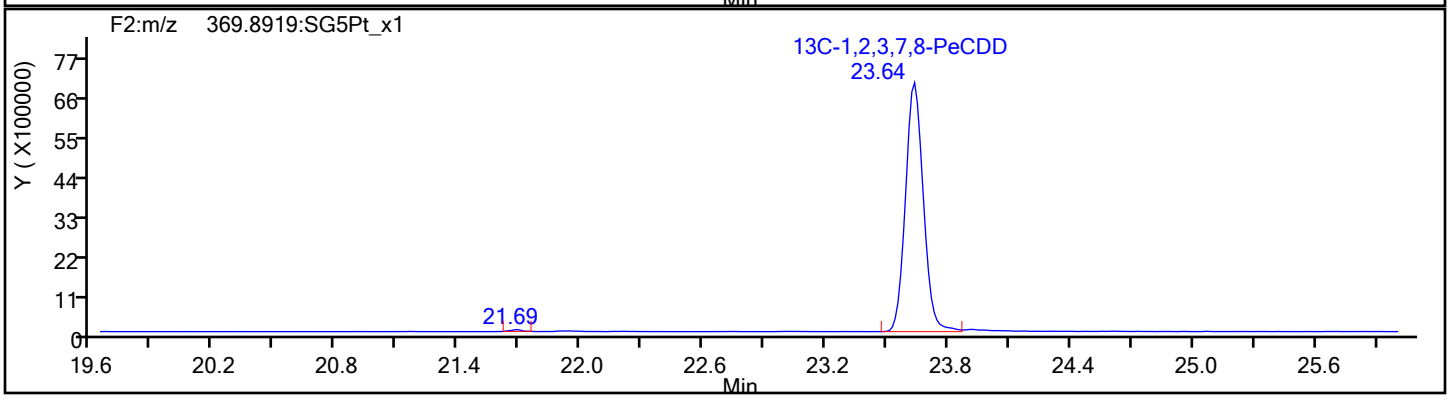

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Eurofins TestAmerica, Sacramento

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HxCDF

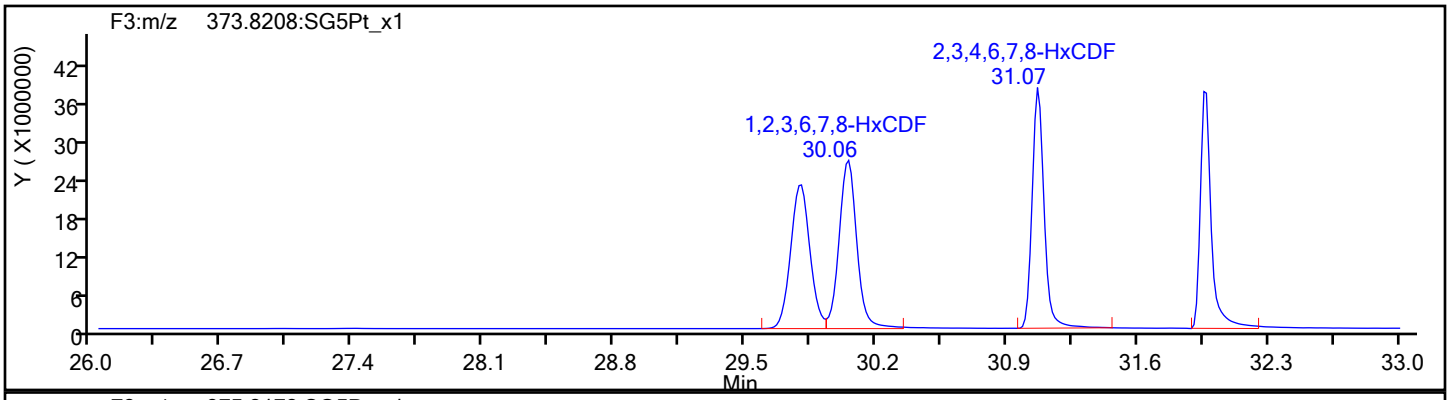

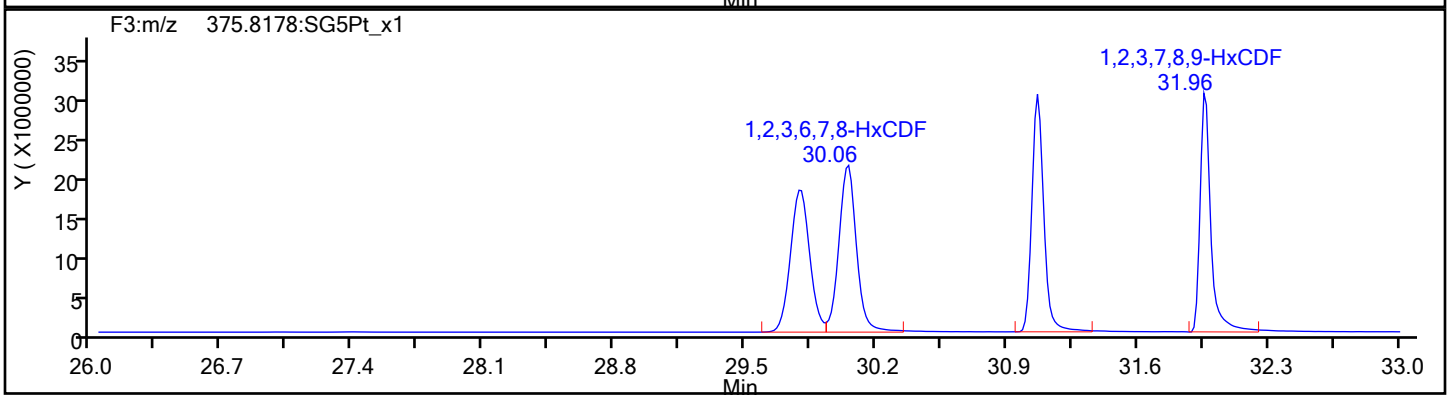

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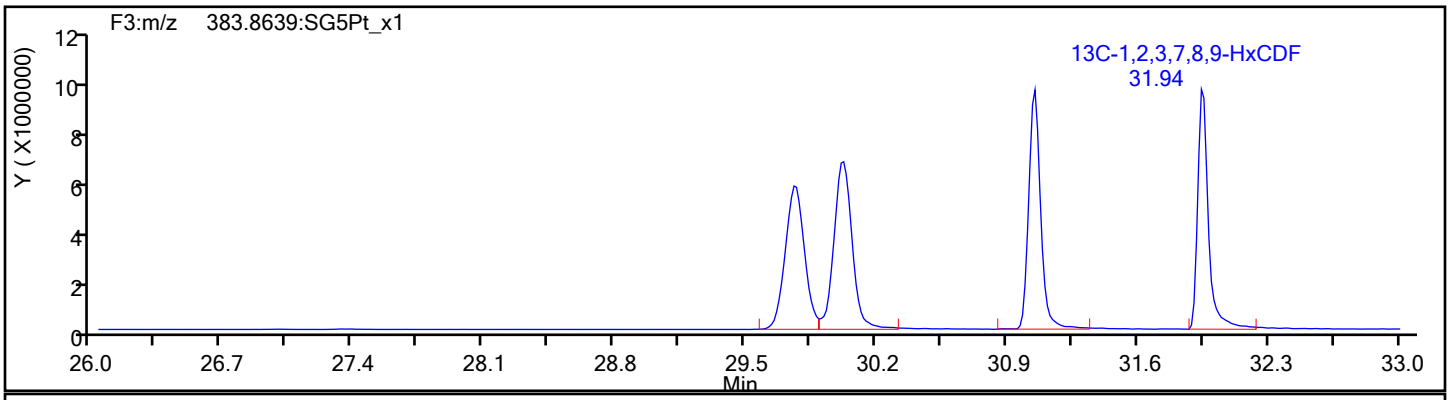

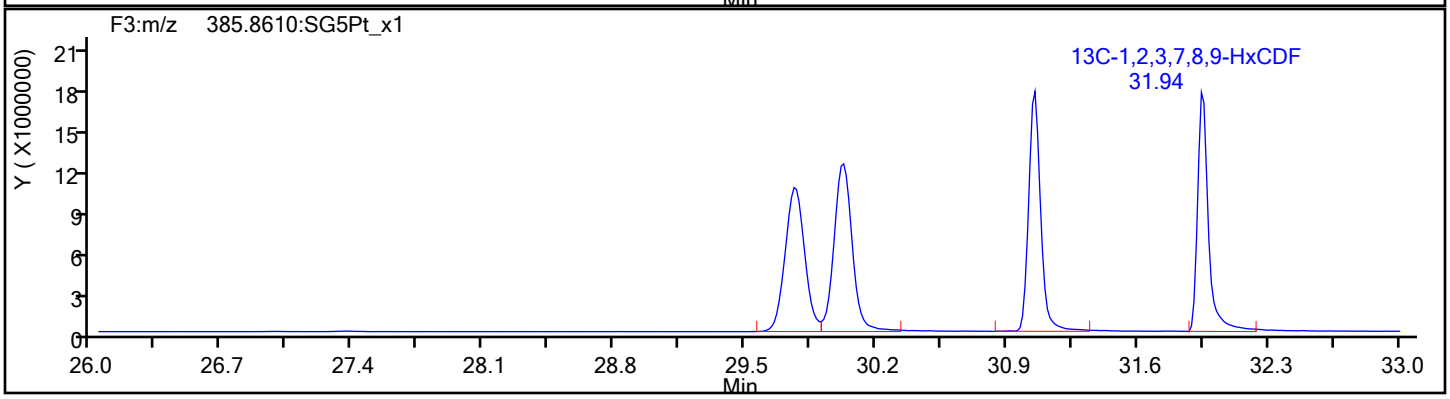

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Eurofins TestAmerica, Sacramento

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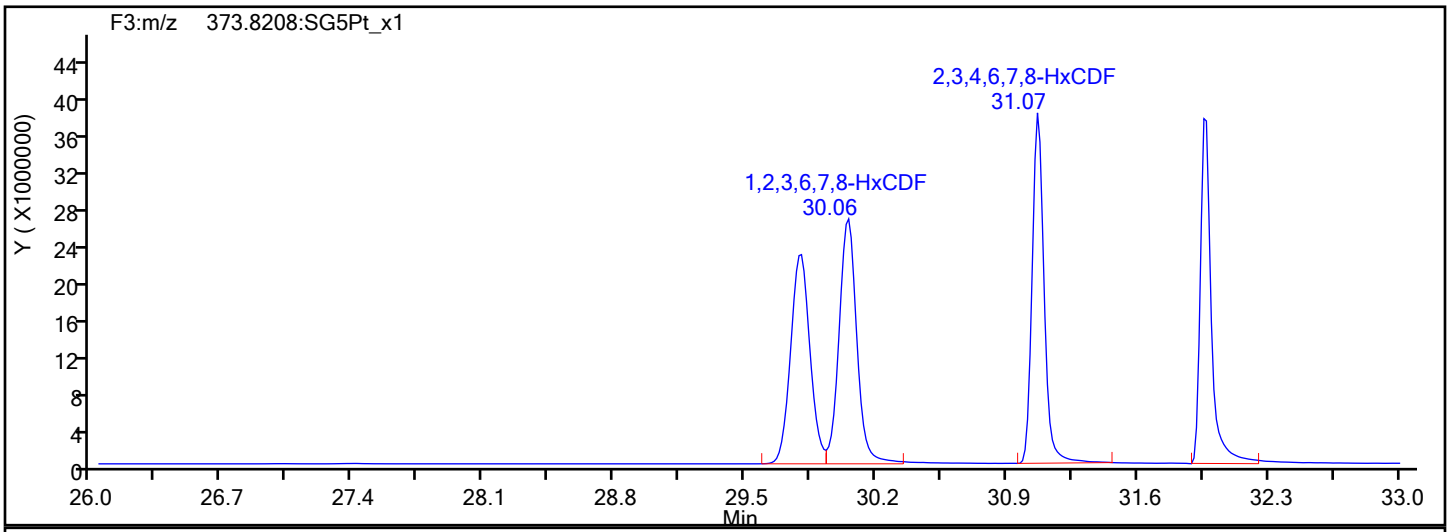

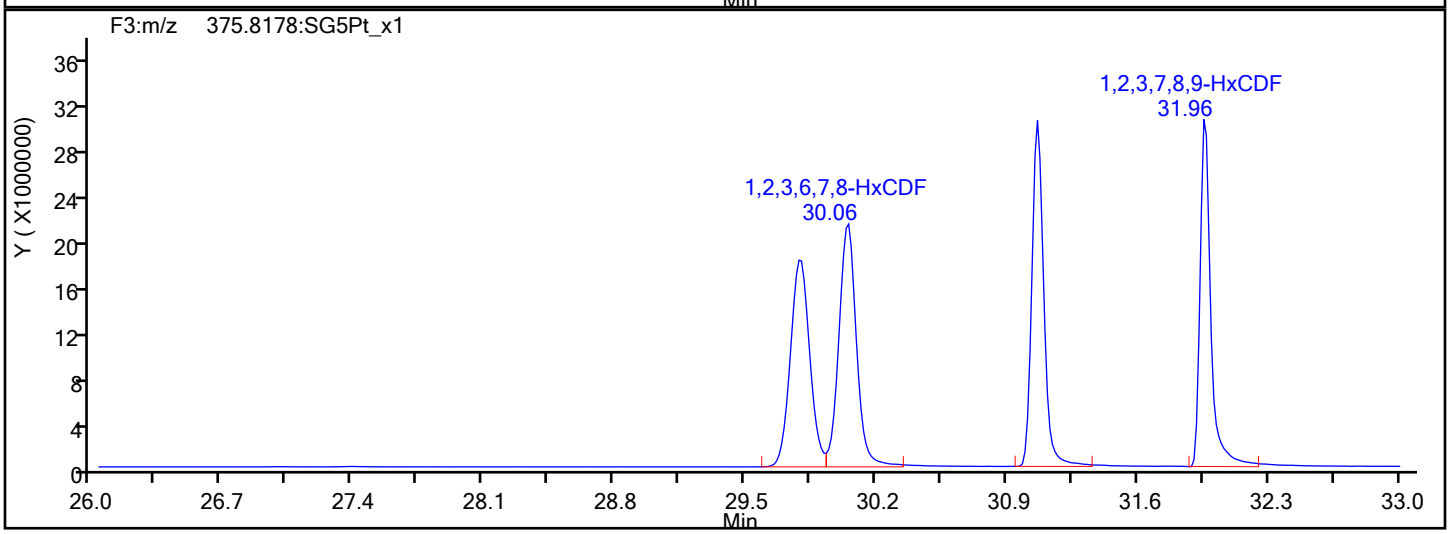

HxCDF Interference Mass

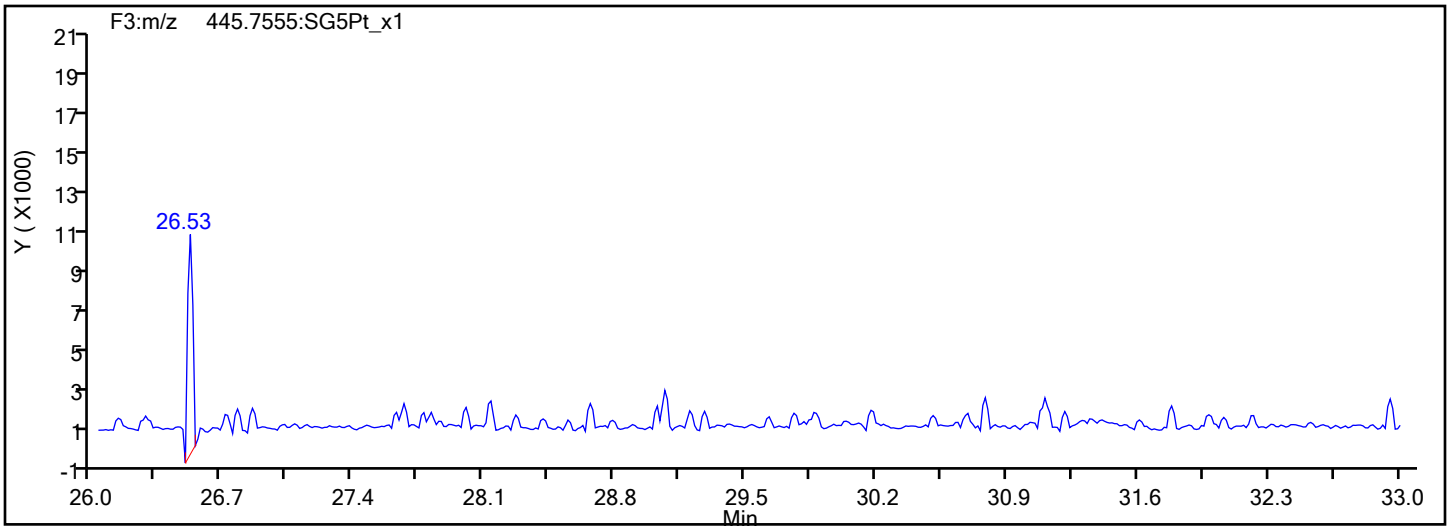

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Eurofins TestAmerica, Sacramento

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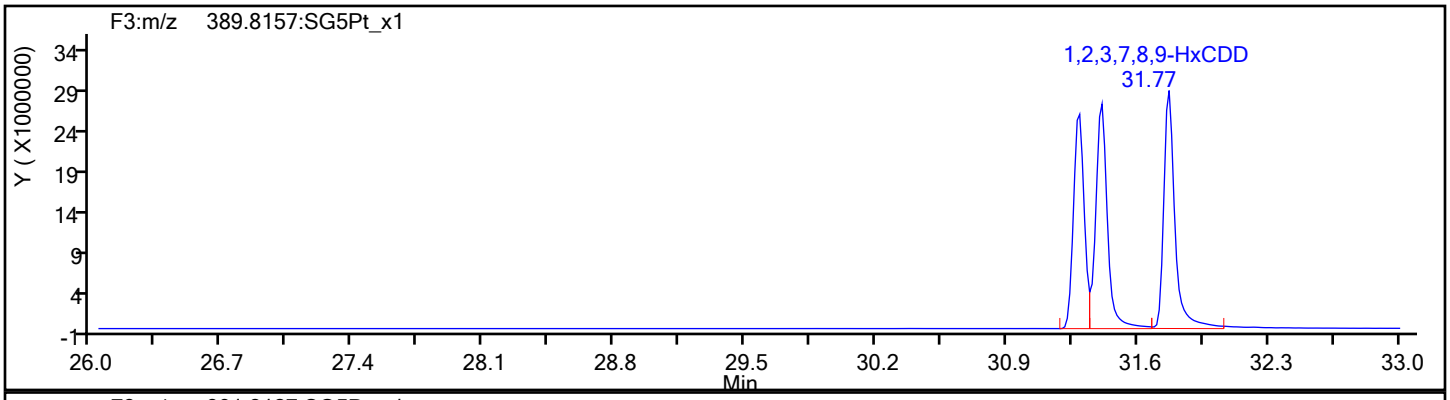

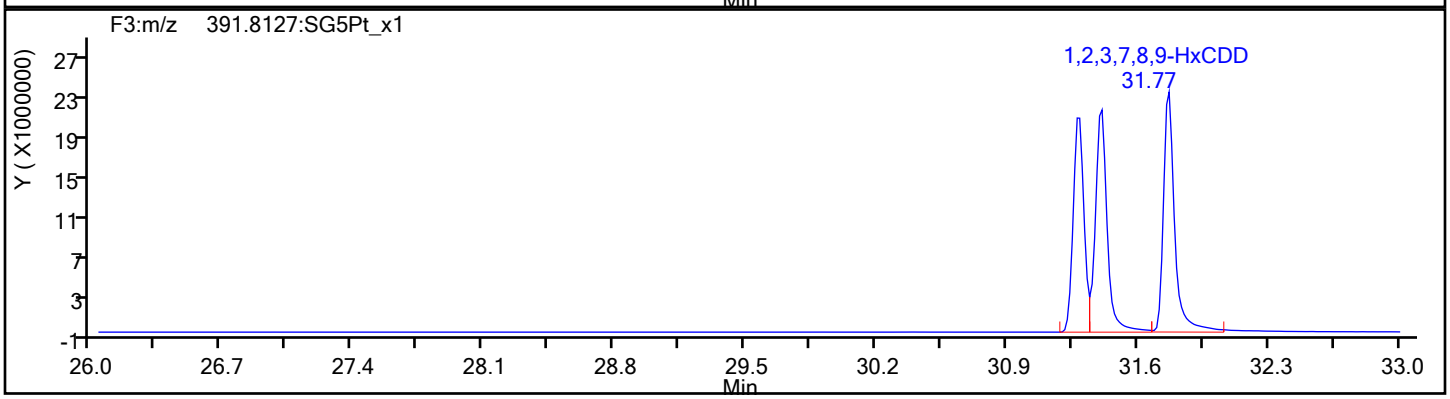

HxCDD Standards

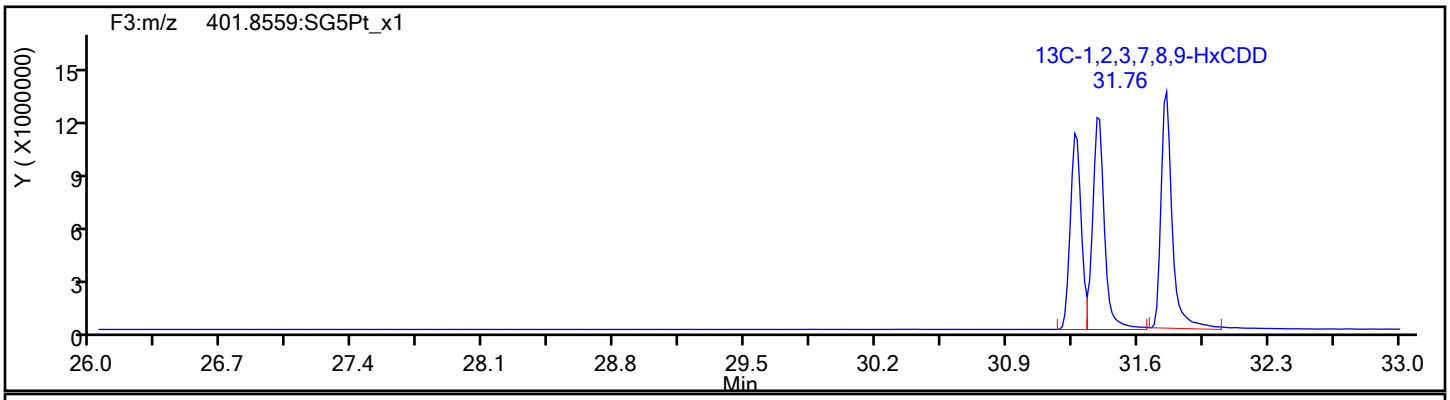

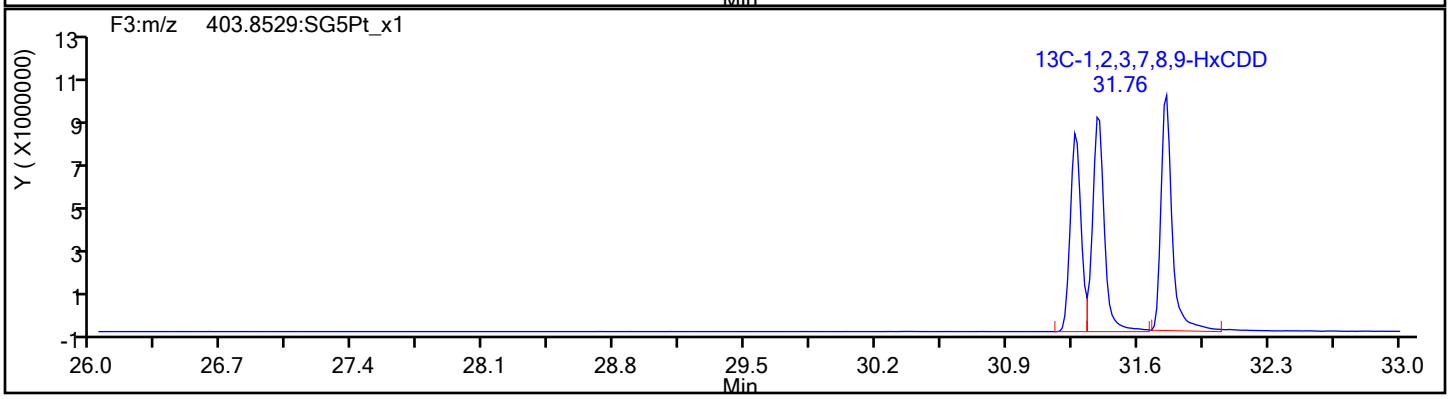

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HpCDF

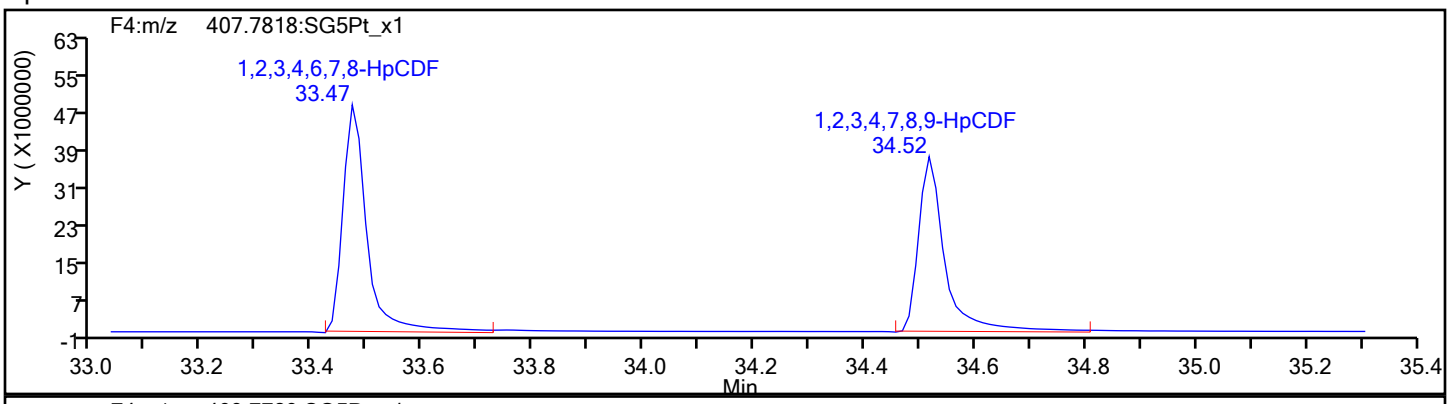

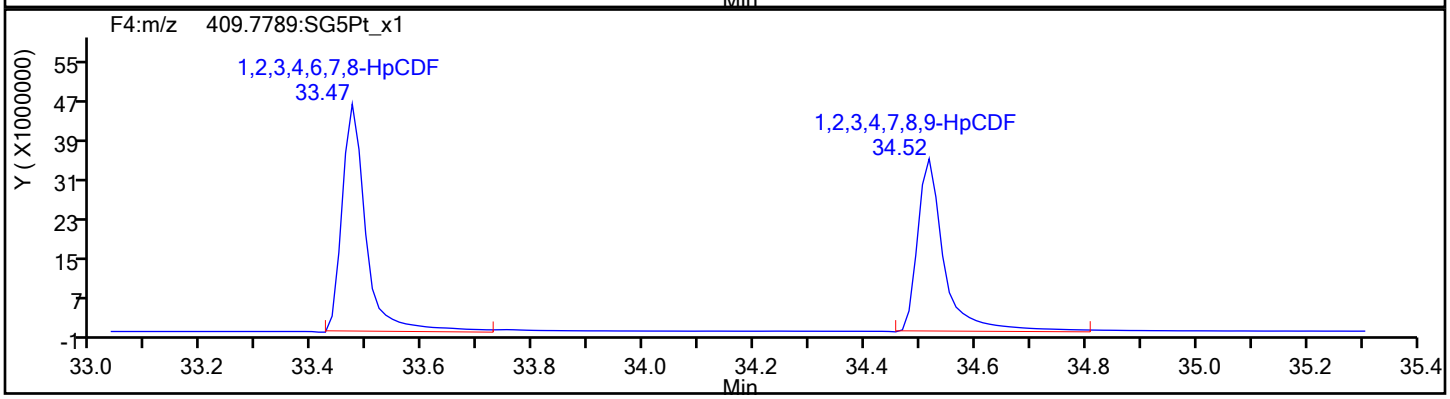

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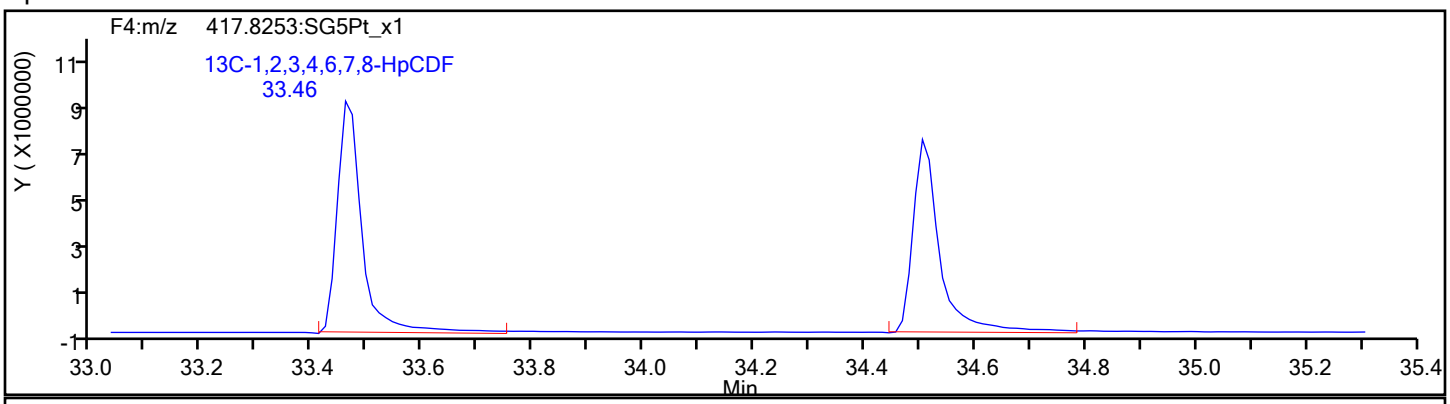

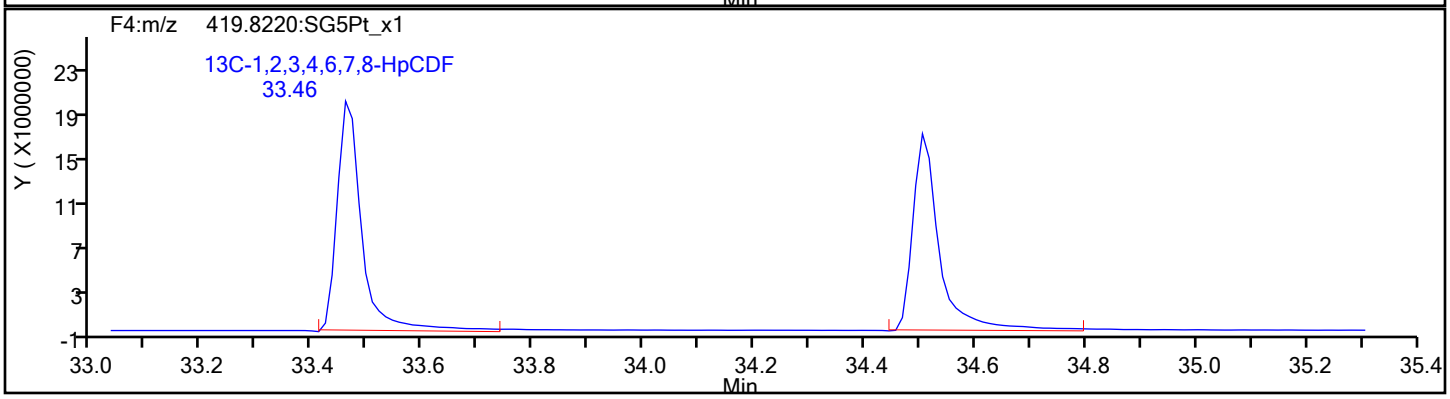

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HpCDF

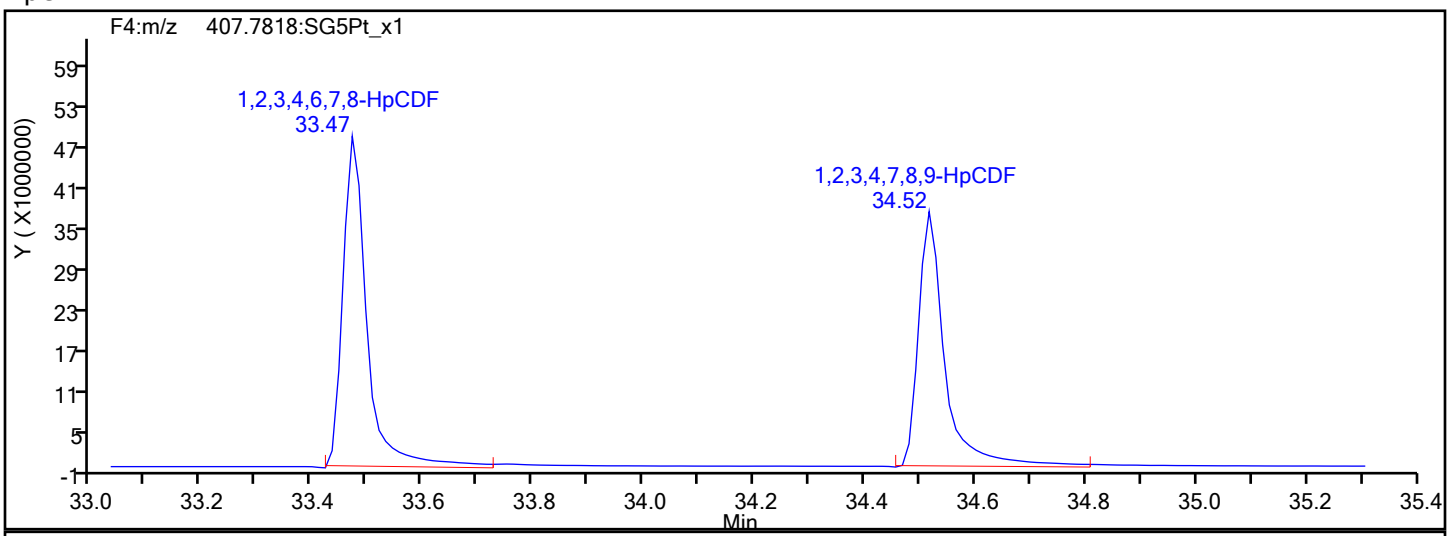

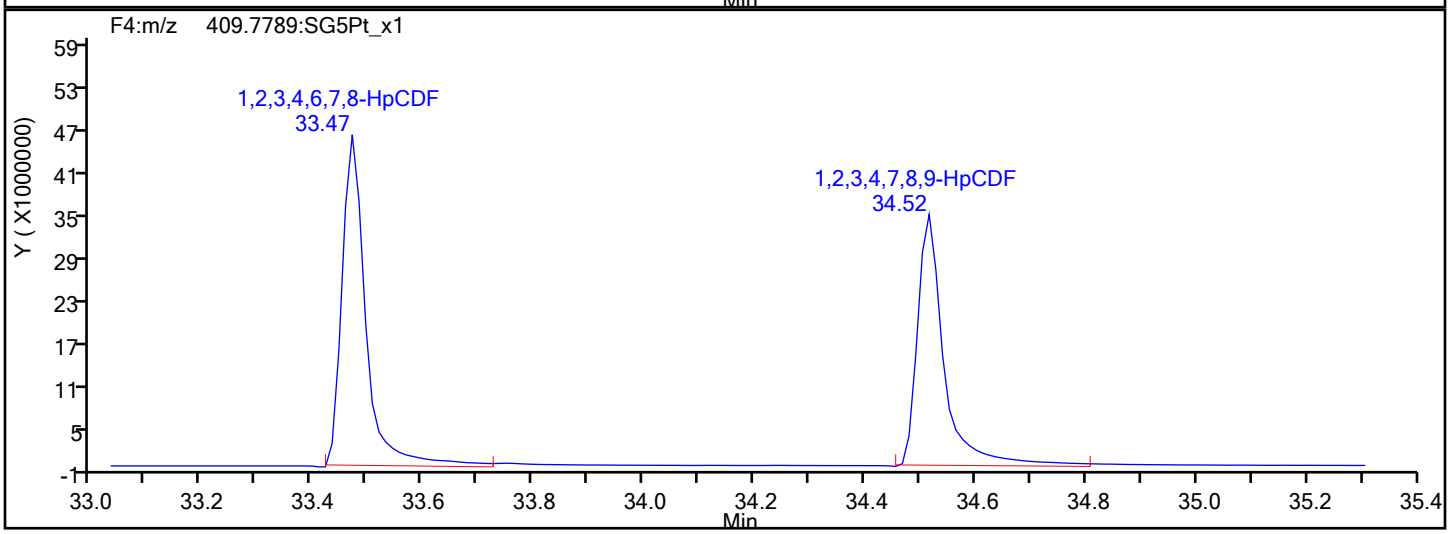

HpCDF Interference Mass

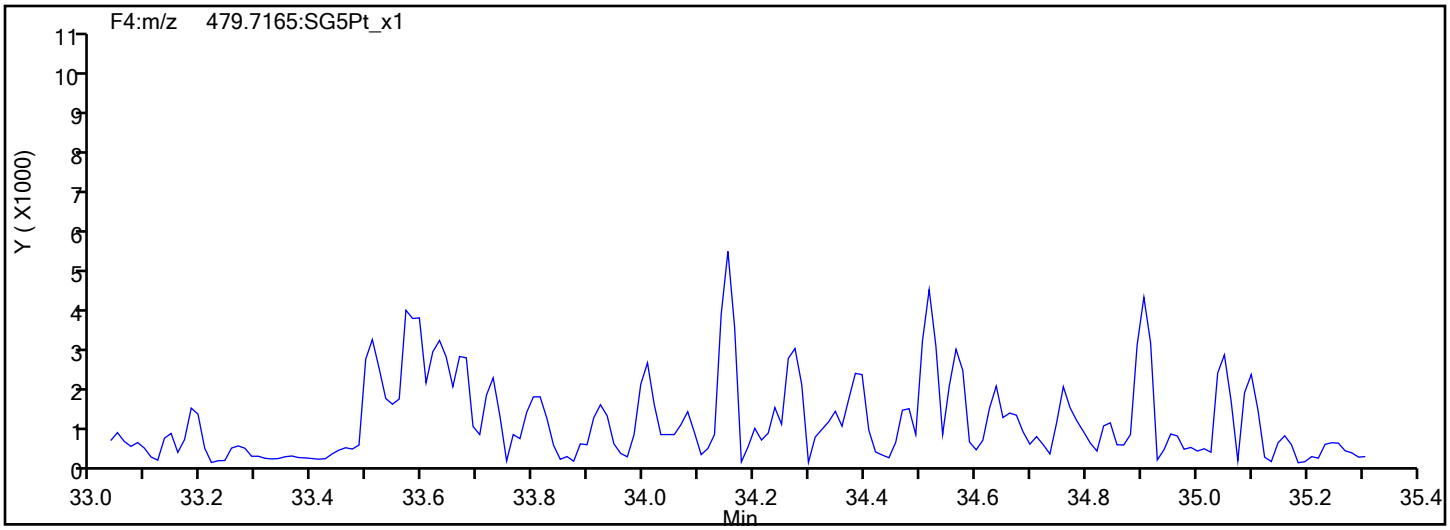

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_6.d		
Injection Date:	17-Sep-2019 15:21:22	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

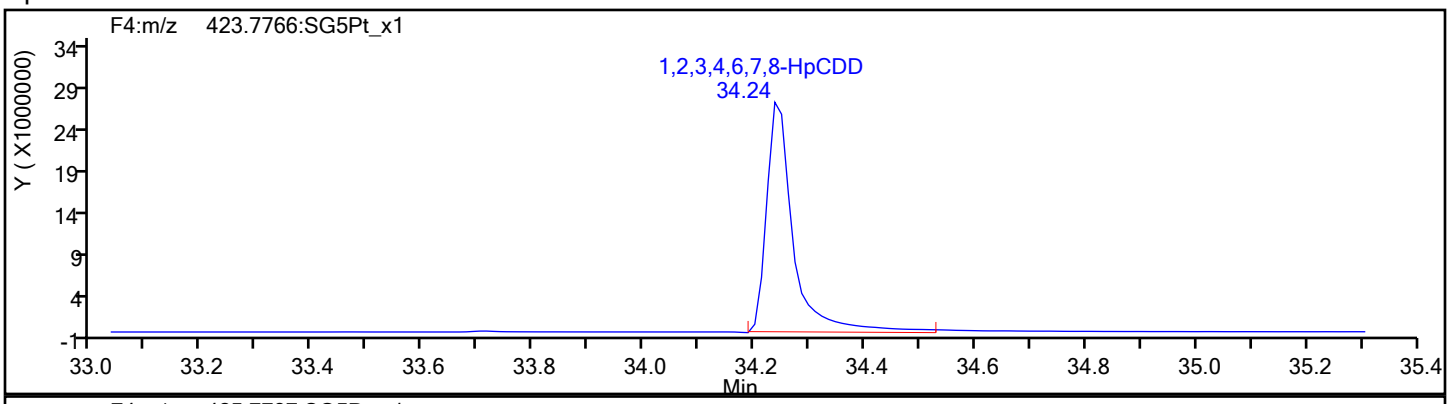

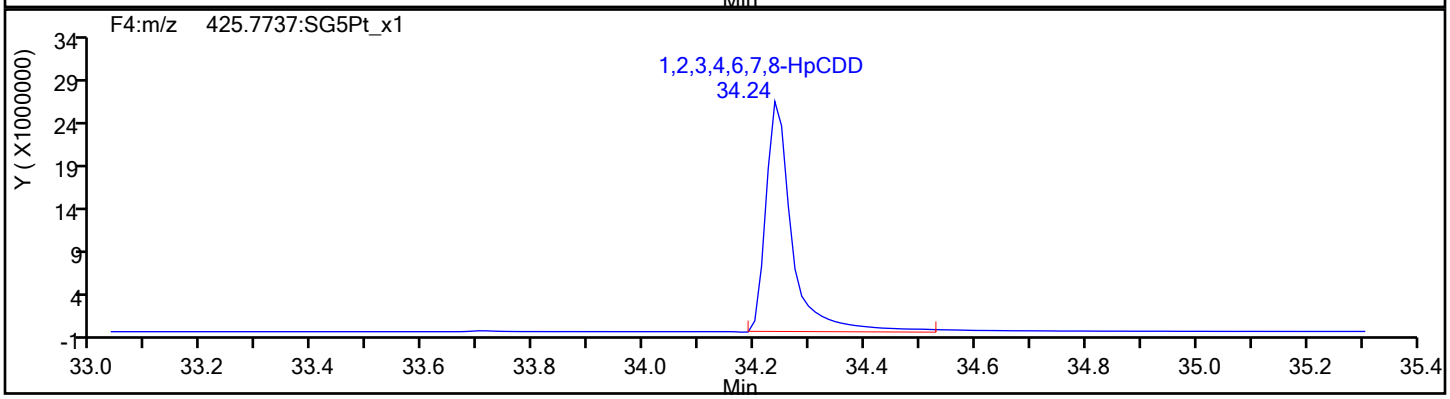

HpCDD Standards

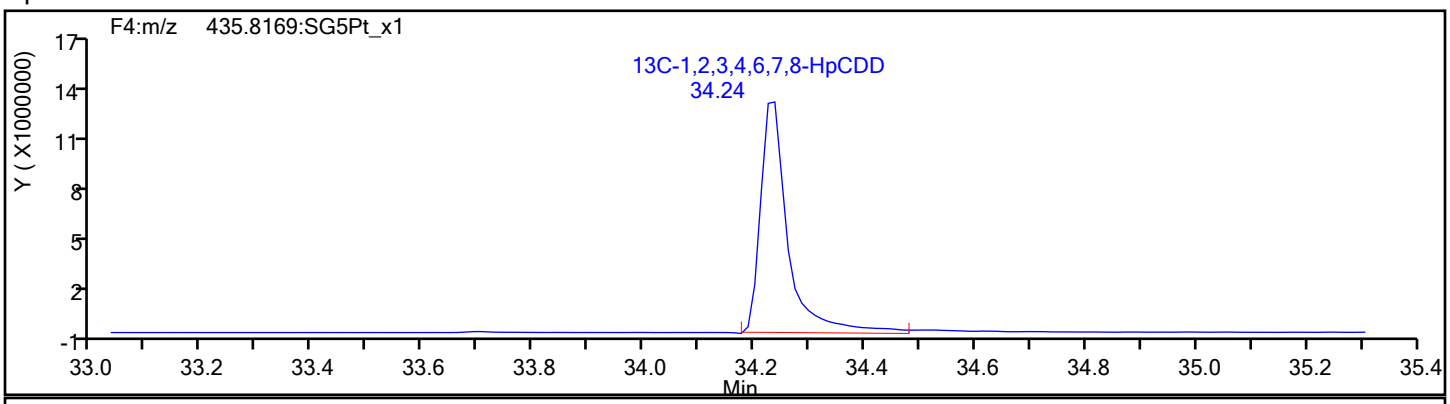

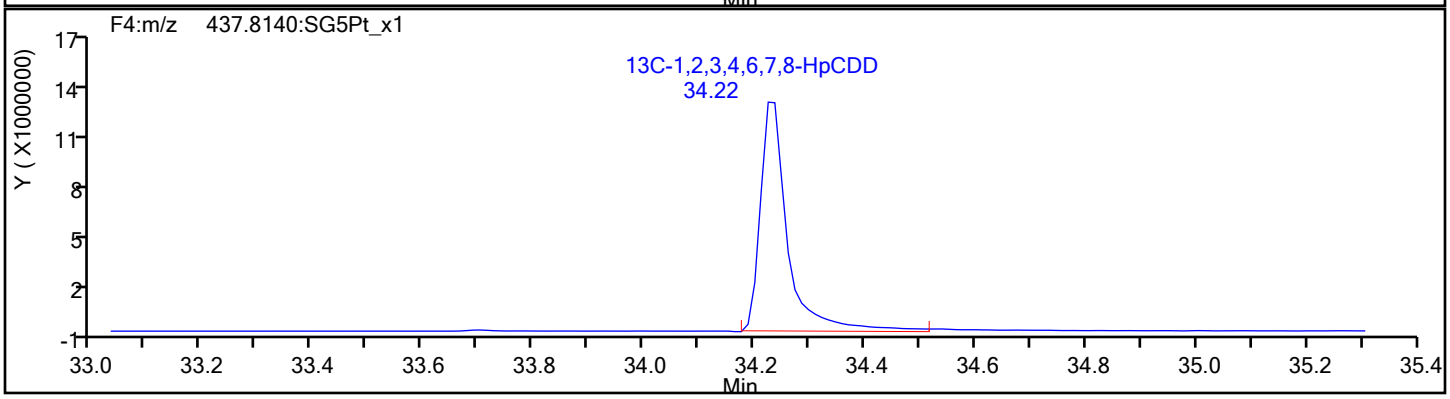

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_6.d		
Injection Date:	17-Sep-2019 15:21:22	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

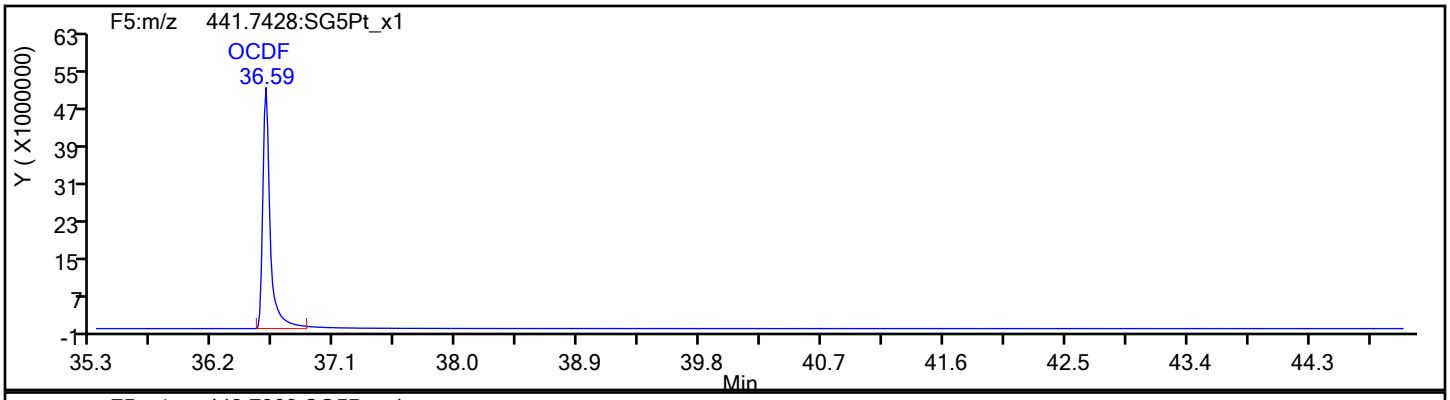

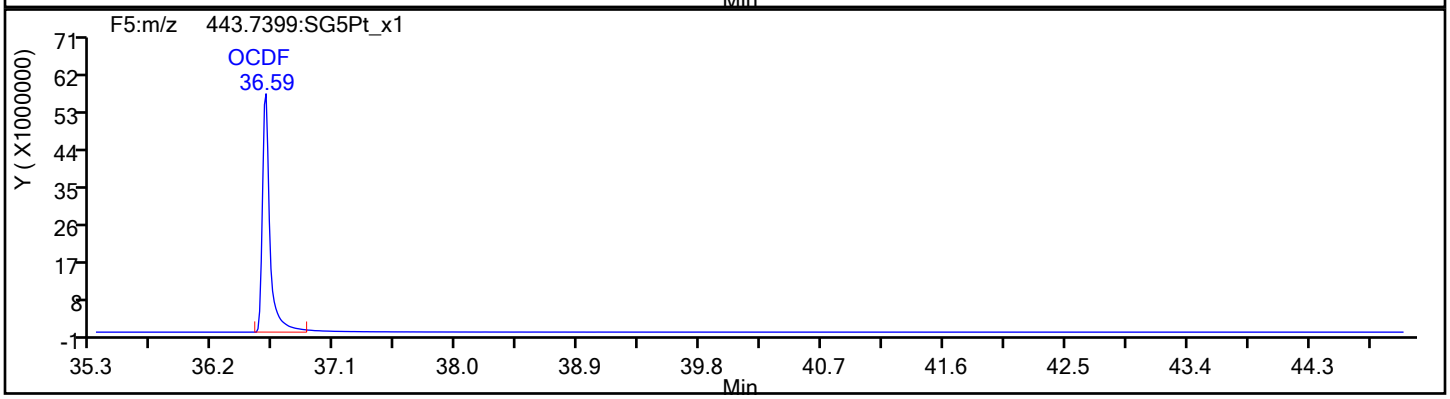

OCDF Standards

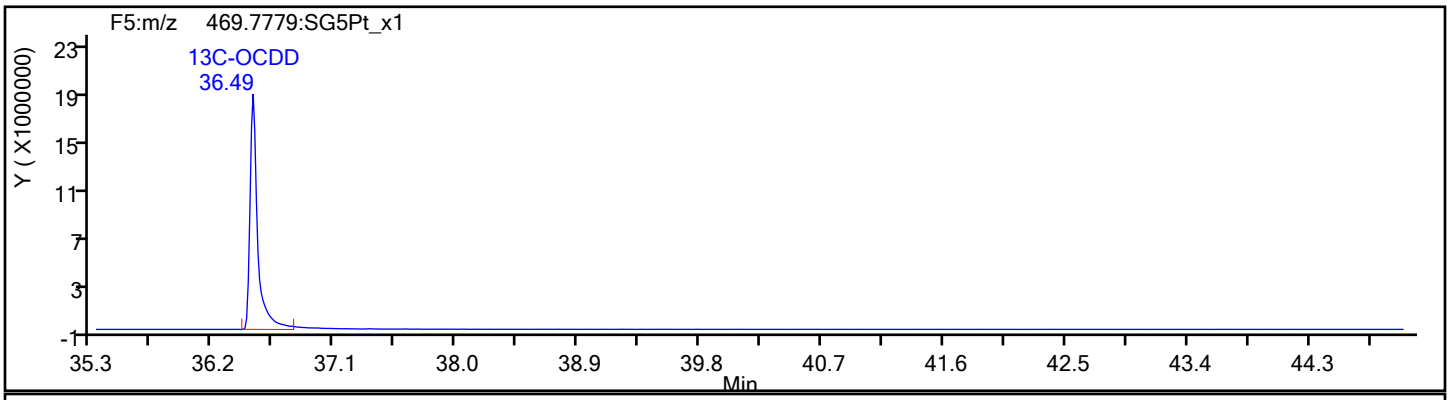

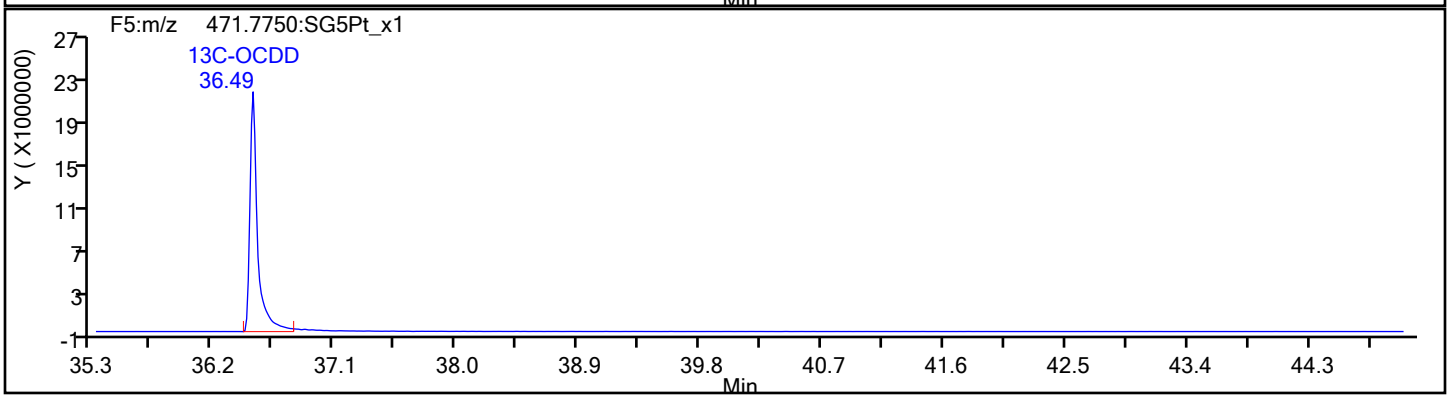

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_6.d		
Injection Date:	17-Sep-2019 15:21:22	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

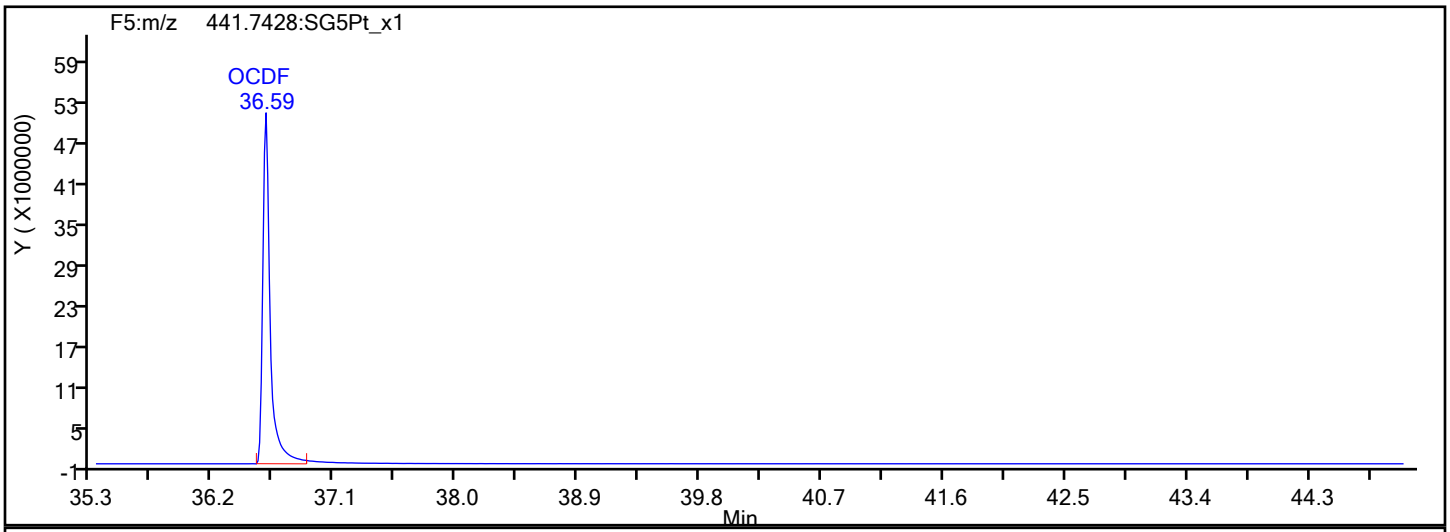

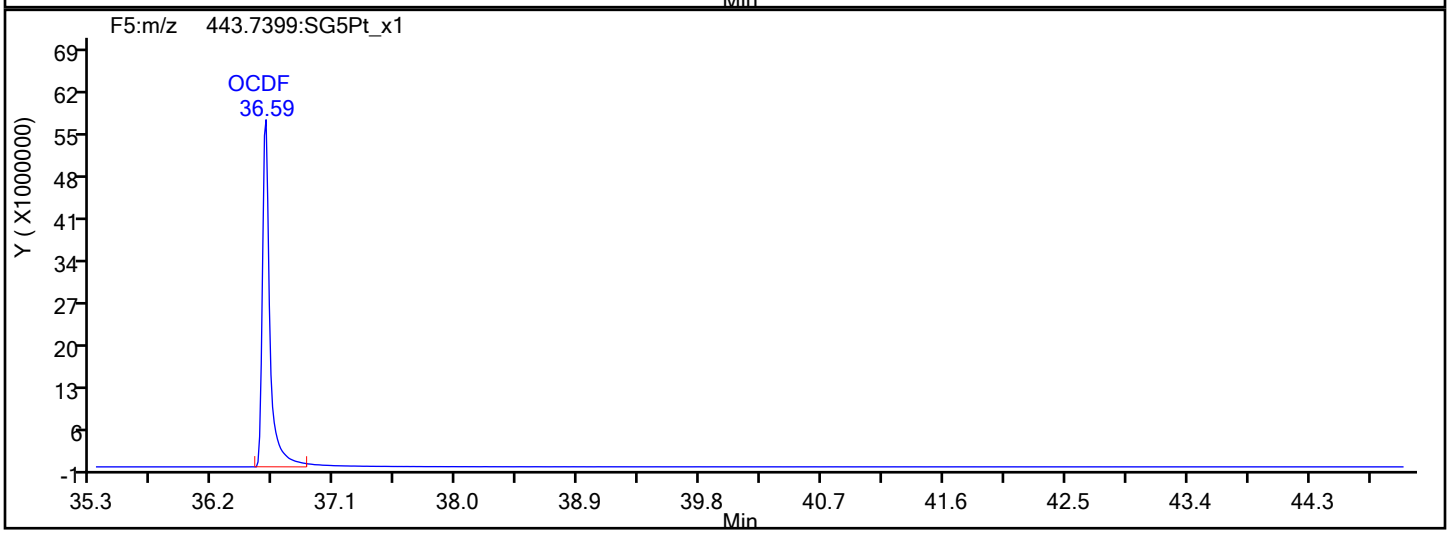

OCDF Interference Mass

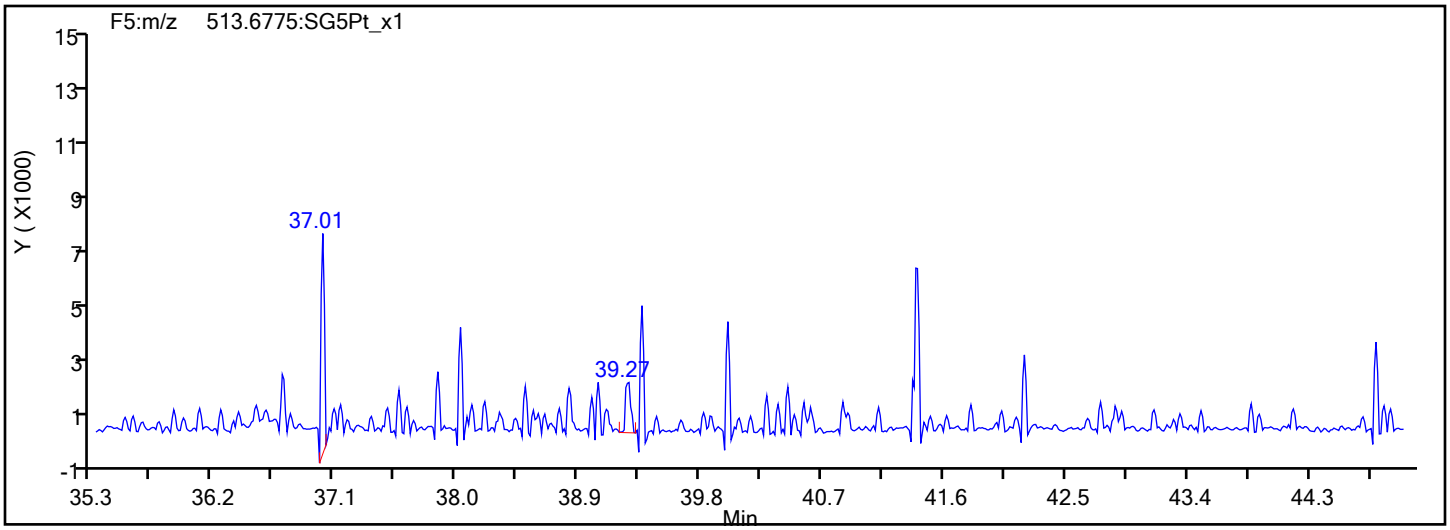

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_6.d		
Injection Date:	17-Sep-2019 15:21:22	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

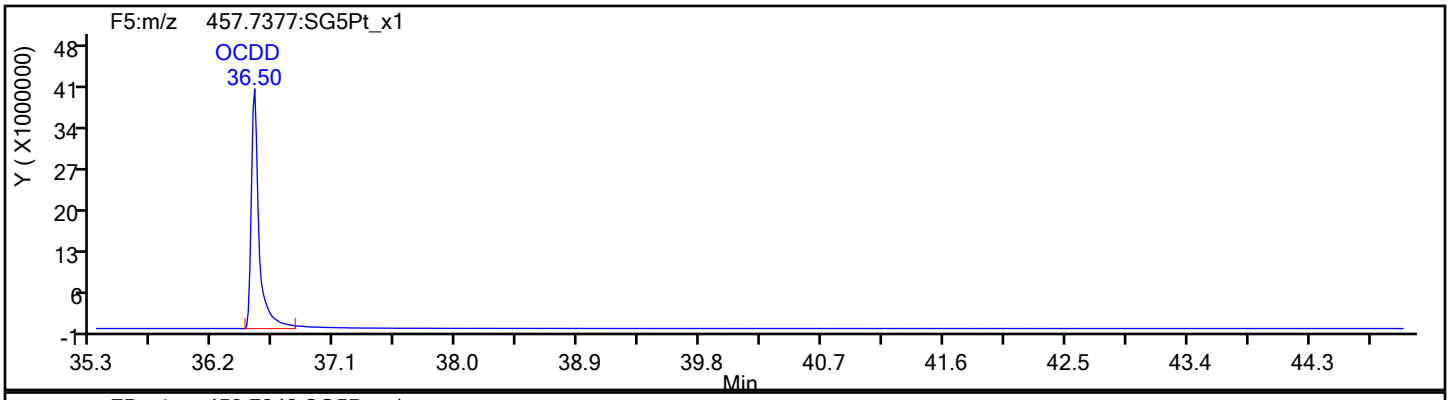

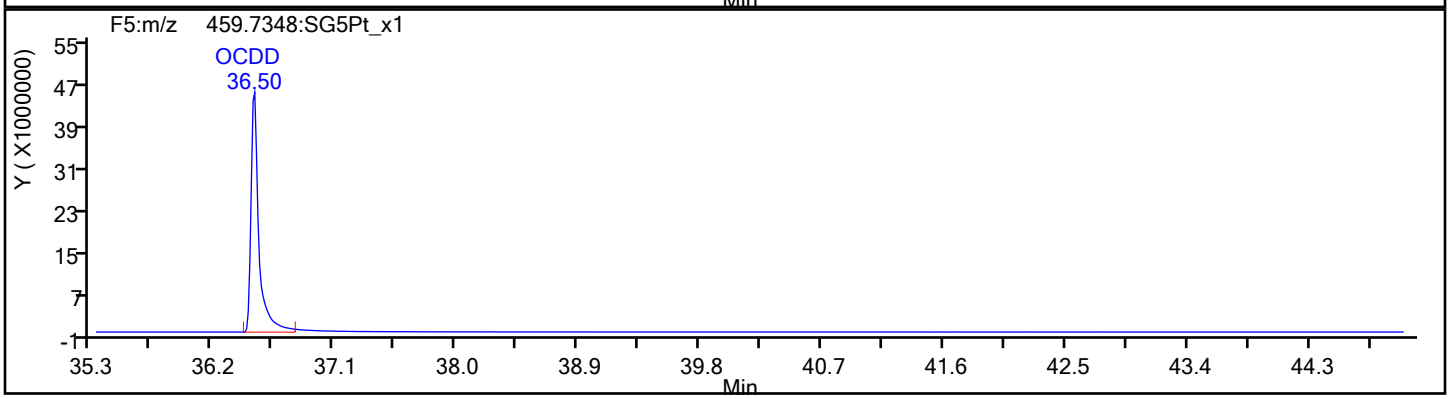

OCDD Standards

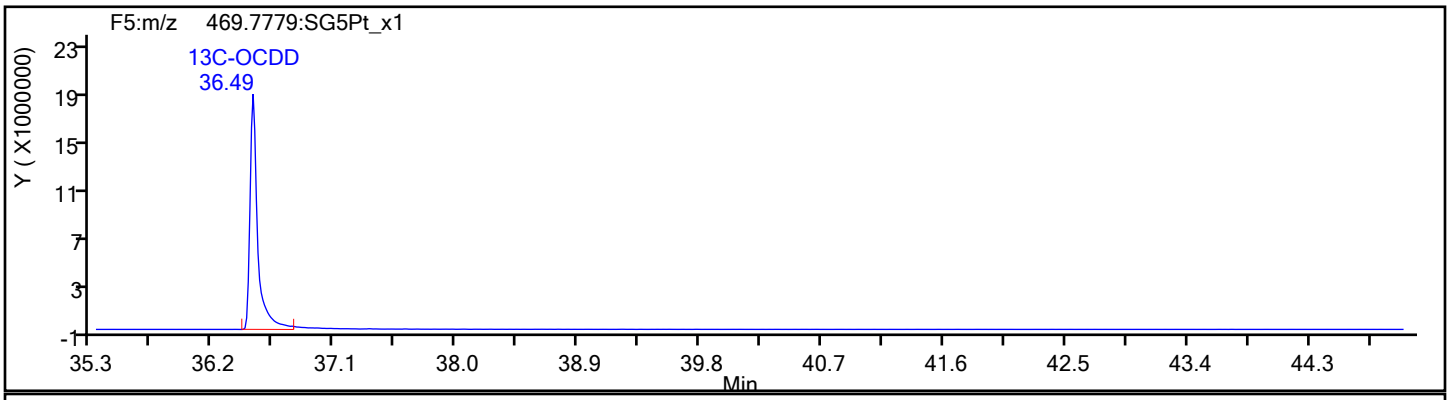

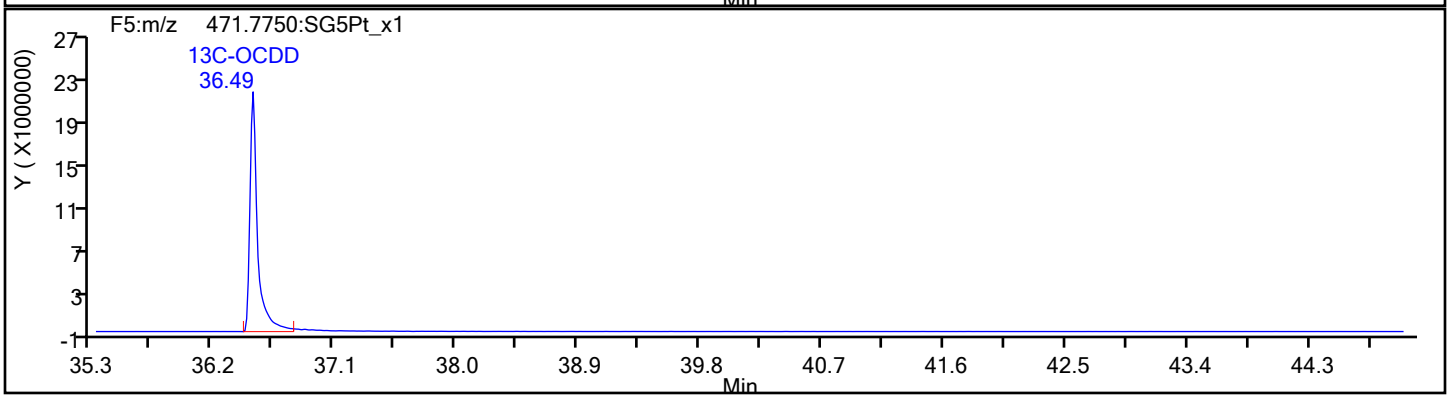

Report Date: 18-Sep-2019 10:22:35 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_6.d		
Injection Date:	17-Sep-2019 15:21:22	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

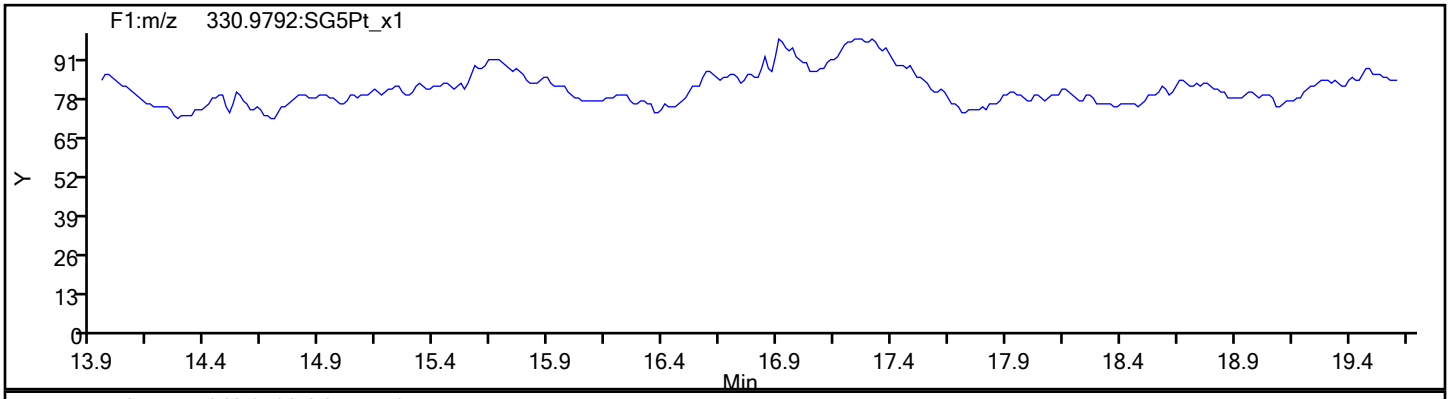

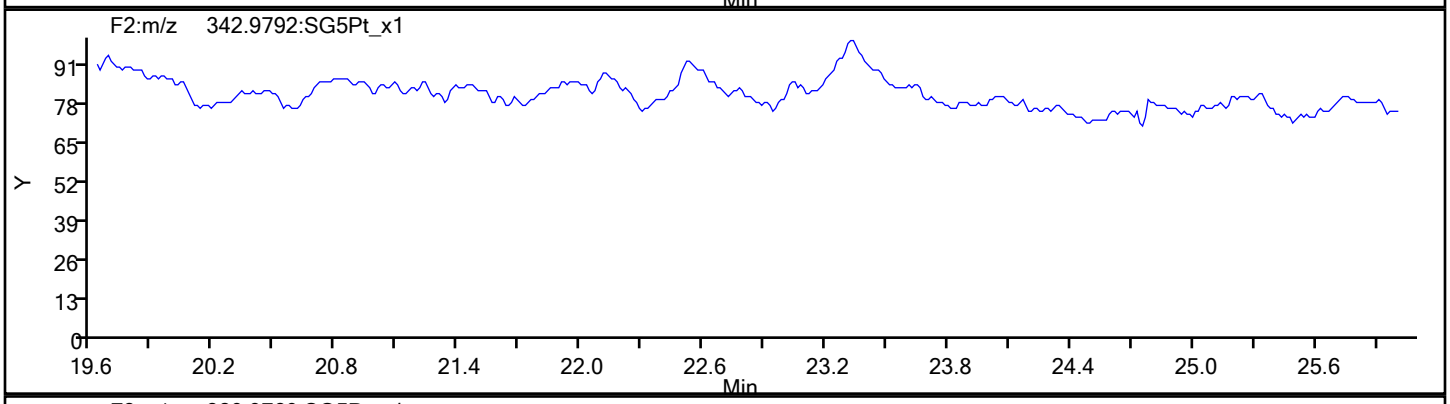

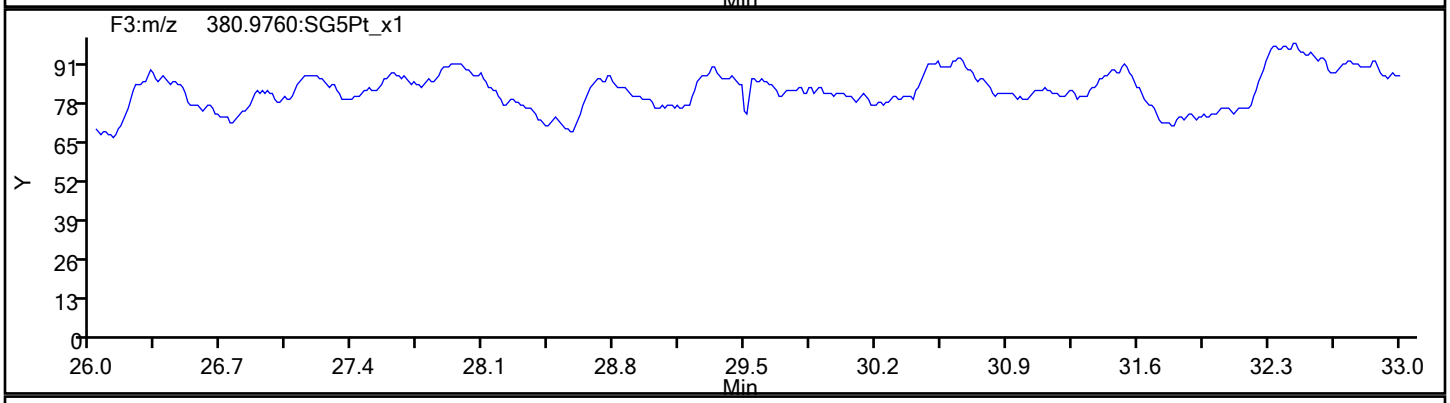

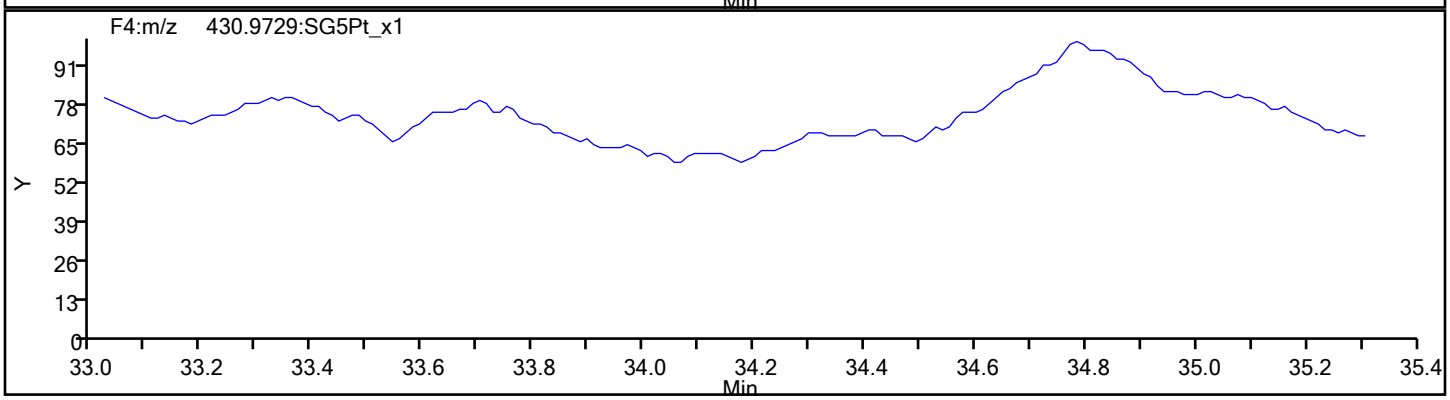

Report Date: 18-Sep-2019 10:22:35 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_6.d		
Injection Date:	17-Sep-2019 15:21:22	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

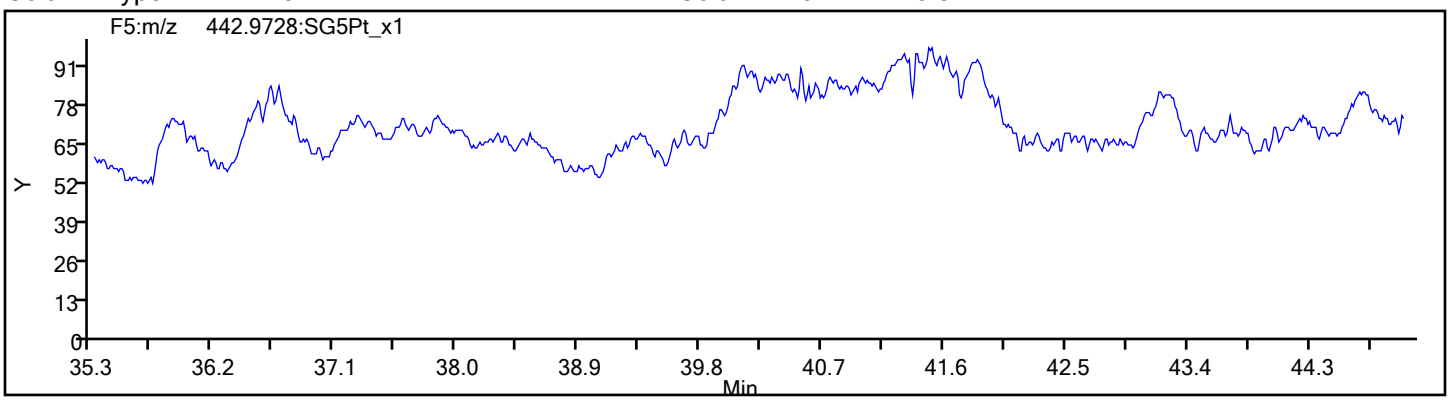

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 17-Sep-2019 16:09:27 ALS Bottle#: 2 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719B CS-4 HRDXNL4_00084
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:37 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:03:31

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.300	116862140	0.78	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.816	164292495	0.81	1.4384	97.7	97.7	0.2030	0.2030	97.74	
2,3,7,8-TCDF	16.831	16312729	0.78	1.0507	9.450	9.450	0.0288	0.0288	94.50	
S Total TCDF					9.450	9.450	0.0288	0.0288		
D 13C-2,3,7,8-TCDD	17.497	110088290	0.77	0.9533	98.8	98.8	0.1811	0.1811	98.81	
$ 37Cl4-2,3,7,8-TCDD	17.511	11295580		1.2224	7.907	7.907	0.0161	0.0161	98.84	
2,3,7,8-TCDD	17.511	11272193	0.80	1.1064	9.254	9.254	0.0249	0.0249	92.54	
S Total TCDD					9.254	9.254	0.0249	0.0249		
D 13C-1,2,3,7,8-PeCDF	21.632	117067384	1.60	1.0286	97.4	97.4	0.2355	0.2355	97.39	
1,2,3,7,8-PeCDF	21.659	61060330	1.61	1.0822	48.2	48.2	0.1753	0.1753	96.39	
D 13C-2,3,4,7,8-PeCDF	22.927	108494277	1.59	0.9827	94.5	94.5	0.2465	0.2465	94.48	
2,3,4,7,8-PeCDF	22.954	58935693	1.60	1.1032	49.2	49.2	0.1981	0.1981	98.48	
S Total PeCDF					97.4	97.4	0.1867	0.1867		
D 13C-1,2,3,7,8-PeCDD	23.622	84755636	1.56	0.7481	96.9	96.9	0.1346	0.1346	96.95	
1,2,3,7,8-PeCDD	23.650	36740998	1.60	0.9050	47.9	47.9	0.0846	0.0846	95.80	
S Total PeCDD					47.9	47.9	0.0846	0.0846		
D 13C-1,2,3,4,7,8-HxCDF	29.749	88972191	0.52	1.1520	96.7	96.7	0.5009	0.5009	96.69	
1,2,3,4,7,8-HxCDF	29.776	51431784	1.25	1.1973	48.3	48.3	0.4285	0.4285	96.56	
D 13C-1,2,3,6,7,8-HxCDF	30.015	97064883	0.52	1.2434	97.7	97.7	0.4641	0.4641	97.73	
1,2,3,6,7,8-HxCDF	30.042	55977084	1.25	1.1807	48.8	48.8	0.3660	0.3660	97.69	
D 13C-2,3,4,6,7,8-HxCDF	31.040	90467566	0.52	1.1720	96.6	96.6	0.4924	0.4924	96.64	
2,3,4,6,7,8-HxCDF	31.053	53626165	1.26	1.2116	48.9	48.9	0.2565	0.2565	97.85	
D 13C-1,2,3,7,8,9-HxCDF	31.945	83967924	0.52	1.0655	98.7	98.7	0.5416	0.5416	98.66	
1,2,3,7,8,9-HxCDF	31.958	50802364	1.28	1.2451	48.6	48.6	0.2521	0.2521	97.18	
S Total HxCDF					194.6	194.6	0.3258	0.3258		
* 13C-1,2,3,7,8,9-HxCDD	31.746	79877165	1.26	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.266	61001305	1.29	0.7812	97.8	97.8	0.4169	0.4169	97.76	
1,2,3,4,7,8-HxCDD	31.280	32825472	1.25	1.1088	48.5	48.5	0.1882	0.1882	97.06	
D 13C-1,2,3,6,7,8-HxCDD	31.386	72157657	1.29	0.9175	98.5	98.5	0.3550	0.3550	98.46	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.399	37867080	1.26	1.0814	48.5	48.5	0.1789	0.1789	97.05	
1,2,3,7,8,9-HxCDD	31.759	39571199	1.26	1.2123	49.0	49.0	0.1656	0.1656	98.05	
S Total HxCDD					146.1	146.1	0.1776	0.1776		
D 13C-1,2,3,4,6,7,8-HpCDF	33.460	70034446	0.45	0.8628	101.6	101.6	1.887	1.887	102	
1,2,3,4,6,7,8-HpCDF	33.472	53230505	1.05	1.5555	48.9	48.9	0.7328	0.7328	97.72	
D 13C-1,2,3,4,7,8,9-HpCDF	34.505	62459777	0.45	0.7991	97.9	97.9	2.038	2.038	97.86	
1,2,3,4,7,8,9-HpCDF	34.505	42098592	1.05	1.3862	48.6	48.6	1.030	1.030	97.24	
S Total HpCDF					97.5	97.5	0.8815	0.8815		
D 13C-1,2,3,4,6,7,8-HpCDD	34.225	69249272	1.01	0.8739	99.2	99.2	0.8707	0.8707	99.21	
1,2,3,4,6,7,8-HpCDD	34.237	31792117	1.05	0.9316	49.3	49.3	0.3574	0.3574	98.56	
S Total HpCDD					49.3	49.3	0.3574	0.3574		
D 13C-OCDD	36.481	117978202	0.90	0.7744	190.7	190.7	0.3164	0.3164	95.37	
OCDF	36.577	73138090	0.89	1.2596	98.4	98.4	0.0928	0.0928	98.43	
OCDD	36.493	60102277	0.88	1.0621	95.9	95.9	0.1528	0.1528	95.93	

Reagents:

HRDXNL4_00084 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 17-Sep-2019 16:09:27 ALS Bottle#: 2 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719B CS-4 HRDXNL4_00084
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:37 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:03:31

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.300	17.303	0		51188431	13221592	10308	25770	1283		
333.9339	17.300	17.303	0		65673709	17067918	10612	26530	1608	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.816	16.810	0	0.972	73273257	18643279	16682	41705	1118		
317.9389	16.816	16.810	0	0.972	91019238	23348376	18701	46752	1249	0.81(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.831	16.825	0	1.001	7146505	1866474	1748	4370	1068		
305.8987	16.831	16.825	0	1.001	9166224	2309204	3335	8337	692	0.78(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.497	17.490	0	1.011	47890197	11504119	10308	25770	1116		
333.9339	17.497	17.490	0	1.011	62198093	14897345	10612	26530	1404	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.511	17.505	0	1.012	11295580	2759721	2389	5972	1155		
2,3,7,8-TCDD											
319.8965	17.511	17.505	0	1.001	5006379	1229603	1679	4197	732		
321.8936	17.511	17.505	0	1.001	6265814	1552760	1232	3080	1260	0.80(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	21.632	21.637	0	1.250	72085037	13290906	17975	44937	739		
353.8970	21.632	21.637	0	1.250	44982347	8135550	11370	28425	716	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.659	21.661	0	1.001	37645378	6988113	9632	24080	726		
341.8567	21.659	21.661	0	1.001	23414952	4333779	6628	16570	654	1.61(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	22.927	22.932	0	1.325	66667406	11411081	17975	44937	635		
353.8970	22.927	22.932	0	1.325	41826871	7189733	11370	28425	632	1.59(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.954	22.954	0	1.001	36249920	6246701	9632	24080	649		
341.8567	22.954	22.954	0	1.001	22685773	3975349	6628	16570	600	1.60(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.622	23.625	0	1.365	51615468	8403431	7024	17560	1196		
369.8919	23.622	23.625	0	1.365	33140168	5441011	5174	12935	1052	1.56(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.650	23.649	0	1.001	22616992	3684612	2542	6355	1449		
357.8516	23.650	23.649	0	1.001	14124006	2284855	1697	4242	1346	1.60(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.749	29.754	0	0.937	30622454	4262368	15646	39115	272		
385.8610	29.749	29.754	0	0.937	58349737	7978660	27510	68775	290	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.776	29.789	-1	1.001	28572669	3966552	14037	35092	283		
375.8178	29.776	29.789	-1	1.001	22859115	3184716	11085	27712	287	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.015	30.015	0	0.945	33334673	4974859	15646	39115	318		
385.8610	30.015	30.015	0	0.945	63730210	9557829	27510	68775	347	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.042	30.039	0	1.001	31100201	4648576	14037	35092	331		
375.8178	30.028	30.039	-1	1.000	24876883	3736483	11085	27712	337	1.25(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.040	31.043	0	0.978	31041442	6949049	15646	39115	444		
385.8610	31.040	31.043	0	0.978	59426124	13257904	27510	68775	482	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.053	31.059	0	1.000	29867122	6669756	14037	35092	475		
375.8178	31.053	31.059	0	1.000	23759043	5329537	11085	27712	481	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.945	31.942	0	1.006	28810187	6889378	15646	39115	440		
385.8610	31.945	31.942	0	1.006	55157737	13121620	27510	68775	477	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.958	31.956	0	1.000	28484868	6927852	14037	35092	494		
375.8178	31.958	31.956	0	1.000	22317496	5417368	11085	27712	489	1.28(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.746	31.748	0		44590033	10388597	13953	34882	745		
403.8529	31.746	31.748	0		35287132	8307576	10402	26005	799	1.26(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.266	31.261	0	0.985	34418121	8538114	13953	34882	612		
403.8529	31.253	31.261	0	0.984	26583184	6542155	10402	26005	629	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.280	31.280	0	1.000	18210328	4676373	6796	16990	688		
391.8127	31.280	31.280	0	1.000	14615144	3685627	5791	14477	636	1.25(1.05-1.43)	

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Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.386	31.383	0	0.989	40713057	9165140	13953	34882	657		
403.8529	31.386	31.383	0	0.989	31444600	7098259	10402	26005	682	1.29(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.399	31.402	0	1.000	21129707	4810731	6796	16990	708		
391.8127	31.399	31.402	0	1.000	16737373	3882456	5791	14477	670	1.26(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.759	31.761	0	1.016	22036967	5199355	6796	16990	765		
391.8127	31.759	31.761	0	1.016	17534232	4154993	5791	14477	717	1.26(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.460	33.457	0	1.054	21694702	6802754	38569	96422	176		
419.8220	33.460	33.457	0	1.054	48339744	14980925	83187	207967	180	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.472	33.469	0	1.000	27303098	8321332	48031	120077	173		
409.7789	33.460	33.469	-1	1.000	25927407	8013389	51301	128252	156	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.505	34.502	0	1.087	19495147	5459139	38569	96422	142		
419.8220	34.505	34.502	0	1.087	42964630	11931602	83187	207967	143	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.505	34.509	0	1.000	21594067	6125765	48031	120077	128		
409.7789	34.505	34.509	0	1.000	20504525	5997687	51301	128252	117	1.05(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.225	34.227	0	1.078	34873988	10385149	28867	72167	360		
437.8140	34.225	34.227	0	1.078	34375284	10126378	28038	70095	361	1.01(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.237	34.235	0	1.000	16297283	4845800	14038	35095	345		
425.7737	34.237	34.235	0	1.000	15494834	4492519	13280	33200	338	1.05(0.88-1.20)	
13C-OCDD											
469.7779	36.481	36.486	0	1.149	55925656	13683141	9939	24847	1377		
471.7750	36.481	36.486	0	1.149	62052546	15254711	8386	20965	1819	0.90(0.76-1.02)	
OCDF											
441.7428	36.577	36.581	0	1.003	34484063	8952540	3122	7805	2868		
443.7399	36.577	36.581	0	1.003	38654027	9970777	3641	9102	2738	0.89(0.76-1.02)	
OCDD											
457.7377	36.493	36.497	0	1.000	28100552	7029079	3330	8325	2111		
459.7348	36.493	36.497	0	1.000	32001725	7995829	6061	15152	1319	0.88(0.76-1.02)	

Reagents:

HRDXNL4_00084 Amount Added: 1.00 Units: mL

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

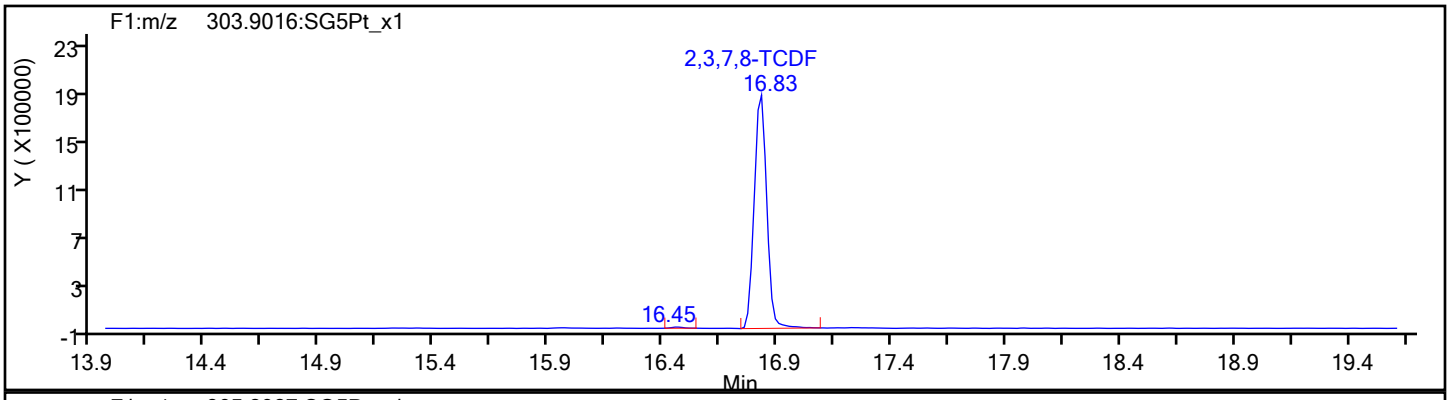

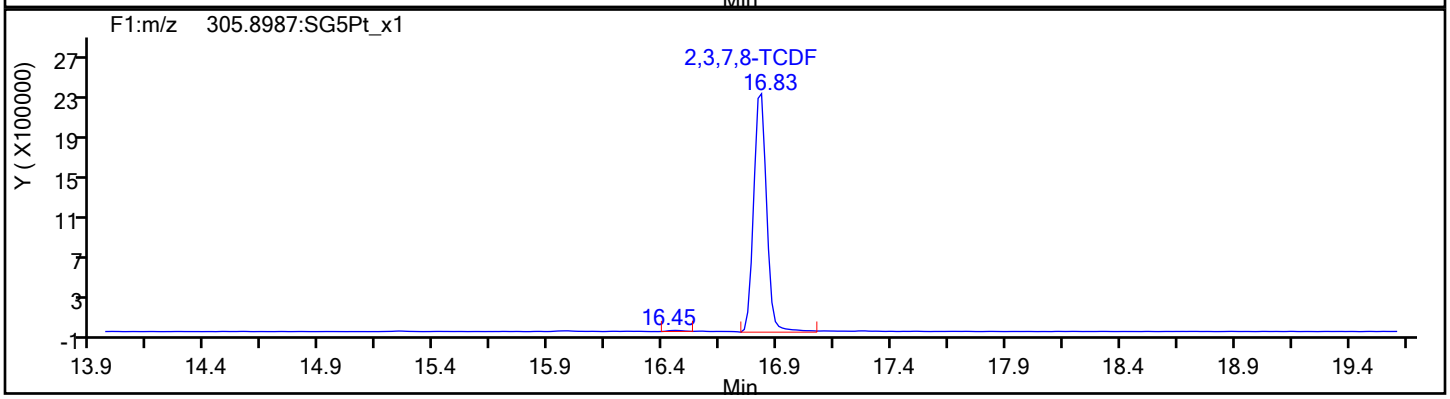

TCDF Standards

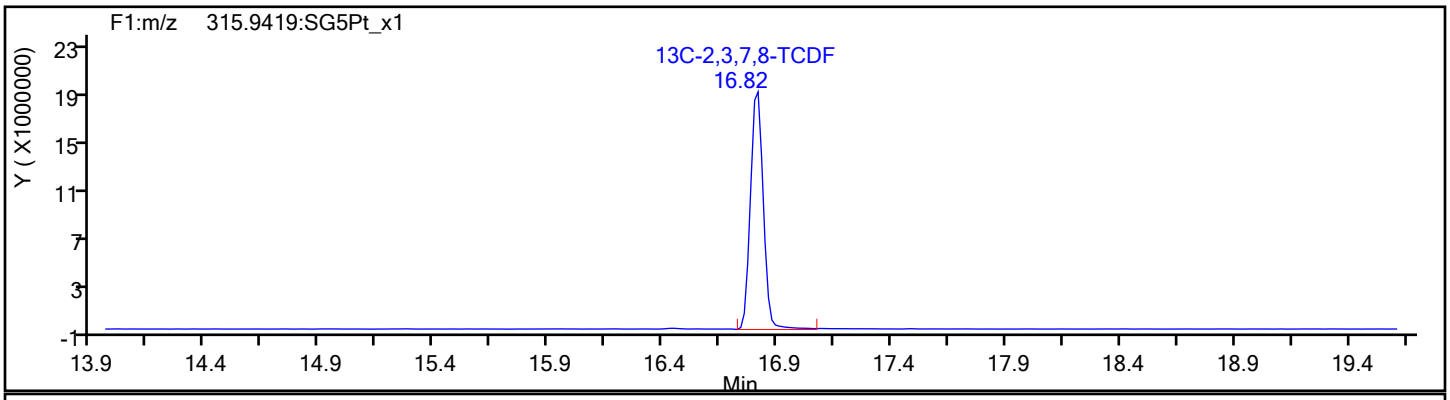

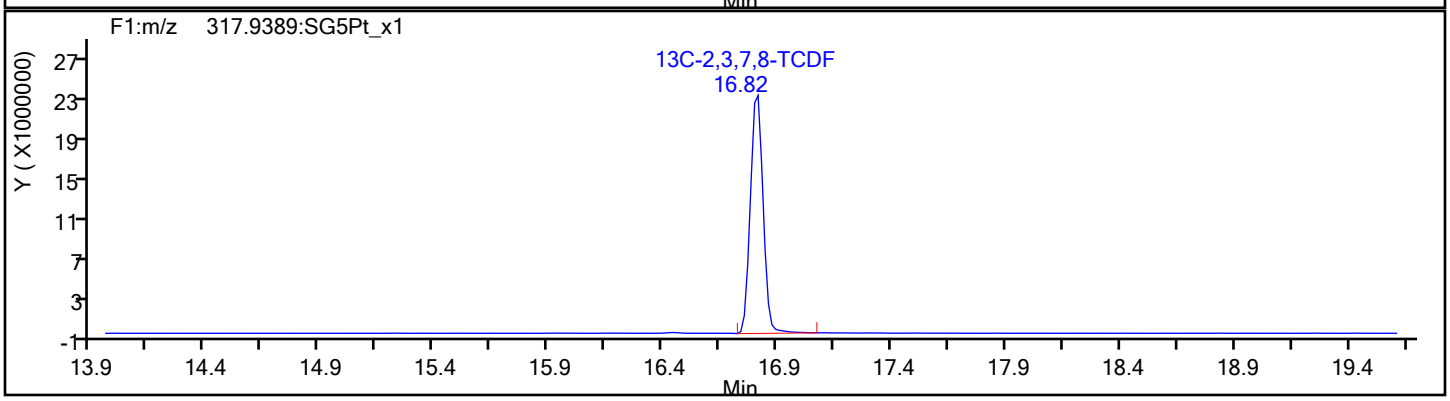

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

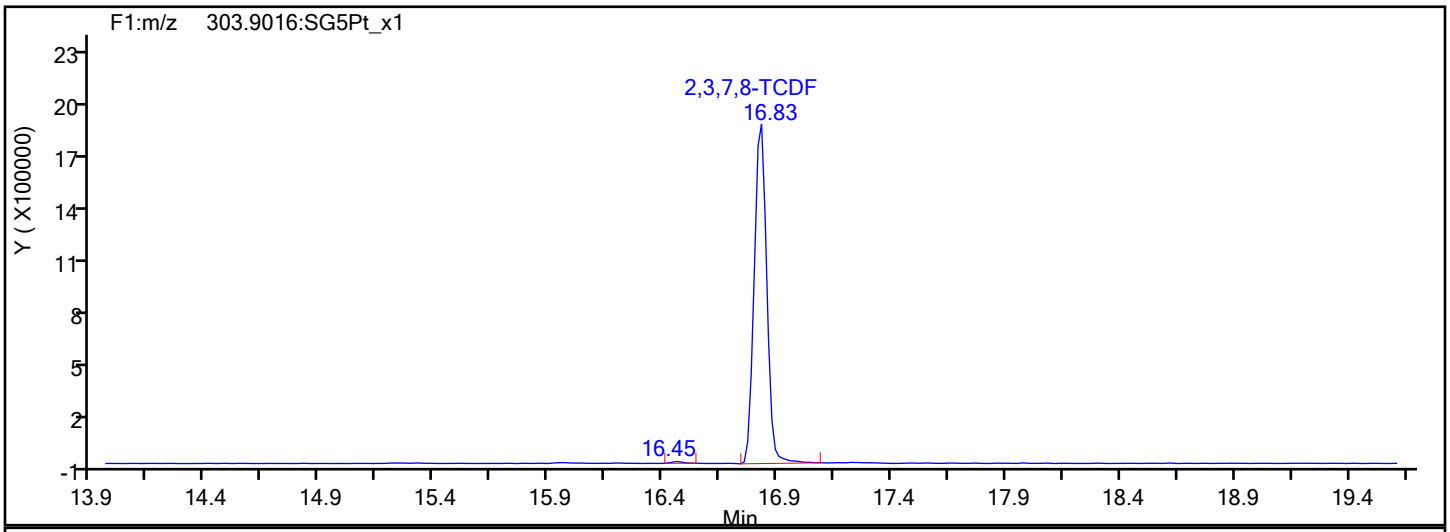

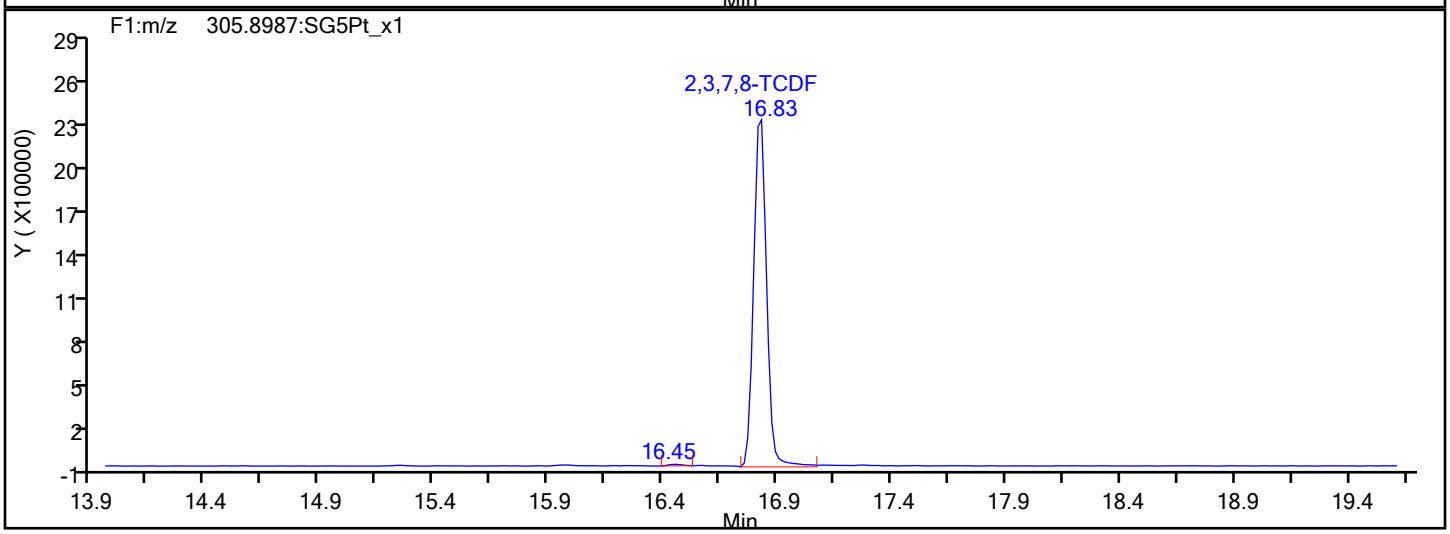

TCDF Interference Mass

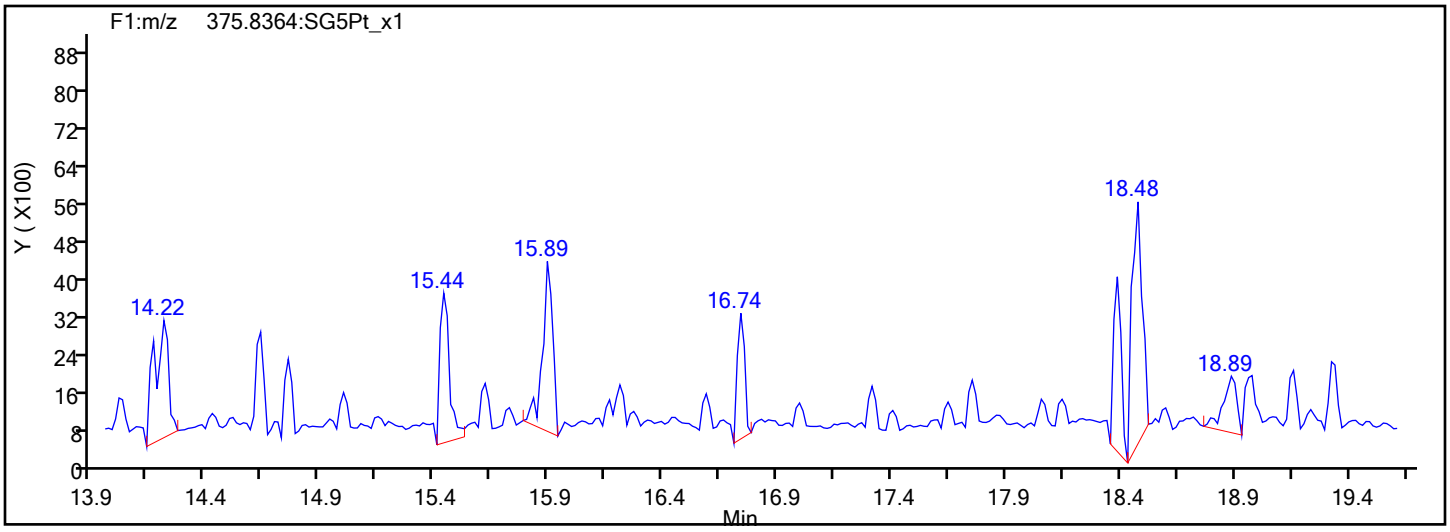

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

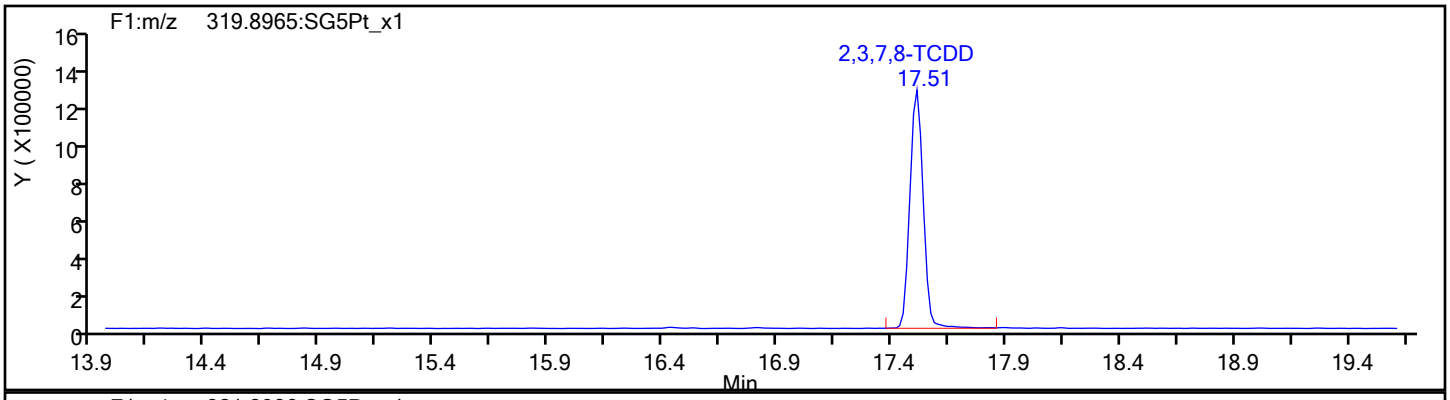

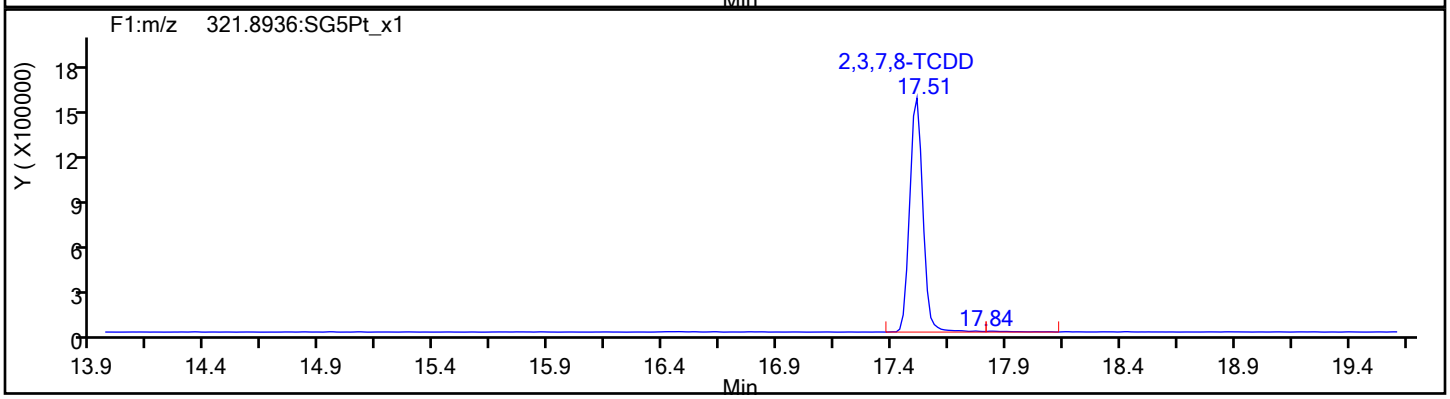

TCDD Standards

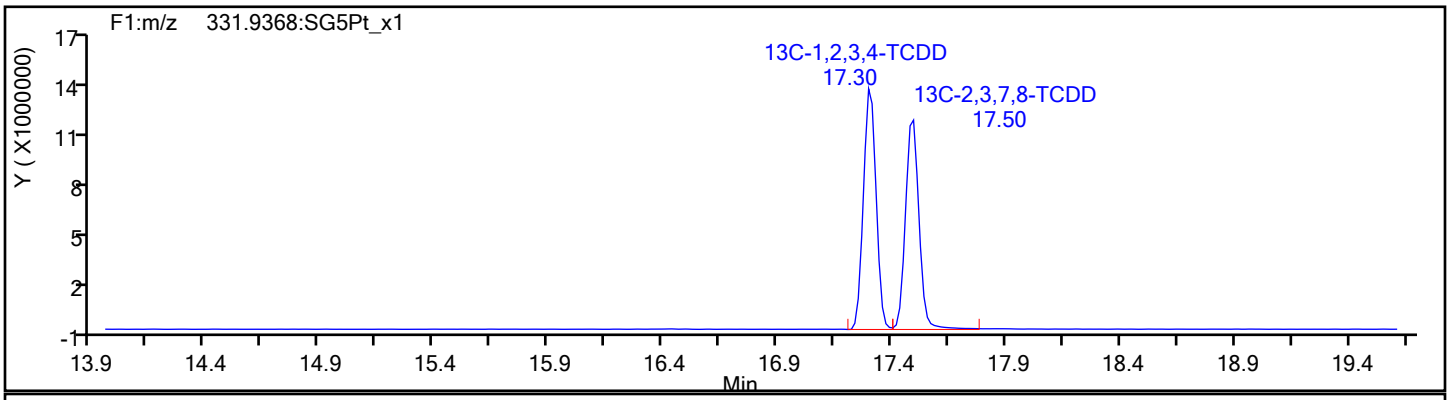

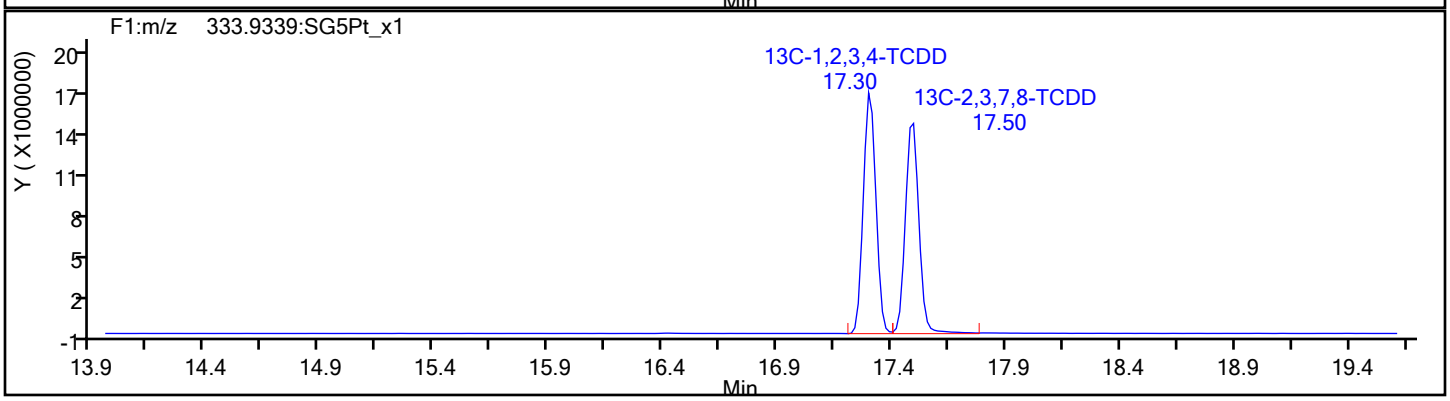

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

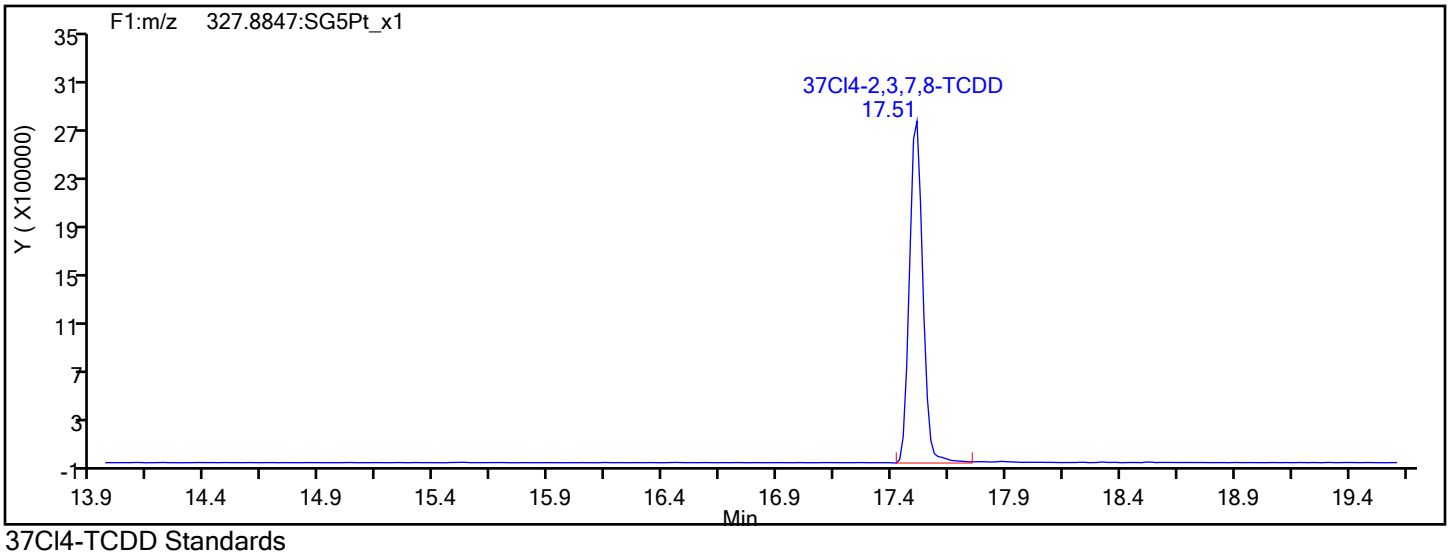

37Cl4-TCDD Standards

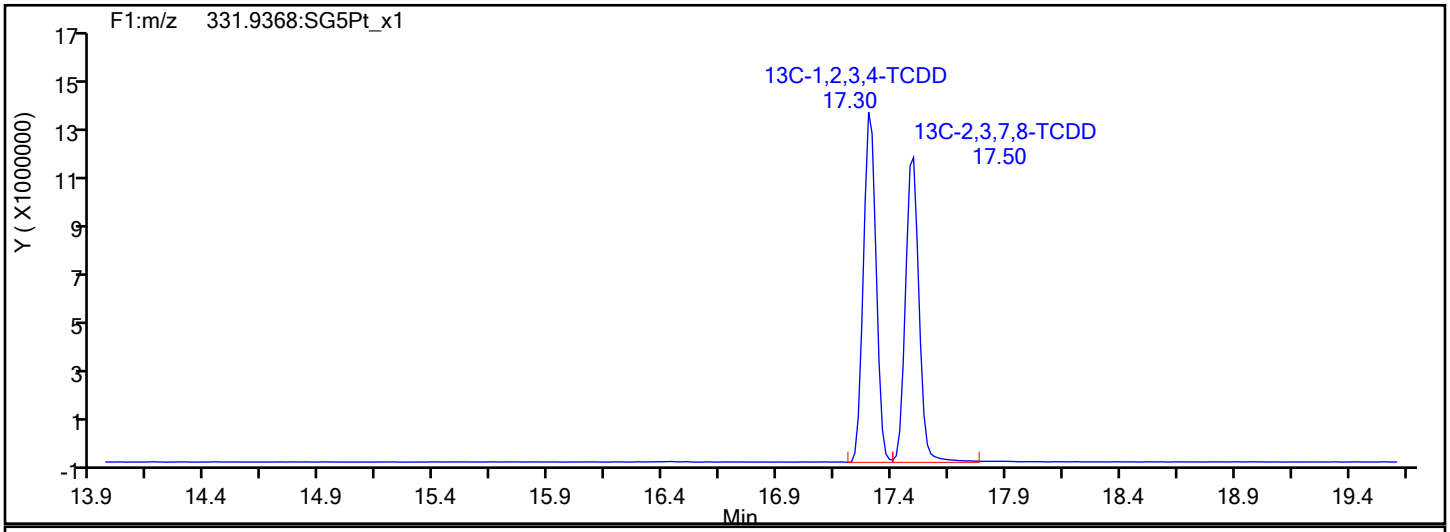

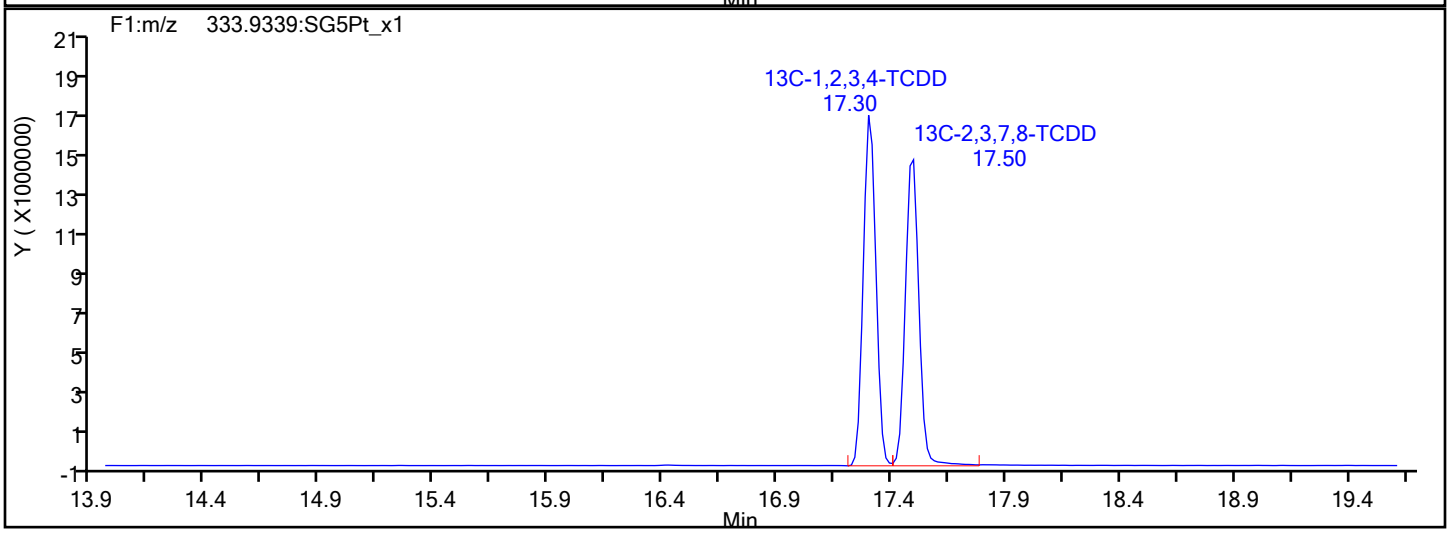

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

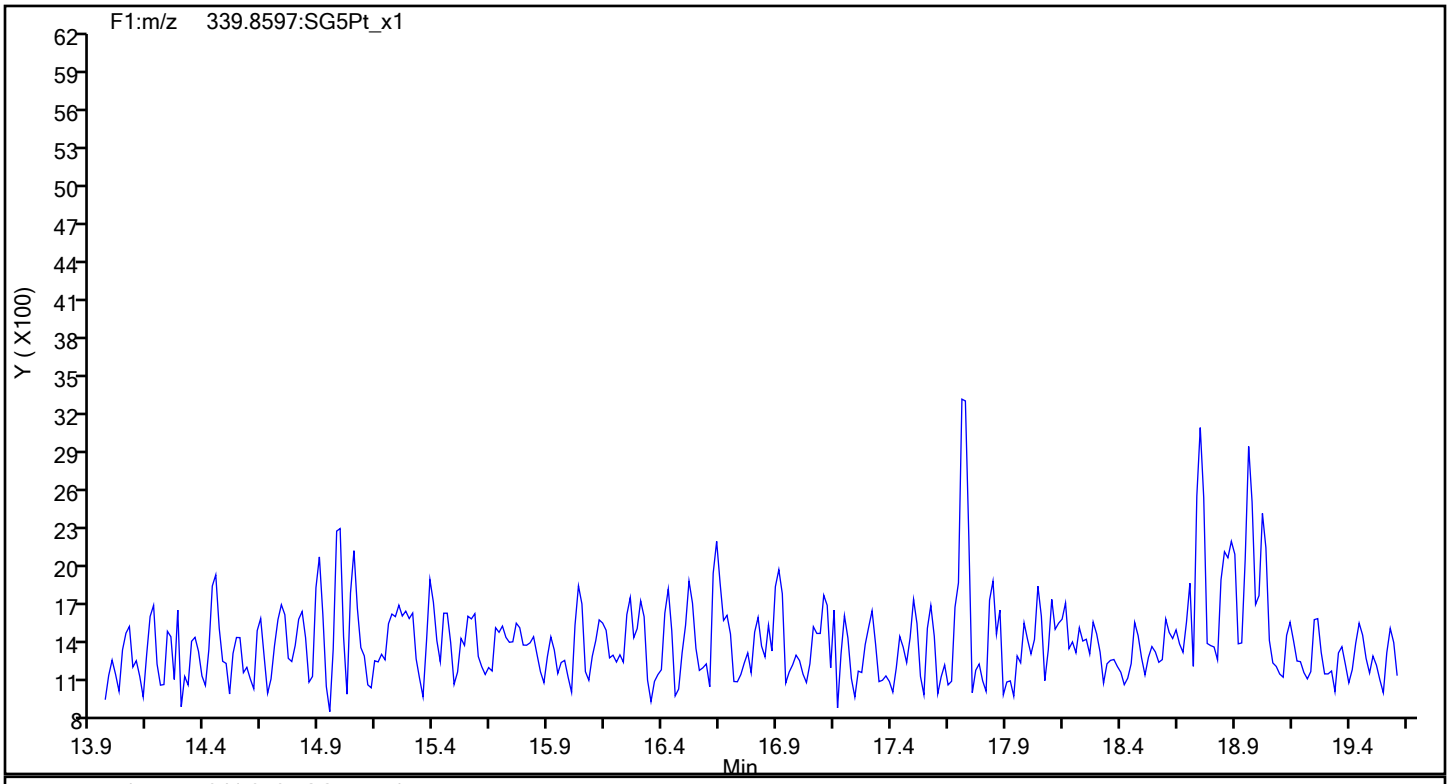

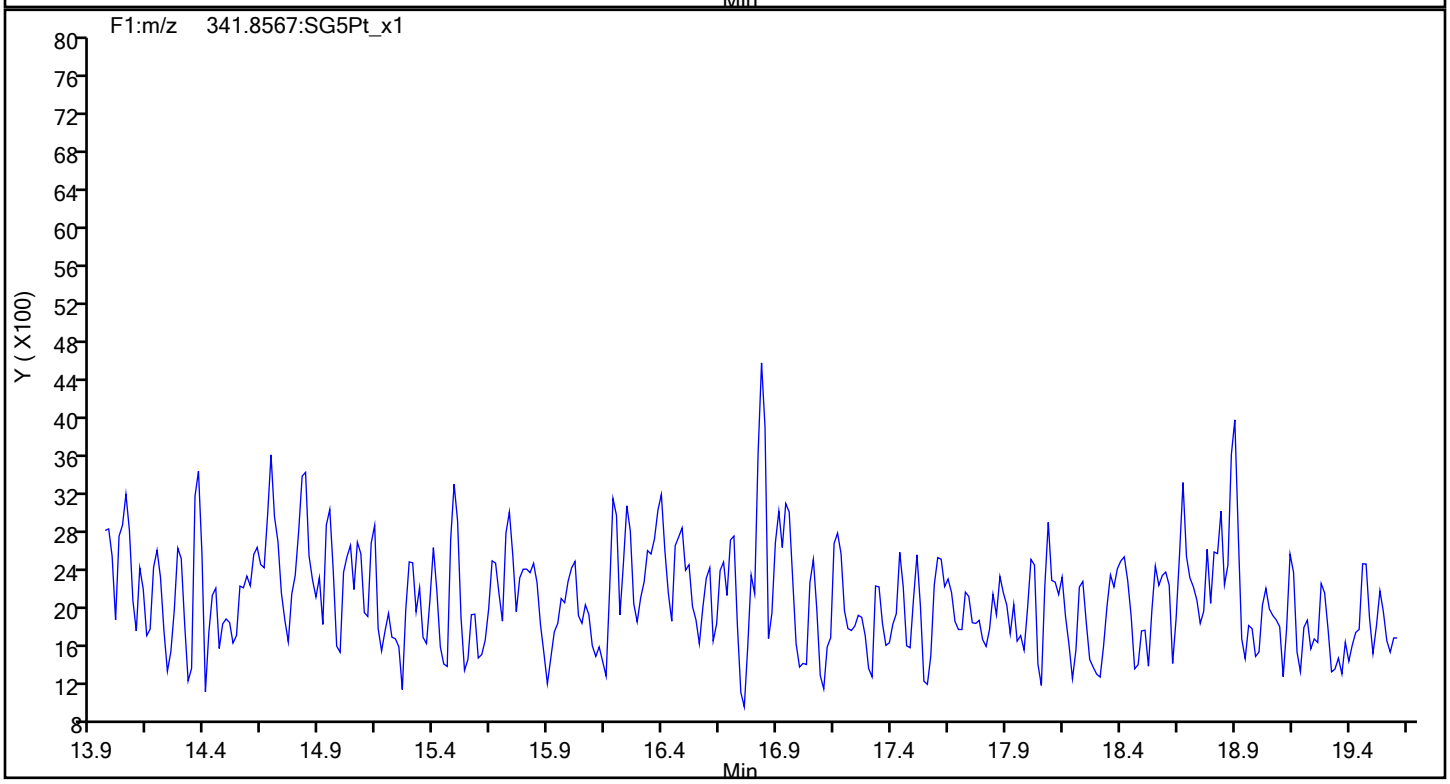

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

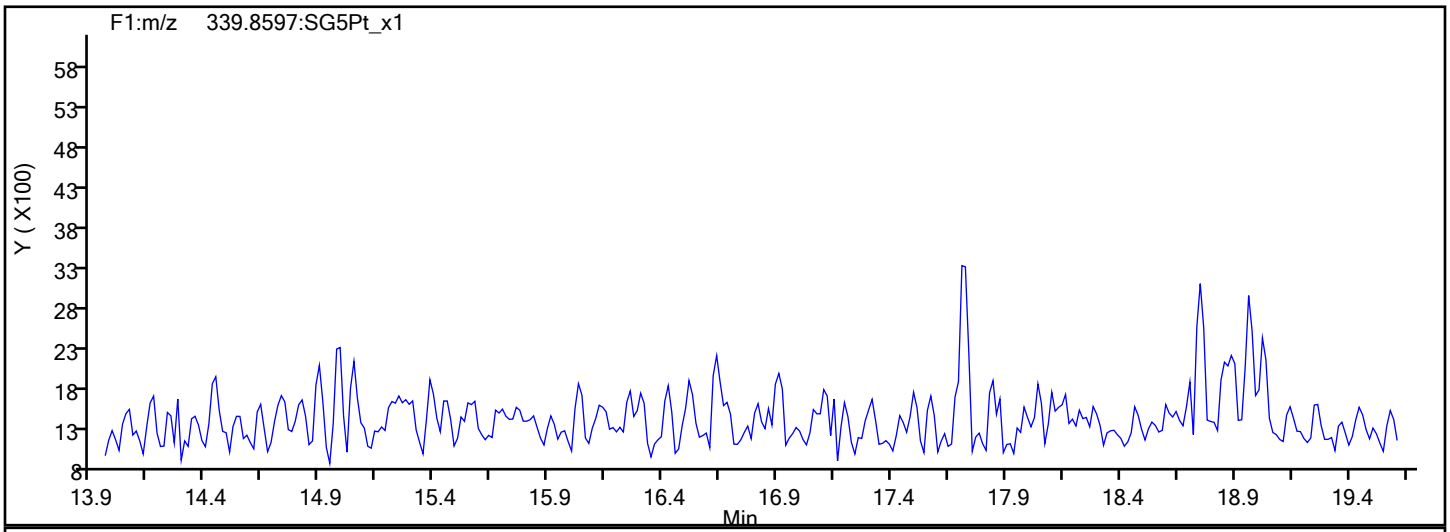

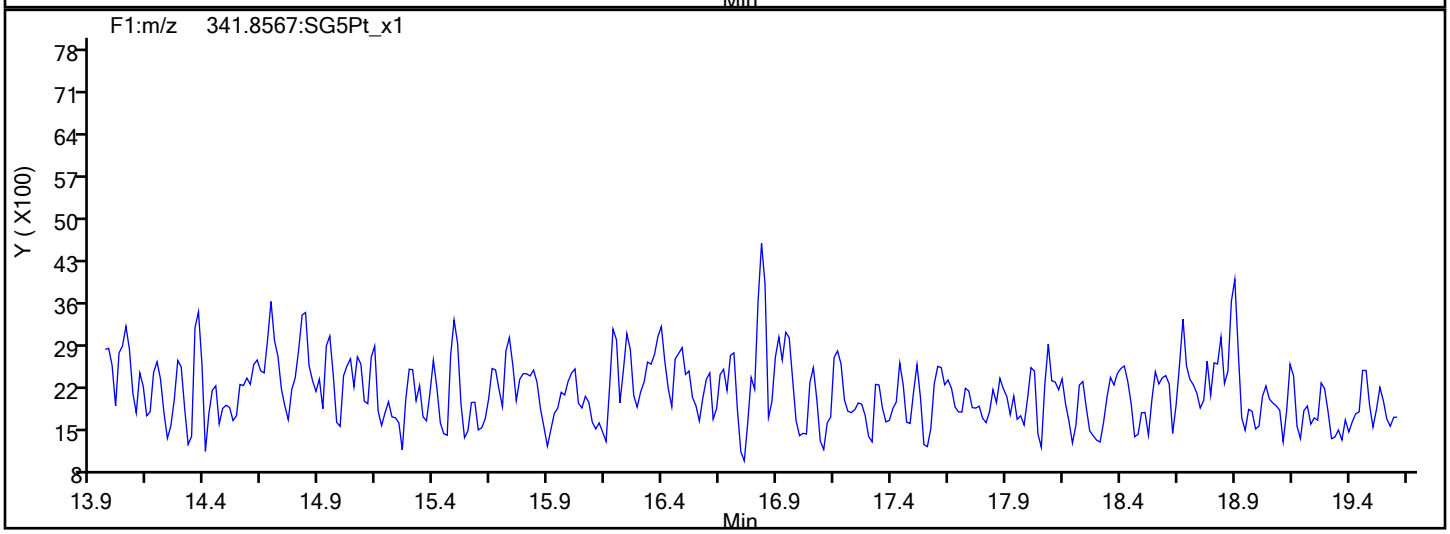

F1 PeCDFs Interference Mass

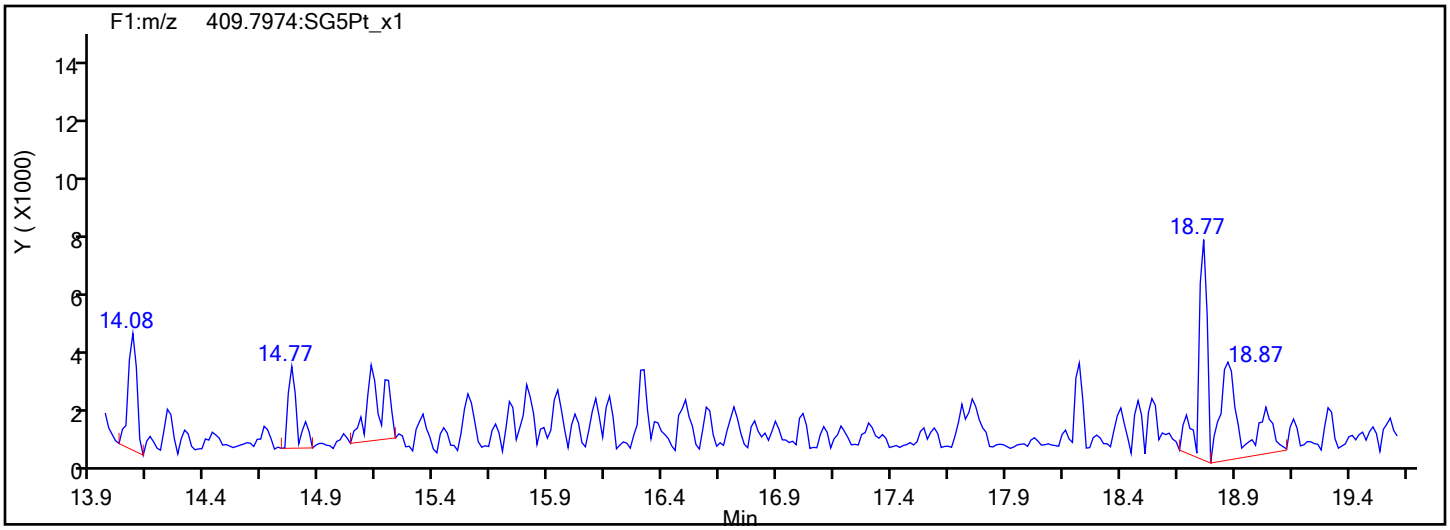

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
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Client ID:			
Worklist#:	324128	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

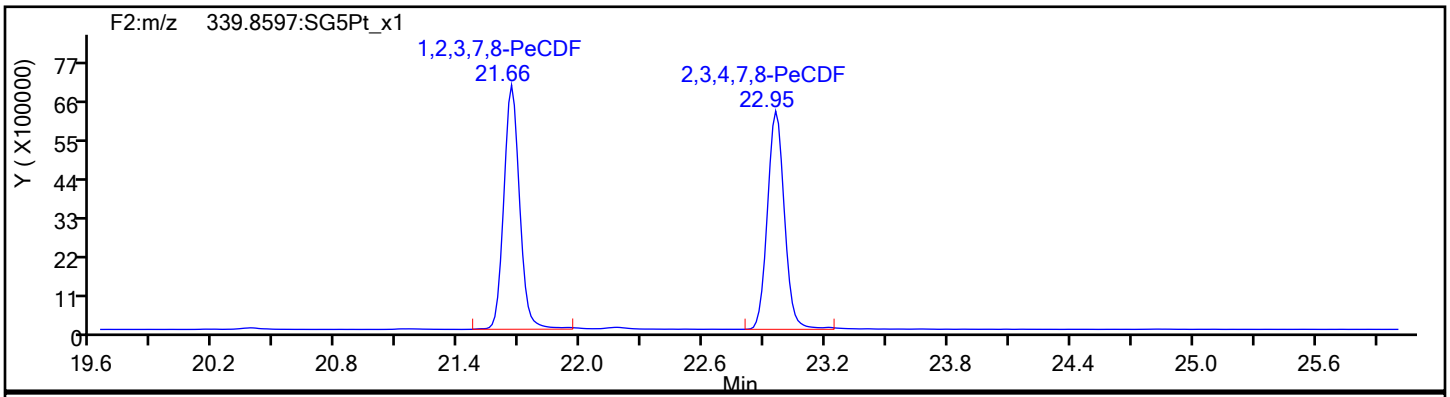

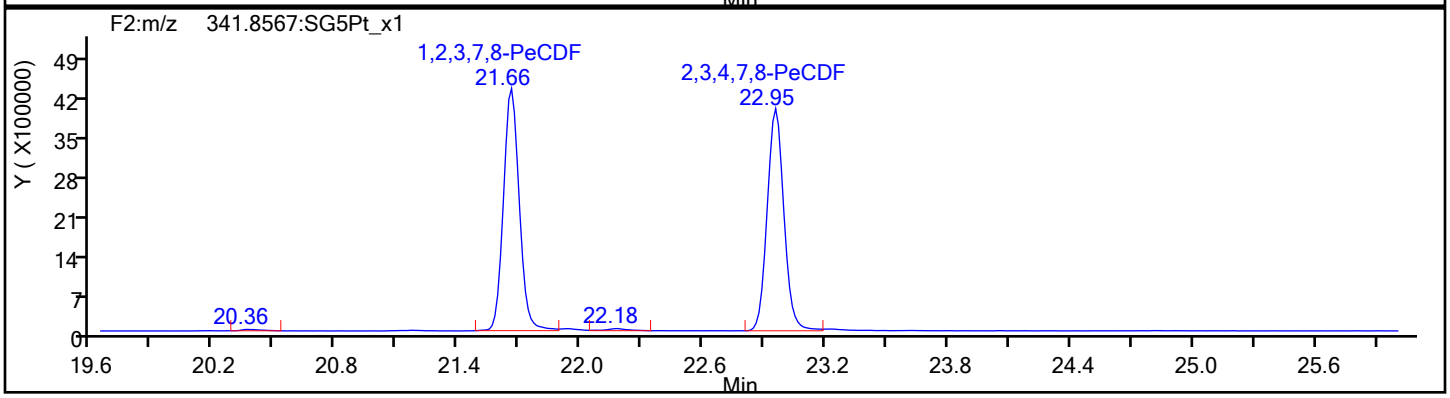

PeCDF Standards

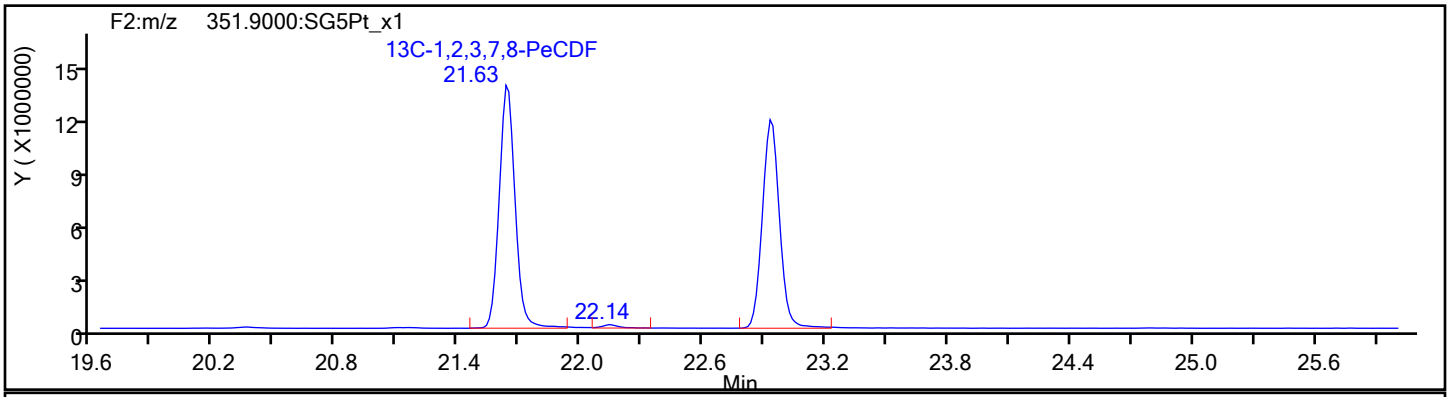

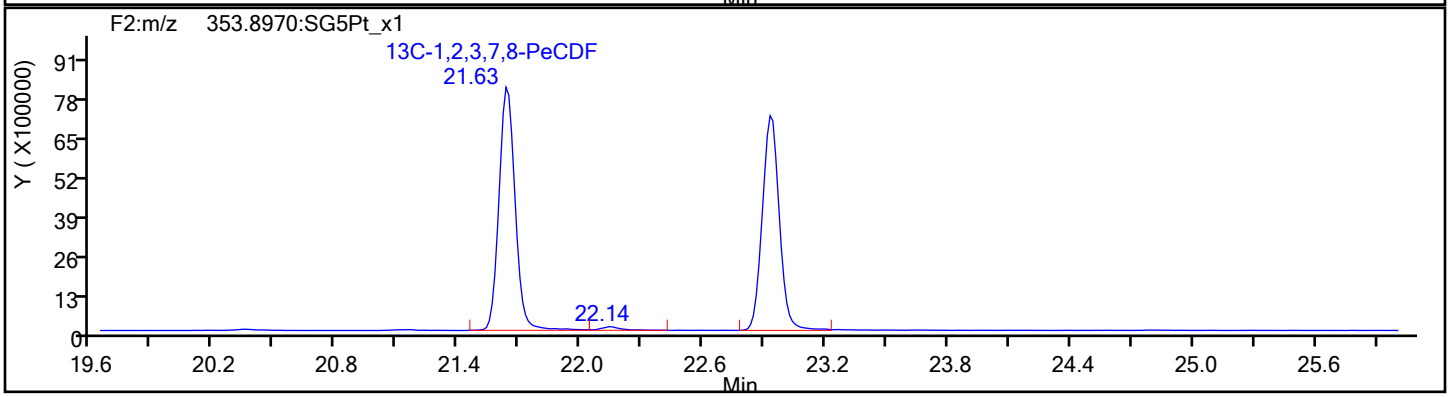

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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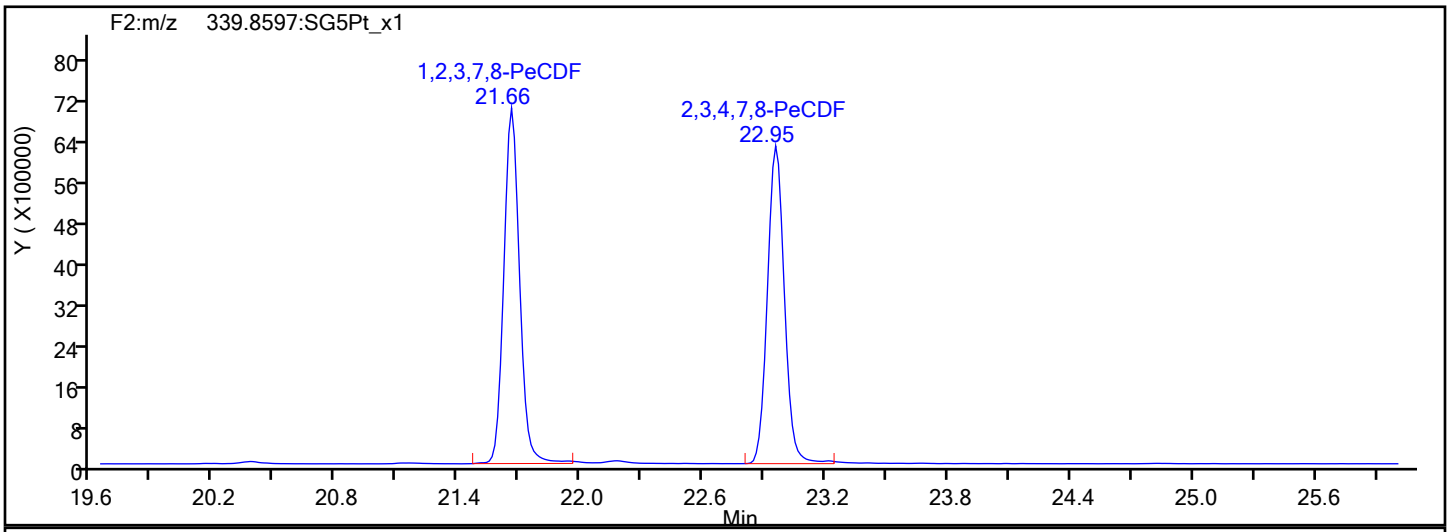

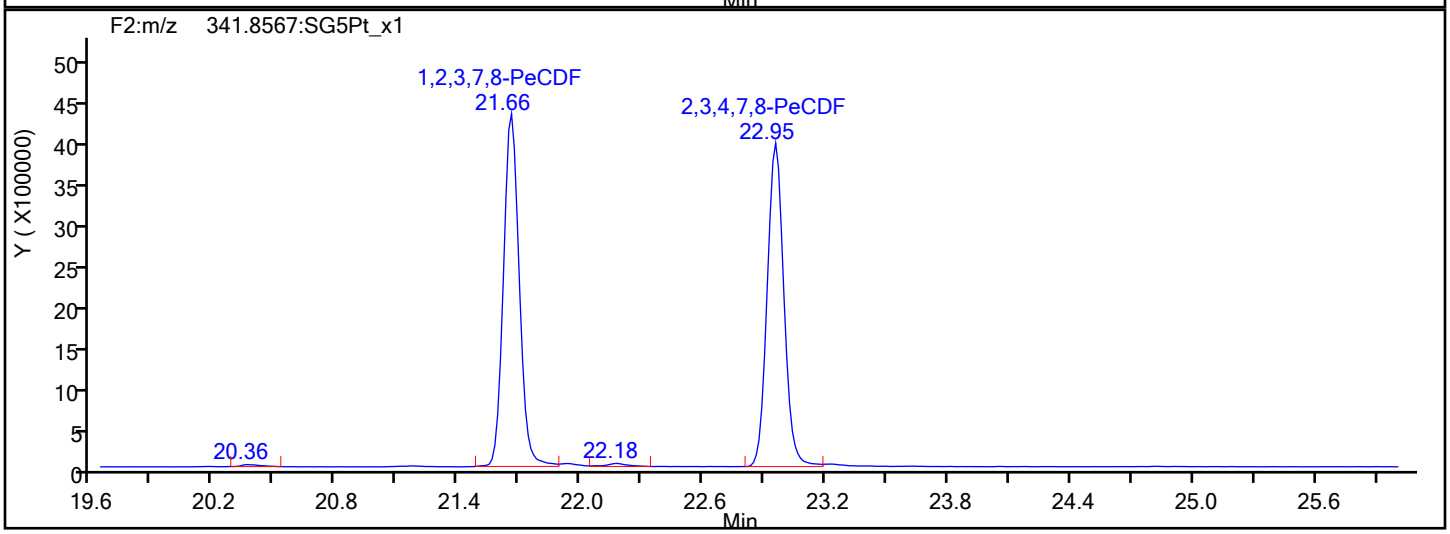

PeCDF Interference Mass

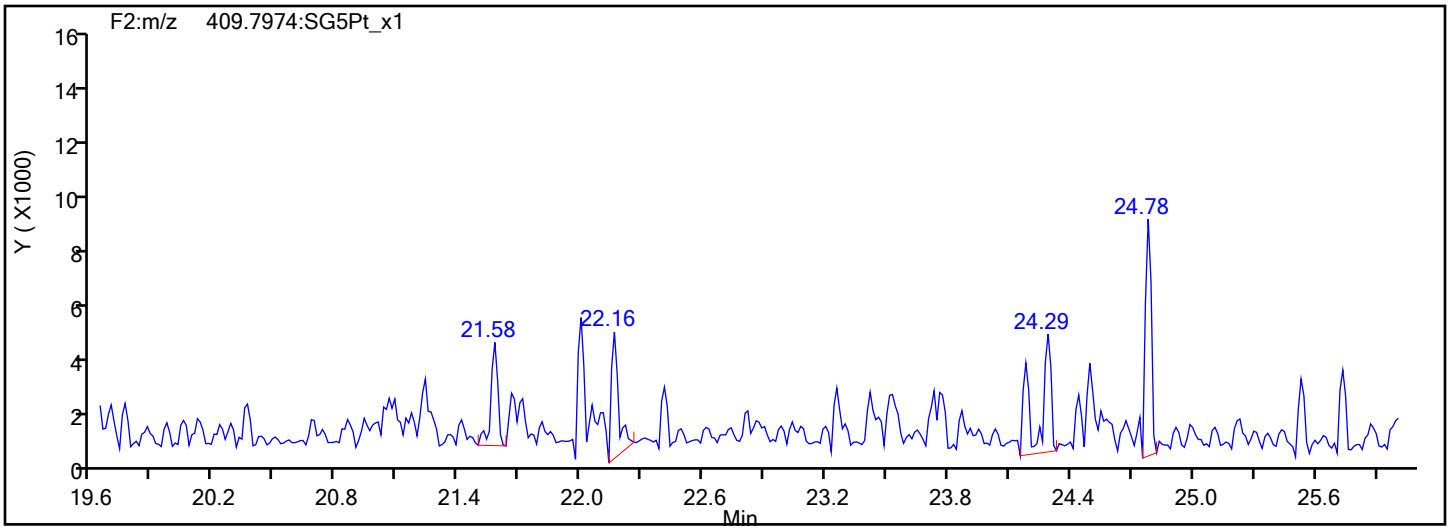

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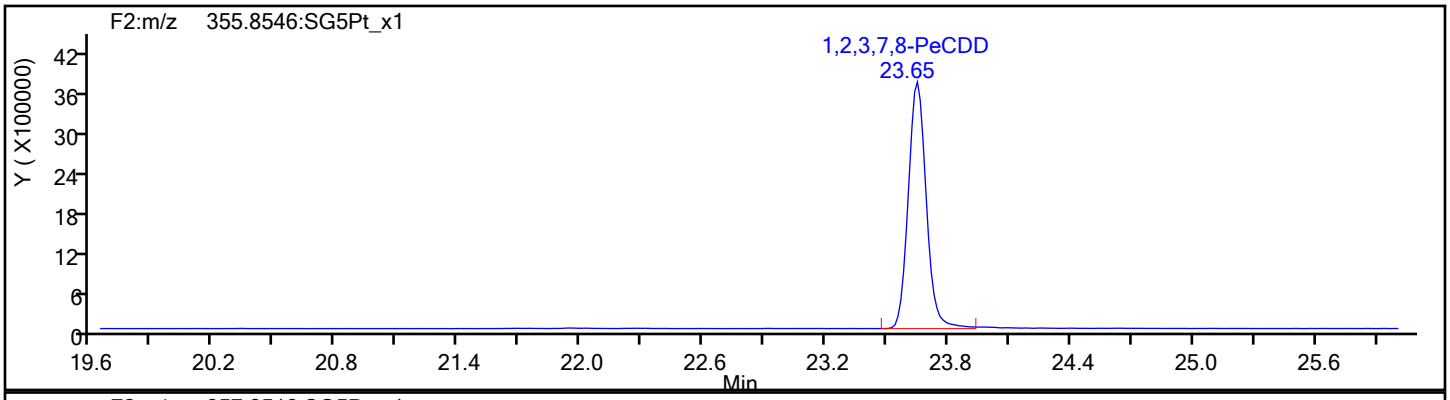

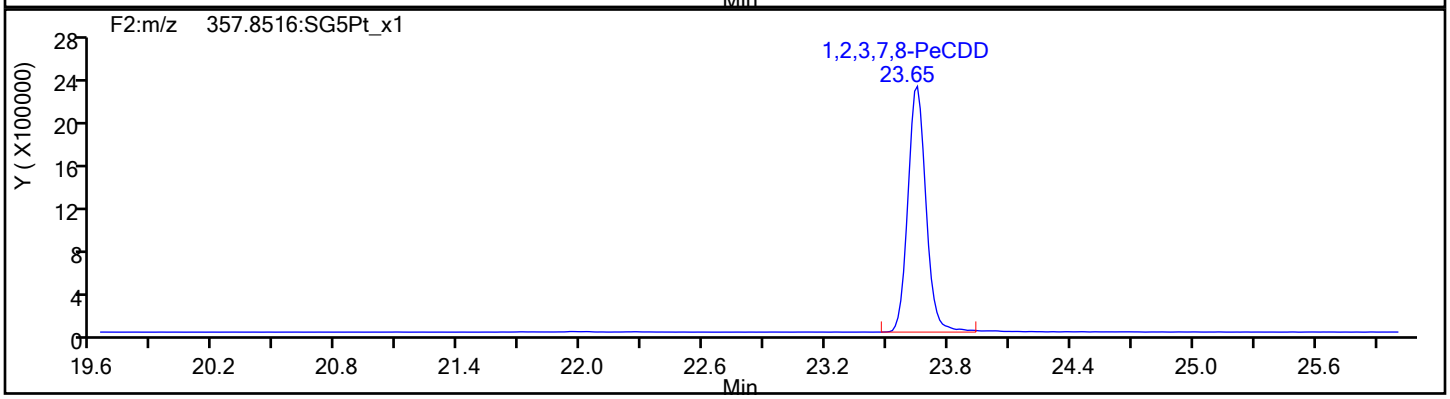

PeCDD Standards

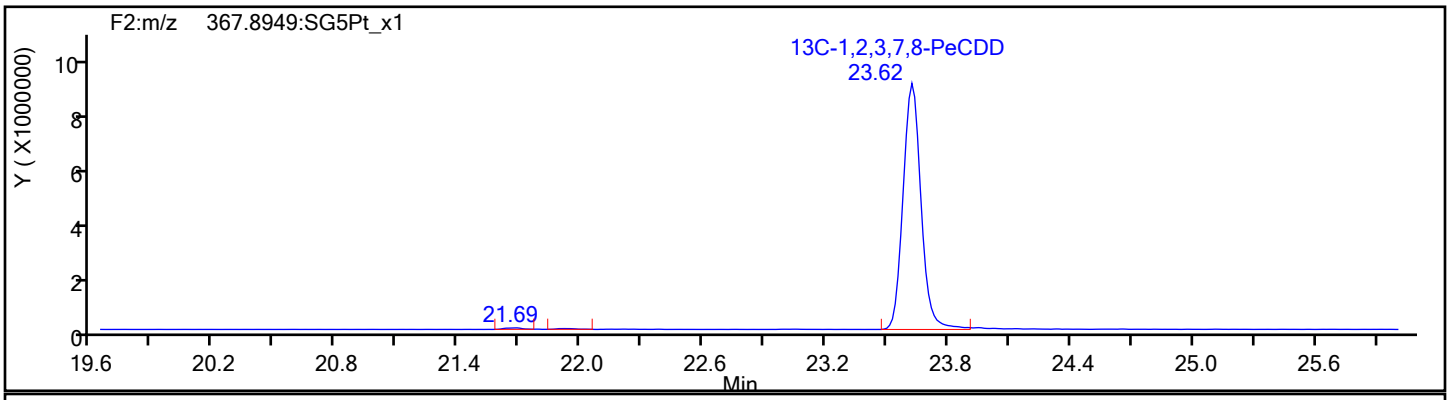

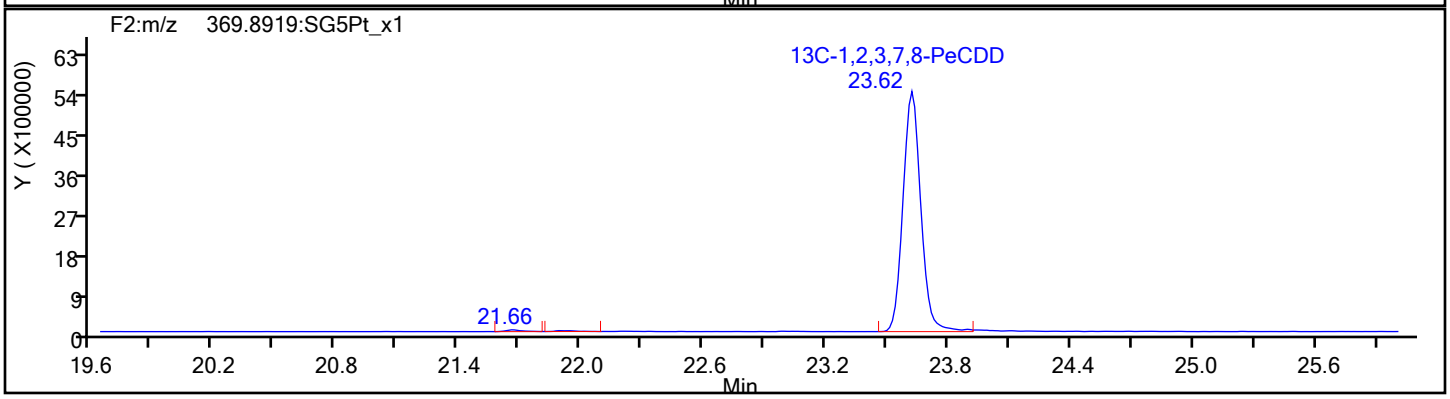

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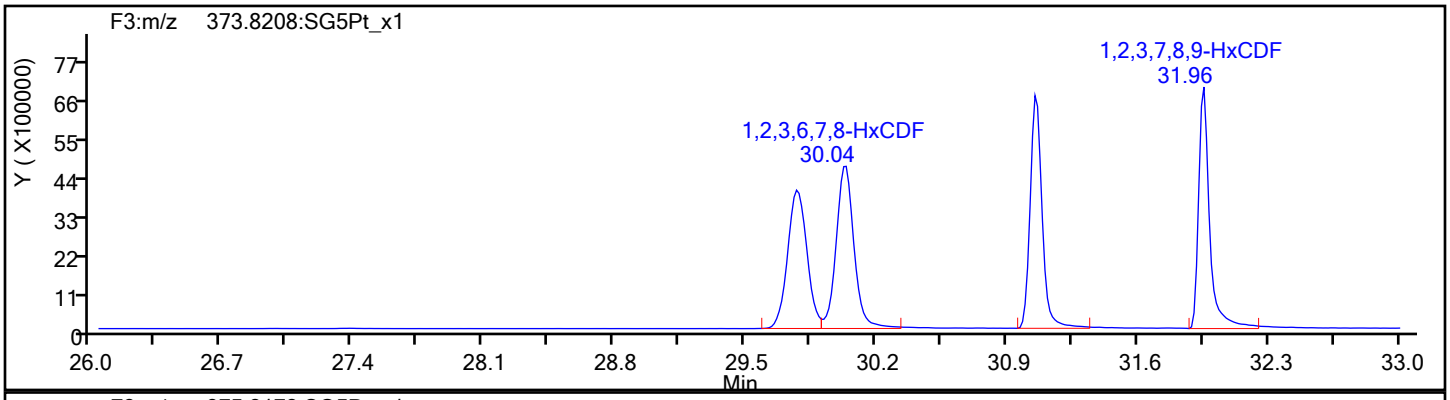

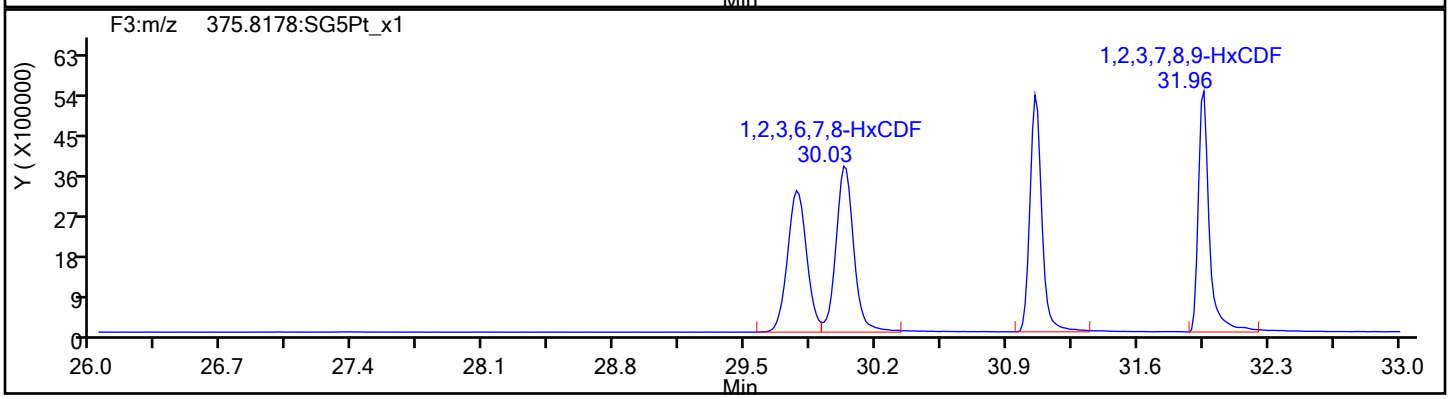

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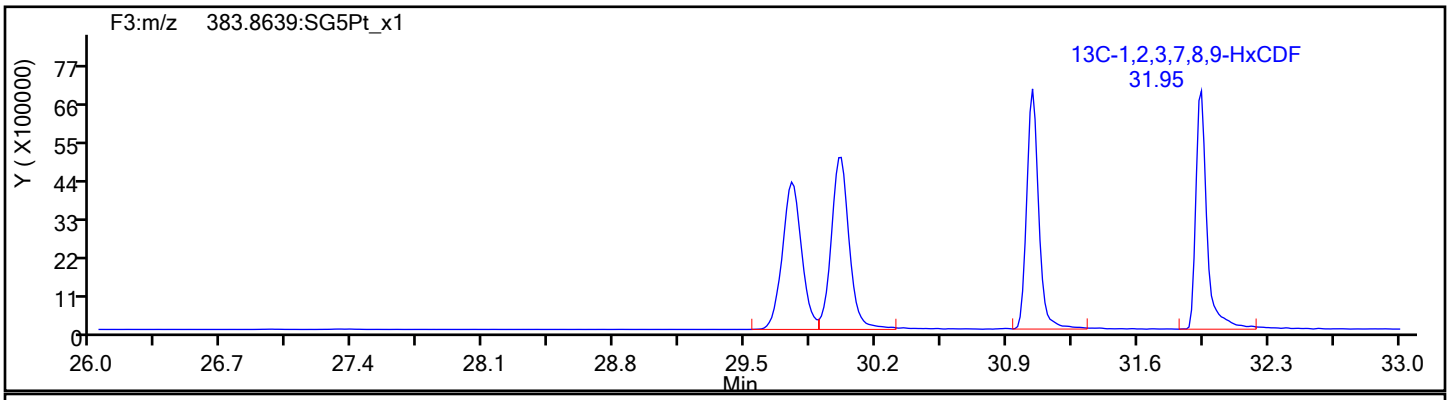

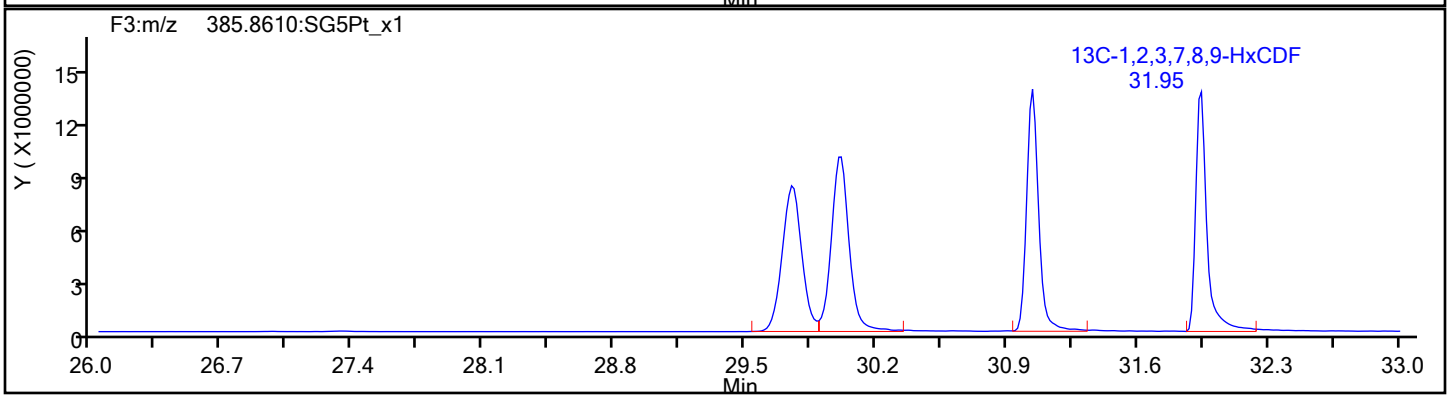

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Eurofins TestAmerica, Sacramento

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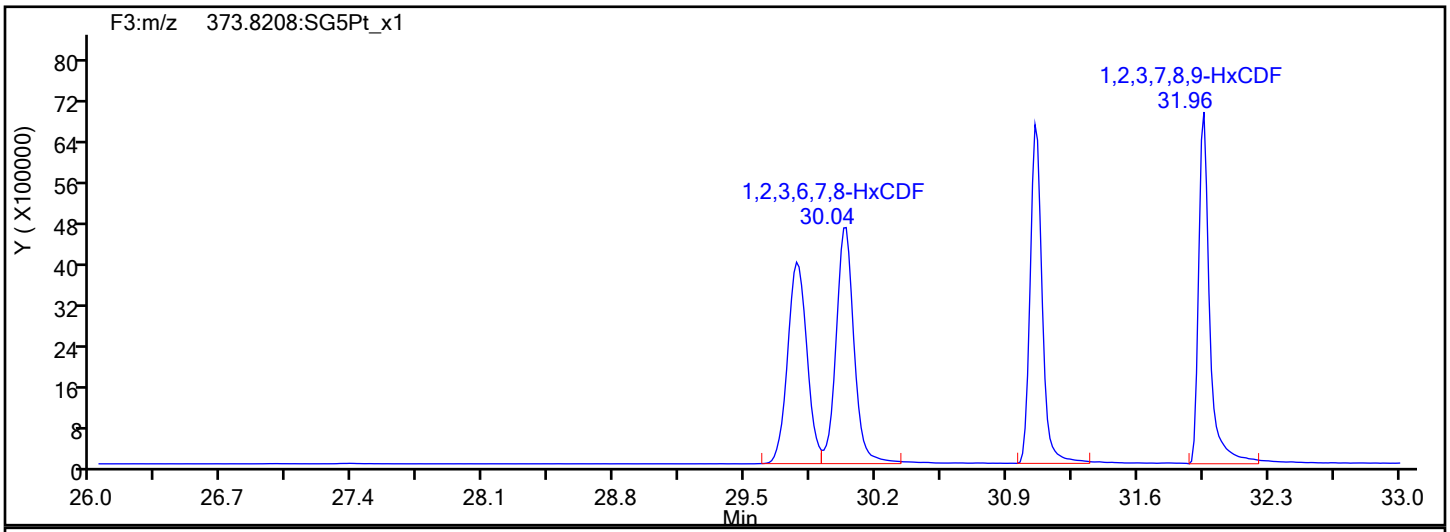

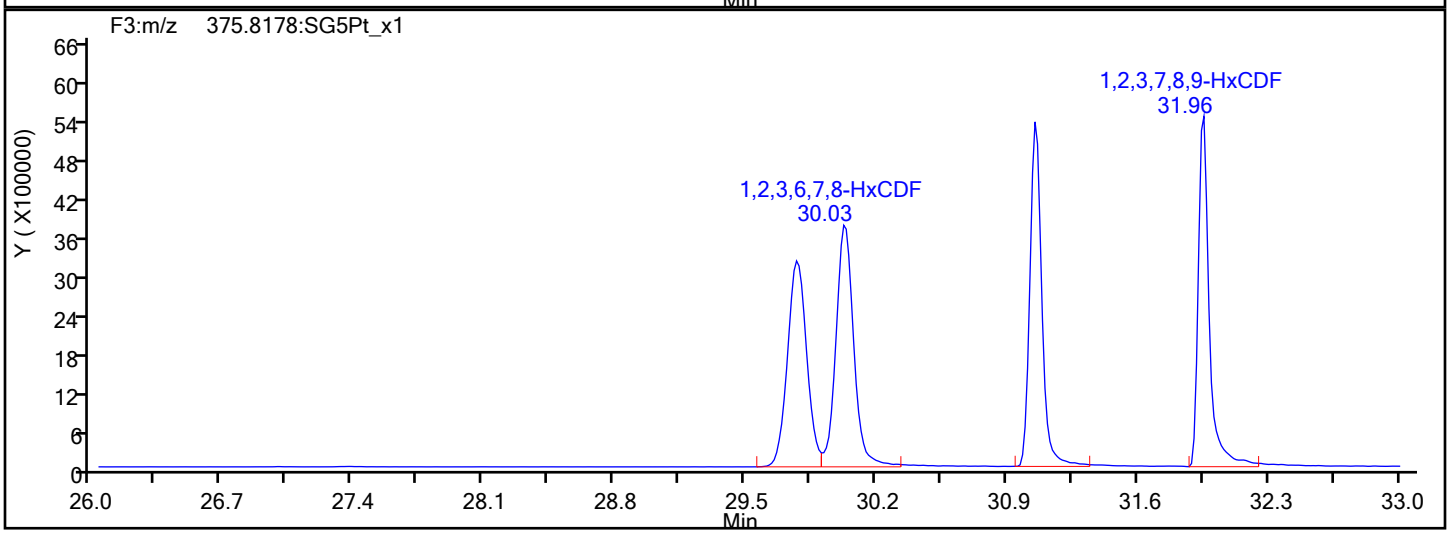

HxCDF Interference Mass

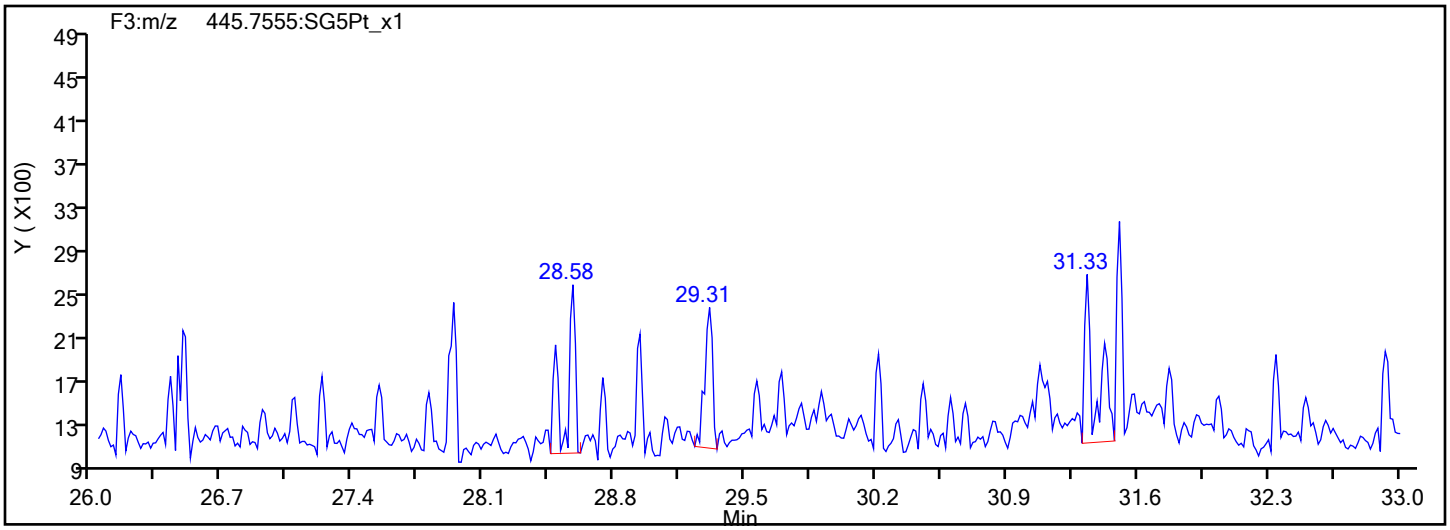

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Eurofins TestAmerica, Sacramento

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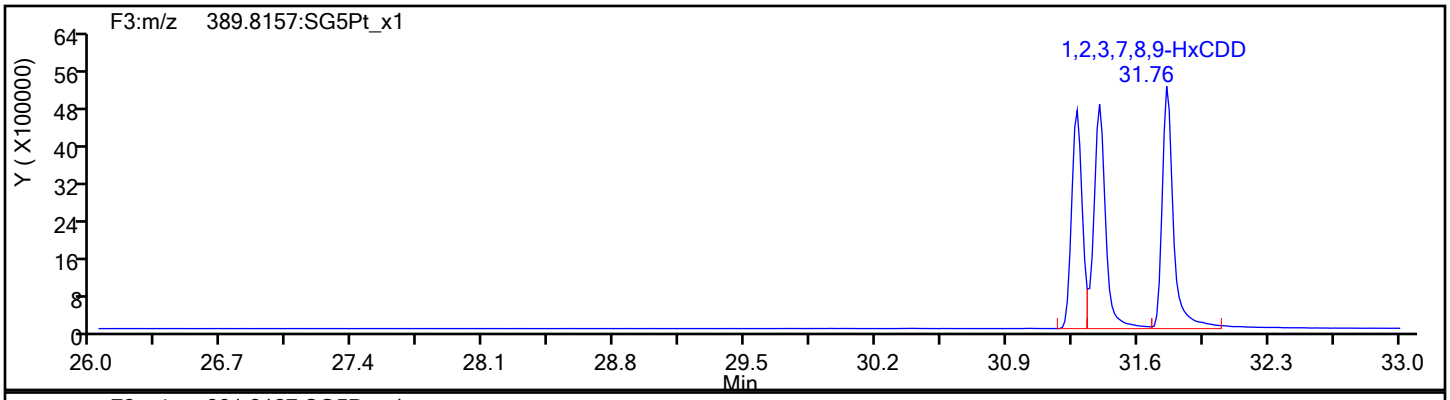

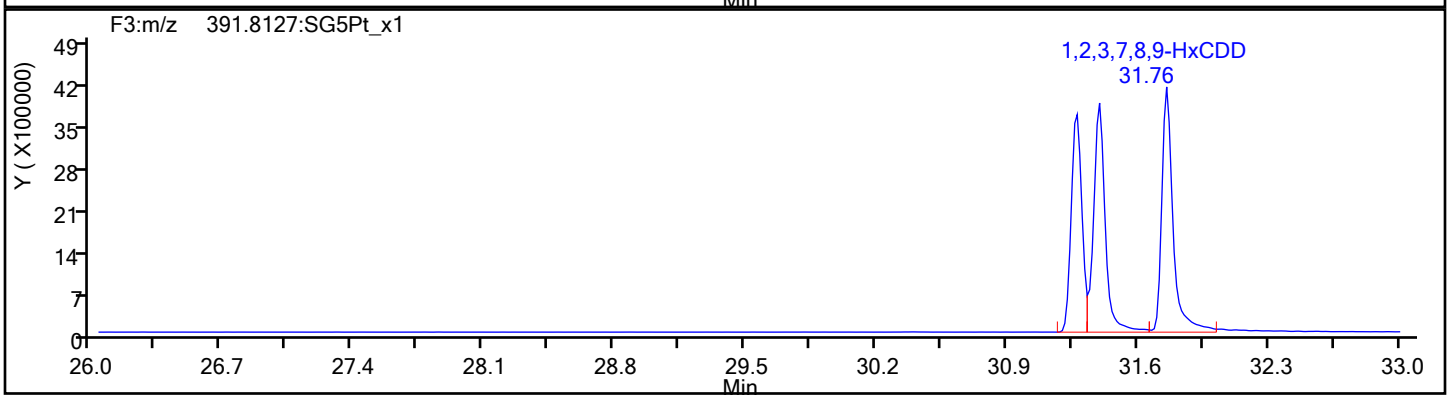

HxCDD Standards

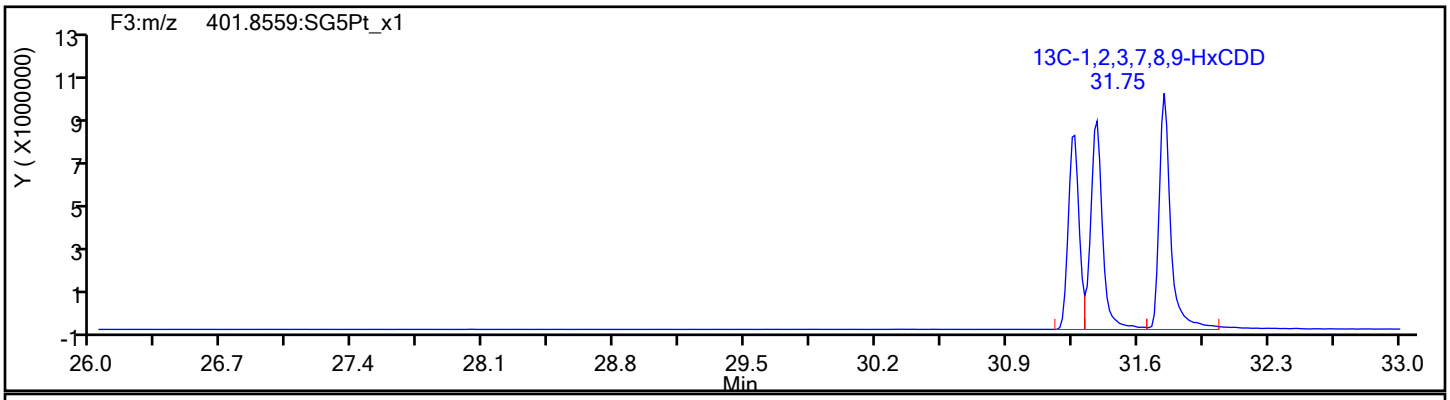

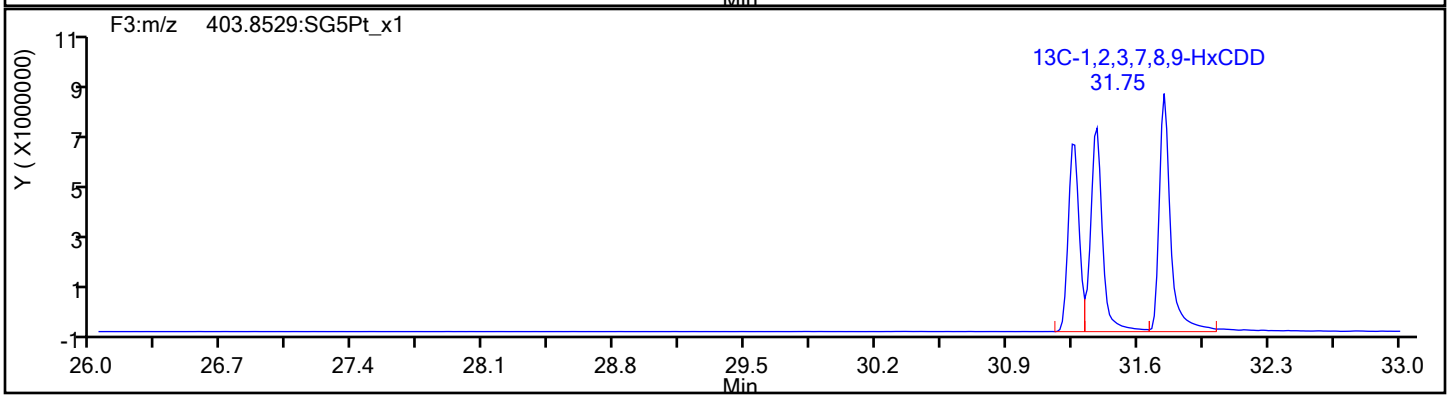

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Eurofins TestAmerica, Sacramento

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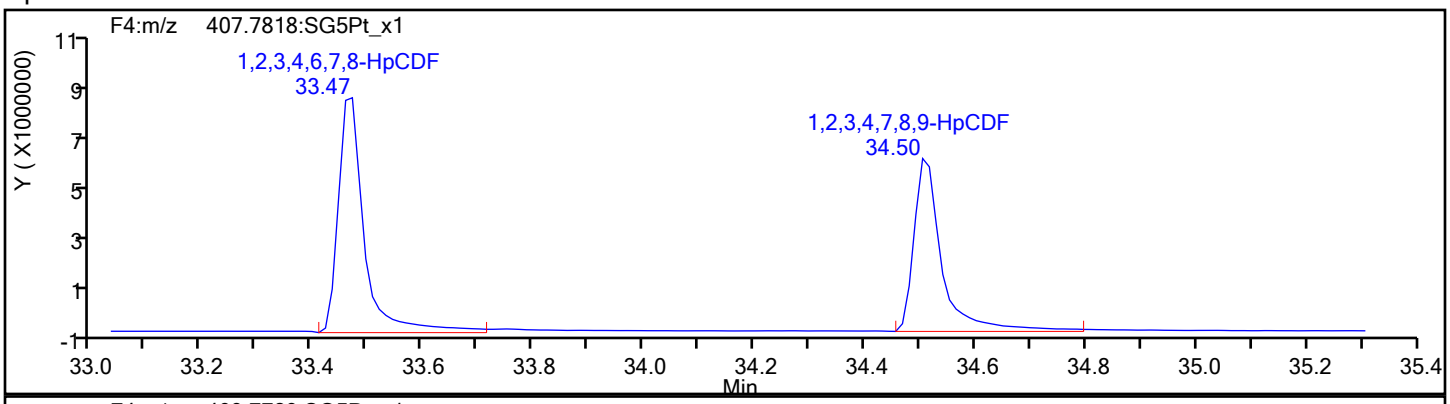

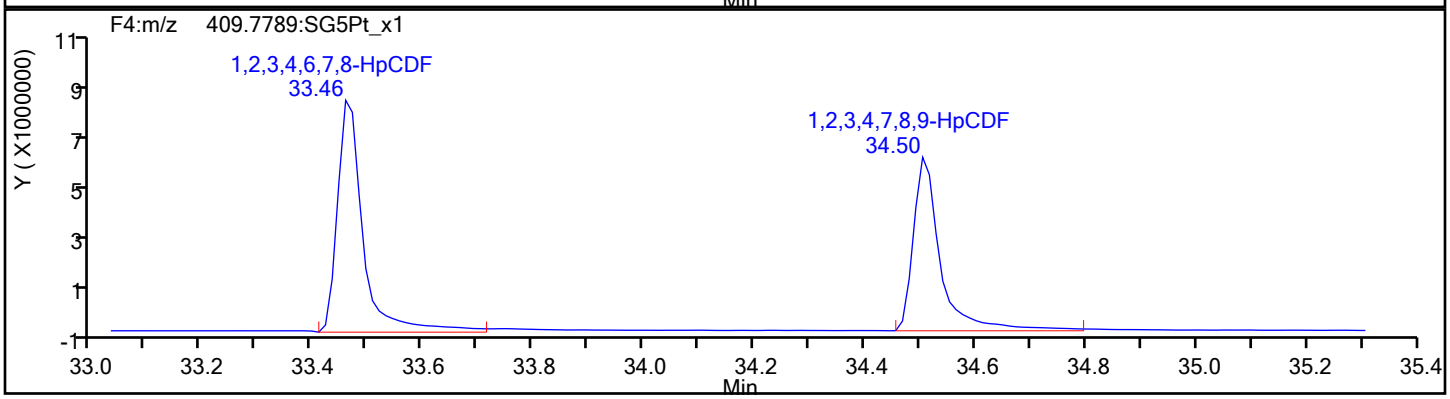

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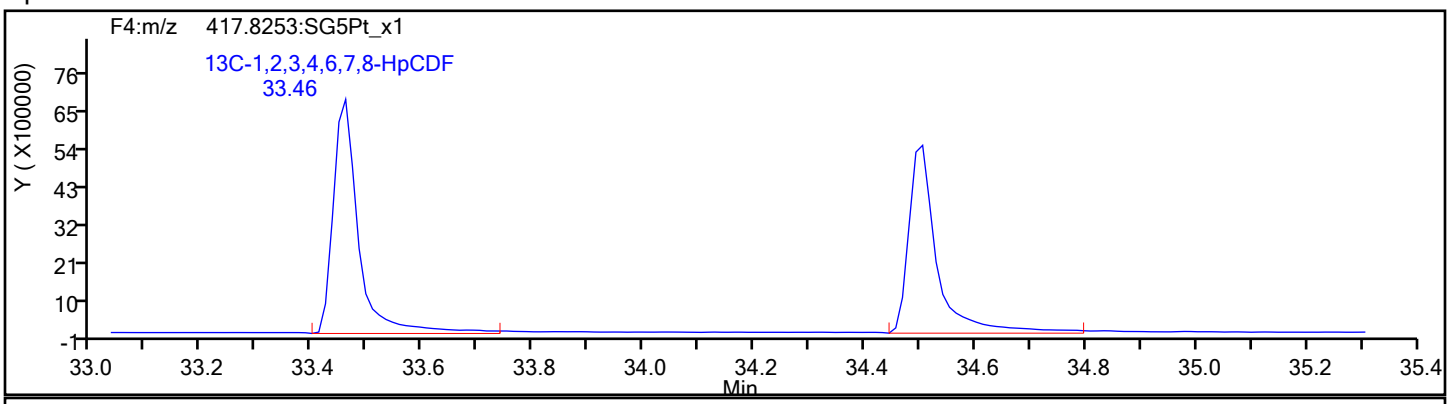

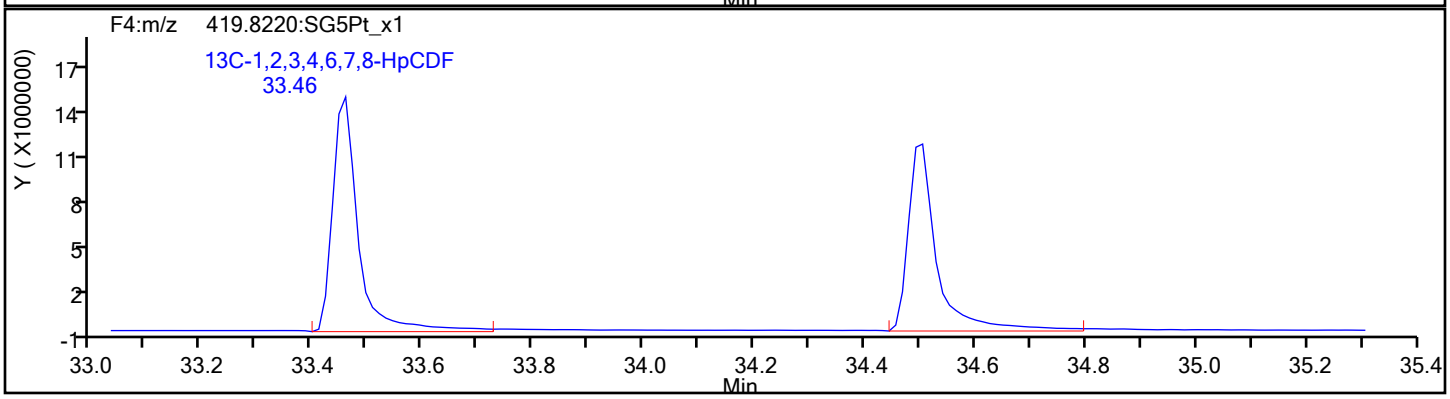

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Eurofins TestAmerica, Sacramento

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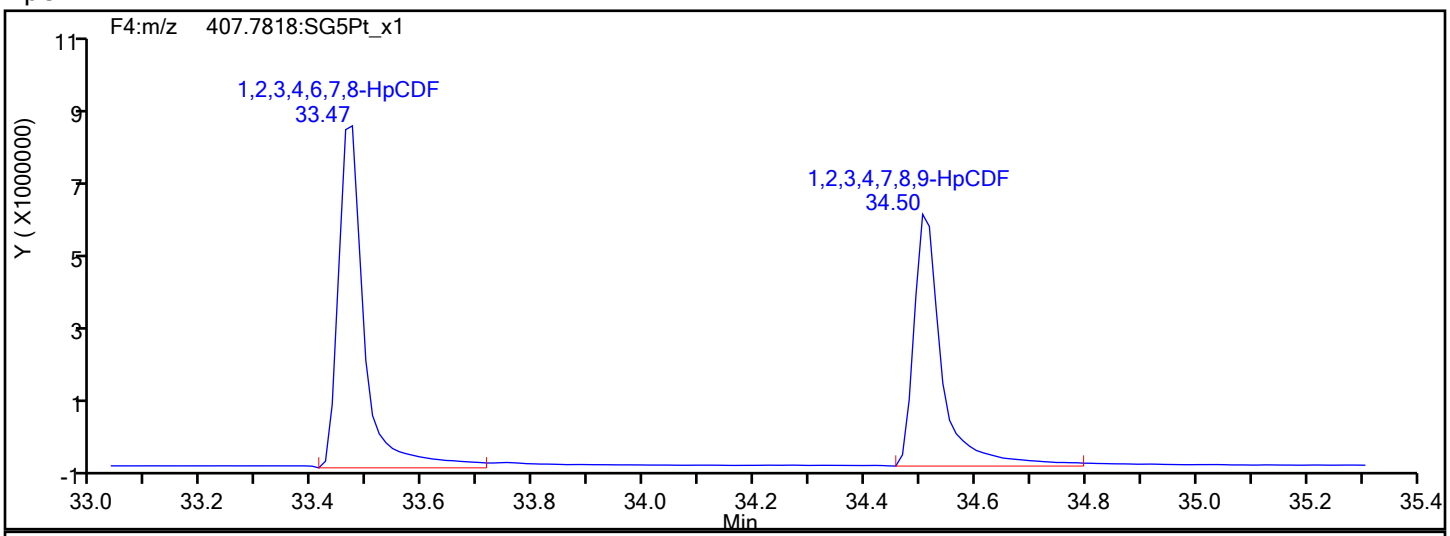

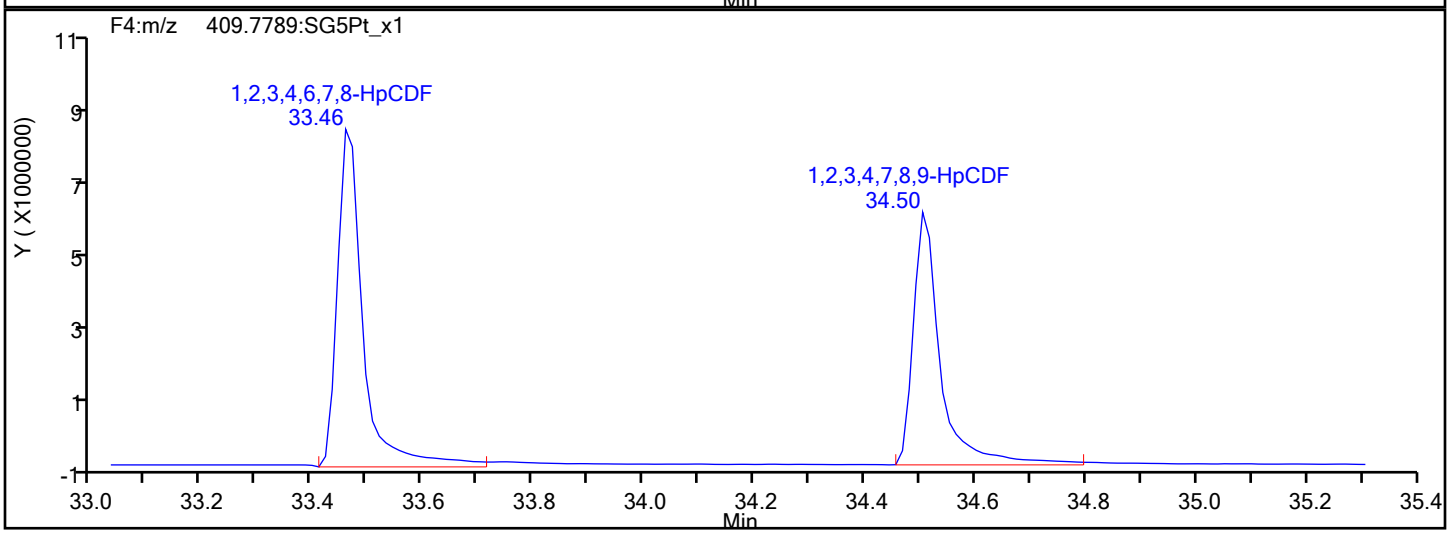

HpCDF Interference Mass

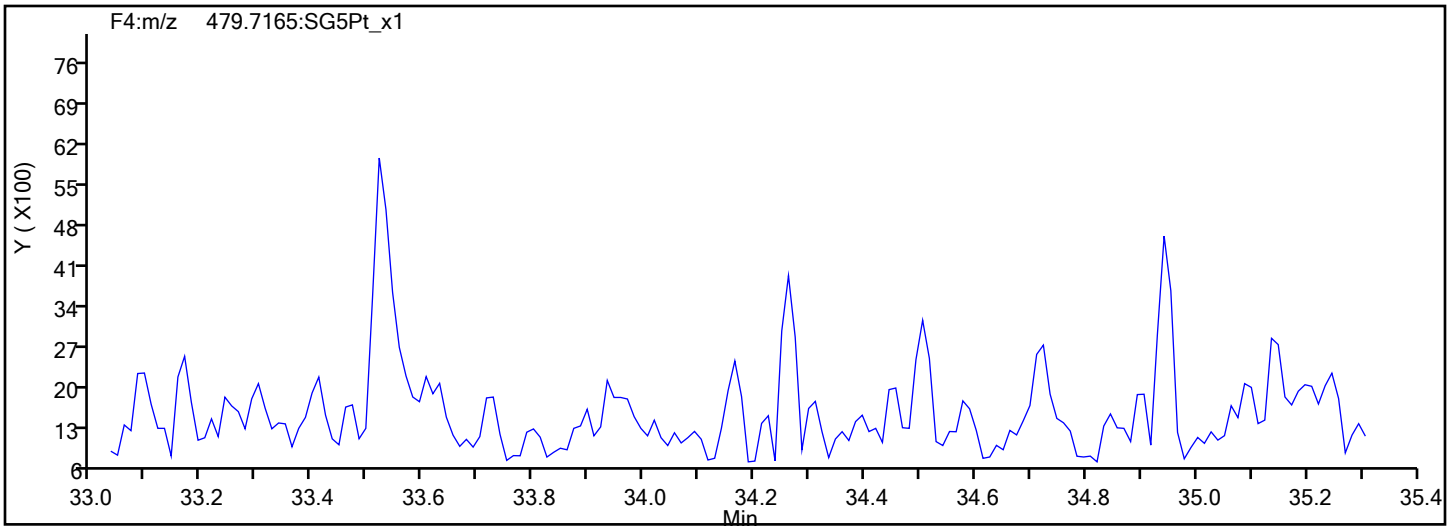

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Eurofins TestAmerica, Sacramento

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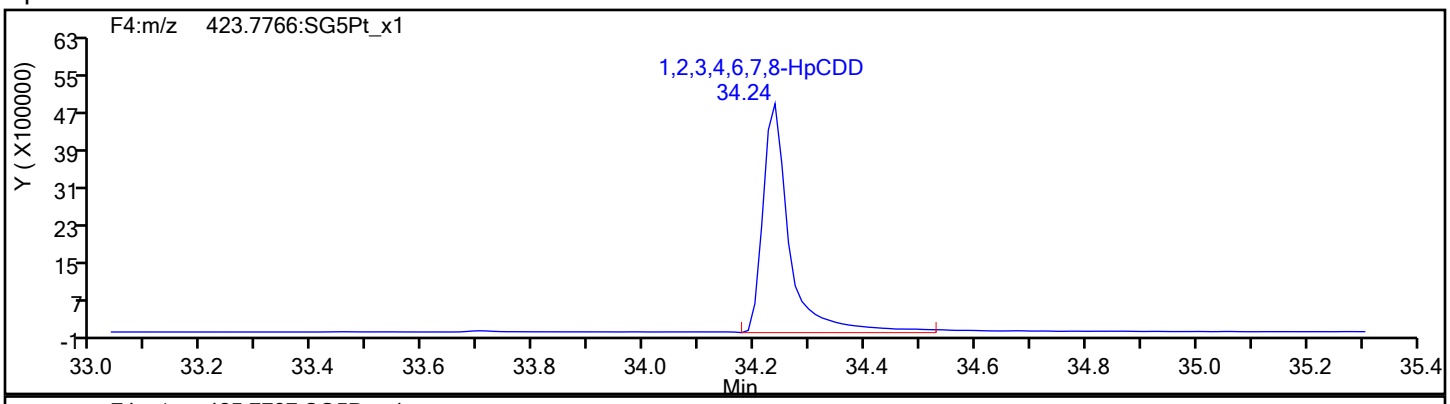

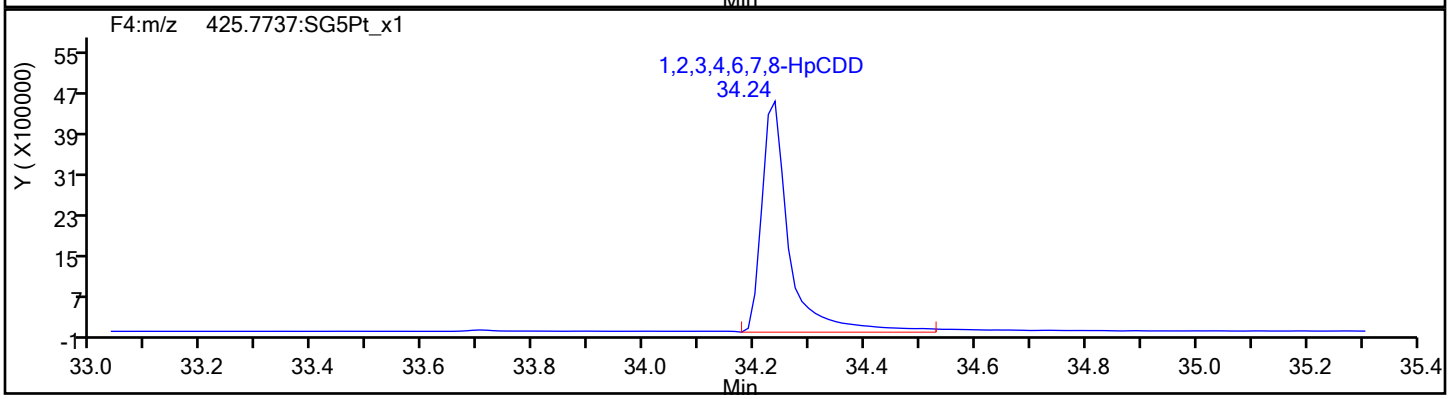

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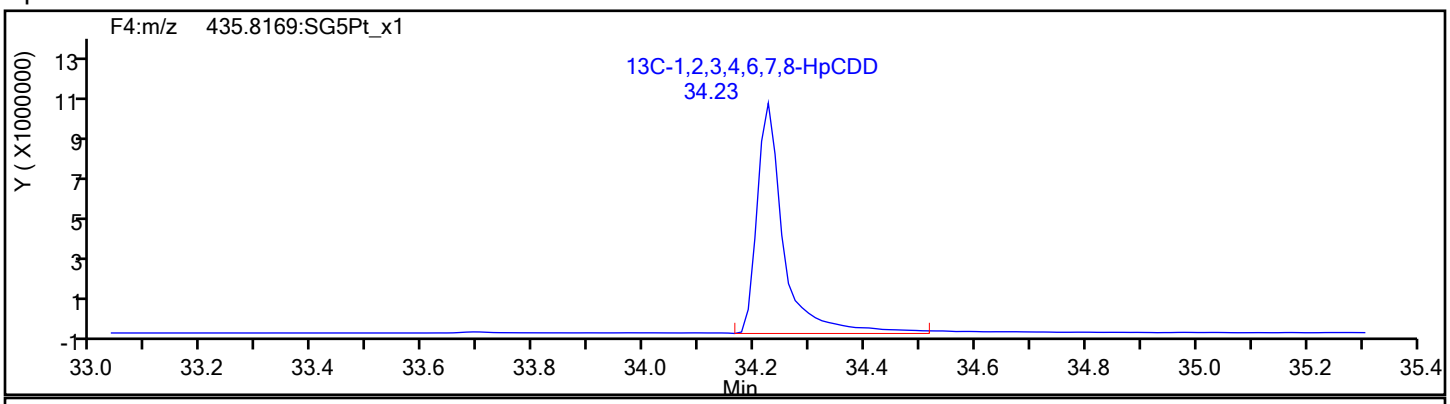

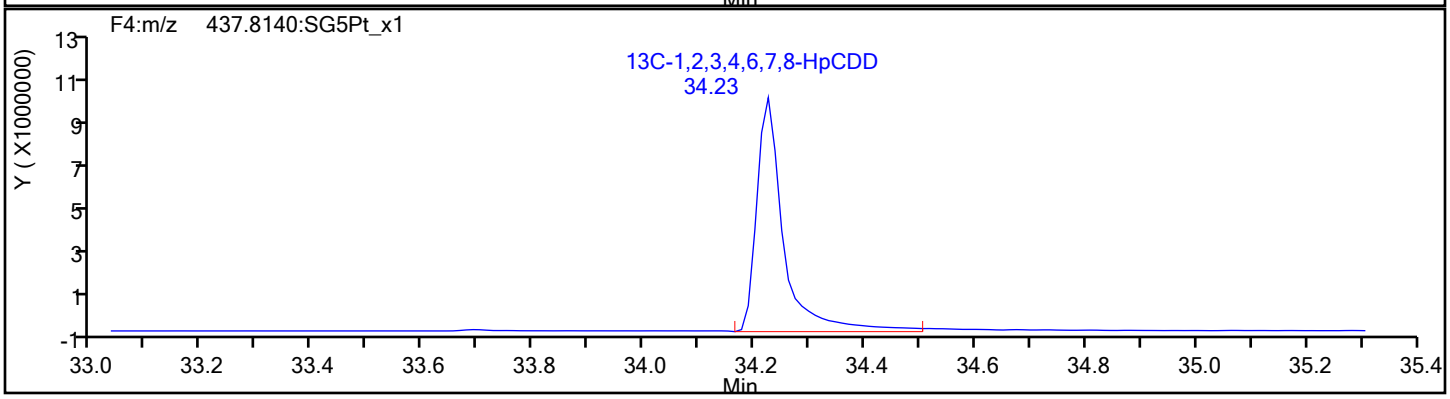

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OCDF

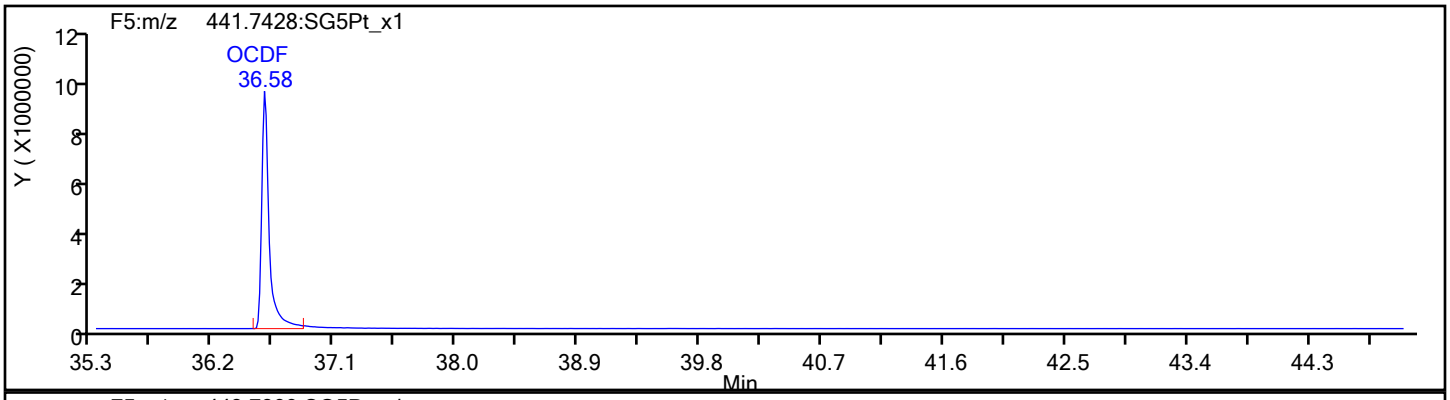

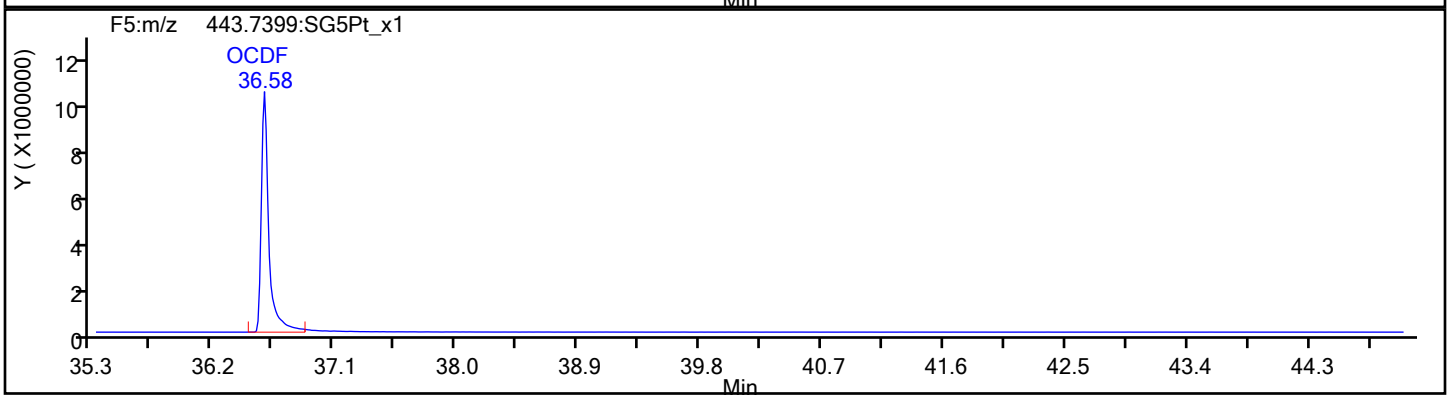

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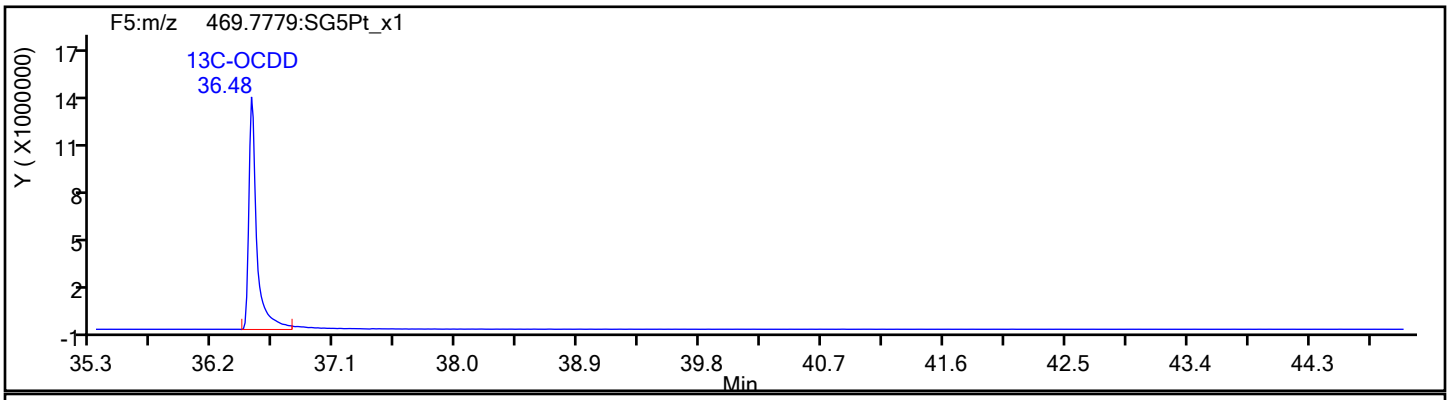

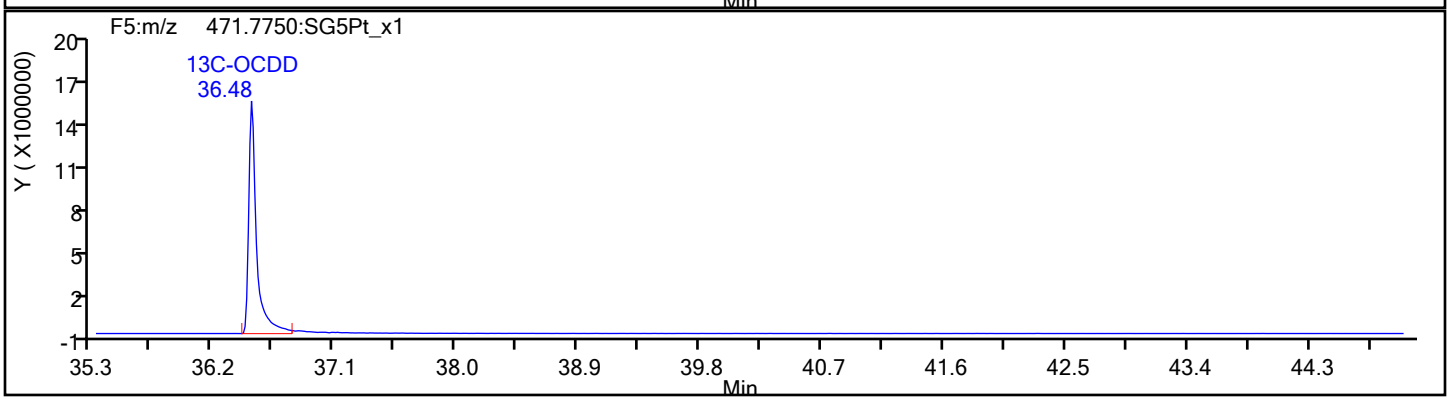

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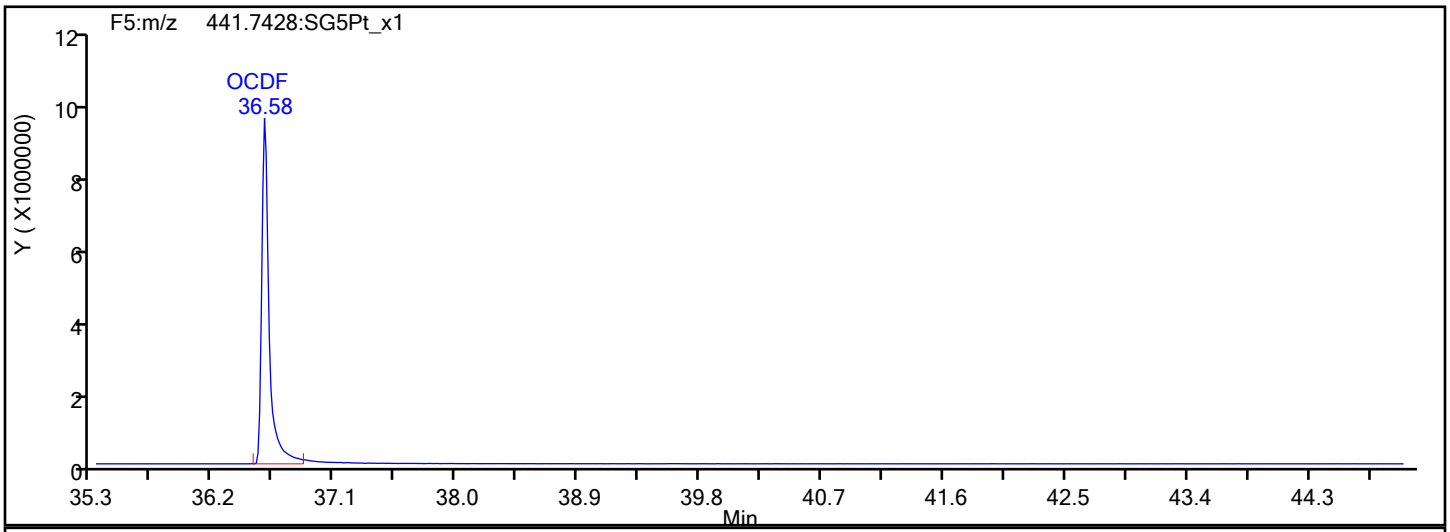

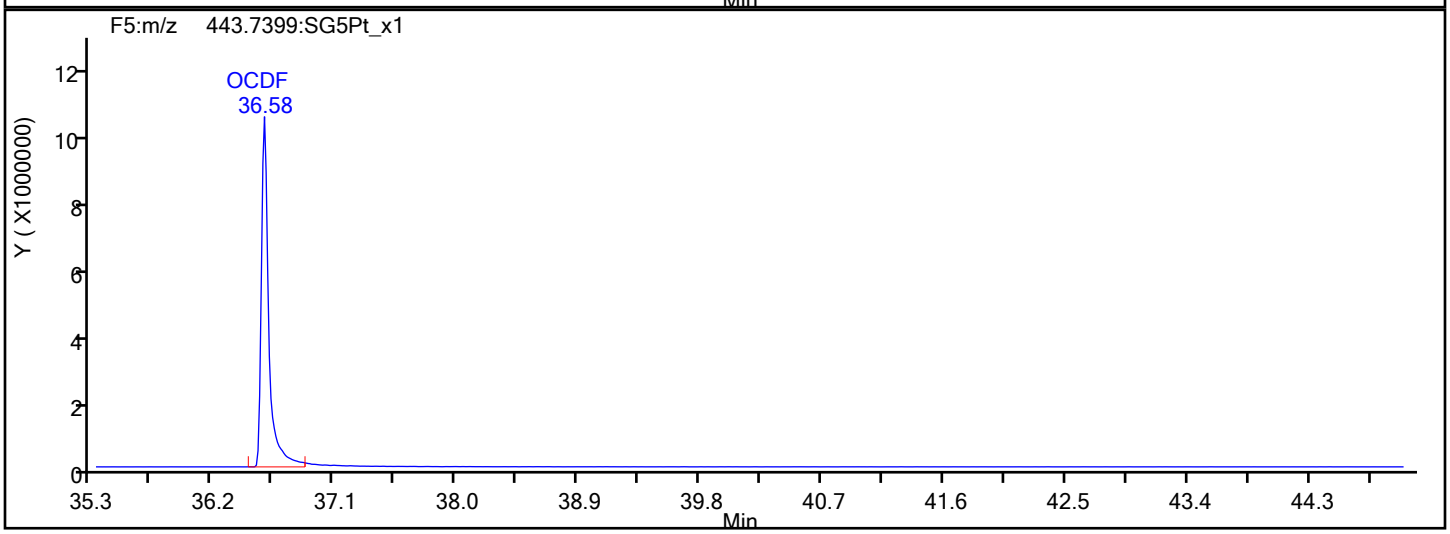

OCDF Interference Mass

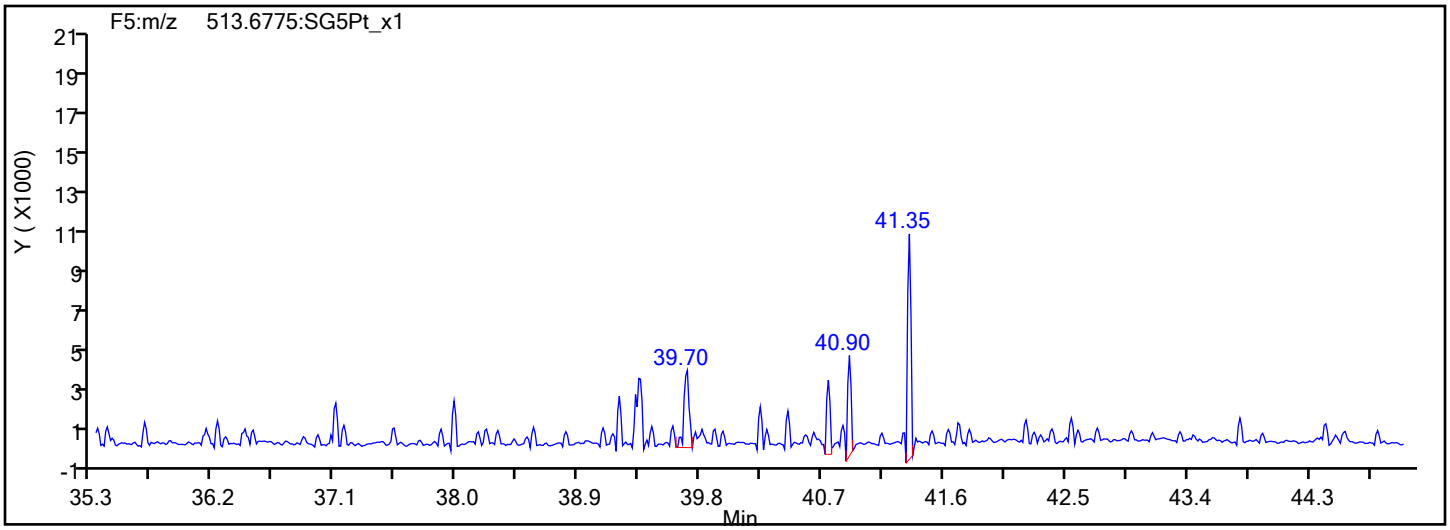

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Eurofins TestAmerica, Sacramento

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OCDD

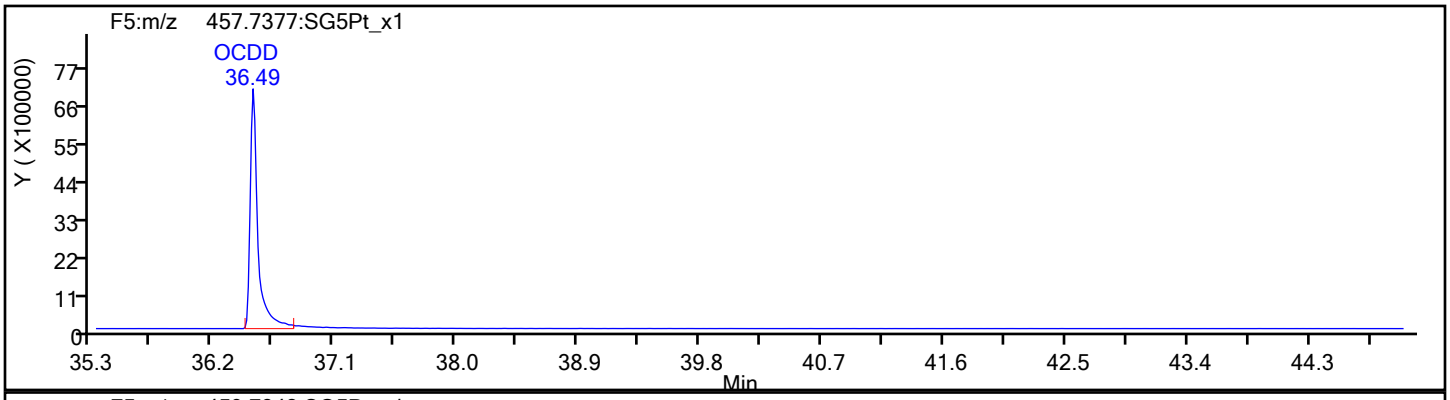

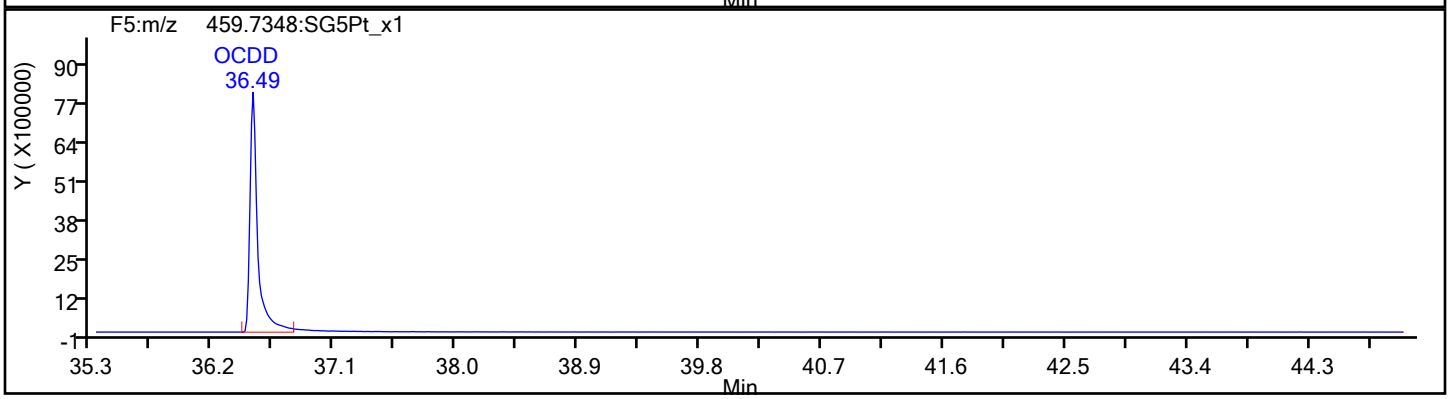

OCDD Standards

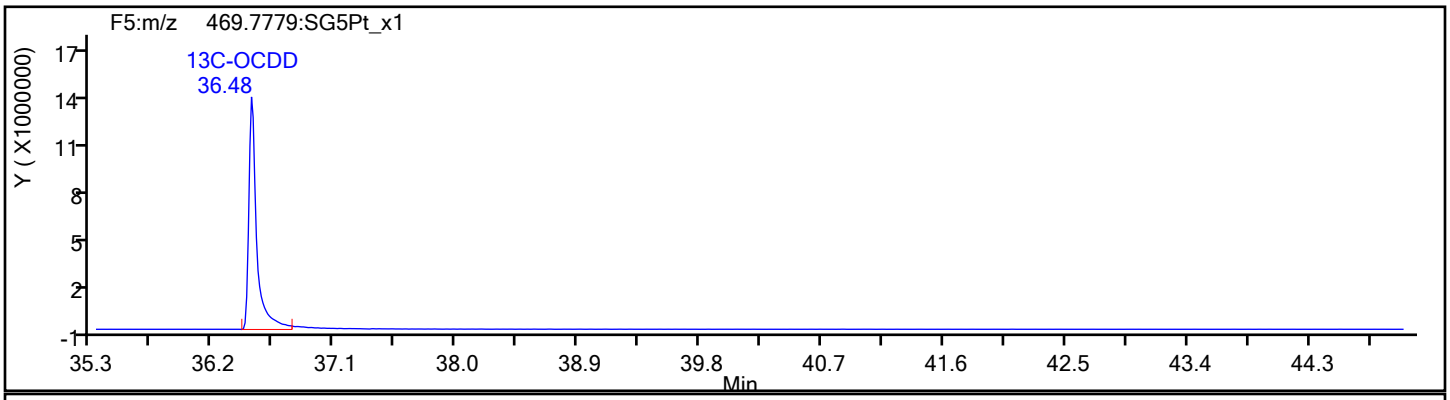

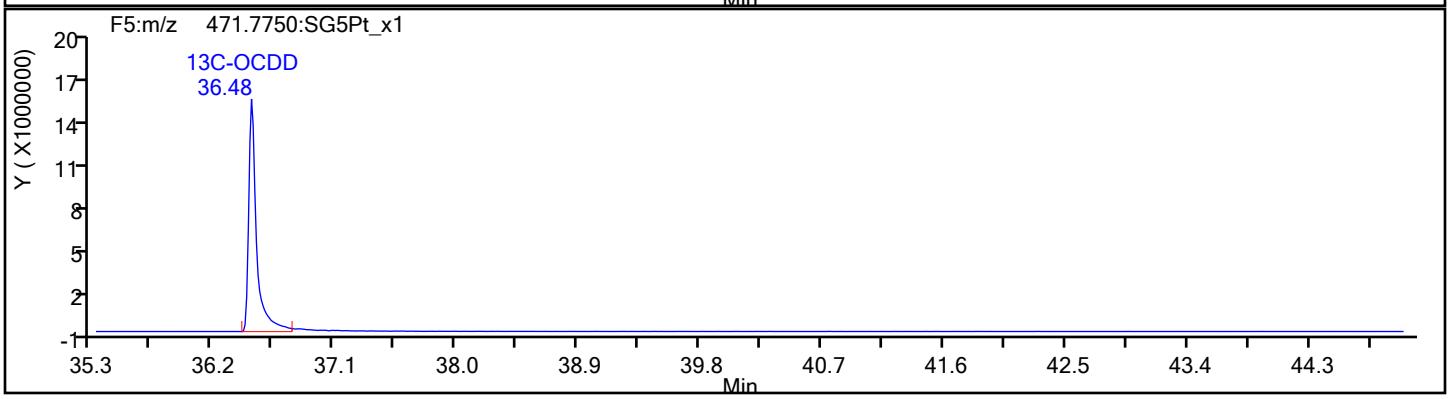

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
Injection Date:	17-Sep-2019 16:09:27	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

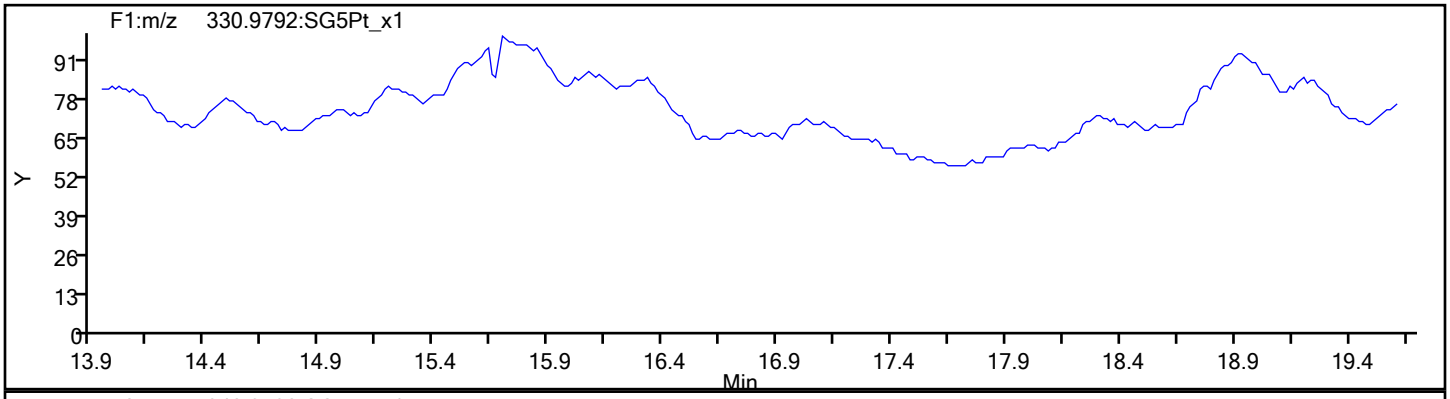

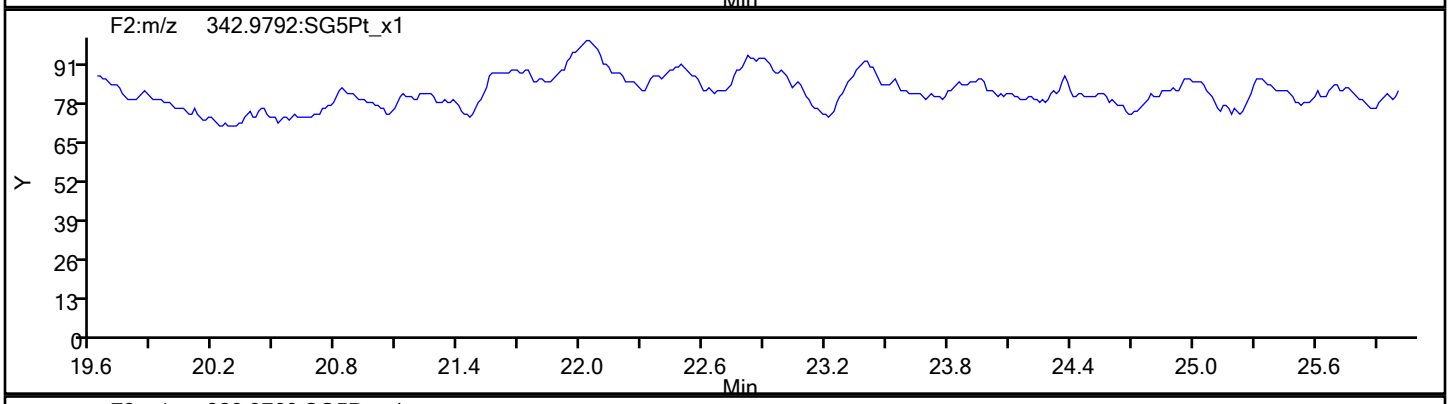

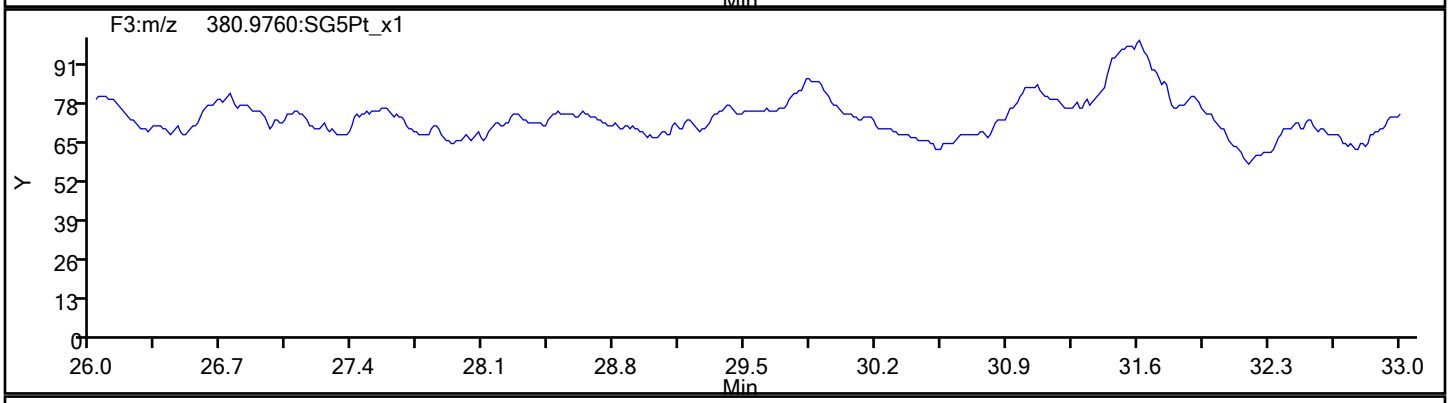

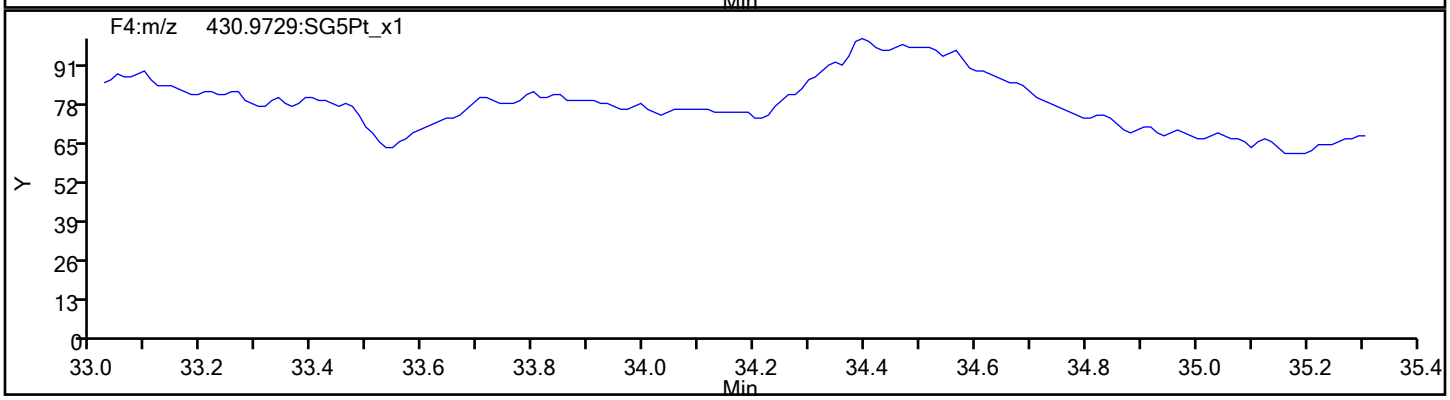

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
Injection Date:	17-Sep-2019 16:09:27	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

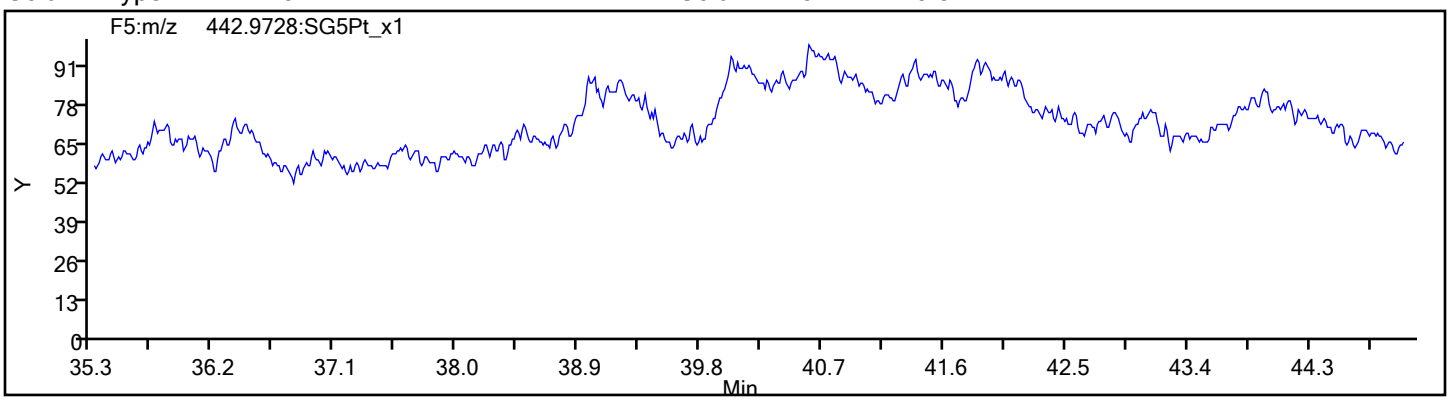

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 17-Sep-2019 16:55:33 ALS Bottle#: 7 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719D CS-6 HRDXNL6_00024
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:47 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:54:56

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.300	157084773	0.78	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.801	225533576	0.80	1.4384	99.8	99.8	0.1407	0.1407	99.82	
2,3,7,8-TCDF	16.816	462672519	0.79	1.0507	195.2	195.2	0.2682	0.2682	97.62	
S Total TCDF					195.2	195.2	0.2682	0.2682		
D 13C-2,3,7,8-TCDD	17.481	150666513	0.77	0.9533	100.6	100.6	0.1699	0.1699	101	
$ 37Cl4-2,3,7,8-TCDD	17.496	402794059		1.2224	209.8	209.8	0.1859	0.1859	105	
2,3,7,8-TCDD	17.511	327747086	0.80	1.1064	196.6	196.6	0.1471	0.1471	98.31	
S Total TCDD					196.6	196.6	0.1471	0.1471		
D 13C-1,2,3,7,8-PeCDF	21.645	171862914	1.60	1.0286	106.4	106.4	0.2163	0.2163	106	
1,2,3,7,8-PeCDF	21.659	1845377073	1.58	1.0822	992.2	992.2	2.737	2.737	99.22	
D 13C-2,3,4,7,8-PeCDF	22.940	167797734	1.58	0.9827	108.7	108.7	0.2264	0.2264	109	
2,3,4,7,8-PeCDF	22.954	1854754260	1.57	1.1032	1001.9	1001.9	2.942	2.942	100	
S Total PeCDF					1994.1	1994.1	2.839	2.839		
D 13C-1,2,3,7,8-PeCDD	23.622	129152474	1.52	0.7481	109.9	109.9	0.1201	0.1201	110	
1,2,3,7,8-PeCDD	23.649	1162563715	1.58	0.9050	994.6	994.6	1.041	1.041	99.46	
S Total PeCDD					994.6	994.6	1.041	1.041		
D 13C-1,2,3,4,7,8-HxCDF	29.775	140595624	0.52	1.1520	100.0	100.0	0.4225	0.4225	99.98	
1,2,3,4,7,8-HxCDF	29.802	1688948701	1.26	1.1973	1003.3	1003.3	7.472	7.472	100	
D 13C-1,2,3,6,7,8-HxCDF	30.015	151833452	0.53	1.2434	100.0	100.0	0.3914	0.3914	100	
1,2,3,6,7,8-HxCDF	30.042	1790437956	1.26	1.1807	998.8	998.8	6.340	6.340	99.88	
D 13C-2,3,4,6,7,8-HxCDF	31.040	147071003	0.53	1.1720	102.8	102.8	0.4153	0.4153	103	
2,3,4,6,7,8-HxCDF	31.066	1773083873	1.25	1.2116	995.1	995.1	4.324	4.324	99.51	
D 13C-1,2,3,7,8,9-HxCDF	31.945	129353689	0.52	1.0655	99.5	99.5	0.4568	0.4568	99.46	
1,2,3,7,8,9-HxCDF	31.958	1579646001	1.26	1.2451	980.8	980.8	4.155	4.155	98.08	
S Total HxCDF					3977.9	3977.9	5.573	5.573		
* 13C-1,2,3,7,8,9-HxCDD	31.745	122060377	1.25	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.266	100374877	1.33	0.7812	105.3	105.3	0.3579	0.3579	105	
1,2,3,4,7,8-HxCDD	31.279	1132407299	1.25	1.1088	1017.5	1017.5	3.102	3.102	102	
D 13C-1,2,3,6,7,8-HxCDD	31.386	116499868	1.24	0.9175	104.0	104.0	0.3048	0.3048	104	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.399	1240444751	1.26	1.0814	984.6	984.6	2.882	2.882	98.46	
1,2,3,7,8,9-HxCDD	31.759	1259477463	1.26	1.2123	958.1	958.1	2.697	2.697	95.81	
S Total HxCDD					2960.2	2960.2	2.894	2.894		
D 13C-1,2,3,4,6,7,8-HpCDF	33.459	106743815	0.46	0.8628	101.4	101.4	1.713	1.713	101	
1,2,3,4,6,7,8-HpCDF	33.472	1613842335	1.05	1.5555	971.9	971.9	14.1	14.1	97.19	
D 13C-1,2,3,4,7,8,9-HpCDF	34.504	100973962	0.46	0.7991	103.5	103.5	1.849	1.849	104	
1,2,3,4,7,8,9-HpCDF	34.504	1391884877	1.05	1.3862	994.4	994.4	18.7	18.7	99.44	
S Total HpCDF					1966.3	1966.3	16.4	16.4		
D 13C-1,2,3,4,6,7,8-HpCDD	34.225	111298169	1.03	0.8739	104.3	104.3	0.8846	0.8846	104	
1,2,3,4,6,7,8-HpCDD	34.237	1030391820	1.05	0.9316	993.8	993.8	7.238	7.238	99.38	
S Total HpCDD					993.8	993.8	7.238	7.238		
D 13C-OCDD	36.493	206464776	0.88	0.7744	218.4	218.4	0.2420	0.2420	109	
OCDF	36.589	2616959337	0.90	1.2596	2012.6	2012.6	1.498	1.498	101	
OCDD	36.505	2125514466	0.89	1.0621	1938.6	1938.6	2.038	2.038	96.93	

Reagents:

HRDXNL6_00024 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 17-Sep-2019 16:55:33 ALS Bottle#: 7 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719D CS-6 HRDXNL6_00024
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:47 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:54:56

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.300	17.303	0		68656888	17703152	11871	29677	1491		
333.9339	17.300	17.303	0		88427885	22923443	14450	36125	1586	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.801	16.810	-1	0.971	100473796	26202504	17815	44537	1471		
317.9389	16.801	16.810	-1	0.971	125059780	32860085	15076	37690	2180	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.816	16.825	-1	1.001	203968881	53426825	28090	70225	1902		
305.8987	16.816	16.825	-1	1.001	258703638	67905008	38497	96242	1764	0.79(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.481	17.490	-1	1.010	65699125	16108883	11871	29677	1357		
333.9339	17.481	17.490	-1	1.010	84967388	20783333	14450	36125	1438	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.496	17.505	-1	1.011	402794059	97947785	36924	92310	2653		
2,3,7,8-TCDD											
319.8965	17.511	17.505	0	1.002	145759899	35006474	11020	27550	3177		
321.8936	17.496	17.505	-1	1.001	181987187	44378051	13000	32500	3414	0.80(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	21.645	21.637	0	1.251	105769386	19380532	21442	53605	904		
353.8970	21.645	21.637	0	1.251	66093528	12006776	14706	36765	816	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.659	21.661	0	1.001	1128987918	207786620	228337	570842	910		
341.8567	21.659	21.661	0	1.001	716389155	132705026	143597	358992	924	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	22.940	22.932	0	1.326	102870411	17592993	21442	53605	820		
353.8970	22.940	22.932	0	1.326	64927323	11060126	14706	36765	752	1.58(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.954	22.954	0	1.001	1134203044	192648194	228337	570842	844		
341.8567	22.954	22.954	0	1.001	720551216	123114818	143597	358992	857	1.57(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.622	23.625	0	1.365	77891431	12413727	9204	23010	1349		
369.8919	23.622	23.625	0	1.365	51261043	8286162	5391	13477	1537	1.52(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.649	23.649	0	1.001	712114532	115586755	47770	119425	2420		
357.8516	23.649	23.649	0	1.001	450449183	73672225	30241	75602	2436	1.58(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.775	29.754	1	0.938	48283336	6569879	20357	50892	323		
385.8610	29.775	29.754	1	0.938	92312288	12535842	37224	93060	337	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.802	29.789	1	1.001	940997687	133250334	383917	959792	347		
375.8178	29.802	29.789	1	1.001	747951014	105366191	299807	749517	351	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.015	30.015	0	0.945	52450288	7974033	20357	50892	392		
385.8610	30.015	30.015	0	0.945	99383164	14861268	37224	93060	399	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.042	30.039	0	1.001	997571168	151931057	383917	959792	396		
375.8178	30.042	30.039	0	1.001	792866788	120963468	299807	749517	403	1.26(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.040	31.043	0	0.978	50759518	11236785	20357	50892	552		
385.8610	31.040	31.043	0	0.978	96311485	21393821	37224	93060	575	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.066	31.059	0	1.001	985093633	220162965	383917	959792	573		
375.8178	31.066	31.059	0	1.001	787990240	173863815	299807	749517	580	1.25(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.945	31.942	0	1.006	44455247	11339049	20357	50892	557		
385.8610	31.945	31.942	0	1.006	84898442	21704283	37224	93060	583	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.958	31.956	0	1.000	881417801	228486168	383917	959792	595		
375.8178	31.958	31.956	0	1.000	698228200	180413640	299807	749517	602	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.745	31.748	0		67929723	16429699	18251	45627	900		
403.8529	31.745	31.748	0		54130654	13145642	14828	37070	887	1.25(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.266	31.261	0	0.985	57329166	14082357	18251	45627	772		
403.8529	31.266	31.261	0	0.985	43045711	11050859	14828	37070	745	1.33(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.279	31.280	0	1.000	629831633	158465261	197312	493280	803		
391.8127	31.279	31.280	0	1.000	502575666	126972690	148417	371042	856	1.25(1.05-1.43)	

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24
Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.386	31.383	0	0.989	64540443	15691585	18251	45627	860		
403.8529	31.386	31.383	0	0.989	51959425	12036727	14828	37070	812	1.24(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.399	31.402	0	1.000	692132021	165495989	197312	493280	839		
391.8127	31.399	31.402	0	1.000	548312730	133657431	148417	371042	901	1.26(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.759	31.761	0	1.016	702952771	169150562	197312	493280	857		
391.8127	31.759	31.761	0	1.016	556524692	136362240	148417	371042	919	1.26(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.459	33.457	0	1.054	33673507	11080194	54234	135585	204		
419.8220	33.459	33.457	0	1.054	73070308	23803007	120568	301420	197	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.472	33.469	0	1.000	828352693	264674315	15239773	809942	174		
409.7789	33.459	33.469	-1	1.000	785489642	258152347	15359593	839897	168	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.504	34.502	0	1.087	31611144	9286341	54234	135585	171		
419.8220	34.504	34.502	0	1.087	69362818	20149549	120568	301420	167	0.46(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.504	34.509	0	1.000	711389911	208533041	15239773	809942	137		
409.7789	34.504	34.509	0	1.000	680494966	202816426	15359593	839897	132	1.05(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.225	34.227	0	1.078	56576314	17187295	46326	115815	371		
437.8140	34.225	34.227	0	1.078	54721855	16668841	45125	112812	369	1.03(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.237	34.235	0	1.000	528198445	160615442	456142	1140355	352		
425.7737	34.237	34.235	0	1.000	502193375	149899801	457044	1142610	328	1.05(0.88-1.20)	
13C-OCDD											
469.7779	36.493	36.486	0	1.150	96929202	24000709	8587	21467	2795		
471.7750	36.493	36.486	0	1.150	109535574	26795340	13585	33962	1972	0.88(0.76-1.02)	
OCDF											
441.7428	36.589	36.581	0	1.003	1236830988	325979490	105711	264277	3084		
443.7399	36.589	36.581	0	1.003	1380128349	358207842	85997	214992	4165	0.90(0.76-1.02)	
OCDD											
457.7377	36.505	36.497	0	1.000	1001000005	251130559	122617	306542	2048		
459.7348	36.505	36.497	0	1.000	1124514461	278735720	97234	243085	2867	0.89(0.76-1.02)	

Reagents:

HRDXNL6_00024 Amount Added: 1.00 Units: mL

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d		
Injection Date:	17-Sep-2019 16:55:33	Injection Vol:	2.0 ul
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

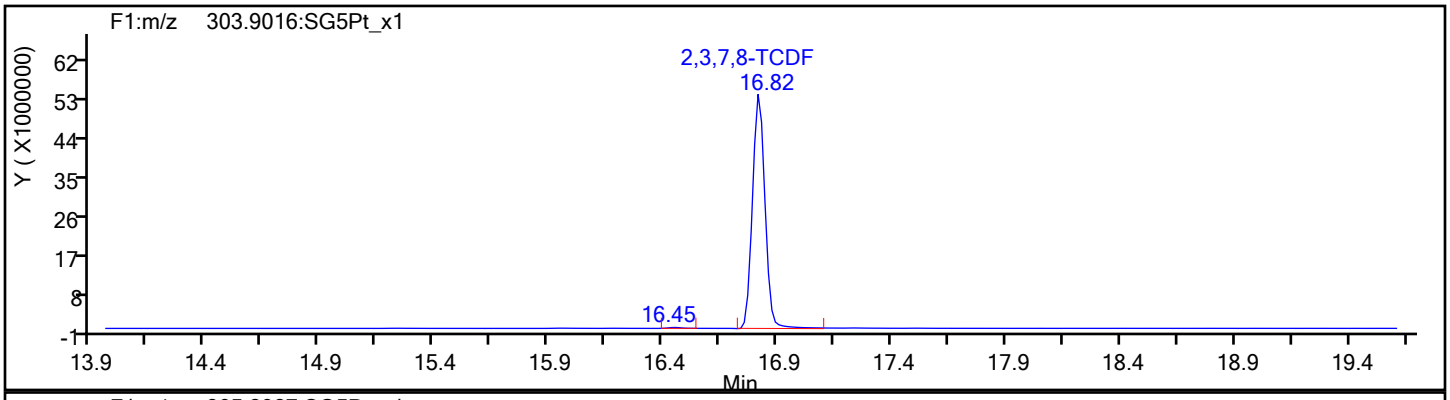

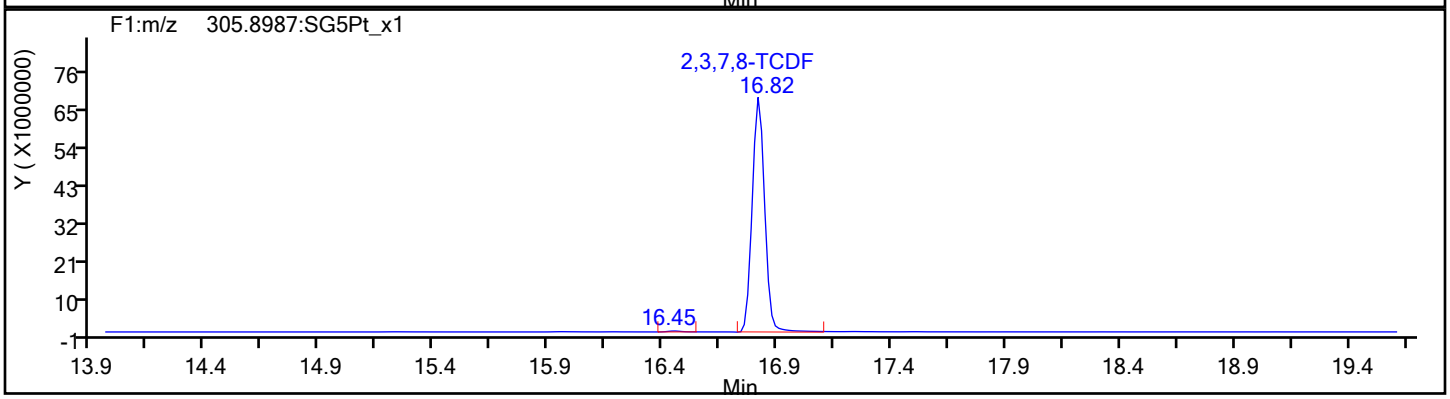

TCDF Standards

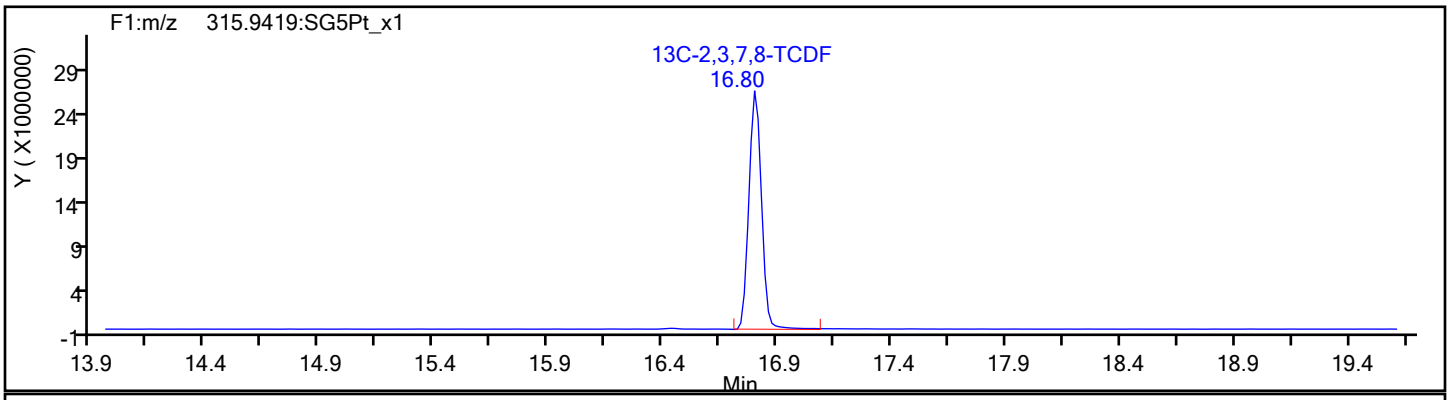

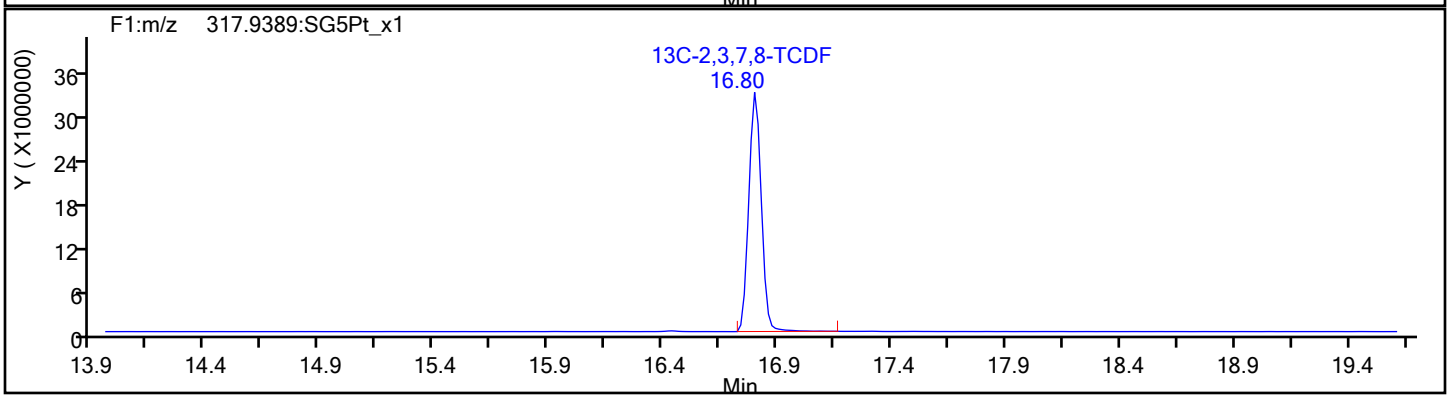

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

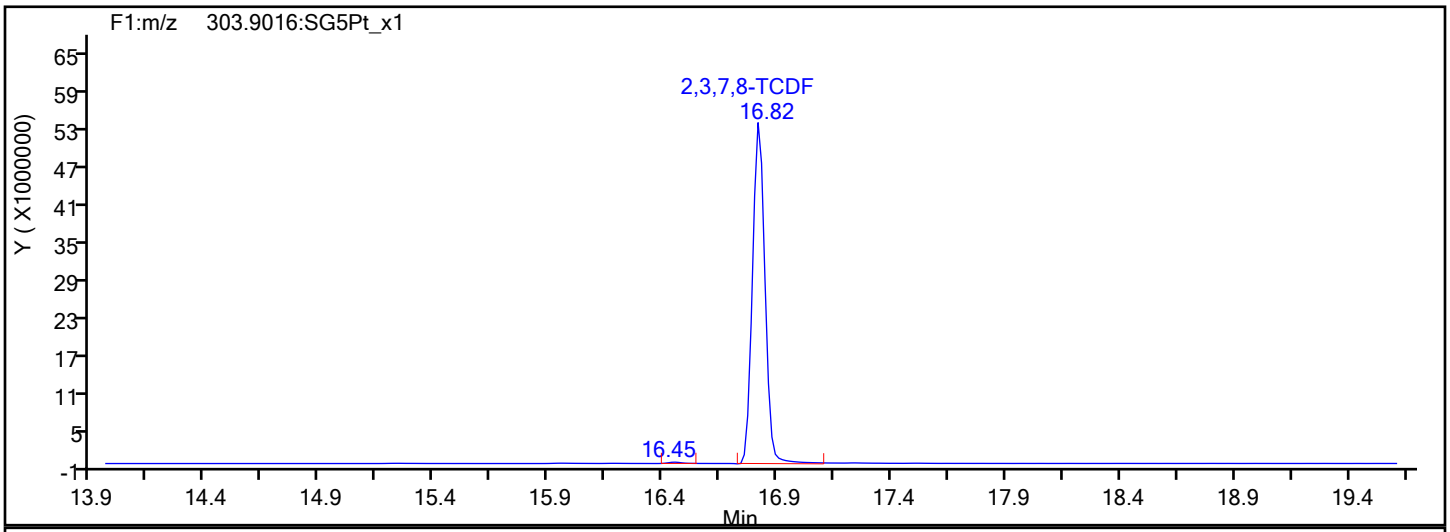

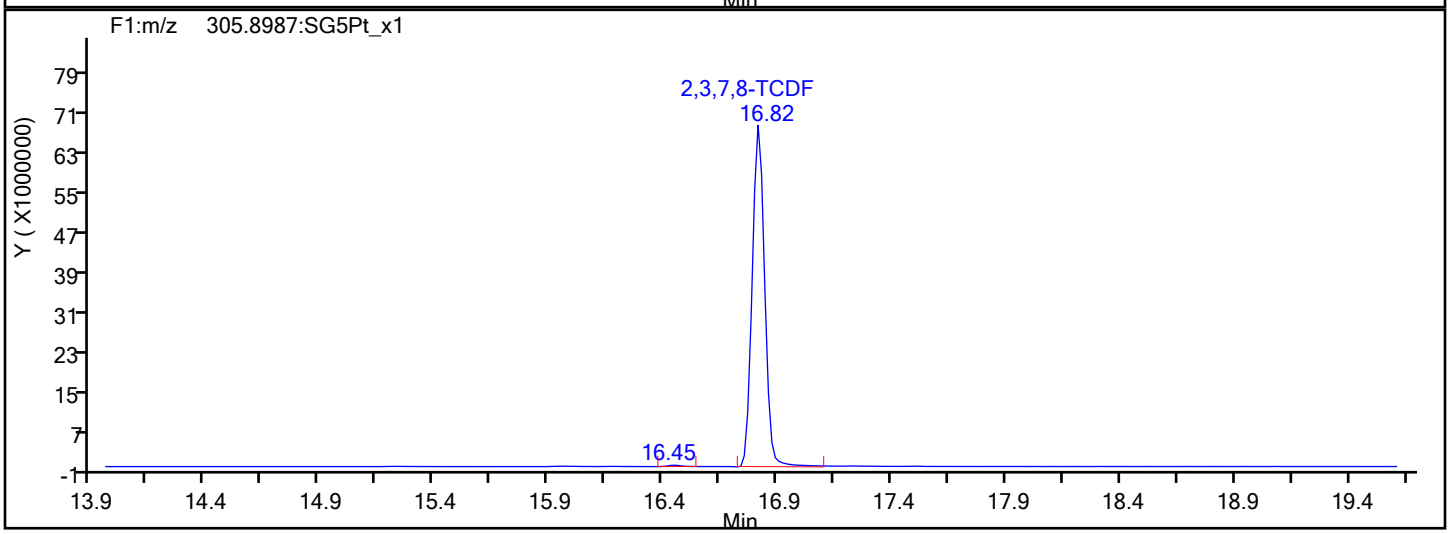

TCDF Interference Mass

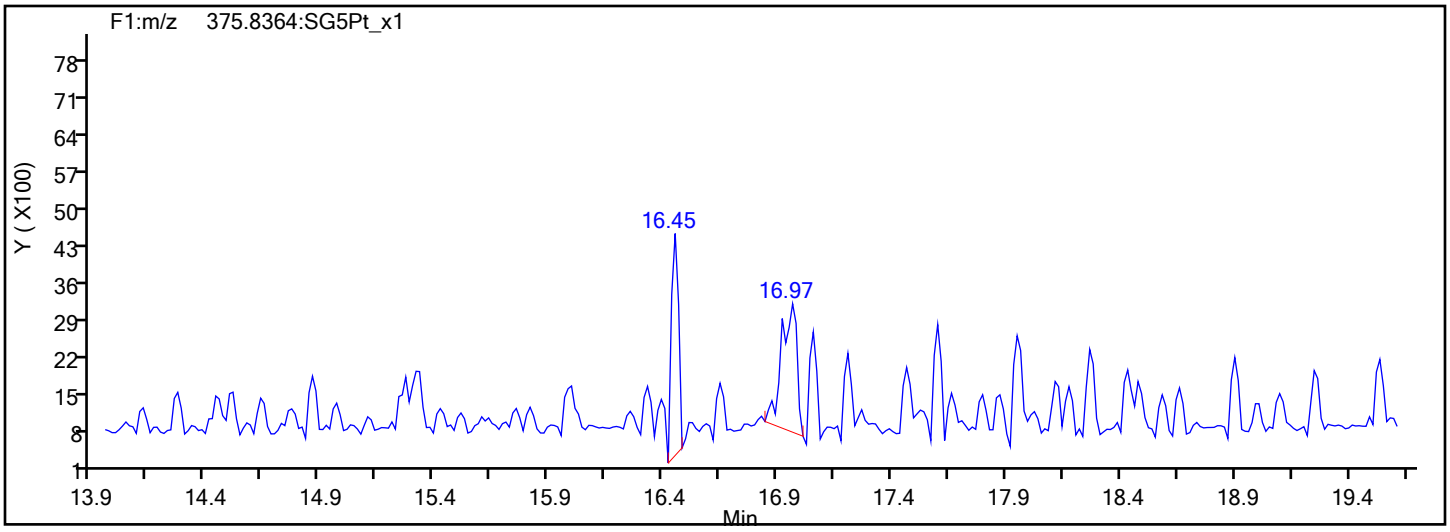

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

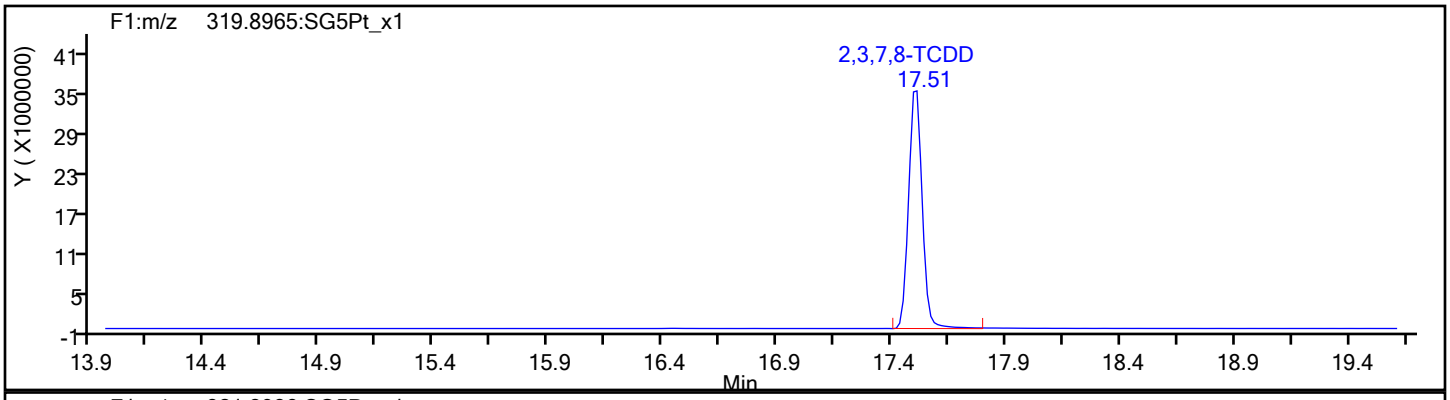

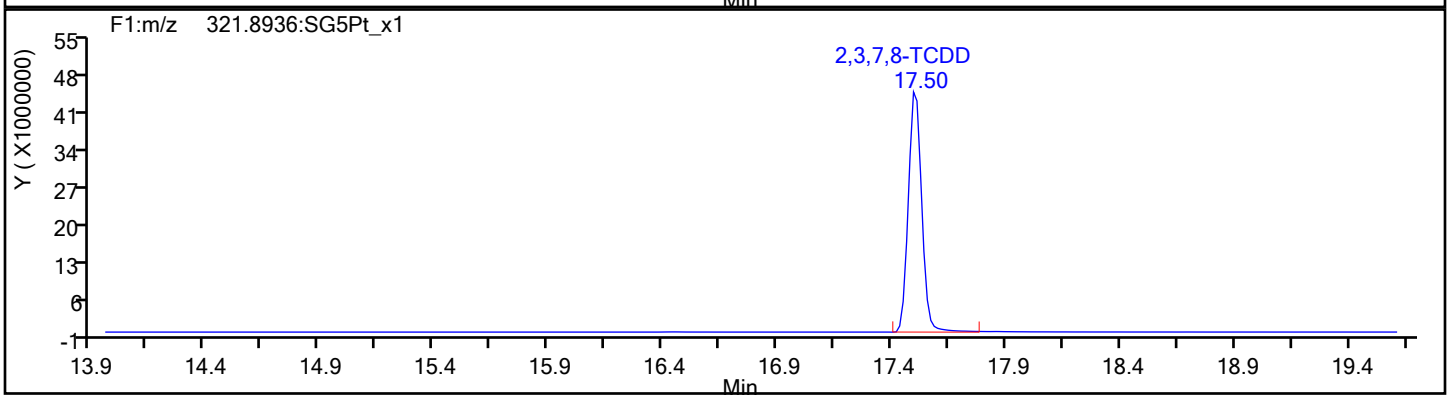

TCDD Standards

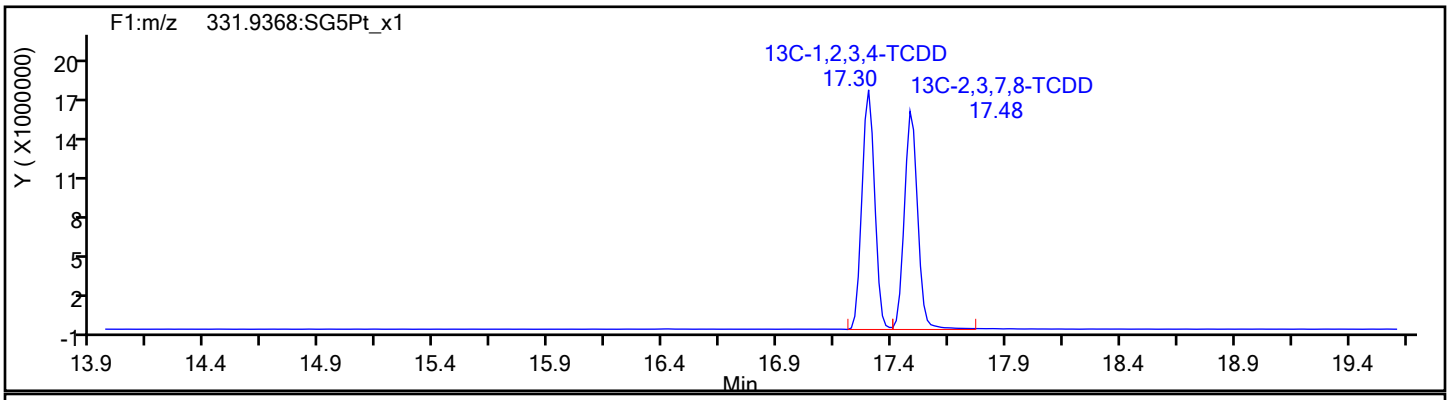

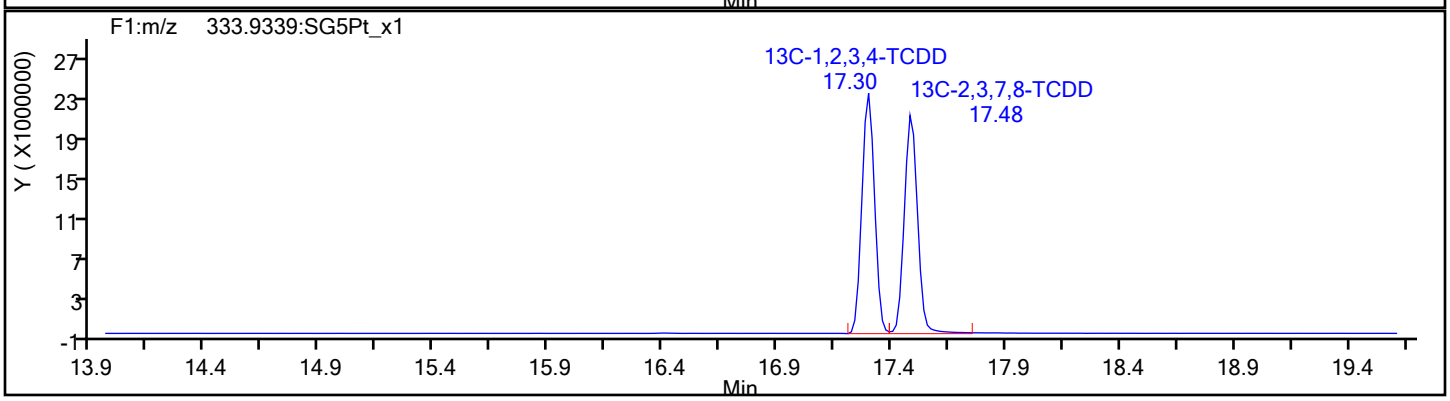

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

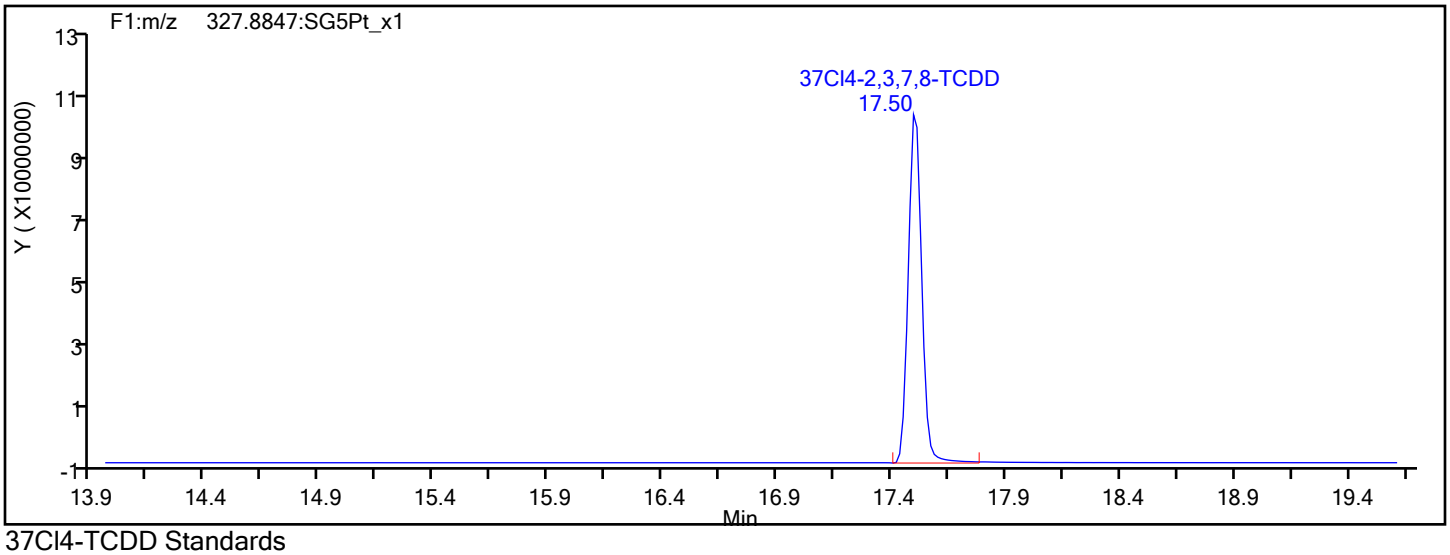

37Cl4-TCDD Standards

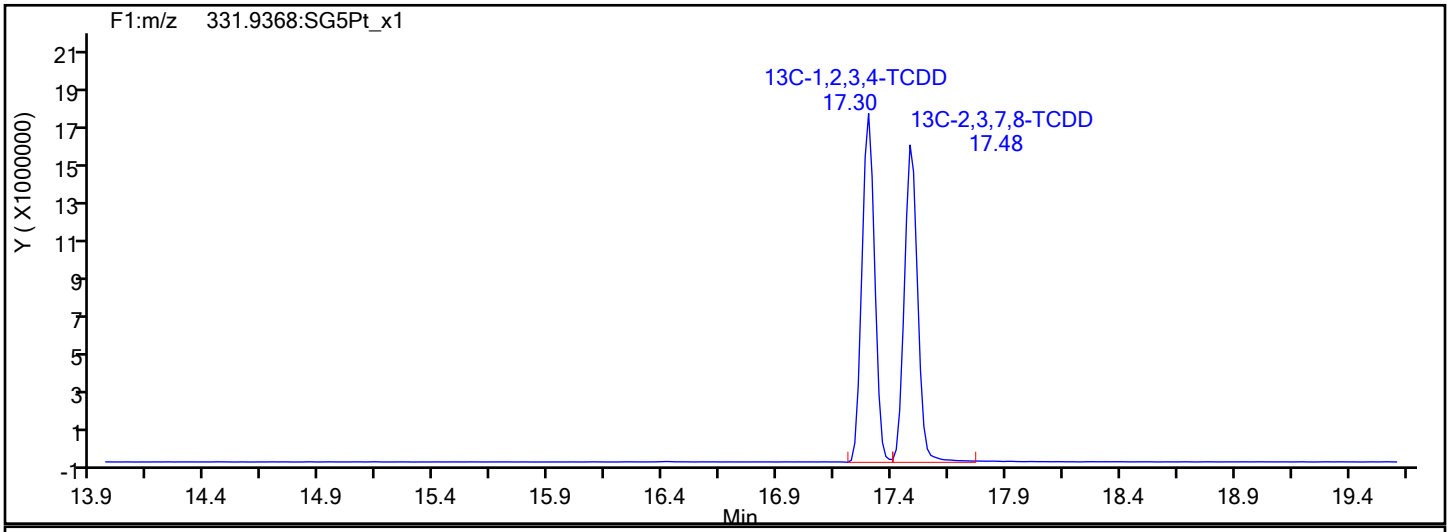

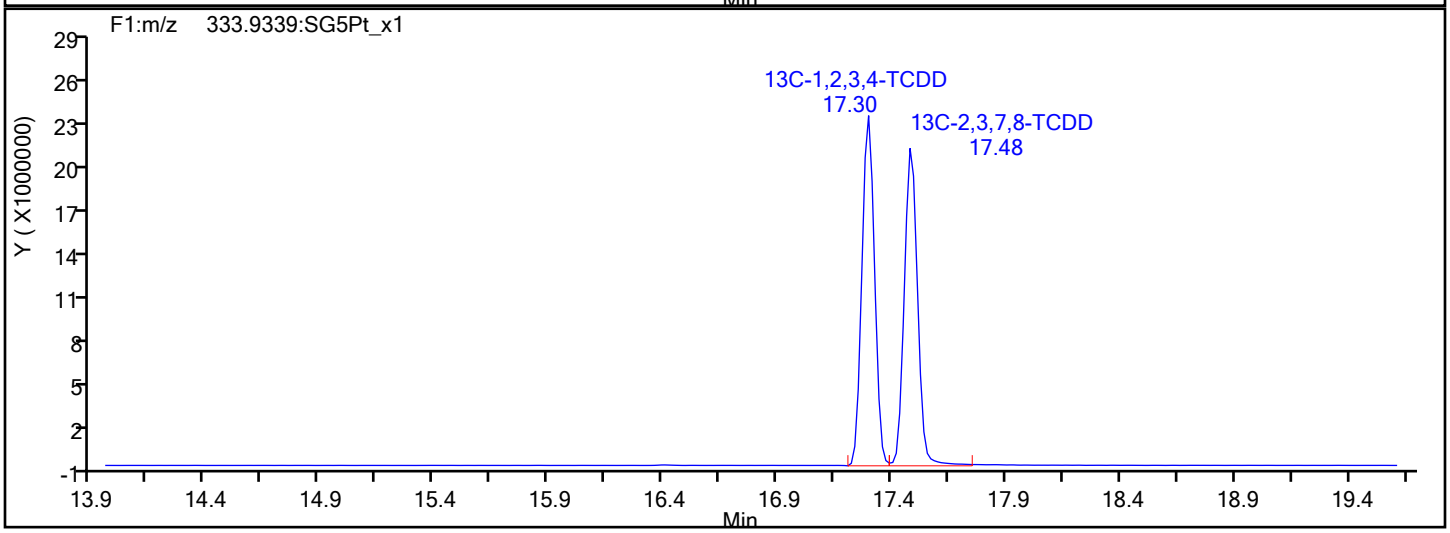

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

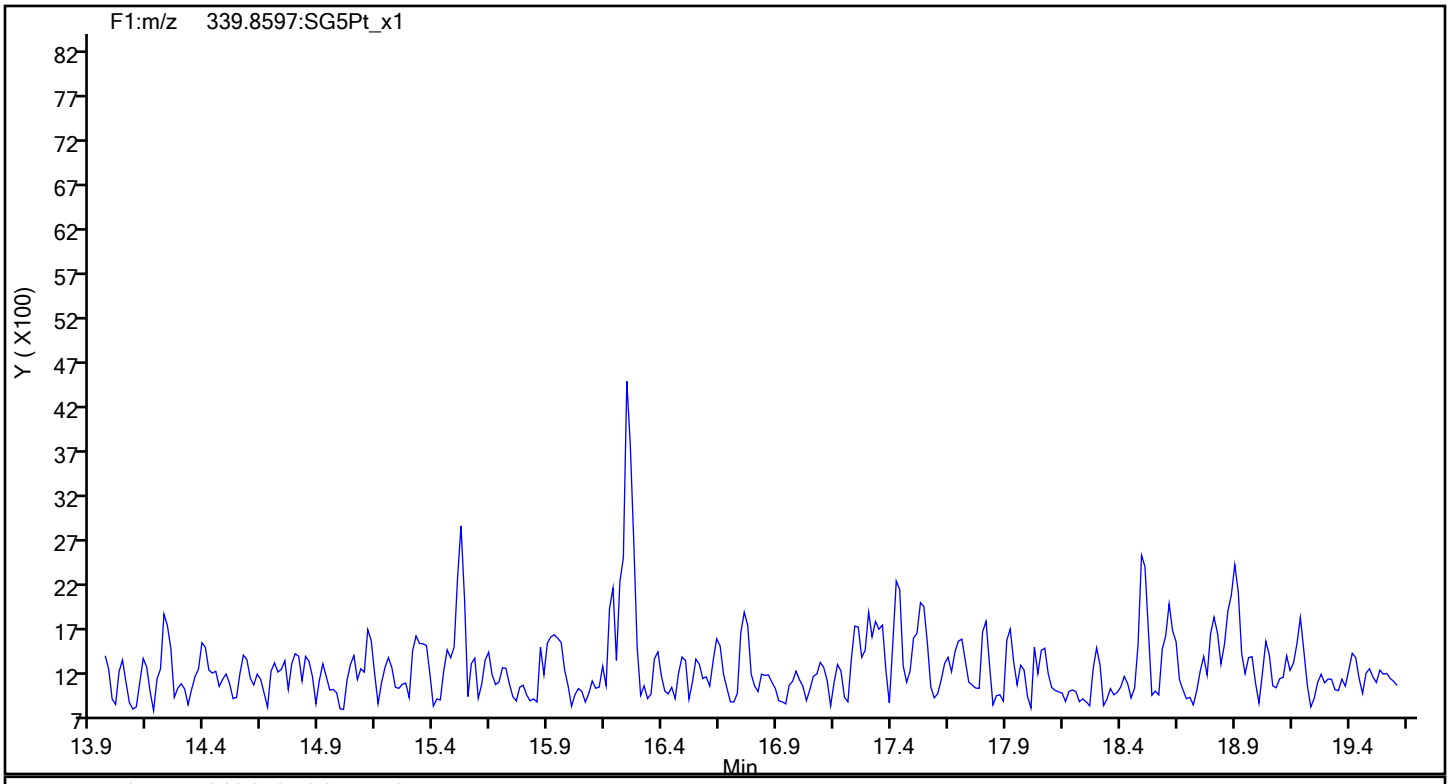

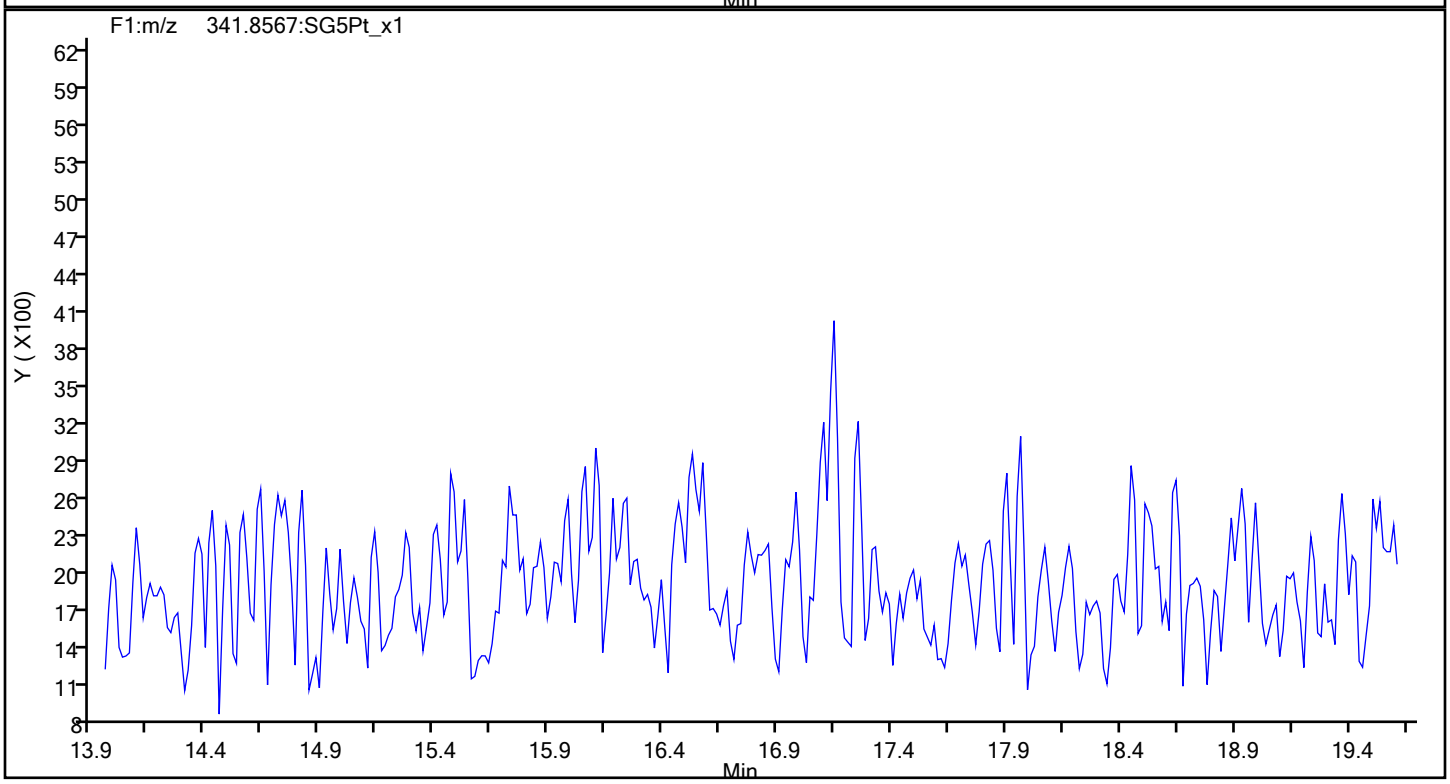

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

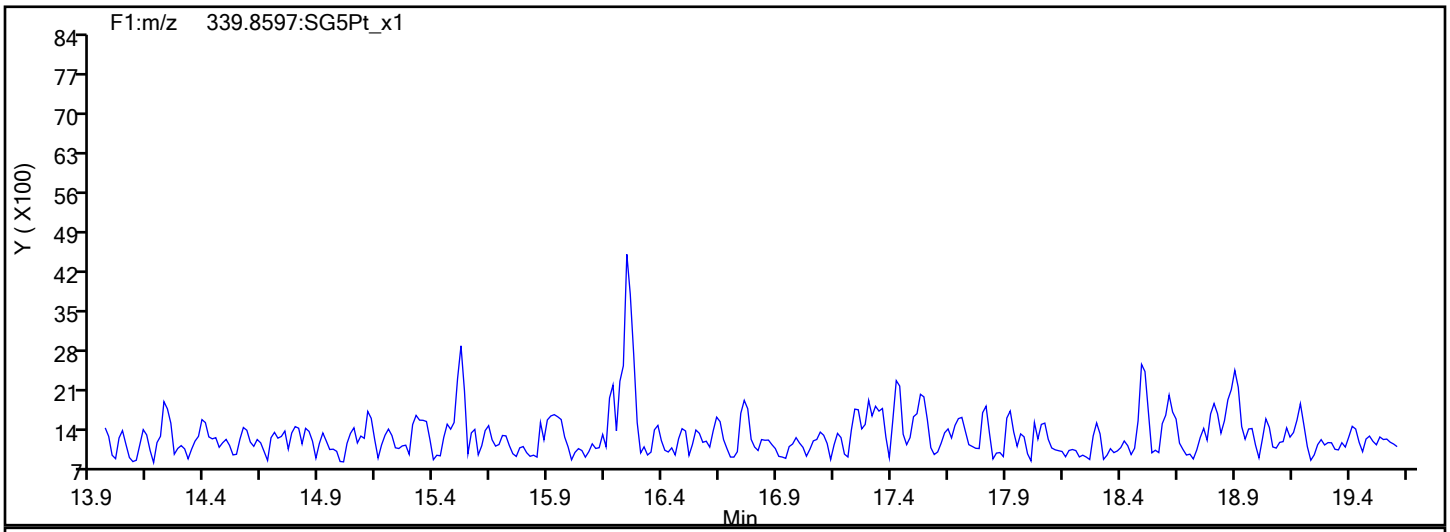

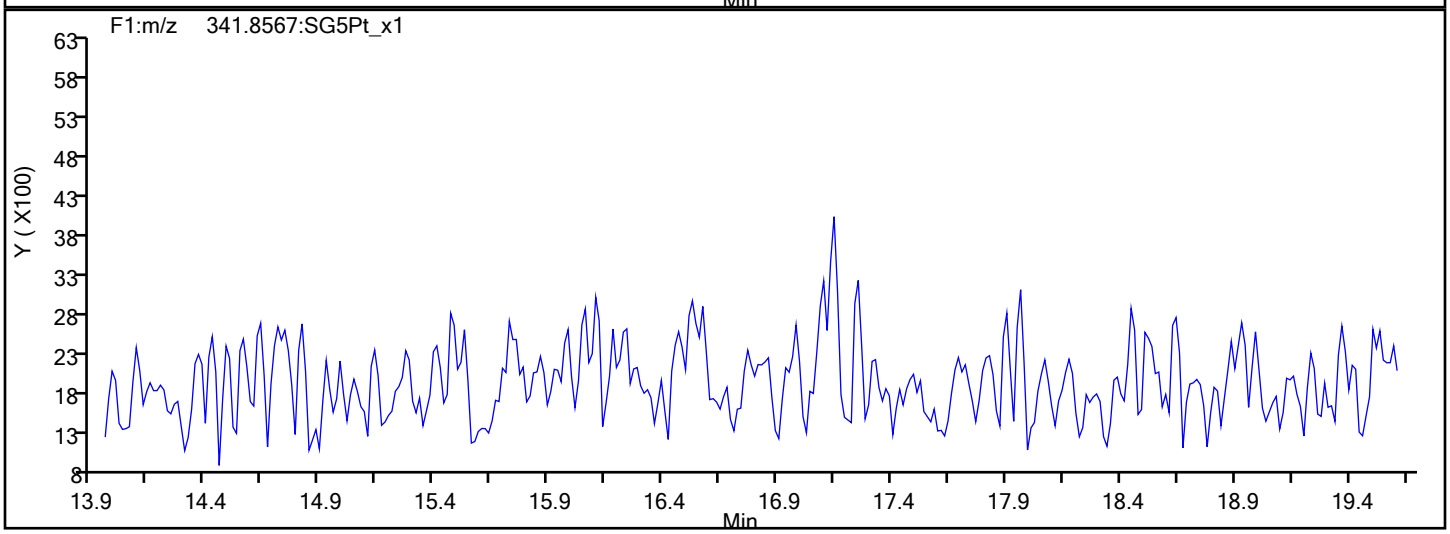

F1 PeCDFs Interference Mass

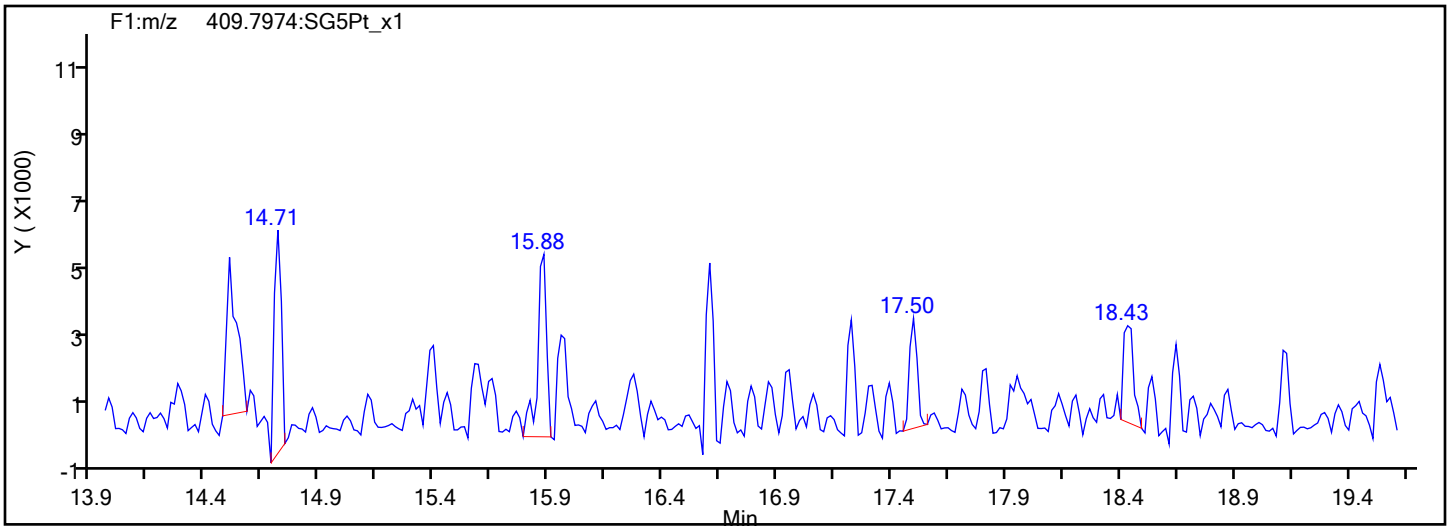

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

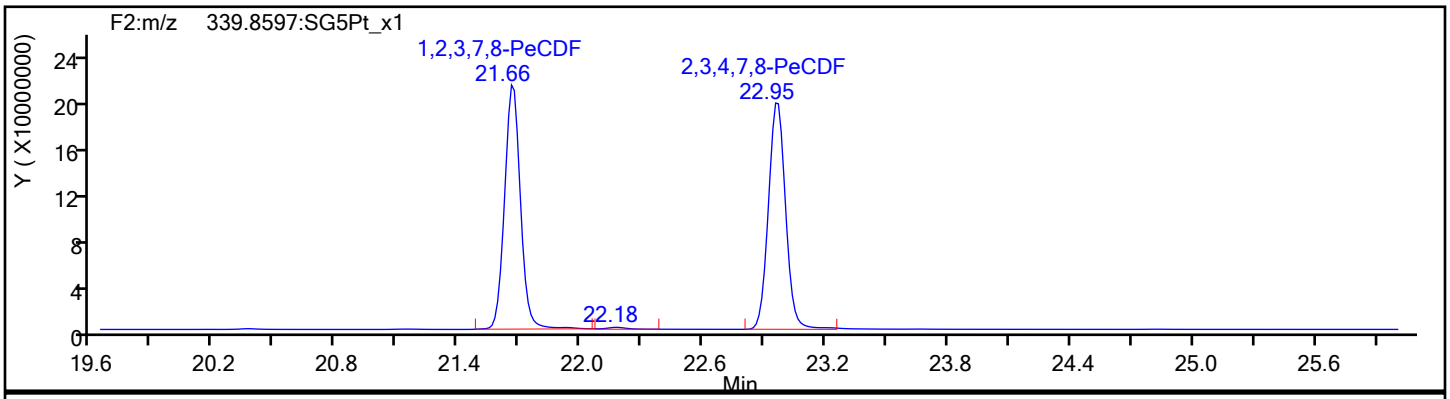

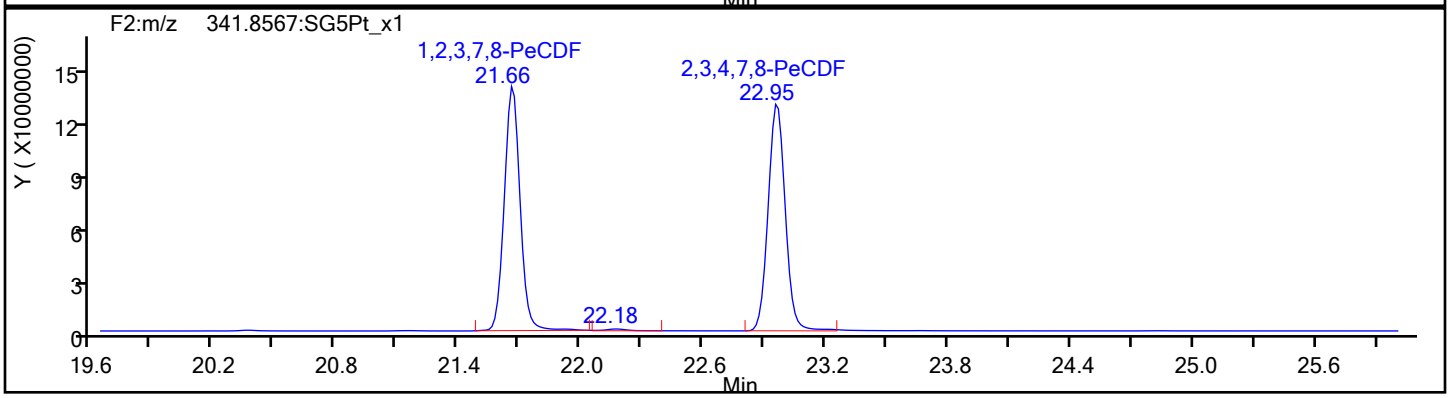

PeCDF Standards

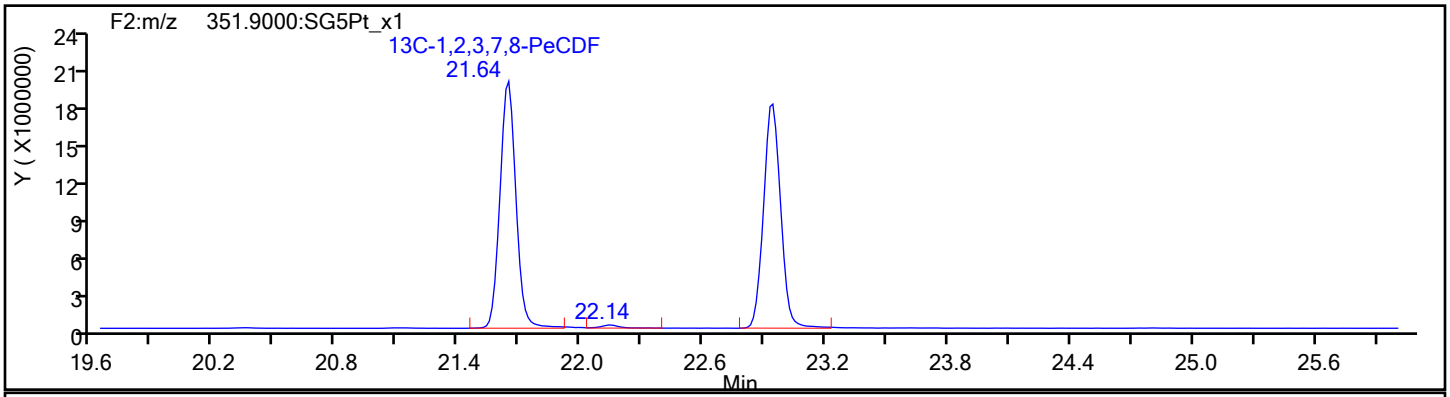

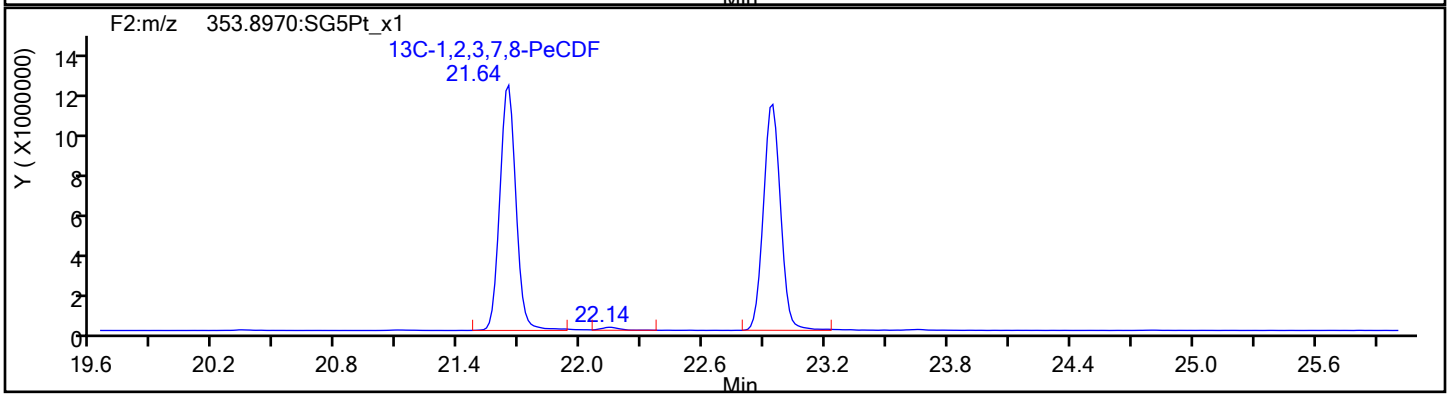

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Eurofins TestAmerica, Sacramento

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PeCDF

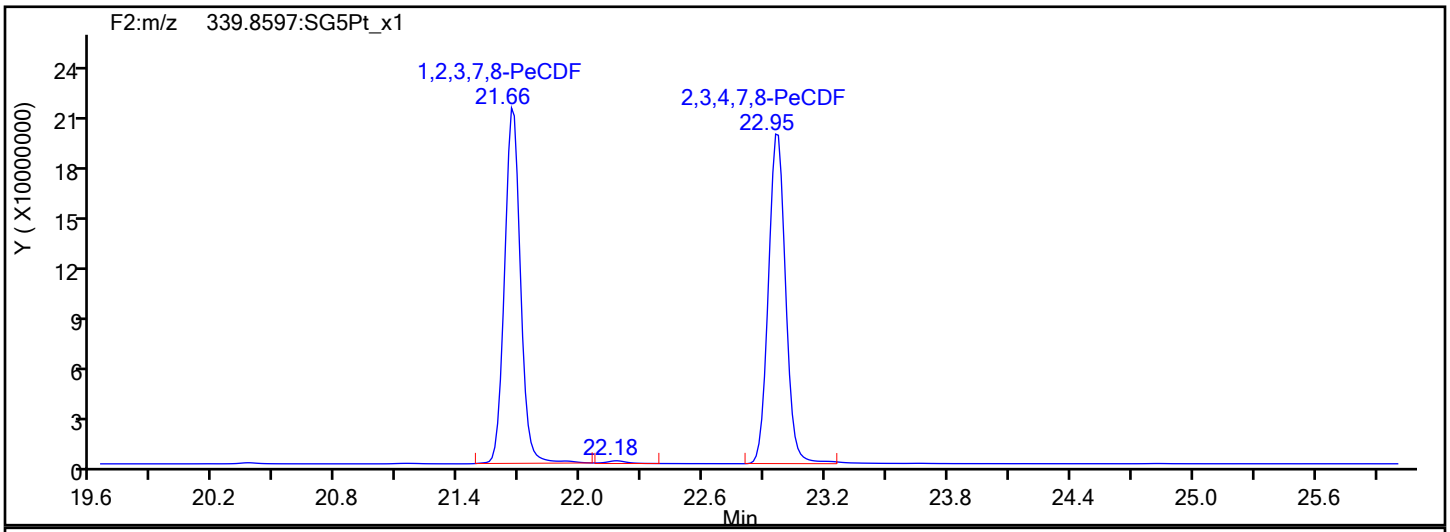

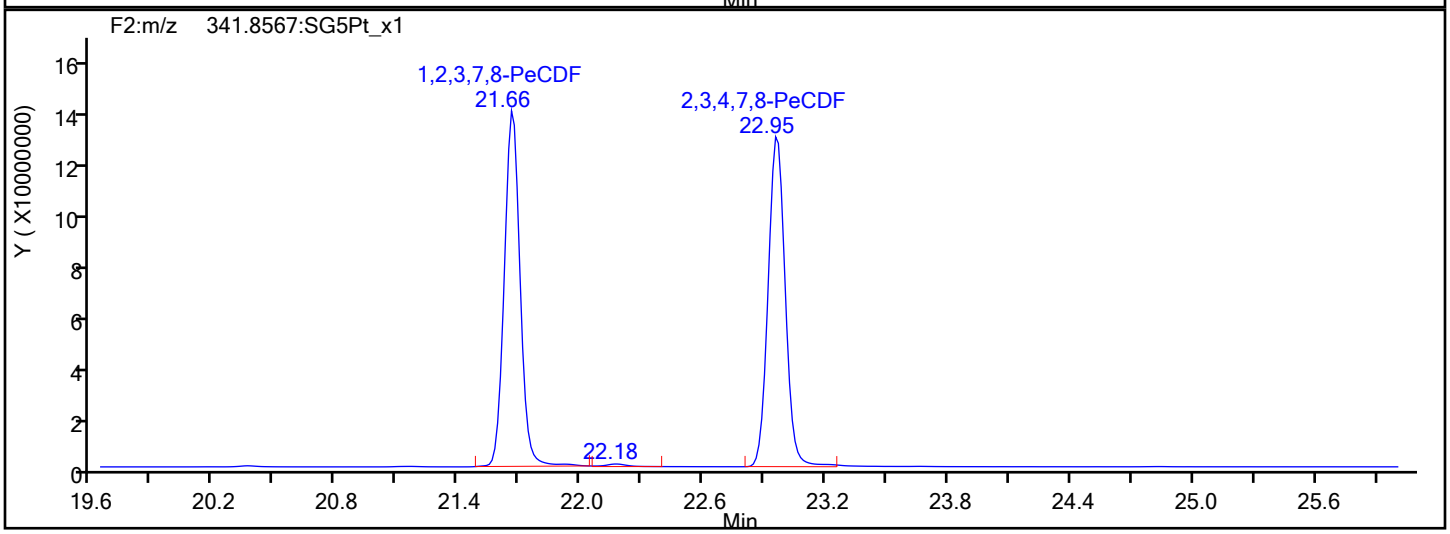

PeCDF Interference Mass

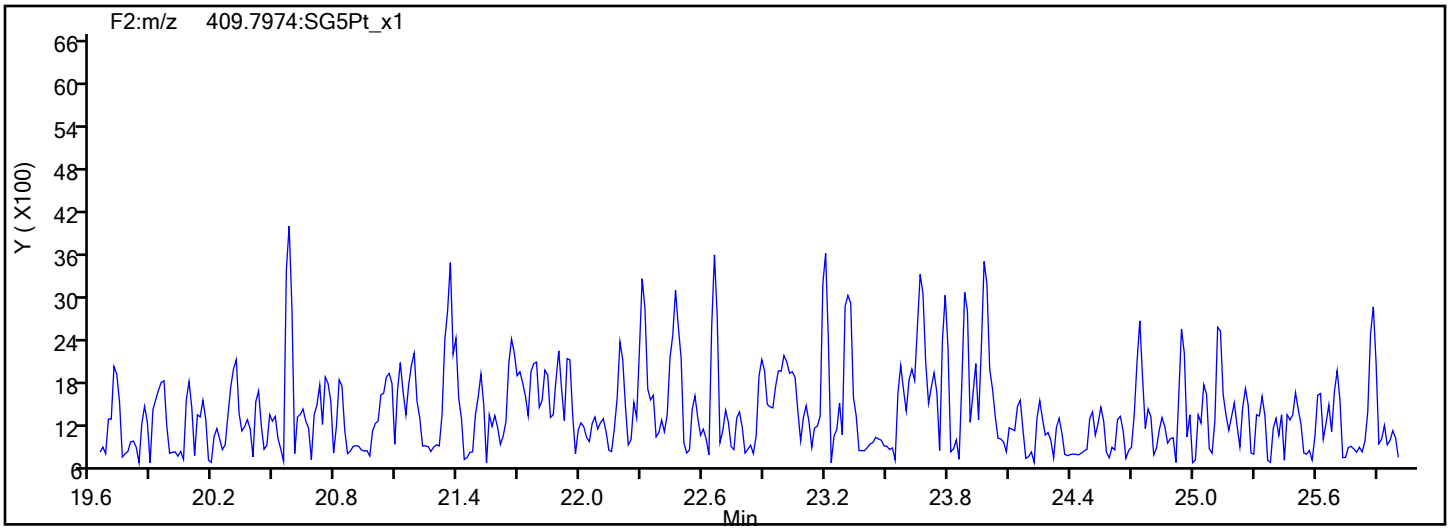

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

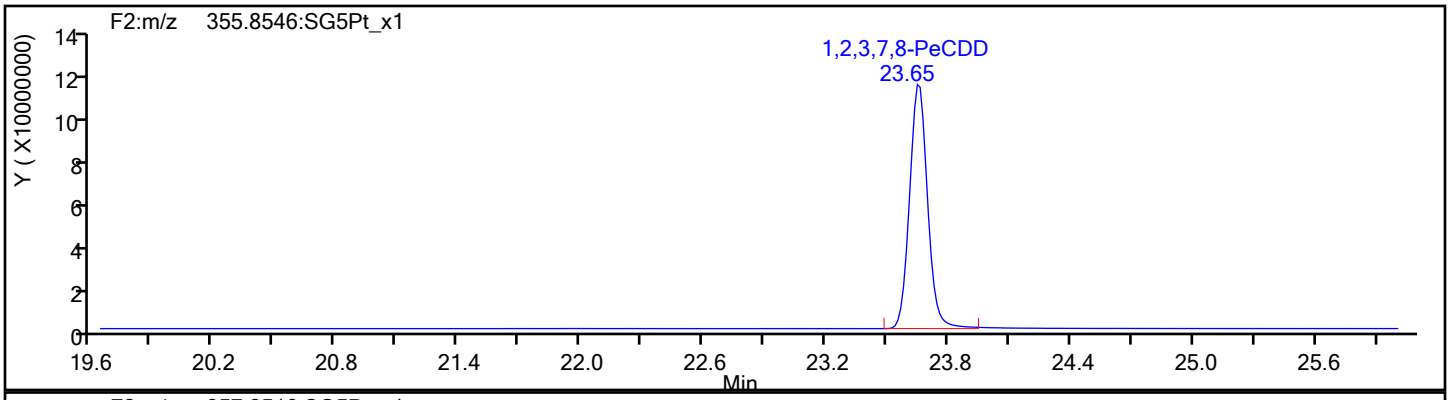

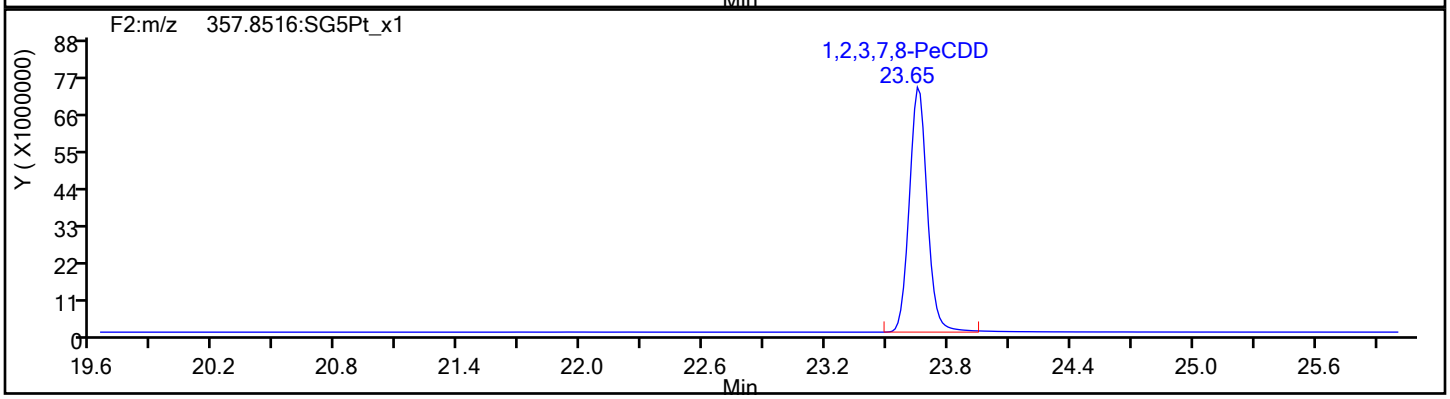

PeCDD Standards

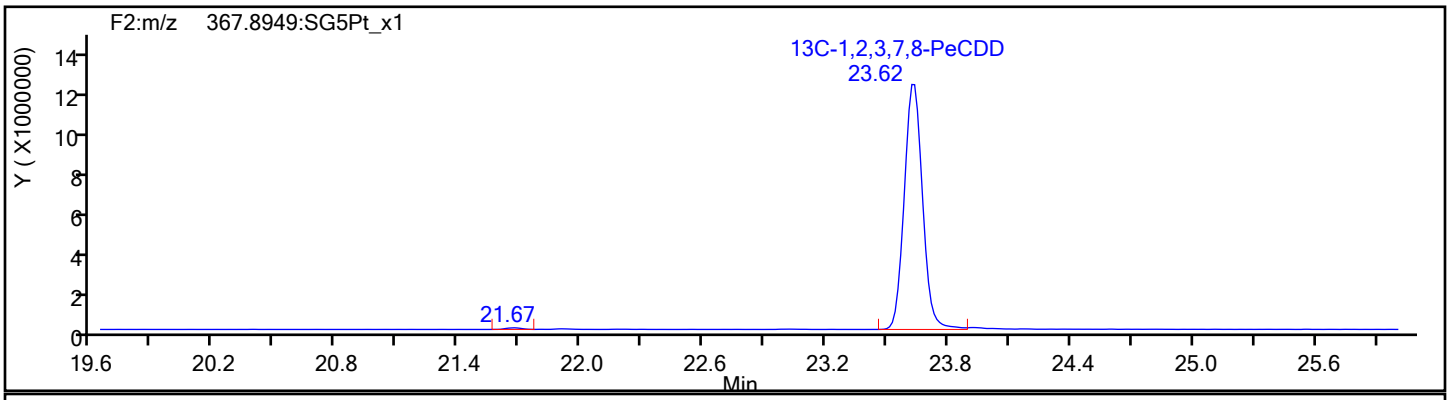

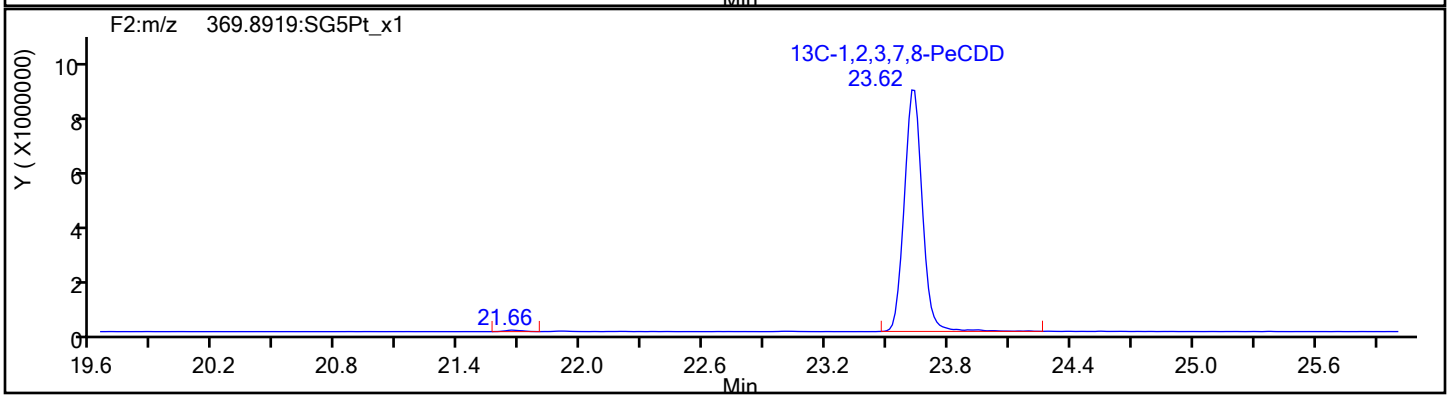

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Eurofins TestAmerica, Sacramento

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HxCDF

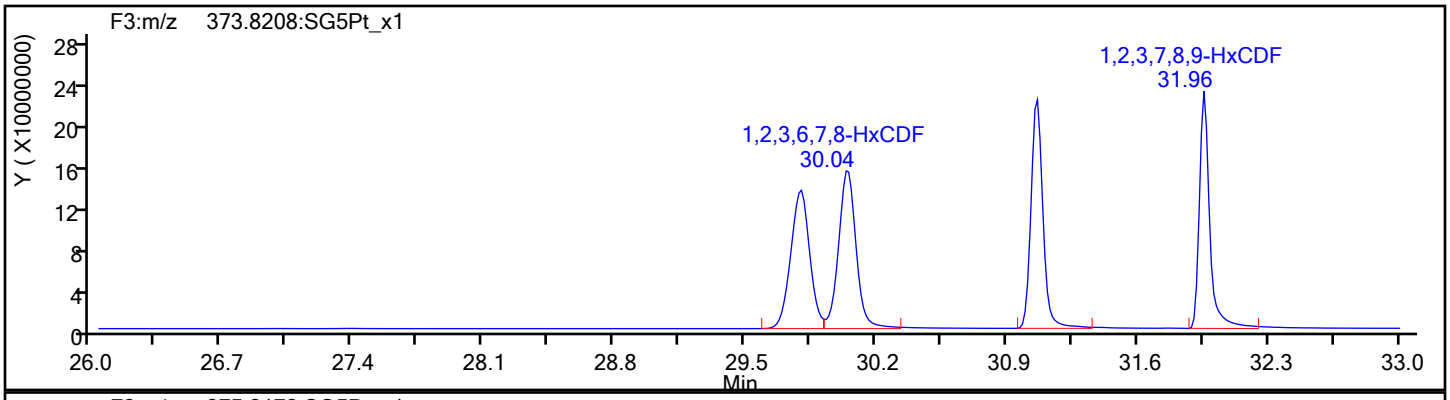

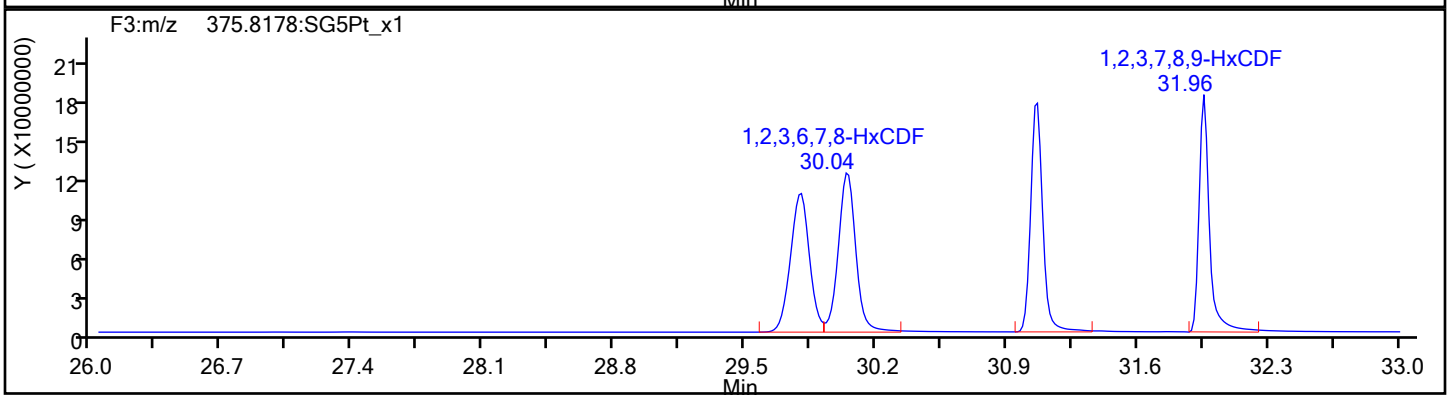

HxCDF Standards

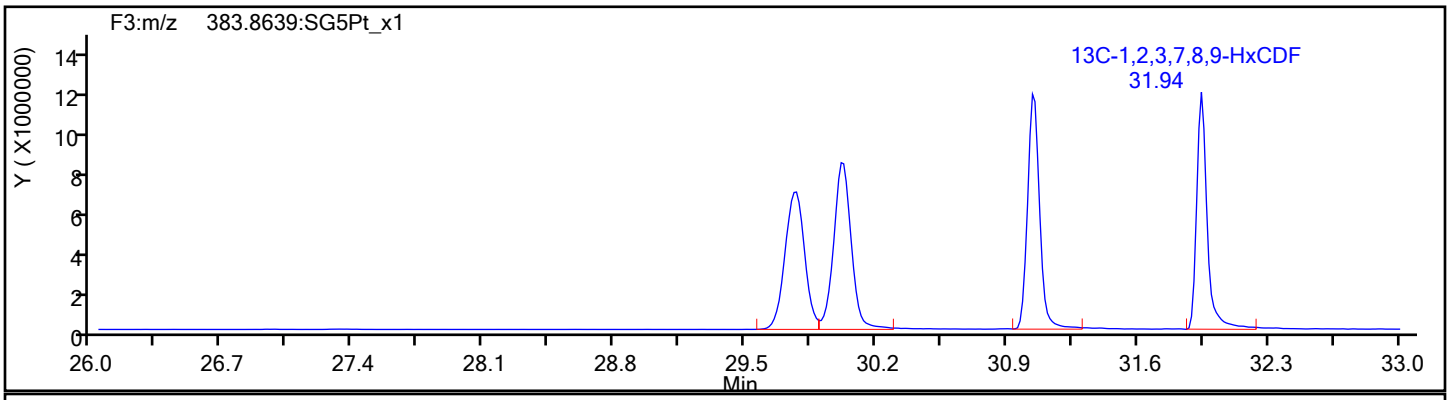

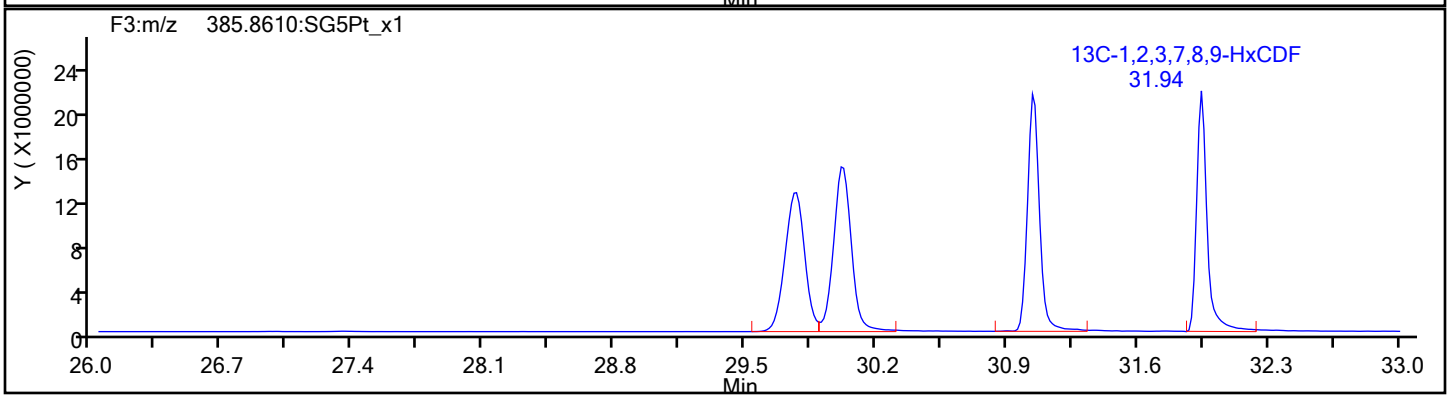

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Eurofins TestAmerica, Sacramento

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HxCDF

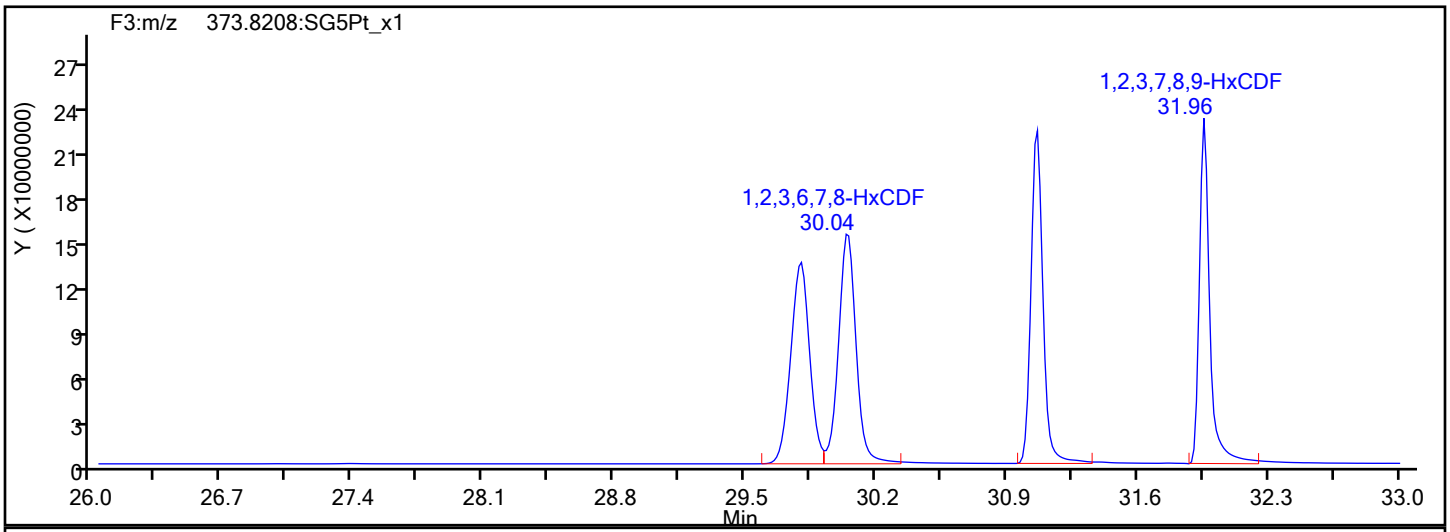

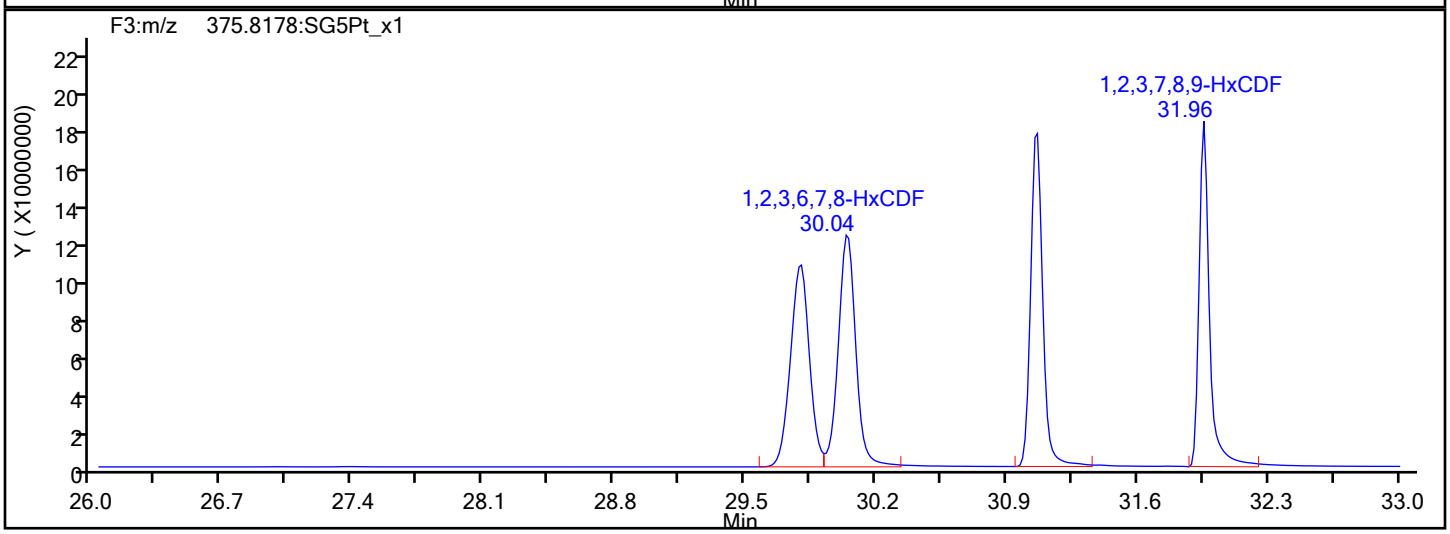

HxCDF Interference Mass

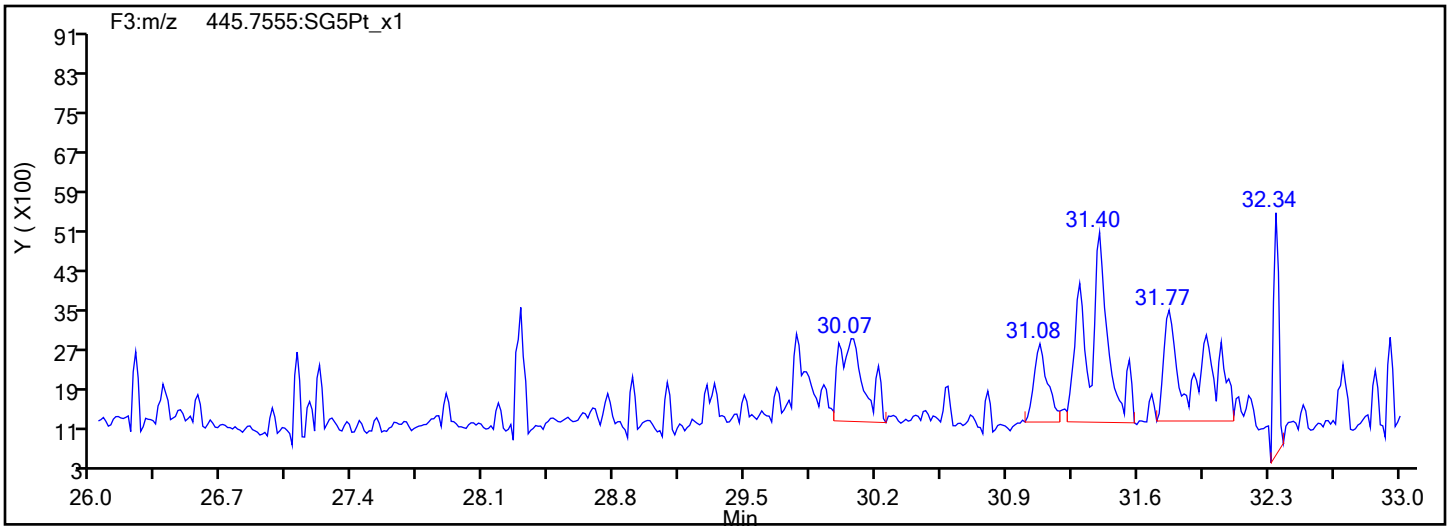

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Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

HxCDD

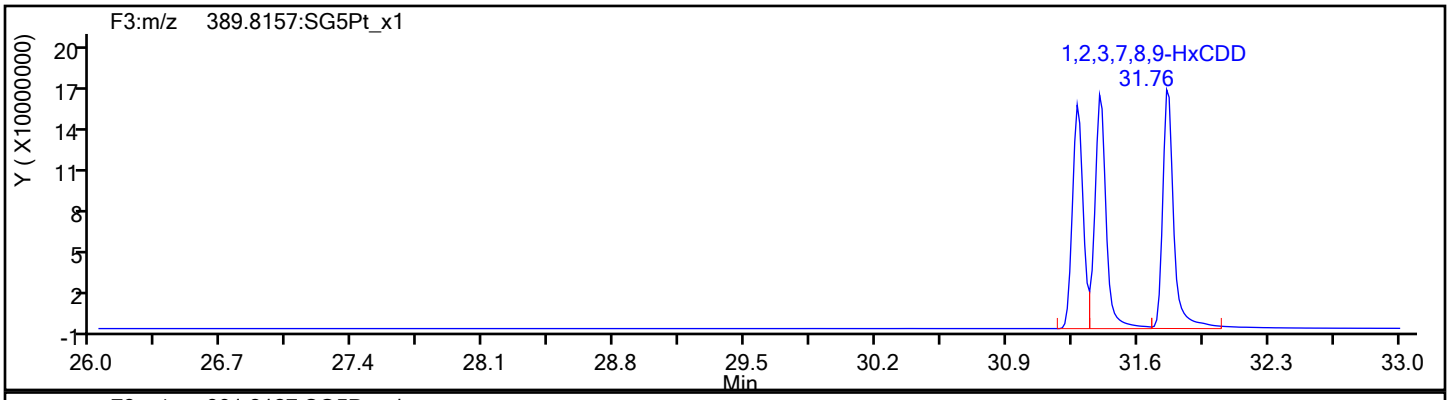

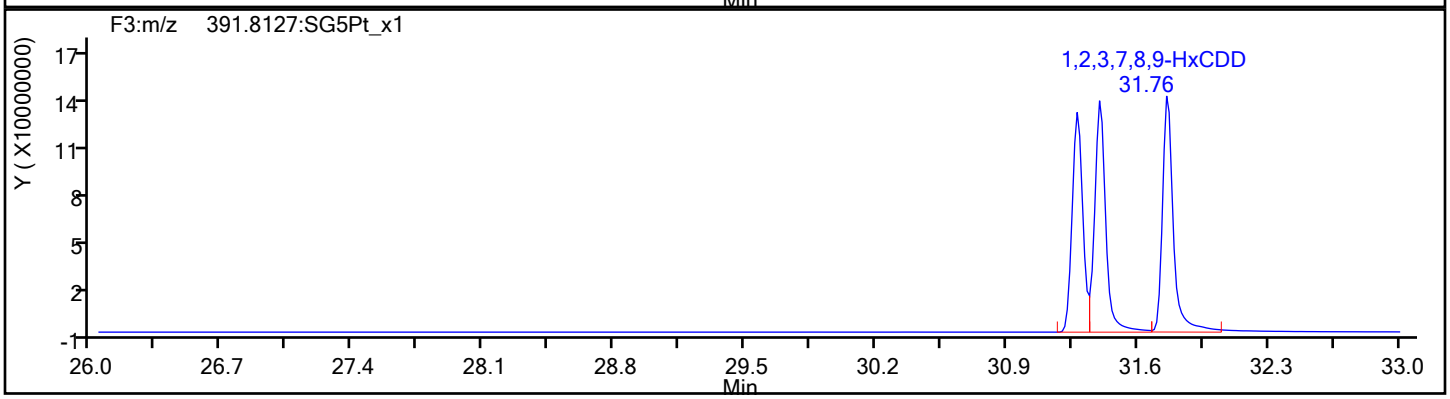

HxCDD Standards

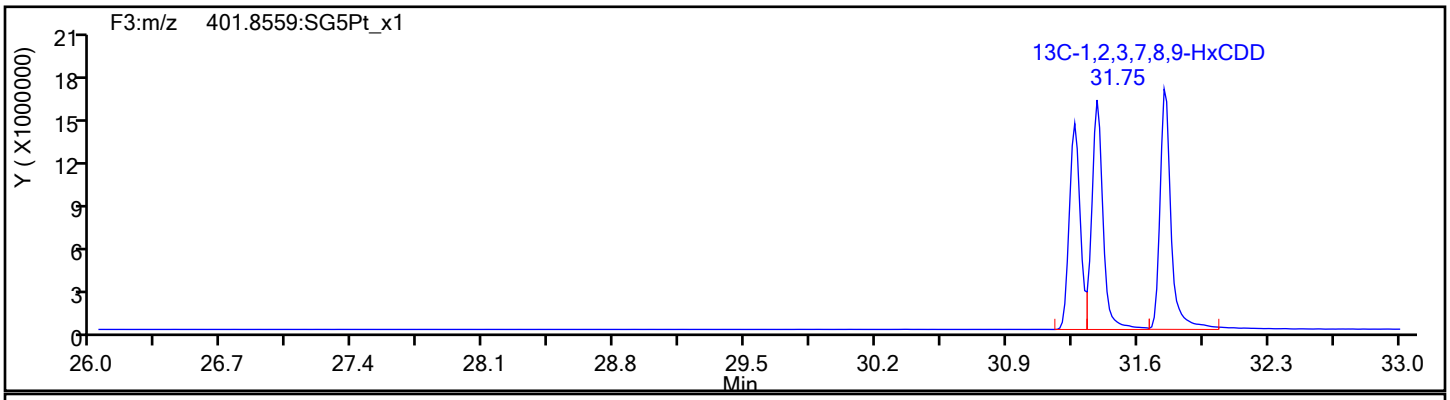

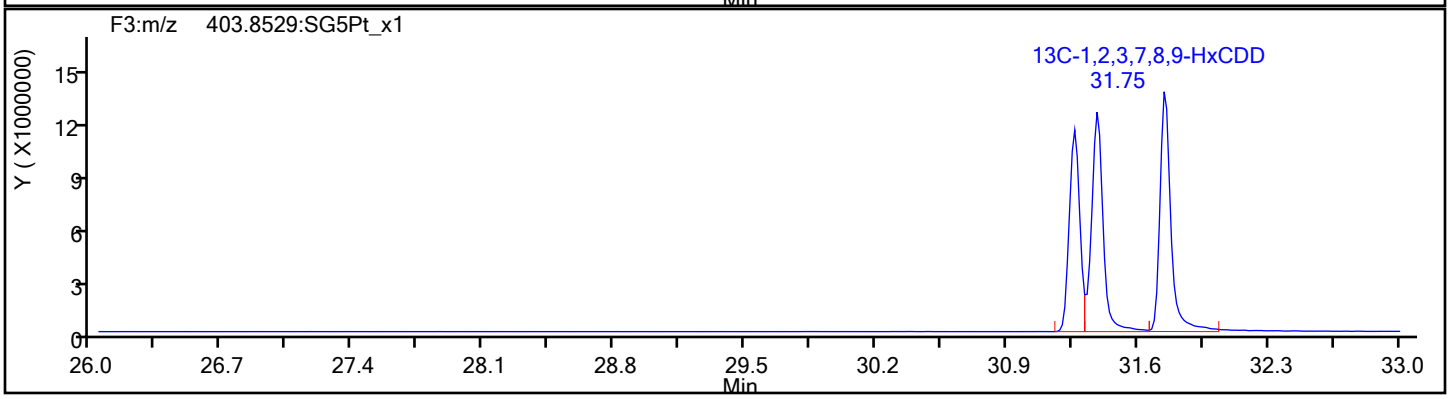

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

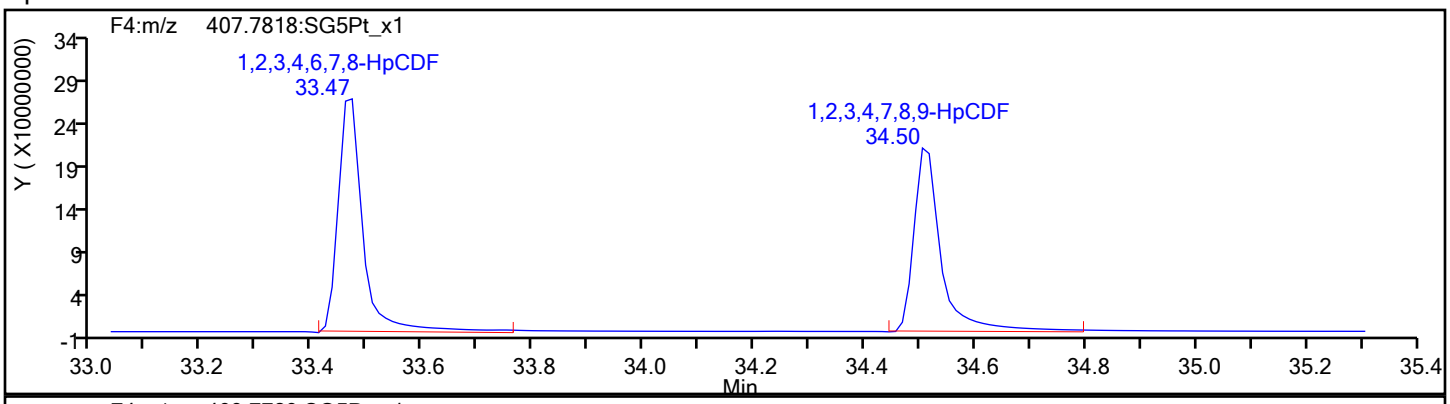

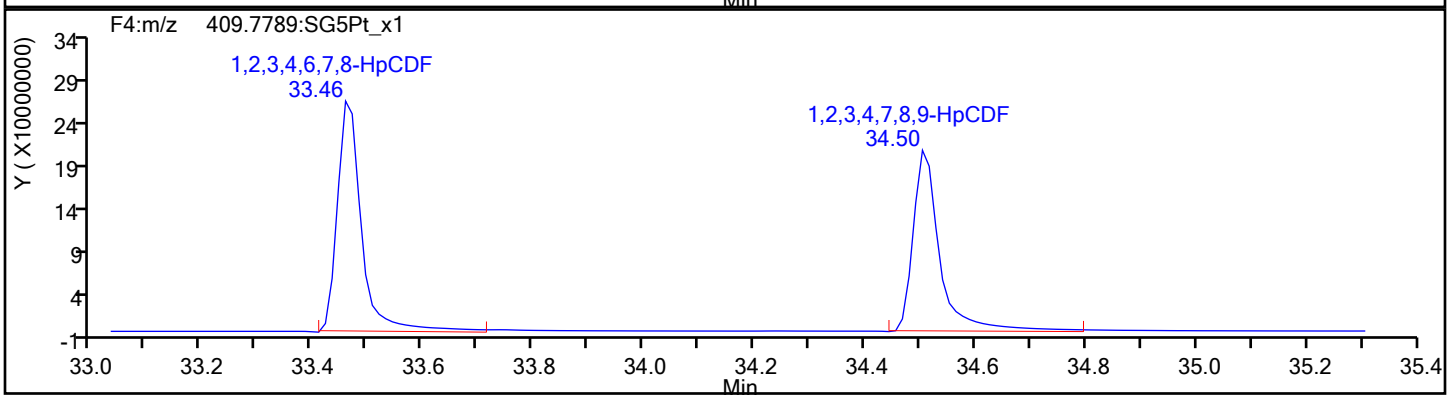

HpCDF Standards

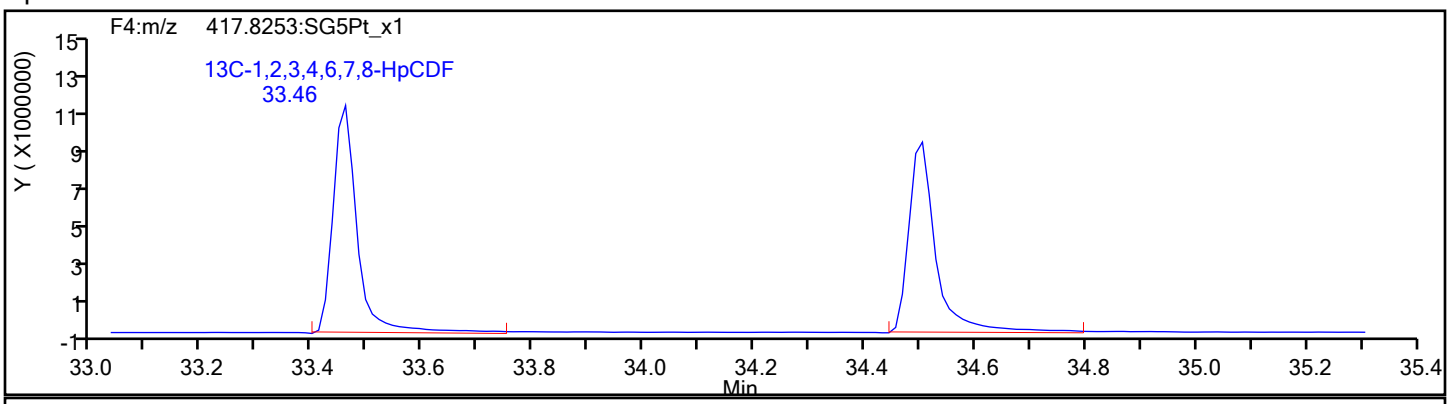

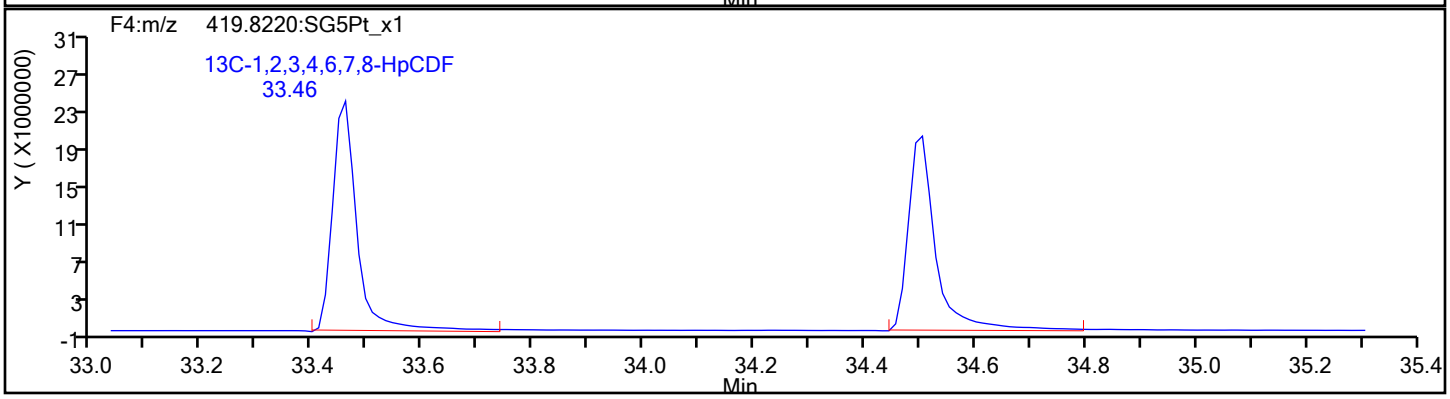

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

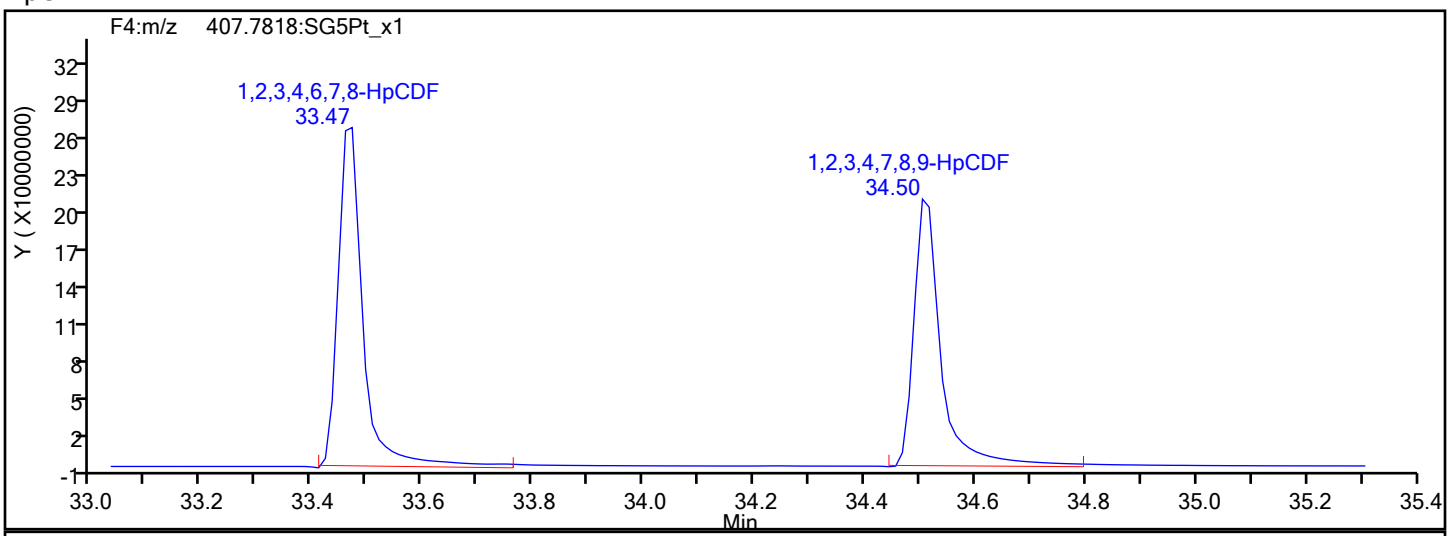

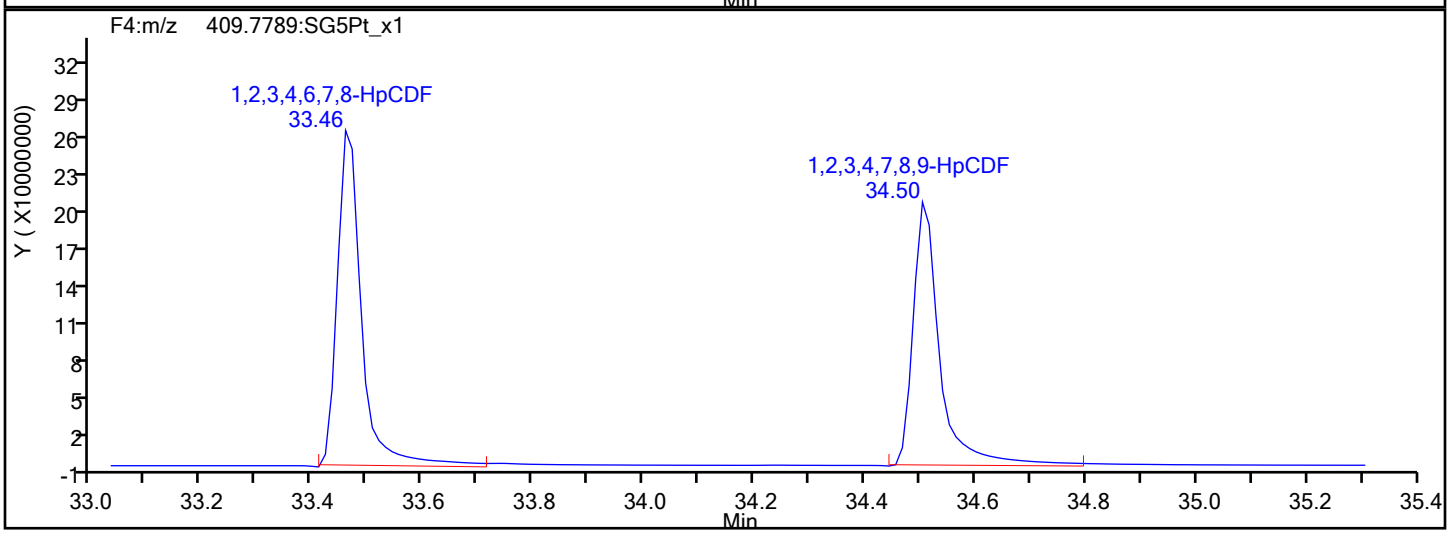

HpCDF Interference Mass

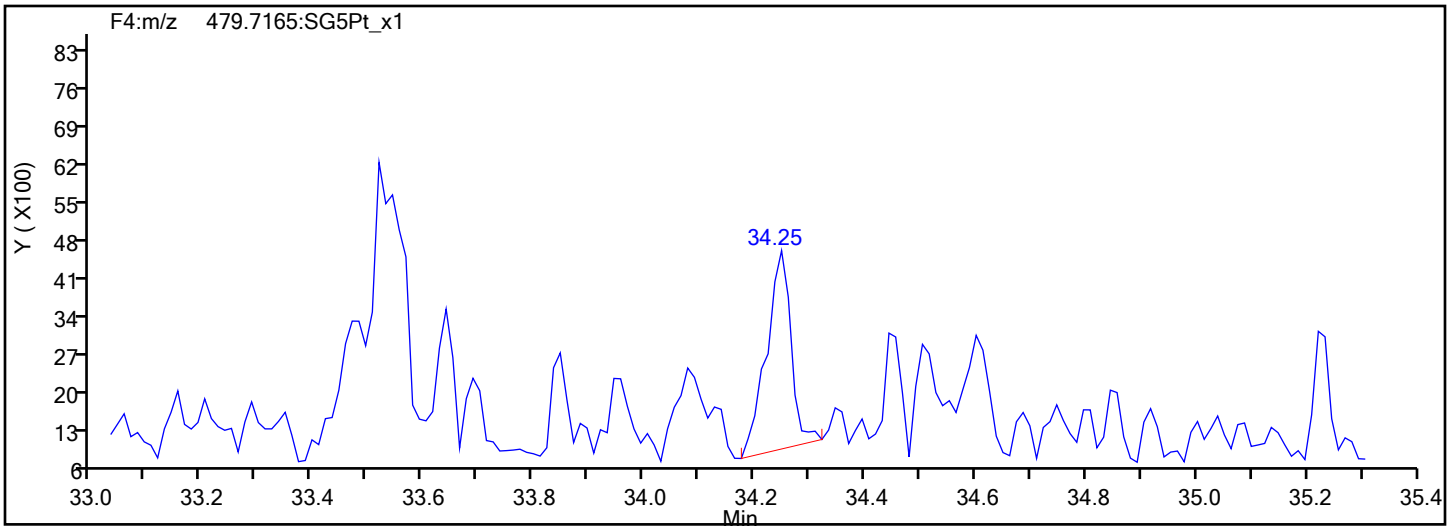

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

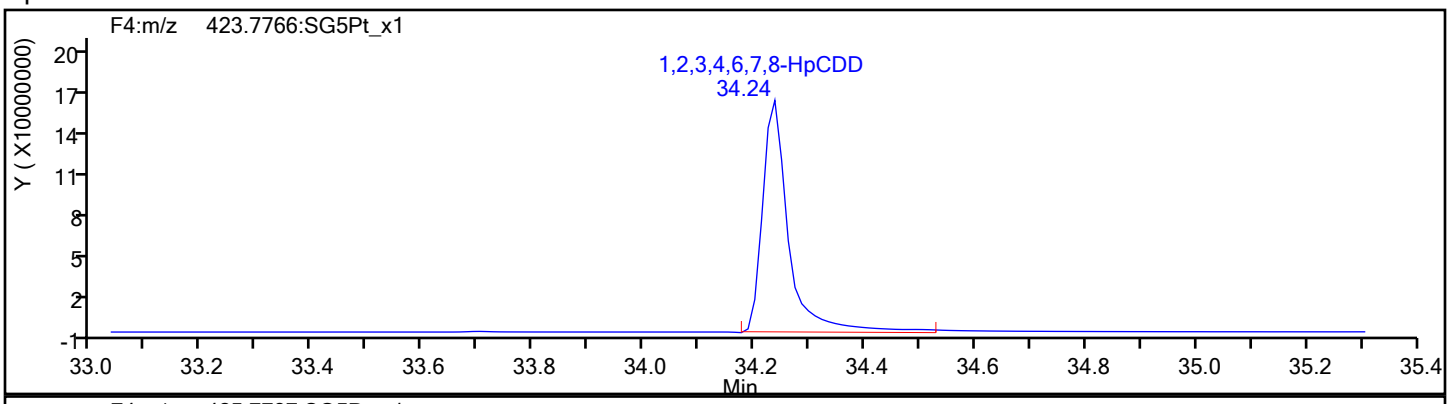

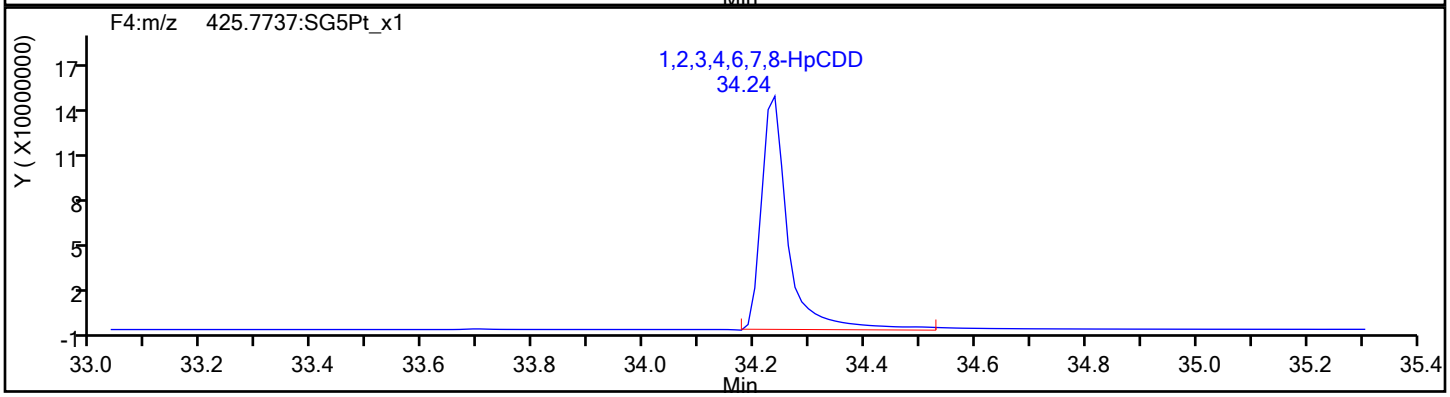

HpCDD Standards

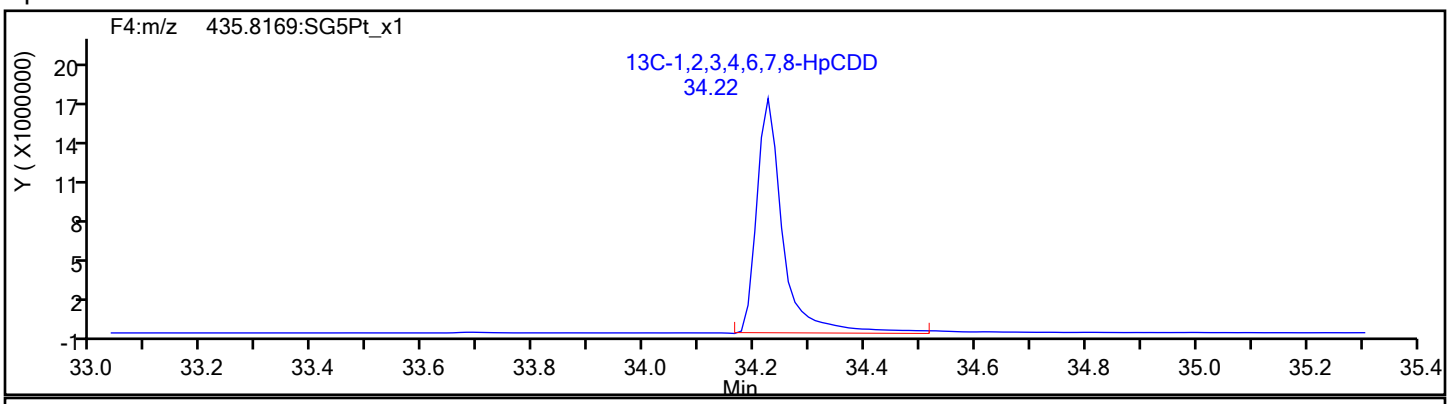

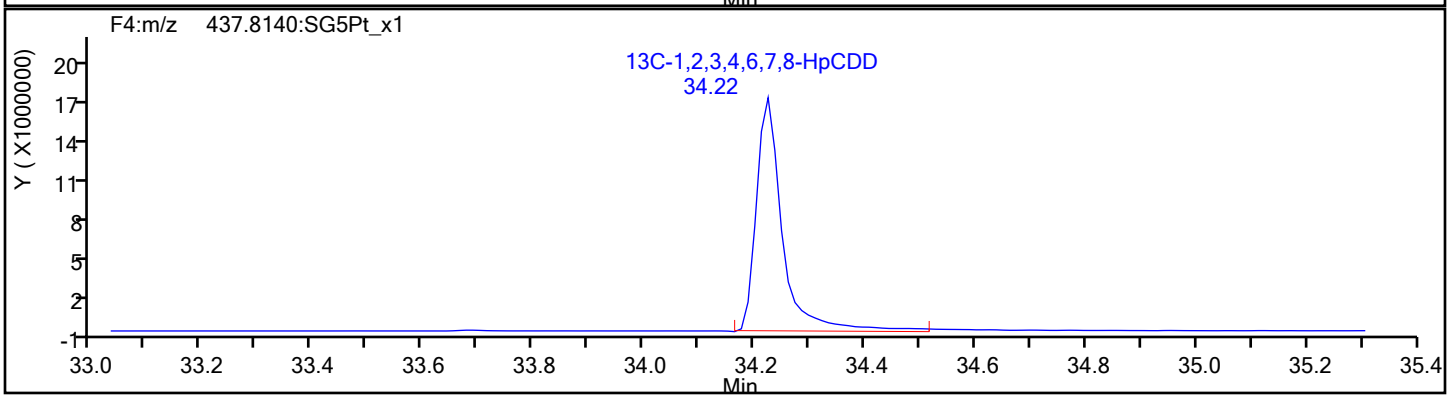

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

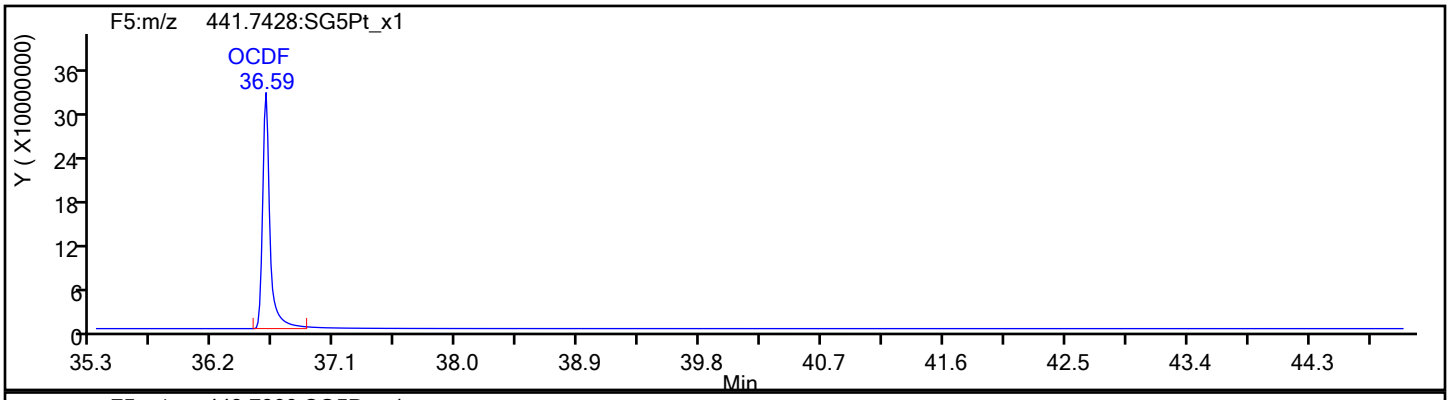

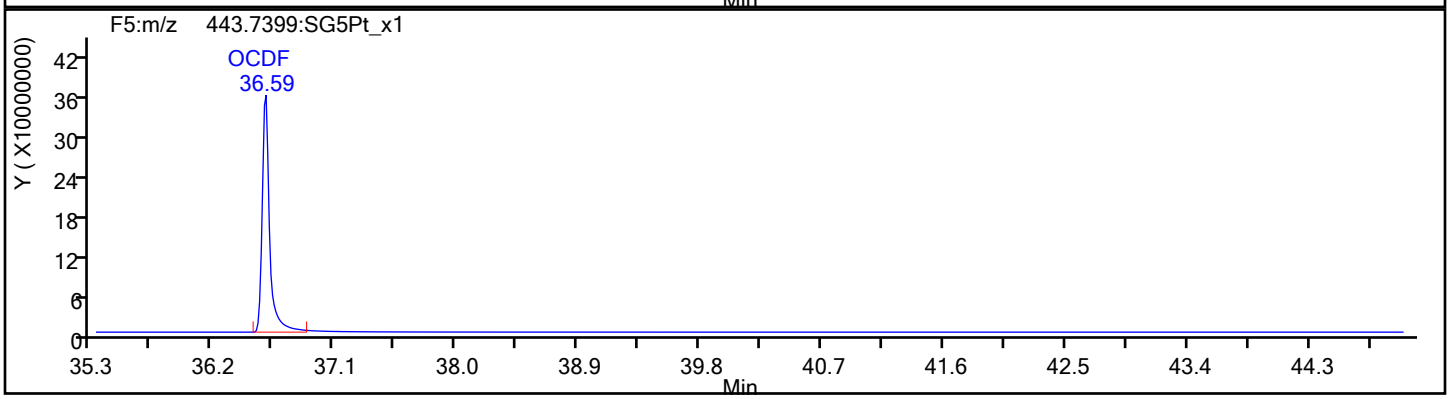

OCDF Standards

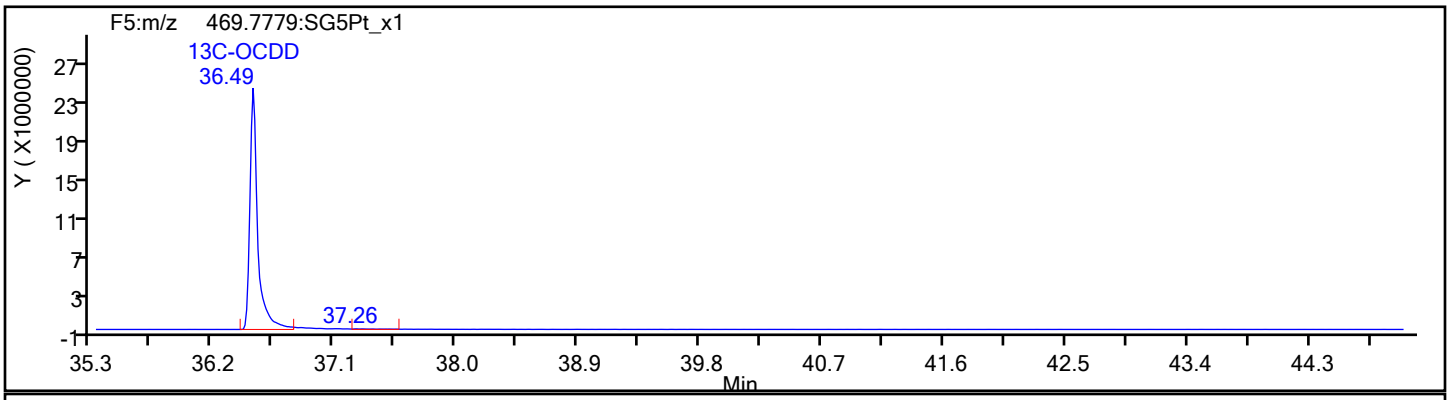

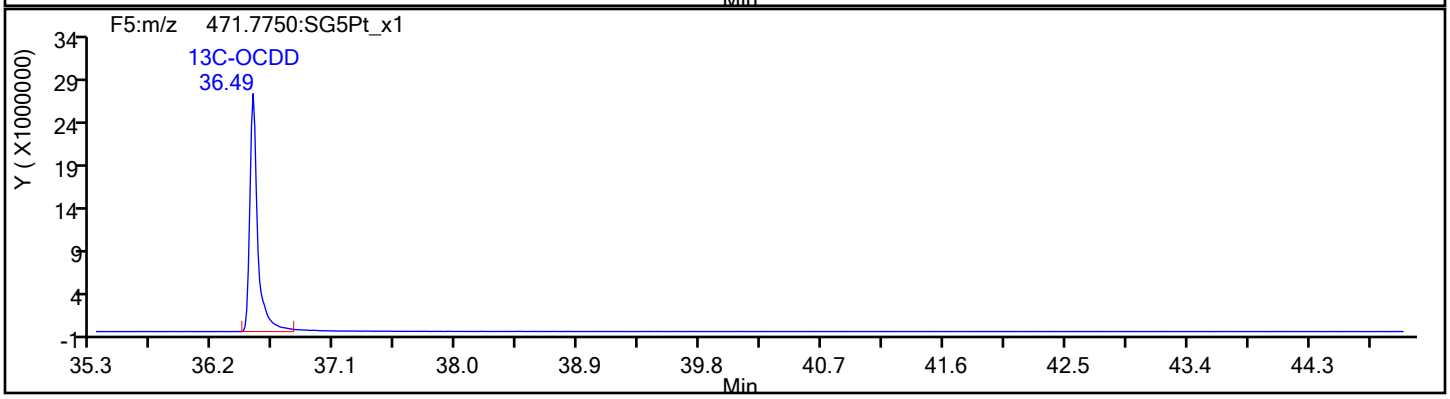

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

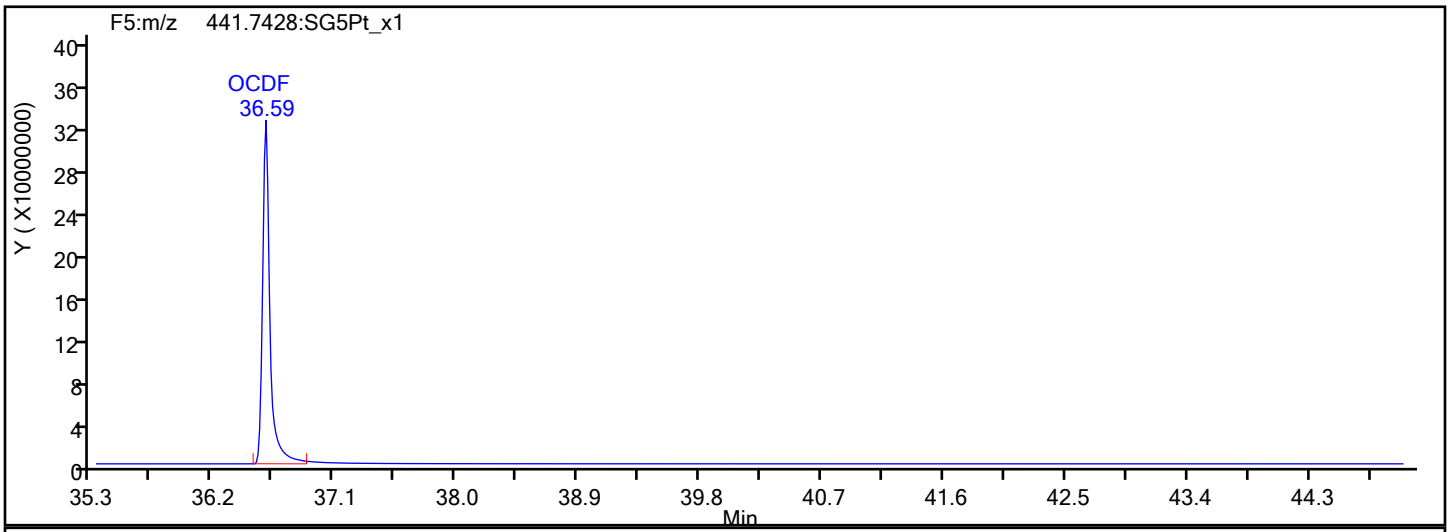

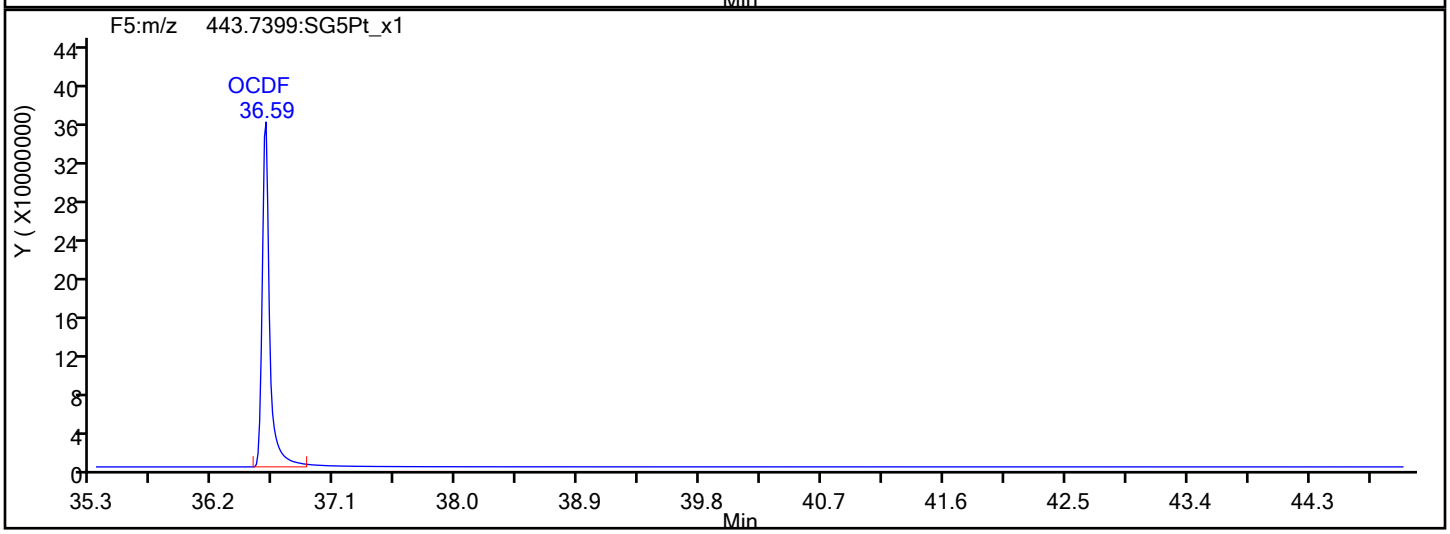

OCDF Interference Mass

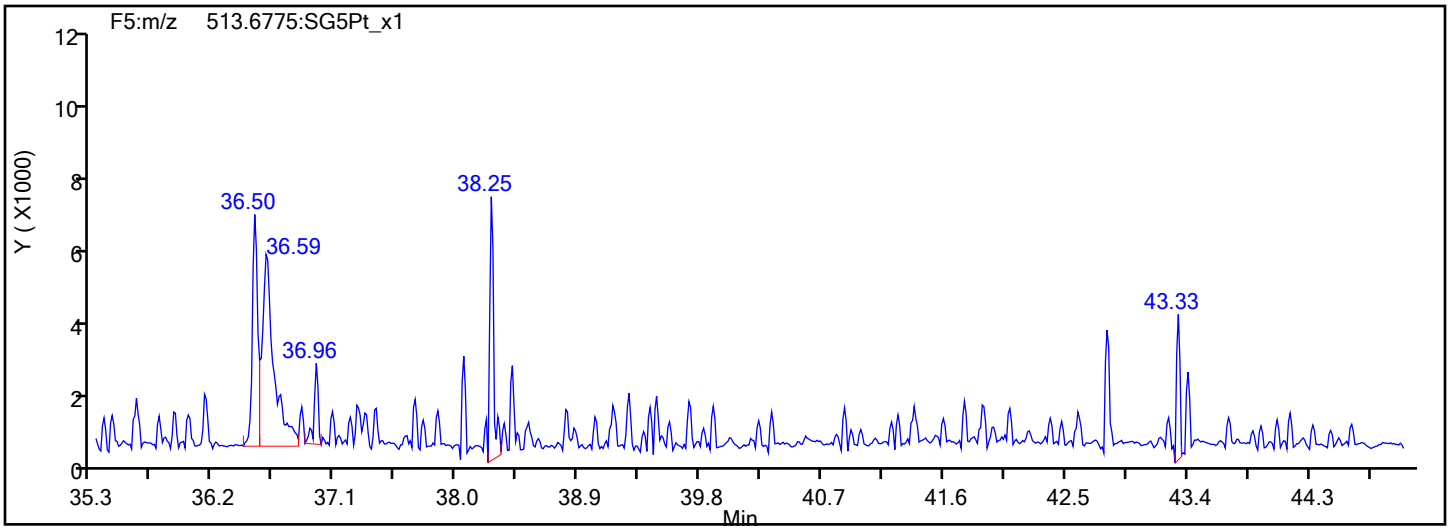

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

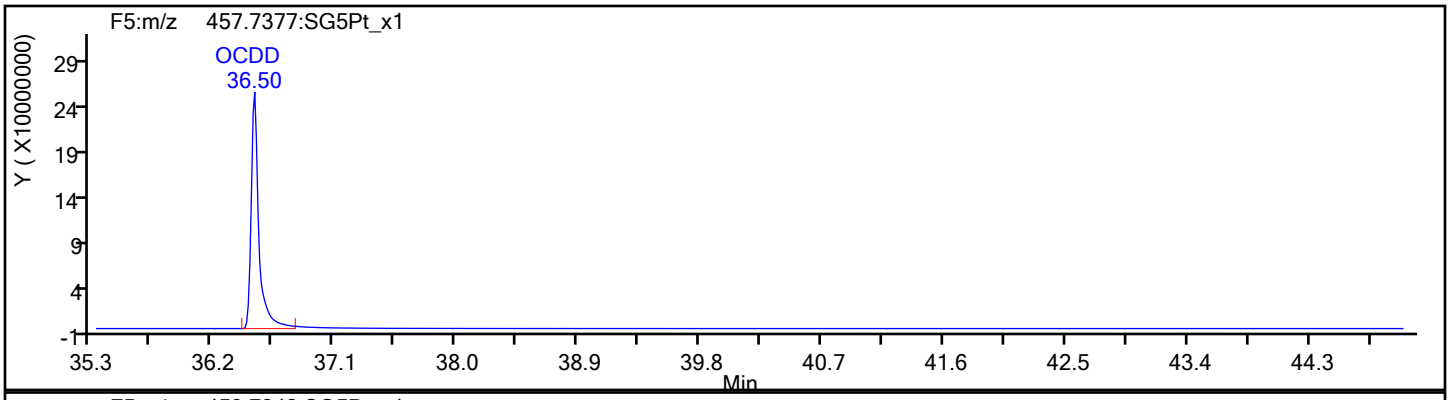

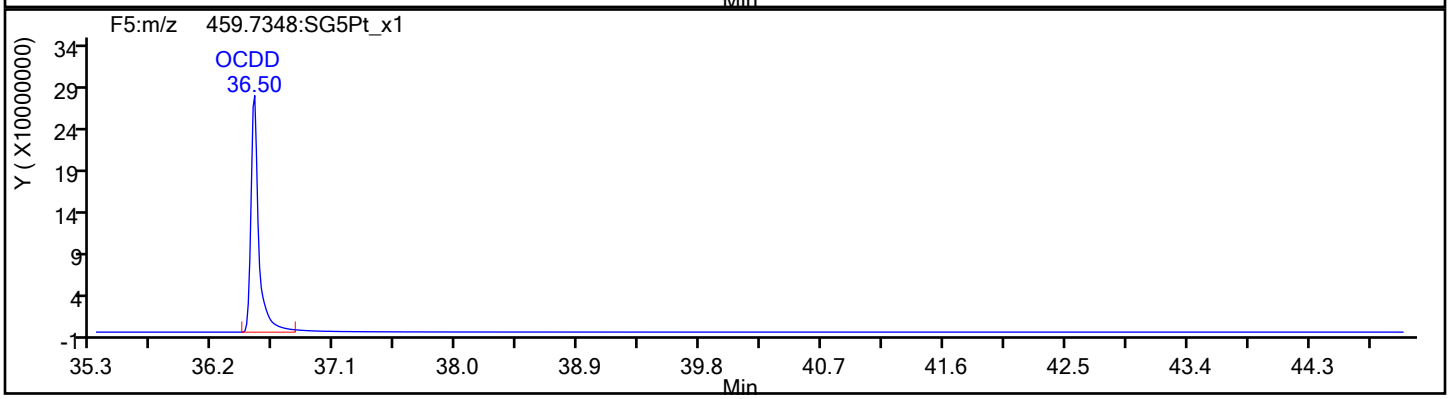

OCDD Standards

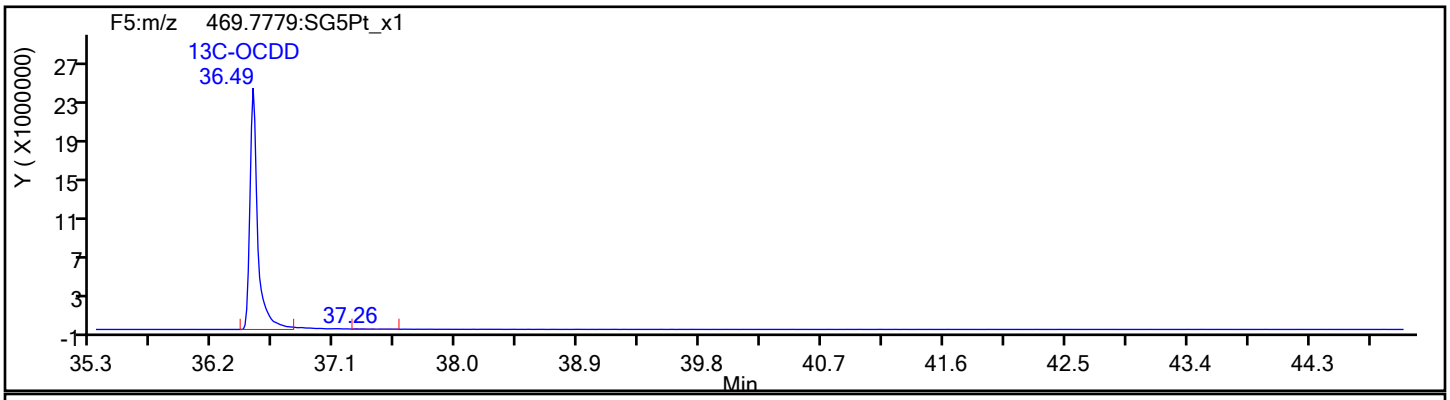

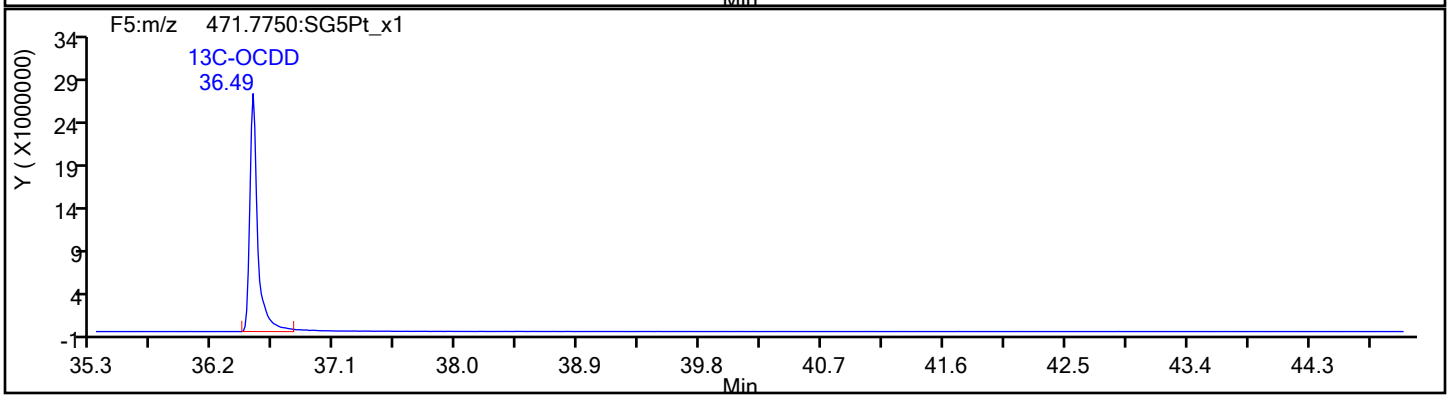

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d		
Injection Date:	17-Sep-2019 16:55:33	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

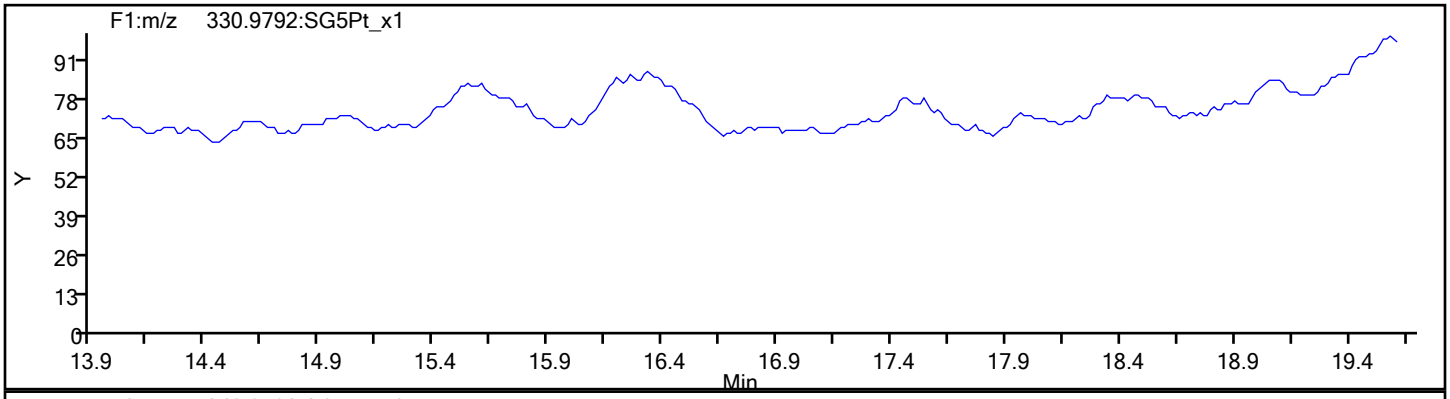

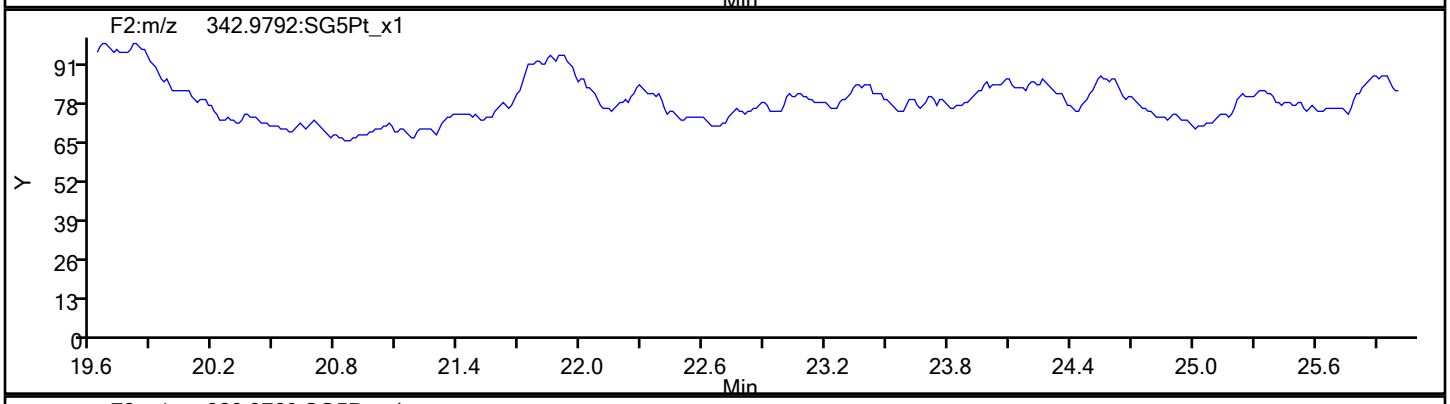

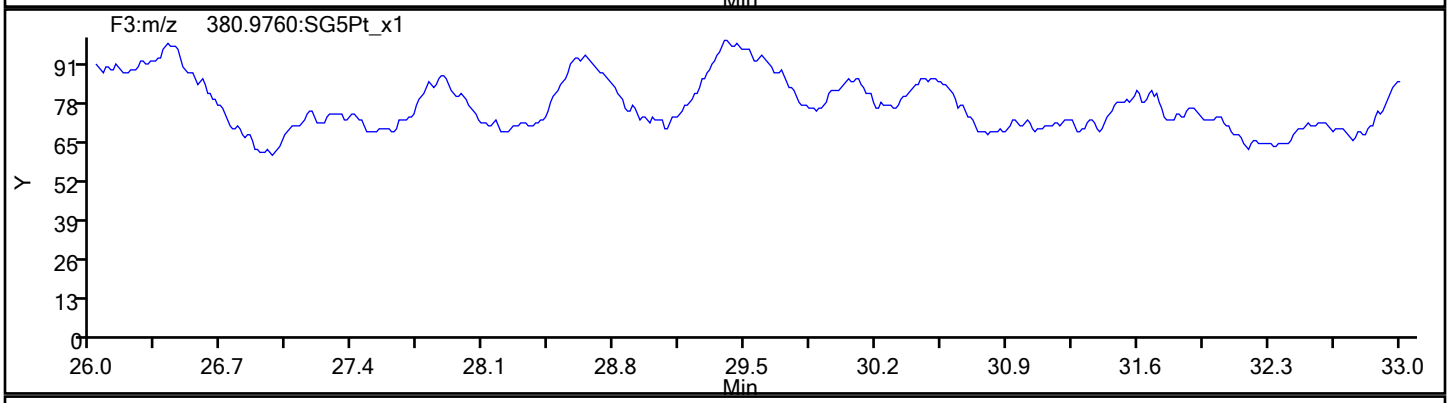

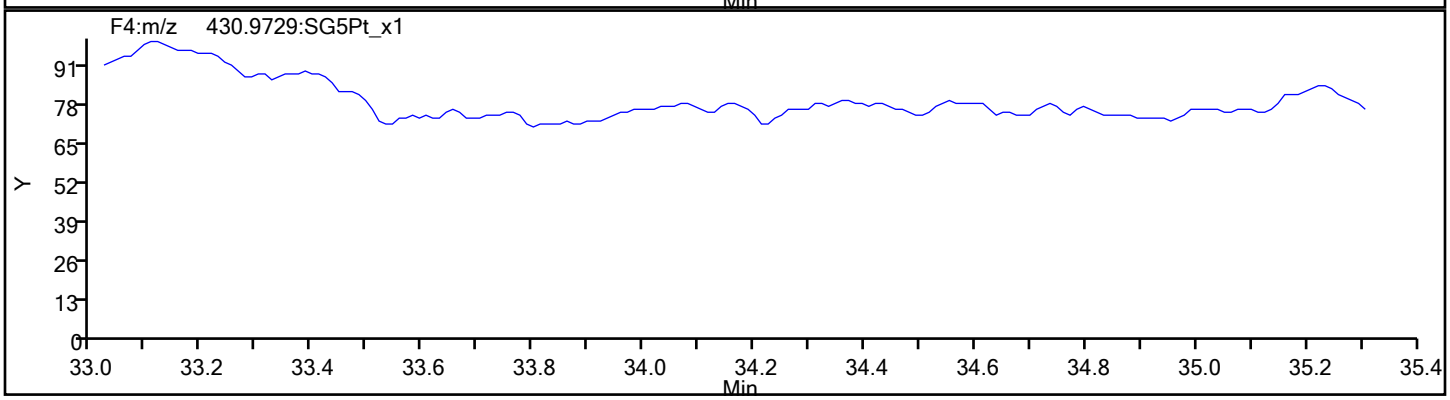

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Injection Date:	17-Sep-2019 16:55:33	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

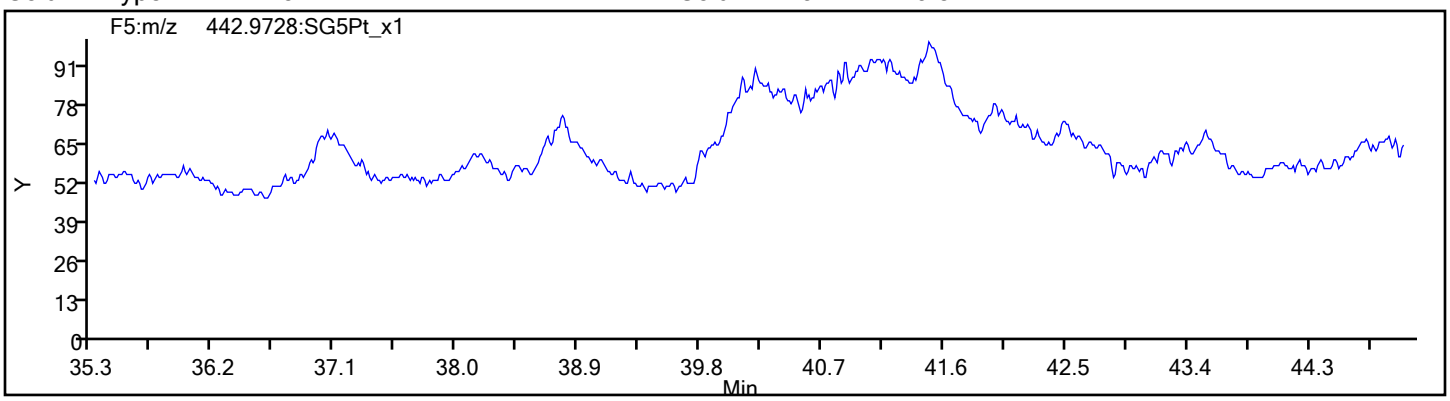

Calibration / 1,2,3,4,6,7,8-HpCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.9316

Error Coefficients

Standard Error:	523000000
Relative Standard Error:	5.9
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.124544	100.0	12148019.0	0.849818	Y
2	IC 320-324128/4	10.0	9.887454	100.0	25630510.0	0.988745	Y
3	IC 320-324128/7	50.0	45.909677	100.0	69249272.0	0.918194	Y
4	IC 320-324128/6	200.0	195.08816	100.0	90130025.0	0.975441	Y
5	IC 320-324128/8	1000.0	925.794044	100.0	111298169.0	0.925794	Y

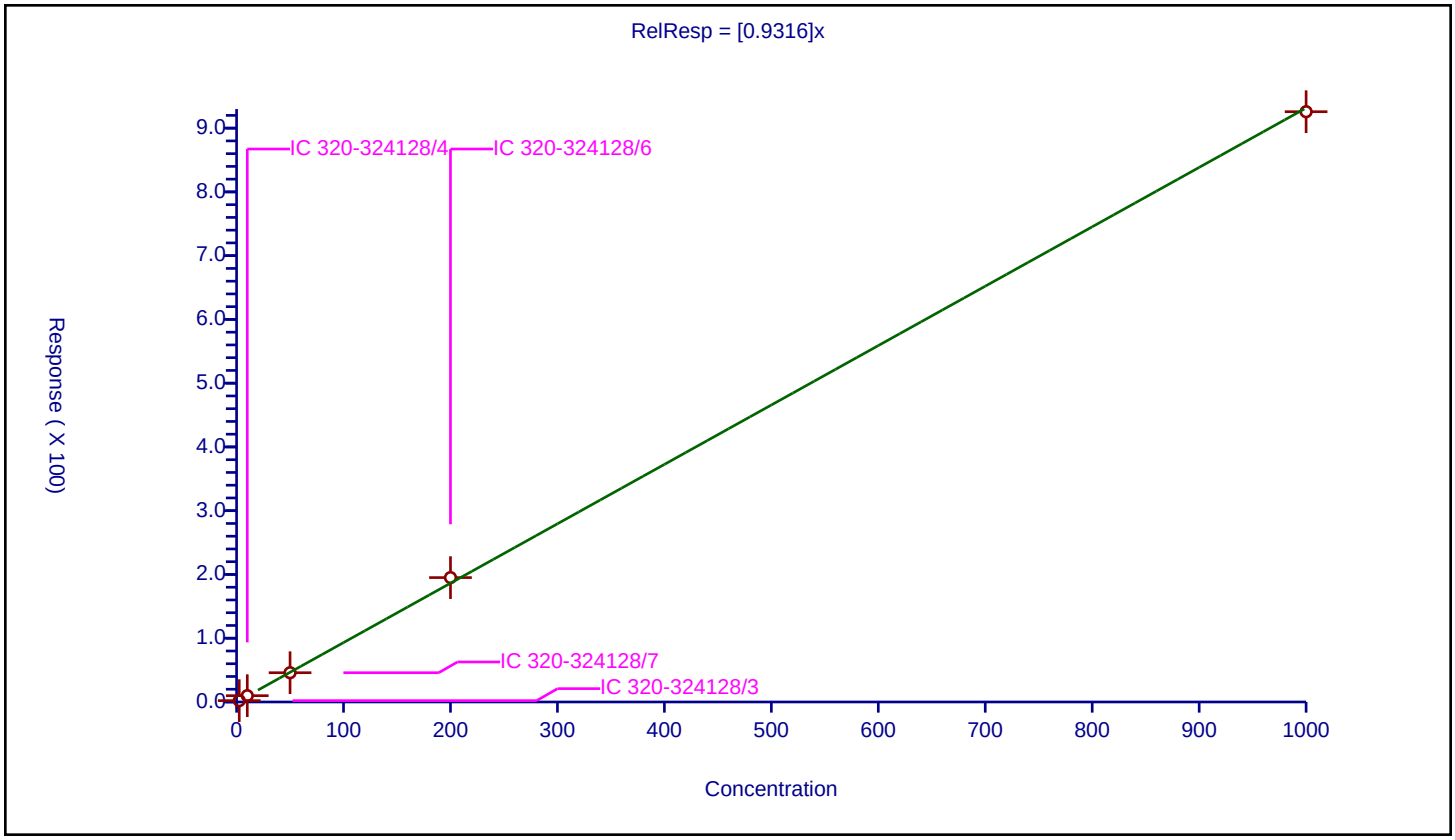

Calibration / 1,2,3,4,6,7,8-HpCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.556

Error Coefficients

Standard Error:	820000000
Relative Standard Error:	3.7
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	3.793804	100.0	12214839.0	1.517521	Y
2	IC 320-324128/4	10.0	16.415452	100.0	25015698.0	1.641545	Y
3	IC 320-324128/7	50.0	76.006177	100.0	70034446.0	1.520124	Y
4	IC 320-324128/6	200.0	317.335133	100.0	88816288.0	1.586676	Y
5	IC 320-324128/8	1000.0	1511.883696	100.0	106743815.0	1.511884	Y

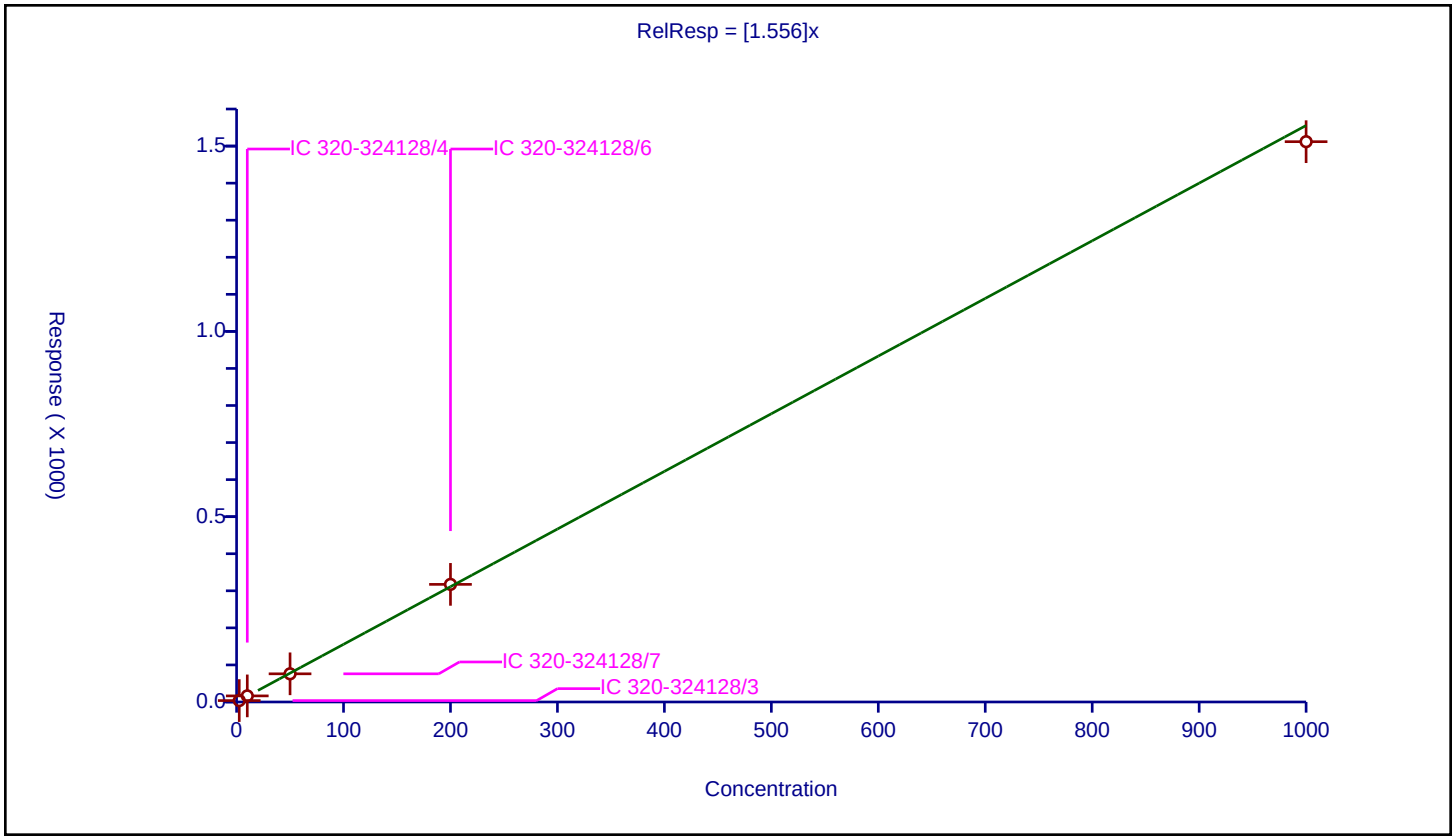

Calibration / 1,2,3,4,7,8,9-HpCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.386

Error Coefficients

Standard Error:	706000000
Relative Standard Error:	6.7
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	3.136969	100.0	11417456.0	1.254787	Y
2	IC 320-324128/4	10.0	14.795935	100.0	23641905.0	1.479594	Y
3	IC 320-324128/7	50.0	67.401124	100.0	62459777.0	1.348022	Y
4	IC 320-324128/6	200.0	294.076652	100.0	81274920.0	1.470383	Y
5	IC 320-324128/8	1000.0	1378.459208	100.0	100973962.0	1.378459	Y

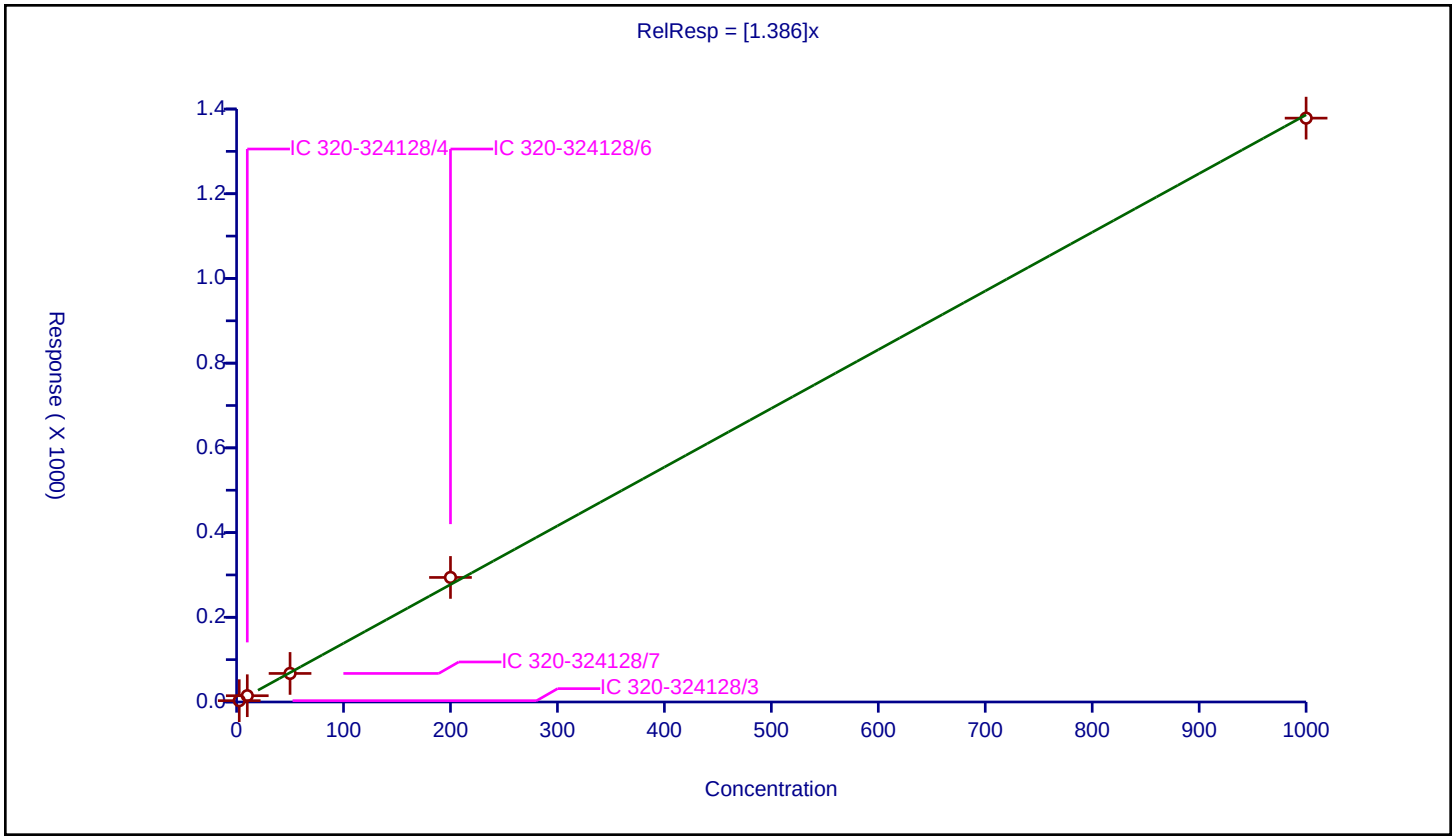

Calibration / 1,2,3,4,7,8-HxCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.109

Error Coefficients

Standard Error:	574000000
Relative Standard Error:	4.0
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.624315	100.0	10572054.0	1.049726	Y
2	IC 320-324128/4	10.0	11.313402	100.0	23739455.0	1.13134	Y
3	IC 320-324128/7	50.0	53.811098	100.0	61001305.0	1.076222	Y
4	IC 320-324128/6	200.0	231.704316	100.0	80372897.0	1.158522	Y
5	IC 320-324128/8	1000.0	1128.178019	100.0	100374877.0	1.128178	Y

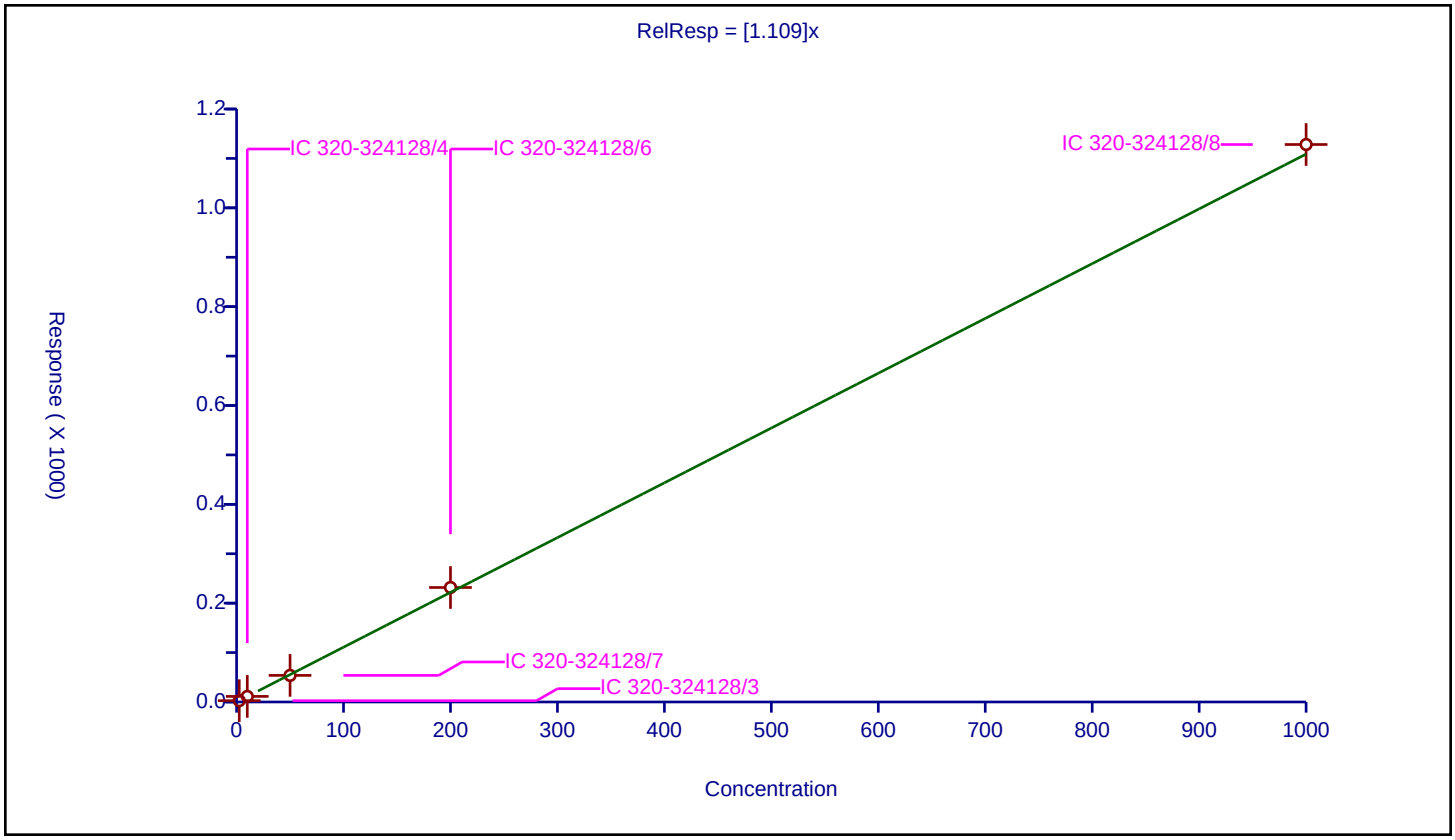

Calibration / 1,2,3,4,7,8-HxCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.197

Error Coefficients

Standard Error:	857000000
Relative Standard Error:	5.9
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.751048	100.0	16433122.0	1.100419	Y
2	IC 320-324128/4	10.0	12.643334	100.0	36418536.0	1.264333	Y
3	IC 320-324128/7	50.0	57.806584	100.0	88972191.0	1.156132	Y
4	IC 320-324128/6	200.0	252.902057	100.0	115322048.0	1.26451	Y
5	IC 320-324128/8	1000.0	1201.28113	100.0	140595624.0	1.201281	Y

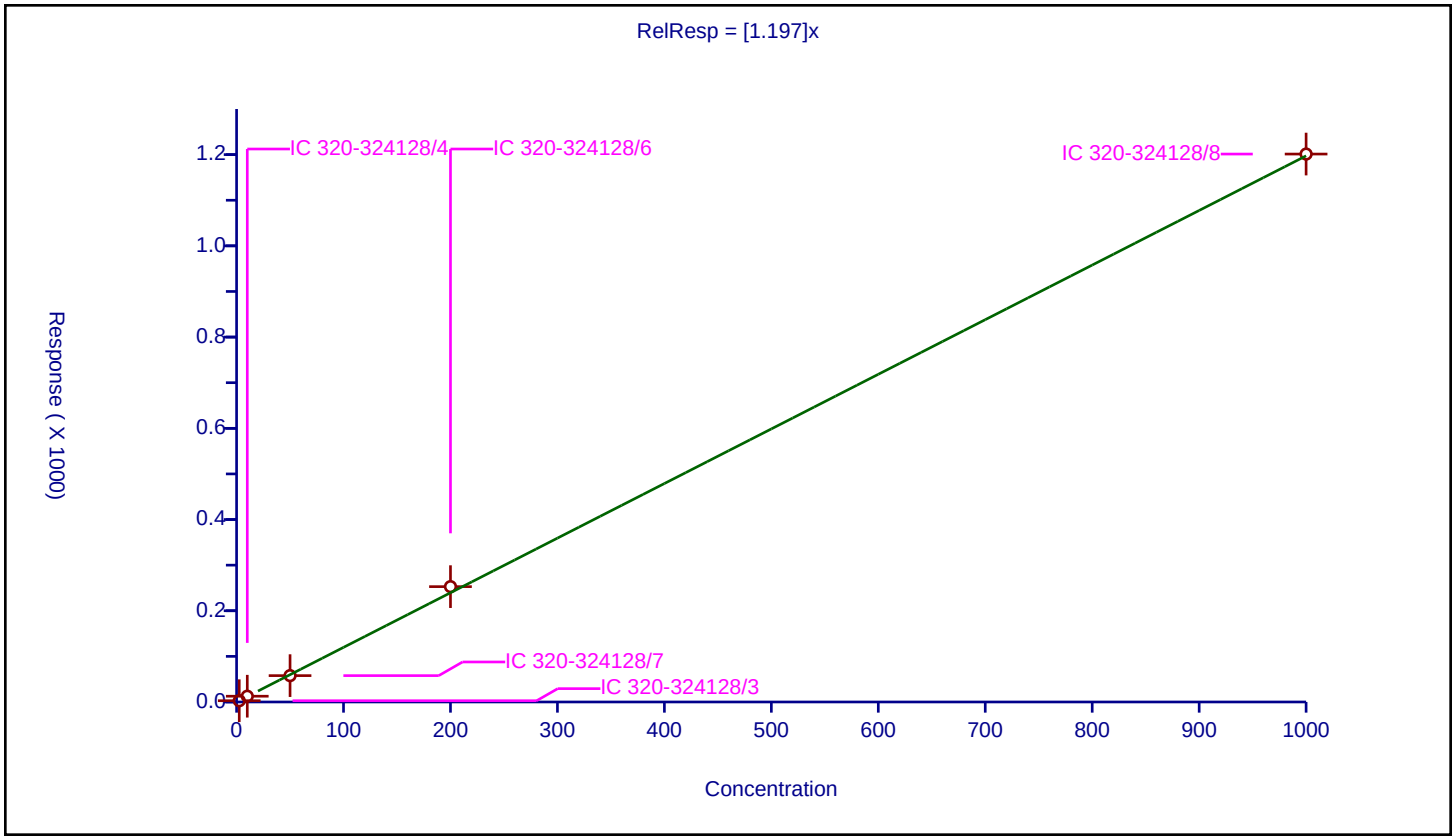

Calibration / 1,2,3,6,7,8-HxCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.081

Error Coefficients

Standard Error:	630000000
Relative Standard Error:	4.9
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.556253	100.0	12508423.0	1.022501	Y
2	IC 320-324128/4	10.0	11.525838	100.0	27633426.0	1.152584	Y
3	IC 320-324128/7	50.0	52.478256	100.0	72157657.0	1.049565	Y
4	IC 320-324128/6	200.0	223.531818	100.0	95002970.0	1.117659	Y
5	IC 320-324128/8	1000.0	1064.760649	100.0	116499868.0	1.064761	Y

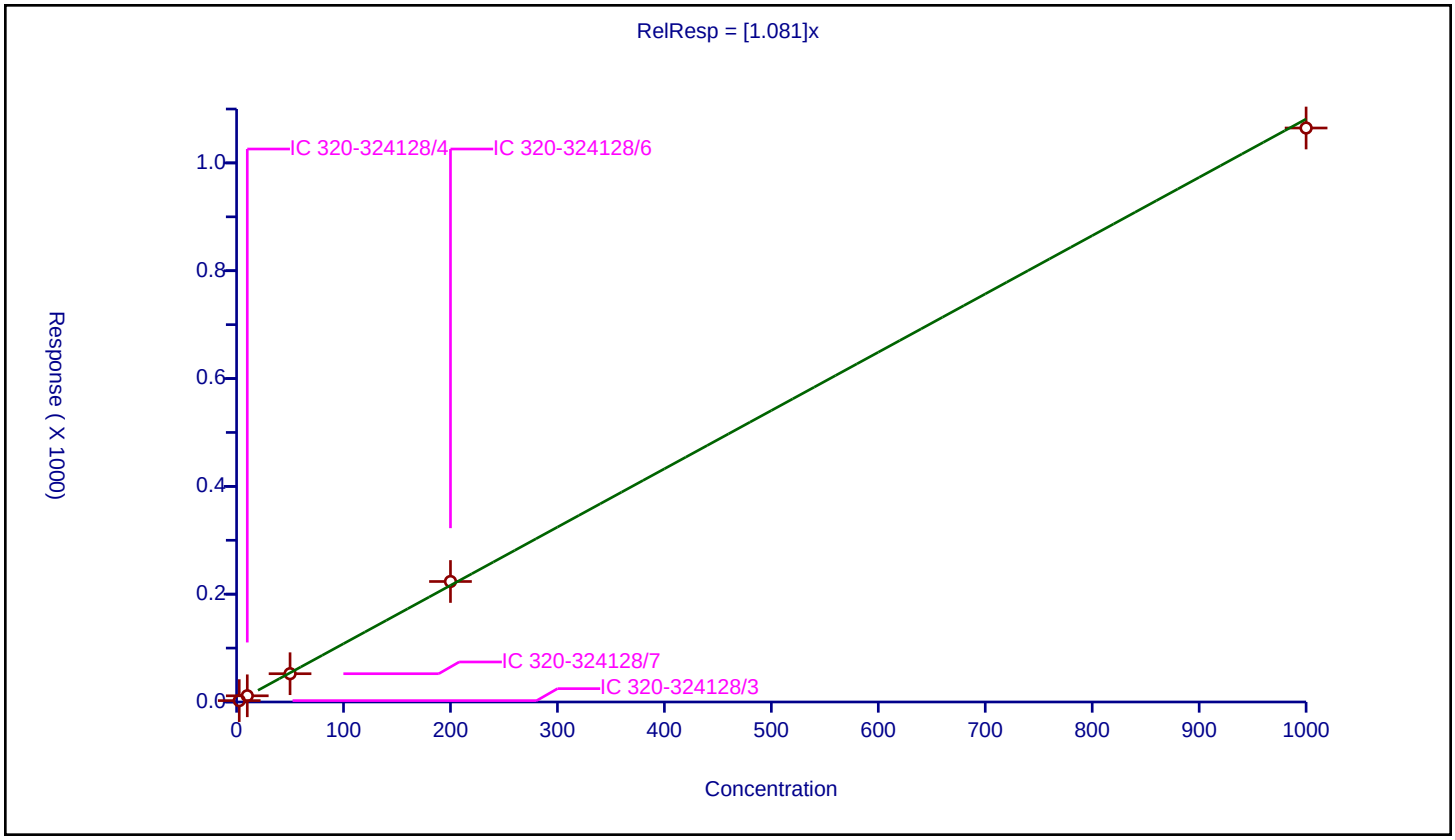

Calibration / 1,2,3,6,7,8-HxCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.181

Error Coefficients

Standard Error:	909000000
Relative Standard Error:	6.6
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.667131	100.0	17668349.0	1.066852	Y
2	IC 320-324128/4	10.0	12.704364	100.0	38486861.0	1.270436	Y
3	IC 320-324128/7	50.0	57.669759	100.0	97064883.0	1.153395	Y
4	IC 320-324128/6	200.0	246.681655	100.0	126224651.0	1.233408	Y
5	IC 320-324128/8	1000.0	1179.211783	100.0	151833452.0	1.179212	Y

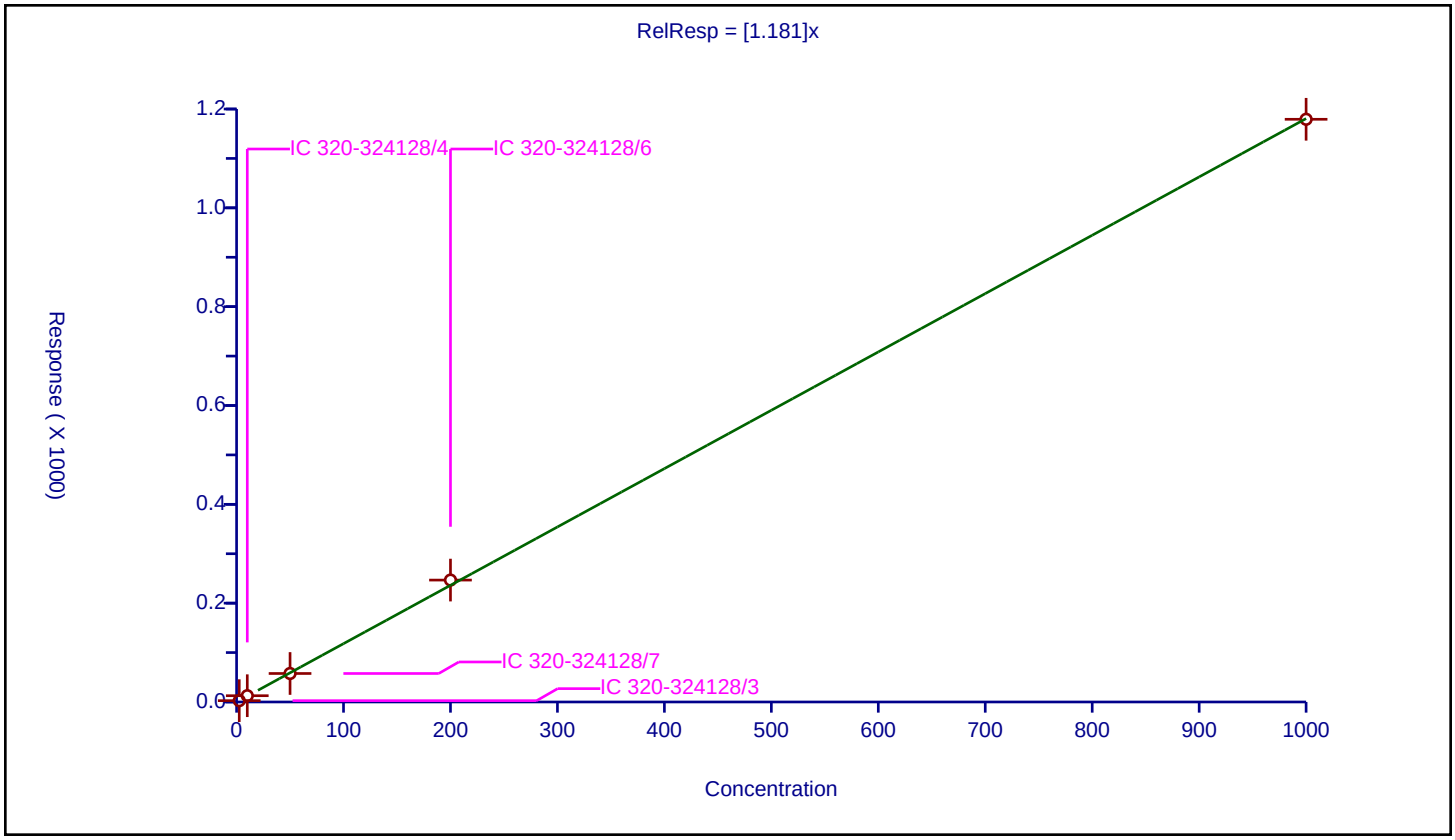

Calibration / 1,2,3,7,8,9-HxCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.318

Error Coefficients

Standard Error:	639000000
Relative Standard Error:	5.4
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	3.149823	100.0	10572054.0	1.259929	Y
2	IC 320-324128/4	10.0	14.21552	100.0	23739455.0	1.421552	Y
3	IC 320-324128/7	50.0	64.86943	100.0	61001305.0	1.297389	Y
4	IC 320-324128/6	200.0	271.297093	100.0	80372897.0	1.356485	Y
5	IC 320-324128/8	1000.0	1254.773605	100.0	100374877.0	1.254774	Y

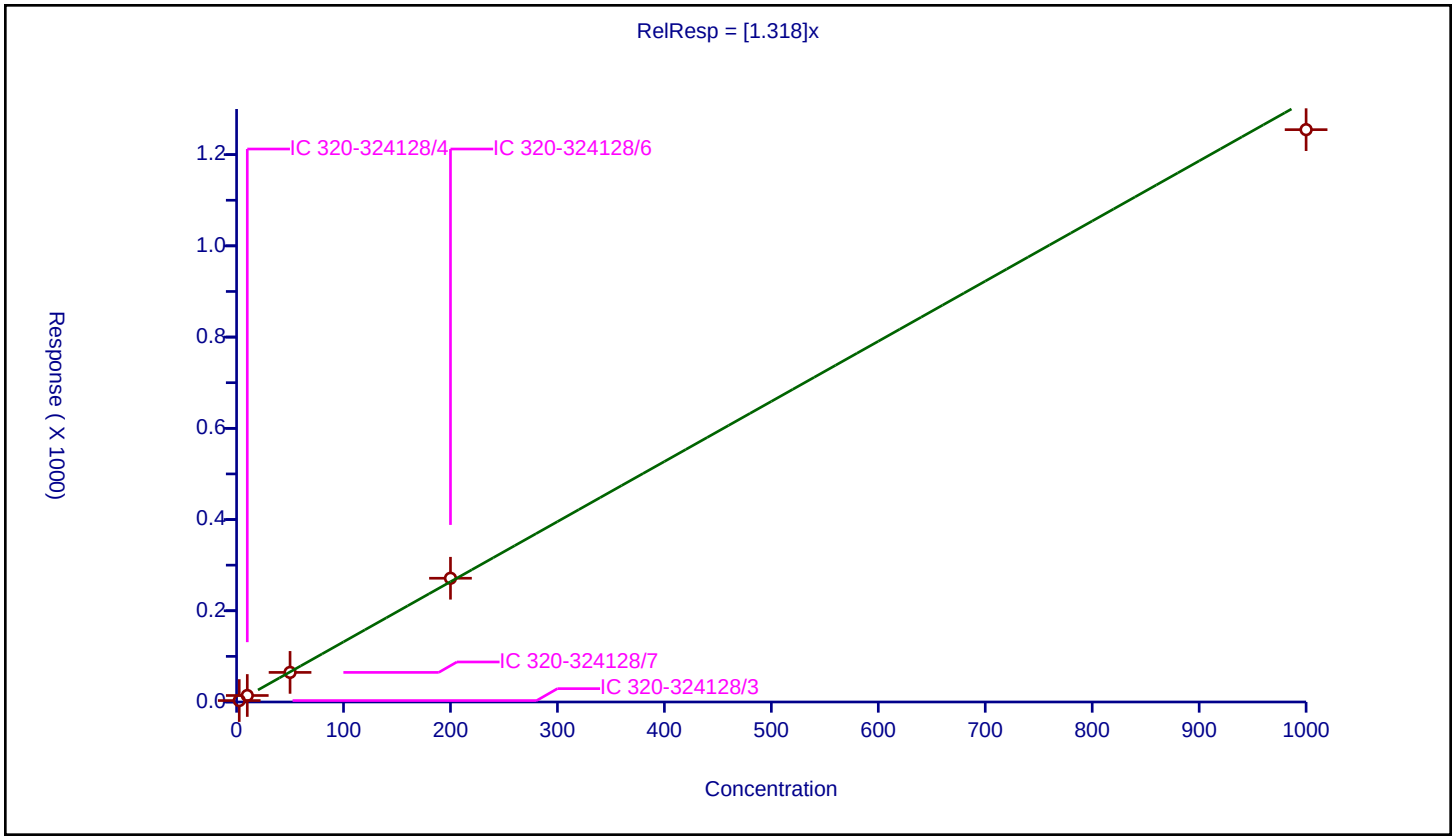

Calibration / 1,2,3,7,8,9-HxCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.245

Error Coefficients

Standard Error:	802000000
Relative Standard Error:	3.0
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	3.063166	100.0	15096147.0	1.225266	Y
2	IC 320-324128/4	10.0	12.975655	100.0	33293009.0	1.297566	Y
3	IC 320-324128/7	50.0	60.502108	100.0	83967924.0	1.210042	Y
4	IC 320-324128/6	200.0	254.314863	100.0	107073331.0	1.271574	Y
5	IC 320-324128/8	1000.0	1221.183573	100.0	129353689.0	1.221184	Y

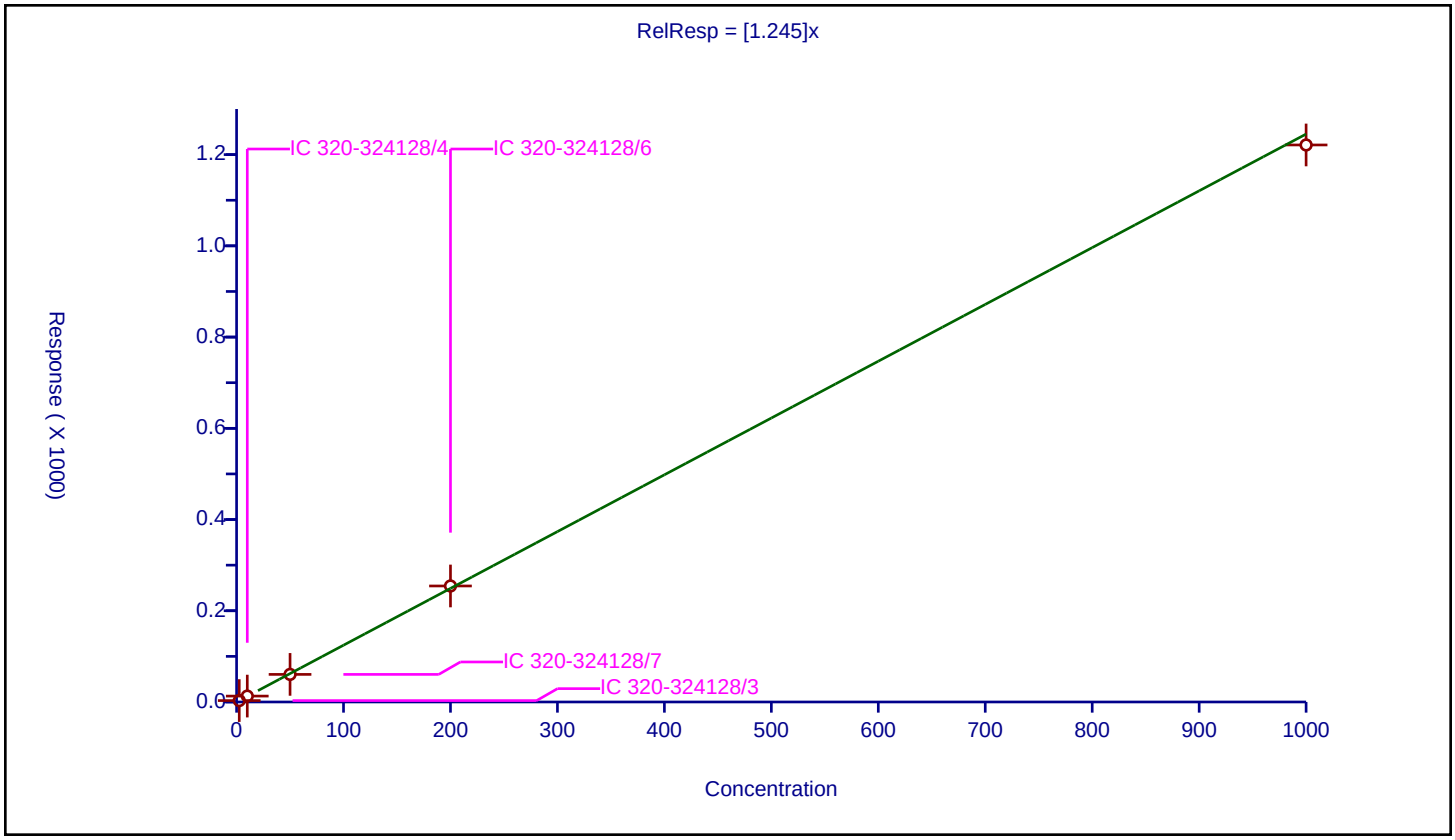

Calibration / 1,2,3,7,8-PeCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.905

Error Coefficients

Standard Error:	590000000
Relative Standard Error:	4.8
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.148594	100.0	15668897.0	0.859438	Y
2	IC 320-324128/4	10.0	9.575806	100.0	33098301.0	0.957581	Y
3	IC 320-324128/7	50.0	43.349327	100.0	84755636.0	0.866987	Y
4	IC 320-324128/6	200.0	188.20818	100.0	108225317.0	0.941041	Y
5	IC 320-324128/8	1000.0	900.148235	100.0	129152474.0	0.900148	Y

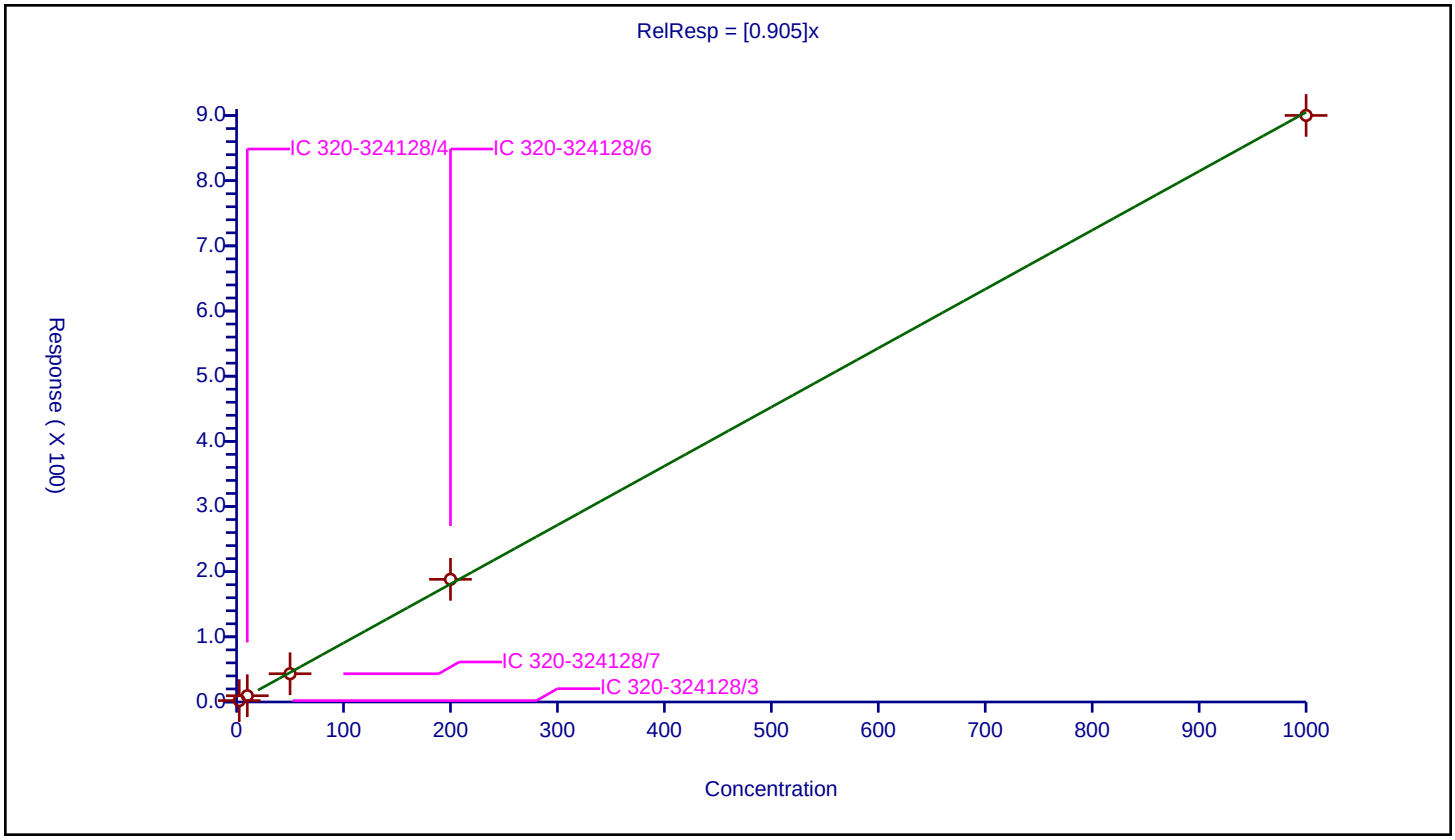

Calibration / 1,2,3,7,8-PeCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.082

Error Coefficients

Standard Error:	938000000
Relative Standard Error:	6.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.502683	100.0	22013977.0	1.001073	Y
2	IC 320-324128/4	10.0	11.601265	100.0	46755351.0	1.160126	Y
3	IC 320-324128/7	50.0	52.158277	100.0	117067384.0	1.043166	Y
4	IC 320-324128/6	200.0	226.621934	100.0	146707284.0	1.13311	Y
5	IC 320-324128/8	1000.0	1073.749438	100.0	171862914.0	1.073749	Y

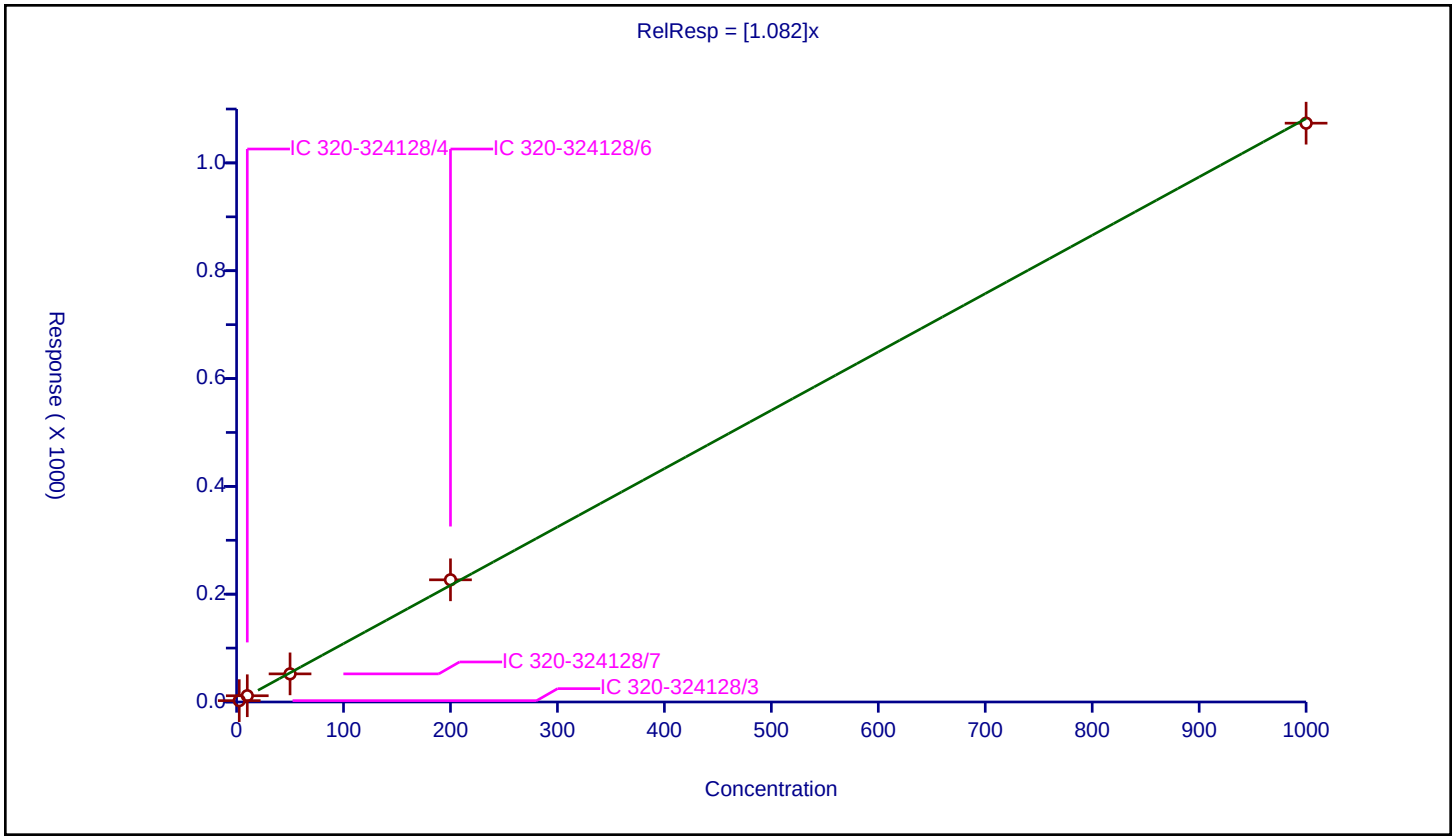

Calibration / 2,3,4,6,7,8-HxCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.212

Error Coefficients

Standard Error:	900000000
Relative Standard Error:	4.7
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.831839	100.0	16591902.0	1.132736	Y
2	IC 320-324128/4	10.0	12.683235	100.0	35886090.0	1.268323	Y
3	IC 320-324128/7	50.0	59.276675	100.0	90467566.0	1.185533	Y
4	IC 320-324128/6	200.0	253.147566	100.0	118677202.0	1.265738	Y
5	IC 320-324128/8	1000.0	1205.597186	100.0	147071003.0	1.205597	Y

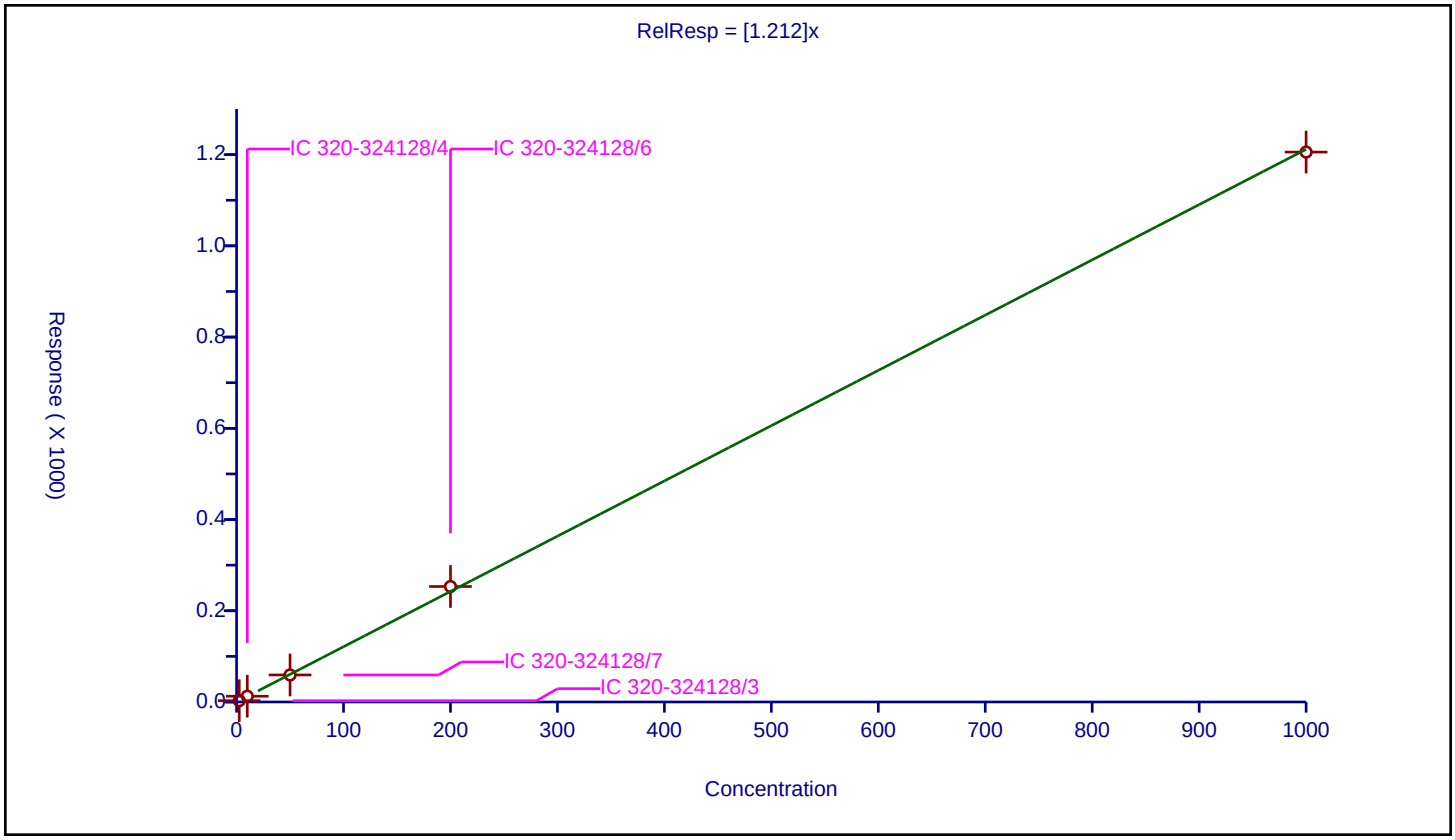

Calibration / 2,3,4,7,8-PeCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.103

Error Coefficients

Standard Error:	942000000
Relative Standard Error:	8.1
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.406506	100.0	20818900.0	0.962602	Y
2	IC 320-324128/4	10.0	11.888412	100.0	45184985.0	1.188841	Y
3	IC 320-324128/7	50.0	54.321476	100.0	108494277.0	1.08643	Y
4	IC 320-324128/6	200.0	234.558175	100.0	140755634.0	1.172791	Y
5	IC 320-324128/8	1000.0	1105.351196	100.0	167797734.0	1.105351	Y

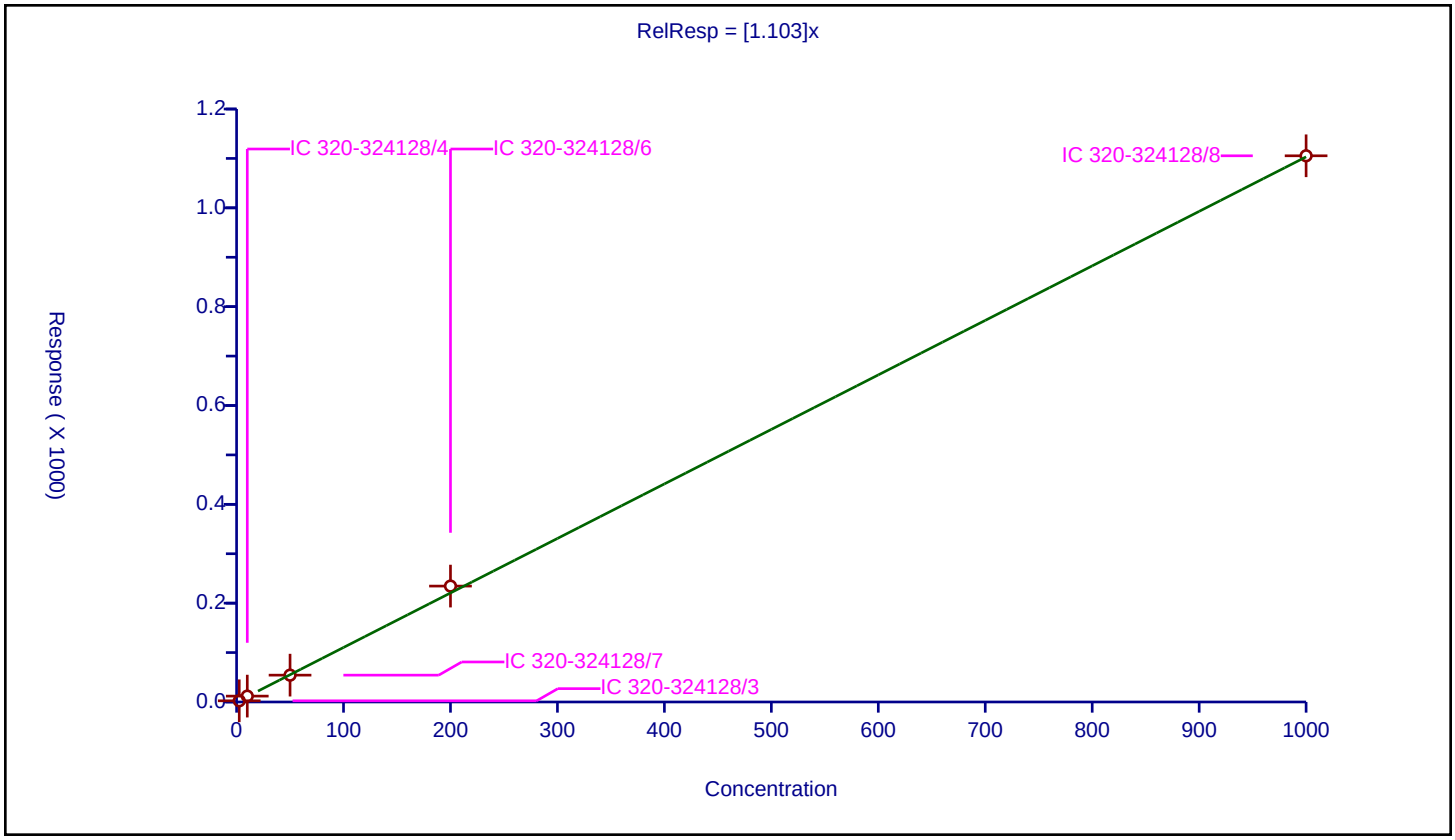

Calibration / 2,3,7,8-TCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.106

Error Coefficients

Standard Error:	167000000
Relative Standard Error:	4.9
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	0.5	0.583856	100.0	21165335.0	1.167711	Y
2	IC 320-324128/4	2.0	2.253252	100.0	45389691.0	1.126626	Y
3	IC 320-324128/7	10.0	10.23923	100.0	110088290.0	1.023923	Y
4	IC 320-324128/6	40.0	45.044682	100.0	131023361.0	1.126117	Y
5	IC 320-324128/8	200.0	217.531474	100.0	150666513.0	1.087657	Y

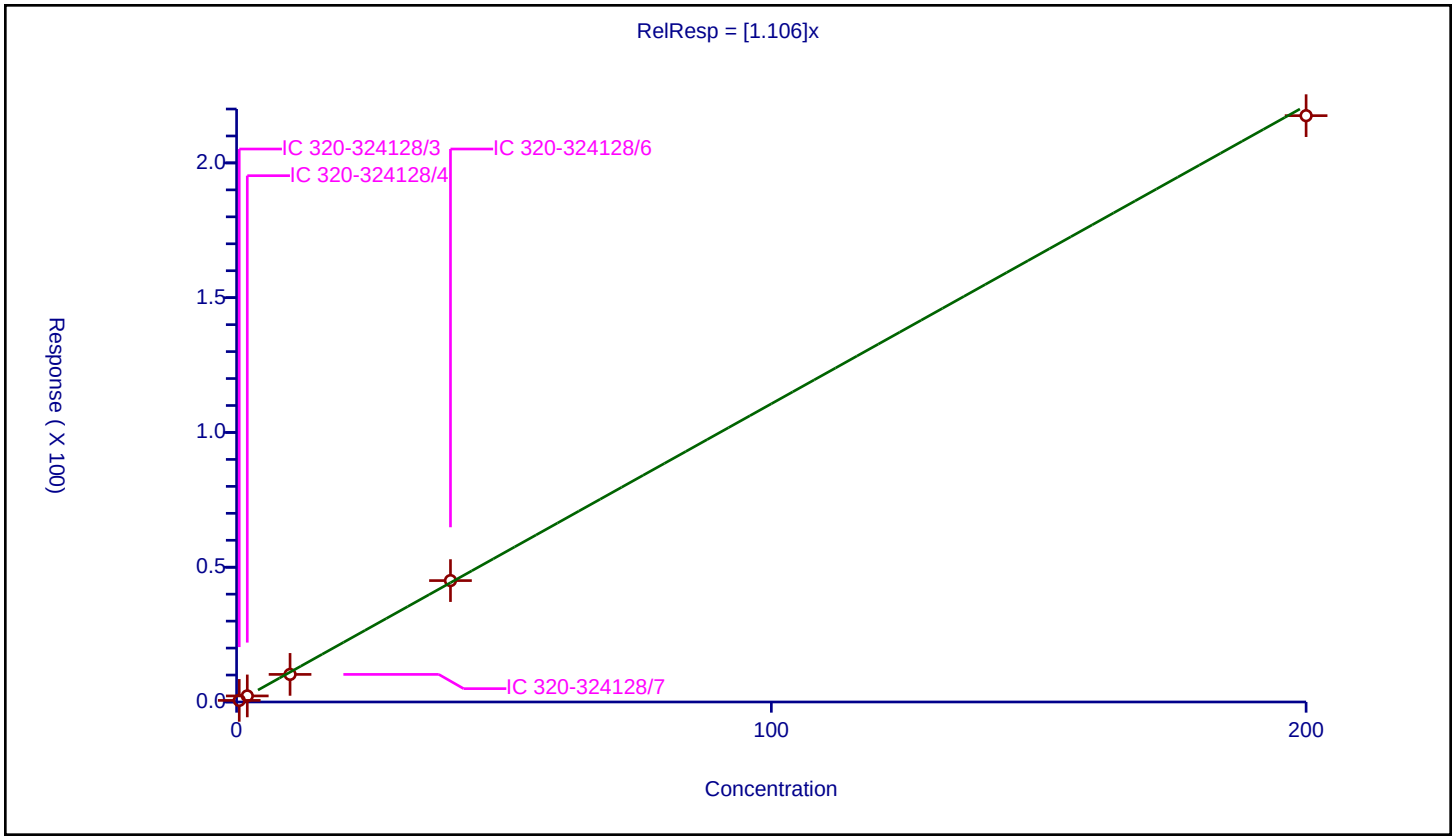

Calibration / 2,3,7,8-TCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.051

Error Coefficients

Standard Error:	235000000
Relative Standard Error:	4.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	0.5	0.535593	100.0	32121801.0	1.071185	Y
2	IC 320-324128/4	2.0	2.204382	100.0	69364385.0	1.102191	Y
3	IC 320-324128/7	10.0	9.929077	100.0	164292495.0	0.992908	Y
4	IC 320-324128/6	40.0	42.465661	100.0	197671153.0	1.061642	Y
5	IC 320-324128/8	200.0	205.145738	100.0	225533576.0	1.025729	Y

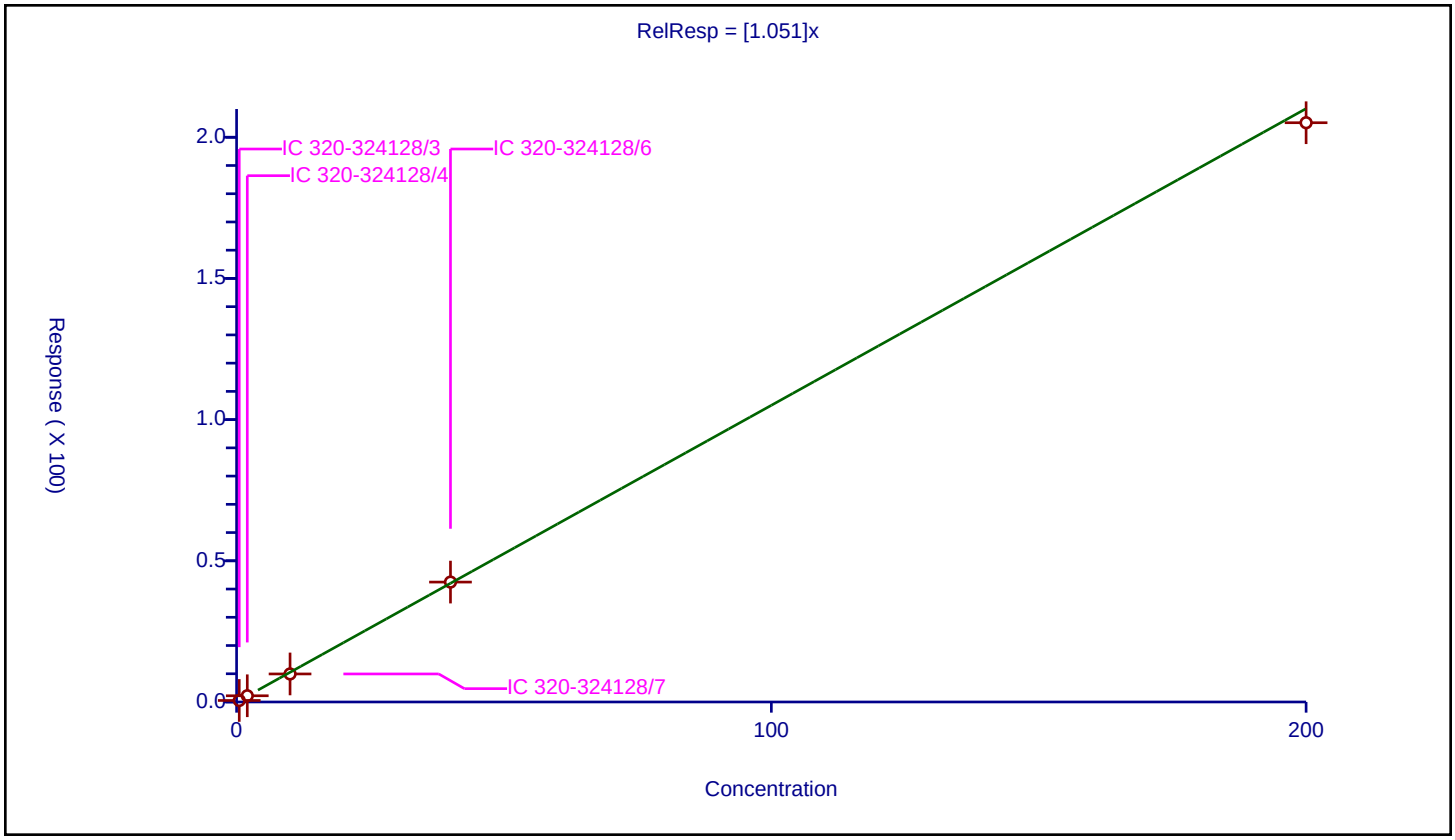

Calibration / 37Cl4-2,3,7,8-TCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.222

Error Coefficients

Standard Error:	205000000
Relative Standard Error:	5.7
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	0.5	0.559577	100.0	21989821.0	1.119154	Y
2	IC 320-324128/4	2.0	2.425047	100.0	48020971.0	1.212523	Y
3	IC 320-324128/7	8.0	9.665731	100.0	116862140.0	1.208216	Y
4	IC 320-324128/6	40.0	51.600573	100.0	136791650.0	1.290014	Y
5	IC 320-324128/8	200.0	256.418271	100.0	157084773.0	1.282091	Y

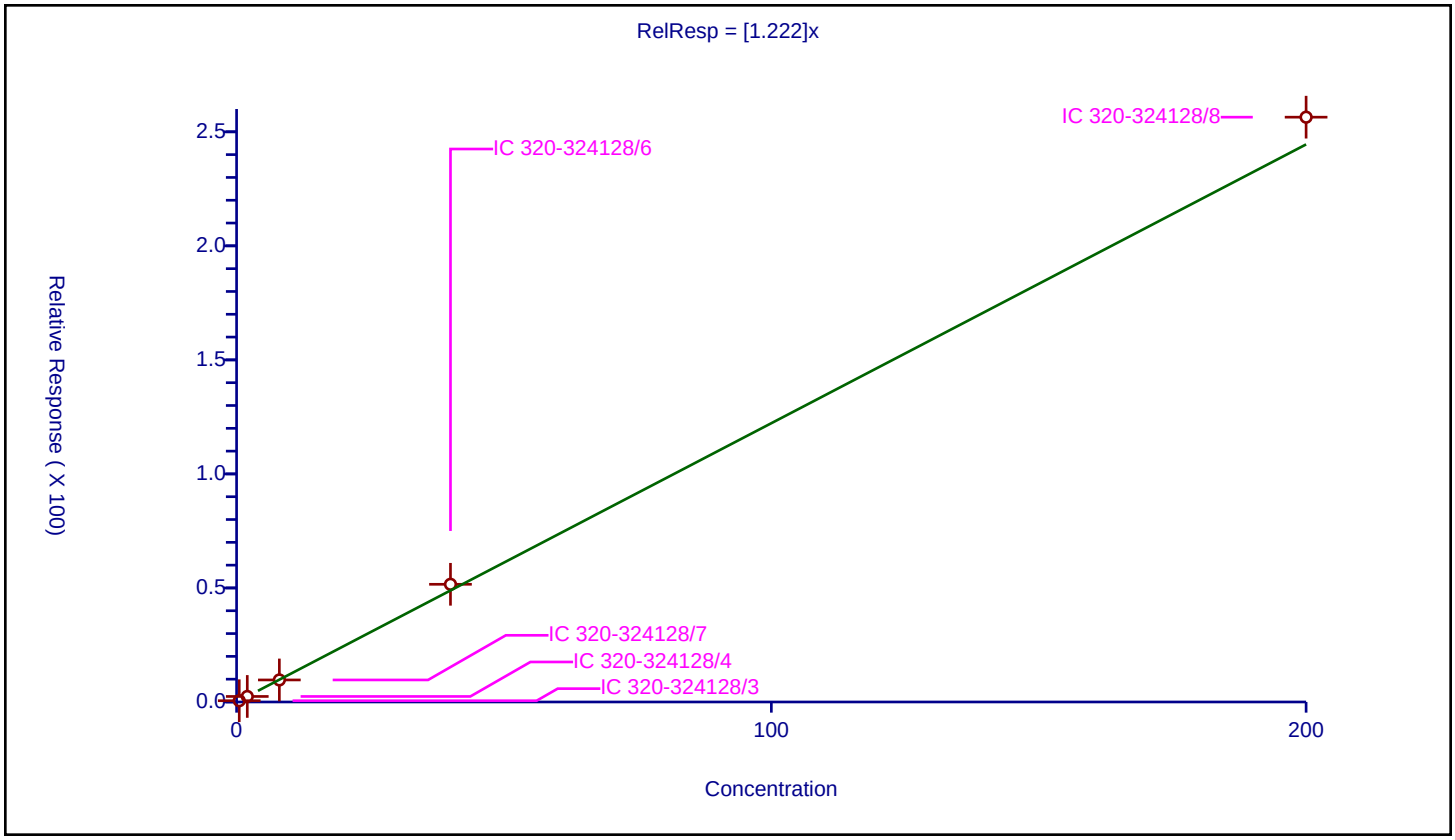

Calibration / OCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.062

Error Coefficients

Standard Error:	1080000000
Relative Standard Error:	6.6
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	5.0	4.995683	200.0	22323676.0	0.999137	Y
2	IC 320-324128/4	20.0	23.429889	200.0	43388861.0	1.171494	Y
3	IC 320-324128/7	100.0	101.887088	200.0	117978202.0	1.018871	Y
4	IC 320-324128/6	400.0	436.552854	200.0	158997965.0	1.091382	Y
5	IC 320-324128/8	2000.0	2058.960862	200.0	206464776.0	1.02948	Y

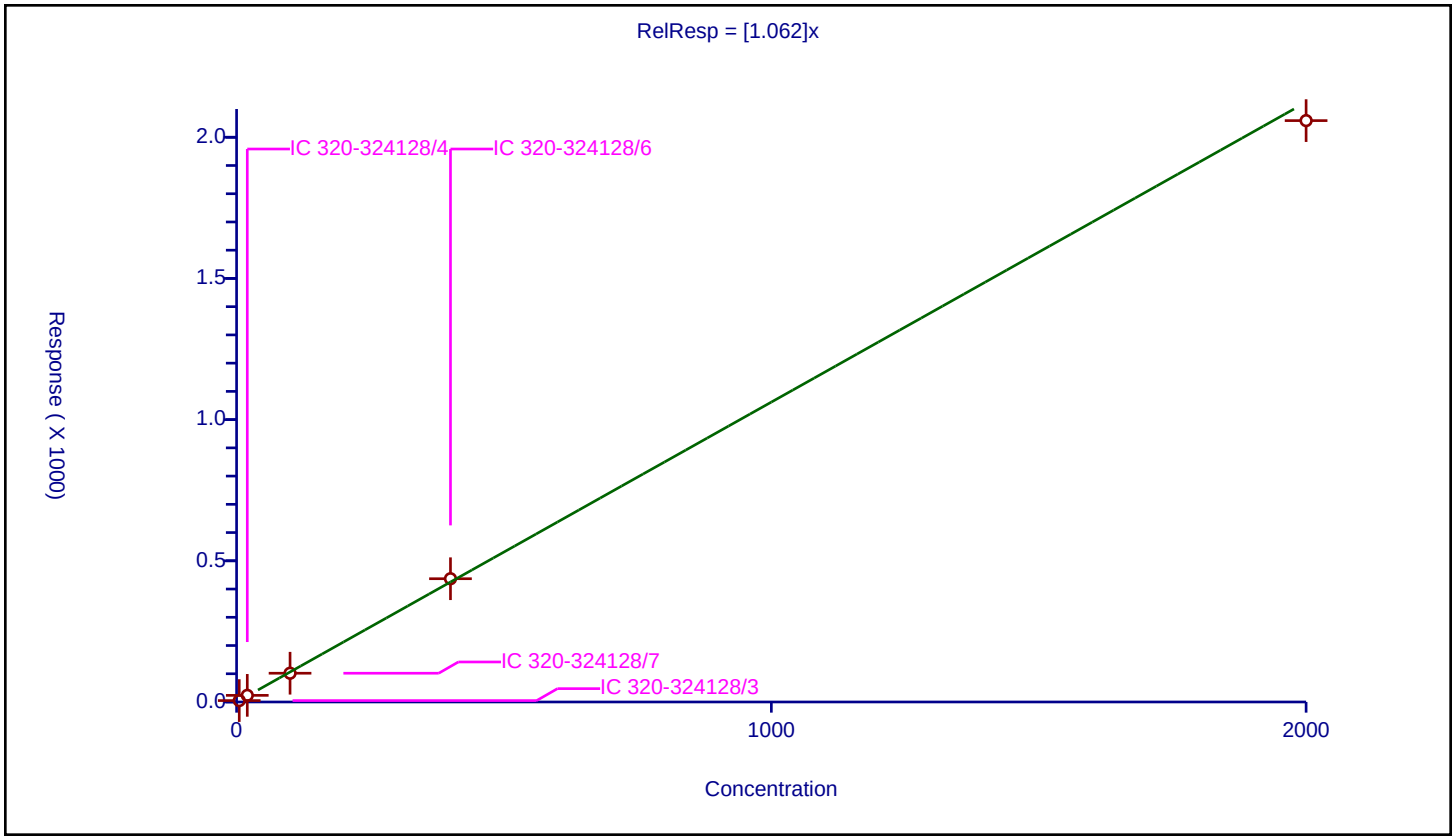

Calibration / OCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.26

Error Coefficients

Standard Error:	1330000000
Relative Standard Error:	6.0
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	5.0	5.709875	200.0	22323676.0	1.141975	Y
2	IC 320-324128/4	20.0	26.627996	200.0	43388861.0	1.3314	Y
3	IC 320-324128/7	100.0	123.985768	200.0	117978202.0	1.239858	Y
4	IC 320-324128/6	400.0	526.877314	200.0	158997965.0	1.317193	Y
5	IC 320-324128/8	2000.0	2535.017728	200.0	206464776.0	1.267509	Y

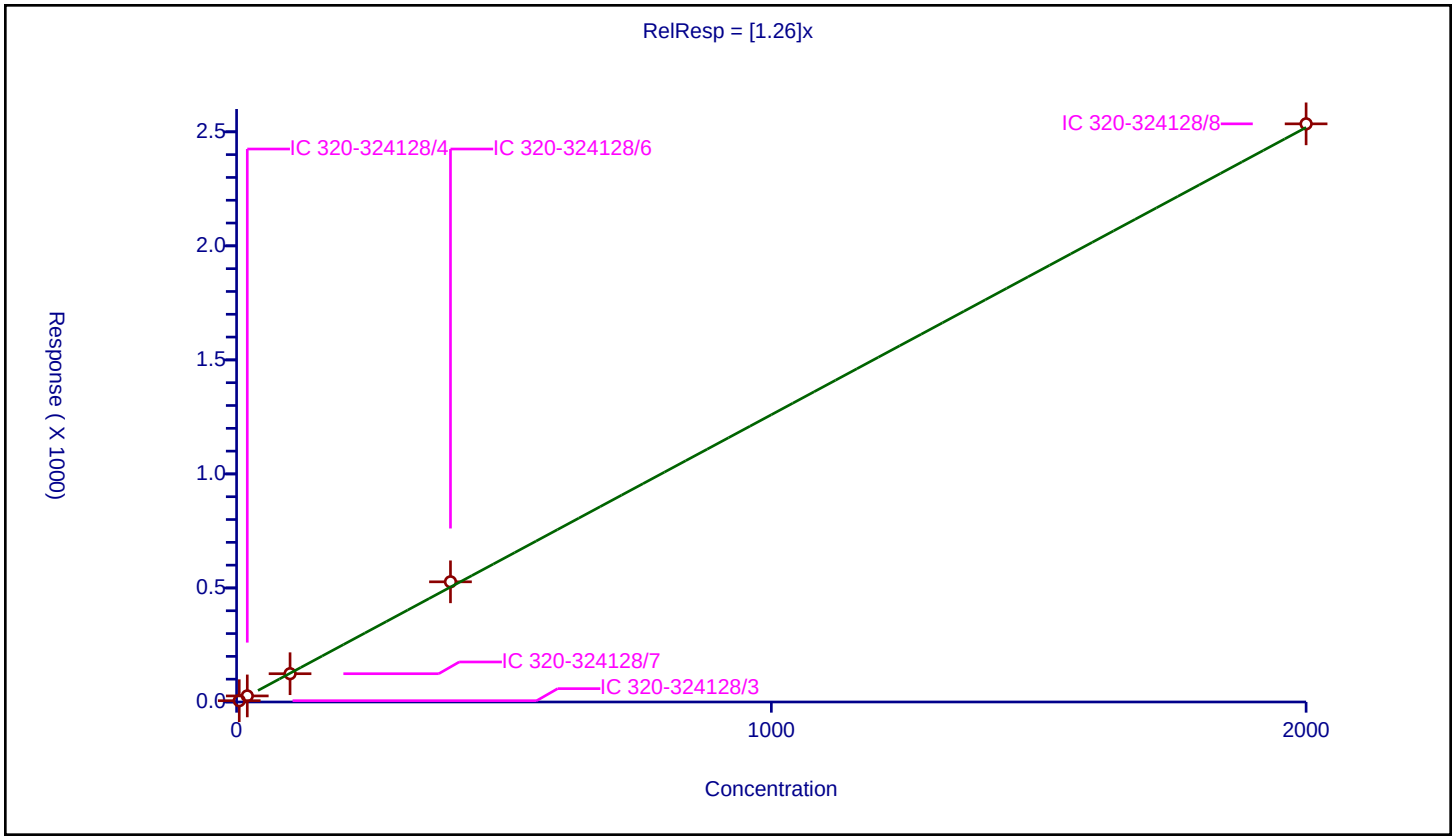

FORM VI
DIOXIN BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1 Analy Batch No.: 312067

SDG No.:

Instrument ID: 11D2 GC Column: DB-225 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/02/2019 02:52 Calibration End Date: 08/02/2019 05:25 Calibration ID: 46494

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-312067/3	02AU1911D2_003.d
Level 2	IC 320-312067/4	02AU1911D2_004.d
Level 3	IC 320-312067/5	02AU1911D2_005.d
Level 4	IC 320-312067/6	02AU1911D2_006.d
Level 5	IC 320-312067/7	02AU1911D2_007.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
2,3,7,8-TCDD	1.4072	1.1517	0.9928	1.1253	1.0921	AveID		1.1538				13.3		20.0			
2,3,7,8-TCDF	0.9508	0.8634	0.7802	0.8060	0.7939	AveID		0.8389				8.4		20.0			
13C-2,3,7,8-TCDD	0.9860	0.9016	0.9603	0.9300	0.9162	Ave		0.9388				3.6		35.0			
13C-2,3,7,8-TCDF	1.4126	1.2992	1.3548	1.2560	1.3671	Ave		1.3379				4.6		35.0			
37Cl4-2,3,7,8-TCDD	1.2464	1.0504	1.1674	1.2313	1.2128	Ave		1.1816				6.7					

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
DIOXIN BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1 Analy Batch No.: 312067

SDG No.:

Instrument ID: 11D2 GC Column: DB-225 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/02/2019 02:52 Calibration End Date: 08/02/2019 05:25 Calibration ID: 46494

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-312067/3	02AU1911D2_003.d
Level 2	IC 320-312067/4	02AU1911D2_004.d
Level 3	IC 320-312067/5	02AU1911D2_005.d
Level 4	IC 320-312067/6	02AU1911D2_006.d
Level 5	IC 320-312067/7	02AU1911D2_007.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (PG/UL)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
2,3,7,8-TCDD		AveID	766838	2408989	10136940	48146783	221171643	0.500	2.00	10.0	40.0	200
2,3,7,8-TCDF		AveID	742351	2602621	11238394	46575552	239921851	0.500	2.00	10.0	40.0	200
13C-2,3,7,8-TCDD	13CTC	Ave	108987233	104587968	102100937	106968299	101263855	100	100	100	100	100
13C-2,3,7,8-TCDF	13CTC	Ave	156147949	150712836	144041178	144459393	151101344	100	100	100	100	100
37Cl4-2,3,7,8-TCDD	13CTC	Ave	688870	2436945	9929024	56650769	268090229	0.500	2.00	8.00	40.0	200

Curve Type Legend:

Ave = Average ISTD
AveID = Average isotope dilution

Data file	Smp	Work Order	Sample ID	FV-uL	Method/Matrix	Box	Size	U
02AU1911D2	1	CPS 080219	CPS HRDXNCP_00038		Dioxin		1.00000	
02AU1911D2	2	SB 080219	SB Solvent Blank C-14				1.00000	
02AU1911D2	3	IC 080219	CS-2 HRDXNL2_00027		Dioxin		1.00000	
02AU1911D2	4	IC 080219A	CS-3 HRDXNL3_00025		Dioxin		1.00000	
02AU1911D2	5	IC 080219B	CS-4 HRDXNL4_00084		Dioxin		1.00000	
02AU1911D2	6	IC 080219C	CS-5 HRDXNL5_00028		Dioxin		1.00000	
02AU1911D2	7	IC 080219D	CS-6 HRDXNL6_00024		Dioxin		1.00000	
02AU1911D2	8	ICV 080219	ICV HRDXNIC_00042		Dioxin		1.00000	
02AU1911D2	9						1.00000	
02AU1911D2	10						1.00000	
02AU1911D2	11						1.00000	
02AU1911D2	12						1.00000	
02AU1911D2	13						1.00000	
02AU1911D2	14						1.00000	
02AU1911D2	15						1.00000	
02AU1911D2	16						1.00000	
02AU1911D2	17		ALM 08-02-19				1.00000	
02AU1911D2	18						1.00000	

Logfile checked
08/02/19 SMA

Peak Locate Examination: 2-AUG-2019:01:33 File:02AU1911D2
Experiment:DB225RES Function:1 Reference:PFK

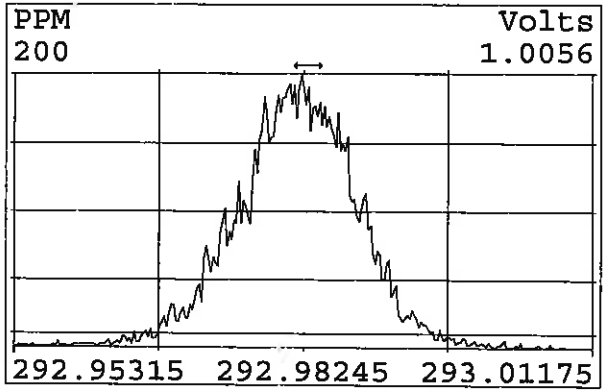

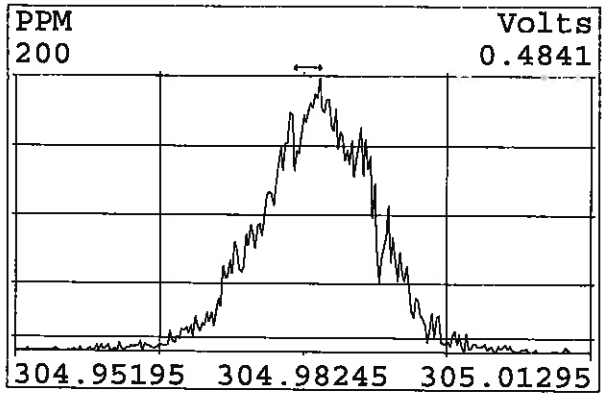

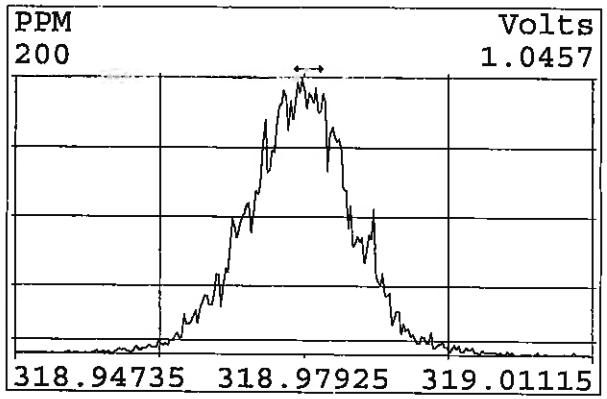

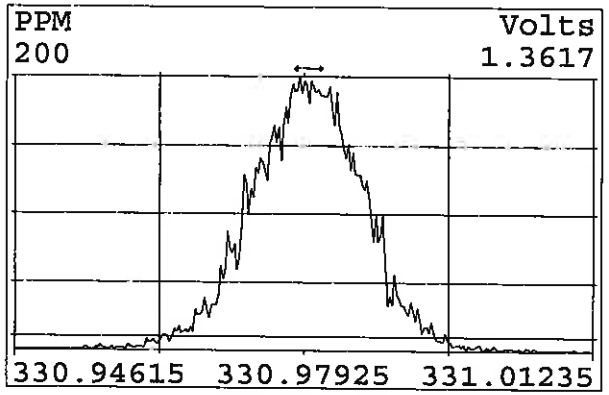

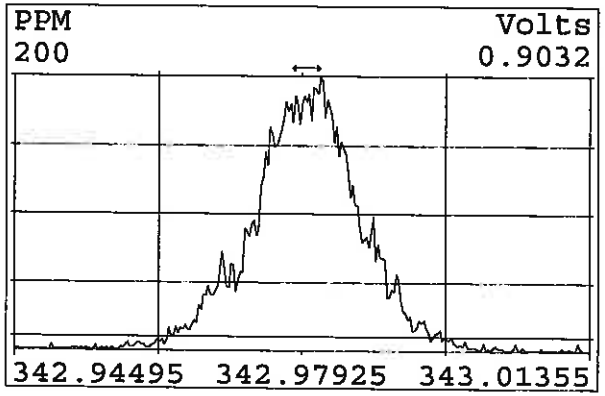

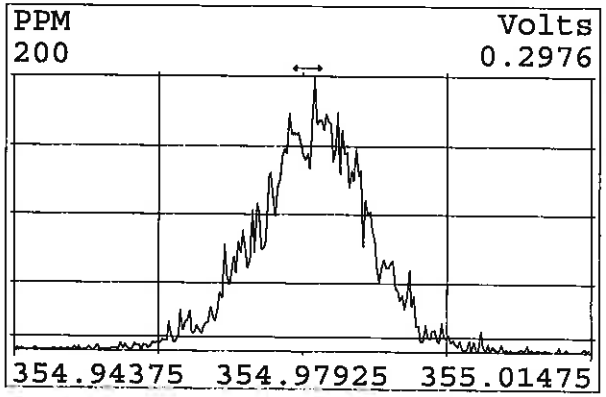

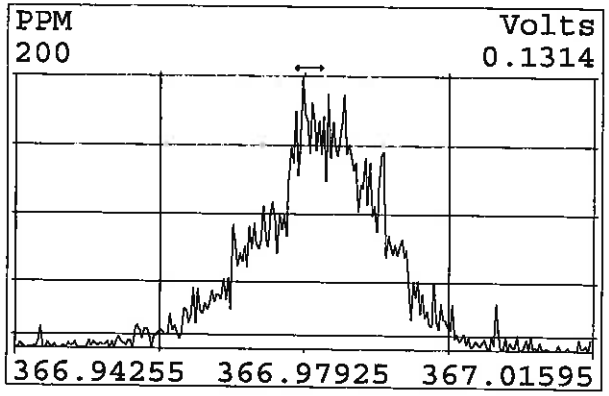

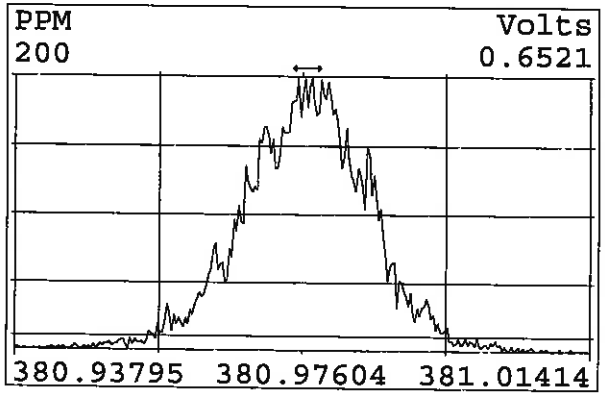

Peak Locate Examination: 2-AUG-2019:07:38 File:RESCHECK11D2
Experiment:DB225RES Function:1 Reference:PFK

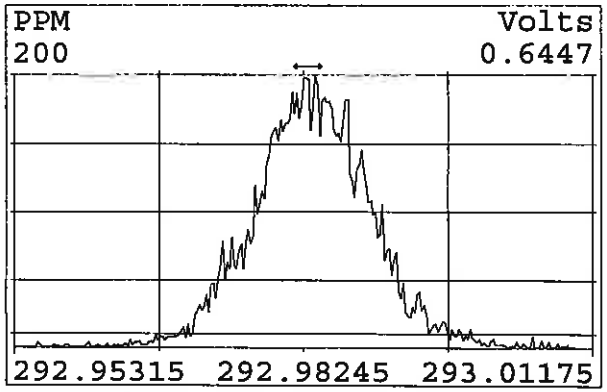

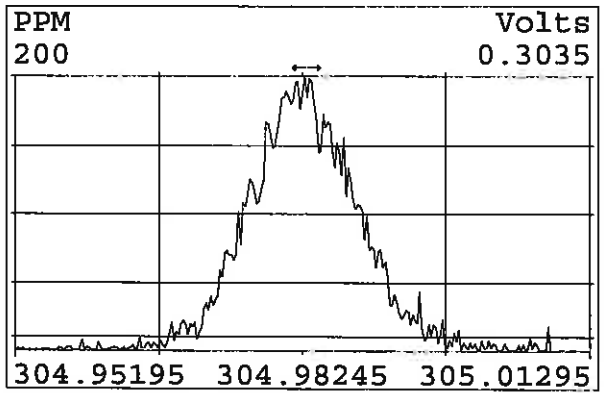

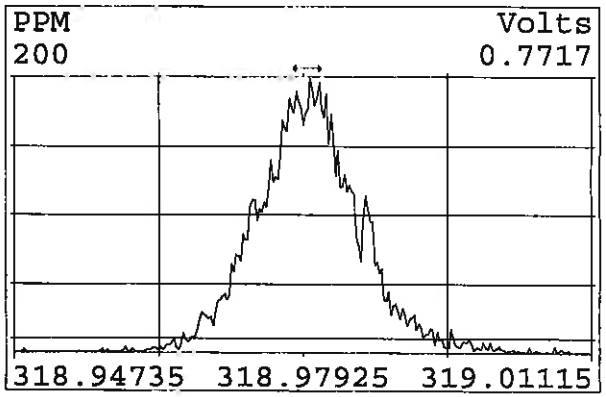

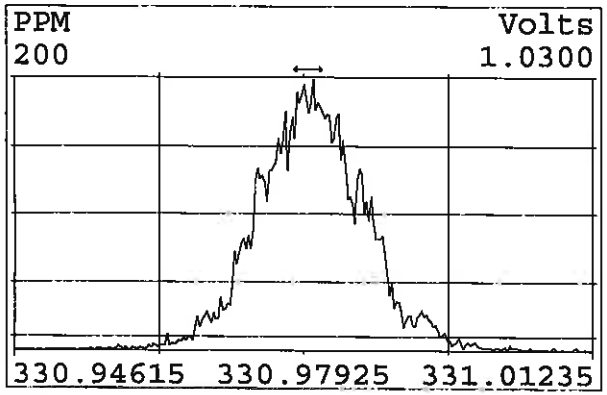

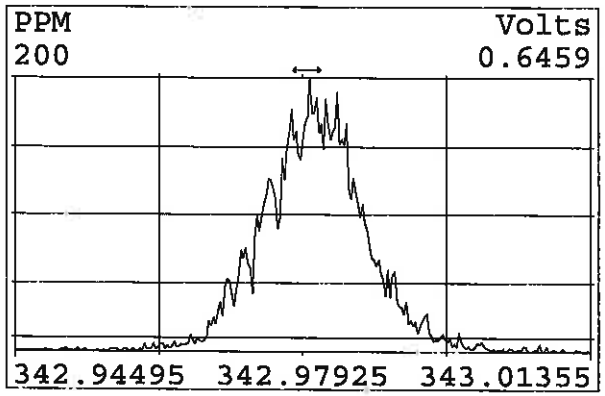

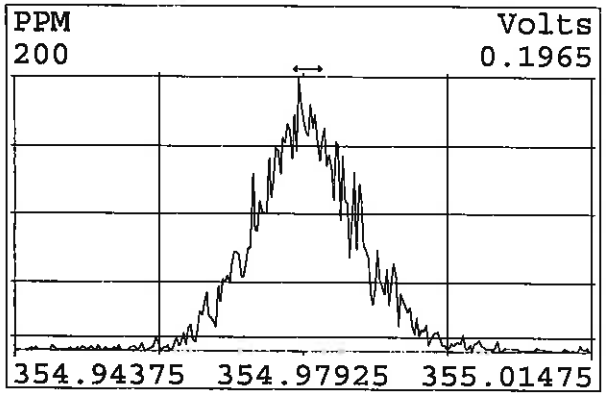

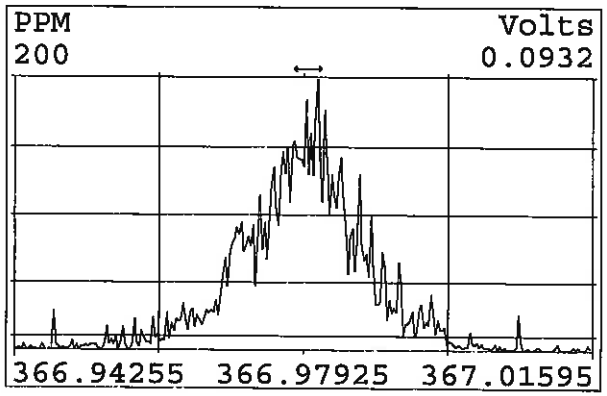

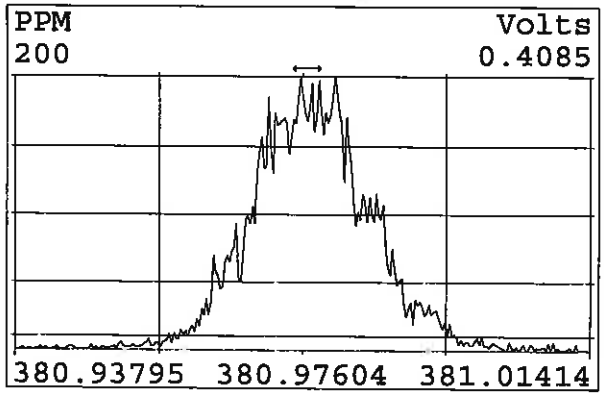

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_003.d
Lims ID: IC 2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 02-Aug-2019 02:52:03 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-2 HRDXNL2_00027
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:50:46 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:43:34

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.424	110538697	0.80	1.1E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.591	156147949	0.76	1.3379	105.6	105.6	0.5565	0.5565	106	
2,3,7,8-TCDF	16.618	742351	0.68	0.8389	0.5667	0.5667	0.0601	0.0601	113	
D 13C-2,3,7,8-TCDD	15.150	108987233	0.78	0.9388	105.0	105.0	0.3029	0.3029	105	
2,3,7,8-TCDD	15.164	766838	0.66	1.1538	0.6098	0.6098	0.1272	0.1272	122	n
$ 37Cl4-2,3,7,8-TCDD	15.177	688870		1.1816	0.5274	0.5274	0.0799	0.0799	105	
S Total 2378-Chlorinated							0.000100	0.000100		

QC Flag Legend

Processing Flags
n - Failed Sig-To-Noise Test

Reagents:

HRDXNL2_00027 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_003.d
Lims ID: IC 2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 02-Aug-2019 02:52:03 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-2 HRDXNL2_00027
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:50:46 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:43:34

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.424	15.416	0		49211451	11686880	18543	46357	630		
333.9339	15.424	15.416	0		61327246	14873725	11665	29162	1275	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.591	16.580	1	1.076	67180120	14400770	53937	134842	267		
317.9389	16.591	16.580	1	1.076	88967829	19171242	25172	62930	762	0.76(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.618	16.599	1	1.002	300768	58292	2710	6775	22		
305.8987	16.604	16.599	0	1.001	441583	80440	4062	10155	20	0.68(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.150	15.136	1	0.982	47916340	11905033	18543	46357	642		
333.9339	15.150	15.136	1	0.982	61070893	14985948	11665	29162	1285	0.78(0.65-0.89)	
2,3,7,8-TCDD											n
319.8965	15.164	15.156	0	1.001	304053	63475	6504	16260	10		
321.8936	15.177	15.156	1	1.002	462785	92174	9277	23192	10	0.66(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.177	15.158	1	0.984	688870	148959	10036	25090	15		

Total 2378-Chlorinated Dioxins & Furans
0.0 0

QC Flag Legend

Processing Flags
n - Failed Sig-To-Noise Test

Reagents:

HRDXNL2_00027 Amount Added: 1.00 Units: mL

Report Date: 02-Aug-2019 11:50:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_003.d		
Injection Date:	02-Aug-2019 02:52:03	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	3
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

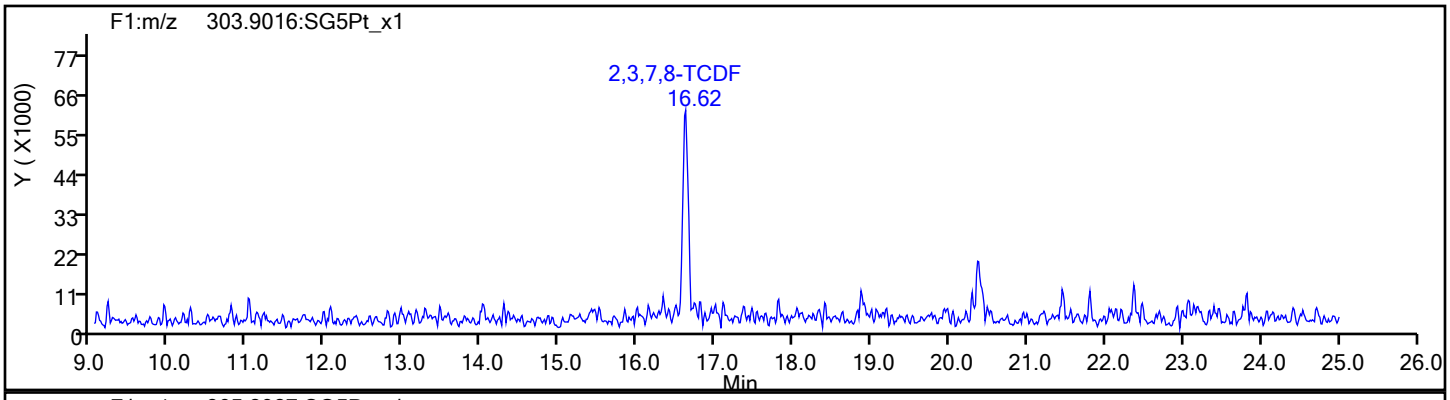

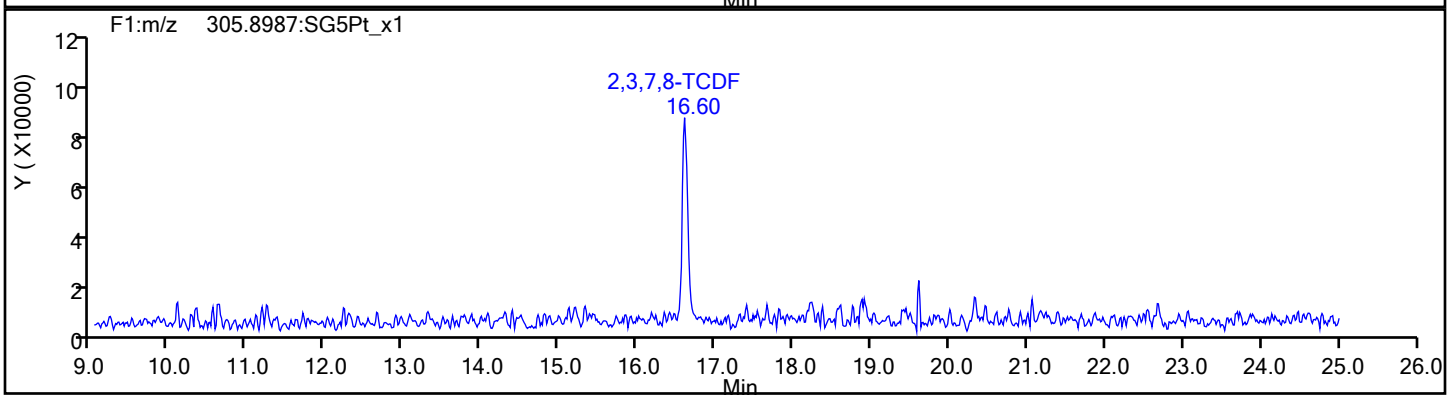

TCDF Standards

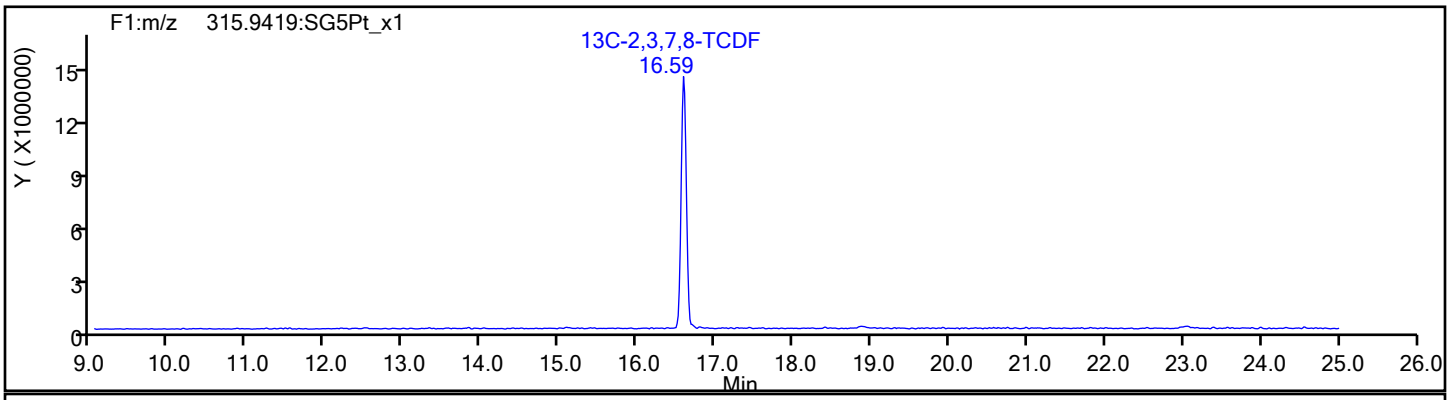

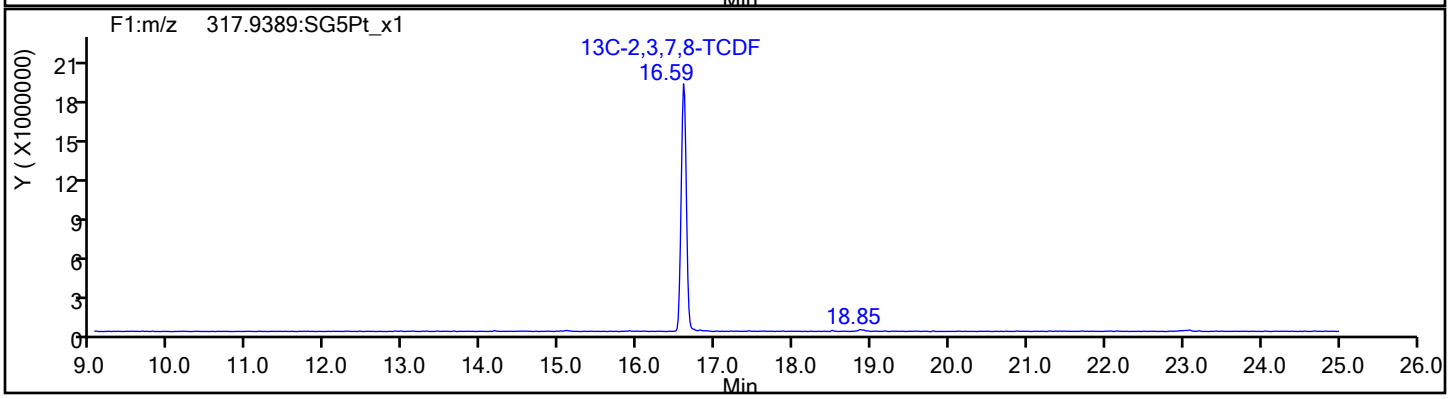

Report Date: 02-Aug-2019 11:50:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_003.d		
Injection Date:	02-Aug-2019 02:52:03	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	3
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

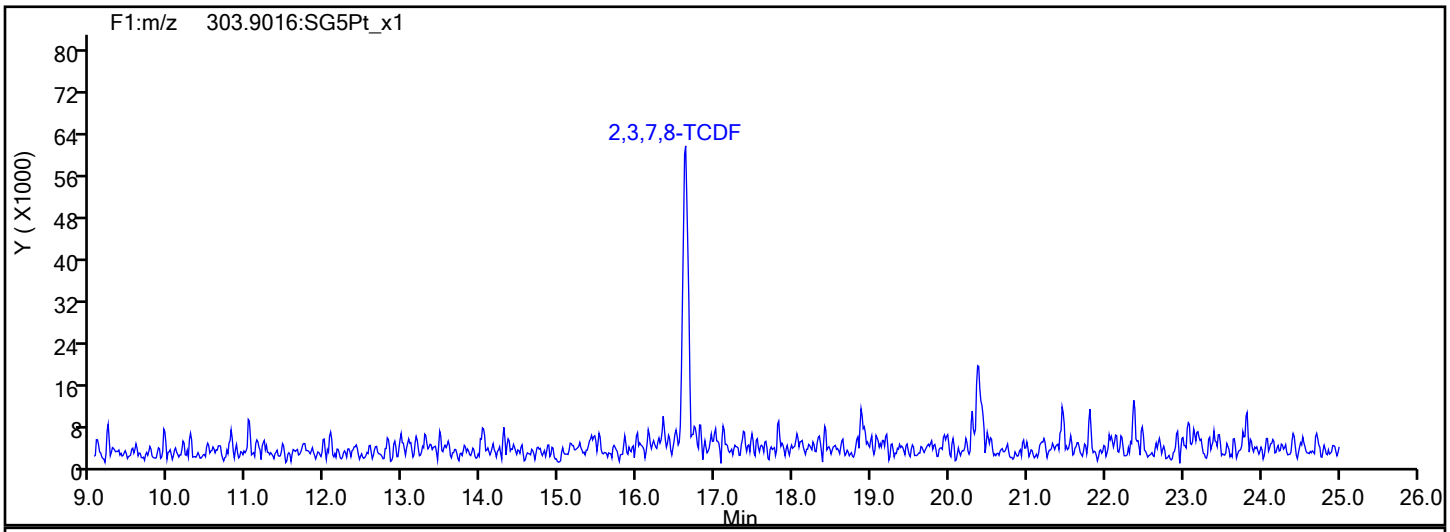

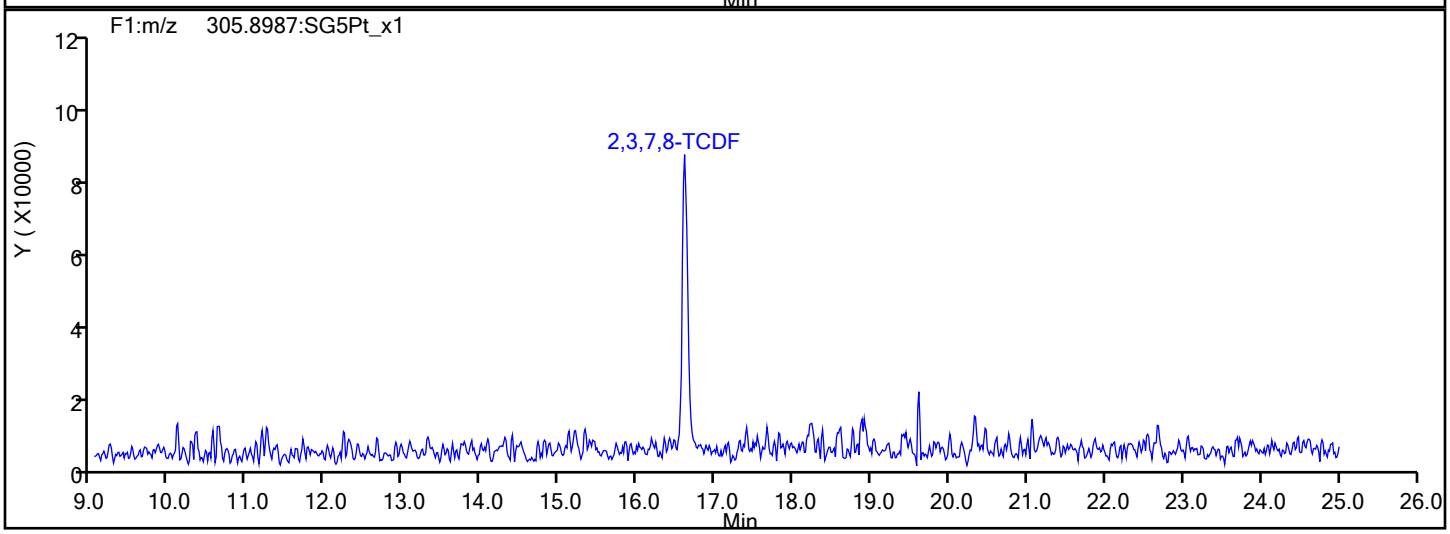

TCDF Interference Mass

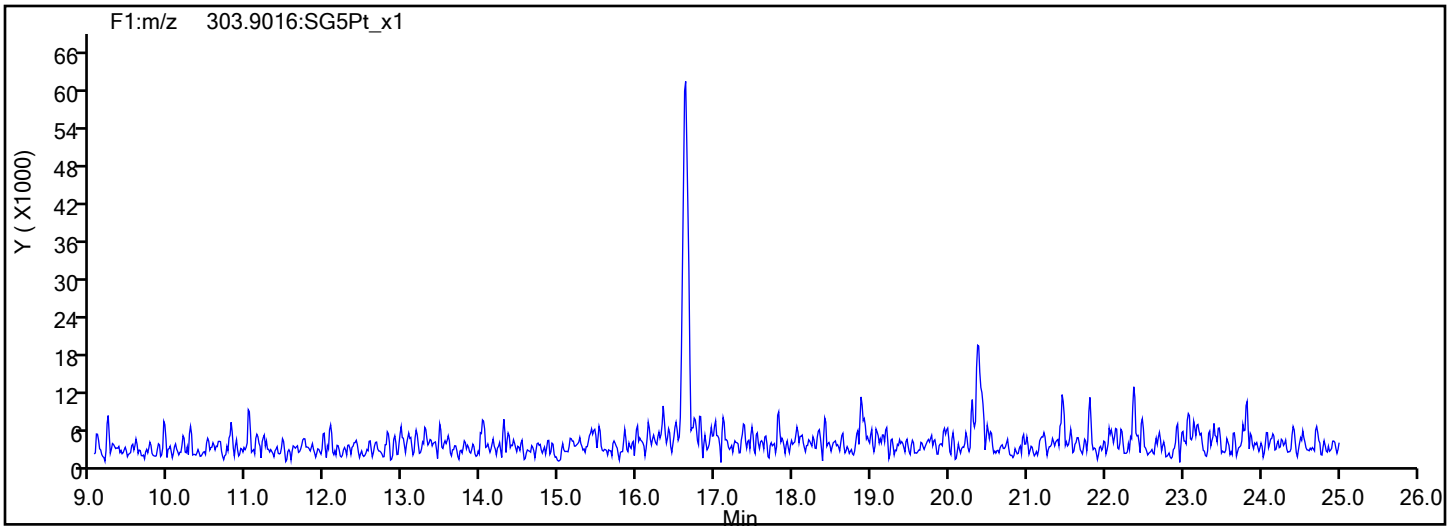

Report Date: 02-Aug-2019 11:50:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_003.d		
Injection Date:	02-Aug-2019 02:52:03	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	3
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

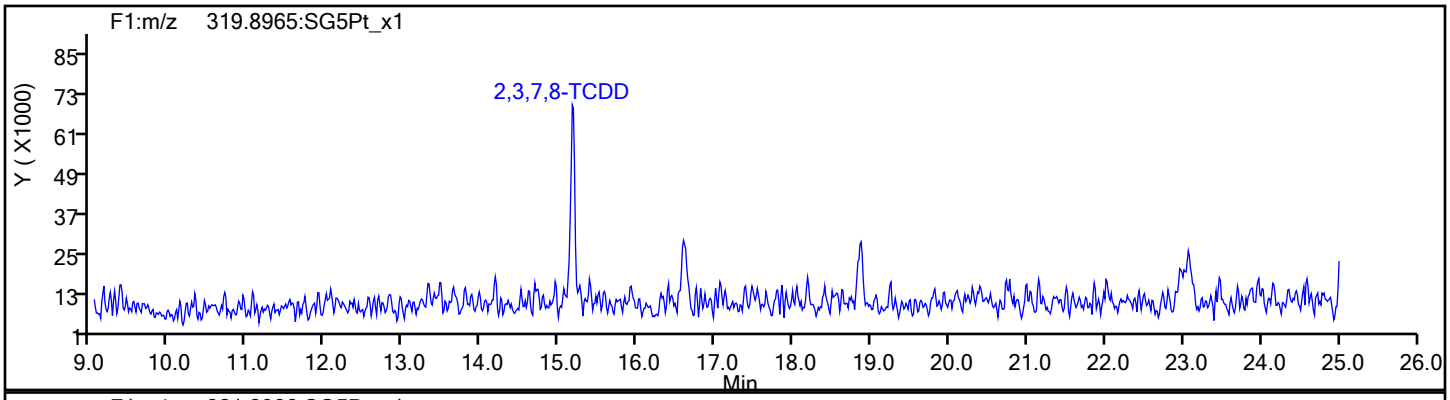

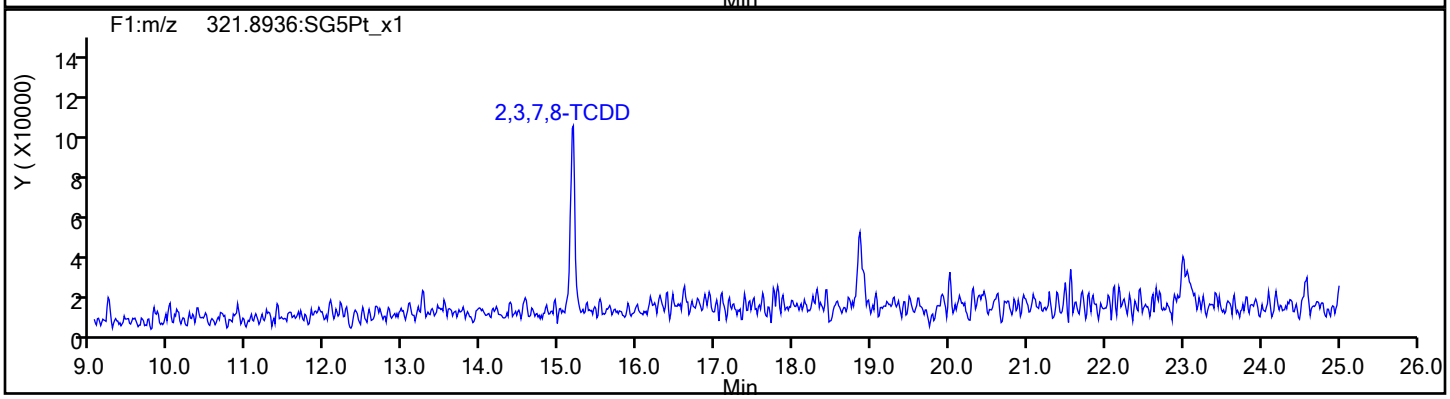

TCDD Standards

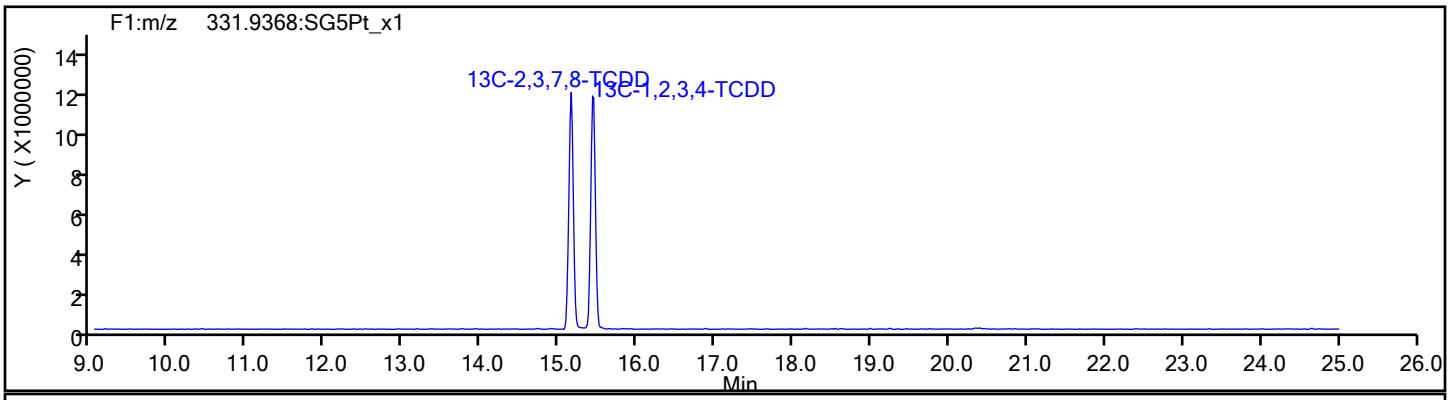

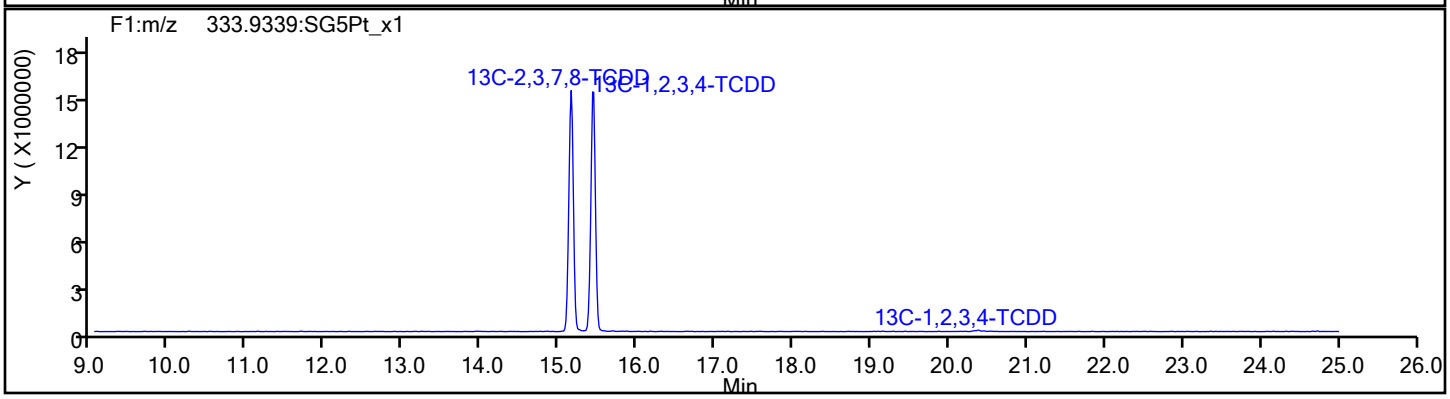

Report Date: 02-Aug-2019 11:50:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_003.d		
Injection Date:	02-Aug-2019 02:52:03	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	3
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

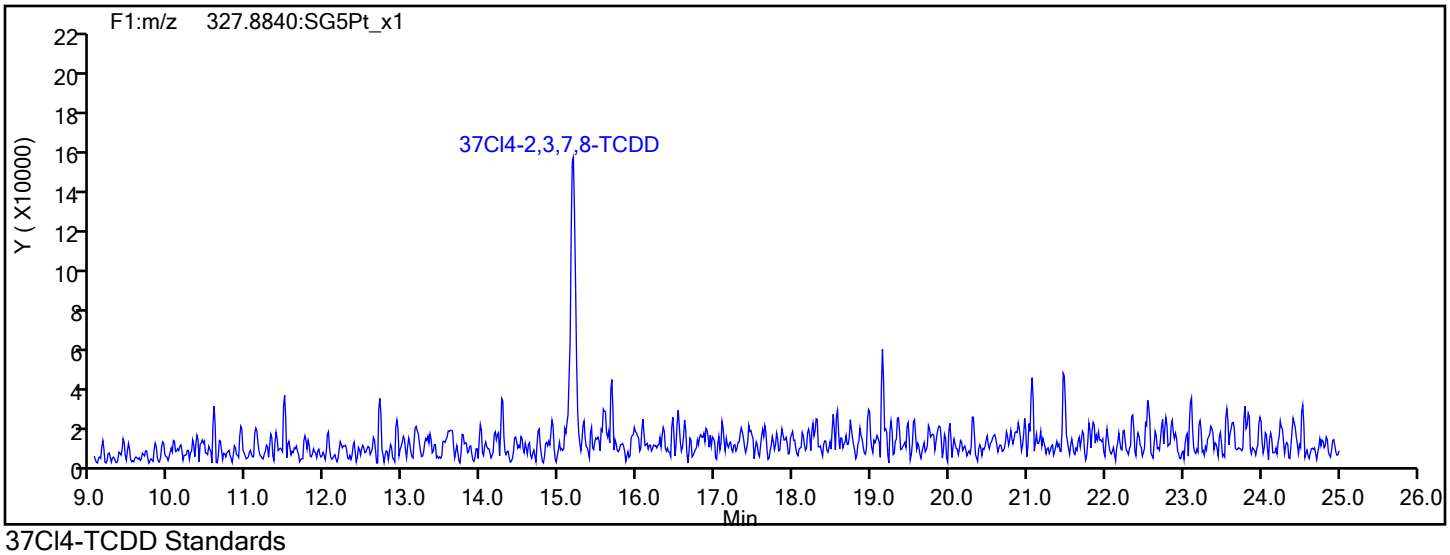

37Cl4-TCDD Standards

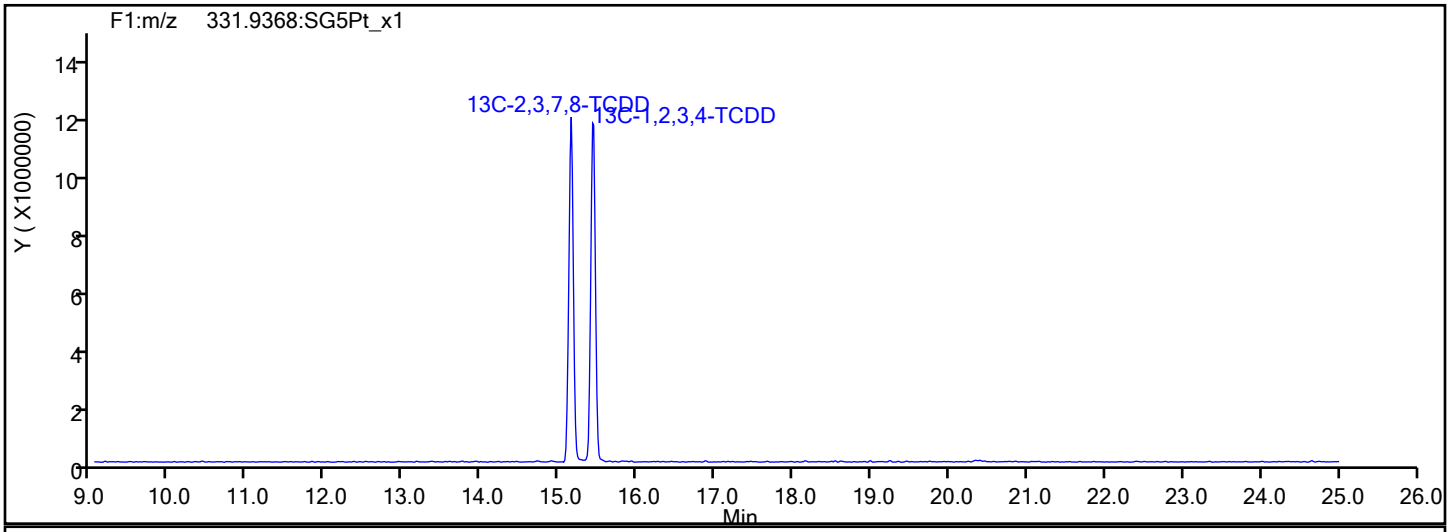

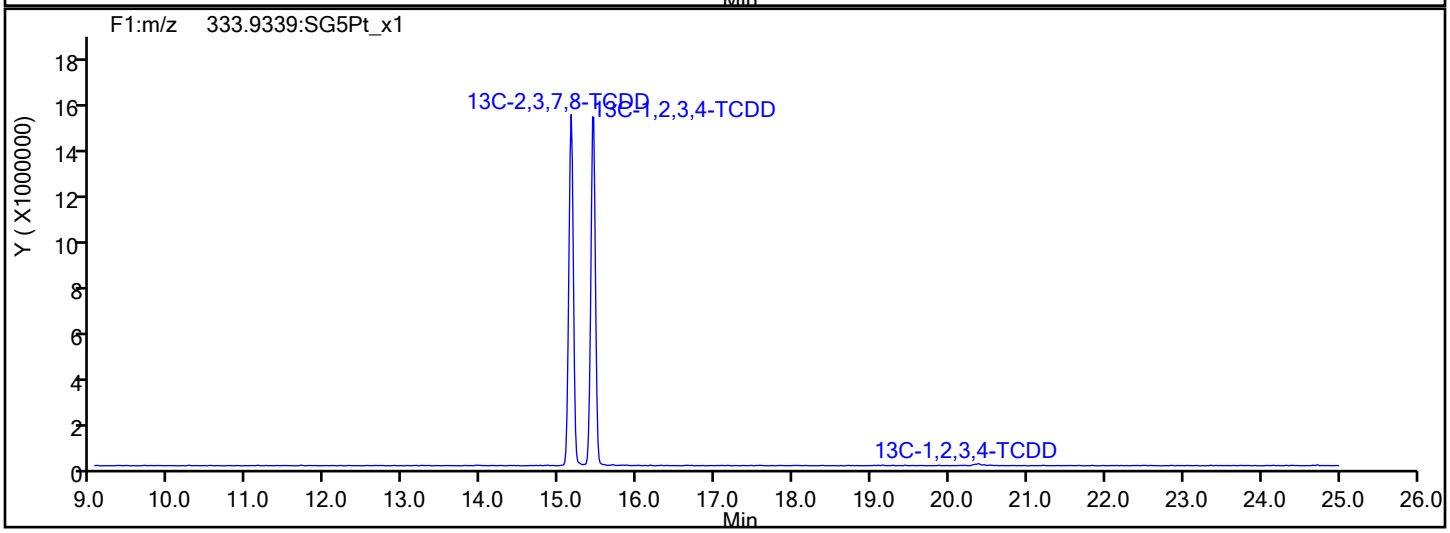

Report Date: 02-Aug-2019 11:50:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_003.d		
Injection Date:	02-Aug-2019 02:52:03	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	3
Column Type:	DB-225	Column Dia:	0.32 mm

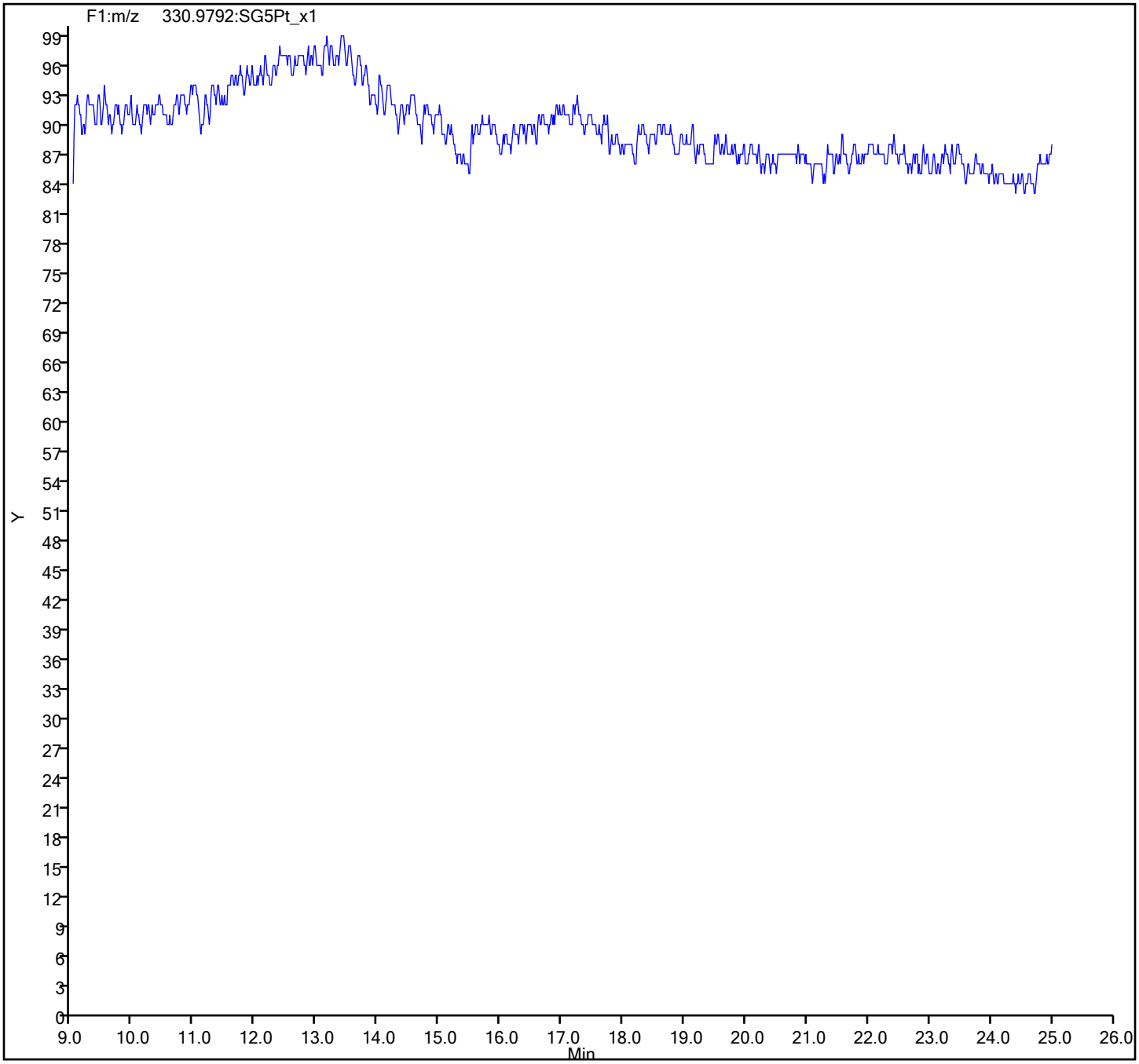

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_004.d
Lims ID: IC 3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 02-Aug-2019 03:30:21 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-3 HRDXNL3_00025
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:51:18 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:43:45

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.422	116003371	0.79	1.1E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.588	150712836	0.76	1.3379	97.1	97.1	0.5017	0.5017	97.11	
2,3,7,8-TCDF	16.602	2602621	0.77	0.8389	2.059	2.059	0.0697	0.0697	103	
D 13C-2,3,7,8-TCDD	15.134	104587968	0.77	0.9388	96.0	96.0	0.2954	0.2954	96.04	
2,3,7,8-TCDD	15.161	2408989	0.76	1.1538	1.996	1.996	0.1402	0.1402	99.81	
$ 37Cl4-2,3,7,8-TCDD	15.161	2436945		1.1816	1.778	1.778	0.0697	0.0697	88.89	
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNL3_00025 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_004.d
Lims ID: IC 3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 02-Aug-2019 03:30:21 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-3 HRDXNL3_00025
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:51:18 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:43:45

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.422	15.416	0		51108109	12518707	19618	49045	638		
333.9339	15.422	15.416	0		64895262	16017022	12040	30100	1330	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.588	16.580	0	1.076	65303459	13590544	55233	138082	246		
317.9389	16.588	16.580	0	1.076	85409377	18139250	21388	53470	848	0.76(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.602	16.599	0	1.001	1128784	210338	2933	7332	72		
305.8987	16.602	16.599	0	1.001	1473837	306111	4488	11220	68	0.77(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.134	15.136	0	0.981	45657518	11153304	19618	49045	569		
333.9339	15.134	15.136	0	0.981	58930450	14086226	12040	30100	1170	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.161	15.156	0	1.002	1042745	248740	6492	16230	38		
321.8936	15.161	15.156	0	1.002	1366244	315049	9844	24610	32	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.161	15.158	0	0.983	2436945	572005	9406	23515	61		
Total 2378-Chlorinated Dioxins & Furans											
		0.0	0								

Reagents:

HRDXNL3_00025 Amount Added: 1.00 Units: mL

Report Date: 02-Aug-2019 11:51:36 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_004.d		
Injection Date:	02-Aug-2019 03:30:21	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

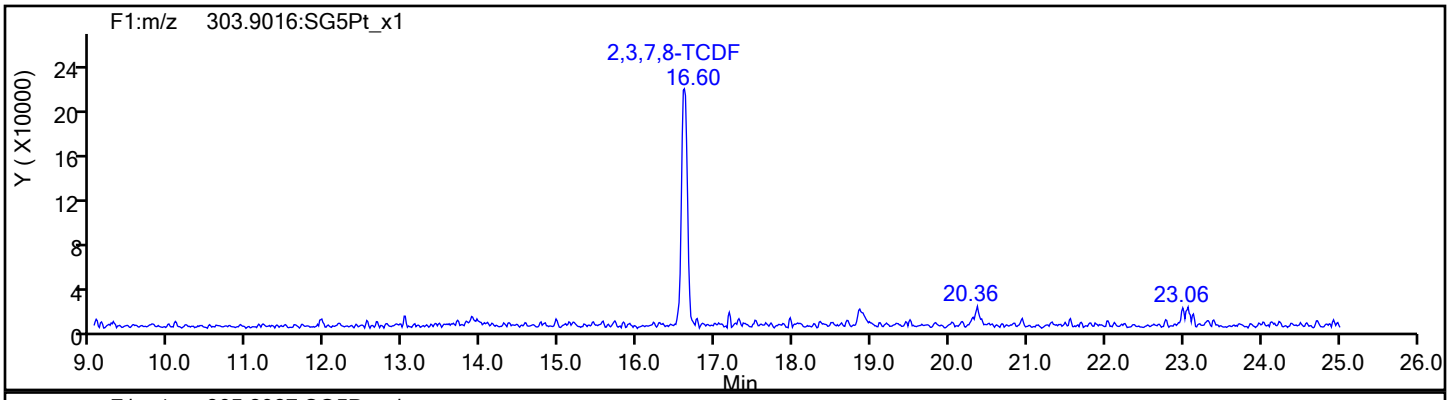

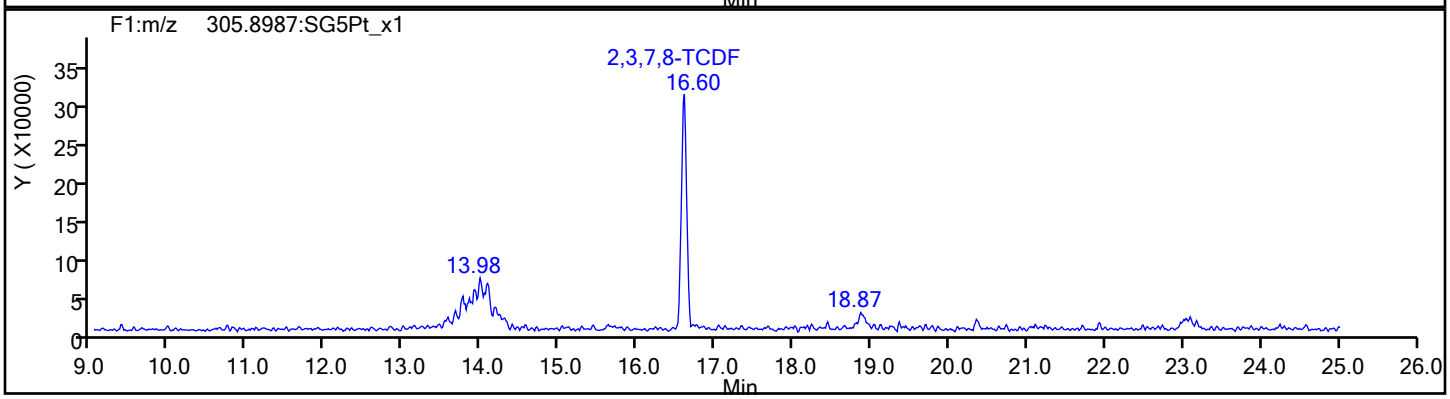

TCDF Standards

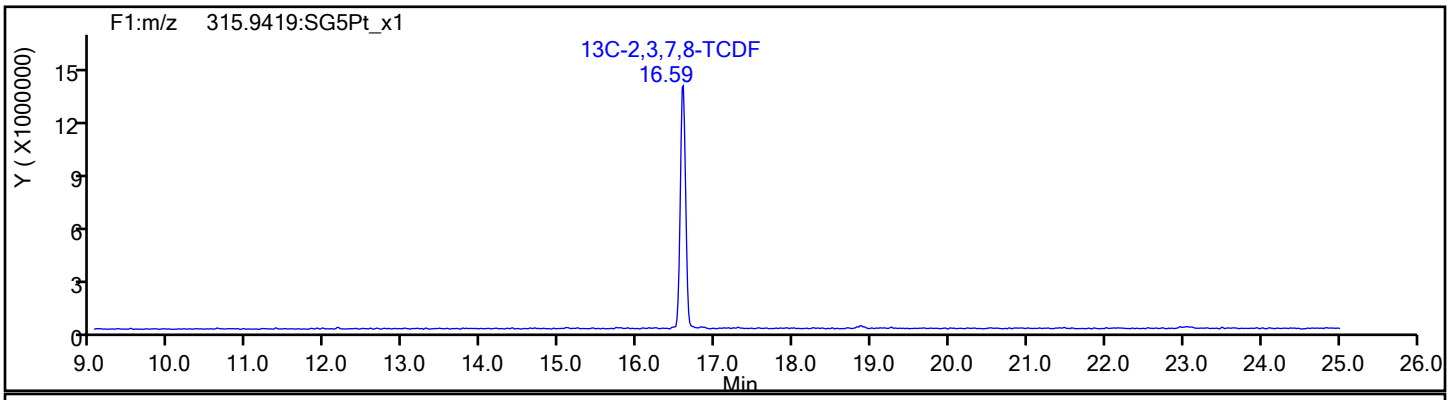

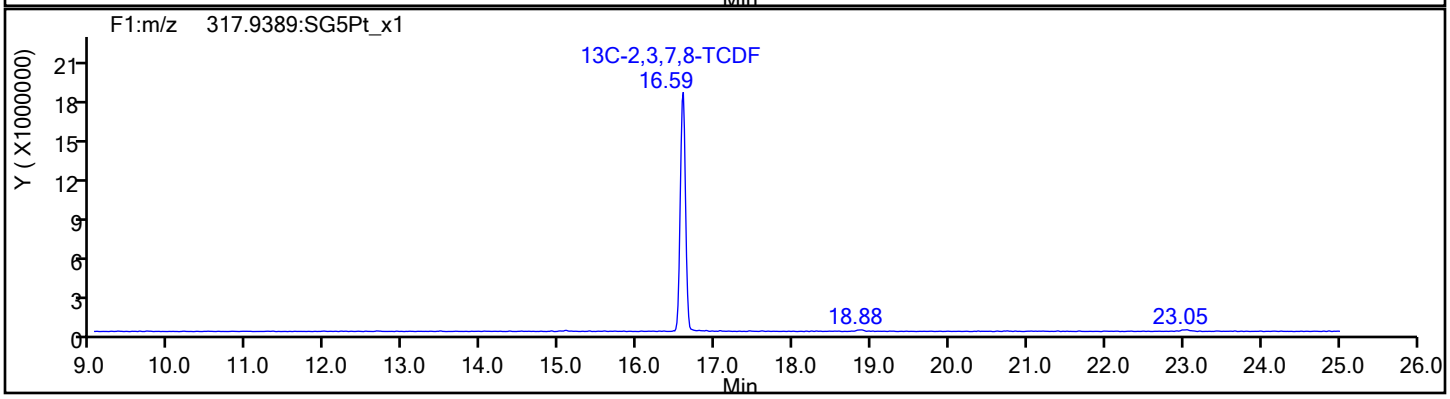

Report Date: 02-Aug-2019 11:51:36 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_004.d		
Injection Date:	02-Aug-2019 03:30:21	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

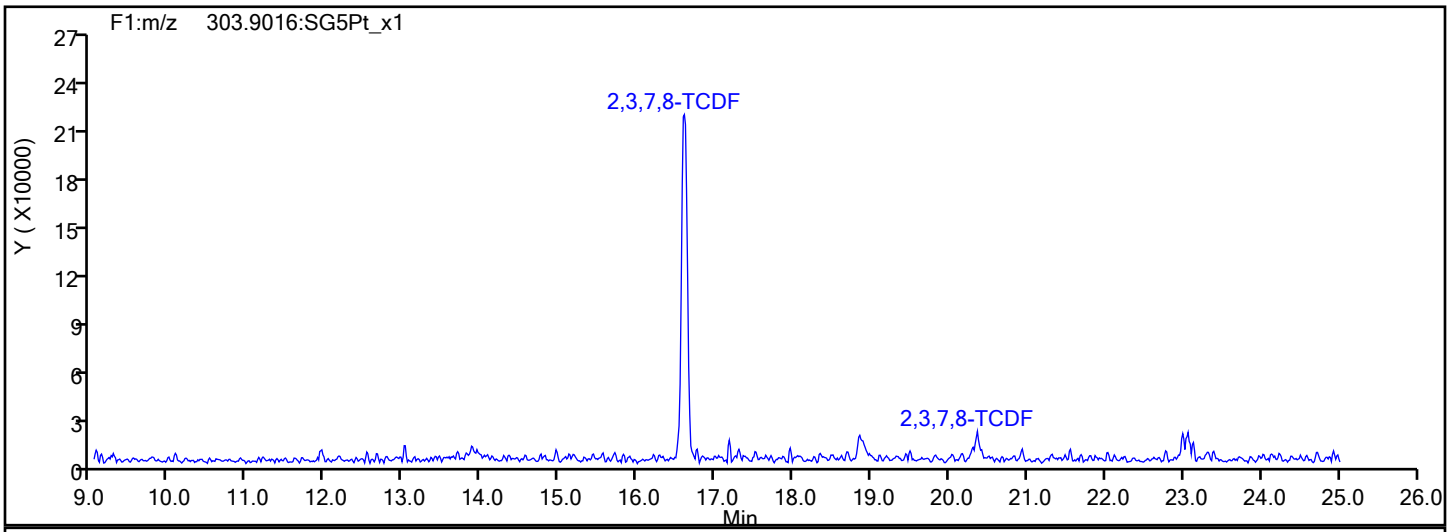

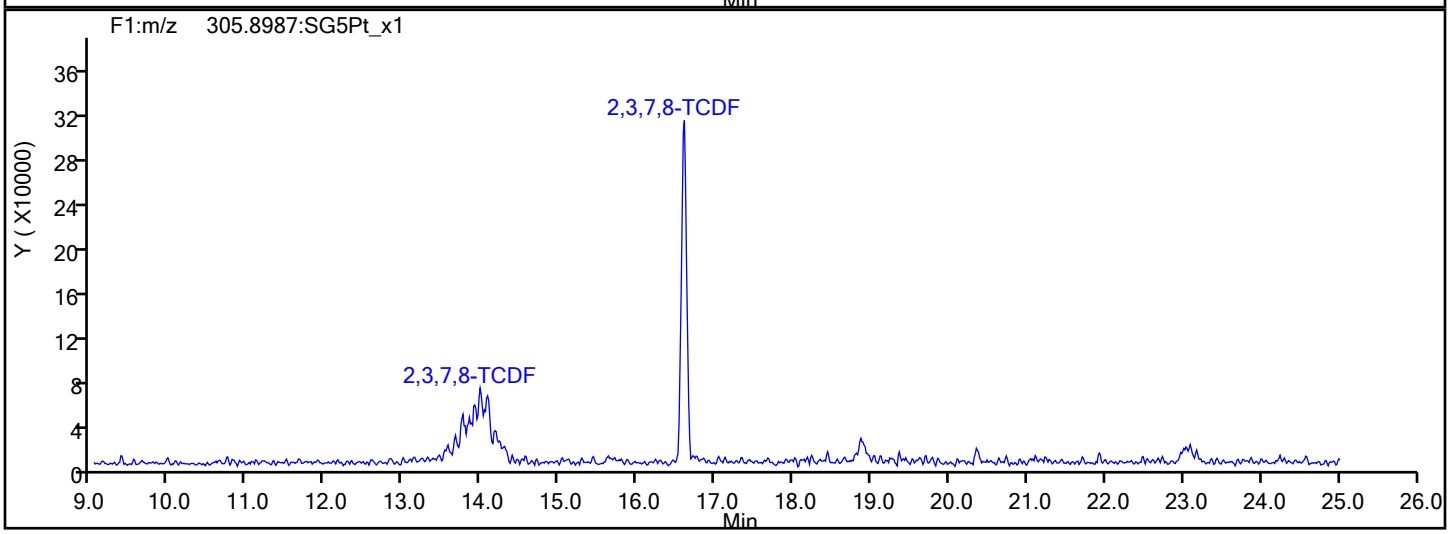

TCDF Interference Mass

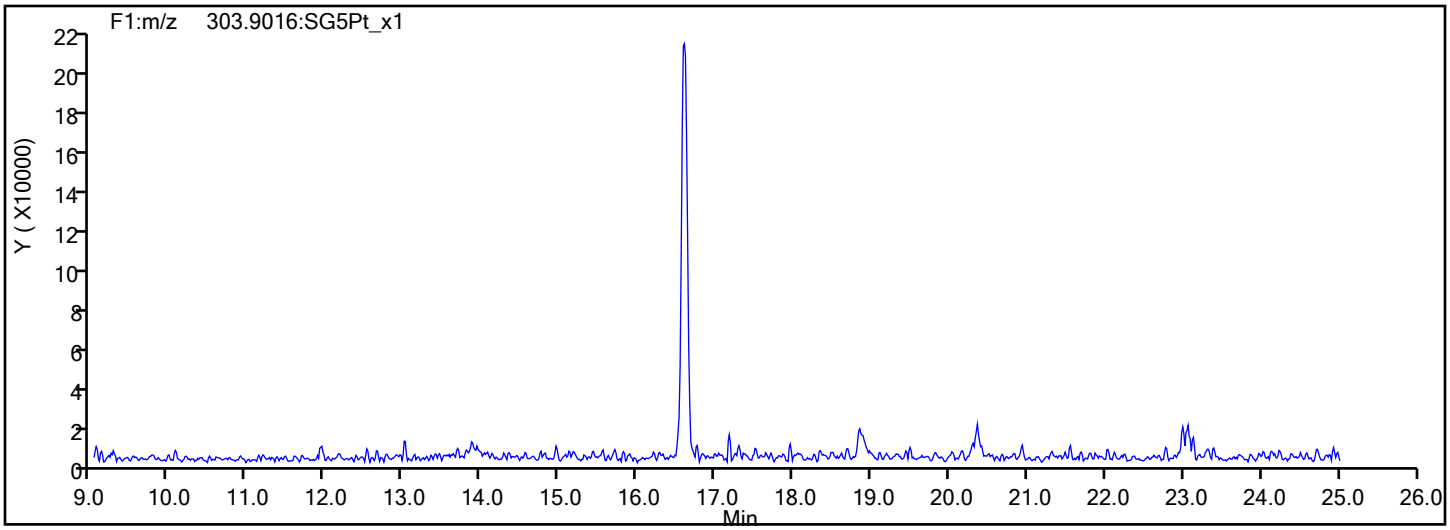

Report Date: 02-Aug-2019 11:51:36 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_004.d		
Injection Date:	02-Aug-2019 03:30:21	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

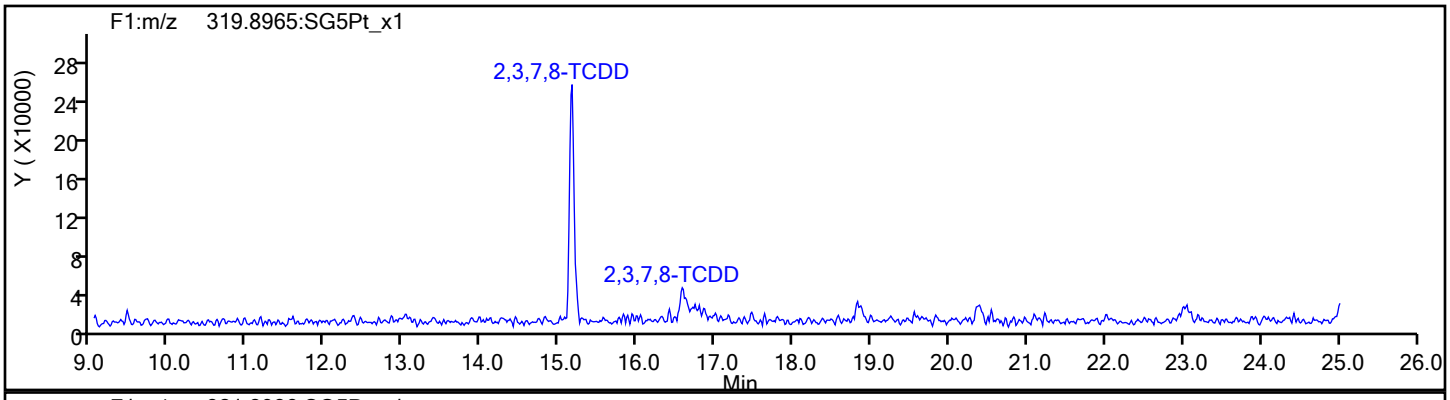

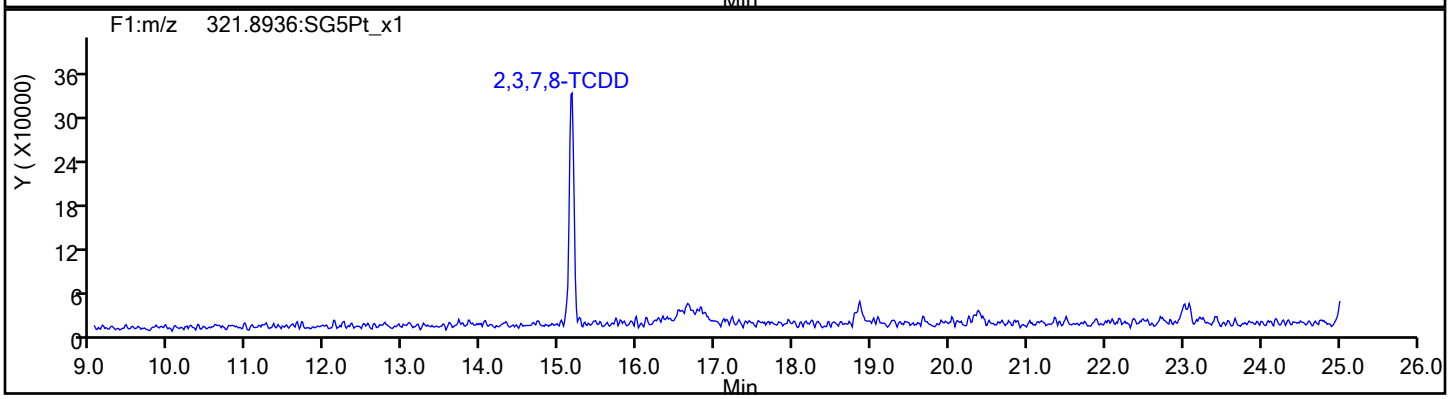

TCDD Standards

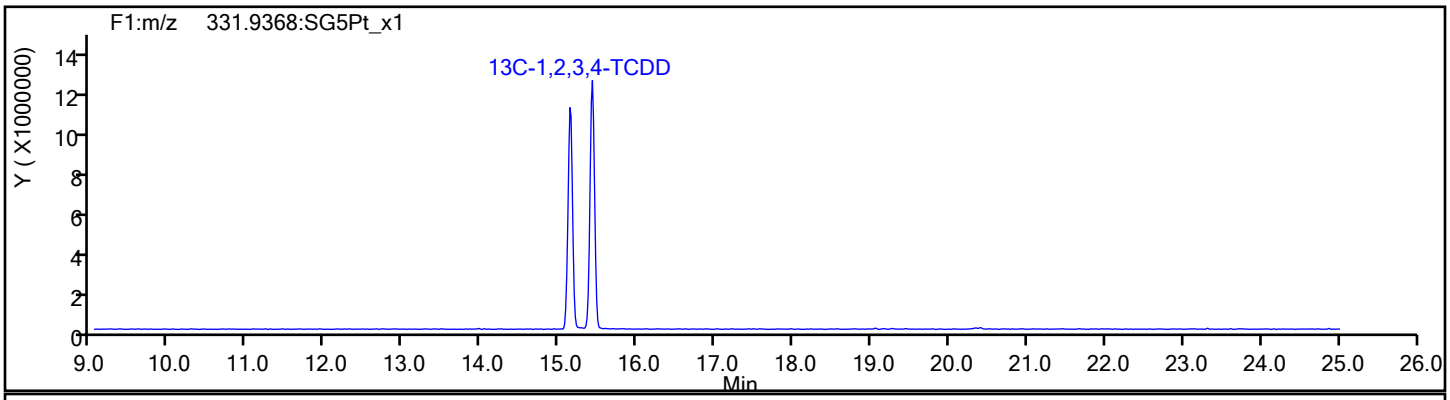

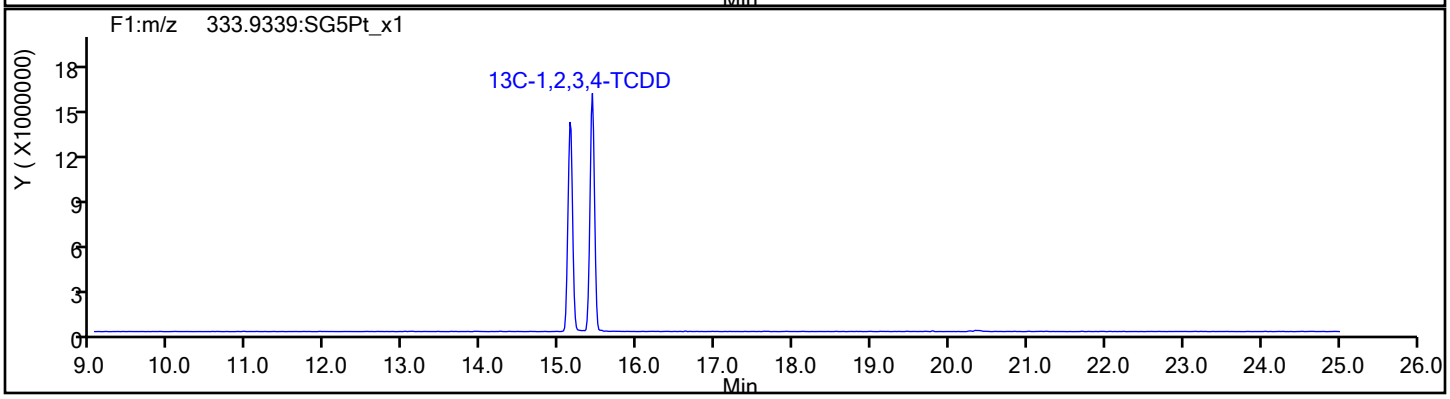

Report Date: 02-Aug-2019 11:51:36 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_004.d		
Injection Date:	02-Aug-2019 03:30:21	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

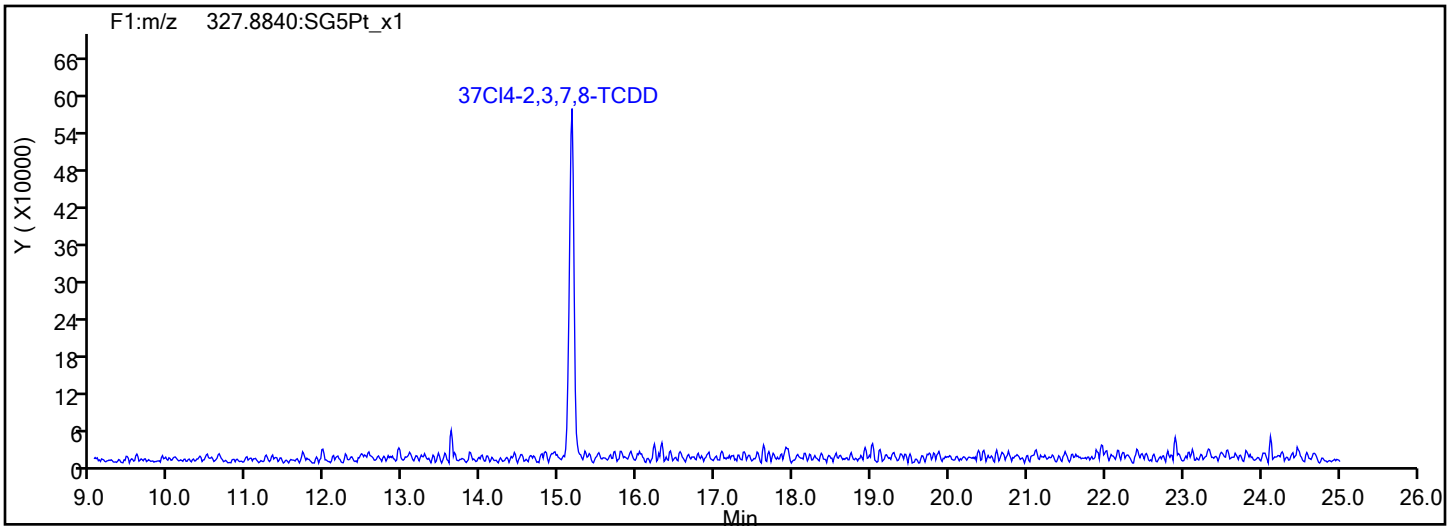

37Cl4-TCDD Standards

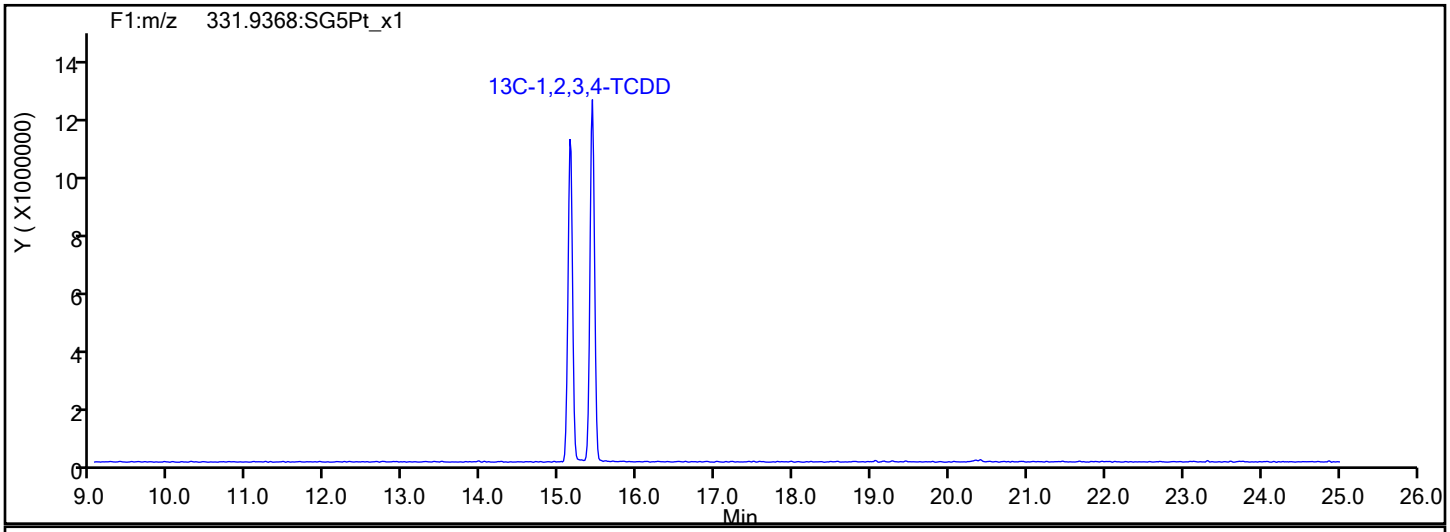

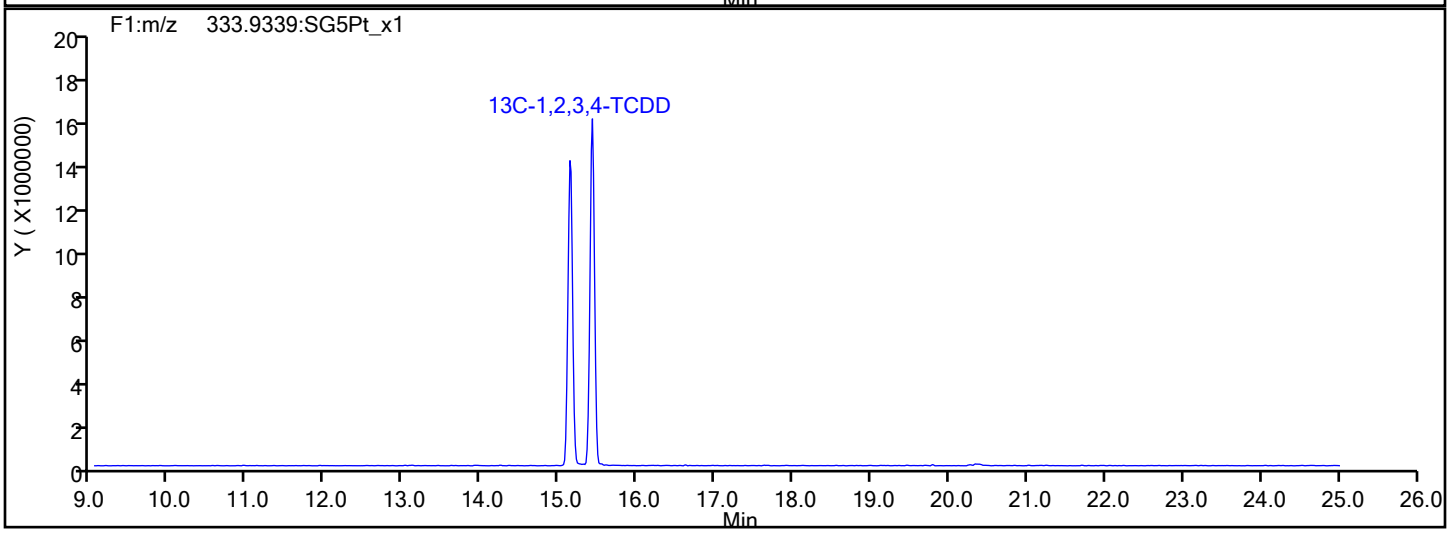

Report Date: 02-Aug-2019 11:51:37 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_004.d		
Injection Date:	02-Aug-2019 03:30:21	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm

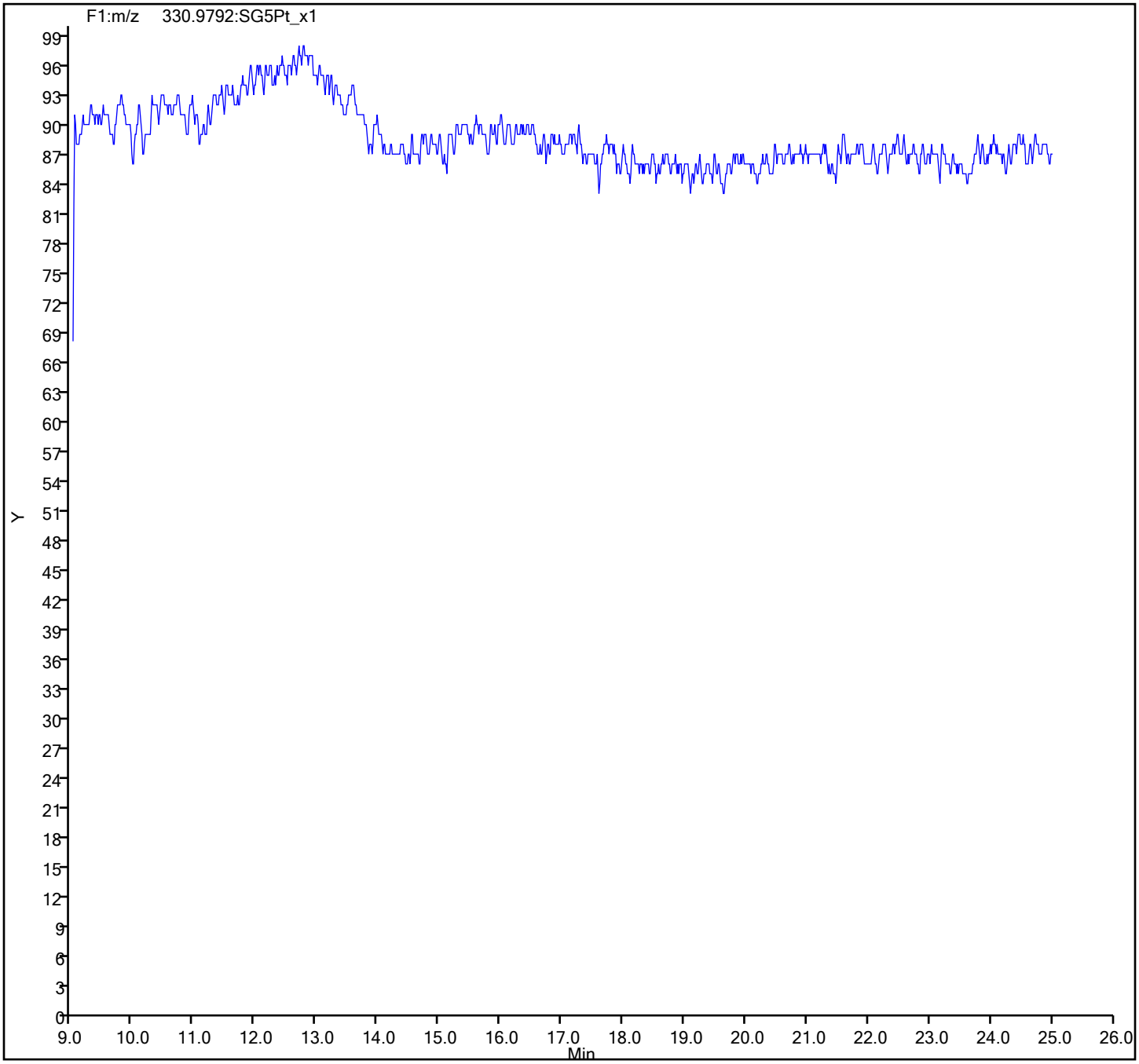

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_005.d
Lims ID: IC 4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 02-Aug-2019 04:08:39 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-4 HRDXNL4_00084
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:50:13 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 11:50:13

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.424	106319859	0.78	1.1E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.591	144041178	0.79	1.3379	101.3	101.3	0.5534	0.5534	101	
2,3,7,8-TCDF	16.604	11238394	0.76	0.8389	9.301	9.301	0.0827	0.0827	93.01	
D 13C-2,3,7,8-TCDD	15.136	102100937	0.77	0.9388	102.3	102.3	0.2809	0.2809	102	
2,3,7,8-TCDD	15.164	10136940	0.76	1.1538	8.605	8.605	0.1498	0.1498	86.05	
$ 37Cl4-2,3,7,8-TCDD	15.164	9929024		1.1816	7.903	7.903	0.1068	0.1068	98.79	
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNL4_00084 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_005.d
Lims ID: IC 4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 02-Aug-2019 04:08:39 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-4 HRDXNL4_00084
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:50:13 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 11:50:13

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.424	15.416	0		46708197	10977681	16216	40540	677		
333.9339	15.424	15.416	0		59611662	14687691	10856	27140	1353	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.591	16.580	1	1.076	63548576	13720043	50935	127337	269		
317.9389	16.591	16.580	1	1.076	80492602	17728003	25076	62690	707	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.604	16.599	0	1.001	4865871	1034824	3394	8485	305		
305.8987	16.604	16.599	0	1.001	6372523	1366111	5328	13320	256	0.76(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.136	15.136	0	0.981	44311856	10806558	16216	40540	666		
333.9339	15.136	15.136	0	0.981	57789081	13912119	10856	27140	1282	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.164	15.156	0	1.002	4381105	1087501	6755	16887	161		
321.8936	15.164	15.156	0	1.002	5755835	1373692	10330	25825	133	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.164	15.158	0	0.983	9929024	2303011	12961	32402	178		
Total 2378-Chlorinated Dioxins & Furans											
		0.0	0								

Reagents:

HRDXNL4_00084 Amount Added: 1.00 Units: mL

Report Date: 02-Aug-2019 11:50:37 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_005.d		
Injection Date:	02-Aug-2019 04:08:39	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

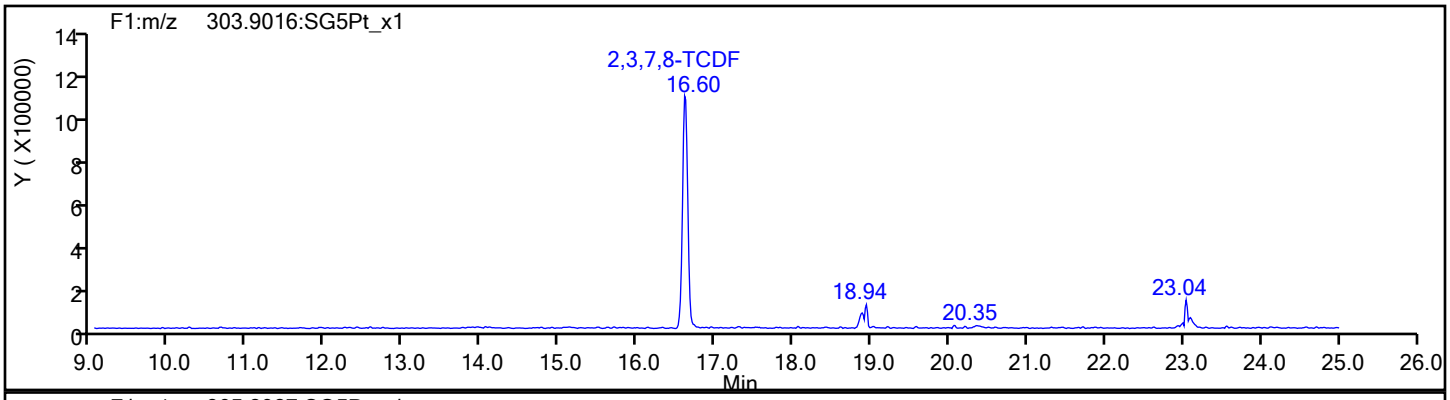

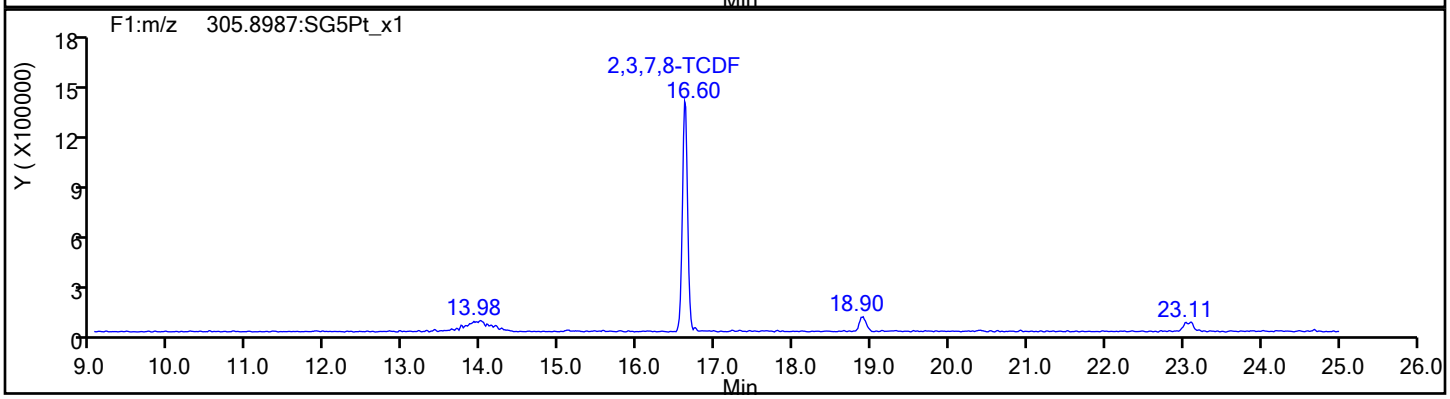

TCDF Standards

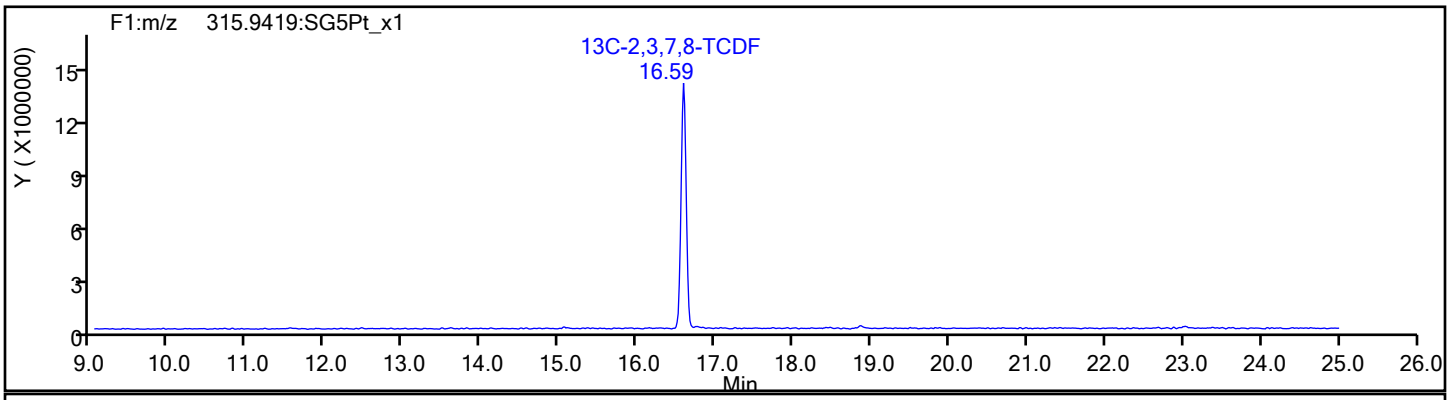

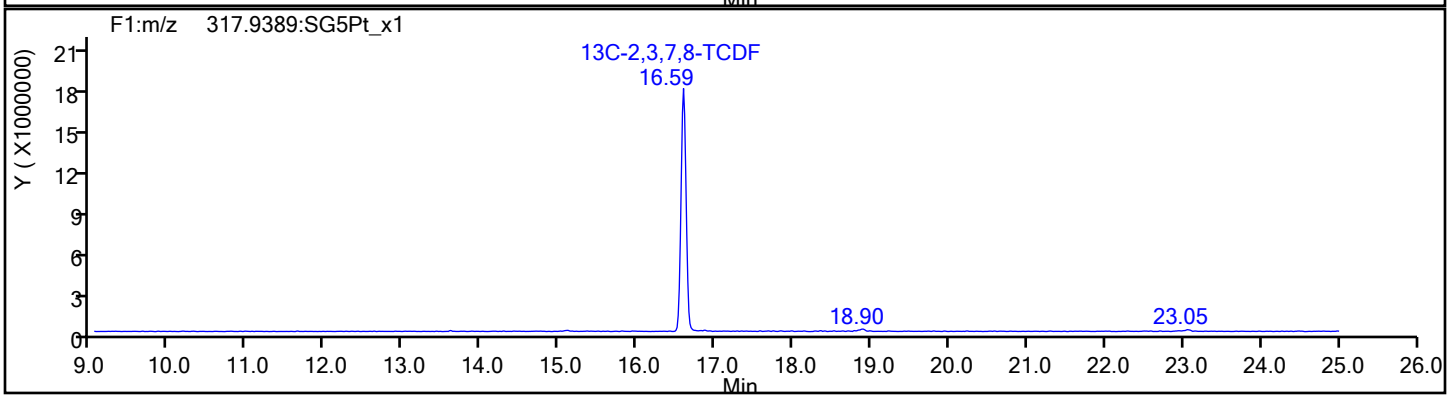

Report Date: 02-Aug-2019 11:50:37 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_005.d		
Injection Date:	02-Aug-2019 04:08:39	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

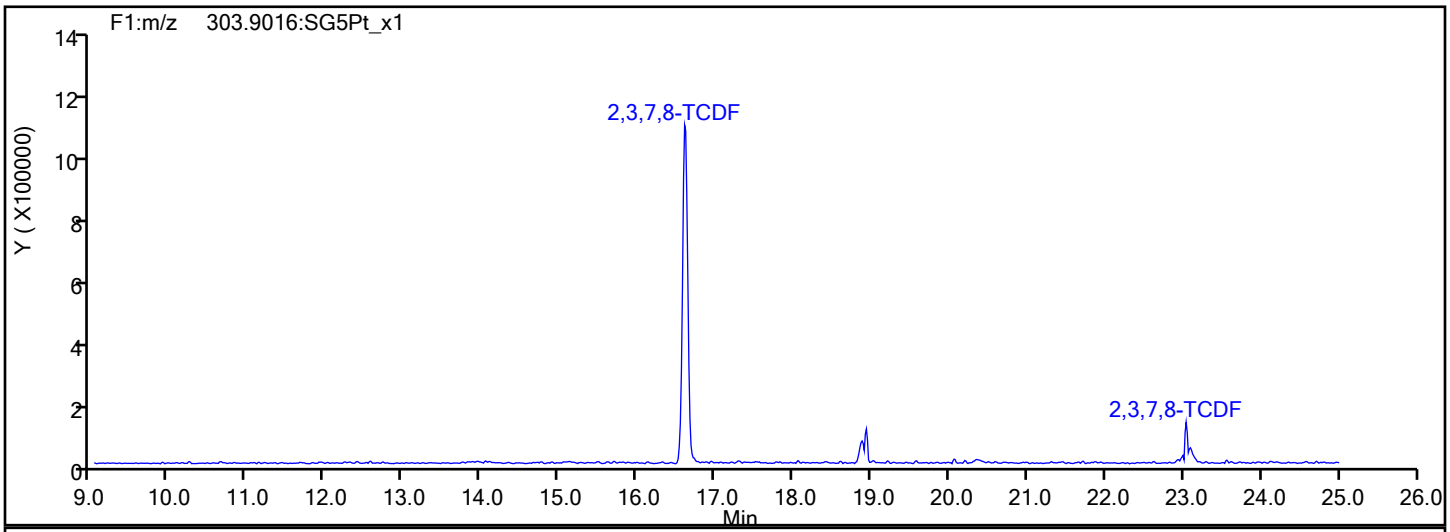

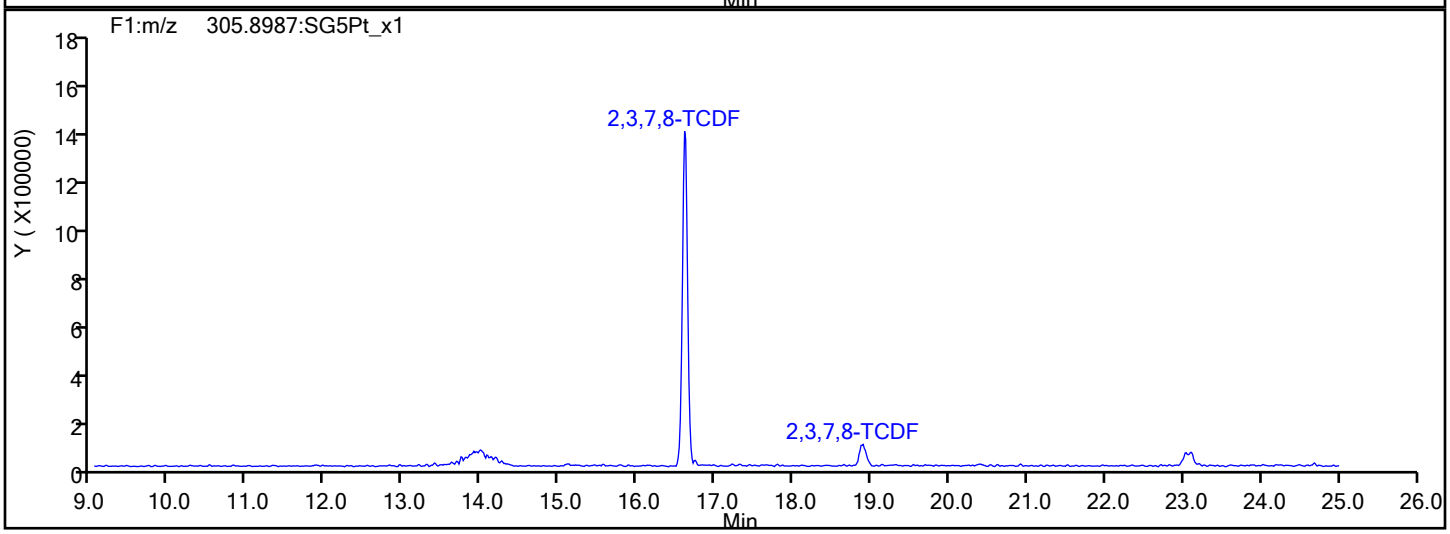

TCDF Interference Mass

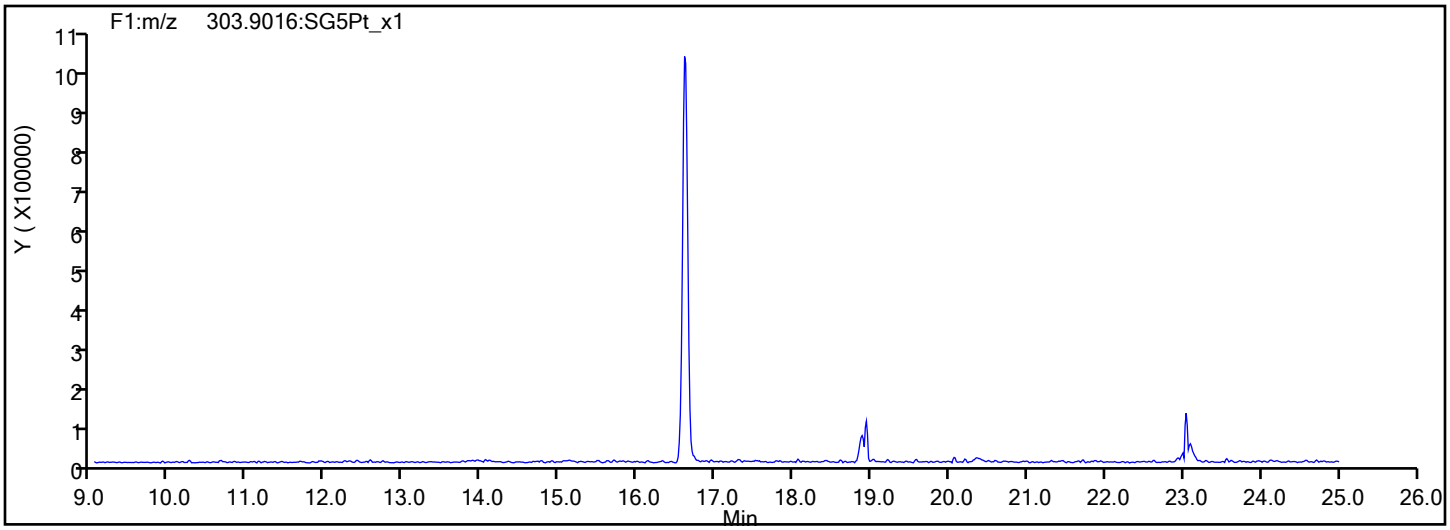

Report Date: 02-Aug-2019 11:50:37 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_005.d		
Injection Date:	02-Aug-2019 04:08:39	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

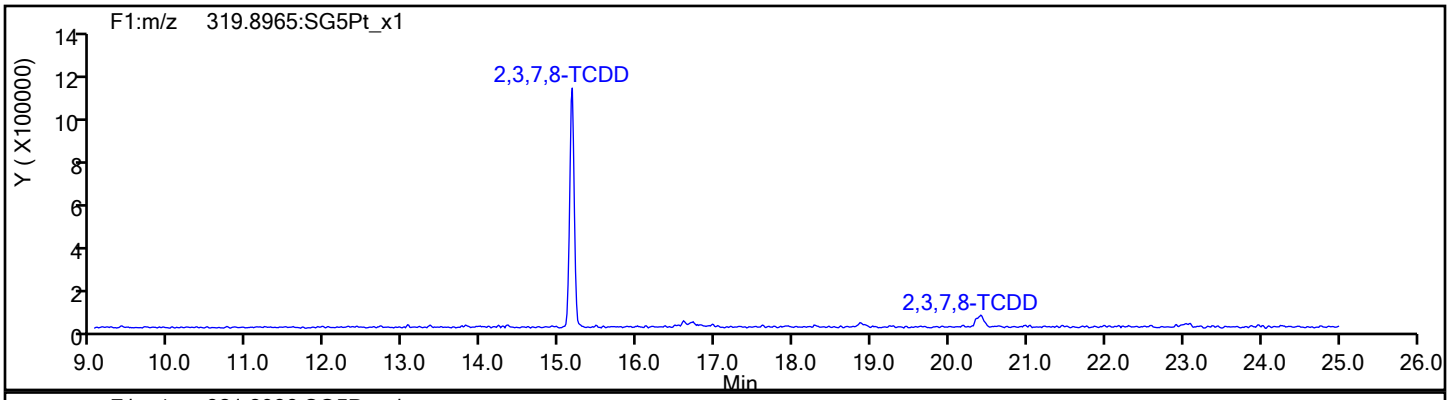

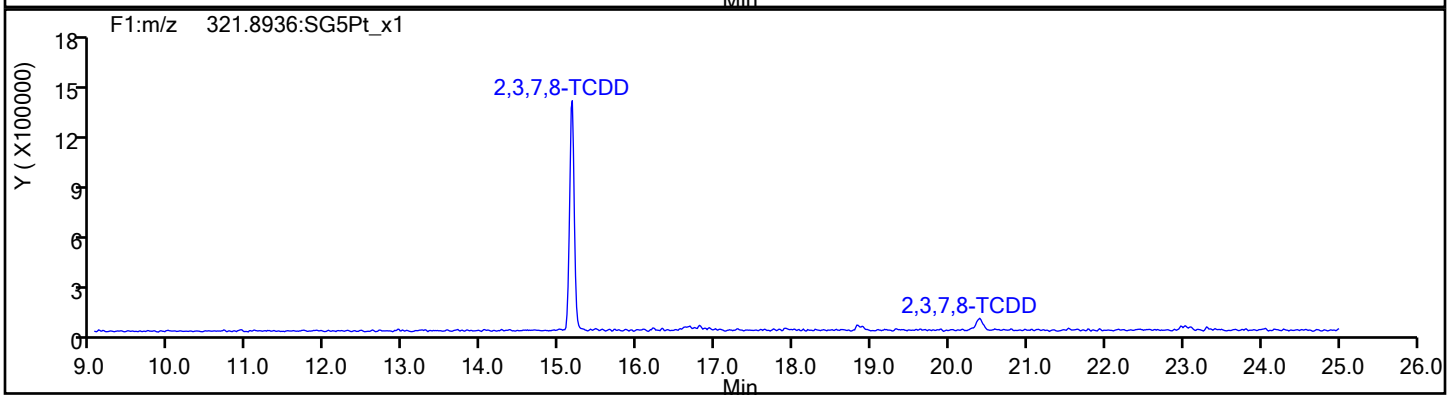

TCDD Standards

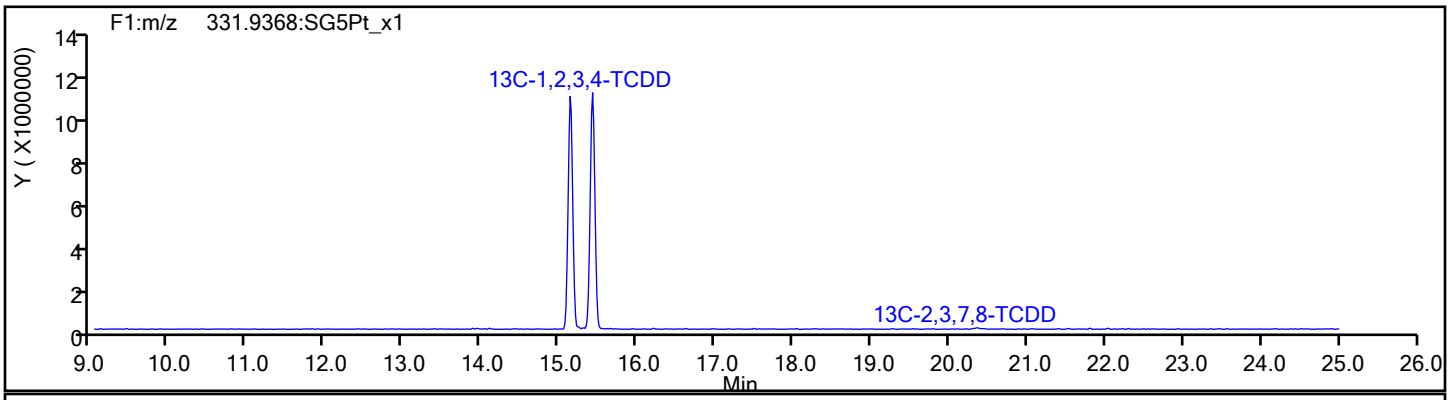

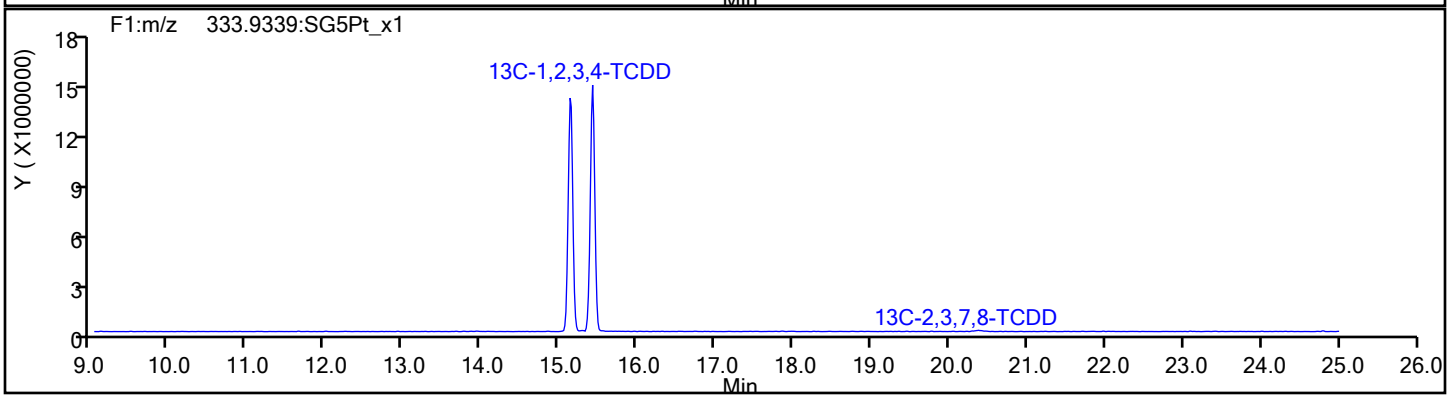

Report Date: 02-Aug-2019 11:50:37 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_005.d		
Injection Date:	02-Aug-2019 04:08:39	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

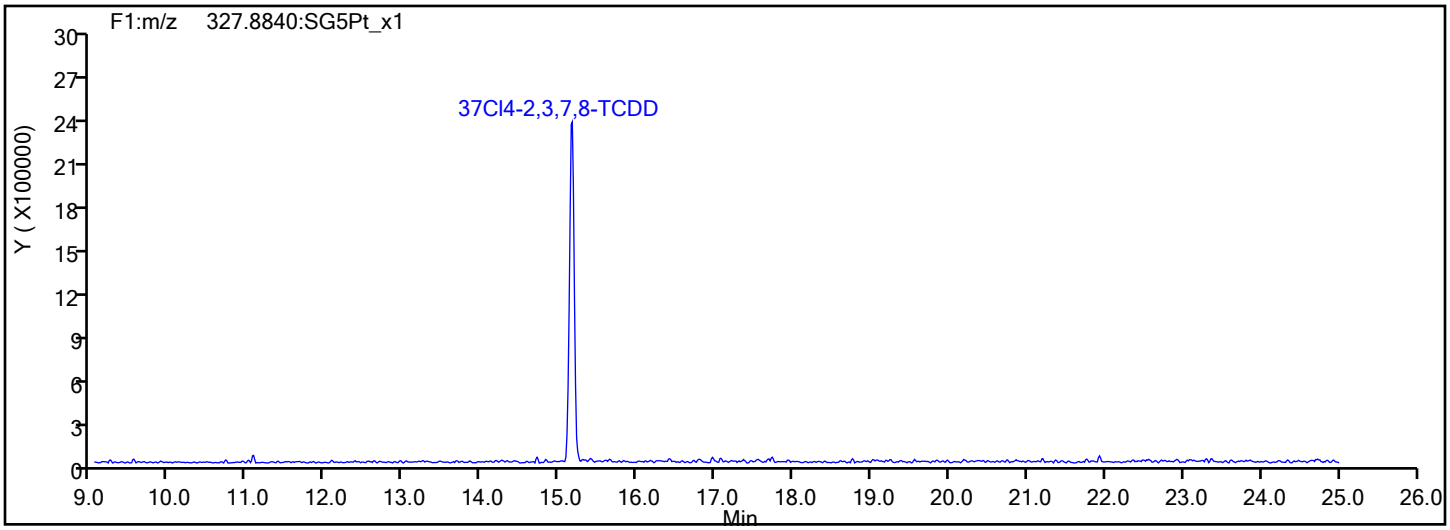

37Cl4-TCDD Standards

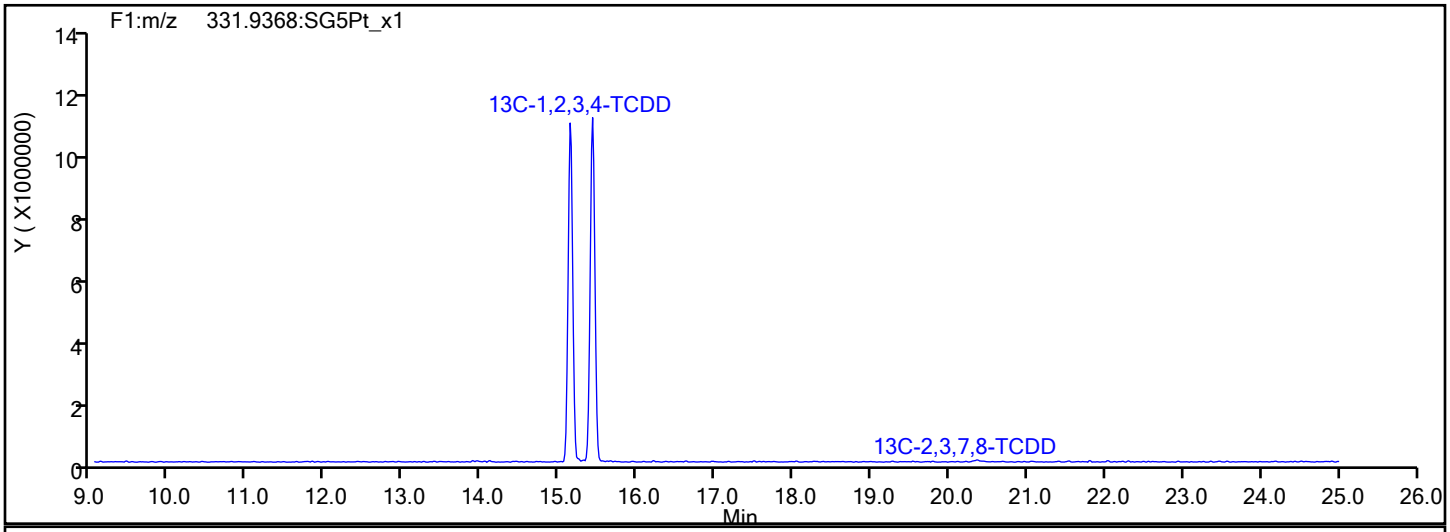

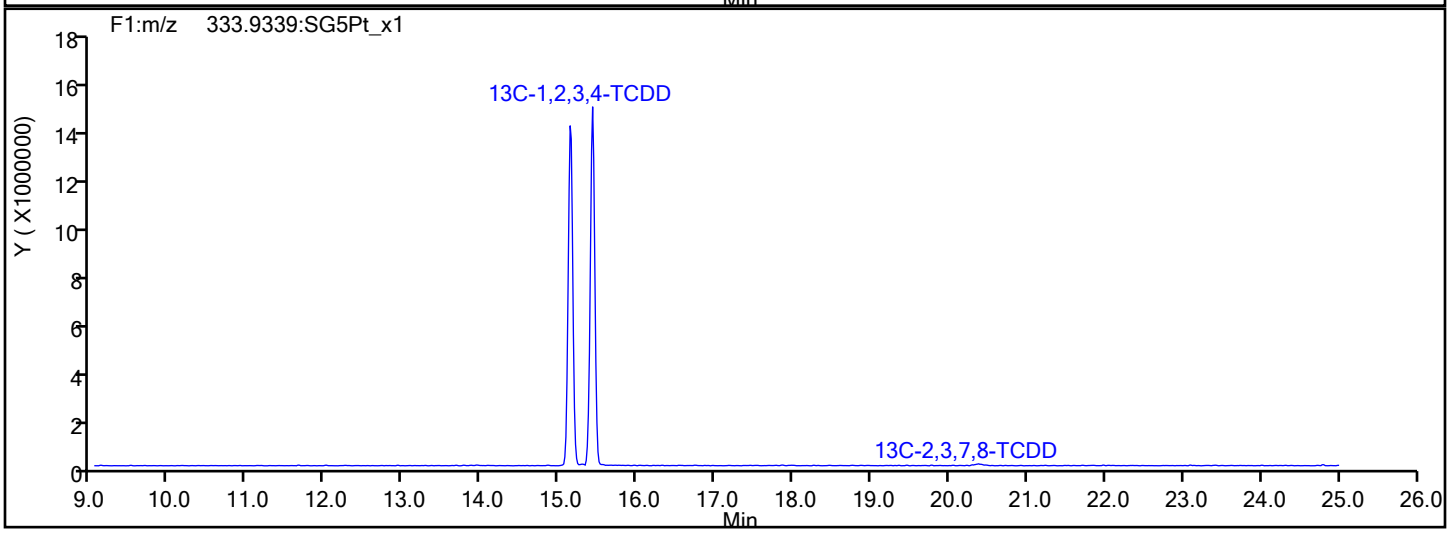

Report Date: 02-Aug-2019 11:50:37 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_005.d		
Injection Date:	02-Aug-2019 04:08:39	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

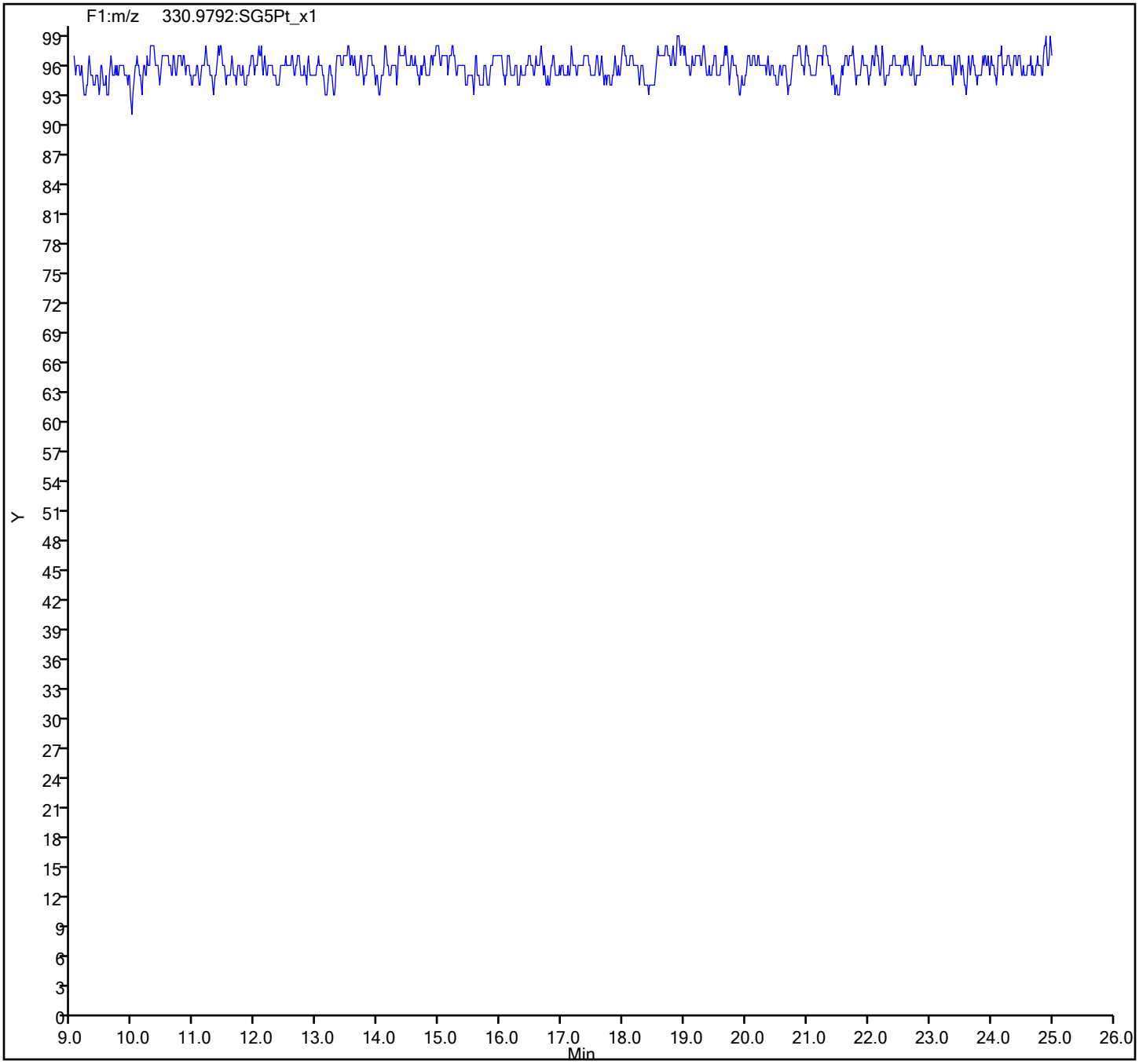

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_006.d
Lims ID: IC 5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 02-Aug-2019 04:46:57 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-5 HRDXNL5_00028
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:52:00 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:44:08

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.407	115018689	0.78	1.1E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.573	144459393	0.77	1.3379	93.9	93.9	0.5274	0.5274	93.87	
2,3,7,8-TCDF	16.586	46575552	0.77	0.8389	38.4	38.4	0.1167	0.1167	96.08	
D 13C-2,3,7,8-TCDD	15.132	106968299	0.77	0.9388	99.1	99.1	0.2830	0.2830	99.06	
2,3,7,8-TCDD	15.146	48146783	0.76	1.1538	39.0	39.0	0.1640	0.1640	97.53	
$ 37Cl4-2,3,7,8-TCDD	15.146	56650769		1.1816	41.7	41.7	0.0894	0.0894	104	
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNL5_00028 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_006.d
Lims ID: IC 5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 02-Aug-2019 04:46:57 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-5 HRDXNL5_00028
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:52:00 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:44:08

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.407	15.416	-1		50351038	12128425	19106	47765	635		
333.9339	15.407	15.416	-1		64667651	15935590	10721	26802	1486	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.573	16.580	0	1.076	62832695	14048507	53452	133630	263		
317.9389	16.573	16.580	0	1.076	81626698	17801662	25764	64410	691	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.586	16.599	-1	1.001	20335382	4486199	5024	12560	893		
305.8987	16.586	16.599	-1	1.001	26240170	5630982	7452	18630	756	0.77(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.132	15.136	0	0.982	46501097	11086056	19106	47765	580		
333.9339	15.118	15.136	-1	0.981	60467202	14396233	10721	26802	1343	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.146	15.156	-1	1.001	20863773	5196689	8344	20860	623		
321.8936	15.146	15.156	-1	1.001	27283010	6610856	10939	27347	604	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.146	15.158	-1	0.983	56650769	13763841	11857	29642	1161		
Total 2378-Chlorinated Dioxins & Furans											
		0.0	0								

Reagents:

HRDXNL5_00028 Amount Added: 1.00 Units: mL

Report Date: 02-Aug-2019 11:52:18 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_006.d		
Injection Date:	02-Aug-2019 04:46:57	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

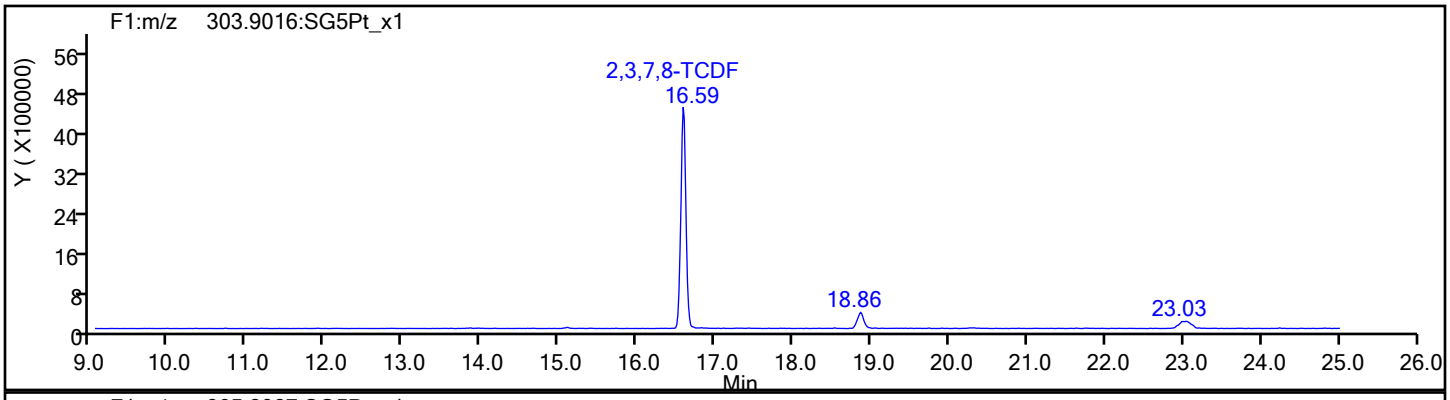

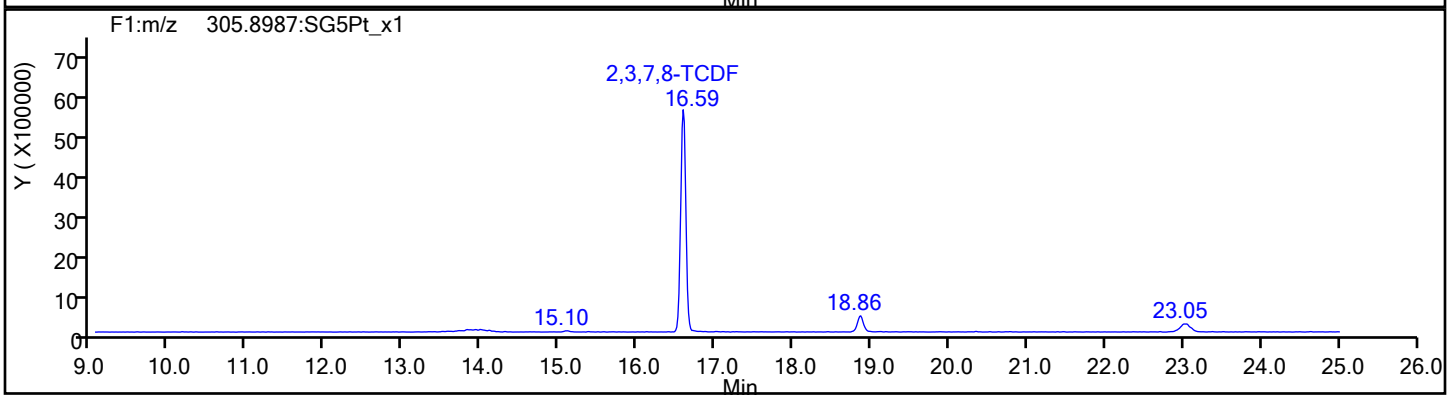

TCDF Standards

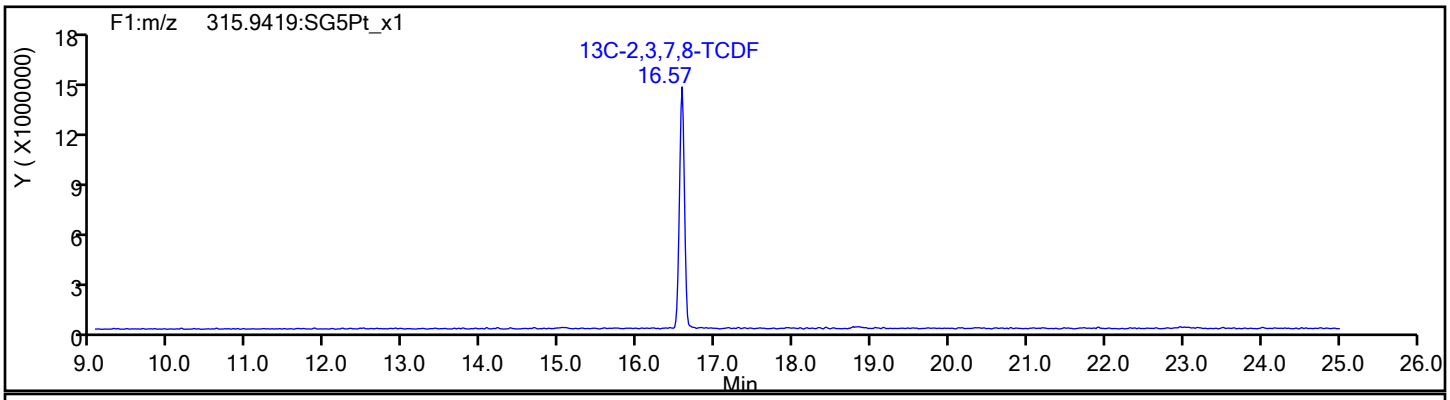

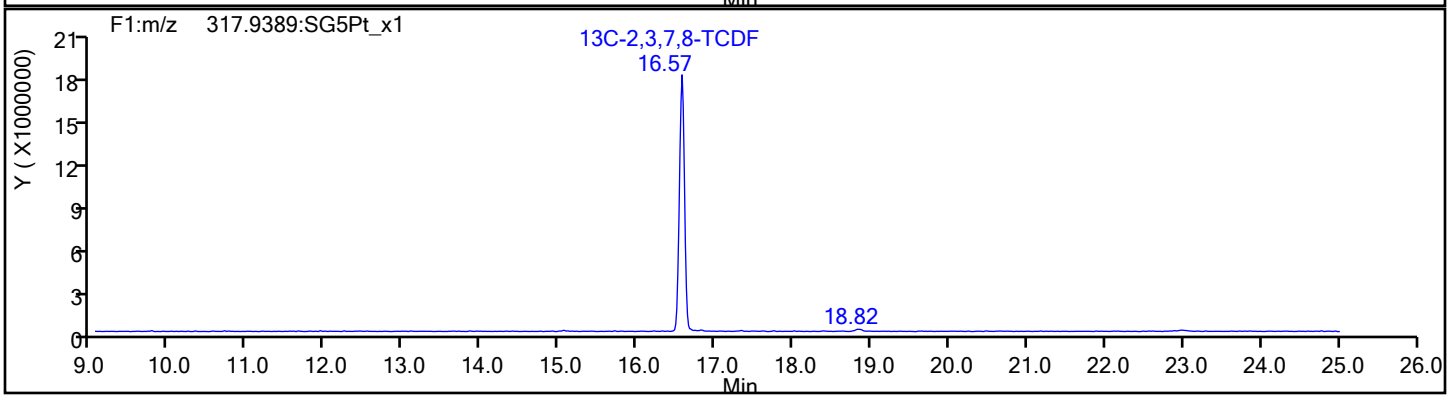

Report Date: 02-Aug-2019 11:52:18 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_006.d		
Injection Date:	02-Aug-2019 04:46:57	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

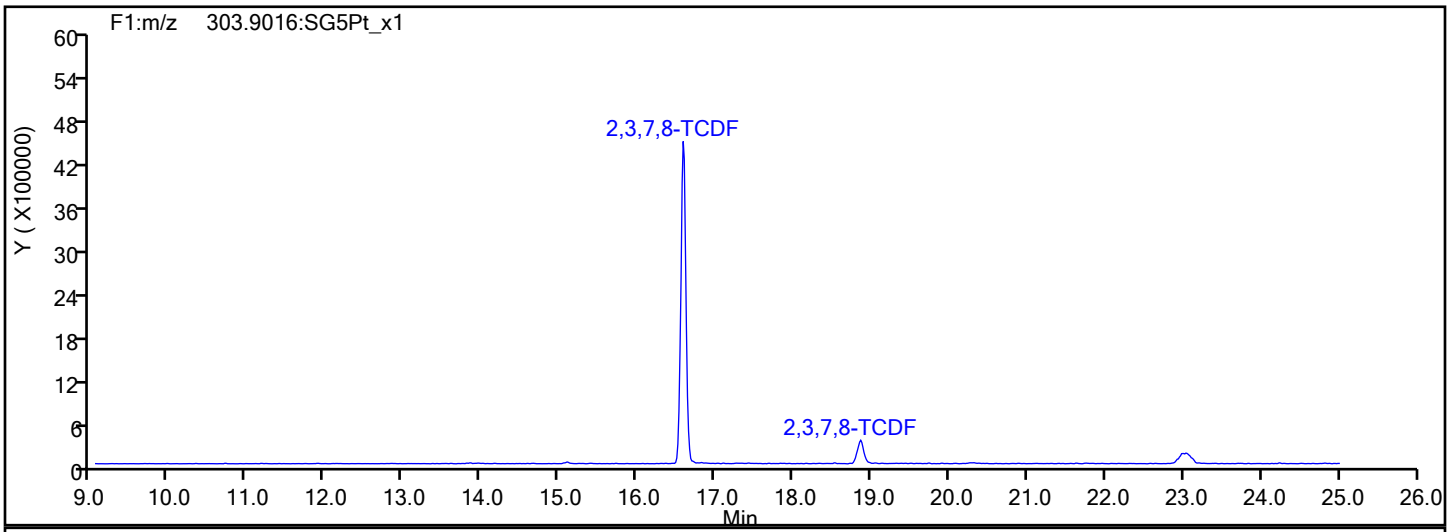

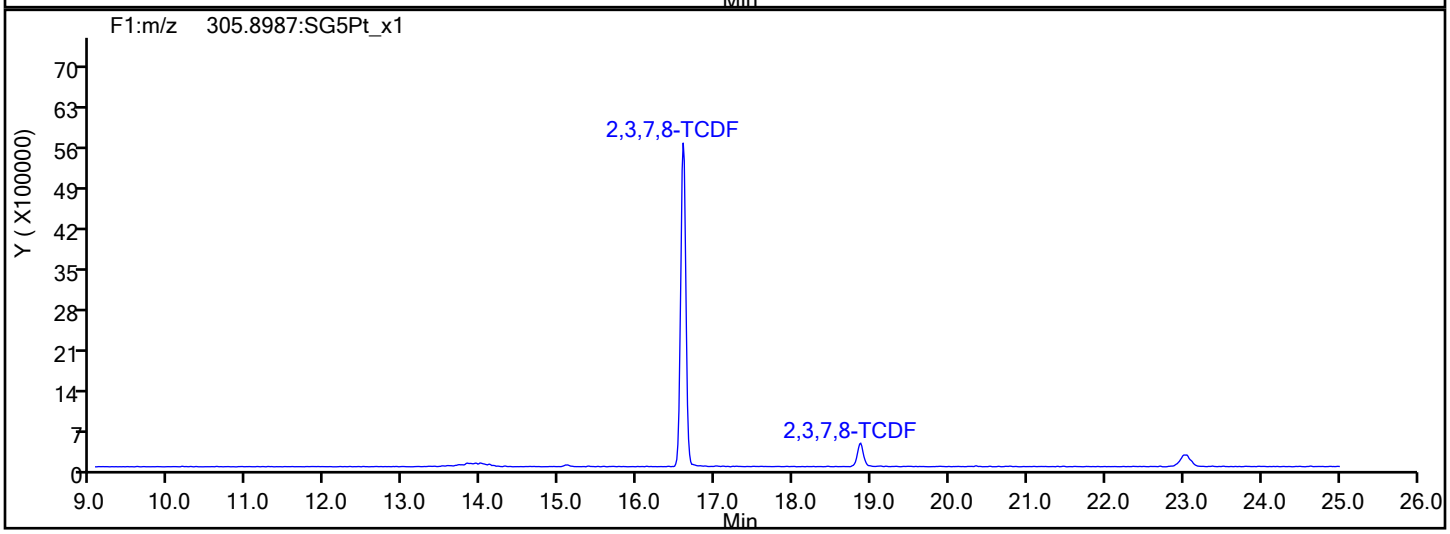

TCDF Interference Mass

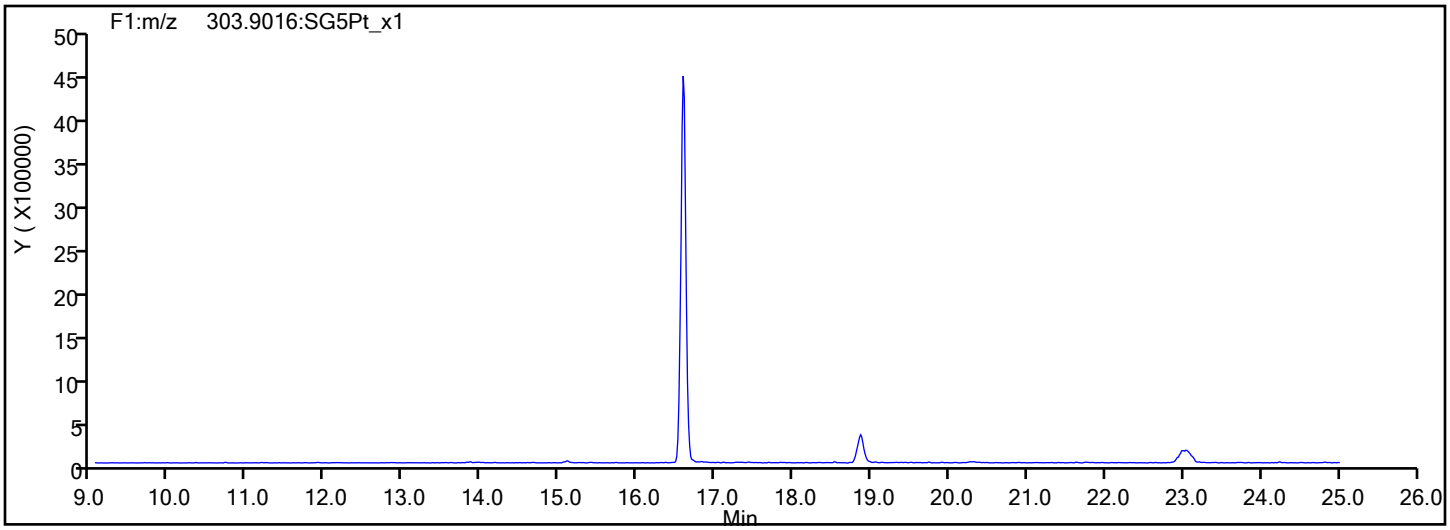

Report Date: 02-Aug-2019 11:52:18 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_006.d		
Injection Date:	02-Aug-2019 04:46:57	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

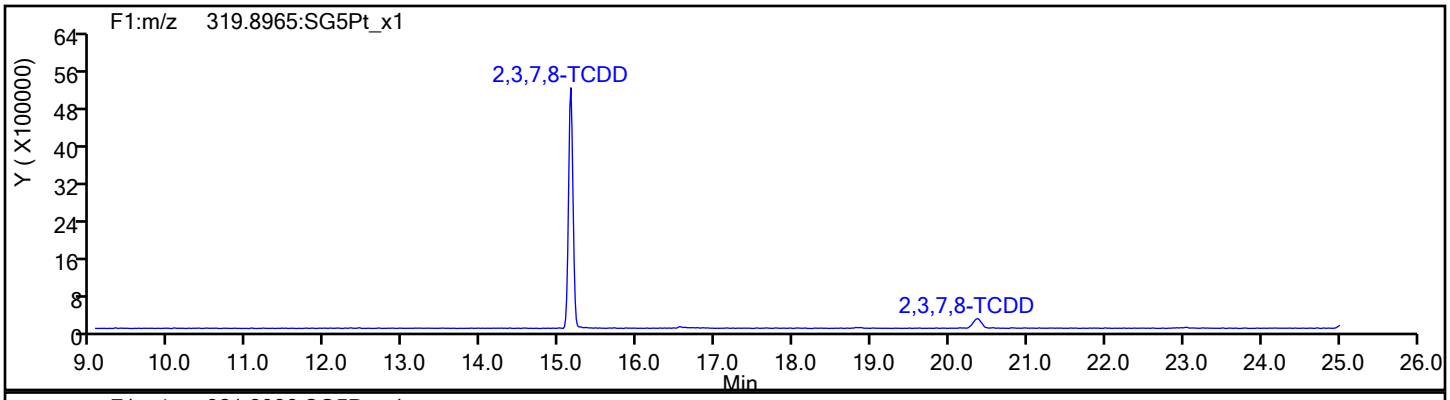

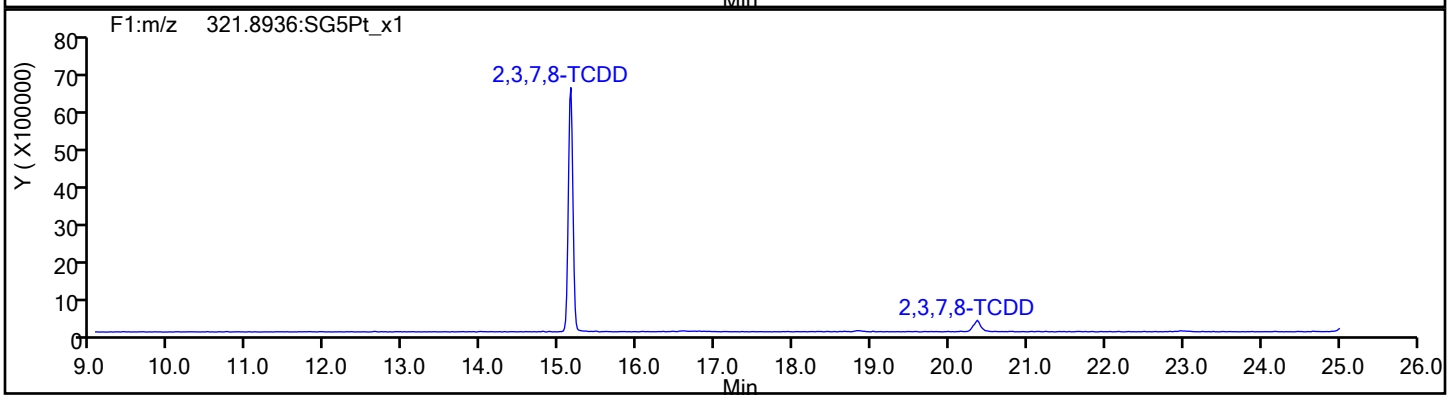

TCDD Standards

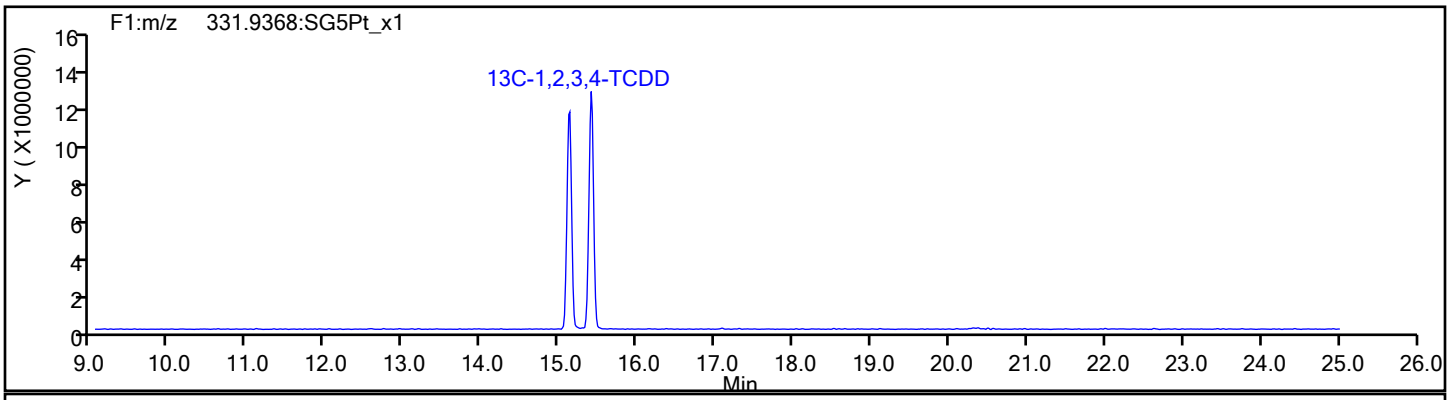

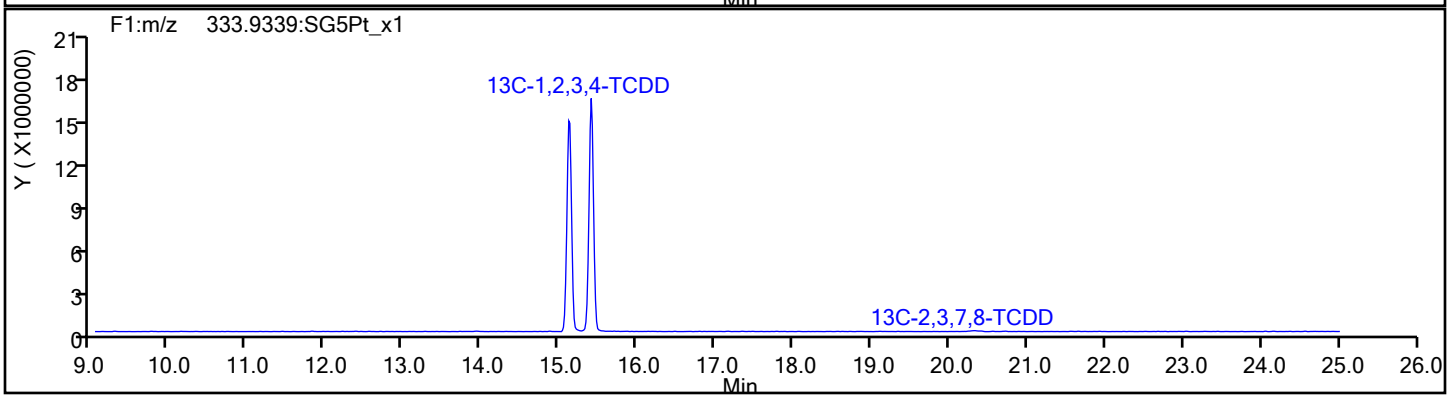

Report Date: 02-Aug-2019 11:52:18 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_006.d		
Injection Date:	02-Aug-2019 04:46:57	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

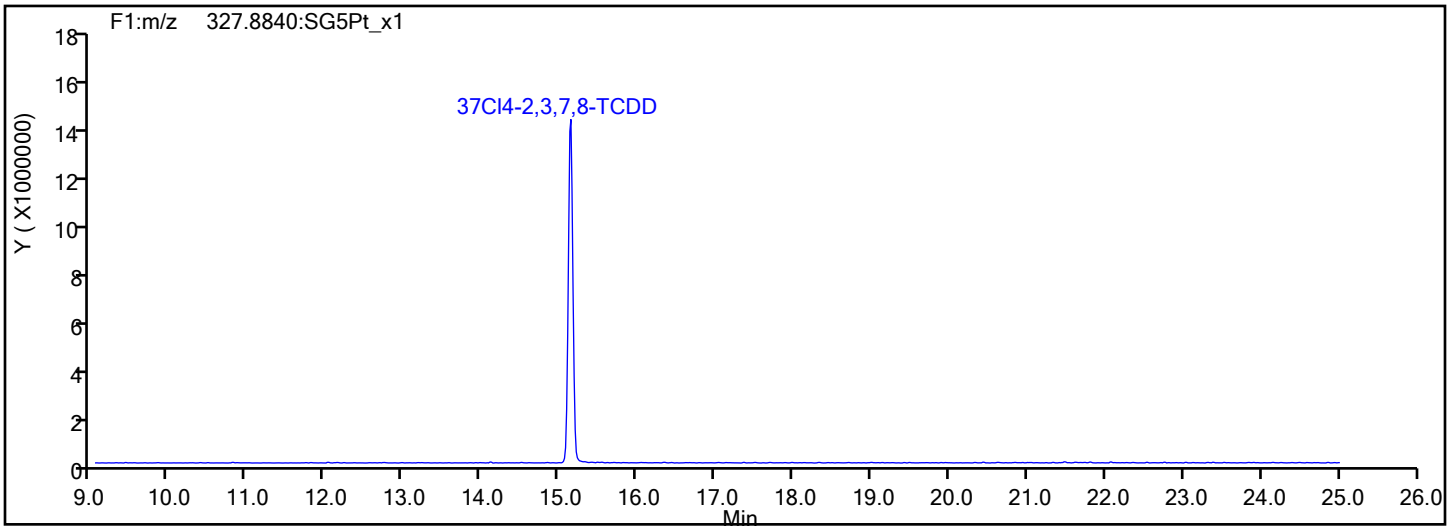

37Cl4-TCDD Standards

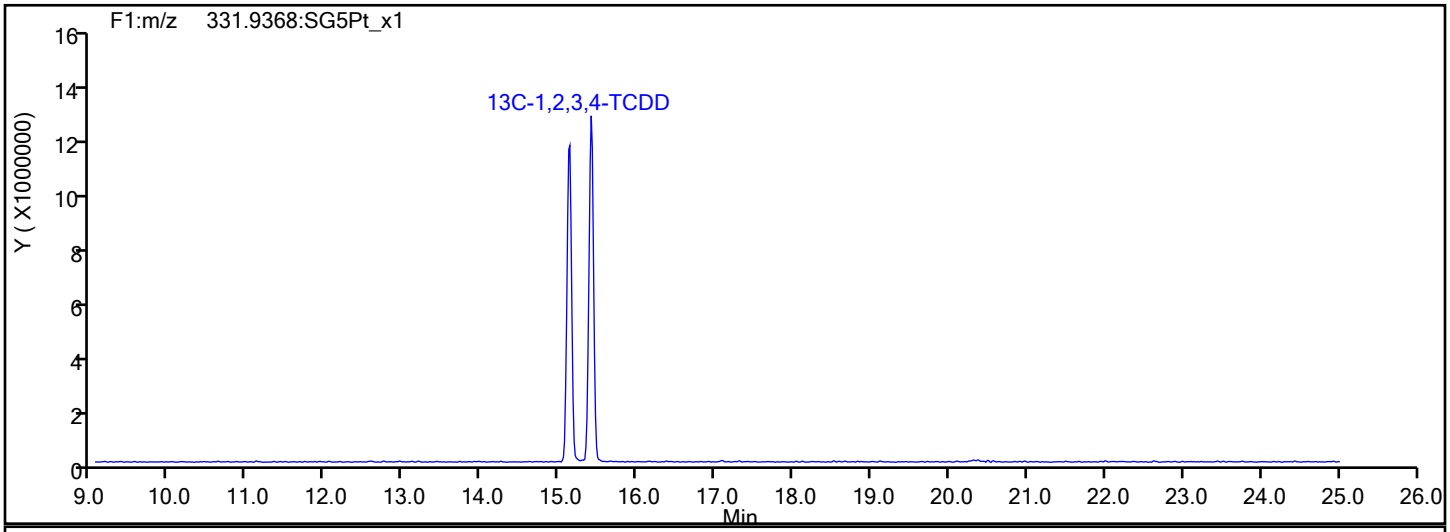

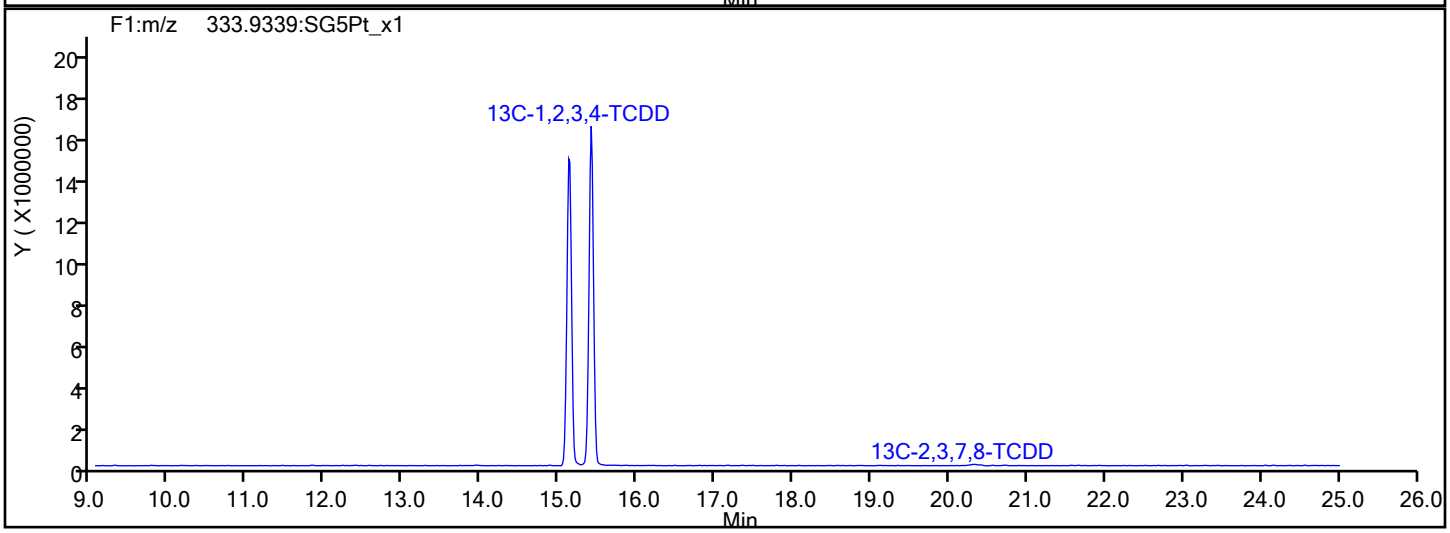

Report Date: 02-Aug-2019 11:52:19 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_006.d		
Injection Date:	02-Aug-2019 04:46:57	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

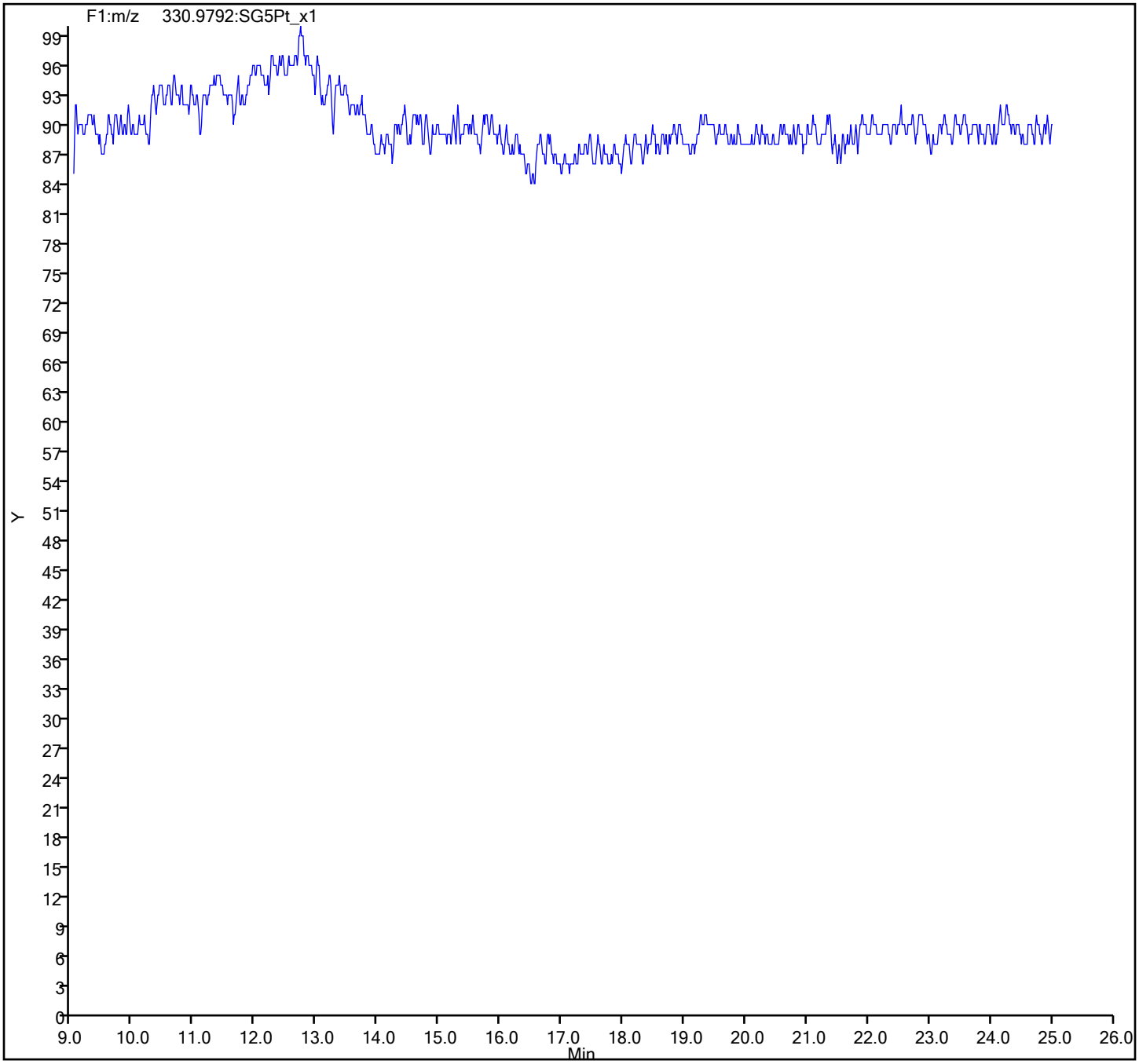

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d
Lims ID: IC 6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 02-Aug-2019 05:25:19 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-6 HRDXNL6_00024
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:52:36 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:44:20

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.404	110526038	0.77	1.1E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.556	151101344	0.75	1.3379	102.2	102.2	0.5415	0.5415	102	
2,3,7,8-TCDF	16.584	239921851	0.78	0.8389	189.3	189.3	0.1707	0.1707	94.64	
D 13C-2,3,7,8-TCDD	15.130	101263855	0.79	0.9388	97.6	97.6	0.2909	0.2909	97.59	
2,3,7,8-TCDD	15.143	221171643	0.78	1.1538	189.3	189.3	0.2031	0.2031	94.65	
$ 37Cl4-2,3,7,8-TCDD	15.143	268090229		1.1816	205.3	205.3	0.1091	0.1091	103	
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNL6_00024 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d
Lims ID: IC 6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 02-Aug-2019 05:25:19 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-6 HRDXNL6_00024
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:52:36 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:44:20

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.404	15.416	-1		48112289	11729044	18185	45462	645		
333.9339	15.404	15.416	-1		62413749	15576756	11642	29105	1338	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.556	16.580	-1	1.075	64986610	14150118	57009	142522	248		
317.9389	16.556	16.580	-1	1.075	86114734	18279234	22119	55297	826	0.75(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.584	16.599	-1	1.002	104966823	22470376	8972	22430	2505		
305.8987	16.584	16.599	-1	1.002	134955028	28495262	9607	24017	2966	0.78(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.130	15.136	0	0.982	44673635	10986883	18185	45462	604		
333.9339	15.130	15.136	0	0.982	56590220	13637893	11642	29105	1171	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.143	15.156	-1	1.001	96586623	23829881	9066	22665	2628		
321.8936	15.143	15.156	-1	1.001	124585020	30700236	14012	35030	2191	0.78(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.143	15.158	-1	0.983	268090229	64785114	14075	35187	4603		

Total 2378-Chlorinated Dioxins & Furans
0.0 0

Reagents:

HRDXNL6_00024 Amount Added: 1.00 Units: mL

Report Date: 02-Aug-2019 11:52:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d		
Injection Date:	02-Aug-2019 05:25:19	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

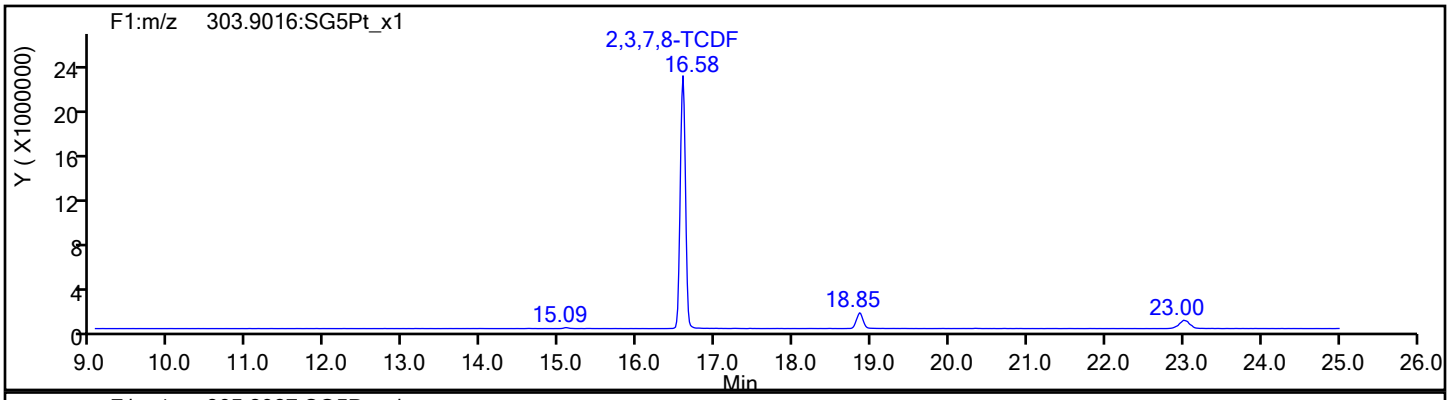

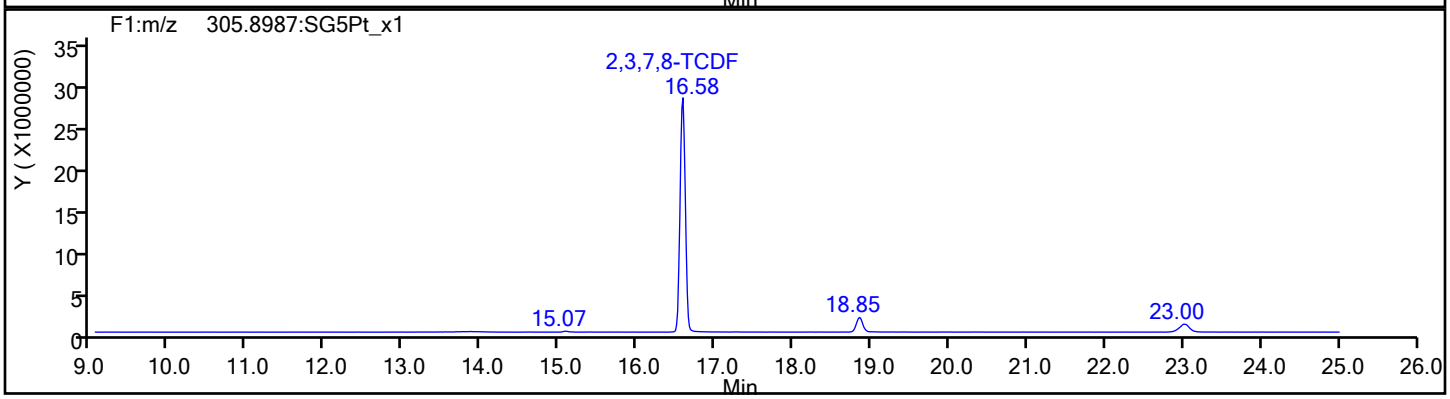

TCDF Standards

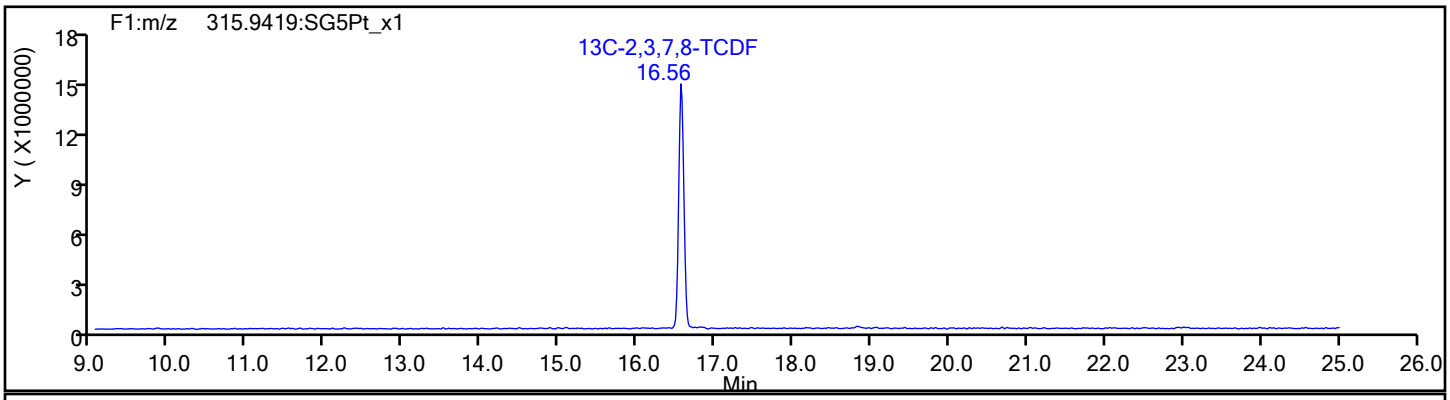

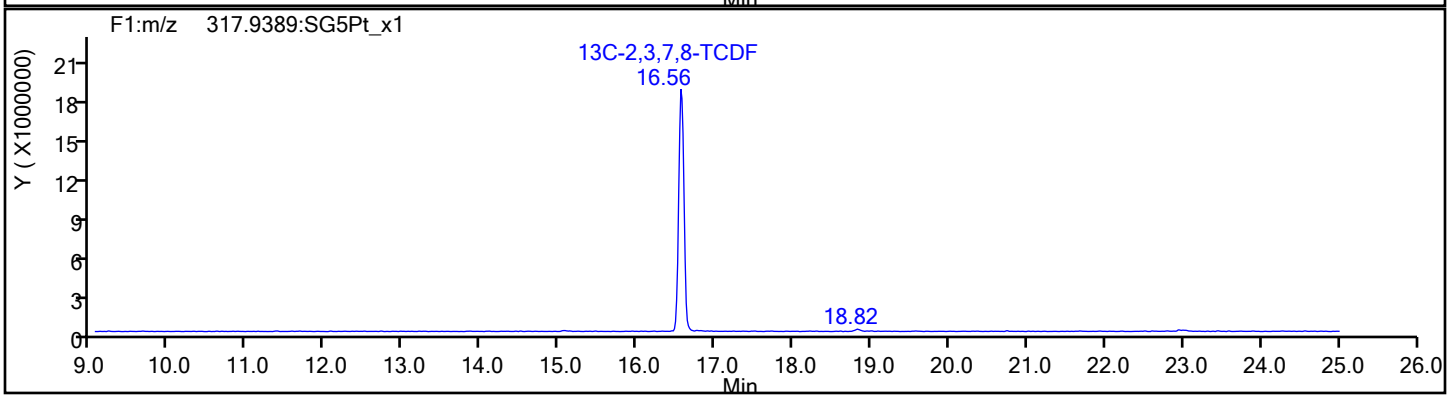

Report Date: 02-Aug-2019 11:52:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d		
Injection Date:	02-Aug-2019 05:25:19	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

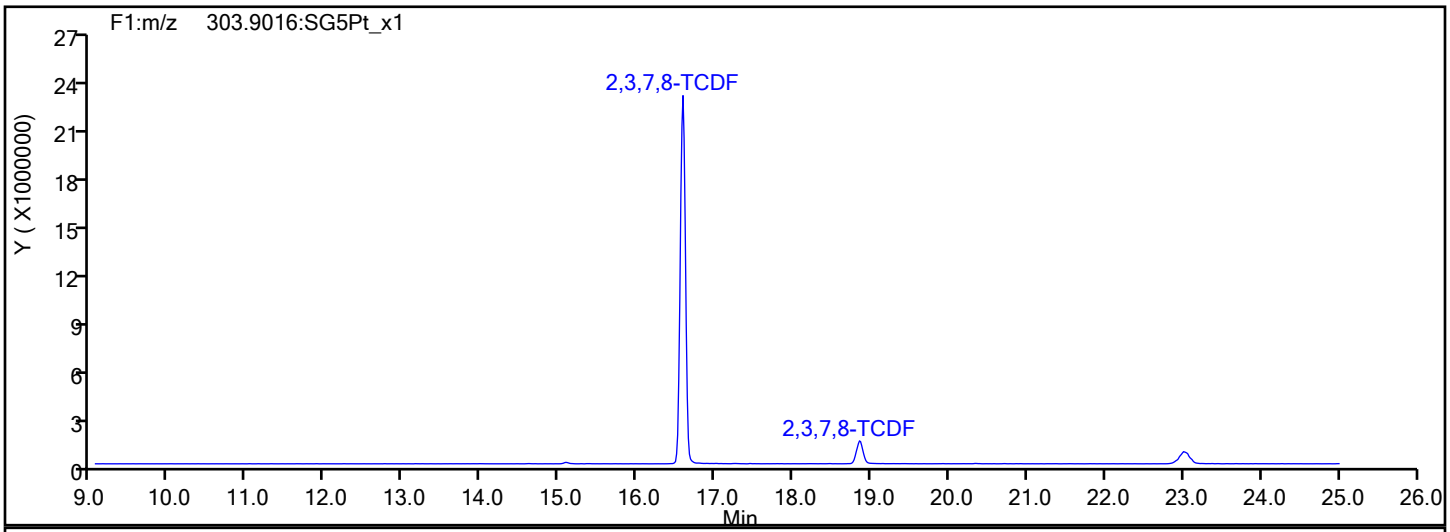

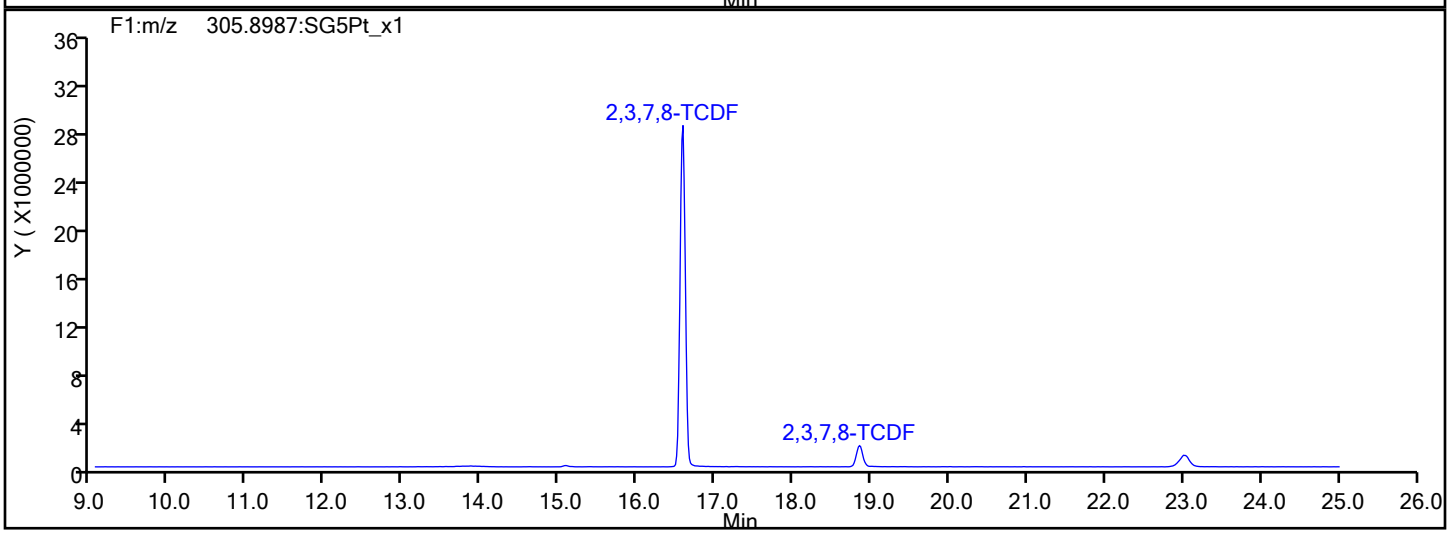

TCDF Interference Mass

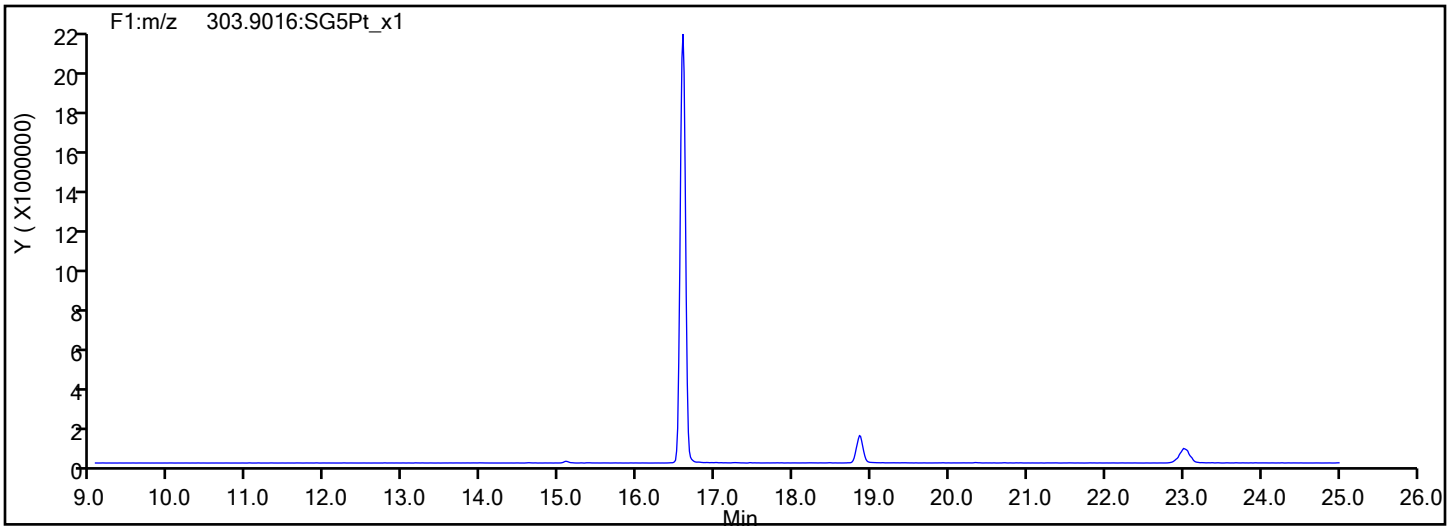

Report Date: 02-Aug-2019 11:52:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d		
Injection Date:	02-Aug-2019 05:25:19	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

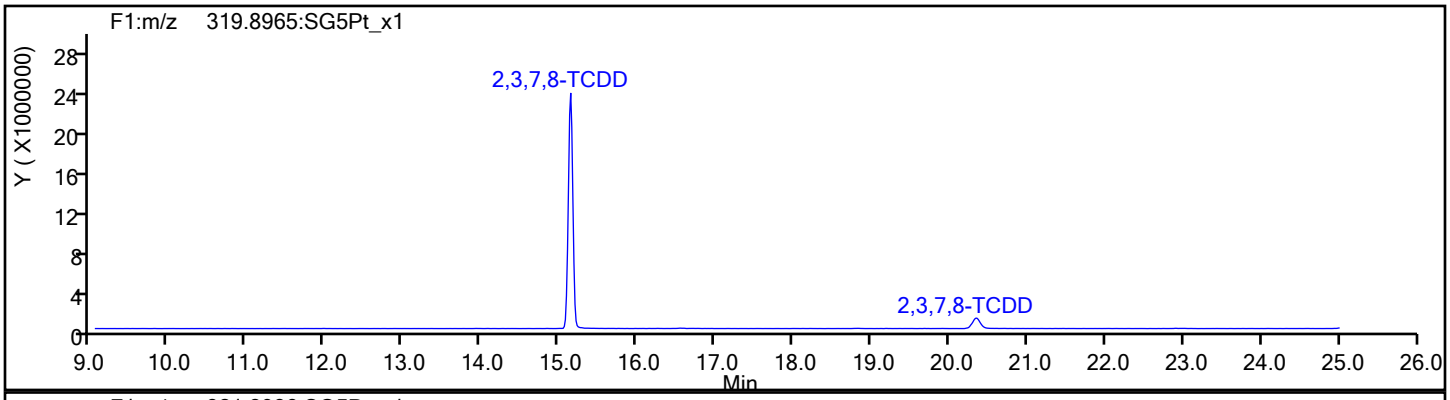

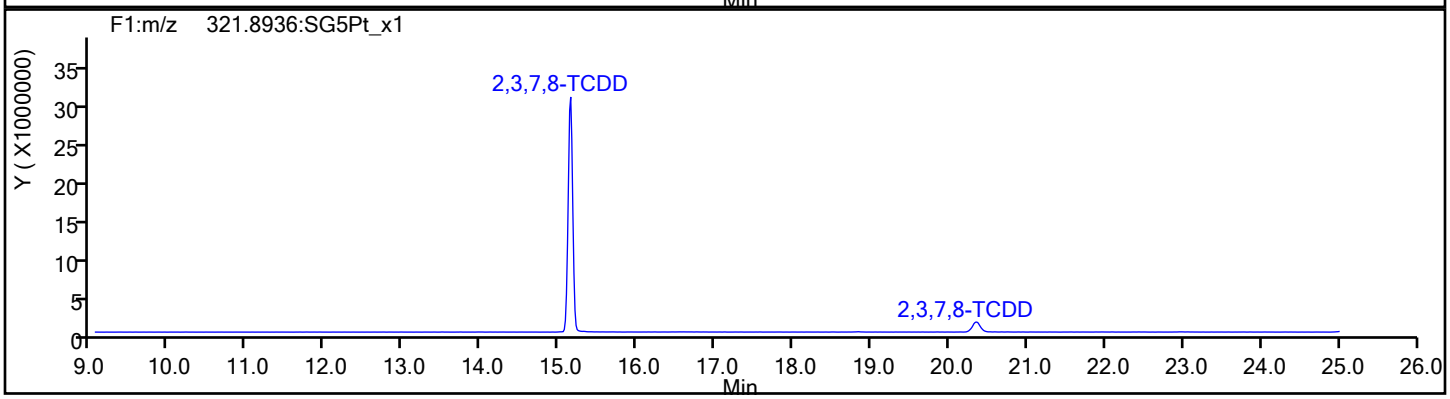

TCDD Standards

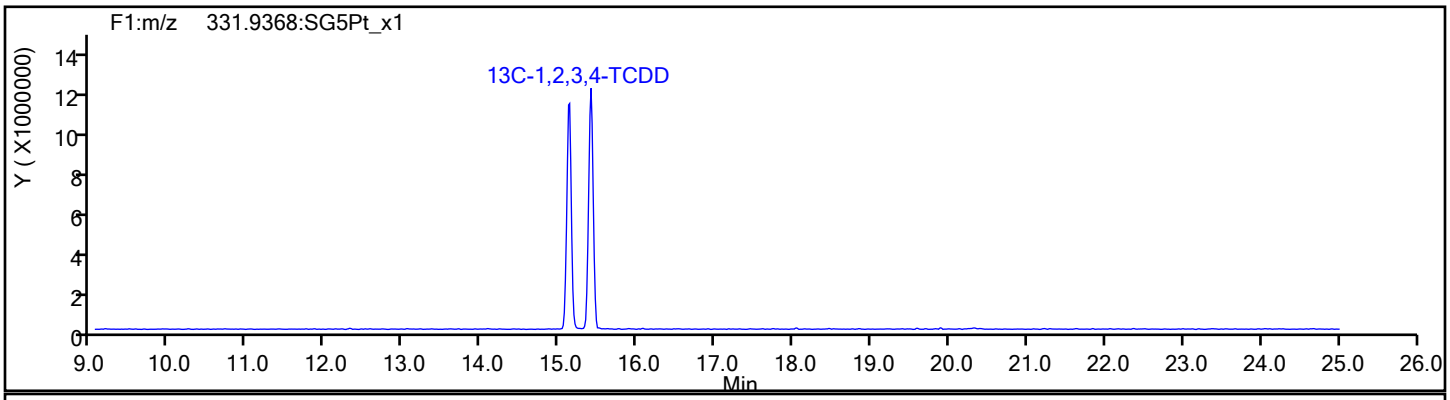

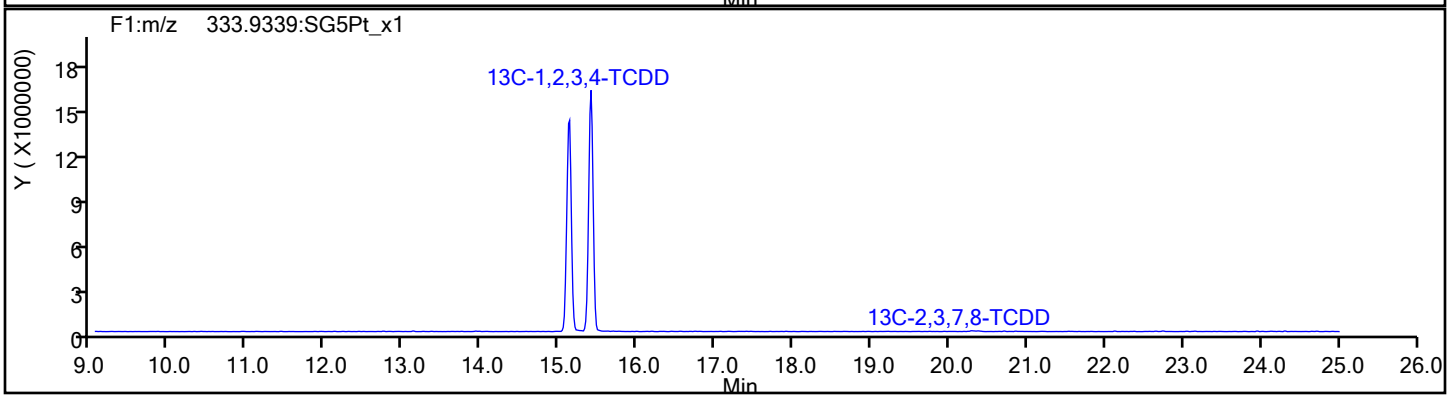

Report Date: 02-Aug-2019 11:52:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d		
Injection Date:	02-Aug-2019 05:25:19	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

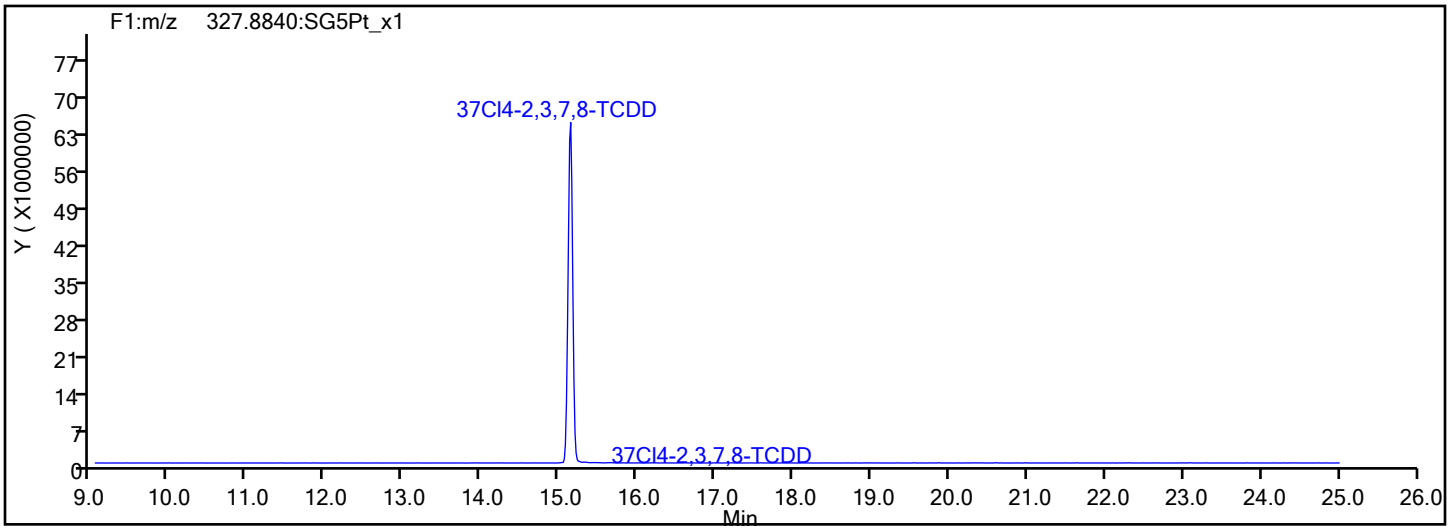

37Cl4-TCDD Standards

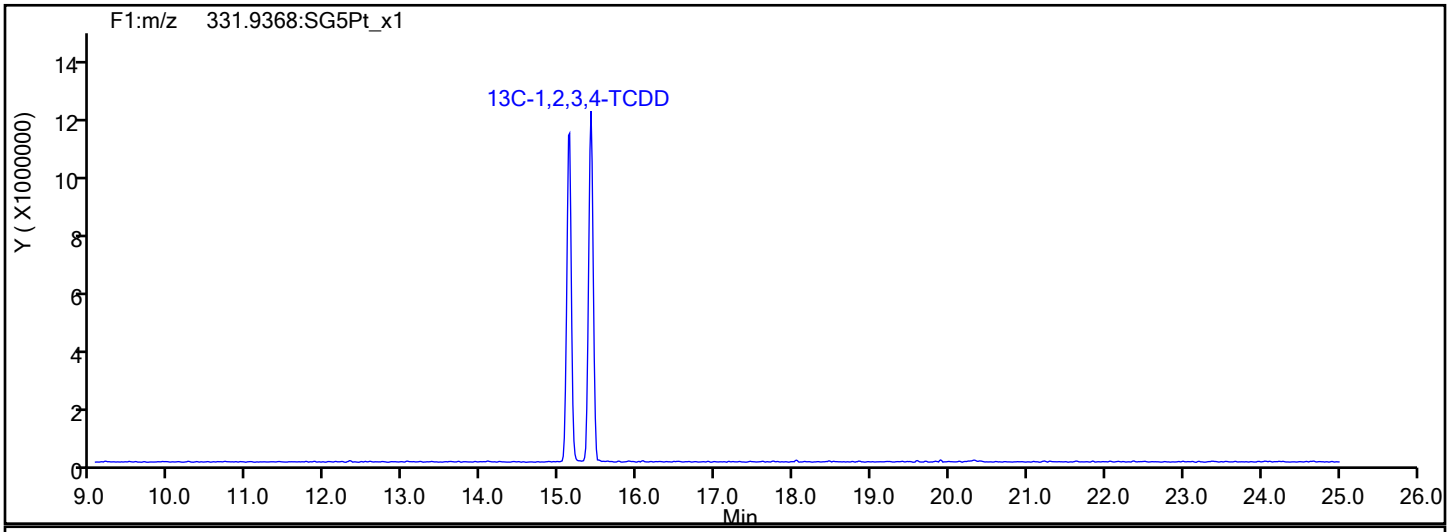

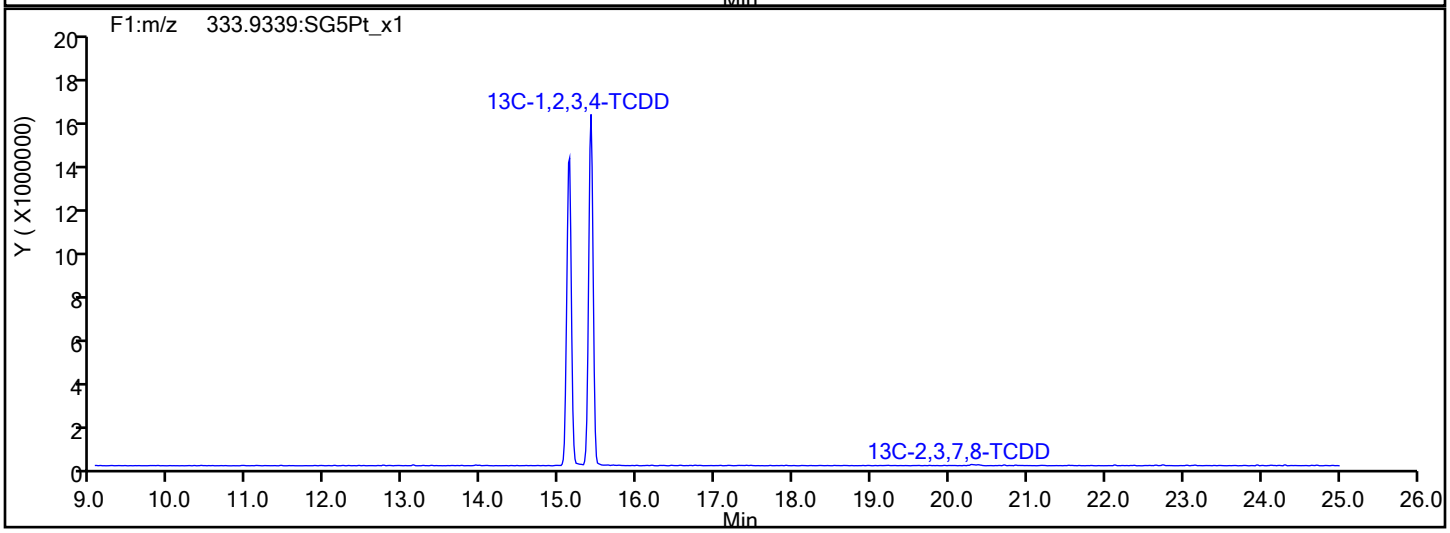

Report Date: 02-Aug-2019 11:52:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d		
Injection Date:	02-Aug-2019 05:25:19	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

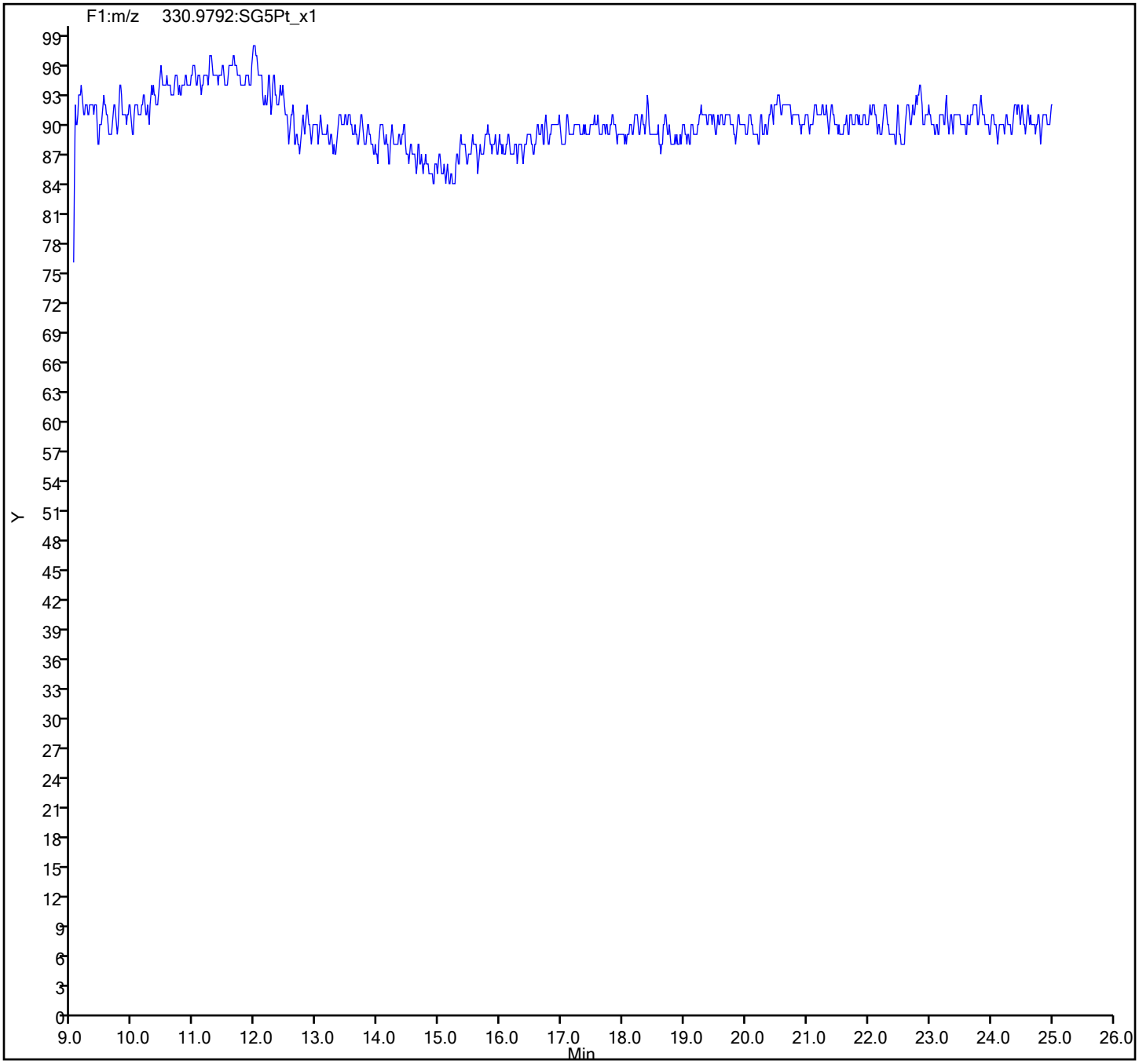

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1 Analy Batch No.: 332505

SDG No.:

Instrument ID: DFS 1 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/18/2019 20:50 Calibration End Date: 10/19/2019 00:02 Calibration ID: 47888

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-332505/3	18oc19adfs1_4.d
Level 2	IC 320-332505/4	18oc19adfs1_5.d
Level 3	IC 320-332505/5	18oc19adfs1_6.d
Level 4	IC 320-332505/6	18oc19adfs1_7.d
Level 5	IC 320-332505/7	18oc19adfs1_8.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
2,3,7,8-TCDF	1.2589	1.3384	1.2032	1.2283	1.1373	AveID		1.2332				6.0		20.0			
2,3,7,8-TCDD	1.1760	1.3057	1.1662	1.1970	1.1492	AveID		1.1988				5.2		20.0			
1,2,3,7,8-PeCDF	1.1178	1.3071	1.1707	1.1550	1.0939	AveID		1.1689				7.1		20.0			
2,3,4,7,8-PeCDF	1.2006	1.2963	1.1247	1.1885	1.1205	AveID		1.1861				6.0		20.0			
1,2,3,7,8-PeCDD	1.1084	1.2399	1.1031	1.1039	1.0446	AveID		1.1200				6.4		20.0			
1,2,3,4,7,8-HxCDF	1.2990	1.4177	1.2381	1.2893	1.2664	AveID		1.3021				5.3		20.0			
1,2,3,6,7,8-HxCDF	1.2839	1.4085	1.2593	1.2487	1.2533	AveID		1.2907				5.2		20.0			
2,3,4,6,7,8-HxCDF	1.2831	1.4314	1.2844	1.2674	1.2534	AveID		1.3039				5.5		20.0			
1,2,3,4,7,8-HxCDD	1.2048	1.2874	1.1208	1.1546	1.0949	AveID		1.1725				6.5		20.0			
1,2,3,6,7,8-HxCDD	1.1309	1.2345	1.1036	1.1082	1.0507	AveID		1.1256				6.0		20.0			
1,2,3,7,8,9-HxCDD	1.2275	1.3957	1.2171	1.2242	1.0990	AveID		1.2327				8.6		20.0			
1,2,3,7,8,9-HxCDF	1.3422	1.4574	1.3097	1.2854	1.2696	AveID		1.3329				5.6		20.0			
1,2,3,4,6,7,8-HpCDF	1.5962	1.7676	1.5937	1.5632	1.5675	AveID		1.6176				5.3		20.0			
1,2,3,4,6,7,8-HpCDD	1.1161	1.2549	1.1042	1.0907	1.0526	AveID		1.1237				6.9		20.0			
1,2,3,4,7,8,9-HpCDF	1.4599	1.6109	1.3928	1.4429	1.4296	AveID		1.4672				5.7		20.0			
OCDD	1.1883	1.3024	1.1550	1.1498	1.1320	AveID		1.1855				5.8		20.0			
OCDF	1.4786	1.6343	1.4919	1.5204	1.5829	AveID		1.5416				4.3		20.0			
13C-2,3,7,8-TCDF	1.5993	1.6198	1.5661	1.5967	1.6662	Ave		1.6096				2.3		35.0			
13C-2,3,7,8-TCDD	0.9974	0.9684	0.9798	1.0009	1.0455	Ave		0.9984				2.9		35.0			
13C-1,2,3,7,8-PeCDF	1.3432	1.3364	1.3172	1.3627	1.4794	Ave		1.3678				4.7		35.0			
13C-2,3,4,7,8-PeCDF	1.2499	1.2708	1.3091	1.2878	1.4049	Ave		1.3045				4.6		35.0			
13C-1,2,3,7,8-PeCDD	0.8039	0.7984	0.7968	0.8385	0.9085	Ave		0.8292				5.7		35.0			
13C-1,2,3,4,7,8-HxCDF	1.1731	1.1495	1.1680	1.1937	1.1657	Ave		1.1700				1.4		35.0			
13C-1,2,3,6,7,8-HxCDF	1.3236	1.2903	1.2864	1.3473	1.3362	Ave		1.3168				2.1		35.0			
13C-2,3,4,6,7,8-HxCDF	1.2819	1.2628	1.2344	1.2885	1.3691	Ave		1.2873				3.9		35.0			
13C-1,2,3,4,7,8-HxCDD	0.8084	0.8132	0.8195	0.8364	0.9044	Ave		0.8364				4.7		35.0			
13C-1,2,3,6,7,8-HxCDD	0.8918	0.8846	0.8732	0.9110	0.9594	Ave		0.9040				3.7		35.0			
13C-1,2,3,7,8,9-HxCDF	1.1868	1.1798	1.1694	1.1866	1.2711	Ave		1.1987				3.4		35.0			
13C-1,2,3,4,6,7,8-HpCDF	0.9566	0.9631	0.9102	0.9756	1.0390	Ave		0.9689				4.8		35.0			
13C-1,2,3,4,6,7,8-HpCDD	0.9004	0.9065	0.8615	0.9187	0.9699	Ave		0.9114				4.3		35.0			
13C-1,2,3,4,7,8,9-HpCDF	0.9065	0.9179	0.8790	0.9189	0.9931	Ave		0.9231				4.6		35.0			
13C-OCDD	0.6111	0.6194	0.5741	0.6291	0.7025	Ave		0.6272				7.5		35.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1 Analy Batch No.: 332505

SDG No.:

Instrument ID: DFS 1 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/18/2019 20:50 Calibration End Date: 10/19/2019 00:02 Calibration ID: 47888

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
37Cl4-2,3,7,8-TCDD	1.3865	1.4341	1.5873	1.4156	1.4314	Ave		1.4510				5.4					

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1 Analy Batch No.: 332505

SDG No.:

Instrument ID: DFS 1 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/18/2019 20:50 Calibration End Date: 10/19/2019 00:02 Calibration ID: 47888

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-332505/3	18oc19adfs1_4.d
Level 2	IC 320-332505/4	18oc19adfs1_5.d
Level 3	IC 320-332505/5	18oc19adfs1_6.d
Level 4	IC 320-332505/6	18oc19adfs1_7.d
Level 5	IC 320-332505/7	18oc19adfs1_8.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (PG/UL)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
2,3,7,8-TCDF		AveID	52500	227226	1022791	4117287	19267770	0.500	2.00	10.0	40.0	200
2,3,7,8-TCDD		AveID	30582	132527	620273	2515247	12215535	0.500	2.00	10.0	40.0	200
1,2,3,7,8-PeCDF		AveID	195742	915403	4185351	16520730	82272798	2.50	10.0	50.0	200	1000
2,3,4,7,8-PeCDF		AveID	195625	863257	3995881	16066504	80029996	2.50	10.0	50.0	200	1000
1,2,3,7,8-PeCDD		AveID	116165	518729	2385593	9715829	48247060	2.50	10.0	50.0	200	1000
1,2,3,4,7,8-HxCDF		AveID	215195	931117	4354560	17777367	84101340	2.50	10.0	50.0	200	1000
1,2,3,6,7,8-HxCDF		AveID	239982	1038354	4878178	19431932	95400318	2.50	10.0	50.0	200	1000
2,3,4,6,7,8-HxCDF		AveID	232263	1032686	4774247	18862486	97753005	2.50	10.0	50.0	200	1000
1,2,3,4,7,8-HxCDD		AveID	137541	598181	2765708	11153969	56405618	2.50	10.0	50.0	200	1000
1,2,3,6,7,8-HxCDD		AveID	142433	623939	2902121	11661873	57425910	2.50	10.0	50.0	200	1000
1,2,3,7,8,9-HxCDD		AveID	147369	676949	3101840	12354108	58343908	2.50	10.0	50.0	200	1000
1,2,3,7,8,9-HxCDF		AveID	224956	982394	4611955	17616763	91937678	2.50	10.0	50.0	200	1000
1,2,3,4,6,7,8-HpCDF		AveID	215620	972638	4368003	17615721	92770691	2.50	10.0	50.0	200	1000
1,2,3,4,6,7,8-HpCDD		AveID	141914	649996	2864412	11573871	58157652	2.50	10.0	50.0	200	1000
1,2,3,4,7,8,9-HpCDF		AveID	186889	844812	3686922	15315395	80874831	2.50	10.0	50.0	200	1000
OCDD		AveID	205114	921901	3993320	16709340	90601717	5.00	20.0	100	400	2000
OCDF		AveID	255207	1156799	5158047	22094312	126690658	5.00	20.0	100	400	2000
13C-2,3,7,8-TCDF	13CTC	Ave	8340309	8488555	8500696	8380142	8470716	100	100	100	100	100
13C-2,3,7,8-TCDD	13CTC	Ave	5201084	5074828	5318631	5253288	5315007	100	100	100	100	100
13C-1,2,3,7,8-PeCDF	13CTC	Ave	7004333	7003224	7149905	7152089	7521267	100	100	100	100	100
13C-2,3,4,7,8-PeCDF	13CTC	Ave	6517835	6659419	7105616	6759066	7142216	100	100	100	100	100
13C-1,2,3,7,8-PeCDD	13CTC	Ave	4192143	4183753	4325328	4400759	4618561	100	100	100	100	100
13C-1,2,3,4,7,8-HxCDF	13CHx	Ave	6626281	6567672	7034054	6894093	6640749	100	100	100	100	100
13C-1,2,3,6,7,8-HxCDF	13CHx	Ave	7476700	7372206	7747256	7780881	7611761	100	100	100	100	100
13C-2,3,4,6,7,8-HxCDF	13CHx	Ave	7240856	7214754	7434381	7441472	7799209	100	100	100	100	100
13C-1,2,3,4,7,8-HxCDD	13CHx	Ave	4566579	4646412	4935207	4830229	5151852	100	100	100	100	100
13C-1,2,3,6,7,8-HxCDD	13CHx	Ave	5037671	5054298	5259136	5261618	5465550	100	100	100	100	100
13C-1,2,3,7,8,9-HxCDF	13CHx	Ave	6704113	6740692	7042762	6852734	7241212	100	100	100	100	100
13C-1,2,3,4,6,7,8-HpCDF	13CHx	Ave	5403412	5502512	5481639	5634533	5918544	100	100	100	100	100
13C-1,2,3,4,6,7,8-HpCDD	13CHx	Ave	5085943	5179512	5188334	5305866	5525128	100	100	100	100	100
13C-1,2,3,4,7,8,9-HpCDF	13CHx	Ave	5120644	5244417	5294096	5307044	5657300	100	100	100	100	100
13C-OCDD	13CHx	Ave	6904214	7078418	6914737	7266166	8003485	200	200	200	200	200
37Cl4-2,3,7,8-TCDD	13CTC	Ave	36152	150303	861567	2971886	14554194	0.500	2.00	10.0	40.0	200

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1 Analy Batch No.: 332505

SDG No.:

Instrument ID: DFS 1 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/18/2019 20:50 Calibration End Date: 10/19/2019 00:02 Calibration ID: 47888

Curve Type Legend:

Ave = Average ISTD
AveID = Average isotope dilution

TestAmerica Laboratories
Worklist Report

Worklist Name: 18OC19ADFS1_ICAL_DXN
Worklist Number: 85289
Instrument Name: DFS 1
Chrom Method: Dioxin_DFS1
Injection Volume: 1.000
Units: ul
Analysis Type: Semi VOA
Batch Directory: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b
Upload Directory: \\Corptalsapp12\320-WS-RawData\Organics\MS\DFS 1

Smp #	Lims ID	Smp Type	Ical Lvl	Dil Fact	Fract	Initial Vol/Wt	Vol/Wt Units	Sample Reagents	pH	Comment
1	# 1 WDM	WDM		1.000	sv	1.000	mL	HRDXNCP_00040		
2	# 2 SB	SB		1.000	sv	1.000	mL			
3	# 3 IC 2	IC	2	1.000	sv	1.000	mL	HRDXNL2_00027		
4	# 4 IC 3	IC	3	1.000	sv	1.000	mL	HRDXNL3_00025		
5	# 5 IC 4	IC	4	1.000	sv	1.000	mL	HRDXNL4_00086		
6	# 6 IC 5	IC	5	1.000	sv	1.000	mL	HRDXNL5_00028		
7	# 7 IC 6	IC	6	1.000	sv	1.000	mL	HRDXNL6_00024		
8	# 8 SB	SB		1.000	sv	1.000	mL			
9	# 9 ICV	ICV		1.000	sv	1.000	mL	HRDXNIC_00042		

Log file checked
AJS
10-23-19

Resolution Check Report (DFS SN: 3441)

eurofins | Environment Testing TestAmerica

Date:	18 Oct 2019 18:56
MID Experiment:	5w_db5_pfk_singleGC01_RS
Target Resolution:	10000
Resolution Warning :	9500
Resolution Error :	8000
Reference:	pfk
Status:	RESOLUTION PASSED

Segment 1

Lock mass 304.9819 [m/z] Resolution: 12940 [5%height]

Cali. mass 380.9755 [m/z] Resolution: 12959 [5%height]

Ref. mass 318.9787 [m/z] Resolution: 12776 [5%height]

Ref. mass 330.9787 [m/z] Resolution: 12447 [5%height]

Ref. mass 342.9787 [m/z] Resolution: 12493 [5%height]

Ref. mass 354.9787 [m/z] Resolution: 12737 [5%height]

Ref. mass 368.9755 [m/z] Resolution: 12533 [5%height]

Ref. mass 392.9755 [m/z] Resolution: 13093 [5%height]

Ref. mass 404.9755 [m/z] Resolution: 13390 [5%height]

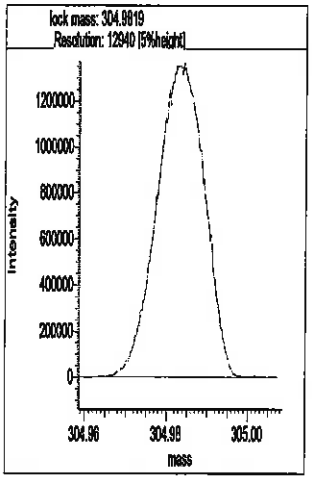

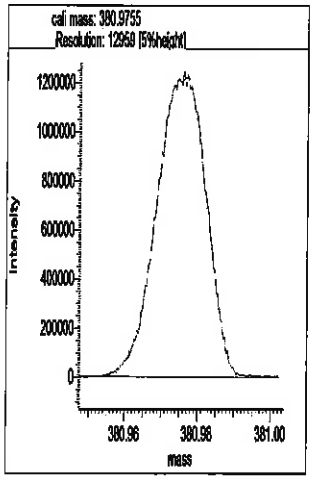

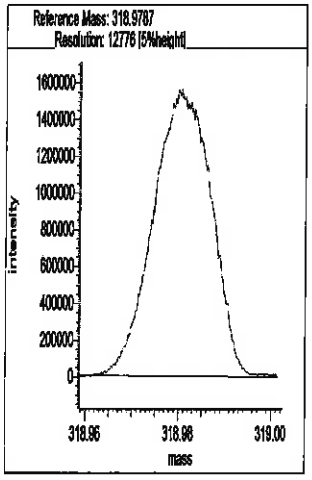

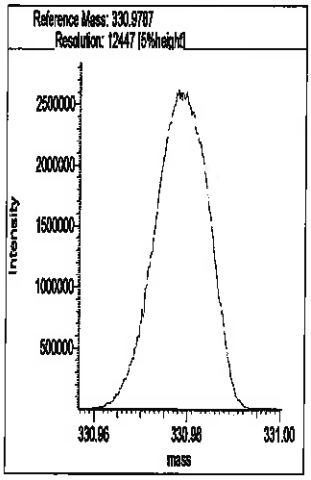

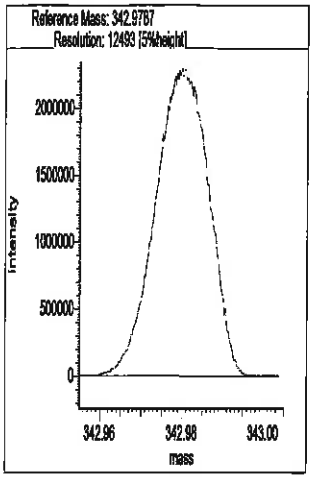

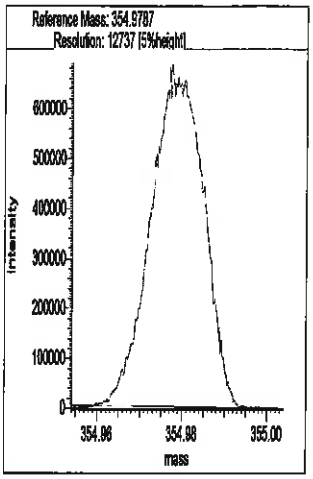

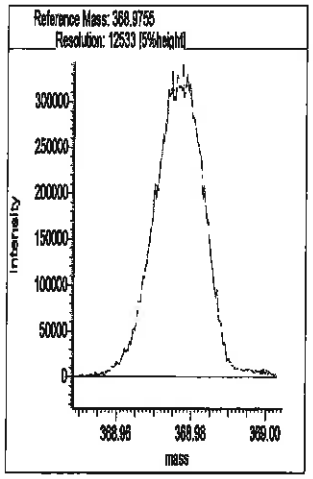

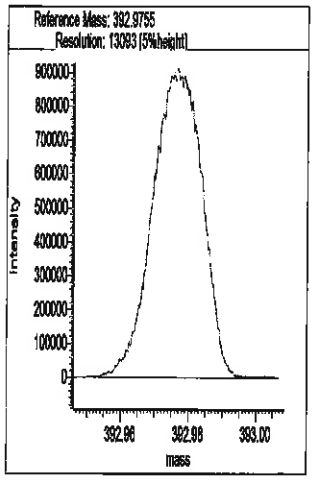

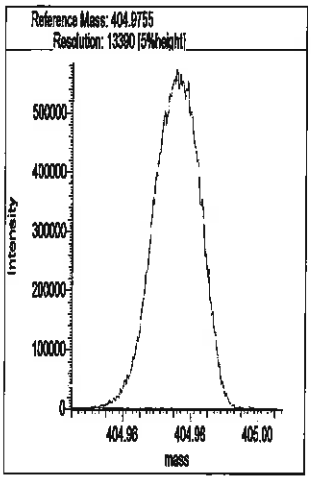

Segment 2

Lock mass 330.9787 [m/z] Resolution: 12758 [5%height]

Cali. mass 380.9755 [m/z] Resolution: 12546 [5%height]

Ref. mass 342.9787 [m/z] Resolution: 12669 [5%height]

Ref. mass 354.9787 [m/z] Resolution: 12601 [5%height]

Ref. mass 368.9755 [m/z] Resolution: 12354 [5%height]

Ref. mass 392.9755 [m/z] Resolution: 12686 [5%height]

Ref. mass 404.9755 [m/z] Resolution: 12980 [5%height]

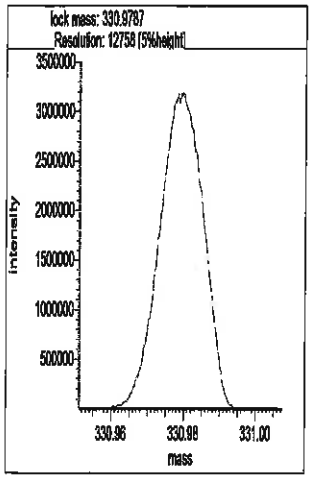

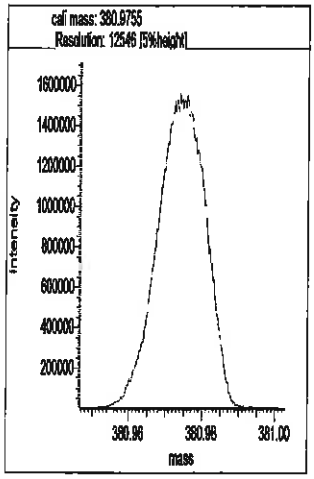

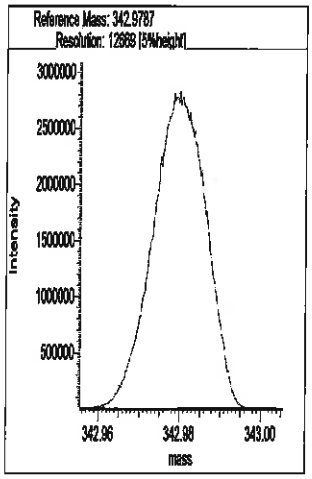

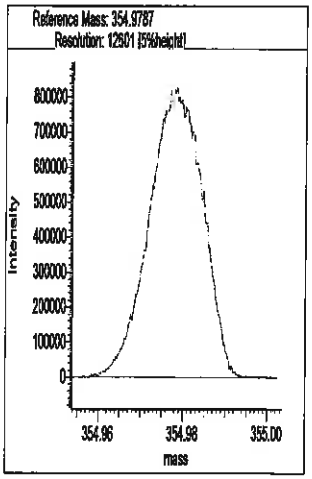

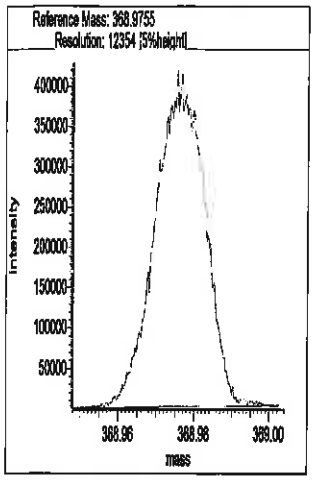

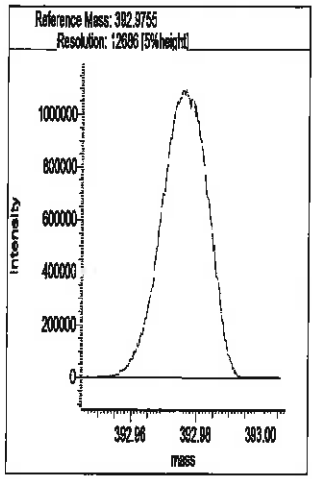

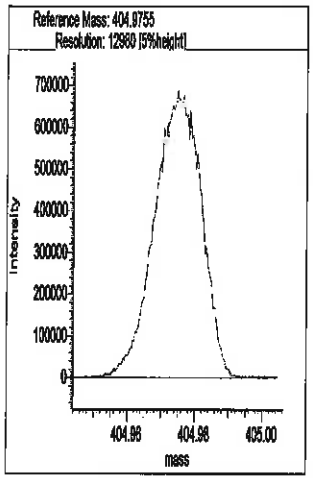

Segment 3

Lock mass 380.9755 [m/z] Resolution: 12901 [5%height]

Cali. mass 430.9723 [m/z] Resolution: 12674 [5%height]

Ref. mass 392.9755 [m/z] Resolution: 12606 [5%height]

Ref. mass 404.9755 [m/z] Resolution: 12535 [5%height]

Ref. mass 416.9755 [m/z] Resolution: 12398 [5%height]

Ref. mass 442.9723 [m/z] Resolution: 12847 [5%height]

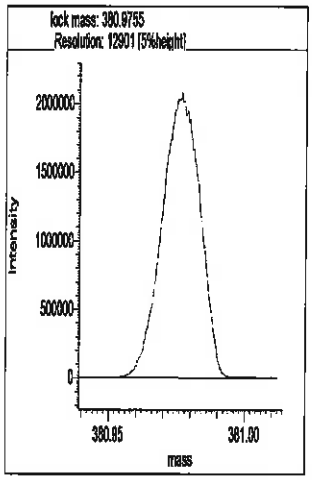

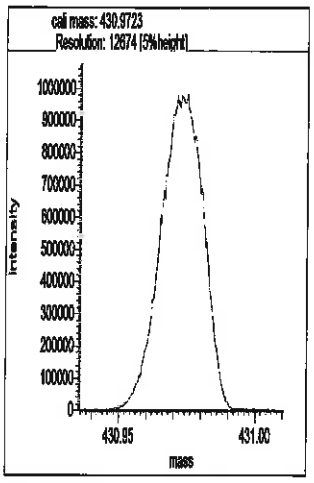

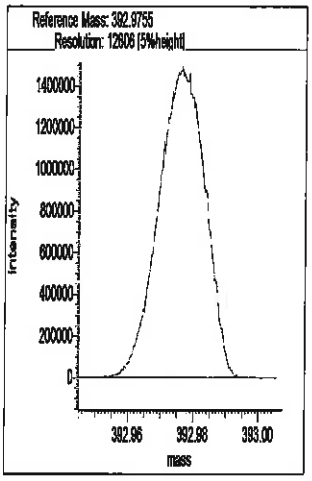

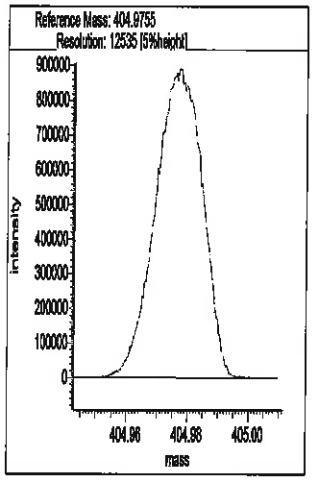

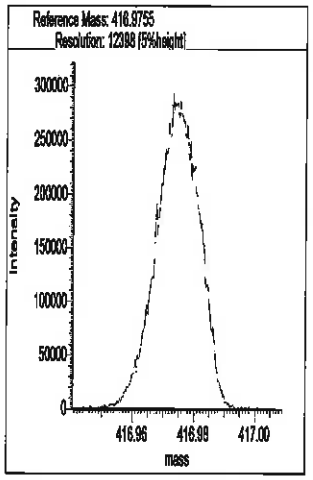

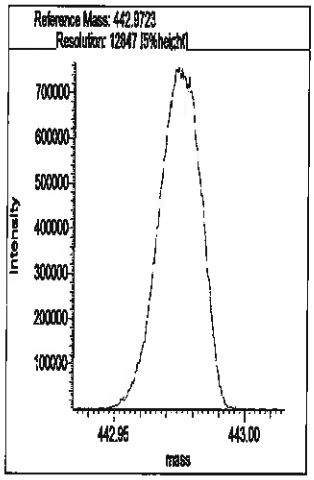

Segment 4

Lock mass 430.9723 [m/z] Resolution: 12674 [5%height]

Cali. mass 480.9691 [m/z] Resolution: 12723 [5%height]

Ref. mass 416.9755 [m/z] Resolution: 12701 [5%height]

Ref. mass 442.9723 [m/z] Resolution: 12811 [5%height]

Ref. mass 454.9723 [m/z] Resolution: 12858 [5%height]

Ref. mass 466.9723 [m/z] Resolution: 13088 [5%height]

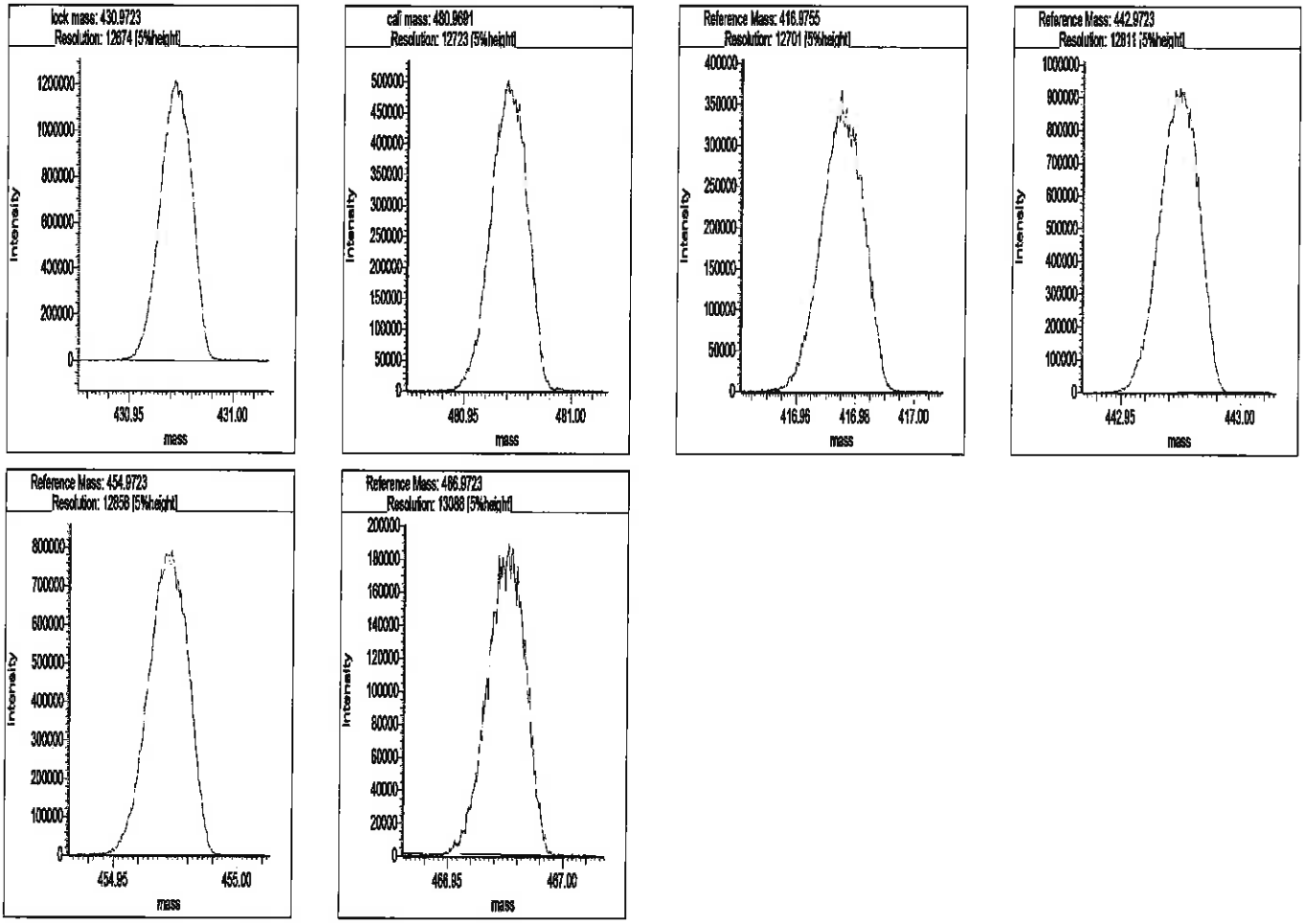

Segment 5

Lock mass 442.9723 [m/z] Resolution: 13123 [5%height]

Cali. mass 504.9691 [m/z] Resolution: 12784 [5%height]

Ref. mass 454.9723 [m/z] Resolution: 12949 [5%height]

Ref. mass 466.9723 [m/z] Resolution: 12839 [5%height]

Ref. mass 480.9691 [m/z] Resolution: 12646 [5%height]

Ref. mass 492.9691 [m/z] Resolution: 12869 [5%height]

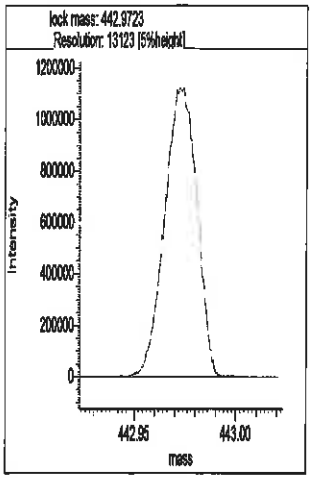
lock mass: 442.9723
Resolution: 13123 [5%height]
Intensity
mass

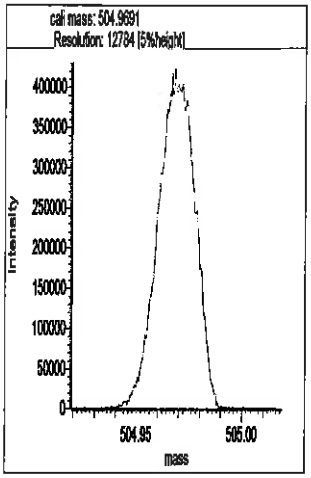
cali mass: 504.9691
Resolution: 12784 [5%height]
Intensity
mass

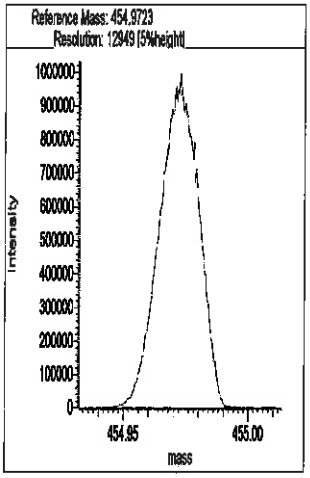
Reference Mass: 454.9723
Resolution: 12949 [5%height]
Intensity
mass

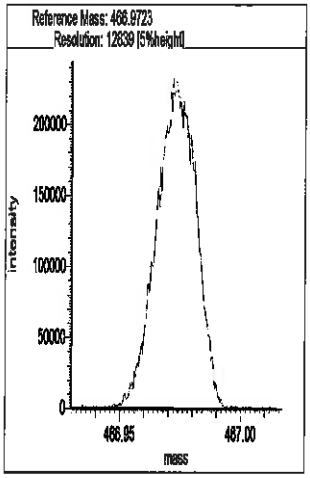
Reference Mass: 466.9723
Resolution: 12839 [5%height]
Intensity
mass

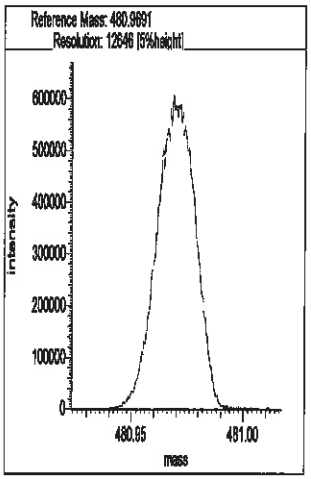
Reference Mass: 480.9691
Resolution: 12646 [5%height]
Intensity
mass

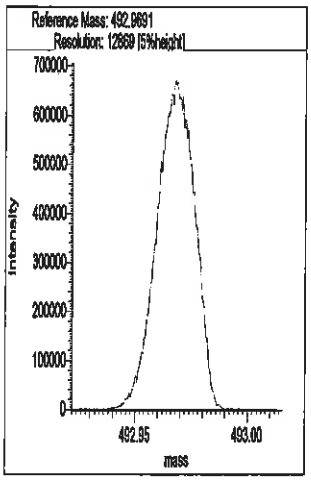
Reference Mass: 492.9691
Resolution: 12669 [5%height]
Intensity
mass

Resolution Check Report (DFS SN: 3441)

eurofins | Environment Testing TestAmerica

Date:	19 Oct 2019 02:25
MID Experiment:	5w_db5_pfk_singleGC01_RS
Target Resolution:	10000
Resolution Warning :	9500
Resolution Error :	8000
Reference:	pfk
Status:	RESOLUTION PASSED

Segment 1

Lock mass 304.9819 [m/z] Resolution: 12402 [5%height]
Cali. mass 380.9755 [m/z] Resolution: 12539 [5%height]
Ref. mass 318.9787 [m/z] Resolution: 12340 [5%height]
Ref. mass 330.9787 [m/z] Resolution: 12285 [5%height]
Ref. mass 342.9787 [m/z] Resolution: 12139 [5%height]
Ref. mass 354.9787 [m/z] Resolution: 12406 [5%height]
Ref. mass 368.9755 [m/z] Resolution: 12079 [5%height]
Ref. mass 392.9755 [m/z] Resolution: 12750 [5%height]
Ref. mass 404.9755 [m/z] Resolution: 12802 [5%height]

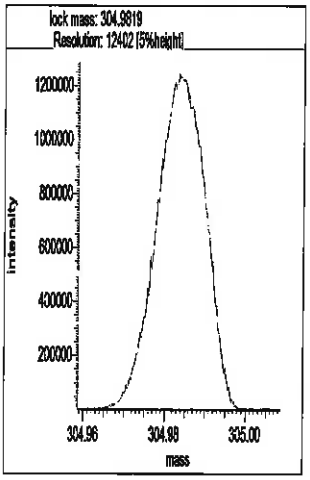

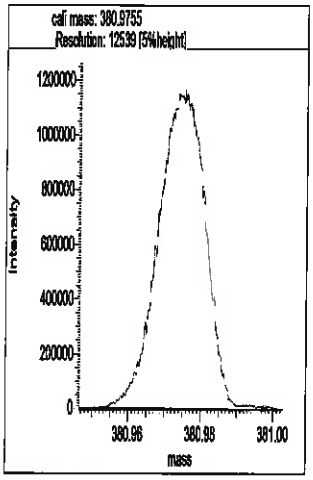

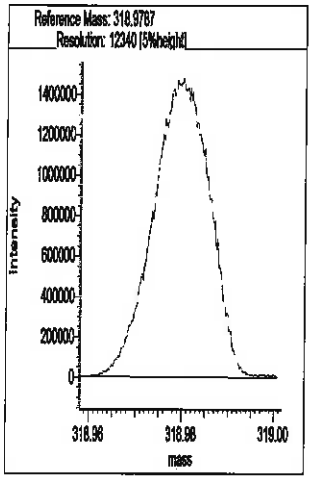

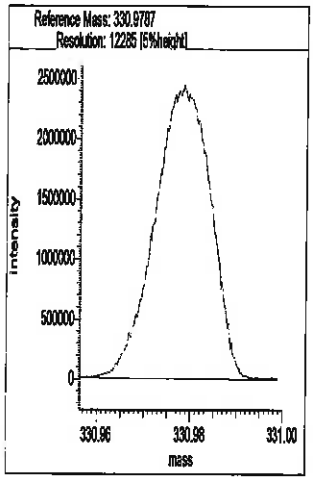

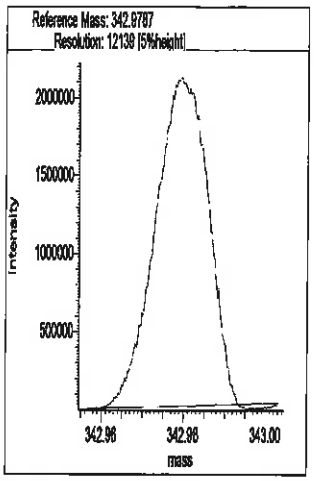

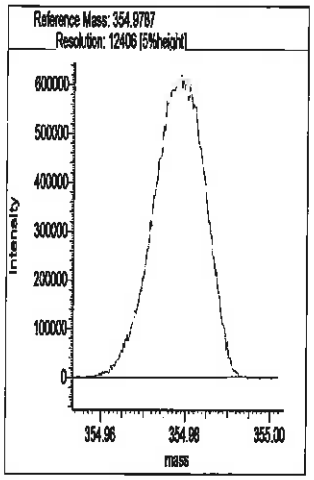

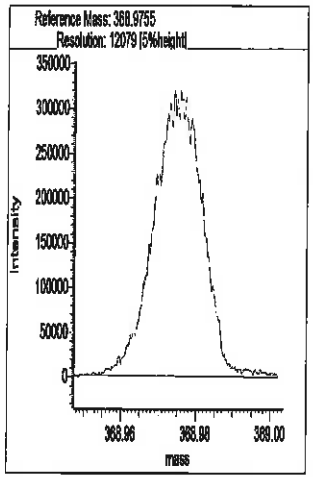

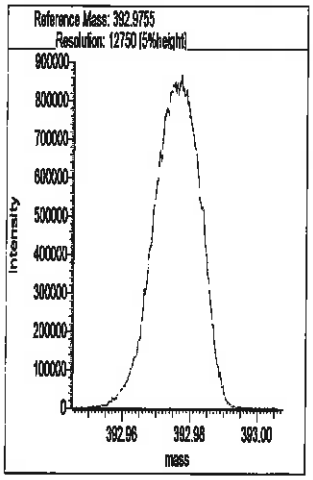

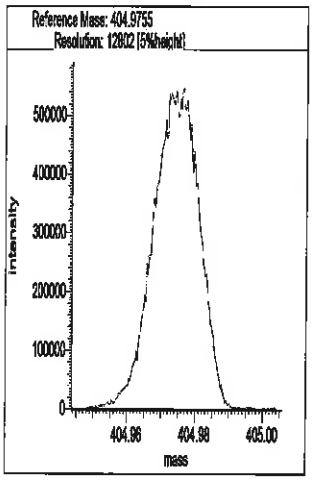

Segment 2

Lock mass 330.9787 [m/z] Resolution: 12539 [5%height]

Cali. mass 380.9755 [m/z] Resolution: 12409 [5%height]

Ref. mass 342.9787 [m/z] Resolution: 12330 [5%height]

Ref. mass 354.9787 [m/z] Resolution: 12149 [5%height]

Ref. mass 368.9755 [m/z] Resolution: 12334 [5%height]

Ref. mass 392.9755 [m/z] Resolution: 12622 [5%height]

Ref. mass 404.9755 [m/z] Resolution: 12689 [5%height]

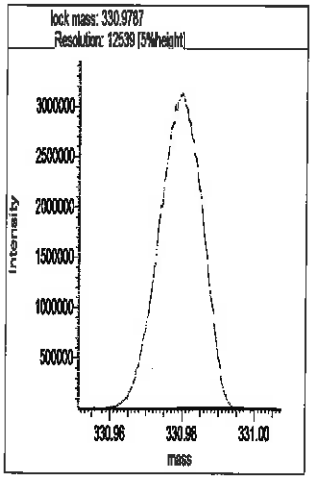

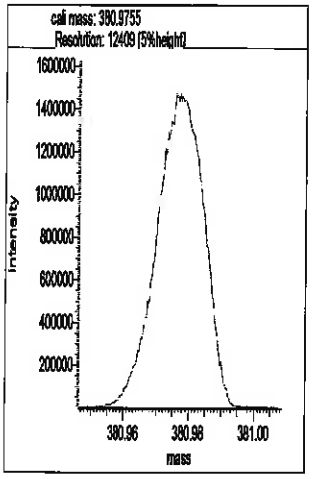

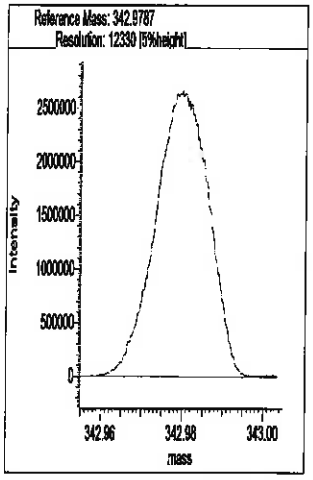

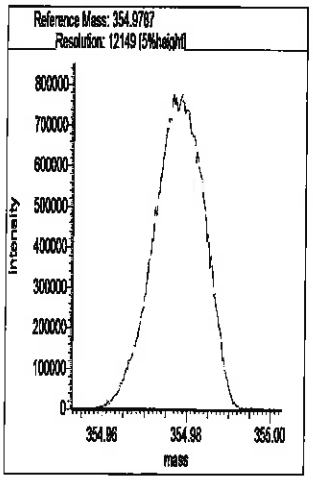

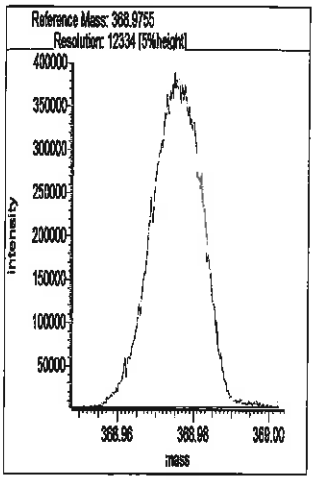

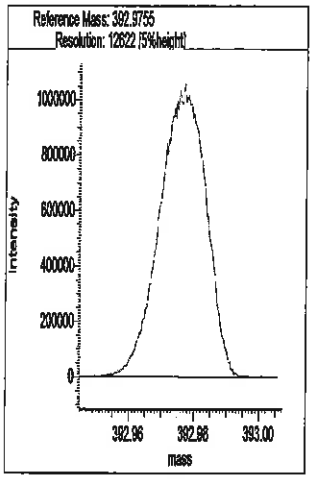

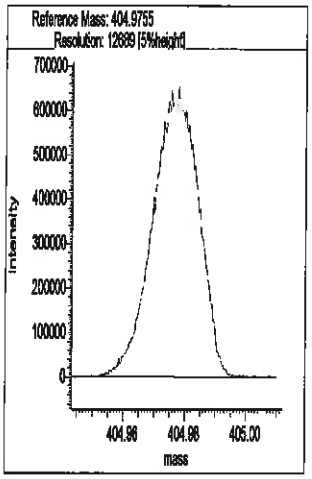

Segment 3

Lock mass 380.9755 [m/z] Resolution: 12540 [5%height]

Cali. mass 430.9723 [m/z] Resolution: 12663 [5%height]

Ref. mass 392.9755 [m/z] Resolution: 12589 [5%height]

Ref. mass 404.9755 [m/z] Resolution: 12351 [5%height]

Ref. mass 416.9755 [m/z] Resolution: 12676 [5%height]

Ref. mass 442.9723 [m/z] Resolution: 12713 [5%height]

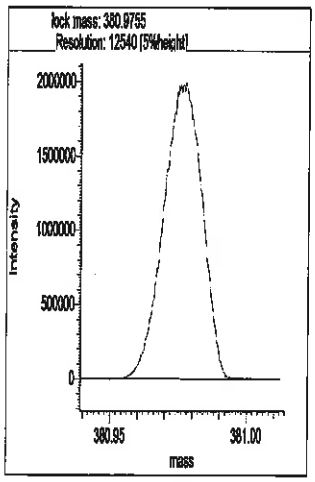

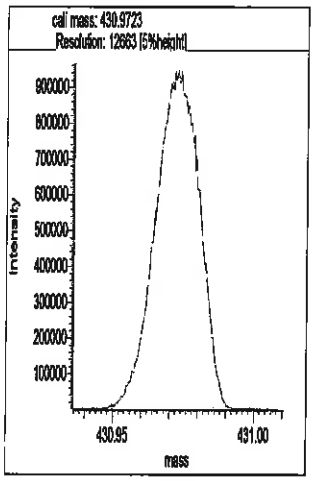

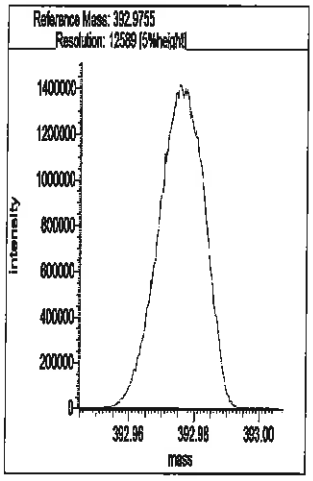

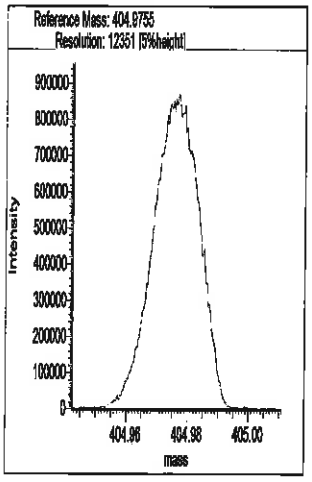

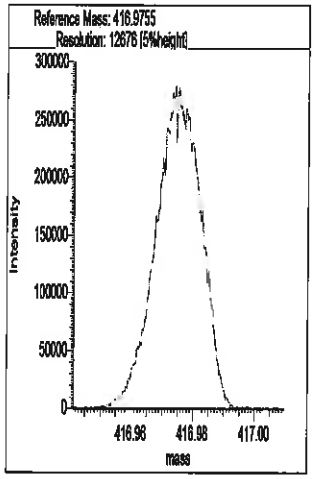

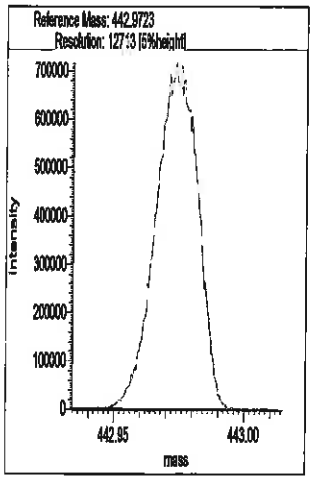

Segment 4

Lock mass 430.9723 [m/z] Resolution: 12770 [5%height]

Cali. mass 480.9691 [m/z] Resolution: 12692 [5%height]

Ref. mass 416.9755 [m/z] Resolution: 12917 [5%height]

Ref. mass 442.9723 [m/z] Resolution: 12640 [5%height]

Ref. mass 454.9723 [m/z] Resolution: 12808 [5%height]

Ref. mass 466.9723 [m/z] Resolution: 12858 [5%height]

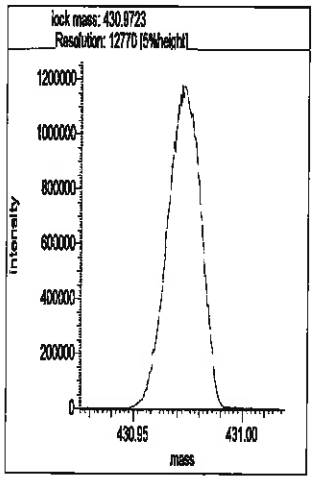

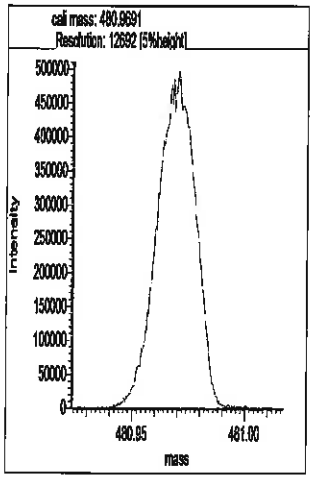

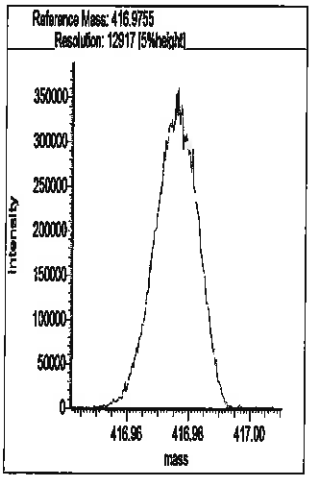

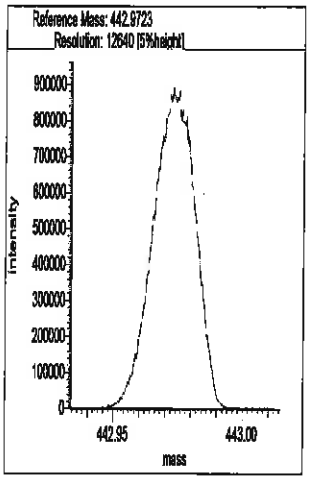

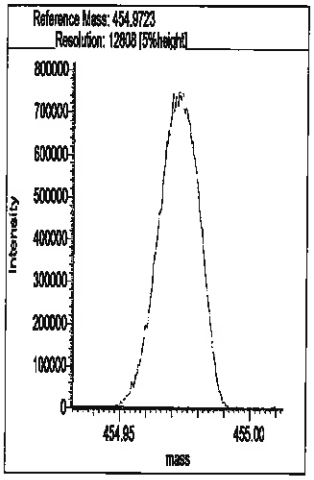

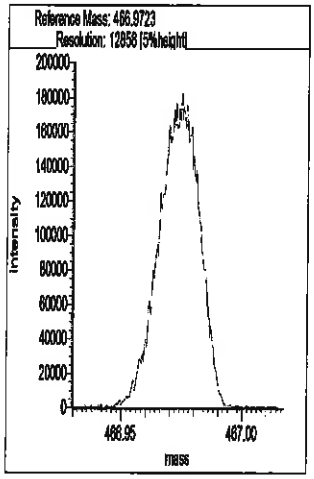

Segment 5

Lock mass 442.9723 [m/z] Resolution: 12860 [5%height]

Cali. mass 504.9691 [m/z] Resolution: 12681 [5%height]

Ref. mass 454.9723 [m/z] Resolution: 12863 [5%height]

Ref. mass 466.9723 [m/z] Resolution: 12611 [5%height]

Ref. mass 480.9691 [m/z] Resolution: 12550 [5%height]

Ref. mass 492.9691 [m/z] Resolution: 12584 [5%height]

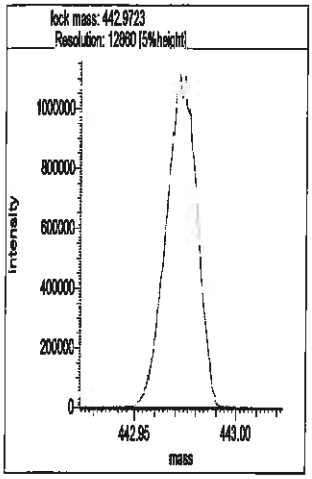
lock mass: 442.9723
Resolution: 12860 [5%height]
Intensity
mass

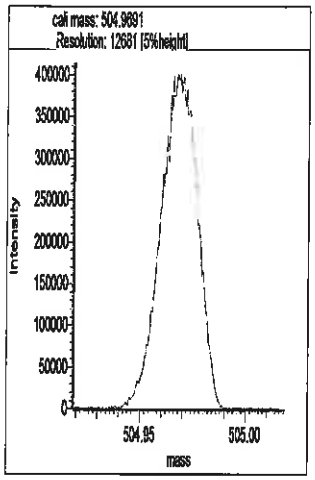
cali mass: 504.9691
Resolution: 12681 [5%height]
Intensity
mass

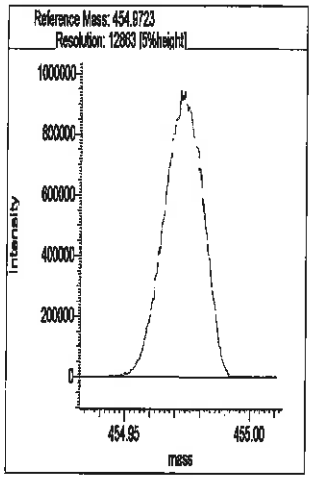
Reference Mass: 454.9723
Resolution: 12863 [5%height]
Intensity
mass

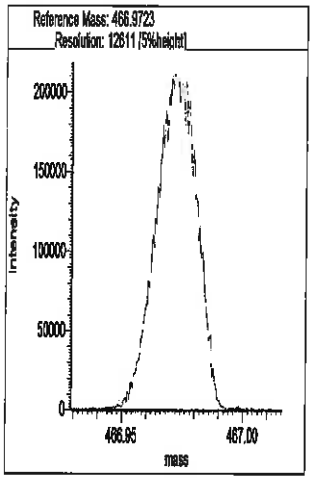
Reference Mass: 466.9723
Resolution: 12611 [5%height]
Intensity
mass

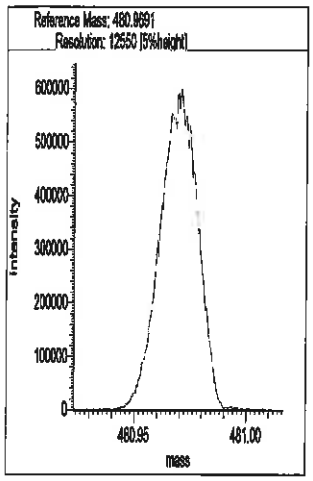
Reference Mass: 480.9691
Resolution: 12550 [5%height]
Intensity
mass

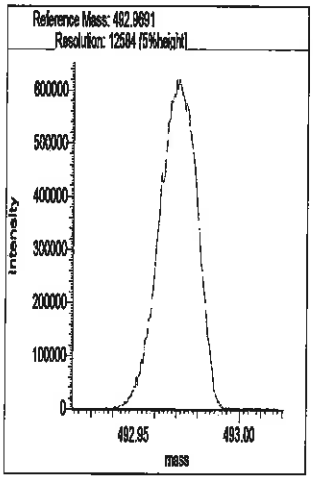
Reference Mass: 492.9691
Resolution: 12584 [5%height]
Intensity
mass

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_4.d
Lims ID: IC 2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 18-Oct-2019 20:50:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CS-2 HRDXNL2_00027
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\Dioxin_DFS1.m
Limit Group: HR - 1613B - ICAL
Last Update: 23-Oct-2019 11:52:49 Calib Date: 19-Oct-2019 00:02:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.07 :22.11)
Process Host: CTX0320

First Level Reviewer: shardaa Date: 21-Oct-2019 10:56:00

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	20.721	5214833	0.81	5.2E+04	100.0	100.0				
D 13C-2,3,7,8-TCDF	19.761	8340309	0.83	1.6096	99.4	99.4	0.2199	0.2199	99.36	
2,3,7,8-TCDF	19.787	52500	0.88	1.2332	0.5104	0.5104	0.0102	0.0102	102	
S Total TCDF					0.5104	0.5104	0.0102	0.0102		
D 13C-2,3,7,8-TCDD	21.084	5201084	0.78	0.9984	99.9	99.9	0.1868	0.1868	99.90	
$ 37Cl4-2,3,7,8-TCDD	21.102	36152		1.4510	0.4778	0.4778	0.005715	0.005715	95.56	
2,3,7,8-TCDD	21.119	30582	0.71	1.1988	0.4905	0.4905	0.0265	0.0265	98.10	
S Total TCDD					0.4905	0.4905	0.0265	0.0265		
D 13C-1,2,3,7,8-PeCDF	26.789	7004333	1.58	1.3678	98.2	98.2	0.4757	0.4757	98.20	
1,2,3,7,8-PeCDF	26.814	195742	1.60	1.1689	2.391	2.391	0.0241	0.0241	95.63	
D 13C-2,3,4,7,8-PeCDF	28.290	6517835	1.60	1.3045			0.4403	0.4403	97.54	
2,3,4,7,8-PeCDF	28.324	195625	1.59	1.1861	2.530	2.530	0.0268	0.0268	101	
S Total PeCDF					4.921	4.921	0.0255	0.0255		
D 13C-1,2,3,7,8-PeCDD	29.087	4192143	1.62	0.8292	96.9	96.9	0.1985	0.1985	96.95	
1,2,3,7,8-PeCDD	29.112	116165	1.56	1.1200	2.474	2.474	0.0359	0.0359	98.97	
S Total PeCDD					2.474	2.474	0.0359	0.0359		
D 13C-1,2,3,4,7,8-HxCDF	34.576	6626281	0.54	1.1700	100.3	100.3	0.4879	0.4879	100	
1,2,3,4,7,8-HxCDF	34.602	215195	1.25	1.3021	2.494	2.494	0.0238	0.0238	99.76	
D 13C-1,2,3,6,7,8-HxCDF	34.753	7476700	0.54	1.3168	100.5	100.5	0.4335	0.4335	101	
1,2,3,6,7,8-HxCDF	34.769	239982	1.24	1.2907	2.487	2.487	0.0209	0.0209	99.47	
D 13C-2,3,4,6,7,8-HxCDF	35.608	7240856	0.54	1.2873	99.6	99.6	0.4434	0.4434	99.58	
2,3,4,6,7,8-HxCDF	35.625	232263	1.31	1.3039	2.460	2.460	0.0187	0.0187	98.40	
D 13C-1,2,3,7,8,9-HxCDF	36.522	6704113	0.53	1.1987	99.0	99.0	0.4762	0.4762	99.01	
1,2,3,7,8,9-HxCDF	36.530	224956	1.31	1.3329	2.518	2.518	0.0187	0.0187	101	
S Total HxCDF					9.958	9.958	0.0205	0.0205		
* 13C-1,2,3,7,8,9-HxCDD	36.321	5648672	1.25	5.8E+04	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	35.826	4566579	1.27	0.8364			0.2753	0.2753	98.00	
1,2,3,4,7,8-HxCDD	35.834	137541	1.26	1.1725	2.569	2.569	0.0222	0.0222	103	
D 13C-1,2,3,6,7,8-HxCDD	35.943	5037671	1.28	0.9040	98.7	98.7	0.2397	0.2397	98.65	
1,2,3,6,7,8-HxCDD	35.960	142433	1.21	1.1256	2.512	2.512	0.0223	0.0223	100	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,7,8,9-HxCDD	36.337	147369	1.26	1.2327	2.373	2.373	0.0203	0.0203	94.93	
S Total HxCDD					7.454	7.454	0.0216	0.0216		
D 13C-1,2,3,4,6,7,8-HpCDF	38.353	5403412	0.46	0.9689	98.7	98.7	0.4307	0.4307	98.73	
1,2,3,4,6,7,8-HpCDF	38.370	215620	1.01	1.6176	2.467	2.467	0.0324	0.0324	98.67	
D 13C-1,2,3,4,7,8,9-HpCDF	39.620	5120644	0.46	0.9231			0.3722	0.3722	99.46	
1,2,3,4,7,8,9-HpCDF	39.628	186889	1.01	1.4672	2.488	2.488	0.0352	0.0352	99.50	
S Total HpCDF					4.954	4.954	0.0338	0.0338		
D 13C-1,2,3,4,6,7,8-HpCDD	39.309	5085943	1.06	0.9114	98.8	98.8	0.5282	0.5282	98.79	
1,2,3,4,6,7,8-HpCDD	39.326	141914	1.08	1.1237	2.483	2.483	0.0215	0.0215	99.33	
S Total HpCDD					2.483	2.483	0.0215	0.0215		
D 13C-OCDD	41.748	6904214	0.89	0.6272	194.9	194.9	0.3497	0.3497	97.43	
OCDF	41.849	255207	0.94	1.5416	4.796	4.796	0.0305	0.0305	95.91	
OCDD	41.756	205114	0.88	1.1855	5.012	5.012	0.0269	0.0269	100	

Reagents:

HRDXNL2_00027 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_4.d
Lims ID: IC 2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 18-Oct-2019 20:50:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CS-2 HRDXNL2_00027
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\Dioxin_DFS1.m
Limit Group: HR - 1613B - ICAL
Last Update: 23-Oct-2019 11:52:49 Calib Date: 19-Oct-2019 00:02:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.07 :22.11)
Process Host: CTX0320

First Level Reviewer: shardaa Date: 21-Oct-2019 10:56:00

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	20.721	20.729	0		2332430	341583	408	1020	837		
333.9338	20.721	20.729	0		2882403	442256	177	442	2499	0.81(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.761	19.762	0	0.954	3773732	577143	761	1902	758		
317.9389	19.761	19.762	0	0.954	4566577	691228	349	872	1981	0.83(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	19.787	19.792	0	1.001	24533	3942	16	40	246		
305.8987	19.779	19.792	-1	1.001	27967	4235	48	120	88	0.88(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	21.084	21.094	-1	1.018	2276809	334683	408	1020	820		
333.9338	21.093	21.094	0	1.018	2924275	420624	177	442	2376	0.78(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	21.102	21.121	-1	1.018	36152	5329	26	65	205		
2,3,7,8-TCDD											
319.8965	21.119	21.127	0	1.002	12729	2735	85	212	32		
321.8936	21.119	21.127	0	1.002	17853	2744	11	27	249	0.71(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	26.789	26.797	-1	1.293	4287343	744278	1278	3195	582		
353.8970	26.789	26.797	-1	1.293	2716990	469830	762	1905	617	1.58(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	26.814	26.821	0	1.001	120338	21488	46	115	467		
341.8567	26.805	26.821	-1	1.001	75404	13244	91	227	146	1.60(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	28.290	28.297	0	1.365	4006334	658492	1278	3195	515		
353.8970	28.290	28.297	0	1.365	2511501	416084	762	1905	546	1.60(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	28.324	28.322	0	1.001	119956	20023	46	115	435		
341.8567	28.315	28.322	0	1.001	75669	11760	91	227	129	1.59(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	29.087	29.095	0	1.404	2591133	399747	292	730	1369		
369.8919	29.087	29.095	0	1.404	1601010	247490	224	560	1105	1.62(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	29.112	29.120	0	1.001	70716	10901	74	185	147		
357.8516	29.104	29.120	-1	1.001	45449	6815	30	75	227	1.56(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.576	34.589	-1	0.952	2310882	510770	1240	3100	412		
385.8610	34.585	34.589	0	0.952	4315399	933183	2208	5520	423	0.54(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.602	34.608	0	1.001	119354	27646	106	265	261		
375.8178	34.593	34.608	-1	1.000	95841	21007	73	182	288	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	34.753	34.759	0	0.957	2610690	575733	1240	3100	464		
385.8610	34.753	34.759	0	0.957	4866010	1085181	2208	5520	491	0.54(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	34.769	34.777	0	1.000	132711	29089	106	265	274		
375.8178	34.769	34.777	0	1.000	107271	22924	73	182	314	1.24(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	35.608	35.616	0	0.980	2527686	635424	1240	3100	512		
385.8610	35.608	35.616	0	0.980	4713170	1193040	2208	5520	540	0.54(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	35.625	35.633	0	1.000	131571	32979	106	265	311		
375.8178	35.625	35.633	0	1.000	100692	25013	73	182	343	1.31(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.522	36.530	0	1.006	2328325	629156	1240	3100	507		
385.8610	36.522	36.530	0	1.006	4375788	1164414	2208	5520	527	0.53(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	36.530	36.544	-1	1.000	127416	35550	106	265	335		
375.8178	36.530	36.544	-1	1.000	97540	26248	73	182	360	1.31(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	36.321	36.330	-1		3141731	834721	754	1885	1107		
403.8529	36.321	36.330	-1		2506941	675393	555	1387	1217	1.25(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	35.826	35.836	-1	0.986	2557805	692789	754	1885	919		
403.8529	35.826	35.836	-1	0.986	2008774	542841	555	1387	978	1.27(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	35.834	35.849	-1	1.000	76782	19814	71	177	279		
391.8127	35.843	35.849	0	1.000	60759	16429	58	145	283	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	35.943	35.958	-1	0.990	2827451	720540	754	1885	956		
403.8529	35.952	35.958	0	0.990	2210220	564498	555	1387	1017	1.28(1.05-1.43)	

Report Date: 23-Oct-2019 11:52:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08
Data File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_4.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,6,7,8-HxCDD											
389.8158	35.960	35.973	-1	1.000	77990	20007	71	177	282		
391.8127	35.960	35.973	-1	1.000	64443	16265	58	145	280	1.21(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8158	36.337	36.346	0	1.014	82206	22268	71	177	314		
391.8127	36.337	36.346	0	1.014	65163	17463	58	145	301	1.26(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.353	38.366	-1	1.056	1710651	565452	843	2107	671		
419.8220	38.353	38.366	-1	1.056	3692761	1211303	1678	4195	722	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.370	38.378	0	1.000	108579	36995	246	615	150		
409.7788	38.370	38.378	0	1.000	107041	34760	127	317	274	1.01(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	39.620	39.629	-1	1.091	1621959	572337	843	2107	679		
419.8220	39.620	39.629	-1	1.091	3498685	1234587	1678	4195	736	0.46(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.628	39.641	-1	1.000	93901	31909	246	615	130		
409.7788	39.628	39.641	-1	1.000	92988	32754	127	317	258	1.01(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.309	39.324	-1	1.082	2619075	901093	1530	3825	589		
437.8140	39.309	39.324	-1	1.082	2466868	839094	1378	3445	609	1.06(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7767	39.326	39.334	0	1.000	73750	24788	105	262	236		
425.7737	39.326	39.334	0	1.000	68164	22857	63	157	363	1.08(0.88-1.20)	
13C-OCDD											
469.7780	41.748	41.764	-1	1.149	3249296	1049079	643	1607	1632		
471.7750	41.748	41.764	-1	1.149	3654918	1160595	682	1705	1702	0.89(0.76-1.02)	
OCDF											
441.7428	41.849	41.858	-1	1.002	123705	41103	63	157	652		
443.7399	41.849	41.858	-1	1.002	131502	42274	145	362	292	0.94(0.76-1.02)	
OCDD											
457.7377	41.756	41.772	-1	1.000	96117	29826	67	167	445		
459.7348	41.756	41.772	-1	1.000	108997	35058	74	185	474	0.88(0.76-1.02)	

Reagents:

HRDXNL2_00027 Amount Added: 1.00 Units: mL

Report Date: 23-Oct-2019 11:52:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_4.d		
Injection Date:	18-Oct-2019 20:50:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

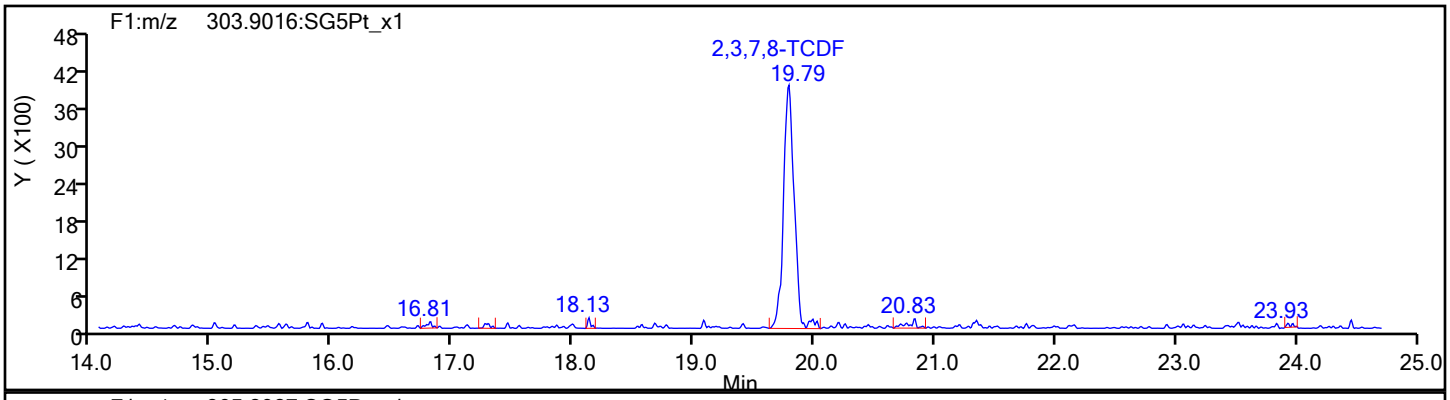

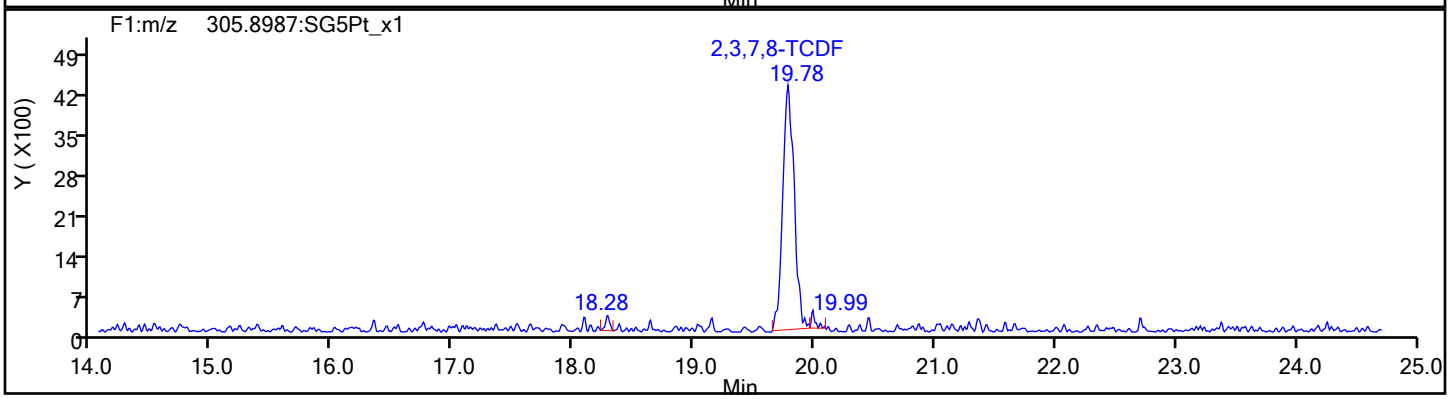

TCDF Standards

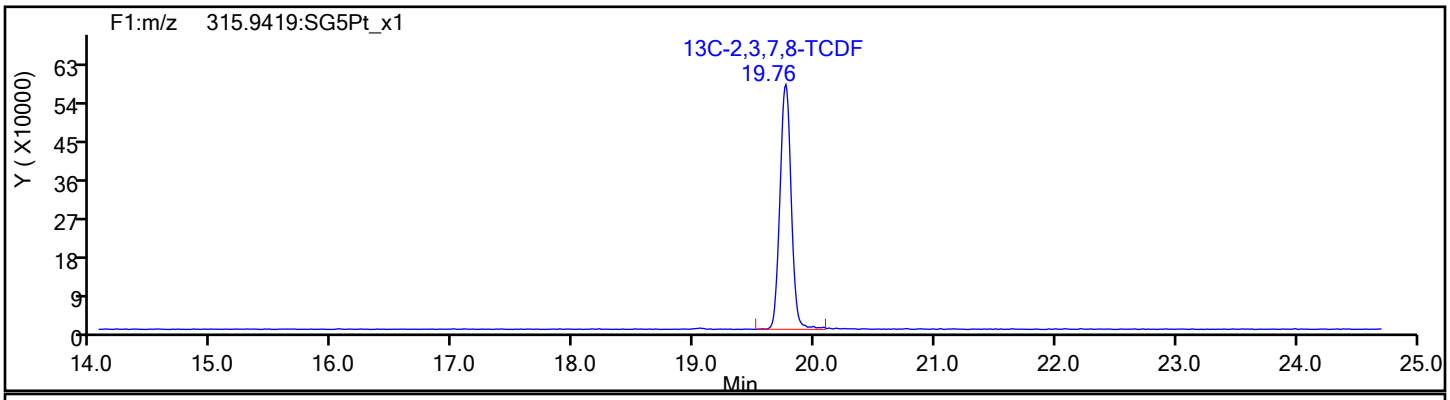

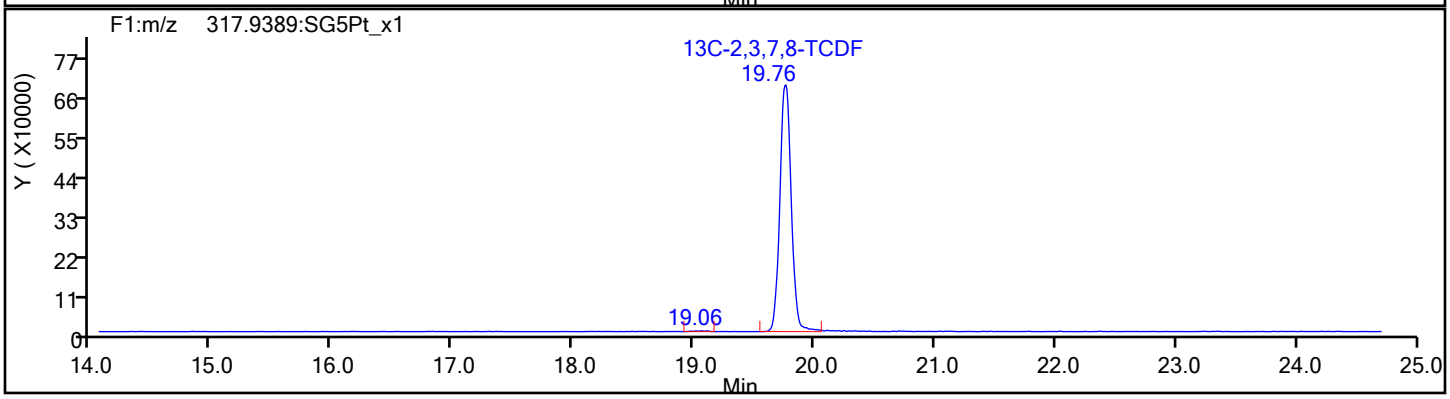

Report Date: 23-Oct-2019 11:52:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_4.d		
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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

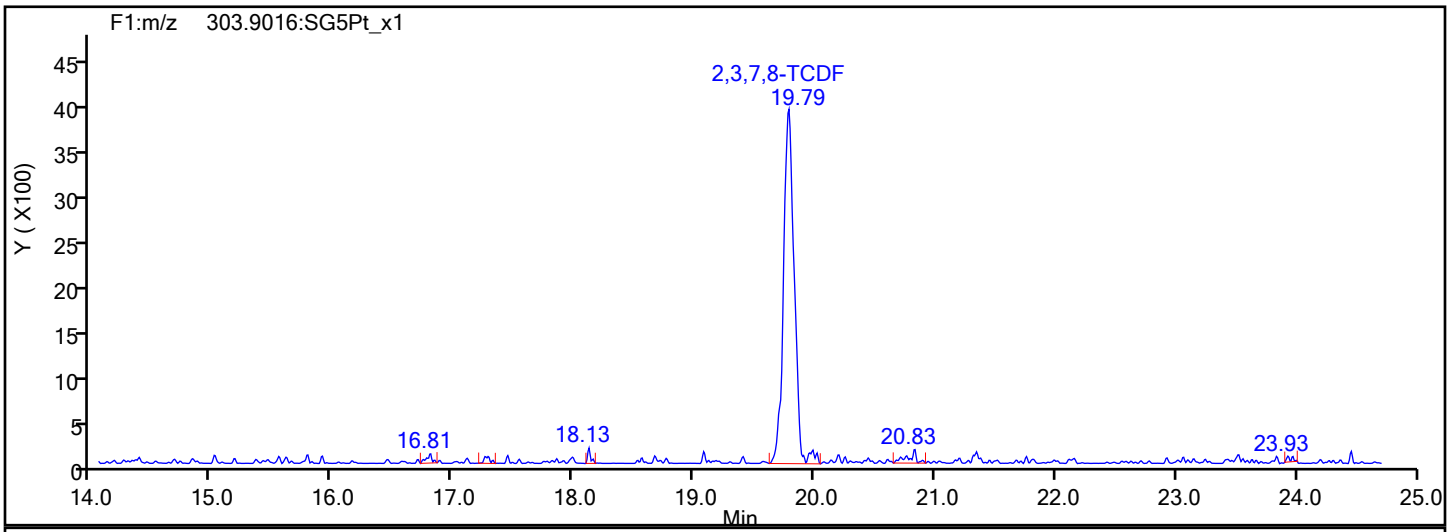

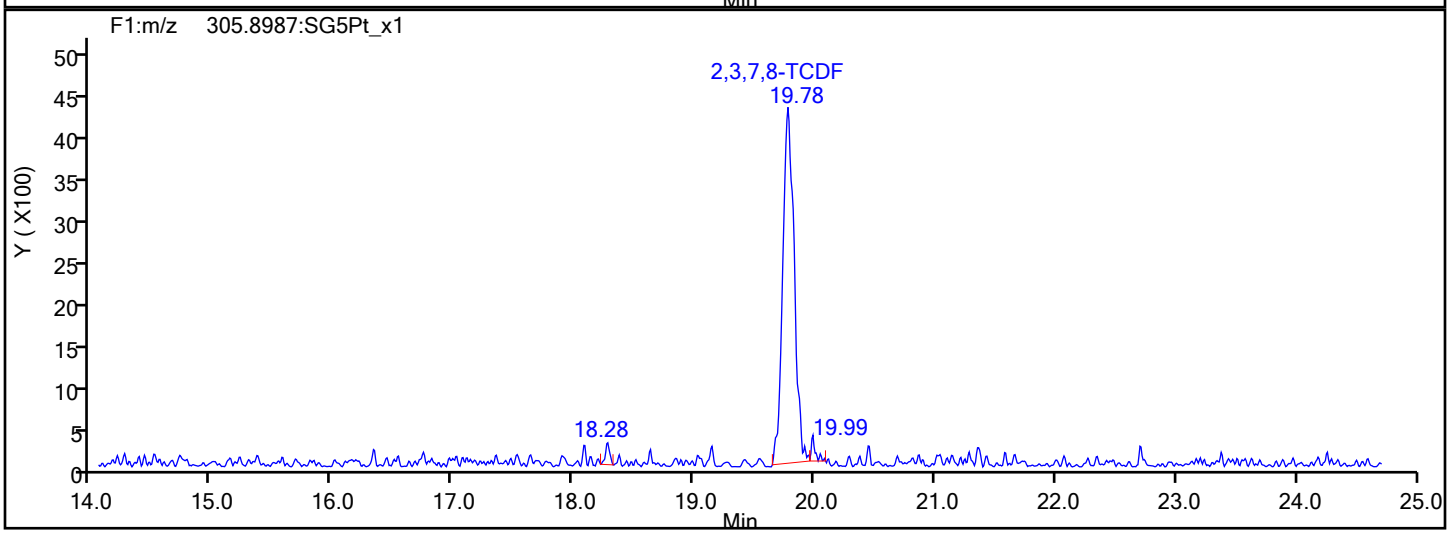

TCDF Interference Mass

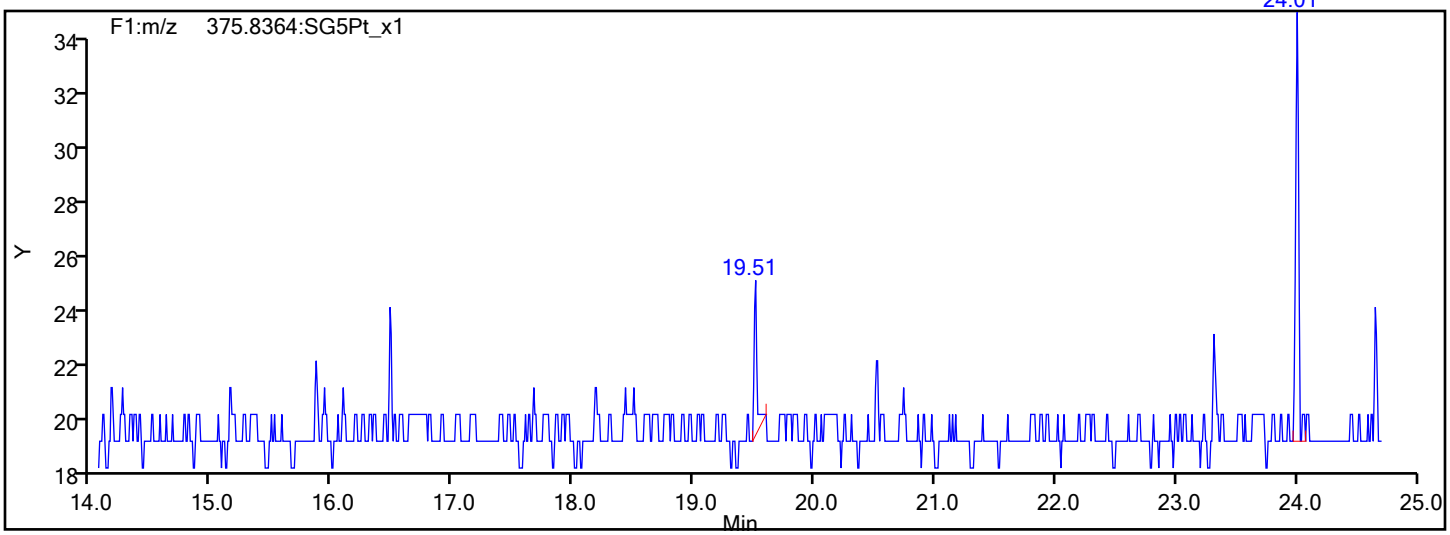

Report Date: 23-Oct-2019 11:52:59 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_4.d		
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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

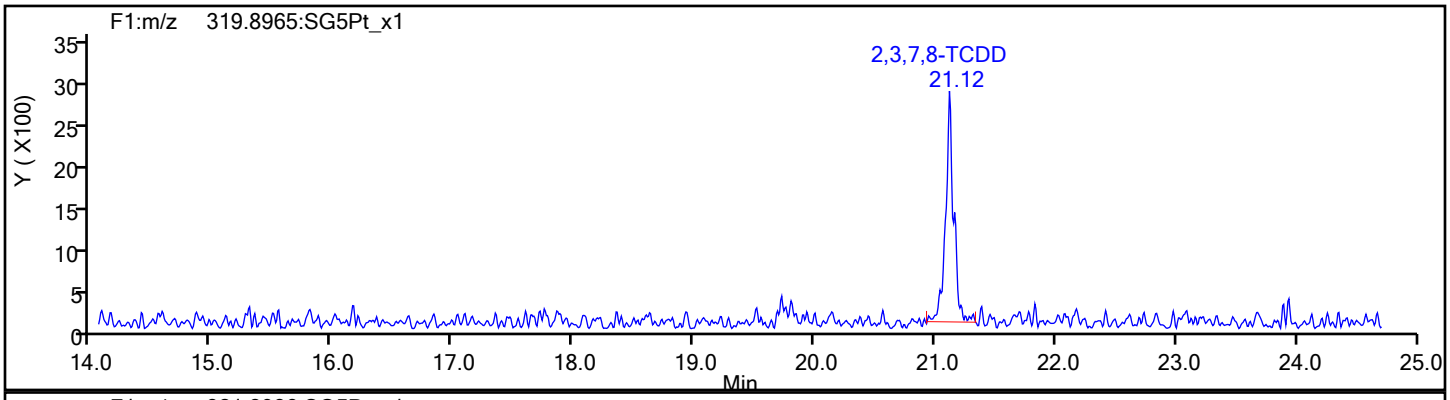

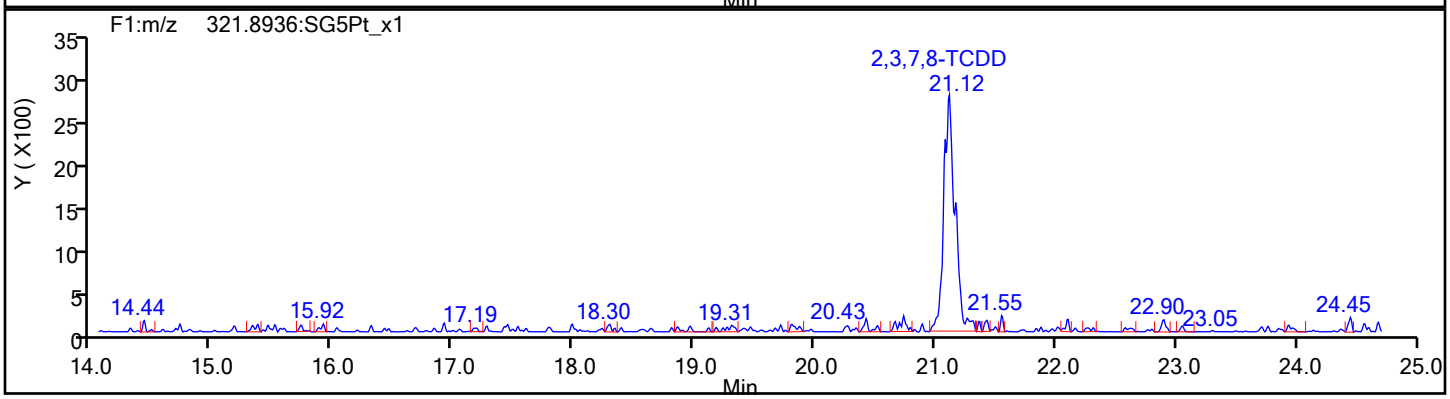

TCDD Standards

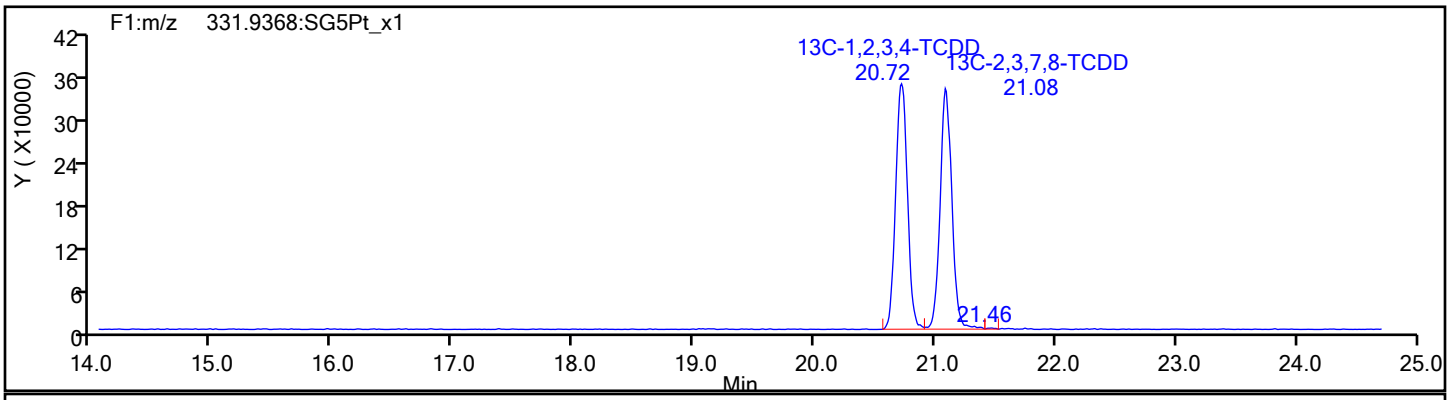

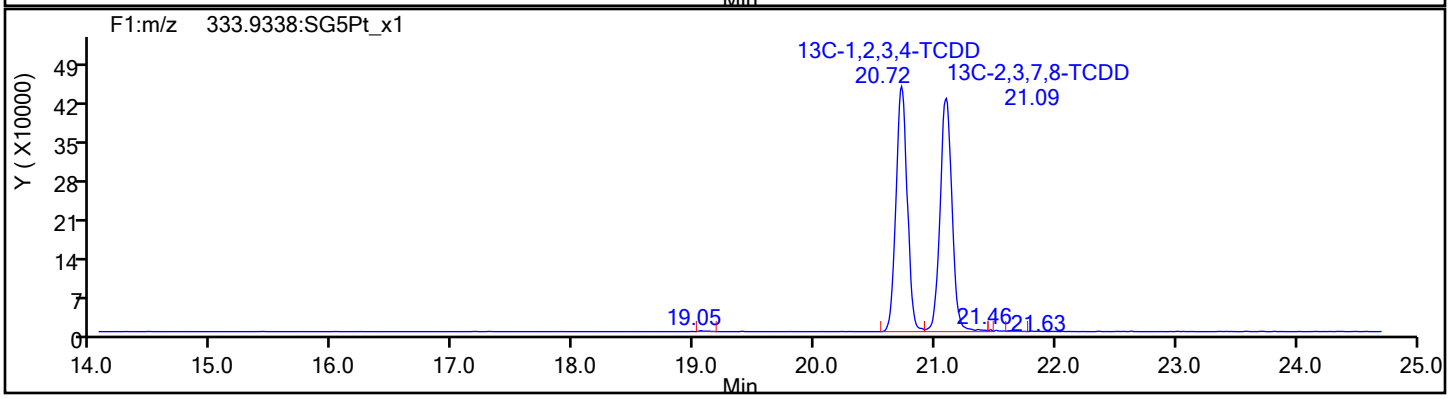

Report Date: 23-Oct-2019 11:52:59 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_4.d		
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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

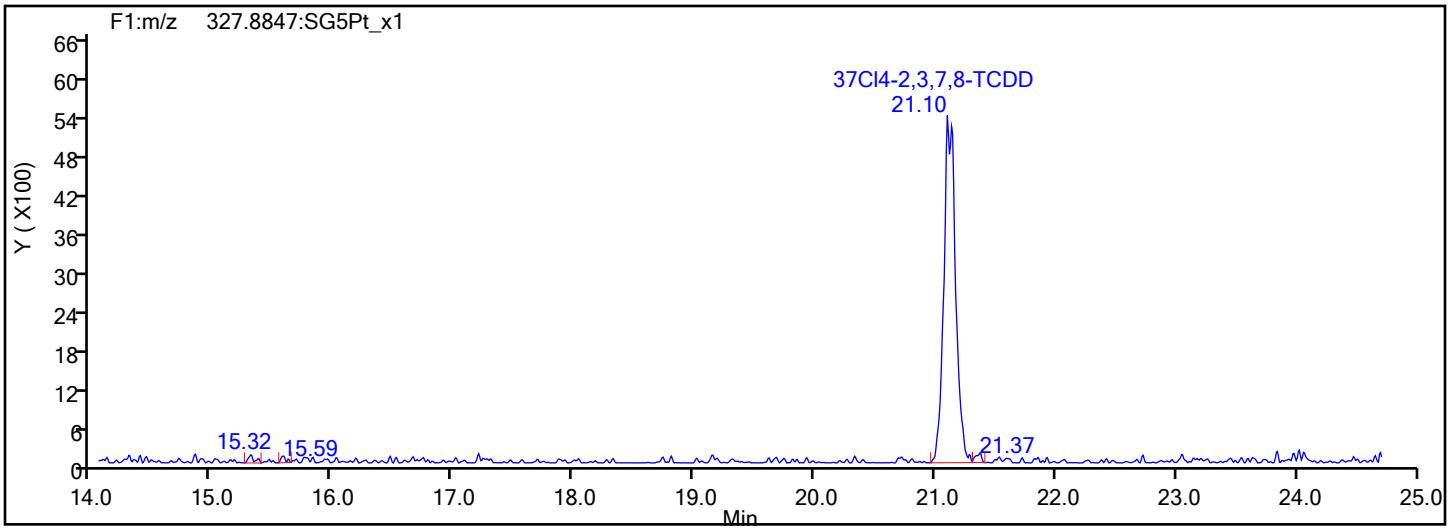

37Cl4-TCDD Standards

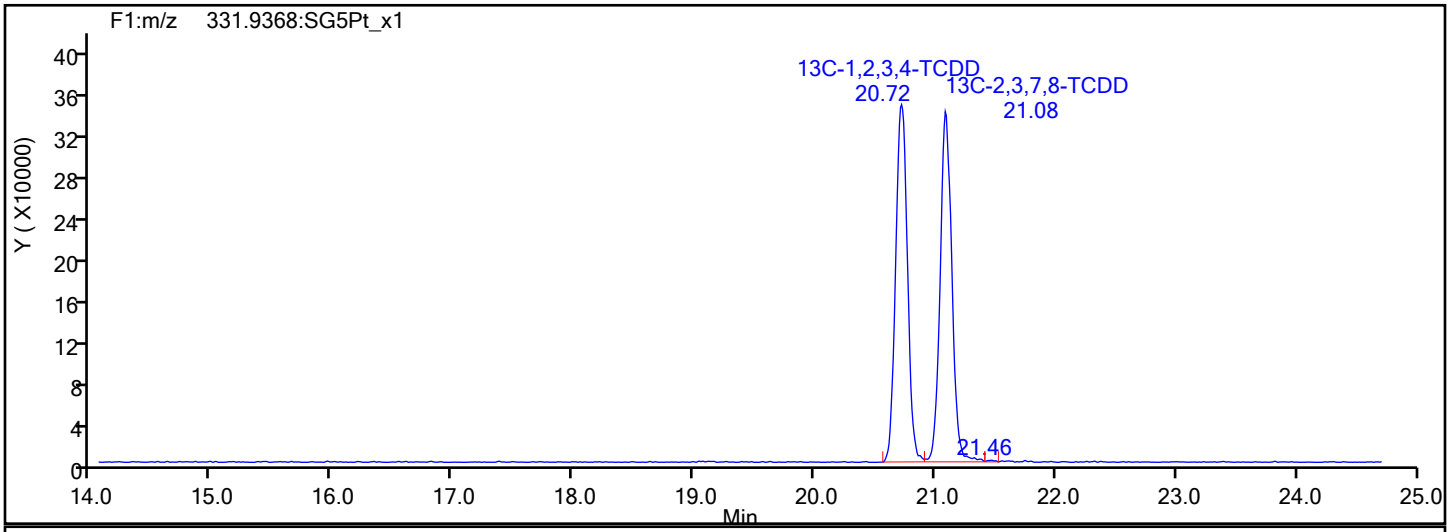

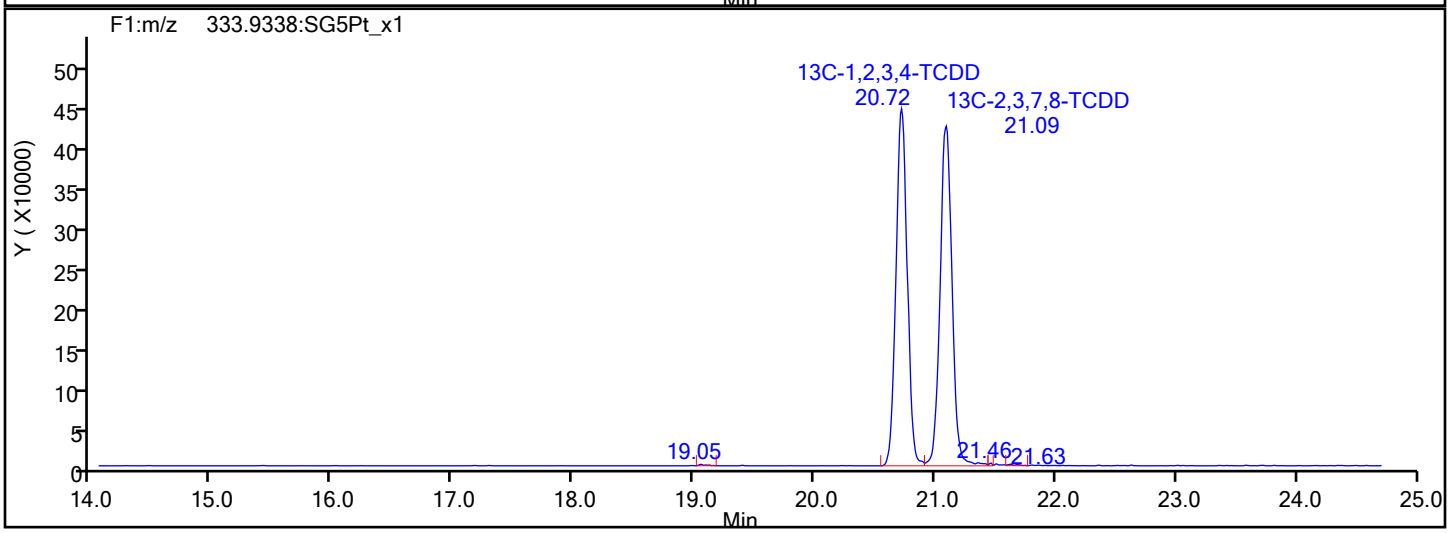

Report Date: 23-Oct-2019 11:52:59 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_4.d		
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Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

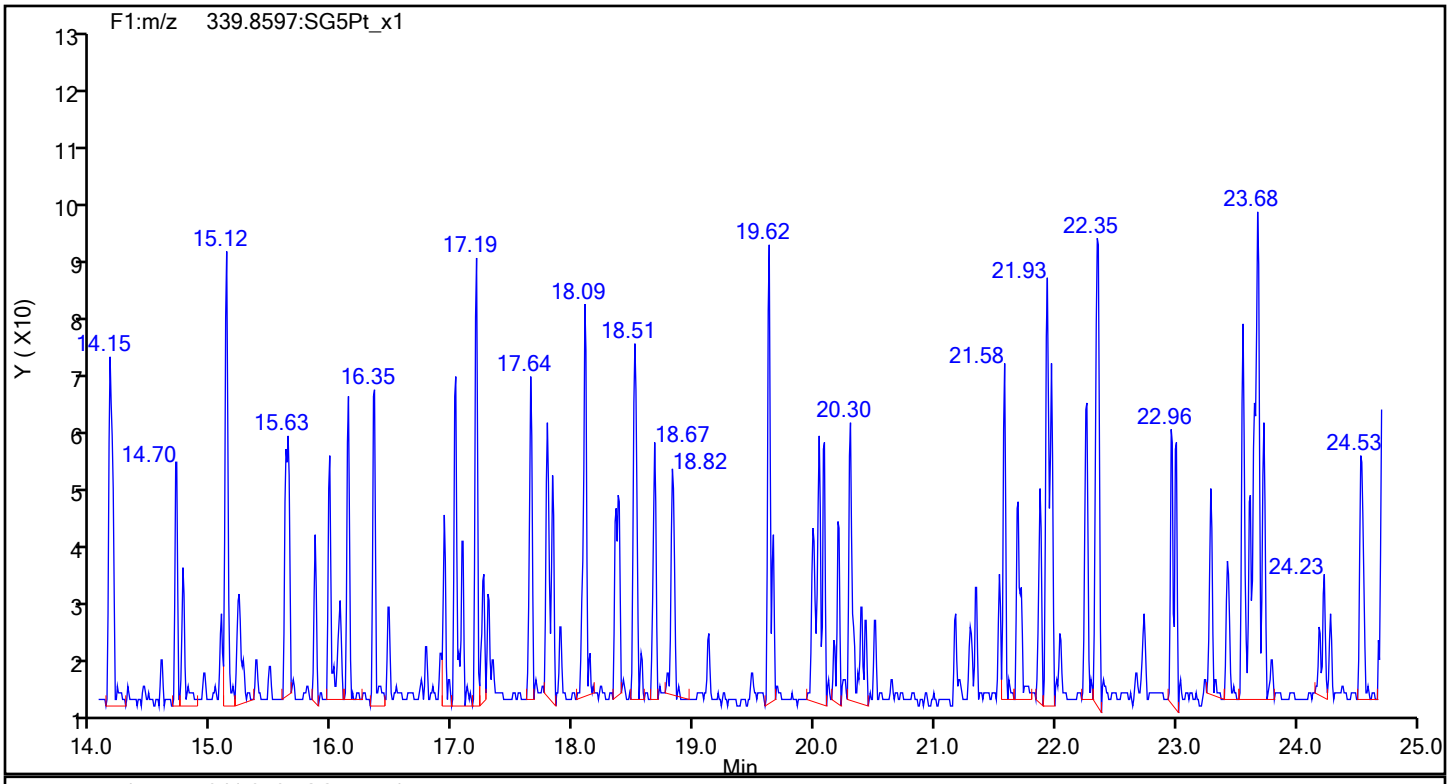

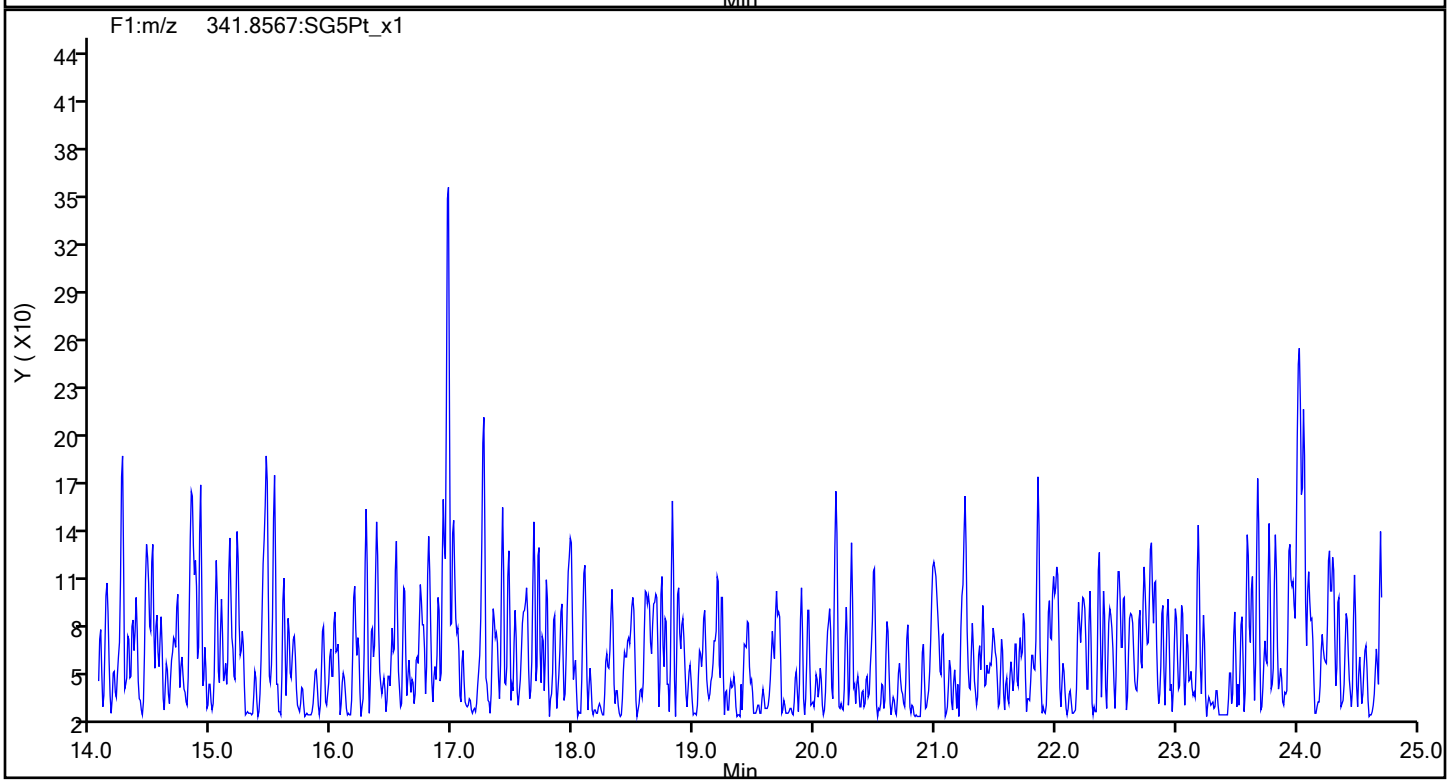

Report Date: 23-Oct-2019 11:52:59 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_4.d		
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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

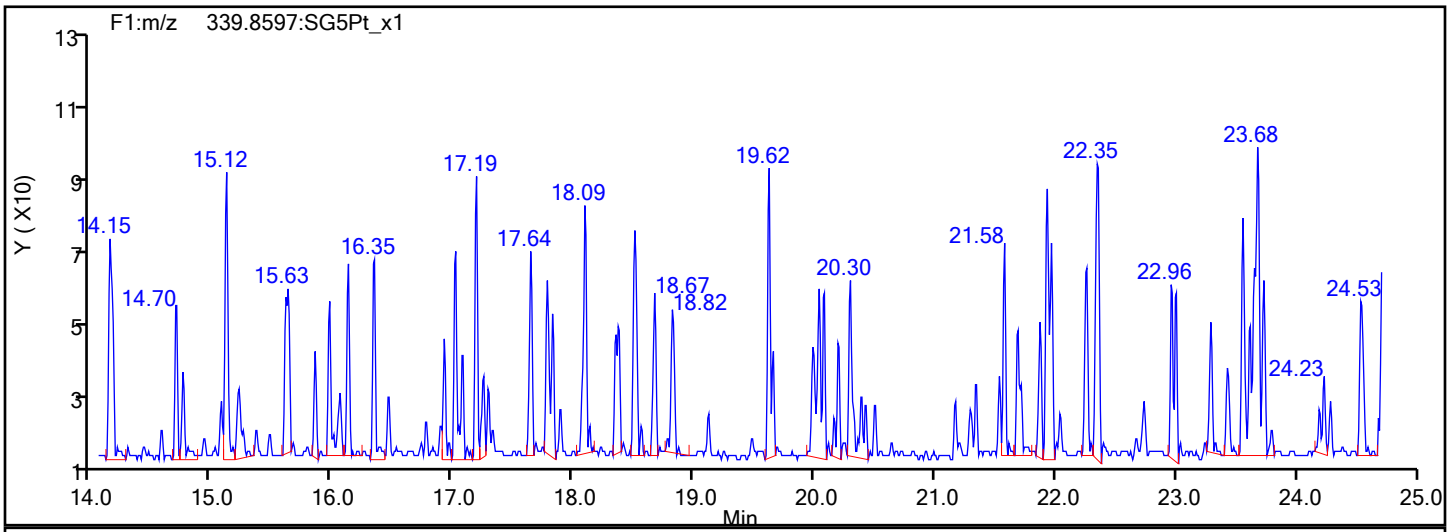

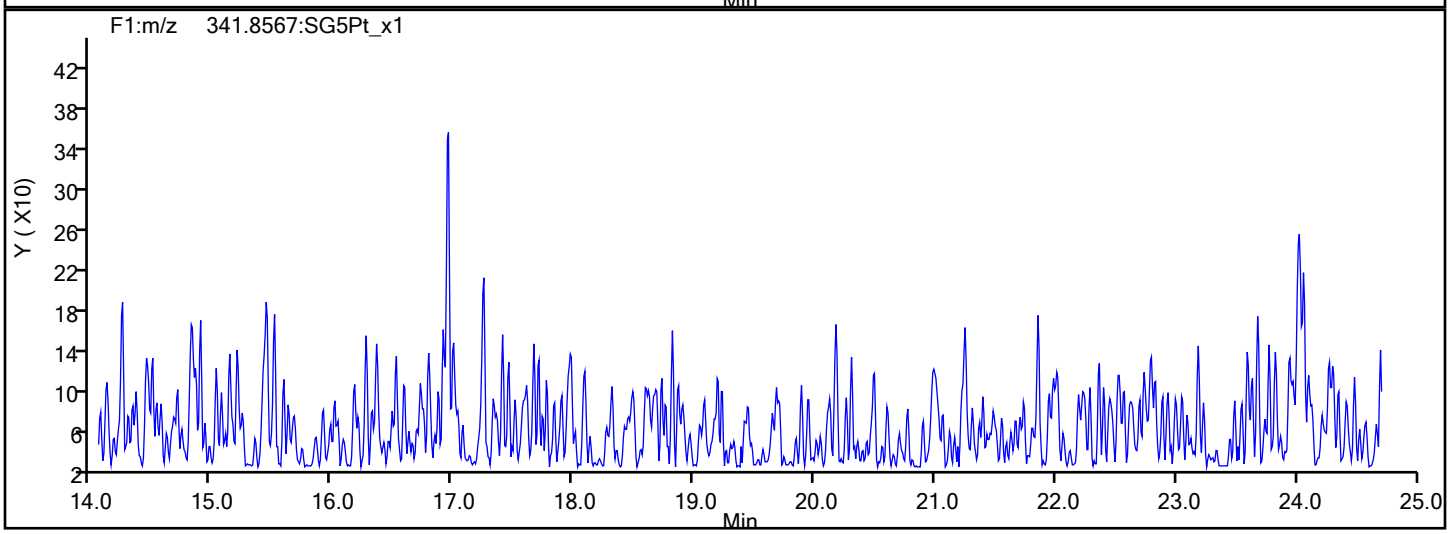

F1 PeCDFs Interference Mass

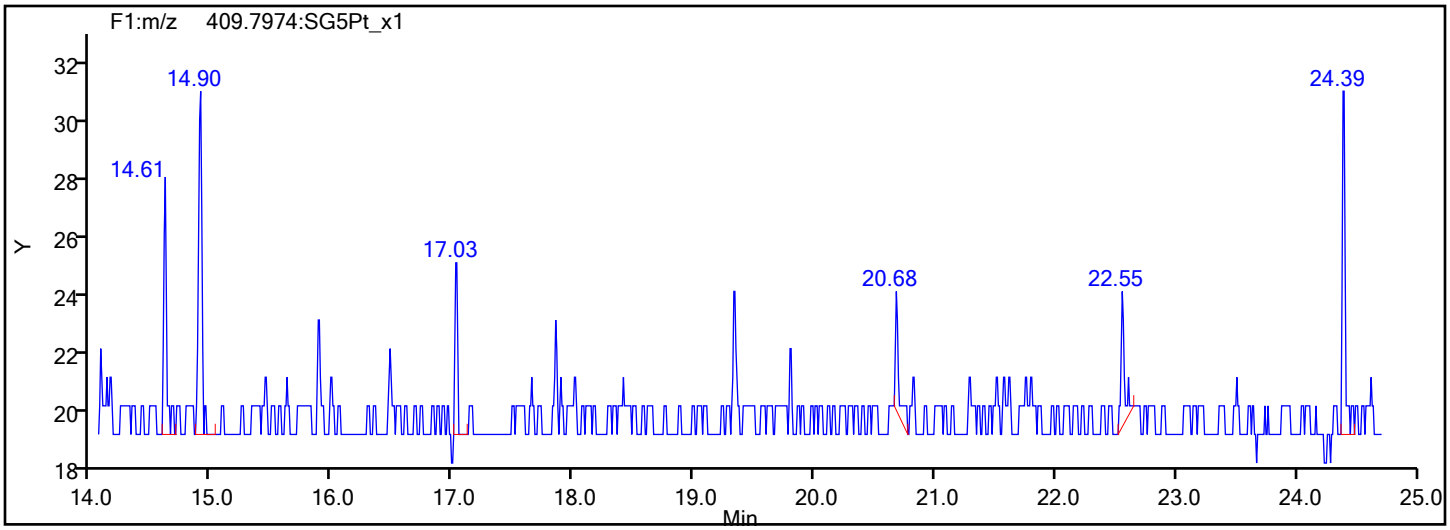

Report Date: 23-Oct-2019 11:52:59 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_4.d		
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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

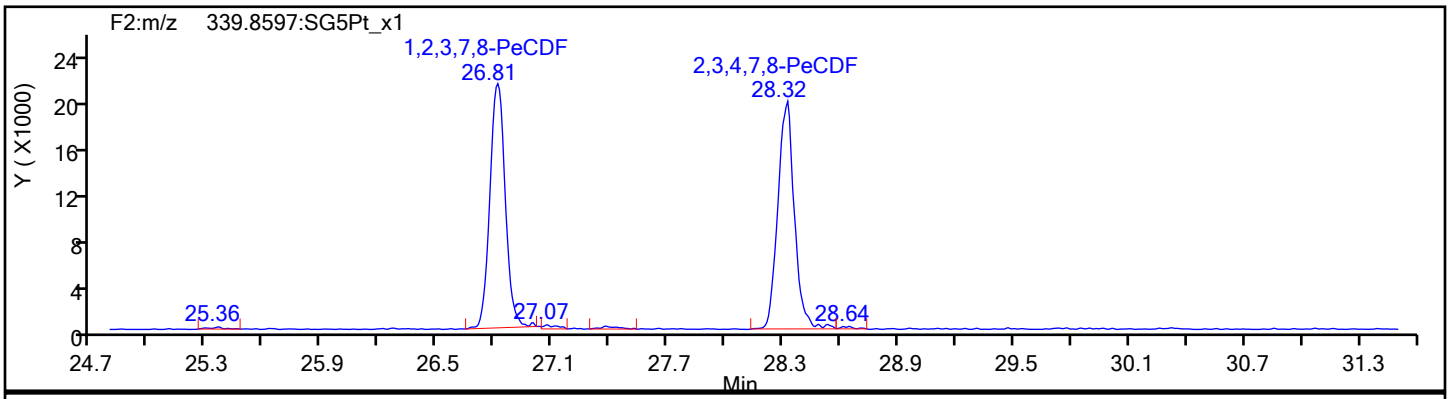

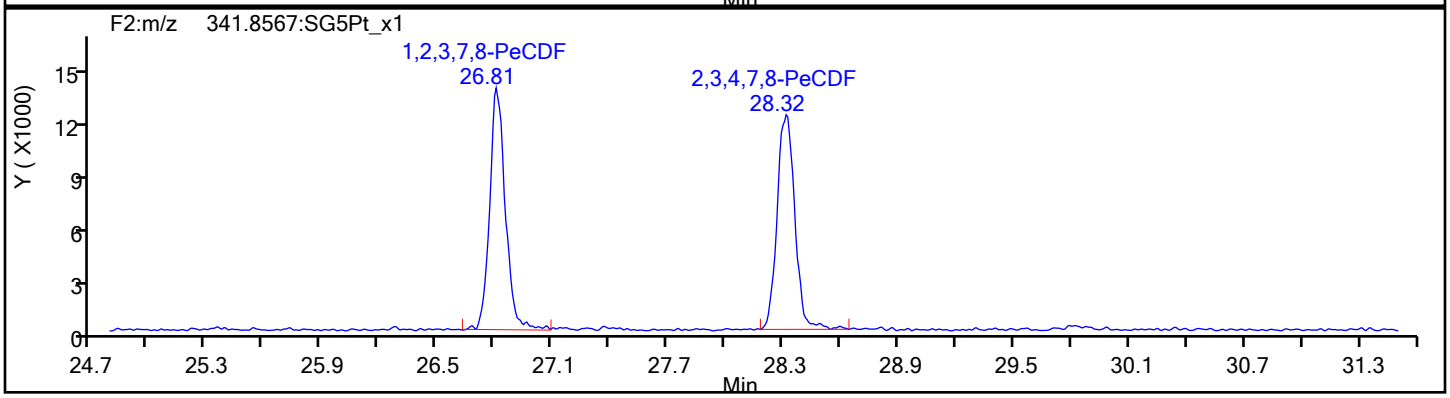

PeCDF Standards

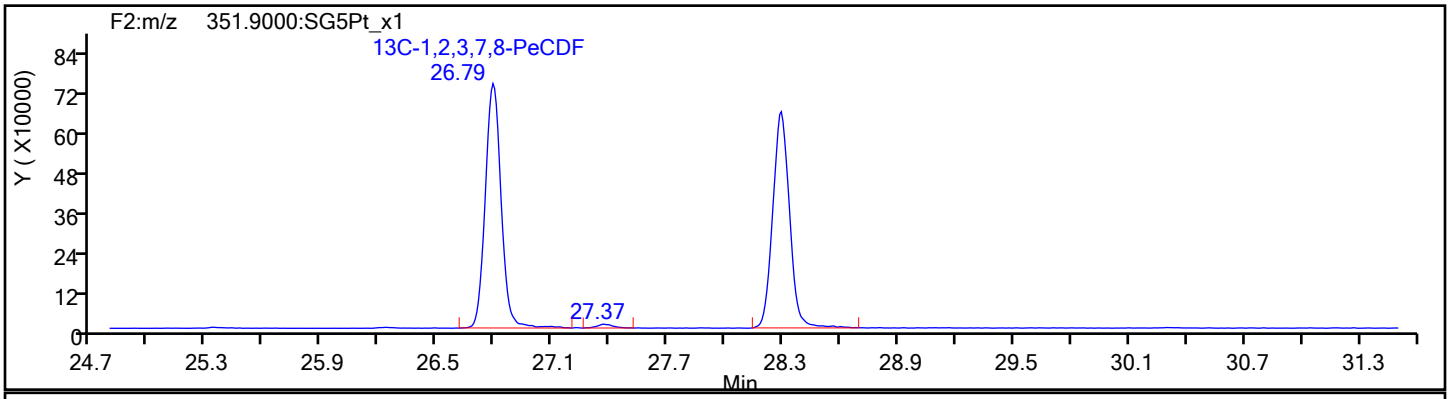

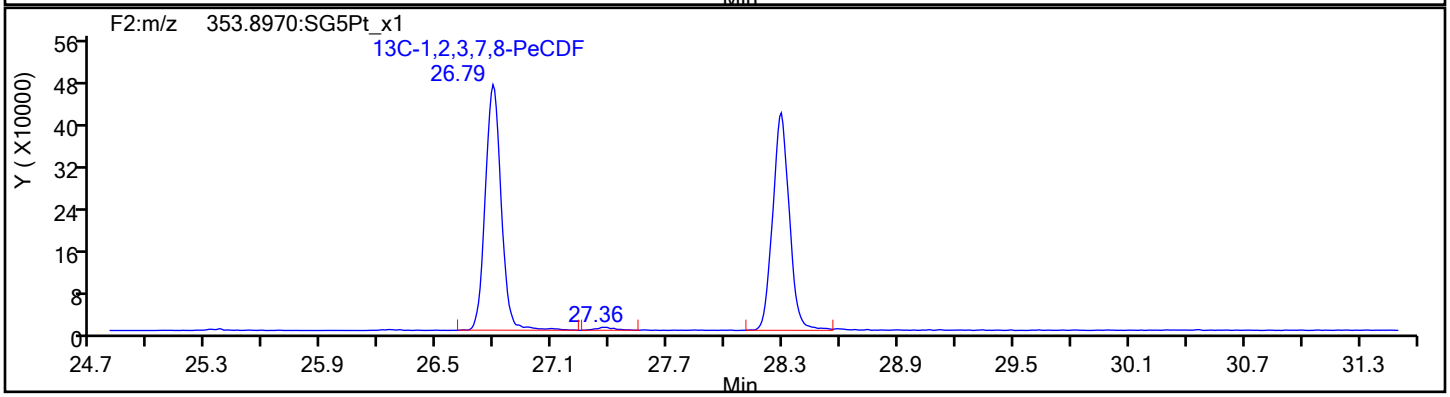

Report Date: 23-Oct-2019 11:52:59 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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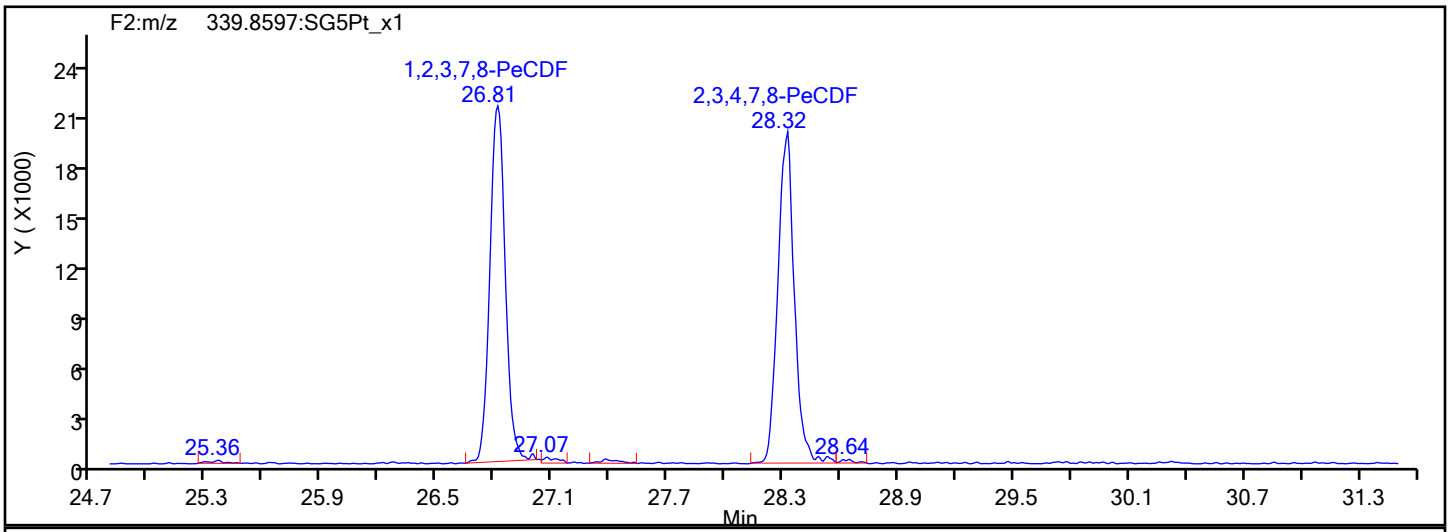

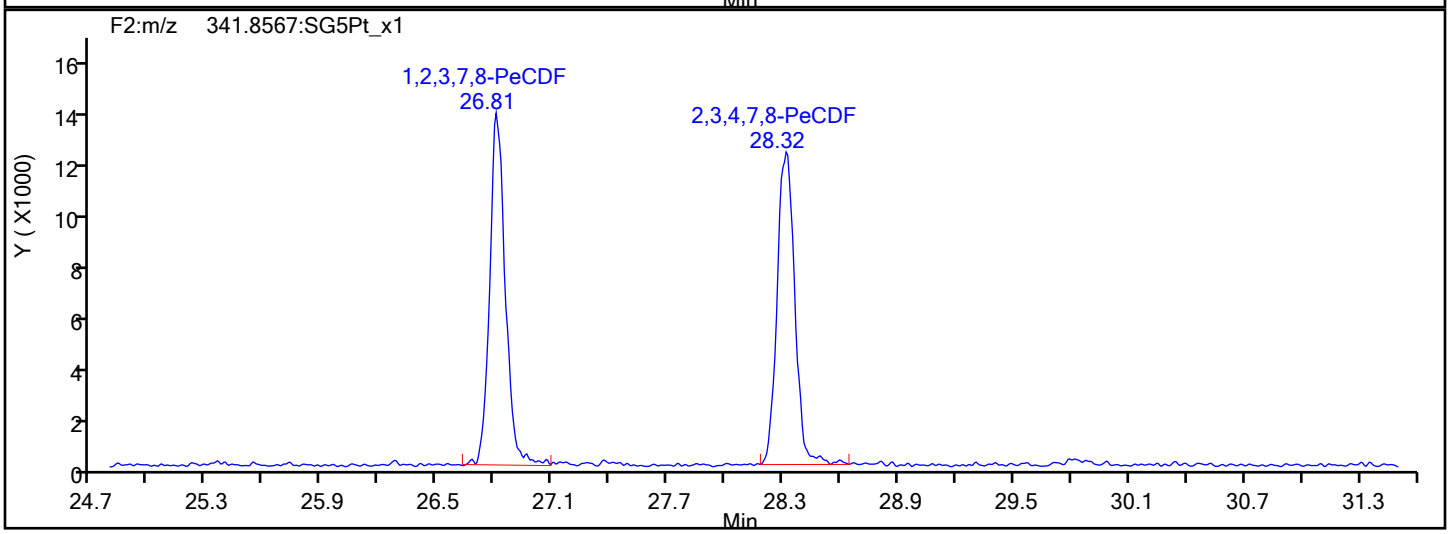

PeCDF Interference Mass

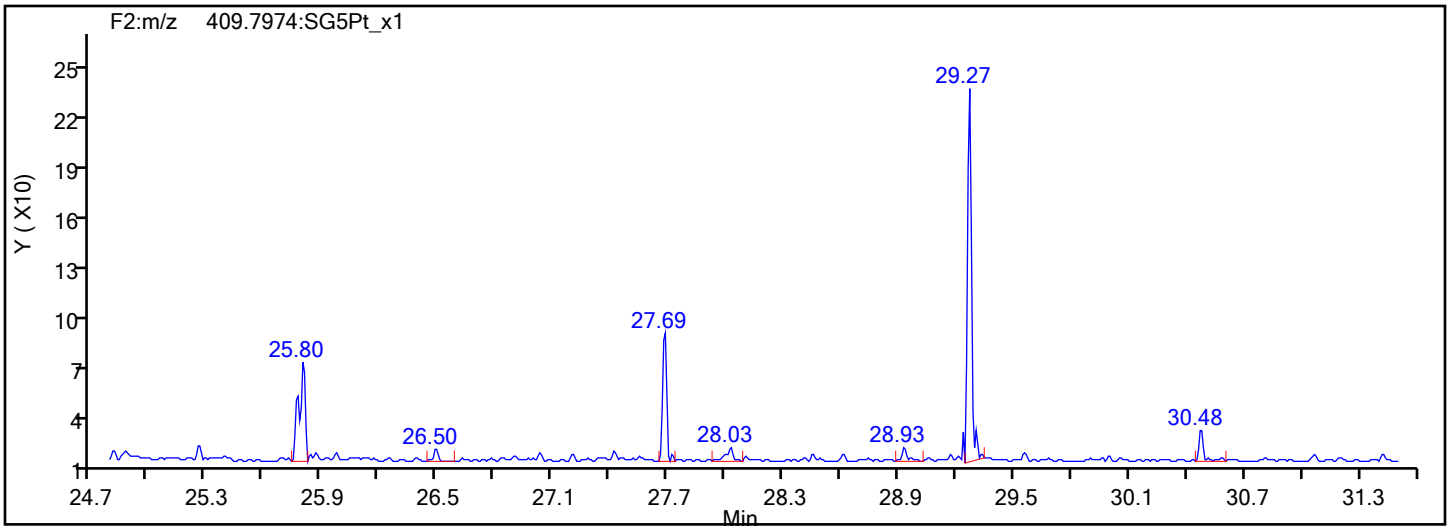

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Eurofins TestAmerica, Sacramento

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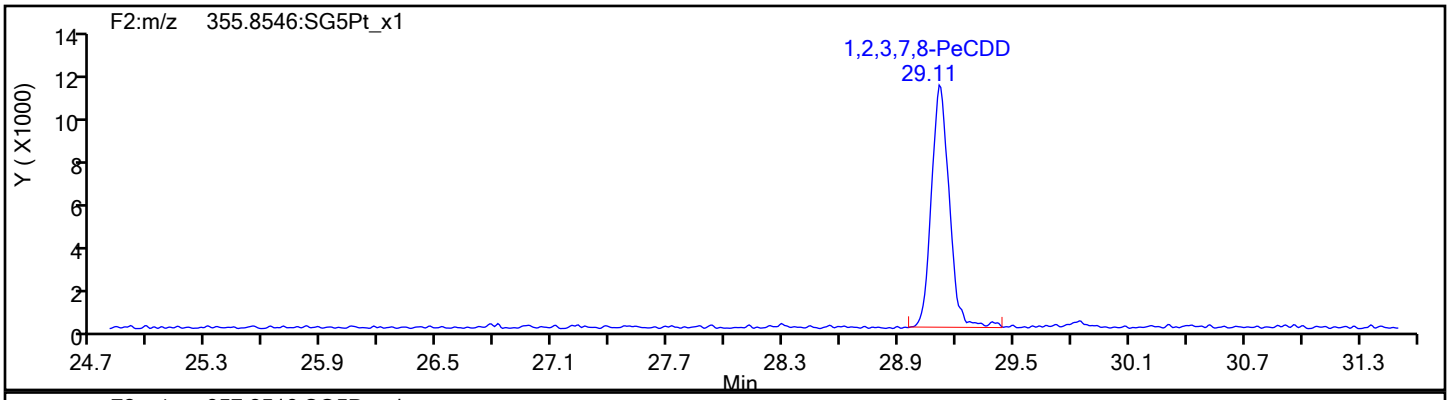

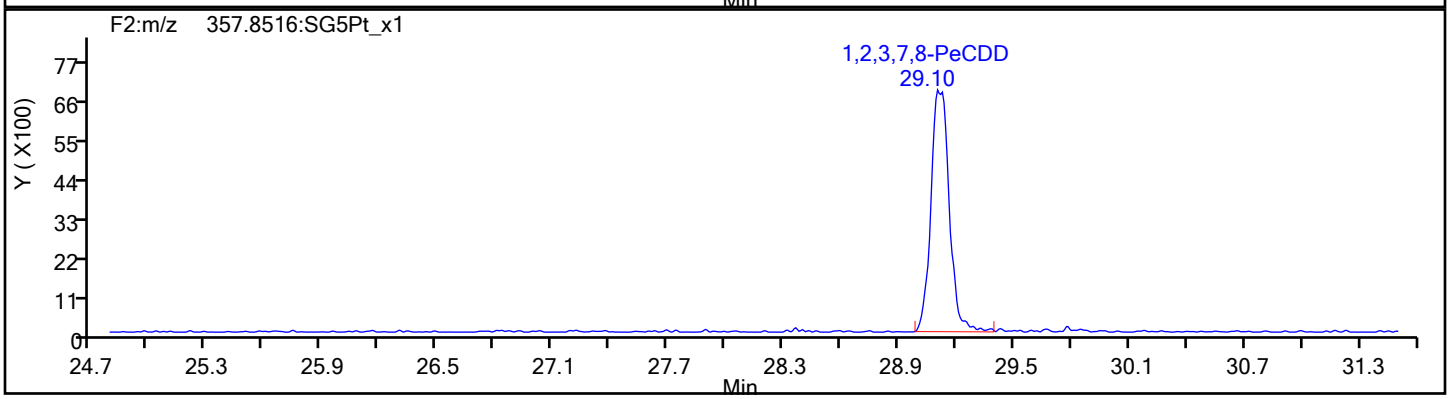

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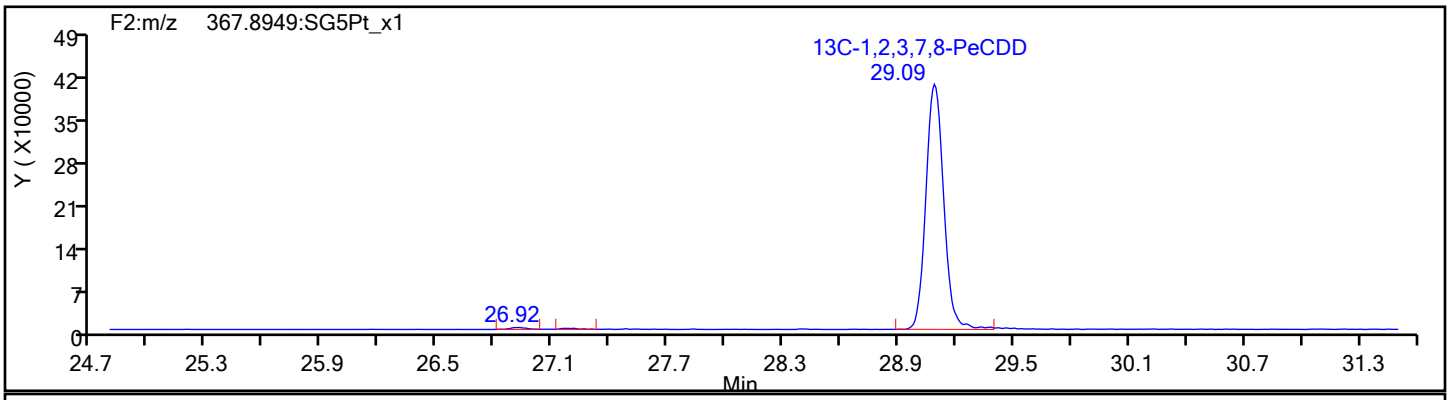

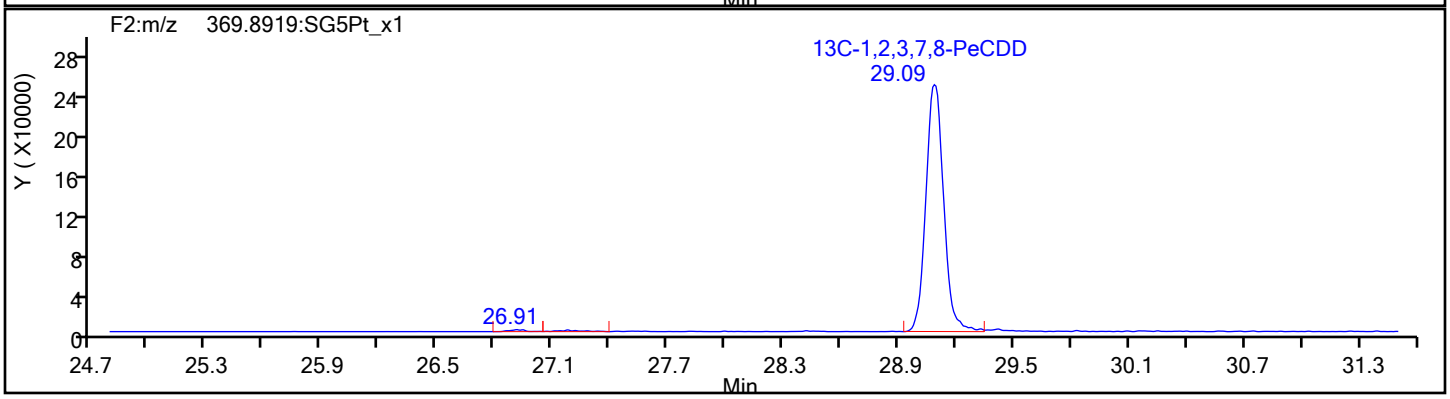

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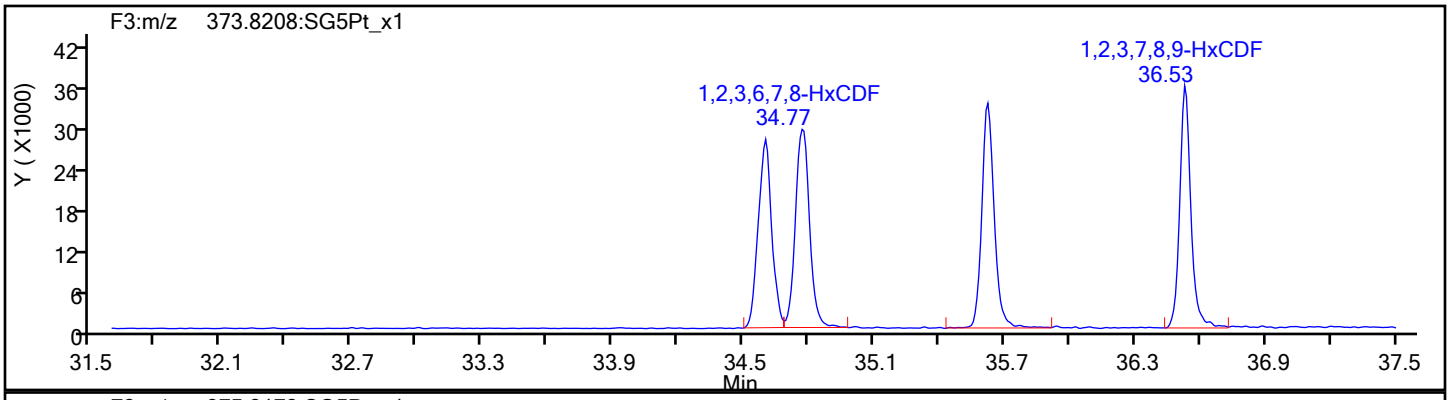

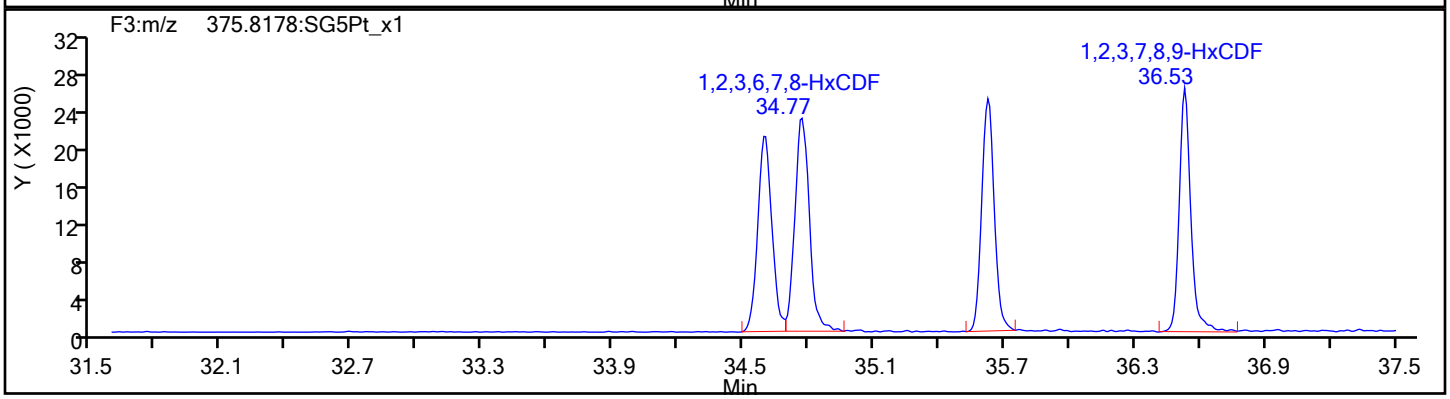

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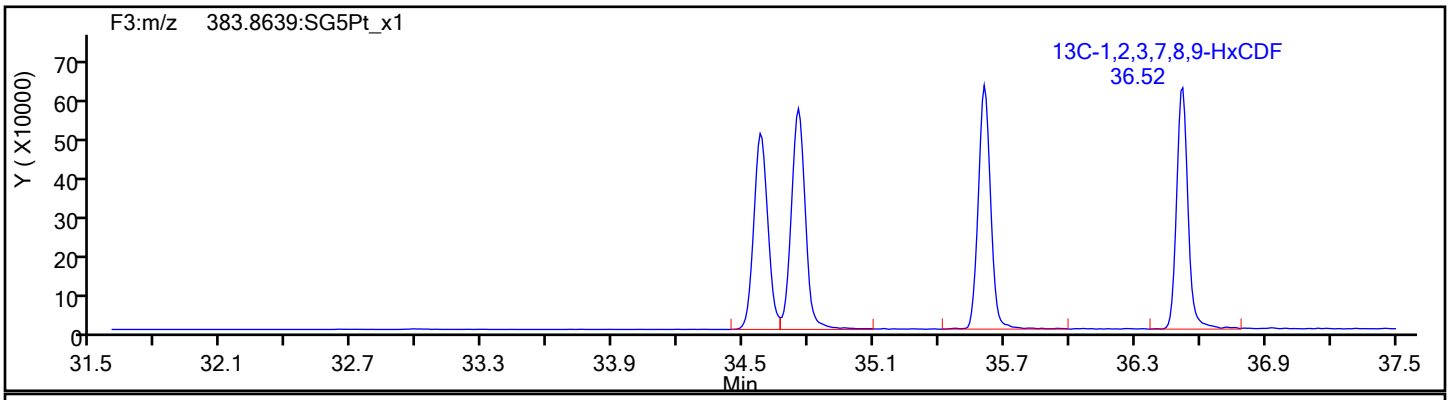

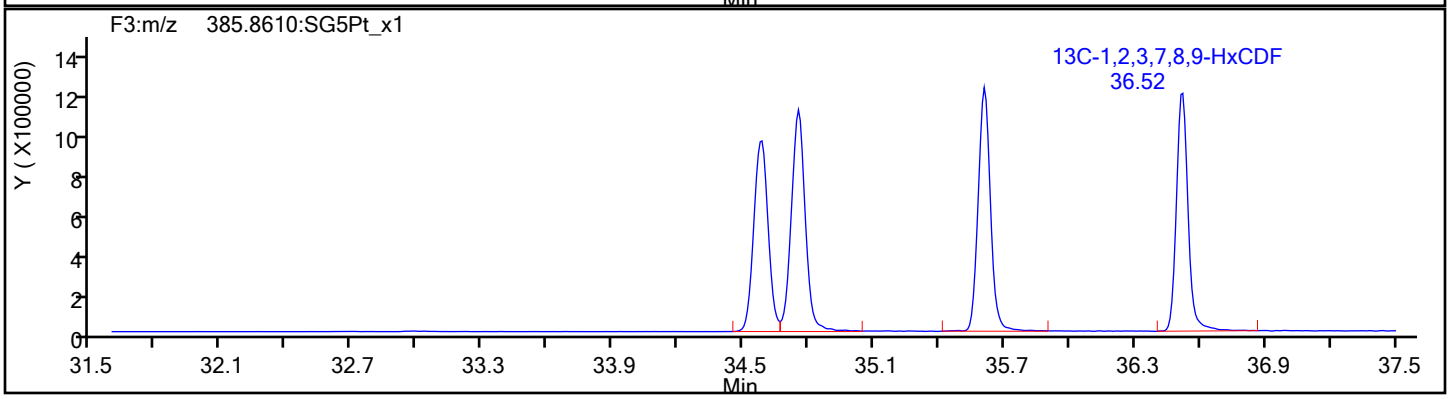

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Eurofins TestAmerica, Sacramento

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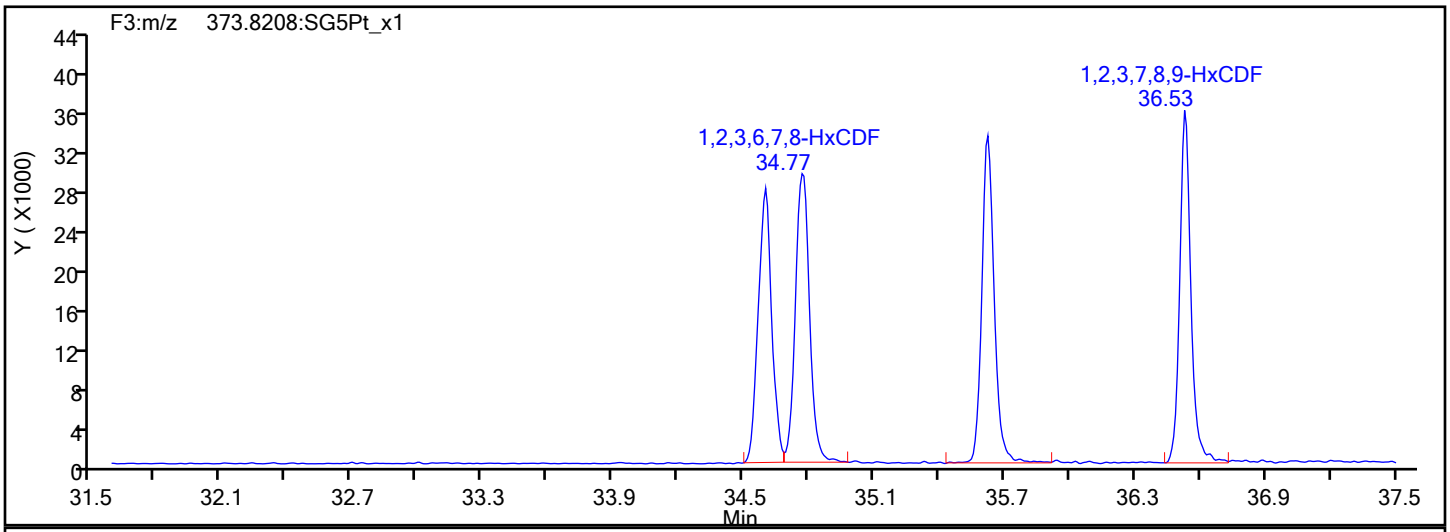

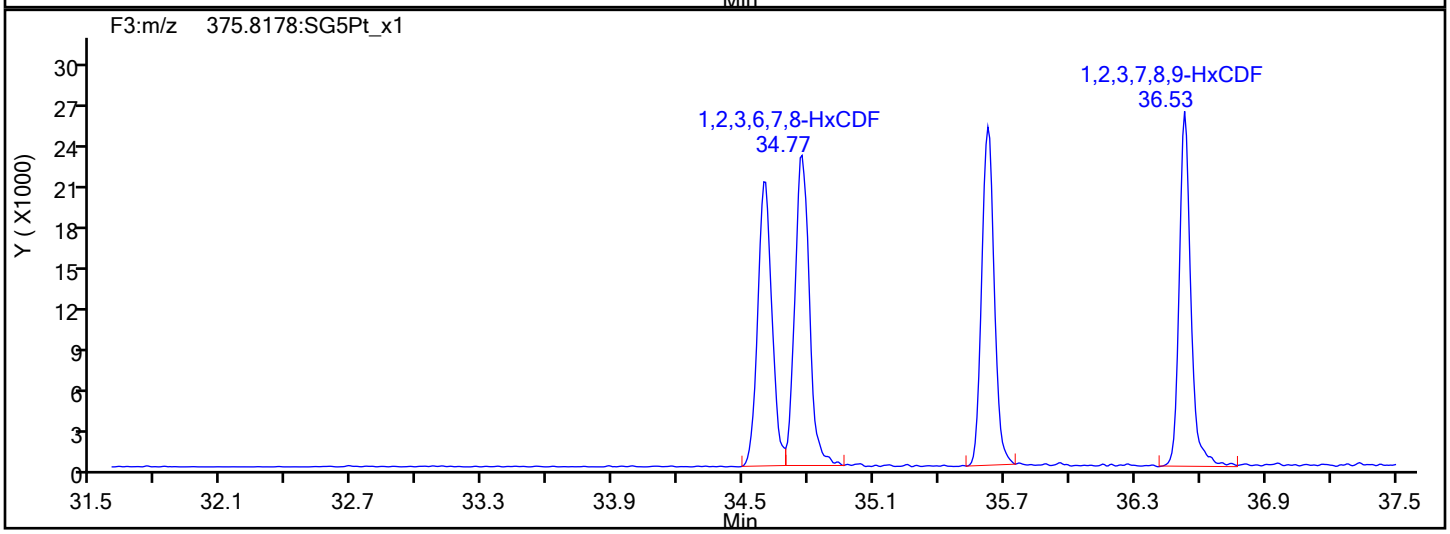

HxCDF Interference Mass

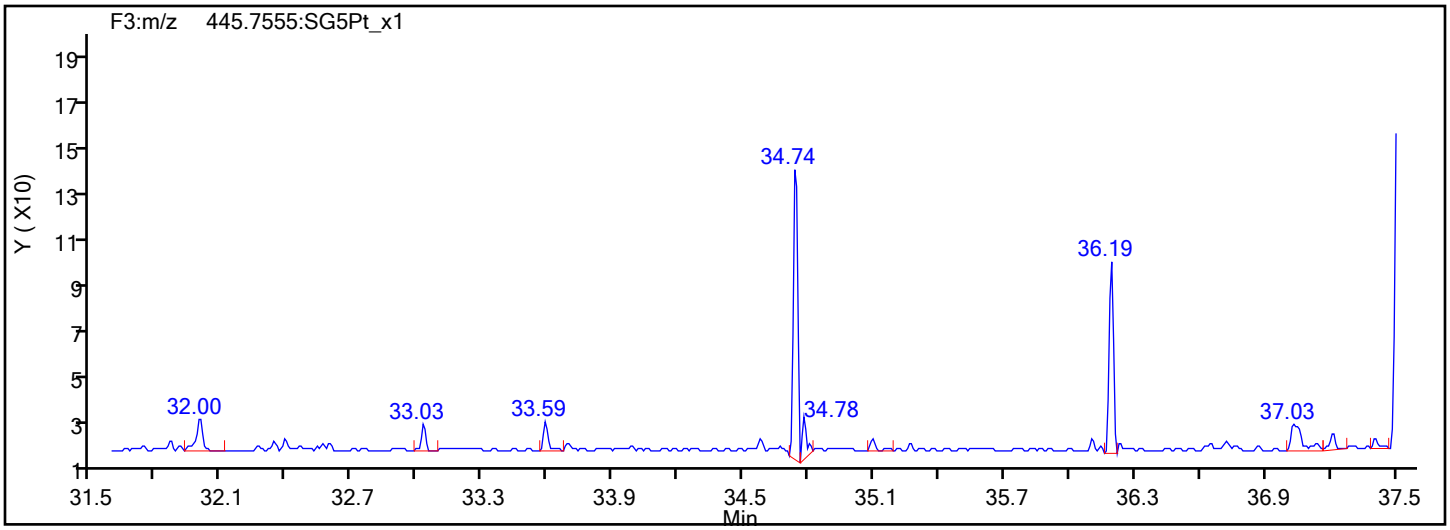

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Eurofins TestAmerica, Sacramento

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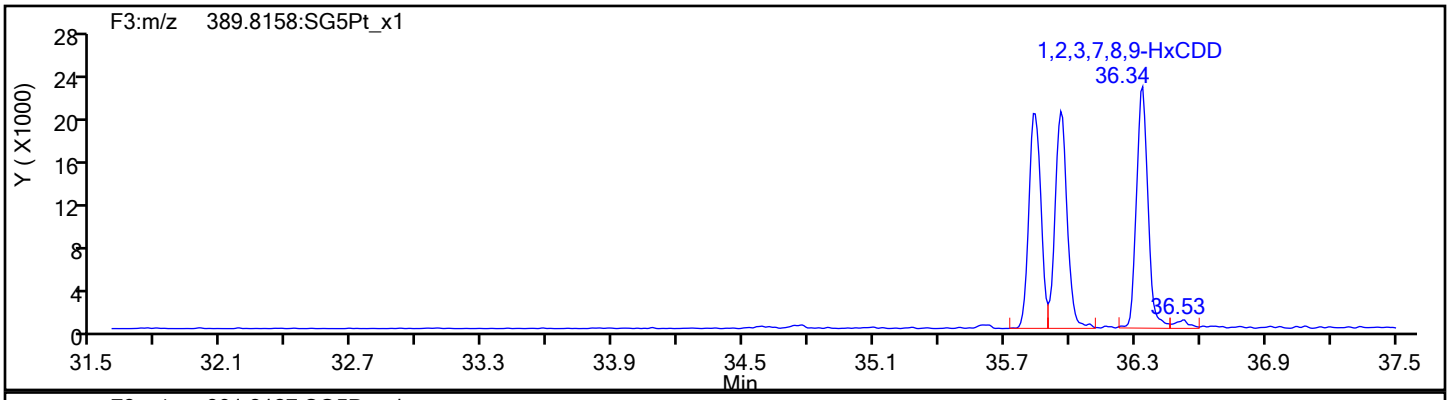

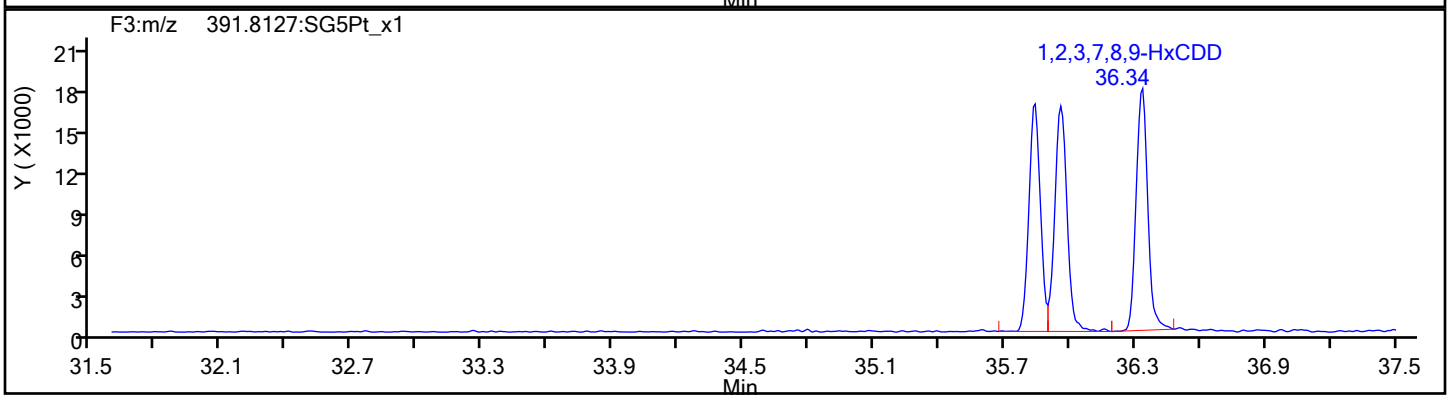

HxCDD Standards

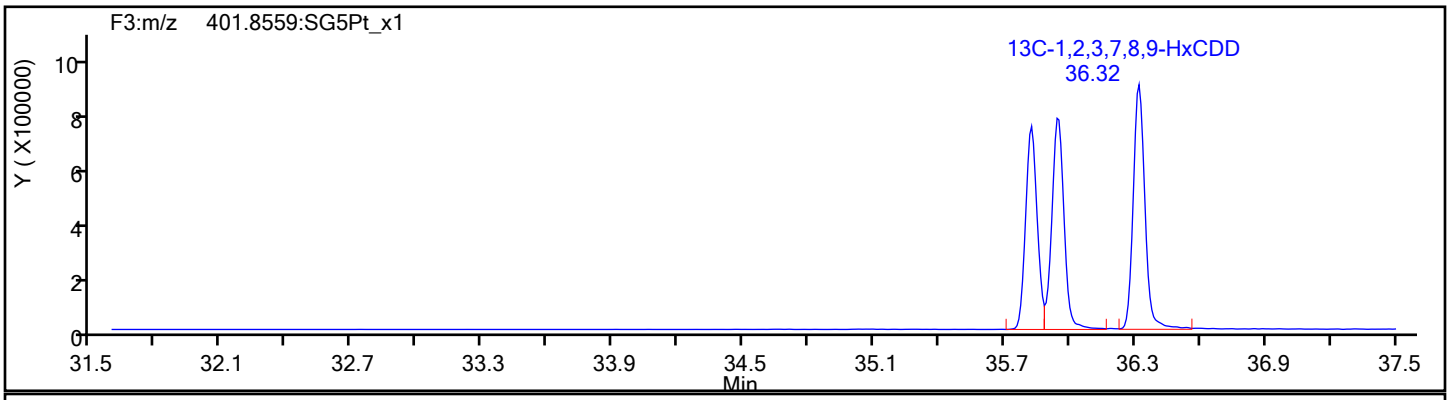

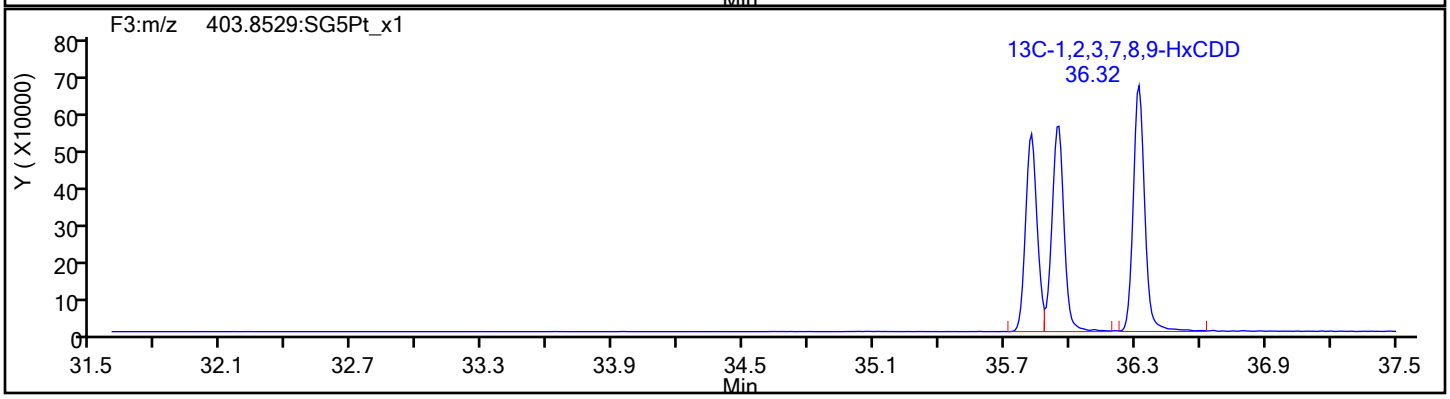

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Eurofins TestAmerica, Sacramento

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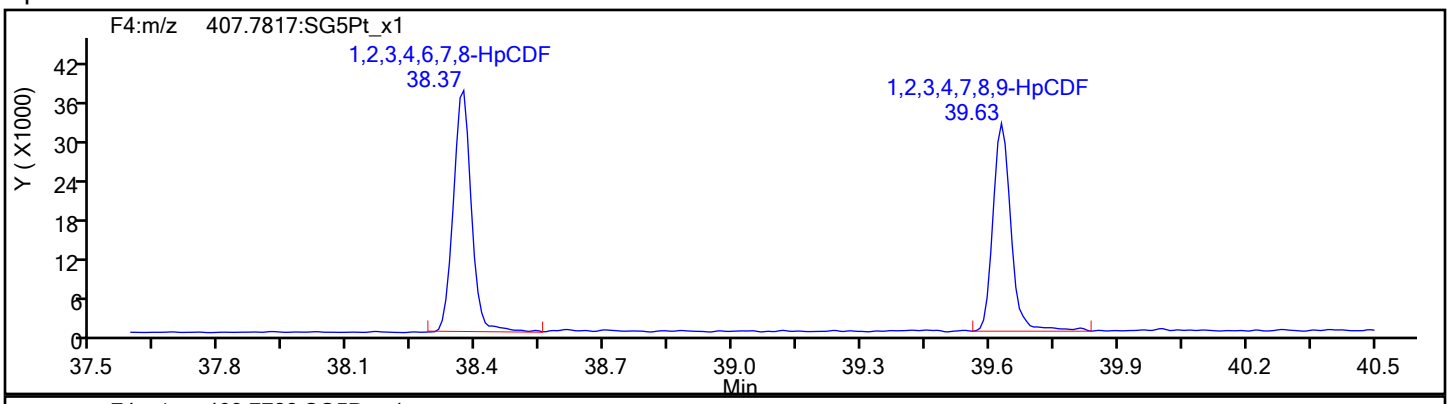

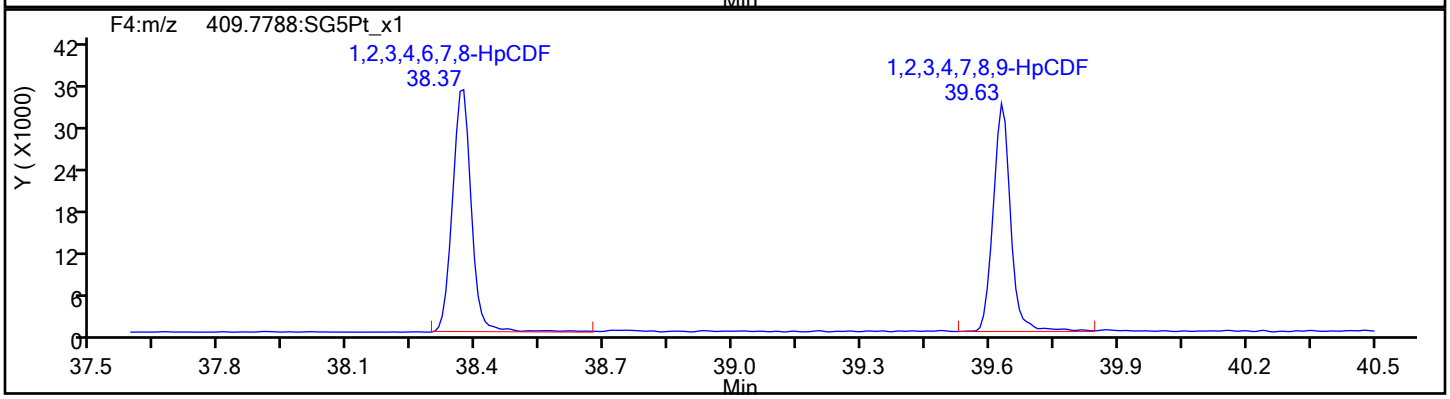

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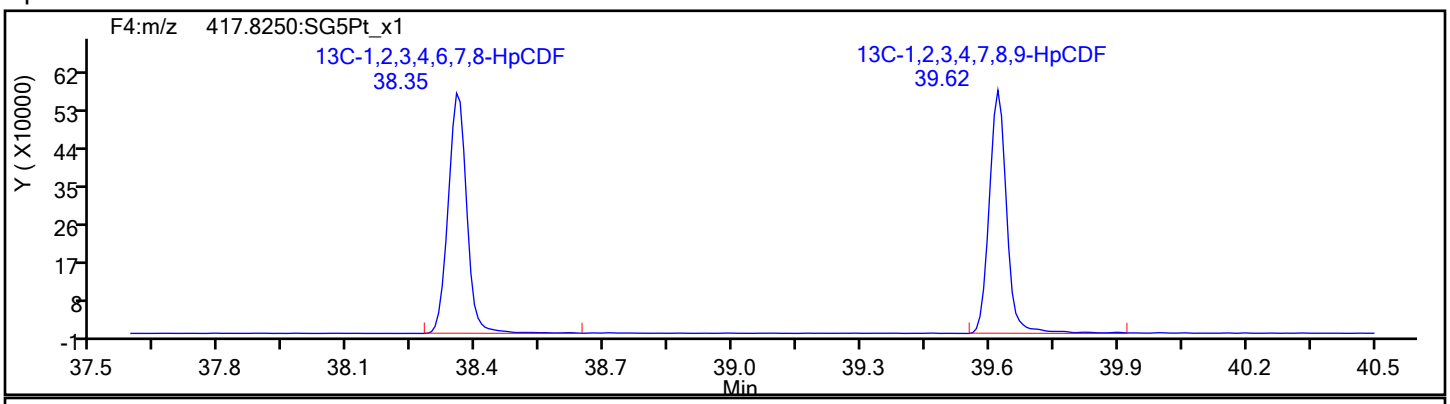

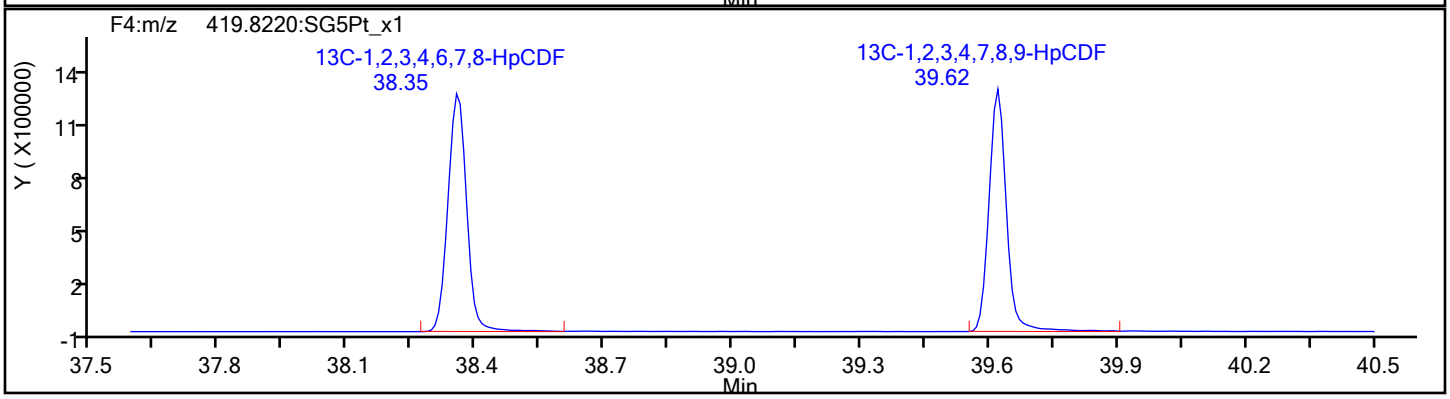

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Eurofins TestAmerica, Sacramento

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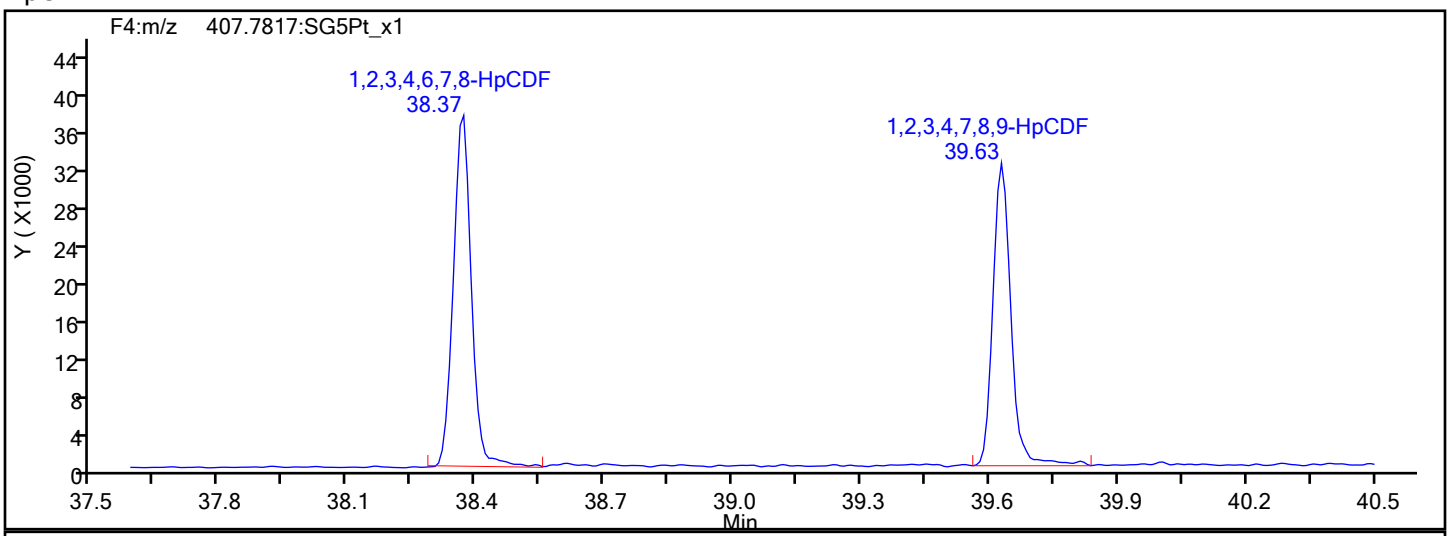

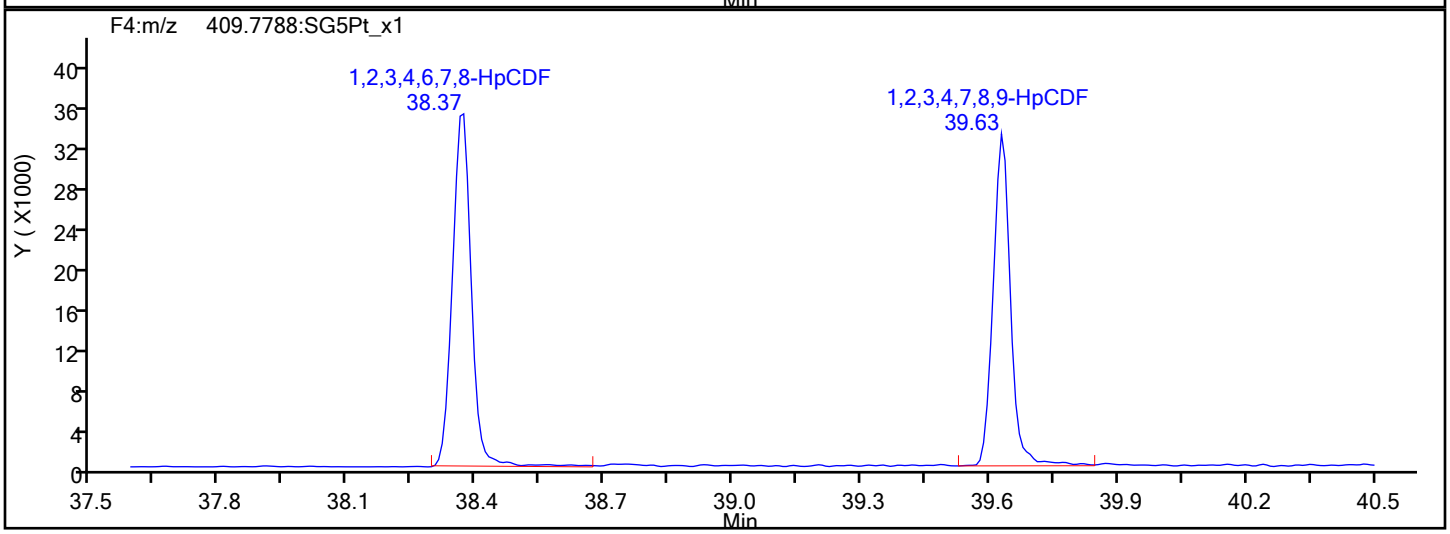

HpCDF Interference Mass

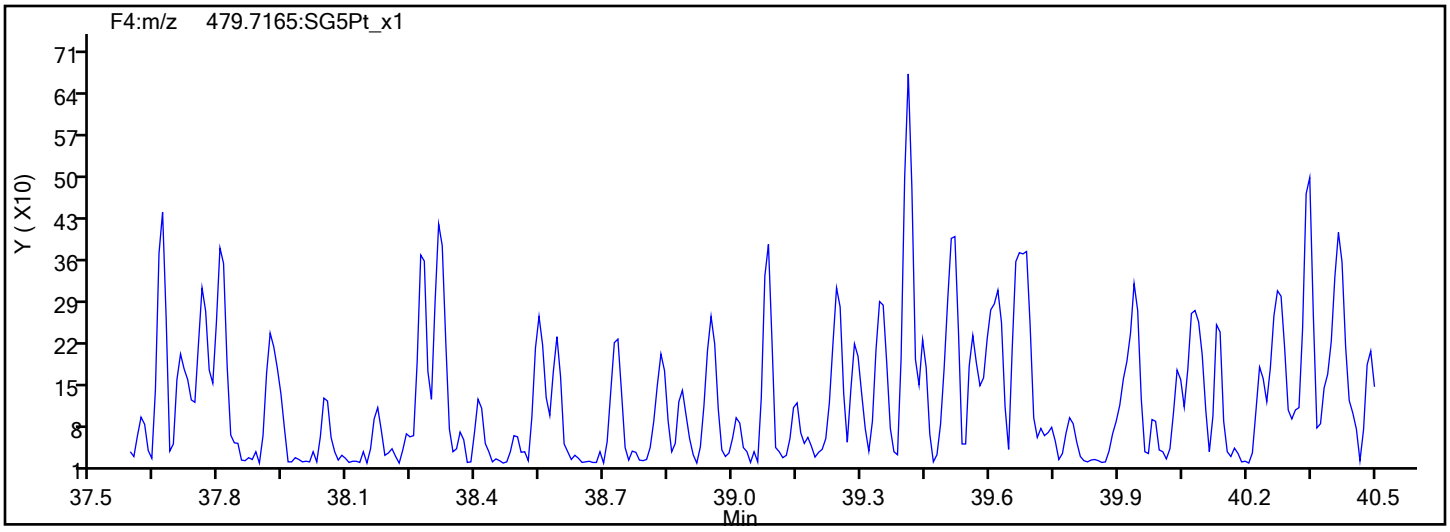

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Eurofins TestAmerica, Sacramento

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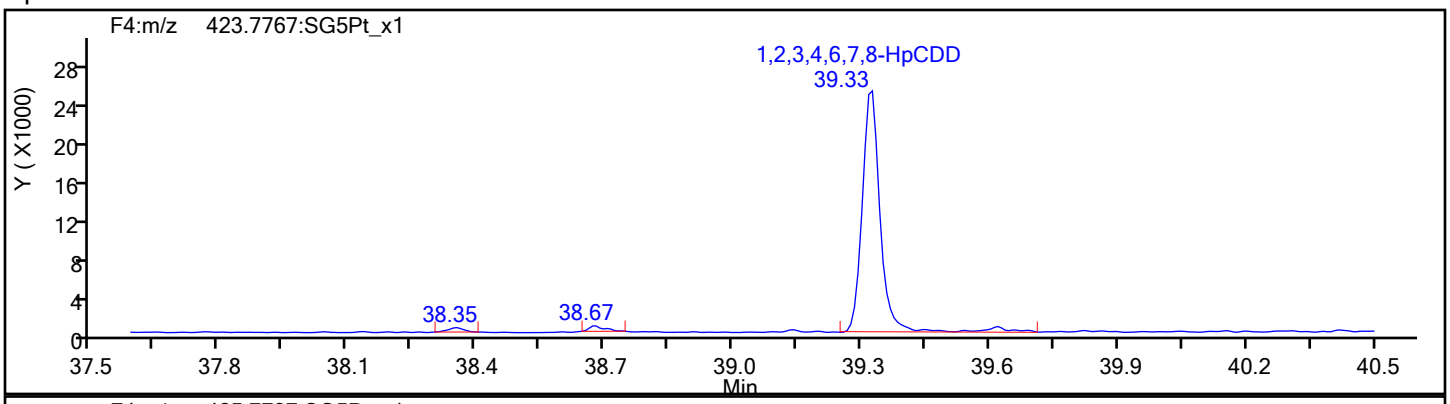

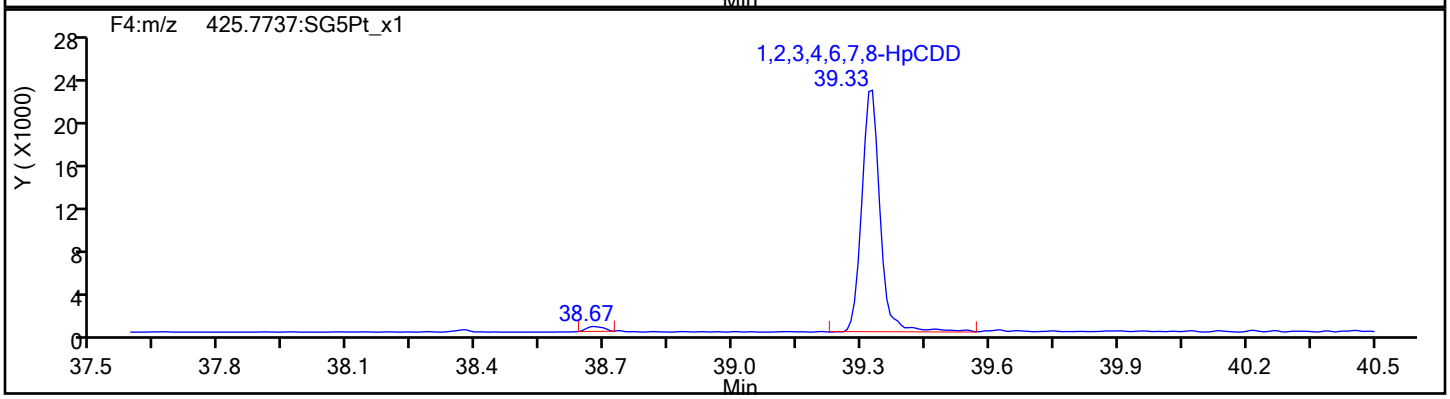

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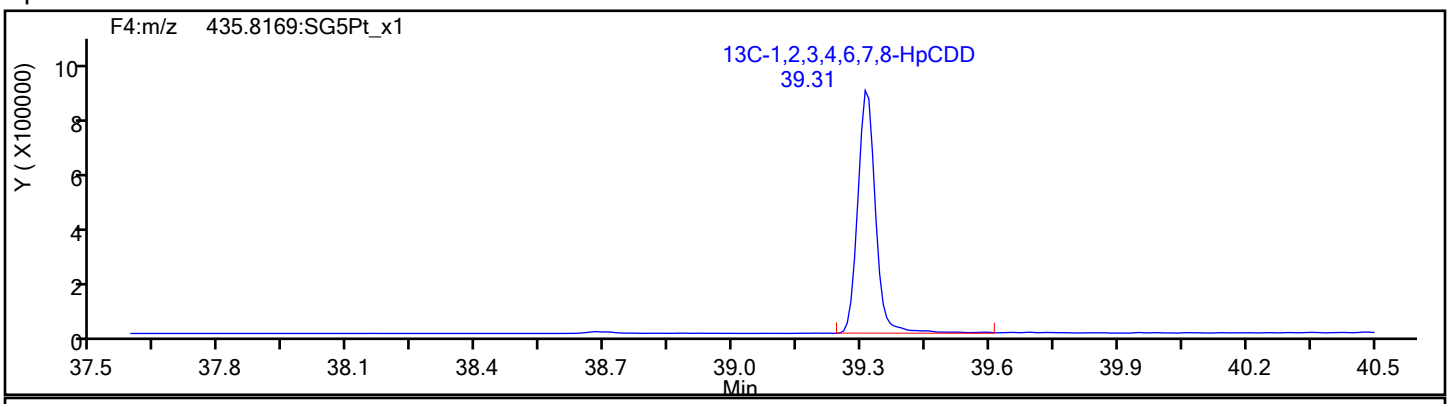

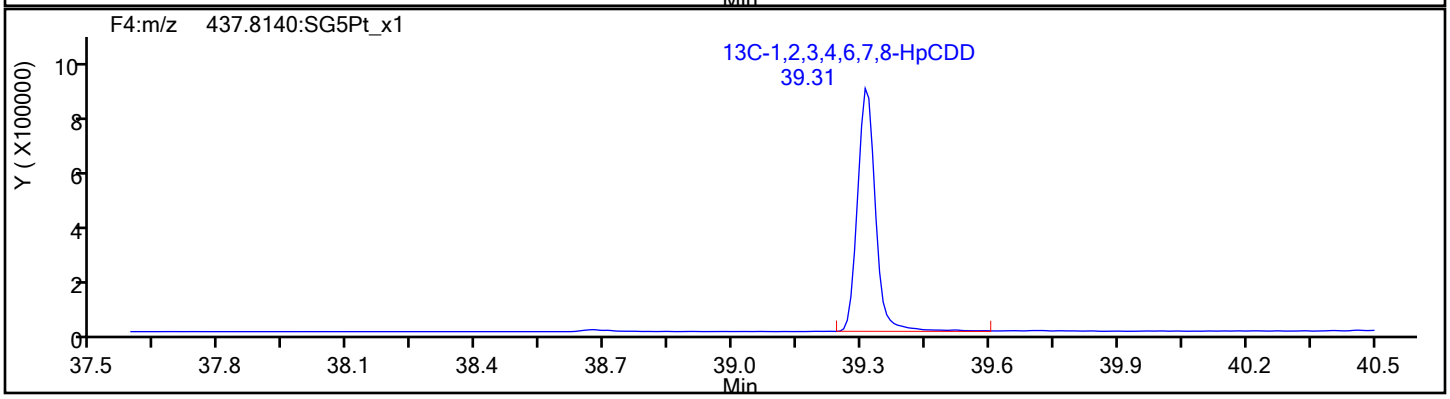

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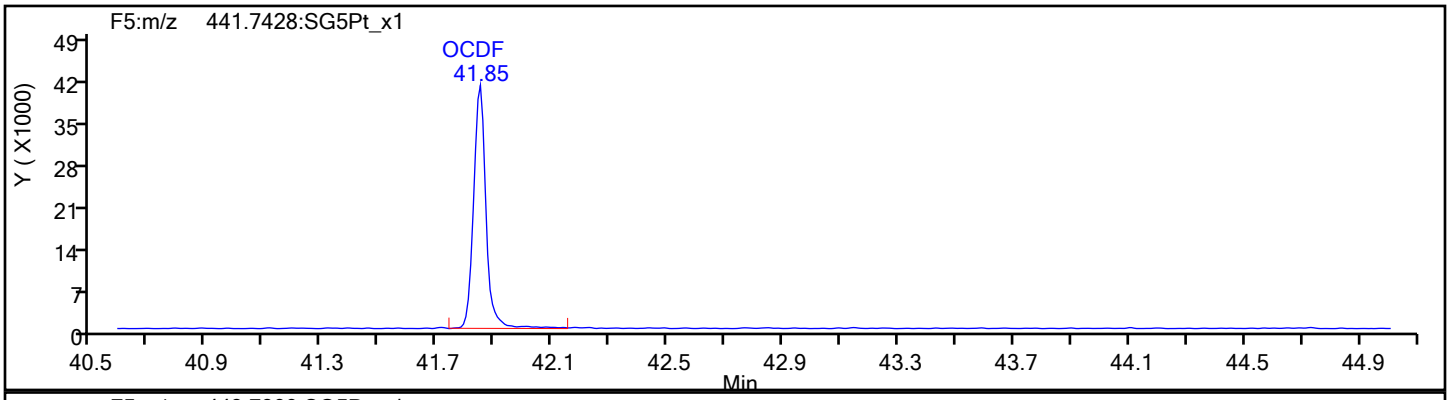

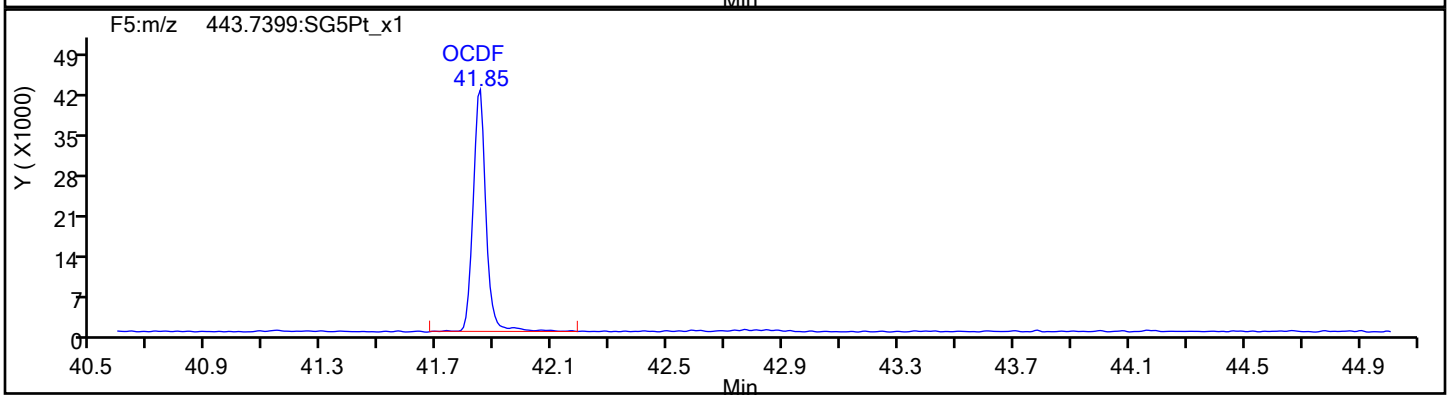

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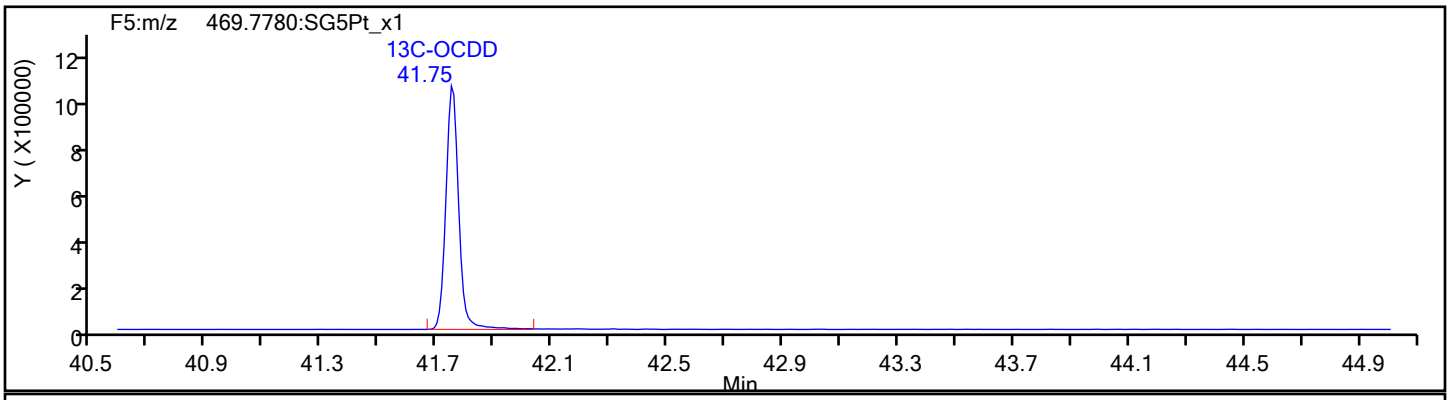

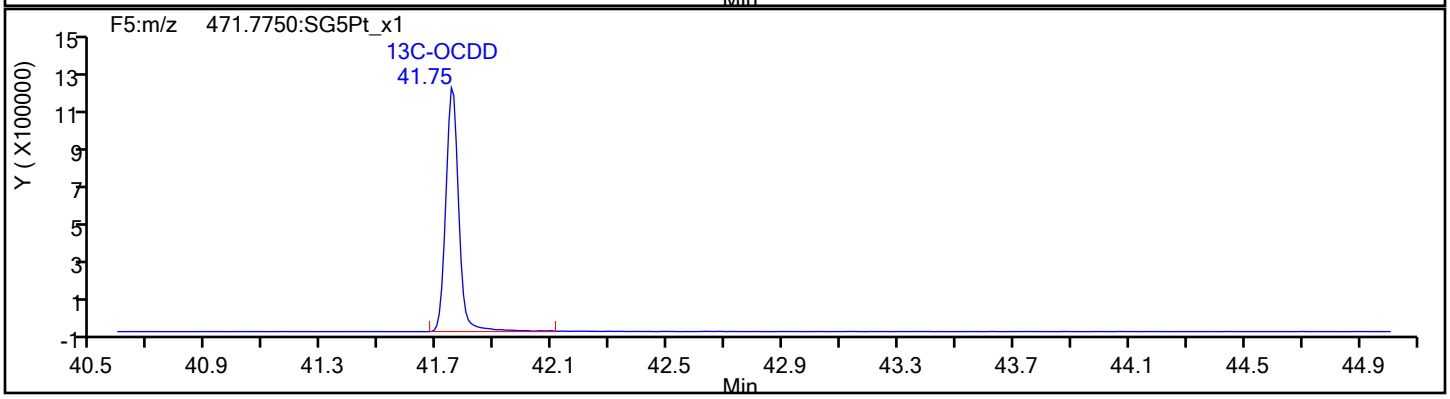

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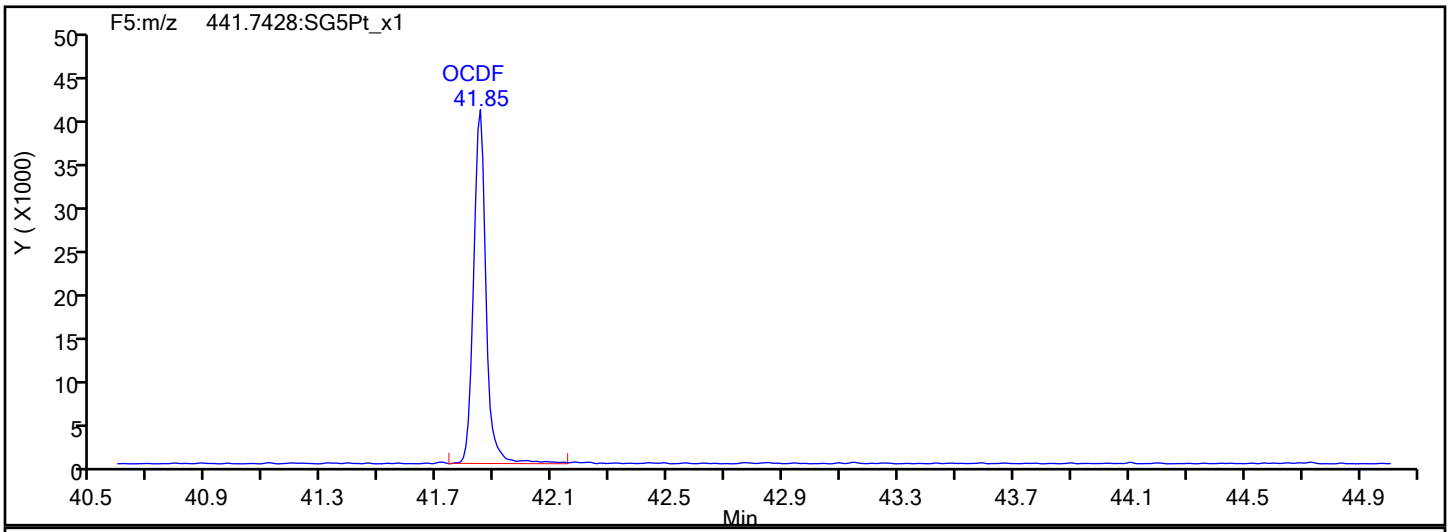

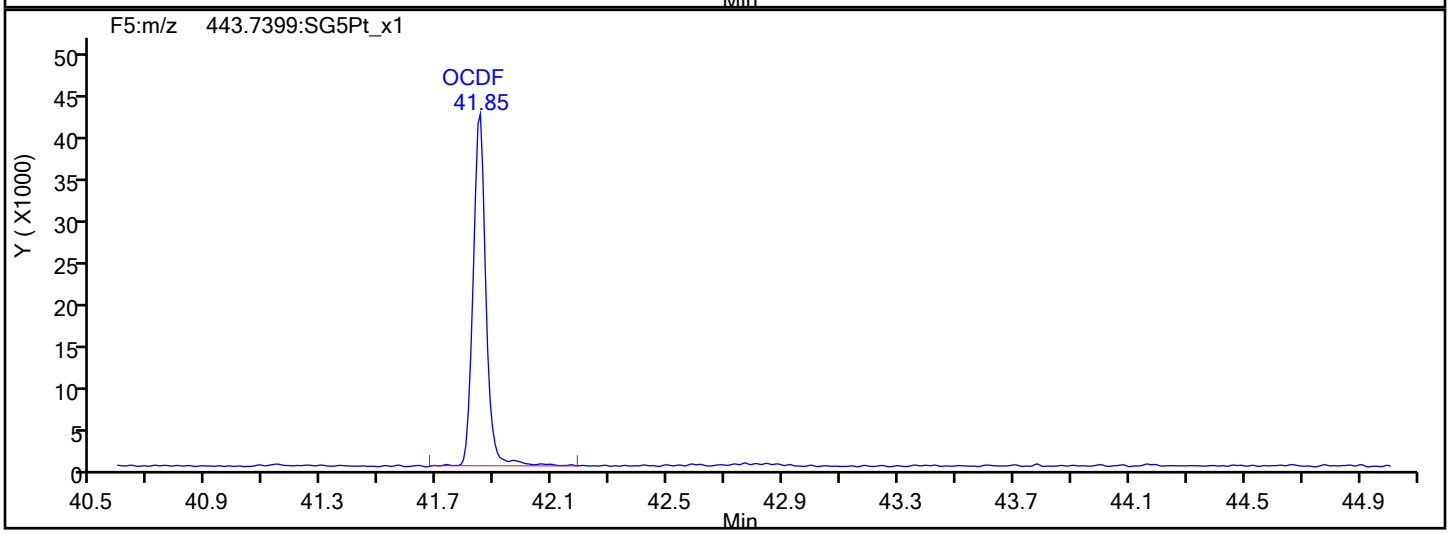

OCDF Interference Mass

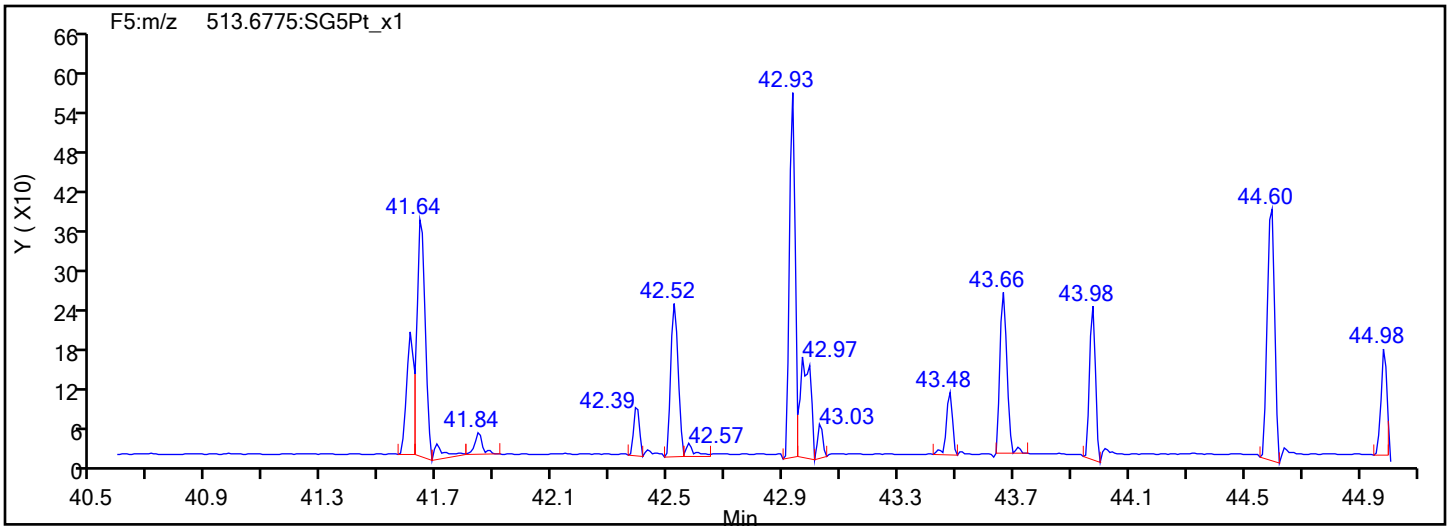

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OCDD

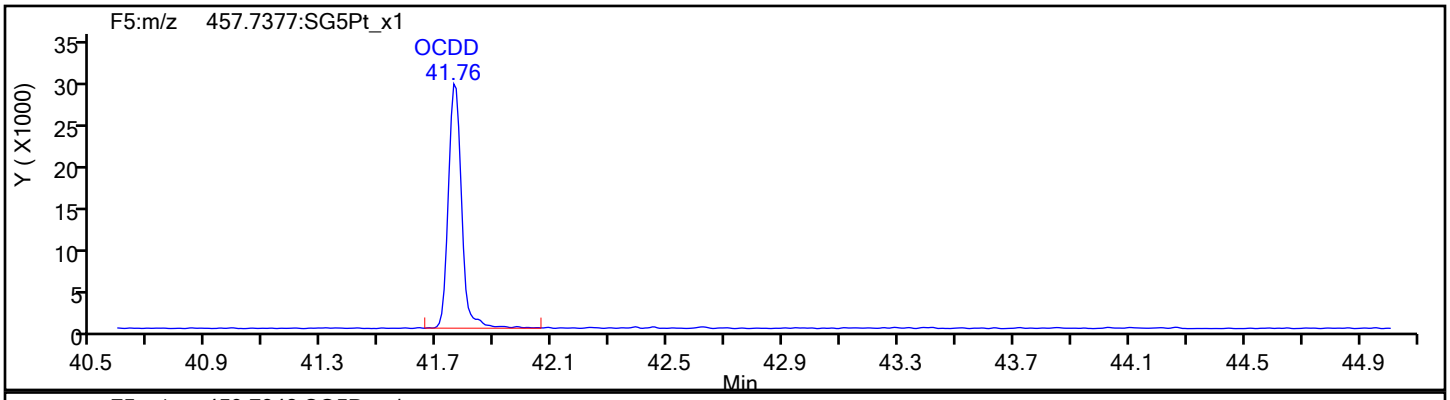

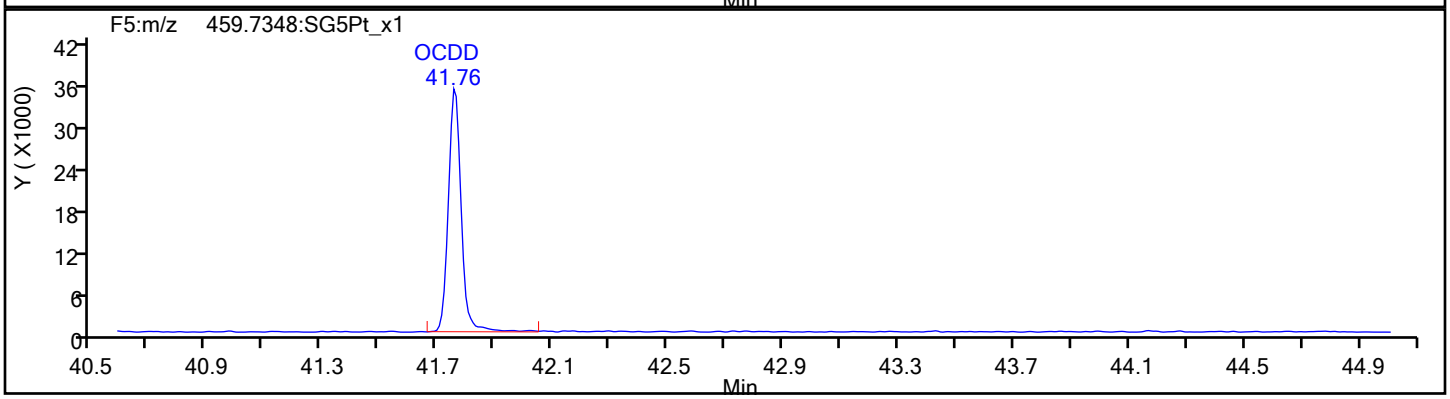

OCDD Standards

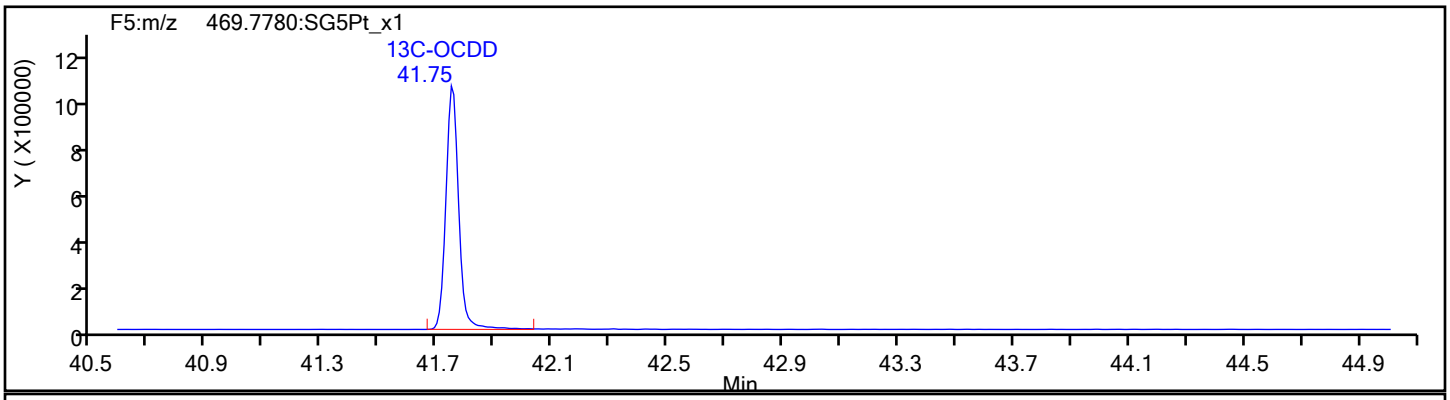

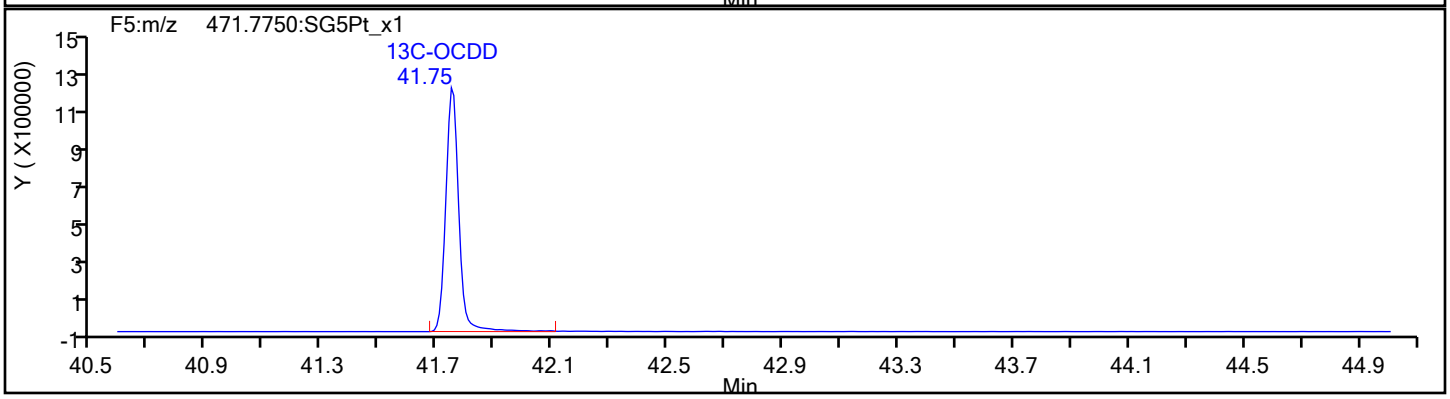

Report Date: 23-Oct-2019 11:53:00 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_4.d		
Injection Date:	18-Oct-2019 20:50:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

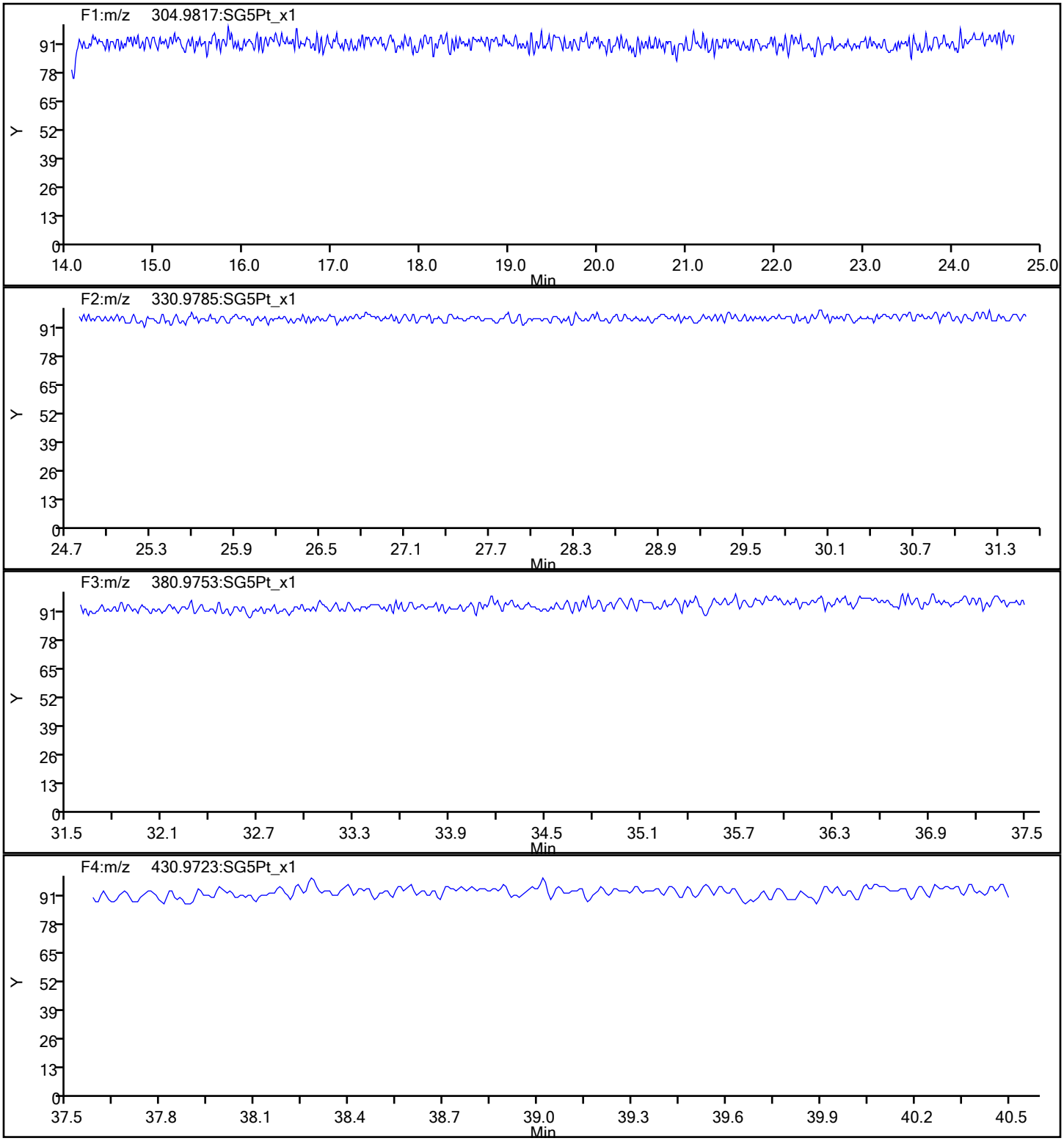

Report Date: 23-Oct-2019 11:53:00 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_4.d		
Injection Date:	18-Oct-2019 20:50:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

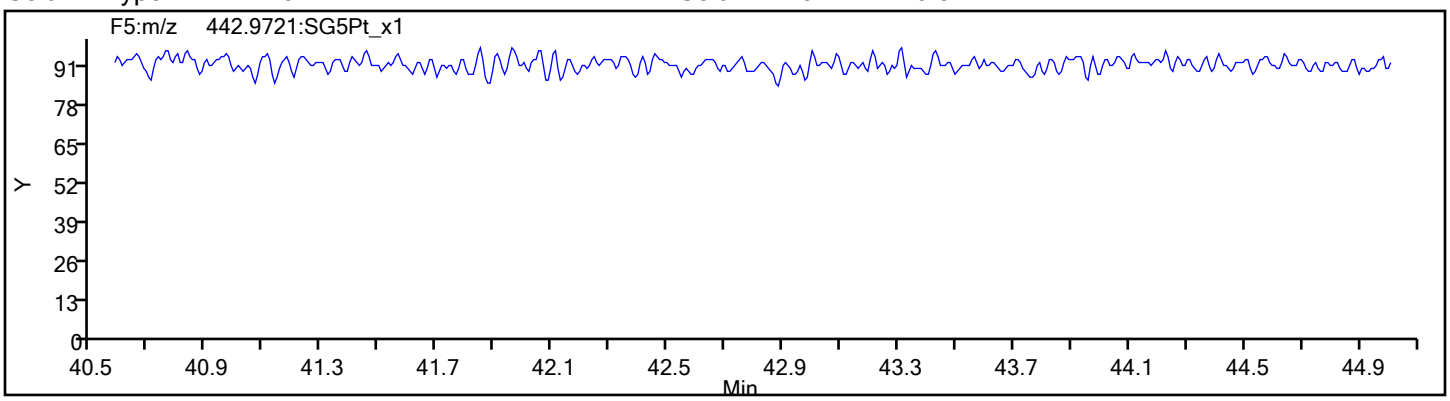

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_5.d
Lims ID: IC 3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 18-Oct-2019 21:38:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CS-3 HRDXNL3_00025
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\Dioxin_DFS1.m
Limit Group: HR - 1613B - ICAL
Last Update: 23-Oct-2019 11:53:06 Calib Date: 19-Oct-2019 00:02:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.07 :22.11)
Process Host: CTX0320

First Level Reviewer: shardaa Date: 21-Oct-2019 10:55:21

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	20.738	5240455	0.81	5.2E+04	100.0	100.0				
D 13C-2,3,7,8-TCDF	19.769	8488555	0.81	1.6096	100.6	100.6	0.2243	0.2243	101	
2,3,7,8-TCDF	19.795	227226	0.83	1.2332	2.171	2.171	0.0166	0.0166	109	
S Total TCDF					2.171	2.171	0.0166	0.0166		
D 13C-2,3,7,8-TCDD	21.101	5074828	0.79	0.9984	97.0	97.0	0.1653	0.1653	97.00	
$ 37Cl4-2,3,7,8-TCDD	21.127	150303		1.4510	1.977	1.977	0.008723	0.008723	98.84	
2,3,7,8-TCDD	21.144	132527	0.80	1.1988	2.178	2.178	0.0341	0.0341	109	
S Total TCDD					2.178	2.178	0.0341	0.0341		
D 13C-1,2,3,7,8-PeCDF	26.806	7003224	1.60	1.3678	97.7	97.7	0.4755	0.4755	97.70	
1,2,3,7,8-PeCDF	26.831	915403	1.62	1.1689	11.2	11.2	0.0604	0.0604	112	
D 13C-2,3,4,7,8-PeCDF	28.307	6659419	1.60	1.3045	97.4	97.4	0.4986	0.4986	97.42	
2,3,4,7,8-PeCDF	28.324	863257	1.59	1.1861	10.9	10.9	0.0667	0.0667	109	
S Total PeCDF					22.1	22.1	0.0636	0.0636		
D 13C-1,2,3,7,8-PeCDD	29.104	4183753	1.57	0.8292	96.3	96.3	0.1818	0.1818	96.28	
1,2,3,7,8-PeCDD	29.137	518729	1.59	1.1200	11.1	11.1	0.0431	0.0431	111	
S Total PeCDD					11.1	11.1	0.0431	0.0431		
D 13C-1,2,3,4,7,8-HxCDF	34.602	6567672	0.53	1.1700	98.2	98.2	0.4830	0.4830	98.25	
1,2,3,4,7,8-HxCDF	34.618	931117	1.29	1.3021	10.9	10.9	0.0737	0.0737	109	
D 13C-1,2,3,6,7,8-HxCDF	34.769	7372206	0.53	1.3168	98.0	98.0	0.4292	0.4292	97.99	
1,2,3,6,7,8-HxCDF	34.786	1038354	1.28	1.2907	10.9	10.9	0.0679	0.0679	109	
D 13C-2,3,4,6,7,8-HxCDF	35.625	7214754	0.54	1.2873	98.1	98.1	0.4390	0.4390	98.09	
2,3,4,6,7,8-HxCDF	35.642	1032686	1.28	1.3039	11.0	11.0	0.0597	0.0597	110	
D 13C-1,2,3,7,8,9-HxCDF	36.539	6740692	0.55	1.1987	98.4	98.4	0.4715	0.4715	98.42	
1,2,3,7,8,9-HxCDF	36.556	982394	1.25	1.3329	10.9	10.9	0.0571	0.0571	109	
S Total HxCDF					43.7	43.7	0.0646	0.0646		
* 13C-1,2,3,7,8,9-HxCDD	36.338	5713496	1.27	5.8E+04	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	35.843	4646412	1.29	0.8364	97.2	97.2	0.2392	0.2392	97.23	
1,2,3,4,7,8-HxCDD	35.860	598181	1.24	1.1725	11.0	11.0	0.0390	0.0390	110	
D 13C-1,2,3,6,7,8-HxCDD	35.969	5054298	1.27	0.9040	97.9	97.9	0.2213	0.2213	97.85	
1,2,3,6,7,8-HxCDD	35.985	623939	1.26	1.1256	11.0	11.0	0.0398	0.0398	110	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,7,8,9-HxCDD	36.354	676949	1.27	1.2327	11.3	11.3	0.0367	0.0367	113	
S Total HxCDD					33.3	33.3	0.0385	0.0385		
D 13C-1,2,3,4,6,7,8-HpCDF	38.378	5502512	0.46	0.9689	99.4	99.4	0.4246	0.4246	99.40	
1,2,3,4,6,7,8-HpCDF	38.386	972638	1.09	1.6176	10.9	10.9	0.0991	0.0991	109	
D 13C-1,2,3,4,7,8,9-HpCDF	39.636	5244417	0.47	0.9231	99.4	99.4	0.4457	0.4457	99.44	
1,2,3,4,7,8,9-HpCDF	39.652	844812	1.07	1.4672	11.0	11.0	0.1079	0.1079	110	
S Total HpCDF					21.9	21.9	0.1035	0.1035		
D 13C-1,2,3,4,6,7,8-HpCDD	39.334	5179512	1.08	0.9114	99.5	99.5	0.5640	0.5640	99.47	
1,2,3,4,6,7,8-HpCDD	39.342	649996	1.06	1.1237	11.2	11.2	0.0551	0.0551	112	
S Total HpCDD					11.2	11.2	0.0551	0.0551		
D 13C-OCDD	41.771	7078418	0.90	0.6272	197.5	197.5	0.3496	0.3496	98.76	
OCDF	41.864	1156799	0.93	1.5416	21.2	21.2	0.0455	0.0455	106	
OCDD	41.780	921901	0.89	1.1855	22.0	22.0	0.0426	0.0426	110	

Reagents:

HRDXNL3_00025 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_5.d
Lims ID: IC 3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 18-Oct-2019 21:38:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CS-3 HRDXNL3_00025
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\Dioxin_DFS1.m
Limit Group: HR - 1613B - ICAL
Last Update: 23-Oct-2019 11:53:06 Calib Date: 19-Oct-2019 00:02:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.07 :22.11)
Process Host: CTX0320

First Level Reviewer: shardaa Date: 21-Oct-2019 10:55:21

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	20.738	20.729	1		2342233	362687	364	910	996		
333.9338	20.738	20.729	1		2898222	443250	168	420	2638	0.81(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.769	19.762	0	0.953	3787153	607770	801	2002	759		
317.9389	19.778	19.762	1	0.954	4701402	733356	363	907	2020	0.81(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	19.795	19.792	0	1.001	103271	16479	34	85	485		
305.8987	19.795	19.792	0	1.001	123955	20292	76	190	267	0.83(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	21.101	21.094	0	1.018	2232936	335174	364	910	921		
333.9338	21.101	21.094	0	1.018	2841892	427050	168	420	2542	0.79(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	21.127	21.121	0	1.019	150303	22097	41	102	539		
2,3,7,8-TCDD											
319.8965	21.144	21.127	1	1.002	59101	8539	86	215	99		
321.8936	21.153	21.127	2	1.002	73426	10241	39	97	263	0.80(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	26.806	26.797	1	1.293	4307650	745786	1259	3147	592		
353.8970	26.806	26.797	1	1.293	2695574	474180	838	2095	566	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	26.831	26.821	1	1.001	565972	100623	181	452	556		
341.8567	26.831	26.821	1	1.001	349431	61275	164	410	374	1.62(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	28.307	28.297	1	1.365	4095602	669096	1259	3147	531		
353.8970	28.307	28.297	1	1.365	2563817	419821	838	2095	501	1.60(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	28.324	28.322	0	1.001	529360	86387	181	452	477		
341.8567	28.324	28.322	0	1.001	333897	54765	164	410	334	1.59(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	29.104	29.095	1	1.403	2557984	401357	316	790	1270		
369.8919	29.104	29.095	1	1.403	1625769	250804	170	425	1475	1.57(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	29.137	29.120	1	1.001	318576	48749	94	235	519		
357.8516	29.120	29.120	0	1.001	200153	31500	32	80	984	1.59(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.602	34.589	1	0.952	2287293	499296	1159	2897	431		
385.8610	34.602	34.589	1	0.952	4280379	936053	2315	5787	404	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.618	34.608	1	1.000	525226	116203	307	767	379		
375.8178	34.610	34.608	0	1.000	405891	90084	244	610	369	1.29(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	34.769	34.759	1	0.957	2564514	547763	1159	2897	473		
385.8610	34.769	34.759	1	0.957	4807692	1024049	2315	5787	442	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	34.786	34.777	1	1.000	582299	129815	307	767	423		
375.8178	34.786	34.777	1	1.000	456055	102662	244	610	421	1.28(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	35.625	35.616	1	0.980	2522803	625176	1159	2897	539		
385.8610	35.625	35.616	1	0.980	4691951	1143970	2315	5787	494	0.54(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	35.642	35.633	1	1.000	578907	148873	307	767	485		
375.8178	35.642	35.633	1	1.000	453779	115008	244	610	471	1.28(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.539	36.530	1	1.006	2381000	637870	1159	2897	550		
385.8610	36.539	36.530	1	1.006	4359692	1170833	2315	5787	506	0.55(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	36.556	36.544	1	1.000	545566	144614	307	767	471		
375.8178	36.547	36.544	0	1.000	436828	114679	244	610	470	1.25(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	36.338	36.330	0		3191648	859582	667	1667	1289		
403.8529	36.338	36.330	0		2521848	677155	563	1407	1203	1.27(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	35.843	35.836	0	0.986	2614293	711756	667	1667	1067		
403.8529	35.843	35.836	0	0.986	2032119	562142	563	1407	998	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	35.860	35.849	1	1.000	330545	91303	134	335	681		
391.8127	35.860	35.849	1	1.000	267636	73381	99	247	741	1.24(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	35.969	35.958	1	0.990	2828060	731191	667	1667	1096		
403.8529	35.969	35.958	1	0.990	2226238	566607	563	1407	1006	1.27(1.05-1.43)	

Report Date: 23-Oct-2019 11:53:15 Chrom Revision: 2.3 17-Sep-2019 16:19:08
Data File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_5.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,6,7,8-HxCDD											
389.8158	35.985	35.973	1	1.000	348034	89707	134	335	669		
391.8127	35.985	35.973	1	1.000	275905	70079	99	247	708	1.26(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8158	36.354	36.346	1	1.014	378082	98544	134	335	735		
391.8127	36.346	36.346	0	1.014	298867	75311	99	247	761	1.27(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.378	38.366	1	1.056	1725859	571937	931	2327	614		
419.8220	38.378	38.366	1	1.056	3776653	1228221	1598	3995	769	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.386	38.378	0	1.000	507380	167564	651	1627	257		
409.7788	38.386	38.378	0	1.000	465258	157978	503	1257	314	1.09(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	39.636	39.629	0	1.091	1667143	568059	931	2327	610		
419.8220	39.636	39.629	0	1.091	3577274	1254583	1598	3995	785	0.47(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.652	39.641	1	1.000	435881	150364	651	1627	231		
409.7788	39.644	39.641	0	1.000	408931	140488	503	1257	279	1.07(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.334	39.324	1	1.082	2689280	944815	1466	3665	644		
437.8140	39.334	39.324	1	1.082	2490232	875238	1694	4235	517	1.08(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7767	39.342	39.334	0	1.000	334118	115856	240	600	483		
425.7737	39.342	39.334	0	1.000	315878	109980	211	527	521	1.06(0.88-1.20)	
13C-OCDD											
469.7780	41.771	41.764	0	1.150	3343185	1050754	655	1637	1604		
471.7750	41.771	41.764	0	1.150	3735233	1195319	693	1732	1725	0.90(0.76-1.02)	
OCDF											
441.7428	41.864	41.858	0	1.002	558541	180476	107	267	1687		
443.7399	41.864	41.858	0	1.002	598258	196793	208	520	946	0.93(0.76-1.02)	
OCDD											
457.7377	41.780	41.772	0	1.000	434640	137224	127	317	1081		
459.7348	41.780	41.772	0	1.000	487261	155348	100	250	1553	0.89(0.76-1.02)	

Reagents:

HRDXNL3_00025 Amount Added: 1.00 Units: mL

Report Date: 23-Oct-2019 11:53:15 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_5.d		
Injection Date:	18-Oct-2019 21:38:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

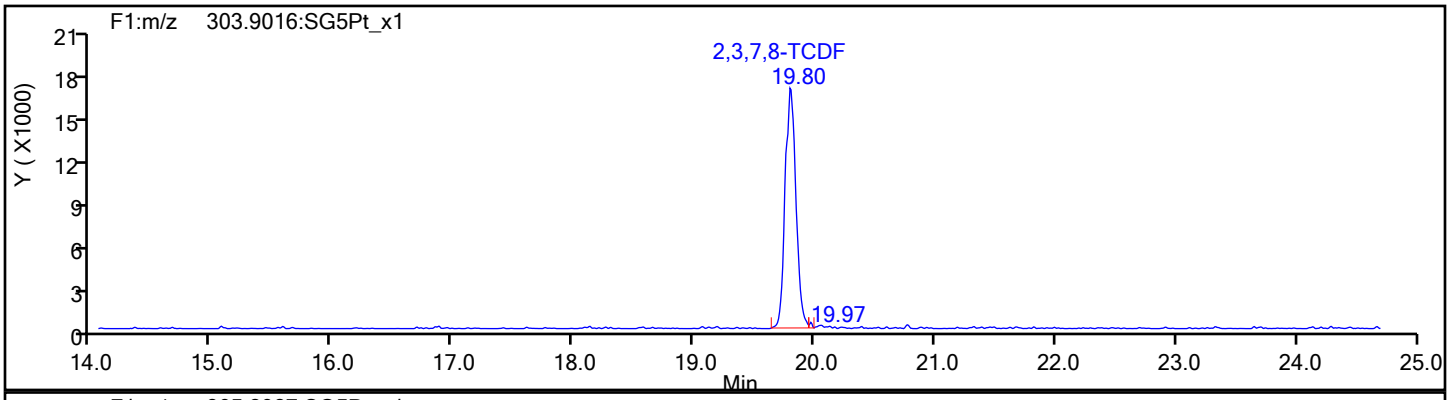

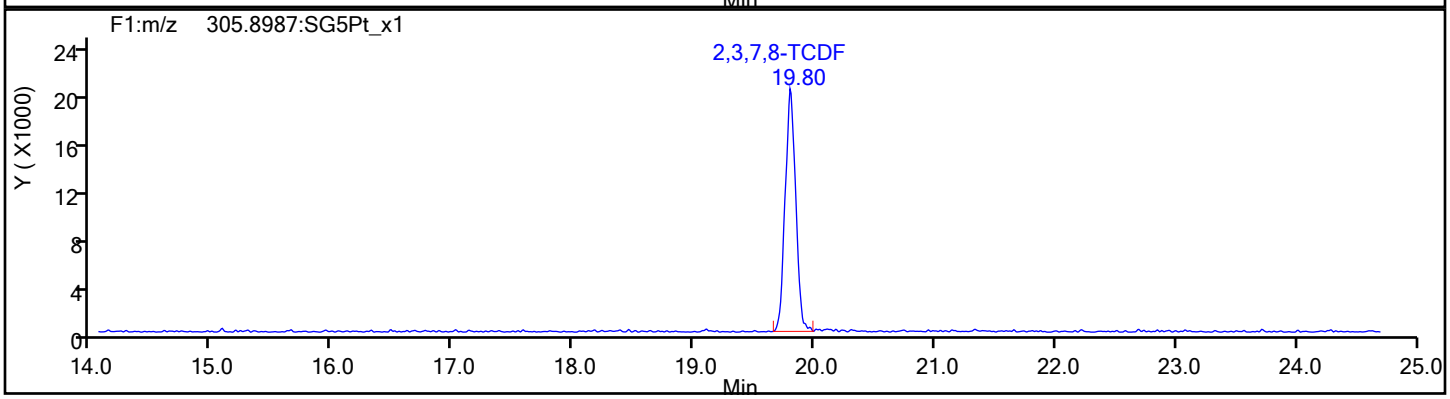

TCDF Standards

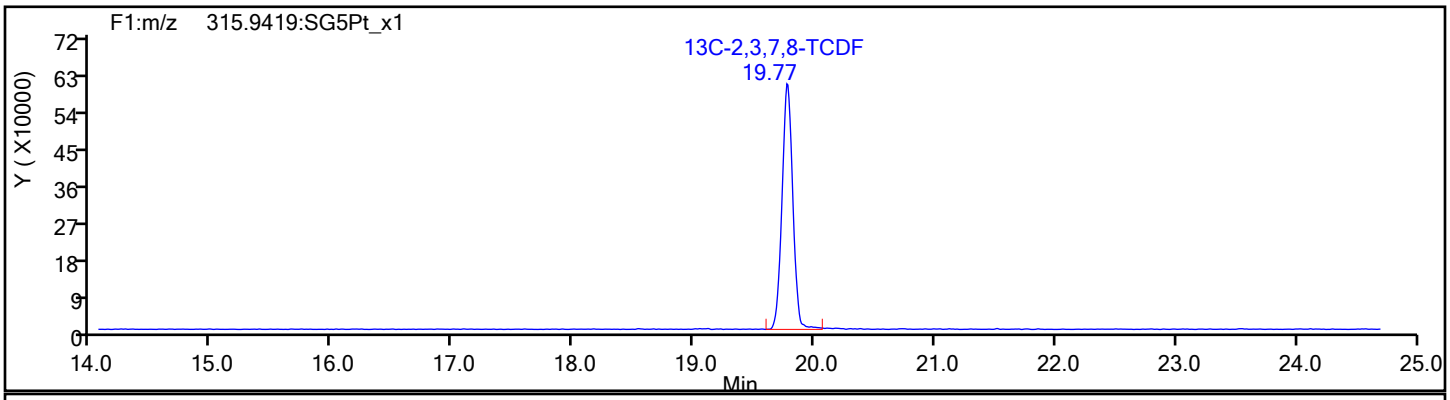

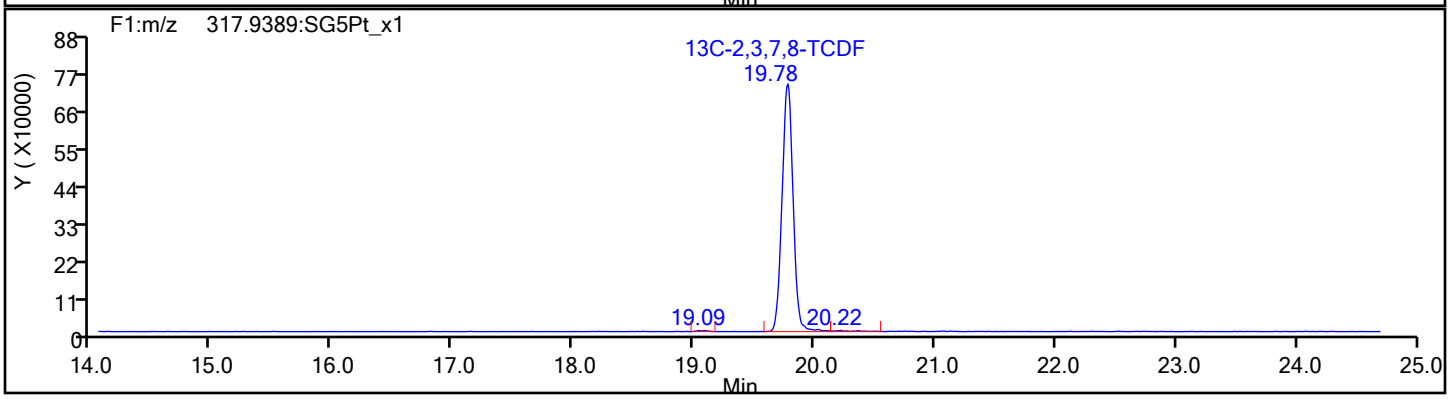

Report Date: 23-Oct-2019 11:53:15 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

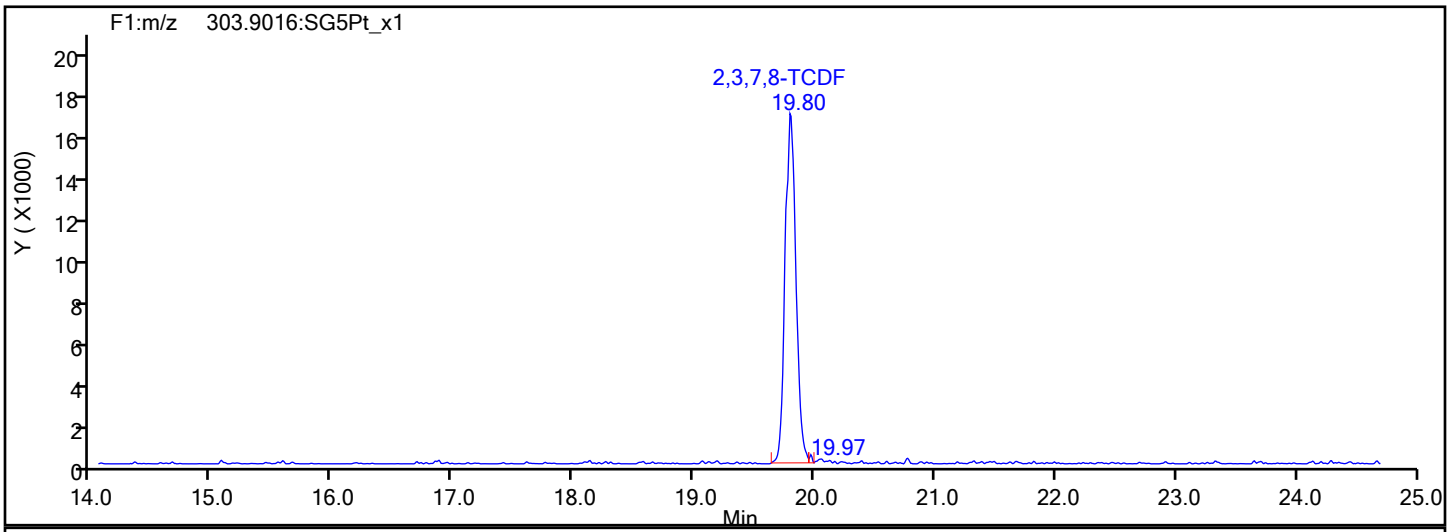

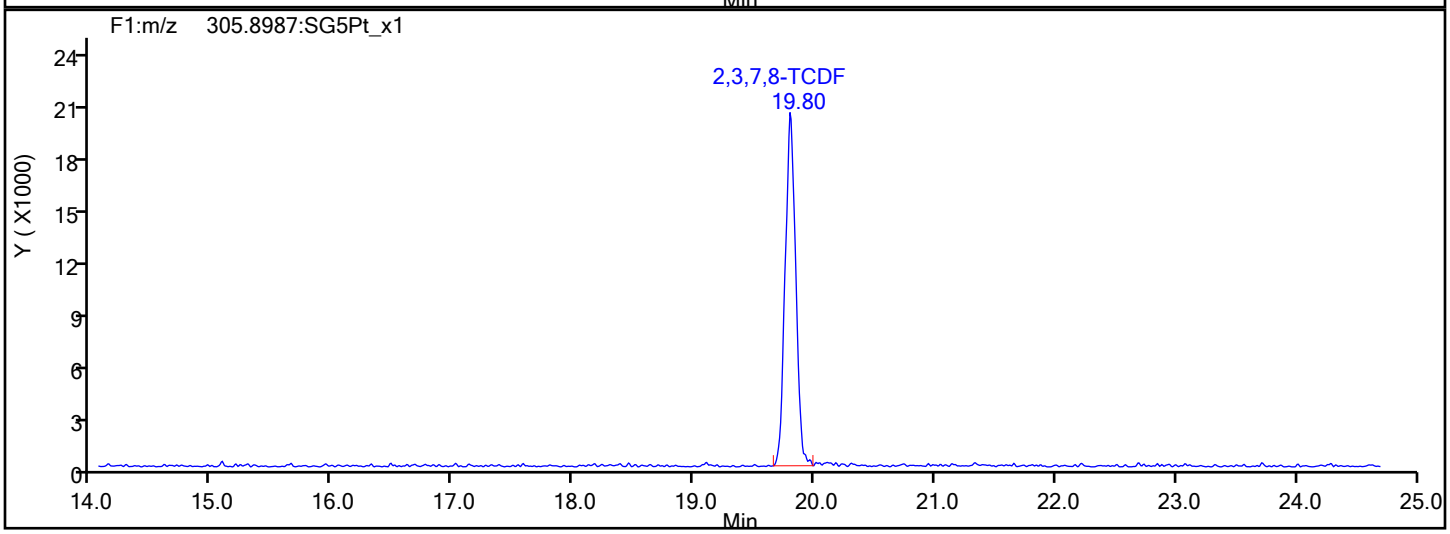

TCDF Interference Mass

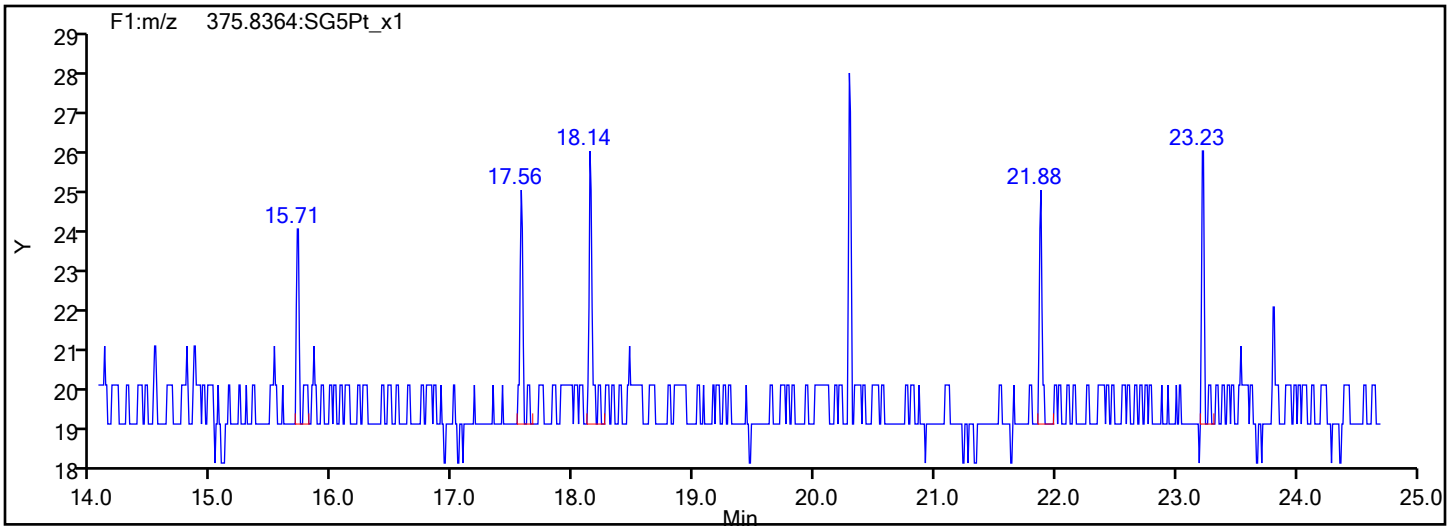

Report Date: 23-Oct-2019 11:53:15 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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TCDD

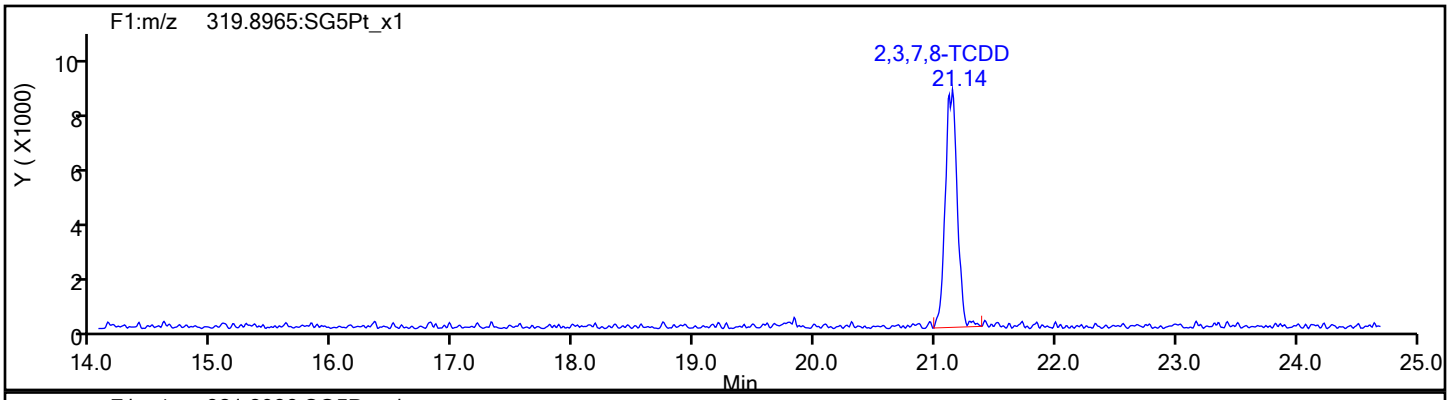

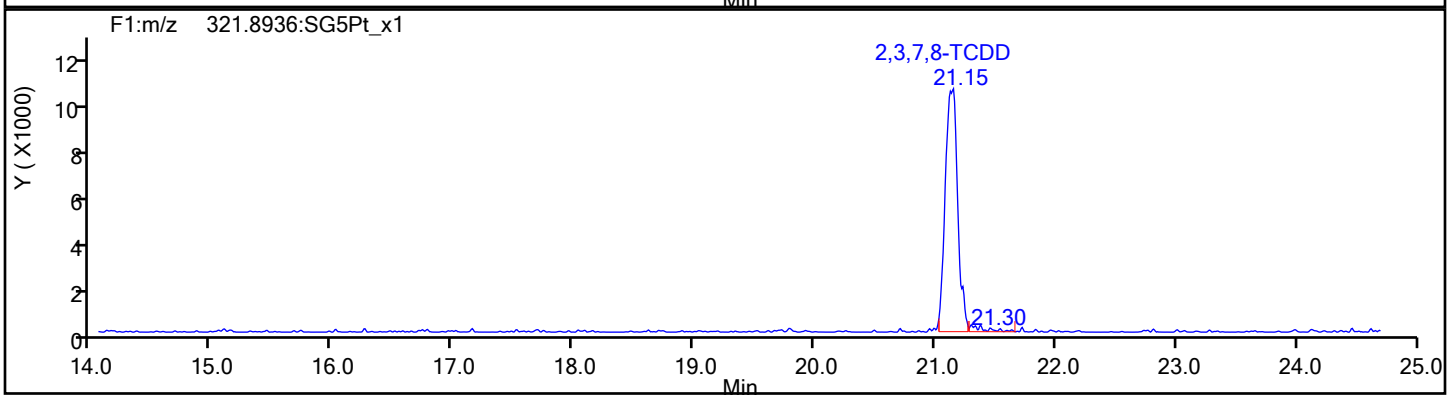

TCDD Standards

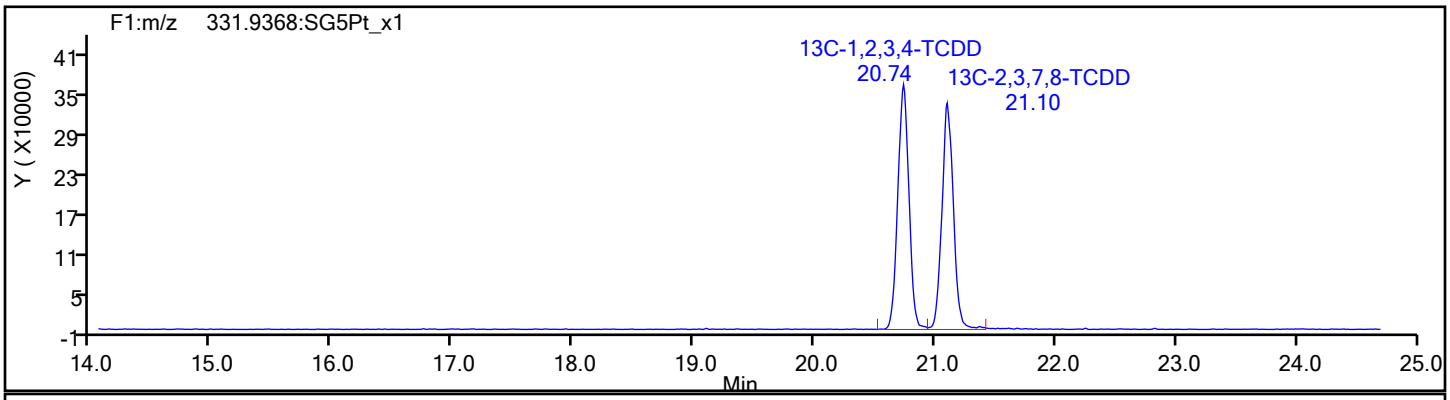

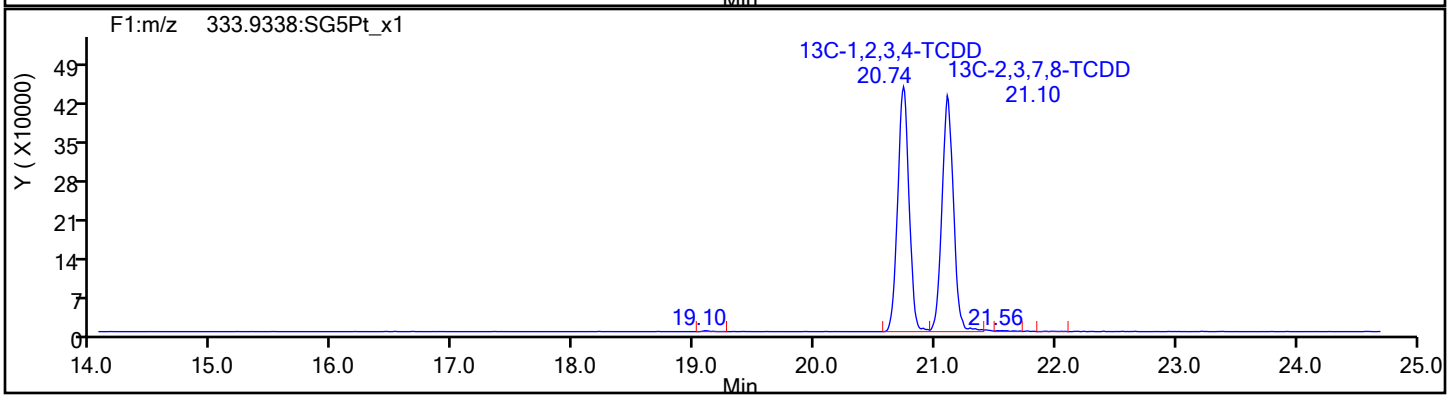

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Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

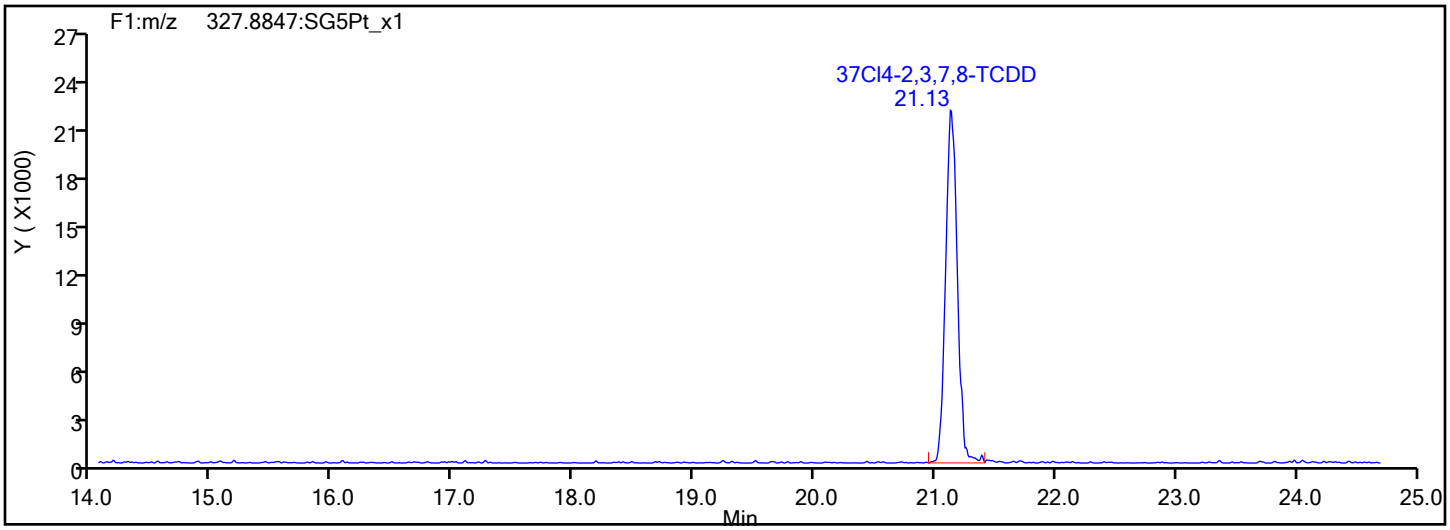

37Cl4-TCDD Standards

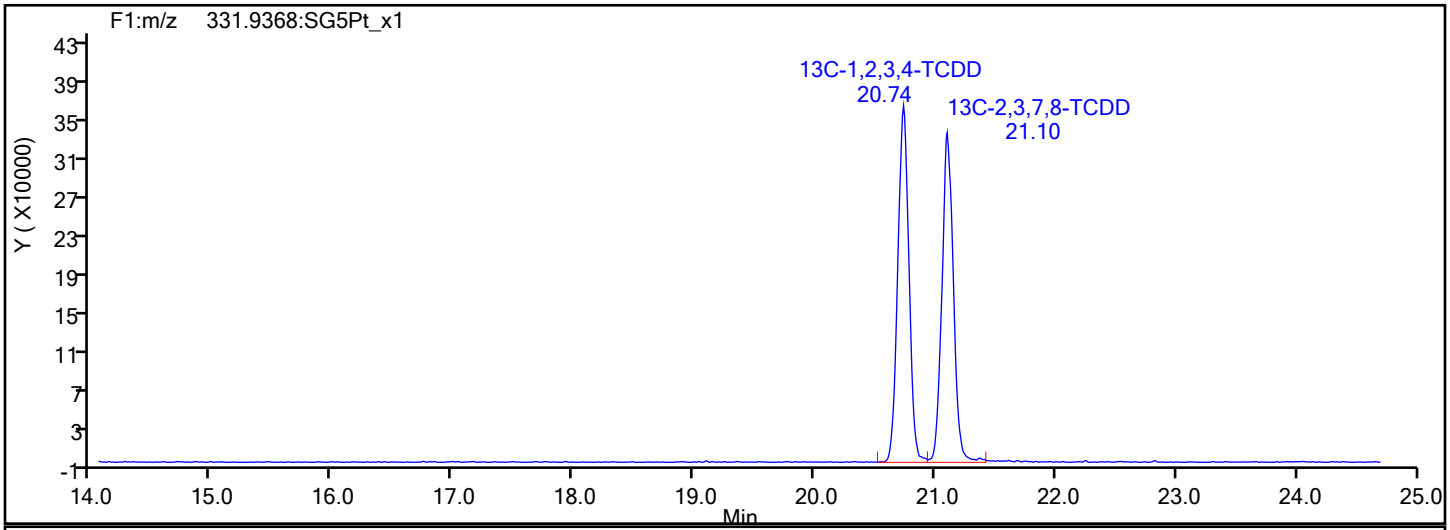

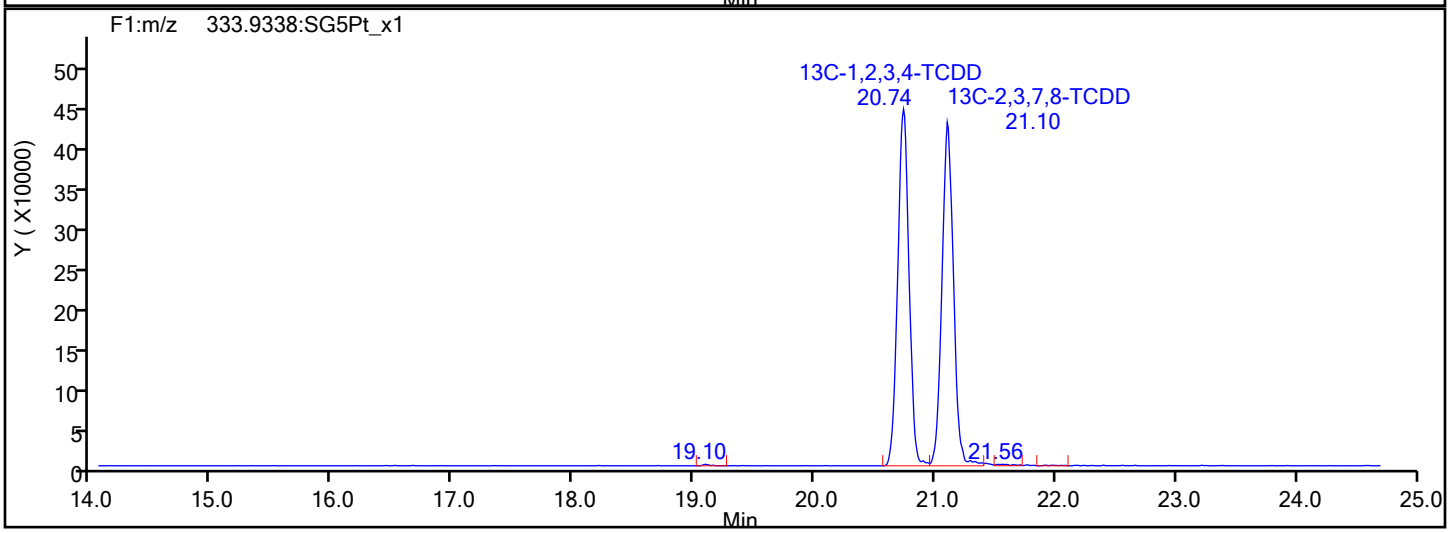

Report Date: 23-Oct-2019 11:53:15 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

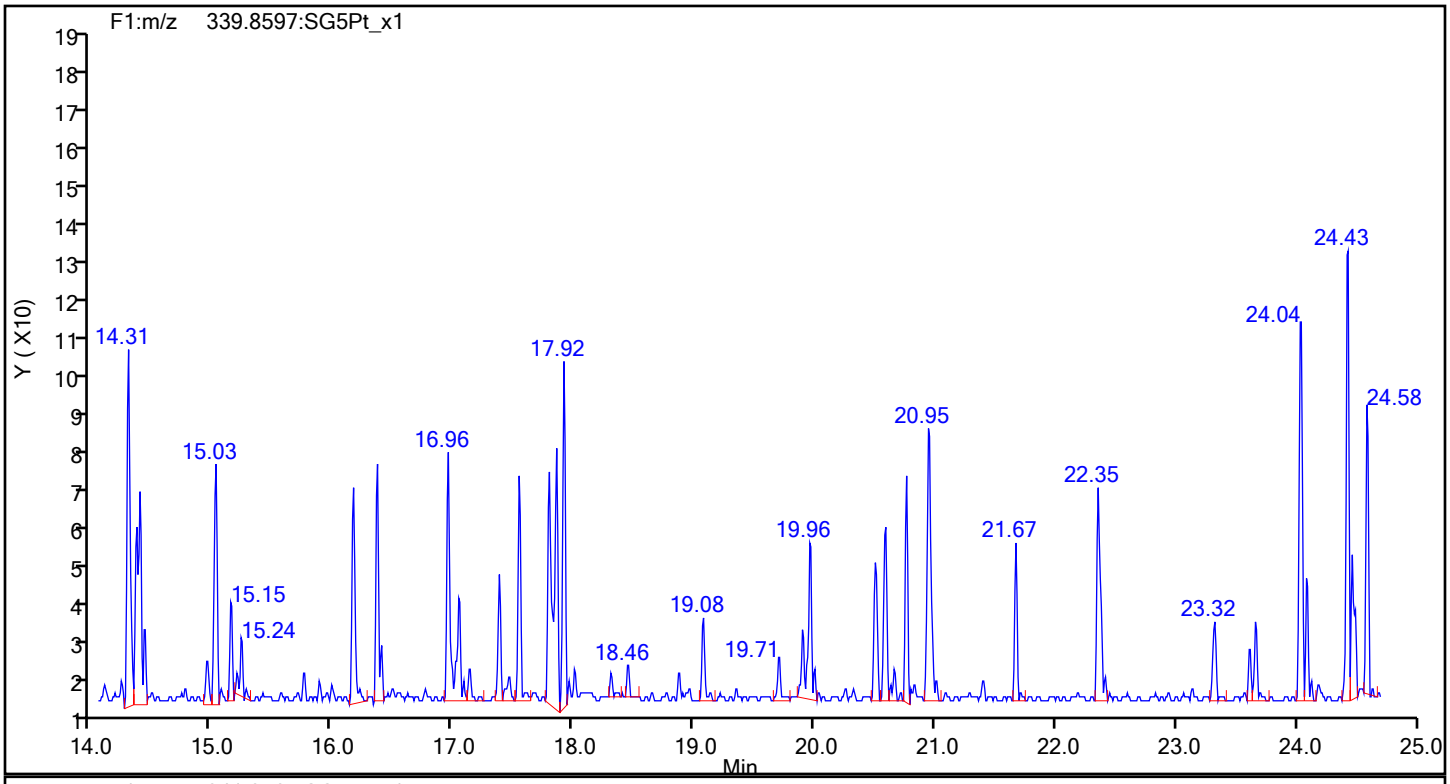

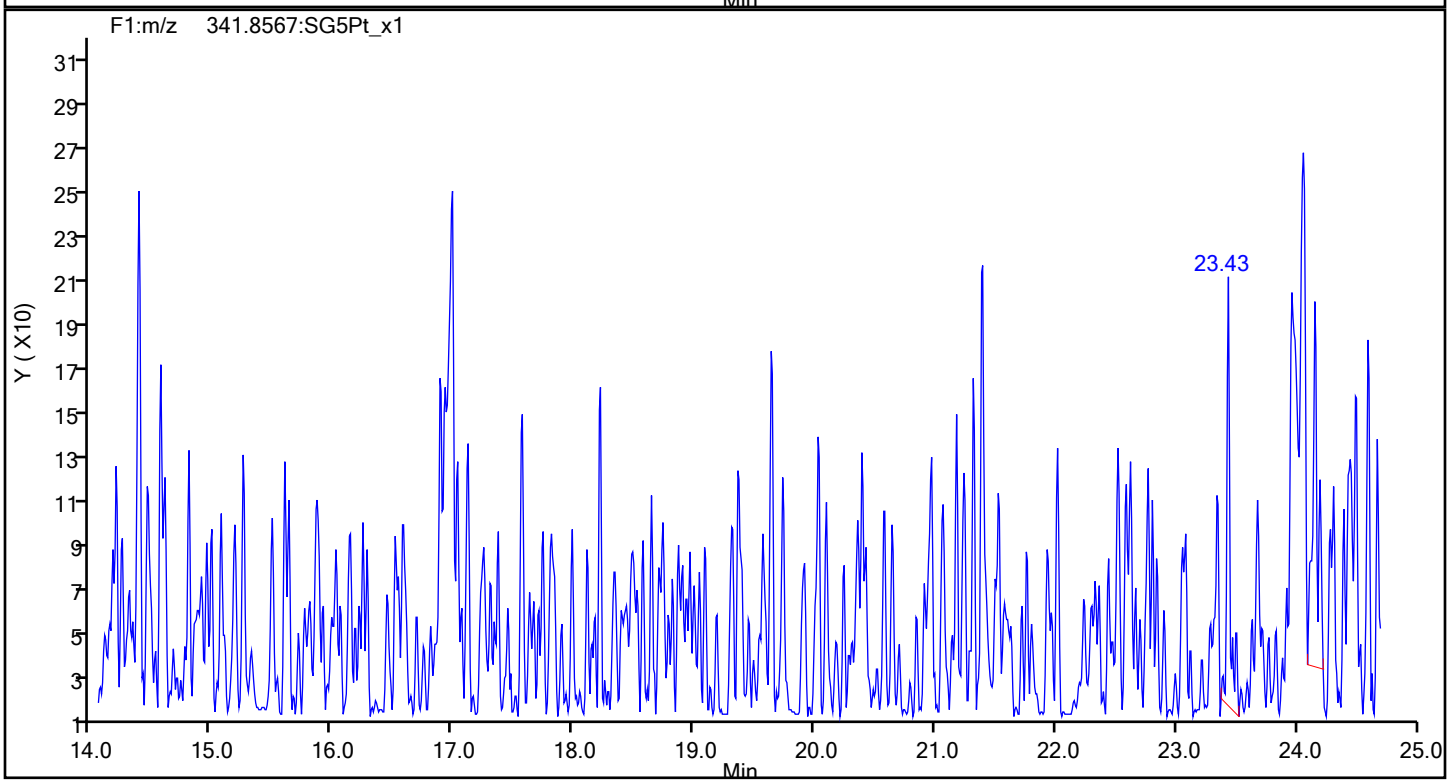

Report Date: 23-Oct-2019 11:53:15 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_5.d		
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F1 PeCDFs

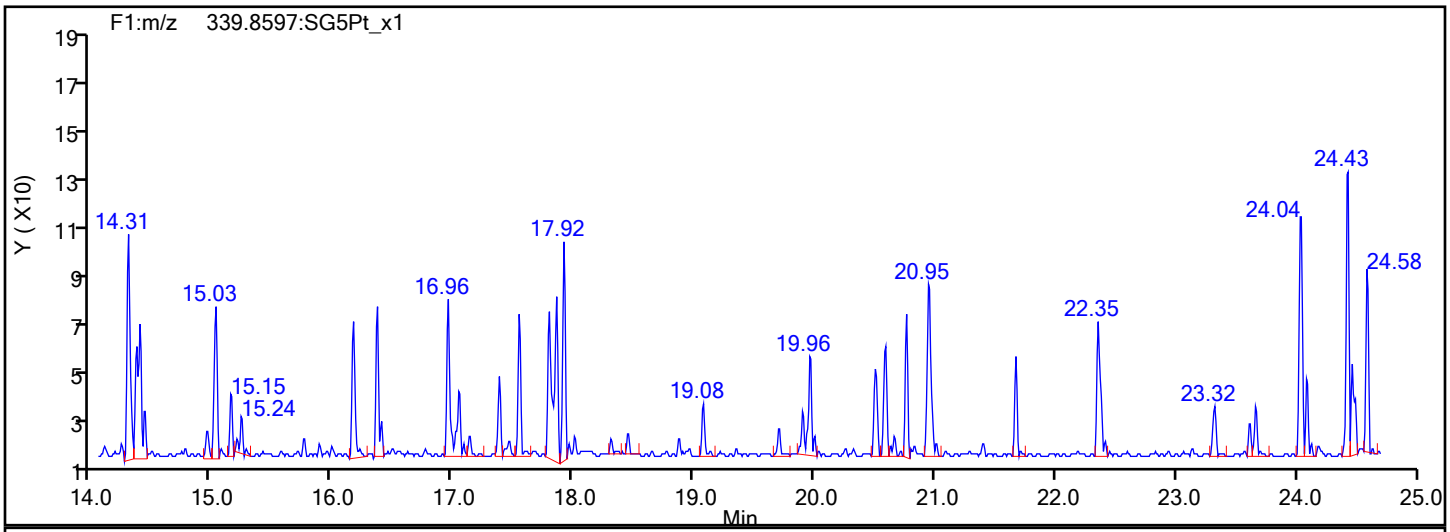

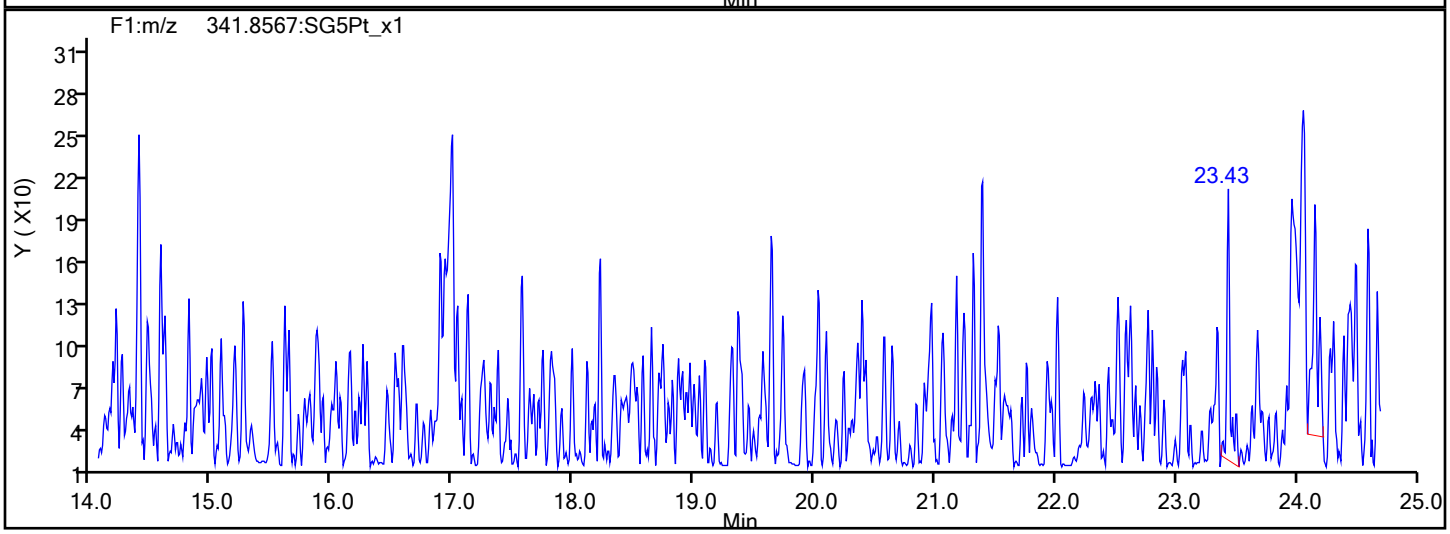

F1 PeCDFs Interference Mass

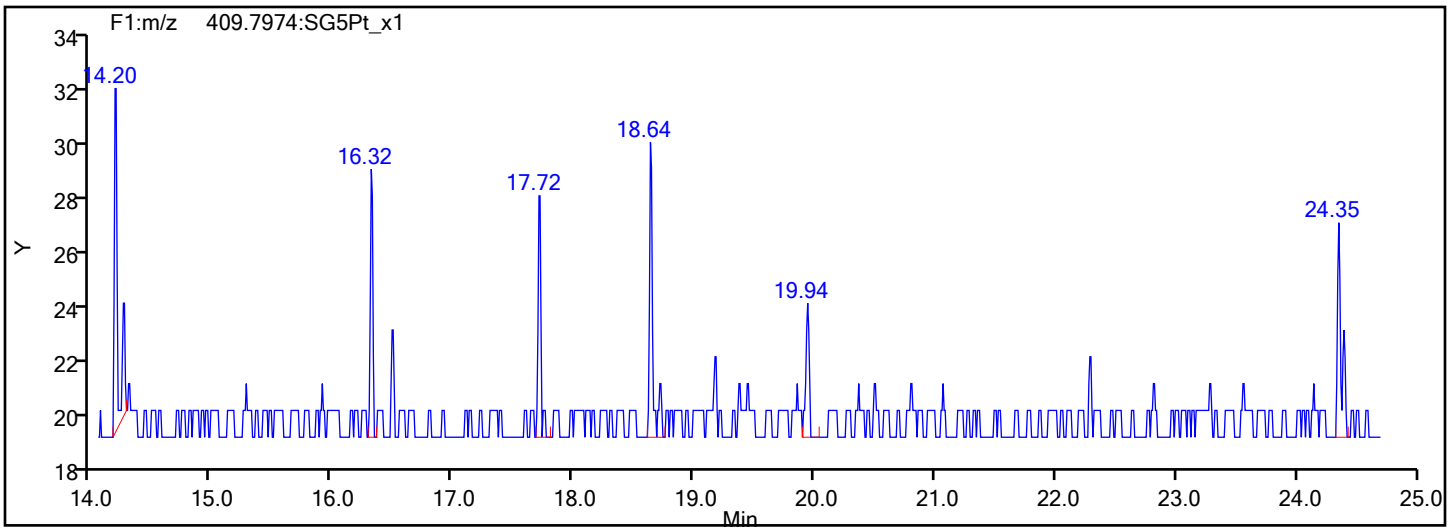

Report Date: 23-Oct-2019 11:53:15 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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PeCDF

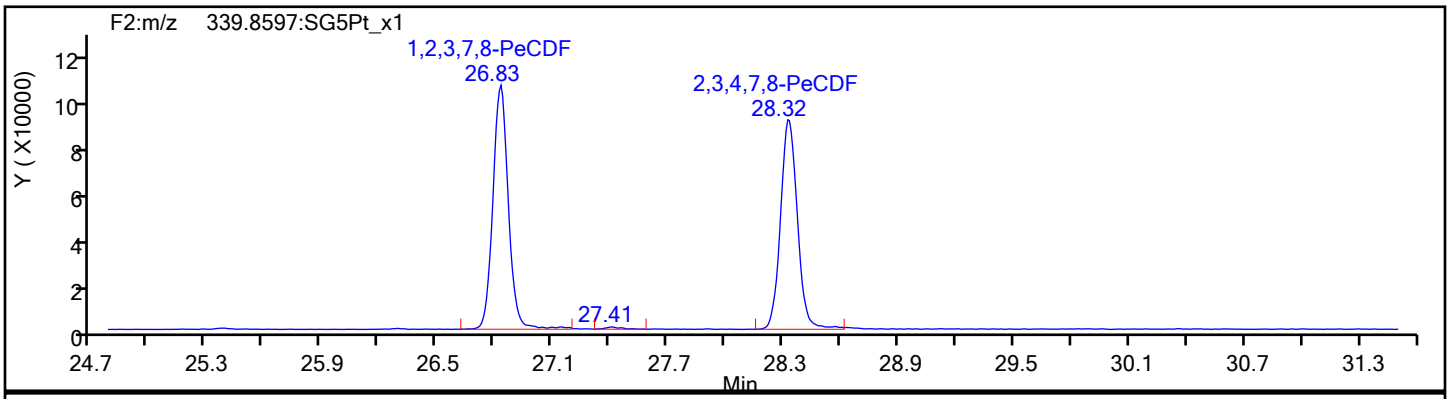

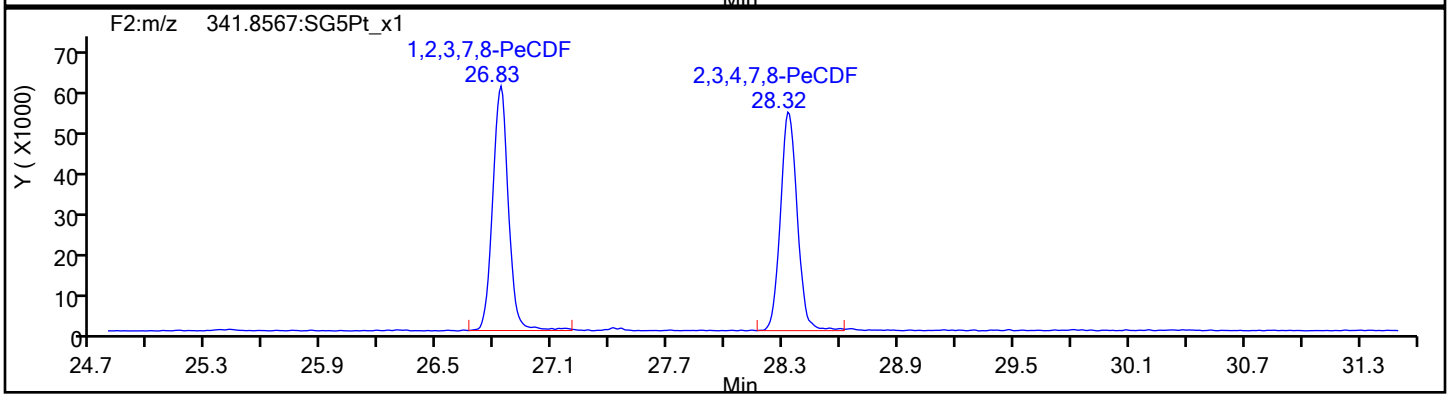

PeCDF Standards

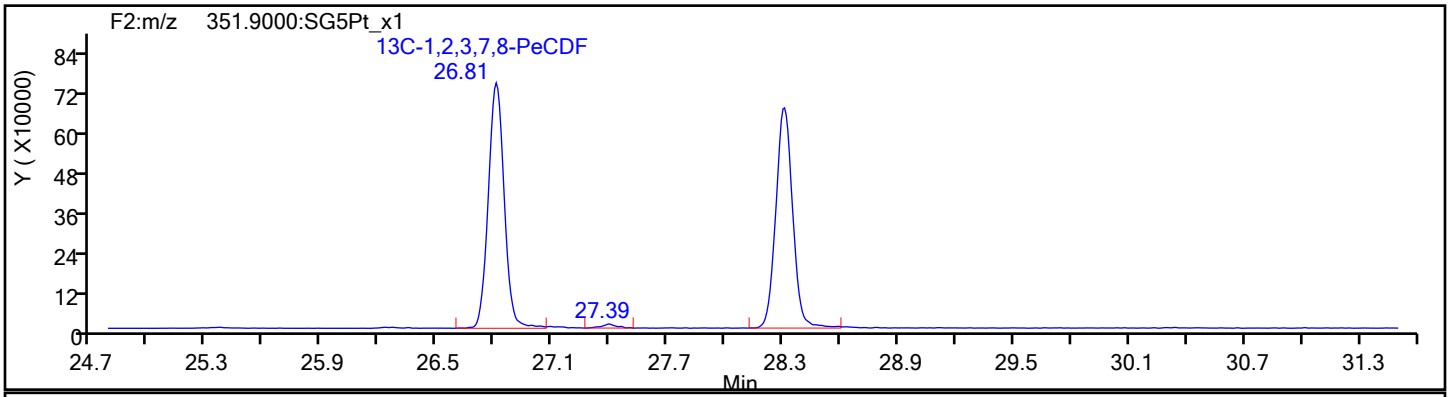

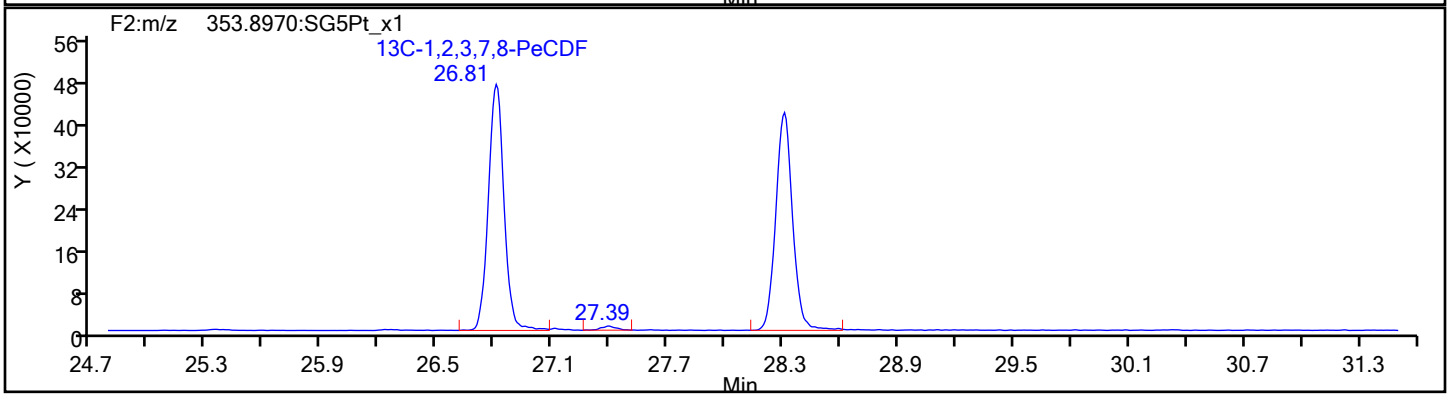

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Eurofins TestAmerica, Sacramento

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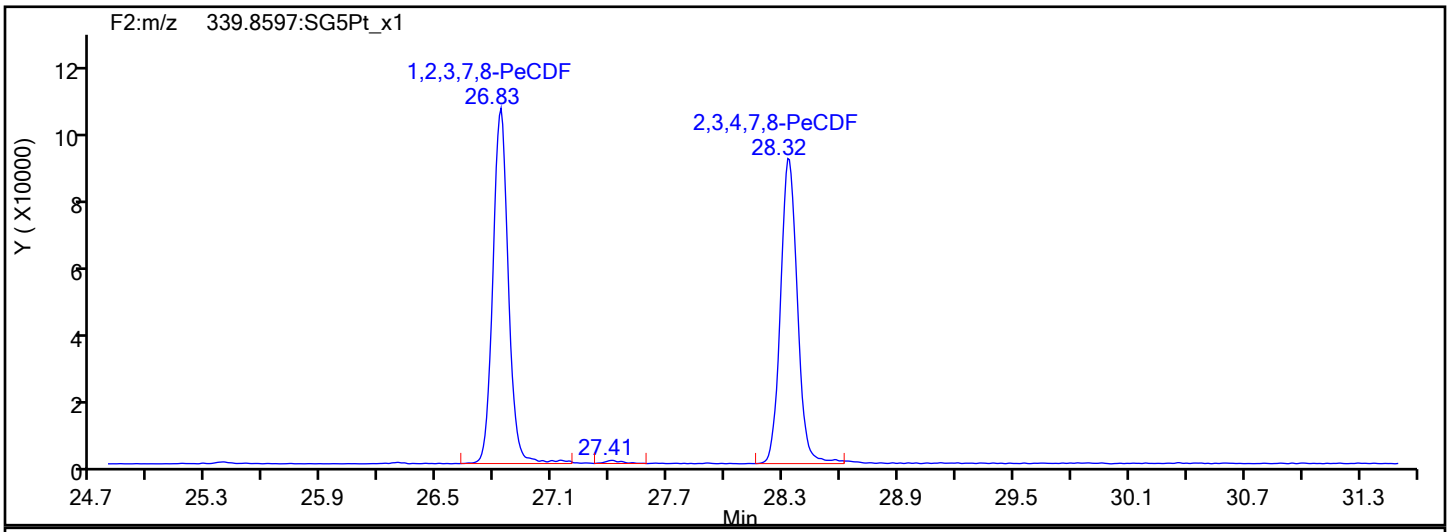

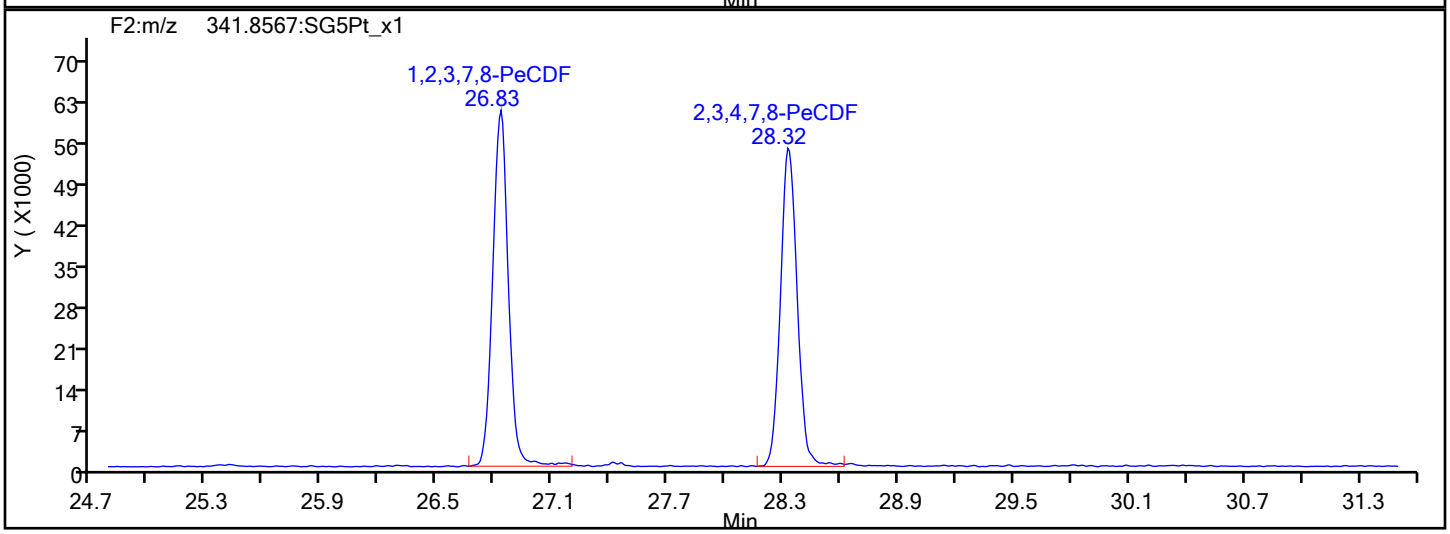

PeCDF Interference Mass

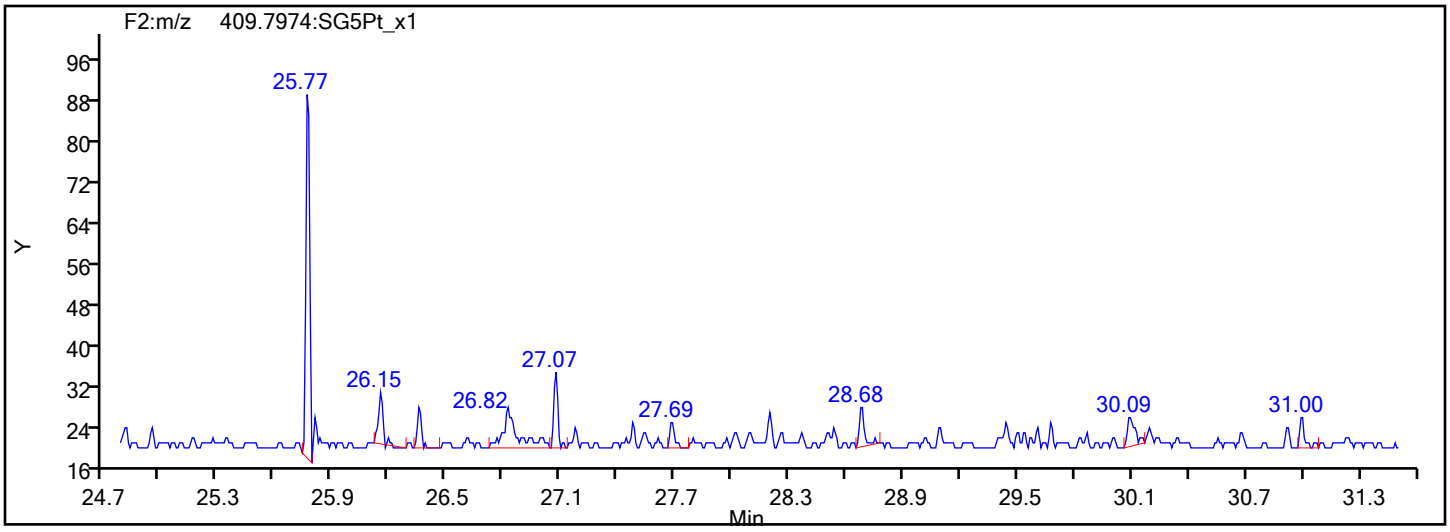

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Eurofins TestAmerica, Sacramento

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PeCDD

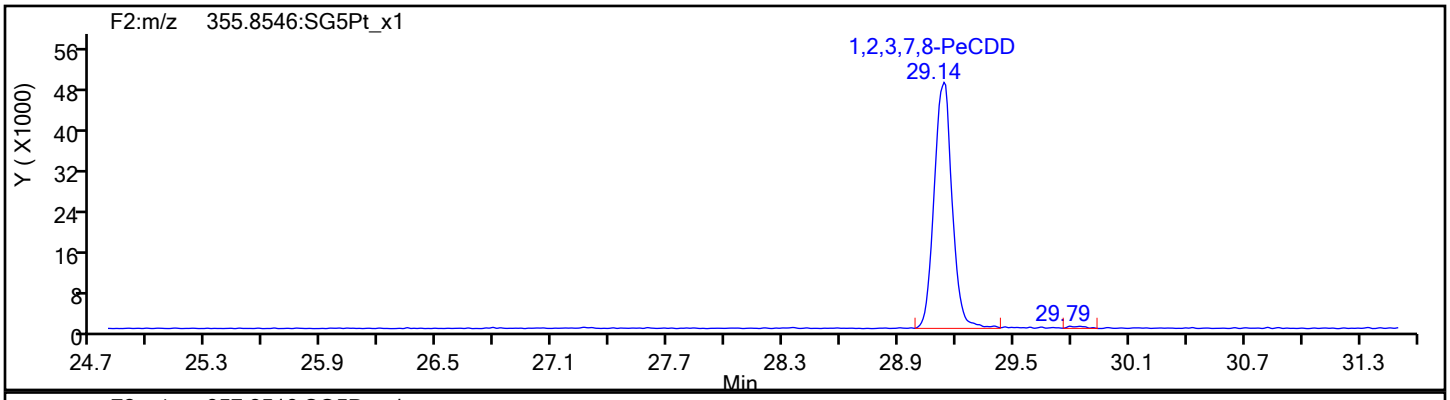

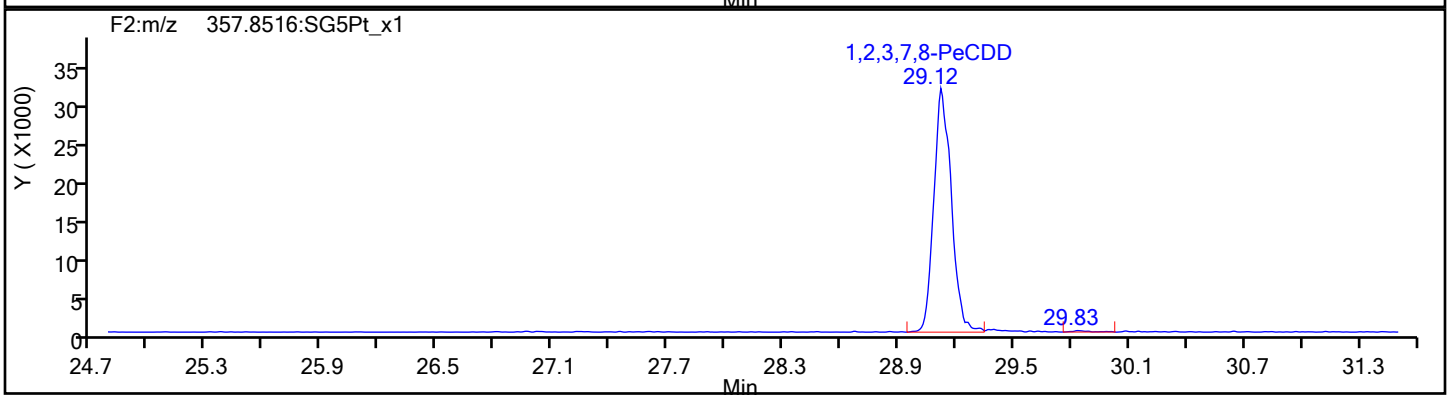

PeCDD Standards

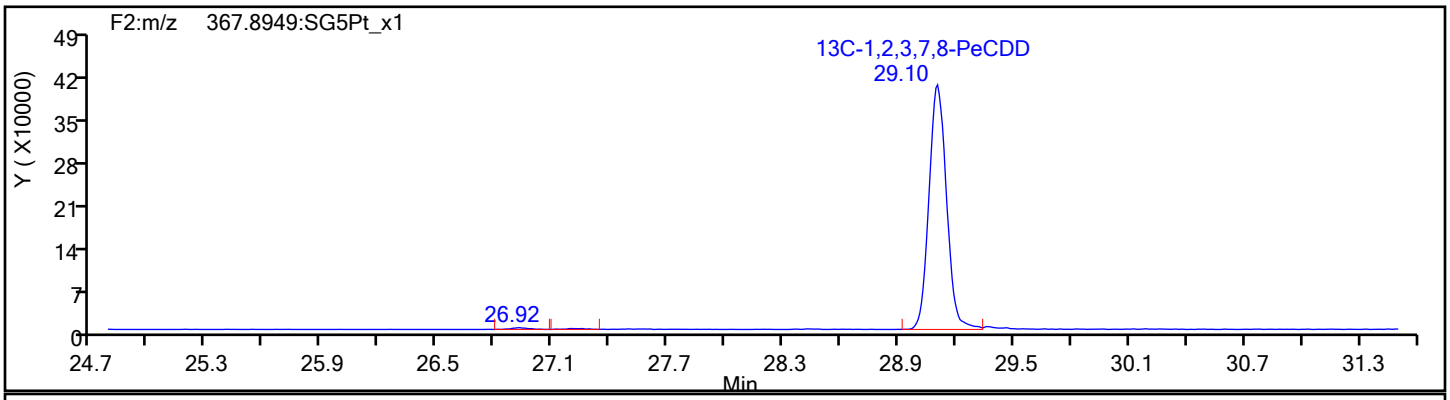

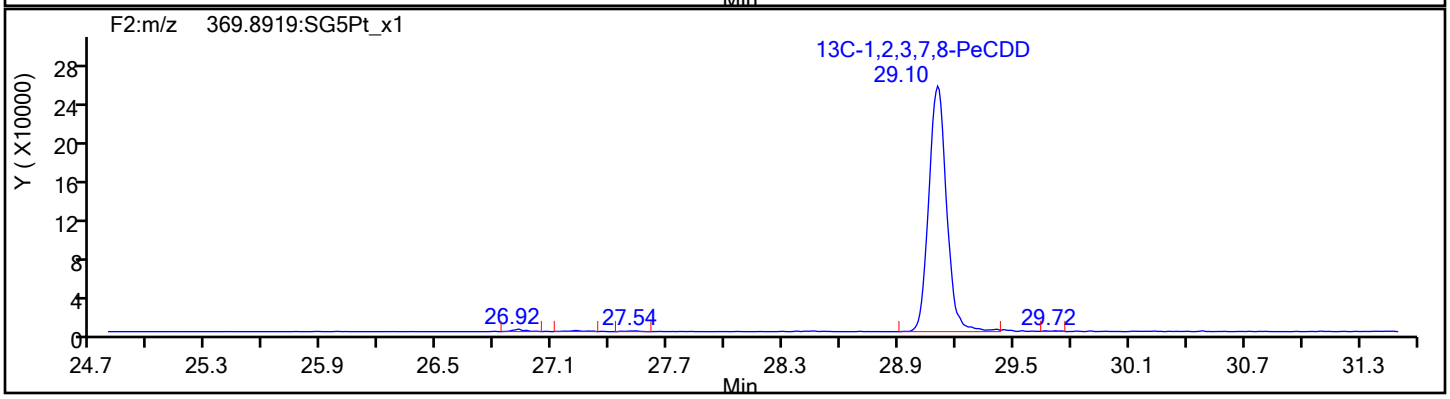

Report Date: 23-Oct-2019 11:53:15 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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HxCDF

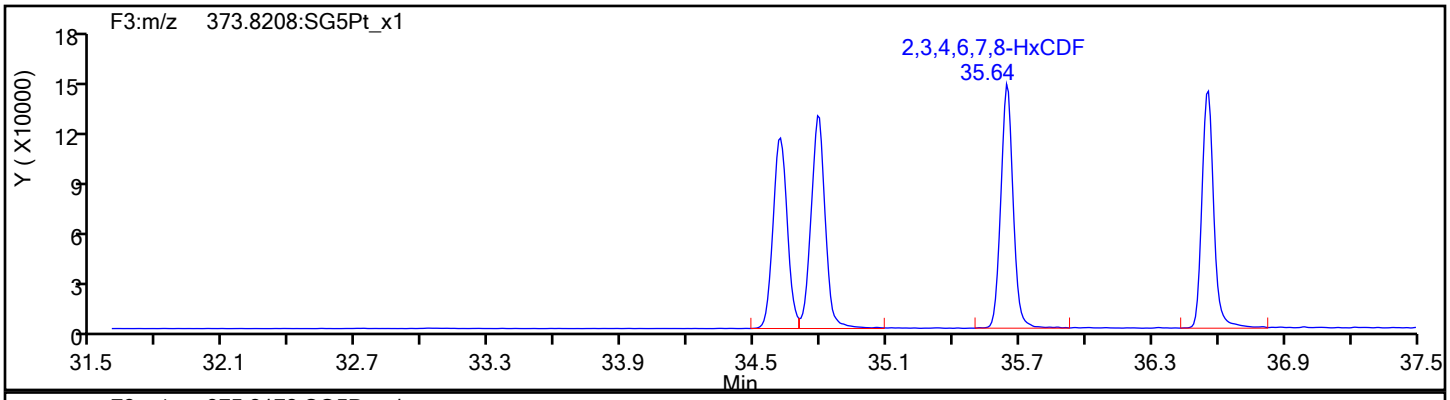

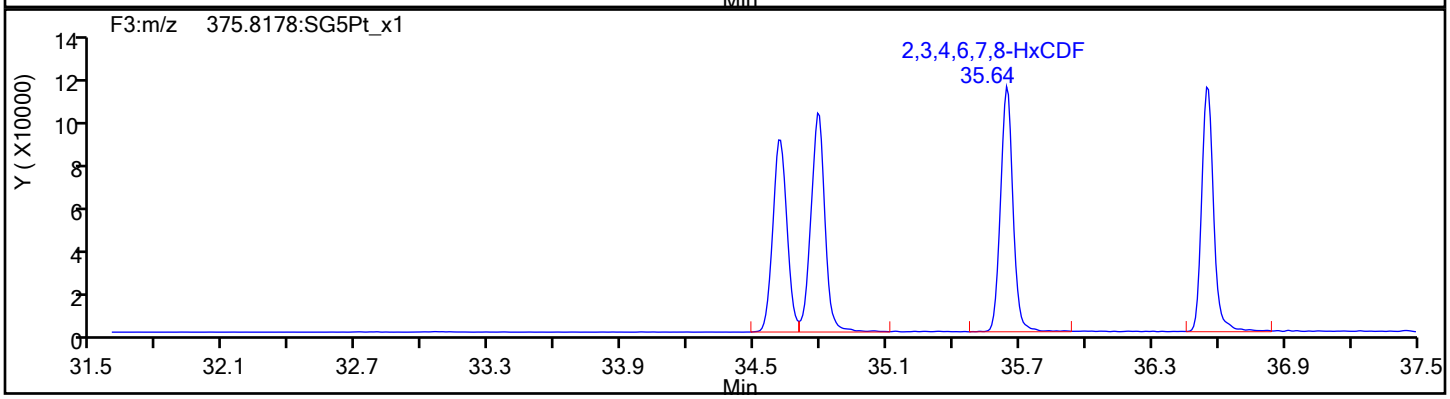

HxCDF Standards

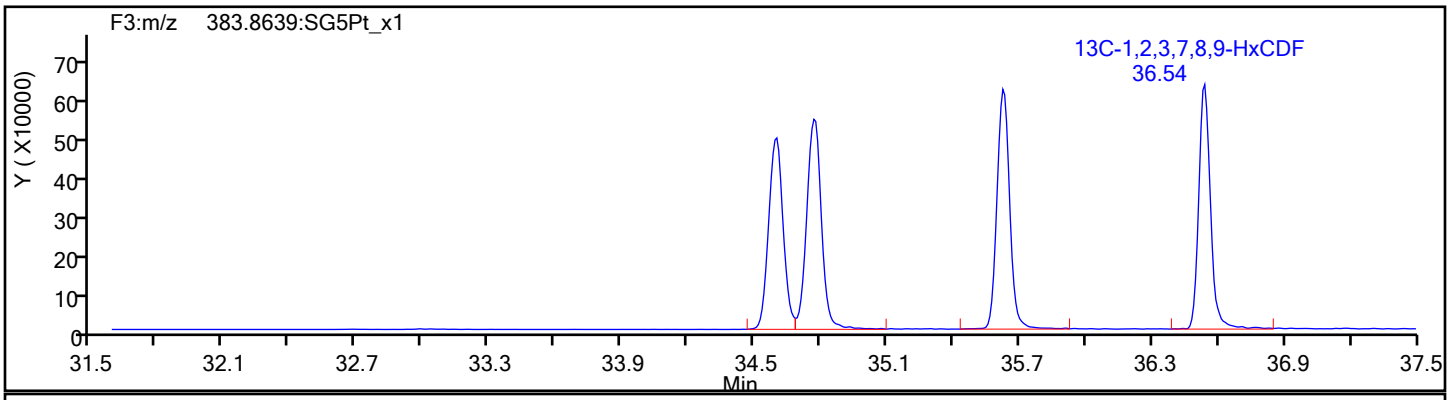

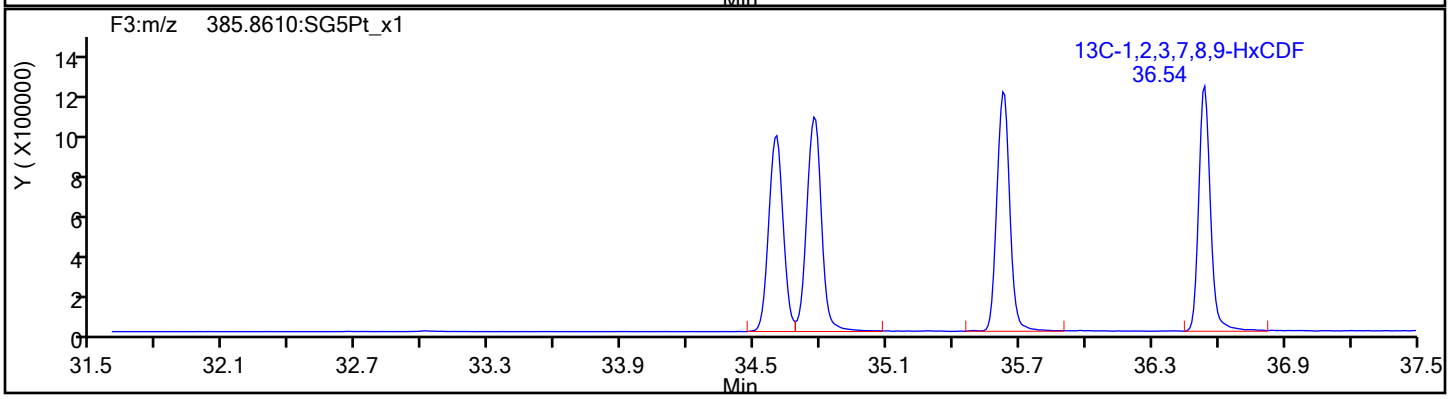

Report Date: 23-Oct-2019 11:53:16 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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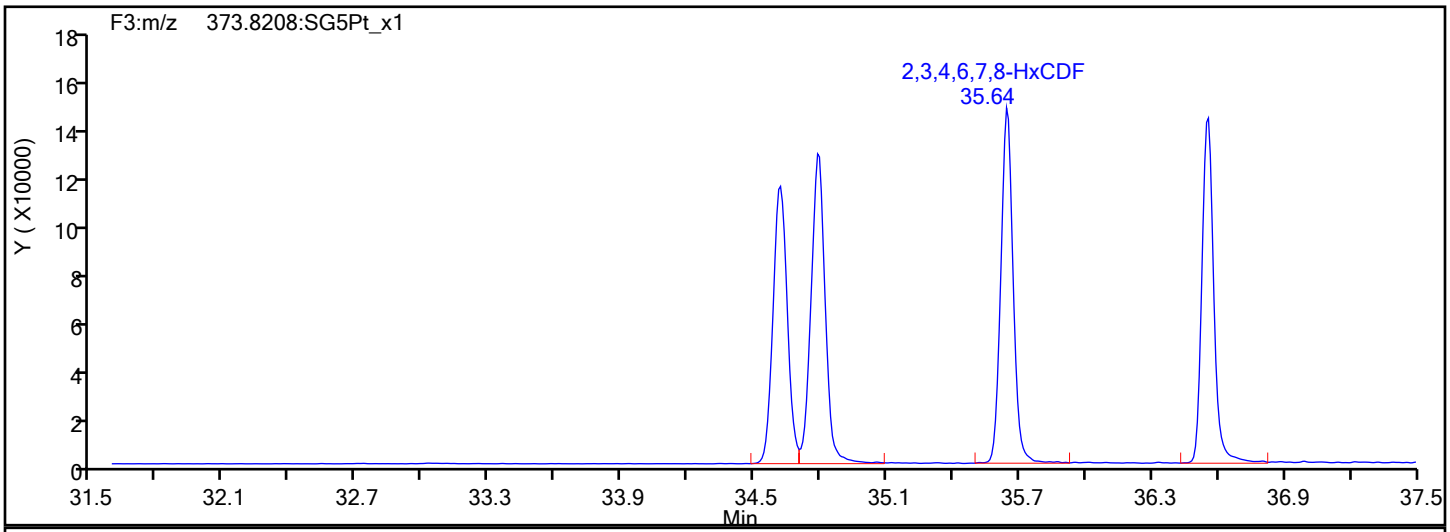

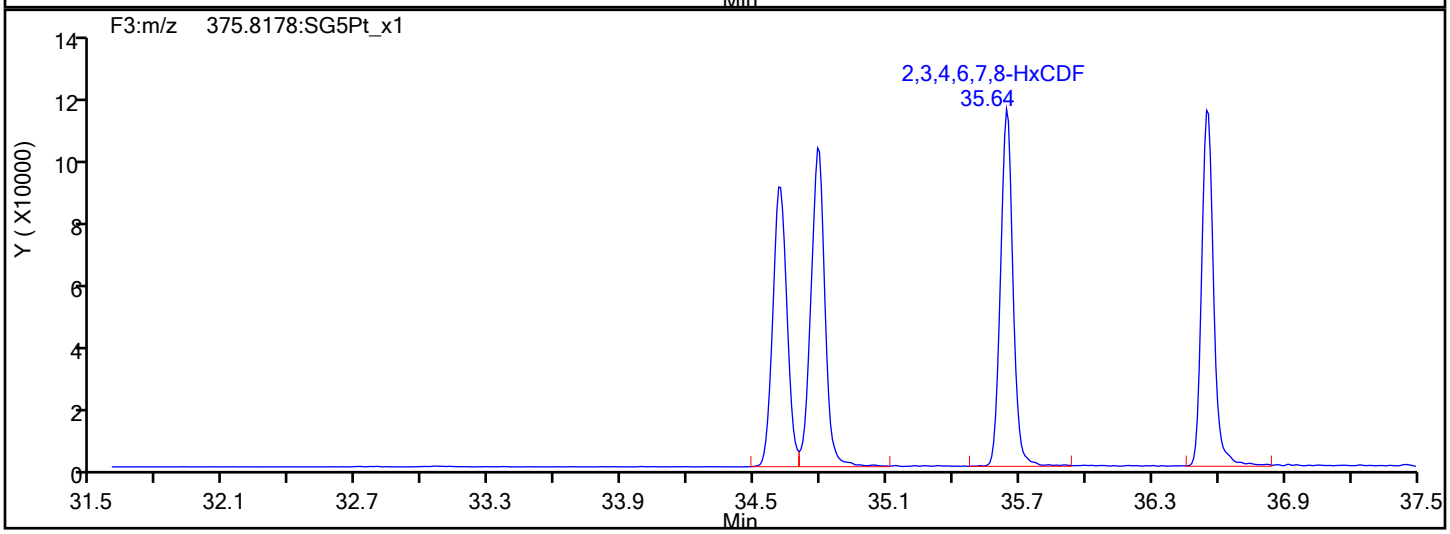

HxCDF Interference Mass

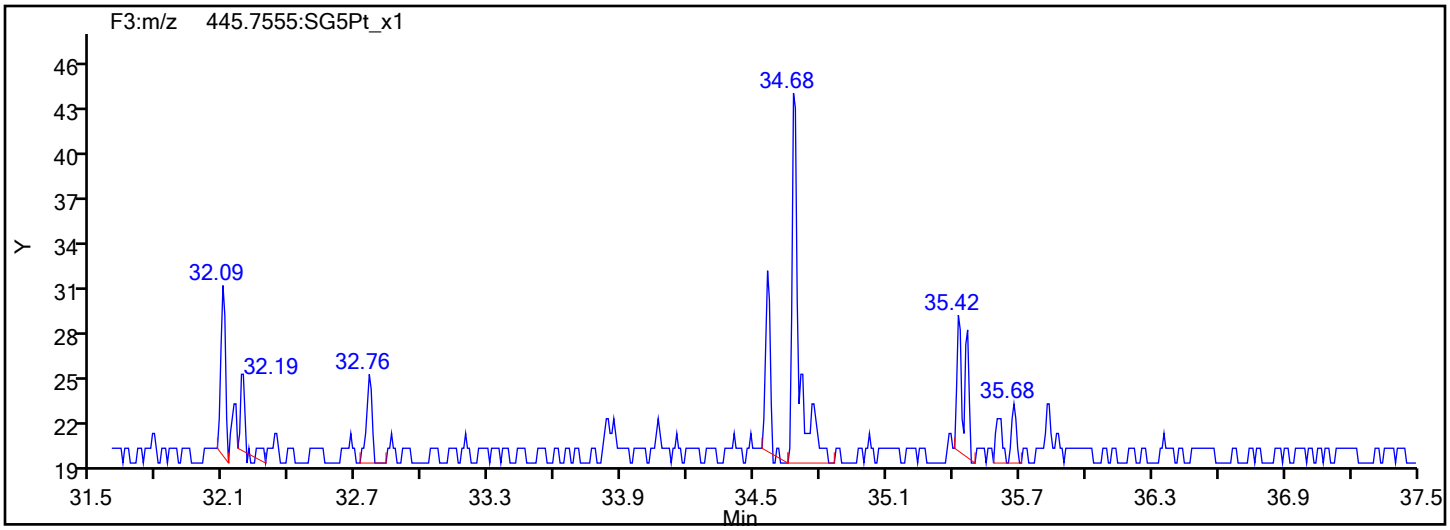

Report Date: 23-Oct-2019 11:53:16 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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HxCDD

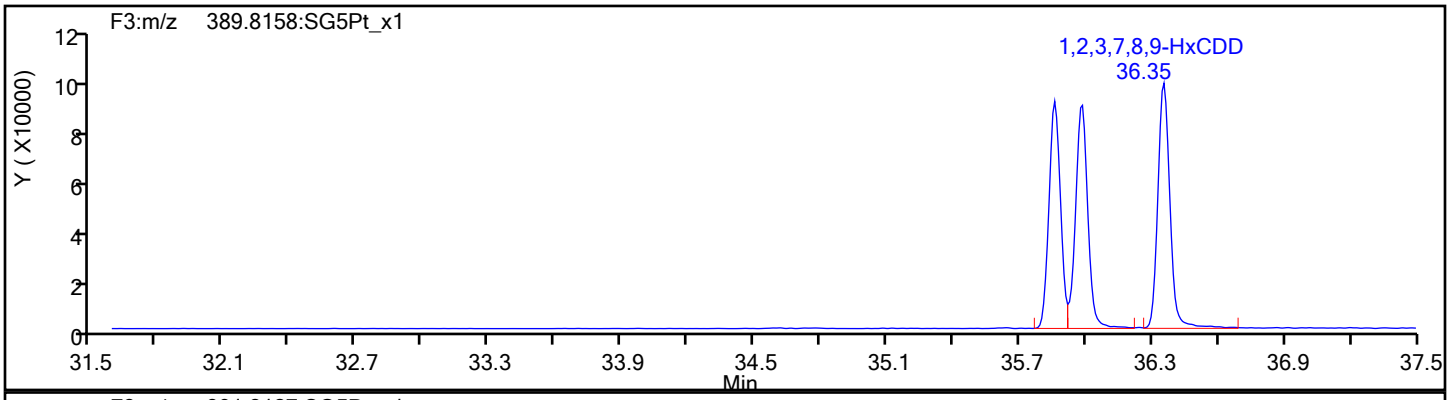

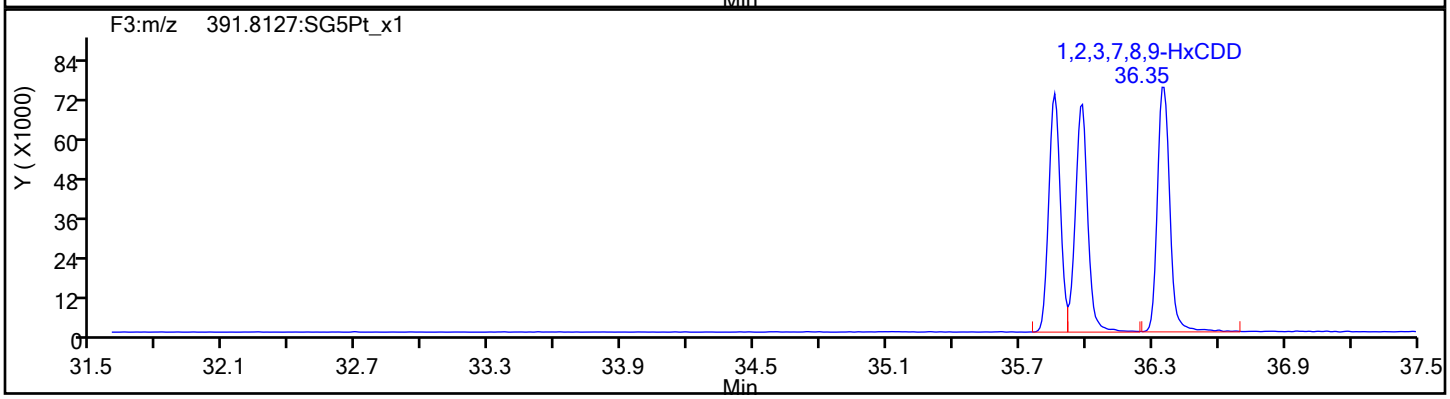

HxCDD Standards

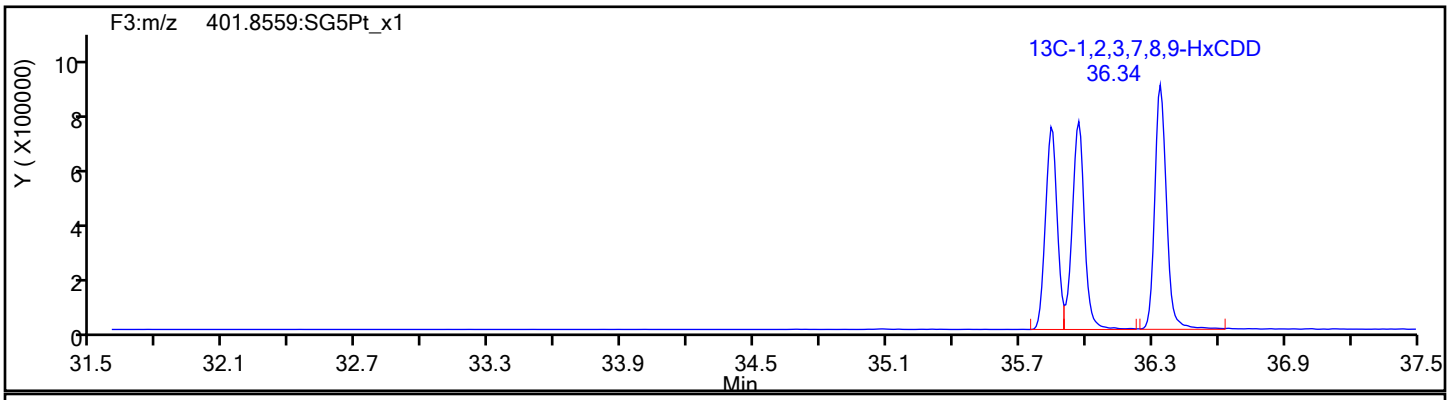

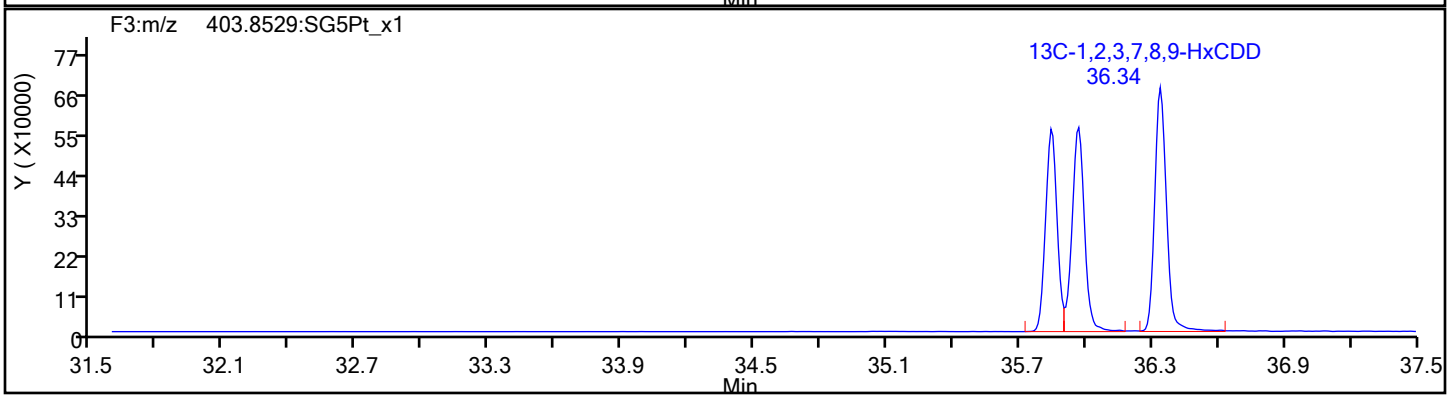

Report Date: 23-Oct-2019 11:53:16 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_5.d		
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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

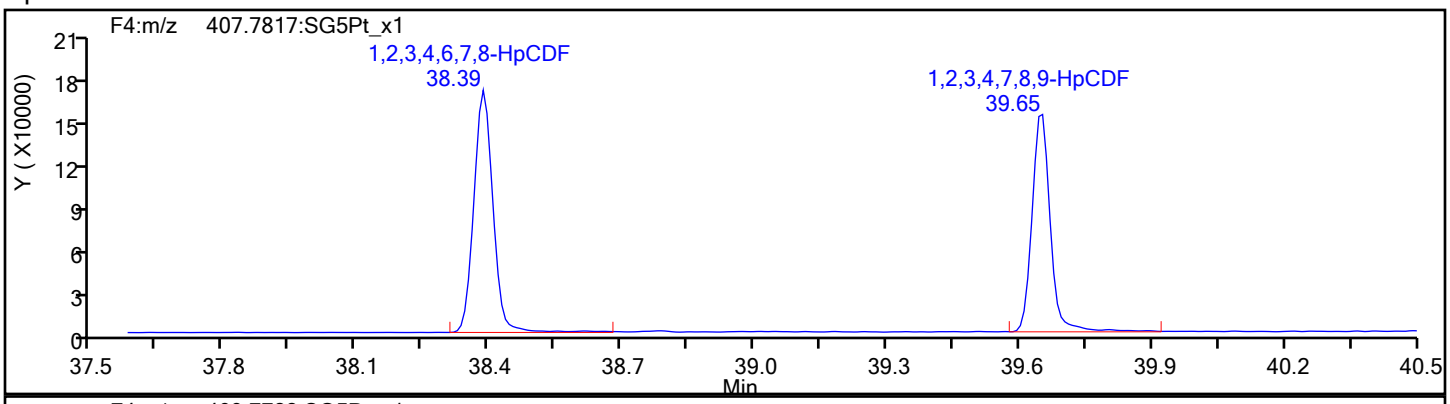

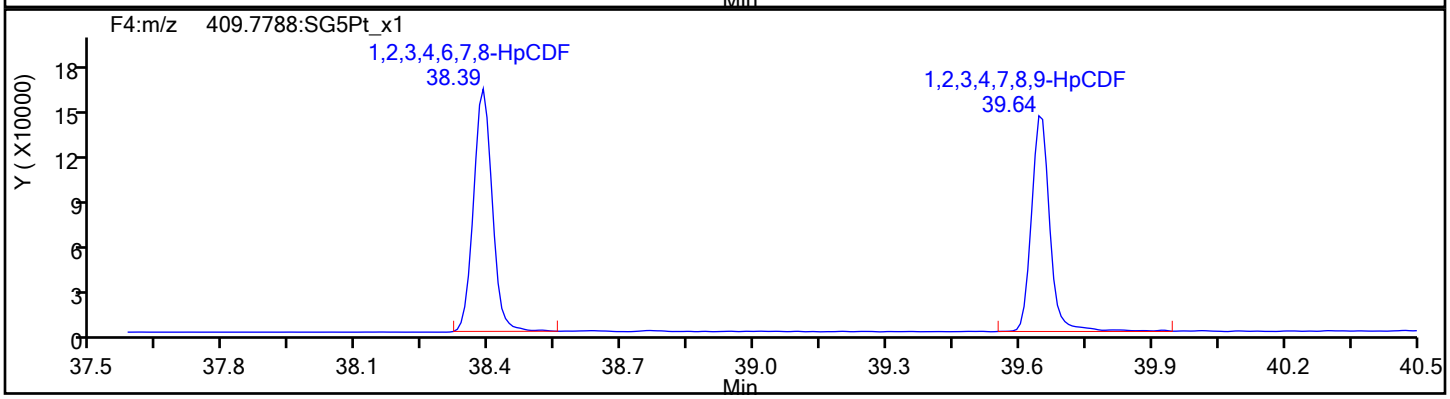

HpCDF Standards

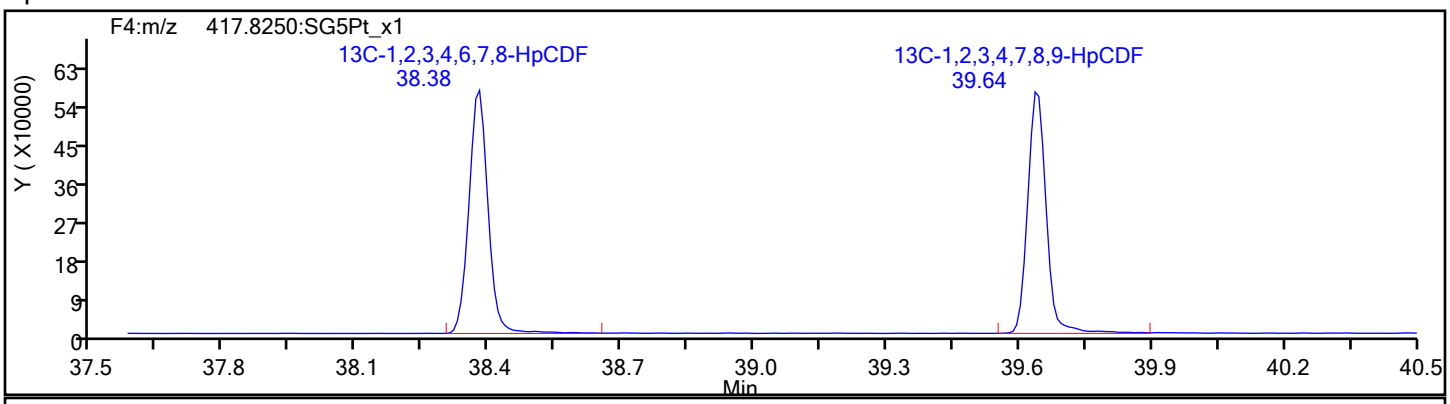

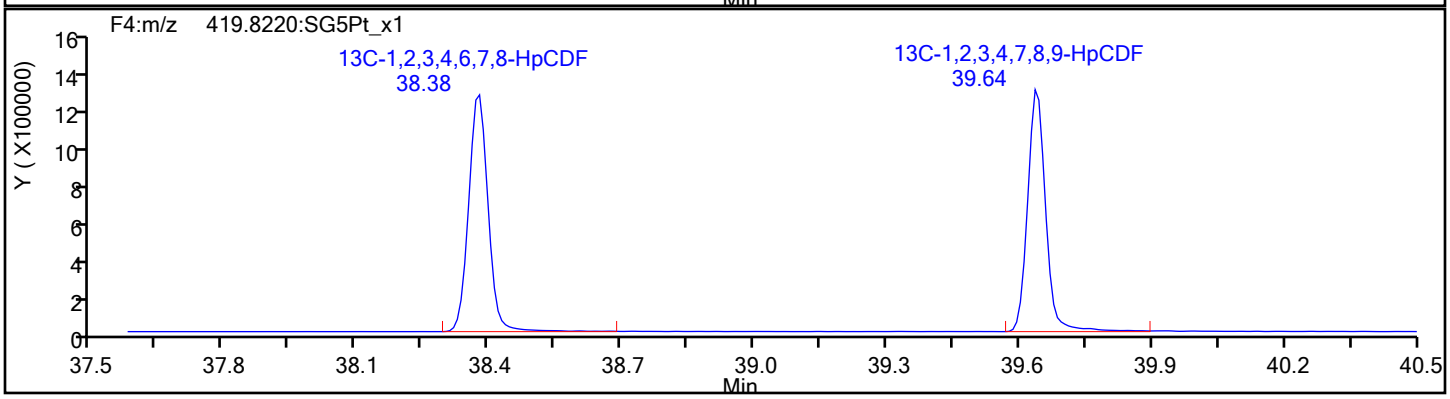

Report Date: 23-Oct-2019 11:53:16 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_5.d		
Injection Date:	18-Oct-2019 21:38:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

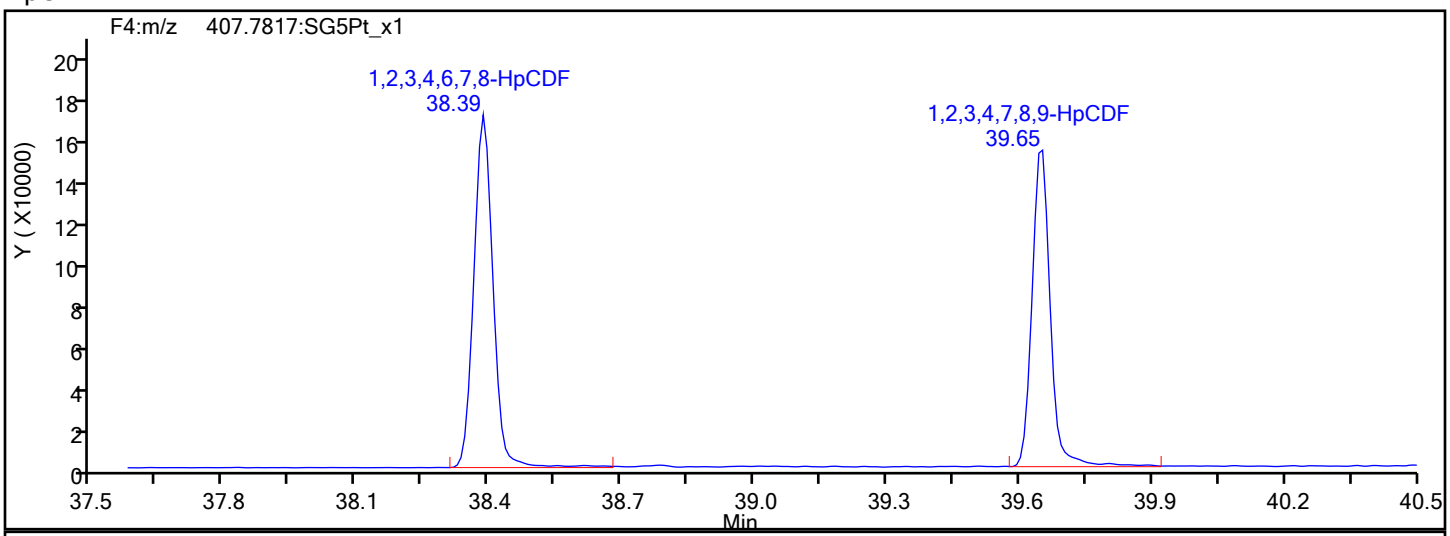

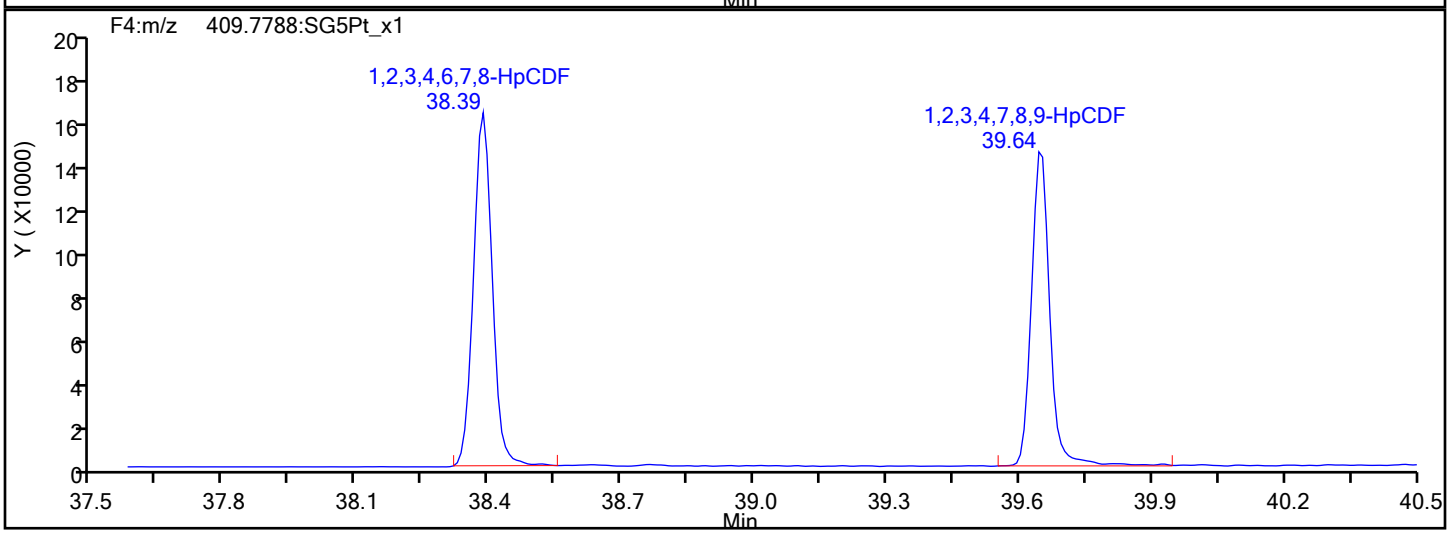

HpCDF Interference Mass

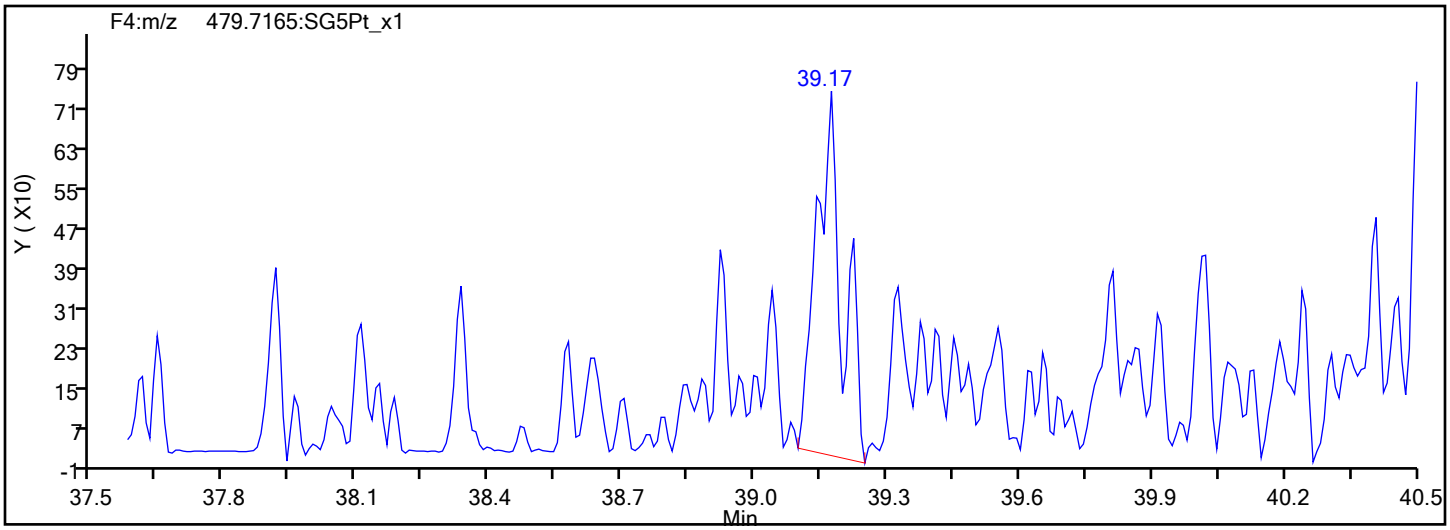

Report Date: 23-Oct-2019 11:53:16 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_5.d		
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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

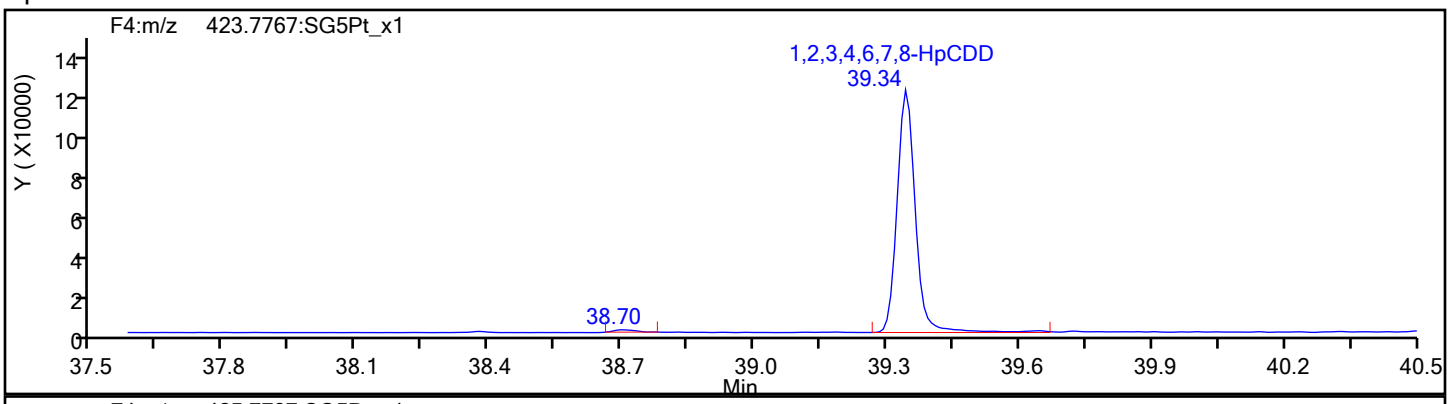

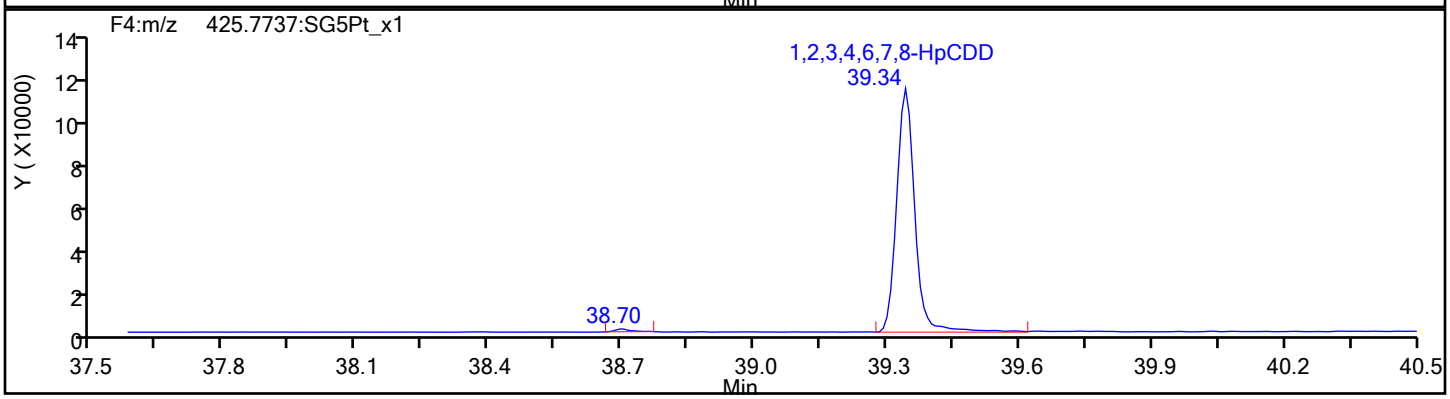

HpCDD Standards

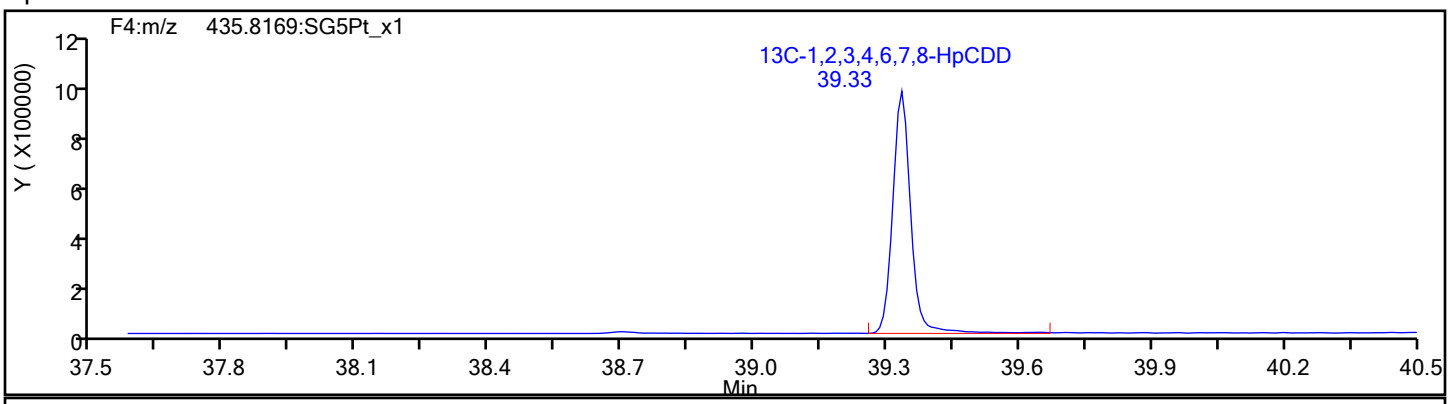

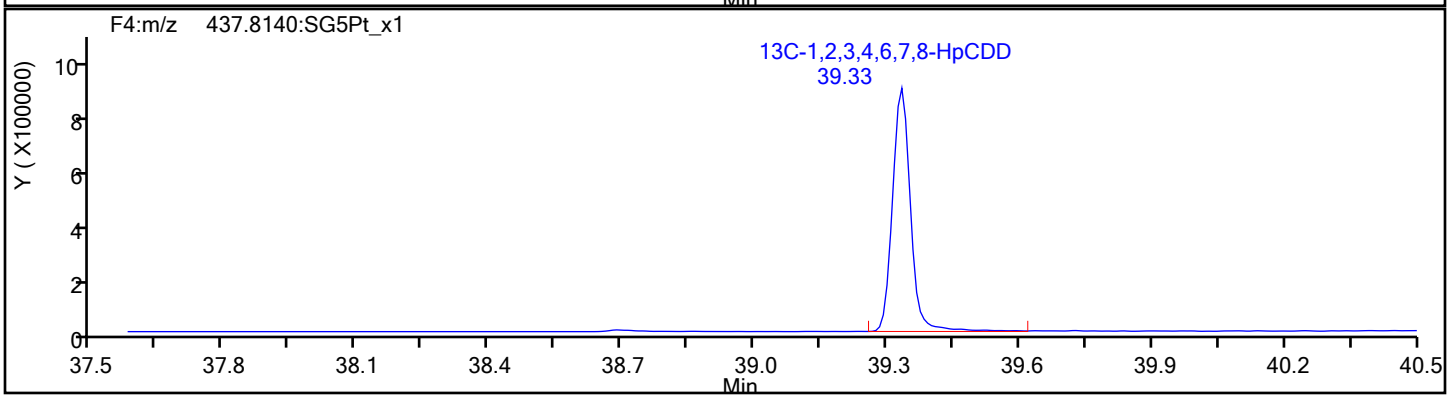

Report Date: 23-Oct-2019 11:53:16 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_5.d		
Injection Date:	18-Oct-2019 21:38:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

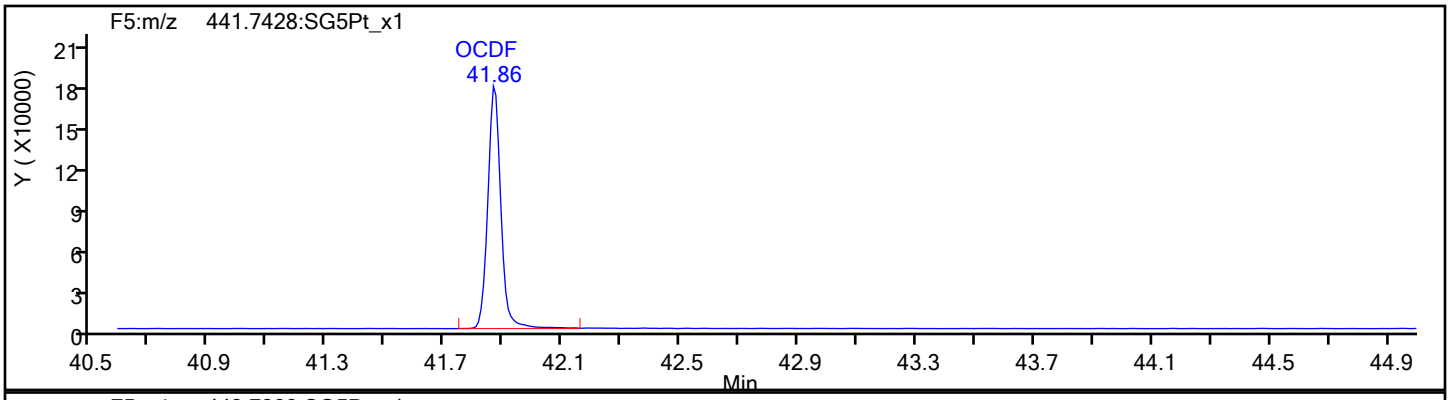

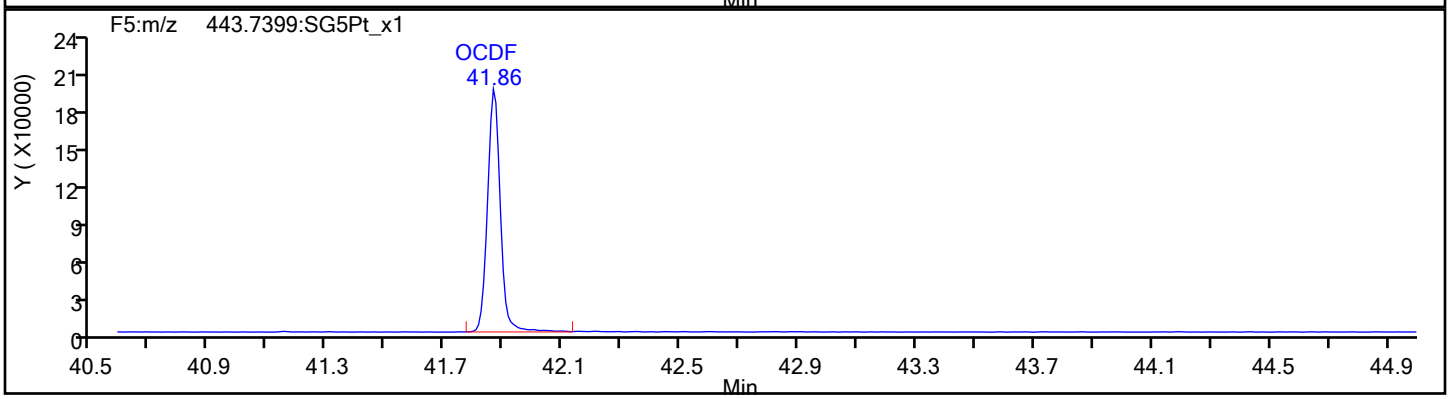

OCDF Standards

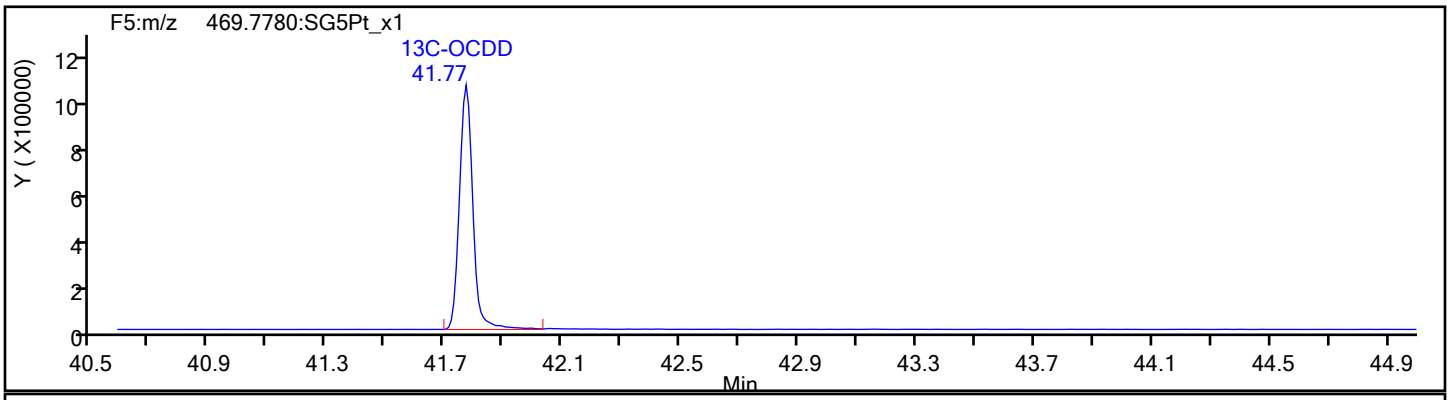

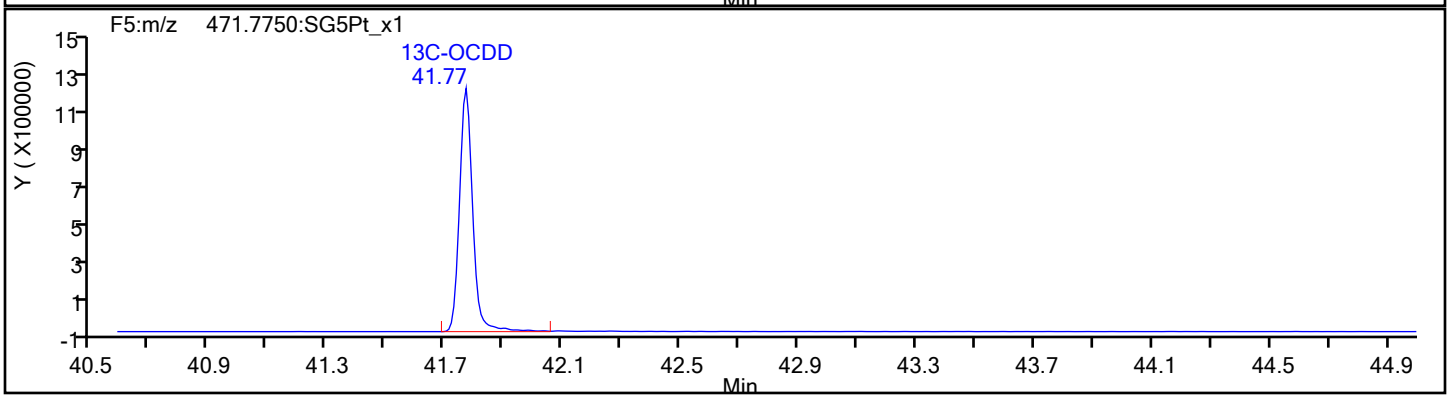

Report Date: 23-Oct-2019 11:53:16 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_5.d		
Injection Date:	18-Oct-2019 21:38:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

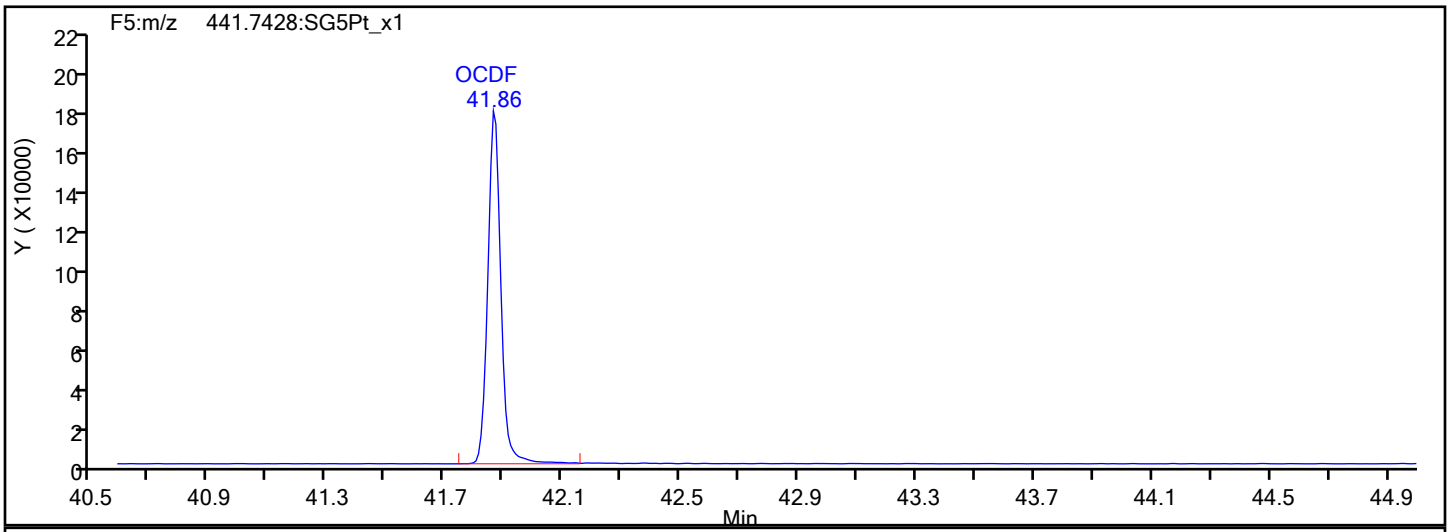

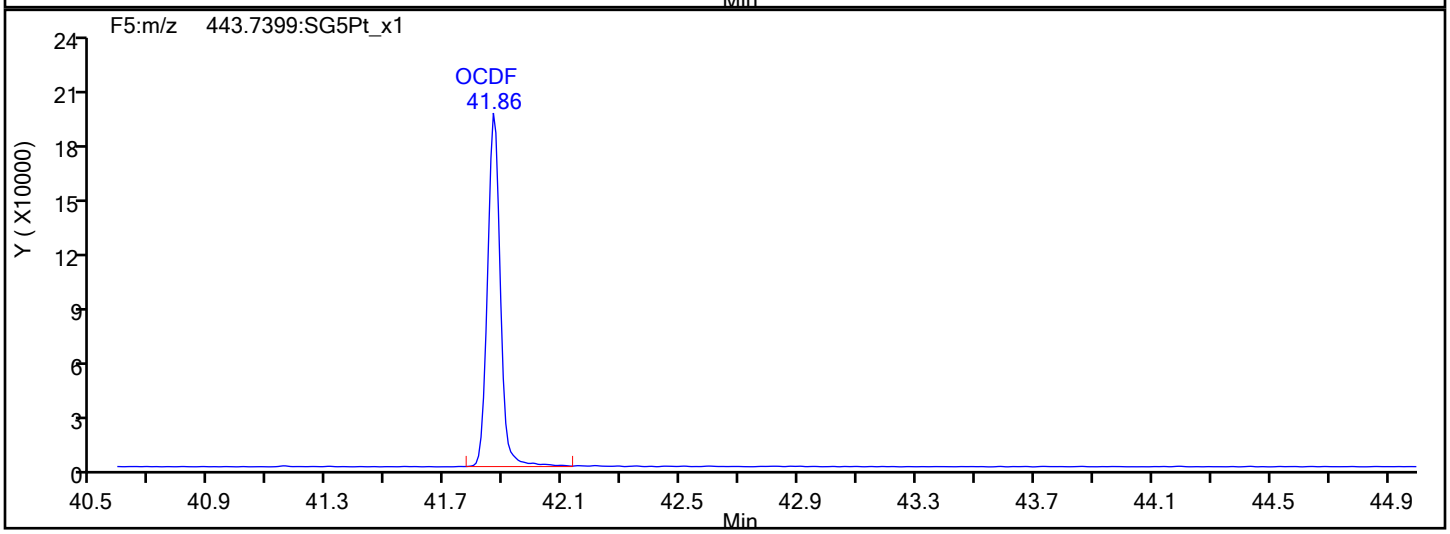

OCDF Interference Mass

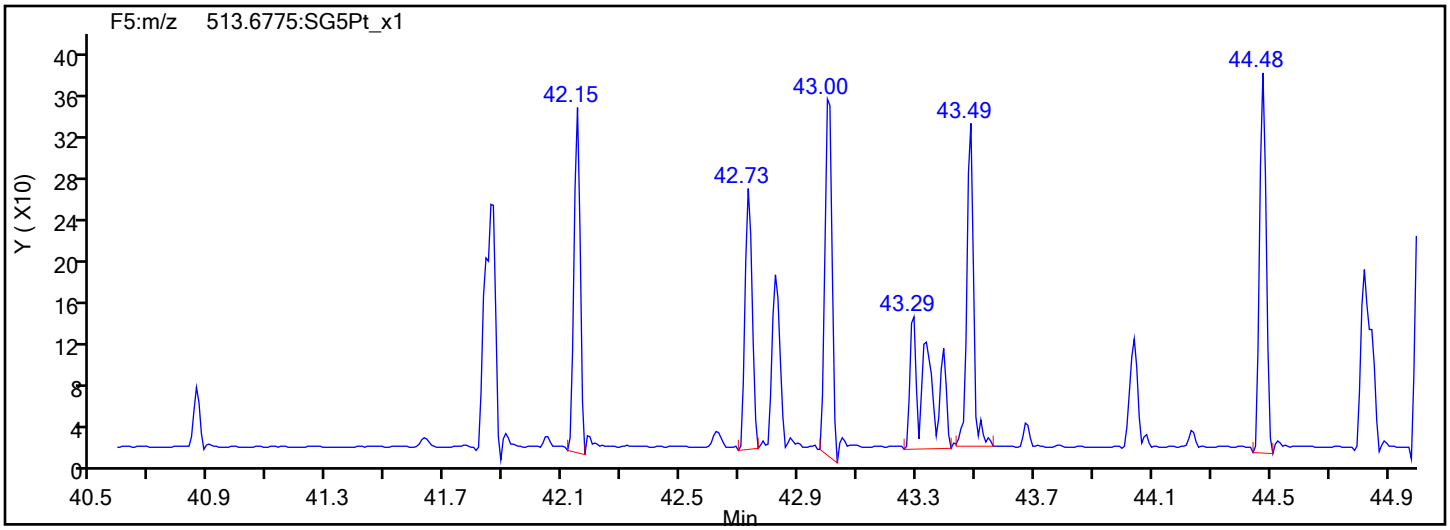

Report Date: 23-Oct-2019 11:53:16 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_5.d		
Injection Date:	18-Oct-2019 21:38:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

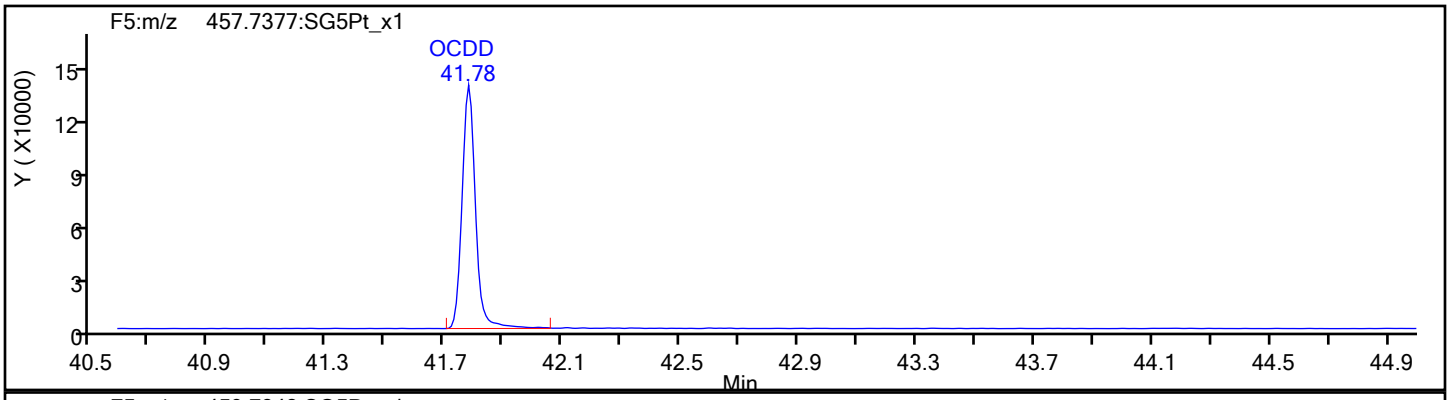

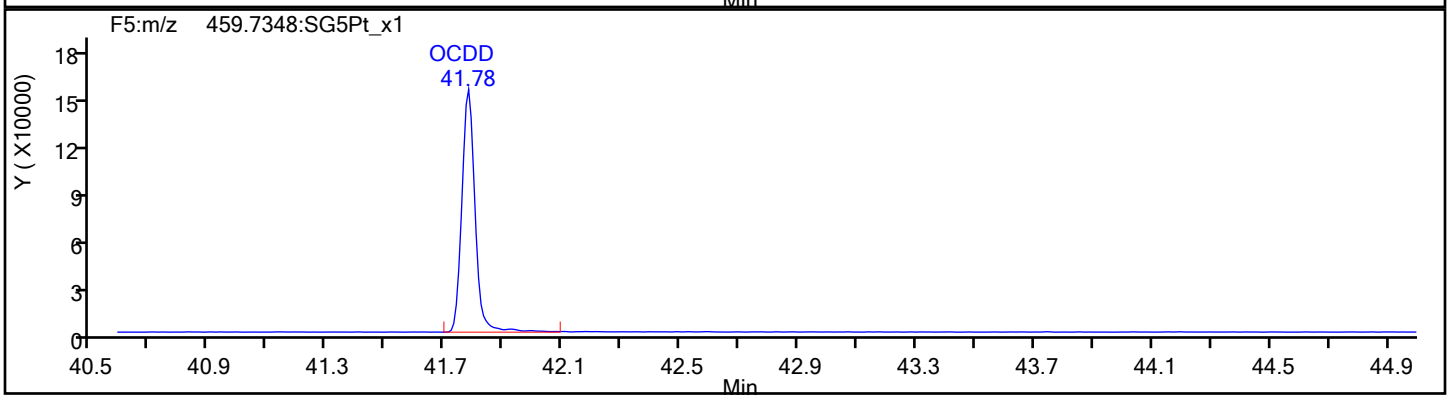

OCDD Standards

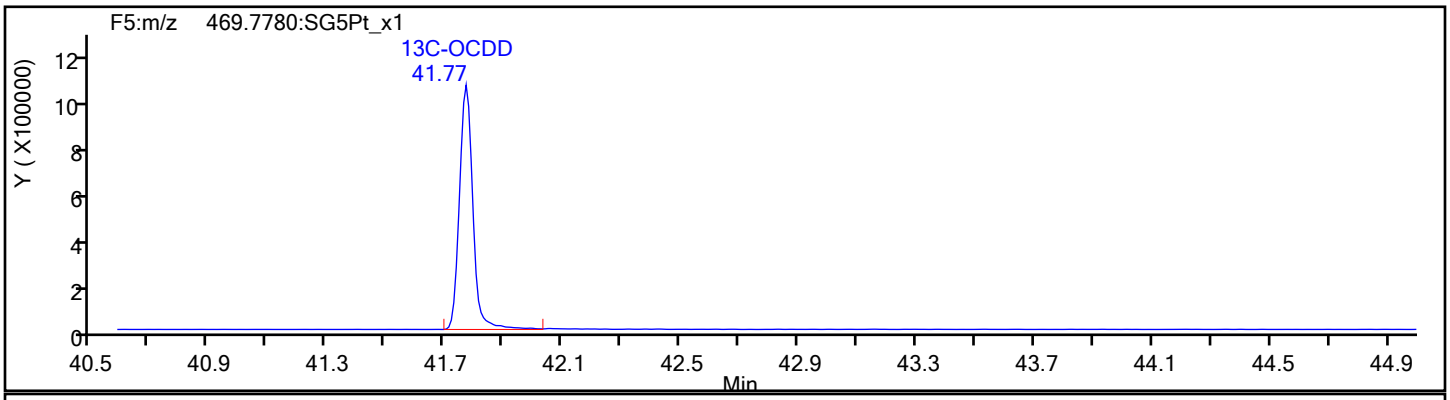

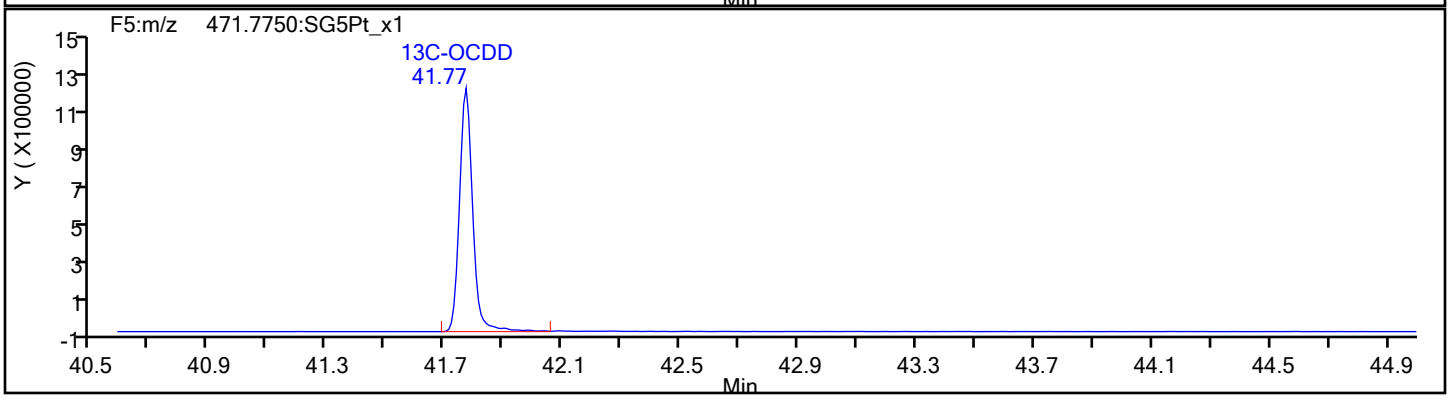

Report Date: 23-Oct-2019 11:53:16 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_5.d		
Injection Date:	18-Oct-2019 21:38:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

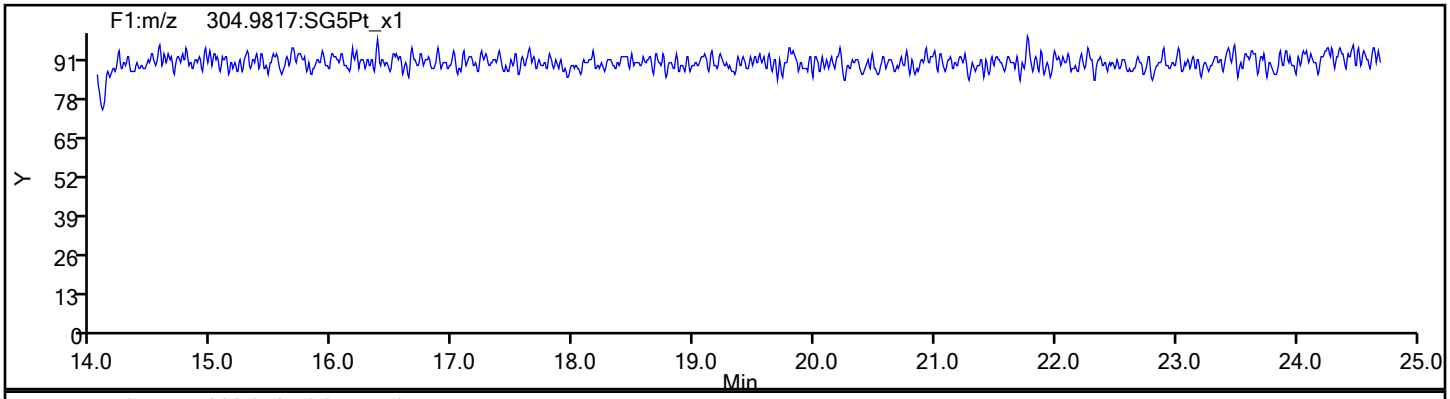

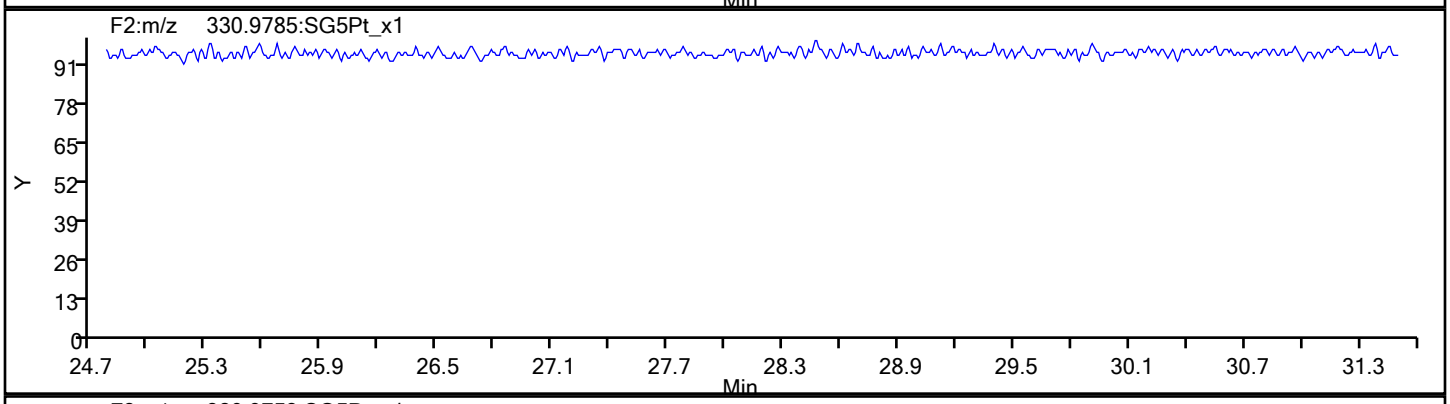

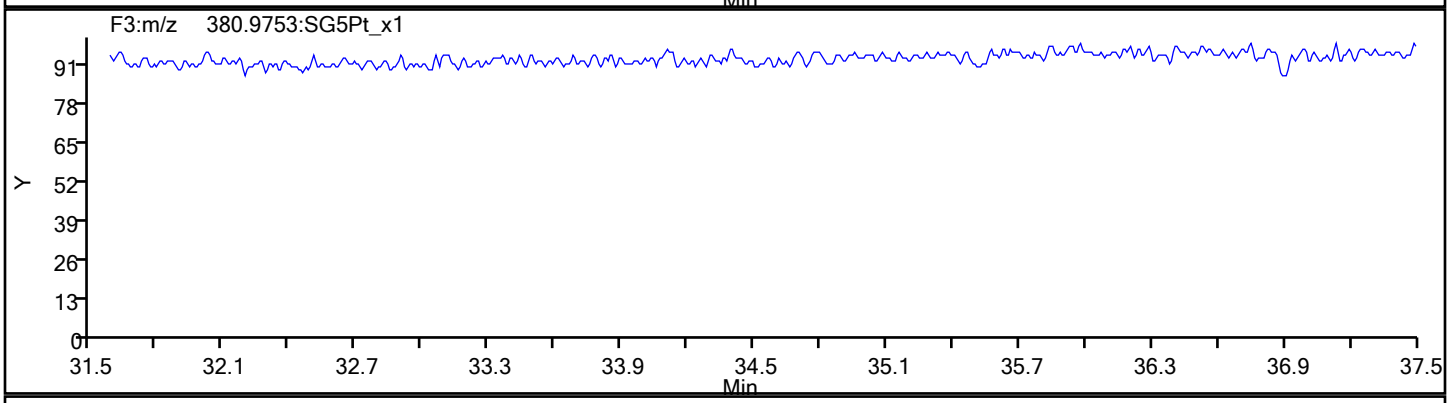

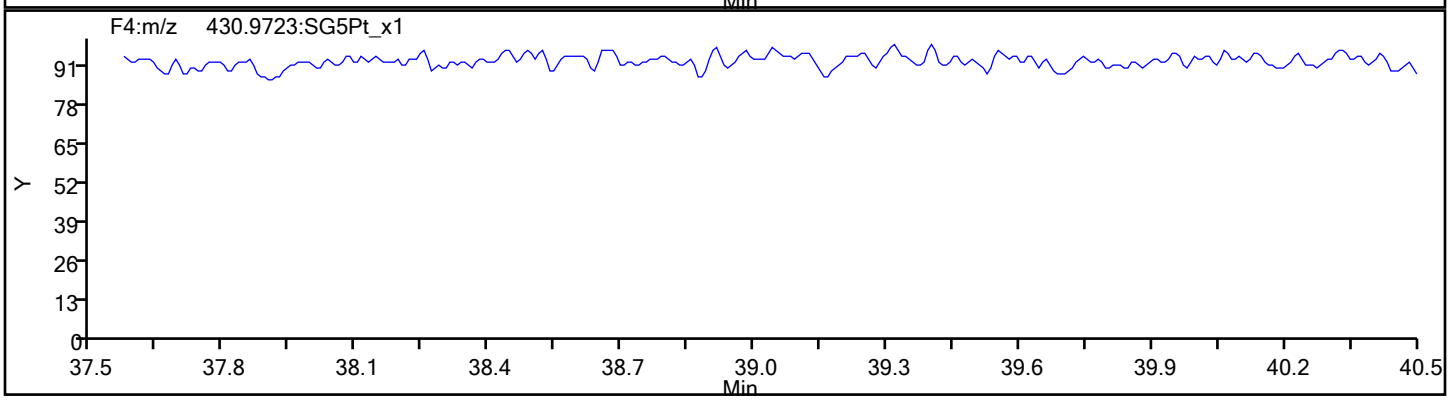

Report Date: 23-Oct-2019 11:53:16 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_5.d		
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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

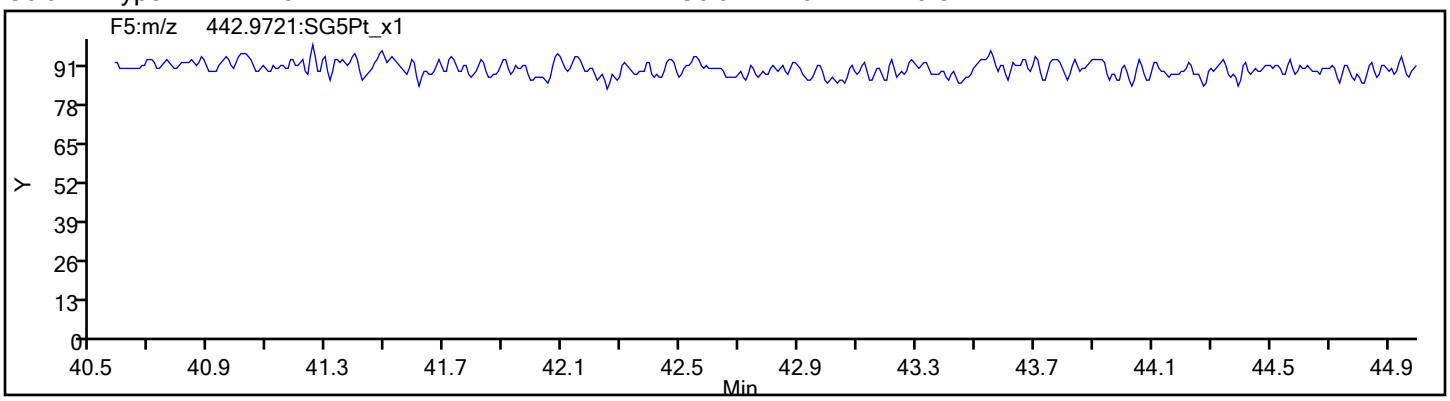

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_6.d
Lims ID: IC 4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 18-Oct-2019 22:26:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CS-4 HRDXNL4_00086
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\Dioxin_DFS1.m
Limit Group: HR - 1613B - ICAL
Last Update: 23-Oct-2019 11:53:20 Calib Date: 19-Oct-2019 00:02:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.07 :22.11)
Process Host: CTX0320

First Level Reviewer: shardaa Date: 21-Oct-2019 10:53:05

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	20.720	5428040	0.83	5.2E+04	100.0	100.0				
D 13C-2,3,7,8-TCDF	19.752	8500696	0.80	1.6096	97.3	97.3	0.2298	0.2298	97.29	
2,3,7,8-TCDF	19.787	1022791	0.82	1.2332	9.756	9.756	0.0332	0.0332	97.56	
S Total TCDF					9.756	9.756	0.0332	0.0332		
D 13C-2,3,7,8-TCDD	21.084	5318631	0.79	0.9984	98.1	98.1	0.1830	0.1830	98.14	
$ 37Cl4-2,3,7,8-TCDD	21.118	861567		1.4510	10.9	10.9	0.0119	0.0119	109	
2,3,7,8-TCDD	21.109	620273	0.83	1.1988	9.728	9.728	0.0401	0.0401	97.28	
S Total TCDD					9.728	9.728	0.0401	0.0401		
D 13C-1,2,3,7,8-PeCDF	26.780	7149905	1.60	1.3678	96.3	96.3	0.4948	0.4948	96.30	
1,2,3,7,8-PeCDF	26.805	4185351	1.60	1.1689	50.1	50.1	0.2162	0.2162	100	
D 13C-2,3,4,7,8-PeCDF	28.281	7105616	1.59	1.3045	100.4	100.4	0.5188	0.5188	100	
2,3,4,7,8-PeCDF	28.306	3995881	1.60	1.1861	47.4	47.4	0.2284	0.2284	94.82	
S Total PeCDF					97.5	97.5	0.2223	0.2223		
D 13C-1,2,3,7,8-PeCDD	29.078	4325328	1.60	0.8292	96.1	96.1	0.2022	0.2022	96.10	
1,2,3,7,8-PeCDD	29.103	2385593	1.59	1.1200	49.2	49.2	0.0934	0.0934	98.49	
S Total PeCDD					49.2	49.2	0.0934	0.0934		
D 13C-1,2,3,4,7,8-HxCDF	34.575	7034054	0.54	1.1700	99.8	99.8	0.4752	0.4752	99.83	
1,2,3,4,7,8-HxCDF	34.591	4354560	1.26	1.3021	47.5	47.5	0.2762	0.2762	95.09	
D 13C-1,2,3,6,7,8-HxCDF	34.743	7747256	0.54	1.3168	97.7	97.7	0.4222	0.4222	97.69	
1,2,3,6,7,8-HxCDF	34.768	4878178	1.28	1.2907	48.8	48.8	0.2625	0.2625	97.57	
D 13C-2,3,4,6,7,8-HxCDF	35.607	7434381	0.54	1.2873	95.9	95.9	0.4319	0.4319	95.89	
2,3,4,6,7,8-HxCDF	35.623	4774247	1.26	1.3039	49.3	49.3	0.2327	0.2327	98.50	
D 13C-1,2,3,7,8,9-HxCDF	36.521	7042762	0.54	1.1987	97.6	97.6	0.4638	0.4638	97.55	
1,2,3,7,8,9-HxCDF	36.529	4611955	1.27	1.3329	49.1	49.1	0.2243	0.2243	98.26	
S Total HxCDF					194.7	194.7	0.2489	0.2489		
* 13C-1,2,3,7,8,9-HxCDD	36.320	6022520	1.27	5.8E+04	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	35.825	4935207	1.31	0.8364	98.0	98.0	0.2671	0.2671	97.98	
1,2,3,4,7,8-HxCDD	35.842	2765708	1.26	1.1725	47.8	47.8	0.1219	0.1219	95.59	
D 13C-1,2,3,6,7,8-HxCDD	35.951	5259136	1.27	0.9040	96.6	96.6	0.2471	0.2471	96.59	
1,2,3,6,7,8-HxCDD	35.959	2902121	1.26	1.1256	49.0	49.0	0.1220	0.1220	98.05	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,7,8,9-HxCDD	36.336	3101840	1.26	1.2327	49.4	49.4	0.1136	0.1136	98.73	
S Total HxCDD					146.2	146.2	0.1192	0.1192		
D 13C-1,2,3,4,6,7,8-HpCDF	38.352	5481639	0.46	0.9689	93.9	93.9	0.4422	0.4422	93.94	
1,2,3,4,6,7,8-HpCDF	38.369	4368003	1.05	1.6176	49.3	49.3	0.4091	0.4091	98.52	
D 13C-1,2,3,4,7,8,9-HpCDF	39.619	5294096	0.47	0.9231	95.2	95.2	0.4641	0.4641	95.23	
1,2,3,4,7,8,9-HpCDF	39.627	3686922	1.06	1.4672	47.5	47.5	0.4264	0.4264	94.93	
S Total HpCDF					96.7	96.7	0.4178	0.4178		
D 13C-1,2,3,4,6,7,8-HpCDD	39.317	5188334	1.06	0.9114	94.5	94.5	0.5111	0.5111	94.52	
1,2,3,4,6,7,8-HpCDD	39.325	2864412	1.06	1.1237	49.1	49.1	0.2232	0.2232	98.26	
S Total HpCDD					49.1	49.1	0.2232	0.2232		
D 13C-OCDD	41.756	6914737	0.90	0.6272	183.0	183.0	0.2991	0.2991	91.52	
OCDF	41.848	5158047	0.93	1.5416	96.8	96.8	0.1080	0.1080	96.78	
OCDD	41.764	3993320	0.91	1.1855	97.4	97.4	0.1176	0.1176	97.43	

Reagents:

HRDXNL4_00086 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_6.d
Lims ID: IC 4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 18-Oct-2019 22:26:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CS-4 HRDXNL4_00086
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\Dioxin_DFS1.m
Limit Group: HR - 1613B - ICAL
Last Update: 23-Oct-2019 11:53:20 Calib Date: 19-Oct-2019 00:02:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.07 :22.11)
Process Host: CTX0320

First Level Reviewer: shardaa Date: 21-Oct-2019 10:53:05

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	20.720	20.729	-1		2458672	368680	404	1010	913		
333.9338	20.720	20.729	-1		2969368	452415	196	490	2308	0.83(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.752	19.762	-1	0.953	3787513	587843	820	2050	717		
317.9389	19.752	19.762	-1	0.953	4713183	732837	395	987	1855	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	19.787	19.792	0	1.002	462094	72096	73	182	988		
305.8987	19.787	19.792	0	1.002	560697	87256	143	357	610	0.82(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	21.084	21.094	-1	1.018	2347013	330490	404	1010	818		
333.9338	21.084	21.094	-1	1.018	2971618	439082	196	490	2240	0.79(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	21.118	21.121	0	1.019	861567	123683	57	142	2170		
2,3,7,8-TCDD											
319.8965	21.109	21.127	-1	1.001	280694	40047	101	252	397		
321.8936	21.127	21.127	0	1.002	339579	50685	47	117	1078	0.83(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	26.780	26.797	-1	1.292	4400350	762689	1355	3387	563		
353.8970	26.780	26.797	-1	1.292	2749555	488239	868	2170	562	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	26.805	26.821	-1	1.001	2576390	446942	754	1885	593		
341.8567	26.805	26.821	-1	1.001	1608961	281082	511	1277	550	1.60(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	28.281	28.297	-1	1.365	4365821	712333	1355	3387	526		
353.8970	28.281	28.297	-1	1.365	2739795	454965	868	2170	524	1.59(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	28.306	28.322	-1	1.001	2458823	406314	754	1885	539		
341.8567	28.306	28.322	-1	1.001	1537058	255298	511	1277	500	1.60(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	29.078	29.095	-1	1.403	2660670	425935	328	820	1299		
369.8919	29.078	29.095	-1	1.403	1664658	252791	223	557	1134	1.60(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	29.103	29.120	-1	1.001	1464007	229244	179	447	1281		
357.8516	29.103	29.120	-1	1.001	921586	144444	105	262	1376	1.59(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.575	34.589	-1	0.952	2476129	546232	1291	3227	423		
385.8610	34.575	34.589	-1	0.952	4557925	1020709	2260	5650	452	0.54(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.591	34.608	-1	1.000	2431109	542218	1277	3192	425		
375.8178	34.591	34.608	-1	1.000	1923451	430097	977	2442	440	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	34.743	34.759	-1	0.957	2705460	584406	1291	3227	453		
385.8610	34.743	34.759	-1	0.957	5041796	1078938	2260	5650	477	0.54(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	34.768	34.777	-1	1.001	2735241	605217	1277	3192	474		
375.8178	34.759	34.777	-1	1.000	2142937	468159	977	2442	479	1.28(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	35.607	35.616	-1	0.980	2607490	650614	1291	3227	504		
385.8610	35.607	35.616	-1	0.980	4826891	1206432	2260	5650	534	0.54(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	35.623	35.633	-1	1.000	2660756	652561	1277	3192	511		
375.8178	35.623	35.633	-1	1.000	2113491	519164	977	2442	531	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.521	36.530	-1	1.006	2478424	661077	1291	3227	512		
385.8610	36.521	36.530	-1	1.006	4564338	1223564	2260	5650	541	0.54(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	36.529	36.544	-1	1.000	2581703	688459	1277	3192	539		
375.8178	36.529	36.544	-1	1.000	2030252	541659	977	2442	554	1.27(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	36.320	36.330	-1		3370320	895035	813	2032	1101		
403.8529	36.320	36.330	-1		2652200	701590	614	1535	1143	1.27(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	35.825	35.836	-1	0.986	2794515	726737	813	2032	894		
403.8529	35.825	35.836	-1	0.986	2140692	568124	614	1535	925	1.31(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	35.842	35.849	0	1.000	1541718	408408	412	1030	991		
391.8127	35.842	35.849	0	1.000	1223990	318932	328	820	972	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	35.951	35.958	0	0.990	2941554	750282	813	2032	923		
403.8529	35.951	35.958	0	0.990	2317582	596940	614	1535	972	1.27(1.05-1.43)	

Report Date: 23-Oct-2019 11:53:29 Chrom Revision: 2.3 17-Sep-2019 16:19:08
Data File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_6.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,6,7,8-HxCDD											
389.8158	35.959	35.973	-1	1.000	1620295	423829	412	1030	1029		
391.8127	35.959	35.973	-1	1.000	1281826	336735	328	820	1027	1.26(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8158	36.336	36.346	-1	1.014	1730466	445331	412	1030	1081		
391.8127	36.336	36.346	-1	1.014	1371374	354452	328	820	1081	1.26(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.352	38.366	-1	1.056	1719339	561797	1020	2550	551		
419.8220	38.352	38.366	-1	1.056	3762300	1186751	1716	4290	692	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.369	38.378	-1	1.000	2241970	724412	2430	6075	298		
409.7788	38.369	38.378	-1	1.000	2126033	681123	2199	5497	310	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	39.619	39.629	-1	1.091	1680393	587565	1020	2550	576		
419.8220	39.619	39.629	-1	1.091	3613703	1262068	1716	4290	735	0.47(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.627	39.641	-1	1.000	1898737	655953	2430	6075	270		
409.7788	39.627	39.641	-1	1.000	1788185	627860	2199	5497	286	1.06(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.317	39.324	0	1.083	2670315	929805	1509	3772	616		
437.8140	39.317	39.324	0	1.083	2518019	863340	1466	3665	589	1.06(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7767	39.325	39.334	-1	1.000	1476881	513311	898	2245	572		
425.7737	39.325	39.334	-1	1.000	1387531	476679	901	2252	529	1.06(0.88-1.20)	
13C-OCDD											
469.7780	41.756	41.764	0	1.150	3274788	1054863	606	1515	1741		
471.7750	41.756	41.764	0	1.150	3639949	1172435	592	1480	1980	0.90(0.76-1.02)	
OCDF											
441.7428	41.848	41.858	-1	1.002	2480266	807257	351	877	2300		
443.7399	41.848	41.858	-1	1.002	2677781	865145	391	977	2213	0.93(0.76-1.02)	
OCDD											
457.7377	41.764	41.772	0	1.000	1898284	607657	292	730	2081		
459.7348	41.764	41.772	0	1.000	2095036	672472	329	822	2044	0.91(0.76-1.02)	

Reagents:

HRDXNL4_00086 Amount Added: 1.00 Units: mL

Report Date: 23-Oct-2019 11:53:29 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_6.d		
Injection Date:	18-Oct-2019 22:26:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

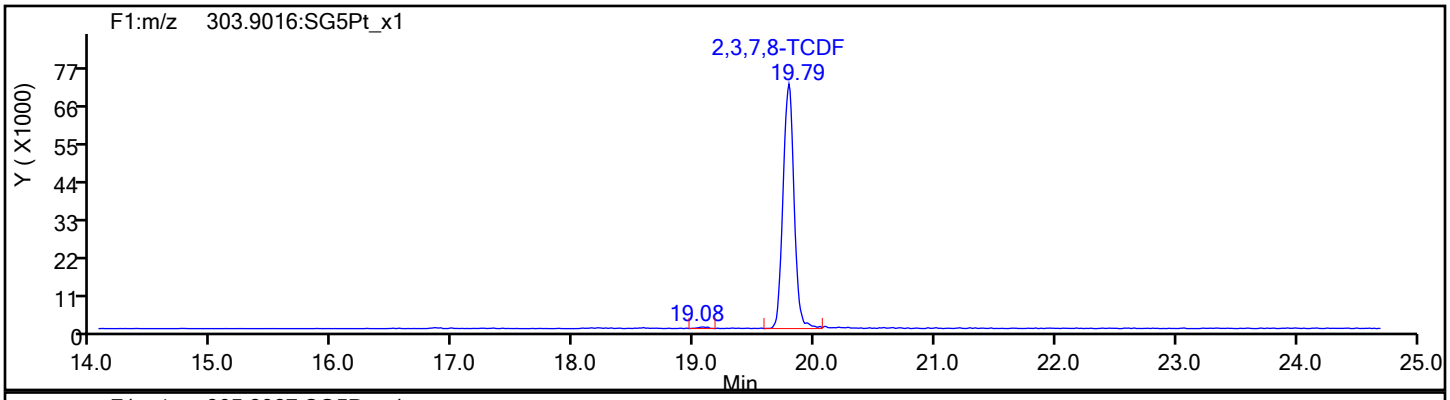

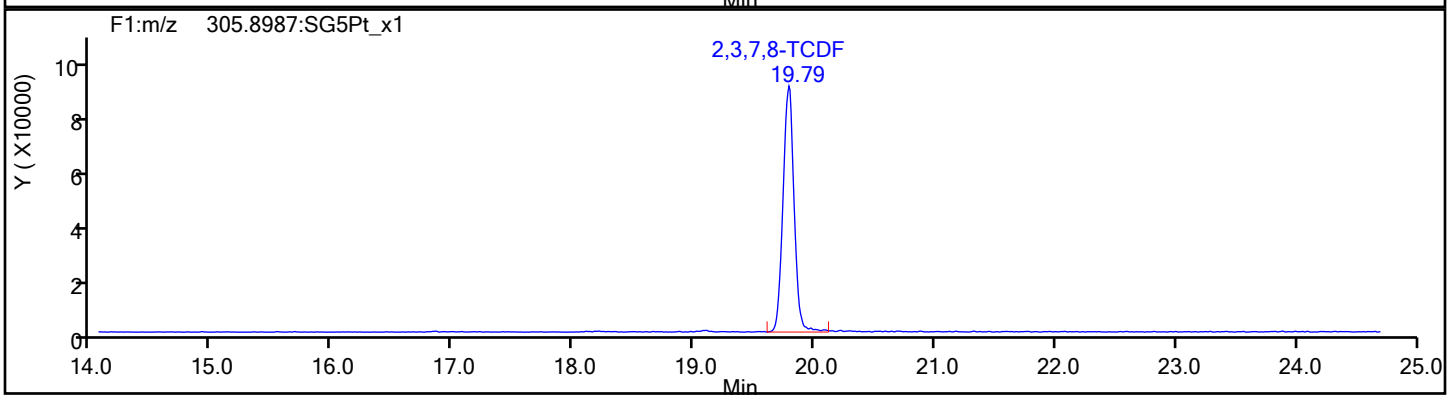

TCDF Standards

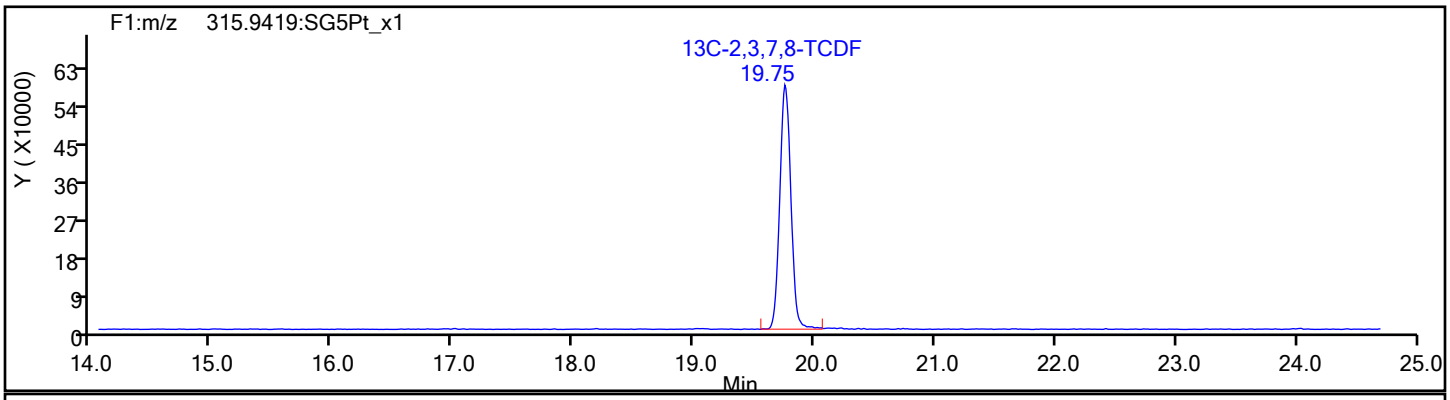

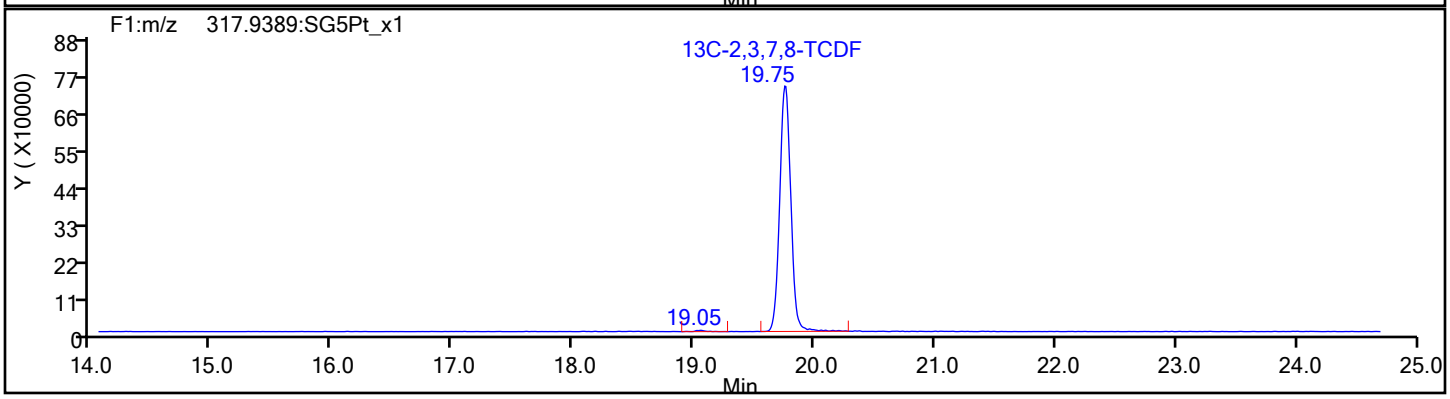

Report Date: 23-Oct-2019 11:53:29 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_6.d		
Injection Date:	18-Oct-2019 22:26:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

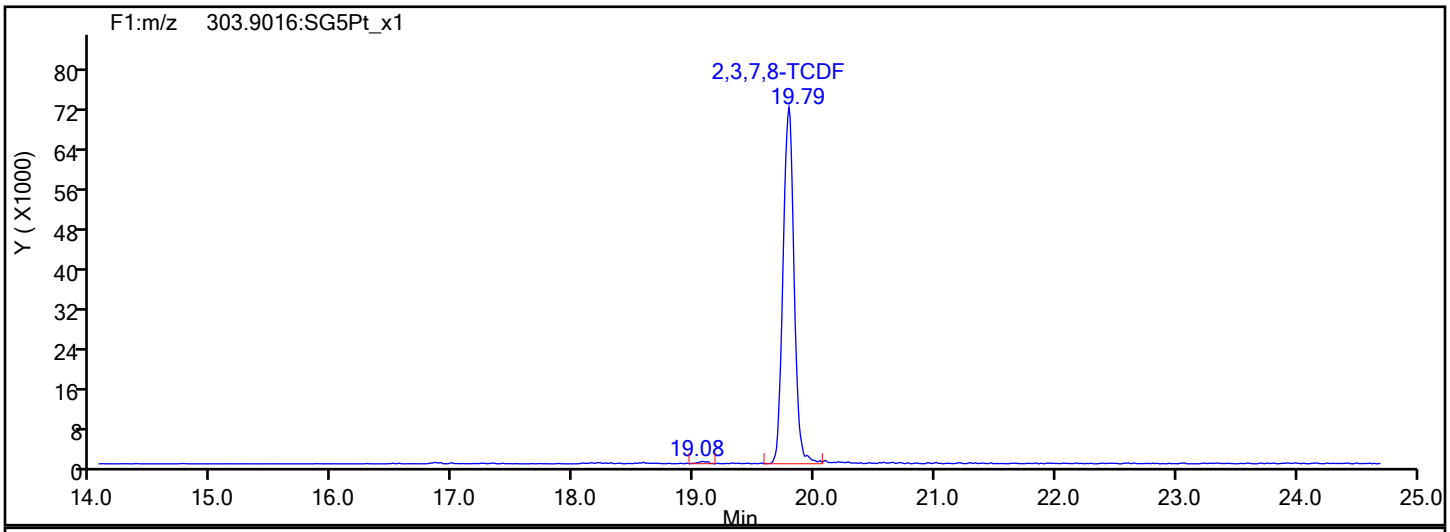

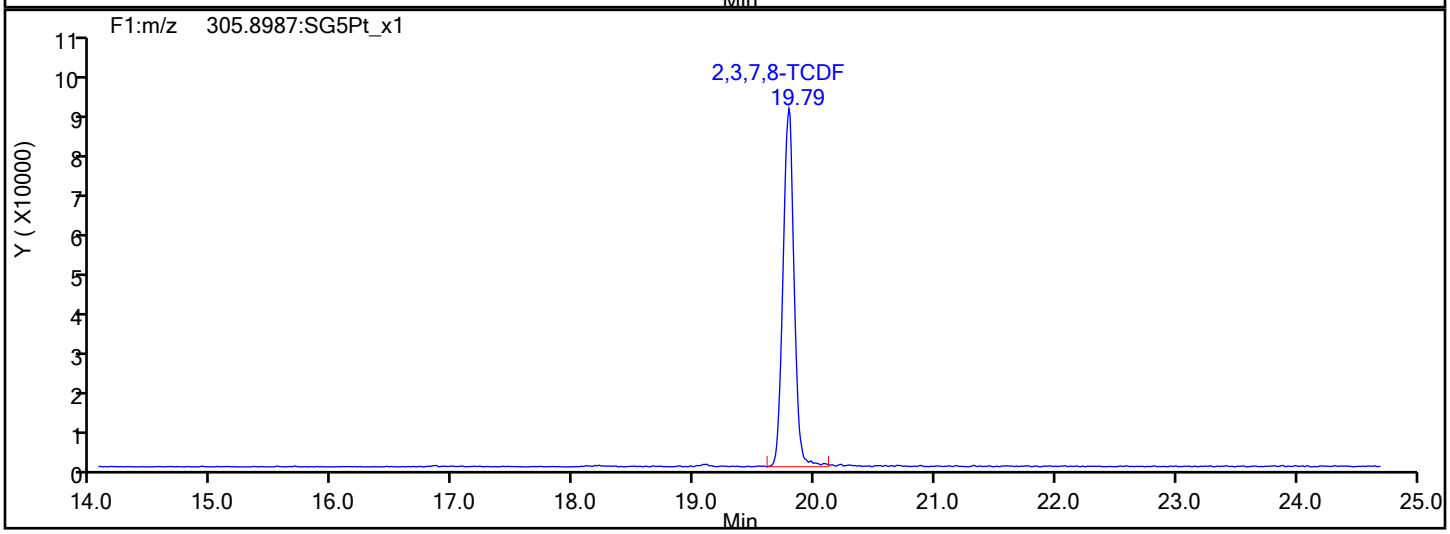

TCDF Interference Mass

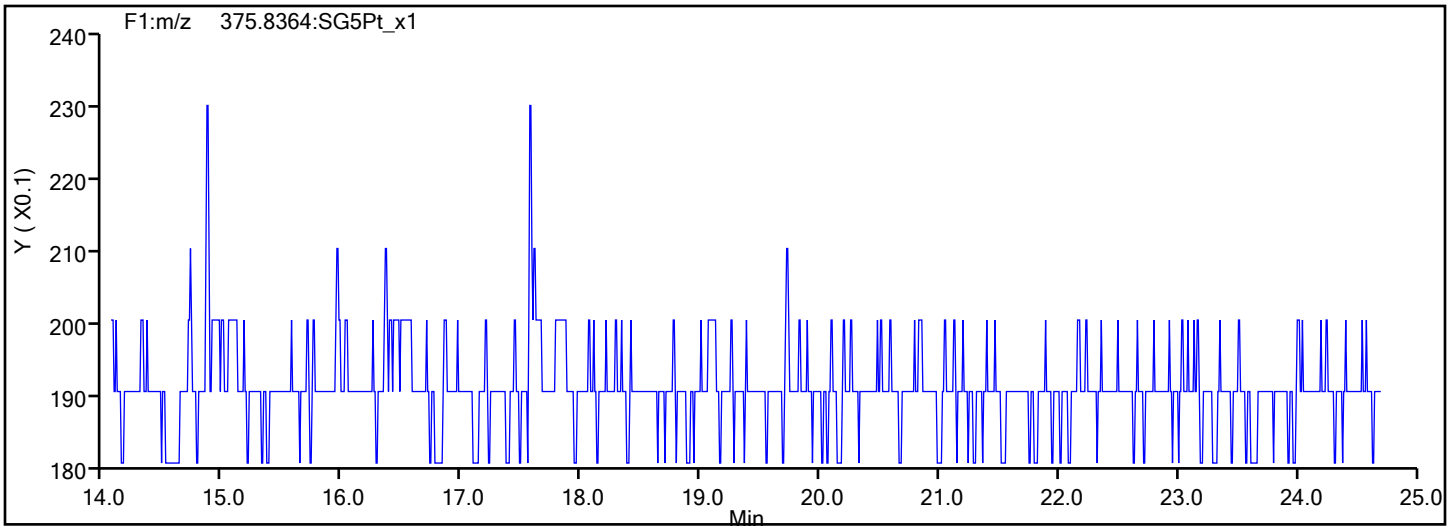

Report Date: 23-Oct-2019 11:53:29 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_6.d		
Injection Date:	18-Oct-2019 22:26:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

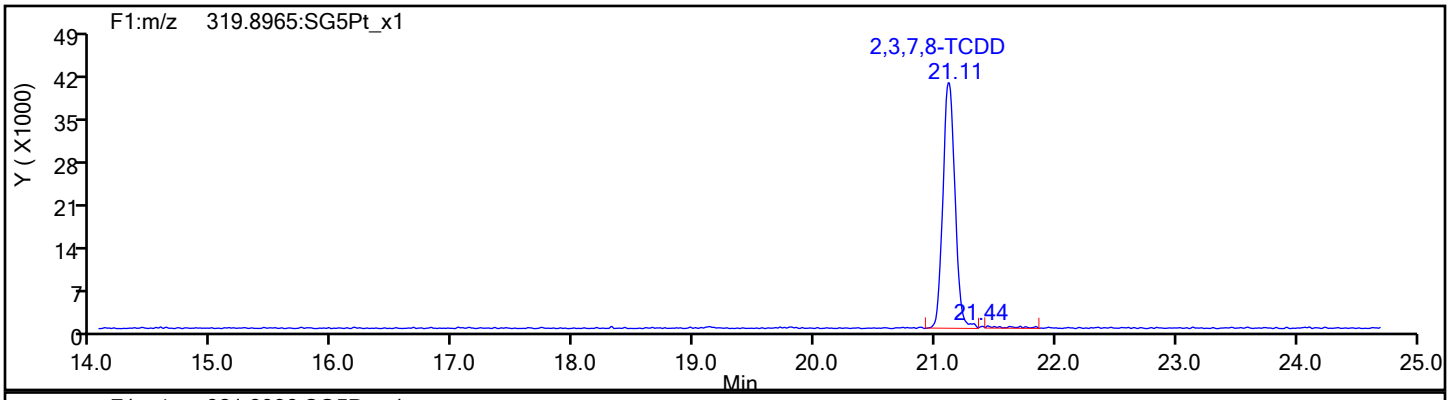

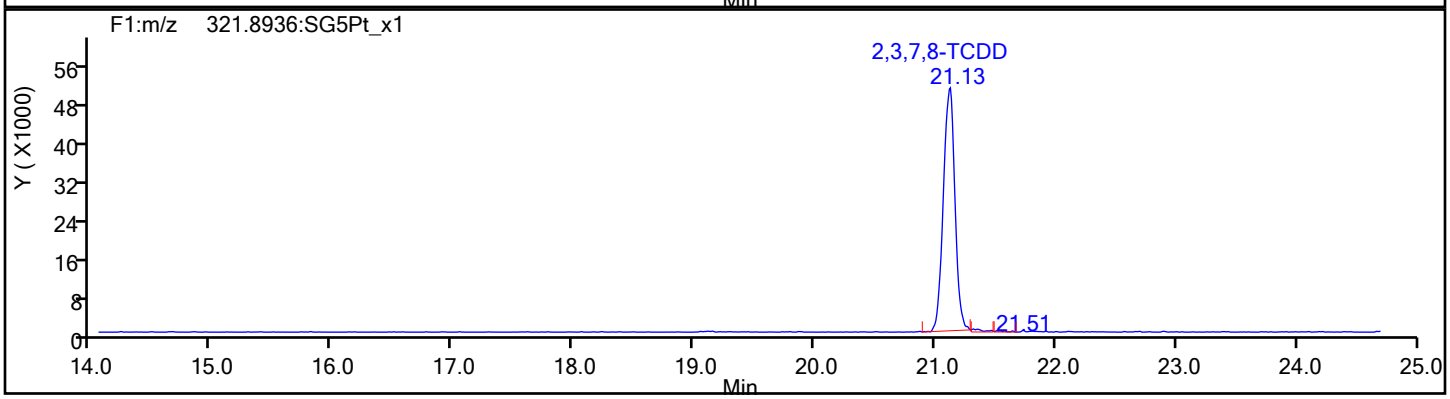

TCDD Standards

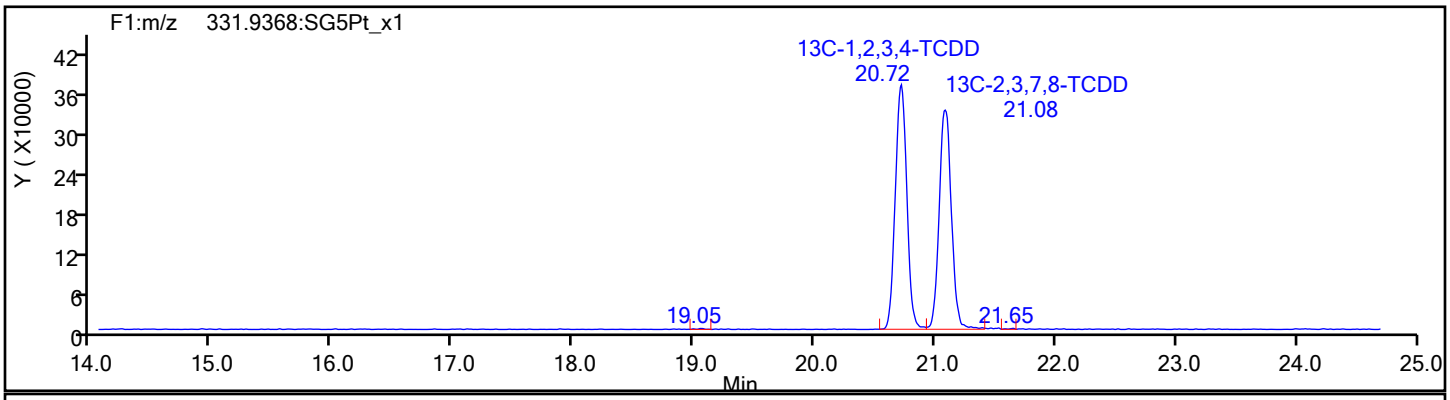

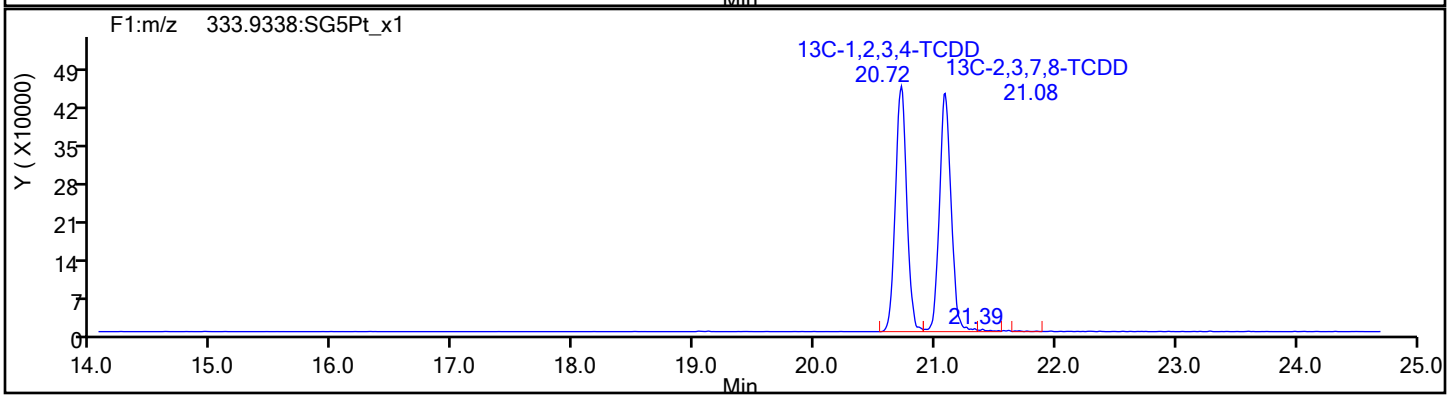

Report Date: 23-Oct-2019 11:53:30 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_6.d		
Injection Date:	18-Oct-2019 22:26:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

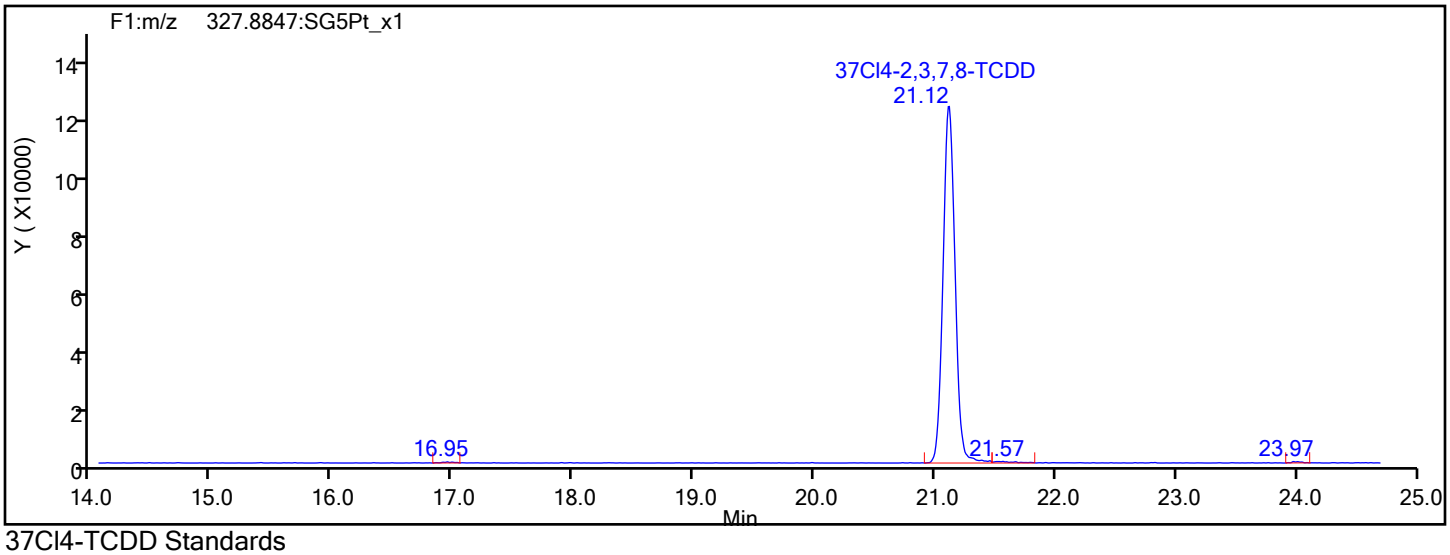

37Cl4-TCDD Standards

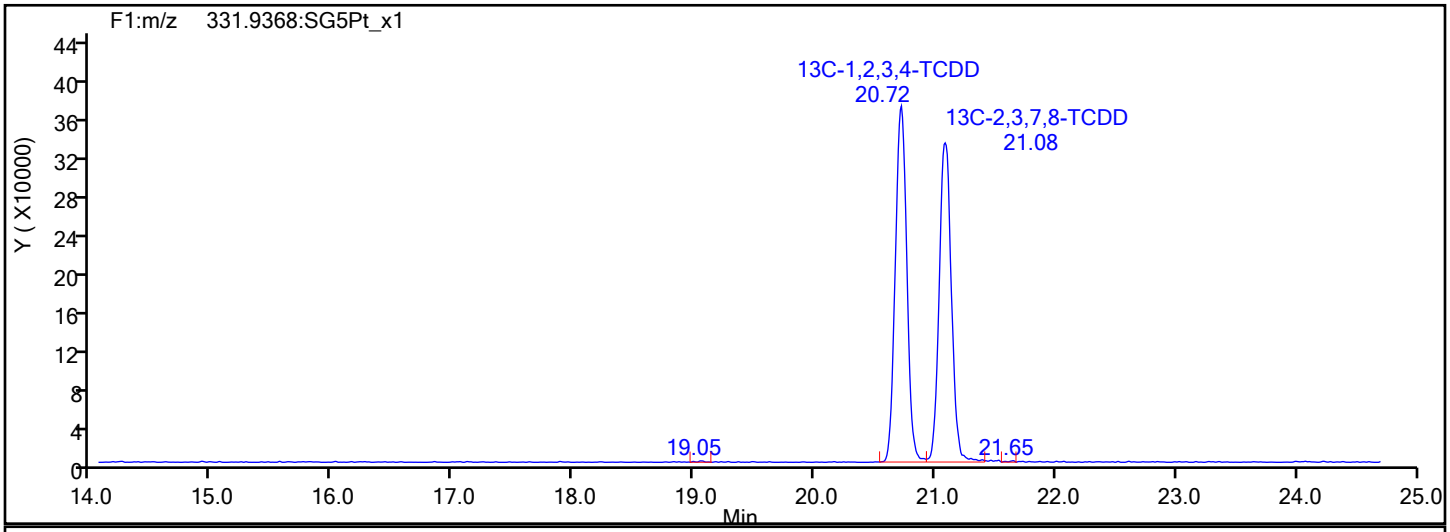

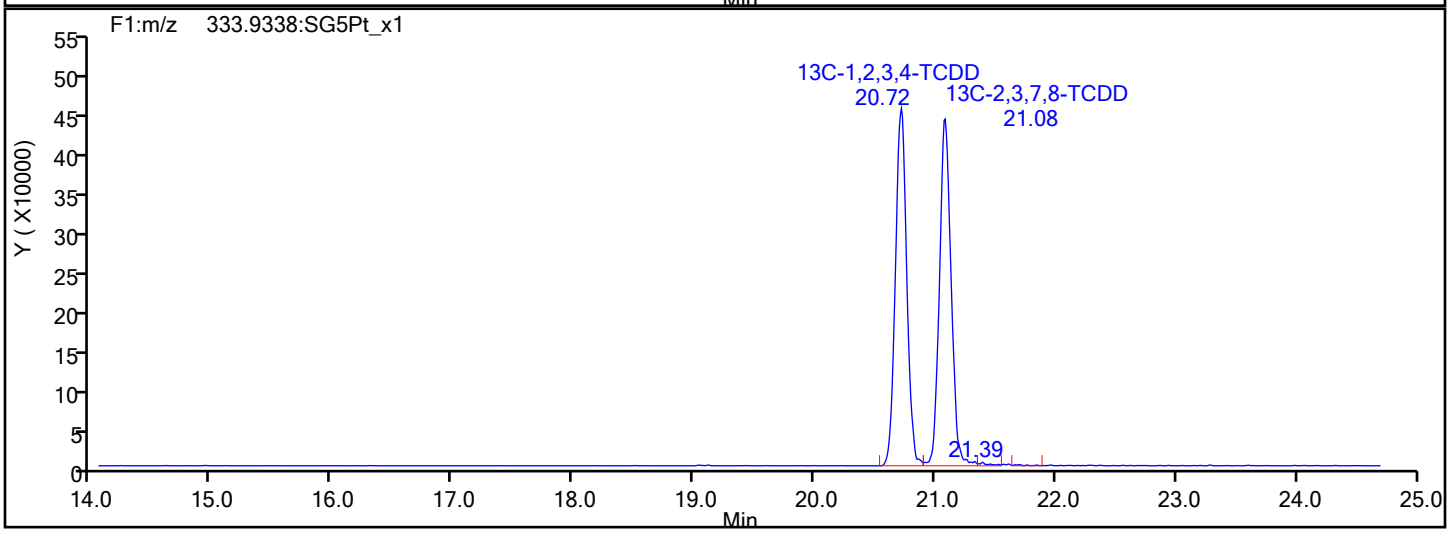

Report Date: 23-Oct-2019 11:53:30 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_6.d		
Injection Date:	18-Oct-2019 22:26:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

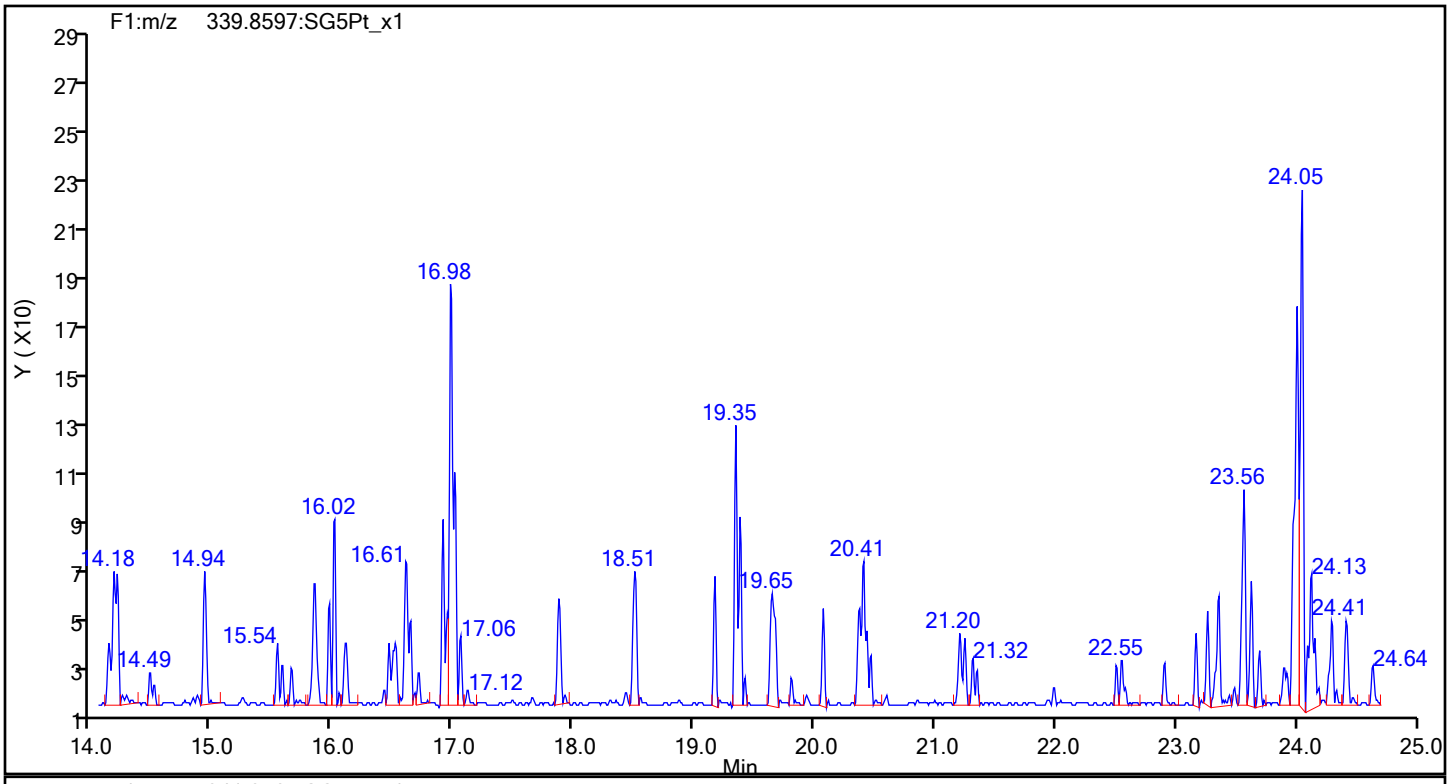

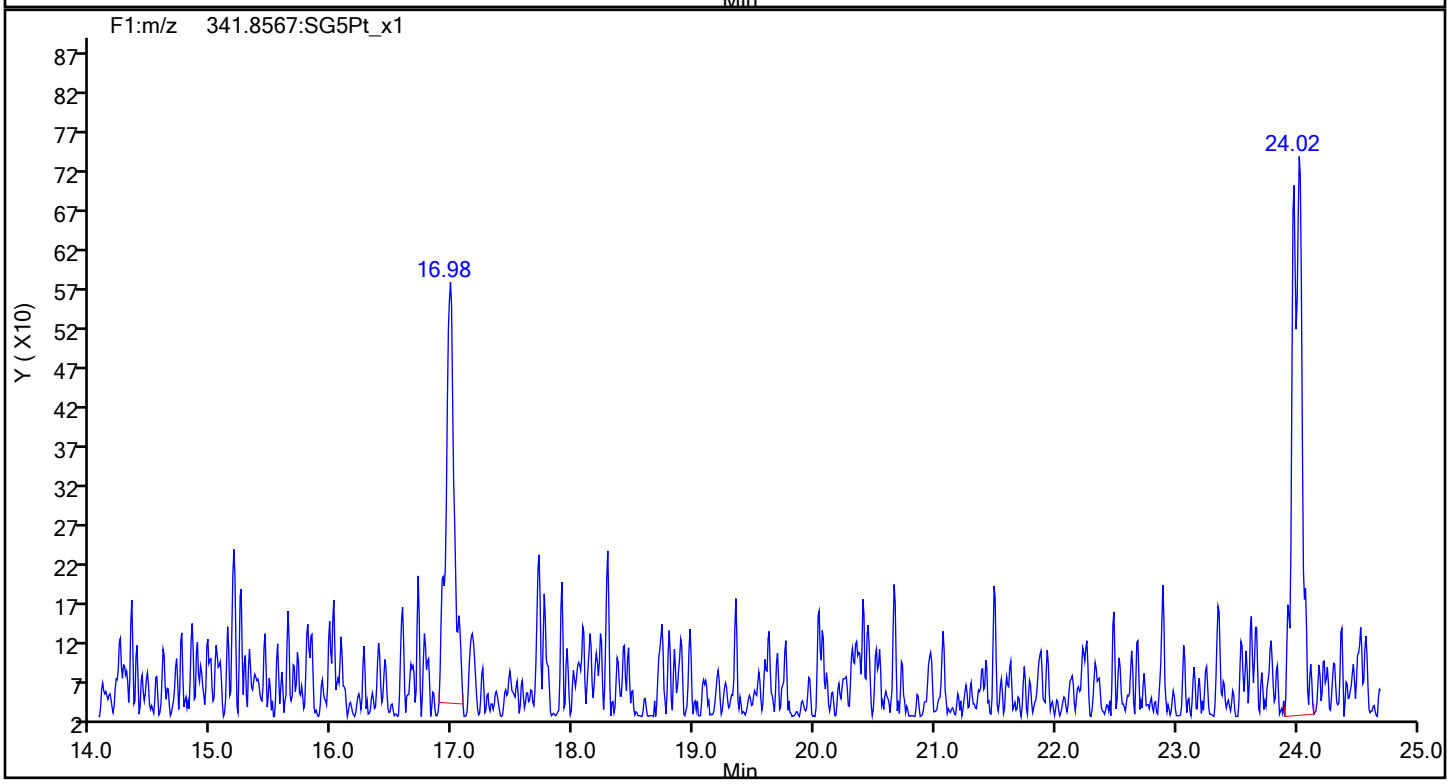

Report Date: 23-Oct-2019 11:53:30 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_6.d		
Injection Date:	18-Oct-2019 22:26:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
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F1 PeCDFs

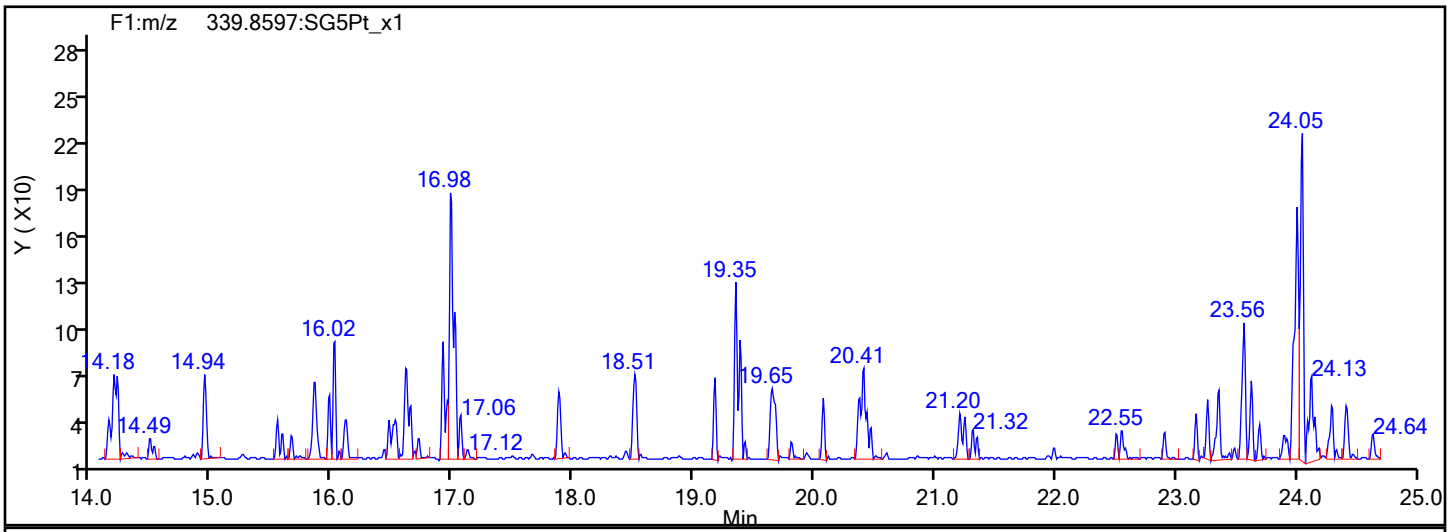

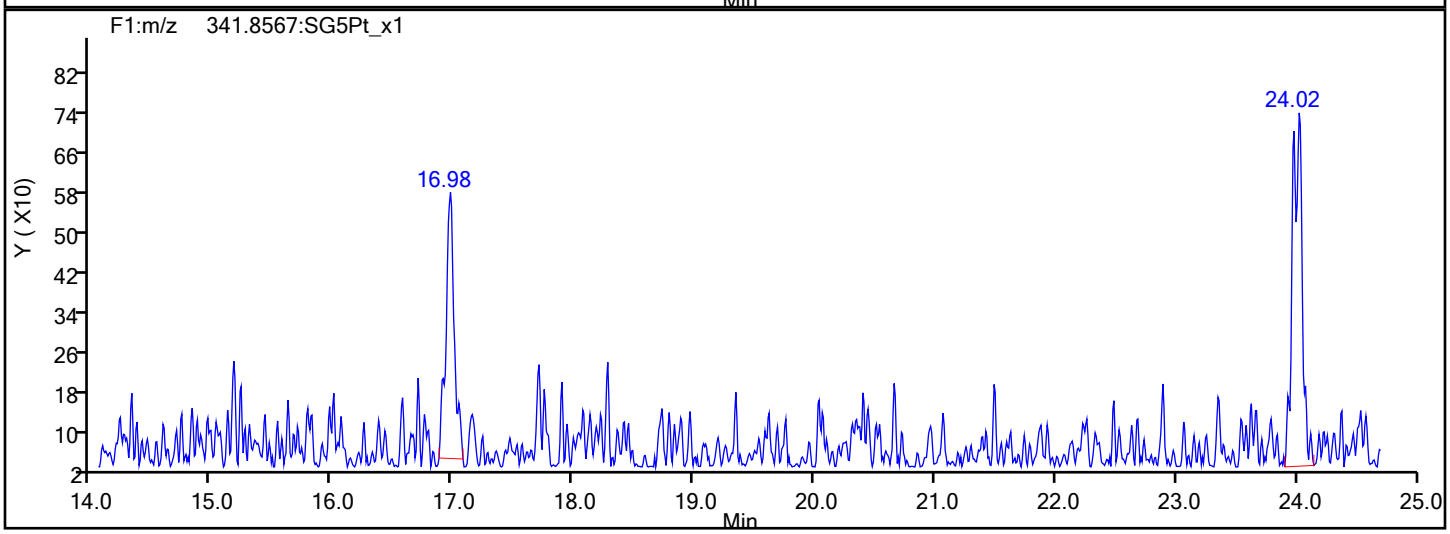

F1 PeCDFs Interference Mass

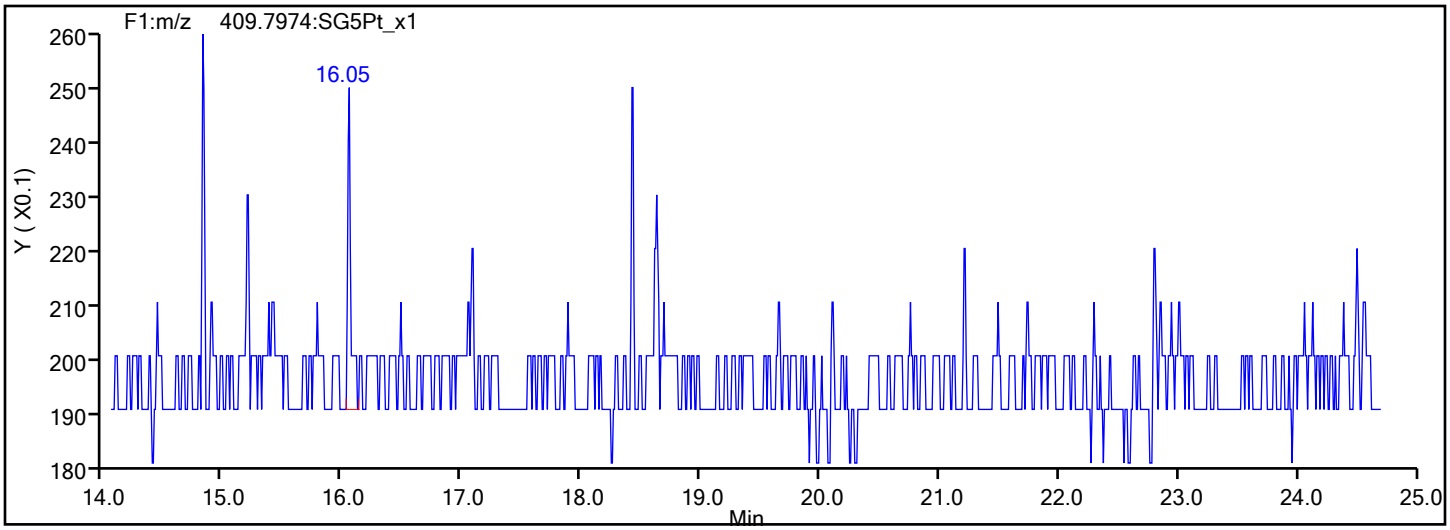

Report Date: 23-Oct-2019 11:53:30 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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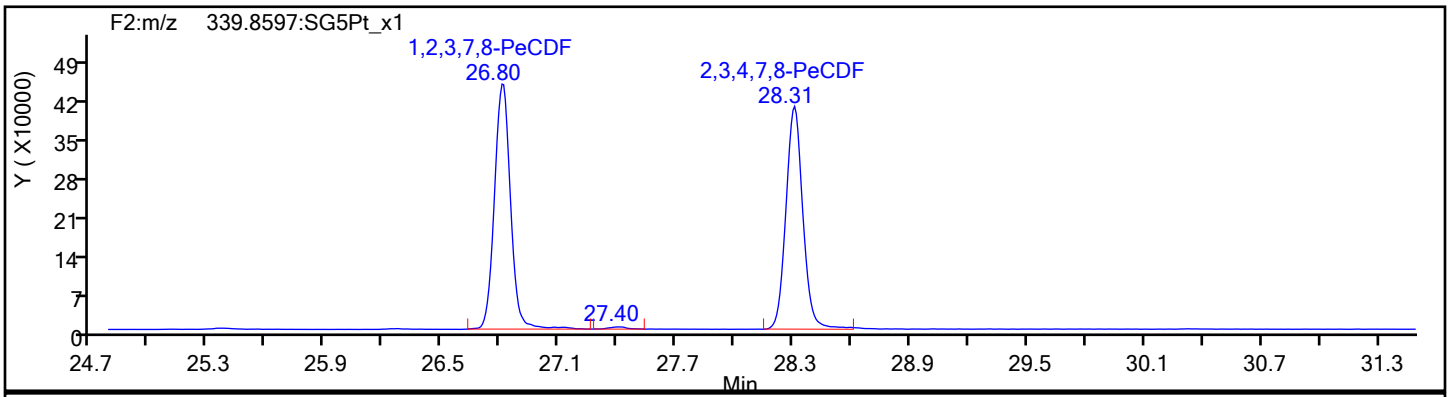

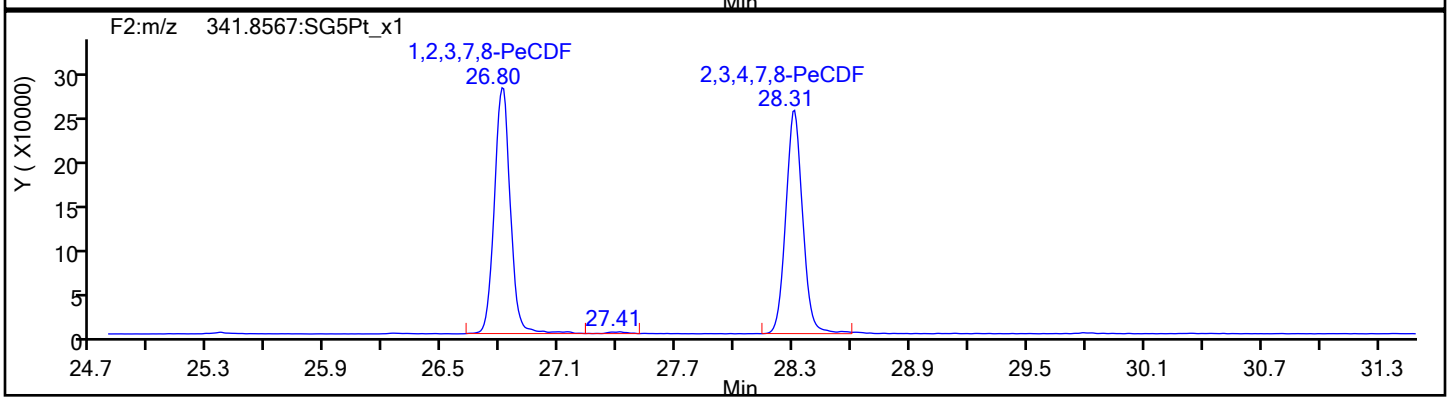

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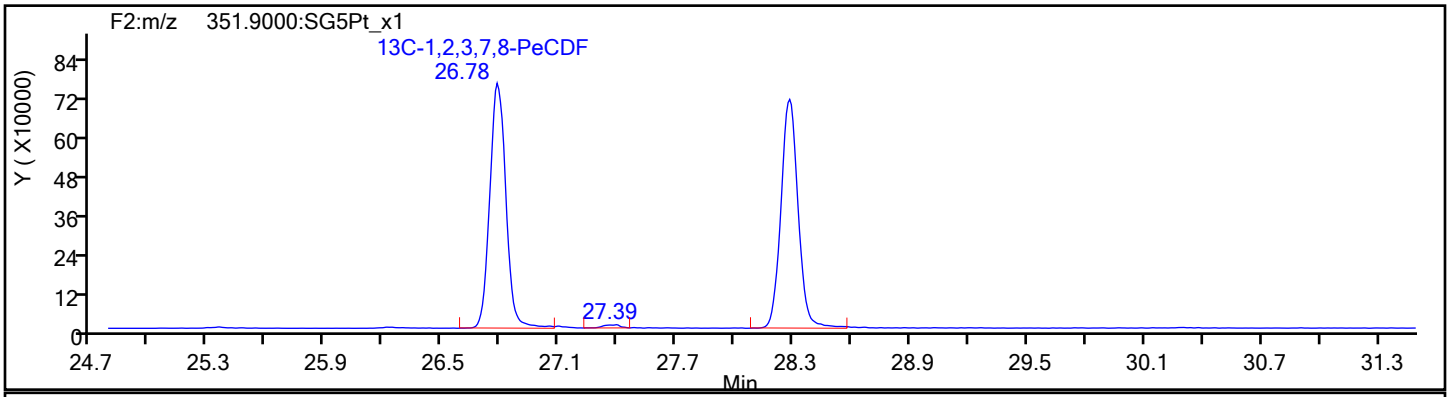

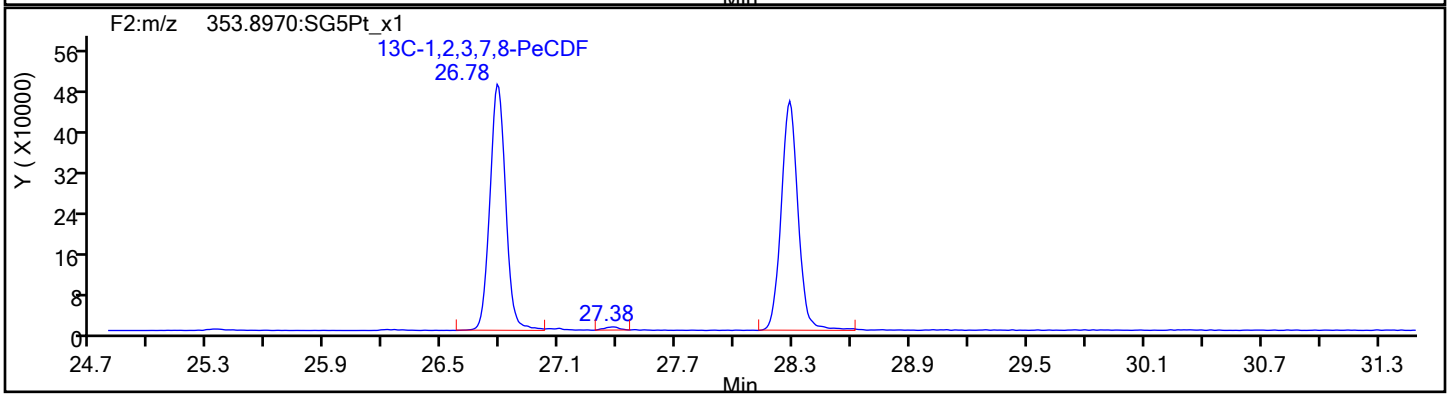

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Eurofins TestAmerica, Sacramento

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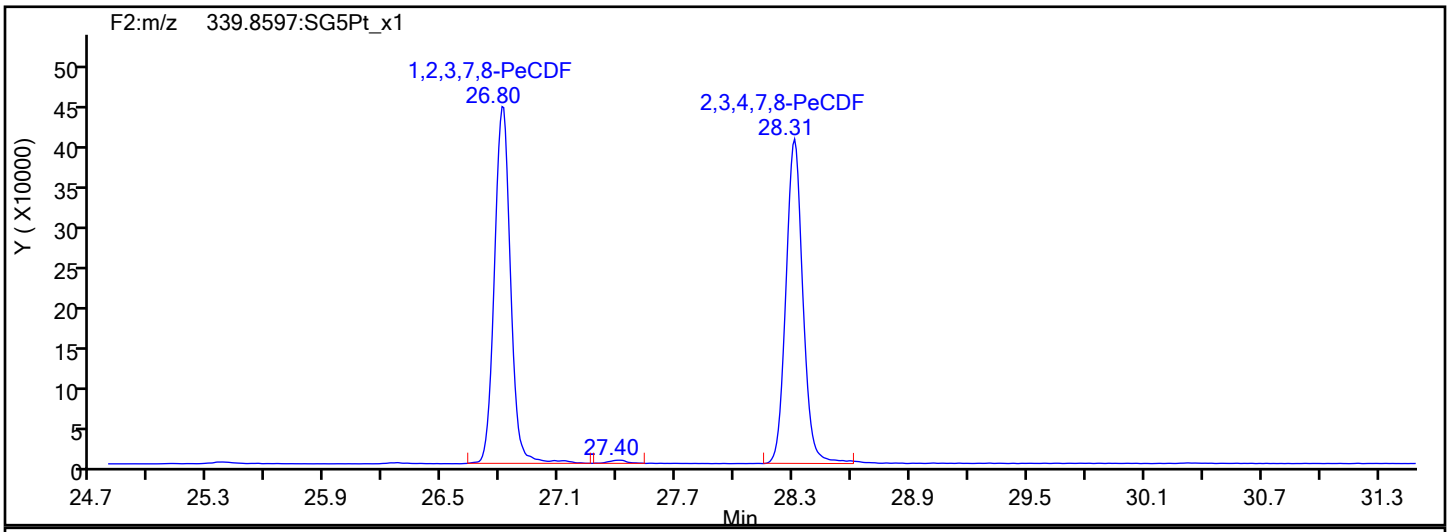

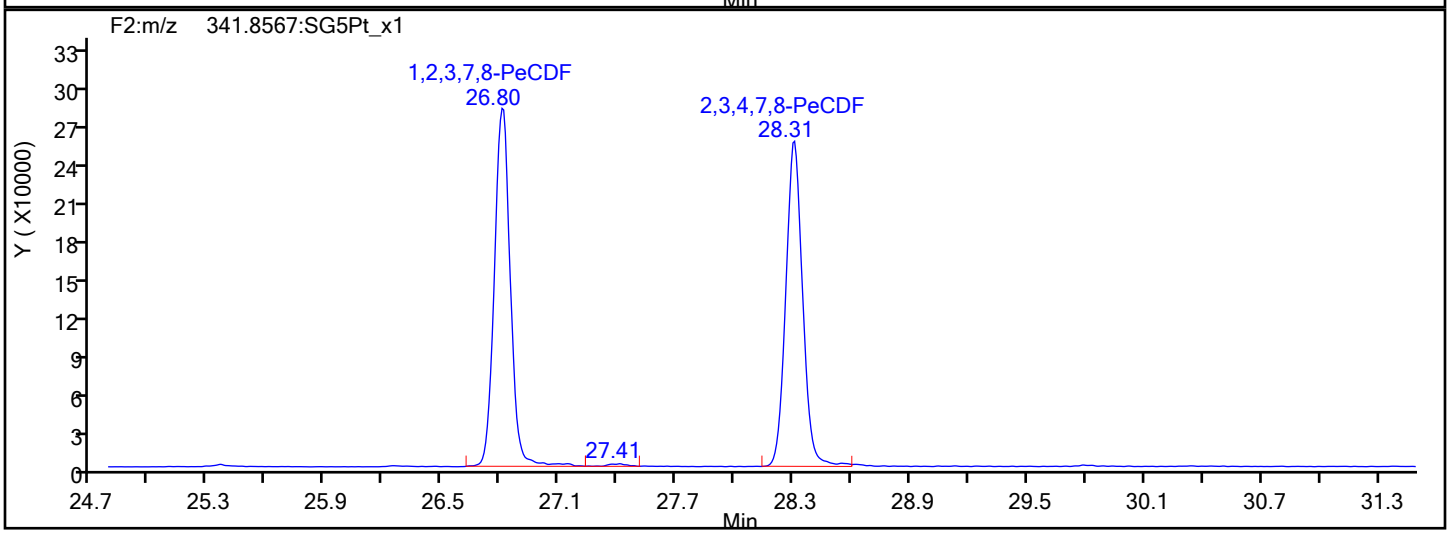

PeCDF Interference Mass

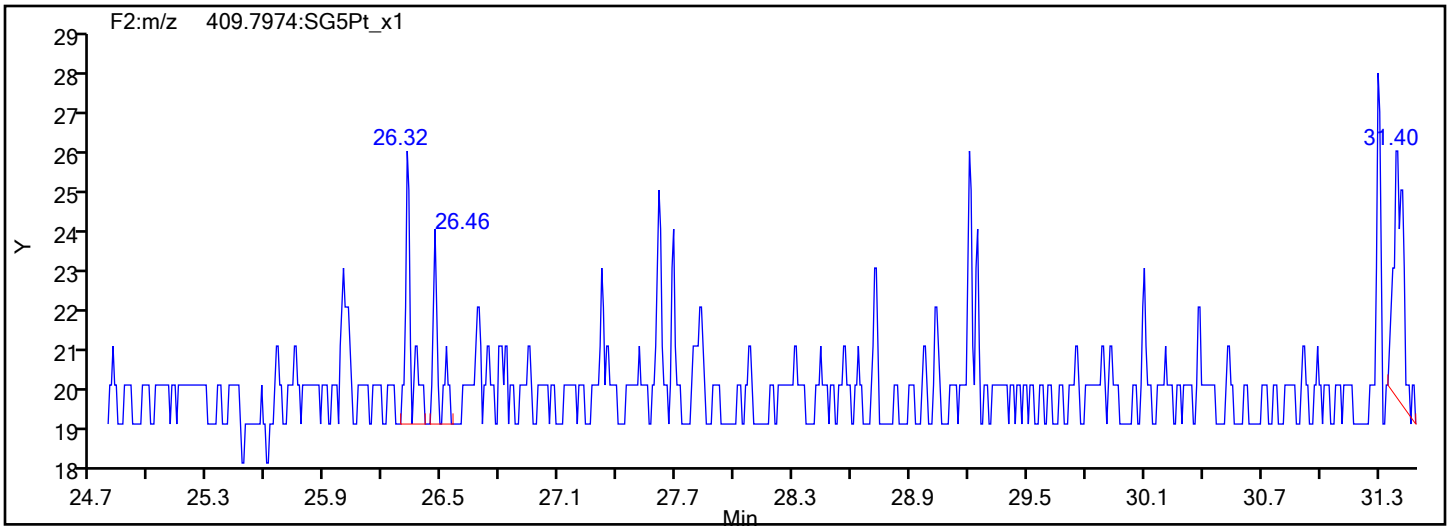

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Eurofins TestAmerica, Sacramento

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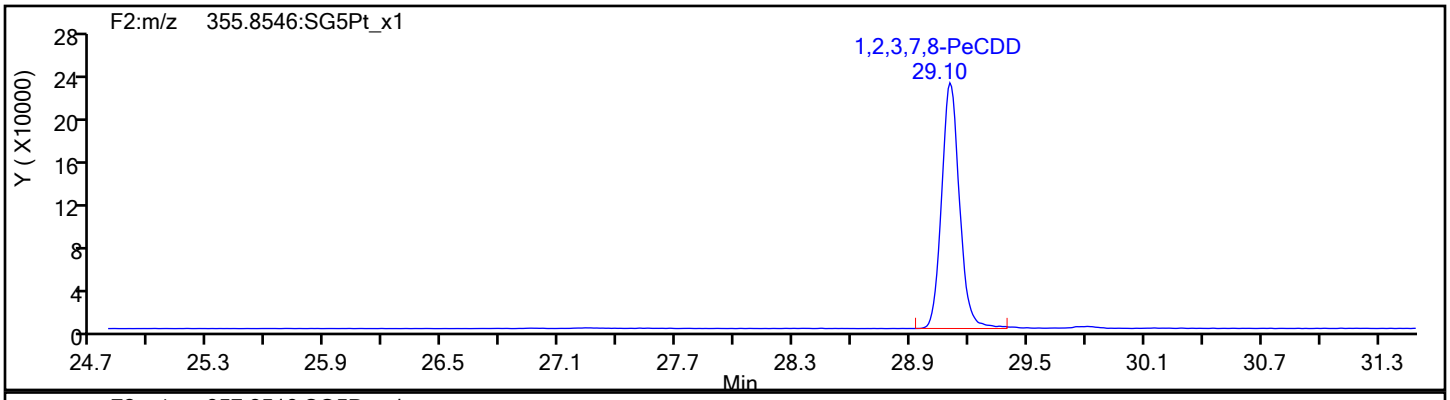

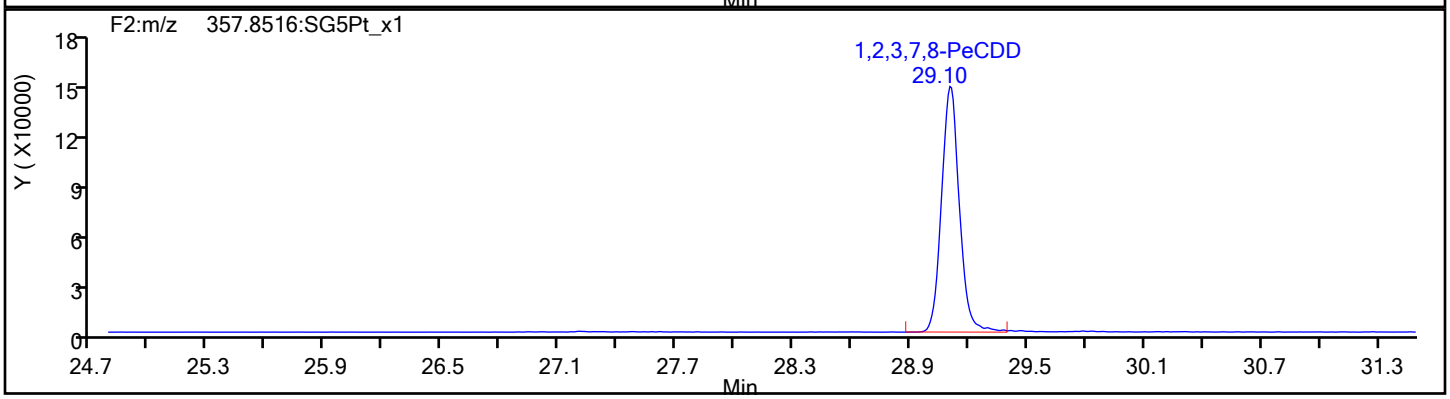

PeCDD Standards

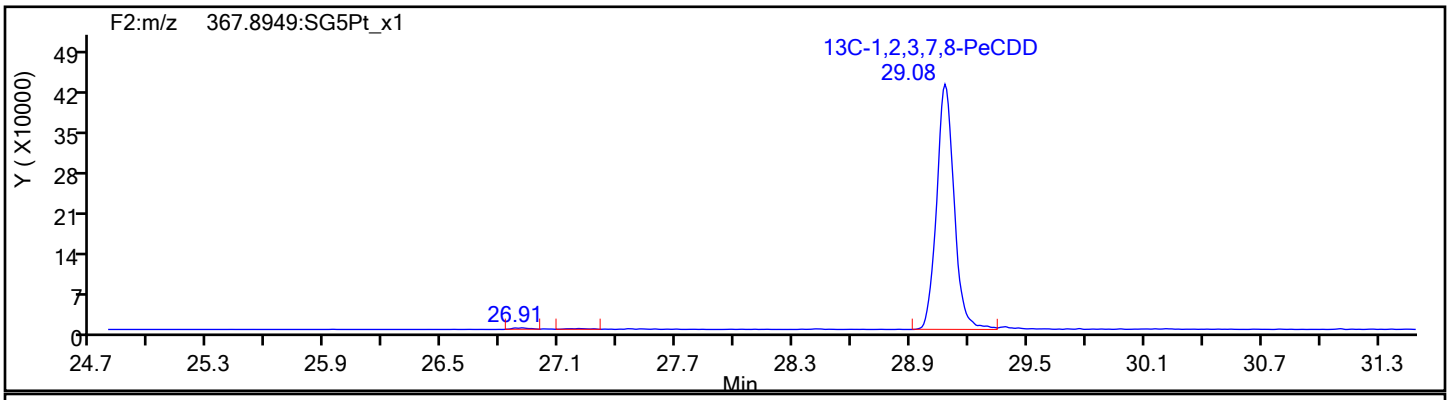

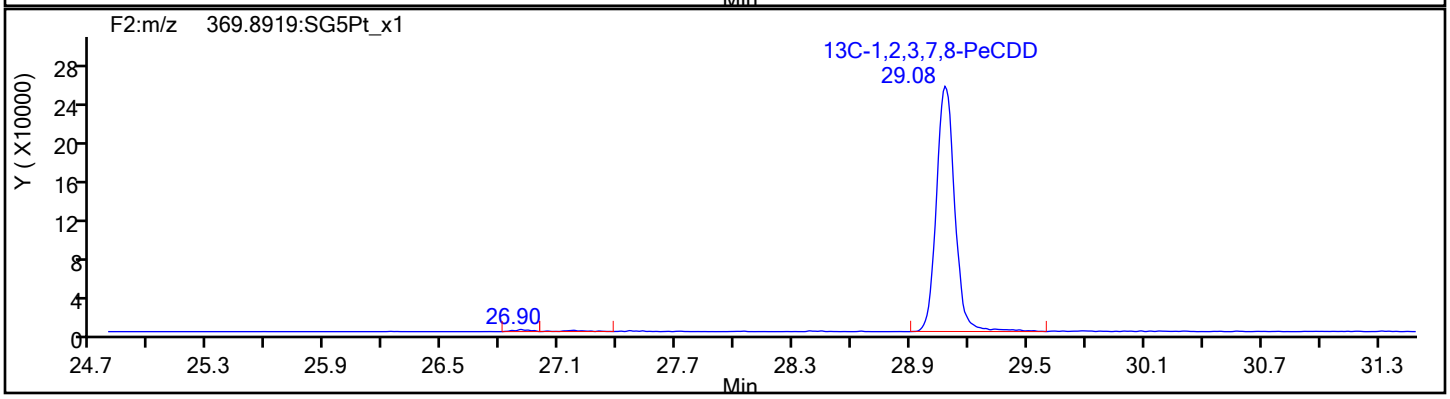

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Eurofins TestAmerica, Sacramento

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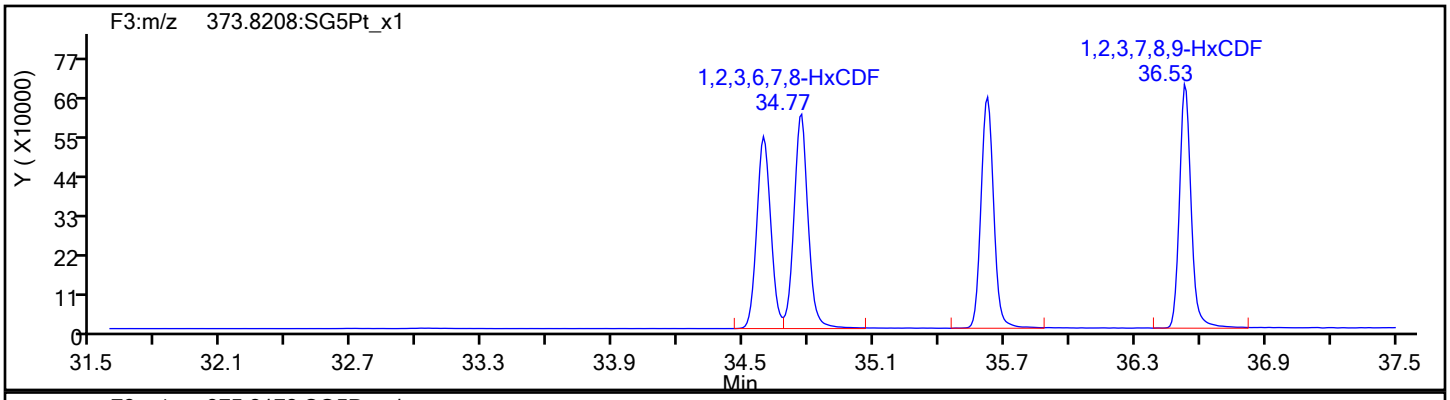

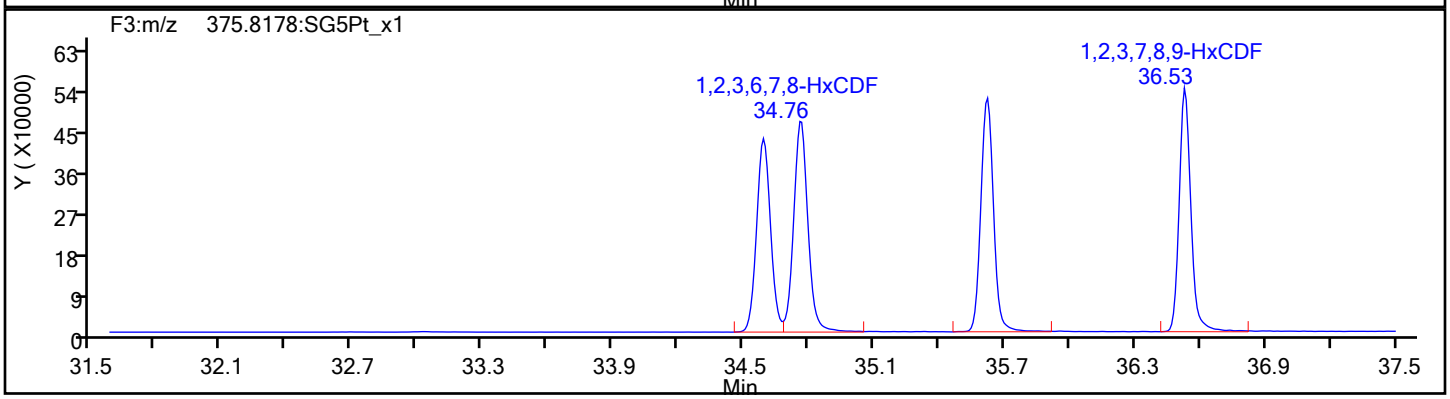

HxCDF Standards

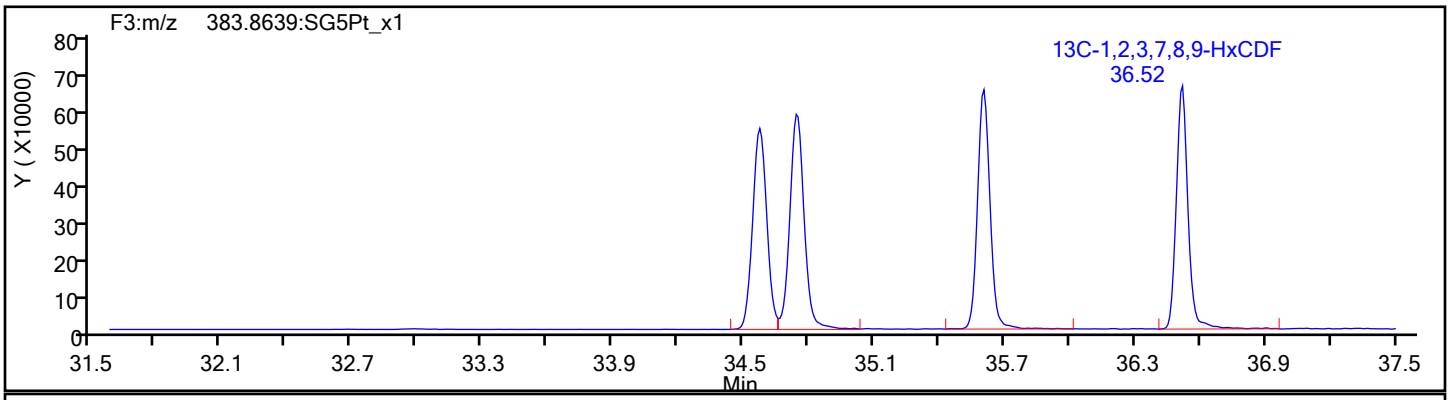

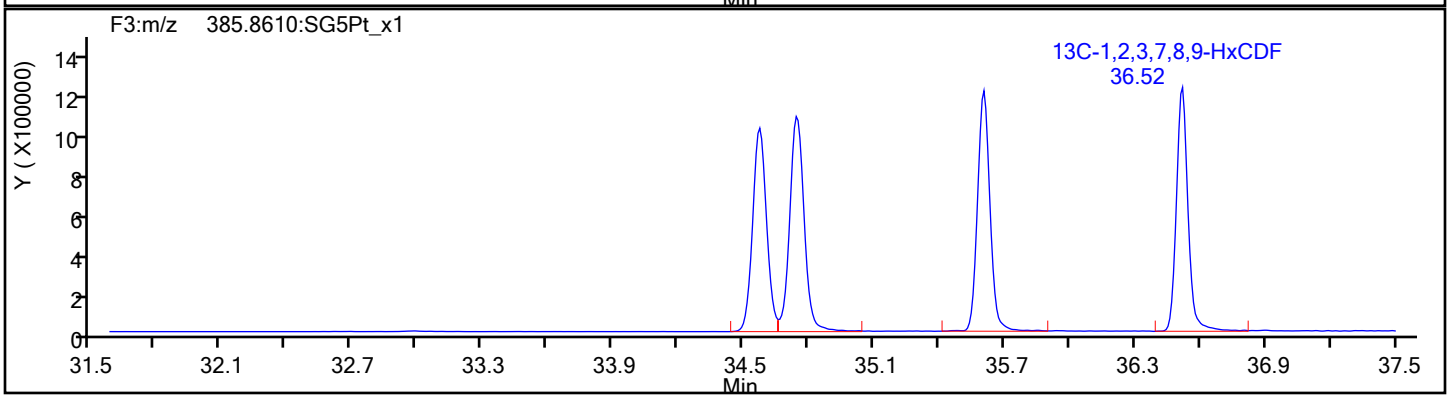

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Eurofins TestAmerica, Sacramento

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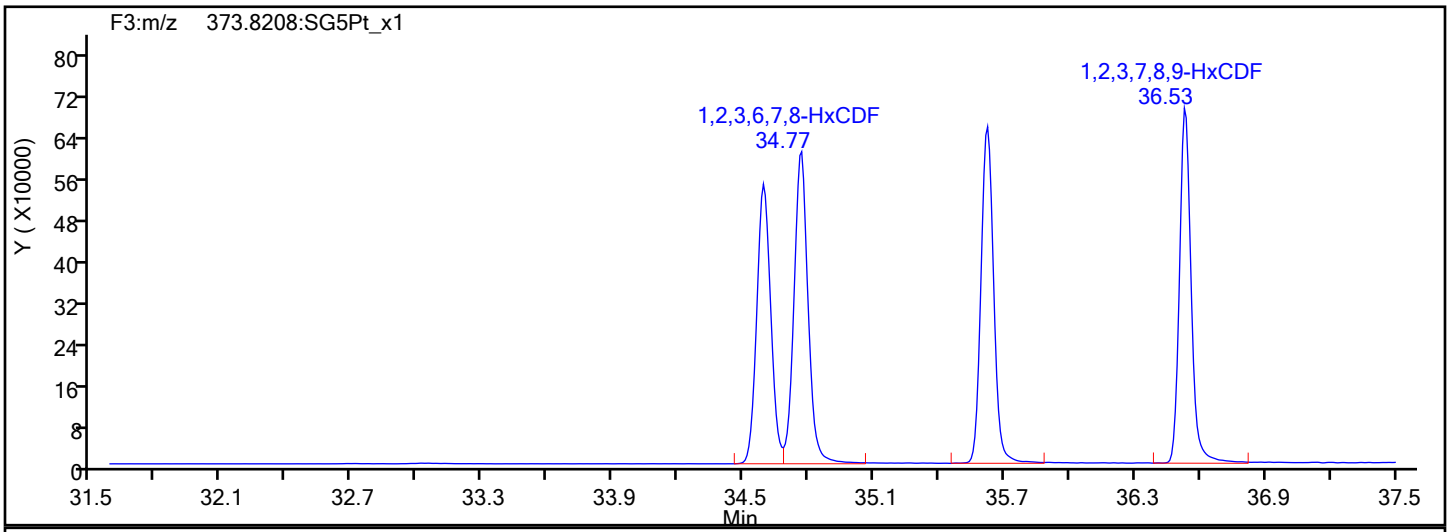

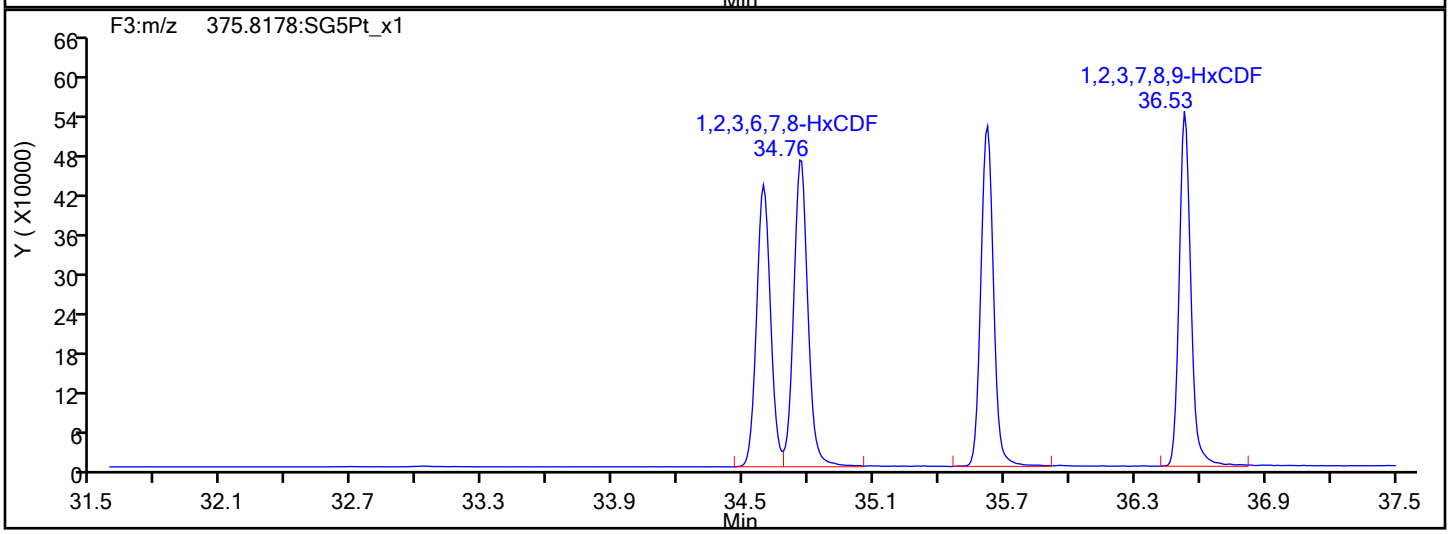

HxCDF Interference Mass

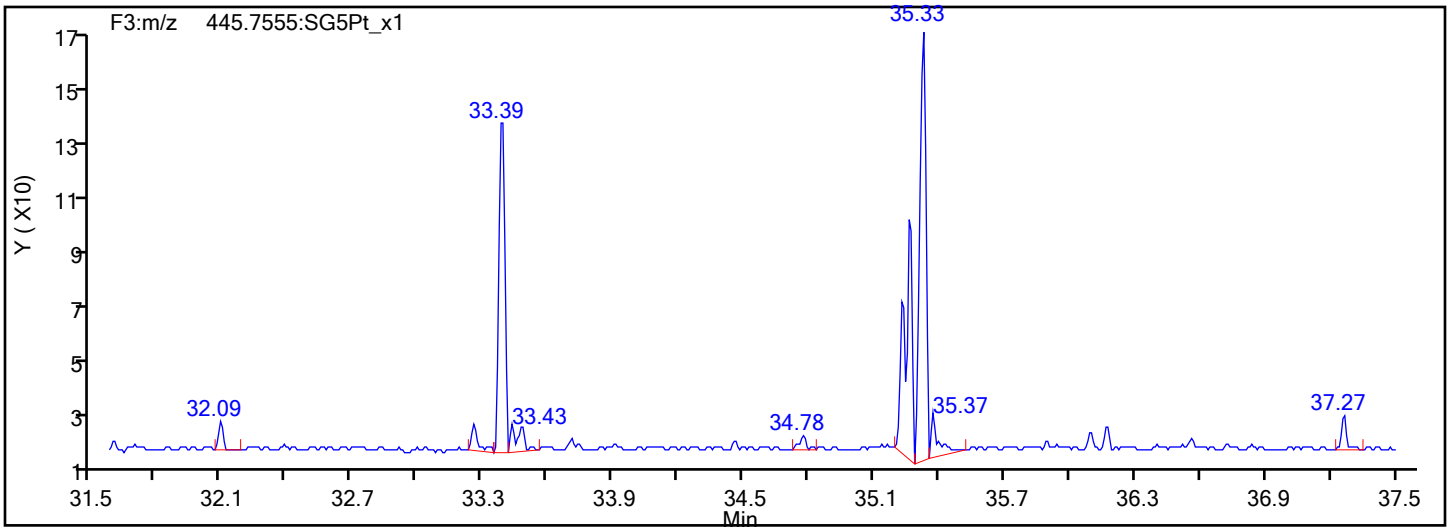

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Eurofins TestAmerica, Sacramento

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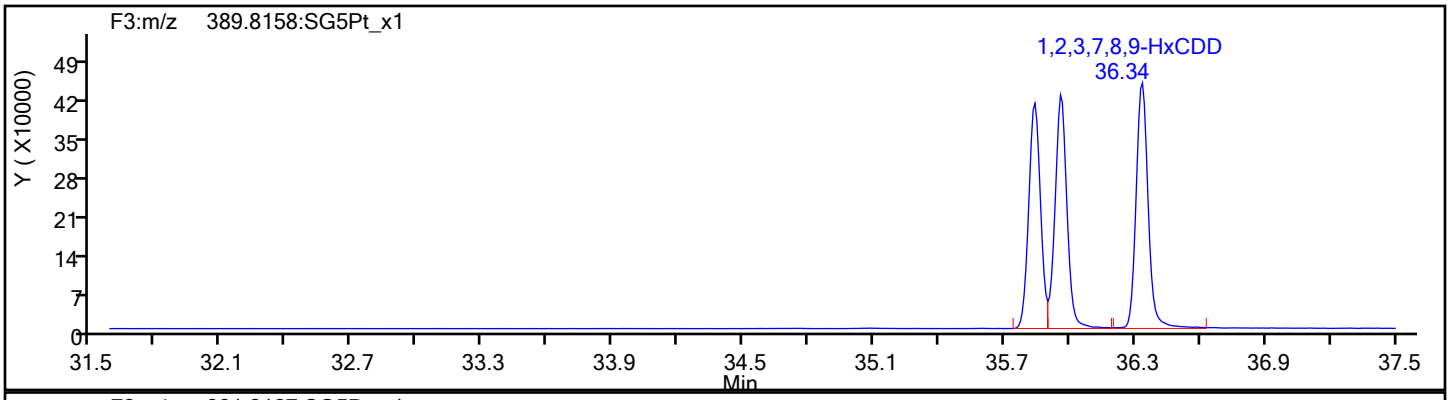

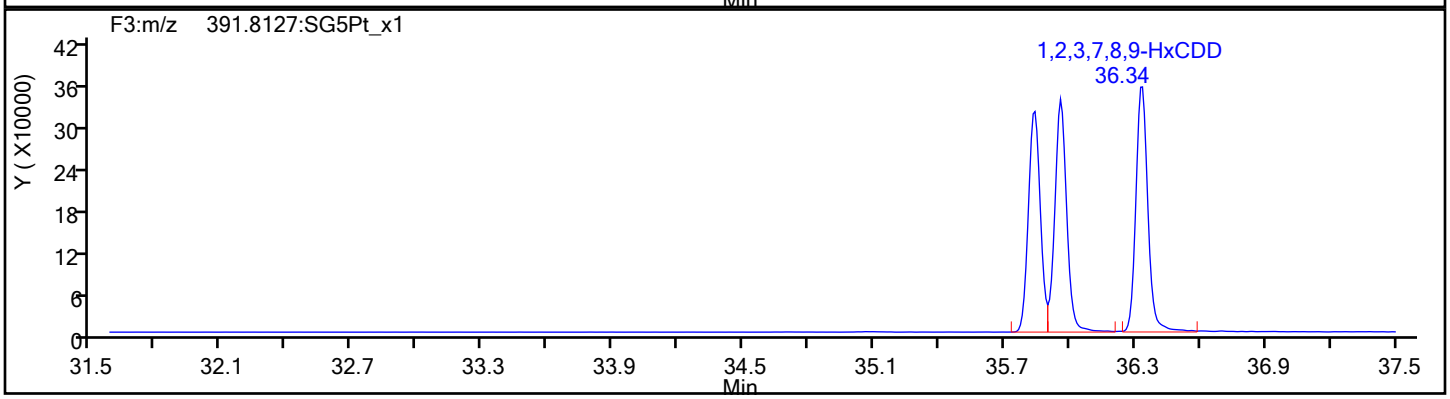

HxCDD Standards

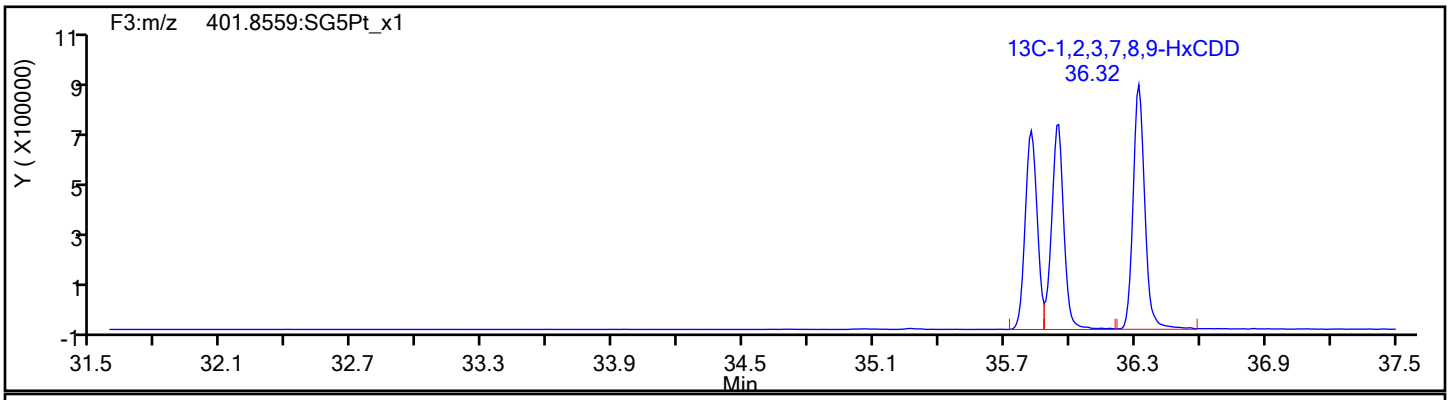

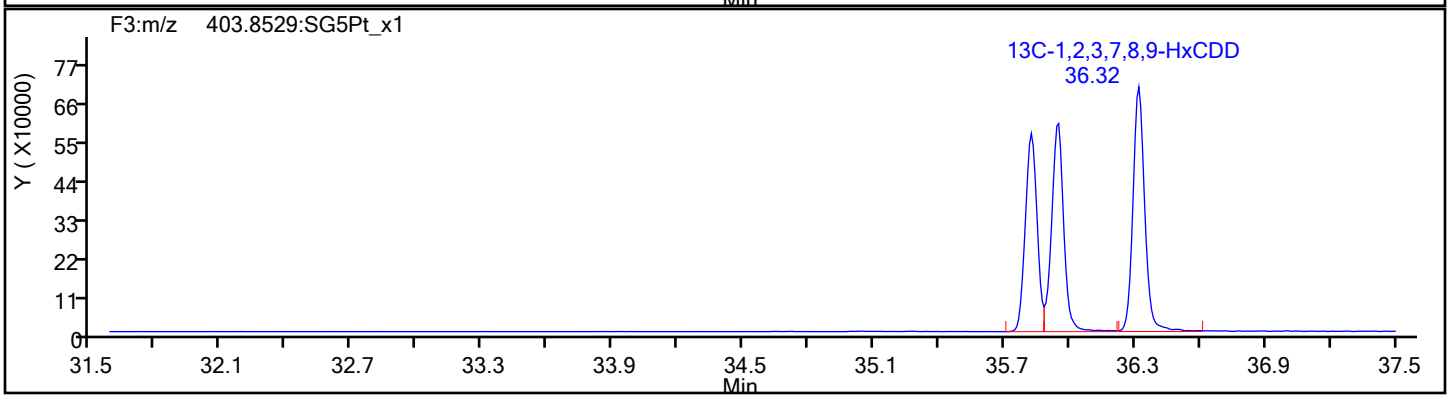

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Eurofins TestAmerica, Sacramento

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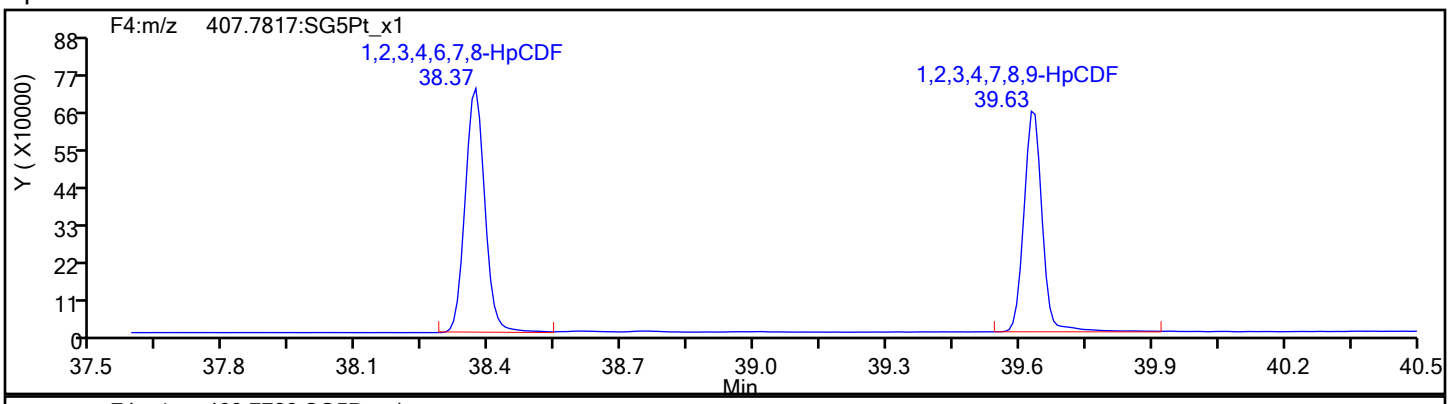

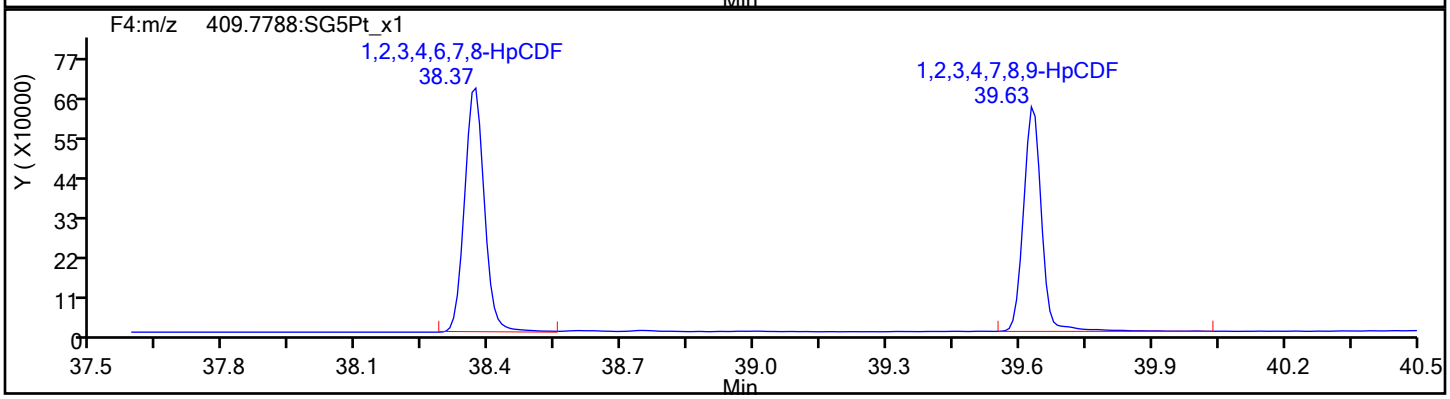

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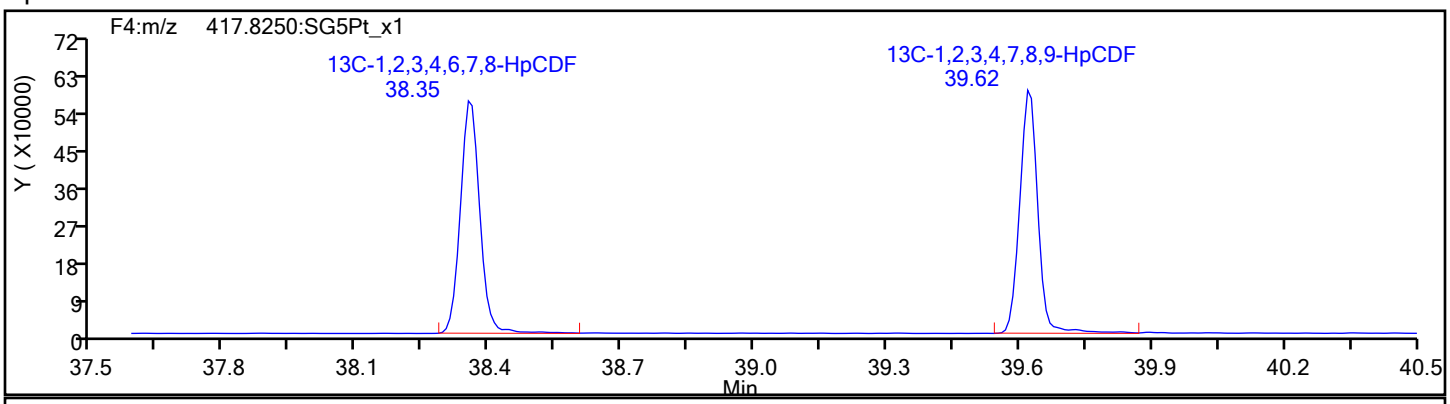

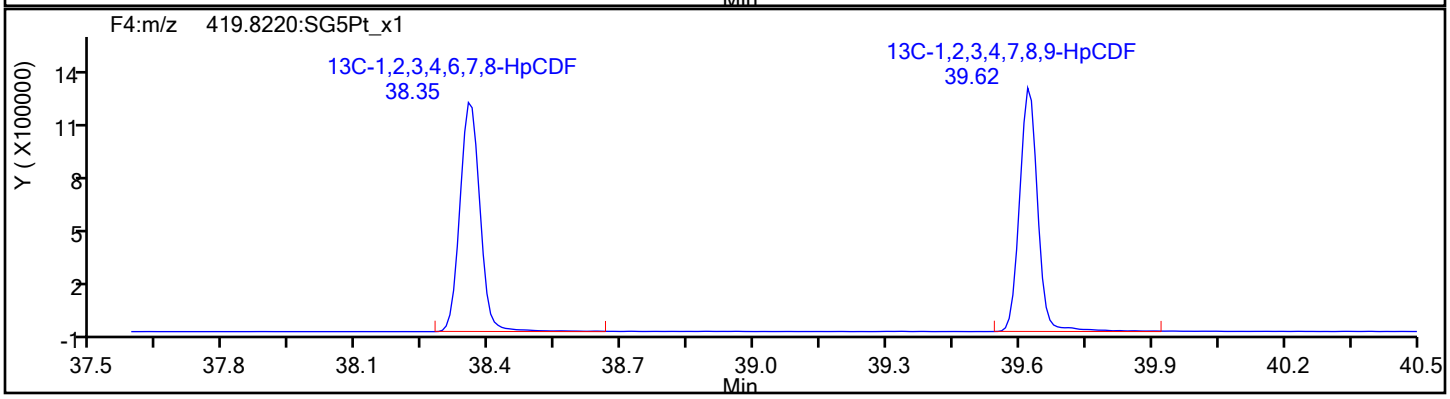

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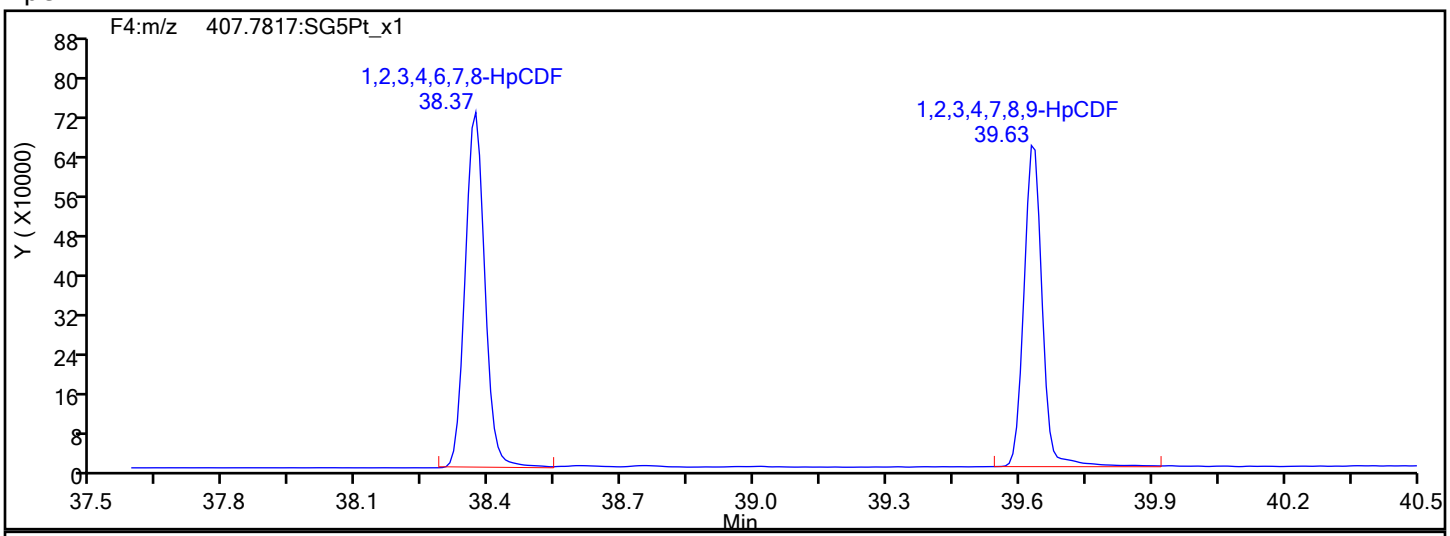

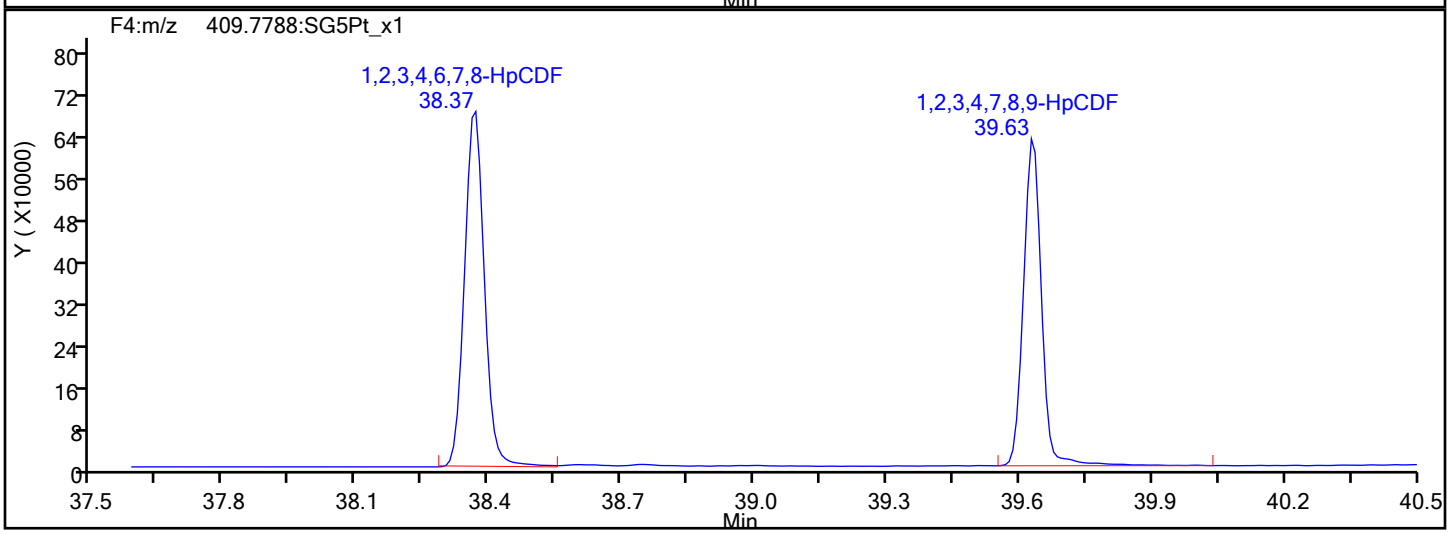

HpCDF Interference Mass

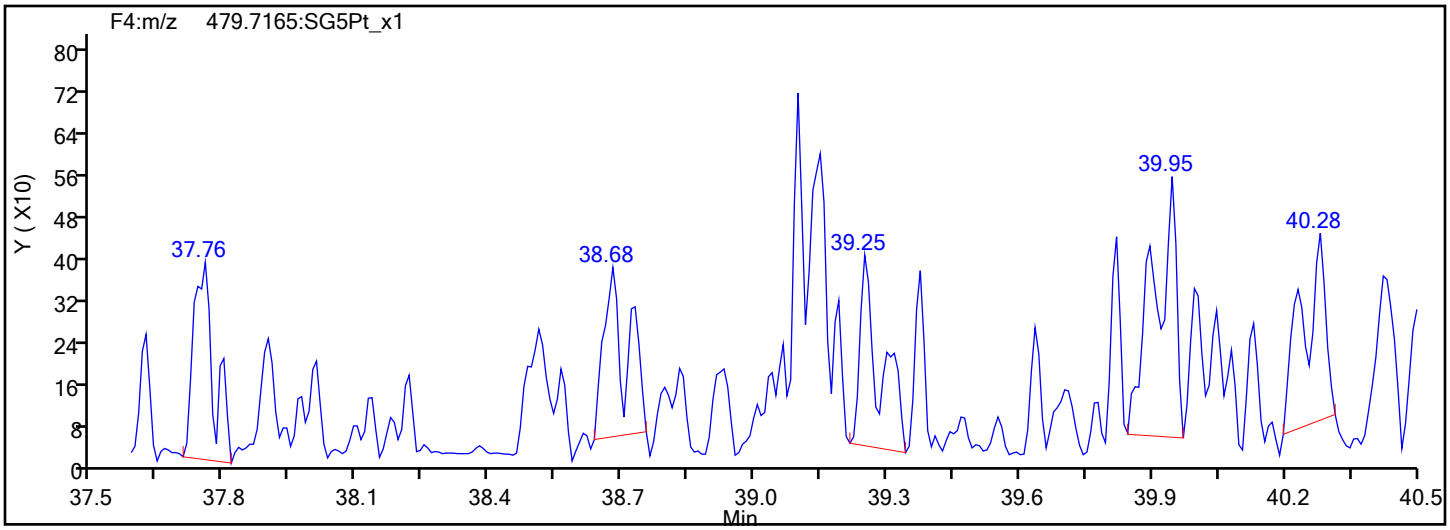

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Eurofins TestAmerica, Sacramento

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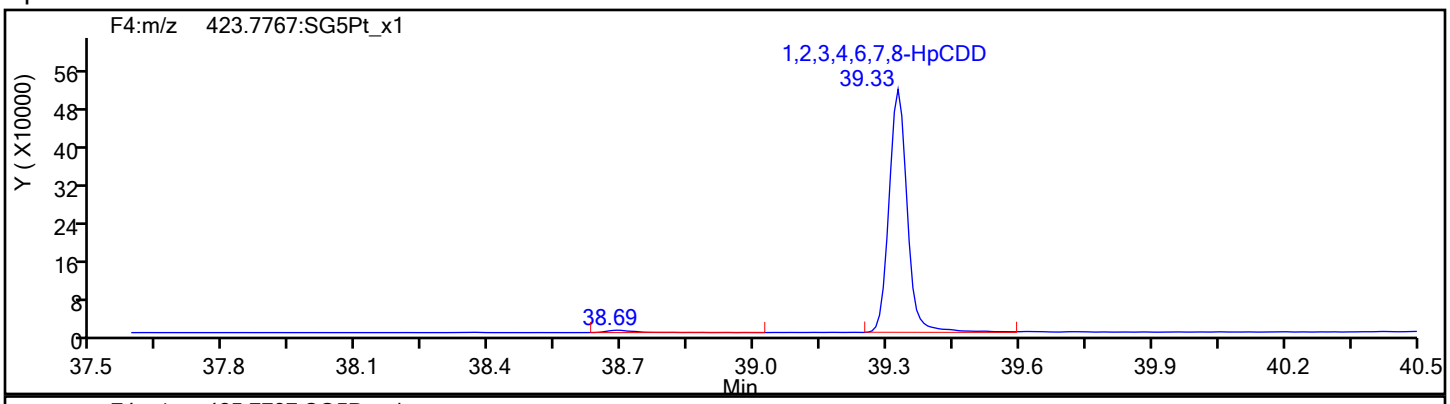

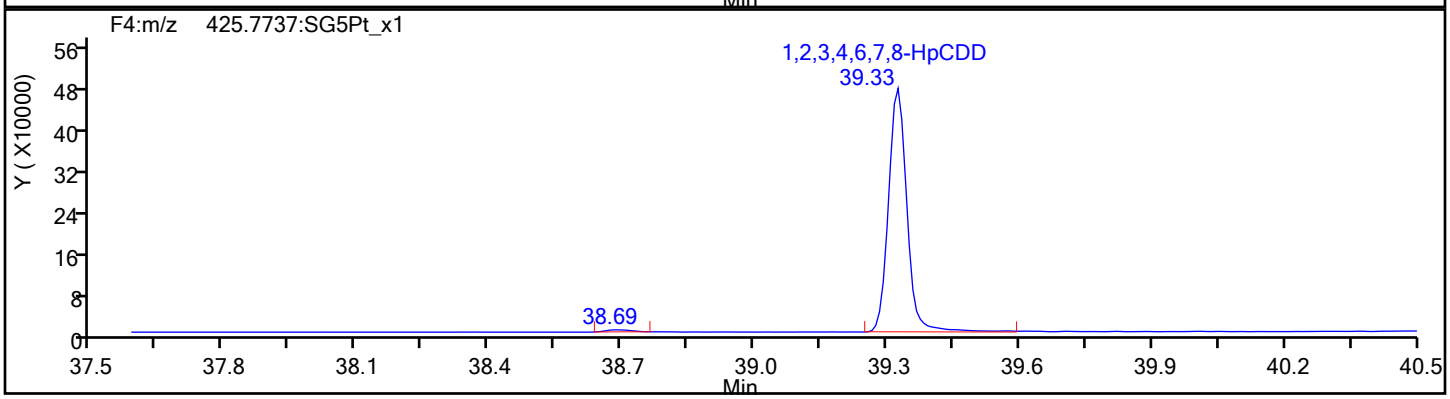

HpCDD Standards

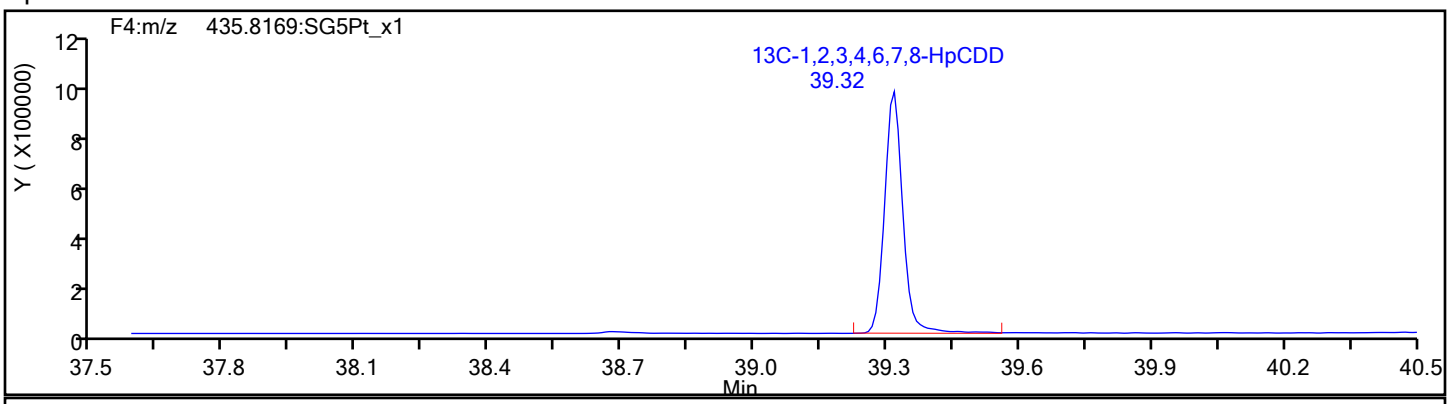

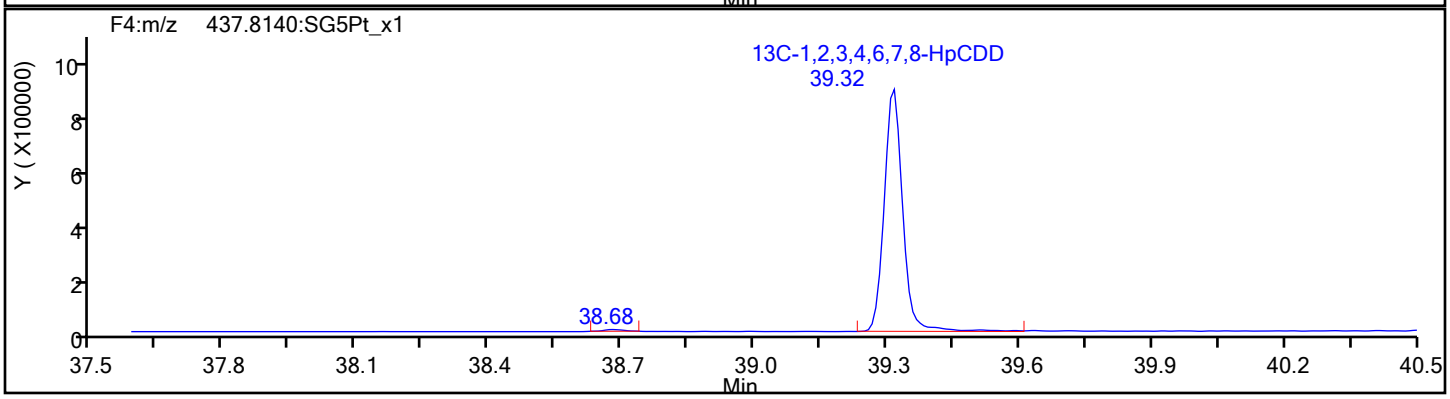

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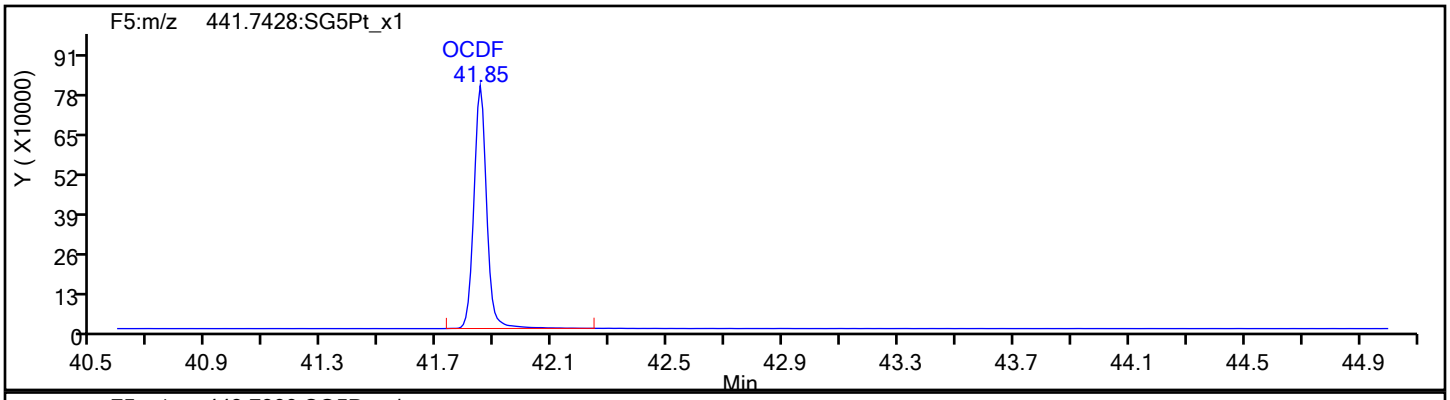

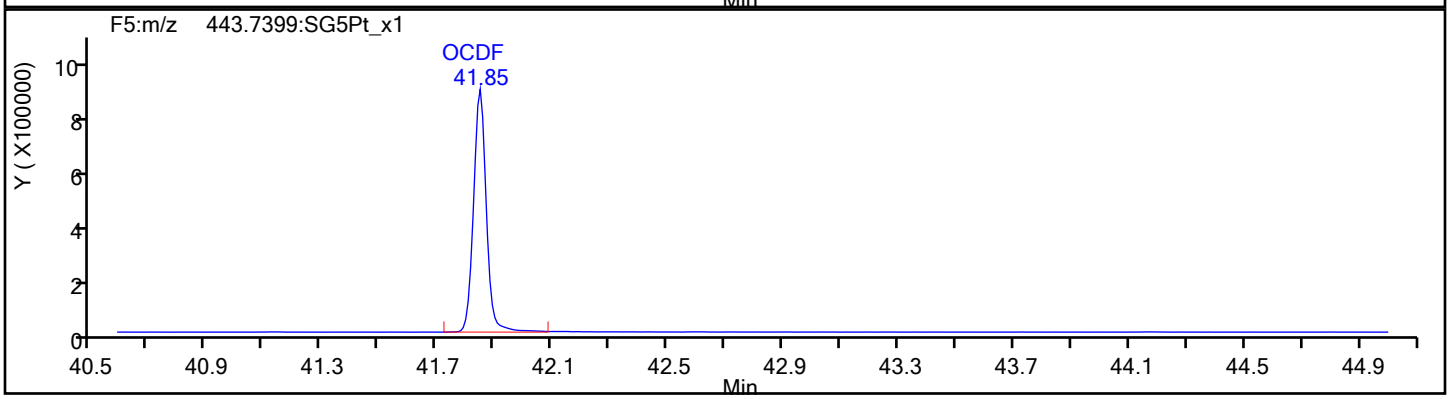

OCDF Standards

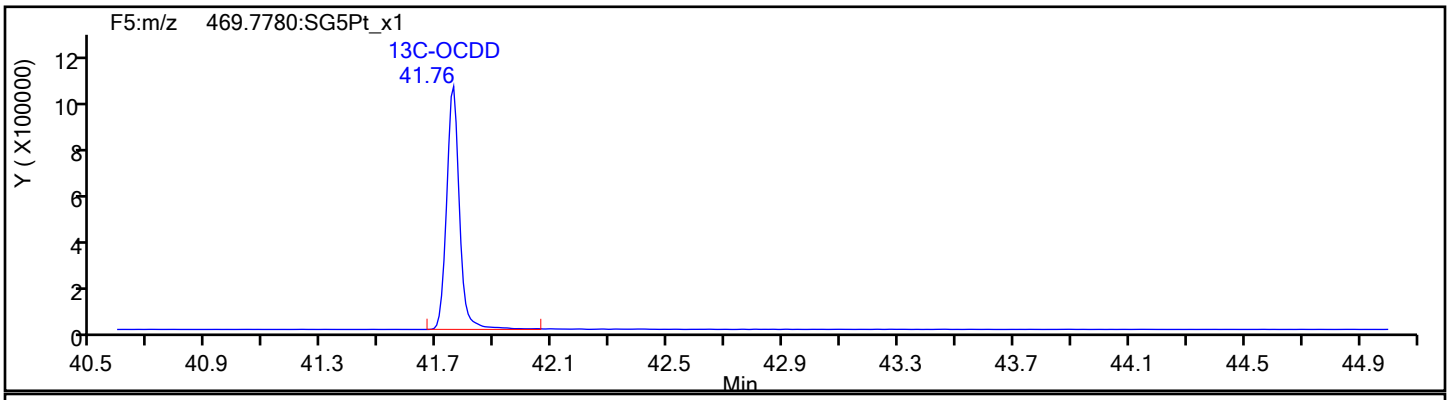

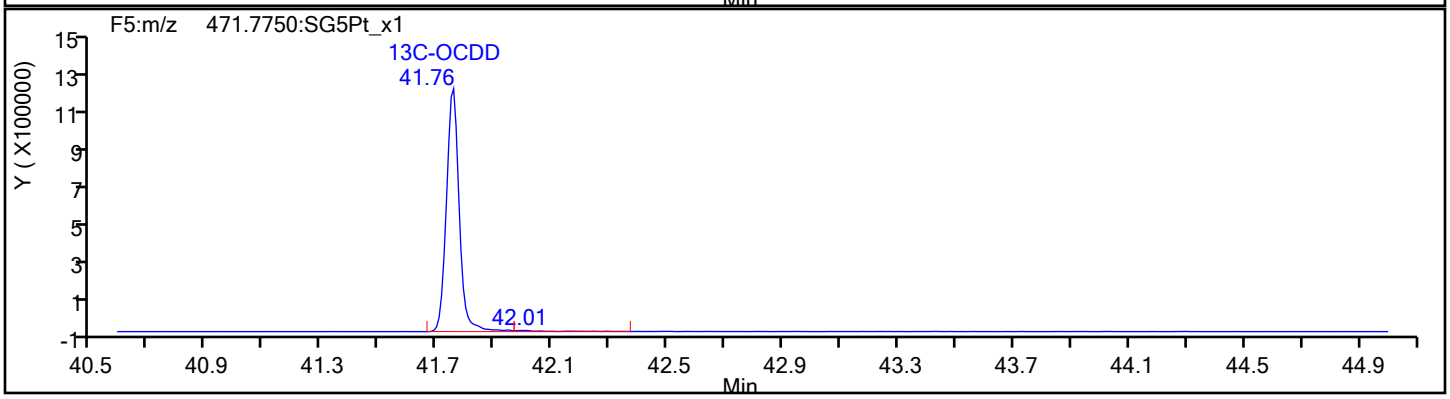

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Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

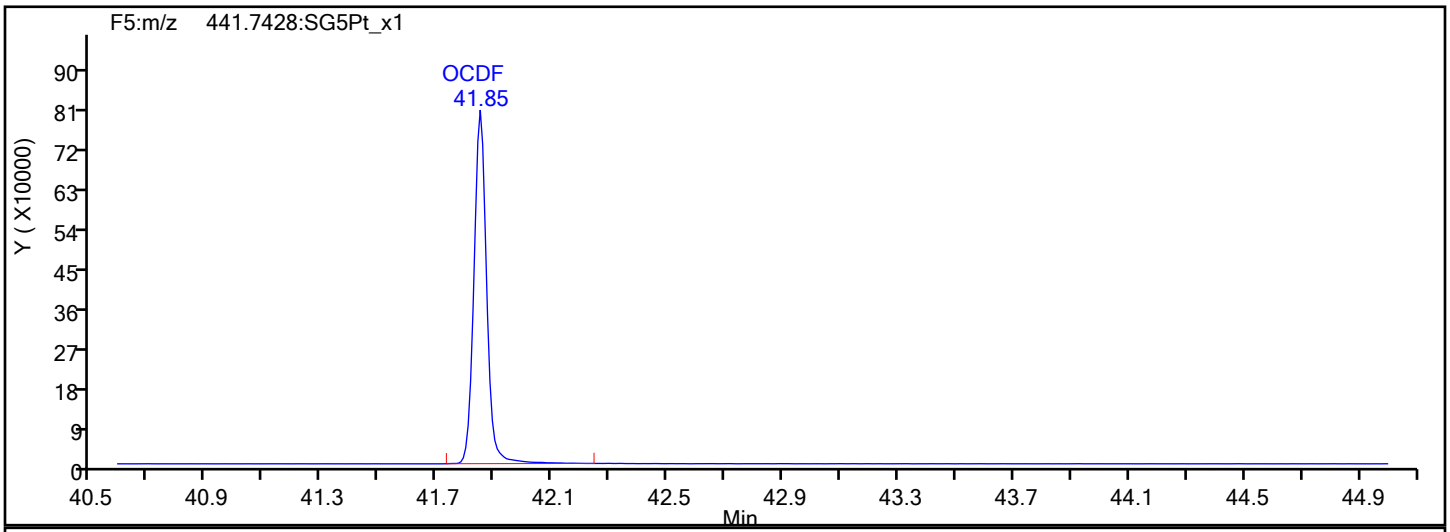

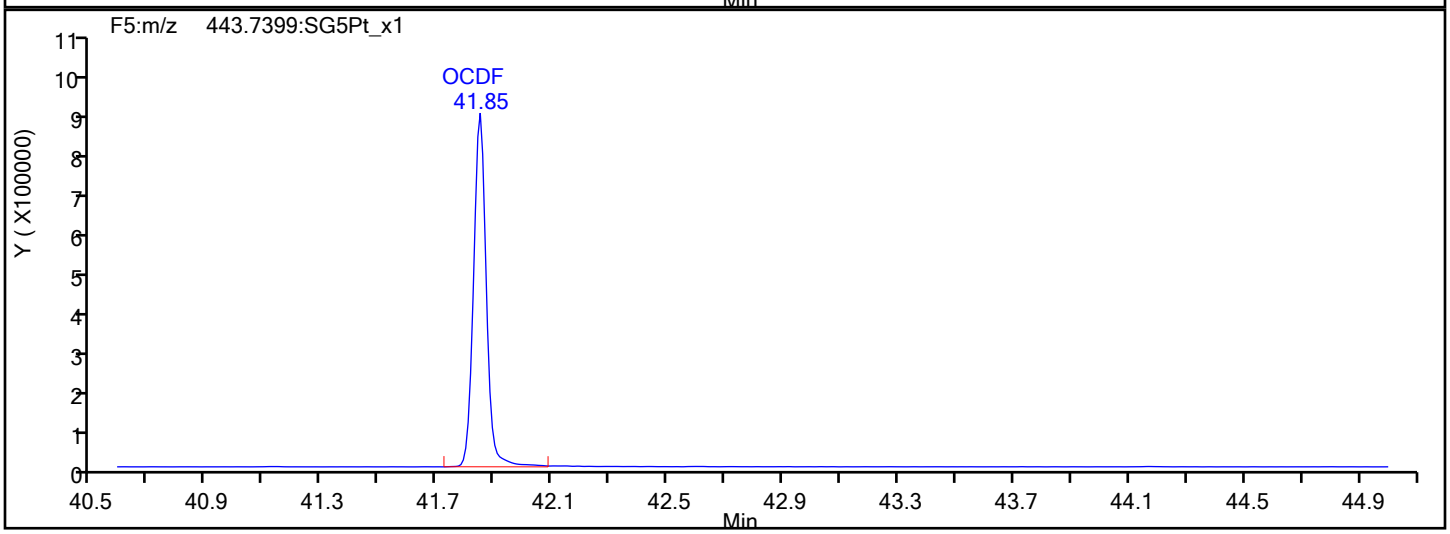

OCDF Interference Mass

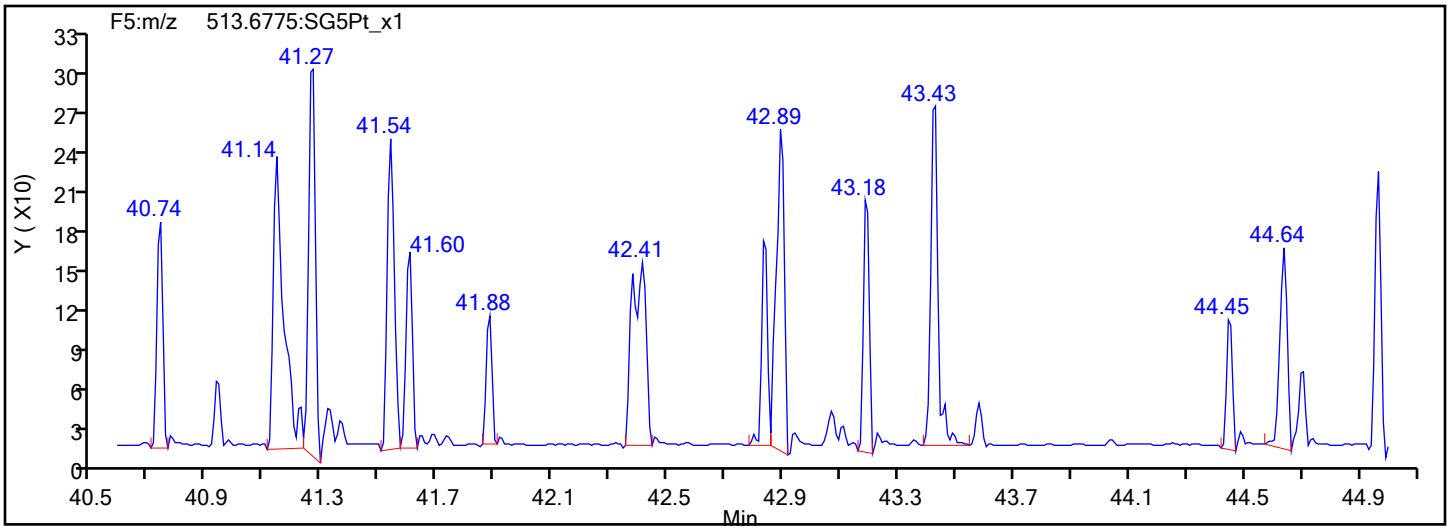

Report Date: 23-Oct-2019 11:53:30 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_6.d		
Injection Date:	18-Oct-2019 22:26:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

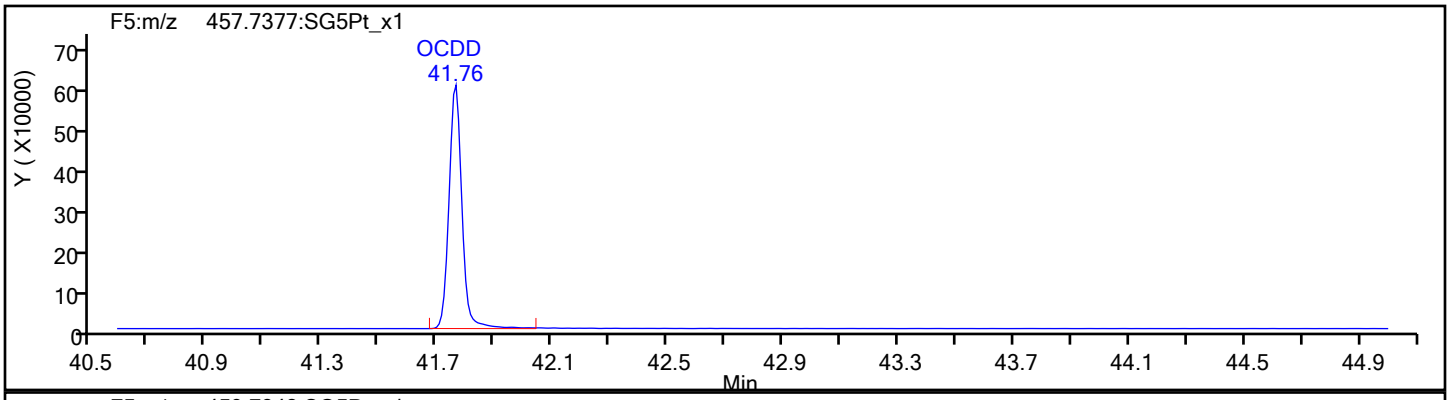

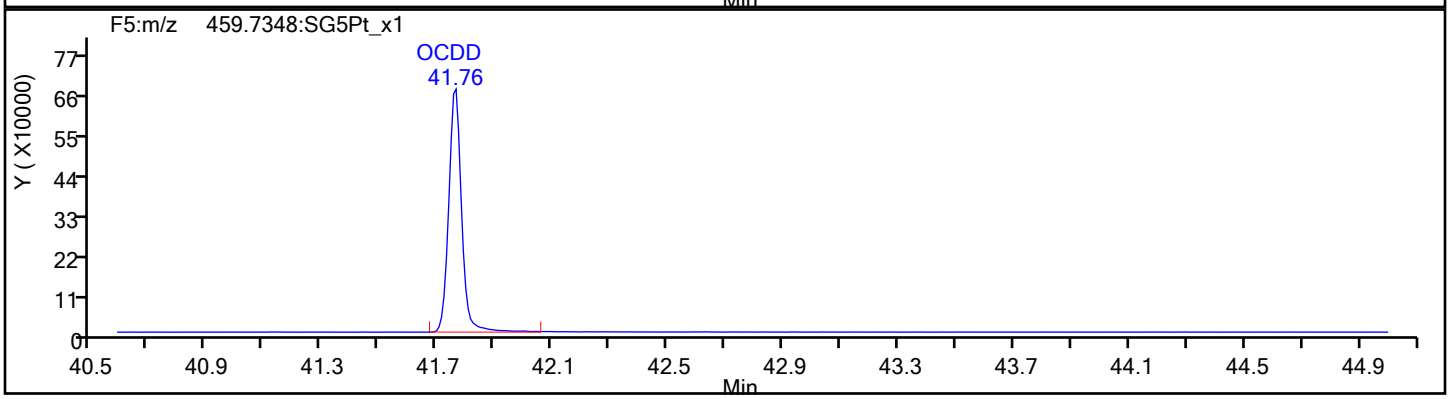

OCDD Standards

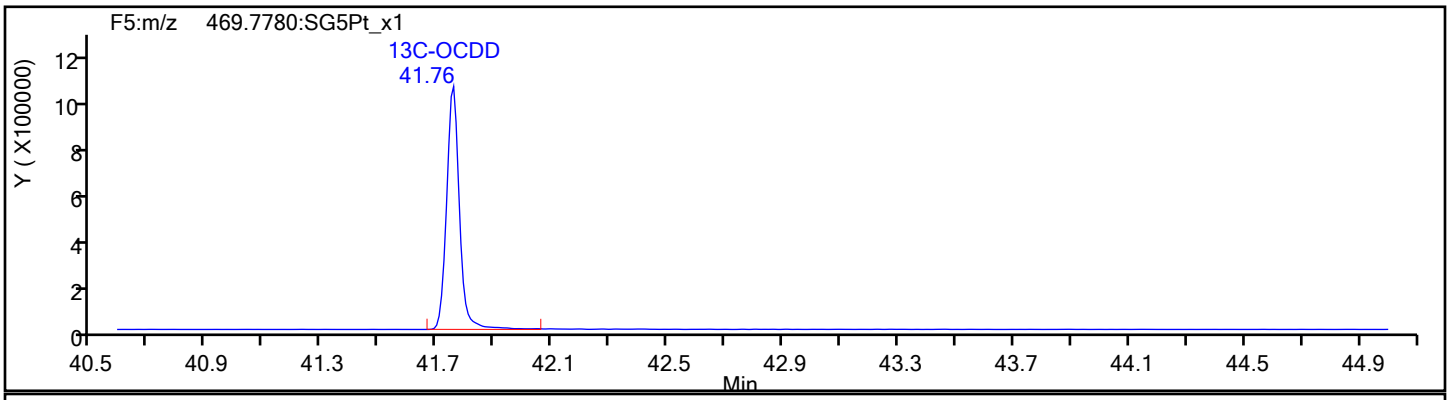

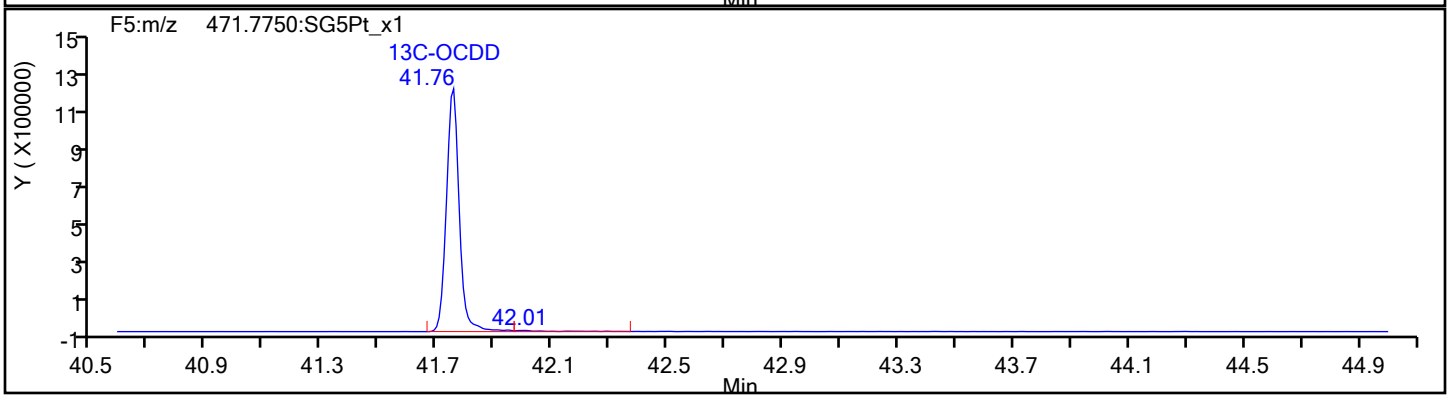

Report Date: 23-Oct-2019 11:53:31 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_6.d		
Injection Date:	18-Oct-2019 22:26:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

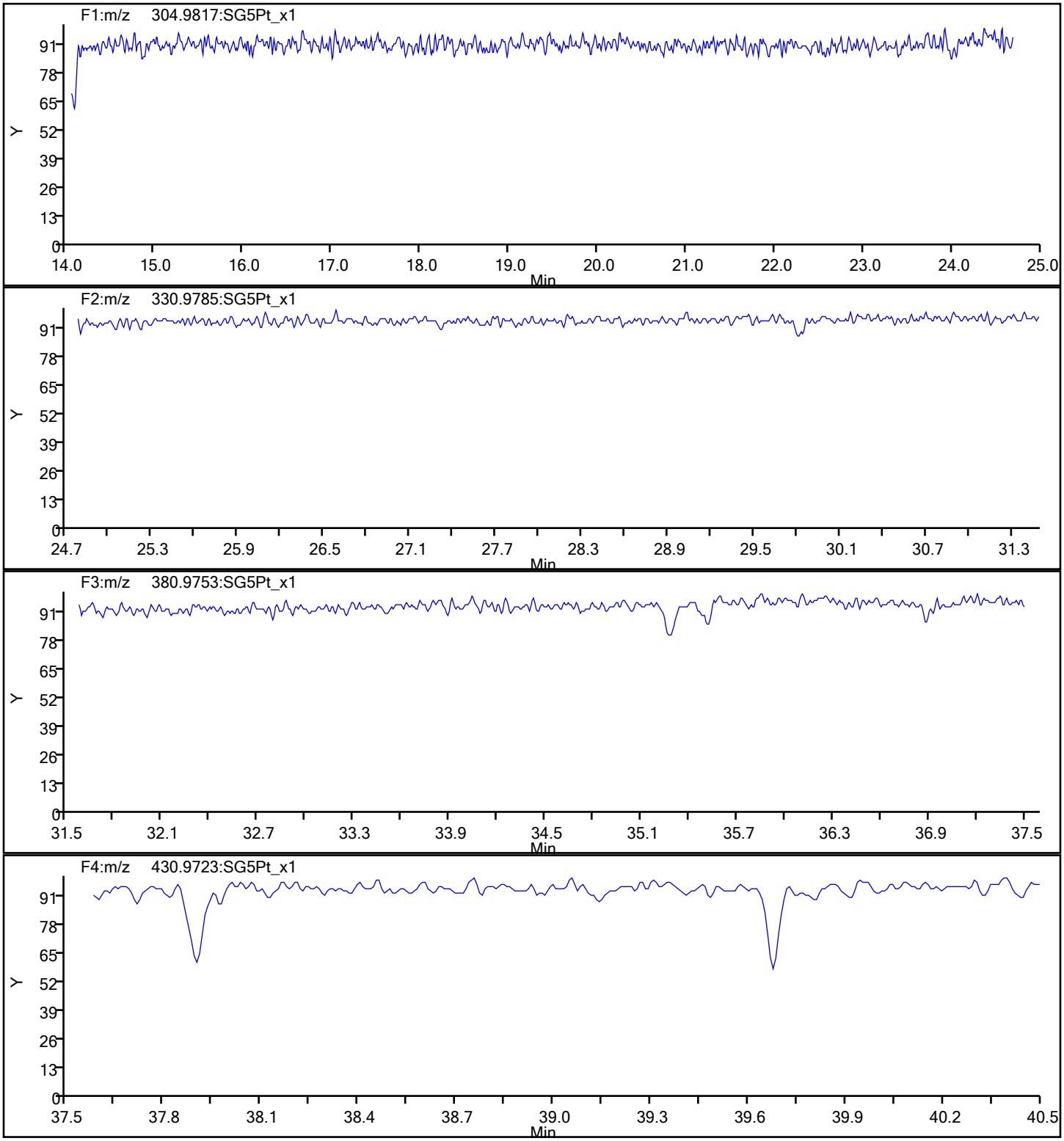

Report Date: 23-Oct-2019 11:53:31 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_6.d		
Injection Date:	18-Oct-2019 22:26:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

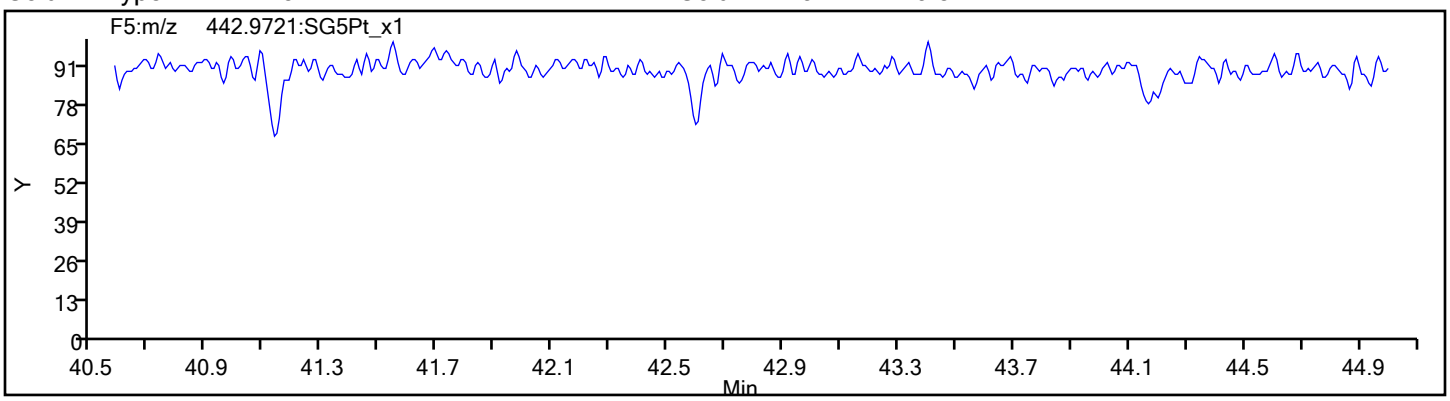

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_7.d
Lims ID: IC 5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 18-Oct-2019 23:14:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CS-5 HRDXNL5_00028
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\Dioxin_DFS1.m
Limit Group: HR - 1613B - ICAL
Last Update: 23-Oct-2019 11:53:36 Calib Date: 19-Oct-2019 00:02:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.07 :22.11)
Process Host: CTX0320

First Level Reviewer: shardaa Date: 21-Oct-2019 10:56:59

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	20.725	5248442	0.79	5.2E+04	100.0	100.0				
D 13C-2,3,7,8-TCDF	19.757	8380142	0.81	1.6096	99.2	99.2	0.2162	0.2162	99.20	
2,3,7,8-TCDF	19.791	4117287	0.81	1.2332	39.8	39.8	0.0903	0.0903	99.60	
S Total TCDF					39.8	39.8	0.0903	0.0903		
D 13C-2,3,7,8-TCDD	21.097	5253288	0.79	0.9984	100.3	100.3	0.2001	0.2001	100	
$ 37Cl4-2,3,7,8-TCDD	21.123	2971886		1.4510	39.0	39.0	0.0219	0.0219	97.56	
2,3,7,8-TCDD	21.123	2515247	0.79	1.1988	39.9	39.9	0.0668	0.0668	99.85	
S Total TCDD					39.9	39.9	0.0668	0.0668		
D 13C-1,2,3,7,8-PeCDF	26.804	7152089	1.59	1.3678	99.6	99.6	0.4826	0.4826	99.63	
1,2,3,7,8-PeCDF	26.820	16520730	1.59	1.1689	197.6	197.6	0.8104	0.8104	98.81	
D 13C-2,3,4,7,8-PeCDF	28.297	6759066	1.60	1.3045	98.7	98.7	0.5060	0.5060	98.72	
2,3,4,7,8-PeCDF	28.322	16066504	1.57	1.1861	200.4	200.4	0.9189	0.9189	100	
S Total PeCDF					398.0	398.0	0.8646	0.8646		
D 13C-1,2,3,7,8-PeCDD	29.093	4400759	1.59	0.8292	101.1	101.1	0.2154	0.2154	101	
1,2,3,7,8-PeCDD	29.118	9715829	1.59	1.1200	197.1	197.1	0.2824	0.2824	98.56	
S Total PeCDD					197.1	197.1	0.2824	0.2824		
D 13C-1,2,3,4,7,8-HxCDF	34.592	6894093	0.55	1.1700	102.0	102.0	0.4538	0.4538	102	
1,2,3,4,7,8-HxCDF	34.608	17777367	1.26	1.3021	198.0	198.0	1.034	1.034	99.02	
D 13C-1,2,3,6,7,8-HxCDF	34.759	7780881	0.54	1.3168	102.3	102.3	0.4032	0.4032	102	
1,2,3,6,7,8-HxCDF	34.776	19431932	1.26	1.2907	193.5	193.5	0.9419	0.9419	96.74	
D 13C-2,3,4,6,7,8-HxCDF	35.615	7441472	0.55	1.2873	100.1	100.1	0.4124	0.4124	100	
2,3,4,6,7,8-HxCDF	35.632	18862486	1.25	1.3039	194.4	194.4	0.8487	0.8487	97.20	
D 13C-1,2,3,7,8,9-HxCDF	36.529	6852734	0.54	1.1987	99.0	99.0	0.4429	0.4429	98.98	
1,2,3,7,8,9-HxCDF	36.546	17616763	1.27	1.3329	192.9	192.9	0.8385	0.8385	96.44	
S Total HxCDF					778.8	778.8	0.9159	0.9159		
* 13C-1,2,3,7,8,9-HxCDD	36.328	5775334	1.26	5.8E+04	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	35.833	4830229	1.29	0.8364	100.0	100.0	0.2380	0.2380	100	
1,2,3,4,7,8-HxCDD	35.850	11153969	1.28	1.1725	196.9	196.9	0.3981	0.3981	98.47	
D 13C-1,2,3,6,7,8-HxCDD	35.959	5261618	1.27	0.9040	100.8	100.8	0.2202	0.2202	101	
1,2,3,6,7,8-HxCDD	35.976	11661873	1.24	1.1256	196.9	196.9	0.3909	0.3909	98.46	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,7,8,9-HxCDD	36.345	12354108	1.24	1.2327	198.6	198.6	0.3675	0.3675	99.31	
S Total HxCDD					592.5	592.5	0.3855	0.3855		
D 13C-1,2,3,4,6,7,8-HpCDF	38.370	5634533	0.47	0.9689	100.7	100.7	0.3941	0.3941	101	
1,2,3,4,6,7,8-HpCDF	38.378	17615721	1.05	1.6176	193.3	193.3	1.306	1.306	96.63	
D 13C-1,2,3,4,7,8,9-HpCDF	39.628	5307044	0.46	0.9231	99.5	99.5	0.4136	0.4136	99.55	
1,2,3,4,7,8,9-HpCDF	39.645	15315395	1.06	1.4672	196.7	196.7	1.454	1.454	98.34	
S Total HpCDF					390.0	390.0	1.380	1.380		
D 13C-1,2,3,4,6,7,8-HpCDD	39.326	5305866	1.07	0.9114	100.8	100.8	0.4728	0.4728	101	
1,2,3,4,6,7,8-HpCDD	39.334	11573871	1.05	1.1237	194.1	194.1	0.6793	0.6793	97.06	
S Total HpCDD					194.1	194.1	0.6793	0.6793		
D 13C-OCDD	41.764	7266166	0.90	0.6272	200.6	200.6	0.3194	0.3194	100	
OCDF	41.856	22094312	0.93	1.5416	394.5	394.5	0.3354	0.3354	98.62	
OCDD	41.772	16709340	0.91	1.1855	387.9	387.9	0.3808	0.3808	96.99	

Reagents:

HRDXNL5_00028 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_7.d
Lims ID: IC 5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 18-Oct-2019 23:14:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CS-5 HRDXNL5_00028
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\Dioxin_DFS1.m
Limit Group: HR - 1613B - ICAL
Last Update: 23-Oct-2019 11:53:36 Calib Date: 19-Oct-2019 00:02:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.07 :22.11)
Process Host: CTX0320

First Level Reviewer: shardaa Date: 21-Oct-2019 10:56:59

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	20.725	20.729	0		2316670	353709	439	1097	806		
333.9338	20.725	20.729	0		2931772	446998	201	502	2224	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.757	19.762	0	0.953	3745076	587911	714	1785	823		
317.9389	19.765	19.762	0	0.954	4635066	734626	401	1002	1832	0.81(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	19.791	19.792	0	1.002	1840943	291124	269	672	1082		
305.8987	19.791	19.792	0	1.002	2276344	362083	320	800	1132	0.81(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	21.097	21.094	0	1.018	2311637	330579	439	1097	753		
333.9338	21.106	21.094	1	1.018	2941651	437232	201	502	2175	0.79(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	21.123	21.121	0	1.019	2971886	444835	102	255	4361		
2,3,7,8-TCDD											
319.8965	21.123	21.127	0	1.001	1113687	167487	144	360	1163		
321.8936	21.123	21.127	0	1.001	1401560	208185	102	255	2041	0.79(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	26.804	26.797	0	1.293	4392854	766867	1303	3257	589		
353.8970	26.795	26.797	0	1.293	2759235	489050	811	2027	603	1.59(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	26.820	26.821	0	1.001	10134033	1796270	2875	7187	625		
341.8567	26.820	26.821	0	1.001	6386697	1136638	1884	4710	603	1.59(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	28.297	28.297	0	1.365	4164180	676470	1303	3257	519		
353.8970	28.297	28.297	0	1.365	2594886	415098	811	2027	512	1.60(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	28.322	28.322	0	1.001	9823641	1587031	2875	7187	552		
341.8567	28.322	28.322	0	1.001	6242863	1003358	1884	4710	533	1.57(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	29.093	29.095	0	1.404	2700395	421157	337	842	1250		
369.8919	29.093	29.095	0	1.404	1700364	271361	235	587	1155	1.59(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	29.118	29.120	0	1.001	5958663	906049	559	1397	1621		
357.8516	29.118	29.120	0	1.001	3757166	572804	317	792	1807	1.59(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.592	34.589	0	0.952	2435943	544796	1143	2857	477		
385.8610	34.592	34.589	0	0.952	4458150	1008259	2108	5270	478	0.55(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.608	34.608	0	1.000	9920121	2235944	4718	11795	474		
375.8178	34.608	34.608	0	1.000	7857246	1772003	3649	9122	486	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	34.759	34.759	0	0.957	2726527	603175	1143	2857	528		
385.8610	34.759	34.759	0	0.957	5054354	1117304	2108	5270	530	0.54(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	34.776	34.777	0	1.000	10845030	2353526	4718	11795	499		
375.8178	34.776	34.777	0	1.000	8586902	1879458	3649	9122	515	1.26(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	35.615	35.616	0	0.980	2626917	670839	1143	2857	587		
385.8610	35.615	35.616	0	0.980	4814555	1219387	2108	5270	578	0.55(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	35.632	35.633	0	1.000	10493146	2616048	4718	11795	554		
375.8178	35.632	35.633	0	1.000	8369340	2104551	3649	9122	577	1.25(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.529	36.530	0	1.006	2390744	654091	1143	2857	572		
385.8610	36.529	36.530	0	1.006	4461990	1217472	2108	5270	578	0.54(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	36.546	36.544	0	1.000	9864009	2685632	4718	11795	569		
375.8178	36.546	36.544	0	1.000	7752754	2112230	3649	9122	579	1.27(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	36.328	36.330	0		3225063	862156	671	1677	1285		
403.8529	36.328	36.330	0		2550271	668641	548	1370	1220	1.26(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	35.833	35.836	0	0.986	2718376	722822	671	1677	1077		
403.8529	35.842	35.836	0	0.987	2111853	576022	548	1370	1051	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	35.850	35.849	0	1.000	6262073	1686648	1342	3355	1257		
391.8127	35.850	35.849	0	1.000	4891896	1341253	1083	2707	1238	1.28(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	35.959	35.958	0	0.990	2940570	765608	671	1677	1141		
403.8529	35.959	35.958	0	0.990	2321048	611989	548	1370	1117	1.27(1.05-1.43)	

Report Date: 23-Oct-2019 11:53:44 Chrom Revision: 2.3 17-Sep-2019 16:19:08
Data File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_7.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,6,7,8-HxCDD											
389.8158	35.976	35.973	0	1.000	6444182	1712991	1342	3355	1276		
391.8127	35.976	35.973	0	1.000	5217691	1365104	1083	2707	1260	1.24(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8158	36.345	36.346	0	1.014	6836983	1856188	1342	3355	1383		
391.8127	36.345	36.346	0	1.014	5517125	1487212	1083	2707	1373	1.24(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.370	38.366	0	1.056	1789695	589686	826	2065	714		
419.8220	38.370	38.366	0	1.056	3844838	1265314	1512	3780	837	0.47(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.378	38.378	0	1.000	9042336	2975184	8174	20435	364		
409.7788	38.378	38.378	0	1.000	8573385	2837625	7503	18757	378	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	39.628	39.629	0	1.091	1677965	582370	826	2065	705		
419.8220	39.628	39.629	0	1.091	3629079	1254142	1512	3780	829	0.46(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.645	39.641	0	1.000	7866409	2737221	8174	20435	335		
409.7788	39.645	39.641	0	1.000	7448986	2556500	7503	18757	341	1.06(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.326	39.324	0	1.083	2737465	961359	1371	3427	701		
437.8140	39.326	39.324	0	1.083	2568401	890692	1268	3170	702	1.07(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7767	39.334	39.334	0	1.000	5934661	2047492	2881	7202	711		
425.7737	39.334	39.334	0	1.000	5639210	1963631	2774	6935	708	1.05(0.88-1.20)	
13C-OCDD											
469.7780	41.764	41.764	0	1.150	3443965	1117893	628	1570	1780		
471.7750	41.764	41.764	0	1.150	3822201	1244463	599	1497	2078	0.90(0.76-1.02)	
OCDF											
441.7428	41.856	41.858	0	1.002	10620560	3404289	1142	2855	2981		
443.7399	41.856	41.858	0	1.002	11473752	3696493	1301	3252	2841	0.93(0.76-1.02)	
OCDD											
457.7377	41.772	41.772	0	1.000	7940615	2583043	989	2472	2612		
459.7348	41.772	41.772	0	1.000	8768725	2848645	1144	2860	2490	0.91(0.76-1.02)	

Reagents:

HRDXNL5_00028 Amount Added: 1.00 Units: mL

Report Date: 23-Oct-2019 11:53:44 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Injection Date:	18-Oct-2019 23:14:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

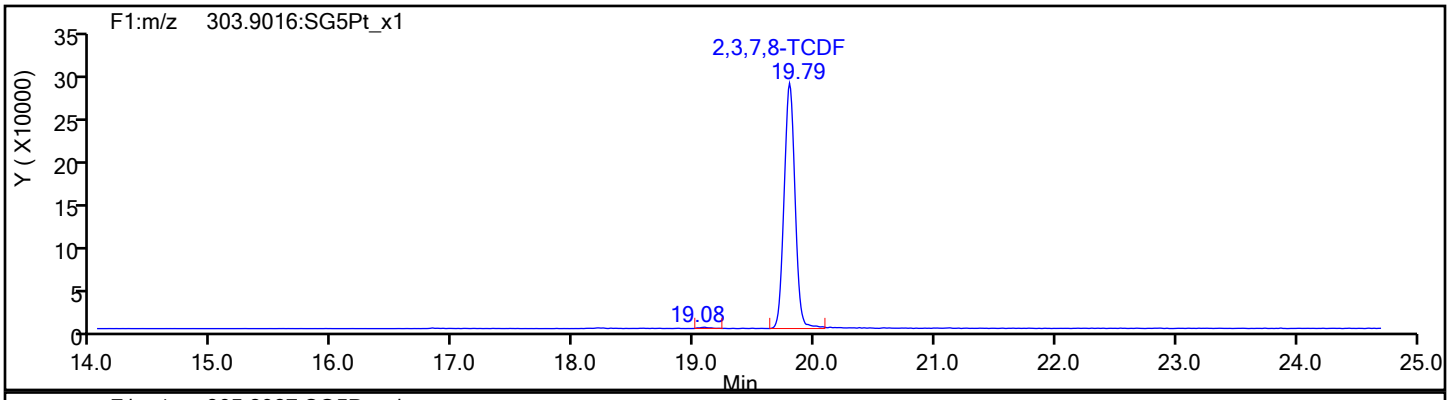

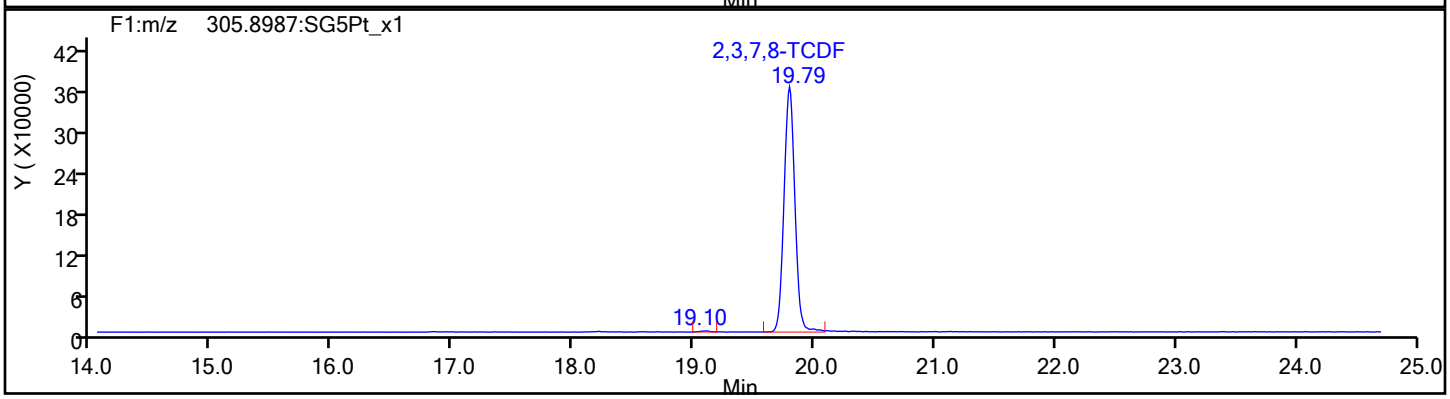

TCDF Standards

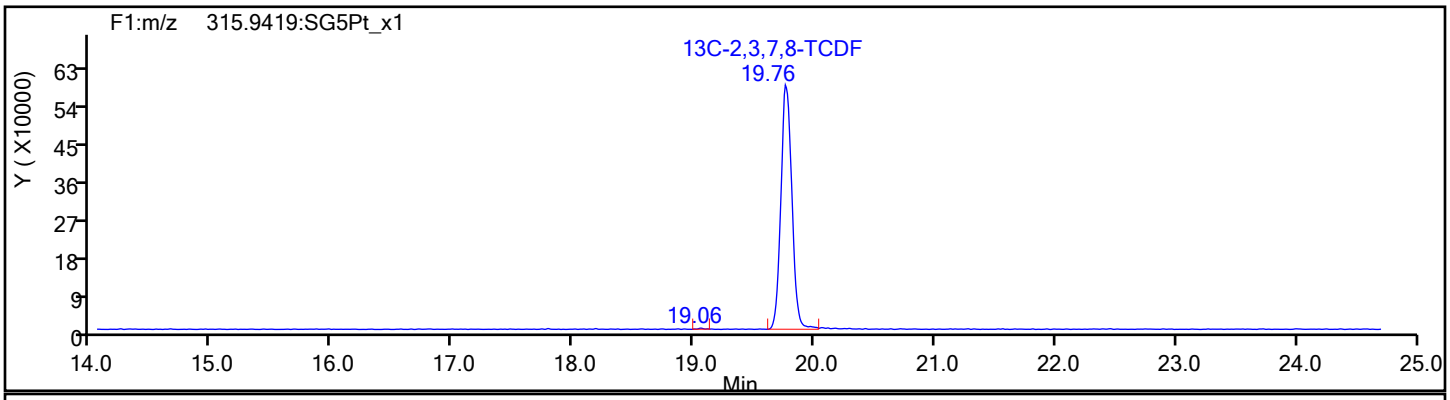

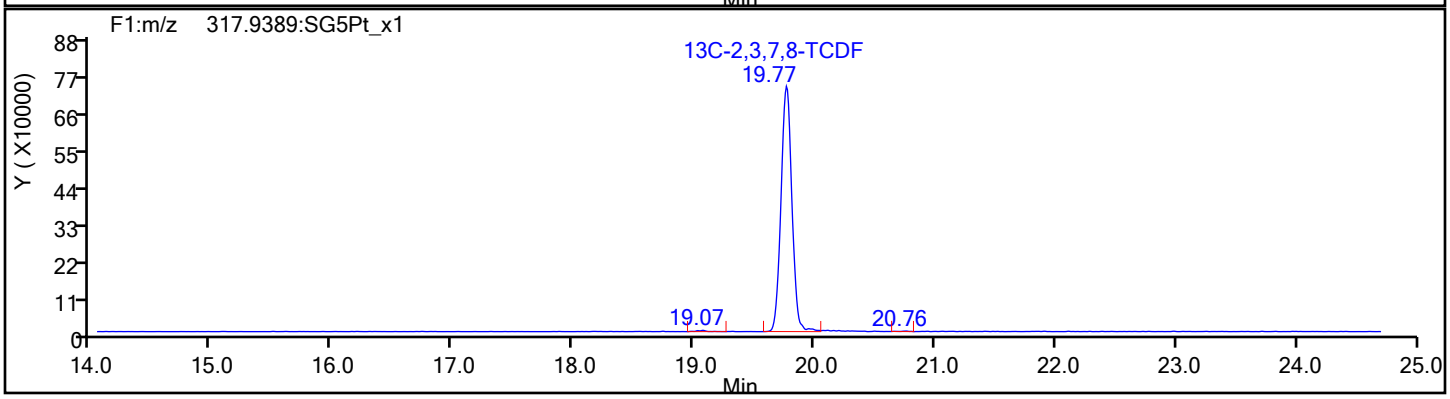

Report Date: 23-Oct-2019 11:53:44 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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TCDF

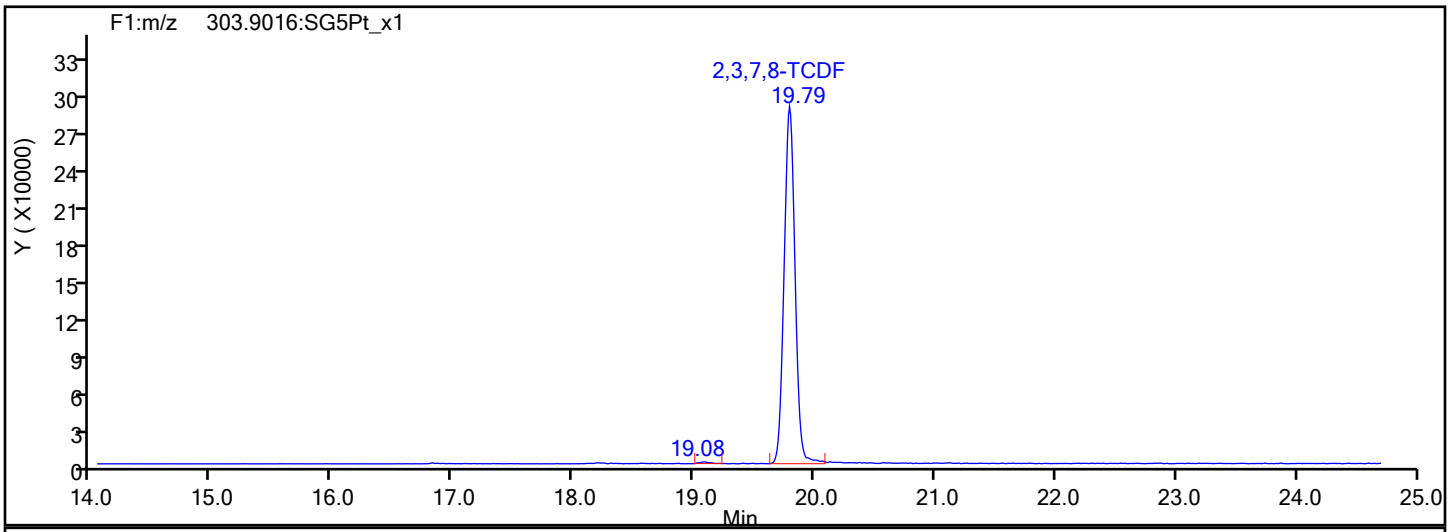

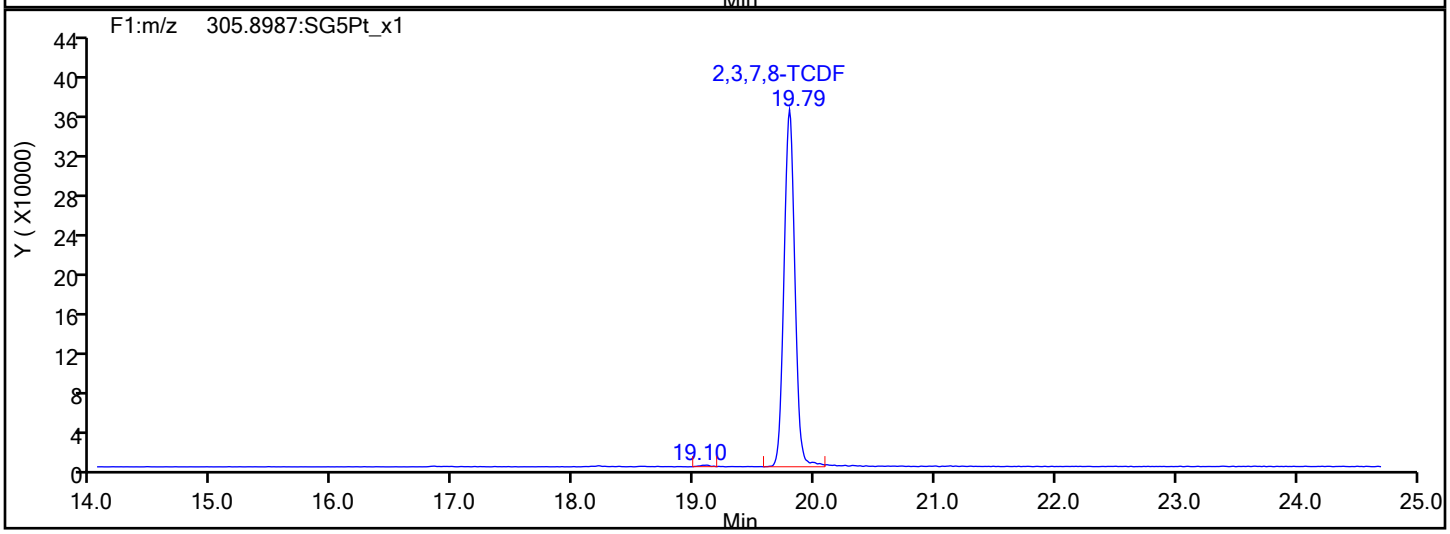

TCDF Interference Mass

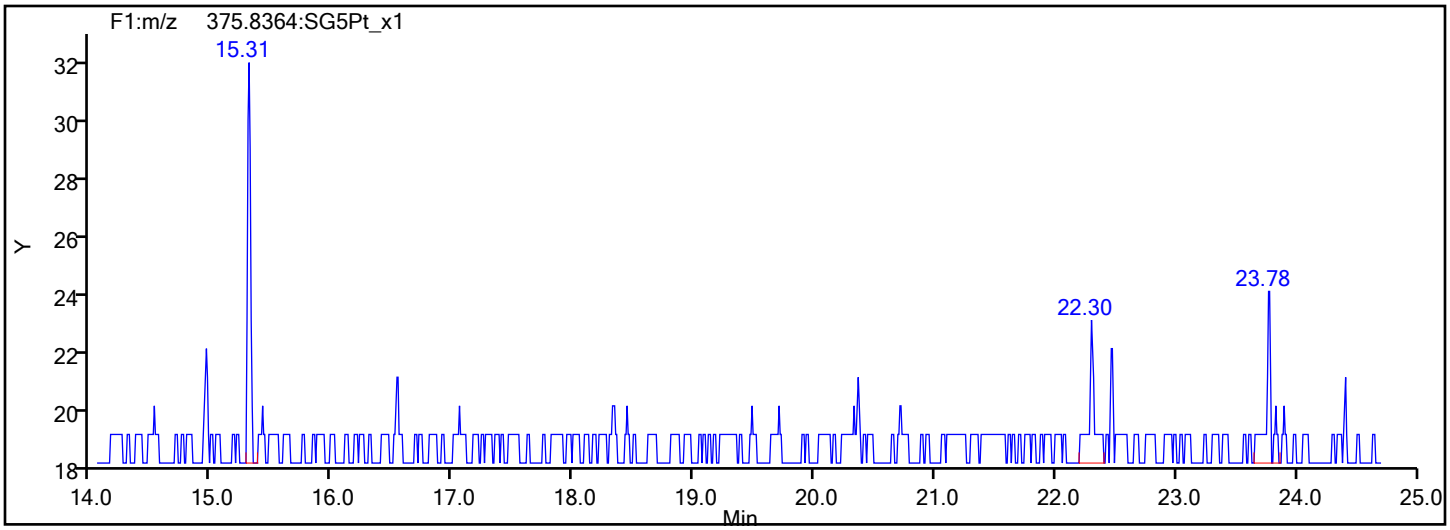

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Eurofins TestAmerica, Sacramento

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TCDD

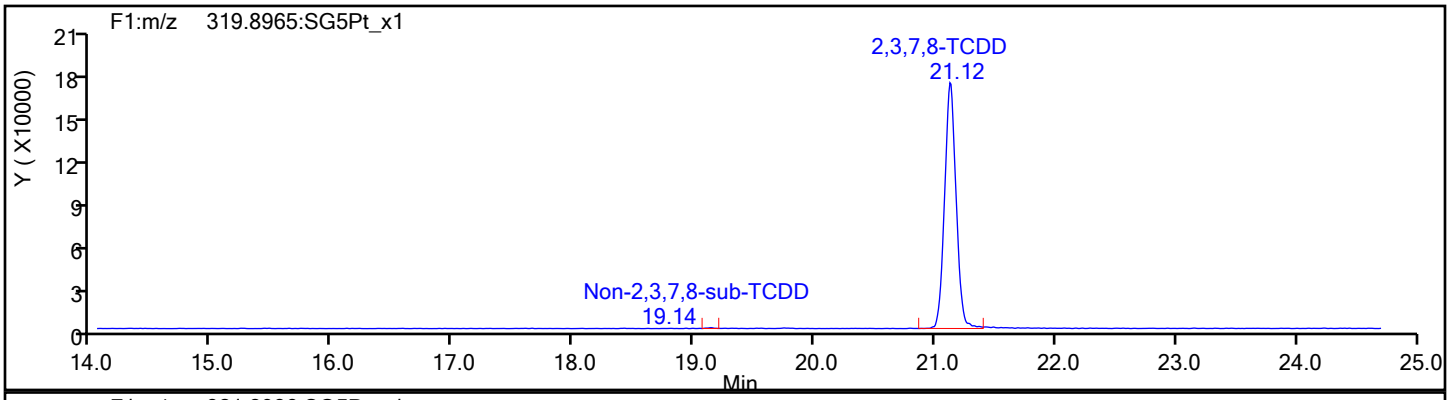

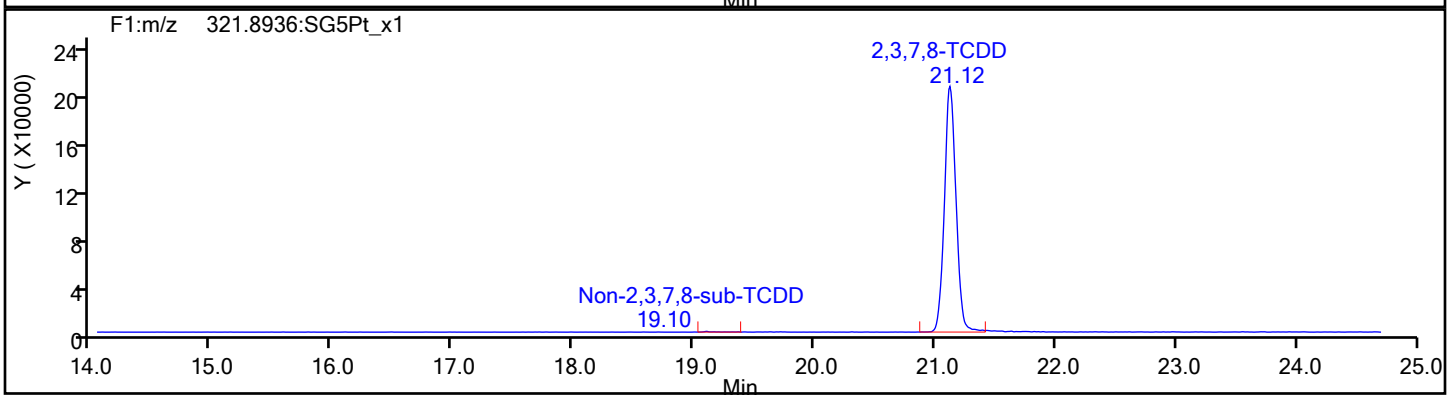

TCDD Standards

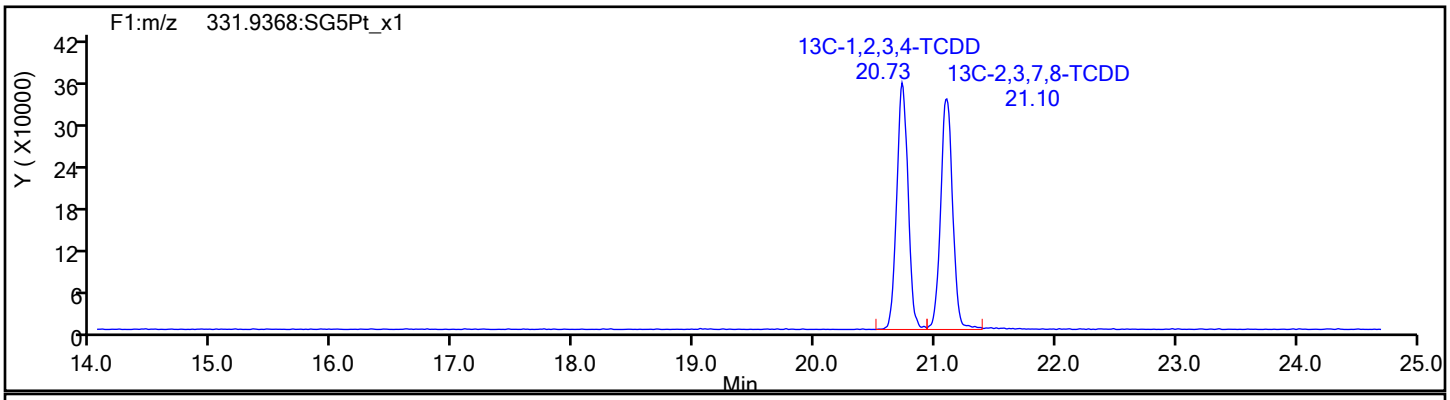

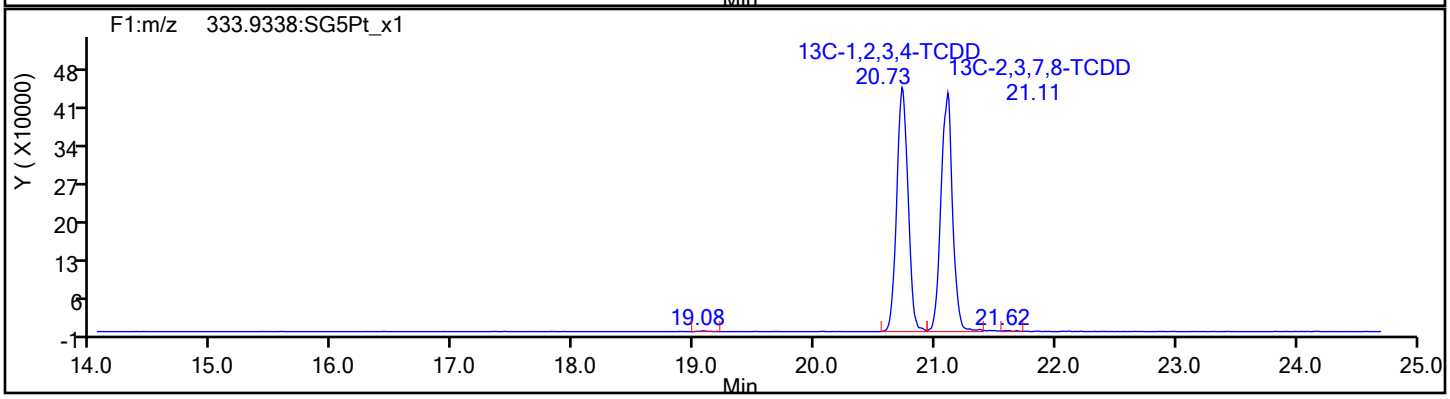

Report Date: 23-Oct-2019 11:53:44 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

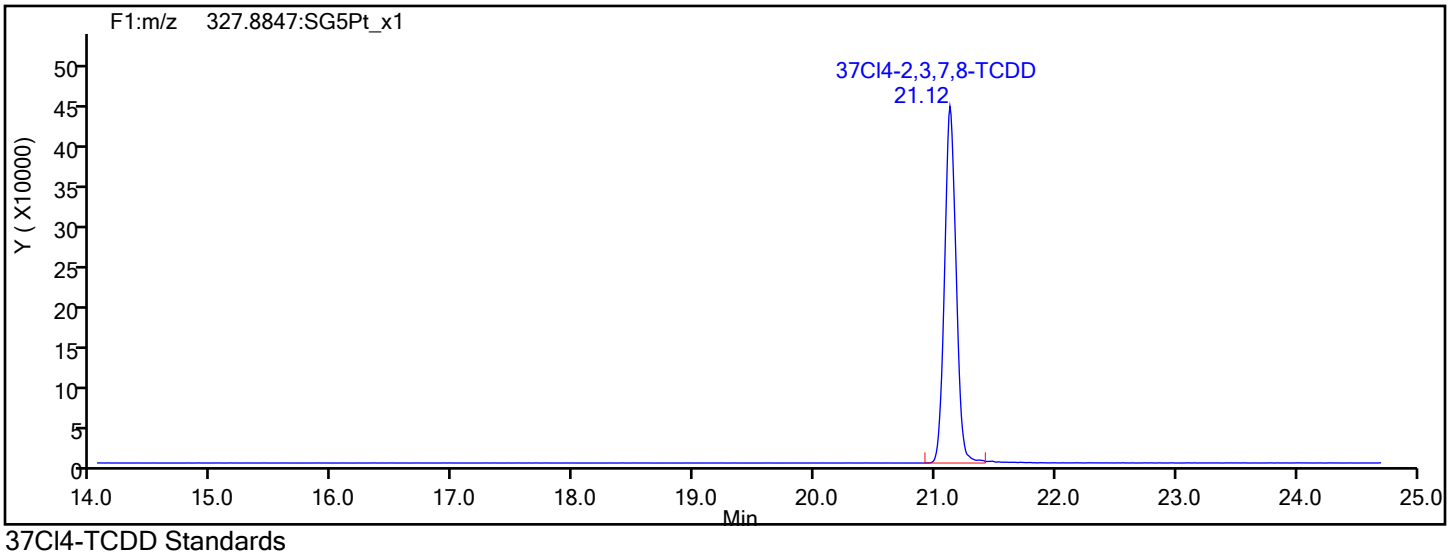

37Cl4-TCDD Standards

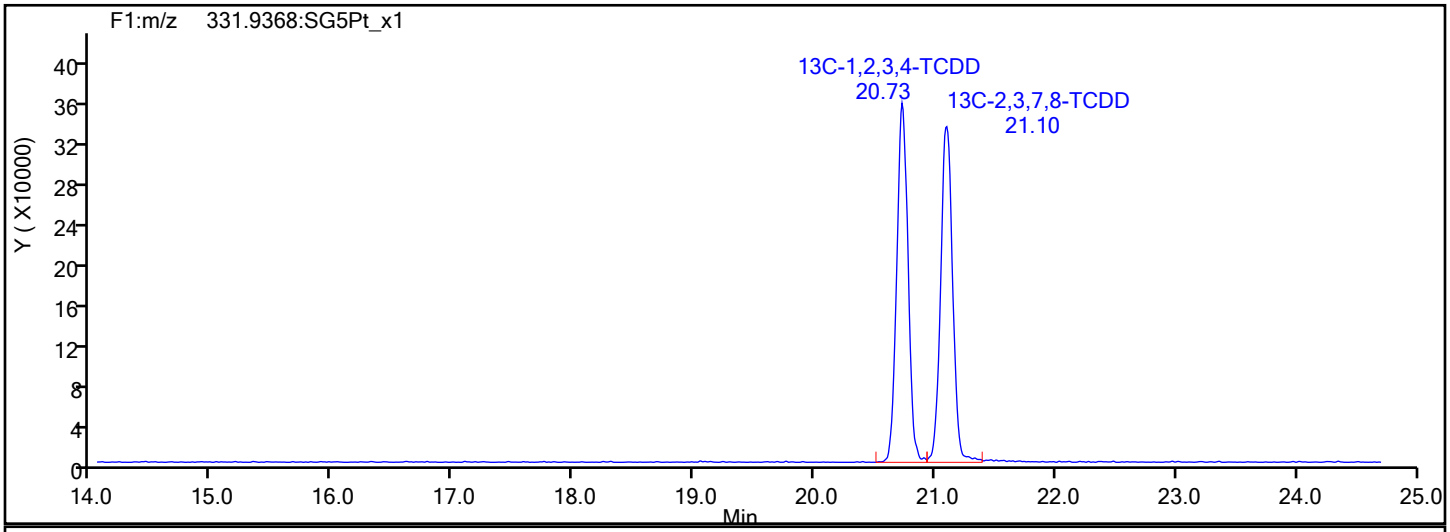

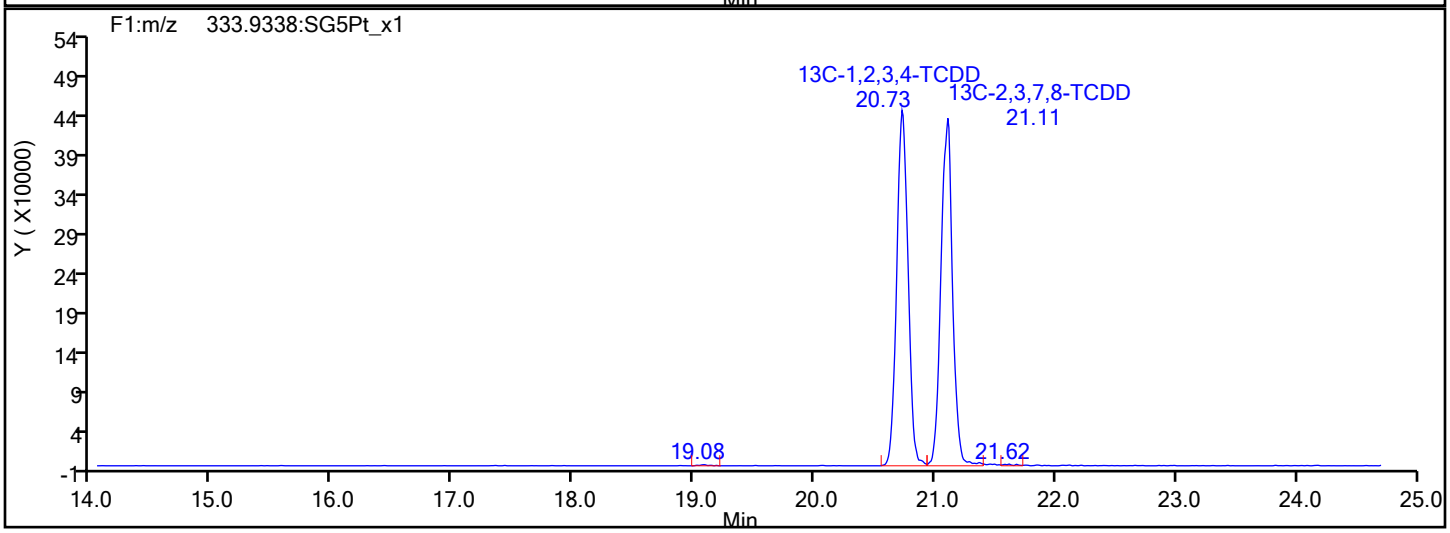

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

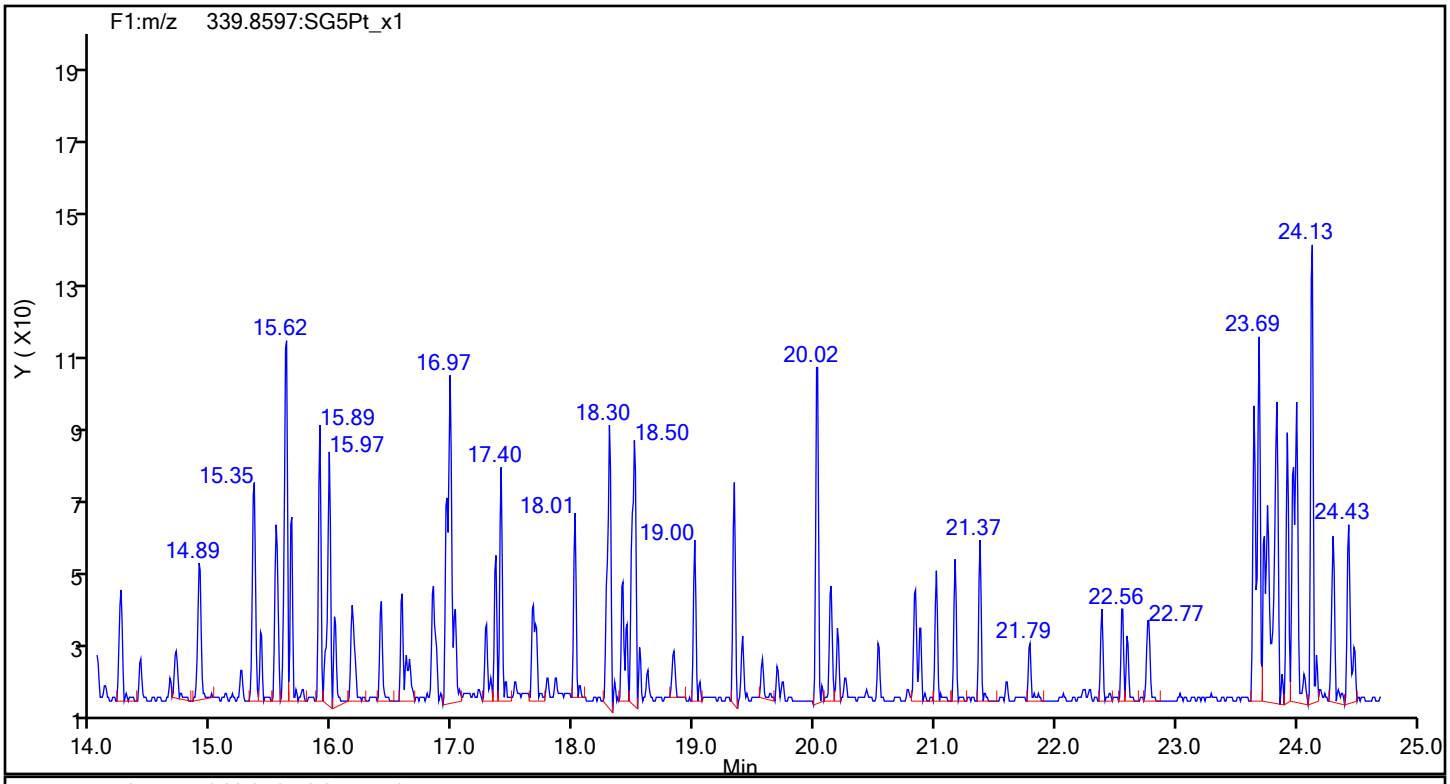

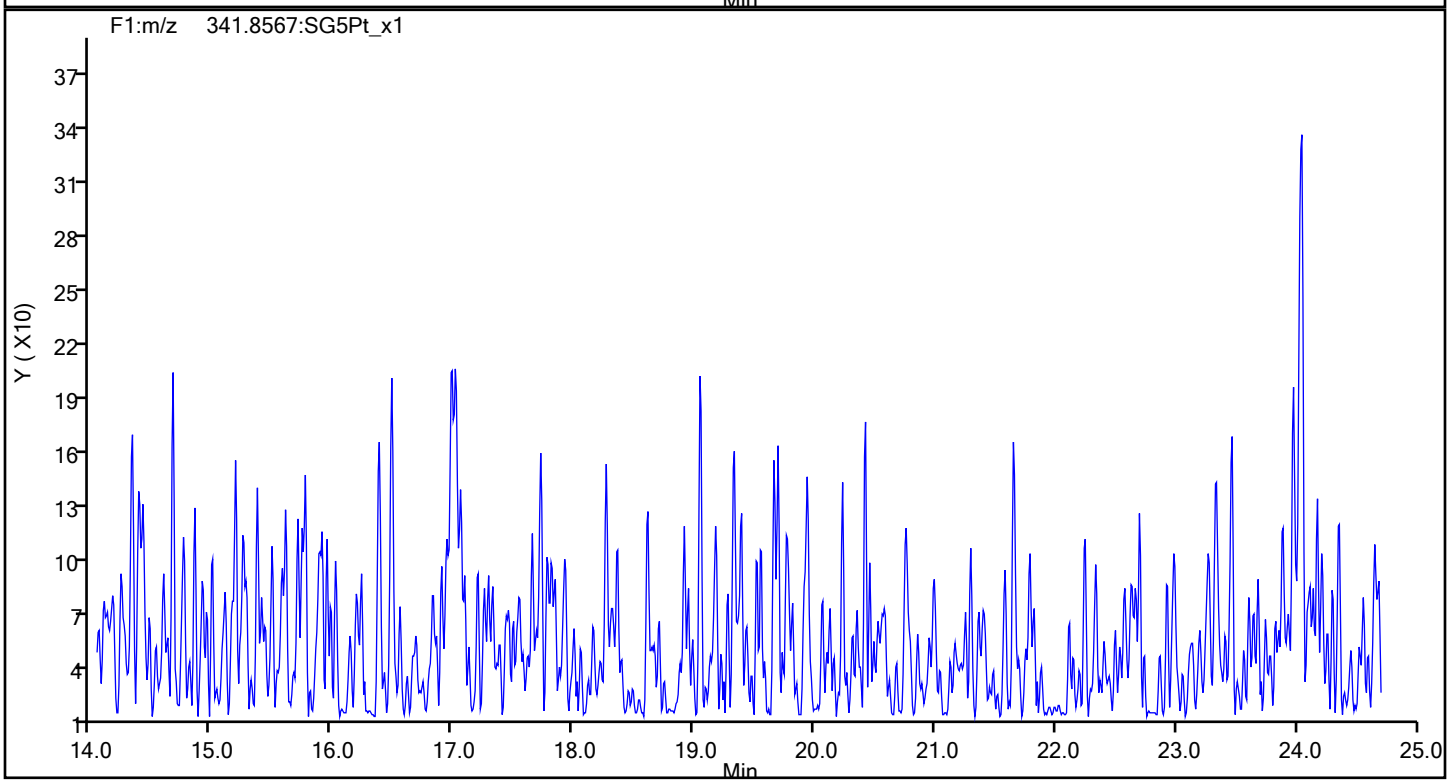

Report Date: 23-Oct-2019 11:53:45 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

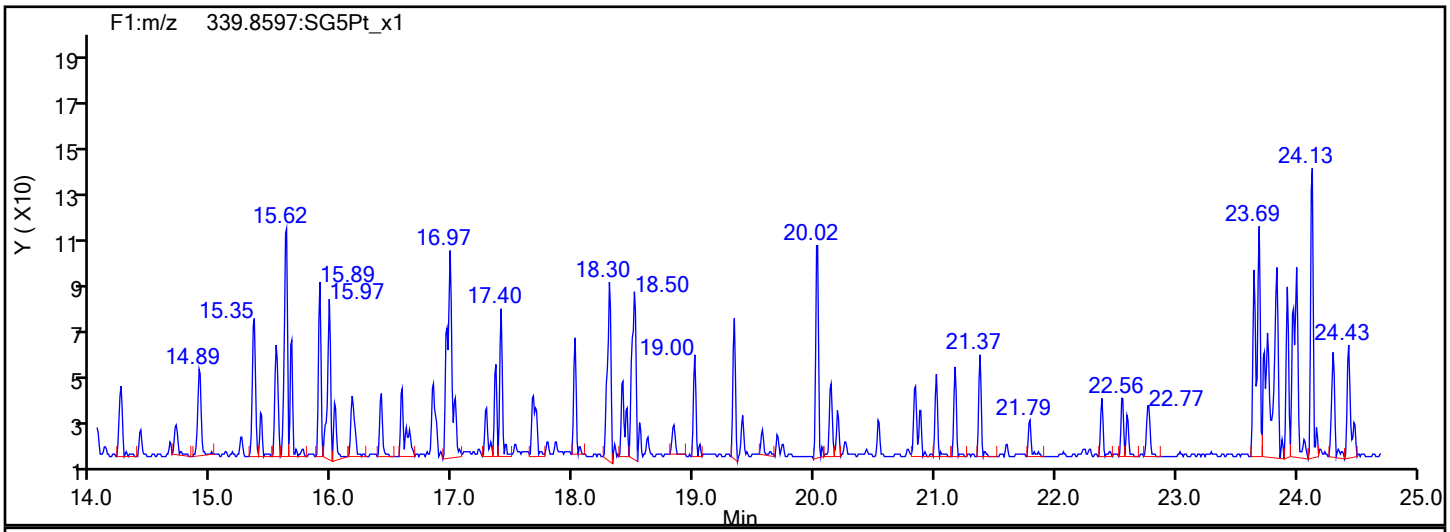

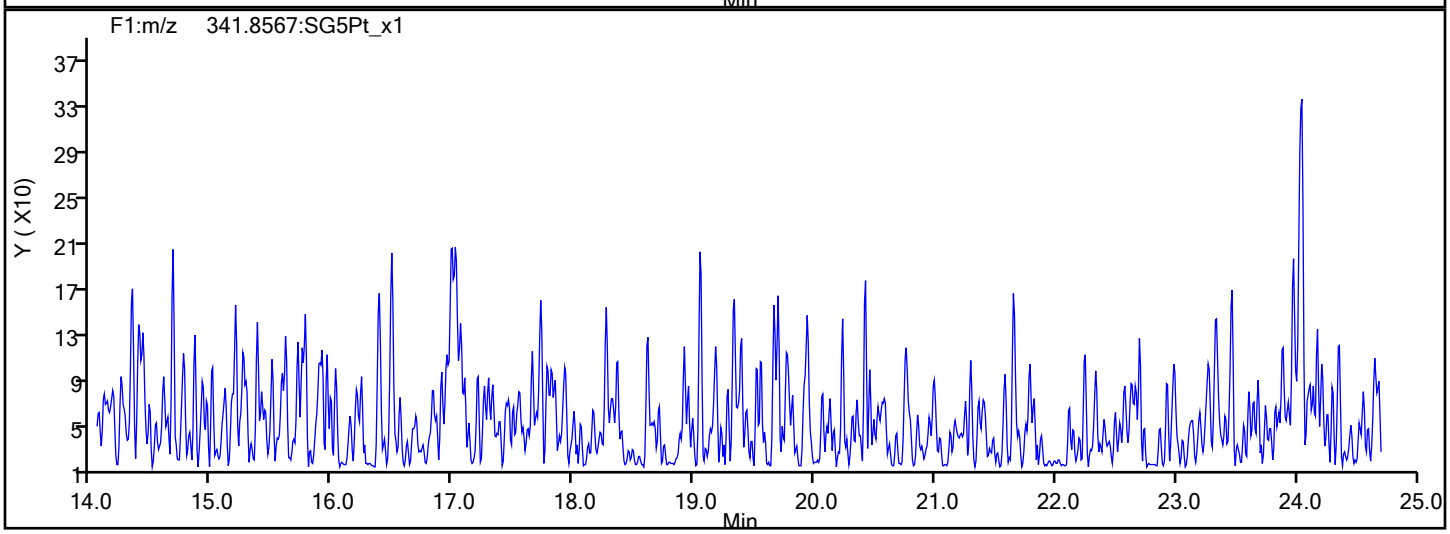

F1 PeCDFs Interference Mass

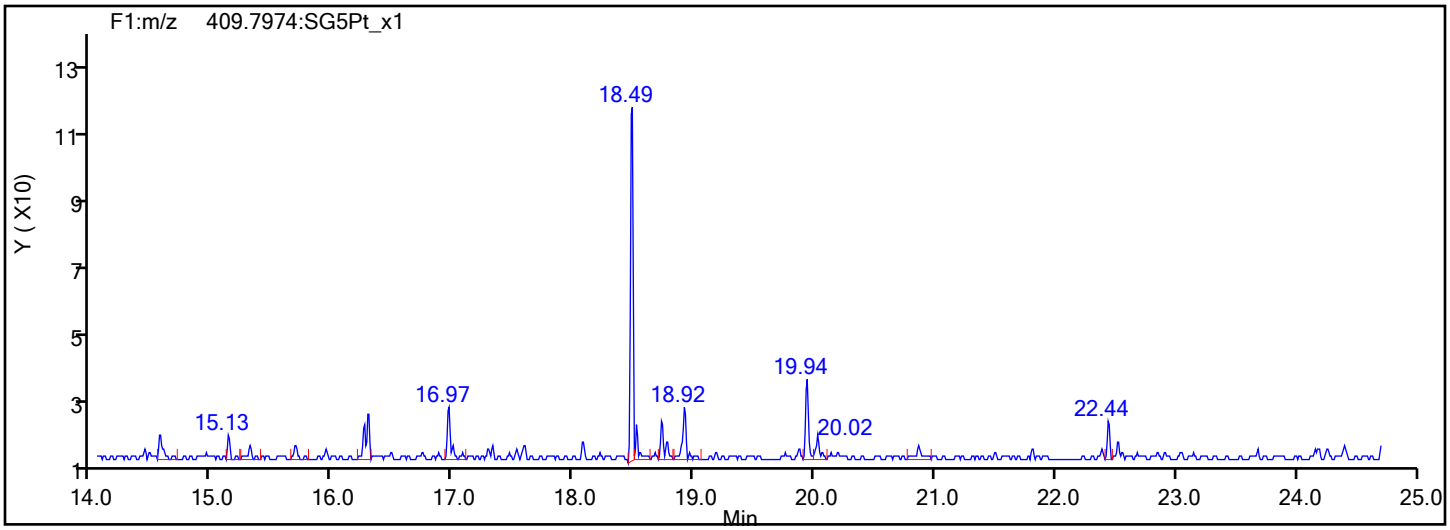

Report Date: 23-Oct-2019 11:53:45 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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PeCDF

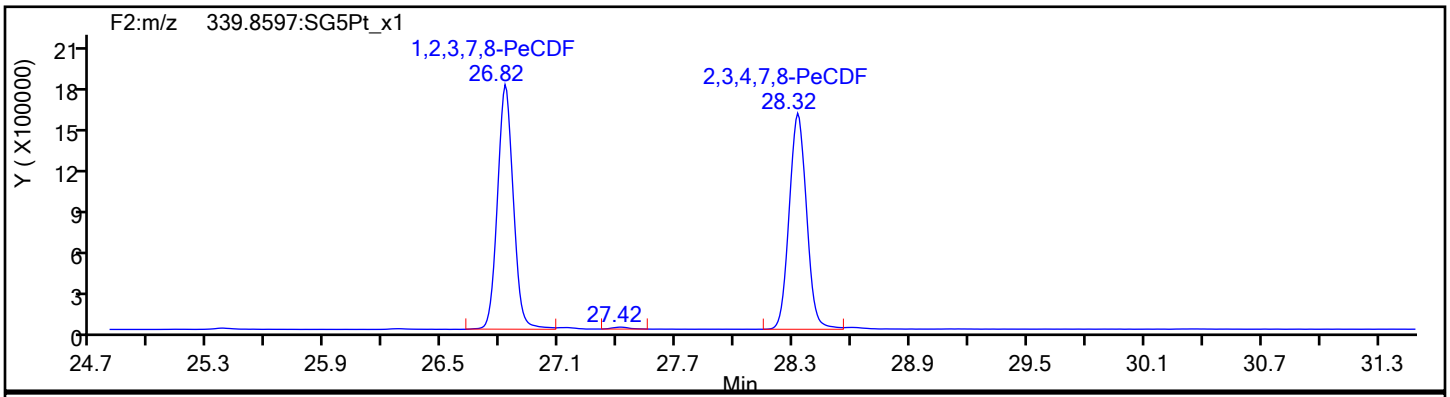

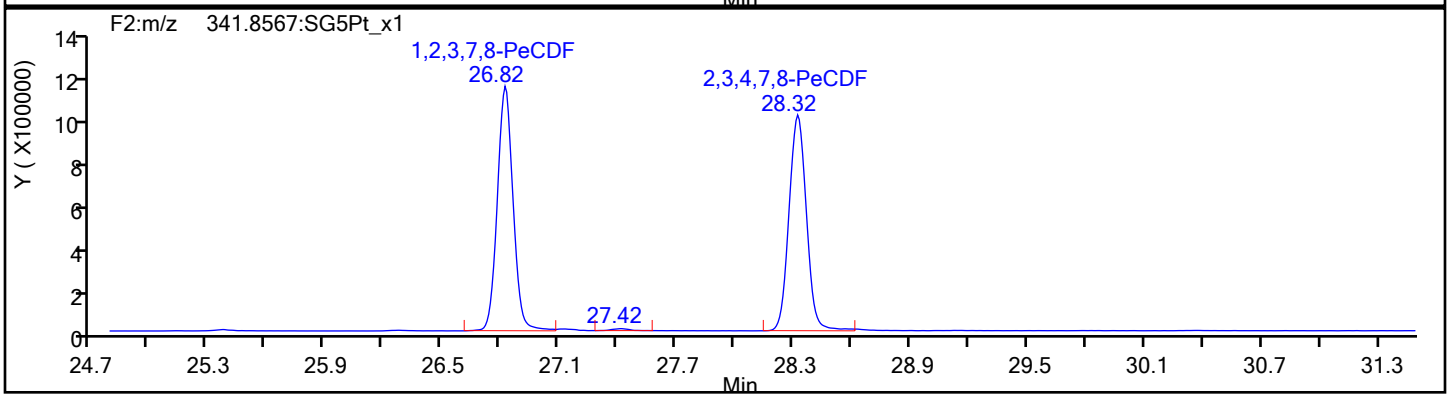

PeCDF Standards

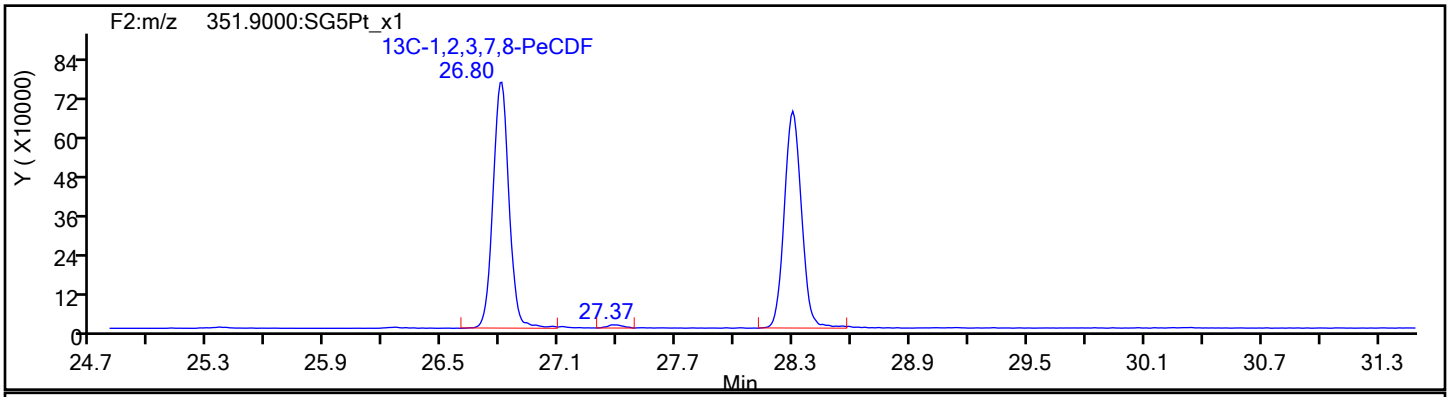

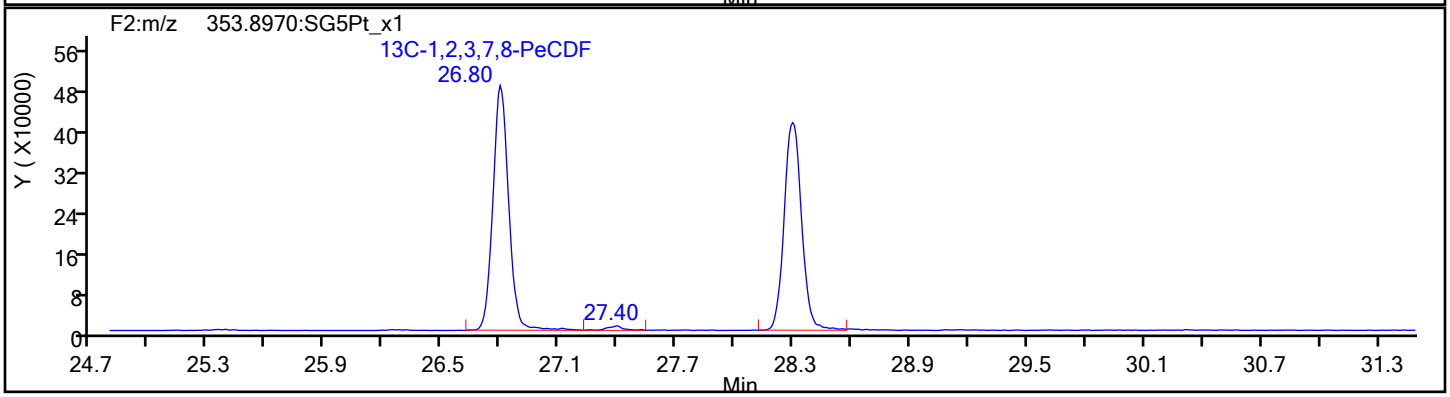

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Eurofins TestAmerica, Sacramento

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PeCDF

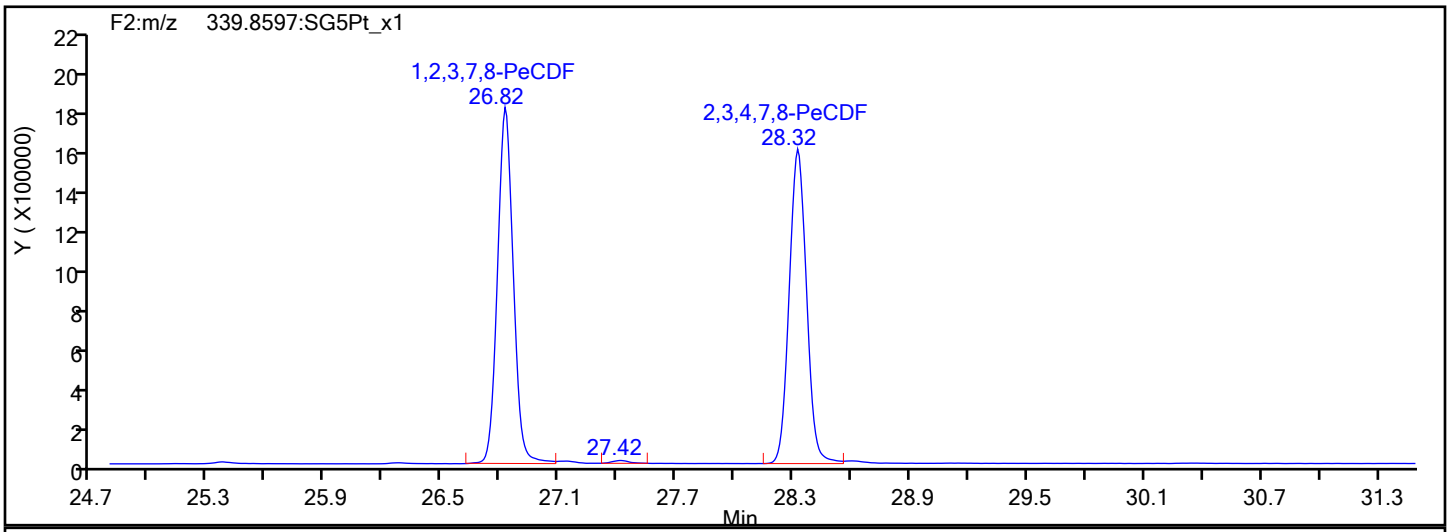

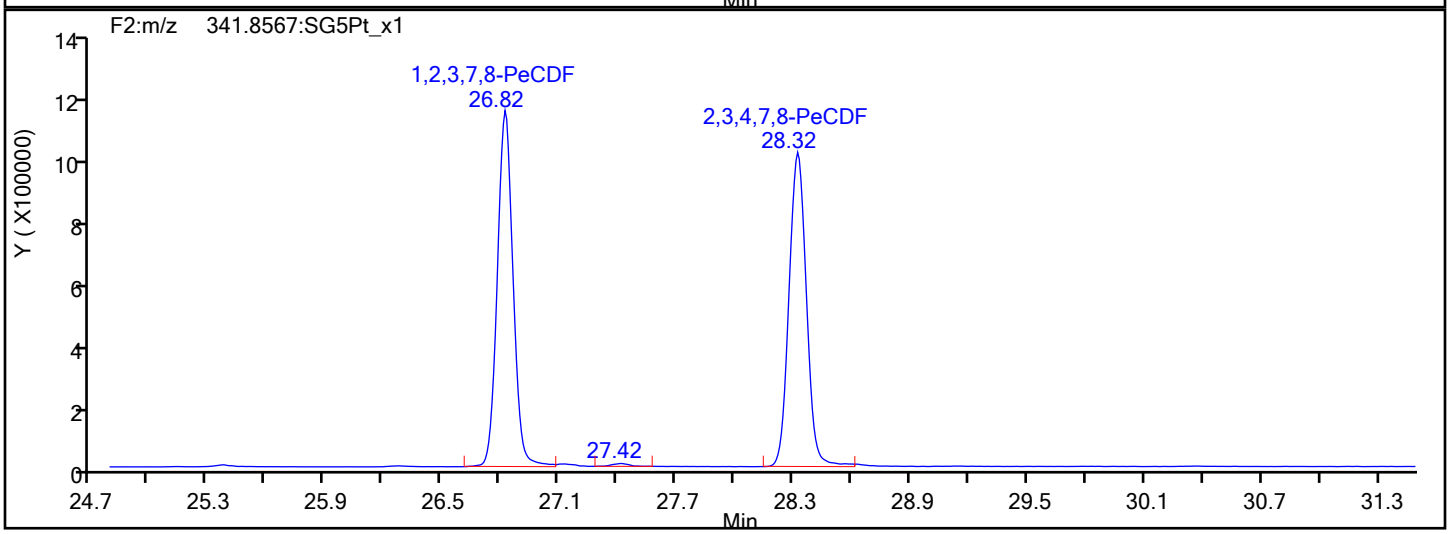

PeCDF Interference Mass

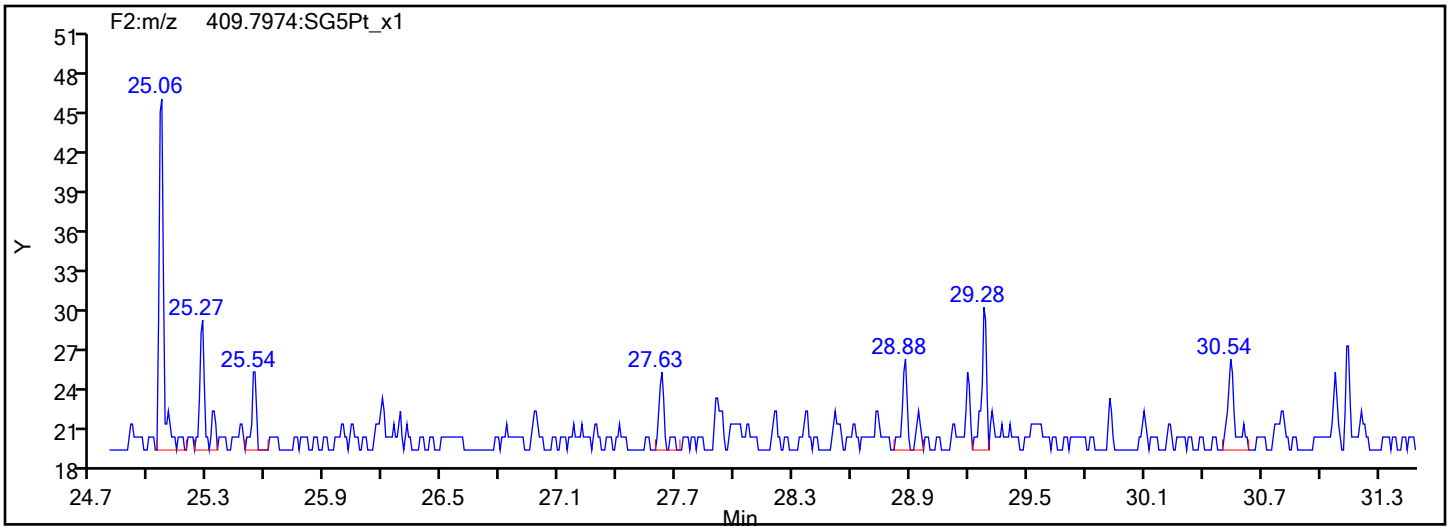

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Eurofins TestAmerica, Sacramento

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PeCDD

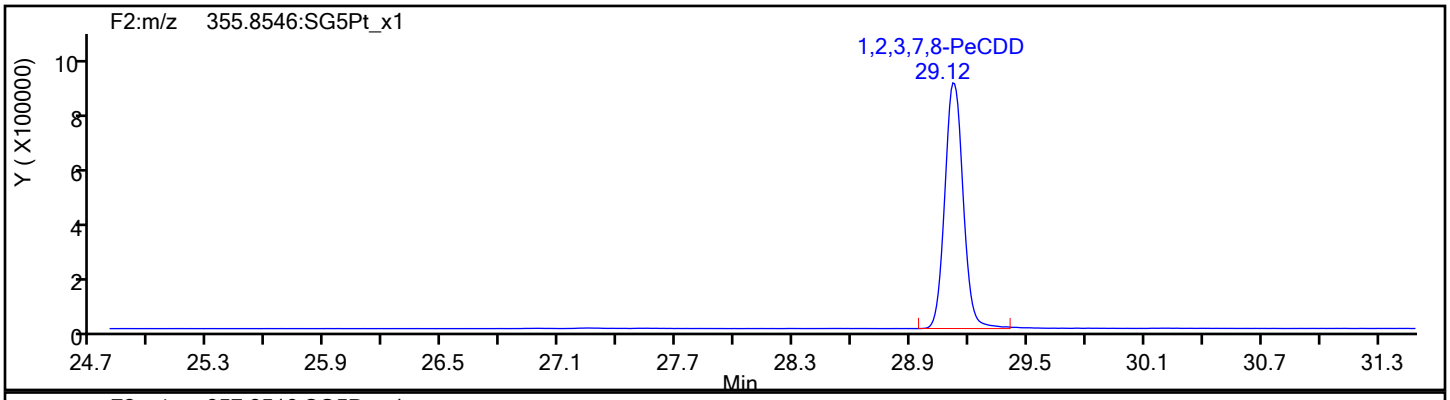

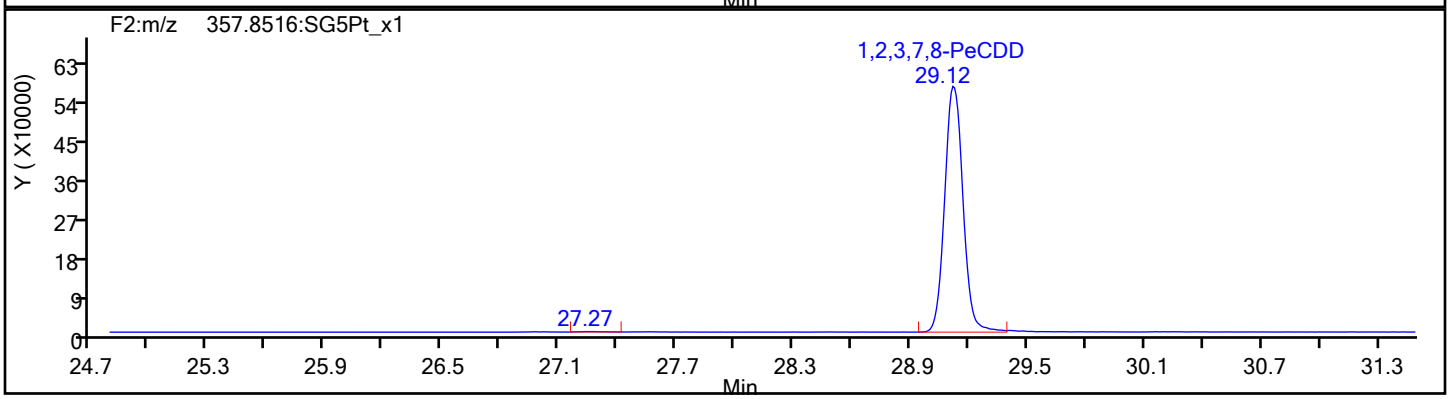

PeCDD Standards

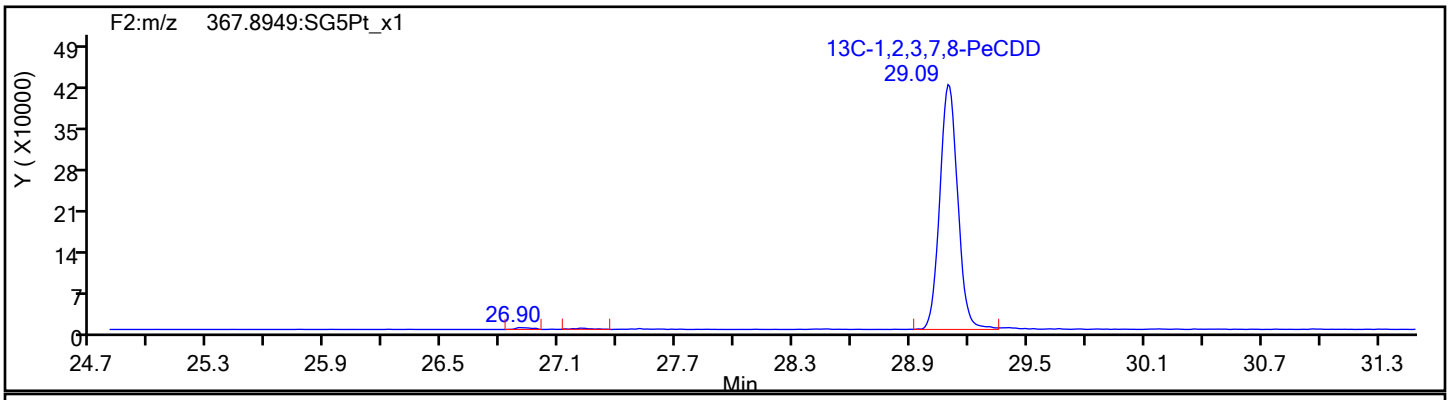

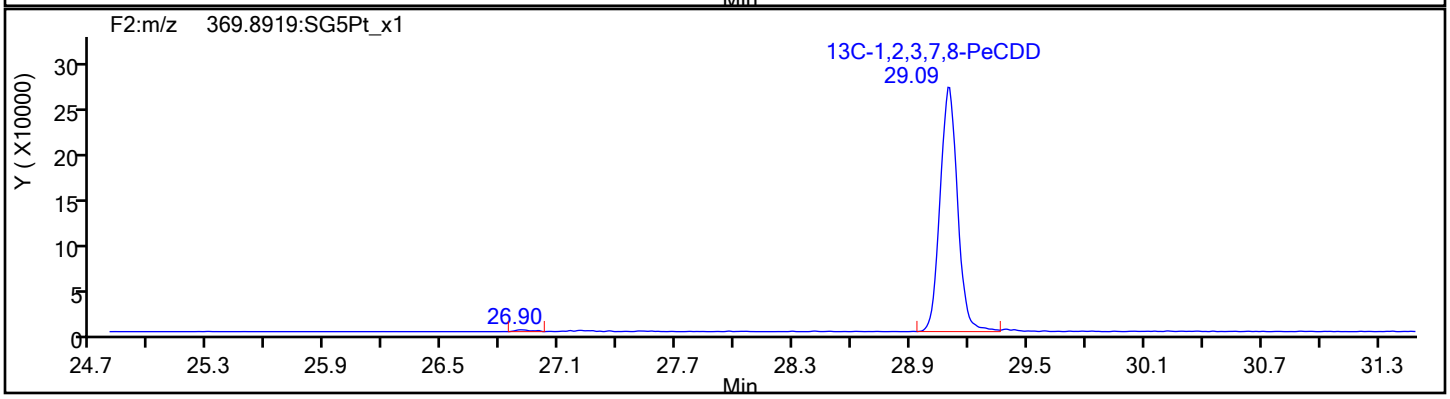

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Eurofins TestAmerica, Sacramento

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HxCDF

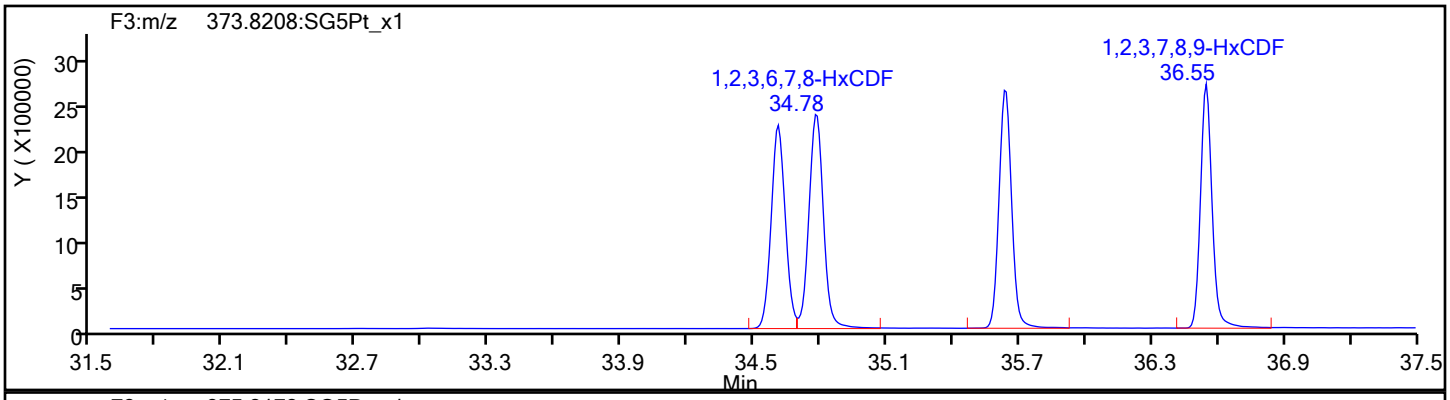

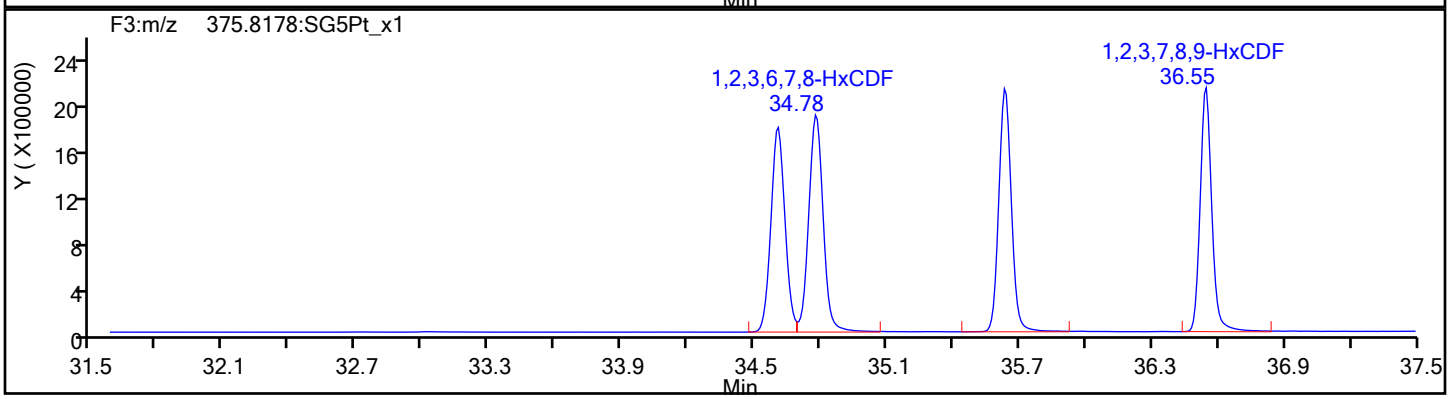

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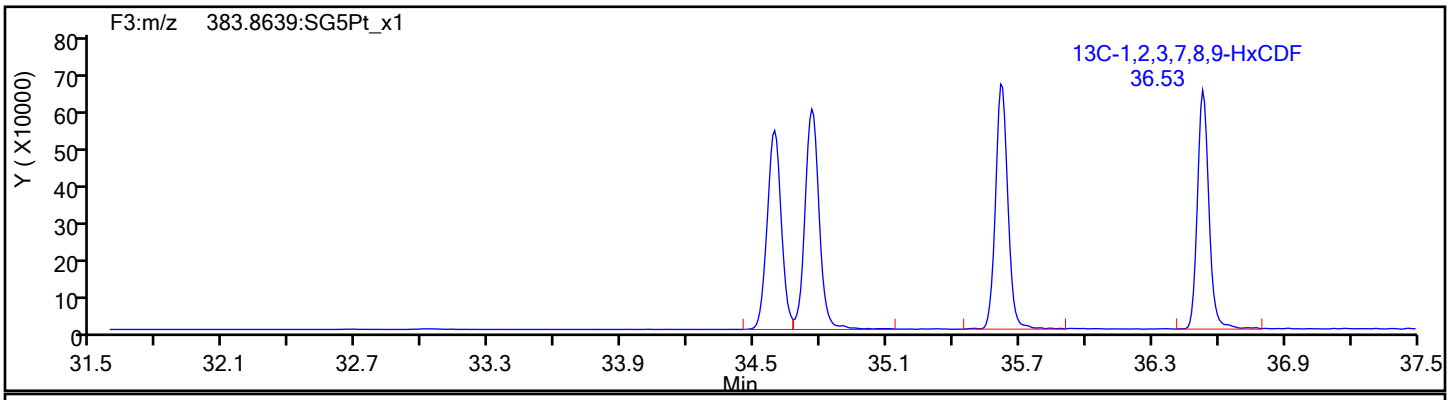

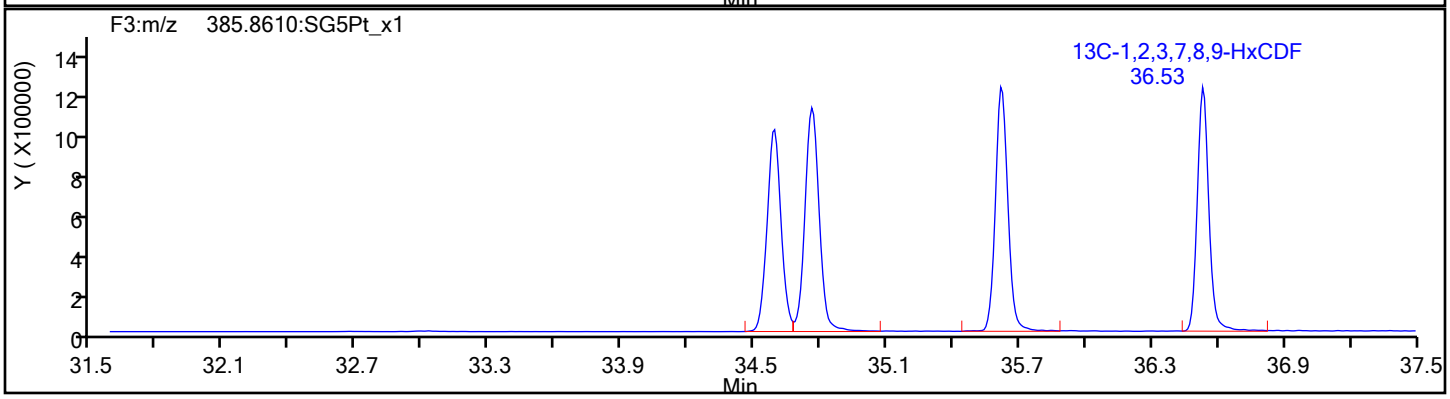

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Eurofins TestAmerica, Sacramento

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HxCDF

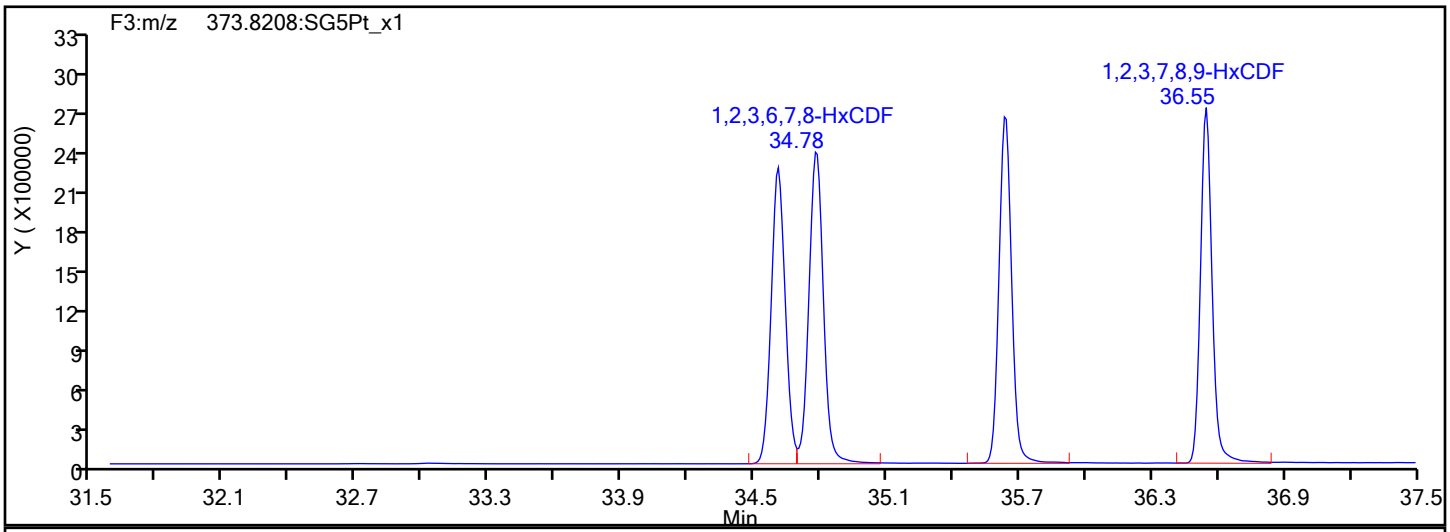

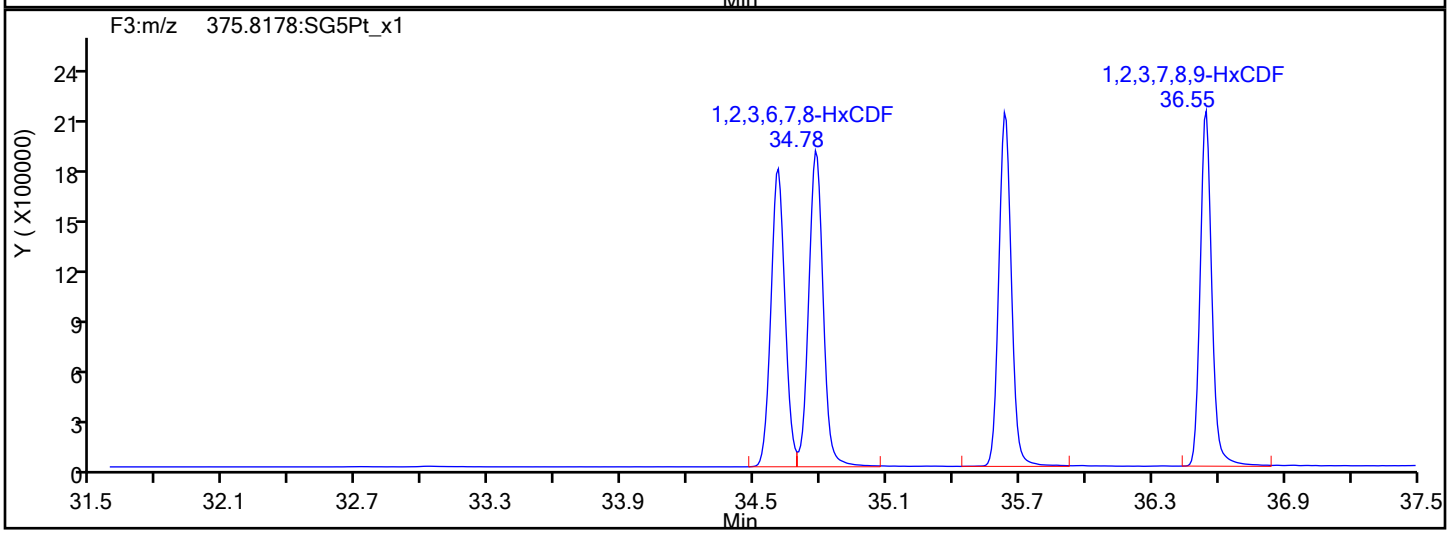

HxCDF Interference Mass

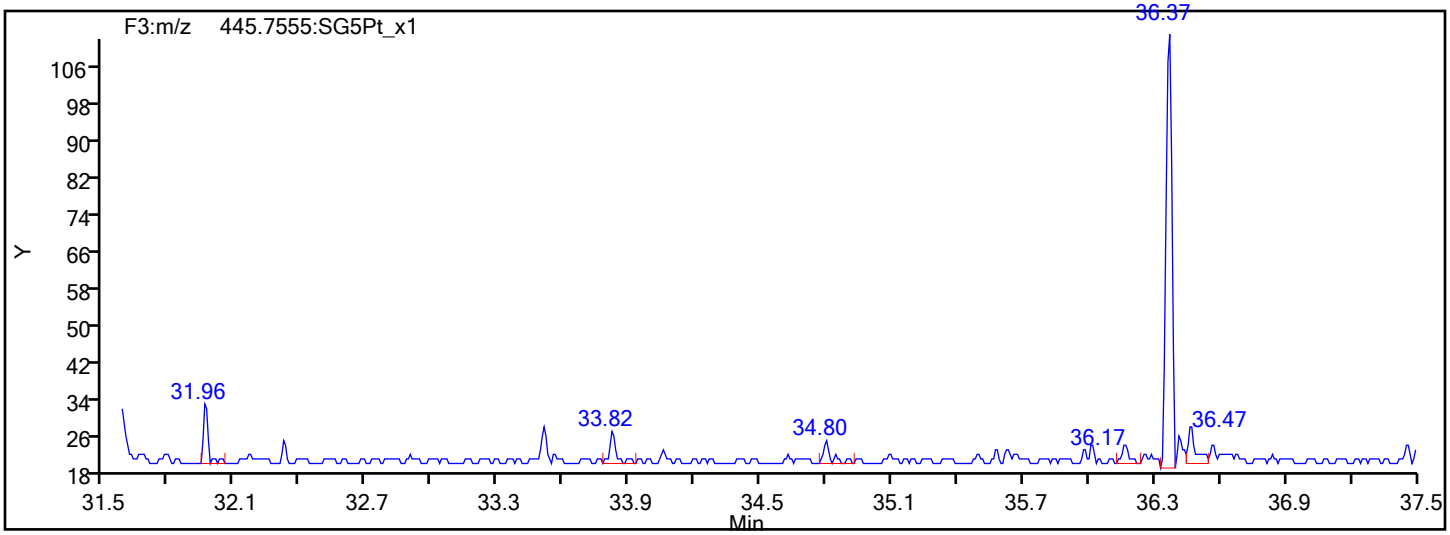

Report Date: 23-Oct-2019 11:53:45 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_7.d		
Injection Date:	18-Oct-2019 23:14:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDD

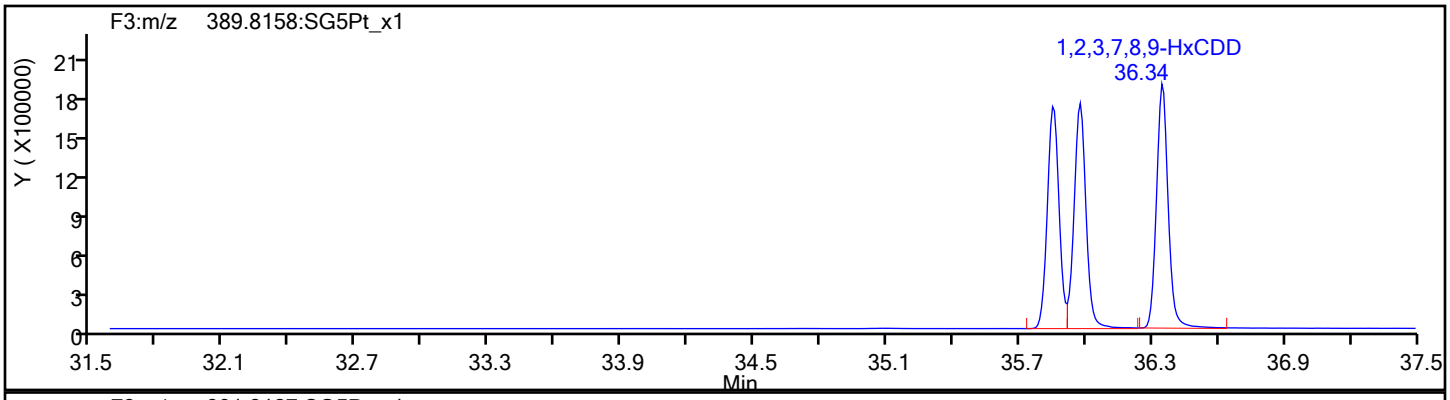

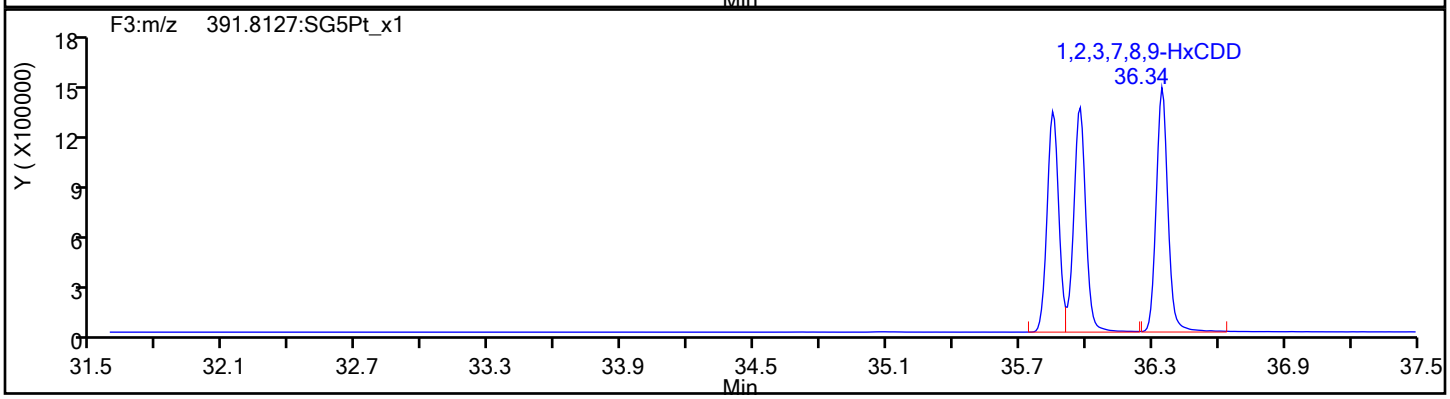

HxCDD Standards

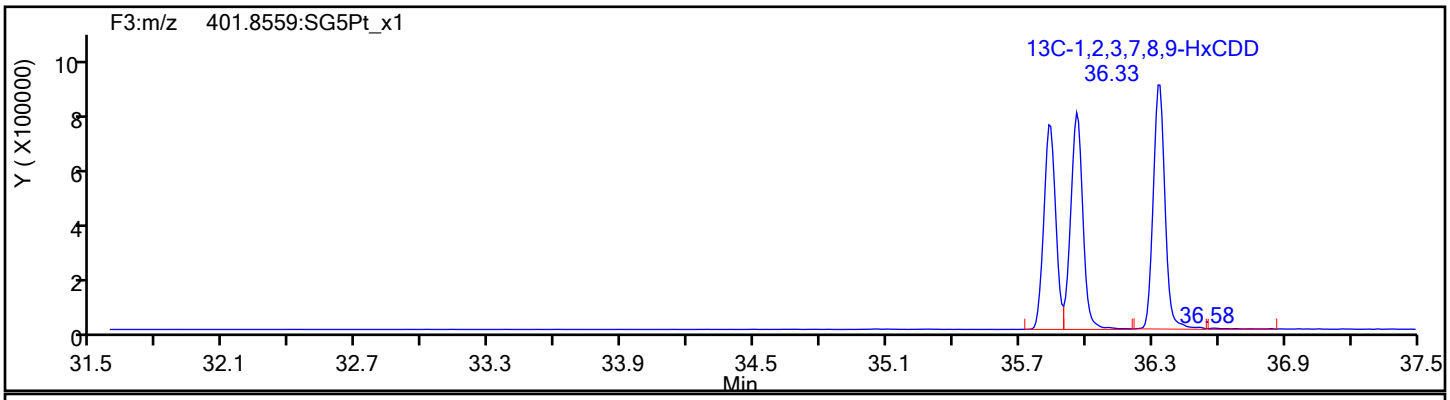

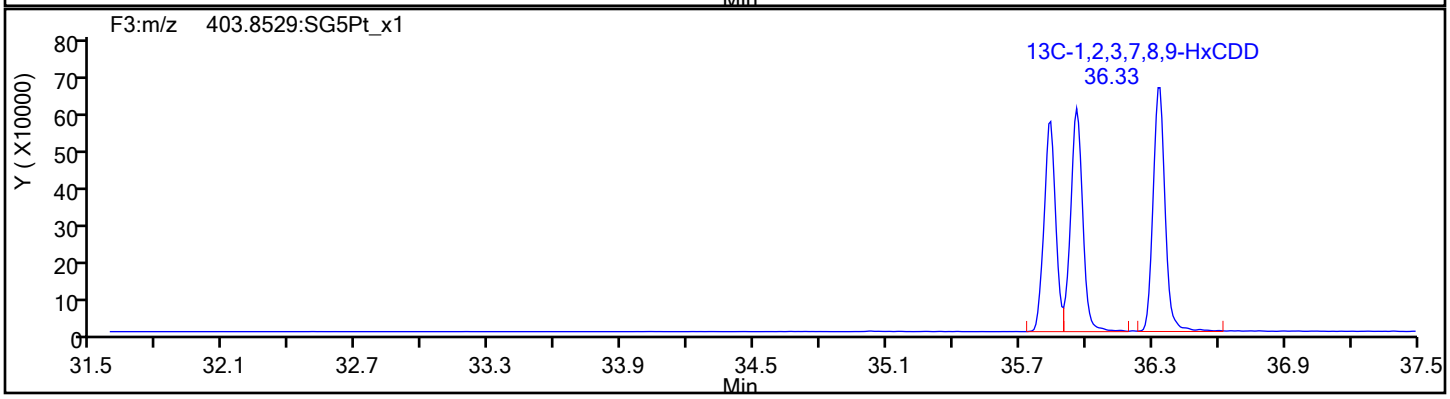

Report Date: 23-Oct-2019 11:53:45 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_7.d		
Injection Date:	18-Oct-2019 23:14:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

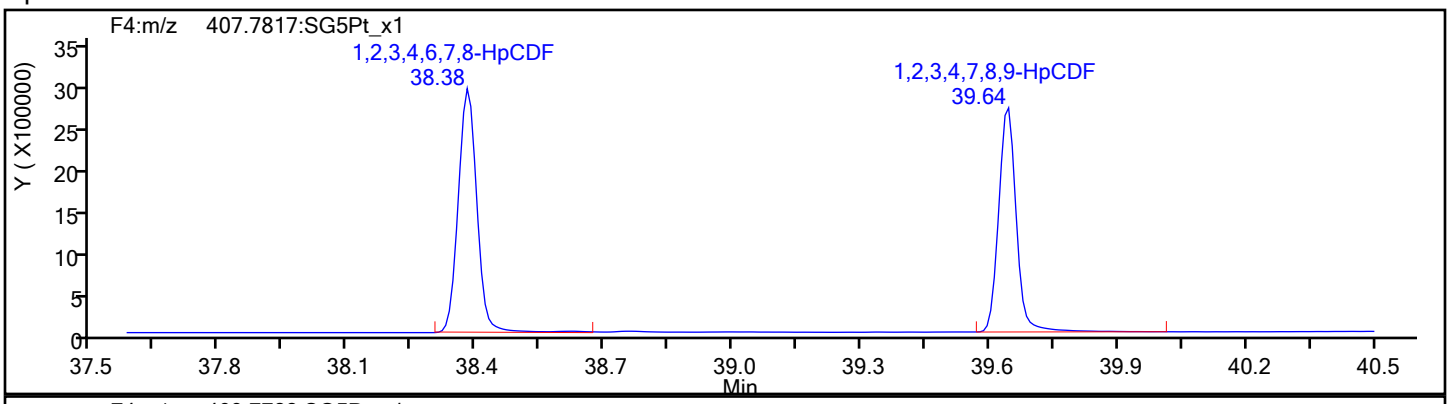

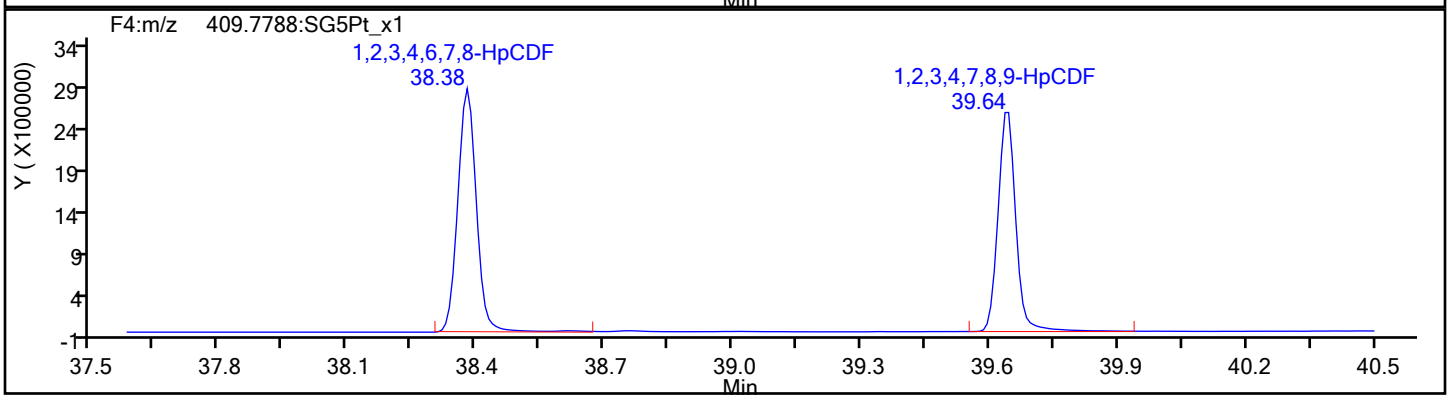

HpCDF Standards

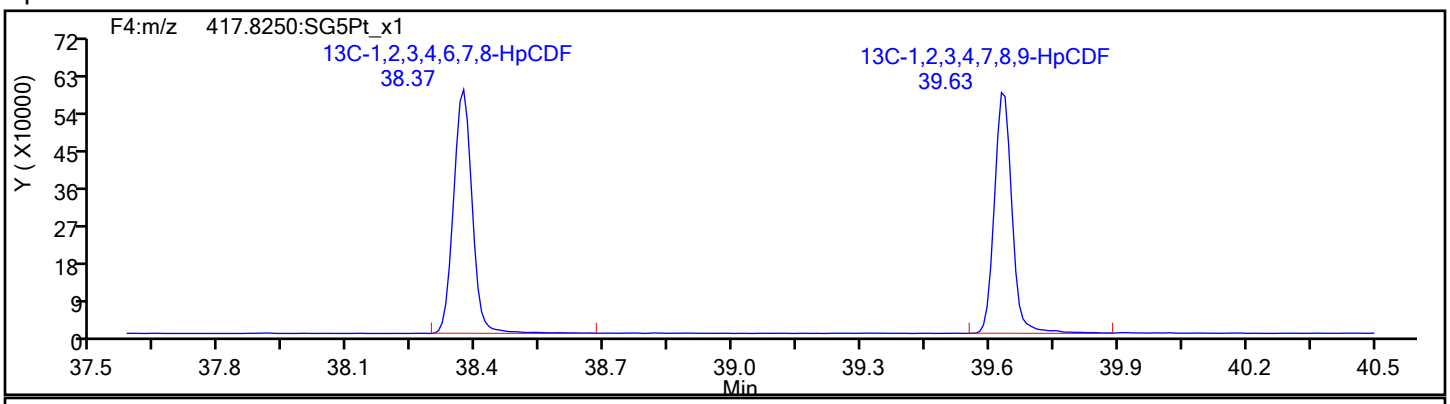

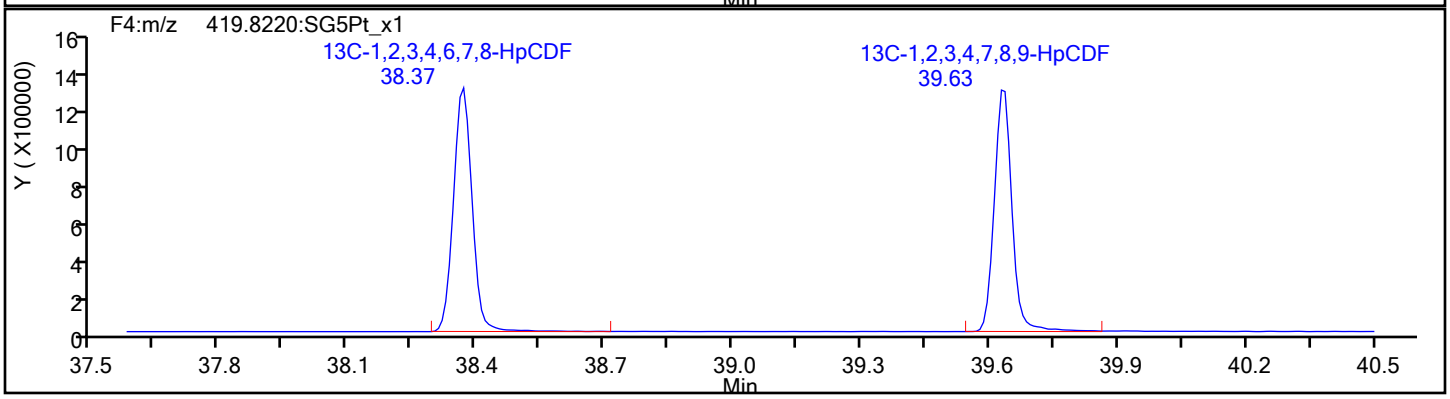

Report Date: 23-Oct-2019 11:53:45 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_7.d		
Injection Date:	18-Oct-2019 23:14:00	Injection Vol:	1.0 ul
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Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

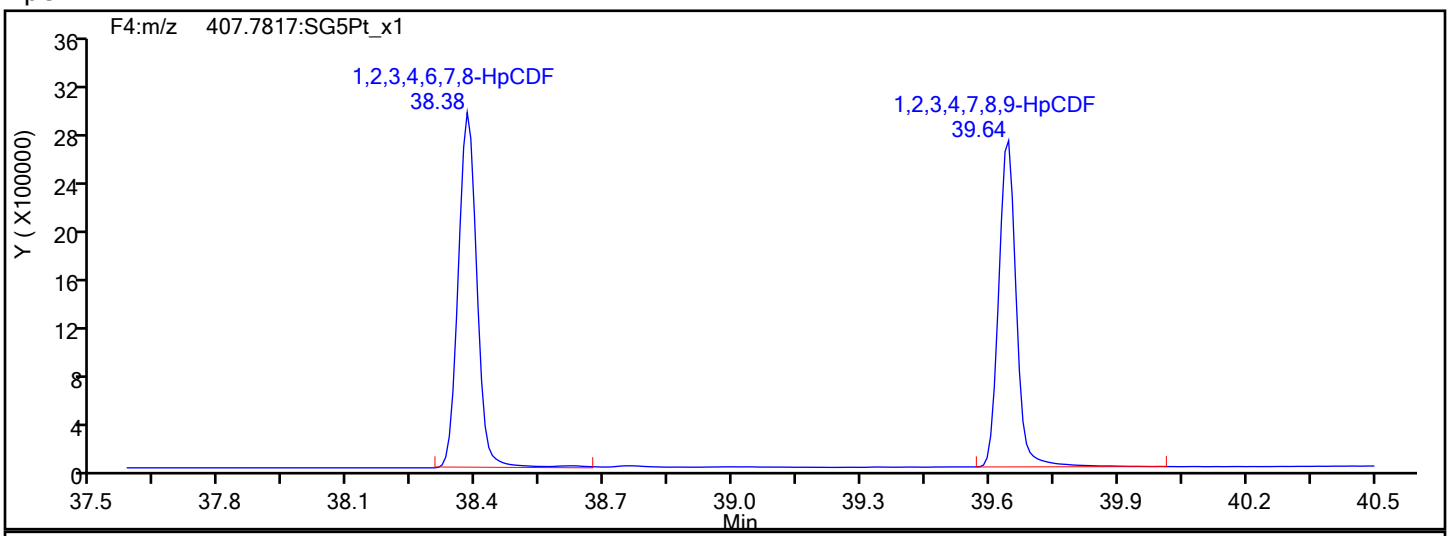

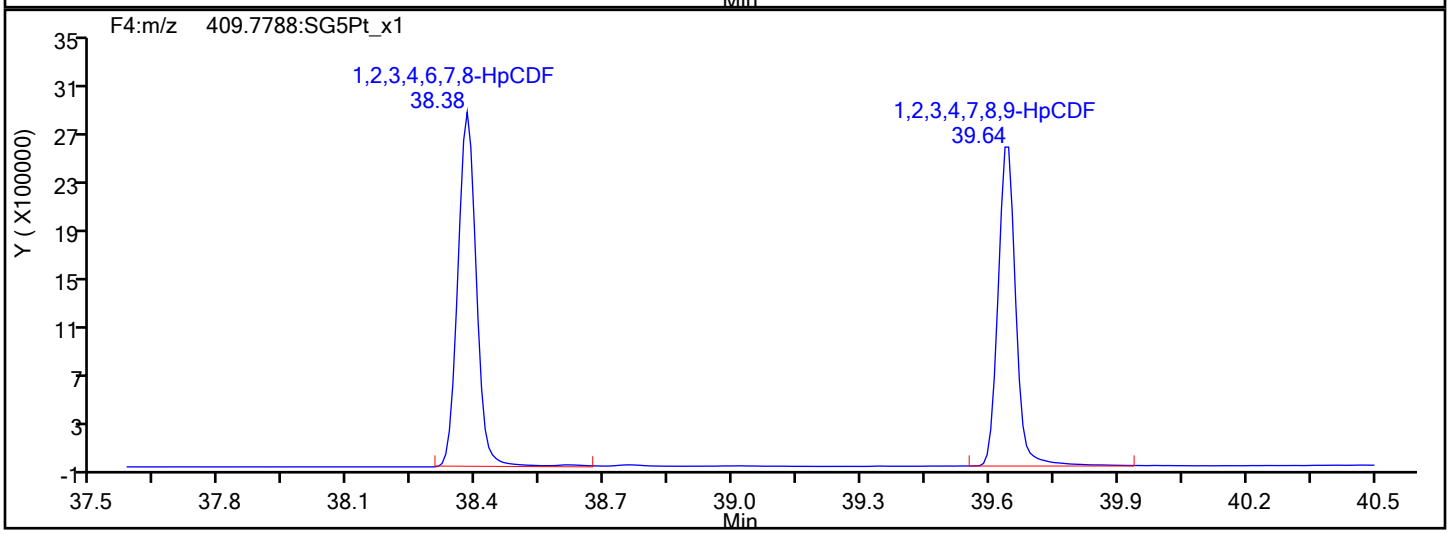

HpCDF Interference Mass

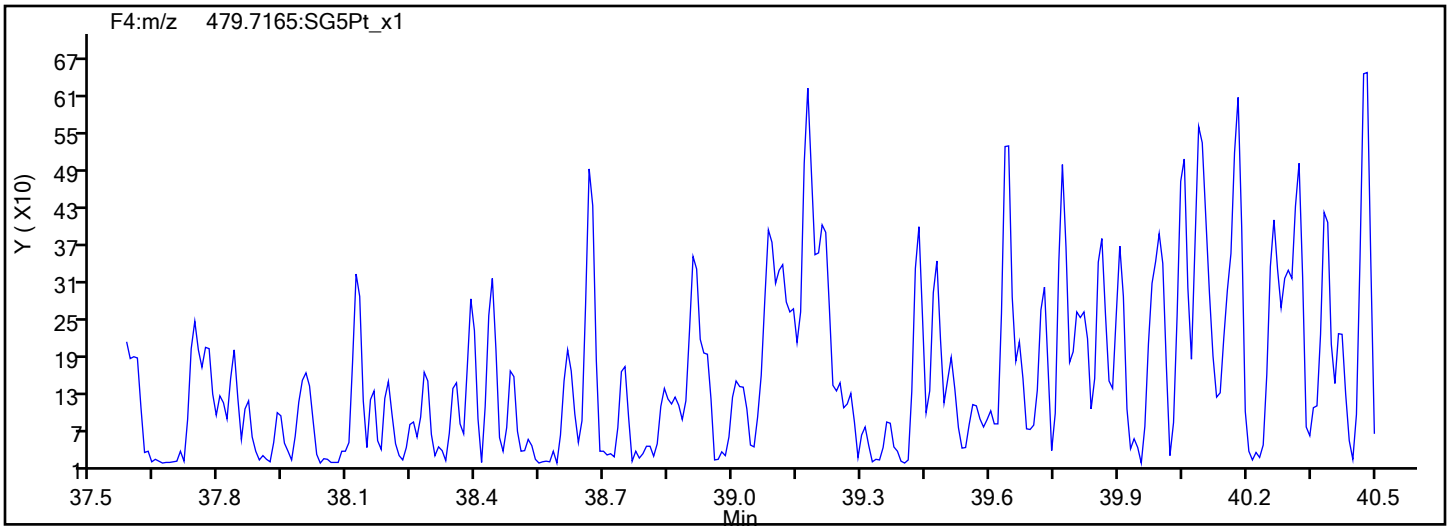

Report Date: 23-Oct-2019 11:53:45 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_7.d		
Injection Date:	18-Oct-2019 23:14:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

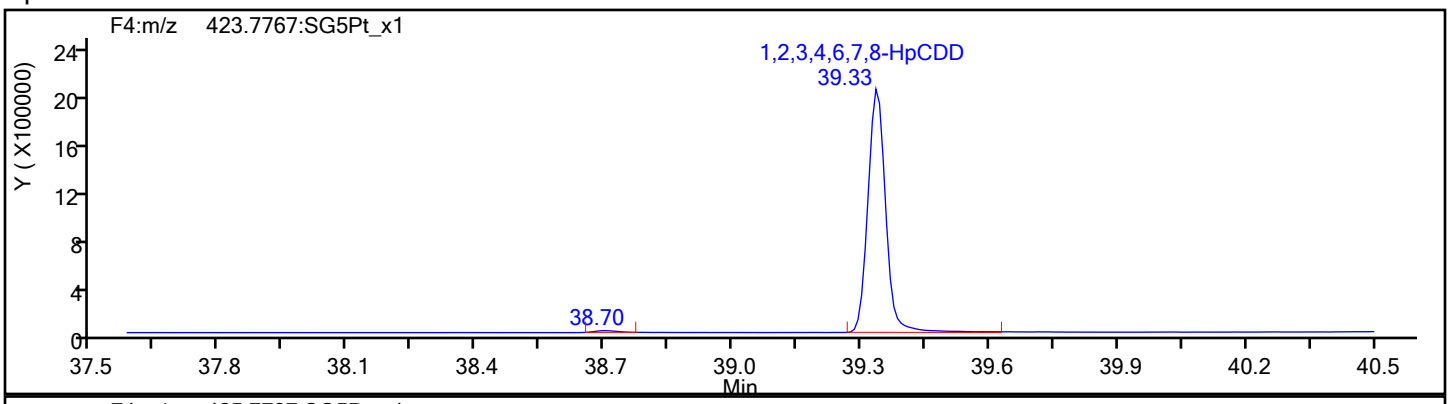

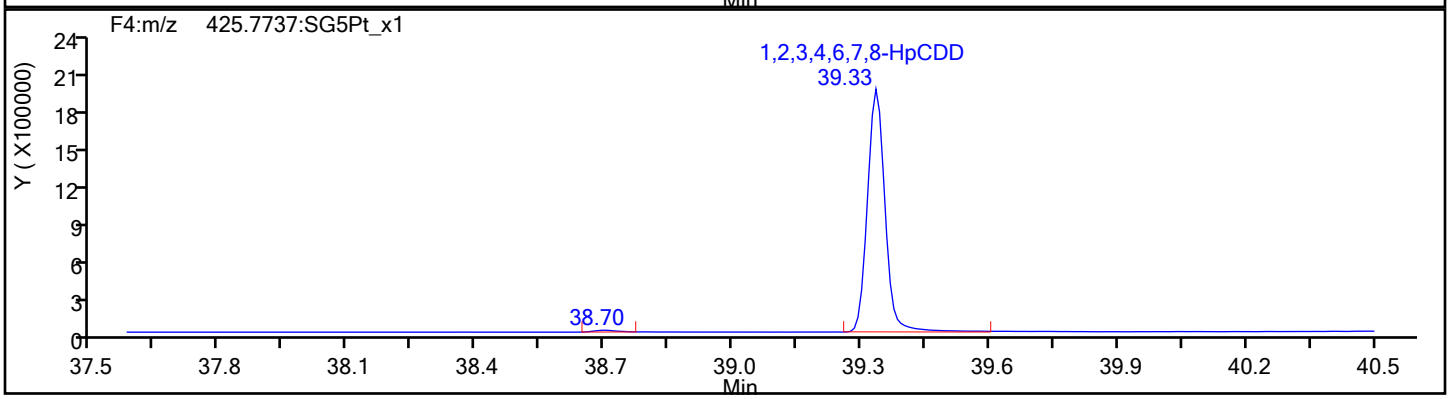

HpCDD Standards

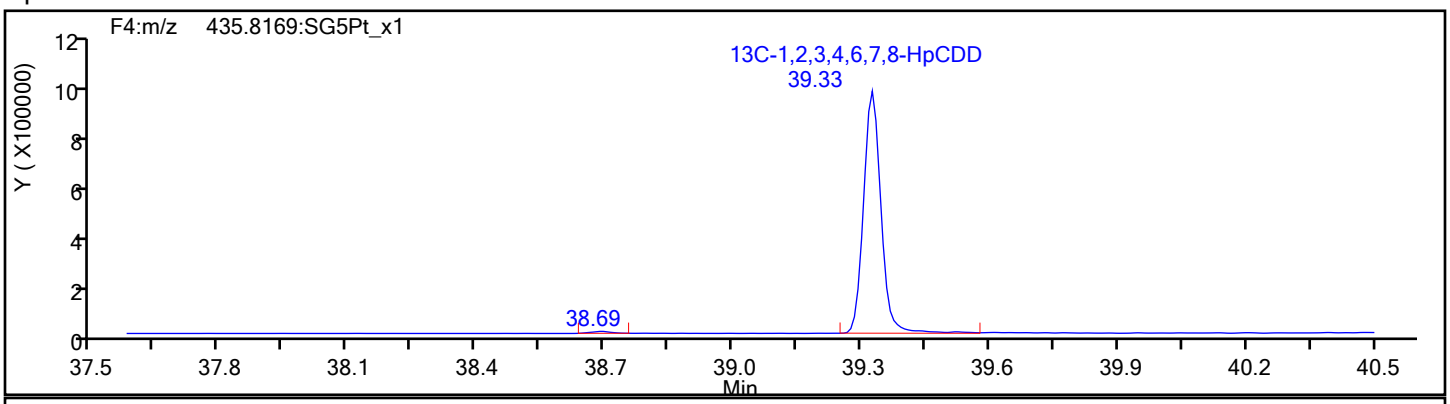

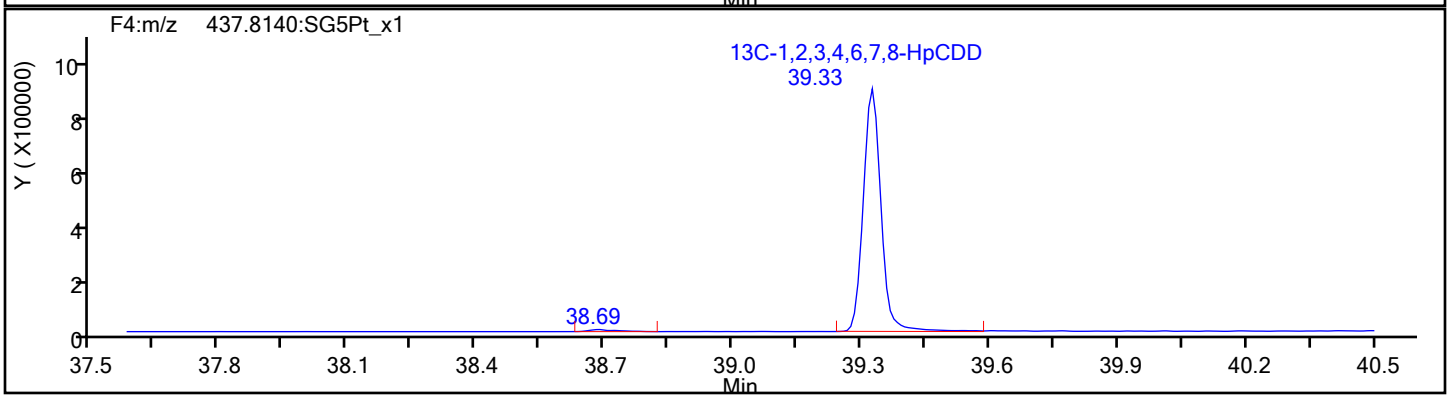

Report Date: 23-Oct-2019 11:53:45 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_7.d		
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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

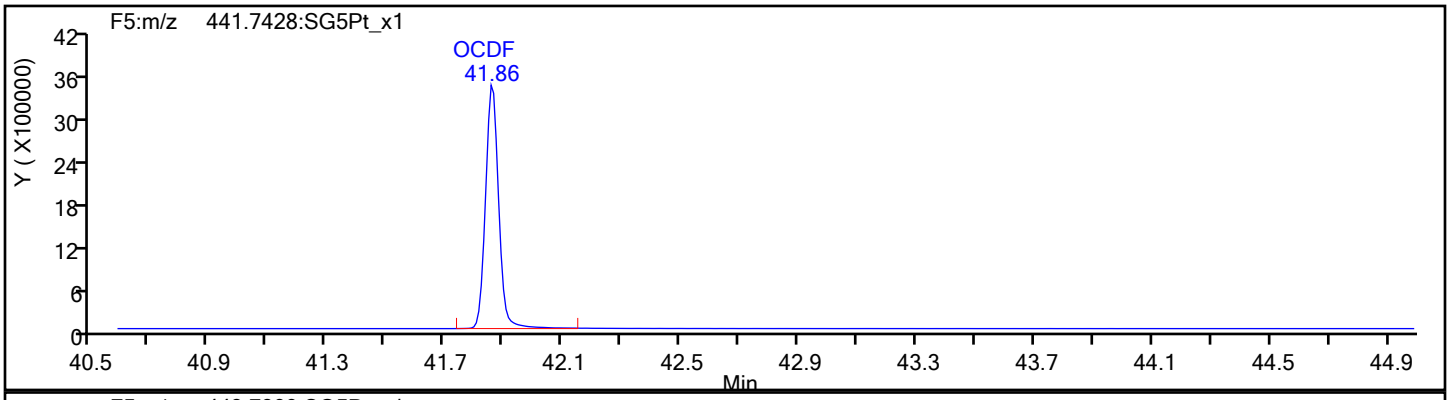

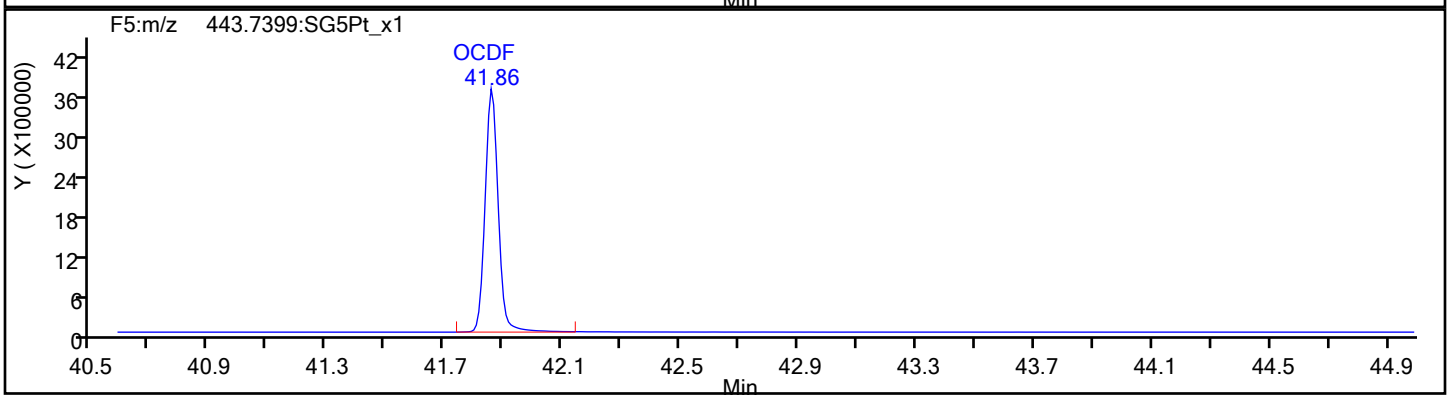

OCDF Standards

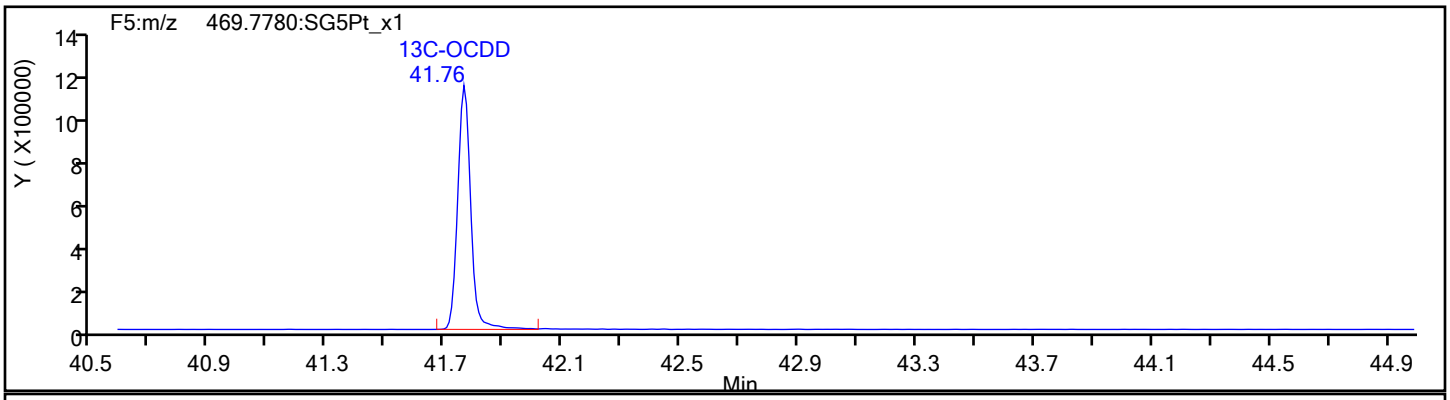

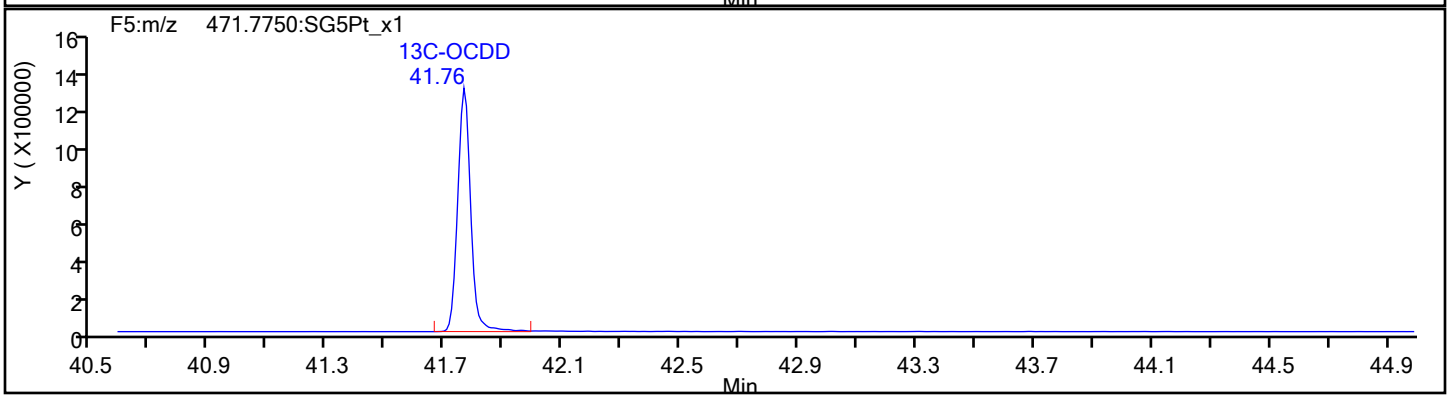

Report Date: 23-Oct-2019 11:53:45 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_7.d		
Injection Date:	18-Oct-2019 23:14:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

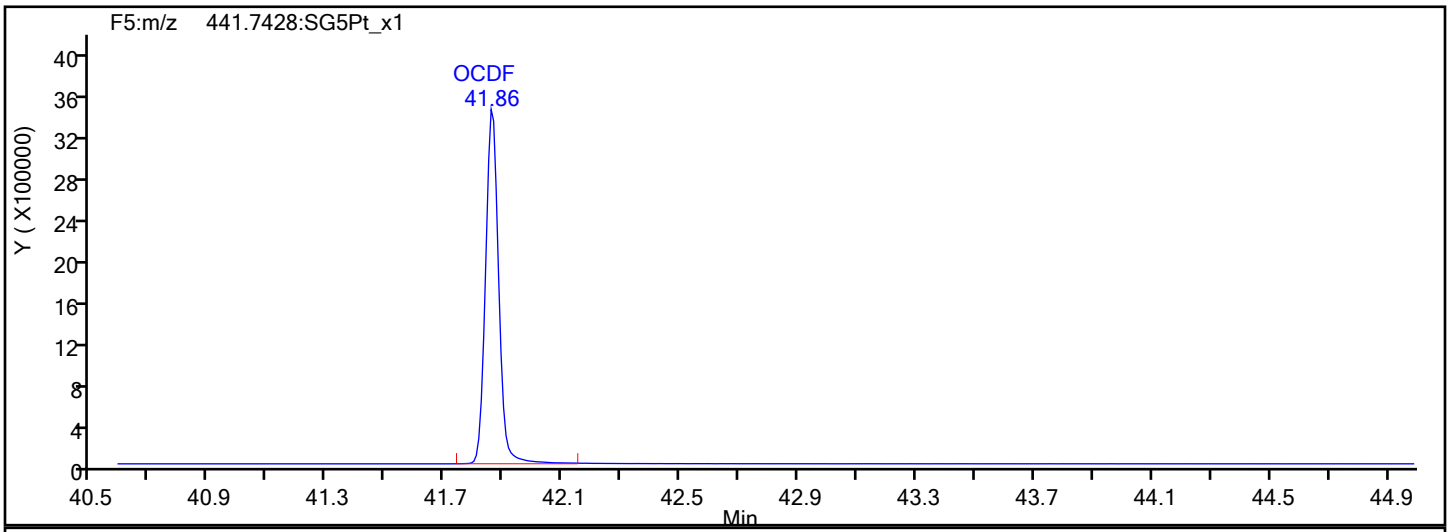

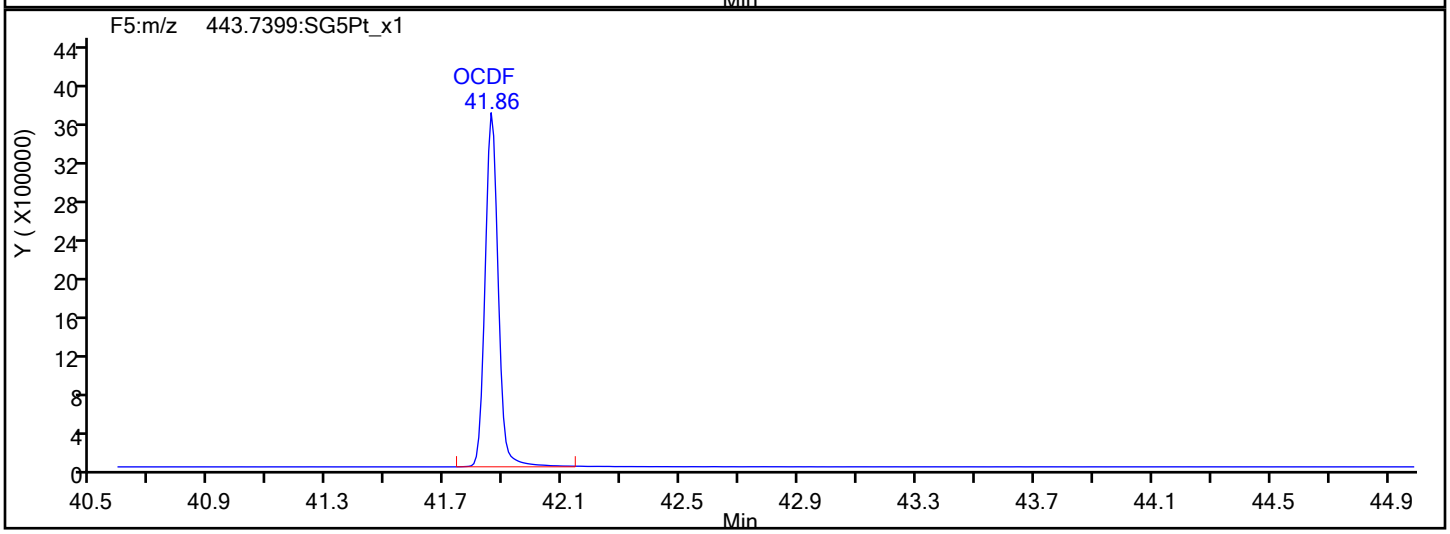

OCDF Interference Mass

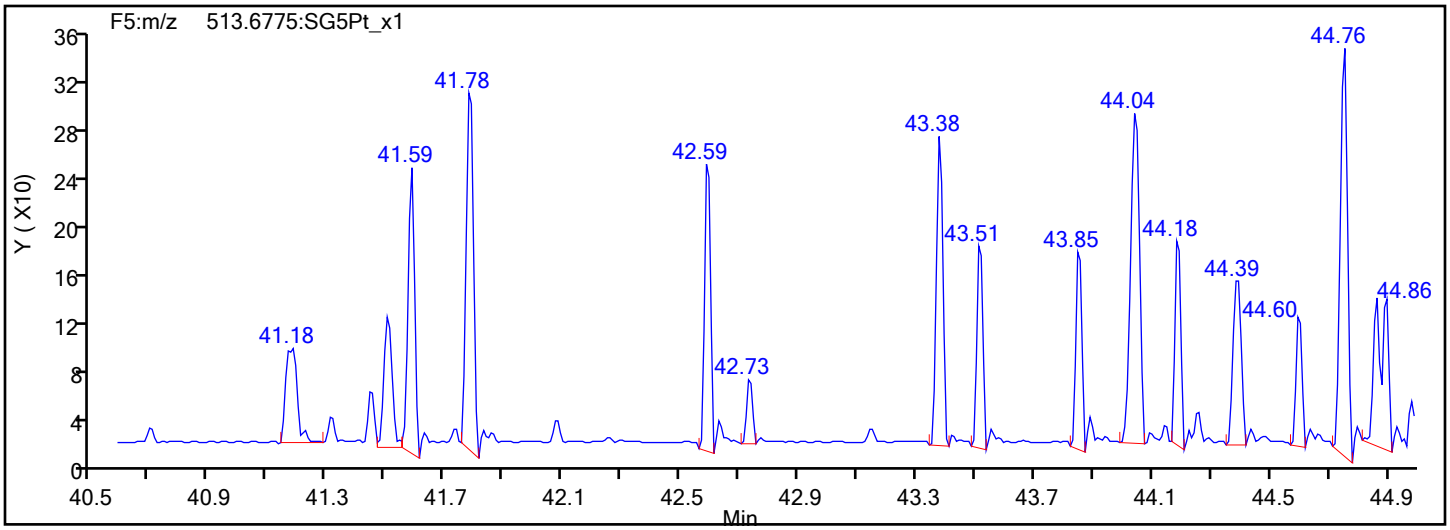

Report Date: 23-Oct-2019 11:53:45 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_7.d		
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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

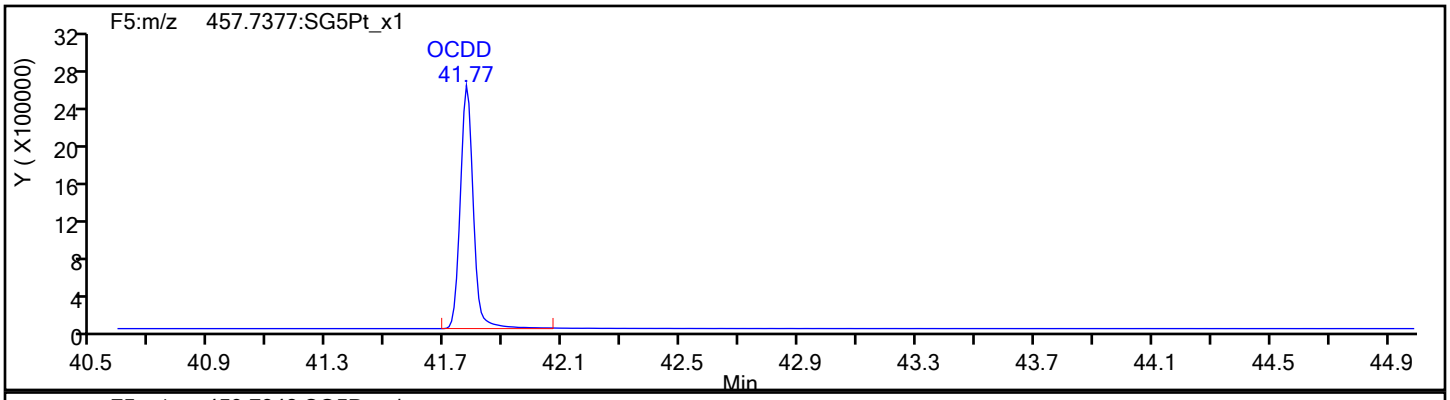

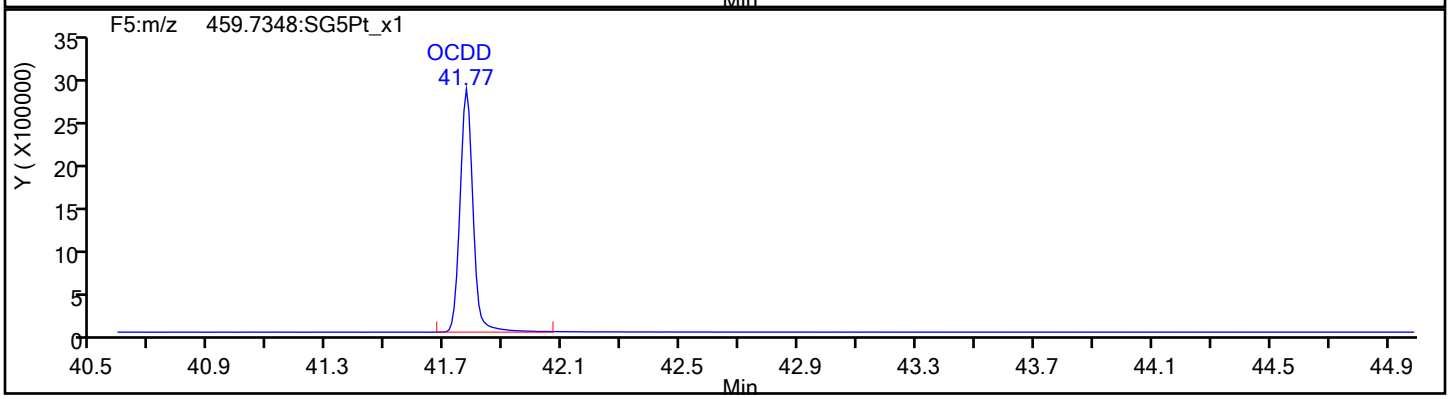

OCDD Standards

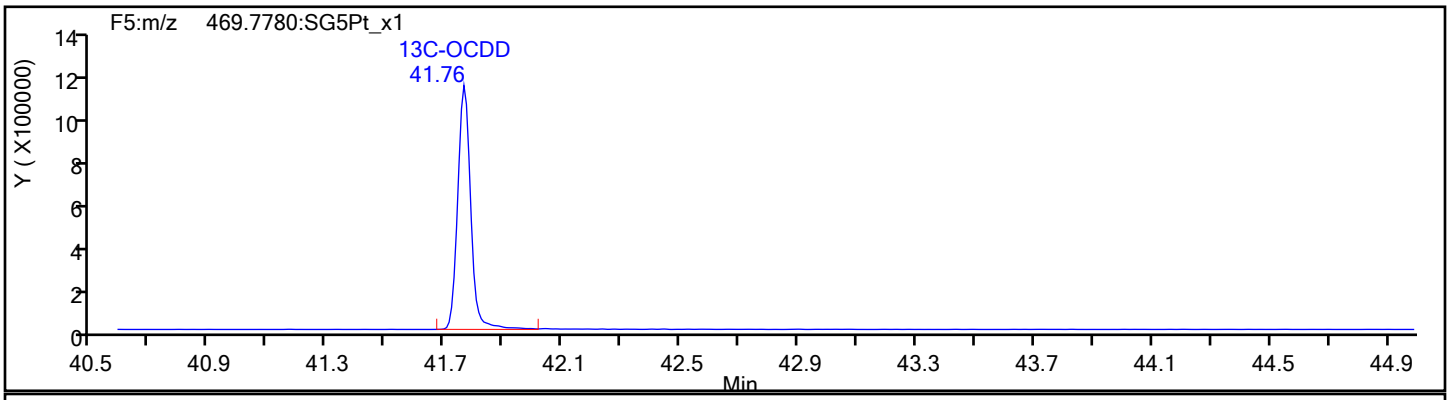

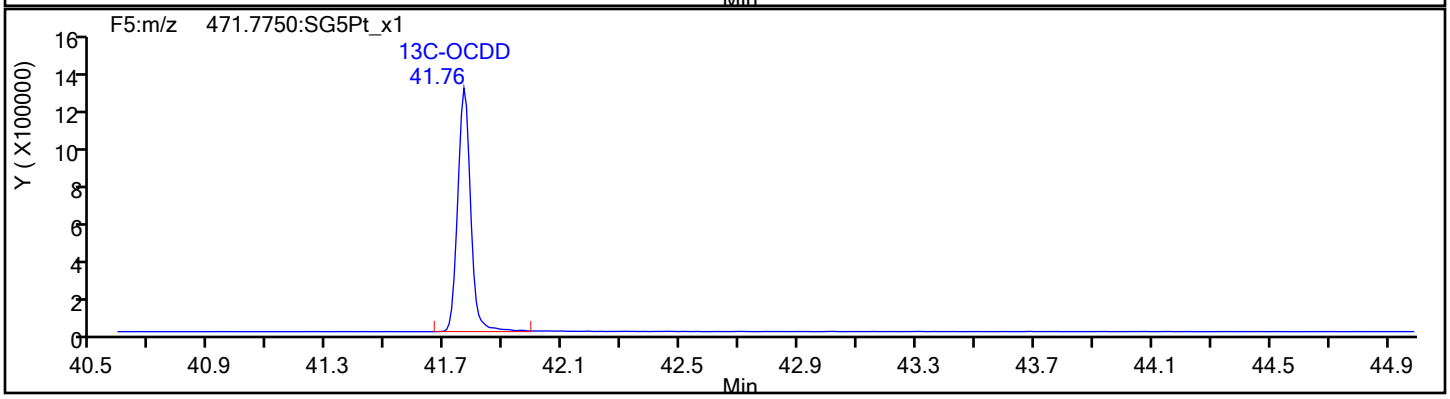

Report Date: 23-Oct-2019 11:53:45 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_7.d		
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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

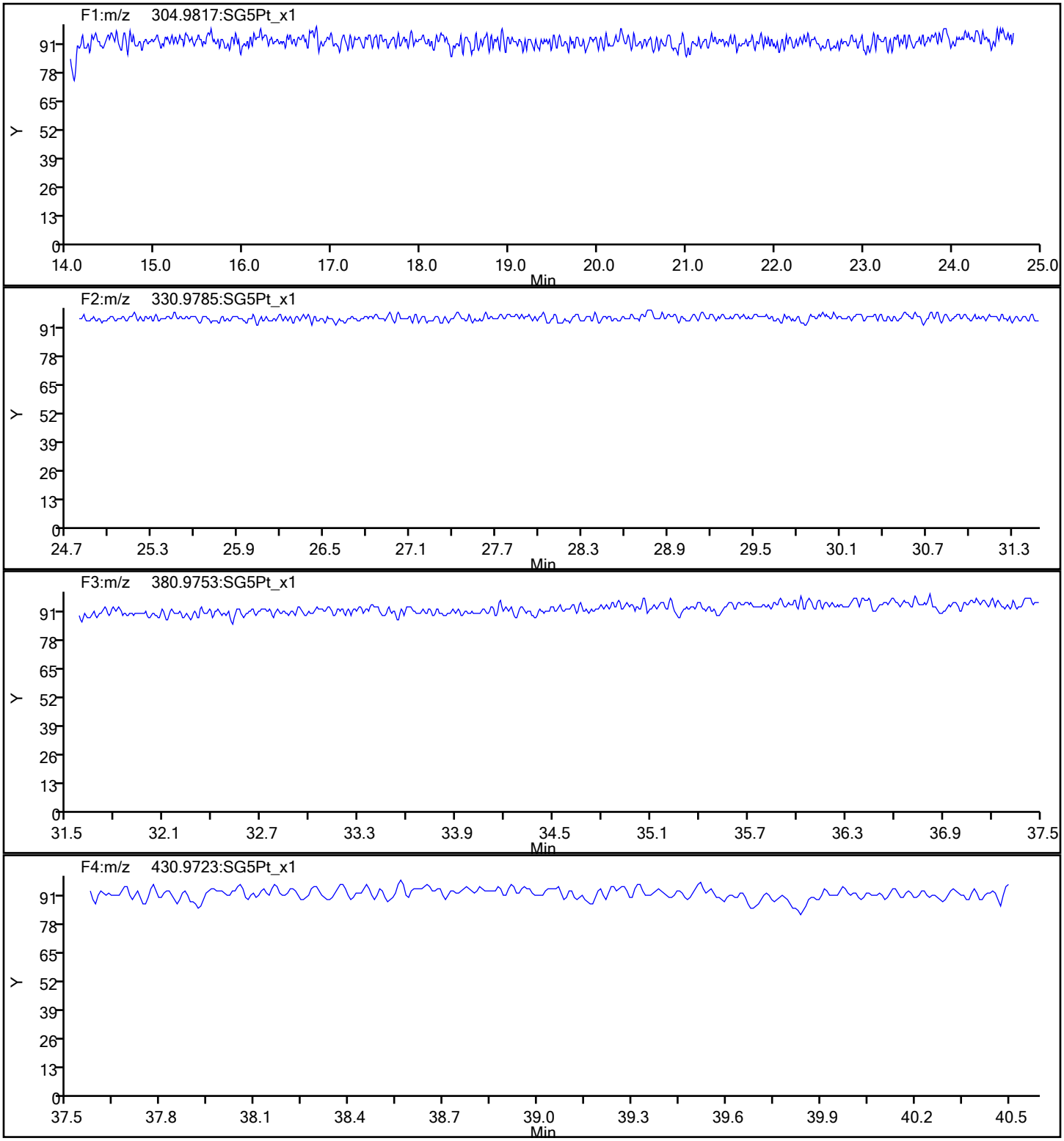

Report Date: 23-Oct-2019 11:53:45 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_7.d		
Injection Date:	18-Oct-2019 23:14:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

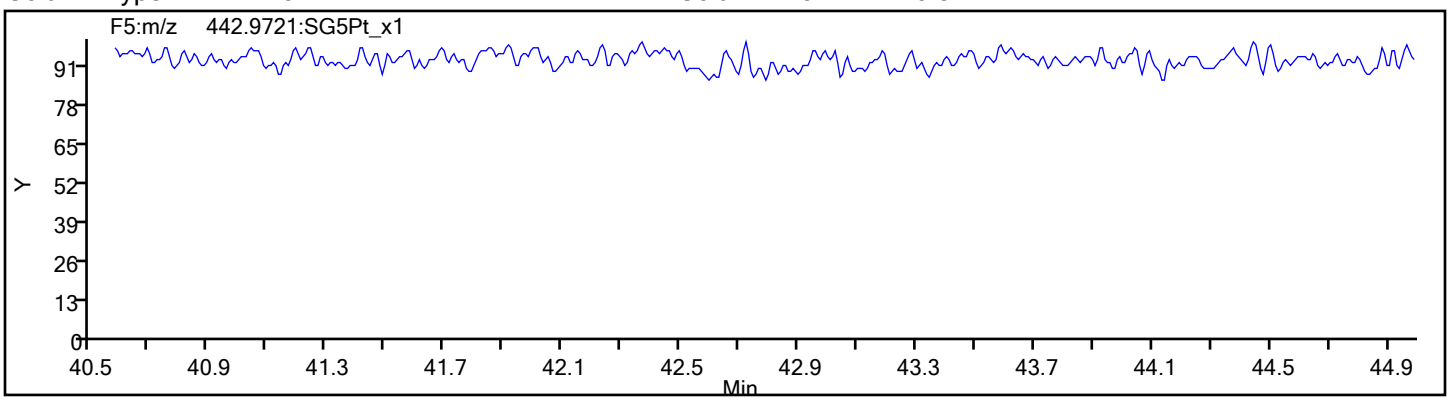

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_8.d
Lims ID: IC 6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 19-Oct-2019 00:02:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CS-6 HRDXNL6_00024
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\Dioxin_DFS1.m
Limit Group: HR - 1613B - ICAL
Last Update: 23-Oct-2019 11:53:50 Calib Date: 19-Oct-2019 00:02:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.07 :22.11)
Process Host: CTX0320

First Level Reviewer: shardaa Date: 21-Oct-2019 17:40:49

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	20.740	5083915	0.80	5.2E+04	100.0	100.0				
D 13C-2,3,7,8-TCDF	19.772	8470716	0.81	1.6096	103.5	103.5	0.2149	0.2149	104	
2,3,7,8-TCDF	19.798	19267770	0.82	1.2332	184.4	184.4	0.3446	0.3446	92.22	
S Total TCDF					184.4	184.4	0.3446	0.3446		
D 13C-2,3,7,8-TCDD	21.103	5315007	0.80	0.9984	104.7	104.7	0.1824	0.1824	105	
$ 37Cl4-2,3,7,8-TCDD	21.137	14554194		1.4510	197.3	197.3	0.0648	0.0648	98.65	
2,3,7,8-TCDD	21.137	12215535	0.80	1.1988	191.7	191.7	0.2108	0.2108	95.86	
S Total TCDD					191.7	191.7	0.2108	0.2108		
D 13C-1,2,3,7,8-PeCDF	26.808	7521267	1.58	1.3678	108.2	108.2	0.4401	0.4401	108	
1,2,3,7,8-PeCDF	26.833	82272798	1.62	1.1689	935.8	935.8	3.041	3.041	93.58	
D 13C-2,3,4,7,8-PeCDF	28.309	7142216	1.57	1.3045	107.7	107.7	0.4615	0.4615	108	
2,3,4,7,8-PeCDF	28.334	80029996	1.61	1.1861	944.7	944.7	3.489	3.489	94.47	
S Total PeCDF					1880.5	1880.5	3.265	3.265		
D 13C-1,2,3,7,8-PeCDD	29.114	4618561	1.59	0.8292	109.6	109.6	0.1796	0.1796	110	
1,2,3,7,8-PeCDD	29.131	48247060	1.58	1.1200	932.7	932.7	1.017	1.017	93.27	
S Total PeCDD					932.7	932.7	1.017	1.017		
D 13C-1,2,3,4,7,8-HxCDF	34.602	6640749	0.53	1.1700	99.6	99.6	0.4076	0.4076	99.64	
1,2,3,4,7,8-HxCDF	34.619	84101340	1.30	1.3021	972.6	972.6	4.368	4.368	97.26	
D 13C-1,2,3,6,7,8-HxCDF	34.770	7611761	0.54	1.3168	101.5	101.5	0.3621	0.3621	101	
1,2,3,6,7,8-HxCDF	34.787	95400318	1.29	1.2907	971.0	971.0	3.790	3.790	97.10	
D 13C-2,3,4,6,7,8-HxCDF	35.625	7799209	0.54	1.2873	106.4	106.4	0.3704	0.3704	106	
2,3,4,6,7,8-HxCDF	35.642	97753005	1.28	1.3039	961.2	961.2	3.272	3.272	96.12	
D 13C-1,2,3,7,8,9-HxCDF	36.540	7241212	0.53	1.1987	106.0	106.0	0.3978	0.3978	106	
1,2,3,7,8,9-HxCDF	36.556	91937678	1.29	1.3329	952.6	952.6	3.130	3.130	95.26	
S Total HxCDF					3857.4	3857.4	3.640	3.640		
* 13C-1,2,3,7,8,9-HxCDD	36.347	5696648	1.25	5.8E+04	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	35.852	5151852	1.28	0.8364	108.1	108.1	0.2195	0.2195	108	
1,2,3,4,7,8-HxCDD	35.860	56405618	1.29	1.1725	933.8	933.8	1.542	1.542	93.38	
D 13C-1,2,3,6,7,8-HxCDD	35.969	5465550	1.27	0.9040	106.1	106.1	0.2031	0.2031	106	
1,2,3,6,7,8-HxCDD	35.986	57425910	1.25	1.1256	933.5	933.5	1.493	1.493	93.35	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,7,8,9-HxCDD	36.355	58343908	1.26	1.2327	891.6	891.6	1.413	1.413	89.16	
S Total HxCDD					2758.8	2758.8	1.483	1.483		
D 13C-1,2,3,4,6,7,8-HpCDF	38.379	5918544	0.45	0.9689	107.2	107.2	0.4047	0.4047	107	
1,2,3,4,6,7,8-HpCDF	38.387	92770691	1.06	1.6176	969.0	969.0	4.225	4.225	96.90	
D 13C-1,2,3,4,7,8,9-HpCDF	39.645	5657300	0.46	0.9231	107.6	107.6	0.4248	0.4248	108	
1,2,3,4,7,8,9-HpCDF	39.654	80874831	1.06	1.4672	974.3	974.3	4.553	4.553	97.43	
S Total HpCDF					1943.3	1943.3	4.389	4.389		
D 13C-1,2,3,4,6,7,8-HpCDD	39.335	5525128	1.08	0.9114	106.4	106.4	0.3629	0.3629	106	
1,2,3,4,6,7,8-HpCDD	39.343	58157652	1.05	1.1237	936.7	936.7	2.300	2.300	93.67	
S Total HpCDD					936.7	936.7	2.300	2.300		
D 13C-OCDD	41.781	8003485	0.92	0.6272	224.0	224.0	0.3136	0.3136	112	
OCDF	41.873	126690658	0.92	1.5416	2053.6	2053.6	1.198	1.198	103	
OCDD	41.789	90601717	0.89	1.1855	1909.8	1909.8	1.347	1.347	95.49	

Reagents:

HRDXNL6_00024 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_8.d
Lims ID: IC 6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 19-Oct-2019 00:02:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CS-6 HRDXNL6_00024
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\Dioxin_DFS1.m
Limit Group: HR - 1613B - ICAL
Last Update: 23-Oct-2019 11:53:50 Calib Date: 19-Oct-2019 00:02:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.07 :22.11)
Process Host: CTX0320

First Level Reviewer: shardaa Date: 21-Oct-2019 17:40:49

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	20.740	20.729	1		2259385	344493	403	1007	855		
333.9338	20.740	20.729	1		2824530	432419	163	407	2653	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.772	19.762	1	0.953	3796860	611004	675	1687	905		
317.9389	19.772	19.762	1	0.953	4673856	746729	400	1000	1867	0.81(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	19.798	19.792	0	1.001	8696684	1379157	973	2432	1417		
305.8987	19.798	19.792	0	1.001	10571086	1676527	1335	3337	1256	0.82(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	21.103	21.094	1	1.017	2365706	335856	403	1007	833		
333.9338	21.103	21.094	1	1.017	2949301	420695	163	407	2581	0.80(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	21.137	21.121	1	1.019	14554194	2104385	292	730	7207		
2,3,7,8-TCDD											
319.8965	21.137	21.127	1	1.002	5420413	792143	389	972	2036		
321.8936	21.137	21.127	1	1.002	6795122	979848	376	940	2606	0.80(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	26.808	26.797	1	1.293	4607592	838368	1112	2780	754		
353.8970	26.808	26.797	1	1.293	2913675	514881	759	1897	678	1.58(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	26.833	26.821	1	1.001	50872924	9200648	11848	29620	777		
341.8567	26.825	26.821	0	1.001	31399874	5635533	7392	18480	762	1.62(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	28.309	28.297	1	1.365	4366405	708744	1112	2780	637		
353.8970	28.309	28.297	1	1.365	2775811	453627	759	1897	598	1.57(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,7,8-PeCDF											
339.8597	28.334	28.322	1	1.001	49389396	8471953	11848	29620	715		
341.8567	28.326	28.322	0	1.001	30640600	5229032	7392	18480	707	1.61(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	29.114	29.095	1	1.404	2838334	437000	285	712	1533		
369.8919	29.106	29.095	1	1.403	1780227	276864	178	445	1555	1.59(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	29.131	29.120	1	1.001	29534522	4700195	2012	5030	2336		
357.8516	29.131	29.120	1	1.001	18712538	2944261	1240	3100	2374	1.58(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.602	34.589	1	0.952	2307051	500514	988	2470	507		
385.8610	34.602	34.589	1	0.952	4333698	940488	1819	4547	517	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.619	34.608	1	1.000	47510485	11145070	18256	45640	610		
375.8178	34.619	34.608	1	1.000	36590855	8510188	14529	36322	586	1.30(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	34.770	34.759	1	0.957	2664707	591644	988	2470	599		
385.8610	34.770	34.759	1	0.957	4947054	1083875	1819	4547	596	0.54(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	34.787	34.777	1	1.000	53720953	12443285	18256	45640	682		
375.8178	34.787	34.777	1	1.000	41679365	9671468	14529	36322	666	1.29(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	35.625	35.616	1	0.980	2738742	671842	988	2470	680		
385.8610	35.625	35.616	1	0.980	5060467	1249481	1819	4547	687	0.54(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	35.642	35.633	1	1.000	54967446	14288389	18256	45640	783		
375.8178	35.642	35.633	1	1.000	42785559	11036493	14529	36322	760	1.28(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.540	36.530	1	1.005	2514599	684333	988	2470	693		
385.8610	36.540	36.530	1	1.005	4726613	1280172	1819	4547	704	0.53(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	36.556	36.544	1	1.000	51850955	14775669	18256	45640	809		
375.8178	36.556	36.544	1	1.000	40086723	11367890	14529	36322	782	1.29(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	36.347	36.330	1		3170282	825976	595	1487	1388		
403.8529	36.347	36.330	1		2526366	645573	486	1215	1328	1.25(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	35.852	35.836	1	0.986	2890580	754197	595	1487	1268		
403.8529	35.852	35.836	1	0.986	2261272	588543	486	1215	1211	1.28(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	35.860	35.849	1	1.000	31767693	8515381	5443	13607	1564		
391.8127	35.860	35.849	1	1.000	24637925	6691585	4267	10667	1568	1.29(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	35.969	35.958	1	0.990	3062543	814940	595	1487	1370		
403.8529	35.969	35.958	1	0.990	2403007	629220	486	1215	1295	1.27(1.05-1.43)	

Report Date: 23-Oct-2019 11:53:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08
Data File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_8.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,6,7,8-HxCDD											
389.8158	35.986	35.973	1	1.000	31924801	8685100	5443	13607	1596		
391.8127	35.986	35.973	1	1.000	25501109	6772489	4267	10667	1587	1.25(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8158	36.355	36.346	1	1.014	32579963	8915051	5443	13607	1638		
391.8127	36.355	36.346	1	1.014	25763945	7046610	4267	10667	1651	1.26(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.379	38.366	1	1.056	1846459	613799	843	2107	728		
419.8220	38.379	38.366	1	1.056	4072085	1364869	1465	3662	932	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.387	38.378	1	1.000	47691011	16392170	27674	69185	592		
409.7788	38.387	38.378	1	1.000	45079680	15569973	26421	66052	589	1.06(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	39.645	39.629	1	1.091	1781832	639797	843	2107	759		
419.8220	39.645	39.629	1	1.091	3875468	1384800	1465	3662	945	0.46(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.654	39.641	1	1.000	41678777	15630703	27674	69185	565		
409.7788	39.654	39.641	1	1.000	39196054	14512252	26421	66052	549	1.06(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.335	39.324	1	1.082	2867480	992530	960	2400	1034		
437.8140	39.335	39.324	1	1.082	2657648	927944	987	2467	940	1.08(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7767	39.343	39.334	1	1.000	29774353	10648349	10212	25530	1043		
425.7737	39.343	39.334	1	1.000	28383299	10247559	9644	24110	1063	1.05(0.88-1.20)	
13C-OCDD											
469.7780	41.781	41.764	1	1.150	3838450	1238504	568	1420	2180		
471.7750	41.781	41.764	1	1.150	4165035	1358033	590	1475	2302	0.92(0.76-1.02)	
OCDF											
441.7428	41.873	41.858	1	1.002	60560128	20848165	4554	11385	4578		
443.7399	41.873	41.858	1	1.002	66130530	22794365	5038	12595	4524	0.92(0.76-1.02)	
OCDD											
457.7377	41.789	41.772	1	1.000	42637598	14478599	3986	9965	3632		
459.7348	41.789	41.772	1	1.000	47964119	16303594	4308	10770	3784	0.89(0.76-1.02)	

Reagents:

HRDXNL6_00024 Amount Added: 1.00 Units: mL

Report Date: 23-Oct-2019 11:53:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_8.d		
Injection Date:	19-Oct-2019 00:02:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

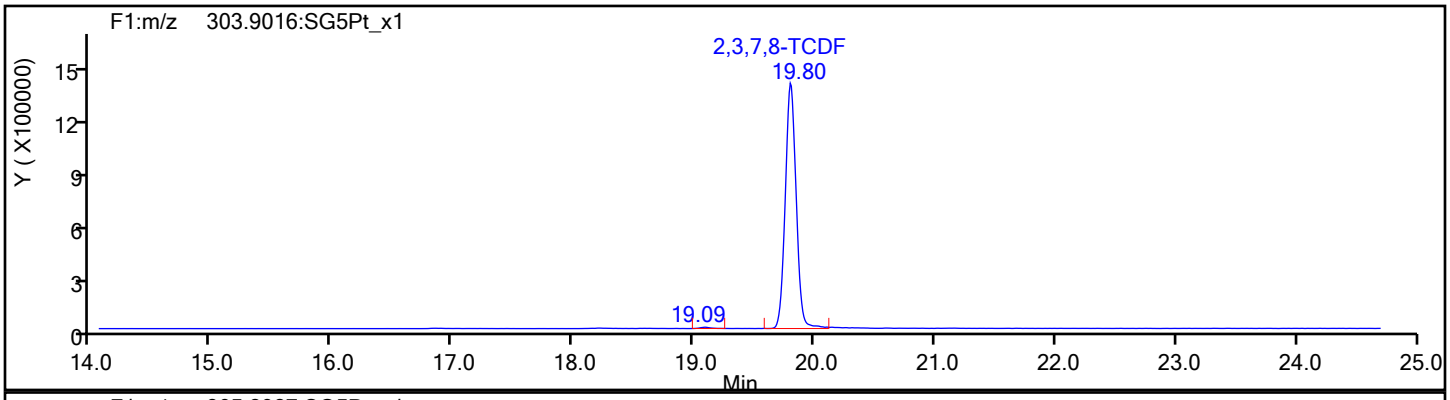

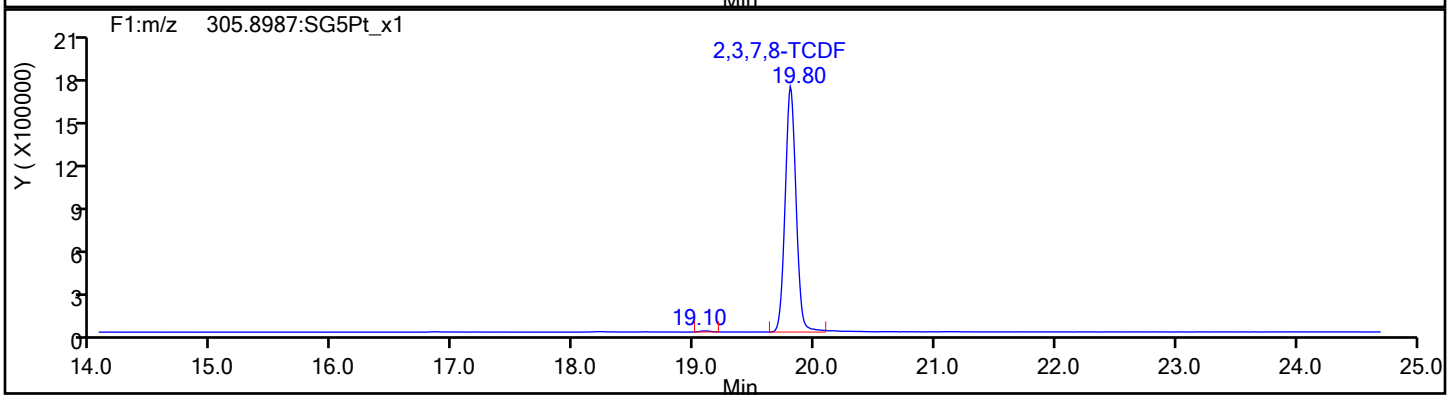

TCDF Standards

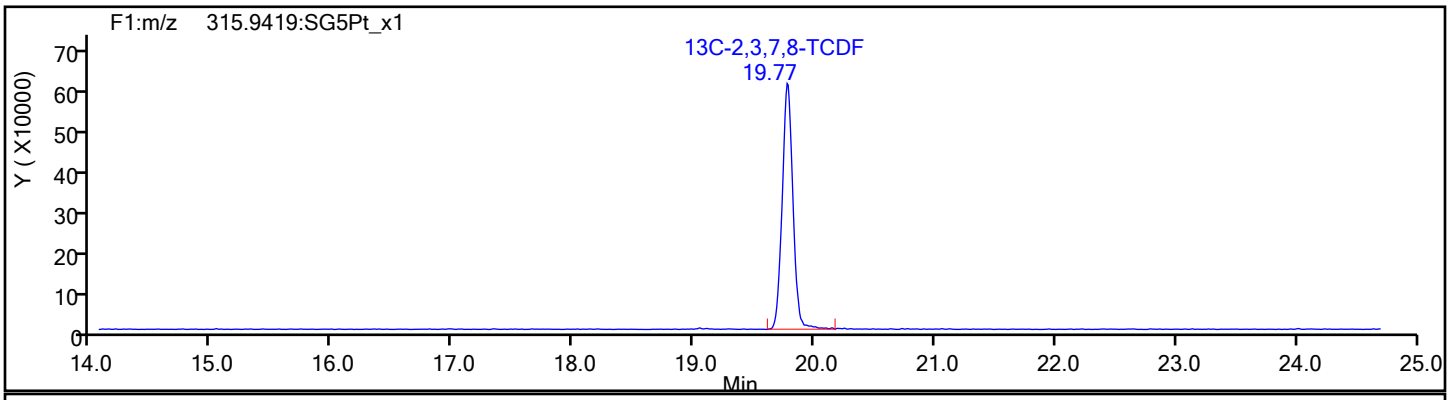

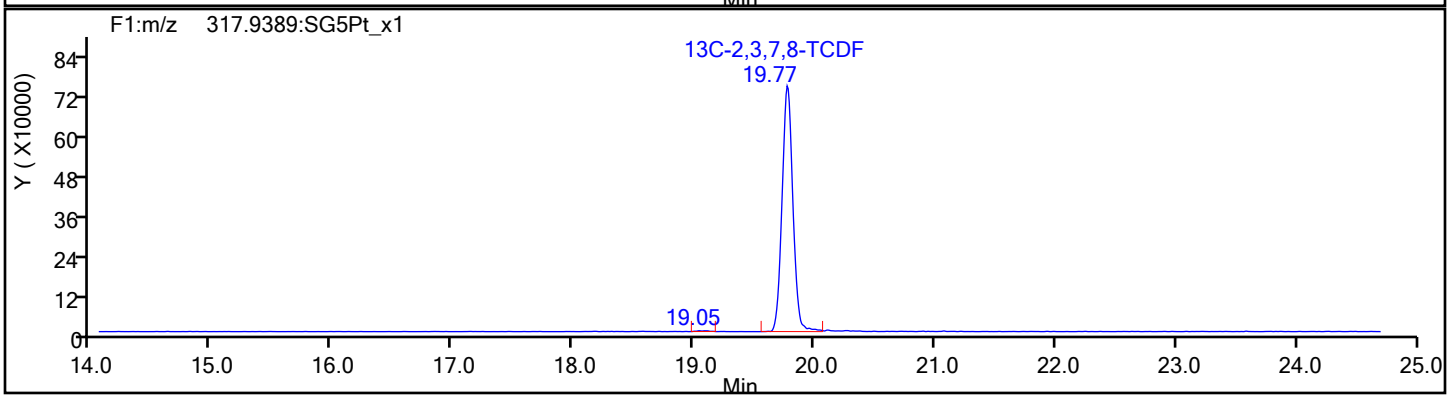

Report Date: 23-Oct-2019 11:53:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_8.d		
Injection Date:	19-Oct-2019 00:02:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

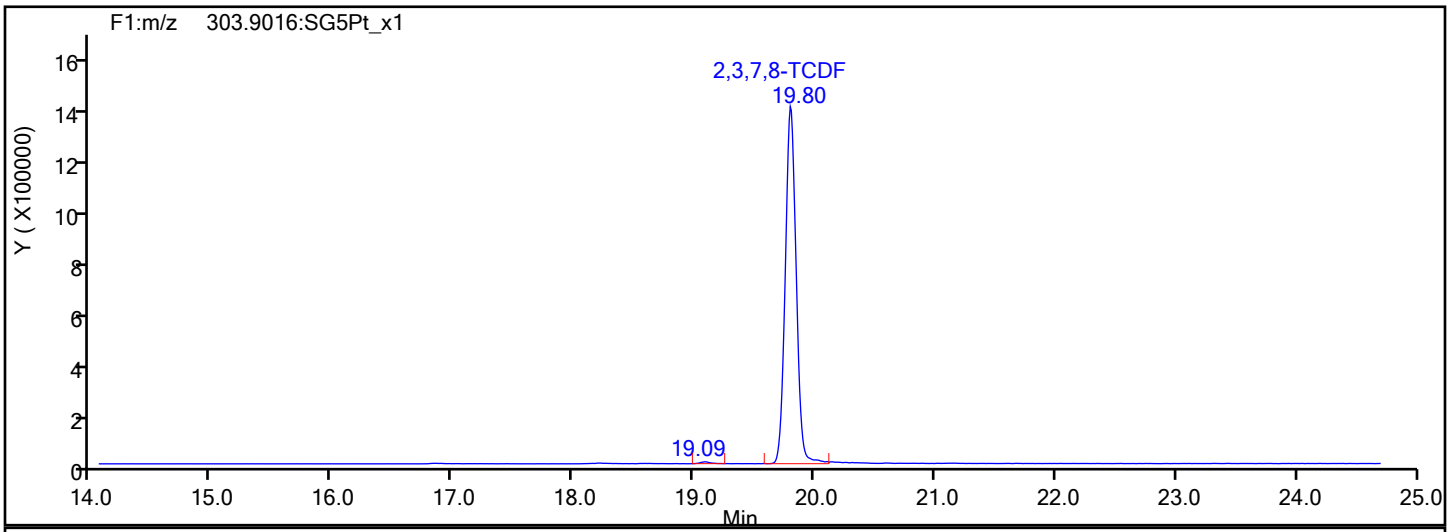

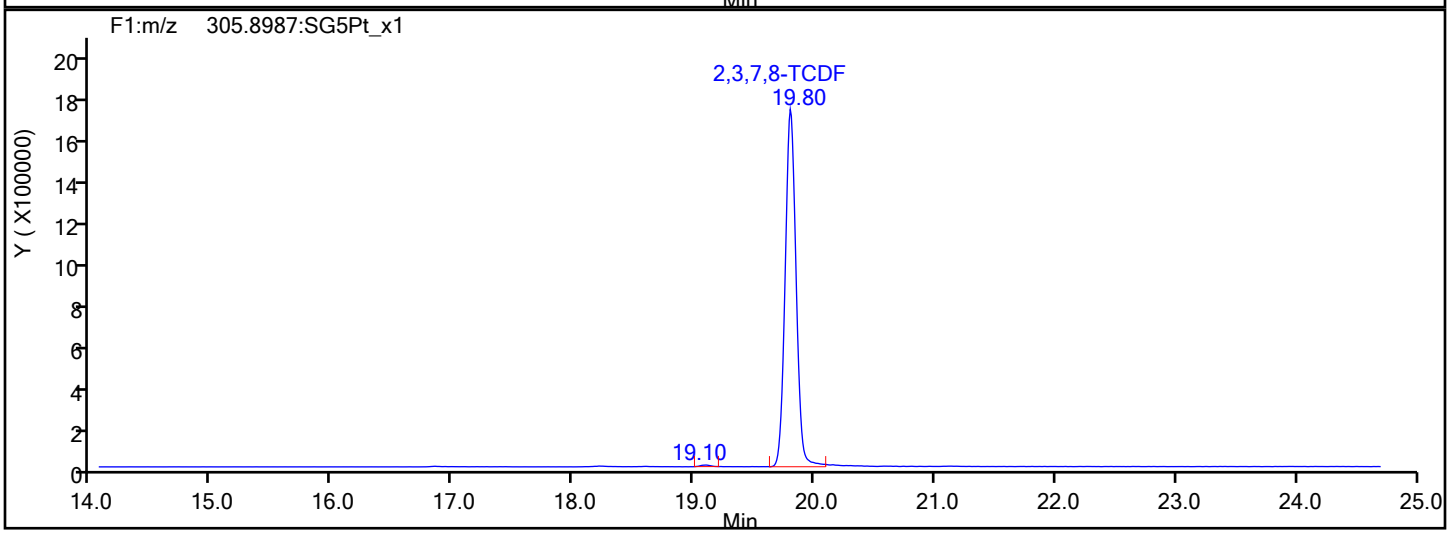

TCDF Interference Mass

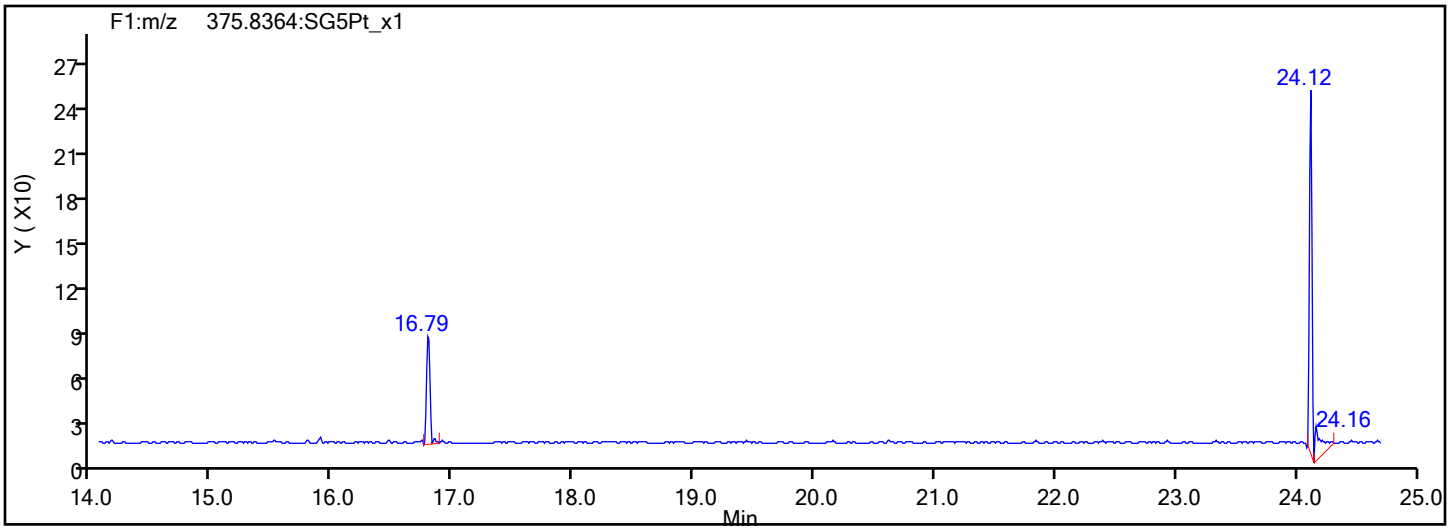

Report Date: 23-Oct-2019 11:53:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_8.d		
Injection Date:	19-Oct-2019 00:02:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

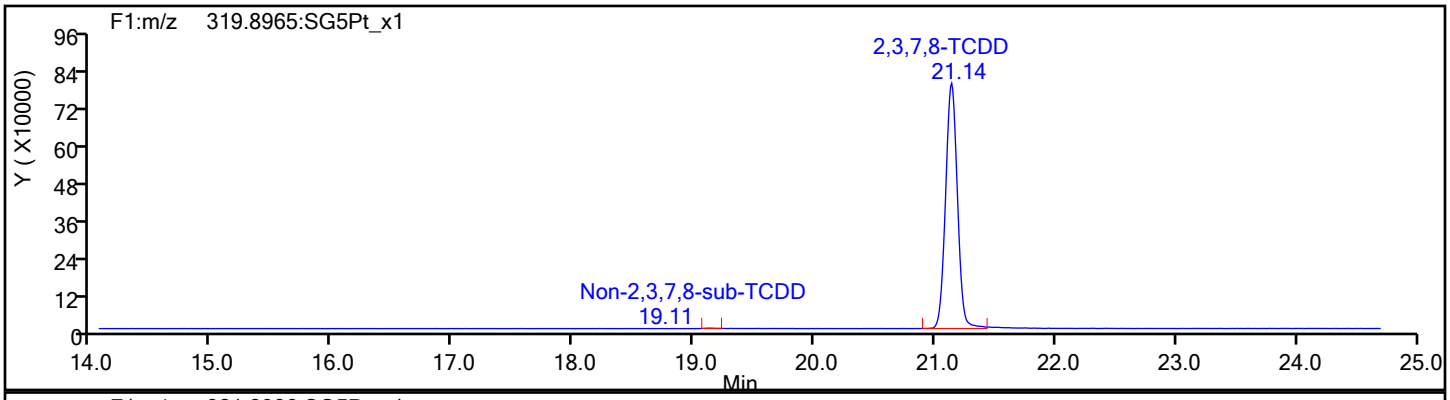

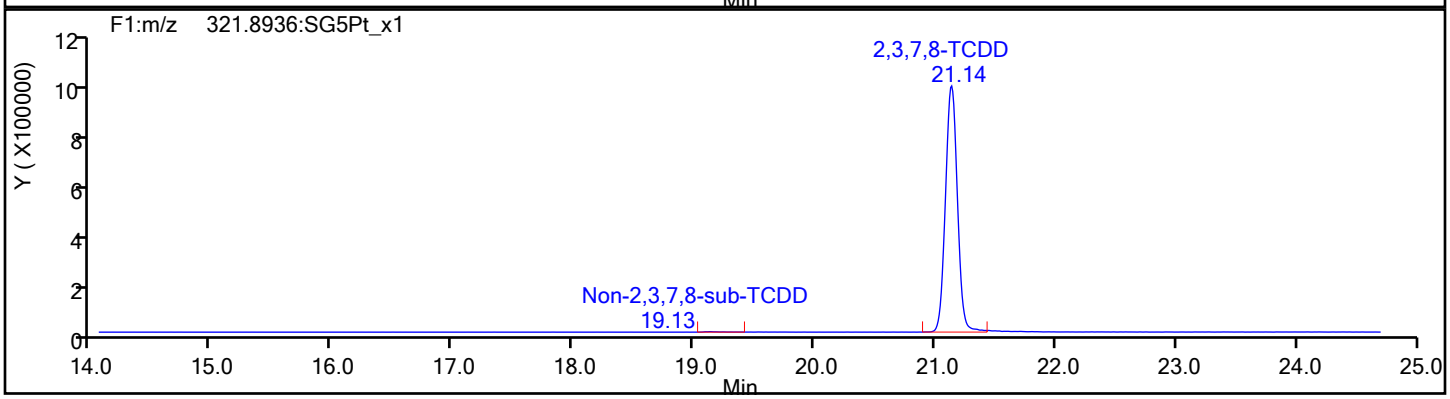

TCDD Standards

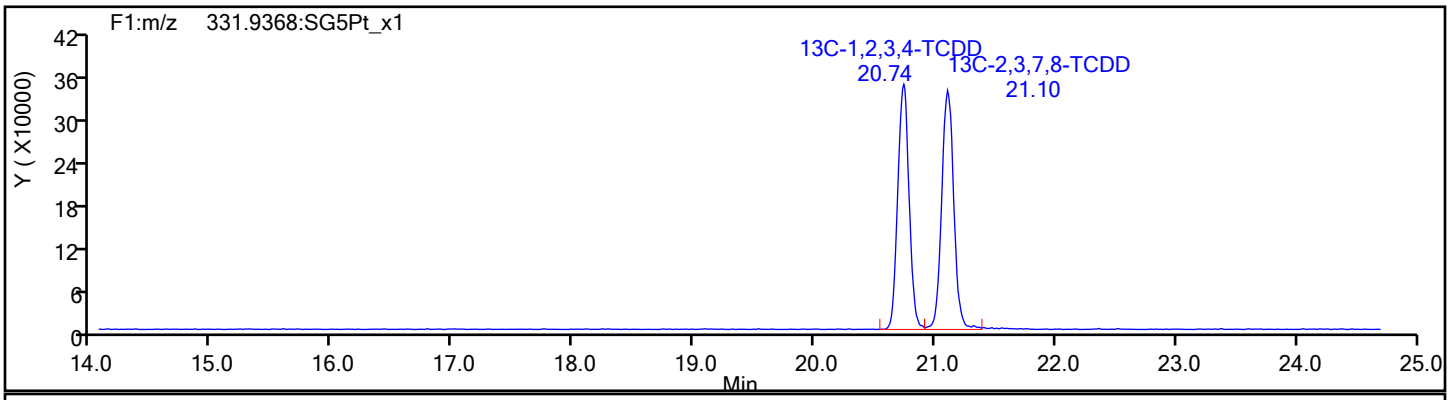

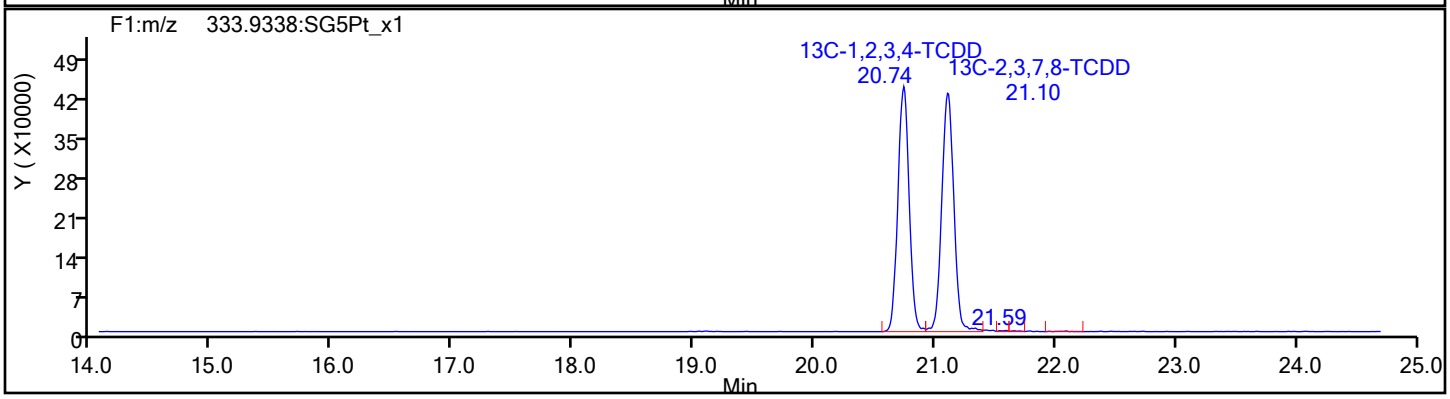

Report Date: 23-Oct-2019 11:53:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_8.d		
Injection Date:	19-Oct-2019 00:02:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

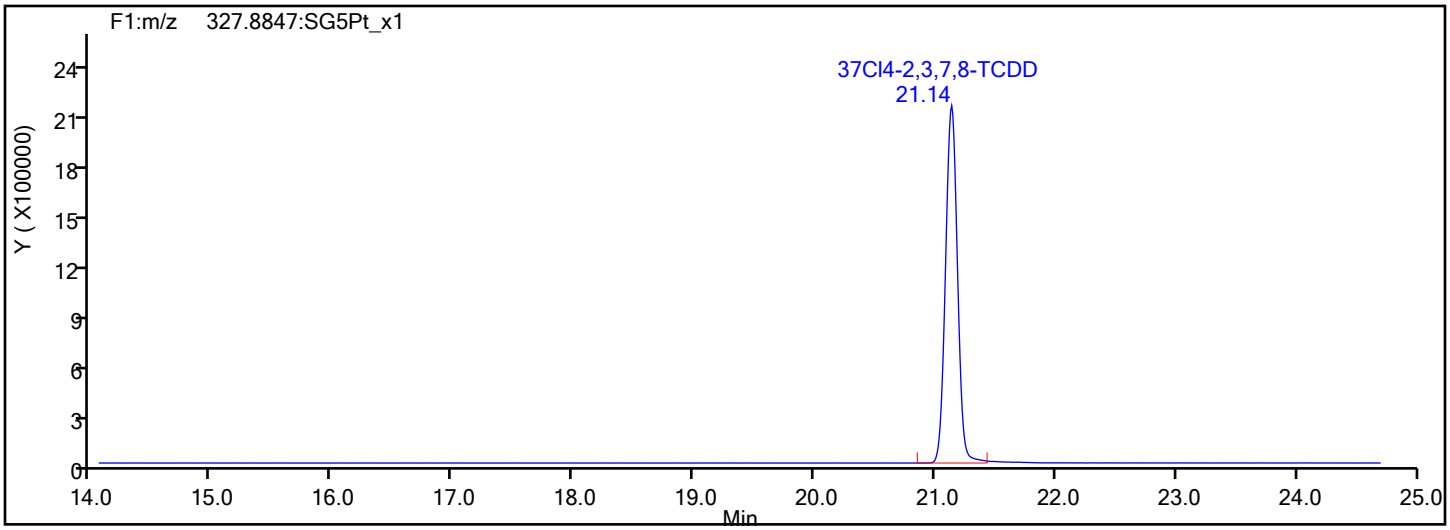

37Cl4-TCDD Standards

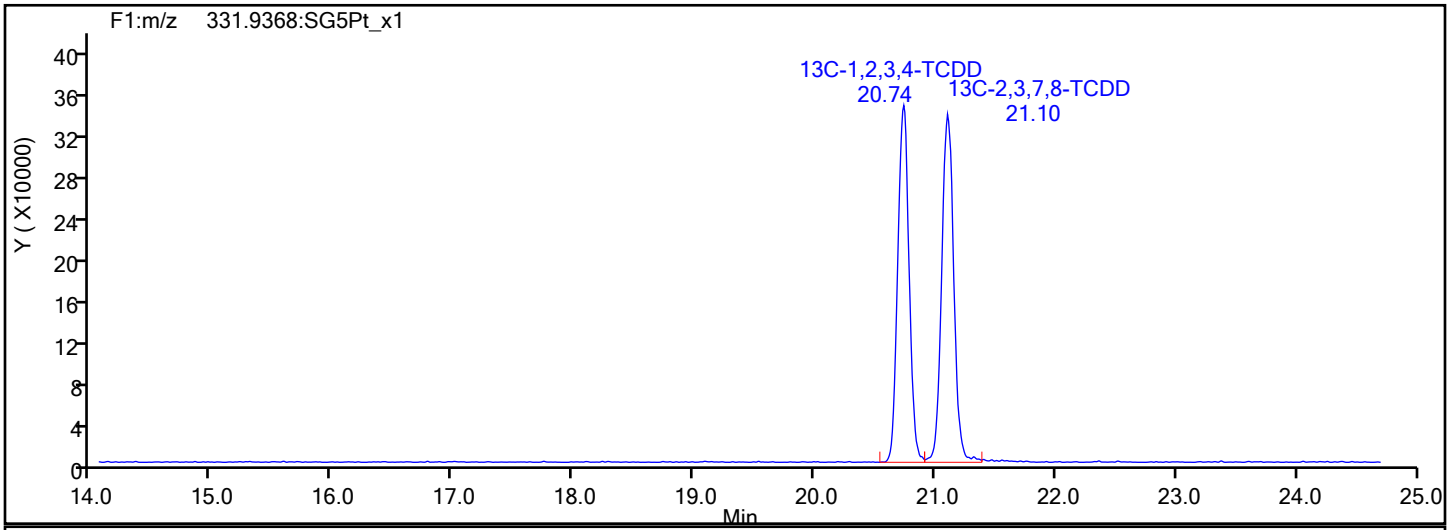

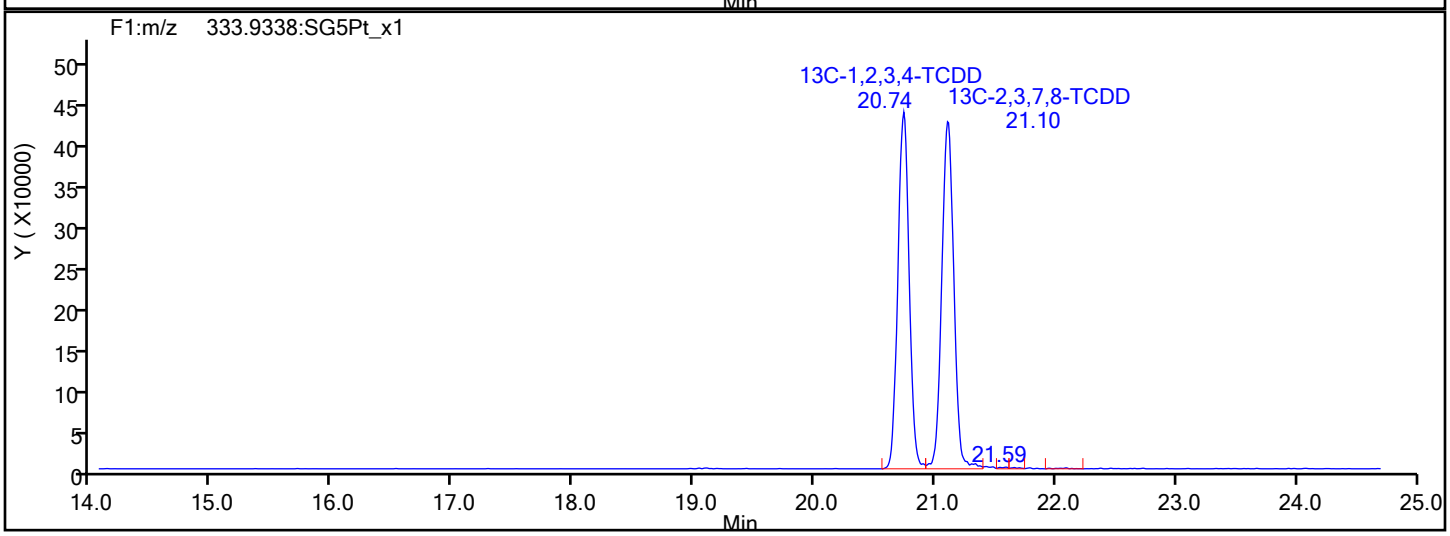

Report Date: 23-Oct-2019 11:53:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_8.d		
Injection Date:	19-Oct-2019 00:02:00	Injection Vol:	1.0 ul
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Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

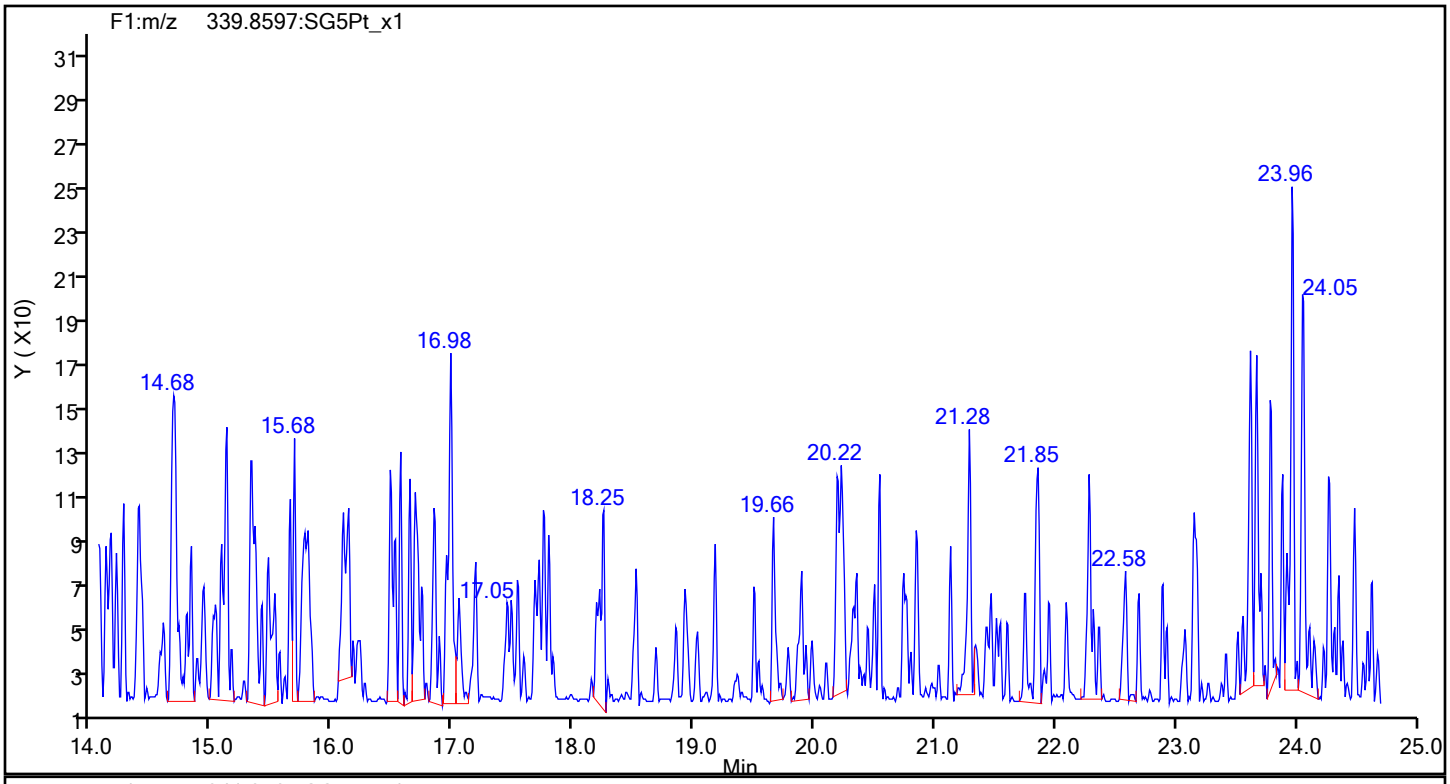

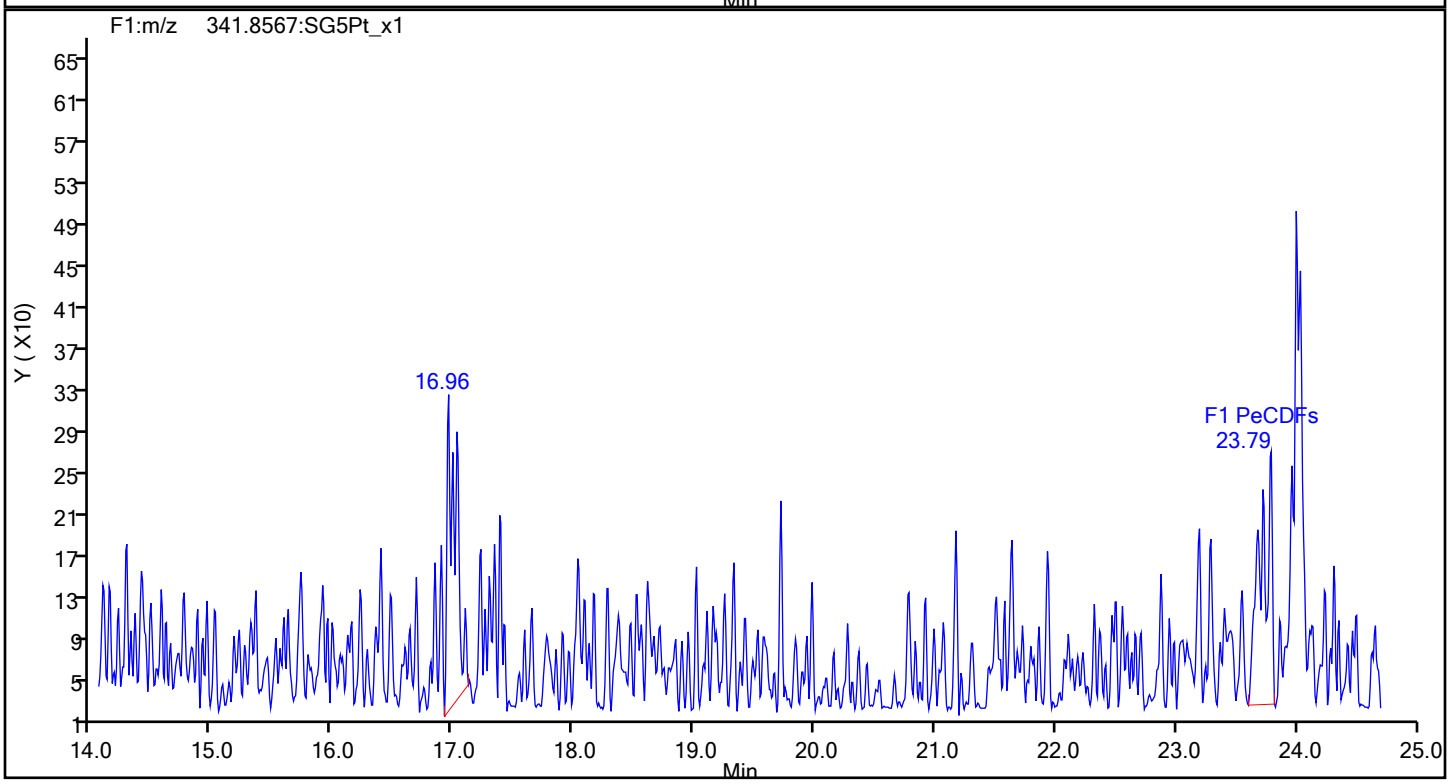

Report Date: 23-Oct-2019 11:53:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

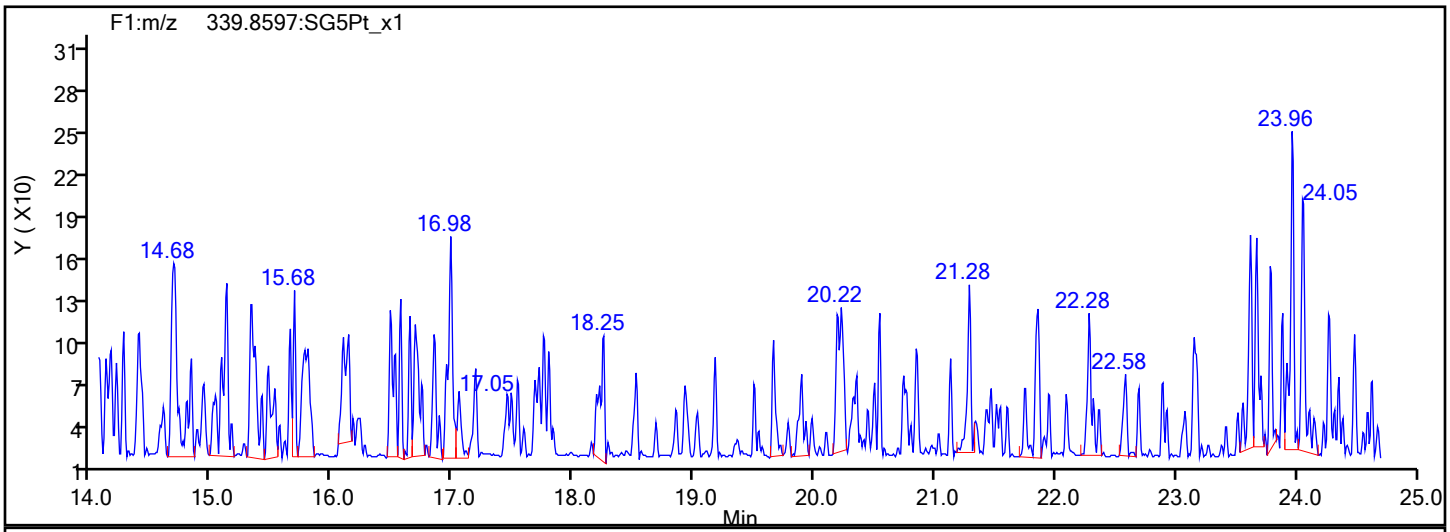

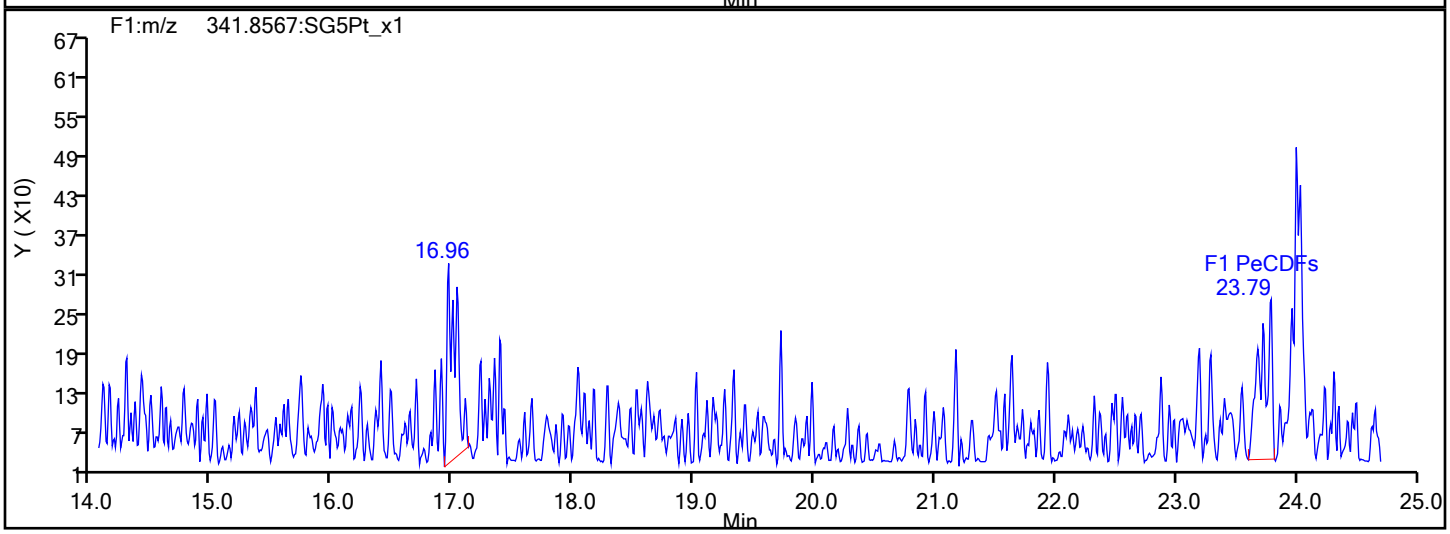

F1 PeCDFs Interference Mass

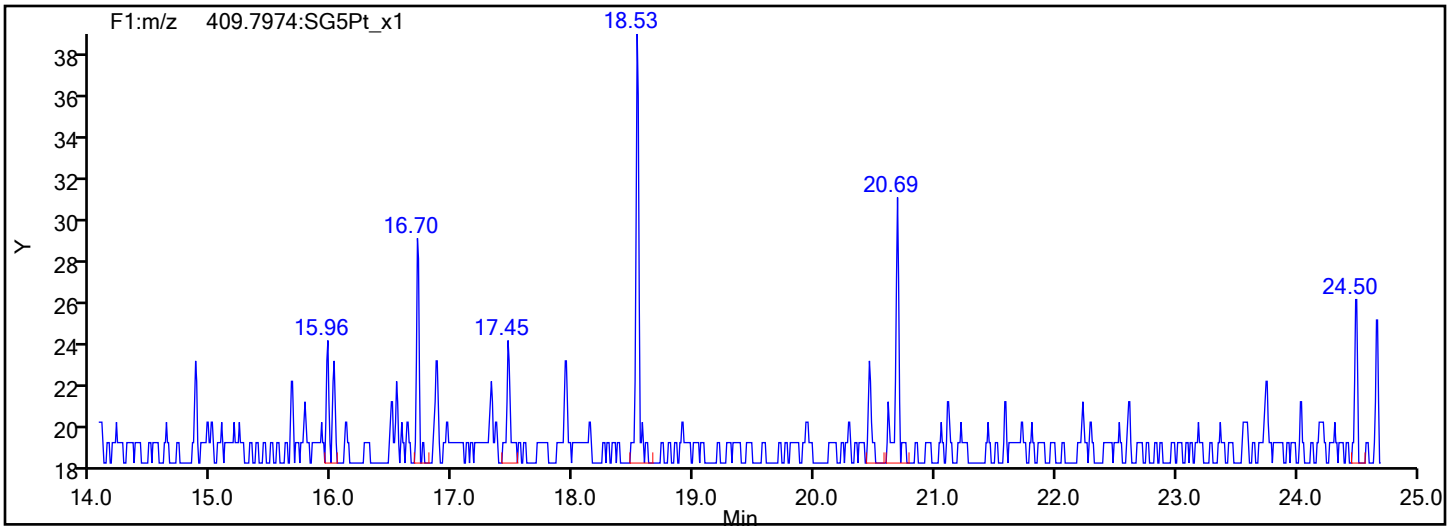

Report Date: 23-Oct-2019 11:53:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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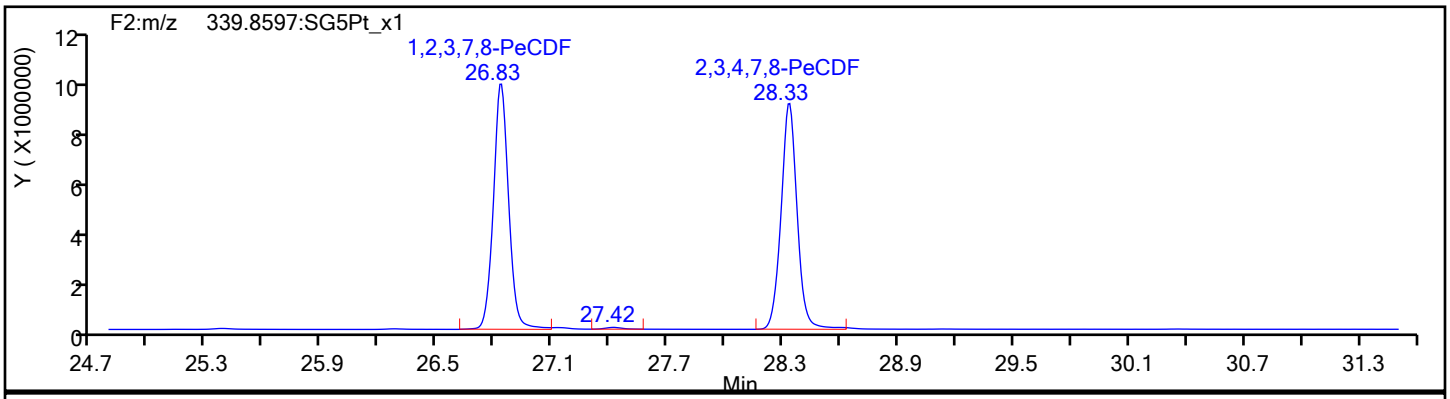

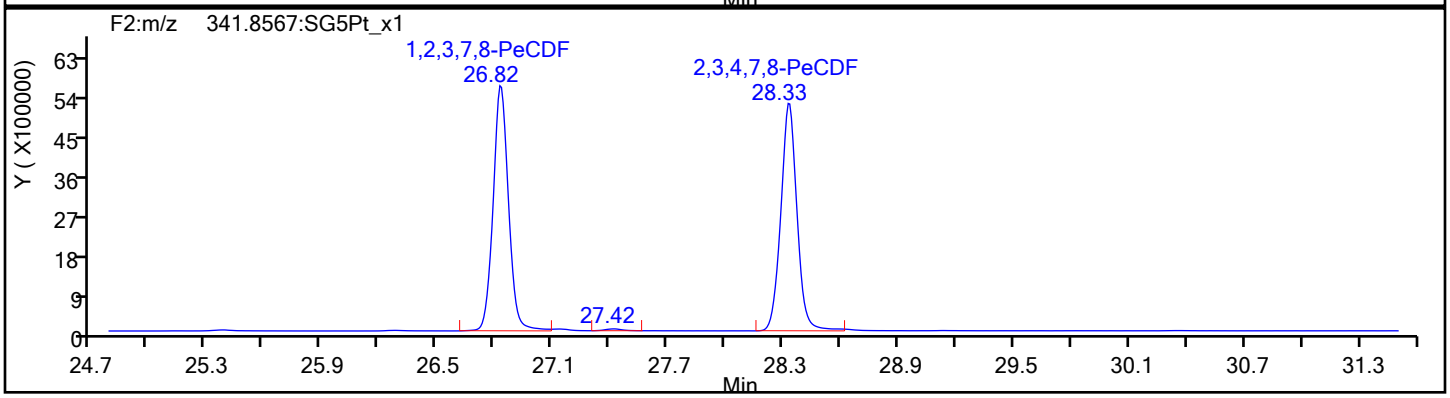

PeCDF Standards

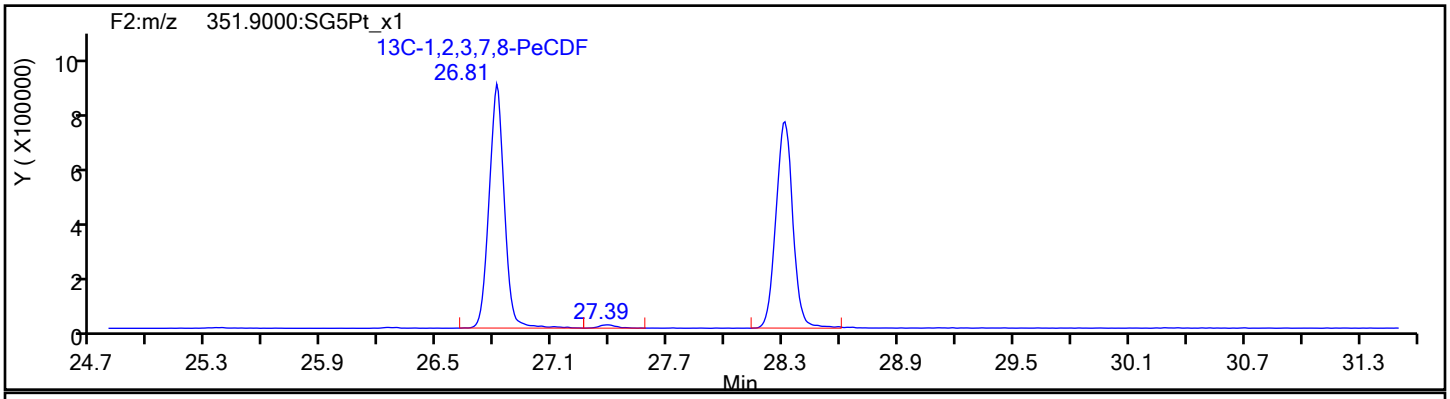

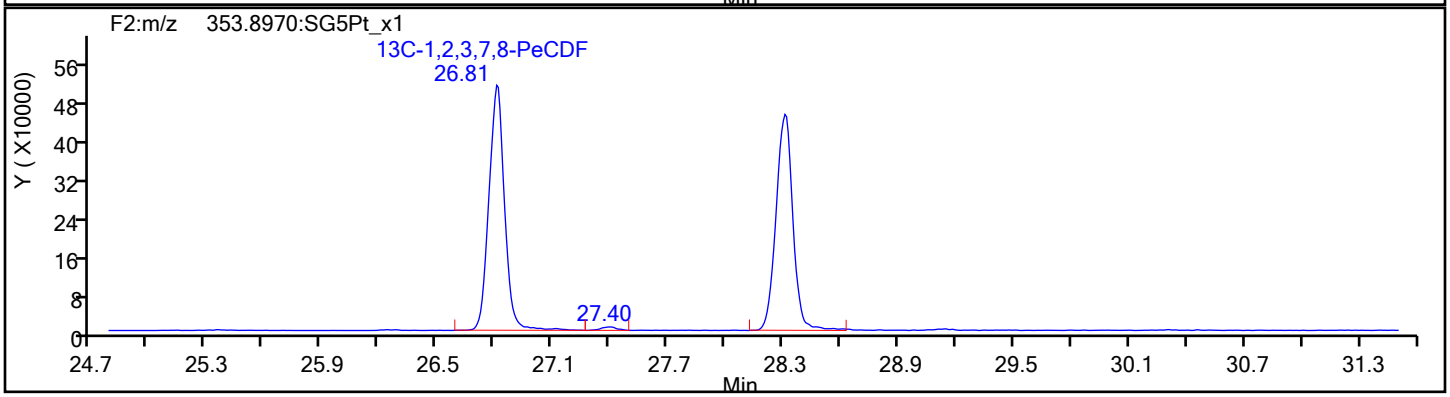

Report Date: 23-Oct-2019 11:53:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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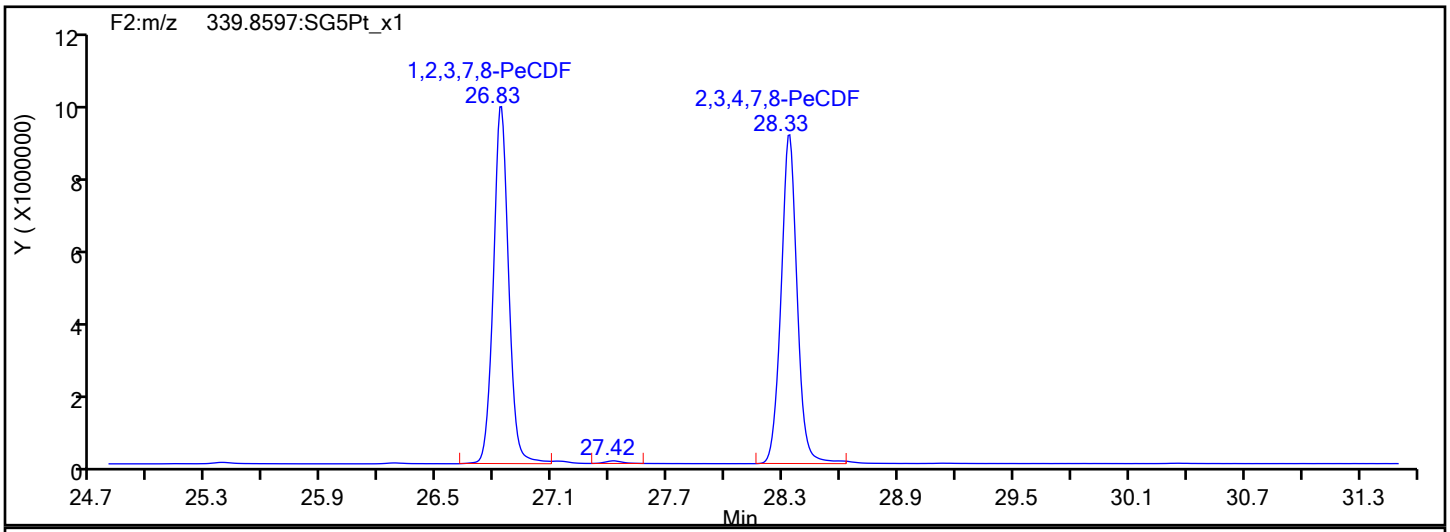

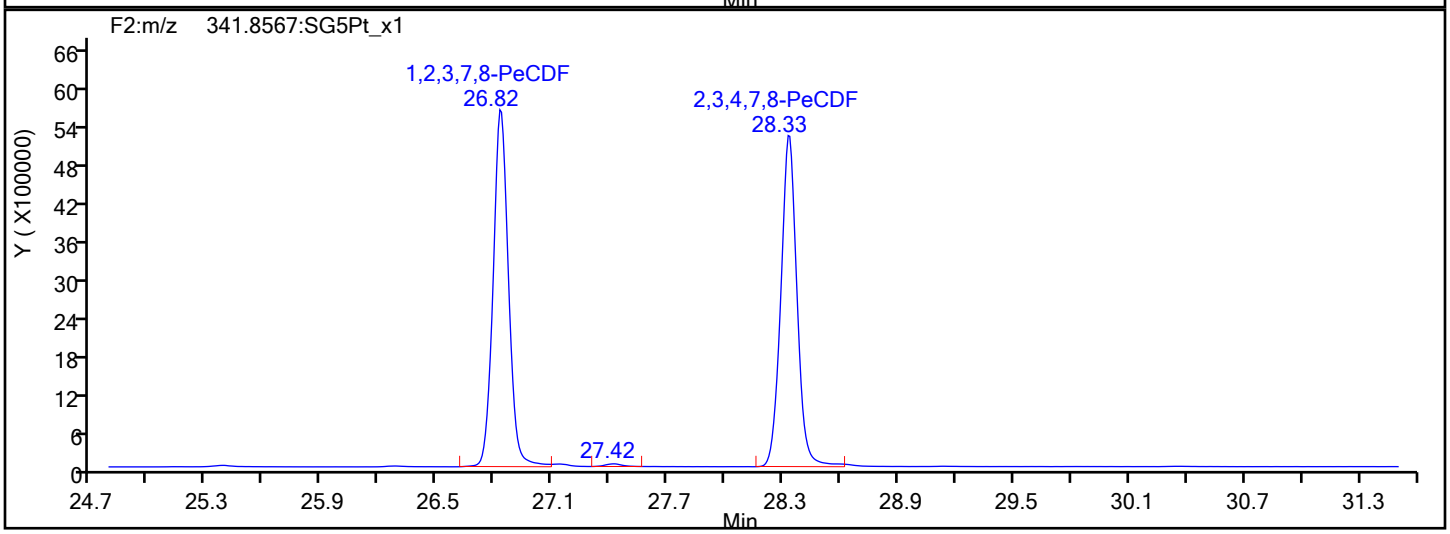

PeCDF Interference Mass

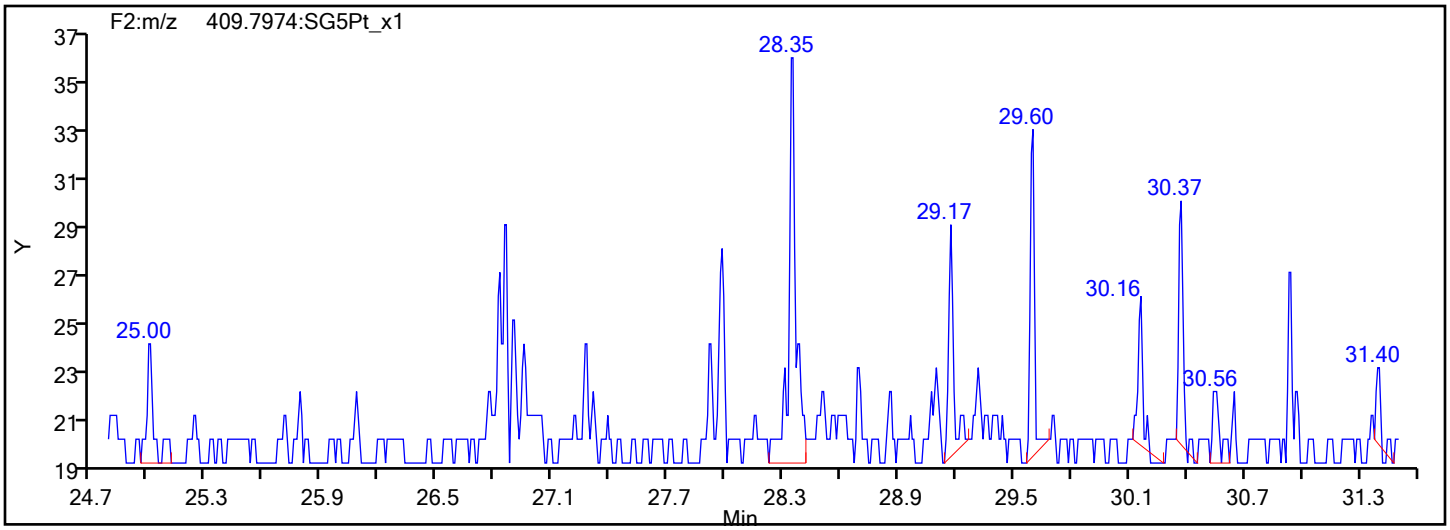

Report Date: 23-Oct-2019 11:53:59 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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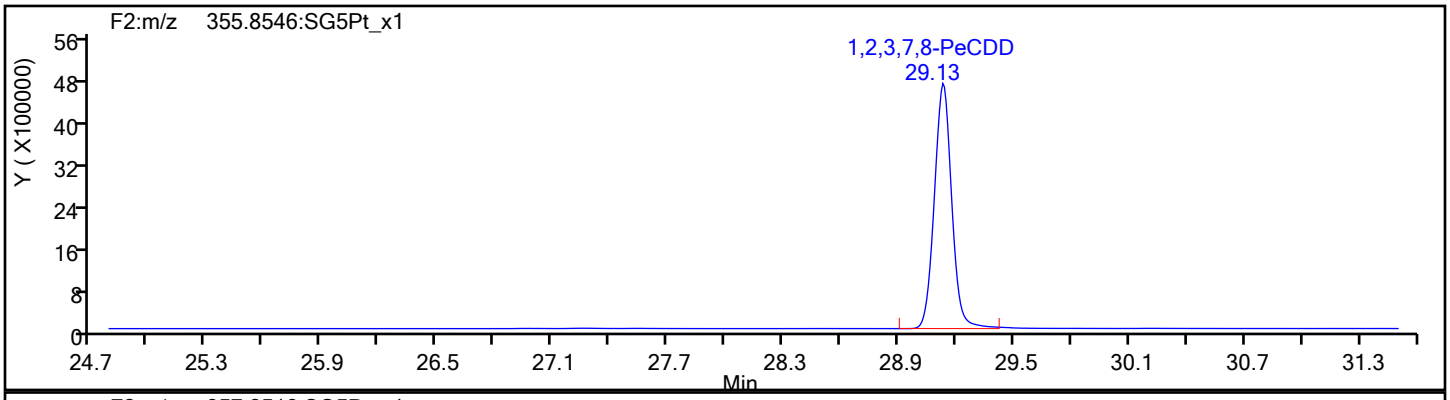

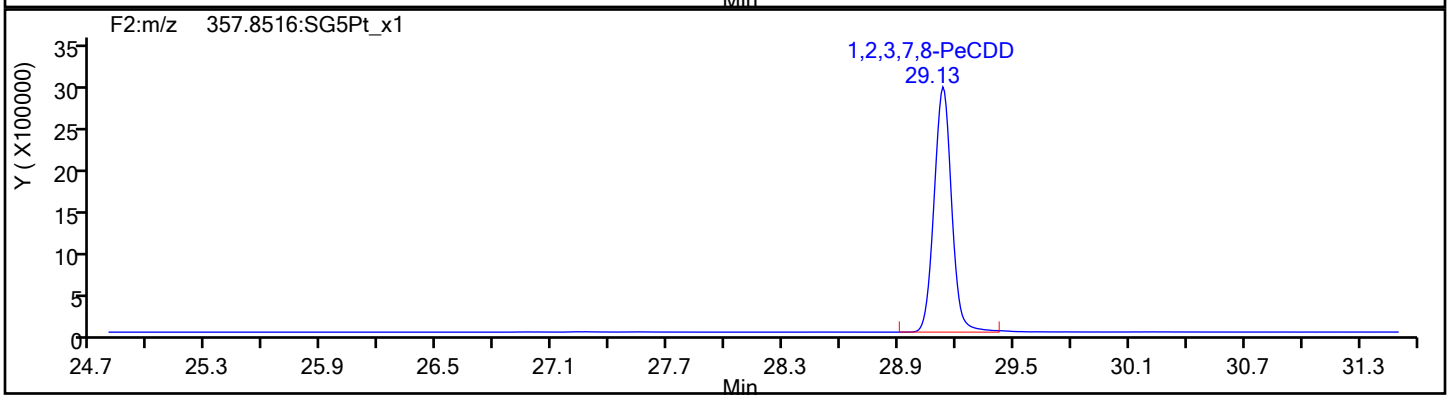

PeCDD Standards

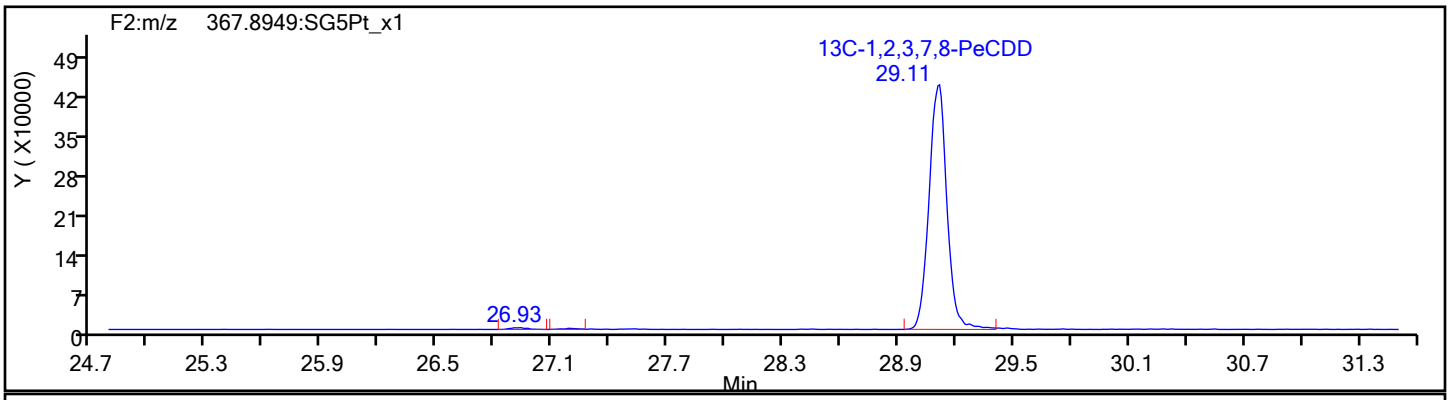

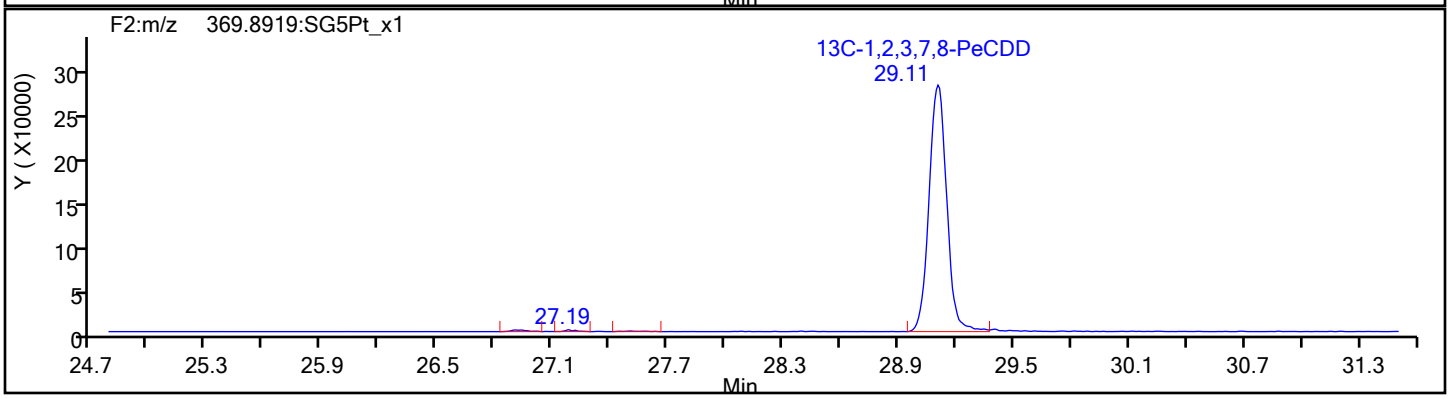

Report Date: 23-Oct-2019 11:53:59 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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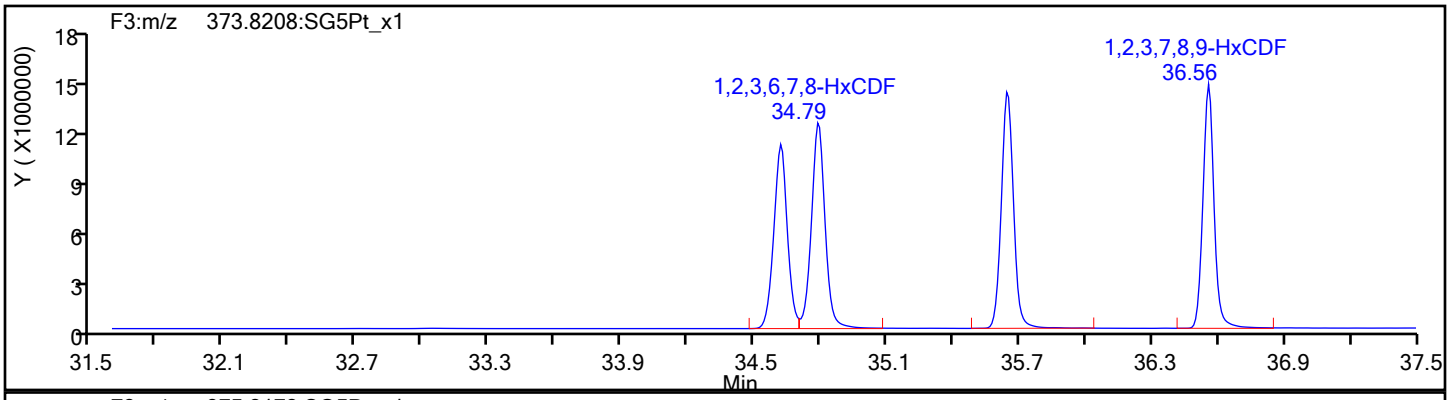

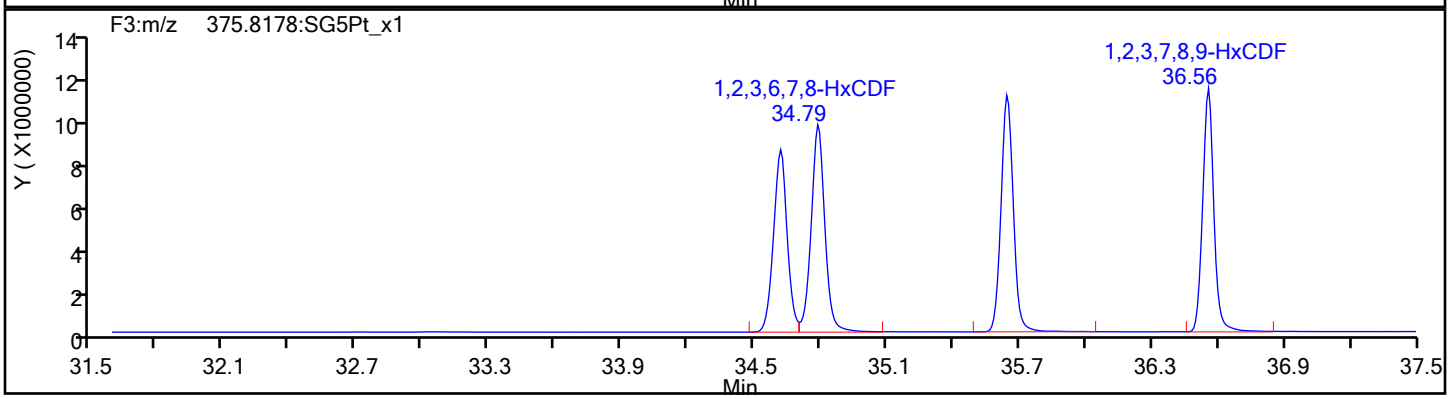

HxCDF Standards

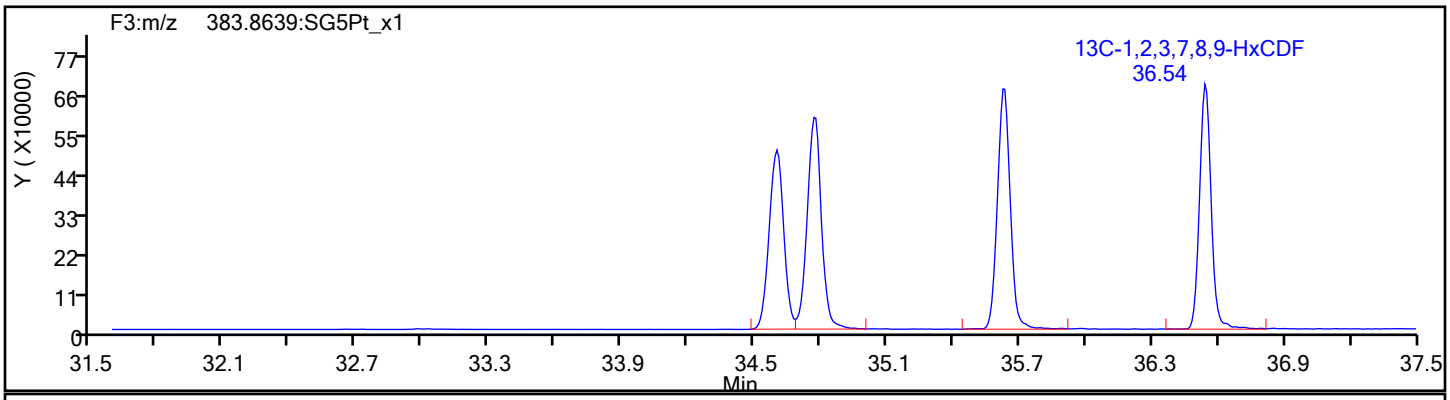

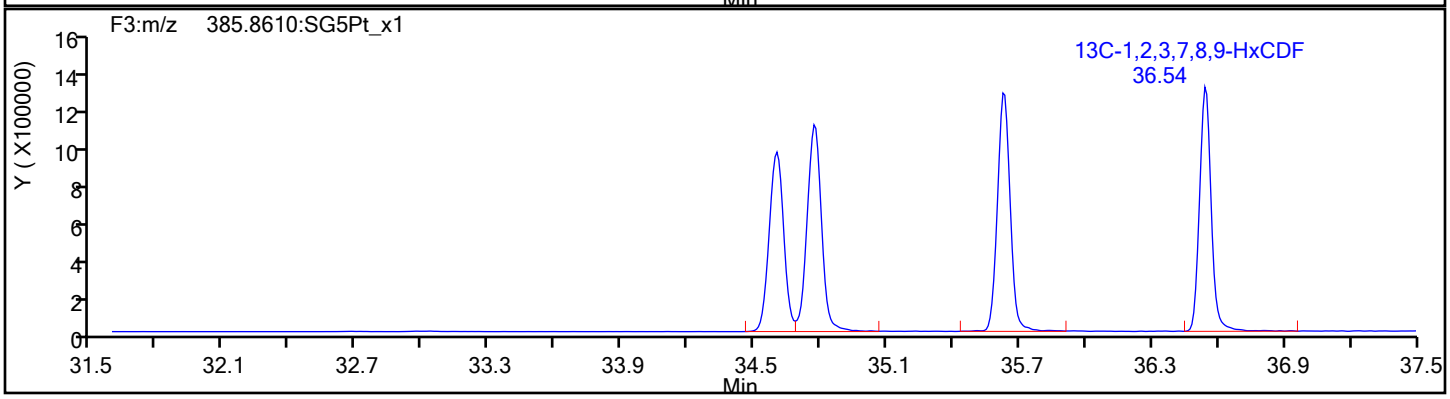

Report Date: 23-Oct-2019 11:53:59 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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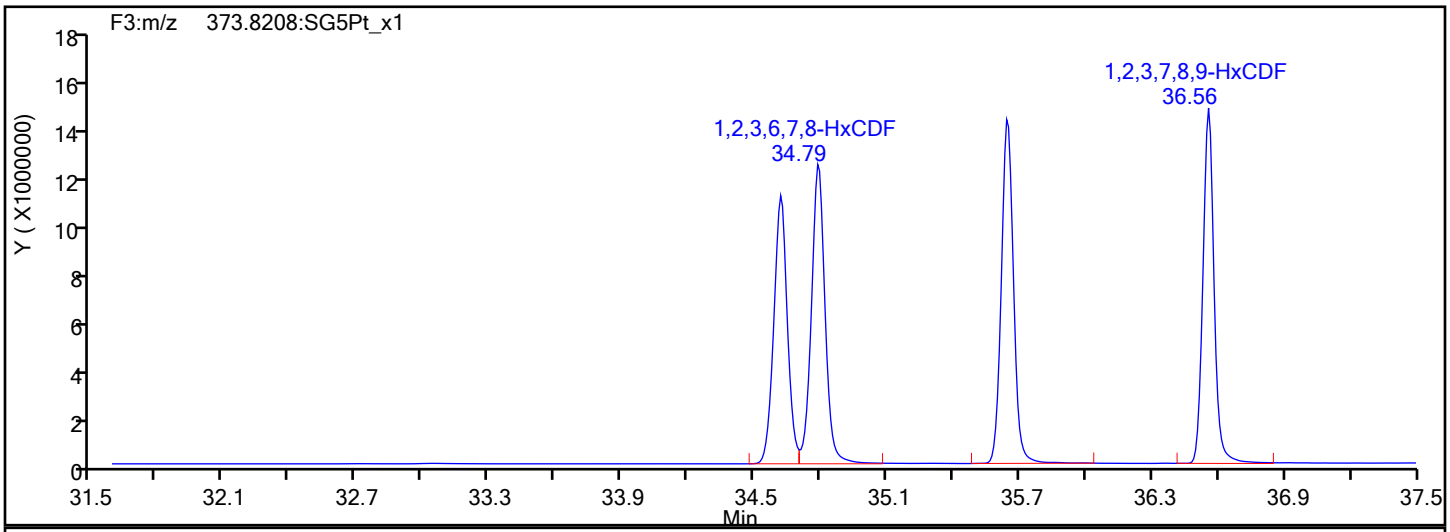

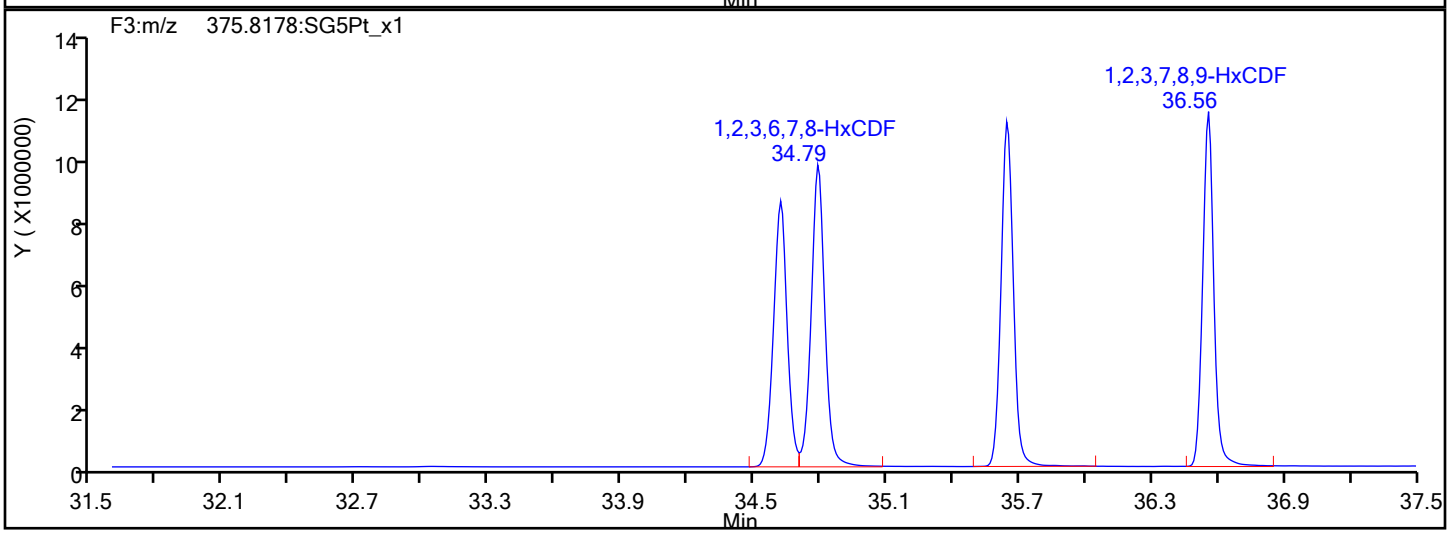

HxCDF Interference Mass

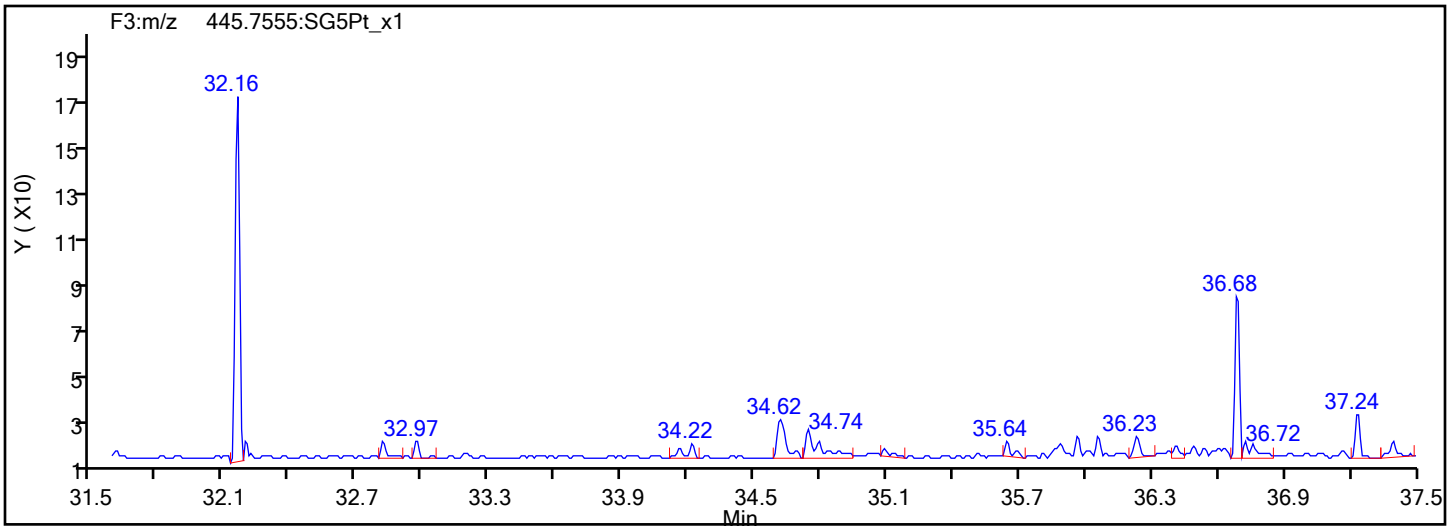

Report Date: 23-Oct-2019 11:53:59 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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HxCDD

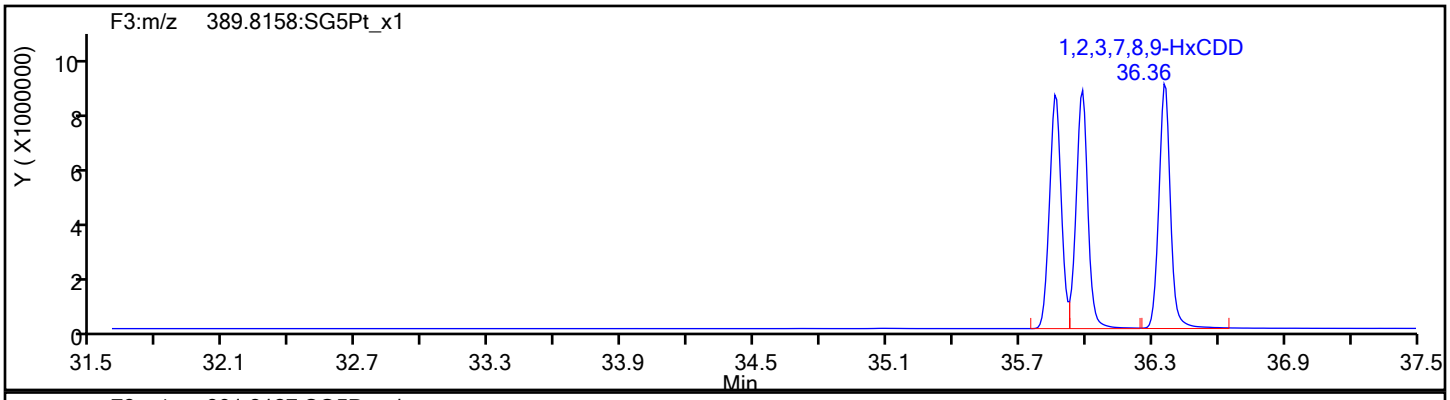

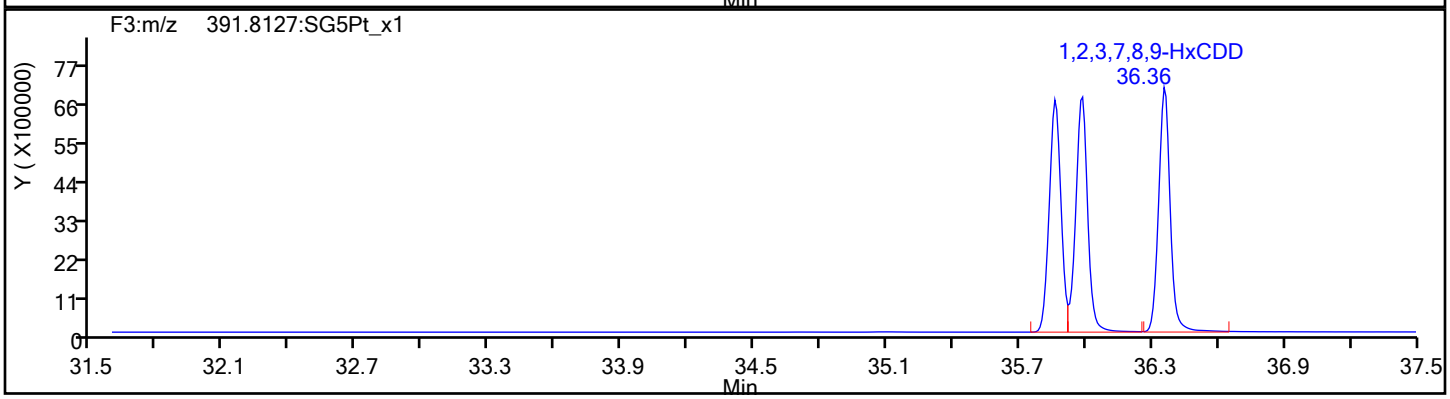

HxCDD Standards

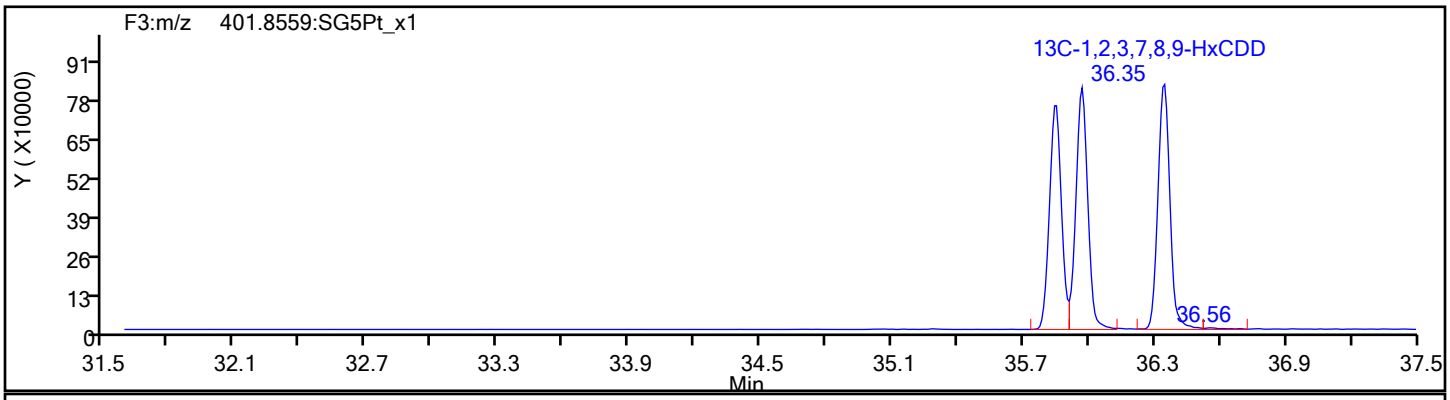

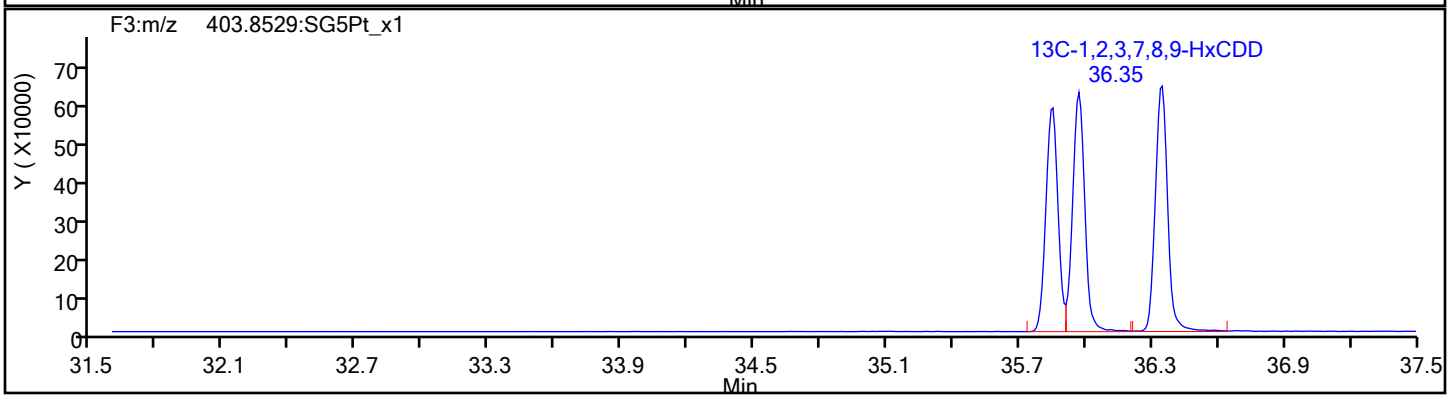

Report Date: 23-Oct-2019 11:53:59 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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HpCDF

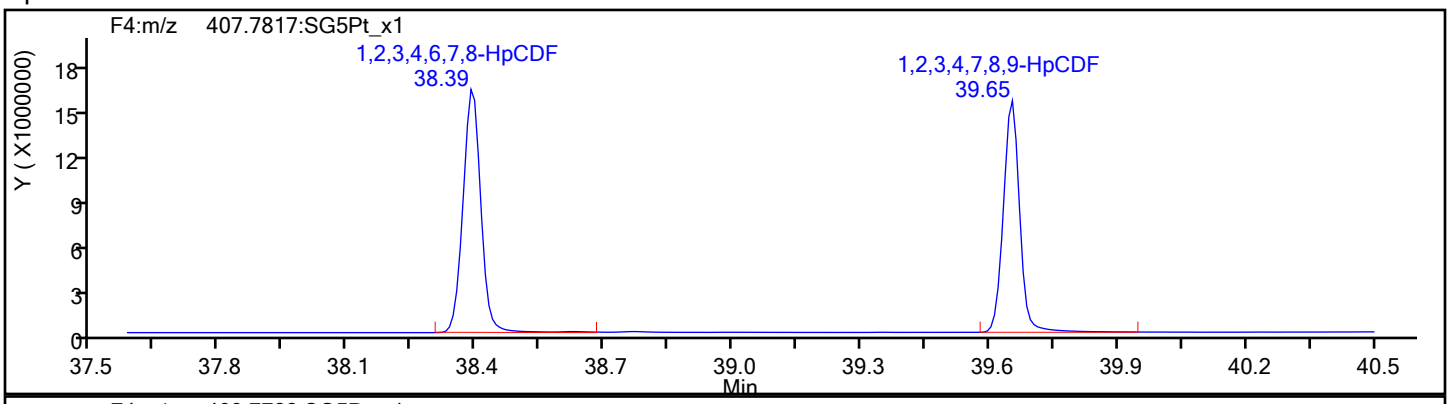

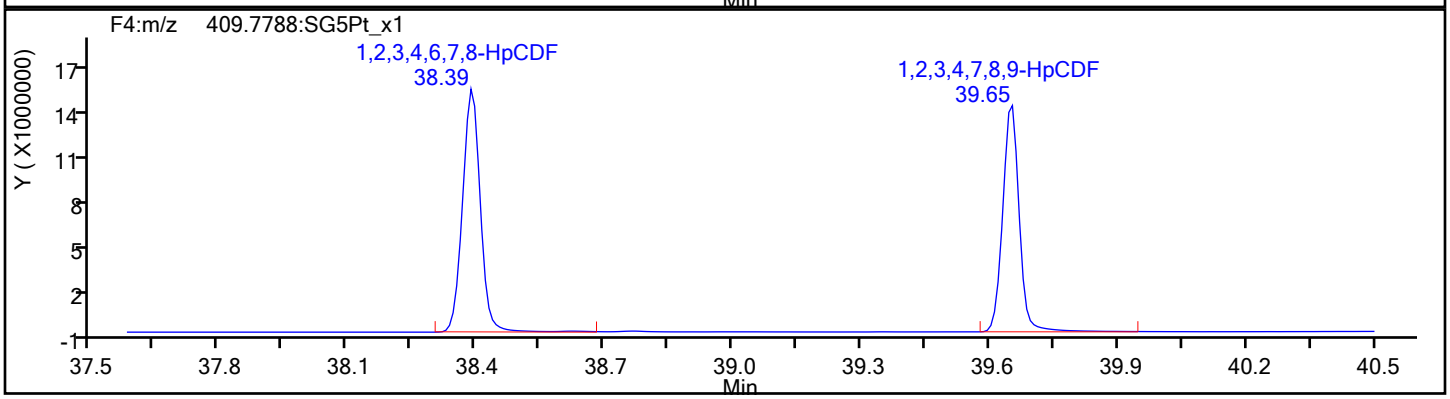

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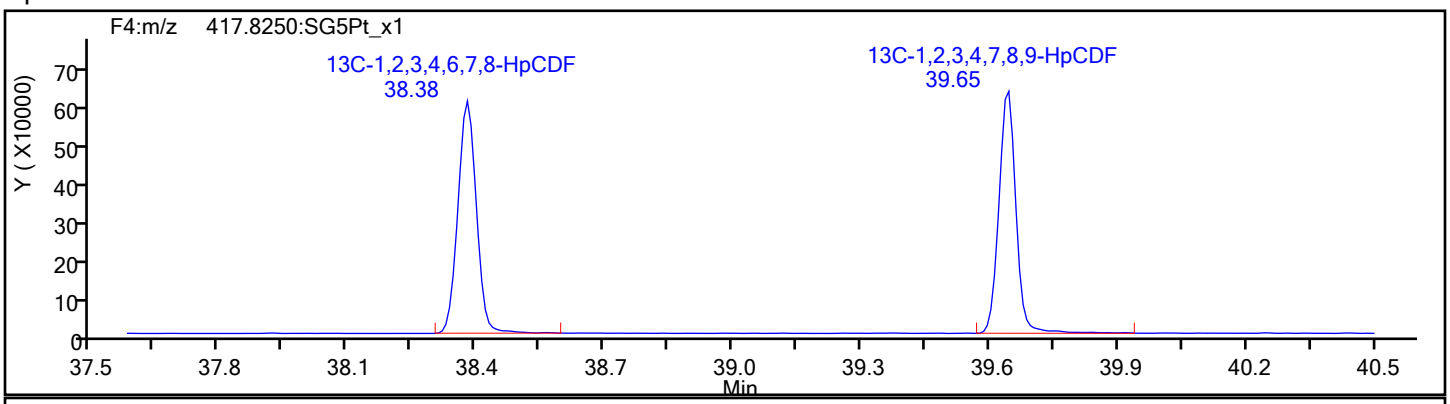

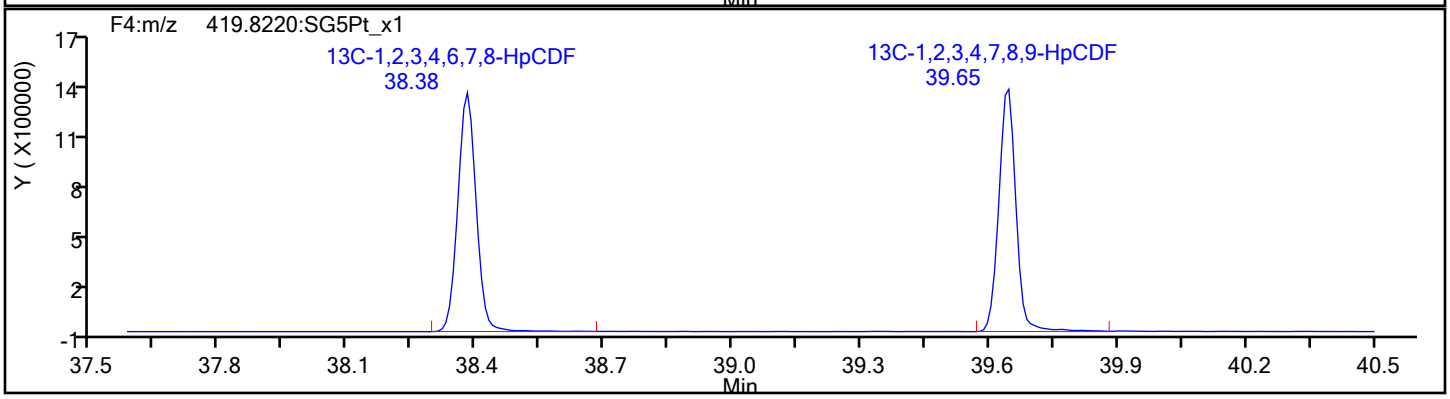

Report Date: 23-Oct-2019 11:53:59 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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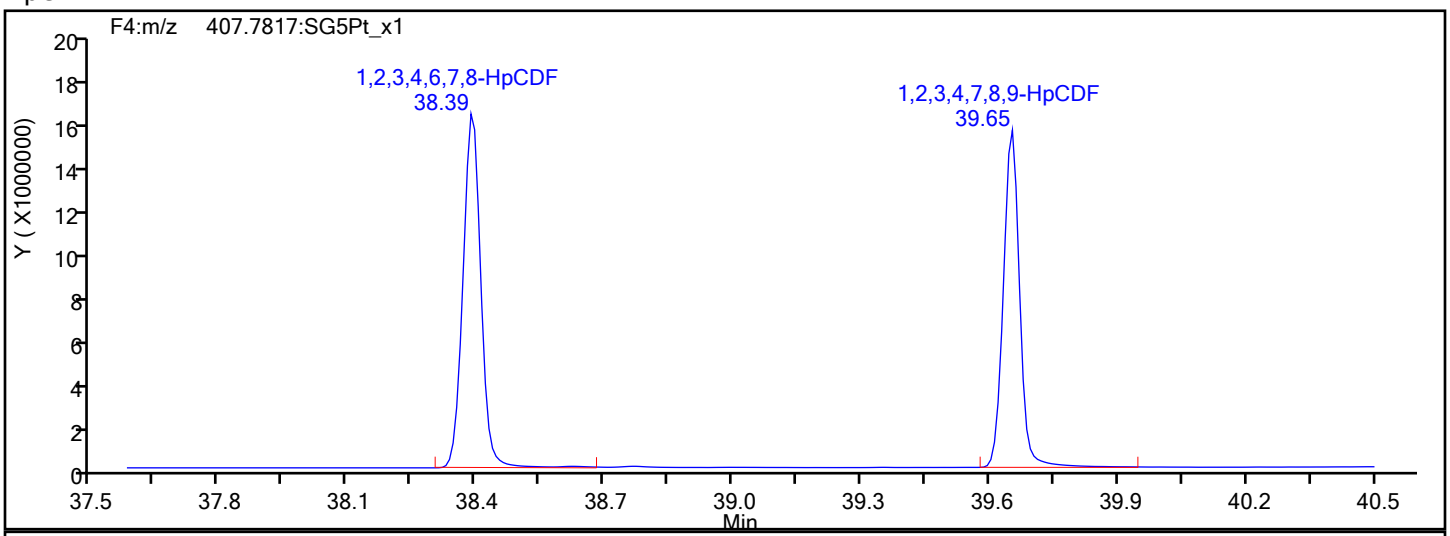

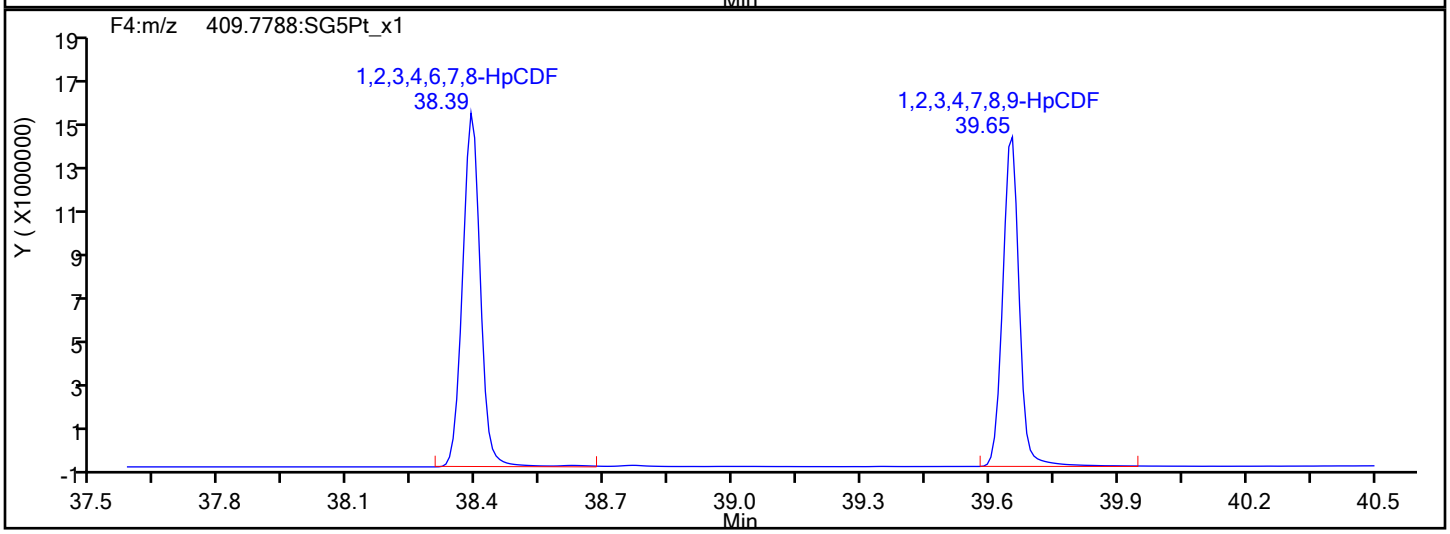

HpCDF Interference Mass

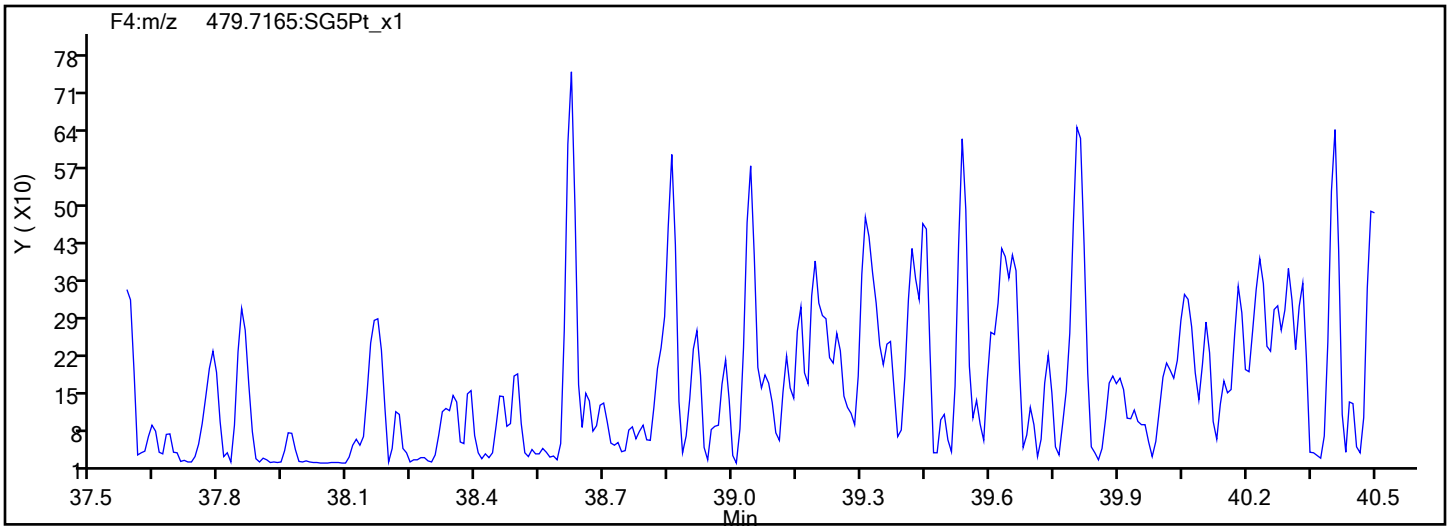

Report Date: 23-Oct-2019 11:53:59 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_8.d		
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HpCDD

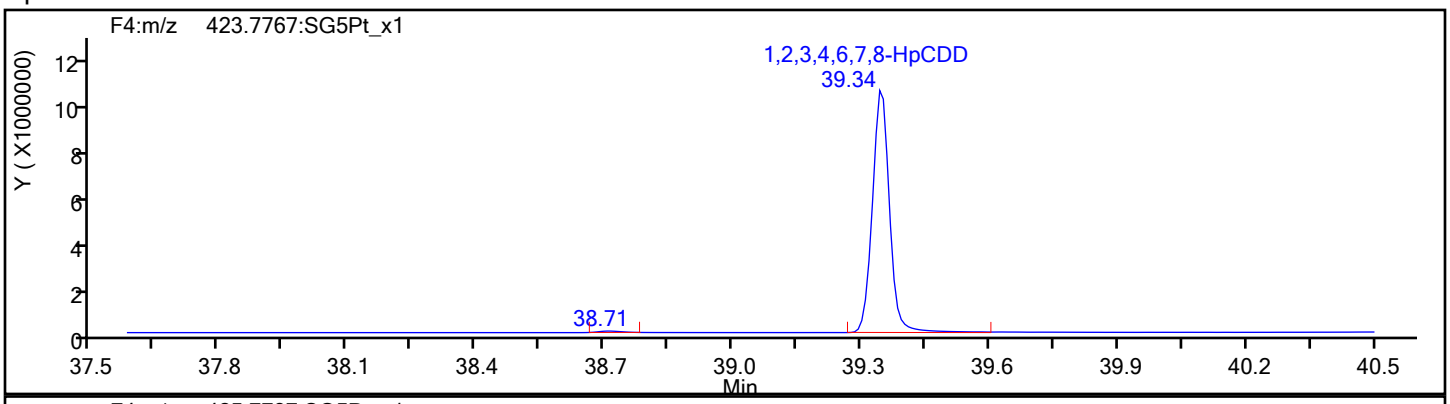

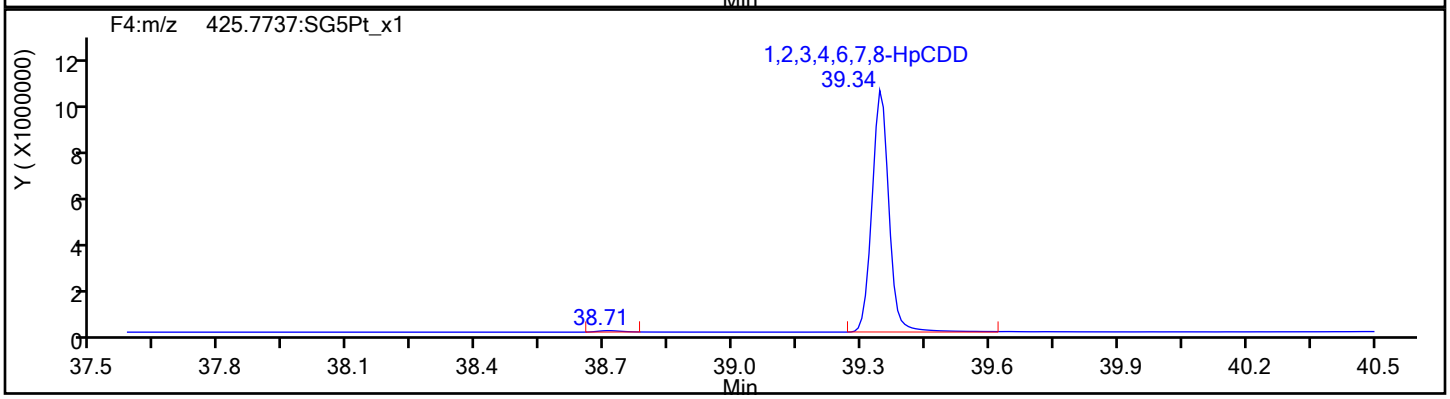

HpCDD Standards

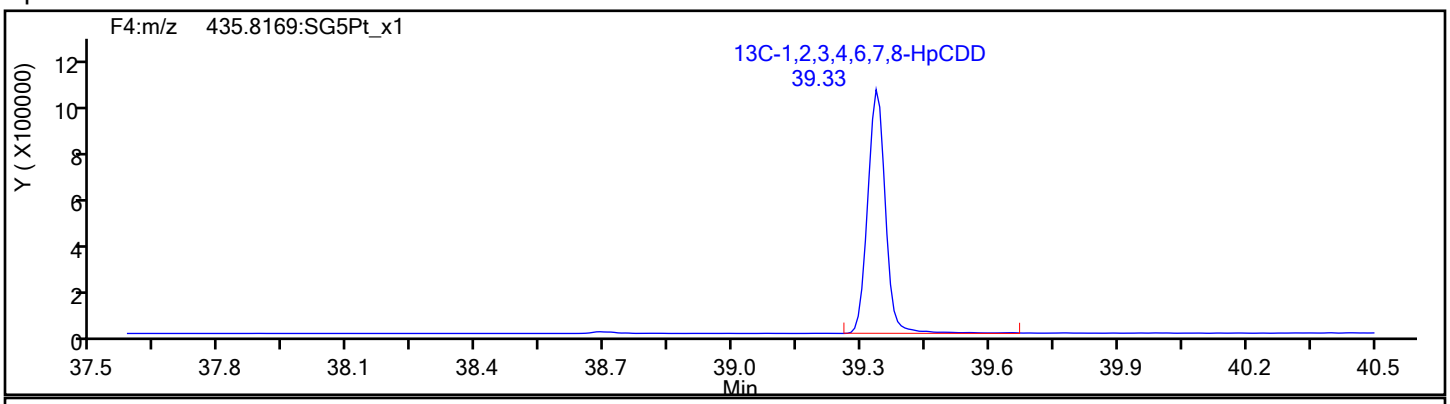

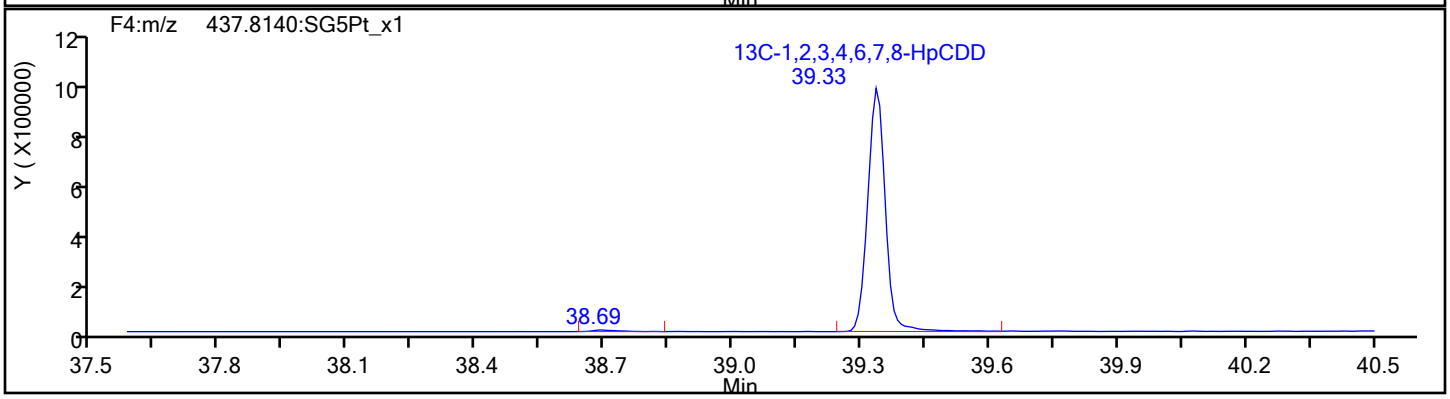

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Eurofins TestAmerica, Sacramento

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OCDF

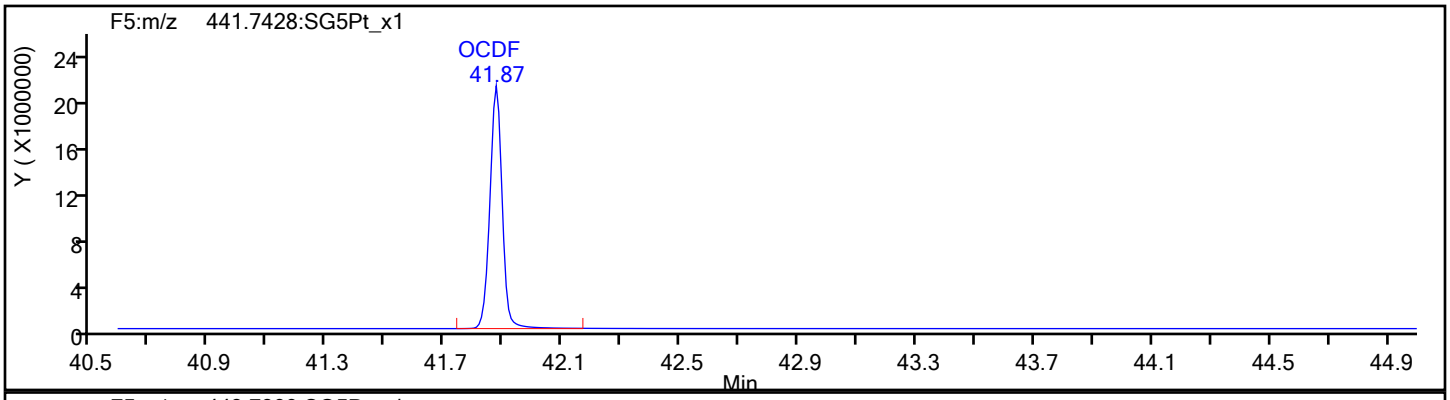

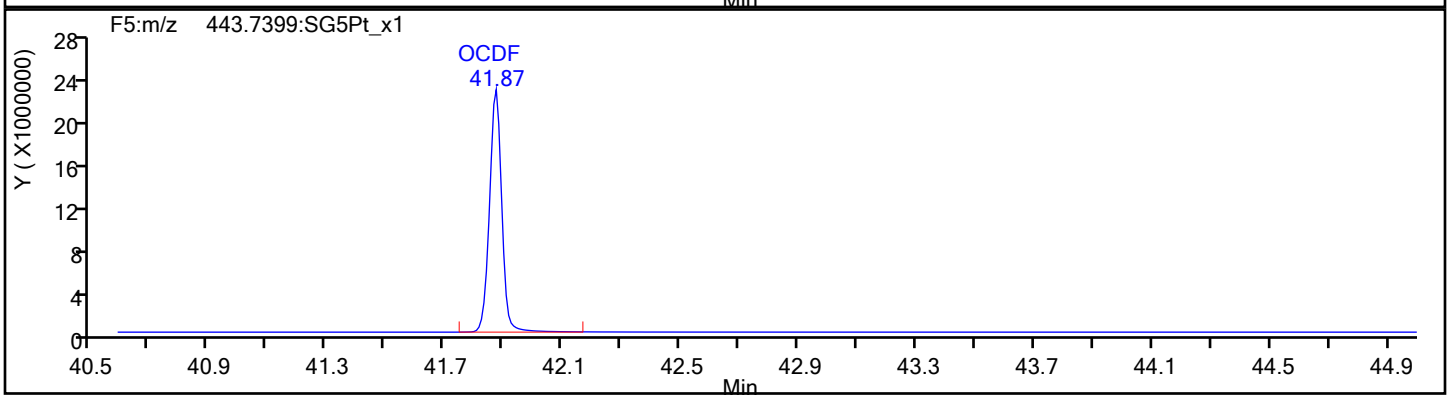

OCDF Standards

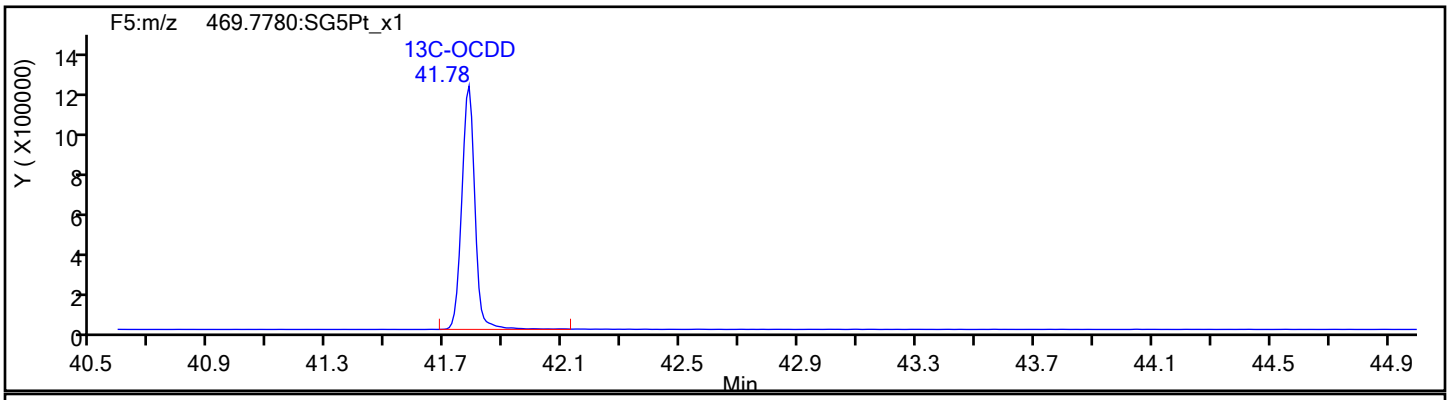

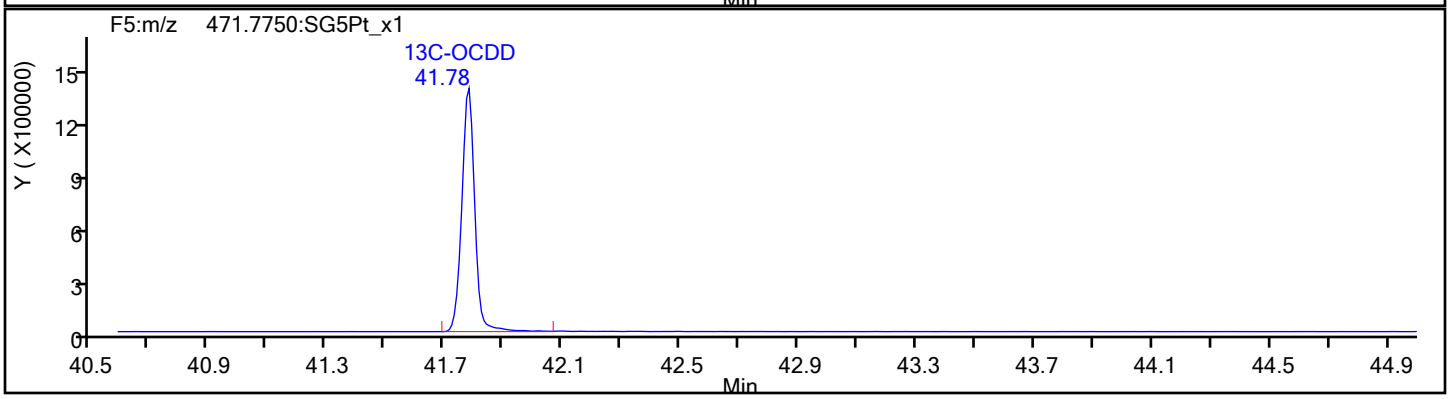

Report Date: 23-Oct-2019 11:53:59 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_8.d		
Injection Date:	19-Oct-2019 00:02:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

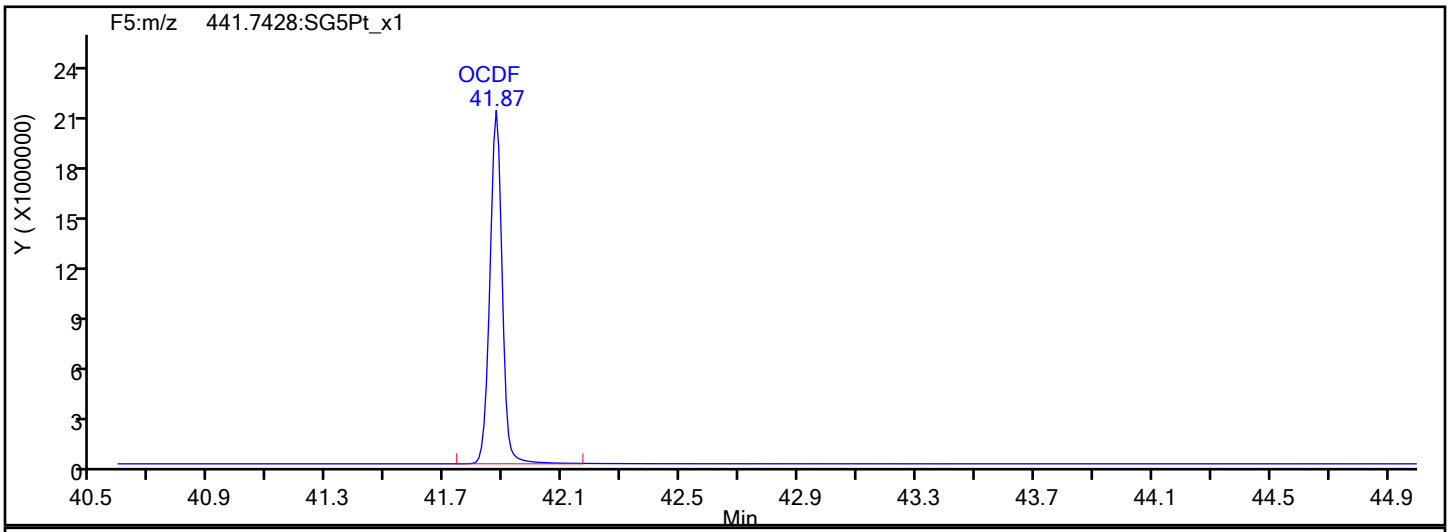

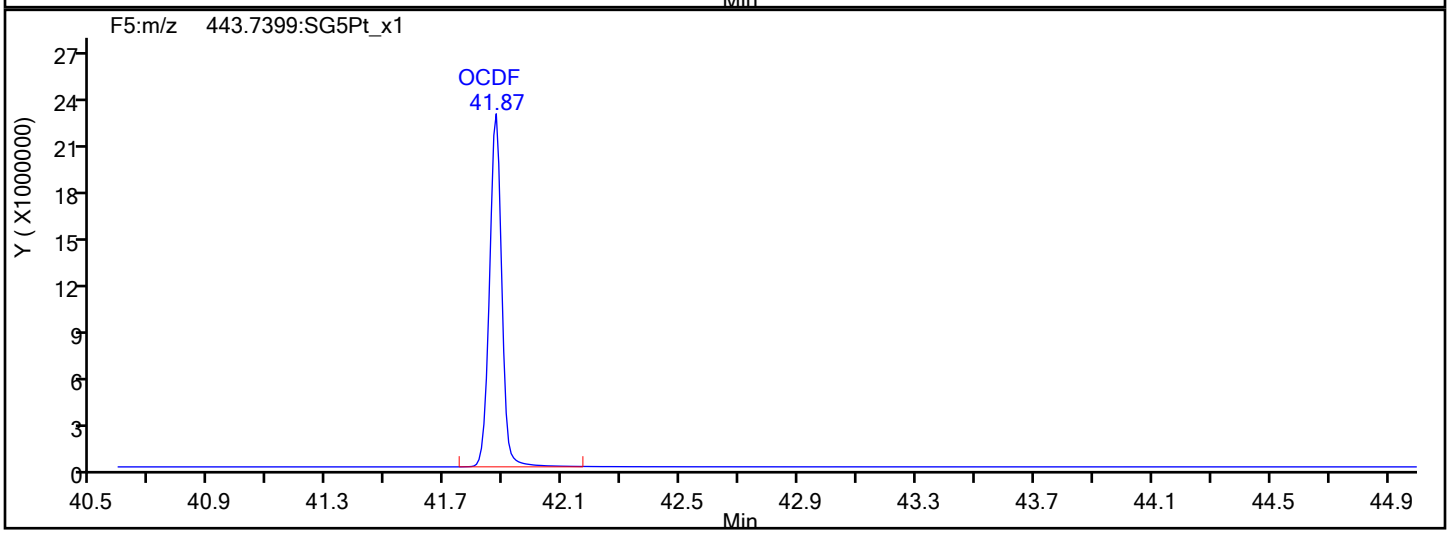

OCDF Interference Mass

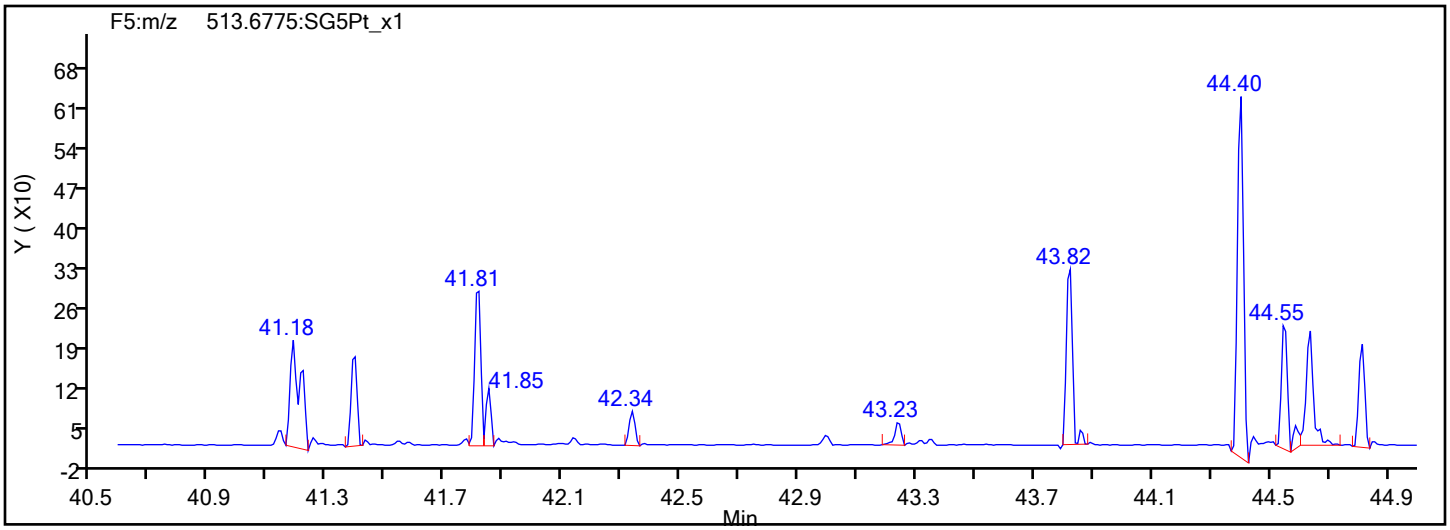

Report Date: 23-Oct-2019 11:53:59 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_8.d		
Injection Date:	19-Oct-2019 00:02:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

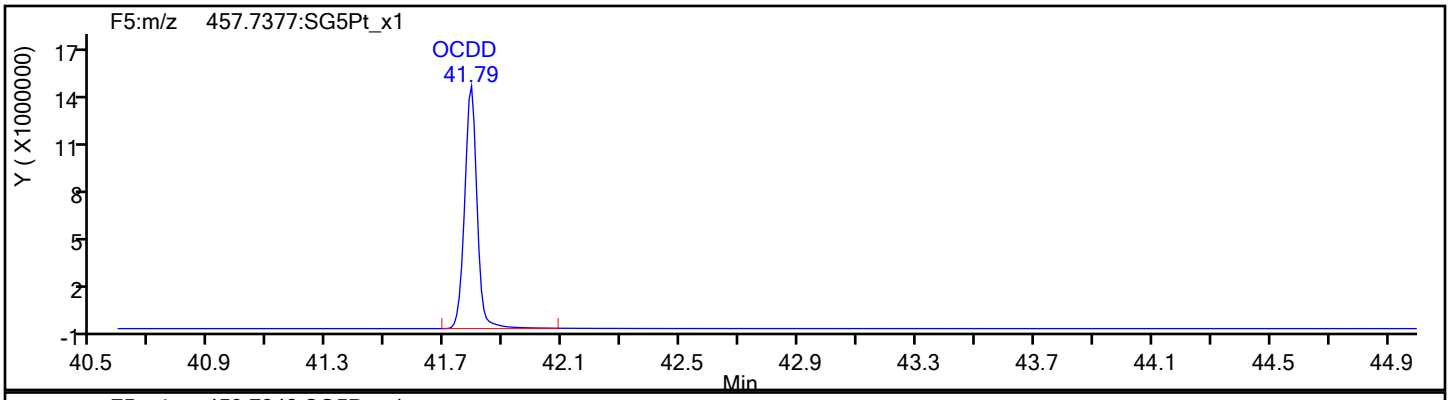

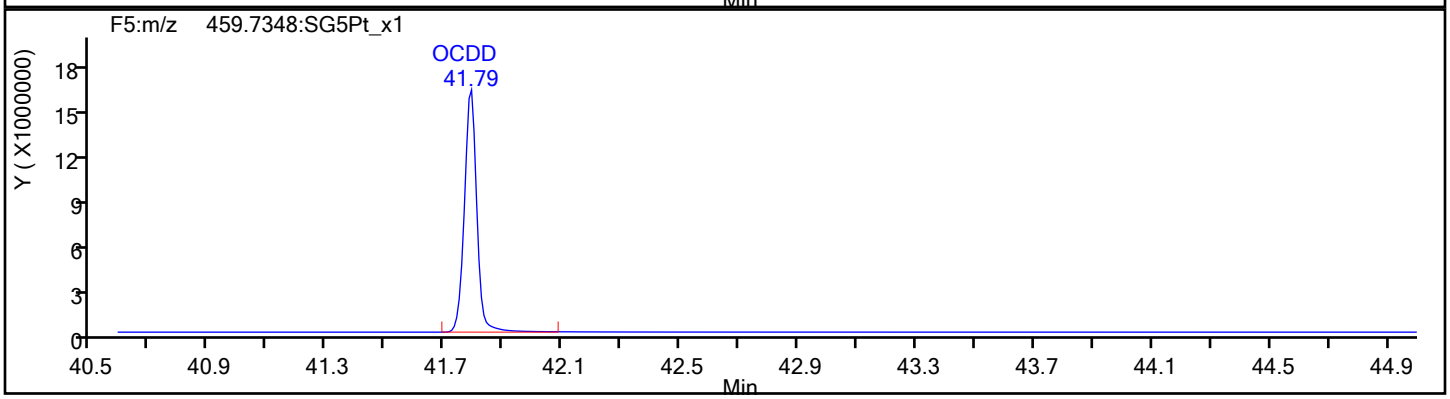

OCDD Standards

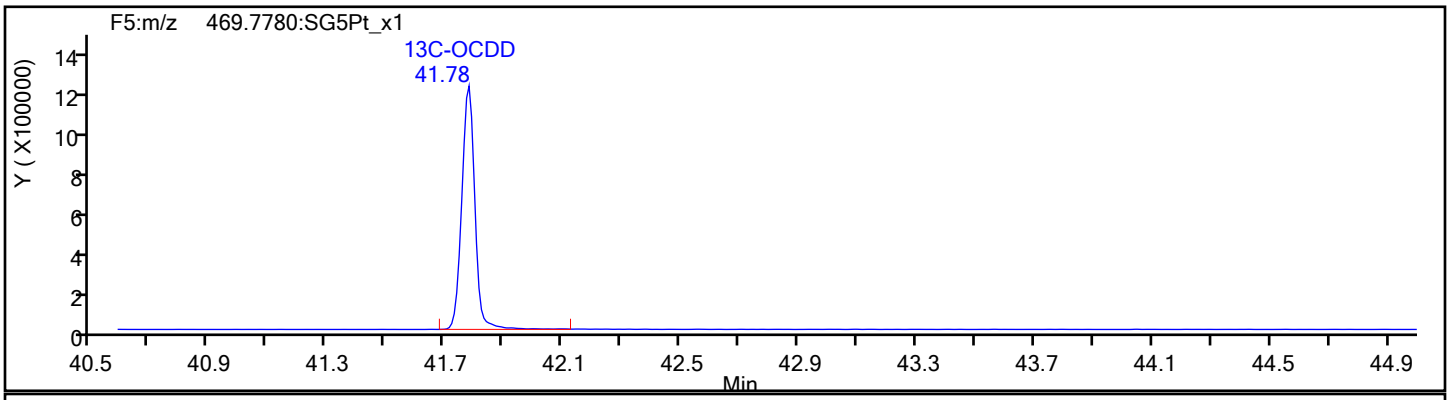

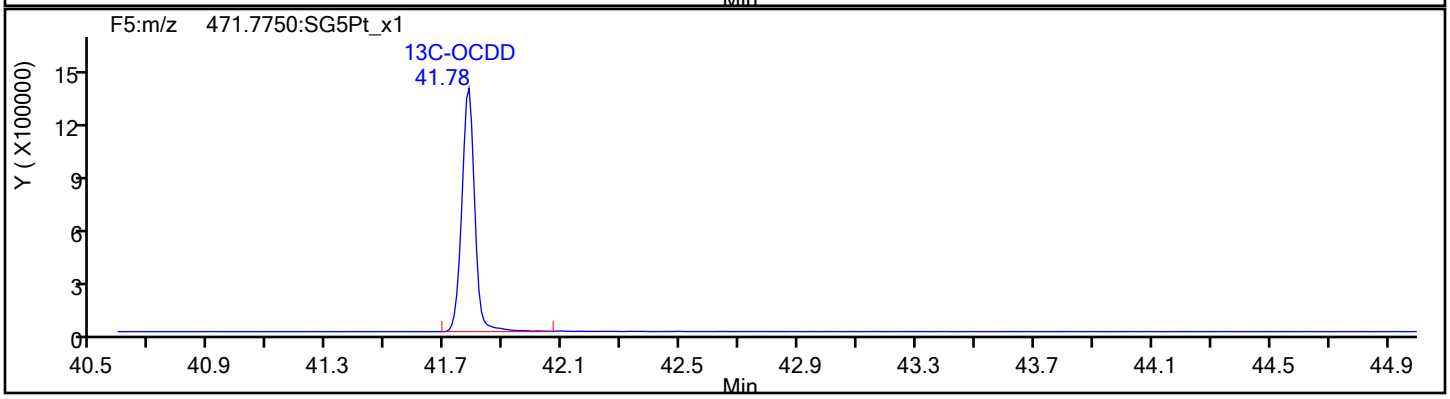

Report Date: 23-Oct-2019 11:53:59 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_8.d		
Injection Date:	19-Oct-2019 00:02:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

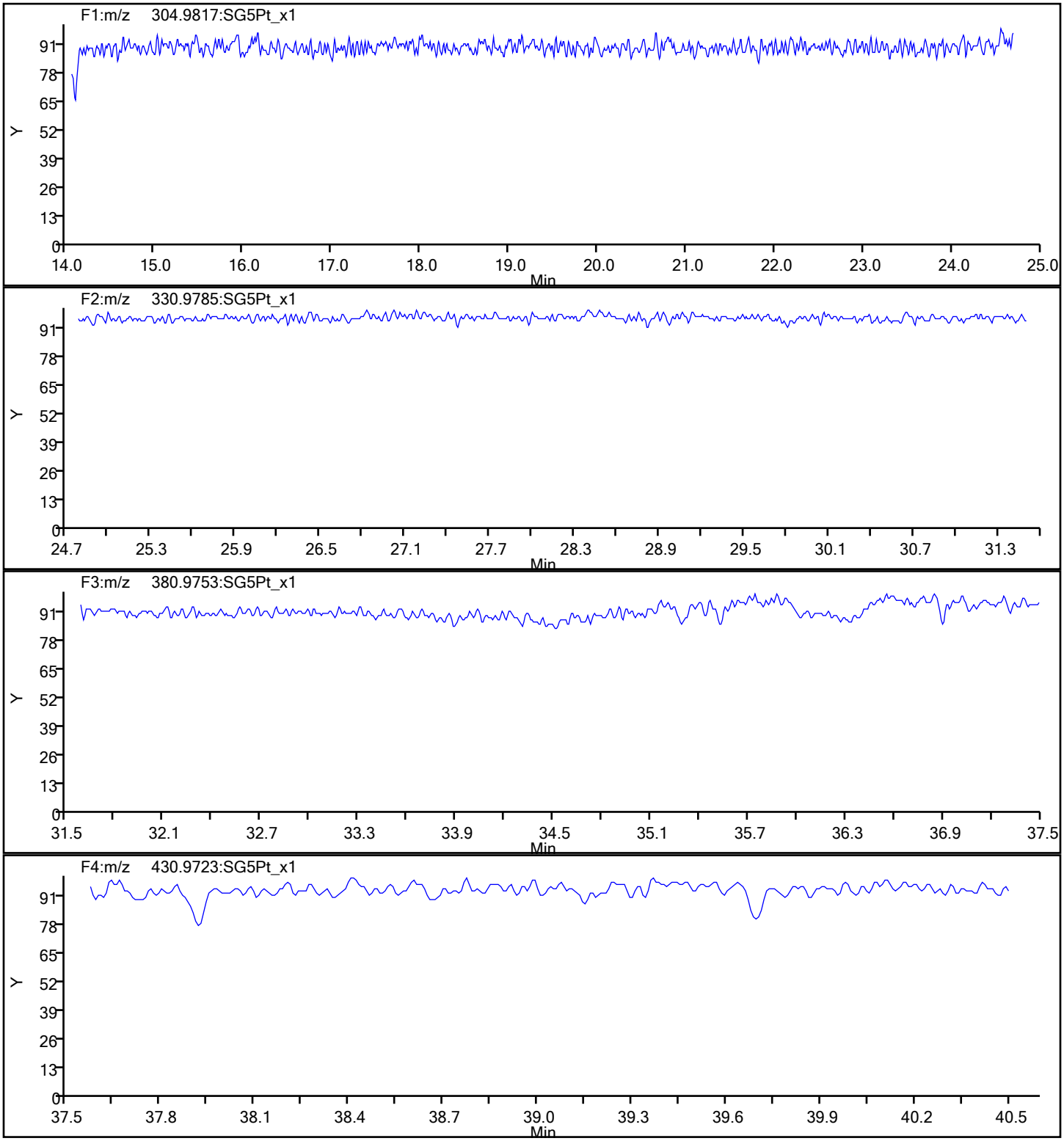

Report Date: 23-Oct-2019 11:53:59 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_8.d		
Injection Date:	19-Oct-2019 00:02:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

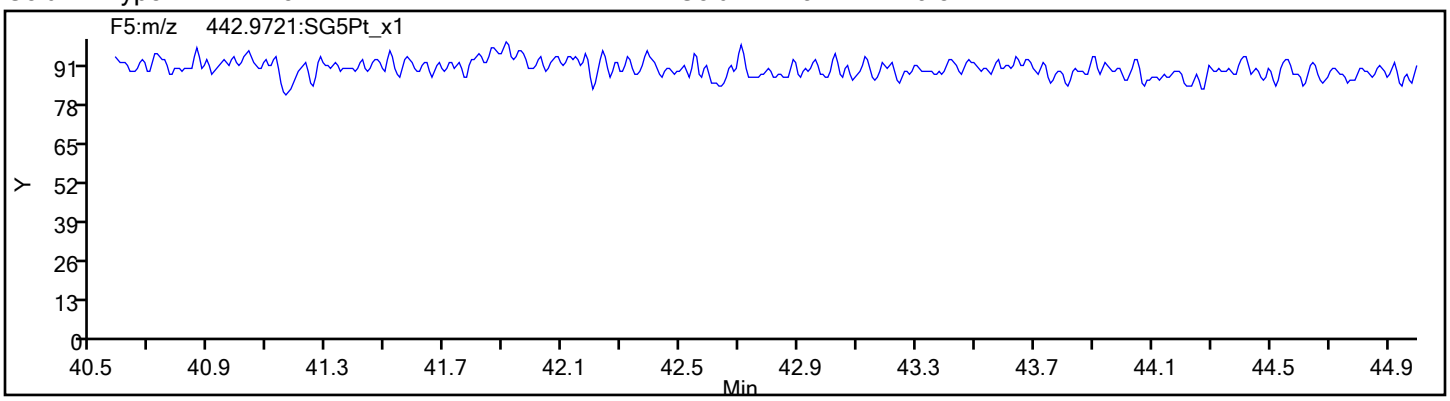

FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Lab Sample ID (1): CPS 320-312067/1 Instrument ID (1): 11D2

GC Column (1): DB-225 ID: 0.32(mm) Date Analyzed (1): 08/02/2019 01:35

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDF	16.64	13

Resolution Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_001.d				
Injection Date:	02-Aug-2019 01:35:28	Instrument ID:	11D2		
Lims ID:	CPS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	2.0 ul	Column:	DB-225 (0.32 mm)		
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL		

2,3,7,8-TCDF

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 944750
H (Peak Height) = 7515097

%R = 13 <= 25
Passed

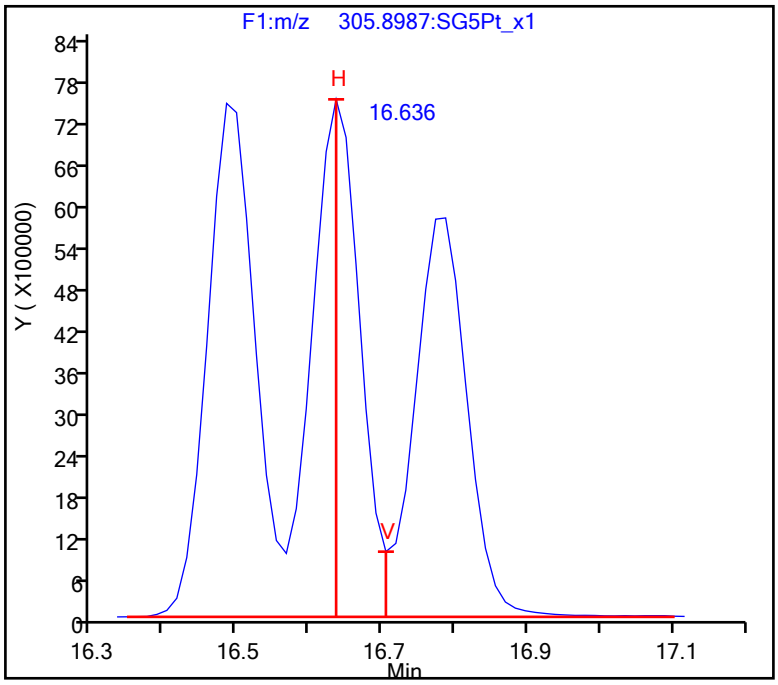

Resolution Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_001.d				
Injection Date:	02-Aug-2019 01:35:28	Instrument ID:	11D2		
Lims ID:	CPS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	2.0 ul	Column:	DB-225 (0.32 mm)		
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL		

FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Lab Sample ID (1): WDM 320-324128/1 Instrument ID (1): 10D5

GC Column (1): DB-5 ID: 0.32(mm) Date Analyzed (1): 09/17/2019 11:28

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDD	17.51	22

Resolution Report

Eurofins TestAmerica, Sacramento

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d
Injection Date: 17-Sep-2019 11:28:41 Instrument ID: 10D5
Lims ID: WDM
Client ID:
Operator ID: AJS ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Column: DB-5 (0.32 mm)
Method: Dioxin_10D5 Limit Group: HR - 1613B - ICAL

2,3,7,8-TCDD

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 1464421
H (Peak Height) = 6639771

%R = 22 <= 25
Passed

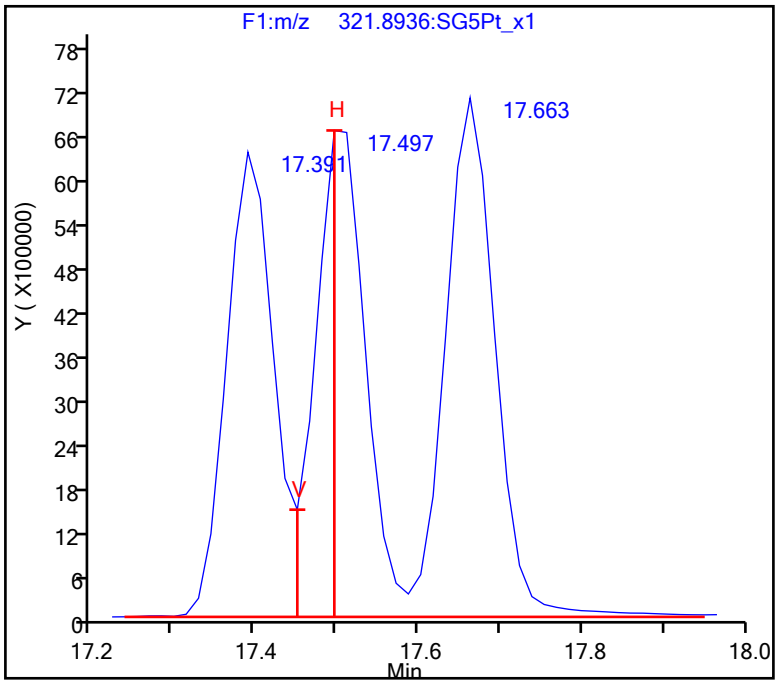

FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Lab Sample ID (1): WDM 320-332505/1 Instrument ID (1): DFS 1

GC Column (1): DB-5 ID: 0.32(mm) Date Analyzed (1): 10/18/2019 19:15

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDD	21.22	17

Resolution Report

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_2.d				
Injection Date:	18-Oct-2019 19:15:00	Instrument ID:	DFS 1		
Lims ID:	WDM				
Client ID:					
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	1.0 ul	Column:	DB-5 (0.32 mm)		
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL		

2,3,7,8-TCDD

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 25043
H (Peak Height) = 149721

%R = 17 <= 25
Passed

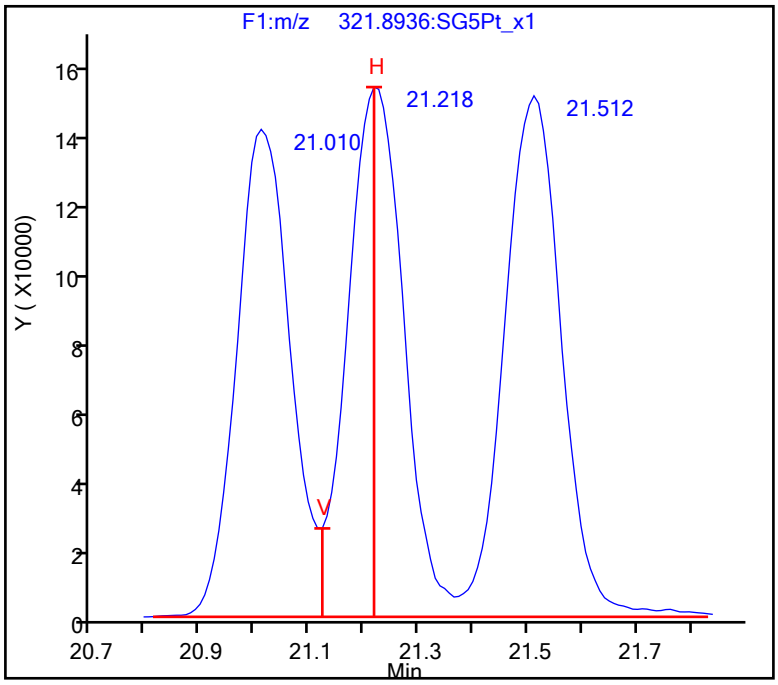

FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Lab Sample ID (1): WDM 320-336302/1 Instrument ID (1): 10D5

GC Column (1): DB-5 ID: 0.32(mm) Date Analyzed (1): 11/05/2019 19:16

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDD	17.46	23

Resolution Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_1.d				
Injection Date:	05-Nov-2019 19:16:08	Instrument ID:	10D5		
Lims ID:	WDM				
Client ID:					
Operator ID:	ALM	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	2.0 ul	Column:	DB-5 (0.32 mm)		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		

2,3,7,8-TCDD

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 1357188
H (Peak Height) = 6000471

%R = 23 <= 25
Passed

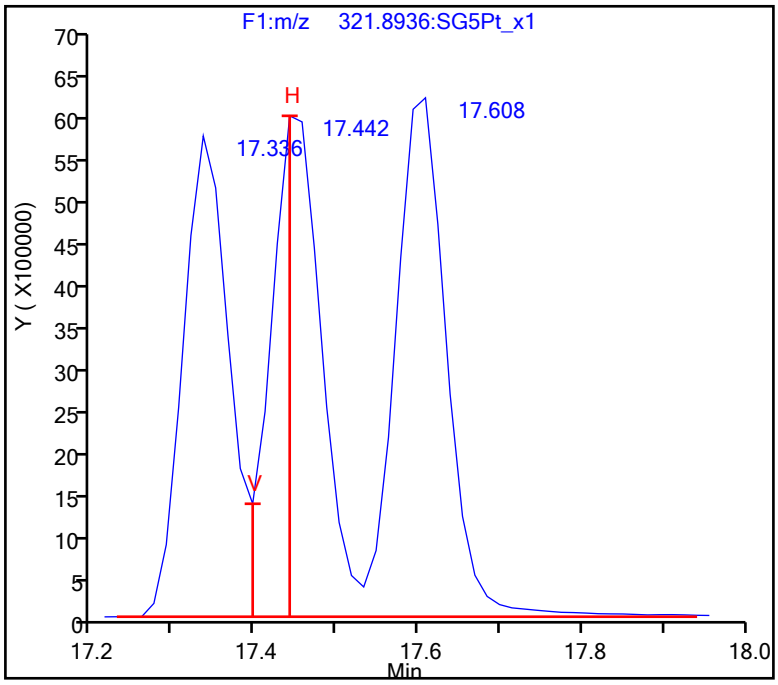

FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Lab Sample ID (1): CPS 320-336810/1 Instrument ID (1): 11D2

GC Column (1): DB-225 ID: 0.32(mm) Date Analyzed (1): 11/07/2019 14:58

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDF	16.58	14

Resolution Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_001.d				
Injection Date:	07-Nov-2019 14:58:46	Instrument ID:	11D2		
Lims ID:	CPS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	2.0 ul	Column:	DB-225 (0.32 mm)		
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL		

2,3,7,8-TCDF

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 2081708
H (Peak Height) = 14680572

%R = 14 <= 25
Passed

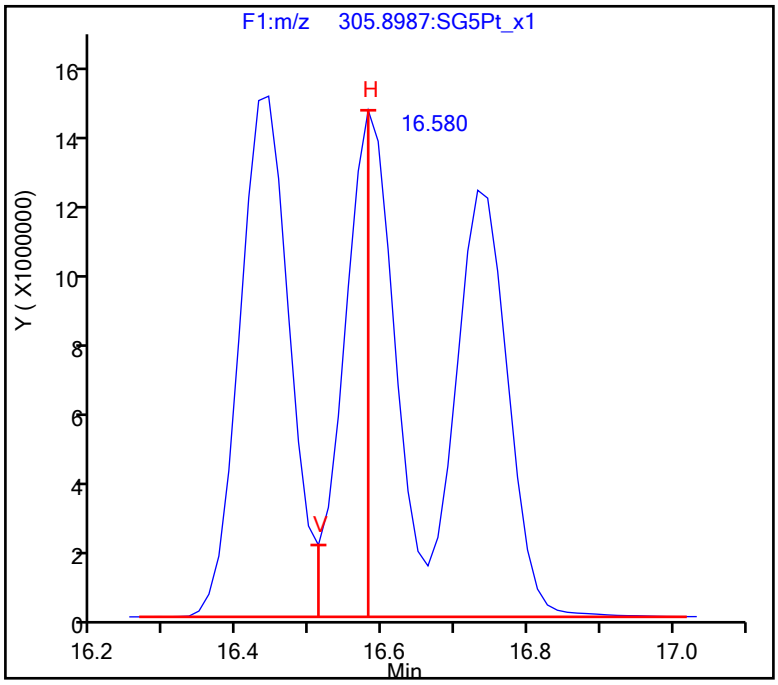

Resolution Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_001.d				
Injection Date:	07-Nov-2019 14:58:46	Instrument ID:	11D2		
Lims ID:	CPS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	2.0 ul	Column:	DB-225 (0.32 mm)		
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL		

FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Lab Sample ID (1): WDM 320-336838/1 Instrument ID (1): DFS 1

GC Column (1): DB-5 ID: 0.32(mm) Date Analyzed (1): 11/07/2019 16:02

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDD	20.86	14

Resolution Report

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_2.d				
Injection Date:	07-Nov-2019 16:02:00	Instrument ID:	DFS 1		
Lims ID:	WDM				
Client ID:					
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	1.0 ul	Column:	DB-5 (0.32 mm)		
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL		

2,3,7,8-TCDD

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 14714
H (Peak Height) = 109076

%R = 14 <= 25
Passed

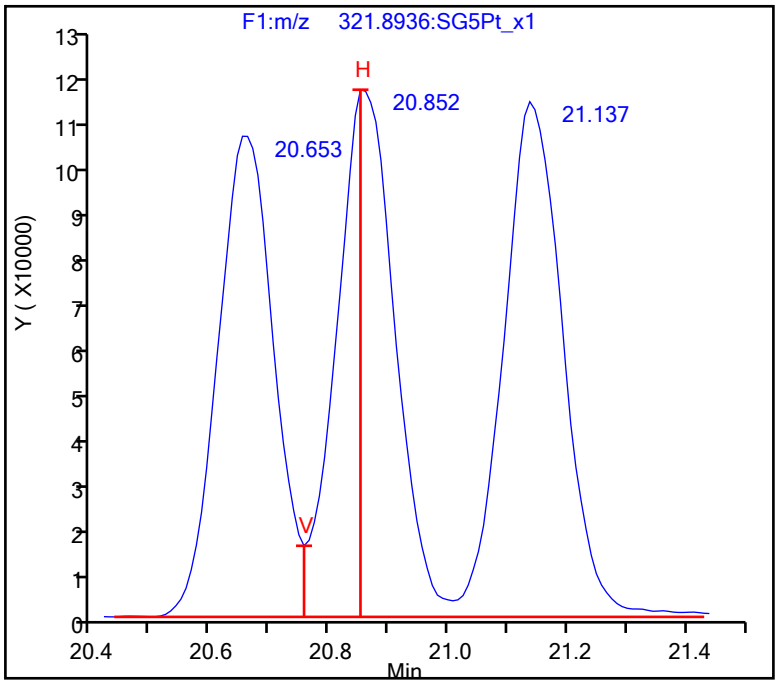

FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Lab Sample ID: ICV 320-324128/10 Calibration Date: 09/17/2019 18:27

Instrument ID: 10D5 Calib Start Date: 09/17/2019 13:03

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 09/17/2019 16:55

Lab File ID: 17SE1910D5_10.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
2,3,7,8-TCDF	AveID	1.051	1.063		40.5	40.0	101	70-130
2,3,7,8-TCDD	AveID	1.106	1.174		42.4	40.0	106	70-130
1,2,3,7,8-PeCDF	AveID	1.082	1.106		204	200	102	70-130
2,3,4,7,8-PeCDF	AveID	1.103	1.244		225	200	113	70-130
1,2,3,7,8-PeCDD	AveID	0.9050	0.8964		198	200	99	70-130
1,2,3,4,7,8-HxCDF	AveID	1.197	1.255		210	200	105	70-130
1,2,3,6,7,8-HxCDF	AveID	1.181	1.257		213	200	106	70-130
2,3,4,6,7,8-HxCDF	AveID	1.212	1.320		218	200	109	70-130
1,2,3,4,7,8-HxCDD	AveID	1.109	1.145		207	200	103	70-130
1,2,3,6,7,8-HxCDD	AveID	1.081	1.184		219	200	110	70-130
1,2,3,7,8,9-HxCDD	AveID	1.212	1.218		201	200	100	70-130
1,2,3,7,8,9-HxCDF	AveID	1.245	1.236		199	200	99	70-130
1,2,3,4,6,7,8-HpCDF	AveID	1.556	1.657		213	200	107	70-130
1,2,3,4,6,7,8-HpCDD	AveID	0.9316	0.998		214	200	107	70-130
1,2,3,4,7,8,9-HpCDF	AveID	1.386	1.411		204	200	102	70-130
OCDD	AveID	1.062	1.127		424	400	106	70-130
OCDF	AveID	1.260	1.349		428	400	107	70-130
13C-2,3,7,8-TCDF	Ave	1.438	1.425		99.1	100	99	71-140
13C-2,3,7,8-TCDD	Ave	0.9533	0.9336		97.9	100	98	82-121
13C-1,2,3,7,8-PeCDF	Ave	1.029	0.9861		95.9	100	96	76-130
13C-2,3,4,7,8-PeCDF	Ave	0.9827	0.9562		97.3	100	97	77-130
13C-1,2,3,7,8-PeCDD	Ave	0.7481	0.7047		94.2	100	94	62-160
13C-1,2,3,4,7,8-HxCDF	Ave	1.152	1.159		101	100	101	76-131
13C-1,2,3,6,7,8-HxCDF	Ave	1.243	1.240		99.7	100	100	70-143
13C-2,3,4,6,7,8-HxCDF	Ave	1.172	1.154		98.5	100	98	73-137
13C-1,2,3,4,7,8-HxCDD	Ave	0.7812	0.7992		102	100	102	85-117
13C-1,2,3,6,7,8-HxCDD	Ave	0.9175	0.9192		100	100	100	85-118
13C-1,2,3,7,8,9-HxCDF	Ave	1.065	1.109		104	100	104	74-135
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.8628	0.8505		98.6	100	99	78-129
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.8739	0.8563		98.0	100	98	72-138
13C-1,2,3,4,7,8,9-HpCDF	Ave	0.7991	0.8106		101	100	101	77-129
13C-OCDD	Ave	0.7744	0.7279		188	200	94	48-208
37Cl4-2,3,7,8-TCDD	Ave	1.222	1.294		42.3	40.0	106	79-127

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 17-Sep-2019 18:27:31 ALS Bottle#: 8 Worklist Smp#: 10
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ICV 091719 ICV HRDXNIC_00042
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:45:36 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 18-Sep-2019 10:13:21

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.300	67370901	0.78	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.801	96014490	0.79	1.4384	99.1	99.1	0.1729	0.1729	99.08	
2,3,7,8-TCDF	16.816	40836689	0.78	1.0507	40.5	40.5	0.0773	0.0773	101	
A Non-2,3,7,8-sub-TCDF	16.536	382036	0.65	1.0507	0.3787	0.3787	0.0773	0.3787		
S Total TCDF					40.9	40.9	0.0773	0.0773		
D 13C-2,3,7,8-TCDD	17.481	62894294	0.76	0.9533	97.9	97.9	0.2237	0.2237	97.92	
$ 37Cl4-2,3,7,8-TCDD	17.496	34873369		1.2224	42.3	42.3	0.0461	0.0461	106	
2,3,7,8-TCDD	17.496	29522708	0.80	1.1064	42.4	42.4	0.0612	0.0612	106	
A Non-2,3,7,8-sub-TCDD	16.967	525494	0.73	1.1064	0.7552	0.7552	0.0612	0.7552		
S Total TCDD					43.2	43.2	0.0612	0.0612		
D 13C-1,2,3,7,8-PeCDF	21.631	66432578	1.62	1.0286	95.9	95.9	0.2311	0.2311	95.86	
1,2,3,7,8-PeCDF	21.659	146883848	1.58	1.0822	204.3	204.3	0.8368	0.8368	102	
D 13C-2,3,4,7,8-PeCDF	22.927	64416378	1.60	0.9827	97.3	97.3	0.2419	0.2419	97.30	
2,3,4,7,8-PeCDF	22.954	160234857	1.58	1.1032	225.5	225.5	0.8770	0.8770	113	
A F1 PeCDFs	19.213						0.0389	0.0389		
A Non-2,3,7,8-sub-PeCDF	22.240	3672840	1.54	1.0927	5.137	5.137	0.8562	5.137		
S Total PeCDF					434.9	434.9	0.8569	0.8569		
D 13C-1,2,3,7,8-PeCDD	23.622	47479187	1.52	0.7481	94.2	94.2	0.1489	0.1489	94.21	
1,2,3,7,8-PeCDD	23.649	85119562	1.59	0.9050	198.1	198.1	0.2925	0.2925	99.04	
A Non-2,3,7,8-sub-PeCDD	22.586						0.2925	0.2925		
S Total PeCDD					198.1	198.1	0.2925	0.2925		
D 13C-1,2,3,4,7,8-HxCDF	29.749	49457191	0.51	1.1520	100.6	100.6	0.4713	0.4713	101	
1,2,3,4,7,8-HxCDF	29.789	124121058	1.25	1.1973	209.6	209.6	1.675	1.675	105	
D 13C-1,2,3,6,7,8-HxCDF	30.015	52922376	0.52	1.2434	99.7	99.7	0.4366	0.4366	99.75	
1,2,3,6,7,8-HxCDF	30.042	133083395	1.26	1.1807	213.0	213.0	1.419	1.419	106	
D 13C-2,3,4,6,7,8-HxCDF	31.040	49241959	0.52	1.1720	98.5	98.5	0.4633	0.4633	98.47	
2,3,4,6,7,8-HxCDF	31.053	129960147	1.26	1.2116	217.8	217.8	0.991	0.991	109	
D 13C-1,2,3,7,8,9-HxCDF	31.945	47302373	0.52	1.0655	104.0	104.0	0.5096	0.5096	104	
1,2,3,7,8,9-HxCDF	31.958	116914998	1.26	1.2451	198.5	198.5	0.9326	0.9326	99.25	

Report Date: 18-Sep-2019 10:45:43 Chrom Revision: 2.3 16-Sep-2019 16:29:24
Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
A Non-2,3,7,8-sub-HxCDF	29.523						1.186	1.186		
S Total HxCDF					838.9	838.9	1.254	1.254		
* 13C-1,2,3,7,8,9-HxCDD	31.746	42668857	1.30	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.253	34098921	1.27	0.7812	102.3	102.3	0.4071	0.4071	102	
1,2,3,4,7,8-HxCDD	31.280	78082823	1.25	1.1088	206.5	206.5	0.6584	0.6584	103	
D 13C-1,2,3,6,7,8-HxCDD	31.386	39221134	1.28	0.9175	100.2	100.2	0.3466	0.3466	100	
1,2,3,6,7,8-HxCDD	31.399	92914323	1.26	1.0814	219.1	219.1	0.6428	0.6428	110	
1,2,3,7,8,9-HxCDD	31.759	89269632	1.25	1.2123	200.9	200.9	0.5874	0.5874	100	
A Non-2,3,7,8-sub-HxCDD	30.122						0.6279	0.6279		
S Total HxCDD					626.4	626.4	0.6295	0.6295		
D 13C-1,2,3,4,6,7,8-HpCDF	33.447	36291011	0.44	0.8628	98.6	98.6	1.994	1.994	98.58	
1,2,3,4,6,7,8-HpCDF	33.459	120291721	1.05	1.5555	213.1	213.1	3.639	3.639	107	
D 13C-1,2,3,4,7,8,9-HpCDF	34.492	34587656	0.46	0.7991	101.4	101.4	2.153	2.153	101	
1,2,3,4,7,8,9-HpCDF	34.505	97615037	1.05	1.3862	203.6	203.6	4.551	4.551	102	
A Non-2,3,7,8-sub-HpCDF	33.994						4.057	4.057		
S Total HpCDF					416.7	416.7	4.095	4.095		
D 13C-1,2,3,4,6,7,8-HpCDD	34.225	36539034	1.04	0.8739	98.0	98.0	1.031	1.031	97.99	
1,2,3,4,6,7,8-HpCDD	34.237	72937959	1.06	0.9316	214.3	214.3	1.992	1.992	107	
A Non-2,3,7,8-sub-HpCDD	34.747						1.992	1.992		
S Total HpCDD					214.3	214.3	1.992	1.992		
D 13C-OCDD	36.481	62112704	0.88	0.7744	188.0	188.0	0.2936	0.2936	93.99	
OCDF	36.577	167539399	0.89	1.2596	428.3	428.3	0.3535	0.3535	107	
OCDD	36.493	139967536	0.89	1.0621	424.3	424.3	0.7084	0.7084	106	

Reagents:

HRDXNIC_00042 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 17-Sep-2019 18:27:31 ALS Bottle#: 8 Worklist Smp#: 10
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ICV 091719 ICV HRDXNIC_00042
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:45:36 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 18-Sep-2019 10:13:21

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.300	17.303	0		29455042	7639810	8241	20602	927		
333.9339	17.300	17.303	0		37915859	9845728	6678	16695	1474	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.801	16.810	-1	0.971	42465138	11244673	10966	27415	1025		
317.9389	16.801	16.810	-1	0.971	53549352	14070507	6431	16077	2188	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.816	16.825	-1	1.001	17881787	4687286	3306	8265	1418		
305.8987	16.816	16.825	-1	1.001	22954902	6067198	4917	12292	1234	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.181	16.536	-21	0.963	150479	42137	3306	8265	13		
305.8987	16.181	16.536	-21	0.963	231557	66065	4917	12292	13	0.65(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.481	17.490	-1	1.010	27226687	6700376	8241	20602	813		
333.9339	17.481	17.490	-1	1.010	35667607	8761174	6678	16695	1312	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.496	17.505	-1	1.011	34873369	8455974	3941	9852	2146		
2,3,7,8-TCDD											
319.8965	17.496	17.505	-1	1.001	13120222	3217297	2237	5592	1438		
321.8936	17.496	17.505	-1	1.001	16402486	4023041	1952	4880	2061	0.80(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.390	16.967	25	0.995	222164	64639	2237	5592	29		
321.8936	17.390	16.967	25	0.995	303330	90345	1952	4880	46	0.73(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	21.631	21.637	0	1.250	41083226	7478063	9807	24517	763		
353.8970	21.631	21.637	0	1.250	25349352	4675180	6821	17052	685	1.62(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.659	21.661	0	1.001	89907564	16611935	26800	67000	620		
341.8567	21.659	21.661	0	1.001	56976284	10456656	17226	43065	607	1.58(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	22.927	22.932	0	1.325	39631399	6951299	9807	24517	709		
353.8970	22.927	22.932	0	1.325	24784979	4425218	6821	17052	649	1.60(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.954	22.954	0	1.001	98027709	17129852	26800	67000	639		
341.8567	22.954	22.954	0	1.001	62207148	10879372	17226	43065	632	1.58(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.213						668	1670			
341.8567	19.213						1335	3337			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.163	22.240	-5	1.025	2224818	397069	26800	67000	15		
341.8567	22.163	22.240	-5	1.025	1448022	262924	17226	43065	15	1.54(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.622	23.625	0	1.365	28638297	4704684	4809	12022	978		
369.8919	23.622	23.625	0	1.365	18840890	3127045	2980	7450	1049	1.52(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.649	23.649	0	1.001	52211902	8528858	5129	12822	1663		
357.8516	23.649	23.649	0	1.001	32907660	5353813	3165	7912	1692	1.59(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.586						5129	12822			
357.8516	22.586						3165	7912			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.749	29.754	0	0.937	16783019	2305975	8392	20980	275		
385.8610	29.749	29.754	0	0.937	32674172	4470351	14587	36467	306	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.789	29.789	0	1.001	69045128	9453733	30387	75967	311		
375.8178	29.775	29.789	-1	1.001	55075930	7523990	23973	59932	314	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.015	30.015	0	0.945	18211588	2742205	8392	20980	327		
385.8610	30.015	30.015	0	0.945	34710788	5371147	14587	36467	368	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.042	30.039	0	1.001	74259363	11344582	30387	75967	373		
375.8178	30.042	30.039	0	1.001	58824032	8990409	23973	59932	375	1.26(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.040	31.043	0	0.978	16769047	3887903	8392	20980	463		
385.8610	31.040	31.043	0	0.978	32472912	7433271	14587	36467	510	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.053	31.059	0	1.000	72528944	16377855	30387	75967	539		
375.8178	31.053	31.059	0	1.000	57431203	13006467	23973	59932	543	1.26(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.945	31.942	0	1.006	16145070	4056563	8392	20980	483		
385.8610	31.932	31.942	-1	1.006	31157303	7646982	14587	36467	524	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.958	31.956	0	1.000	65143100	16181388	30387	75967	533		
375.8178	31.945	31.956	-1	1.000	51771898	12593354	23973	59932	525	1.26(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.523						30387	75967			
375.8178	29.523						23973	59932			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.746	31.748	0		24093370	5996349	7373	18432	813		
403.8529	31.746	31.748	0		18575487	4584542	6087	15217	753	1.30(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.253	31.261	0	0.984	19067739	4877709	7373	18432	662		
403.8529	31.253	31.261	0	0.984	15031182	3764902	6087	15217	619	1.27(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.280	31.280	0	1.001	43405983	11110603	13706	34265	811		
391.8127	31.280	31.280	0	1.001	34676840	8762067	11530	28825	760	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.386	31.383	0	0.989	22009497	5092252	7373	18432	691		
403.8529	31.386	31.383	0	0.989	17211637	3983328	6087	15217	654	1.28(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.399	31.402	0	1.000	51803707	12059771	13706	34265	880		
391.8127	31.399	31.402	0	1.000	41110616	9596745	11530	28825	832	1.26(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.759	31.761	0	1.016	49558046	12233722	13706	34265	893		
391.8127	31.759	31.761	0	1.016	39711586	9800201	11530	28825	850	1.25(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.122						13706	34265			
391.8127	30.122						11530	28825			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.447	33.457	-1	1.054	11153017	3493417	22598	56495	155		
419.8220	33.447	33.457	-1	1.054	25137994	7912988	50198	125495	158	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.459	33.469	-1	1.000	61596095	19963137	127078	317695	157		
409.7789	33.459	33.469	-1	1.000	58695626	19415847	131220	328050	148	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.492	34.502	-1	1.087	10832835	3186792	22598	56495	141		
419.8220	34.492	34.502	-1	1.087	23754821	7049867	50198	125495	140	0.46(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.505	34.509	0	1.000	49933667	15052745	127078	317695	118		
409.7789	34.505	34.509	0	1.000	47681370	14419271	131220	328050	110	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.994						127078	317695			
409.7789	33.994						131220	328050			

Report Date: 18-Sep-2019 10:45:43 Chrom Revision: 2.3 16-Sep-2019 16:29:24
Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.225	34.227	0	1.078	18596591	5512324	17647	44117	312		
437.8140	34.225	34.227	0	1.078	17942443	5332324	20497	51242	260	1.04(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.237	34.235	0	1.000	37482197	10854741	40264	100660	270		
425.7737	34.225	34.235	-1	1.000	35455762	10447161	40249	100622	260	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.747						40264	100660			
425.7737	34.747						40249	100622			
13C-OCDD											
469.7779	36.481	36.486	0	1.149	29137548	7503938	4581	11452	1638		
471.7750	36.481	36.486	0	1.149	32975156	8356787	5042	12605	1657	0.88(0.76-1.02)	
OCDF											
441.7428	36.577	36.581	0	1.003	78967974	20796742	6473	16182	3213		
443.7399	36.577	36.581	0	1.003	88571425	23028045	7652	19130	3009	0.89(0.76-1.02)	
OCDD											
457.7377	36.493	36.497	0	1.000	66062365	16751505	9012	22530	1859		
459.7348	36.493	36.497	0	1.000	73905171	18415996	14853	37132	1240	0.89(0.76-1.02)	

Reagents:

HRDXNIC_00042 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d
Lims ID: ICV
Client ID:
Inject. Date: 17-Sep-2019 18:27:31 Dil. Factor: 1.0000
Sample Type: ICV, ICal Verification
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 324128 Lims Sample ID: 10
Sublist: chrom-Dioxin_10D5*sub1

Non-2,3,7,8-sub-TCDF, RT: 16.536

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.051	D 13C-2,3,7,8-TCDF	100.000	96014490	25315180

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.051		100.000	96014490	25315180

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
16.181	150479	42137	231557	66065	0.3787	0.65	
Signal Totals:							
	150479	42137	231557	66065			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	382036	108202				0.65	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.3787 = (382036 * 100.000) / (96014490 * 1.051)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d
Lims ID: ICV
Client ID:
Inject. Date: 17-Sep-2019 18:27:31 Dil. Factor: 1.0000
Sample Type: ICV, ICal Verification
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 324128 Lims Sample ID: 10
Sublist: chrom-Dioxin_10D5*sub1

Non-2,3,7,8-sub-TCDD, RT: 16.967

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.106	D 13C-2,3,7,8-TCDD	100.000	62894294	15461550

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.106		100.000	62894294	15461550

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
17.390	222164	64639	303330	90345	0.7552	0.73	
Signal Totals:							
	222164	64639	303330	90345			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	525494	154984				0.73	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.7552 = (525494 * 100.000) / (62894294 * 1.106)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d
Lims ID: ICV
Client ID:
Inject. Date: 17-Sep-2019 18:27:31 Dil. Factor: 1.0000
Sample Type: ICV, ICal Verification
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 324128 Lims Sample ID: 10
Sublist: chrom-Dioxin_10D5*sub1

Non-2,3,7,8-sub-PeCDF, RT: 22.240

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.082	D 13C-1,2,3,7,8-PeCDF	100.000	66432578	12153243
2,3,4,7,8-PeCDF	1.103	D 13C-2,3,4,7,8-PeCDF	100.000	64416378	11376517

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.093		100.000	65424478	11764880

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
22.163	2224818	397069	1448022	262924	5.14	1.54	
Signal Totals:							
	2224818	397069	1448022	262924			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	3672840	659993				1.54	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 5.137 = (3672840 * 100.000) / (65424478 * 1.093)

Report Date: 18-Sep-2019 10:45:43 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d		
Injection Date:	17-Sep-2019 18:27:31	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

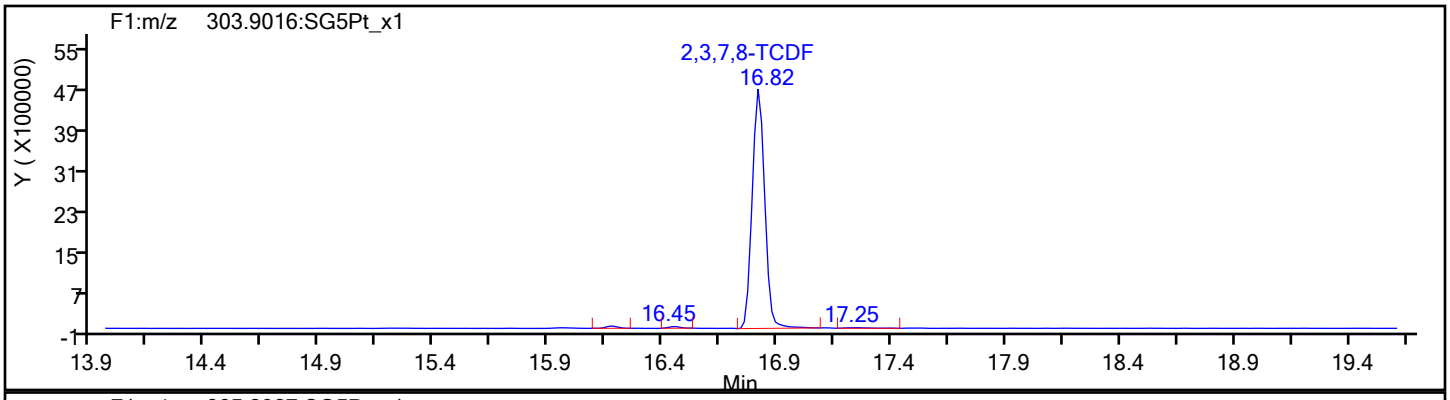

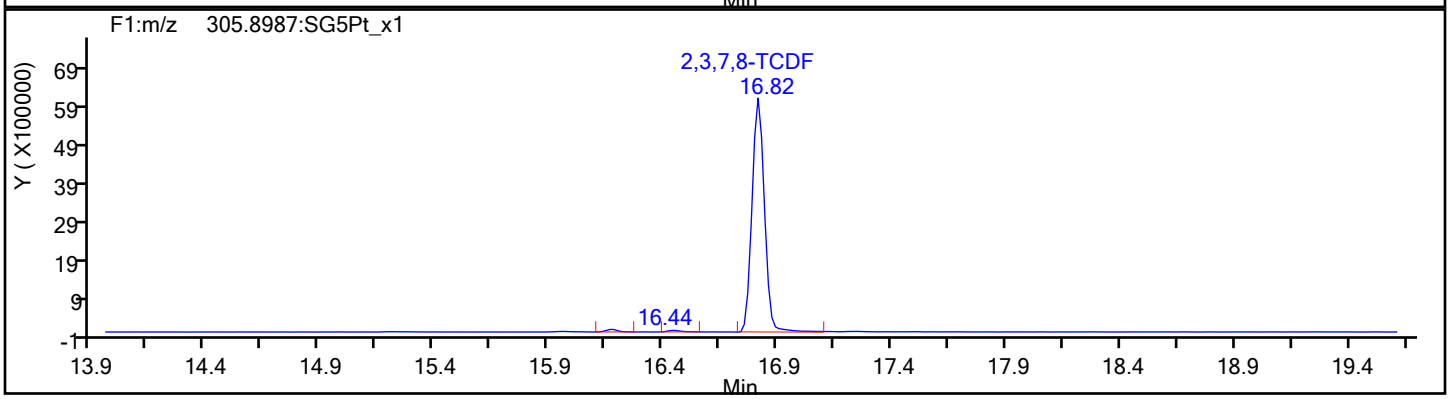

TCDF Standards

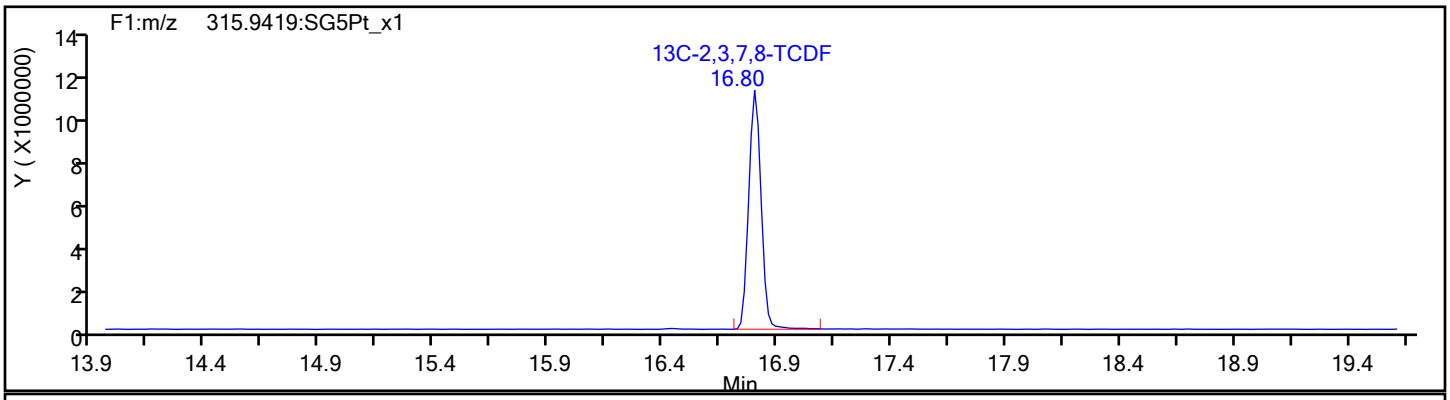

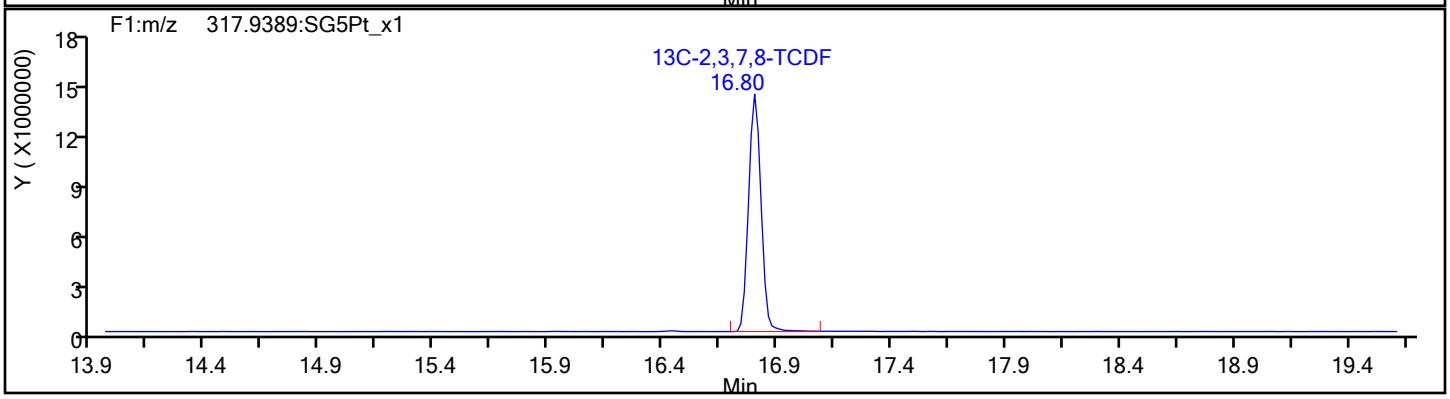

Report Date: 18-Sep-2019 10:45:43 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

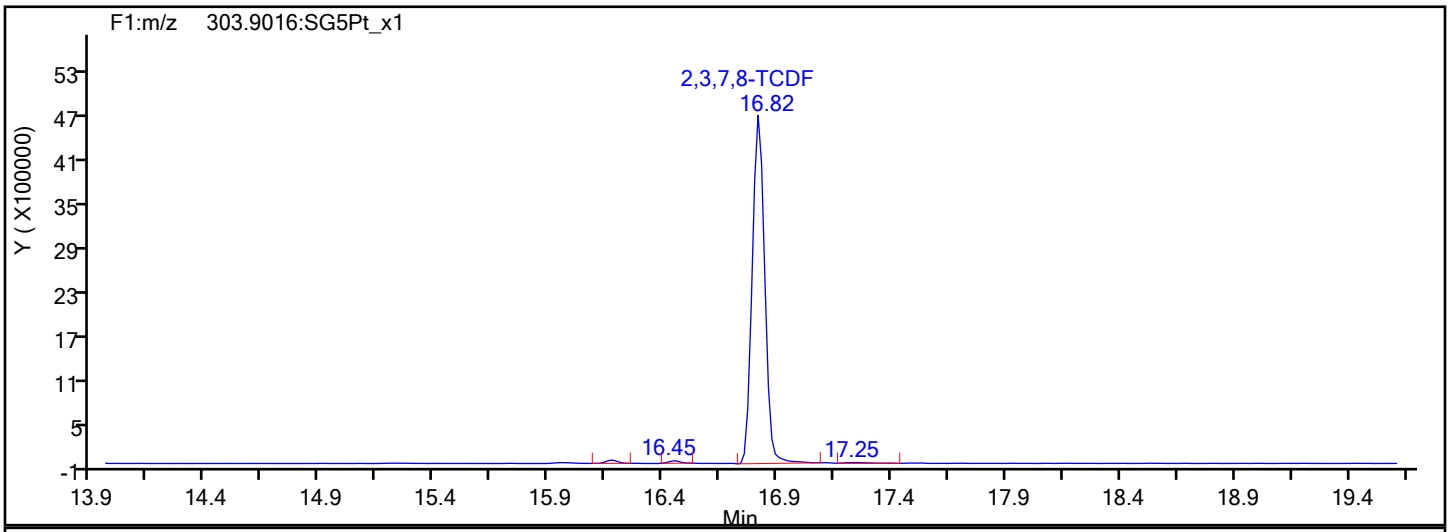

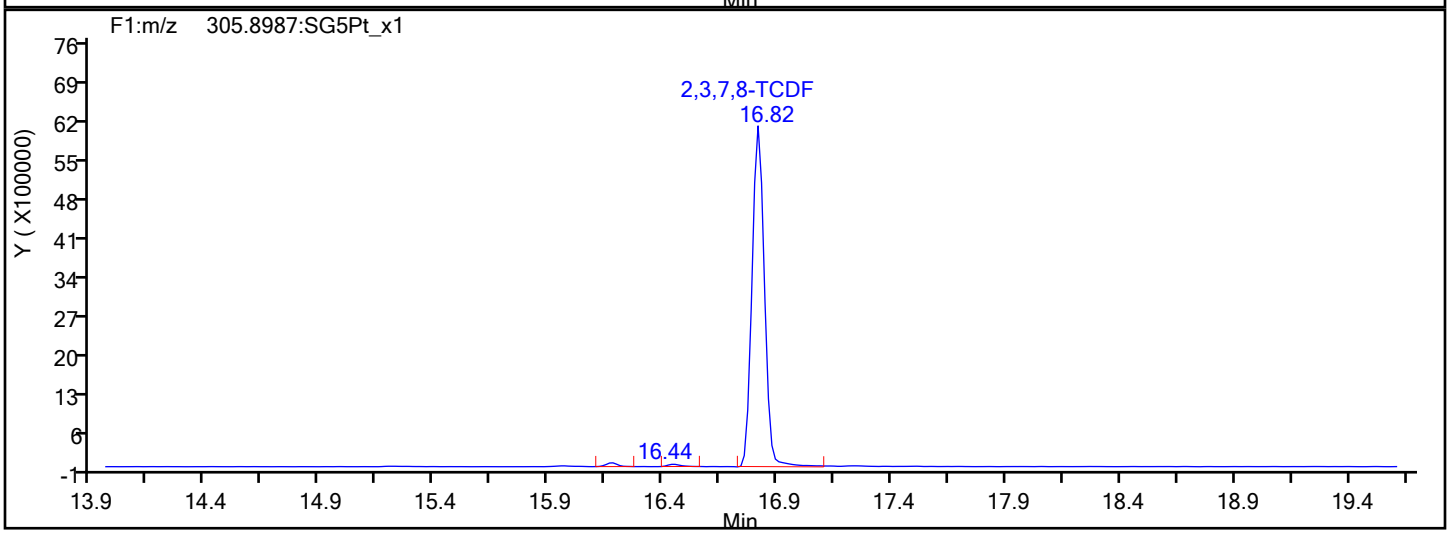

TCDF Interference Mass

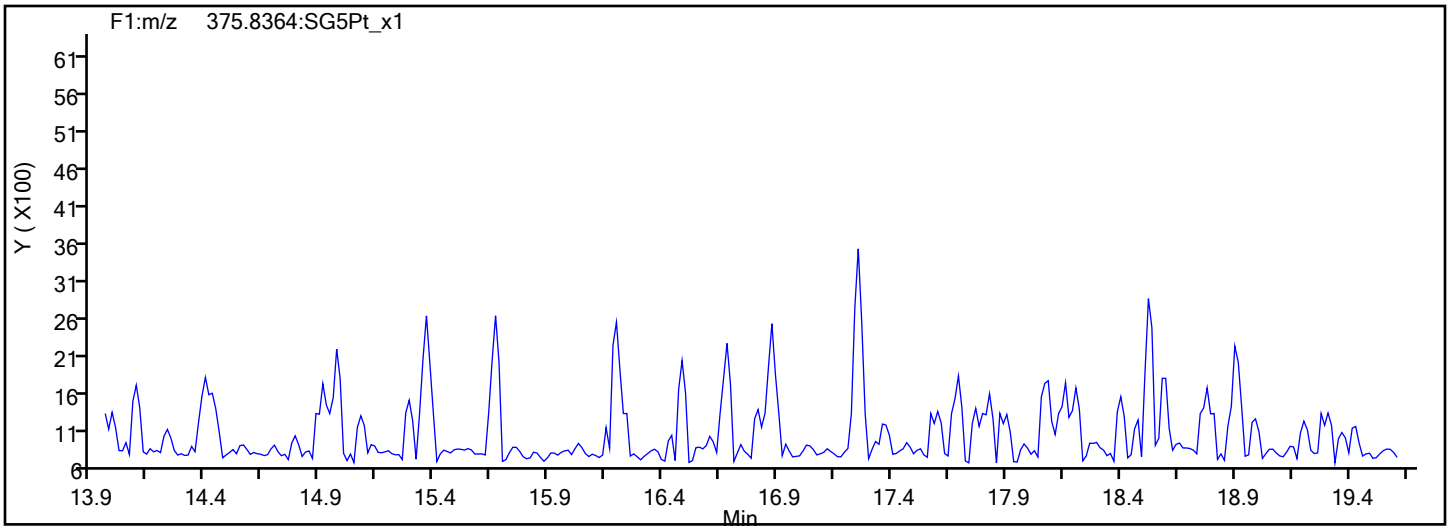

Report Date: 18-Sep-2019 10:45:43 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d		
Injection Date:	17-Sep-2019 18:27:31	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

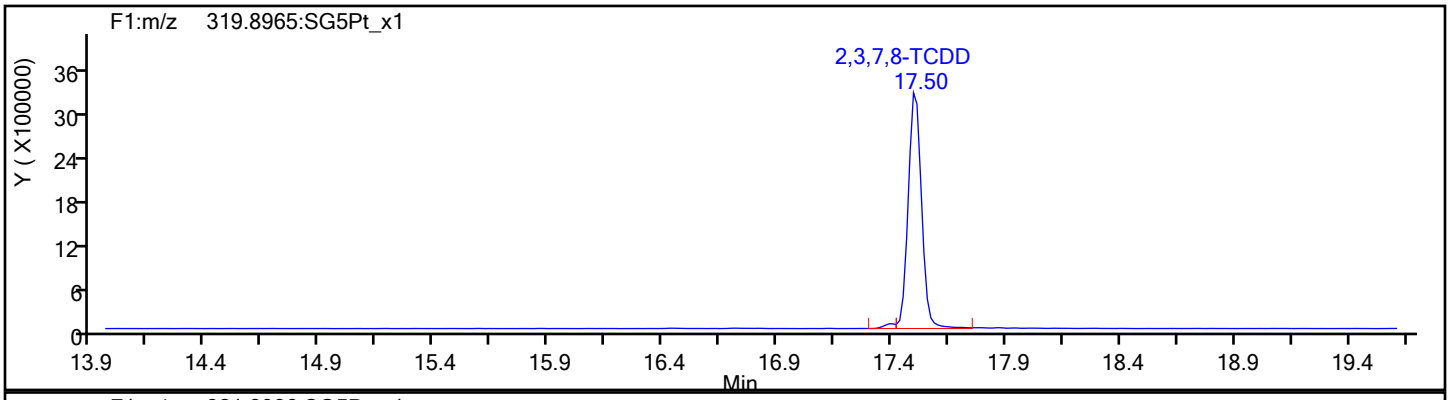

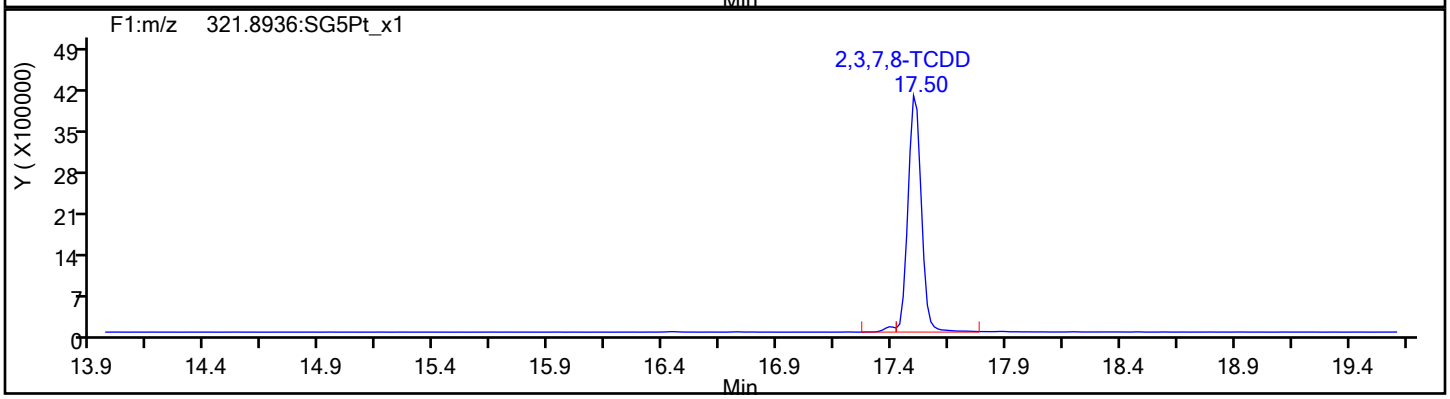

TCDD Standards

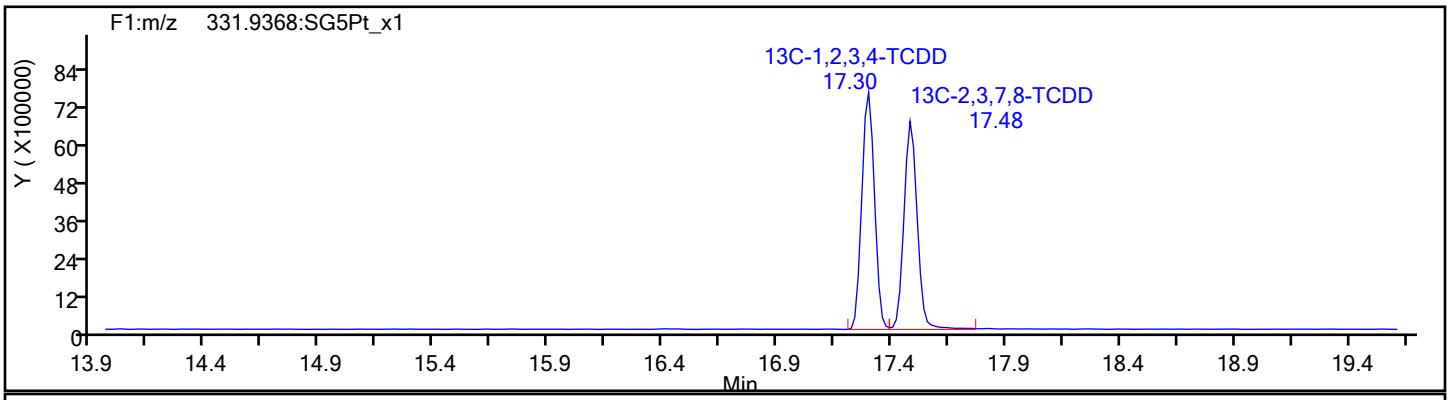

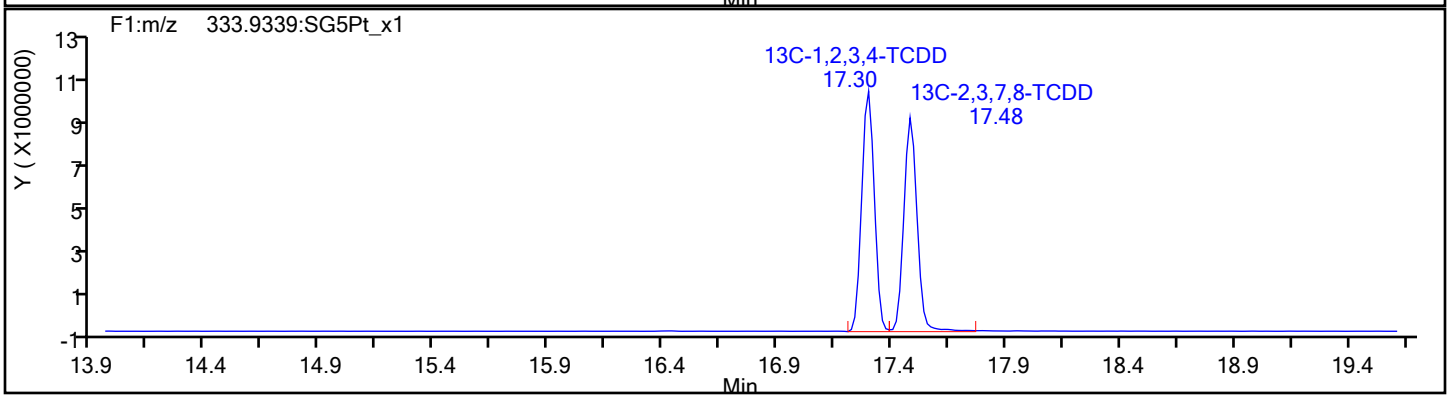

Report Date: 18-Sep-2019 10:45:43 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

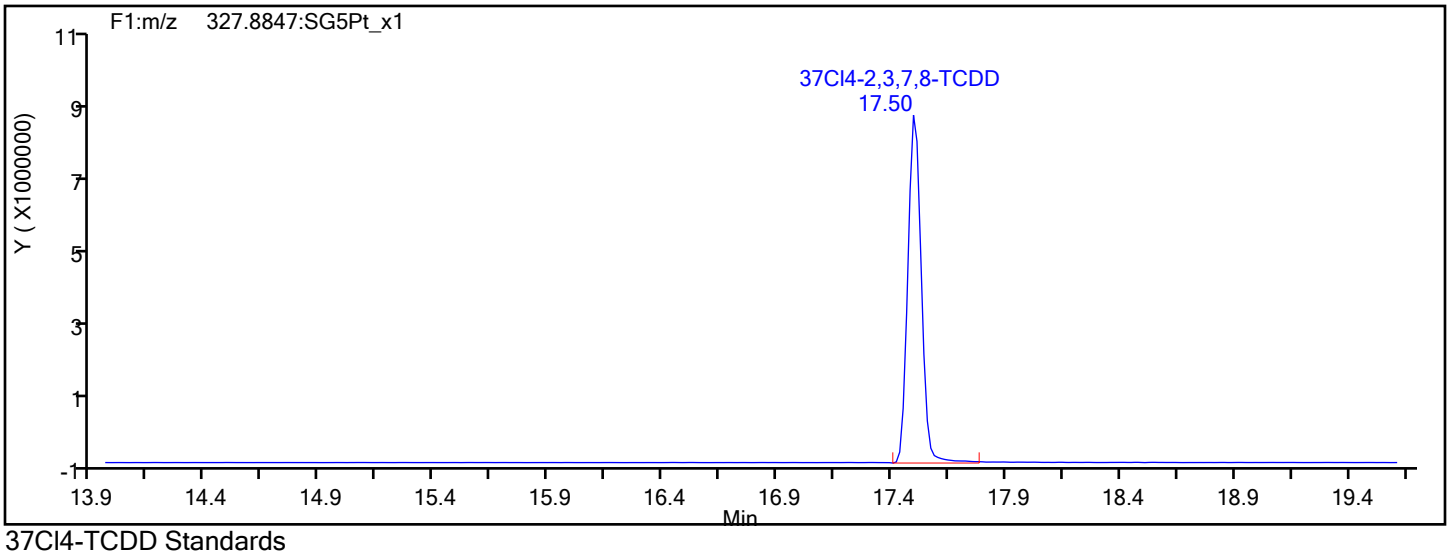

37Cl4-TCDD Standards

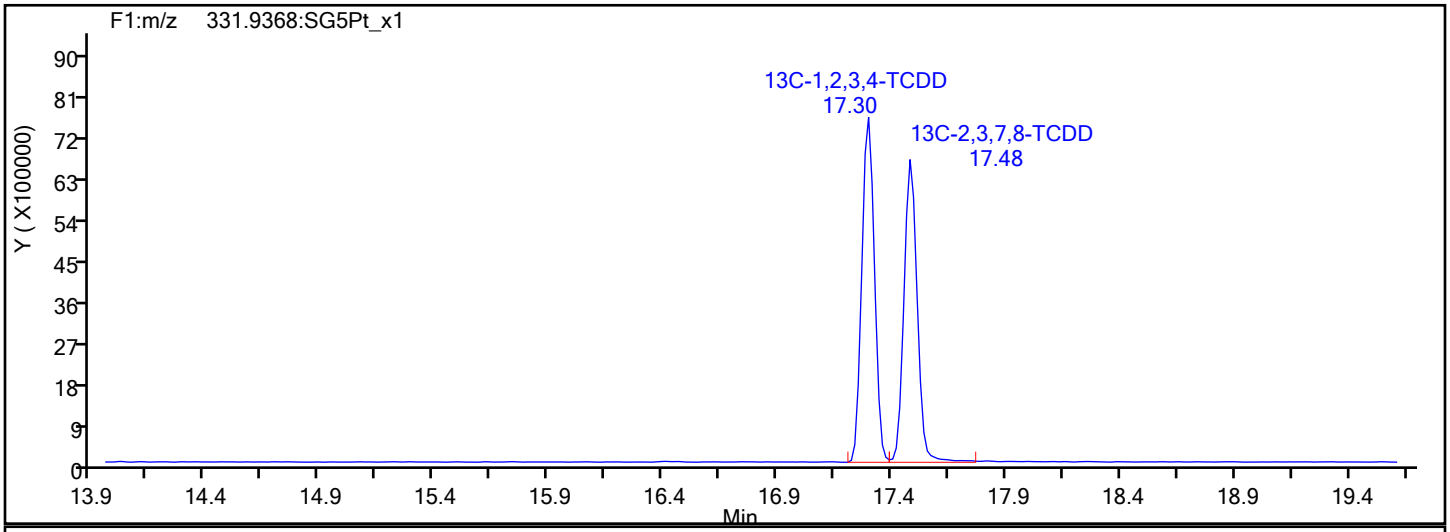

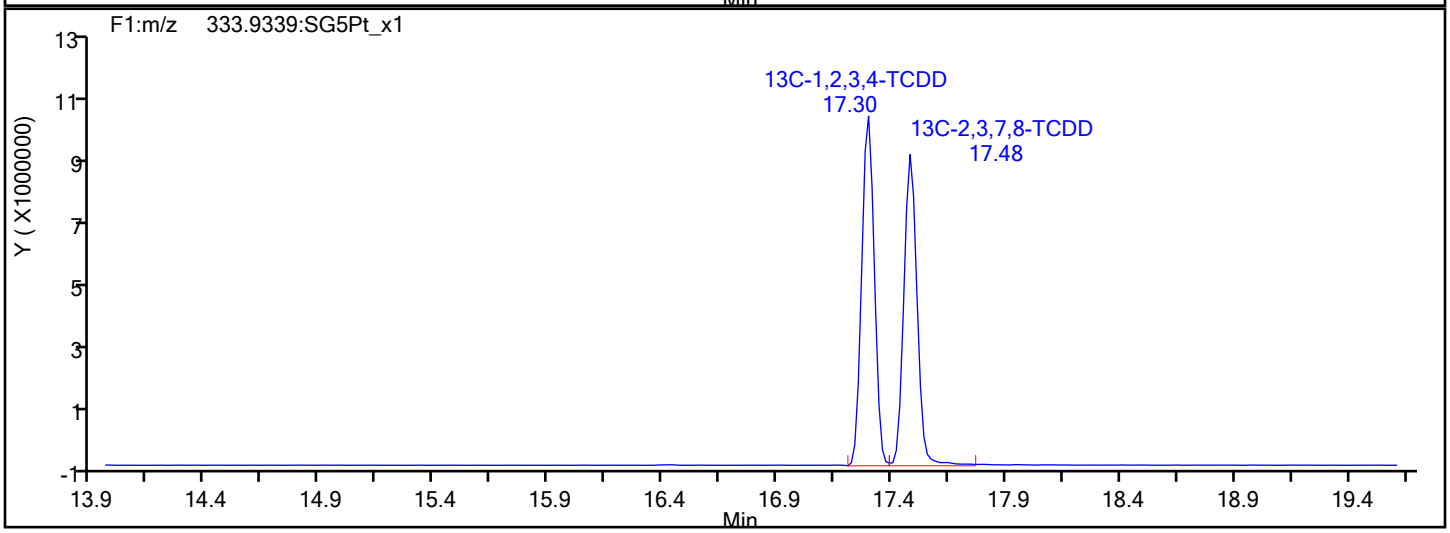

Report Date: 18-Sep-2019 10:45:43 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d		
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

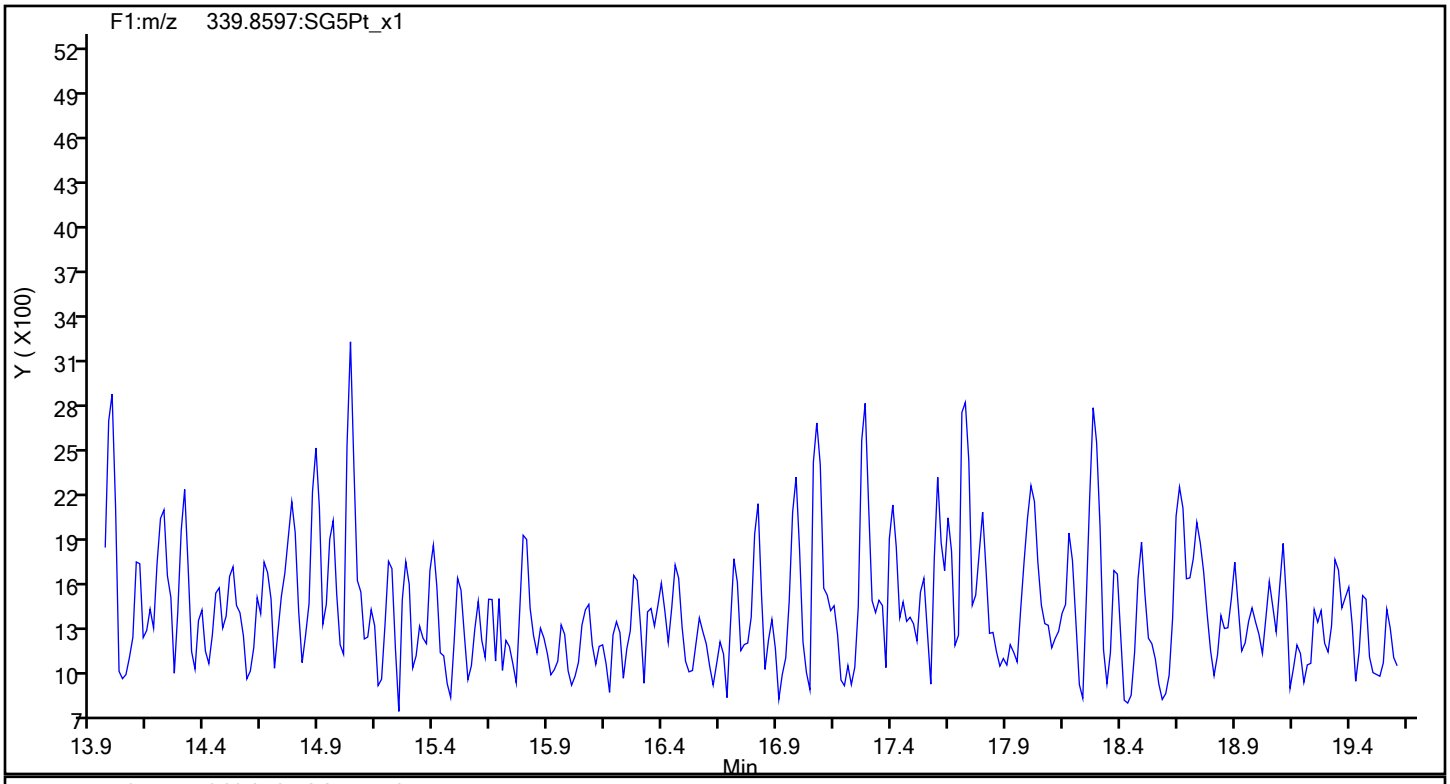

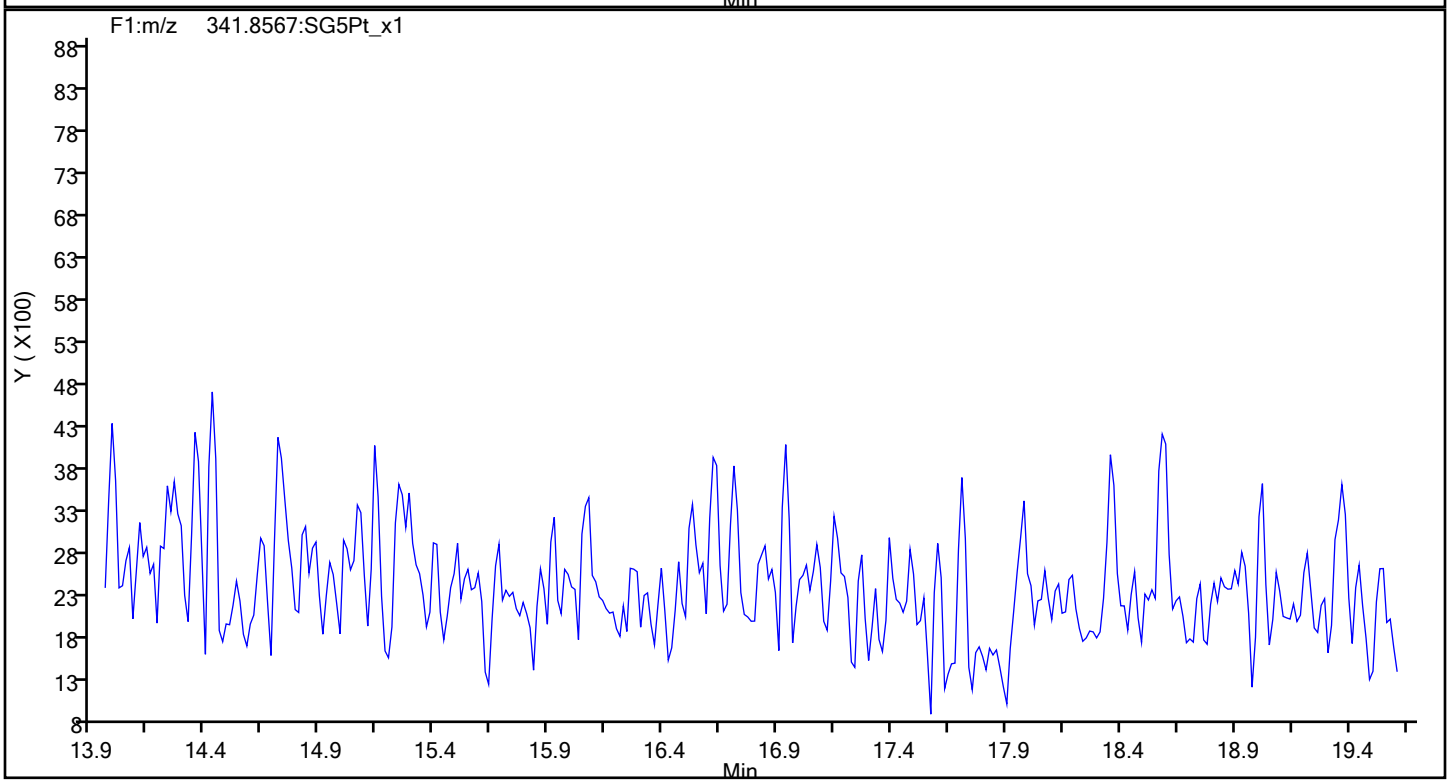

Report Date: 18-Sep-2019 10:45:43 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d		
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F1 PeCDFs

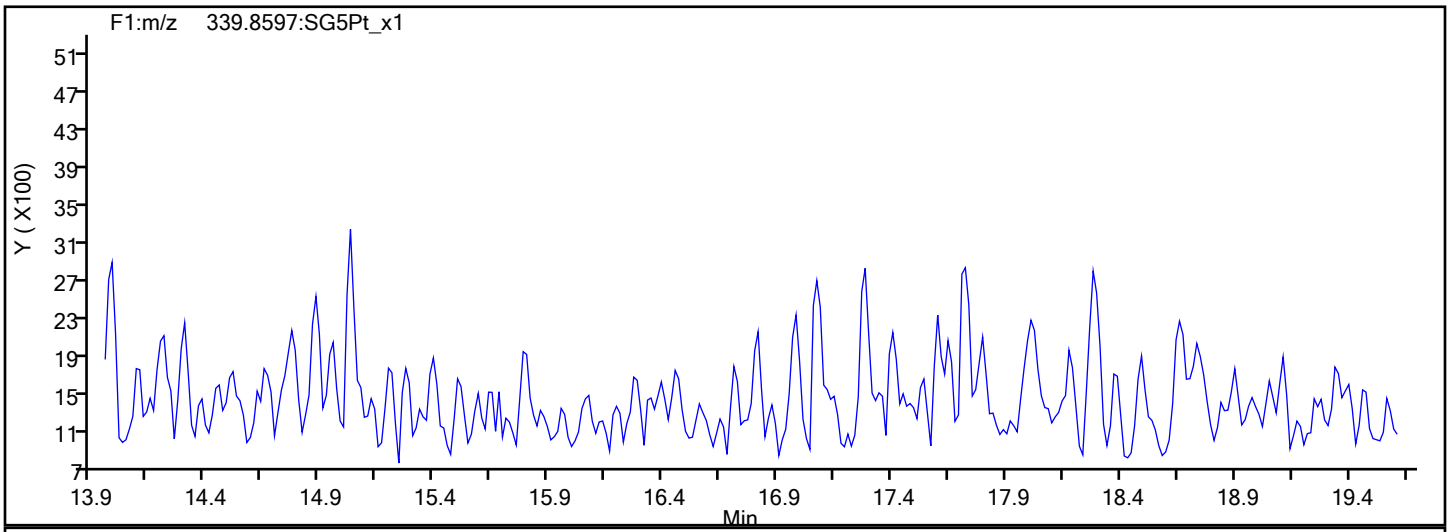

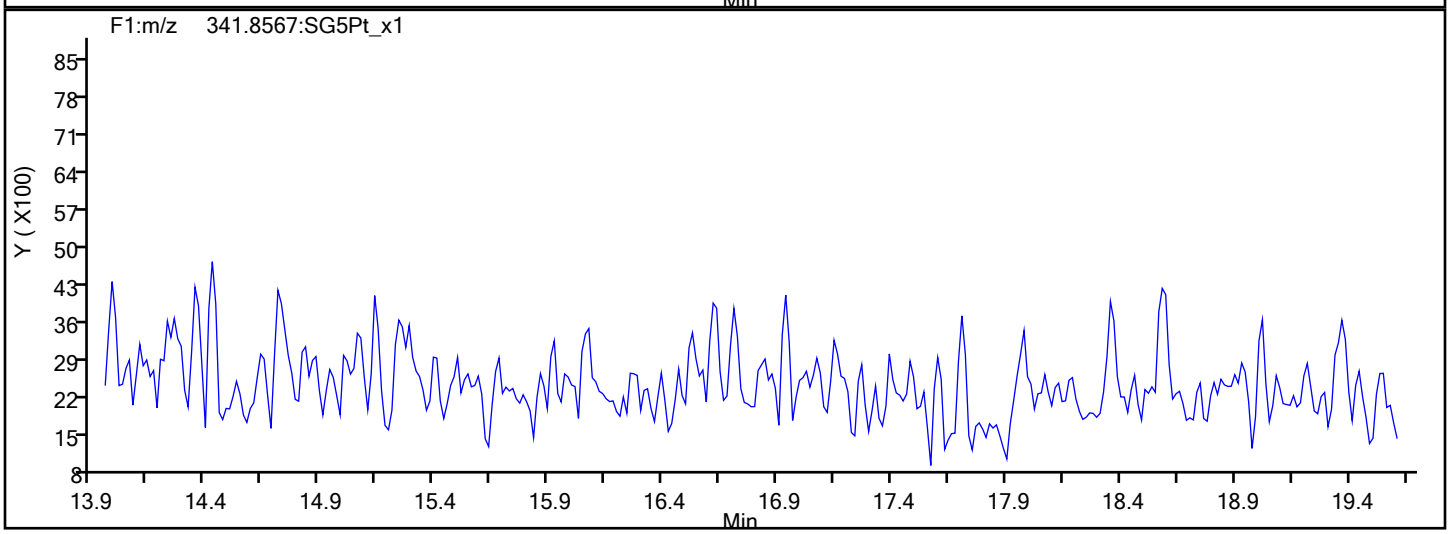

F1 PeCDFs Interference Mass

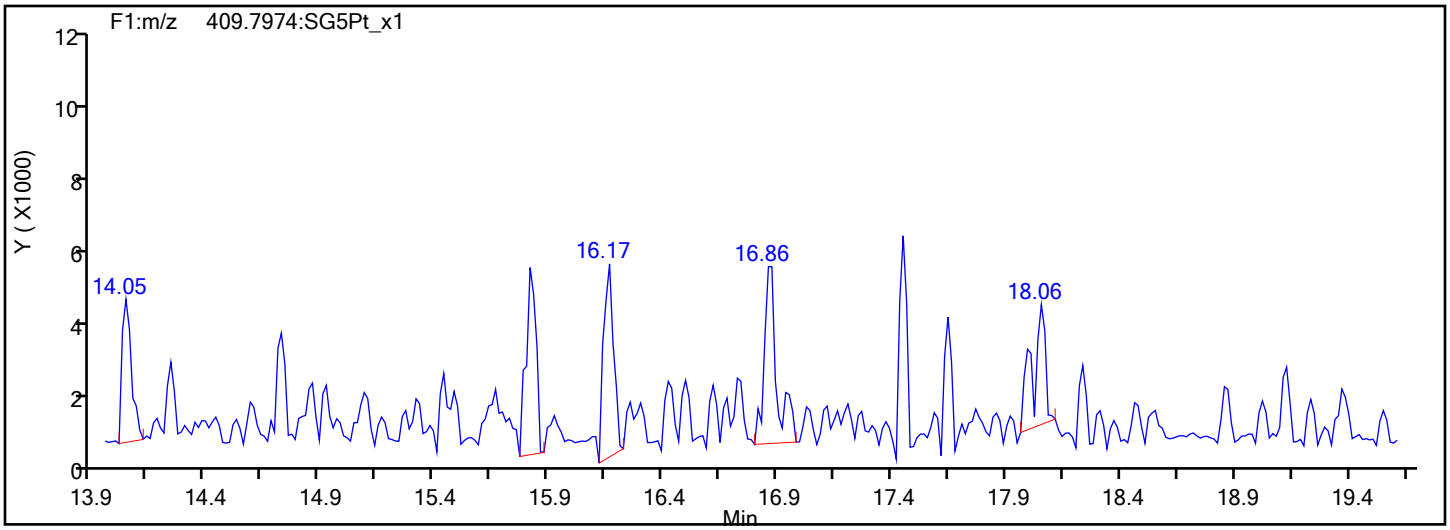

Report Date: 18-Sep-2019 10:45:43 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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PeCDF

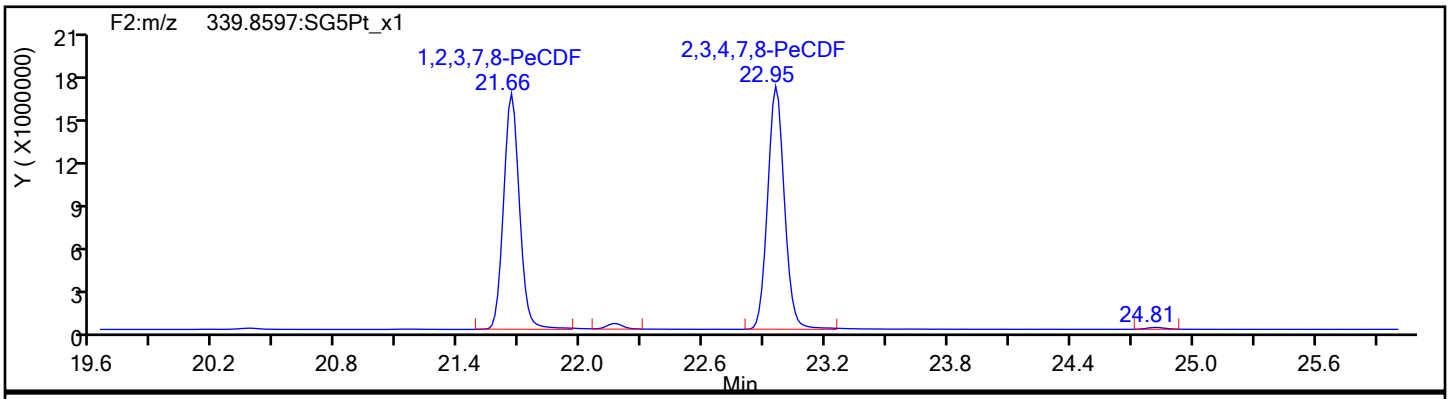

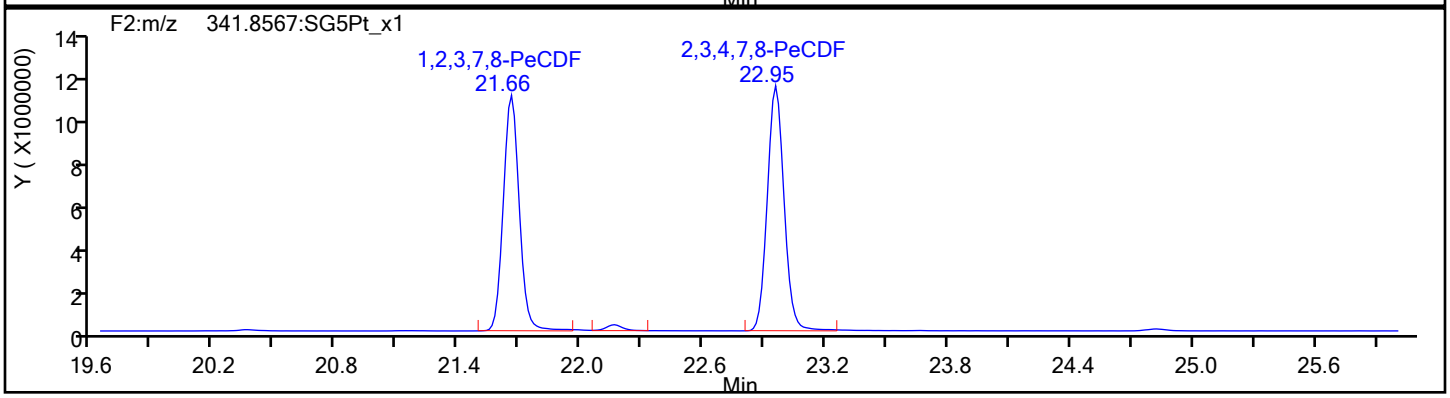

PeCDF Standards

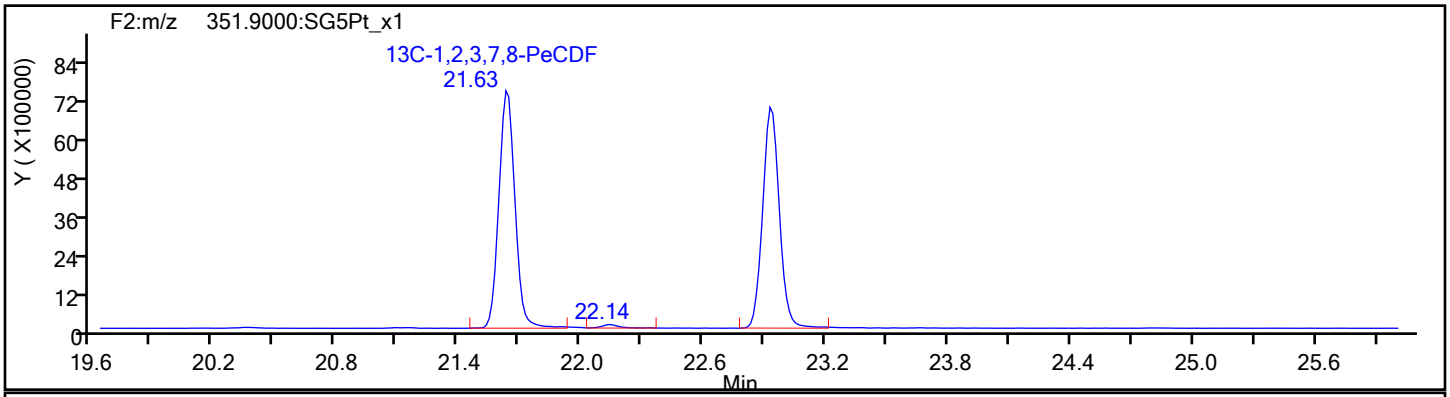

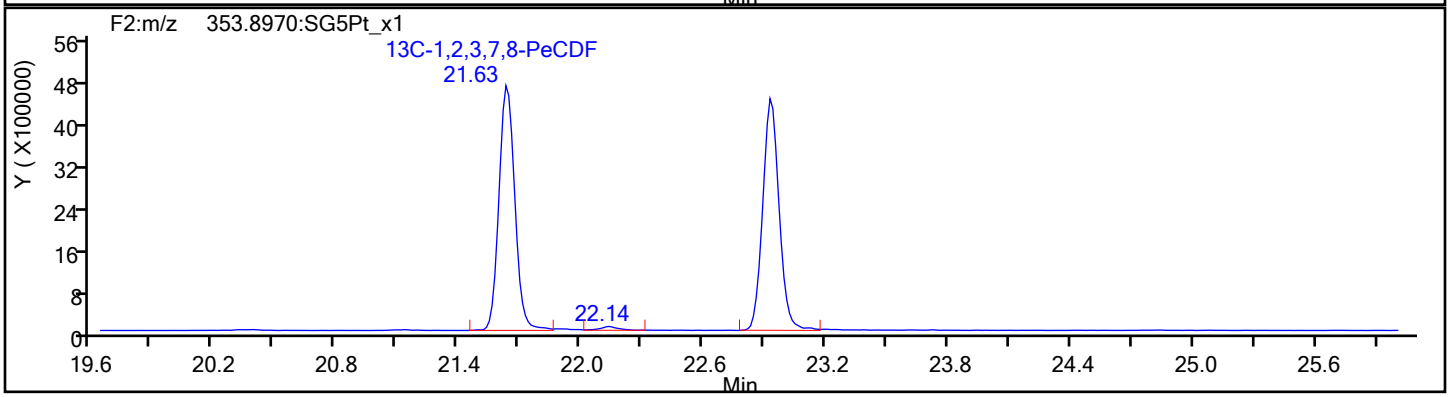

Report Date: 18-Sep-2019 10:45:43 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

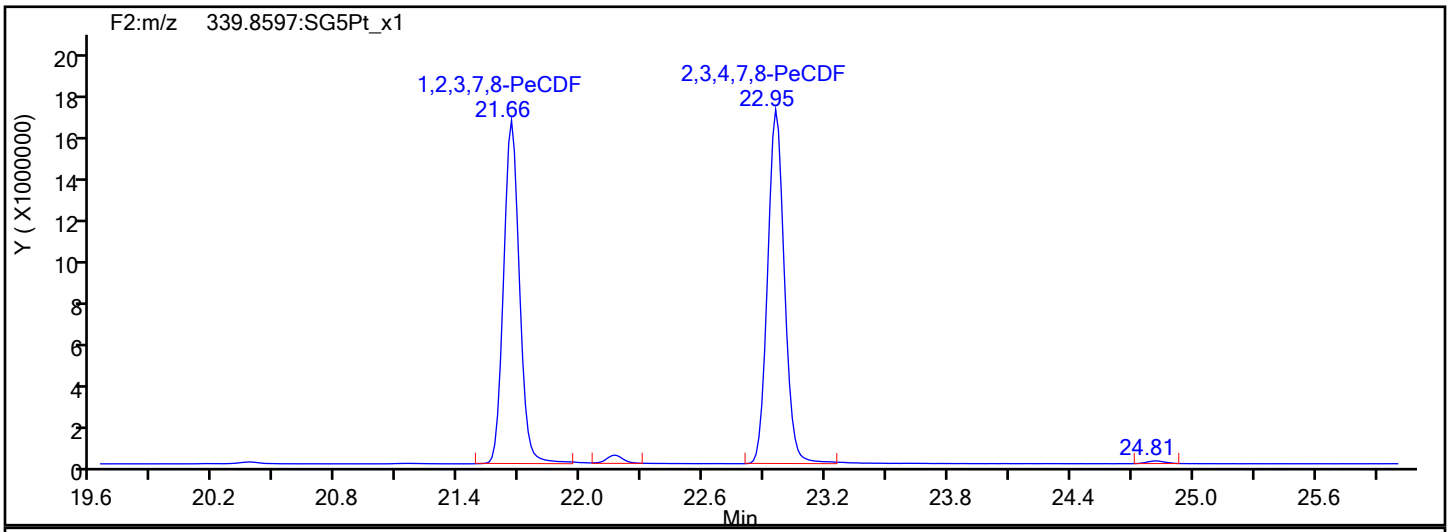

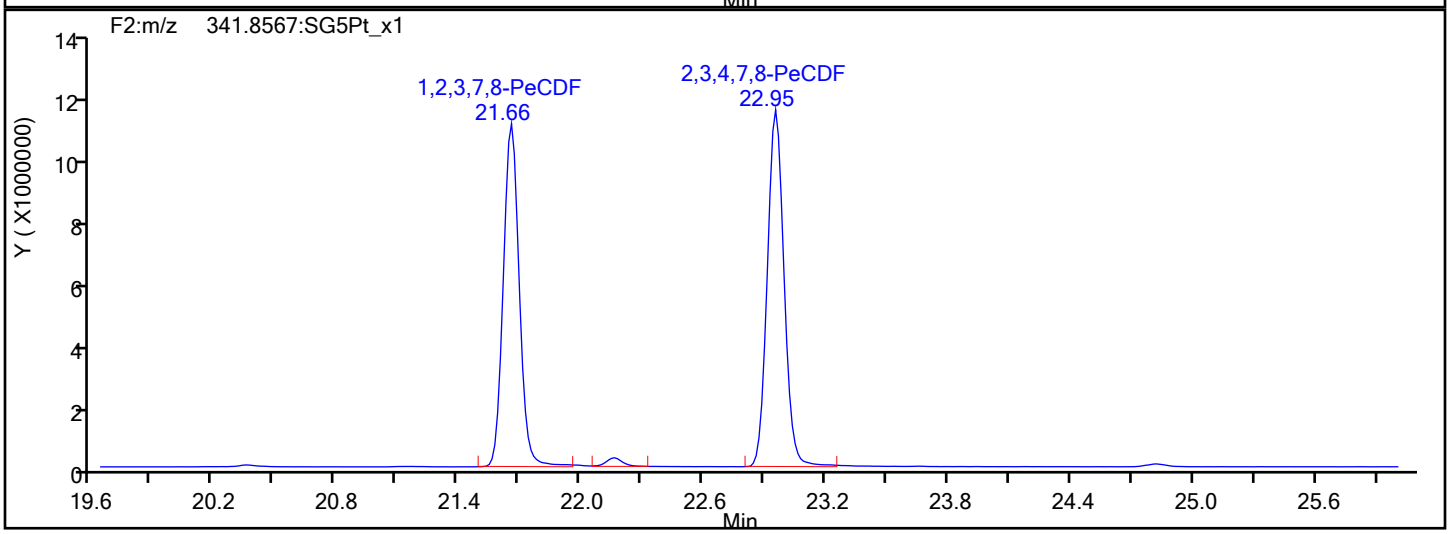

PeCDF Interference Mass

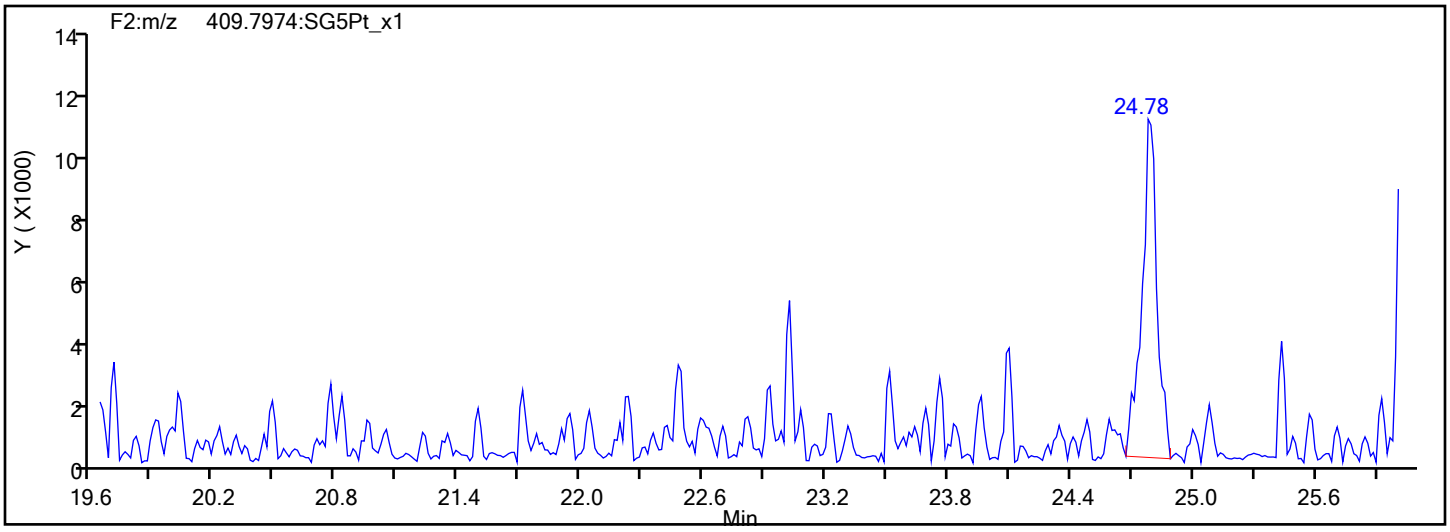

Report Date: 18-Sep-2019 10:45:43 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d		
Injection Date:	17-Sep-2019 18:27:31	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

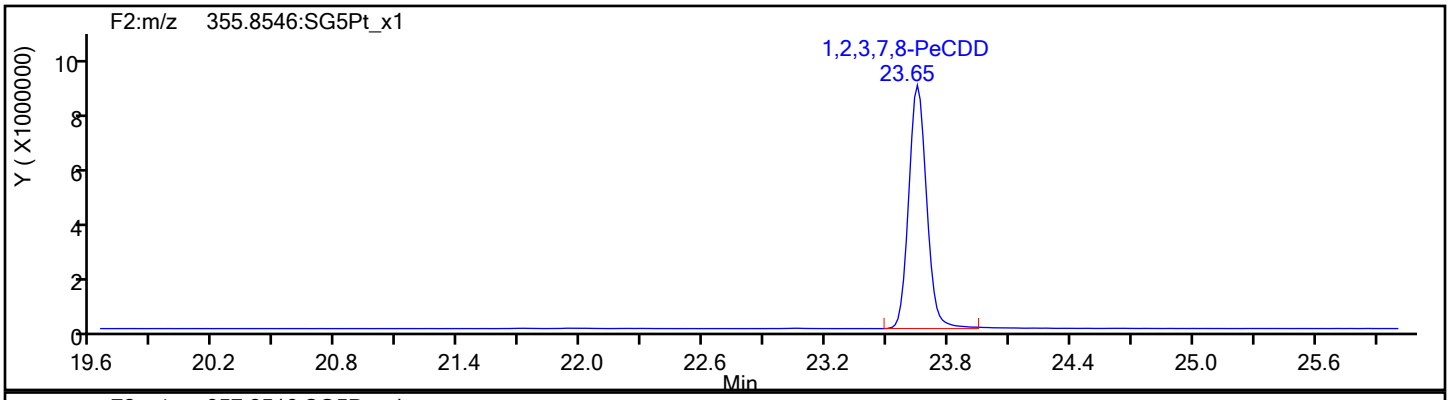

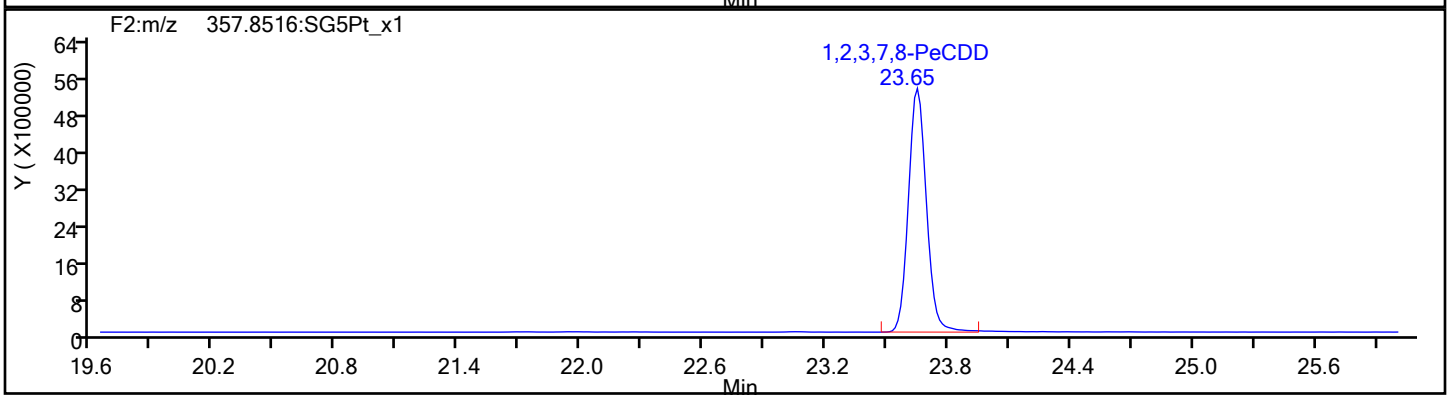

PeCDD Standards

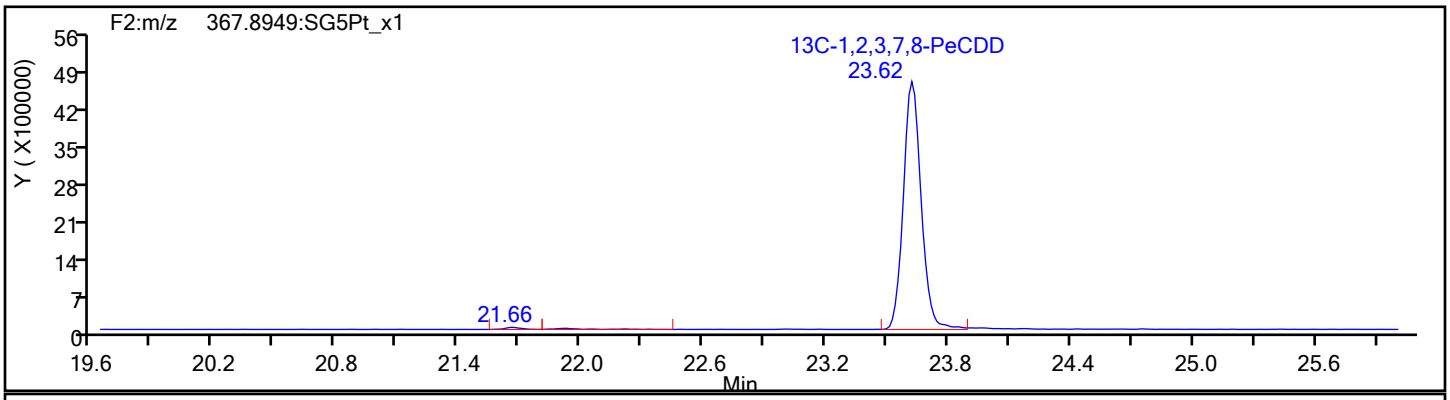

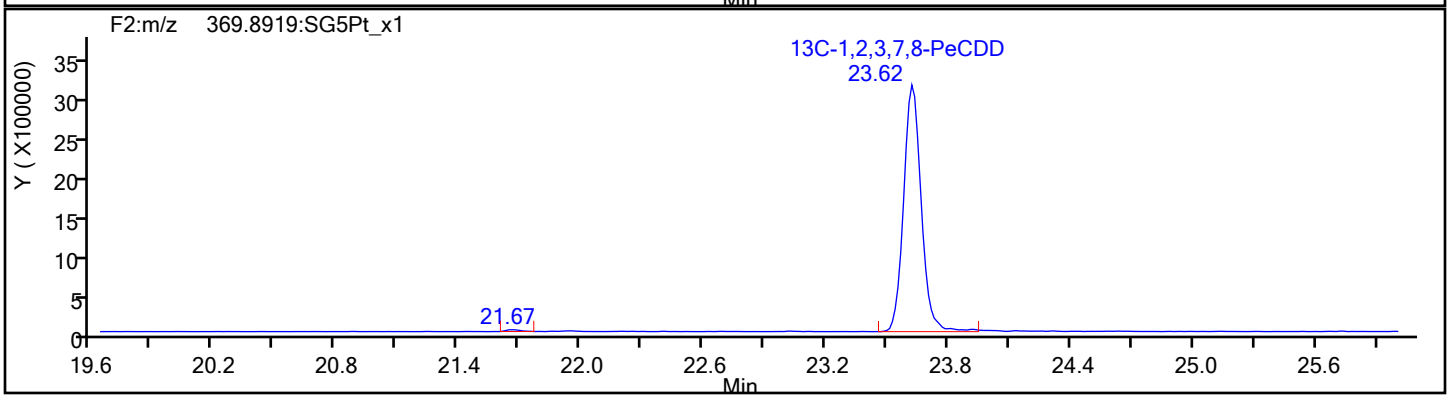

Report Date: 18-Sep-2019 10:45:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Injection Date:	17-Sep-2019 18:27:31	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

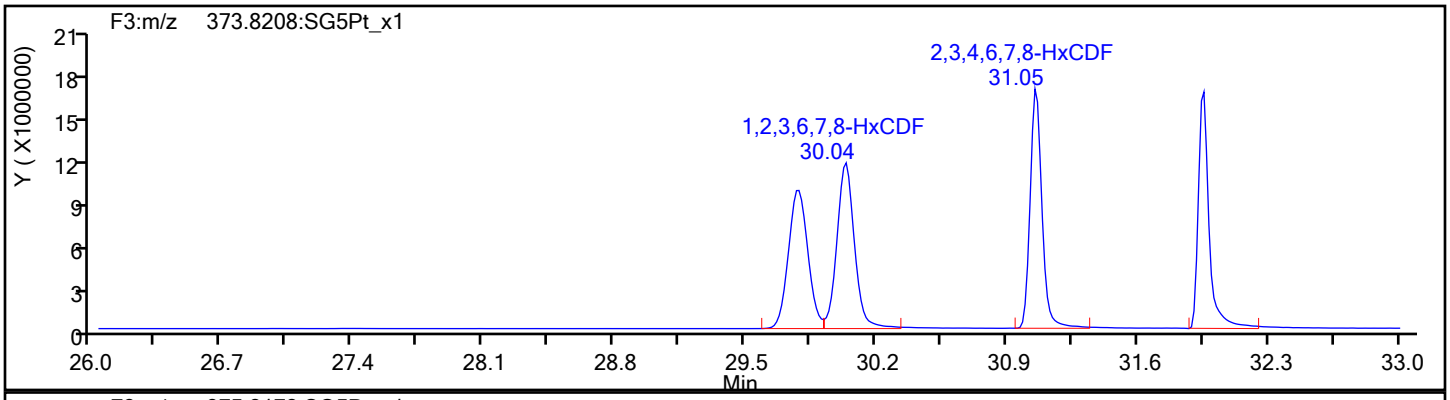

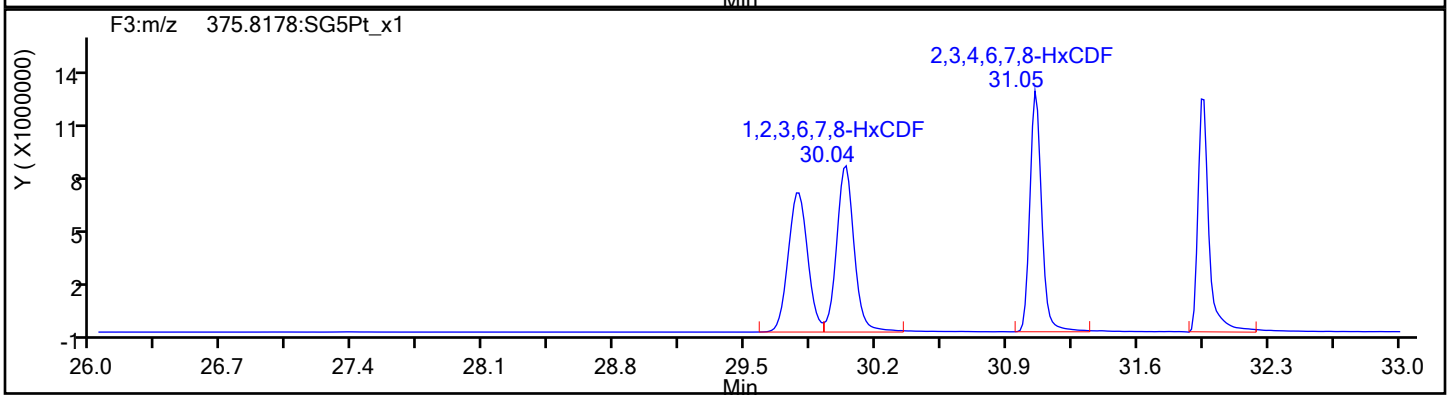

HxCDF Standards

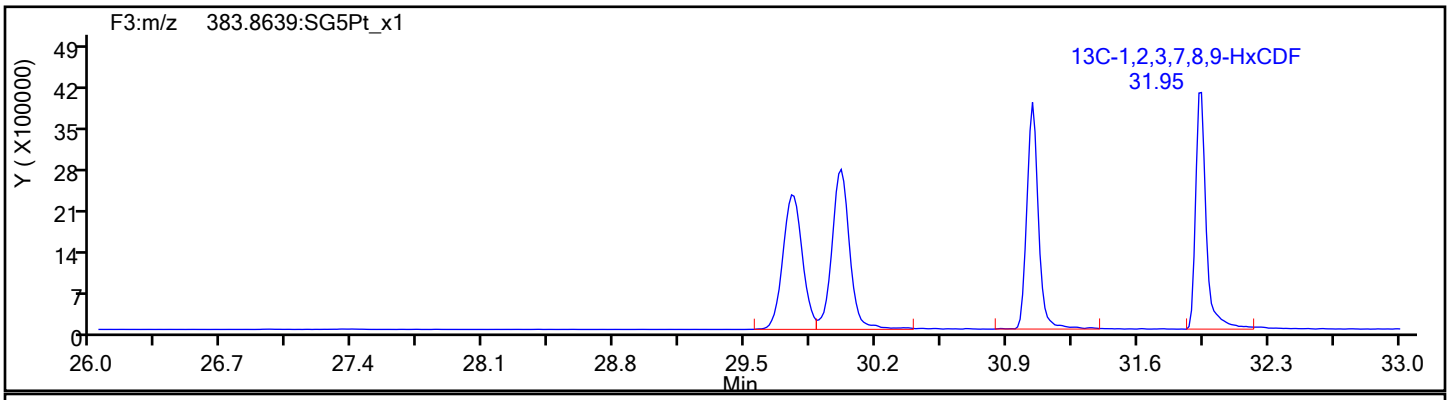

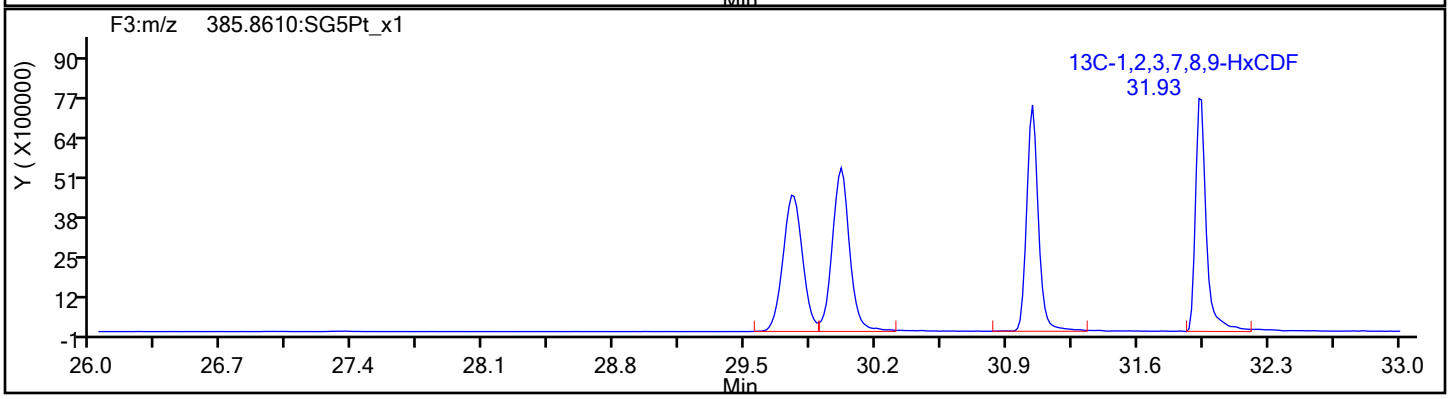

Report Date: 18-Sep-2019 10:45:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d		
Injection Date:	17-Sep-2019 18:27:31	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

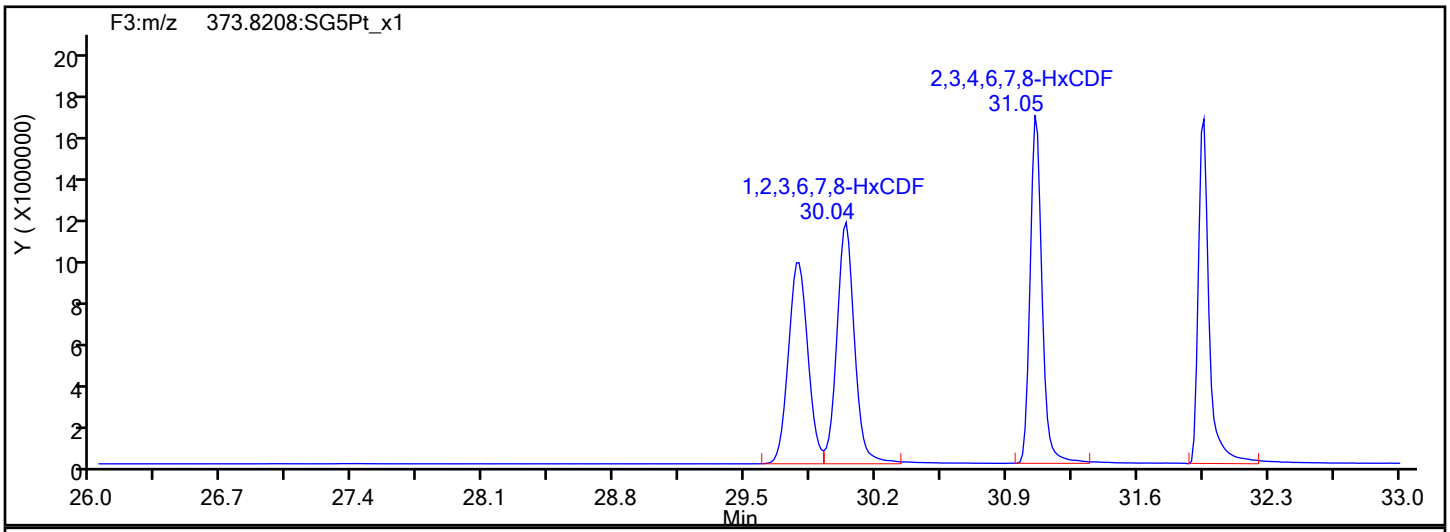

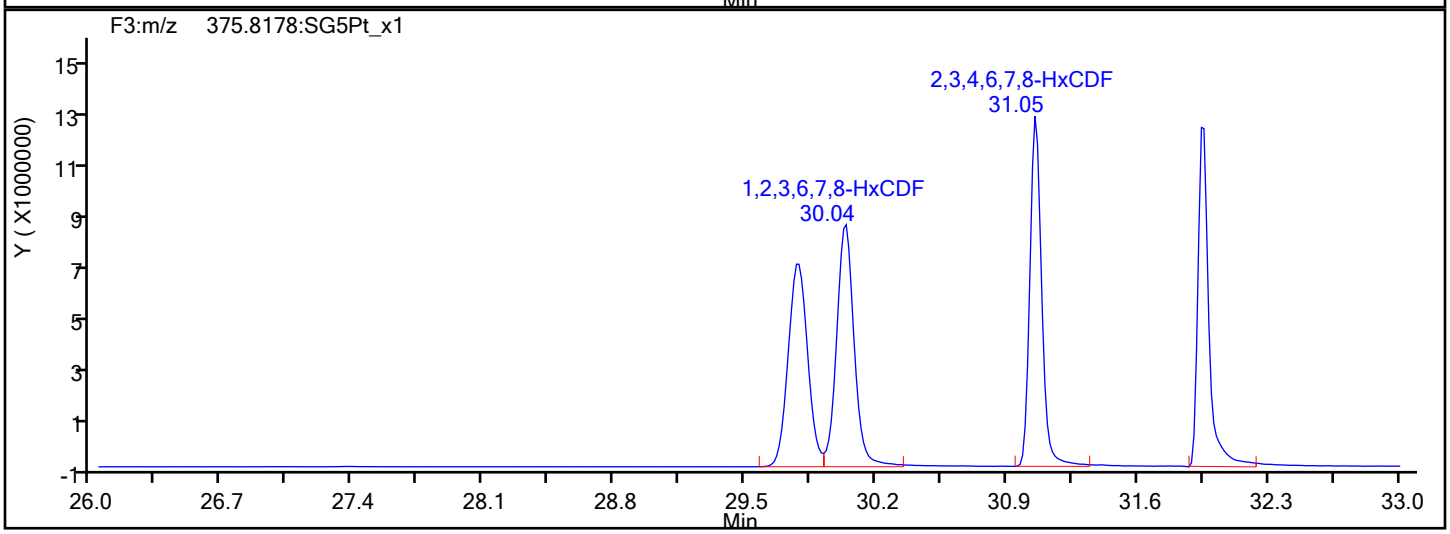

HxCDF Interference Mass

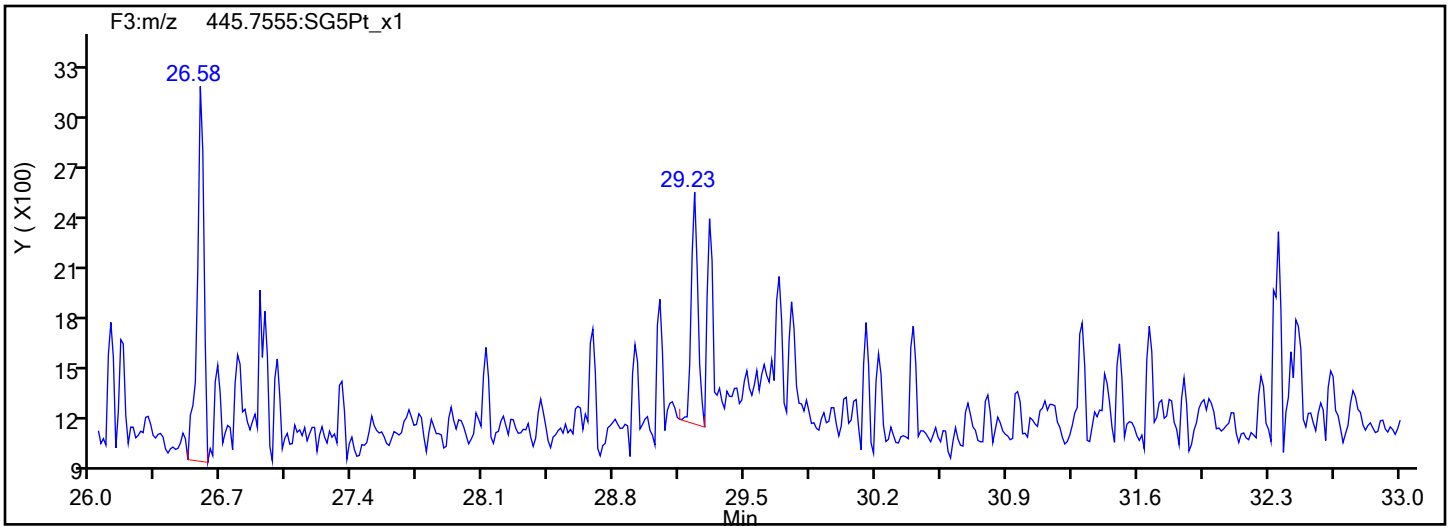

Report Date: 18-Sep-2019 10:45:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HxCDD

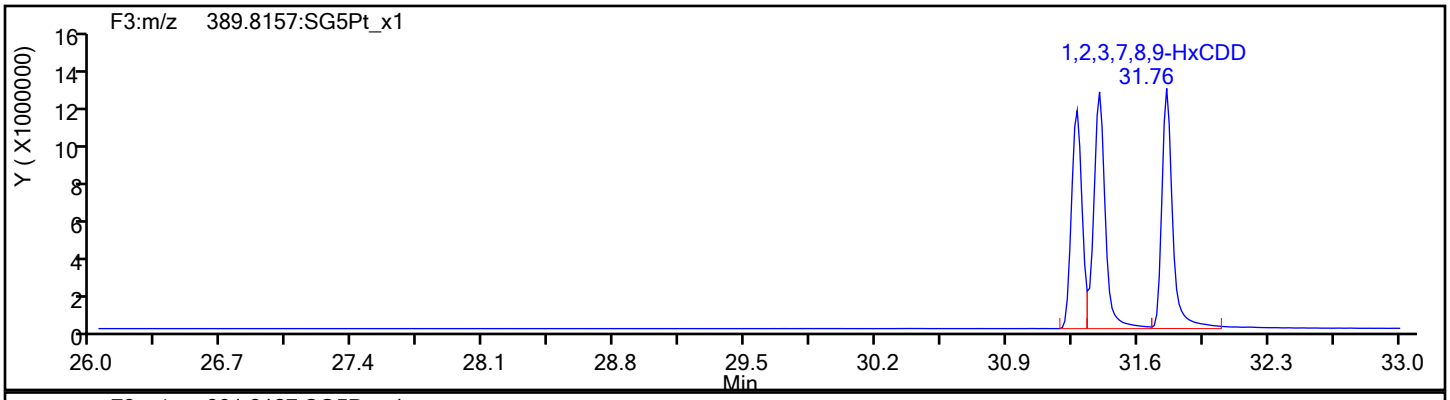

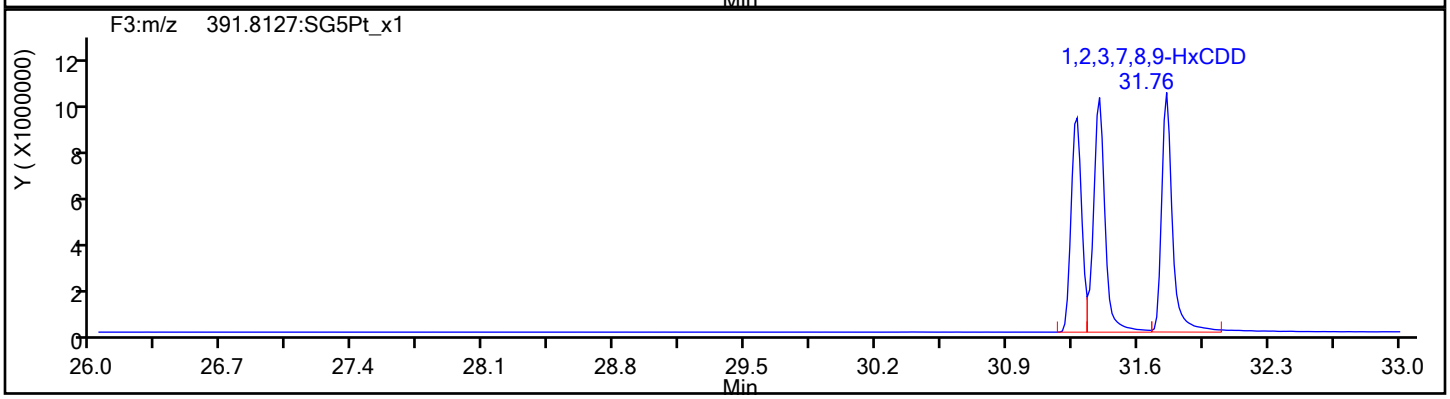

HxCDD Standards

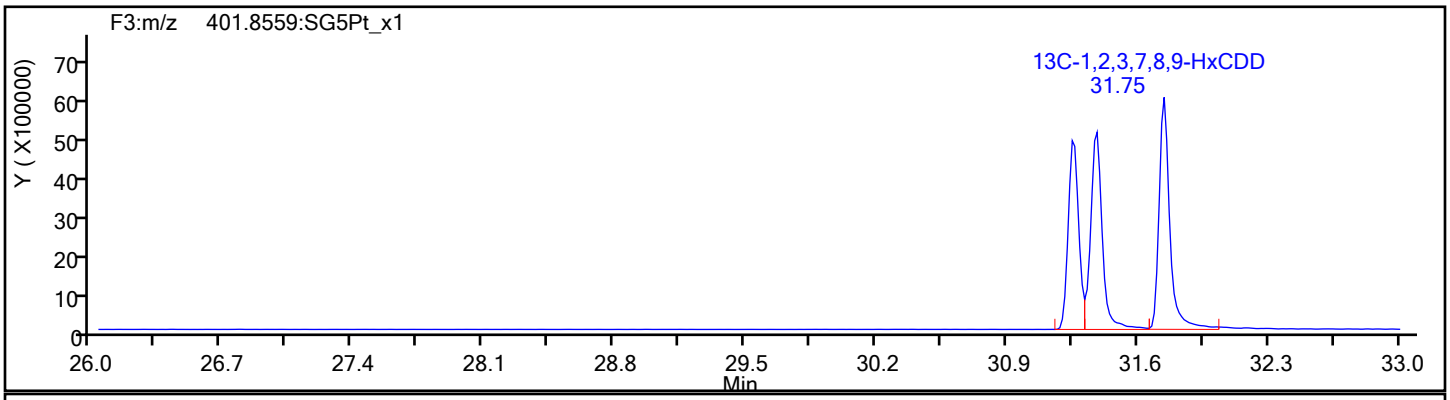

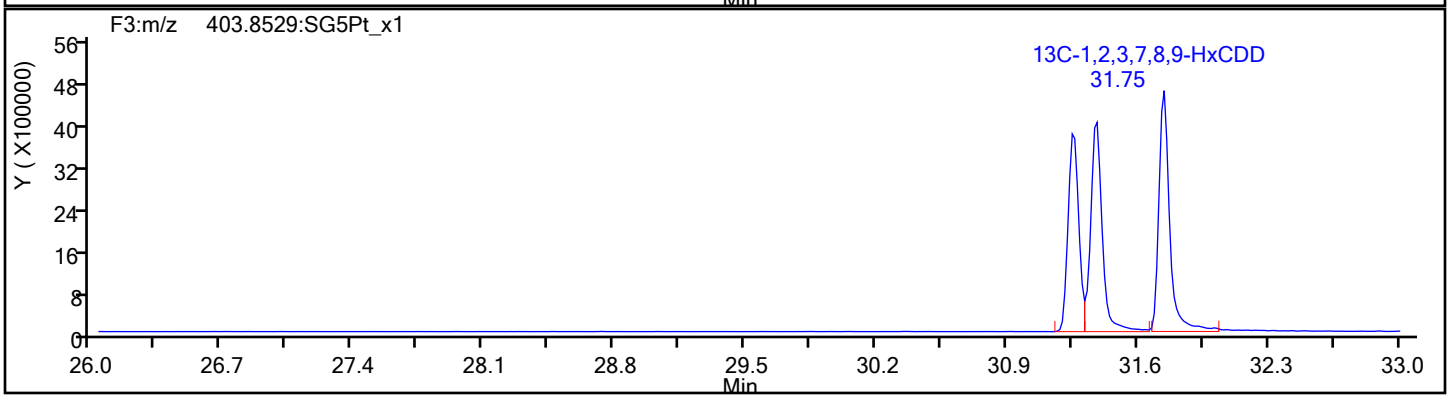

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Eurofins TestAmerica, Sacramento

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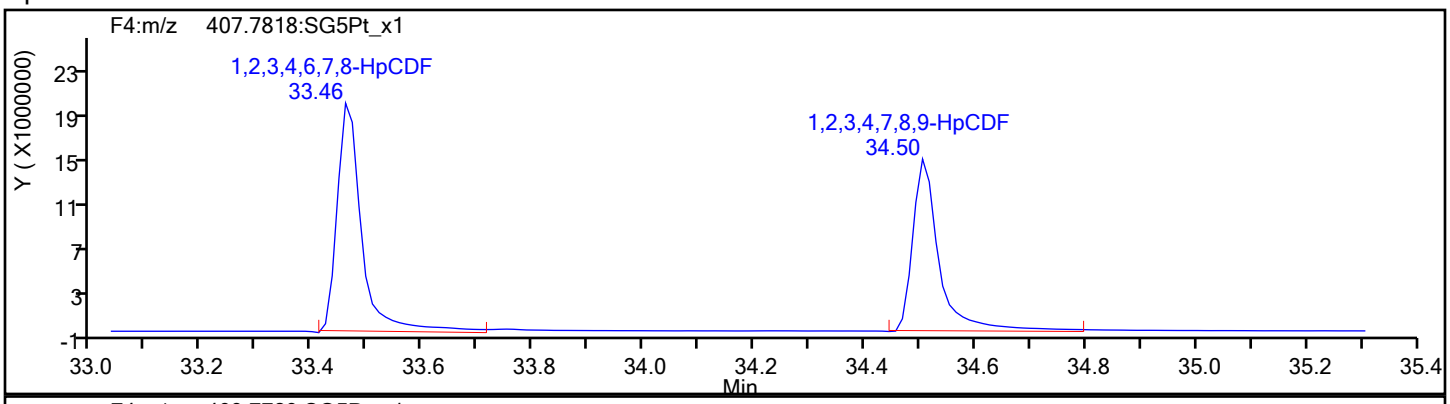

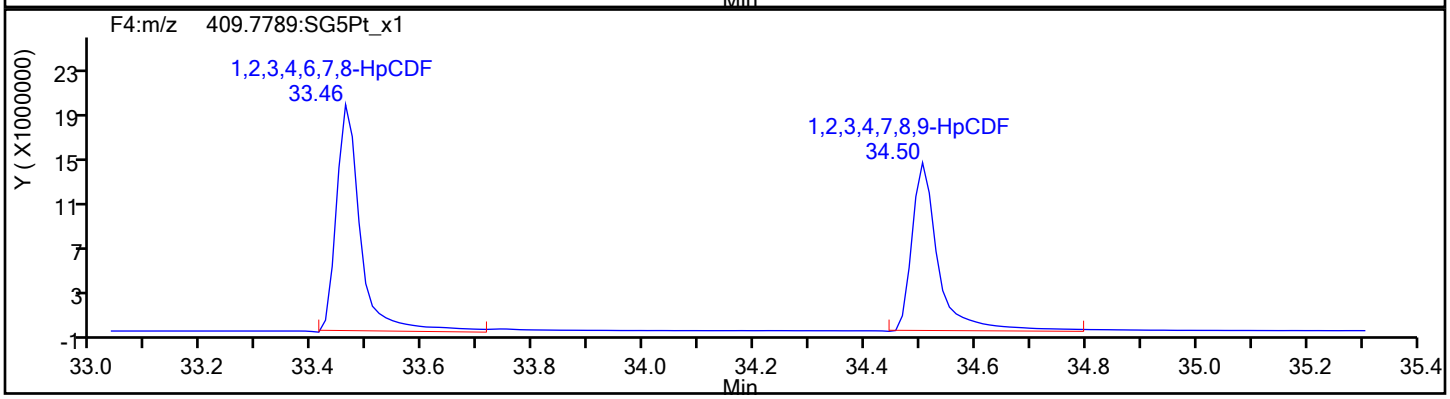

HpCDF Standards

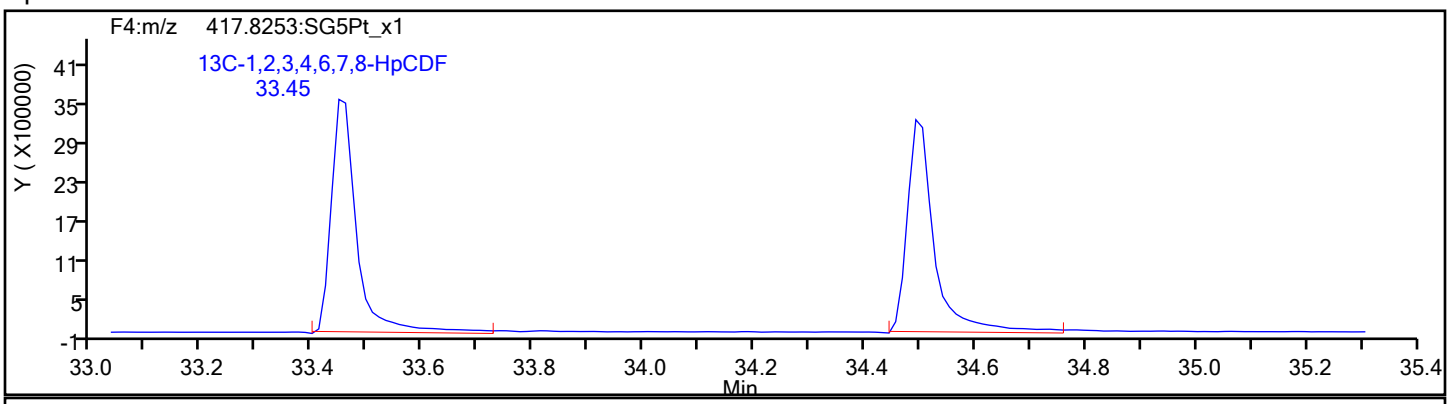

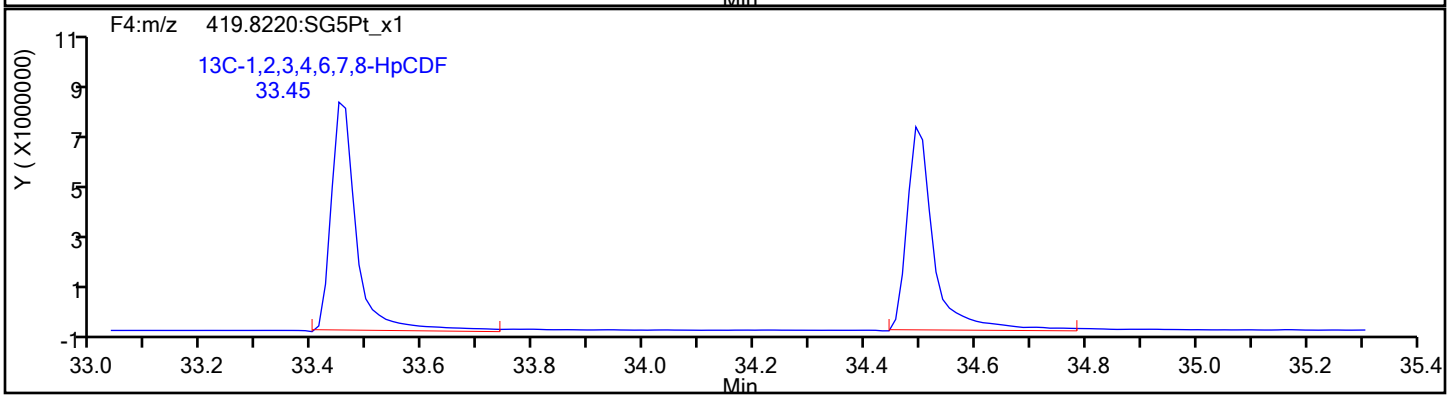

Report Date: 18-Sep-2019 10:45:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

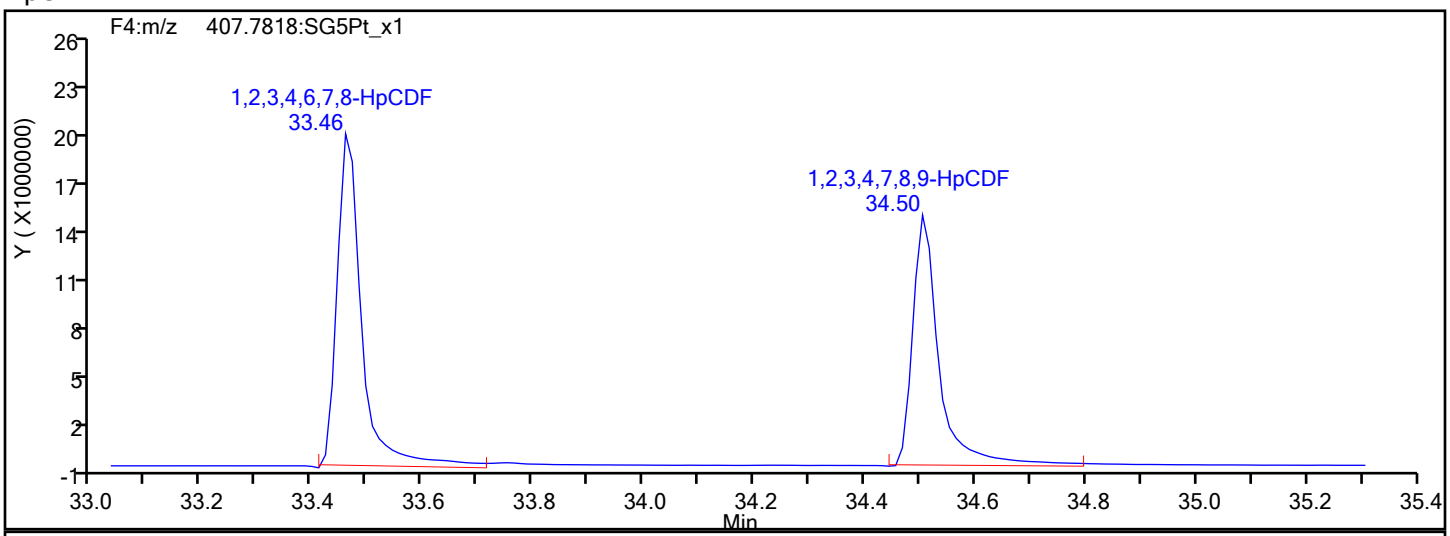

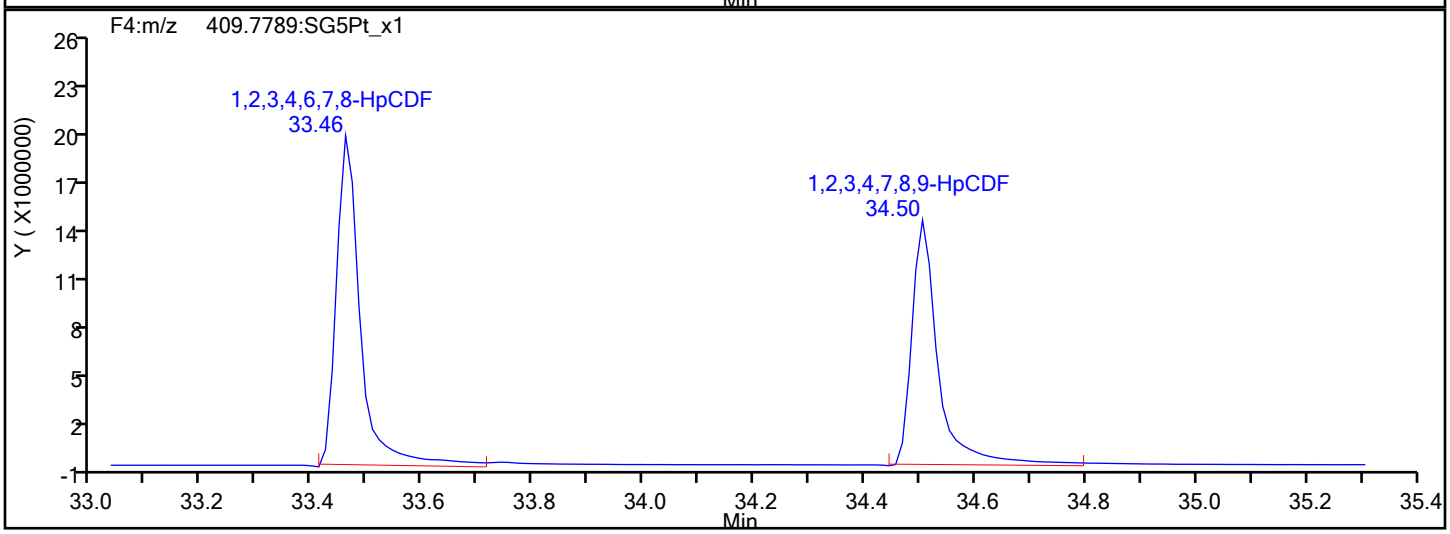

HpCDF Interference Mass

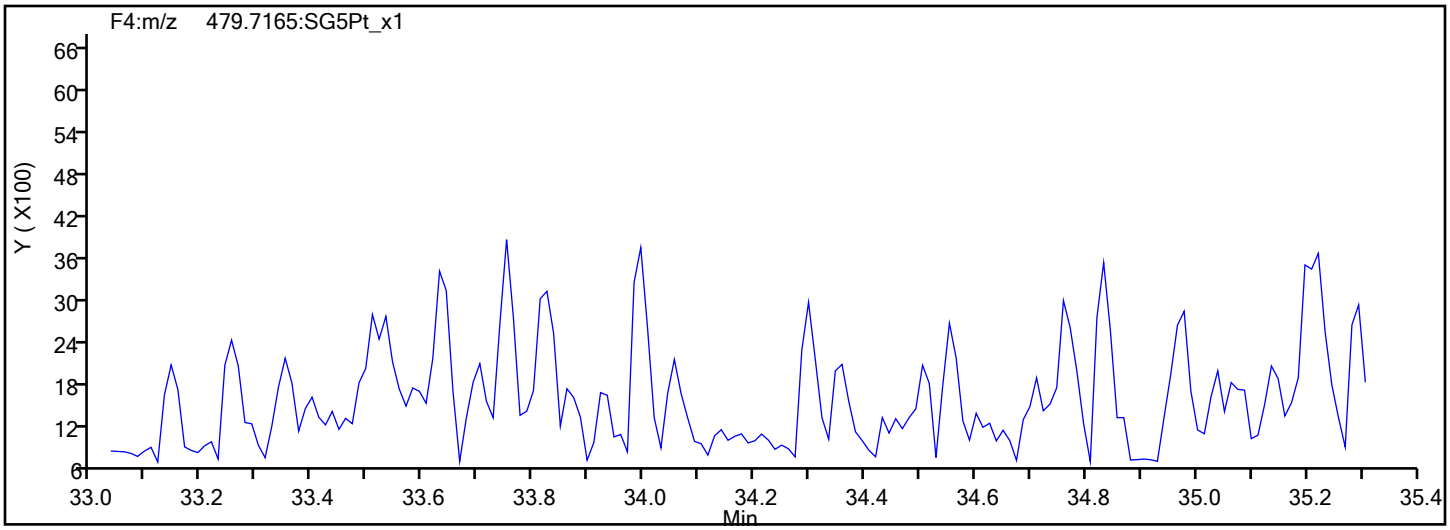

Report Date: 18-Sep-2019 10:45:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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HpCDD

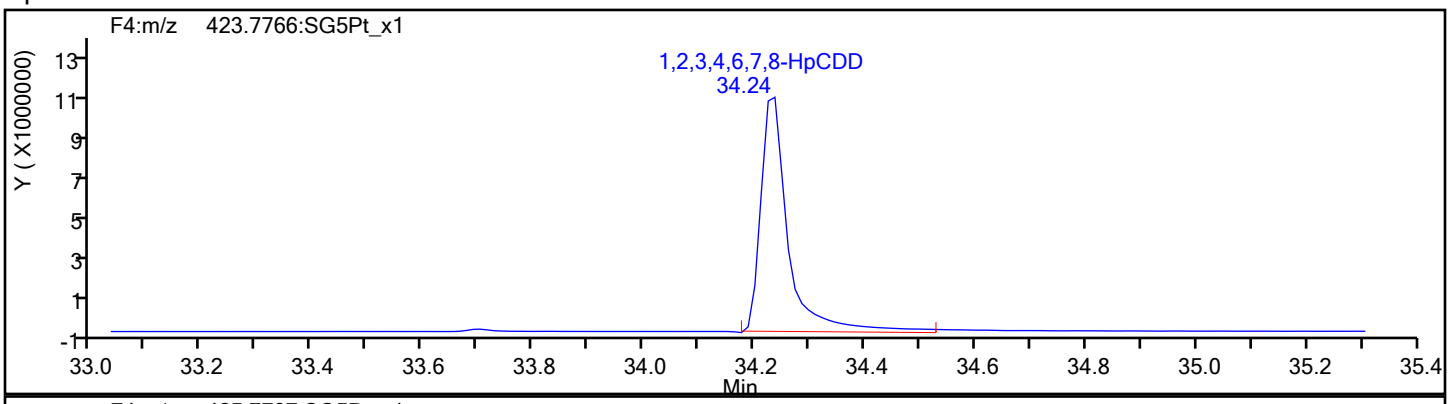

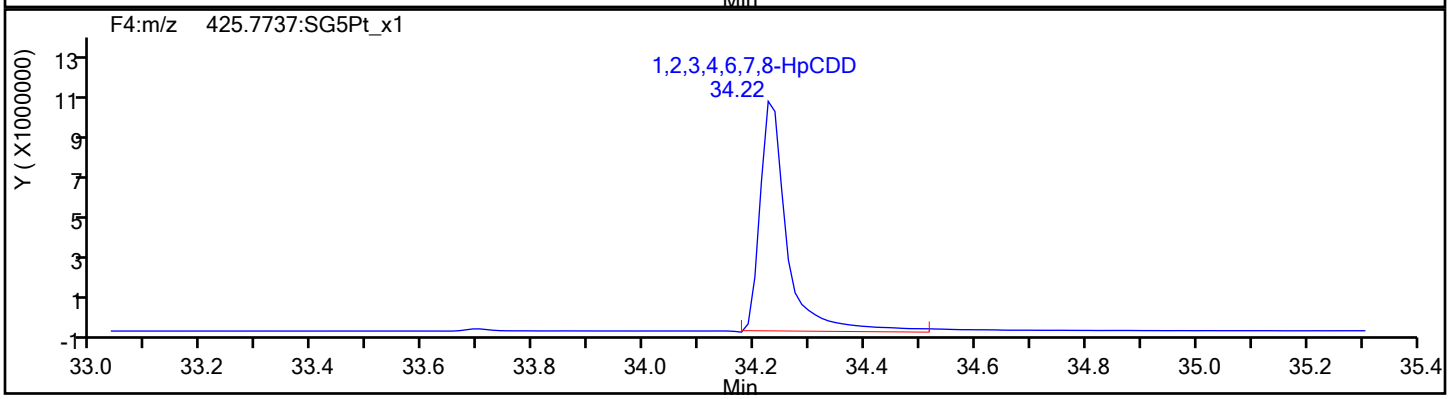

HpCDD Standards

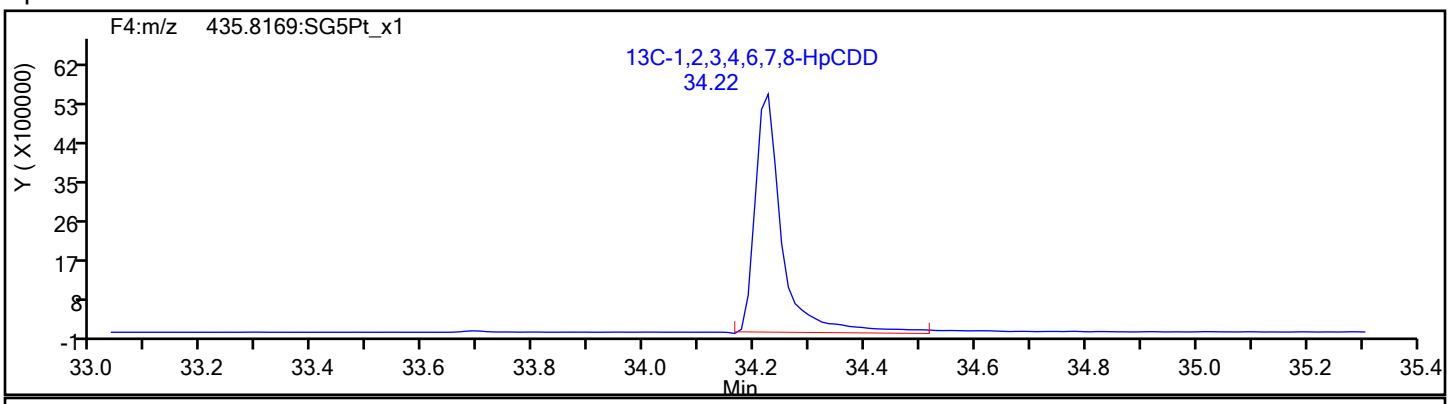

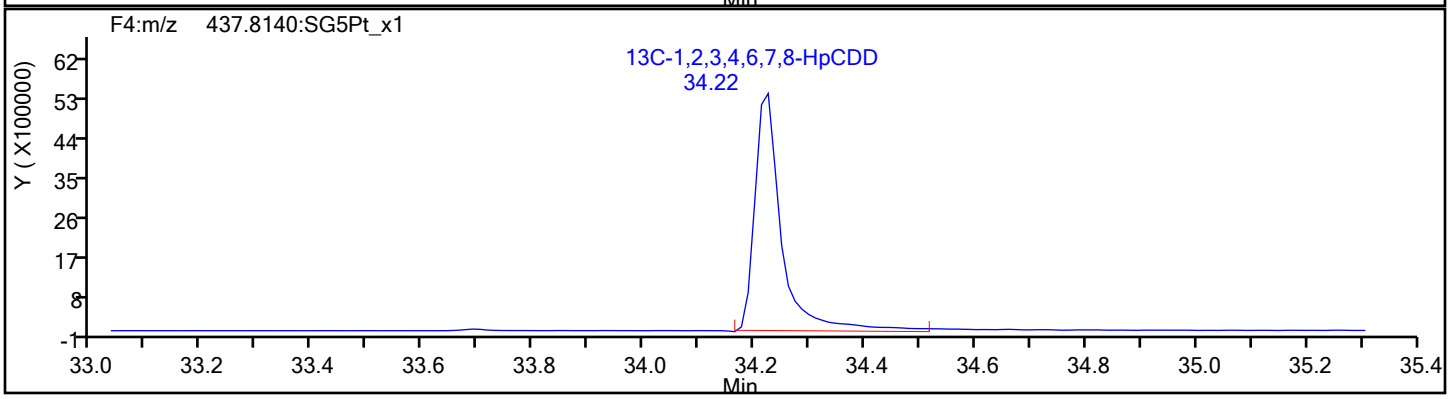

Report Date: 18-Sep-2019 10:45:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d		
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Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

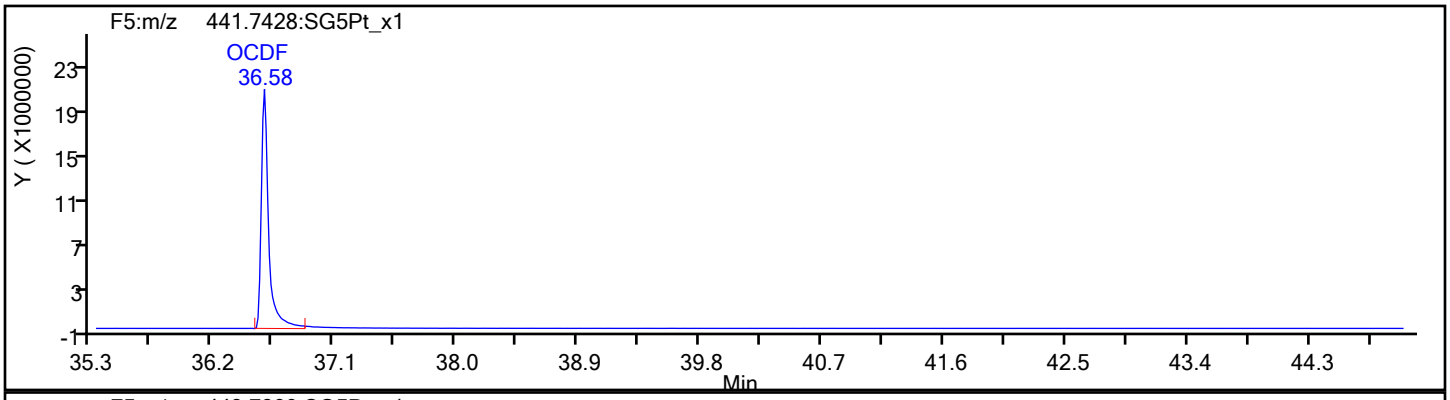

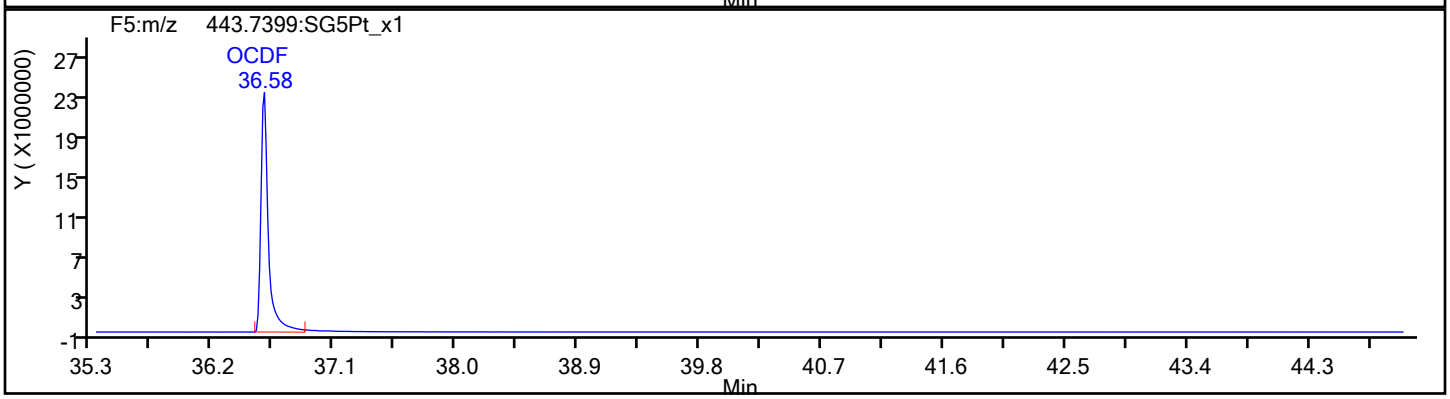

OCDF Standards

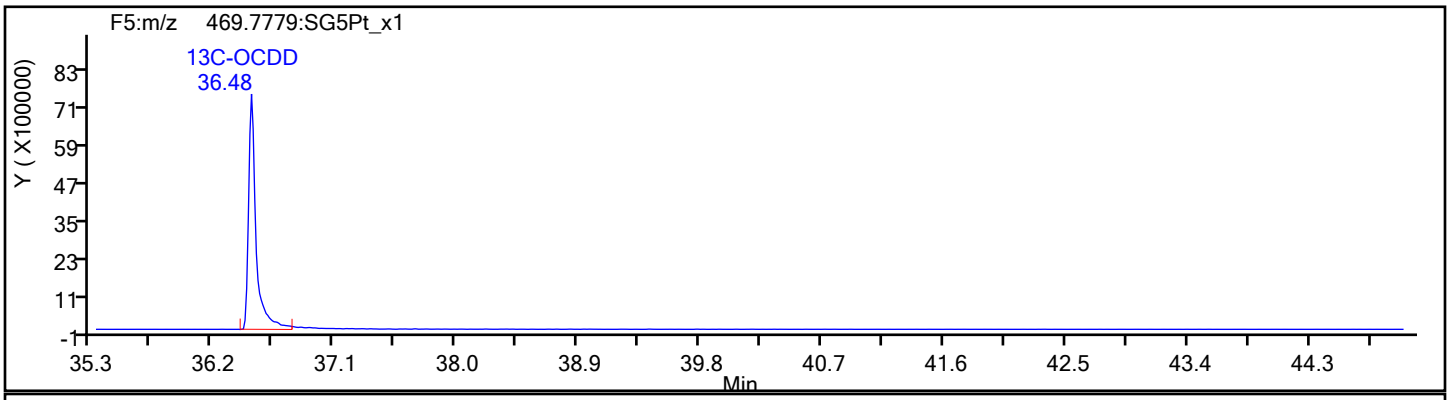

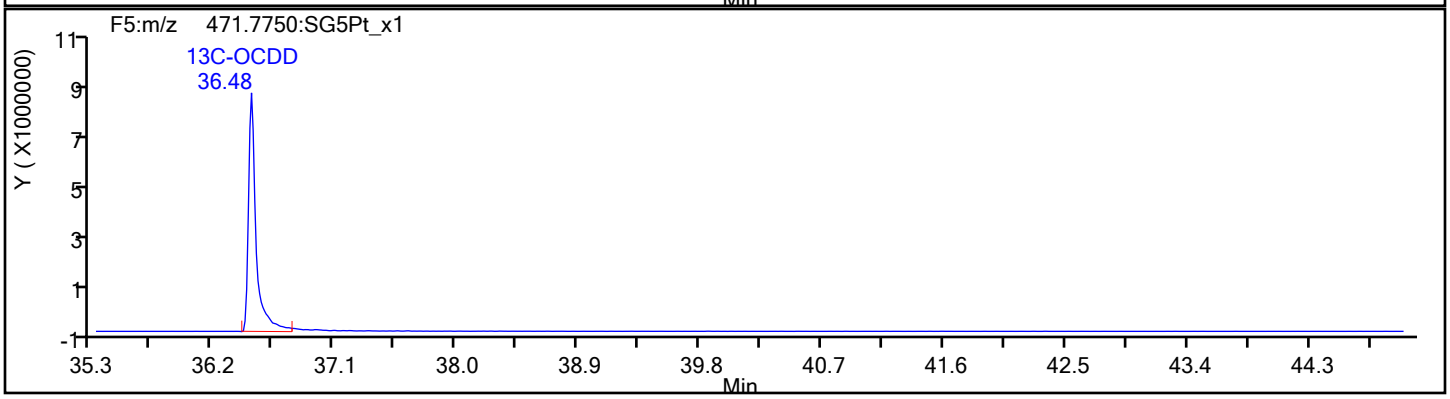

Report Date: 18-Sep-2019 10:45:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

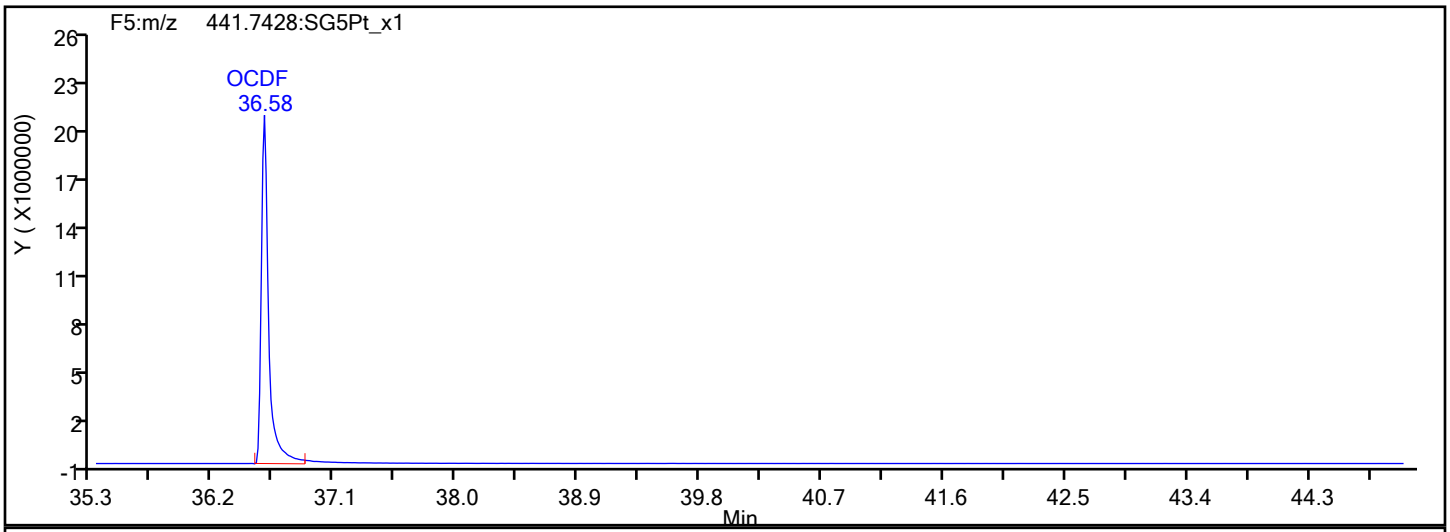

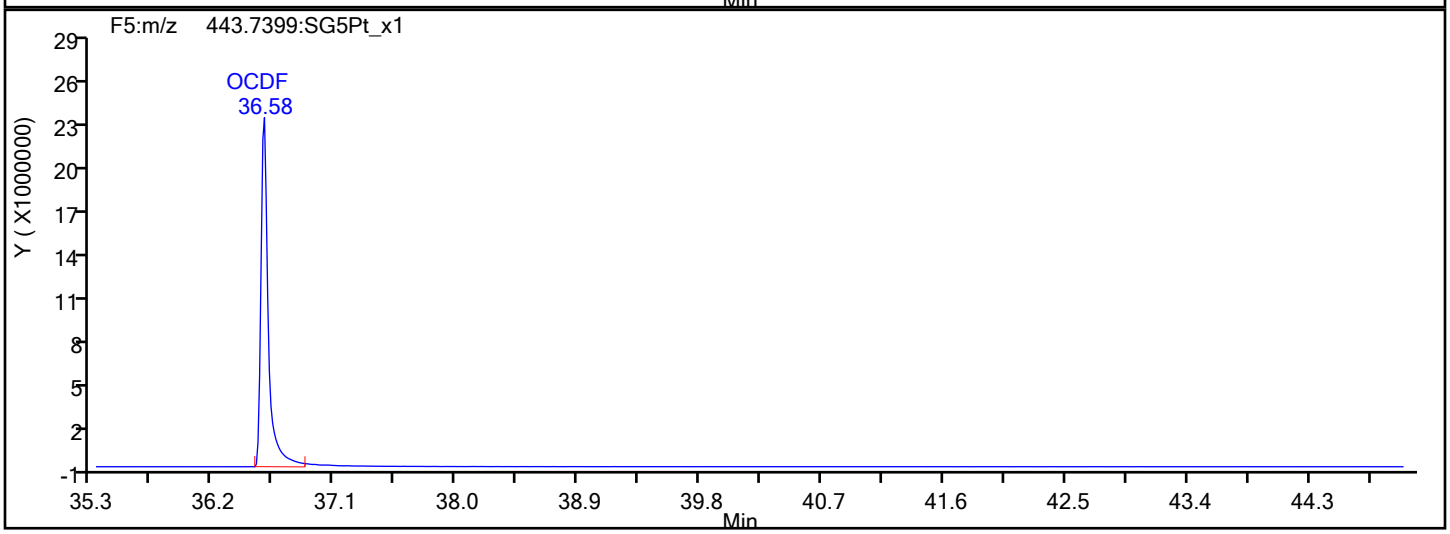

OCDF Interference Mass

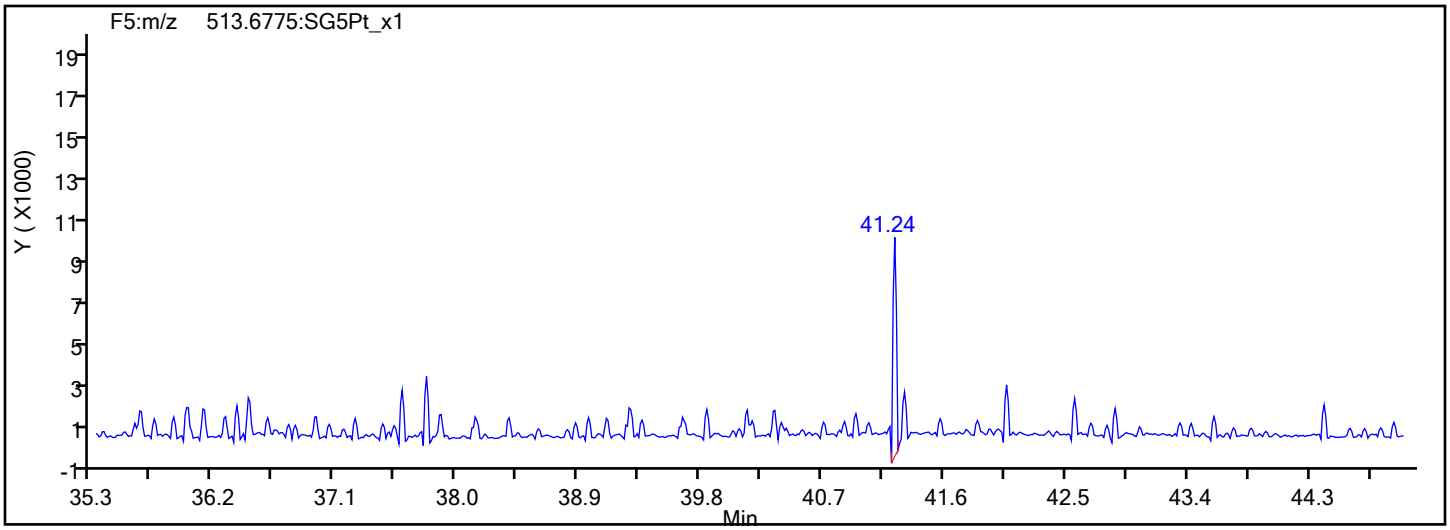

Report Date: 18-Sep-2019 10:45:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d		
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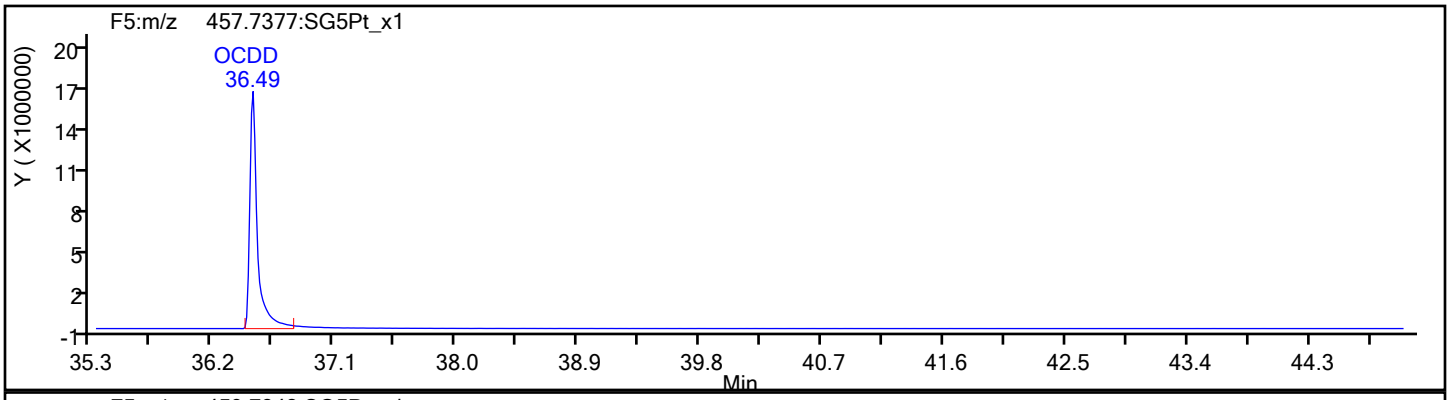

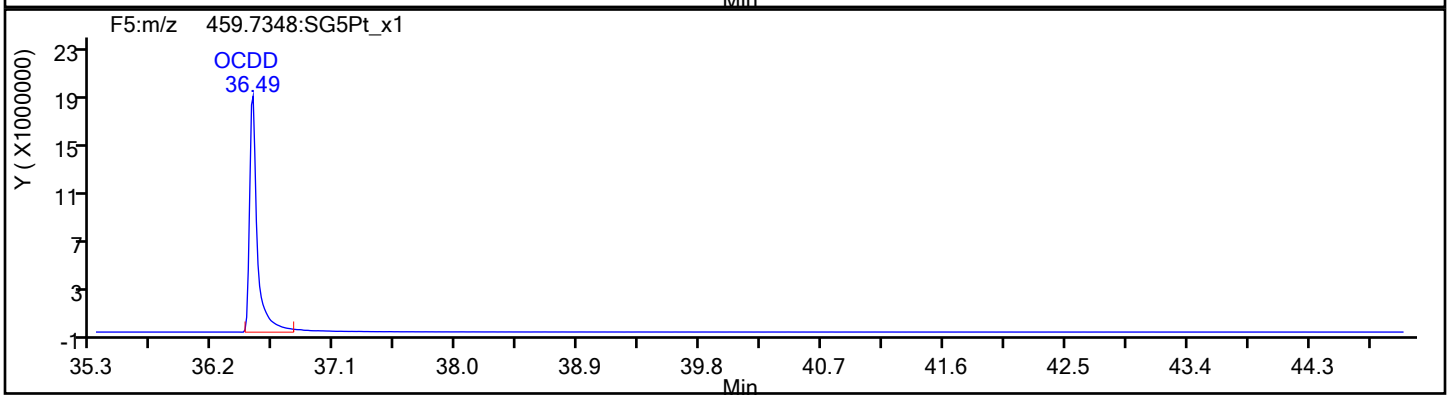

OCDD Standards

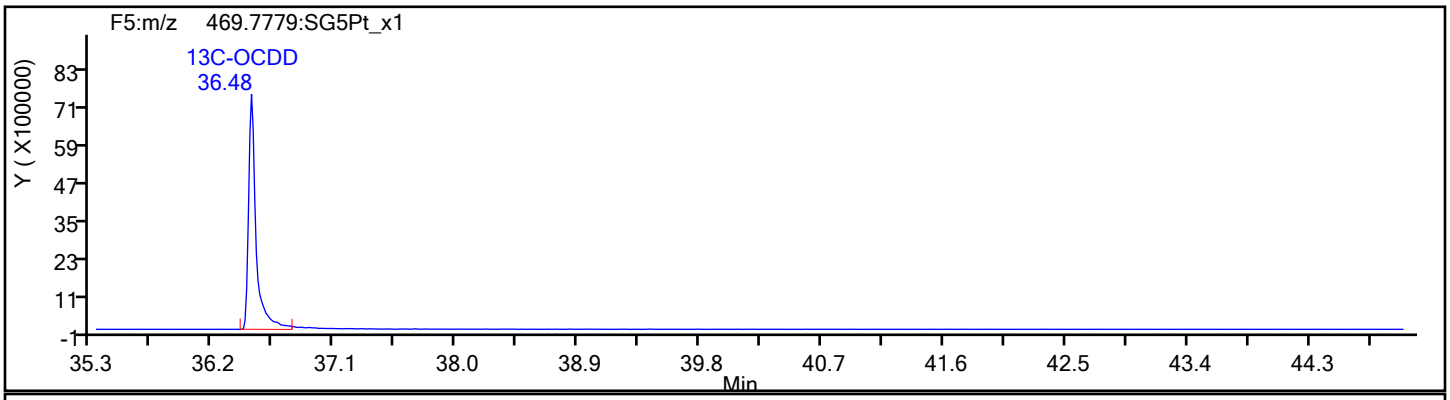

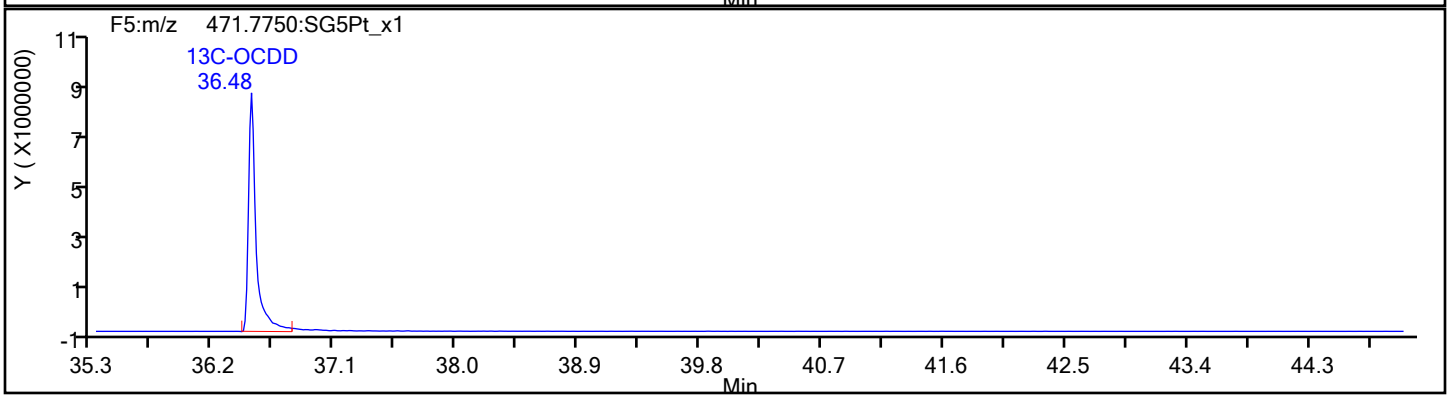

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Eurofins TestAmerica, Sacramento

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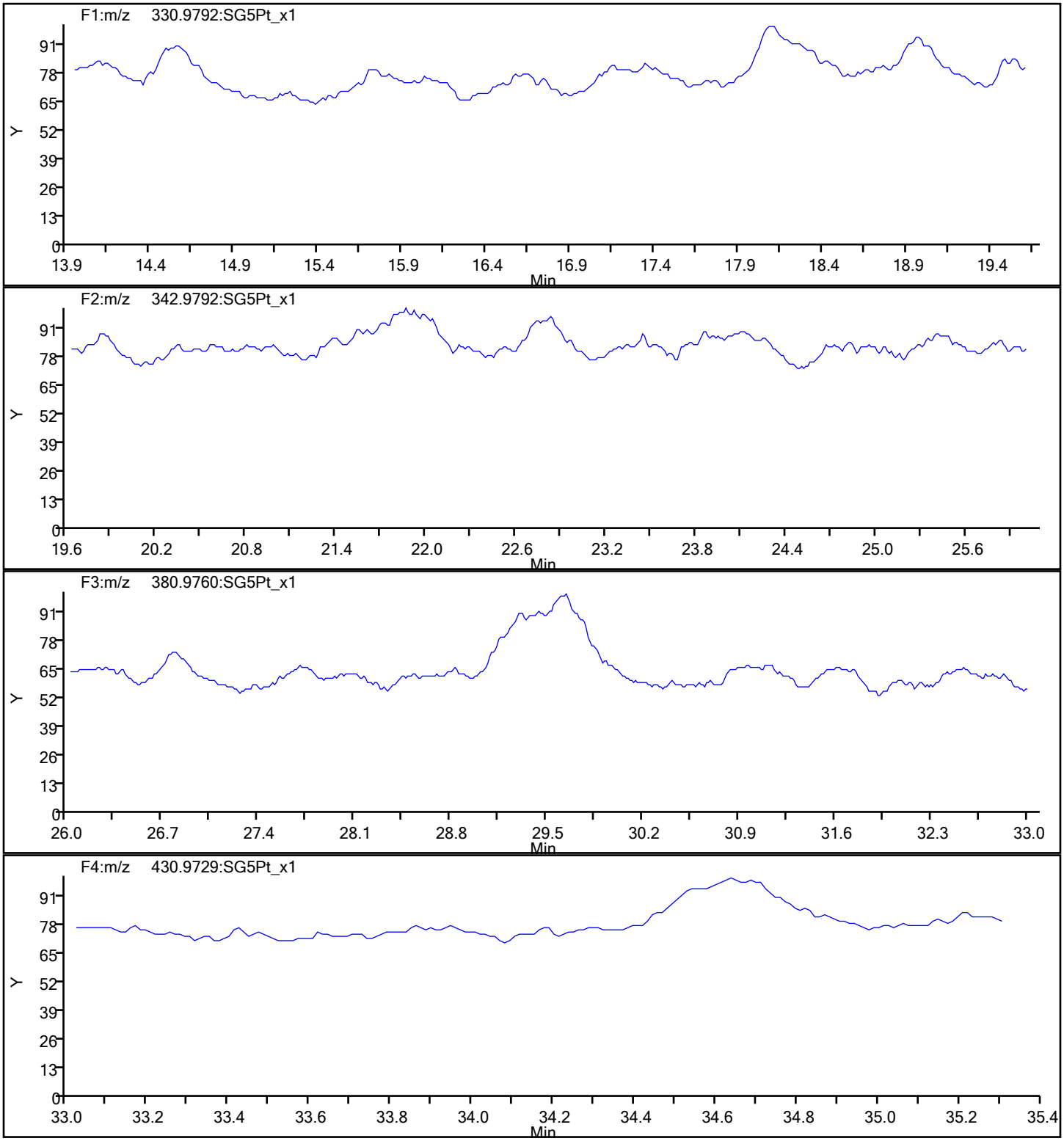

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Eurofins TestAmerica, Sacramento

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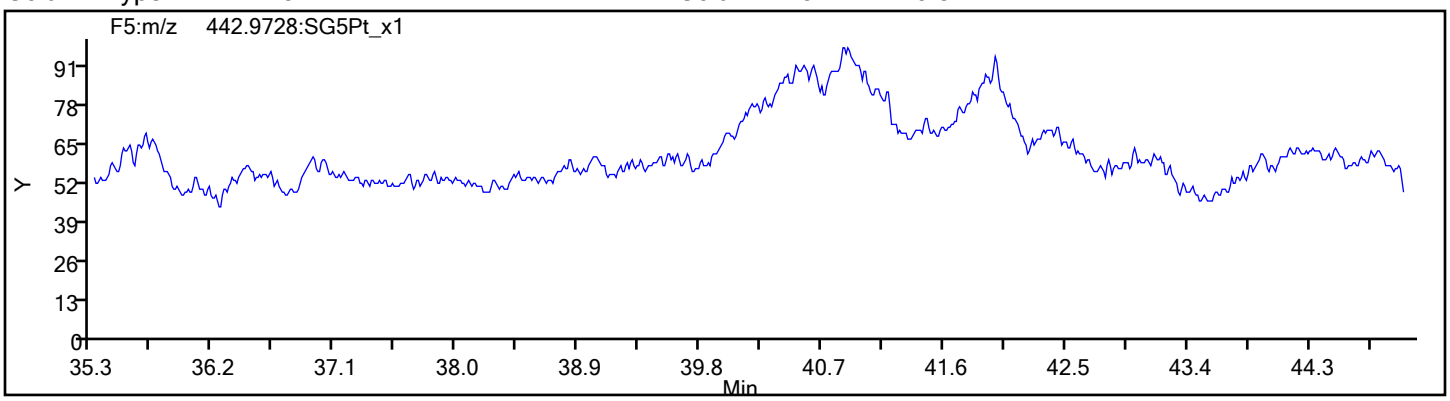

FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 320-336302/2 Calibration Date: 11/05/2019 20:11

Instrument ID: 10D5 Calib Start Date: 09/17/2019 13:03

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 09/17/2019 16:55

Lab File ID: 05NO19B10D5_2.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
2,3,7,8-TCDF	AveID	1.051	1.035		9.85	10.0	98	84-120
2,3,7,8-TCDD	AveID	1.106	0.9681		8.75	10.0	87	78-129
1,2,3,7,8-PeCDF	AveID	1.082	1.062		49.1	50.0	98	82-120
2,3,4,7,8-PeCDF	AveID	1.103	1.069		48.4	50.0	97	82-122
1,2,3,7,8-PeCDD	AveID	0.9050	0.9099		50.3	50.0	101	78-130
1,2,3,4,7,8-HxCDF	AveID	1.197	1.154		48.2	50.0	96	90-112
1,2,3,6,7,8-HxCDF	AveID	1.181	1.155		48.9	50.0	98	88-114
2,3,4,6,7,8-HxCDF	AveID	1.212	1.198		49.5	50.0	99	88-114
1,2,3,4,7,8-HxCDD	AveID	1.109	1.082		48.8	50.0	98	78-128
1,2,3,6,7,8-HxCDD	AveID	1.081	1.088		50.3	50.0	101	78-128
1,2,3,7,8,9-HxCDD	AveID	1.212	1.205		49.7	50.0	99	82-122
1,2,3,7,8,9-HxCDF	AveID	1.245	1.224		49.2	50.0	98	90-112
1,2,3,4,6,7,8-HpCDF	AveID	1.556	1.521		48.9	50.0	98	90-110
1,2,3,4,6,7,8-HpCDD	AveID	0.9316	0.9387		50.4	50.0	101	86-116
1,2,3,4,7,8,9-HpCDF	AveID	1.386	1.355		48.9	50.0	98	86-116
OCDD	AveID	1.062	1.040		97.9	100	98	79-126
OCDF	AveID	1.260	1.269		101	100	101	63-159
13C-2,3,7,8-TCDF	Ave	1.438	1.319		91.7	100	92	71-140
13C-2,3,7,8-TCDD	Ave	0.9533	0.9619		101	100	101	82-121
13C-1,2,3,7,8-PeCDF	Ave	1.029	0.9863		95.9	100	96	76-130
13C-2,3,4,7,8-PeCDF	Ave	0.9827	0.9673		98.4	100	98	77-130
13C-1,2,3,7,8-PeCDD	Ave	0.7481	0.7515		100	100	100	62-160
13C-1,2,3,4,7,8-HxCDF	Ave	1.152	1.150		99.8	100	100	76-131
13C-1,2,3,6,7,8-HxCDF	Ave	1.243	1.242		99.9	100	100	70-143
13C-2,3,4,6,7,8-HxCDF	Ave	1.172	1.170		99.8	100	100	73-137
13C-1,2,3,4,7,8-HxCDD	Ave	0.7812	0.8101		104	100	104	85-117
13C-1,2,3,6,7,8-HxCDD	Ave	0.9175	0.8957		97.6	100	98	85-118
13C-1,2,3,7,8,9-HxCDF	Ave	1.065	1.065		100	100	100	74-135
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.8628	0.7330		85.0	100	85	78-129
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.8739	0.7584		86.8	100	87	72-138
13C-1,2,3,4,7,8,9-HpCDF	Ave	0.7991	0.6731		84.2	100	84	77-129
13C-OCDD	Ave	0.7744	0.5277		136	200	68	48-208
37Cl4-2,3,7,8-TCDD	Ave	1.222	1.453		11.9	10.0	119	79-127

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #	User
1	05NO19B10D5_1	WDM HRDXNCP_00040	WDM 110519B	Tray01:1	Dioxin		ALM
2	05NO19B10D5_2	CS-4 HRDXNL4_00085	CCV 110519D	Tray01:2	Dioxin		ALM
3	05NO19B10D5_3	Solvent Blank C-14	SB 110519C	Tray01:3	---		ALM
4	05NO19B10D5_4	MB 320-335248/1-A	MB 320-335248/1-A	Tray01:4	1613B/Water	D106	ALM
5	05NO19B10D5_5	LCS 320-335248/2-A	LCS 320-335248/2-A	Tray01:5	1613B/Water		ALM
6	05NO19B10D5_6	600-194690-C-1-A	600-194690-C-1-A	Tray01:6	1613B/Water	---	ALM
7	05NO19B10D5_7	600-194690-C-3-A	600-194690-C-3-A	Tray01:7	1613B/Water	---	ALM
8	05NO19B10D5_8	600-194690-C-8-A	600-194690-C-8-A	Tray01:8	1613B/Water	---	ALM
9	05NO19B10D5_9	600-194690-B-9-A	600-194690-B-9-A	Tray01:9	1613B/Water		ALM
10	05NO19B10D5_10	600-194690-B-10-A	600-194690-B-10-A	Tray01:10	1613B/Water		ALM
11	05NO19B10D5_11	600-194690-A-11-A	600-194690-A-11-A	Tray01:11	1613B/Water		ALM
12	05NO19B10D5_12	600-194690-A-11-B MS	600-194690-A-11-B MS	Tray01:12	1613B/Water	---	ALM
13	05NO19B10D5_13	600-194690-A-11-C MSD	600-194690-A-11-C MSD	Tray01:15	1613B/Water	---	ALM
14	05NO19B10D5_14	Solvent Blank C-14	SB 110519D	Tray01:3	---		ALM
15	05NO19B10D5_15	CS-4 HRDXNL4_00085	CCV 110519E	Tray01:2	Dioxin		ALM
16	05NO19B10D5_16	WDM HRDXNCP_00040	WDM 110519C	Tray01:1	Dioxin		ALM
17	05NO19B10D5_17	Solvent Blank C-14	SB 110519E	Tray01:3	---		ALM
18	05NO19B10D5_18	480-161517-B-2-A	480-161517-B-2-A	Tray01:16	1613B/Water	D105	ALM
19	05NO19B10D5_19	480-161517-A-3-A	480-161517-A-3-A	Tray01:17	1613B/Water	---	ALM

Logfile checked
11/06/19 SMA

Sample Size	Units	MS File	Inlet File	Inject Volume	Process
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck

Process Options	Action On Error	s5
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
C:\Masslynx\Autospec\dioxinrescheck.dat	Ignore Error	---
C:\Masslynx\Autospec\dioxinrescheck.dat	Ignore Error	---
C:\Masslynx\Autospec\dioxinrescheck.dat	Ignore Error	---
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
C:\Masslynx\Autospec\dioxinrescheck.dat	Ignore Error	---

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

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M 292.9824 R 14125

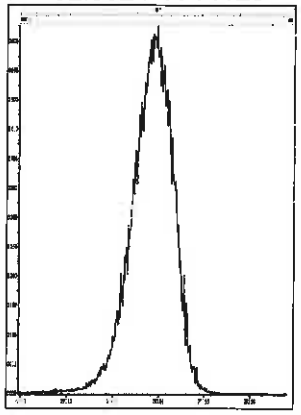

M 304.9824 R 13659

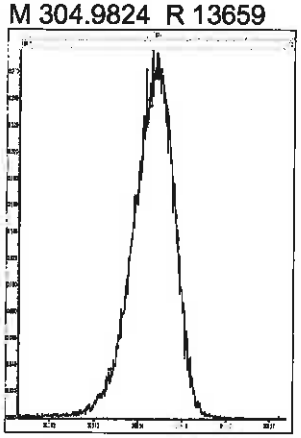

M 318.9792 R 13892

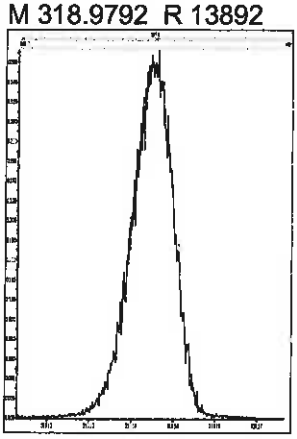

M 330.9792 R 13370

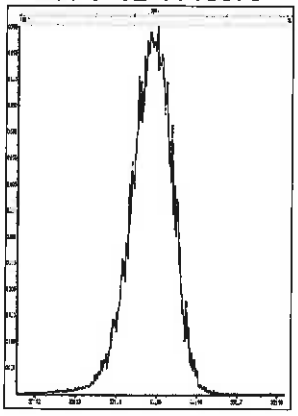

M 342.9792 R 13368

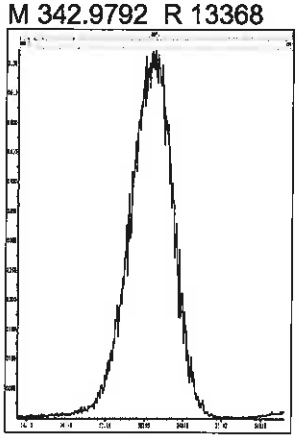

M 354.9792 R 13438

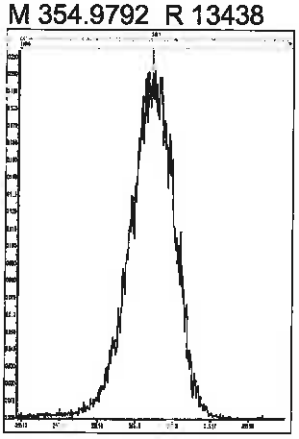

M 366.9792 R 11849

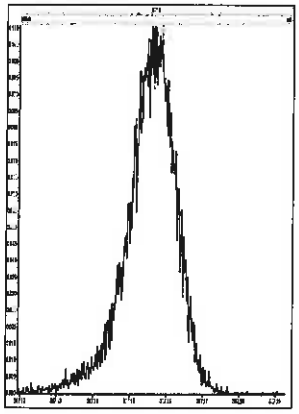

M 380.9760 R 12825

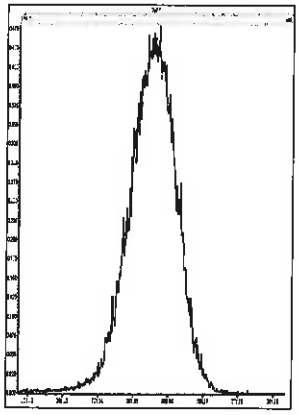

M 392.9760 R 12197

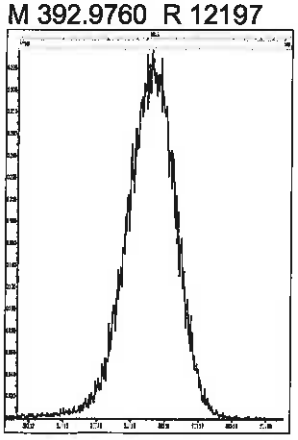

M 404.9760 R 11628

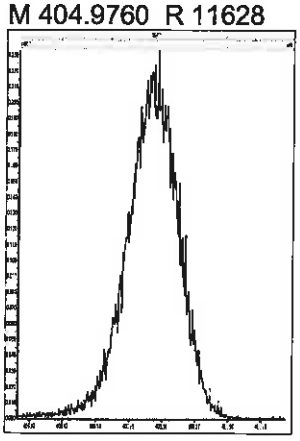

M 416.9760 R 12076

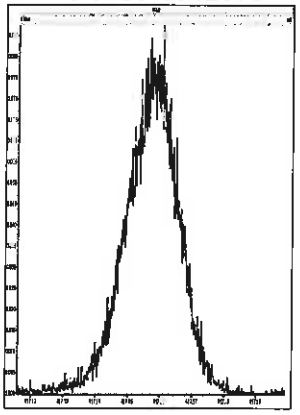

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 2 @ 200 (ppm)

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M 318.9792 R 14371

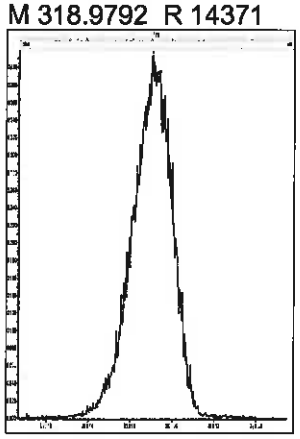

M 330.9792 R 14369

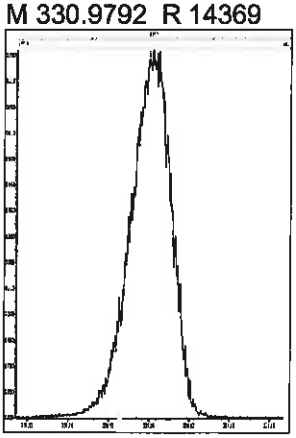

M 342.9792 R 13888

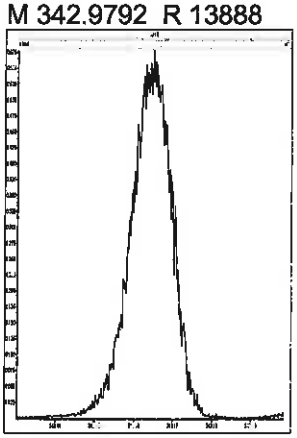

M 354.9792 R 13739

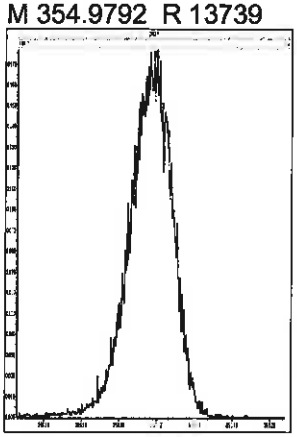

M 366.9792 R 13299

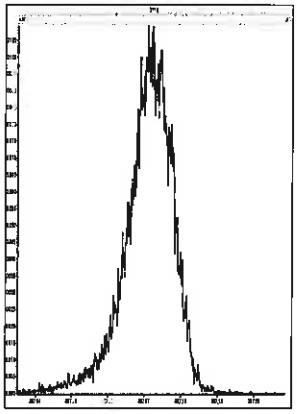

M 380.9760 R 13587

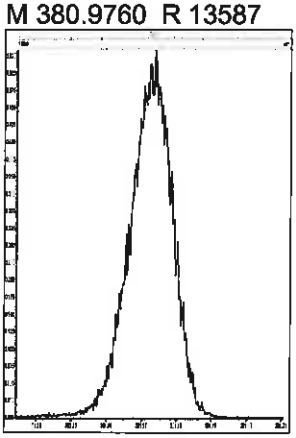

M 392.9760 R 12885

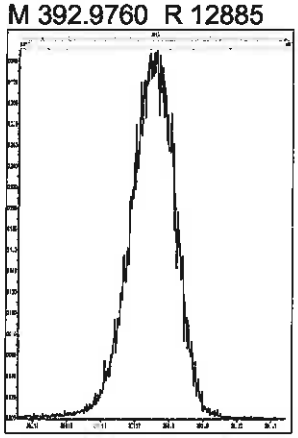

M 404.9760 R 13022

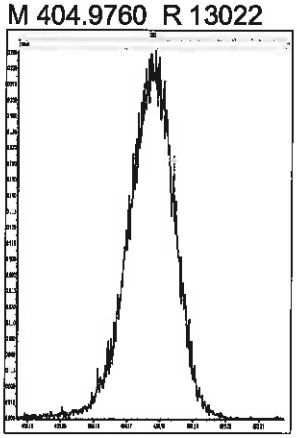

M 416.9760 R 12820

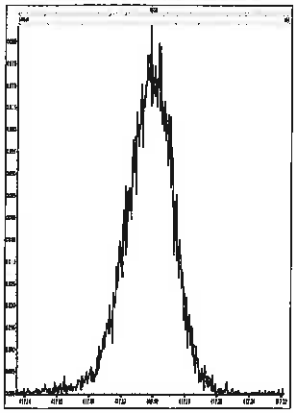

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

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M 366.9792 R 13018

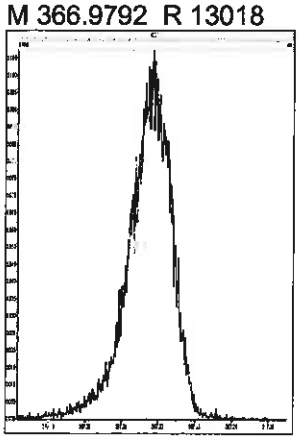

M 380.9760 R 14795

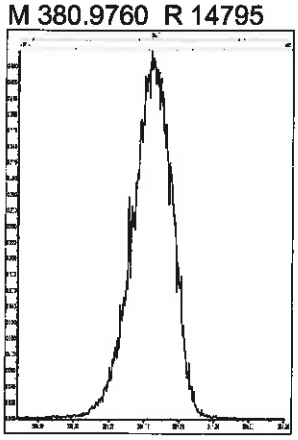

M 392.9760 R 14045

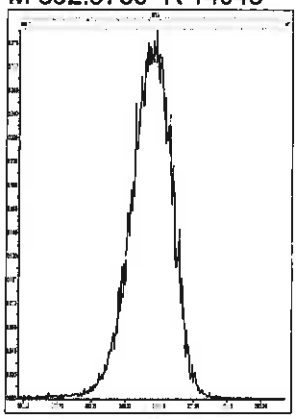

M 404.9760 R 13301

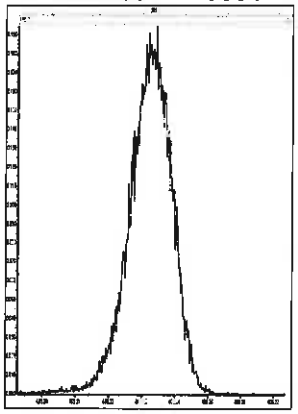

M 416.9760 R 13738

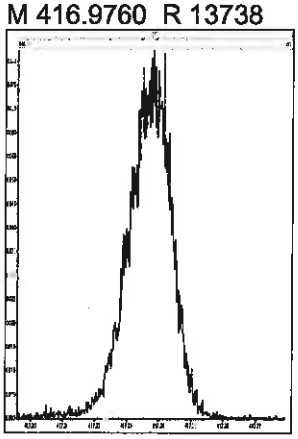

M 430.9728 R 13514

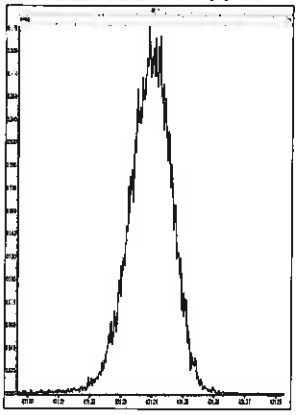

M 442.9728 R 13440

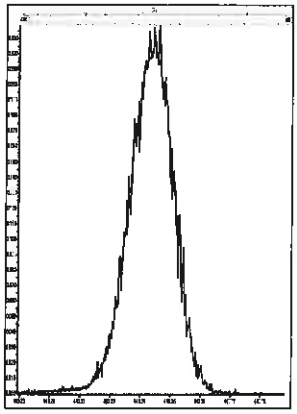

M 454.9728 R 12497

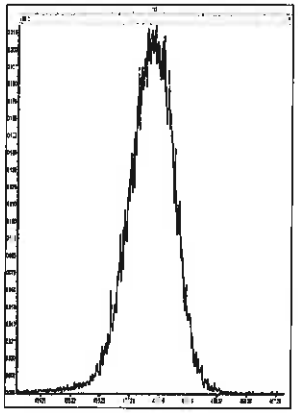

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 4 @ 200 (ppm)

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M 380.9760 R 14364

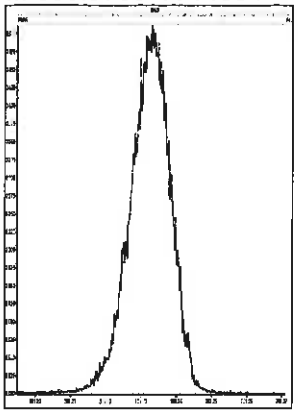

M 392.9760 R 14205

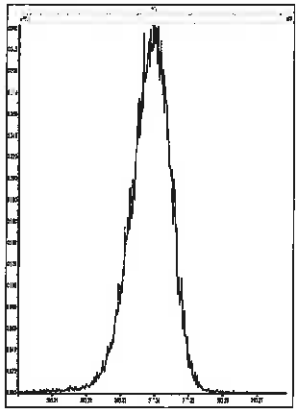

M 404.9760 R 13665

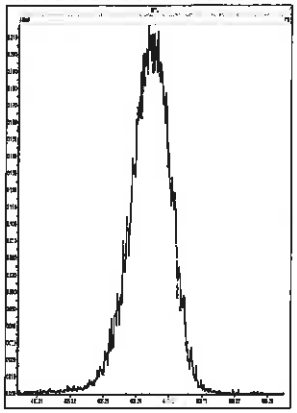

M 416.9760 R 14537

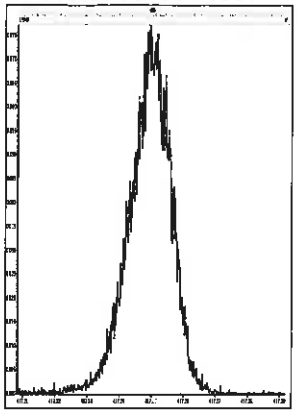

M 430.9728 R 14536

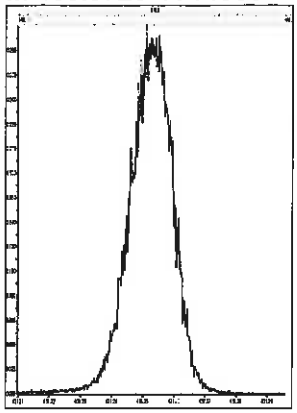

M 442.9728 R 14204

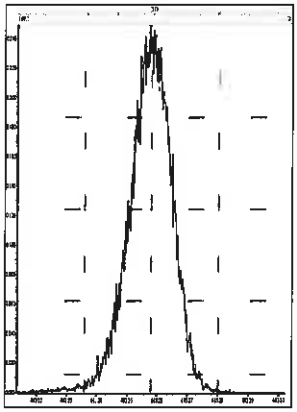

M 454.9728 R 13296

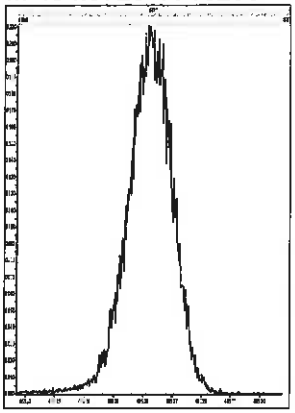

M 466.9728 R 13514

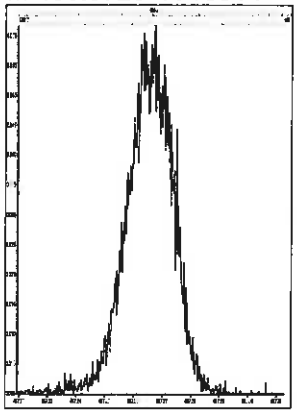

M 480.9696 R 12690

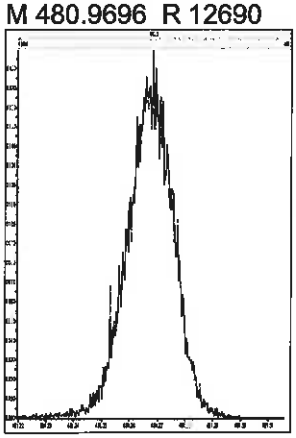

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 5 @ 200 (ppm)

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M 380.9760 R 14288

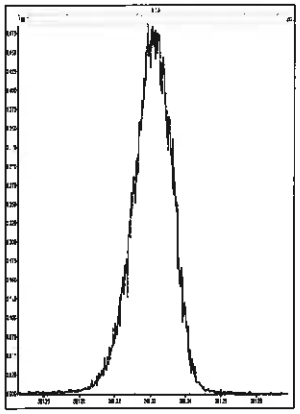

M 392.9760 R 14535

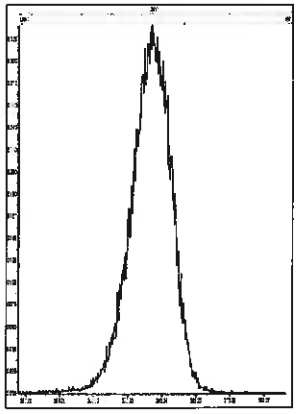

M 404.9760 R 14284

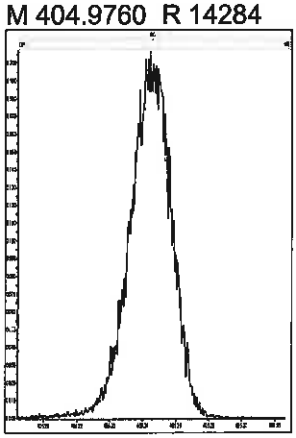

M 416.9760 R 15434

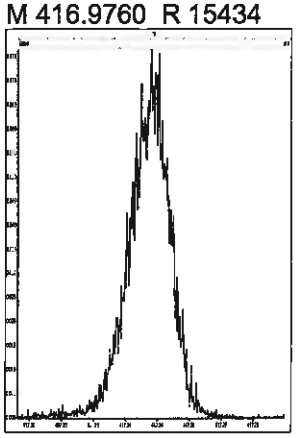

M 430.9728 R 13514

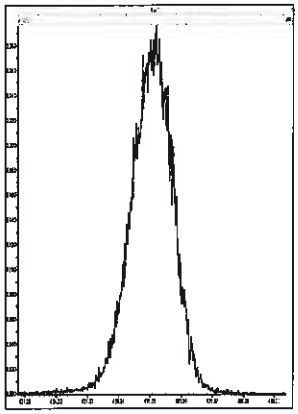

M 442.9728 R 13735

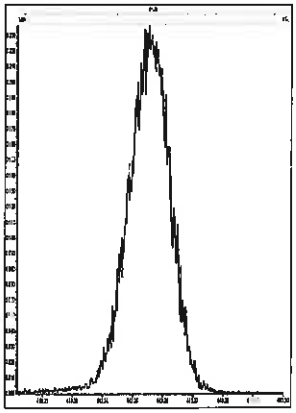

M 454.9728 R 12955

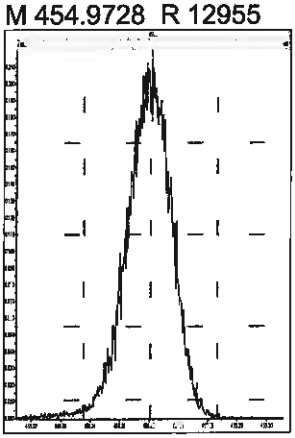

M 466.9728 R 13365

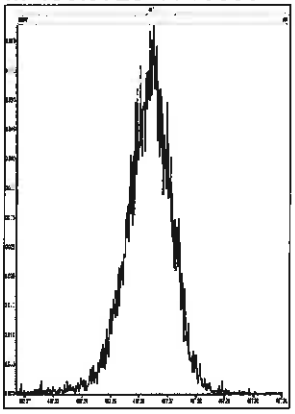

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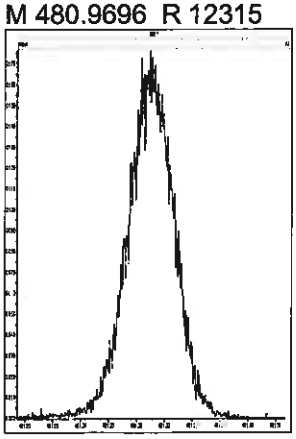

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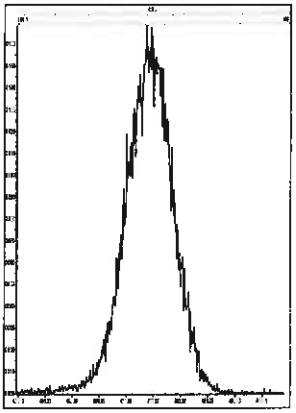

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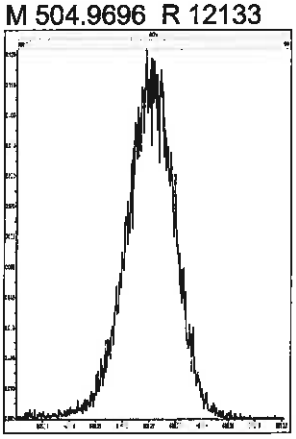

M 516.9697 R 13369

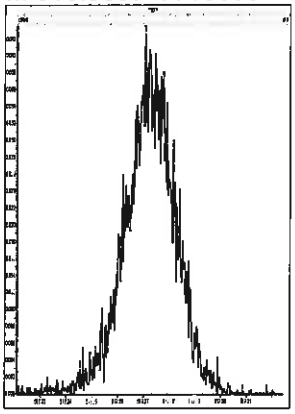

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M 292.9824 R 13623

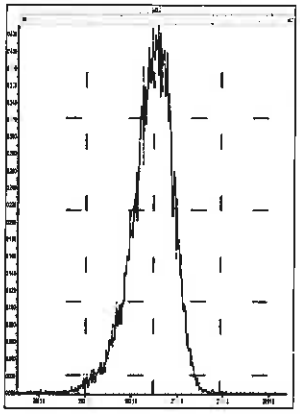

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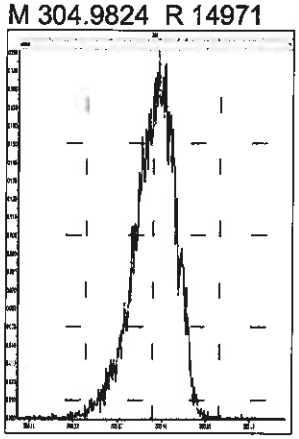

M 318.9792 R 14881

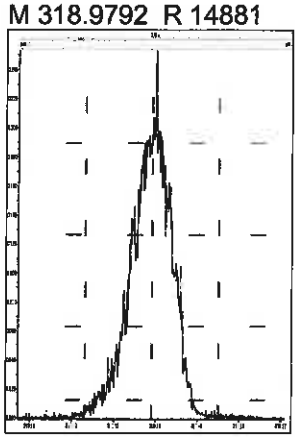

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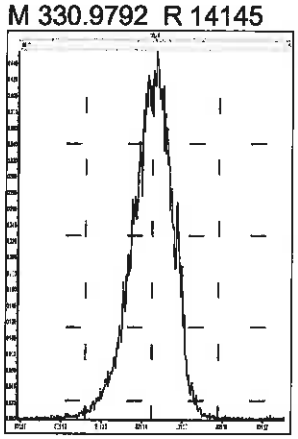

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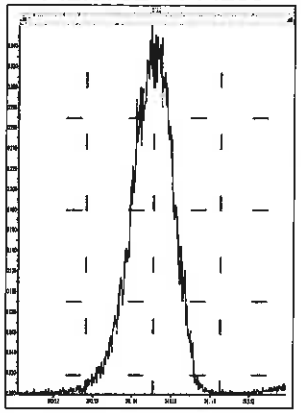

M 354.9792 R 14286

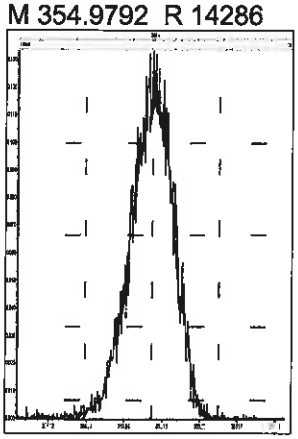

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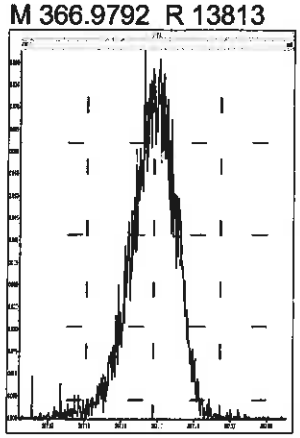

M 380.9760 R 13054

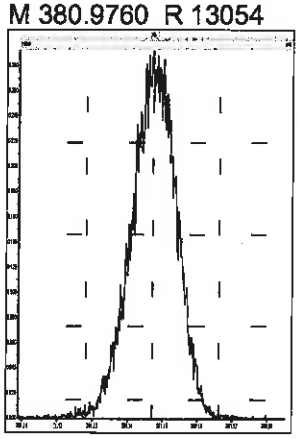

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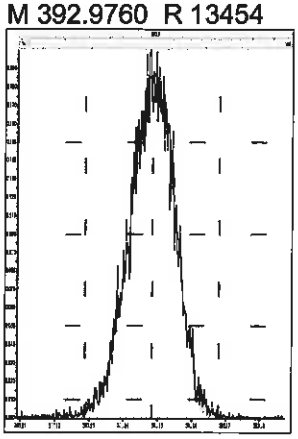

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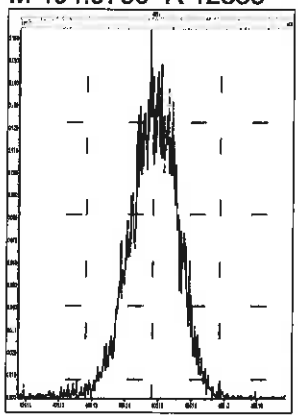

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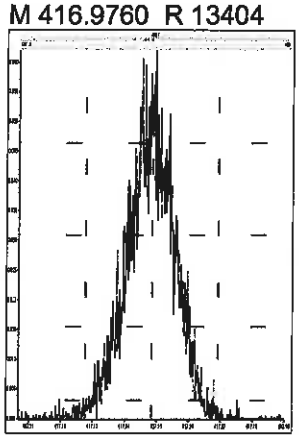

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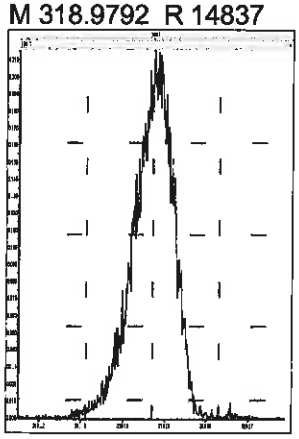

M 330.9792 R 14436

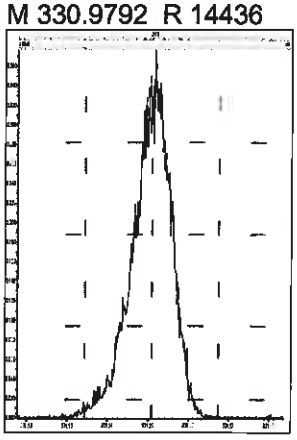

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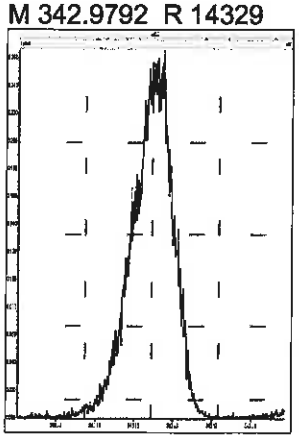

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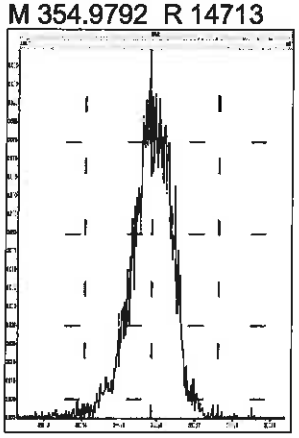

M 366.9792 R 14705

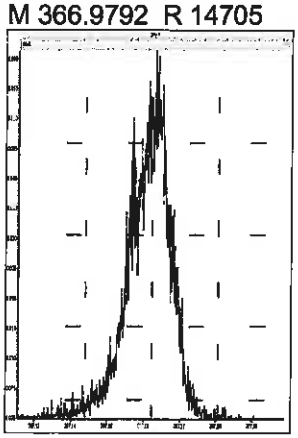

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M 380.9760 R 14369

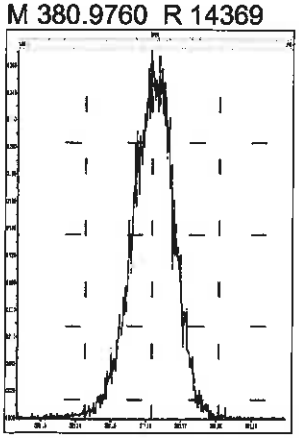

M 392.9760 R 13700

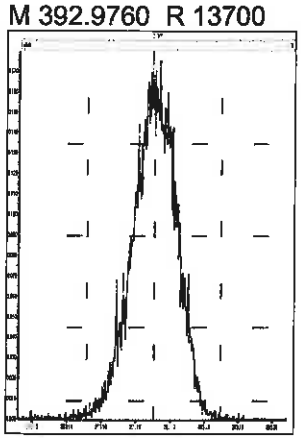

M 404.9760 R 14166

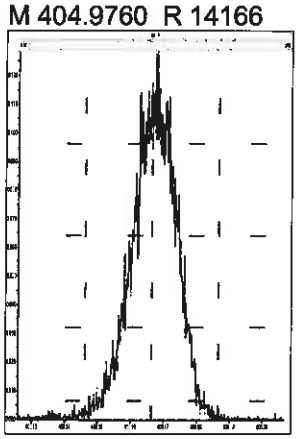

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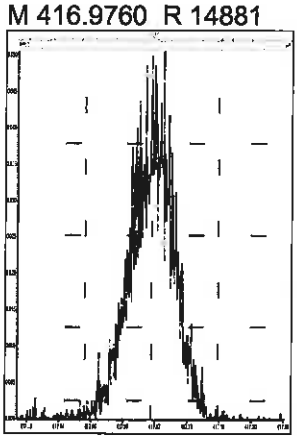

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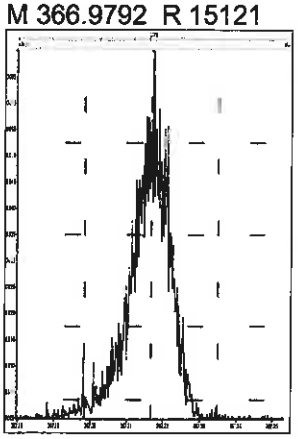

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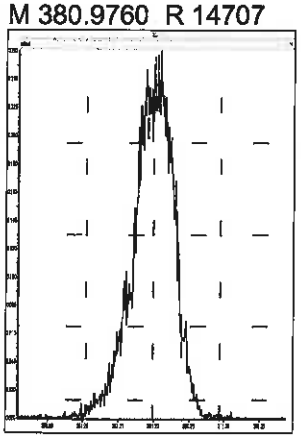

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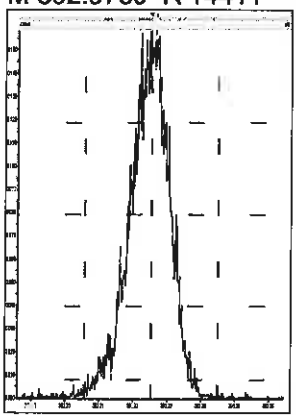

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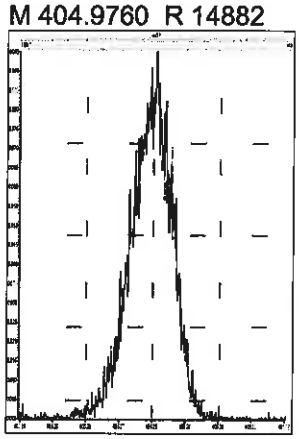

M 416.9760 R 15128

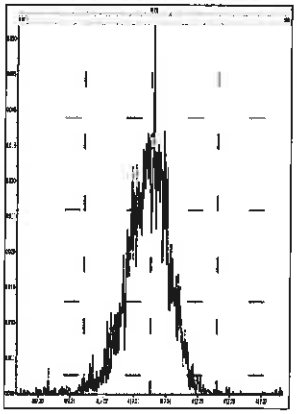

M 430.9728 R 14454

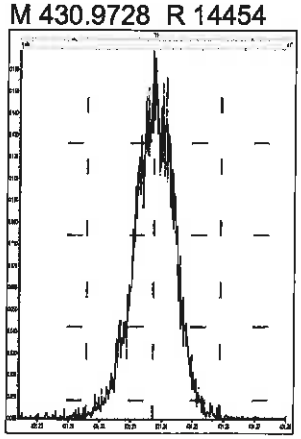

M 442.9728 R 14010

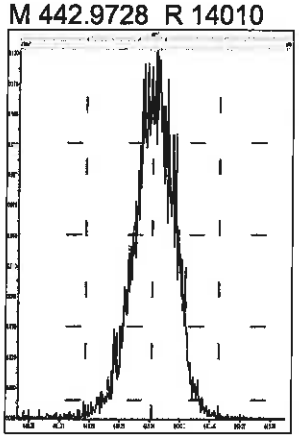

M 454.9728 R 13968

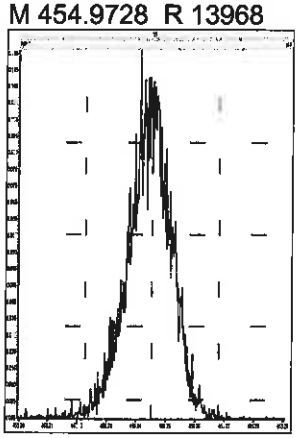

M 380.9760 R 14707

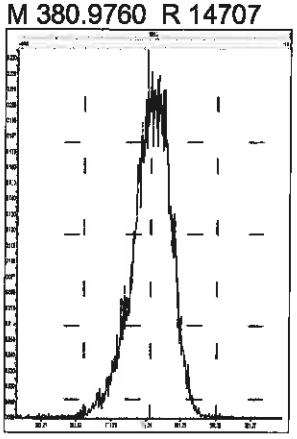

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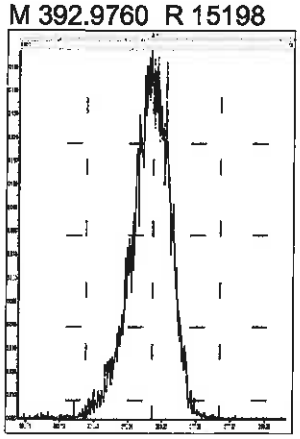

M 404.9760 R 14995

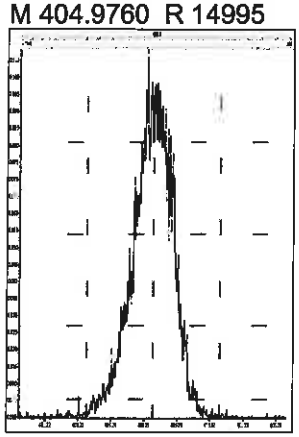

M 416.9760 R 15387

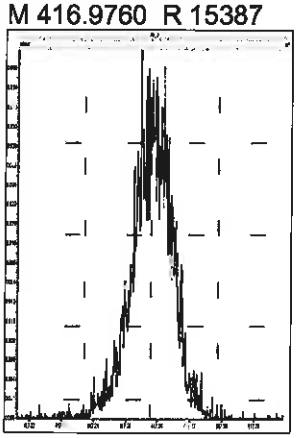

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M 430.9728 R 14836

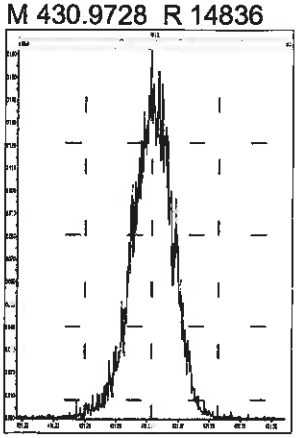

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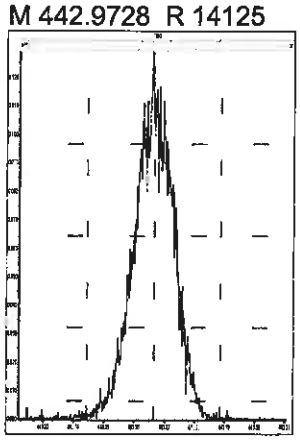

M 454.9728 R 14390

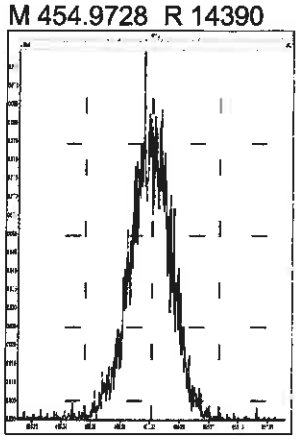

M 466.9728 R 15128

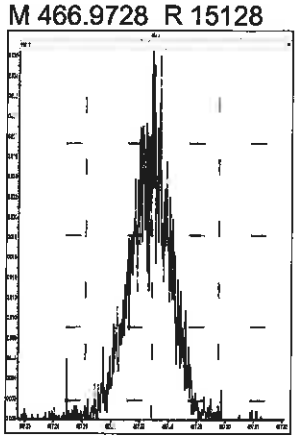

M 480.9696 R 14367

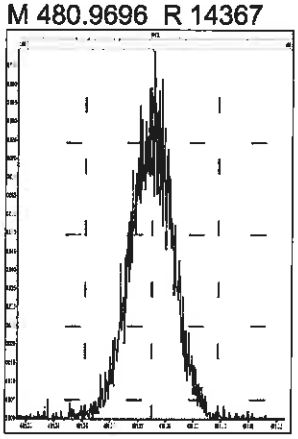

M 380.9760 R 15037

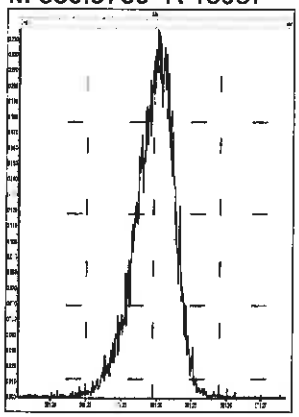

M 392.9760 R 15293

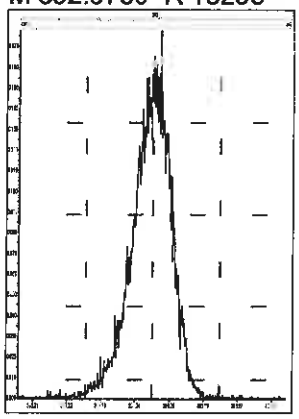

M 404.9760 R 15943

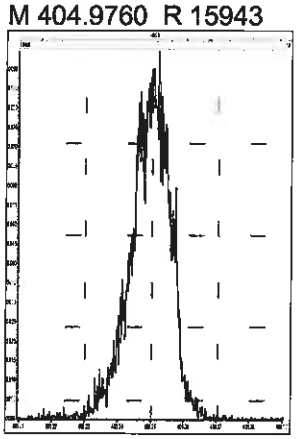

M 416.9760 R 16350

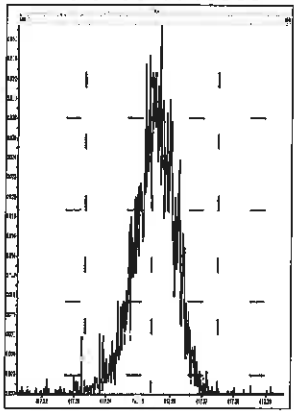

M 430.9728 R 14637

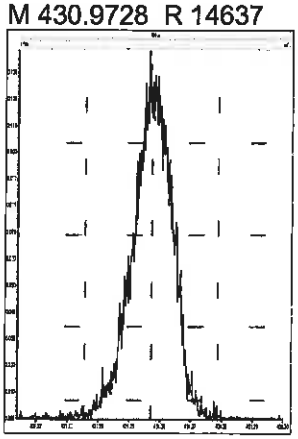

M 442.9728 R 14577

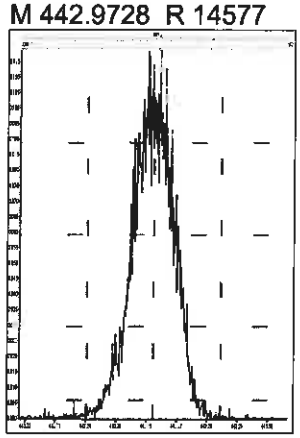

M 454.9728 R 15257

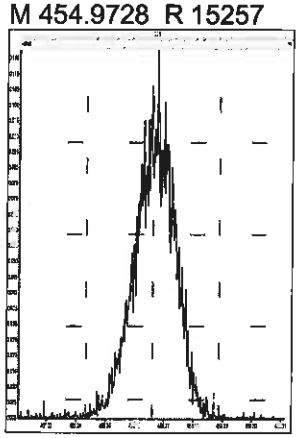

M 466.9728 R 15446

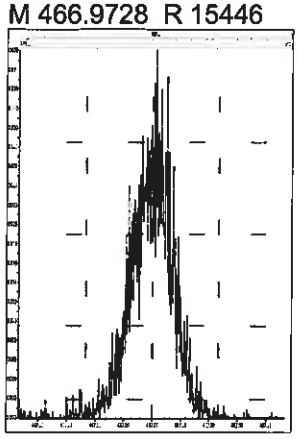

M 480.9696 R 14645

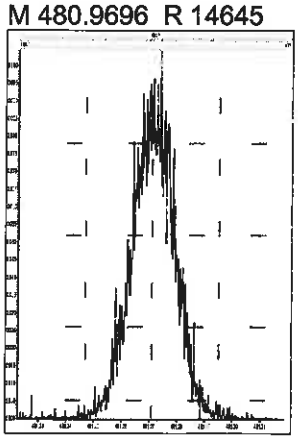

M 492.9696 R 14124

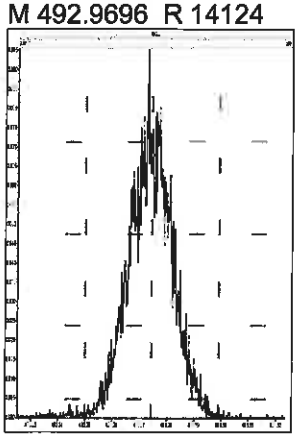

M 504.9696 R 14046

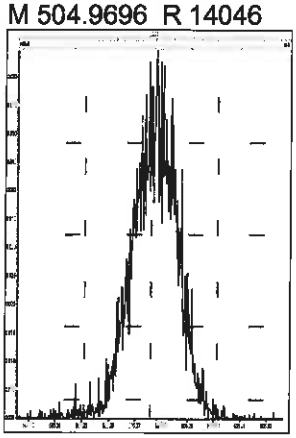

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M 516.9697 R 14906

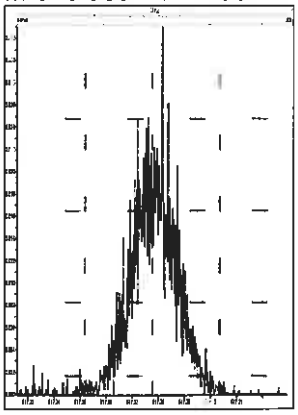

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M 292.9824 R 14408

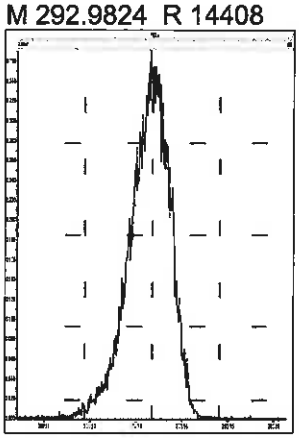

M 304.9824 R 14450

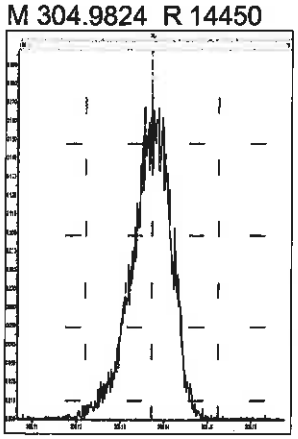

M 318.9792 R 14327

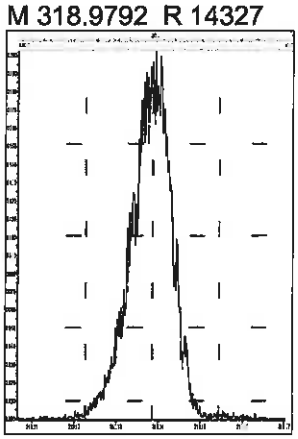

M 330.9792 R 13968

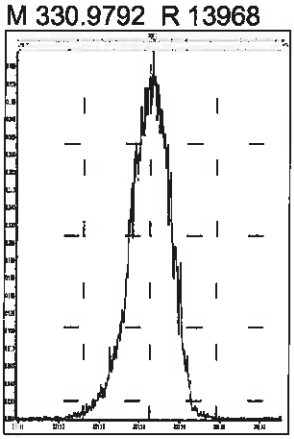

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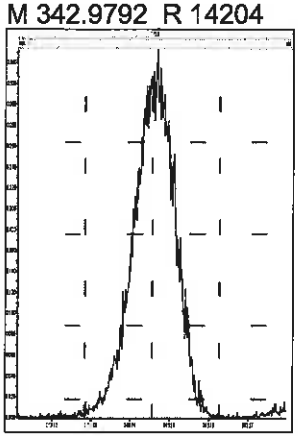

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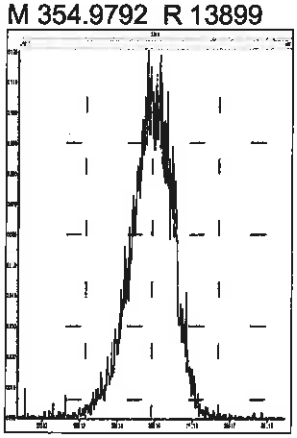

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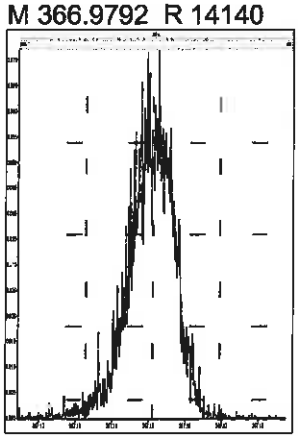

M 380.9760 R 13266

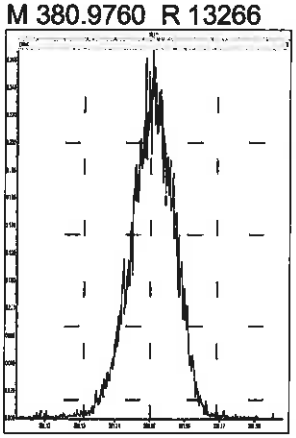

M 392.9760 R 13233

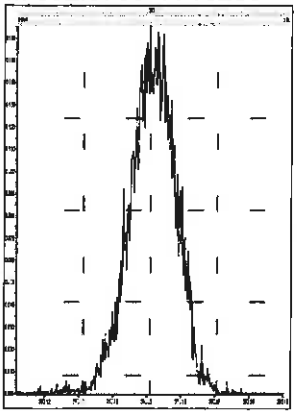

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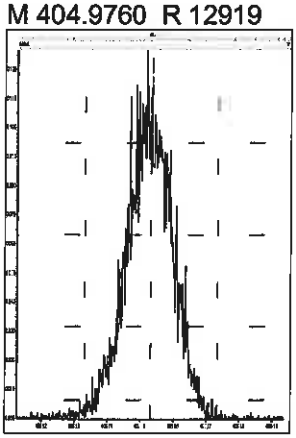

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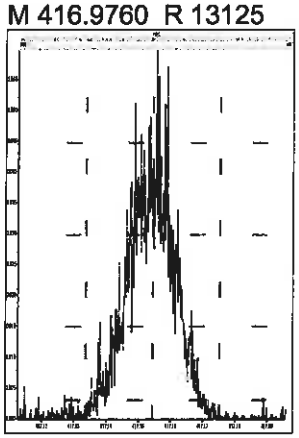

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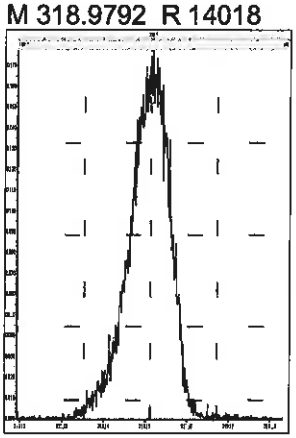

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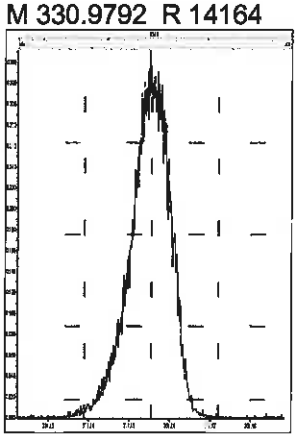

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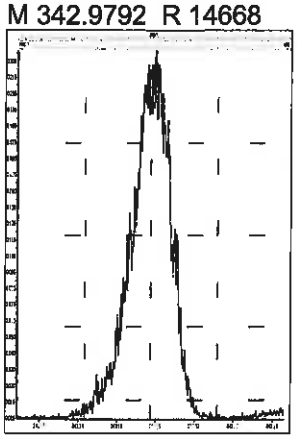

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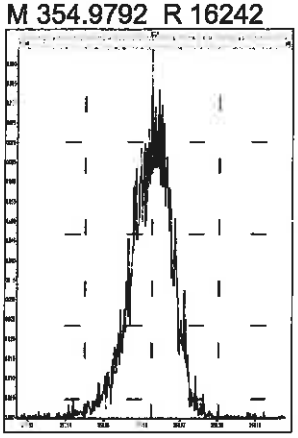

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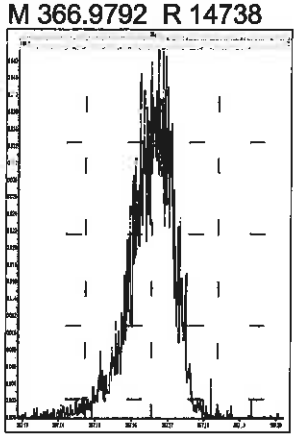

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M 380.9760 R 13862

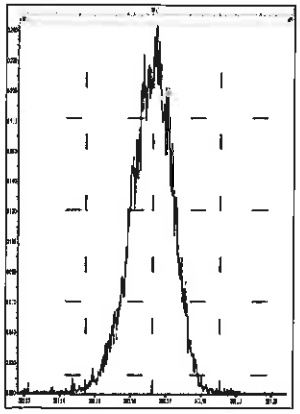

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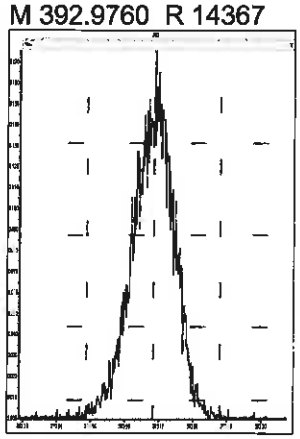

M 404.9760 R 14253

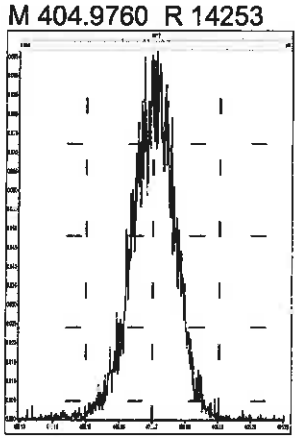

M 416.9760 R 13973

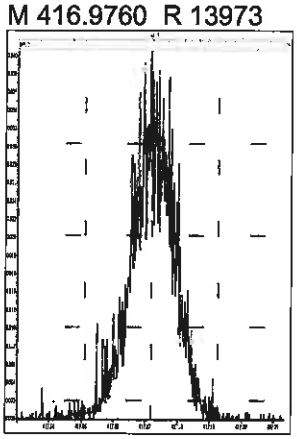

M 366.9792 R 15446

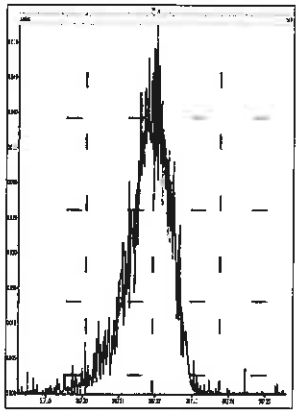

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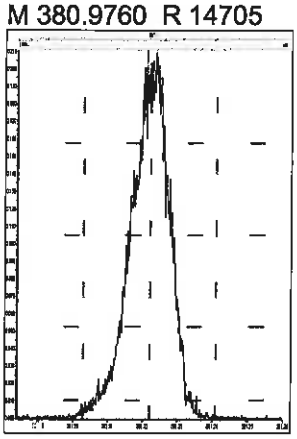

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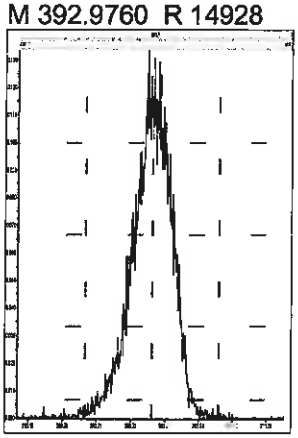

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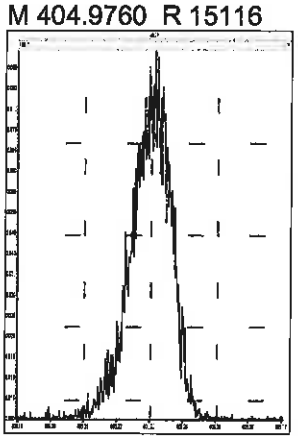

M 416.9760 R 15738

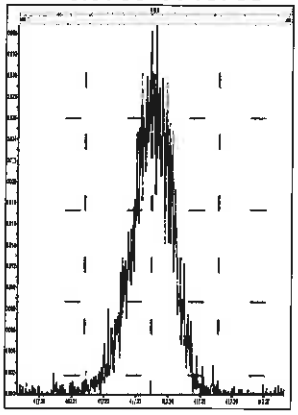

M 430.9728 R 14730

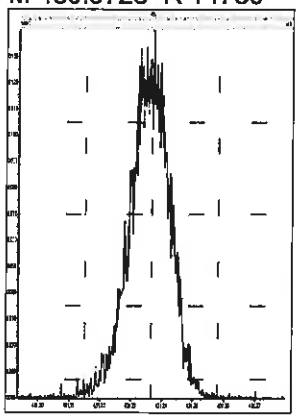

M 442.9728 R 14285

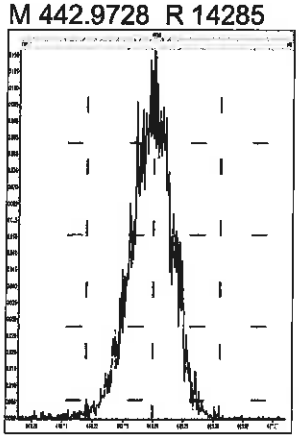

M 454.9728 R 14468

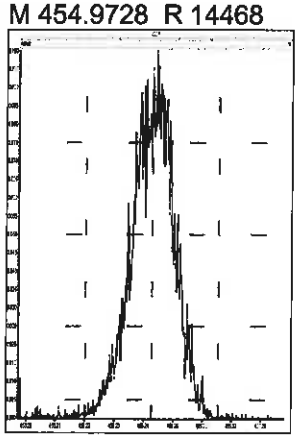

M 380.9760 R 15014

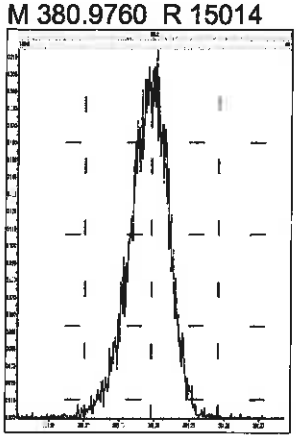

M 392.9760 R 15772

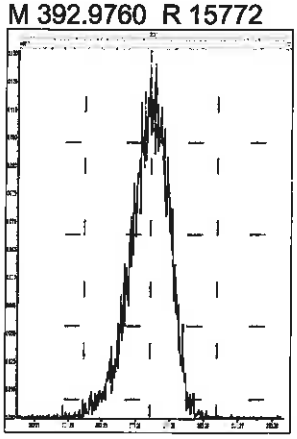

M 404.9760 R 16394

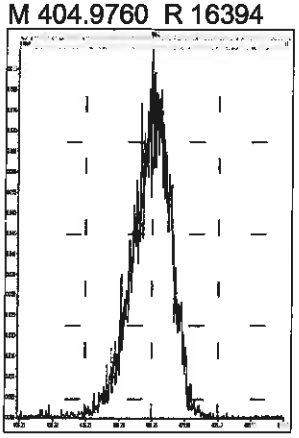

M 416.9760 R 16080

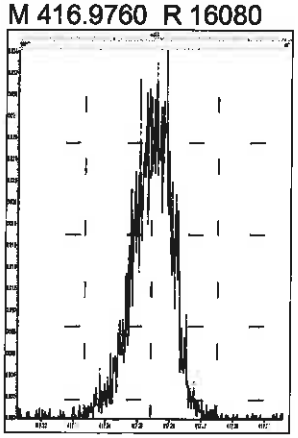

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M 430.9728 R 14346

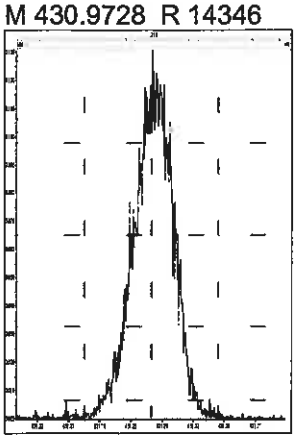

M 442.9728 R 15619

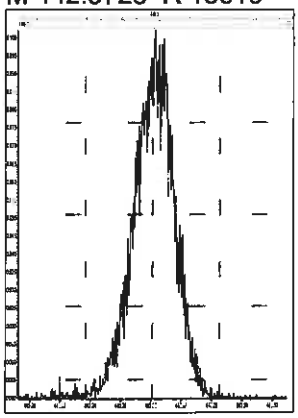

M 454.9728 R 14794

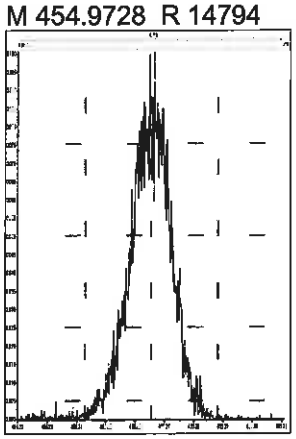

M 466.9728 R 15908

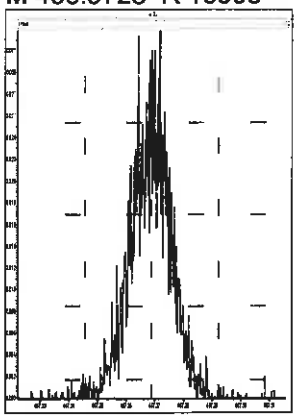

M 480.9696 R 14452

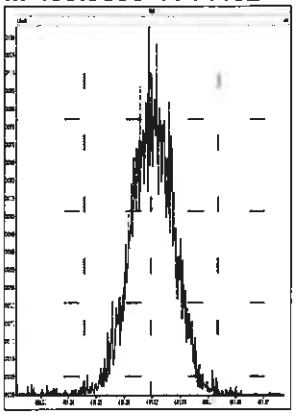

M 380.9760 R 14450

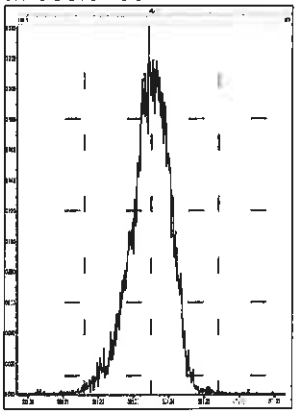

M 392.9760 R 15483

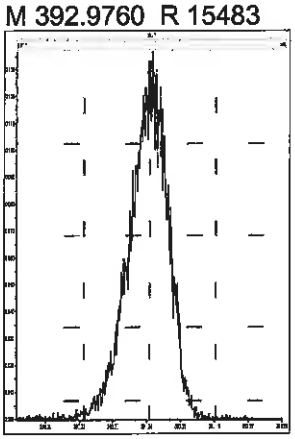

M 404.9760 R 15946

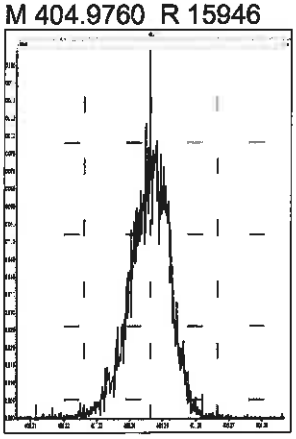

M 416.9760 R 16722

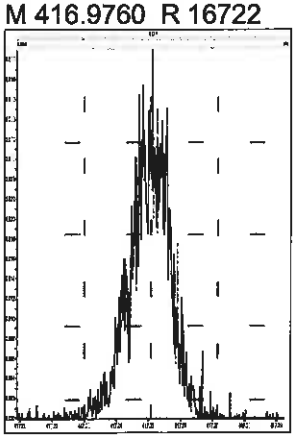

M 430.9728 R 14340

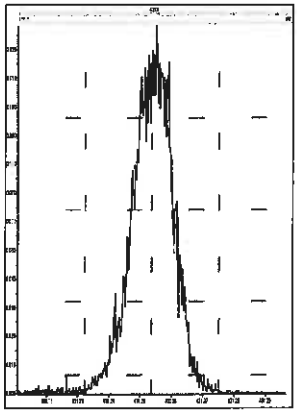

M 442.9728 R 14797

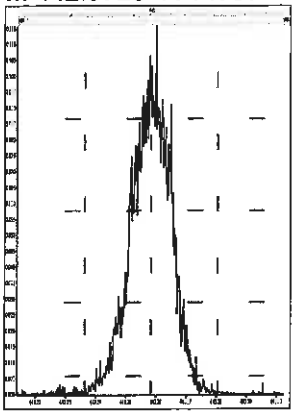

M 454.9728 R 14665

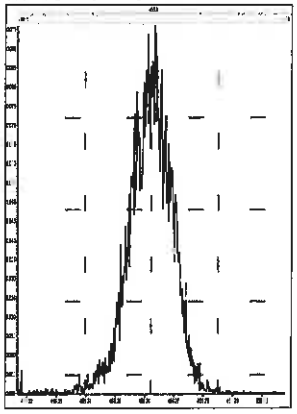

M 466.9728 R 17533

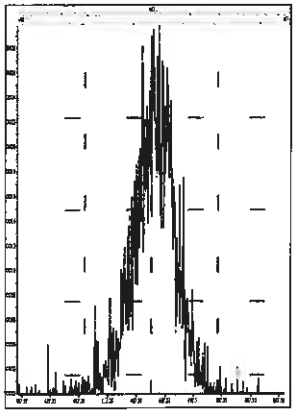

M 480.9696 R 14797

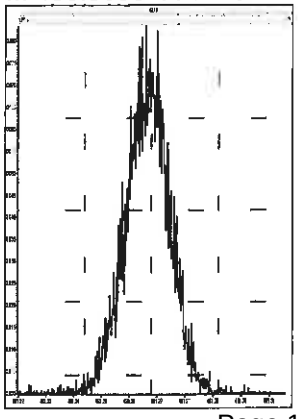

M 492.9696 R 14837

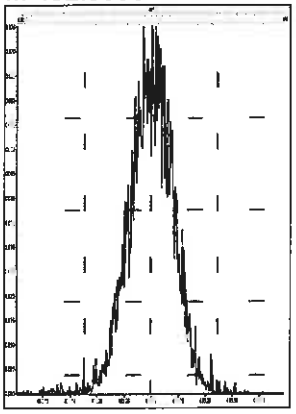

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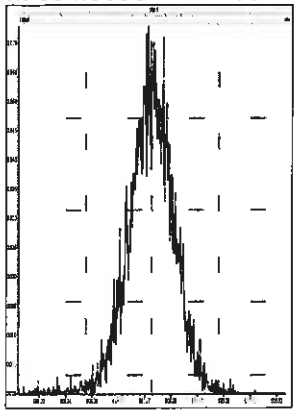

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M 516.9697 R 15203

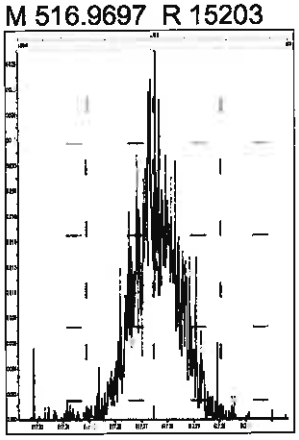

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M 292.9824 R 14538

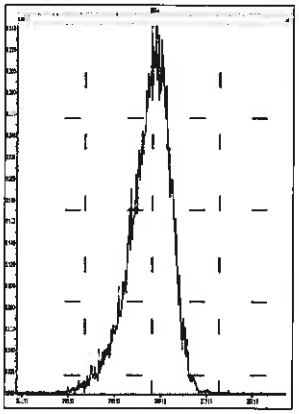

M 304.9824 R 14164

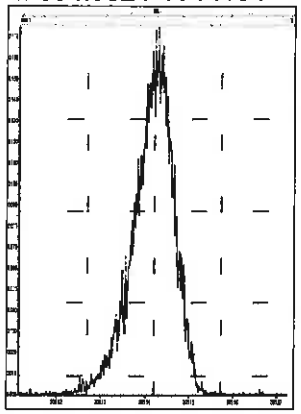

M 318.9792 R 14124

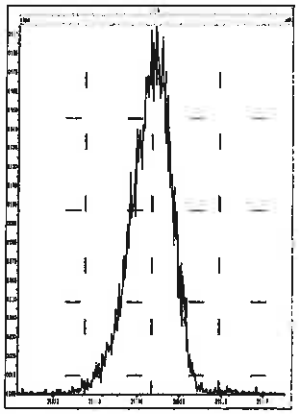

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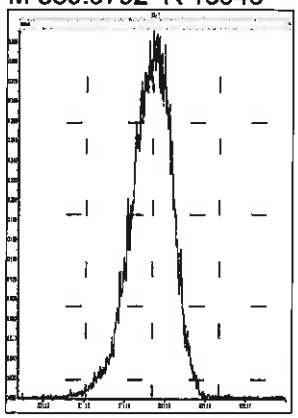

M 342.9792 R 13600

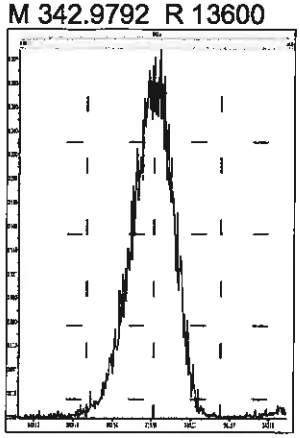

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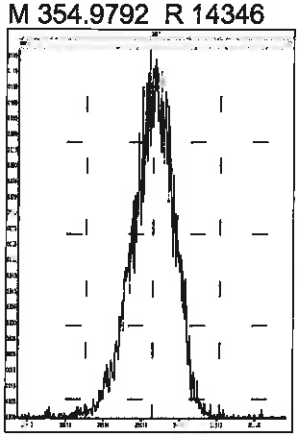

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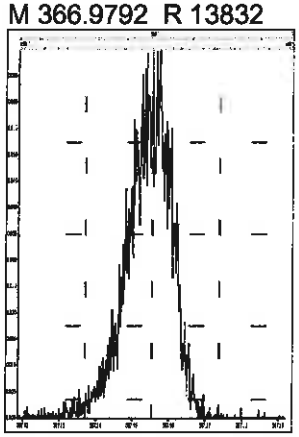

M 380.9760 R 13233

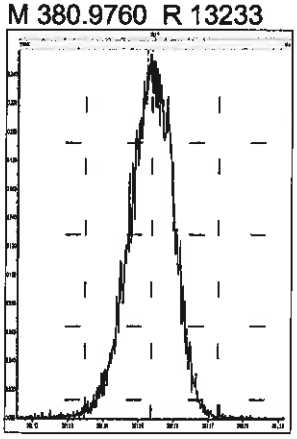

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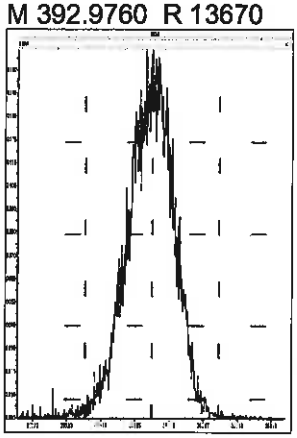

M 404.9760 R 12759

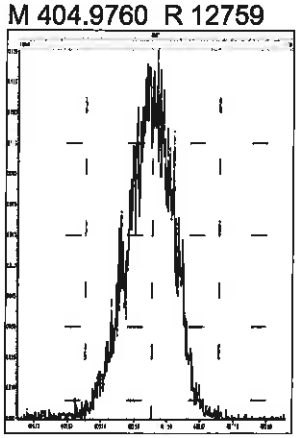

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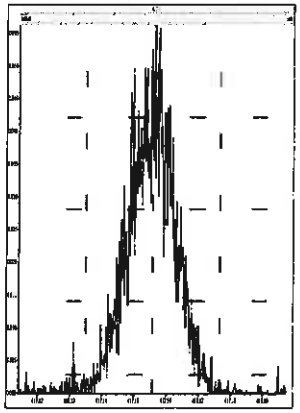

M 318.9792 R 14204

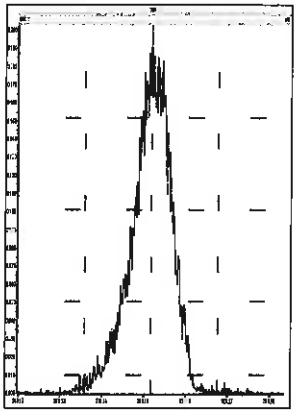

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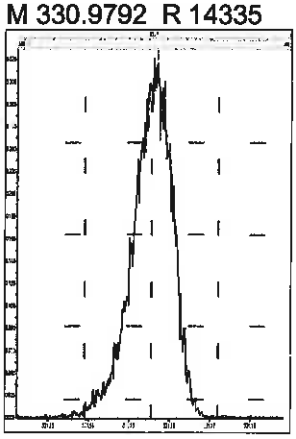

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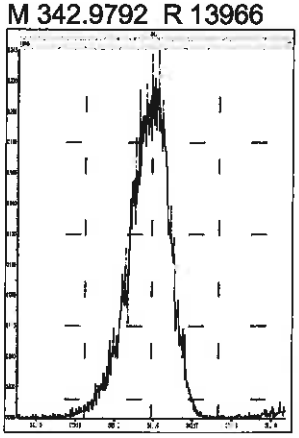

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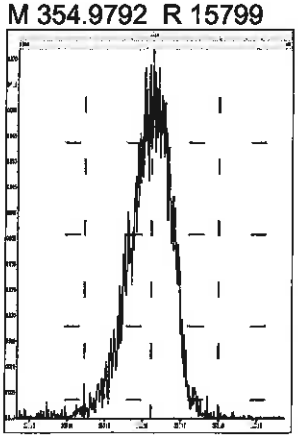

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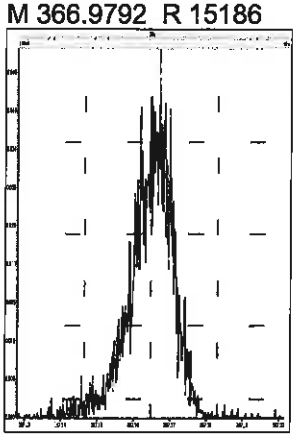

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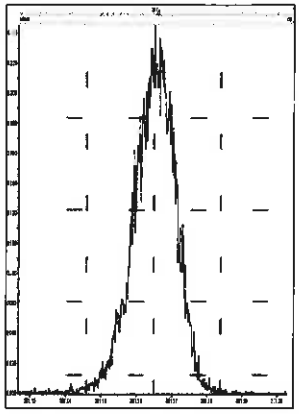

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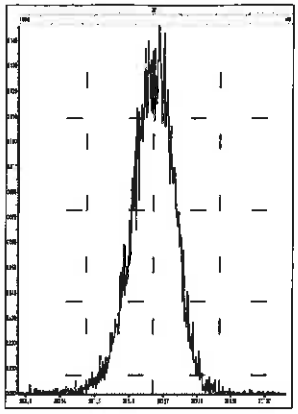

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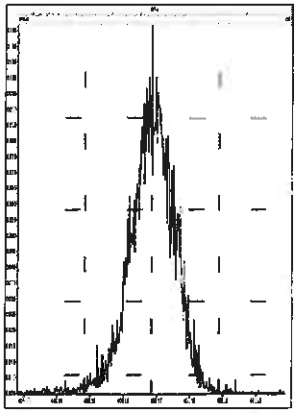

M 416.9760 R 15248

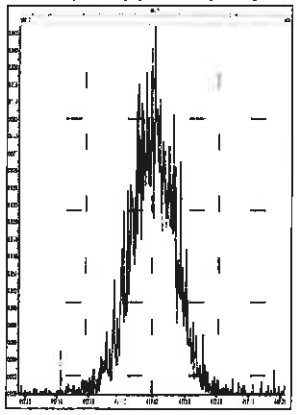

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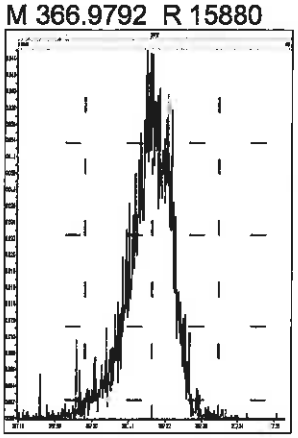

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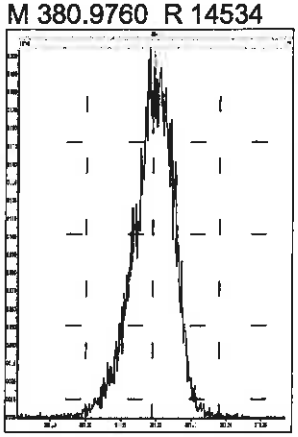

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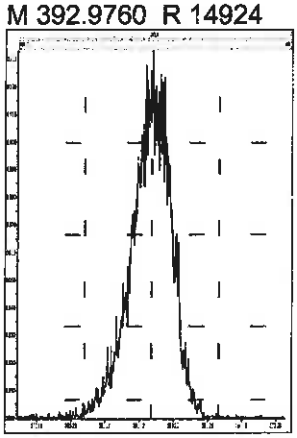

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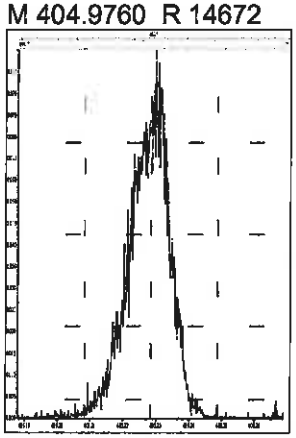

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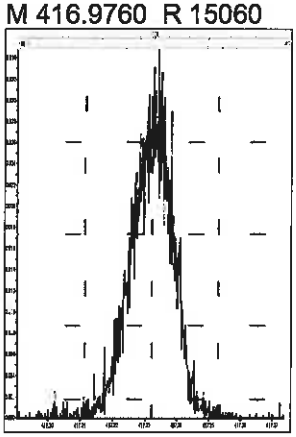

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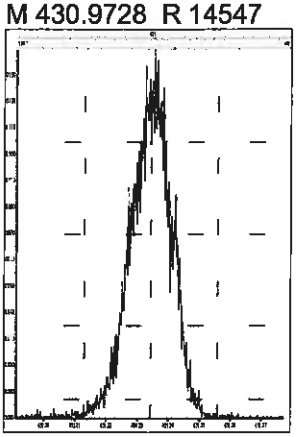

M 442.9728 R 14865

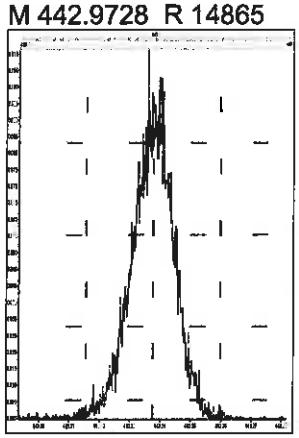

M 454.9728 R 14046

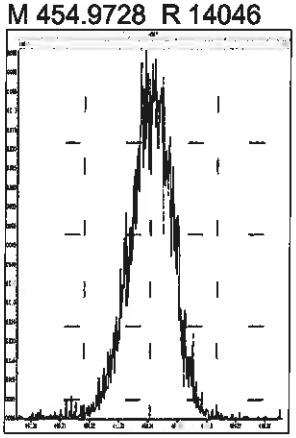

M 380.9760 R 14755

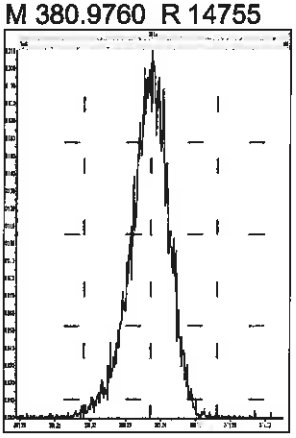

M 392.9760 R 15845

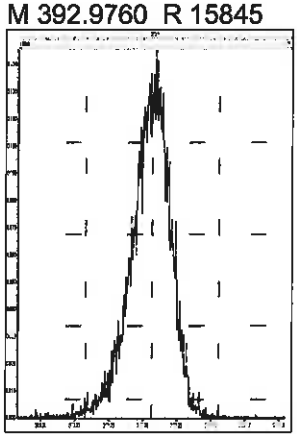

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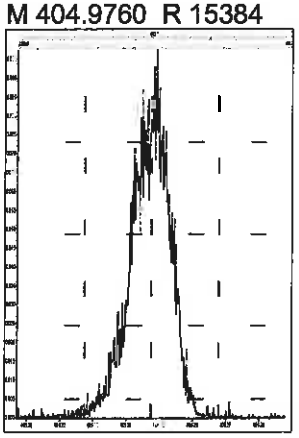

M 416.9760 R 16080

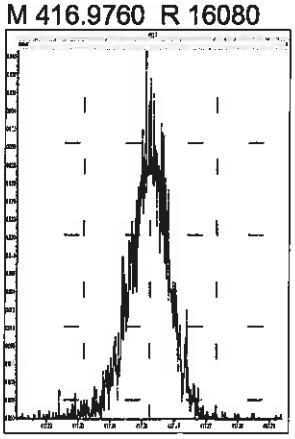

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M 430.9728 R 14931

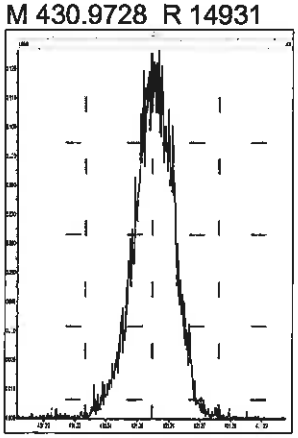

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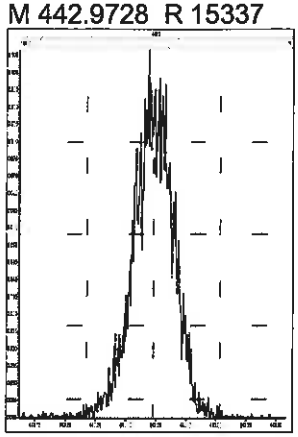

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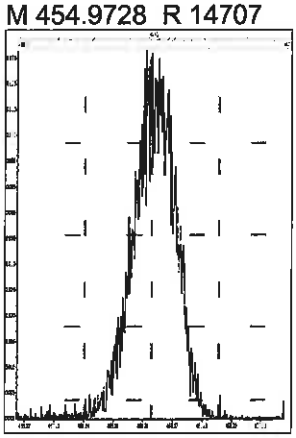

M 466.9728 R 16867

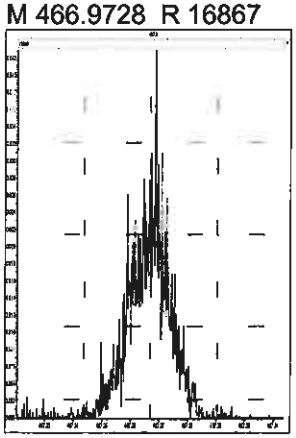

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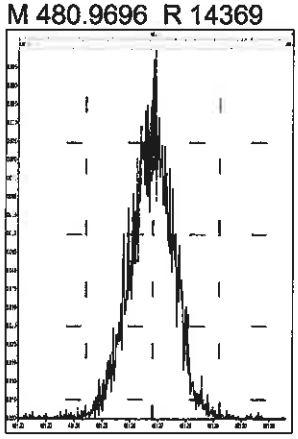

M 380.9760 R 14542

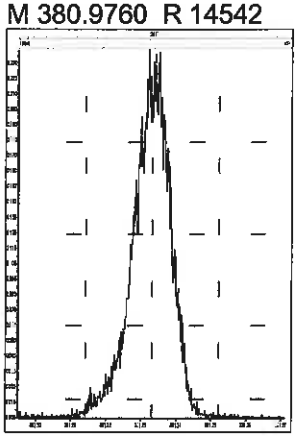

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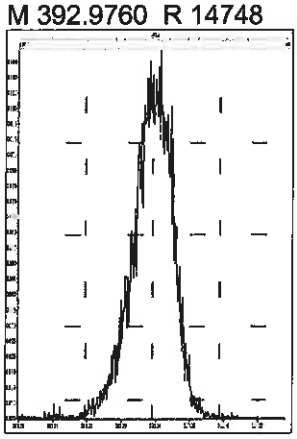

M 404.9760 R 14759

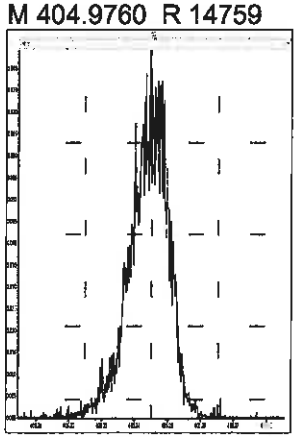

M 416.9760 R 16287

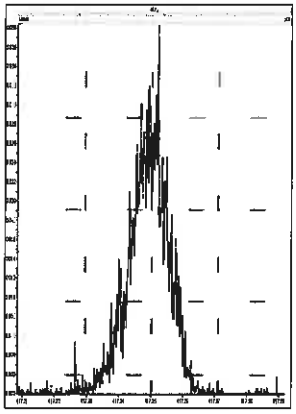

M 430.9728 R 14409

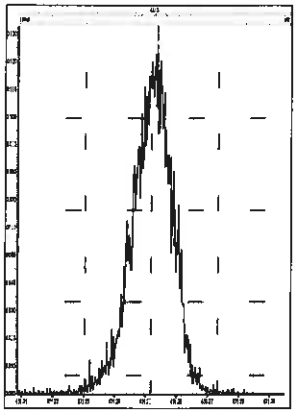

M 442.9728 R 15522

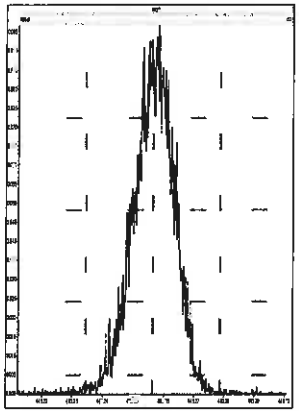

M 454.9728 R 15248

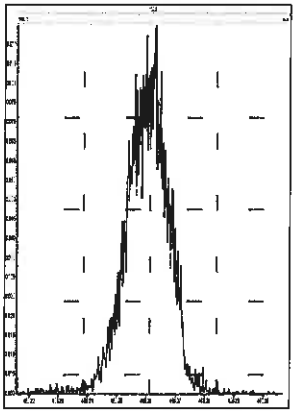

M 466.9728 R 15490

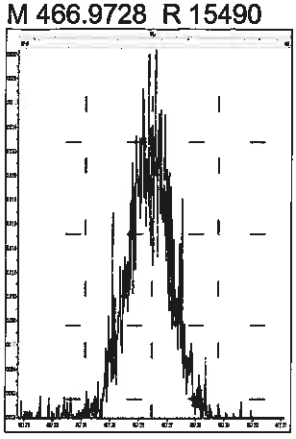

M 480.9696 R 14597

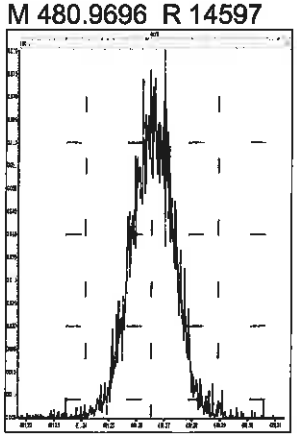

M 492.9696 R 13968

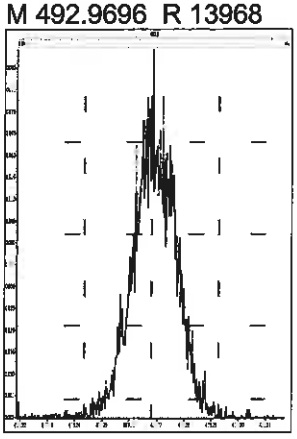

M 504.9696 R 13769

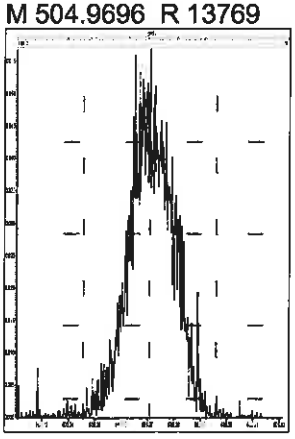

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M 516.9697 R 16286

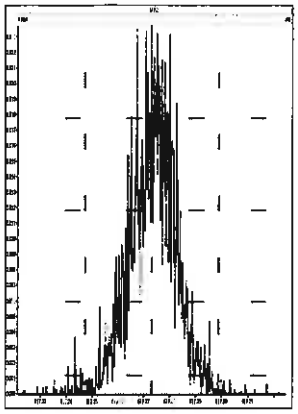

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M 292.9824 R 14683

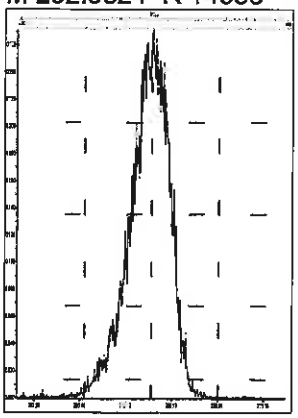

M 304.9824 R 15491

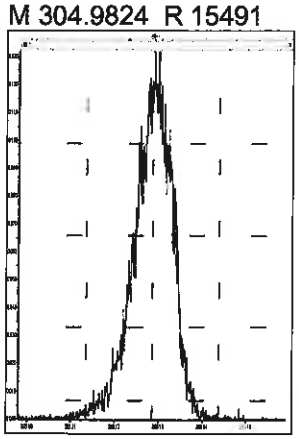

M 318.9792 R 15064

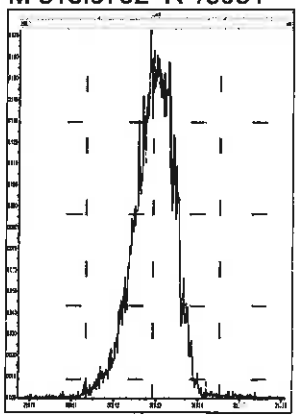

M 330.9792 R 14619

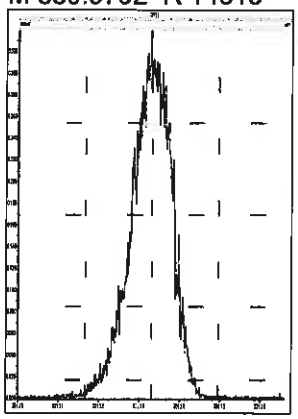

M 342.9792 R 14215

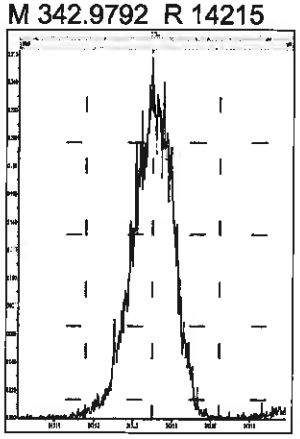

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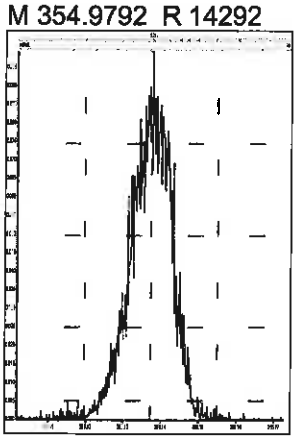

M 366.9792 R 14665

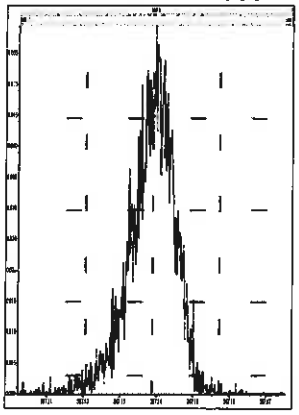

M 380.9760 R 13736

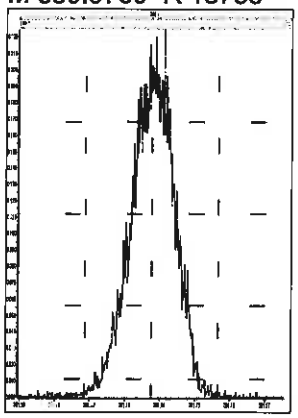

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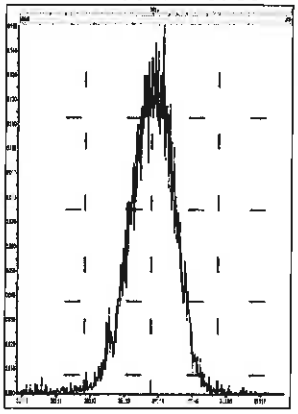

M 404.9760 R 13225

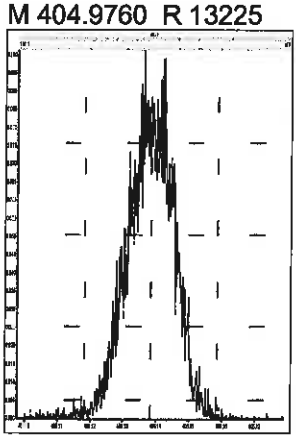

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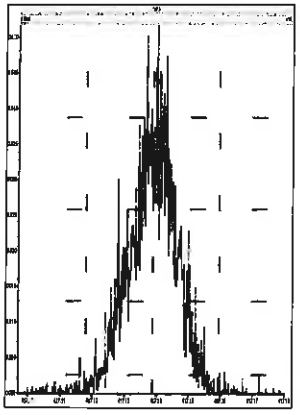

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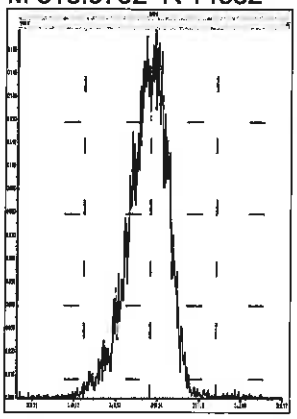

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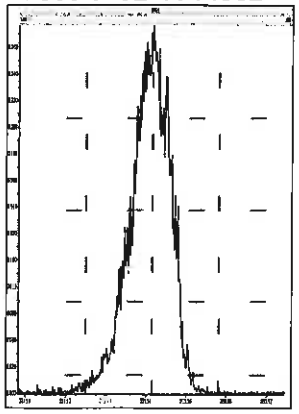

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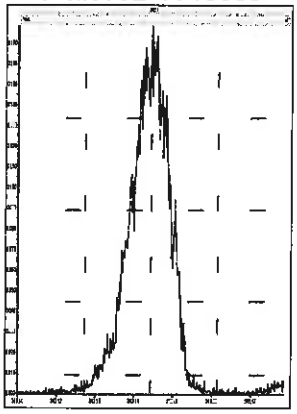

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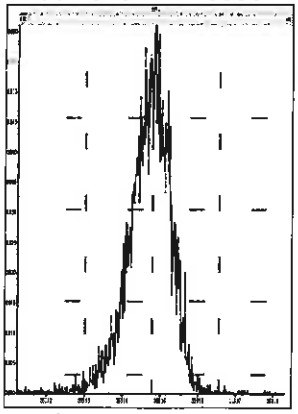

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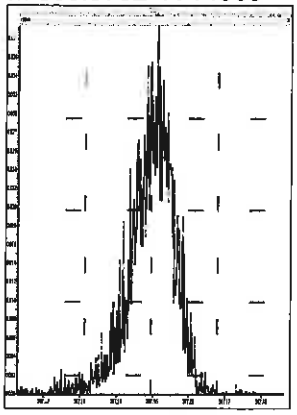

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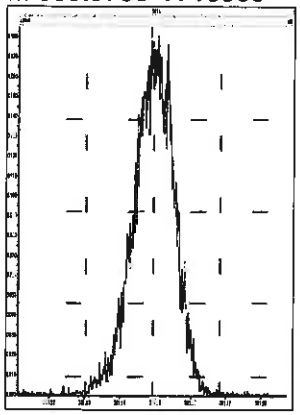

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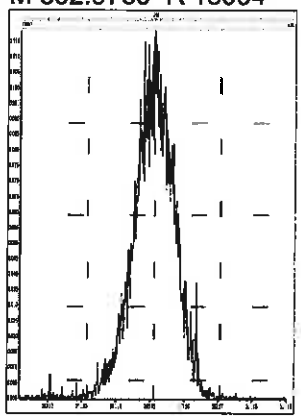

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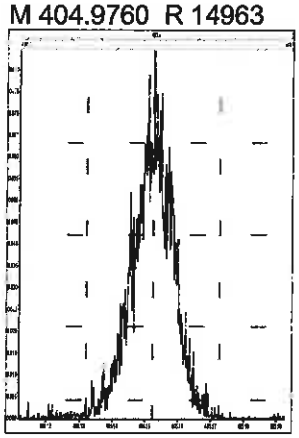

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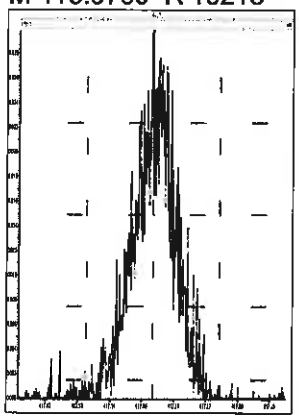

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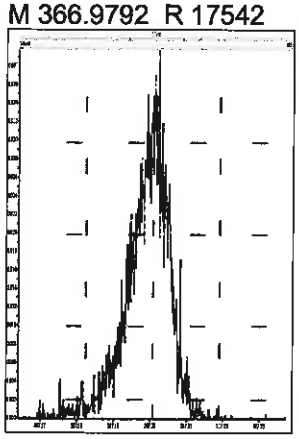

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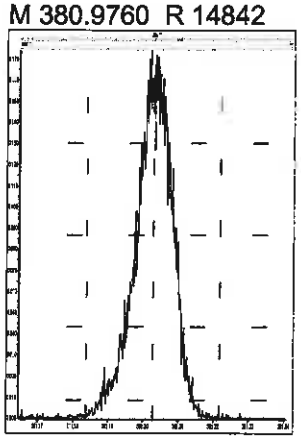

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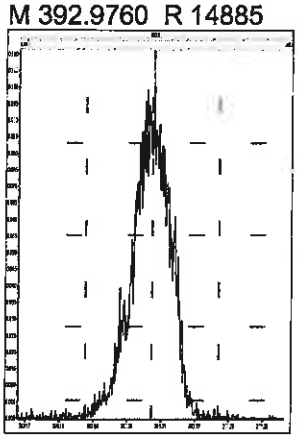

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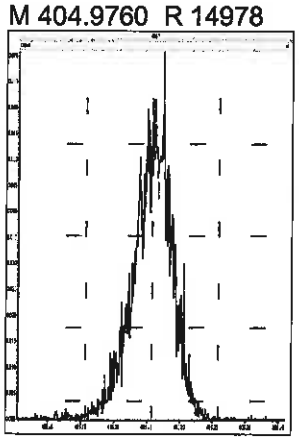

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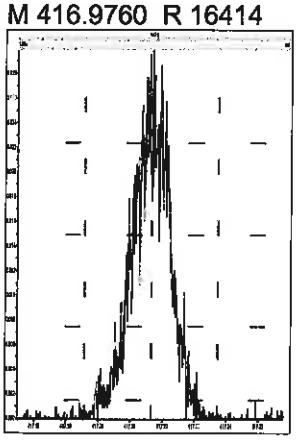

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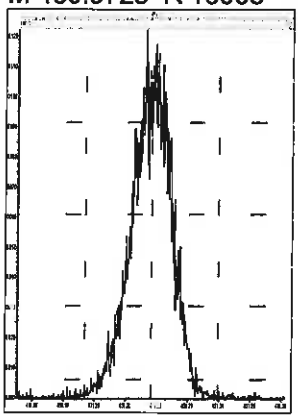

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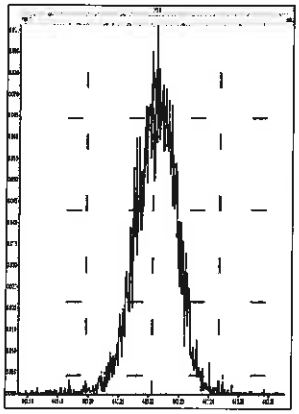

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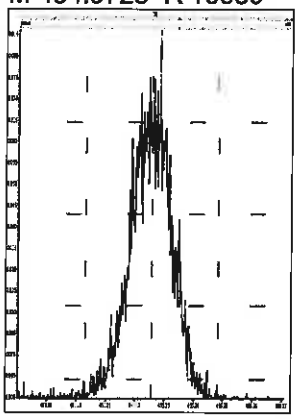

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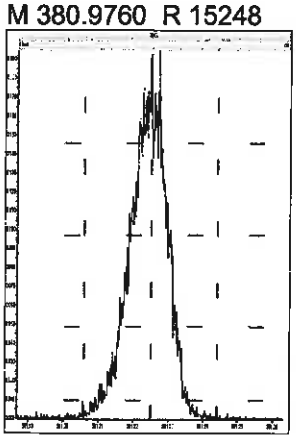

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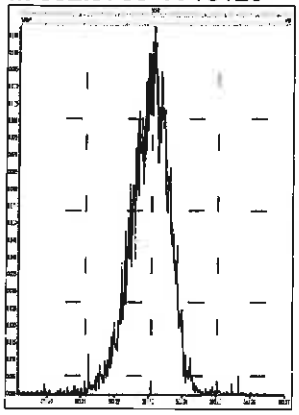

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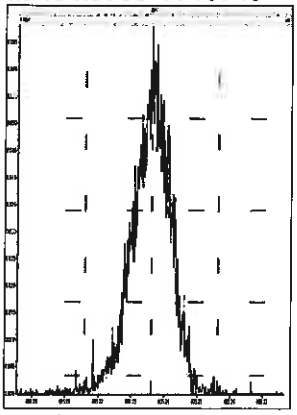

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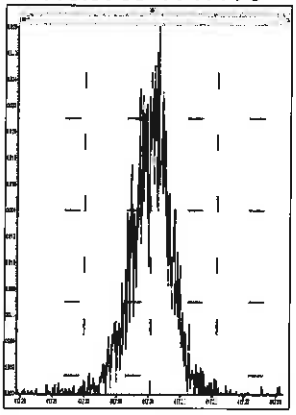

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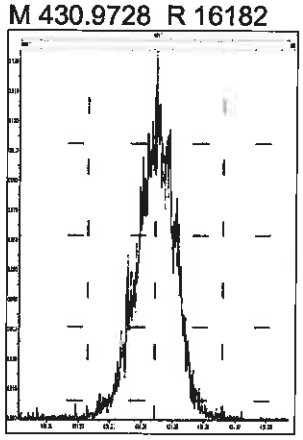

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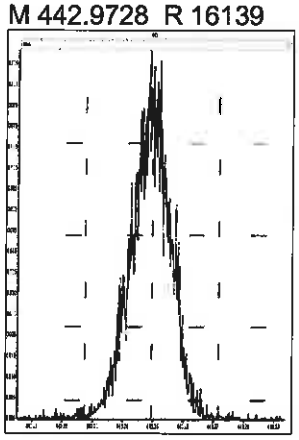

M 454.9728 R 15791

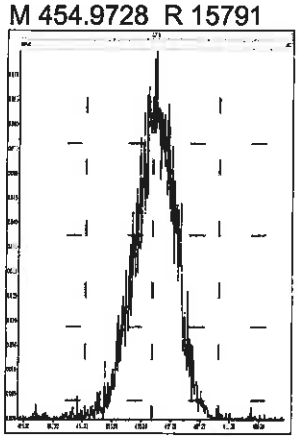

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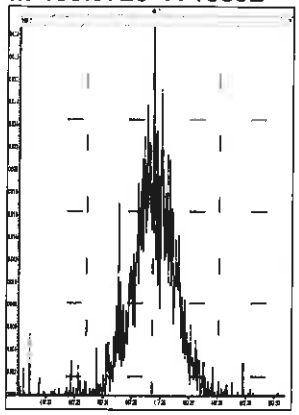

M 480.9696 R 14792

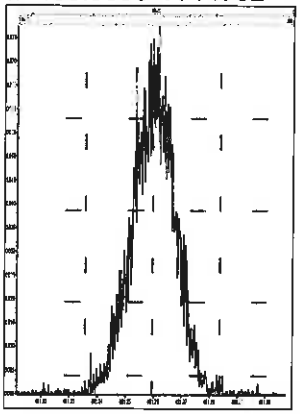

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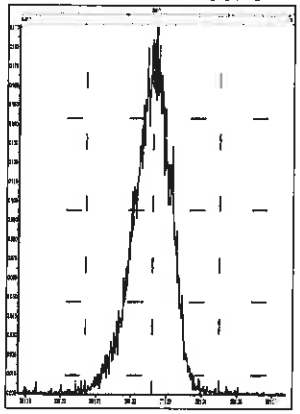

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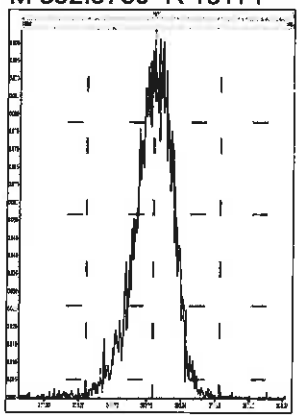

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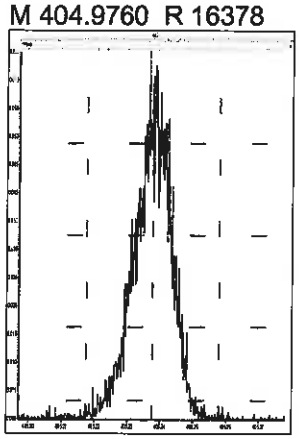

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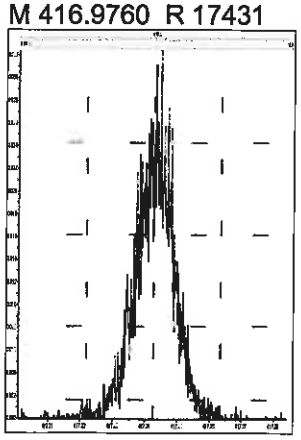

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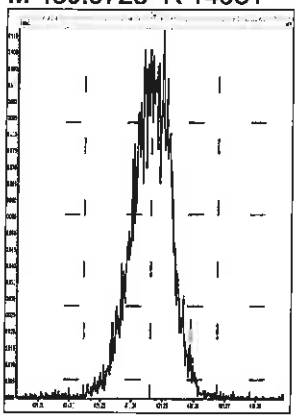

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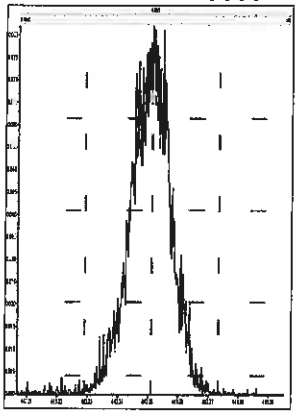

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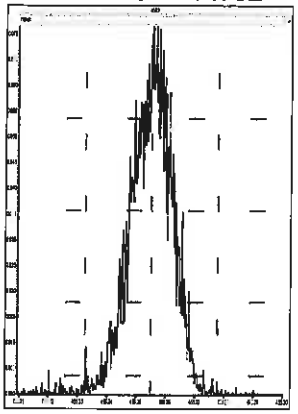

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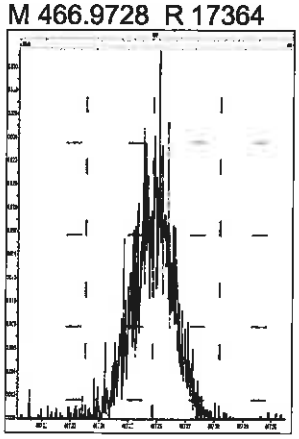

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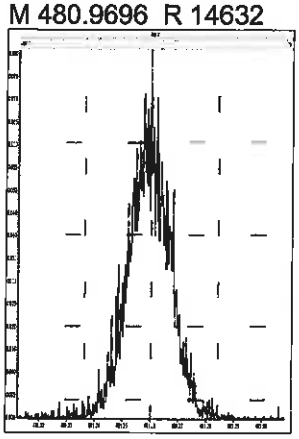

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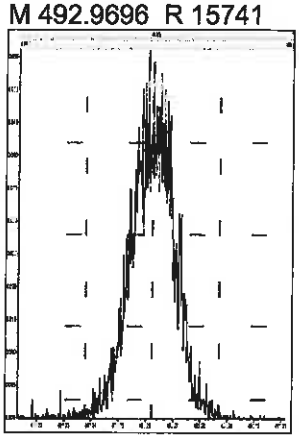

M 504.9696 R 14842

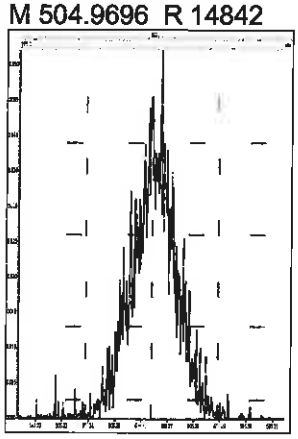

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M 516.9697 R 15060

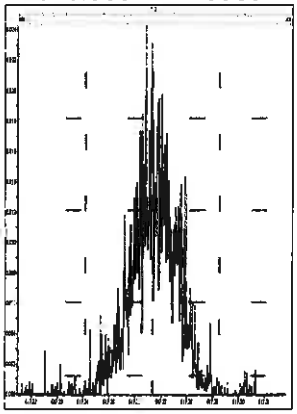

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

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Client ID:
Sample Type: CCV
Inject. Date: 05-Nov-2019 20:11:31 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 110519D CS-4 HRDXNL4_00085
Misc. Info.: 05NO19B10D5
Operator ID: ALM Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 06-Nov-2019 09:21:00 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0321

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.245	103990308	0.78	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.761	137161319	0.78	1.4384	91.7	91.7	0.4109	0.4109	91.70	
2,3,7,8-TCDF	16.777	14192994	0.79	1.0507	9.848	9.848	0.0237	0.0237	98.48	
A Non-2,3,7,8-sub-TCDF	16.482						0.0237	0.0237		n
S Total TCDF					9.848	9.848	0.0237	0.0237		
D 13C-2,3,7,8-TCDD	17.427	100022838	0.79	0.9533	100.9	100.9	0.2260	0.2260	101	
2,3,7,8-TCDD	17.457	9682821	0.80	1.1064	8.750	8.750	0.0262	0.0262	87.50	
$ 37Cl4-2,3,7,8-TCDD	17.457	15111174		1.2224	11.9	11.9	0.0236	0.0236	119	
A Non-2,3,7,8-sub-TCDD	16.920						0.0262	0.0262		
S Total TCDD					8.750	8.750	0.0262	0.0262		
D 13C-1,2,3,7,8-PeCDF	21.513	102562257	1.53	1.0286	95.9	95.9	0.2879	0.2879	95.88	
1,2,3,7,8-PeCDF	21.540	54461201	1.61	1.0822	49.1	49.1	0.2072	0.2072	98.13	
D 13C-2,3,4,7,8-PeCDF	22.781	100591757	1.56	0.9827	98.4	98.4	0.3014	0.3014	98.44	
2,3,4,7,8-PeCDF	22.808	53757202	1.59	1.1032	48.4	48.4	0.2146	0.2146	96.88	
A F1 PeCDFs	19.173						0.0120	0.0120		
A Non-2,3,7,8-sub-PeCDF	22.149						0.2108	0.2108		
S Total PeCDF					97.5	97.5	0.2109	0.2109		
D 13C-1,2,3,7,8-PeCDD	23.463	78148081	1.58	0.7481	100.5	100.5	0.1300	0.1300	100	
1,2,3,7,8-PeCDD	23.490	35553901	1.56	0.9050	50.3	50.3	0.0921	0.0921	101	
A Non-2,3,7,8-sub-PeCDD	22.447						0.0921	0.0921		
S Total PeCDD					50.3	50.3	0.0921	0.0921		
D 13C-1,2,3,4,7,8-HxCDF	29.533	85533891	0.52	1.1520	99.8	99.8	0.4635	0.4635	99.83	
1,2,3,4,7,8-HxCDF	29.560	49367038	1.26	1.1973	48.2	48.2	0.4232	0.4232	96.41	
D 13C-1,2,3,6,7,8-HxCDF	29.813	92397692	0.52	1.2434	99.9	99.9	0.4295	0.4295	99.92	
1,2,3,6,7,8-HxCDF	29.839	53365685	1.27	1.1807	48.9	48.9	0.3675	0.3675	97.84	
D 13C-2,3,4,6,7,8-HxCDF	30.904	87021517	0.53	1.1720	99.8	99.8	0.4557	0.4557	99.84	
2,3,4,6,7,8-HxCDF	30.931	52142581	1.26	1.2116	49.5	49.5	0.2438	0.2438	98.91	
D 13C-1,2,3,7,8,9-HxCDF	31.836	79234219	0.52	1.0655	100.0	100.0	0.5012	0.5012	100	
1,2,3,7,8,9-HxCDF	31.862	48510459	1.26	1.2451	49.2	49.2	0.2359	0.2359	98.34	
A Non-2,3,7,8-sub-HxCDF	29.387						0.2990	0.2990		
S Total HxCDF					195.7	195.7	0.3176	0.3176		

Report Date: 06-Nov-2019 09:21:02 Chrom Revision: 2.3 31-Oct-2019 20:21:30
Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_2.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.649	74368793	1.27	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.143	60244019	1.27	0.7812	103.7	103.7	0.3218	0.3218	104	
1,2,3,4,7,8-HxCDD	31.157	32590816	1.26	1.1088	48.8	48.8	0.1516	0.1516	97.58	
D 13C-1,2,3,6,7,8-HxCDD	31.263	66608563	1.25	0.9175	97.6	97.6	0.2740	0.2740	97.62	
1,2,3,6,7,8-HxCDD	31.290	36220213	1.28	1.0814	50.3	50.3	0.1490	0.1490	101	
1,2,3,7,8,9-HxCDD	31.663	38214553	1.26	1.2123	49.7	49.7	0.1357	0.1357	99.40	
A Non-2,3,7,8-sub-HxCDD	29.959						0.1450	0.1450		
S Total HxCDD					148.8	148.8	0.1454	0.1454		
D 13C-1,2,3,4,6,7,8-HpCDF	33.393	54513076	0.44	0.8628	85.0	85.0	1.219	1.219	84.96	
1,2,3,4,6,7,8-HpCDF	33.405	41461633	1.05	1.5555	48.9	48.9	0.4945	0.4945	97.79	
D 13C-1,2,3,4,7,8,9-HpCDF	34.451	50056235	0.44	0.7991	84.2	84.2	1.316	1.316	84.23	
1,2,3,4,7,8,9-HpCDF	34.463	33907602	1.04	1.3862	48.9	48.9	0.6774	0.6774	97.73	
A Non-2,3,7,8-sub-HpCDF	33.947						0.5750	0.5750		
S Total HpCDF					97.8	97.8	0.5860	0.5860		
D 13C-1,2,3,4,6,7,8-HpCDD	34.171	56400839	1.05	0.8739	86.8	86.8	0.4568	0.4568	86.78	
1,2,3,4,6,7,8-HpCDD	34.183	26472135	1.05	0.9316	50.4	50.4	0.2660	0.2660	101	
A Non-2,3,7,8-sub-HpCDD	34.038						0.2660	0.2660		
S Total HpCDD					50.4	50.4	0.2660	0.2660		
D 13C-OCDD	36.462	78484957	0.88	0.7744	136.3	136.3	0.1091	0.1091	68.14	
OCDF	36.546	49791880	0.90	1.2596	100.7	100.7	0.0723	0.0723	101	
OCDD	36.462	40820400	0.89	1.0621	97.9	97.9	0.0896	0.0896	97.94	

Reagents:

HRDXNL4_00085 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_2.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 05-Nov-2019 20:11:31 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 110519D CS-4 HRDXNL4_00085
Misc. Info.: 05NO19B10D5
Operator ID: ALM Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 06-Nov-2019 09:21:00 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0321

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.245	17.245	0		45684197	11539786	10766	26915	1072		
333.9339	17.245	17.245	0		58306111	14801799	11940	29850	1240	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.761	16.761	0	0.972	59992641	14915026	27208	68020	548		
317.9389	16.761	16.761	0	0.972	77168678	19250707	35060	87650	549	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.777	16.777	0	1.001	6258201	1575191	1432	3580	1100		
305.8987	16.777	16.777	0	1.001	7934793	1943766	1976	4940	984	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.429	16.482	-3	0.980	22071	4530	1432	3580	3		
305.8987	16.429	16.482	-3	0.980	28767	8337	1976	4940	4	0.77(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.427	17.427	0	1.011	44071145	9972304	10766	26915	926		
333.9339	17.427	17.427	0	1.011	55951693	12671833	11940	29850	1061	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.457	17.457	0	1.002	4306776	1008657	1510	3775	668		
321.8936	17.457	17.457	0	1.002	5376045	1248733	1120	2800	1115	0.80(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.457	17.457	0	1.012	15111174	3575140	3035	7587	1178		
A Non-2,3,7,8-sub-TCDD											
319.8965	16.920						1510	3775			
321.8936	16.920						1120	2800			
13C-1,2,3,7,8-PeCDF											
351.9000	21.513	21.513	0	1.247	62094851	11051139	18303	45757	604		
353.8970	21.513	21.513	0	1.247	40467406	7248572	12901	32252	562	1.53(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	21.540	21.540	0	1.001	33558960	6008893	9930	24825	605		
341.8567	21.540	21.540	0	1.001	20902241	3744693	6481	16202	578	1.61(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	22.781	22.781	0	1.321	61253379	10579687	18303	45757	578		
353.8970	22.781	22.781	0	1.321	39338378	6745773	12901	32252	523	1.56(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.808	22.808	0	1.001	33005668	5570549	9930	24825	561		
341.8567	22.808	22.808	0	1.001	20751534	3469365	6481	16202	535	1.59(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.173						317	792			
341.8567	19.173						614	1535			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.149						9930	24825			
341.8567	22.149						6481	16202			
13C-1,2,3,7,8-PeCDD											
367.8949	23.463	23.463	0	1.361	47866547	7669973	6267	15667	1224		
369.8919	23.463	23.463	0	1.361	30281534	4788445	3981	9952	1203	1.58(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.490	23.490	0	1.001	21669114	3404121	2431	6077	1400		
357.8516	23.490	23.490	0	1.001	13884787	2209849	1723	4307	1283	1.56(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.447						2431	6077			
357.8516	22.447						1723	4307			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.533	29.533	0	0.933	29315183	3470063	12357	30892	281		
385.8610	29.533	29.533	0	0.933	56218708	6636408	22089	55222	300	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.560	29.560	0	1.001	27563717	3271348	11585	28962	282		
375.8178	29.573	29.560	1	1.001	21803321	2542560	8897	22242	286	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.813	29.813	0	0.942	31493972	3980374	12357	30892	322		
385.8610	29.813	29.813	0	0.942	60903720	7819817	22089	55222	354	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	29.839	29.839	0	1.001	29819670	3880767	11585	28962	335		
375.8178	29.839	29.839	0	1.001	23546015	3062678	8897	22242	344	1.27(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	30.904	30.904	0	0.976	30023230	6000456	12357	30892	486		
385.8610	30.904	30.904	0	0.976	56998287	11332682	22089	55222	513	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	30.931	30.931	0	1.001	29041998	5843995	11585	28962	504		
375.8178	30.931	30.931	0	1.001	23100583	4650697	8897	22242	523	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.836	31.836	0	1.006	27162056	5995192	12357	30892	485		
385.8610	31.836	31.836	0	1.006	52072163	11434980	22089	55222	518	0.52(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	31.862	31.862	0	1.001	27019354	5870944	11585	28962	507		
375.8178	31.862	31.862	0	1.001	21491105	4583933	8897	22242	515	1.26(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.387						11585	28962			
375.8178	29.387						8897	22242			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.649	31.649	0		41619995	9104923	8365	20912	1088		
403.8529	31.636	31.649	-1		32748798	7021205	7851	19627	894	1.27(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.143	31.143	0	0.984	33754644	7505596	8365	20912	897		
403.8529	31.143	31.143	0	0.984	26489375	5841663	7851	19627	744	1.27(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.157	31.157	0	1.000	18185237	4097111	4978	12445	823		
391.8127	31.157	31.157	0	1.000	14405579	3293406	3994	9985	825	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.263	31.263	0	0.988	37029082	7704496	8365	20912	921		
403.8529	31.263	31.263	0	0.988	29579481	6218638	7851	19627	792	1.25(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.290	31.290	0	1.001	20361241	4176039	4978	12445	839		
391.8127	31.277	31.290	-1	1.000	15858972	3259040	3994	9985	816	1.28(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.663	31.663	0	1.017	21332543	4678071	4978	12445	940		
391.8127	31.663	31.663	0	1.017	16882010	3722090	3994	9985	932	1.26(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	29.959						4978	12445			
391.8127	29.959						3994	9985			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.393	33.393	0	1.055	16650591	4827887	18544	46360	260		
419.8220	33.393	33.393	0	1.055	37862485	11047345	49278	123195	224	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.405	33.405	0	1.000	21209876	6181686	27297	68242	226		
409.7789	33.405	33.405	0	1.000	20251757	5940959	21554	53885	276	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.451	34.451	0	1.089	15400919	4034772	18544	46360	218		
419.8220	34.451	34.451	0	1.089	34655316	8970204	49278	123195	182	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.463	34.463	0	1.000	17277632	4497402	27297	68242	165		
409.7789	34.463	34.463	0	1.000	16629970	4296182	21554	53885	199	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.947						27297	68242			
409.7789	33.947						21554	53885			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.171	34.171	0	1.080	28831721	7888886	12532	31330	629		
437.8140	34.171	34.171	0	1.080	27569118	7561579	13219	33047	572	1.05(0.88-1.20)	

Report Date: 06-Nov-2019 09:21:02 Chrom Revision: 2.3 31-Oct-2019 20:21:30
Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_2.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.183	34.183	0	1.000	13544232	3728750	7646	19115	488		
425.7737	34.183	34.183	0	1.000	12927903	3579657	7667	19167	467	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.038						7646	19115			
425.7737	34.038						7667	19167			
13C-OCDD											
469.7779	36.462	36.462	0	1.152	36648028	7779908	2819	7047	2760		
471.7750	36.462	36.462	0	1.152	41836929	9055241	2629	6572	3444	0.88(0.76-1.02)	
OCDF											
441.7428	36.546	36.546	0	1.002	23583590	5332667	1380	3450	3864		
443.7399	36.546	36.546	0	1.002	26208290	6021689	1688	4220	3567	0.90(0.76-1.02)	
OCDD											
457.7377	36.462	36.462	0	1.000	19202281	4190440	1393	3482	3008		
459.7348	36.462	36.462	0	1.000	21618119	4703391	1812	4530	2596	0.89(0.76-1.02)	

Reagents:

HRDXNL4_00085 Amount Added: 1.00 Units: mL

Report Date: 06-Nov-2019 09:21:02 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_2.d		
Injection Date:	05-Nov-2019 20:11:31	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336302	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

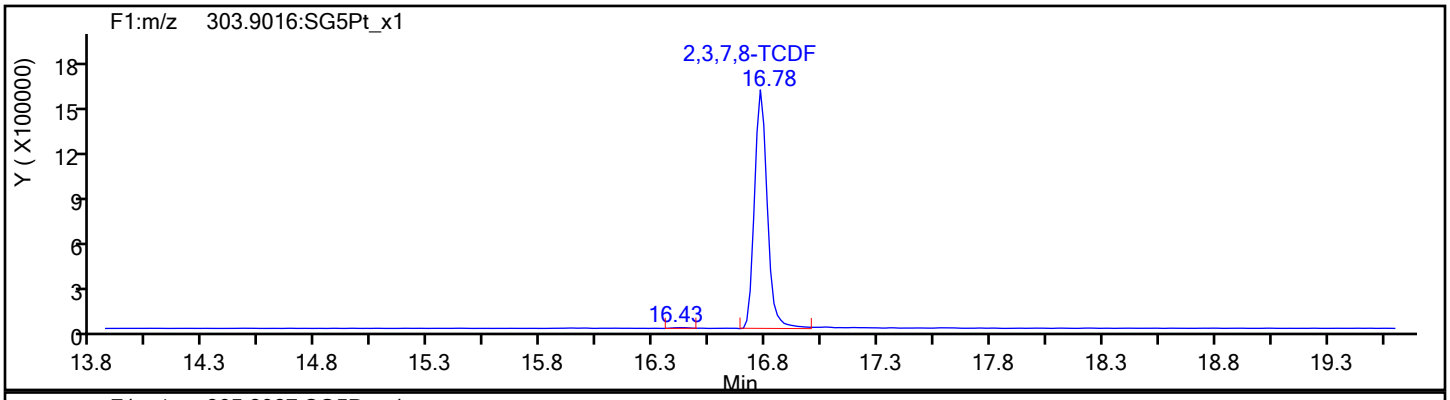

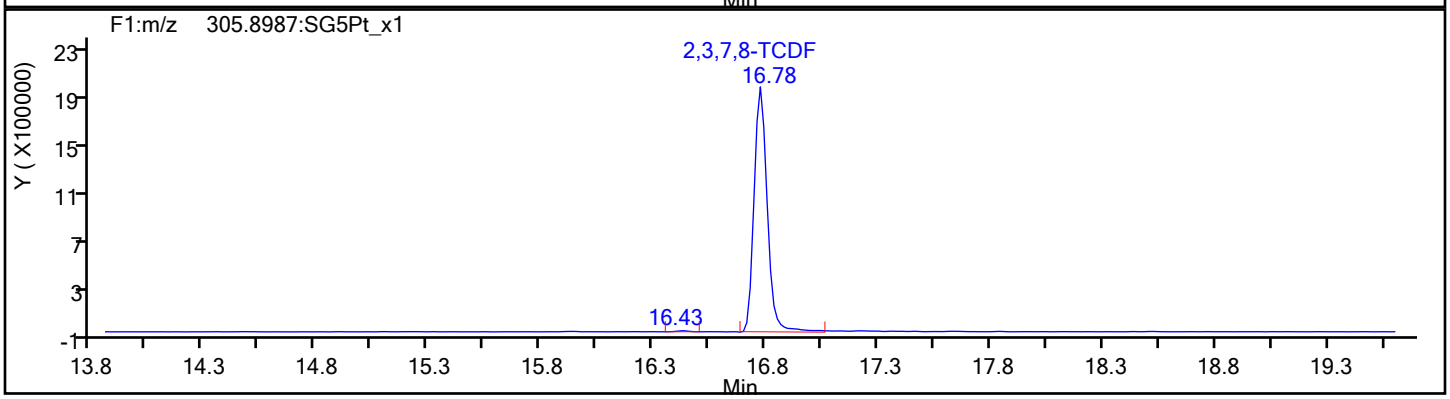

TCDF Standards

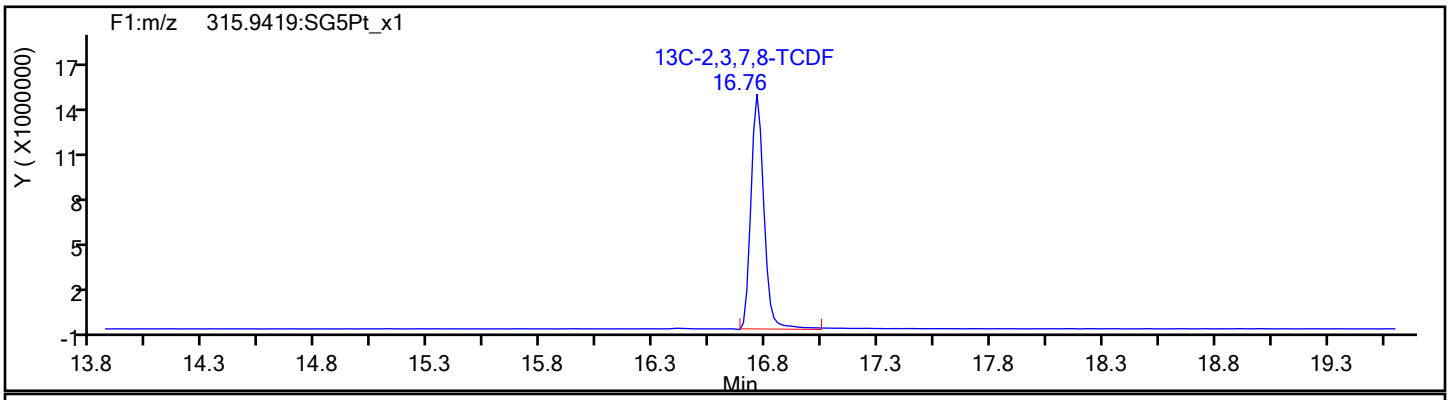

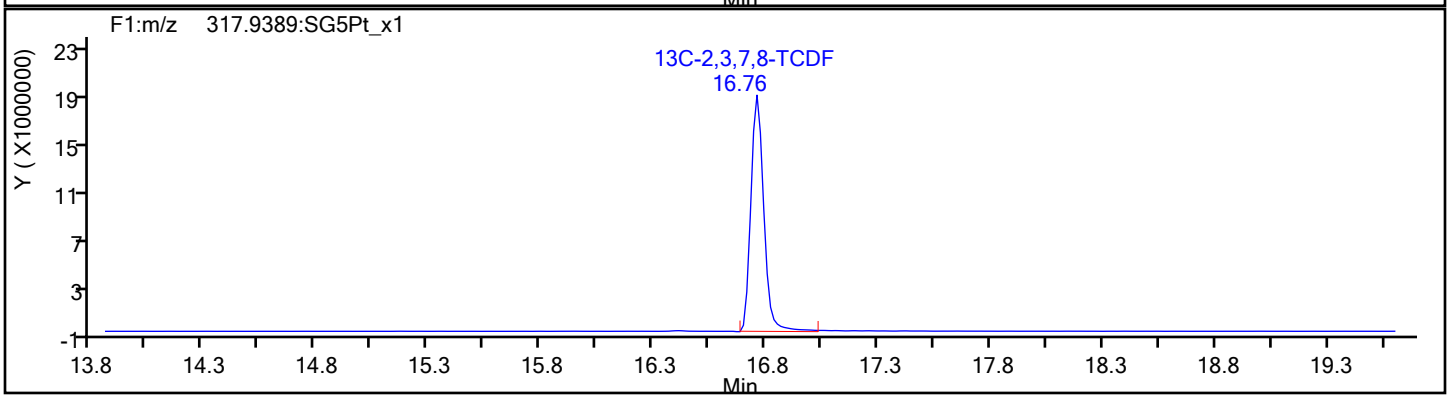

Report Date: 06-Nov-2019 09:21:02 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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TCDF

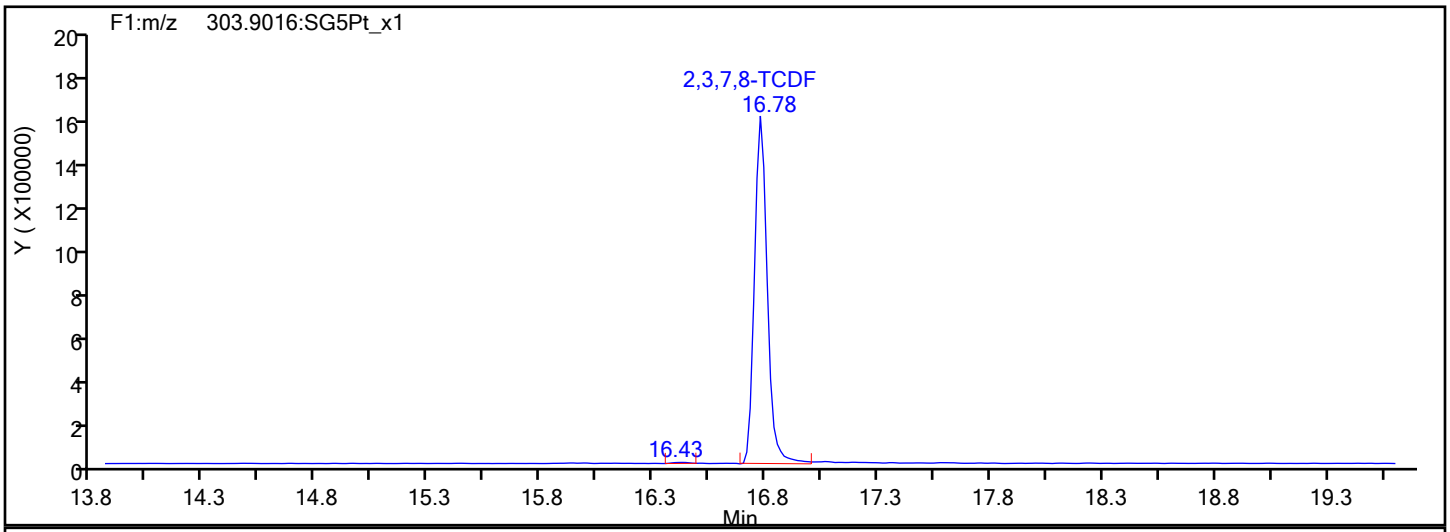

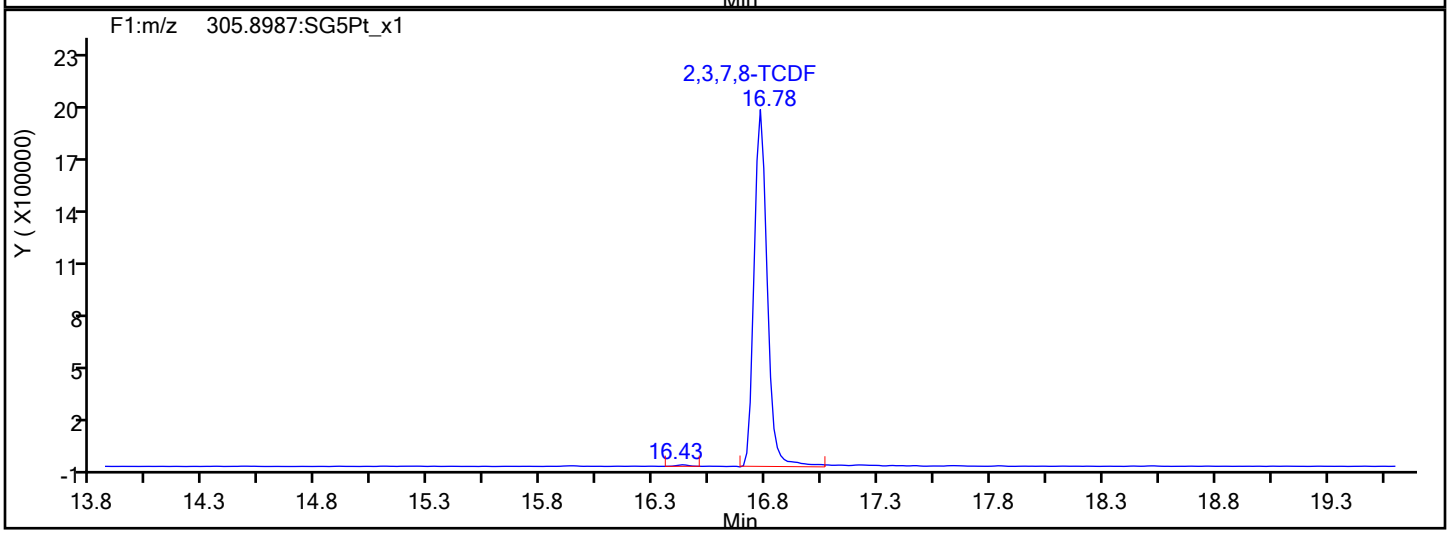

TCDF Interference Mass

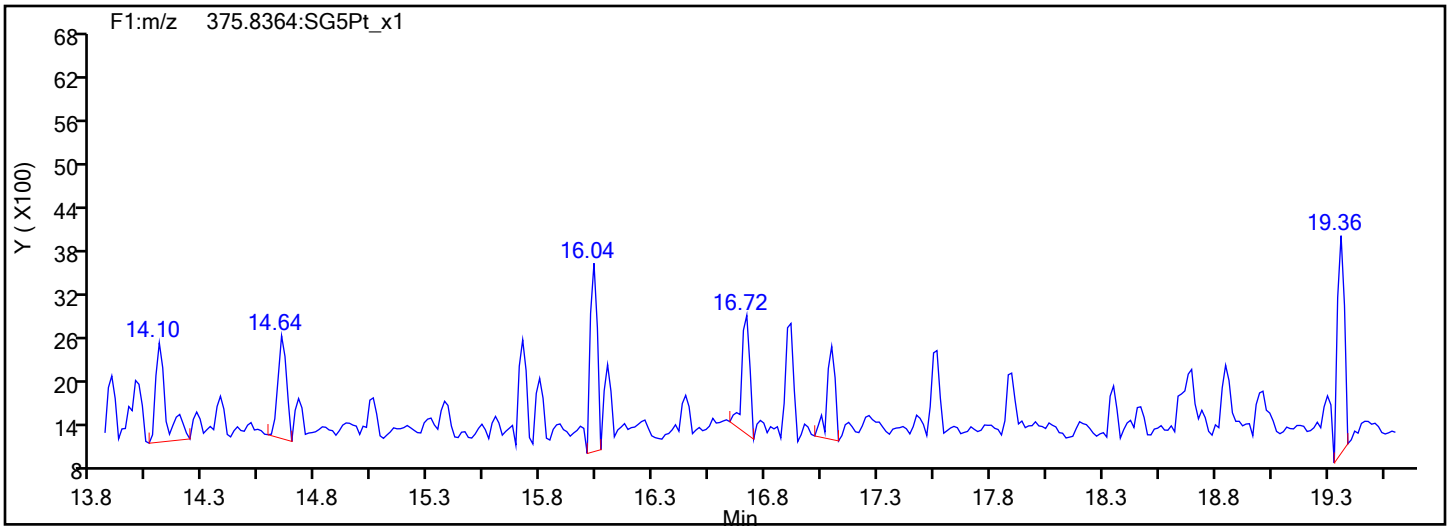

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Eurofins TestAmerica, Sacramento

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TCDD

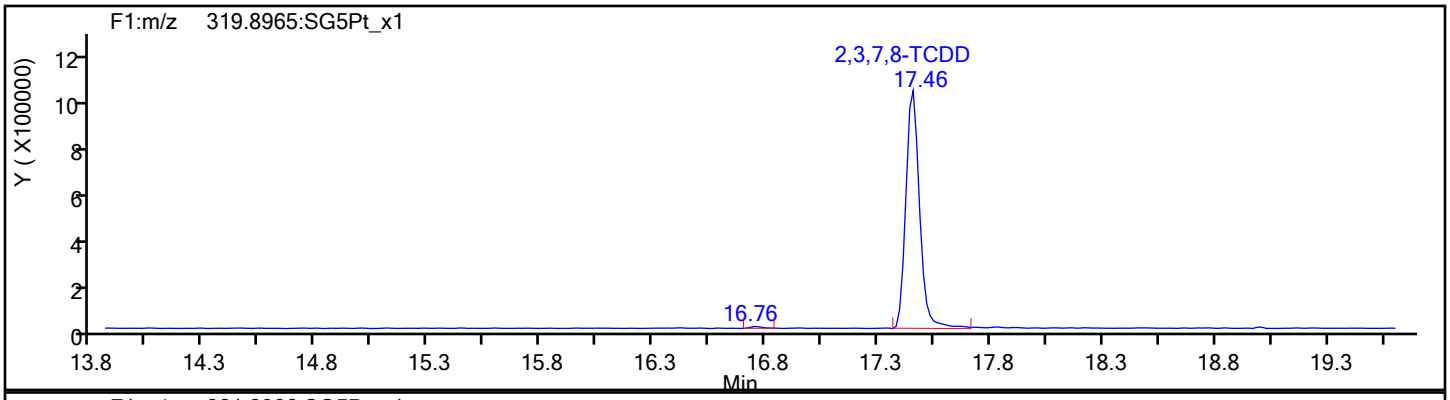

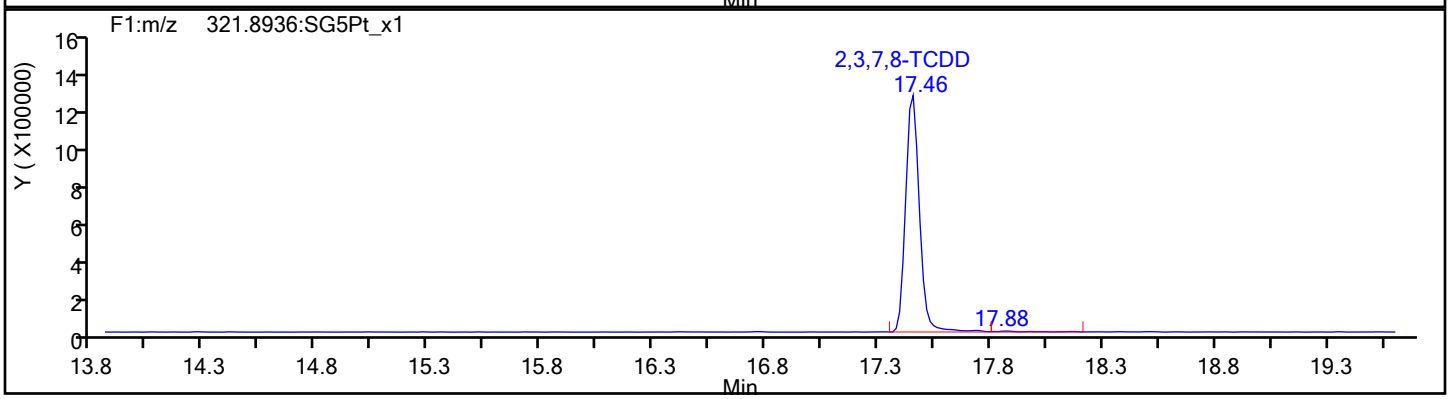

TCDD Standards

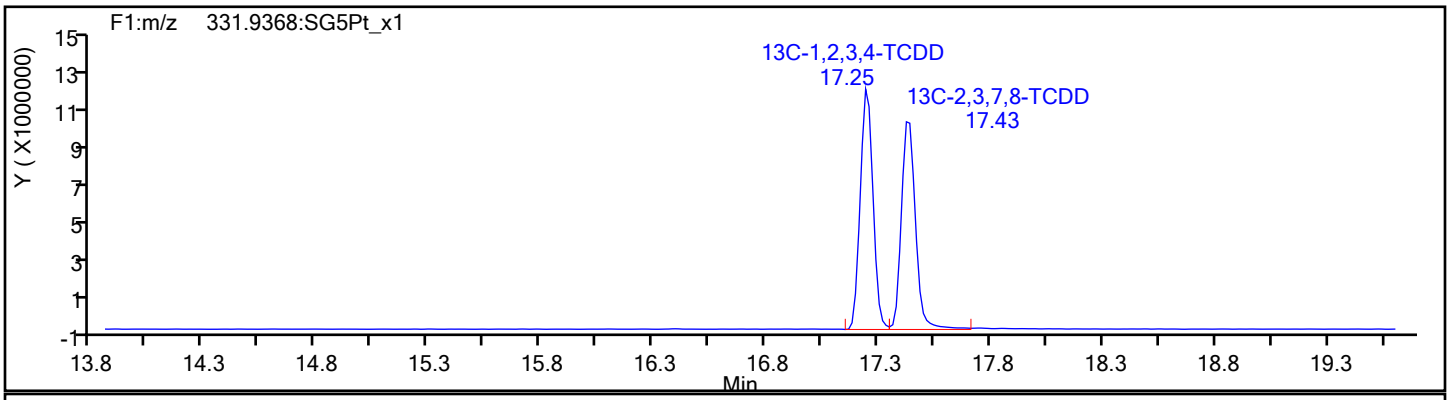

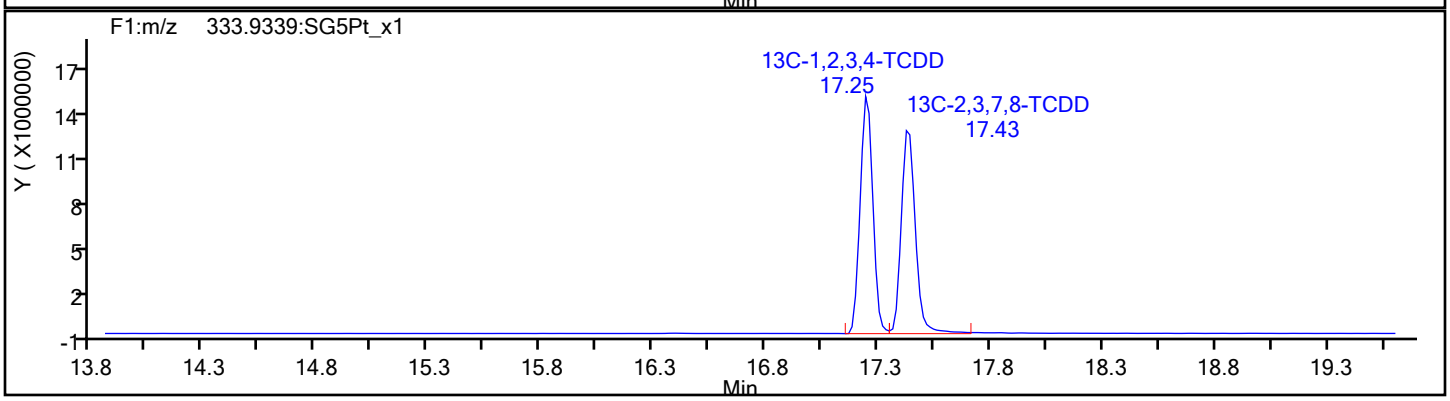

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Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

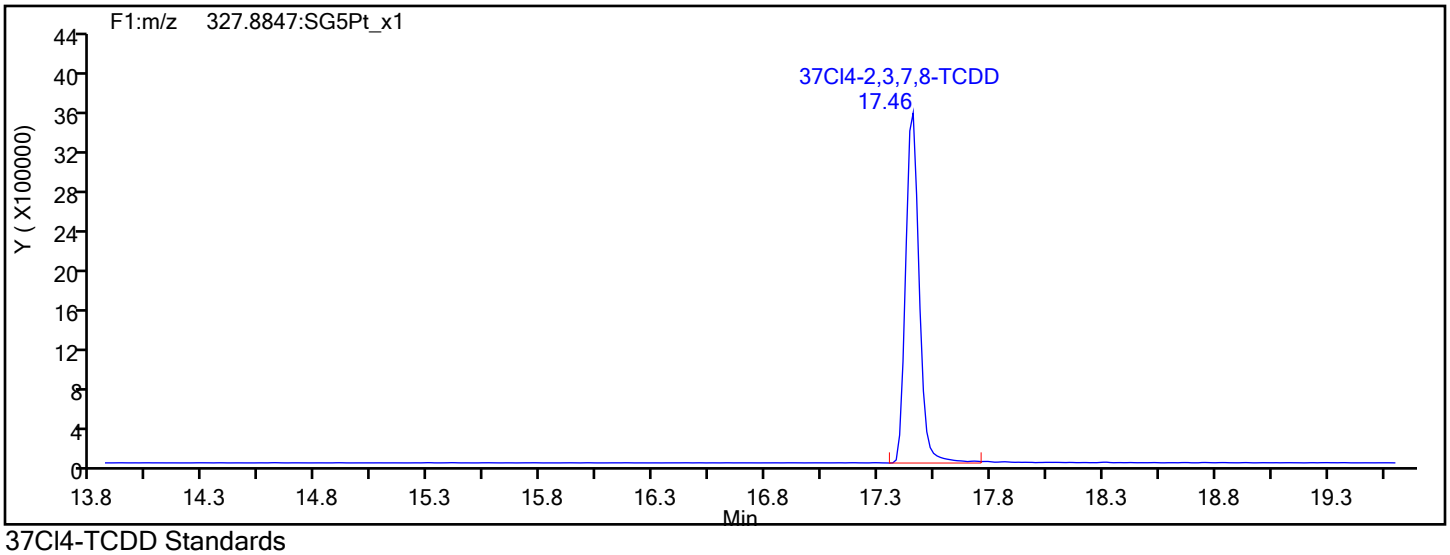

37Cl4-TCDD Standards

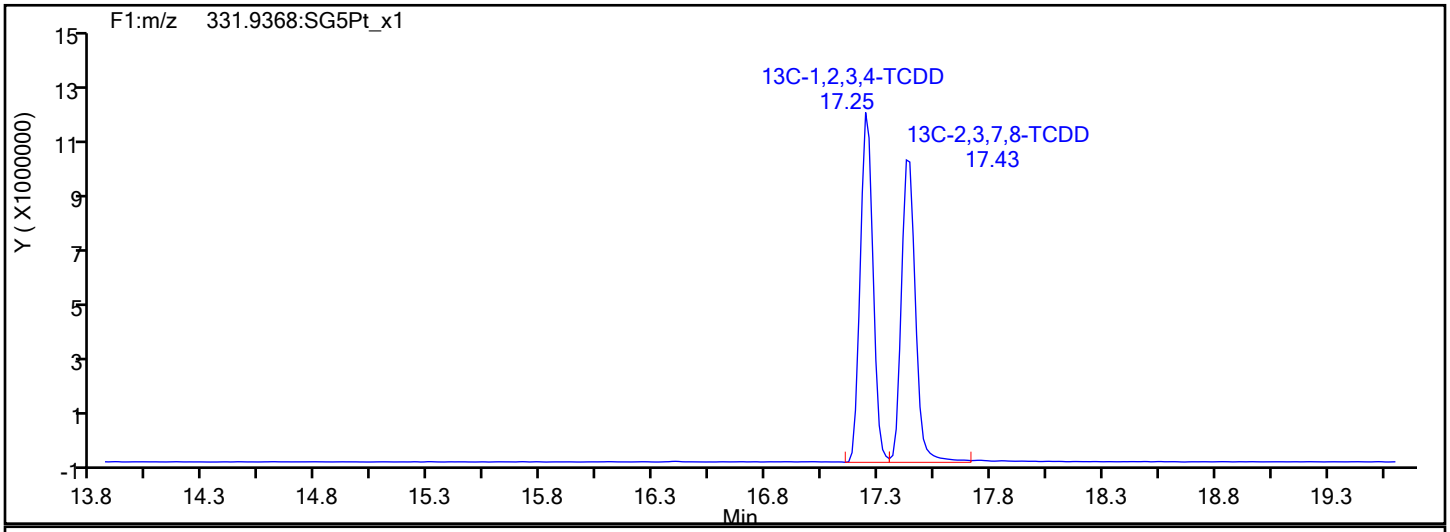

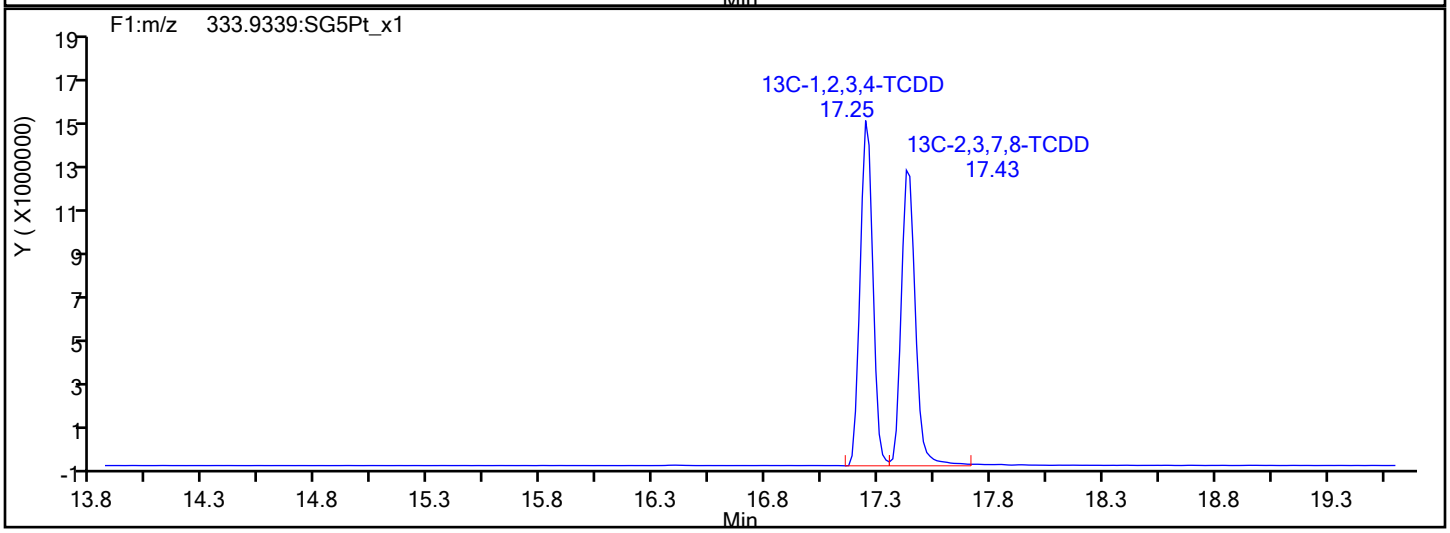

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

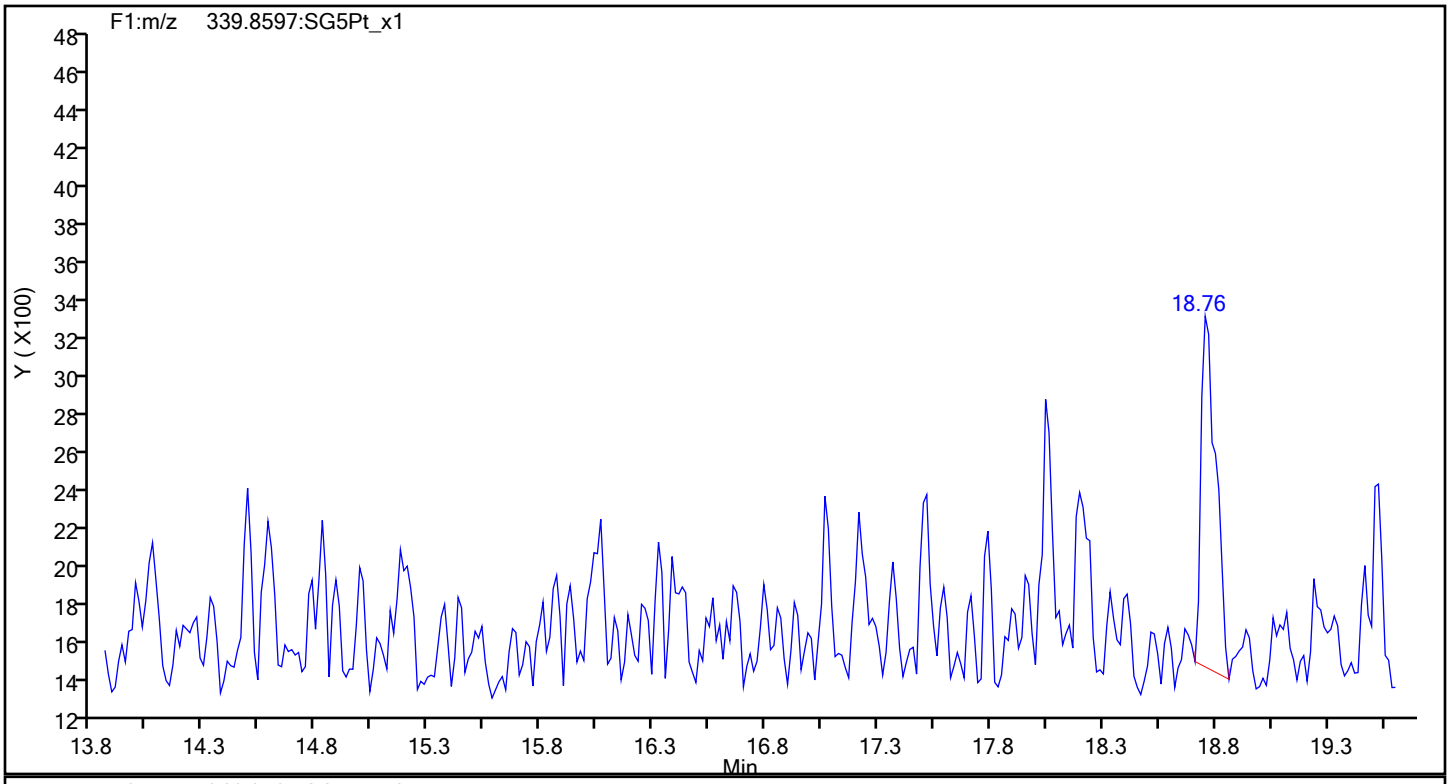

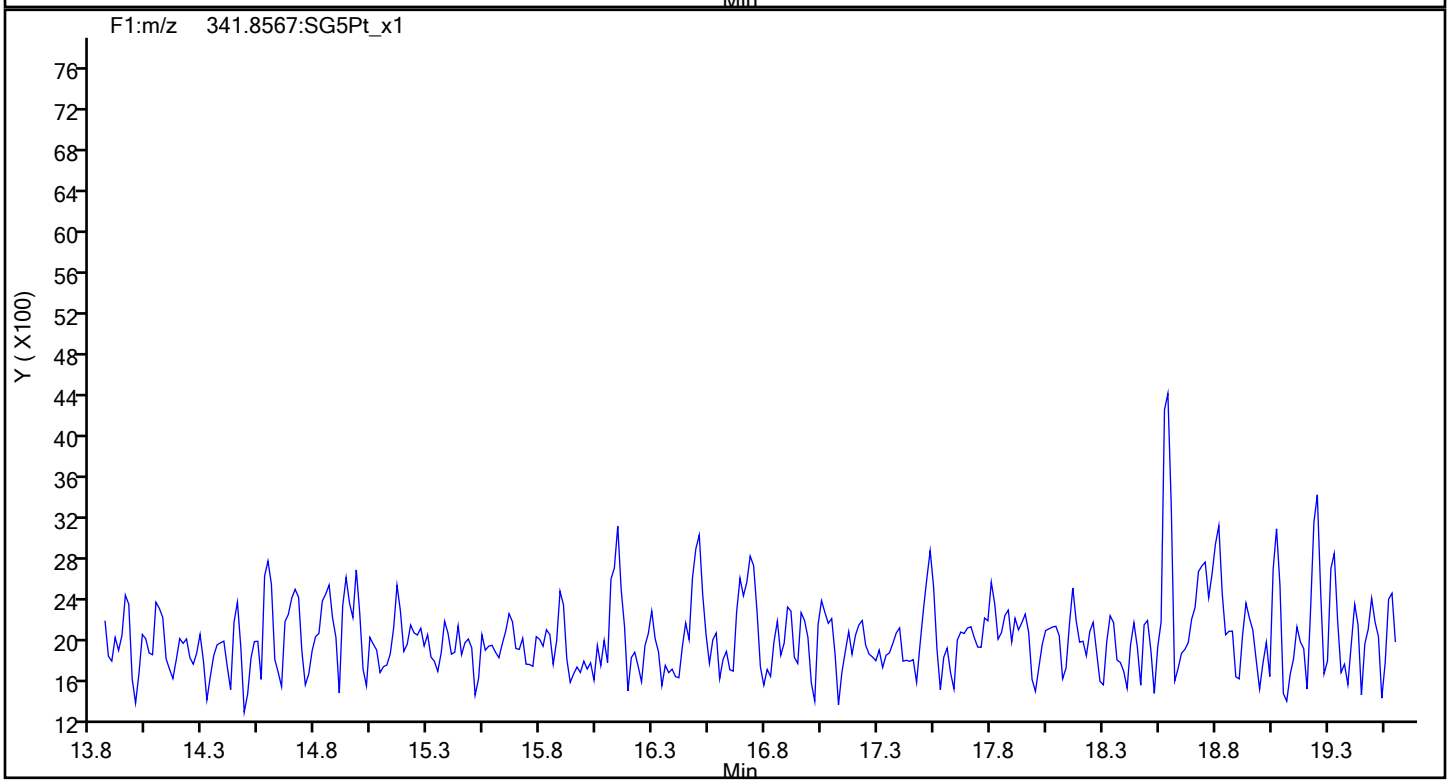

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

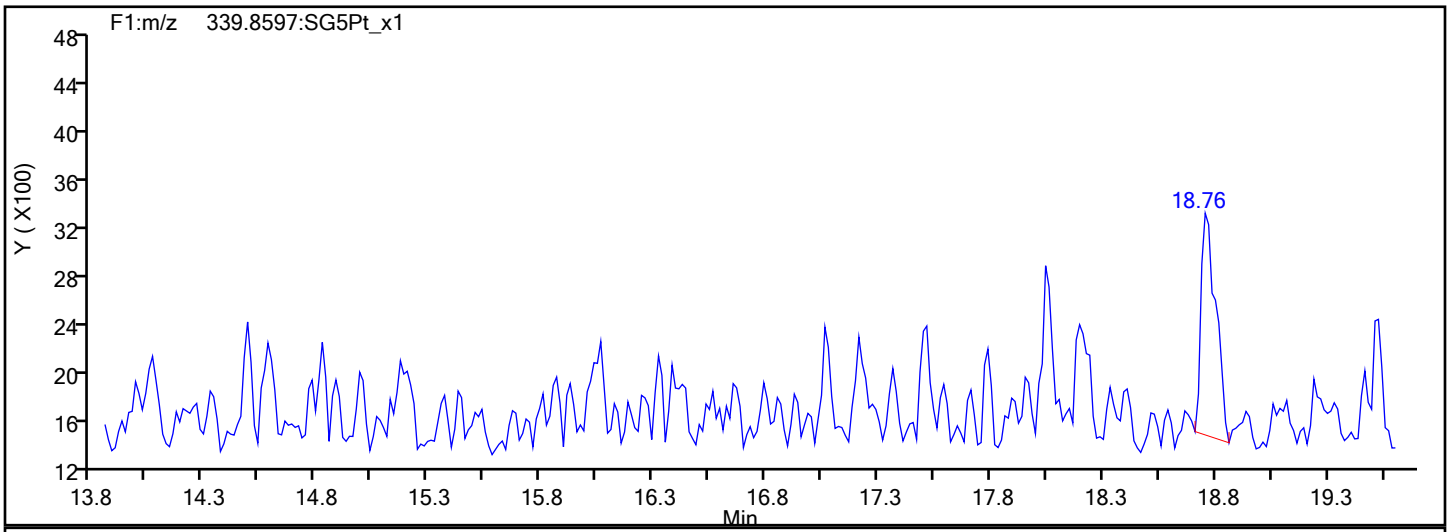

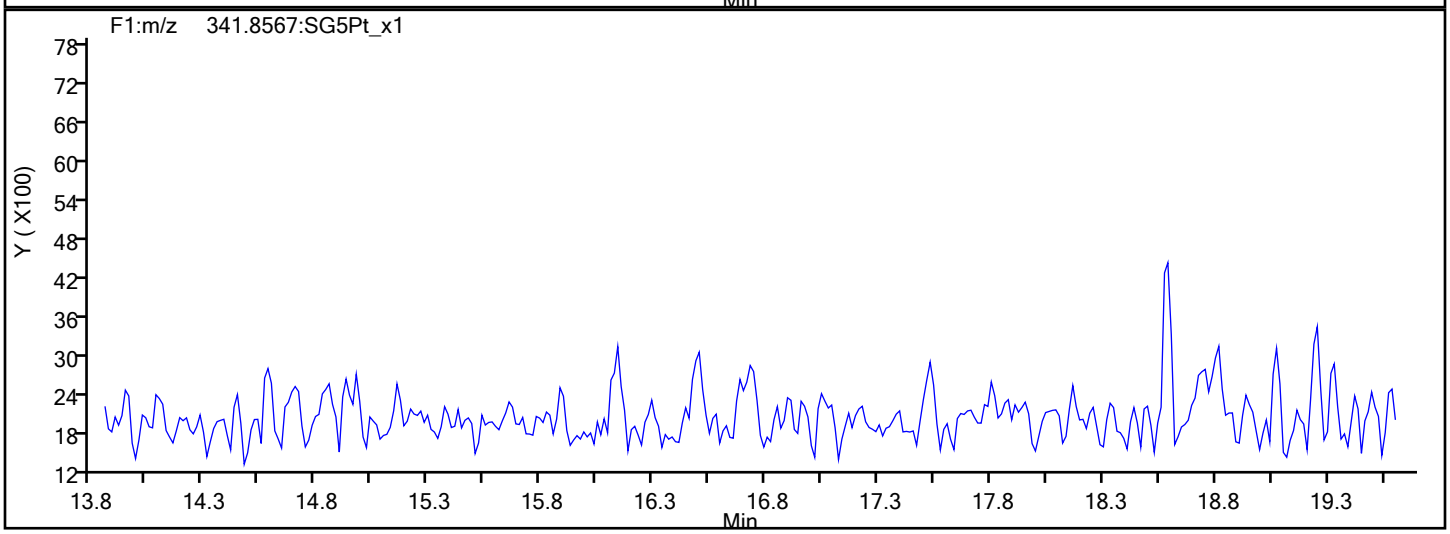

F1 PeCDFs Interference Mass

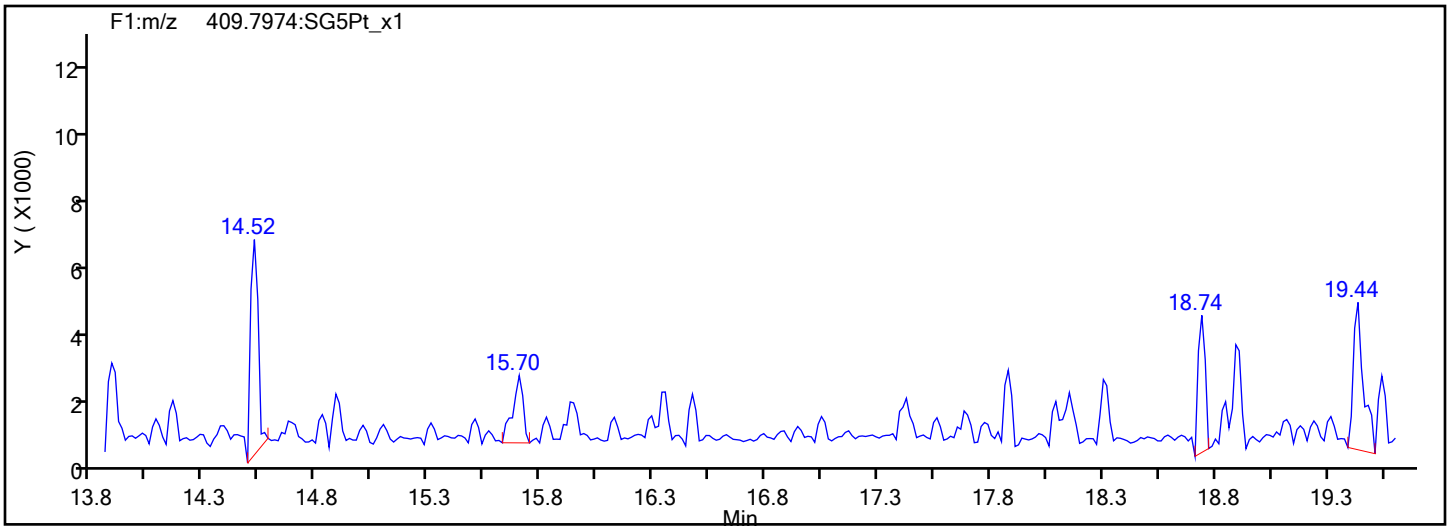

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Eurofins TestAmerica, Sacramento

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PeCDF

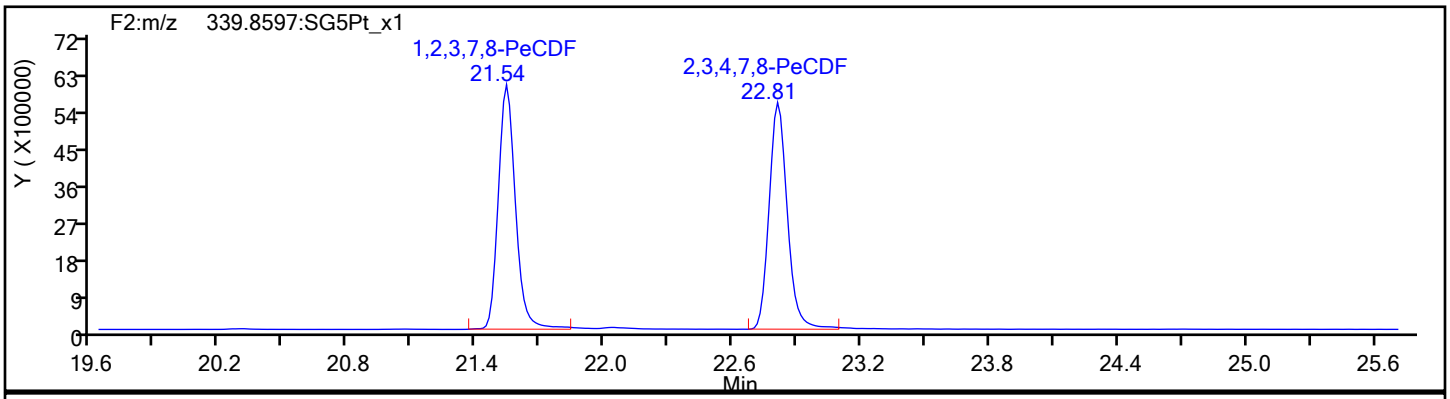

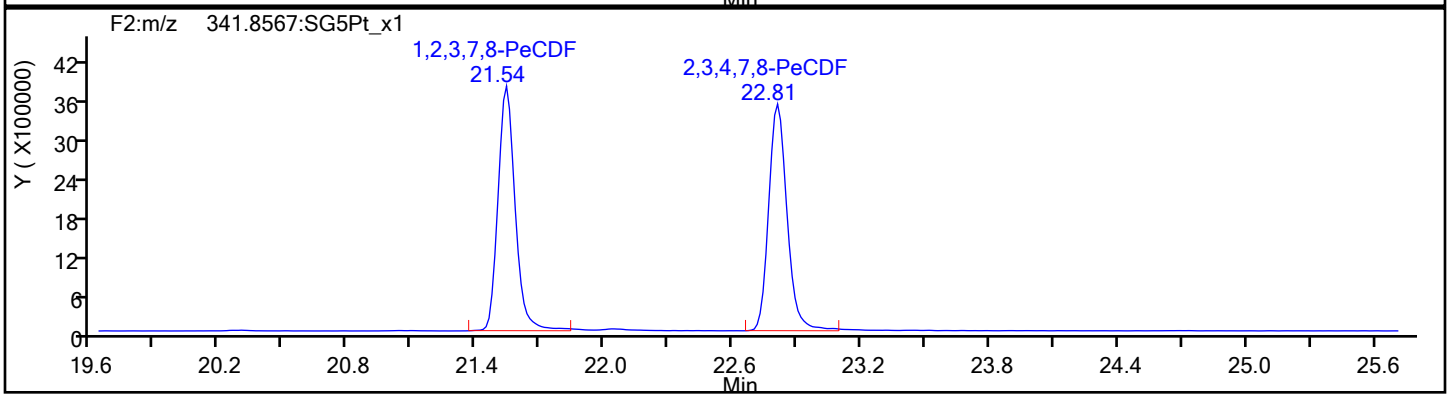

PeCDF Standards

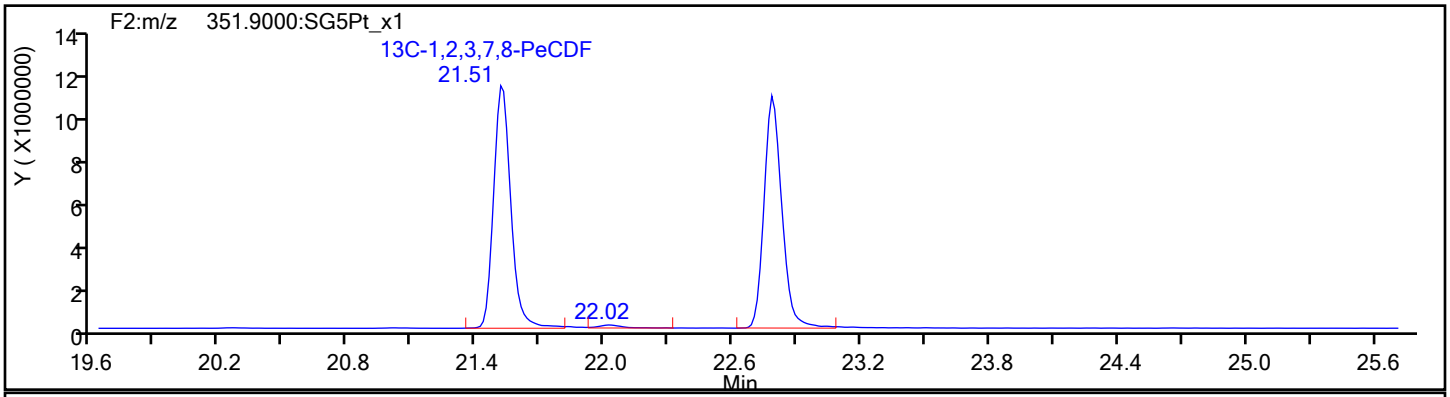

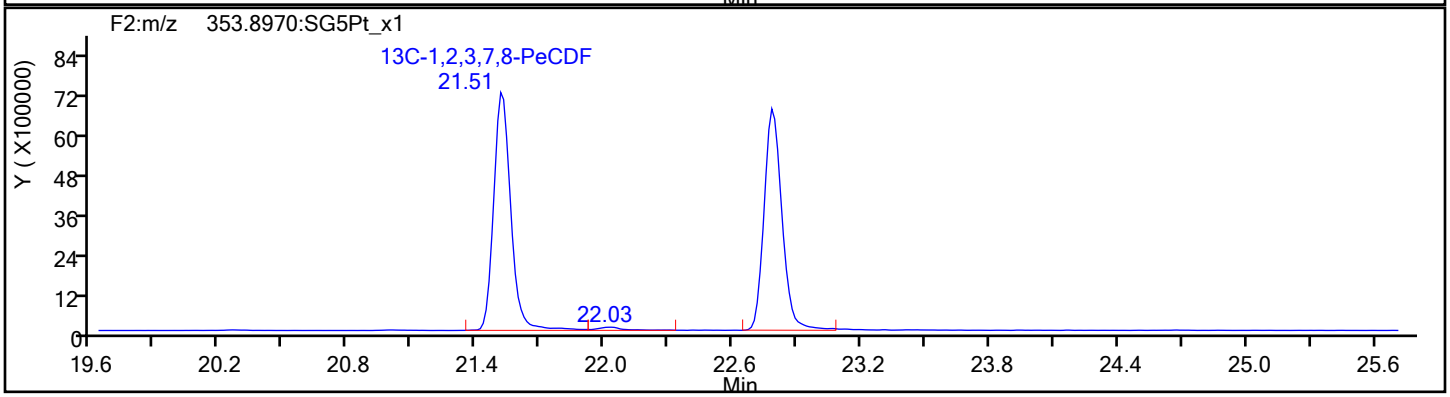

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Eurofins TestAmerica, Sacramento

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PeCDF

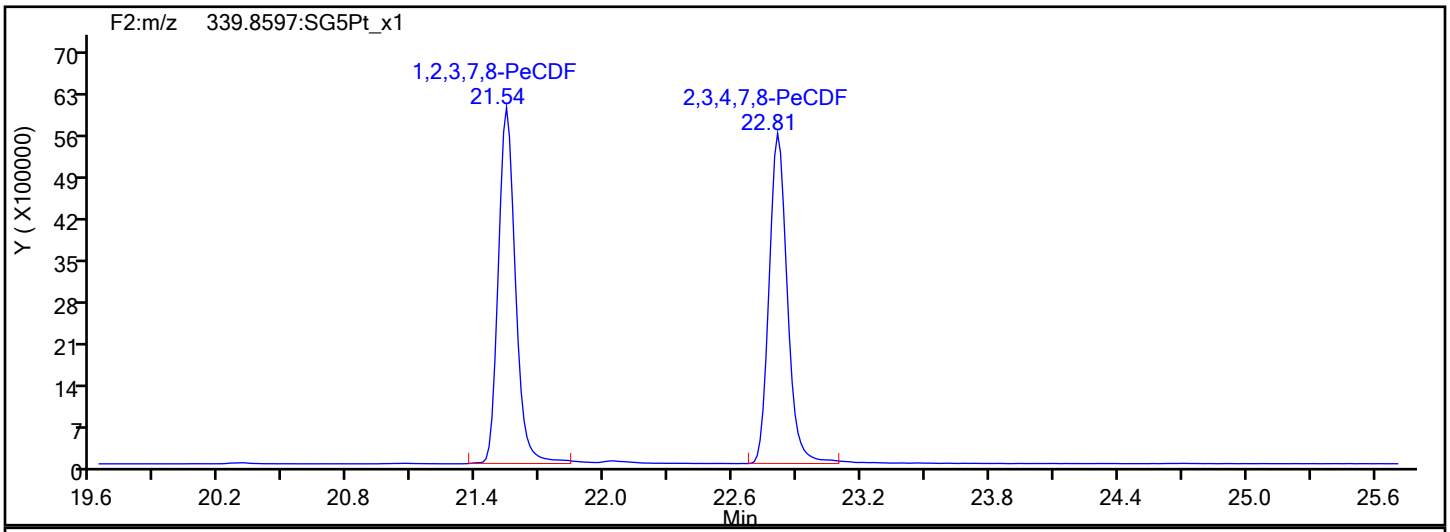

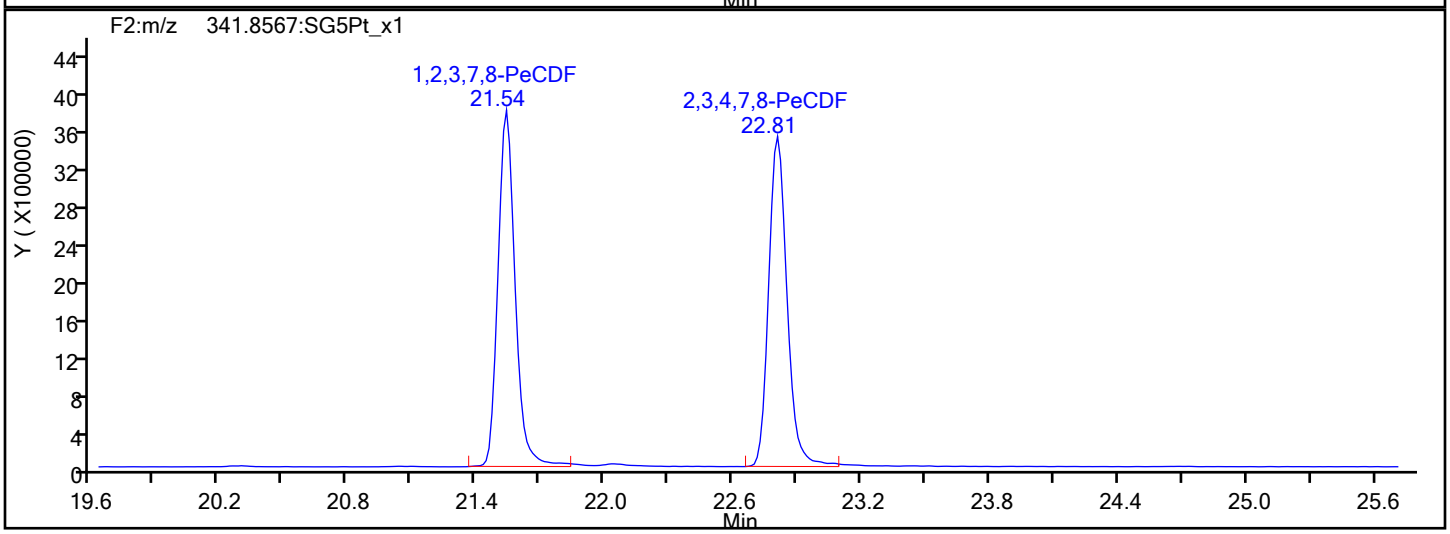

PeCDF Interference Mass

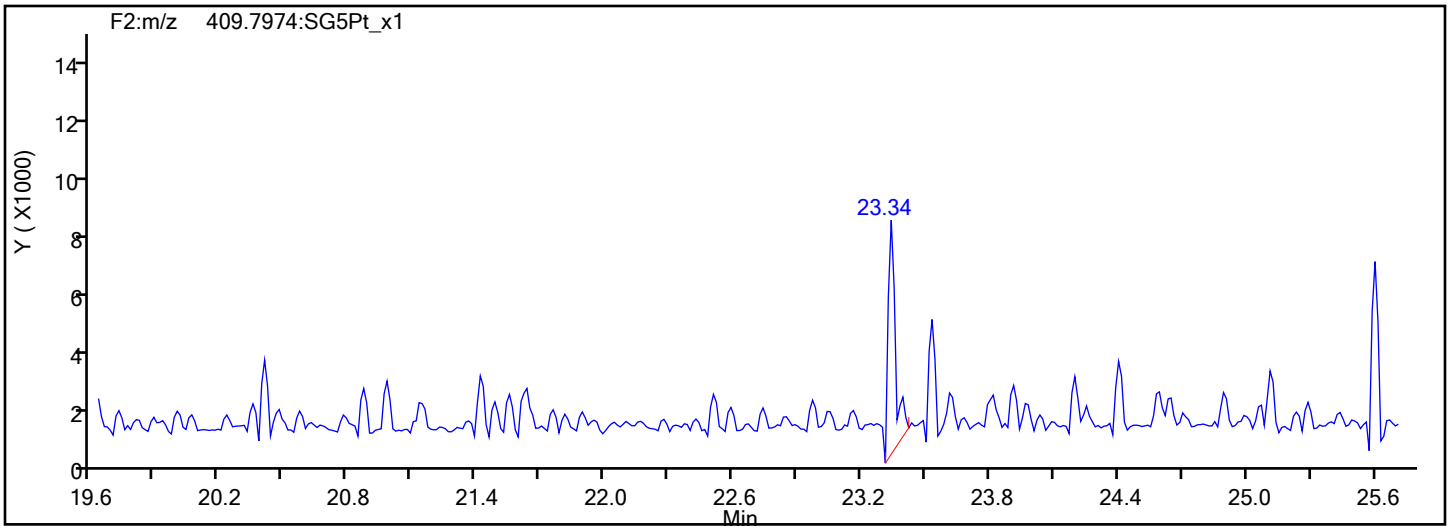

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Eurofins TestAmerica, Sacramento

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PeCDD

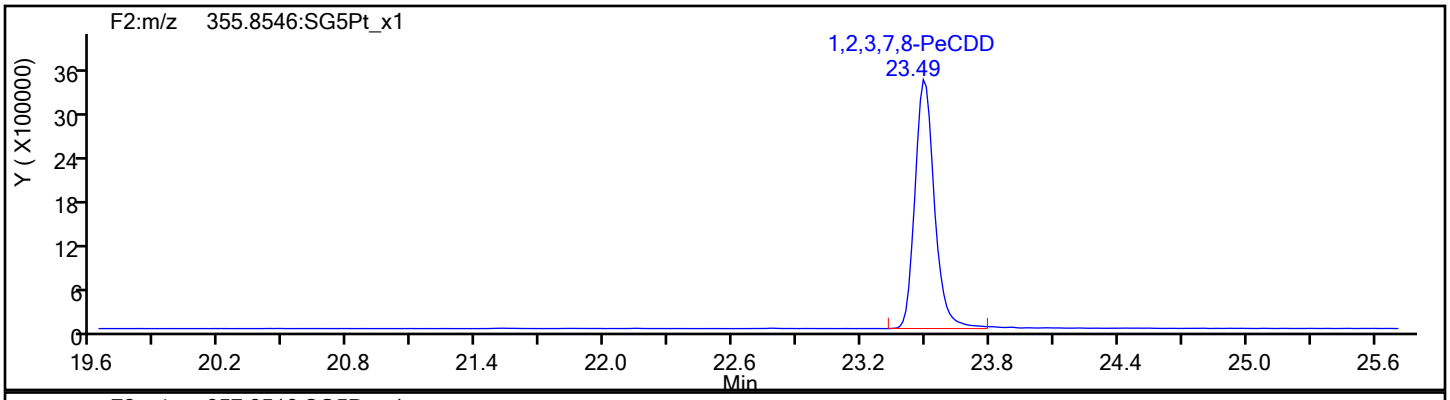

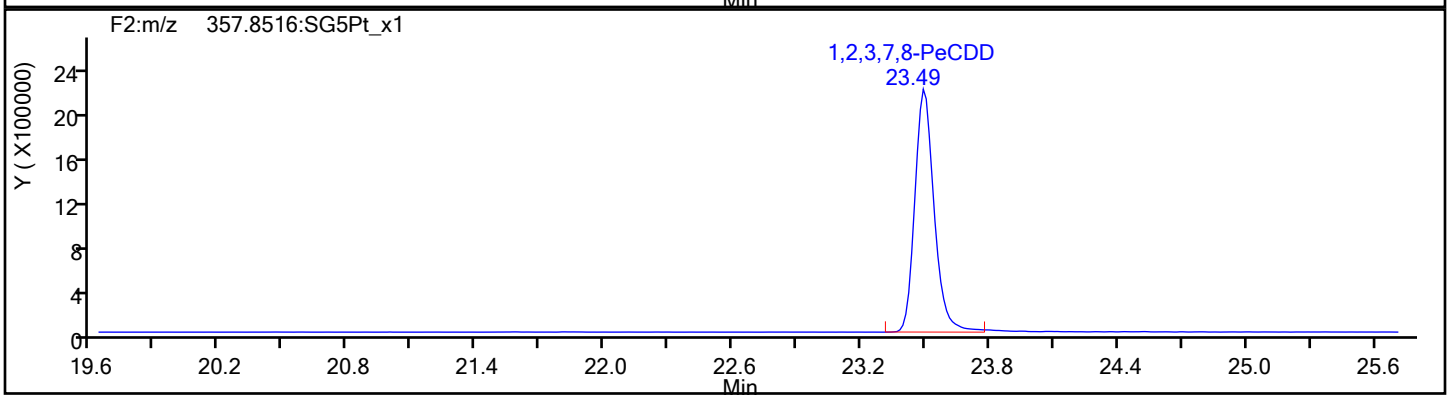

PeCDD Standards

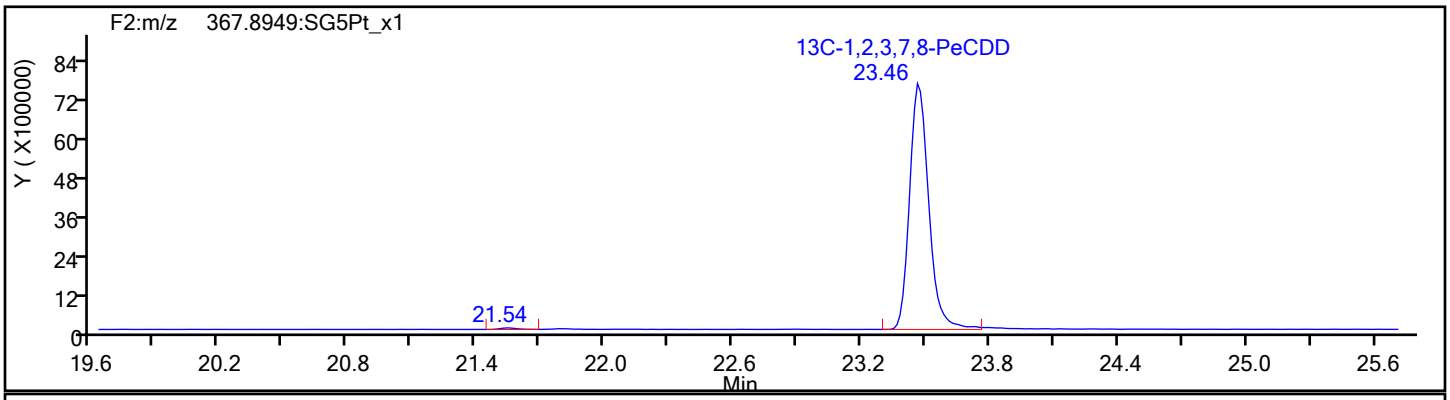

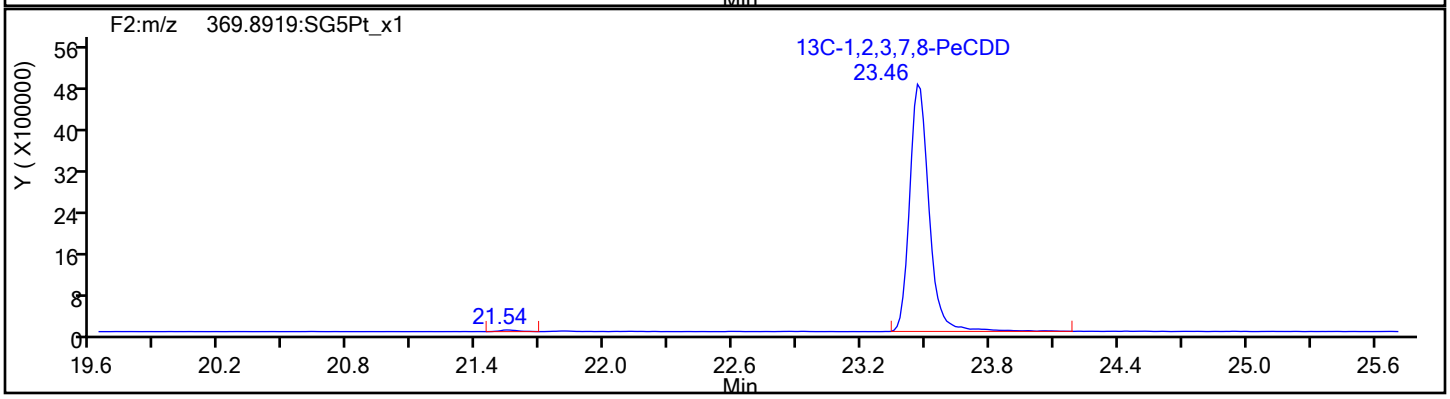

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Eurofins TestAmerica, Sacramento

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HxCDF

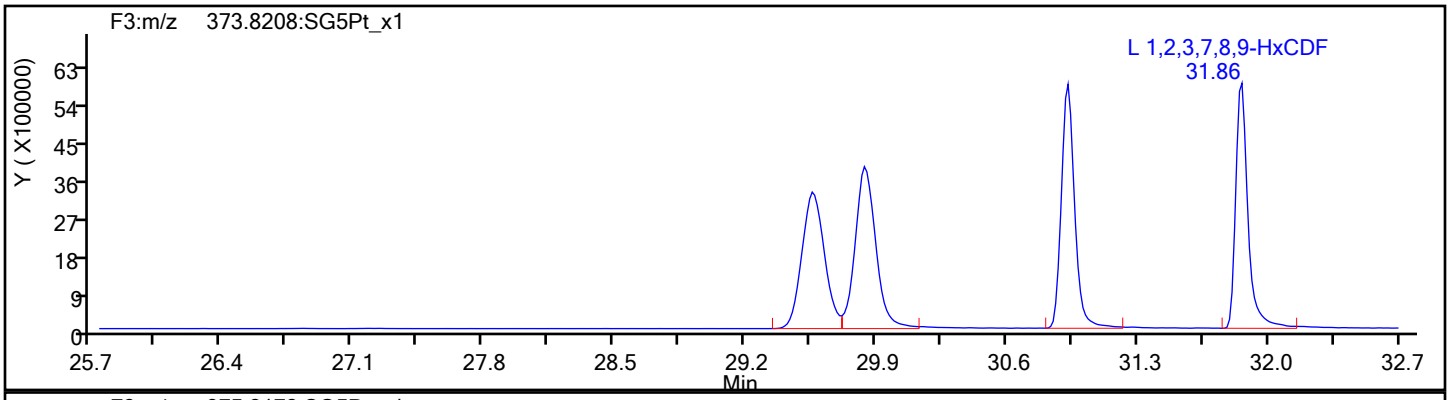

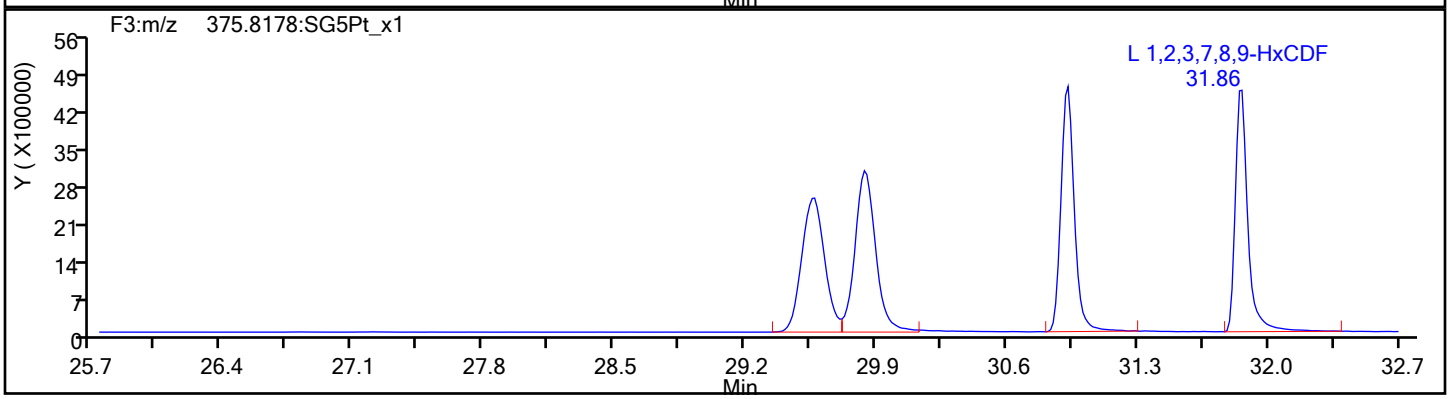

HxCDF Standards

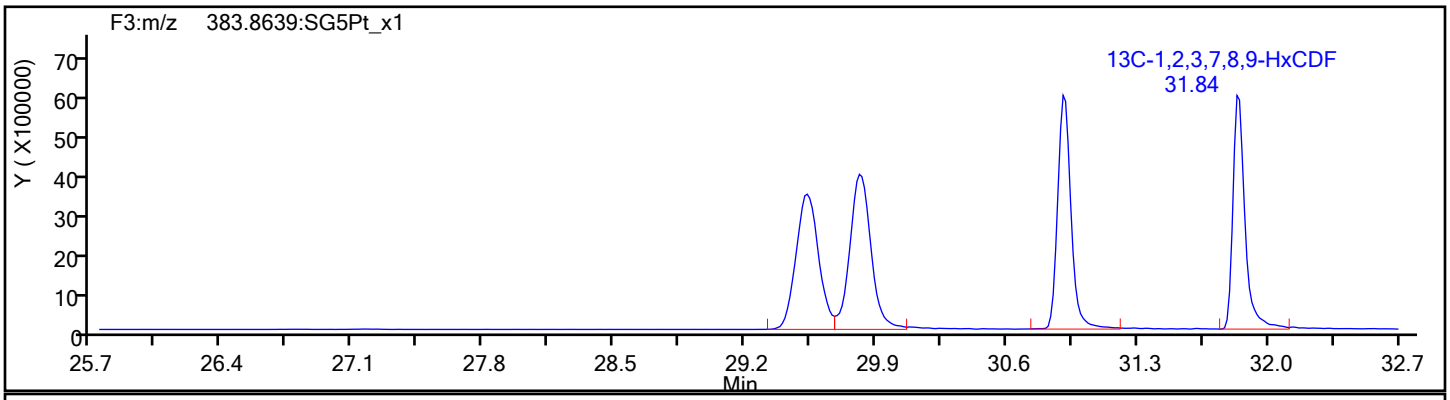

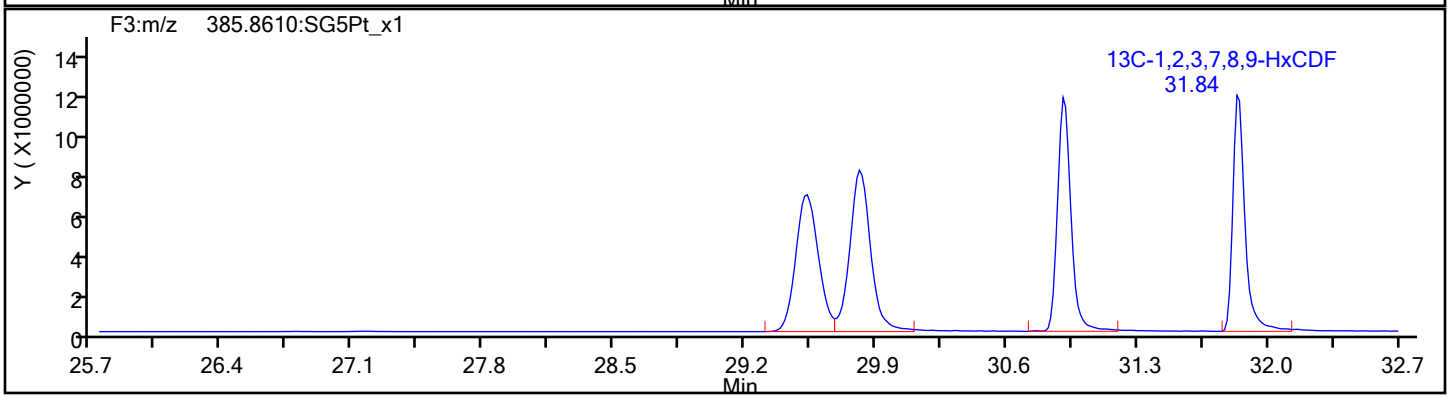

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Eurofins TestAmerica, Sacramento

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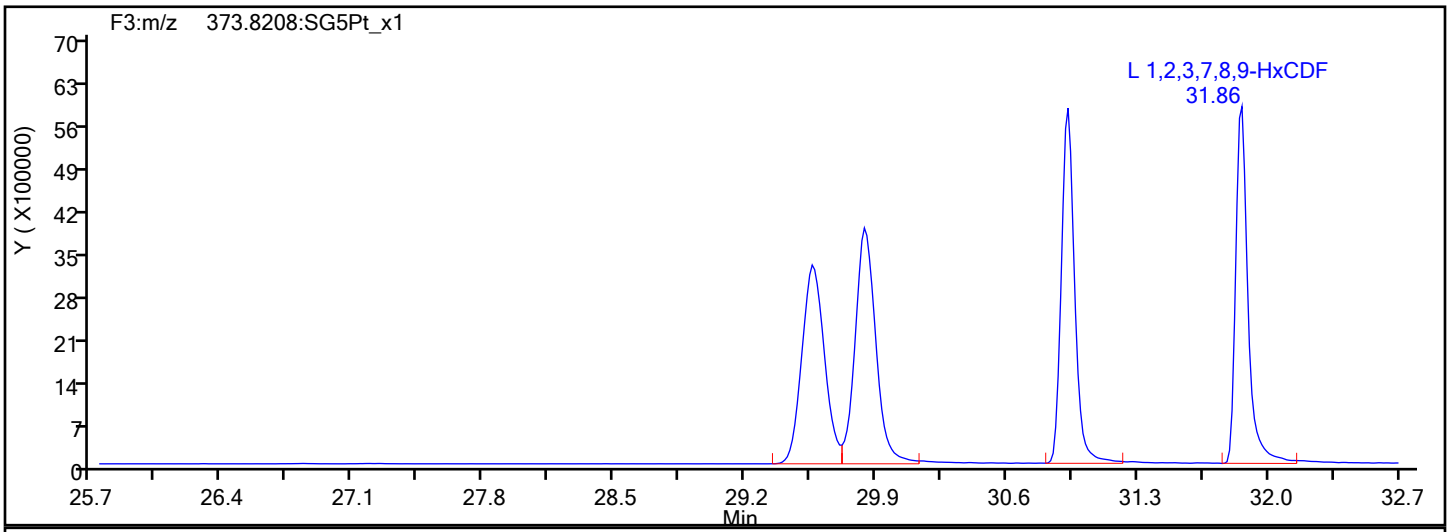

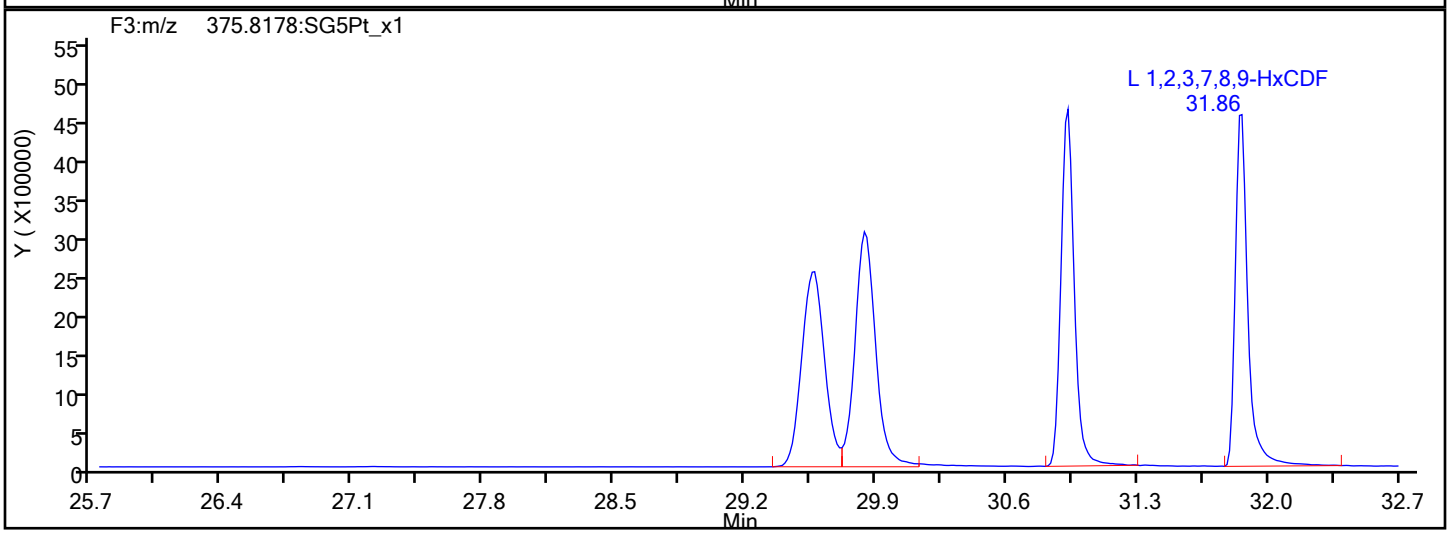

HxCDF Interference Mass

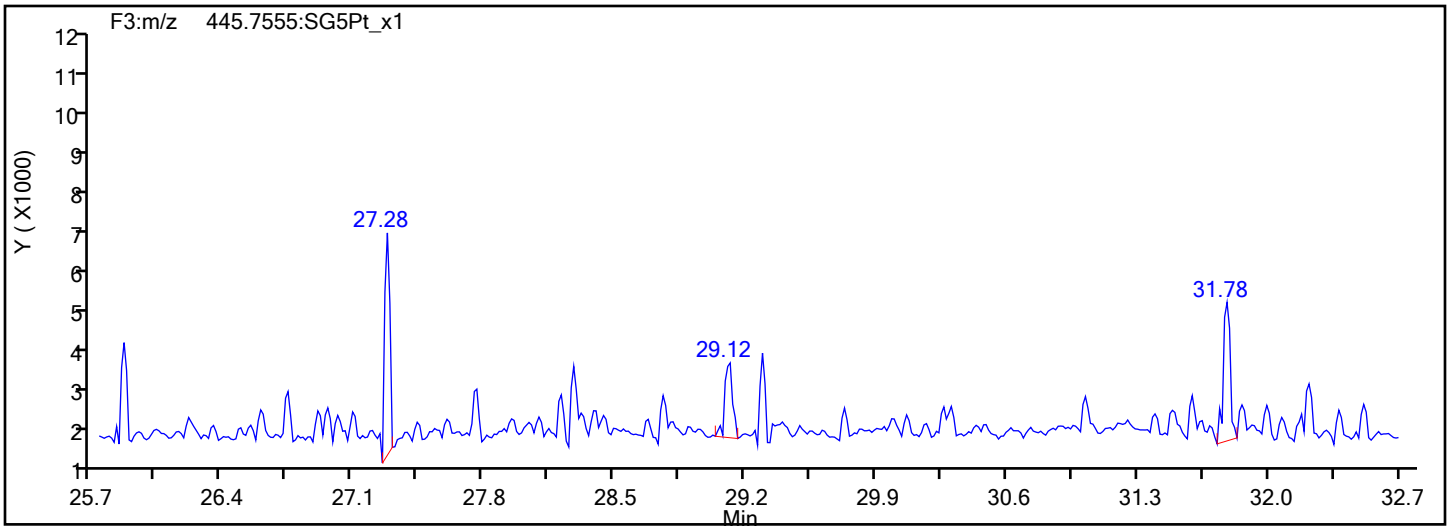

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Eurofins TestAmerica, Sacramento

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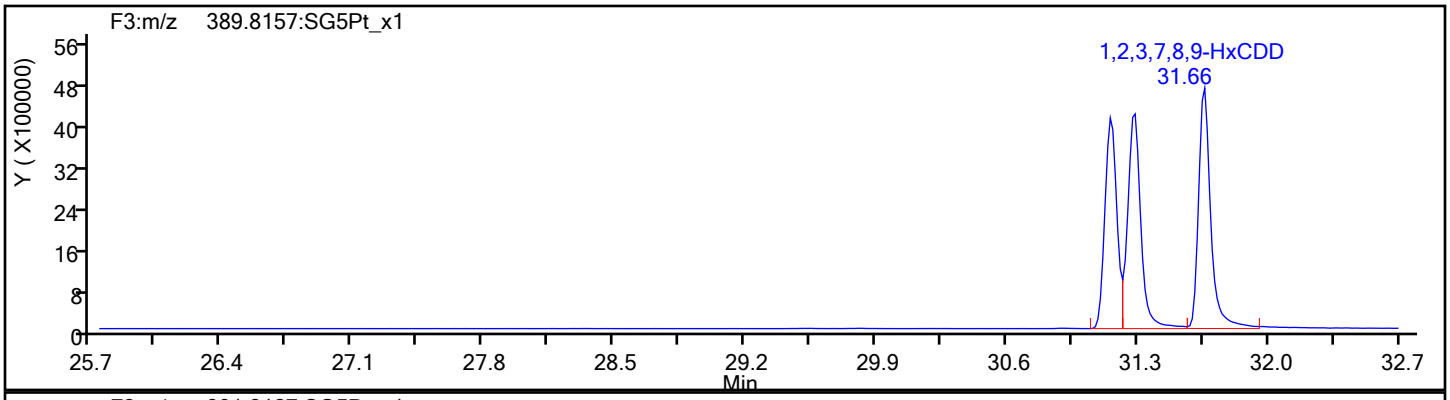

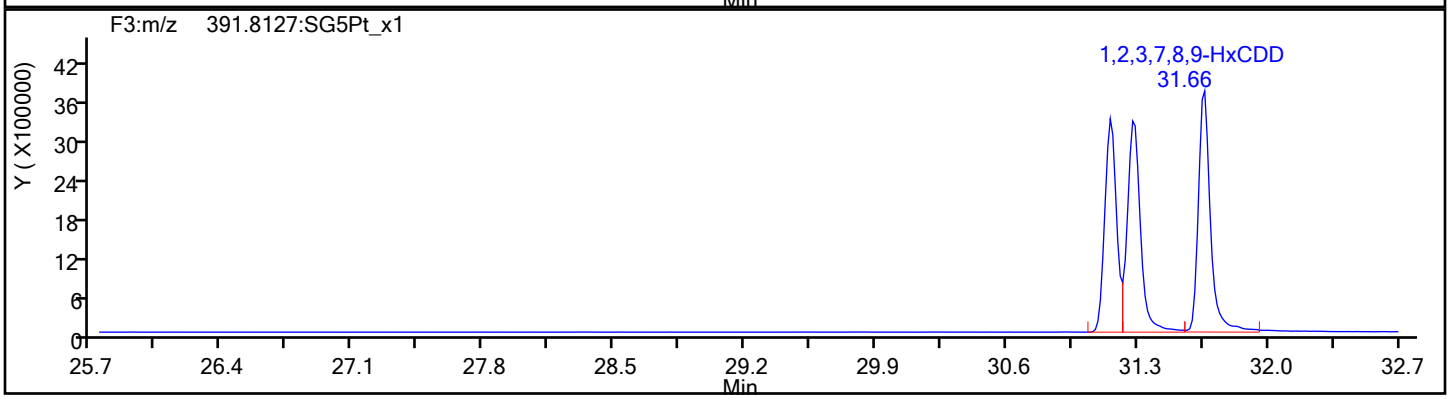

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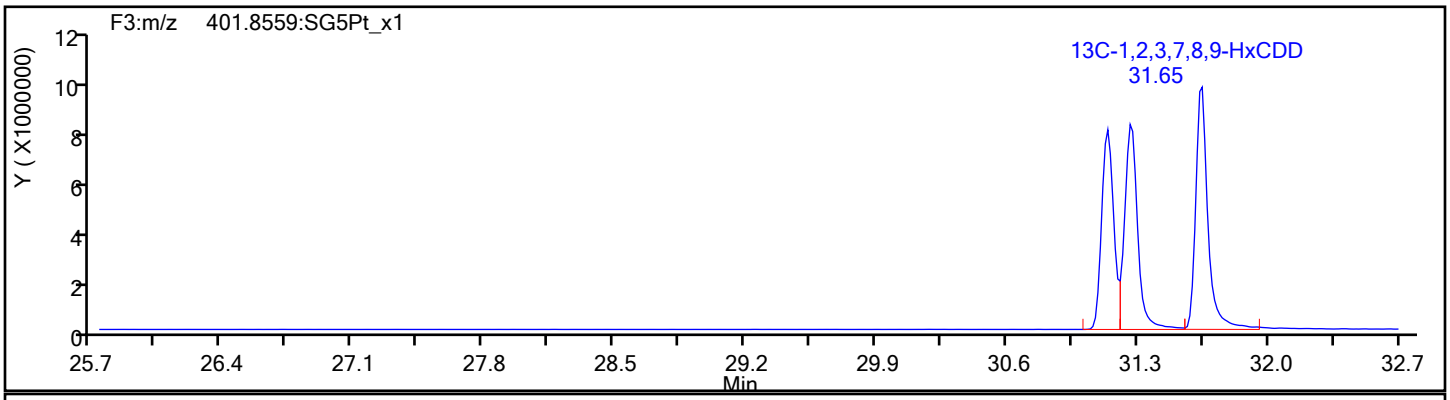

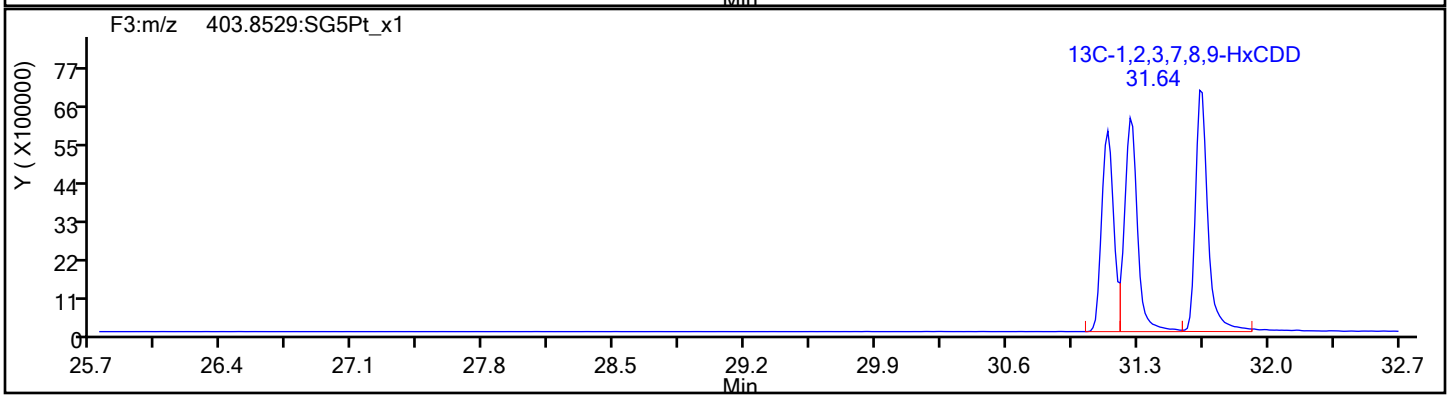

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Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

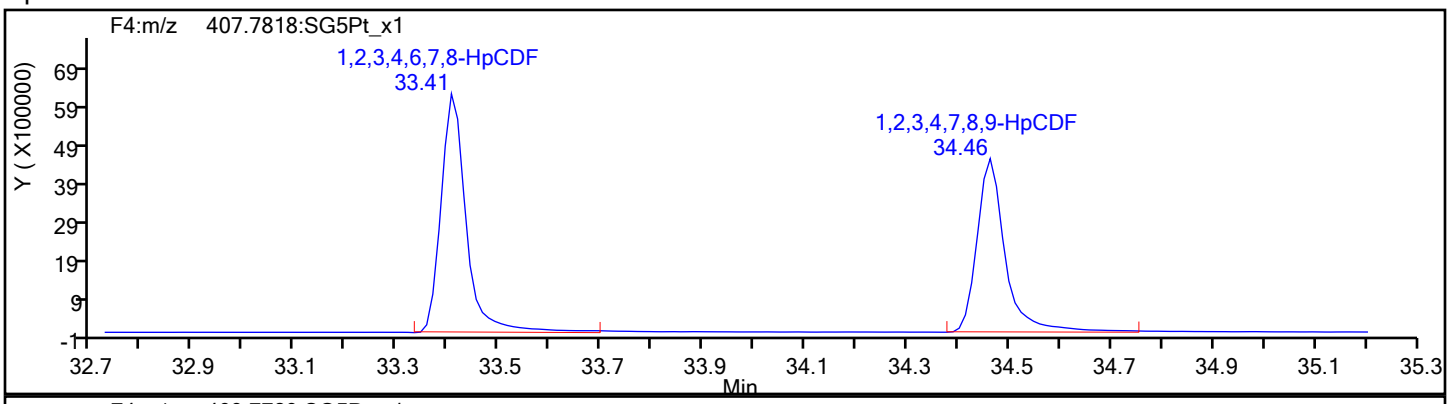

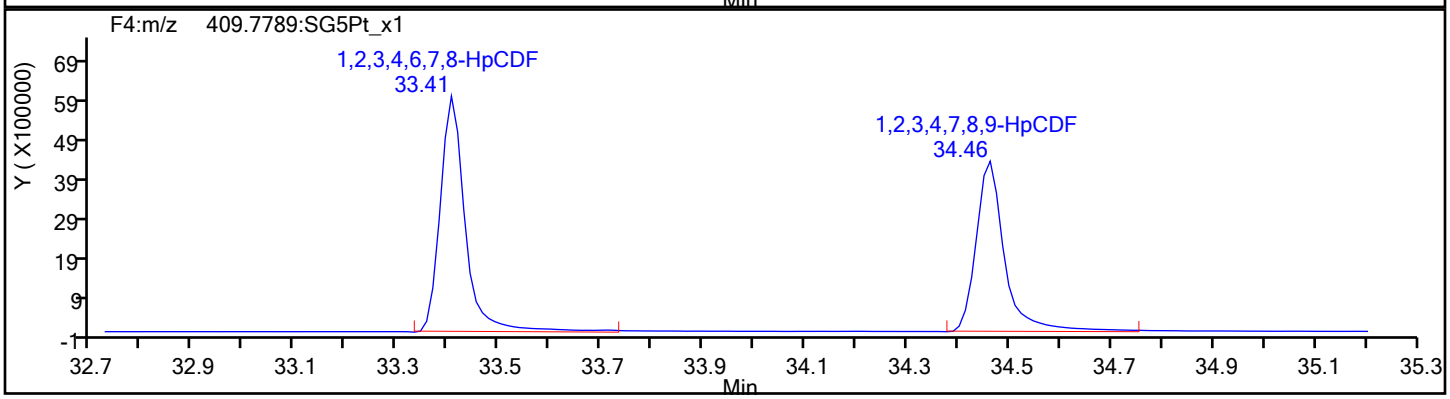

HpCDF Standards

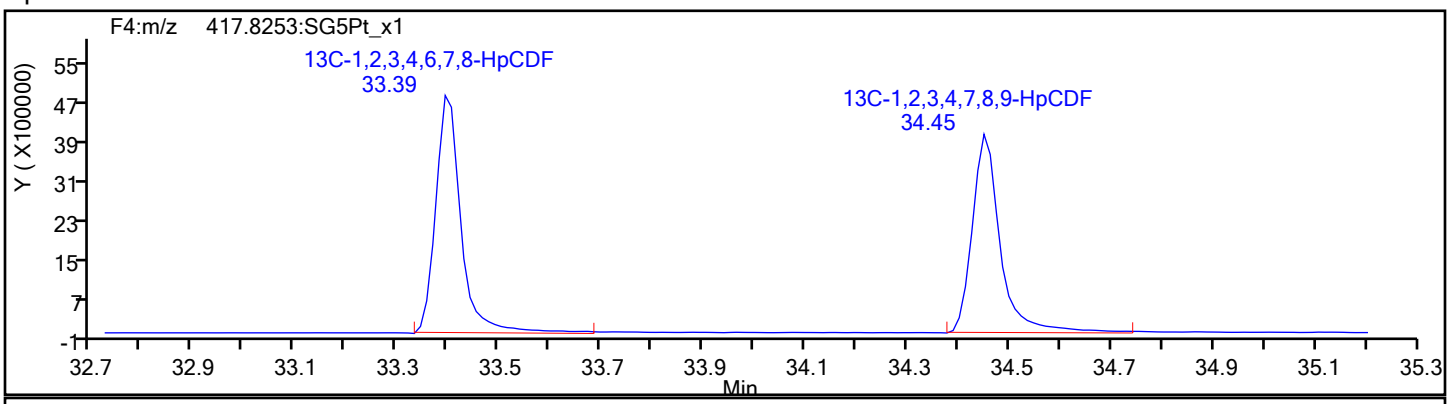

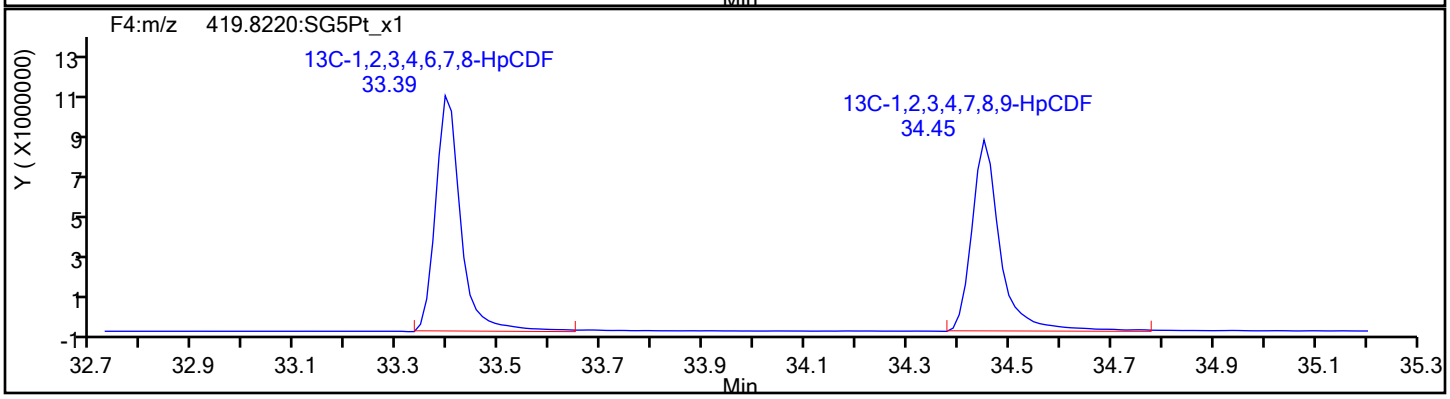

Report Date: 06-Nov-2019 09:21:03 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_2.d		
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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336302	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

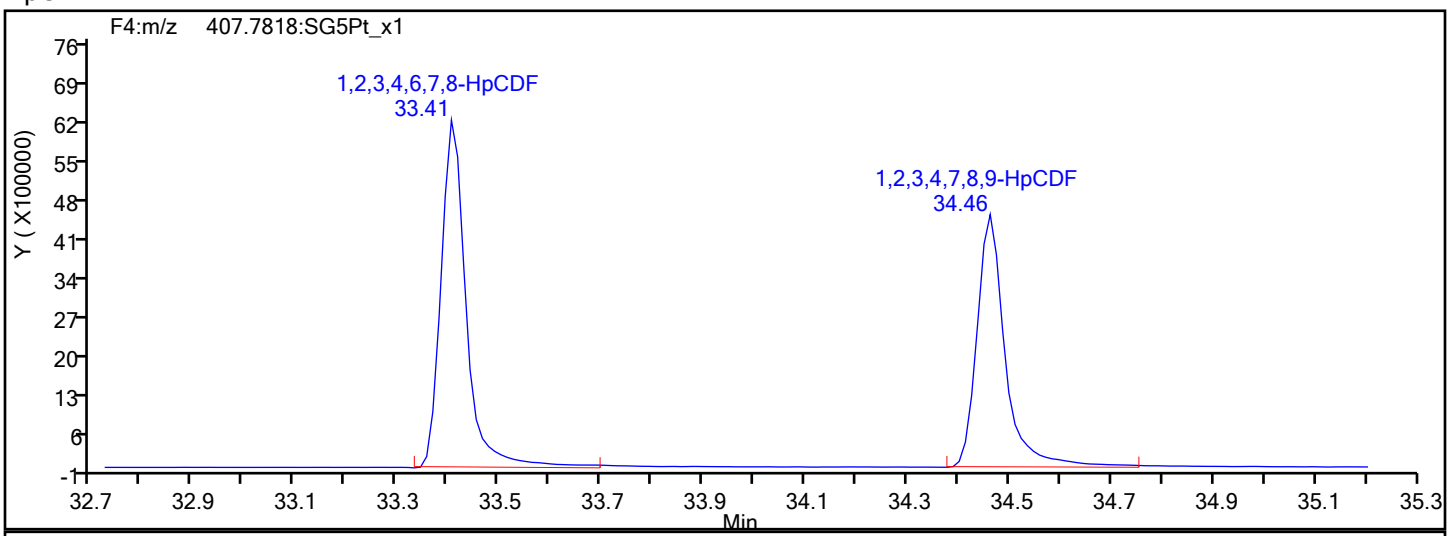

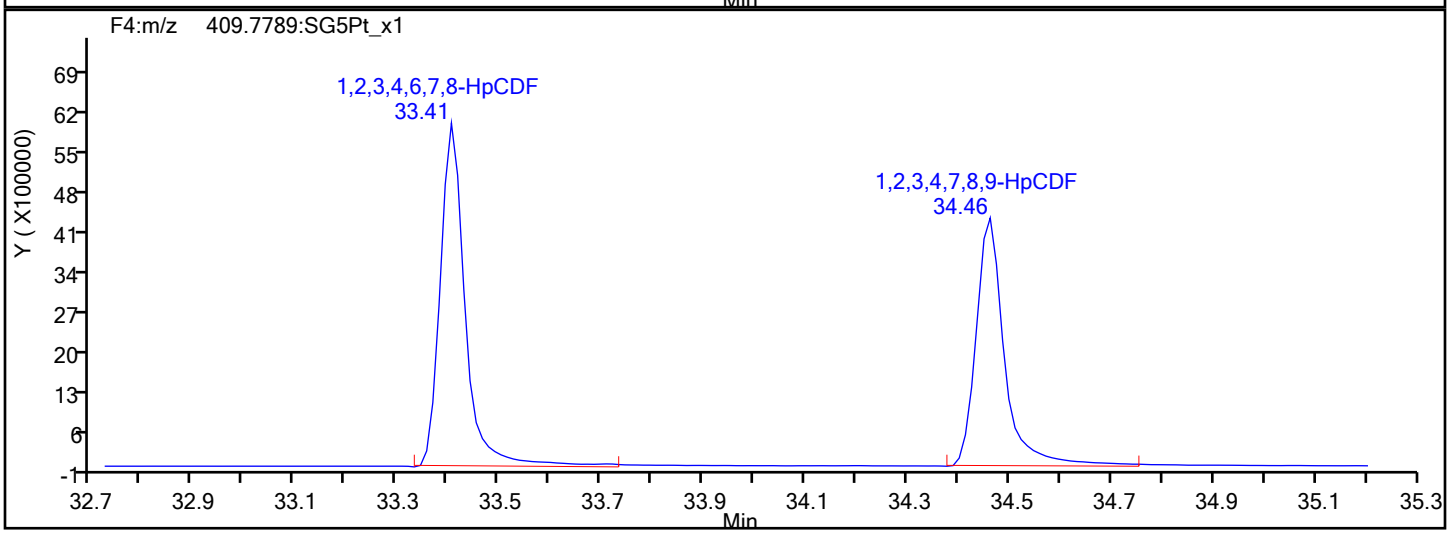

HpCDF Interference Mass

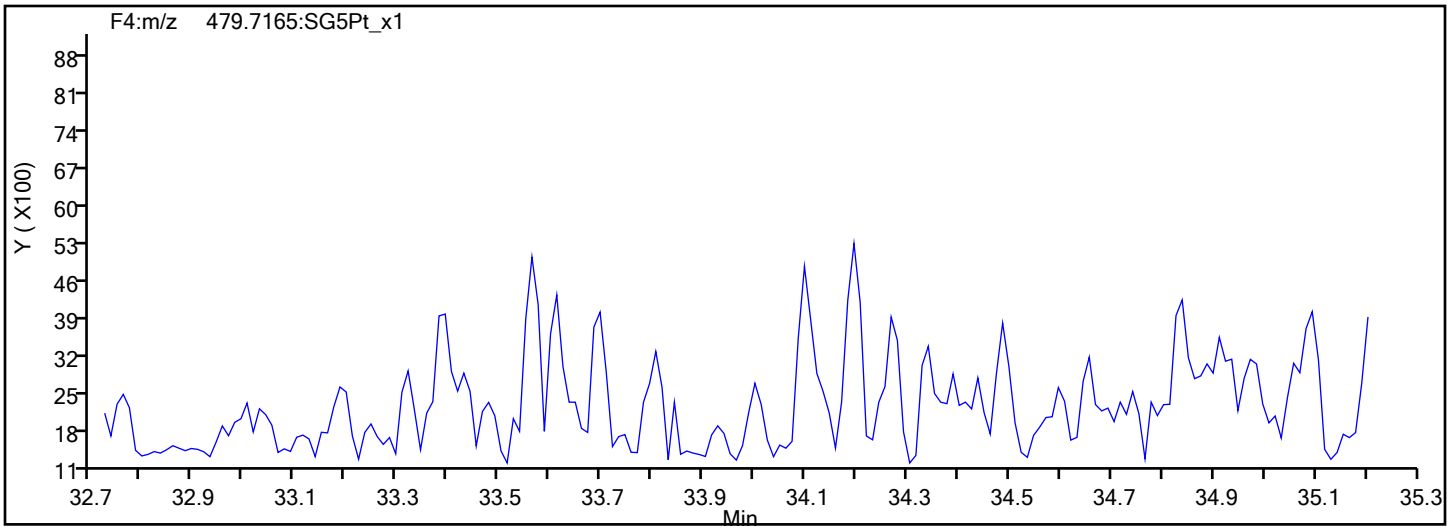

Report Date: 06-Nov-2019 09:21:03 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_2.d		
Injection Date:	05-Nov-2019 20:11:31	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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HpCDD

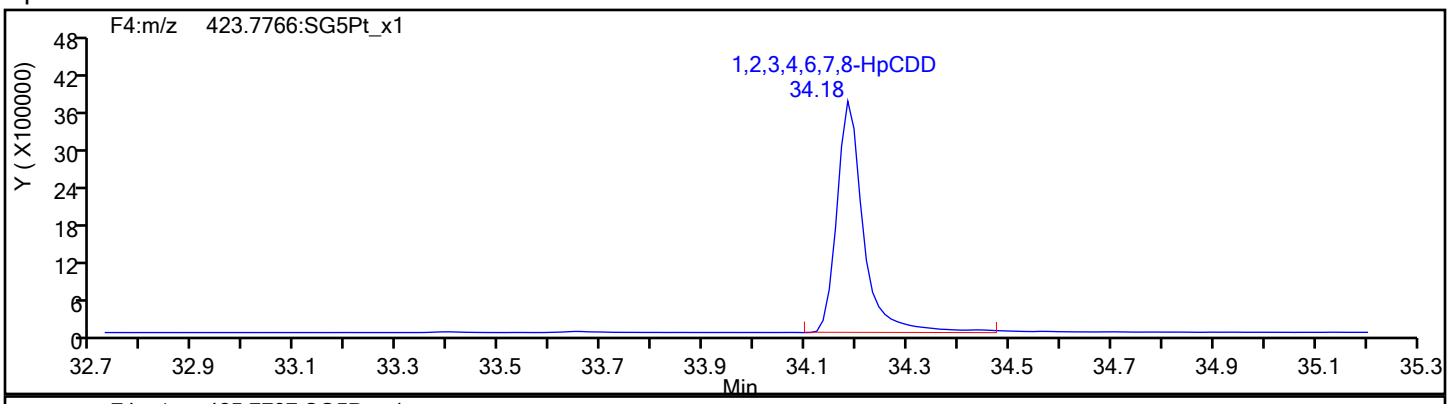

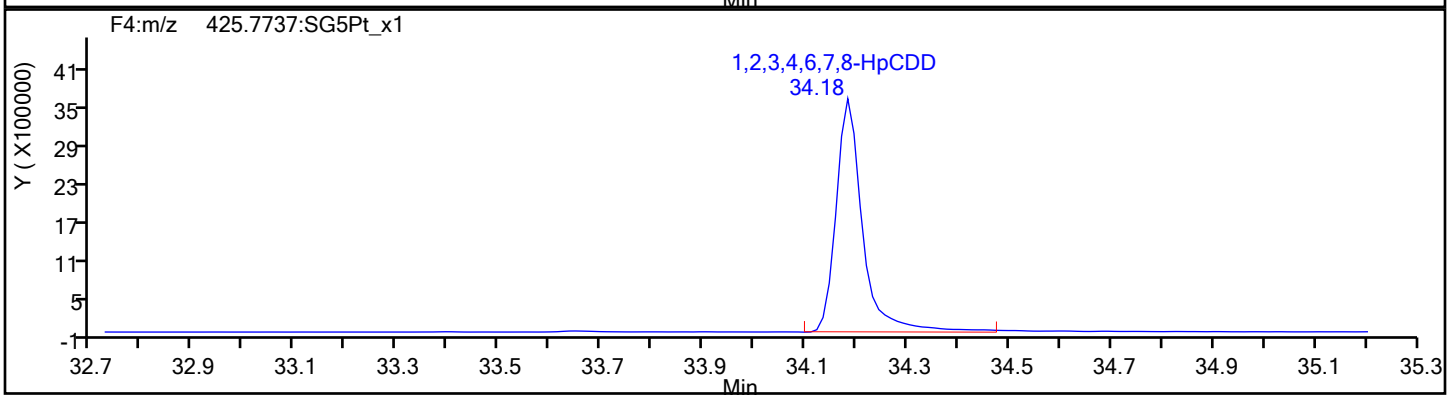

HpCDD Standards

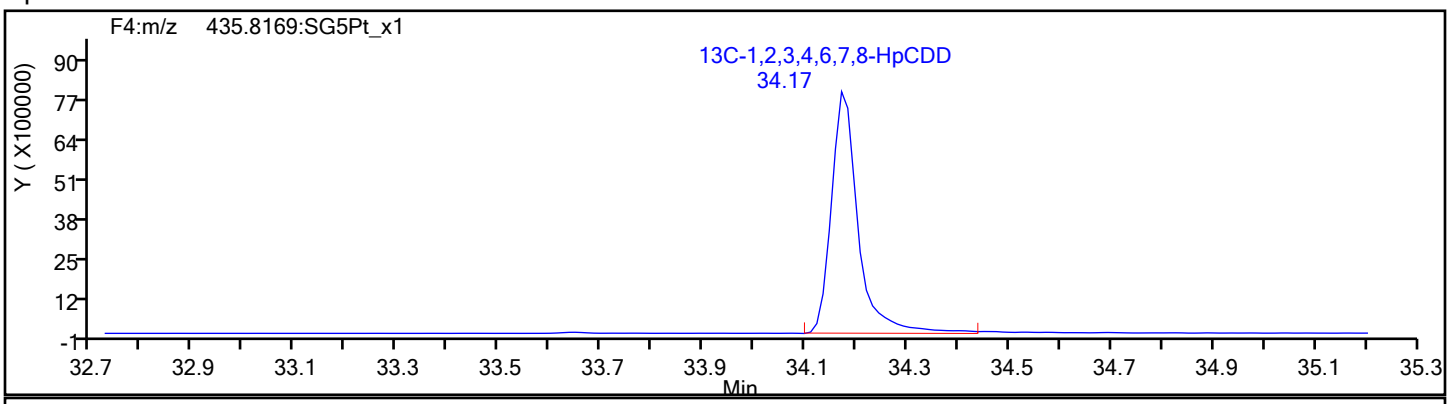

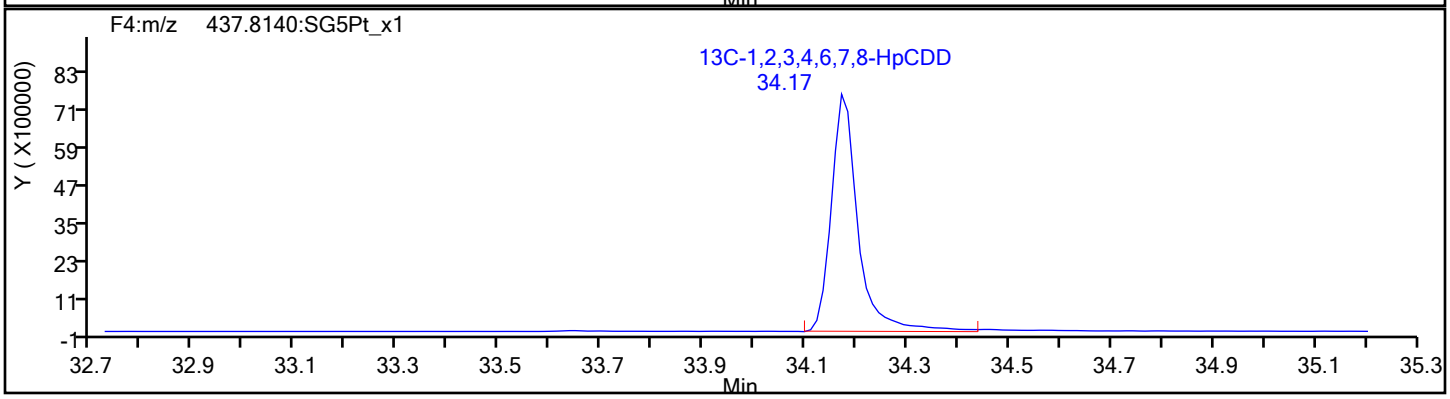

Report Date: 06-Nov-2019 09:21:03 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_2.d		
Injection Date:	05-Nov-2019 20:11:31	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336302	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

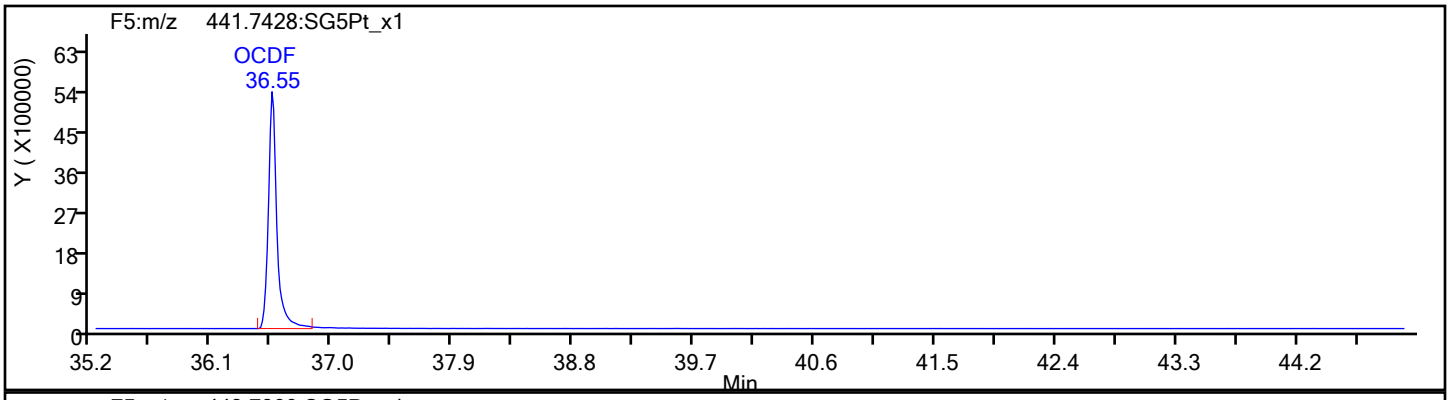

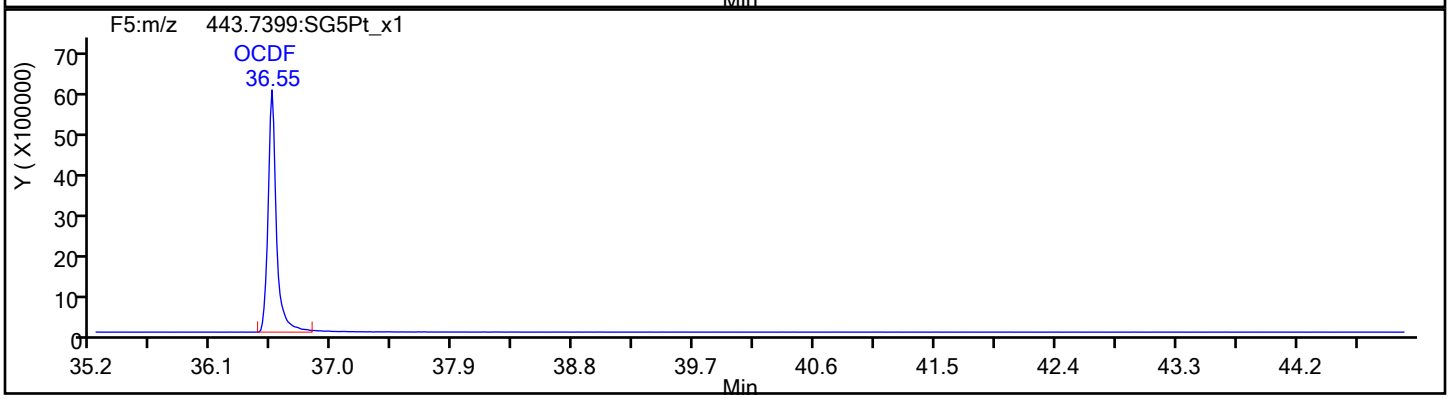

OCDF Standards

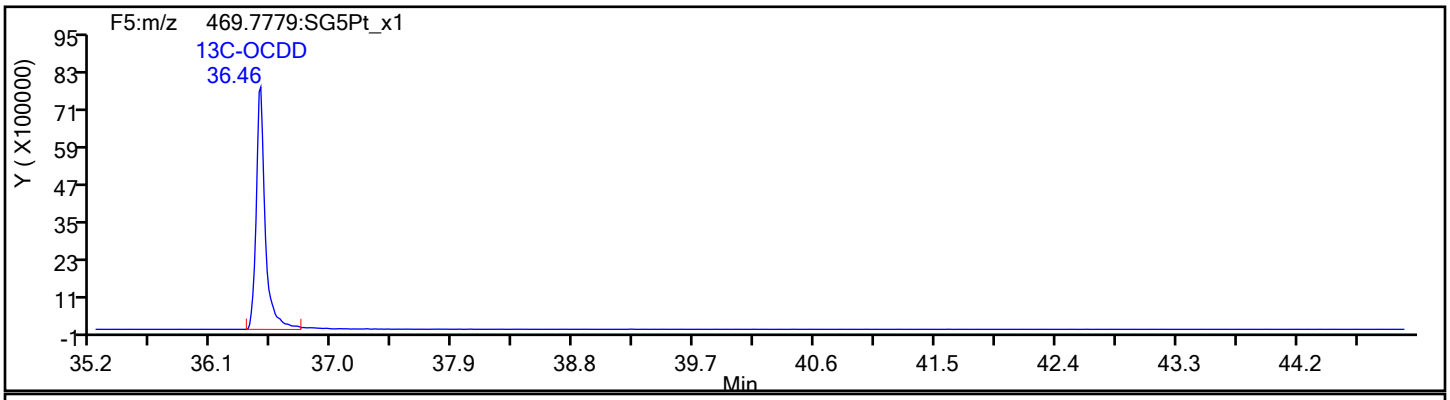

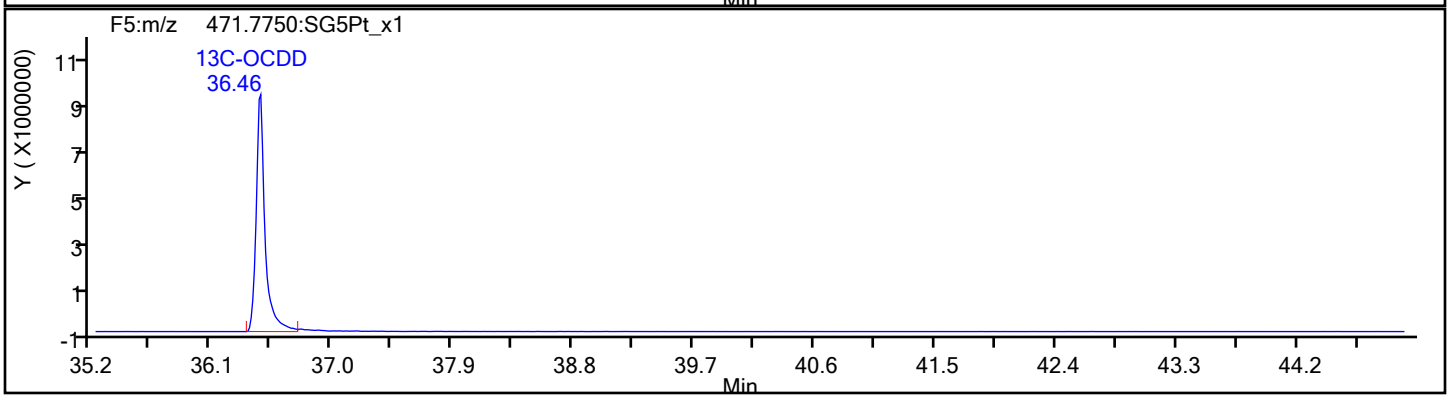

Report Date: 06-Nov-2019 09:21:03 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_2.d		
Injection Date:	05-Nov-2019 20:11:31	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336302	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

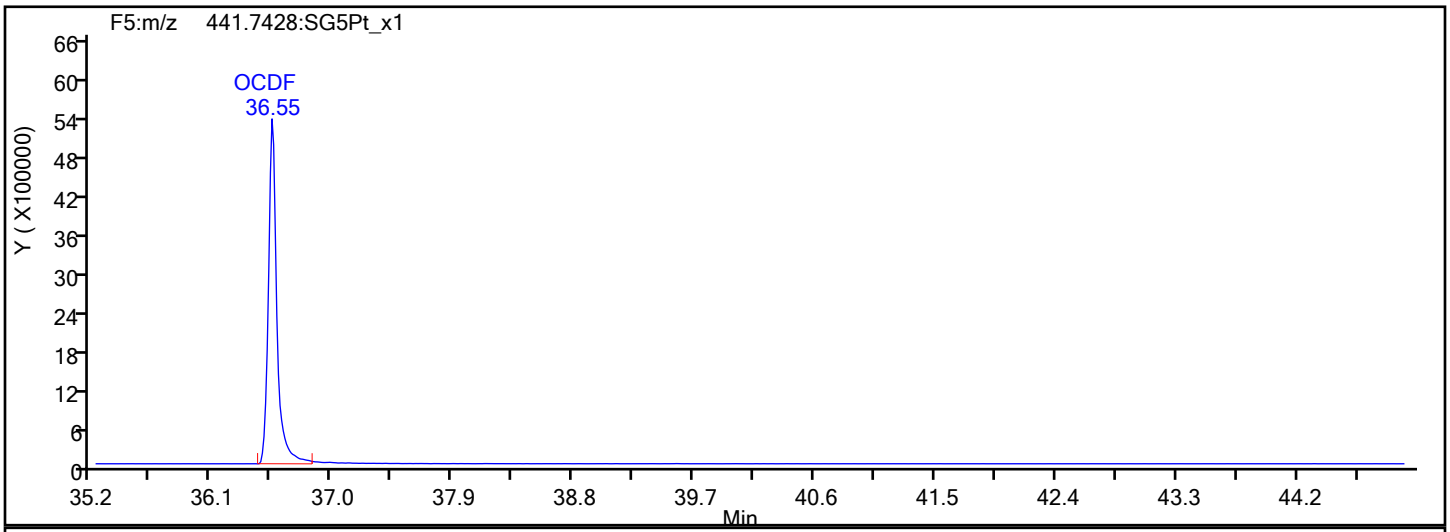

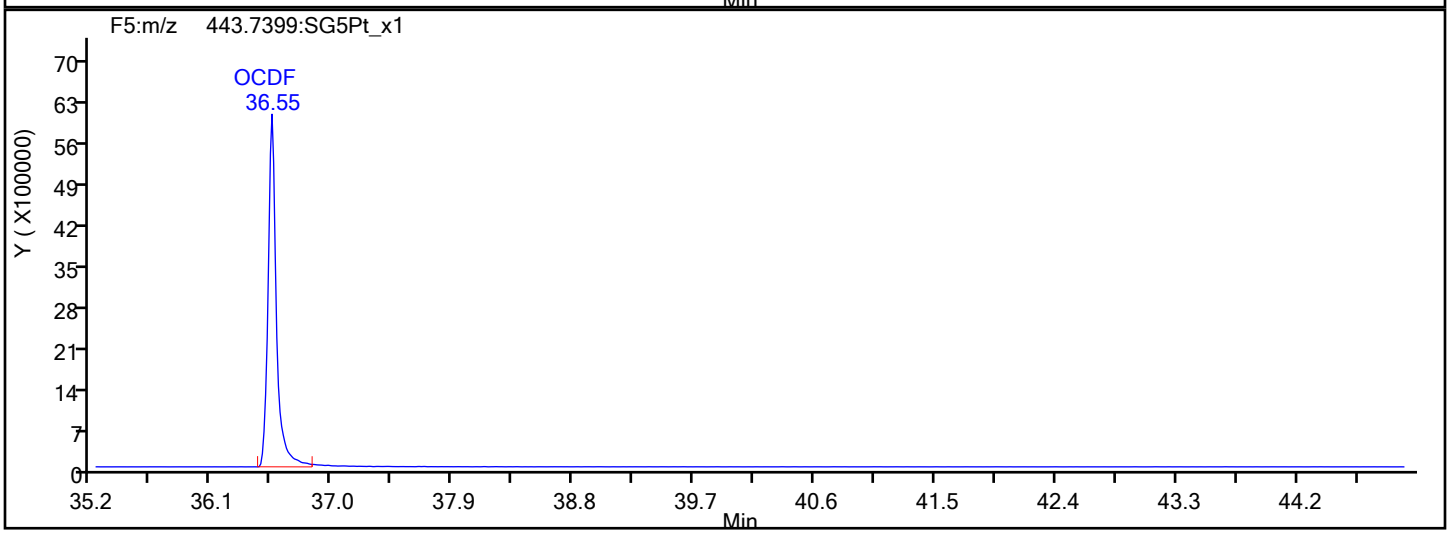

OCDF Interference Mass

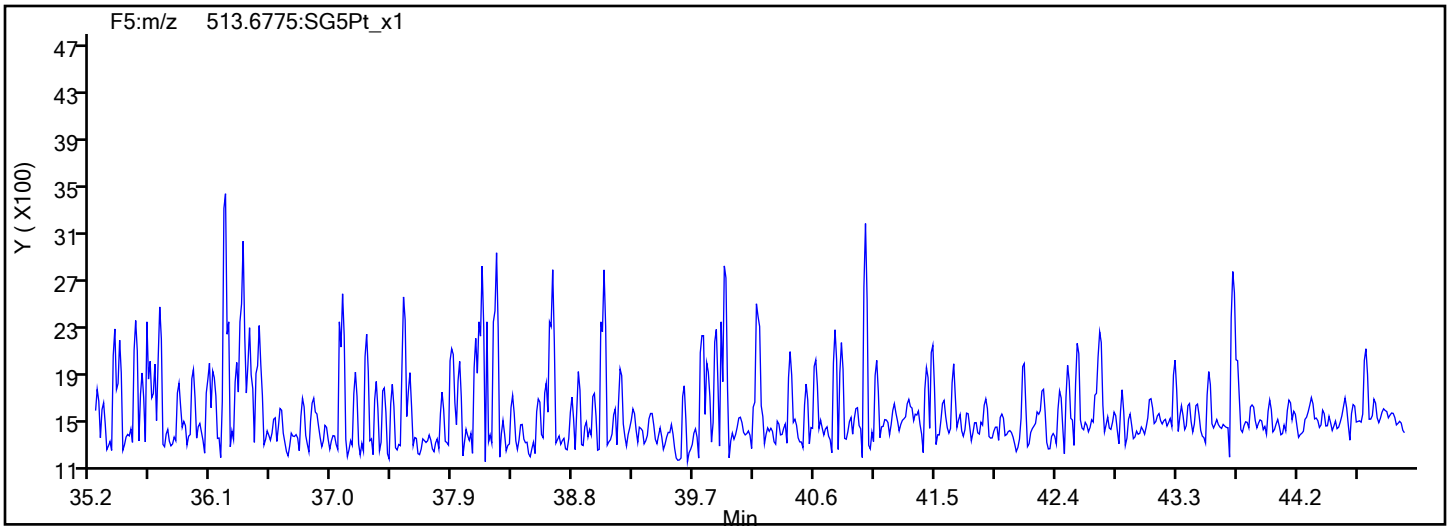

Report Date: 06-Nov-2019 09:21:03 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_2.d		
Injection Date:	05-Nov-2019 20:11:31	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336302	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

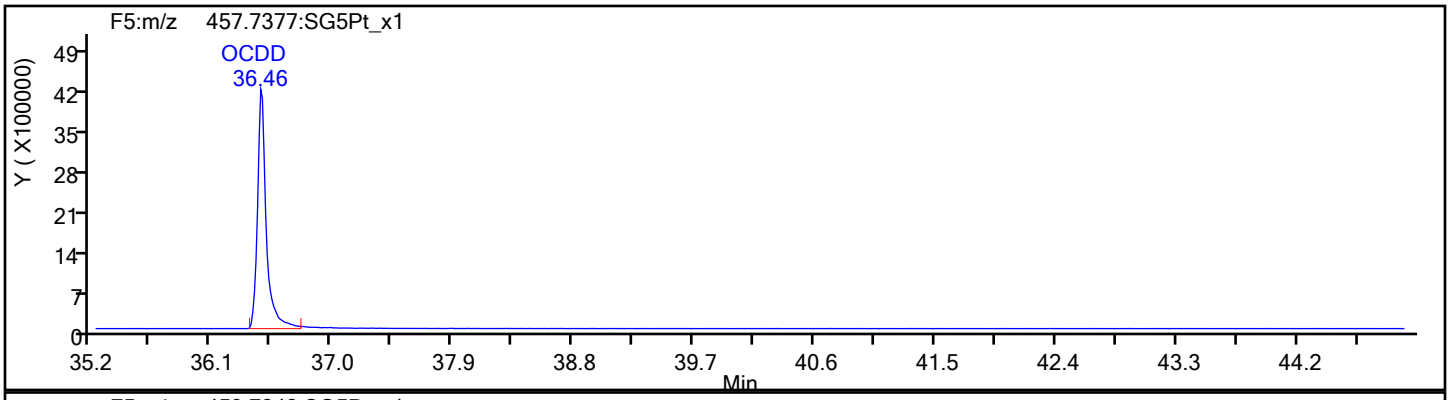

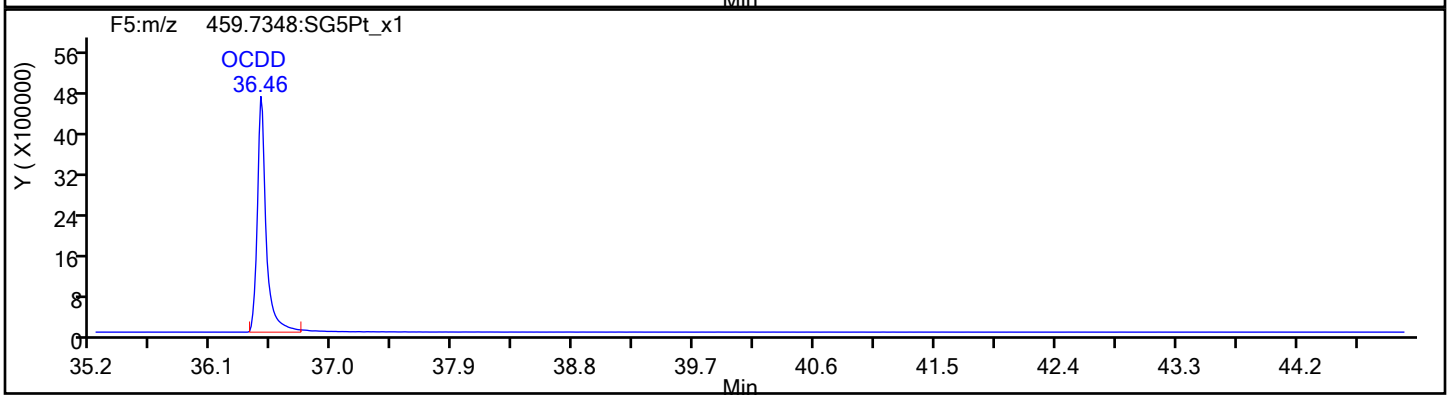

OCDD Standards

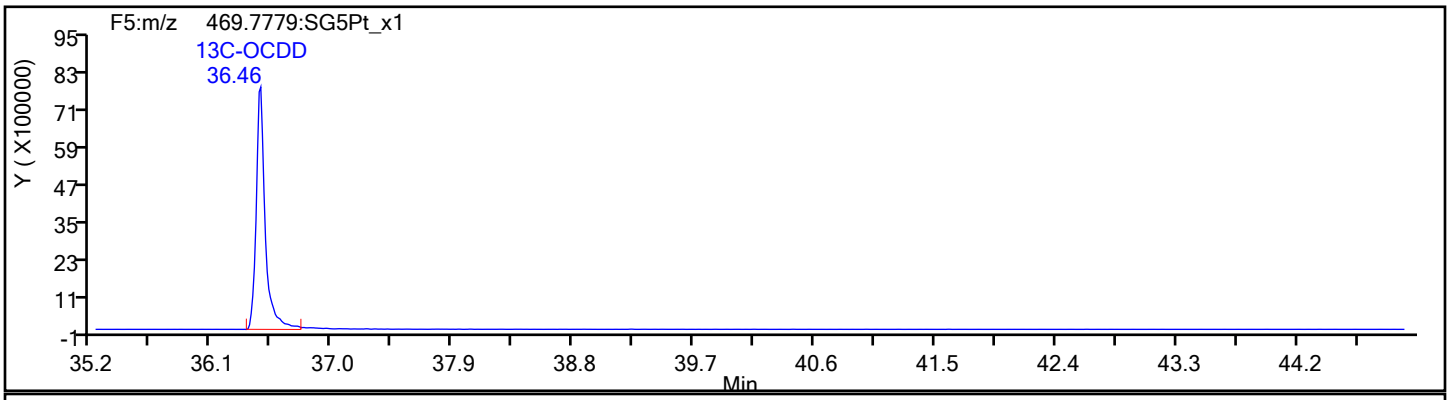

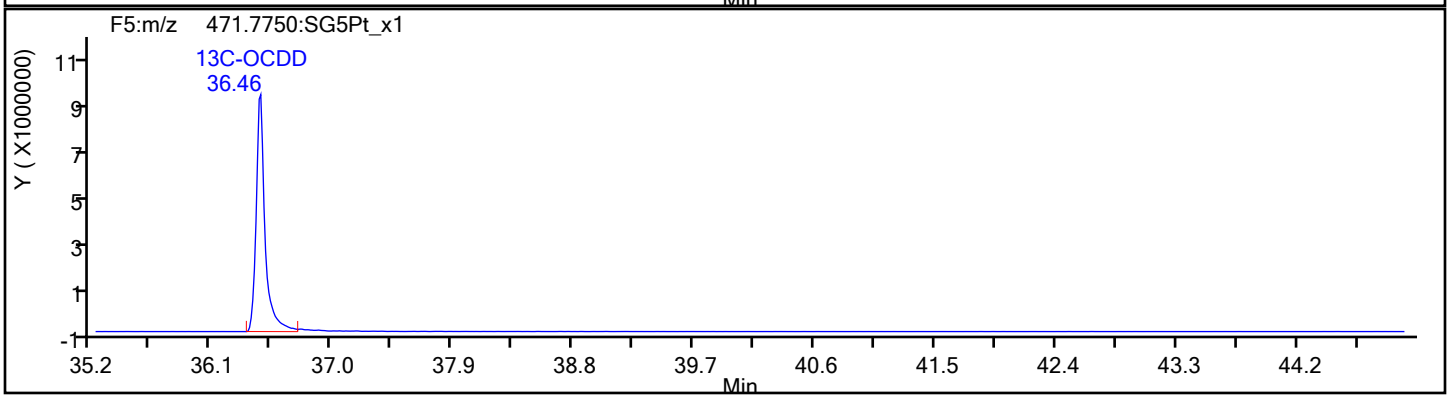

Report Date: 06-Nov-2019 09:21:03 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_2.d		
Injection Date:	05-Nov-2019 20:11:31	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336302	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

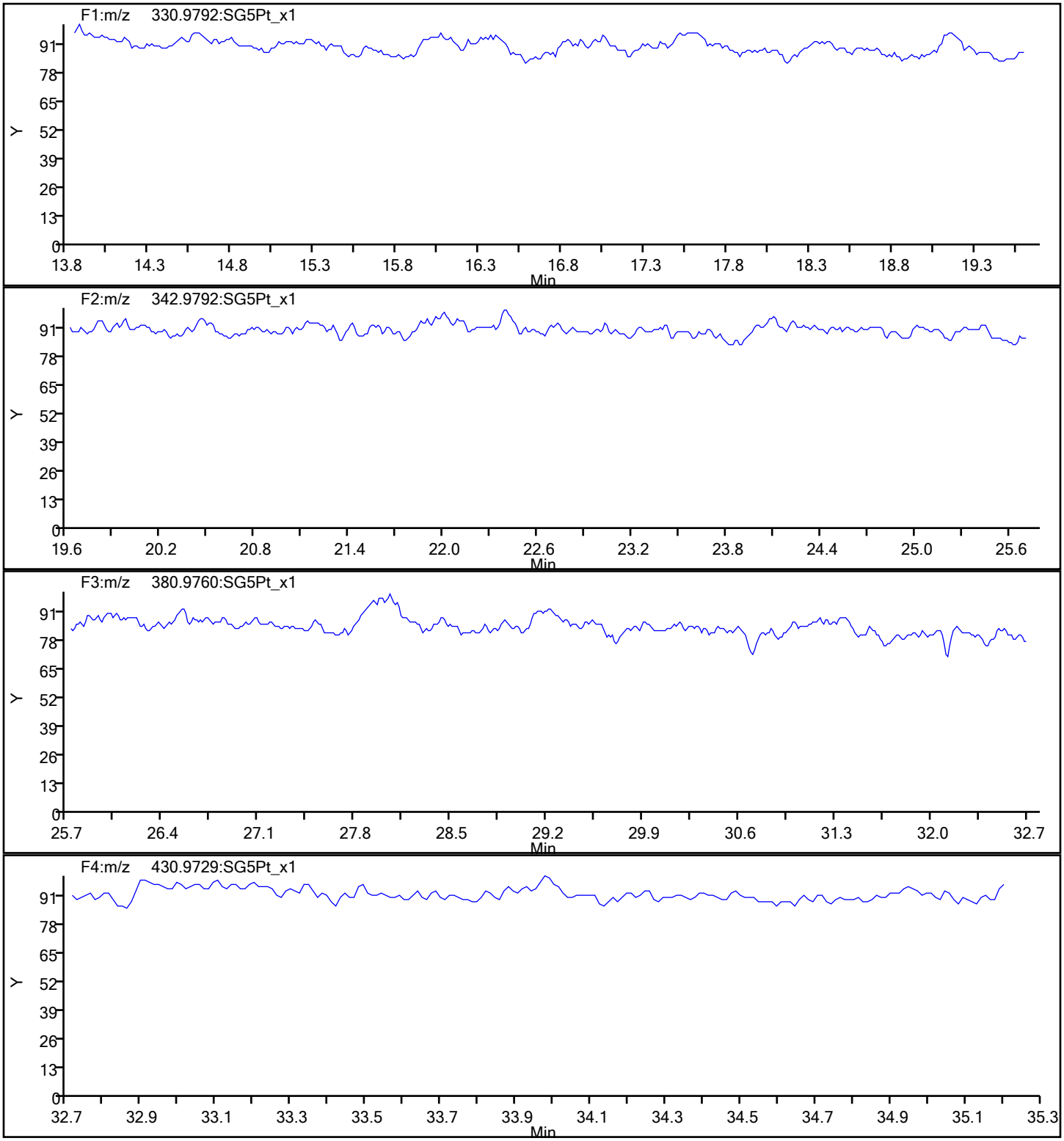

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Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_2.d		
Injection Date:	05-Nov-2019 20:11:31	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336302	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

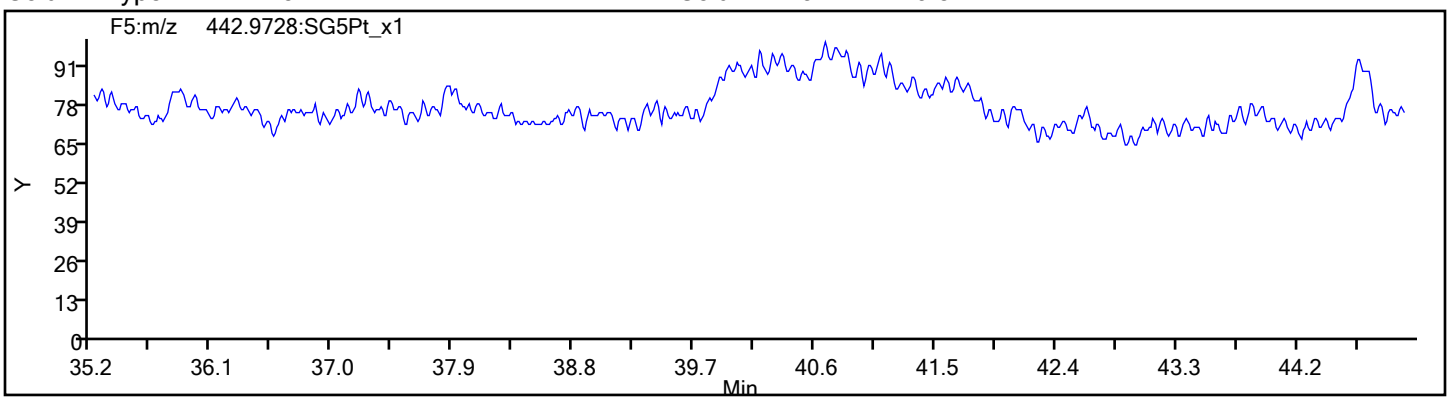

FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Lab Sample ID: ICV 320-312067/8 Calibration Date: 08/02/2019 06:03

Instrument ID: 11D2 Calib Start Date: 08/02/2019 02:52

GC Column: DB-225 ID: 0.32(mm) Calib End Date: 08/02/2019 05:25

Lab File ID: 02AU1911D2_008.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
2,3,7,8-TCDD	AveID	1.154	1.135		39.4	40.0	98	70-130
2,3,7,8-TCDF	AveID	0.8389	0.7719		36.8	40.0	92	70-130
13C-2,3,7,8-TCDD	Ave	0.9388	0.8798		93.7	100	94	82-121
13C-2,3,7,8-TCDF	Ave	1.338	1.270		94.9	100	95	71-140
37Cl4-2,3,7,8-TCDD	Ave	1.182	1.222		41.4	40.0	103	79-127

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_008.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 02-Aug-2019 06:03:41 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ICV HRDXNIC_00042
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist:

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:56:54 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:47:16

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.394	97001968	0.78	1.1E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.547	123207943	0.74	1.3379	94.9	94.9	0.6094	0.6094	94.93	
2,3,7,8-TCDF	16.574	38039883	0.78	0.8389	36.8	36.8	0.1052	0.1052	92.01	
D 13C-2,3,7,8-TCDD	15.106	85337698	0.79	0.9388	93.7	93.7	0.3453	0.3453	93.71	
2,3,7,8-TCDD	15.120	38758960	0.76	1.1538	39.4	39.4	0.1979	0.1979	98.41	
$ 37Cl4-2,3,7,8-TCDD	15.120	47417283		1.1816	41.4	41.4	0.1032	0.1032	103	
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNIC_00042 Amount Added: 1.00 Units: mL

Report Date: 02-Aug-2019 11:57:05 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_008.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 02-Aug-2019 06:03:41 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ICV HRDXNIC_00042
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist:

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:56:54 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:47:16

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.394	15.416	-1		42407295	9957761	17234	43085	578		
333.9339	15.394	15.416	-1		54594673	12831179	12314	30785	1042	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.547	16.580	-2	1.075	52595032	11688678	51826	129565	226		
317.9389	16.547	16.580	-2	1.075	70612911	15460441	22495	56237	687	0.74(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.574	16.599	-1	1.002	16681516	3535451	3682	9205	960		
305.8987	16.574	16.599	-1	1.002	21358367	4522824	5899	14747	767	0.78(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.106	15.136	-2	0.981	37657541	9362808	17234	43085	543		
333.9339	15.106	15.136	-2	0.981	47680157	11686095	12314	30785	949	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.120	15.156	-2	1.001	16757833	4095456	8475	21187	483		
321.8936	15.120	15.156	-2	1.001	22001127	5354648	10746	26865	498	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.120	15.158	-2	0.982	47417283	11432123	11111	27777	1029		

Total 2378-Chlorinated Dioxins & Furans
0.0 0

Reagents:

HRDXNIC_00042 Amount Added: 1.00 Units: mL

Report Date: 02-Aug-2019 11:57:05 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_008.d		
Injection Date:	02-Aug-2019 06:03:41	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	8
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

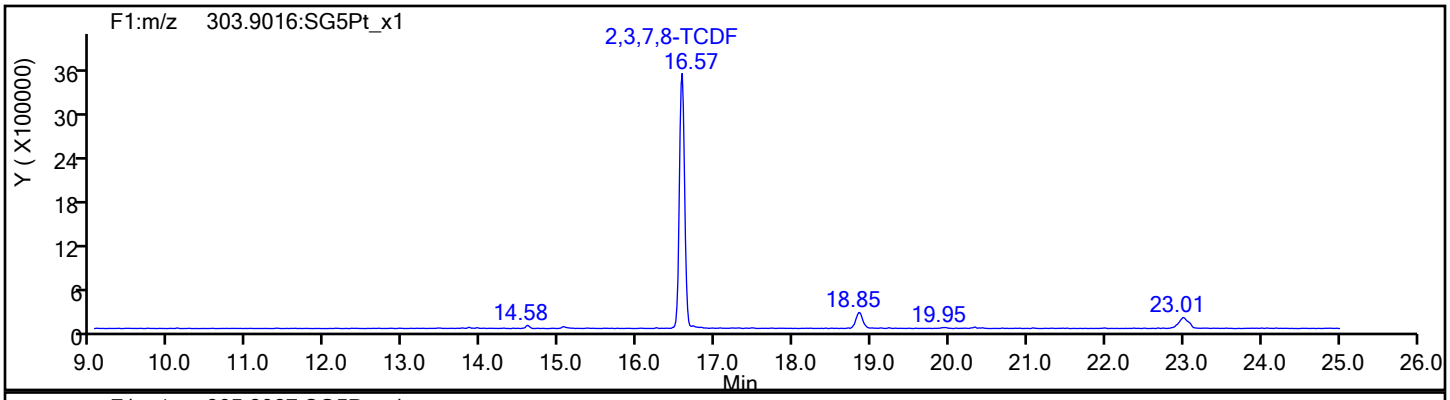

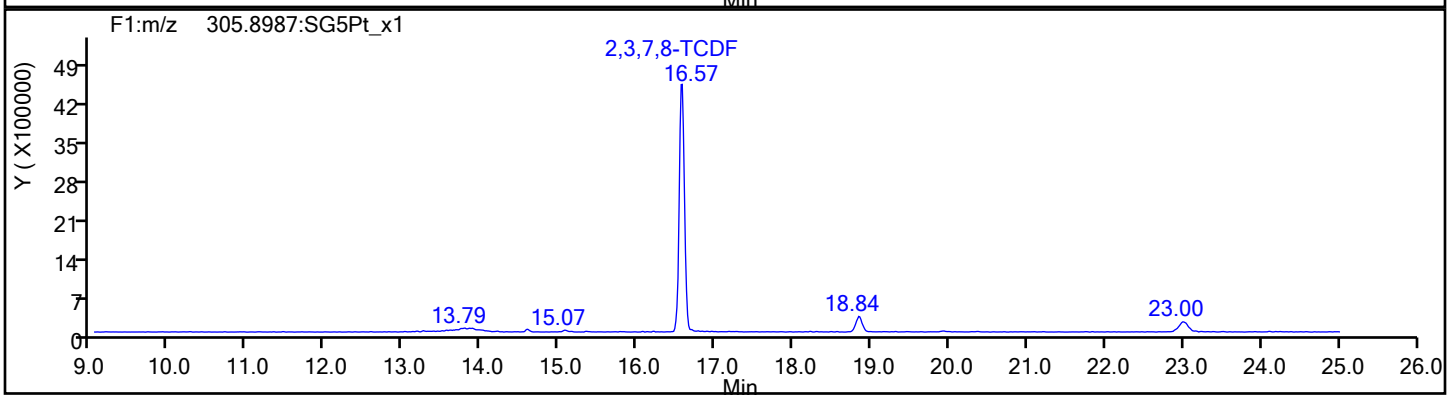

TCDF Standards

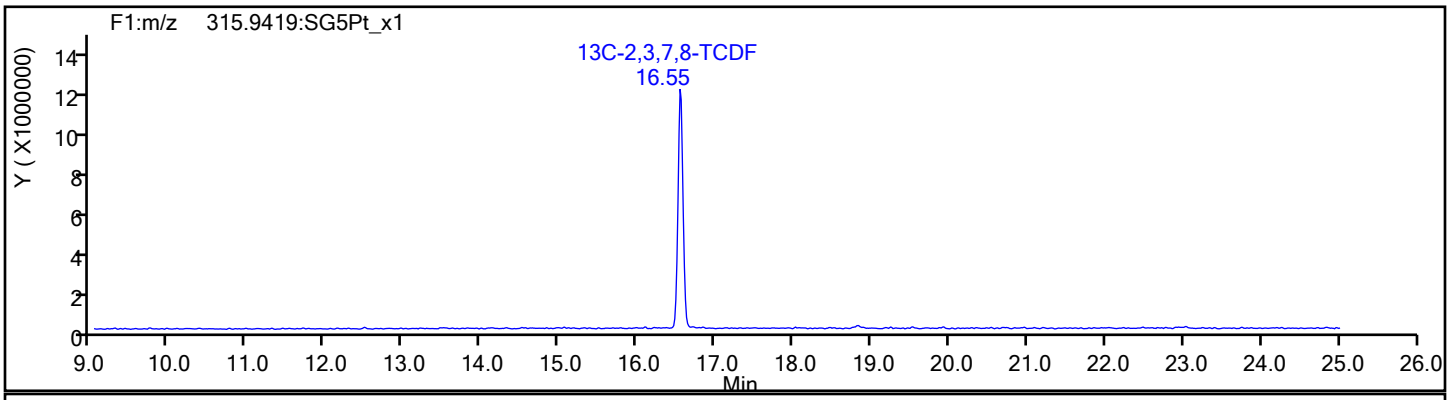

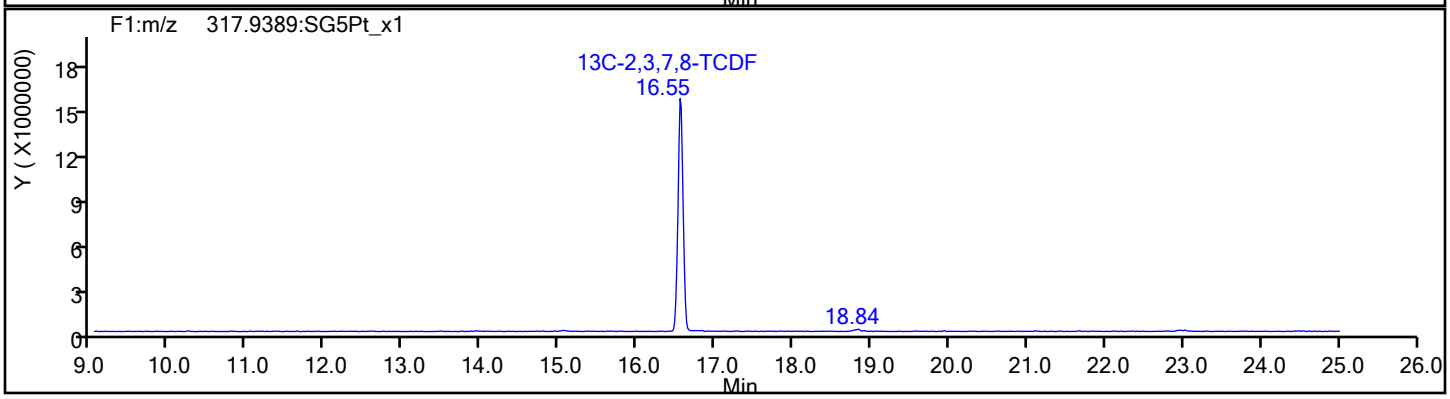

Report Date: 02-Aug-2019 11:57:05 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_008.d		
Injection Date:	02-Aug-2019 06:03:41	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	8
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

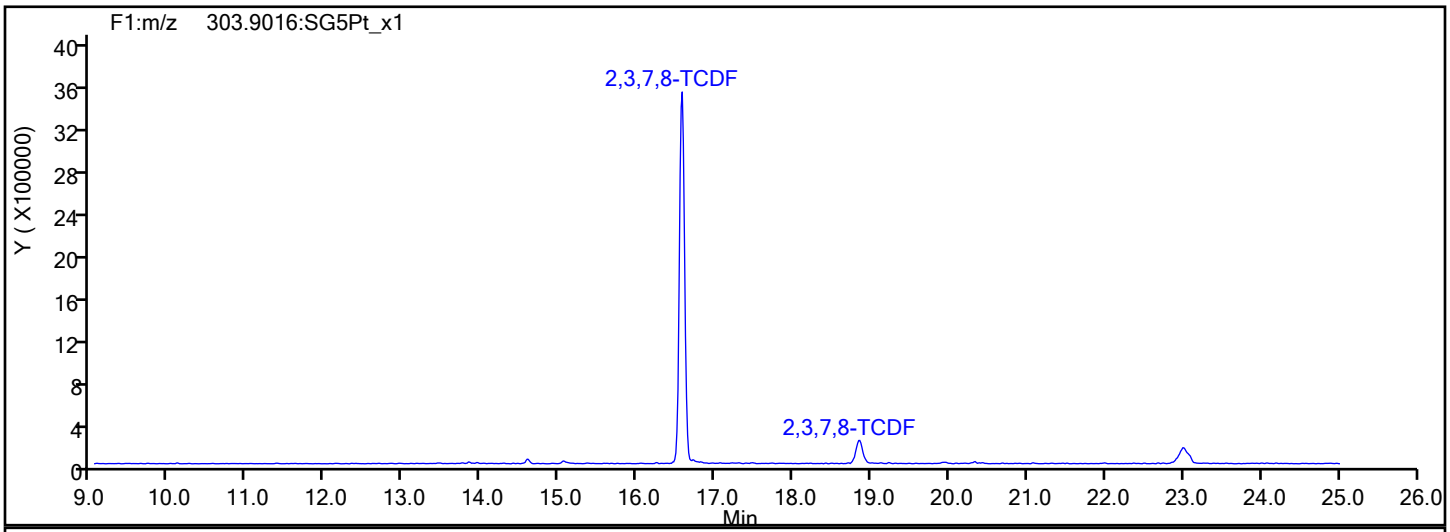

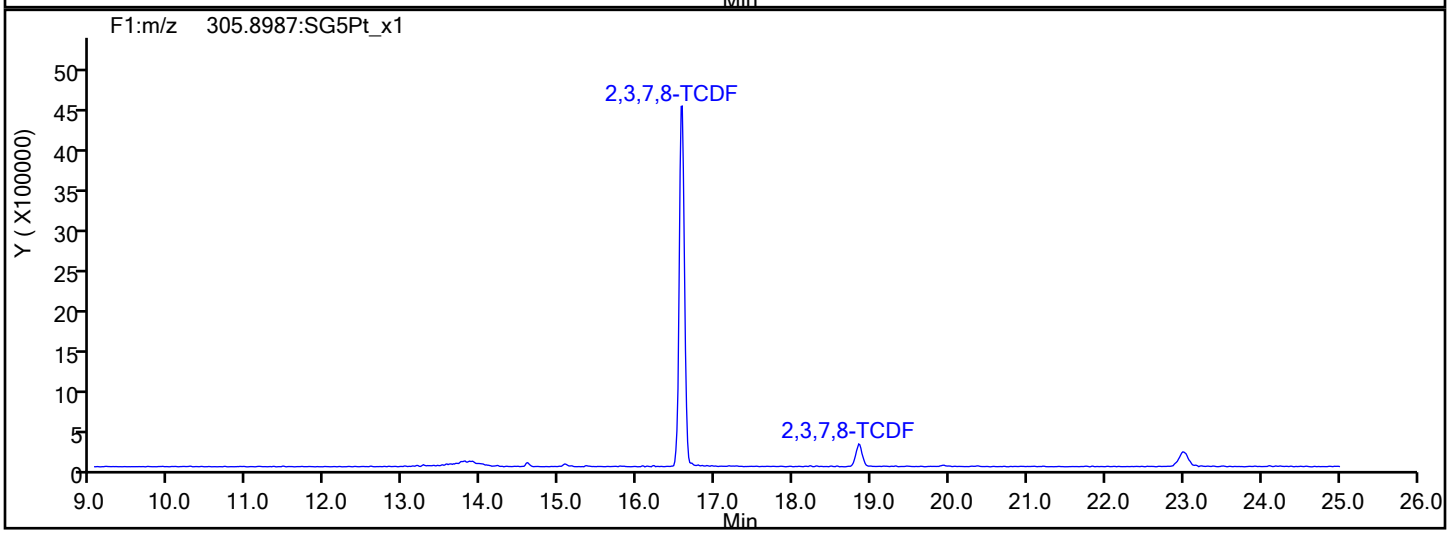

TCDF Interference Mass

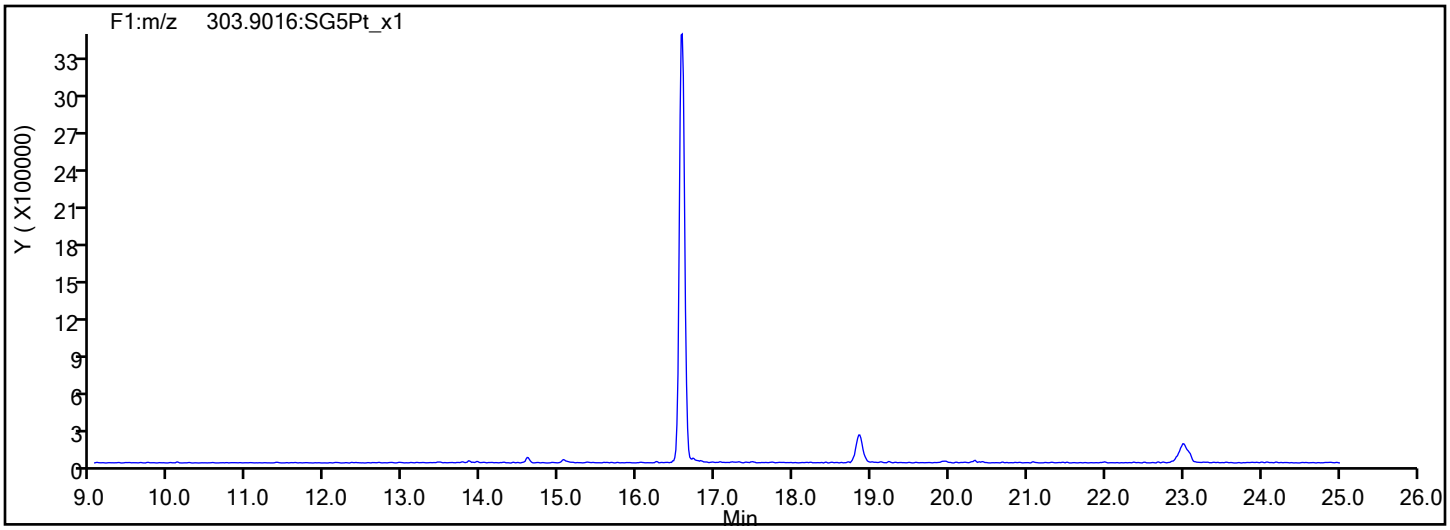

Report Date: 02-Aug-2019 11:57:05 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_008.d		
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Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	8
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

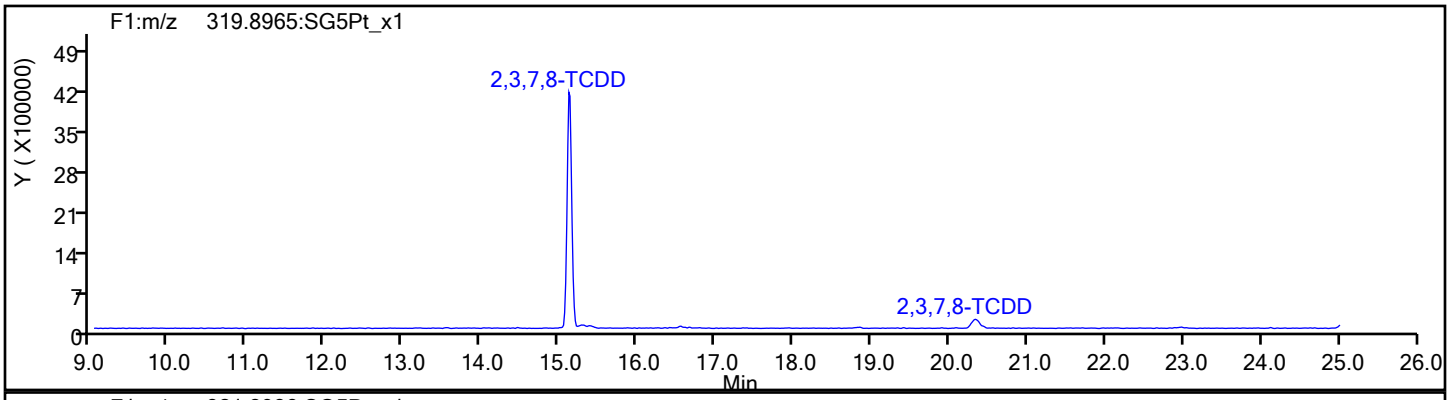

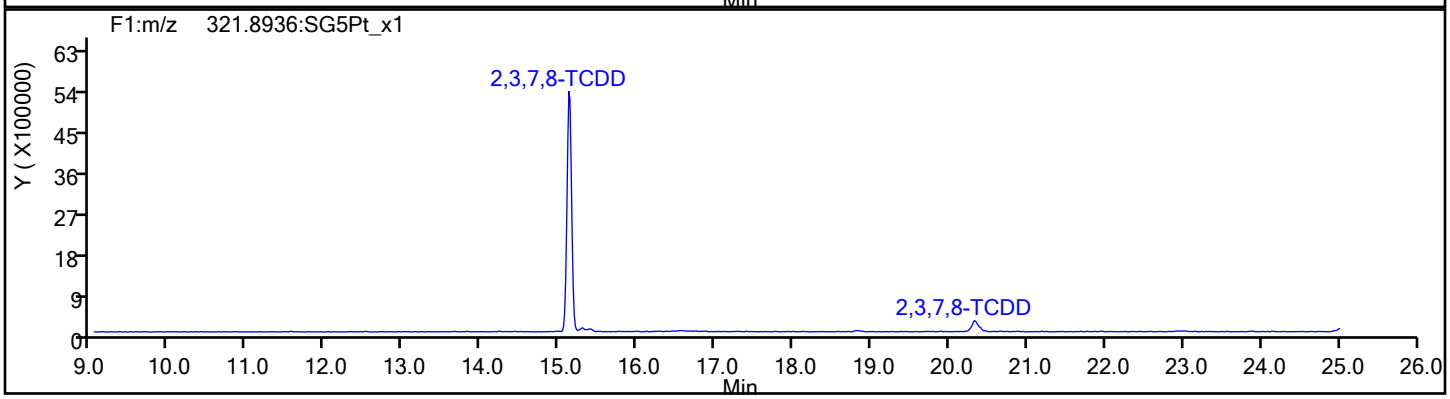

TCDD Standards

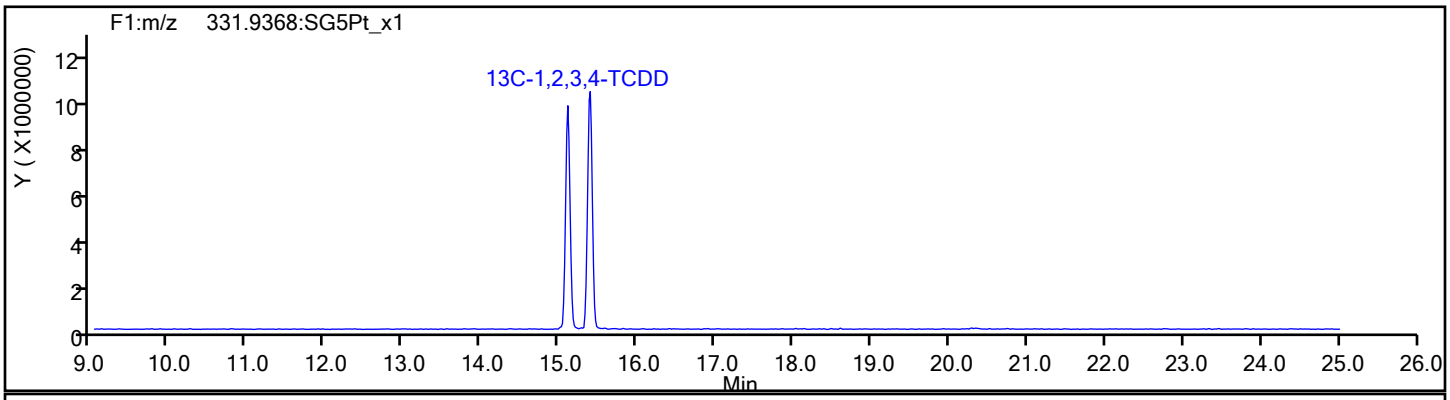

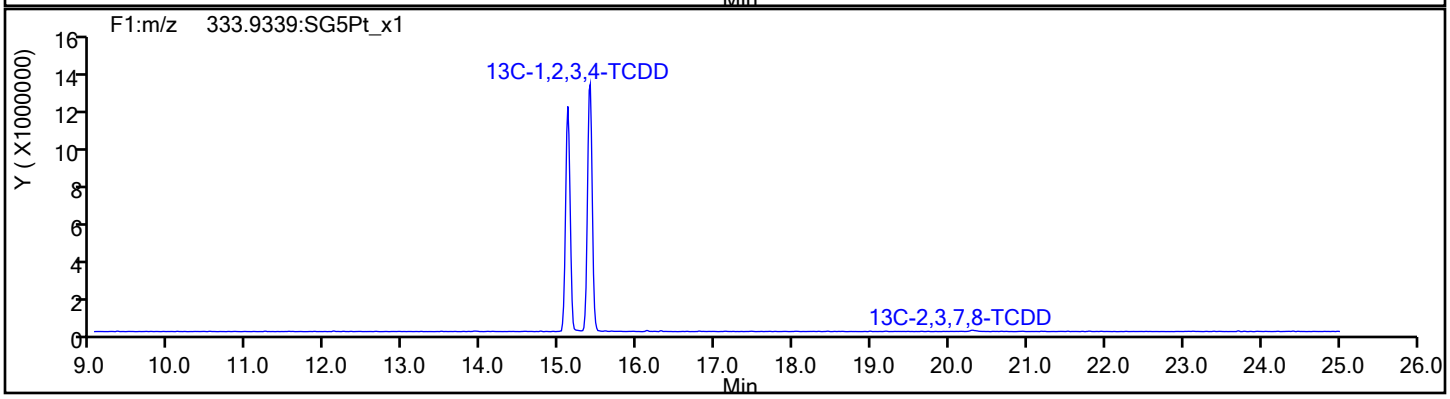

Report Date: 02-Aug-2019 11:57:05 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_008.d		
Injection Date:	02-Aug-2019 06:03:41	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	8
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

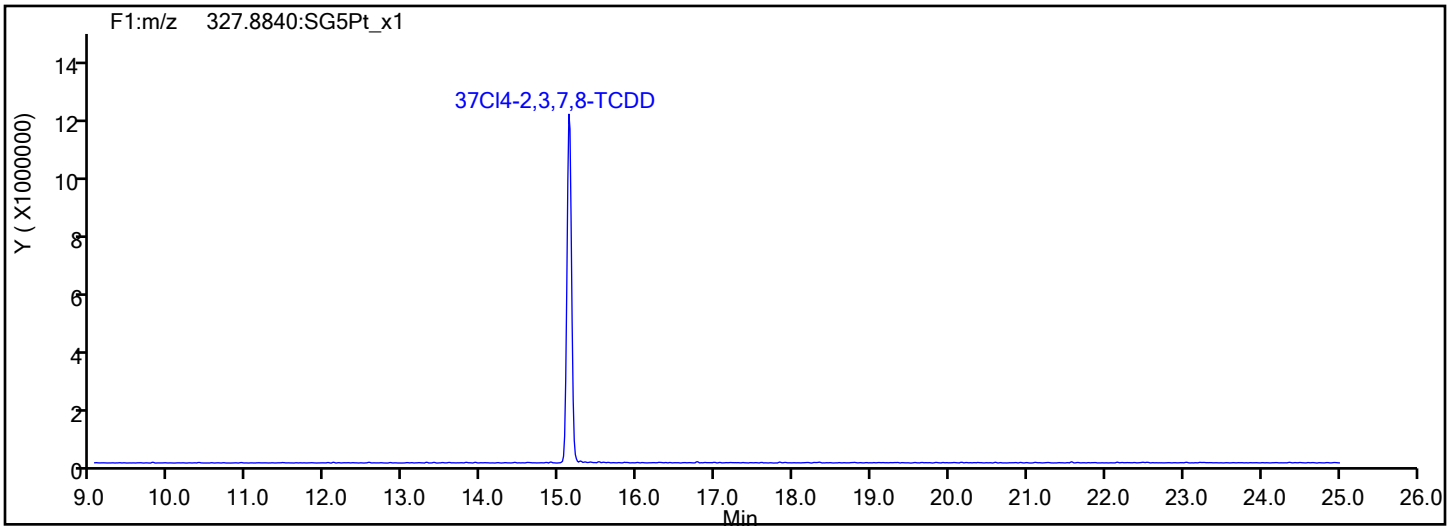

37Cl4-TCDD Standards

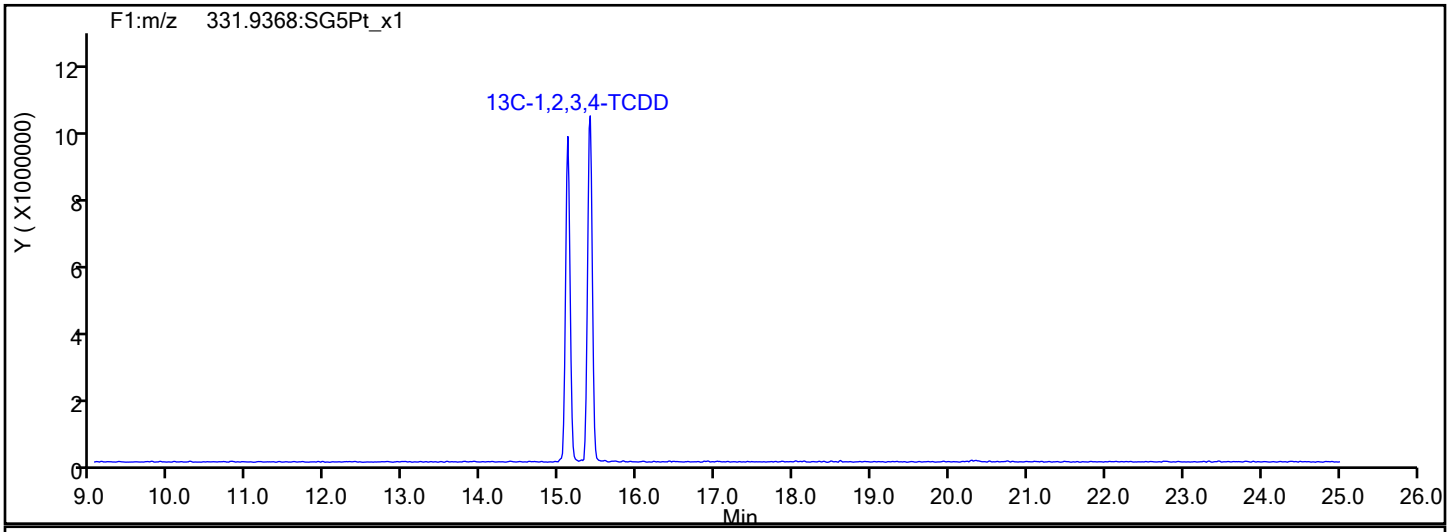

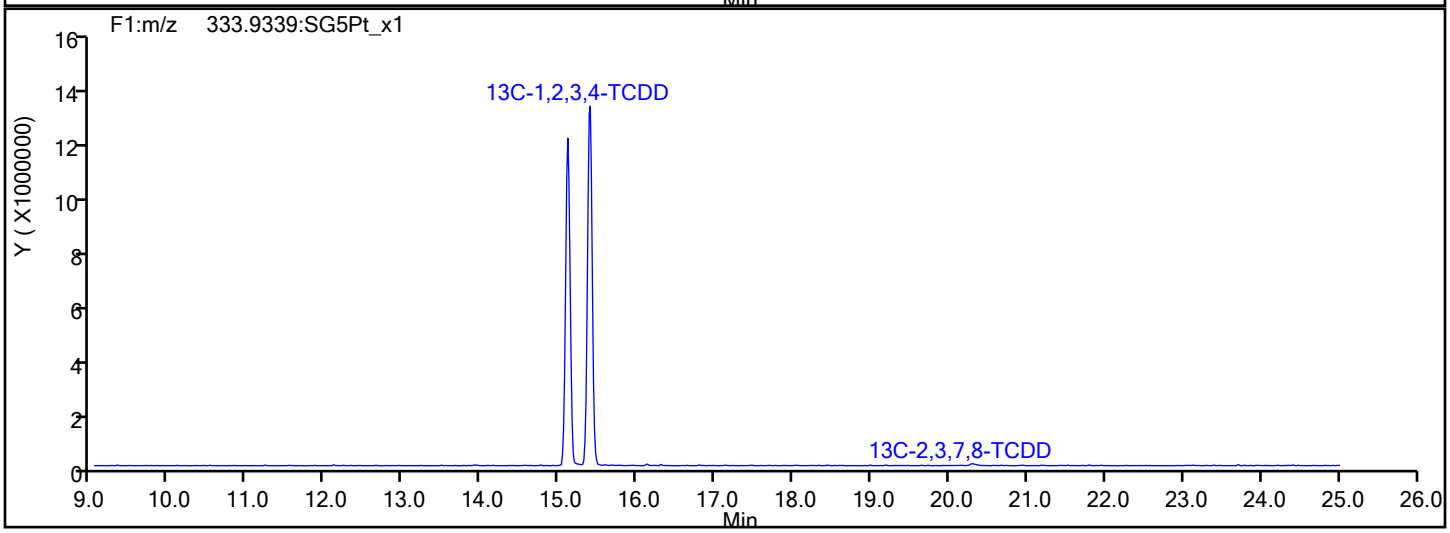

Report Date: 02-Aug-2019 11:57:05 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_008.d		
Injection Date:	02-Aug-2019 06:03:41	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	8
Column Type:	DB-225	Column Dia:	0.32 mm

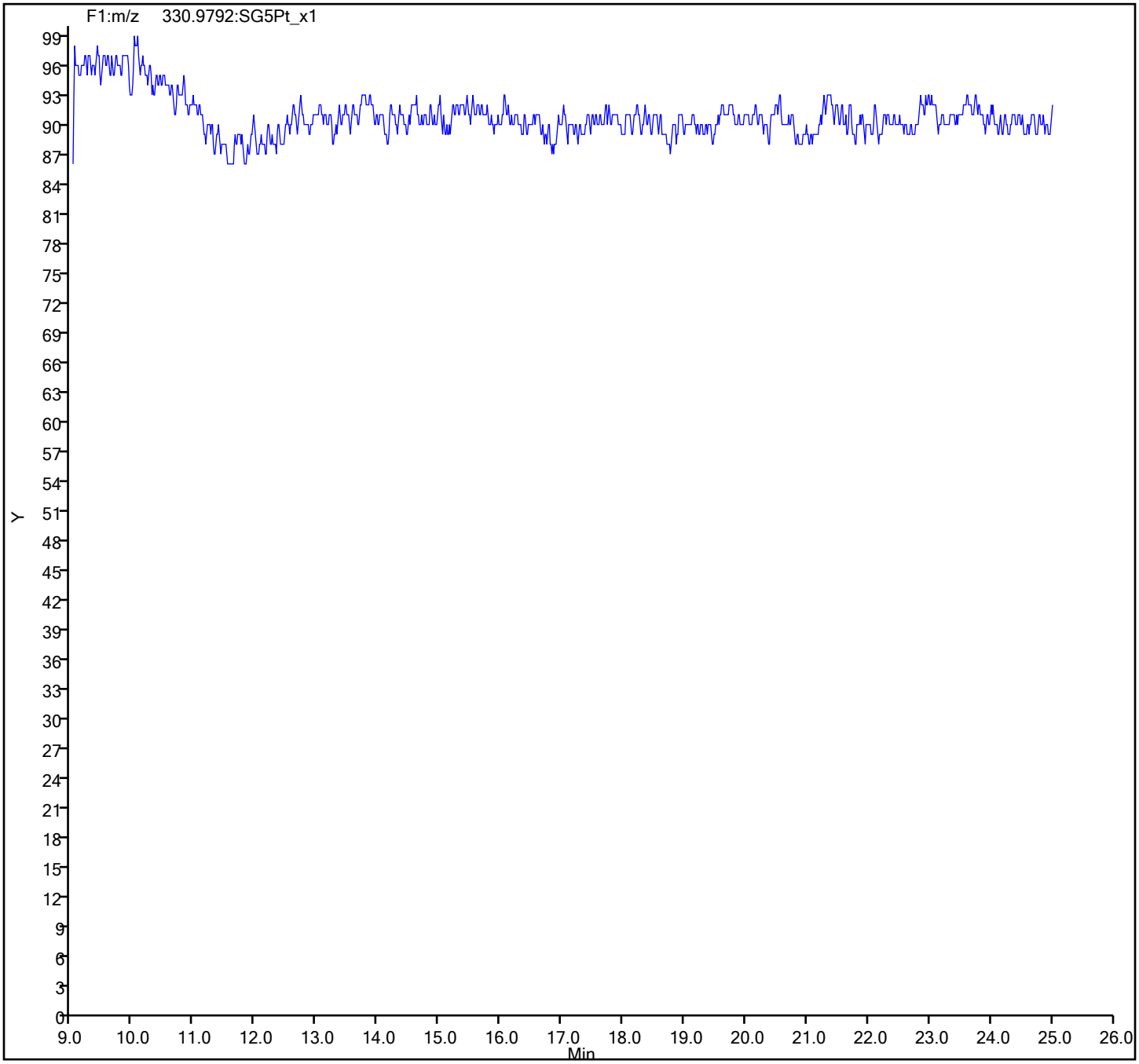

FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 320-336810/2 Calibration Date: 11/07/2019 15:37

Instrument ID: 11D2 Calib Start Date: 08/02/2019 02:52

GC Column: DB-225 ID: 0.32(mm) Calib End Date: 08/02/2019 05:25

Lab File ID: 07NO19A11D2_002.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
2,3,7,8-TCDD	AveID	1.154	1.014		8.79	10.0	88	78-129
2,3,7,8-TCDF	AveID	0.8389	0.9037		10.8	10.0	108	84-120
13C-2,3,7,8-TCDD	Ave	0.9388	0.9475		101	100	101	82-121
13C-2,3,7,8-TCDF	Ave	1.338	1.434		107	100	107	71-140
37Cl4-2,3,7,8-TCDD	Ave	1.182	1.332		11.3	10.0	113	79-127

Data file	Smp	Work Order	Sample ID	FV-uL	Method/Matrix	Box	Size	U
07NO19A11D2	1	CPS 110719	CPS HRDXNCP_00040				1.00000	
07NO19A11D2	2	CCV 110719	CCV CS-4 HRDXNL4_00085				1.00000	
07NO19A11D2	3	SB 110719	SB Solvent Blank C-14				1.00000	
07NO19A11D2	4	320-335248	600-194690-C-1-A	20	1613B/Water	D106	1.00000	L
07NO19A11D2	5	320-335248	600-194690-C-8-A (20X)	20	1613B/Water		1.00000	L
07NO19A11D2	6	320-335248	600-194690-B-9-A (5X)	20	1613B/Water		1.00000	L
07NO19A11D2	7	320-335248	600-194690-B-10-A (20X)	20	1613B/Water		1.00000	L
07NO19A11D2	8	320-335248	600-194690-A-11-A	20	1613B/Water		1.00000	L
07NO19A11D2	9	320-335248	600-194690-A-11-B MS 50X	20	1613B/Water		1.00000	L
07NO19A11D2	10	320-335248	600-194690-A-11C MSD 25X	20	1613B/Water		1.00000	L
07NO19A11D2	11	SB 110719A	SB Solvent Blank C-14				1.00000	
07NO19A11D2	12						1.00000	
07NO19A11D2	13						1.00000	
07NO19A11D2	14						1.00000	
07NO19A11D2	15						1.00000	
07NO19A11D2	16						1.00000	
07NO19A11D2	17						1.00000	
07NO19A11D2	18		AJS 11-07-19				1.00000	
07NO19A11D2	19						1.00000	

logfile checked
11-07-19 ALM

Peak Locate Examination: 7-NOV-2019:14:58 File:07NO19A11D2
Experiment:DB225RES Function:1 Reference:PFK

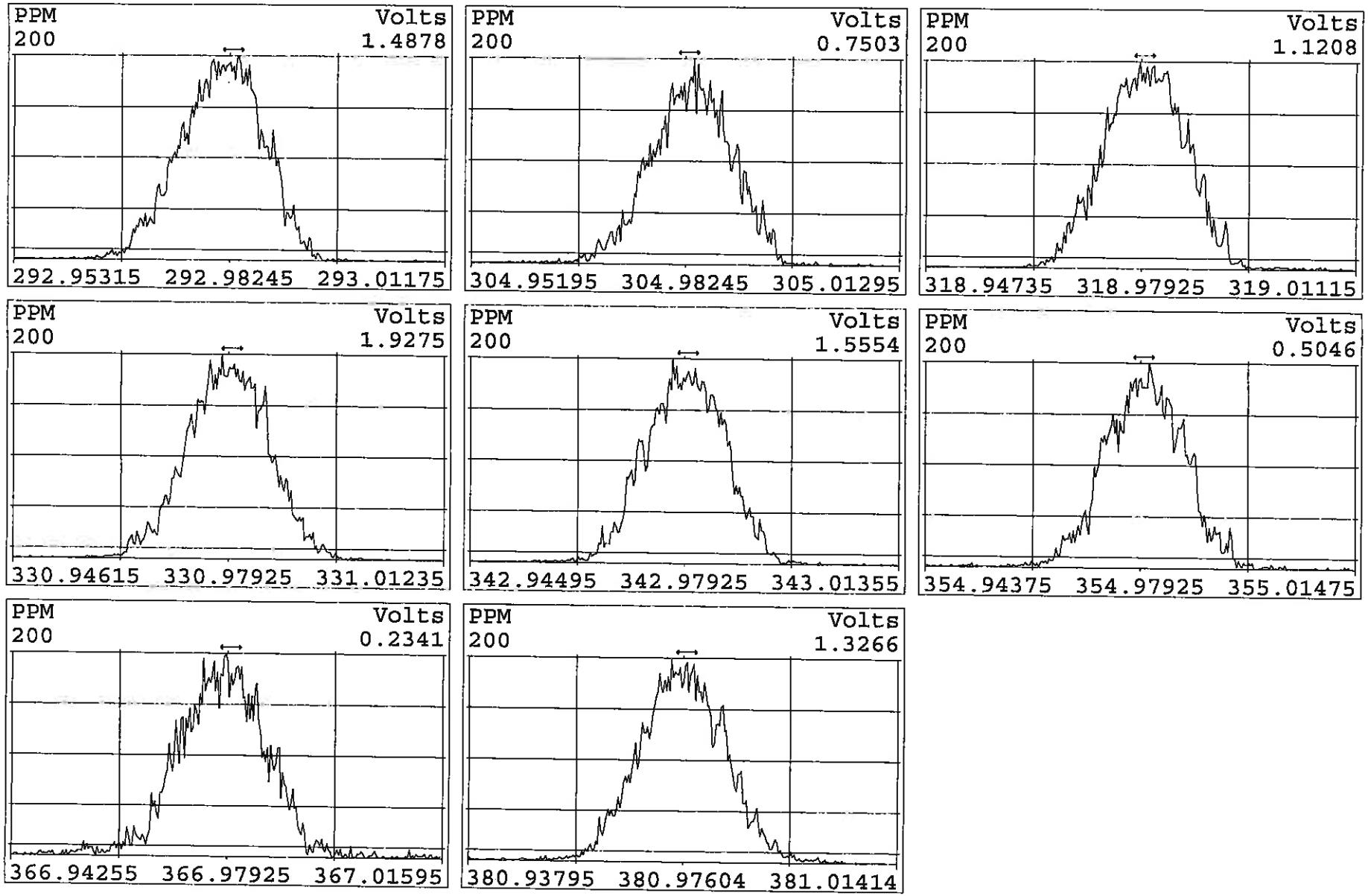

Peak Locate Examination: 7-NOV-2019:22:19 File:RESCHK07NO19A11D2
Experiment:DB225RES Function:1 Reference:PFK

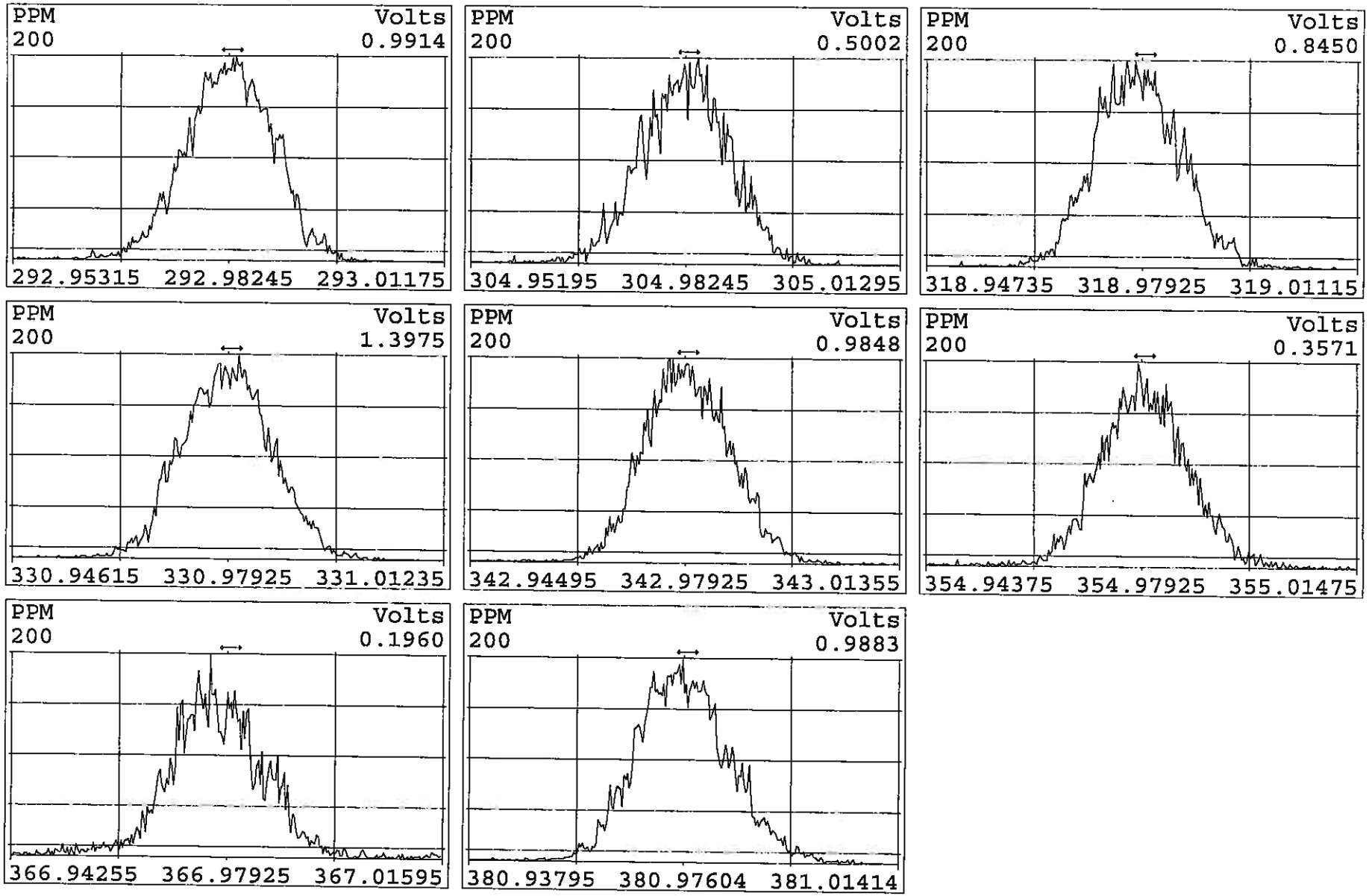

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_002.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 07-Nov-2019 15:37:08 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV CS-4 HRDXNL4_00085
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20191107-86281.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 07-Nov-2019 23:44:26 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0316

First Level Reviewer: messecara Date: 07-Nov-2019 23:08:29

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.378	169760024	0.80	1.1E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.557	243447813	0.79	1.3379	107.2	107.2	0.2509	0.2509	107	
2,3,7,8-TCDF	16.571	22001147	0.78	0.8389	10.8	10.8	0.0431	0.0431	108	
D 13C-2,3,7,8-TCDD	15.103	160848549	0.76	0.9388	100.9	100.9	0.2282	0.2282	101	
2,3,7,8-TCDD	15.117	16315543	0.76	1.1538	8.791	8.791	0.0565	0.0565	87.91	
$ 37Cl4-2,3,7,8-TCDD	15.117	22608455		1.1816	11.3	11.3	0.0337	0.0337	113	
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNL4_00085 Amount Added: 2.00 Units:

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_002.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 07-Nov-2019 15:37:08 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV CS-4 HRDXNL4_00085
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20191107-86281.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 07-Nov-2019 23:44:26 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0316

First Level Reviewer: messecara Date: 07-Nov-2019 23:08:29

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.378	15.378	0		75371713	17847967	22255	55637	802		
333.9339	15.378	15.378	0		94388311	21615187	11560	28900	1870	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.557	16.560	0	1.077	107497531	22843613	26908	67270	849		
317.9389	16.557	16.560	0	1.077	135950282	29079808	26087	65217	1115	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.571	16.571	0	1.001	9664781	2066570	3043	7607	679		
305.8987	16.571	16.571	0	1.001	12336366	2601125	4458	11145	583	0.78(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.103	15.092	0	0.982	69271806	16572101	22255	55637	745		
333.9339	15.103	15.092	0	0.982	91576743	22258906	11560	28900	1926	0.76(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.117	15.117	0	1.001	7048932	1672342	5902	14755	283		
321.8936	15.117	15.117	0	1.001	9266611	2179460	4226	10565	516	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.117	15.117	0	0.983	22608455	5485532	6278	15695	874		
Total 2378-Chlorinated Dioxins & Furans											
		0.0	0								

Reagents:

HRDXNL4_00085 Amount Added: 2.00 Units:

Report Date: 07-Nov-2019 23:44:27 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_002.d		
Injection Date:	07-Nov-2019 15:37:08	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336810	Sample Line#:	2
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

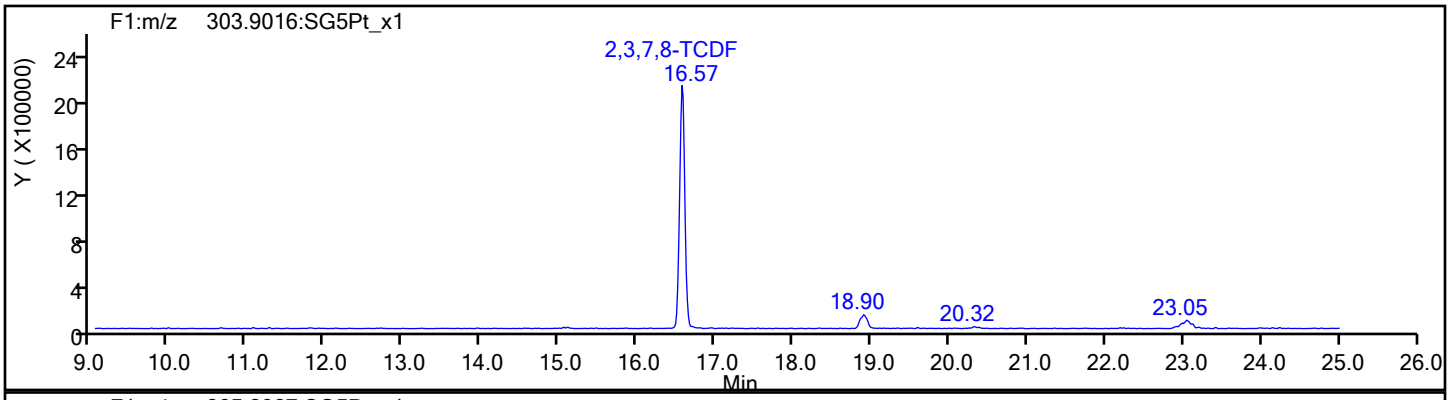

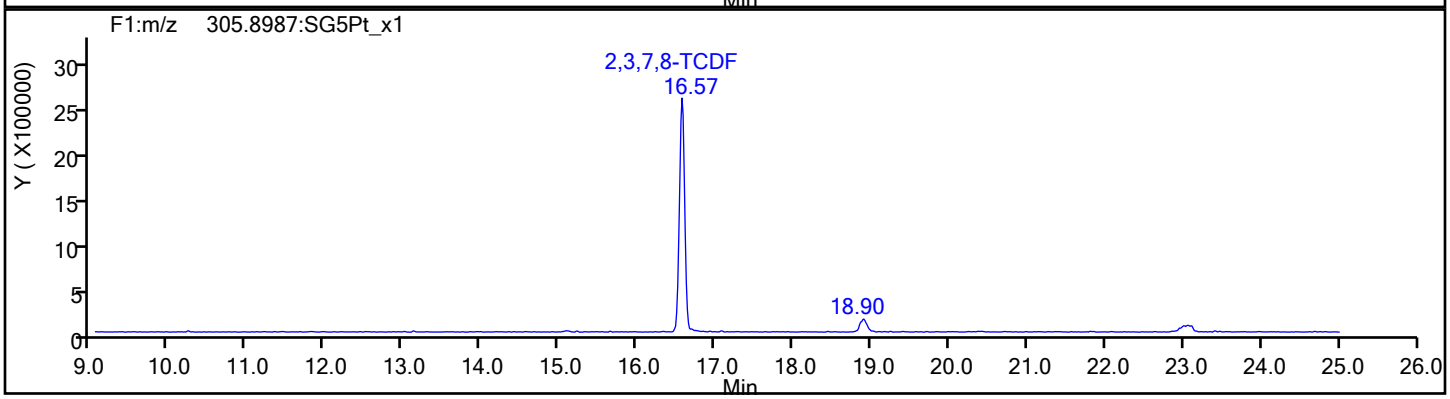

TCDF Standards

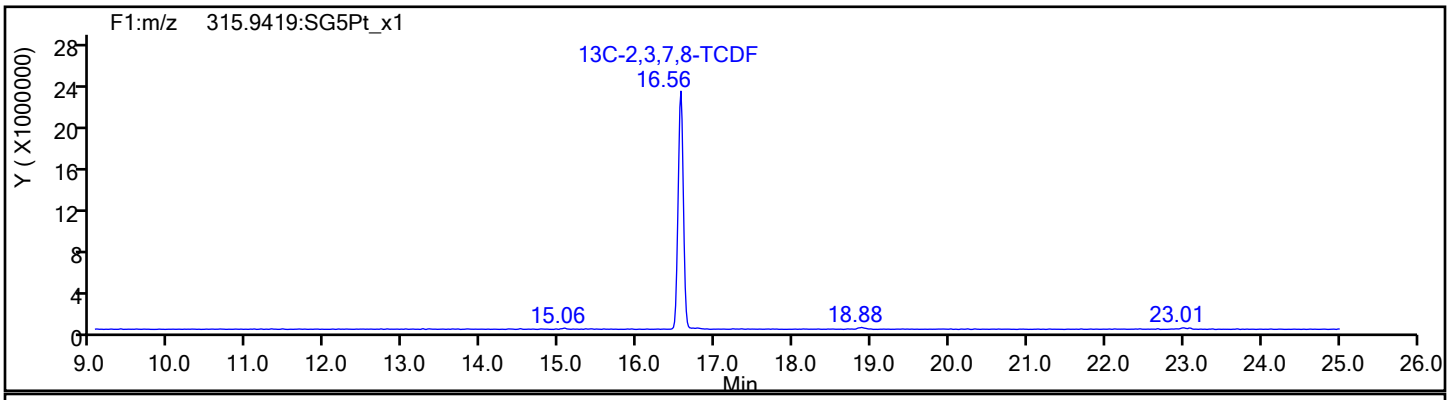

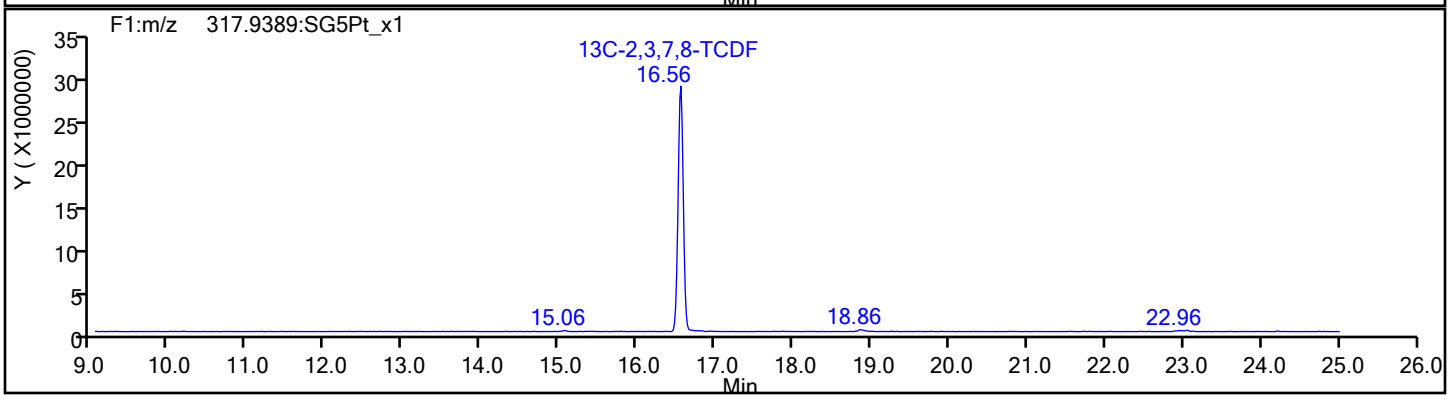

Report Date: 07-Nov-2019 23:44:27 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_002.d		
Injection Date:	07-Nov-2019 15:37:08	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336810	Sample Line#:	2
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

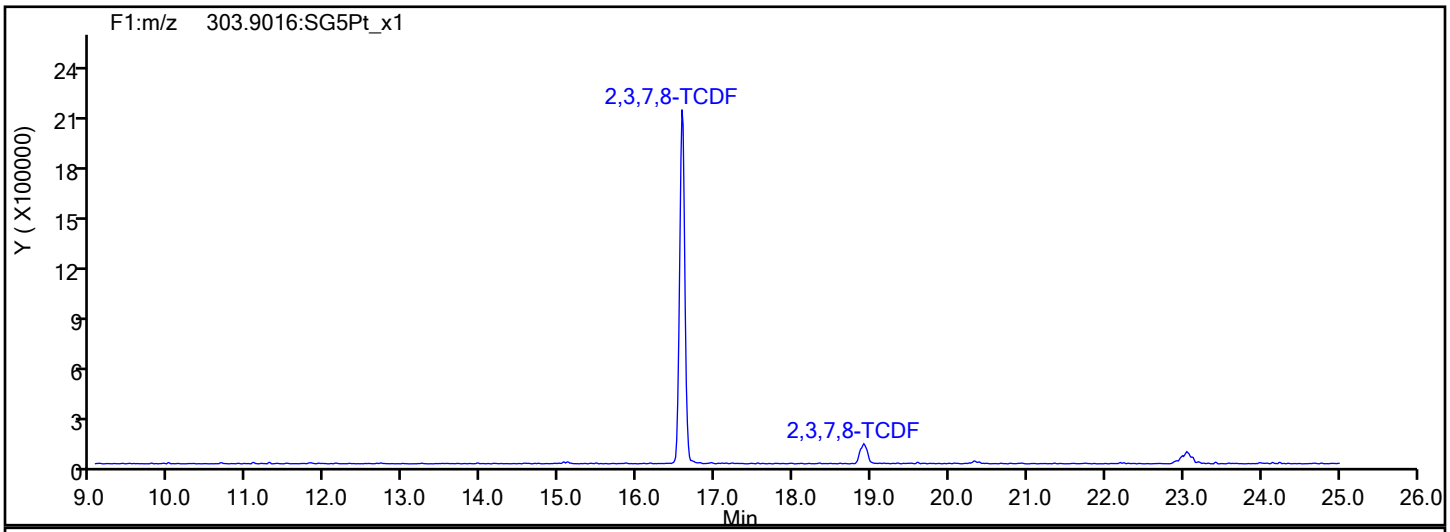

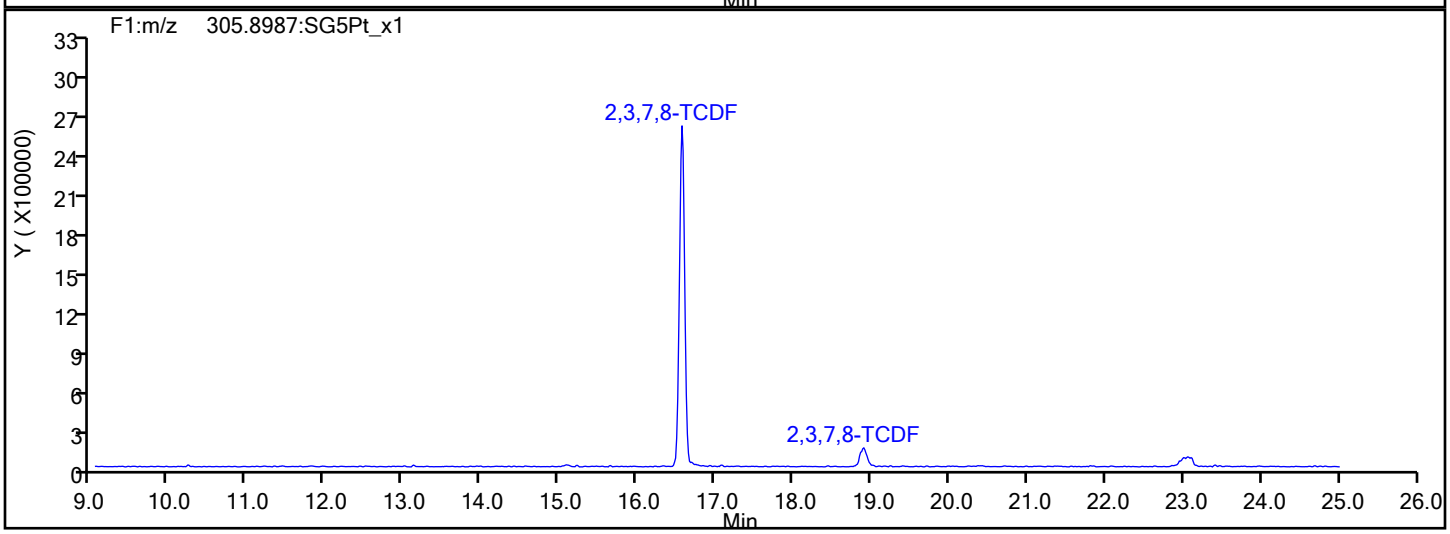

TCDF Interference Mass

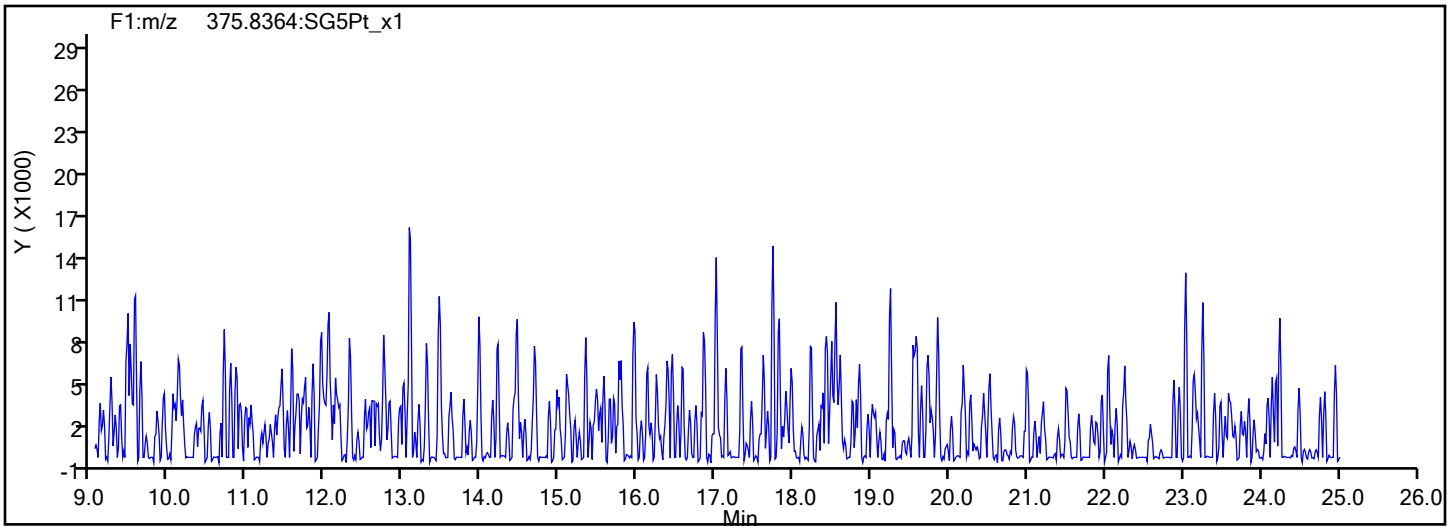

Report Date: 07-Nov-2019 23:44:27 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_002.d		
Injection Date:	07-Nov-2019 15:37:08	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336810	Sample Line#:	2
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

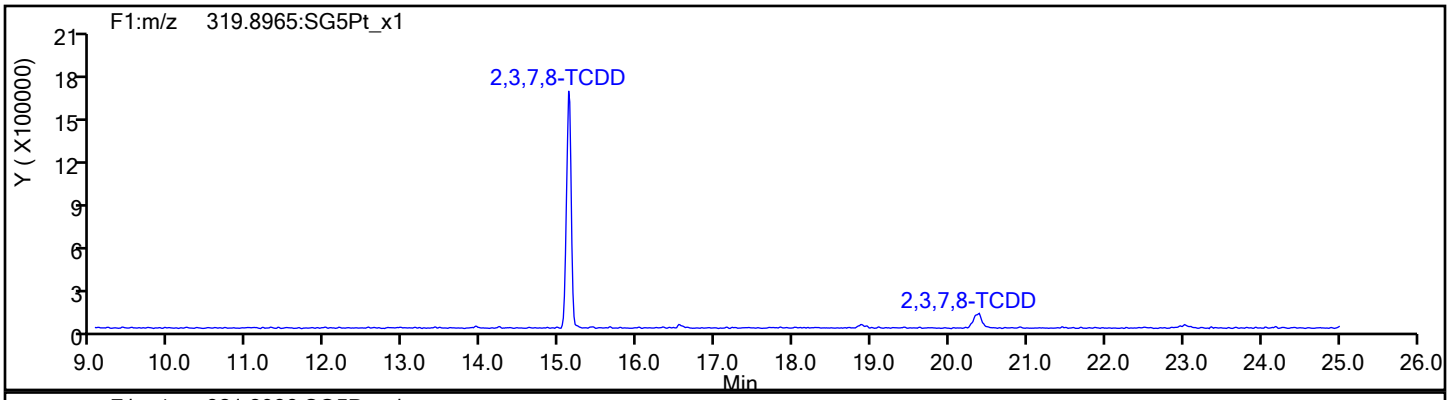

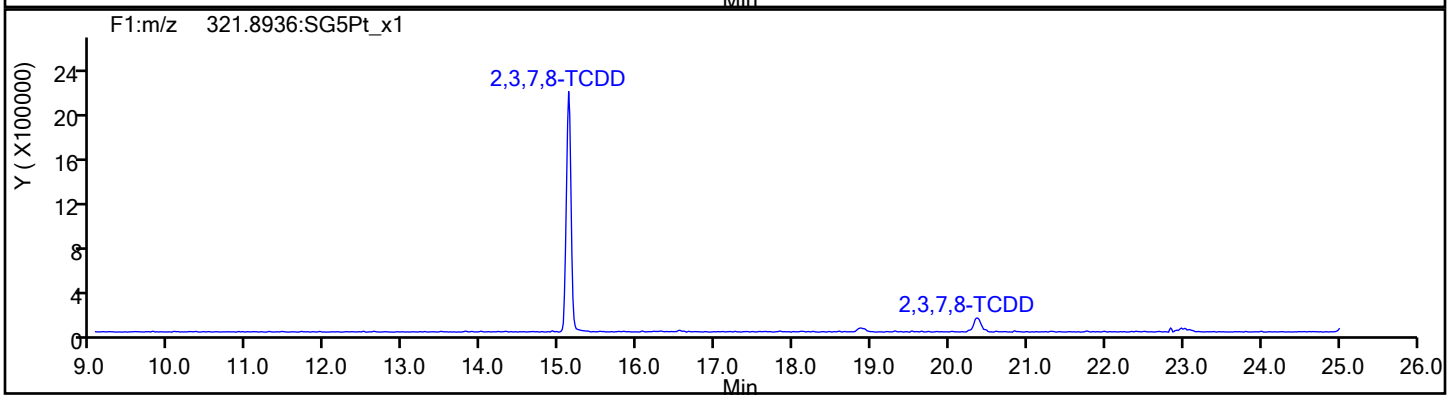

TCDD Standards

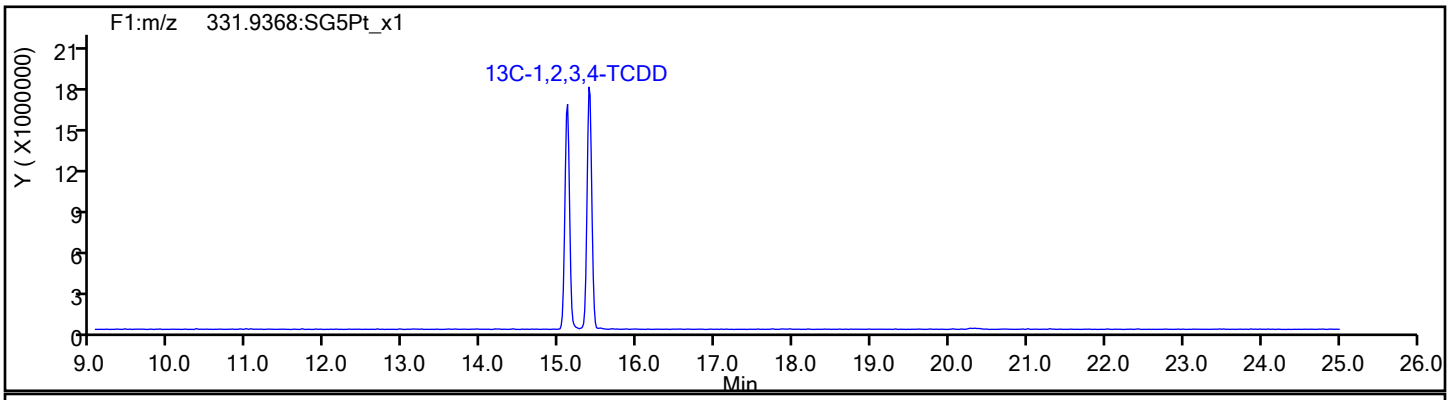

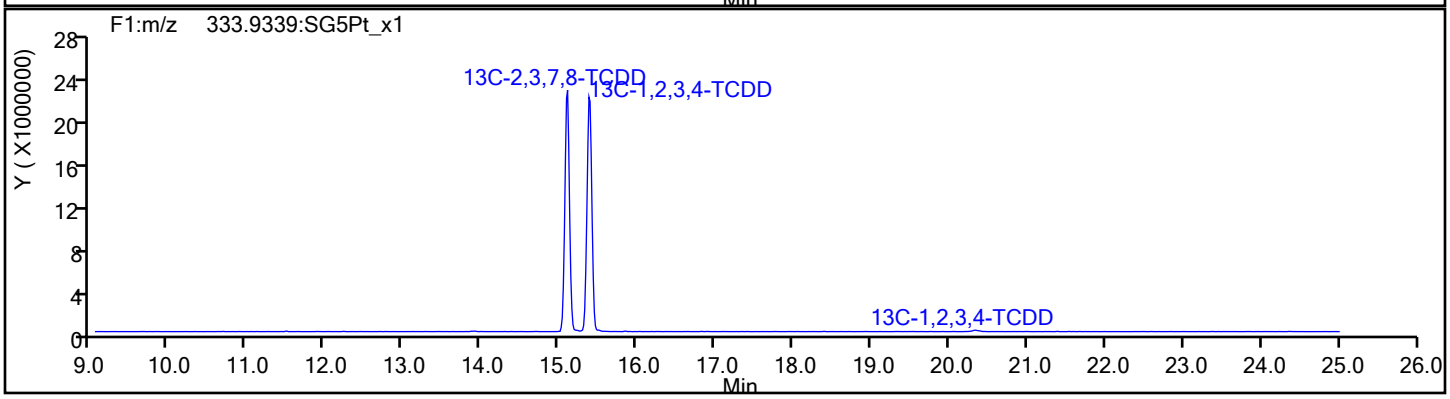

Report Date: 07-Nov-2019 23:44:27 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_002.d		
Injection Date:	07-Nov-2019 15:37:08	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336810	Sample Line#:	2
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

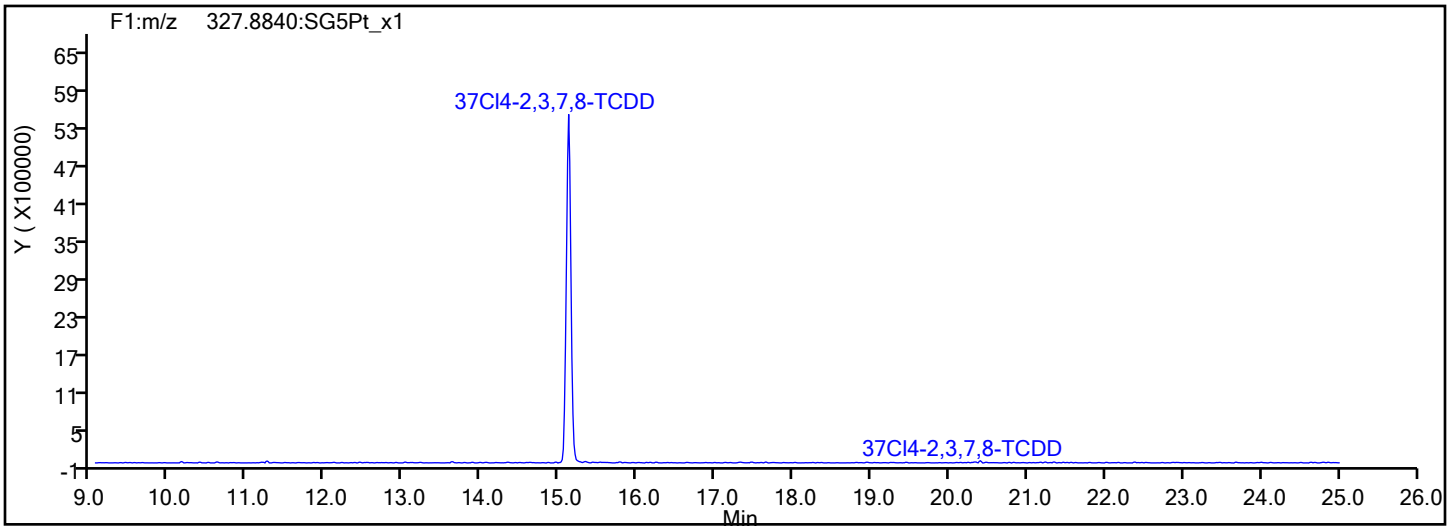

37Cl4-TCDD Standards

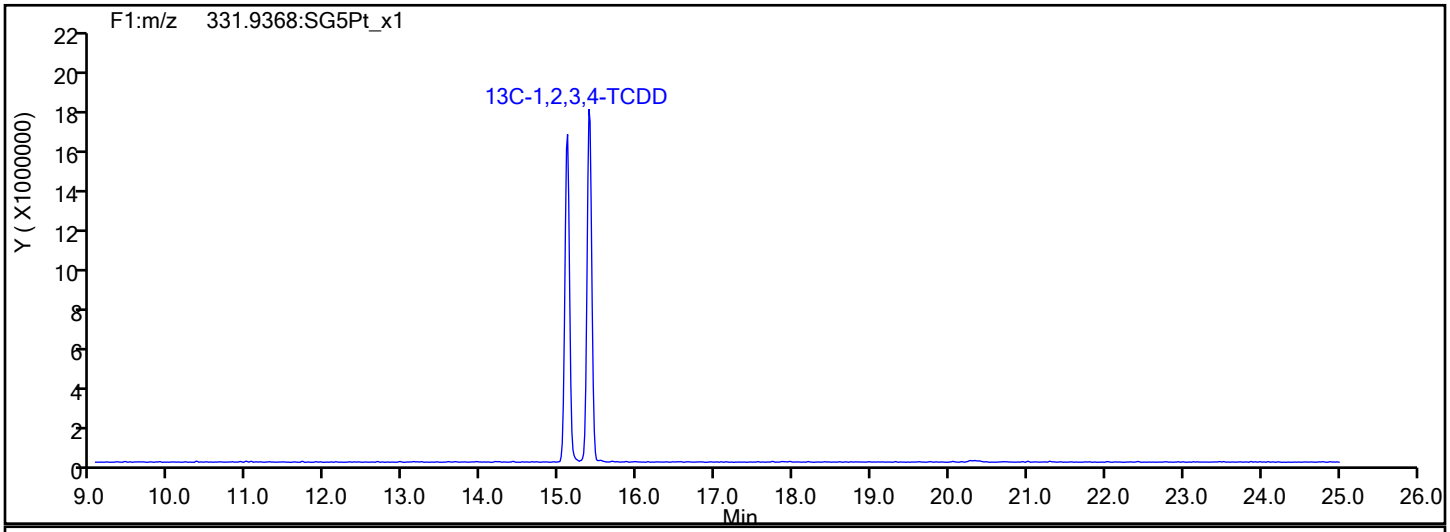

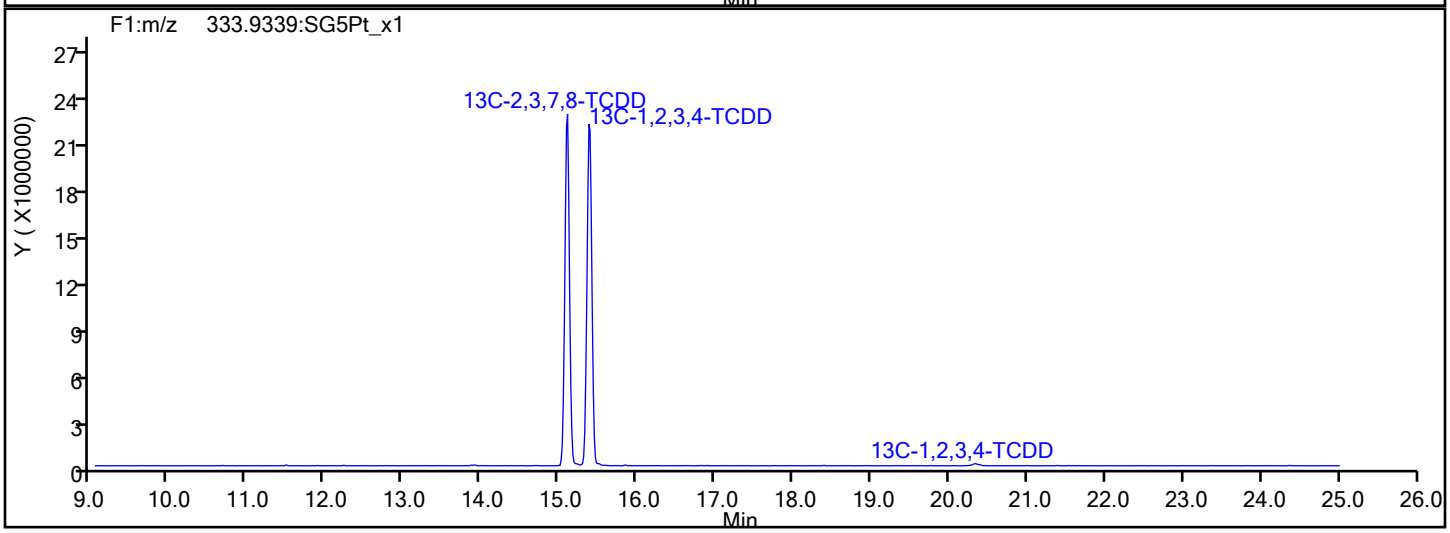

Report Date: 07-Nov-2019 23:44:27 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_002.d		
Injection Date:	07-Nov-2019 15:37:08	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336810	Sample Line#:	2
Column Type:	DB-225	Column Dia:	0.32 mm

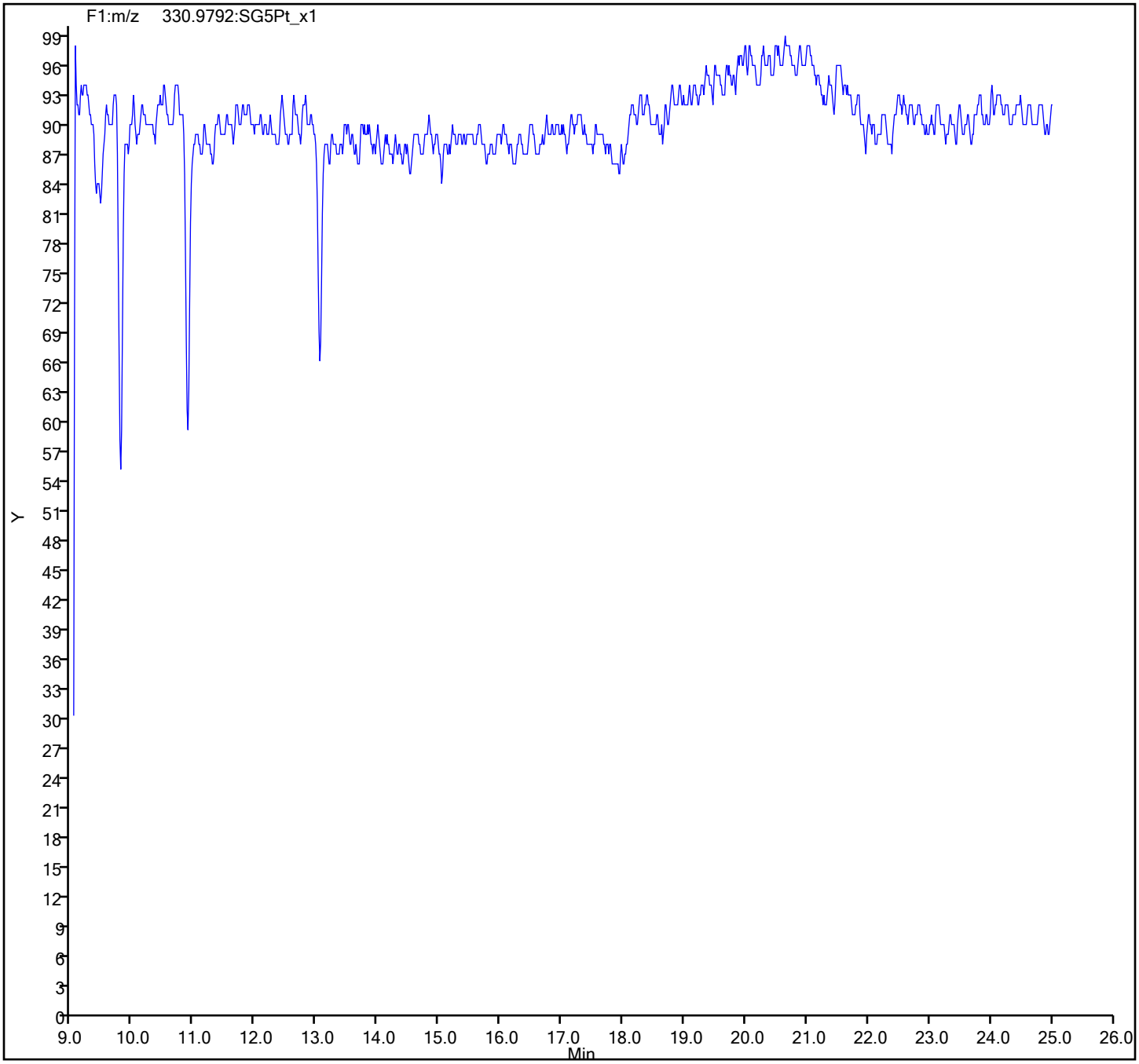

FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Lab Sample ID: ICV 320-332505/9 Calibration Date: 10/19/2019 01:37

Instrument ID: DFS 1 Calib Start Date: 10/18/2019 20:50

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 10/19/2019 00:02

Lab File ID: 18oc19adfs1_10.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
2,3,7,8-TCDF	AveID	1.233	1.203		39.0	40.0	98	70-130
2,3,7,8-TCDD	AveID	1.199	1.251		41.7	40.0	104	70-130
1,2,3,7,8-PeCDF	AveID	1.169	1.115		191	200	95	70-130
2,3,4,7,8-PeCDF	AveID	1.186	1.268		214	200	107	70-130
1,2,3,7,8-PeCDD	AveID	1.120	1.051		188	200	94	70-130
1,2,3,4,7,8-HxCDF	AveID	1.302	1.274		196	200	98	70-130
1,2,3,6,7,8-HxCDF	AveID	1.291	1.277		198	200	99	70-130
2,3,4,6,7,8-HxCDF	AveID	1.304	1.343		206	200	103	70-130
1,2,3,4,7,8-HxCDD	AveID	1.172	1.158		198	200	99	70-130
1,2,3,6,7,8-HxCDD	AveID	1.126	1.154		205	200	102	70-130
1,2,3,7,8,9-HxCDD	AveID	1.233	1.204		195	200	98	70-130
1,2,3,7,8,9-HxCDF	AveID	1.333	1.264		190	200	95	70-130
1,2,3,4,6,7,8-HpCDF	AveID	1.618	1.591		197	200	98	70-130
1,2,3,4,6,7,8-HpCDD	AveID	1.124	1.109		197	200	99	70-130
1,2,3,4,7,8,9-HpCDF	AveID	1.467	1.394		190	200	95	70-130
OCDD	AveID	1.186	1.188		401	400	100	70-130
OCDF	AveID	1.542	1.526		396	400	99	70-130
13C-2,3,7,8-TCDF	Ave	1.610	1.612		100	100	100	71-140
13C-2,3,7,8-TCDD	Ave	0.998	0.995		99.7	100	100	82-121
13C-1,2,3,7,8-PeCDF	Ave	1.368	1.368		100	100	100	76-130
13C-2,3,4,7,8-PeCDF	Ave	1.304	1.329		102	100	102	77-130
13C-1,2,3,7,8-PeCDD	Ave	0.8292	0.8372		101	100	101	62-160
13C-1,2,3,4,7,8-HxCDF	Ave	1.170	1.174		100	100	100	76-131
13C-1,2,3,6,7,8-HxCDF	Ave	1.317	1.285		97.6	100	98	70-143
13C-2,3,4,6,7,8-HxCDF	Ave	1.287	1.212		94.2	100	94	73-137
13C-1,2,3,4,7,8-HxCDD	Ave	0.8364	0.8098		96.8	100	97	85-117
13C-1,2,3,6,7,8-HxCDD	Ave	0.9040	0.8739		96.7	100	97	85-118
13C-1,2,3,7,8,9-HxCDF	Ave	1.199	1.134		94.6	100	95	74-135
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.9689	0.9357		96.6	100	97	78-129
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.9114	0.8721		95.7	100	96	72-138
13C-1,2,3,4,7,8,9-HpCDF	Ave	0.9231	0.9100		98.6	100	99	77-129
13C-OCDD	Ave	0.6272	0.6020		192	200	96	48-208
37Cl4-2,3,7,8-TCDD	Ave	1.451	1.430		39.4	40.0	99	79-127

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_10.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 19-Oct-2019 01:37:00 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV HRDXNIC_00042
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist:

Method: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\Dioxin_DFS1.m
Limit Group: HR - 1613B - ICAL
Last Update: 23-Oct-2019 12:13:03 Calib Date: 19-Oct-2019 00:02:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.07 :22.11)
Process Host: CTX0320

First Level Reviewer: shardaa Date: 23-Oct-2019 12:11:23

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	20.694	5155346	0.81	5.2E+04	100.0	100.0				
D 13C-2,3,7,8-TCDF	19.735	8312358	0.80	1.6096	100.2	100.2	0.2315	0.2315	100	
2,3,7,8-TCDF	19.752	4000606	0.82	1.2332	39.0	39.0	0.0969	0.0969	97.57	
A Non-2,3,7,8-sub-TCDF	19.420	38027	0.88	1.2332	0.3710	0.3710	0.0969	0.3710		
S Total TCDF					39.4	39.4	0.0969	0.0969		
D 13C-2,3,7,8-TCDD	21.057	5130157	0.79	0.9984	99.7	99.7	0.1663	0.1663	99.67	
2,3,7,8-TCDD	21.092	2566661	0.80	1.1988	41.7	41.7	0.0731	0.0731	104	
$ 37Cl4-2,3,7,8-TCDD	21.092	2949400		1.4510	39.4	39.4	0.0194	0.0194	98.57	
A Non-2,3,7,8-sub-TCDD	20.259	52362	0.89	1.1988	0.8514	0.8514	0.0731	0.8514		
S Total TCDD					42.6	42.6	0.0731	0.0731		
D 13C-1,2,3,7,8-PeCDF	26.771	7054937	1.60	1.3678	100.1	100.1	0.4869	0.4869	100	
1,2,3,7,8-PeCDF	26.788	15729997	1.59	1.1689	190.7	190.7	0.9799	0.9799	95.37	
D 13C-2,3,4,7,8-PeCDF	28.264	6853528	1.60	1.3045	101.9	101.9	0.5105	0.5105	102	
2,3,4,7,8-PeCDF	28.289	17383362	1.58	1.1861	213.8	213.8	1.063	1.063	107	
A F1 PeCDFs	24.168	768	1.55	1.1775	0.0249	0.009379	0.009348	0.009379		RQ
A Non-2,3,7,8-sub-PeCDF	27.601	376250	1.67	1.1775	4.595	4.595	1.019	4.595		
S Total PeCDF					409.2	409.2	1.021	1.021		RQ
D 13C-1,2,3,7,8-PeCDD	29.069	4316194	1.57	0.8292	101.0	101.0	0.2242	0.2242	101	
1,2,3,7,8-PeCDD	29.094	9075426	1.58	1.1200	187.7	187.7	0.2701	0.2701	93.87	
A Non-2,3,7,8-sub-PeCDD	27.971						0.2701	0.2701		Rn
S Total PeCDD					187.7	187.7	0.2701	0.2701		
D 13C-1,2,3,4,7,8-HxCDF	34.557	6958692	0.53	1.1700	100.4	100.4	0.4253	0.4253	100	
1,2,3,4,7,8-HxCDF	34.582	17736282	1.27	1.3021	195.7	195.7	1.023	1.023	97.87	
D 13C-1,2,3,6,7,8-HxCDF	34.725	7616008	0.54	1.3168	97.6	97.6	0.3779	0.3779	97.61	
1,2,3,6,7,8-HxCDF	34.750	19449922	1.27	1.2907	197.9	197.9	0.9457	0.9457	98.93	
D 13C-2,3,4,6,7,8-HxCDF	35.589	7183471	0.54	1.2873	94.2	94.2	0.3865	0.3865	94.17	
2,3,4,6,7,8-HxCDF	35.605	19297280	1.27	1.3039	206.0	206.0	0.8746	0.8746	103	
D 13C-1,2,3,7,8,9-HxCDF	36.503	6717434	0.53	1.1987	94.6	94.6	0.4151	0.4151	94.57	
1,2,3,7,8,9-HxCDF	36.511	16982235	1.27	1.3329	189.7	189.7	0.8510	0.8510	94.84	
A Non-2,3,7,8-sub-HxCDF	34.726						0.9191	0.9191		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					789.3	789.3	0.9235	0.9235		
* 13C-1,2,3,7,8,9-HxCDD	36.301	5925707	1.25	5.8E+04	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	35.807	4798641	1.29	0.8364	96.8	96.8	0.2248	0.2248	96.82	
1,2,3,4,7,8-HxCDD	35.823	11115360	1.25	1.1725	197.6	197.6	0.3816	0.3816	98.78	
D 13C-1,2,3,6,7,8-HxCDD	35.932	5178383	1.28	0.9040	96.7	96.7	0.2080	0.2080	96.66	
1,2,3,6,7,8-HxCDD	35.941	11948127	1.24	1.1256	205.0	205.0	0.3851	0.3851	102	
1,2,3,7,8,9-HxCDD	36.318	12016721	1.24	1.2327	195.4	195.4	0.3572	0.3572	97.71	
A Non-2,3,7,8-sub-HxCDD	35.124						0.3742	0.3742		
S Total HxCDD					598.0	598.0	0.3747	0.3747		
D 13C-1,2,3,4,6,7,8-HpCDF	38.343	5544767	0.46	0.9689	96.6	96.6	0.3944	0.3944	96.58	
1,2,3,4,6,7,8-HpCDF	38.351	17648799	1.09	1.6176	196.8	196.8	1.246	1.246	98.38	
D 13C-1,2,3,4,7,8,9-HpCDF	39.601	5392462	0.46	0.9231	98.6	98.6	0.4139	0.4139	98.58	
1,2,3,4,7,8,9-HpCDF	39.618	15029154	1.07	1.4672	190.0	190.0	1.284	1.284	94.98	
A Non-2,3,7,8-sub-HpCDF	39.037						1.262	1.262		
S Total HpCDF					386.7	386.7	1.265	1.265		
D 13C-1,2,3,4,6,7,8-HpCDD	39.299	5167508	1.06	0.9114	95.7	95.7	0.4194	0.4194	95.68	
1,2,3,4,6,7,8-HpCDD	39.308	11457042	1.05	1.1237	197.3	197.3	0.7084	0.7084	98.65	
A Non-2,3,7,8-sub-HpCDD	39.134						0.7084	0.7084		n
S Total HpCDD					197.3	197.3	0.7084	0.7084		
D 13C-OCDD	41.739	7134480	0.91	0.6272	192.0	192.0	0.3045	0.3045	95.98	
OCDF	41.831	21776527	0.92	1.5416	396.0	396.0	0.3295	0.3295	99.00	
OCDD	41.747	16951341	0.90	1.1855	400.8	400.8	0.3651	0.3651	100	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNIC_00042 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_10.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 19-Oct-2019 01:37:00 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV HRDXNIC_00042
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist:

Method: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\Dioxin_DFS1.m
Limit Group: HR - 1613B - ICAL
Last Update: 23-Oct-2019 12:13:03 Calib Date: 19-Oct-2019 00:02:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.07 :22.11)
Process Host: CTX0320

First Level Reviewer: shardaa Date: 23-Oct-2019 12:11:23

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	20.694	20.694	0		2308384	350358	348	870	1007		
333.9338	20.694	20.694	0		2846962	438752	176	440	2493	0.81(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.735	19.735	0	0.954	3703589	562717	729	1822	772		
317.9389	19.735	19.735	0	0.954	4608769	719621	447	1117	1610	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	19.752	19.752	0	1.001	1804695	280525	271	677	1035		
305.8987	19.761	19.752	1	1.001	2195911	345206	342	855	1009	0.82(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	18.542	19.420	-53	0.940	17830	3126	271	677	12		
305.8987	18.559	19.420	-52	0.940	20197	3740	342	855	11	0.88(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	21.057	21.057	0	1.018	2270927	331538	348	870	953		
333.9338	21.066	21.057	1	1.018	2859230	416095	176	440	2364	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	21.092	21.092	0	1.002	1138503	163912	160	400	1024		
321.8936	21.092	21.092	0	1.002	1428158	204843	102	255	2008	0.80(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	21.092	21.092	0	1.019	2949400	429793	89	222	4829		
A Non-2,3,7,8-sub-TCDD											
319.8965	20.902	20.259	39	0.993	24681	4525	160	400	28		
321.8936	20.902	20.259	39	0.993	27681	5038	102	255	49	0.89(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	26.771	26.771	0	1.294	4338458	735393	1286	3215	572		
353.8970	26.763	26.771	-1	1.293	2716479	473572	816	2040	580	1.60(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	26.788	26.788	0	1.001	9651753	1678013	3365	8412	499		
341.8567	26.788	26.788	0	1.001	6078244	1073320	2174	5435	494	1.59(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	28.264	28.264	0	1.366	4214229	670872	1286	3215	522		
353.8970	28.264	28.264	0	1.366	2639299	427706	816	2040	524	1.60(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	28.289	28.289	0	1.001	10635849	1747334	3365	8412	519		
341.8567	28.289	28.289	0	1.001	6747513	1106562	2174	5435	509	1.58(1.32-1.78)	
A F1 PeCDFs											RQ
339.8597	23.979	24.168	-11	0.896	467	211	17	42	12		
341.8567	23.979	24.168	-11	0.896	1570	429	34	85	13	0.30(1.32-1.78)	
	Empc Correction				301	136	34	85	4		
A Non-2,3,7,8-sub-PeCDF											
339.8597	27.375	27.601	-14	1.023	235103	42006	3365	8412	12		
341.8567	27.375	27.601	-14	1.023	141147	24959	2174	5435	11	1.67(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	29.069	29.069	0	1.405	2637174	413083	321	802	1287		
369.8919	29.061	29.069	-1	1.404	1679020	264527	266	665	994	1.57(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	29.094	29.094	0	1.001	5556624	862403	508	1270	1698		
357.8516	29.094	29.094	0	1.001	3518802	548850	312	780	1759	1.58(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	27.199	27.971	-46	0.936	11542	1614	508	1270	3		
357.8516	27.199	27.971	-46	0.936	10370	1284	312	780	4	1.11(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.557	34.557	0	0.952	2409199	527292	1094	2735	482		
385.8610	34.557	34.557	0	0.952	4549493	1019881	2055	5137	496	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.582	34.582	0	1.001	9920458	2197328	4628	11570	475		
375.8178	34.574	34.582	-1	1.000	7815824	1732710	3612	9030	480	1.27(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	34.725	34.725	0	0.957	2663871	587760	1094	2735	537		
385.8610	34.733	34.725	1	0.957	4952137	1099827	2055	5137	535	0.54(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	34.750	34.750	0	1.001	10879090	2406117	4628	11570	520		
375.8178	34.750	34.750	0	1.001	8570832	1913378	3612	9030	530	1.27(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	35.589	35.589	0	0.980	2525730	632748	1094	2735	578		
385.8610	35.589	35.589	0	0.980	4657741	1173628	2055	5137	571	0.54(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	35.605	35.605	0	1.000	10781184	2705679	4628	11570	585		
375.8178	35.605	35.605	0	1.000	8516096	2140631	3612	9030	593	1.27(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.503	36.503	0	1.006	2338881	635770	1094	2735	581		
385.8610	36.503	36.503	0	1.006	4378553	1180333	2055	5137	574	0.53(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	36.511	36.511	0	1.000	9514071	2514047	4628	11570	543		
375.8178	36.511	36.511	0	1.000	7468164	1999417	3612	9030	554	1.27(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	34.726						4628	11570			
375.8178	34.726						3612	9030			
13C-1,2,3,7,8,9-HxCDD											
401.8559	36.301	36.301	0		3296027	874276	648	1620	1349		
403.8529	36.301	36.301	0		2629680	707766	542	1355	1306	1.25(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	35.807	35.807	0	0.986	2701873	733595	648	1620	1132		
403.8529	35.807	35.807	0	0.986	2096768	561937	542	1355	1037	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	35.823	35.823	0	1.000	6172939	1633953	1299	3247	1258		
391.8127	35.823	35.823	0	1.000	4942421	1311551	1020	2550	1286	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	35.932	35.932	0	0.990	2902492	755386	648	1620	1166		
403.8529	35.924	35.932	-1	0.990	2275891	581828	542	1355	1073	1.28(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8158	35.941	35.941	0	1.000	6624674	1717353	1299	3247	1322		
391.8127	35.941	35.941	0	1.000	5323453	1397977	1020	2550	1371	1.24(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8158	36.318	36.318	0	1.014	6658701	1783247	1299	3247	1373		
391.8127	36.318	36.318	0	1.014	5358020	1429582	1020	2550	1402	1.24(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8158	35.124						1299	3247			
391.8127	35.124						1020	2550			
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.343	38.343	0	1.056	1736836	563321	880	2200	640		
419.8220	38.343	38.343	0	1.056	3807931	1234459	1538	3845	803	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.351	38.351	0	1.000	9212511	3059348	7571	18927	404		
409.7788	38.351	38.351	0	1.000	8436288	2839436	6918	17295	410	1.09(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	39.601	39.601	0	1.091	1690475	605368	880	2200	688		
419.8220	39.601	39.601	0	1.091	3701987	1317619	1538	3845	857	0.46(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.618	39.618	0	1.000	7759818	2687687	7571	18927	355		
409.7788	39.610	39.618	-1	1.000	7269336	2566694	6918	17295	371	1.07(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7817	39.037						7571	18927			
409.7788	39.037						6918	17295			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.299	39.299	0	1.083	2661583	943294	1190	2975	793		
437.8140	39.299	39.299	0	1.083	2505925	886491	1229	3072	721	1.06(0.88-1.20)	

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Data File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_10.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7767	39.308	39.308	0	1.000	5858627	2065691	2983	7457	692		
425.7737	39.308	39.308	0	1.000	5598415	1975246	2843	7107	695	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7767	38.670	39.134	-28	0.984	71885	20893	2983	7457	7		
425.7737	38.670	39.134	-28	0.984	67326	20604	2843	7107	7	1.07(0.88-1.20)	
13C-OCDD											
469.7780	41.739	41.739	0	1.150	3390242	1134693	609	1522	1863		
471.7750	41.739	41.739	0	1.150	3744238	1231928	600	1500	2053	0.91(0.76-1.02)	
OCDF											
441.7428	41.831	41.831	0	1.002	10458810	3466419	1180	2950	2938		
443.7399	41.831	41.831	0	1.002	11317717	3764448	1224	3060	3076	0.92(0.76-1.02)	
OCDD											
457.7377	41.747	41.747	0	1.000	8035285	2639153	959	2397	2752		
459.7348	41.747	41.747	0	1.000	8916056	2927950	1090	2725	2686	0.90(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNIC_00042 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_10.d
Lims ID: ICV
Client ID:
Inject. Date: 19-Oct-2019 01:37:00 Dil. Factor: 1.0000
Sample Type: ICV, ICal Verification
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 332505 Lims Sample ID: 9
Sublist:

Non-2,3,7,8-sub-TCDF, RT: 19.420

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.233	D 13C-2,3,7,8-TCDF	100.000	8312358	1282338

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.233		100.000	8312358	1282338

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
18.542	17830	3126	20197	3740	0.3710	0.88	
Signal Totals:							
	17830	3126	20197	3740			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	38027	6866				0.88	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.3710 = (38027 * 100.000) / (8312358 * 1.233)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_10.d
Lims ID: ICV
Client ID:
Inject. Date: 19-Oct-2019 01:37:00 Dil. Factor: 1.0000
Sample Type: ICV, ICal Verification
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 332505 Lims Sample ID: 9
Sublist:

Non-2,3,7,8-sub-TCDD, RT: 20.259

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.199	D 13C-2,3,7,8-TCDD	100.000	5130157	747633

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.199		100.000	5130157	747633

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
20.902	24681	4525	27681	5038	0.8514	0.89	
Signal Totals:							
	24681	4525	27681	5038			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	52362	9563				0.89	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.8514 = (52362 * 100.000) / (5130157 * 1.199)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_10.d
Lims ID: ICV
Client ID:
Inject. Date: 19-Oct-2019 01:37:00 Dil. Factor: 1.0000
Sample Type: ICV, ICal Verification
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 332505 Lims Sample ID: 9
Sublist:

F1 PeCDFs, RT: 24.168

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.169	D 13C-1,2,3,7,8-PeCDF	100.000	7054937	1208965
2,3,4,7,8-PeCDF	1.186	D 13C-2,3,4,7,8-PeCDF	100.000	6853528	1098578

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.178		100.000	6954232	1153771

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
23.979	467	211	1570	429	0.0249	0.30	RQ
23.979	467	211	301	136	0.009379		Empc Correction
Signal Totals:							
	467	211	301	136			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2037	640				0.30	RQ
	768	347					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0249 = (2037 * 100.000) / (6954232 * 1.178)
Empc Amount: 0.009379 = (768 * 100.000) / (6954232 * 1.178)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_10.d
Lims ID: ICV
Client ID:
Inject. Date: 19-Oct-2019 01:37:00 Dil. Factor: 1.0000
Sample Type: ICV, ICal Verification
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 332505 Lims Sample ID: 9
Sublist:

Non-2,3,7,8-sub-PeCDF, RT: 27.601

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.169	D 13C-1,2,3,7,8-PeCDF	100.000	7054937	1208965
2,3,4,7,8-PeCDF	1.186	D 13C-2,3,4,7,8-PeCDF	100.000	6853528	1098578

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.178		100.000	6954232	1153771

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
27.375	235103	42006	141147	24959	4.59	1.67	
Signal Totals:							
	235103	42006	141147	24959			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	376250	66965				1.67	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 4.595 = (376250 * 100.000) / (6954232 * 1.178)

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Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_10.d		
Injection Date:	19-Oct-2019 01:37:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

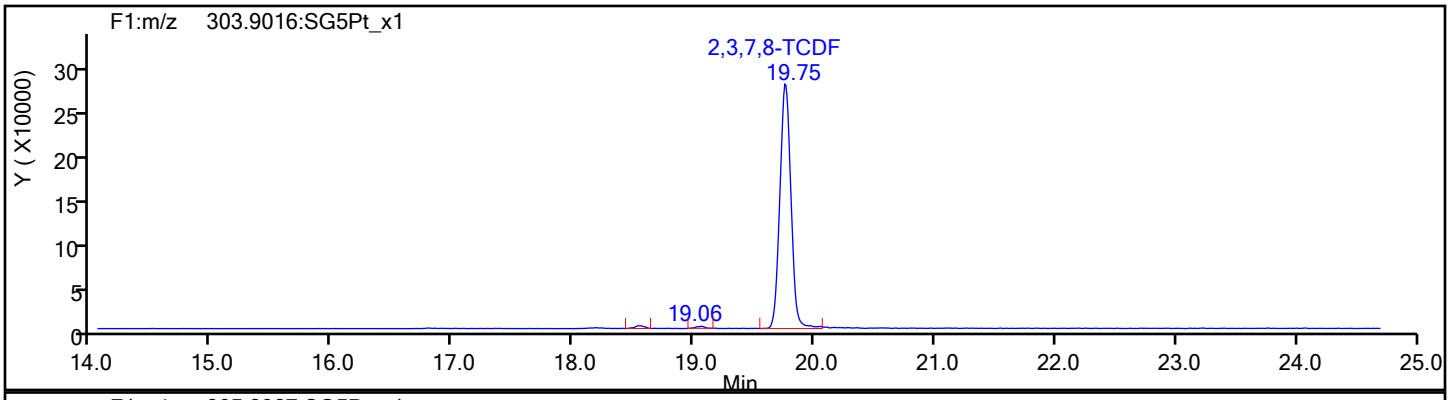

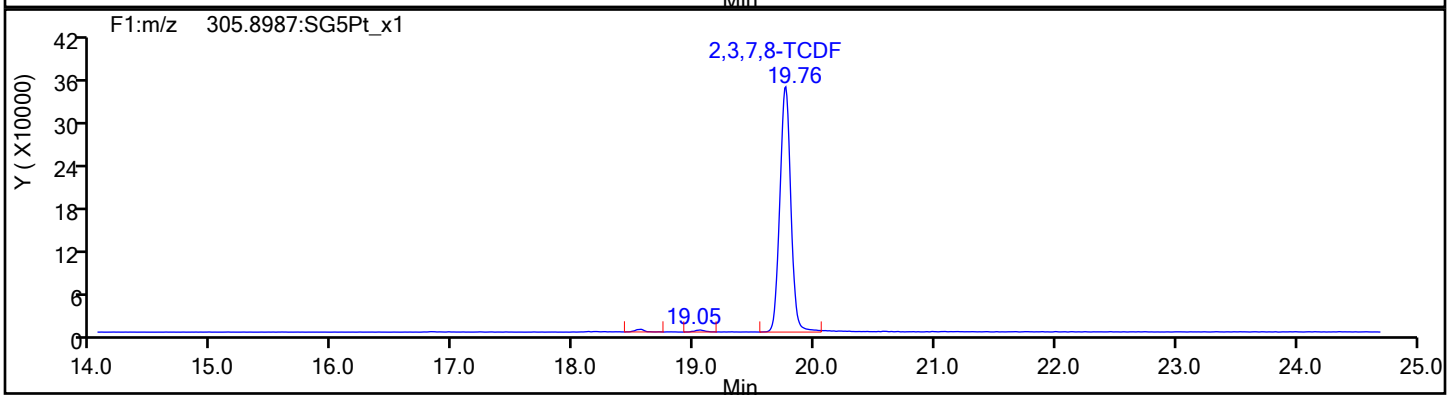

TCDF Standards

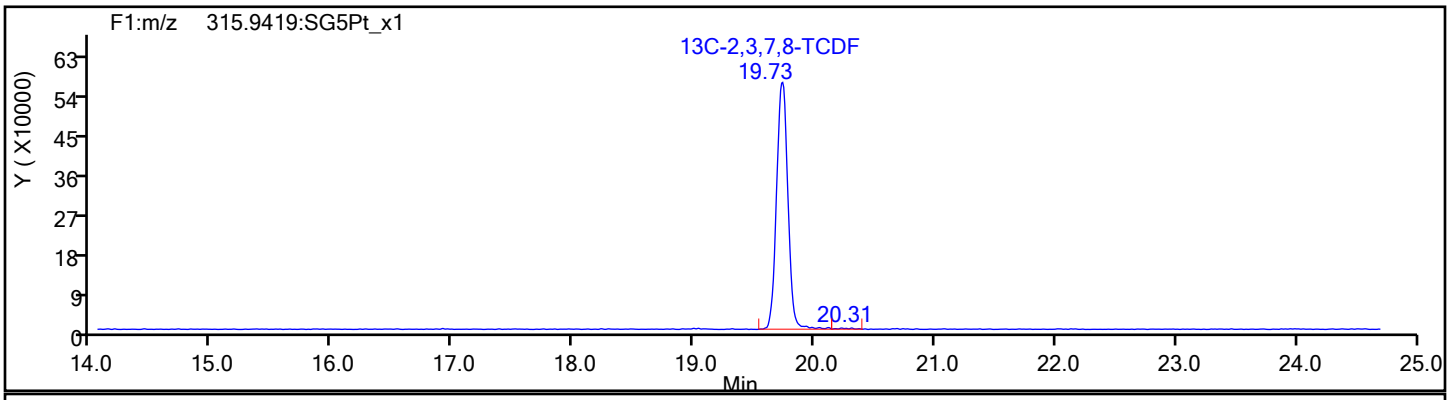

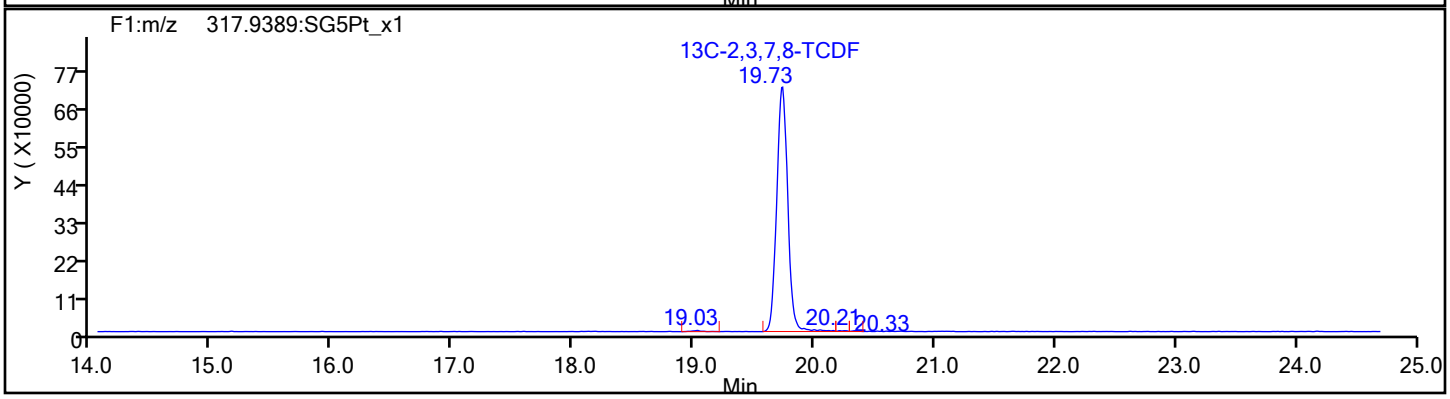

Report Date: 23-Oct-2019 12:13:12 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_10.d		
Injection Date:	19-Oct-2019 01:37:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

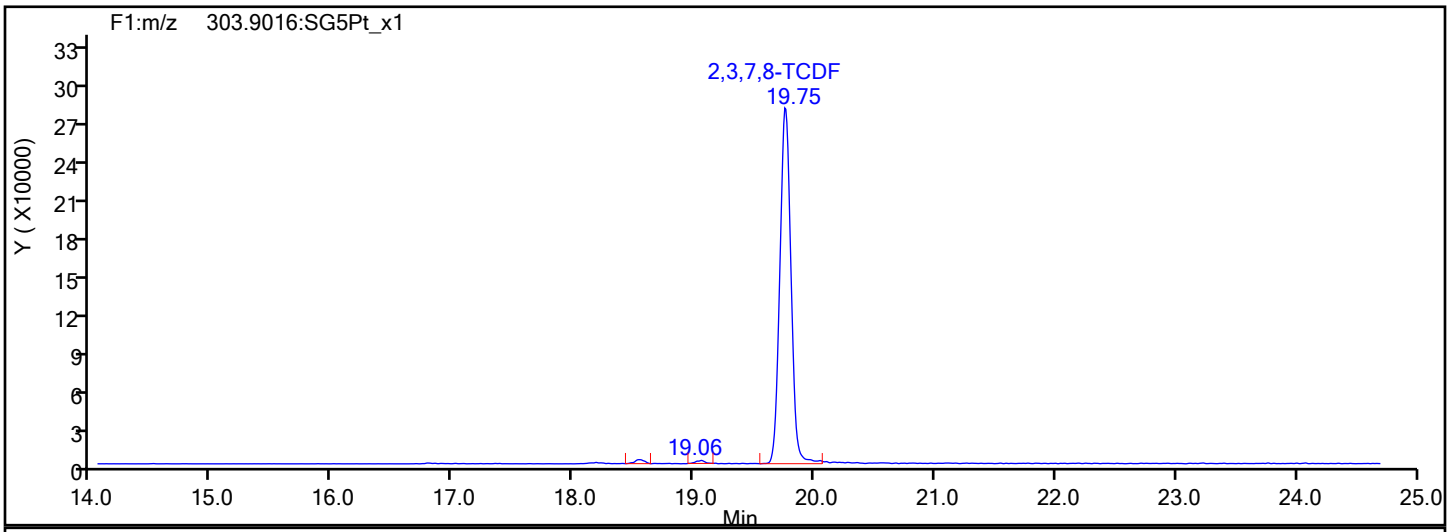

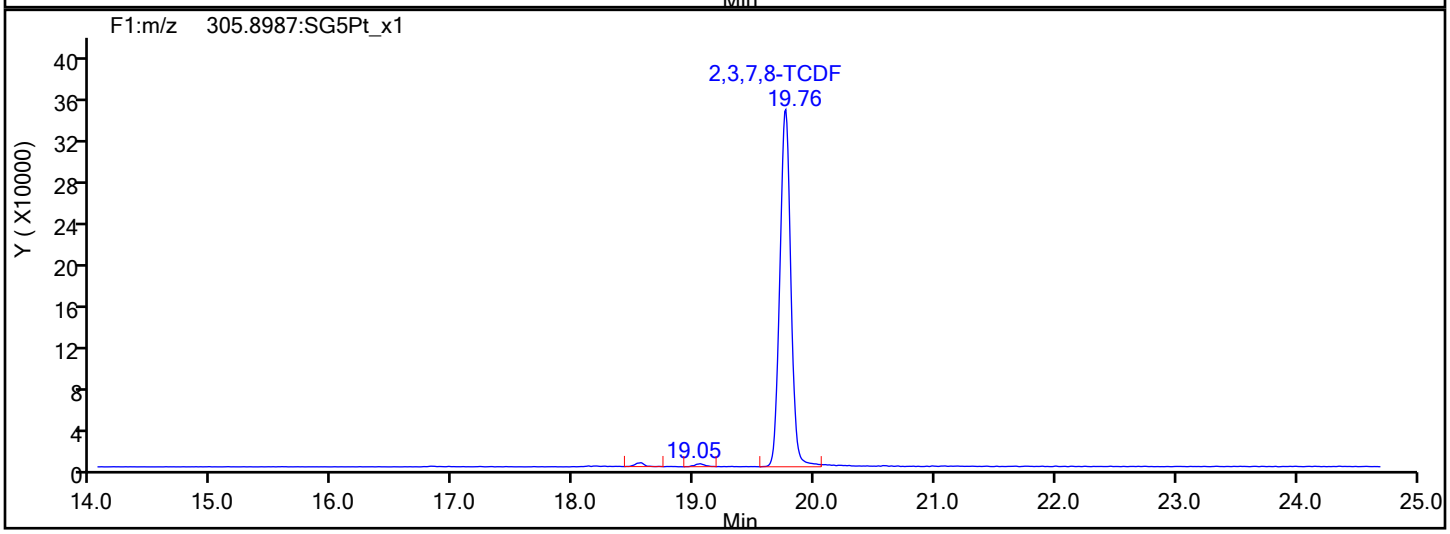

TCDF Interference Mass

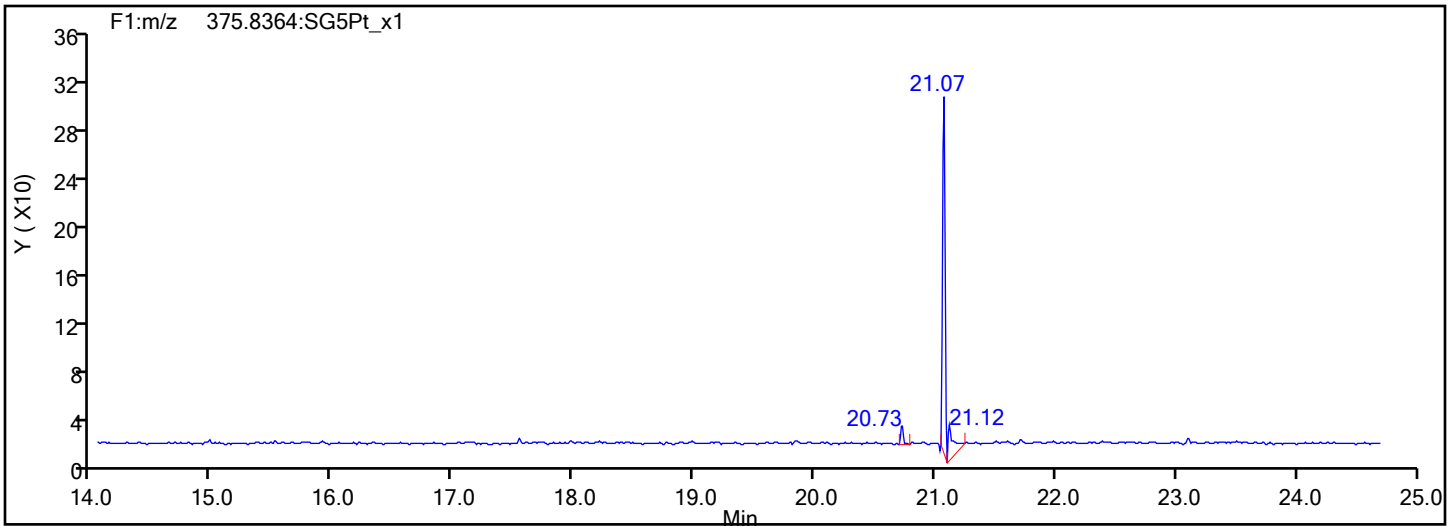

Report Date: 23-Oct-2019 12:13:12 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_10.d		
Injection Date:	19-Oct-2019 01:37:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

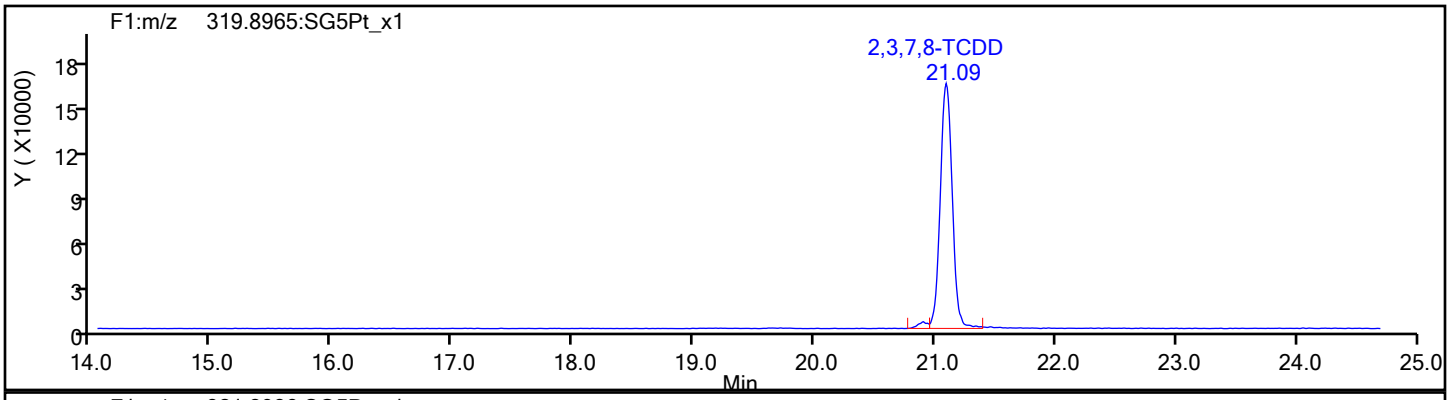

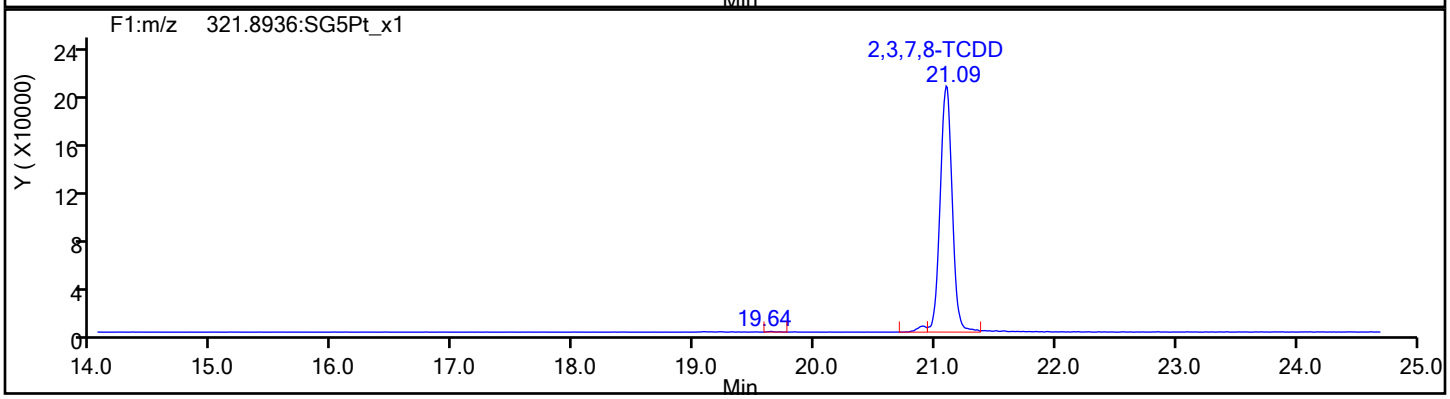

TCDD Standards

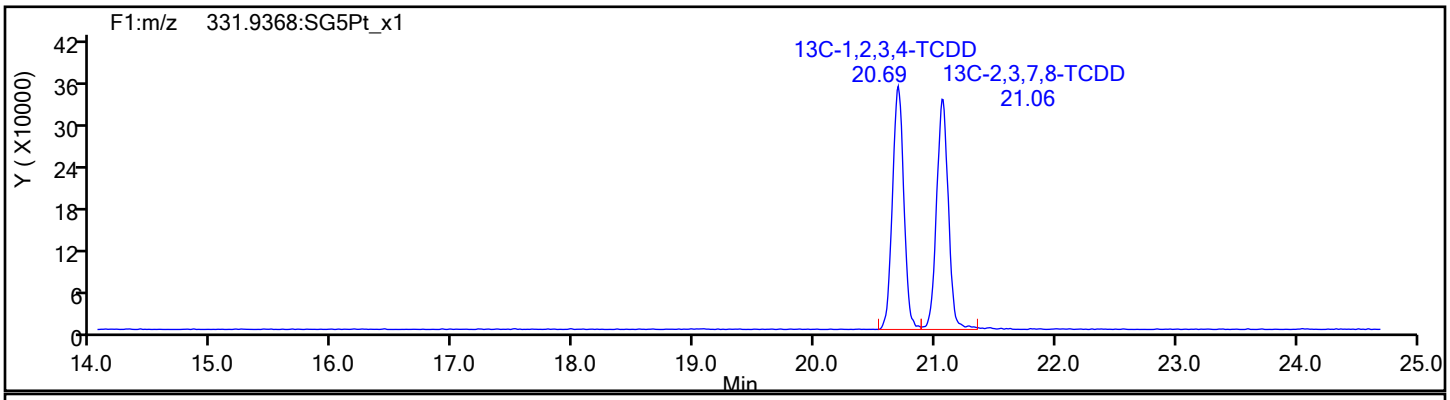

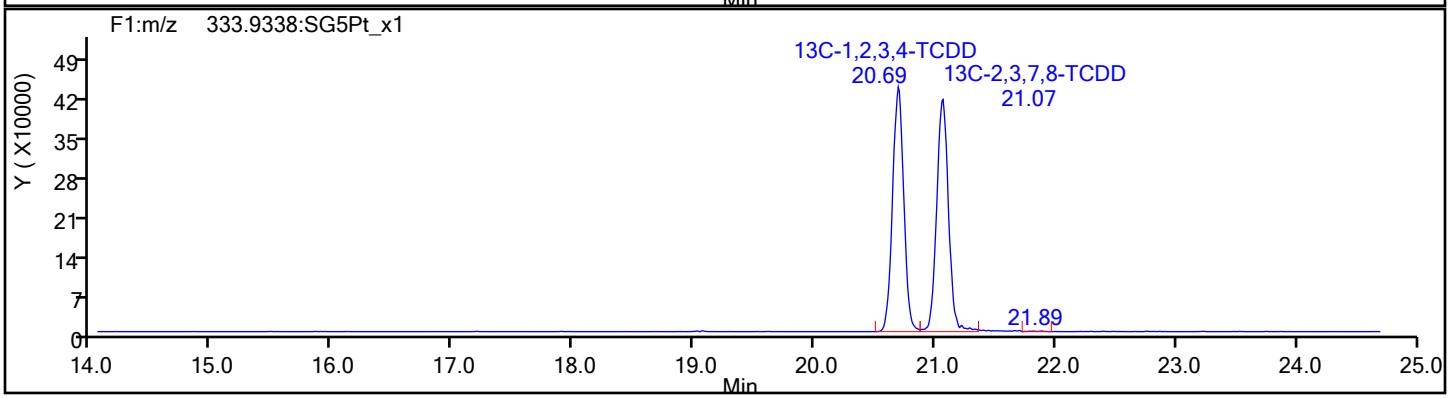

Report Date: 23-Oct-2019 12:13:12 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_10.d		
Injection Date:	19-Oct-2019 01:37:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

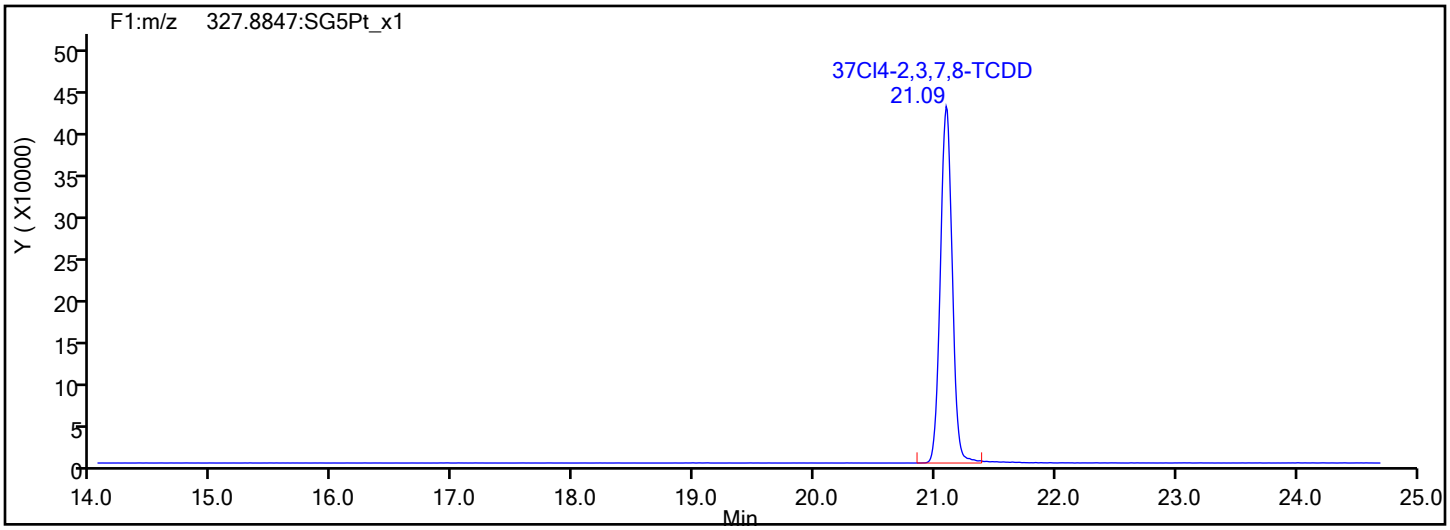

37Cl4-TCDD Standards

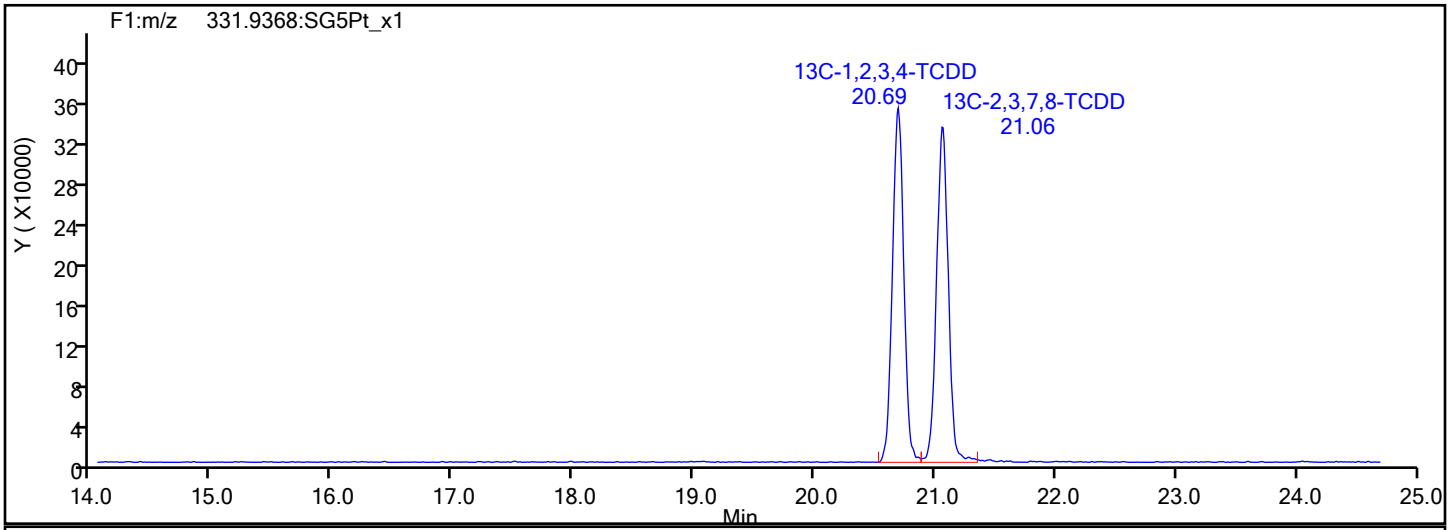

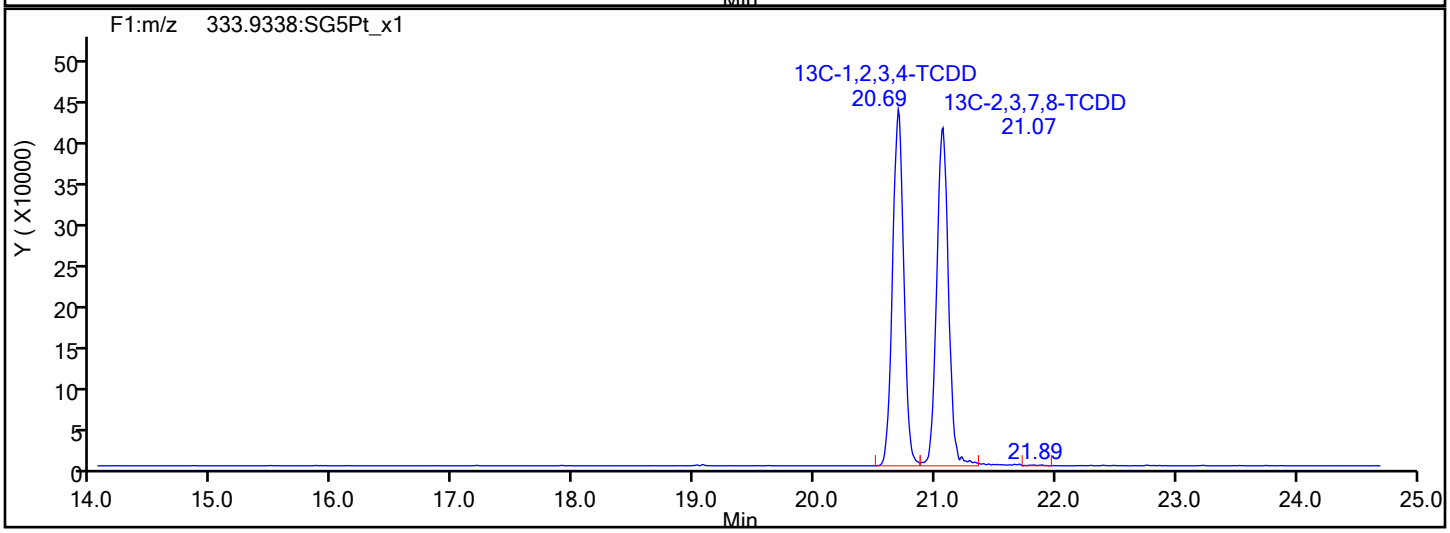

Report Date: 23-Oct-2019 12:13:12 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_10.d		
Injection Date:	19-Oct-2019 01:37:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

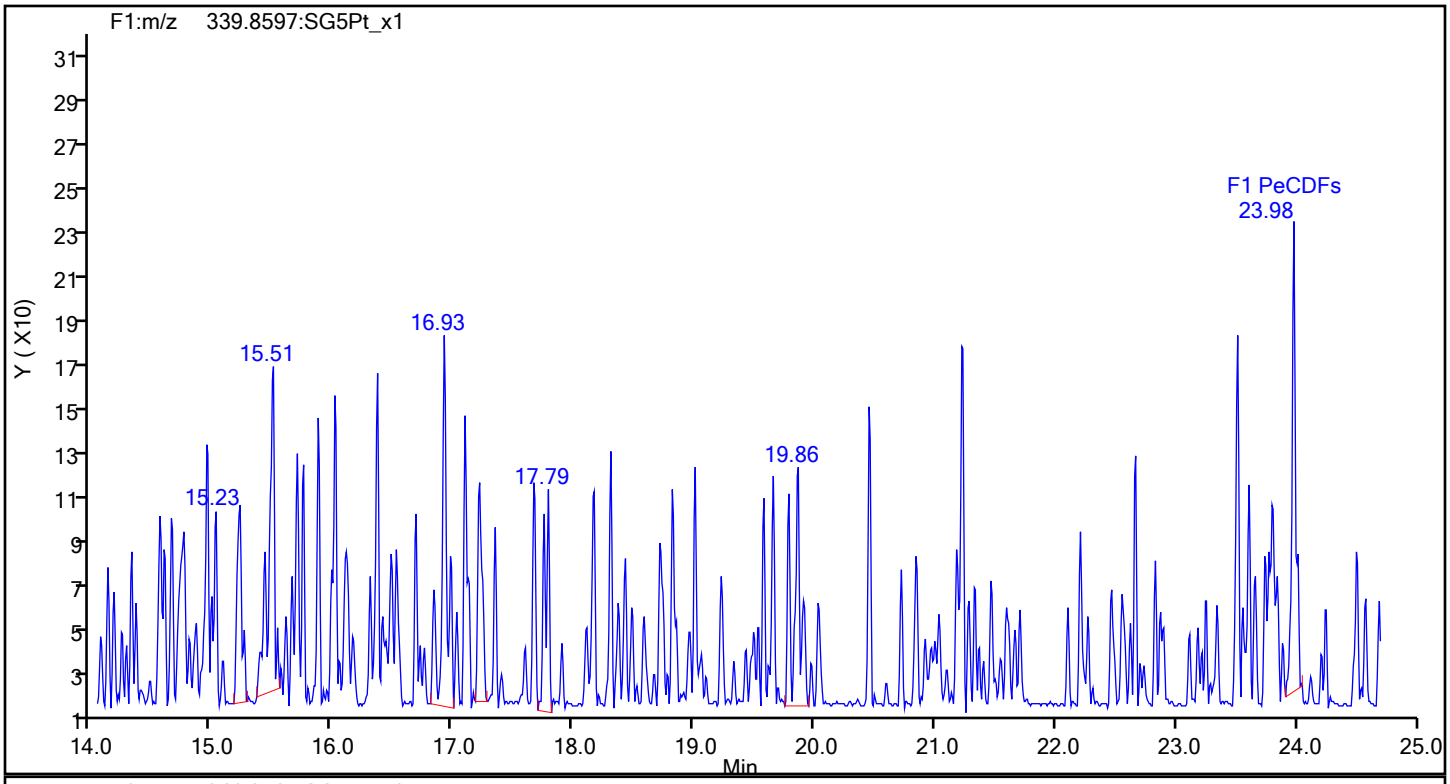

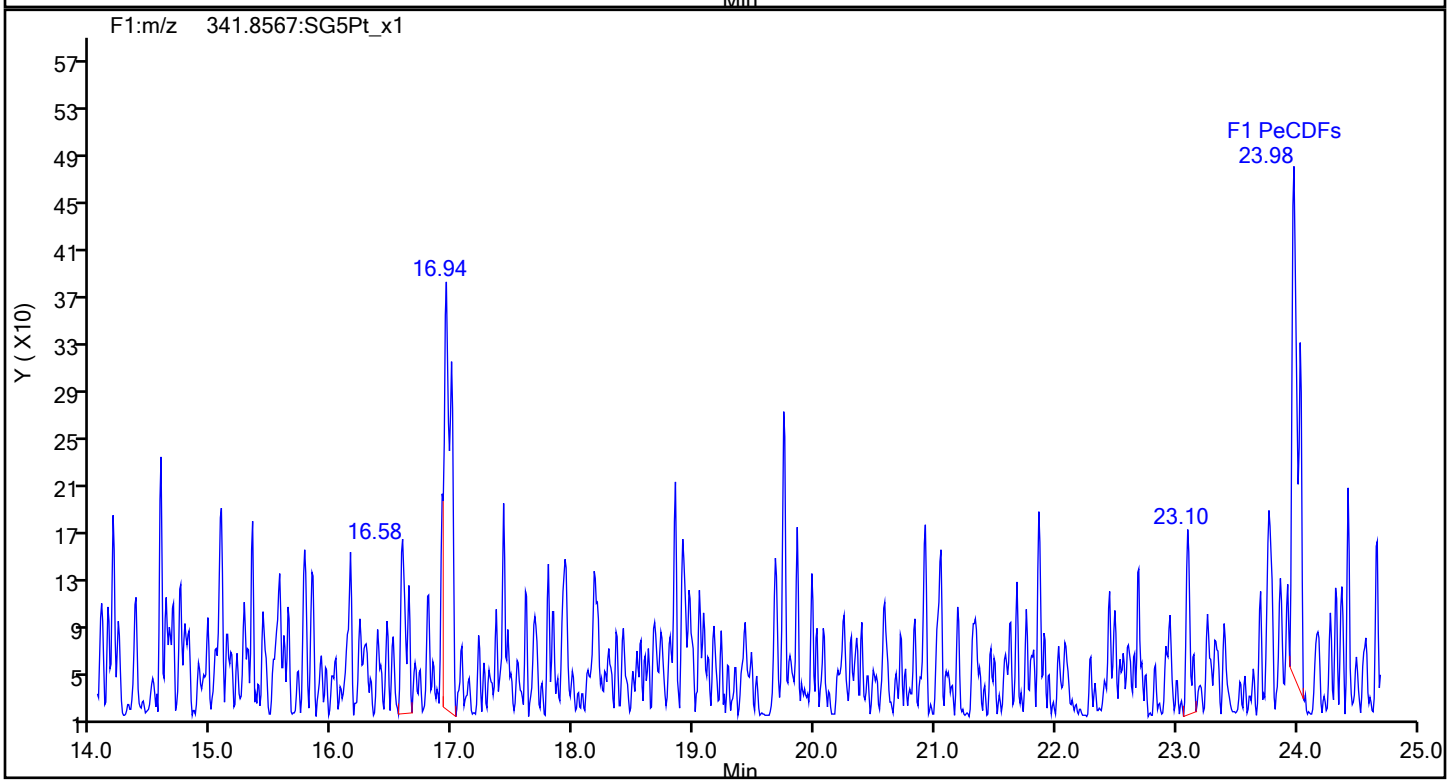

Report Date: 23-Oct-2019 12:13:12 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_10.d		
Injection Date:	19-Oct-2019 01:37:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

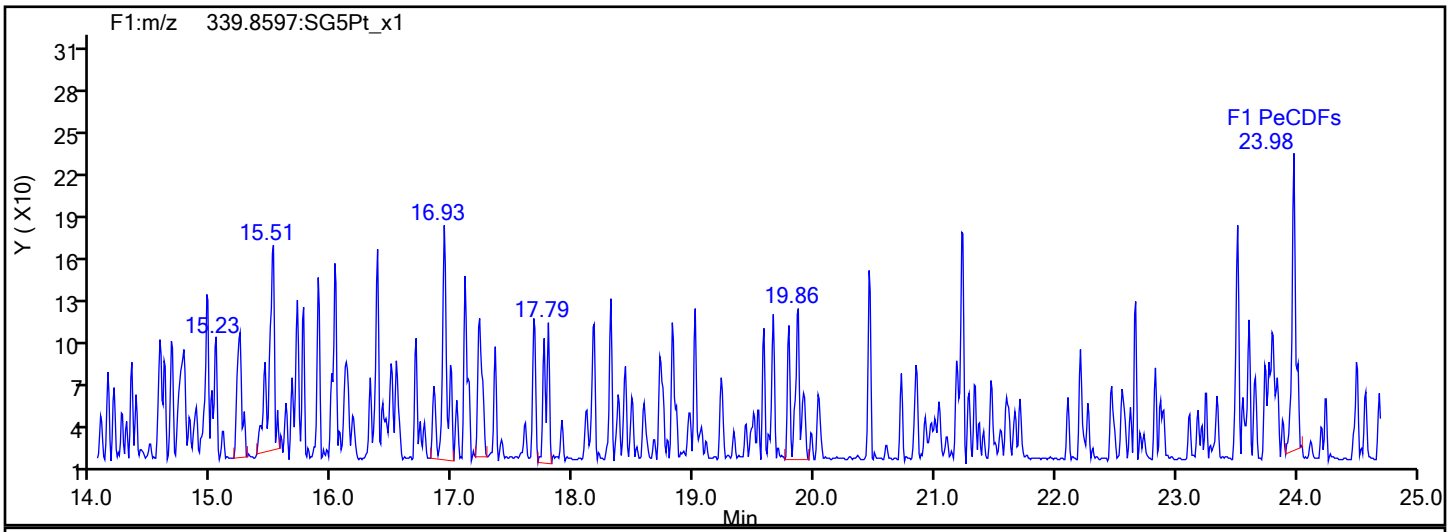

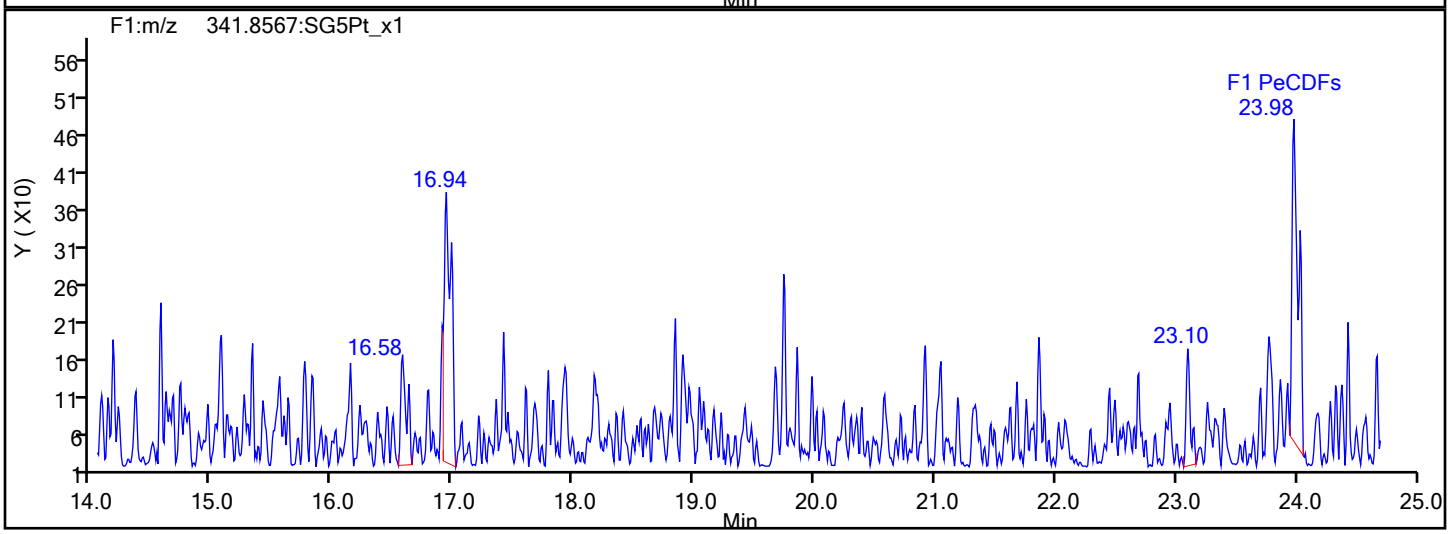

F1 PeCDFs Interference Mass

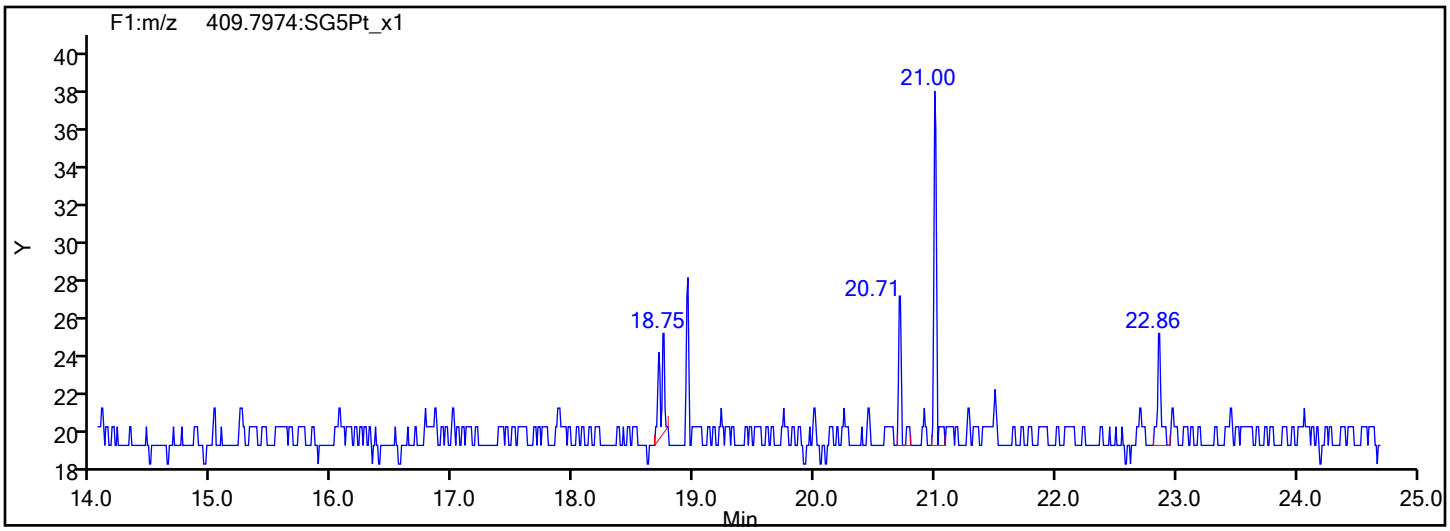

Report Date: 23-Oct-2019 12:13:12 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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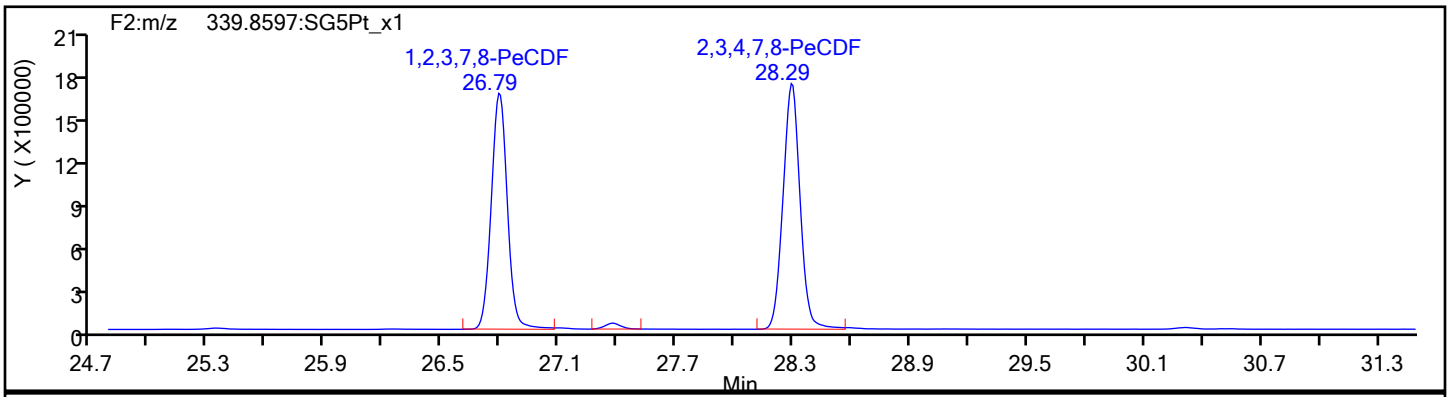

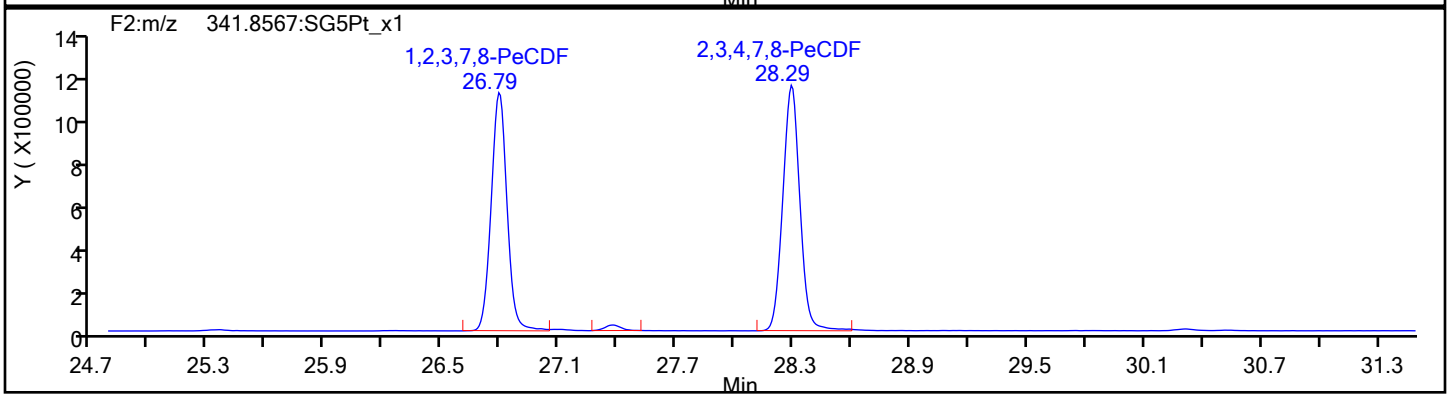

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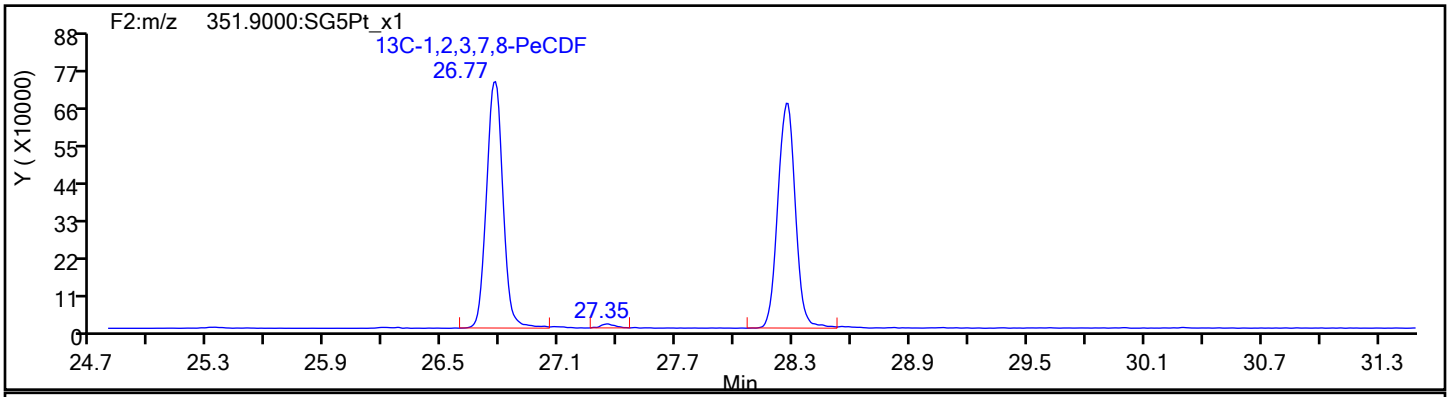

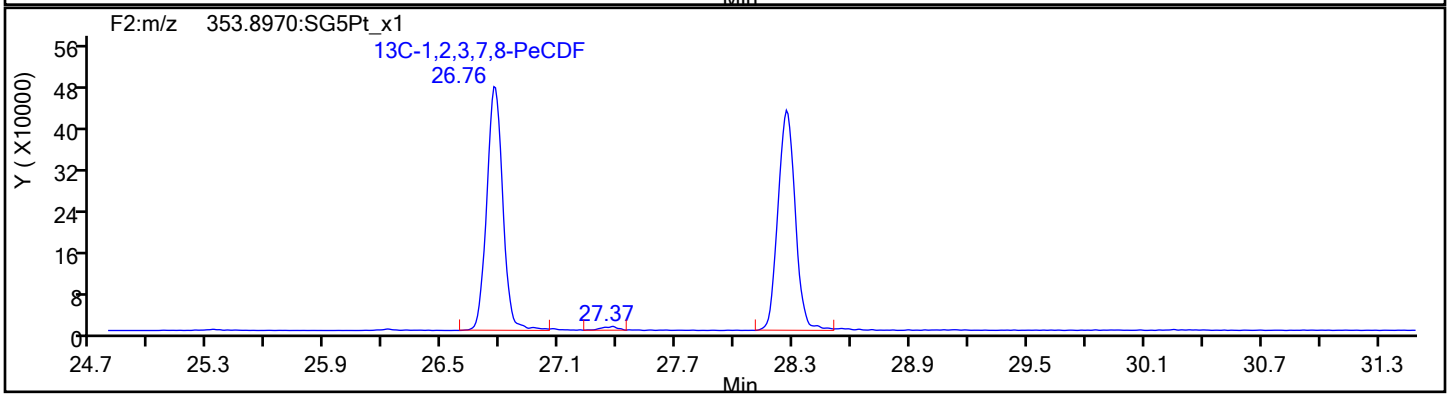

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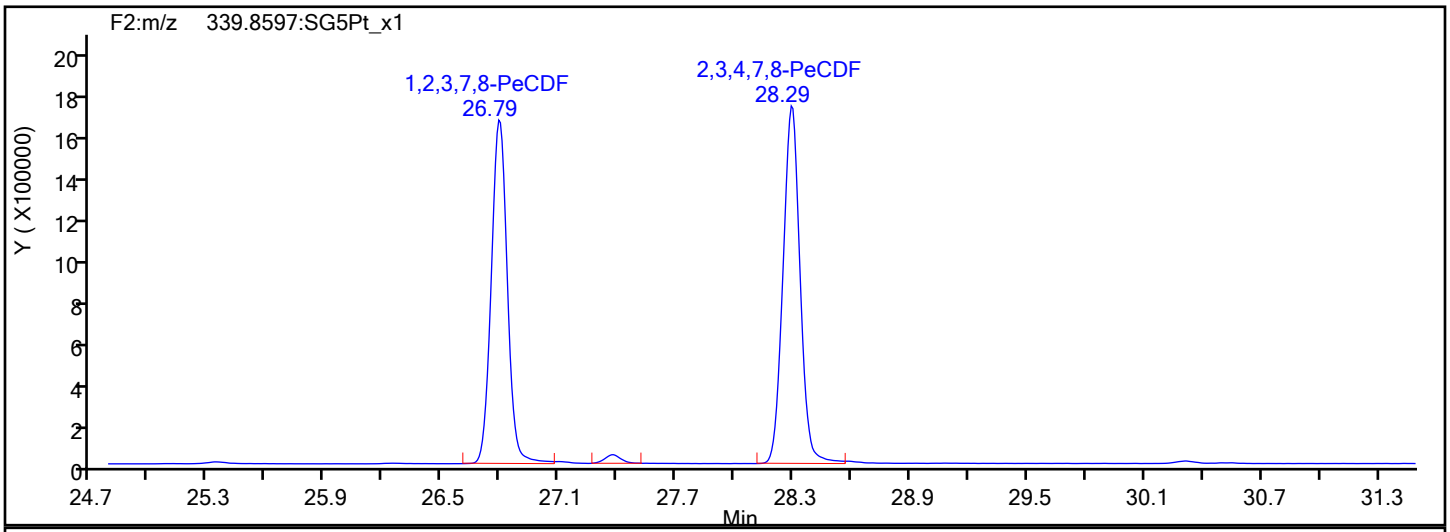

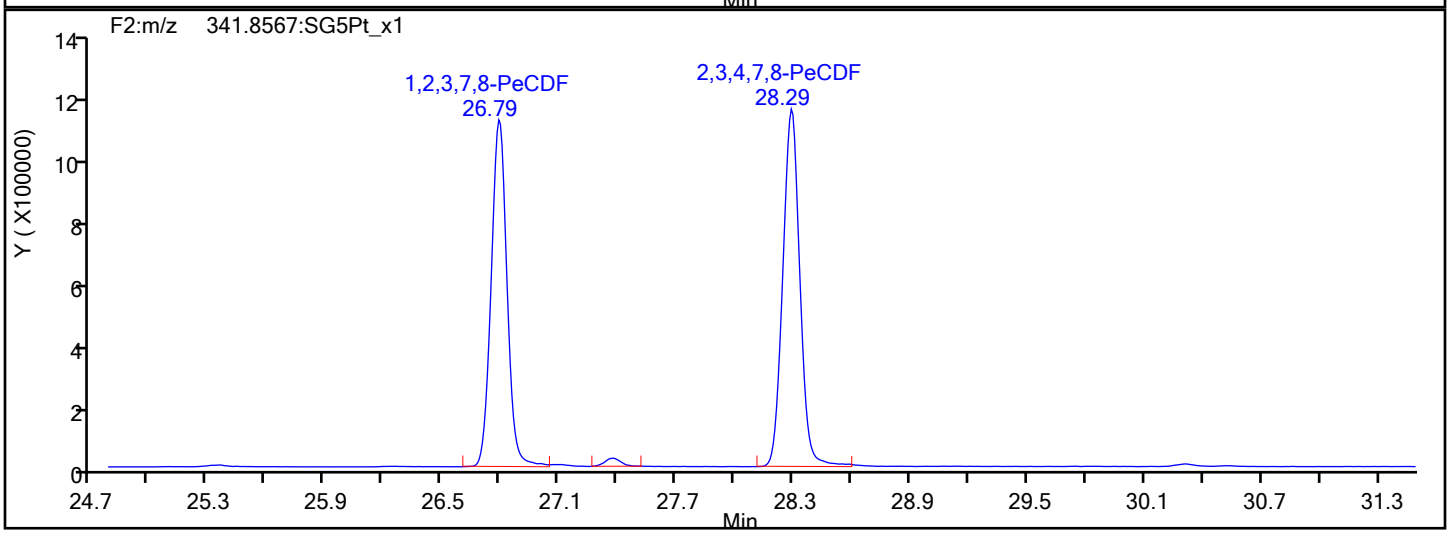

PeCDF Interference Mass

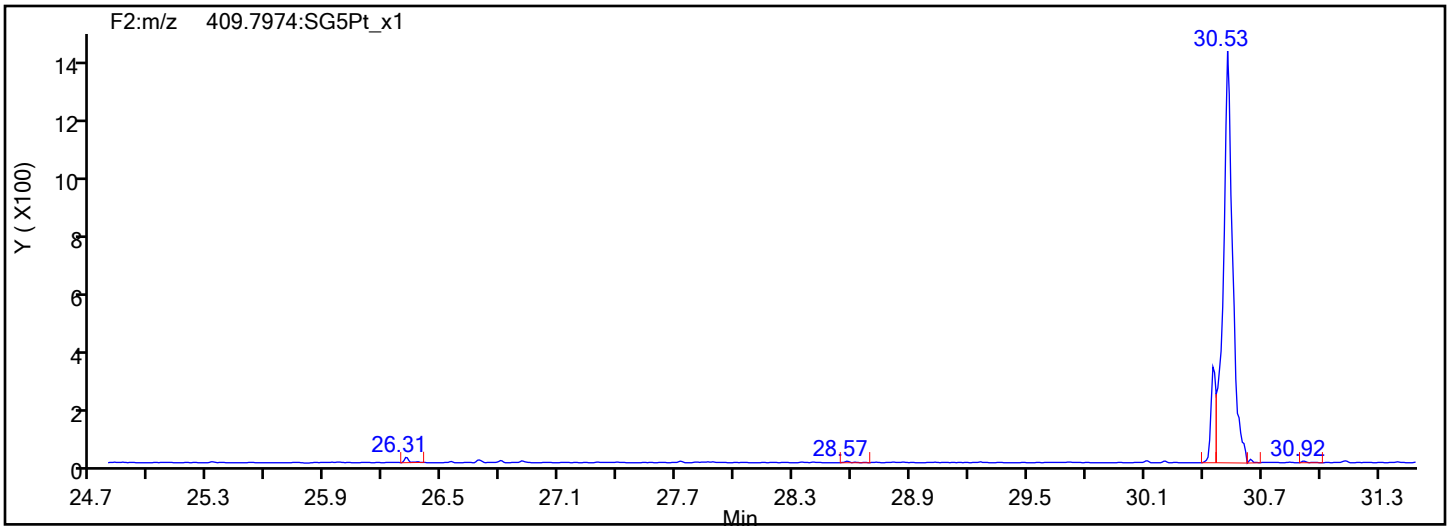

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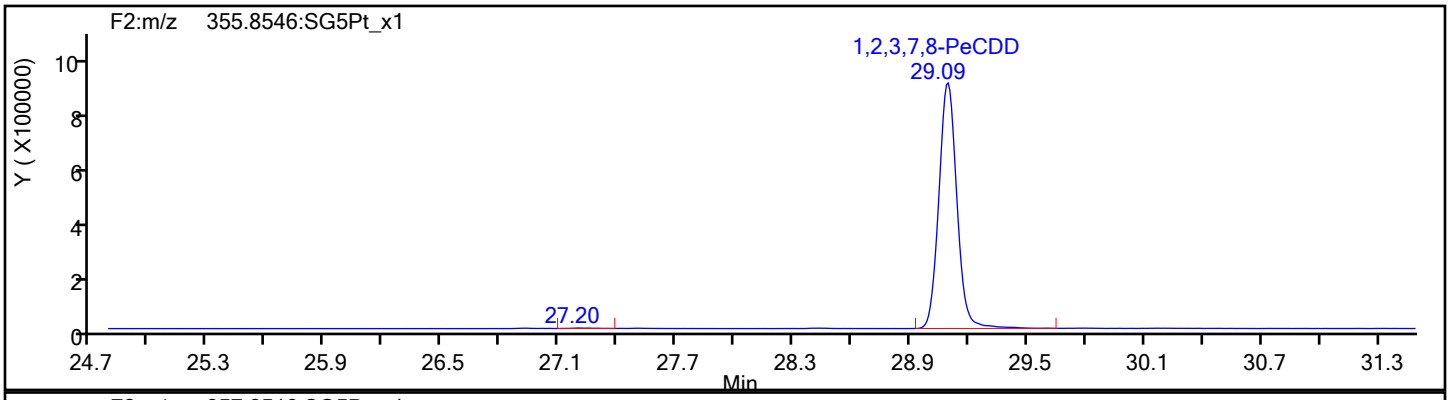

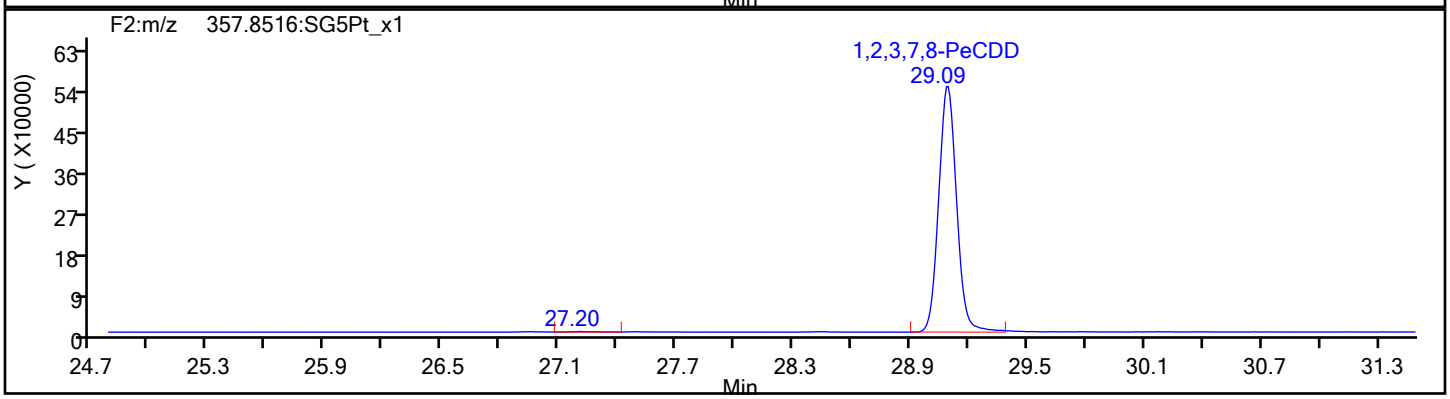

PeCDD Standards

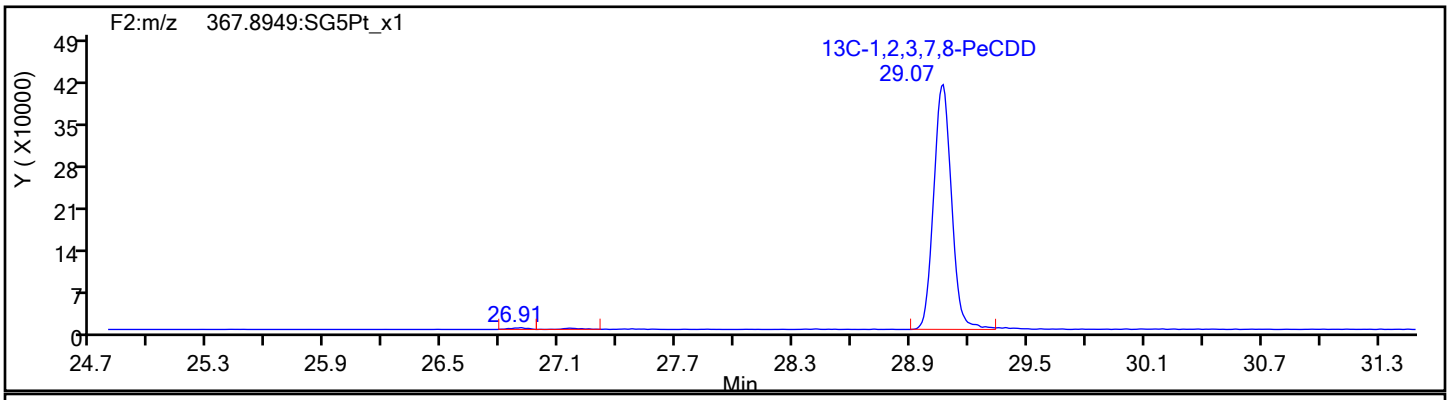

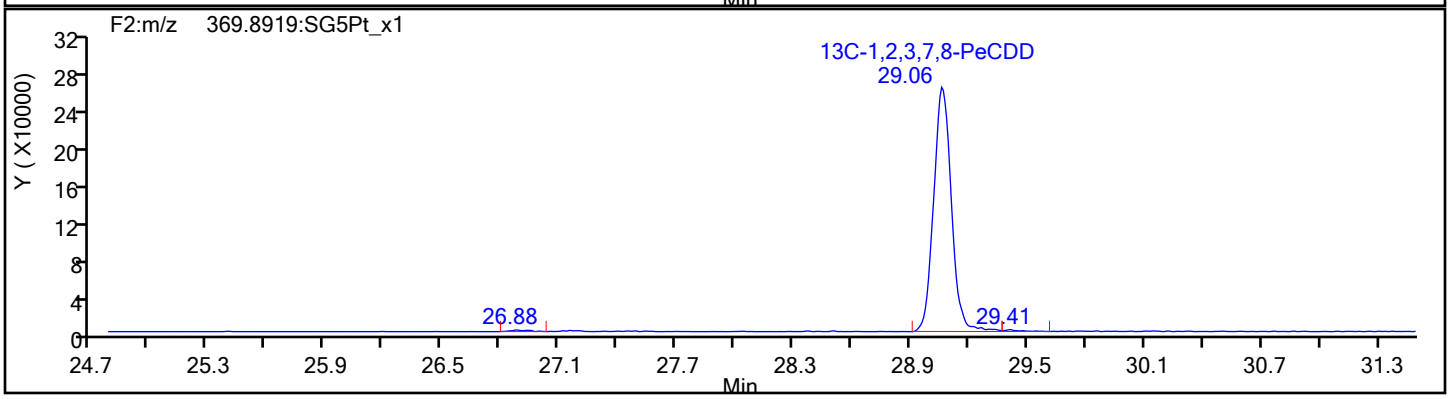

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Eurofins TestAmerica, Sacramento

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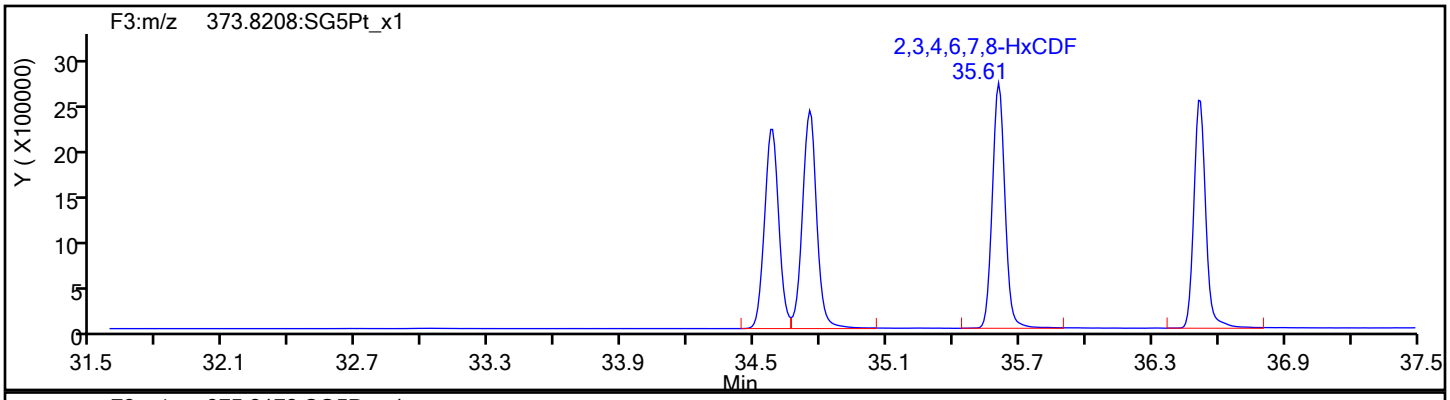

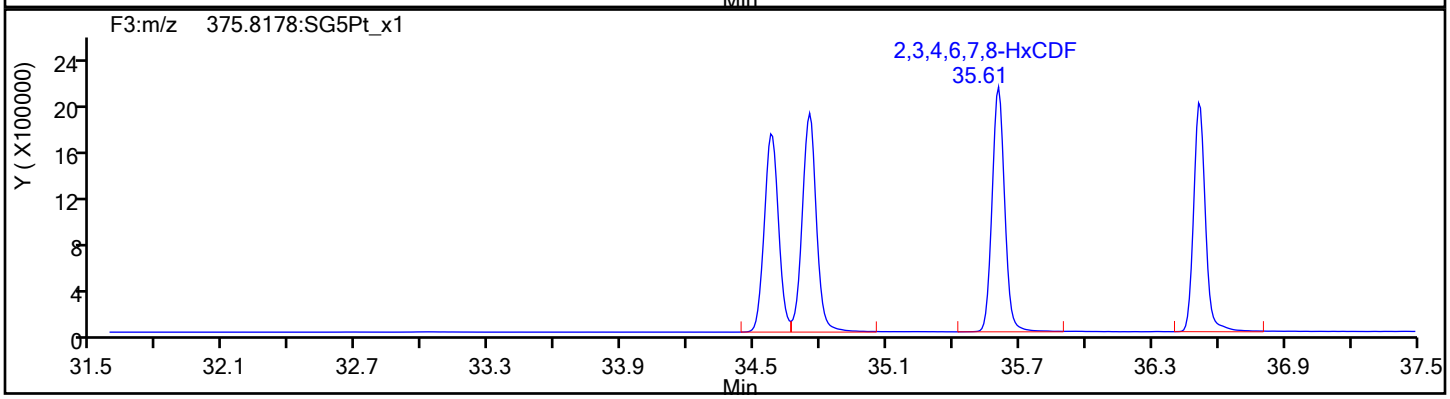

HxCDF Standards

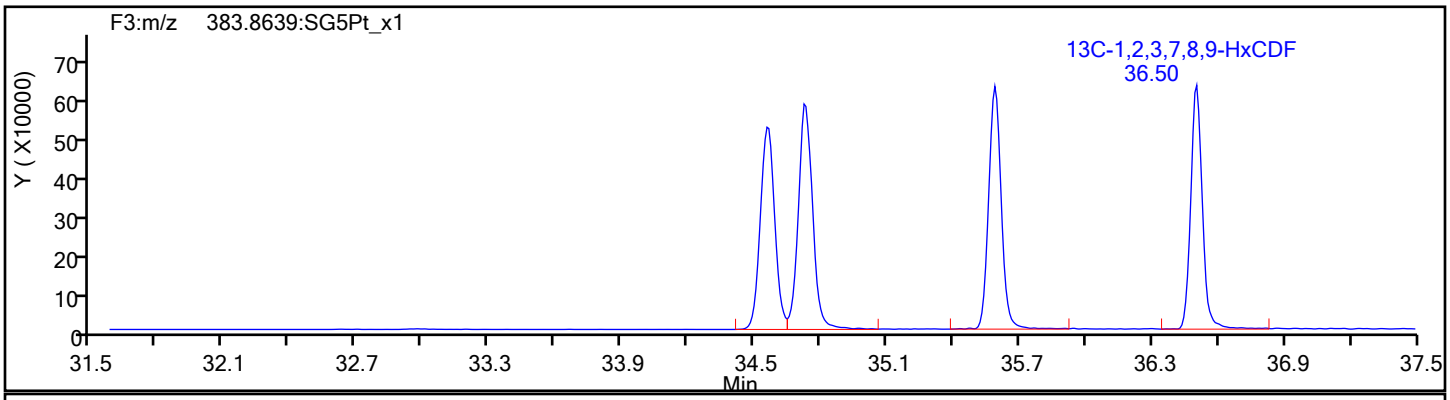

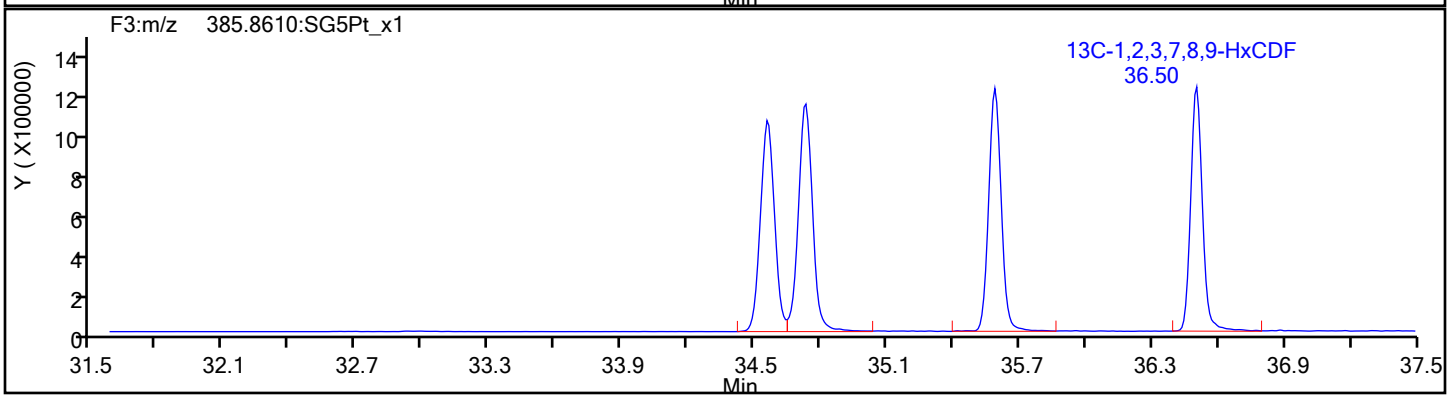

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Eurofins TestAmerica, Sacramento

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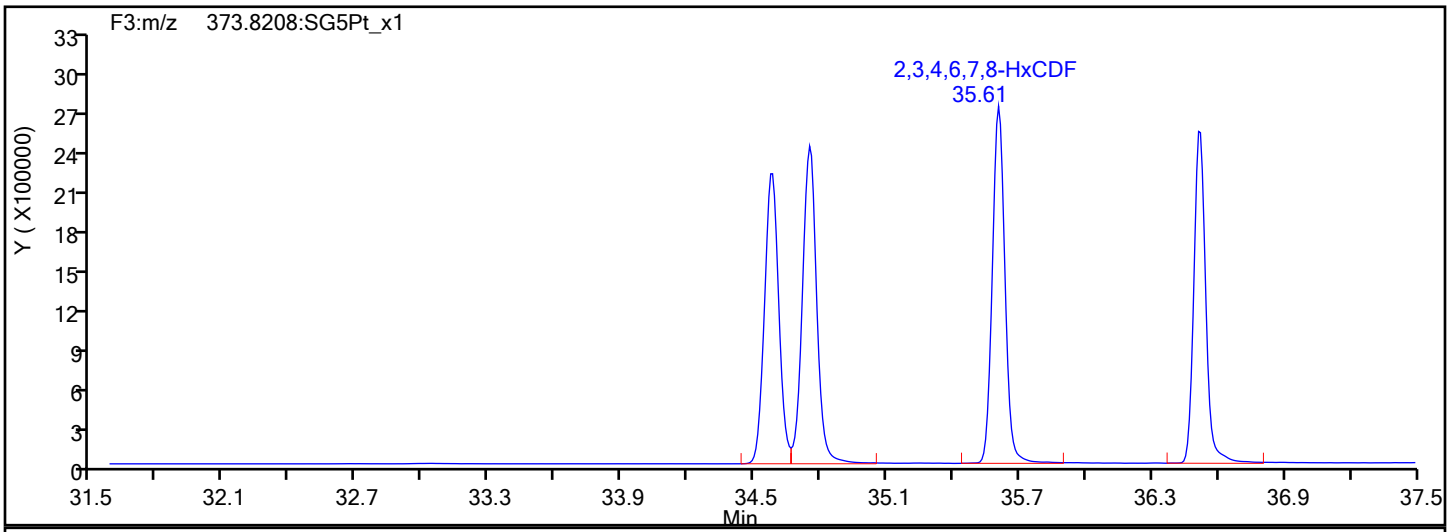

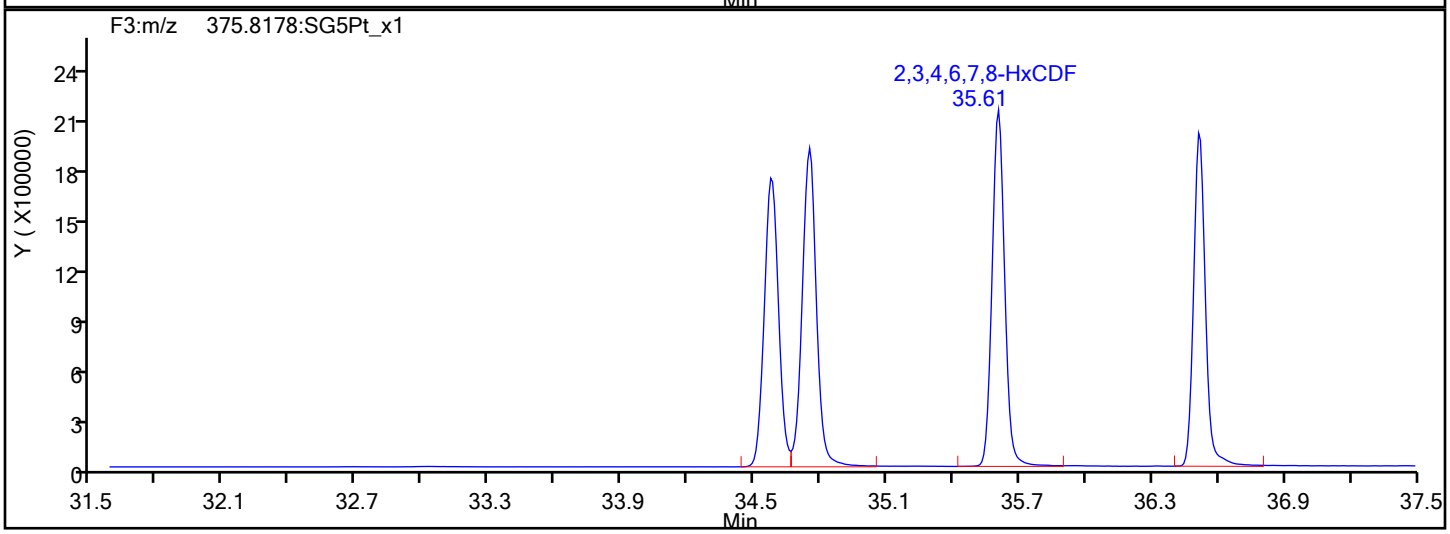

HxCDF Interference Mass

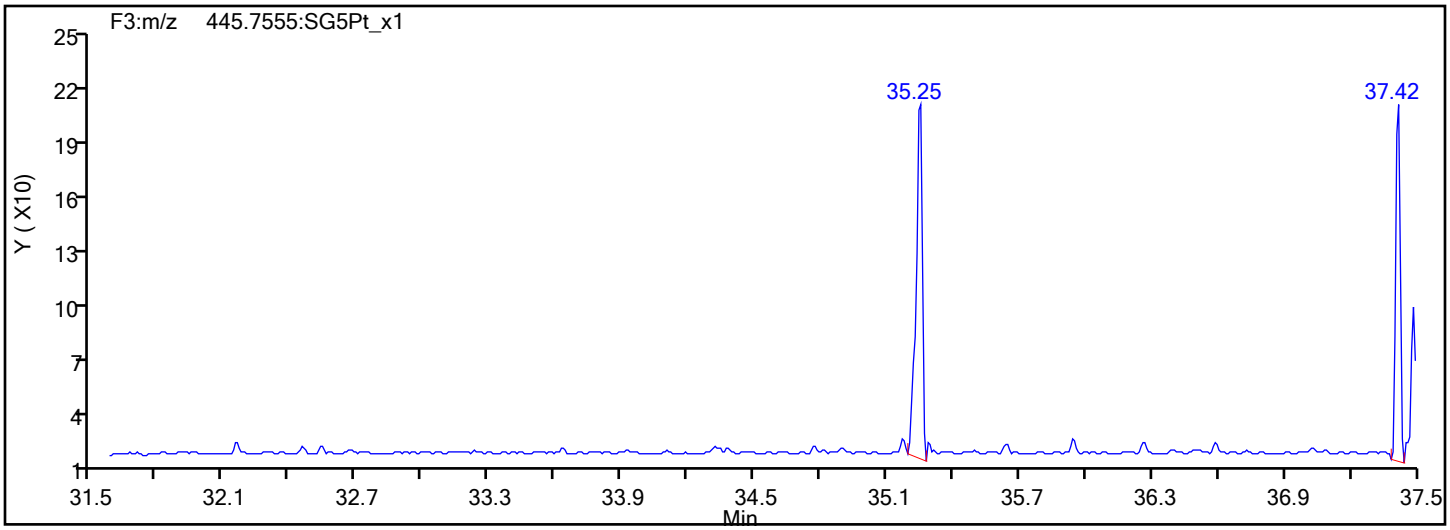

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Eurofins TestAmerica, Sacramento

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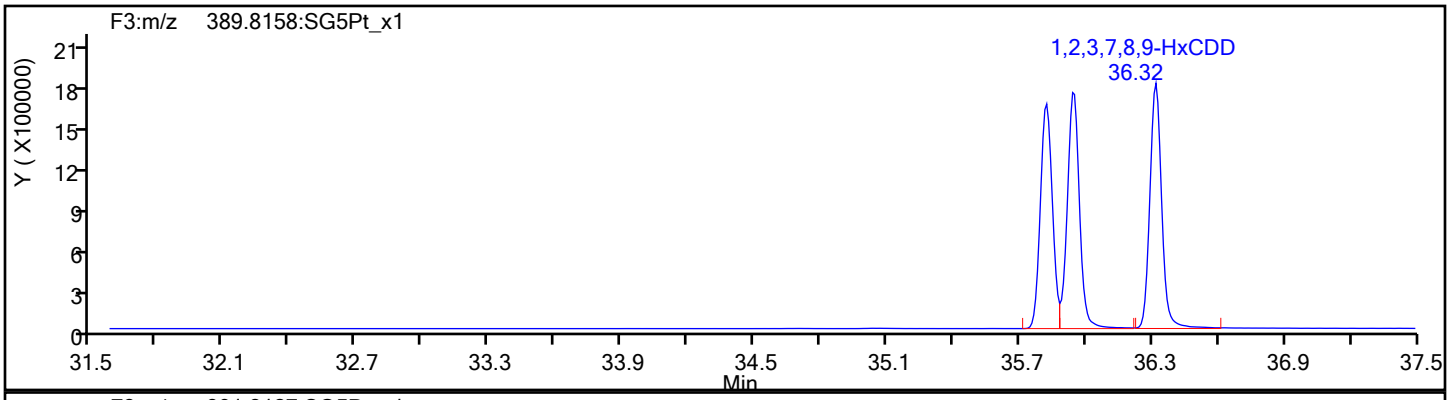

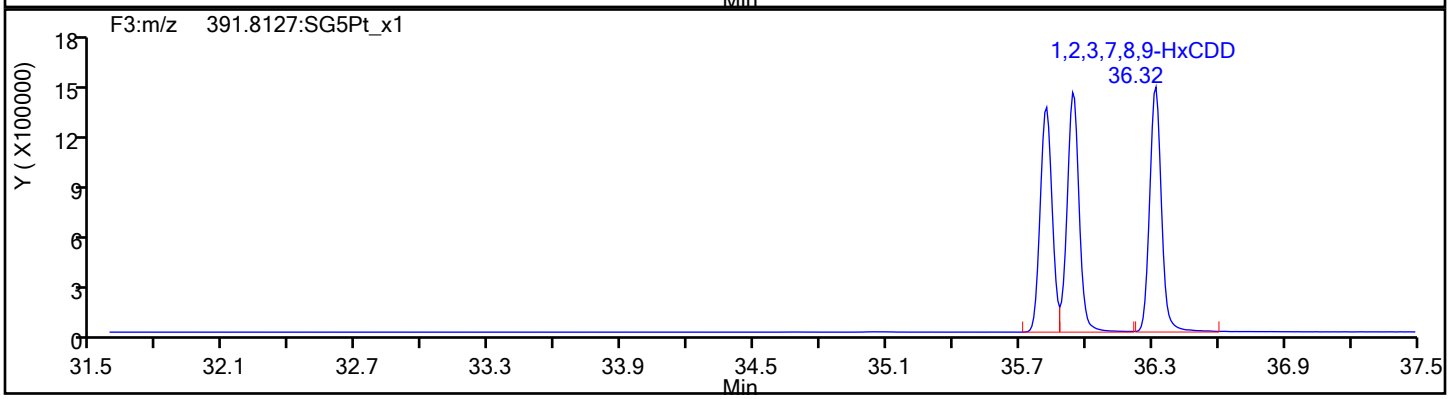

HxCDD Standards

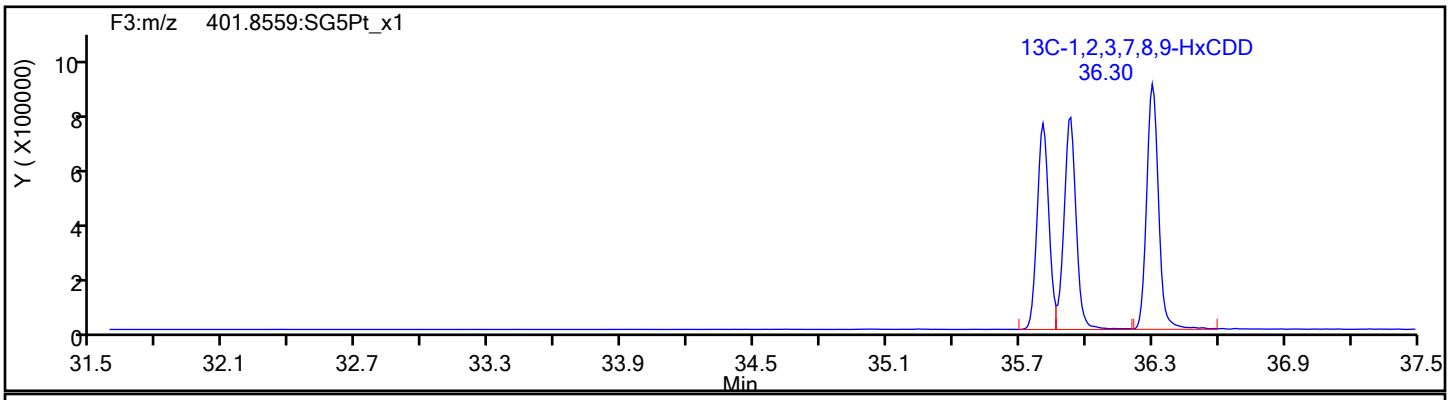

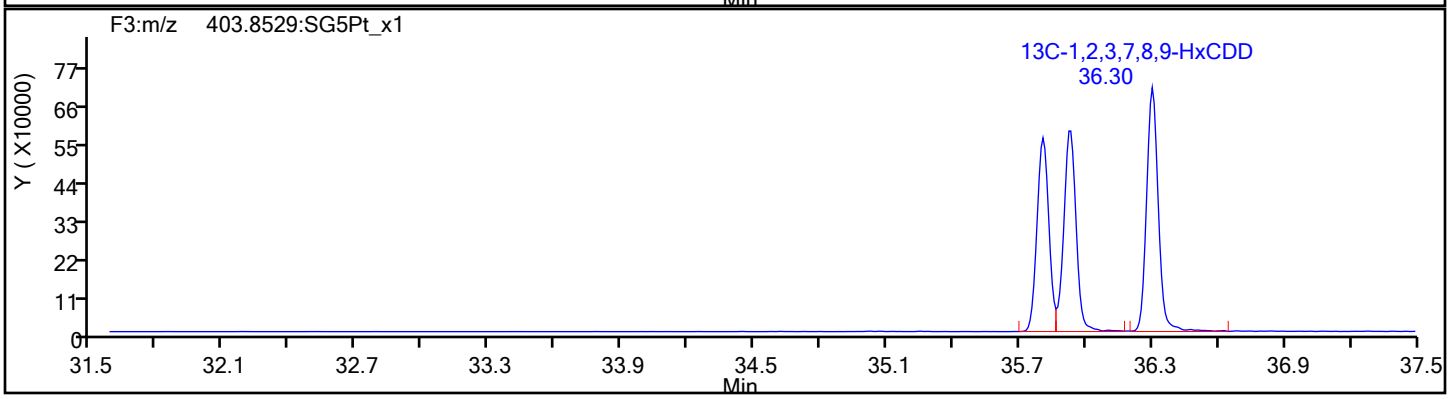

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Eurofins TestAmerica, Sacramento

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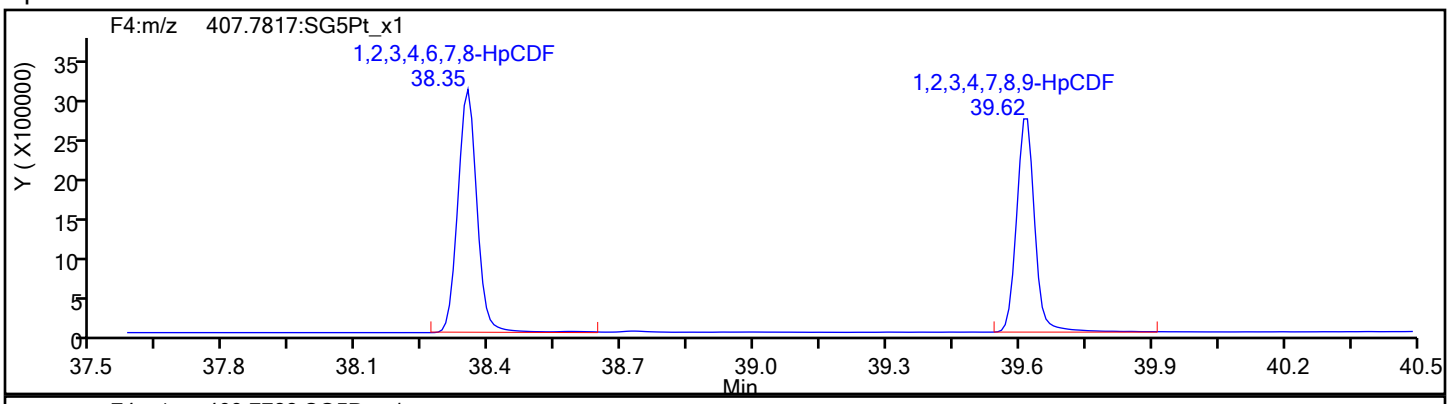

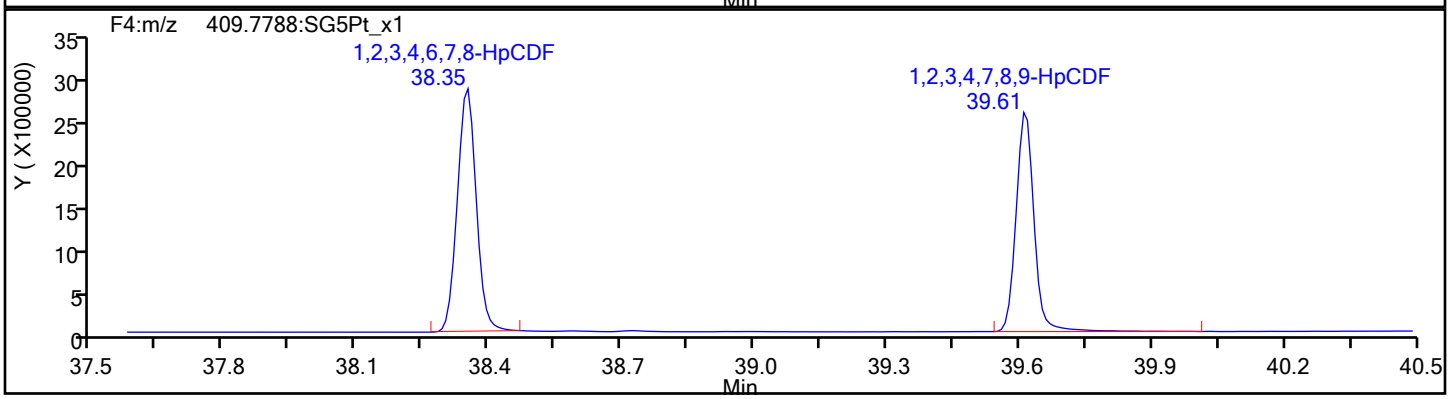

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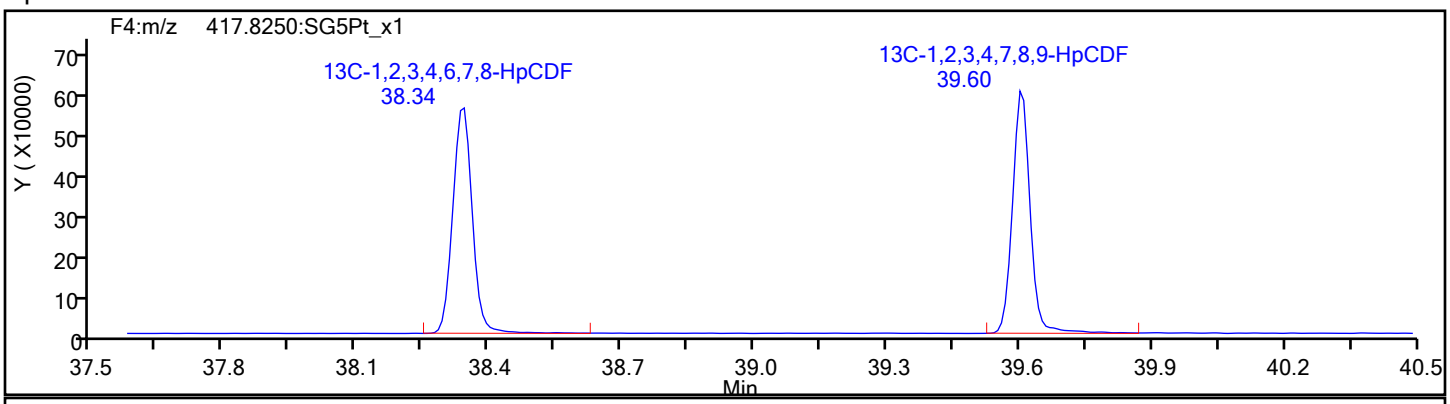

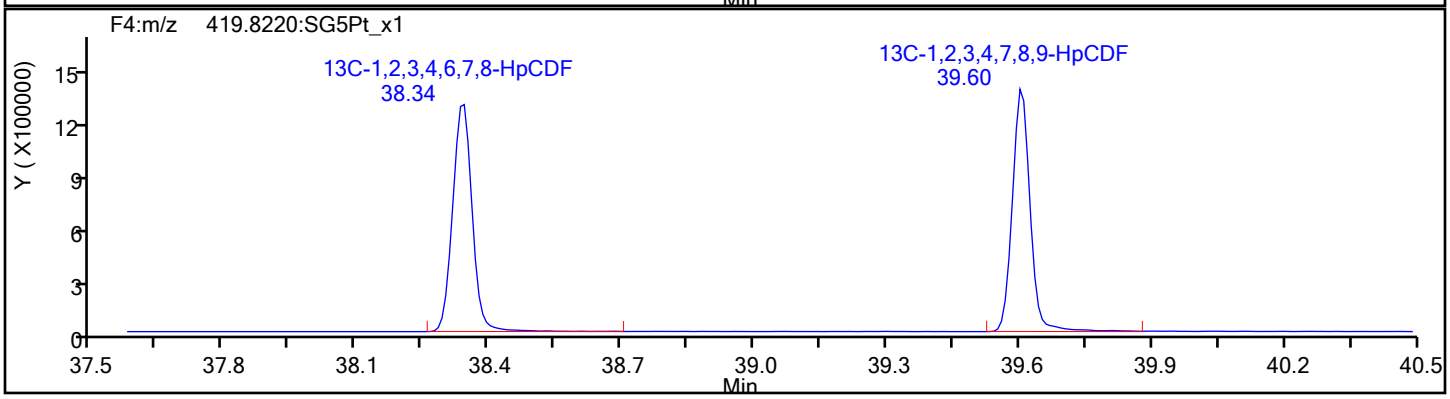

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Eurofins TestAmerica, Sacramento

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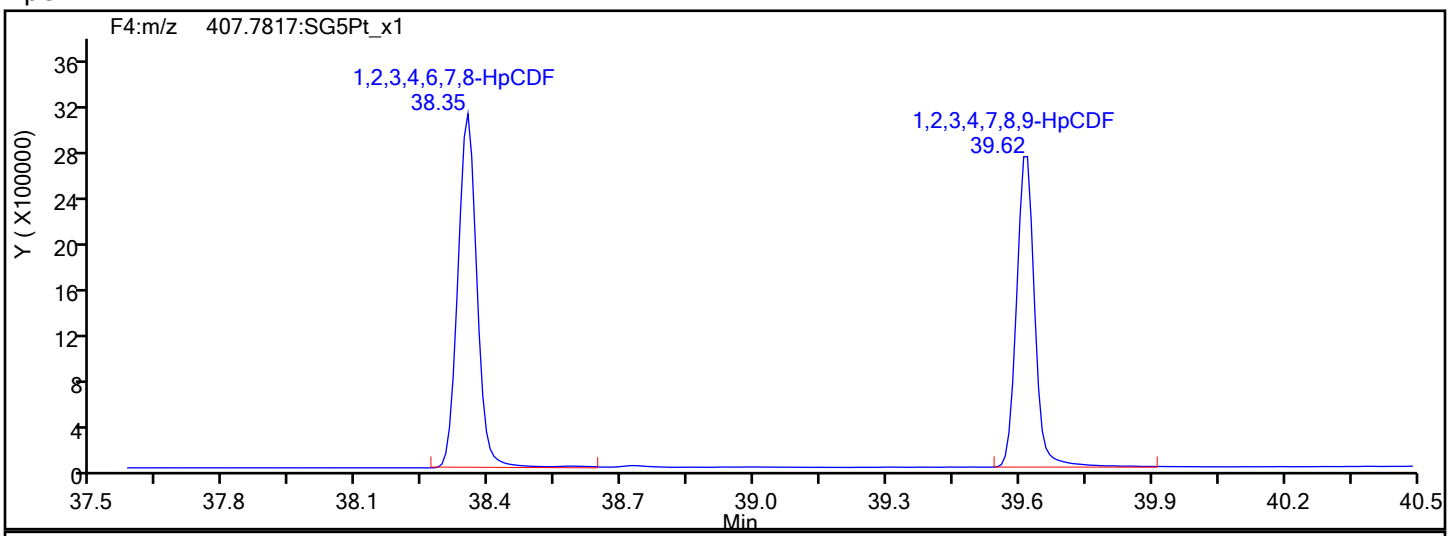

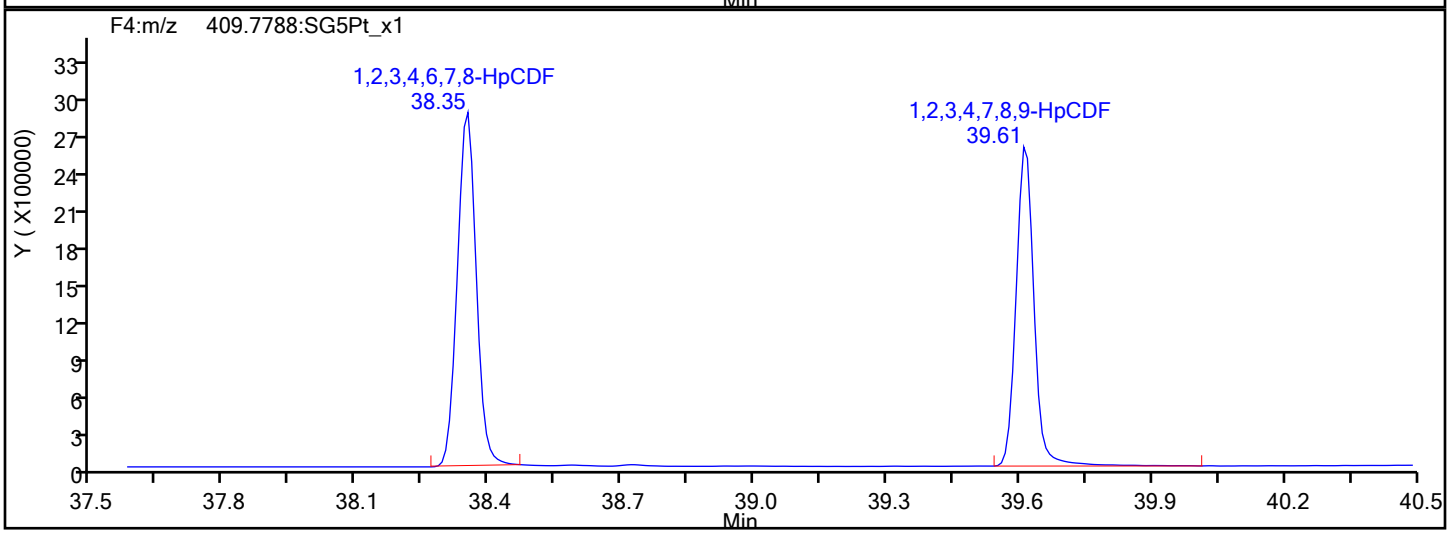

HpCDF Interference Mass

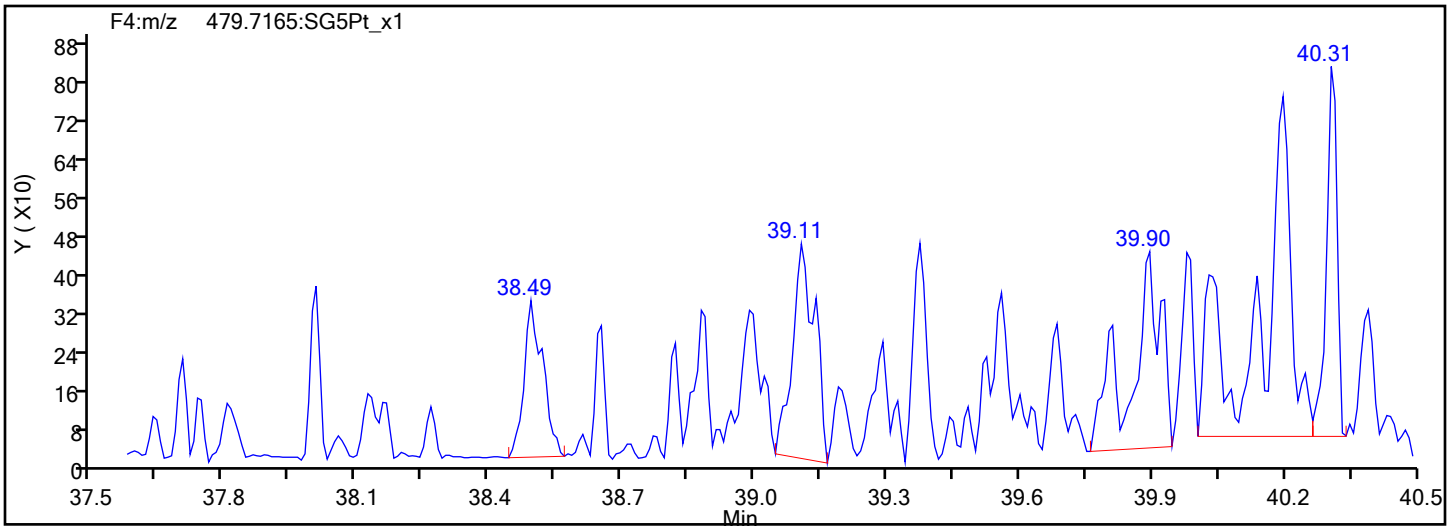

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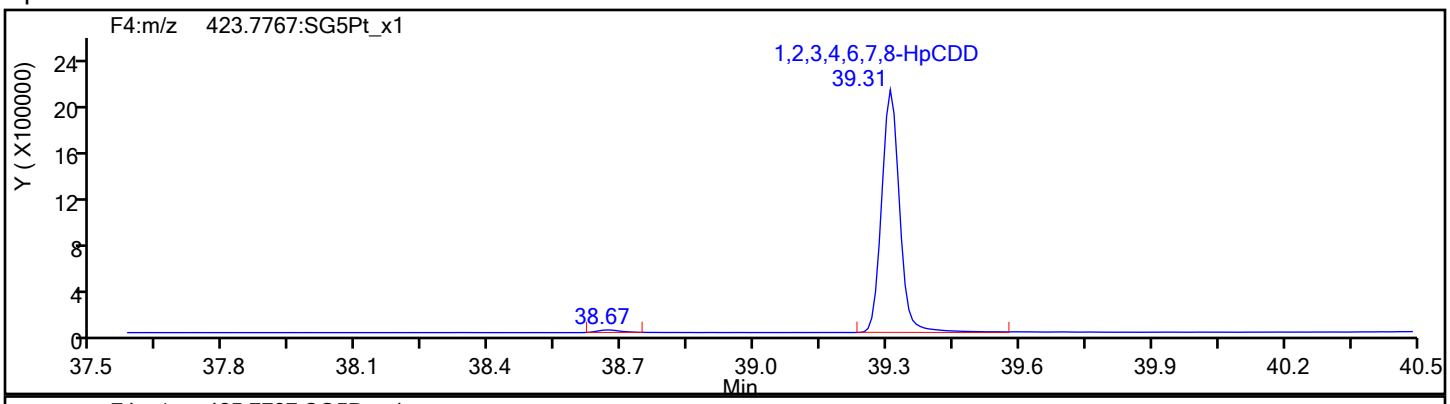

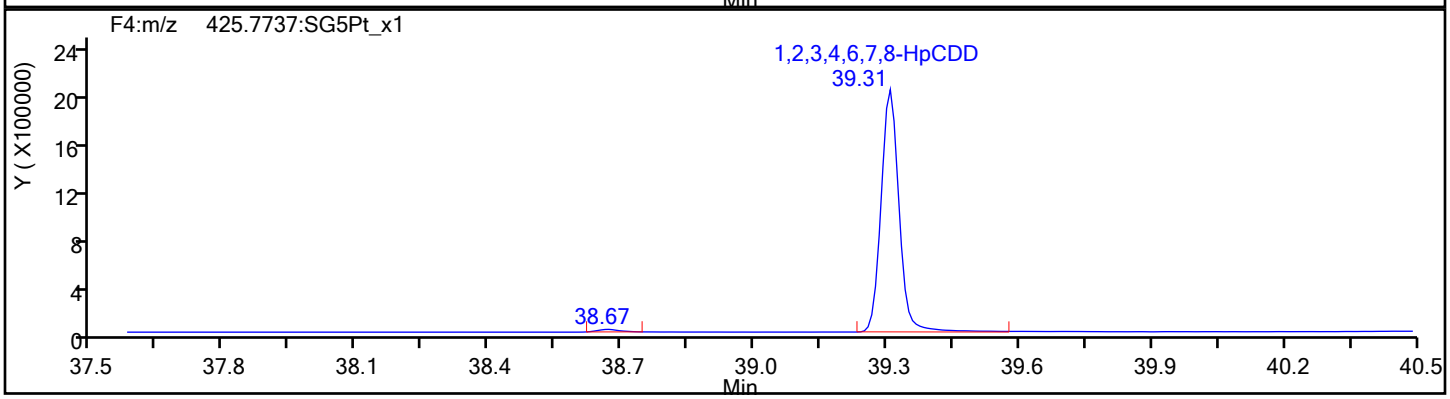

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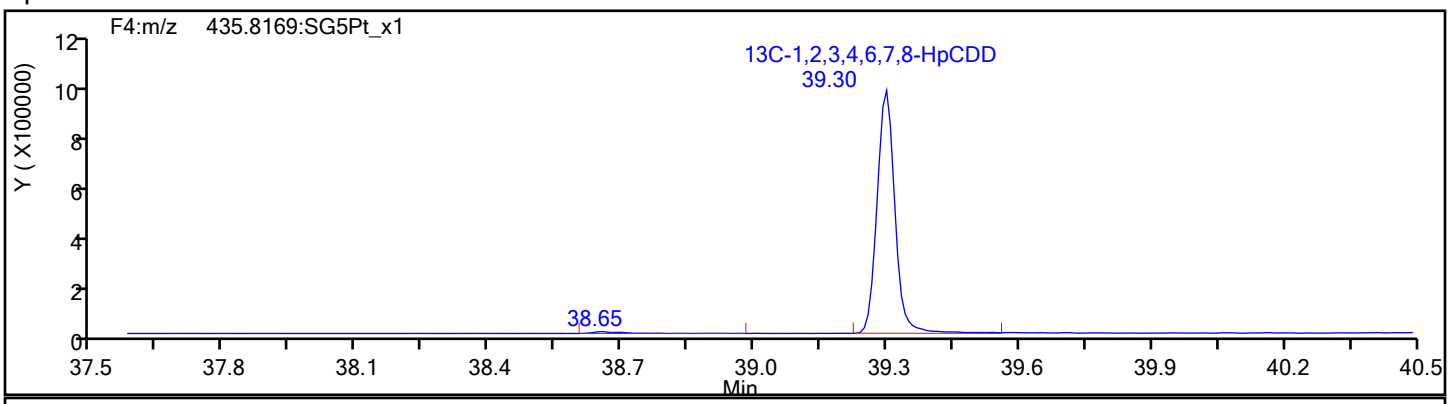

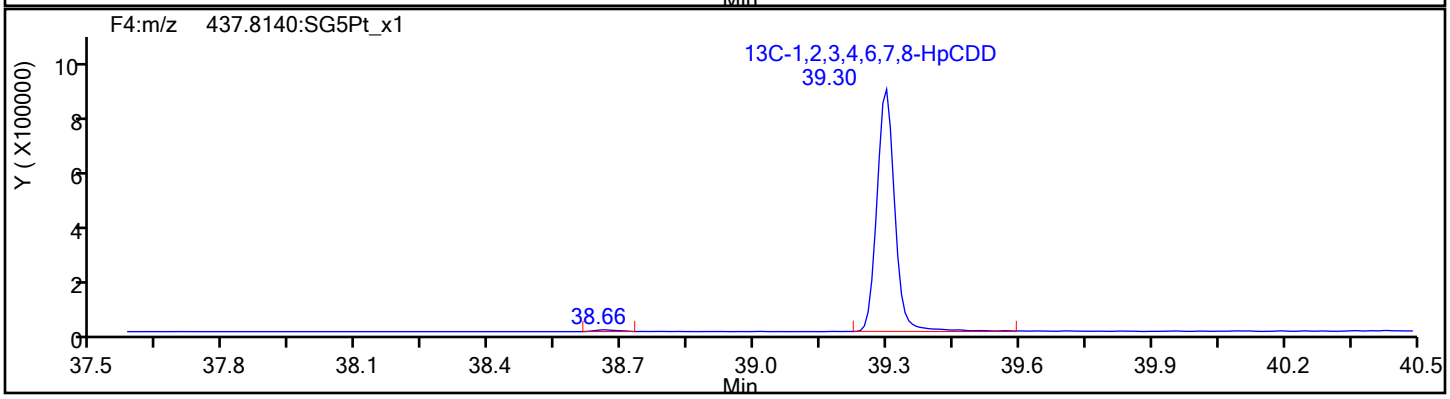

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OCDF

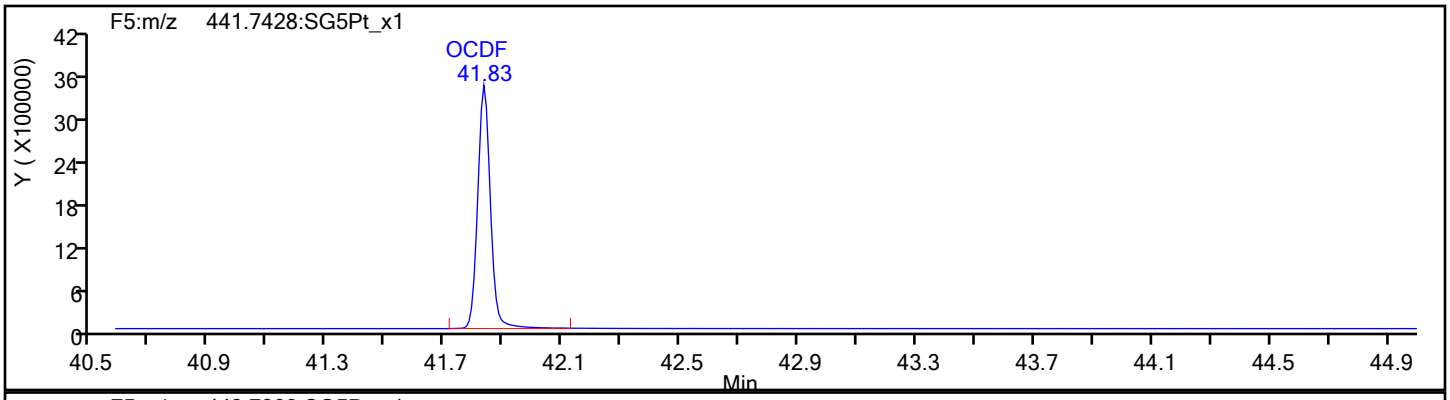

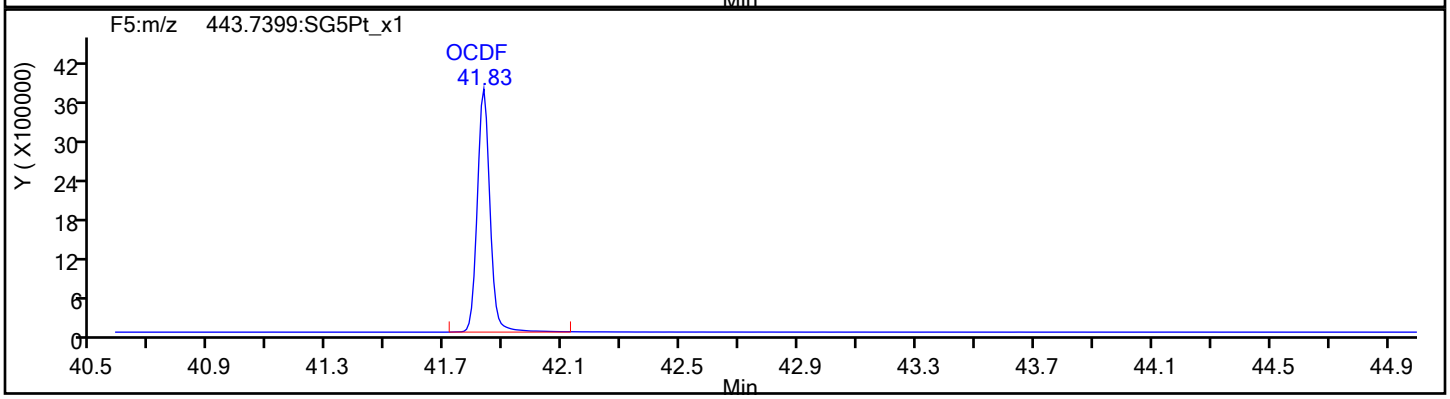

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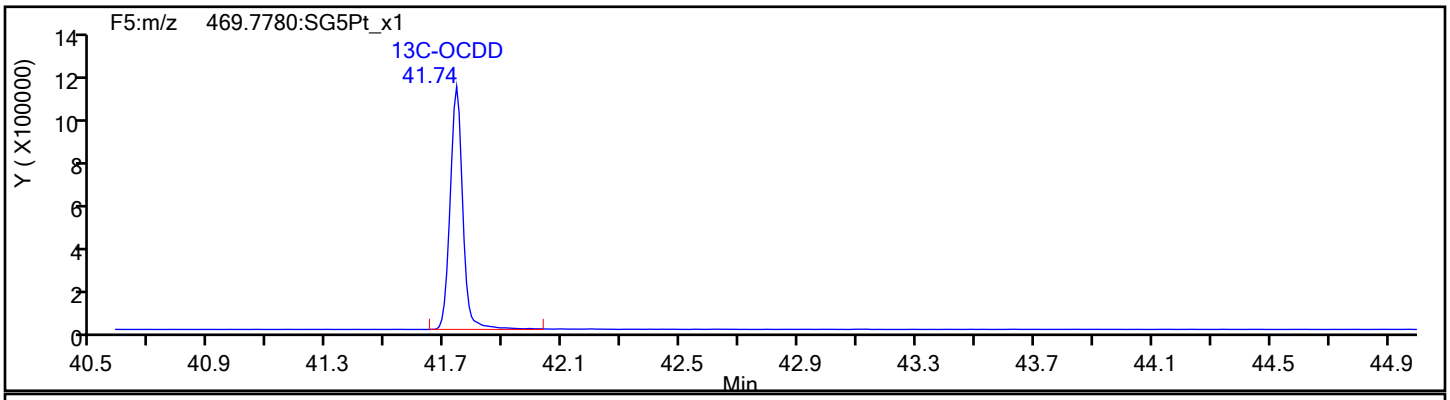

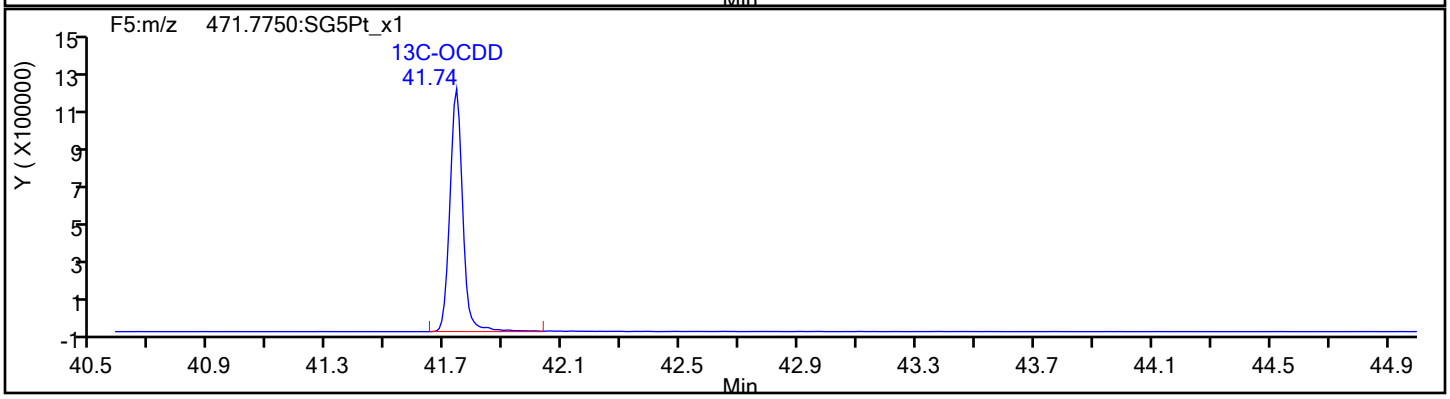

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OCDF

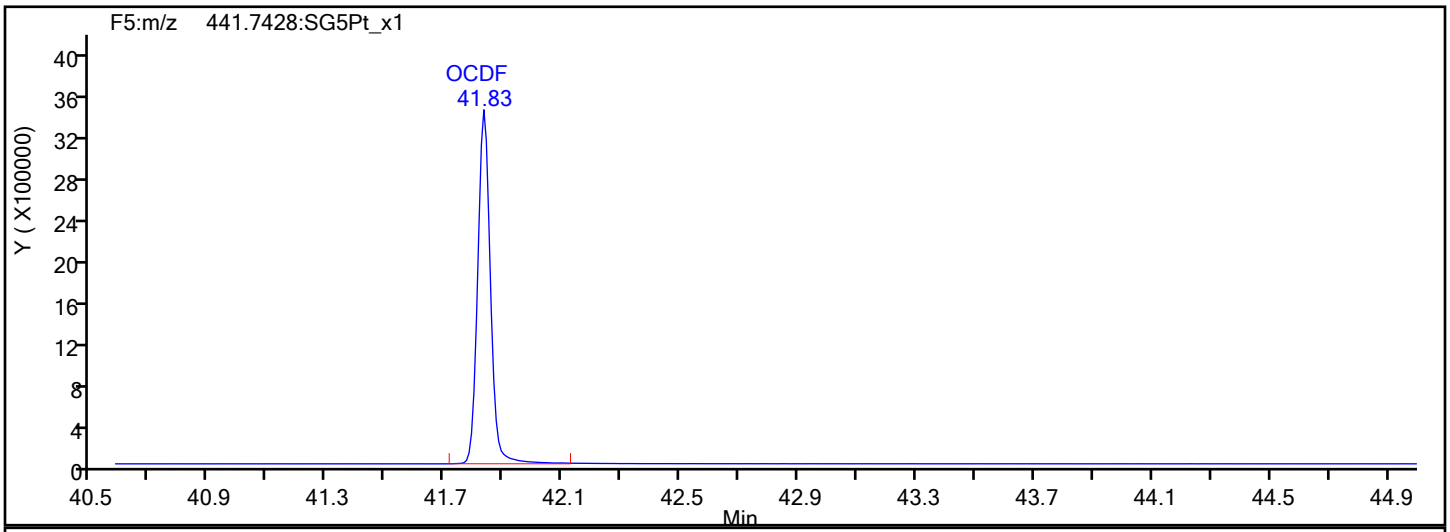

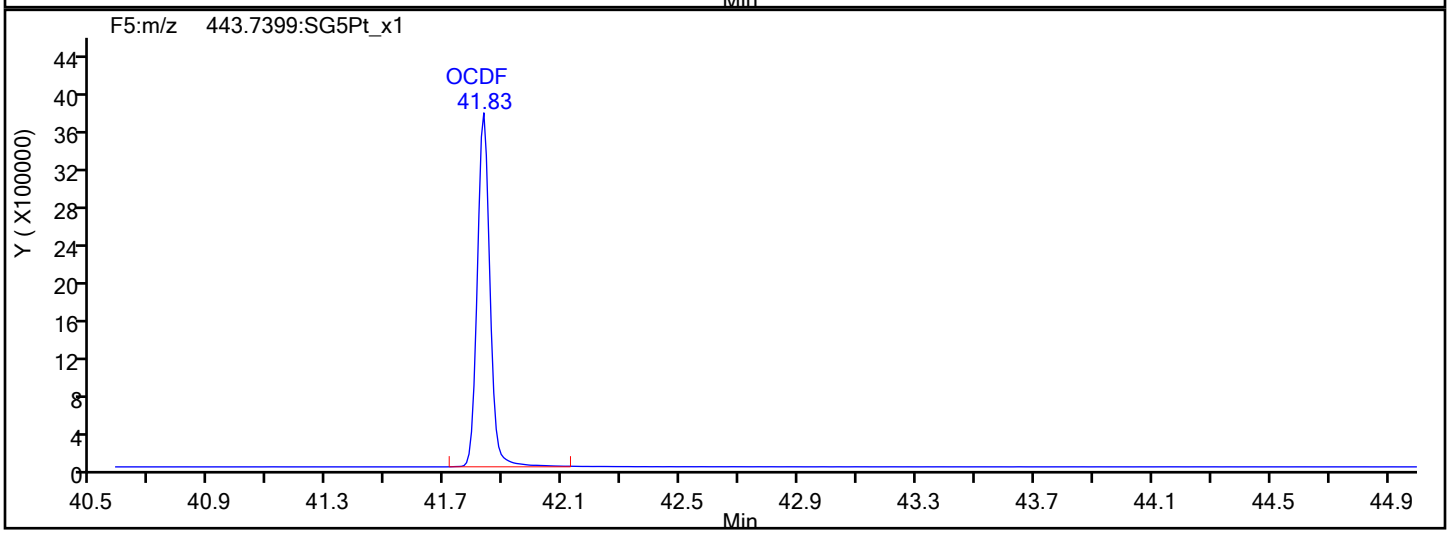

OCDF Interference Mass

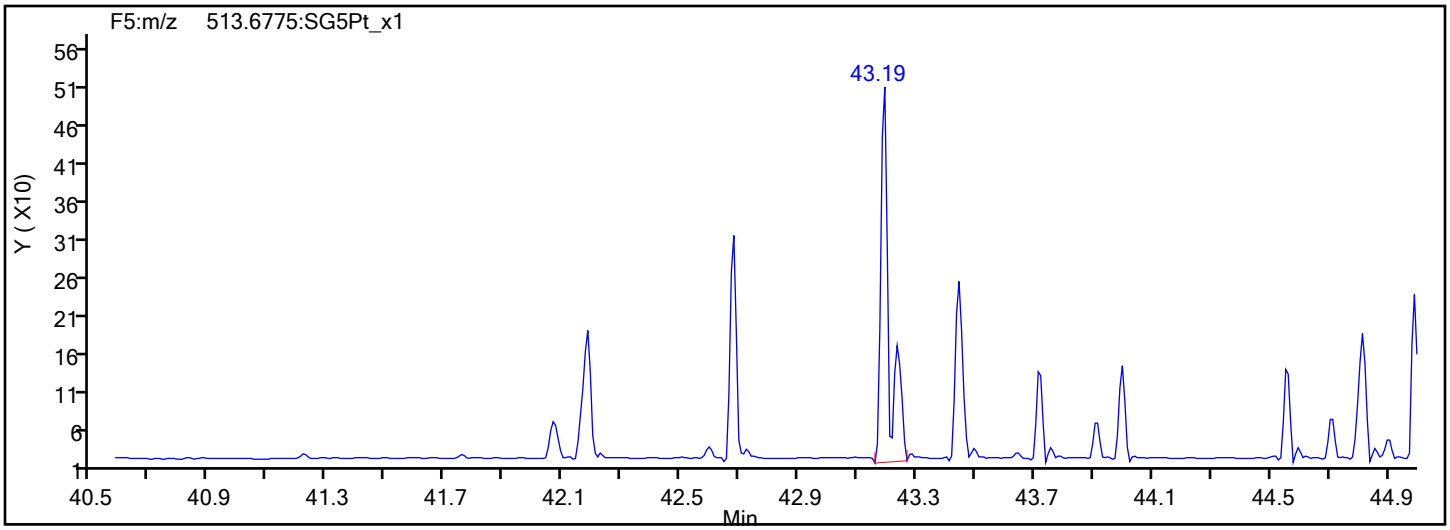

Report Date: 23-Oct-2019 12:13:13 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_10.d		
Injection Date:	19-Oct-2019 01:37:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

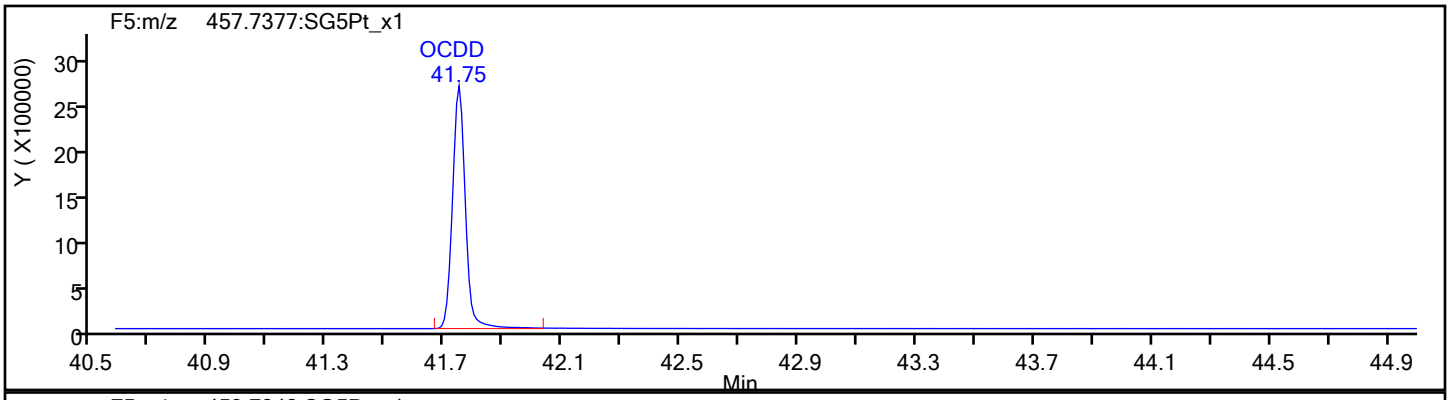

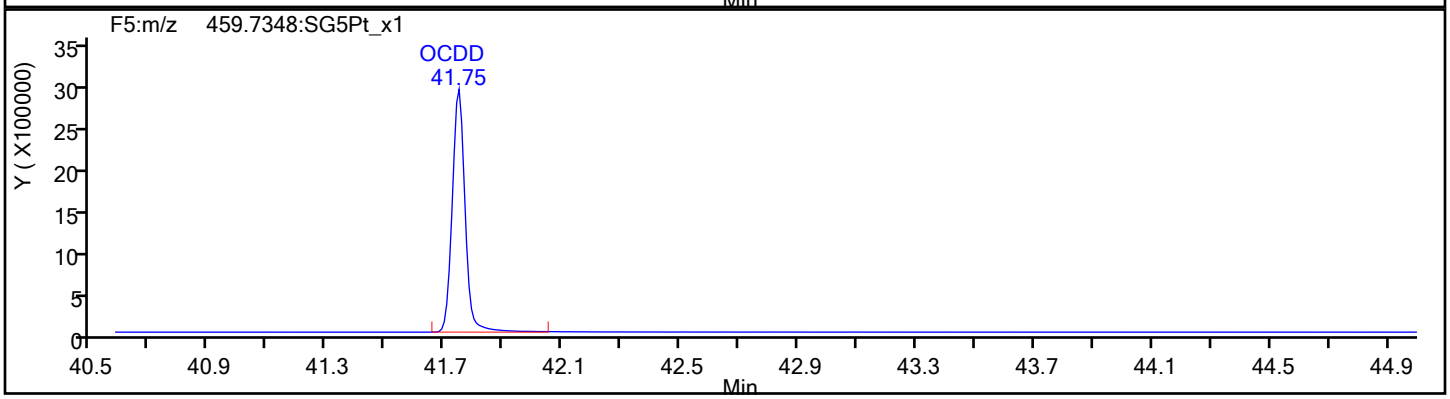

OCDD Standards

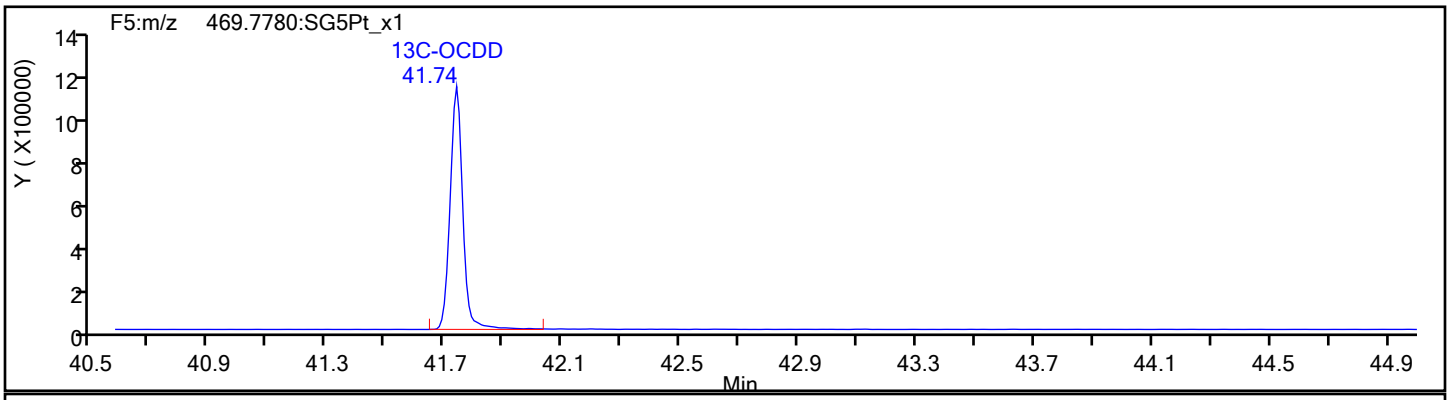

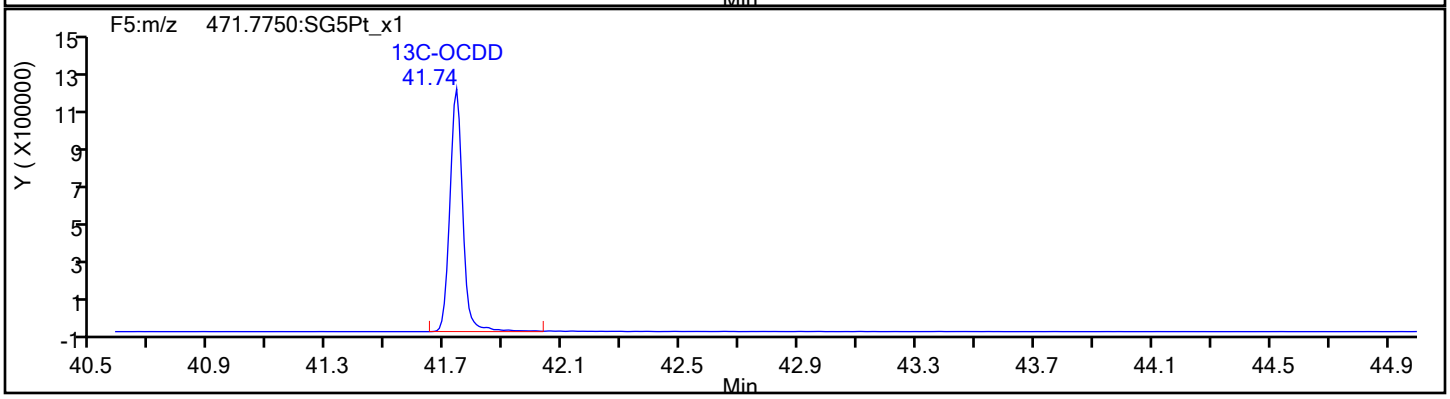

Report Date: 23-Oct-2019 12:13:13 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_10.d		
Injection Date:	19-Oct-2019 01:37:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

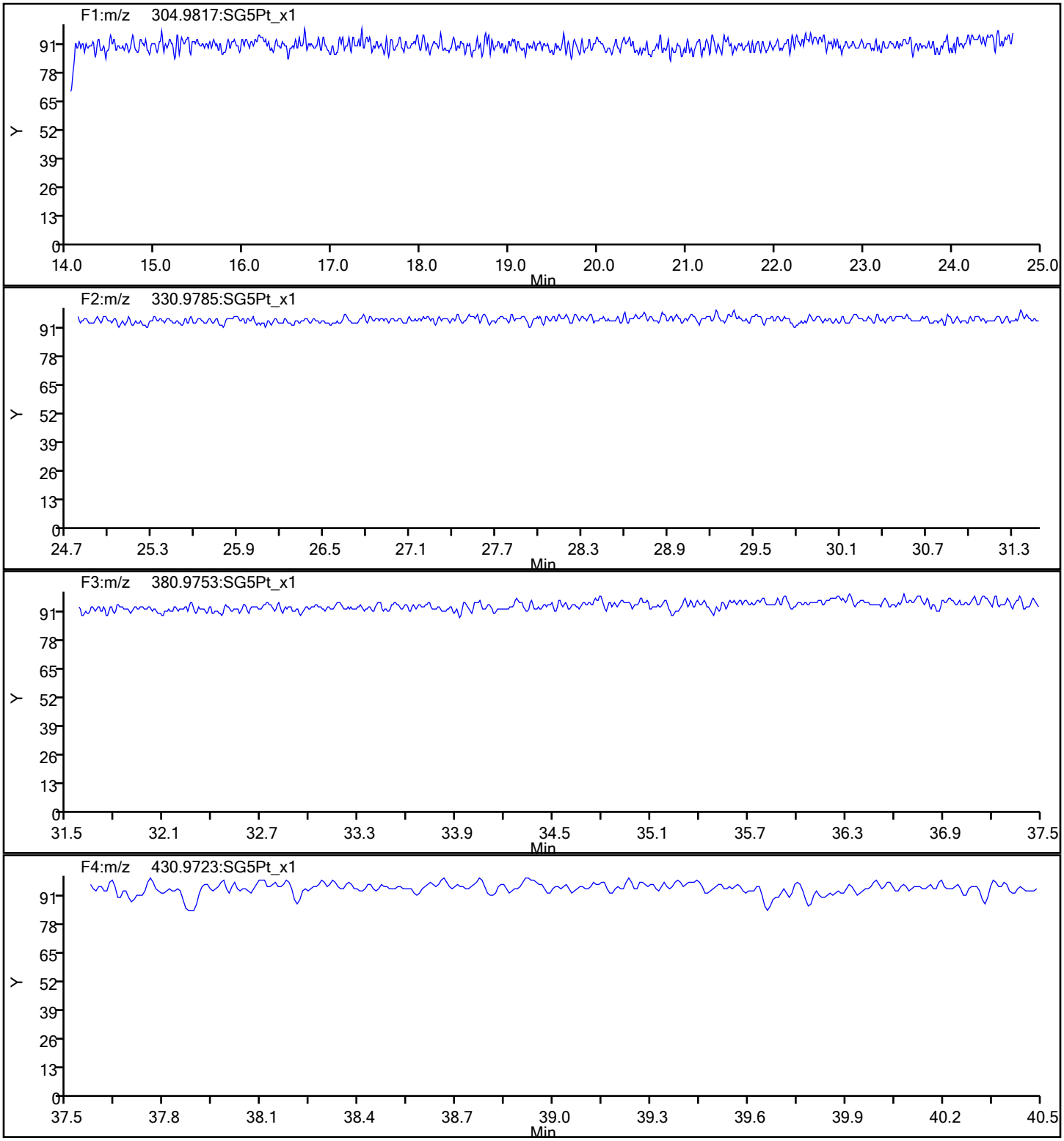

Report Date: 23-Oct-2019 12:13:13 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_10.d		
Injection Date:	19-Oct-2019 01:37:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

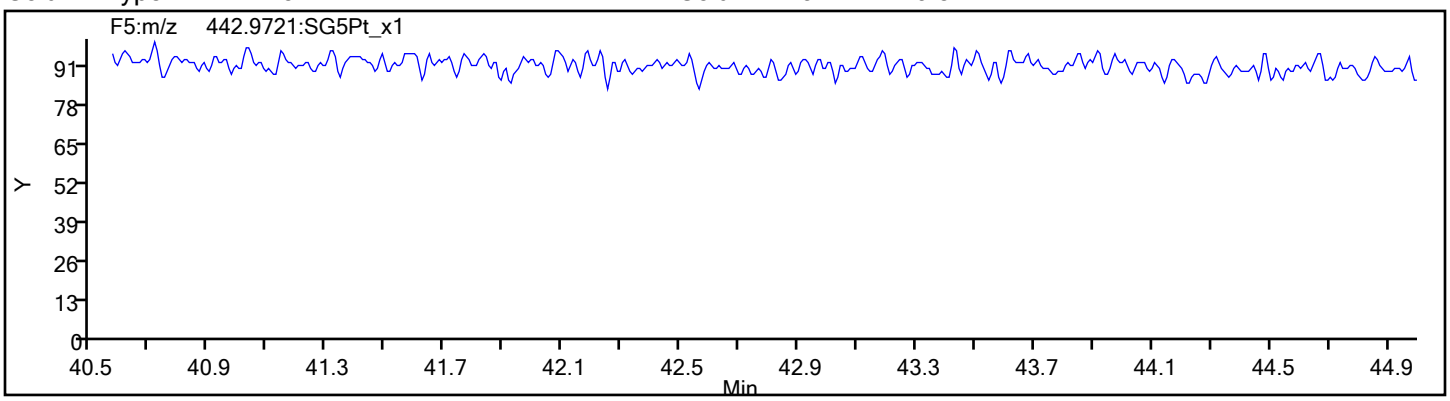

FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Lab Sample ID: CCV 320-336838/2 Calibration Date: 11/07/2019 16:49

Instrument ID: DFS 1 Calib Start Date: 10/18/2019 20:50

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 10/19/2019 00:02

Lab File ID: 07no19adfs1_3.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
2,3,7,8-TCDF	AveID	1.233	0.9540		7.74	10.0	77*	84-120
2,3,7,8-TCDD	AveID	1.199	1.199		10.0	10.0	100	78-129
1,2,3,7,8-PeCDF	AveID	1.169	1.004		42.9	50.0	86	82-120
2,3,4,7,8-PeCDF	AveID	1.186	1.082		45.6	50.0	91	82-122
1,2,3,7,8-PeCDD	AveID	1.120	1.211		54.1	50.0	108	78-130
1,2,3,4,7,8-HxCDF	AveID	1.302	1.152		44.2	50.0	88*	90-112
1,2,3,6,7,8-HxCDF	AveID	1.291	1.175		45.5	50.0	91	88-114
2,3,4,6,7,8-HxCDF	AveID	1.304	1.206		46.2	50.0	92	88-114
1,2,3,4,7,8-HxCDD	AveID	1.172	1.111		47.4	50.0	95	78-128
1,2,3,6,7,8-HxCDD	AveID	1.126	1.113		49.4	50.0	99	78-128
1,2,3,7,8,9-HxCDD	AveID	1.233	1.238		50.2	50.0	100	82-122
1,2,3,7,8,9-HxCDF	AveID	1.333	1.165		43.7	50.0	87*	90-112
1,2,3,4,6,7,8-HpCDF	AveID	1.618	1.429		44.2	50.0	88*	90-110
1,2,3,4,6,7,8-HpCDD	AveID	1.124	1.066		47.4	50.0	95	86-116
1,2,3,4,7,8,9-HpCDF	AveID	1.467	1.240		42.3	50.0	85*	86-116
OCDD	AveID	1.186	1.154		97.4	100	97	79-126
OCDF	AveID	1.542	1.413		91.6	100	92	63-159
13C-2,3,7,8-TCDF	Ave	1.610	1.540		95.6	100	96	71-140
13C-2,3,7,8-TCDD	Ave	0.998	0.9704		97.2	100	97	82-121
13C-1,2,3,7,8-PeCDF	Ave	1.368	1.246		91.1	100	91	76-130
13C-2,3,4,7,8-PeCDF	Ave	1.304	1.260		96.6	100	97	77-130
13C-1,2,3,7,8-PeCDD	Ave	0.8292	0.7068		85.2	100	85	62-160
13C-1,2,3,4,7,8-HxCDF	Ave	1.170	1.063		90.9	100	91	76-131
13C-1,2,3,6,7,8-HxCDF	Ave	1.317	1.164		88.4	100	88	70-143
13C-2,3,4,6,7,8-HxCDF	Ave	1.287	1.123		87.2	100	87	73-137
13C-1,2,3,4,7,8-HxCDD	Ave	0.8364	0.8219		98.3	100	98	85-117
13C-1,2,3,6,7,8-HxCDD	Ave	0.9040	0.8523		94.3	100	94	85-118
13C-1,2,3,7,8,9-HxCDF	Ave	1.199	1.145		95.6	100	96	74-135
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.9689	0.9121		94.1	100	94	78-129
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.9114	0.8961		98.3	100	98	72-138
13C-1,2,3,4,7,8,9-HpCDF	Ave	0.9231	0.9242		100	100	100	77-129
13C-OCDD	Ave	0.6272	0.6187		197	200	99	48-208
37Cl4-2,3,7,8-TCDD	Ave	1.451	1.629		11.2	10.0	112	79-127

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_3.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 07-Nov-2019 16:49:00 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CS-4 HRDXNL4_00086
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\Dioxin_DFS1.m
Limit Group: HR - 1613B - ICAL
Last Update: 08-Nov-2019 13:21:45 Calib Date: 19-Oct-2019 00:02:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.07 :22.11)
Process Host: CTX0312

First Level Reviewer: shardaa Date: 07-Nov-2019 18:34:05

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	20.373	3870385	0.81	5.2E+04	100.0	100.0				a
2,3,7,8-TCDF	19.457	568439	0.71	1.2332	7.736	7.736	0.0307	0.0307	77.36	a
D 13C-2,3,7,8-TCDF	19.440	5958575	0.80	1.6096	95.6	95.6	0.3258	0.3258	95.65	
A Non-2,3,7,8-sub-TCDF	19.029	568439	0.71	1.2332	7.736	7.736	0.0307	7.736	0.00	
S Total TCDF					15.5	15.5	0.0307	0.0307		
2,3,7,8-TCDD	20.771	450173	0.80	1.1988	10.0	10.0	0.0640	0.0640	99.99	
$ 37Cl4-2,3,7,8-TCDD	20.771	630541		1.4510	11.2	11.2	0.0187	0.0187	112	
D 13C-2,3,7,8-TCDD	20.745	3755692	0.81	0.9984	97.2	97.2	0.3121	0.3121	97.19	
A Non-2,3,7,8-sub-TCDD	19.859						0.0640	0.0640		
S Total TCDD					10.0	10.0	0.0640	0.0640		
1,2,3,7,8-PeCDF	26.527	2420714	1.53	1.1689	42.9	42.9	0.1656	0.1656	85.87	
D 13C-1,2,3,7,8-PeCDF	26.501	4823651	1.59	1.3678	91.1	91.1	0.3512	0.3512	91.12	
D 13C-2,3,4,7,8-PeCDF	27.977	4878543	1.60	1.3045	96.6	96.6	0.3682	0.3682	96.63	
2,3,4,7,8-PeCDF	28.003	2638593	1.55	1.1861	45.6	45.6	0.1698	0.1698	91.20	
A F1 PeCDFs	23.991						0.0147	0.0147		
A Non-2,3,7,8-sub-PeCDF	27.428						0.1677	0.1677		n
S Total PeCDF					88.5	88.5	0.1677	0.1677		
1,2,3,7,8-PeCDD	28.799	1656299	1.58	1.1200	54.1	54.1	0.0928	0.0928	108	
D 13C-1,2,3,7,8-PeCDD	28.774	2735585	1.59	0.8292	85.2	85.2	0.1641	0.1641	85.24	
A Non-2,3,7,8-sub-PeCDD	27.590						0.0928	0.0928		
S Total PeCDD					54.1	54.1	0.0928	0.0928		
D 13C-1,2,3,4,7,8-HxCDF	34.354	4539266	0.53	1.1700	90.9	90.9	0.3285	0.3285	90.85	
1,2,3,4,7,8-HxCDF	34.371	2614378	1.22	1.3021	44.2	44.2	0.1983	0.1983	88.46	
1,2,3,6,7,8-HxCDF	34.547	2919087	1.22	1.2907	45.5	45.5	0.1861	0.1861	91.02	
D 13C-1,2,3,6,7,8-HxCDF	34.530	4969592	0.53	1.3168	88.4	88.4	0.2919	0.2919	88.38	
2,3,4,6,7,8-HxCDF	35.436	2890647	1.22	1.3039	46.2	46.2	0.1666	0.1666	92.46	
D 13C-2,3,4,6,7,8-HxCDF	35.419	4795447	0.53	1.2873	87.2	87.2	0.2986	0.2986	87.23	
1,2,3,7,8,9-HxCDF	36.367	2850182	1.19	1.3329	43.7	43.7	0.1488	0.1488	87.43	
D 13C-1,2,3,7,8,9-HxCDF	36.351	4891513	0.52	1.1987	95.6	95.6	0.3207	0.3207	95.55	
A Non-2,3,7,8-sub-HxCDF	34.417						0.1730	0.1730		
S Total HxCDF					179.7	179.7	0.1749	0.1749		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	36.149	4270440	1.28	5.8E+04	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	35.646	3509744	1.29	0.8364	98.3	98.3	0.2094	0.2094	98.27	
1,2,3,4,7,8-HxCDD	35.654	1950132	1.28	1.1725	47.4	47.4	0.0913	0.0913	94.78	
1,2,3,6,7,8-HxCDD	35.780	2025345	1.27	1.1256	49.4	49.4	0.0946	0.0946	98.88	
D 13C-1,2,3,6,7,8-HxCDD	35.772	3639621	1.28	0.9040	94.3	94.3	0.1937	0.1937	94.28	
1,2,3,7,8,9-HxCDD	36.166	2213325	1.25	1.2327	50.2	50.2	0.0866	0.0866	100	
A Non-2,3,7,8-sub-HxCDD	34.853						0.0907	0.0907		
S Total HxCDD					147.1	147.1	0.0908	0.0908		
1,2,3,4,6,7,8-HpCDF	38.232	2783684	0.99	1.6176	44.2	44.2	0.2316	0.2316	88.36	
D 13C-1,2,3,4,6,7,8-HpCDF	38.224	3894939	0.45	0.9689	94.1	94.1	0.3249	0.3249	94.14	
D 13C-1,2,3,4,7,8,9-HpCDF	39.507	3946620	0.46	0.9231	100.1	100.1	0.3410	0.3410	100	
1,2,3,4,7,8,9-HpCDF	39.515	2447753	1.00	1.4672	42.3	42.3	0.2369	0.2369	84.54	
A Non-2,3,7,8-sub-HpCDF	38.871						0.2338	0.2338		
S Total HpCDF					86.5	86.5	0.2342	0.2342		
1,2,3,4,6,7,8-HpCDD	39.205	2040154	1.05	1.1237	47.4	47.4	0.1513	0.1513	94.89	
D 13C-1,2,3,4,6,7,8-HpCDD	39.197	3826684	1.05	0.9114	98.3	98.3	0.3863	0.3863	98.32	
A Non-2,3,7,8-sub-HpCDD	39.134						0.1513	0.1513		
S Total HpCDD					47.4	47.4	0.1513	0.1513		
D 13C-OCDD	41.634	5283816	0.91	0.6272	197.3	197.3	0.2302	0.2302	98.63	
OCDF	41.726	3731801	0.88	1.5416	91.6	91.6	0.0850	0.0850	91.63	
OCDD	41.642	3049480	0.90	1.1855	97.4	97.4	0.0978	0.0978	97.36	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

HRDXNL4_00086 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_3.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 07-Nov-2019 16:49:00 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CS-4 HRDXNL4_00086
Operator ID: Xcalibur_System Instrument ID: DFS 1
Sublist: chrom-Dioxin_DFS1*sub1

Method: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\Dioxin_DFS1.m
Limit Group: HR - 1613B - ICAL
Last Update: 08-Nov-2019 13:21:45 Calib Date: 19-Oct-2019 00:02:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.07 :22.11)
Process Host: CTX0312

First Level Reviewer: shardaa Date: 07-Nov-2019 18:34:05

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											a
331.9368	20.373	20.373	0		1728355	264494	552	1380	479		a
333.9338	20.373	20.373	0		2142030	332368	192	480	1731	0.81(0.65-0.89)	
2,3,7,8-TCDF											a
303.9016	19.457	19.457	0	1.001	236652	38026	44	110	864		a
305.8987	19.457	19.457	0	1.001	331787	53263	102	255	522	0.71(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.440	19.503	-4	0.954	2647554	427751	830	2075	515		
317.9389	19.440	19.503	-4	0.954	3311021	537372	422	1055	1273	0.80(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	19.457	19.029	26	1.001	236652	38026	44	110	864		
305.8987	19.457	19.029	26	1.001	331787	53263	102	255	522	0.71(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	20.771	20.771	0	1.001	199894	29751	119	297	250		
321.8936	20.771	20.771	0	1.001	250279	37160	44	110	845	0.80(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	20.771	20.771	0	1.020	630541	93903	65	162	1445		
13C-2,3,7,8-TCDD											
331.9368	20.745	20.808	-4	1.018	1682839	239015	552	1380	433		
333.9338	20.745	20.808	-4	1.018	2072853	291668	192	480	1519	0.81(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	19.859						119	297			
321.8936	19.859						44	110			
1,2,3,7,8-PeCDF											
339.8597	26.527	26.527	0	1.001	1464514	253903	377	942	673		
341.8567	26.527	26.527	0	1.001	956200	167316	273	682	613	1.53(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	26.501	26.546	-3	1.301	2960482	516334	701	1752	737		
353.8970	26.510	26.546	-2	1.301	1863169	323037	446	1115	724	1.59(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	27.977	27.981	0	1.373	3001347	497838	701	1752	710		
353.8970	27.977	27.981	0	1.373	1877196	308784	446	1115	692	1.60(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	28.003	28.003	0	1.001	1605040	258878	377	942	687		
341.8567	28.003	28.003	0	1.001	1033553	167563	273	682	614	1.55(1.32-1.78)	
A F1 PeCDFs											
339.8597	23.991						5	12			
341.8567	23.991						52	130			
A Non-2,3,7,8-sub-PeCDF											
339.8597	27.122	27.400	-17	1.023	14293	2286	377	942	6		
341.8567	27.097	27.400	-18	1.022	9297	1584	273	682	6	1.54(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	28.799	28.799	0	1.001	1013663	159385	128	320	1245		
357.8516	28.799	28.799	0	1.001	642636	99926	52	130	1922	1.58(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	28.774	28.810	-2	1.412	1679769	265768	181	452	1468		
369.8919	28.774	28.810	-2	1.412	1055816	167214	144	360	1161	1.59(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	27.590						128	320			
357.8516	27.590						52	130			
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.354	34.350	0	0.950	1576670	352894	619	1547	570		
385.8610	34.354	34.350	0	0.950	2962596	652920	1181	2952	553	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.371	34.371	0	1.000	1434636	314504	574	1435	548		
375.8178	34.371	34.371	0	1.000	1179742	258822	465	1162	557	1.22(1.05-1.43)	
1,2,3,6,7,8-HxCDF											
373.8208	34.547	34.547	0	1.000	1605613	347127	574	1435	605		
375.8178	34.547	34.547	0	1.000	1313474	283992	465	1162	611	1.22(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	34.530	34.559	-2	0.955	1714103	373226	619	1547	603		
385.8610	34.530	34.559	-2	0.955	3255489	708187	1181	2952	600	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	35.436	35.436	0	1.000	1587322	396576	574	1435	691		
375.8178	35.428	35.436	-1	1.000	1303325	324322	465	1162	697	1.22(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	35.419	35.439	-1	0.980	1664782	416091	619	1547	672		
385.8610	35.419	35.439	-1	0.980	3130665	779501	1181	2952	660	0.53(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	36.367	36.367	0	1.000	1549509	425310	574	1435	741		
375.8178	36.367	36.367	0	1.000	1300673	354543	465	1162	762	1.19(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.351	36.370	-1	1.006	1669306	447982	619	1547	724		
385.8610	36.351	36.370	-1	1.006	3222207	861108	1181	2952	729	0.52(0.43-0.59)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	34.417						574	1435			
375.8178	34.417						465	1162			
13C-1,2,3,7,8,9-HxCDD											
401.8559	36.149	36.149	0		2397907	656311	444	1110	1478		
403.8529	36.149	36.149	0		1872533	514350	376	940	1368	1.28(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	35.646	35.641	0	0.986	1976285	530748	444	1110	1195		
403.8529	35.646	35.641	0	0.986	1533459	410145	376	940	1091	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	35.654	35.654	0	1.000	1095181	290813	222	555	1310		
391.8127	35.654	35.654	0	1.000	854951	227063	181	452	1254	1.28(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8158	35.780	35.780	0	1.000	1132243	295398	222	555	1331		
391.8127	35.780	35.780	0	1.000	893102	234035	181	452	1293	1.27(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	35.772	35.792	-1	0.990	2040395	529763	444	1110	1193		
403.8529	35.772	35.792	-1	0.990	1599226	416249	376	940	1107	1.28(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8158	36.166	36.166	0	1.015	1229791	335210	222	555	1510		
391.8127	36.166	36.166	0	1.015	983534	265647	181	452	1468	1.25(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8158	34.853						222	555			
391.8127	34.853						181	452			
1,2,3,4,6,7,8-HpCDF											
407.7817	38.232	38.232	0	1.000	1387116	470462	1057	2642	445		
409.7788	38.232	38.232	0	1.000	1396568	478929	943	2357	508	0.99(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.224	38.243	-1	1.057	1213821	416845	602	1505	692		
419.8220	38.224	38.243	-1	1.057	2681118	918010	872	2180	1053	0.45(0.37-0.51)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	39.507	39.512	0	1.093	1243688	453622	602	1505	754		
419.8220	39.507	39.512	0	1.093	2702932	984882	872	2180	1129	0.46(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.515	39.515	0	1.000	1224550	444947	1057	2642	421		
409.7788	39.515	39.515	0	1.000	1223203	439625	943	2357	466	1.00(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7817	38.871						1057	2642			
409.7788	38.871						943	2357			
1,2,3,4,6,7,8-HpCDD											
423.7767	39.205	39.205	0	1.000	1046536	372492	487	1217	765		
425.7737	39.205	39.205	0	1.000	993618	355101	442	1105	803	1.05(0.88-1.20)	

Report Date: 08-Nov-2019 13:21:45 Chrom Revision: 2.3 31-Oct-2019 20:21:30
Data File: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_3.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.197	39.215	-1	1.084	1961302	695263	865	2162	804		
437.8140	39.197	39.215	-1	1.084	1865382	670648	784	1960	855	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7767	39.134						487	1217			
425.7737	39.134						442	1105			
13C-OCDD											
469.7780	41.634	41.645	-1	1.152	2513068	860419	341	852	2523		
471.7750	41.634	41.645	-1	1.152	2770748	950561	335	837	2837	0.91(0.76-1.02)	
OCDF											
441.7428	41.726	41.726	0	1.002	1750502	600172	214	535	2805		
443.7399	41.726	41.726	0	1.002	1981299	671286	261	652	2572	0.88(0.76-1.02)	
OCDD											
457.7377	41.642	41.642	0	1.000	1443316	497014	199	497	2498		
459.7348	41.642	41.642	0	1.000	1606164	553606	221	552	2505	0.90(0.76-1.02)	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

HRDXNL4_00086 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_3.d
Lims ID: CCV
Client ID:
Inject. Date: 07-Nov-2019 16:49:00 Dil. Factor: 1.0000
Sample Type: CCV, Cal Verification
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 336838 Lims Sample ID: 2
Sublist: chrom-Dioxin_DFS1*sub1

Non-2,3,7,8-sub-TCDF, RT: 19.029

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.233	D 13C-2,3,7,8-TCDF	100.000	5958575	965123

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.233		100.000	5958575	965123

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
19.457	236652	38026	331787	53263	7.74	0.71	
Signal Totals:							
	236652	38026	331787	53263			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	568439	91289				0.71	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 7.736 = (568439 * 100.000) / (5958575 * 1.233)

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_3.d				
Injection Date:	07-Nov-2019 16:49:00	Instrument ID:	DFS 1		
Lims ID:	CCV				
Client ID:					
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1(14.07 :22.11)		

13C-1,2,3,4-TCDD, CAS: 114423-99-3

Signal: 1

Not Detected
Expected RT: 20.37

Processing Integration Results

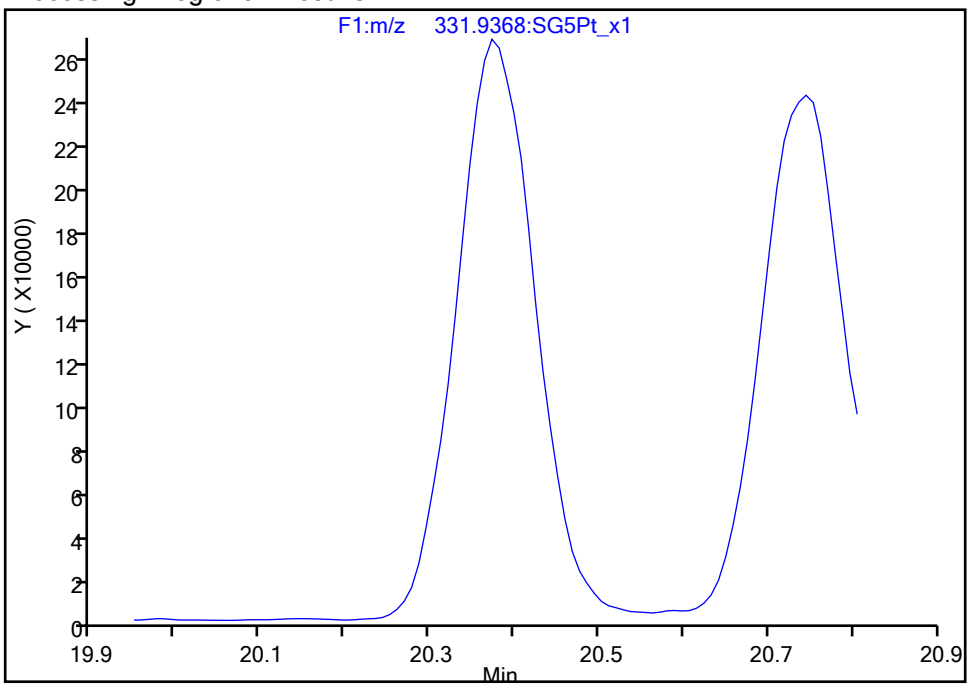

Manual Integration Results

RT:	20.37
Area:	1728355
Amount:	100.0000
Amount Units:	pg/ul

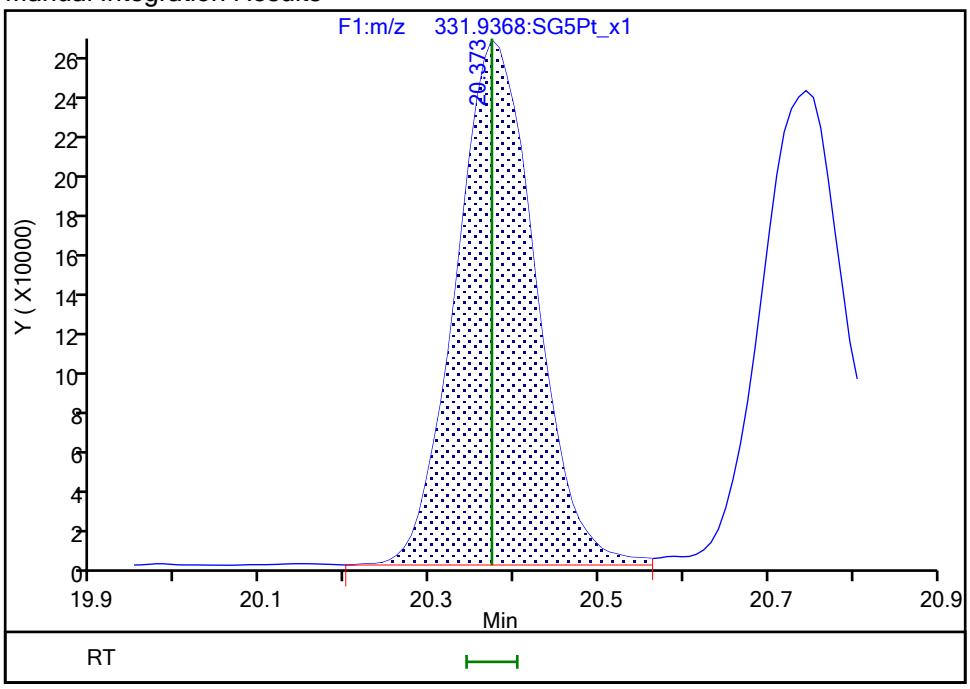

Reviewer: shardaa, 07-Nov-2019 18:29:19
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_3.d				
Injection Date:	07-Nov-2019 16:49:00	Instrument ID:	DFS 1		
Lims ID:	CCV				
Client ID:					
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1(14.07 :22.11)		

2,3,7,8-TCDF, CAS: 51207-31-9

Signal: 1

Not Detected
Expected RT: 19.46

Processing Integration Results

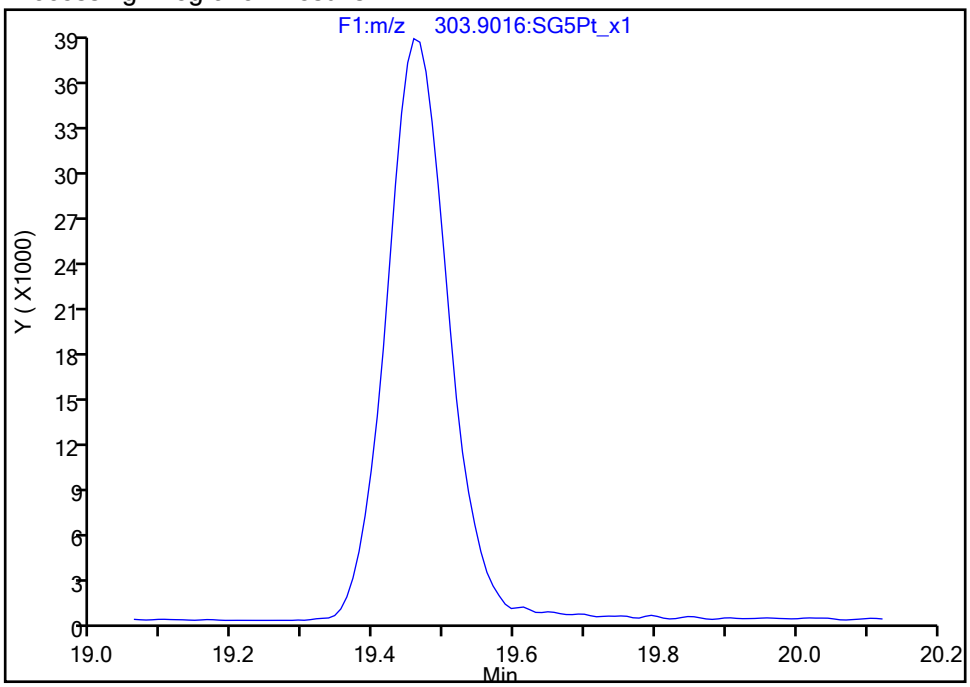

RT: 19.46
Area: 236652
Amount: 7.735647
Amount Units: pg/ul

Manual Integration Results

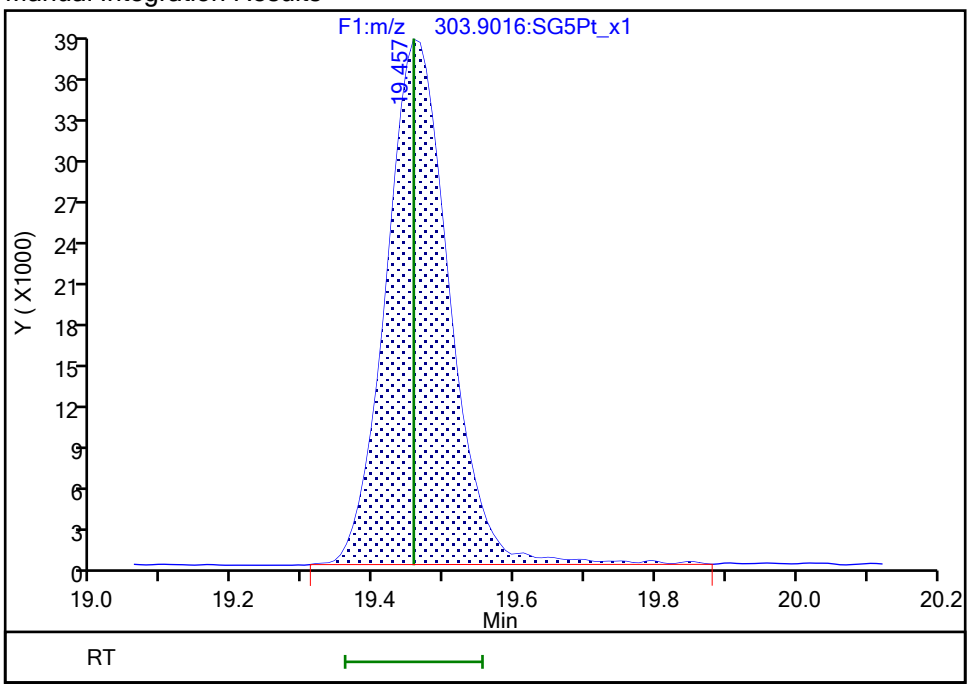

Reviewer: shardaa, 07-Nov-2019 18:29:35
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Report Date: 08-Nov-2019 13:21:45 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_3.d		
Injection Date:	07-Nov-2019 16:49:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336838	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

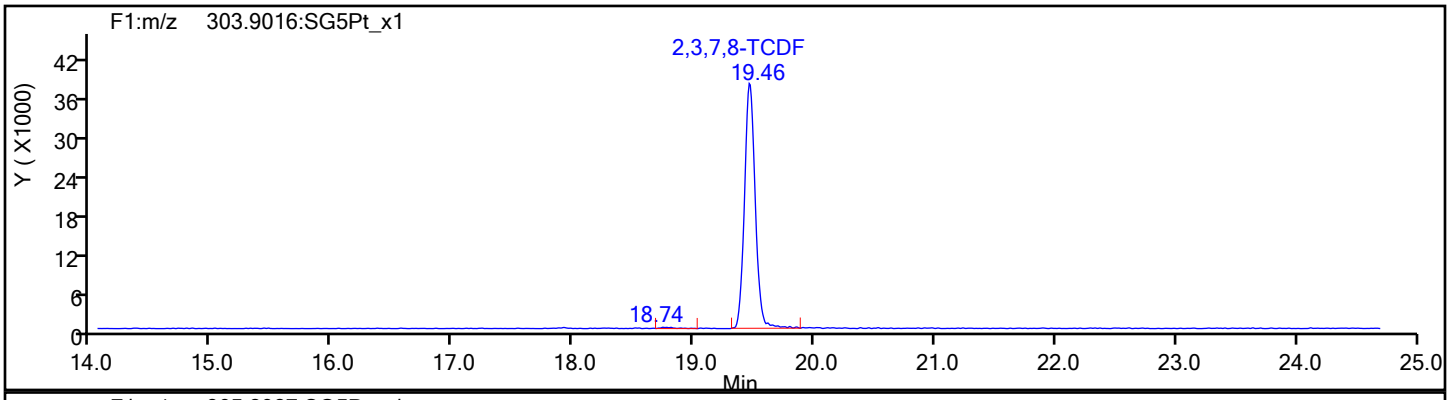

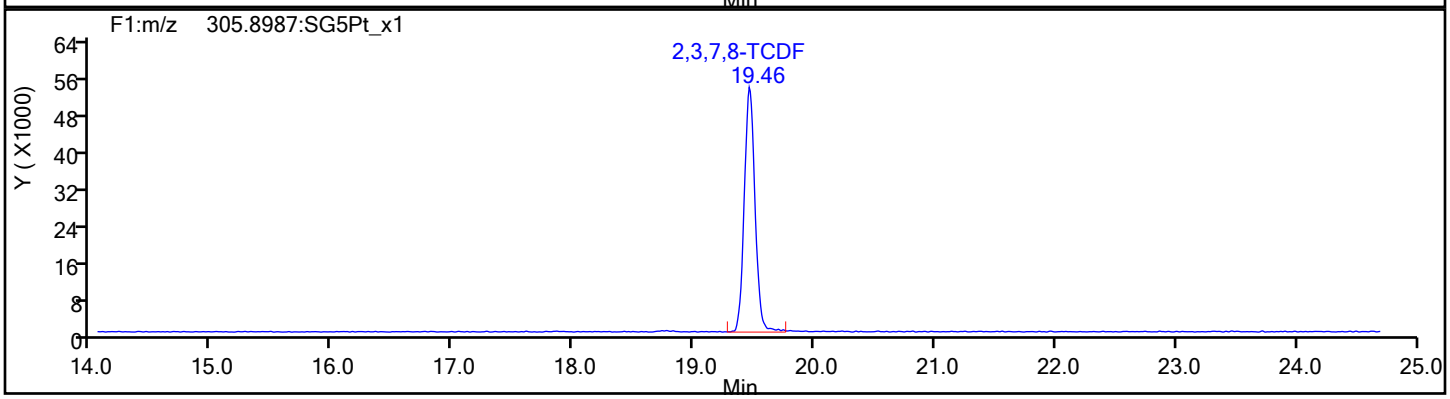

TCDF Standards

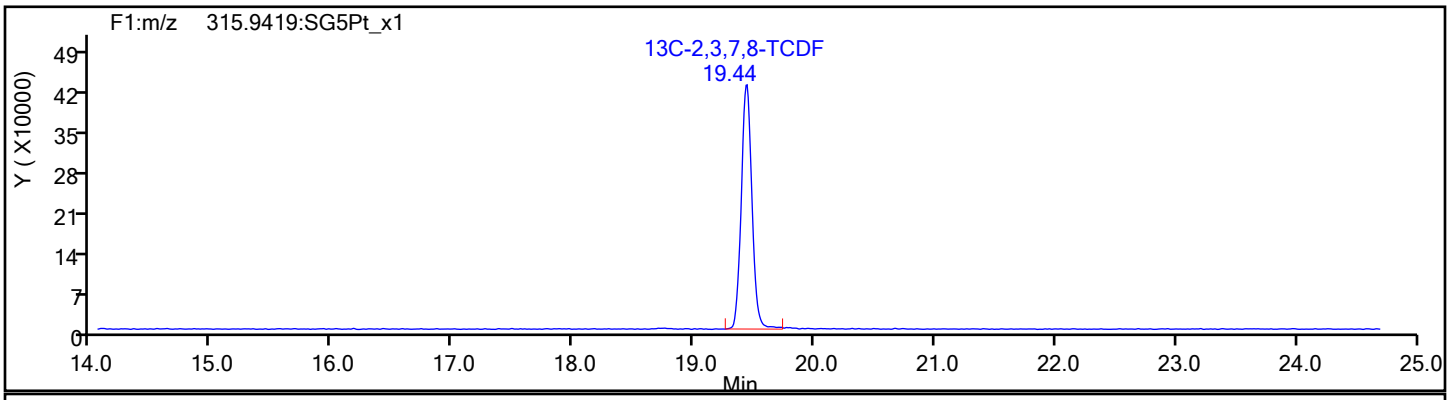

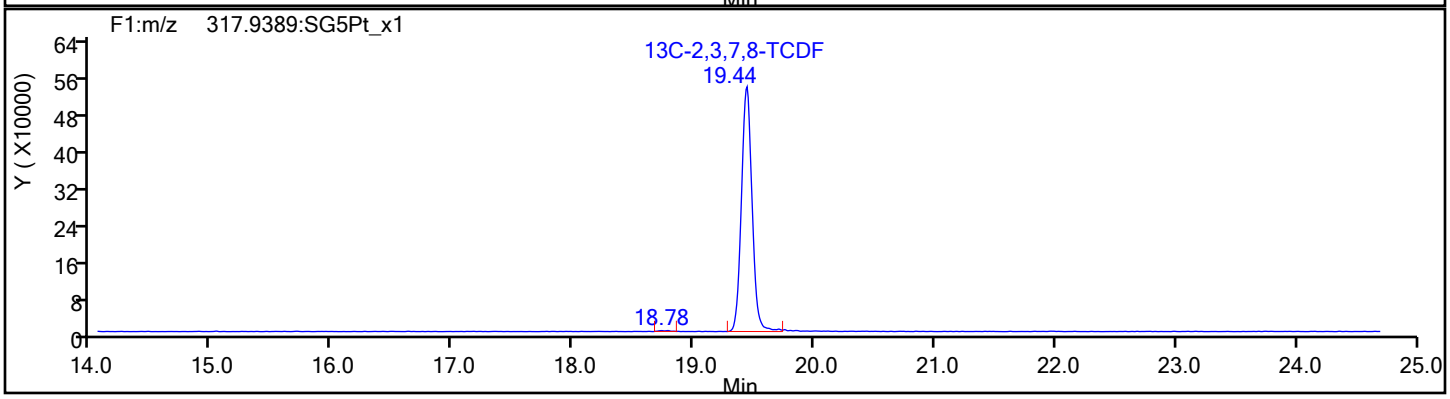

Report Date: 08-Nov-2019 13:21:46 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_3.d		
Injection Date:	07-Nov-2019 16:49:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336838	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

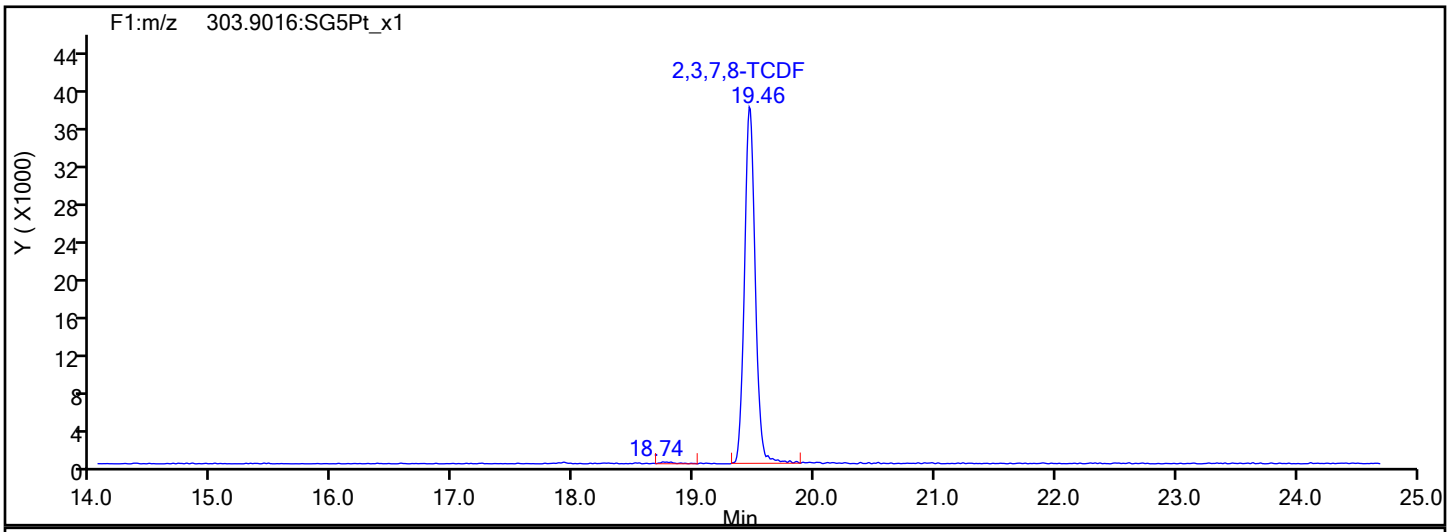

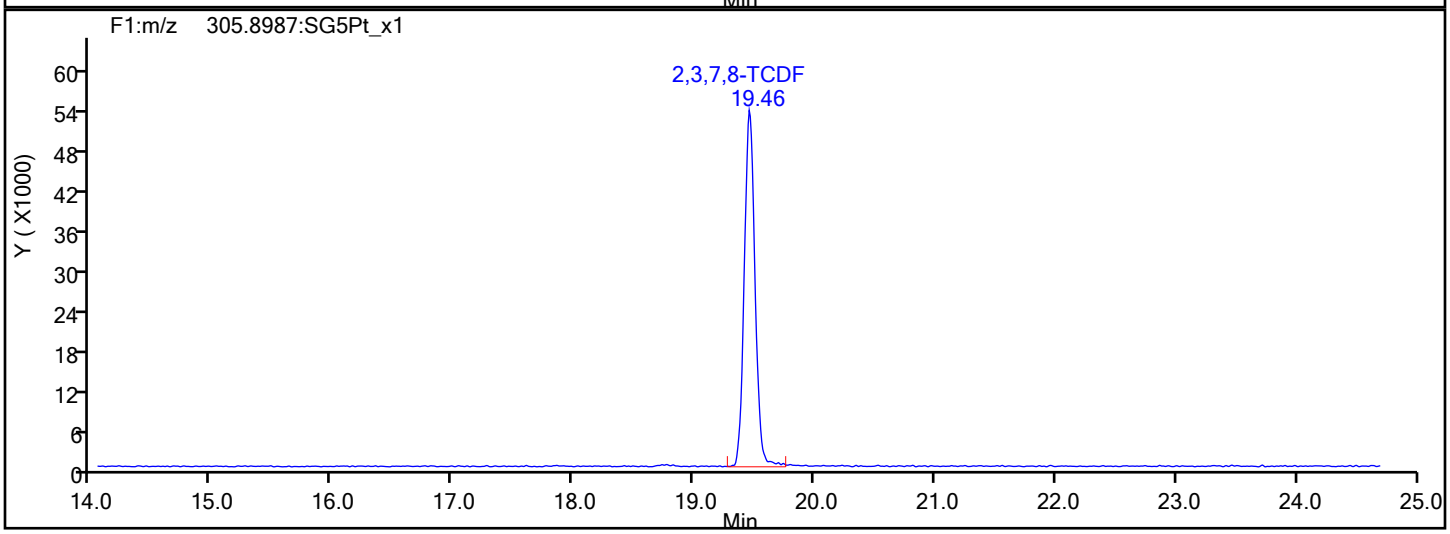

TCDF Interference Mass

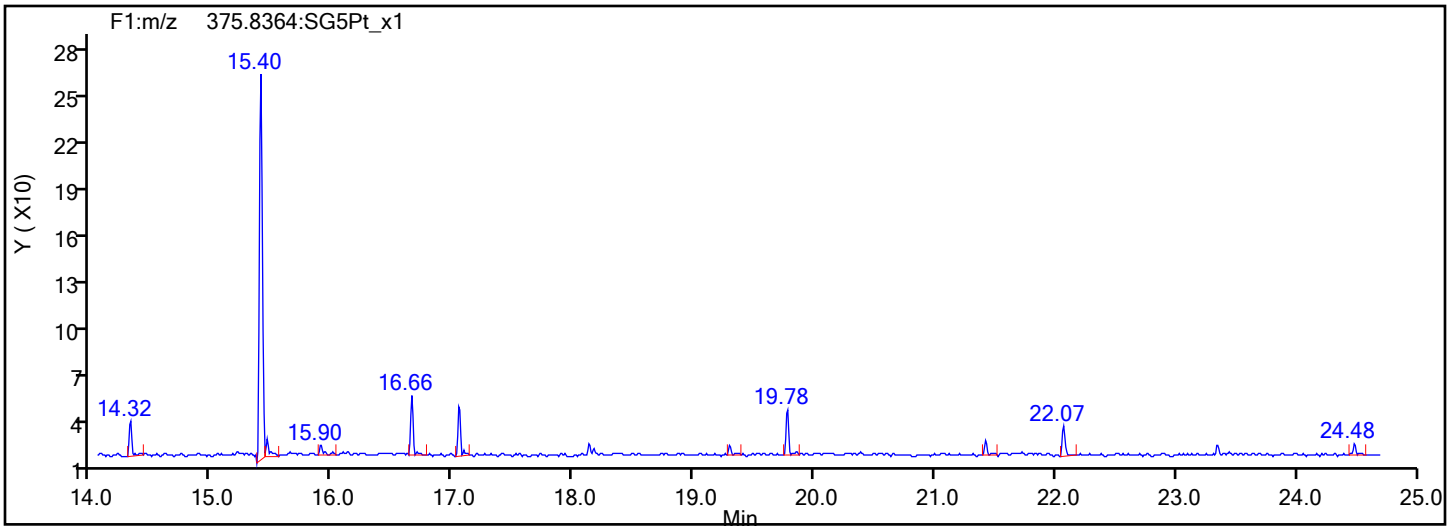

Report Date: 08-Nov-2019 13:21:46 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_3.d		
Injection Date:	07-Nov-2019 16:49:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336838	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

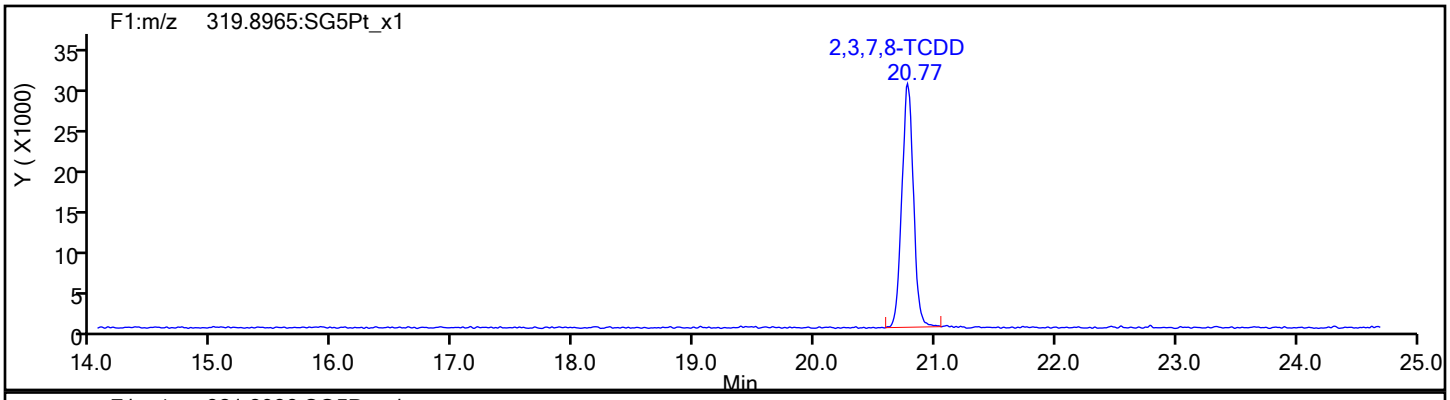

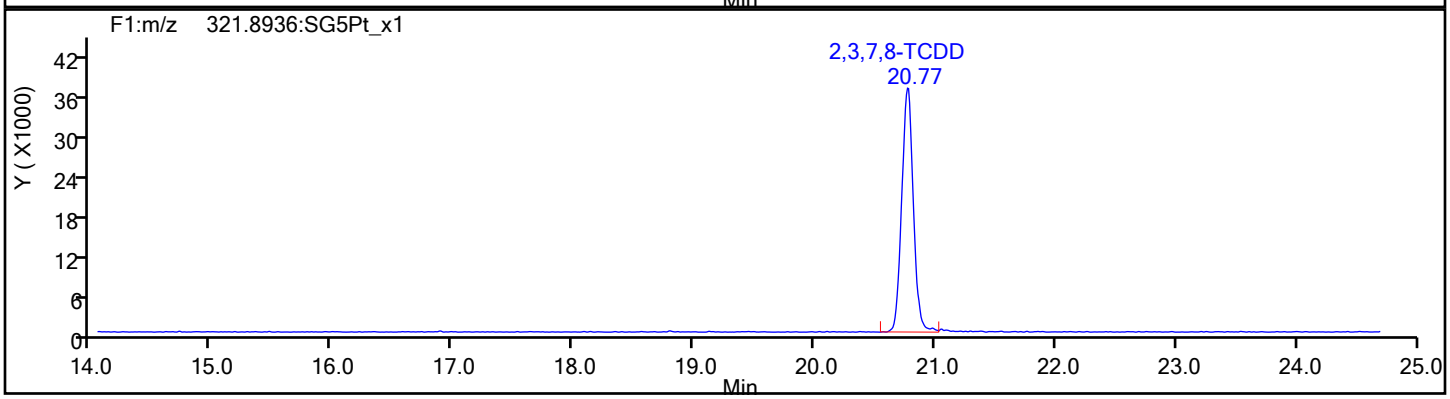

TCDD Standards

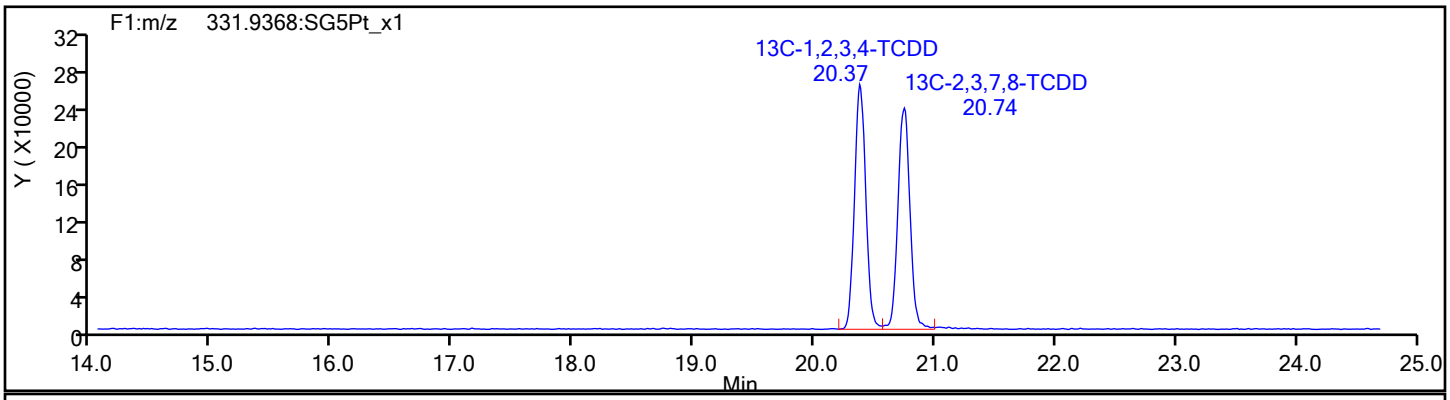

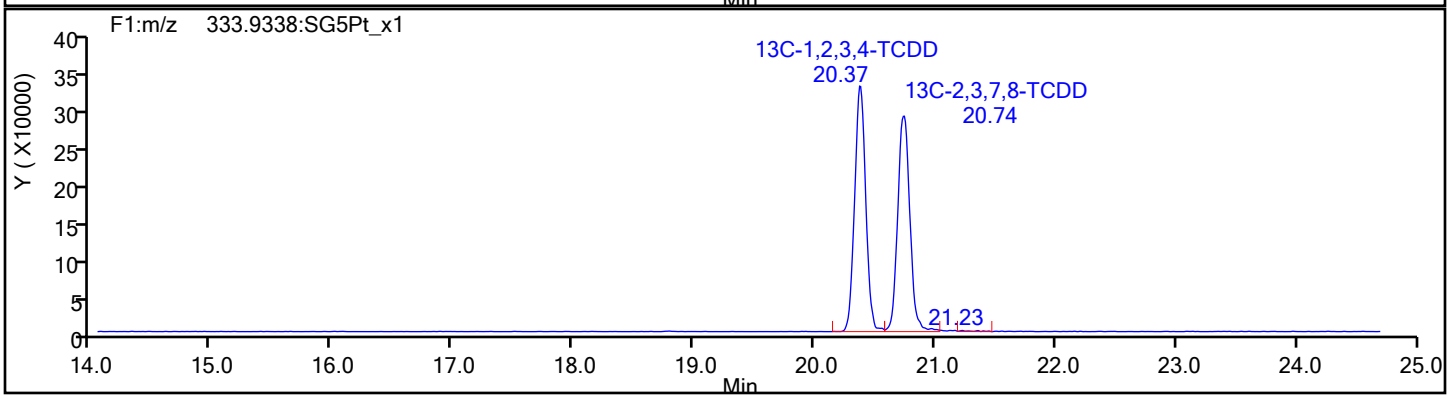

Report Date: 08-Nov-2019 13:21:46 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_3.d		
Injection Date:	07-Nov-2019 16:49:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336838	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

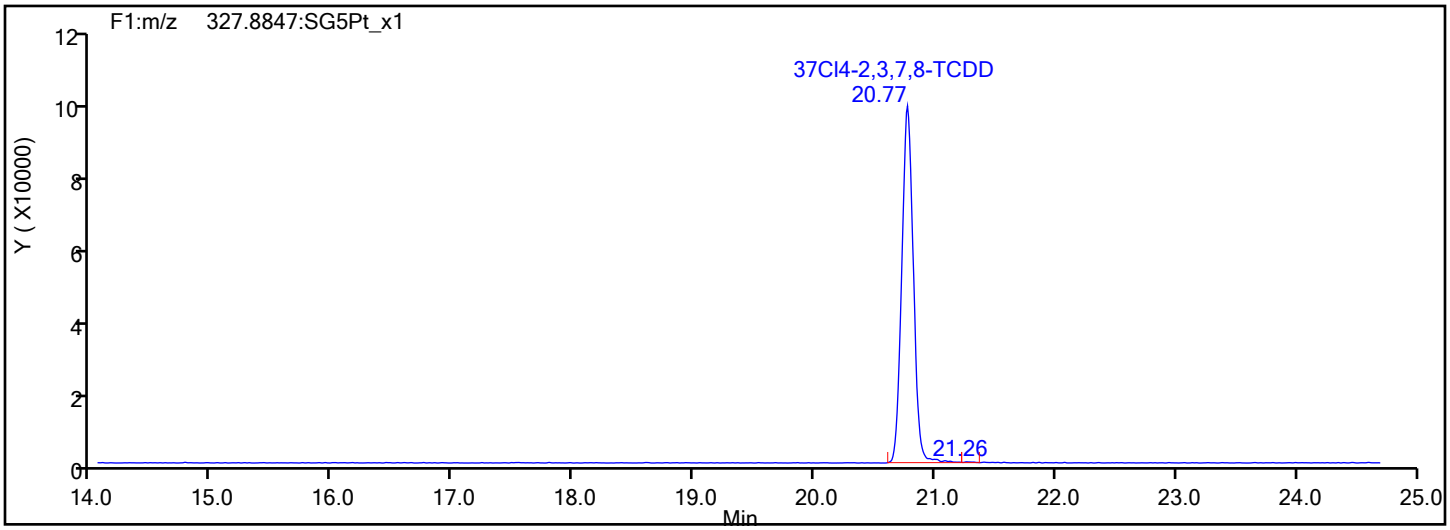

37Cl4-TCDD Standards

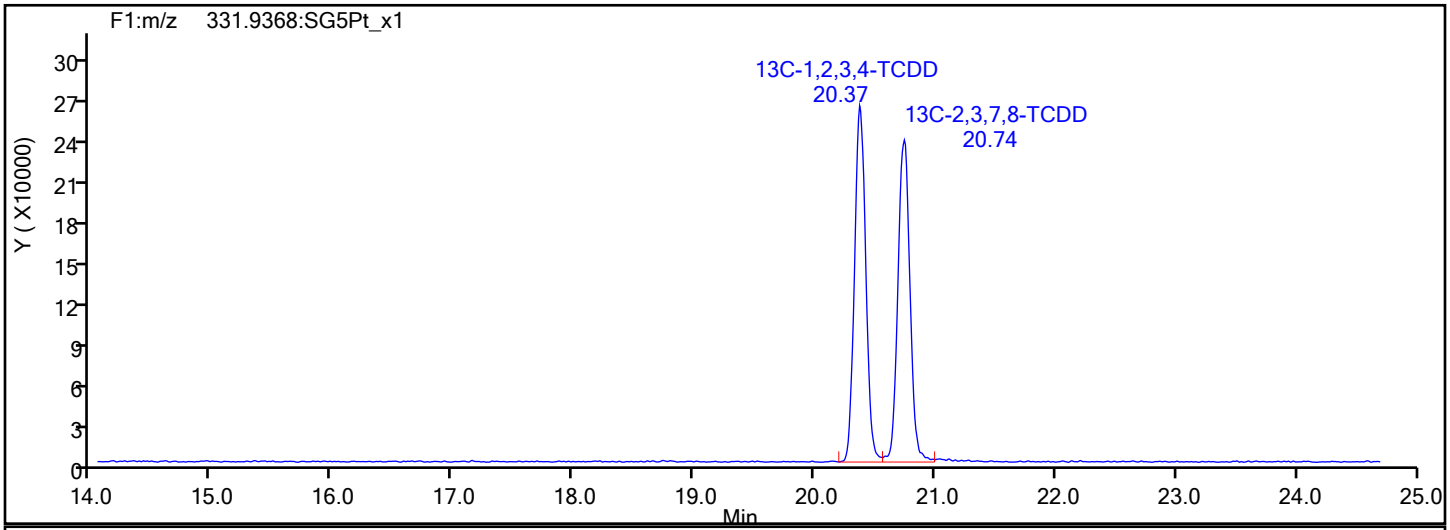

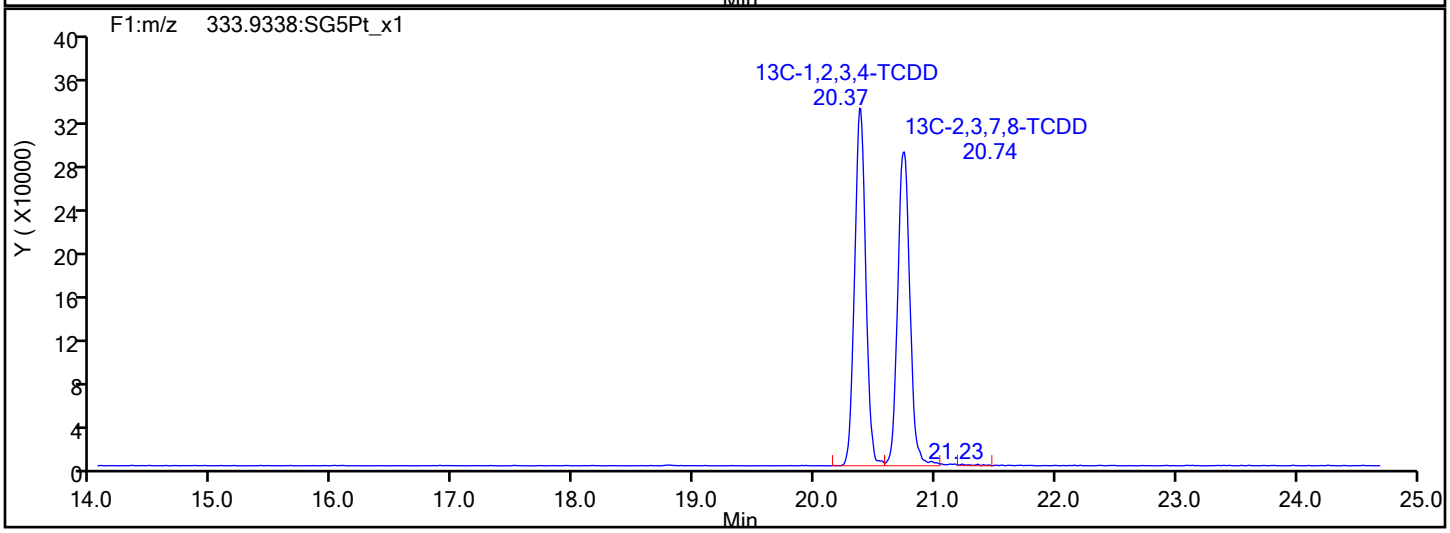

Report Date: 08-Nov-2019 13:21:46 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_3.d		
Injection Date:	07-Nov-2019 16:49:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336838	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

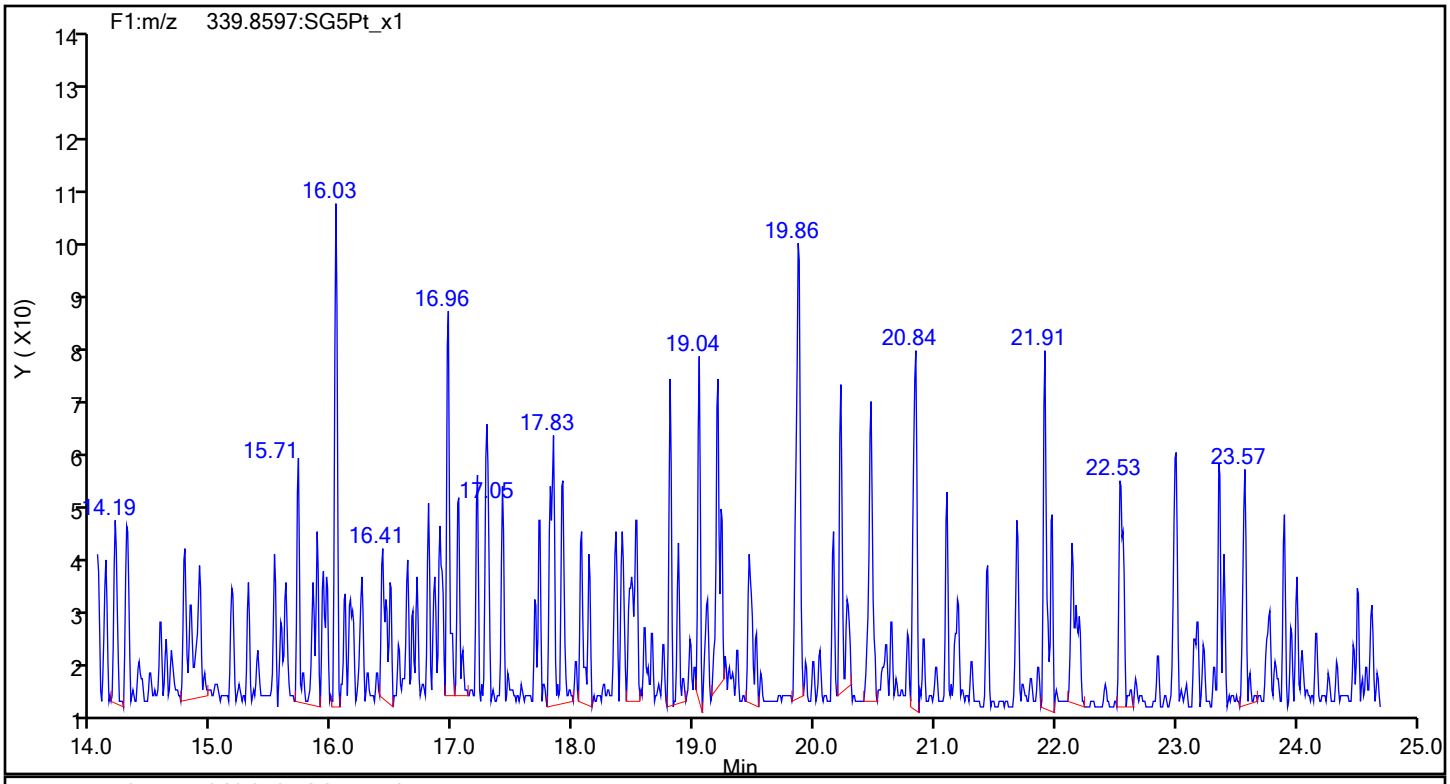

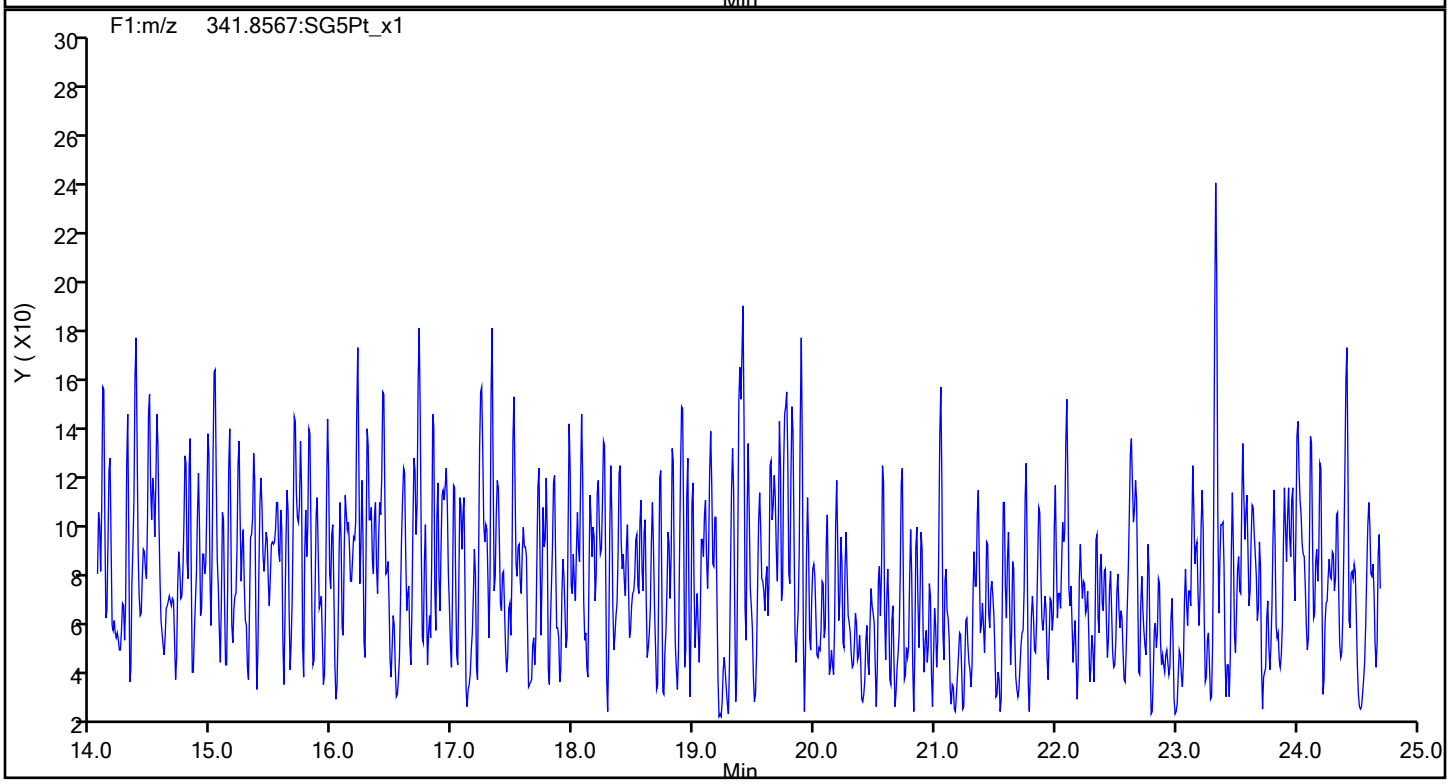

Report Date: 08-Nov-2019 13:21:46 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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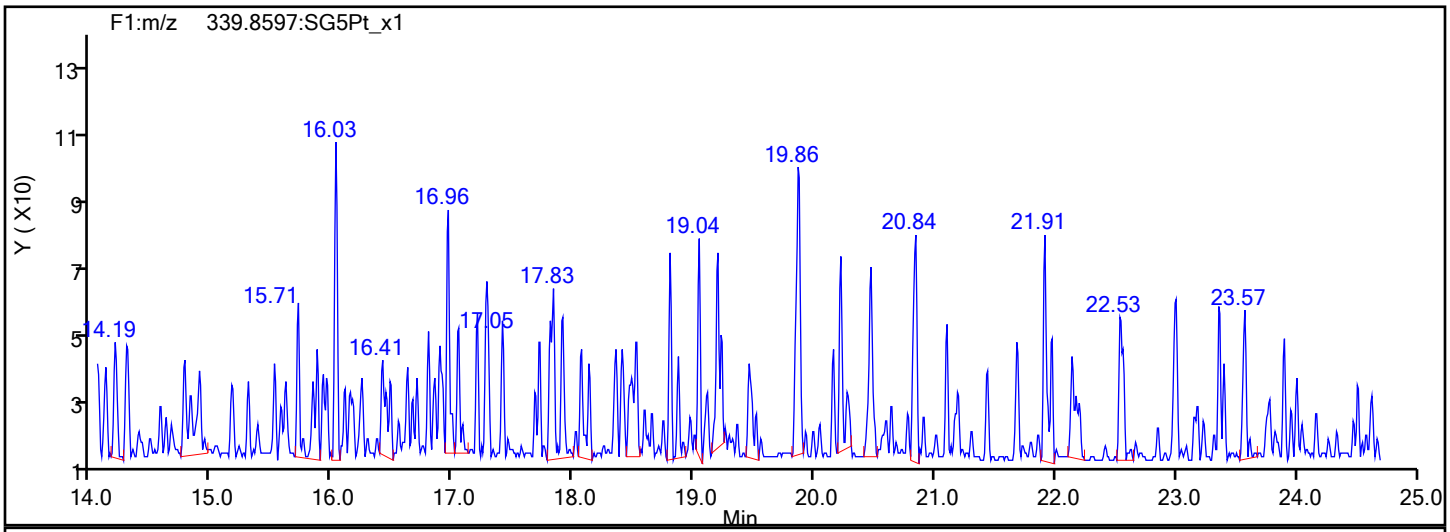

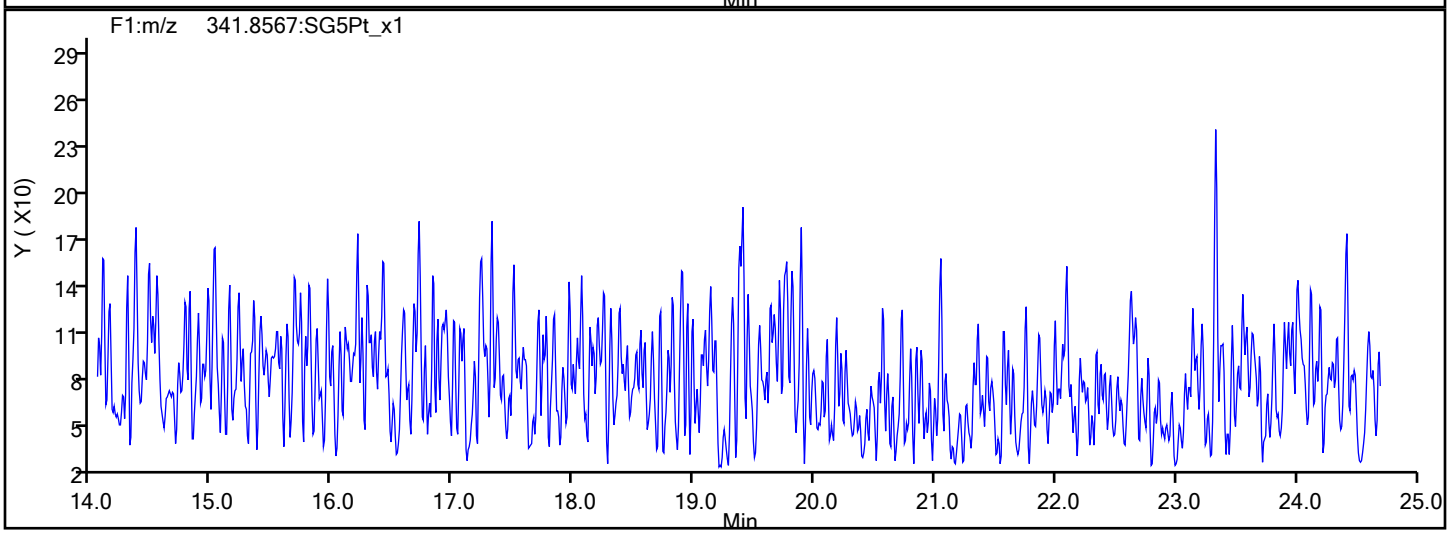

F1 PeCDFs Interference Mass

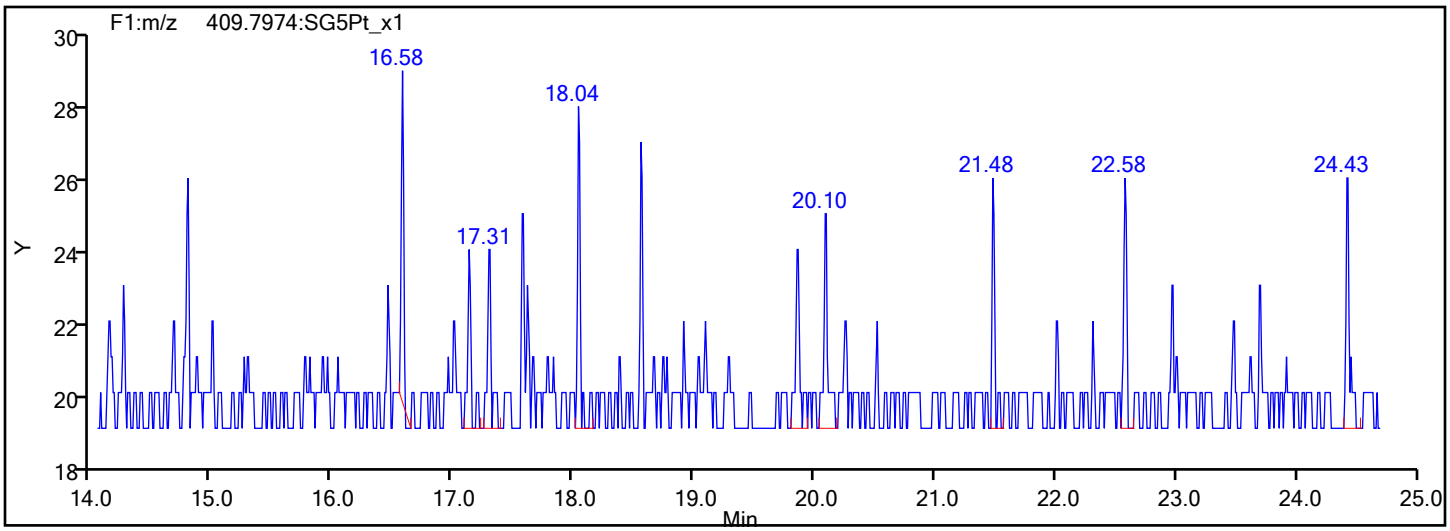

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Eurofins TestAmerica, Sacramento

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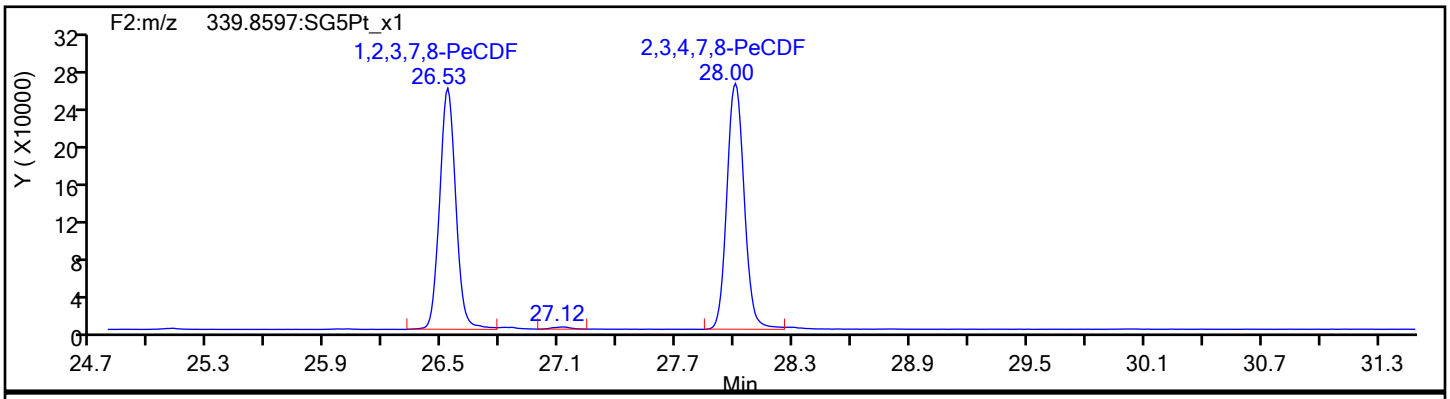

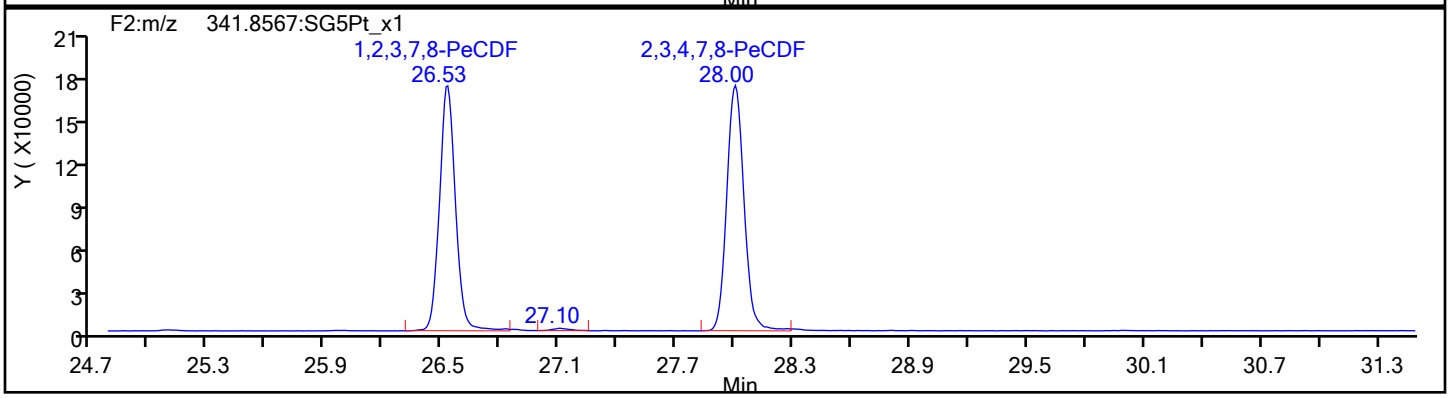

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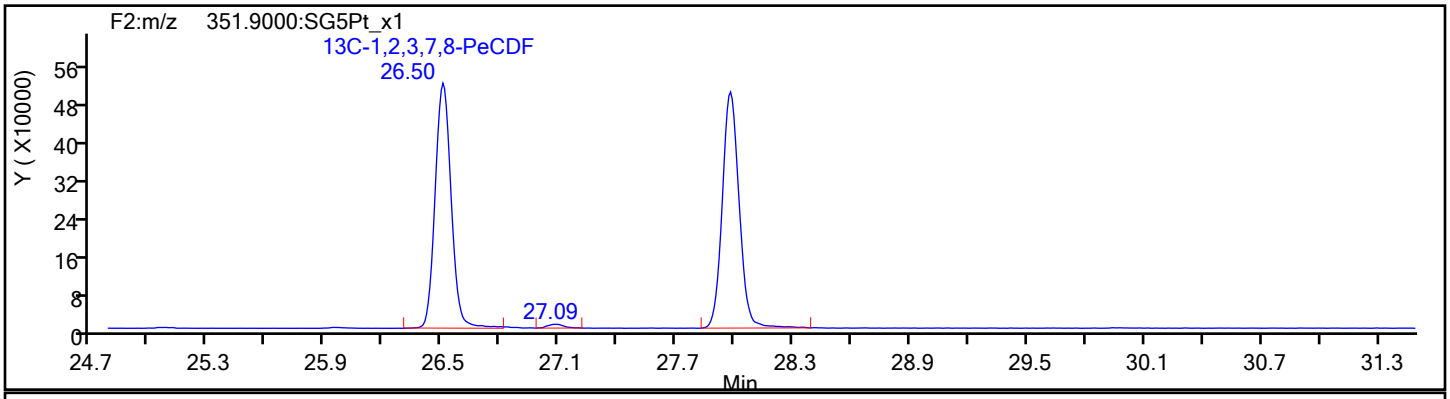

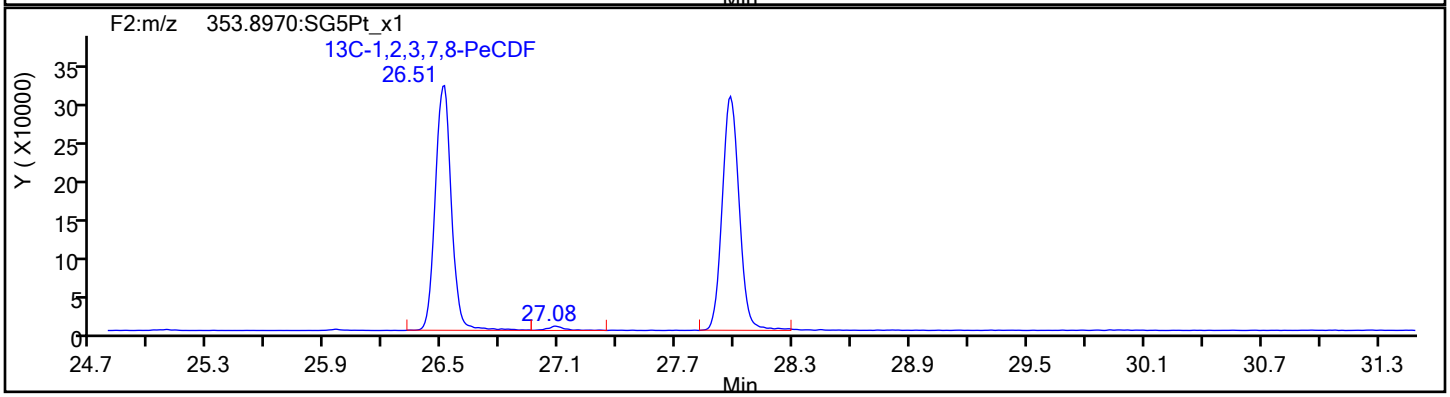

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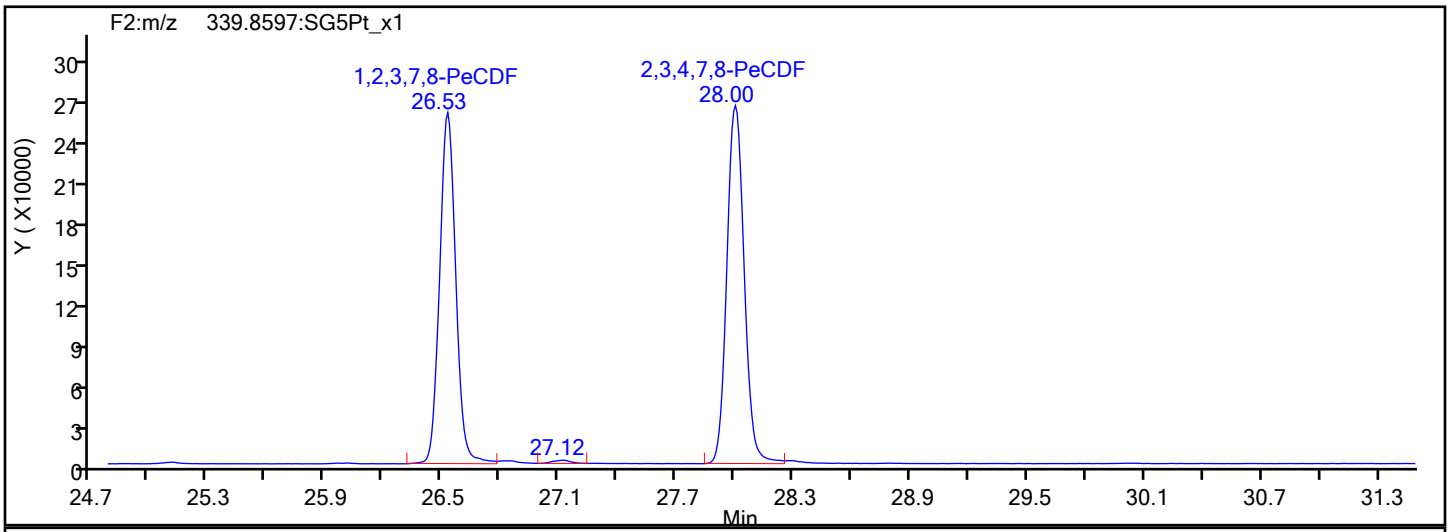

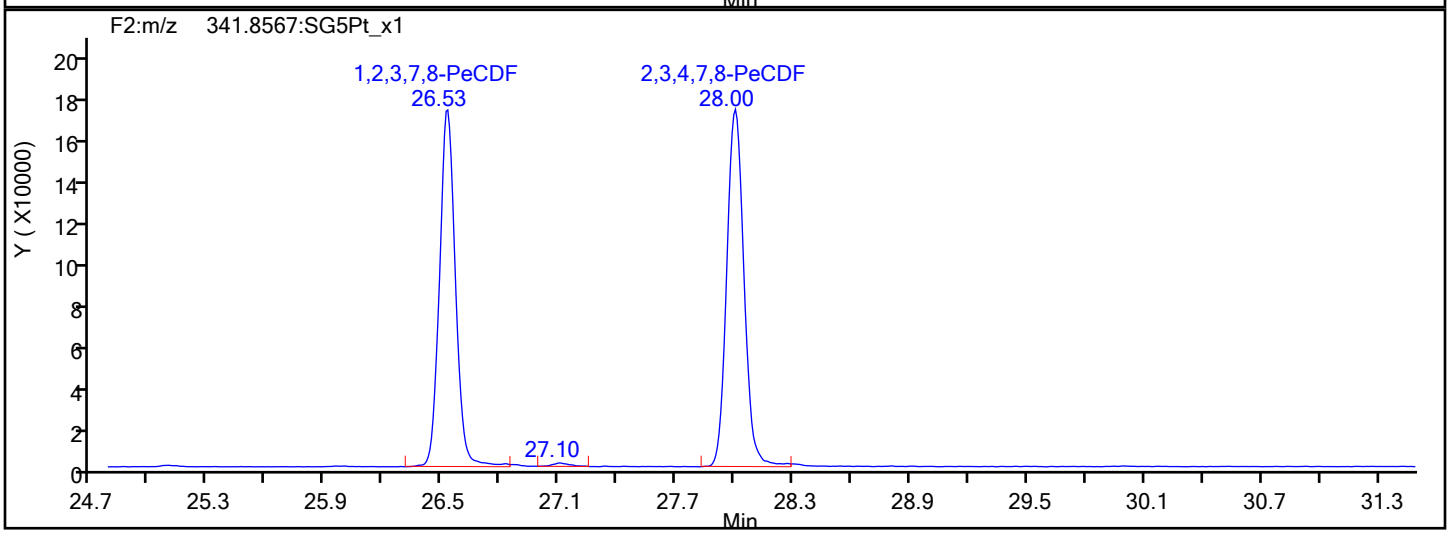

PeCDF Interference Mass

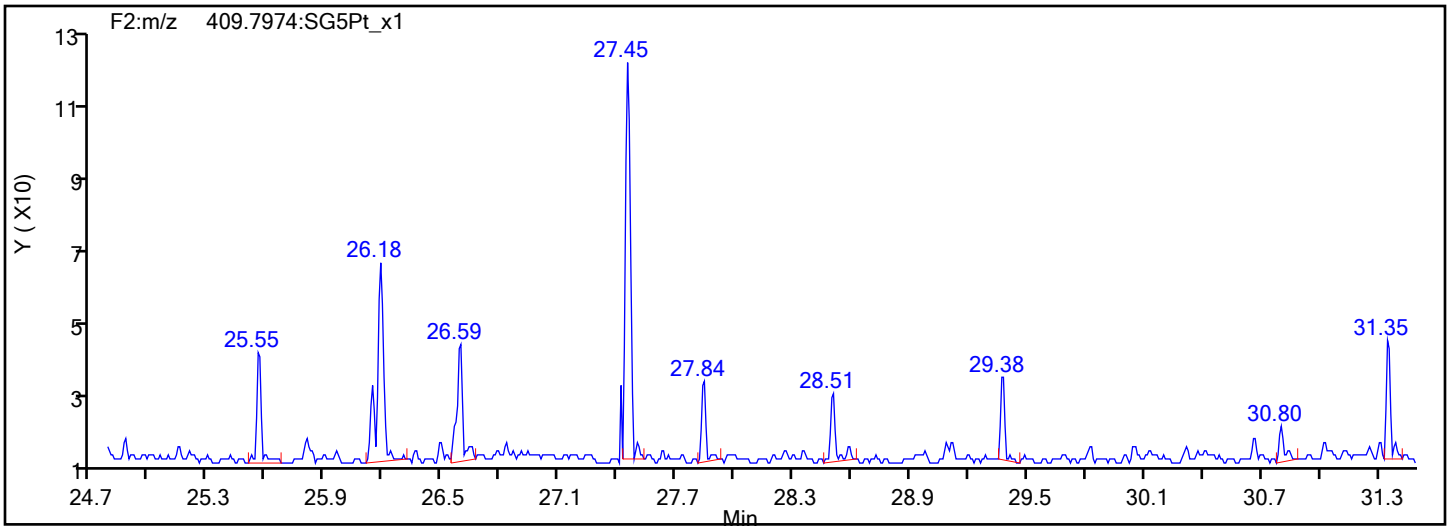

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Eurofins TestAmerica, Sacramento

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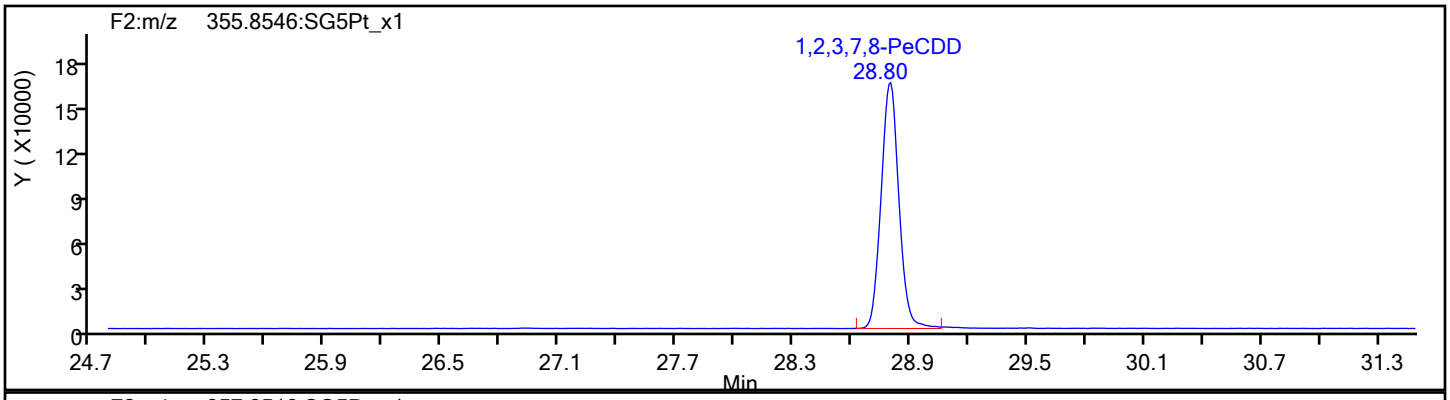

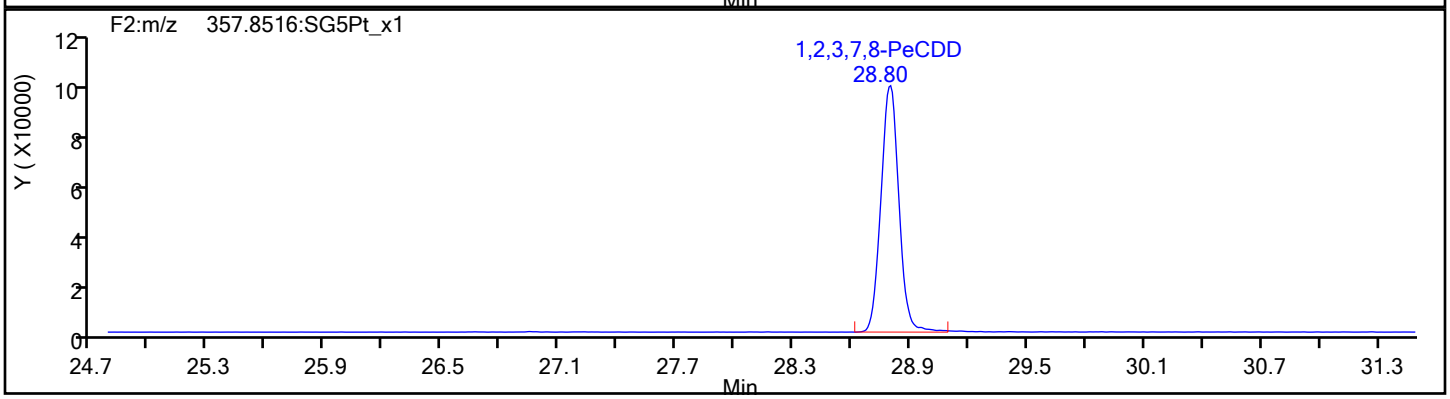

PeCDD Standards

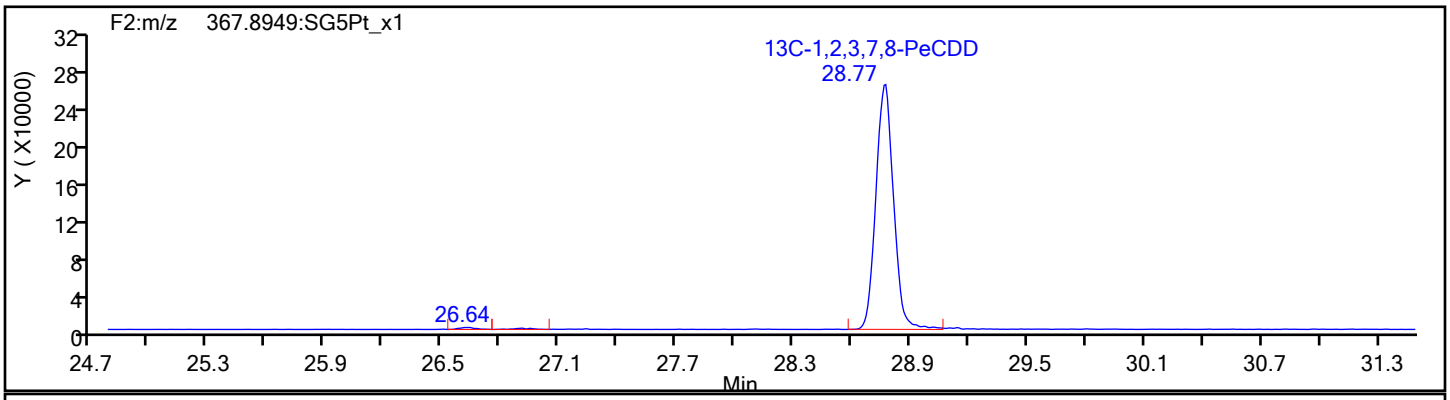

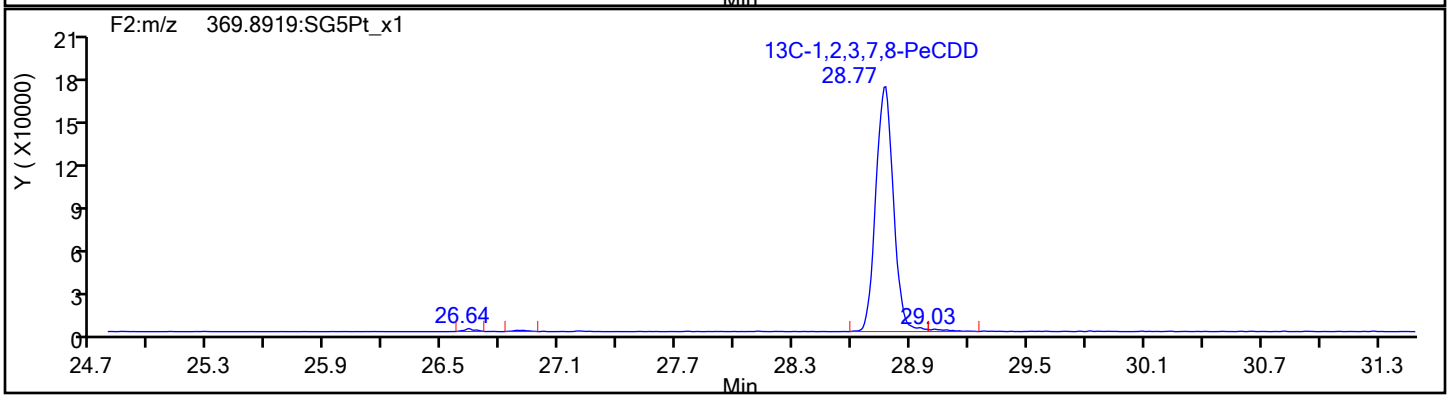

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Eurofins TestAmerica, Sacramento

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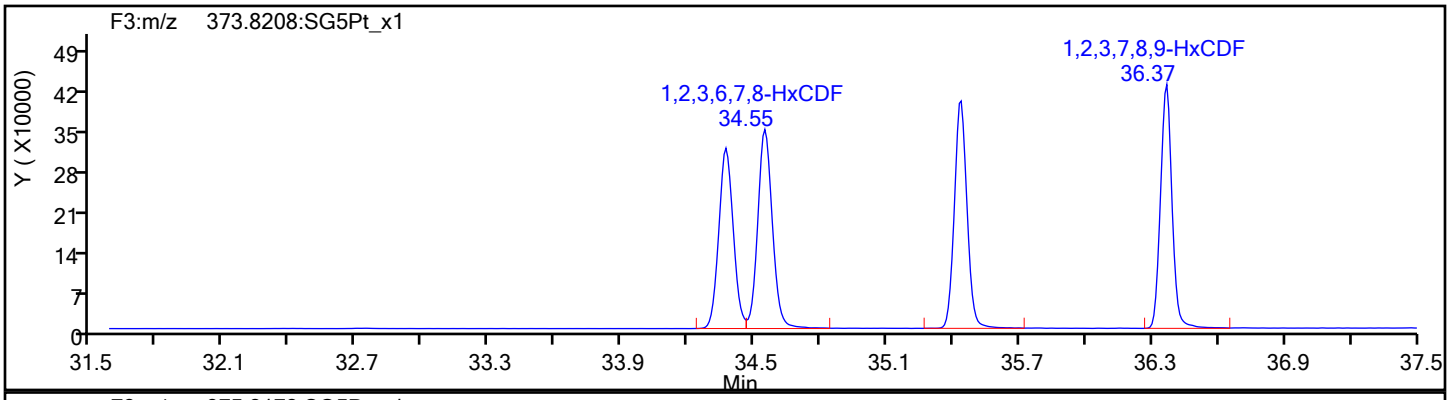

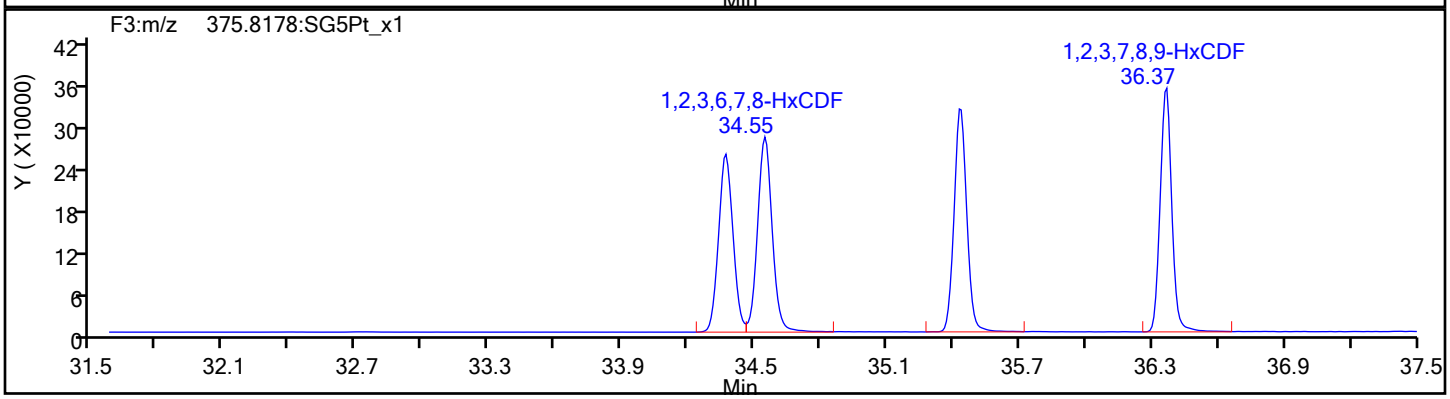

HxCDF Standards

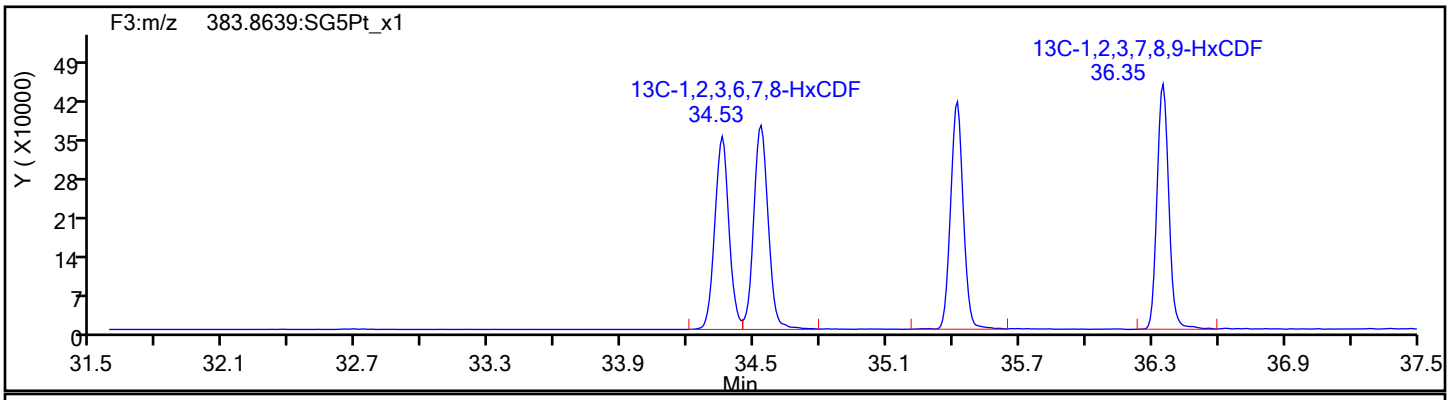

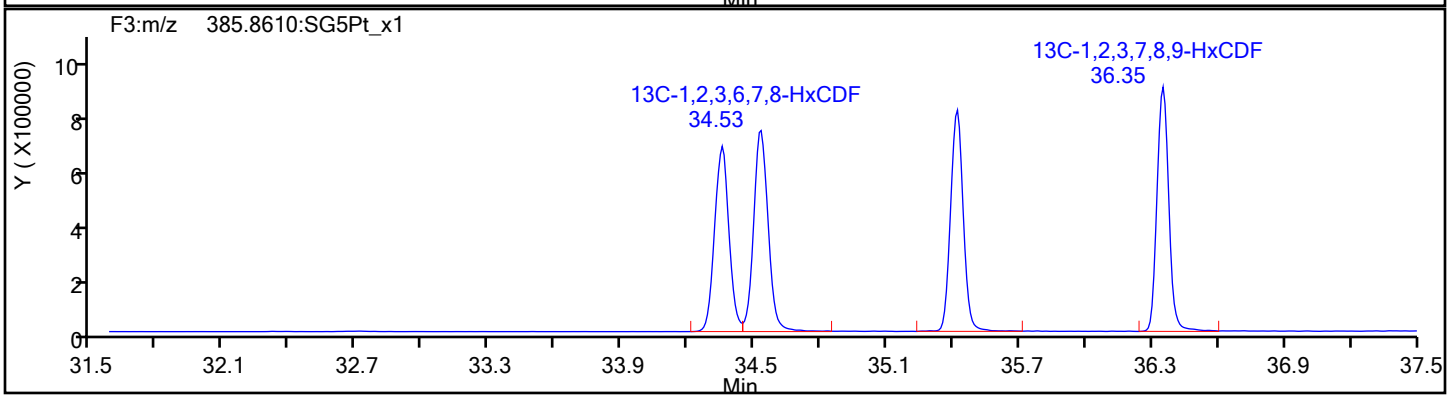

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Eurofins TestAmerica, Sacramento

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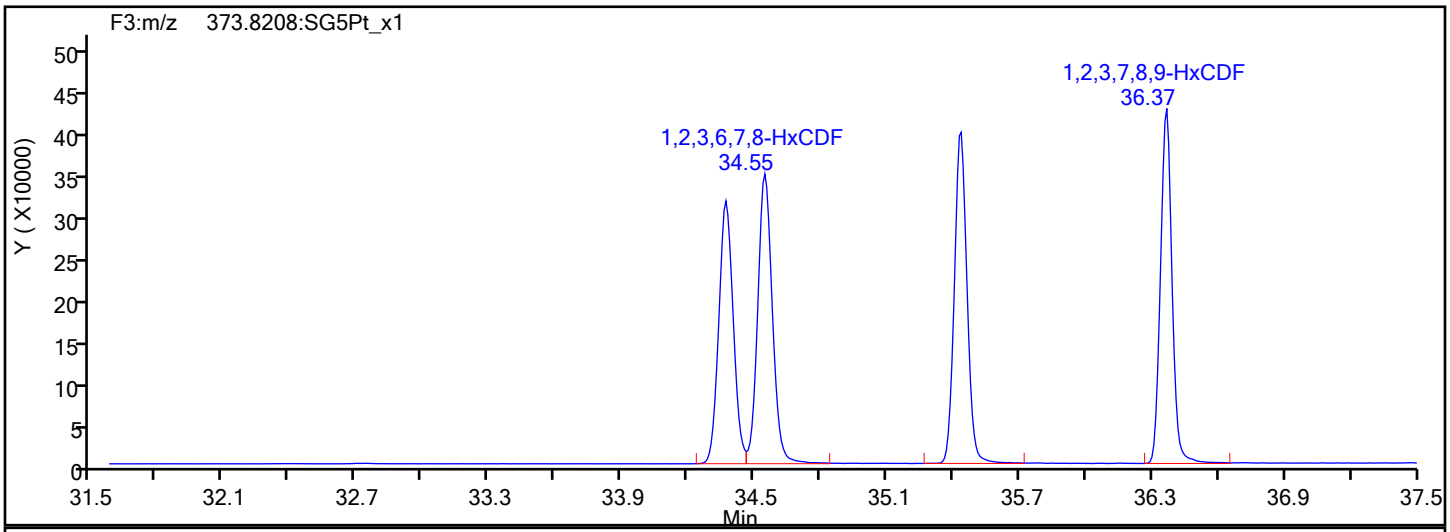

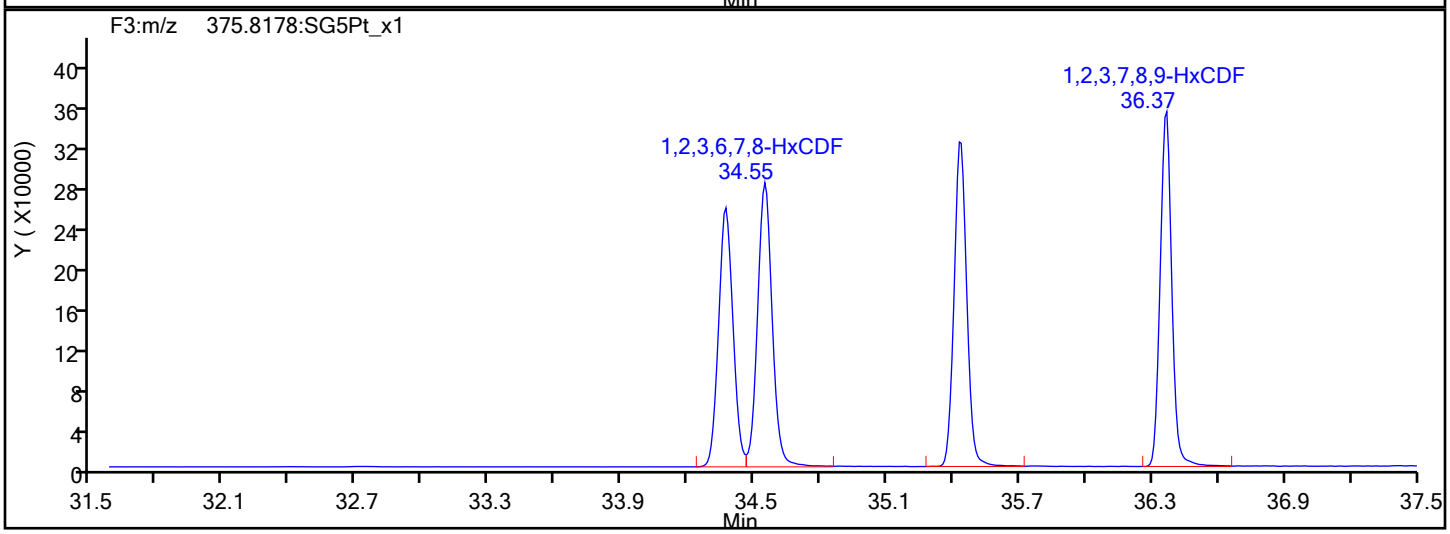

HxCDF Interference Mass

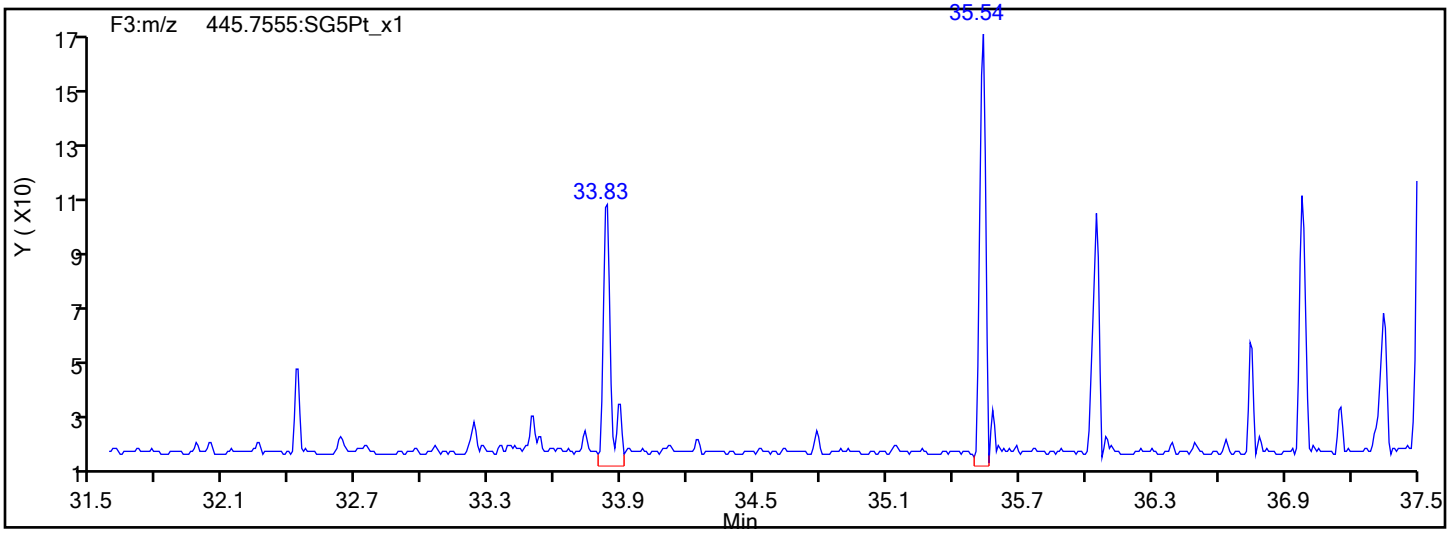

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Eurofins TestAmerica, Sacramento

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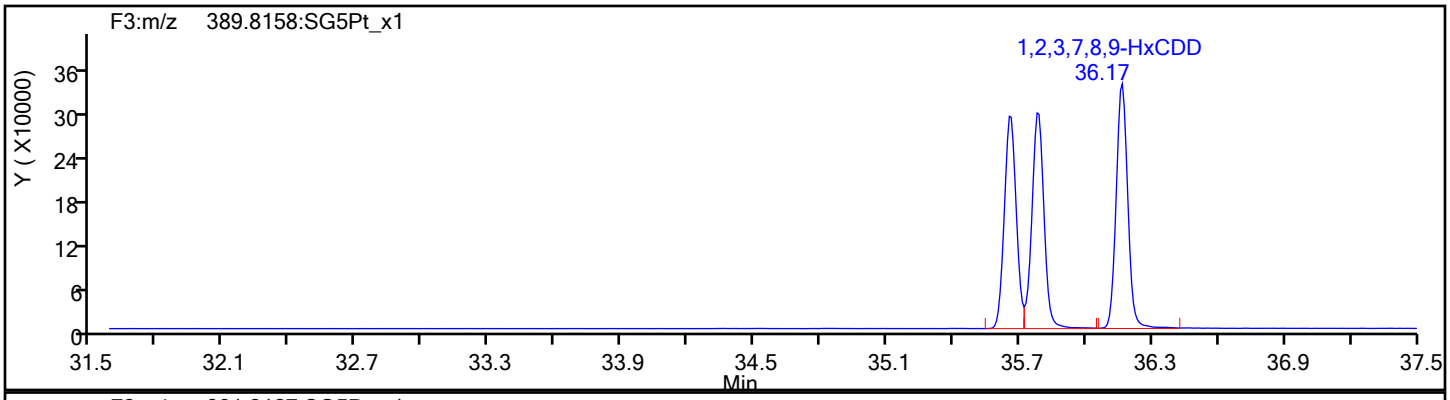

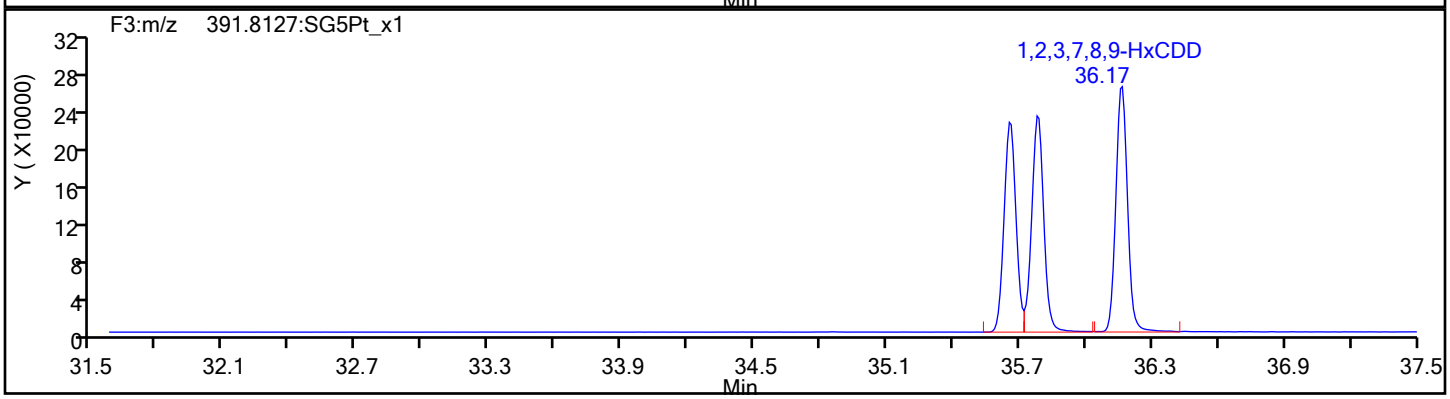

HxCDD Standards

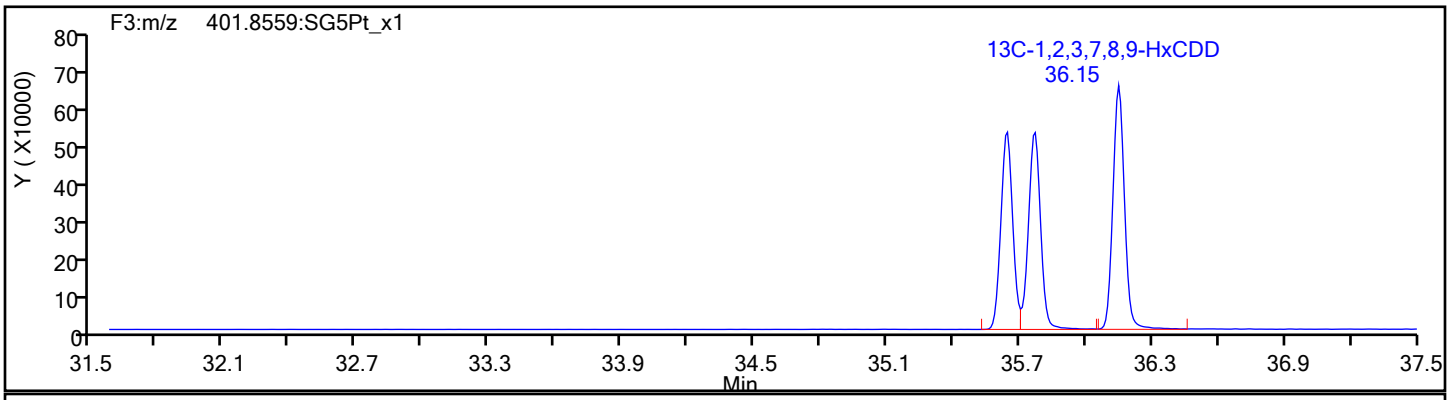

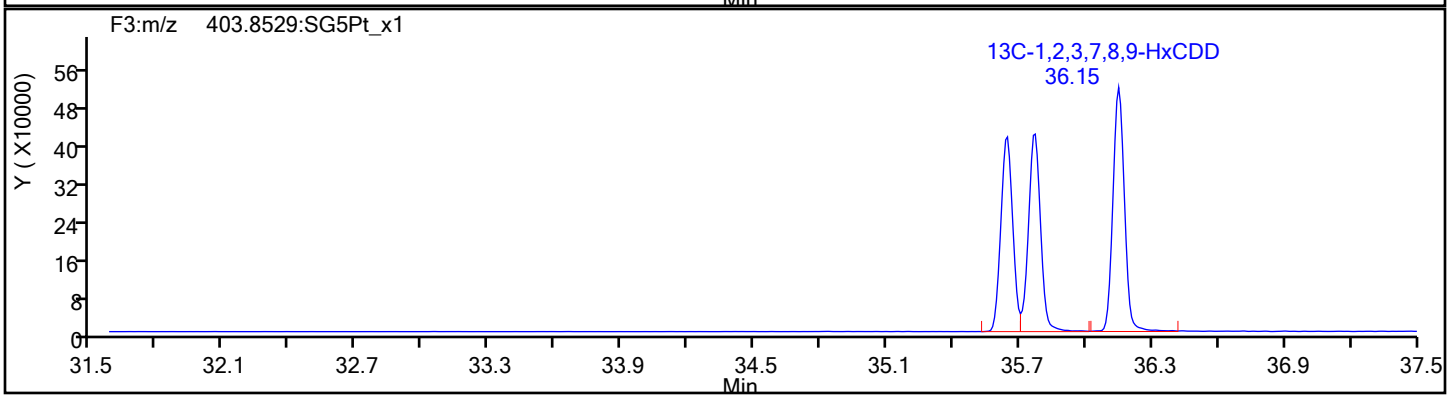

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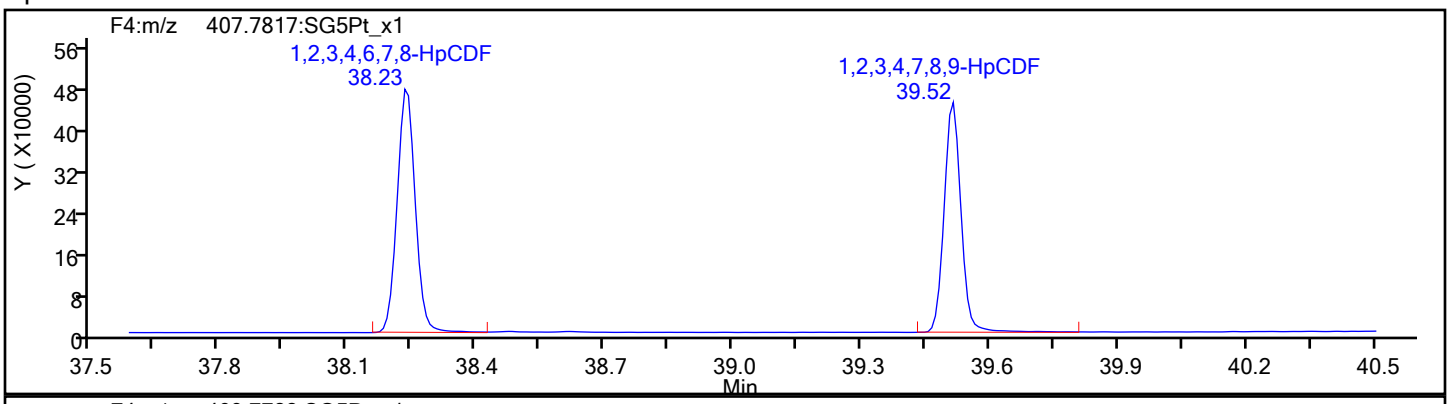

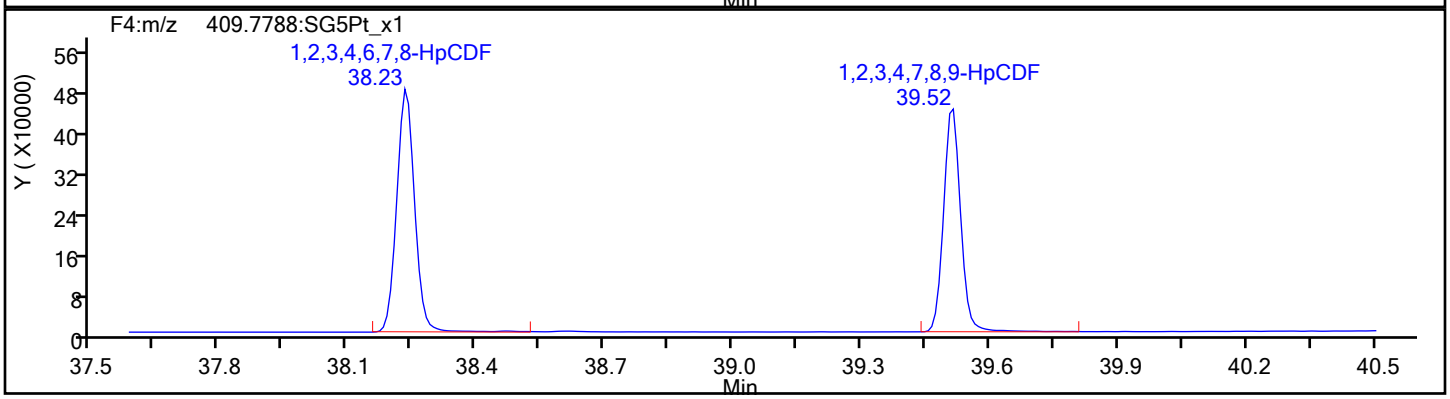

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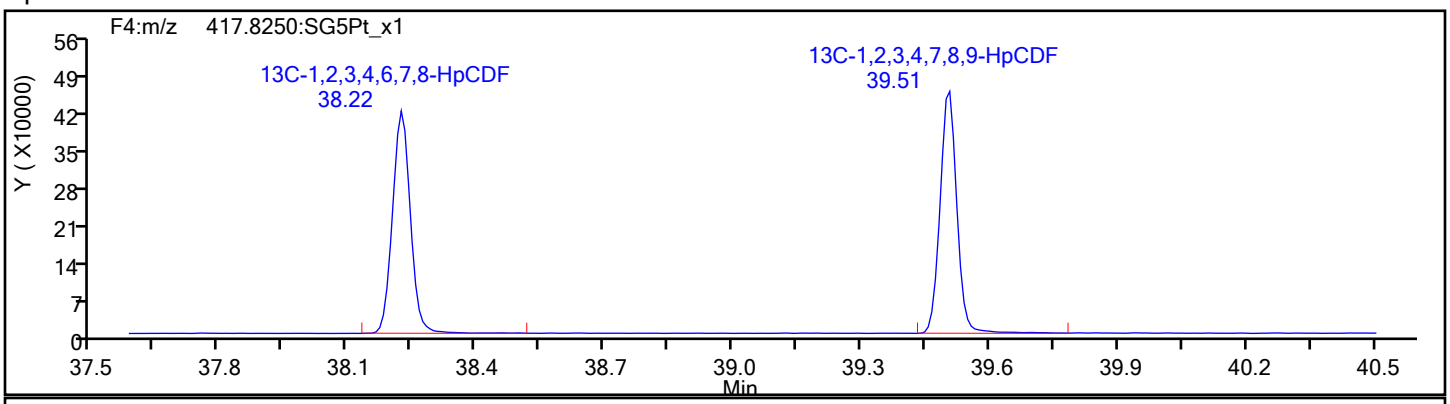

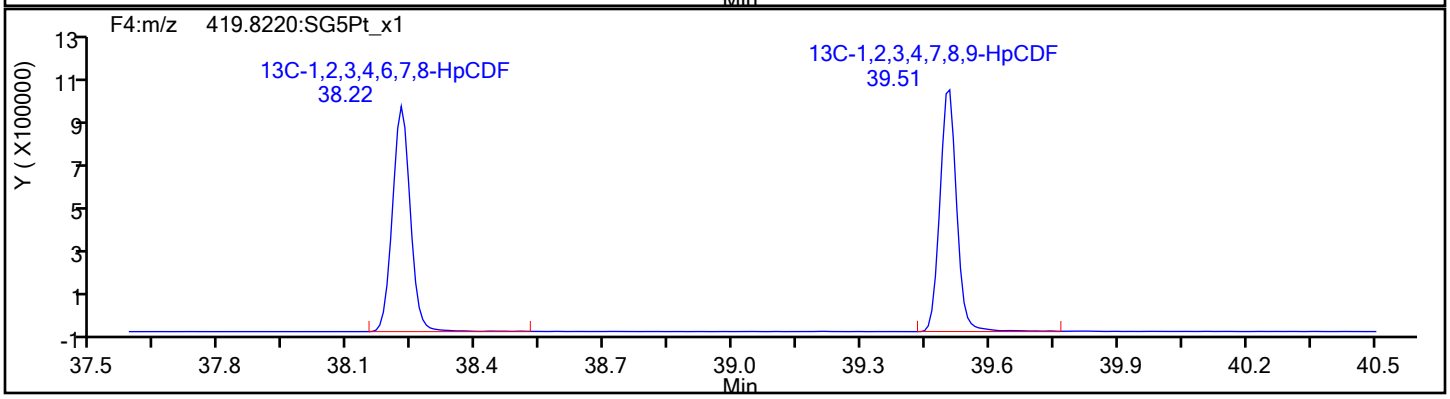

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Eurofins TestAmerica, Sacramento

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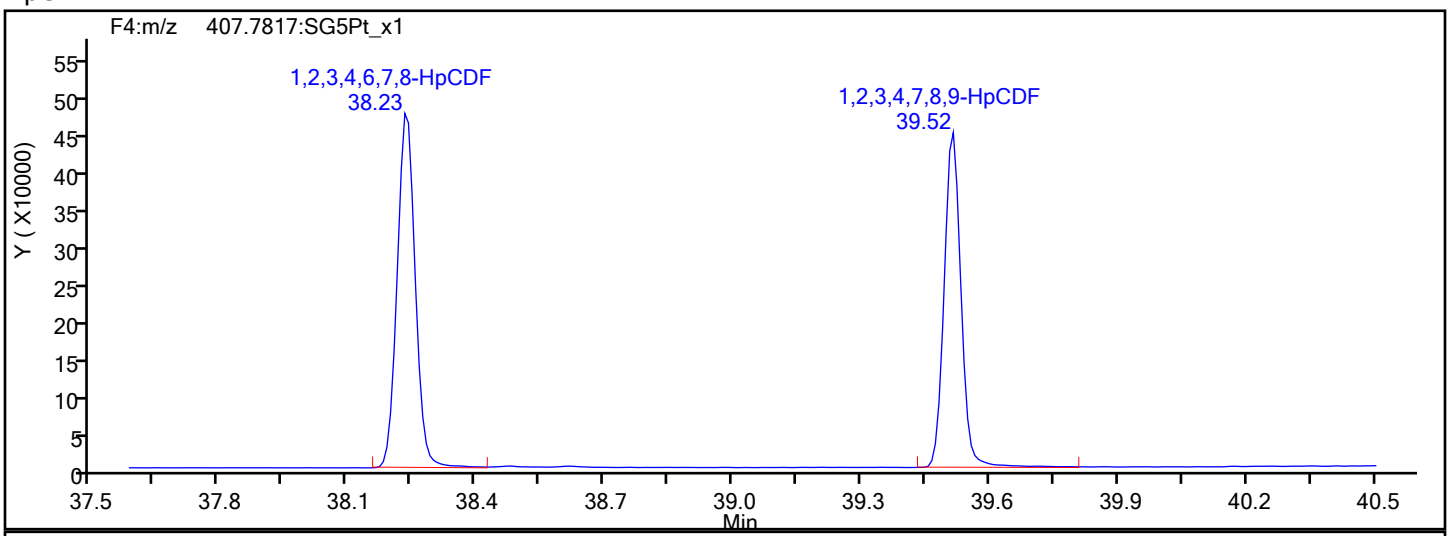

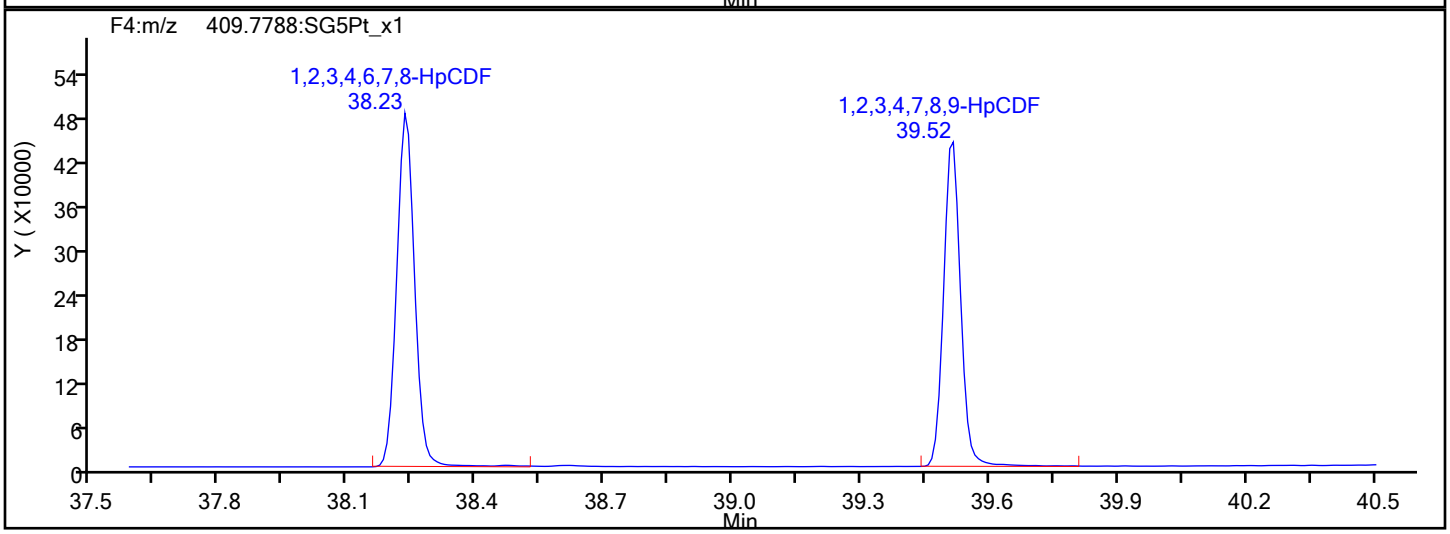

HpCDF Interference Mass

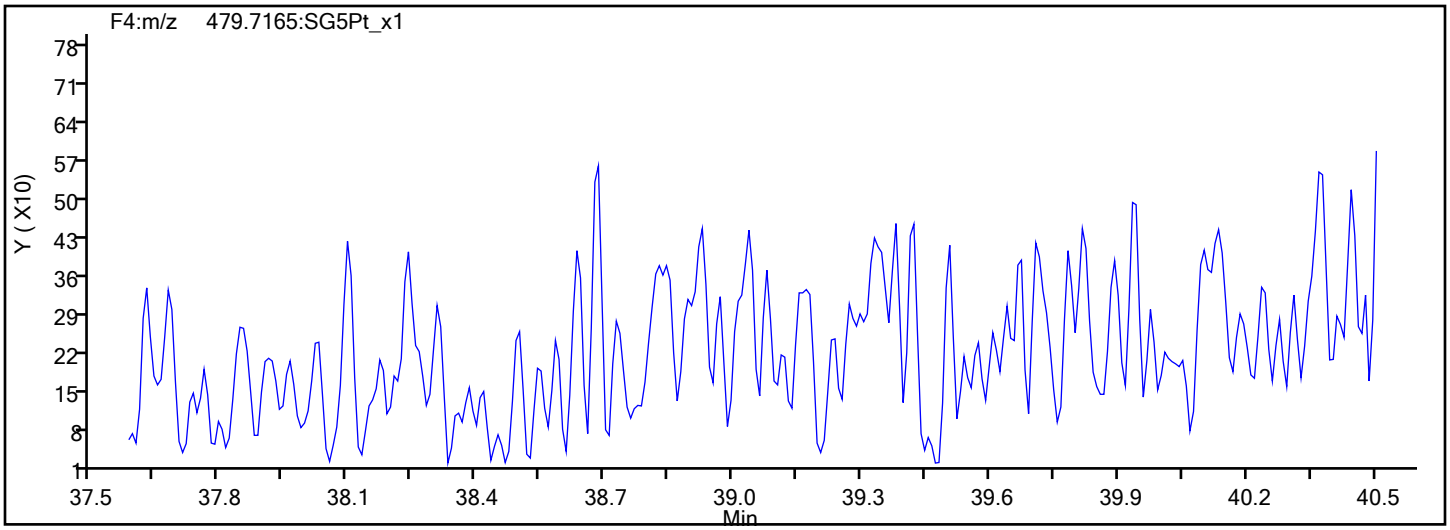

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Eurofins TestAmerica, Sacramento

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HpCDD

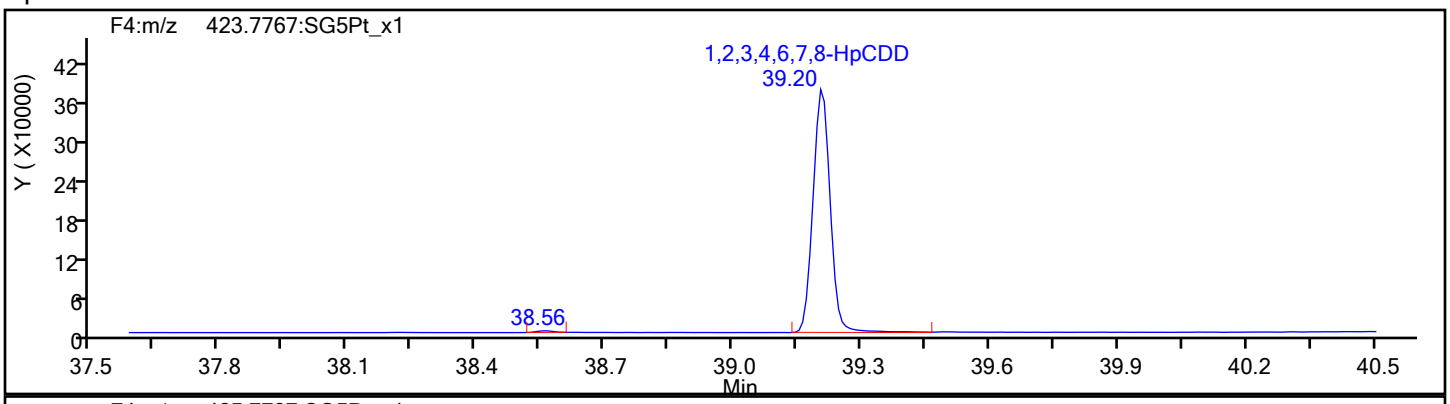

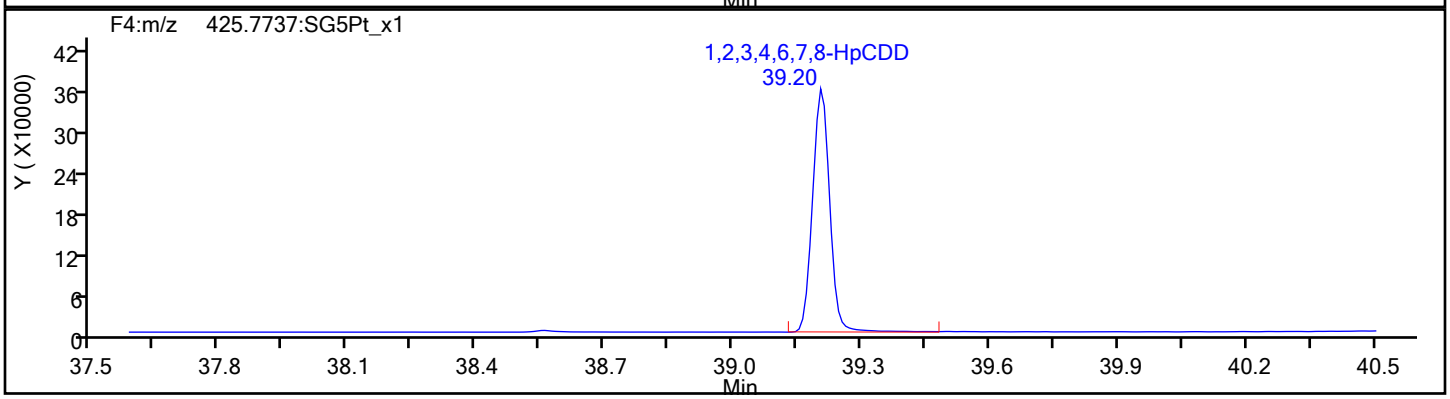

HpCDD Standards

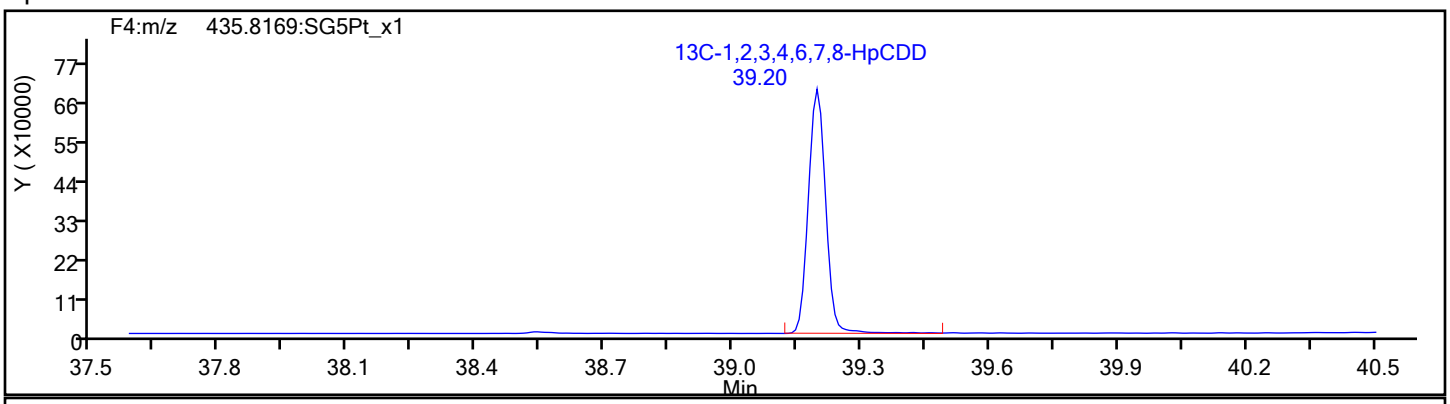

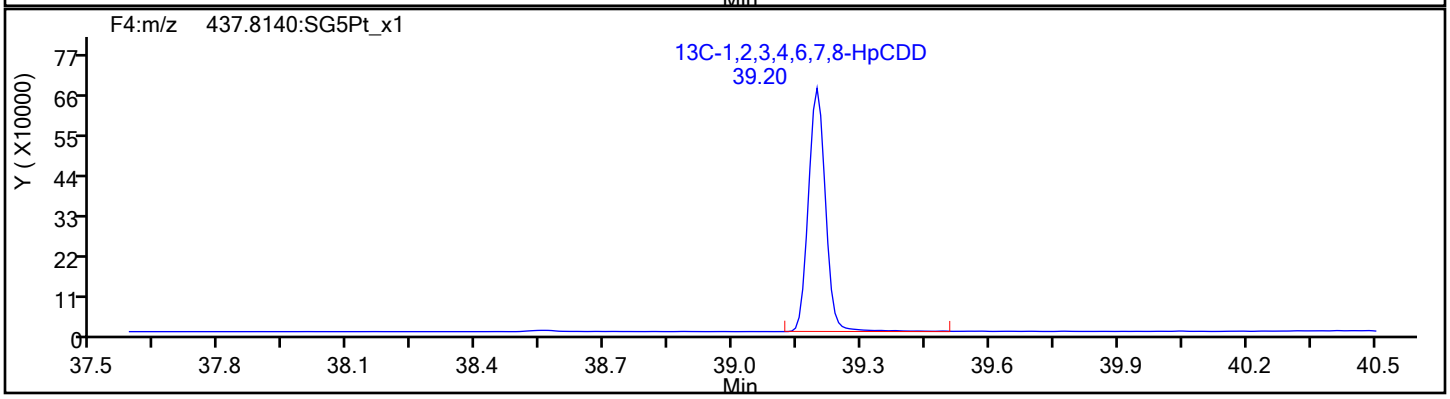

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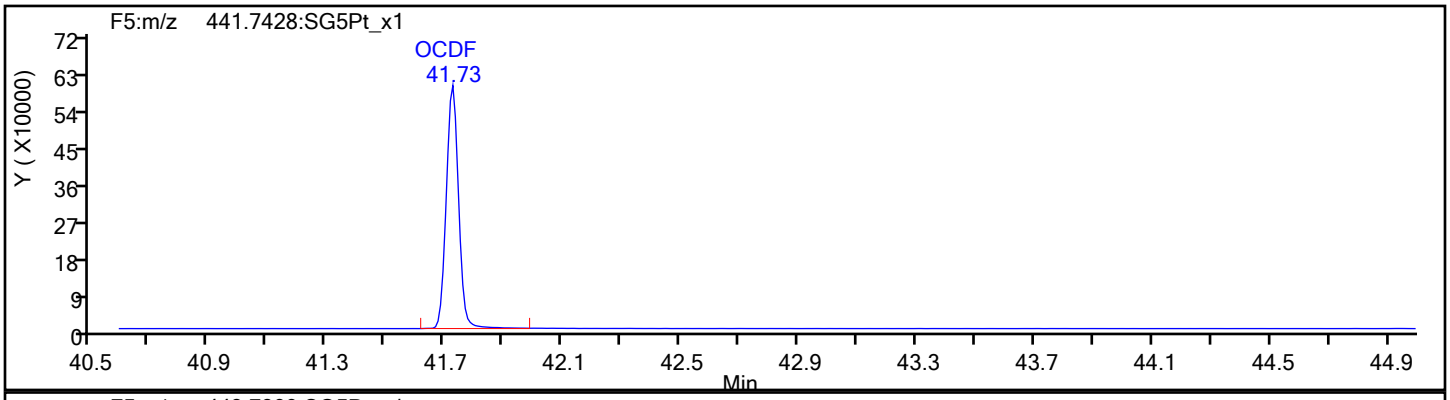

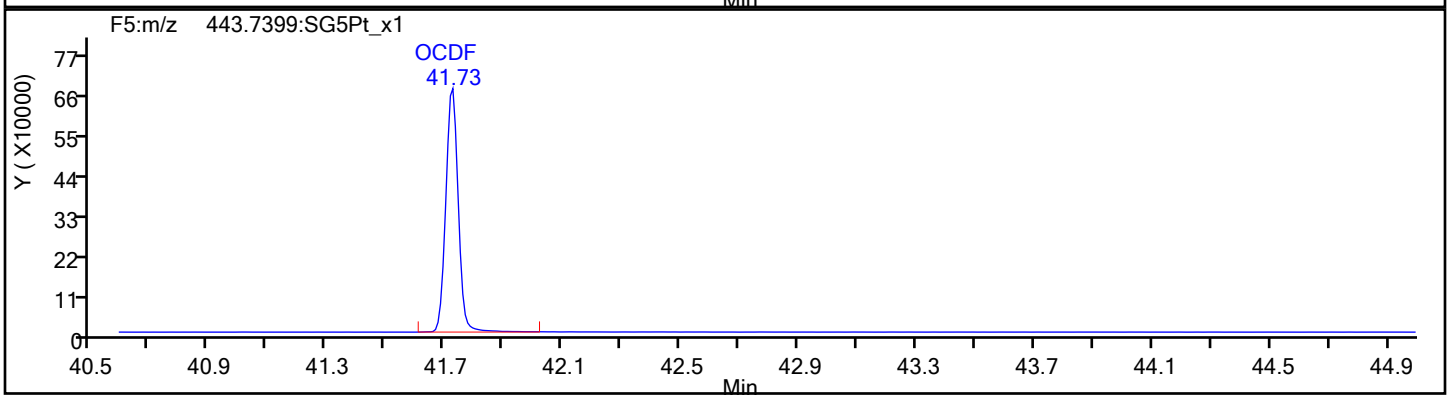

OCDF Standards

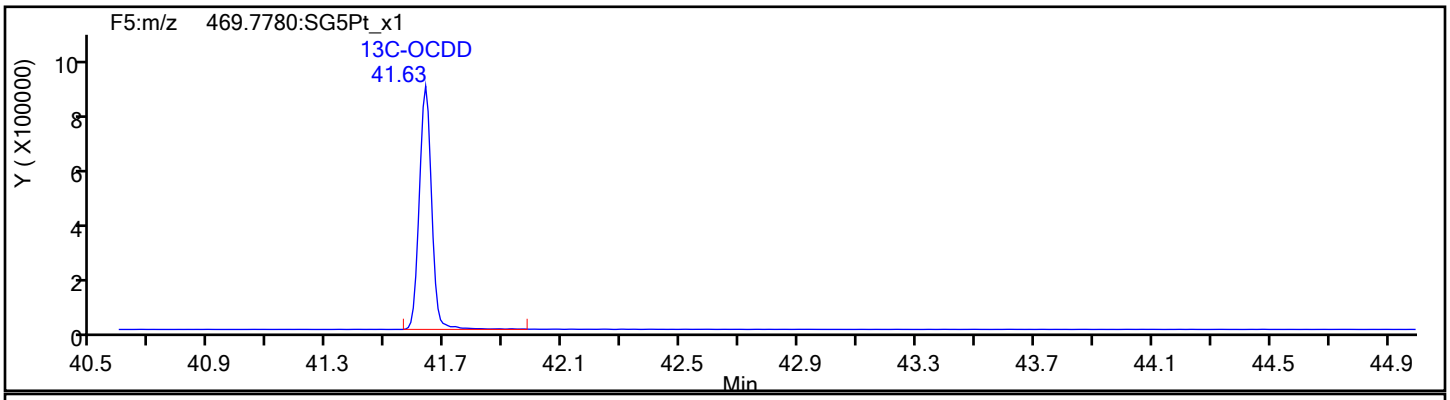

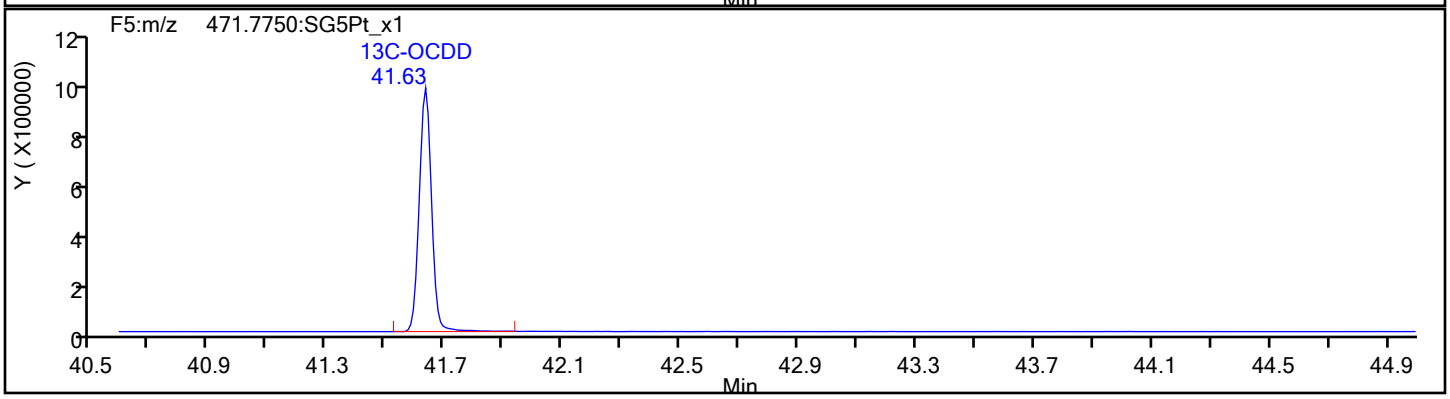

Report Date: 08-Nov-2019 13:21:47 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_3.d		
Injection Date:	07-Nov-2019 16:49:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336838	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

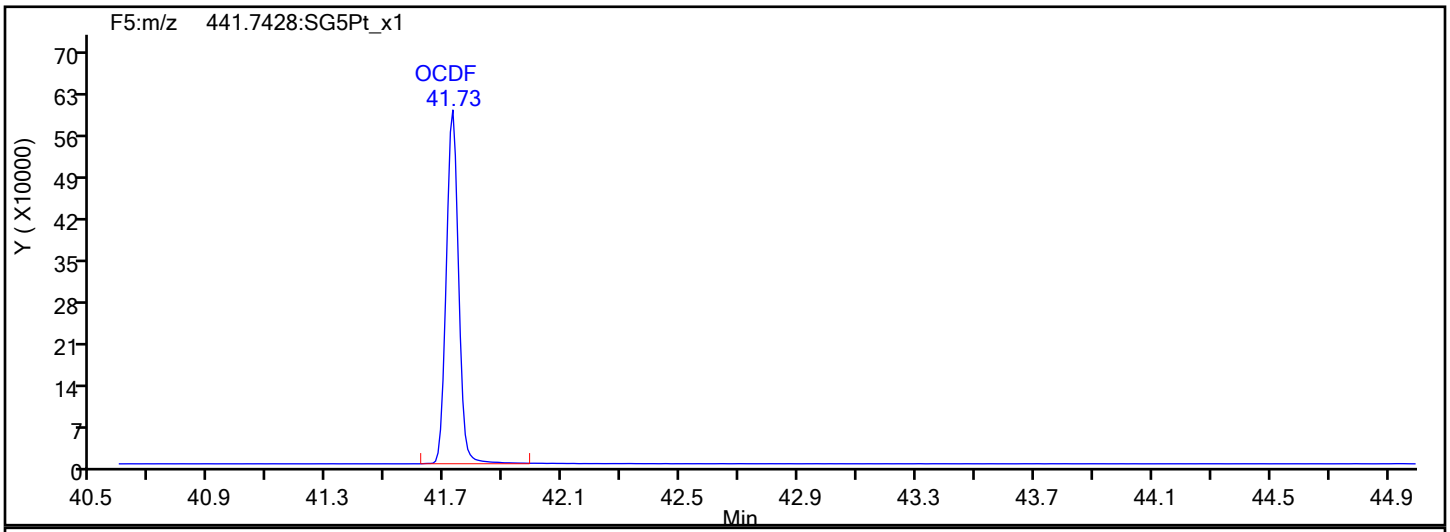

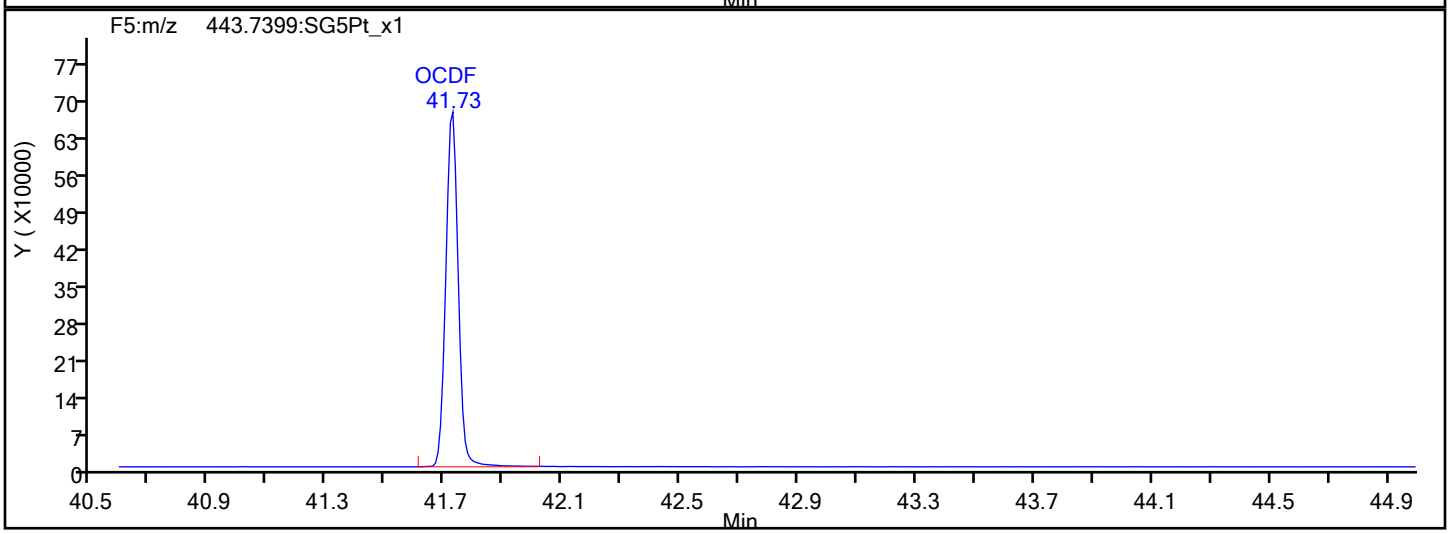

OCDF Interference Mass

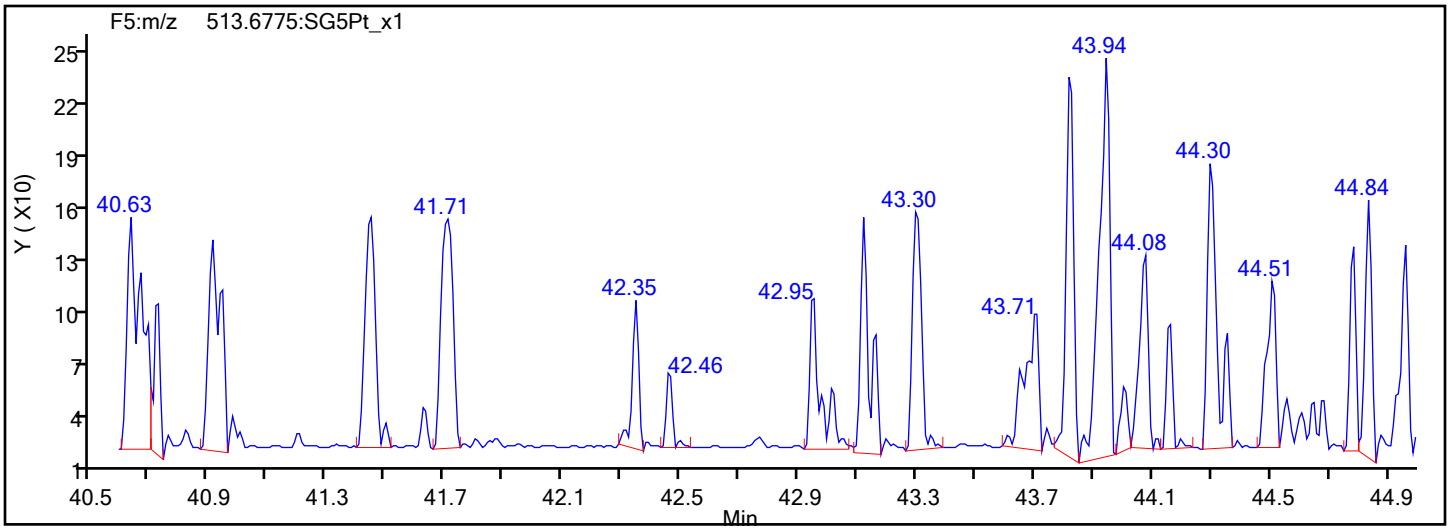

Report Date: 08-Nov-2019 13:21:47 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_3.d		
Injection Date:	07-Nov-2019 16:49:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336838	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

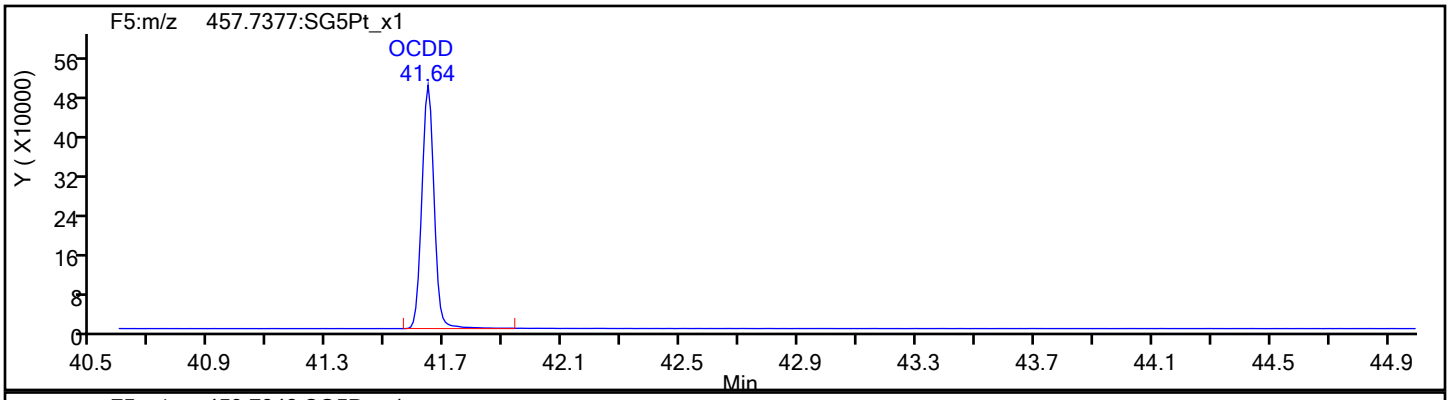

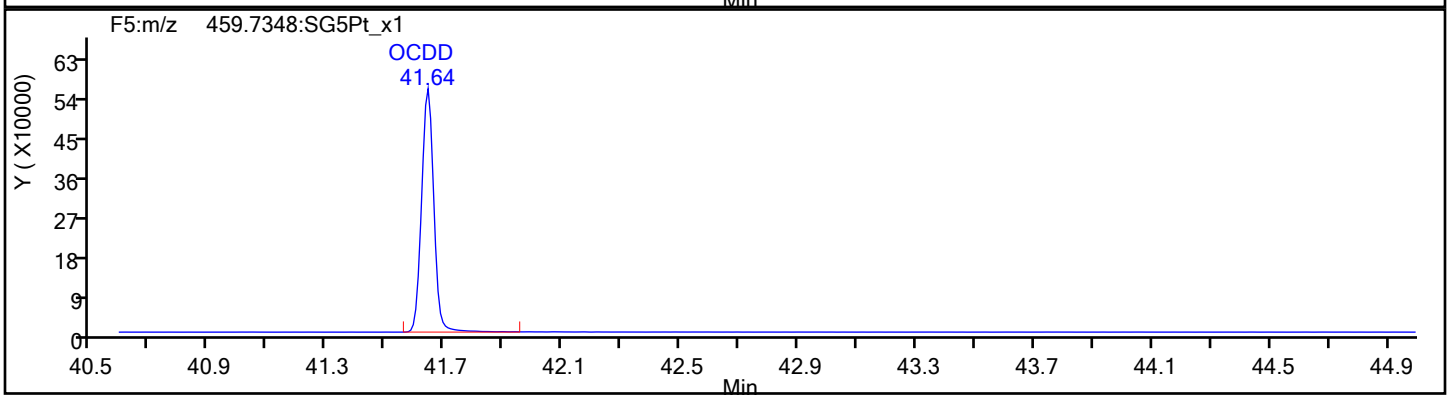

OCDD Standards

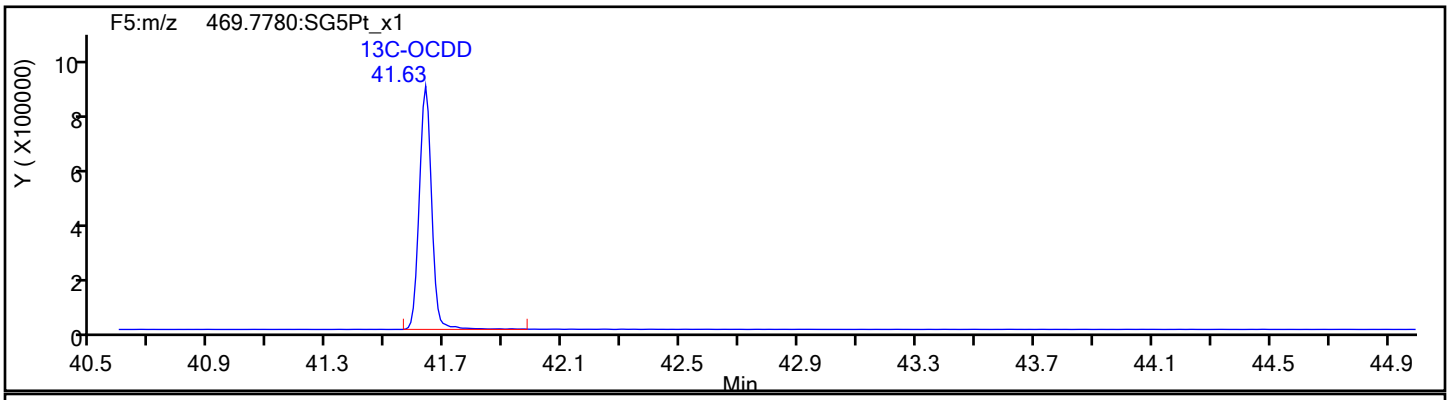

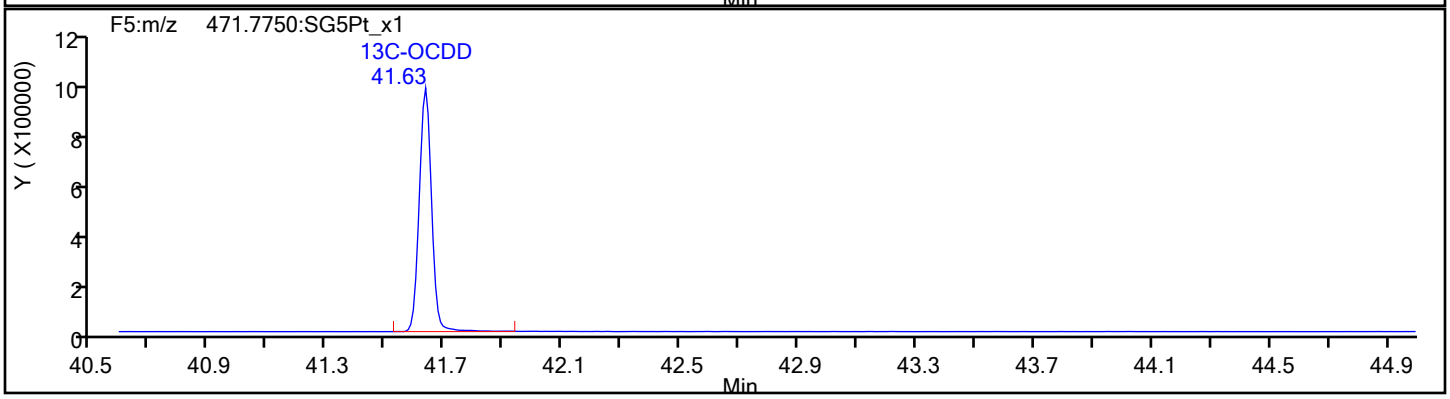

Report Date: 08-Nov-2019 13:21:47 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_3.d		
Injection Date:	07-Nov-2019 16:49:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336838	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

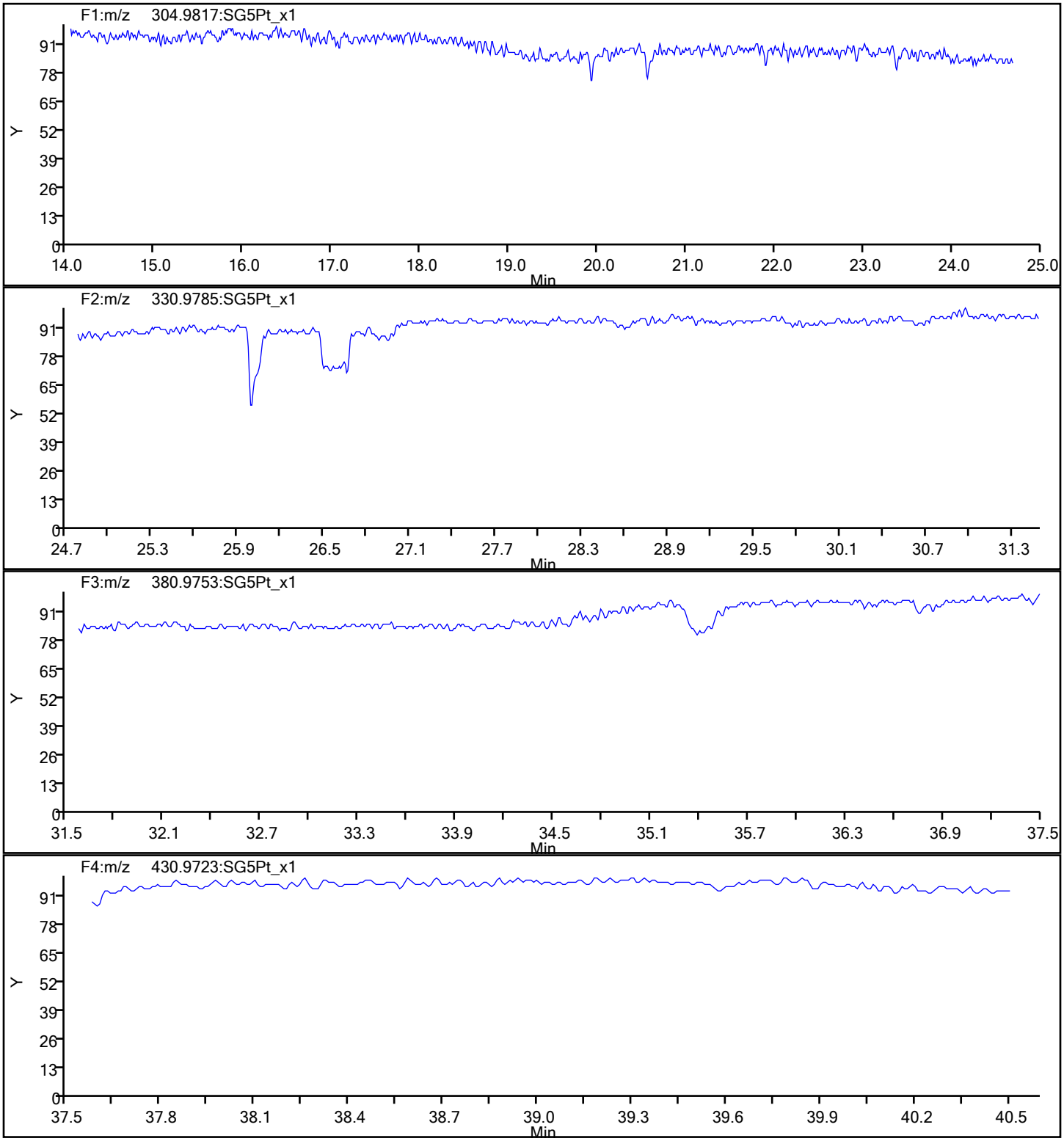

Report Date: 08-Nov-2019 13:21:47 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_3.d		
Injection Date:	07-Nov-2019 16:49:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336838	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

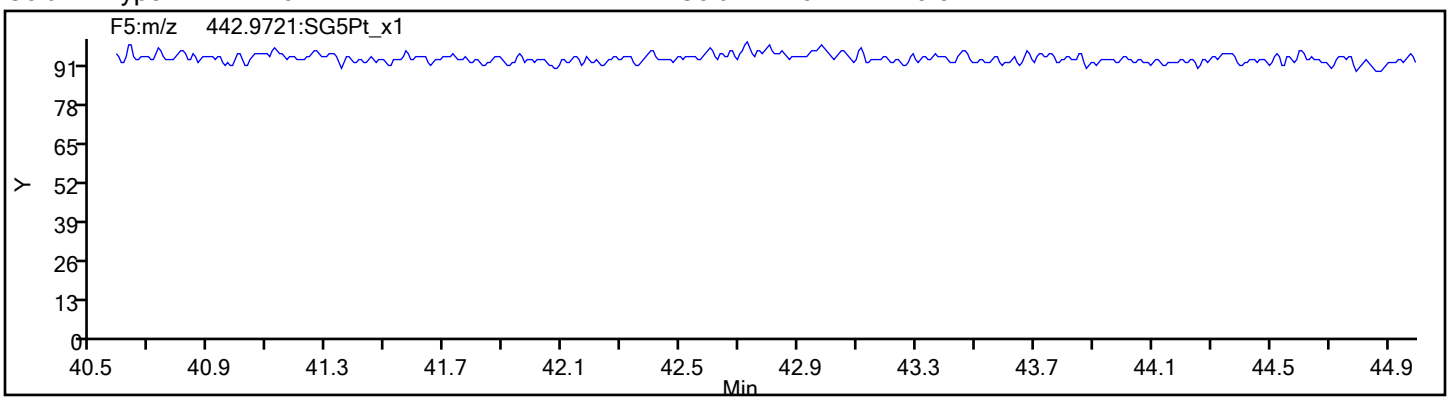

TestAmerica Laboratories
Worklist Report

Worklist Name: 07NO19ADFS1__DXN
Worklist Number: 86285
Instrument Name: DFS 1
Chrom Method: Dioxin_DFS1
Injection Volume: 1.000
Units: ul
Analysis Type: Semi VOA
Batch Directory: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b
Upload Directory: \\Corptalsapp12\320-WS-RawData\Organics\MS\DFS 1

Smp #	Lims ID	Smp Type	Dil Fact	Fract	Initial Vol/Wt	Vol/Wt Units	Sample Reagents	pH	Comment
1	# 1 WDM	WDM	1.000	sv	1.000	mL	HRDXNCP_00040		
2	# 2 CCV	CCV	1.000	sv	1.000	mL	HRDXNL4_00086		
3	# 3 SB	SB	1.000	sv	1.000	mL			
4	# 4 MB 320-335549/1-A	MB	1.000	sv	1.000	mL			
5	# 5 LCS 320-335549/2-A	LCS	1.000	sv	1.000	mL			
6	# 6 LCSD 320-335549/3-A	LCSD	1.000	sv	1.000	mL			
7	# 7 320-55715-E-2-A	Client	1.000	sv	1.000	mL			
8	# 8 600-194690-C-8-A	Client	20.00	sv	1.000	mL			
9	# 9 600-194690-B-10-A	Client	20.00	sv	1.000	mL			
10	#10 600-194690-A-11-B MS	MS	50.00	sv	1.000	mL			
11	#11 600-194690-A-11-C MSD	MSD	25.00	sv	1.000	mL			
12	#12 SB	SB	1.000	sv	1.000	mL			
13	#13 CCV	CCV	1.000	sv	1.000	mL	HRDXNL4_00086		
14	#14 WDM	WDM	1.000	sv	1.000	mL	HRDXNCP_00040		
15	#15 MB 320-335763/1-B	MB	1.000	sv	1.000	mL			
16	#16 LCS 320-335763/2-B	LCS	1.000	sv	1.000	mL			
17	#17 LCSD 320-335763/3-B	LCSD	1.000	sv	1.000	mL			
18	#18 320-55803-A-3-B	Client	1.000	sv	1.000	mL			
19	#19 320-55803-A-6-B	Client	1.000	sv	1.000	mL			
20	#20 320-55803-A-9-B	Client	1.000	sv	1.000	mL			
21	#21 320-55803-A-12-B	Client	1.000	sv	1.000	mL			
22	#22 320-55833-A-2-A	Client	1.000	sv	1.000	mL			
23	#23 320-55833-A-3-A	Client	1.000	sv	1.000	mL			
24	#24 SB	SB	1.000	sv	1.000	mL			
25	#25 CCV	CCV	1.000	sv	1.000	mL	HRDXNL4_00086		

Logfile ✓'d
11/8/19 KSS

Resolution Check Report (DFS SN: 3441)

eurofins | Environment Testing TestAmerica

Date:	07 Nov 2019 15:43
MID Experiment:	5w_db5_pfk_singleGC01_RS
Target Resolution:	10000
Resolution Warning :	9500
Resolution Error :	8000
Reference:	pfk
Status:	RESOLUTION PASSED

Segment 1

Lock mass 304.9819 [m/z] Resolution: 13578 [5%height]
Cali. mass 380.9755 [m/z] Resolution: 12955 [5%height]
Ref. mass 318.9787 [m/z] Resolution: 13329 [5%height]
Ref. mass 330.9787 [m/z] Resolution: 13159 [5%height]
Ref. mass 342.9787 [m/z] Resolution: 13247 [5%height]
Ref. mass 354.9787 [m/z] Resolution: 13029 [5%height]
Ref. mass 368.9755 [m/z] Resolution: 12537 [5%height]
Ref. mass 392.9755 [m/z] Resolution: 12742 [5%height]
Ref. mass 404.9755 [m/z] Resolution: 12362 [5%height]

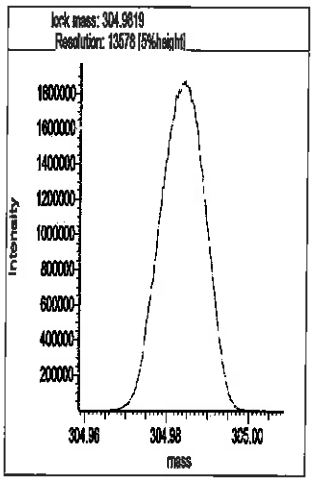

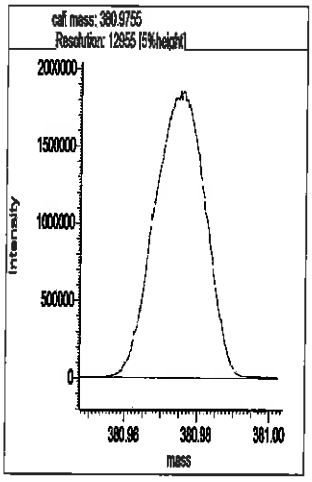

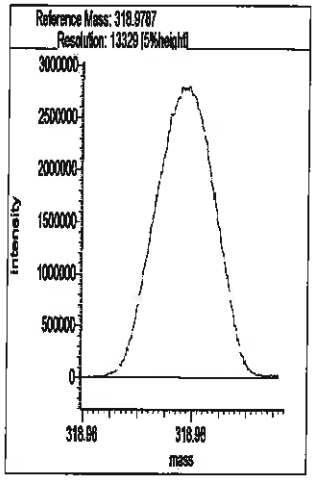

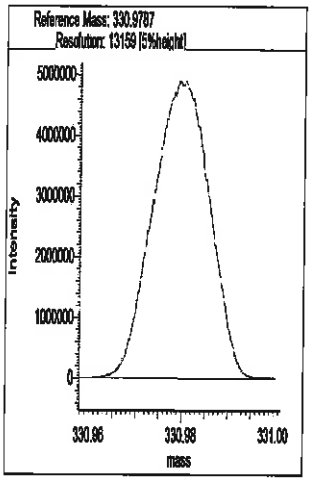

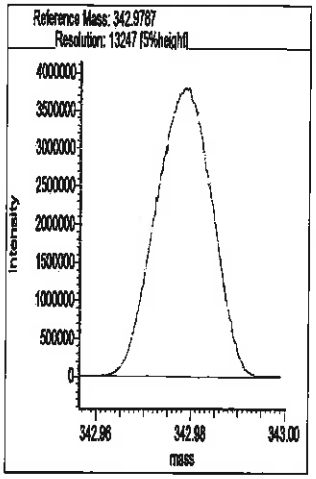

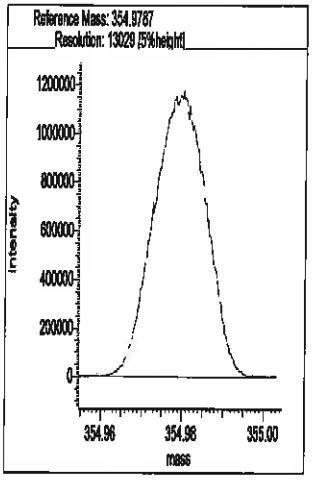

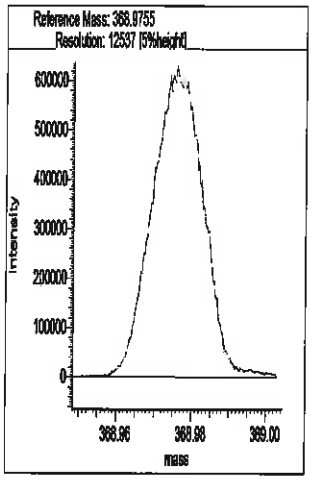

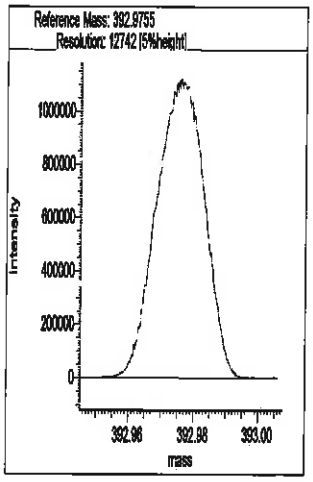

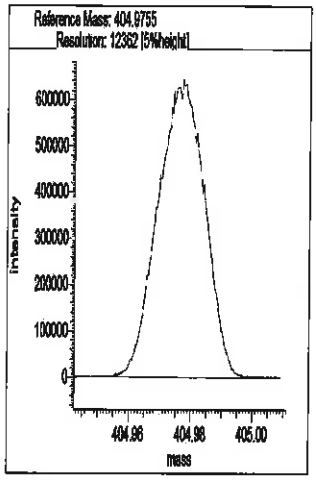

Segment 2

Lock mass 330.9787 [m/z] Resolution: 13697 [5%height]

Cali. mass 380.9755 [m/z] Resolution: 13060 [5%height]

Ref. mass 342.9787 [m/z] Resolution: 13545 [5%height]

Ref. mass 354.9787 [m/z] Resolution: 13177 [5%height]

Ref. mass 368.9755 [m/z] Resolution: 13052 [5%height]

Ref. mass 392.9755 [m/z] Resolution: 12887 [5%height]

Ref. mass 404.9755 [m/z] Resolution: 12957 [5%height]

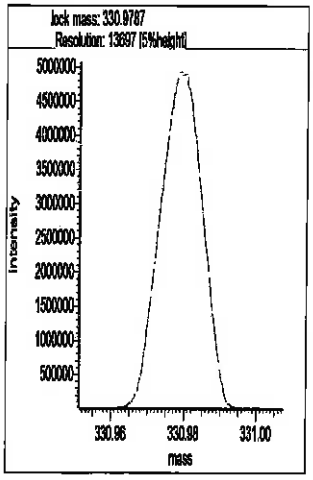

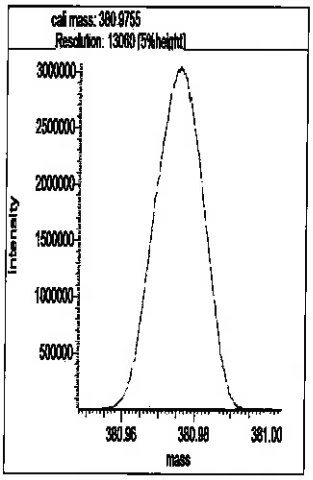

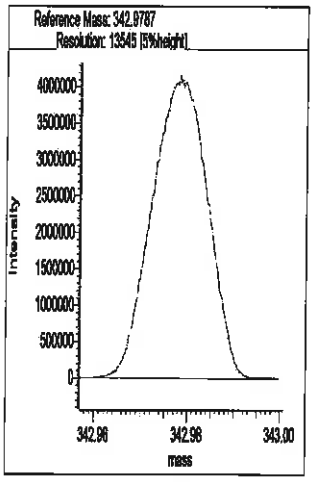

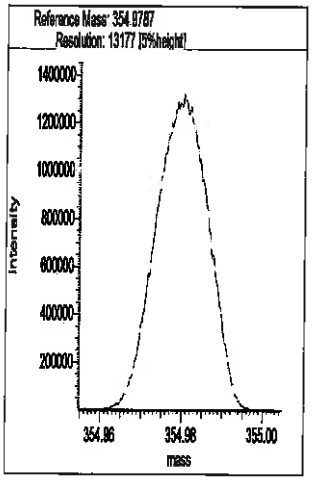

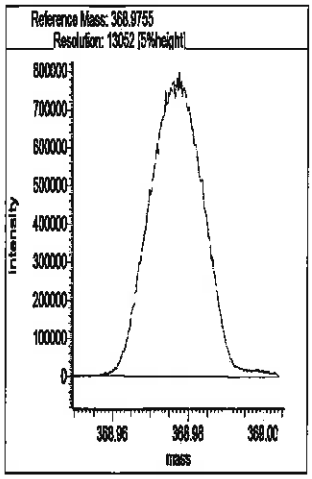

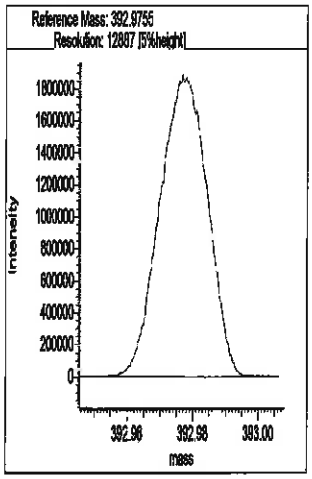

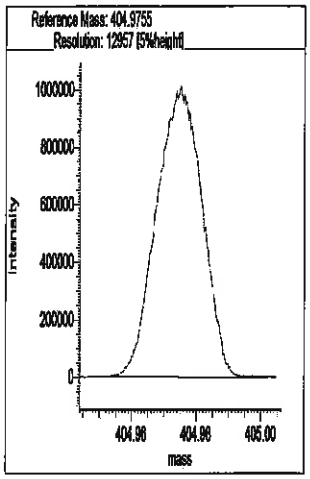

Segment 3

Lock mass 380.9755 [m/z] Resolution: 13850 [5%height]

Cali. mass 430.9723 [m/z] Resolution: 13089 [5%height]

Ref. mass 392.9755 [m/z] Resolution: 13556 [5%height]

Ref. mass 404.9755 [m/z] Resolution: 13296 [5%height]

Ref. mass 416.9755 [m/z] Resolution: 13154 [5%height]

Ref. mass 442.9723 [m/z] Resolution: 12986 [5%height]

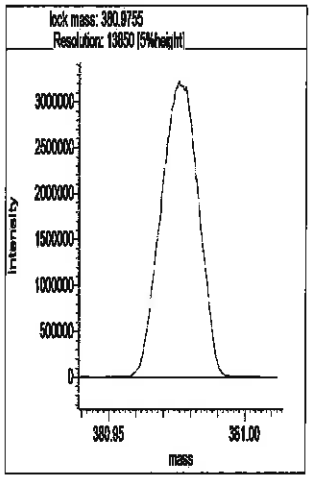

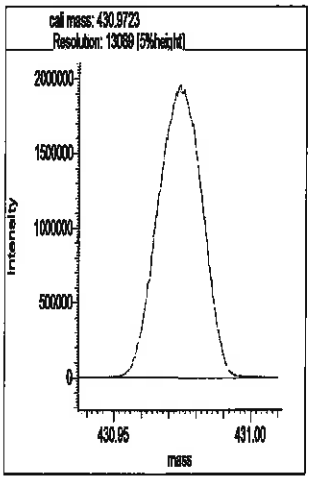

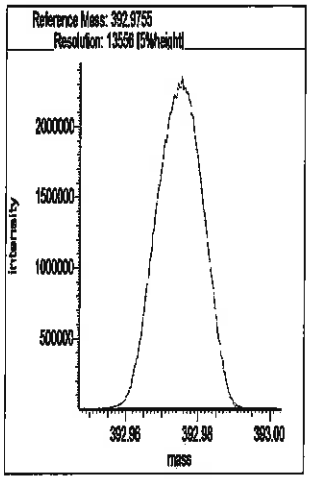

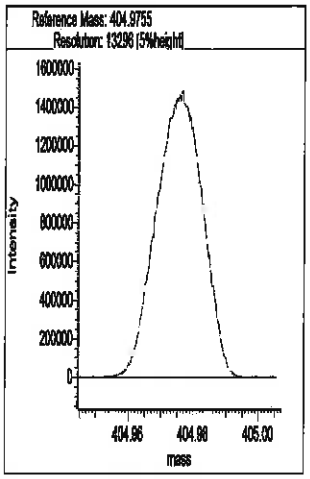

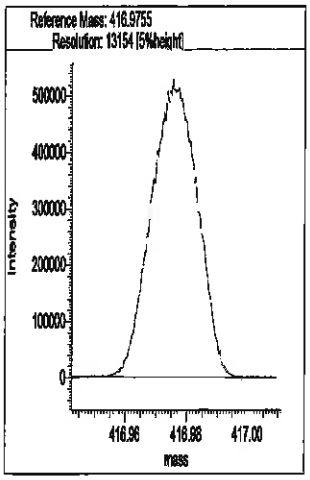

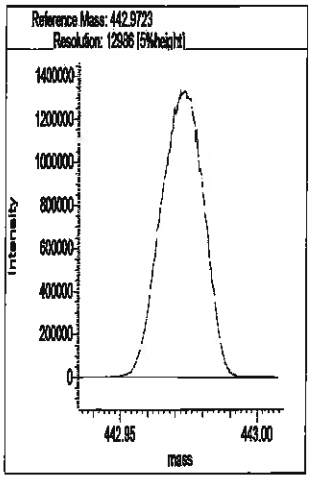

Segment 4

Lock mass 430.9723 [m/z] Resolution: 13362 [5%height]

Cali. mass 480.9691 [m/z] Resolution: 12968 [5%height]

Ref. mass 416.9755 [m/z] Resolution: 13563 [5%height]

Ref. mass 442.9723 [m/z] Resolution: 13186 [5%height]

Ref. mass 454.9723 [m/z] Resolution: 13100 [5%height]

Ref. mass 466.9723 [m/z] Resolution: 13064 [5%height]

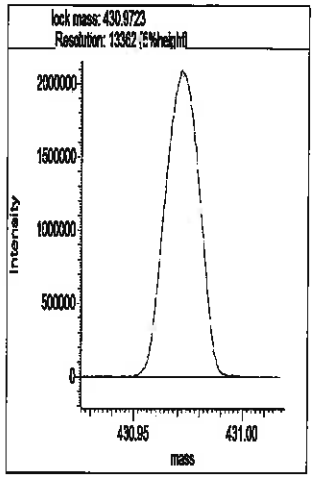

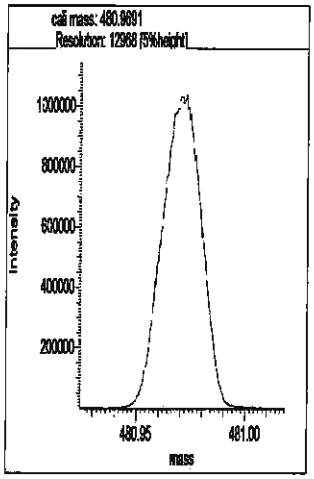

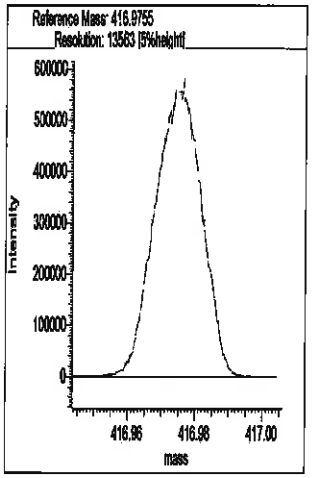

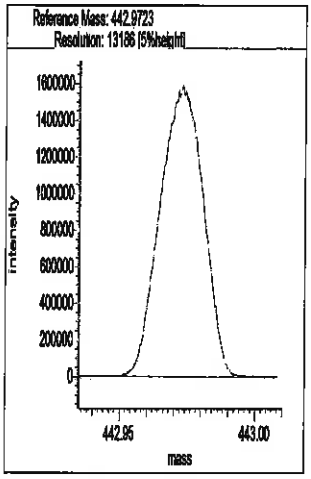

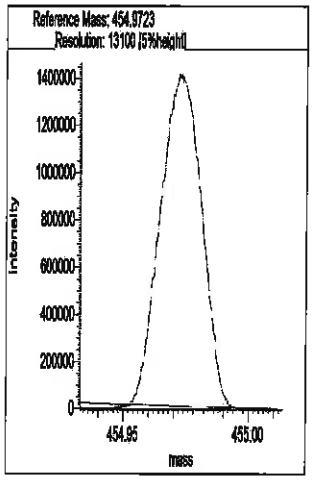

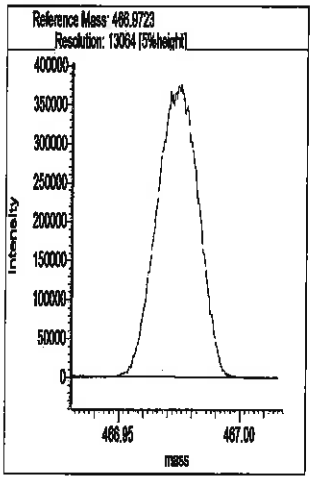

Segment 5

Lock mass 442.9723 [m/z] Resolution: 13829 [5%height]

Cali. mass 504.9691 [m/z] Resolution: 13151 [5%height]

Ref. mass 454.9723 [m/z] Resolution: 13457 [5%height]

Ref. mass 466.9723 [m/z] Resolution: 13408 [5%height]

Ref. mass 480.9691 [m/z] Resolution: 13142 [5%height]

Ref. mass 492.9691 [m/z] Resolution: 13201 [5%height]

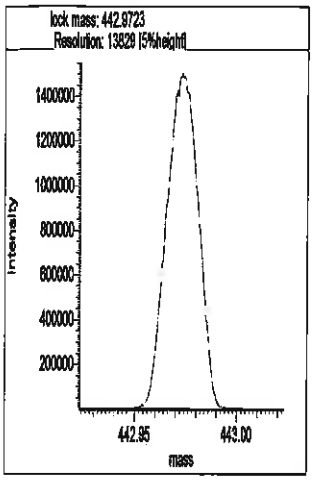
lock mass: 442.9723
Resolution: 13829 [5%height]
Intensity
mass

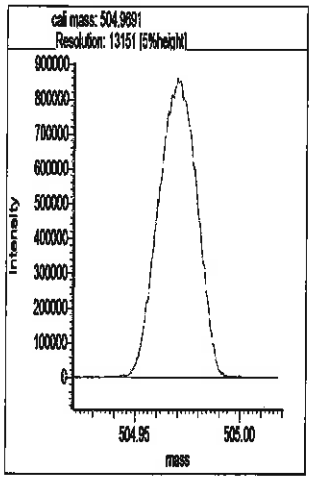
cali mass: 504.9691
Resolution: 13151 [5%height]
Intensity
mass

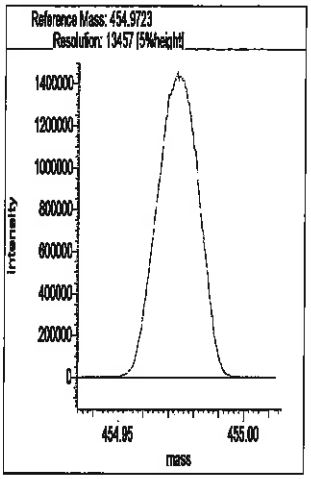
Reference Mass: 454.9723
Resolution: 13457 [5%height]
Intensity
mass

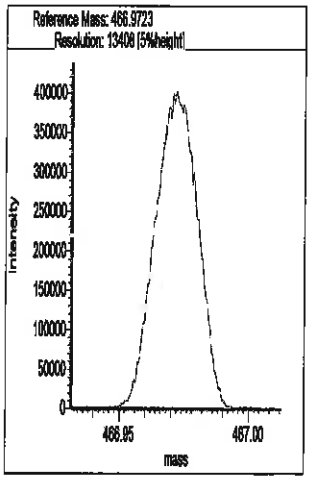
Reference Mass: 466.9723
Resolution: 13408 [5%height]
Intensity
mass

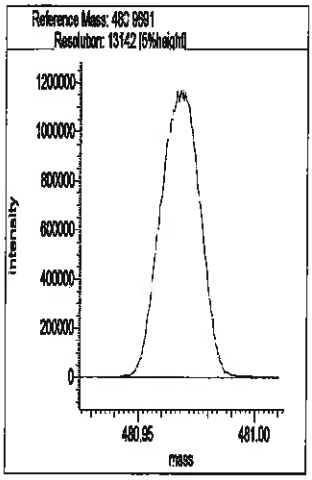
Reference Mass: 480.9691
Resolution: 13142 [5%height]
Intensity
mass

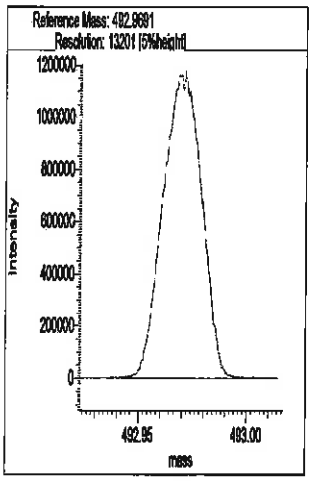
Reference Mass: 492.9691
Resolution: 13201 [5%height]
Intensity
mass

Resolution Check Report (DFS SN: 3441)

eurofins | Environment Testing TestAmerica

Date:	08 Nov 2019 01:41
MID Experiment:	5w_db5_pfk_singleGC01_RS
Target Resolution:	10000
Resolution Warning :	9500
Resolution Error :	8000
Reference:	pfk
Status:	RESOLUTION PASSED

Segment 1

Lock mass 304.9819 [m/z] Resolution: 12730 [5%height]

Cali. mass 380.9755 [m/z] Resolution: 11949 [5%height]

Ref. mass 318.9787 [m/z] Resolution: 12549 [5%height]

Ref. mass 330.9787 [m/z] Resolution: 12402 [5%height]

Ref. mass 342.9787 [m/z] Resolution: 12409 [5%height]

Ref. mass 354.9787 [m/z] Resolution: 12260 [5%height]

Ref. mass 368.9755 [m/z] Resolution: 11787 [5%height]

Ref. mass 392.9755 [m/z] Resolution: 12209 [5%height]

Ref. mass 404.9755 [m/z] Resolution: 12000 [5%height]

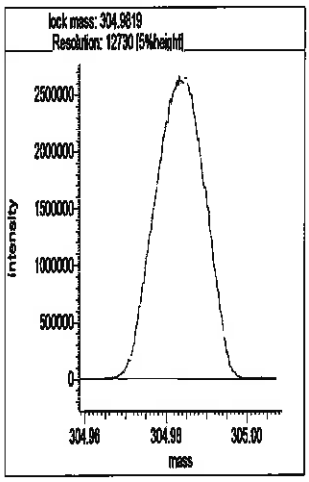

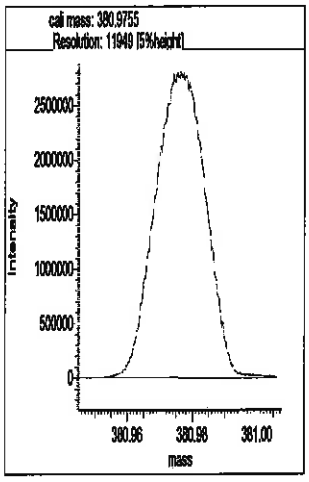

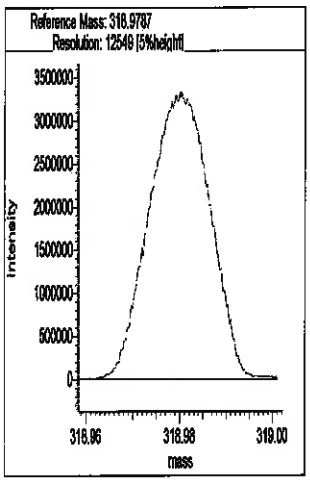

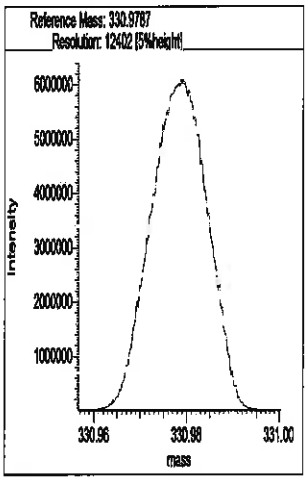

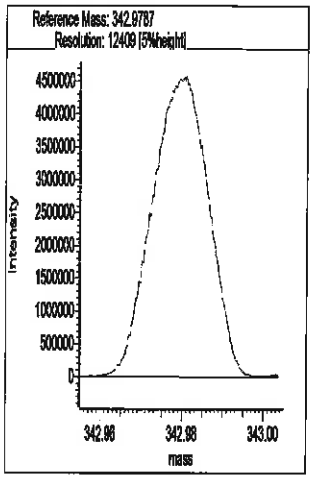

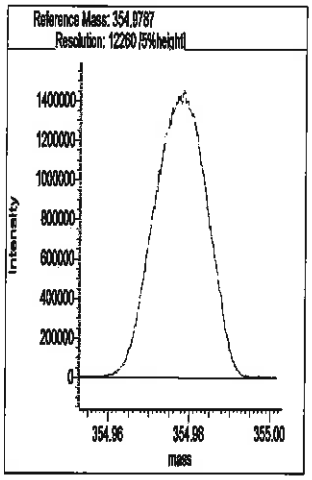

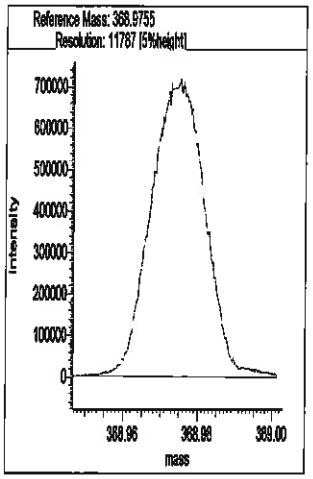

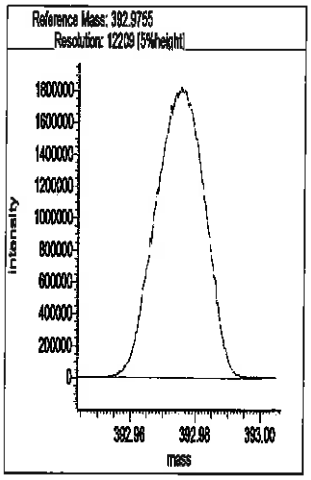

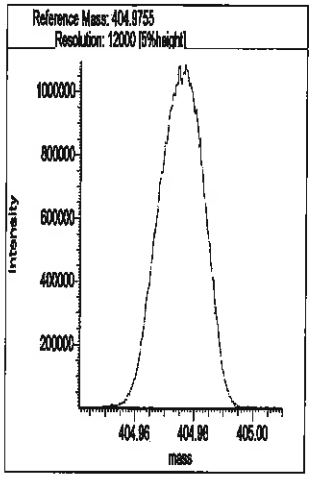

Segment 2

Lock mass 330.9787 [m/z] Resolution: 12817 [5%height]

Cali. mass 380.9755 [m/z] Resolution: 12194 [5%height]

Ref. mass 342.9787 [m/z] Resolution: 12616 [5%height]

Ref. mass 354.9787 [m/z] Resolution: 12546 [5%height]

Ref. mass 368.9755 [m/z] Resolution: 12029 [5%height]

Ref. mass 392.9755 [m/z] Resolution: 12184 [5%height]

Ref. mass 404.9755 [m/z] Resolution: 12043 [5%height]

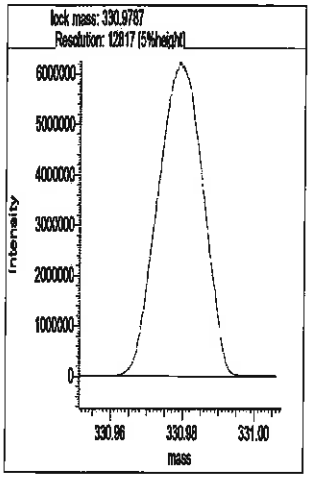

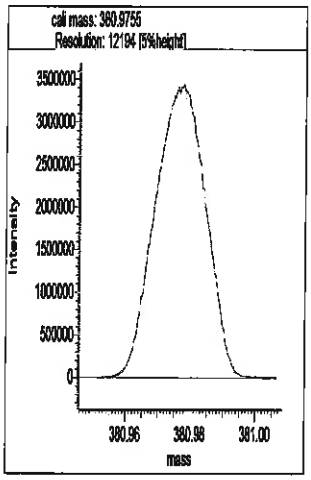

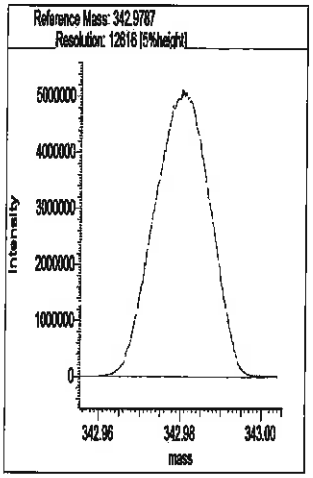

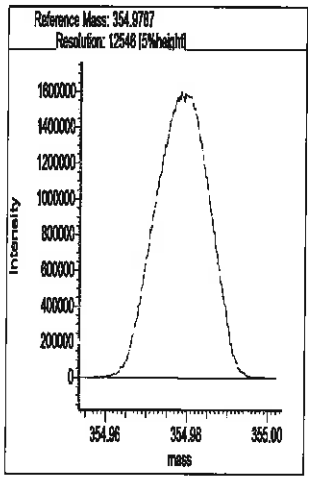

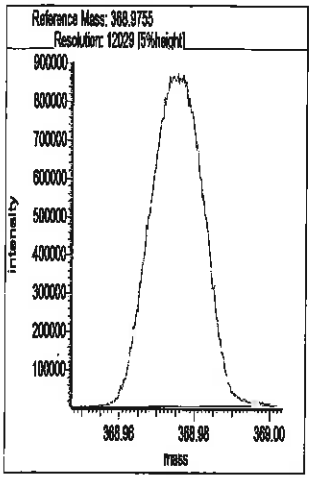

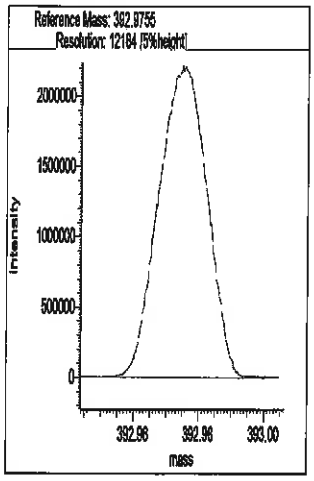

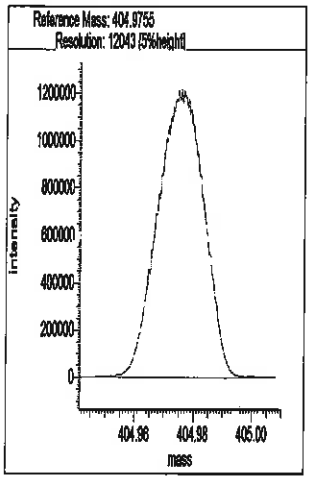

Segment 3

Lock mass 380.9755 [m/z] Resolution: 12604 [5%height]

Cali. mass 430.9723 [m/z] Resolution: 12280 [5%height]

Ref. mass 392.9755 [m/z] Resolution: 12442 [5%height]

Ref. mass 404.9755 [m/z] Resolution: 12526 [5%height]

Ref. mass 416.9755 [m/z] Resolution: 12308 [5%height]

Ref. mass 442.9723 [m/z] Resolution: 12193 [5%height]

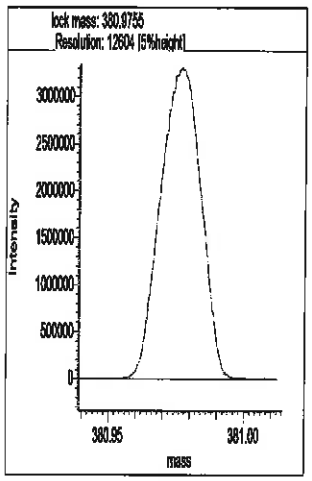

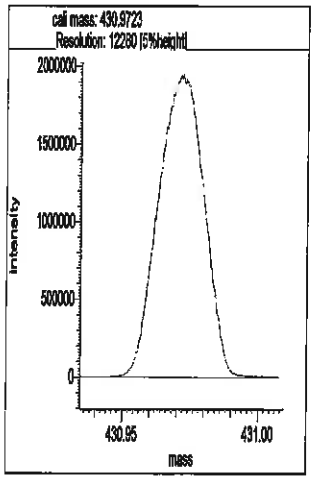

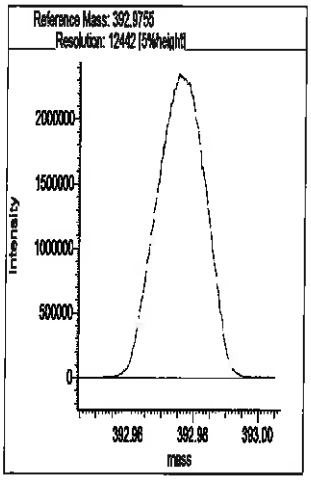

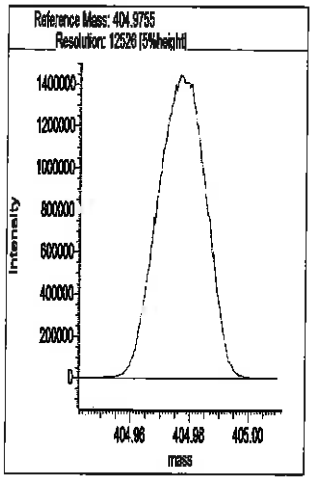

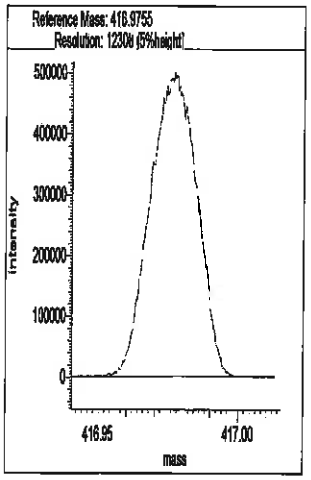

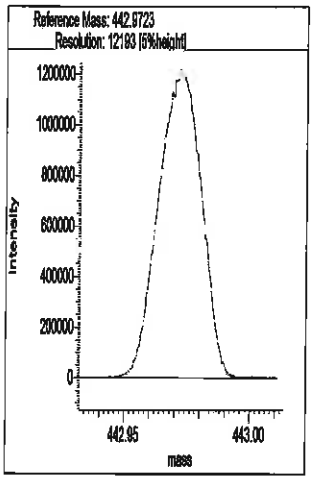

Segment 4

Lock mass 430.9723 [m/z] Resolution: 12263 [5%height]

Cali. mass 480.9691 [m/z] Resolution: 12119 [5%height]

Ref. mass 416.9755 [m/z] Resolution: 12269 [5%height]

Ref. mass 442.9723 [m/z] Resolution: 12308 [5%height]

Ref. mass 454.9723 [m/z] Resolution: 12312 [5%height]

Ref. mass 466.9723 [m/z] Resolution: 12203 [5%height]

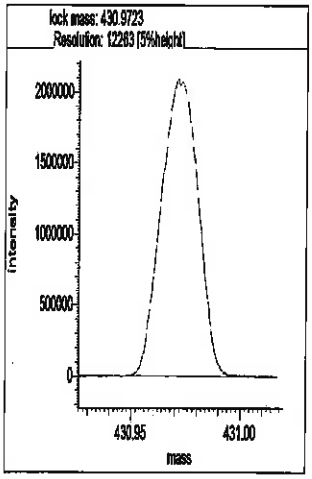

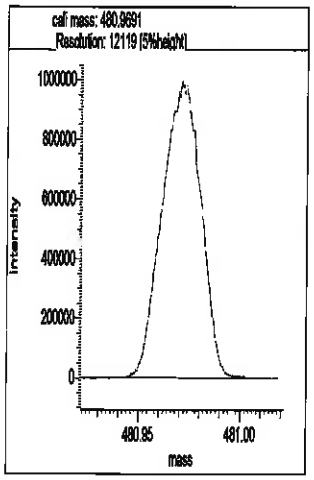

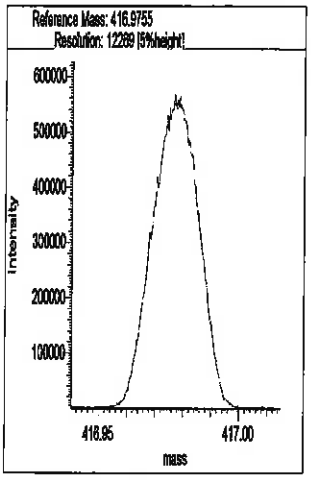

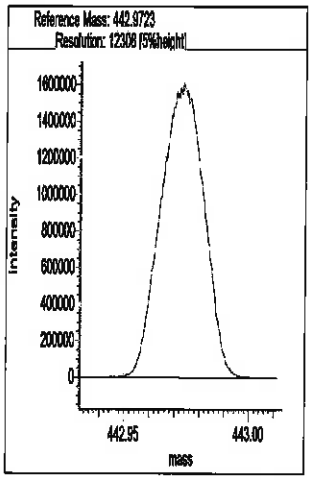

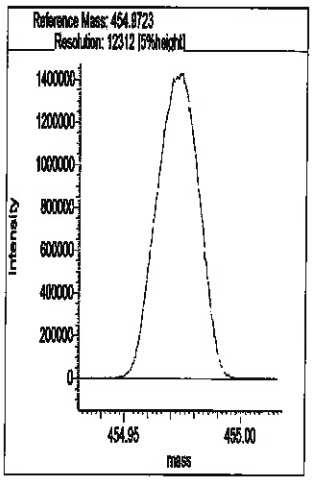

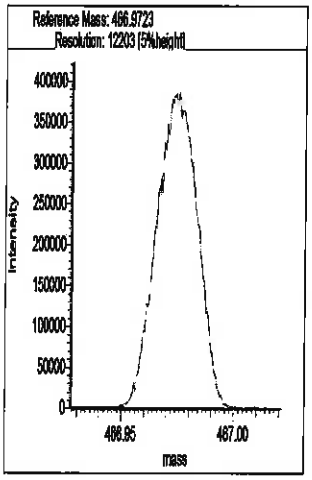

Segment 5

Lock mass 442.9723 [m/z] Resolution: 12531 [5%height]

Cali. mass 504.9691 [m/z] Resolution: 12217 [5%height]

Ref. mass 454.9723 [m/z] Resolution: 12181 [5%height]

Ref. mass 466.9723 [m/z] Resolution: 12345 [5%height]

Ref. mass 480.9691 [m/z] Resolution: 12261 [5%height]

Ref. mass 492.9691 [m/z] Resolution: 12234 [5%height]

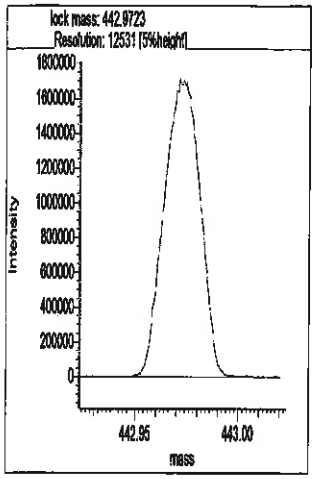
lock mass: 442.9723
Resolution: 12531 [5%height]
Intensity
mass

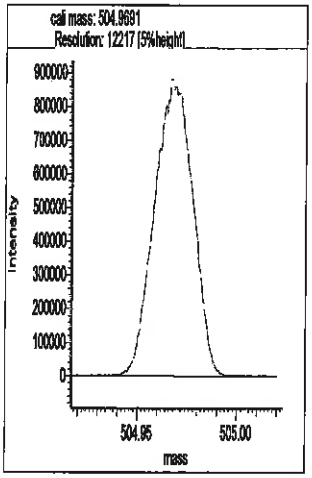
cali mass: 504.9691
Resolution: 12217 [5%height]
Intensity
mass

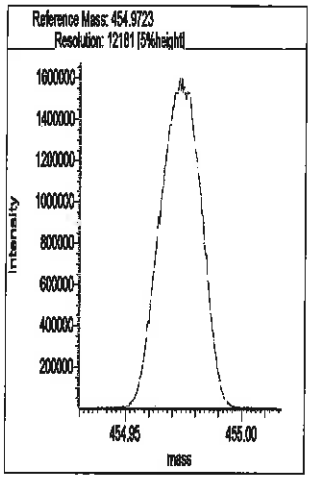
Reference Mass: 454.9723
Resolution: 12181 [5%height]
Intensity
mass

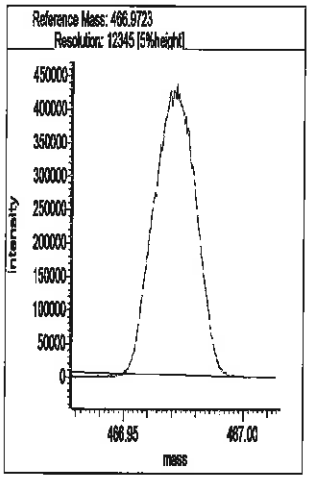
Reference Mass: 466.9723
Resolution: 12345 [5%height]
Intensity
mass

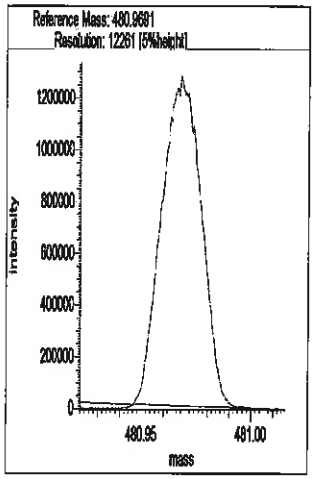
Reference Mass: 480.9691
Resolution: 12261 [5%height]
Intensity
mass

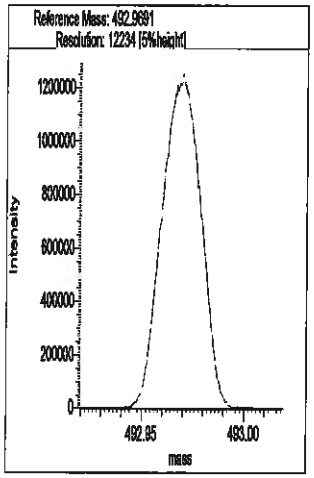
Reference Mass: 492.9691
Resolution: 12234 [5%height]
Intensity
mass

Resolution Check Report (DFS SN: 3441)

eurofins | Environment Testing TestAmerica

Date:	08 Nov 2019 02:47
MID Experiment:	5w_db5_pfk_singleGC01_RS
Target Resolution:	10000
Resolution Warning :	9500
Resolution Error :	8000
Reference:	pfk
Status:	RESOLUTION PASSED

Segment 1

Lock mass 304.9819 [m/z] Resolution: 12409 [5%height]

Cali. mass 380.9755 [m/z] Resolution: 11830 [5%height]

Ref. mass 318.9787 [m/z] Resolution: 12435 [5%height]

Ref. mass 330.9787 [m/z] Resolution: 12138 [5%height]

Ref. mass 342.9787 [m/z] Resolution: 12118 [5%height]

Ref. mass 354.9787 [m/z] Resolution: 12033 [5%height]

Ref. mass 368.9755 [m/z] Resolution: 11633 [5%height]

Ref. mass 392.9755 [m/z] Resolution: 11975 [5%height]

Ref. mass 404.9755 [m/z] Resolution: 11854 [5%height]

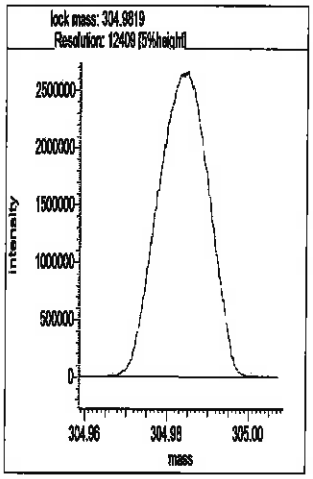

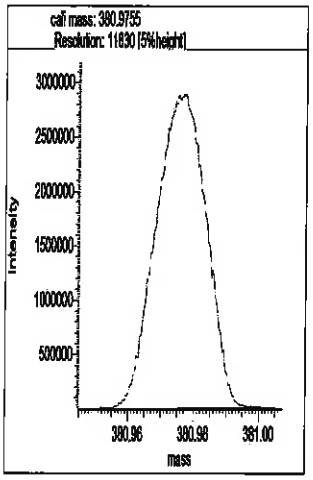

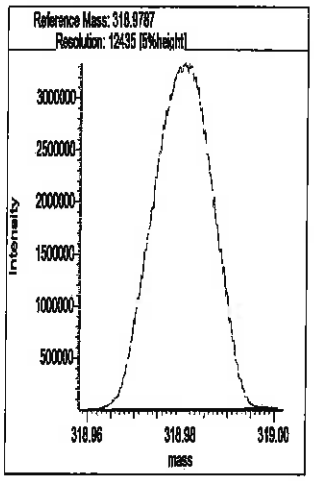

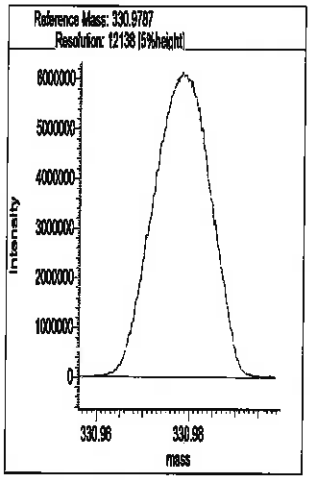

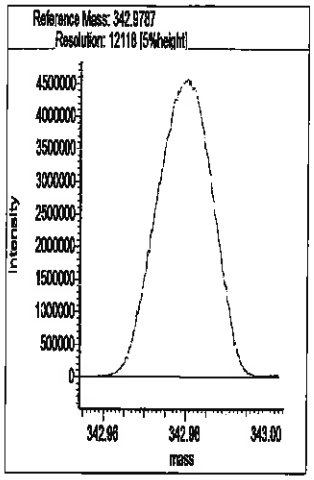

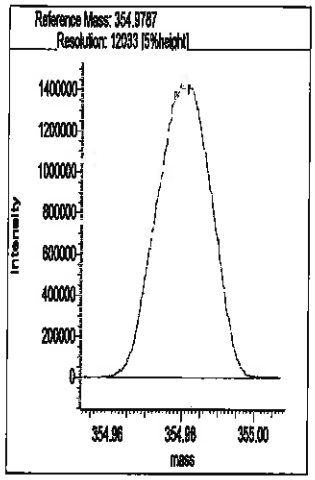

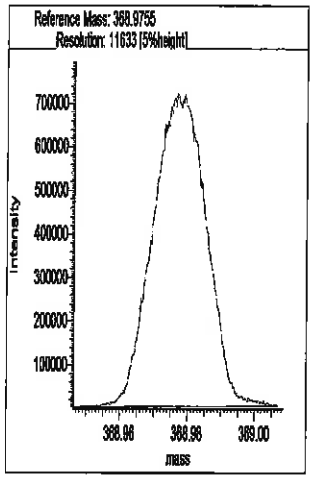

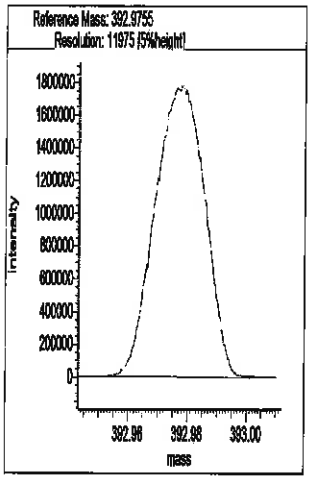

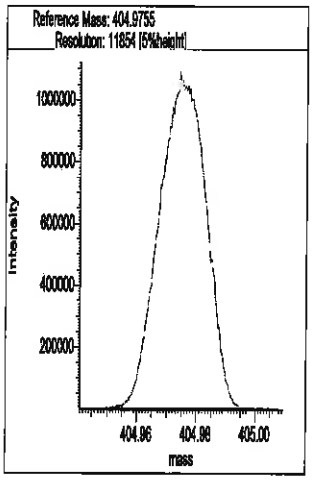

Segment 2

Lock mass 330.9787 [m/z] Resolution: 12609 [5%height]

Cali. mass 380.9755 [m/z] Resolution: 11980 [5%height]

Ref. mass 342.9787 [m/z] Resolution: 12482 [5%height]

Ref. mass 354.9787 [m/z] Resolution: 12315 [5%height]

Ref. mass 368.9755 [m/z] Resolution: 11817 [5%height]

Ref. mass 392.9755 [m/z] Resolution: 12032 [5%height]

Ref. mass 404.9755 [m/z] Resolution: 12025 [5%height]

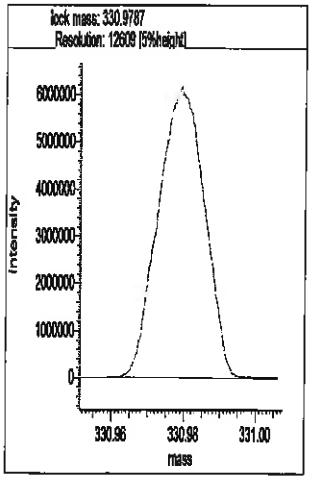

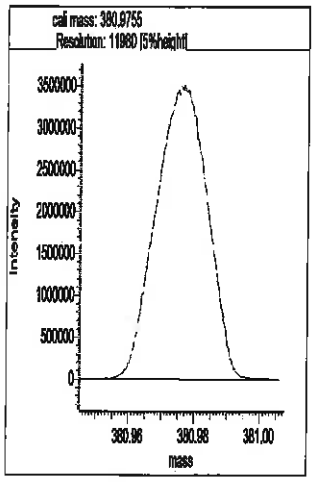

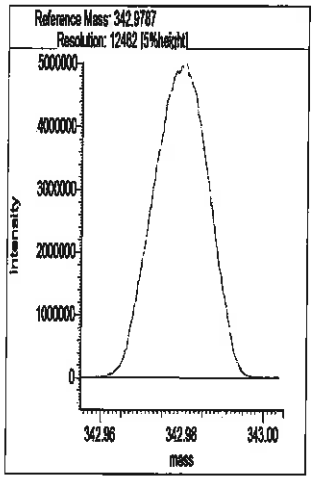

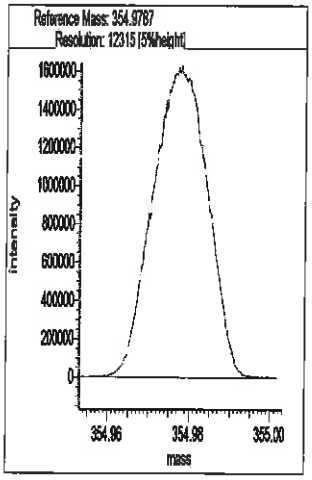

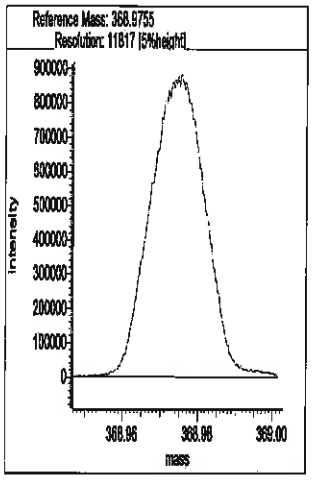

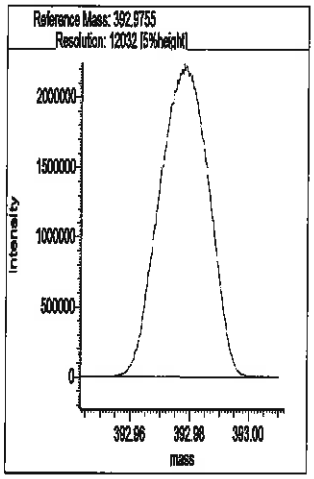

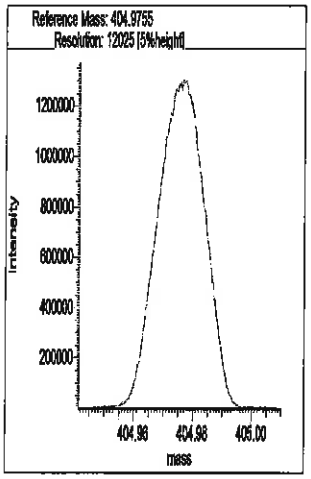

Segment 3

Lock mass 380.9755 [m/z] Resolution: 12243 [5%height]

Cali. mass 430.9723 [m/z] Resolution: 12008 [5%height]

Ref. mass 392.9755 [m/z] Resolution: 12047 [5%height]

Ref. mass 404.9755 [m/z] Resolution: 12054 [5%height]

Ref. mass 416.9755 [m/z] Resolution: 12068 [5%height]

Ref. mass 442.9723 [m/z] Resolution: 12122 [5%height]

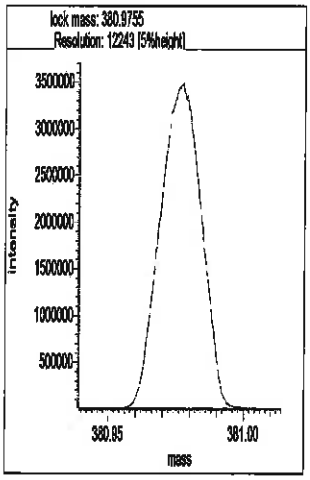

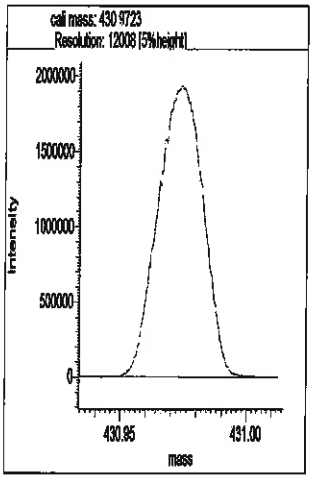

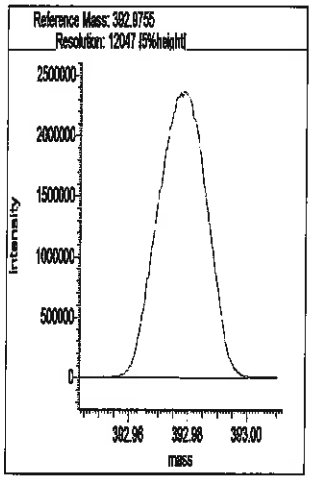

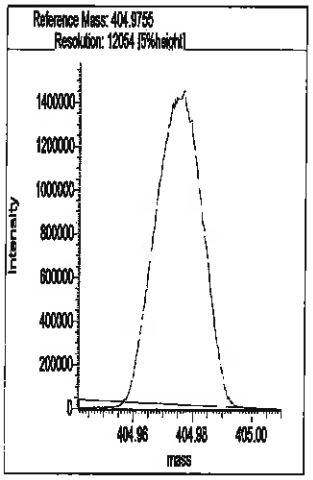

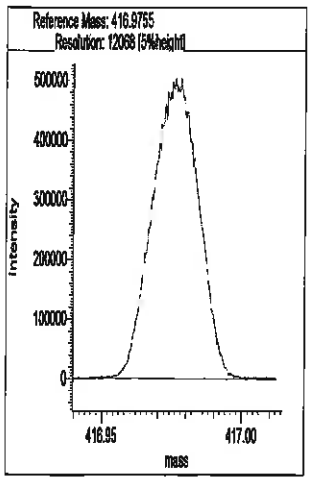

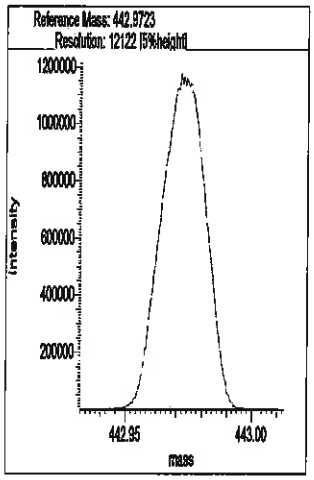

Segment 4

Lock mass 430.9723 [m/z] Resolution: 12018 [5%height]

Cali. mass 480.9691 [m/z] Resolution: 11990 [5%height]

Ref. mass 416.9755 [m/z] Resolution: 12048 [5%height]

Ref. mass 442.9723 [m/z] Resolution: 11871 [5%height]

Ref. mass 454.9723 [m/z] Resolution: 12066 [5%height]

Ref. mass 466.9723 [m/z] Resolution: 12127 [5%height]

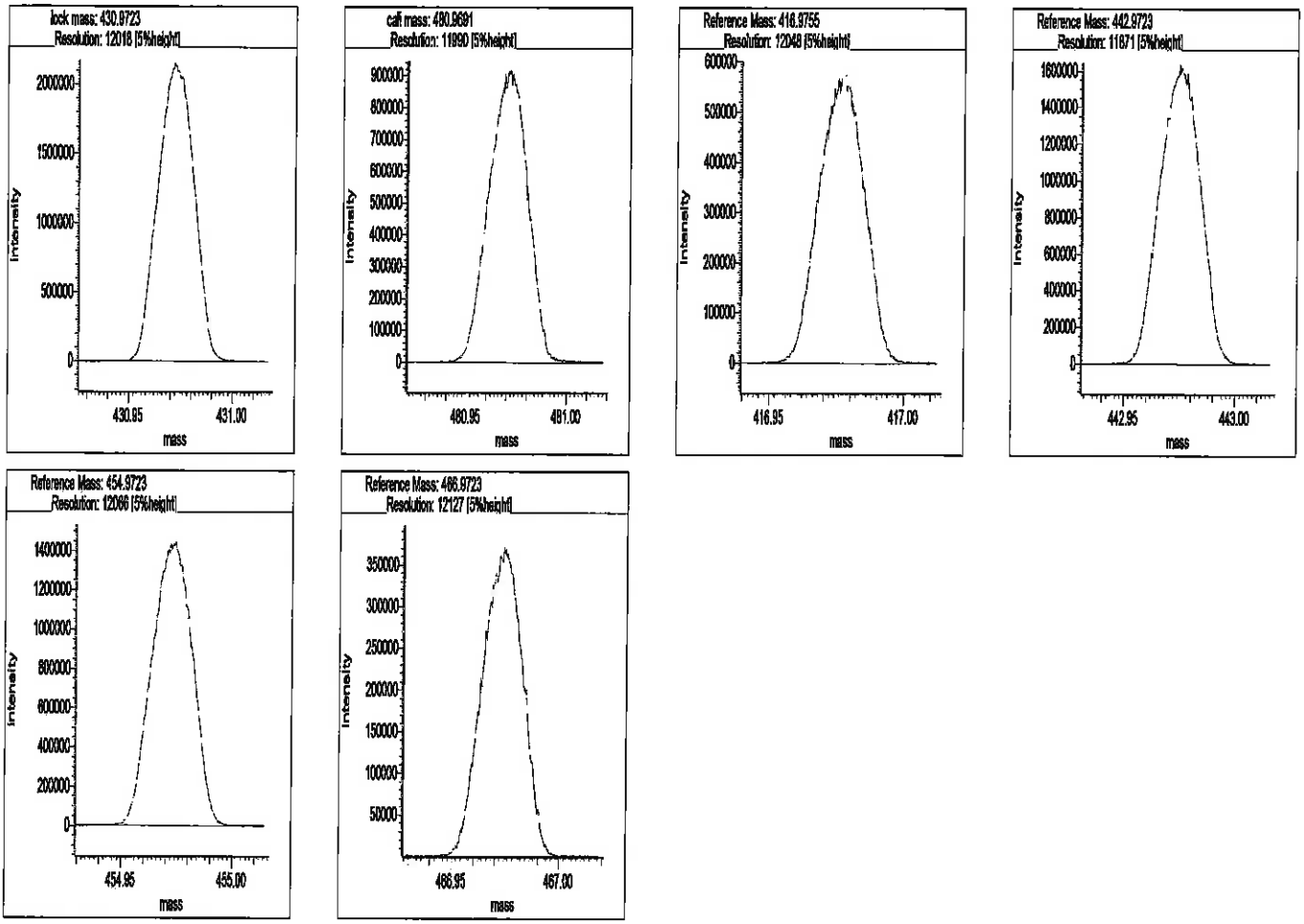

Segment 5

Lock mass 442.9723 [m/z] Resolution: 12190 [5%height]

Cali. mass 504.9691 [m/z] Resolution: 12142 [5%height]

Ref. mass 454.9723 [m/z] Resolution: 12118 [5%height]

Ref. mass 466.9723 [m/z] Resolution: 12099 [5%height]

Ref. mass 480.9691 [m/z] Resolution: 11920 [5%height]

Ref. mass 492.9691 [m/z] Resolution: 11960 [5%height]

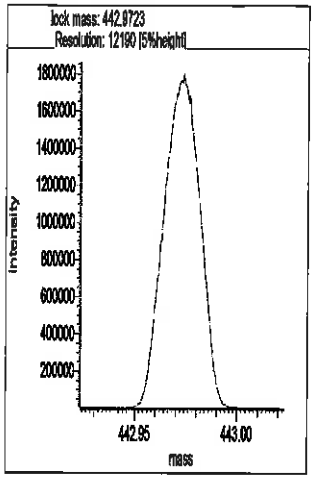
lock mass: 442.9723
Resolution: 12190 [5%height]
Intensity
mass

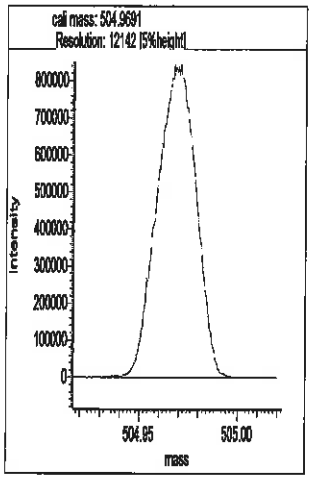
cali mass: 504.9691
Resolution: 12142 [5%height]
Intensity
mass

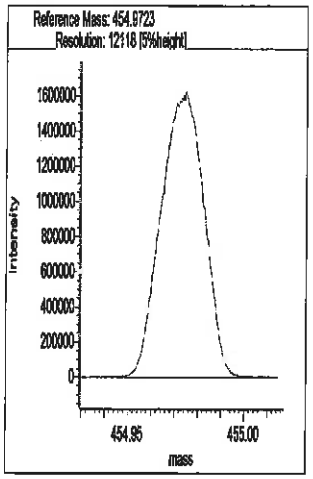
Reference Mass: 454.9723
Resolution: 12116 [5%height]
Intensity
mass

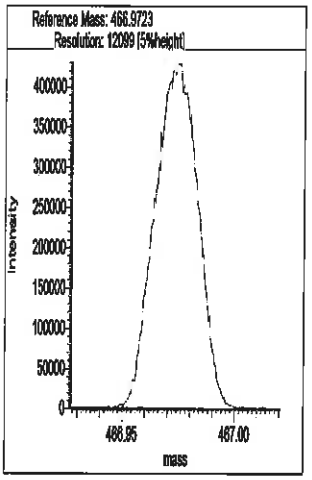
Reference Mass: 466.9723
Resolution: 12099 [5%height]
Intensity
mass

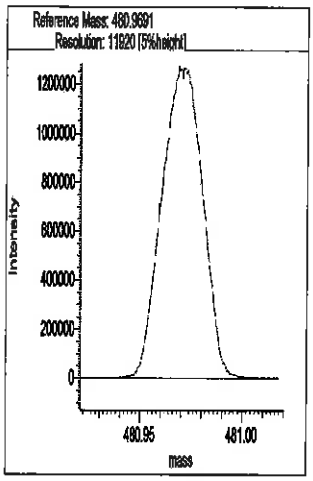
Reference Mass: 480.9691
Resolution: 11920 [5%height]
Intensity
mass

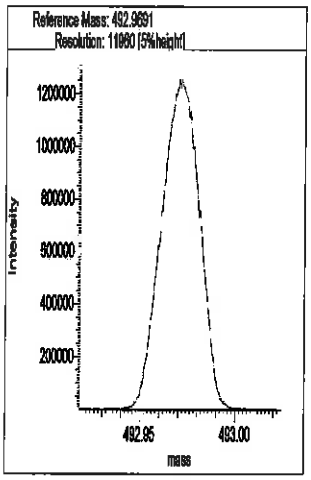
Reference Mass: 492.9691
Resolution: 11990 [5%height]
Intensity
mass

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 17-Sep-2019 11:28:41 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 091719 WDM HRDXNCP_00038
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:18:43 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 18-Sep-2019 10:13:54

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	16.801	74367795	0.80	1.4384					0.00	
2,3,7,8-TCDF	16.831	156834377	0.79	1.0507	80.3	80.3	0.2541	0.2541		
A Non-2,3,7,8-sub-TCDF	16.536	2055813	0.78	1.0507	1.052	1.052	0.2541	1.052		
S Total TCDF					81.3	81.3	0.2541	0.2541		
D 13C-2,3,7,8-TCDD	17.481	45805066	0.76	0.9533					0.00	
2,3,7,8-TCDD	17.512	50150496	0.80	1.1064	39.6	39.6	0.2281	0.2281		
A Non-2,3,7,8-sub-TCDD	16.967						0.2281	0.2281		
S Total TCDD					39.6	39.6	0.2281	0.2281		
A F1 PeCDFs	19.213						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	22.240	1178726	1.55	0.0000						RQ
S Total PeCDF										RQ
A Non-2,3,7,8-sub-PeCDD	22.586						0.0	0.0		
S Total PeCDD										
A Non-2,3,7,8-sub-HxCDF	29.523	507819	1.21	0.0000						
S Total HxCDF										
A Non-2,3,7,8-sub-HxCDD	30.122						0.0	0.0		
S Total HxCDD										
1,2,3,4,6,7,8-HpCDF	33.472	47694823	1.04	1.5555						
1,2,3,4,7,8,9-HpCDF	34.517	39534106	1.05	1.3862						
A Non-2,3,7,8-sub-HpCDF	33.994						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	34.237	29636099	1.06	0.9316						
A Non-2,3,7,8-sub-HpCDD	34.747						0.0	0.0		
S Total HpCDD										
1,3,6,8-TCDF	14.488	89161286	0.78							
1,3,6,8-TCDD	15.365	54383612	0.79							
2,3,4,7-TCDF	16.831	156834377	0.79							
1,2,3,7-TCDD	17.391	45444920	0.79							
1,2,3,9-TCDF	17.663	66087659	0.78							
1,2,3,9-TCDD	17.663	54421114	0.81							

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,8,9-TCDD	18.570	21836286								
1,2,8,9-TCDF	18.585	68251653	0.79							
1,3,4,6,8-PeCDF	18.842	74458412	1.55							
1,2,4,7,9-PeCDD	20.554	39318036	1.57							
1,2,3,8,9-PeCDD	24.618	35221850	1.59							
1,2,3,8,9-PeCDF	24.822	48913515	1.59							
1,2,3,4,6,8-HxCDF	26.994	55295494	1.27							
1,2,4,6,7,9-HxCDD	28.524	38980760	1.26							
1,2,3,4,6,7-HxCDD	31.719	36577416	1.24							
1,2,3,4,8,9-HxCDF	32.052	45645713	1.26							
1,2,3,4,6,7,9-HpCDD	33.703	34402979	1.05							

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNCP_00040 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 17-Sep-2019 11:28:41 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 091719 WDM HRDXNCP_00038
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:18:43 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 18-Sep-2019 10:13:54

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	16.801	16.810	-1	1.000	33117024	8540569	9349	23372	914		
317.9389	16.801	16.810	-1	1.000	41250771	10559691	5760	14400	1833	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.831	16.825	0	1.002	69083696	16415981	20767	51917	790		
305.8987	16.831	16.825	0	1.002	87750681	20749596	30221	75552	687	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	18.857	16.536	139	1.122	898473	190404	20767	51917	9		
305.8987	18.857	16.536	139	1.122	1157340	261558	30221	75552	9	0.78(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.481	17.490	-1	1.000	19801343	4630824	8865	22162	522		
333.9339	17.481	17.490	-1	1.000	26003723	6181636	6015	15037	1028	0.76(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.512	17.505	0	1.002	22347514	5318193	11305	28262	470		
321.8936	17.497	17.505	-1	1.001	27802982	6639771	15982	39955	415	0.80(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	16.967						11305	28262			
321.8936	16.967						15982	39955			
A F1 PeCDFs											
339.8597	19.213						2693	6732			
341.8567	19.213						2089	5222			
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	21.113	22.240	-67	1.000	202355	35160	5300	13250	7		
341.8567	21.113	22.240	-67	1.000	114927	17891	3855	9637	5	1.76(1.32-1.78)	
339.8597	21.645	22.240	-36	1.000	239041	34085	5300	13250	6		
341.8567	21.659	22.240	-35	1.000	131189	19977	3855	9637	5	1.82(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
339.8597	22.191	22.240	-3	1.000	315658	51688	5300	13250	10		
341.8567	22.177	22.240	-4	1.000	211255	31694	3855	9637	8	1.49(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.586						4581	11452			
357.8516	22.586						3055	7637			
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.028	29.523	30	1.000	278236	49481	8176	20440	6		
375.8178	30.042	29.523	31	1.000	229583	36177	6671	16677	5	1.21(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.122						5433	13582			
391.8127	30.122						6604	16510			
1,2,3,4,6,7,8-HpCDF											
407.7818	33.472	33.469	0	1.000	24299928	7730426	61070	152675	127		
409.7789	33.472	33.469	0	1.000	23394895	7311037	39924	99810	183	1.04(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.517	34.509	0	1.000	20253287	5933051	61070	152675	97		
409.7789	34.517	34.509	0	1.000	19280819	5509190	39924	99810	138	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.994						61070	152675			
409.7789	33.994						39924	99810			
1,2,3,4,6,7,8-HpCDD											
423.7766	34.237	34.235	0	1.000	15256366	4663971	35304	88260	132		
425.7737	34.237	34.235	0	1.000	14379733	4409600	34613	86532	127	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.747						35304	88260			
425.7737	34.747						34613	86532			
1,3,6,8-TCDF											
303.9016	14.488	14.488	0		39118253	12838055	20767	51917	618		
305.8987	14.488	14.488	0		50043033	16128115	30221	75552	534	0.78(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	15.365	15.365	0		24059145	7321607	11305	28262	648		
321.8936	15.365	15.365	0		30324467	9231636	15982	39955	578	0.79(0.65-0.89)	
2,3,4,7-TCDF											
303.9016	16.831	16.831	0		69083696	16415981	20767	51917	790		
305.8987	16.831	16.831	0		87750681	20749596	30221	75552	687	0.79(0.65-0.89)	
1,2,3,7-TCDD											
319.8965	17.391	17.391	0		20069259	5099643	11305	28262	451		
321.8936	17.391	17.391	0		25375661	6343382	15982	39955	397	0.79(0.65-0.89)	
1,2,3,9-TCDF											
303.9016	17.663	17.663	0		29002988	7032027	20767	51917	339		
305.8987	17.663	17.663	0		37084671	8886704	30221	75552	294	0.78(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	17.663	17.663	0		24424977	5852364	11305	28262	518		
321.8936	17.663	17.663	0		29996137	7085191	15982	39955	443	0.81(0.65-0.89)	
1,2,8,9-TCDD											
319.8965	18.570	18.570	0		21836286	4950341	11305	28262	438		

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Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,8,9-TCDF											
303.9016	18.585	18.585	0		30191180	6742364	20767	51917	325		
305.8987	18.570	18.585	-1		38060473	8553075	30221	75552	283	0.79(0.65-0.89)	
1,3,4,6,8-PeCDF											
339.8597	18.842	18.842	0		45288053	10371829	2693	6732	3851		
341.8567	18.842	18.842	0		29170359	6722620	2089	5222	3218	1.55(1.32-1.78)	
1,2,4,7,9-PeCDD											
355.8546	20.554	20.554	0		24016179	4397141	4581	11452	960		
357.8516	20.554	20.554	0		15301857	2775727	3055	7637	909	1.57(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	24.618	24.618	0		21631397	3212377	4581	11452	701		
357.8516	24.604	24.618	-1		13590453	2031351	3055	7637	665	1.59(1.32-1.78)	
1,2,3,8,9-PeCDF											
339.8597	24.822	24.822	0		30054464	4482222	5300	13250	846		
341.8567	24.822	24.822	0		18859051	2839059	3855	9637	736	1.59(1.32-1.78)	
1,2,3,4,6,8-HxCDF											
373.8208	26.994	26.994	0		30936266	4258539	8176	20440	521		
375.8178	26.994	26.994	0		24359228	3386340	6671	16677	508	1.27(1.05-1.43)	
1,2,4,6,7,9-HxCDD											
389.8157	28.524	28.524	0		21762419	2707092	5433	13582	498		
391.8127	28.511	28.524	-1		17218341	2108446	6604	16510	319	1.26(1.05-1.43)	
1,2,3,4,6,7-HxCDD											
389.8157	31.719	31.719	0		20281545	5118478	5433	13582	942		
391.8127	31.719	31.719	0		16295871	4102330	6604	16510	621	1.24(1.05-1.43)	
1,2,3,4,8,9-HxCDF											
373.8208	32.052	32.052	0		25462999	6697653	8176	20440	819		
375.8178	32.052	32.052	0		20182714	5358635	6671	16677	803	1.26(1.05-1.43)	
1,2,3,4,6,7,9-HpCDD											
423.7766	33.703	33.703	0		17582544	5481736	35304	88260	155		
425.7737	33.703	33.703	0		16820435	5298193	34613	86532	153	1.05(0.88-1.20)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Reagents:

HRDXNCP_00040 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d
Lims ID: WDM
Client ID:
Inject. Date: 17-Sep-2019 11:28:41 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 324128 Lims Sample ID: 1

Non-2,3,7,8-sub-TCDF, RT: 16.536

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.051	D 13C-2,3,7,8-TCDF	40.000	74367795	19100260

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.051		40.000	74367795	19100260

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
18.857	898473	190404	1157340	261558	1.05	0.78	
Signal Totals:							
	898473	190404	1157340	261558			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2055813	451962				0.78	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.052 = (2055813 * 40.000) / (74367795 * 1.051)

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Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d
Lims ID: WDM
Client ID:
Inject. Date: 17-Sep-2019 11:28:41 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 324128 Lims Sample ID: 1

Non-2,3,7,8-sub-PeCDF, RT: 22.240

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.082				
2,3,4,7,8-PeCDF	1.103				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
21.113	202355	35160	114927	17891		1.76	
21.645	239041	34085	131189	19977		1.82	R
22.191	315658	51688	211255	31694		1.49	
Signal Totals:							
	757054	120933	457371	69562			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1214425	190495				1.66	RQ
	1178726	187374					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (1214425 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (1178726 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d
Lims ID: WDM
Client ID:
Inject. Date: 17-Sep-2019 11:28:41 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 324128 Lims Sample ID: 1

Non-2,3,7,8-sub-HxCDF, RT: 29.523

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.197				
1,2,3,6,7,8-HxCDF	1.181				
2,3,4,6,7,8-HxCDF	1.212				
1,2,3,7,8,9-HxCDF	1.245				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
30.028	278236	49481	229583	36177		1.21	
Signal Totals:							
	278236	49481	229583	36177			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	507819	85658				1.21	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (507819 * 0.0) / (0 * 0.000)

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Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d		
Injection Date:	17-Sep-2019 11:28:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

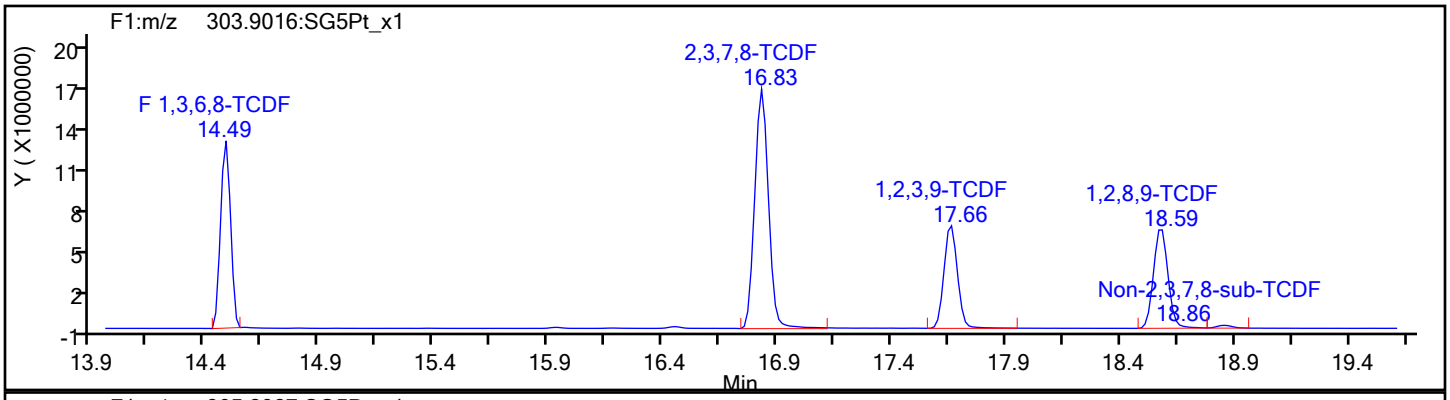

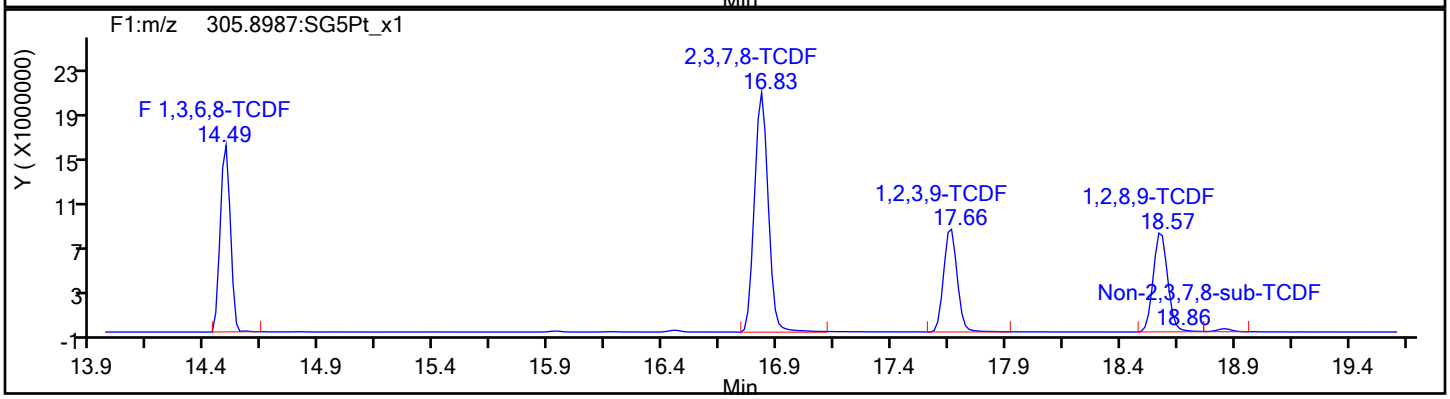

TCDF Standards

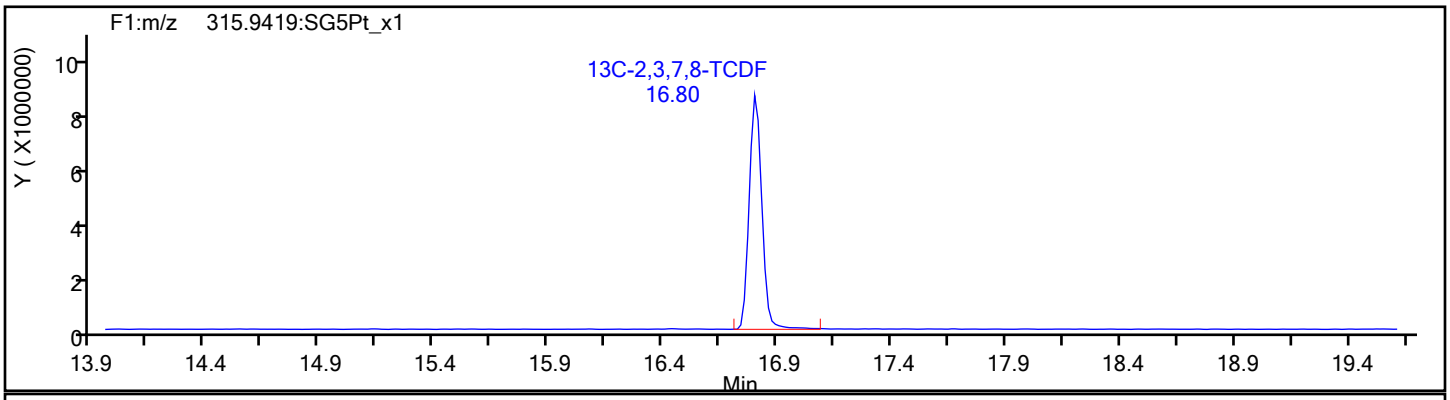

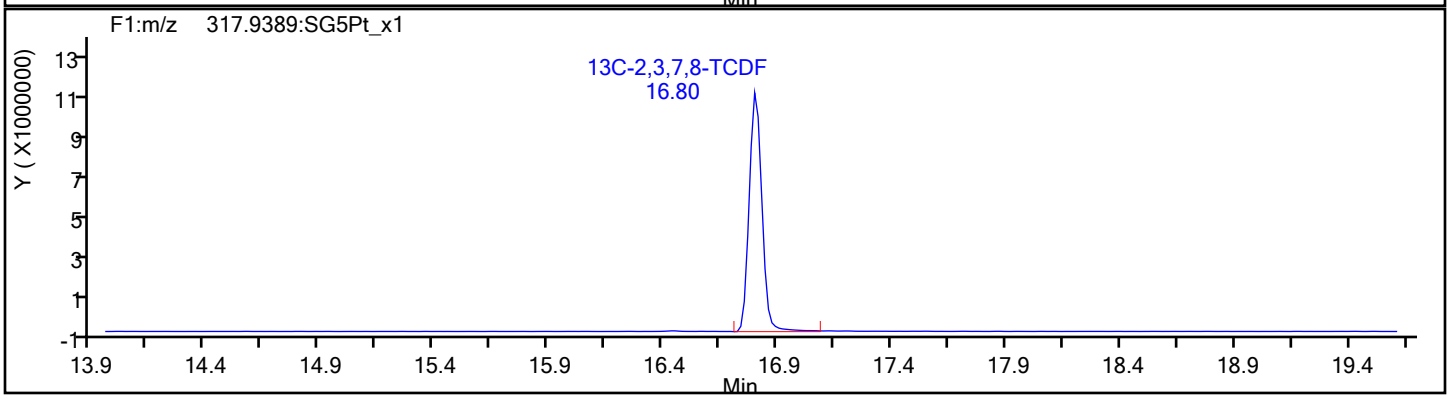

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d		
Injection Date:	17-Sep-2019 11:28:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

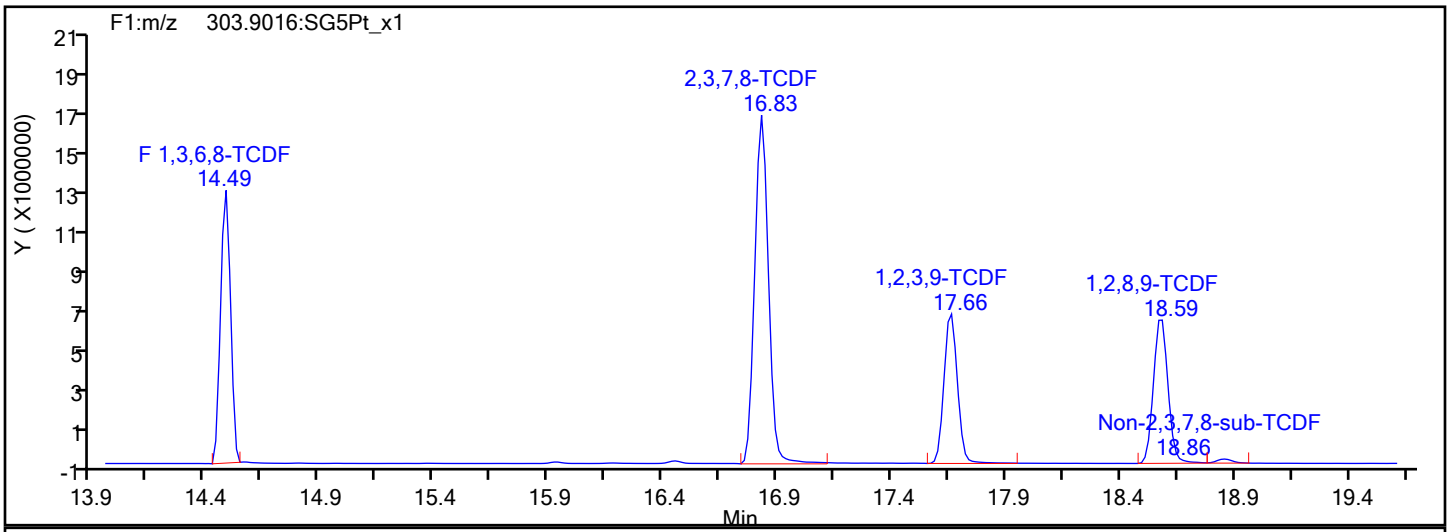

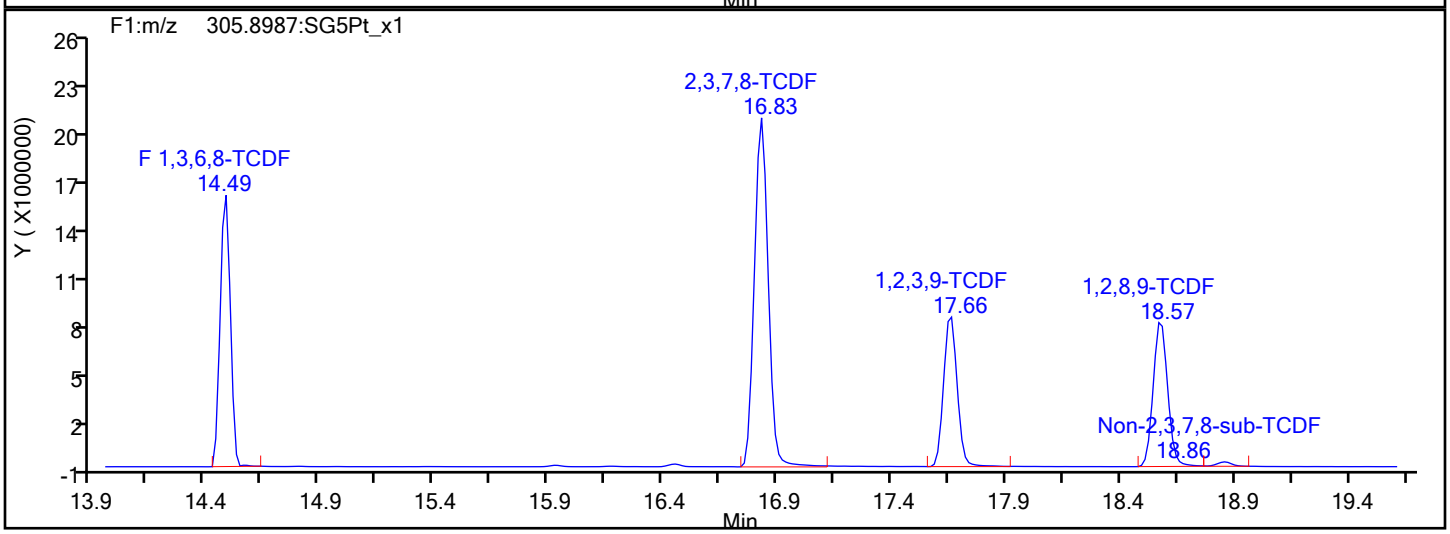

TCDF Interference Mass

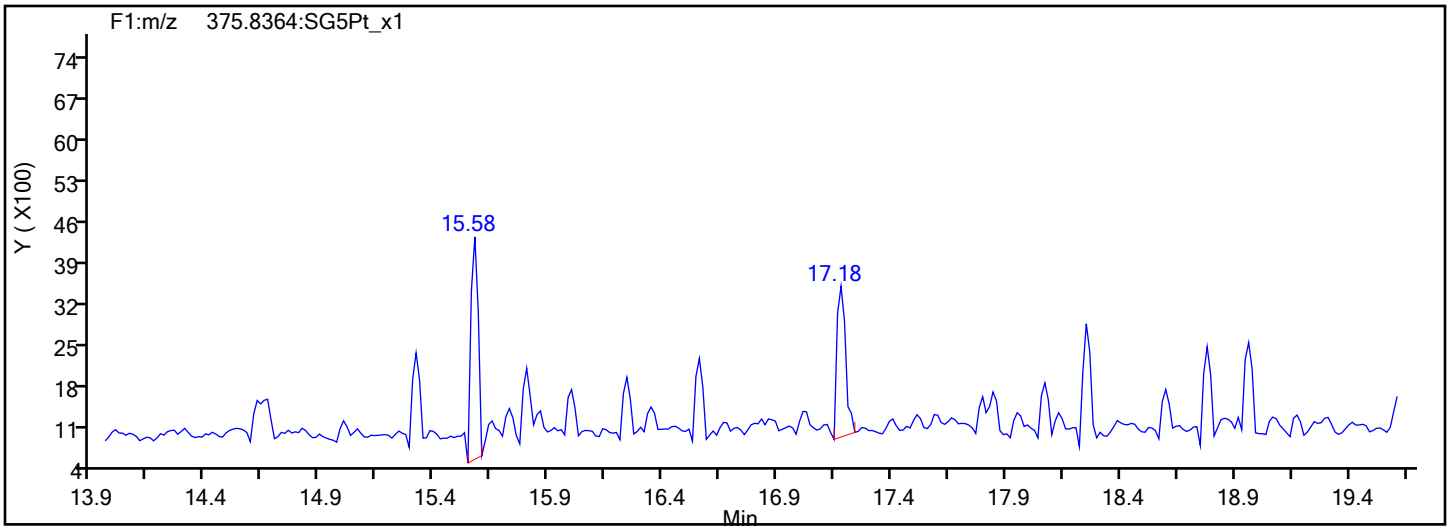

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d		
Injection Date:	17-Sep-2019 11:28:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

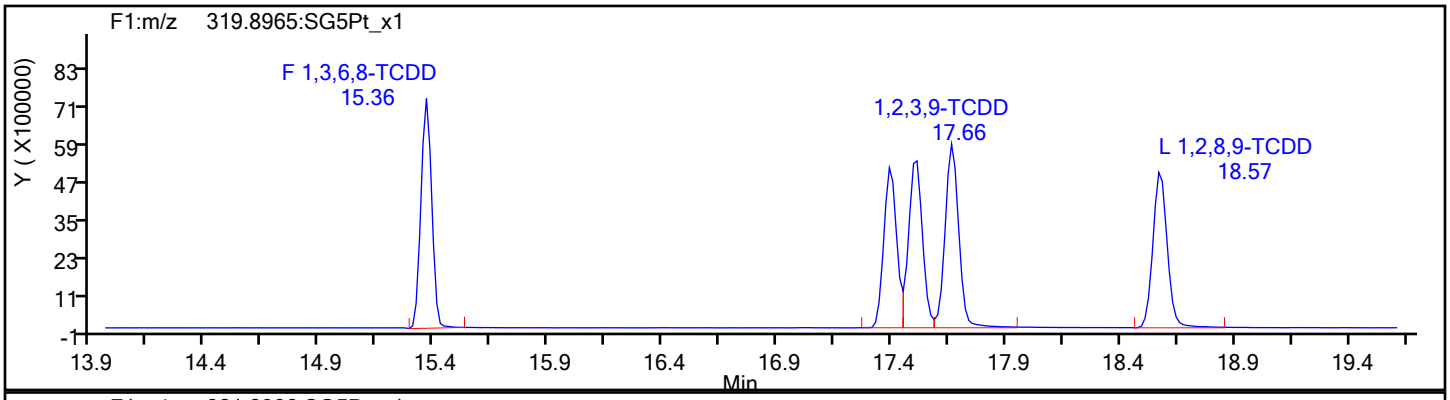

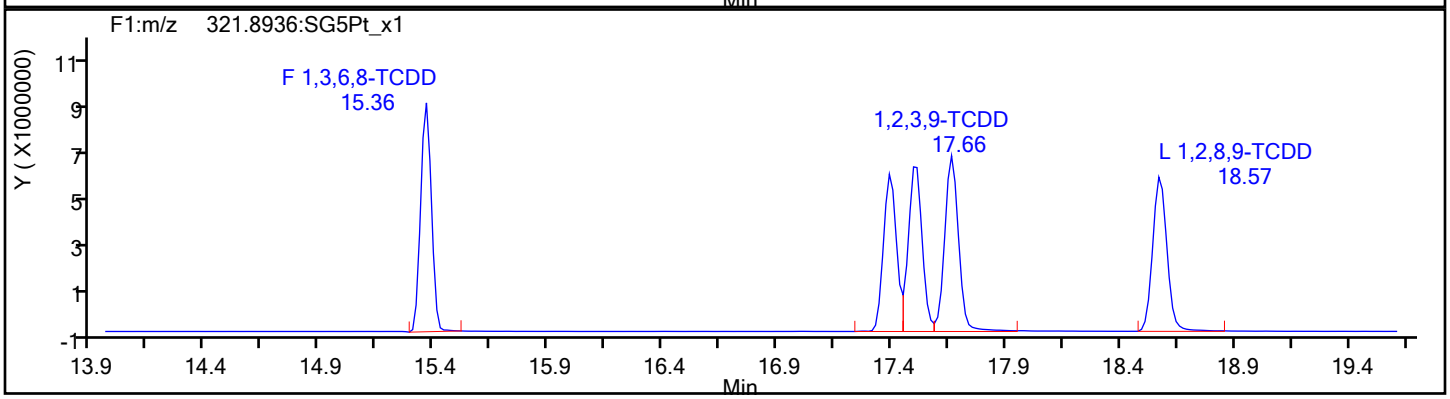

TCDD Standards

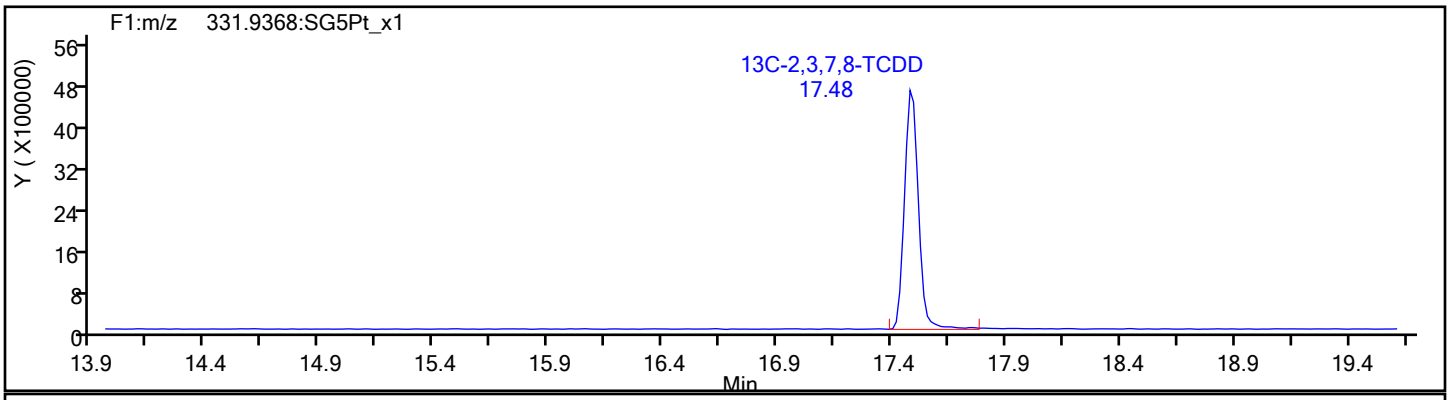

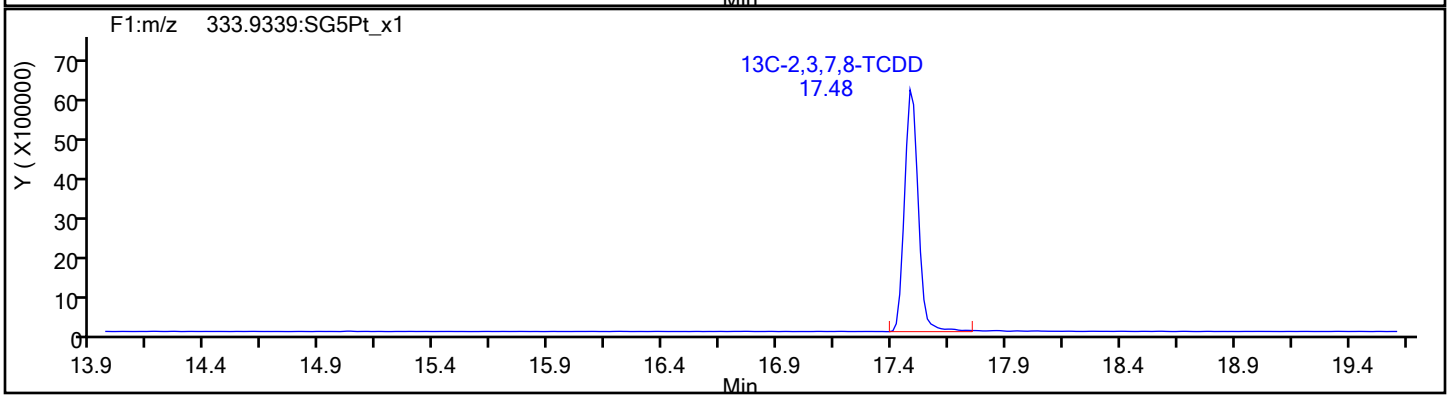

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d		
Injection Date:	17-Sep-2019 11:28:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

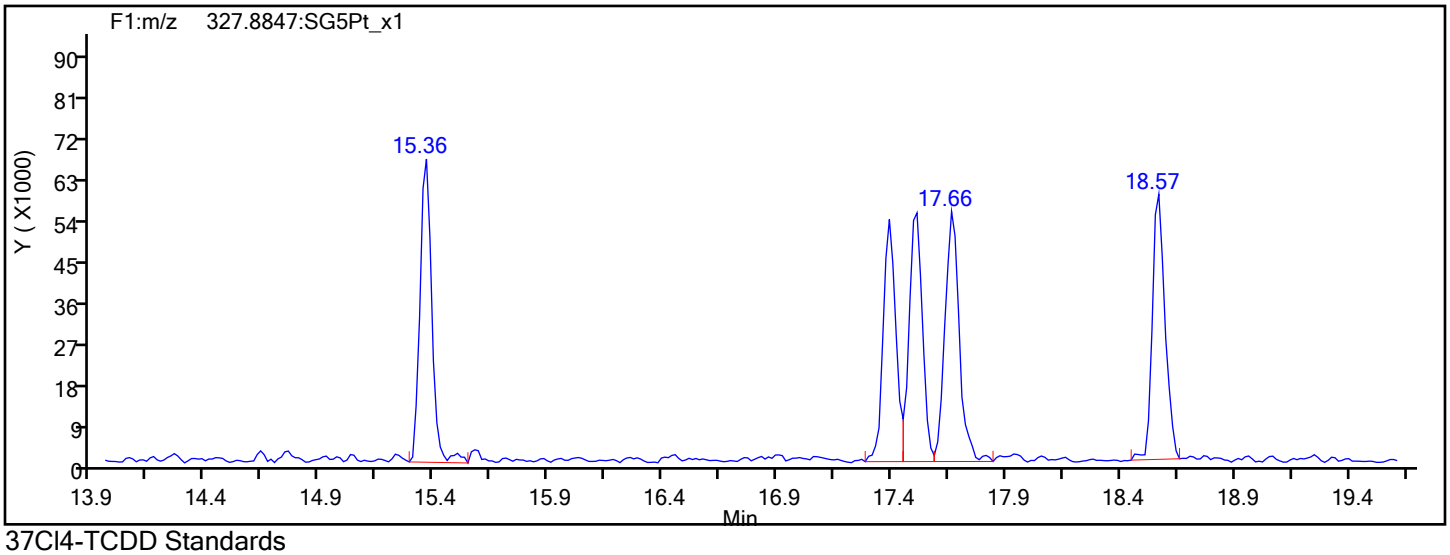

37Cl4-TCDD Standards

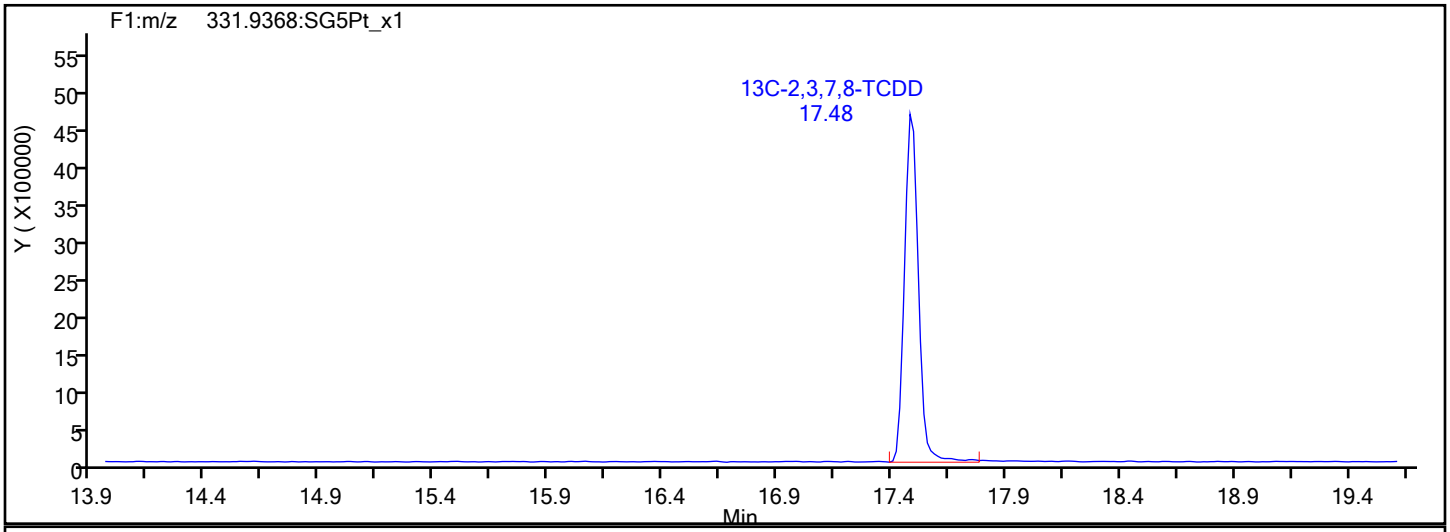

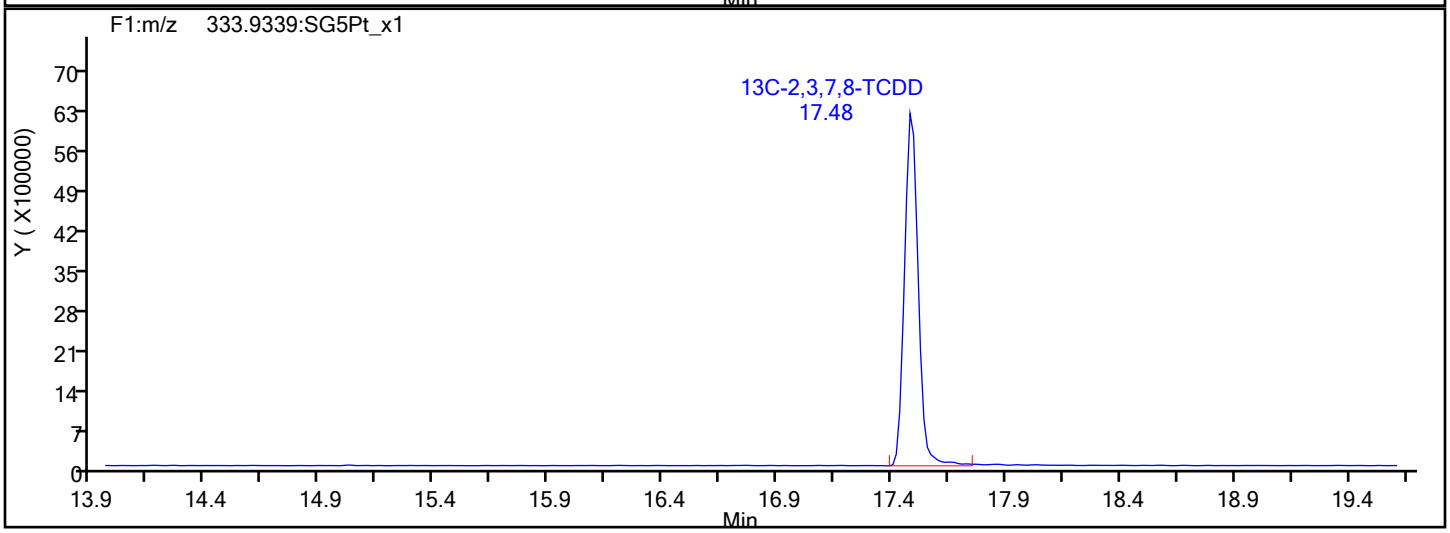

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d		
Injection Date:	17-Sep-2019 11:28:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

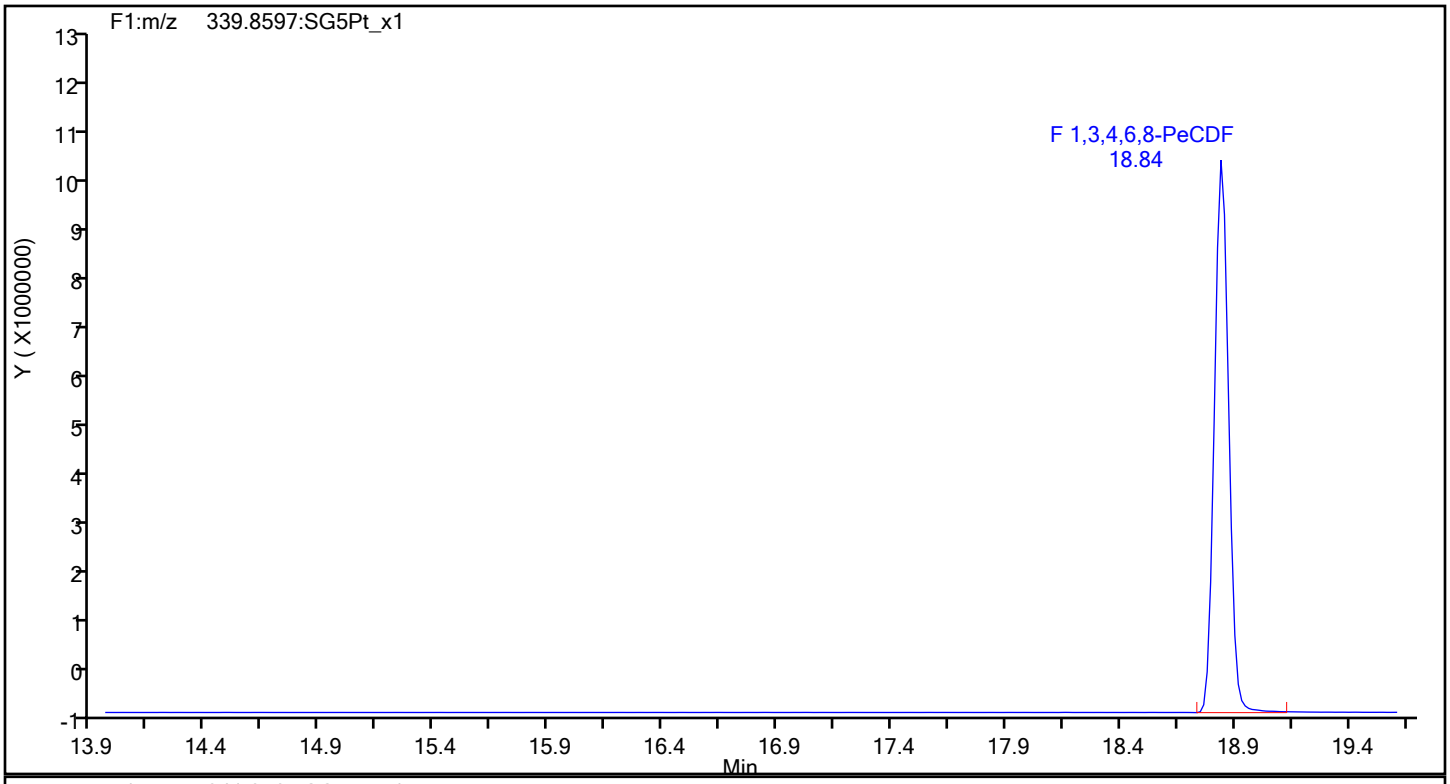

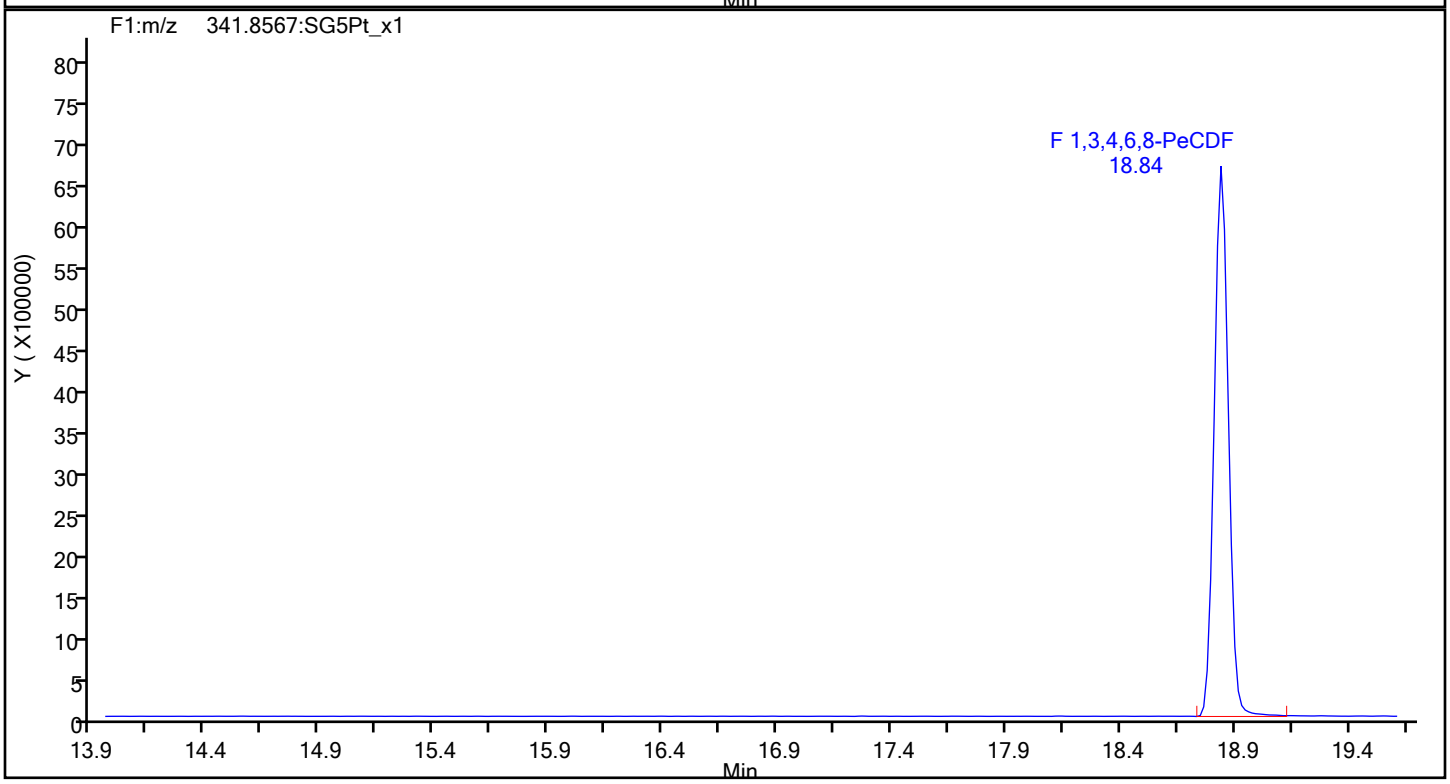

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d		
Injection Date:	17-Sep-2019 11:28:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

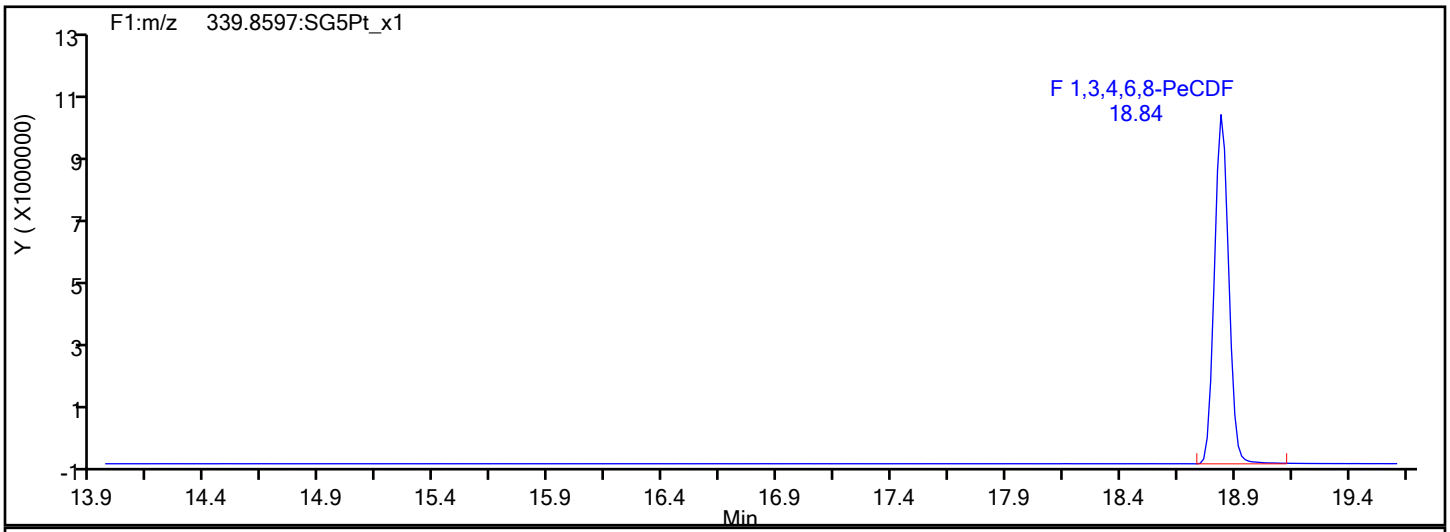

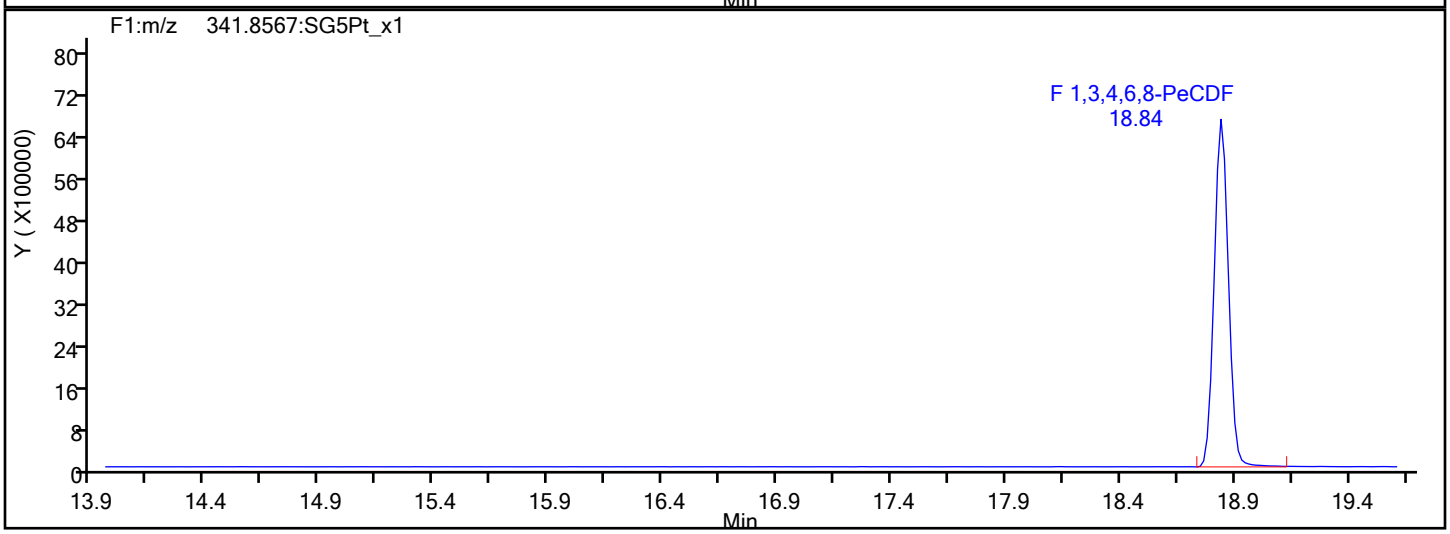

F1 PeCDFs Interference Mass

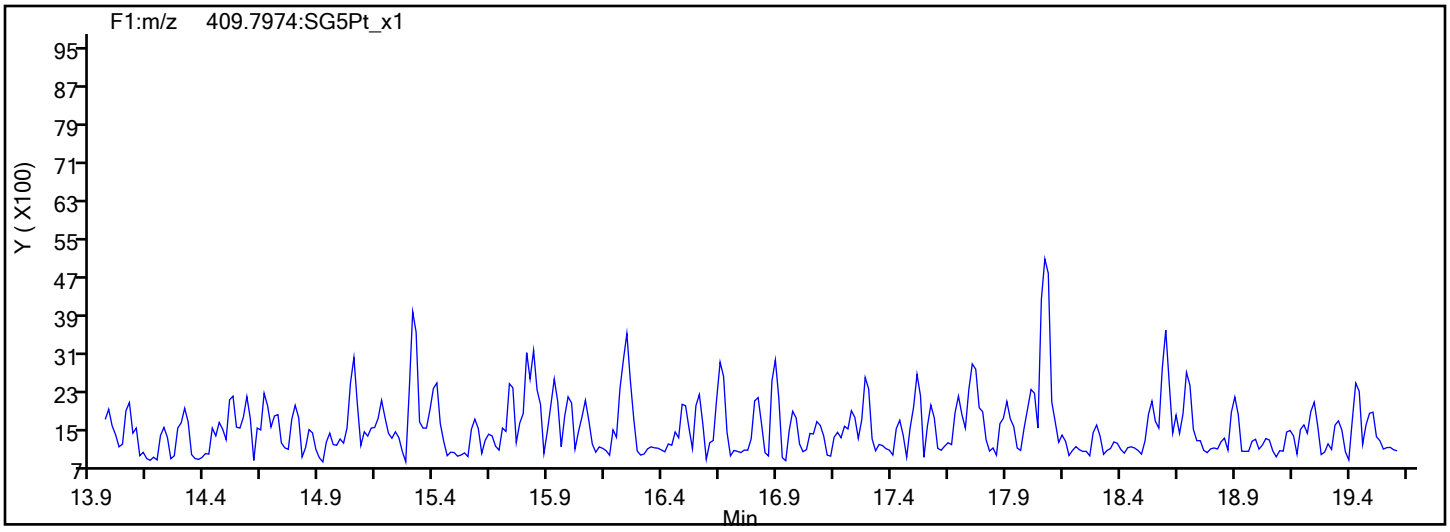

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d		
Injection Date:	17-Sep-2019 11:28:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

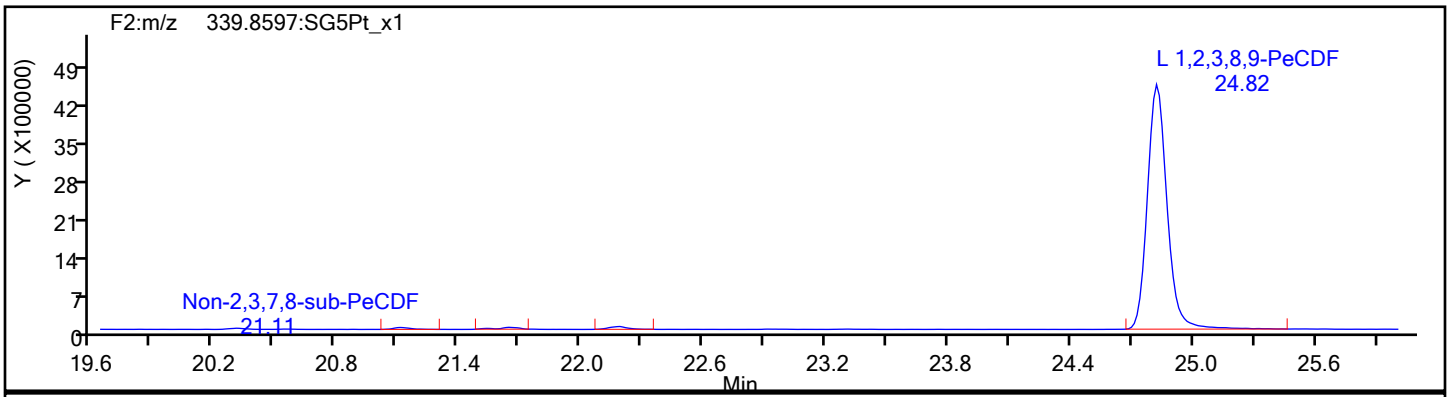

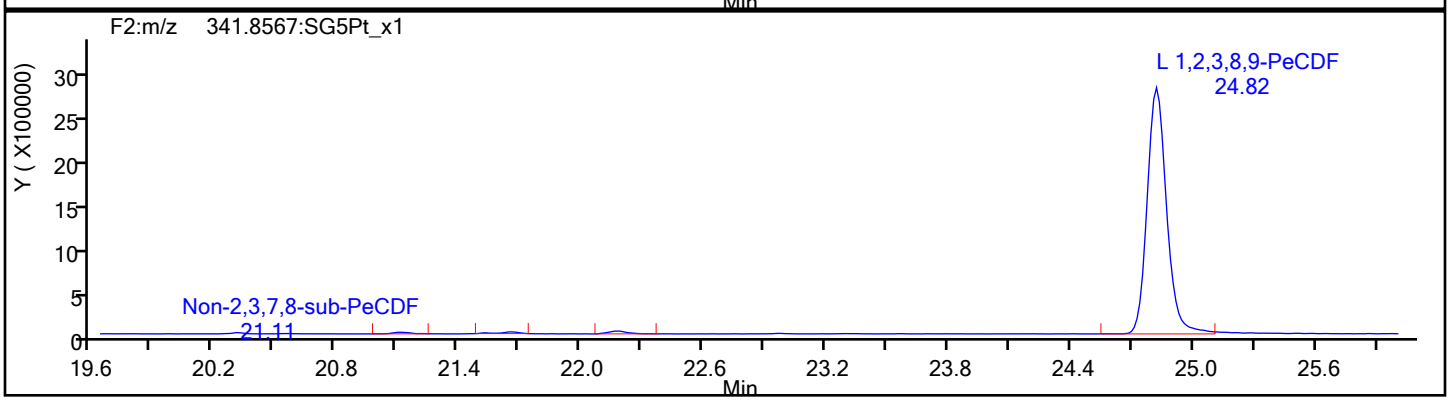

PeCDF Standards

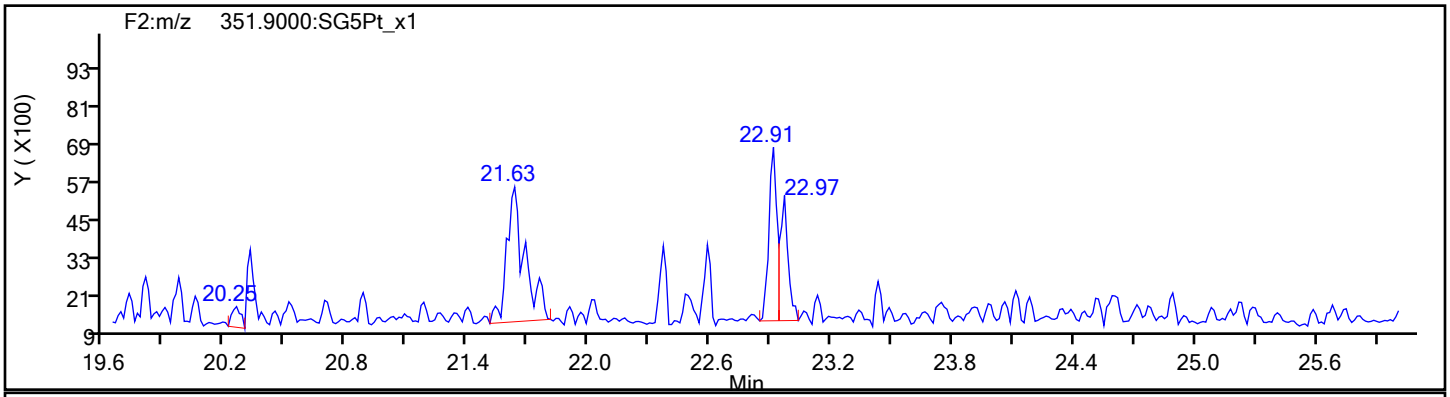

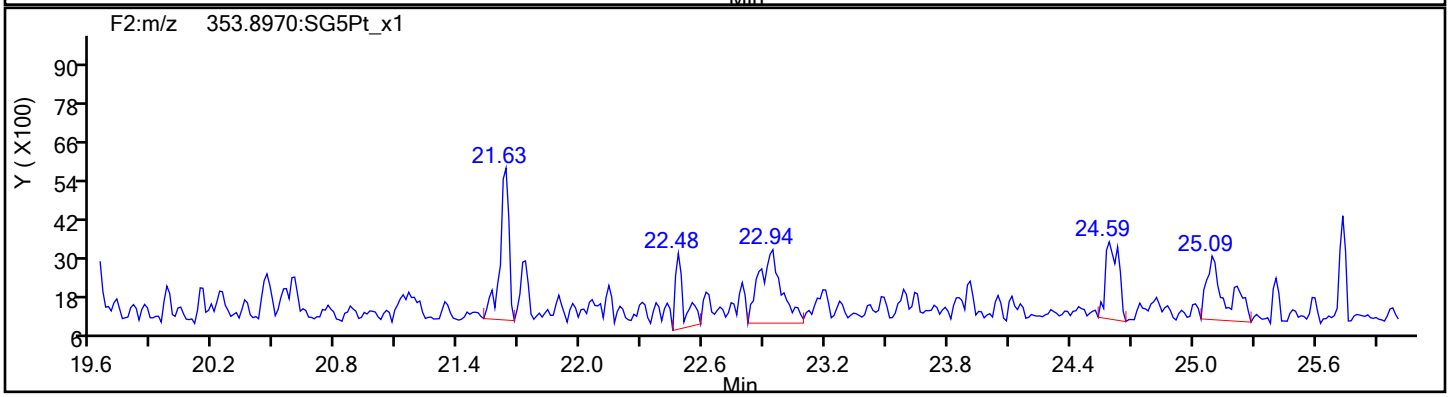

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d		
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Instrument ID:	10D5	Operator ID:	AJS
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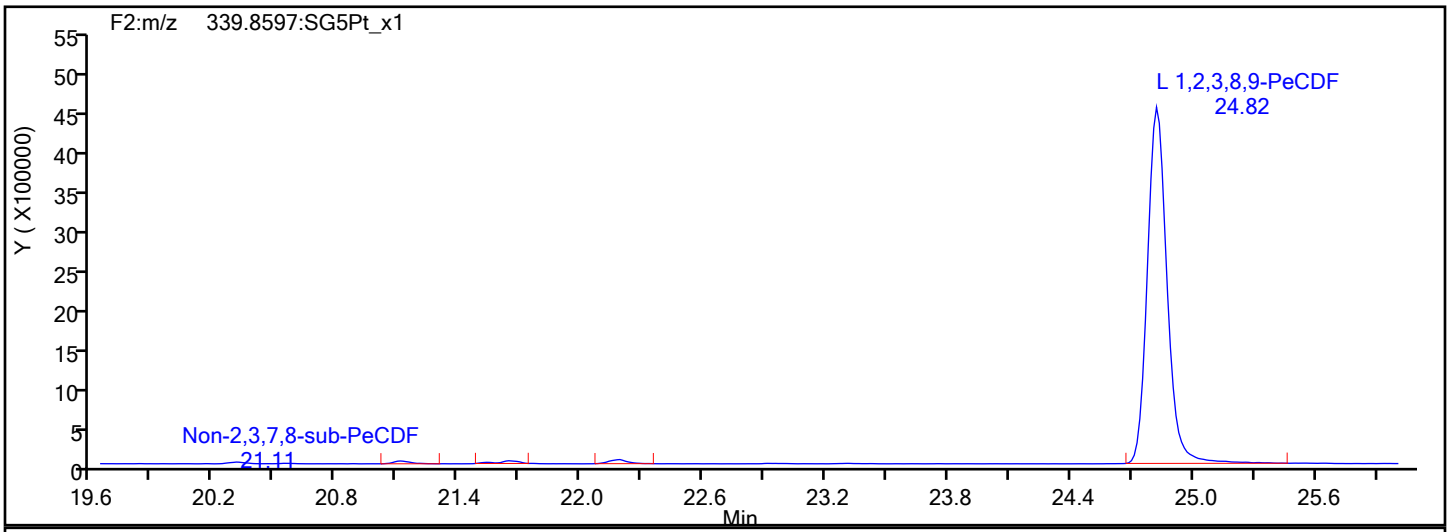

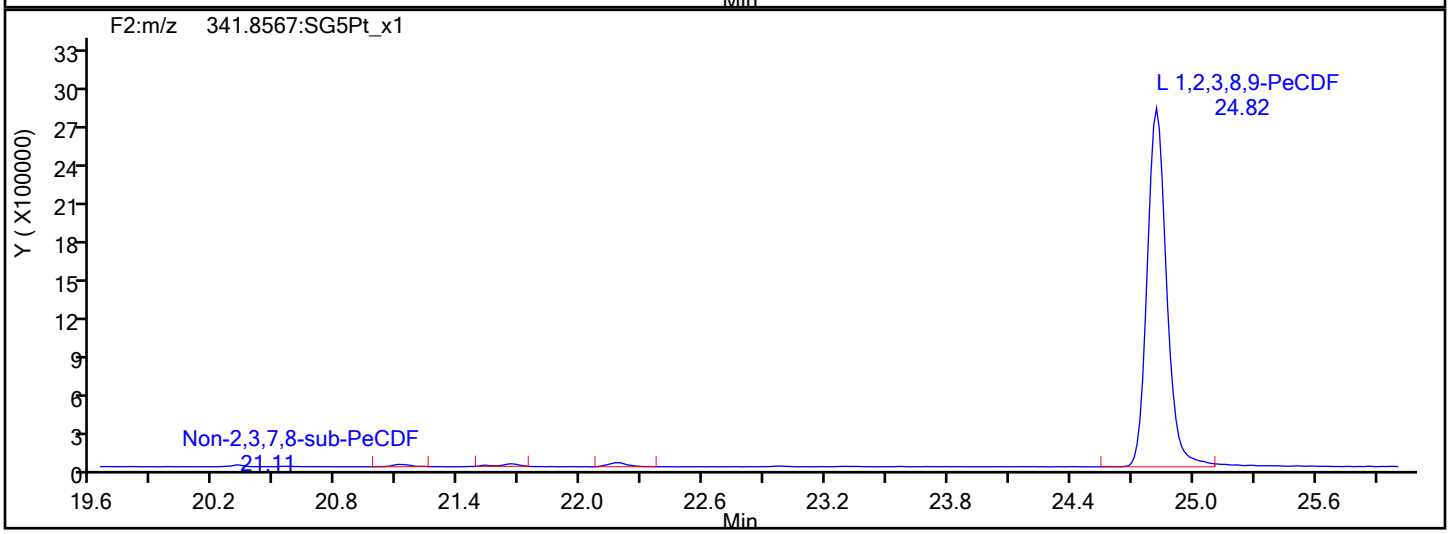

PeCDF Interference Mass

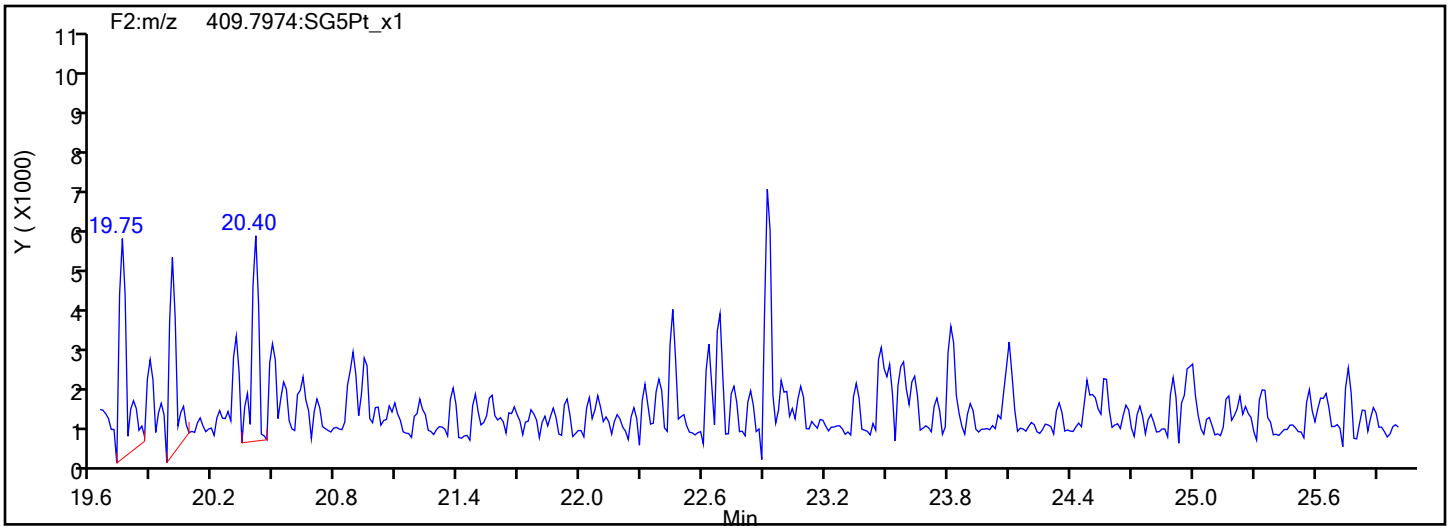

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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PeCDD

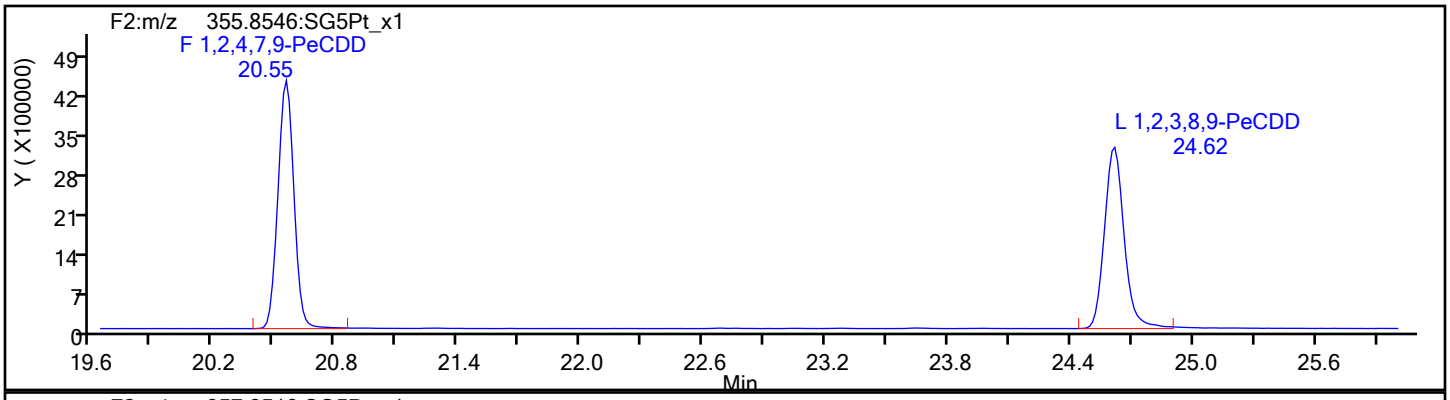

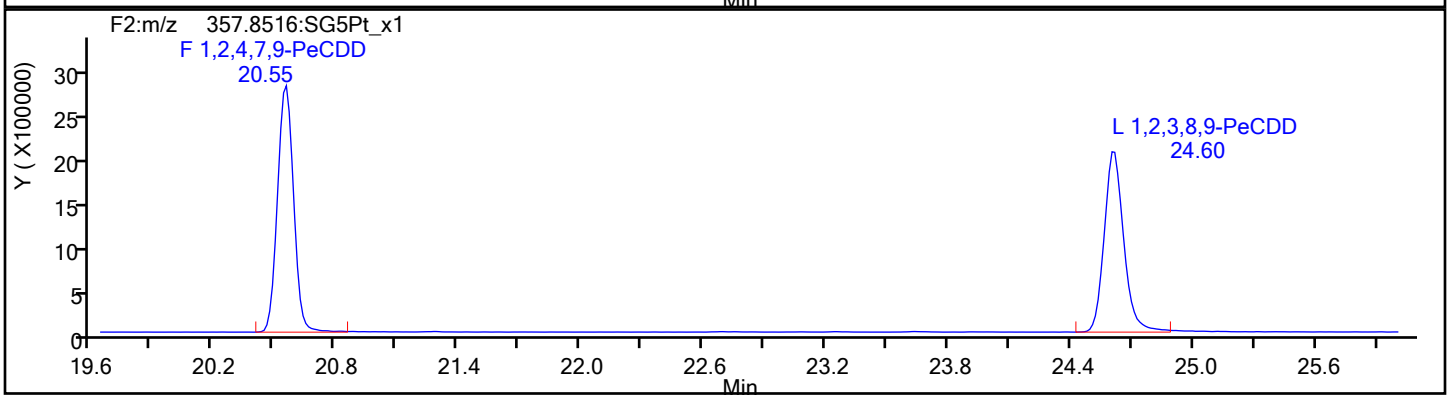

PeCDD Standards

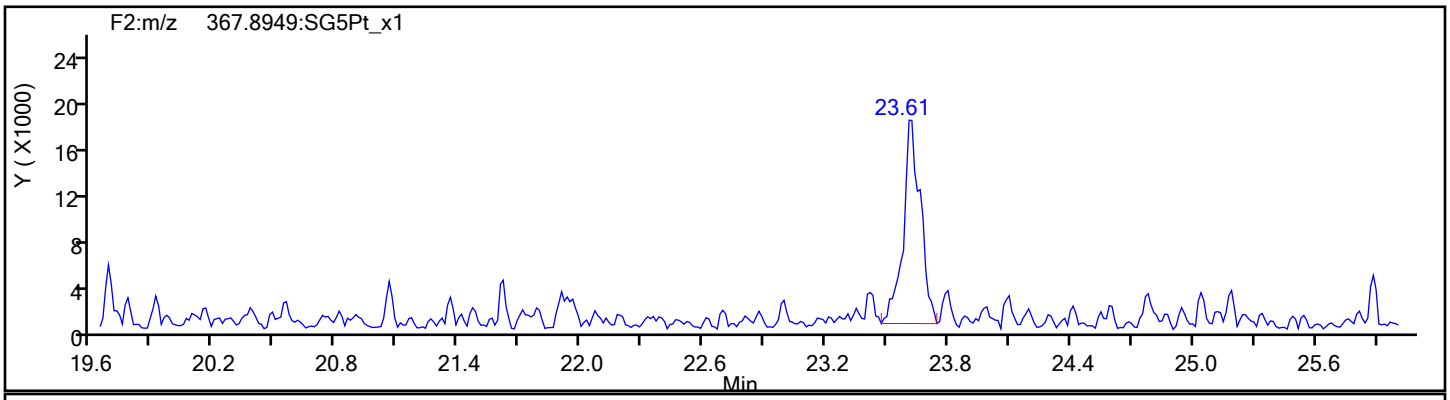

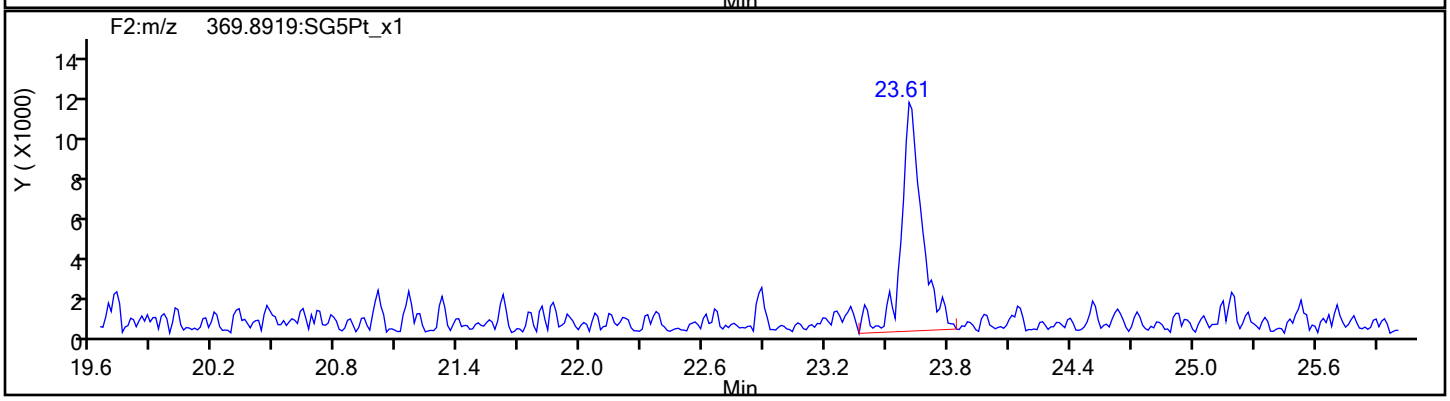

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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HxCDF

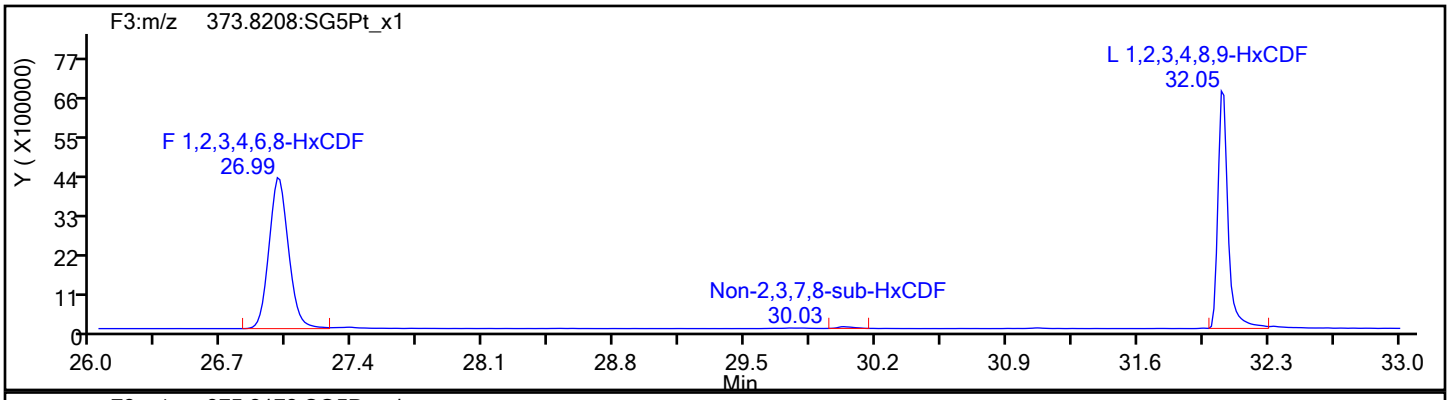

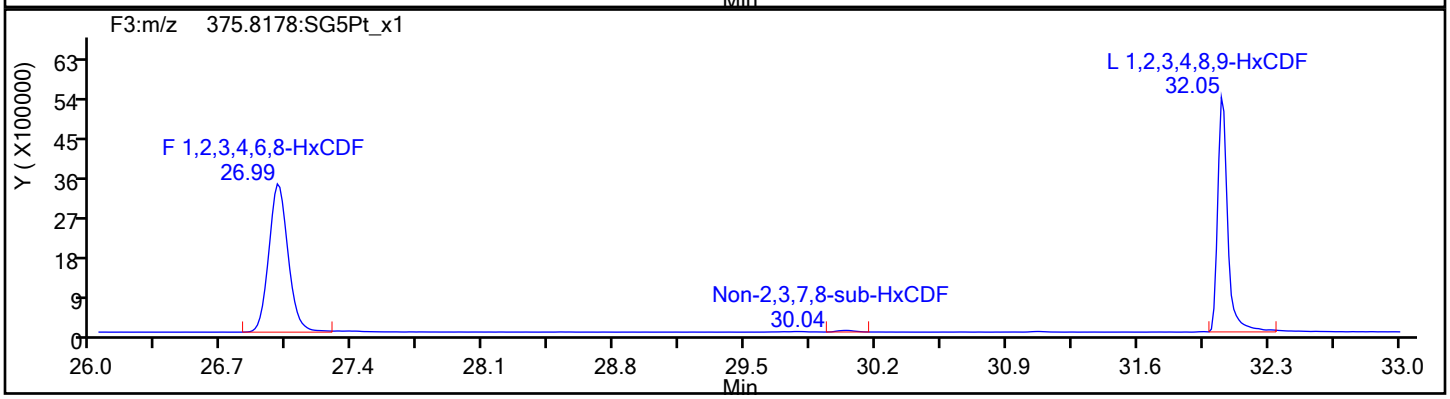

HxCDF Standards

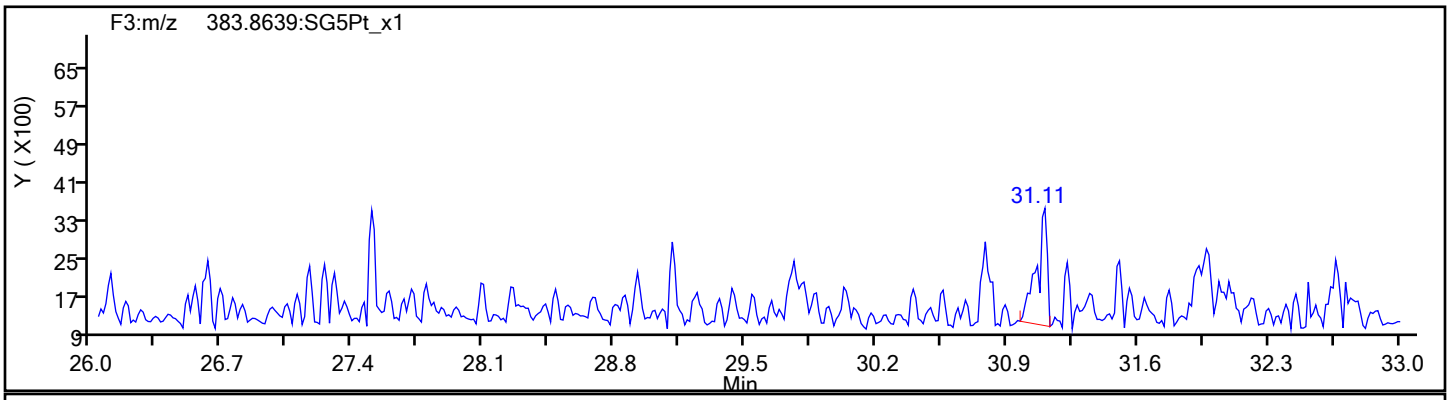

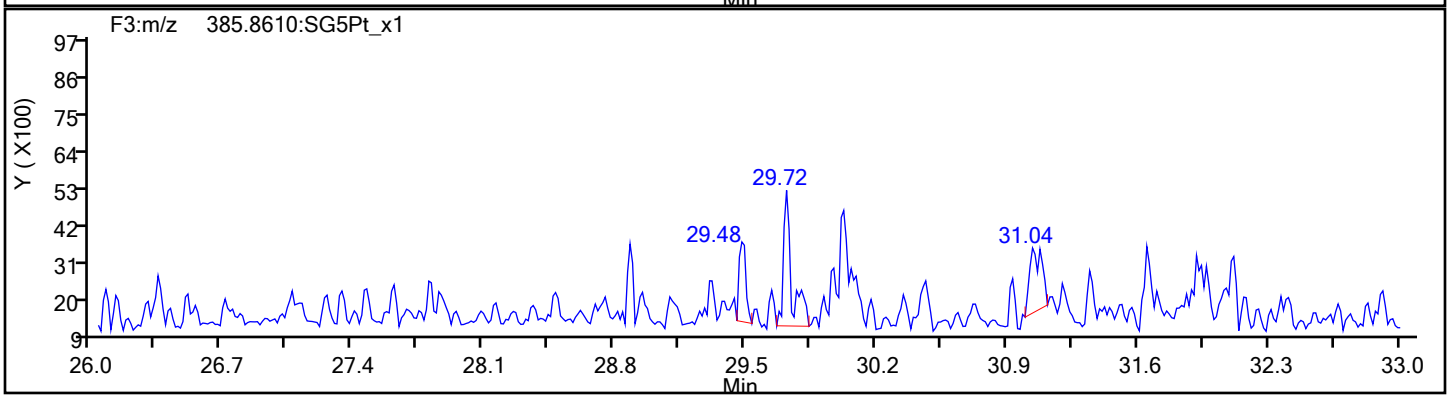

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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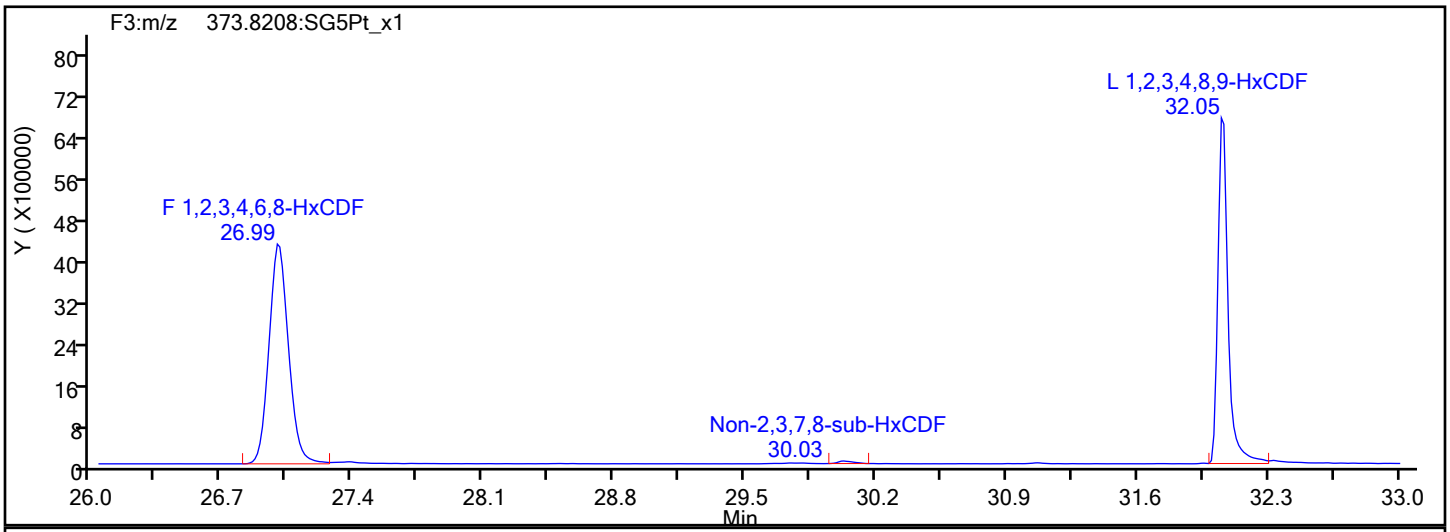

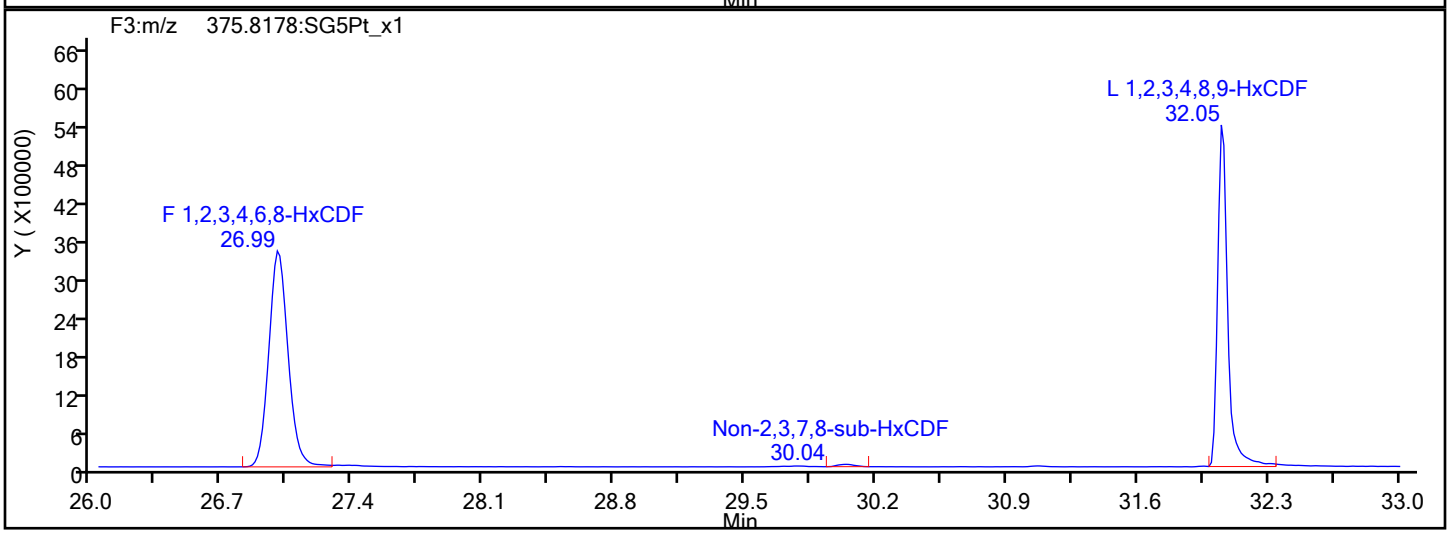

HxCDF Interference Mass

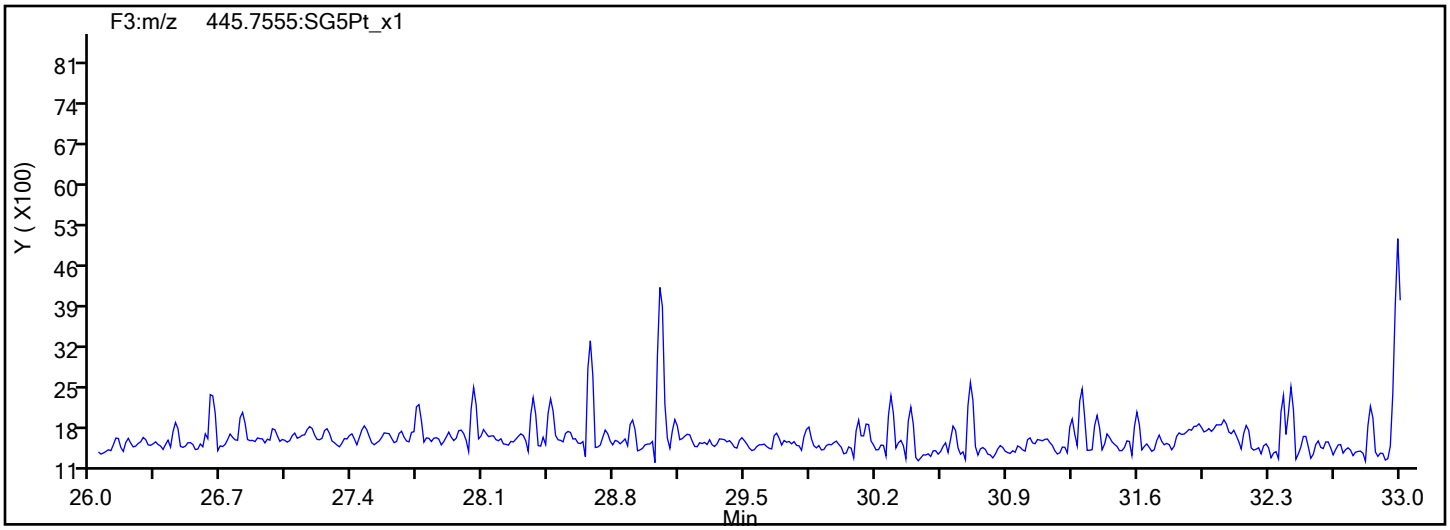

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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HxCDD

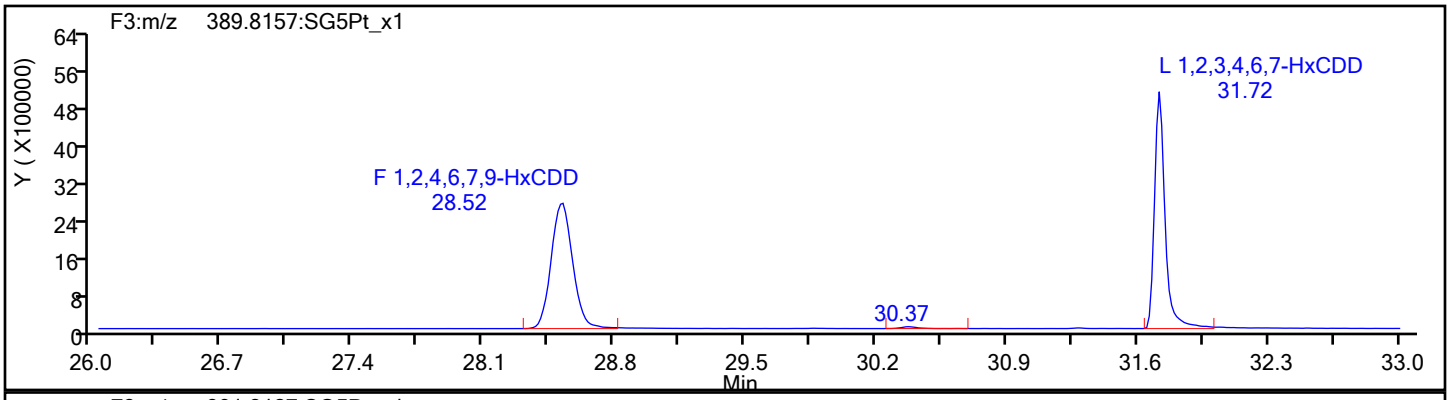

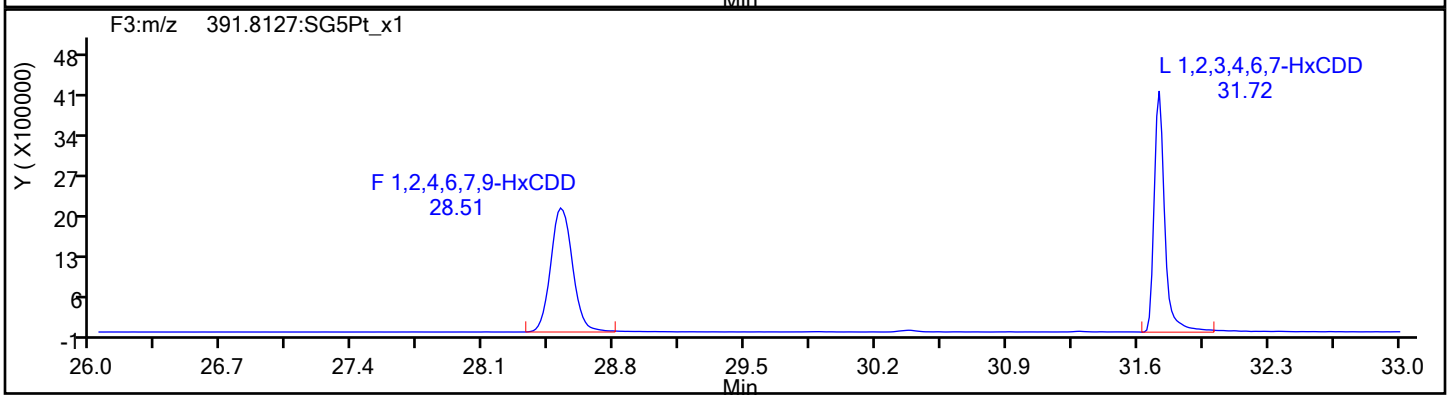

HxCDD Standards

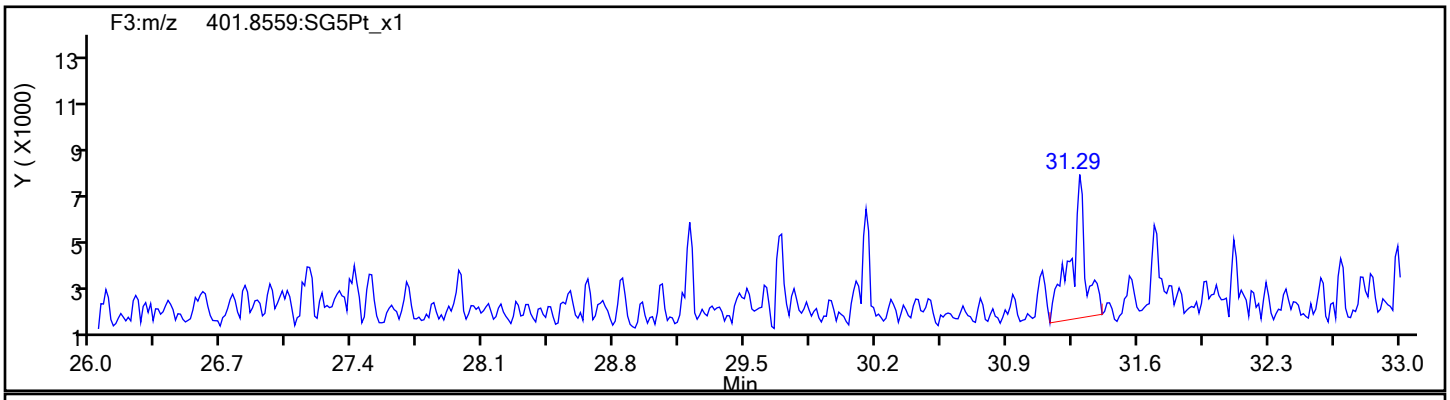

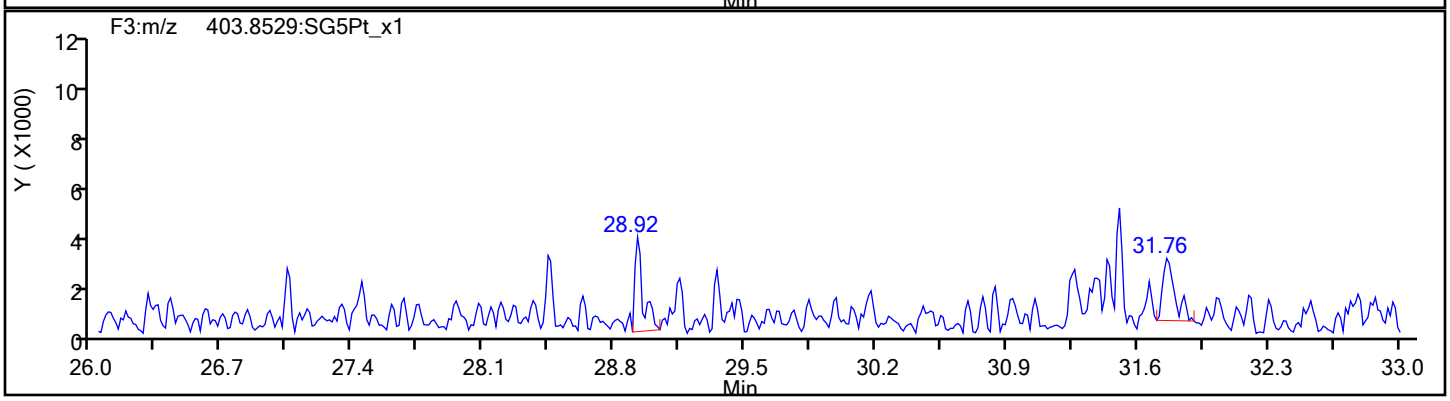

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Eurofins TestAmerica, Sacramento

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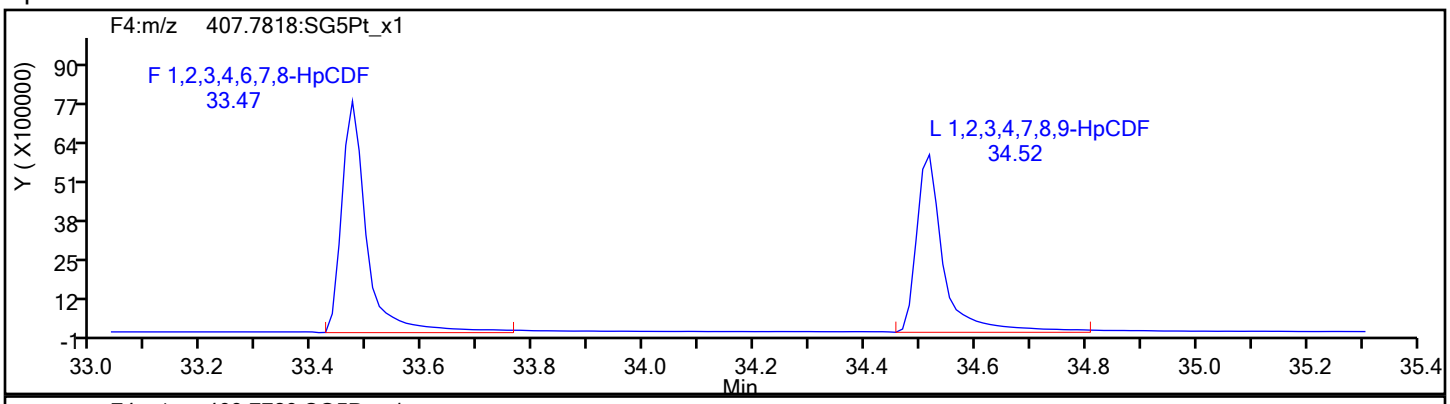

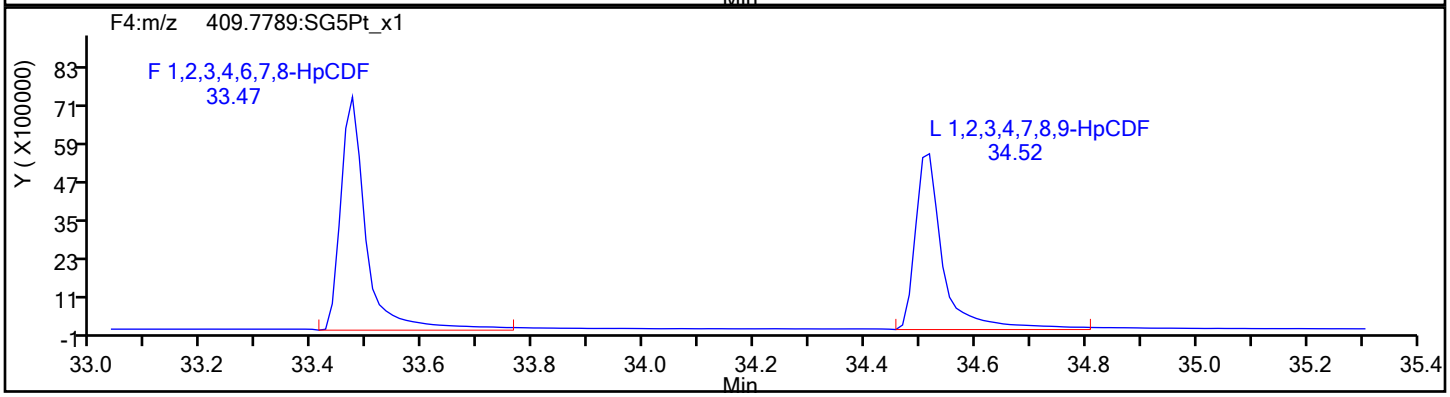

HpCDF Standards

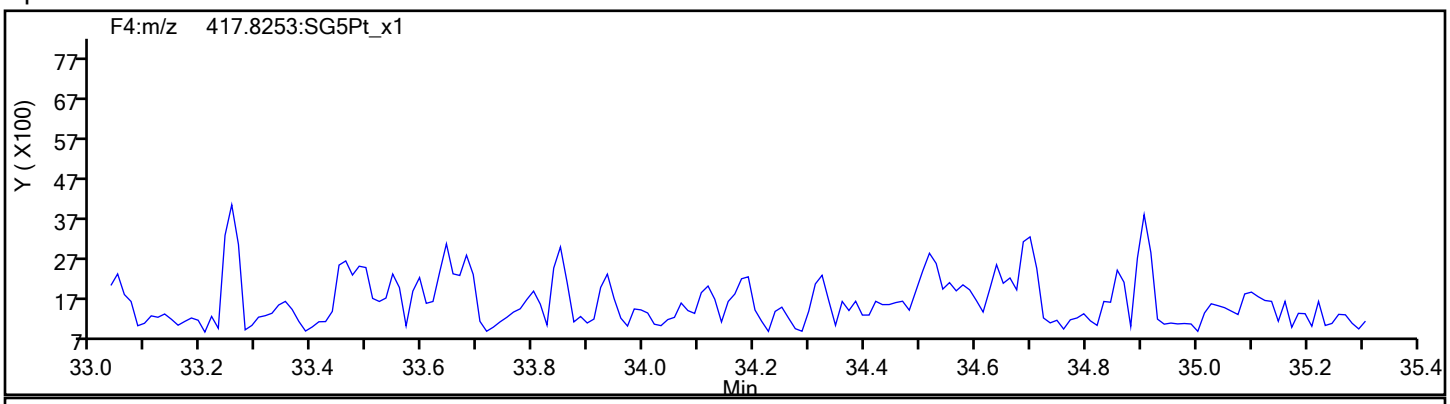

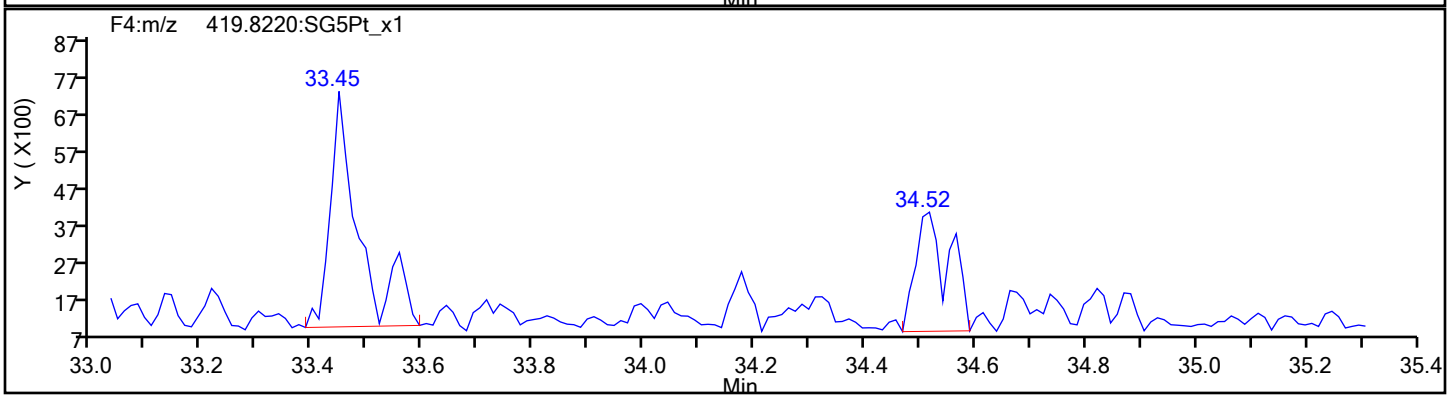

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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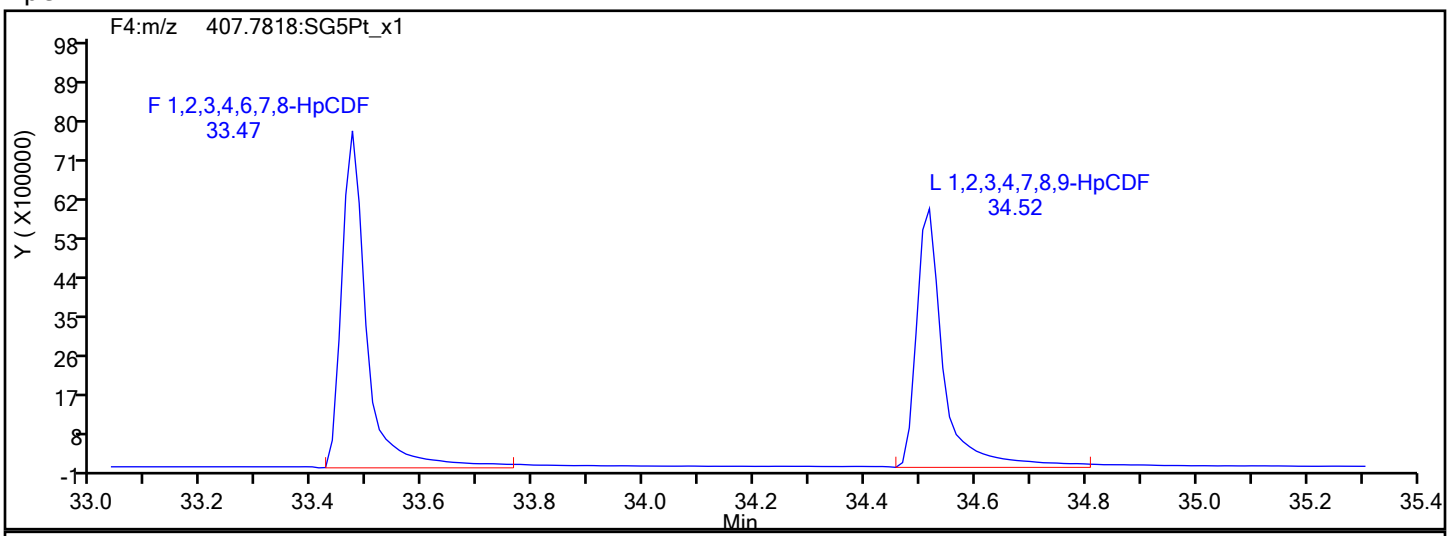

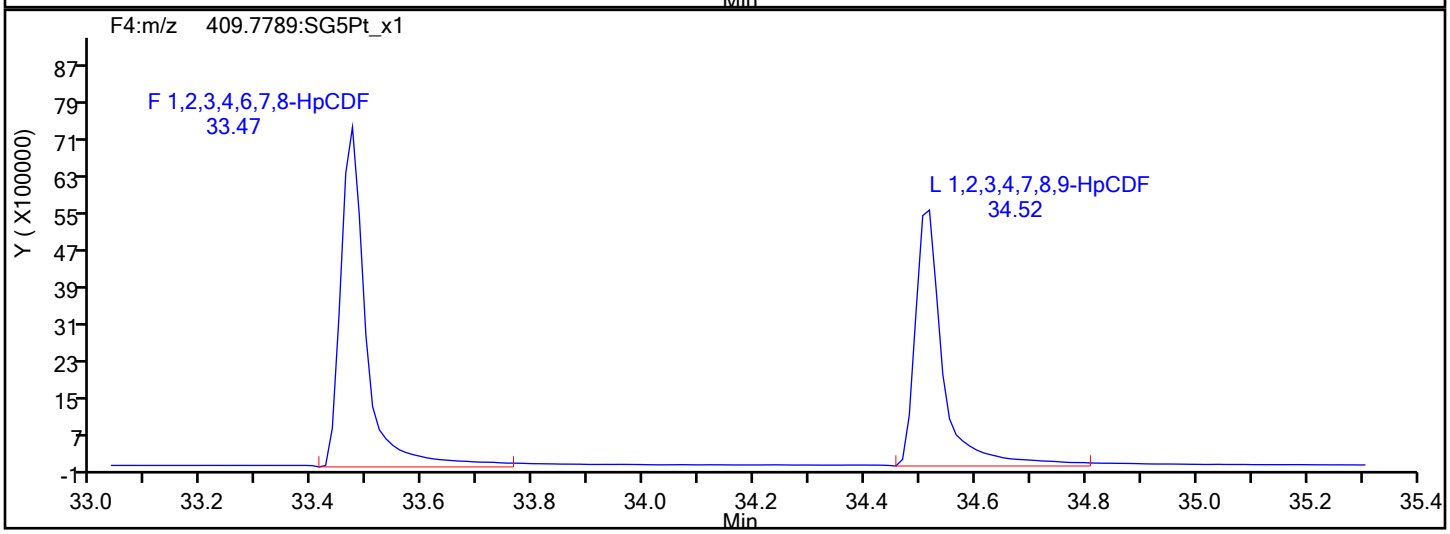

HpCDF Interference Mass

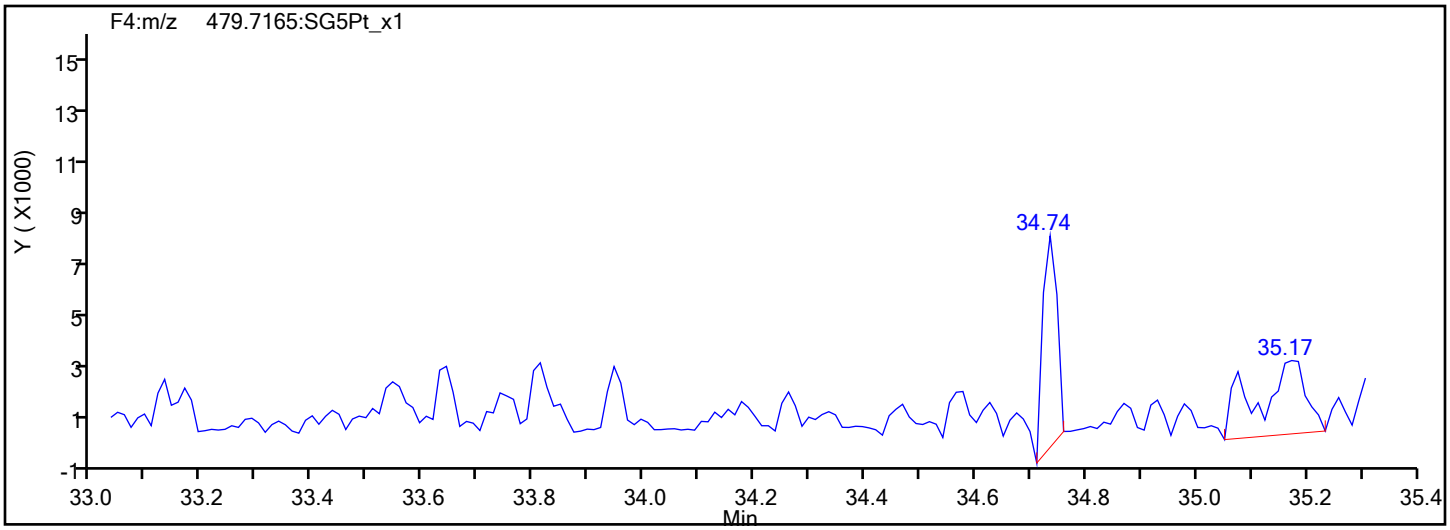

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Eurofins TestAmerica, Sacramento

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HpCDD

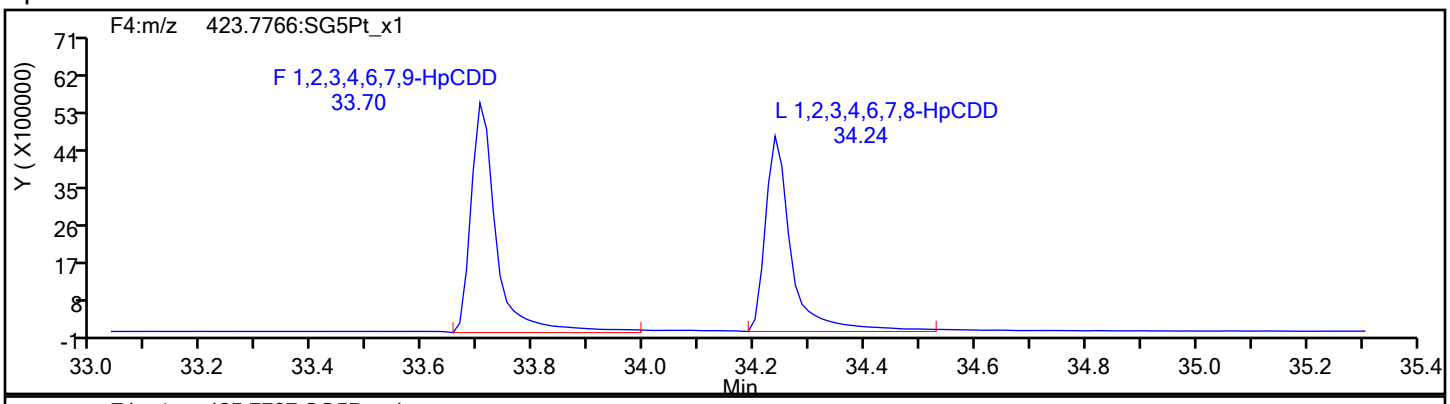

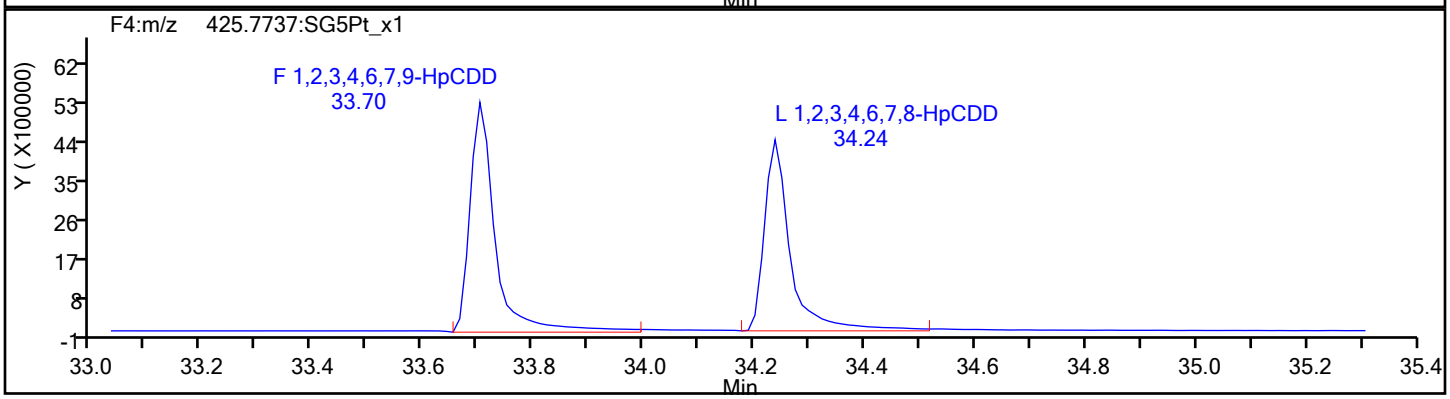

HpCDD Standards

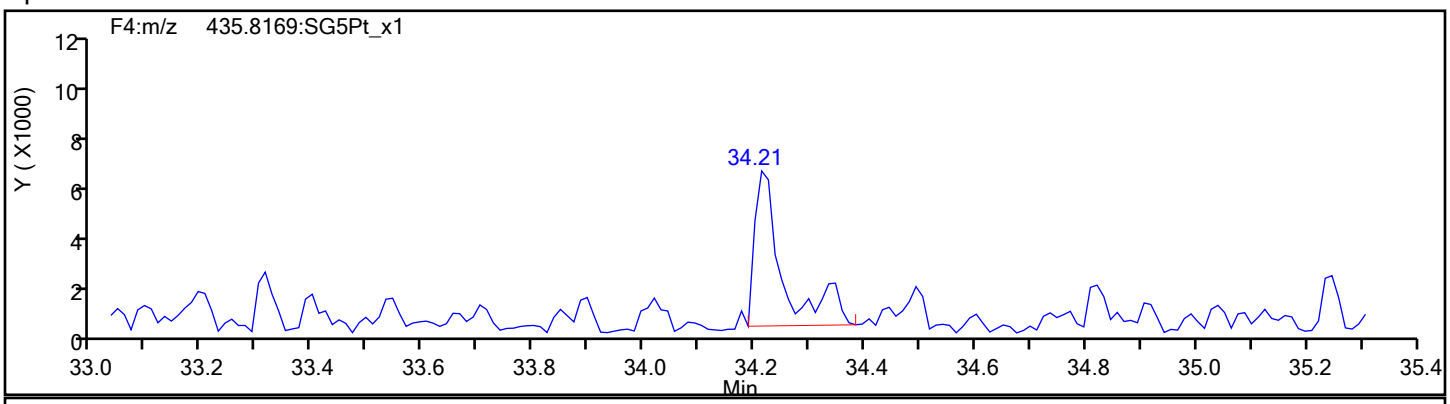

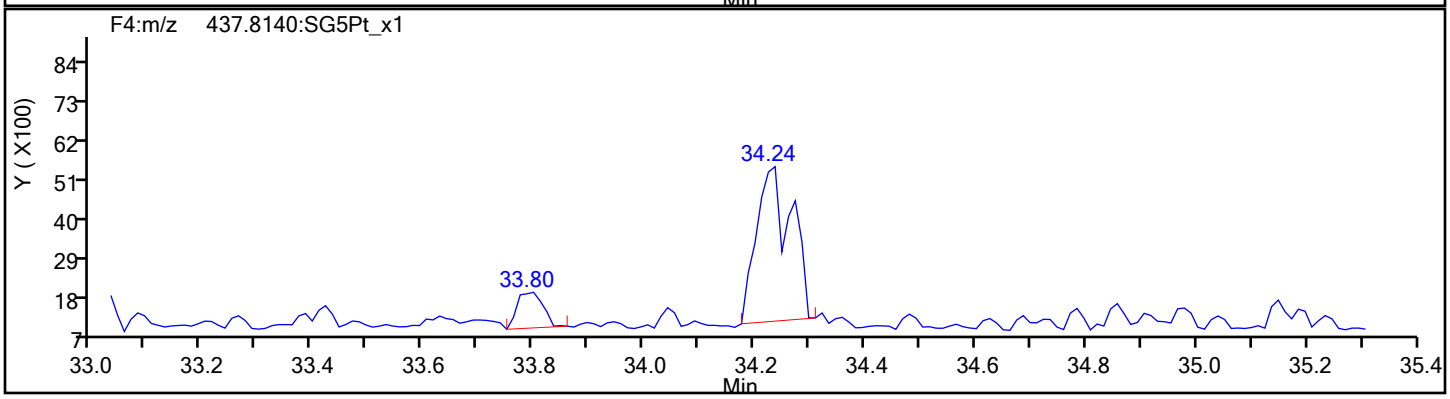

Report Date: 18-Sep-2019 10:18:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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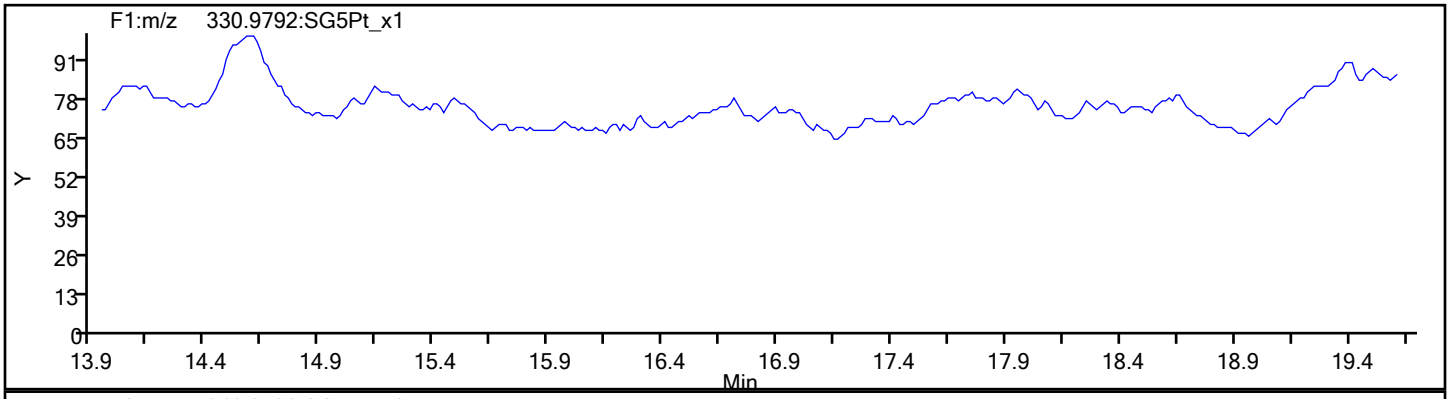

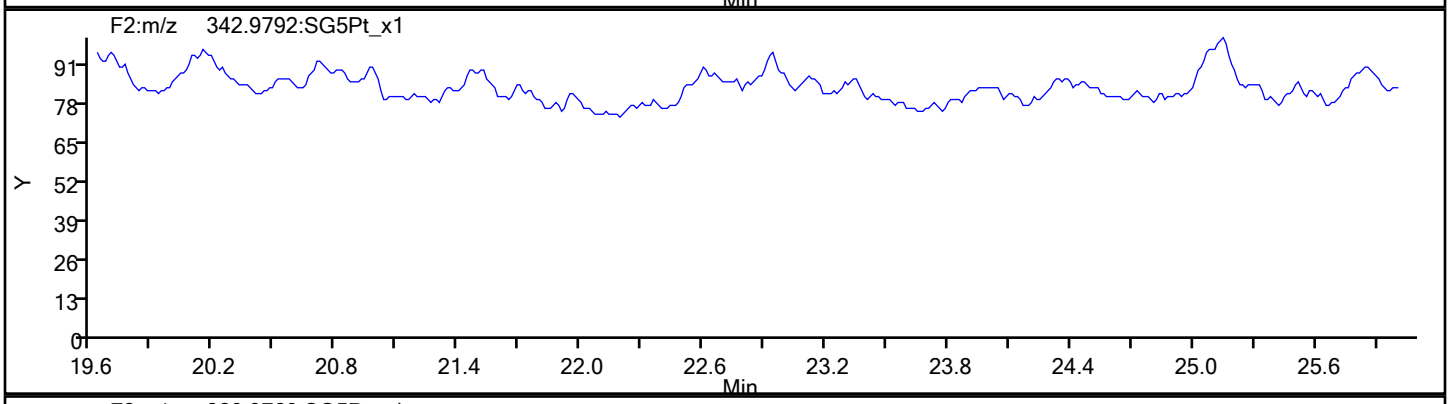

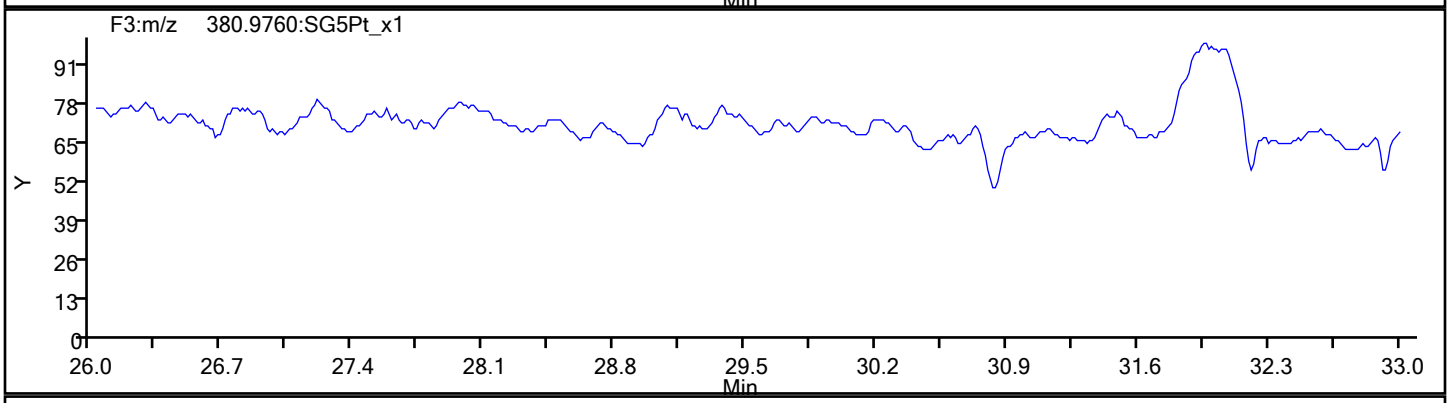

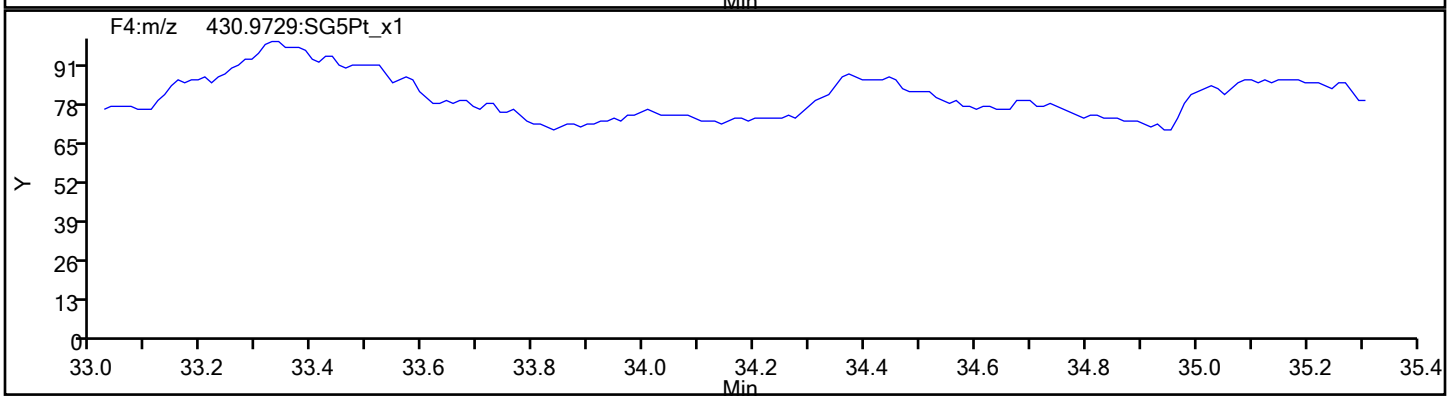

Report Date: 18-Sep-2019 10:18:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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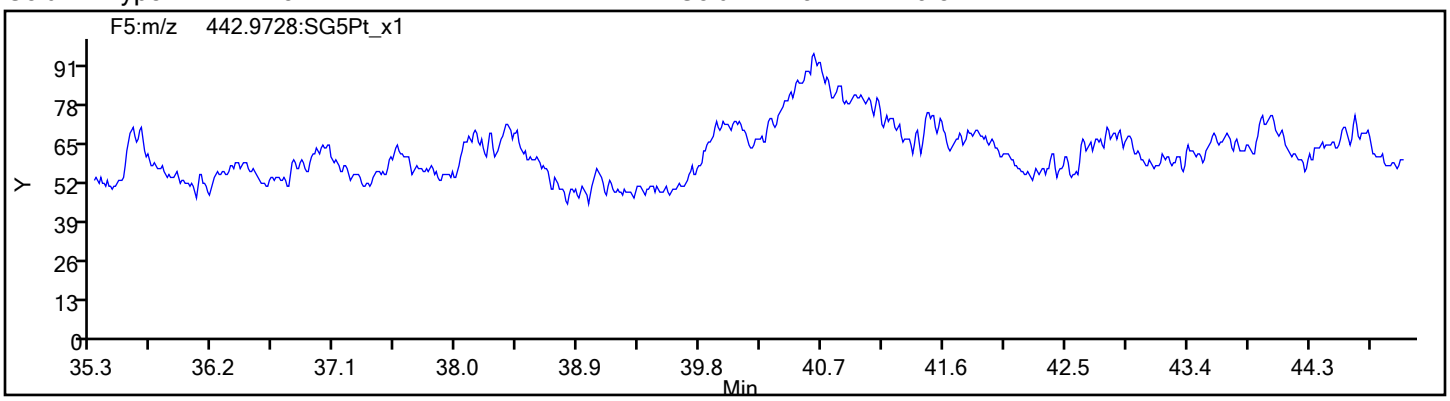

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_1.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 05-Nov-2019 19:16:08 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 110519B WDM HRDXNCP_00040
Misc. Info.: 05NO19B10D5
Operator ID: ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 06-Nov-2019 09:20:55 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0321

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	16.761	62826857	0.78	1.4384					0.00	
2,3,7,8-TCDF	16.777	137784529	0.77	1.0507	83.5	83.5	0.4983	0.4983		
A Non-2,3,7,8-sub-TCDF	16.482	2859739	0.77	1.0507	1.733	1.733	0.4983	1.733		
S Total TCDF					85.2	85.2	0.4983	0.4983		
D 13C-2,3,7,8-TCDD	17.427	43892433	0.77	0.9533					0.00	
2,3,7,8-TCDD	17.457	46322364	0.81	1.1064	38.2	38.2	0.2353	0.2353		
A Non-2,3,7,8-sub-TCDD	16.920						0.2353	0.2353		
S Total TCDD					38.2	38.2	0.2353	0.2353		
A F1 PeCDFs	19.173						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	22.149	780844	1.55	0.0000						RQ
S Total PeCDF										RQ
A Non-2,3,7,8-sub-PeCDD	22.447						0.0	0.0		
S Total PeCDD										
A Non-2,3,7,8-sub-HxCDF	29.387						0.0	0.0		
S Total HxCDF										
A Non-2,3,7,8-sub-HxCDD	29.959	298347	1.24	0.0000						RQ
S Total HxCDD										RQ
1,2,3,4,6,7,8-HpCDF	33.418	39579283	1.05	1.5555						
1,2,3,4,7,8,9-HpCDF	34.475	30225694	1.06	1.3862						
A Non-2,3,7,8-sub-HpCDF	33.947						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	34.196	23734918	1.05	0.9316						
A Non-2,3,7,8-sub-HpCDD	34.038						0.0	0.0		
S Total HpCDD										
1,3,6,8-TCDF	14.463	77250068	0.79							
1,3,6,8-TCDD	15.340	45686442	0.79							
2,3,4,7-TCDF	16.777	137784529	0.77							
1,2,3,7-TCDD	17.336	40193889	0.78							
1,2,3,9-TCDF	17.593	60029762	0.77							
1,2,3,9-TCDD	17.608	49014247	0.80							
1,2,8,9-TCDF	18.500	62956789	0.77							
1,2,8,9-TCDD	18.500	19655503								

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,3,4,6,8-PeCDF	18.772	62398885	1.56							
1,2,4,7,9-PeCDD	20.449	36921634	1.53							
1,2,3,8,9-PeCDD	24.445	34220711	1.55							
1,2,3,8,9-PeCDF	24.649	45882552	1.59							
1,2,3,4,6,8-HxCDF	26.805	49769471	1.27							
1,2,4,6,7,9-HxCDD	28.295	36452022	1.28							
1,2,3,4,6,7-HxCDD	31.623	33943460	1.26							
1,2,3,4,8,9-HxCDF	31.969	44548030	1.28							
1,2,3,4,6,7,9-HpCDD	33.649	28216506	1.03							

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNCP_00040 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_1.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 05-Nov-2019 19:16:08 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 110519B WDM HRDXNCP_00040
Misc. Info.: 05NO19B10D5
Operator ID: ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 06-Nov-2019 09:20:55 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0321

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	16.761	16.761	0	1.000	27533097	6885891	8704	21760	791		
317.9389	16.761	16.761	0	1.000	35293760	8764455	19540	48850	449	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.777	16.777	0	1.001	60119346	13688905	33190	82975	412		
305.8987	16.777	16.777	0	1.001	77665183	17666893	48751	121877	362	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	18.788	16.482	138	1.121	1245920	187495	33190	82975	6		
305.8987	18.788	16.482	138	1.121	1613819	243460	48751	121877	5	0.77(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.427	17.427	0	1.000	19099949	4499636	7533	18832	597		
333.9339	17.427	17.427	0	1.000	24792484	5912682	4109	10272	1439	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.457	17.457	0	1.002	20681028	4821457	12915	32287	373		
321.8936	17.442	17.457	-1	1.001	25641336	5998249	14187	35467	423	0.81(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	16.920						12915	32287			
321.8936	16.920						14187	35467			
A F1 PeCDFs											
339.8597	19.173						2393	5982			
341.8567	19.173						1829	4572			
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	20.231	22.149	-115	1.000	93027	17048	4817	12042	4		
341.8567	20.218	22.149	-116	1.000	57471	11753	3327	8317	4	1.62(1.32-1.78)	
339.8597	21.022	22.149	-67	1.000	109132	19191	4817	12042	4		
341.8567	21.022	22.149	-67	1.000	61759	12802	3327	8317	4	1.77(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
339.8597	21.581	22.149	-34	1.000	185038	26399	4817	12042	5		
341.8567	21.568	22.149	-35	1.000	79246	13121	3327	8317	4	2.33(1.32-1.78)	
339.8597	22.086	22.149	-4	1.000	157164	21505	4817	12042	4		
341.8567	22.113	22.149	-2	1.000	100214	12612	3327	8317	4	1.57(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.447						5703	14257			
357.8516	22.447						3692	9230			
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.387						7015	17537			
375.8178	29.387						5446	13615			
A Non-2,3,7,8-sub-HxCDD											RQ
389.8157	30.239	29.959	17	1.000	233248	30285	5257	13142	6		
391.8127	30.239	29.959	17	1.000	133191	19902	4170	10425	5	1.75(1.05-1.43)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.418	33.418	0	1.000	20247775	5710689	20839	52097	274		
409.7789	33.418	33.418	0	1.000	19331508	5317073	21211	53027	251	1.05(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.475	34.475	0	1.000	15575303	3537333	20839	52097	170		
409.7789	34.475	34.475	0	1.000	14650391	3317616	21211	53027	156	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.947						20839	52097			
409.7789	33.947						21211	53027			
1,2,3,4,6,7,8-HpCDD											
423.7766	34.196	34.196	0	1.000	12130852	3024700	16730	41825	181		
425.7737	34.196	34.196	0	1.000	11604066	2857302	17194	42985	166	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.038						16730	41825			
425.7737	34.038						17194	42985			
1,3,6,8-TCDF											
303.9016	14.463	14.463	0		34003514	10495911	33190	82975	316		
305.8987	14.463	14.463	0		43246554	13520270	48751	121877	277	0.79(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	15.340	15.340	0		20134893	5979602	12915	32287	463		
321.8936	15.340	15.340	0		25551549	7488894	14187	35467	528	0.79(0.65-0.89)	
2,3,4,7-TCDF											
303.9016	16.777	16.777	0		60119346	13688905	33190	82975	412		
305.8987	16.777	16.777	0		77665183	17666893	48751	121877	362	0.77(0.65-0.89)	
1,2,3,7-TCDD											
319.8965	17.336	17.336	0		17658770	4481473	12915	32287	347		
321.8936	17.336	17.336	0		22535119	5759382	14187	35467	406	0.78(0.65-0.89)	
1,2,3,9-TCDF											
303.9016	17.593	17.593	0		26034580	6209113	33190	82975	187		
305.8987	17.593	17.593	0		33995182	8187113	48751	121877	168	0.77(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	17.608	17.608	0		21783647	5002808	12915	32287	387		
321.8936	17.608	17.608	0		27230600	6216355	14187	35467	438	0.80(0.65-0.89)	

Report Date: 06-Nov-2019 09:20:56 Chrom Revision: 2.3 31-Oct-2019 20:21:30
Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_1.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,8,9-TCDF											
303.9016	18.500	18.500	0		27484255	6213191	33190	82975	187		
305.8987	18.500	18.500	0		35472534	8128451	48751	121877	167	0.77(0.65-0.89)	
1,2,8,9-TCDD											
319.8965	18.500	18.500	0		19655503	4312602	12915	32287	334		
1,3,4,6,8-PeCDF											
339.8597	18.772	18.772	0		37992330	8523618	2393	5982	3562		
341.8567	18.772	18.772	0		24406555	5407760	1829	4572	2957	1.56(1.32-1.78)	
1,2,4,7,9-PeCDD											
355.8546	20.449	20.449	0		22327759	4053911	5703	14257	711		
357.8516	20.449	20.449	0		14593875	2602128	3692	9230	705	1.53(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	24.445	24.445	0		20811235	3111291	5703	14257	546		
357.8516	24.431	24.445	-1		13409476	1976427	3692	9230	535	1.55(1.32-1.78)	
1,2,3,8,9-PeCDF											
339.8597	24.649	24.649	0		28188346	4096757	4817	12042	850		
341.8567	24.649	24.649	0		17694206	2531770	3327	8317	761	1.59(1.32-1.78)	
1,2,3,4,6,8-HxCDF											
373.8208	26.805	26.805	0		27801458	3554236	7015	17537	507		
375.8178	26.805	26.805	0		21968013	2804286	5446	13615	515	1.27(1.05-1.43)	
1,2,4,6,7,9-HxCDD											
389.8157	28.295	28.295	0		20455661	2535377	5257	13142	482		
391.8127	28.295	28.295	0		15996361	1956653	4170	10425	469	1.28(1.05-1.43)	
1,2,3,4,6,7-HxCDD											
389.8157	31.623	31.623	0		18931707	4214248	5257	13142	802		
391.8127	31.610	31.623	-1		15011753	3395458	4170	10425	814	1.26(1.05-1.43)	
1,2,3,4,8,9-HxCDF											
373.8208	31.969	31.969	0		24992231	5829132	7015	17537	831		
375.8178	31.956	31.969	-1		19555799	4629862	5446	13615	850	1.28(1.05-1.43)	
1,2,3,4,6,7,9-HpCDD											
423.7766	33.649	33.649	0		14308147	3942970	16730	41825	236		
425.7737	33.649	33.649	0		13908359	3881239	17194	42985	226	1.03(0.88-1.20)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Reagents:

HRDXNCP_00040 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_1.d
Lims ID: WDM
Client ID:
Inject. Date: 05-Nov-2019 19:16:08 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 1

Non-2,3,7,8-sub-TCDF, RT: 16.482

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.051	D 13C-2,3,7,8-TCDF	40.000	62826857	15650346

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.051		40.000	62826857	15650346

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
18.788	1245920	187495	1613819	243460	1.73	0.77	
Signal Totals:							
	1245920	187495	1613819	243460			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2859739	430955				0.77	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.733 = (2859739 * 40.000) / (62826857 * 1.051)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_1.d
Lims ID: WDM
Client ID:
Inject. Date: 05-Nov-2019 19:16:08 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 1

Non-2,3,7,8-sub-PeCDF, RT: 22.149

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.082				
2,3,4,7,8-PeCDF	1.103				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
20.231	93027	17048	57471	11753		1.62	
21.022	109132	19191	61759	12802		1.77	
21.581	185038	26399	79246	13121		2.33	R
22.086	157164	21505	100214	12612		1.57	
Signal Totals:							
	544361	84143	298690	50288			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	843051	134431				1.82	RQ
	780844	128369					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (843051 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (780844 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_1.d
Lims ID: WDM
Client ID:
Inject. Date: 05-Nov-2019 19:16:08 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 1

Non-2,3,7,8-sub-HxCDD, RT: 29.959

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.109				
1,2,3,6,7,8-HxCDD	1.081				
1,2,3,7,8,9-HxCDD	1.212				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
30.239	233248	30285	133191	19902		1.75	R
Signal Totals:							
	233248	30285	133191	19902			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	366439	50187				1.75	RQ
	298347	44580					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (366439 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (298347 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Report Date: 06-Nov-2019 09:20:56 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_1.d		
Injection Date:	05-Nov-2019 19:16:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336302	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

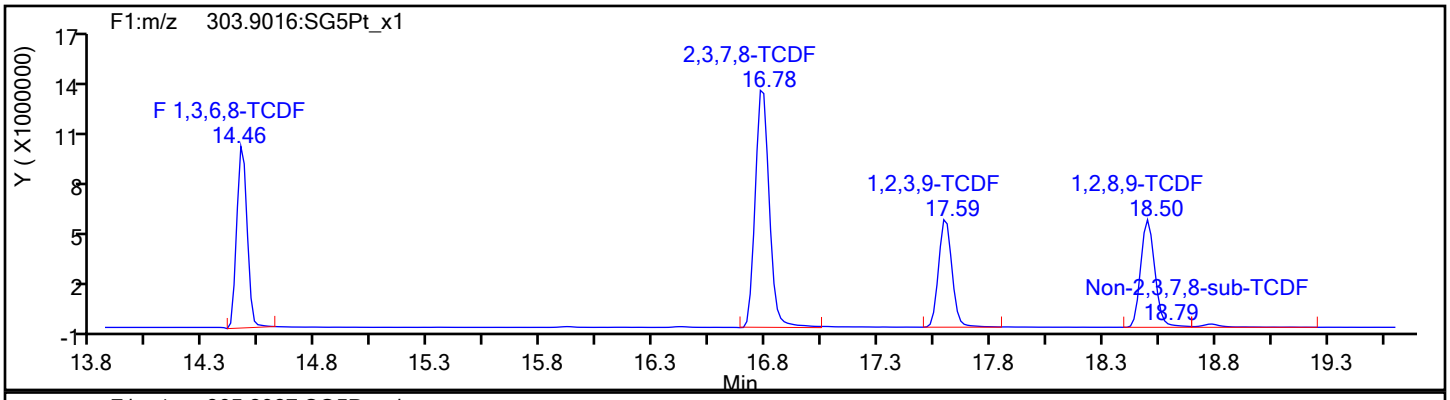

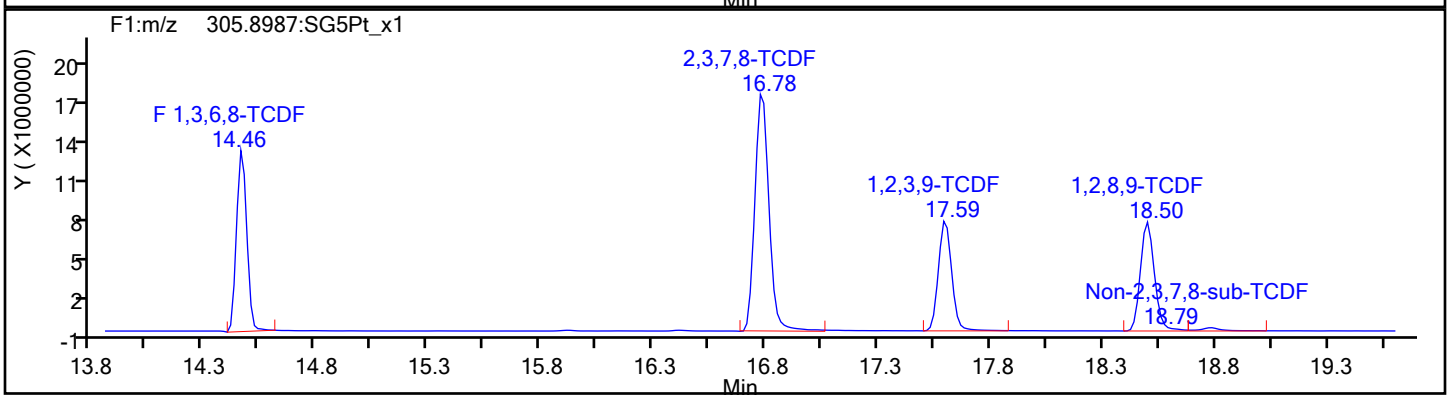

TCDF Standards

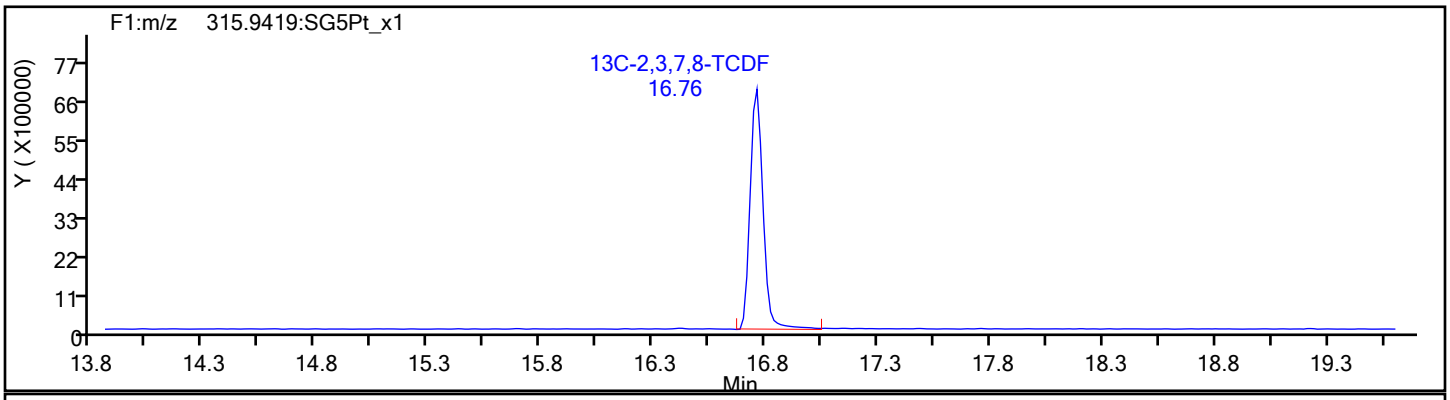

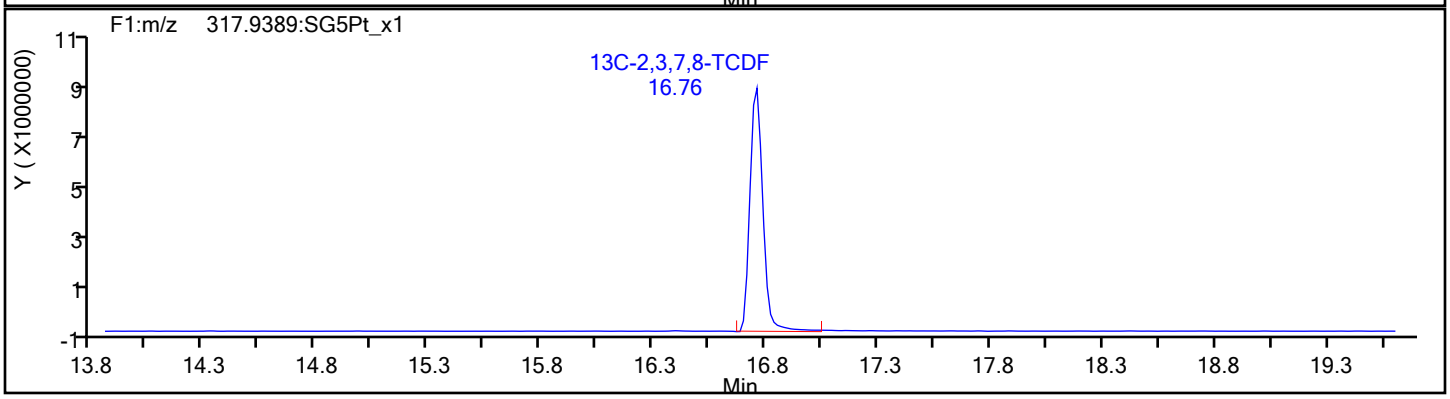

Report Date: 06-Nov-2019 09:20:56 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_1.d		
Injection Date:	05-Nov-2019 19:16:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336302	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

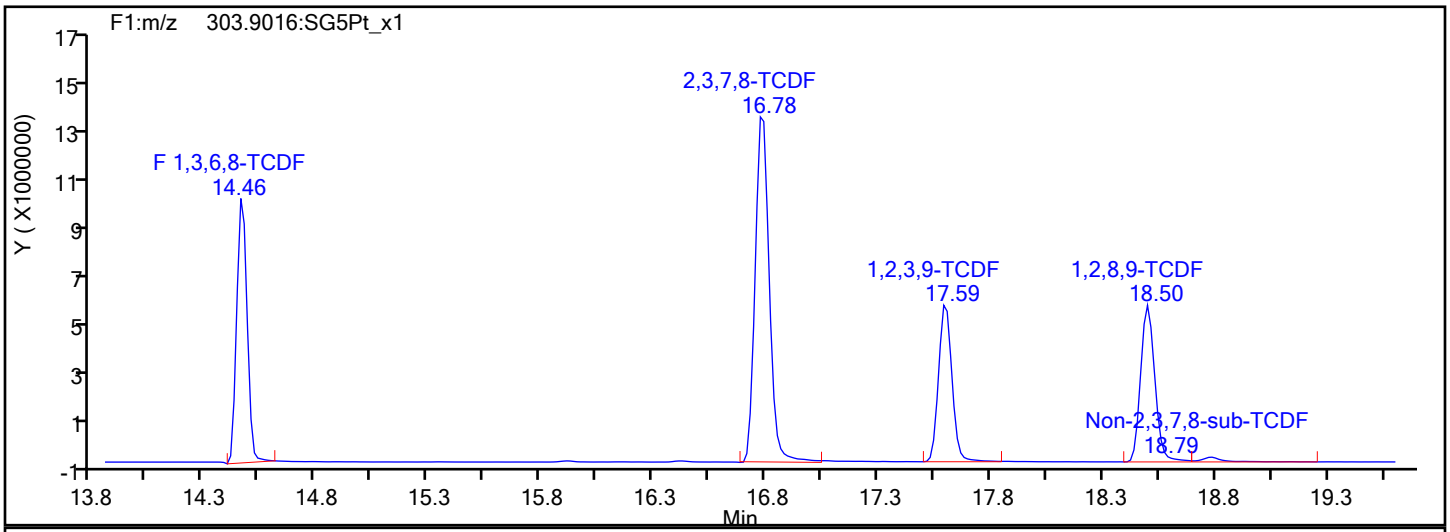

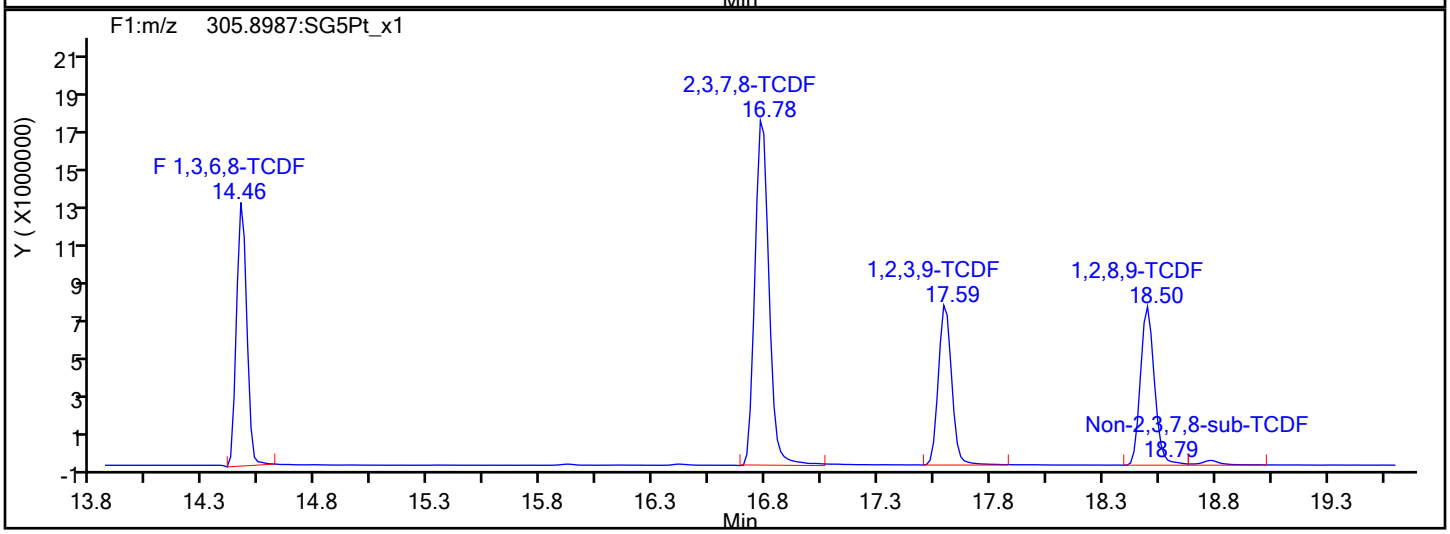

TCDF Interference Mass

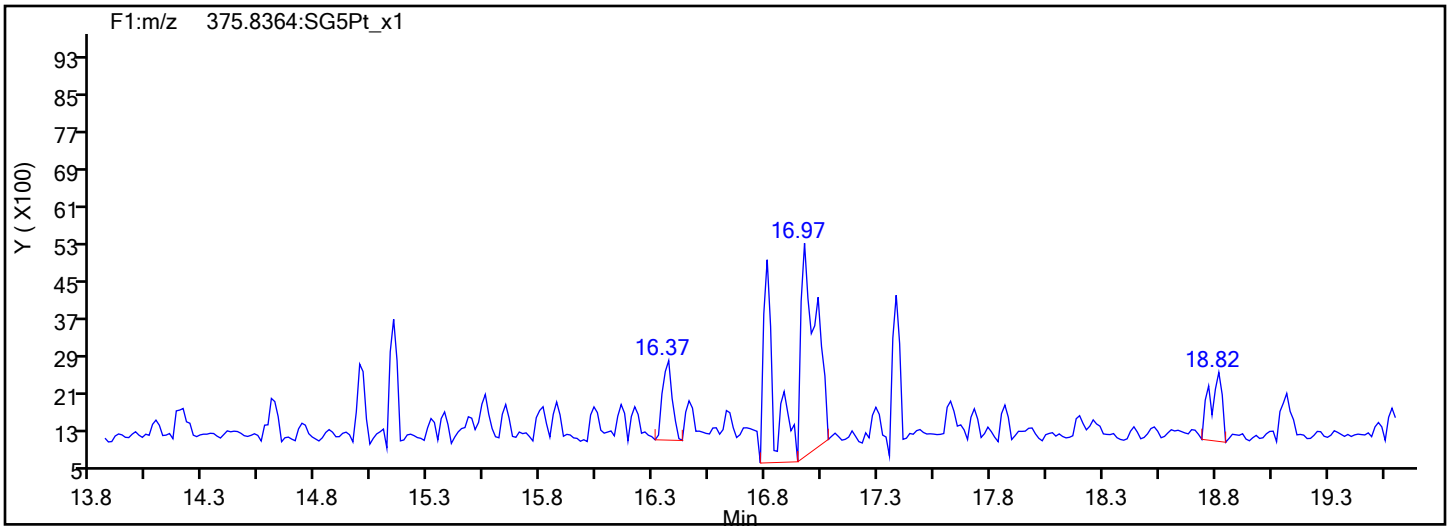

Report Date: 06-Nov-2019 09:20:56 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_1.d		
Injection Date:	05-Nov-2019 19:16:08	Injection Vol:	2.0 ul
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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TCDD

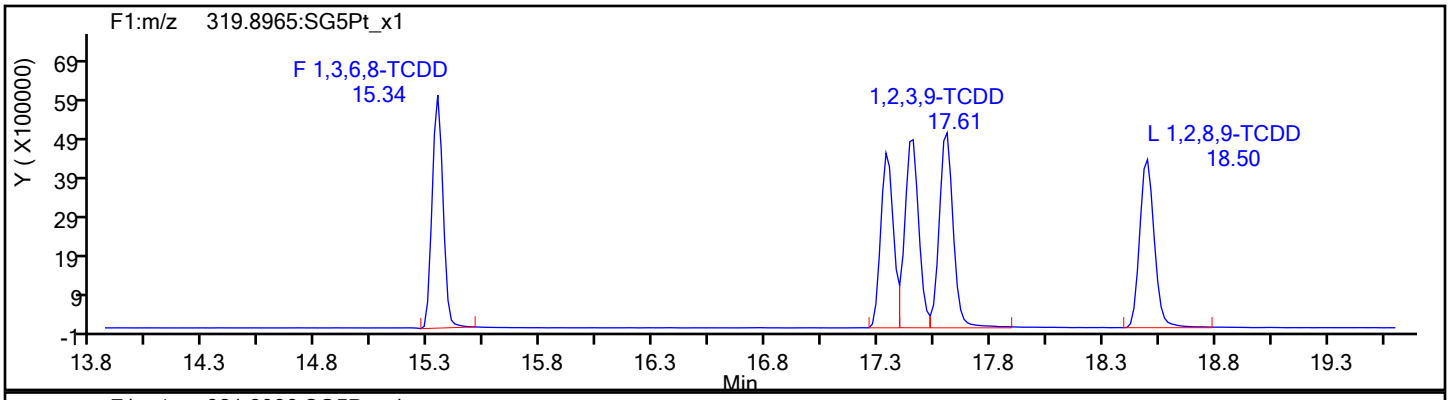

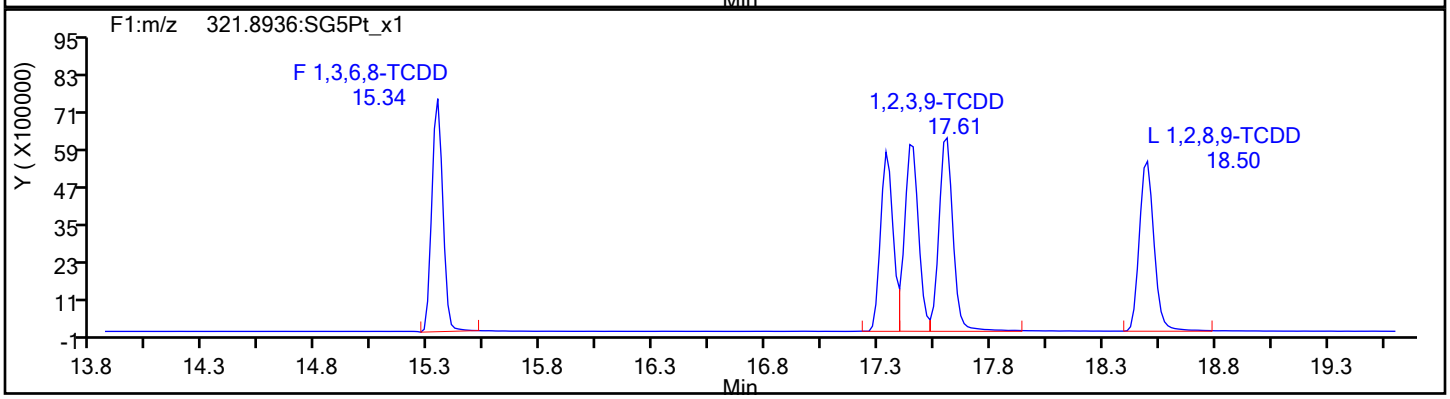

TCDD Standards

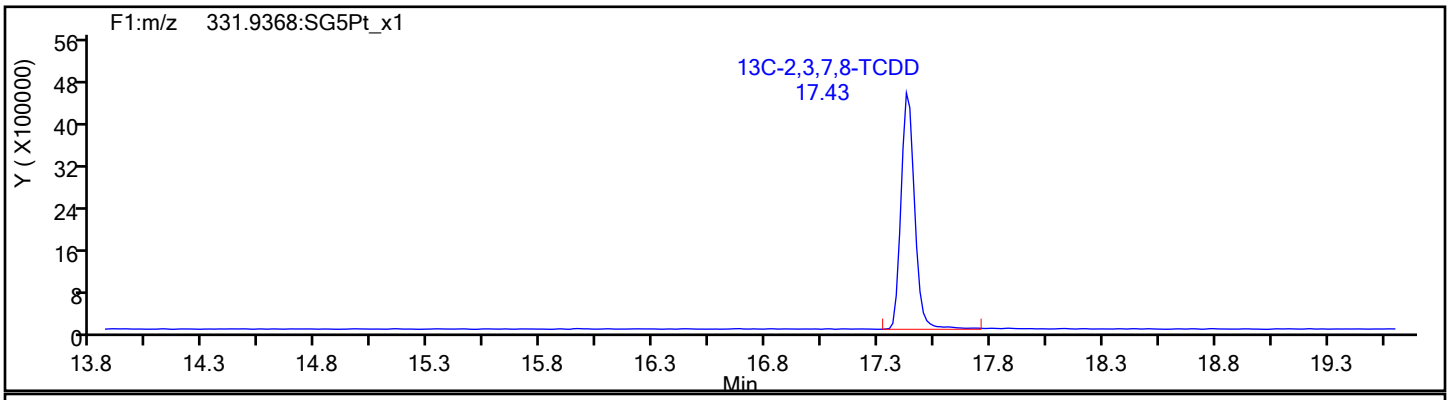

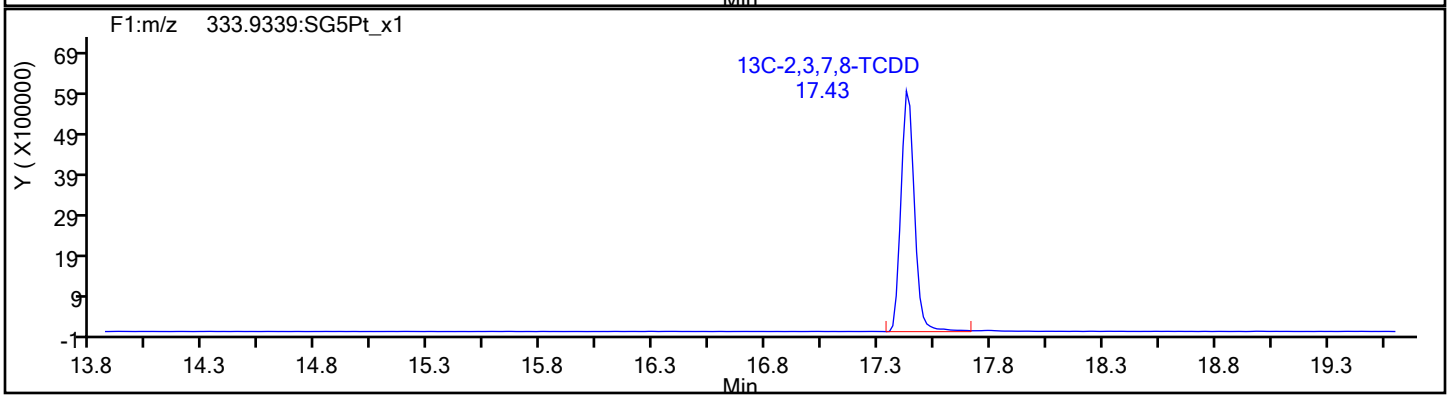

Report Date: 06-Nov-2019 09:20:56 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

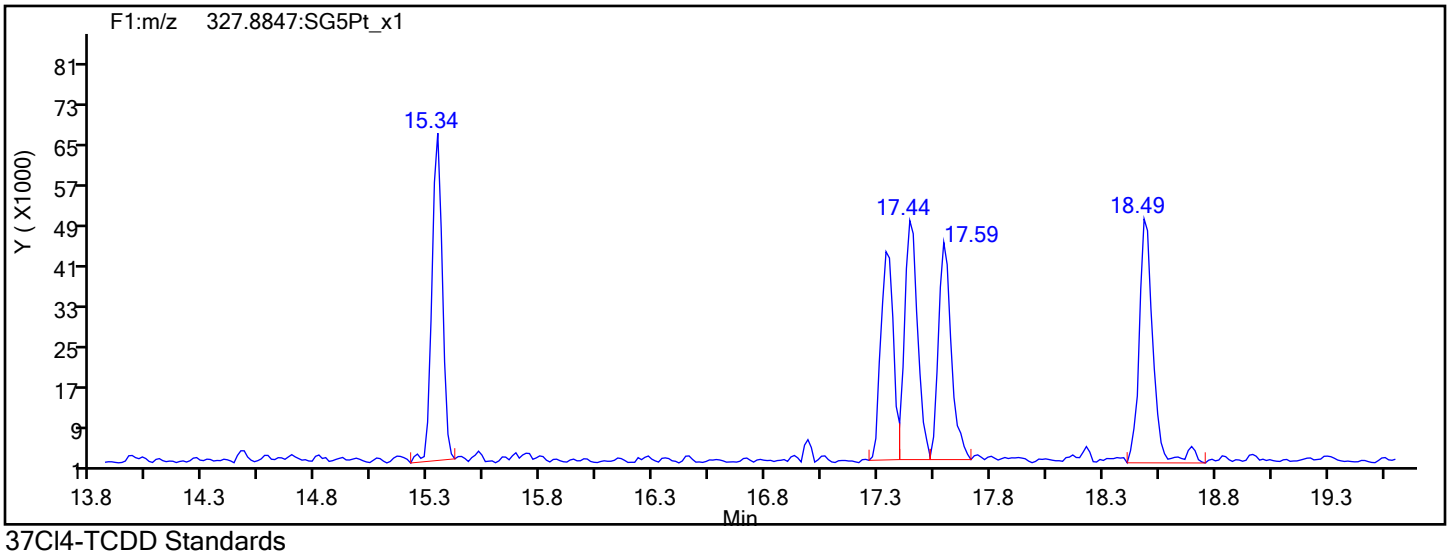

37Cl4-TCDD Standards

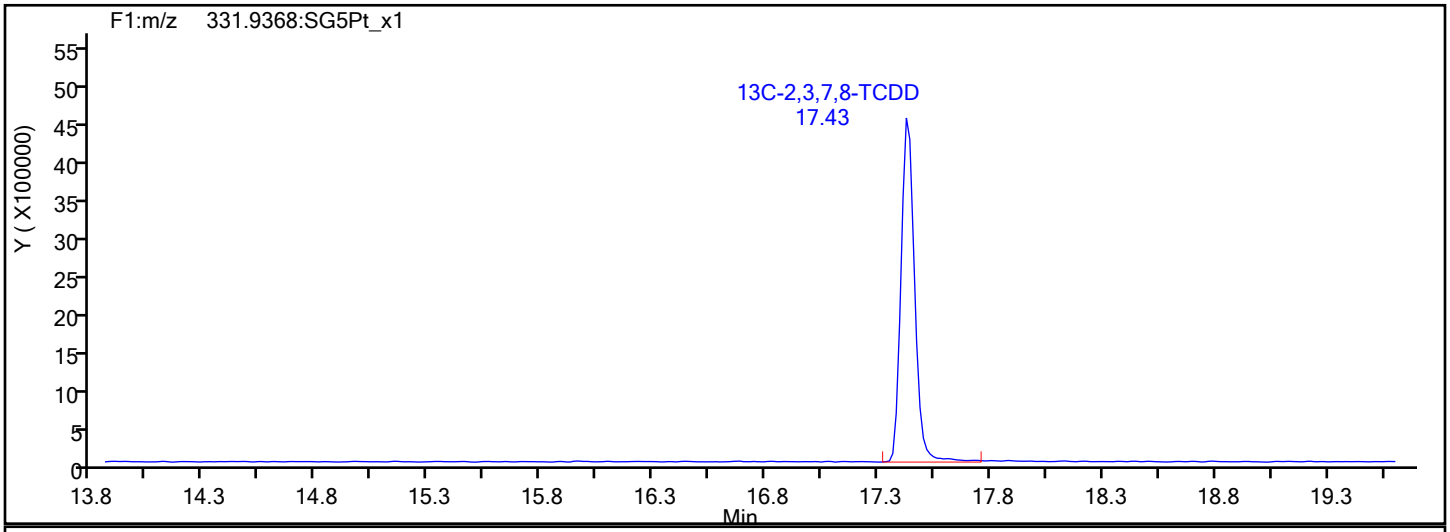

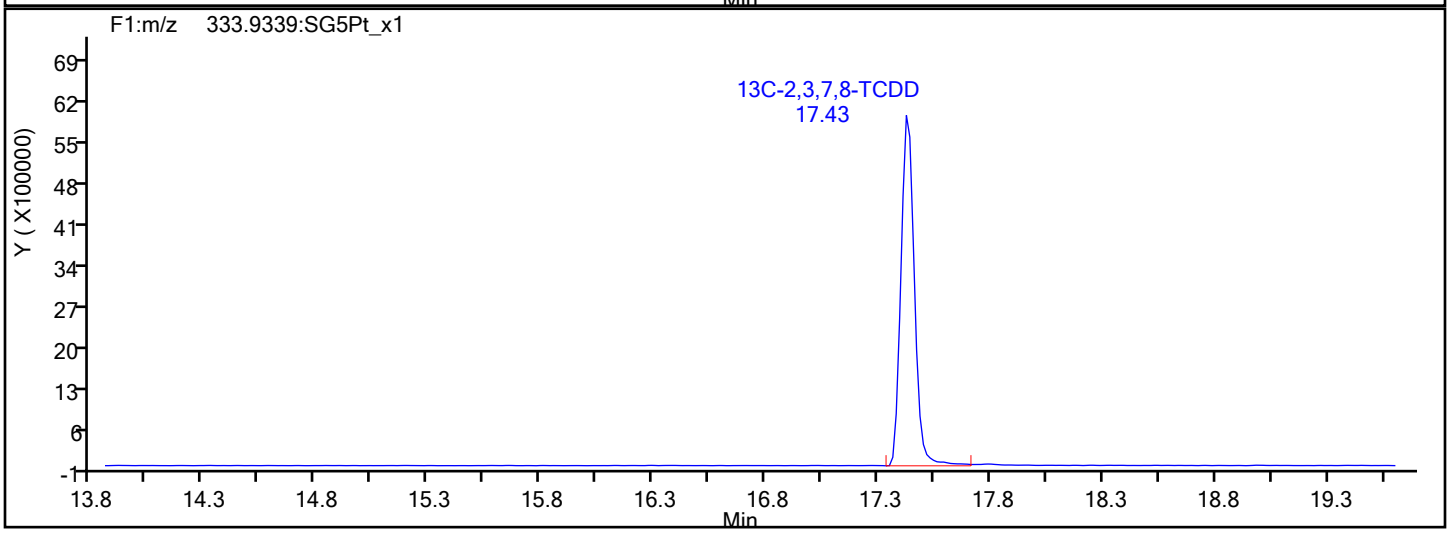

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

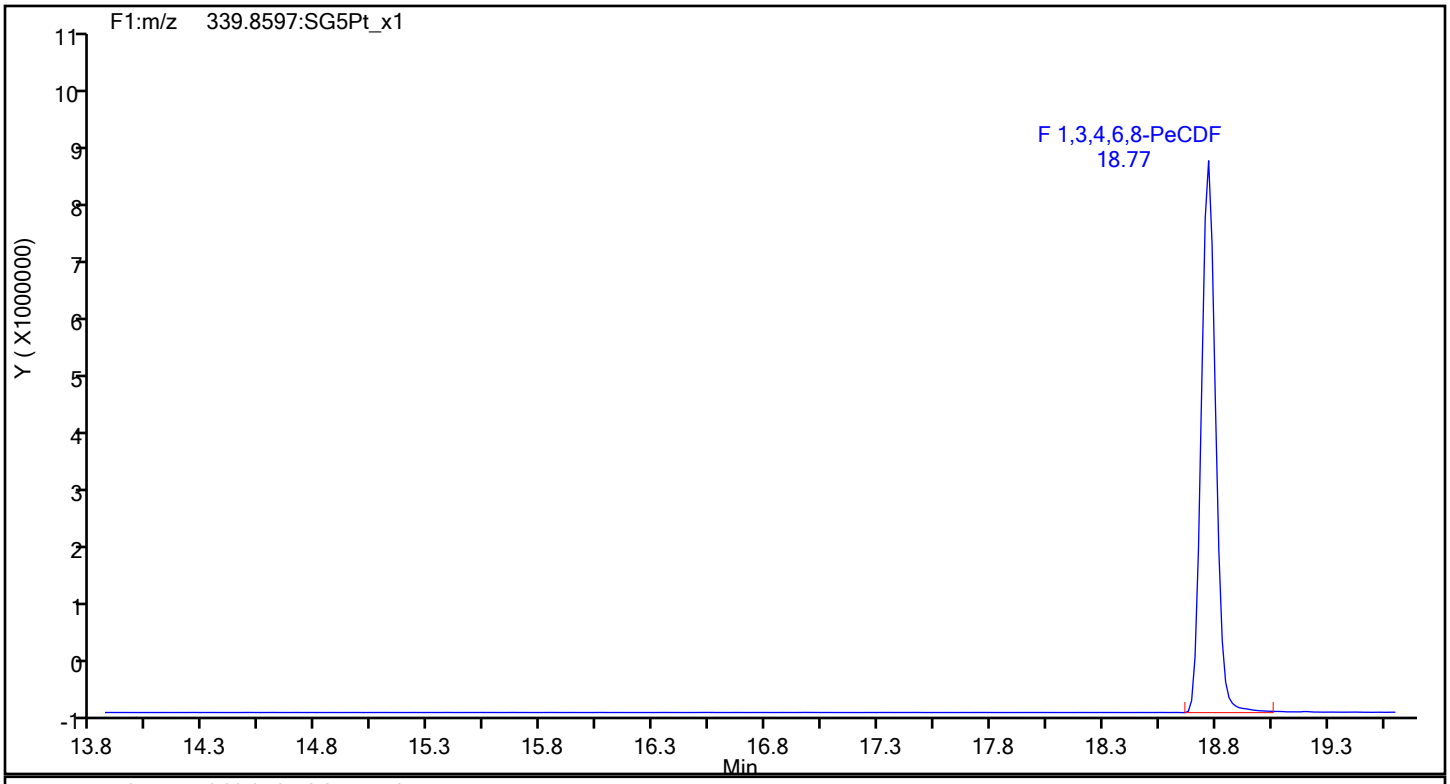

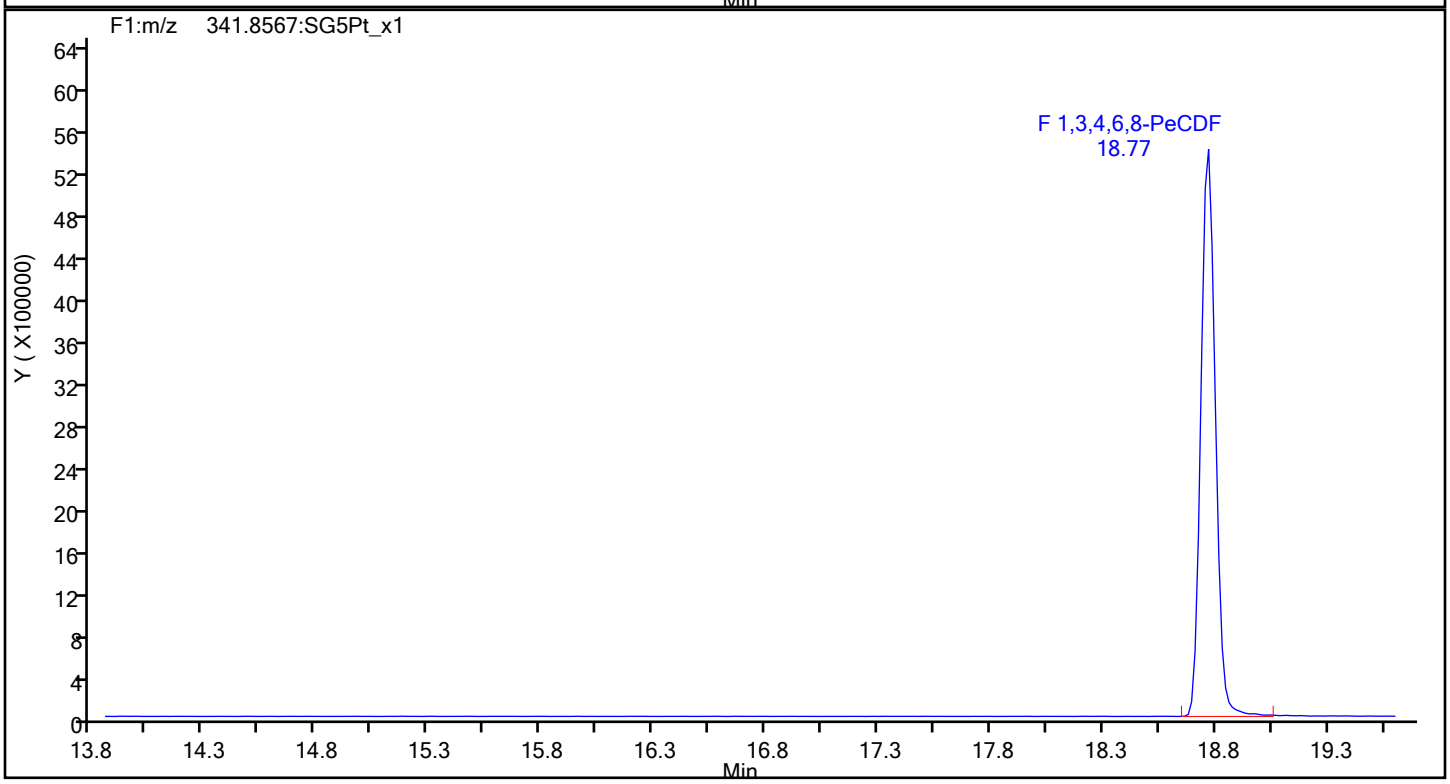

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

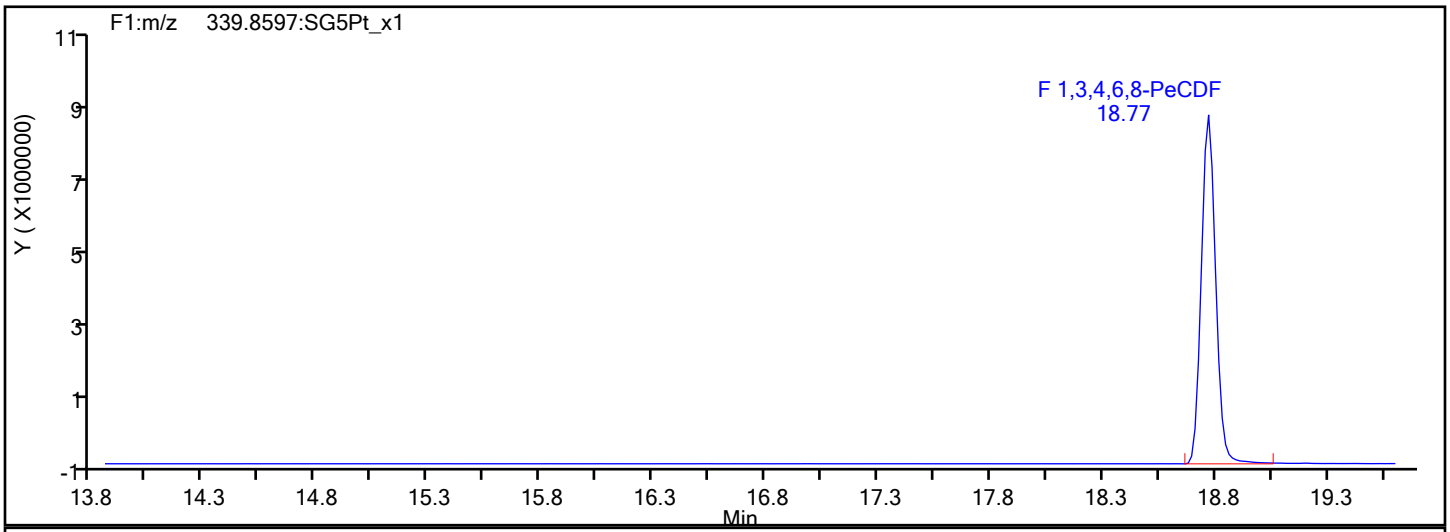

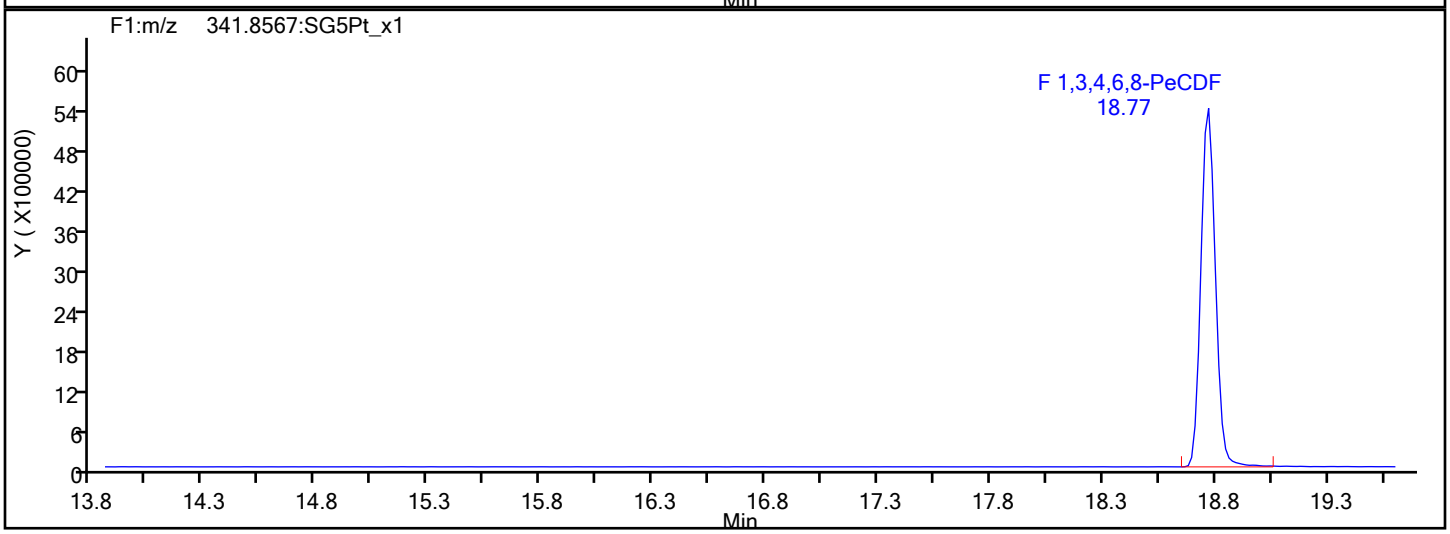

F1 PeCDFs Interference Mass

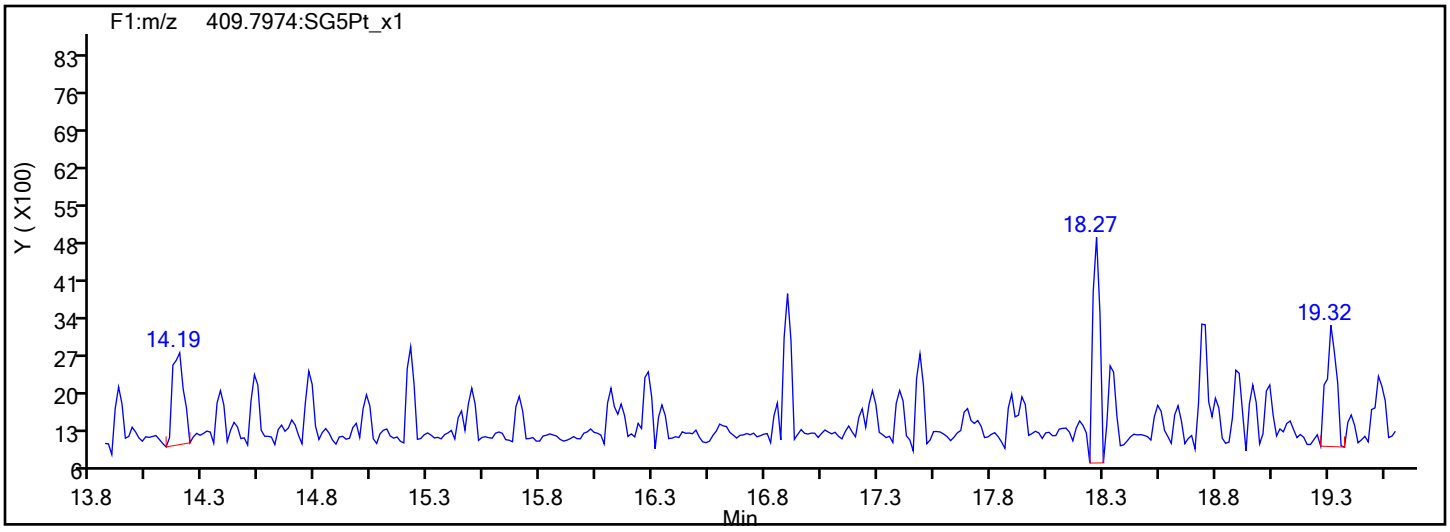

Report Date: 06-Nov-2019 09:20:56 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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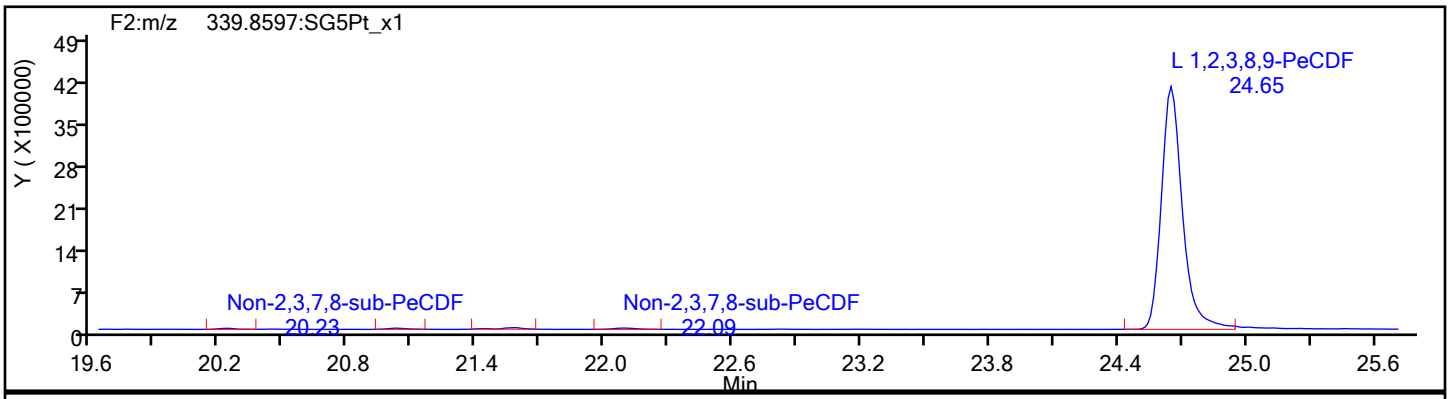

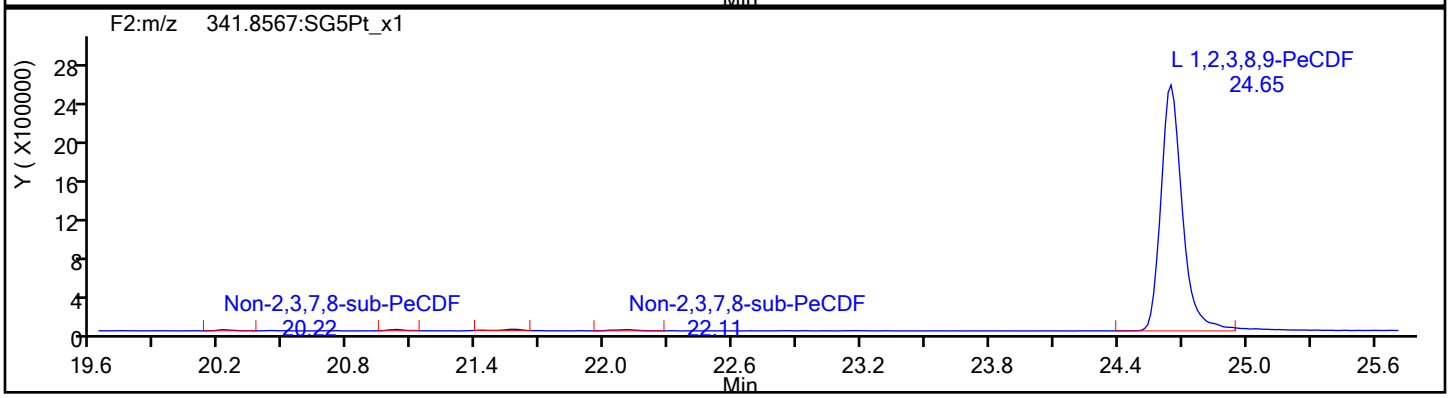

PeCDF Standards

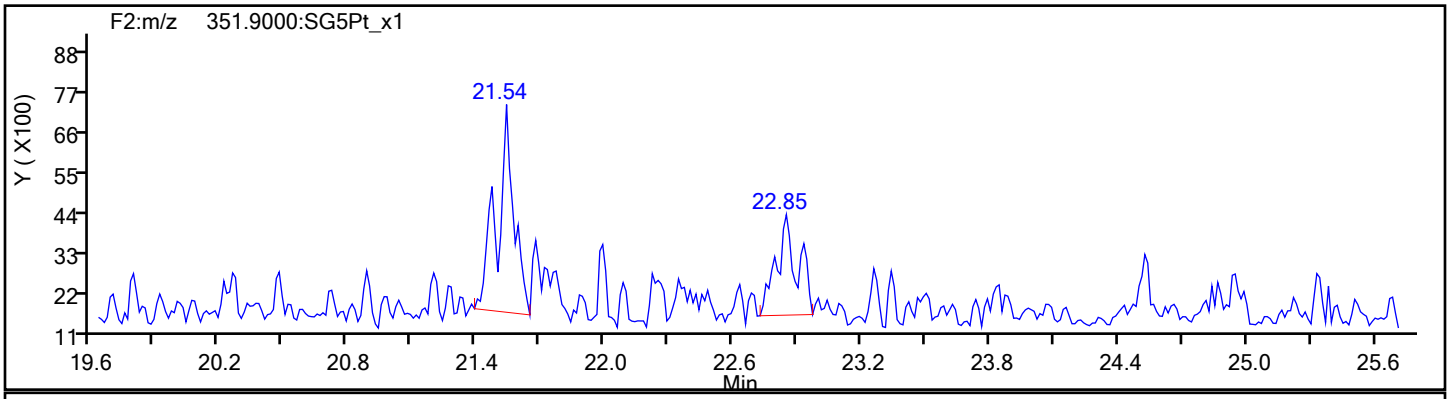

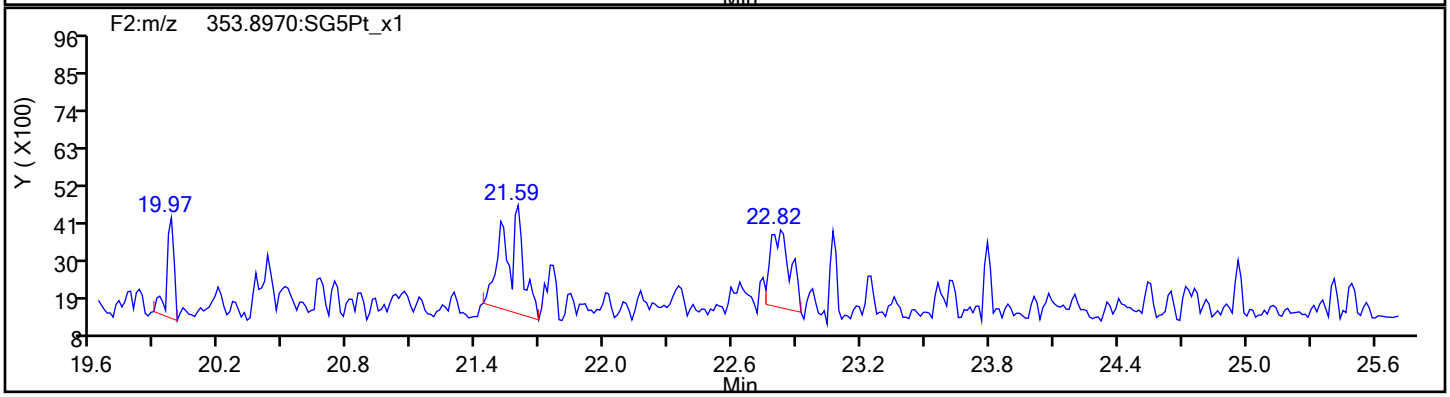

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Eurofins TestAmerica, Sacramento

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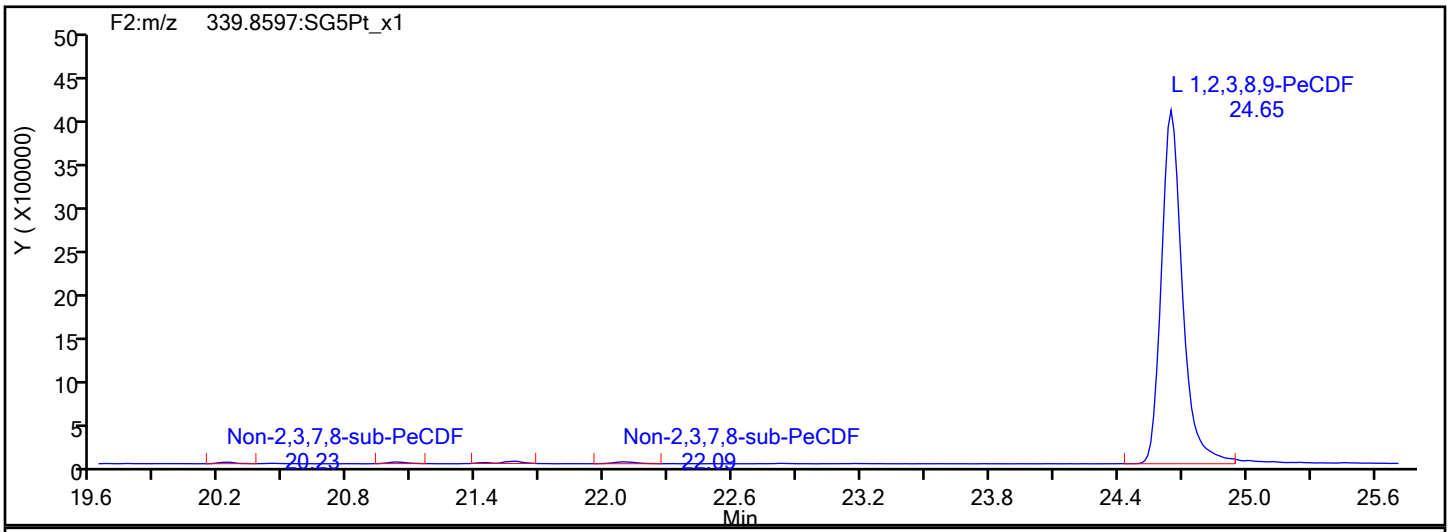

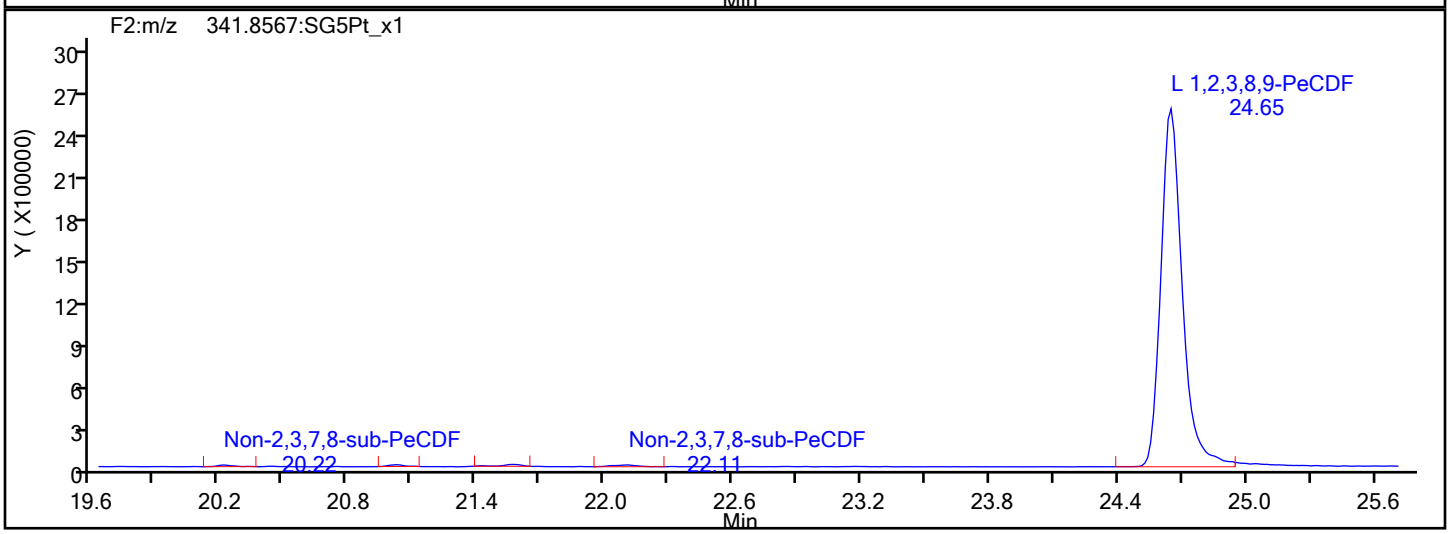

PeCDF Interference Mass

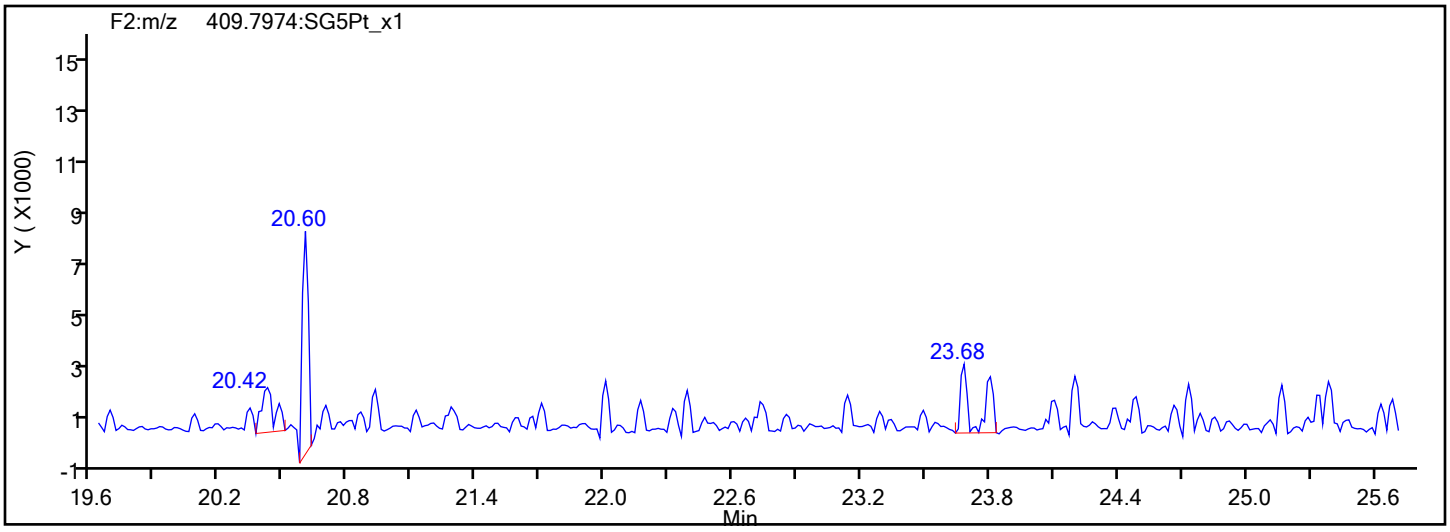

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Eurofins TestAmerica, Sacramento

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PeCDD

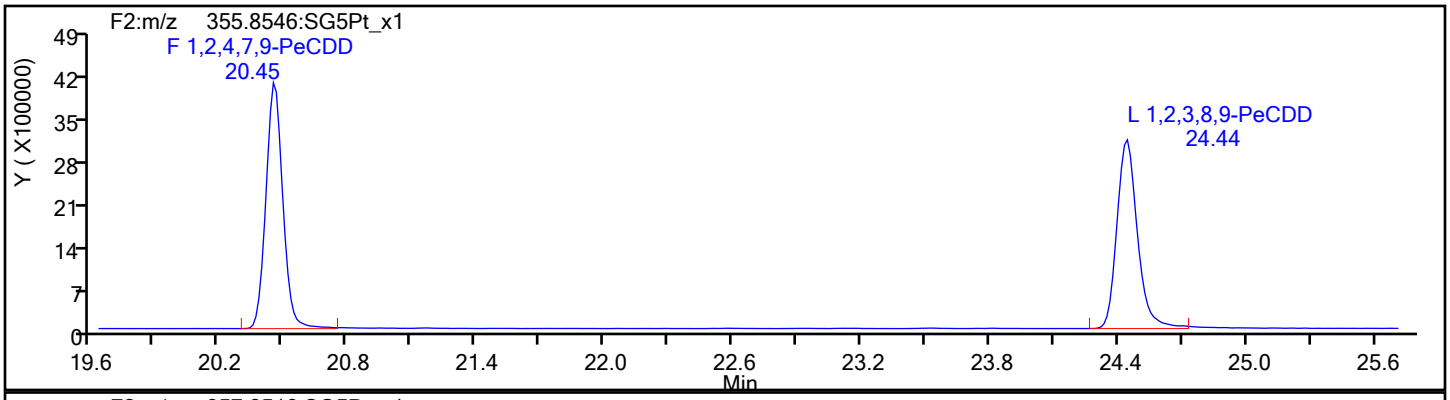

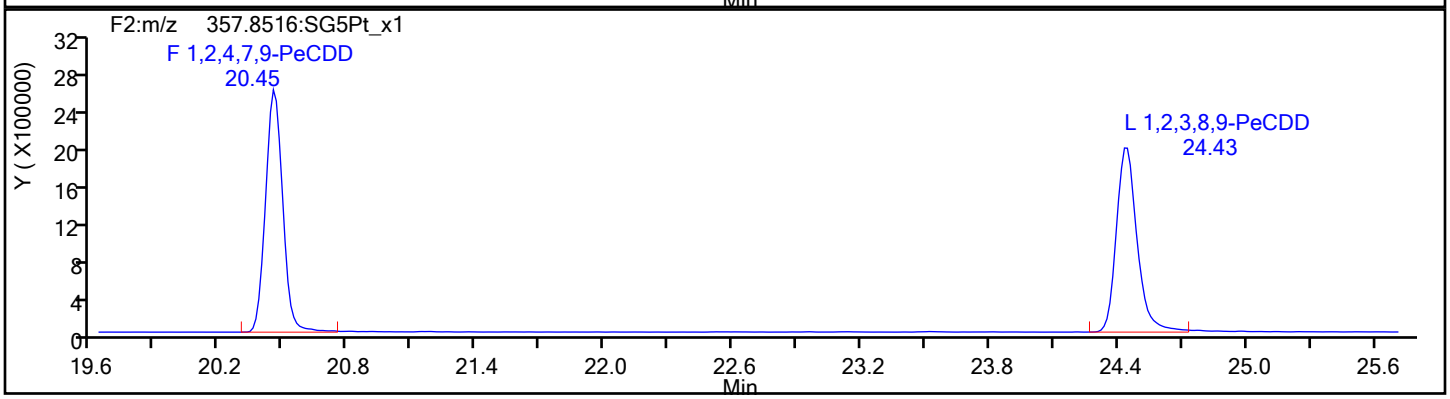

PeCDD Standards

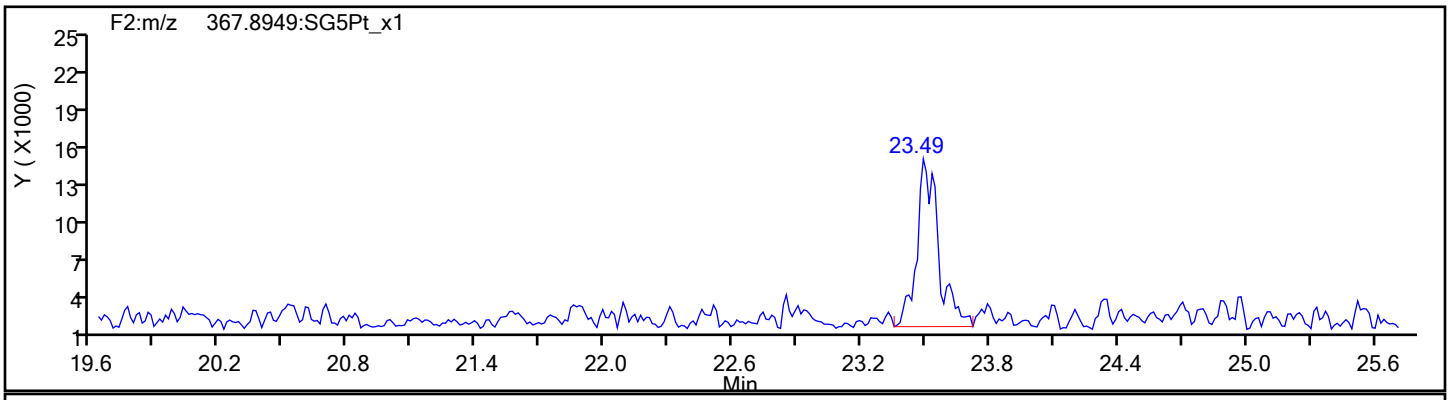

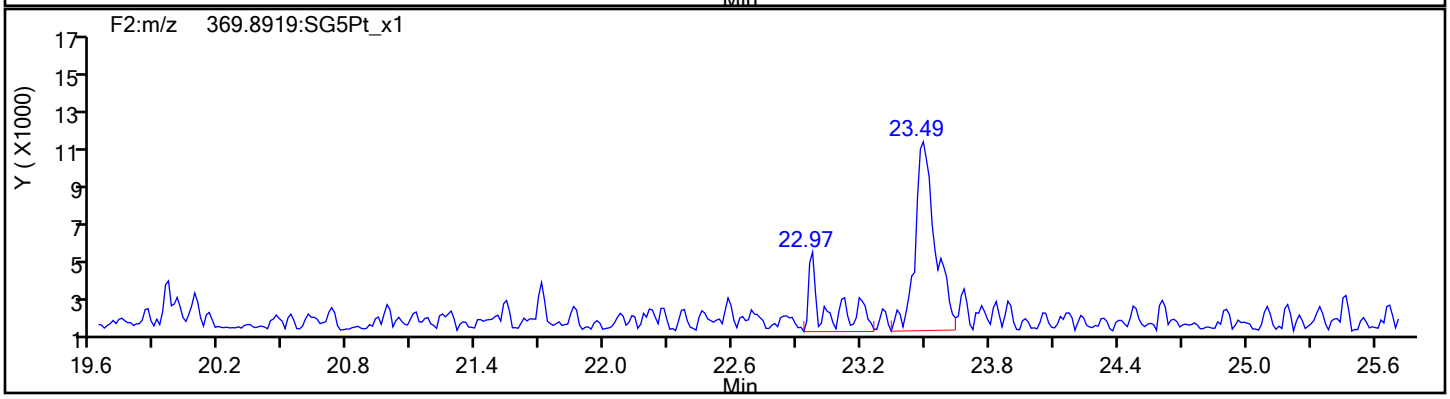

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Eurofins TestAmerica, Sacramento

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HxCDF

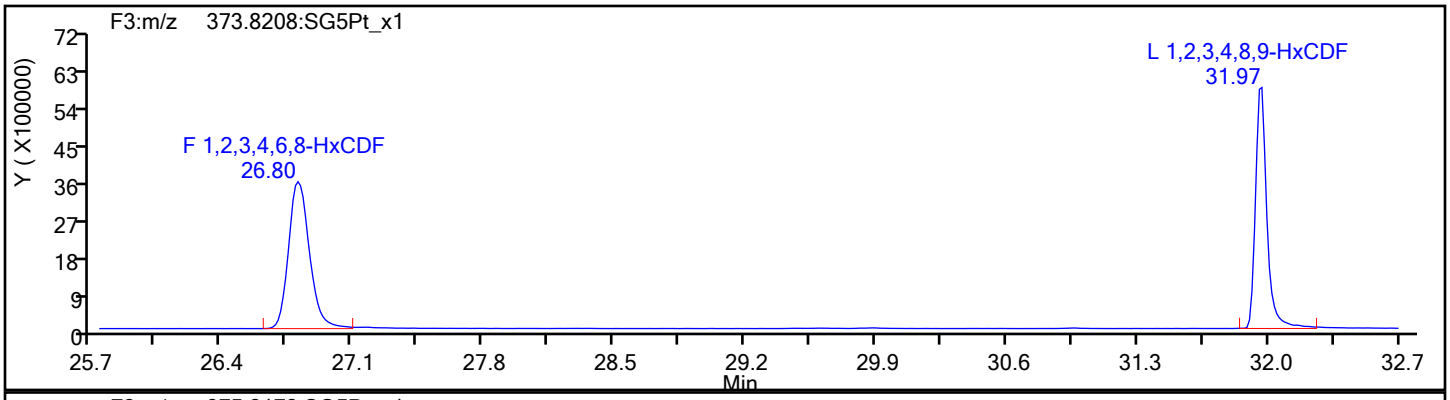

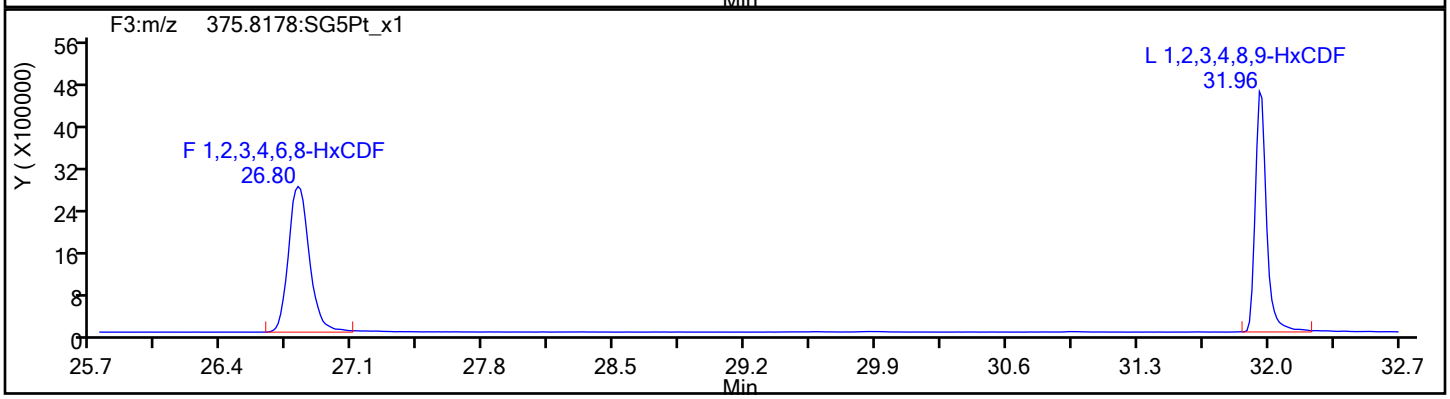

HxCDF Standards

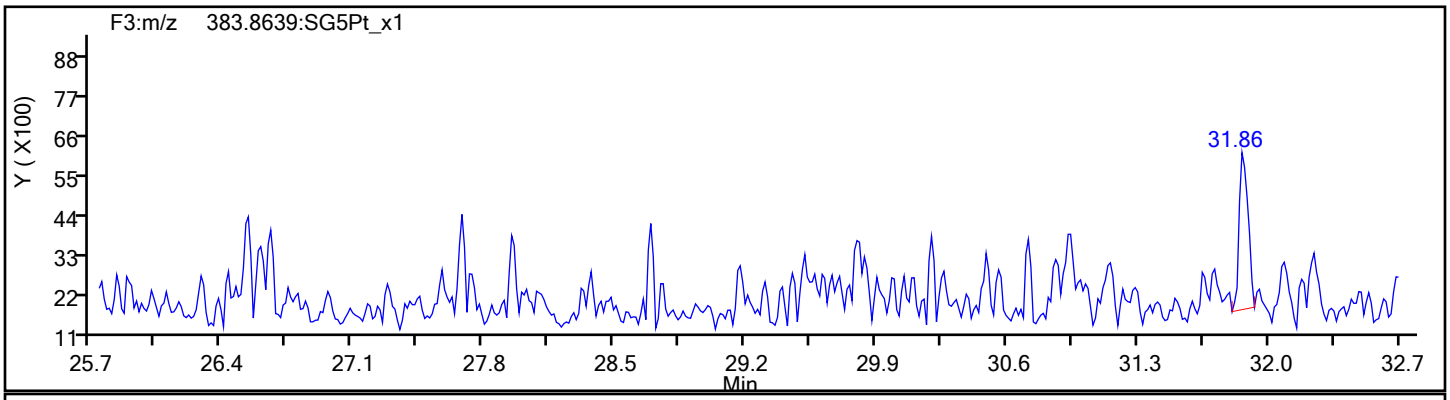

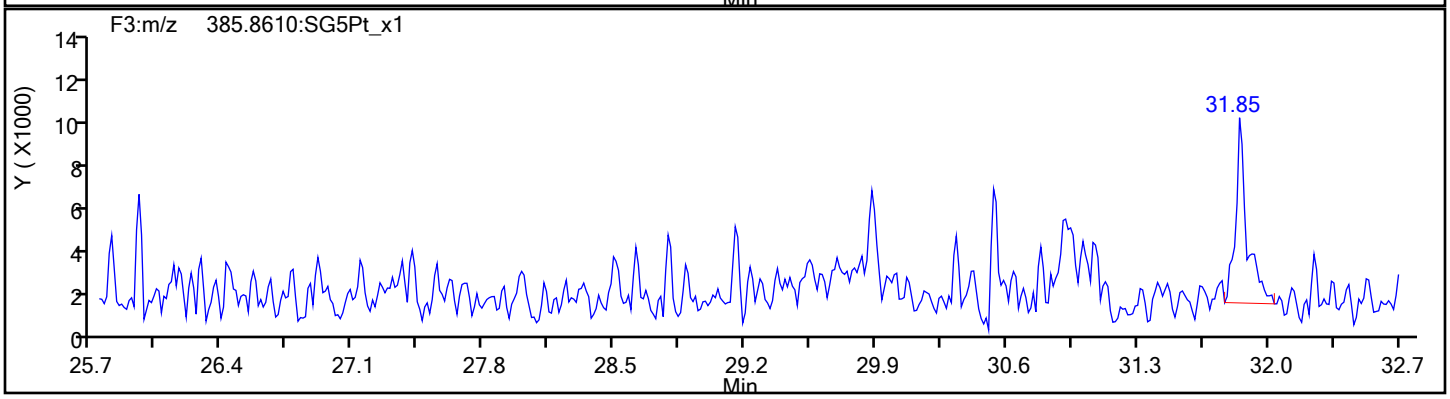

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Eurofins TestAmerica, Sacramento

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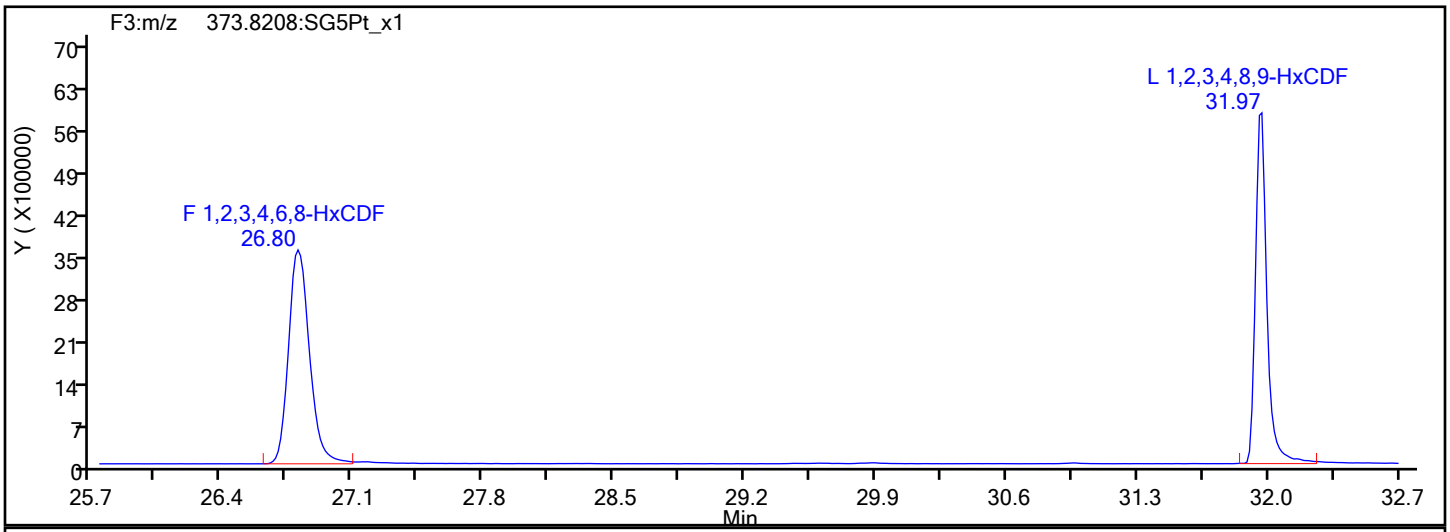

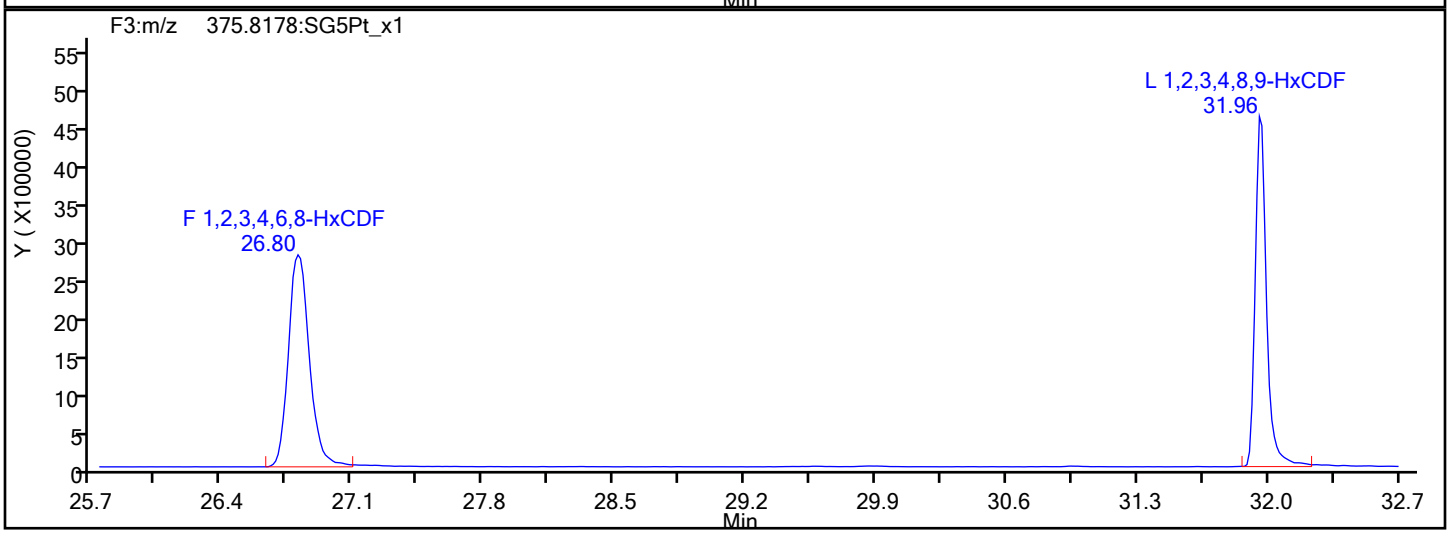

HxCDF Interference Mass

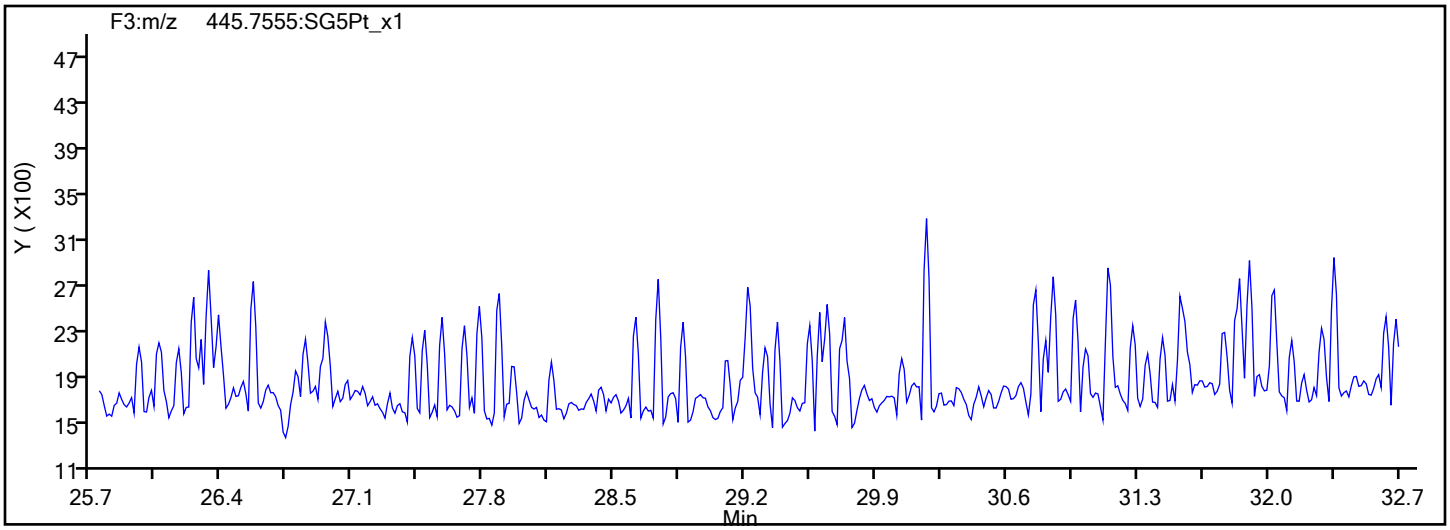

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Eurofins TestAmerica, Sacramento

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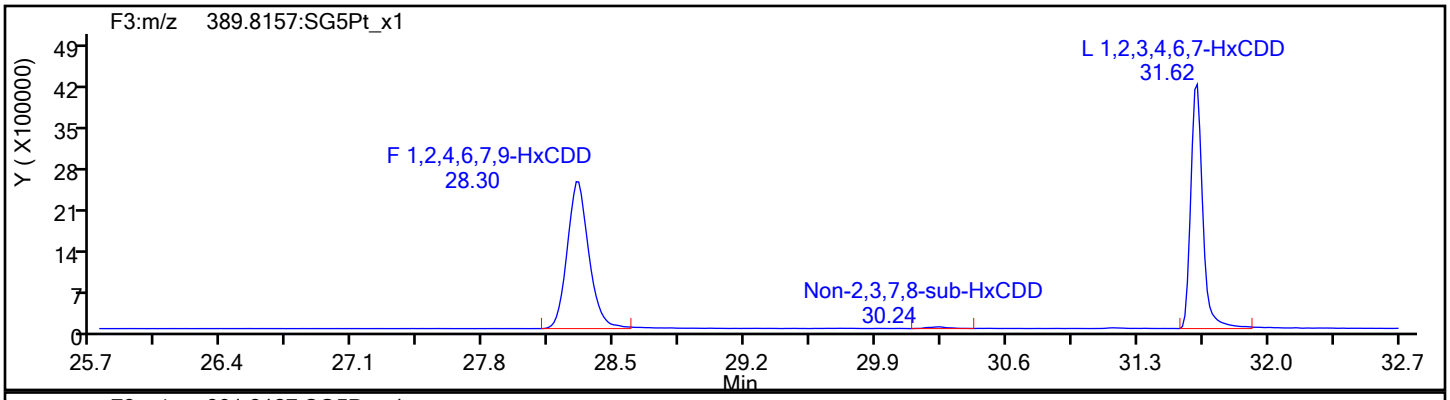

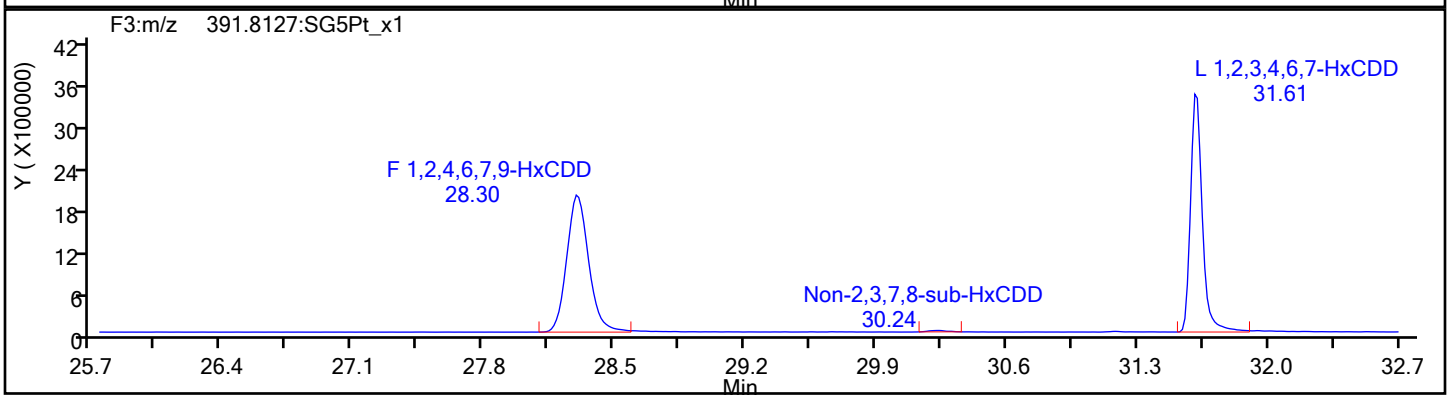

HxCDD Standards

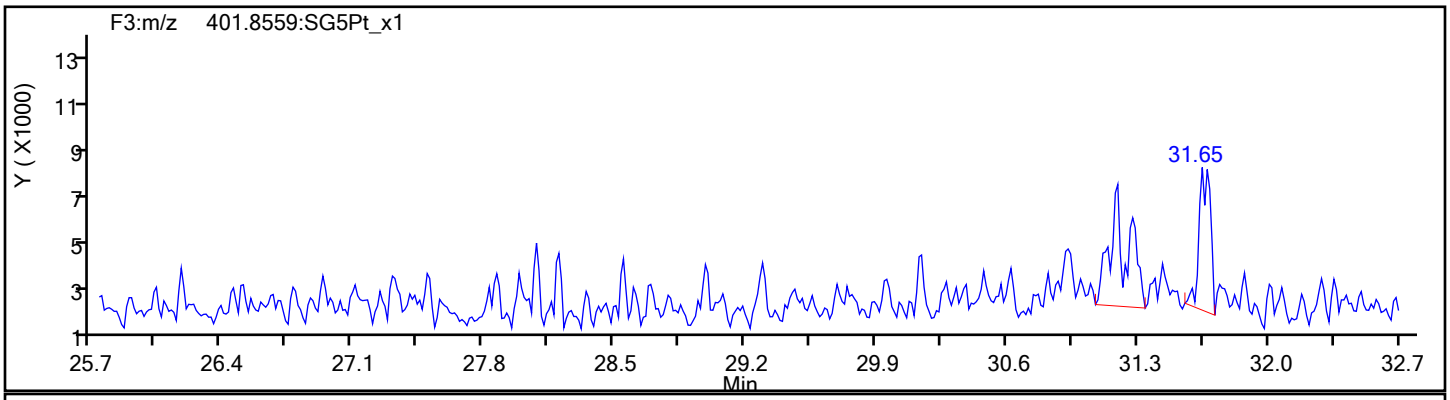

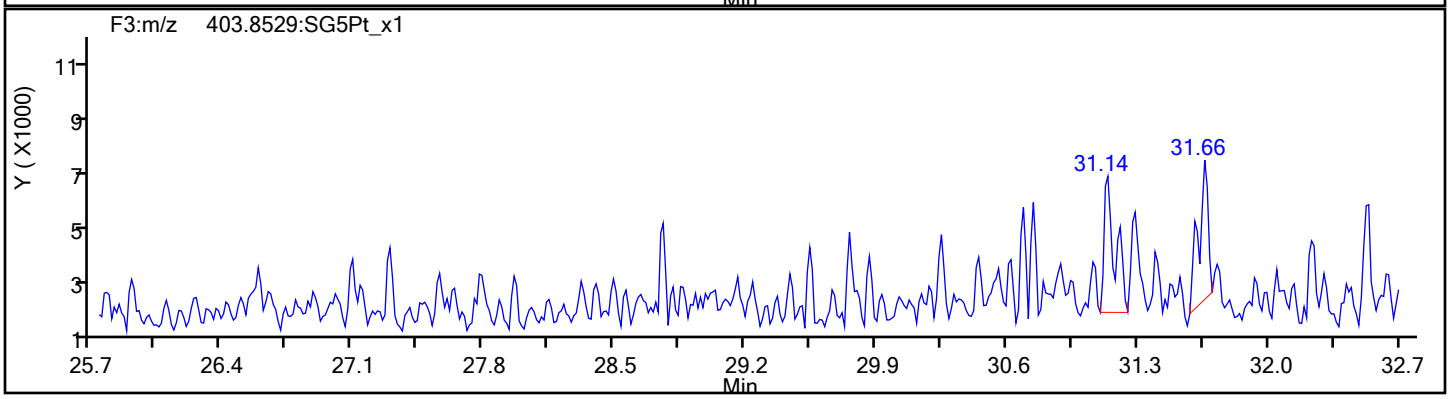

Report Date: 06-Nov-2019 09:20:56 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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HpCDF

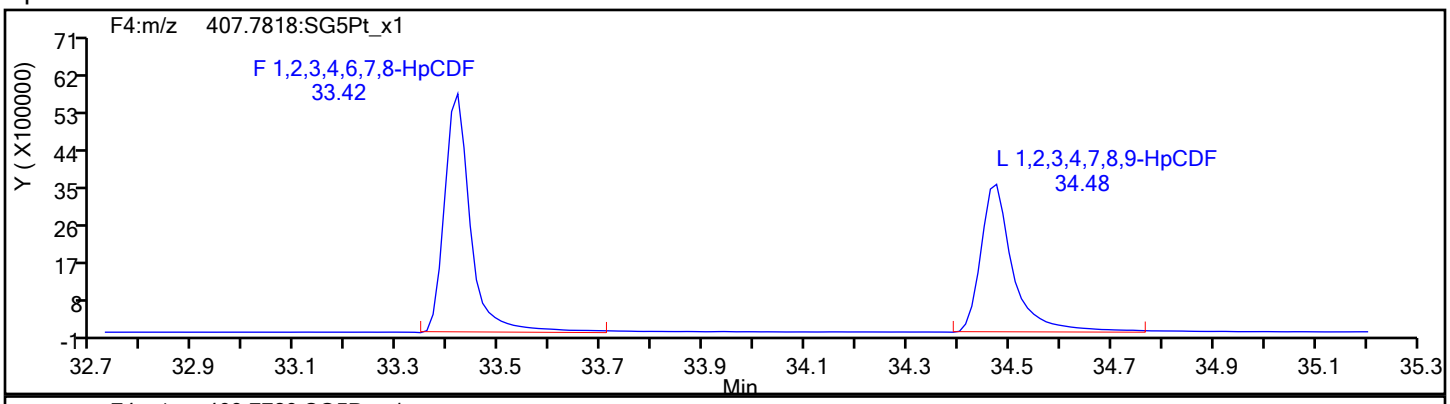

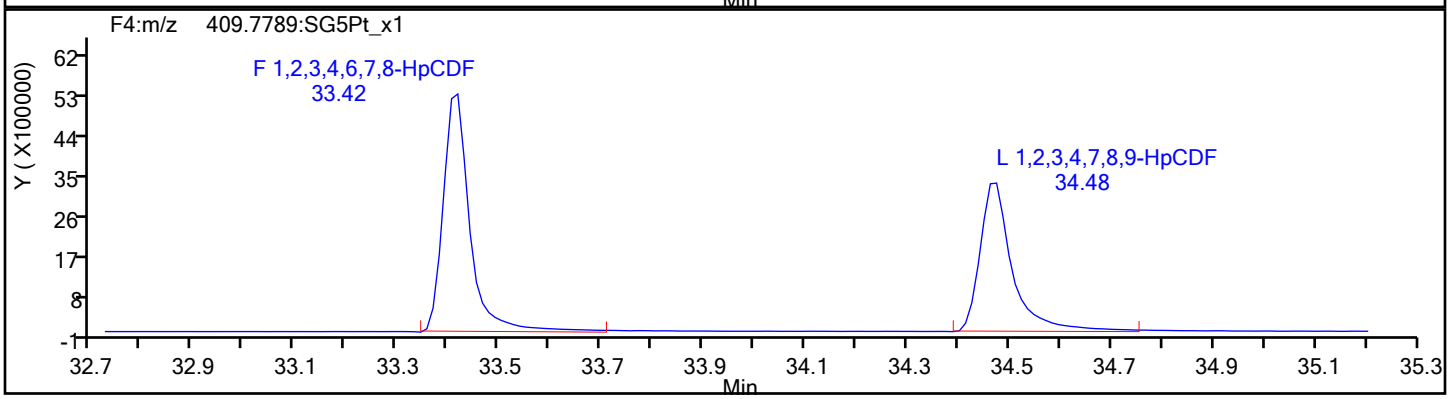

HpCDF Standards

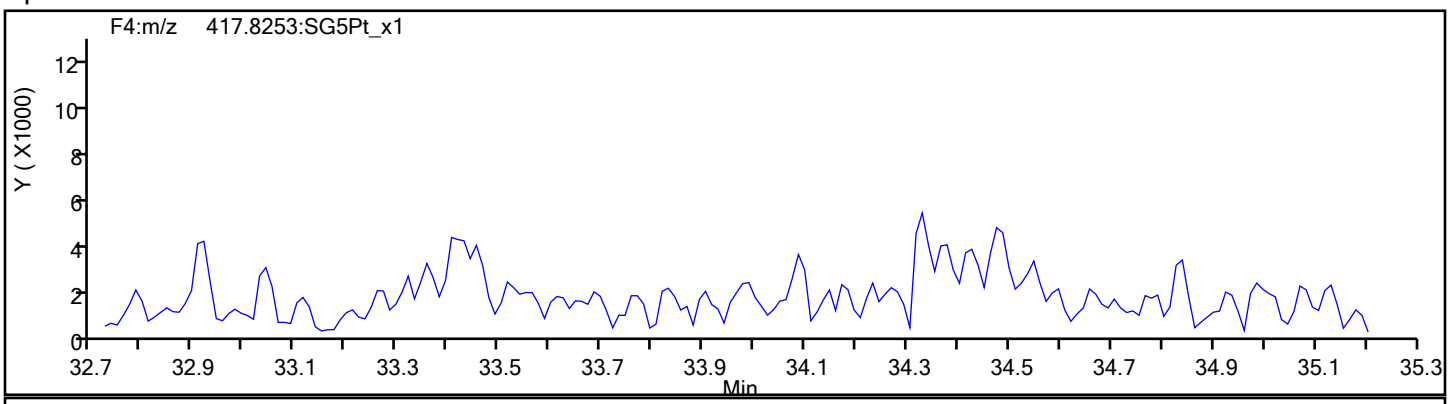

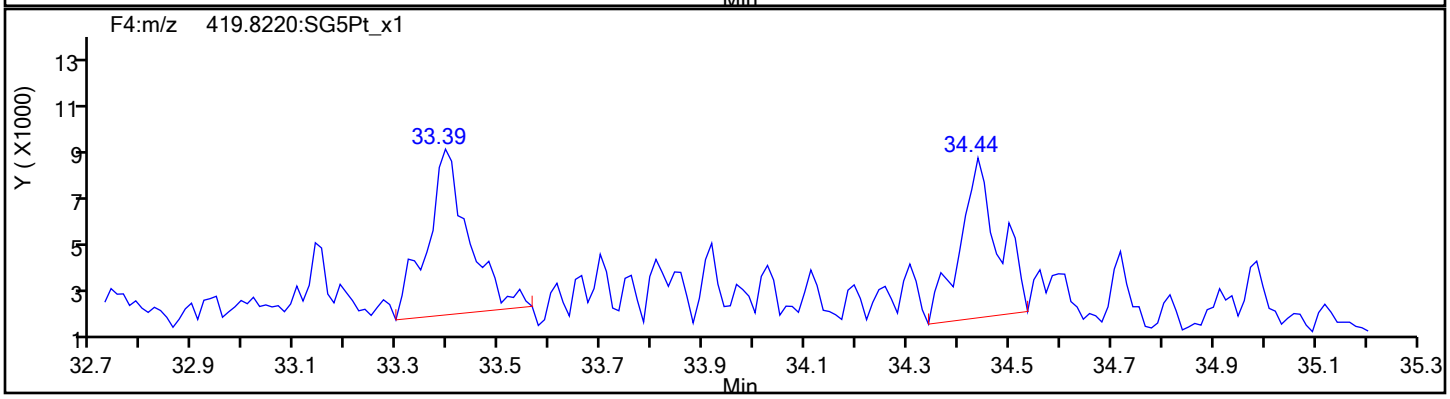

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Eurofins TestAmerica, Sacramento

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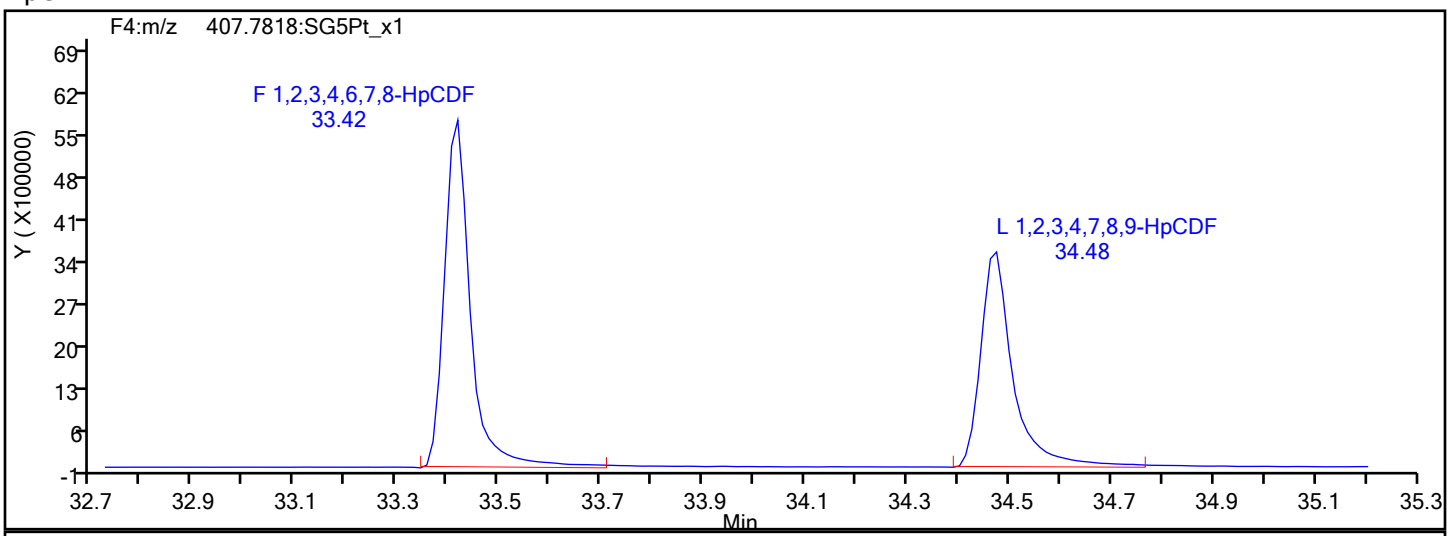

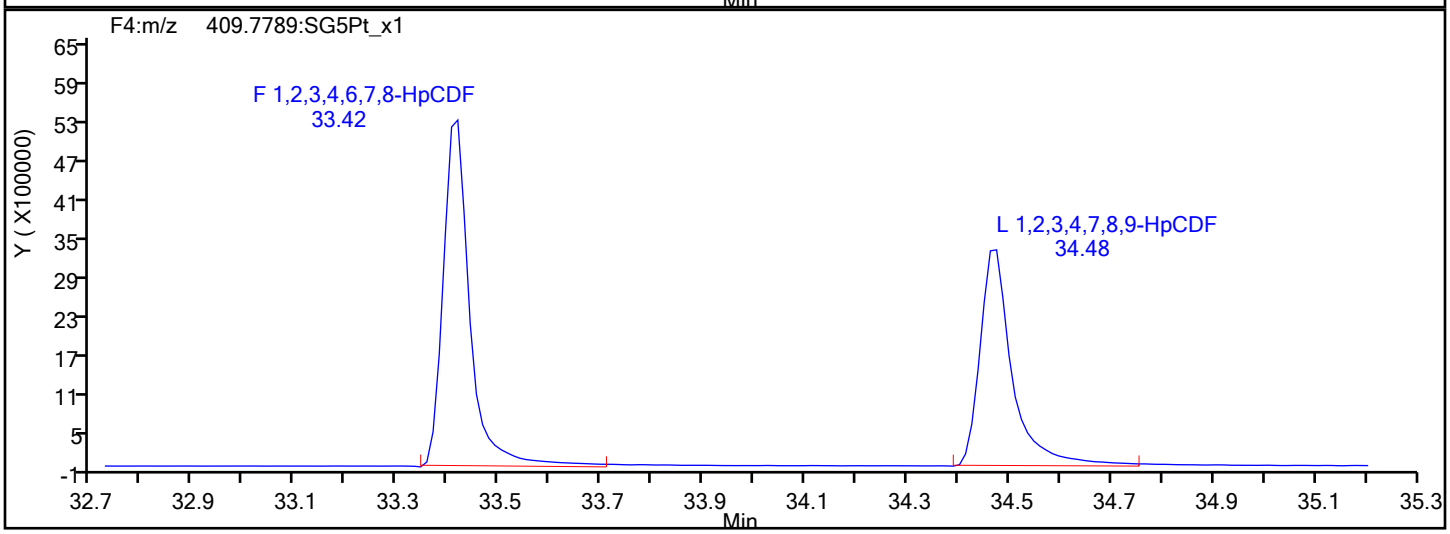

HpCDF Interference Mass

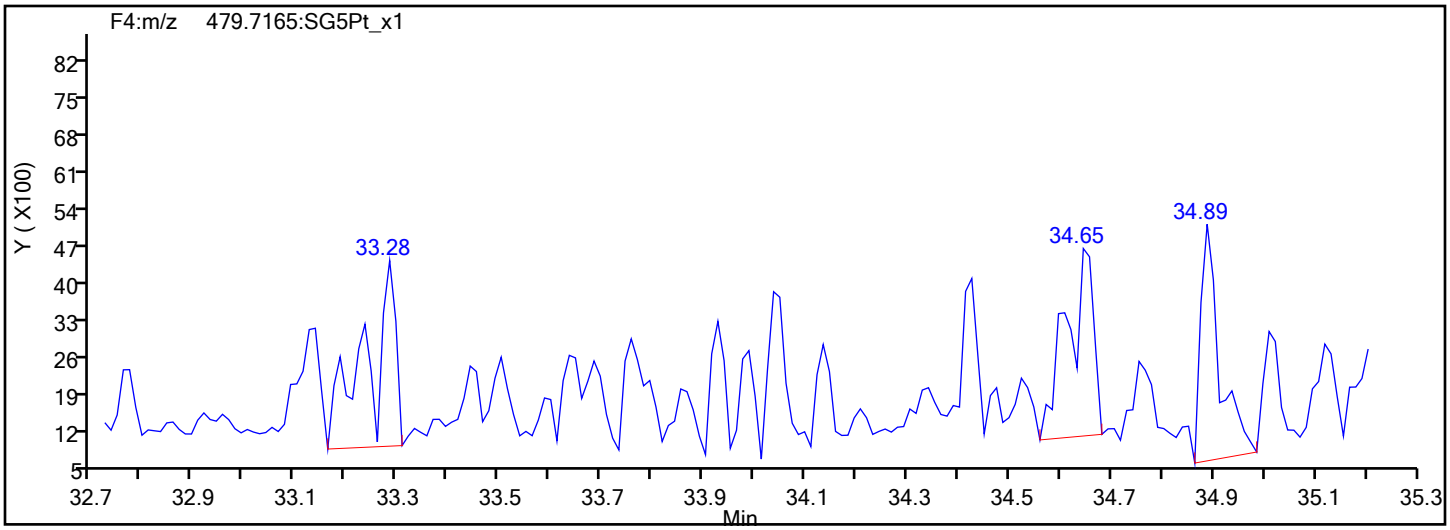

Report Date: 06-Nov-2019 09:20:56 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_1.d		
Injection Date:	05-Nov-2019 19:16:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336302	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

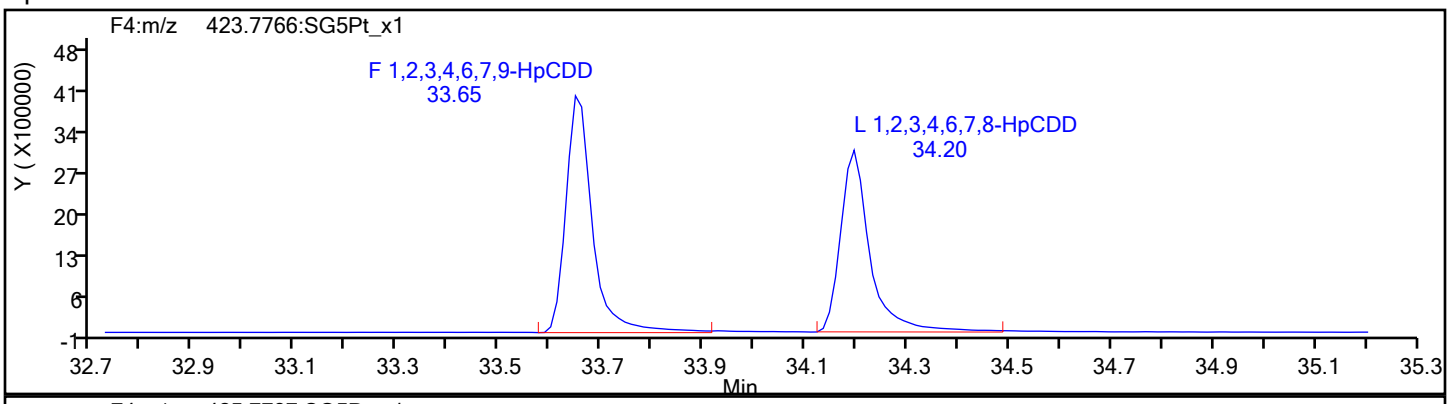

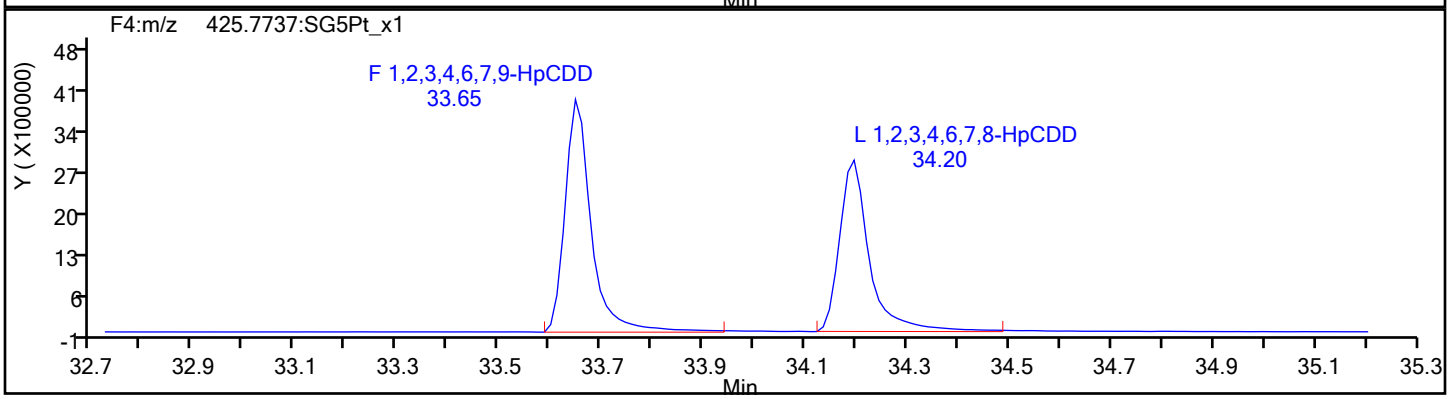

HpCDD Standards

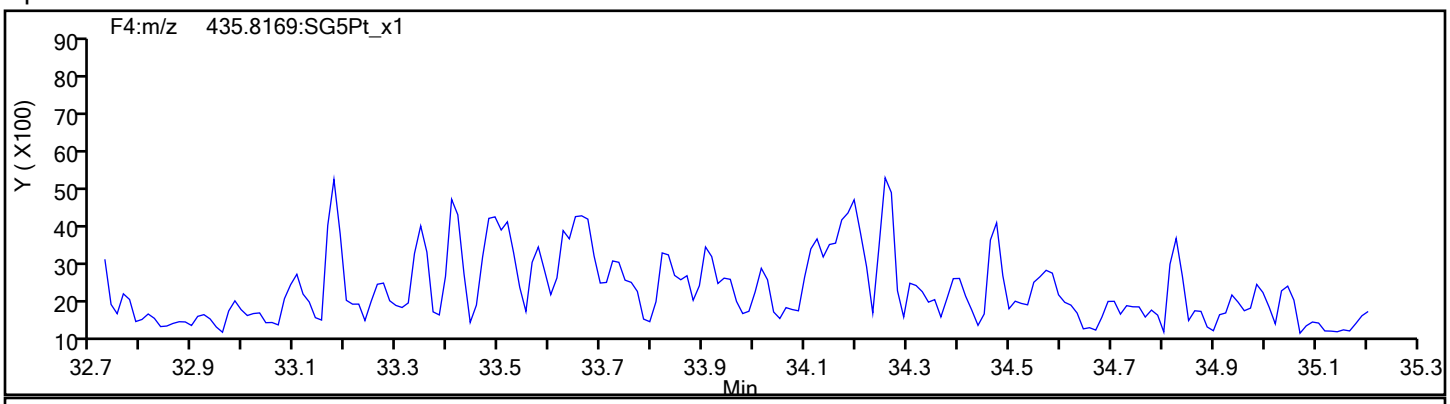

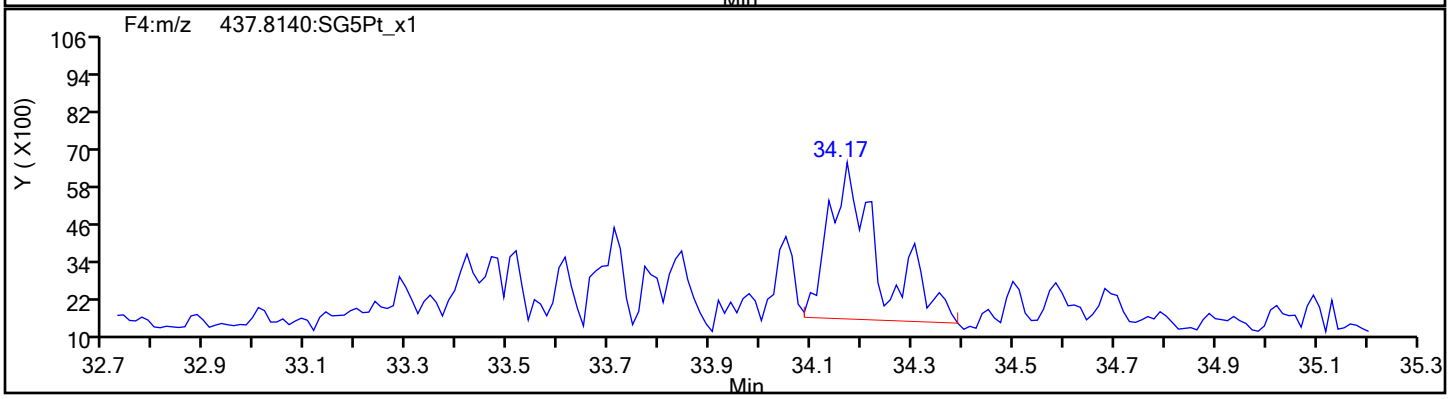

Report Date: 06-Nov-2019 09:20:57 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_1.d		
Injection Date:	05-Nov-2019 19:16:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336302	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

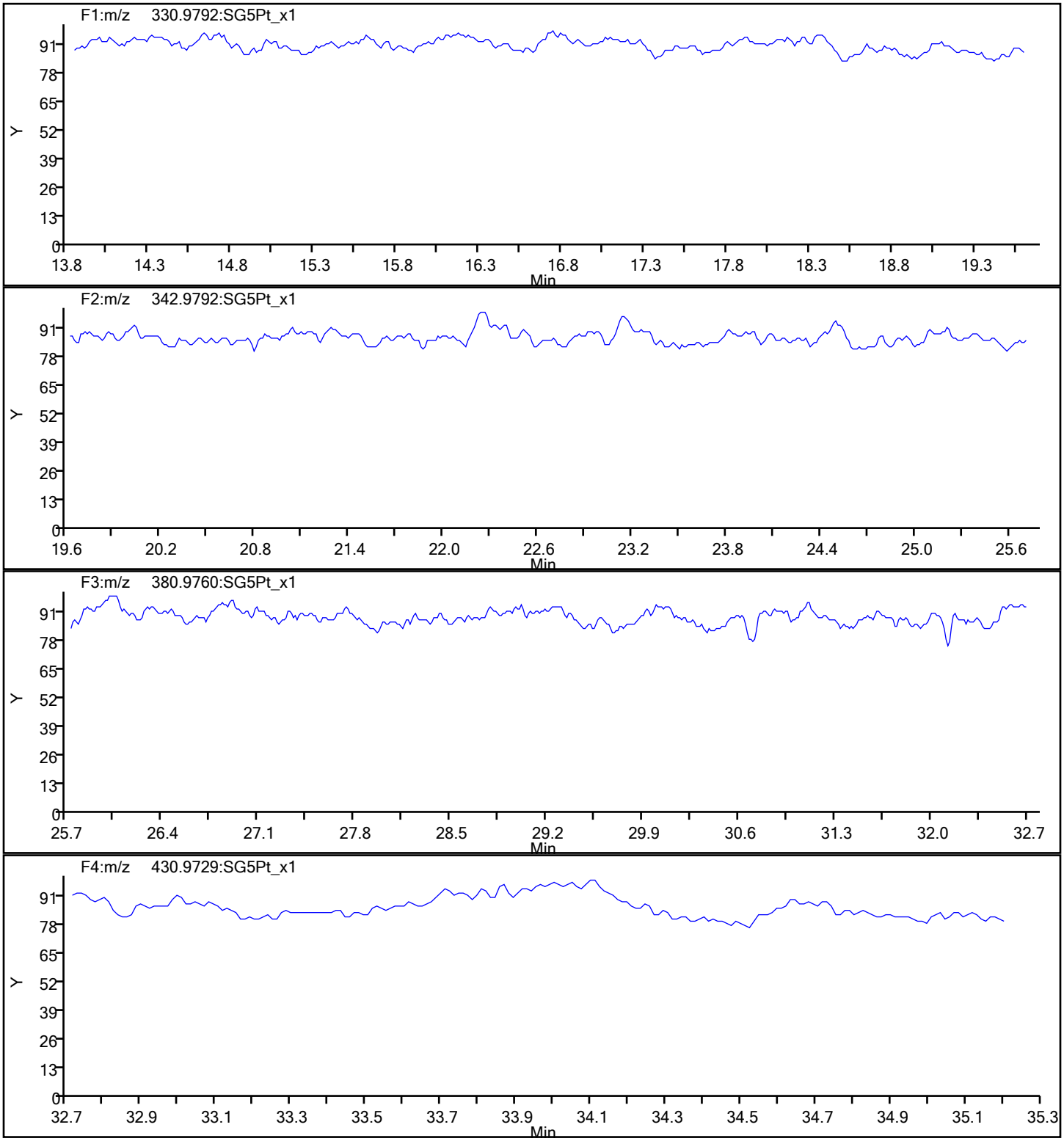

Report Date: 06-Nov-2019 09:20:57 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_1.d		
Injection Date:	05-Nov-2019 19:16:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336302	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

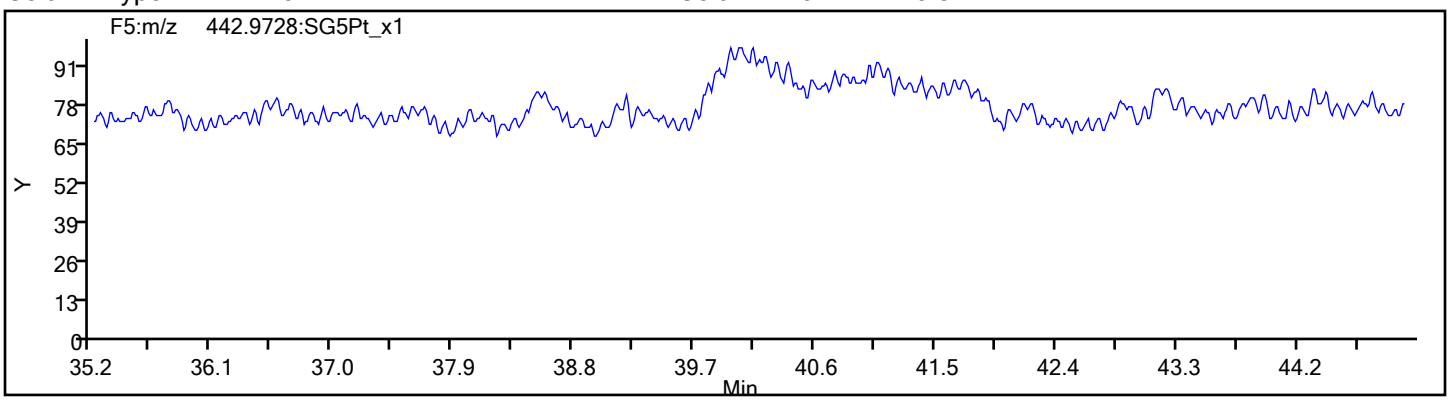

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_001.d
Lims ID: CPS
Client ID:
Sample Type: CPS
Inject. Date: 02-Aug-2019 01:35:28 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info:
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:55:43 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:42:14

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	16.622	61074380	0.81	1.3379					0.00	
2,3,7,8-TCDF	16.636	61037608	0.79	0.8389	47.7	47.7	0.1209	0.1209		
D 13C-2,3,7,8-TCDD	15.154	40433427	0.78	0.9388					0.00	
2,3,7,8-TCDD	15.182	44564745	0.76	1.1538	38.2	38.2	0.1633	0.1633		
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNCP_00038 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_001.d
Lims ID: CPS
Client ID:
Sample Type: CPS
Inject. Date: 02-Aug-2019 01:35:28 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info:
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:55:43 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:42:14

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	16.622	16.580	3	1.000	27419709	5797675	45703	114257	127		
317.9389	16.622	16.580	3	1.000	33654671	7331370	15961	39902	459	0.81(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.636	16.599	2	1.001	26963677	5682254	5764	14410	986		
305.8987	16.636	16.599	2	1.001	34073931	7516270	7547	18867	996	0.79(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.154	15.136	1	1.000	17780107	4066450	14178	35445	287		
333.9339	15.154	15.136	1	1.000	22653320	5347910	7990	19975	669	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.182	15.156	2	1.002	19294731	4574819	7190	17975	636		
321.8936	15.182	15.156	2	1.002	25270014	5985037	10548	26370	567	0.76(0.65-0.89)	
Total 2378-Chlorinated Dioxins & Furans											
		0.0	0								

Reagents:

HRDXNCP_00038 Amount Added: 1.00 Units: mL

Report Date: 02-Aug-2019 11:55:58 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_001.d		
Injection Date:	02-Aug-2019 01:35:28	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

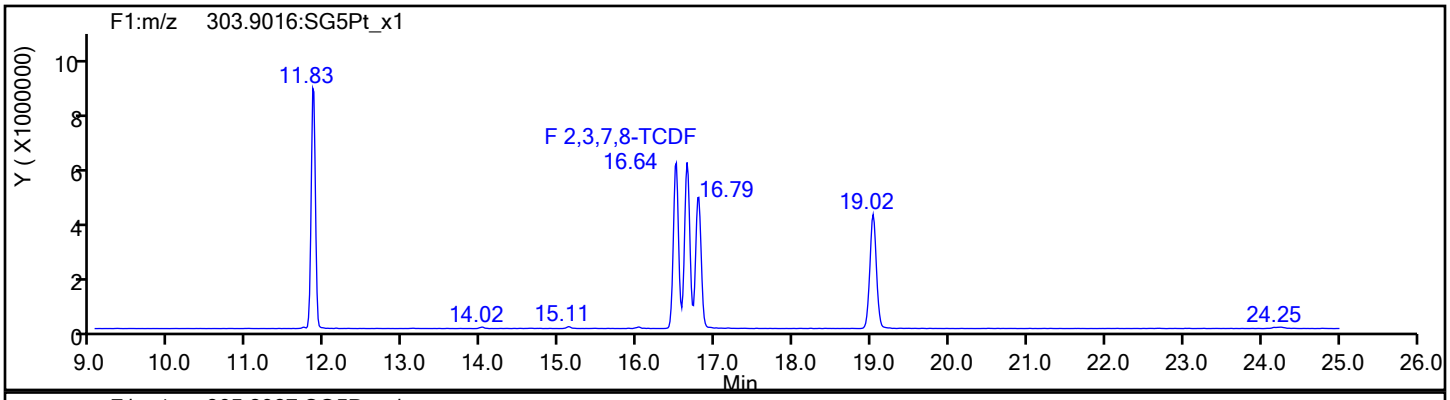

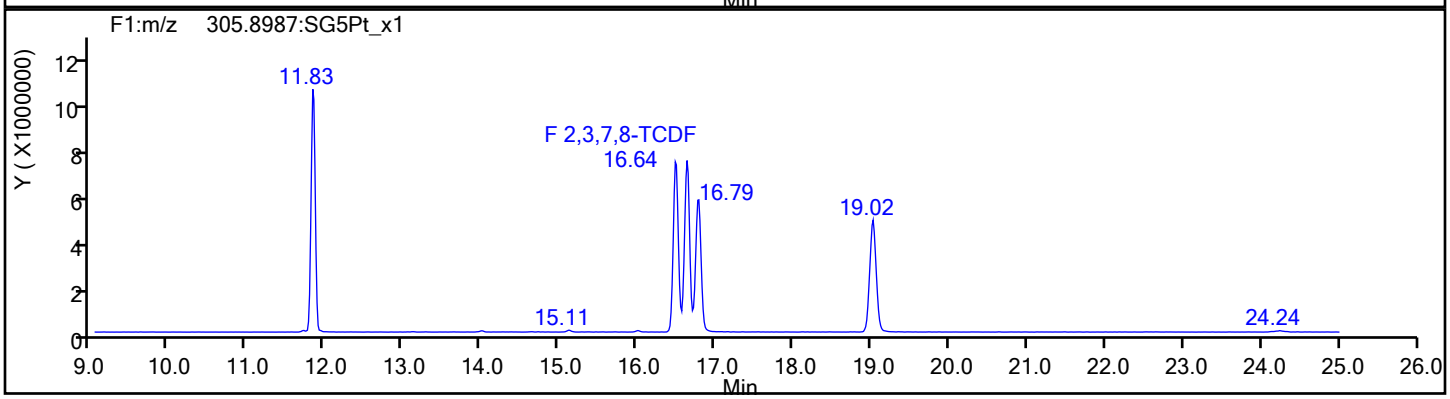

TCDF Standards

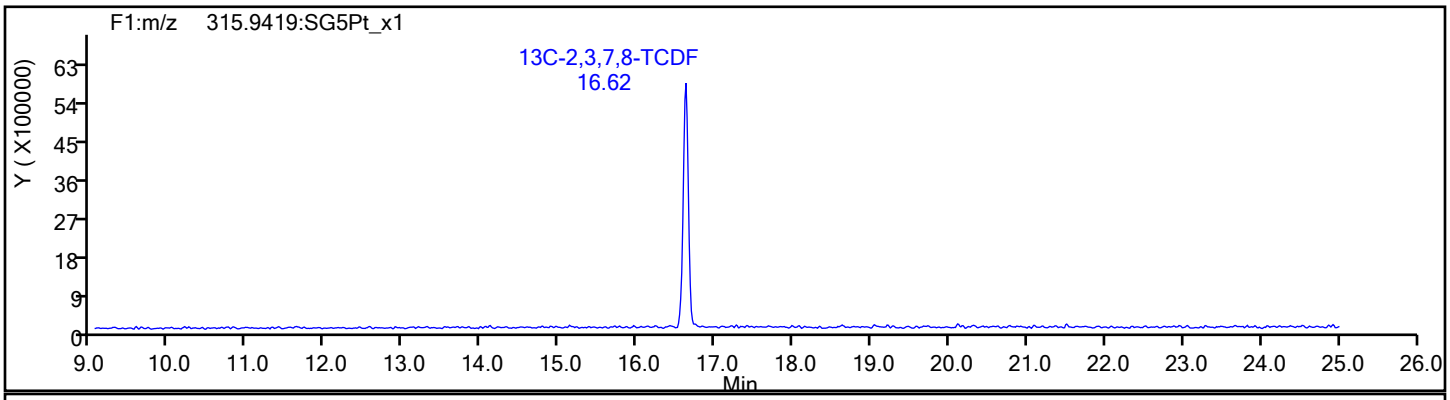

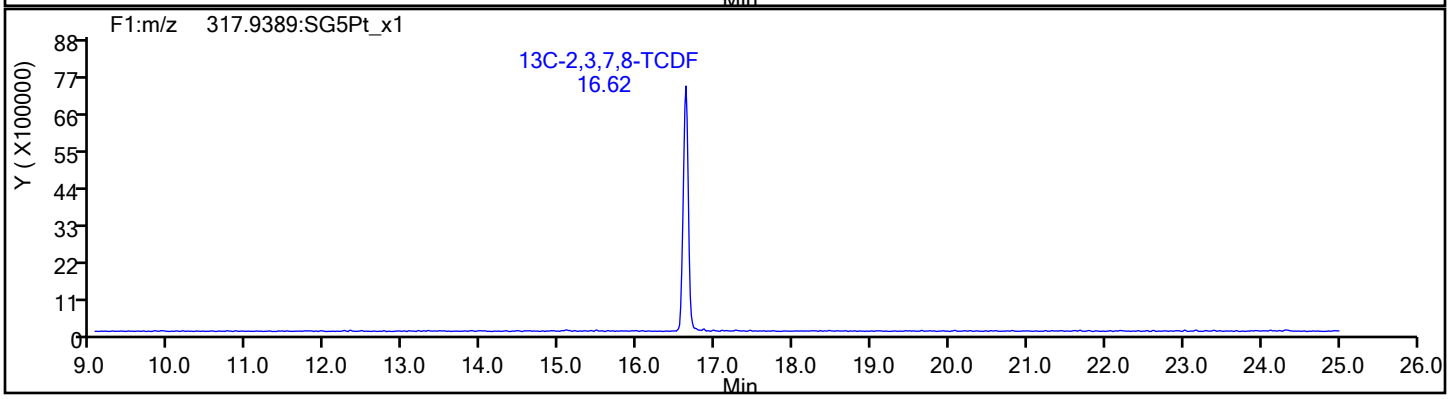

Report Date: 02-Aug-2019 11:55:58 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_001.d		
Injection Date:	02-Aug-2019 01:35:28	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

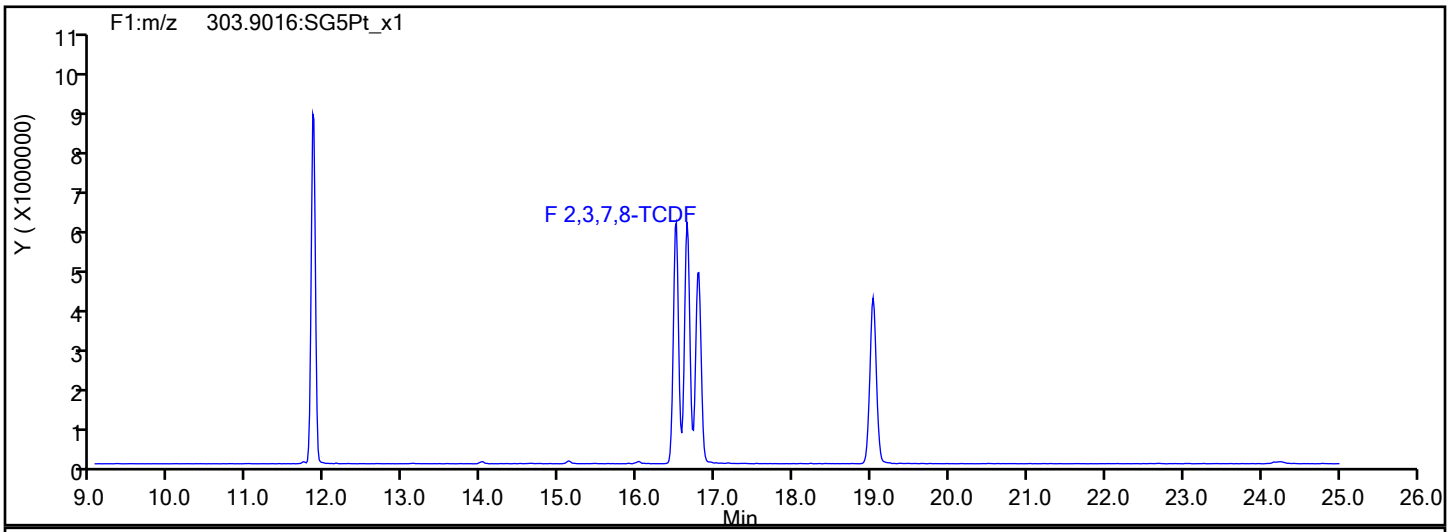

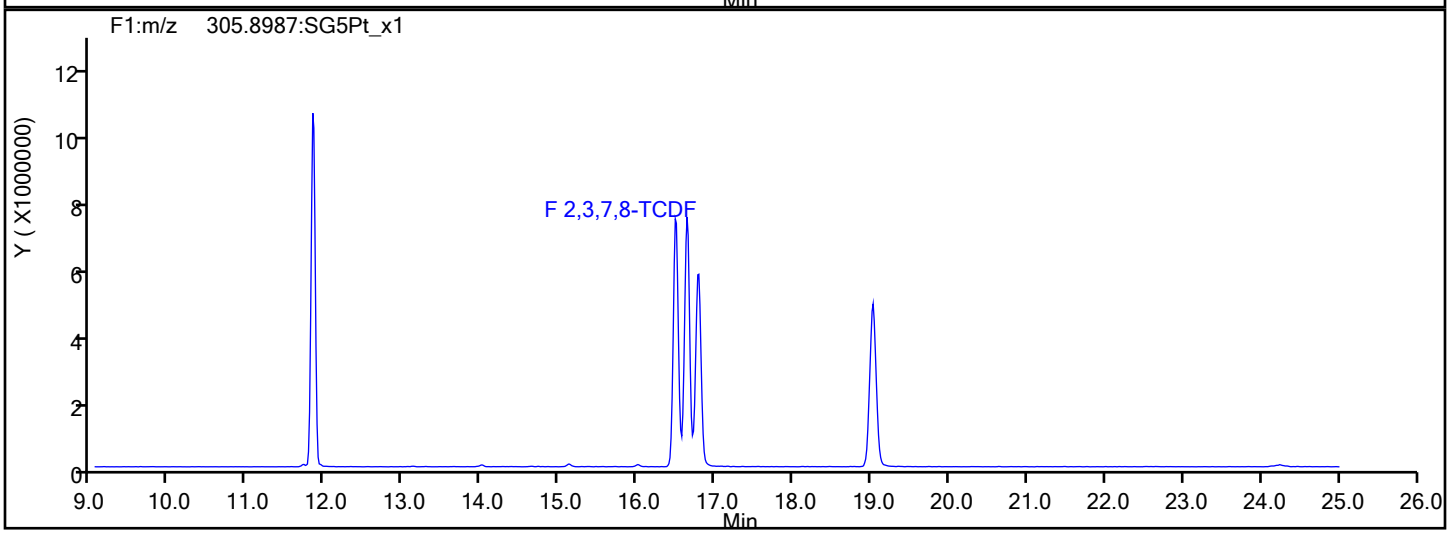

TCDF Interference Mass

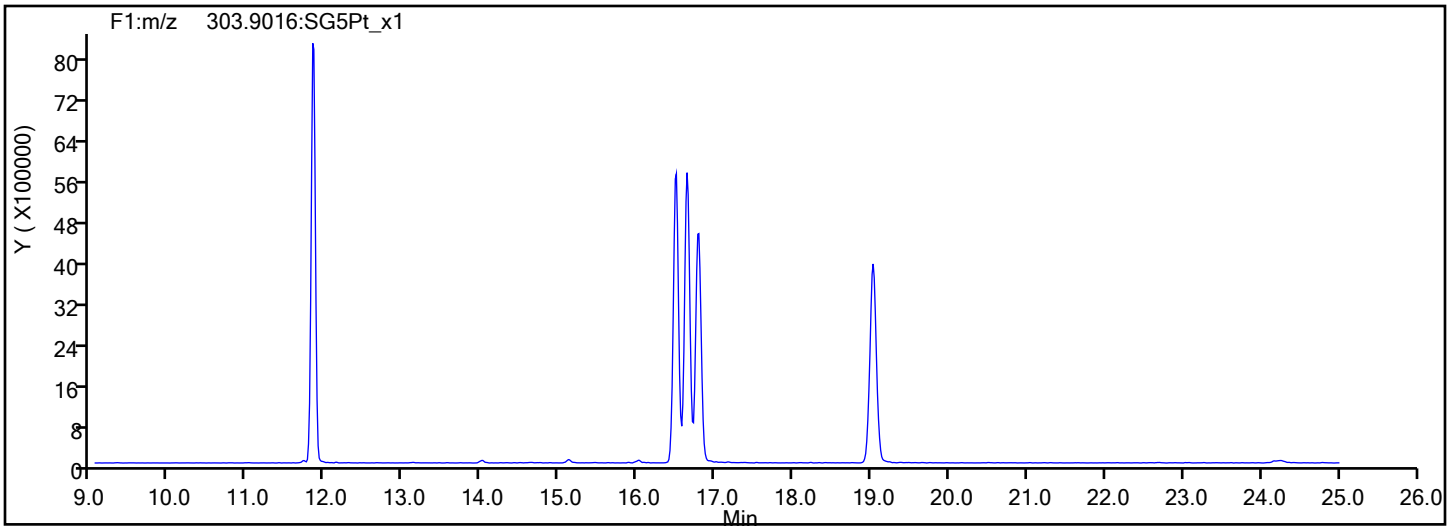

Report Date: 02-Aug-2019 11:55:58 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_001.d		
Injection Date:	02-Aug-2019 01:35:28	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

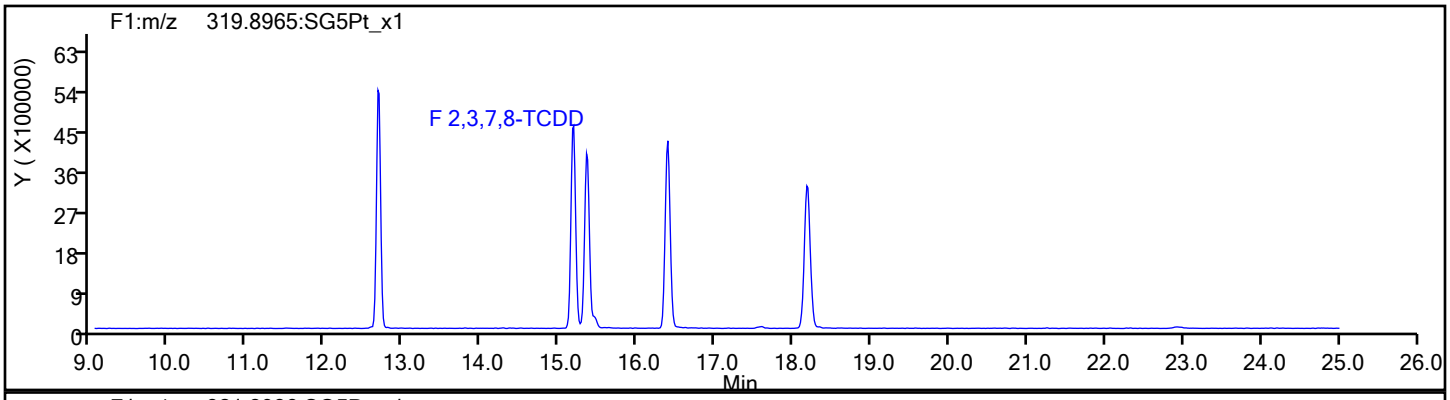

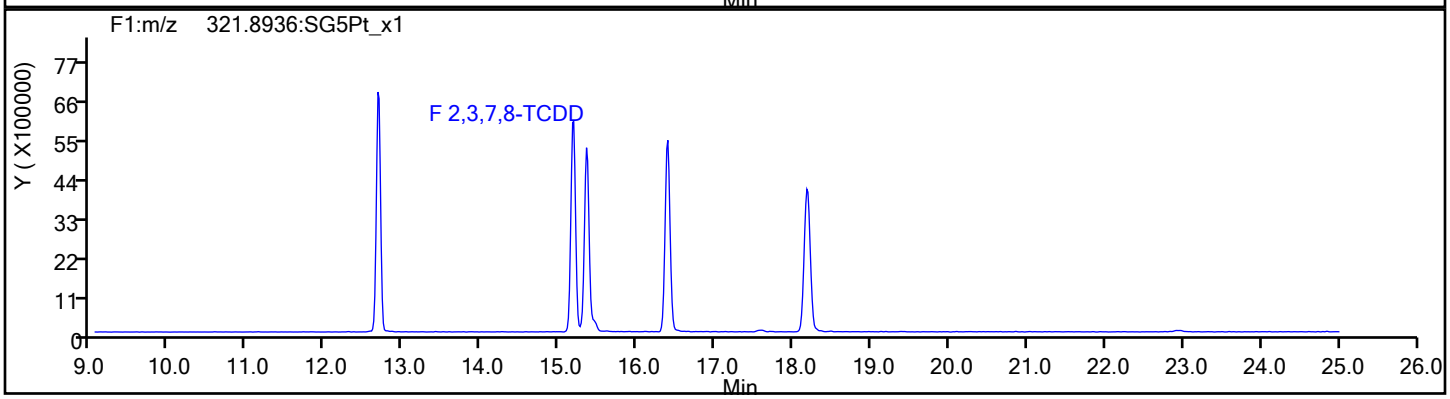

TCDD Standards

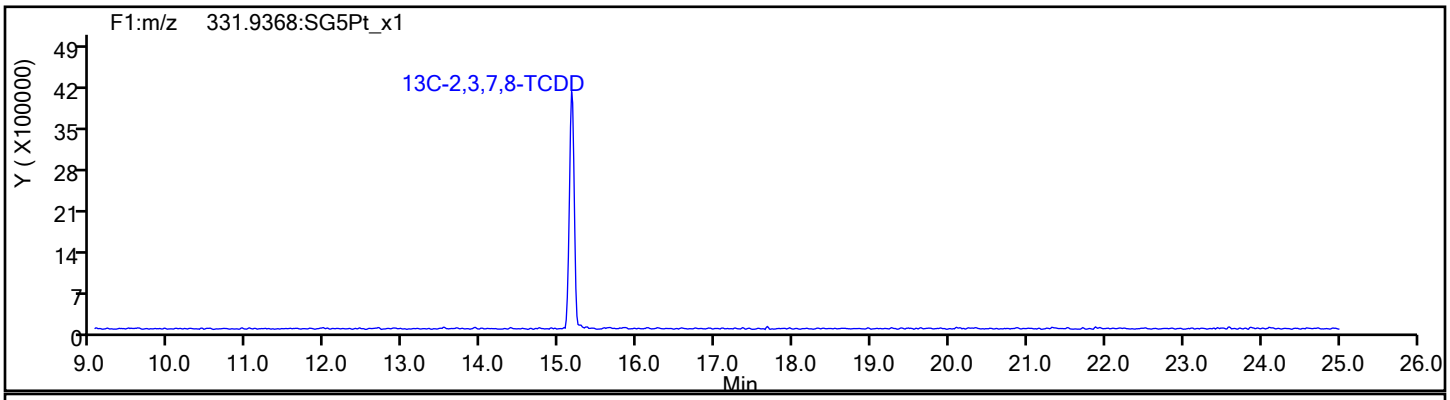

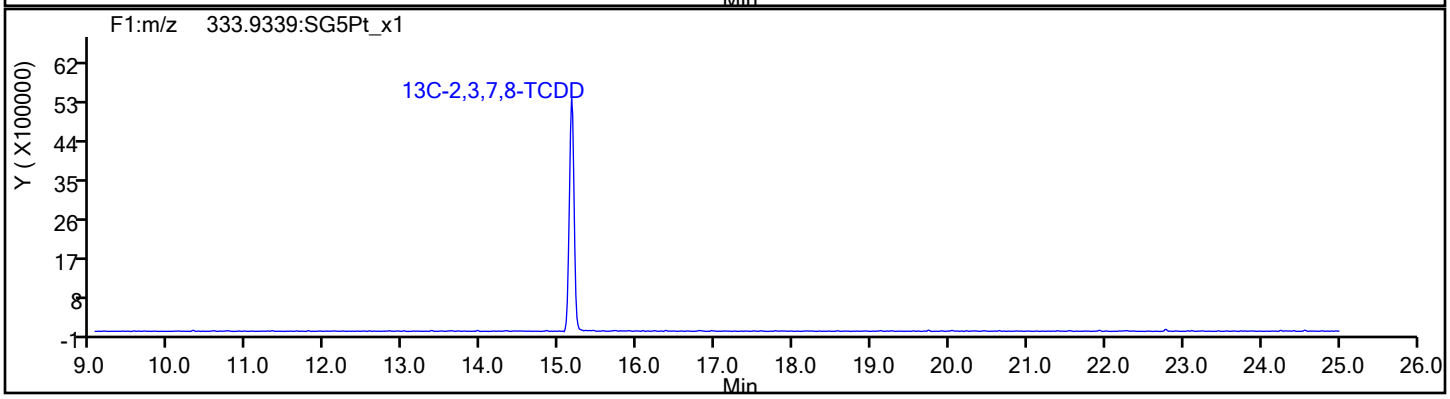

Report Date: 02-Aug-2019 11:55:58 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_001.d		
Injection Date:	02-Aug-2019 01:35:28	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

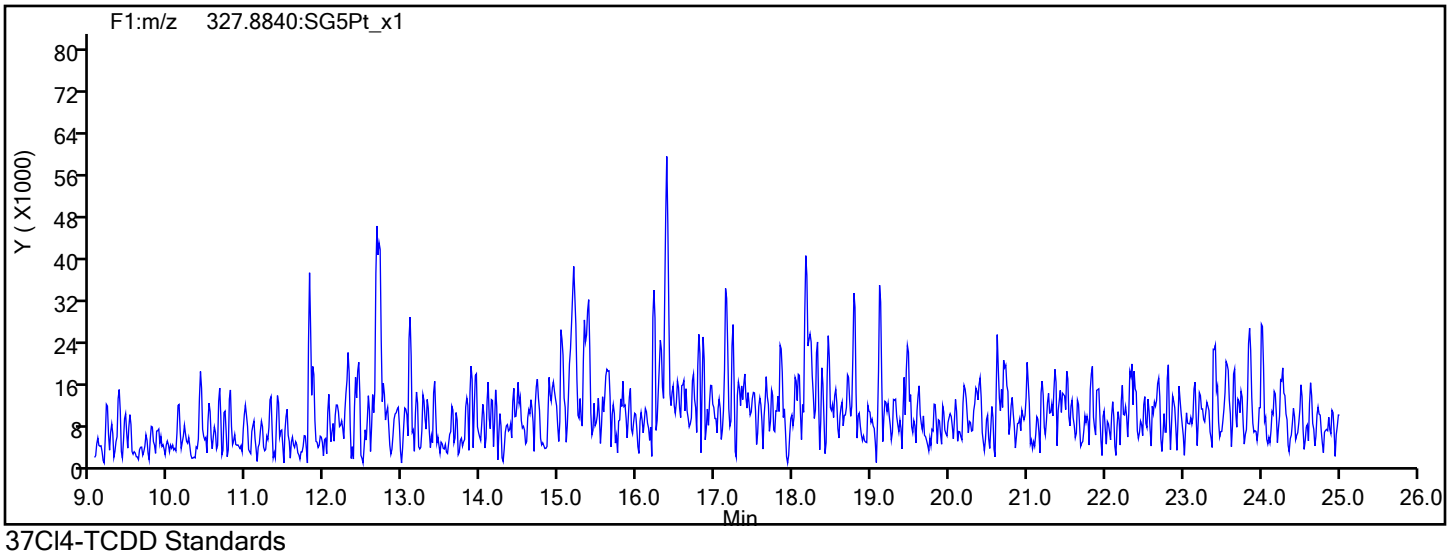

37Cl4-TCDD Standards

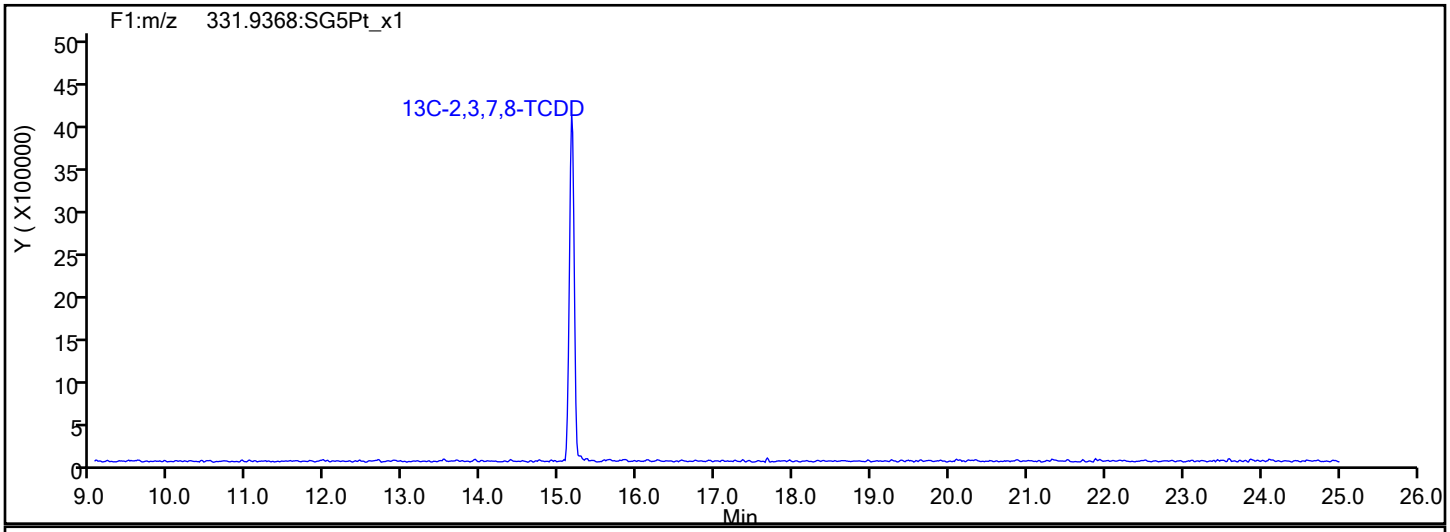

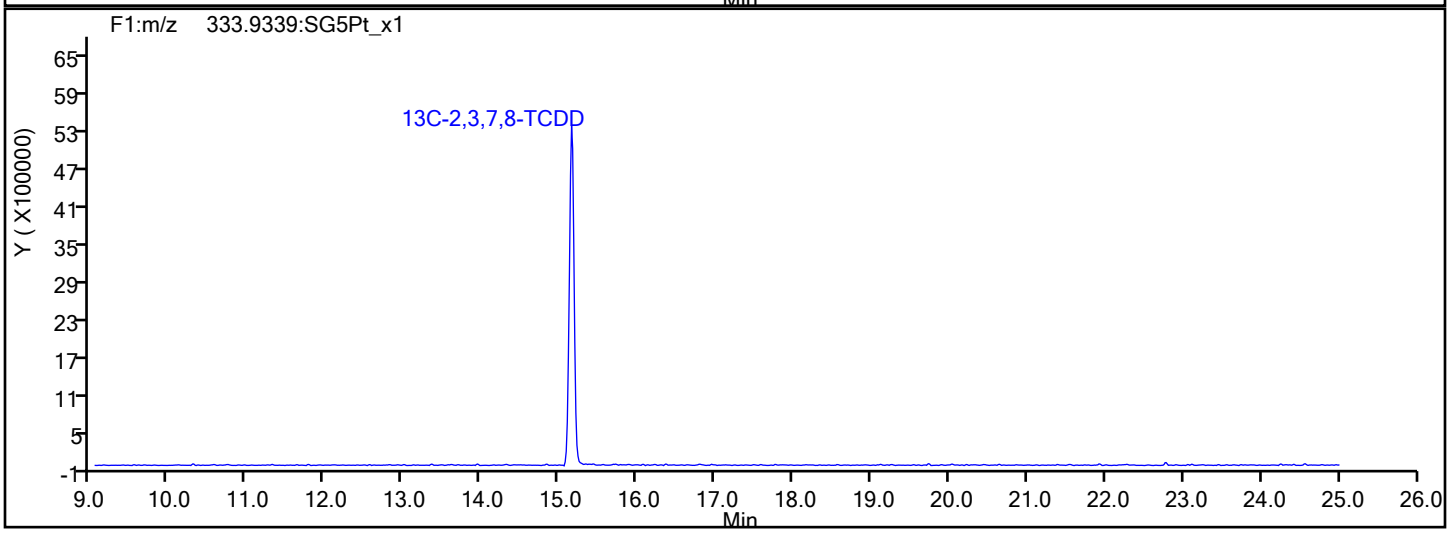

Report Date: 02-Aug-2019 11:55:58 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_001.d		
Injection Date:	02-Aug-2019 01:35:28	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

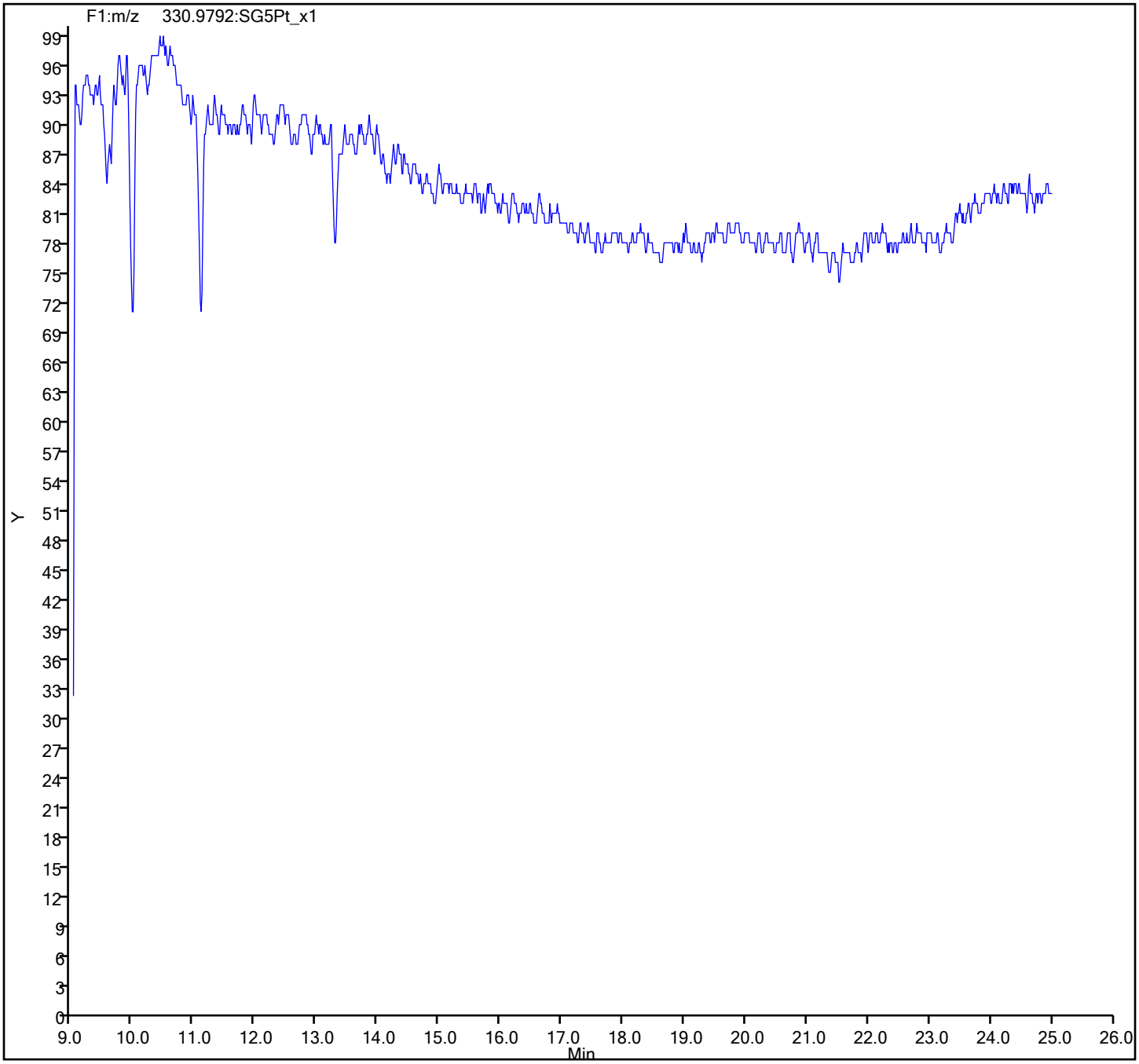

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_001.d
Lims ID: CPS
Client ID:
Sample Type: CPS
Inject. Date: 07-Nov-2019 14:58:46 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info:
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20191107-86281.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 07-Nov-2019 23:44:25 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0316

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	16.567	125755463	0.79	1.3379					0.00	
2,3,7,8-TCDF	16.580	123961286	0.78	0.8389	47.0	47.0	0.0653	0.0653		
D 13C-2,3,7,8-TCDD	15.112	80445941	0.76	0.9388					0.00	
2,3,7,8-TCDD	15.126	89194385	0.79	1.1538	38.4	38.4	0.0609	0.0609		
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNCP_00040 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_001.d
Lims ID: CPS
Client ID:
Sample Type: CPS
Inject. Date: 07-Nov-2019 14:58:46 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info:
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20191107-86281.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 07-Nov-2019 23:44:25 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0316

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	16.567	16.560	1	1.000	55485793	11811087	23940	59850	493		
317.9389	16.567	16.560	1	1.000	70269670	14800998	15518	38795	954	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.580	16.580	0	1.001	54324891	11397037	6204	15510	1837		
305.8987	16.580	16.580	0	1.001	69636395	14679076	8369	20922	1754	0.78(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.112	15.092	1	1.000	34824085	8178630	17263	43157	474		
333.9339	15.112	15.092	1	1.000	45621856	11118413	6265	15662	1775	0.76(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.126	15.126	0	1.001	39250195	9399858	7632	19080	1232		
321.8936	15.126	15.126	0	1.001	49944190	12193978	5925	14812	2058	0.79(0.65-0.89)	
Total 2378-Chlorinated Dioxins & Furans											
		0.0	0								

Reagents:

HRDXNCP_00040 Amount Added: 2.00 Units: uL

Report Date: 07-Nov-2019 23:44:26 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_001.d		
Injection Date:	07-Nov-2019 14:58:46	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336810	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

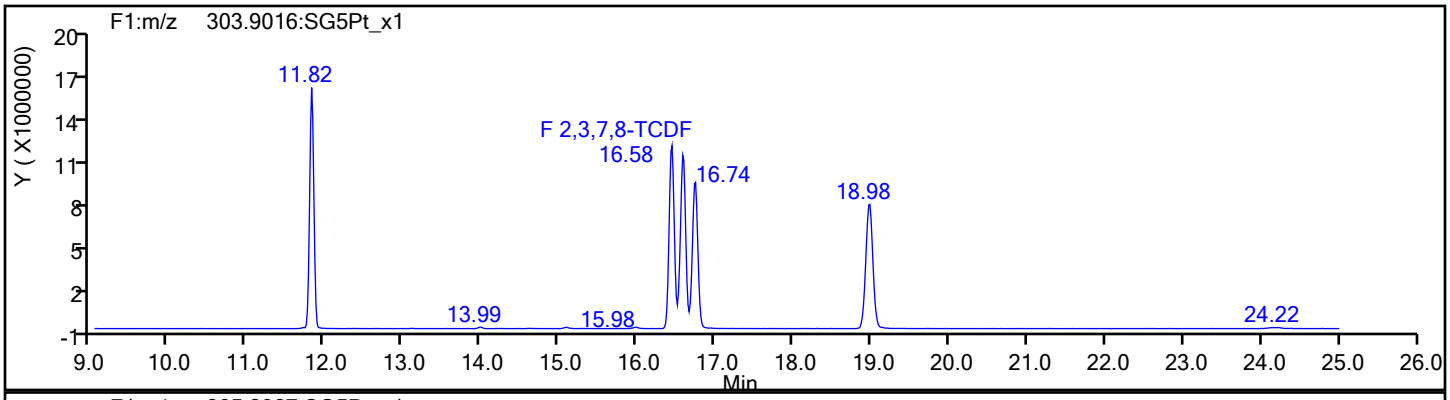

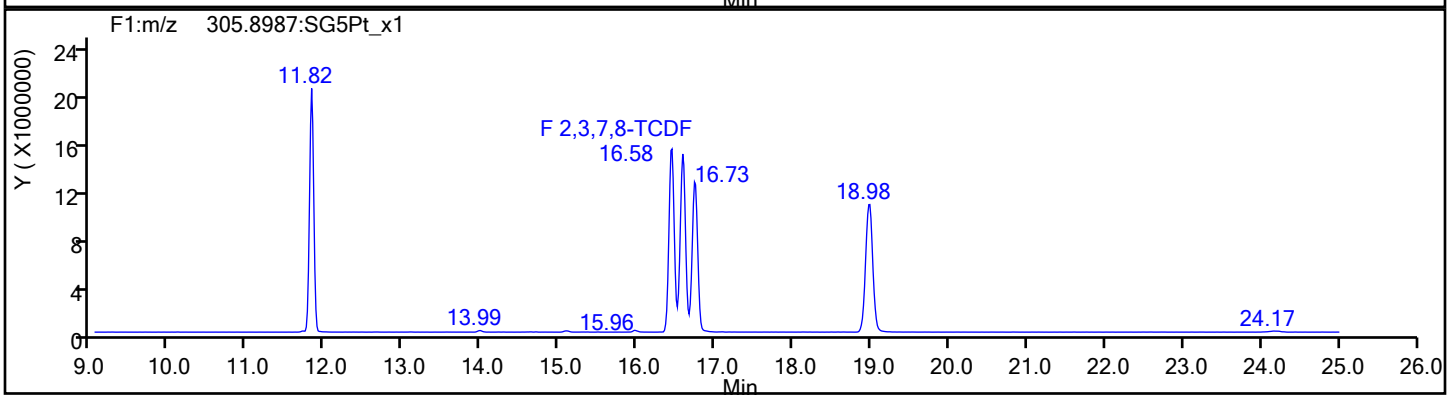

TCDF Standards

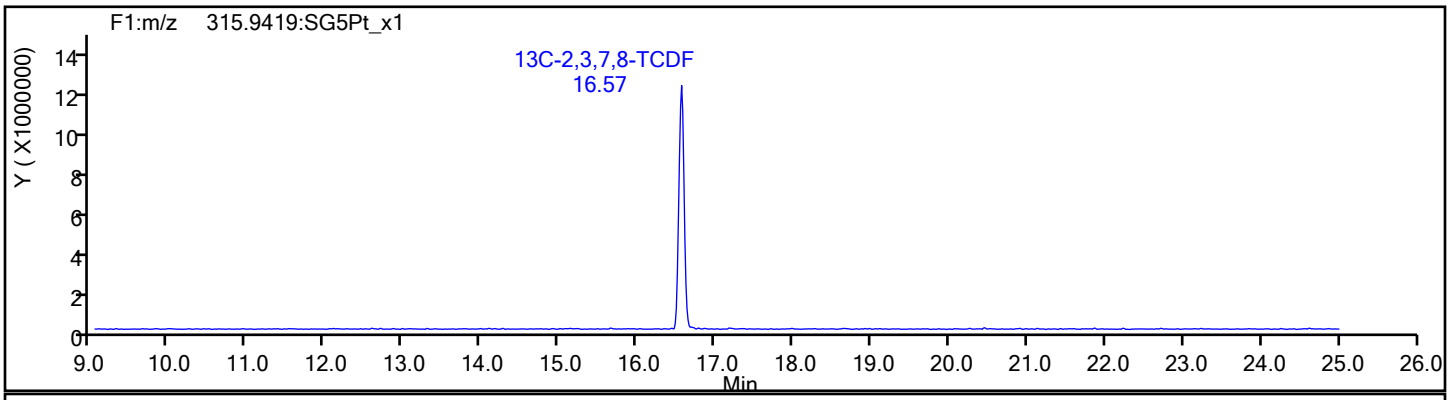

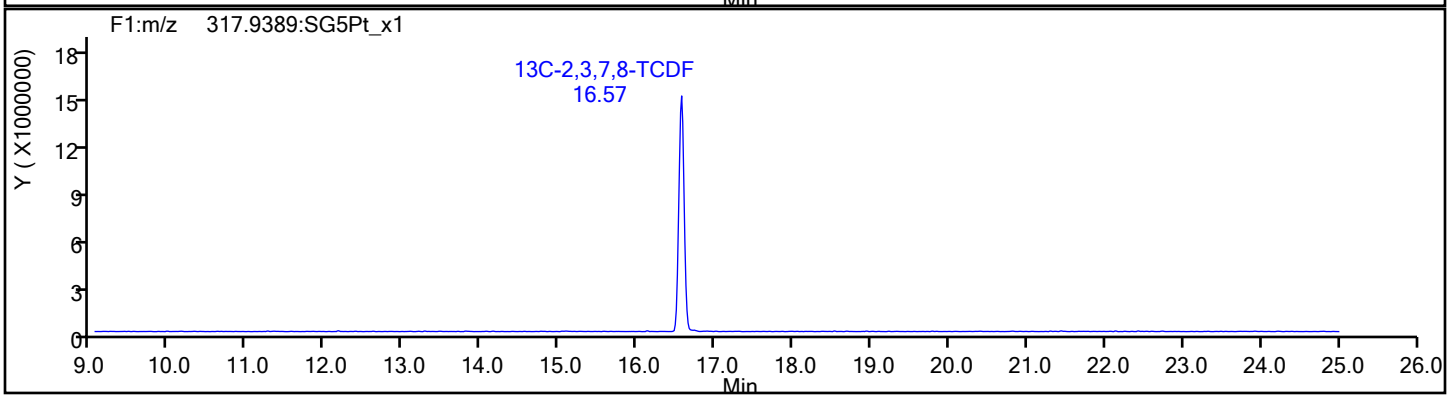

Report Date: 07-Nov-2019 23:44:26 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_001.d		
Injection Date:	07-Nov-2019 14:58:46	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336810	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

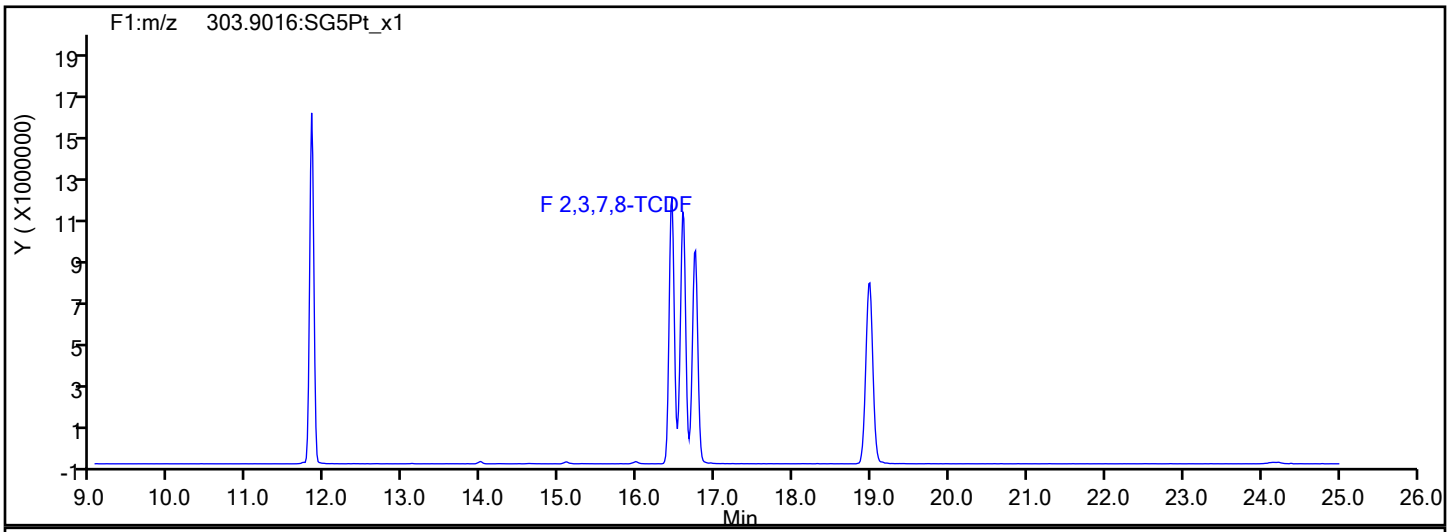

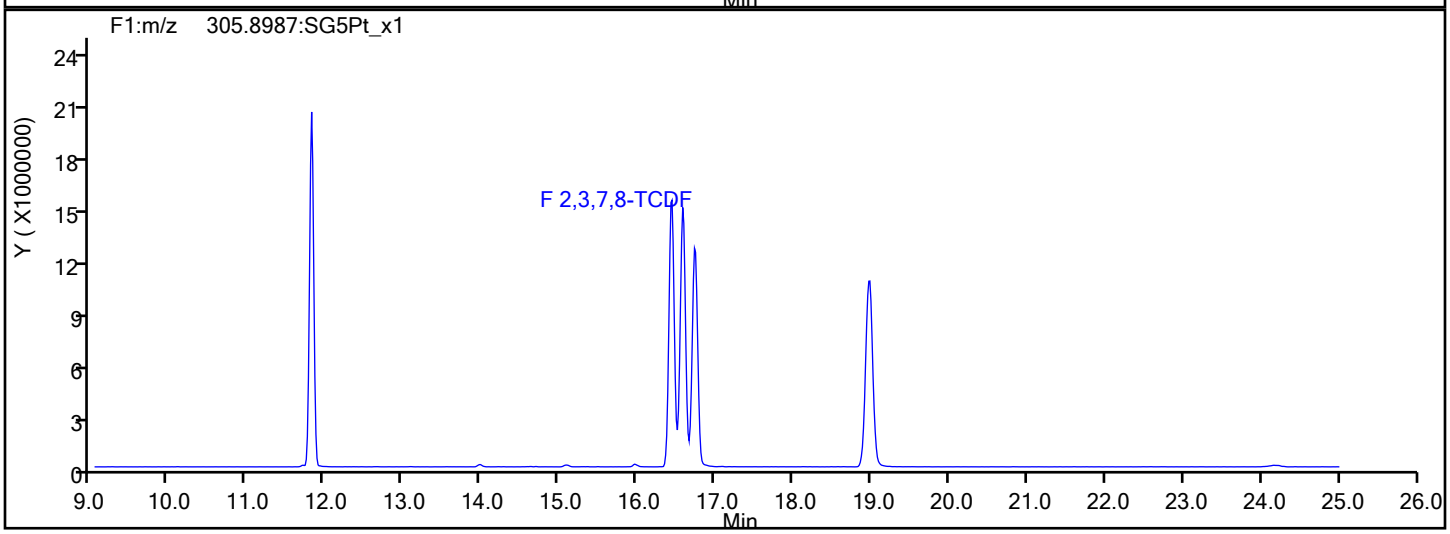

TCDF Interference Mass

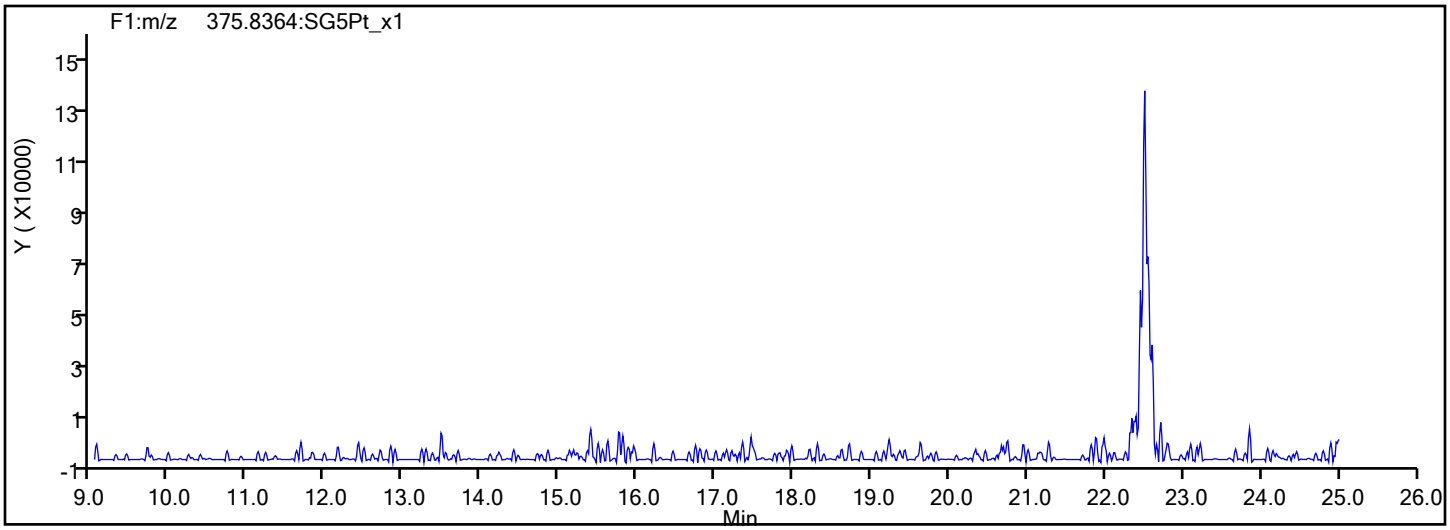

Report Date: 07-Nov-2019 23:44:26 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_001.d		
Injection Date:	07-Nov-2019 14:58:46	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336810	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

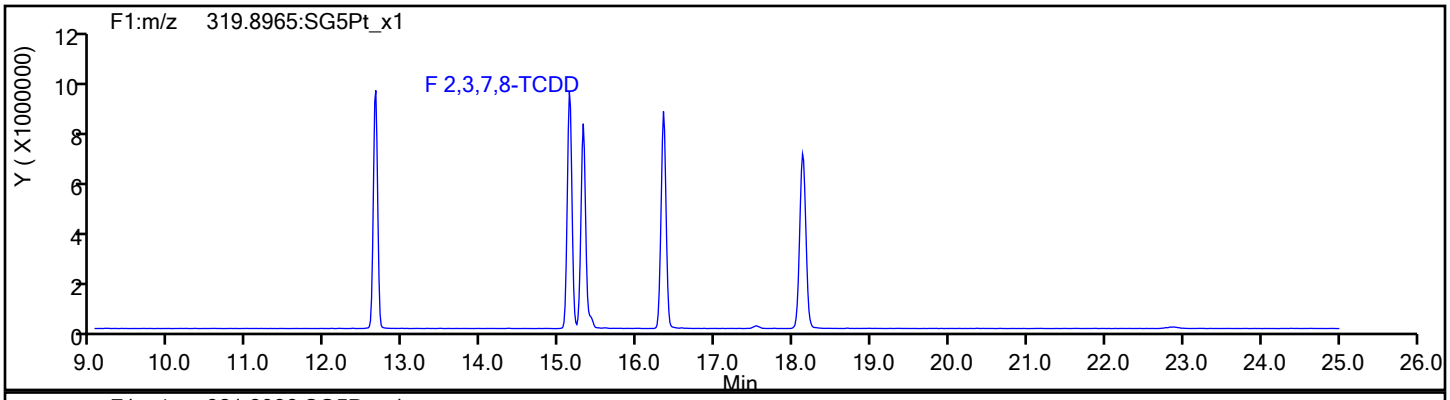

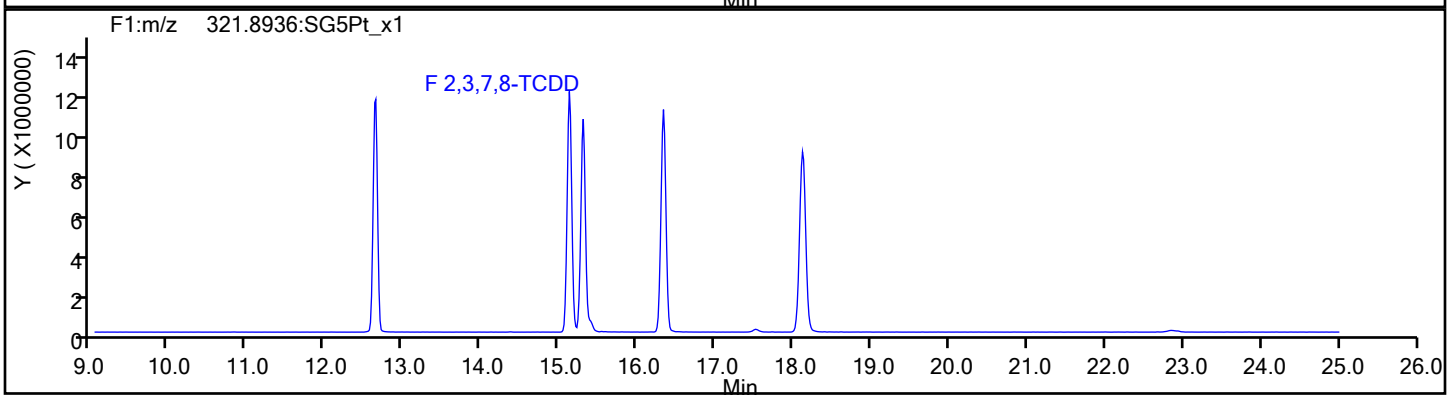

TCDD Standards

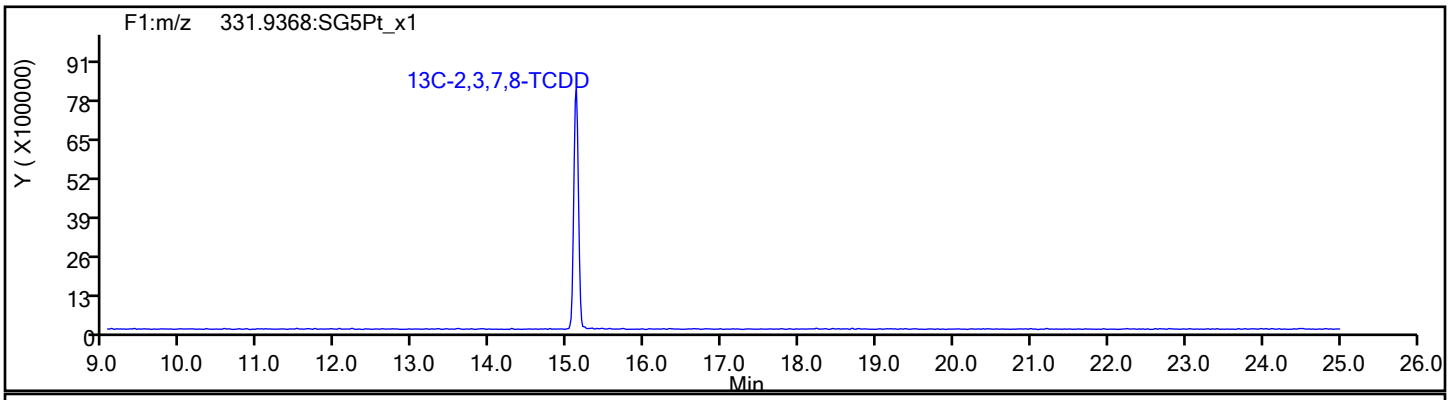

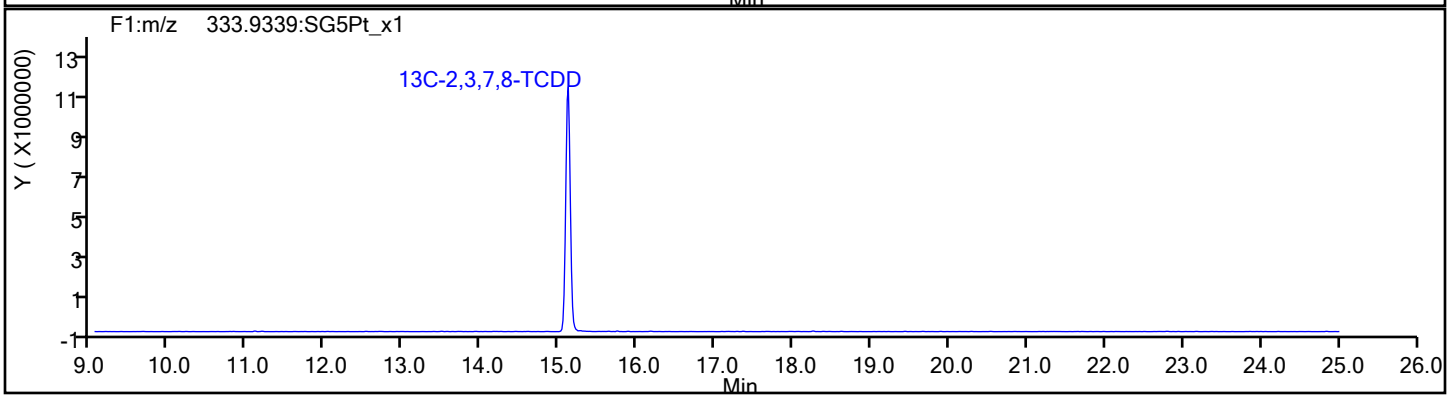

Report Date: 07-Nov-2019 23:44:26 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_001.d		
Injection Date:	07-Nov-2019 14:58:46	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336810	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

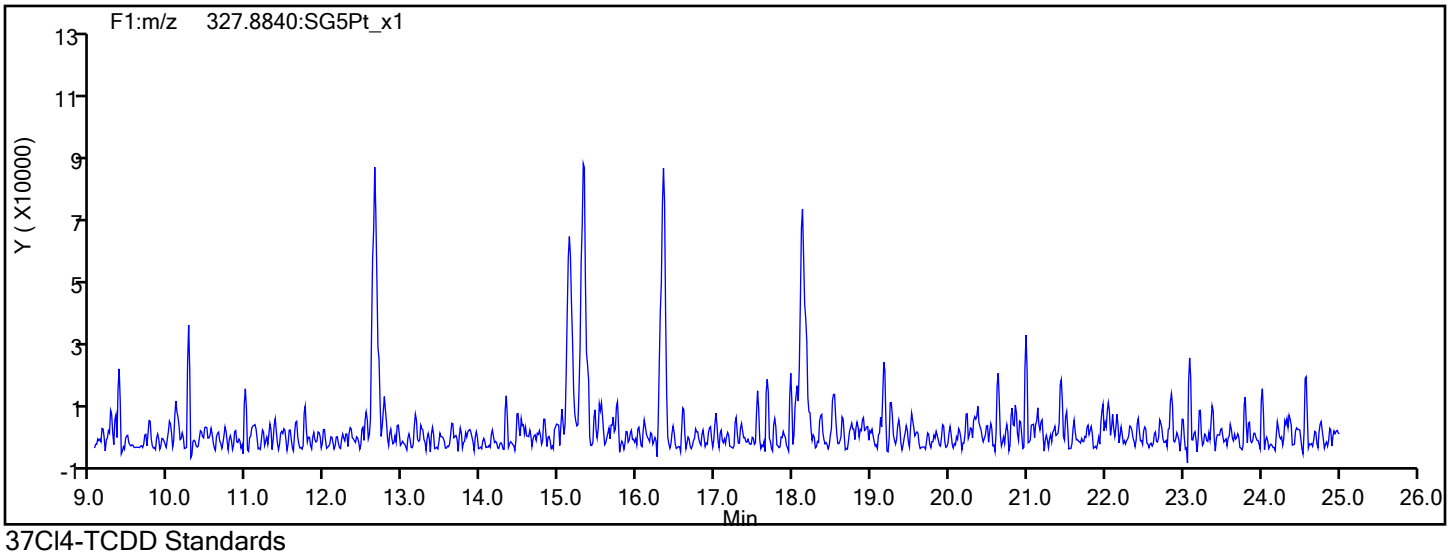

37Cl4-TCDD Standards

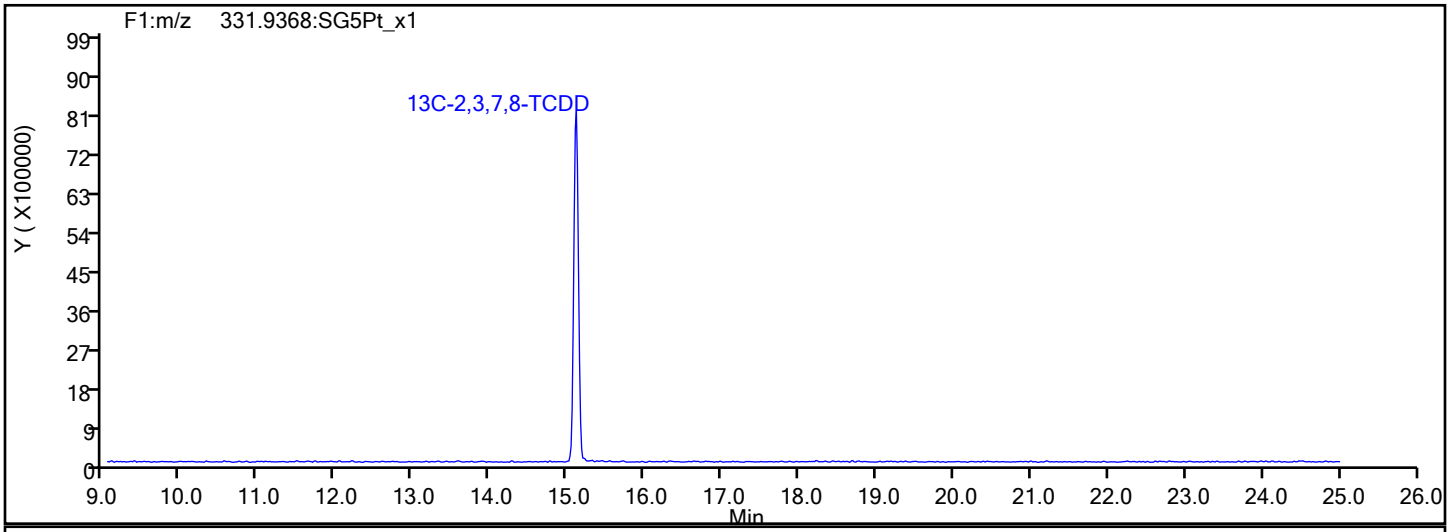

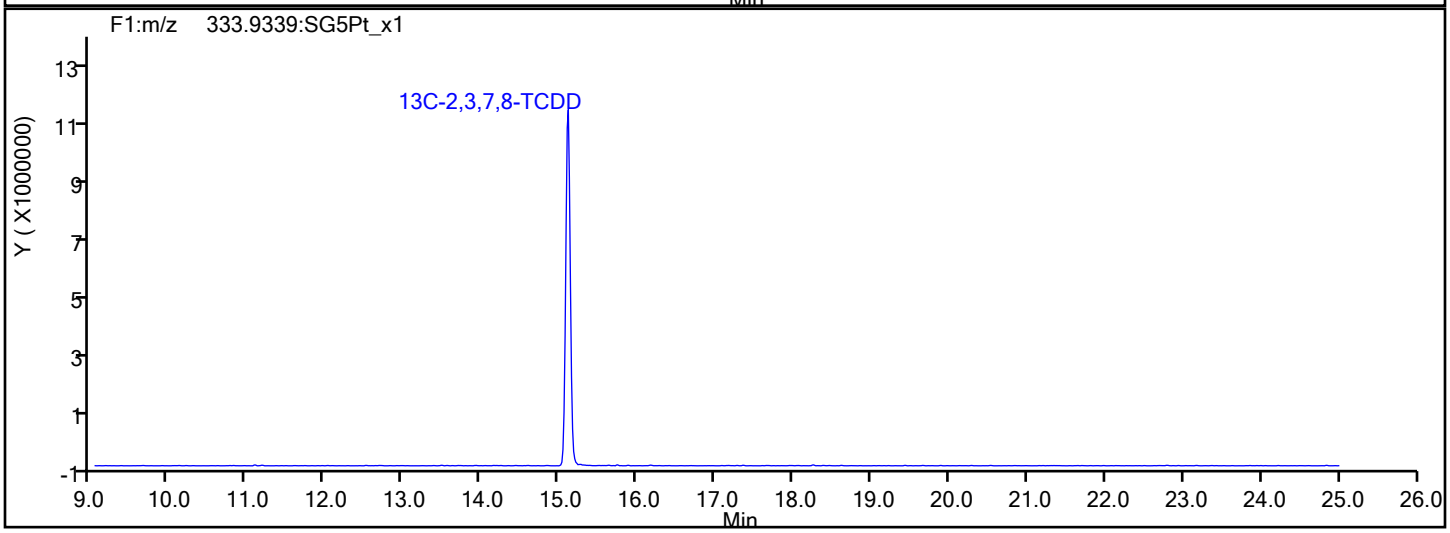

Report Date: 07-Nov-2019 23:44:26 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_001.d		
Injection Date:	07-Nov-2019 14:58:46	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336810	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

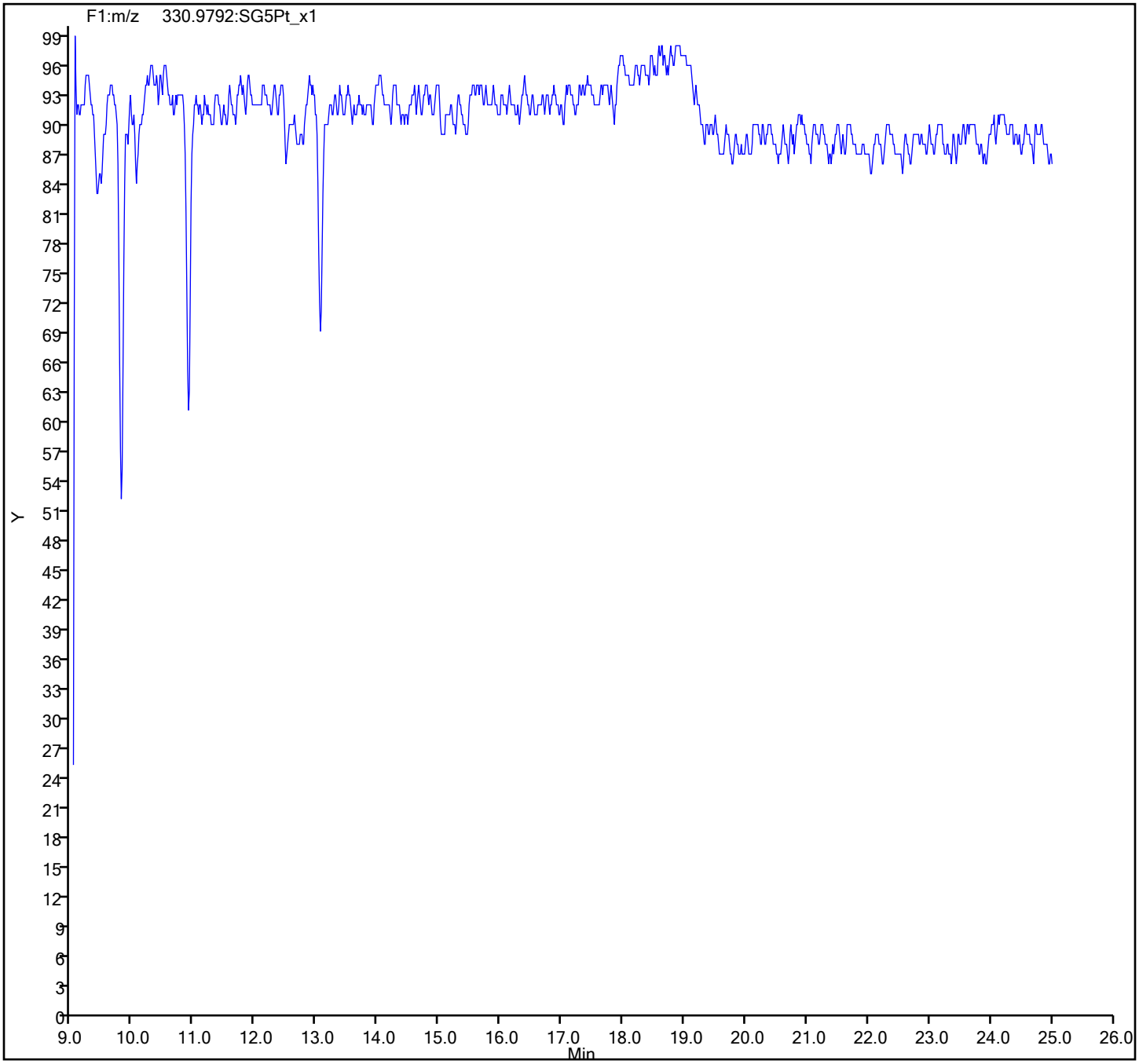

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_2.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 18-Oct-2019 19:15:00 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: WDM HRDXNCP_00040
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\Dioxin_DFS1.m
Limit Group: HR - 1613B - ICAL
Last Update: 23-Oct-2019 17:15:06 Calib Date: 19-Oct-2019 00:02:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.07 :22.11)
Process Host: CTX0319

First Level Reviewer: stephensk Date: 23-Oct-2019 17:15:06

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	19.870	2743689	0.84	1.6096					0.00	
2,3,7,8-TCDF	19.904	6418384	0.81	1.2332	75.9	75.9	0.1516	0.1516		
A Non-2,3,7,8-sub-TCDF	19.420	148353	0.71	1.2332	1.754	1.754	0.1516	1.133		
S Total TCDF					77.6	77.6	0.1516	0.1516		
D 13C-2,3,7,8-TCDD	21.183	1646257	0.82	0.9984					0.00	
2,3,7,8-TCDD	21.218	1935656	0.82	1.1988	39.2	39.2	0.1068	0.1068		
A Non-2,3,7,8-sub-TCDD	20.259	8175	0.77	1.1988	0.1920	0.1657	0.1068	0.1657		RQ
S Total TCDD					39.4	39.4	0.1068	0.1068		RQ
A F1 PeCDFs	24.168	2785	1.55	0.0000						RQ
A Non-2,3,7,8-sub-PeCDF	27.601	108609	1.55	0.0000						RQ
S Total PeCDF										RQ
A Non-2,3,7,8-sub-PeCDD	27.971	16413	1.55	0.0000						RQ
S Total PeCDD										RQ
A Non-2,3,7,8-sub-HxCDF	34.726	117832	1.24	0.0000						RQ
S Total HxCDF										RQ
A Non-2,3,7,8-sub-HxCDD	35.124	64948	1.15	0.0000						
S Total HxCDD										
1,2,3,4,6,7,8-HpCDF	38.408	2758922	1.07	1.6176						
1,2,3,4,7,8,9-HpCDF	39.666	2264219	1.08	1.4672						
A Non-2,3,7,8-sub-HpCDF	39.037						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	39.364	1791225	1.05	1.1237						
A Non-2,3,7,8-sub-HpCDD	39.134						0.0	0.0		
S Total HpCDD										
1,3,6,8-TCDF	15.669	3698145	0.82							
1,3,6,8-TCDD	17.259	2008974	0.79							
2,3,4,7-TCDF	19.904	6418384	0.81							
1,2,3,7-TCDD	21.019	1684985	0.77							
1,2,3,9-TCDF	21.408	2470382	1.00							R
1,2,3,9-TCDD	21.512	852214	0.79							
1,2,8,9-TCDF	23.171	2878860	0.82							

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,8,9-TCDD	23.258	796641								
1,3,4,6,8-PeCDF	23.672	2123260	1.61							
1,2,4,7,9-PeCDD	25.703	1642283	1.57							
1,2,3,8,9-PeCDD	30.240	1609637	1.57							
1,2,3,8,9-PeCDF	30.399	2333013	1.61							
1,2,3,4,6,8-HxCDF	32.759	2733961	1.29							
1,2,4,6,7,9-HxCDD	33.917	1940308	1.26							
1,2,3,4,6,7-HxCDD	36.332	1911261	1.26							
1,2,3,4,8,9-HxCDF	36.692	2656804	1.26							
1,2,3,4,6,7,9-HpCDD	38.719	1887966	1.04							

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNCP_00040 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_2.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 18-Oct-2019 19:15:00 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: WDM HRDXNCP_00040
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\Dioxin_DFS1.m
Limit Group: HR - 1613B - ICAL
Last Update: 23-Oct-2019 17:15:06 Calib Date: 19-Oct-2019 00:02:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.07 :22.11)
Process Host: CTX0319

First Level Reviewer: stephensk Date: 23-Oct-2019 17:15:06

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	19.870	19.735	8	1.000	1250984	195368	757	1892	258		
317.9389	19.861	19.735	8	1.000	1492705	239445	125	312	1916	0.84(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	19.904	19.792	7	1.002	2867994	412294	365	912	1130		
305.8987	19.904	19.792	7	1.002	3550390	511529	448	1120	1142	0.81(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	18.228	19.420	-71	0.917	11435	2522	365	912	7		
305.8987	18.193	19.420	-73	0.916	15690	2606	448	1120	6	0.73(0.65-0.89)	
303.9016	19.161	19.420	-16	0.964	10672	1887	365	912	5		
305.8987	19.170	19.420	-15	0.965	14729	2534	448	1120	6	0.72(0.65-0.89)	
303.9016	23.672	19.420	255	1.191	39517	7172	365	912	20		
305.8987	23.664	19.420	254	1.191	56310	8407	448	1120	19	0.70(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	21.183	21.057	8	1.000	741411	114263	213	532	536		
333.9338	21.192	21.057	8	1.000	904846	137948	14	35	9853	0.82(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	21.218	21.127	5	1.002	870913	126855	189	472	671		
321.8936	21.218	21.127	5	1.002	1064743	149668	134	335	1117	0.82(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											RQ
319.8965	23.577	20.259	199	1.113	4853	879	189	472	5		
	Empc Correction				3556	641	189	472	3		
321.8936	23.664	20.259	204	1.117	4619	833	134	335	6	1.05(0.65-0.89)	
A F1 PeCDFs											RQ
339.8597	17.078	24.168	-425	1.000	1693	248	47	117	5		
341.8567	17.112	24.168	-422	1.000	4614	713	61	152	12	0.37(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	25.359	27.601	-134	1.000	8277	1008	280	700	4		
341.8567	25.367	27.601	-134	1.000	3541	740	237	592	3	2.34(1.32-1.78)	
339.8597	26.332	27.601	-76	1.000	9581	1408	280	700	5		
341.8567	26.323	27.601	-76	1.000	7634	924	237	592	4	1.26(1.32-1.78)	
339.8597	26.751	27.601	-51	1.000	4089	1048	280	700	4		
341.8567	26.701	27.601	-54	1.000	1341	480	237	592	2	3.05(1.32-1.78)	
339.8597	26.894	27.601	-42	1.000	21191	3146	280	700	11		
341.8567	26.902	27.601	-42	1.000	16624	1768	237	592	7	1.27(1.32-1.78)	
339.8597	27.498	27.601	-6	1.000	16419	2037	280	700	7		
341.8567	27.464	27.601	-8	1.000	10792	1089	237	592	5	1.52(1.32-1.78)	
339.8597	28.403	27.601	48	1.000	15971	1167	280	700	4		
341.8567	28.370	27.601	46	1.000	7187	860	237	592	4	2.22(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											RQ
355.8546	29.183	27.971	73	1.000	5442	911	267	667	3		
357.8516	29.225	27.971	75	1.000	4214	705	147	367	5	1.29(1.32-1.78)	
355.8546	29.896	27.971	115	1.000	16114	2112	267	667	8		
357.8516	29.863	27.971	113	1.000	2926	429	147	367	3	5.51(1.32-1.78)	
A Non-2,3,7,8-sub-HxCDF											RQ
373.8208	34.655	34.726	-4	1.000	14585	2036	857	2142	2		
375.8178	34.671	34.726	-3	1.000	11747	1766	674	1685	3	1.24(1.05-1.43)	
373.8208	34.839	34.726	7	1.000	19740	3408	857	2142	4		
375.8178	34.822	34.726	6	1.000	16843	2715	674	1685	4	1.17(1.05-1.43)	
373.8208	35.703	34.726	59	1.000	29263	3164	857	2142	4		
375.8178	35.678	34.726	57	1.000	16325	2283	674	1685	3	1.79(1.05-1.43)	
373.8208	37.146	34.726	145	1.000	9065	1039	857	2142	1		
375.8178	37.070	34.726	140	1.000	9284	908	674	1685	1	0.98(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8158	35.107	35.124	-1	1.000	19272	3310	373	932	9		
391.8127	35.107	35.124	-1	1.000	15745	2760	303	757	9	1.22(1.05-1.43)	
389.8158	35.904	35.124	47	1.000	15414	2124	373	932	6		
391.8127	35.896	35.124	46	1.000	14517	1786	303	757	6	1.06(1.05-1.43)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.408	38.378	2	1.000	1426693	468815	868	2170	540		
409.7788	38.408	38.378	2	1.000	1332229	447613	766	1915	584	1.07(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.666	39.641	2	1.000	1176637	417678	868	2170	481		
409.7788	39.666	39.641	2	1.000	1087582	395659	766	1915	517	1.08(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7817	39.037						868	2170			
409.7788	39.037						766	1915			
1,2,3,4,6,7,8-HpCDD											
423.7767	39.364	39.334	2	1.000	916269	309891	497	1242	624		
425.7737	39.364	39.334	2	1.000	874956	295620	441	1102	670	1.05(0.88-1.20)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-HpCDD											
423.7767	39.134						497	1242			
425.7737	39.134						441	1102			
1,3,6,8-TCDF											
303.9016	15.669	15.669	0		1664855	345652	365	912	947		
305.8987	15.661	15.669	-1		2033290	427961	448	1120	955	0.82(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	17.259	17.259	0		886578	166481	189	472	881		
321.8936	17.259	17.259	0		1122396	211236	134	335	1576	0.79(0.65-0.89)	
2,3,4,7-TCDF											
303.9016	19.904	19.904	0		2867994	412294	365	912	1130		
305.8987	19.904	19.904	0		3550390	511529	448	1120	1142	0.81(0.65-0.89)	
1,2,3,7-TCDD											
319.8965	21.019	21.019	0		734489	109587	189	472	580		
321.8936	21.010	21.019	-1		950496	137423	134	335	1026	0.77(0.65-0.89)	
1,2,3,9-TCDF											R
303.9016	21.408	21.408	0		1235191	175912	365	912	482		
303.9016	21.408	21.408	0		1235191	175912	365	912	482	1.00(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	21.512	21.512	0		852214	116531	189	472	617		
321.8936	21.512	21.512	0		1081970	147181	134	335	1098	0.79(0.65-0.89)	
1,2,8,9-TCDF											
303.9016	23.171	23.171	0		1297438	191225	365	912	524		
305.8987	23.171	23.171	0		1581422	239428	448	1120	534	0.82(0.65-0.89)	
1,2,8,9-TCDD											
319.8965	23.258	23.258	0		796641	122730	189	472	649		
1,3,4,6,8-PeCDF											
339.8597	23.672	23.672	0		1308860	243917	47	117	5190		
341.8567	23.672	23.672	0		814400	152978	61	152	2508	1.61(1.32-1.78)	
1,2,4,7,9-PeCDD											
355.8546	25.703	25.703	0		1003649	170976	267	667	640		
357.8516	25.703	25.703	0		638634	109995	147	367	748	1.57(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	30.240	30.240	0		982102	143598	267	667	538		
357.8516	30.232	30.240	-1		627535	91717	147	367	624	1.57(1.32-1.78)	
1,2,3,8,9-PeCDF											
339.8597	30.399	30.399	0		1439754	203462	280	700	727		
341.8567	30.399	30.399	0		893259	123914	237	592	523	1.61(1.32-1.78)	
1,2,3,4,6,8-HxCDF											
373.8208	32.759	32.759	0		1538335	244733	857	2142	286		
375.8178	32.759	32.759	0		1195626	189943	674	1685	282	1.29(1.05-1.43)	
1,2,4,6,7,9-HxCDD											
389.8158	33.917	33.917	0		1083517	213641	373	932	573		
391.8127	33.917	33.917	0		856791	170926	303	757	564	1.26(1.05-1.43)	
1,2,3,4,6,7-HxCDD											
389.8158	36.332	36.332	0		1065259	280262	373	932	751		
391.8127	36.332	36.332	0		846002	223180	303	757	737	1.26(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,8,9-HxCDF											
373.8208	36.692	36.692	0		1479784	403447	857	2142	471		
375.8178	36.692	36.692	0		1177020	316764	674	1685	470	1.26(1.05-1.43)	
1,2,3,4,6,7,9-HpCDD											
423.7767	38.719	38.719	0		962079	323451	497	1242	651		
425.7737	38.719	38.719	0		925887	309534	441	1102	702	1.04(0.88-1.20)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

n - Failed Sig-To-Noise Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNCP_00040 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_2.d
Lims ID: WDM
Client ID:
Inject. Date: 18-Oct-2019 19:15:00 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 332505 Lims Sample ID: 1

Non-2,3,7,8-sub-TCDF, RT: 19.420

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.233	D 13C-2,3,7,8-TCDF	40.000	2743689	434813

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.233		40.000	2743689	434813

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
18.228	11435	2522	15690	2606	0.3207	0.73	
19.161	10672	1887	14729	2534	0.3003	0.72	
23.672	39517	7172	56310	8407	1.13	0.70	
Signal Totals:							
	61624	11581	86729	13547			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	148353	25128				0.71	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.754 = (148353 * 40.000) / (2743689 * 1.233)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_2.d
Lims ID: WDM
Client ID:
Inject. Date: 18-Oct-2019 19:15:00 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 332505 Lims Sample ID: 1

Non-2,3,7,8-sub-TCDD, RT: 20.259

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.199	D 13C-2,3,7,8-TCDD	40.000	1646257	252211

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.199		40.000	1646257	252211

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
23.577	4853	879	4619	833	0.1920	1.05	RQ
23.577	3556	641	4619	833	0.1657		Empc Correction
Signal Totals:							
	3556	641	4619	833			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	9472	1712				1.05	RQ
	8175	1474					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.1920 = (9472 * 40.000) / (1646257 * 1.199)
Empc Amount: 0.1657 = (8175 * 40.000) / (1646257 * 1.199)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_2.d
Lims ID: WDM
Client ID:
Inject. Date: 18-Oct-2019 19:15:00 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 332505 Lims Sample ID: 1

F1 PeCDFs, RT: 24.168

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.169				
2,3,4,7,8-PeCDF	1.186				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
17.078	1693	248	4614	713		0.37	R
Signal Totals:							
	1693	248	4614	713			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	6307	961				0.37	RQ
	2785	408					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (6307 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (2785 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_2.d
Lims ID: WDM
Client ID:
Inject. Date: 18-Oct-2019 19:15:00 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 332505 Lims Sample ID: 1

Non-2,3,7,8-sub-PeCDF, RT: 27.601

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.169				
2,3,4,7,8-PeCDF	1.186				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
25.359	8277	1008	3541	740		2.34	R
26.332	9581	1408	7634	924		1.26	R
26.751	4089	1048	1341	480		3.05	Rn
26.894	21191	3146	16624	1768		1.27	R
27.498	16419	2037	10792	1089		1.52	
28.403	15971	1167	7187	860		2.22	R
Signal Totals:							
	75528	9814	47119	5861			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	122647	15675				1.60	RQ
	108609	15918					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (122647 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (108609 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
n - Failed Sig-To-Noise Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_2.d
Lims ID: WDM
Client ID:
Inject. Date: 18-Oct-2019 19:15:00 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 332505 Lims Sample ID: 1

Non-2,3,7,8-sub-PeCDD, RT: 27.971

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDD	1.120				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	355.8546 Area	355.8546 Height	357.8516 Area	357.8516 Height	Amount	Ratio	Flags
29.183	5442	911	4214	705		1.29	R
29.896	16114	2112	2926	429		5.51	R
Signal Totals:							
	21556	3023	7140	1134			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	28696	4157				3.02	RQ
	16413	2591					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (28696 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (16413 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_2.d
Lims ID: WDM
Client ID:
Inject. Date: 18-Oct-2019 19:15:00 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 332505 Lims Sample ID: 1

Non-2,3,7,8-sub-HxCDF, RT: 34.726

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.302				
1,2,3,6,7,8-HxCDF	1.291				
2,3,4,6,7,8-HxCDF	1.304				
1,2,3,7,8,9-HxCDF	1.333				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
34.655	14585	2036	11747	1766		1.24	n
34.839	19740	3408	16843	2715		1.17	
35.703	29263	3164	16325	2283		1.79	R
37.146	9065	1039	9284	908		0.98	Rn
Signal Totals:							
	72653	9647	54199	7672			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	126852	17319				1.34	RQ
	117832	16985					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (126852 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (117832 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
n - Failed Sig-To-Noise Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_2.d
Lims ID: WDM
Client ID:
Inject. Date: 18-Oct-2019 19:15:00 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 332505 Lims Sample ID: 1

Non-2,3,7,8-sub-HxCDD, RT: 35.124

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.172				
1,2,3,6,7,8-HxCDD	1.126				
1,2,3,7,8,9-HxCDD	1.233				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	389.8158 Area	389.8158 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
35.107	19272	3310	15745	2760		1.22	
35.904	15414	2124	14517	1786		1.06	
Signal Totals:							
	34686	5434	30262	4546			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	64948	9980				1.15	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (64948 * 0.0) / (0 * 0.000)

Report Date: 23-Oct-2019 17:15:27 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_2.d		
Injection Date:	18-Oct-2019 19:15:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

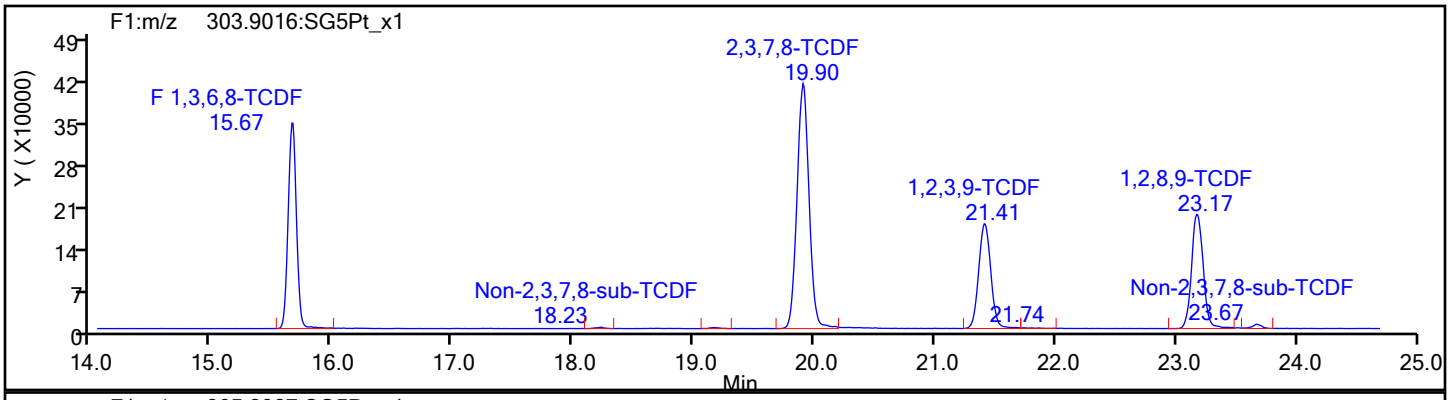

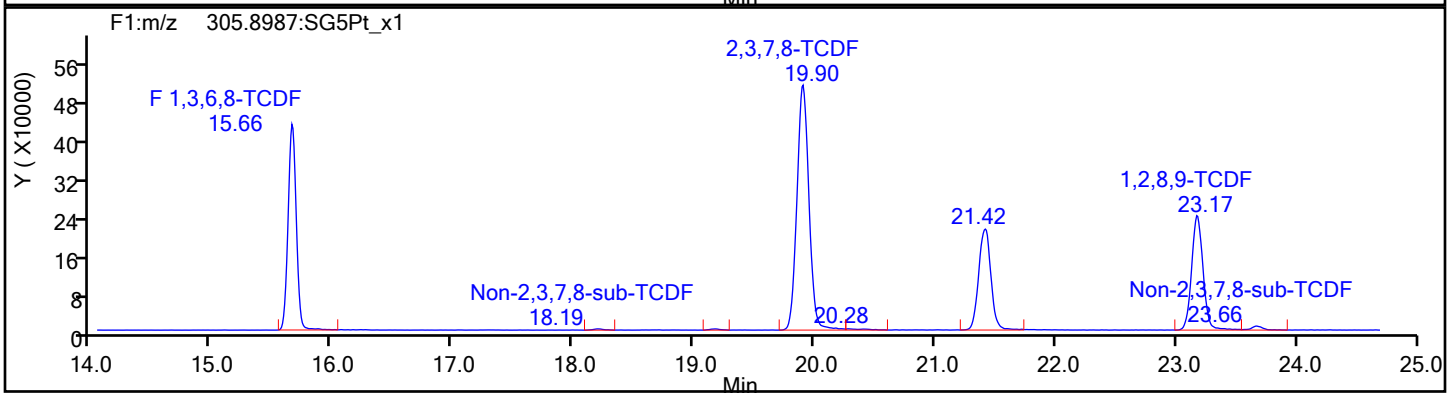

TCDF Standards

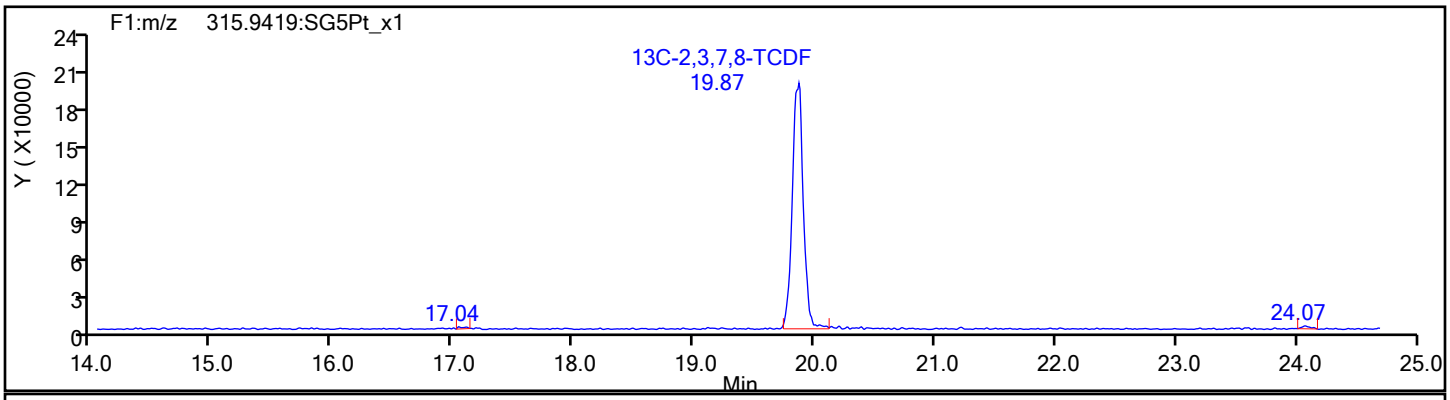

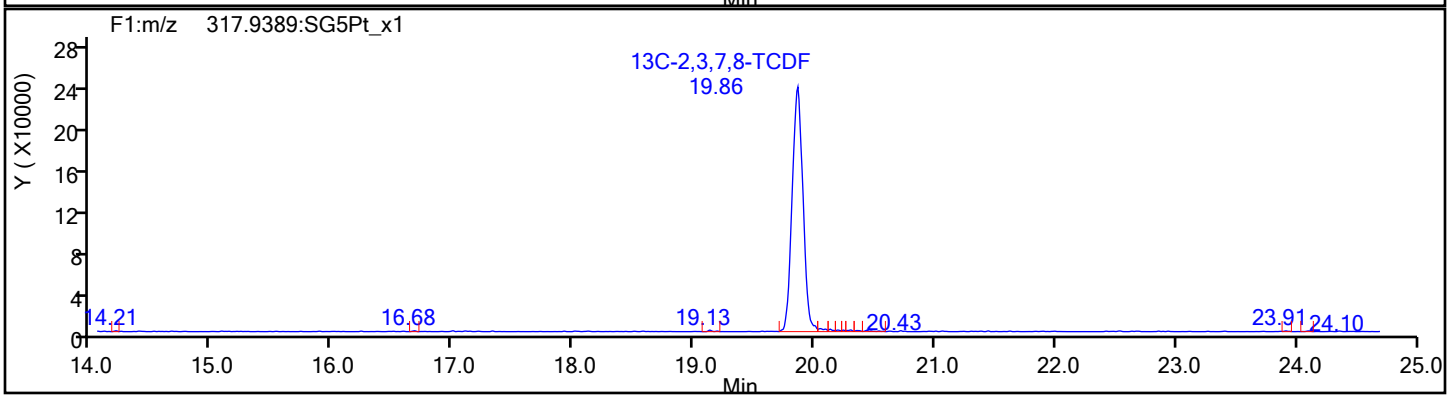

Report Date: 23-Oct-2019 17:15:27 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_2.d		
Injection Date:	18-Oct-2019 19:15:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

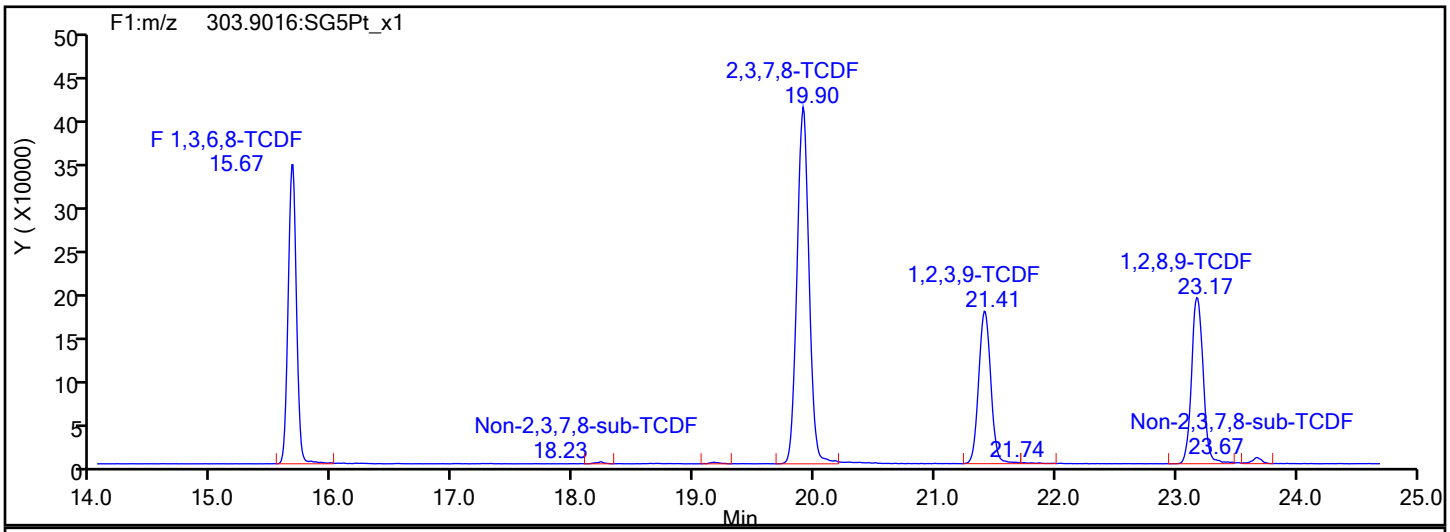

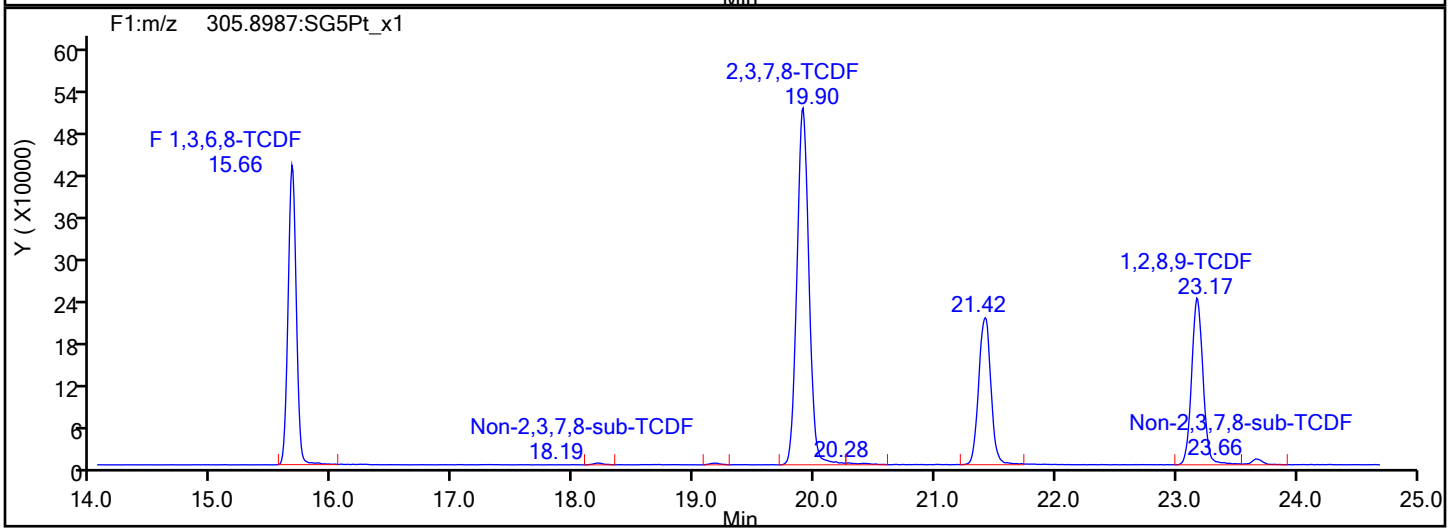

TCDF Interference Mass

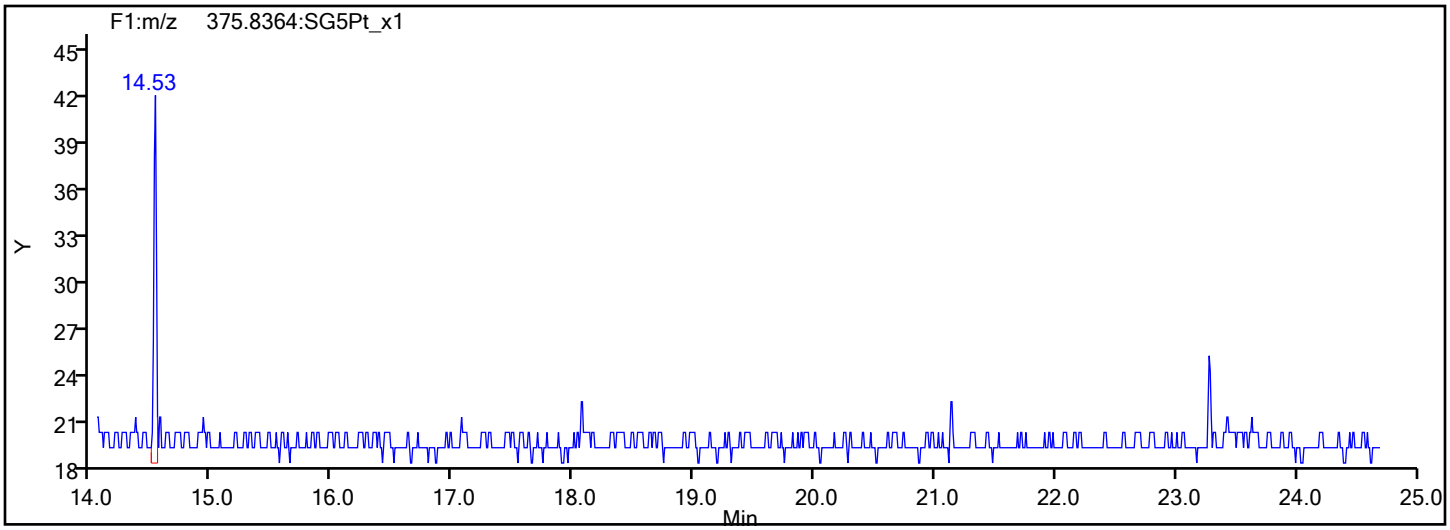

Report Date: 23-Oct-2019 17:15:27 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_2.d		
Injection Date:	18-Oct-2019 19:15:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

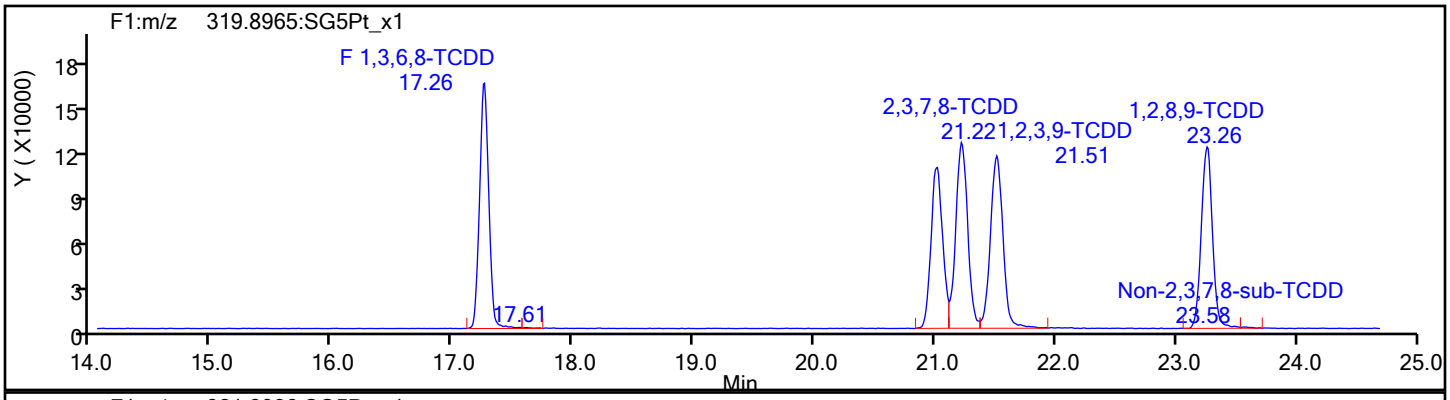

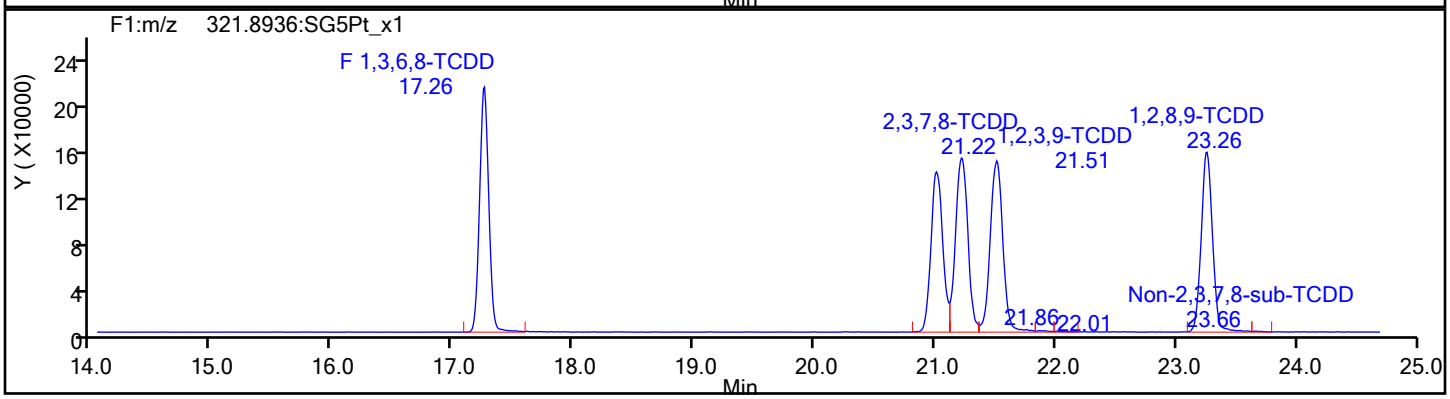

TCDD Standards

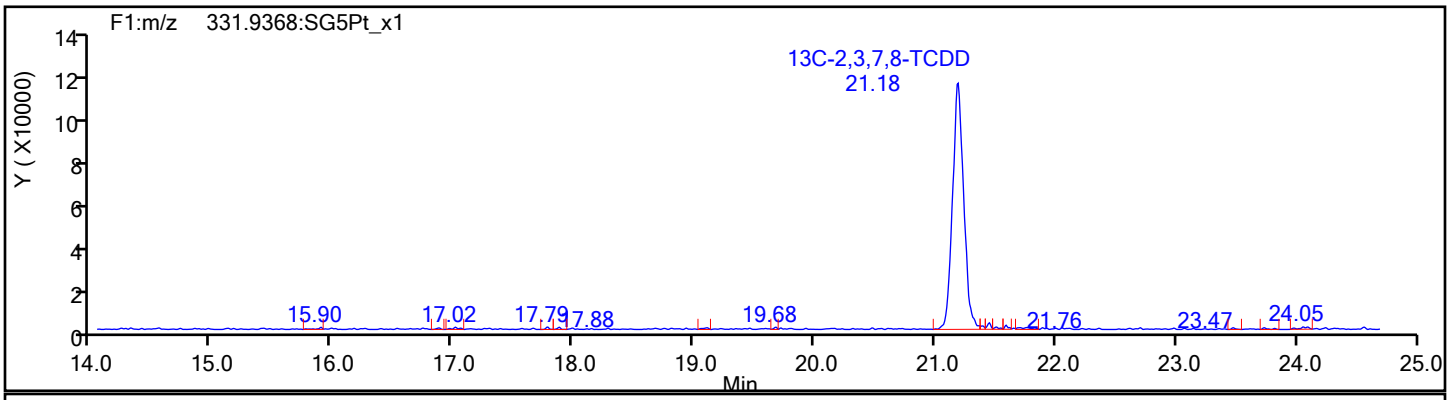

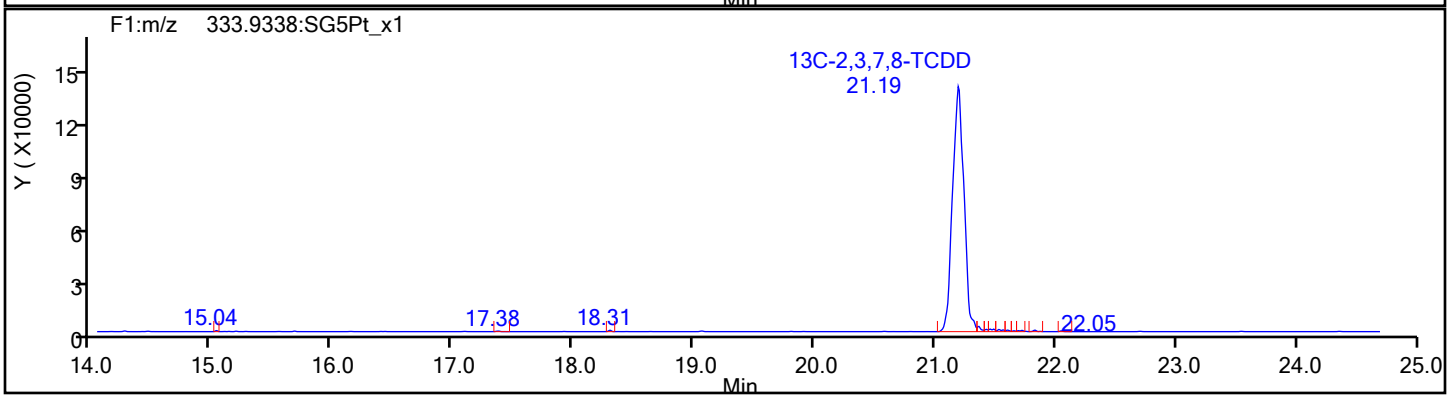

Report Date: 23-Oct-2019 17:15:27 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_2.d		
Injection Date:	18-Oct-2019 19:15:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

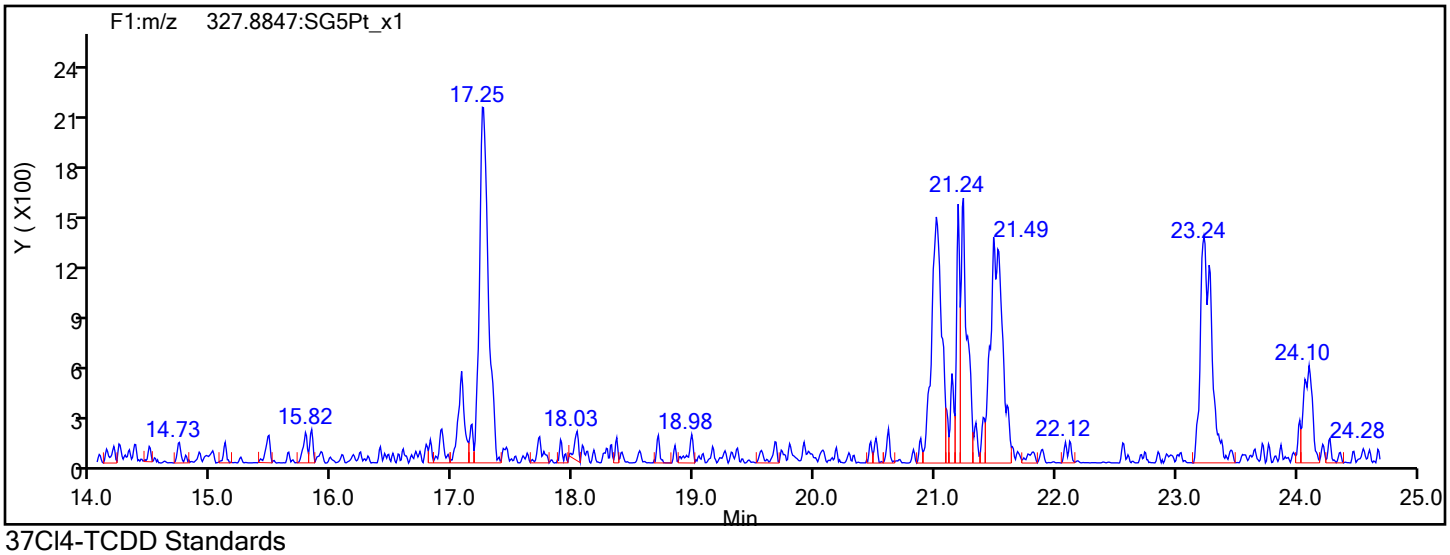

37Cl4-TCDD Standards

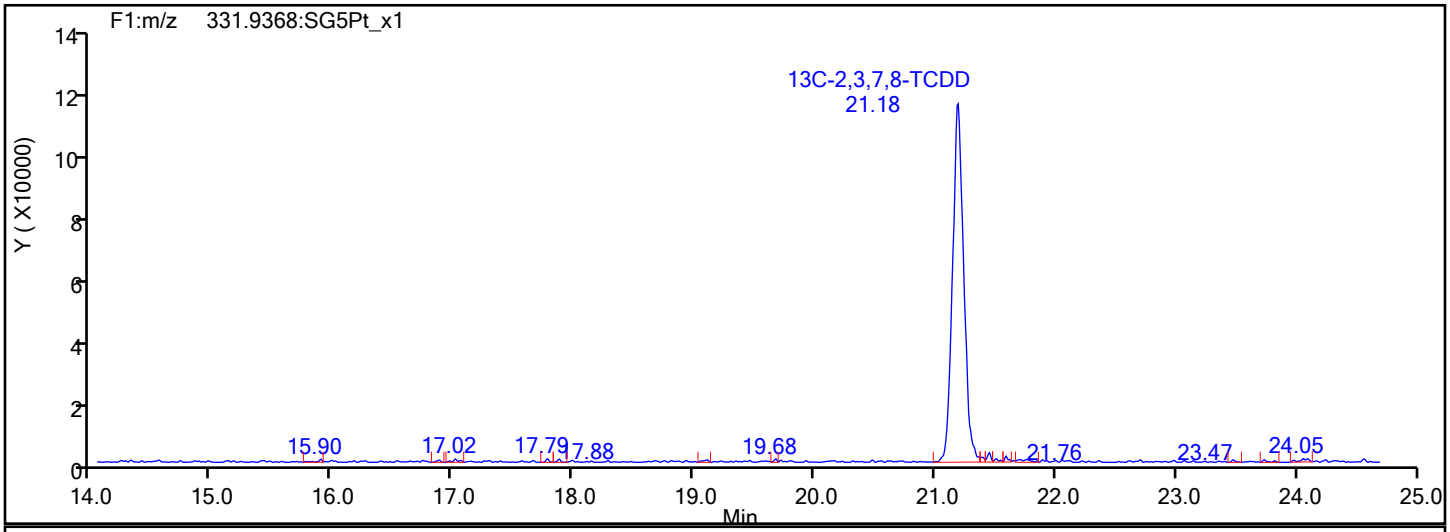

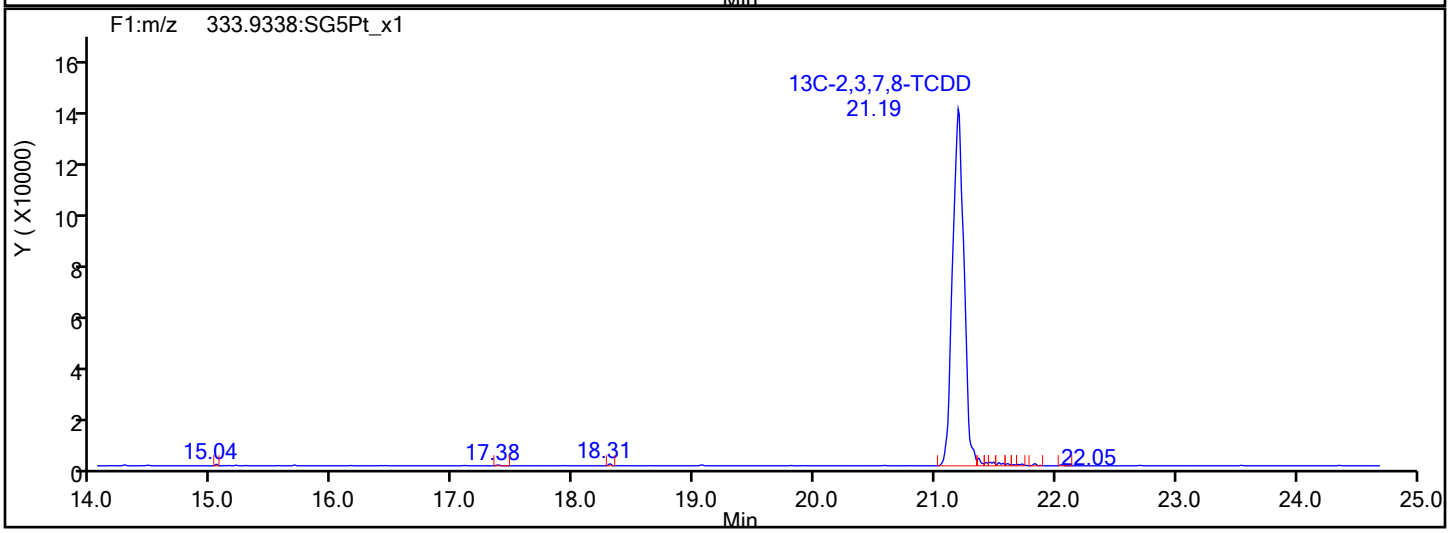

Report Date: 23-Oct-2019 17:15:27 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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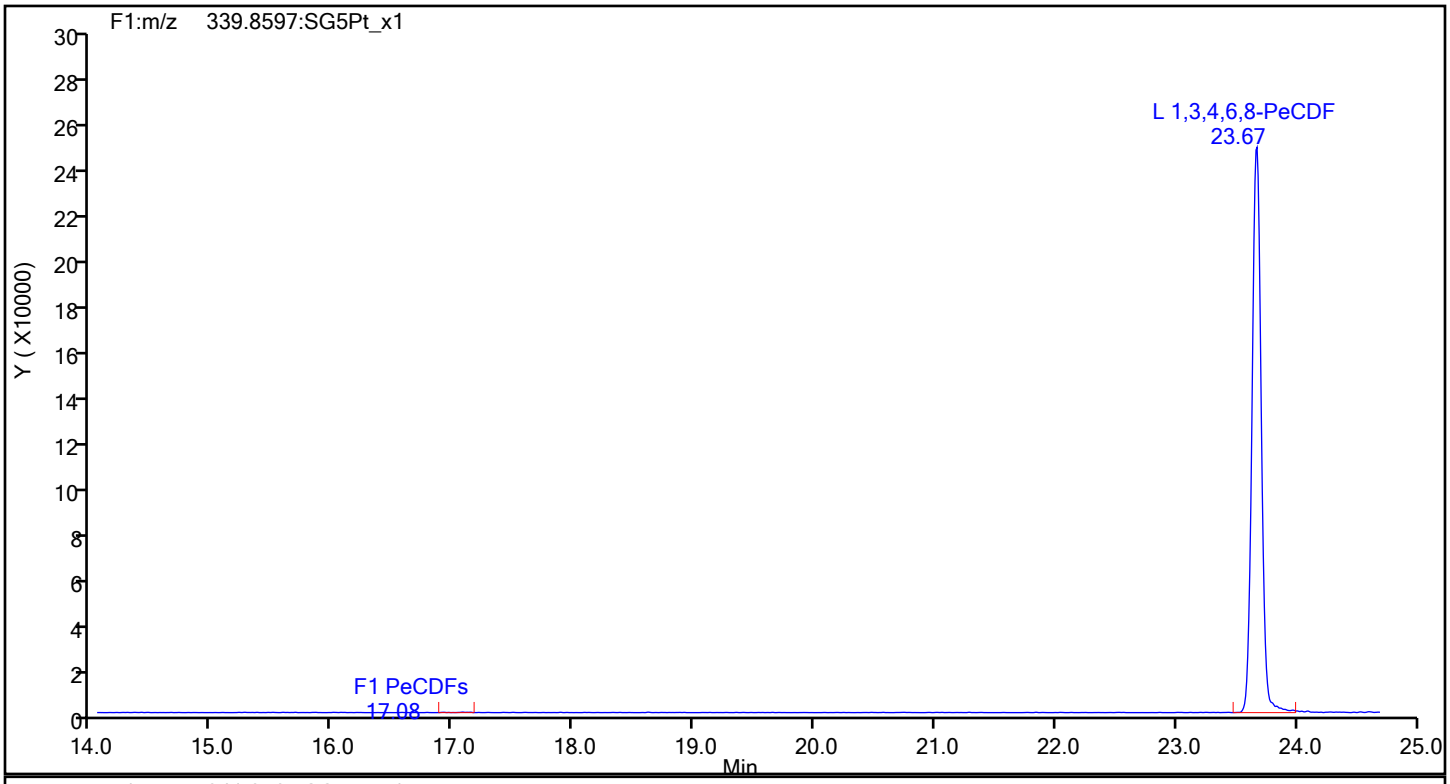

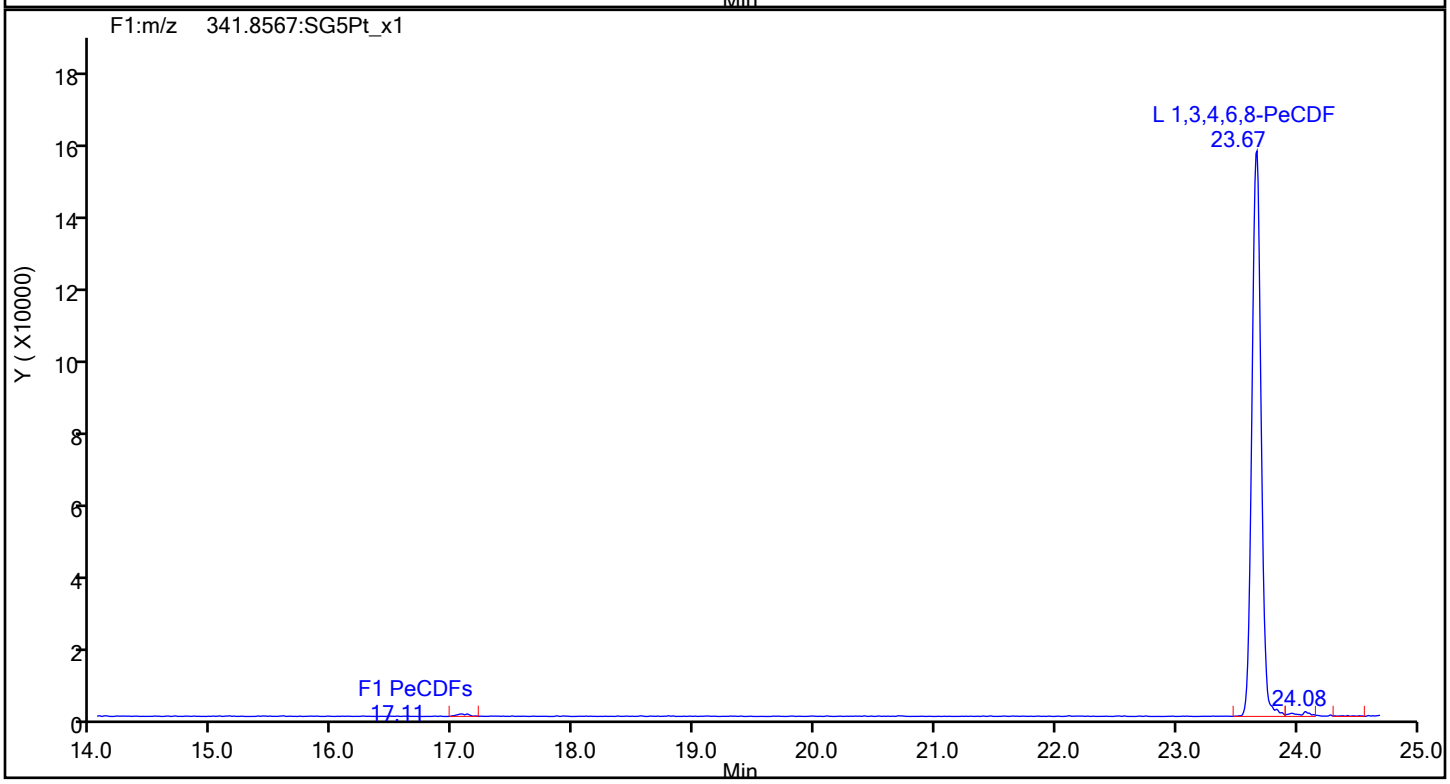

Report Date: 23-Oct-2019 17:15:27 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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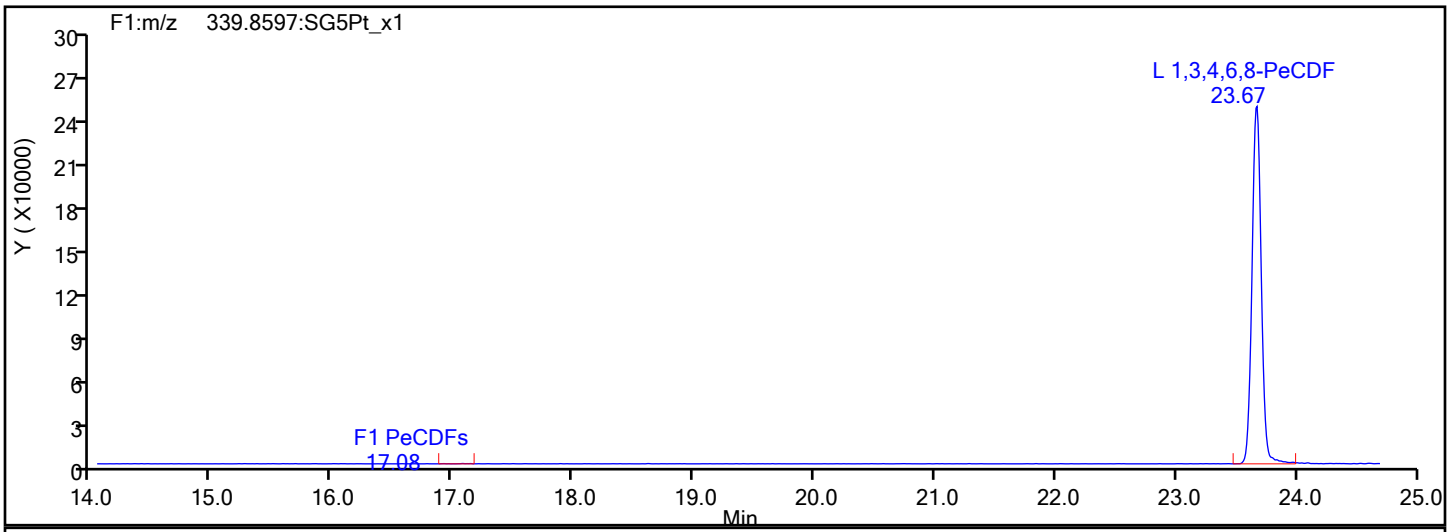

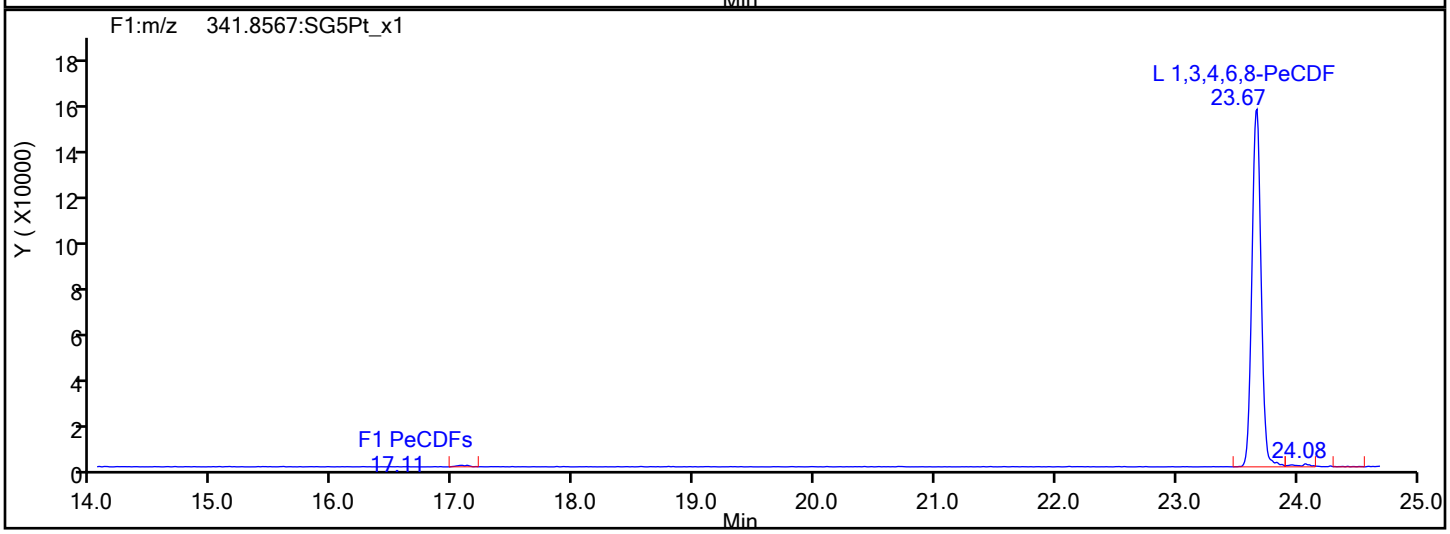

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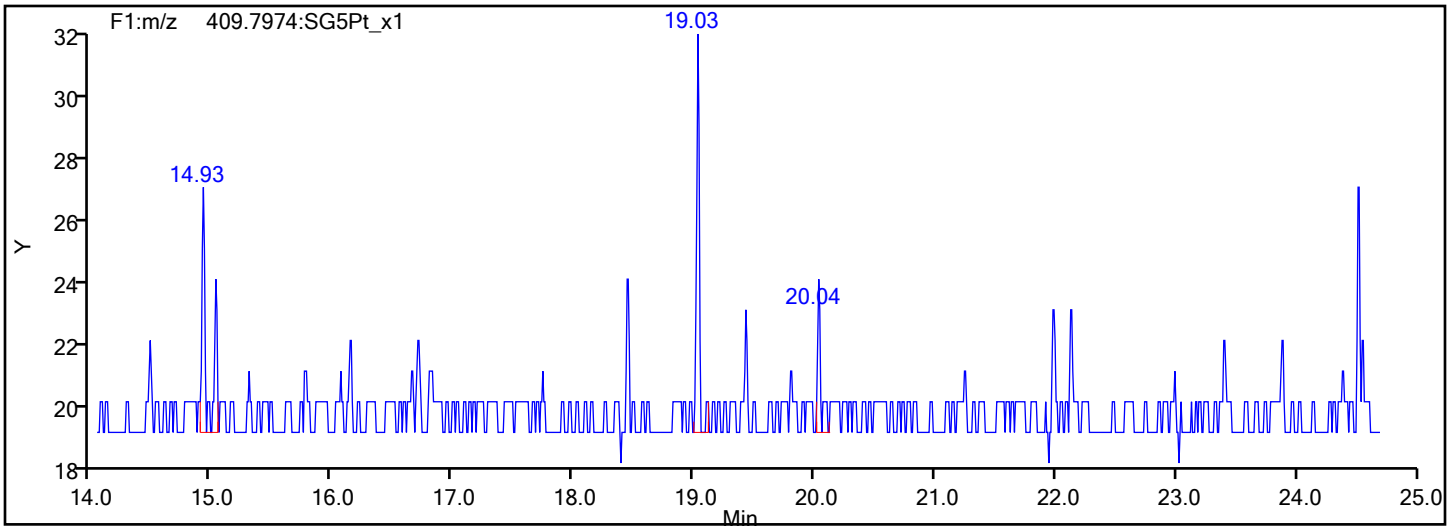

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Eurofins TestAmerica, Sacramento

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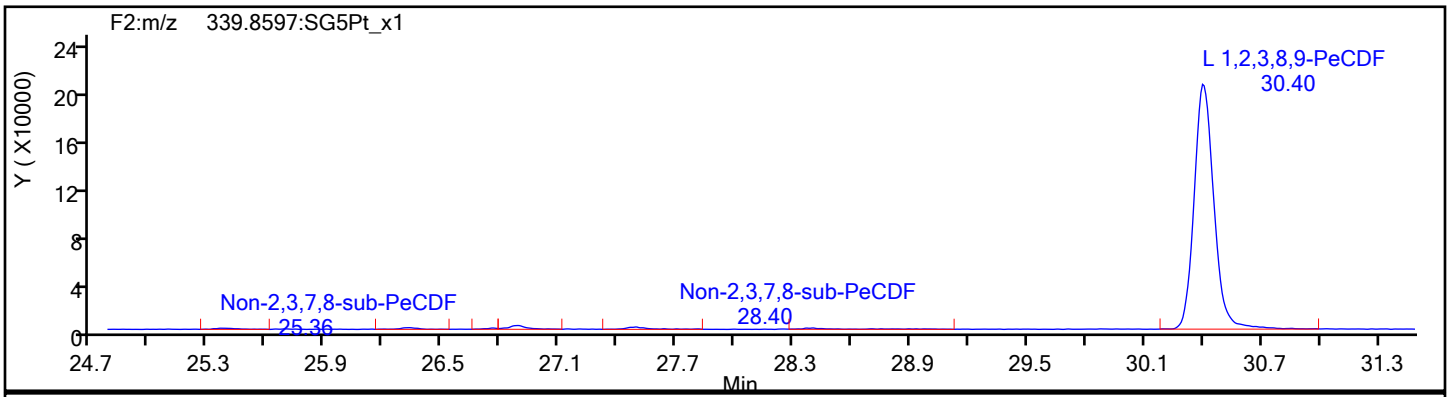

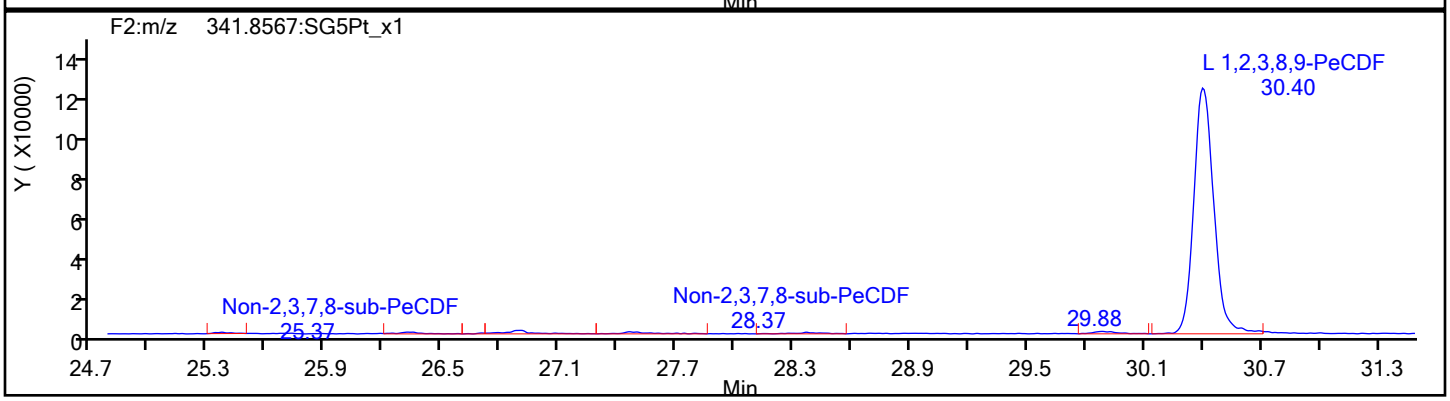

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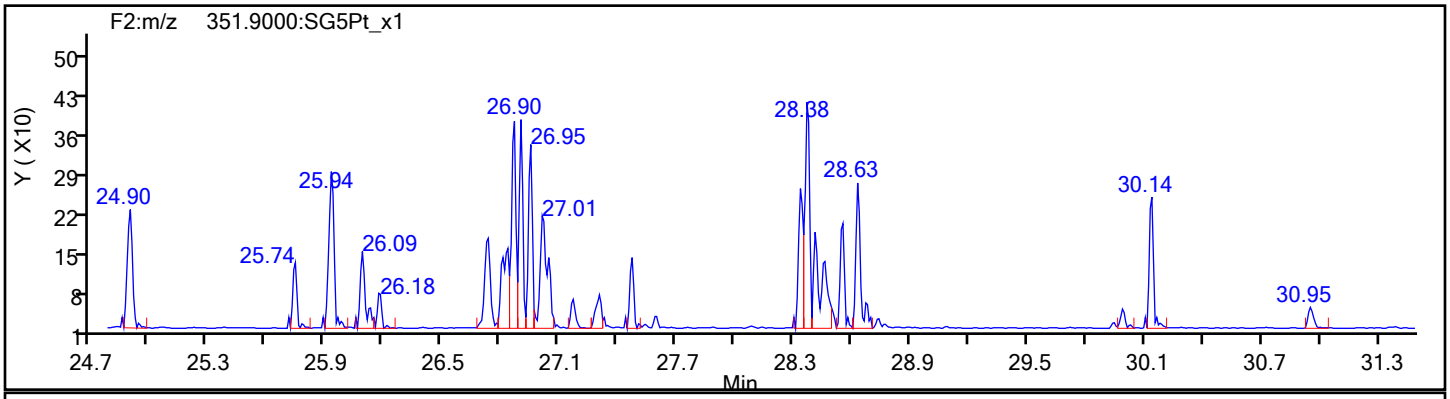

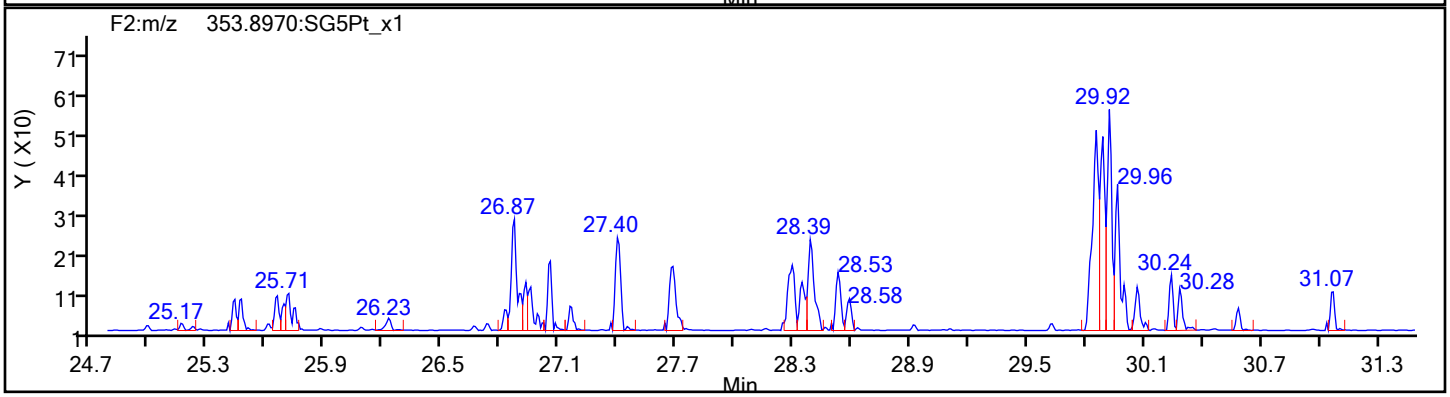

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Eurofins TestAmerica, Sacramento

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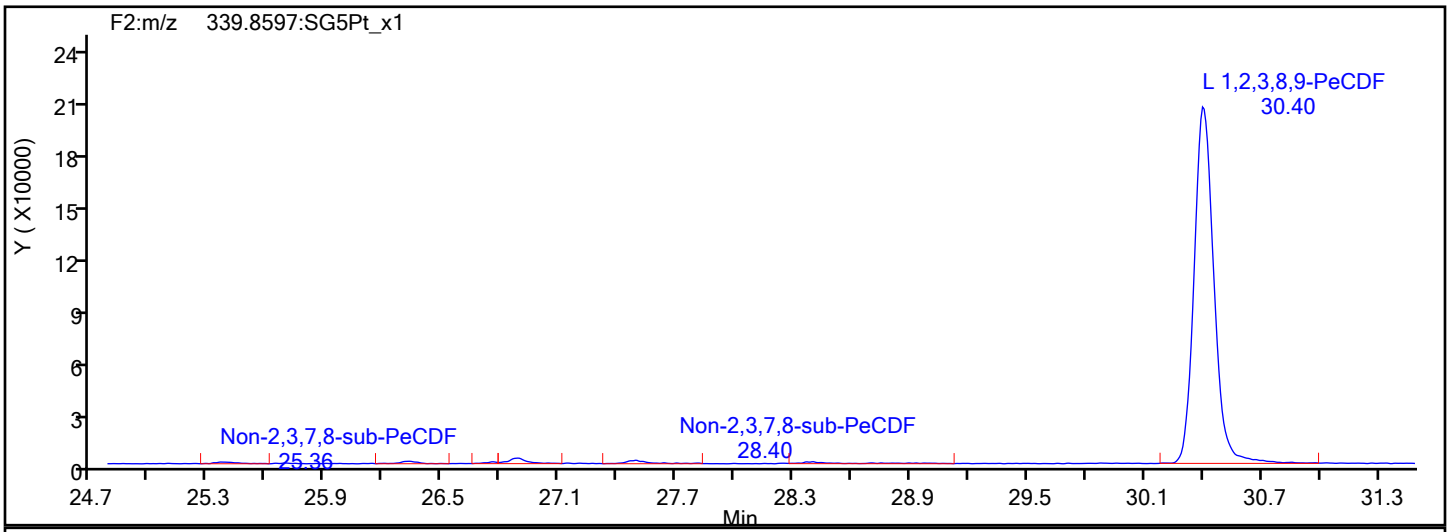

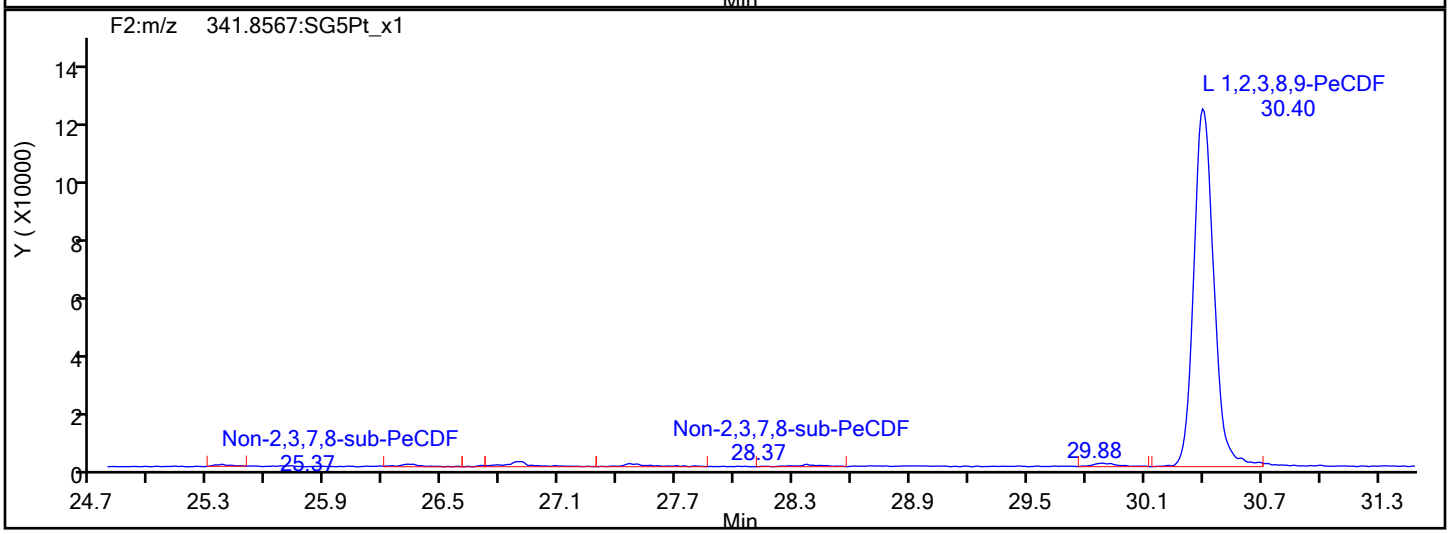

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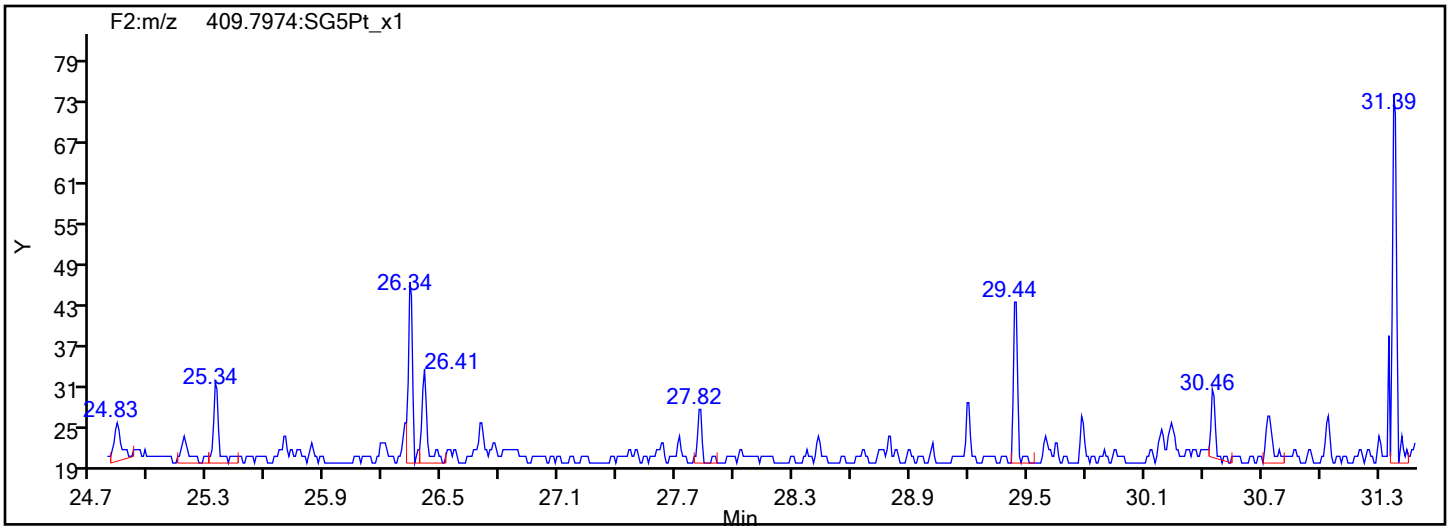

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Eurofins TestAmerica, Sacramento

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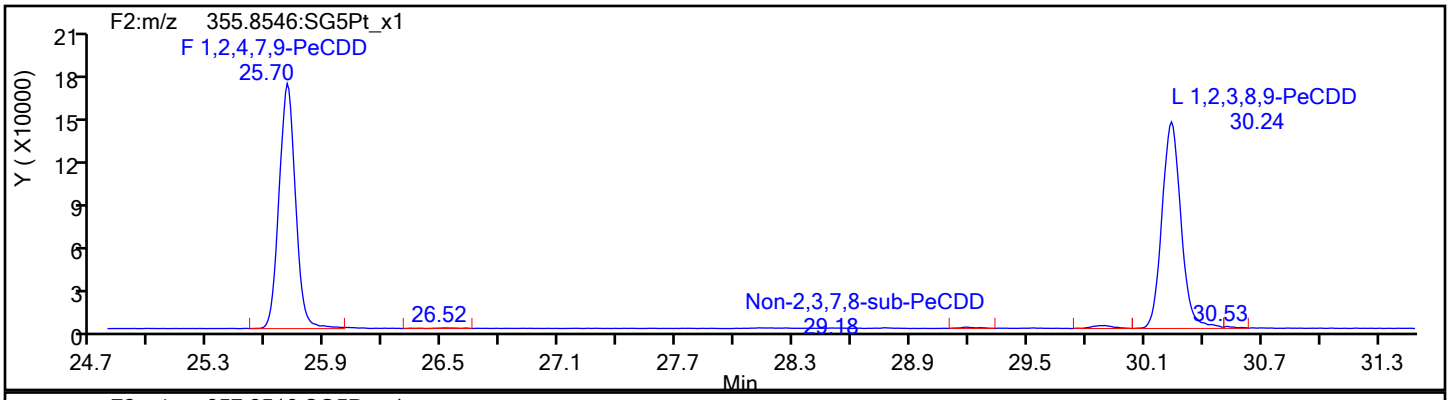

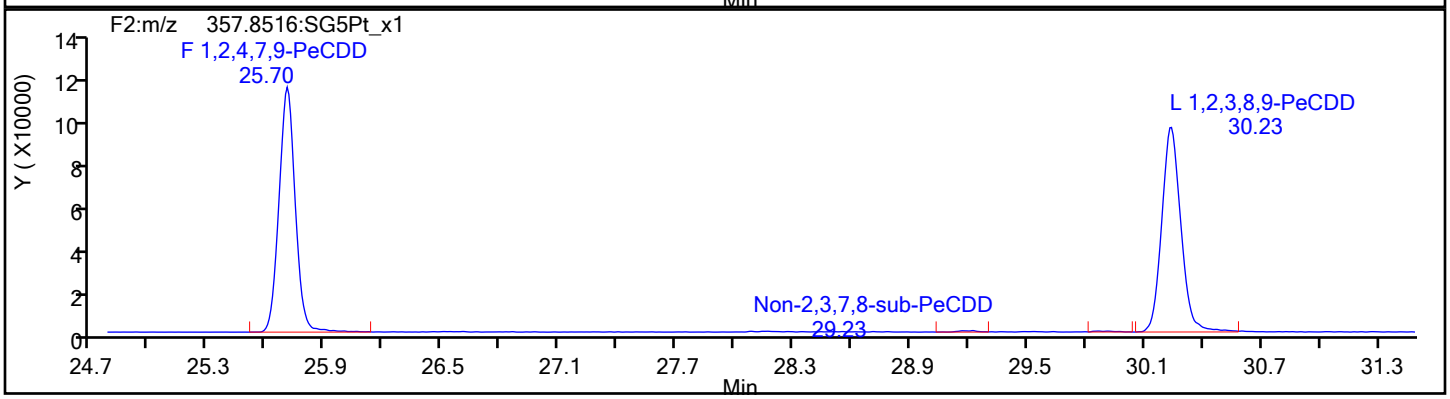

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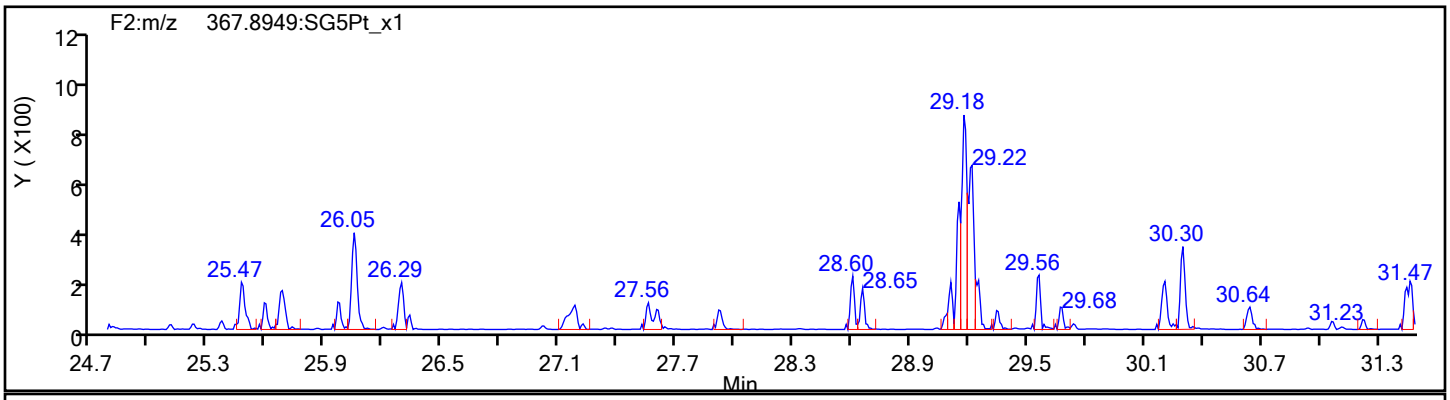

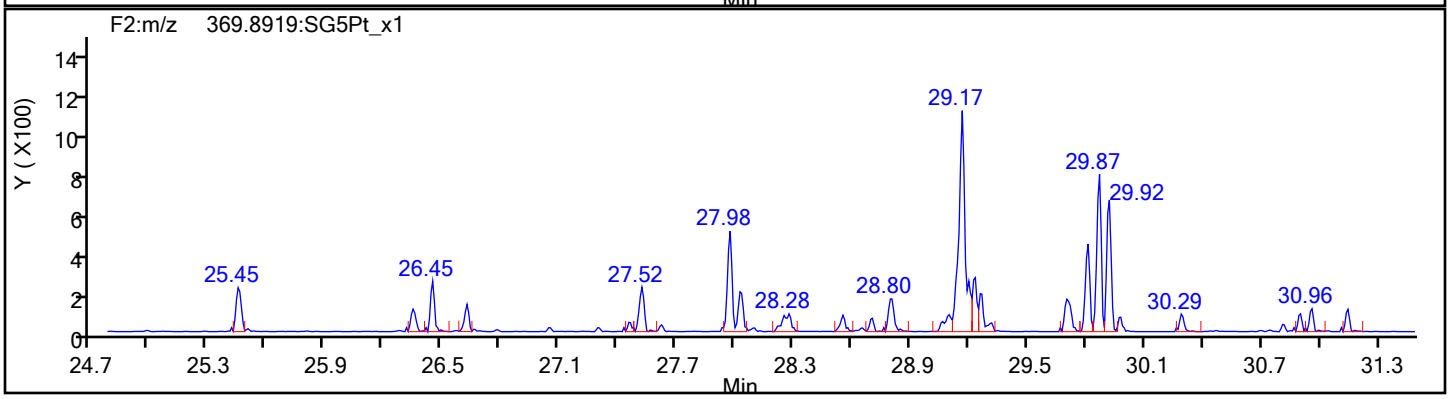

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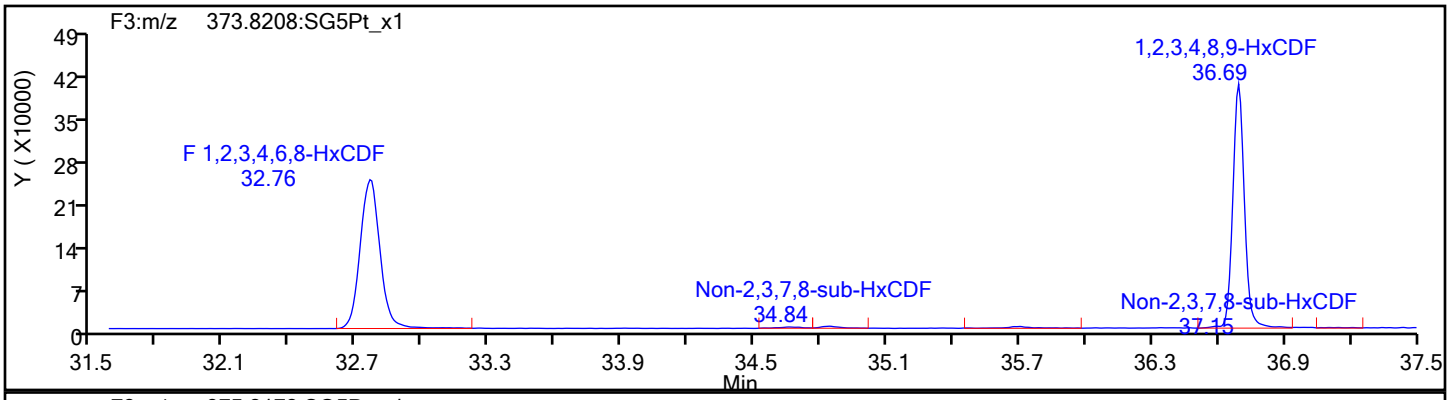

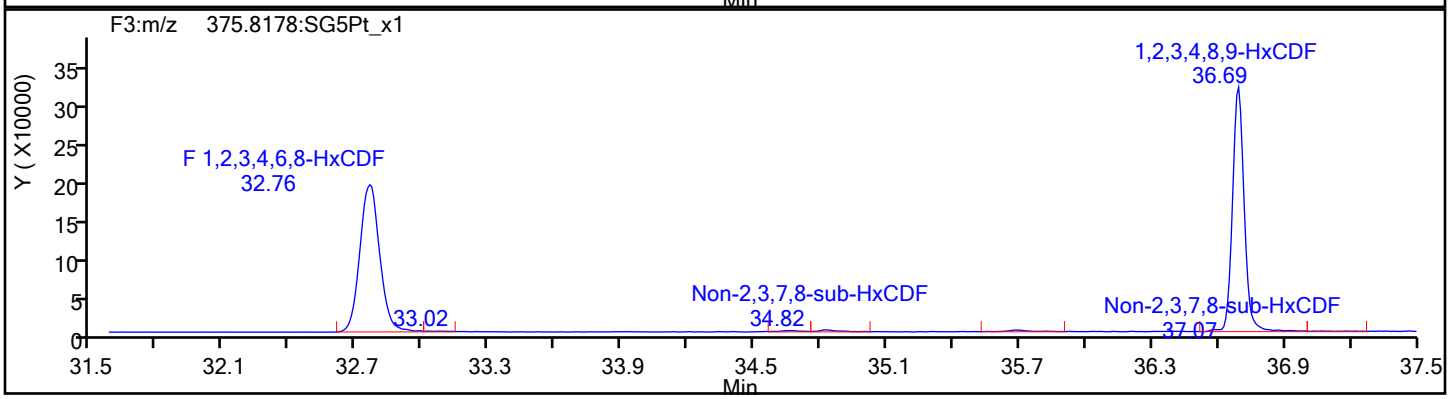

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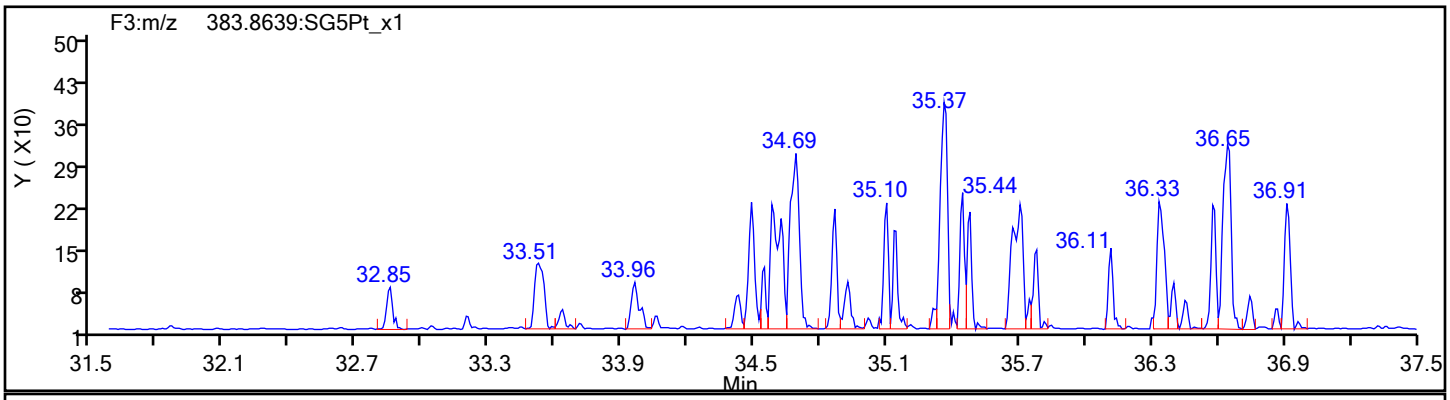

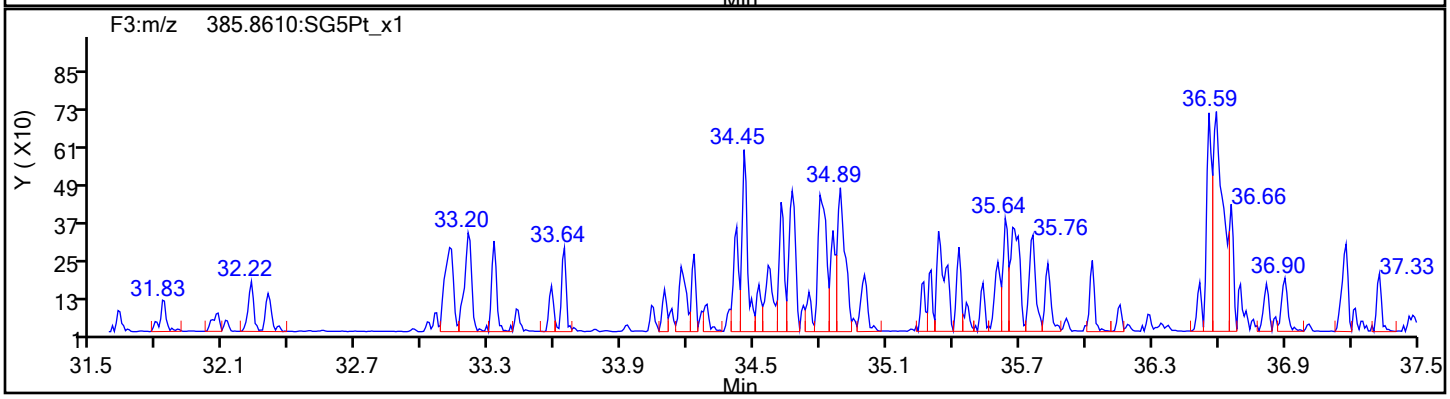

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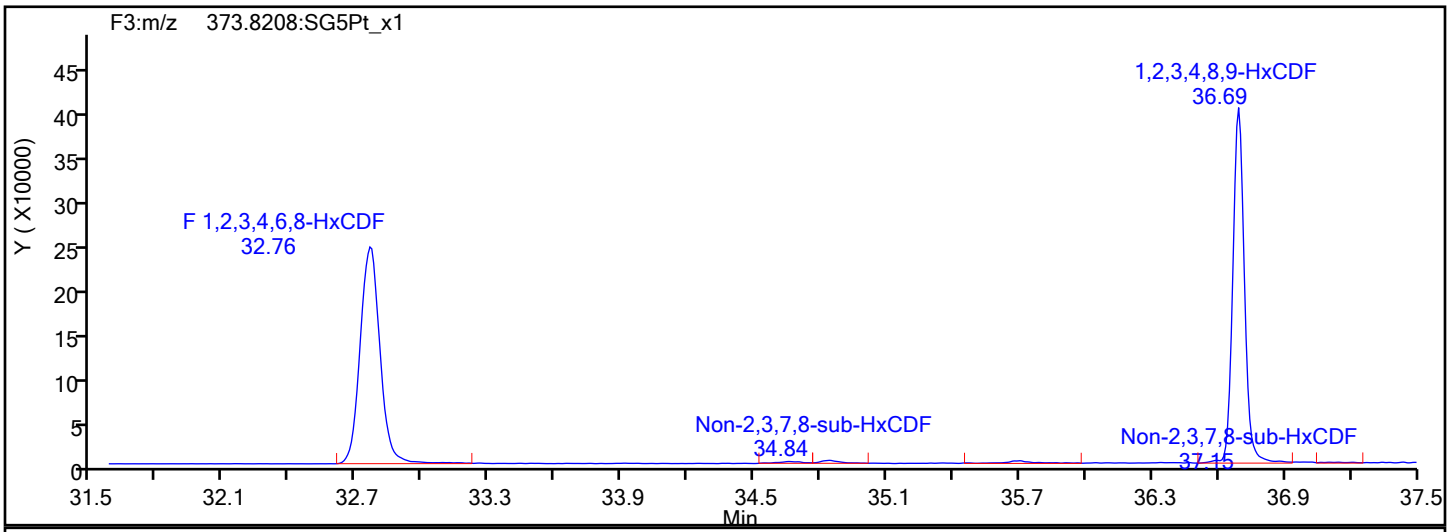

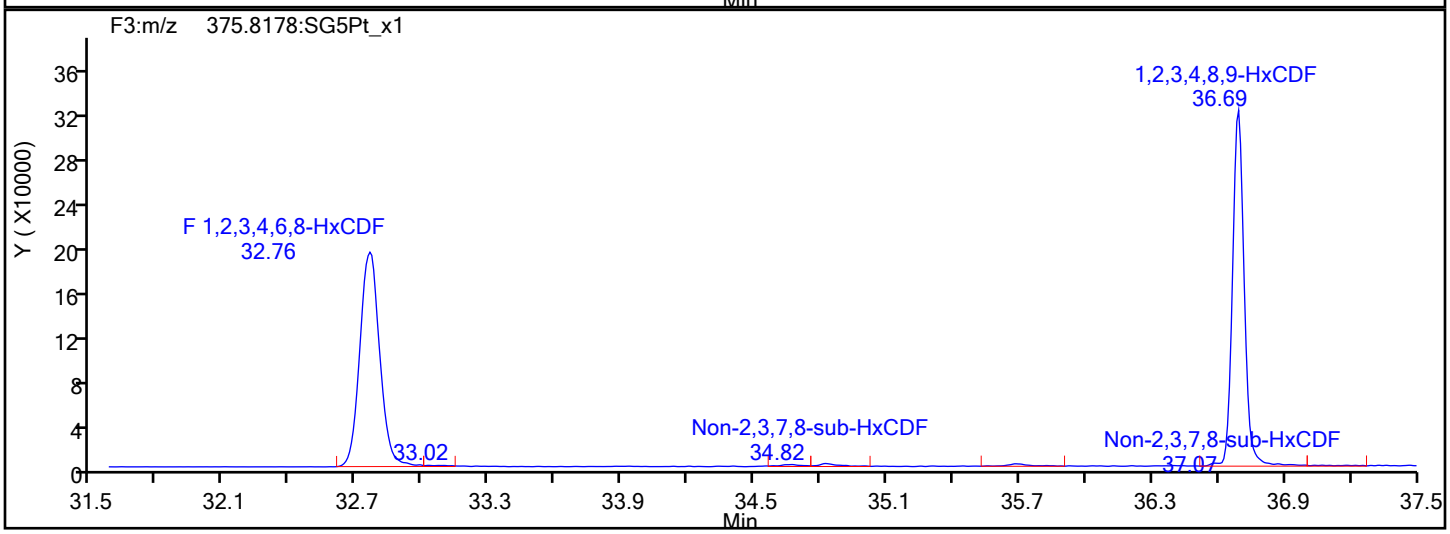

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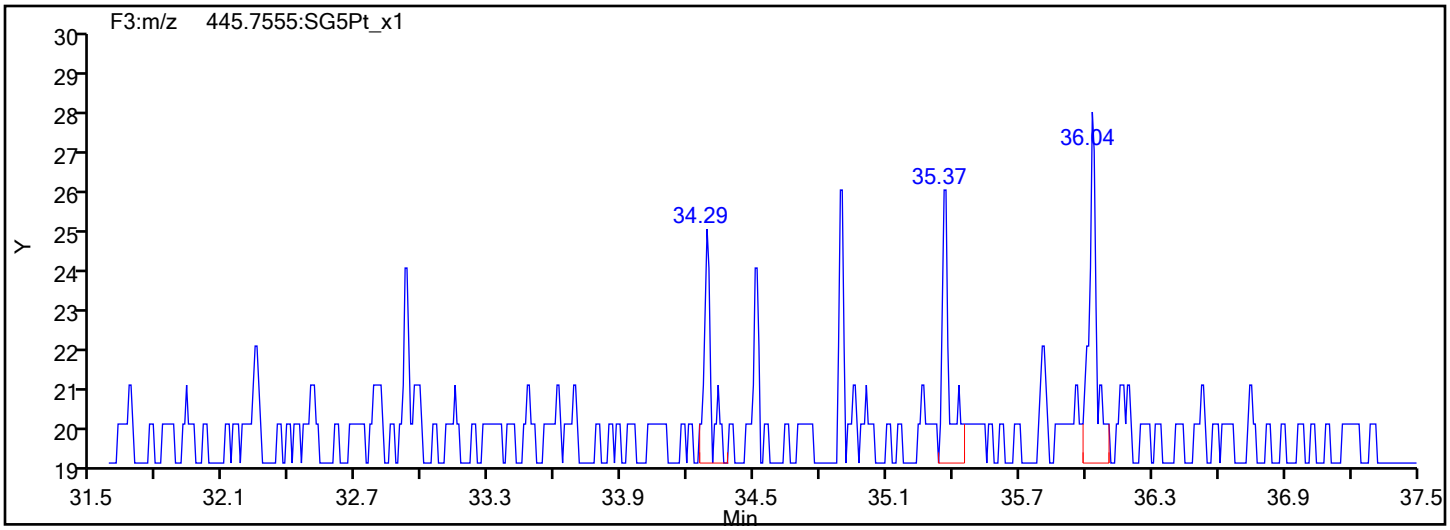

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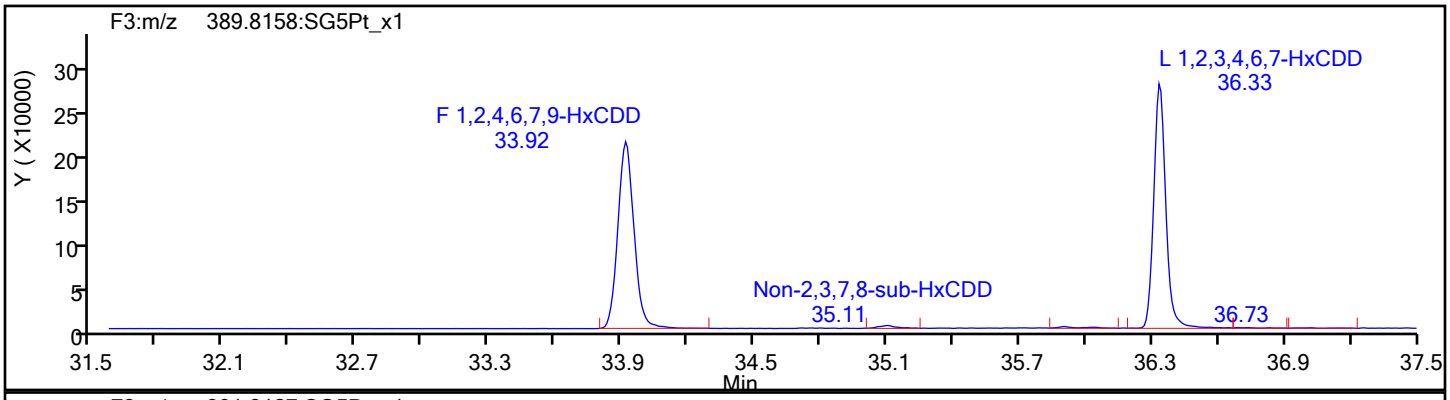

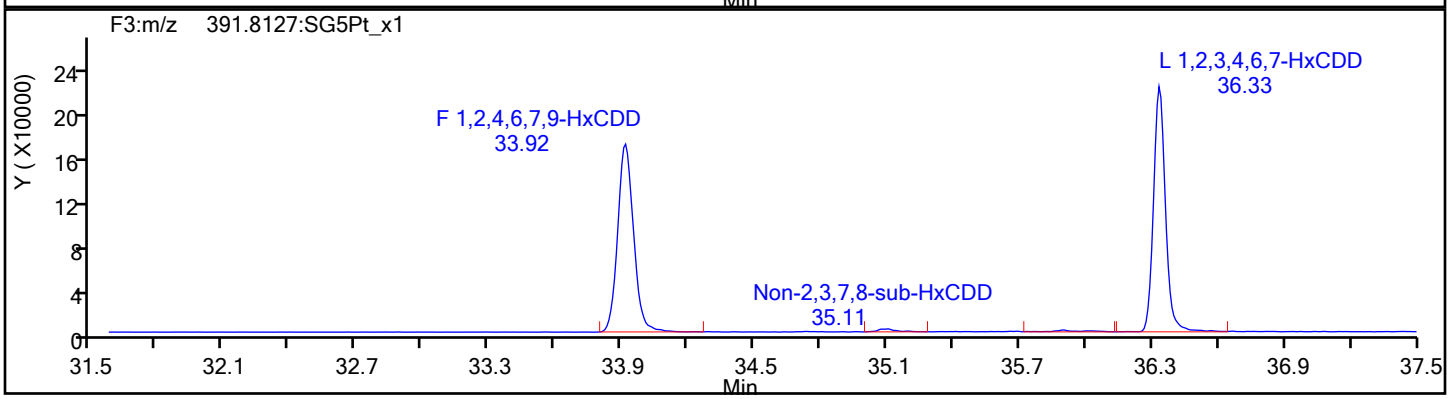

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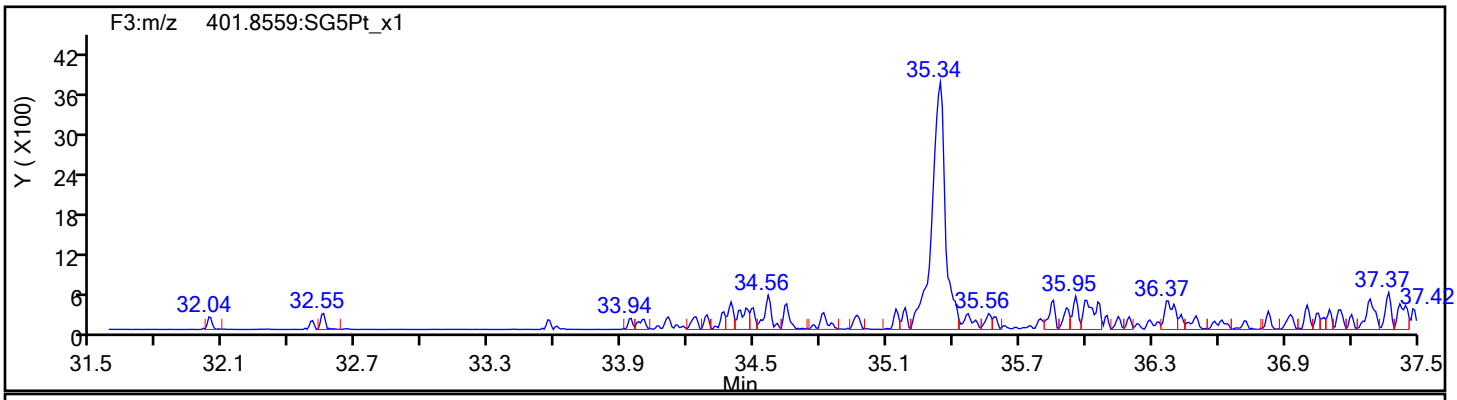

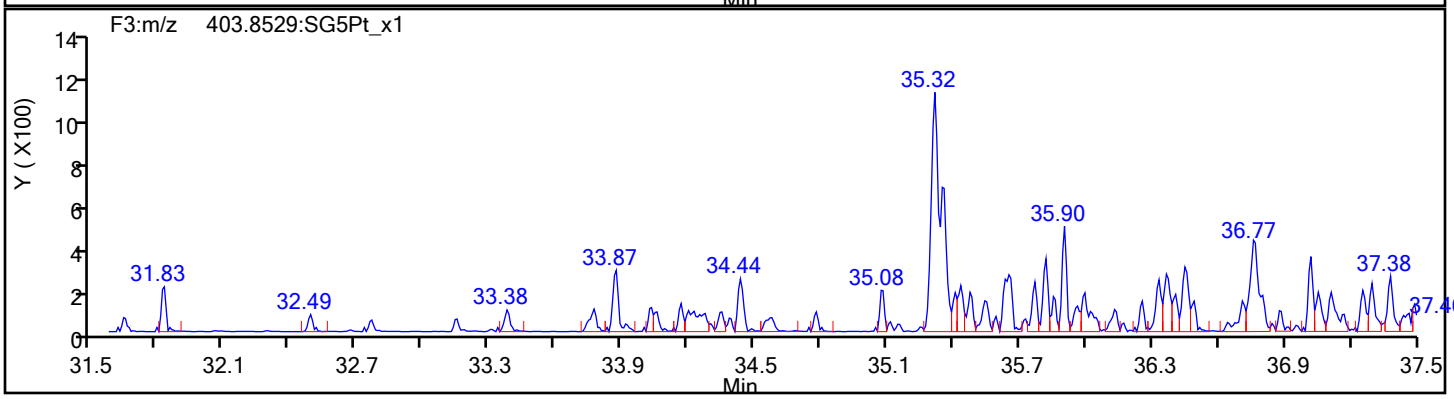

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Eurofins TestAmerica, Sacramento

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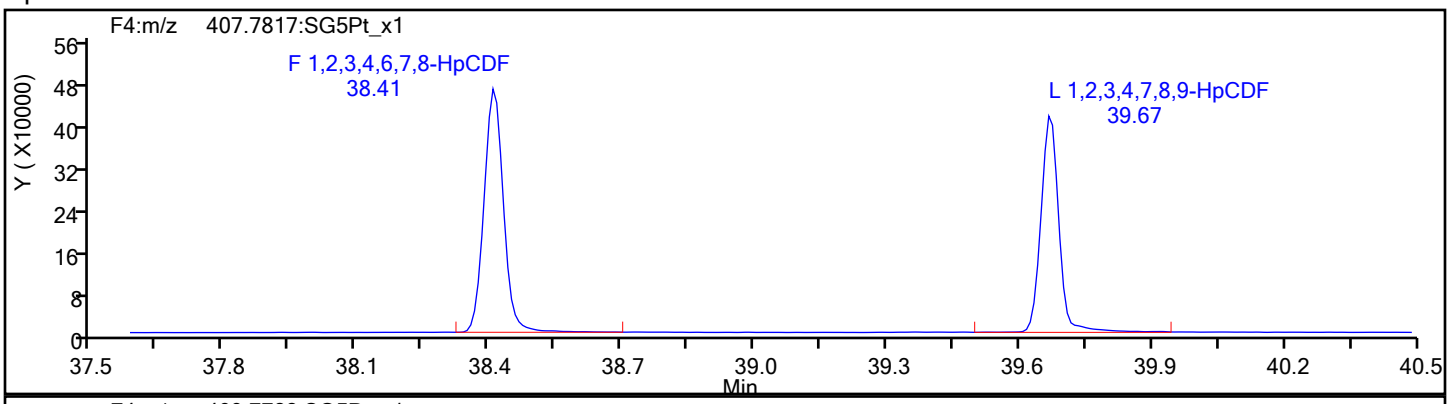

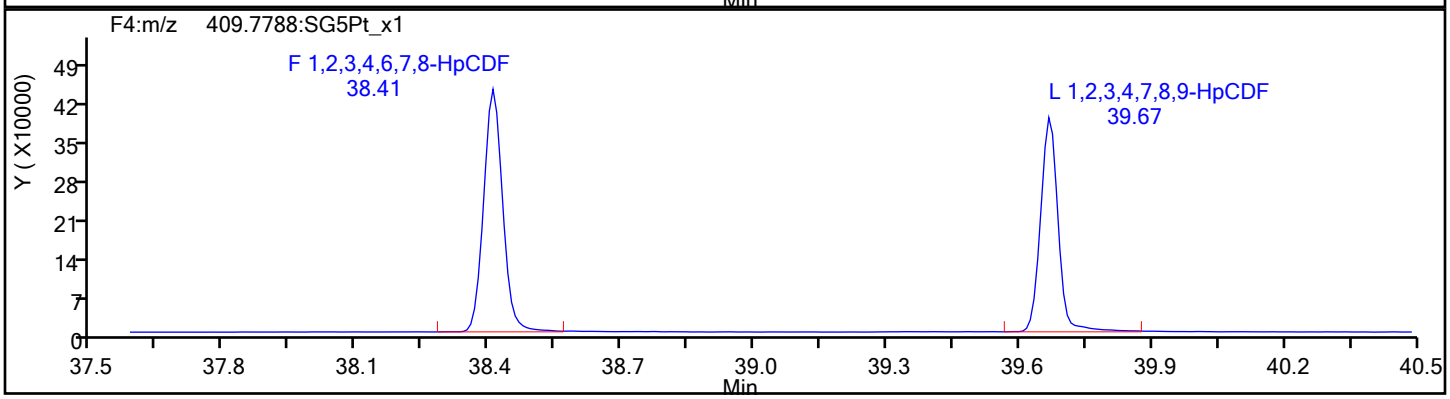

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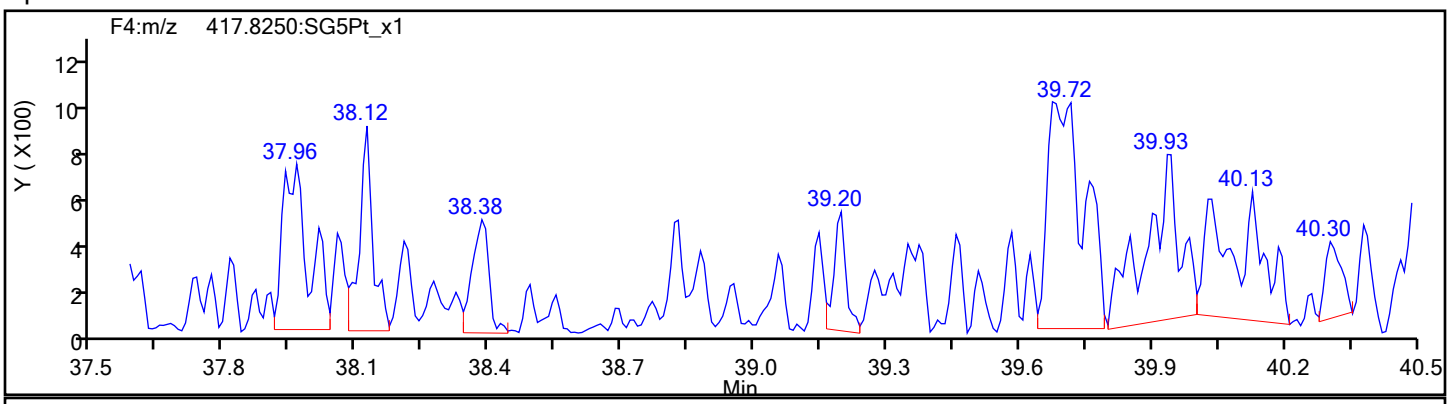

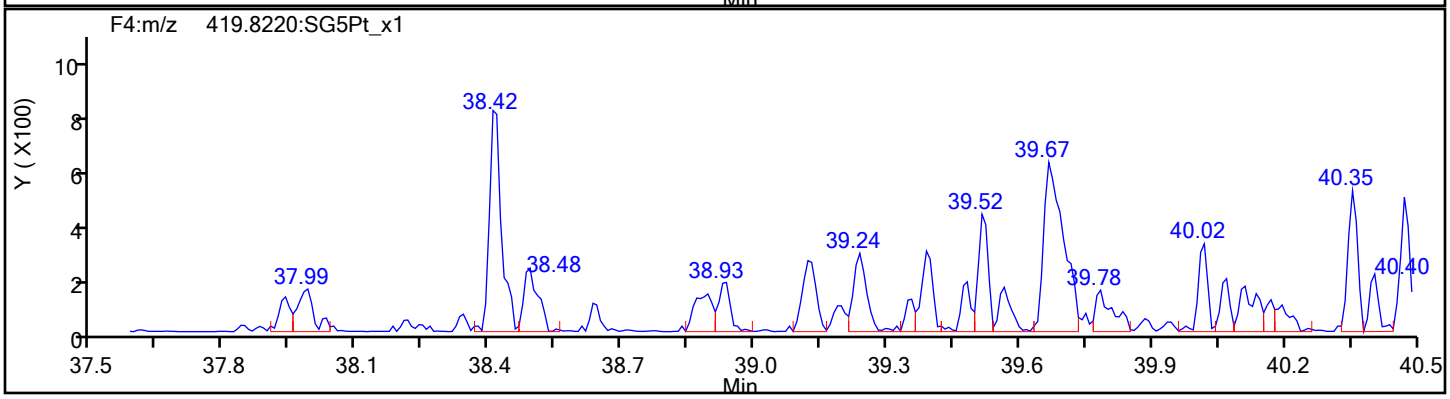

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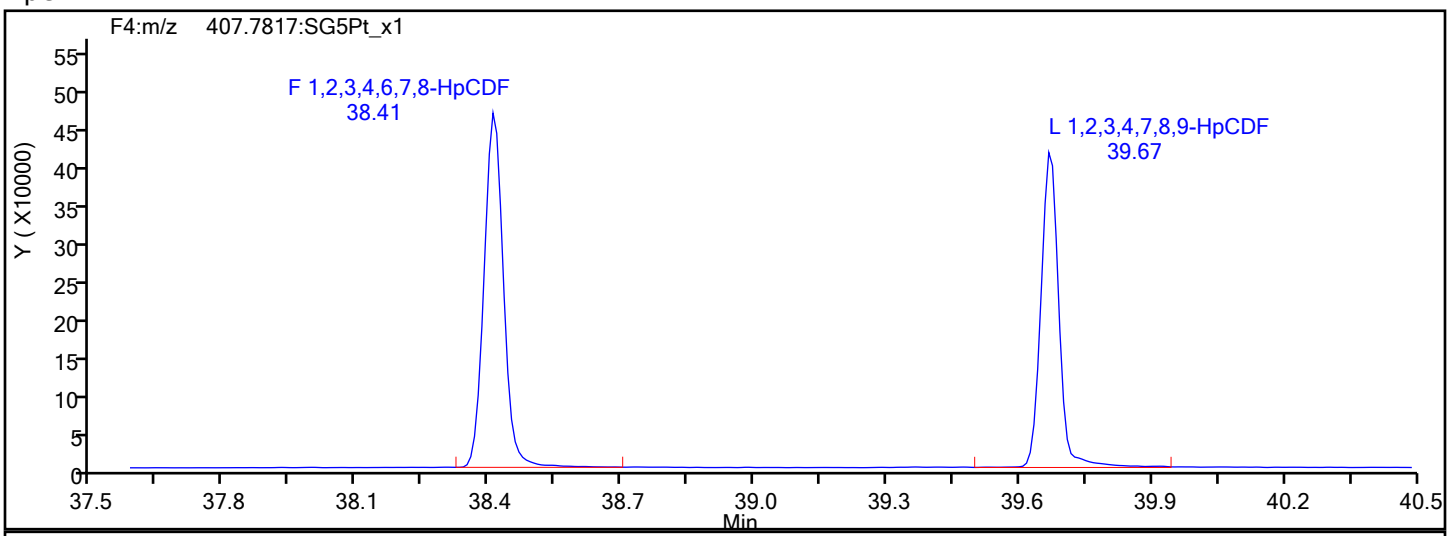

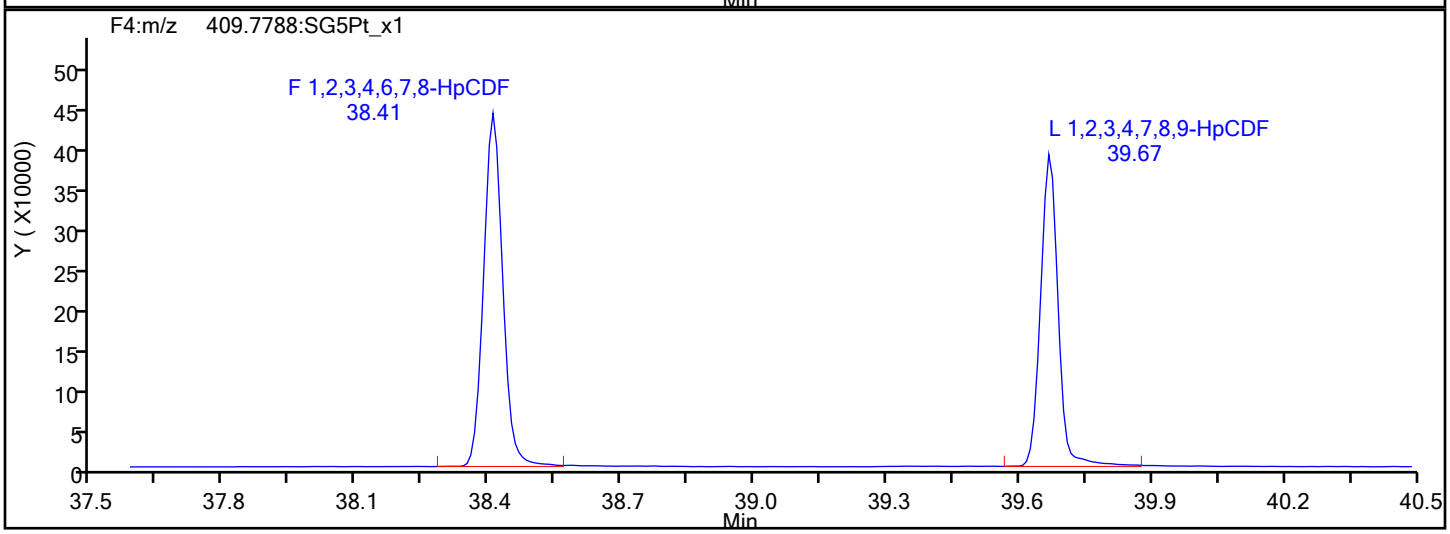

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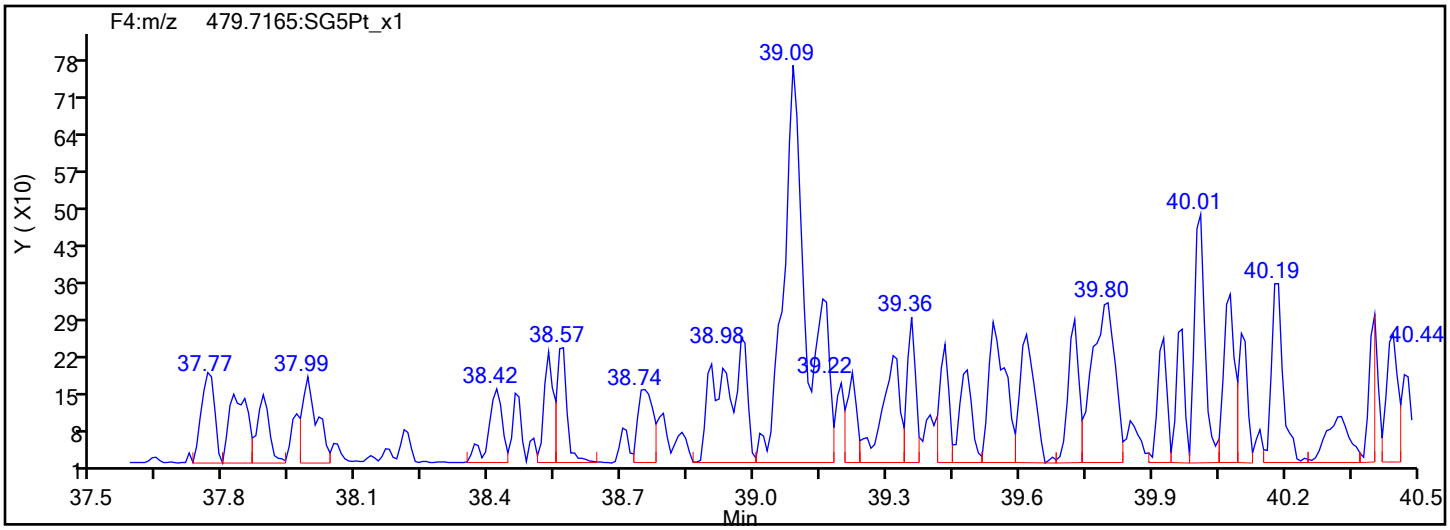

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Eurofins TestAmerica, Sacramento

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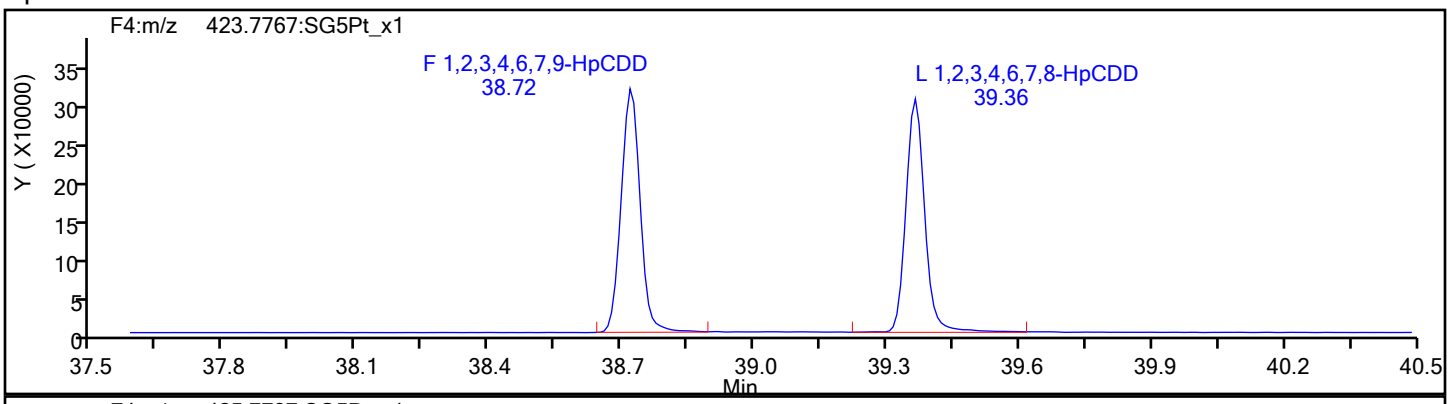

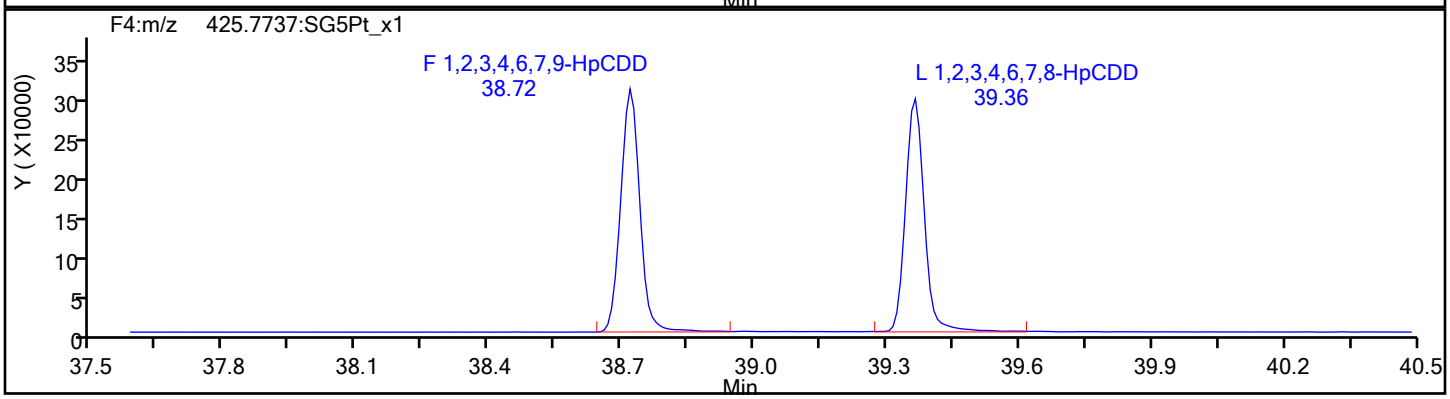

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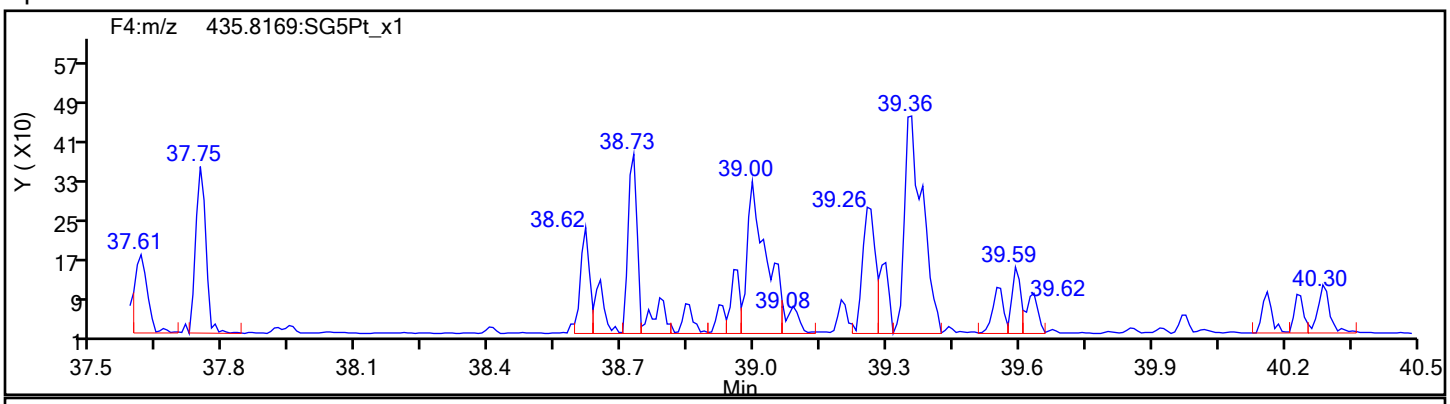

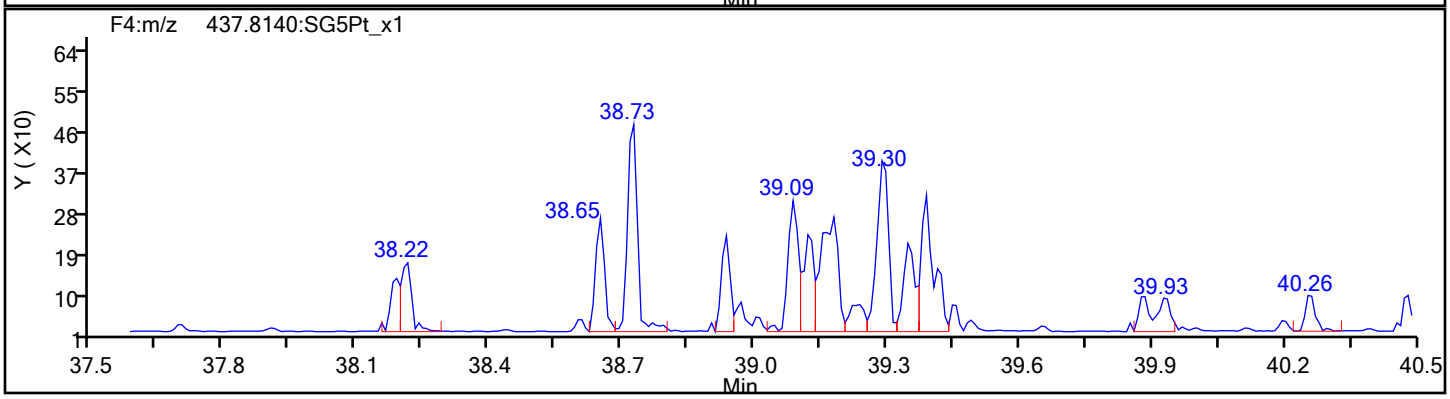

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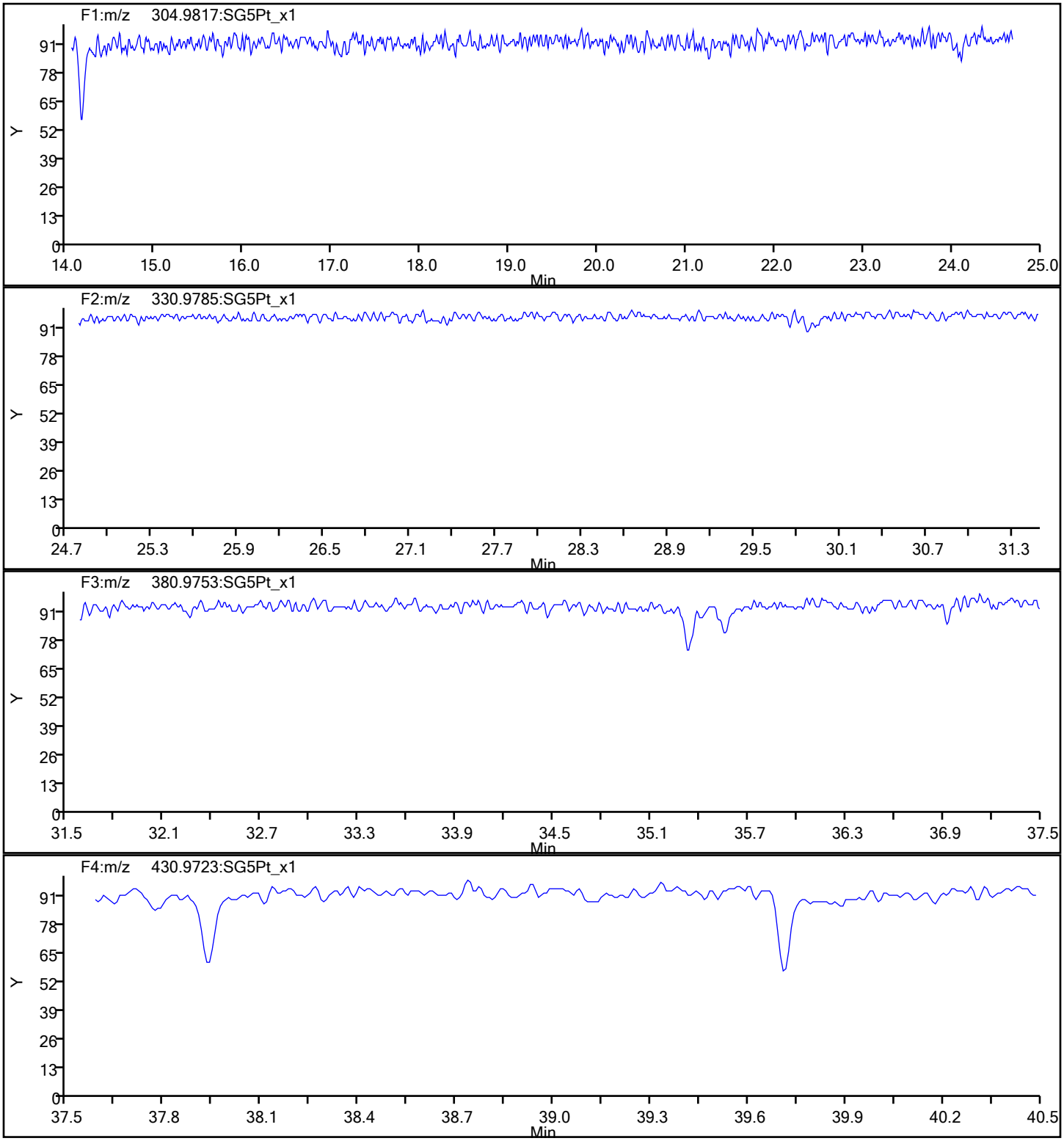

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Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_2.d		
Injection Date:	18-Oct-2019 19:15:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	332505	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

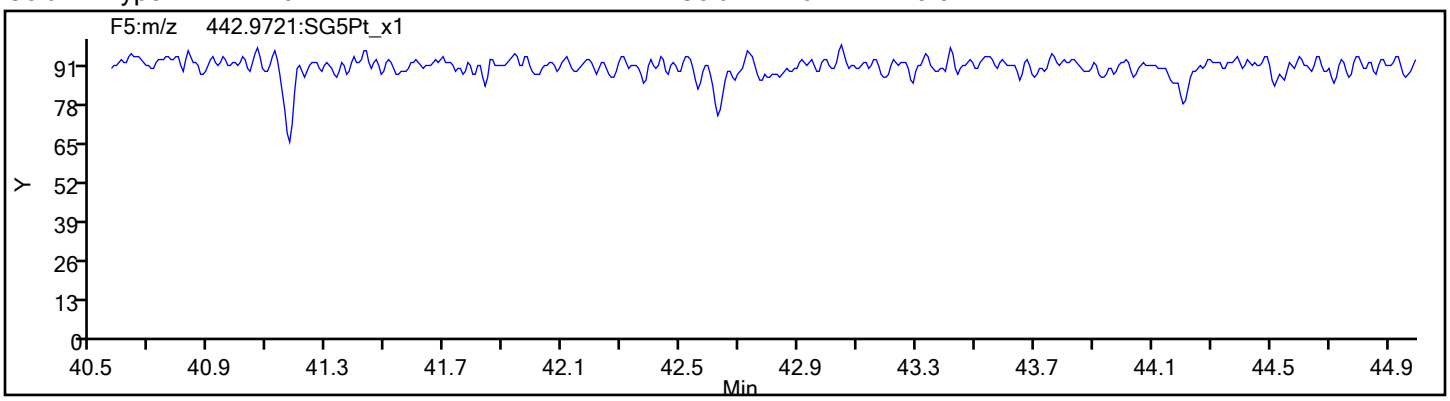

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_2.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 07-Nov-2019 16:02:00 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: WDM HRDXNCP_00040
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\Dioxin_DFS1.m
Limit Group: HR - 1613B - ICAL
Last Update: 08-Nov-2019 13:21:50 Calib Date: 19-Oct-2019 00:02:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.07 :22.11)
Process Host: CTX0312

First Level Reviewer: shardaa Date: 07-Nov-2019 18:29:11

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	19.529	1825949	0.78	1.6096					0.00	
2,3,7,8-TCDF	19.564	3329955	0.72	1.2332	59.2	59.2	0.1284	0.1284		
A Non-2,3,7,8-sub-TCDF	19.097	49069	0.73	1.2332	0.8716	0.8716	0.1284	0.6714		
S Total TCDF					60.0	60.0	0.1284	0.1284		
D 13C-2,3,7,8-TCDD	20.826	1124453	0.80	0.9984					0.00	
2,3,7,8-TCDD	20.860	1346454	0.80	1.1988	40.0	40.0	0.1437	0.1437		
A Non-2,3,7,8-sub-TCDD	19.923						0.1437	0.1437		
S Total TCDD					40.0	40.0	0.1437	0.1437		
A F1 PeCDFs	24.018	2553	1.55	0.0000						RQ
A Non-2,3,7,8-sub-PeCDF	27.429	6186	1.55	0.0000						RQ
S Total PeCDF										RQ
A Non-2,3,7,8-sub-PeCDD	27.661						0.0	0.0		
S Total PeCDD										
A Non-2,3,7,8-sub-HxCDF	34.470	7464	1.24	0.0000						RQ
S Total HxCDF										RQ
A Non-2,3,7,8-sub-HxCDD	34.902	18230	1.25	0.0000						
S Total HxCDD										
1,2,3,4,6,7,8-HpCDF	38.269	1449196	0.97	1.6176						
1,2,3,4,7,8,9-HpCDF	39.544	1444230	0.98	1.4672						
A Non-2,3,7,8-sub-HpCDF	38.906						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	39.242	1196978	1.02	1.1237						
A Non-2,3,7,8-sub-HpCDD	39.134						0.0	0.0		
S Total HpCDD										
1,3,6,8-TCDF	15.407	1850243	0.73							
1,3,6,8-TCDD	16.971	1147569	0.76							
2,3,4,7-TCDF	19.564	3329955	0.72							
1,2,3,7-TCDD	20.662	1154166	0.77							
1,2,3,9-TCDF	21.042	1224122	1.00							R
1,2,3,9-TCDD	21.137	590580	0.79							
1,2,8,9-TCDF	22.788	1528225	0.73							

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,8,9-TCDD	22.874	549877								
1,3,4,6,8-PeCDF	23.367	1405641	1.58							
1,2,4,7,9-PeCDD	25.430	1119388	1.59							
1,2,3,8,9-PeCDD	29.892	1161312	1.58							
1,2,3,8,9-PeCDF	30.051	1539312	1.56							
1,2,3,4,6,8-HxCDF	32.428	1639218	1.17							
1,2,4,6,7,9-HxCDD	33.653	1367827	1.24							
1,2,3,4,6,7-HxCDD	36.152	1410428	1.25							
1,2,3,4,8,9-HxCDF	36.513	1603225	1.16							
1,2,3,4,6,7,9-HpCDD	38.588	1273200	1.03							

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNCP_00040 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_2.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 07-Nov-2019 16:02:00 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: WDM HRDXNCP_00040
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\Dioxin_DFS1.m
Limit Group: HR - 1613B - ICAL
Last Update: 08-Nov-2019 13:21:50 Calib Date: 19-Oct-2019 00:02:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.07 :22.11)
Process Host: CTX0312

First Level Reviewer: shardaa Date: 07-Nov-2019 18:29:11

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	19.529	19.503	2	1.000	801289	131186	696	1740	188		
317.9389	19.529	19.503	2	1.000	1024660	170633	259	647	659	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	19.564	19.564	0	1.002	1389989	203103	190	475	1069		
305.8987	19.564	19.564	0	1.002	1939966	283439	288	720	984	0.72(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.922	19.097	-70	0.918	4904	882	190	475	5		
305.8987	17.905	19.097	-71	0.917	6366	1038	288	720	4	0.77(0.65-0.89)	
303.9016	23.367	19.097	256	1.197	15746	2756	190	475	15		
305.8987	23.376	19.097	256	1.197	22053	3703	288	720	13	0.71(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	20.826	20.808	1	1.000	498534	74880	422	1055	177		
333.9338	20.826	20.808	1	1.000	625919	98111	99	247	991	0.80(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	20.860	20.860	0	1.002	598860	89430	177	442	505		
321.8936	20.852	20.860	-1	1.001	747594	109068	121	302	901	0.80(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	19.923						177	442			
321.8936	19.923						121	302			
A F1 PeCDFs											RQ
339.8597	23.808	24.018	-13	1.000	1552	484	21	52	23		
341.8567	23.859	24.018	-9	1.000	1419	403	61	152	7	1.09(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	26.613	27.429	-49	1.000	5466	1201	143	357	8		
341.8567	26.604	27.429	-49	1.000	2426	657	168	420	4	2.25(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-PeCDD											
355.8546	27.661						164	410			
357.8516	27.661						70	175			
A Non-2,3,7,8-sub-HxCDF											RQ
373.8208	34.609	34.470	8	1.000	4132	1073	268	670	4		
375.8178	34.609	34.470	8	1.000	4662	1030	213	532	5	0.89(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8158	34.869	34.902	-2	1.000	10117	2149	198	495	11		
391.8127	34.877	34.902	-2	1.000	8113	1779	165	412	11	1.25(1.05-1.43)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.269	38.269	0	1.000	712345	240469	329	822	731		
409.7788	38.269	38.269	0	1.000	736851	248156	271	677	916	0.97(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.544	39.544	0	1.000	716031	248466	329	822	755		
409.7788	39.544	39.544	0	1.000	728199	255375	271	677	942	0.98(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7817	38.906						329	822			
409.7788	38.906						271	677			
1,2,3,4,6,7,8-HpCDD											
423.7767	39.242	39.242	0	1.000	604537	213001	249	622	855		
425.7737	39.242	39.242	0	1.000	592441	207904	213	532	976	1.02(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7767	39.134						249	622			
425.7737	39.134						213	532			
1,3,6,8-TCDF											
303.9016	15.407	15.407	0		783568	169394	190	475	892		
305.8987	15.407	15.407	0		1066675	230640	288	720	801	0.73(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	16.971	16.971	0		495040	93061	177	442	526		
321.8936	16.971	16.971	0		652529	123830	121	302	1023	0.76(0.65-0.89)	
2,3,4,7-TCDF											
303.9016	19.564	19.564	0		1389989	203103	190	475	1069		
305.8987	19.564	19.564	0		1939966	283439	288	720	984	0.72(0.65-0.89)	
1,2,3,7-TCDD											
319.8965	20.662	20.662	0		501731	76679	177	442	433		
321.8936	20.653	20.662	-1		652435	99447	121	302	822	0.77(0.65-0.89)	
1,2,3,9-TCDF											R
303.9016	21.042	21.042	0		612061	91414	190	475	481		
303.9016	21.042	21.042	0		612061	91414	190	475	481	1.00(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	21.137	21.137	0		590580	84069	177	442	475		
321.8936	21.137	21.137	0		745196	106604	121	302	881	0.79(0.65-0.89)	
1,2,8,9-TCDF											
303.9016	22.788	22.788	0		646274	88036	190	475	463		
305.8987	22.788	22.788	0		881951	118332	288	720	411	0.73(0.65-0.89)	
1,2,8,9-TCDD											
319.8965	22.874	22.874	0		549877	71282	177	442	403		

Report Date: 08-Nov-2019 13:21:51 Chrom Revision: 2.3 31-Oct-2019 20:21:30
Data File: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_2.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,3,4,6,8-PeCDF											
339.8597	23.367	23.367	0		861074	147189	21	52	7009		
341.8567	23.367	23.367	0		544567	91914	61	152	1507	1.58(1.32-1.78)	
1,2,4,7,9-PeCDD											
355.8546	25.430	25.430	0		686704	117606	164	410	717		
357.8516	25.430	25.430	0		432684	74065	70	175	1058	1.59(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	29.892	29.892	0		711004	107609	164	410	656		
357.8516	29.892	29.892	0		450308	68536	70	175	979	1.58(1.32-1.78)	
1,2,3,8,9-PeCDF											
339.8597	30.051	30.051	0		937096	139757	143	357	977		
341.8567	30.051	30.051	0		602216	88757	168	420	528	1.56(1.32-1.78)	
1,2,3,4,6,8-HxCDF											
373.8208	32.428	32.428	0		882572	137116	268	670	512		
375.8178	32.428	32.428	0		756646	116978	213	532	549	1.17(1.05-1.43)	
1,2,4,6,7,9-HxCDD											
389.8158	33.653	33.653	0		756475	148141	198	495	748		
391.8127	33.653	33.653	0		611352	119478	165	412	724	1.24(1.05-1.43)	
1,2,3,4,6,7-HxCDD											
389.8158	36.152	36.152	0		783099	211983	198	495	1071		
391.8127	36.152	36.152	0		627329	171521	165	412	1040	1.25(1.05-1.43)	
1,2,3,4,8,9-HxCDF											
373.8208	36.513	36.513	0		861014	241840	268	670	902		
375.8178	36.513	36.513	0		742211	207080	213	532	972	1.16(1.05-1.43)	
1,2,3,4,6,7,9-HpCDD											
423.7767	38.588	38.588	0		645434	221955	249	622	891		
425.7737	38.588	38.588	0		627766	214403	213	532	1007	1.03(0.88-1.20)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Reagents:

HRDXNCP_00040 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_2.d
Lims ID: WDM
Client ID:
Inject. Date: 07-Nov-2019 16:02:00 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 336838 Lims Sample ID: 1

Non-2,3,7,8-sub-TCDF, RT: 19.097

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.233	D 13C-2,3,7,8-TCDF	40.000	1825949	301819

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.233		40.000	1825949	301819

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
17.922	4904	882	6366	1038	0.2002	0.77	
23.367	15746	2756	22053	3703	0.6714	0.71	
Signal Totals:							
	20650	3638	28419	4741			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	49069	8379				0.73	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.8716 = (49069 * 40.000) / (1825949 * 1.233)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_2.d
Lims ID: WDM
Client ID:
Inject. Date: 07-Nov-2019 16:02:00 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 336838 Lims Sample ID: 1

F1 PeCDFs, RT: 24.018

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.169				
2,3,4,7,8-PeCDF	1.186				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
23.808	1552	484	1419	403		1.09	R
Signal Totals:							
	1552	484	1419	403			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2971	887				1.09	RQ
	2553	796					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (2971 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (2553 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_2.d
Lims ID: WDM
Client ID:
Inject. Date: 07-Nov-2019 16:02:00 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 336838 Lims Sample ID: 1

Non-2,3,7,8-sub-PeCDF, RT: 27.429

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.169				
2,3,4,7,8-PeCDF	1.186				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
26.613	5466	1201	2426	657		2.25	R
Signal Totals:							
	5466	1201	2426	657			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	7892	1858				2.25	RQ
	6186	1675					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (7892 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (6186 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_2.d
Lims ID: WDM
Client ID:
Inject. Date: 07-Nov-2019 16:02:00 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 336838 Lims Sample ID: 1

Non-2,3,7,8-sub-HxCDF, RT: 34.470

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.302				
1,2,3,6,7,8-HxCDF	1.291				
2,3,4,6,7,8-HxCDF	1.304				
1,2,3,7,8,9-HxCDF	1.333				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
34.609	4132	1073	4662	1030		0.89	R
Signal Totals:							
	4132	1073	4662	1030			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	8794	2103				0.89	RQ
	7464	1938					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (8794 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (7464 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_2.d
Lims ID: WDM
Client ID:
Inject. Date: 07-Nov-2019 16:02:00 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 336838 Lims Sample ID: 1

Non-2,3,7,8-sub-HxCDD, RT: 34.902

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.172				
1,2,3,6,7,8-HxCDD	1.126				
1,2,3,7,8,9-HxCDD	1.233				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	389.8158 Area	389.8158 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
34.869	10117	2149	8113	1779		1.25	
Signal Totals:							
	10117	2149	8113	1779			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	18230	3928				1.25	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (18230 * 0.0) / (0 * 0.000)

Report Date: 08-Nov-2019 13:21:51 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_2.d		
Injection Date:	07-Nov-2019 16:02:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336838	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

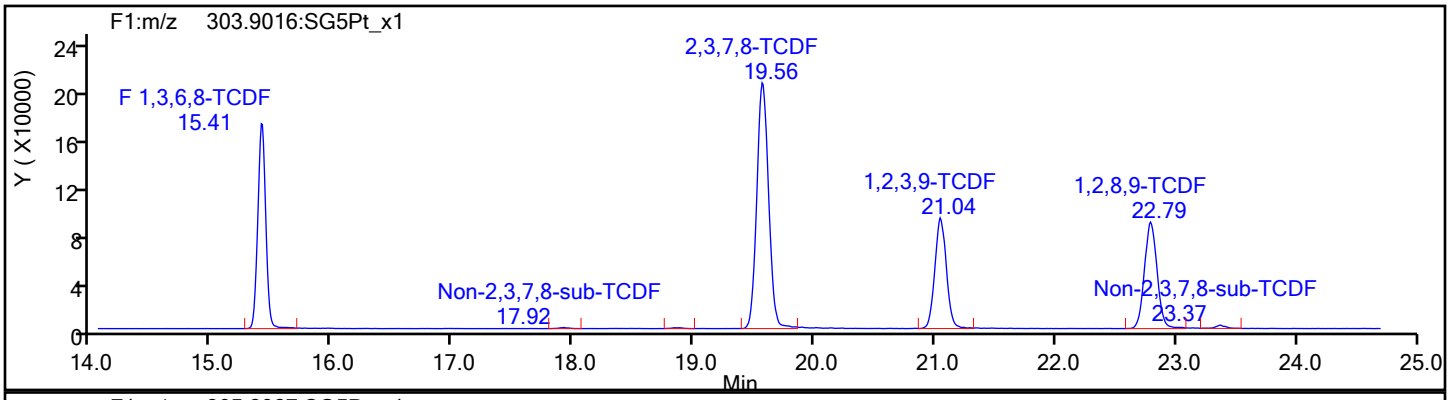

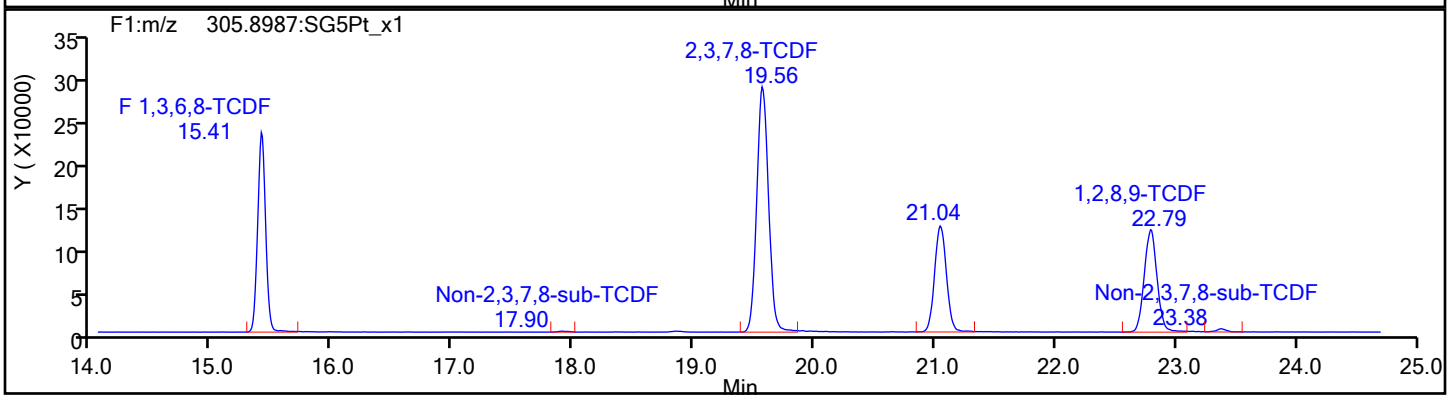

TCDF Standards

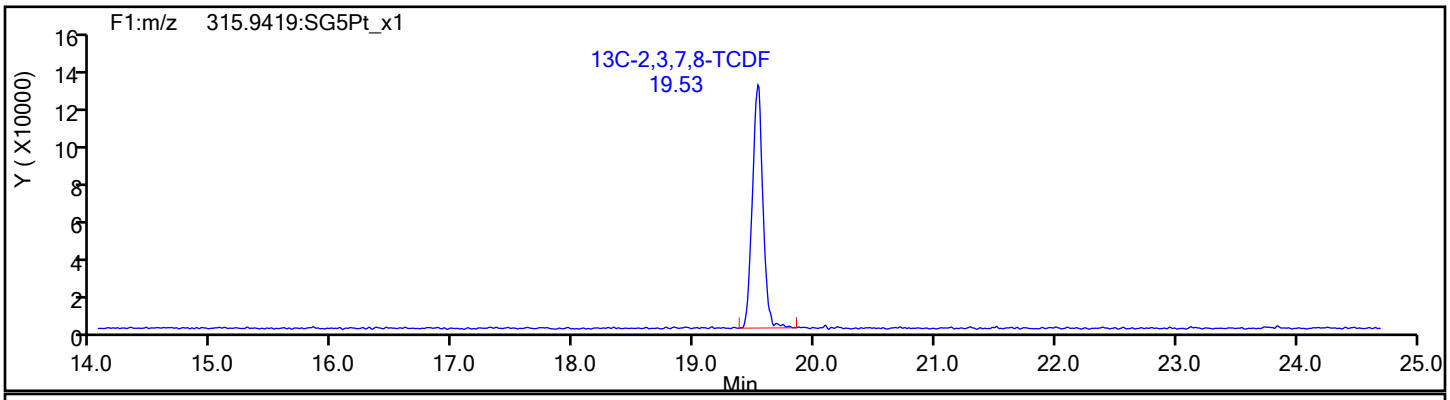

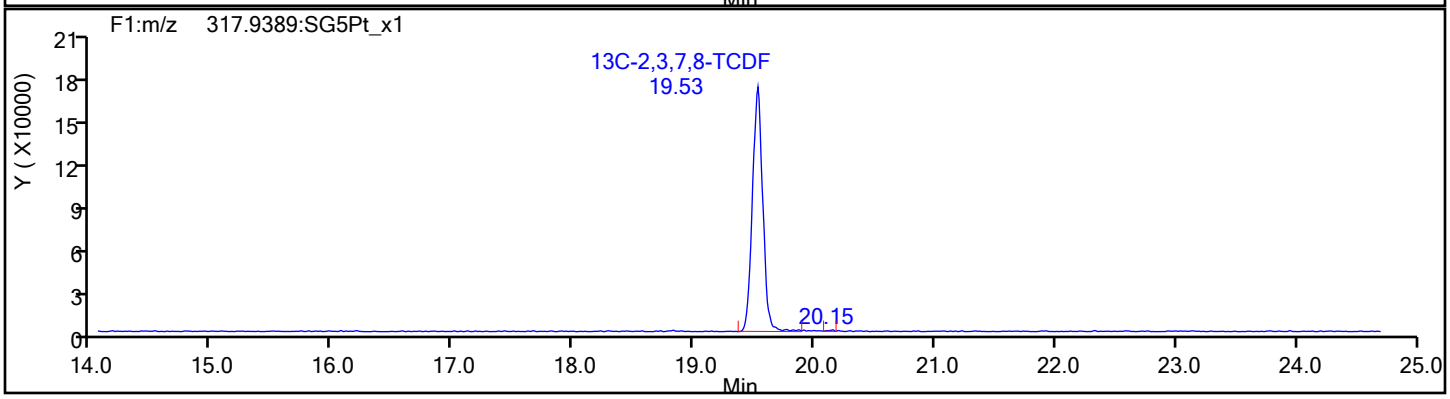

Report Date: 08-Nov-2019 13:21:51 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

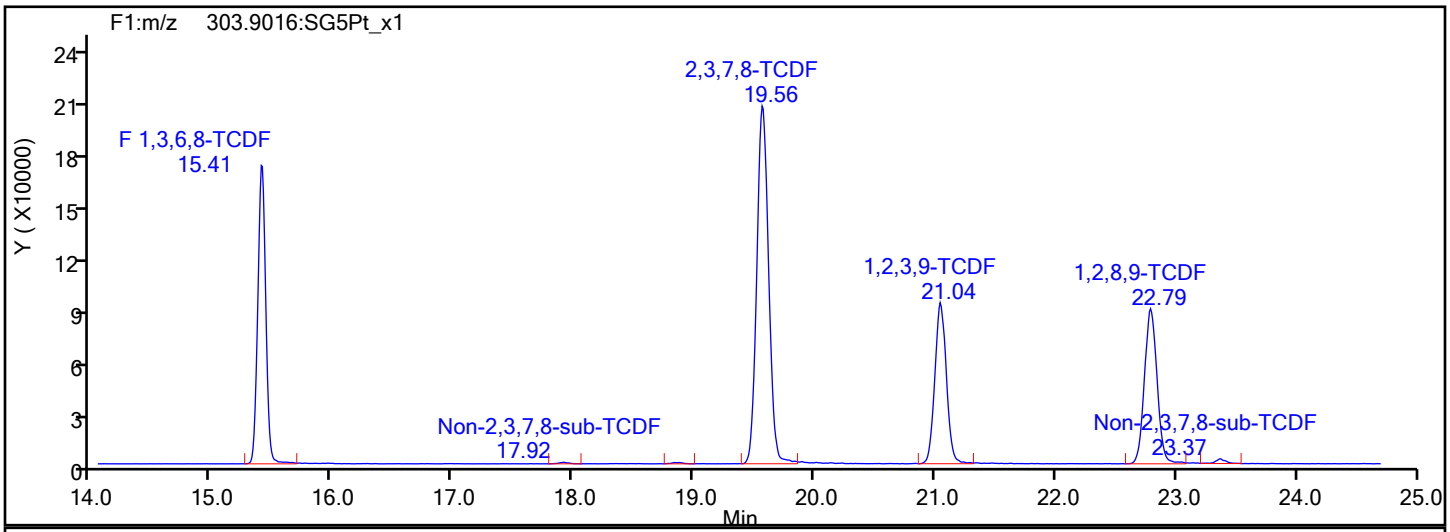

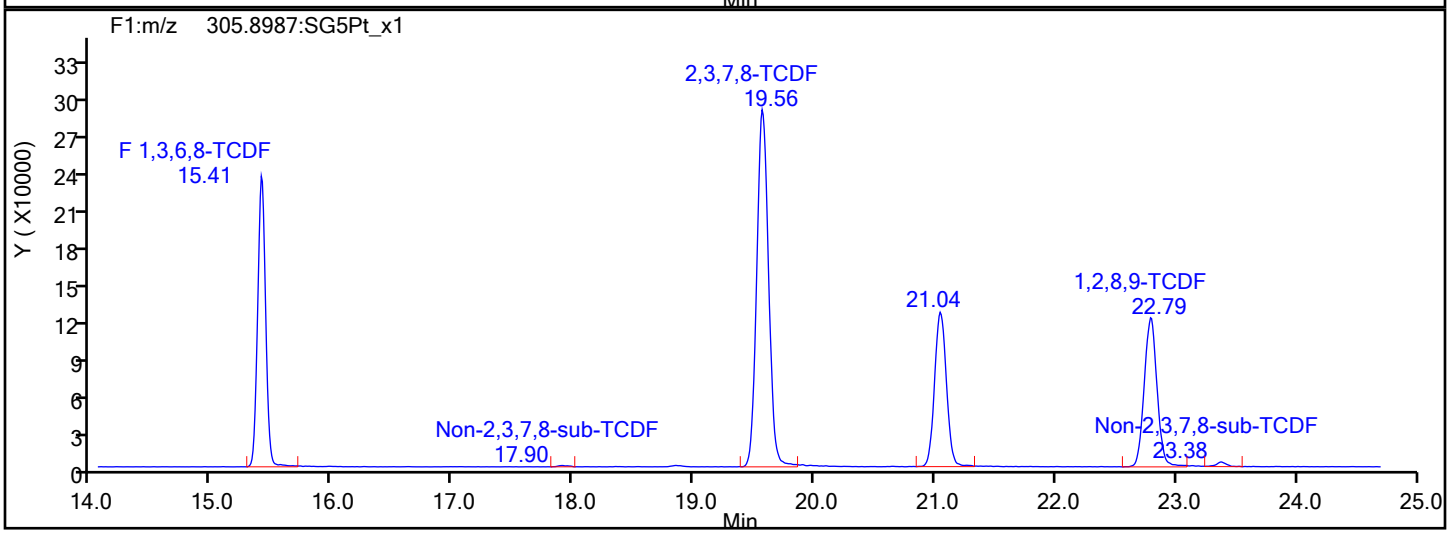

TCDF Interference Mass

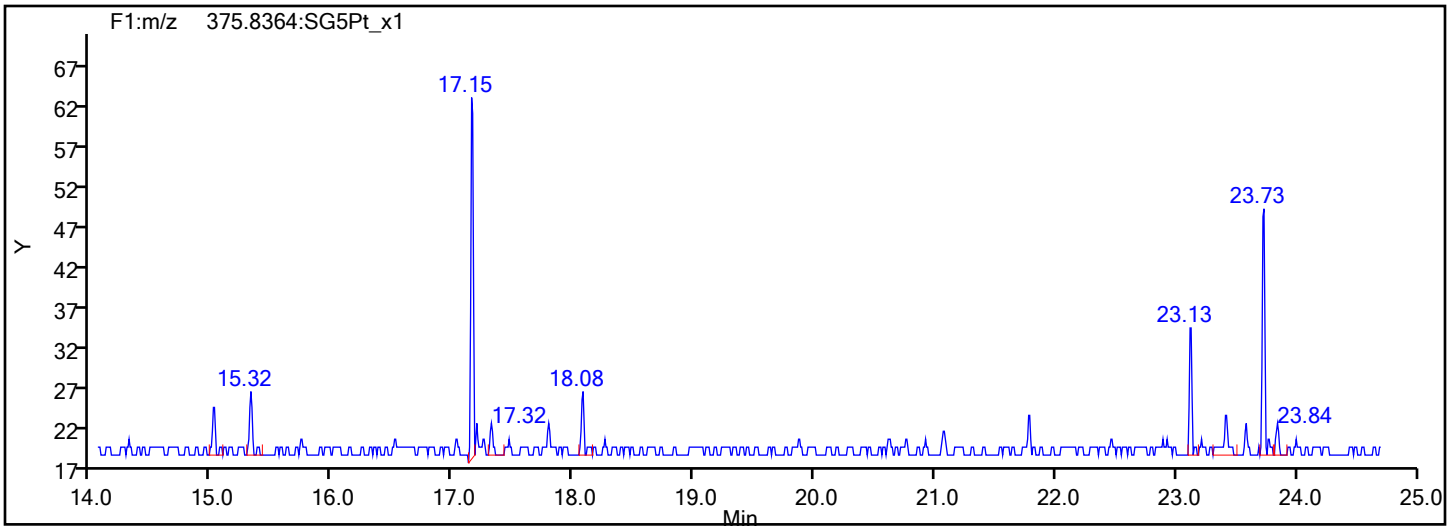

Report Date: 08-Nov-2019 13:21:51 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

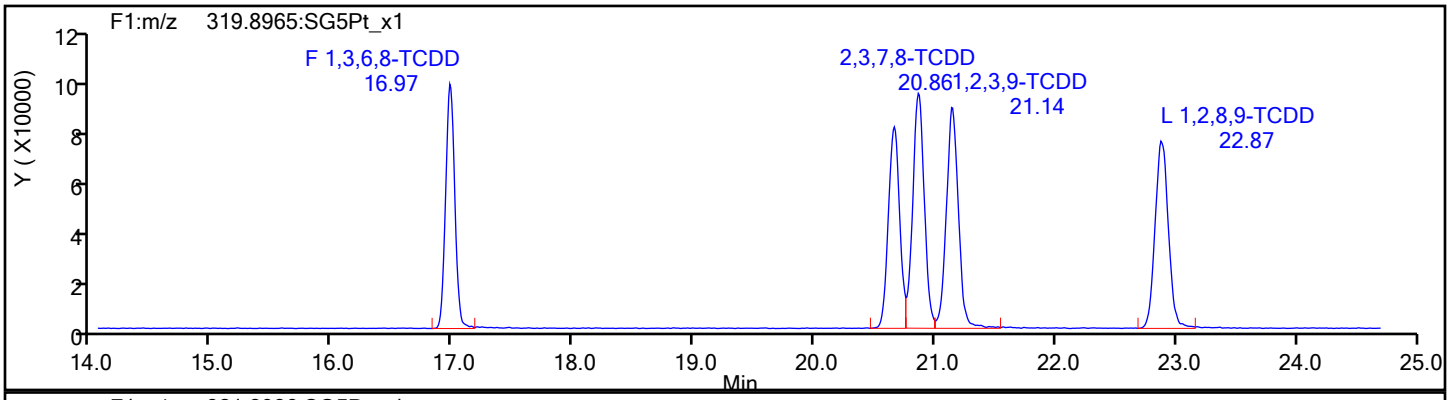

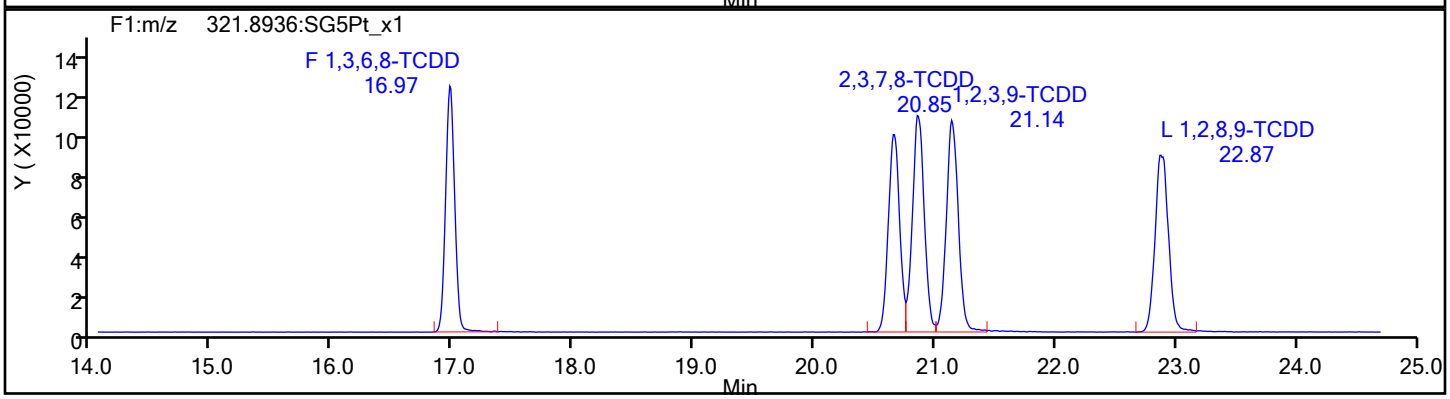

TCDD Standards

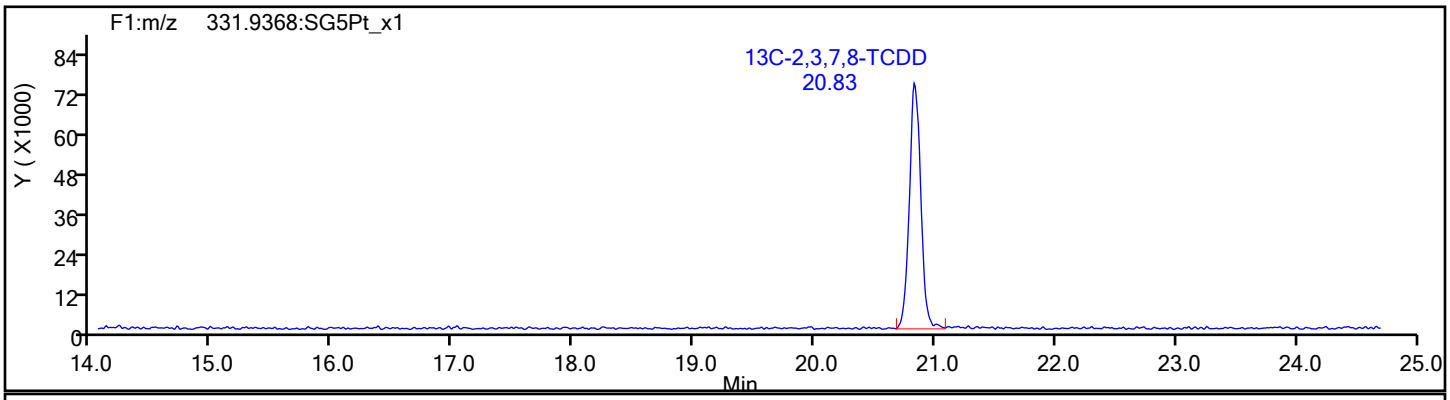

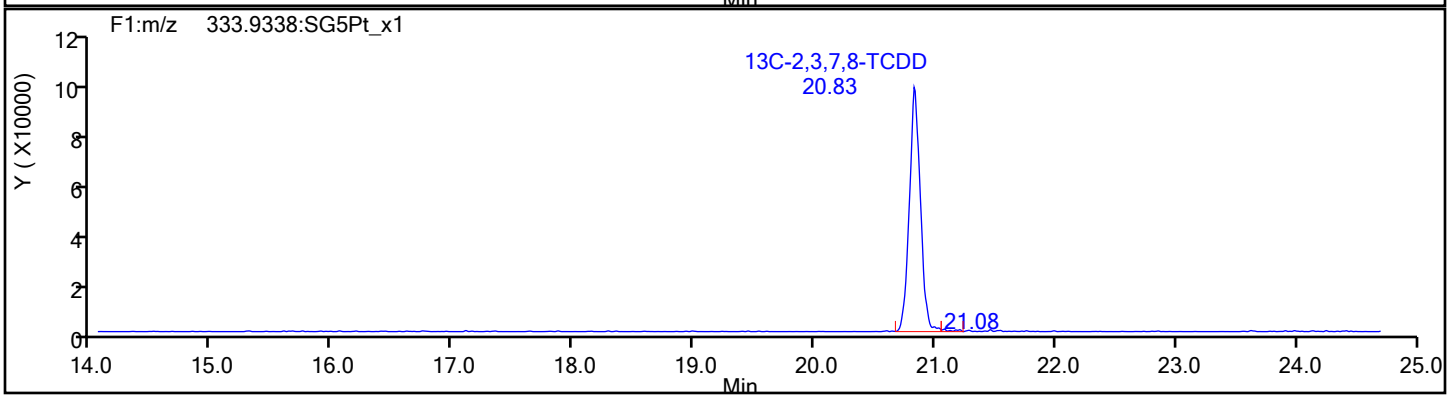

Report Date: 08-Nov-2019 13:21:52 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
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37Cl4-TCDD

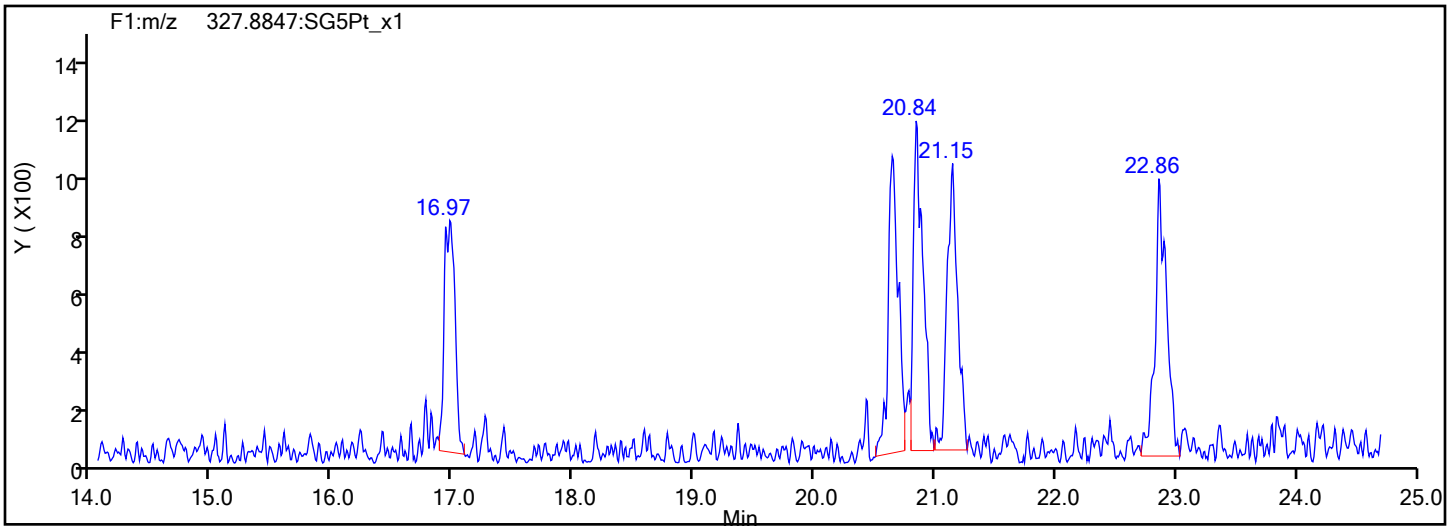

37Cl4-TCDD Standards

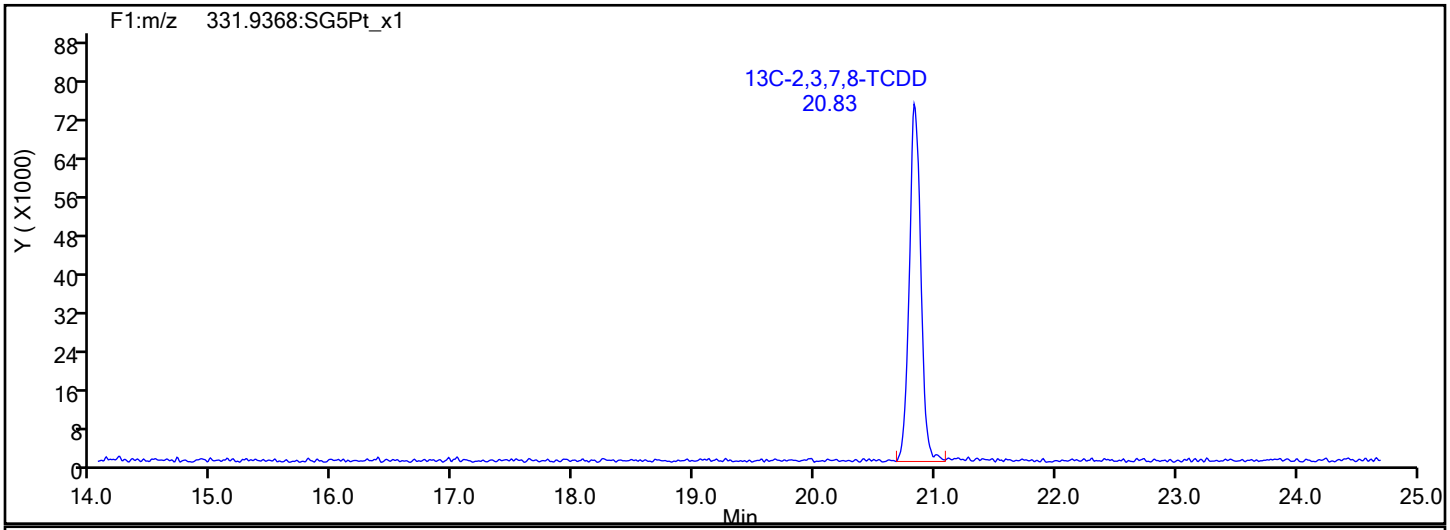

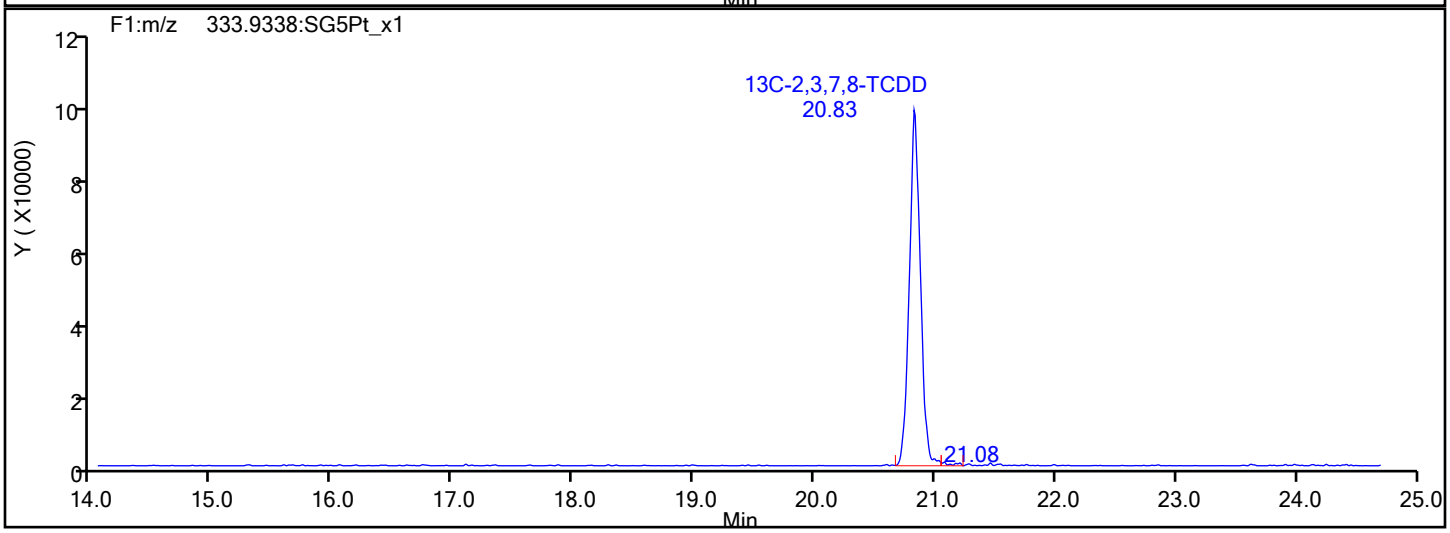

Report Date: 08-Nov-2019 13:21:52 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

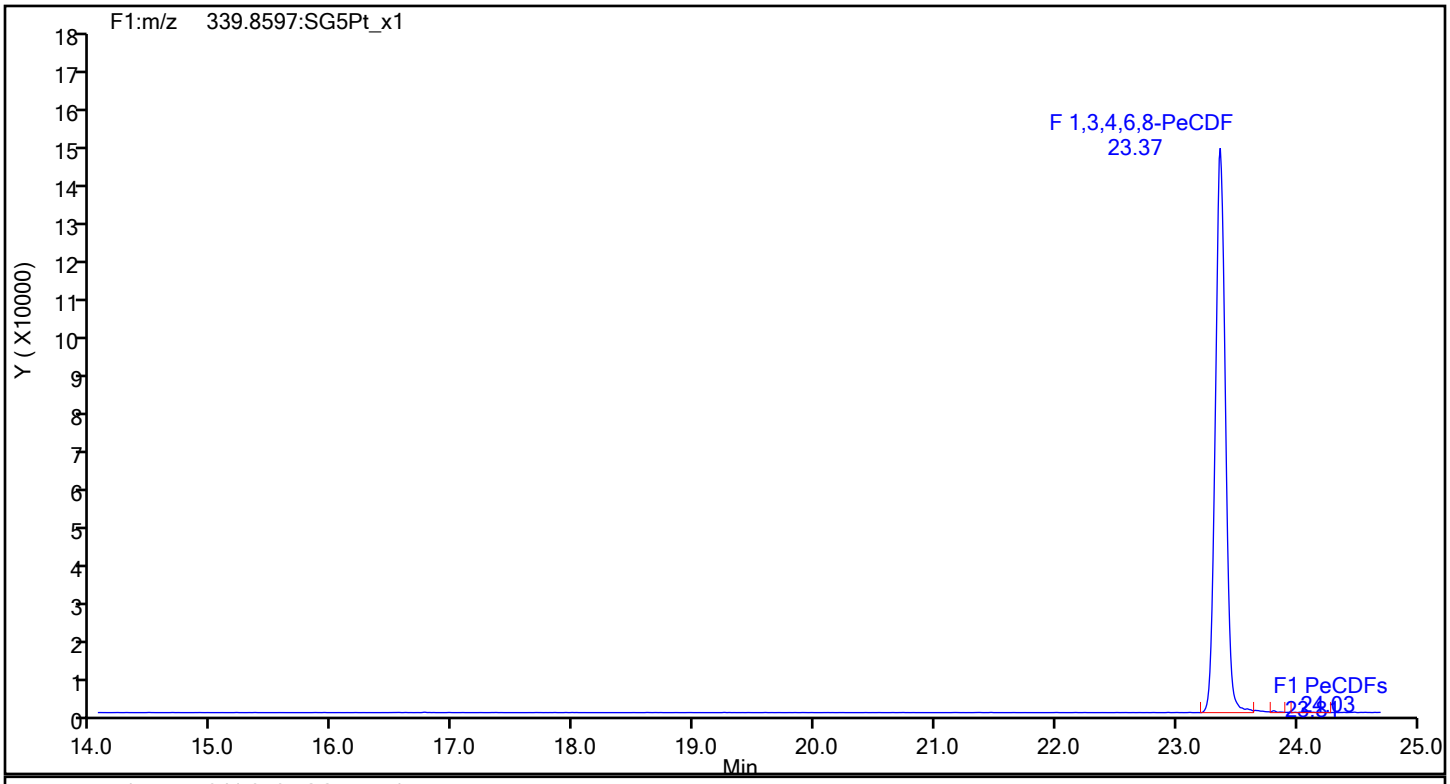

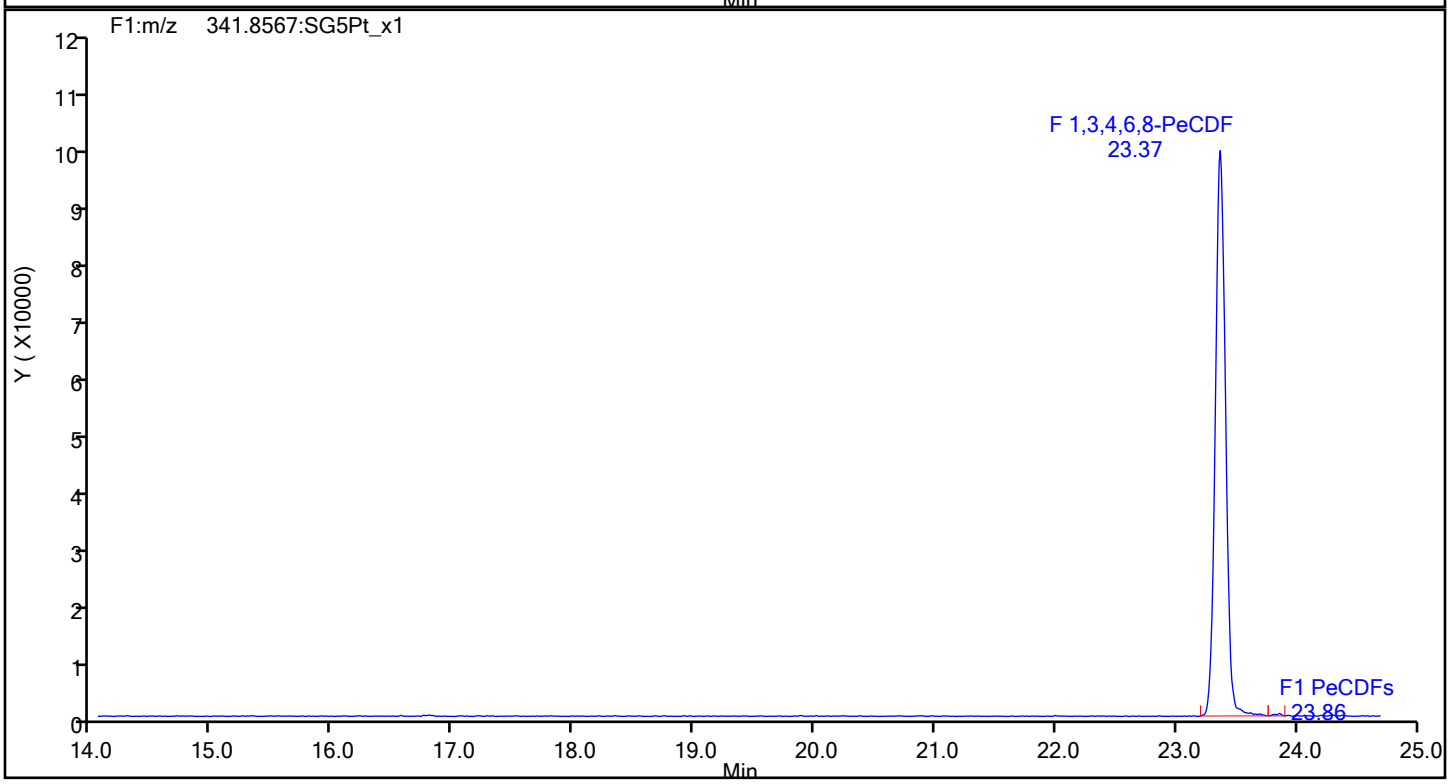

Report Date: 08-Nov-2019 13:21:52 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_2.d		
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F1 PeCDFs

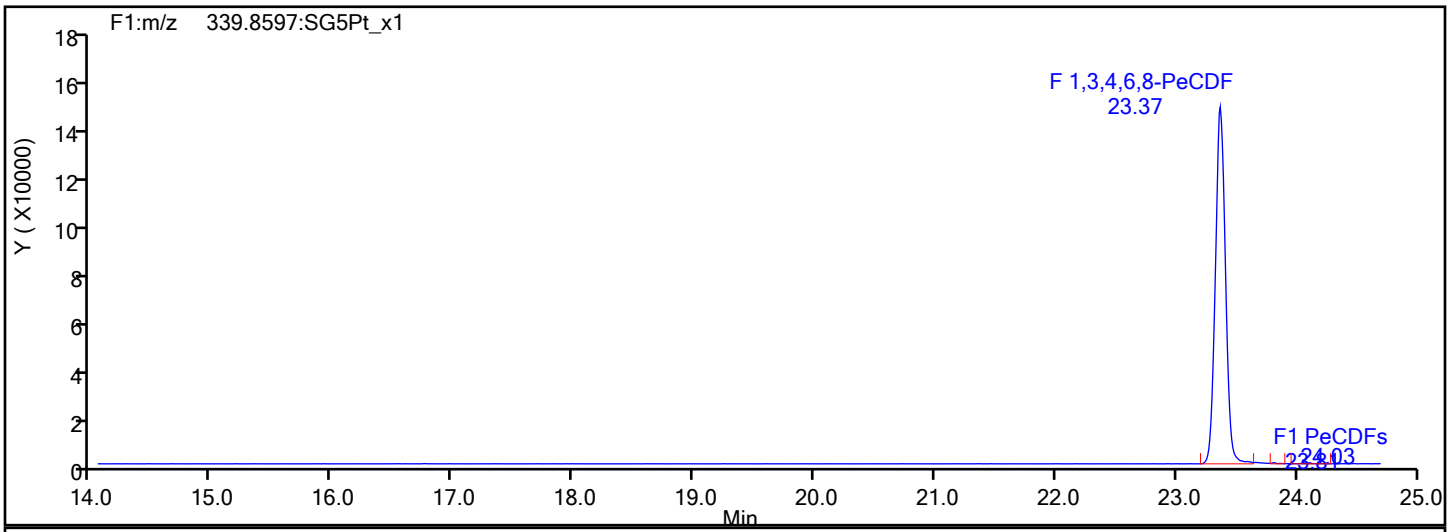

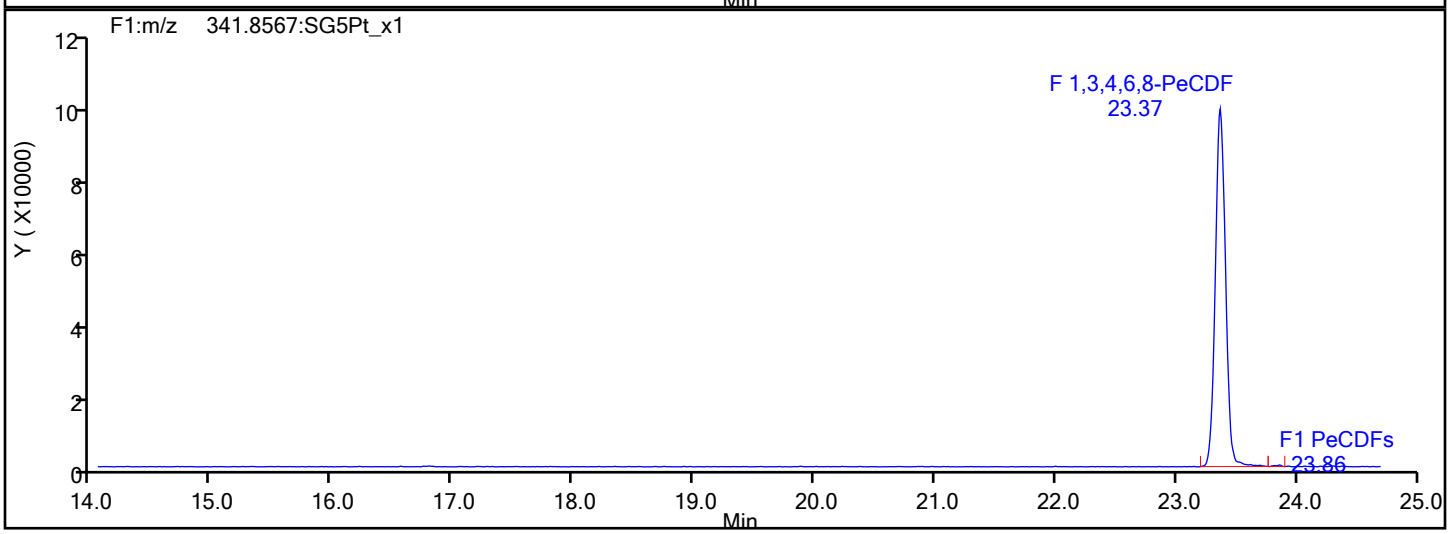

F1 PeCDFs Interference Mass

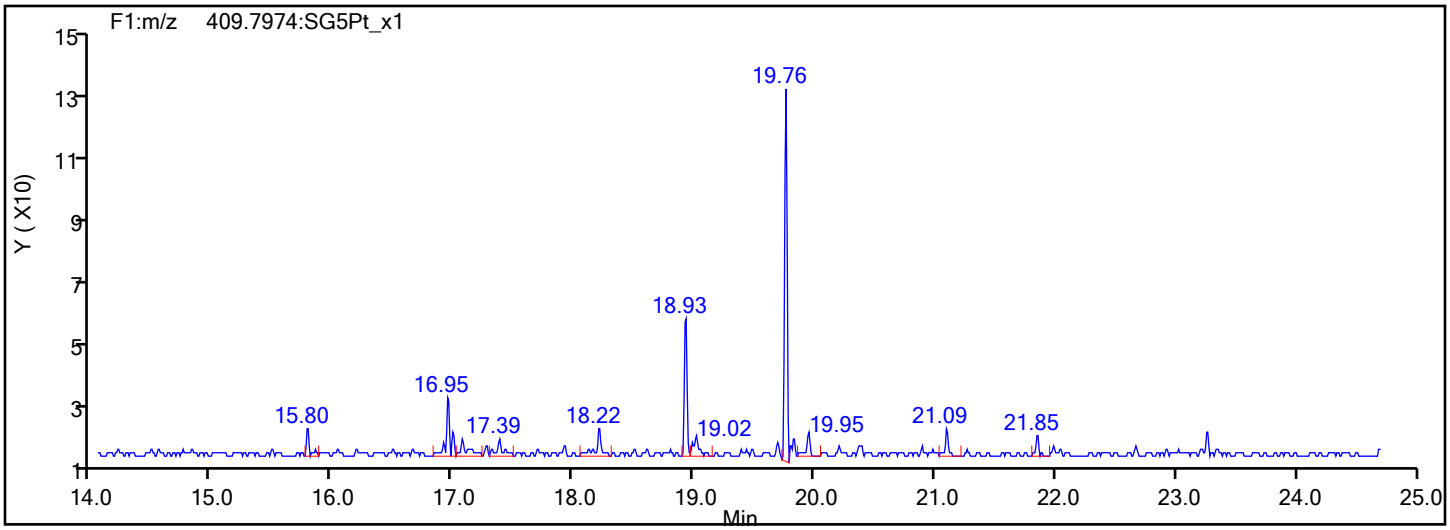

Report Date: 08-Nov-2019 13:21:52 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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PeCDF

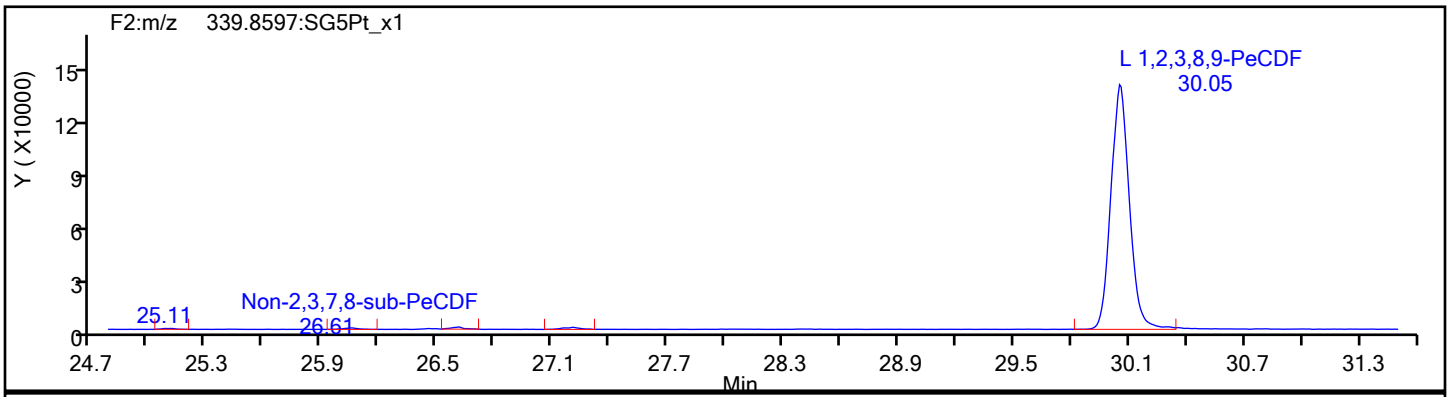

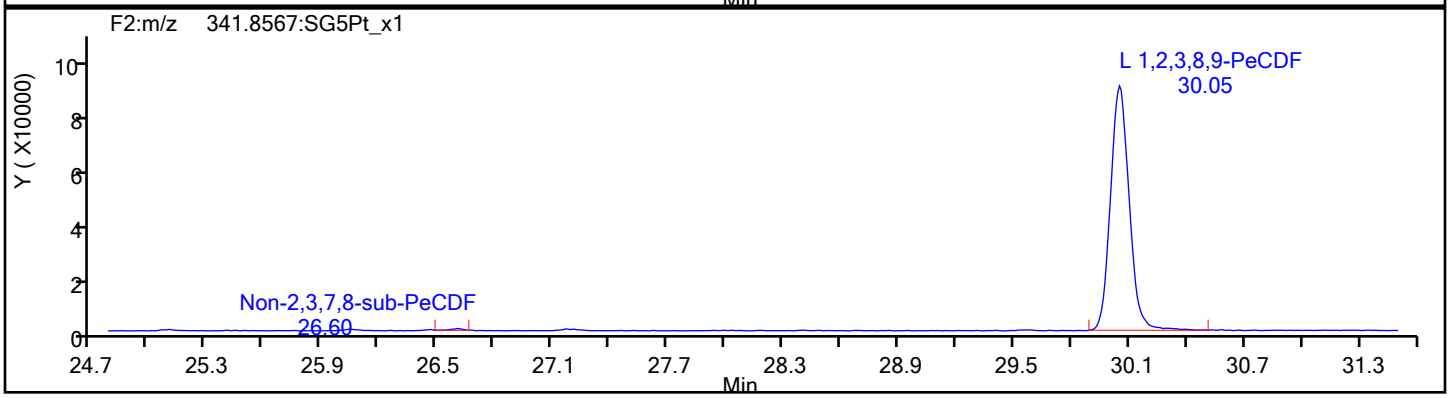

PeCDF Standards

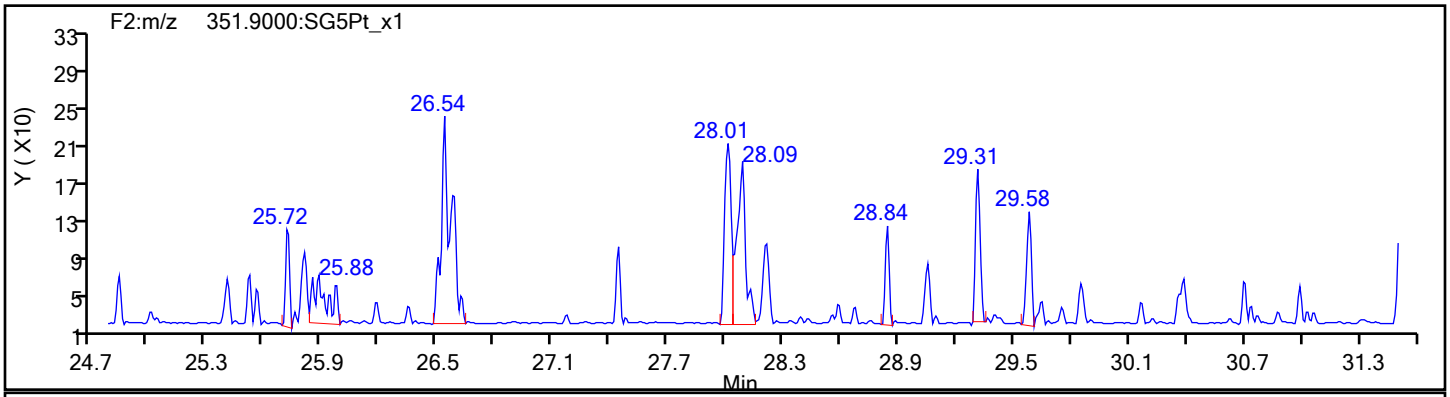

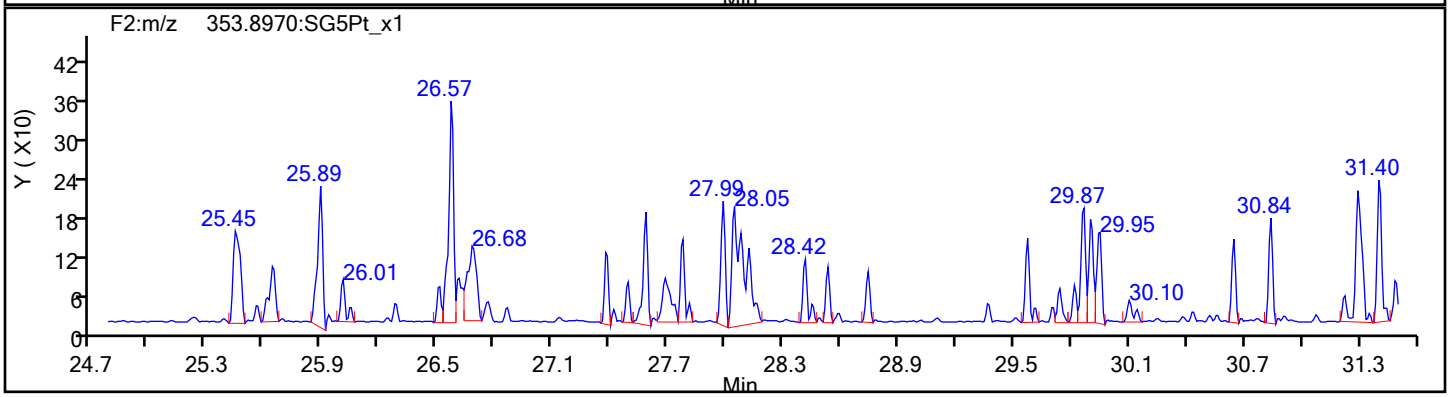

Report Date: 08-Nov-2019 13:21:52 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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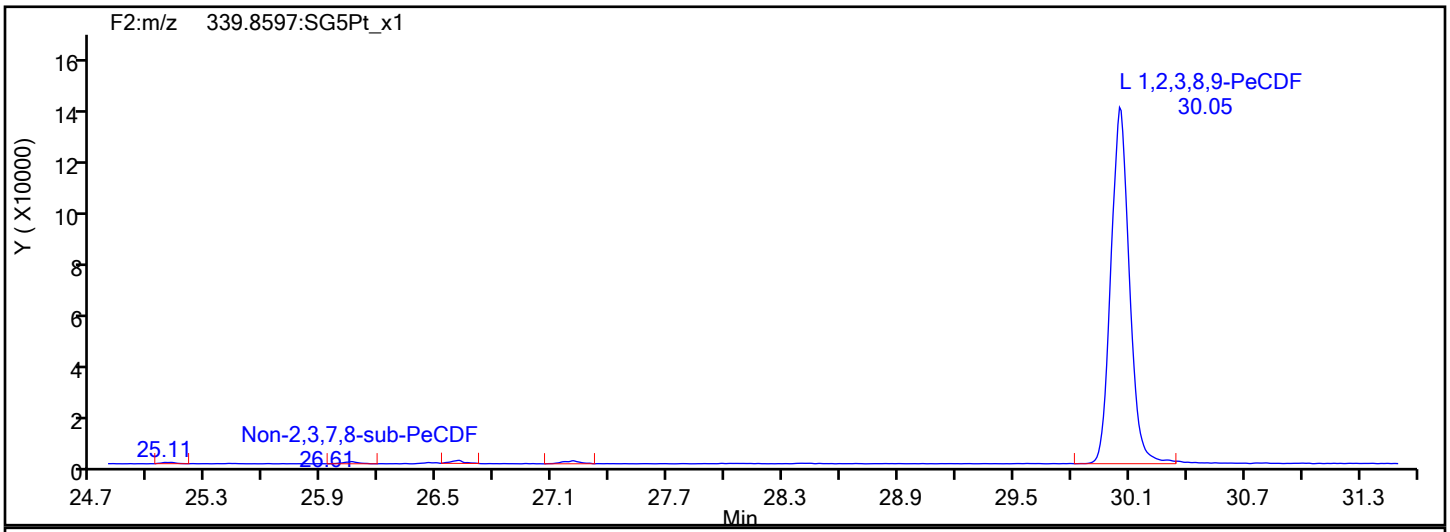

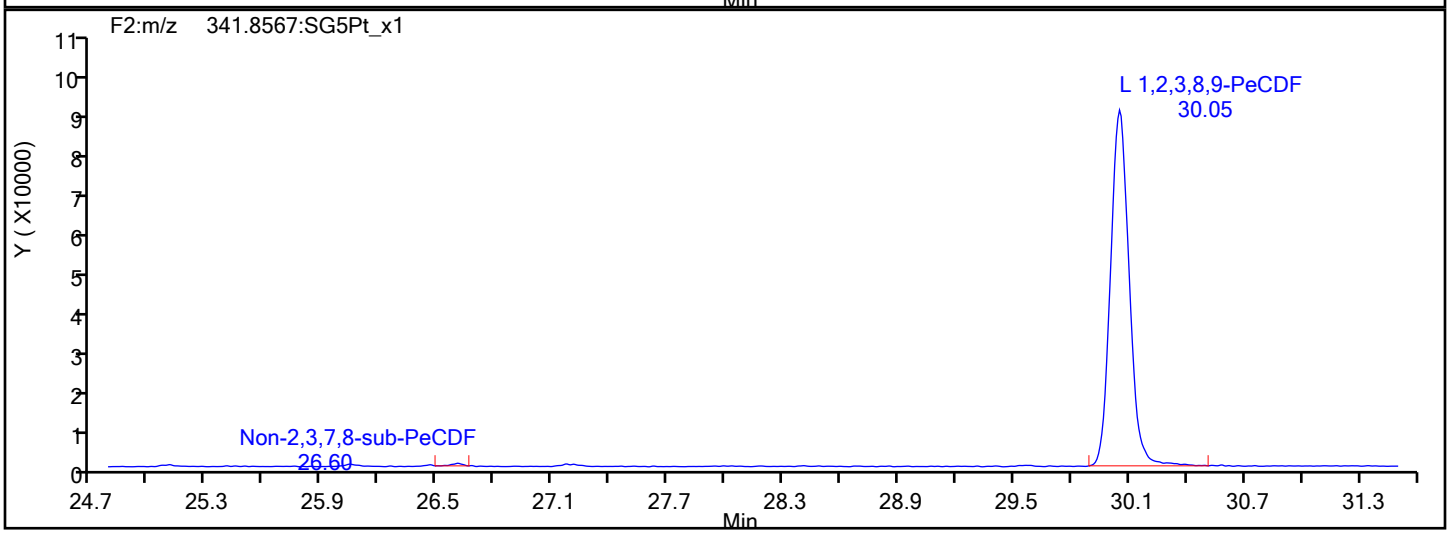

PeCDF Interference Mass

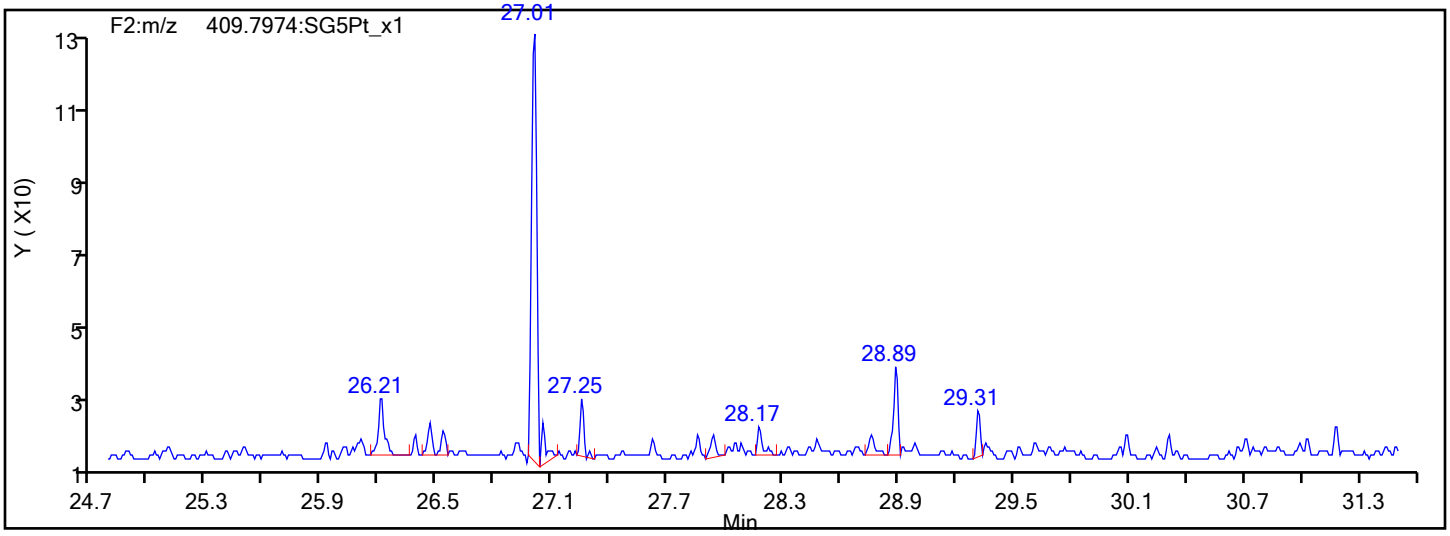

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Eurofins TestAmerica, Sacramento

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PeCDD

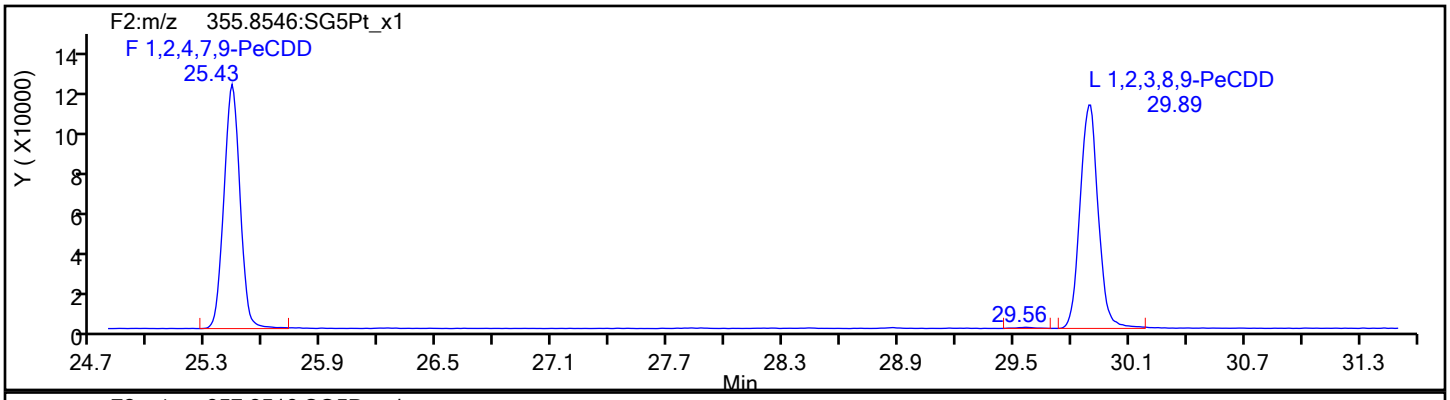

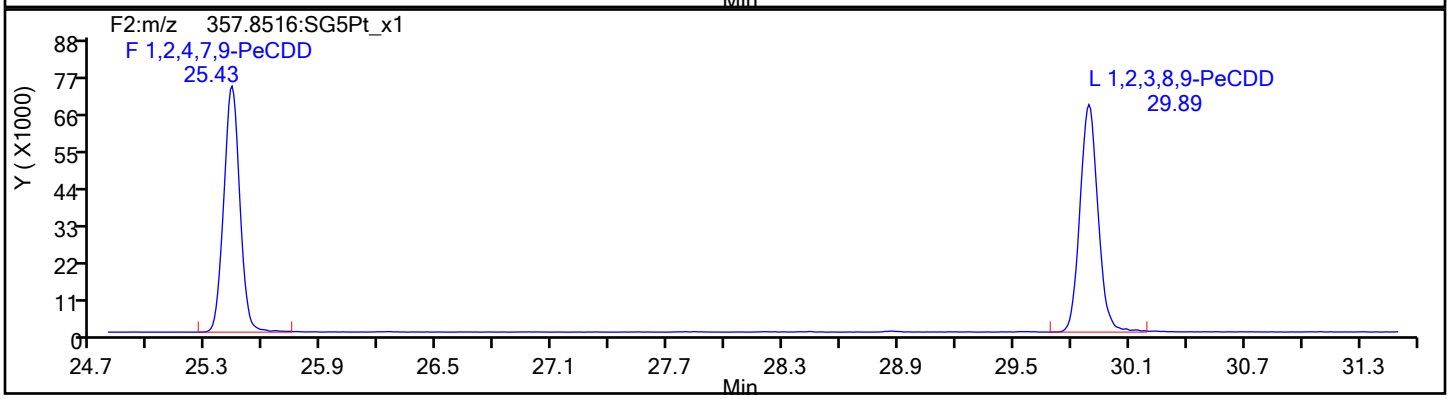

PeCDD Standards

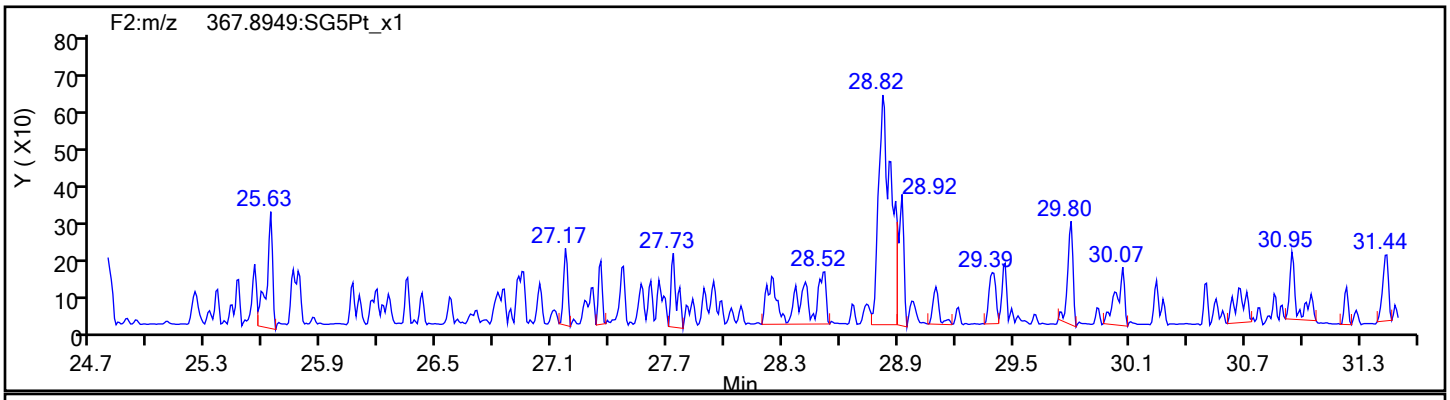

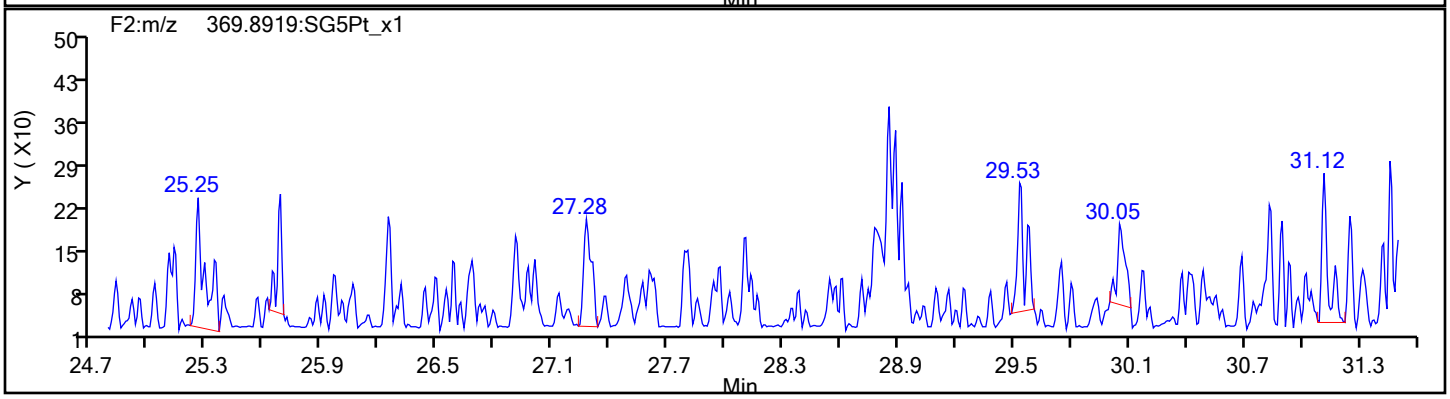

Report Date: 08-Nov-2019 13:21:52 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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HxCDF

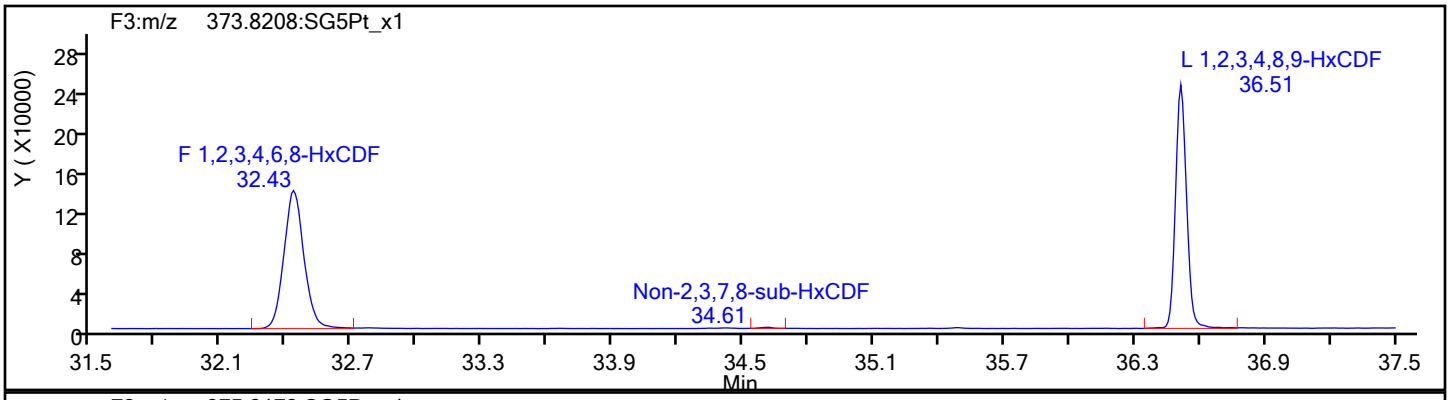

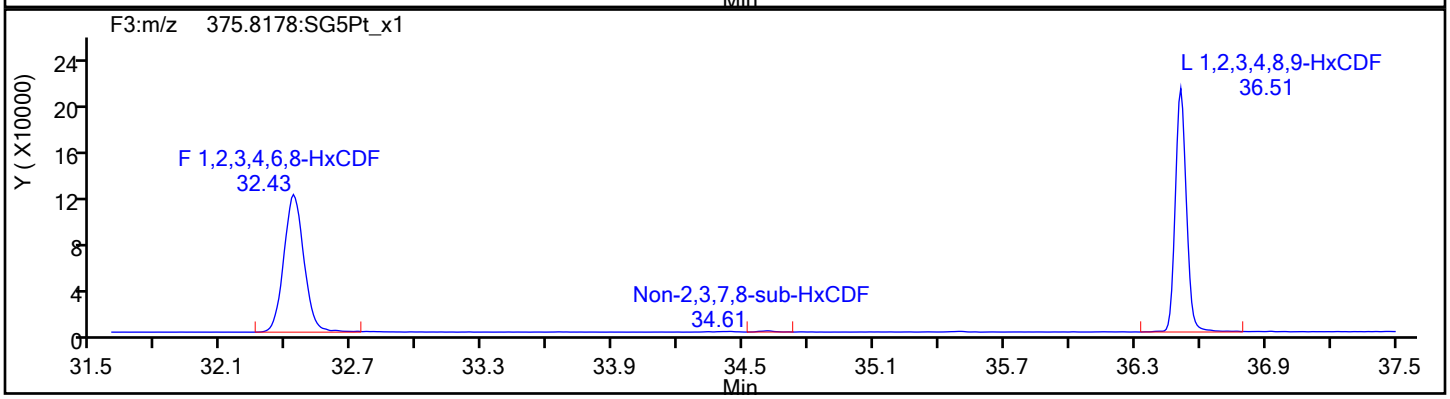

HxCDF Standards

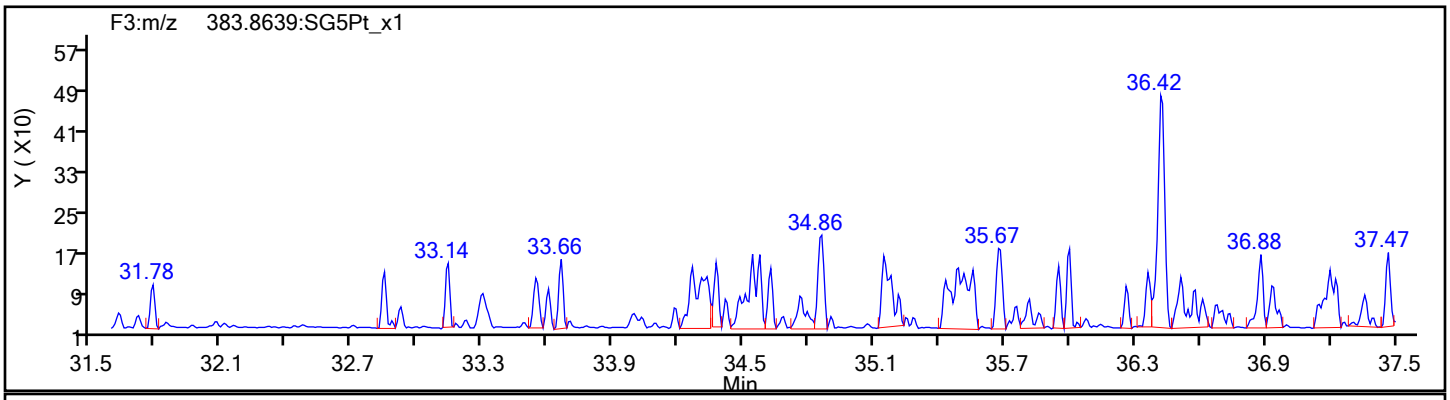

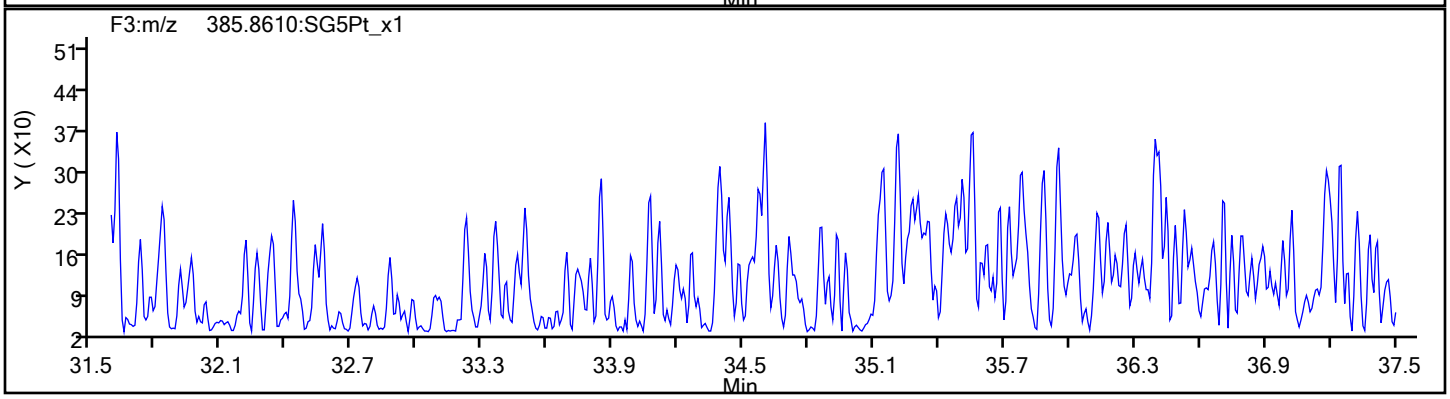

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
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HxCDF

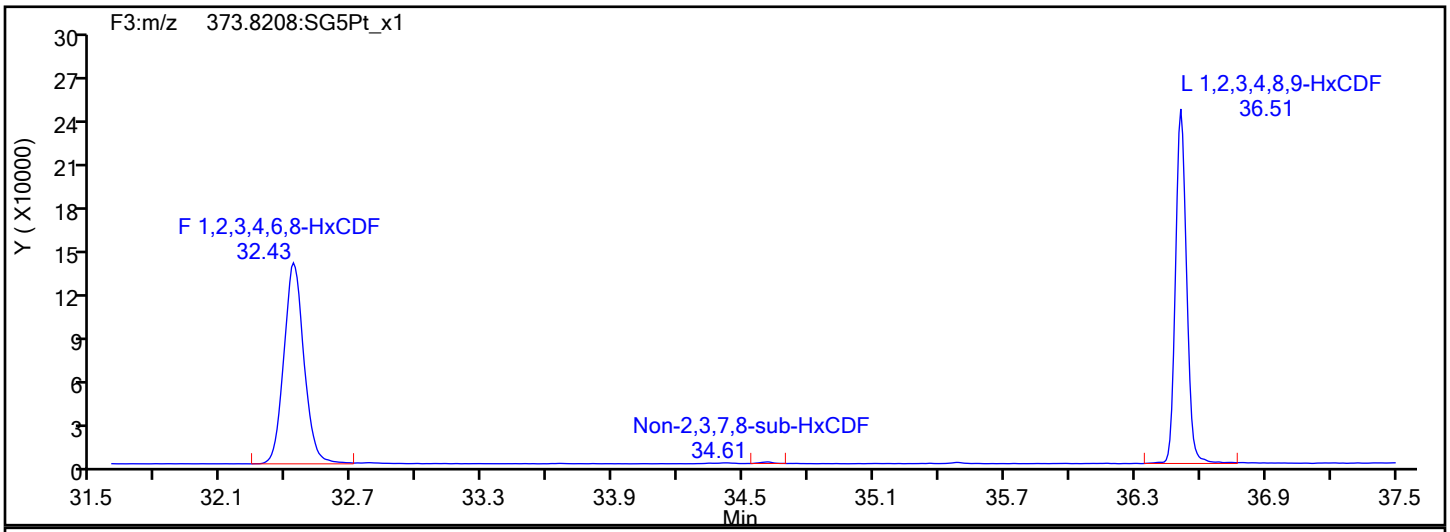

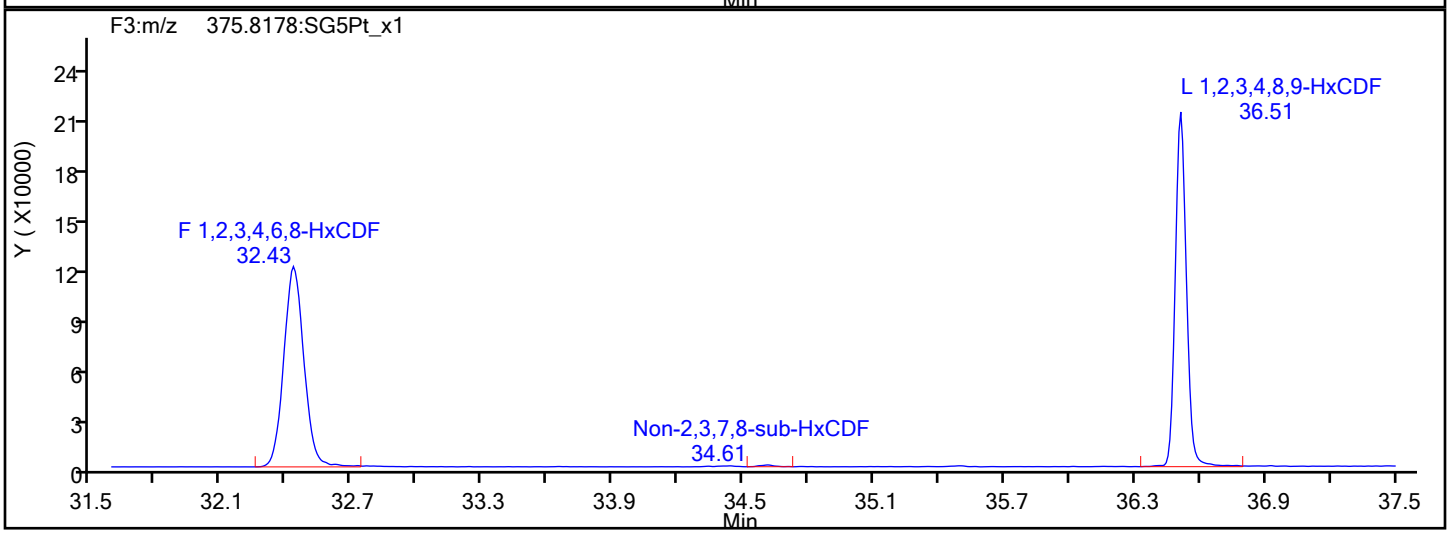

HxCDF Interference Mass

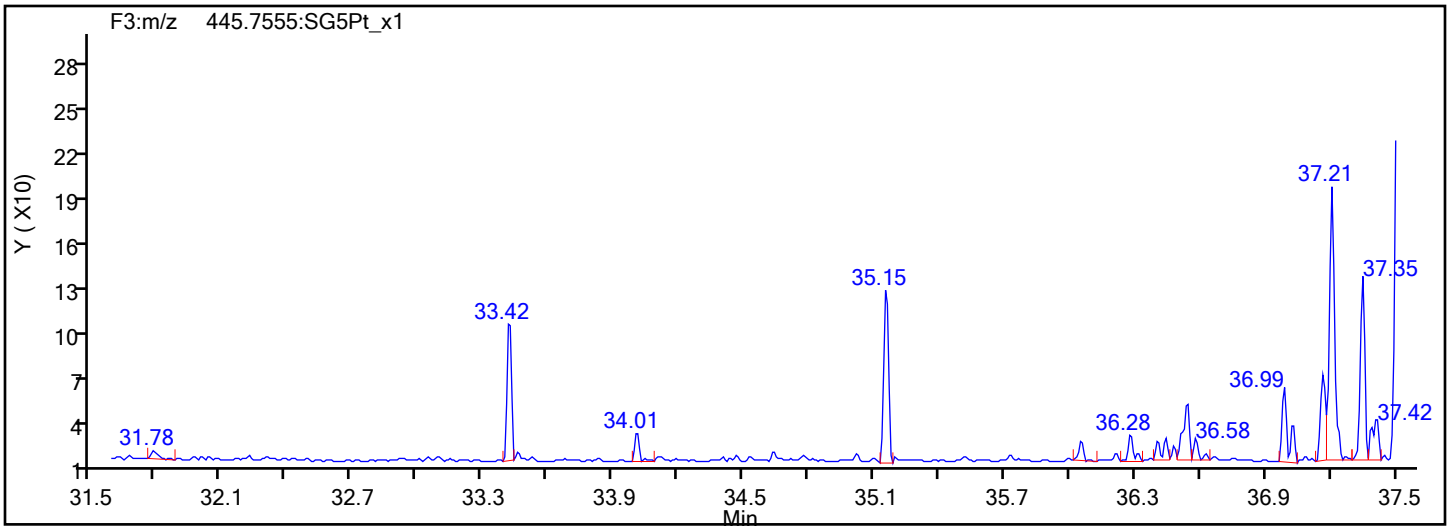

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Eurofins TestAmerica, Sacramento

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HxCDD

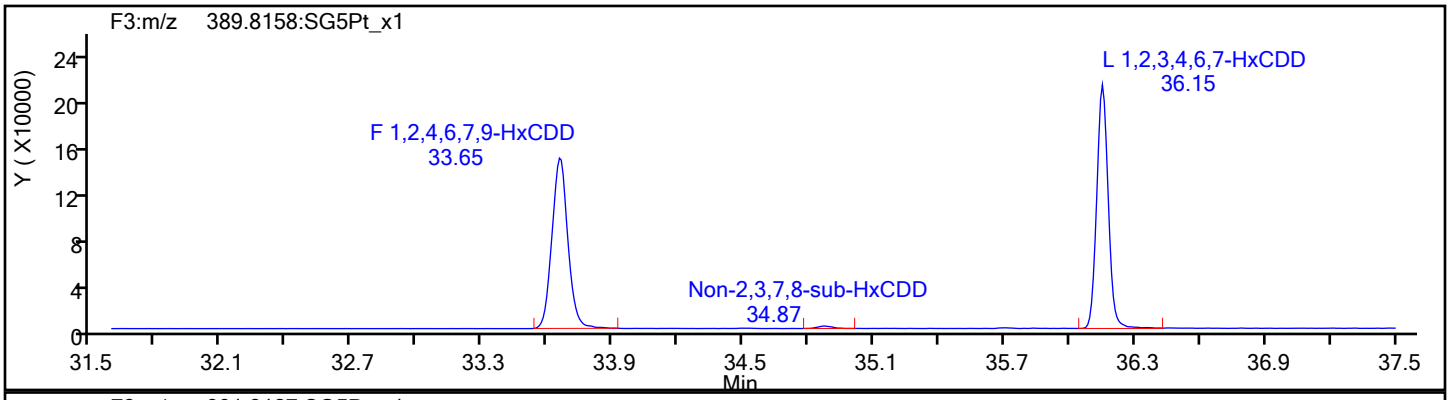

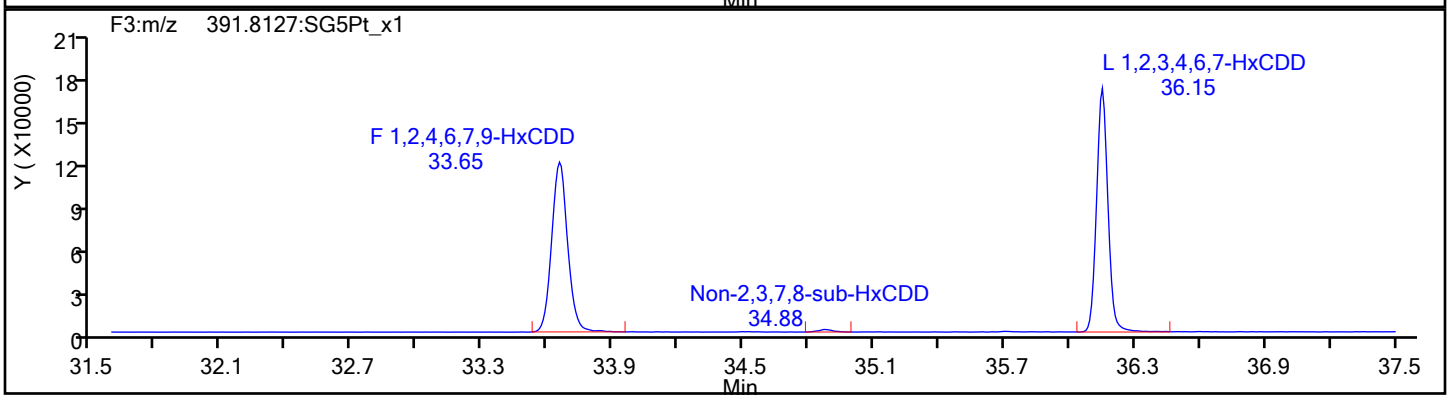

HxCDD Standards

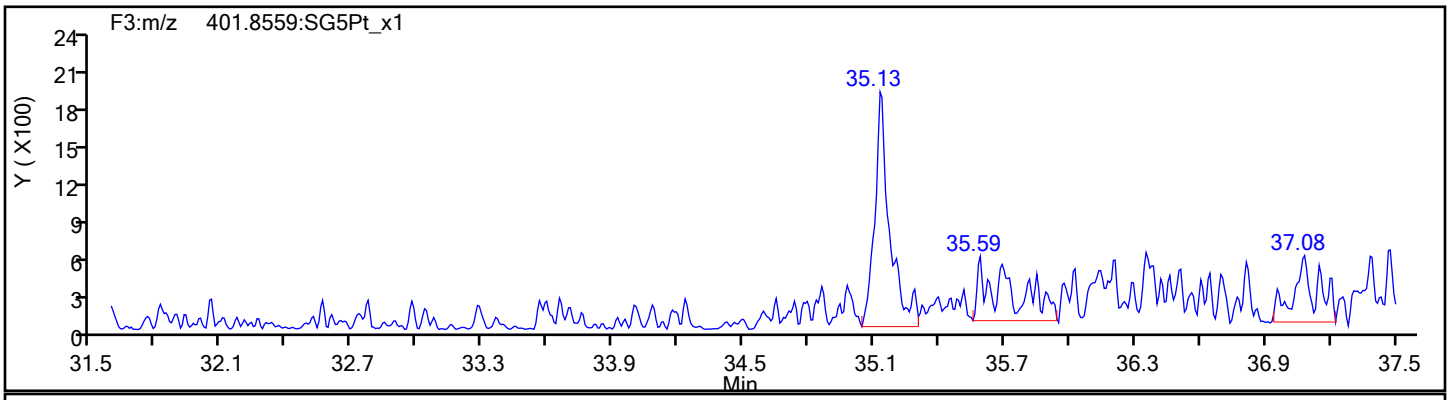

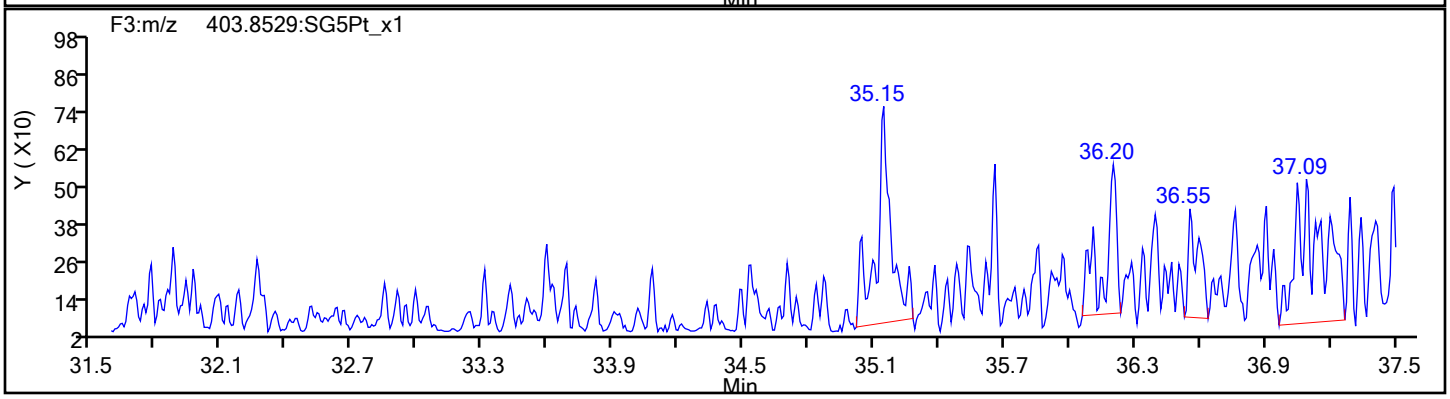

Report Date: 08-Nov-2019 13:21:52 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_2.d		
Injection Date:	07-Nov-2019 16:02:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336838	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

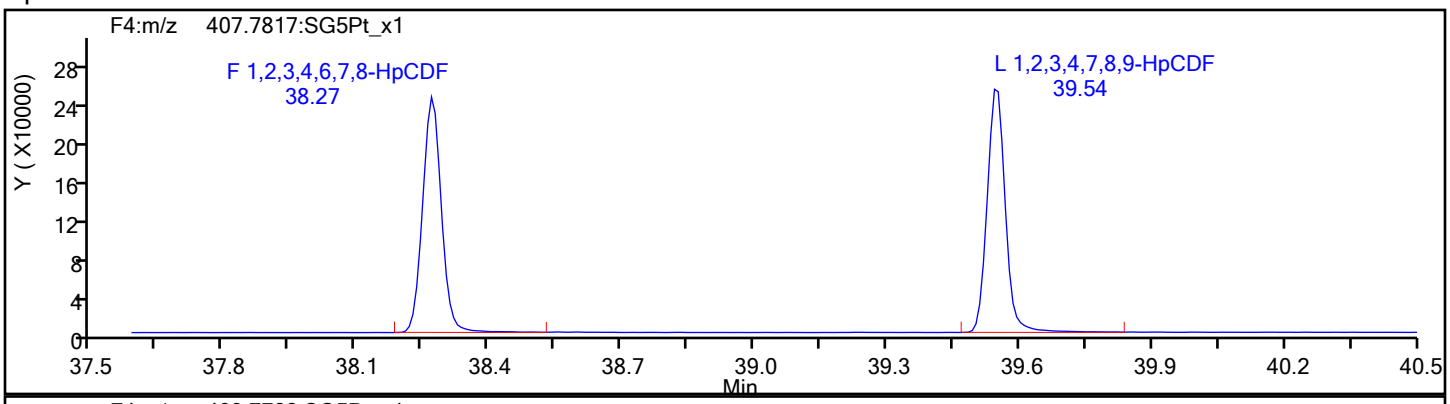

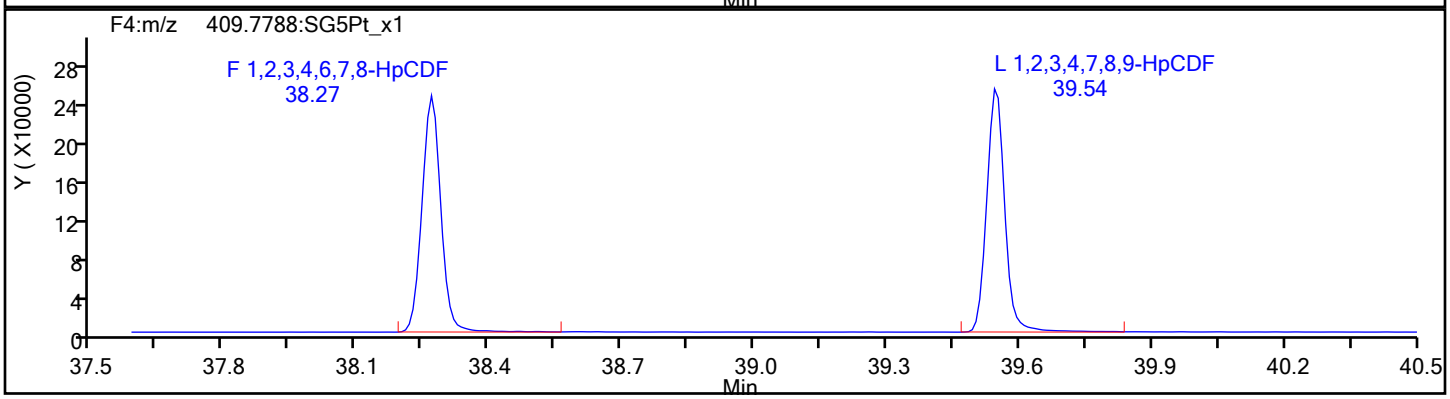

HpCDF Standards

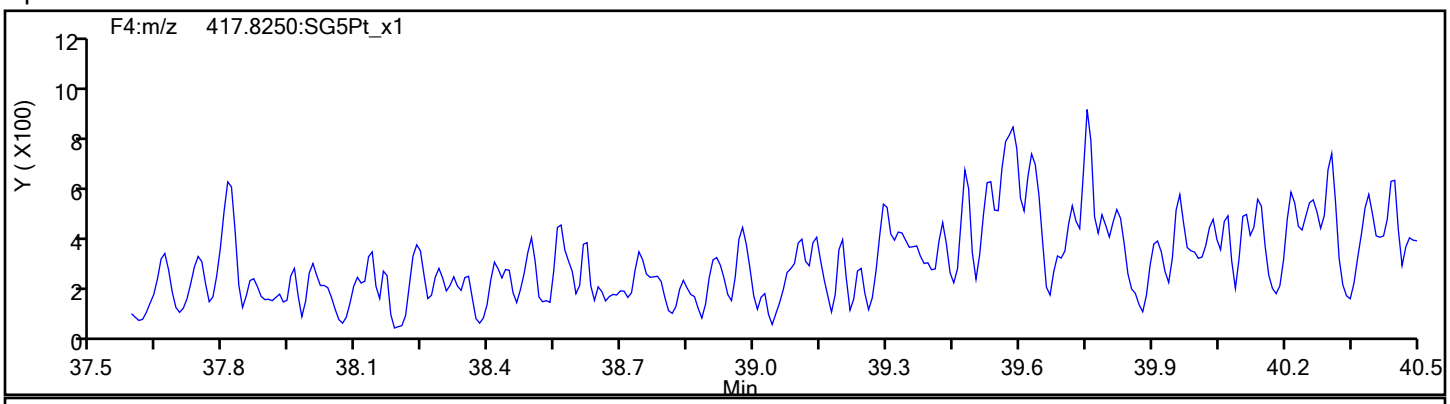

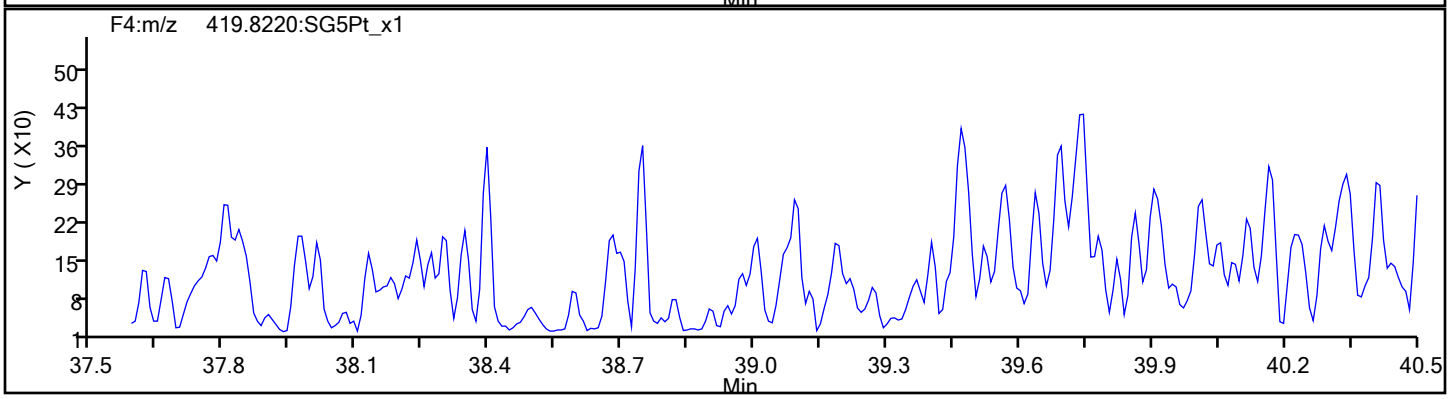

Report Date: 08-Nov-2019 13:21:52 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_2.d		
Injection Date:	07-Nov-2019 16:02:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336838	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

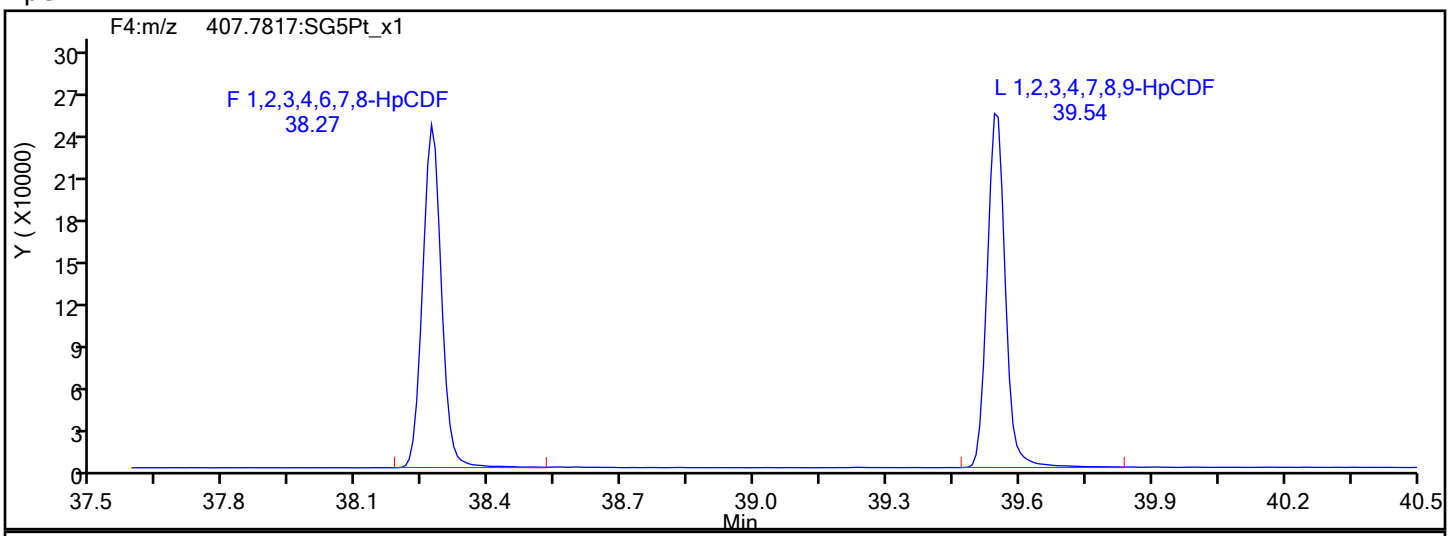

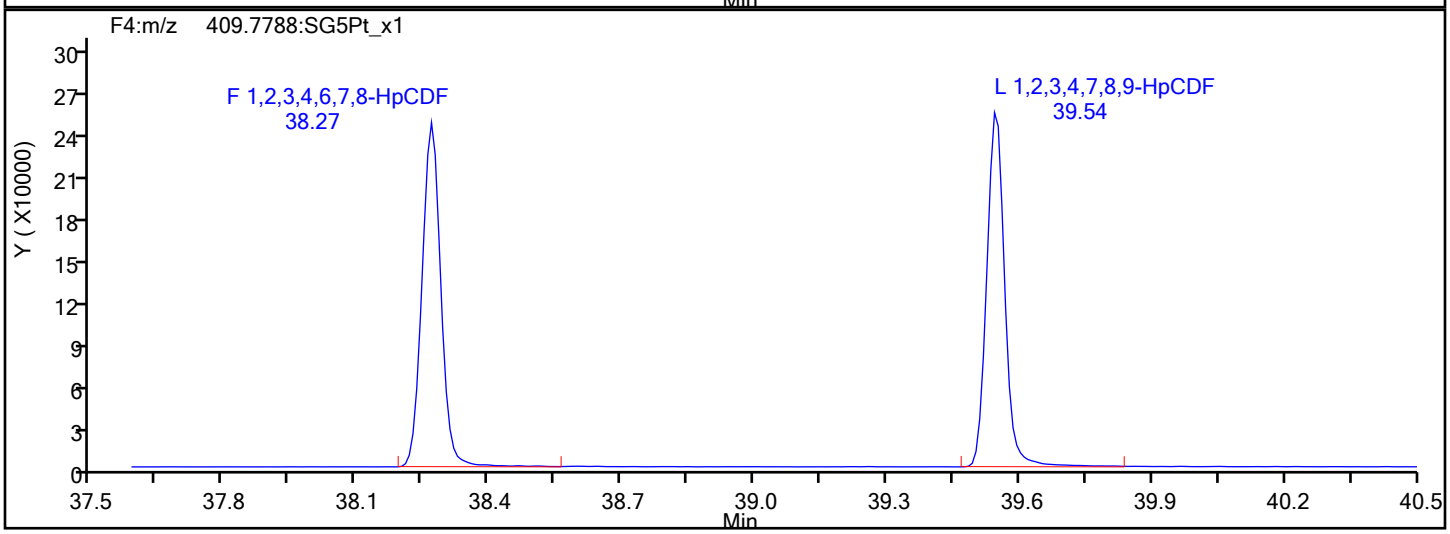

HpCDF Interference Mass

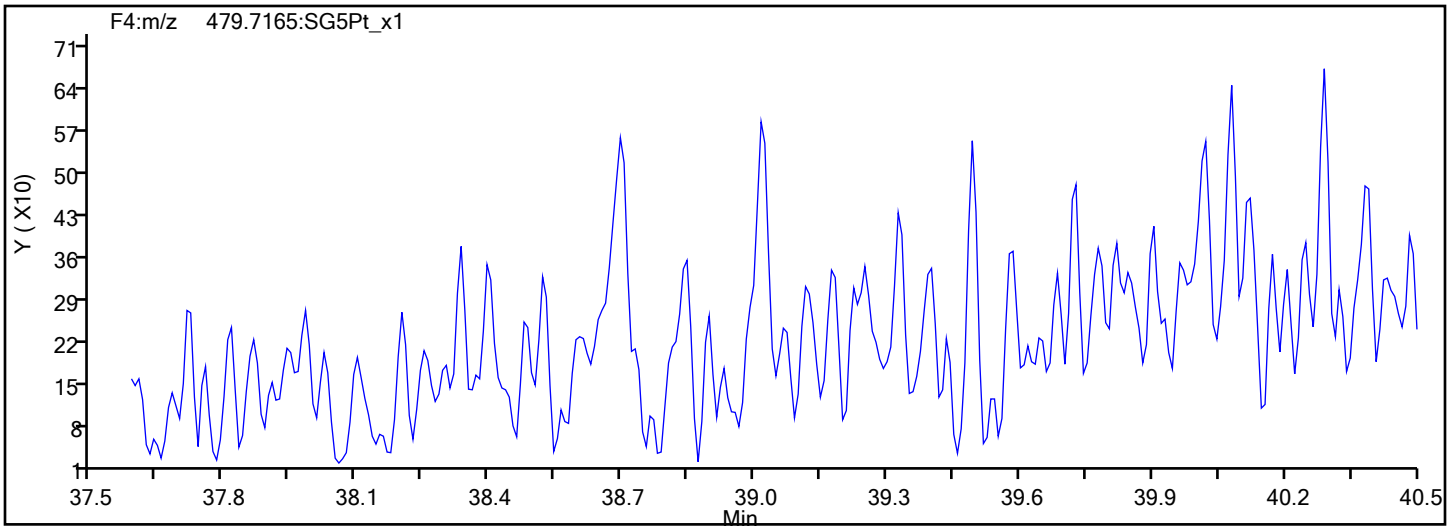

Report Date: 08-Nov-2019 13:21:52 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_2.d		
Injection Date:	07-Nov-2019 16:02:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336838	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

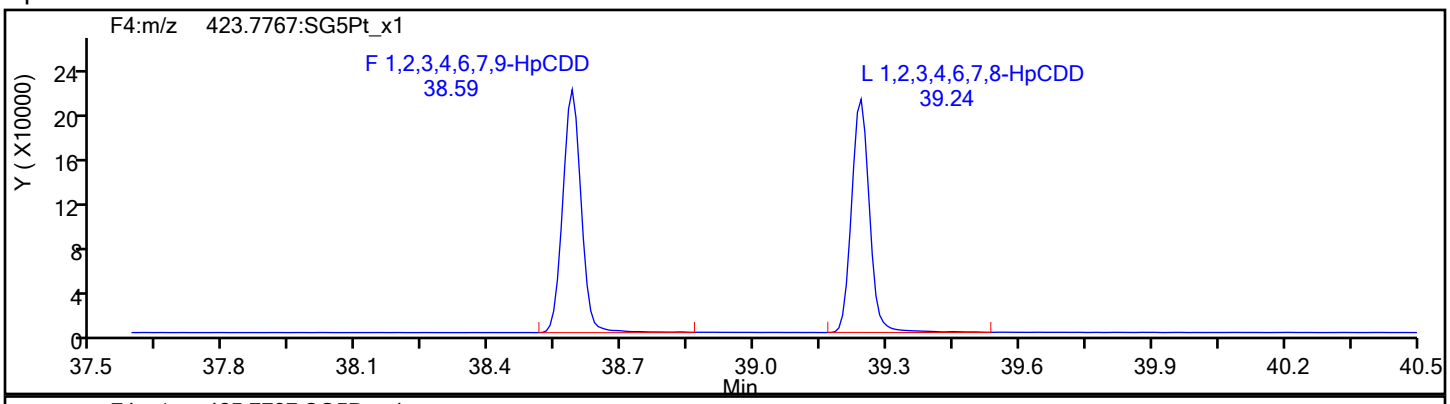

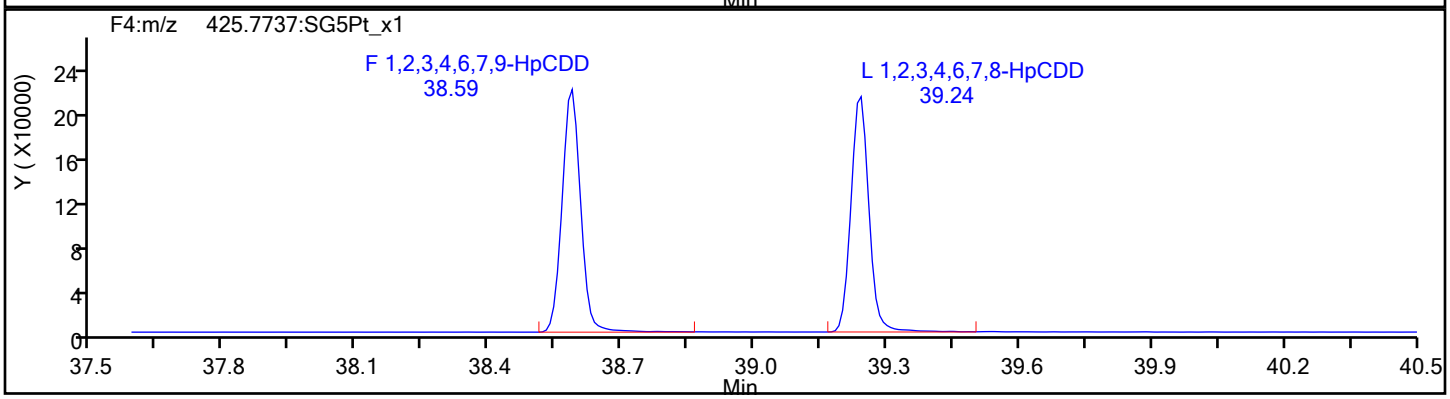

HpCDD Standards

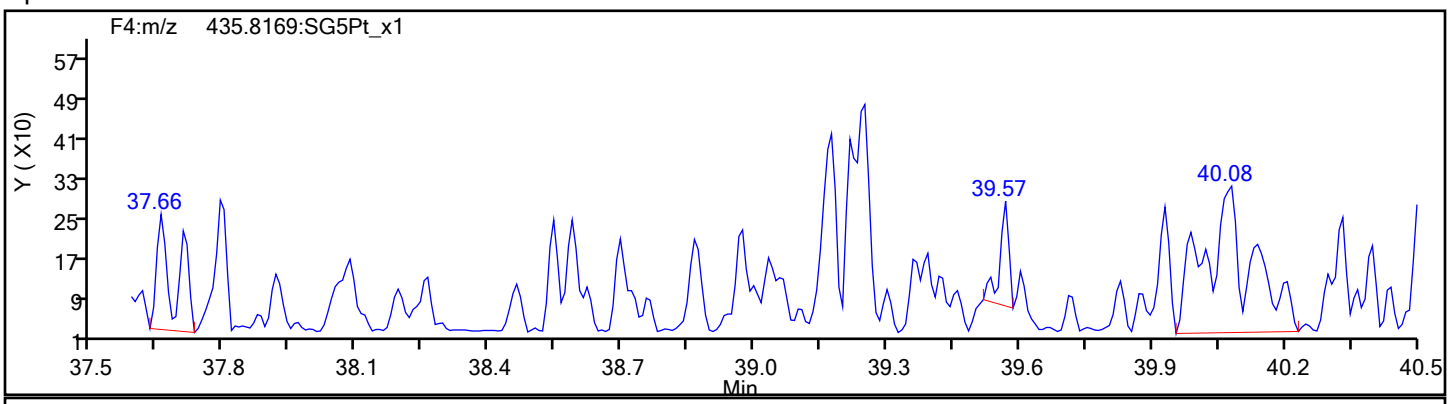

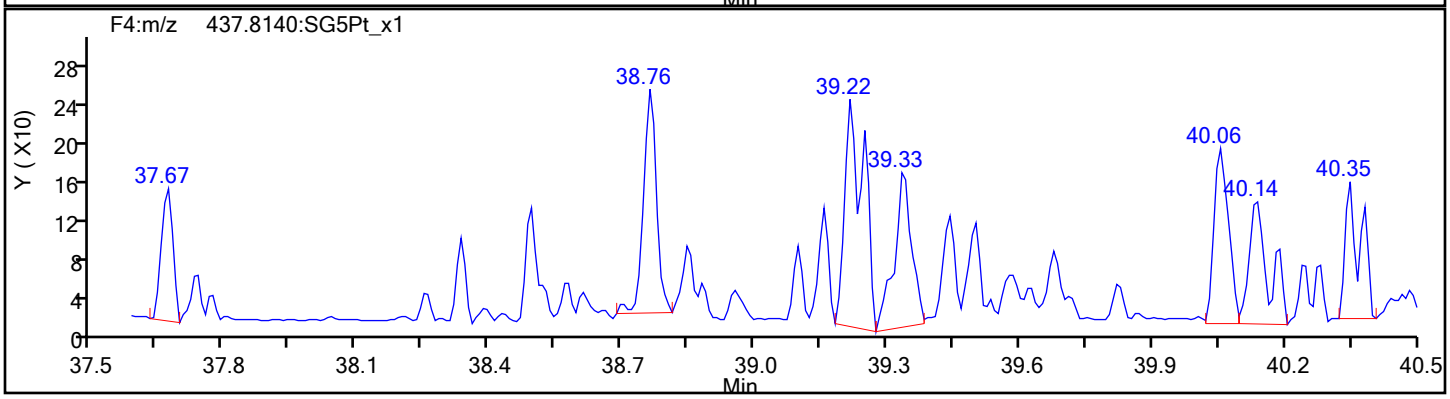

Report Date: 08-Nov-2019 13:21:53 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_2.d		
Injection Date:	07-Nov-2019 16:02:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336838	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

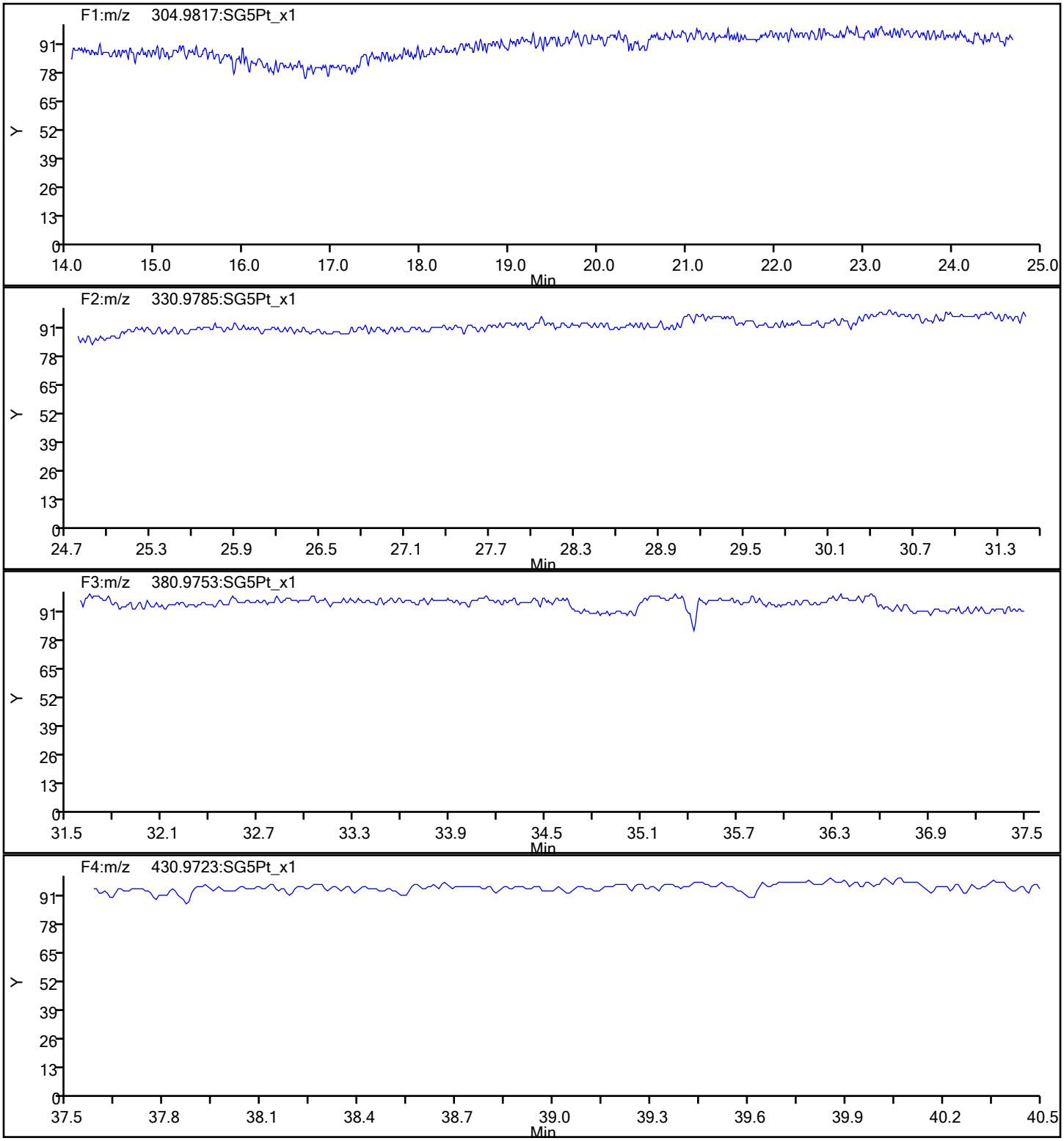

Report Date: 08-Nov-2019 13:21:53 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_2.d		
Injection Date:	07-Nov-2019 16:02:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336838	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

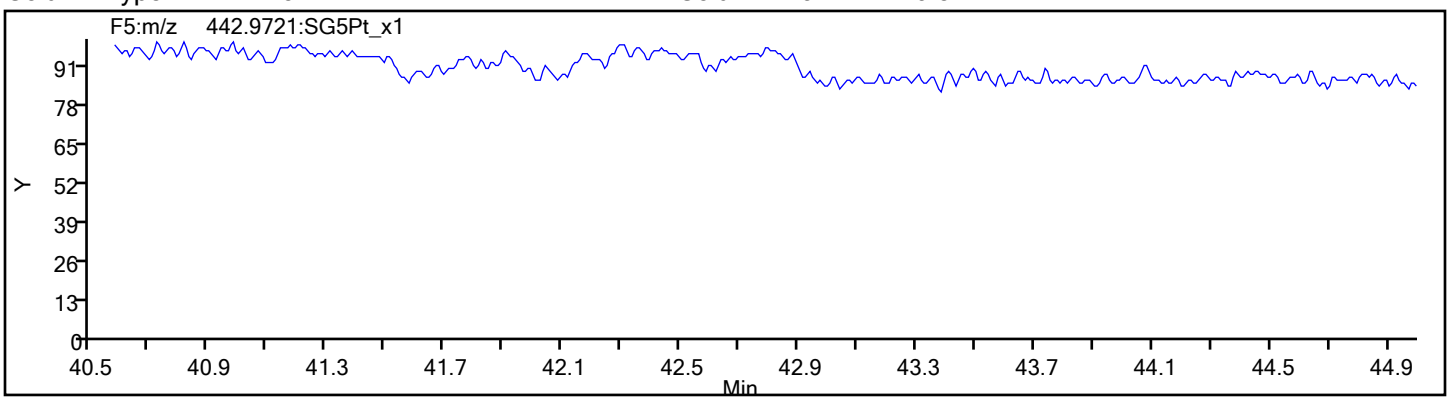

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 600-194690-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 320-335248/1-A
Matrix: Water
Lab File ID: 05NO19B10D5_4.d
Analysis Method: 1613B
Date Collected:
Extract. Method: 1613B
Date Extracted: 11/01/2019 08:11
Sample wt/vol: 1000(mL)
Date Analyzed: 11/05/2019 21:50
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 336302
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		10	0.66
51207-31-9	2,3,7,8-TCDF	0.628	J	10	0.35
40321-76-4	1,2,3,7,8-PeCDD	ND		50	1.0
57117-41-6	1,2,3,7,8-PeCDF	ND		50	0.60
57117-31-4	2,3,4,7,8-PeCDF	ND		50	0.61
39227-28-6	1,2,3,4,7,8-HxCDD	3.72	J	50	0.54
57653-85-7	1,2,3,6,7,8-HxCDD	ND		50	0.57
19408-74-3	1,2,3,7,8,9-HxCDD	1.01	J	50	0.50
70648-26-9	1,2,3,4,7,8-HxCDF	ND		50	0.77
57117-44-9	1,2,3,6,7,8-HxCDF	ND		50	0.65
72918-21-9	1,2,3,7,8,9-HxCDF	1.44	J	50	0.44
60851-34-5	2,3,4,6,7,8-HxCDF	0.888	J	50	0.45
35822-46-9	1,2,3,4,6,7,8-HpCDD	ND		50	0.80
67562-39-4	1,2,3,4,6,7,8-HpCDF	1.76	J	50	0.44
55673-89-7	1,2,3,4,7,8,9-HpCDF	1.16	J	50	0.57
3268-87-9	OCDD	9.40	J	100	1.2
39001-02-0	OCDF	3.85	J	100	1.3
41903-57-5	Total TCDD	ND		10	0.66
30402-14-3	Total TCDF	0.628	J	10	0.35
36088-22-9	Total PeCDD	ND		50	1.0
30402-15-4	Total PeCDF	ND		50	0.61
34465-46-8	Total HxCDD	4.73	J	50	0.53
55684-94-1	Total HxCDF	2.32	J	50	0.58
37871-00-4	Total HpCDD	ND		50	0.80
38998-75-3	Total HpCDF	2.92	J	50	0.50

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 320-335248/1-A

Matrix: Water Lab File ID: 05NO19B10D5_4.d

Analysis Method: 1613B Date Collected:

Extract. Method: 1613B Date Extracted: 11/01/2019 08:11

Sample wt/vol: 1000(mL) Date Analyzed: 11/05/2019 21:50

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 336302 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	53		25-164
89059-46-1	13C-2,3,7,8-TCDF	48		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	51		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	49		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	53		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	55		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	53		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	54		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	53		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	51		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	52		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	43		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	41		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	43		26-138
114423-97-1	13C-OCDD	32		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	96		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_4.d
Lims ID: MB 320-335248/1-A
Client ID:
Sample Type: MB
Inject. Date: 05-Nov-2019 21:50:25 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: MB 320-335248/1-A MB 320-335248/1-A
Misc. Info.: 05NO19B10D5
Operator ID: ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 08-Nov-2019 08:43:34 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0328

First Level Reviewer: arghestanis Date: 06-Nov-2019 08:01:11

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.245	91435529	0.79	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.761	62985708	0.79	1.4384	47.9	47.9	0.1710	0.1710	47.89	
2,3,7,8-TCDF	16.761	20790	0.77	1.0507	0.0370	0.0314	0.0173	0.0173		RQM
A Non-2,3,7,8-sub-TCDF	16.459						0.0173	0.0173		
S Total TCDF					0.0370	0.0314	0.0173	0.0173		RQ
D 13C-2,3,7,8-TCDD	17.442	46520890	0.77	0.9533	53.4	53.4	0.1528	0.1528	53.37	
2,3,7,8-TCDD	17.427						0.0330	0.0330		
$ 37Cl4-2,3,7,8-TCDD	17.457	43012298		1.2224	38.5	38.5	0.1041	0.1041	96.21	
A Non-2,3,7,8-sub-TCDD	16.890						0.0330	0.0330		
S Total TCDD							0.0330	0.0330		
D 13C-1,2,3,7,8-PeCDF	21.513	45829263	1.58	1.0286	48.7	48.7	0.1636	0.1636	48.73	
1,2,3,7,8-PeCDF	21.540						0.0298	0.0298		
D 13C-2,3,4,7,8-PeCDF	22.781	47547730	1.58	0.9827	52.9	52.9	0.1712	0.1712	52.92	
2,3,4,7,8-PeCDF	22.795						0.0304	0.0304		
A F1 PeCDFs	19.158						0.0302	0.0302		
A Non-2,3,7,8-sub-PeCDF	22.128						0.0301	0.0301		
S Total PeCDF							0.0304	0.0304		
D 13C-1,2,3,7,8-PeCDD	23.477	34636429	1.61	0.7481	50.6	50.6	0.0949	0.0949	50.64	
1,2,3,7,8-PeCDD	23.476						0.0515	0.0515		
A Non-2,3,7,8-sub-PeCDD	22.406						0.0515	0.0515		
S Total PeCDD							0.0515	0.0515		
D 13C-1,2,3,4,7,8-HxCDF	29.547	38259846	0.52	1.1520	53.9	53.9	0.3149	0.3149	53.92	
1,2,3,4,7,8-HxCDF	29.533						0.0383	0.0383		
D 13C-1,2,3,6,7,8-HxCDF	29.826	40471211	0.52	1.2434	52.8	52.8	0.2918	0.2918	52.85	
1,2,3,6,7,8-HxCDF	29.826						0.0327	0.0327		
D 13C-2,3,4,6,7,8-HxCDF	30.918	37675185	0.52	1.1720	52.2	52.2	0.3096	0.3096	52.19	
2,3,4,6,7,8-HxCDF	30.958	20268	1.11	1.2116	0.0444	0.0444	0.0224	0.0224		M
D 13C-1,2,3,7,8,9-HxCDF	31.850	33283472	0.52	1.0655	50.7	50.7	0.3405	0.3405	50.72	
1,2,3,7,8,9-HxCDF	31.863	29751	1.41	1.2451	0.0718	0.0718	0.0220	0.0220		M
A Non-2,3,7,8-sub-HxCDF	29.354						0.0273	0.0273		
S Total HxCDF					0.1162	0.1162	0.0288	0.0288		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.650	61591087	1.26	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.144	26552648	1.24	0.7812	55.2	55.2	0.2742	0.2742	55.19	
1,2,3,4,7,8-HxCDD	31.170	54701	1.06	1.1088	0.1858	0.1858	0.0270	0.0270		M
D 13C-1,2,3,6,7,8-HxCDD	31.264	29672528	1.23	0.9175	52.5	52.5	0.2334	0.2334	52.51	
1,2,3,6,7,8-HxCDD	31.170						0.0283	0.0283		U
1,2,3,7,8,9-HxCDD	31.677	17266	1.24	1.2123	0.0720	0.0507	0.0249	0.0249		RQ
A Non-2,3,7,8-sub-HxCDD	29.926						0.0267	0.0420		RQU
S Total HxCDD					0.2578	0.2365	0.0267	0.0267		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	33.394	21836771	0.45	0.8628	41.1	41.1	0.6242	0.6242	41.09	
1,2,3,4,6,7,8-HpCDF	33.418	29973	0.89	1.5555	0.0882	0.0882	0.0220	0.0220		M
D 13C-1,2,3,4,7,8,9-HpCDF	34.451	21377910	0.43	0.7991	43.4	43.4	0.6740	0.6740	43.44	
1,2,3,4,7,8,9-HpCDF	34.451	17182	1.19	1.3862	0.0580	0.0580	0.0283	0.0283		
A Non-2,3,7,8-sub-HpCDF	33.922						0.0249	0.0249		
S Total HpCDF					0.1462	0.1462	0.0252	0.0252		
D 13C-1,2,3,4,6,7,8-HpCDD	34.172	23356960	1.02	0.8739	43.4	43.4	0.2662	0.2662	43.40	
1,2,3,4,6,7,8-HpCDD	34.183						0.0402	0.0402		
A Non-2,3,7,8-sub-HpCDD	34.038						0.0402	0.0402		
S Total HpCDD							0.0402	0.0402		
D 13C-OCDD	36.463	30533736	0.90	0.7744	64.0	64.0	0.0807	0.0807	32.01	
OCDF	36.558	36986	0.89	1.2596	0.2296	0.1923	0.0644	0.0644		RQM
OCDD	36.475	76223	0.81	1.0621	0.4701	0.4701	0.0598	0.0598		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_4.d
Lims ID: MB 320-335248/1-A
Client ID:
Sample Type: MB
Inject. Date: 05-Nov-2019 21:50:25 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: MB 320-335248/1-A MB 320-335248/1-A
Misc. Info.: 05NO19B10D5
Operator ID: ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 08-Nov-2019 08:43:34 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0328

First Level Reviewer: arghestanis Date: 06-Nov-2019 08:01:11

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.245	17.230	1		40242150	10443303	7516	18790	1389		
333.9339	17.245	17.230	1		51193379	13246286	6292	15730	2105	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.761	16.761	0	0.972	27742315	6785474	13529	33822	502		
317.9389	16.761	16.761	0	0.972	35243393	8685396	9773	24432	889	0.79(0.65-0.89)	
2,3,7,8-TCDF											RQM
303.9016	16.761	16.761	0	1.000	12763	3289	539	1347	6		
	Empc Correction				9044	2318	539	1347	4		
305.8987	16.792	16.761	2	1.002	11746	3011	583	1457	5	1.09(0.65-0.89)	M
A Non-2,3,7,8-sub-TCDF											
303.9016	16.459						539	1347			
305.8987	16.459						583	1457			
13C-2,3,7,8-TCDD											
331.9368	17.442	17.427	1	1.011	20216349	4610367	7516	18790	613		
333.9339	17.442	17.427	1	1.011	26304541	6039143	6292	15730	960	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.427						970	2425			
321.8936	17.427						584	1460			
37Cl4-2,3,7,8-TCDD											
327.8847	17.457	17.442	1	1.012	43012298	9877061	12061	30152	819		
A Non-2,3,7,8-sub-TCDD											
319.8965	16.890						970	2425			
321.8936	16.890						584	1460			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	21.513	21.513	0	1.247	28032604	4944992	9746	24365	507		
353.8970	21.513	21.513	0	1.247	17796659	3201495	6197	15492	517	1.58(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.527						327	817			
341.8567	21.527						725	1812			
13C-2,3,4,7,8-PeCDF											
351.9000	22.781	22.781	0	1.321	29130659	4767143	9746	24365	489		
353.8970	22.781	22.781	0	1.321	18417071	3084646	6197	15492	498	1.58(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.795						327	817			
341.8567	22.795						725	1812			
A F1 PeCDFs											
339.8597	19.158						399	997			
341.8567	19.158						658	1645			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.128						327	817			
341.8567	22.128						725	1812			
13C-1,2,3,7,8-PeCDD											
367.8949	23.477	23.463	1	1.361	21346730	3337614	4026	10065	829		
369.8919	23.477	23.463	1	1.361	13289699	2092951	2703	6757	774	1.61(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.476						563	1407			
357.8516	23.476						450	1125			
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.406						563	1407			
357.8516	22.406						450	1125			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.547	29.533	1	0.934	13070940	1472212	6701	16752	220		
385.8610	29.547	29.533	1	0.934	25188906	2817631	12284	30710	229	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.533						501	1252			
375.8178	29.533						285	712			
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.826	29.813	1	0.942	13855709	1758945	6701	16752	262		
385.8610	29.826	29.813	1	0.942	26615502	3327272	12284	30710	271	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	29.826						501	1252			
375.8178	29.826						285	712			
13C-2,3,4,6,7,8-HxCDF											
383.8639	30.918	30.904	1	0.977	12810312	2452088	6701	16752	366		
385.8610	30.918	30.904	1	0.977	24864873	4774437	12284	30710	389	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											M
373.8208	30.958	30.917	2	1.001	10659	3141	501	1252	6		M
375.8178	30.944	30.917	2	1.001	9609	1795	285	712	6	1.11(1.05-1.43)	M

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.850	31.836	1	1.006	11340794	2438684	6701	16752	364		
385.8610	31.850	31.836	1	1.006	21942678	4746482	12284	30710	386	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											M
373.8208	31.863	31.849	1	1.000	17420	2750	501	1252	5		
375.8178	31.850	31.849	0	1.000	12331	2288	285	712	8	1.41(1.05-1.43)	M
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.354						501	1252			
375.8178	29.354						285	712			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.650	31.636	1		34325674	7308992	5721	14302	1278		
403.8529	31.650	31.636	1		27265413	5772297	5486	13715	1052	1.26(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.144	31.143	0	0.984	14711846	3248542	5721	14302	568		
403.8529	31.144	31.143	0	0.984	11840802	2647797	5486	13715	483	1.24(1.05-1.43)	
1,2,3,4,7,8-HxCDD											M
389.8157	31.170	31.144	2	1.001	28095	3594	349	872	10		M
391.8127	31.157	31.144	1	1.000	26606	4256	357	892	12	1.06(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.264	31.263	0	0.988	16355360	3171824	5721	14302	554		
403.8529	31.277	31.263	1	0.988	13317168	2605294	5486	13715	475	1.23(1.05-1.43)	
1,2,3,6,7,8-HxCDD											U
389.8157	31.277						349	872			
391.8127	31.277						357	892			
1,2,3,7,8,9-HxCDD											RQ
389.8157	31.677	31.649	2	1.017	9558	1574	349	872	5		
391.8127	31.703	31.649	3	1.018	14983	1863	357	892	5	0.64(1.05-1.43)	
	Empc Correction				7708	1269	357	892	4		
A Non-2,3,7,8-sub-HxCDD											U
389.8157	29.560	29.926	-22	0.946	18458	3741	349	872	11		
	Empc Correction				7418	2767	349	872	8		
391.8127	29.547	29.926	-23	0.945	5983	2232	357	892	6	3.09(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.394	33.393	0	1.055	6746002	1934100	9413	23532	205		
419.8220	33.394	33.393	0	1.055	15090769	4212098	18767	46917	224	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											M
407.7818	33.418	33.394	1	1.001	14146	3364	511	1277	7		
409.7789	33.394	33.394	0	1.000	15827	3913	332	830	12	0.89(0.88-1.20)	M
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.451	34.451	0	1.089	6417398	1629057	9413	23532	173		
419.8220	34.451	34.451	0	1.089	14960512	3740051	18767	46917	199	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.451	34.451	0	1.000	9332	2782	511	1277	5		
409.7789	34.475	34.451	1	1.001	7850	1885	332	830	6	1.19(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.922						511	1277			
409.7789	33.922						332	830			

Report Date: 08-Nov-2019 08:43:35 Chrom Revision: 2.3 31-Oct-2019 20:21:30
Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_4.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.172	34.171	0	1.080	11815758	3124516	6332	15830	493		
437.8140	34.172	34.171	0	1.080	11541202	3022918	5839	14597	518	1.02(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.172						525	1312			
425.7737	34.172						395	987			
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.038						525	1312			
425.7737	34.038						395	987			
13C-OCDD											
469.7779	36.463	36.462	0	1.152	14433771	3058445	1558	3895	1963		
471.7750	36.463	36.462	0	1.152	16099965	3463438	1711	4277	2024	0.90(0.76-1.02)	
OCDF											RQM
441.7428	36.558	36.546	1	1.003	17417	3127	408	1020	8		M
443.7399	36.547	36.546	0	1.002	26735	3480	651	1627	5	0.65(0.76-1.02)	M
	Empc Correction				19569	3513	651	1627	5		
OCDD											
457.7377	36.475	36.462	1	1.000	34084	4429	440	1100	10		
459.7348	36.463	36.462	0	1.000	42139	5570	388	970	14	0.81(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

U - Marked Undetected

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_4.d
Lims ID: MB 320-335248/1-A
Client ID:
Inject. Date: 05-Nov-2019 21:50:25 Dil. Factor: 1.0000
Sample Type: MB, Method Blank
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 4

Non-2,3,7,8-sub-HxCDD, RT: 29.926

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.109	D 13C-1,2,3,4,7,8-HxCDD	100.000	26552648	5896339
1,2,3,6,7,8-HxCDD	1.081	D 13C-1,2,3,6,7,8-HxCDD	100.000	29672528	5777118
1,2,3,7,8,9-HxCDD	1.212				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.134		100.000	28112588	5836728

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
29.560	18458	3741	5983	2232	0.0767	3.09	RQ
29.560	7418	2767	5983	2232	0.0420		Empc Correction

Compound is Marked ND

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_4.d				
Injection Date:	05-Nov-2019 21:50:25	Instrument ID:	10D5		
Lims ID:	MB 320-335248/1-A				
Client ID:					
Operator ID:	ALM	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDF, CAS: 51207-31-9

Signal: 2

Processing Integration Results

RT: 16.79
Area: 13041
Amount: 0.038990
Amount Units: pg/ul

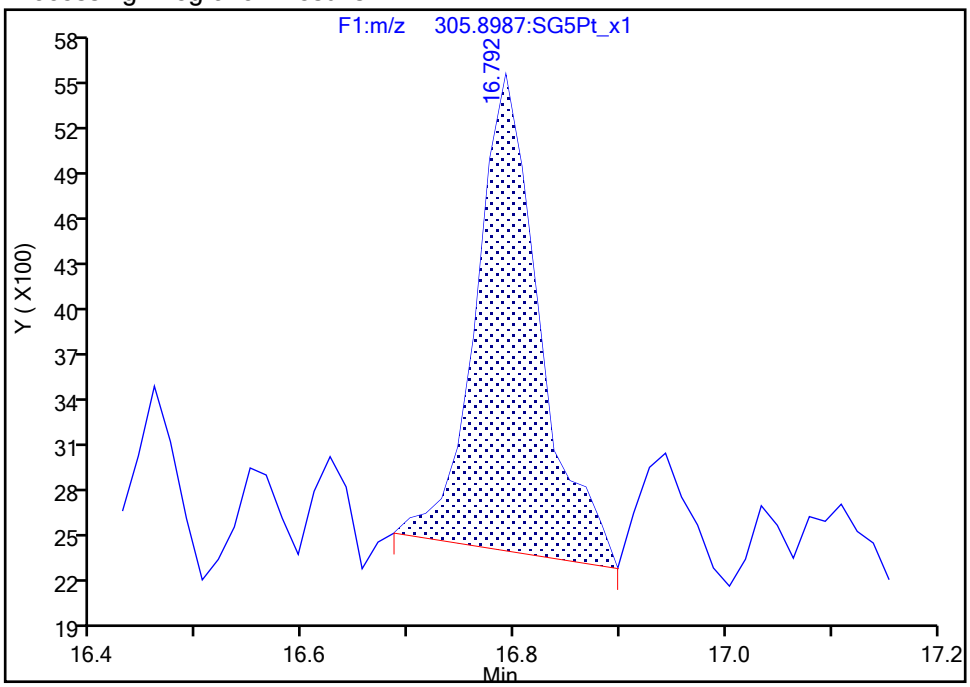

Manual Integration Results

RT: 16.79
Area: 11746
Amount: 0.037033
Amount Units: pg/ul

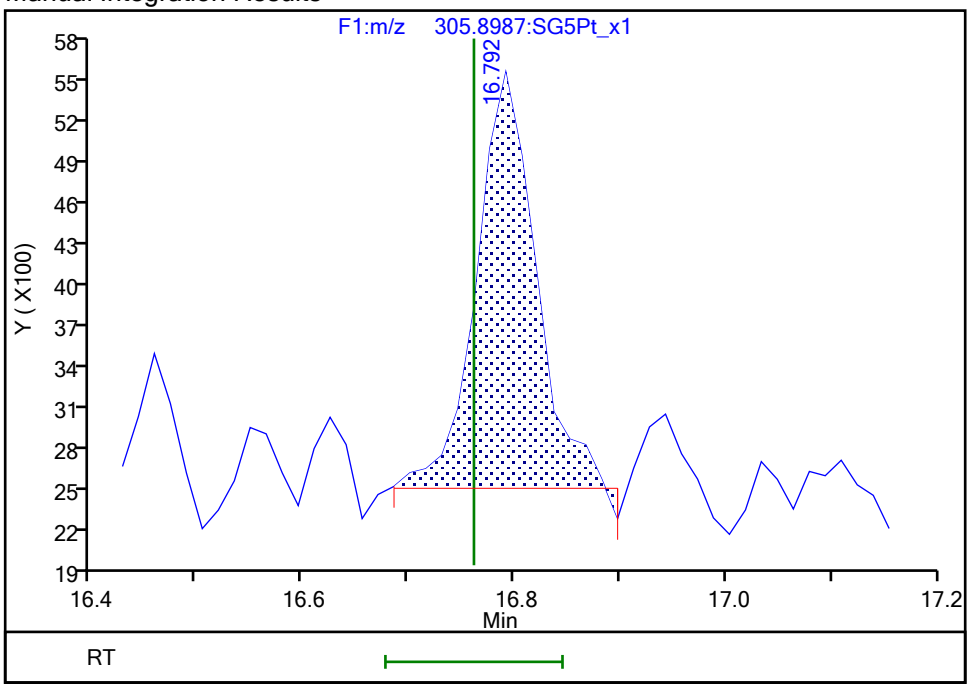

Reviewer: dadunj, 08-Nov-2019 08:40:04

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_4.d				
Injection Date:	05-Nov-2019 21:50:25	Instrument ID:	10D5		
Lims ID:	MB 320-335248/1-A				
Client ID:					
Operator ID:	ALM	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

2,3,4,6,7,8-HxCDF, CAS: 60851-34-5

Signal: 2

Processing Integration Results

RT: 30.94
Area: 8704
Amount: 0.043734
Amount Units: pg/ul

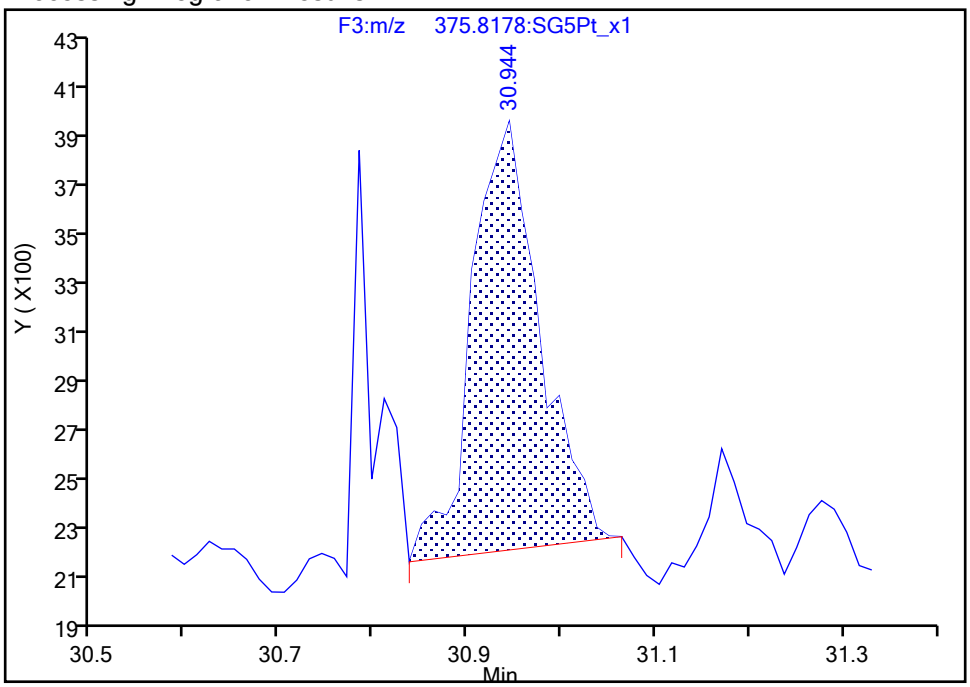

Manual Integration Results

RT: 30.94
Area: 9609
Amount: 0.044402
Amount Units: pg/ul

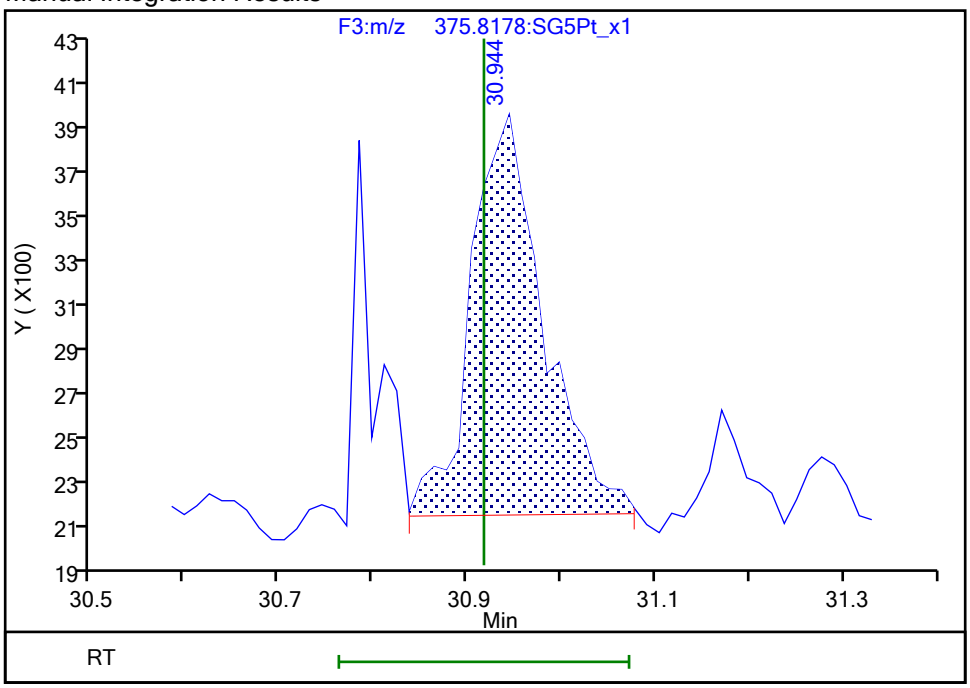

Reviewer: dadunj, 08-Nov-2019 08:40:35

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_4.d				
Injection Date:	05-Nov-2019 21:50:25	Instrument ID:	10D5		
Lims ID:	MB 320-335248/1-A				
Client ID:					
Operator ID:	ALM	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

2,3,4,6,7,8-HxCDF, CAS: 60851-34-5

Signal: 1

Processing Integration Results

RT: 30.96
Area: 11259
Amount: 0.043734
Amount Units: pg/ul

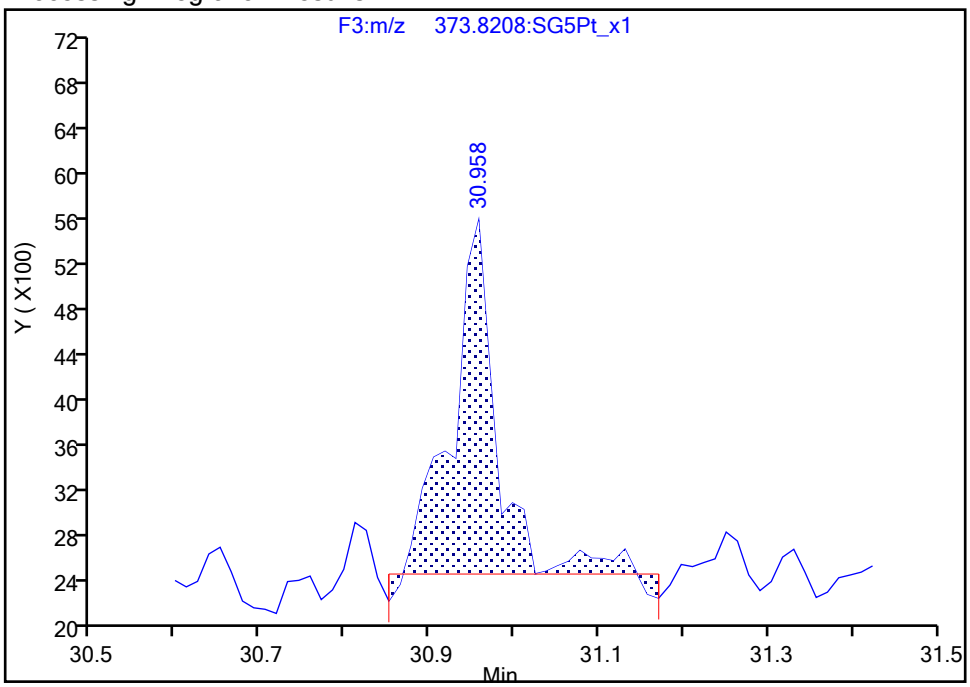

Manual Integration Results

RT: 30.96
Area: 10659
Amount: 0.044402
Amount Units: pg/ul

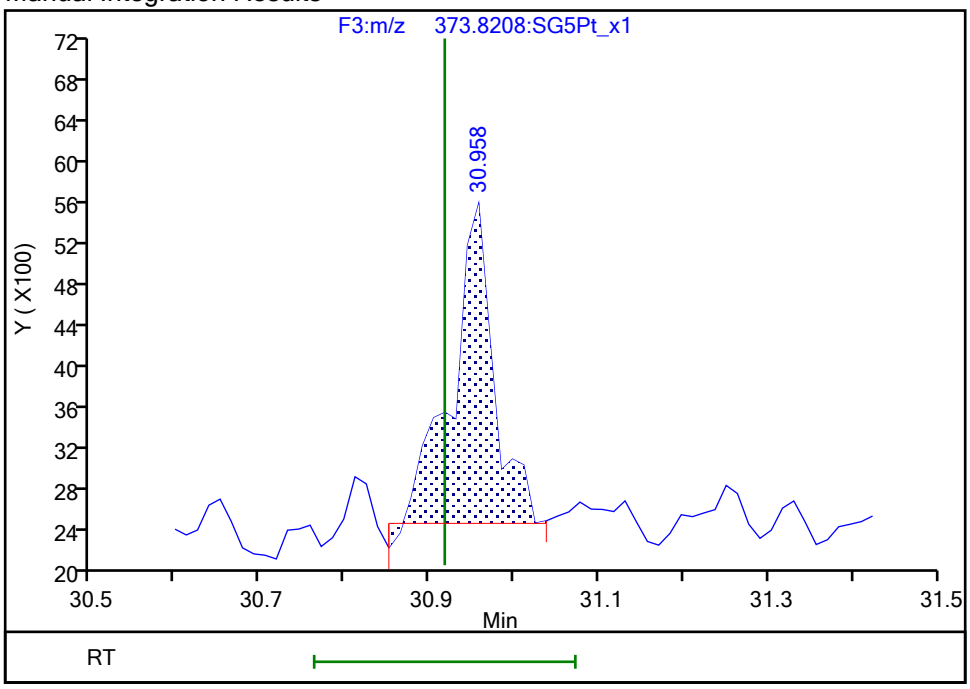

Reviewer: dadunj, 08-Nov-2019 08:40:37

Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_4.d				
Injection Date:	05-Nov-2019 21:50:25	Instrument ID:	10D5		
Lims ID:	MB 320-335248/1-A				
Client ID:					
Operator ID:	ALM	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 2

Processing Integration Results

RT: 31.85
Area: 15539
Amount: 0.079530
Amount Units: pg/ul

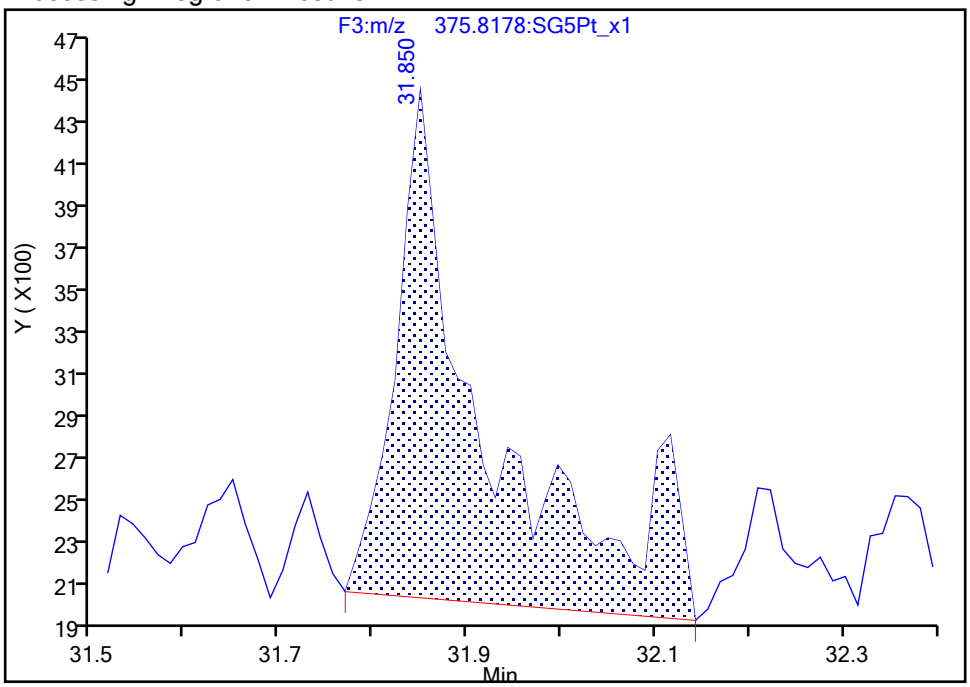

Manual Integration Results

RT: 31.85
Area: 12331
Amount: 0.071789
Amount Units: pg/ul

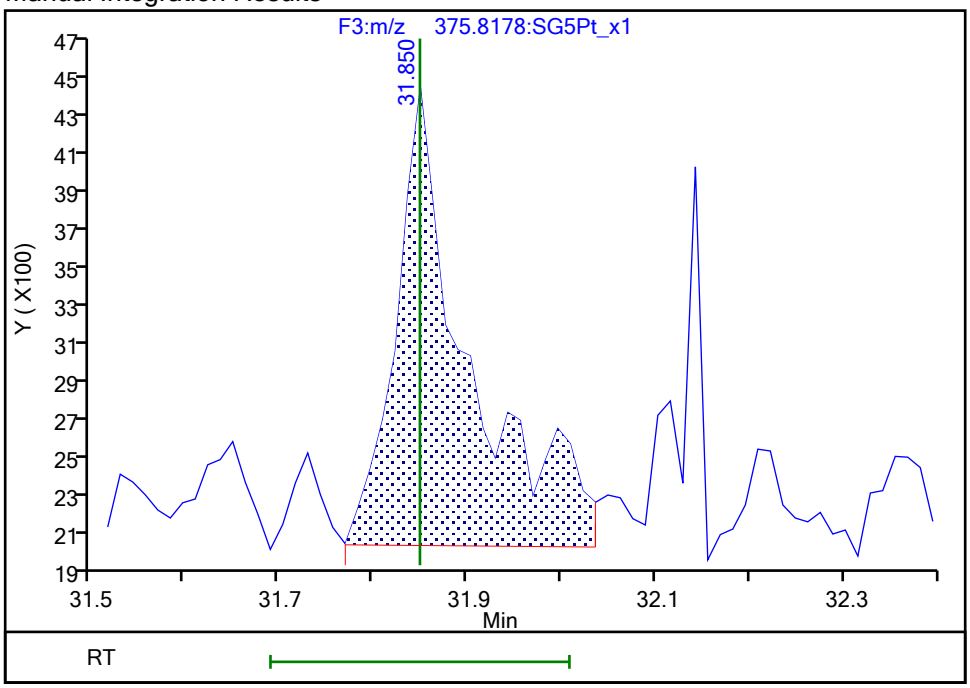

Reviewer: dadunj, 08-Nov-2019 08:40:56

Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_4.d				
Injection Date:	05-Nov-2019 21:50:25	Instrument ID:	10D5		
Lims ID:	MB 320-335248/1-A				
Client ID:					
Operator ID:	ALM	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 1

Processing Integration Results

RT: 31.17
Area: 28563
Amount: 0.187385
Amount Units: pg/ul

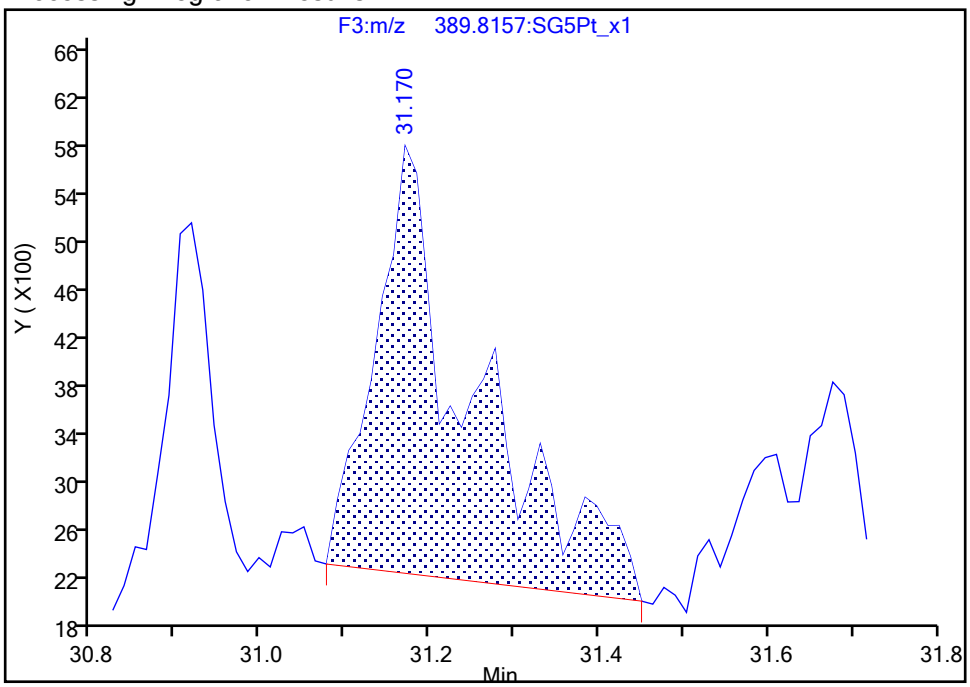

Manual Integration Results

RT: 31.17
Area: 28095
Amount: 0.185795
Amount Units: pg/ul

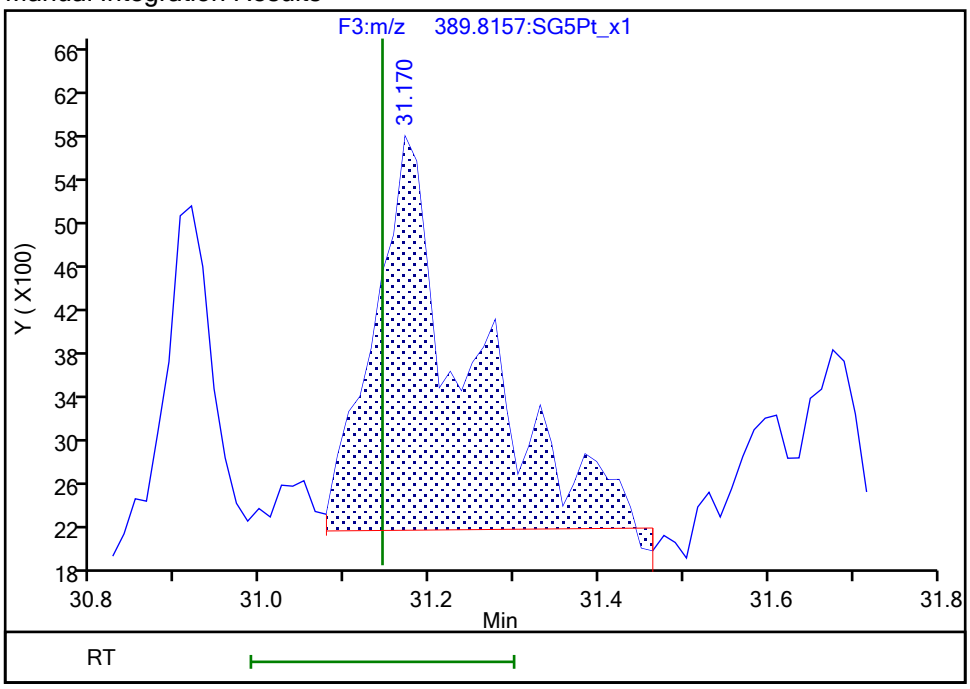

Reviewer: dadunj, 08-Nov-2019 08:41:08

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_4.d				
Injection Date:	05-Nov-2019 21:50:25	Instrument ID:	10D5		
Lims ID:	MB 320-335248/1-A				
Client ID:					
Operator ID:	ALM	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 2

Processing Integration Results

RT: 33.39
Area: 17149
Amount: 0.092130
Amount Units: pg/ul

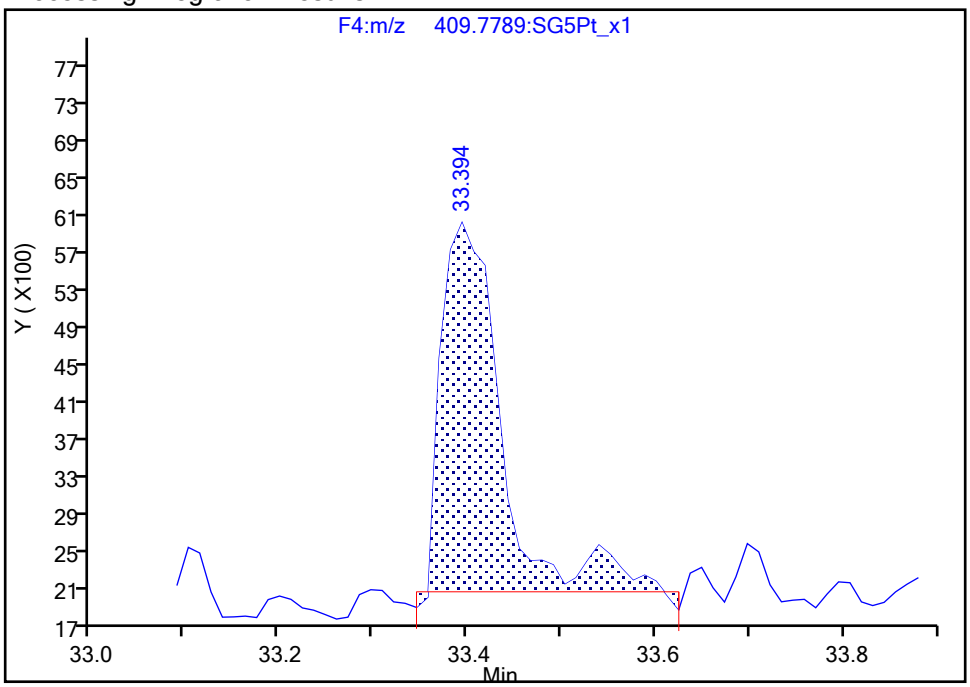

Manual Integration Results

RT: 33.39
Area: 15827
Amount: 0.088238
Amount Units: pg/ul

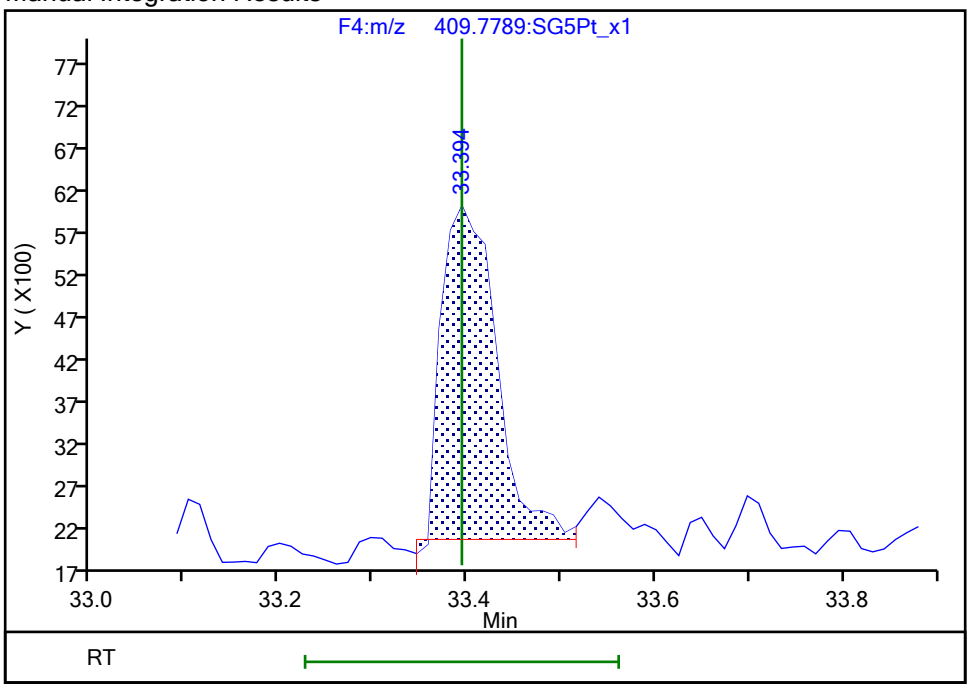

Reviewer: dadunj, 08-Nov-2019 08:41:29

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_4.d				
Injection Date:	05-Nov-2019 21:50:25	Instrument ID:	10D5		
Lims ID:	MB 320-335248/1-A				
Client ID:					
Operator ID:	ALM	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5:HRSIR		

OCDF, CAS: 39001-02-0

Signal: 2

Processing Integration Results

RT: 36.55
Area: 29178
Amount: 0.281072
Amount Units: pg/ul

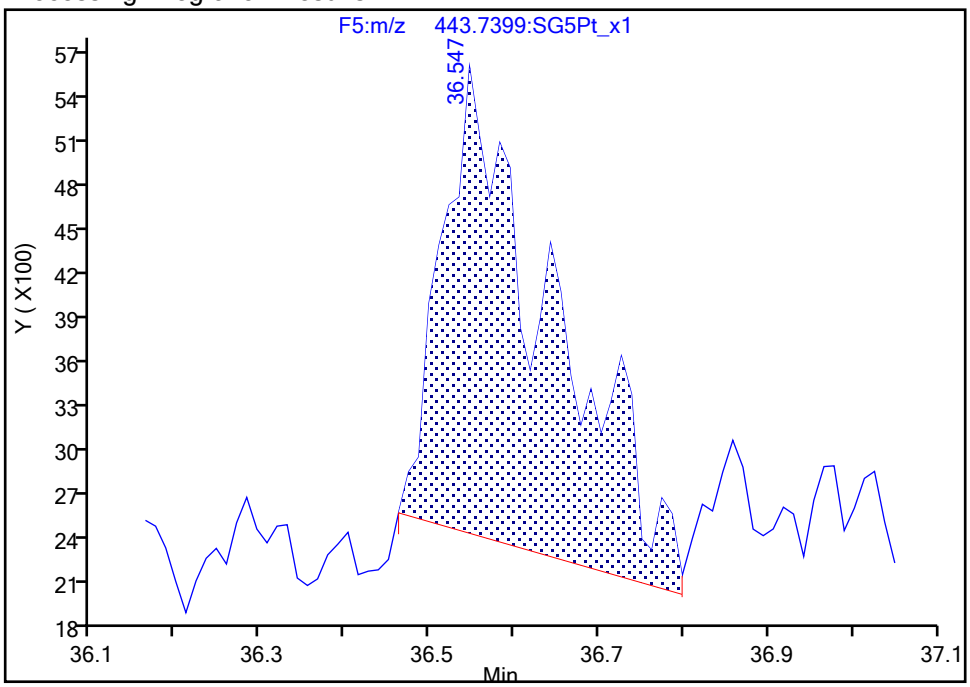

Manual Integration Results

RT: 36.55
Area: 26735
Amount: 0.229600
Amount Units: pg/ul

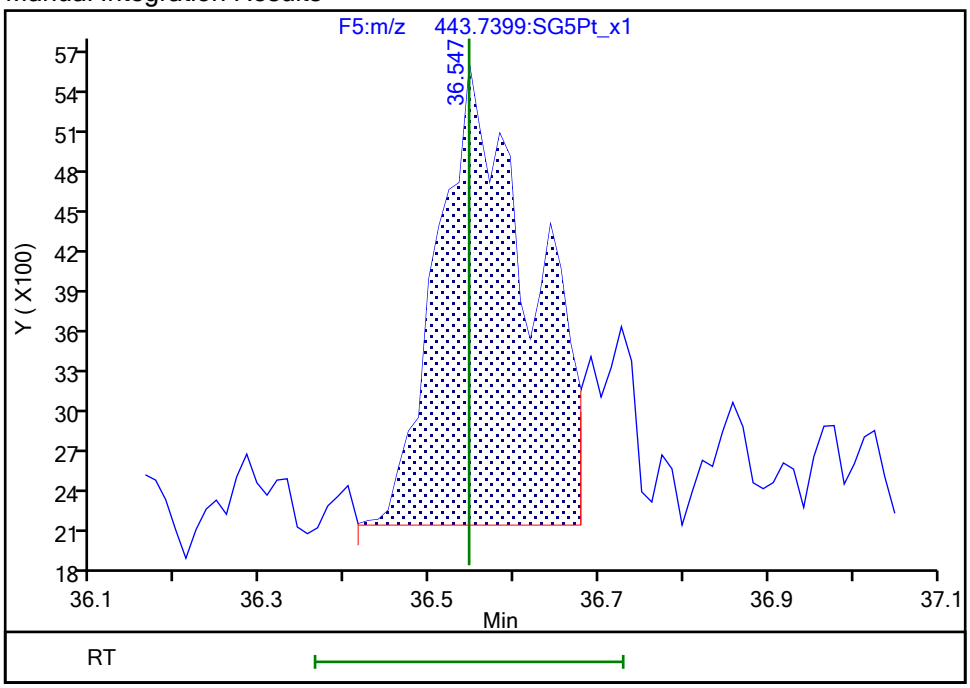

Reviewer: dadunj, 08-Nov-2019 08:41:56

Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_4.d				
Injection Date:	05-Nov-2019 21:50:25	Instrument ID:	10D5		
Lims ID:	MB 320-335248/1-A				
Client ID:					
Operator ID:	ALM	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5:HRSIR		

OCDF, CAS: 39001-02-0

Signal: 1

Processing Integration Results

RT: 36.56
Area: 24872
Amount: 0.281072
Amount Units: pg/ul

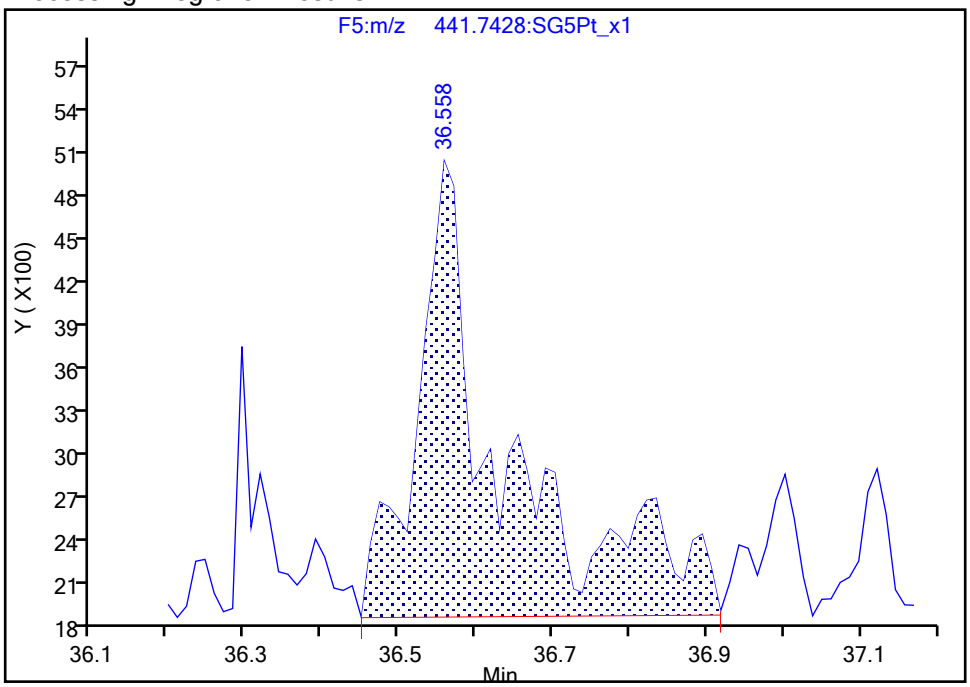

Manual Integration Results

RT: 36.56
Area: 17417
Amount: 0.229600
Amount Units: pg/ul

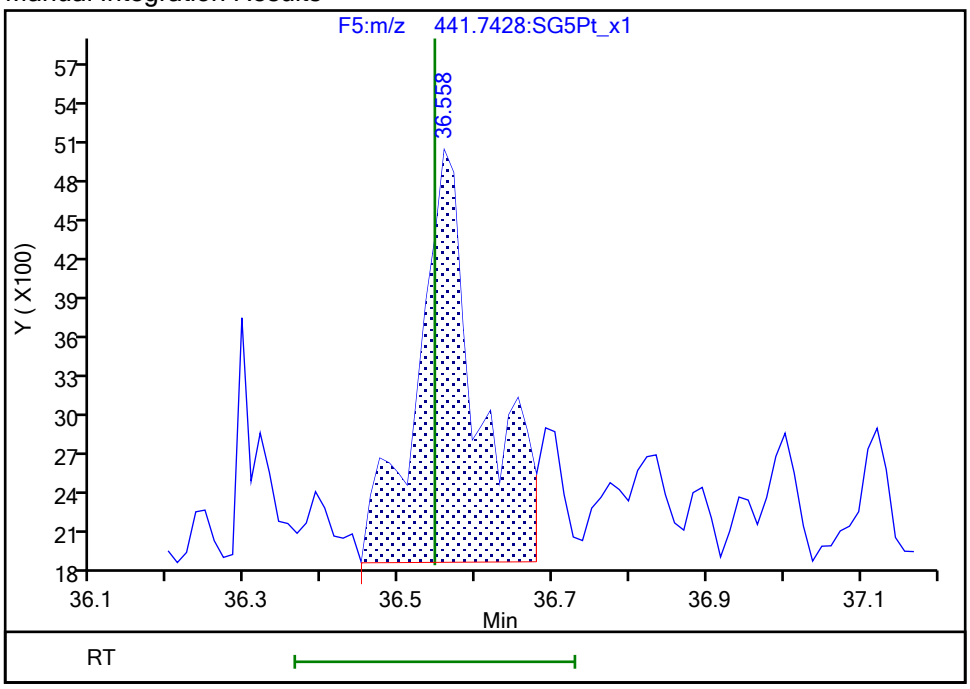

Reviewer: dadunj, 08-Nov-2019 08:41:58

Audit Action: Split an Integrated Peak Audit Reason: Baseline

Report Date: 08-Nov-2019 08:43:36 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_4.d		
Injection Date:	05-Nov-2019 21:50:25	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336302	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

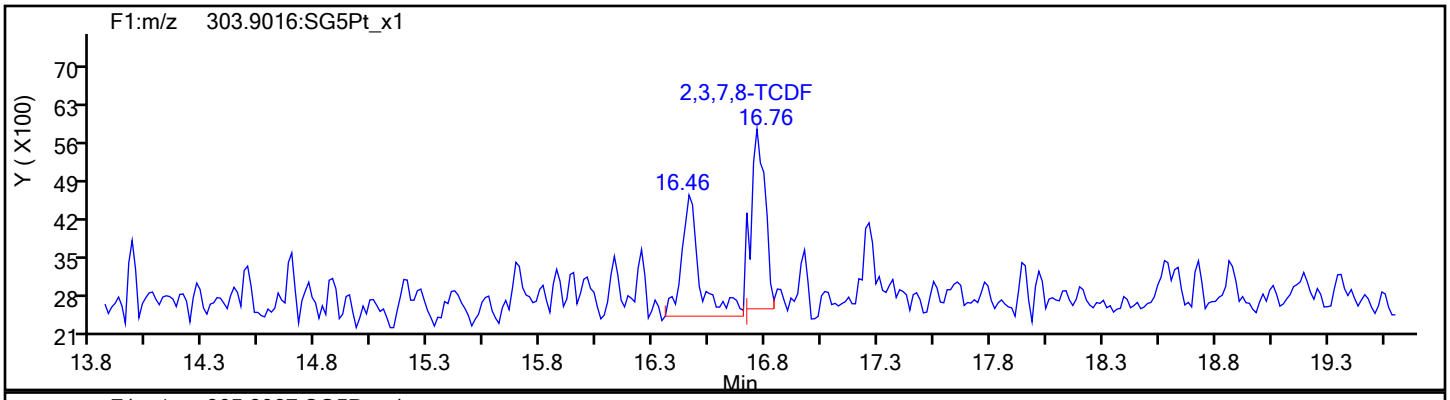

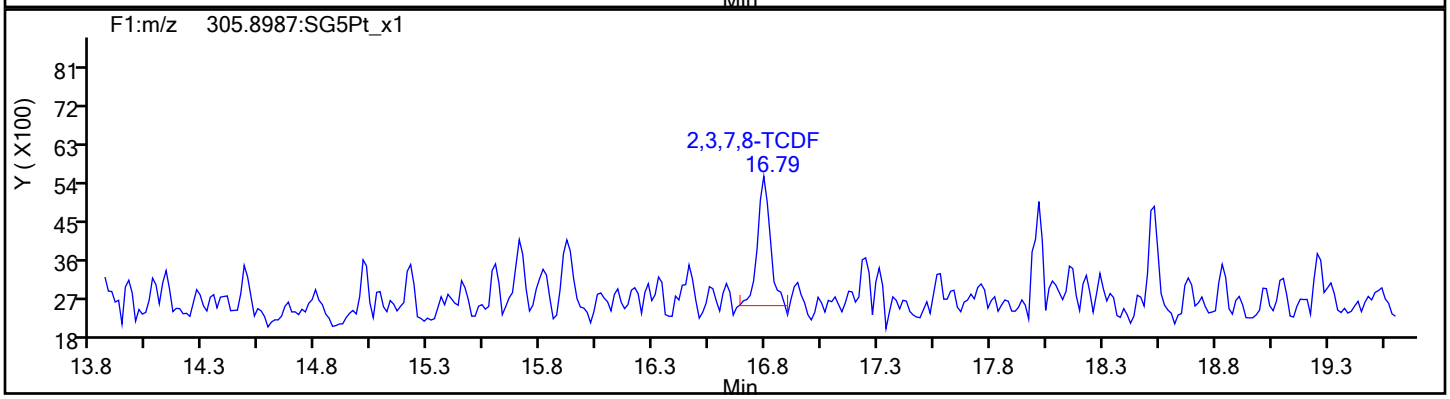

TCDF Standards

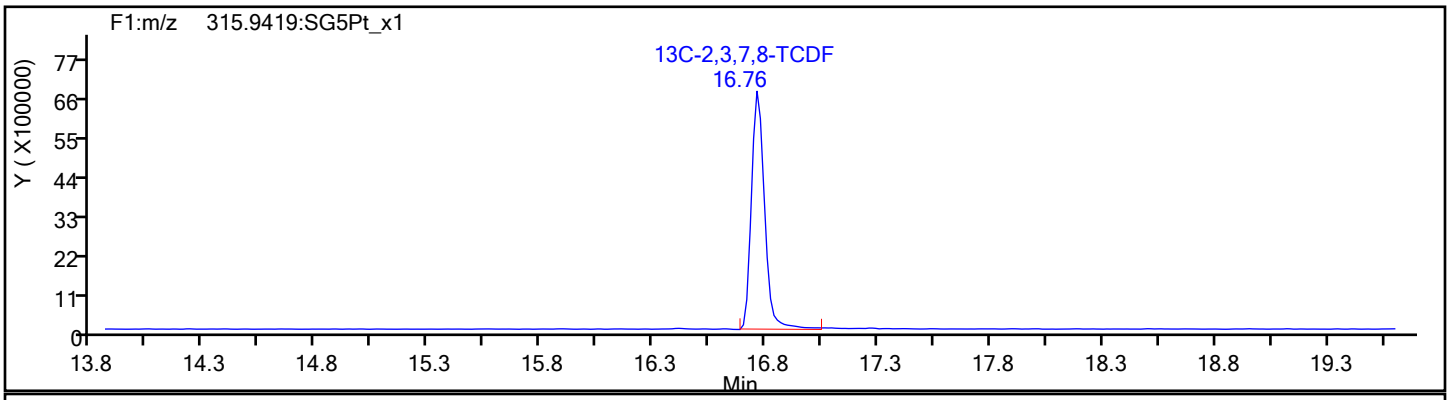

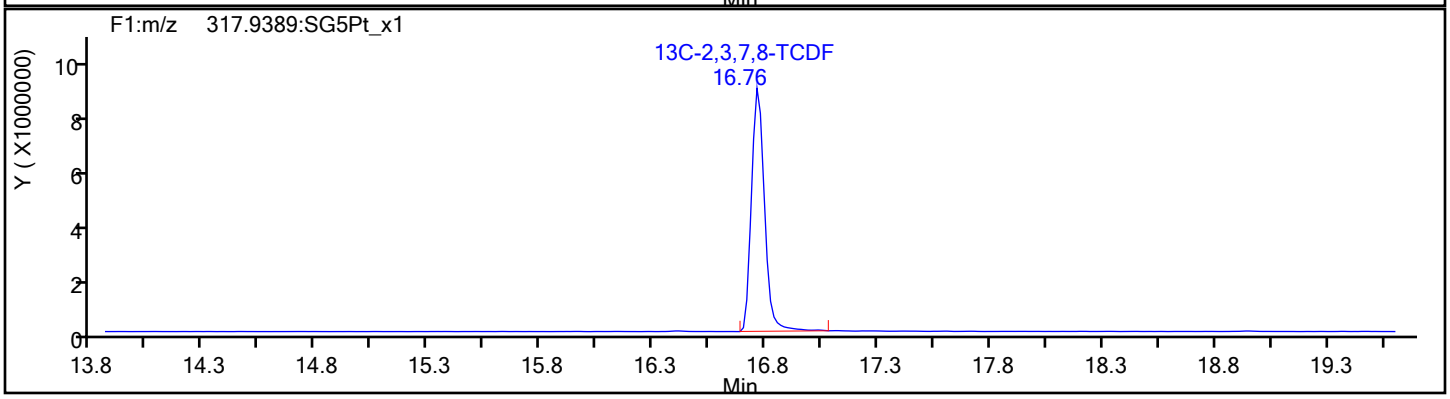

Report Date: 08-Nov-2019 08:43:36 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_4.d		
Injection Date:	05-Nov-2019 21:50:25	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336302	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

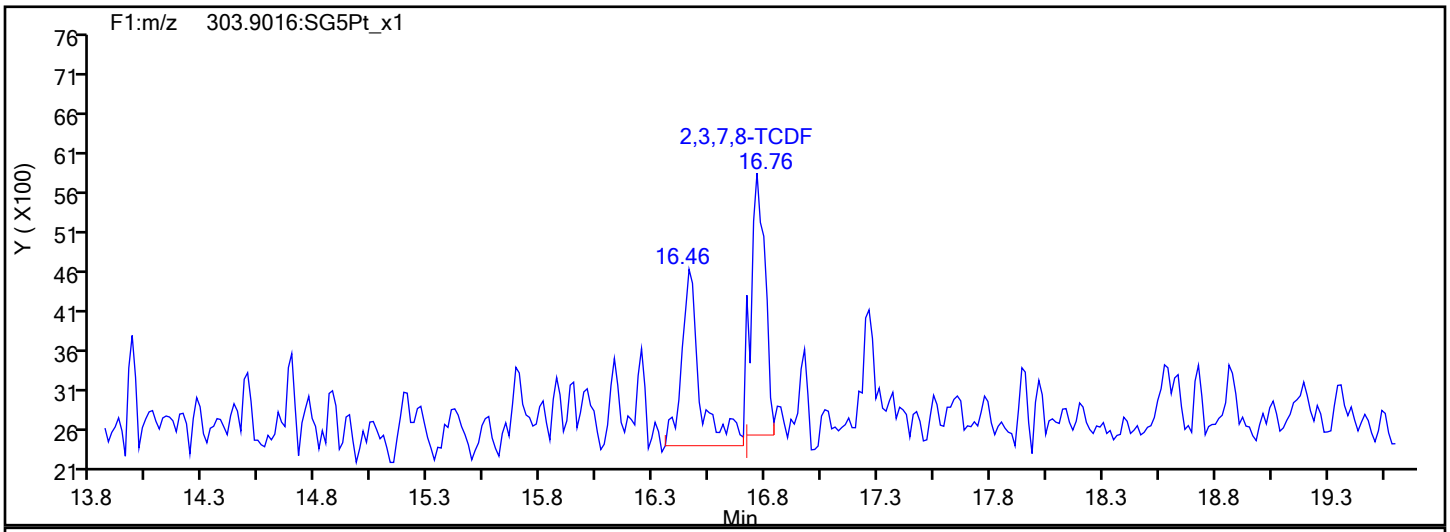

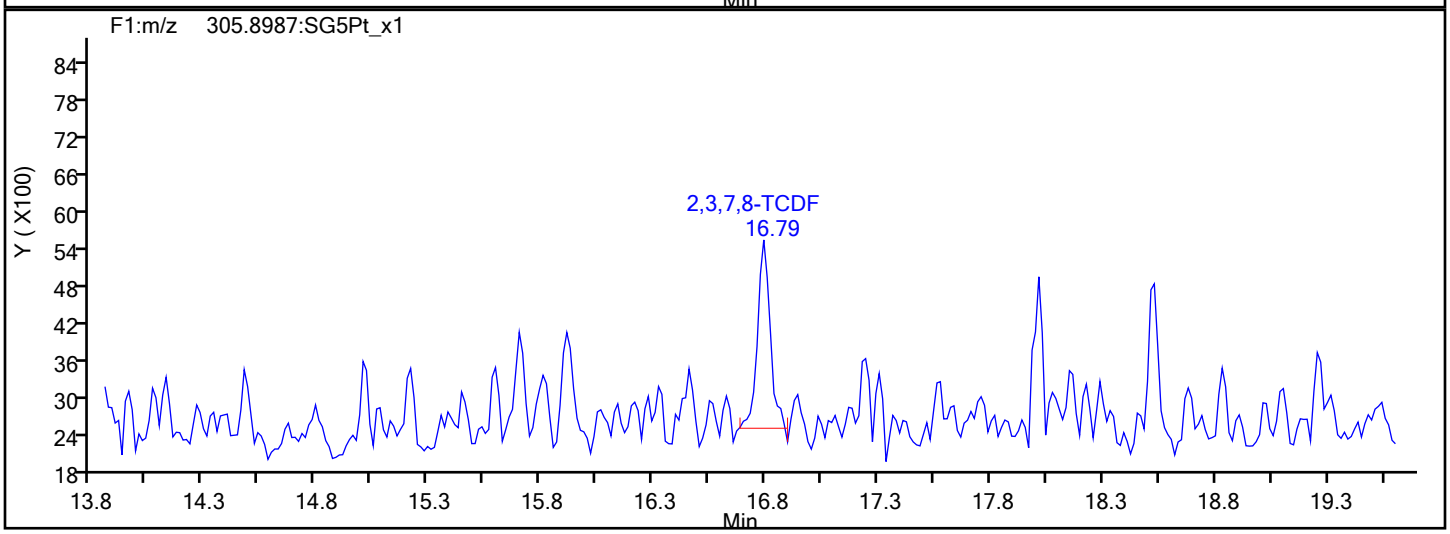

TCDF Interference Mass

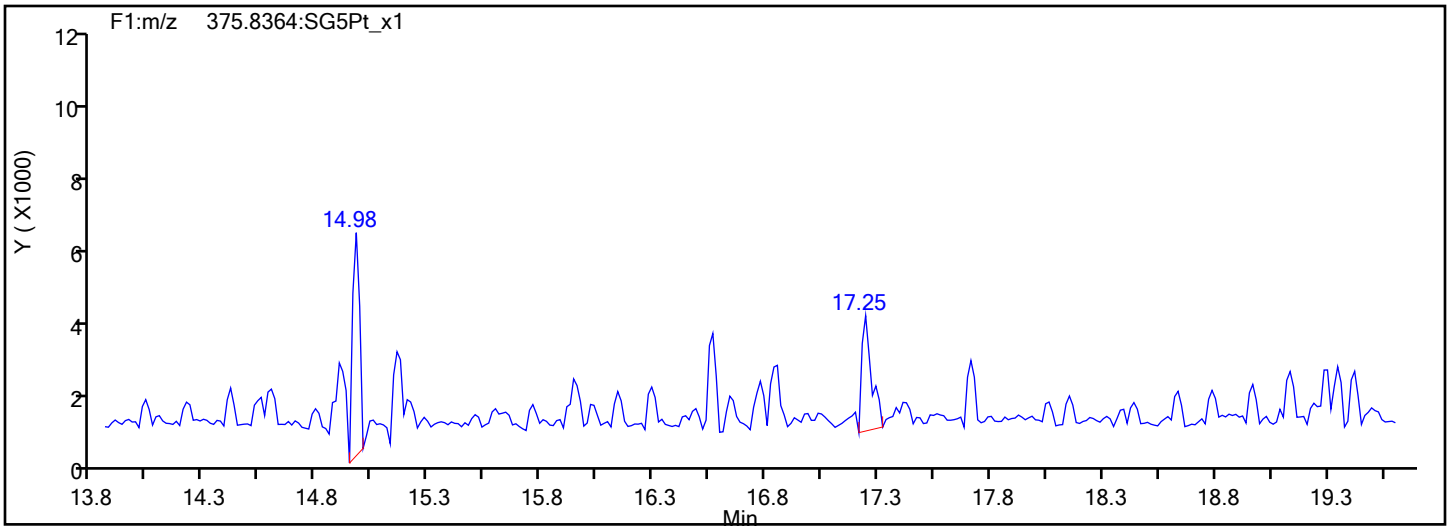

Report Date: 08-Nov-2019 08:43:36 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_4.d		
Injection Date:	05-Nov-2019 21:50:25	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336302	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

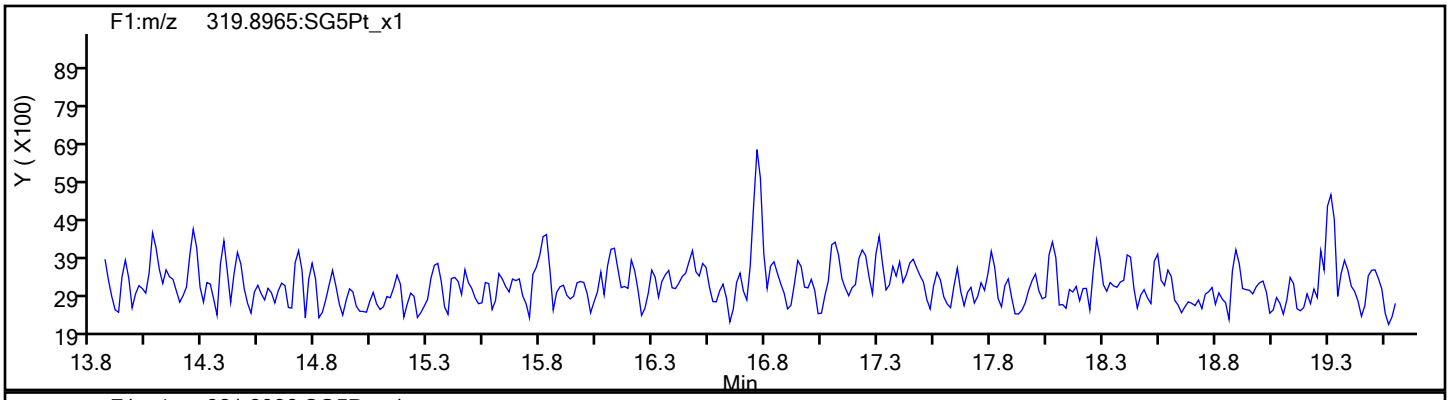

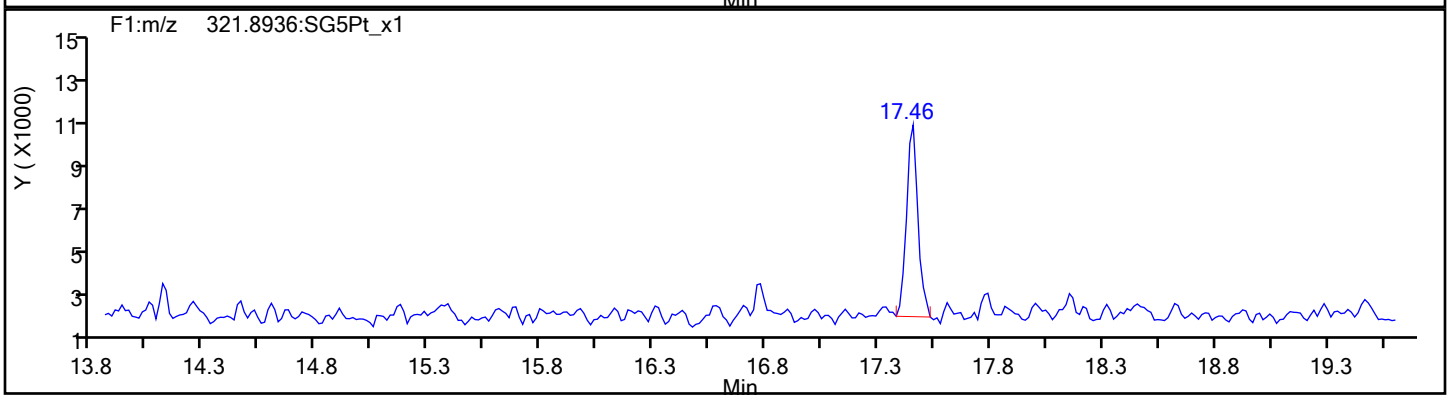

TCDD Standards

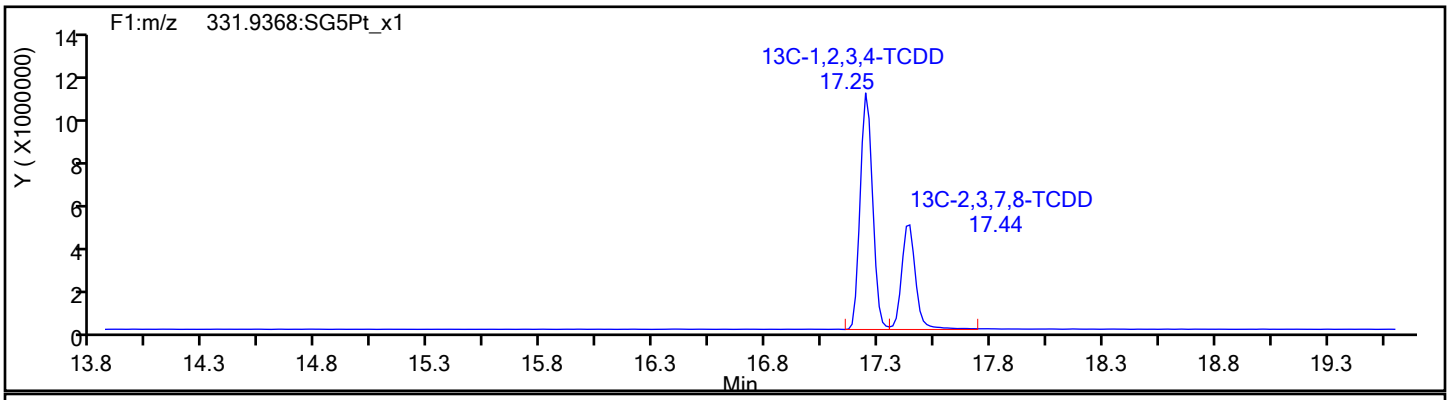

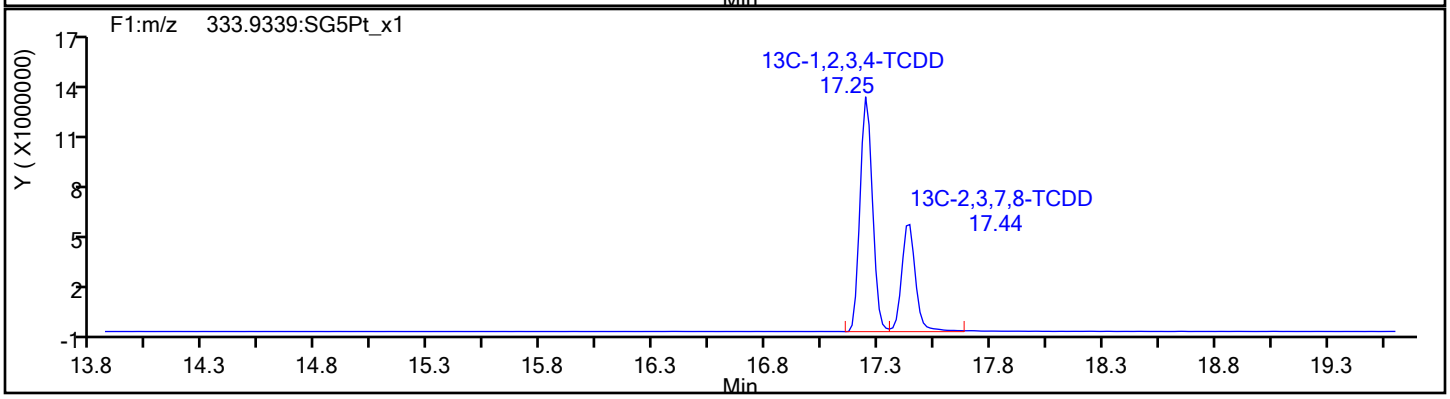

Report Date: 08-Nov-2019 08:43:36 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_4.d		
Injection Date:	05-Nov-2019 21:50:25	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336302	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

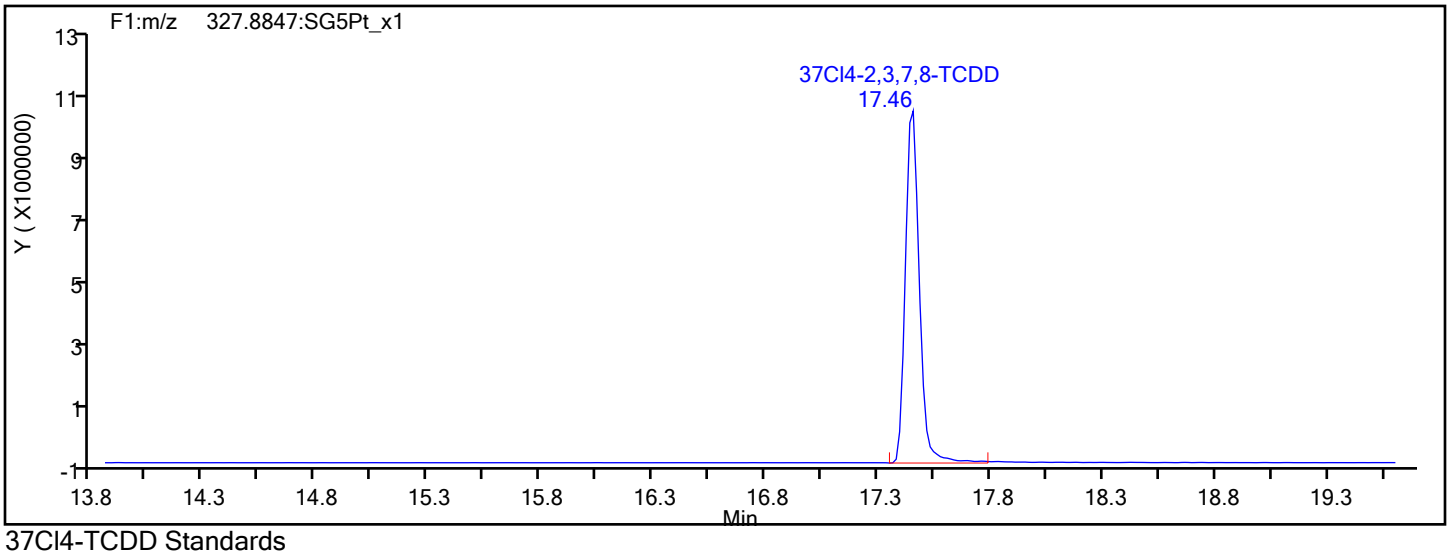

37Cl4-TCDD Standards

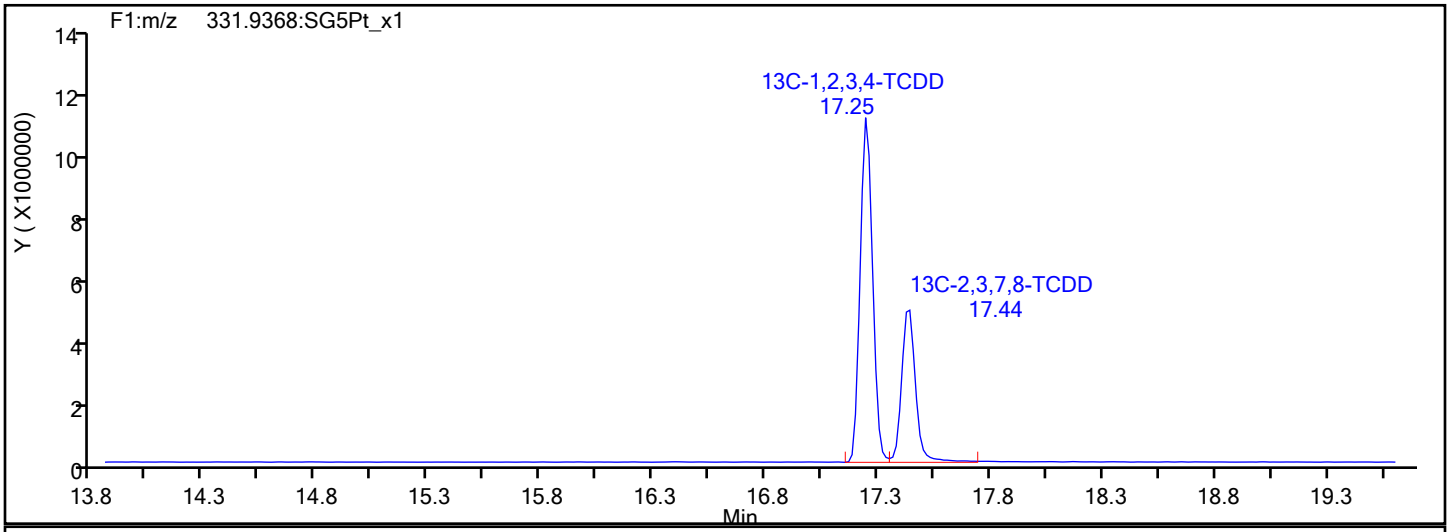

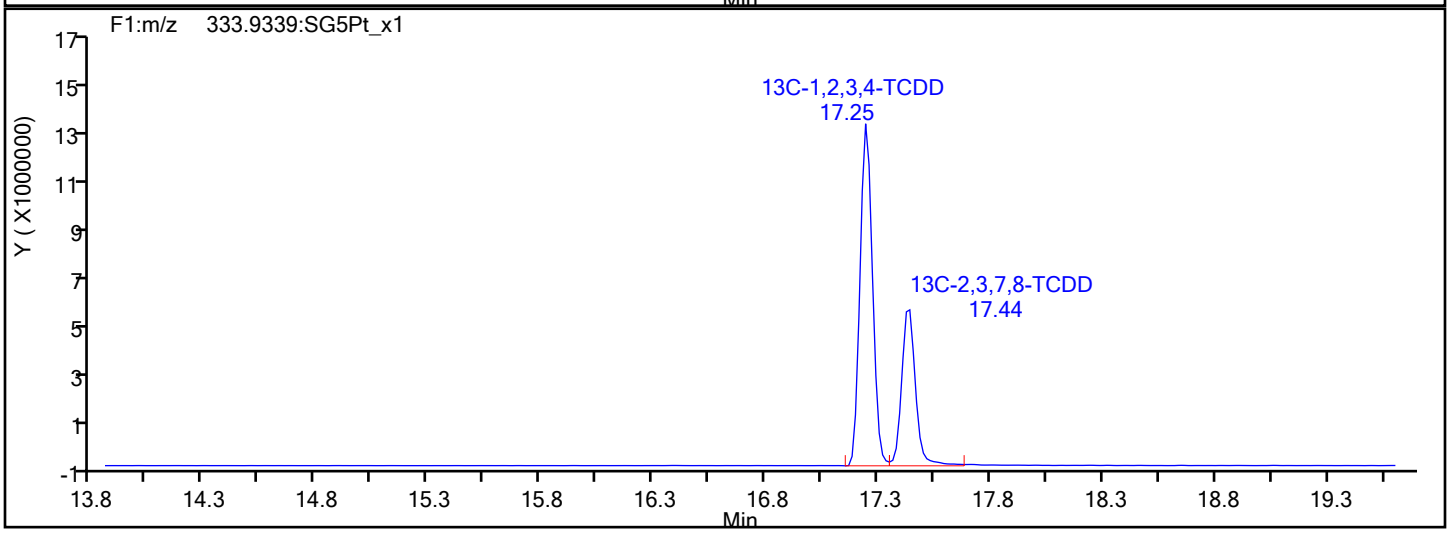

Report Date: 08-Nov-2019 08:43:36 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_4.d		
Injection Date:	05-Nov-2019 21:50:25	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336302	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

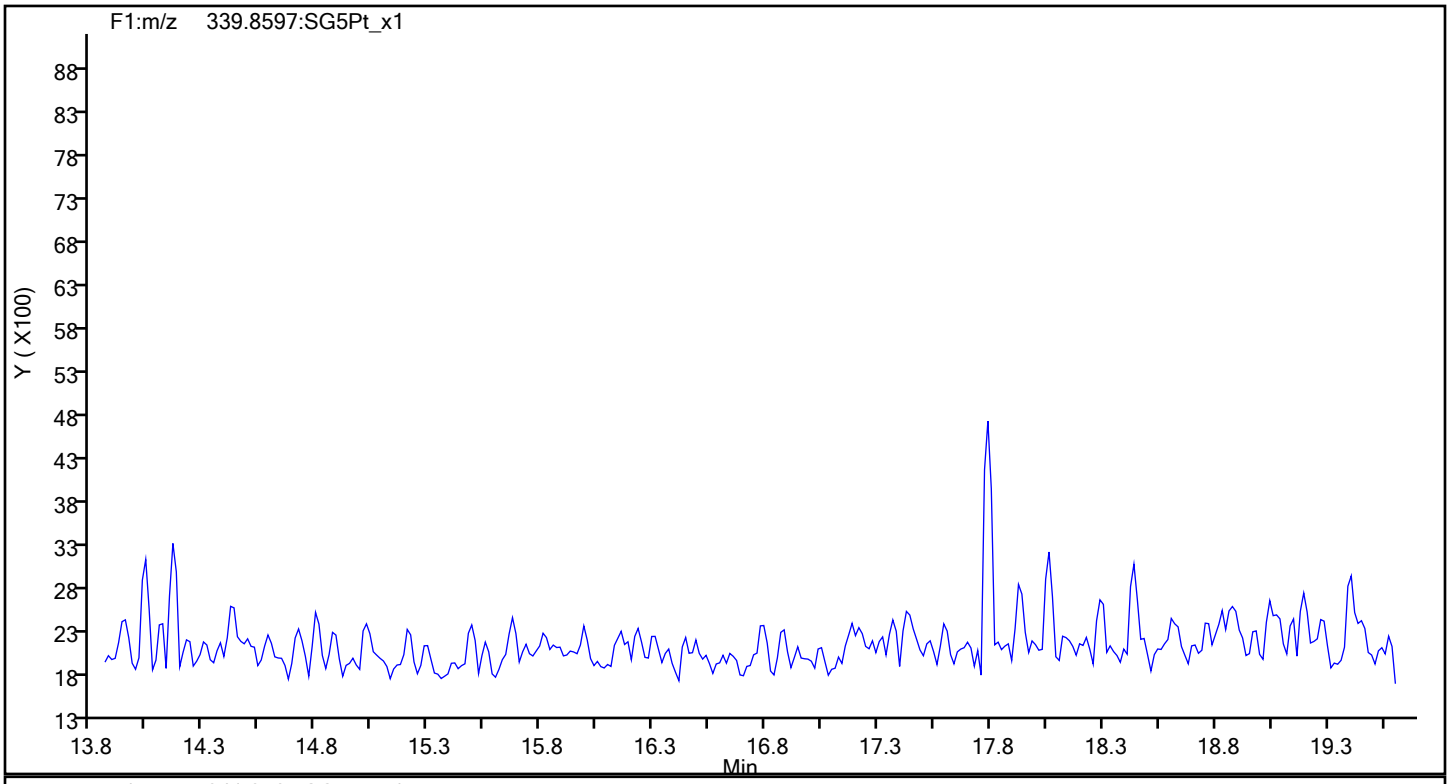

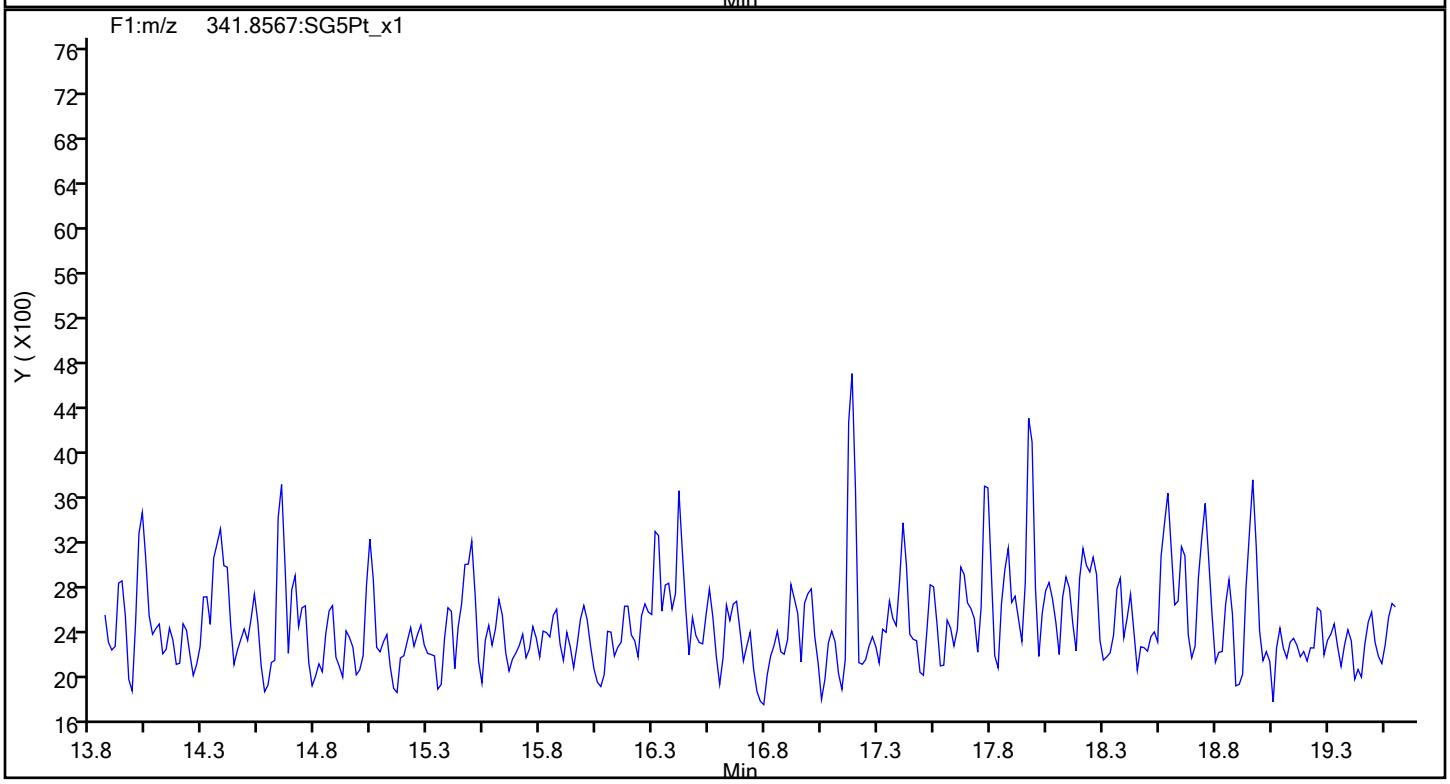

Report Date: 08-Nov-2019 08:43:36 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_4.d		
Injection Date:	05-Nov-2019 21:50:25	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336302	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

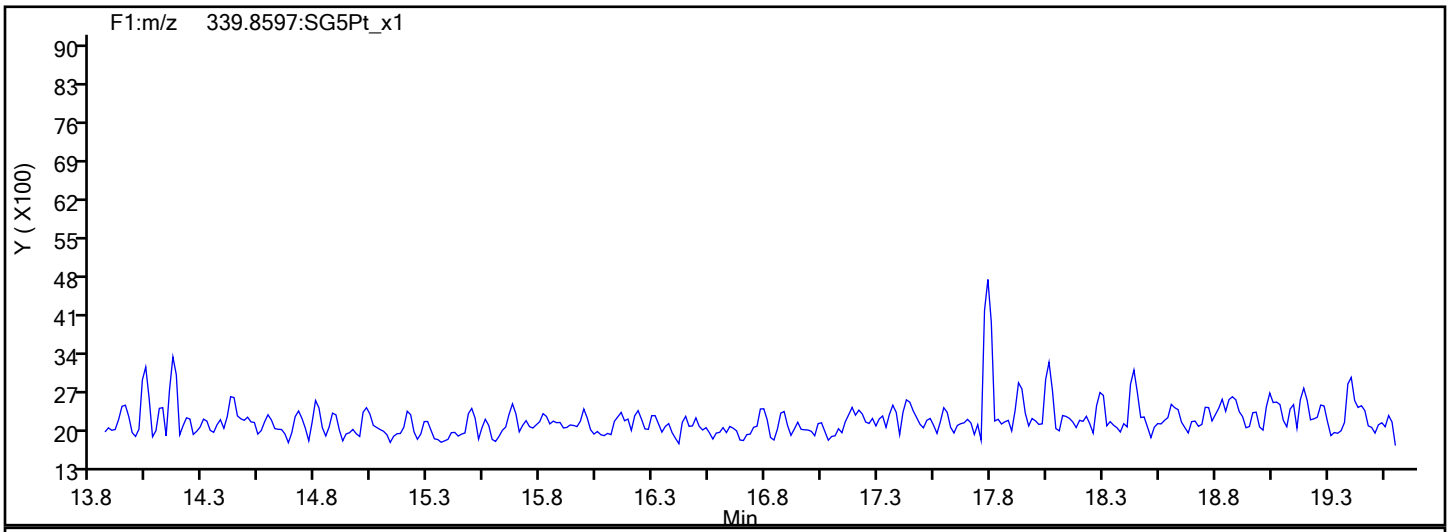

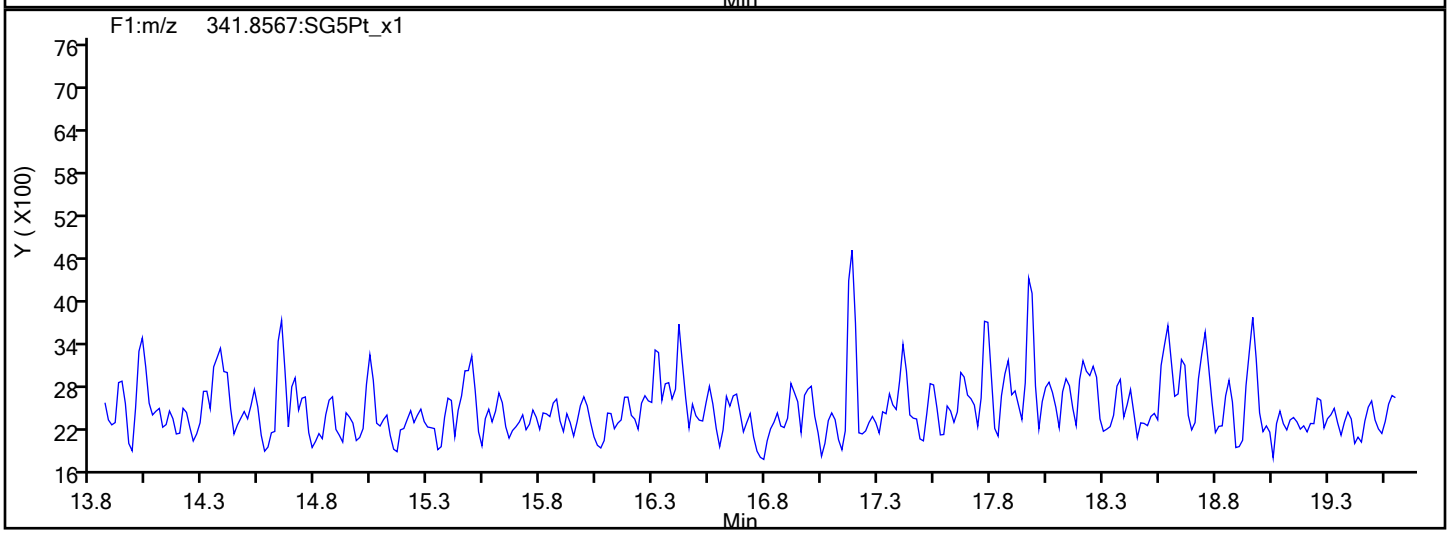

F1 PeCDFs Interference Mass

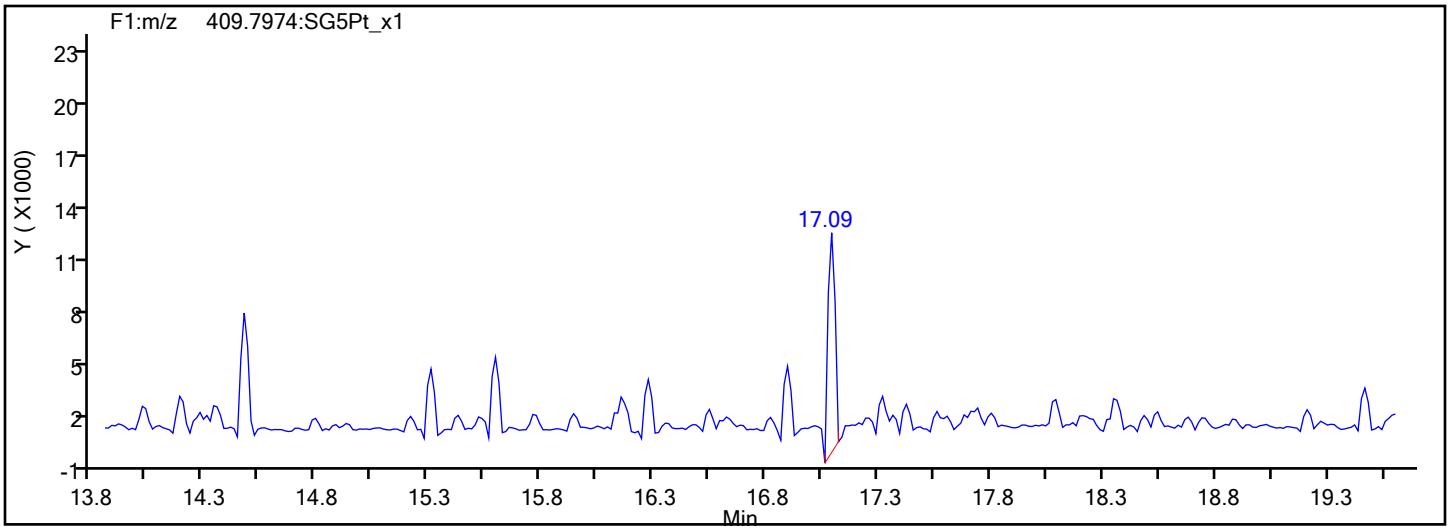

Report Date: 08-Nov-2019 08:43:36 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_4.d		
Injection Date:	05-Nov-2019 21:50:25	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336302	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

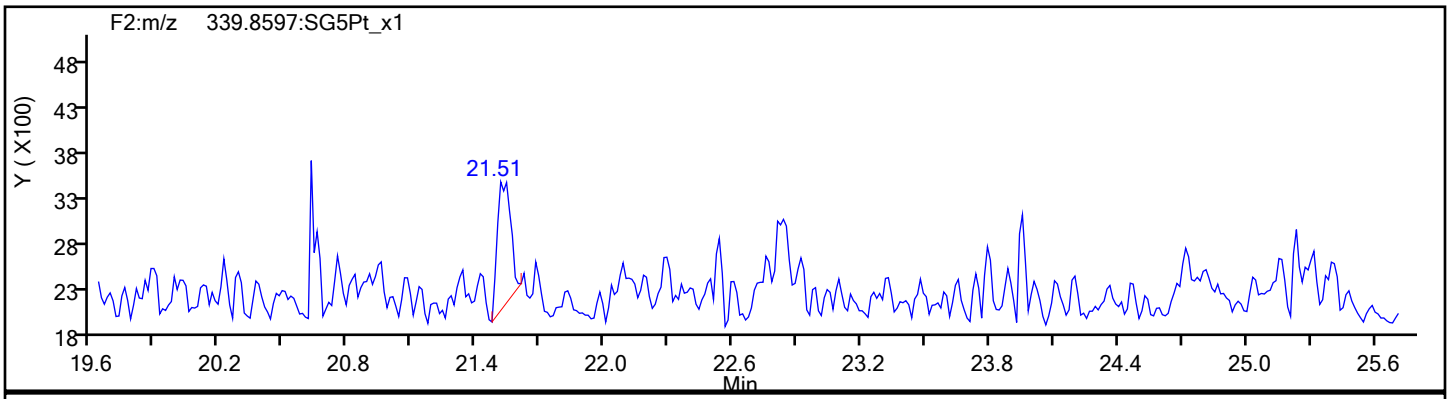

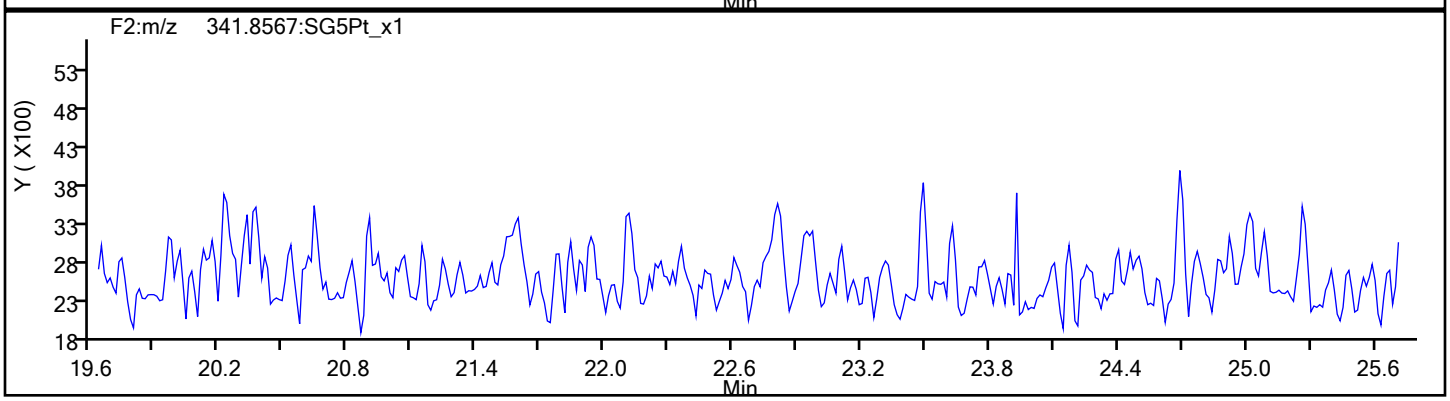

PeCDF Standards

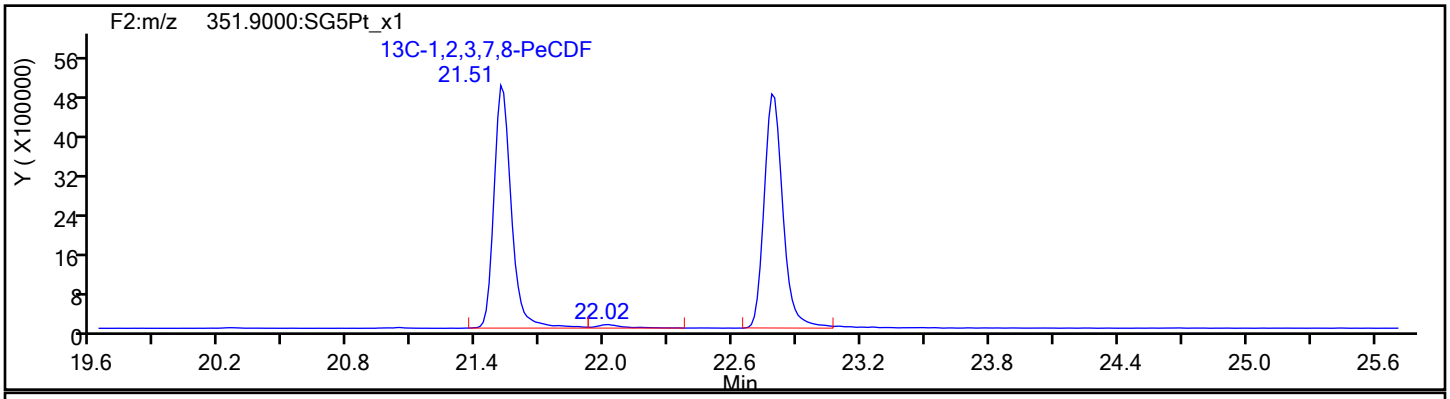

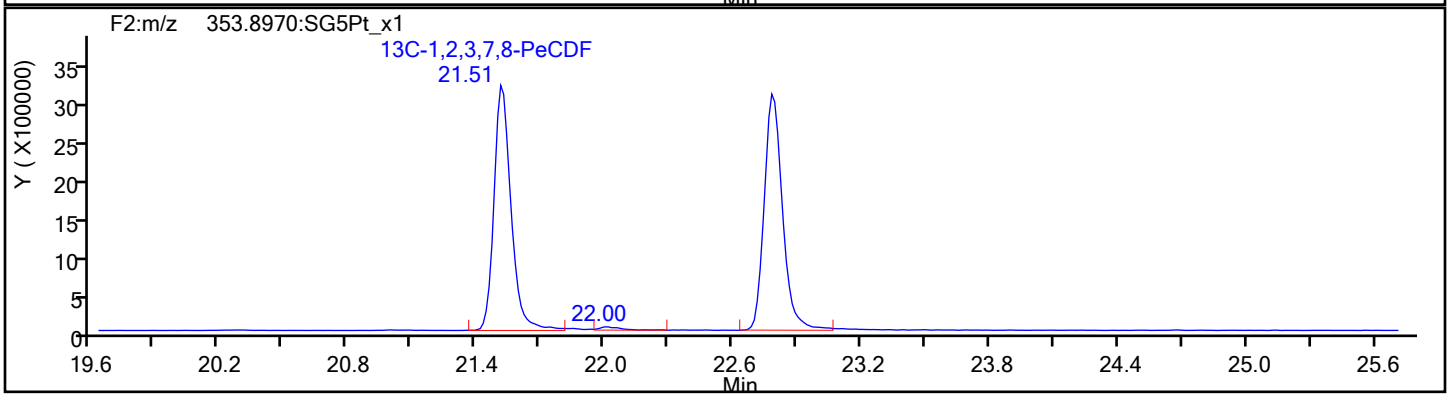

Report Date: 08-Nov-2019 08:43:36 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_4.d		
Injection Date:	05-Nov-2019 21:50:25	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336302	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

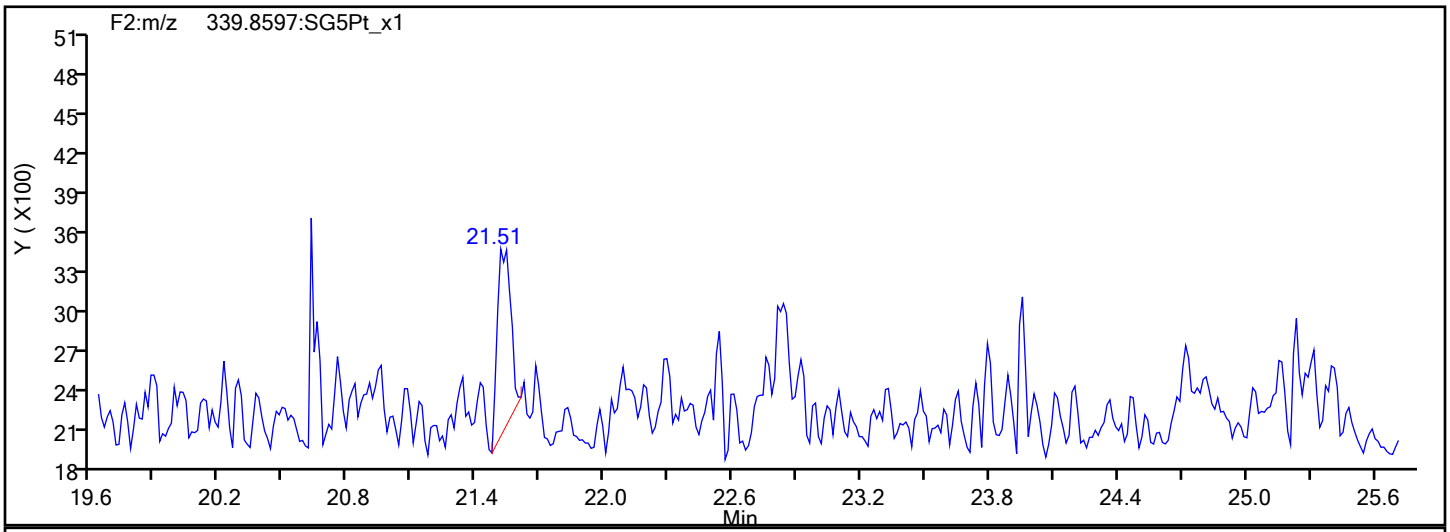

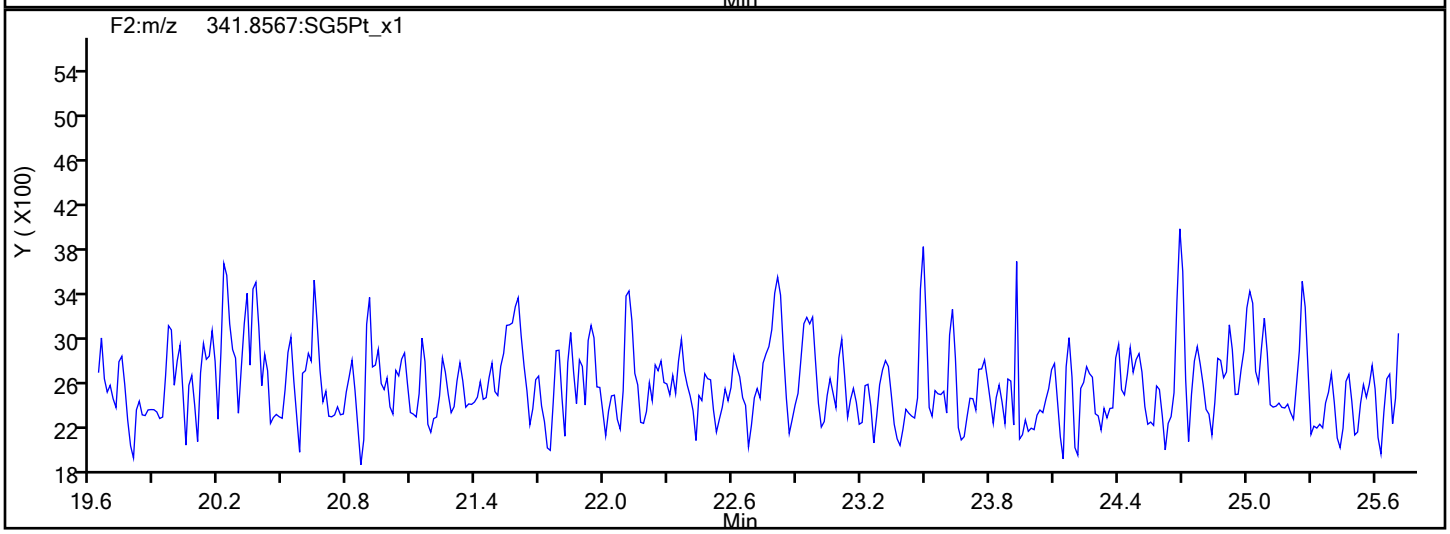

PeCDF Interference Mass

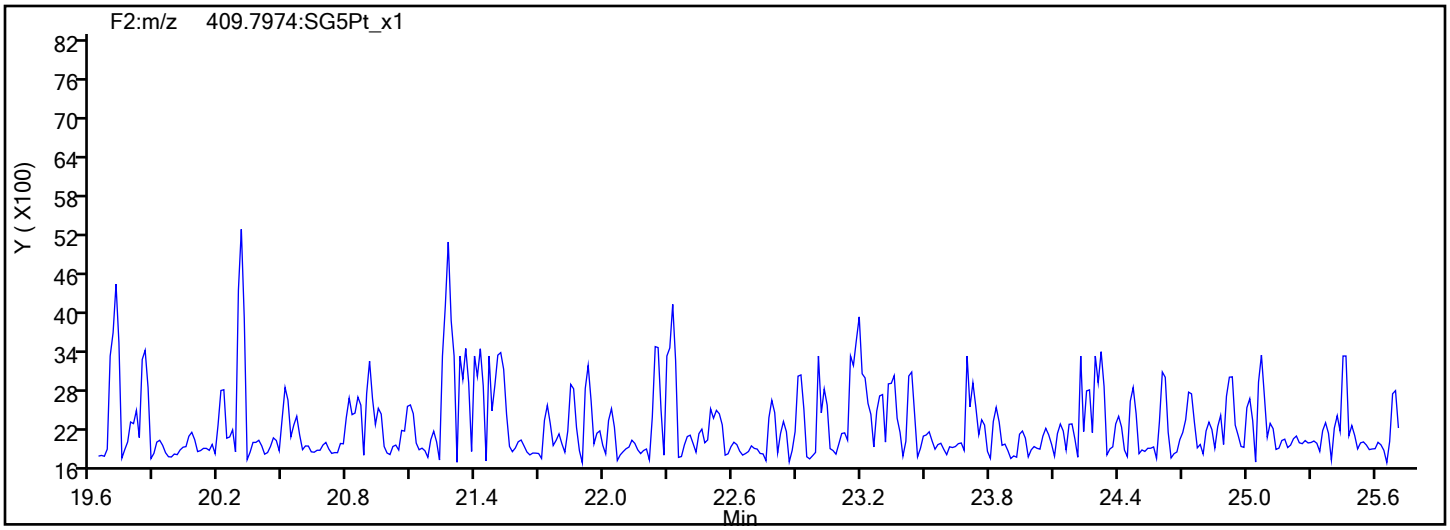

Report Date: 08-Nov-2019 08:43:36 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_4.d		
Injection Date:	05-Nov-2019 21:50:25	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336302	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

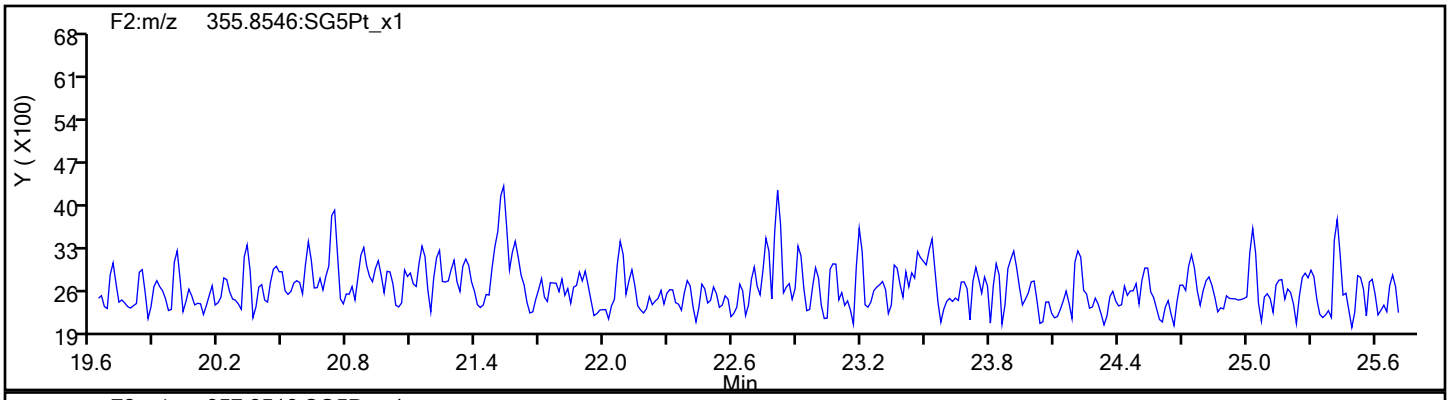

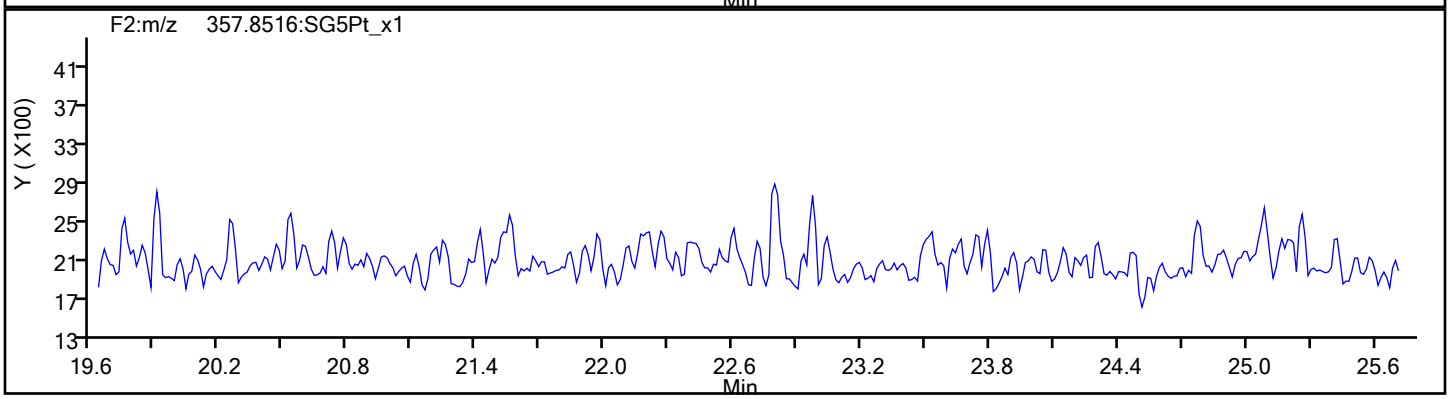

PeCDD Standards

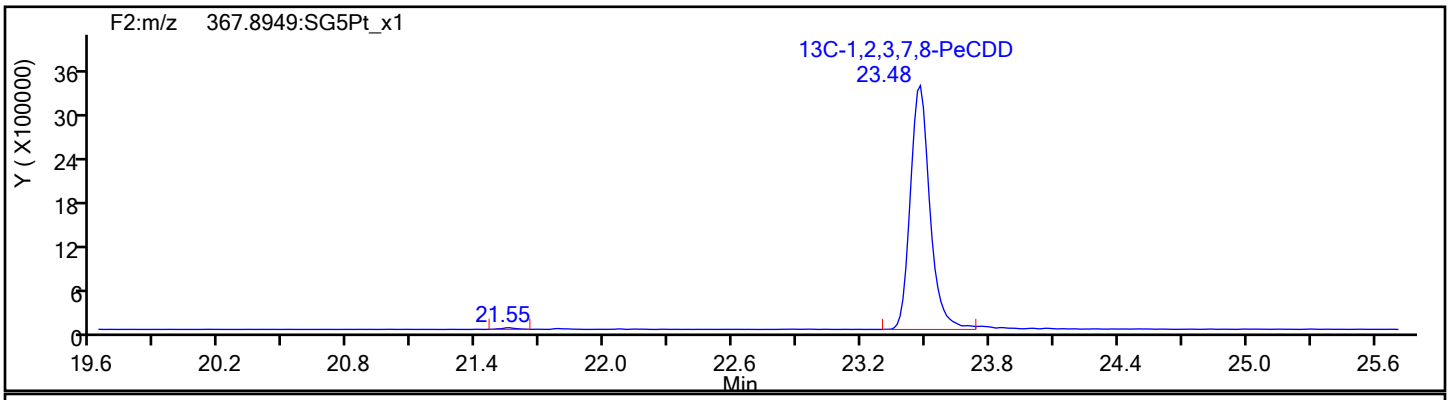

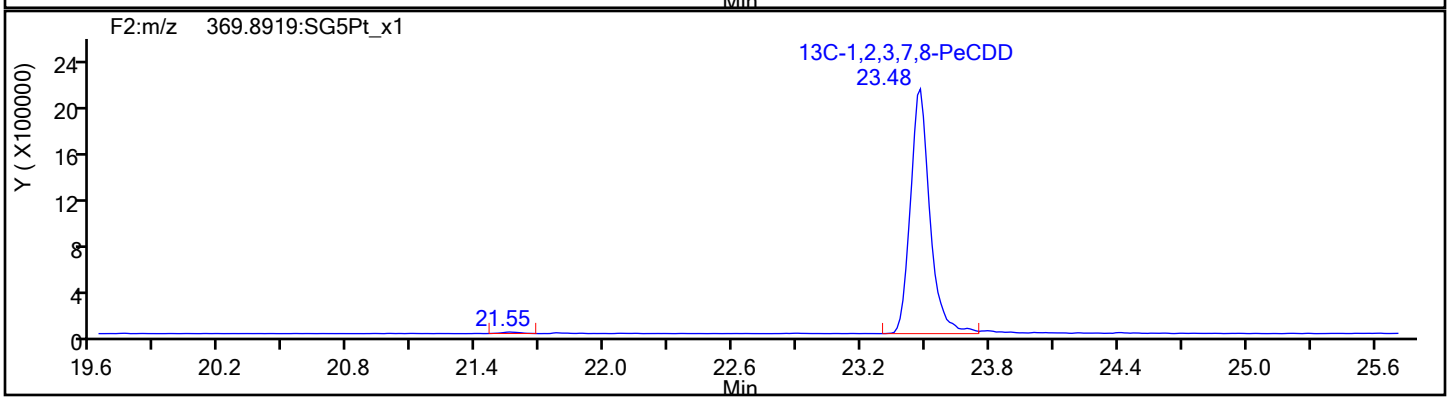

Report Date: 08-Nov-2019 08:43:36 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_4.d		
Injection Date:	05-Nov-2019 21:50:25	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336302	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

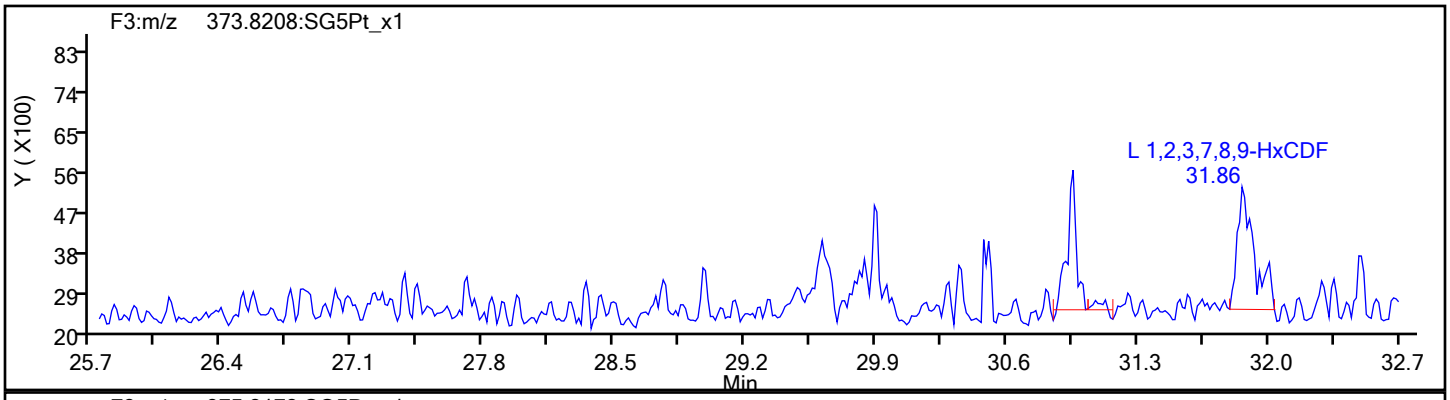

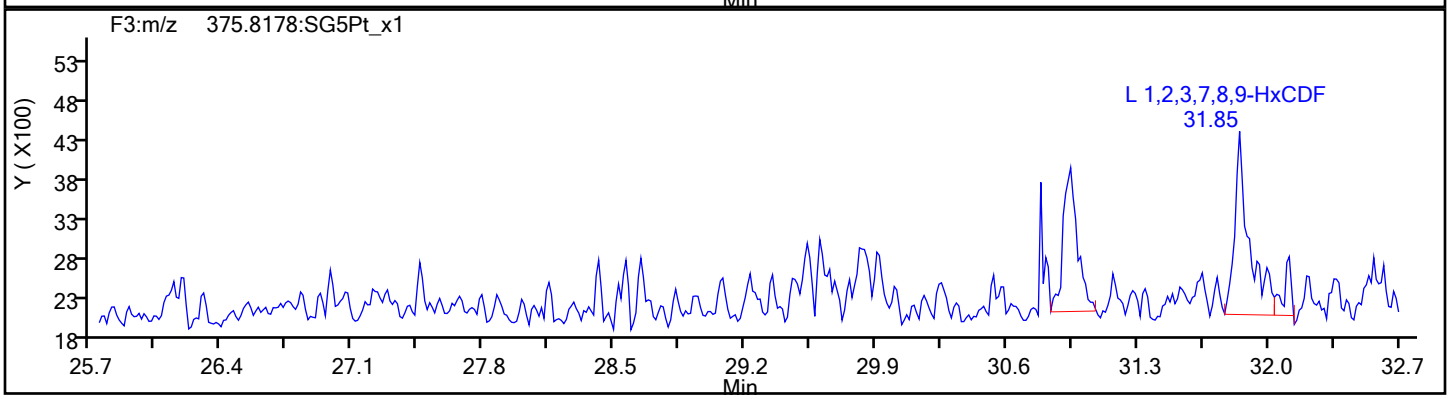

HxCDF Standards

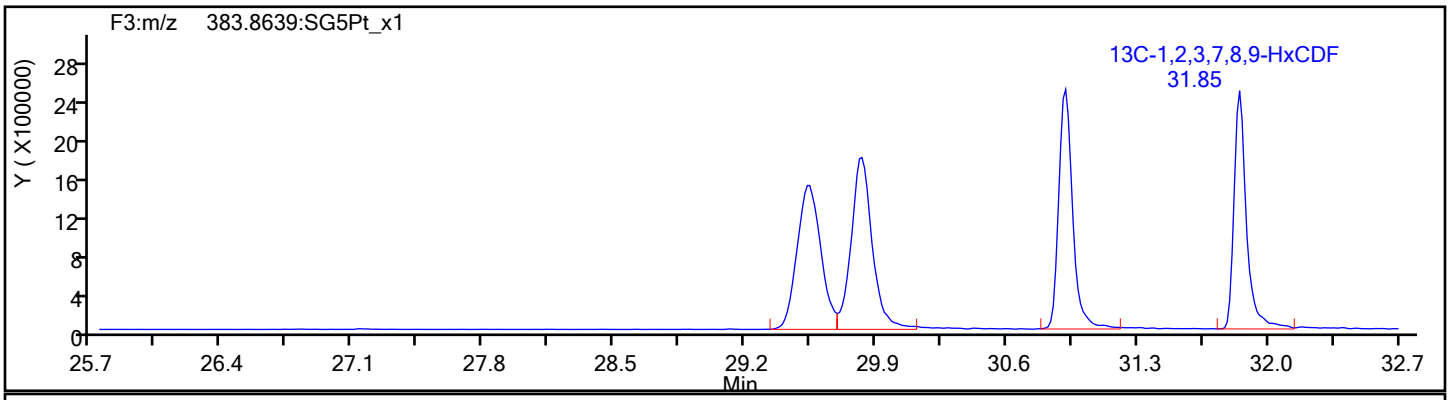

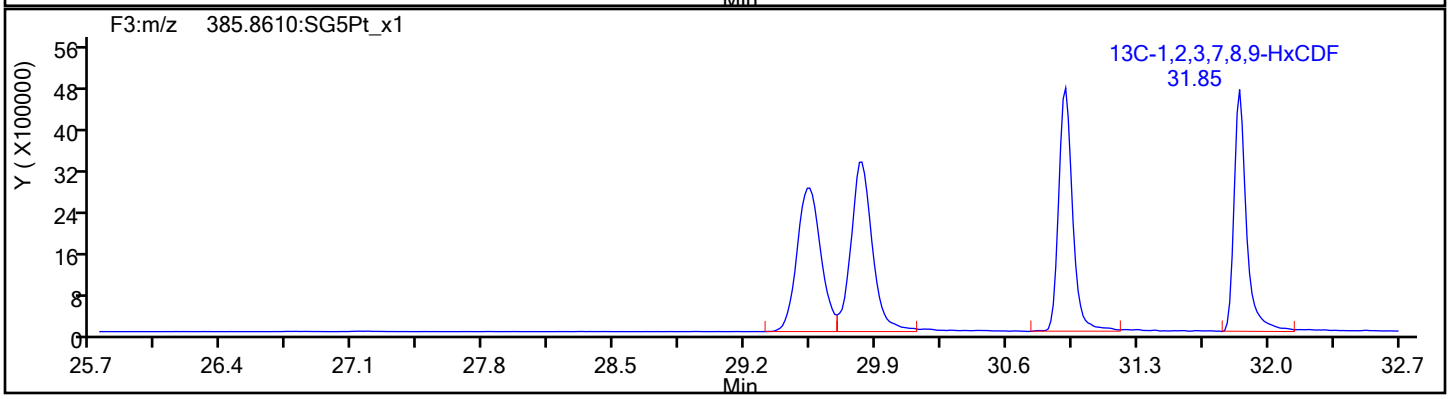

Report Date: 08-Nov-2019 08:43:36 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336302	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

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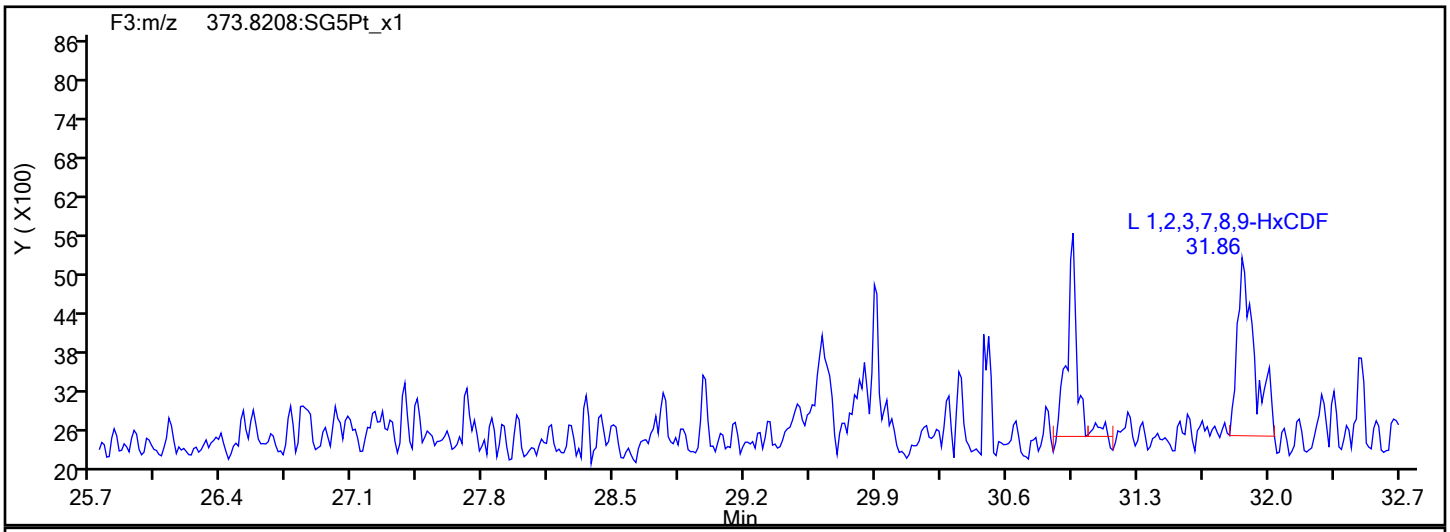

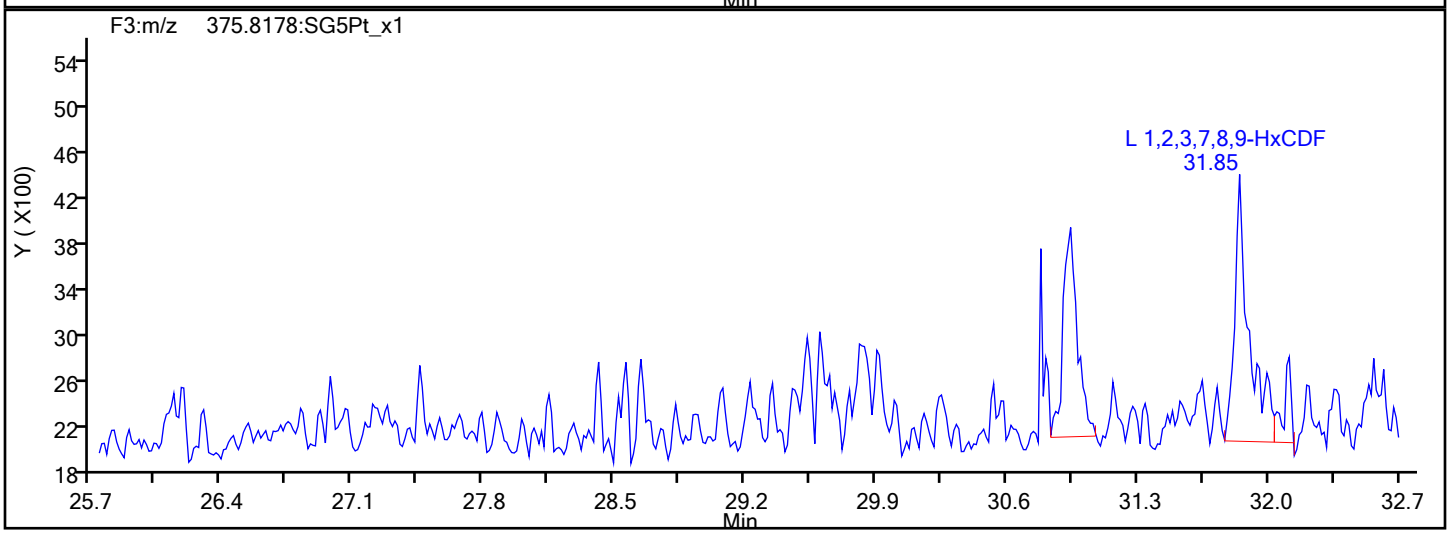

HxCDF Interference Mass

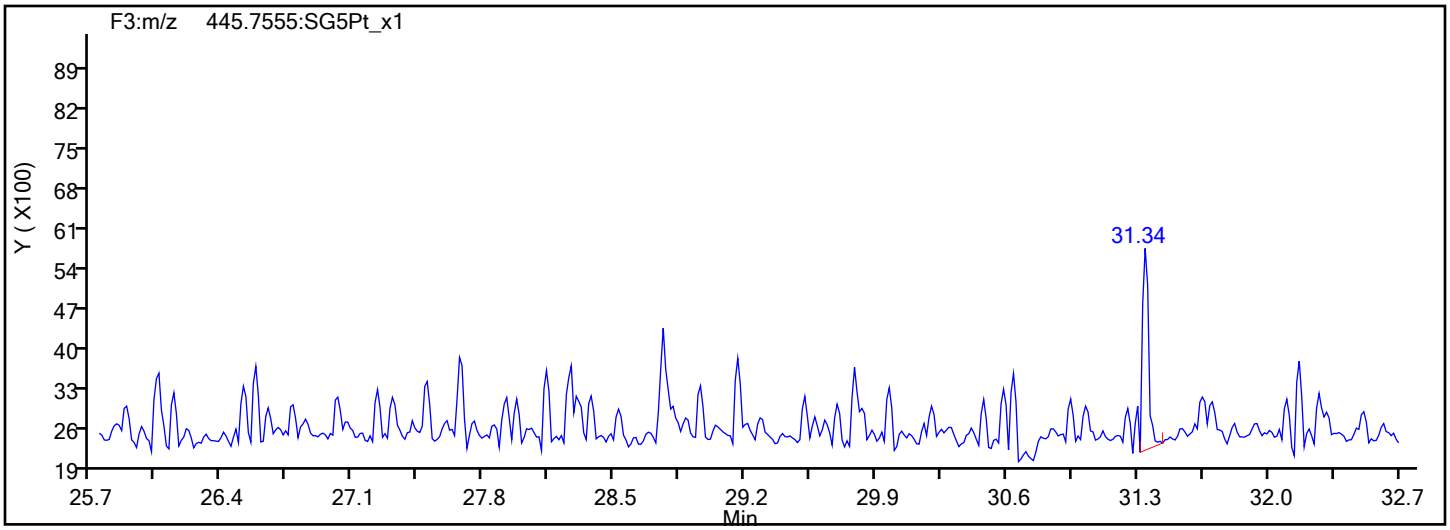

Report Date: 08-Nov-2019 08:43:36 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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HxCDD

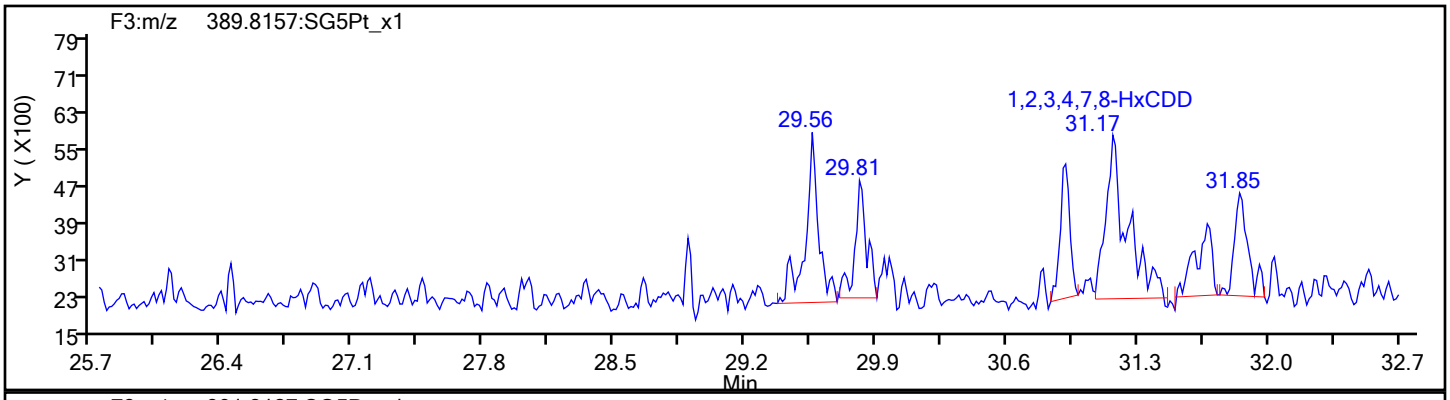

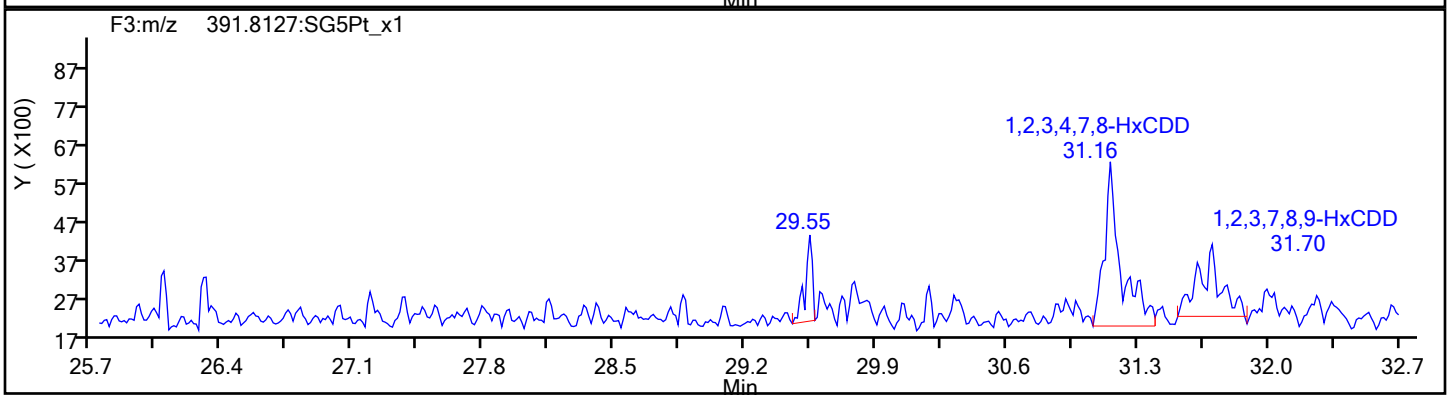

HxCDD Standards

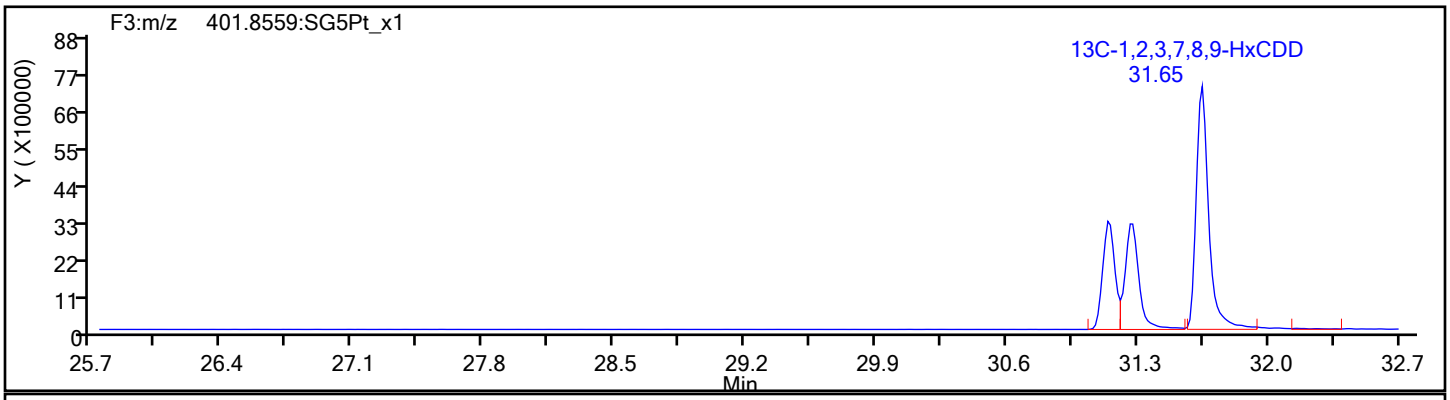

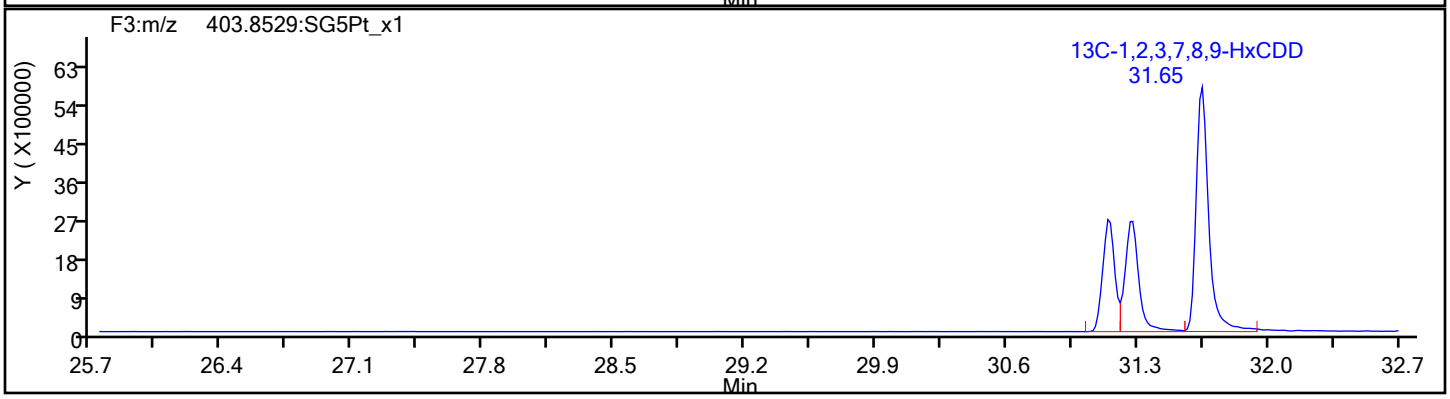

Report Date: 08-Nov-2019 08:43:36 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336302	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

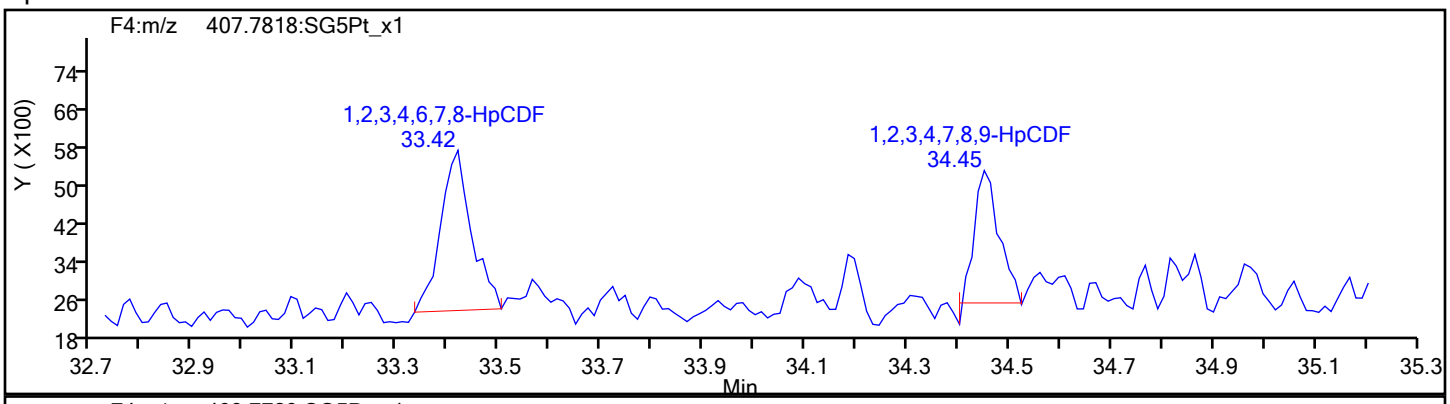

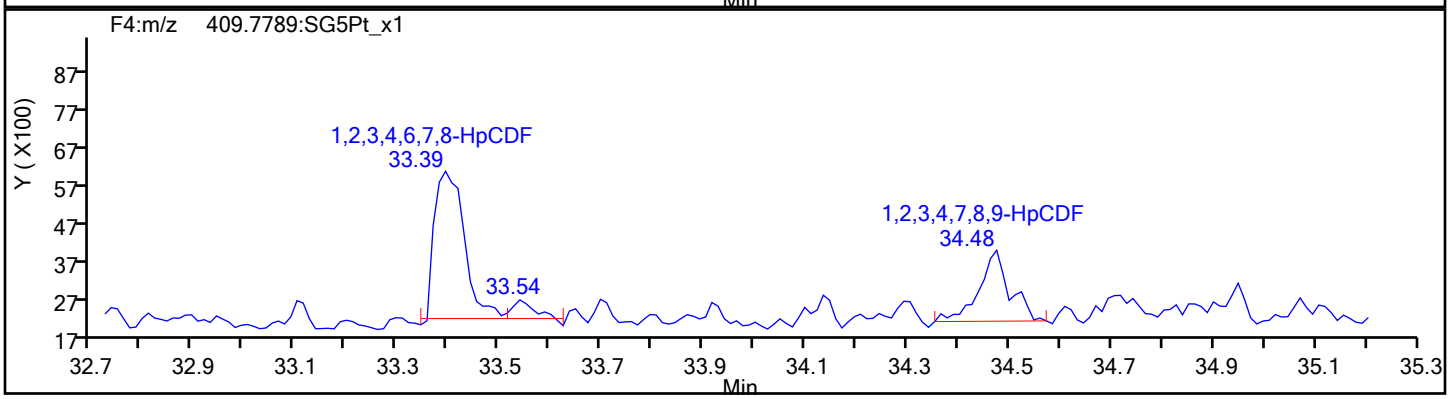

HpCDF Standards

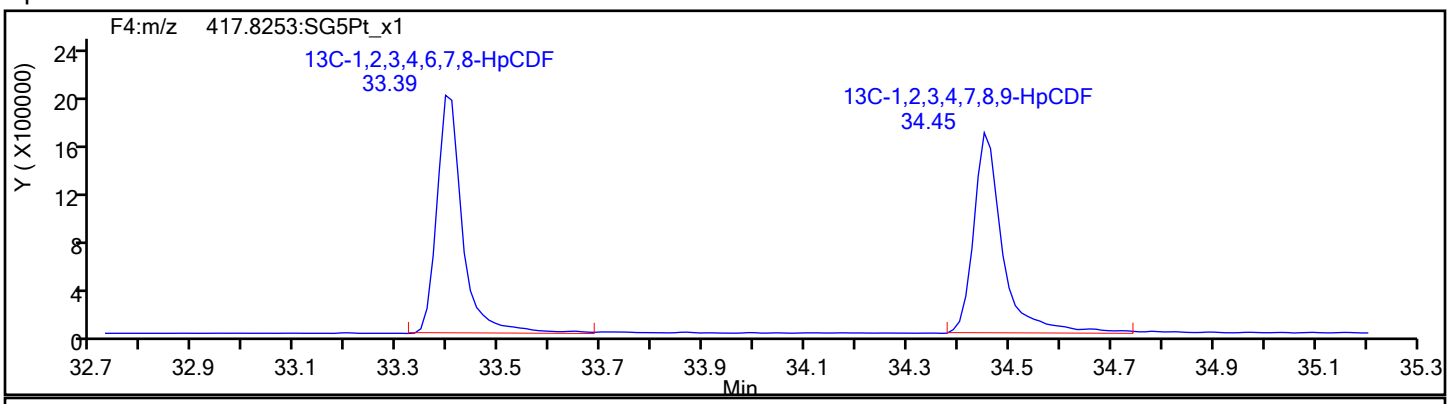

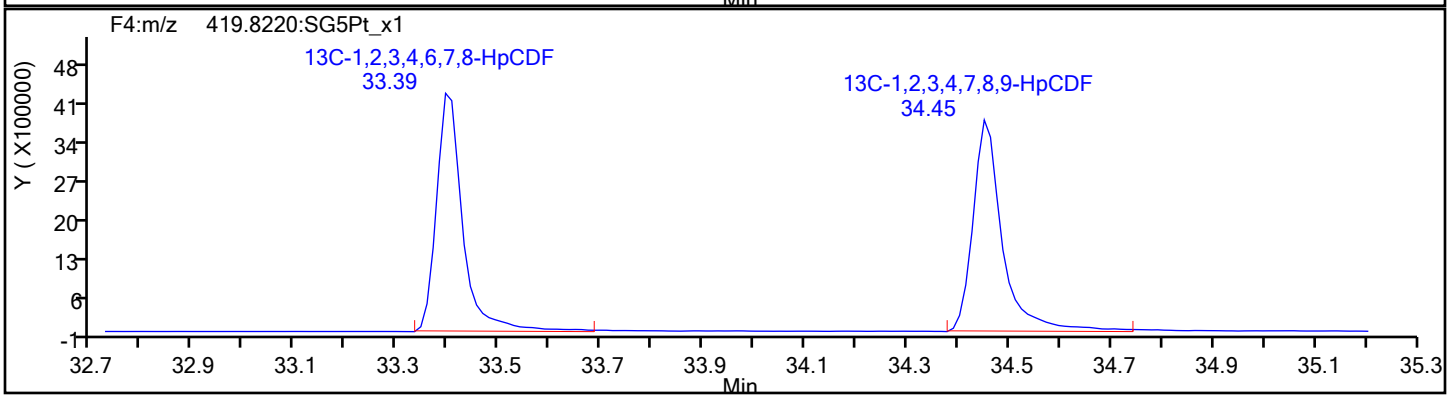

Report Date: 08-Nov-2019 08:43:36 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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HpCDF

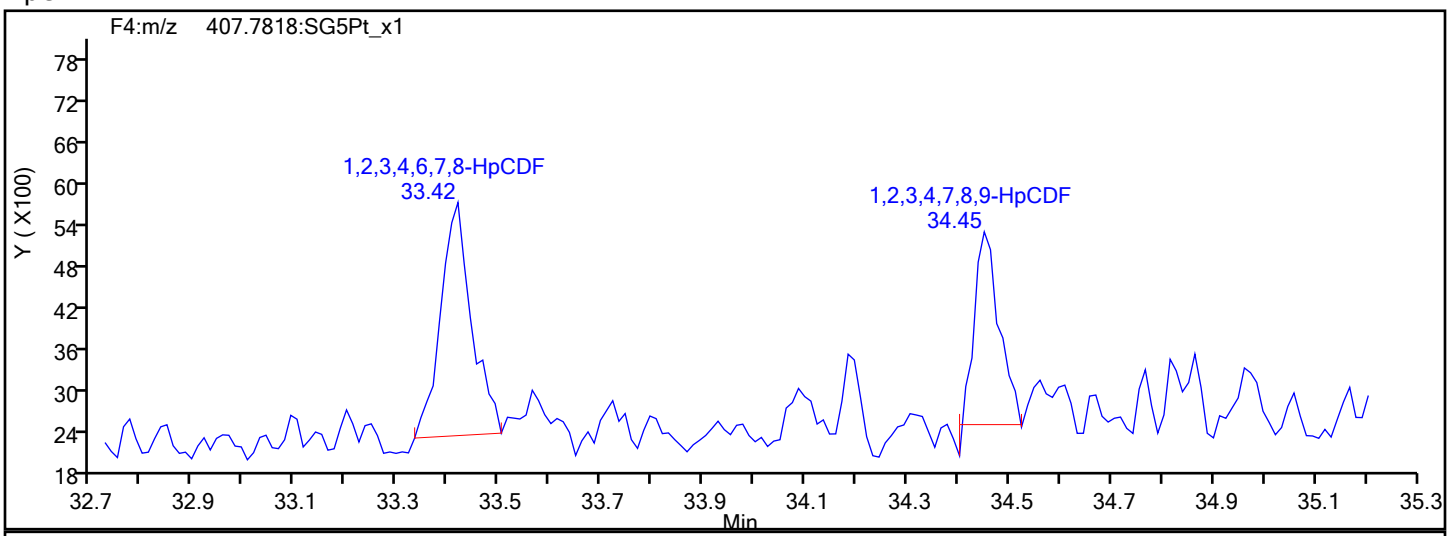

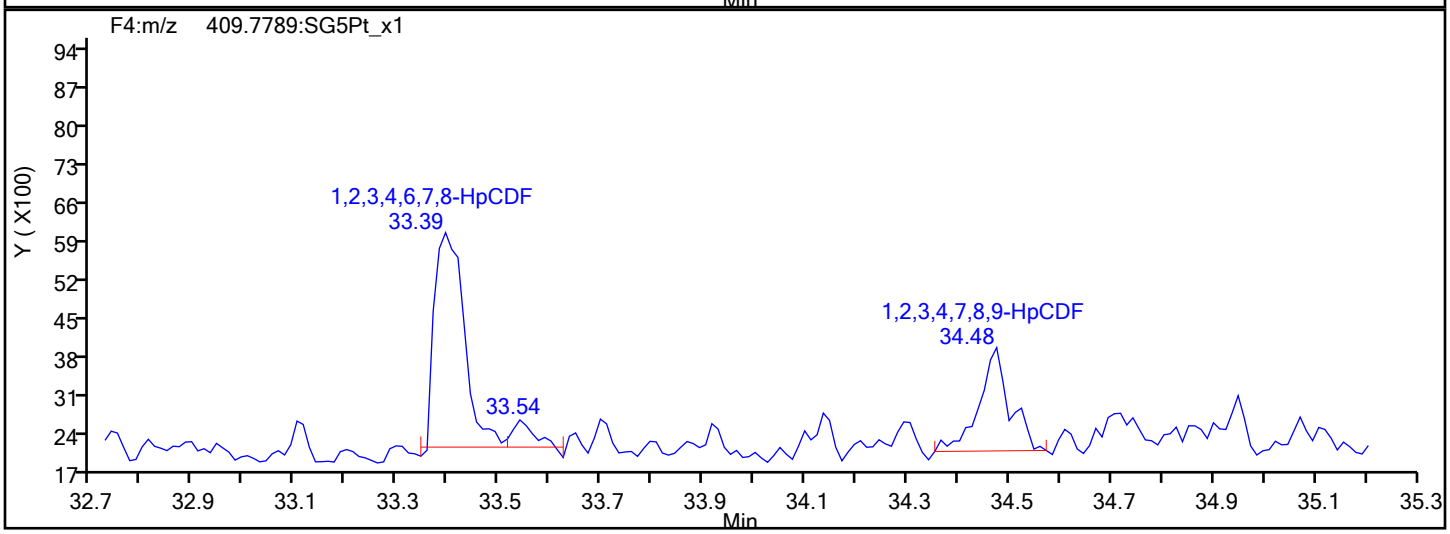

HpCDF Interference Mass

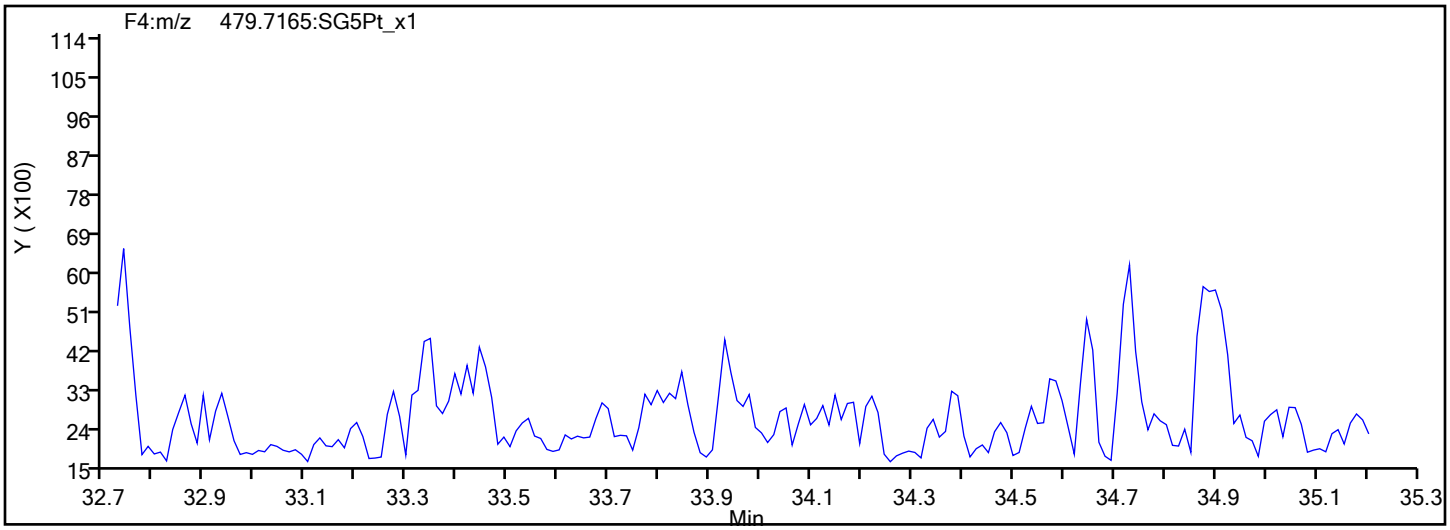

Report Date: 08-Nov-2019 08:43:36 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_4.d		
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HpCDD

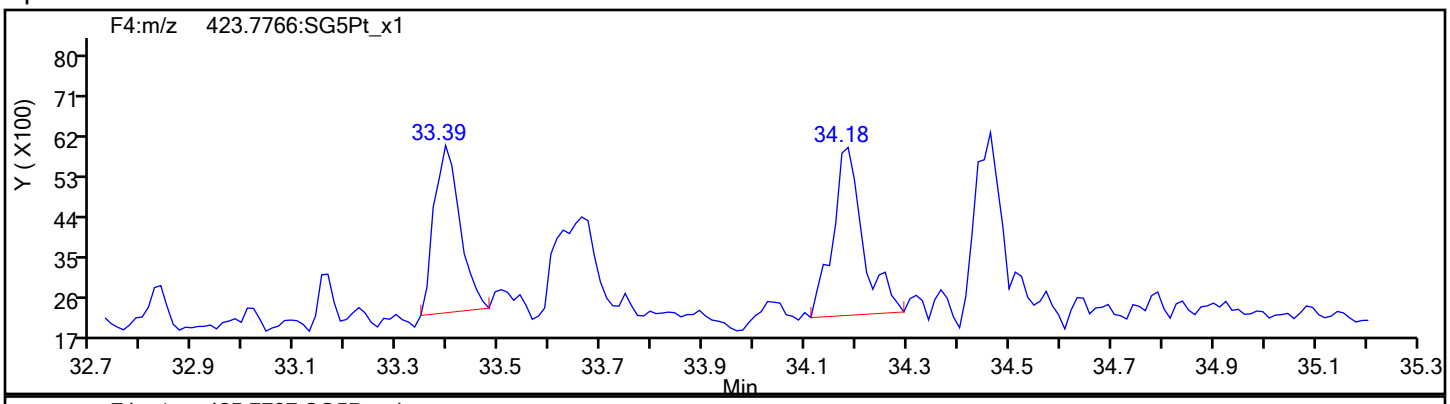

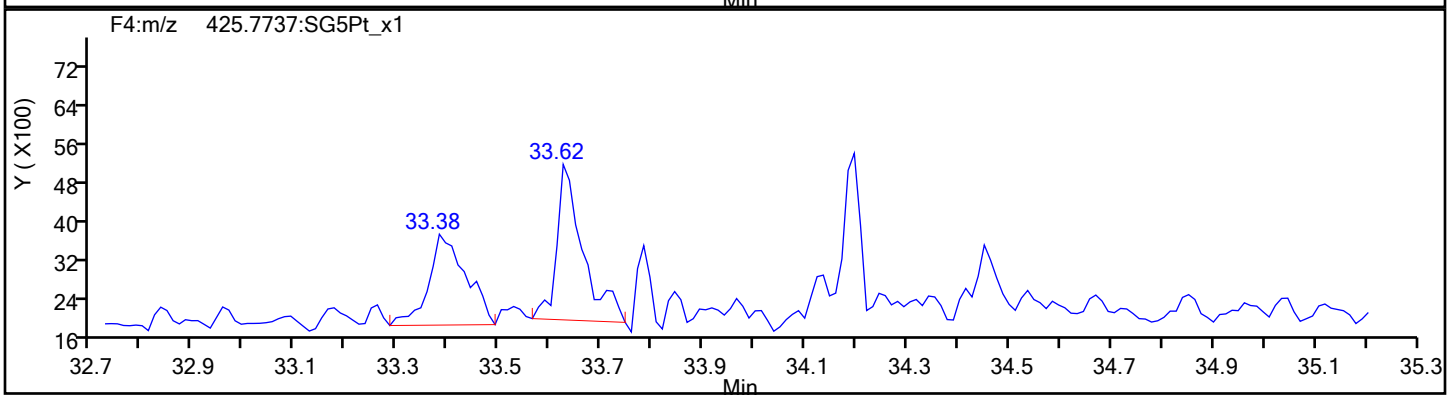

HpCDD Standards

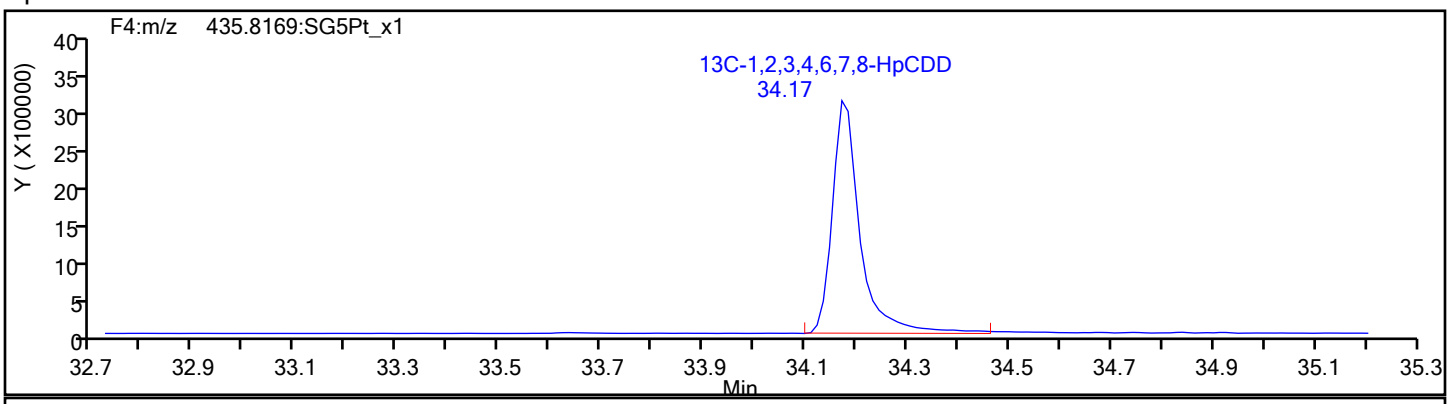

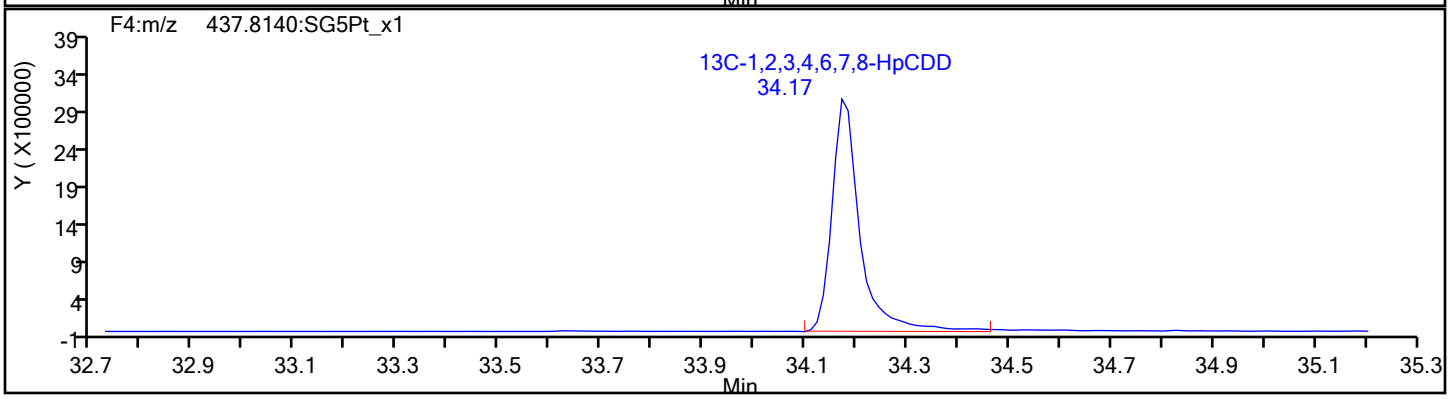

Report Date: 08-Nov-2019 08:43:36 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_4.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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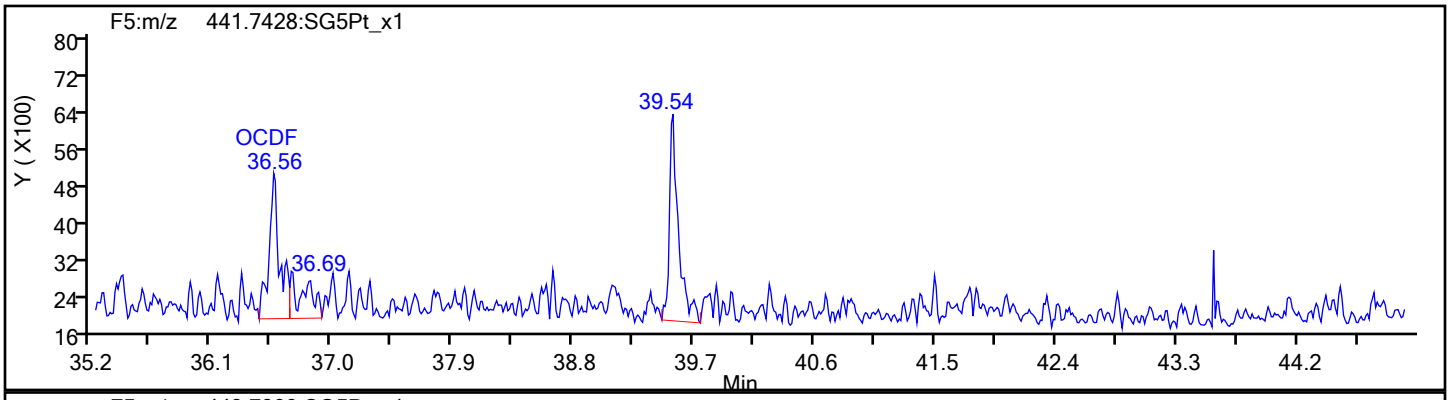

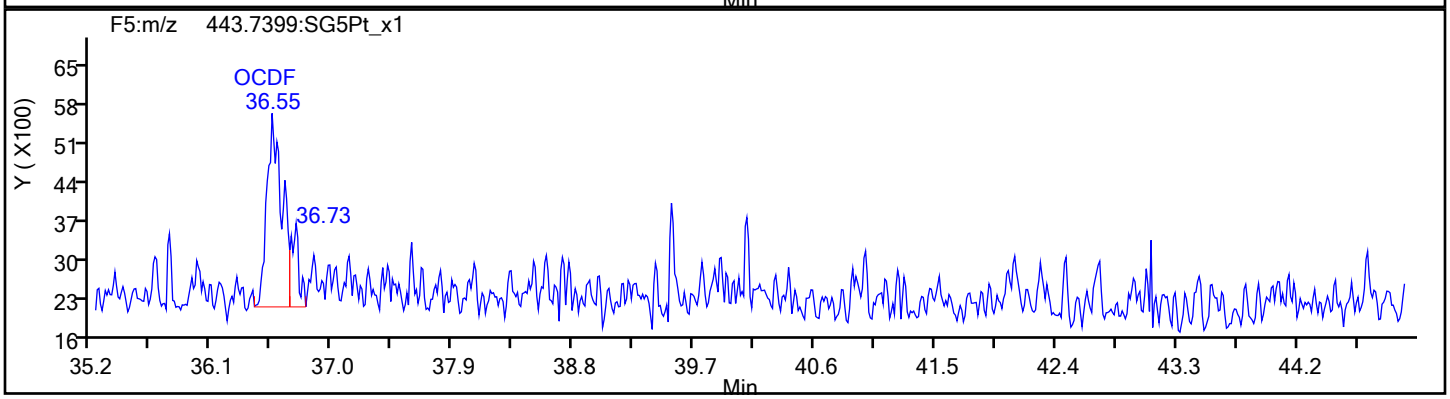

OCDF Standards

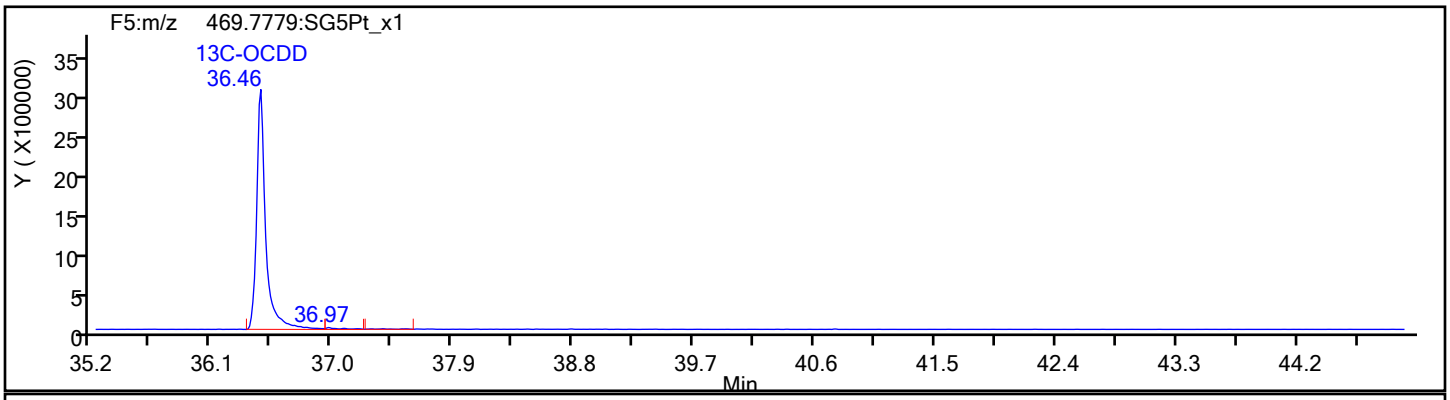

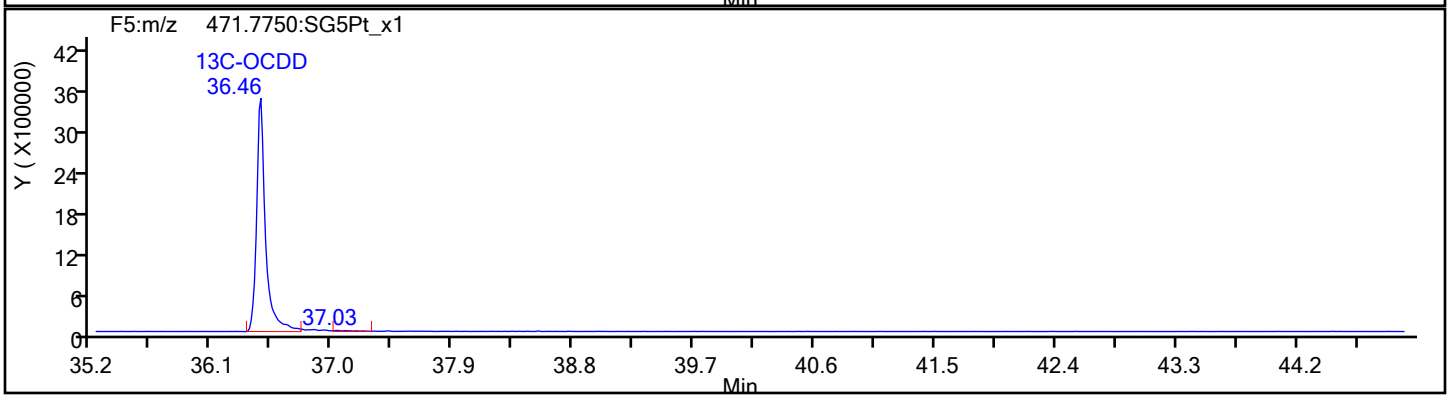

Report Date: 08-Nov-2019 08:43:36 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

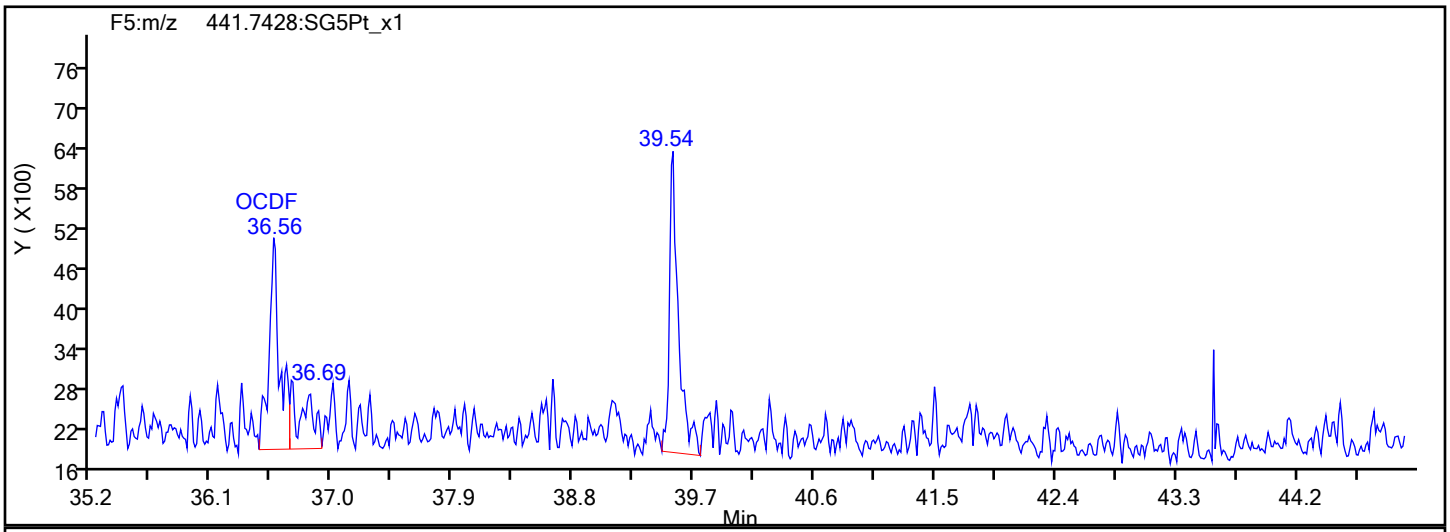

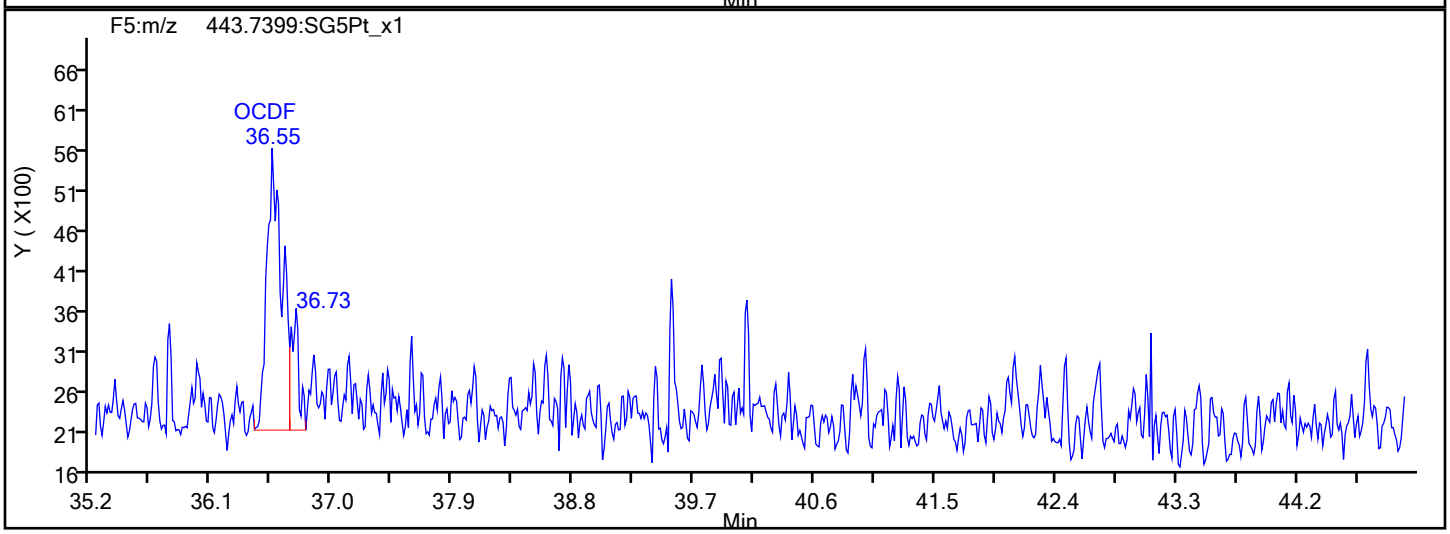

OCDF Interference Mass

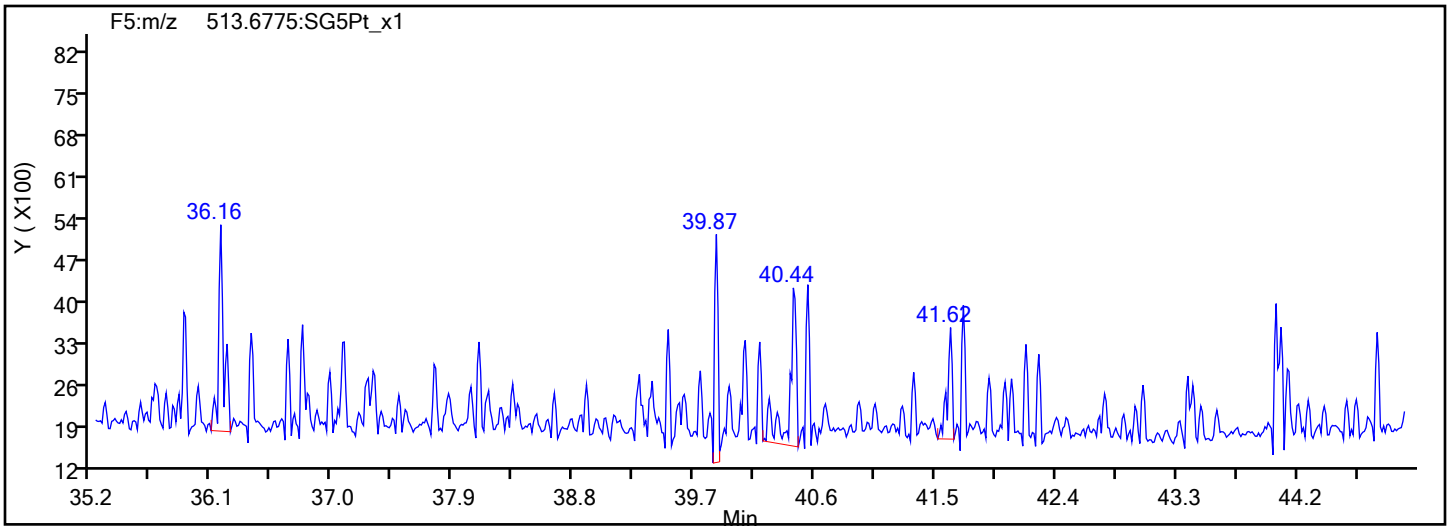

Report Date: 08-Nov-2019 08:43:36 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_4.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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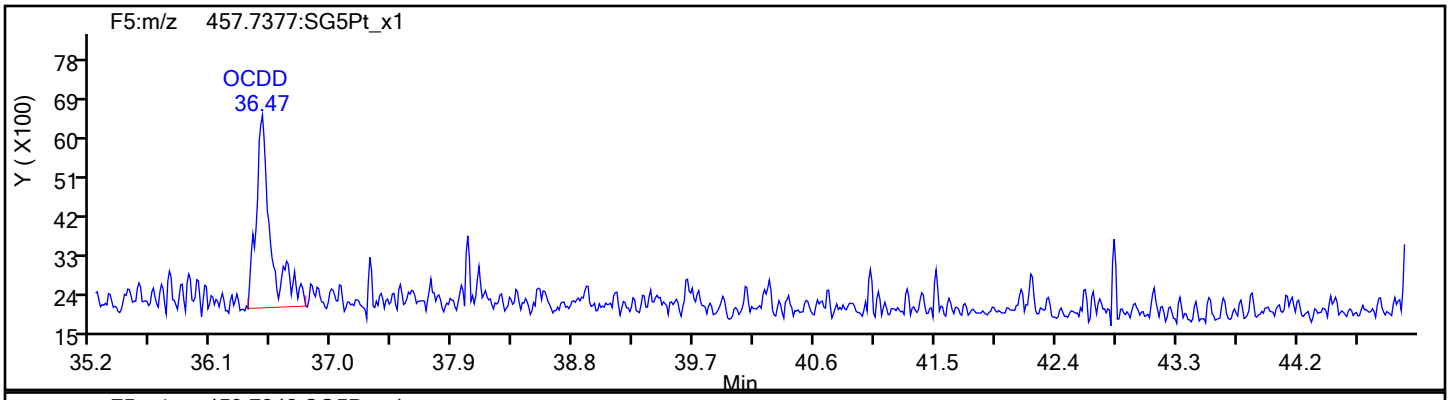

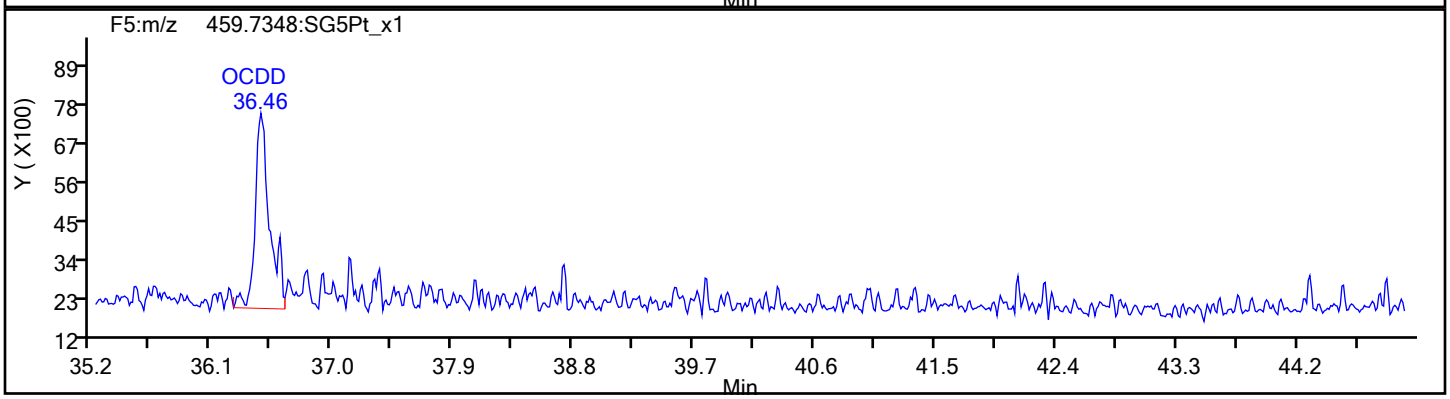

OCDD Standards

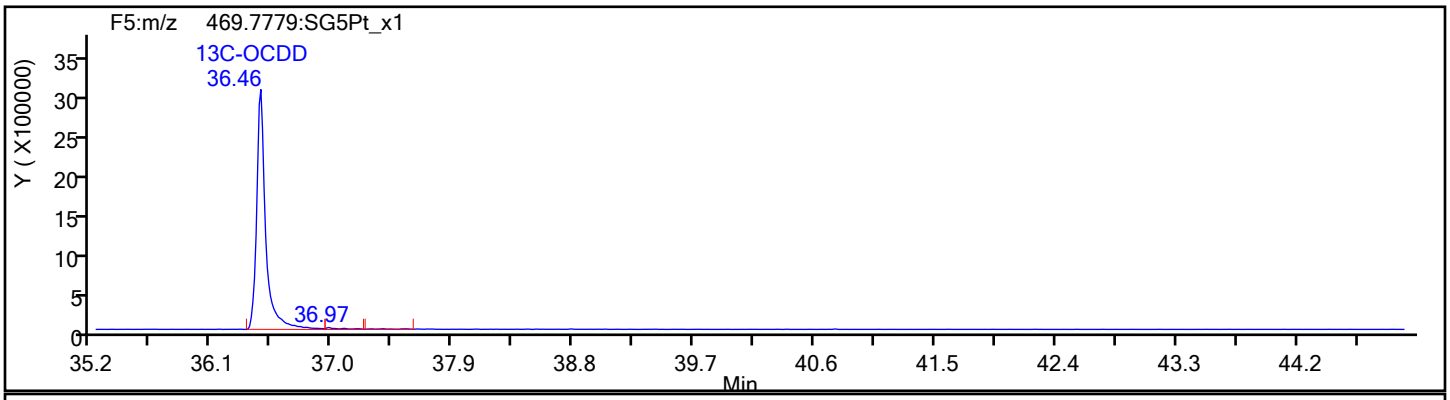

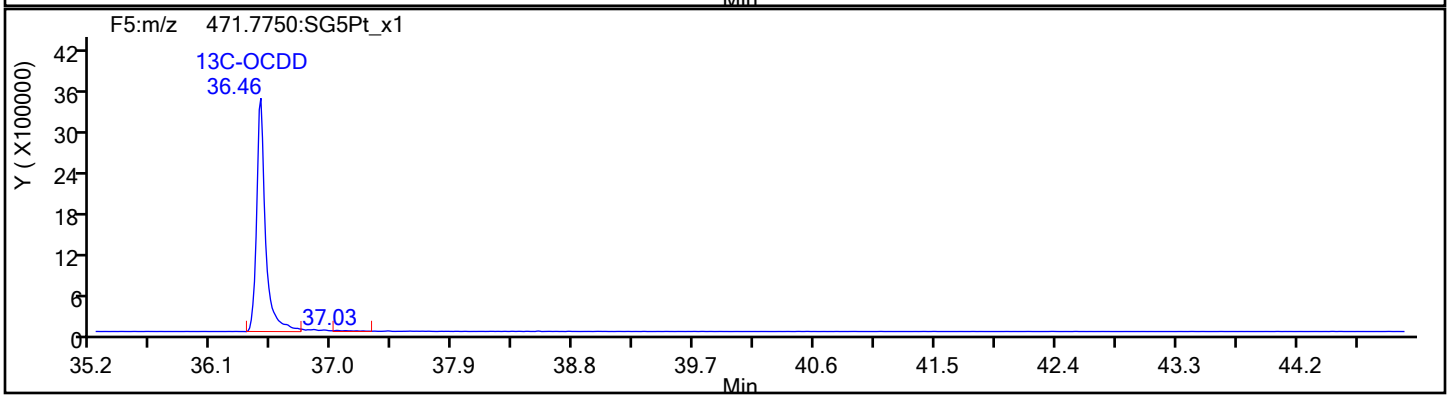

Report Date: 08-Nov-2019 08:43:36 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_4.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336302	Sample Line#:	4
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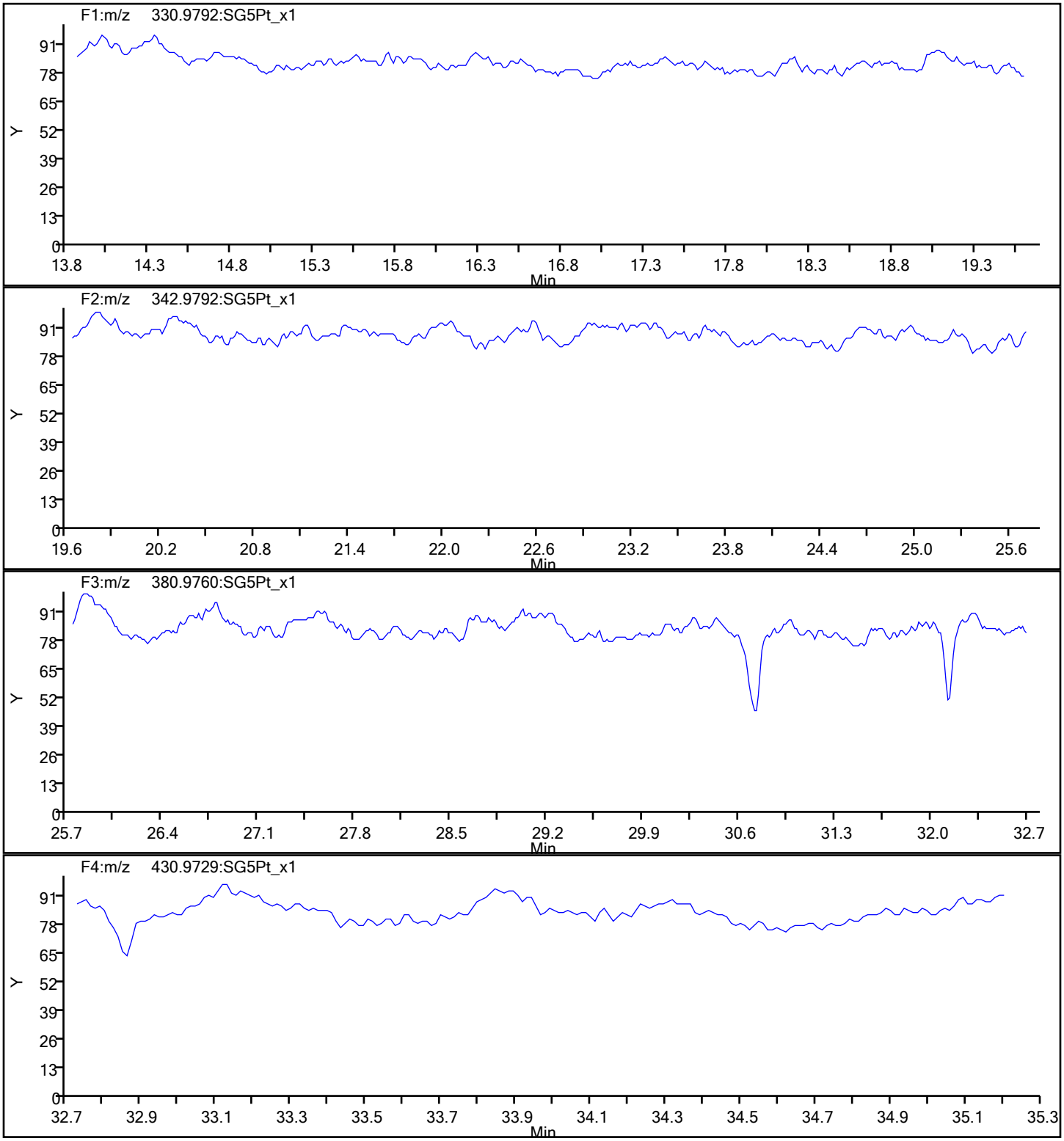

Report Date: 08-Nov-2019 08:43:36 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_4.d		
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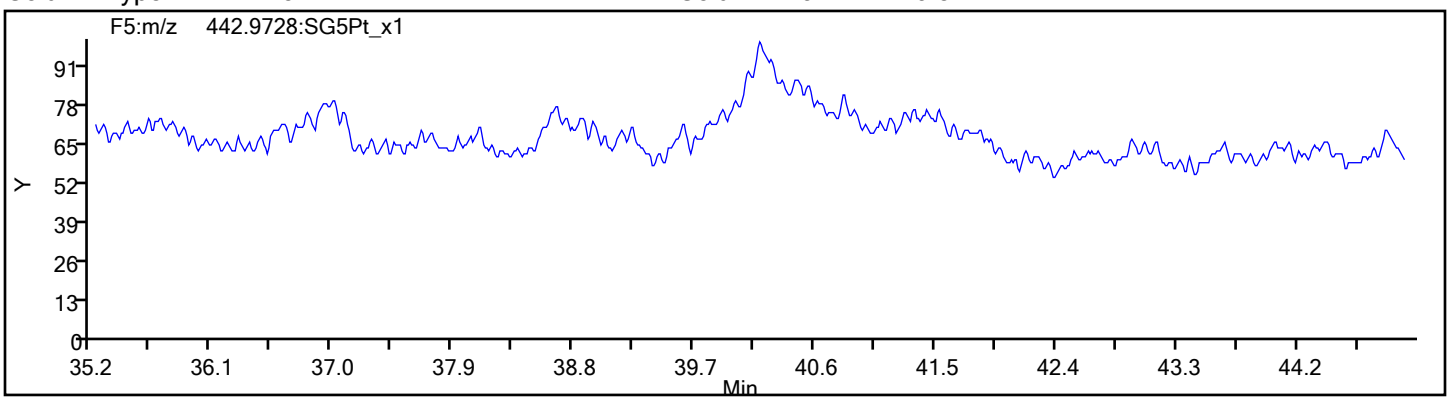

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 600-194690-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 320-335248/2-A
Matrix: Water
Lab File ID: 05NO19B10D5_5.d
Analysis Method: 1613B
Date Collected:
Extract. Method: 1613B
Date Extracted: 11/01/2019 08:11
Sample wt/vol: 1000(mL)
Date Analyzed: 11/05/2019 22:36
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 336302
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	195		10	0.76
51207-31-9	2,3,7,8-TCDF	214		10	0.58
40321-76-4	1,2,3,7,8-PeCDD	1110		50	2.3
57117-41-6	1,2,3,7,8-PeCDF	1090		50	4.6
57117-31-4	2,3,4,7,8-PeCDF	1030		50	4.5
39227-28-6	1,2,3,4,7,8-HxCDD	1020		50	3.5
57653-85-7	1,2,3,6,7,8-HxCDD	1090		50	3.5
19408-74-3	1,2,3,7,8,9-HxCDD	1030		50	3.2
70648-26-9	1,2,3,4,7,8-HxCDF	1030		50	9.8
57117-44-9	1,2,3,6,7,8-HxCDF	1090		50	8.7
72918-21-9	1,2,3,7,8,9-HxCDF	1080		50	5.8
60851-34-5	2,3,4,6,7,8-HxCDF	1080		50	6.0
35822-46-9	1,2,3,4,6,7,8-HpCDD	1180		50	6.4
67562-39-4	1,2,3,4,6,7,8-HpCDF	1080		50	11
55673-89-7	1,2,3,4,7,8,9-HpCDF	1020		50	14
3268-87-9	OCDD	3050		100	2.4
39001-02-0	OCDF	2180		100	2.6
41903-57-5	Total TCDD	195		10	0.76
30402-14-3	Total TCDF	215		10	0.58
36088-22-9	Total PeCDD	1110		50	2.3
30402-15-4	Total PeCDF	2120		50	4.6
34465-46-8	Total HxCDD	3140		50	3.4
55684-94-1	Total HxCDF	4270		50	7.5
37871-00-4	Total HpCDD	1280		50	6.4
38998-75-3	Total HpCDF	2100		50	12

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 320-335248/2-A

Matrix: Water Lab File ID: 05NO19B10D5_5.d

Analysis Method: 1613B Date Collected:

Extract. Method: 1613B Date Extracted: 11/01/2019 08:11

Sample wt/vol: 1000(mL) Date Analyzed: 11/05/2019 22:36

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 336302 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	65		20-175
89059-46-1	13C-2,3,7,8-TCDF	59		22-152
109719-79-1	13C-1,2,3,7,8-PeCDD	67		21-227
109719-77-9	13C-1,2,3,7,8-PeCDF	61		21-192
116843-02-8	13C-2,3,4,7,8-PeCDF	67		13-328
109719-80-4	13C-1,2,3,4,7,8-HxCDD	75		21-193
109719-81-5	13C-1,2,3,6,7,8-HxCDD	68		25-163
114423-98-2	13C-1,2,3,4,7,8-HxCDF	71		19-202
116843-03-9	13C-1,2,3,6,7,8-HxCDF	68		21-159
116843-04-0	13C-1,2,3,7,8,9-HxCDF	67		17-205
116843-05-1	13C-2,3,4,6,7,8-HxCDF	68		22-176
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	61		26-166
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	58		21-158
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	61		20-186
114423-97-1	13C-OCDD	50		13-199

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	100		31-191

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_5.d
Lims ID: LCS 320-335248/2-A
Client ID:
Sample Type: LCS
Inject. Date: 05-Nov-2019 22:36:27 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCS 320-335248/2-A LCS 320-335248/2-A
Misc. Info.: 05NO19B10D5
Operator ID: ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 08-Nov-2019 08:43:34 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0328

First Level Reviewer: arghestanis Date: 06-Nov-2019 08:03:05

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.245	100094078	0.78	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.761	85146565	0.79	1.4384	59.1	59.1	0.2798	0.2798	59.14	
2,3,7,8-TCDF	16.777	9587970	0.79	1.0507	10.7	10.7	0.0291	0.0291	107	
A Non-2,3,7,8-sub-TCDF	16.459	48329	0.87	1.0507	0.0540	0.0540	0.0291	0.0540	0.00	
S Total TCDF					10.8	10.8	0.0291	0.0291		
D 13C-2,3,7,8-TCDD	17.427	62244010	0.78	0.9533	65.2	65.2	0.2016	0.2016	65.23	
2,3,7,8-TCDD	17.457	6726773	0.75	1.1064	9.768	9.768	0.0379	0.0379	97.68	
$ 37Cl4-2,3,7,8-TCDD	17.457	48848205		1.2224	39.9	39.9	0.0437	0.0437	99.81	
A Non-2,3,7,8-sub-TCDD	16.890						0.0379	0.0379		
S Total TCDD					9.768	9.768	0.0379	0.0379		
D 13C-1,2,3,7,8-PeCDF	21.513	63270731	1.55	1.0286	61.5	61.5	0.1832	0.1832	61.45	
1,2,3,7,8-PeCDF	21.540	37422647	1.59	1.0822	54.7	54.7	0.2282	0.2282	109	
D 13C-2,3,4,7,8-PeCDF	22.781	65785936	1.58	0.9827	66.9	66.9	0.1918	0.1918	66.88	
2,3,4,7,8-PeCDF	22.795	37223253	1.59	1.1032	51.3	51.3	0.2272	0.2272	103	
A F1 PeCDFs	19.158						0.0192	0.0192		
A Non-2,3,7,8-sub-PeCDF	22.128						0.2277	0.2277		
S Total PeCDF					105.9	105.9	0.2277	0.2277		
D 13C-1,2,3,7,8-PeCDD	23.463	49907216	1.63	0.7481	66.7	66.7	0.0930	0.0930	66.65	
1,2,3,7,8-PeCDD	23.490	25063756	1.57	0.9050	55.5	55.5	0.1149	0.1149	111	
A Non-2,3,7,8-sub-PeCDD	22.406						0.1149	0.1149		
S Total PeCDD					55.5	55.5	0.1149	0.1149		
D 13C-1,2,3,4,7,8-HxCDF	29.533	56405062	0.51	1.1520	71.3	71.3	0.3573	0.3573	71.26	
1,2,3,4,7,8-HxCDF	29.560	34721038	1.27	1.1973	51.4	51.4	0.4879	0.4879	103	
D 13C-1,2,3,6,7,8-HxCDF	29.813	58486089	0.52	1.2434	68.5	68.5	0.3311	0.3311	68.45	
1,2,3,6,7,8-HxCDF	29.839	37483066	1.26	1.1807	54.3	54.3	0.4326	0.4326	109	
D 13C-2,3,4,6,7,8-HxCDF	30.904	55064042	0.52	1.1720	68.4	68.4	0.3513	0.3513	68.38	
2,3,4,6,7,8-HxCDF	30.931	36096479	1.26	1.2116	54.1	54.1	0.2982	0.2982	108	
D 13C-1,2,3,7,8,9-HxCDF	31.836	49120766	0.52	1.0655	67.1	67.1	0.3864	0.3864	67.10	
1,2,3,7,8,9-HxCDF	31.862	32893347	1.27	1.2451	53.8	53.8	0.2882	0.2882	108	
A Non-2,3,7,8-sub-HxCDF	29.354						0.3587	0.3587		
S Total HxCDF					213.6	213.6	0.3767	0.3767		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.636	68711776	1.25	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.144	40244912	1.26	0.7812	75.0	75.0	0.2868	0.2868	74.97	
1,2,3,4,7,8-HxCDD	31.157	22772828	1.26	1.1088	51.0	51.0	0.1751	0.1751	102	
D 13C-1,2,3,6,7,8-HxCDD	31.264	42775542	1.25	0.9175	67.9	67.9	0.2442	0.2442	67.85	
1,2,3,6,7,8-HxCDD	31.277	25098320	1.29	1.0814	54.3	54.3	0.1750	0.1750	109	
1,2,3,7,8,9-HxCDD	31.663	25960189	1.24	1.2123	51.6	51.6	0.1581	0.1581	103	
A Non-2,3,7,8-sub-HxCDD	29.926						0.1690	0.1690		
S Total HxCDD					156.9	156.9	0.1694	0.1694		
D 13C-1,2,3,4,6,7,8-HpCDF	33.394	34518203	0.44	0.8628	58.2	58.2	0.7771	0.7771	58.23	
1,2,3,4,6,7,8-HpCDF	33.406	28984459	1.06	1.5555	54.0	54.0	0.5329	0.5329	108	
D 13C-1,2,3,4,7,8,9-HpCDF	34.451	33299178	0.43	0.7991	60.6	60.6	0.8391	0.8391	60.65	
1,2,3,4,7,8,9-HpCDF	34.463	23583014	1.06	1.3862	51.1	51.1	0.7169	0.7169	102	
A Non-2,3,7,8-sub-HpCDF	33.922						0.6145	0.6145		
S Total HpCDF					105.1	105.1	0.6249	0.6249		
D 13C-1,2,3,4,6,7,8-HpCDD	34.171	36727815	1.03	0.8739	61.2	61.2	0.3410	0.3410	61.17	
1,2,3,4,6,7,8-HpCDD	34.183	20237412	1.04	0.9316	59.1	59.1	0.3205	0.3205	118	
A Non-2,3,7,8-sub-HpCDD	34.038	1607018	0.94	0.9316	4.697	4.697	0.3205	4.697	0.00	
S Total HpCDD					63.8	63.8	0.3205	0.3205		
D 13C-OCDD	36.450	52731891	0.88	0.7744	99.1	99.1	0.1261	0.1261	49.55	
OCDF	36.546	36244524	0.89	1.2596	109.1	109.1	0.1302	0.1302	109	
OCDD	36.462	42746834	0.89	1.0621	152.7	152.7	0.1219	0.1219	153	

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_5.d
Lims ID: LCS 320-335248/2-A
Client ID:
Sample Type: LCS
Inject. Date: 05-Nov-2019 22:36:27 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCS 320-335248/2-A LCS 320-335248/2-A
Misc. Info.: 05NO19B10D5
Operator ID: ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 08-Nov-2019 08:43:34 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0328

First Level Reviewer: arghestanis Date: 06-Nov-2019 08:03:05

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.245	17.230	1		43919034	11211204	9302	23255	1205		
333.9339	17.245	17.230	1		56175044	14731457	10638	26595	1385	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.761	16.761	0	0.972	37509364	9321554	19496	48740	478		
317.9389	16.761	16.761	0	0.972	47637201	11911061	22269	55672	535	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.777	16.761	1	1.001	4229749	1039602	1156	2890	899		
305.8987	16.777	16.761	1	1.001	5358221	1333851	1438	3595	928	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.414	16.459	-3	0.979	22445	5663	1156	2890	5		
305.8987	16.429	16.459	-2	0.980	25884	7574	1438	3595	5	0.87(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.427	17.427	0	1.011	27311509	6372983	9302	23255	685		
333.9339	17.427	17.427	0	1.011	34932501	8192796	10638	26595	770	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.457	17.427	2	1.002	2873187	687826	1508	3770	456		
321.8936	17.457	17.427	2	1.002	3853586	914918	934	2335	980	0.75(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.457	17.442	1	1.012	48848205	11339836	5539	13847	2047		
A Non-2,3,7,8-sub-TCDD											
319.8965	16.890						1508	3770			
321.8936	16.890						934	2335			
13C-1,2,3,7,8-PeCDF											
351.9000	21.513	21.513	0	1.247	38504995	6984189	11940	29850	585		
353.8970	21.513	21.513	0	1.247	24765736	4500875	7614	19035	591	1.55(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	21.540	21.527	1	1.001	22995339	4028533	6736	16840	598		
341.8567	21.527	21.527	0	1.001	14427308	2542180	4612	11530	551	1.59(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	22.781	22.781	0	1.321	40246160	6976758	11940	29850	584		
353.8970	22.781	22.781	0	1.321	25539776	4340480	7614	19035	570	1.58(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.795	22.795	0	1.001	22834363	3789665	6736	16840	563		
341.8567	22.795	22.795	0	1.001	14388890	2415654	4612	11530	524	1.59(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.158						345	862			
341.8567	19.158						613	1532			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.128						6736	16840			
341.8567	22.128						4612	11530			
13C-1,2,3,7,8-PeCDD											
367.8949	23.463	23.463	0	1.361	30911777	4987382	4269	10672	1168		
369.8919	23.463	23.463	0	1.361	18995439	2941016	2954	7385	996	1.63(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.490	23.476	1	1.001	15294043	2404323	2103	5257	1143		
357.8516	23.490	23.476	1	1.001	9769713	1546805	1194	2985	1295	1.57(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.406						2103	5257			
357.8516	22.406						1194	2985			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.533	29.533	0	0.934	19121022	2187904	8525	21312	257		
385.8610	29.533	29.533	0	0.934	37284040	4320232	15417	38542	280	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.560	29.533	2	1.001	19400895	2239491	8562	21405	262		
375.8178	29.560	29.533	2	1.001	15320143	1793789	6646	16615	270	1.27(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.813	29.813	0	0.942	20037198	2559947	8525	21312	300		
385.8610	29.813	29.813	0	0.942	38448891	4884526	15417	38542	317	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	29.839	29.826	1	1.001	20900268	2674334	8562	21405	312		
375.8178	29.839	29.826	1	1.001	16582798	2143559	6646	16615	323	1.26(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	30.904	30.904	0	0.977	18900120	3656363	8525	21312	429		
385.8610	30.904	30.904	0	0.977	36163922	6868538	15417	38542	446	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	30.931	30.917	1	1.001	20139444	4000214	8562	21405	467		
375.8178	30.931	30.917	1	1.001	15957035	3164086	6646	16615	476	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.836	31.836	0	1.006	16776444	3621247	8525	21312	425		
385.8610	31.836	31.836	0	1.006	32344322	6974678	15417	38542	452	0.52(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	31.862	31.849	1	1.001	18388887	3981395	8562	21405	465		
375.8178	31.862	31.849	1	1.001	14504460	3106216	6646	16615	467	1.27(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.354						8562	21405			
375.8178	29.354						6646	16615			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.636	31.636	0		38140982	8062244	7410	18525	1088		
403.8529	31.636	31.636	0		30570794	6476966	5622	14055	1152	1.25(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.144	31.143	0	0.984	22458322	4976827	7410	18525	672		
403.8529	31.144	31.143	0	0.984	17786590	3827807	5622	14055	681	1.26(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.157	31.144	1	1.000	12684240	2833009	3693	9232	767		
391.8127	31.157	31.144	1	1.000	10088588	2254174	3143	7857	717	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.264	31.263	0	0.988	23773073	4992938	7410	18525	674		
403.8529	31.264	31.263	0	0.988	19002469	4037227	5622	14055	718	1.25(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.277	31.277	0	1.000	14127203	2900502	3693	9232	785		
391.8127	31.277	31.277	0	1.000	10971117	2265583	3143	7857	721	1.29(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.663	31.649	1	1.017	14350514	3111976	3693	9232	843		
391.8127	31.649	31.649	0	1.016	11609675	2461109	3143	7857	783	1.24(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	29.926						3693	9232			
391.8127	29.926						3143	7857			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.394	33.393	0	1.056	10613106	3161054	10523	26307	300		
419.8220	33.394	33.393	0	1.056	23905097	7133421	28470	71175	251	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.406	33.394	1	1.000	14908180	4366713	16954	42385	258		
409.7789	33.406	33.394	1	1.000	14076279	4077473	17180	42950	237	1.06(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.451	34.451	0	1.089	10028428	2606053	10523	26307	248		
419.8220	34.451	34.451	0	1.089	23270750	5980489	28470	71175	210	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.463	34.451	1	1.000	12161991	3075345	16954	42385	181		
409.7789	34.451	34.451	0	1.000	11421023	2857502	17180	42950	166	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.922						16954	42385			
409.7789	33.922						17180	42950			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.171	34.171	0	1.080	18652415	5091204	8485	21212	600		
437.8140	34.171	34.171	0	1.080	18075400	4968208	8845	22112	562	1.03(0.88-1.20)	

Report Date: 08-Nov-2019 08:44:10 Chrom Revision: 2.3 31-Oct-2019 20:21:30
Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_5.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.183	34.172	1	1.000	10301503	2813735	5991	14977	470		
425.7737	34.183	34.172	1	1.000	9935909	2688587	6024	15060	446	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.649	34.038	-23	0.985	779787	229259	5991	14977	38		
425.7737	33.649	34.038	-23	0.985	827231	224482	6024	15060	37	0.94(0.88-1.20)	
13C-OCDD											
469.7779	36.450	36.462	-1	1.152	24643305	5467215	3205	8012	1706		
471.7750	36.450	36.462	-1	1.152	28088586	6202857	2472	6180	2509	0.88(0.76-1.02)	
OCDF											
441.7428	36.546	36.546	0	1.003	17110224	3952257	1646	4115	2401		
443.7399	36.546	36.546	0	1.003	19134300	4328569	2182	5455	1984	0.89(0.76-1.02)	
OCDD											
457.7377	36.462	36.462	0	1.000	20137489	4444447	1322	3305	3362		
459.7348	36.462	36.462	0	1.000	22609345	4968697	1701	4252	2921	0.89(0.76-1.02)	

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_5.d
Lims ID: LCS 320-335248/2-A
Client ID:
Inject. Date: 05-Nov-2019 22:36:27 Dil. Factor: 1.0000
Sample Type: LCS, Lab Control Sample
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 5

Non-2,3,7,8-sub-TCDF, RT: 16.459

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.051	D 13C-2,3,7,8-TCDF	100.000	85146565	21232615

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.051		100.000	85146565	21232615

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
16.414	22445	5663	25884	7574	0.0540	0.87	
Signal Totals:							
	22445	5663	25884	7574			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	48329	13237				0.87	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0540 = (48329 * 100.000) / (85146565 * 1.051)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_5.d
Lims ID: LCS 320-335248/2-A
Client ID:
Inject. Date: 05-Nov-2019 22:36:27 Dil. Factor: 1.0000
Sample Type: LCS, Lab Control Sample
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 5

Non-2,3,7,8-sub-HpCDD, RT: 34.038

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.932	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	36727815	10059412

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.932		100.000	36727815	10059412

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
33.649	779787	229259	827231	224482	4.70	0.94	
Signal Totals:							
	779787	229259	827231	224482			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1607018	453741				0.94	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 4.697 = (1607018 * 100.000) / (36727815 * 0.932)

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Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_5.d		
Injection Date:	05-Nov-2019 22:36:27	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336302	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

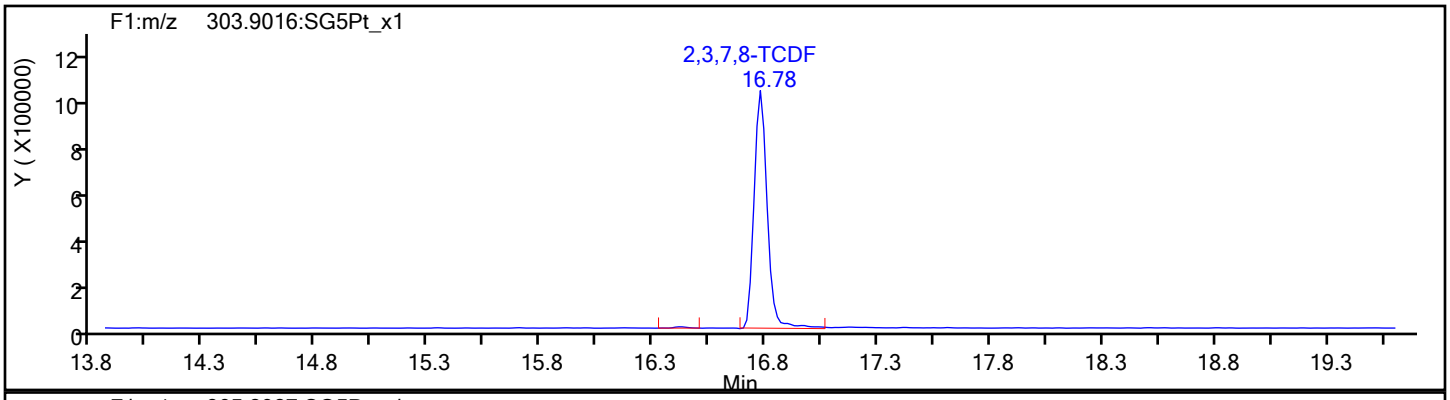

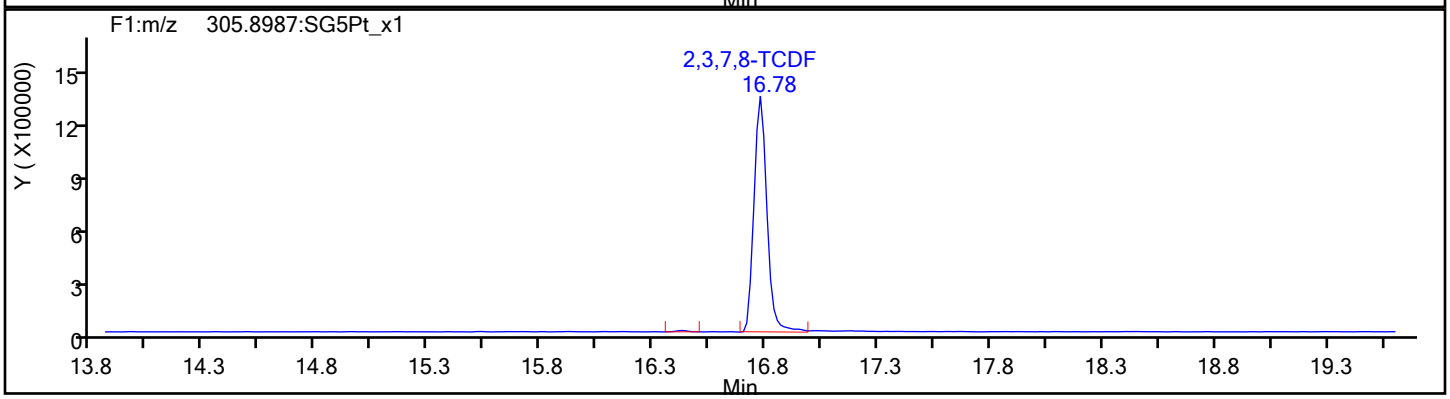

TCDF Standards

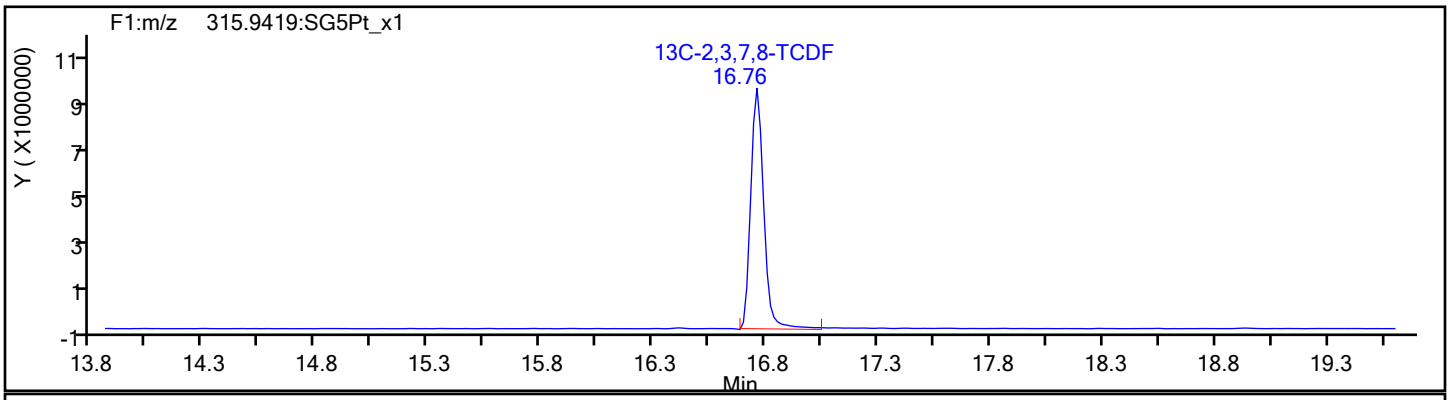

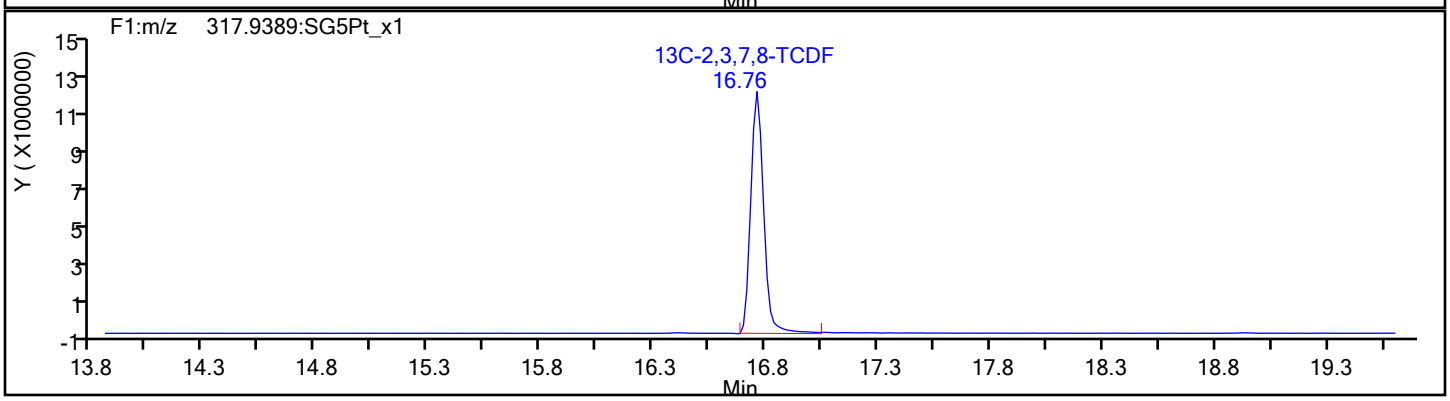

Report Date: 08-Nov-2019 08:44:10 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336302	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

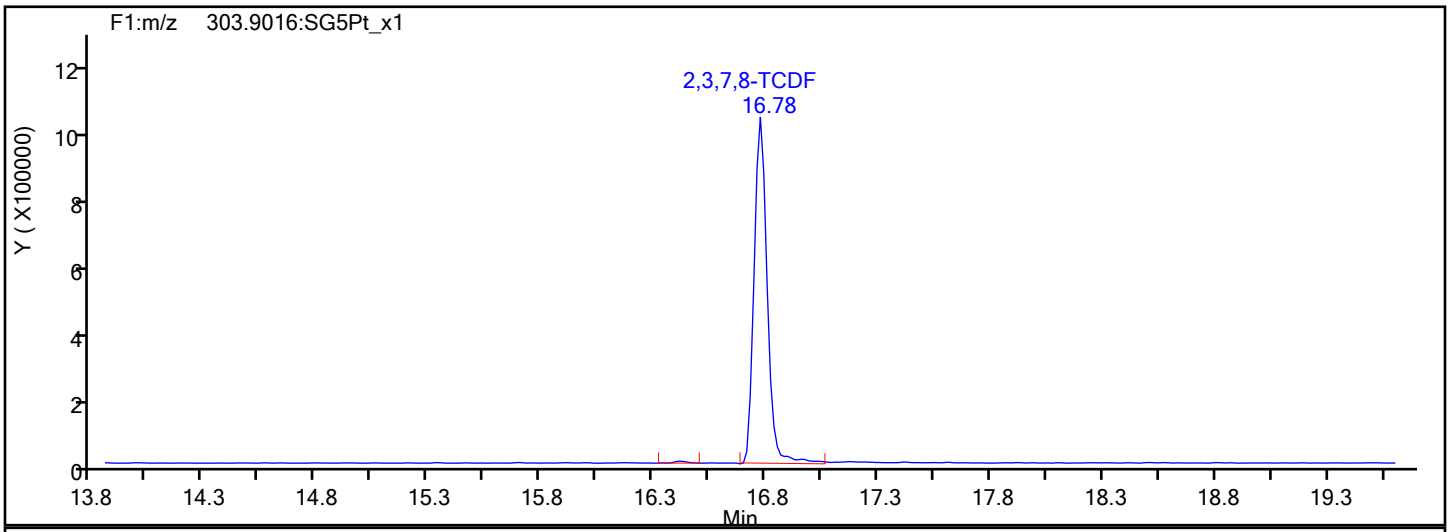

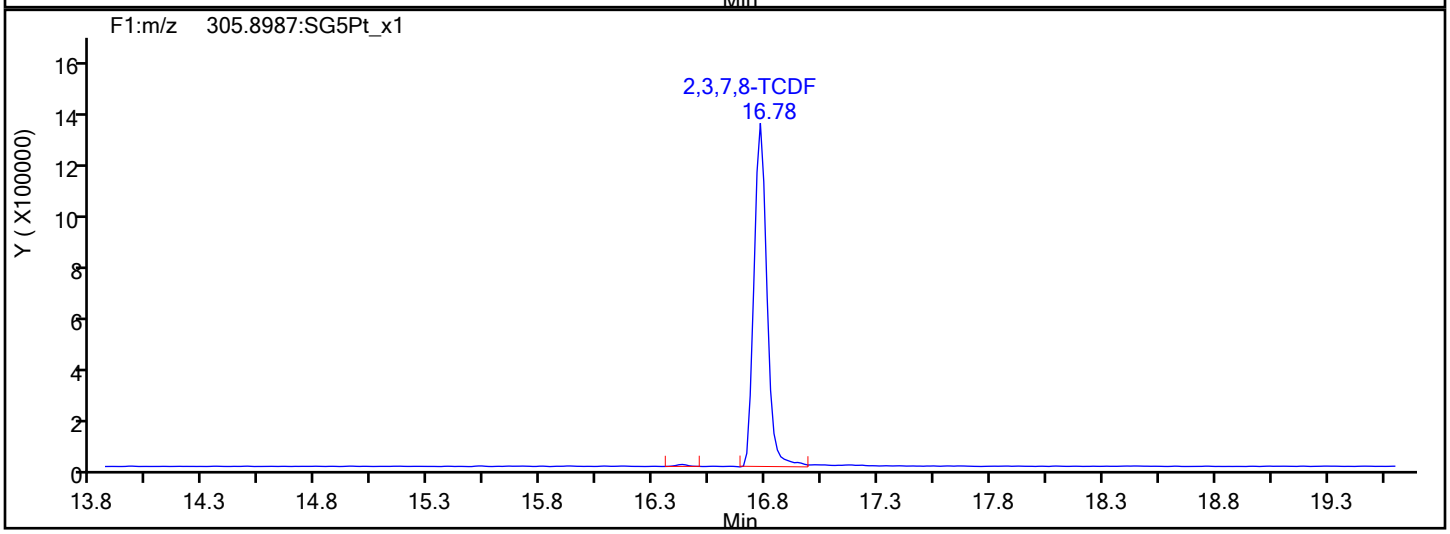

TCDF Interference Mass

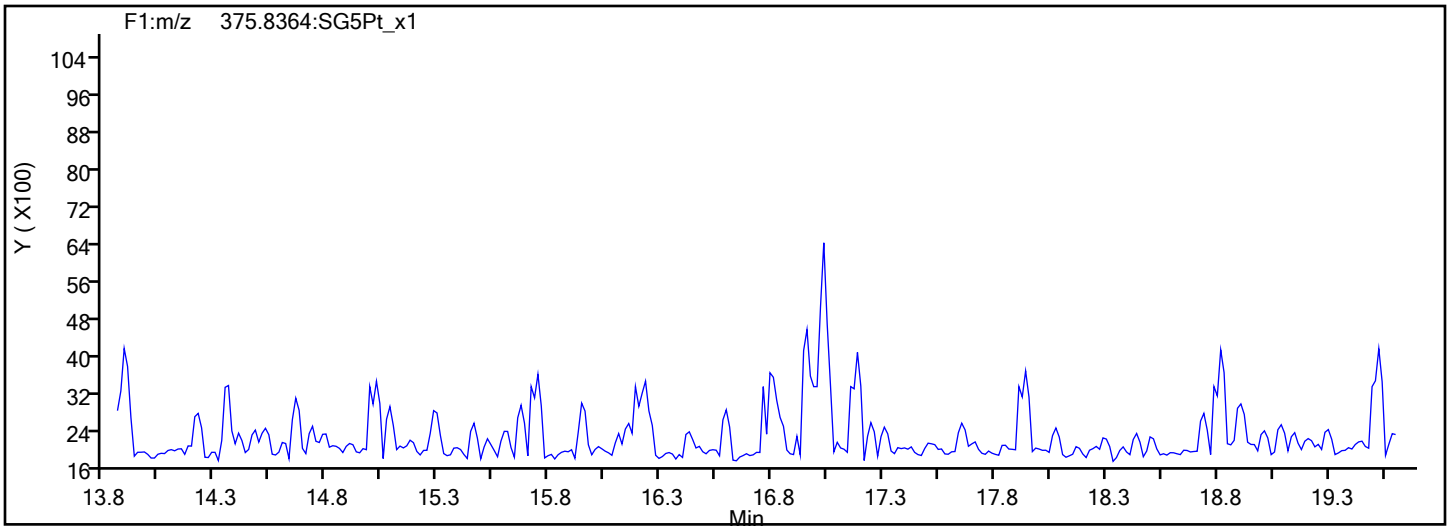

Report Date: 08-Nov-2019 08:44:10 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_5.d		
Injection Date:	05-Nov-2019 22:36:27	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336302	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

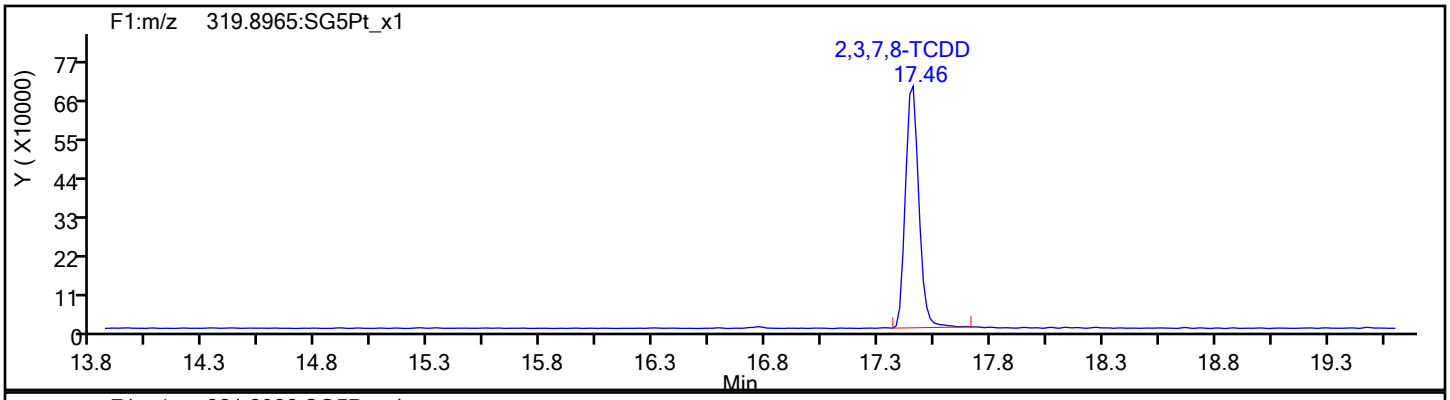

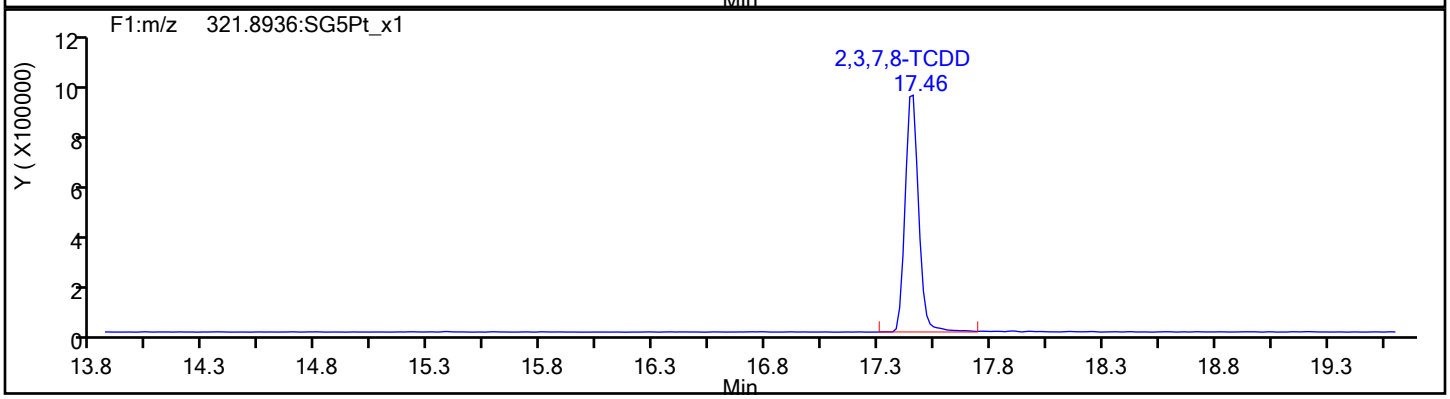

TCDD Standards

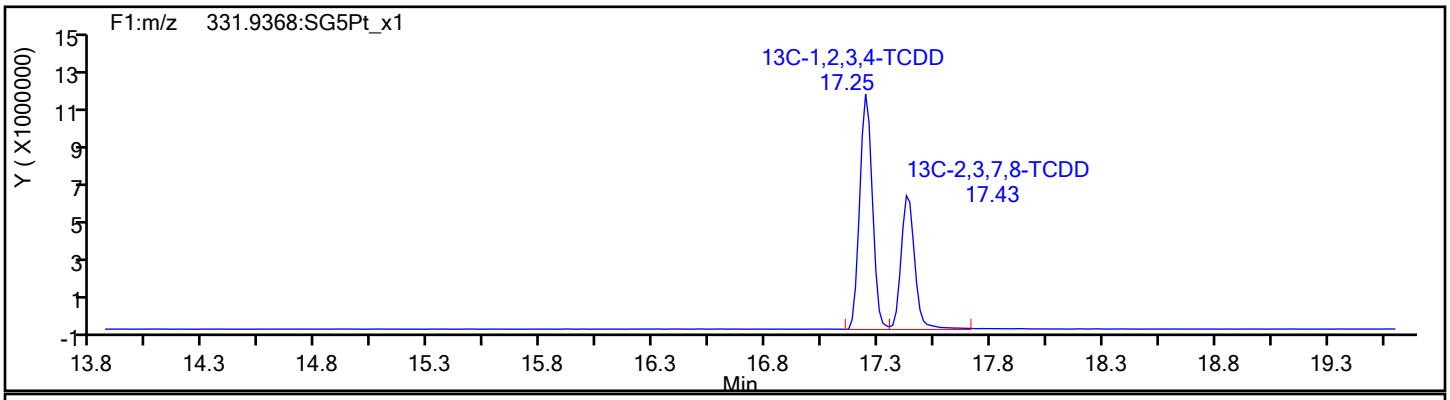

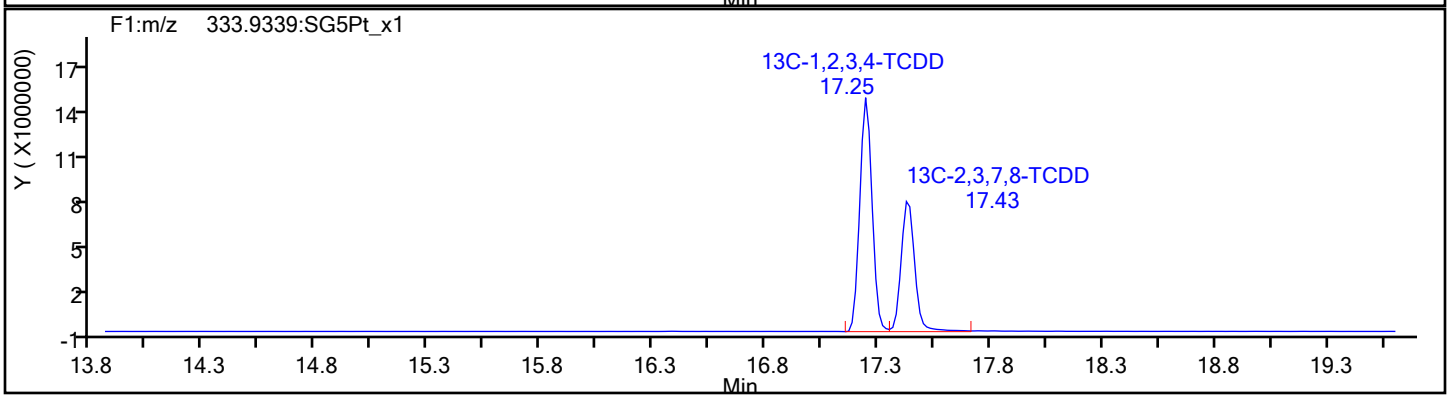

Report Date: 08-Nov-2019 08:44:10 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

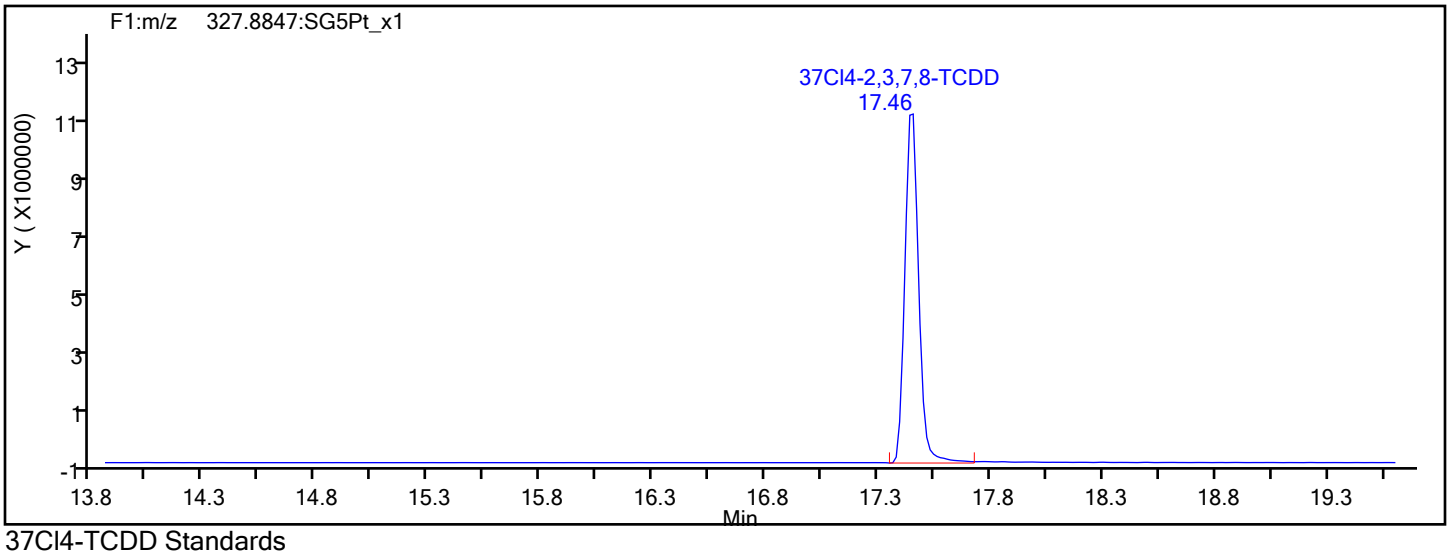

37Cl4-TCDD Standards

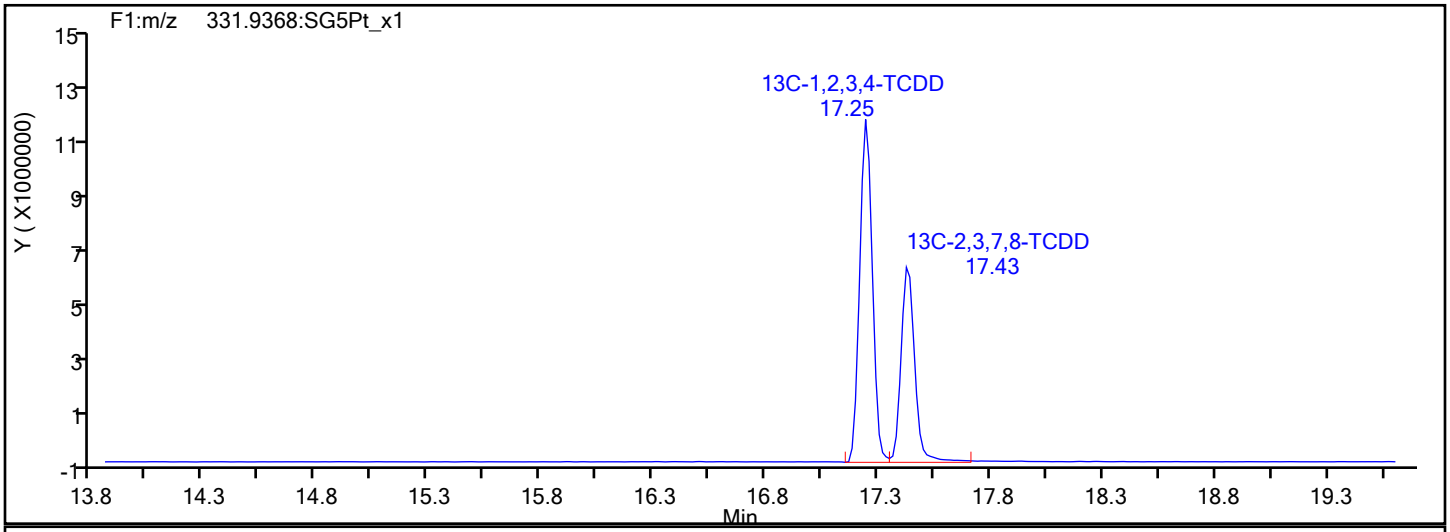

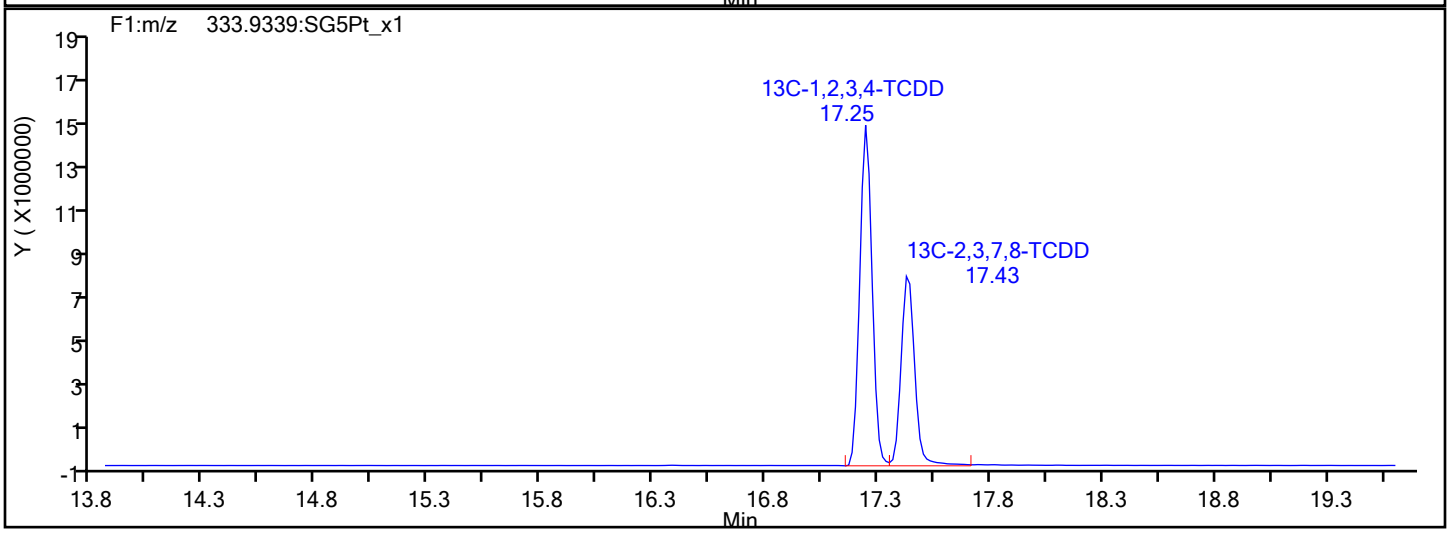

Report Date: 08-Nov-2019 08:44:10 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

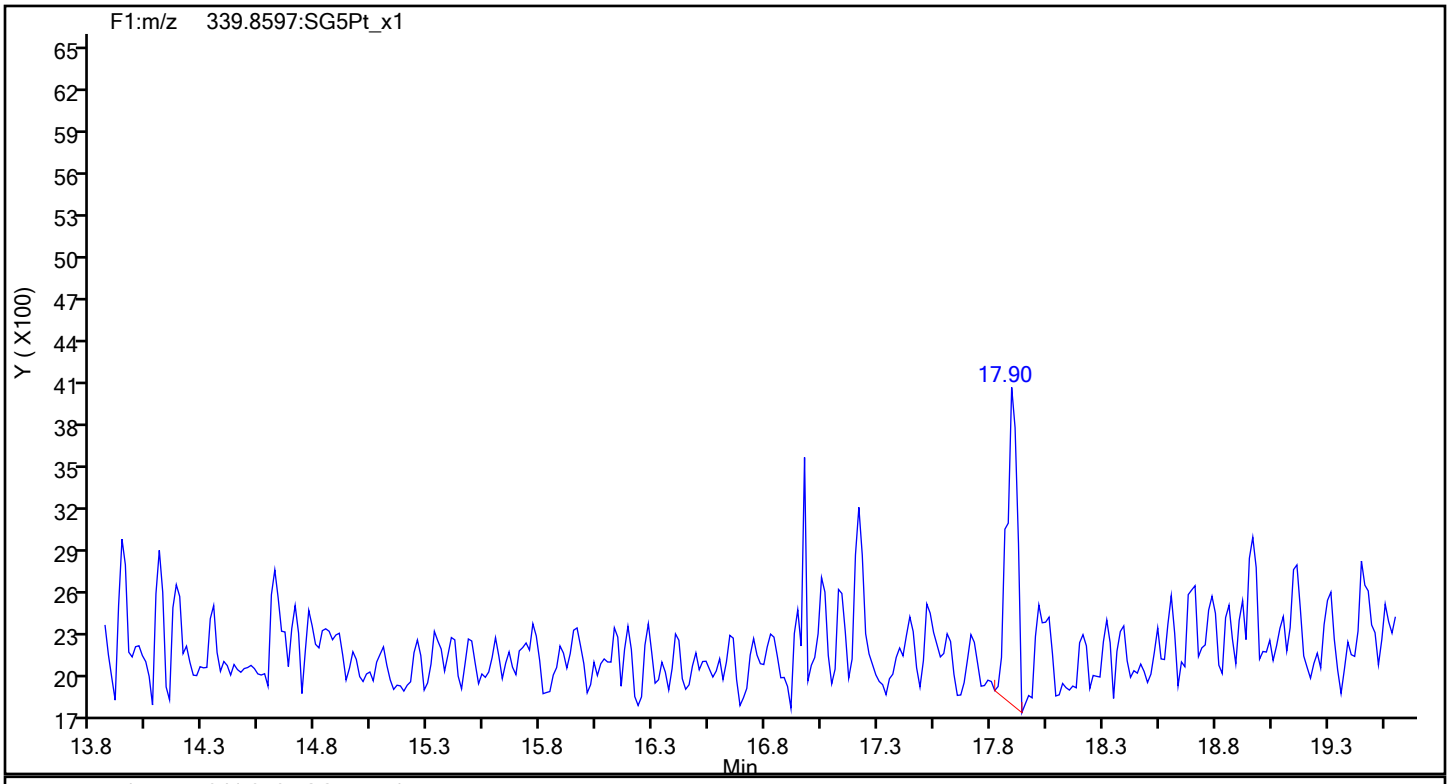

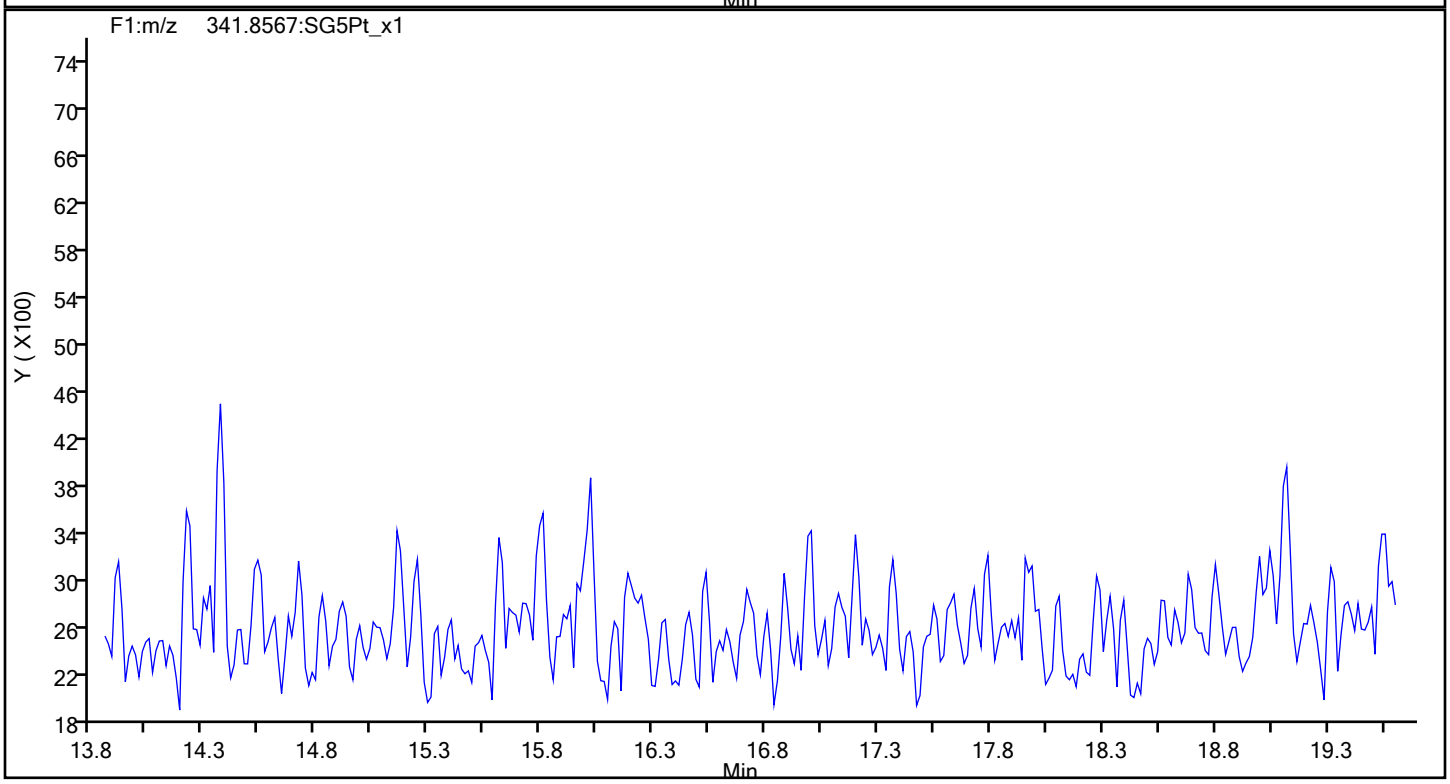

Report Date: 08-Nov-2019 08:44:10 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_5.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

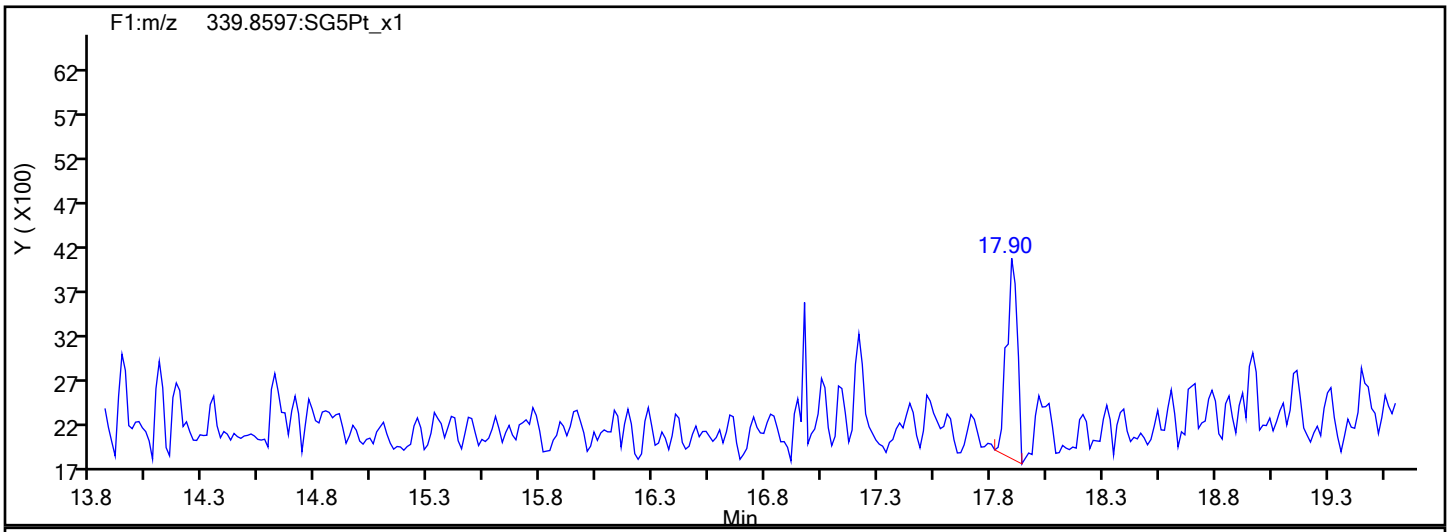

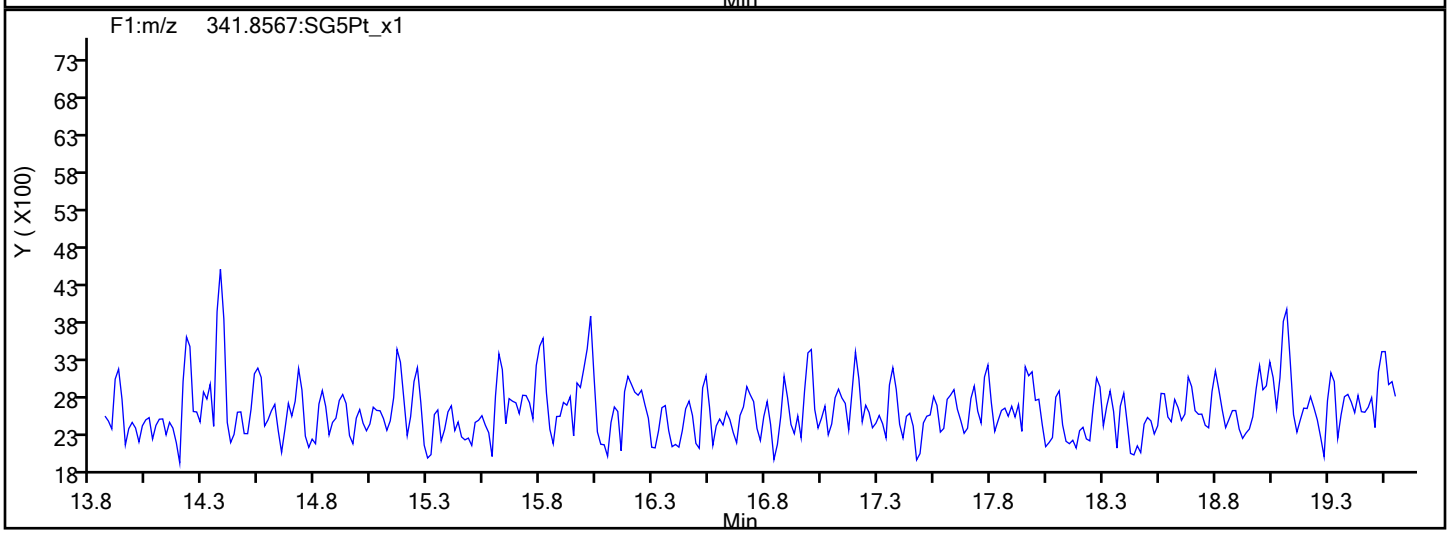

F1 PeCDFs Interference Mass

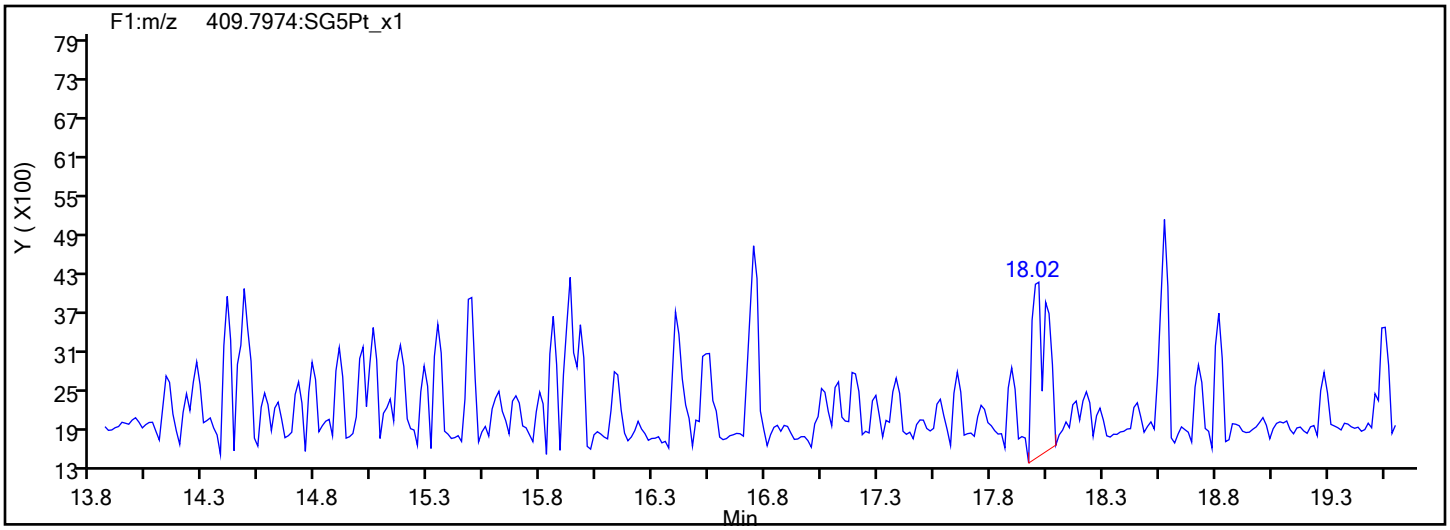

Report Date: 08-Nov-2019 08:44:10 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_5.d		
Injection Date:	05-Nov-2019 22:36:27	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	336302	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

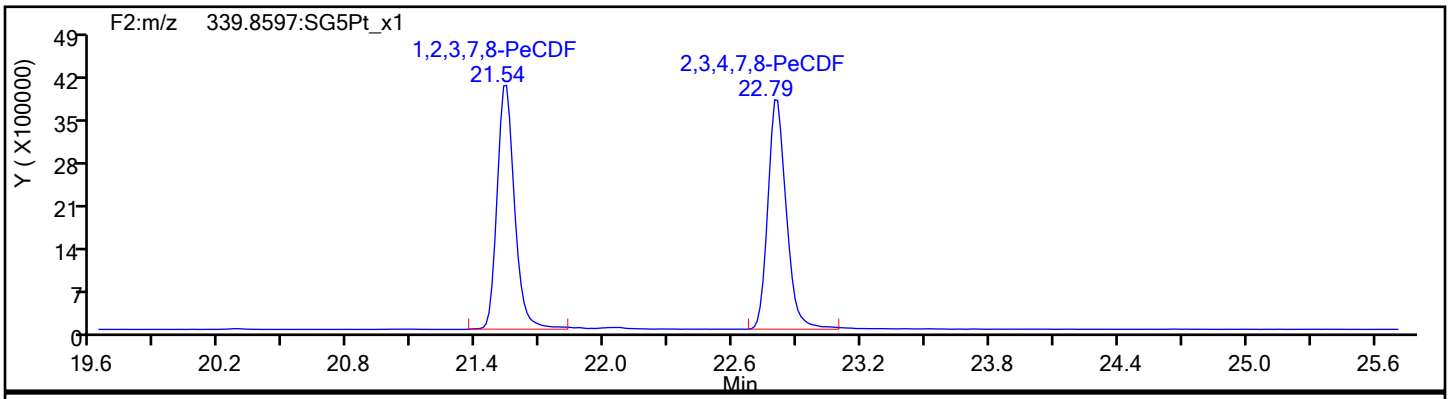

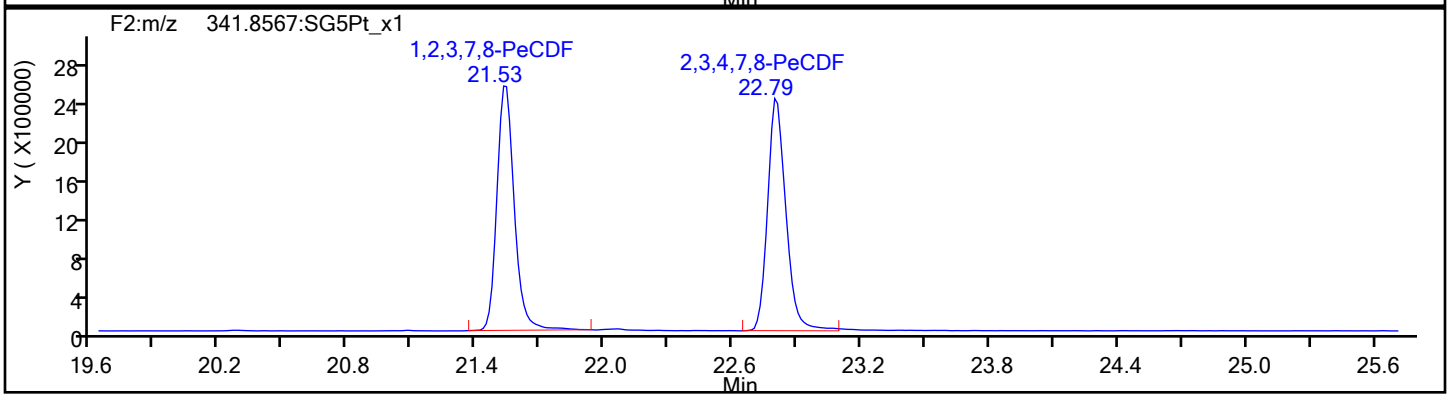

PeCDF Standards

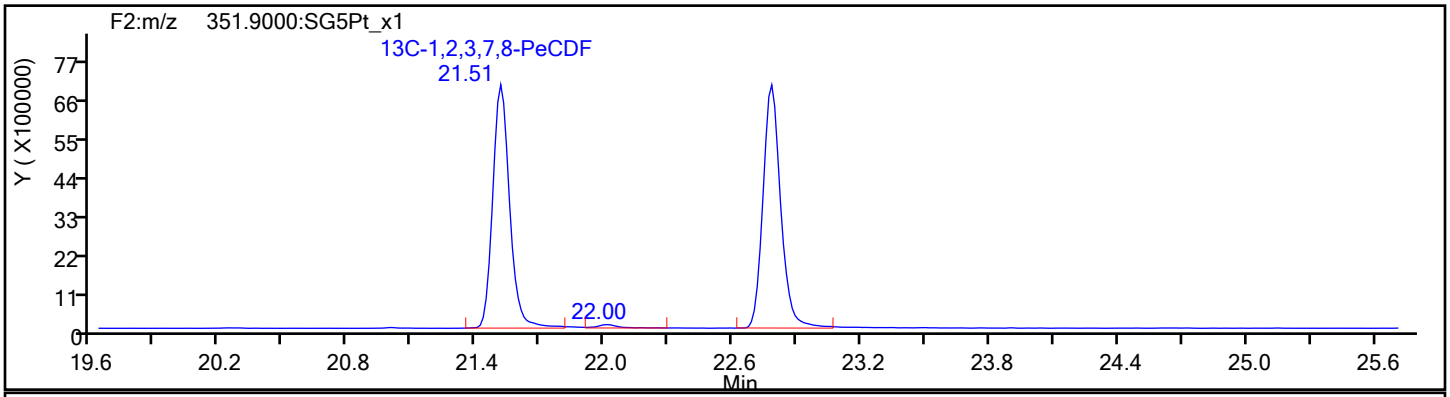

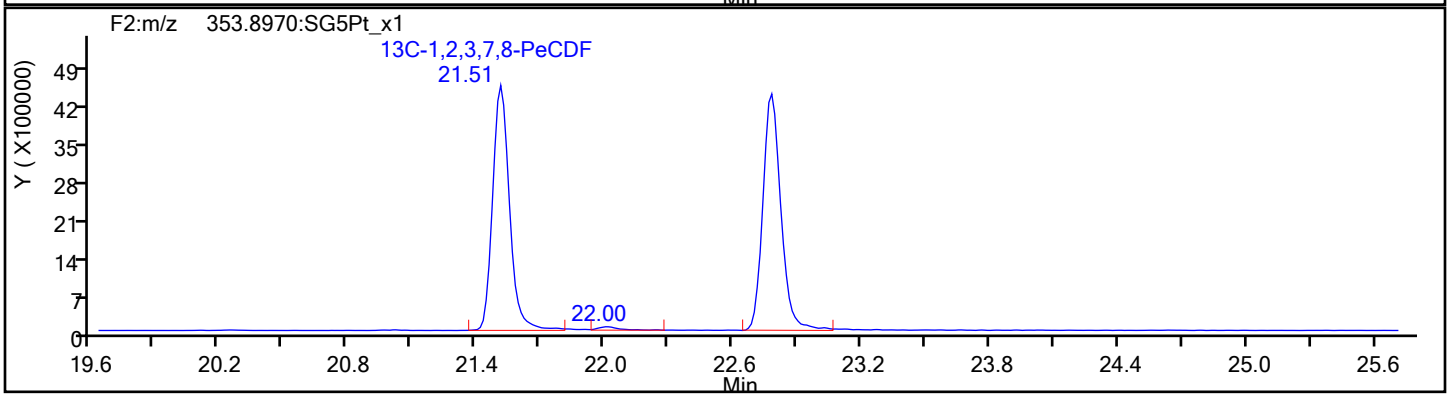

Report Date: 08-Nov-2019 08:44:10 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_5.d		
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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

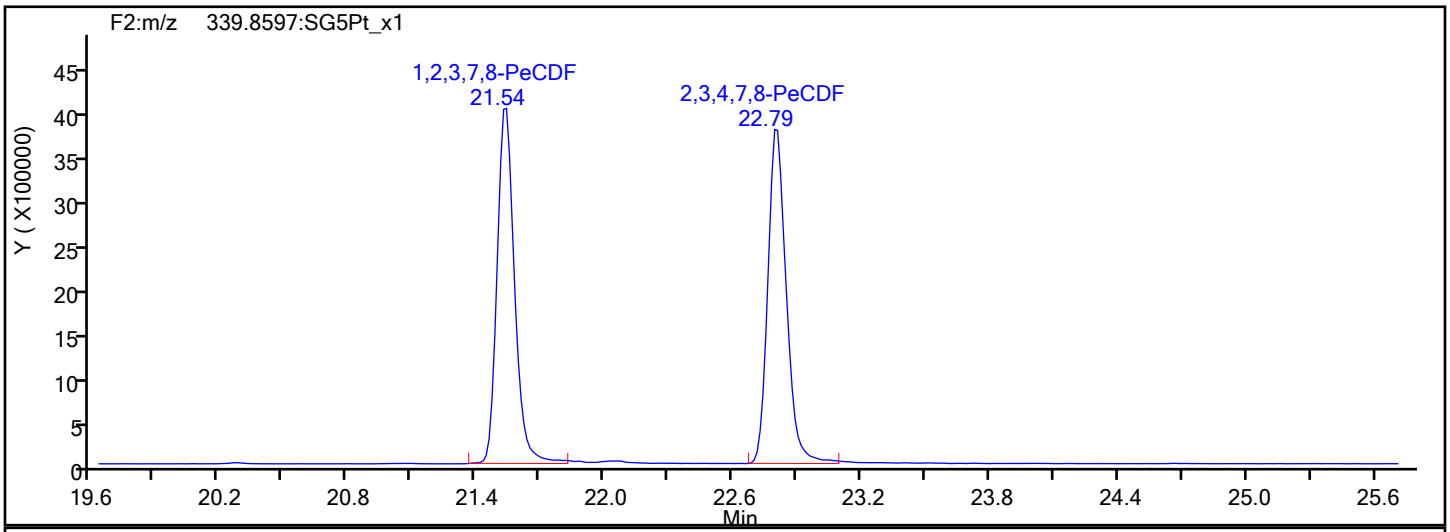

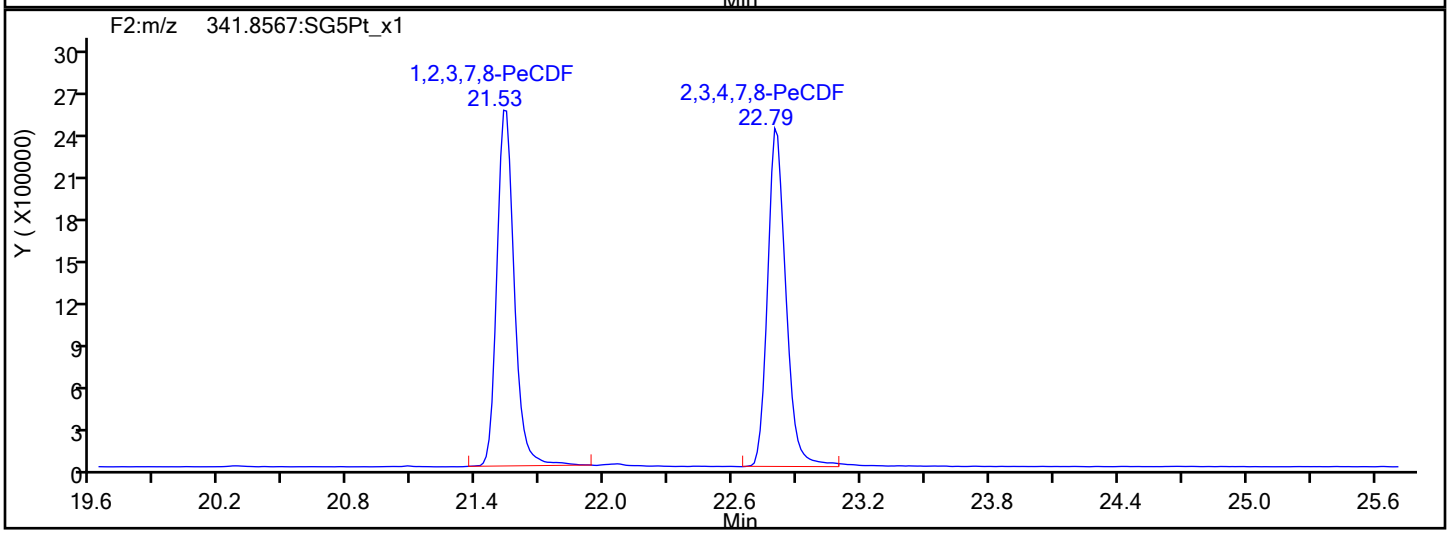

PeCDF Interference Mass

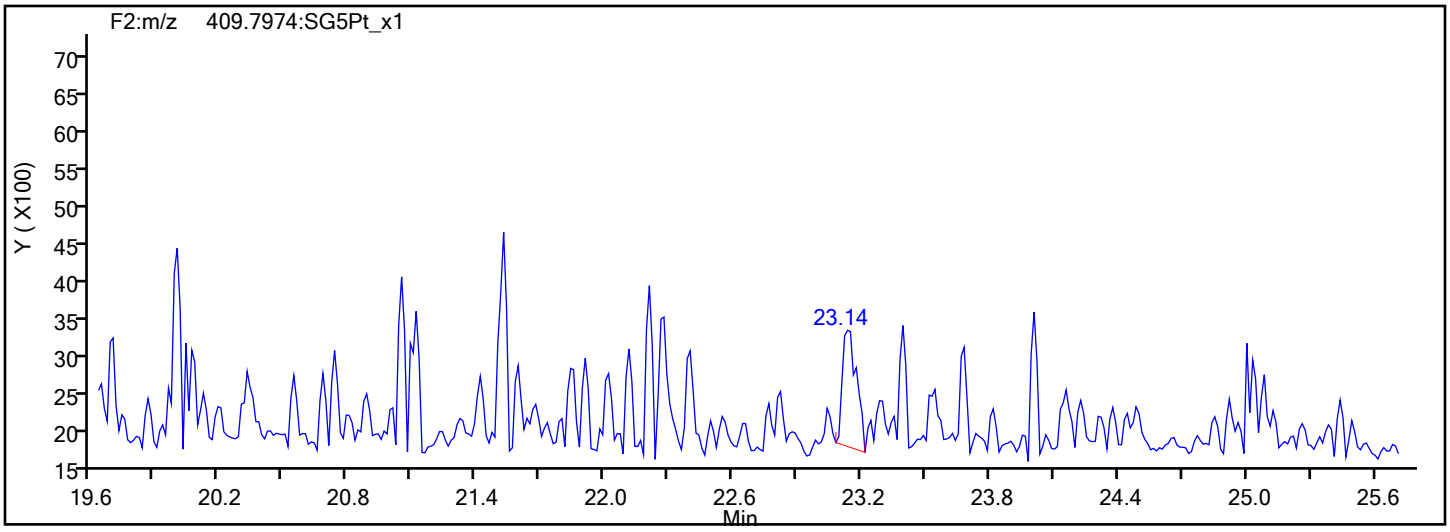

Report Date: 08-Nov-2019 08:44:10 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_5.d		
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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

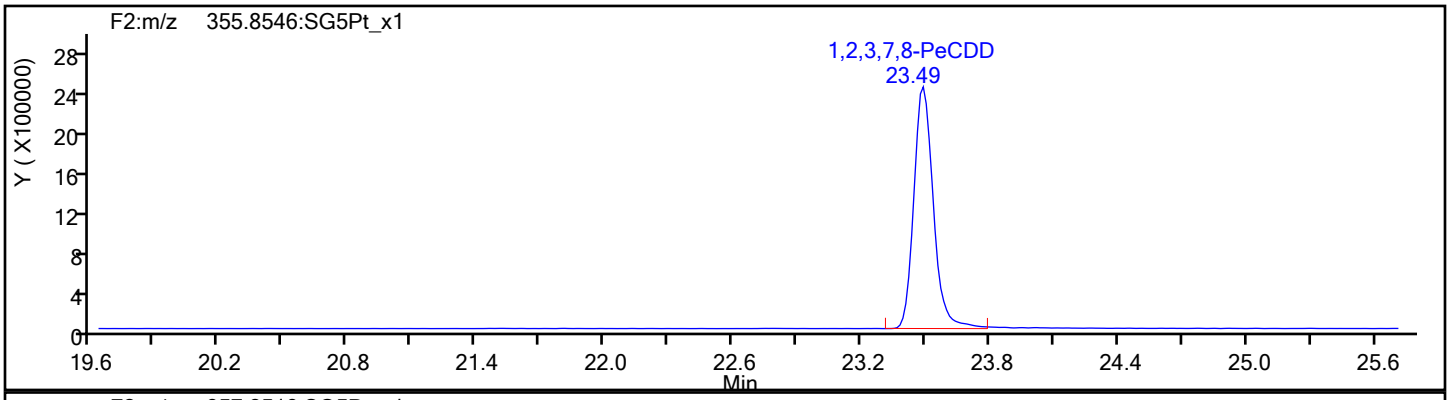

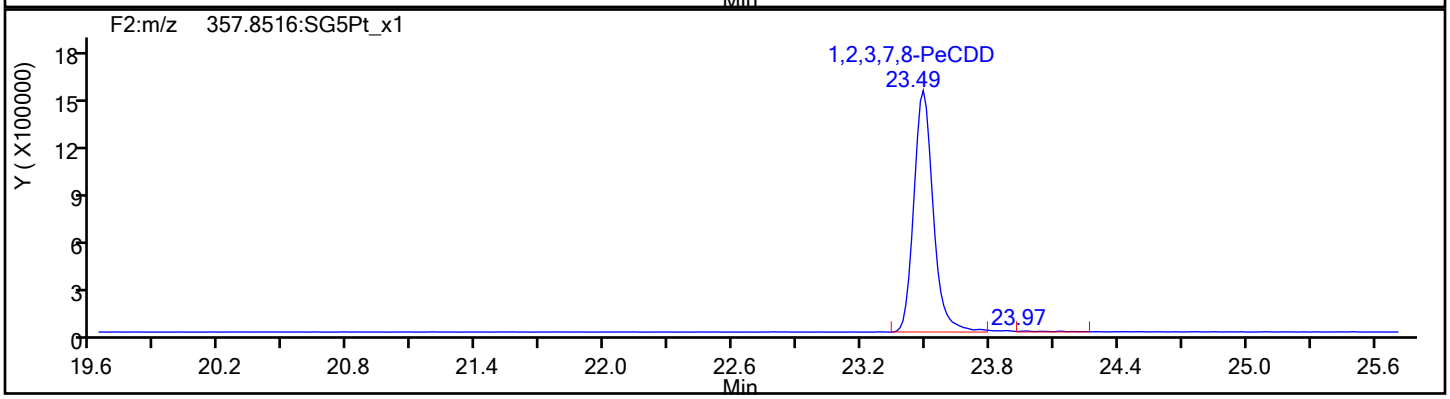

PeCDD Standards

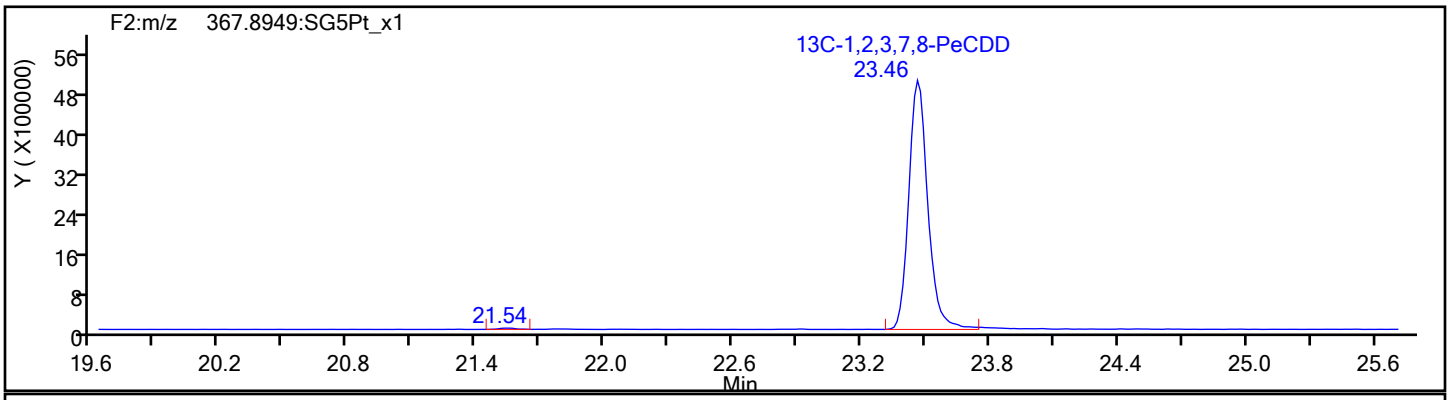

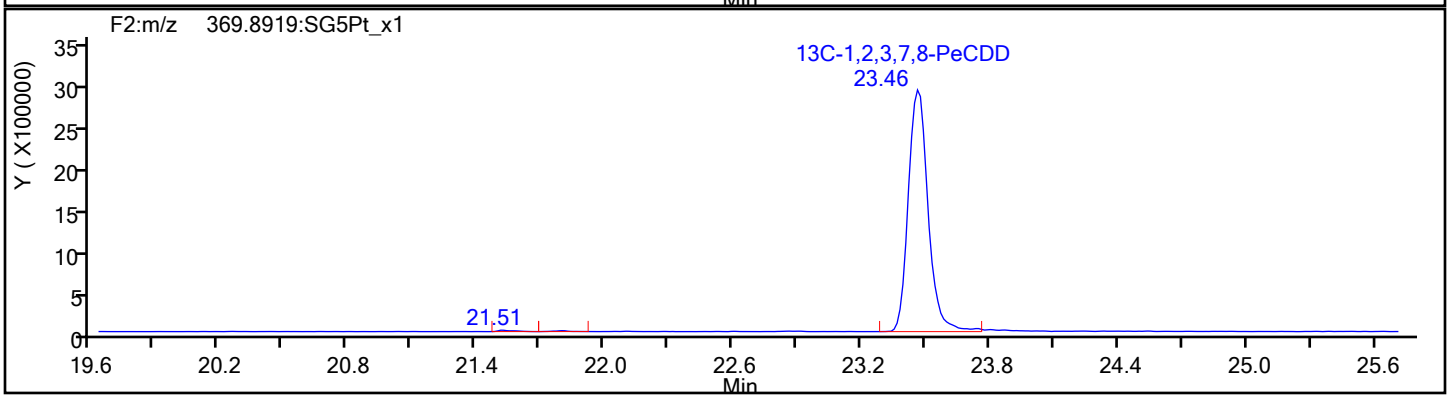

Report Date: 08-Nov-2019 08:44:10 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_5.d		
Injection Date:	05-Nov-2019 22:36:27	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

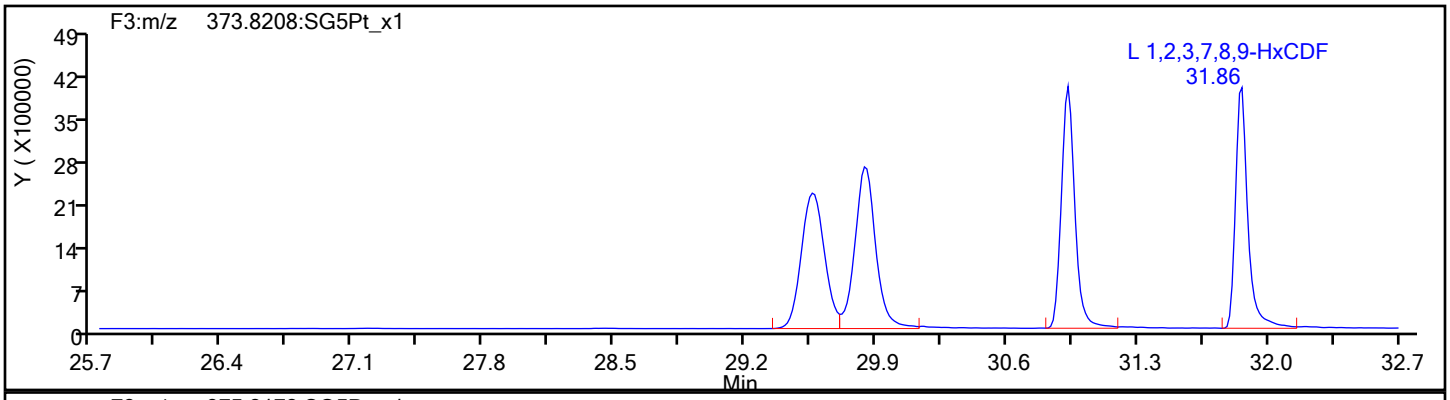

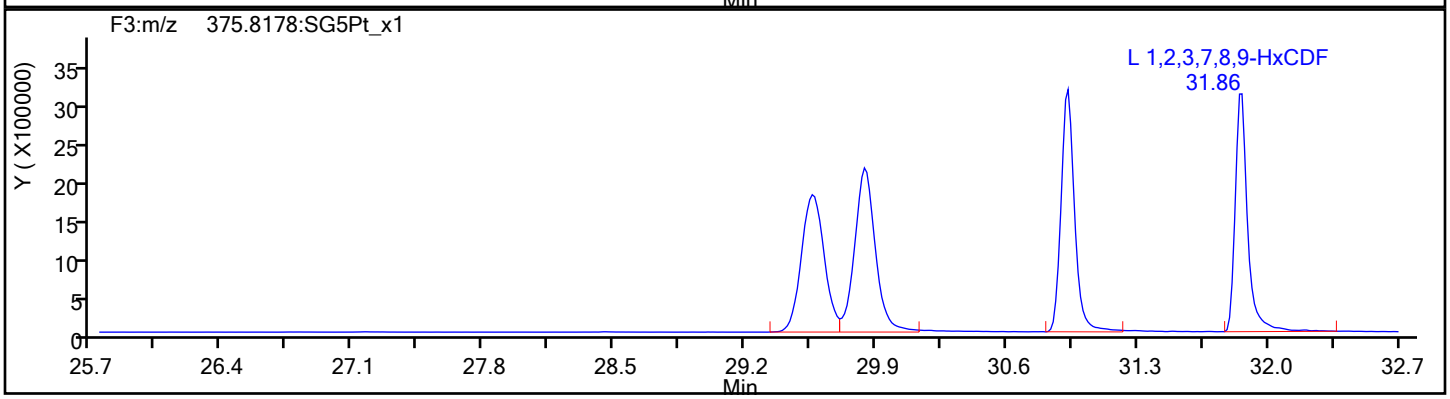

HxCDF Standards

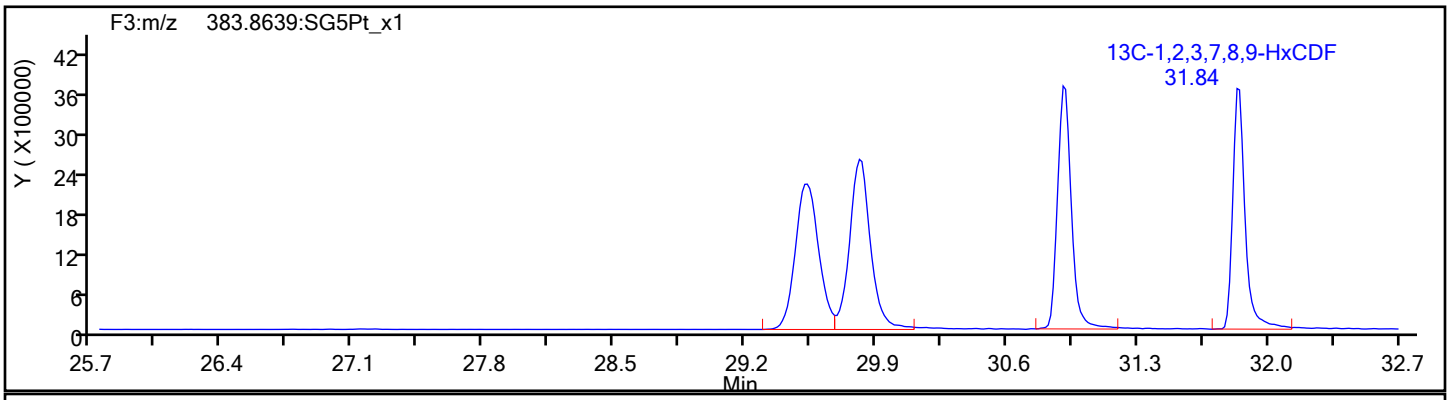

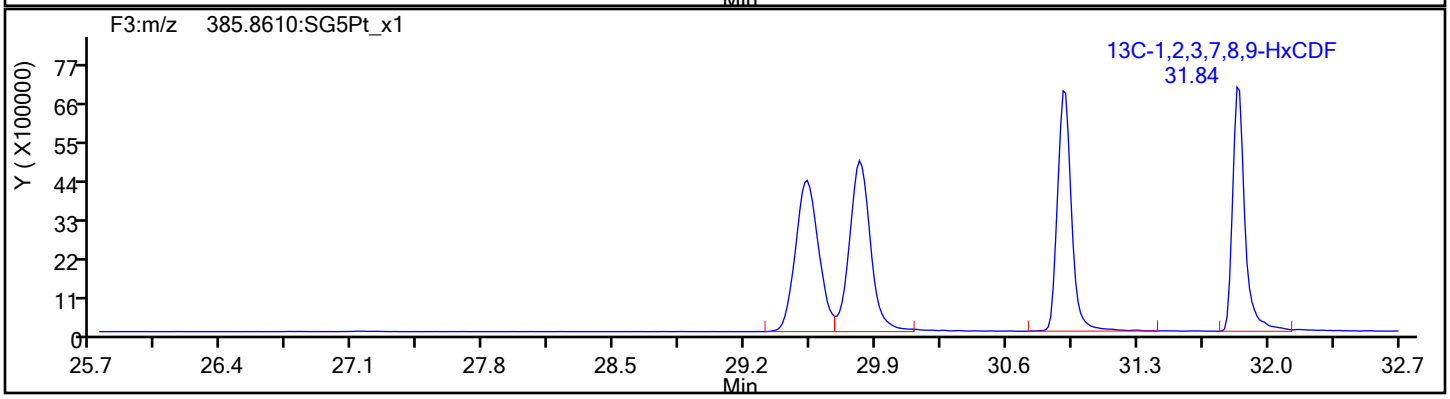

Report Date: 08-Nov-2019 08:44:10 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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HxCDF

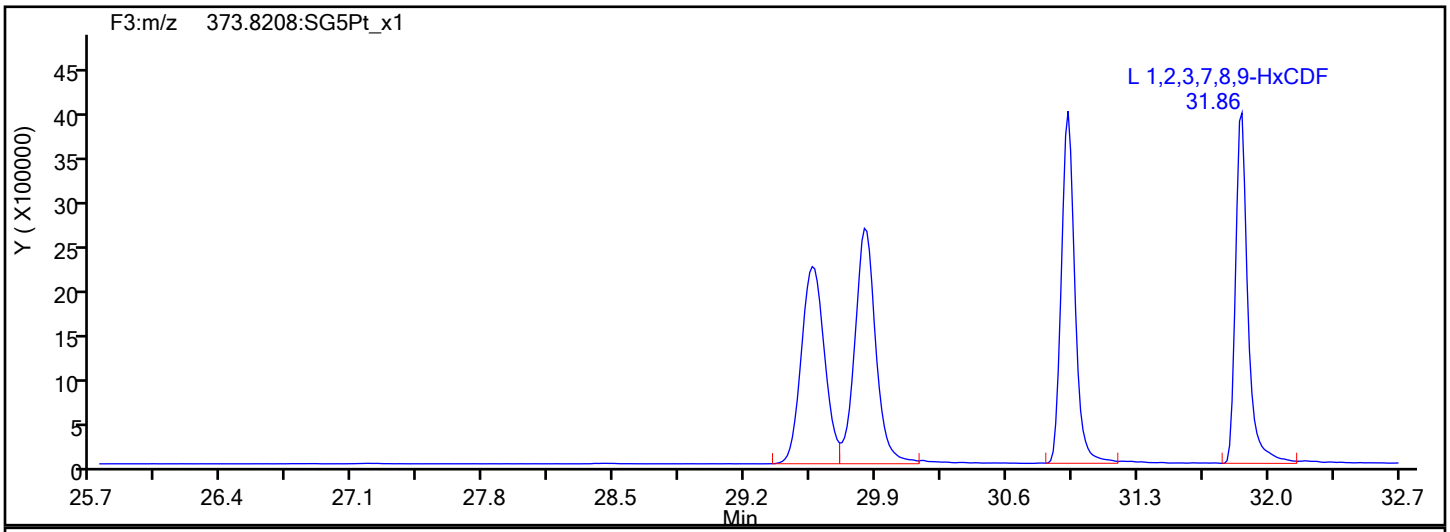

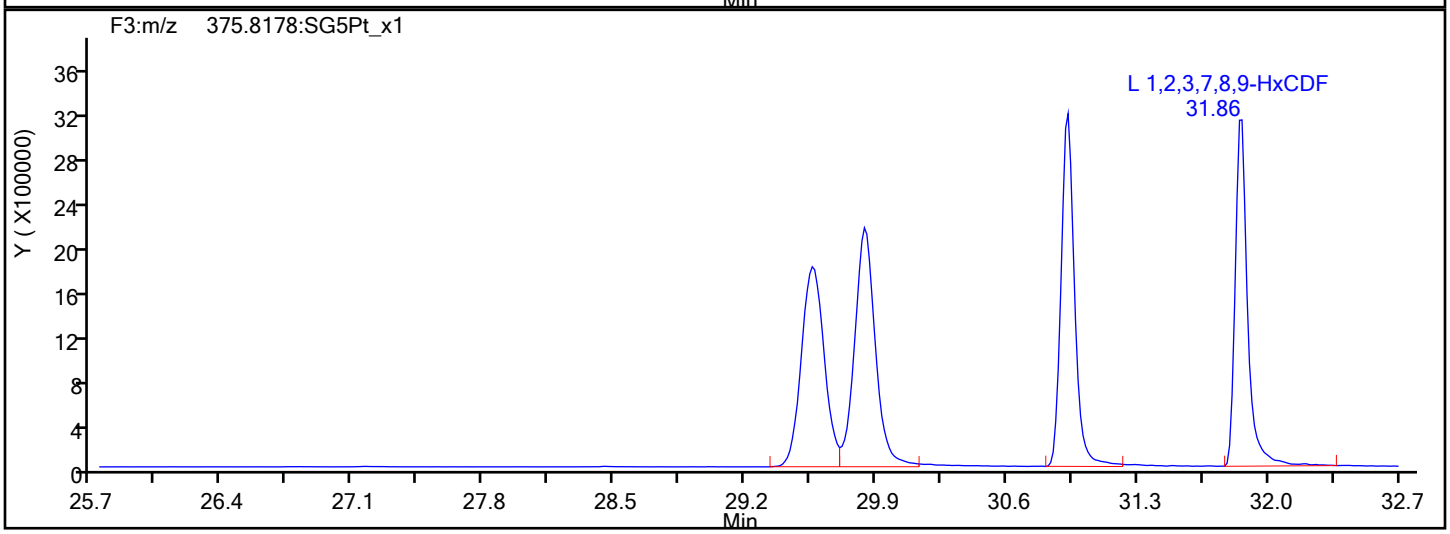

HxCDF Interference Mass

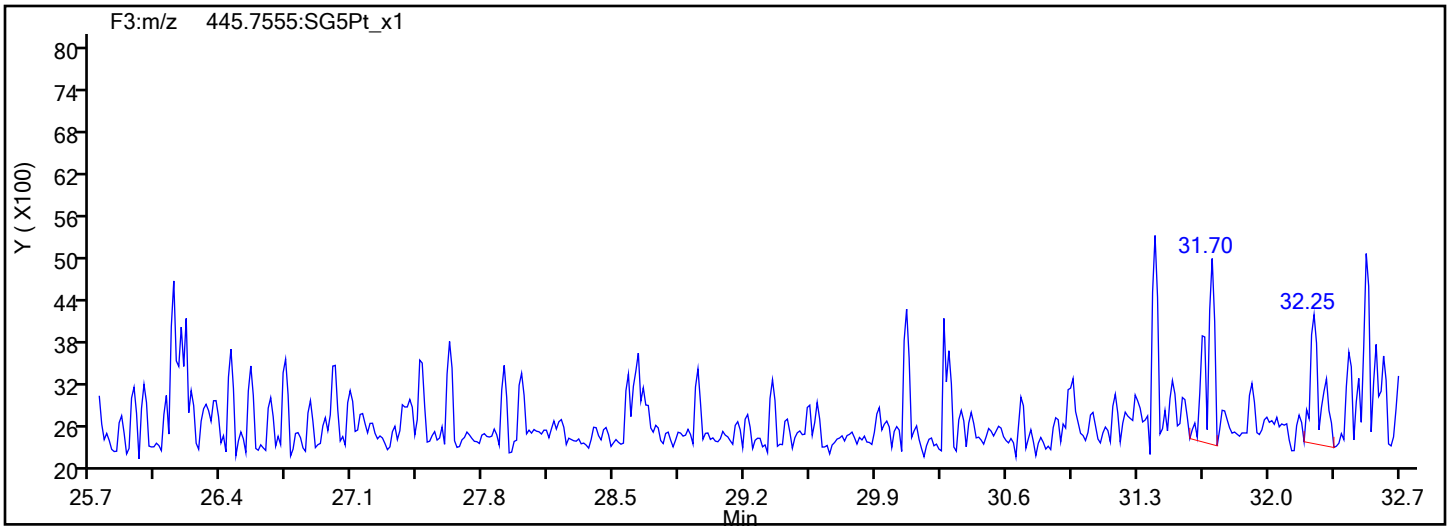

Report Date: 08-Nov-2019 08:44:10 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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HxCDD

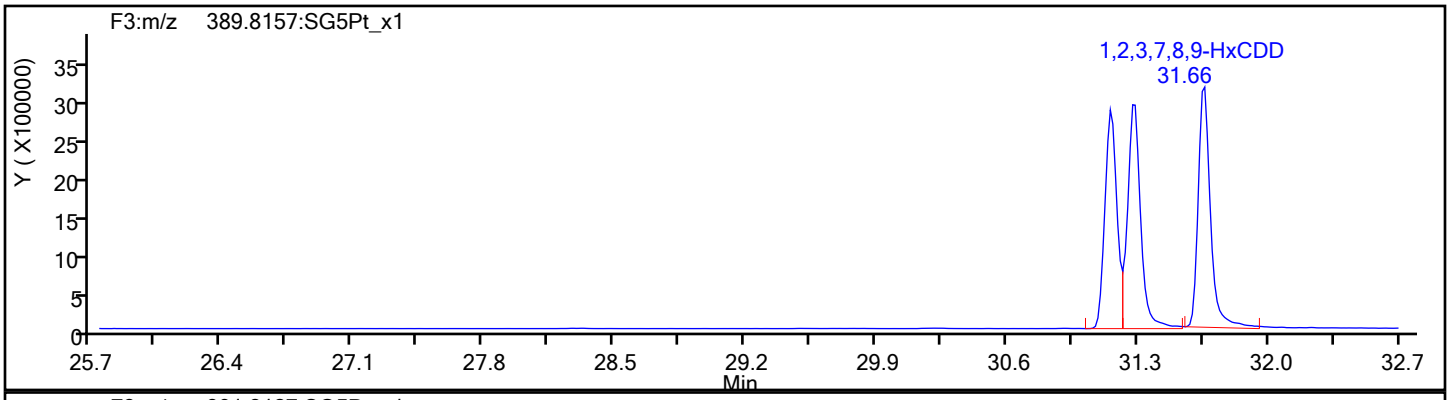

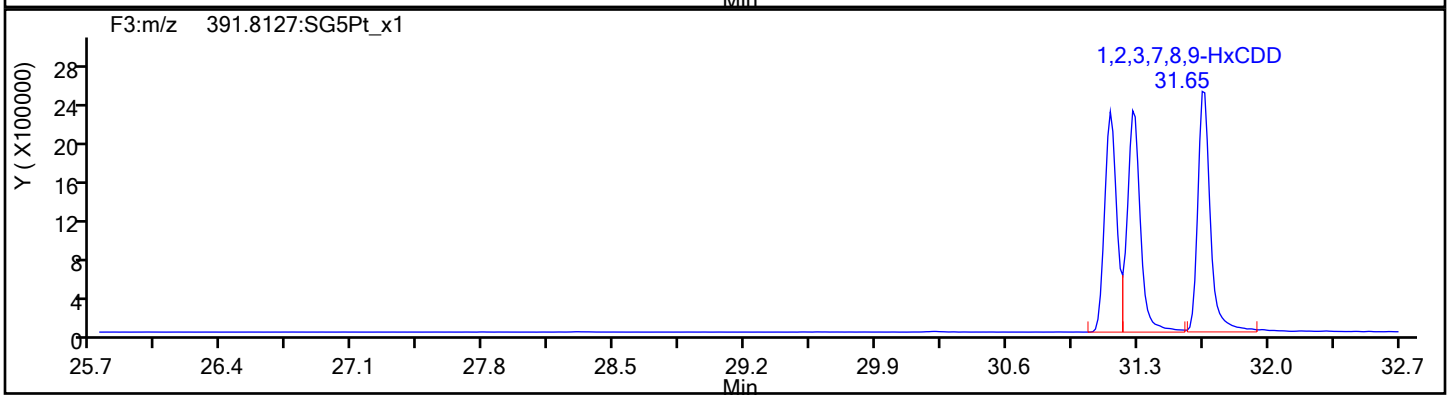

HxCDD Standards

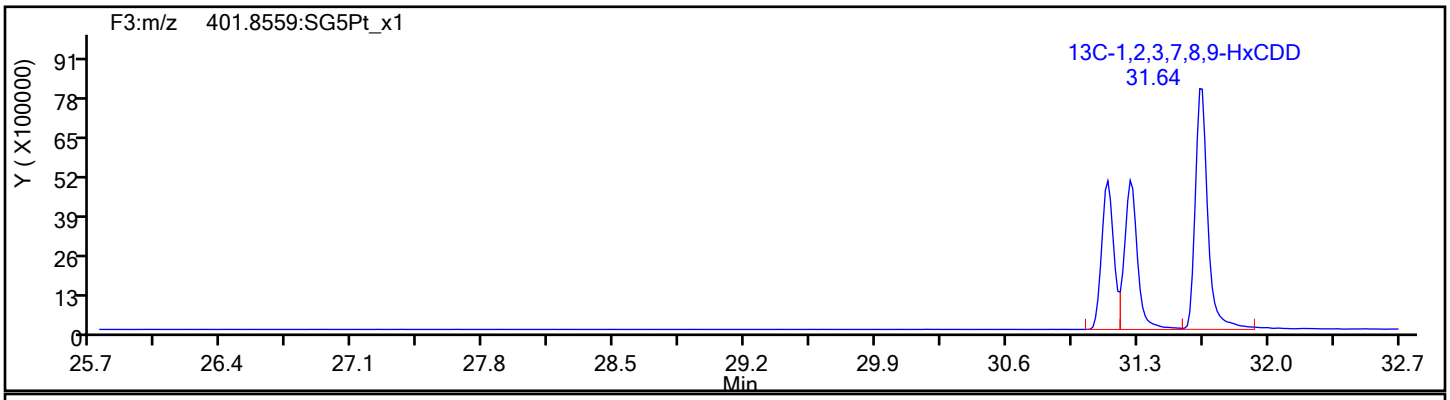

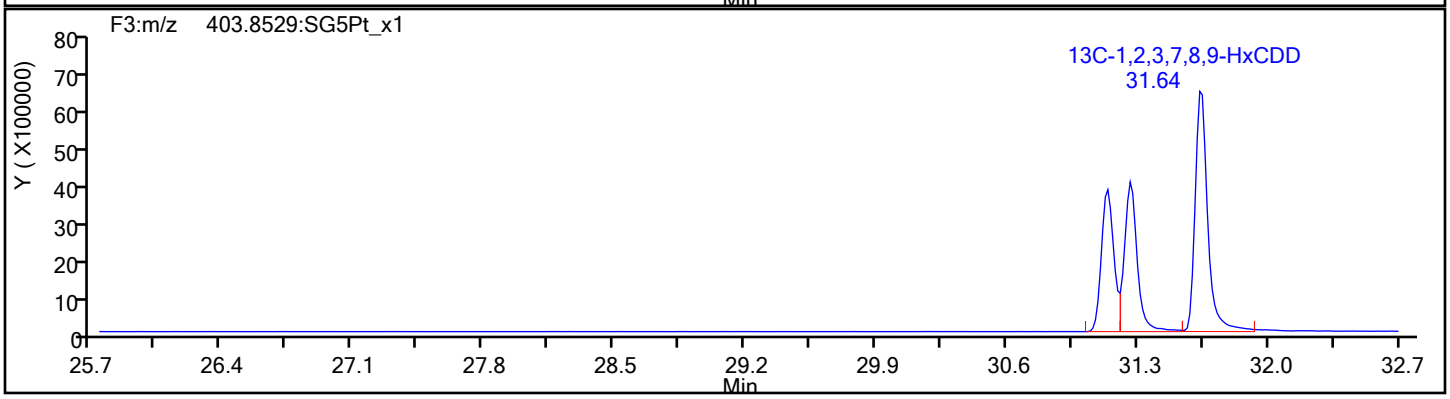

Report Date: 08-Nov-2019 08:44:10 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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HpCDF

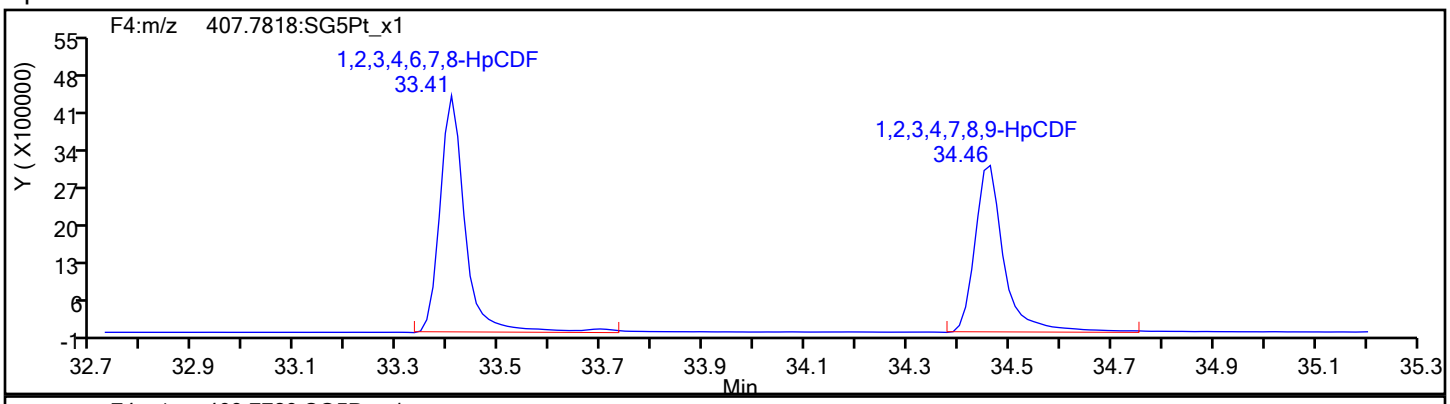

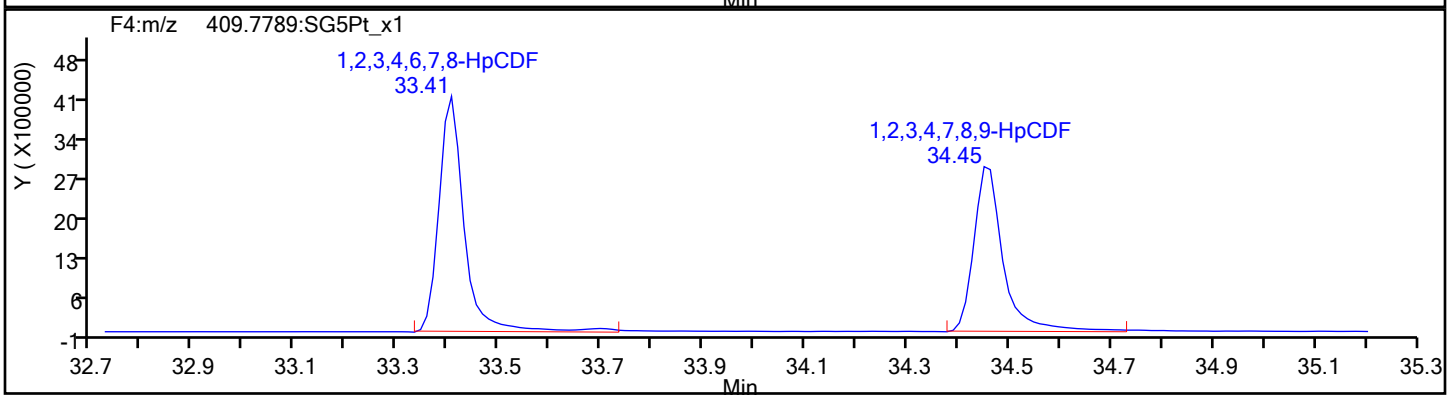

HpCDF Standards

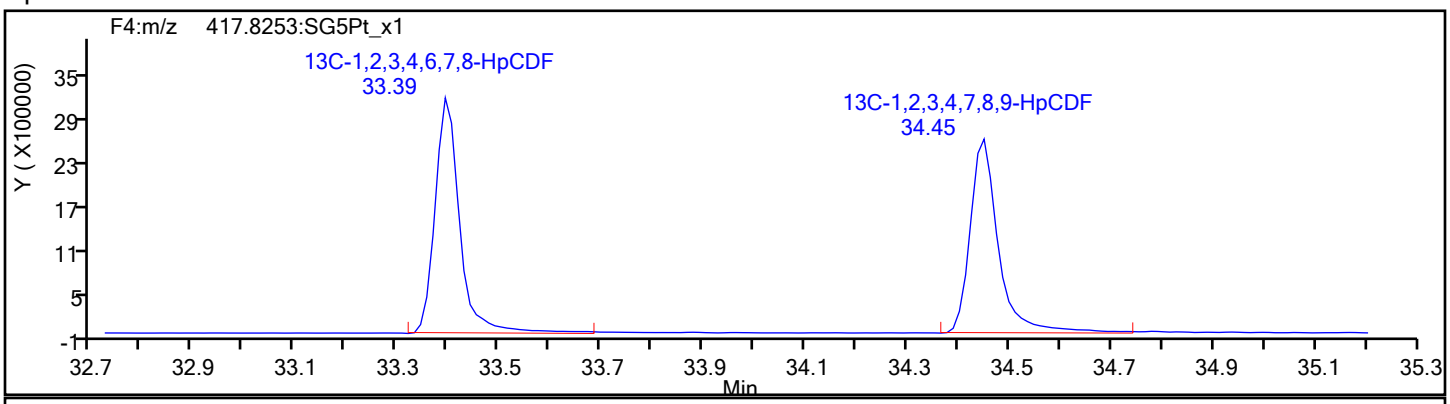

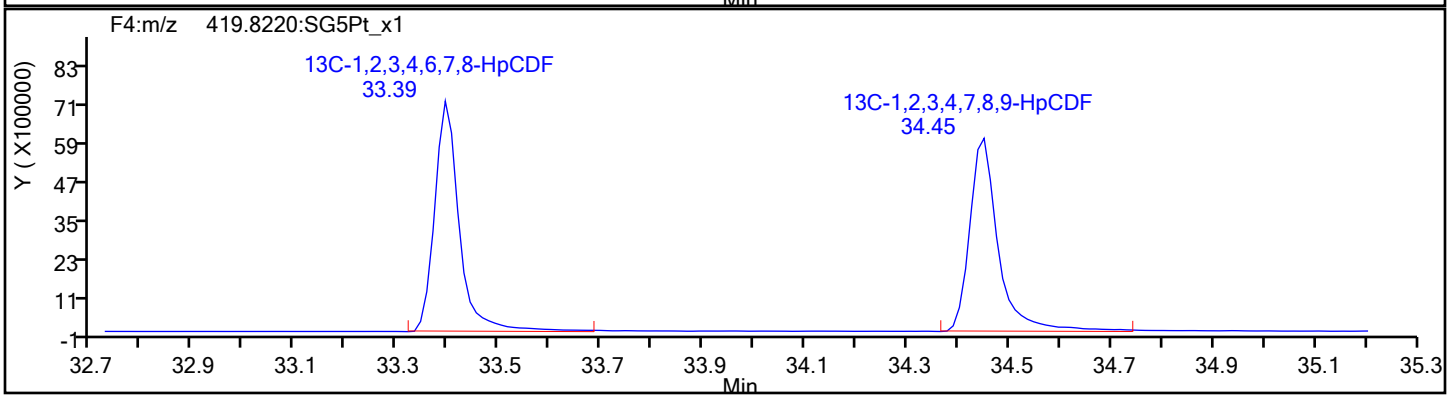

Report Date: 08-Nov-2019 08:44:10 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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HpCDF

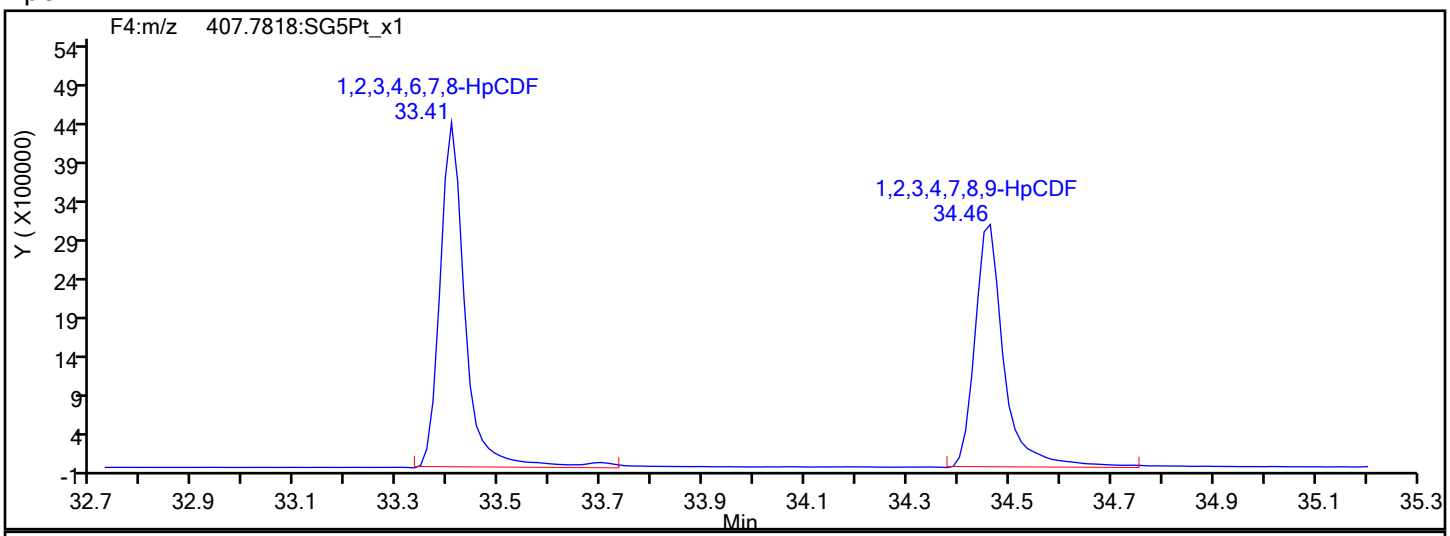

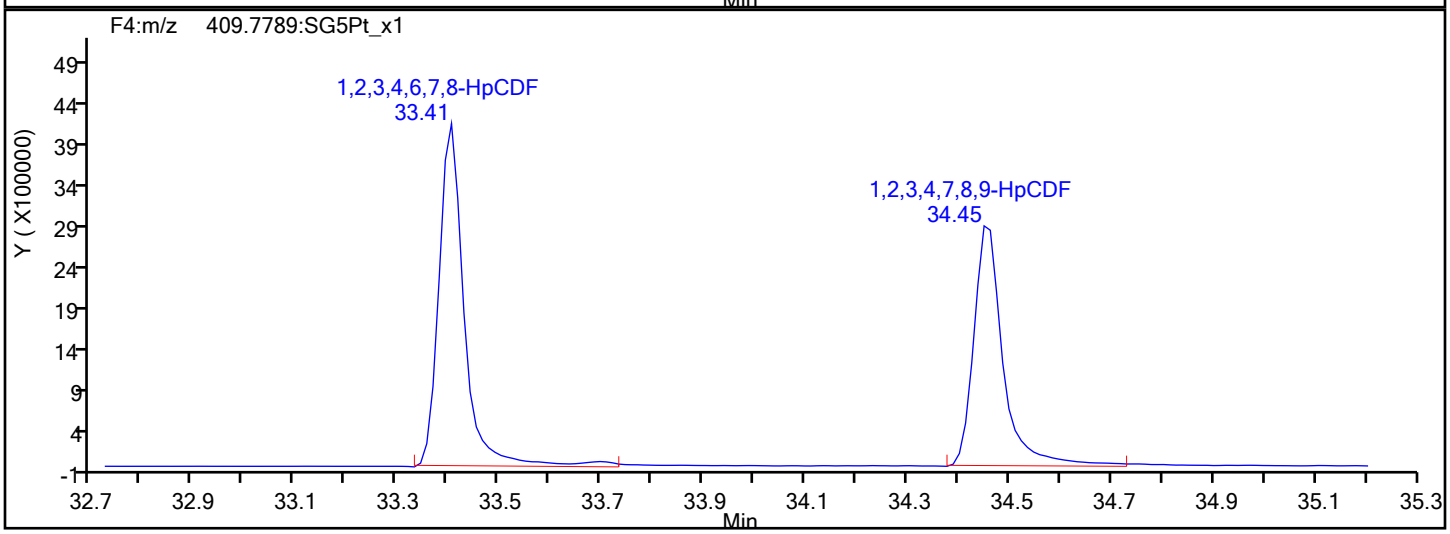

HpCDF Interference Mass

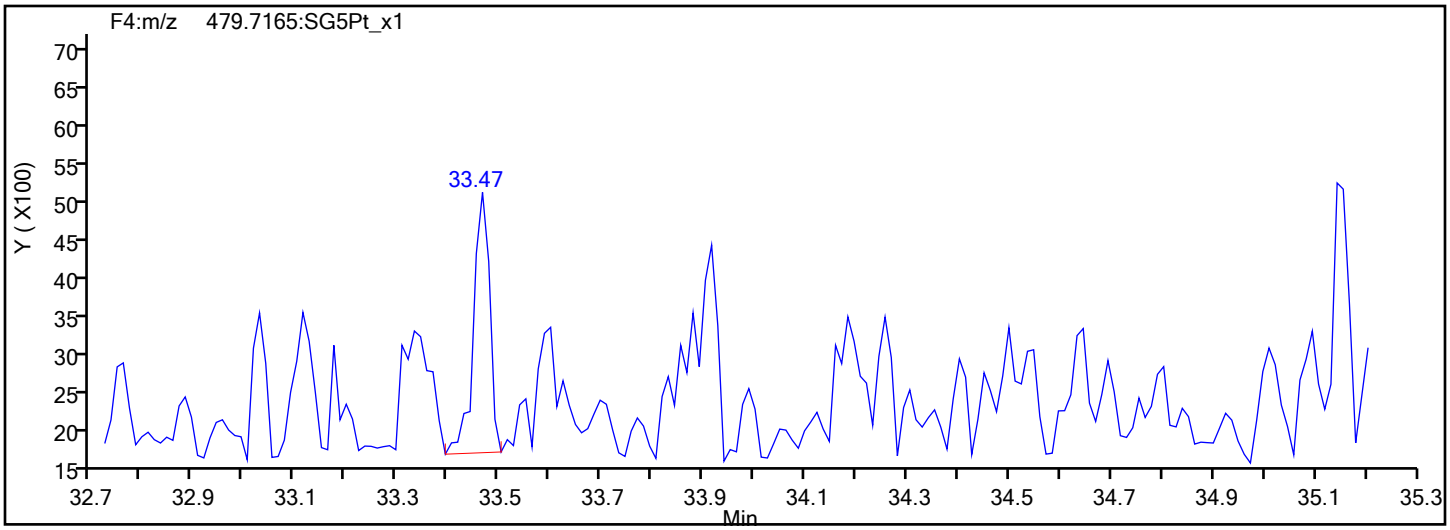

Report Date: 08-Nov-2019 08:44:10 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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HpCDD

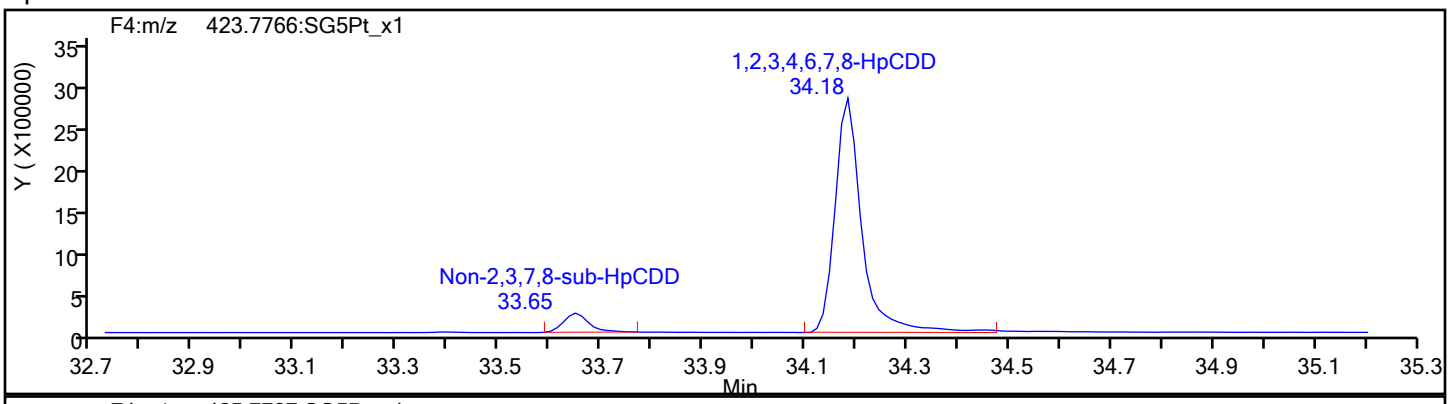

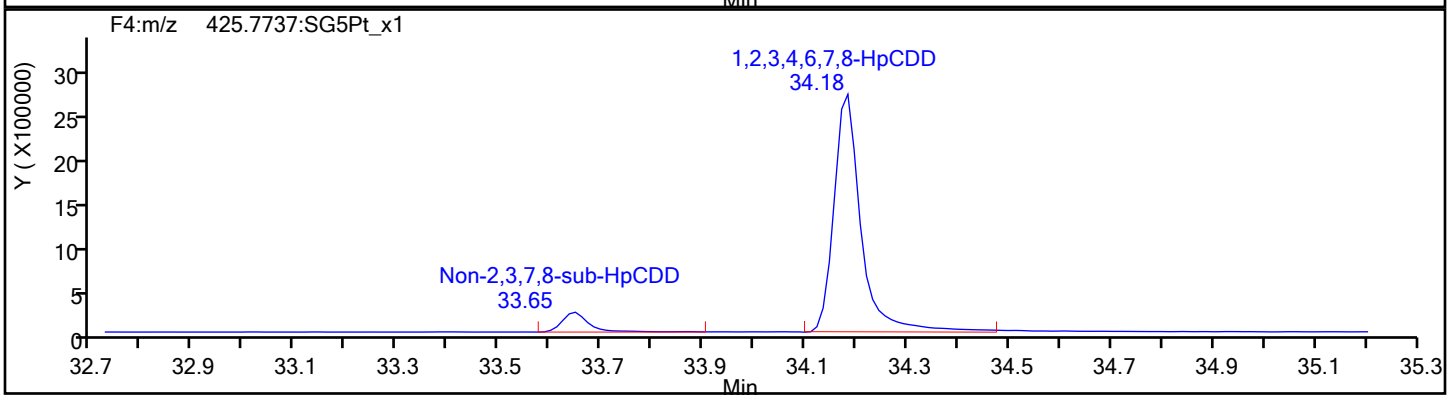

HpCDD Standards

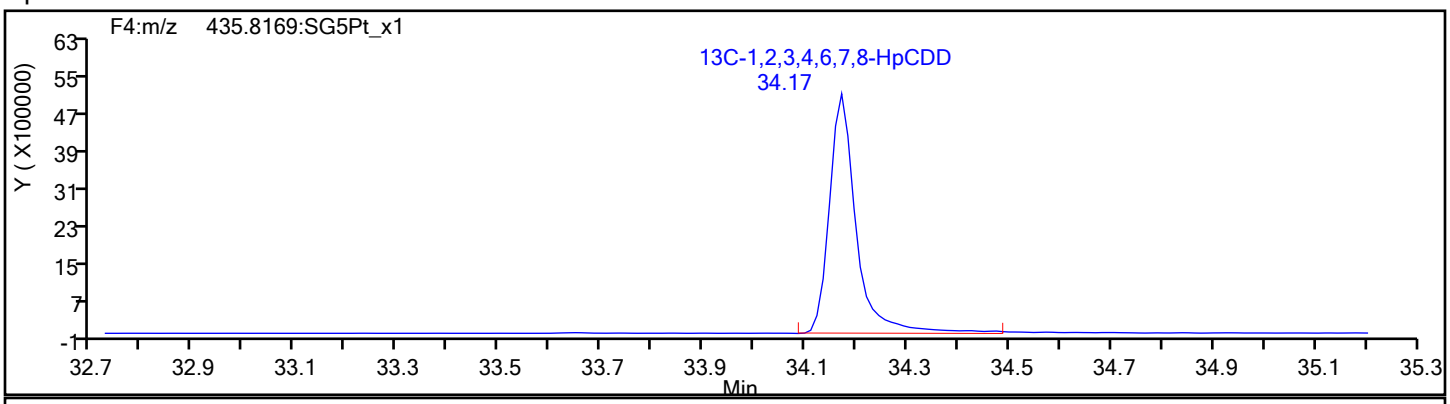

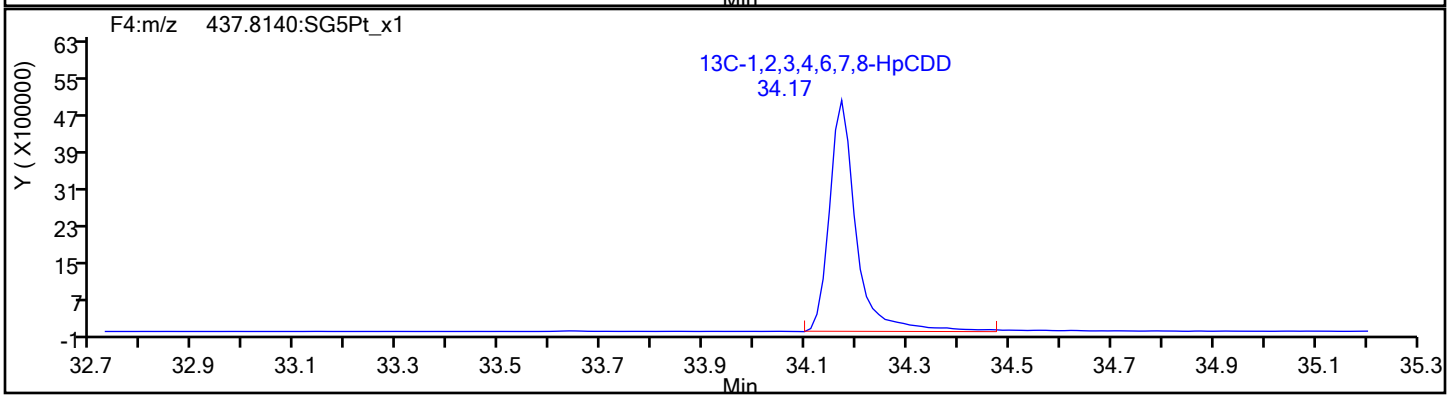

Report Date: 08-Nov-2019 08:44:10 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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OCDF

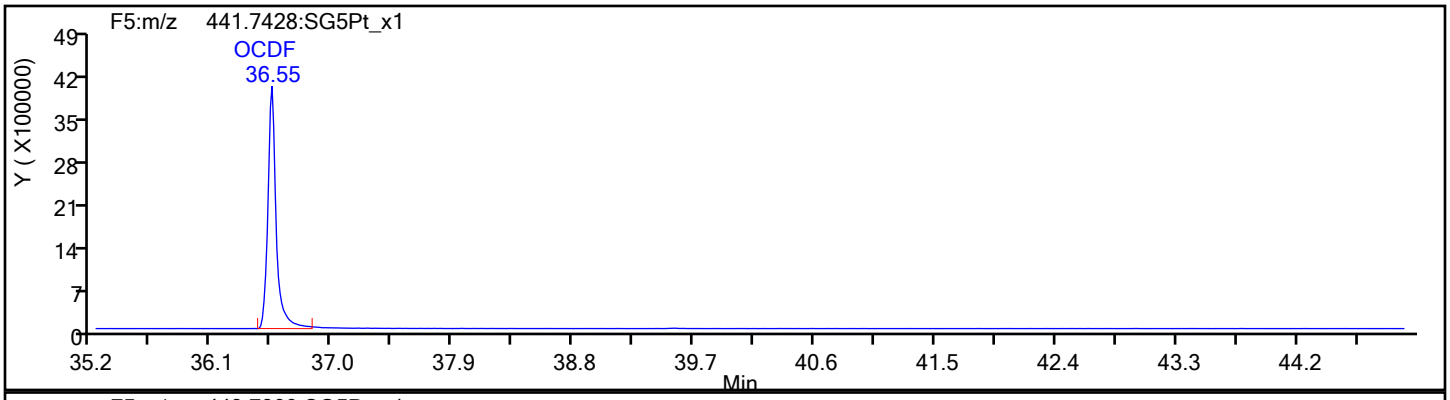

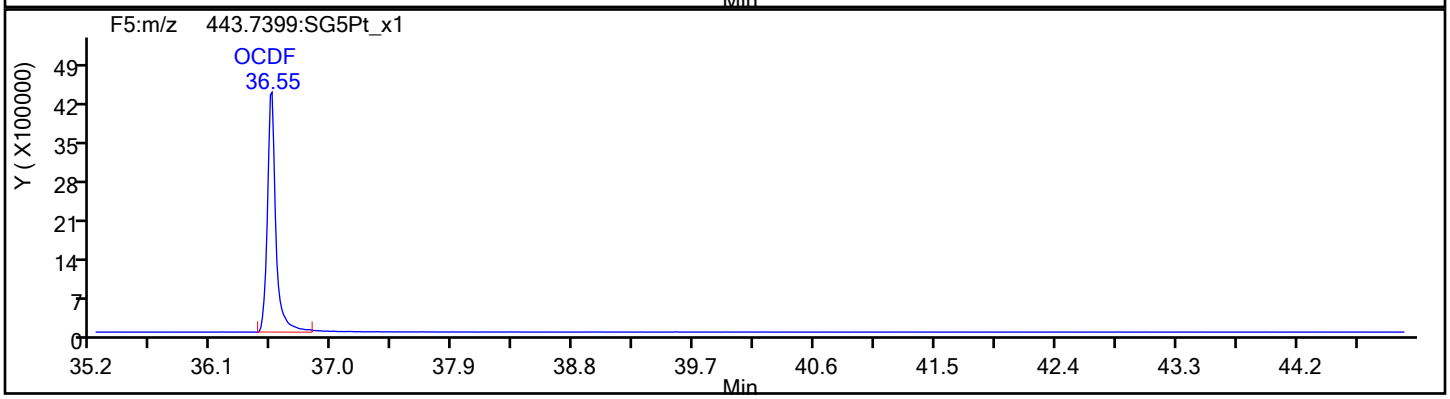

OCDF Standards

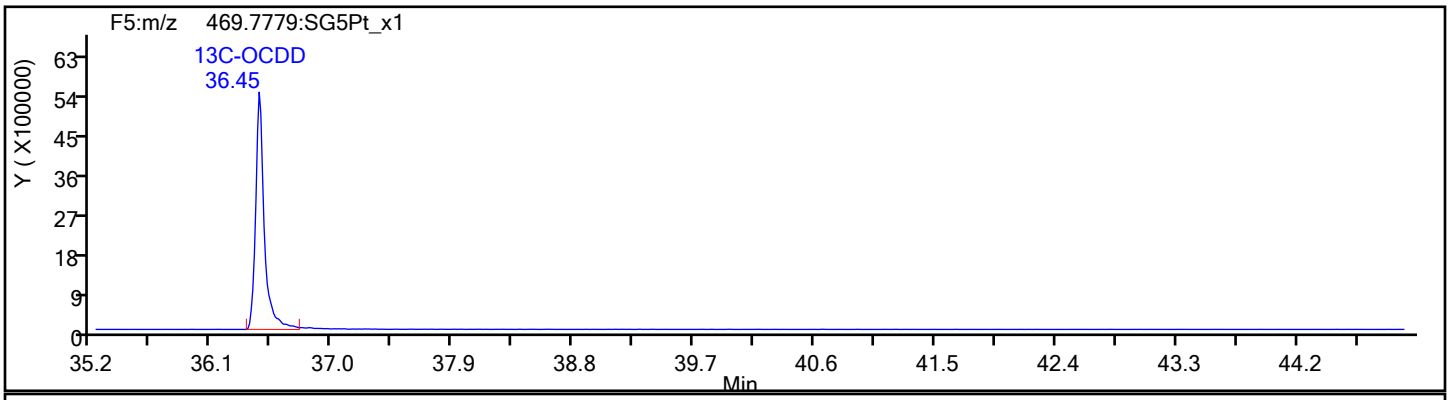

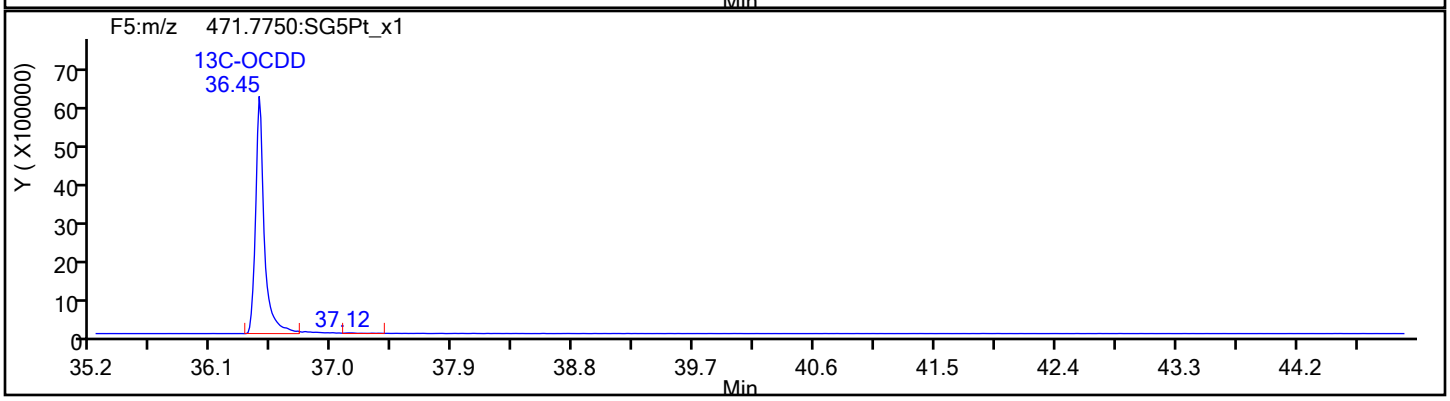

Report Date: 08-Nov-2019 08:44:10 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_5.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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OCDF

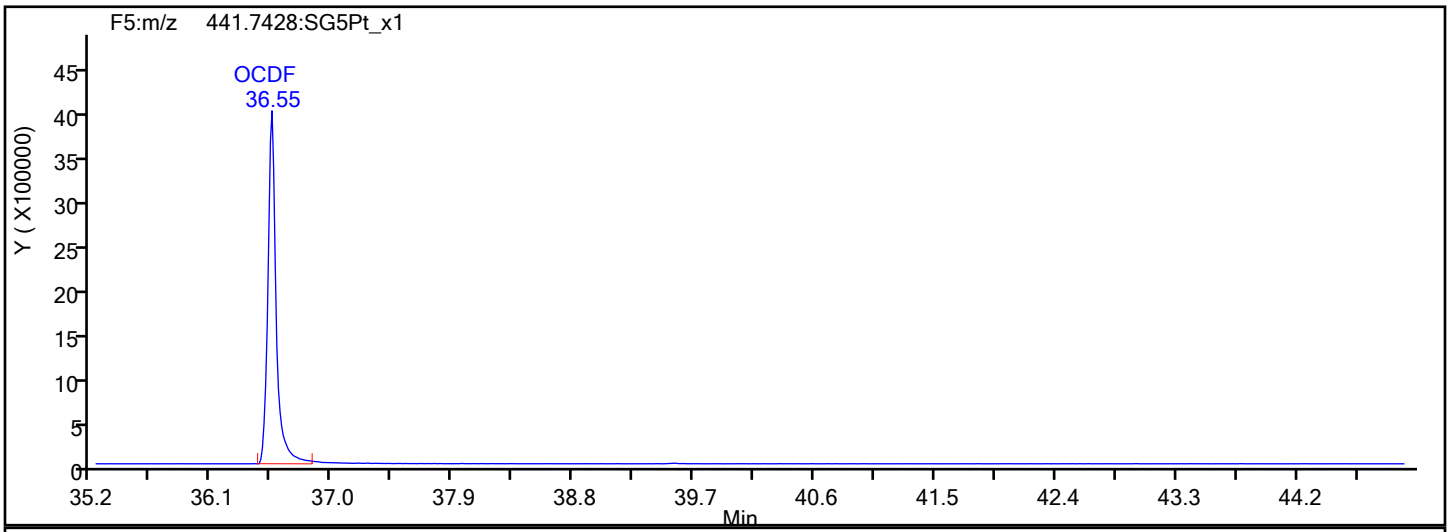

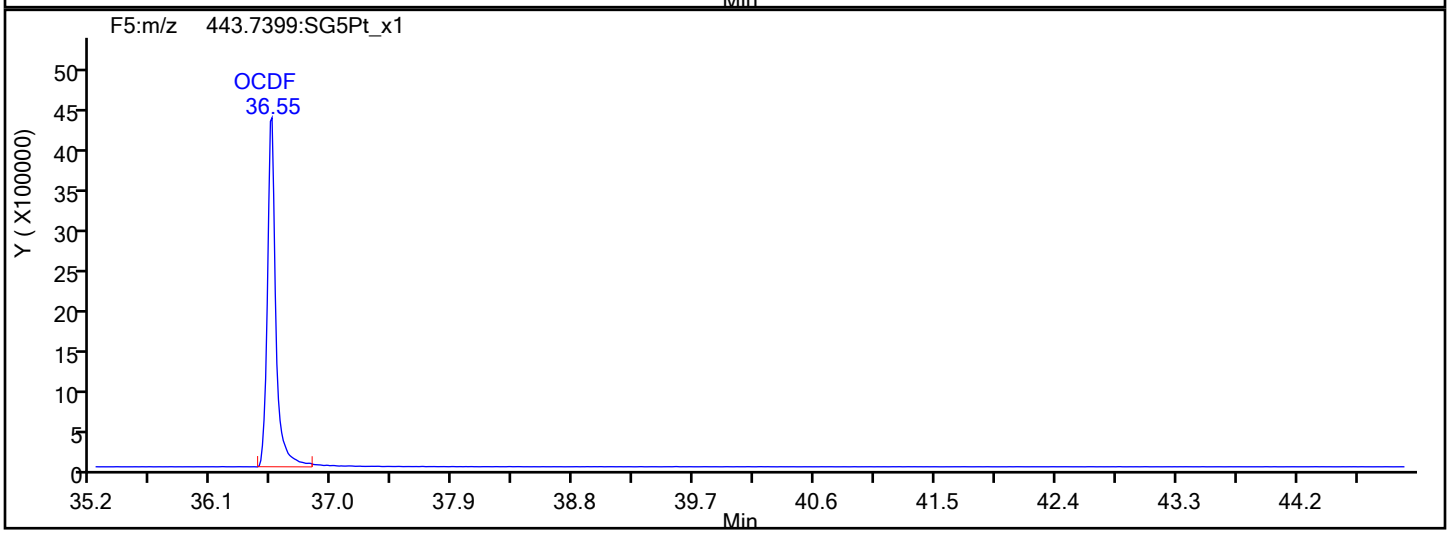

OCDF Interference Mass

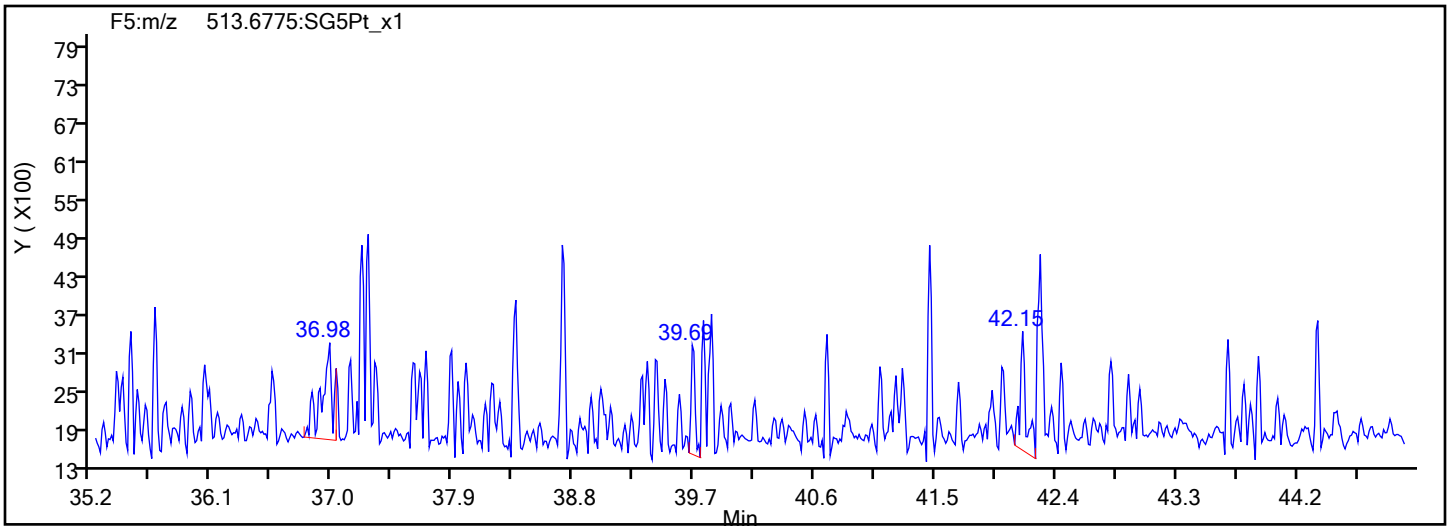

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Eurofins TestAmerica, Sacramento

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Client ID:			
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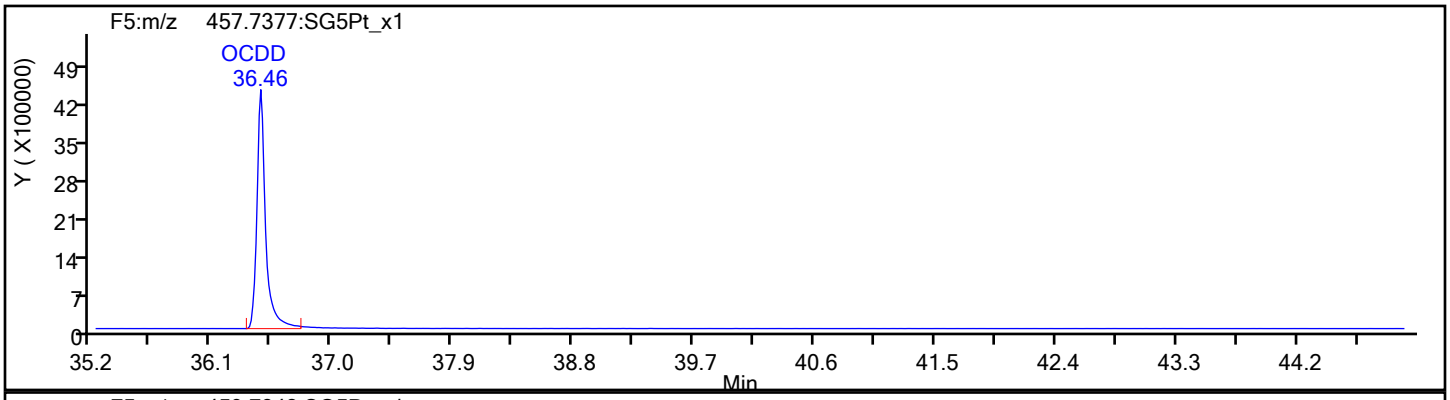

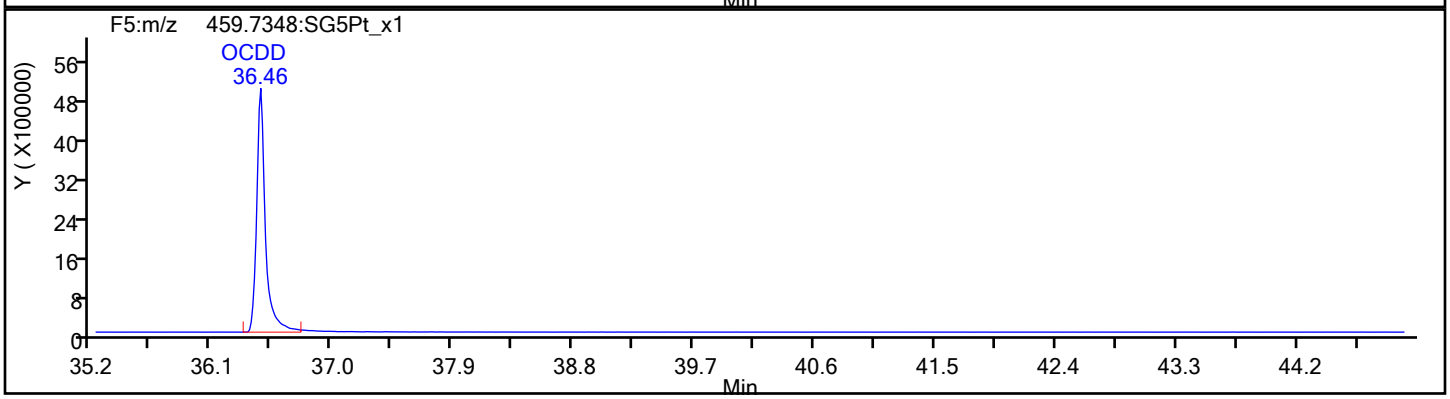

OCDD Standards

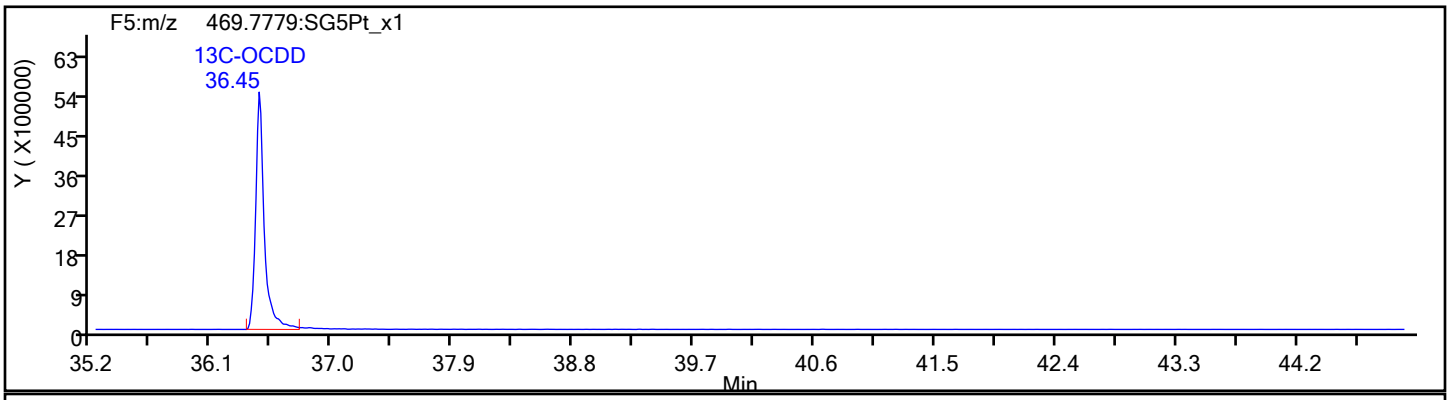

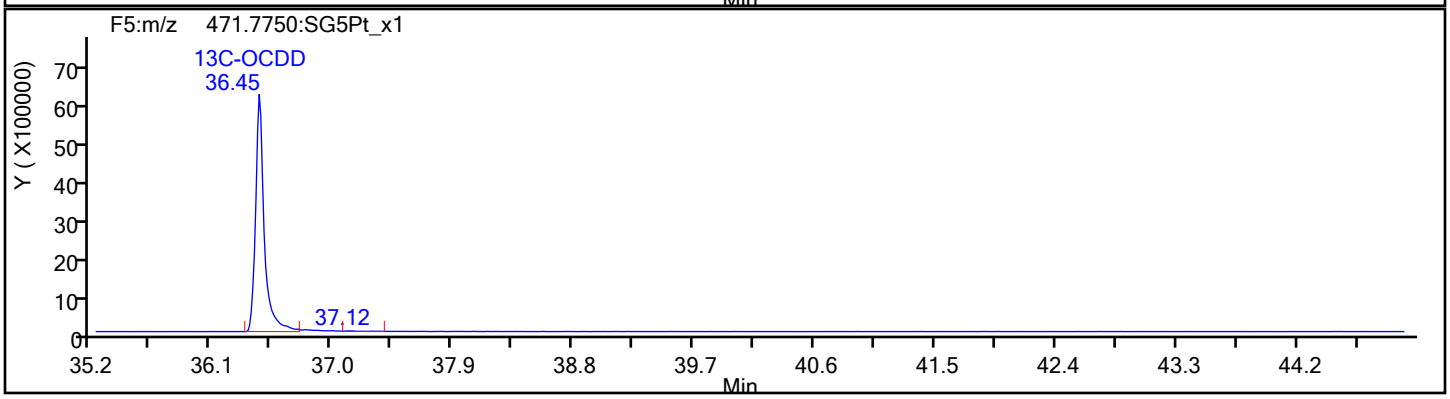

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Worklist#:	336302	Sample Line#:	5
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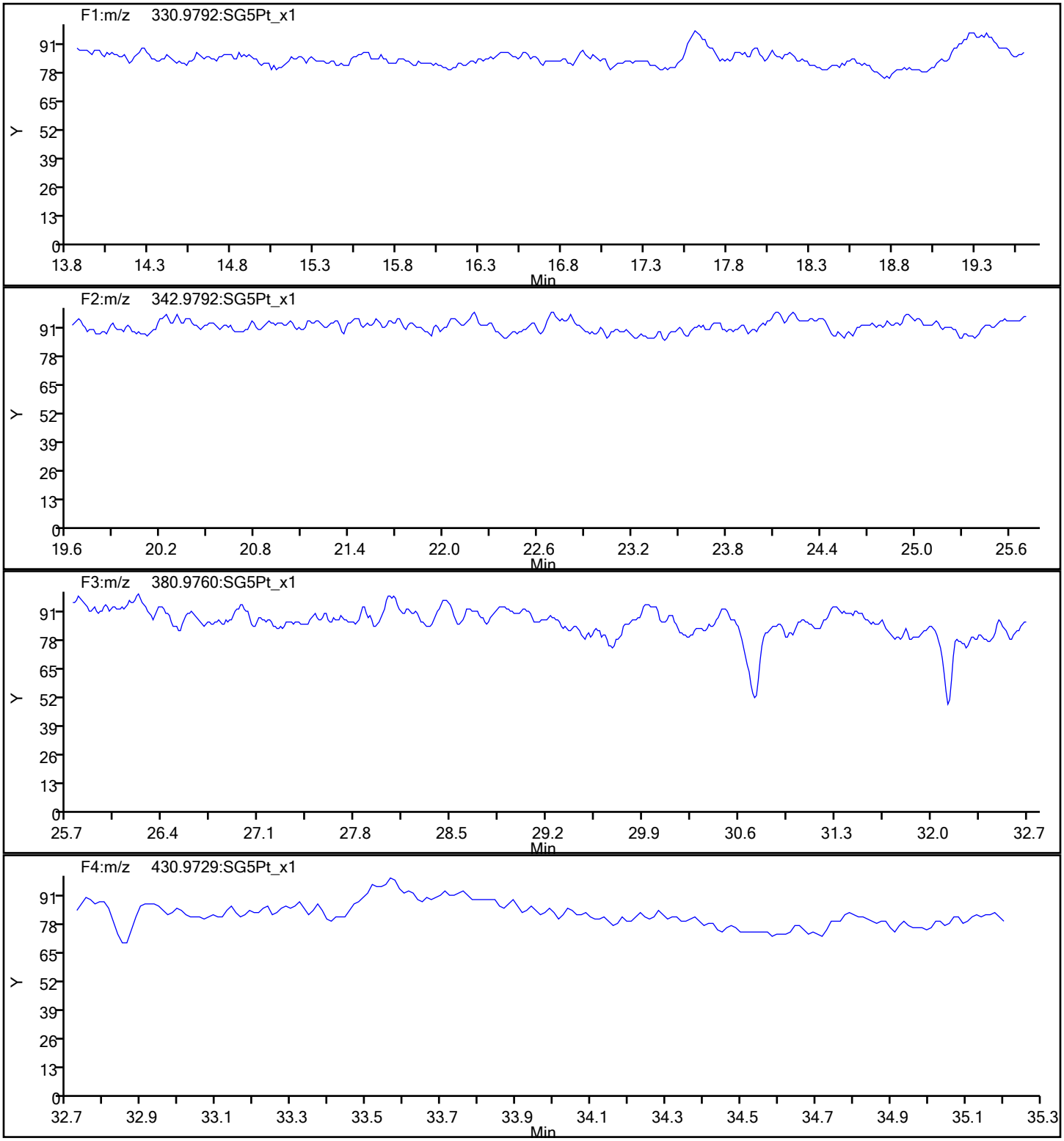

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Eurofins TestAmerica, Sacramento

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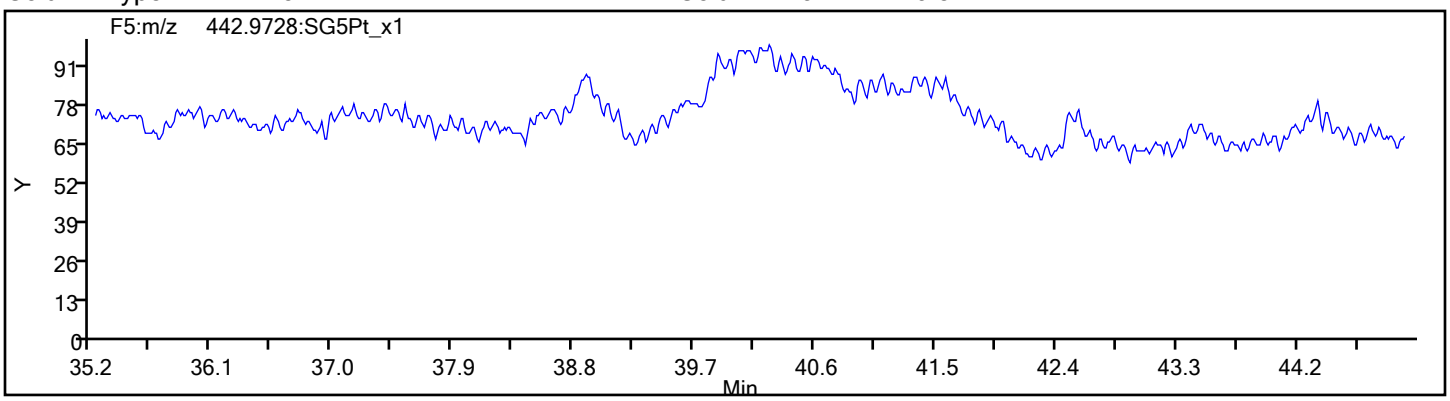

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Client Sample ID: INF 4 - DISSOLVED MS Lab Sample ID: 600-194690-11 MS

Matrix: Water Lab File ID: 05NO19B10D5_12.d

Analysis Method: 1613B Date Collected: 10/26/2019 22:10

Extract. Method: 1613B Date Extracted: 11/01/2019 08:11

Sample wt/vol: 1019.2(mL) Date Analyzed: 11/06/2019 03:58

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 336302 Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
40321-76-4	1,2,3,7,8-PeCDD	1570		49	12
57117-41-6	1,2,3,7,8-PeCDF	6500		49	46
57117-31-4	2,3,4,7,8-PeCDF	4120		49	41
39227-28-6	1,2,3,4,7,8-HxCDD	1110		49	5.9
57653-85-7	1,2,3,6,7,8-HxCDD	1090		49	6.5
19408-74-3	1,2,3,7,8,9-HxCDD	1010		49	5.6
70648-26-9	1,2,3,4,7,8-HxCDF	8830		49	47
57117-44-9	1,2,3,6,7,8-HxCDF	2830		49	43
72918-21-9	1,2,3,7,8,9-HxCDF	1170		49	28
60851-34-5	2,3,4,6,7,8-HxCDF	1300		49	32
35822-46-9	1,2,3,4,6,7,8-HpCDD	2350		49	18
67562-39-4	1,2,3,4,6,7,8-HpCDF	2730		49	22
55673-89-7	1,2,3,4,7,8,9-HpCDF	1670		49	23
3268-87-9	OCDD	18000		98	15
39001-02-0	OCDF	2910		98	5.7
41903-57-5	Total TCDD	53900		160	160
30402-14-3	Total TCDF	299000		900	900
36088-22-9	Total PeCDD	1660		49	12
30402-15-4	Total PeCDF	15700		49	44
34465-46-8	Total HxCDD	3590		49	6.0
55684-94-1	Total HxCDF	15500		49	37
37871-00-4	Total HpCDD	4200		49	18
38998-75-3	Total HpCDF	5240		49	23

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Client Sample ID: INF 4 - DISSOLVED MS Lab Sample ID: 600-194690-11 MS

Matrix: Water Lab File ID: 05NO19B10D5_12.d

Analysis Method: 1613B Date Collected: 10/26/2019 22:10

Extract. Method: 1613B Date Extracted: 11/01/2019 08:11

Sample wt/vol: 1019.2(mL) Date Analyzed: 11/06/2019 03:58

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 336302 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	24	*	25-164
89059-46-1	13C-2,3,7,8-TCDF	27		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	29		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	28		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	31		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	21	*	32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	19	*	28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	22	*	26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	19	*	26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	21	*	29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	19	*	28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	15	*	23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	13	*	28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	17	*	26-138
114423-97-1	13C-OCDD	13	*	17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	92		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_12.d
Lims ID: 600-194690-A-11-B MS
Client ID: INF 4 - DISSOLVED
Sample Type: MS
Inject. Date: 06-Nov-2019 03:58:18 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 600-194690-A-11-B MS 600-194690-A-11-B MS
Misc. Info.: 05NO19B10D5
Operator ID: ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 08-Nov-2019 09:27:21 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0328

First Level Reviewer: arghestanis Date: 07-Nov-2019 13:32:22

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.351	72926962	0.78	9.6E+05	100.0	100.0				a
D 13C-2,3,7,8-TCDF	16.852	28532994	0.82	1.4384	27.2	27.2	0.5273	0.5273	27.20	
2,3,7,8-TCDF	16.867	2520558264	0.77	1.0507	8407.3	8407.3	45.8	45.8	84073	Ea
A Non-2,3,7,8-sub-TCDF	16.459	2054201282	0.78	1.0507	6851.8	6851.8	45.8	4727.7	0.00	a
S Total TCDF					15259	15259	45.8	45.8		
D 13C-2,3,7,8-TCDD	17.548	16398712	0.81	0.9533	23.6	23.6	0.5727	0.5727	23.59	a
2,3,7,8-TCDD	17.563	442543942	0.80	1.1064	2439.1	2439.1	8.192	8.192	24391	Ea
$ 37Cl4-2,3,7,8-TCDD	17.563	32785566		1.2224	36.8	36.8	0.2538	0.2538	91.94	
A Non-2,3,7,8-sub-TCDD	16.890	55796149	0.77	1.1064	311.4	307.5	8.192	284.9	0.00	RQa
S Total TCDD					2750.5	2746.6	8.192	8.192		RQ
D 13C-1,2,3,7,8-PeCDF	21.649	20640789	1.60	1.0286	27.5	27.5	0.1563	0.1563	27.52	
1,2,3,7,8-PeCDF	21.677	74011947	1.59	1.0822	331.3	331.3	2.332	2.332	663	Ma
D 13C-2,3,4,7,8-PeCDF	22.890	22489072	1.57	0.9827	31.4	31.4	0.1636	0.1636	31.38	
2,3,4,7,8-PeCDF	22.917	52144705	1.59	1.1032	210.2	210.2	2.113	2.113	420	
A F1 PeCDFs	19.158	578928	1.50	1.0927	2.457	2.457	0.0936	2.457	0.00	M
A Non-2,3,7,8-sub-PeCDF	22.128	60802495	1.59	1.0927	258.0	258.0	2.218	105.5	0.00	Ma
S Total PeCDF					802.0	802.0	2.222	2.222		
D 13C-1,2,3,7,8-PeCDD	23.559	15838350	1.55	0.7481	29.0	29.0	0.1389	0.1389	29.03	
1,2,3,7,8-PeCDD	23.586	11489364	1.57	0.9050	80.2	80.2	0.5869	0.5869	160	
A Non-2,3,7,8-sub-PeCDD	22.406	646454	1.55	0.9050	9.087	4.510	0.5869	2.055	0.00	RQ
S Total PeCDD					89.2	84.7	0.5869	0.5869		RQ
D 13C-1,2,3,4,7,8-HxCDF	29.613	16066925	0.51	1.1520	21.9	21.9	0.1018	0.1018	21.90	
1,2,3,4,7,8-HxCDF	29.640	86579714	1.26	1.1973	450.1	450.1	2.395	2.395	900	
D 13C-1,2,3,6,7,8-HxCDF	29.879	15382374	0.51	1.2434	19.4	19.4	0.0943	0.0943	19.42	
1,2,3,6,7,8-HxCDF	29.906	26232403	1.26	1.1807	144.4	144.4	2.205	2.205	289	
D 13C-2,3,4,6,7,8-HxCDF	30.944	14449049	0.52	1.1720	19.4	19.4	0.1001	0.1001	19.36	
2,3,4,6,7,8-HxCDF	30.957	11566994	1.25	1.2116	66.1	66.1	1.635	1.635	132	
D 13C-1,2,3,7,8,9-HxCDF	31.862	14372117	0.52	1.0655	21.2	21.2	0.1101	0.1101	21.18	
1,2,3,7,8,9-HxCDF	31.876	10631550	1.23	1.2451	59.4	59.4	1.404	1.404	119	M
A Non-2,3,7,8-sub-HxCDF	29.354	12854120	1.23	1.2087	70.6	70.6	1.829	30.9	0.00	Ma

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					790.6	790.6	1.910	1.910		
* 13C-1,2,3,7,8,9-HxCDD	31.663	63695354	1.26	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.170	10321851	1.22	0.7812	20.7	20.7	0.1689	0.1689	20.74	
1,2,3,4,7,8-HxCDD	31.184	6448491	1.29	1.1088	56.3	56.3	0.3014	0.3014	113	
D 13C-1,2,3,6,7,8-HxCDD	31.290	11133503	1.23	0.9175	19.1	19.1	0.1438	0.1438	19.05	
1,2,3,6,7,8-HxCDD	31.303	6675416	1.24	1.0814	55.4	55.4	0.3301	0.3301	111	
1,2,3,7,8,9-HxCDD	31.676	6691889	1.25	1.2123	51.5	51.5	0.2848	0.2848	103	
A Non-2,3,7,8-sub-HxCDD	29.926	2382502	1.19	1.1342	19.6	19.6	0.3044	12.2	0.00	a
S Total HxCDD					182.8	182.8	0.3054	0.3054		
D 13C-1,2,3,4,6,7,8-HpCDF	33.406	7068919	0.44	0.8628	12.9	12.9	0.1768	0.1768	12.86	
1,2,3,4,6,7,8-HpCDF	33.406	15274988	1.04	1.5555	138.9	138.9	1.145	1.145	278	
D 13C-1,2,3,4,7,8,9-HpCDF	34.451	8509480	0.44	0.7991	16.7	16.7	0.1909	0.1909	16.72	
1,2,3,4,7,8,9-HpCDF	34.463	10063480	1.07	1.3862	85.3	85.3	1.158	1.158	171	
A Non-2,3,7,8-sub-HpCDF	33.922	4876973	1.06	1.4709	42.6	42.6	1.148	42.6	0.00	
S Total HpCDF					266.8	266.8	1.151	1.151		
D 13C-1,2,3,4,6,7,8-HpCDD	34.171	8510090	1.01	0.8739	15.3	15.3	0.0912	0.0912	15.29	
1,2,3,4,6,7,8-HpCDD	34.183	9486545	1.03	0.9316	119.7	119.7	0.9378	0.9378	239	
A Non-2,3,7,8-sub-HpCDD	34.038	7498138	1.03	0.9316	94.6	94.6	0.9378	94.6	0.00	a
S Total HpCDD					214.2	214.2	0.9378	0.9378		
D 13C-OCDD	36.450	12369377	0.93	0.7744	25.1	25.1	0.0908	0.0908	12.54	
OCDF	36.546	11533759	0.91	1.2596	148.1	148.1	0.2920	0.2920	148	
OCDD	36.462	60305985	0.90	1.0621	918.1	918.1	0.7865	0.7865	918	
1,3,6,8-TCDF	14.448						0.0	0.0		
1,3,6,8-TCDD	15.310						0.0	0.0		
2,3,4,7-TCDF	16.716	52746981	0.67							
1,2,3,7-TCDD	17.306						0.0	0.0		
1,2,3,9-TCDF	17.578						0.0	0.0		
1,2,3,9-TCDD	17.563						0.0	0.0		U
1,2,8,9-TCDF	18.470						0.0	0.0		
1,2,8,9-TCDD	18.470						0.0	0.0		
1,3,4,6,8-PeCDF	18.727						0.0	0.0		RU
1,2,4,7,9-PeCDD	20.422						0.0	0.0		
1,2,3,8,9-PeCDD	24.390						0.0	0.0		
1,2,3,8,9-PeCDF	24.731						0.0	0.0		U
1,2,3,4,6,8-HxCDF	26.765						0.0	0.0		
1,2,4,6,7,9-HxCDD	28.375	1487898	1.21							
1,2,3,4,6,7-HxCDD	31.676						0.0	0.0		U
1,2,3,4,8,9-HxCDF	31.876						0.0	0.0		RU
1,2,3,4,6,7,9-HpCDD	33.649						0.0	0.0		U
1,2,3,8-TCDD	0.0						0.0	0.0		
1,3,7,9-TCDD	0.0						0.0	0.0		
1,2,3,4,6,7,9-HpCDF	0.0						0.0	0.0		
1,2,3,4,7-PeCDD	0.0						0.0	0.0		
1,4,7,8-TCDD	0.0						0.0	0.0		

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test
E - Exceeded Maximum Amount
Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

U - Marked Undetected

a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_12.d
Lims ID: 600-194690-A-11-B MS
Client ID: INF 4 - DISSOLVED
Sample Type: MS
Inject. Date: 06-Nov-2019 03:58:18 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 600-194690-A-11-B MS 600-194690-A-11-B MS
Misc. Info.: 05NO19B10D5
Operator ID: ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 08-Nov-2019 09:27:21 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0328

First Level Reviewer: arghestanis Date: 07-Nov-2019 13:32:22

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											a
331.9368	17.351	17.230	7		31925443	6853674	13479	33697	508		a
333.9339	17.351	17.230	7		41001519	8795686	20697	51742	425	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.852	16.761	5	0.971	12827967	3573924	23814	59535	150		
317.9389	16.852	16.761	5	0.971	15705027	4419836	23664	59160	187	0.82(0.65-0.89)	
2,3,7,8-TCDF											Ea
303.9016	16.867	16.761	6	1.001	1099214302	292309255	675126	1687815	433		a
305.8987	16.867	16.761	6	1.001	1421343962	375653517	863704	2159260	435	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											a
303.9016	15.522	16.459	-56	0.921	41493044	9564275	675126	1687815	14		
305.8987	15.522	16.459	-56	0.921	53240215	12191228	863704	2159260	14	0.78(0.65-0.89)	
303.9016	15.794	16.459	-40	0.937	42865772	7243319	675126	1687815	11		
305.8987	15.794	16.459	-40	0.937	54617958	9255496	863704	2159260	11	0.78(0.65-0.89)	
303.9016	16.006	16.459	-27	0.950	37004188	9776872	675126	1687815	14		
305.8987	16.006	16.459	-27	0.950	47318491	12450406	863704	2159260	14	0.78(0.65-0.89)	
303.9016	16.232	16.459	-14	0.963	62479185	15612297	675126	1687815	23		
305.8987	16.232	16.459	-14	0.963	79980900	19730182	863704	2159260	23	0.78(0.65-0.89)	
303.9016	16.489	16.459	2	0.978	620992116	152359107	675126	1687815	226		
305.8987	16.489	16.459	2	0.978	796387385	193076029	863704	2159260	224	0.78(0.65-0.89)	
303.9016	16.716	16.459	15	0.992	18882747	4776113	675126	1687815	7		a
305.8987	16.701	16.459	14	0.991	26773831	6209819	863704	2159260	7	0.71(0.65-0.89)	
303.9016	17.275	16.459	49	1.025	75850061	20986150	675126	1687815	31		
305.8987	17.275	16.459	49	1.025	96315389	26647233	863704	2159260	31	0.79(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDD											a
331.9368	17.548	17.427	7	1.011	7316244	1889415	13479	33697	140		a
333.9339	17.548	17.427	7	1.011	9082468	2456490	20697	51742	119	0.81(0.65-0.89)	
2,3,7,8-TCDD											Ea
319.8965	17.563	17.427	8	1.001	196670052	53833663	92718	231795	581		a
321.8936	17.563	17.427	8	1.001	245873890	68576700	64843	162107	1058	0.80(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.563	17.442	7	1.012	32785566	9136390	19418	48545	471		
A Non-2,3,7,8-sub-TCDD											RQa
319.8965	17.457	16.890	34	0.995	1788590	598919	92718	231795	6		a
321.8936	17.457	16.890	34	0.995	3018858	745442	64843	162107	11	0.59(0.65-0.89)	
	Empc Correction				2322844	777816	64843	162107	12		
319.8965	17.865	16.890	58	1.018	22901999	5086029	92718	231795	55		
321.8936	17.865	16.890	58	1.018	28782716	6507540	64843	162107	100	0.80(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	21.649	21.513	8	1.248	12697048	2295544	6092	15230	377		
353.8970	21.649	21.513	8	1.248	7943741	1402663	3972	9930	353	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											Ma
339.8597	21.677	21.527	9	1.001	45430080	7827144	22715	56787	345		M
341.8567	21.677	21.527	9	1.001	28581867	4877571	14614	36535	334	1.59(1.32-1.78)	M
13C-2,3,4,7,8-PeCDF											
351.9000	22.890	22.781	7	1.319	13751237	2430361	6092	15230	399		
353.8970	22.890	22.781	7	1.319	8737835	1573876	3972	9930	396	1.57(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.917	22.795	7	1.001	32002917	5985861	22715	56787	264		
341.8567	22.917	22.795	7	1.001	20141788	3752333	14614	36535	257	1.59(1.32-1.78)	
A F1 PeCDFs											M
339.8597	18.909	19.158	-15	0.873	347773	74608	752	1880	99		M
341.8567	18.909	19.158	-15	0.873	231155	54441	824	2060	66	1.50(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDF											Ma
339.8597	20.381	22.128	-105	0.941	15321690	3340888	22715	56787	147		
341.8567	20.381	22.128	-105	0.941	9542781	2056034	14614	36535	141	1.61(1.32-1.78)	
339.8597	21.159	22.128	-58	0.977	1279695	157509	22715	56787	7		
341.8567	21.186	22.128	-56	0.979	820268	96141	14614	36535	7	1.56(1.32-1.78)	
339.8597	21.540	22.128	-35	0.995	2718239	661818	22715	56787	29		M
341.8567	21.540	22.128	-35	0.995	1774420	428901	14614	36535	29	1.53(1.32-1.78)	
339.8597	22.140	22.128	1	1.023	10648125	2083437	22715	56787	92		
341.8567	22.140	22.128	1	1.023	6759719	1331542	14614	36535	91	1.58(1.32-1.78)	
339.8597	23.231	22.128	66	1.073	7314978	1275533	22715	56787	56		
341.8567	23.231	22.128	66	1.073	4622580	787366	14614	36535	54	1.58(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.559	23.463	6	1.358	9625932	1640718	3947	9867	416		
369.8919	23.559	23.463	6	1.358	6212418	1049720	2556	6390	411	1.55(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.586	23.476	7	1.001	7022385	1166945	3306	8265	353		
357.8516	23.586	23.476	7	1.001	4466979	738175	2410	6025	306	1.57(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-PeCDD											RQ
355.8546	20.559	22.406	-111	0.873	122570	27191	3306	8265	8		
357.8516	20.531	22.406	-112	0.871	735195	145560	2410	6025	60	0.17(1.32-1.78)	
	Empc Correction				79077	17542	2410	6025	7		
355.8546	21.690	22.406	-43	0.921	168098	32385	3306	8265	10		
357.8516	21.704	22.406	-42	0.921	126425	24164	2410	6025	10	1.33(1.32-1.78)	
355.8546	21.922	22.406	-29	0.931	89643	19027	3306	8265	6		
357.8516	21.936	22.406	-28	0.931	60641	12240	2410	6025	5	1.48(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.613	29.533	5	0.935	5405709	681644	3202	8005	213		
385.8610	29.613	29.533	5	0.935	10661216	1396065	4012	10030	348	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.640	29.533	6	1.001	48195742	6058731	12255	30637	494		
375.8178	29.640	29.533	6	1.001	38383972	4838172	11576	28940	418	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.879	29.813	4	0.944	5181571	771393	3202	8005	241		
385.8610	29.879	29.813	4	0.944	10200803	1517033	4012	10030	378	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	29.906	29.826	5	1.001	14602280	2147207	12255	30637	175		
375.8178	29.906	29.826	5	1.001	11630123	1695706	11576	28940	146	1.26(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	30.944	30.904	2	0.977	4958078	1028166	3202	8005	321		
385.8610	30.944	30.904	2	0.977	9490971	1979560	4012	10030	493	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	30.957	30.917	2	1.000	6417142	1354547	12255	30637	111		
375.8178	30.957	30.917	2	1.000	5149852	1113555	11576	28940	96	1.25(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.862	31.836	2	1.006	4896147	1168578	3202	8005	365		
385.8610	31.862	31.836	2	1.006	9475970	2240217	4012	10030	558	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											M
373.8208	31.876	31.849	2	1.000	5863018	1546719	12255	30637	126		M
375.8178	31.876	31.849	2	1.000	4768532	1258767	11576	28940	109	1.23(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											Ma
373.8208	27.284	29.354	-124	0.921	2253668	349852	12255	30637	29		
375.8178	27.284	29.354	-124	0.921	1755795	269561	11576	28940	23	1.28(1.05-1.43)	
373.8208	28.535	29.354	-49	0.964	1806813	244338	12255	30637	20		
375.8178	28.522	29.354	-50	0.963	1408430	188470	11576	28940	16	1.28(1.05-1.43)	
373.8208	31.969	29.354	157	1.080	3039530	780183	12255	30637	64		M
375.8178	31.969	29.354	157	1.080	2589884	625992	11576	28940	54	1.17(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.663	31.636	2		35507392	8592769	4254	10635	2020		
403.8529	31.663	31.636	2		28187962	6782535	3862	9655	1756	1.26(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.170	31.143	2	0.984	5670269	1373297	4254	10635	323		
403.8529	31.170	31.143	2	0.984	4651582	1114699	3862	9655	289	1.22(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,7,8-HxCDD											
389.8157	31.184	31.144	2	1.000	3628348	849546	1851	4627	459		
391.8127	31.184	31.144	2	1.000	2820143	665411	1475	3687	451	1.29(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.290	31.263	2	0.988	6144077	1282260	4254	10635	301		
403.8529	31.290	31.263	2	0.988	4989426	1047175	3862	9655	271	1.23(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.303	31.277	2	1.000	3690908	811658	1851	4627	438		
391.8127	31.303	31.277	2	1.000	2984508	668892	1475	3687	453	1.24(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.676	31.649	2	1.016	3713135	880714	1851	4627	476		
391.8127	31.676	31.649	2	1.016	2978754	700088	1475	3687	475	1.25(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											a
389.8157	28.375	29.926	-93	0.907	813730	109470	1851	4627	59		a
391.8127	28.389	29.926	-92	0.907	674168	84066	1475	3687	57	1.21(1.05-1.43)	
389.8157	30.265	29.926	20	0.967	479846	76421	1851	4627	41		
391.8127	30.239	29.926	19	0.966	414758	62962	1475	3687	43	1.16(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.406	33.393	1	1.055	2174842	674053	2981	7452	226		
419.8220	33.406	33.393	1	1.055	4894077	1509796	6401	16002	236	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.406	33.394	1	1.000	7795891	2352768	8206	20515	287		
409.7789	33.406	33.394	1	1.000	7479097	2284782	7348	18370	311	1.04(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.451	34.451	0	1.088	2587982	727142	2981	7452	244		
419.8220	34.451	34.451	0	1.088	5921498	1695309	6401	16002	265	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.463	34.451	1	1.000	5192295	1460000	8206	20515	178		
409.7789	34.463	34.451	1	1.000	4871185	1330017	7348	18370	181	1.07(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.697	33.922	-13	1.009	2511620	801427	8206	20515	98		
409.7789	33.697	33.922	-13	1.009	2365353	765785	7348	18370	104	1.06(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.171	34.171	0	1.079	4285488	1221121	2244	5610	544		
437.8140	34.171	34.171	0	1.079	4224602	1217410	2660	6650	458	1.01(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.183	34.172	1	1.000	4811111	1389900	4463	11157	311		
425.7737	34.183	34.172	1	1.000	4675434	1338155	4059	10147	330	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											a
423.7766	33.649	34.038	-23	0.985	3799061	1240251	4463	11157	278		a
425.7737	33.649	34.038	-23	0.985	3699077	1200123	4059	10147	296	1.03(0.88-1.20)	
13C-OCDD											
469.7779	36.450	36.462	-1	1.151	5963017	1446906	2111	5277	685		
471.7750	36.450	36.462	-1	1.151	6406360	1569766	2212	5530	710	0.93(0.76-1.02)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
OCDF											
441.7428	36.546	36.546	0	1.003	5491424	1419140	1048	2620	1354		
443.7399	36.546	36.546	0	1.003	6042335	1530526	1171	2927	1307	0.91(0.76-1.02)	
OCDD											
457.7377	36.462	36.462	0	1.000	28537610	7108728	2387	5967	2978		
459.7348	36.462	36.462	0	1.000	31768375	8029851	2653	6632	3027	0.90(0.76-1.02)	
1,3,6,8-TCDF											
303.9016	14.448						675126	1687815			
305.8987	14.448						863704	2159260			
1,3,6,8-TCDD											
319.8965	15.310						92718	231795			
321.8936	15.310						64843	162107			
2,3,4,7-TCDF											
303.9016	16.716	16.761	-3		21223034	5057060	675126	1687815	7		
305.8987	16.701	16.761	-4		31523947	6729310	863704	2159260	8	0.67(0.65-0.89)	
1,2,3,7-TCDD											
319.8965	17.306						92718	231795			
321.8936	17.306						64843	162107			
1,2,3,9-TCDF											
303.9016	17.578						675126	1687815			
305.8987	17.578						863704	2159260			
1,2,3,9-TCDD											U
319.8965	17.578						92718	231795			
321.8936	17.578						64843	162107			
1,2,8,9-TCDF											
303.9016	18.470						675126	1687815			
305.8987	18.470						863704	2159260			
1,2,8,9-TCDD											
319.8965	18.470						92718	231795			
1,3,4,6,8-PeCDF											RU
339.8597	18.742						752	1880			
341.8567	18.742						824	2060			
1,2,4,7,9-PeCDD											
355.8546	20.422						3306	8265			
357.8516	20.422						2410	6025			
1,2,3,8,9-PeCDD											
355.8546	24.390						3306	8265			
357.8516	24.390						2410	6025			
1,2,3,8,9-PeCDF											U
339.8597	24.608						22715	56787			
341.8567	24.608						14614	36535			
1,2,3,4,6,8-HxCDF											
373.8208	26.765						12255	30637			
375.8178	26.765						11576	28940			
1,2,4,6,7,9-HxCDD											
389.8157	28.375	28.256	7		813730	109470	1851	4627	59		
391.8127	28.389	28.256	8		674168	84066	1475	3687	57	1.21(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7-HxCDD											U
389.8157	31.597						1851	4627			
391.8127	31.597						1475	3687			
1,2,3,4,8,9-HxCDF											RU
373.8208	31.942						12255	30637			
375.8178	31.942						11576	28940			
1,2,3,4,6,7,9-HpCDD											U
423.7766	33.637						4463	11157			
425.7737	33.637						4059	10147			
1,2,3,8-TCDD											
319.8965	0.0						92718	231795			
321.8936	0.0						64843	162107			
1,3,7,9-TCDD											
319.8965	0.0						92718	231795			
321.8936	0.0						64843	162107			
1,2,3,4,6,7,9-HpCDF											
407.7818	0.0						8206	20515			
409.7789	0.0						7348	18370			
1,2,3,4,7-PeCDD											
355.8546	0.0						3306	8265			
357.8516	0.0						2410	6025			
1,4,7,8-TCDD											
319.8965	0.0						92718	231795			
321.8936	0.0						64843	162107			

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test
E - Exceeded Maximum Amount
Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated
U - Marked Undetected
a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_12.d
Lims ID: 600-194690-A-11-B MS
Client ID: INF 4 - DISSOLVED
Inject. Date: 06-Nov-2019 03:58:18 Dil. Factor: 1.0000
Sample Type: MS, Matrix Spike
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 12

Non-2,3,7,8-sub-TCDF, RT: 16.459

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.051	D 13C-2,3,7,8-TCDF	100.000	28532994	7993760

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.051		100.000	28532994	7993760

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
15.522	41493044	9564275	53240215	12191228	316.0	0.78	
15.794	42865772	7243319	54617958	9255496	325.2	0.78	
16.006	37004188	9776872	47318491	12450406	281.3	0.78	
16.232	62479185	15612297	79980900	19730182	475.2	0.78	
16.489	620992116	152359107	796387385	193076029	4727.7	0.78	
16.716	18882747	4776113	26773831	6209819	152.3	0.71	a
17.275	75850061	20986150	96315389	26647233	574.3	0.79	
Signal Totals:							
	899567113	220318133	1154634169	279560393			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2054201282	499878526				0.78	a

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 6851.8 = (2054201282 * 100.000) / (28532994 * 1.051)

QC Flag Legend

Review Flags
a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_12.d
Lims ID: 600-194690-A-11-B MS
Client ID: INF 4 - DISSOLVED
Inject. Date: 06-Nov-2019 03:58:18 Dil. Factor: 1.0000
Sample Type: MS, Matrix Spike
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 12

Non-2,3,7,8-sub-TCDD, RT: 16.890

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.106	D 13C-2,3,7,8-TCDD	100.000	16398712	4345905

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.106		100.000	16398712	4345905

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
17.457	1788590	598919	3018858	745442	26.5	0.59	RQa
17.457	1788590	598919	2322844	777816	22.7		Empc Correction
17.865	22901999	5086029	28782716	6507540	284.9	0.80	
Signal Totals:							
	24690589	5684948	31105560	7285356			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	56492163	12937930				0.78	RQa
	55796149	12970304					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 311.361 = (56492163 * 100.000) / (16398712 * 1.106)
Empc Amount: 307.524 = (55796149 * 100.000) / (16398712 * 1.106)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_12.d
Lims ID: 600-194690-A-11-B MS
Client ID: INF 4 - DISSOLVED
Inject. Date: 06-Nov-2019 03:58:18 Dil. Factor: 1.0000
Sample Type: MS, Matrix Spike
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 12

F1 PeCDFs, RT: 19.158

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.082	D 13C-1,2,3,7,8-PeCDF	100.000	20640789	3698207
2,3,4,7,8-PeCDF	1.103	D 13C-2,3,4,7,8-PeCDF	100.000	22489072	4004237

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.093		100.000	21564930	3851222

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
18.909	347773	74608	231155	54441	2.46	1.50	M
Signal Totals:							
	347773	74608	231155	54441			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	578928	129049				1.50	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 2.457 = (578928 * 100.000) / (21564930 * 1.093)

QC Flag Legend

Review Flags
M - Manually Integrated

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_12.d
Lims ID: 600-194690-A-11-B MS
Client ID: INF 4 - DISSOLVED
Inject. Date: 06-Nov-2019 03:58:18 Dil. Factor: 1.0000
Sample Type: MS, Matrix Spike
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 12

Non-2,3,7,8-sub-PeCDF, RT: 22.128

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.082	D 13C-1,2,3,7,8-PeCDF	100.000	20640789	3698207
2,3,4,7,8-PeCDF	1.103	D 13C-2,3,4,7,8-PeCDF	100.000	22489072	4004237

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.093		100.000	21564930	3851222

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
20.381	15321690	3340888	9542781	2056034	105.5	1.61	
21.159	1279695	157509	820268	96141	8.91	1.56	
21.540	2718239	661818	1774420	428901	19.1	1.53	Ma
22.140	10648125	2083437	6759719	1331542	73.9	1.58	
23.231	7314978	1275533	4622580	787366	50.7	1.58	
Signal Totals:							
	37282727	7519185	23519768	4699984			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	60802495	12219169				1.59	Ma

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 258.026 = (60802495 * 100.000) / (21564930 * 1.093)

QC Flag Legend

Review Flags
M - Manually Integrated
a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_12.d
Lims ID: 600-194690-A-11-B MS
Client ID: INF 4 - DISSOLVED
Inject. Date: 06-Nov-2019 03:58:18 Dil. Factor: 1.0000
Sample Type: MS, Matrix Spike
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 12

Non-2,3,7,8-sub-PeCDD, RT: 22.406

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDD	0.905	D 13C-1,2,3,7,8-PeCDD	100.000	15838350	2690438

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.905		100.000	15838350	2690438

Sum the Uncalibrated Results

RT	355.8546 Area	355.8546 Height	357.8516 Area	357.8516 Height	Amount	Ratio	Flags
20.559	122570	27191	735195	145560	5.98	0.17	RQ
20.559	122570	27191	79077	17542	1.41		Empc Correction
21.690	168098	32385	126425	24164	2.05	1.33	
21.922	89643	19027	60641	12240	1.05	1.48	
Signal Totals:							
	380311	78603	266143	53946			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1302572	260567				0.41	RQ
	646454	132549					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 9.087 = (1302572 * 100.000) / (15838350 * 0.905)
Empc Amount: 4.510 = (646454 * 100.000) / (15838350 * 0.905)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_12.d
Lims ID: 600-194690-A-11-B MS
Client ID: INF 4 - DISSOLVED
Inject. Date: 06-Nov-2019 03:58:18 Dil. Factor: 1.0000
Sample Type: MS, Matrix Spike
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 12

Non-2,3,7,8-sub-HxCDF, RT: 29.354

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.197	D 13C-1,2,3,4,7,8-HxCDF	100.000	16066925	2077709
1,2,3,6,7,8-HxCDF	1.181	D 13C-1,2,3,6,7,8-HxCDF	100.000	15382374	2288426
2,3,4,6,7,8-HxCDF	1.212	D 13C-2,3,4,6,7,8-HxCDF	100.000	14449049	3007726
1,2,3,7,8,9-HxCDF	1.245	D 13C-1,2,3,7,8,9-HxCDF	100.000	14372117	3408795

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.209		100.000	15067616	2695664

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
27.284	2253668	349852	1755795	269561	22.0	1.28	
28.535	1806813	244338	1408430	188470	17.7	1.28	
31.969	3039530	780183	2589884	625992	30.9	1.17	Ma
Signal Totals:							
	7100011	1374373	5754109	1084023			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	12854120	2458396				1.23	Ma

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 70.581 = (12854120 * 100.000) / (15067616 * 1.209)

QC Flag Legend

Review Flags
M - Manually Integrated
a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_12.d
Lims ID: 600-194690-A-11-B MS
Client ID: INF 4 - DISSOLVED
Inject. Date: 06-Nov-2019 03:58:18 Dil. Factor: 1.0000
Sample Type: MS, Matrix Spike
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 12

Non-2,3,7,8-sub-HxCDD, RT: 29.926

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.109	D 13C-1,2,3,4,7,8-HxCDD	100.000	10321851	2487996
1,2,3,6,7,8-HxCDD	1.081	D 13C-1,2,3,6,7,8-HxCDD	100.000	11133503	2329435
1,2,3,7,8,9-HxCDD	1.212				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.134		100.000	10727677	2408715

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
28.375	813730	109470	674168	84066	12.2	1.21	a
30.265	479846	76421	414758	62962	7.35	1.16	
Signal Totals:							
	1293576	185891	1088926	147028			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2382502	332919				1.19	a

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 19.582 = (2382502 * 100.000) / (10727677 * 1.134)

QC Flag Legend

Review Flags
a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_12.d
Lims ID: 600-194690-A-11-B MS
Client ID: INF 4 - DISSOLVED
Inject. Date: 06-Nov-2019 03:58:18 Dil. Factor: 1.0000
Sample Type: MS, Matrix Spike
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 12

Non-2,3,7,8-sub-HpCDF, RT: 33.922

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.556	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	7068919	2183849
1,2,3,4,7,8,9-HpCDF	1.386	D 13C-1,2,3,4,7,8,9-HpCDF	100.000	8509480	2422451

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.471		100.000	7789199	2303150

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
33.697	2511620	801427	2365353	765785	42.6	1.06	
Signal Totals:							
	2511620	801427	2365353	765785			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	4876973	1567212				1.06	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 42.567 = (4876973 * 100.000) / (7789199 * 1.471)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_12.d
Lims ID: 600-194690-A-11-B MS
Client ID: INF 4 - DISSOLVED
Inject. Date: 06-Nov-2019 03:58:18 Dil. Factor: 1.0000
Sample Type: MS, Matrix Spike
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 12

Non-2,3,7,8-sub-HpCDD, RT: 34.038

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.932	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	8510090	2438531

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.932		100.000	8510090	2438531

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
33.649	3799061	1240251	3699077	1200123	94.6	1.03	a
Signal Totals:							
	3799061	1240251	3699077	1200123			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	7498138	2440374				1.03	a

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 94.578 = (7498138 * 100.000) / (8510090 * 0.932)

QC Flag Legend

Review Flags
a - User Assigned ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_12.d				
Injection Date:	06-Nov-2019 03:58:18	Instrument ID:	10D5		
Lims ID:	600-194690-A-11-B MS				
Client ID:	INF 4 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDF, CAS: 51207-31-9

Signal: 1

Processing Integration Results

RT: 16.72
Area: 18882747
Amount: 152.2876
Amount Units: pg/ul

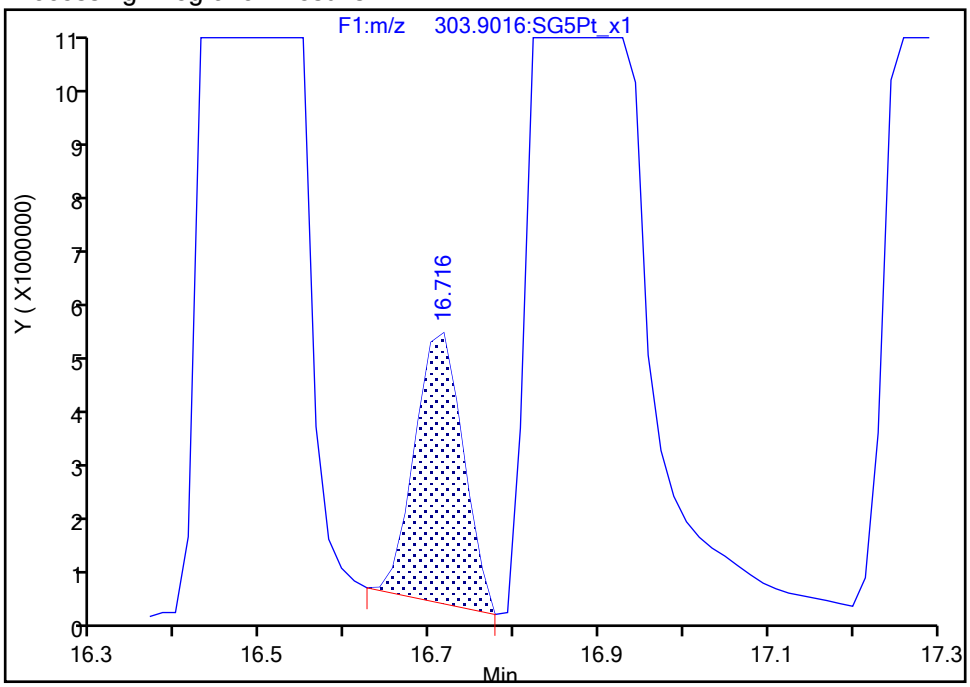

Manual Integration Results

RT: 16.87
Area: 1099214302
Amount: 8407.3265
Amount Units: pg/ul

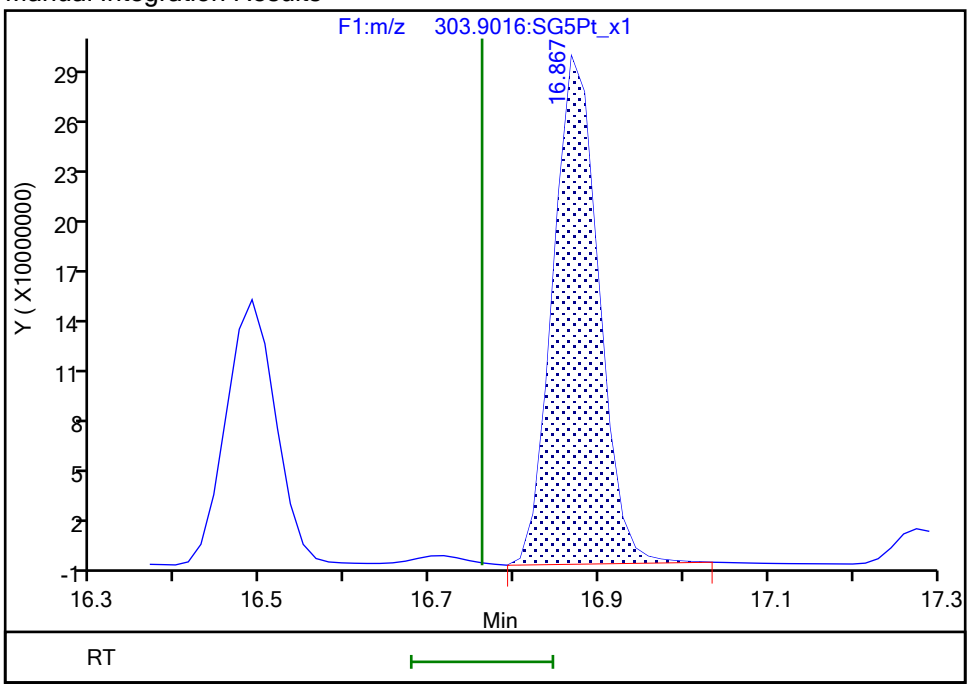

Reviewer: arghestanis, 06-Nov-2019 09:40:31

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_12.d				
Injection Date:	06-Nov-2019 03:58:18	Instrument ID:	10D5		
Lims ID:	600-194690-A-11-B MS				
Client ID:	INF 4 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

13C-2,3,7,8-TCDD, CAS: 76523-40-5

Signal: 1

Processing Integration Results

RT: 17.35
Area: 31925443
Amount: 104.8939
Amount Units: pg/ul

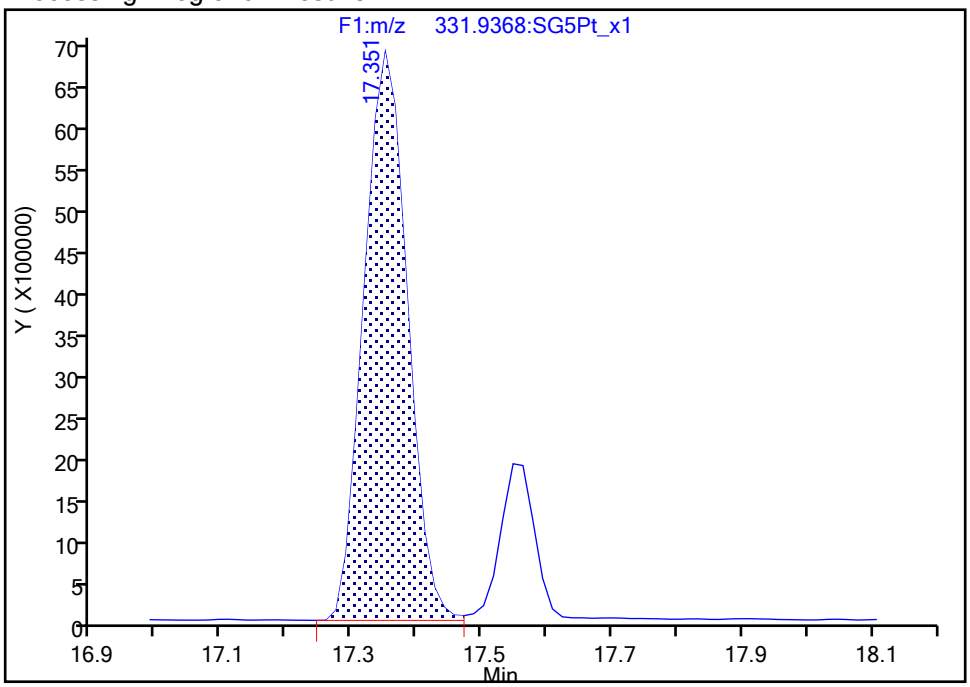

Manual Integration Results

RT: 17.55
Area: 7316244
Amount: 23.586960
Amount Units: pg/ul

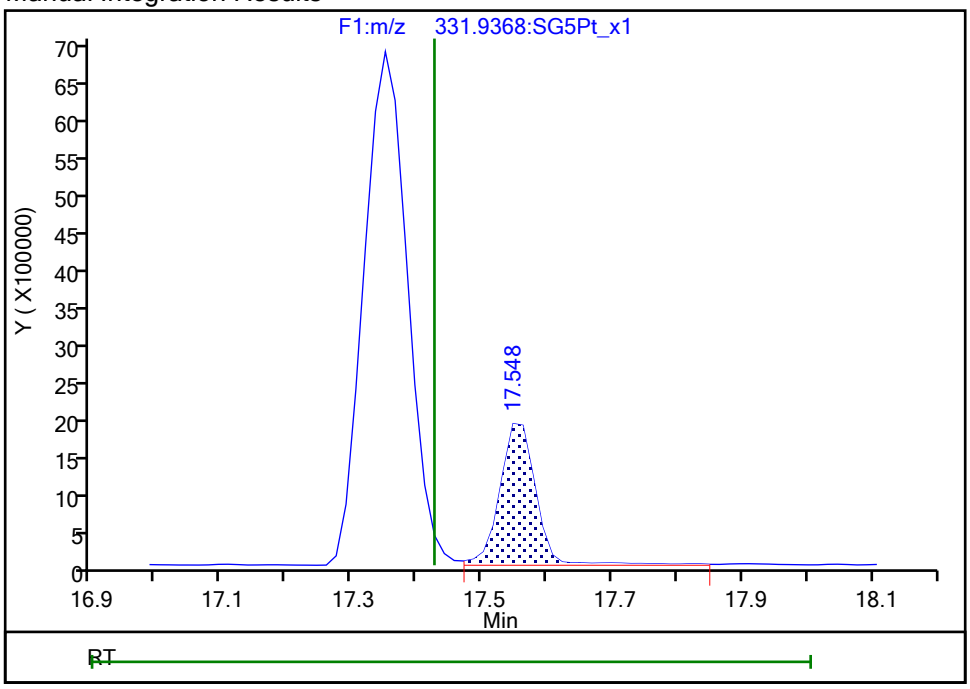

Reviewer: arghestanis, 06-Nov-2019 09:40:40

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_12.d				
Injection Date:	06-Nov-2019 03:58:18	Instrument ID:	10D5		
Lims ID:	600-194690-A-11-B MS				
Client ID:	INF 4 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDD, CAS: 1746-01-6

Signal: 1

Processing Integration Results

RT: 17.46
Area: 1788590
Amount: 26.496590
Amount Units: pg/ul

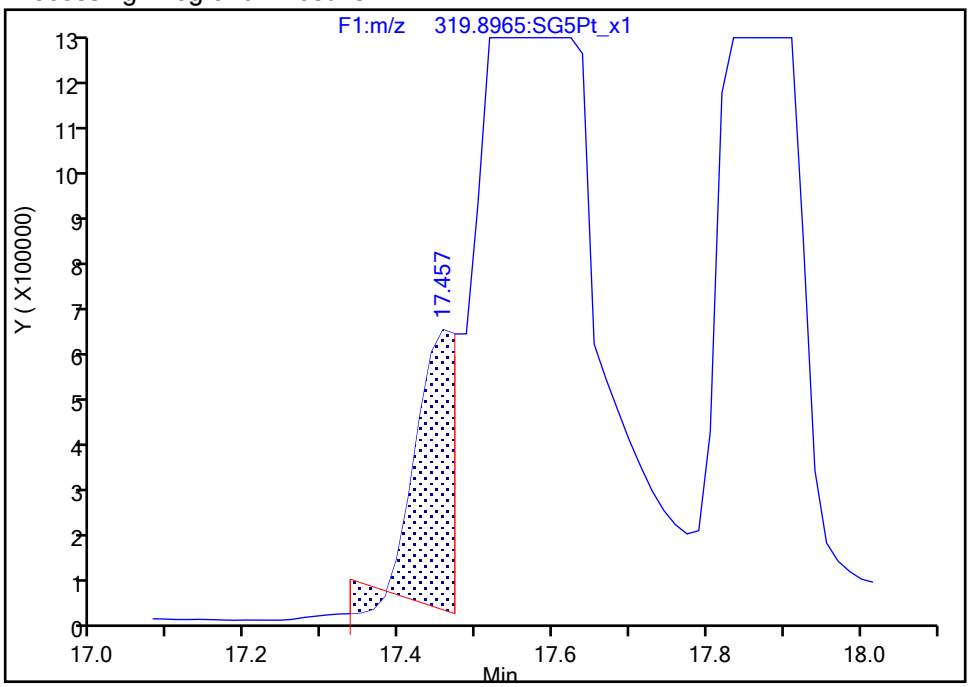

Manual Integration Results

RT: 17.56
Area: 196670052
Amount: 2439.1122
Amount Units: pg/ul

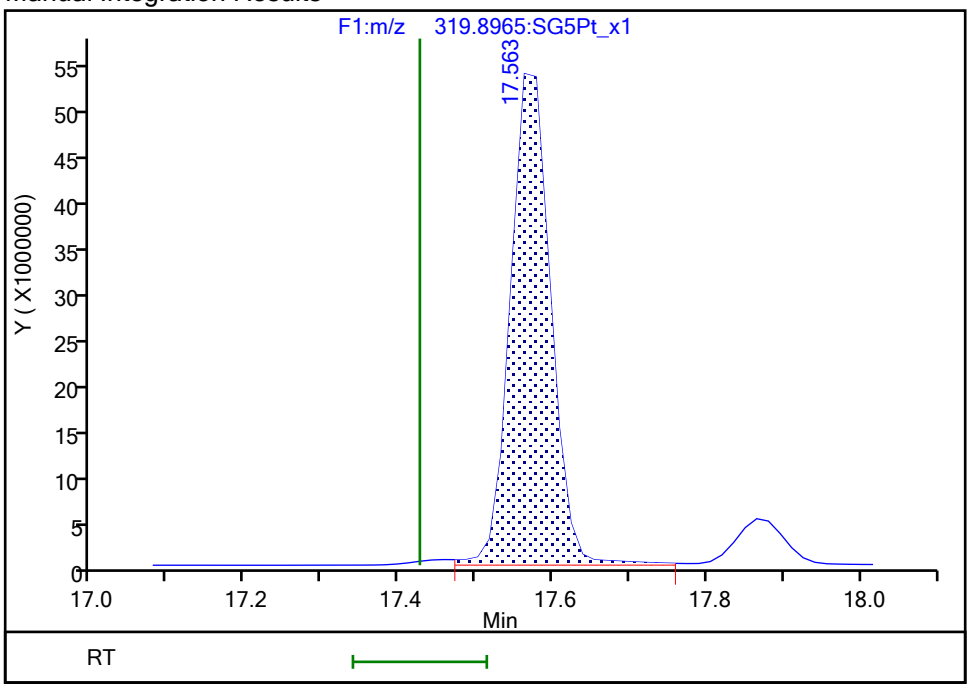

Reviewer: arghestanis, 06-Nov-2019 09:40:45

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_12.d				
Injection Date:	06-Nov-2019 03:58:18	Instrument ID:	10D5		
Lims ID:	600-194690-A-11-B MS				
Client ID:	INF 4 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

1,2,3,7,8-PeCDF, CAS: 57117-41-6

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 21.53

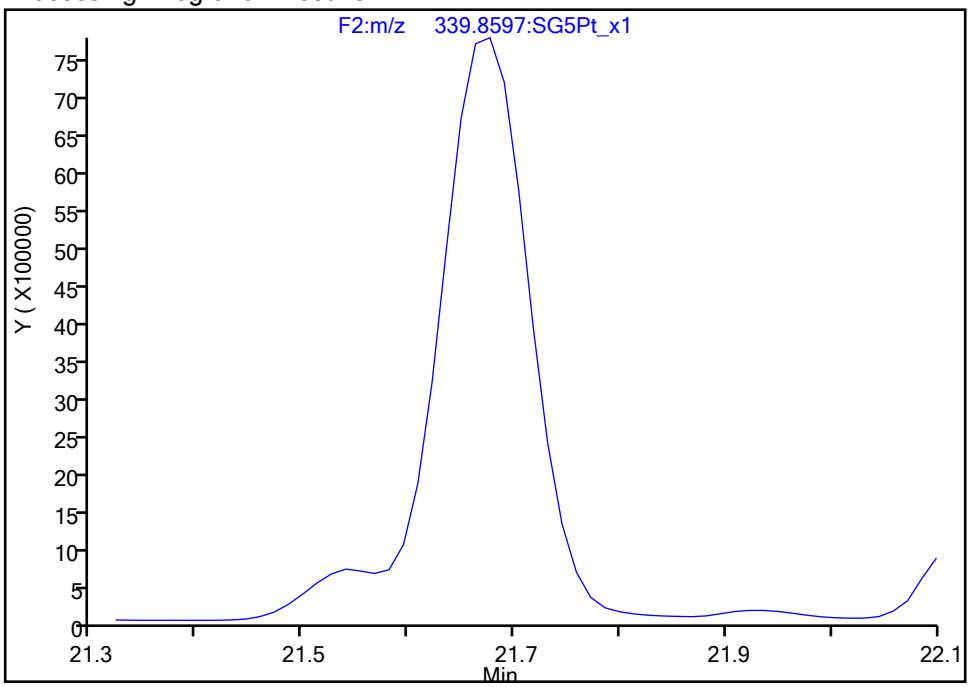

Manual Integration Results

RT: 21.68
Area: 45430080
Amount: 331.3218
Amount Units: pg/ul

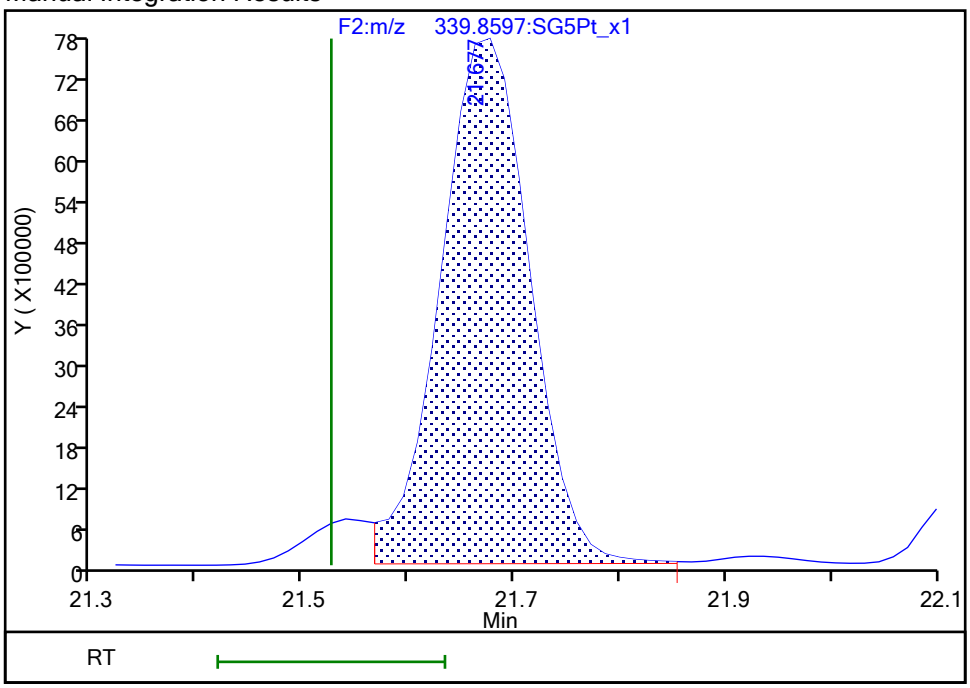

Reviewer: dadunj, 08-Nov-2019 09:20:19
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_12.d				
Injection Date:	06-Nov-2019 03:58:18	Instrument ID:	10D5		
Lims ID:	600-194690-A-11-B MS				
Client ID:	INF 4 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

1,2,3,7,8-PeCDF, CAS: 57117-41-6

Signal: 2

Processing Integration Results

Not Detected
Expected RT: 21.53

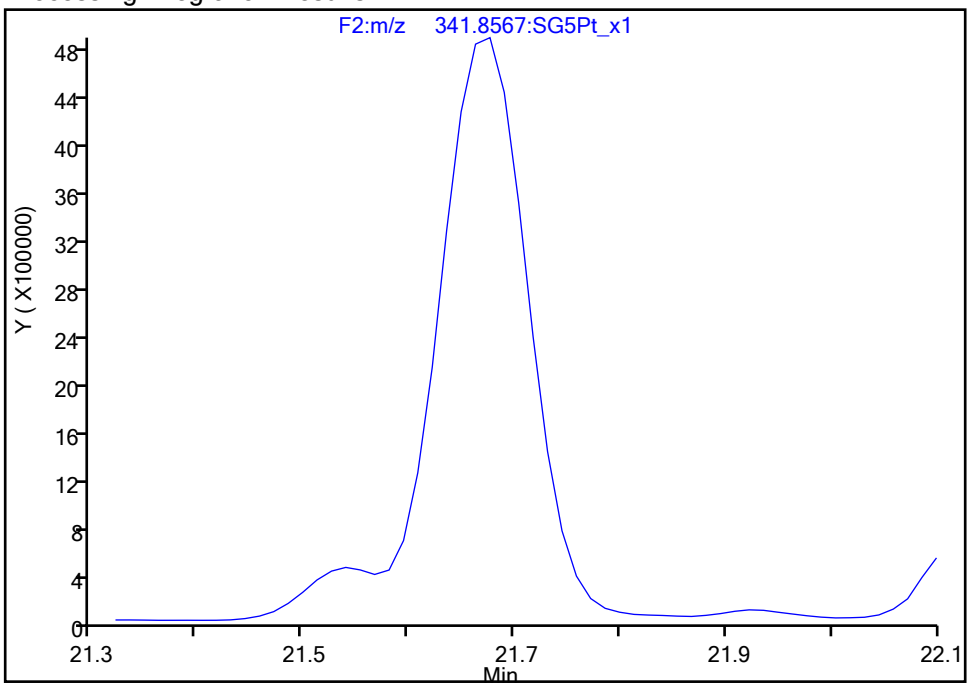

Manual Integration Results

RT: 21.68
Area: 28581867
Amount: 331.3218
Amount Units: pg/ul

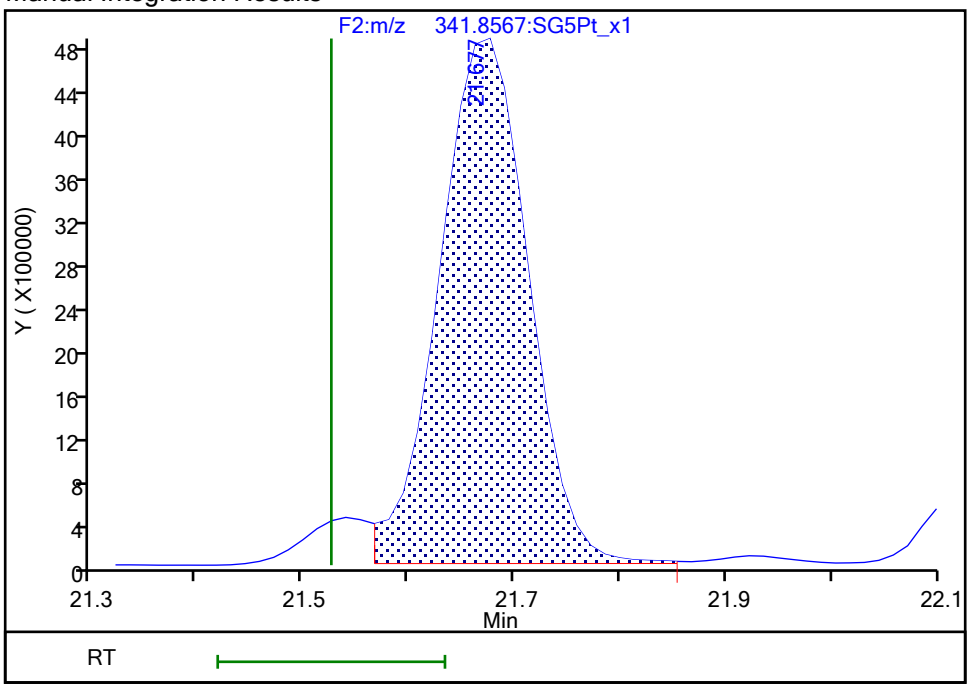

Reviewer: dadunj, 08-Nov-2019 09:20:21
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_12.d				
Injection Date:	06-Nov-2019 03:58:18	Instrument ID:	10D5		
Lims ID:	600-194690-A-11-B MS				
Client ID:	INF 4 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

F1 PeCDFs, Signal: 1, m/z: 339.8597, RT: (18.71- 19.60)

Signal: 1

Processing Integration Results

RT = 18.909 Area = 359823

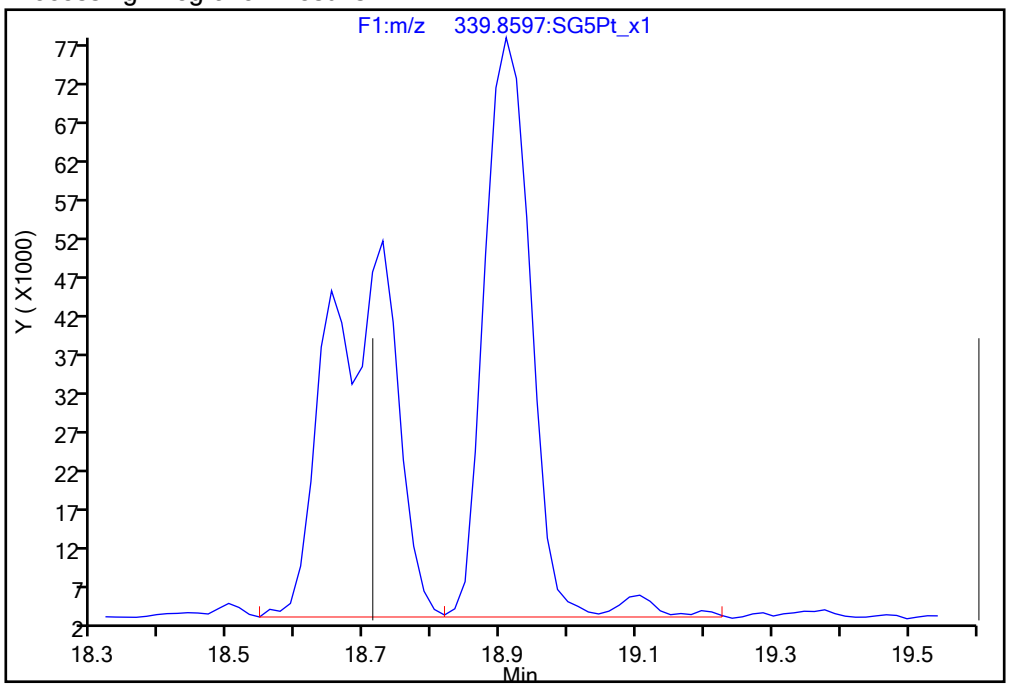

Manual Integration Results

RT = 18.909 Area = 347773 M

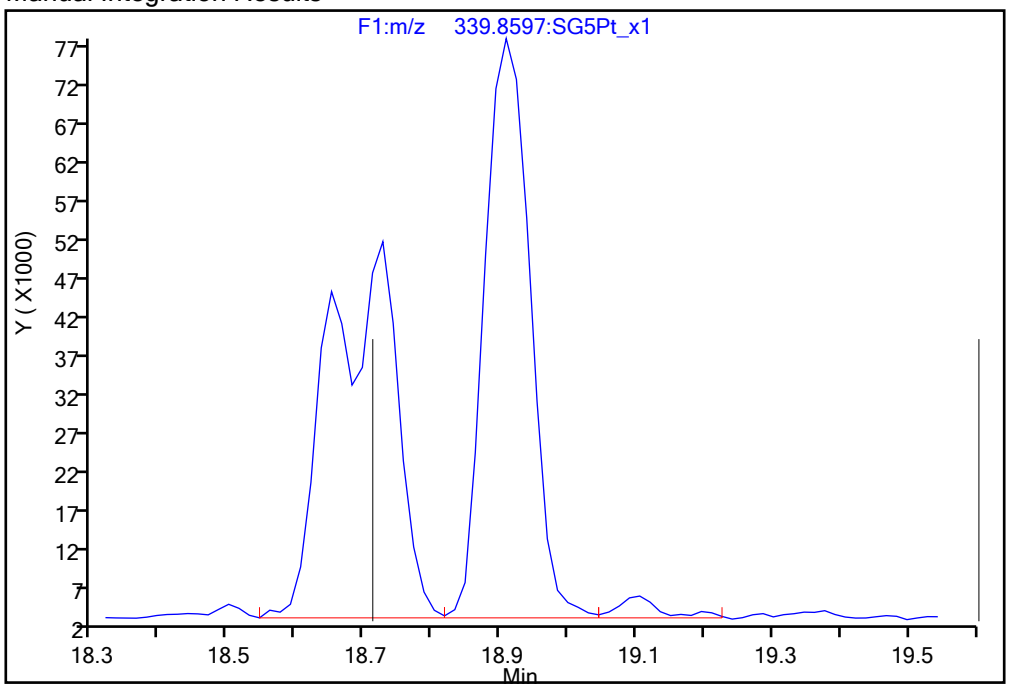

Reviewer: dadunj, 08-Nov-2019 09:27:17

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_12.d				
Injection Date:	06-Nov-2019 03:58:18	Instrument ID:	10D5		
Lims ID:	600-194690-A-11-B MS				
Client ID:	INF 4 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

Non-2,3,7,8-sub-PeCDF, Signal: 1, m/z: 339.8597, RT: (19.62- 24.64)

Signal: 1

Processing Integration Results

Not Detected
RT: 19.62- 24.64

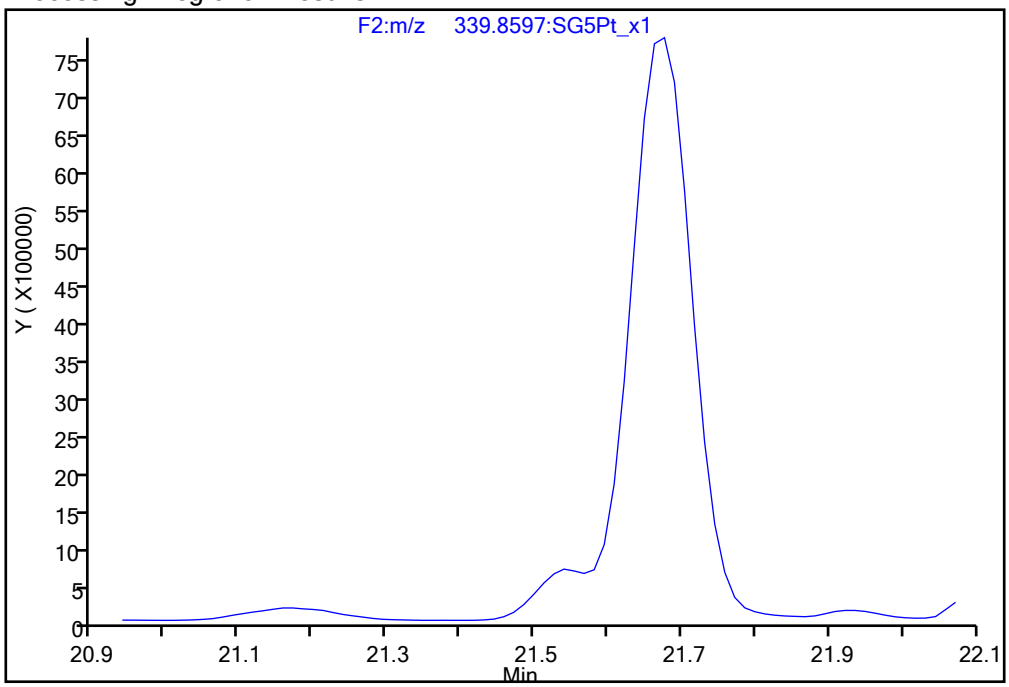

Manual Integration Results

RT = 21.540 Area = 2718239 M

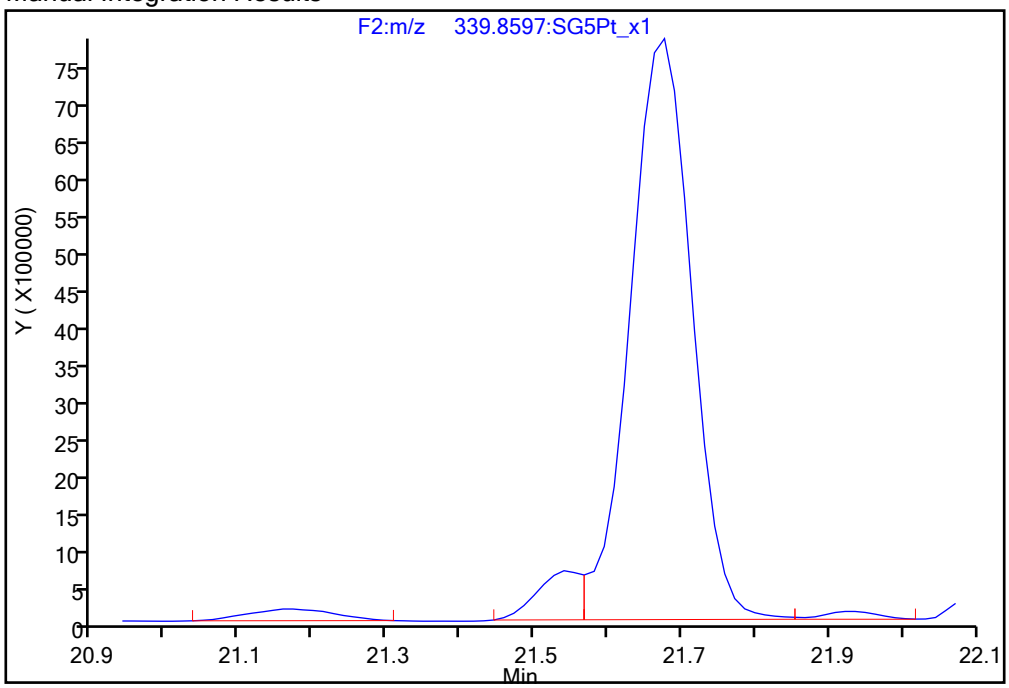

Reviewer: dadunj, 08-Nov-2019 09:20:41

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_12.d				
Injection Date:	06-Nov-2019 03:58:18	Instrument ID:	10D5		
Lims ID:	600-194690-A-11-B MS				
Client ID:	INF 4 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 1

Processing Integration Results

RT: 31.88
Area: 8902549
Amount: 76.395659
Amount Units: pg/ul

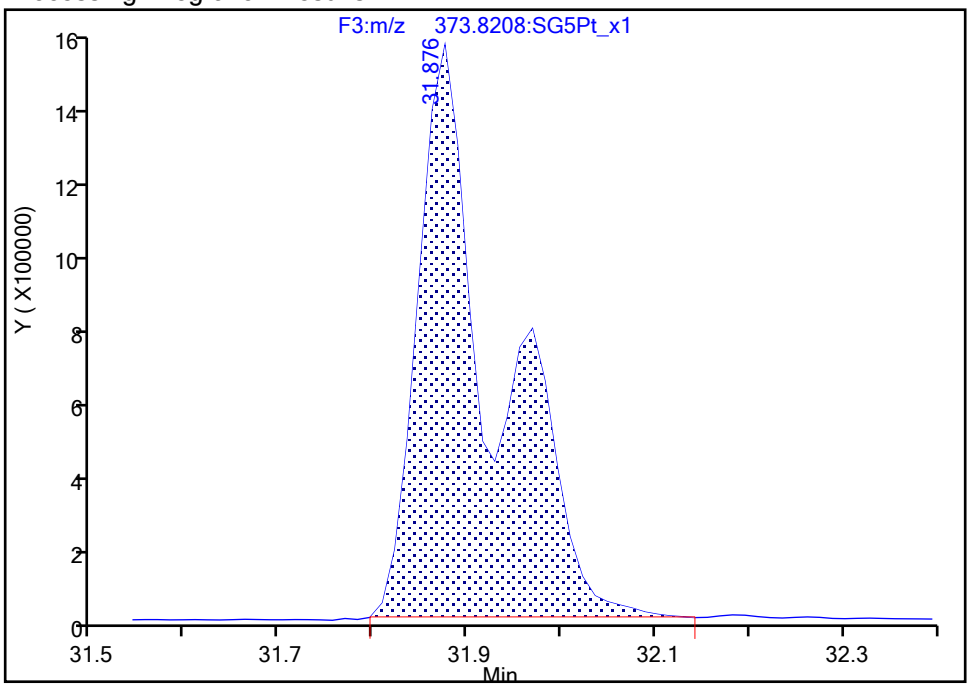

Manual Integration Results

RT: 31.88
Area: 5863018
Amount: 59.410391
Amount Units: pg/ul

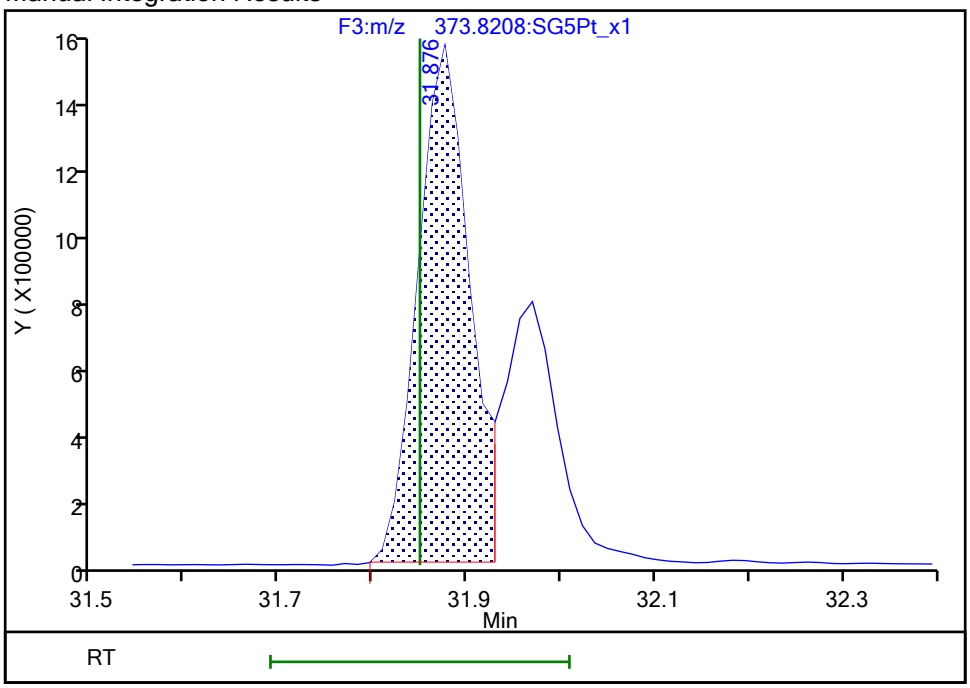

Reviewer: dadunj, 08-Nov-2019 09:21:19

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_12.d				
Injection Date:	06-Nov-2019 03:58:18	Instrument ID:	10D5		
Lims ID:	600-194690-A-11-B MS				
Client ID:	INF 4 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

Non-2,3,7,8-sub-HxCDF, Signal: 1, m/z: 373.8208, RT: (26.73- 31.97)

Signal: 1

Processing Integration Results

Not Detected
RT: 26.73- 31.97

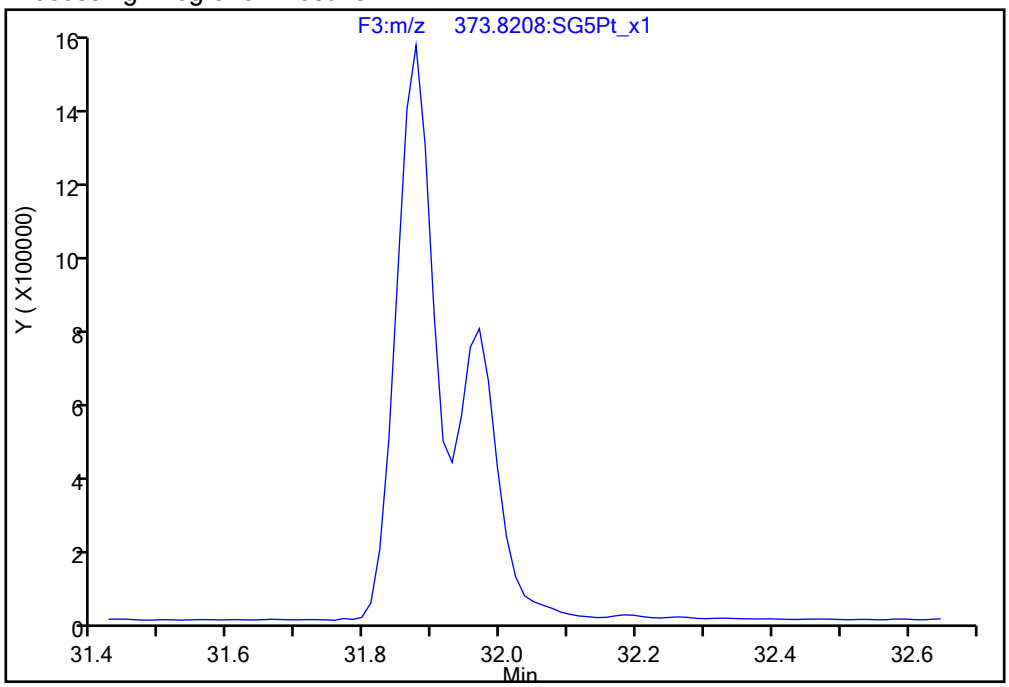

Manual Integration Results

RT = 31.969 Area = 3039530 M

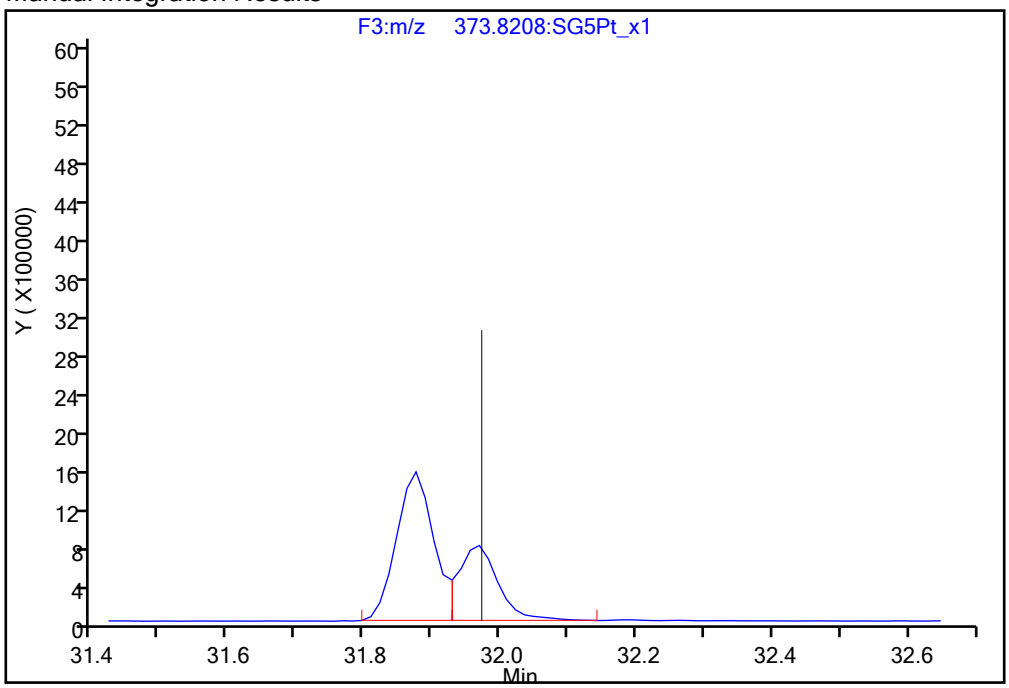

Reviewer: dadunj, 08-Nov-2019 09:21:26

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Report Date: 08-Nov-2019 09:27:29 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_12.d		
Injection Date:	06-Nov-2019 03:58:18	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336302	Sample Line#:	12
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

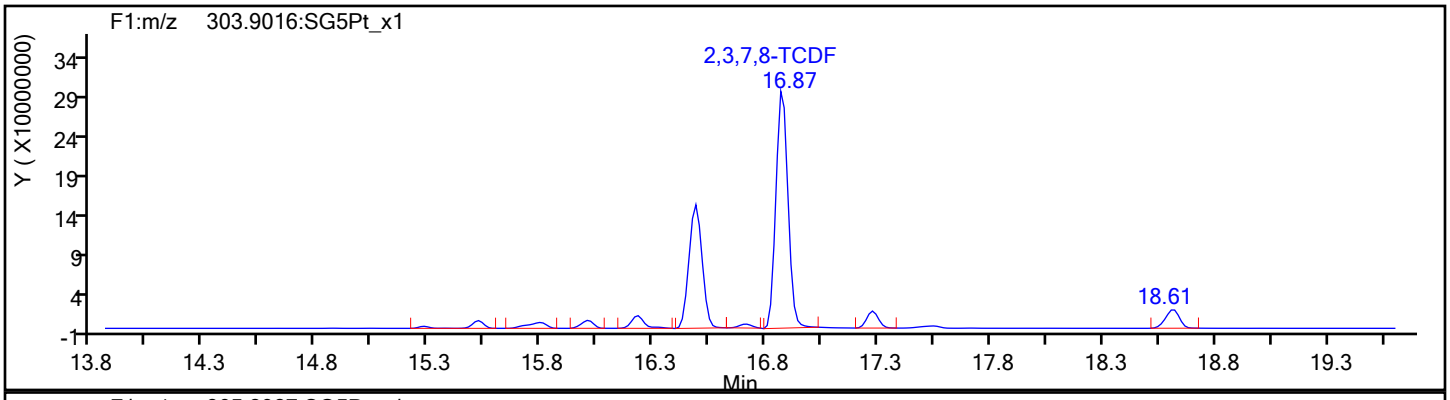

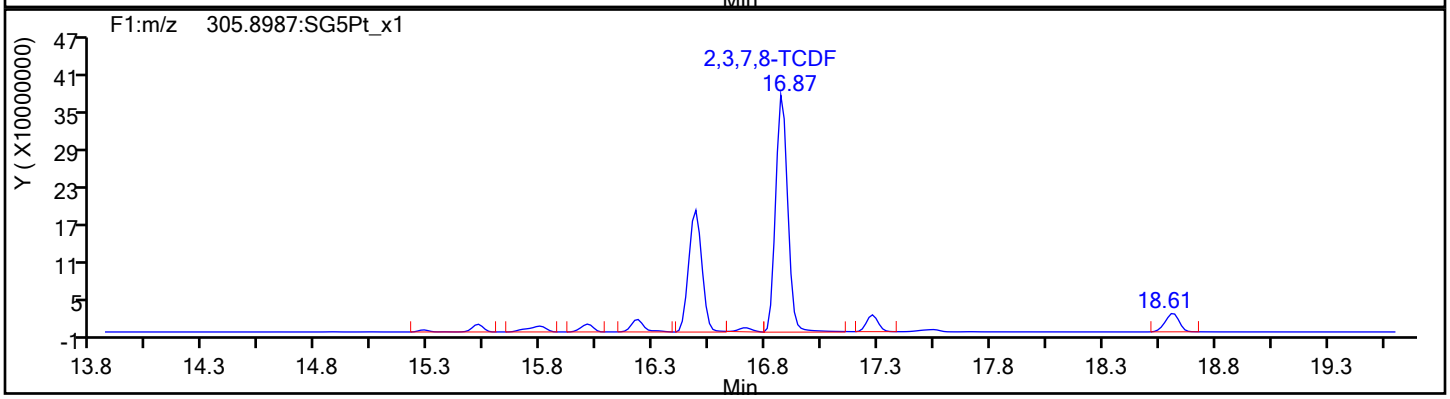

TCDF Standards

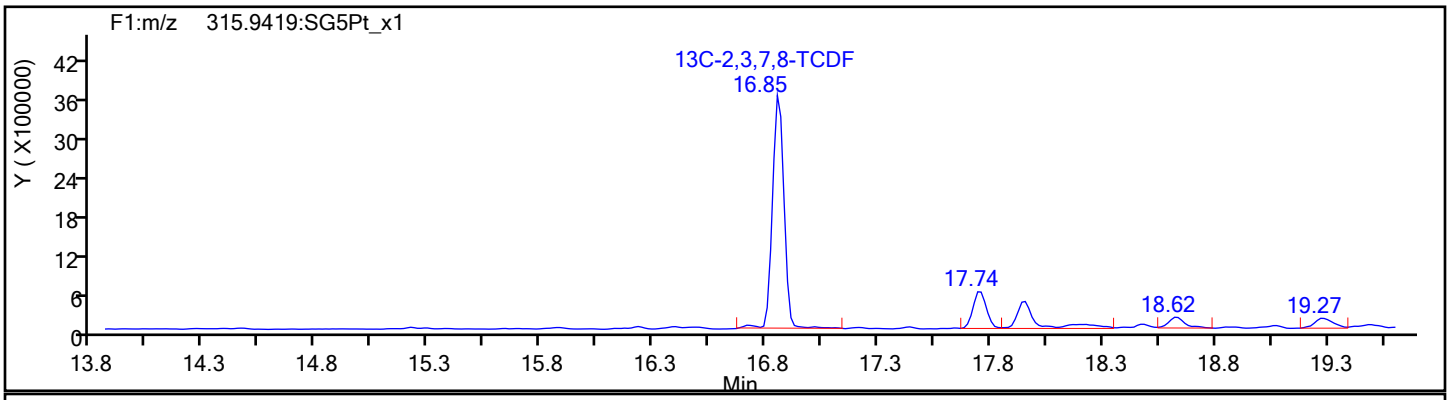

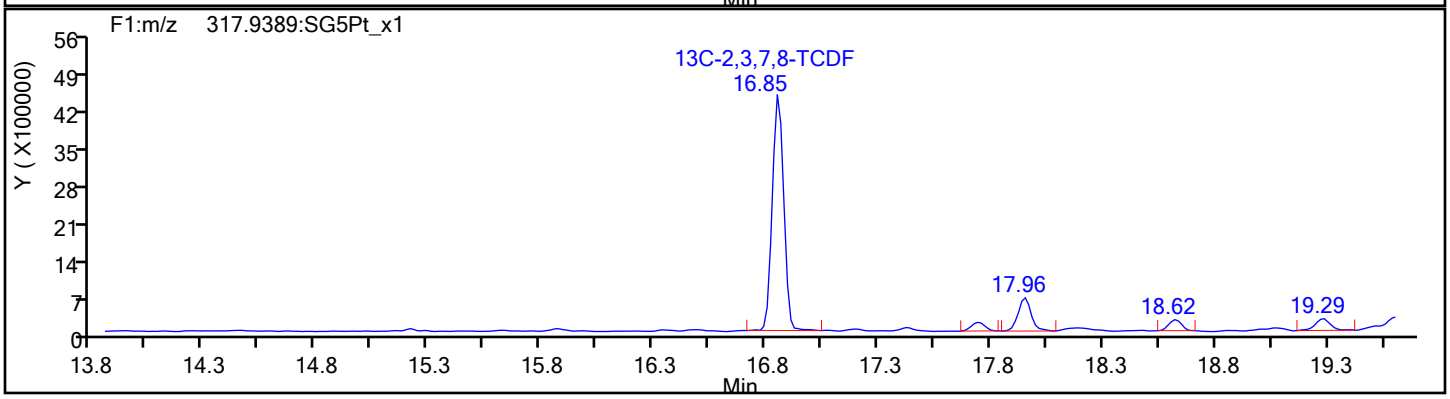

Report Date: 08-Nov-2019 09:27:29 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

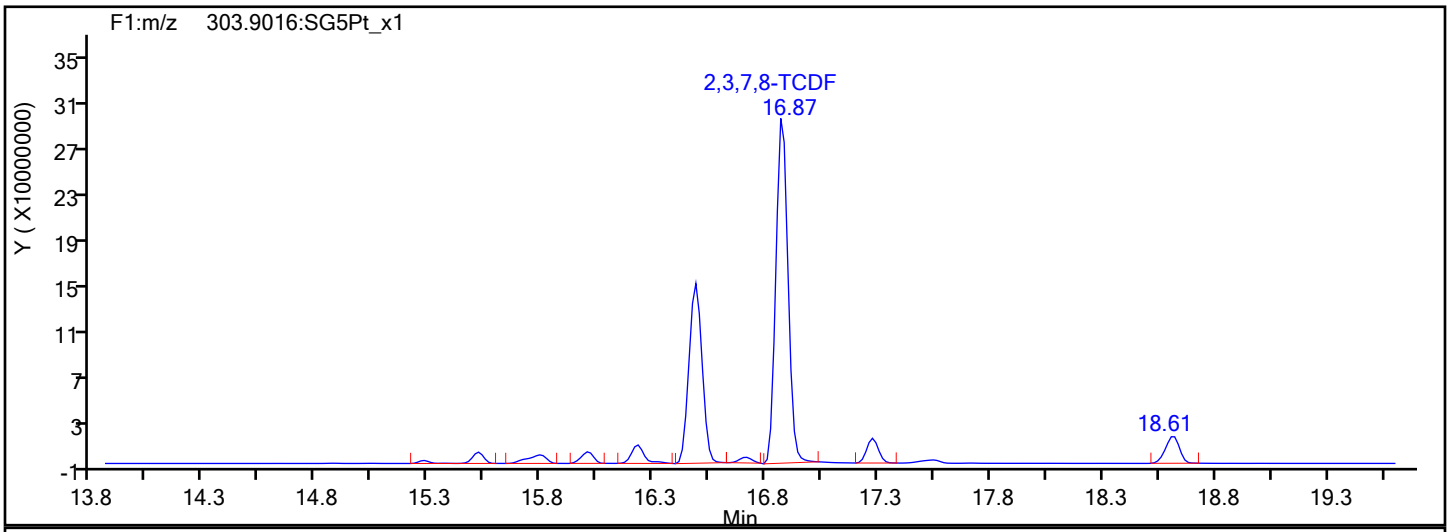

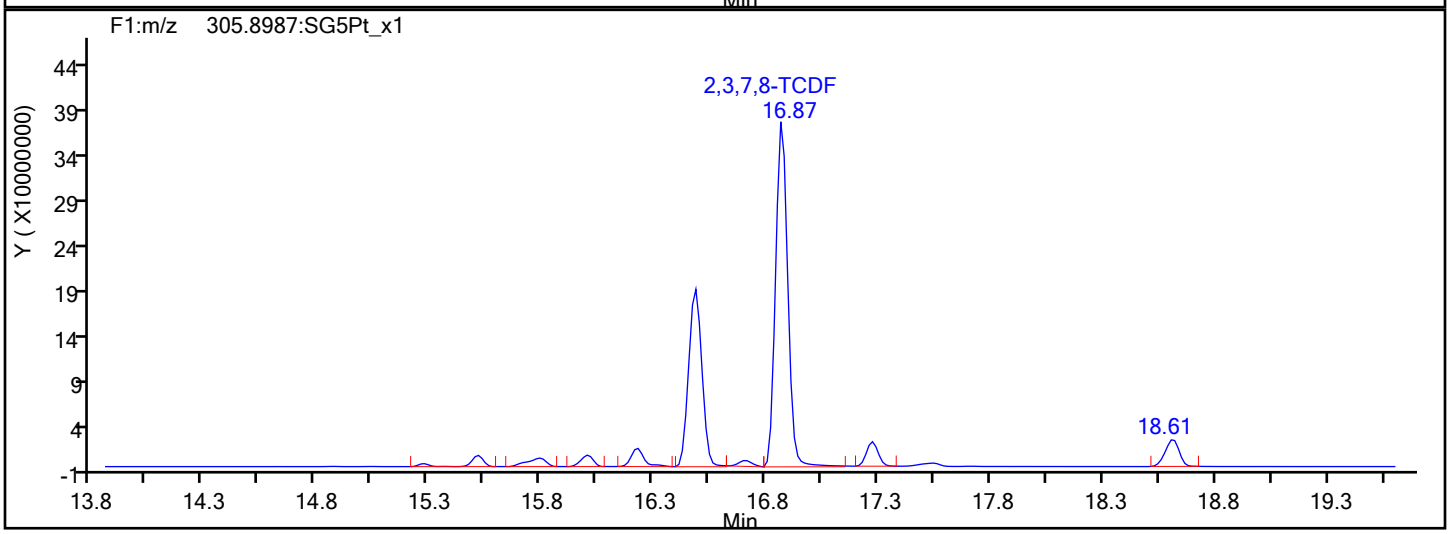

TCDF Interference Mass

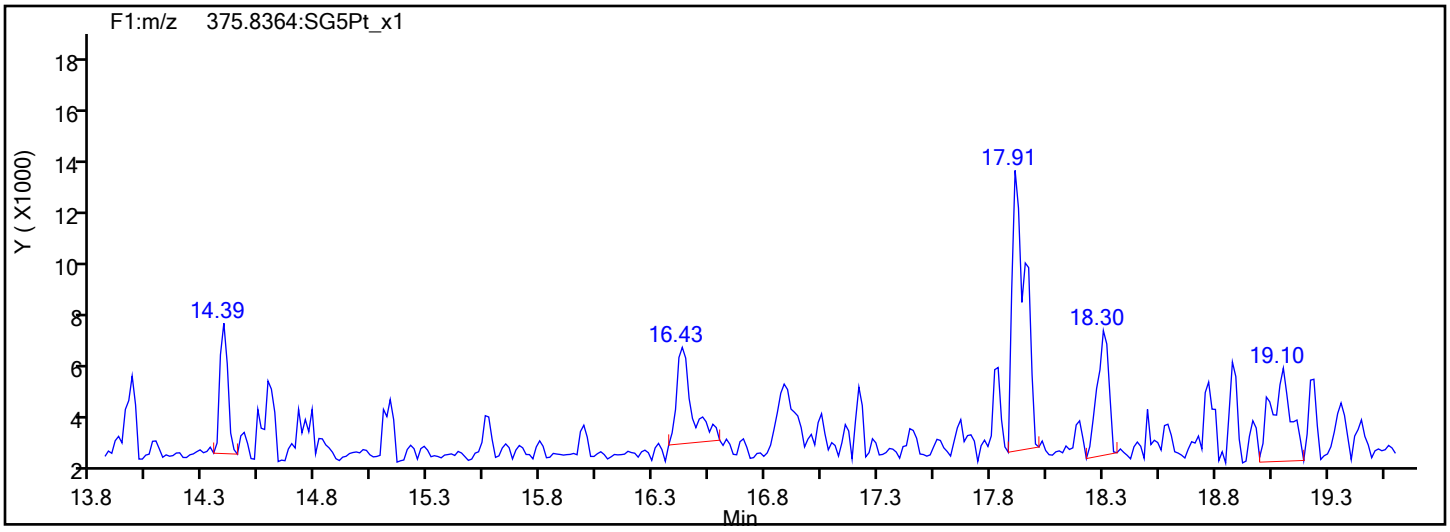

Report Date: 08-Nov-2019 09:27:30 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Injection Date:	06-Nov-2019 03:58:18	Injection Vol:	2.0 ul
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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TCDD

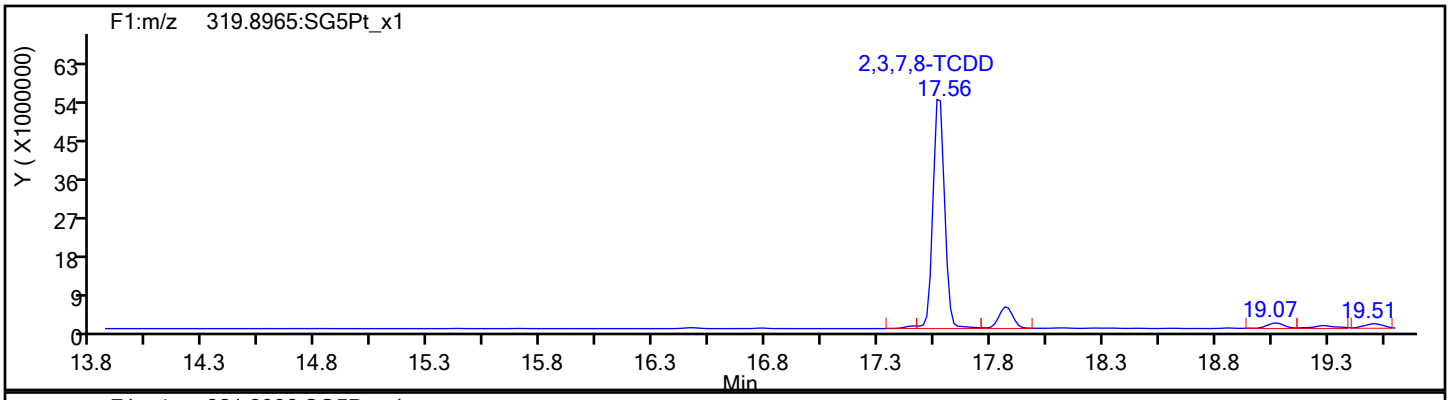

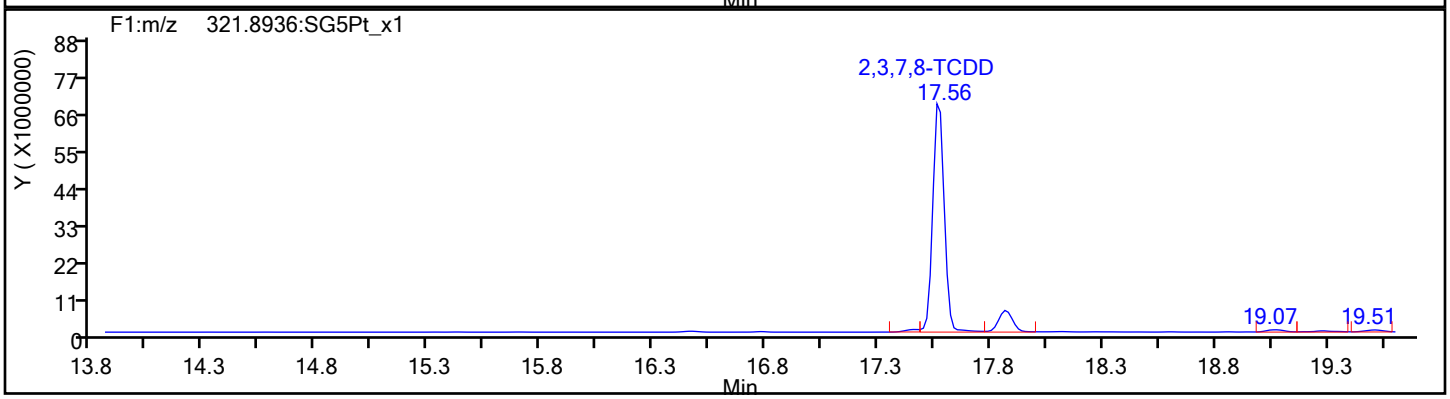

TCDD Standards

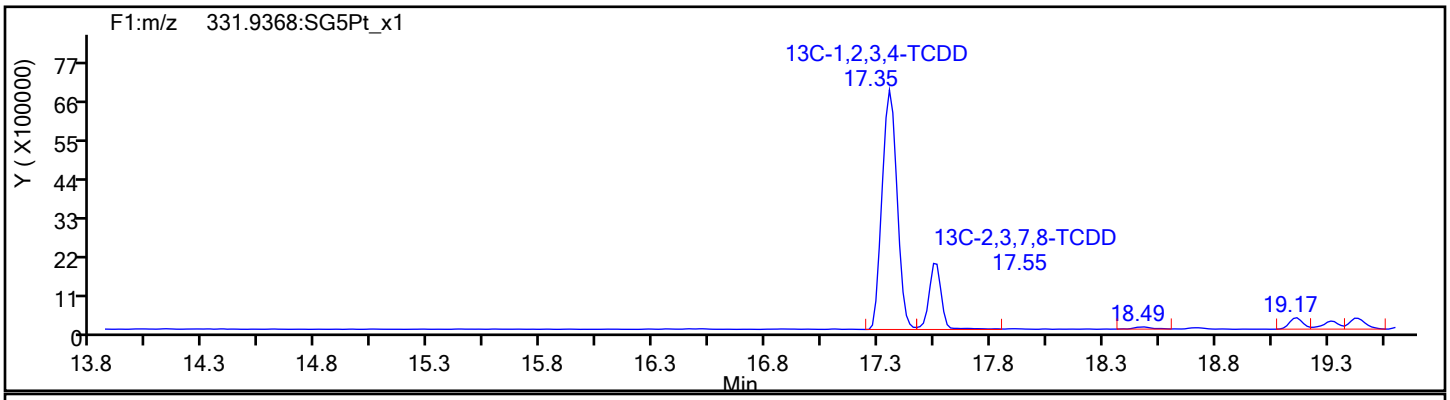

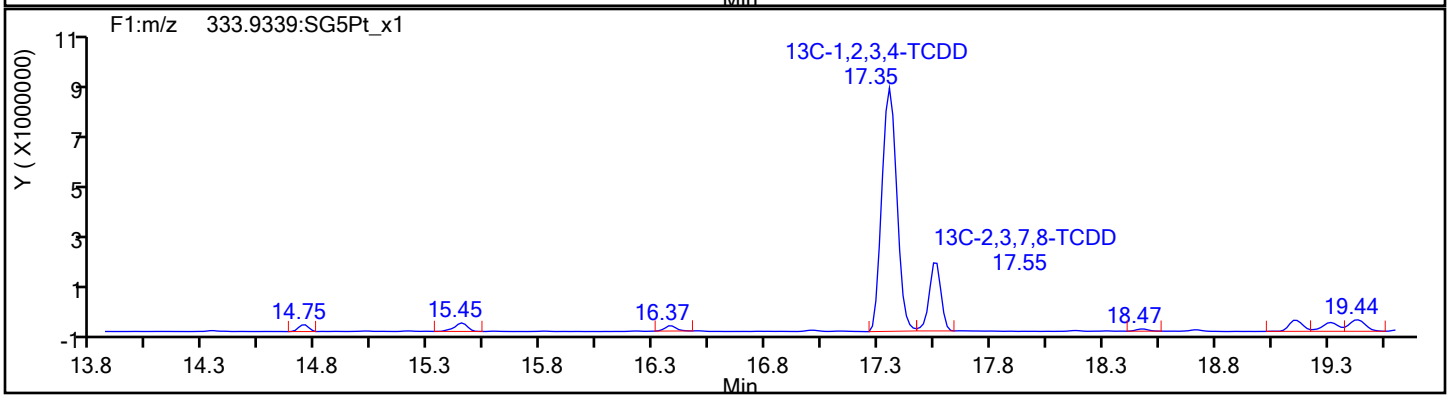

Report Date: 08-Nov-2019 09:27:30 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

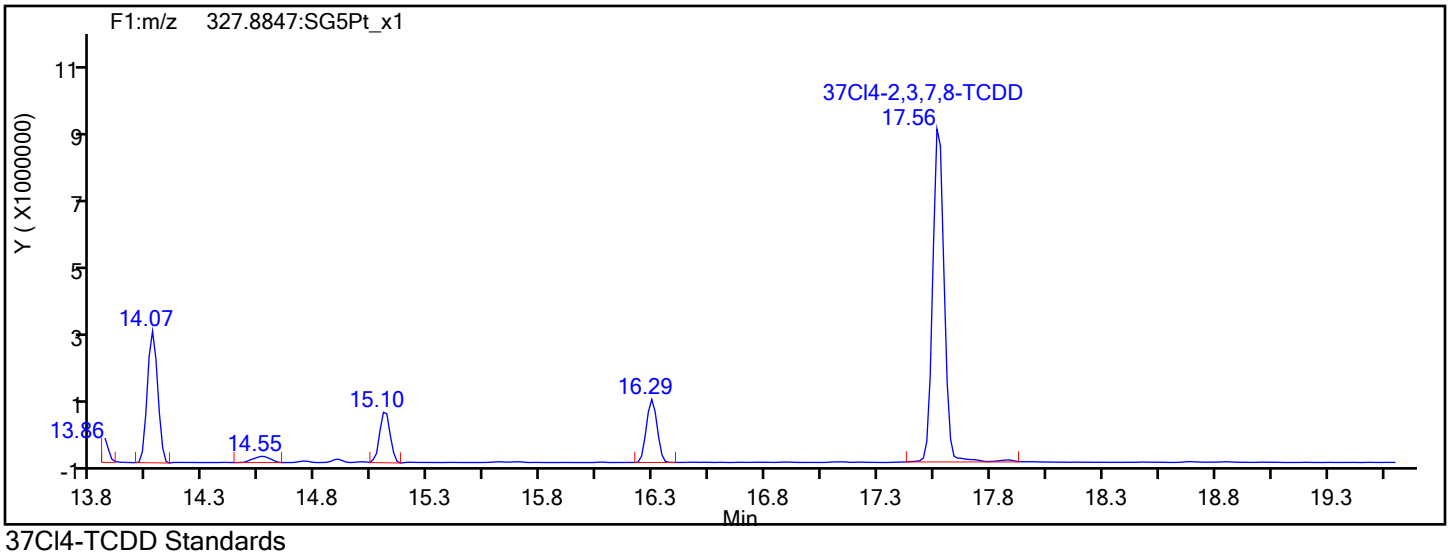

37Cl4-TCDD Standards

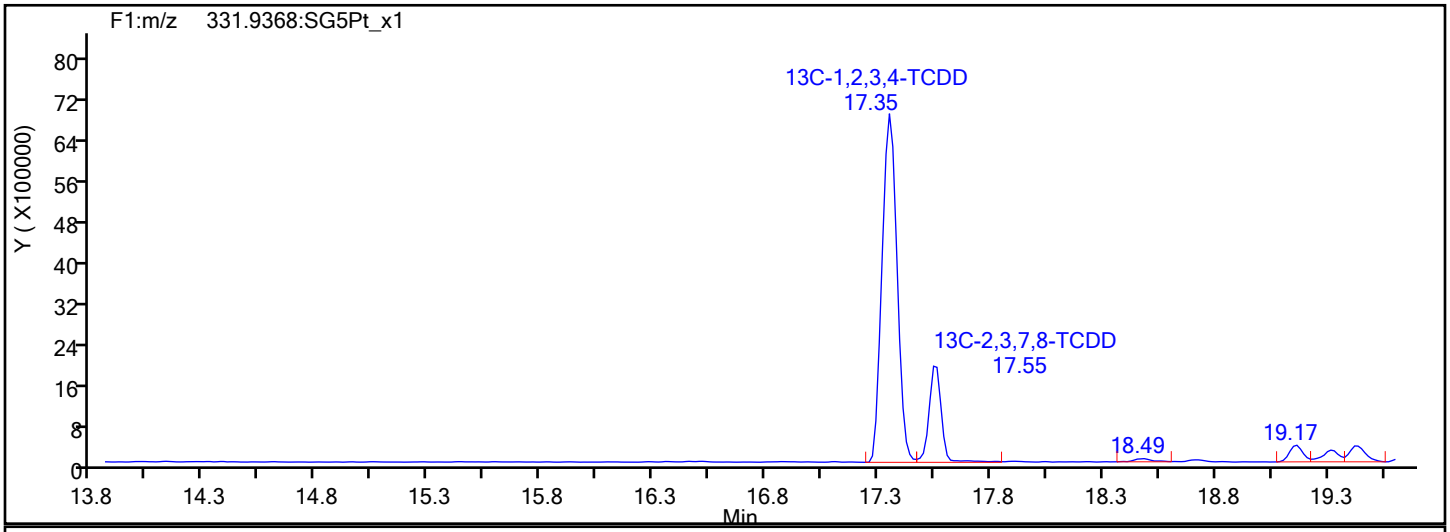

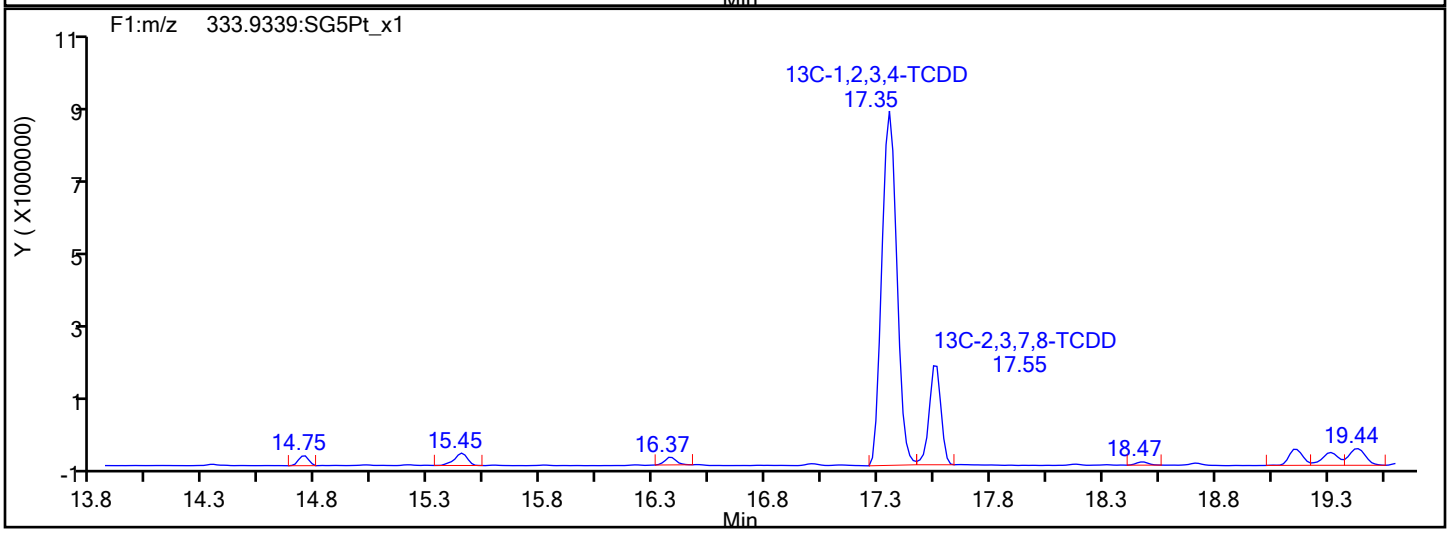

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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F1 PeCDFs

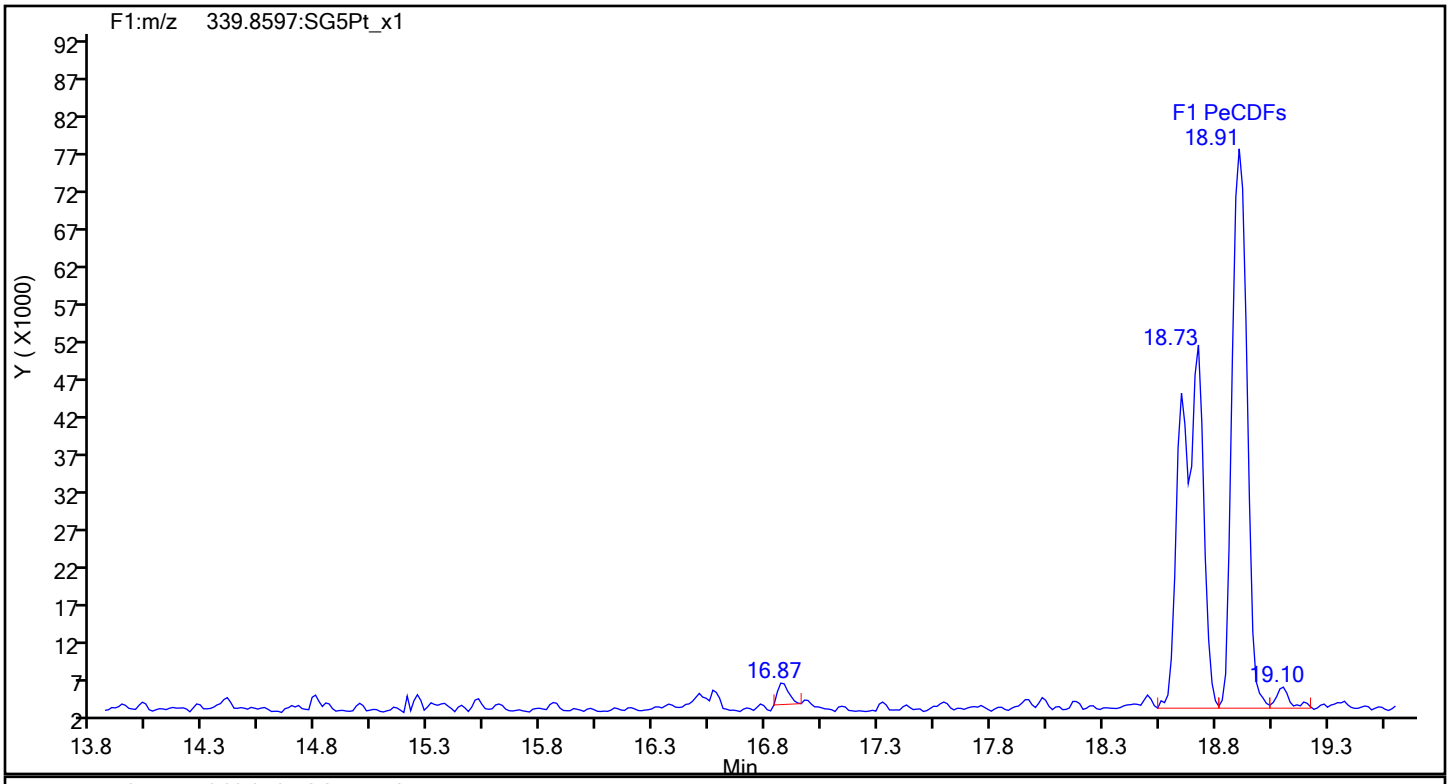

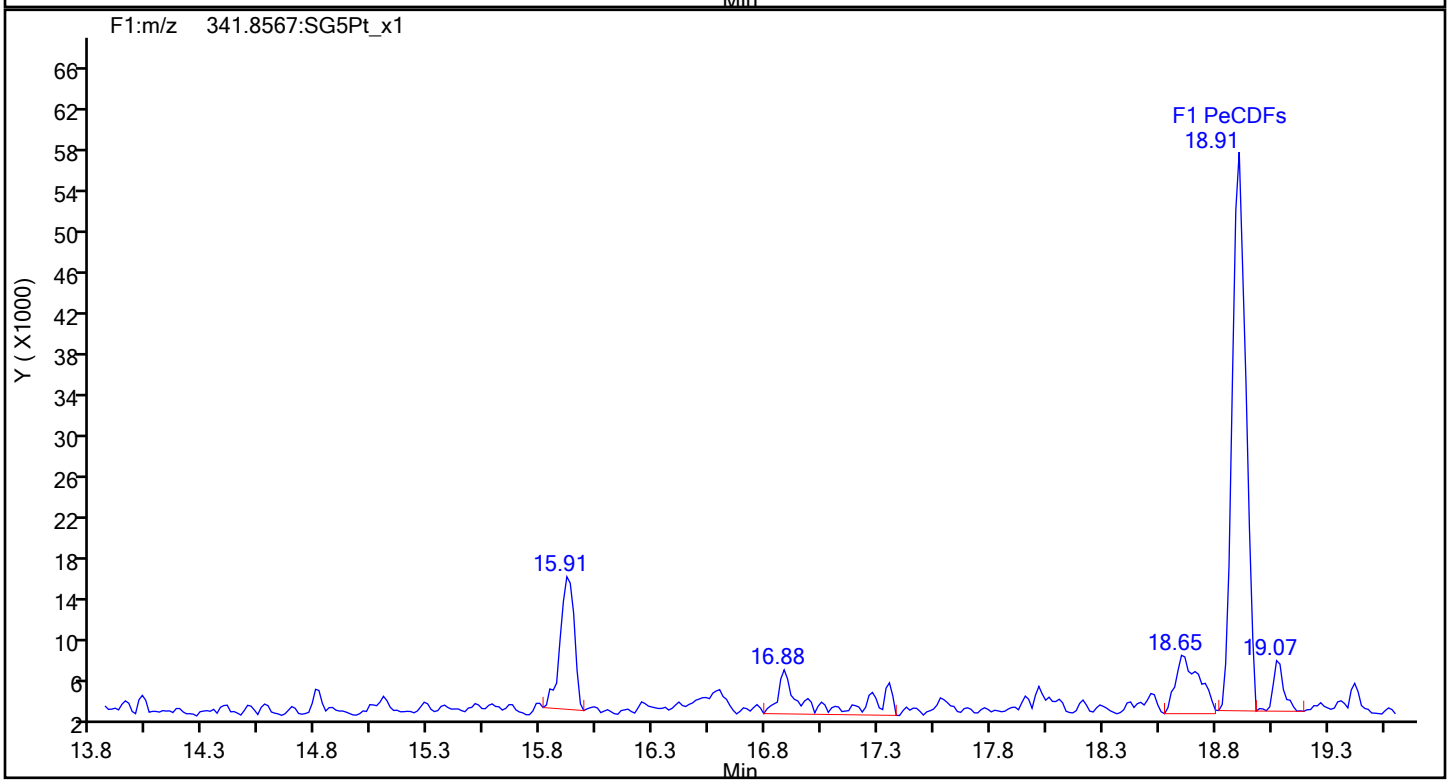

Report Date: 08-Nov-2019 09:27:30 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

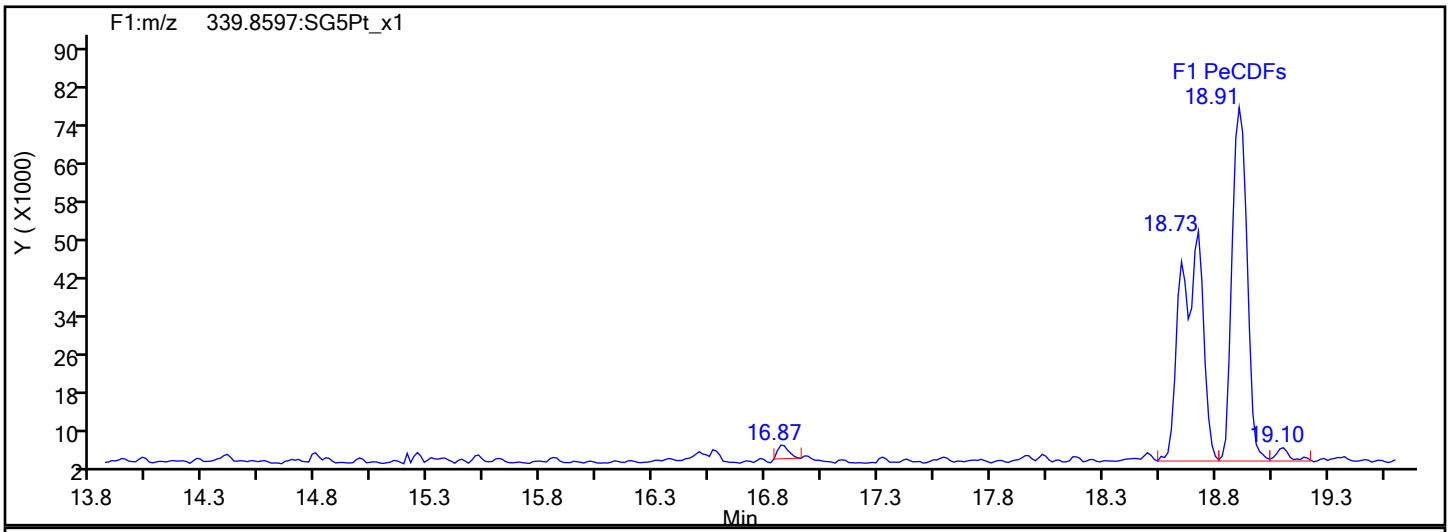

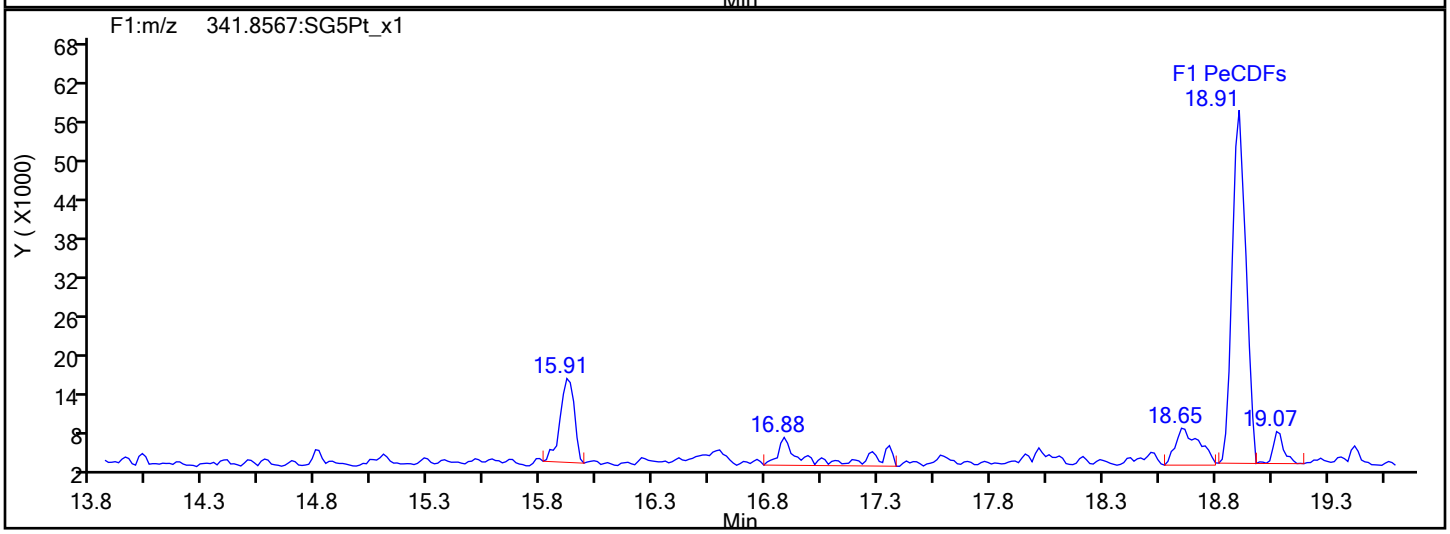

F1 PeCDFs Interference Mass

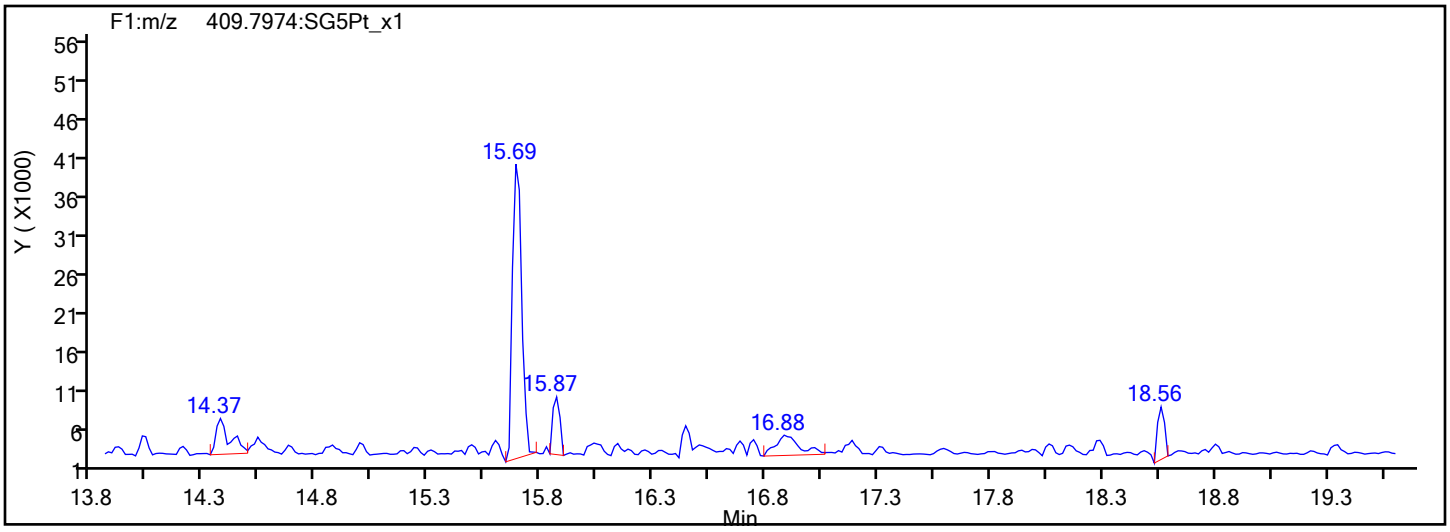

Report Date: 08-Nov-2019 09:27:30 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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PeCDF

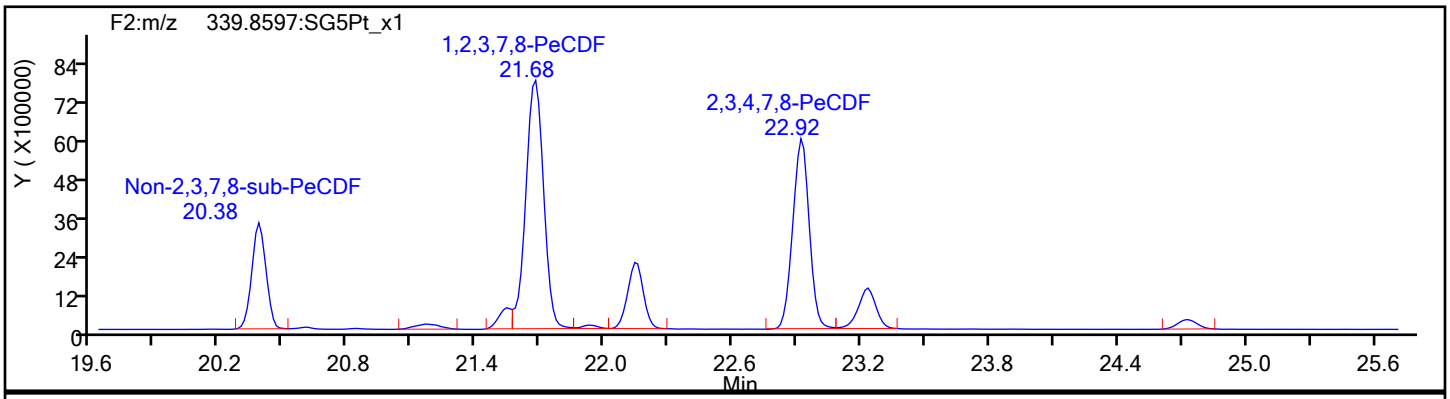

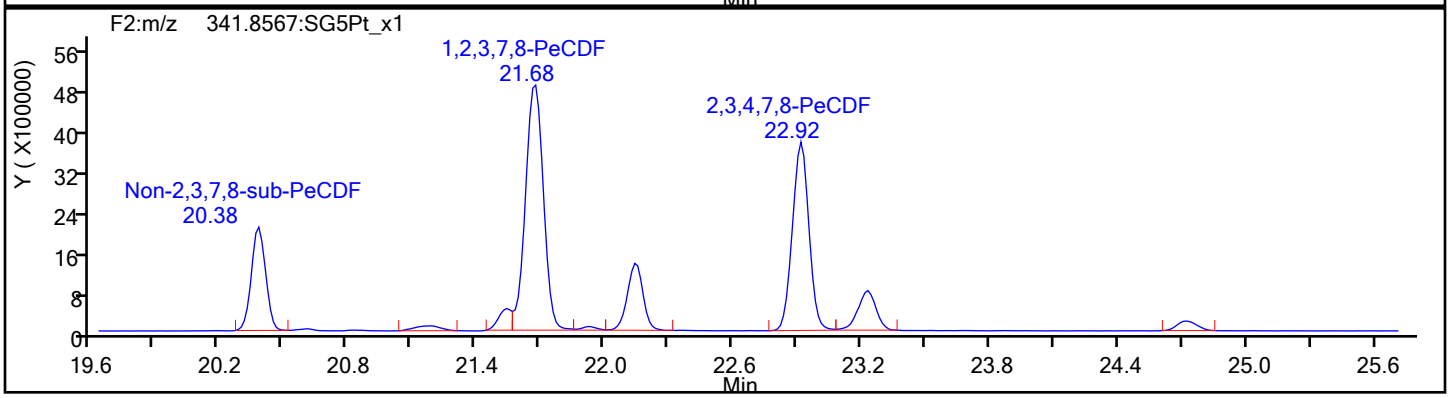

PeCDF Standards

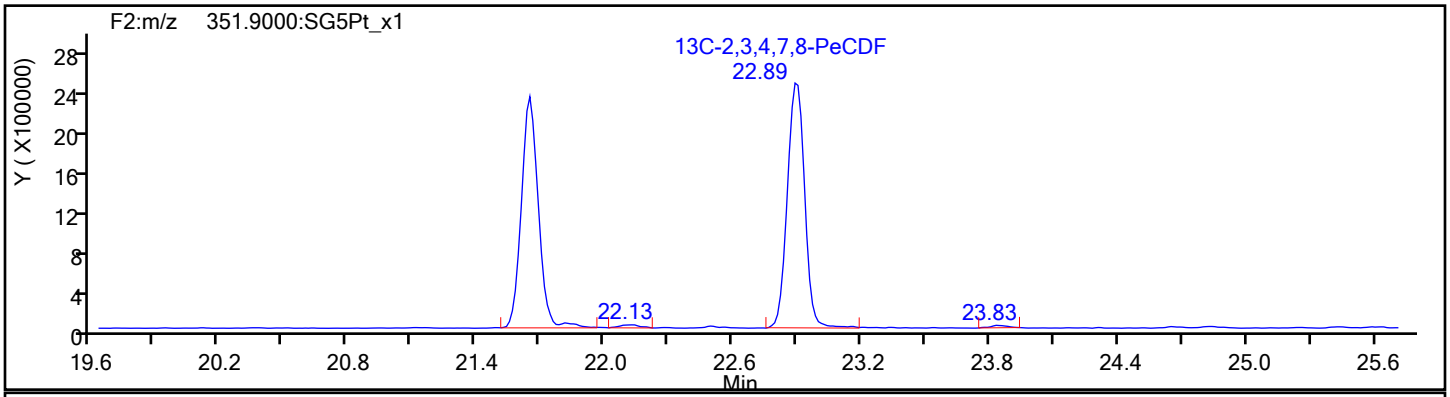

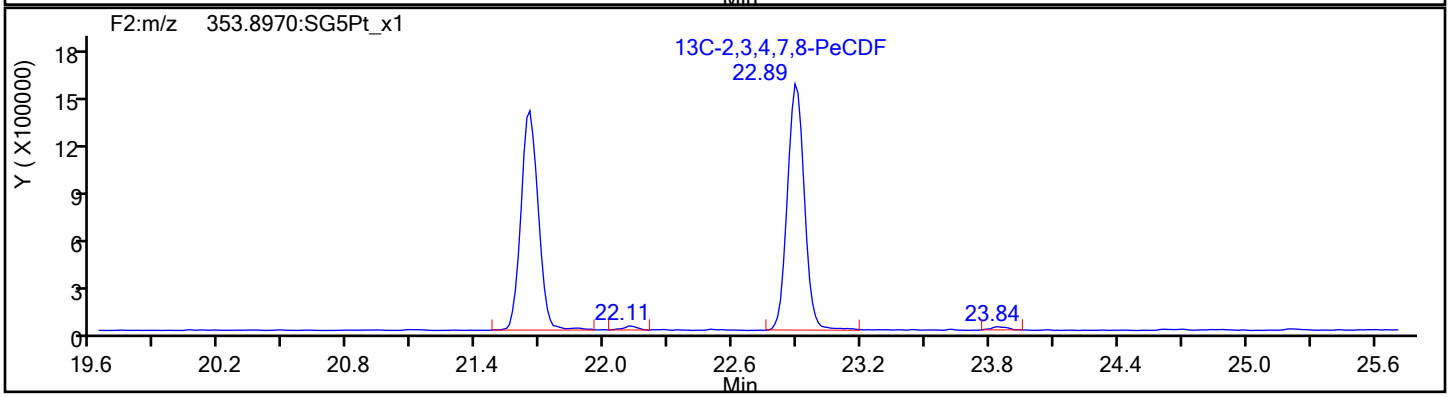

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Eurofins TestAmerica, Sacramento

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PeCDF

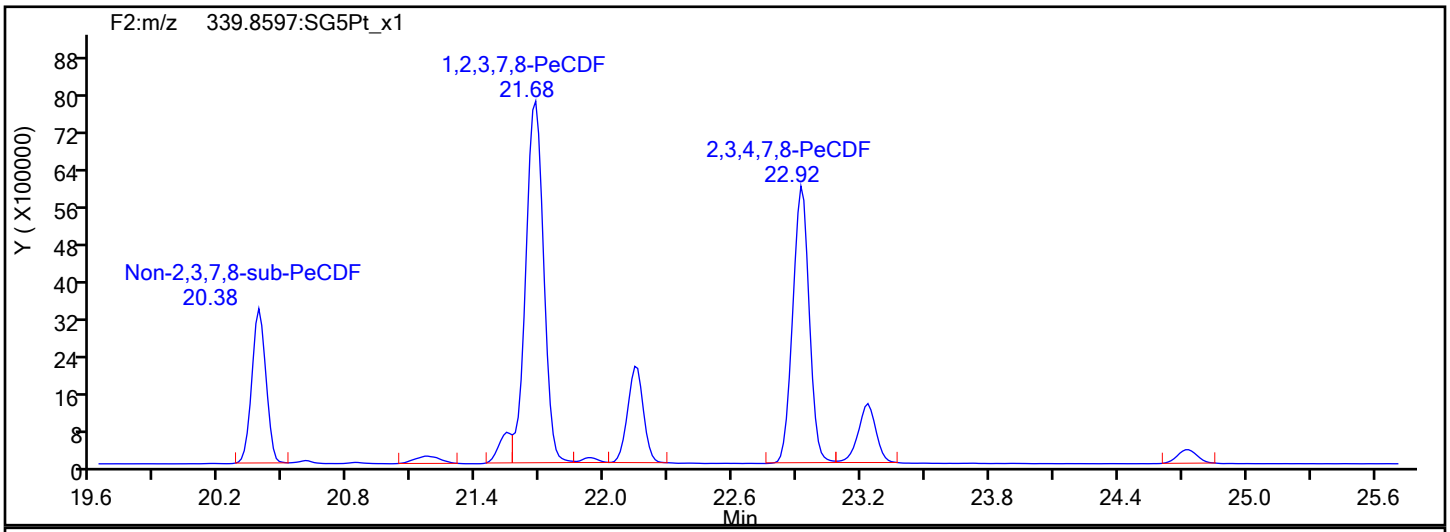

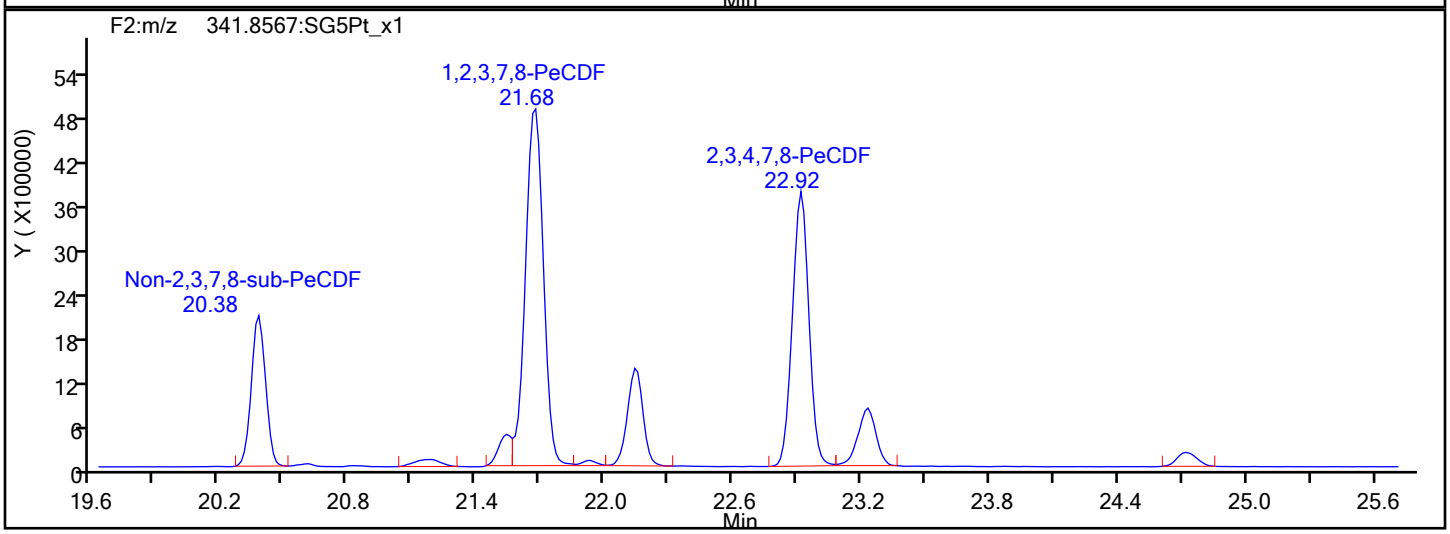

PeCDF Interference Mass

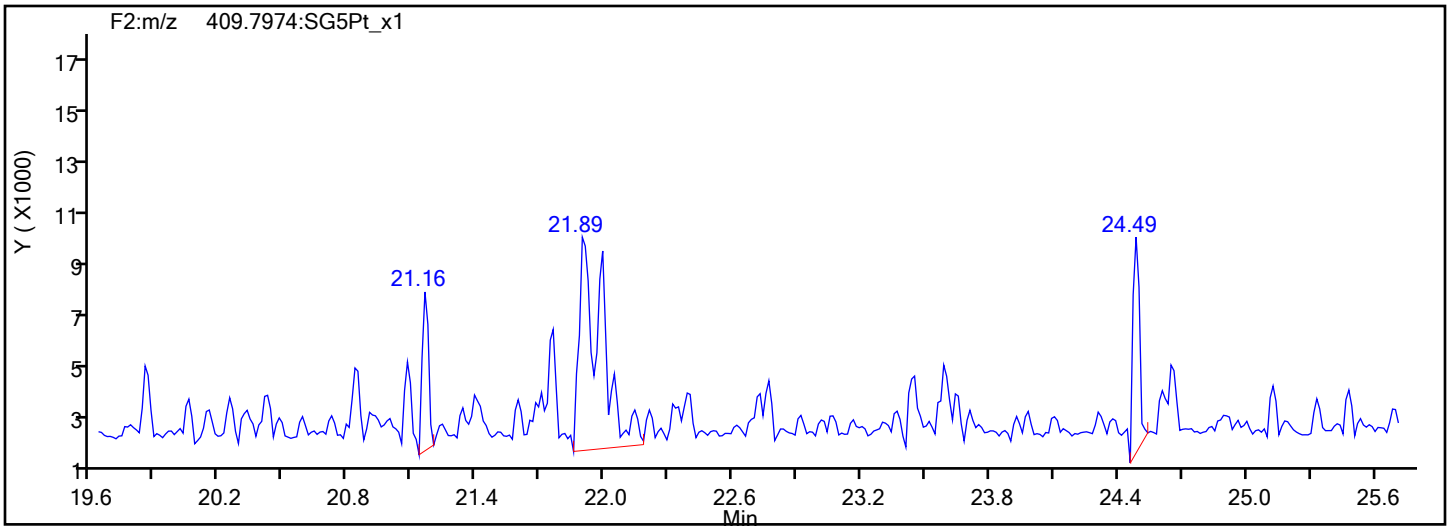

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Eurofins TestAmerica, Sacramento

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PeCDD

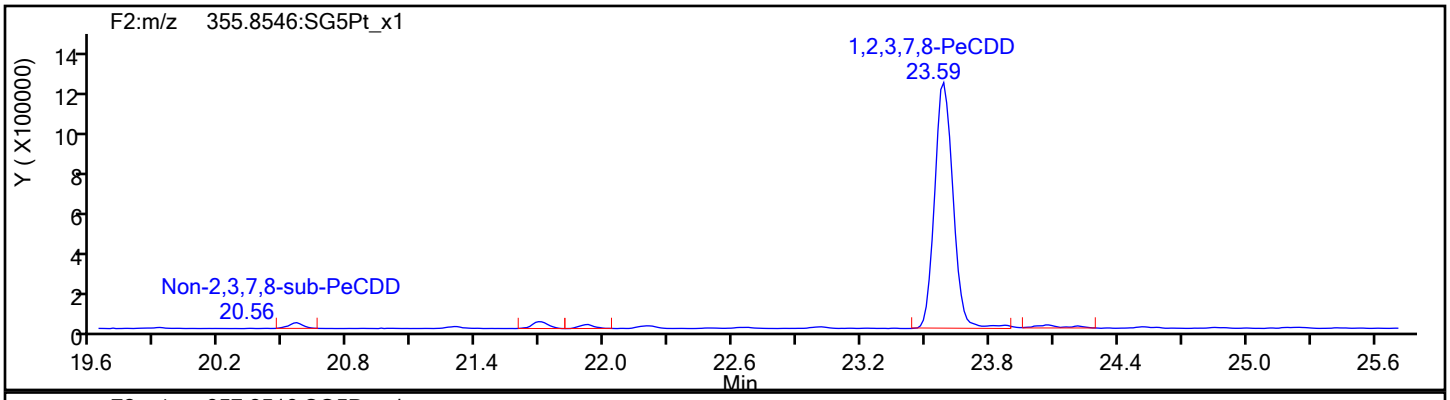

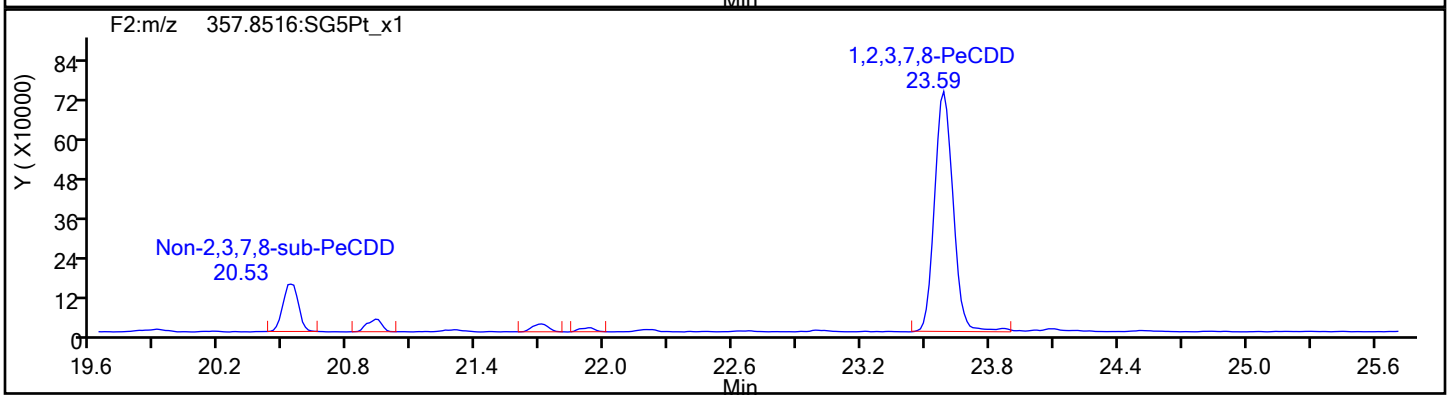

PeCDD Standards

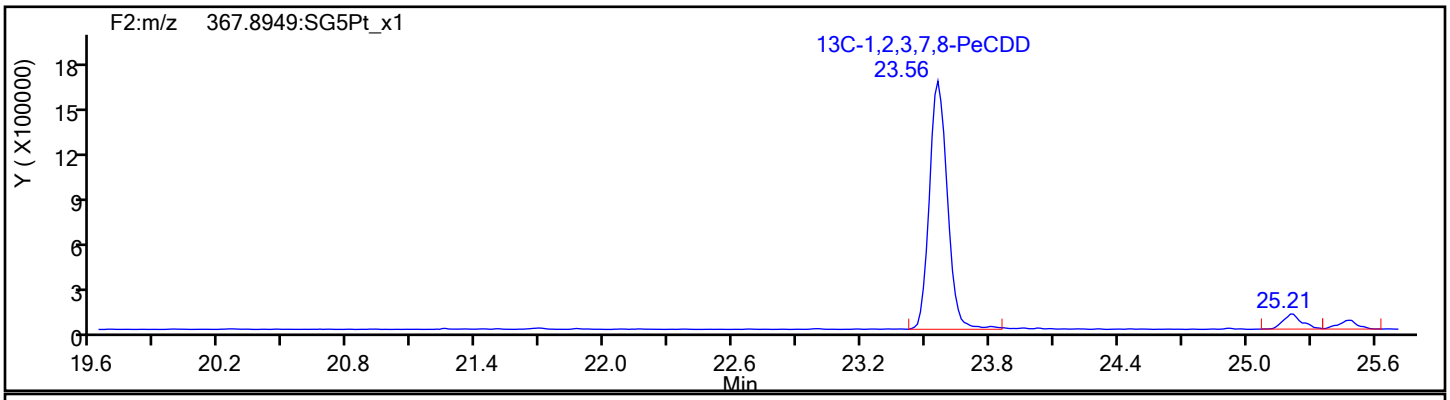

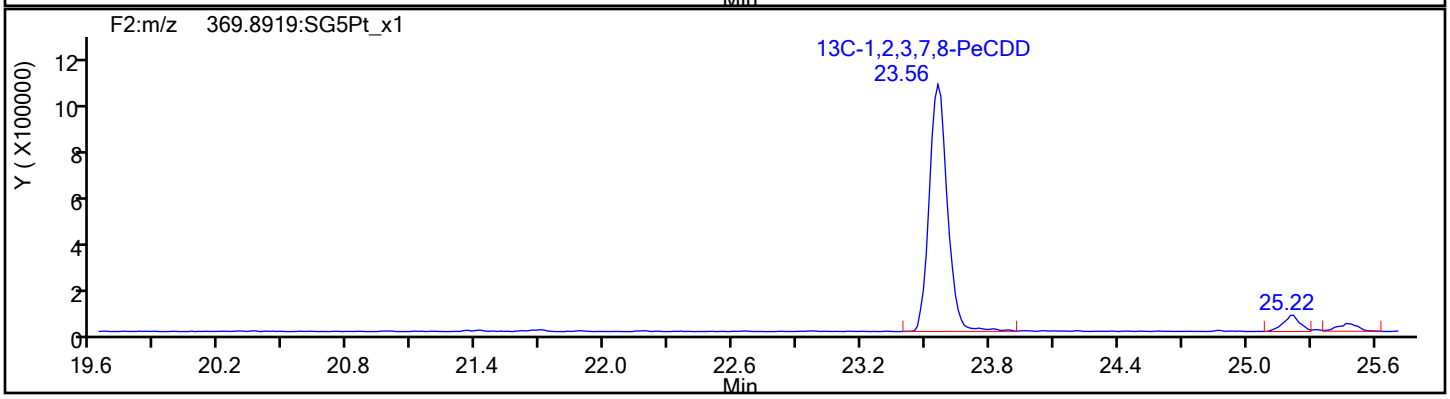

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Eurofins TestAmerica, Sacramento

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HxCDF

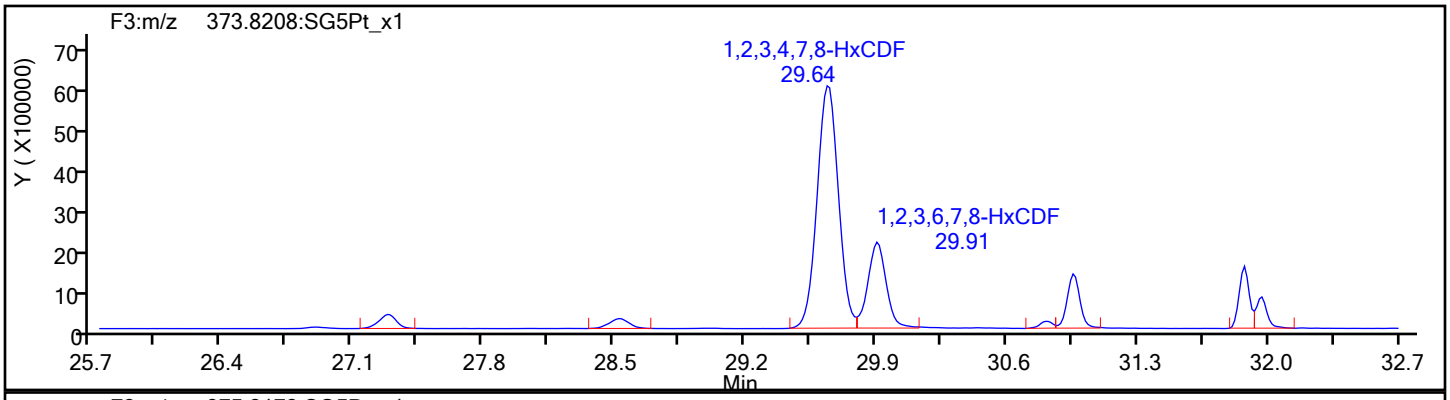

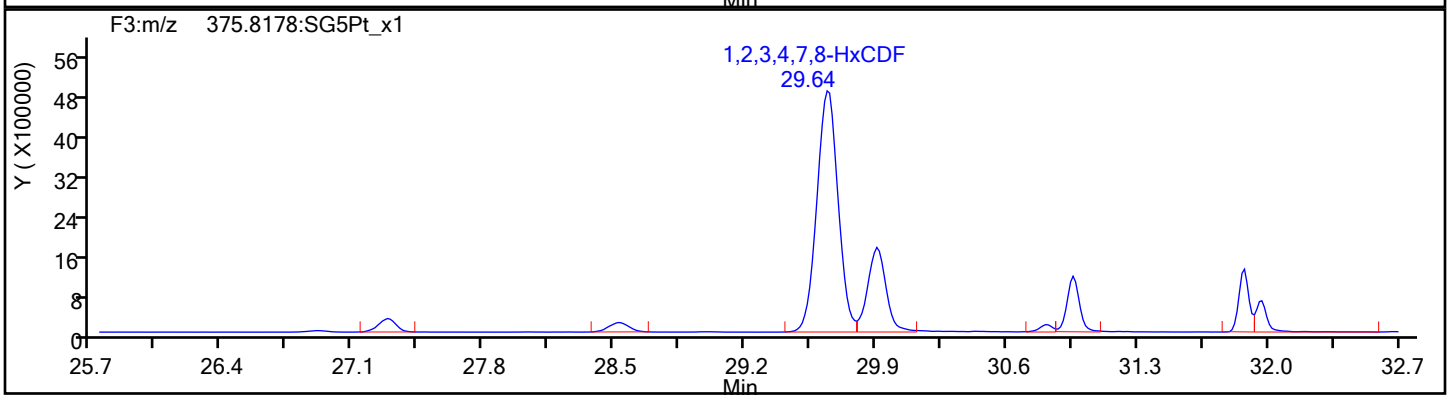

HxCDF Standards

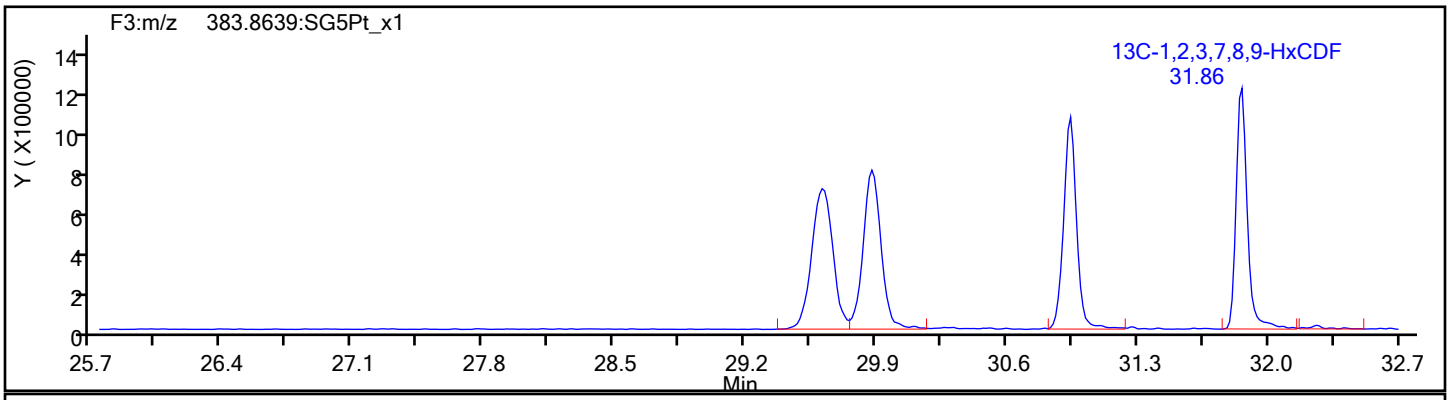

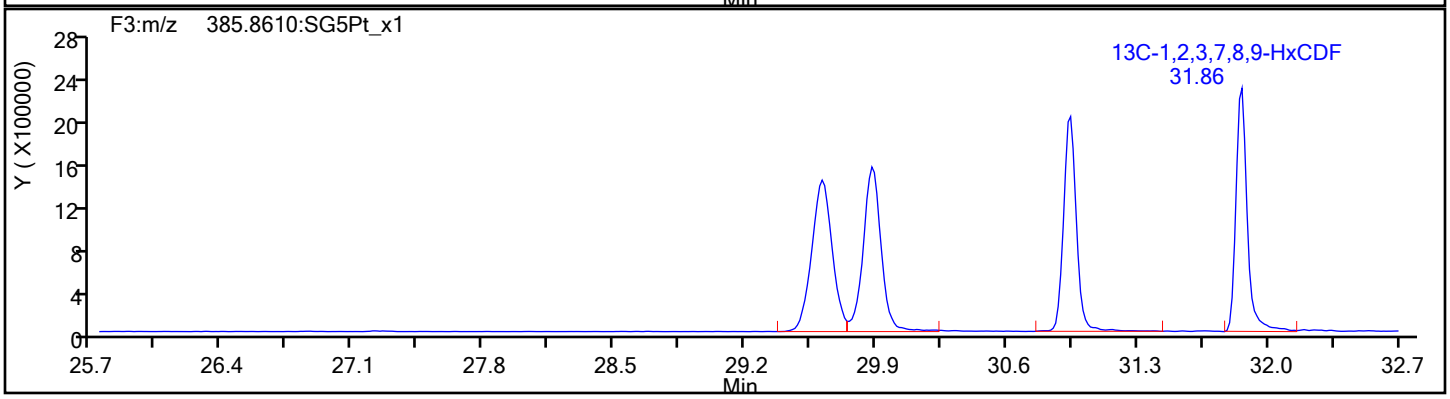

Report Date: 08-Nov-2019 09:27:31 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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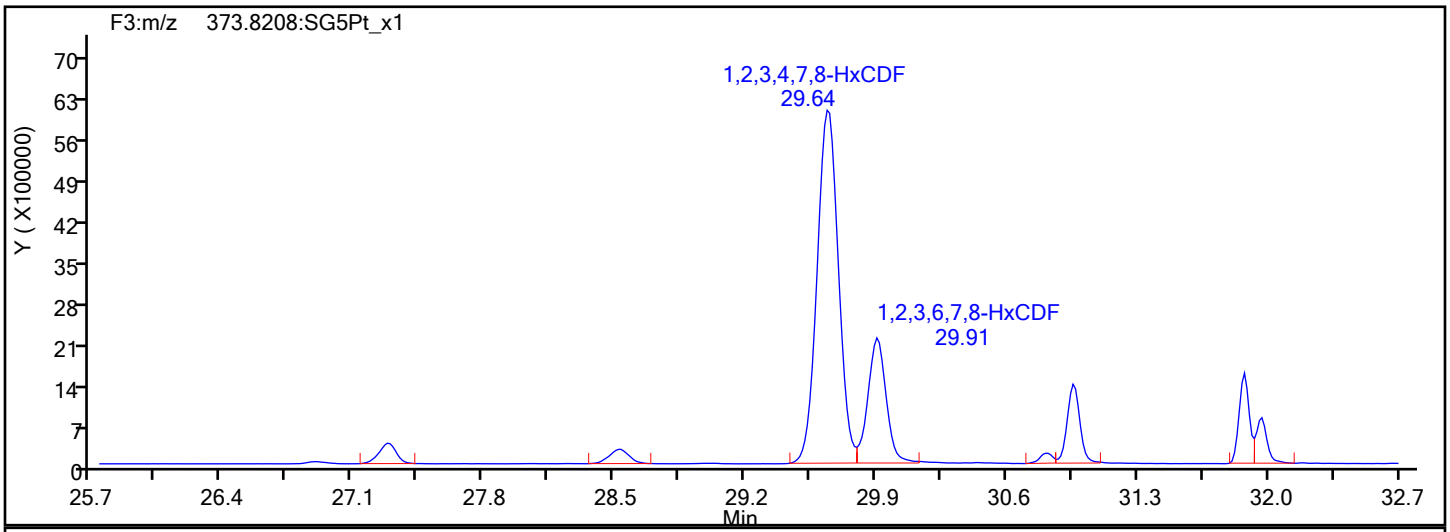

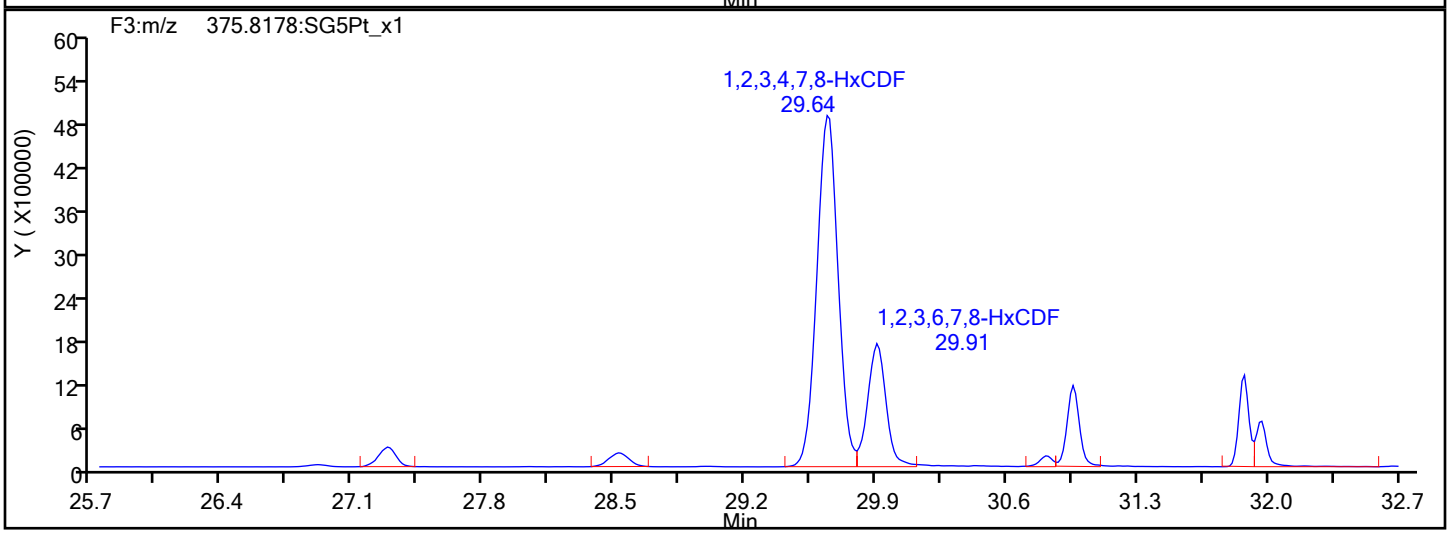

HxCDF Interference Mass

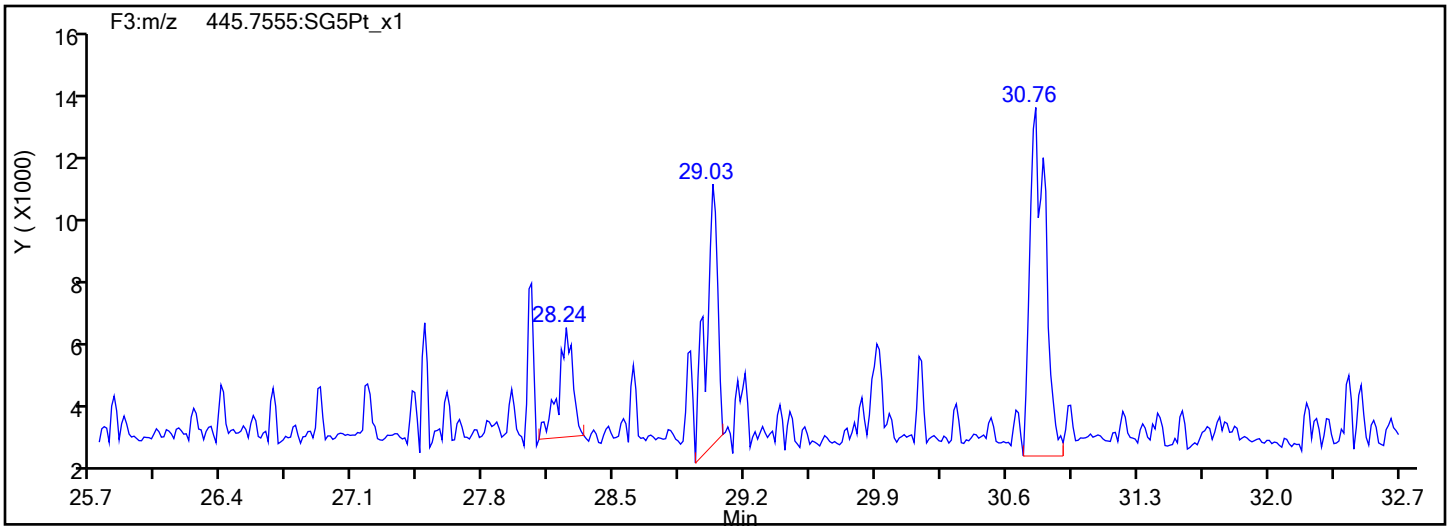

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Eurofins TestAmerica, Sacramento

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HxCDD

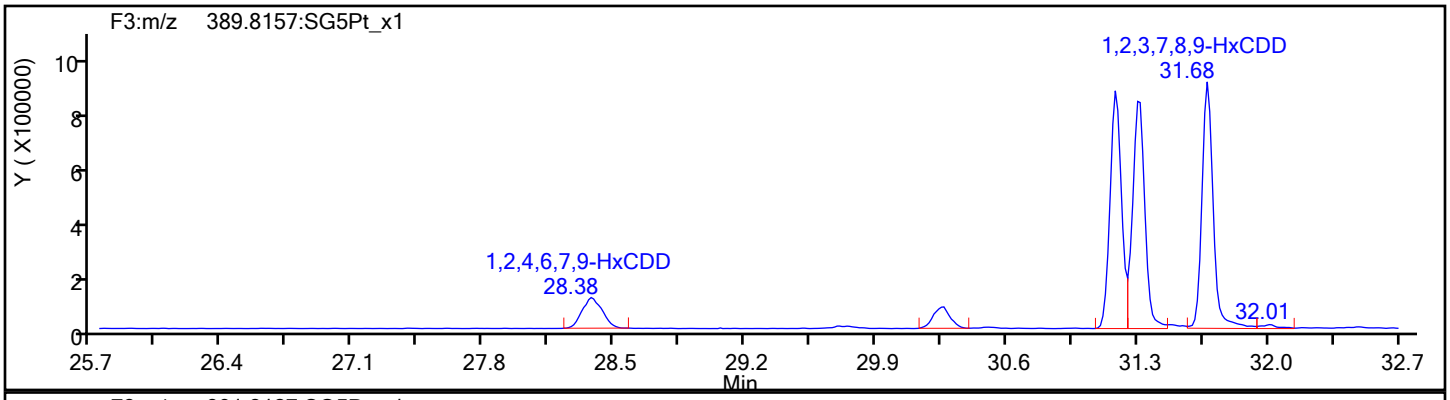

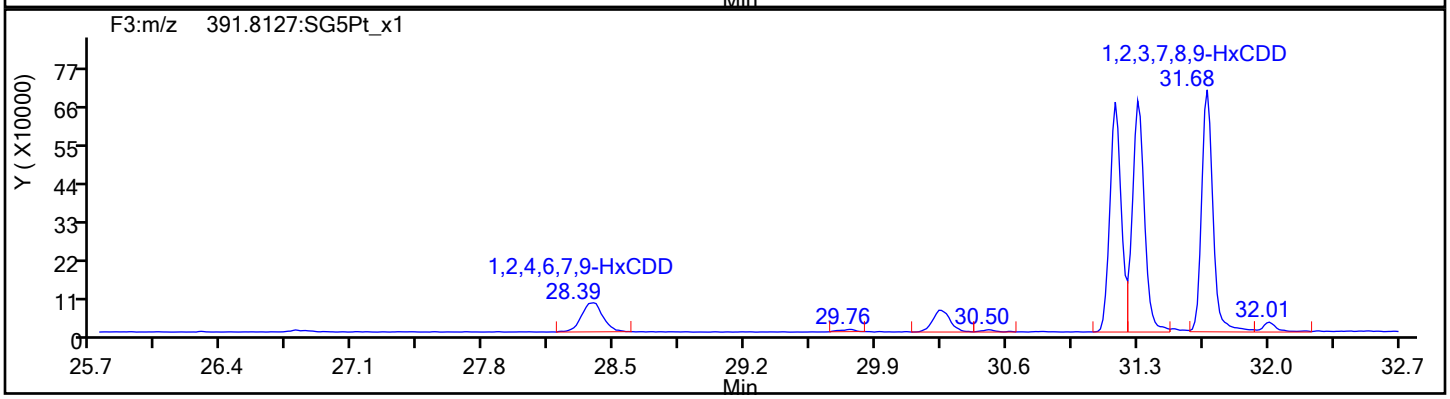

HxCDD Standards

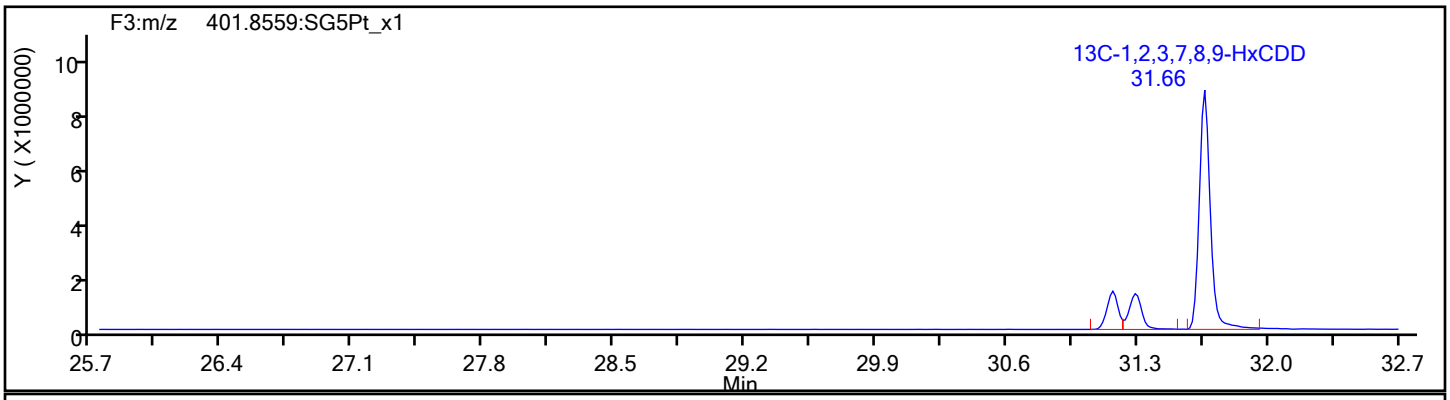

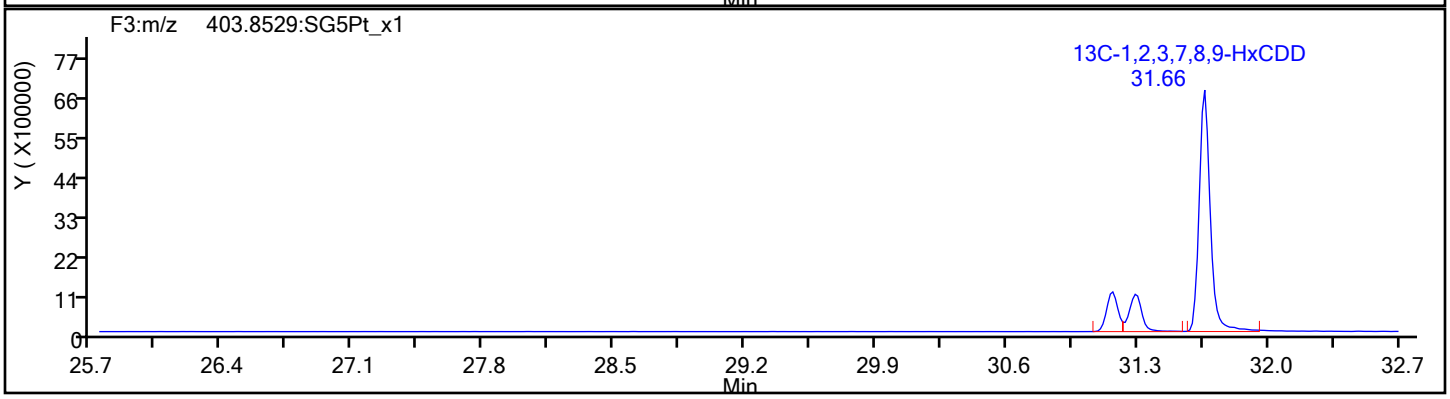

Report Date: 08-Nov-2019 09:27:31 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_12.d		
Injection Date:	06-Nov-2019 03:58:18	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336302	Sample Line#:	12
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

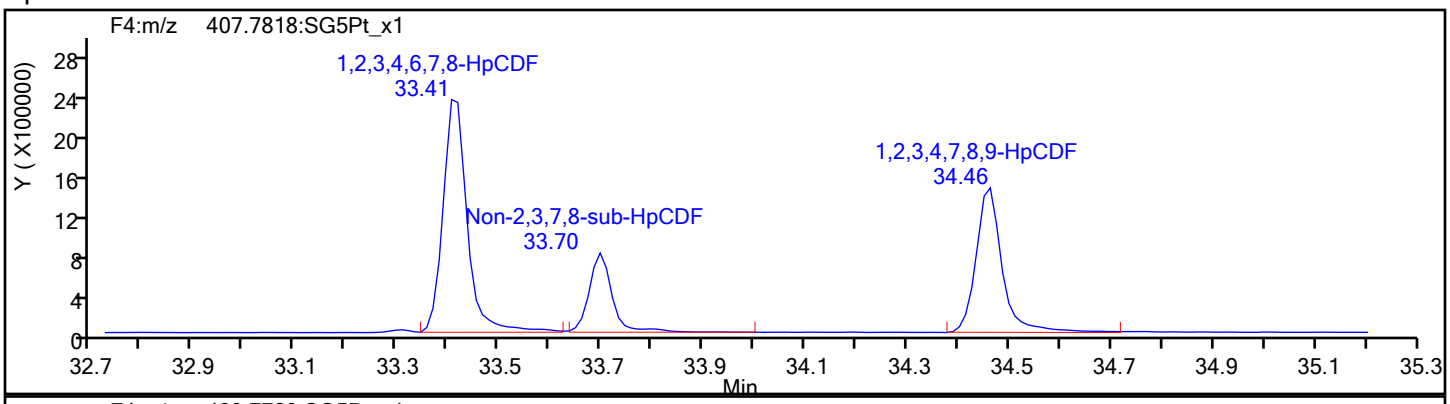

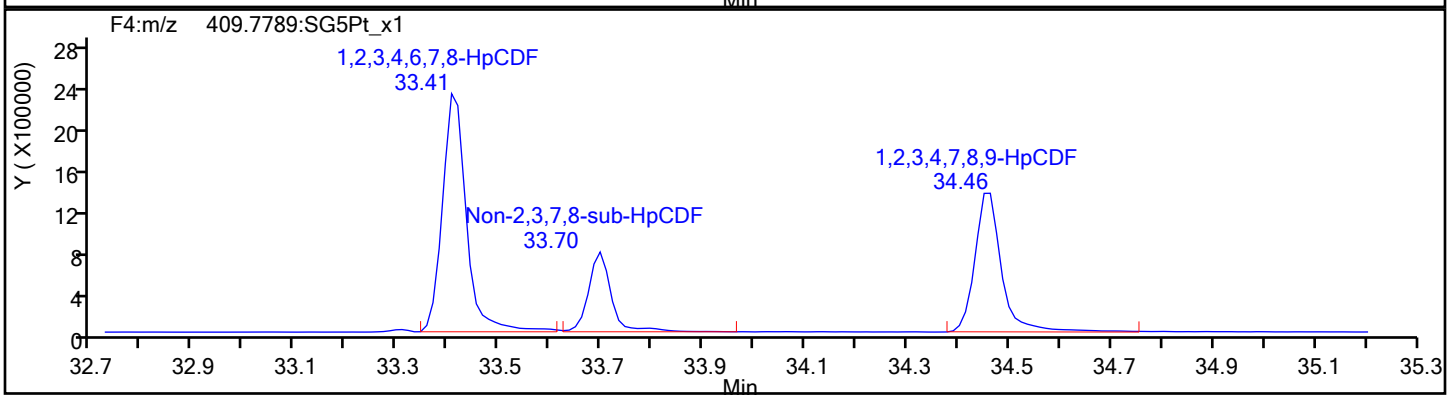

HpCDF Standards

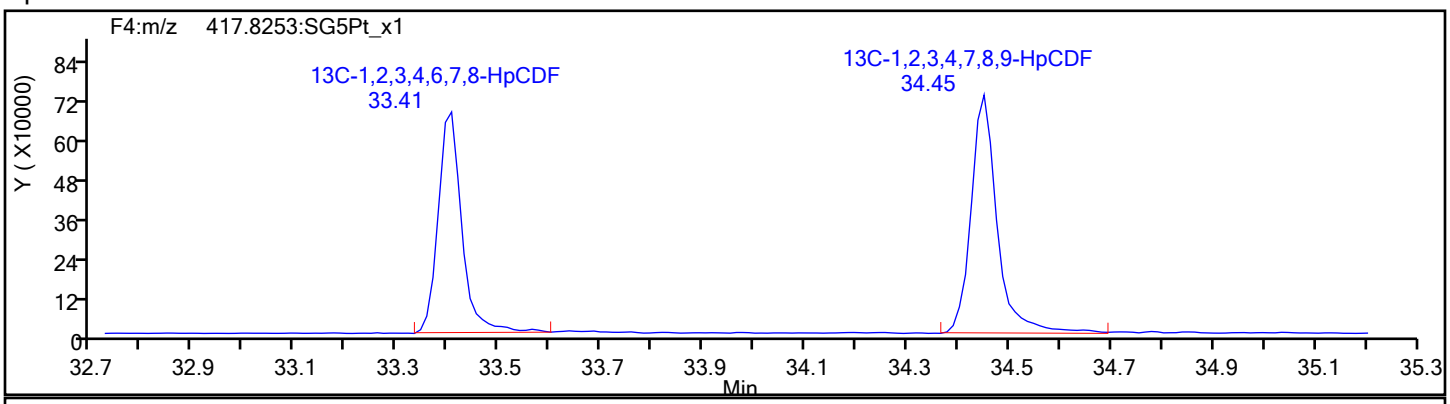

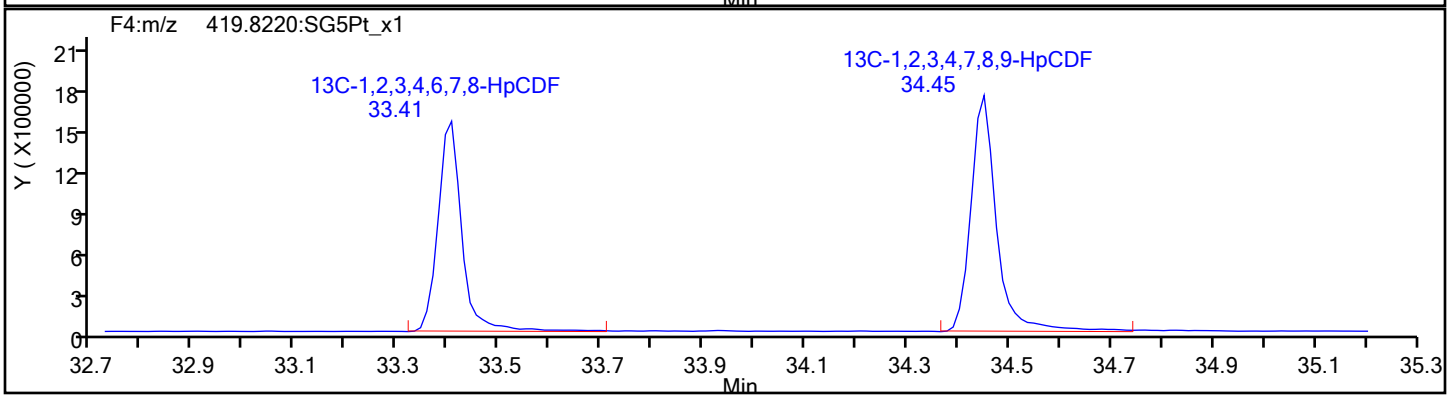

Report Date: 08-Nov-2019 09:27:31 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_12.d		
Injection Date:	06-Nov-2019 03:58:18	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336302	Sample Line#:	12
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

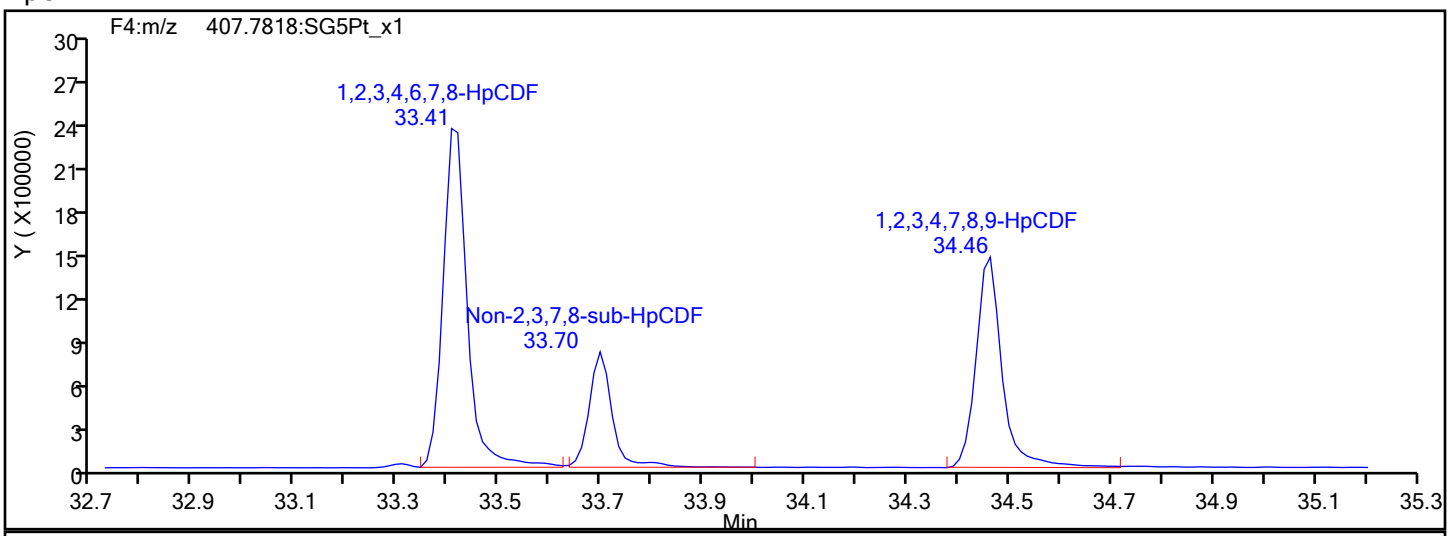

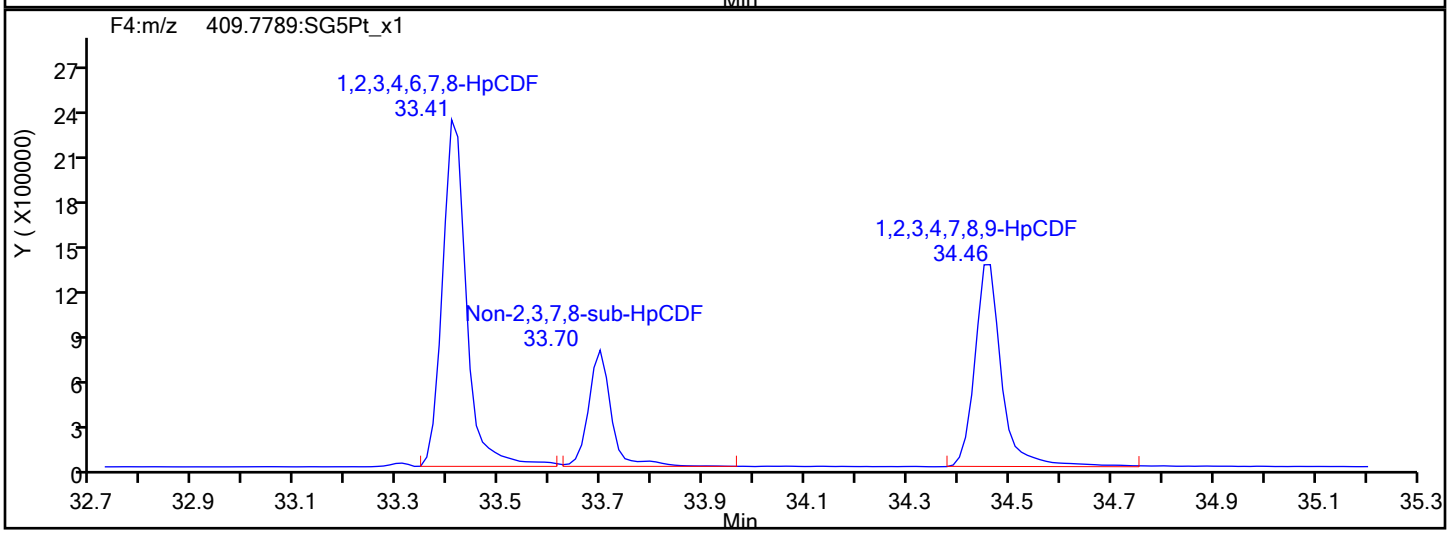

HpCDF Interference Mass

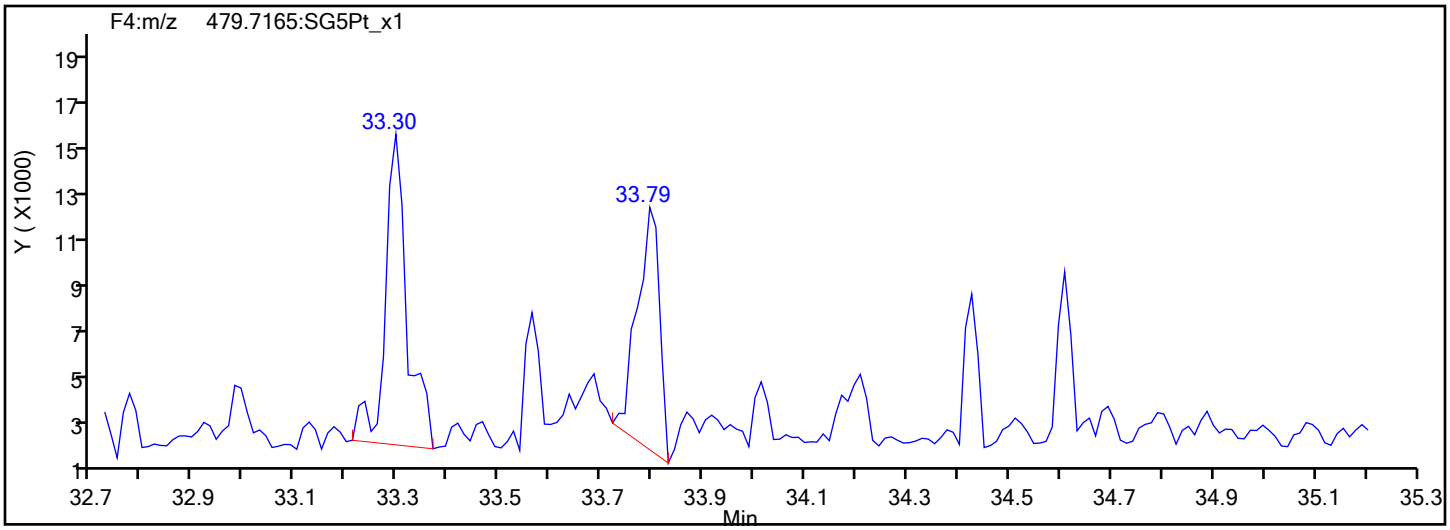

Report Date: 08-Nov-2019 09:27:31 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_12.d		
Injection Date:	06-Nov-2019 03:58:18	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336302	Sample Line#:	12
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

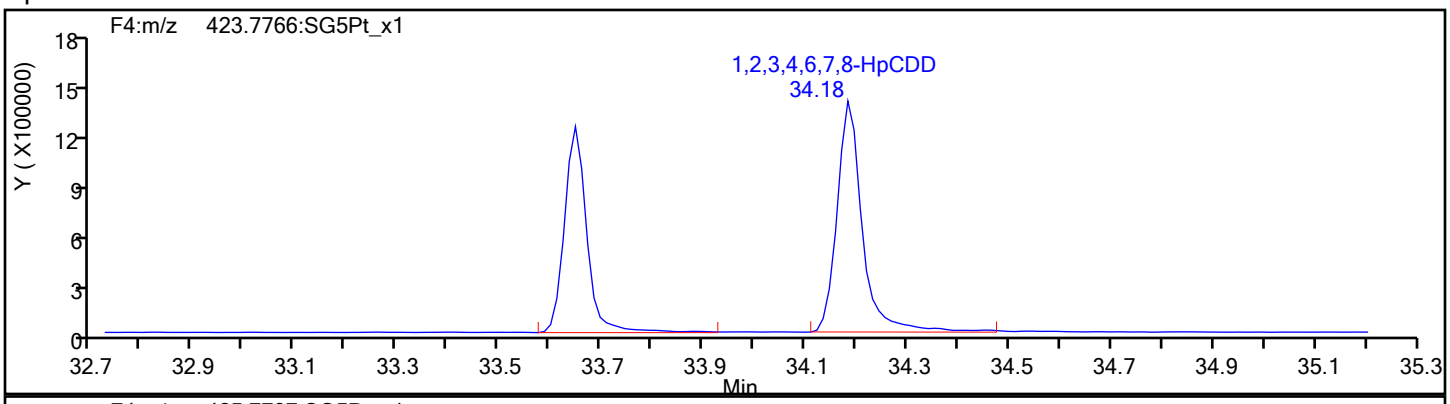

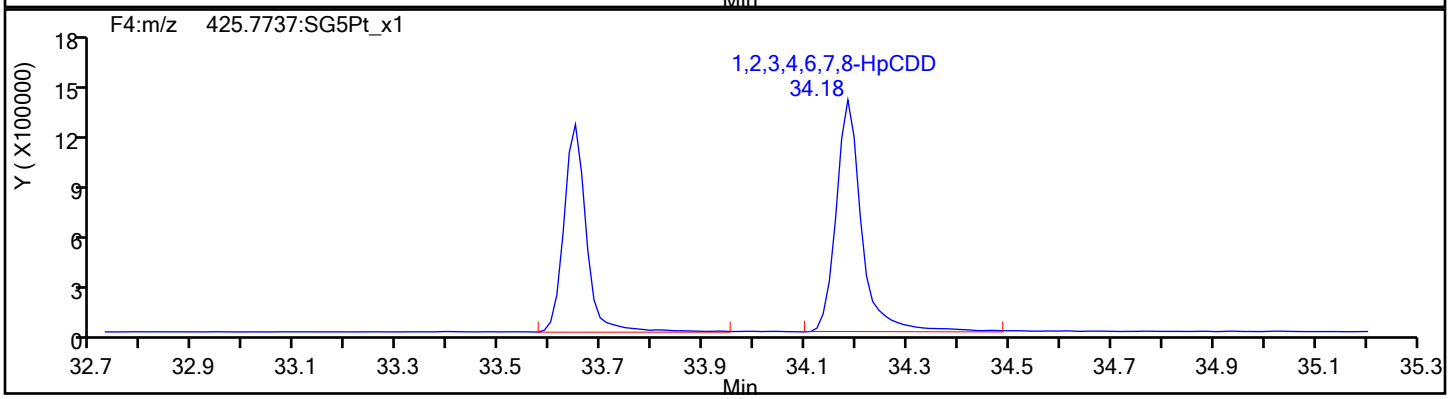

HpCDD Standards

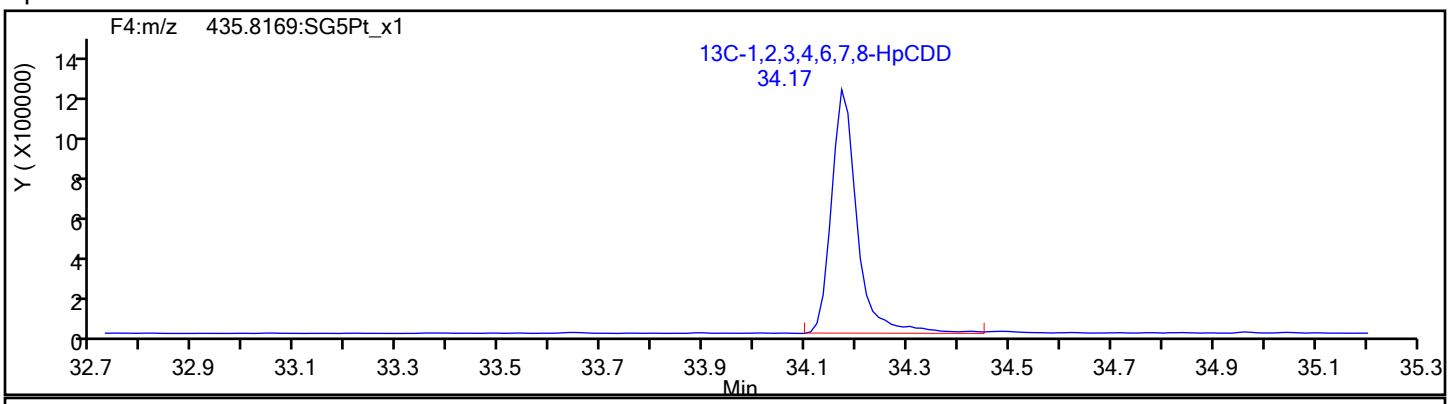

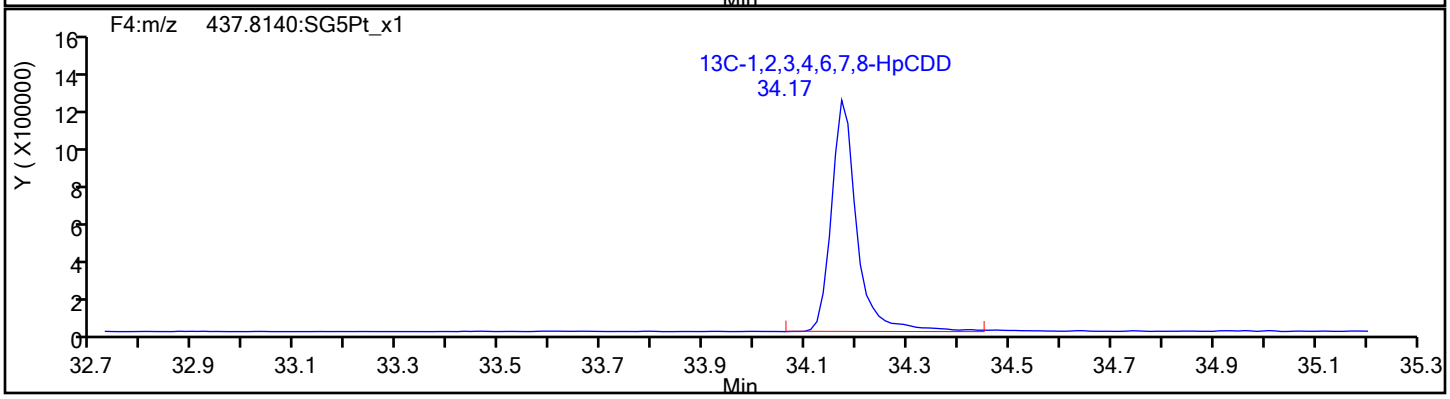

Report Date: 08-Nov-2019 09:27:31 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_12.d		
Injection Date:	06-Nov-2019 03:58:18	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336302	Sample Line#:	12
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

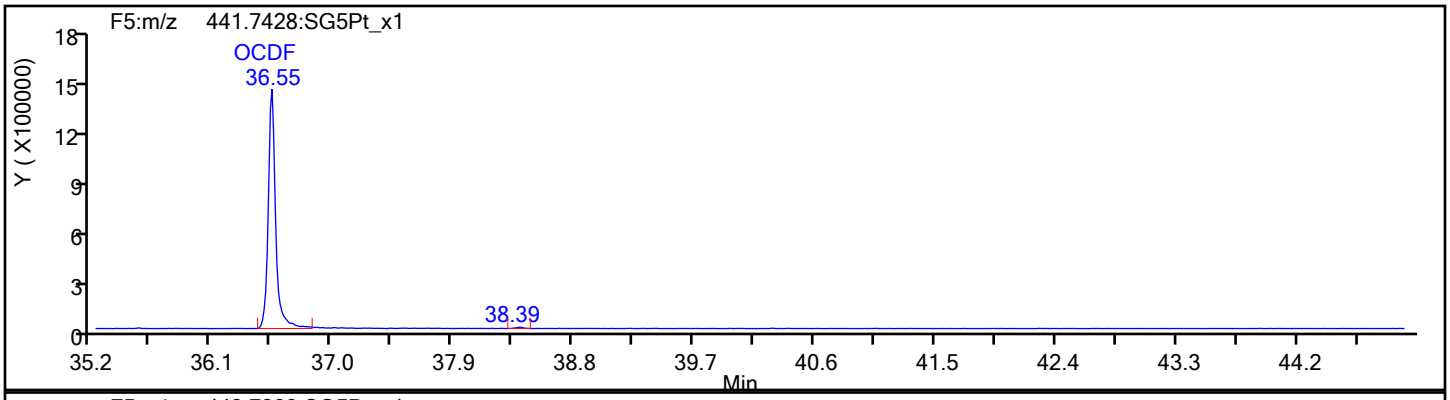

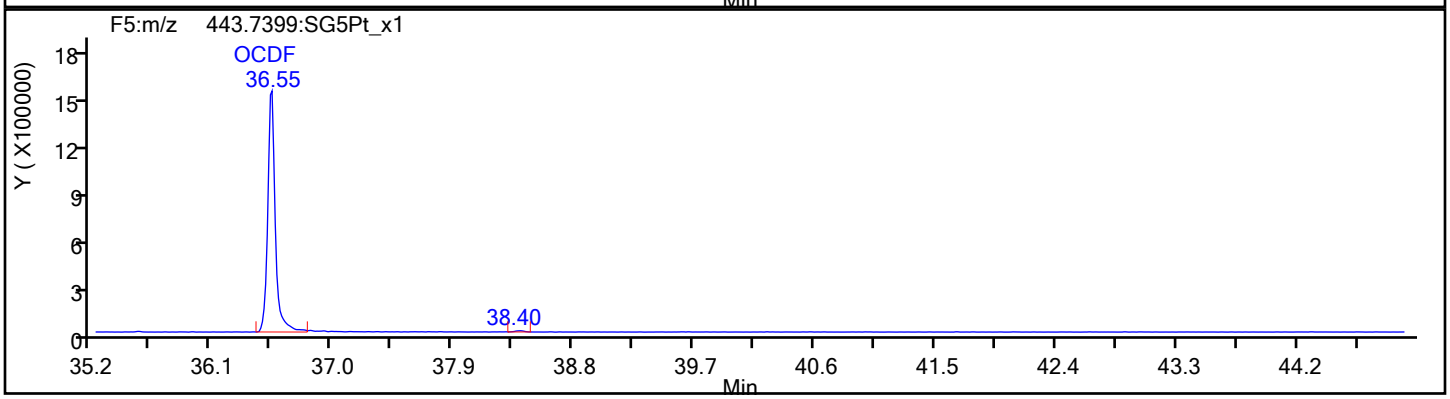

OCDF Standards

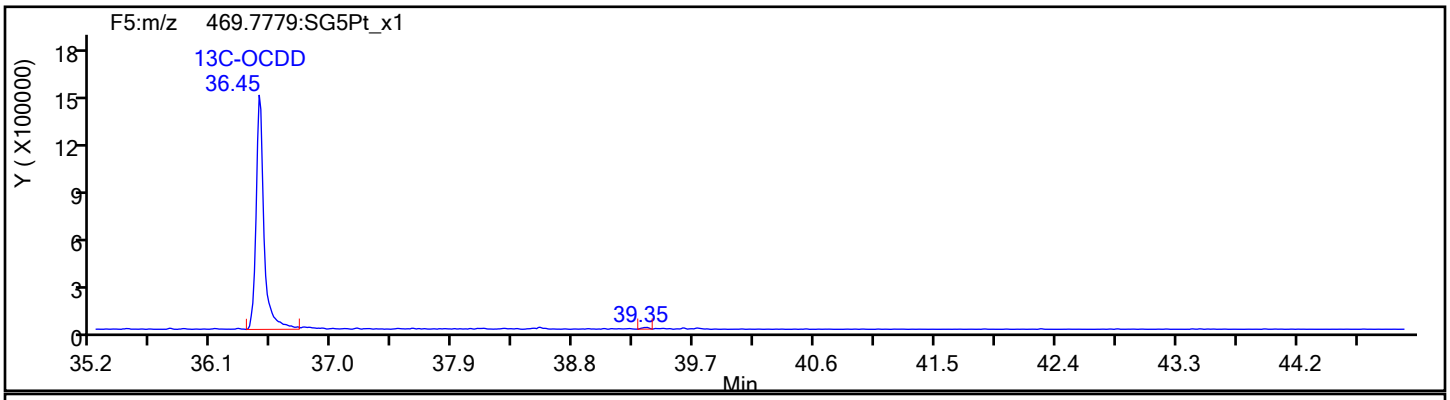

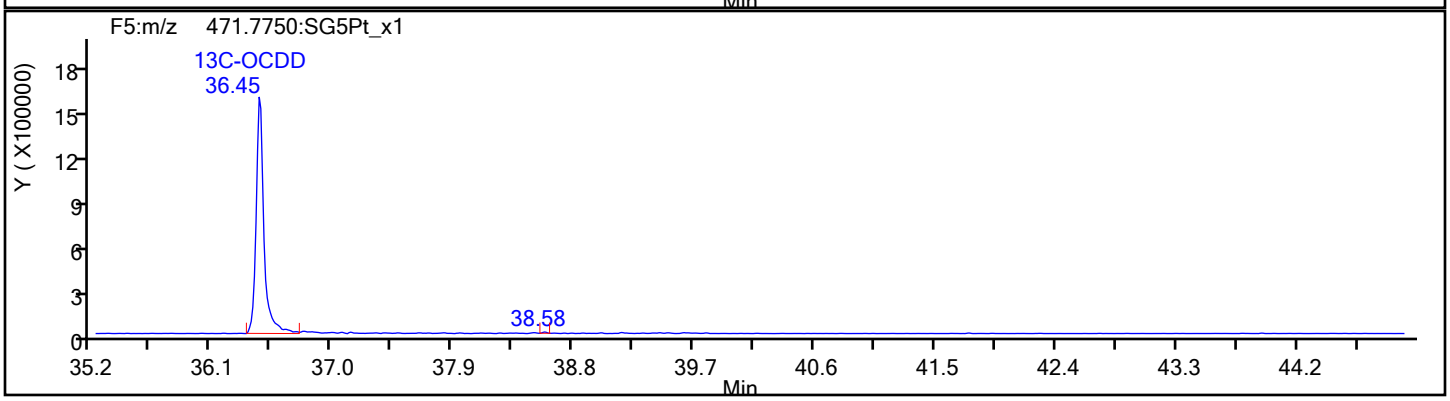

Report Date: 08-Nov-2019 09:27:32 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_12.d		
Injection Date:	06-Nov-2019 03:58:18	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336302	Sample Line#:	12
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

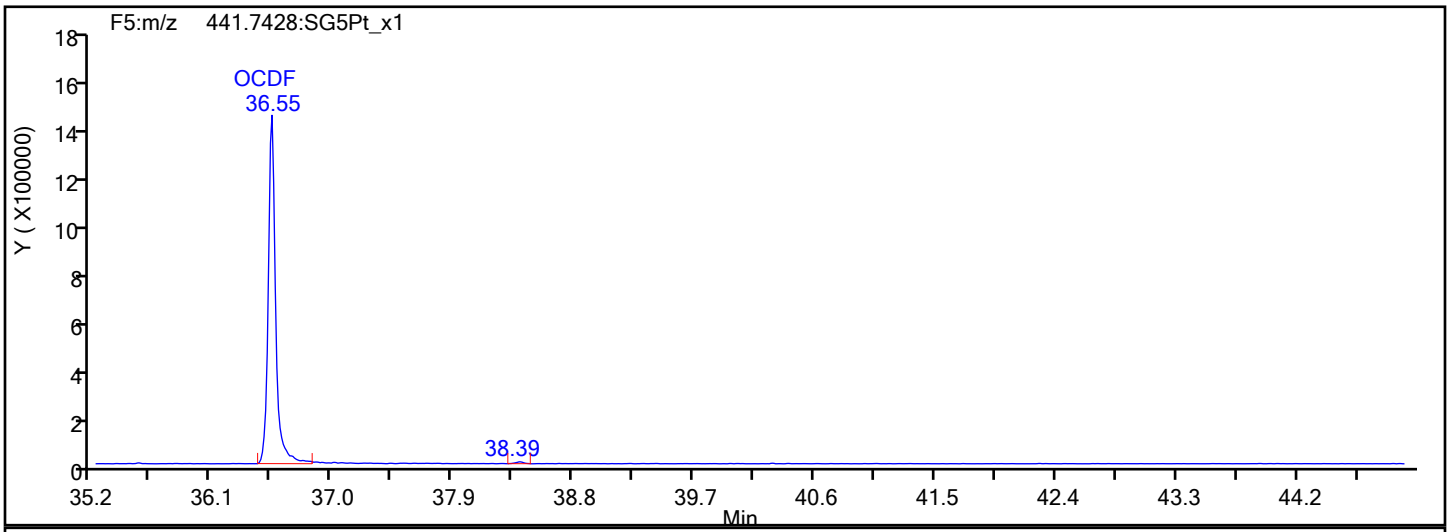

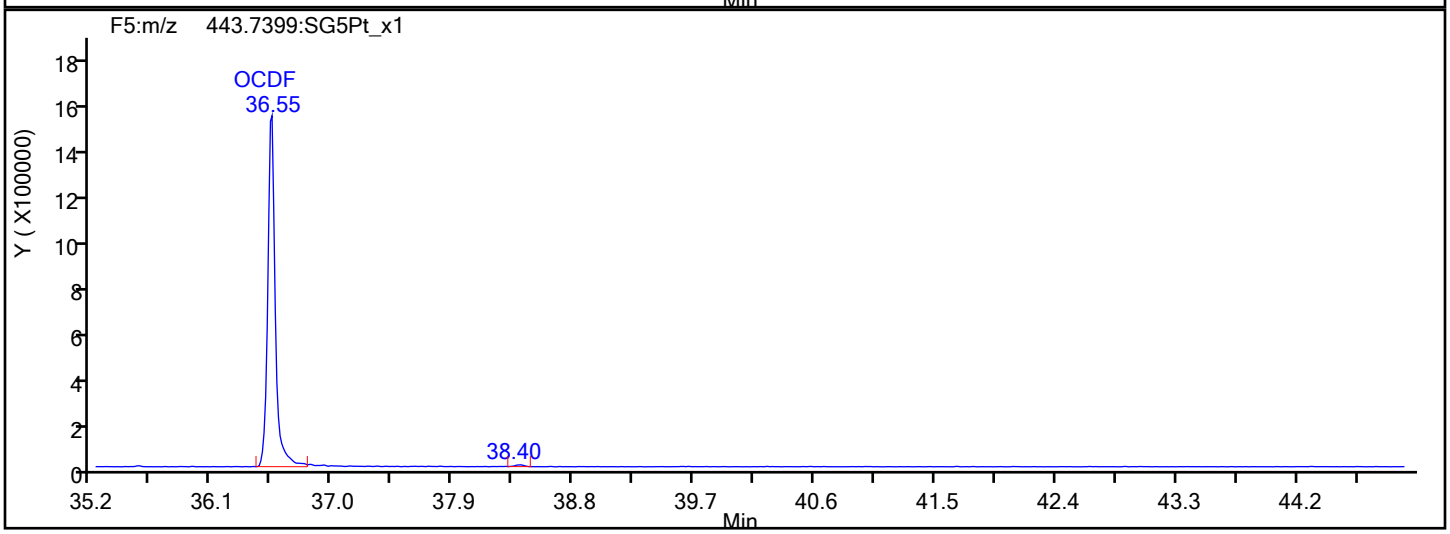

OCDF Interference Mass

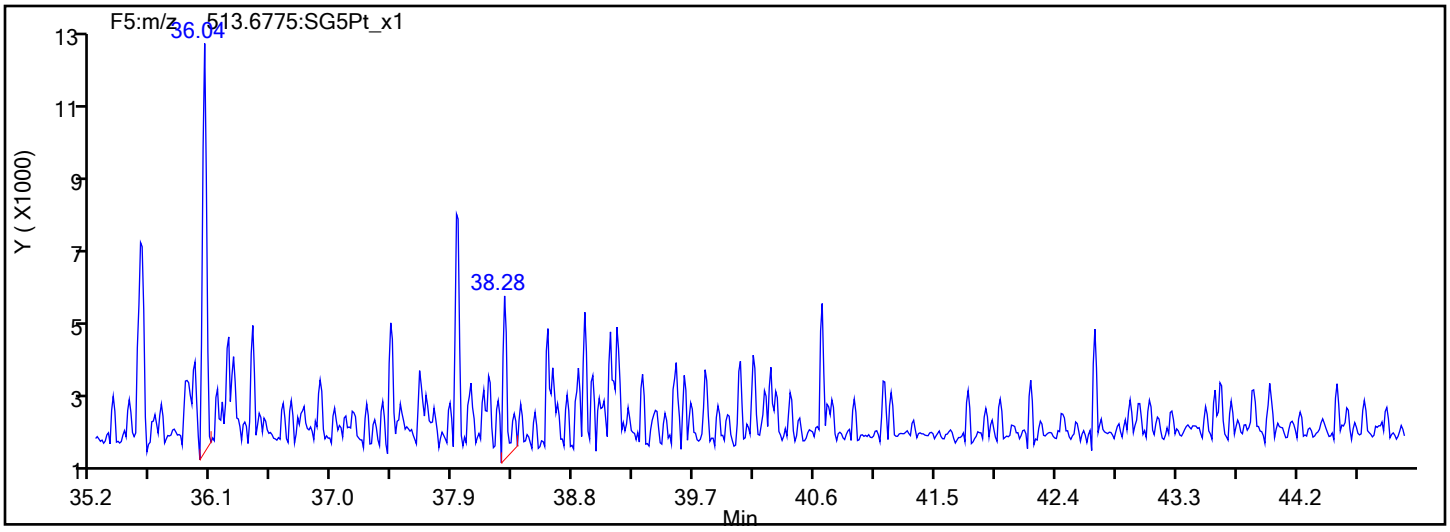

Report Date: 08-Nov-2019 09:27:32 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_12.d		
Injection Date:	06-Nov-2019 03:58:18	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336302	Sample Line#:	12
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

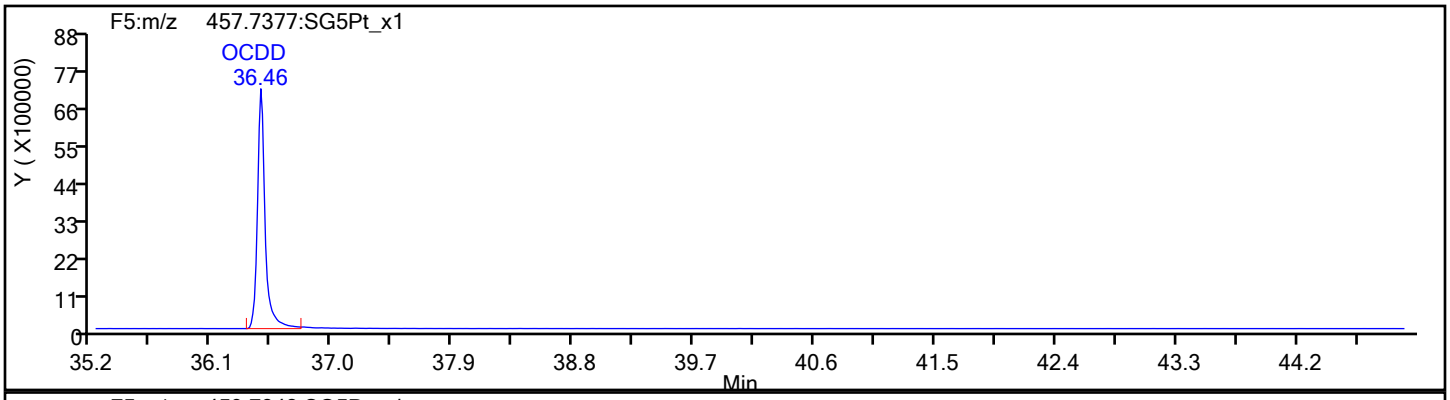

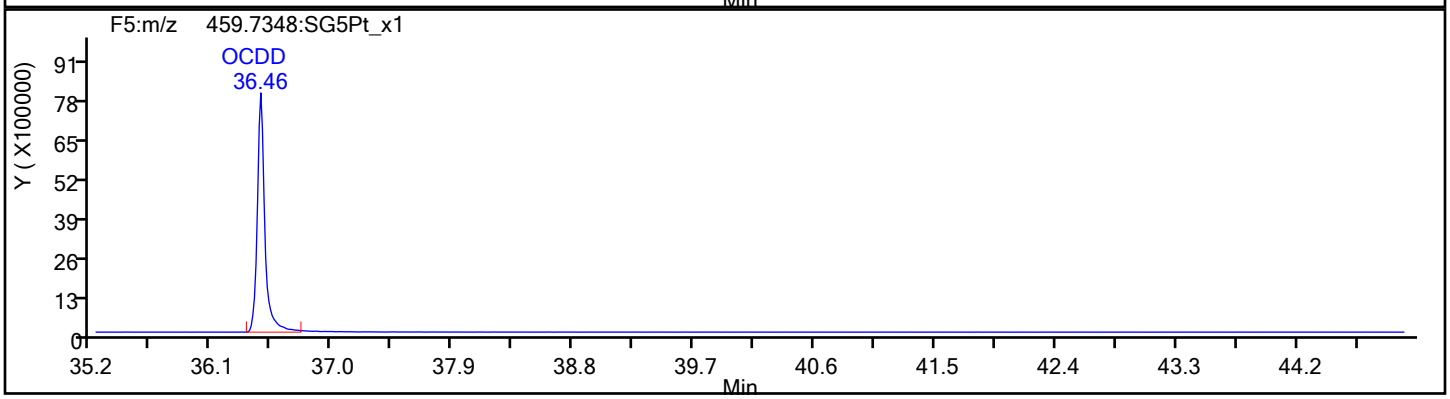

OCDD Standards

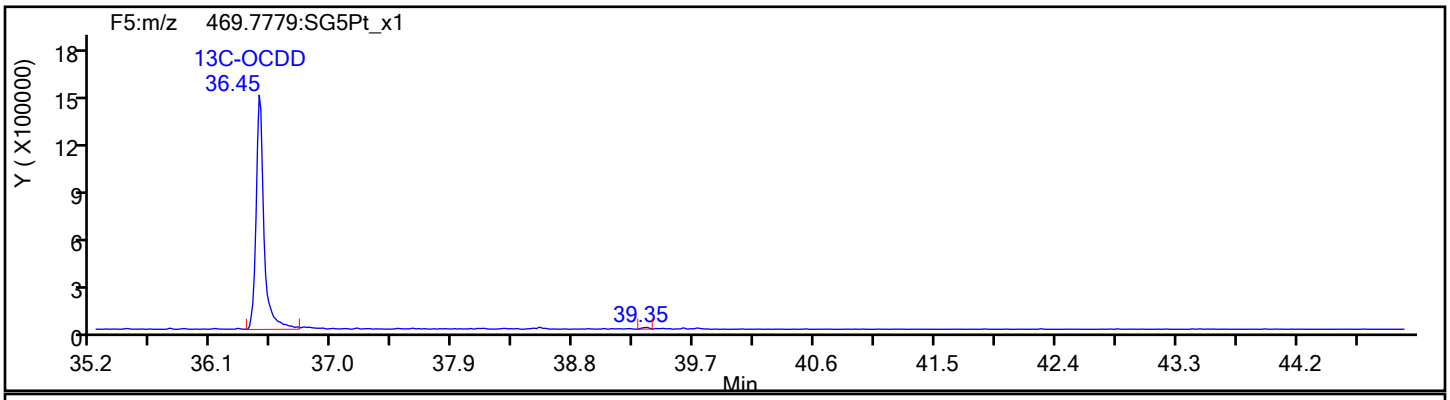

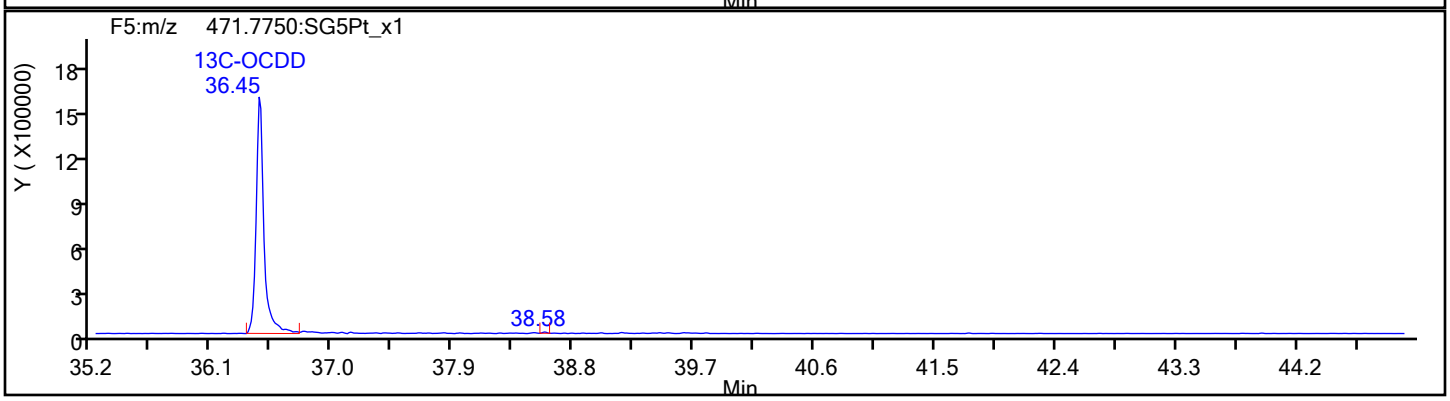

Report Date: 08-Nov-2019 09:27:32 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_12.d		
Injection Date:	06-Nov-2019 03:58:18	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336302	Sample Line#:	12
Column Type:	DB-5	Column Dia:	0.32 mm

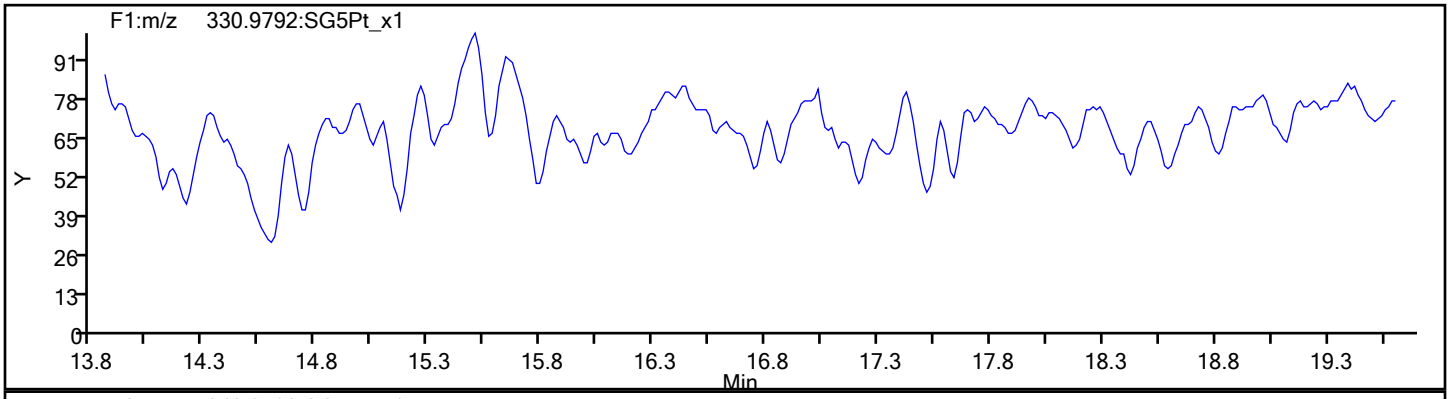

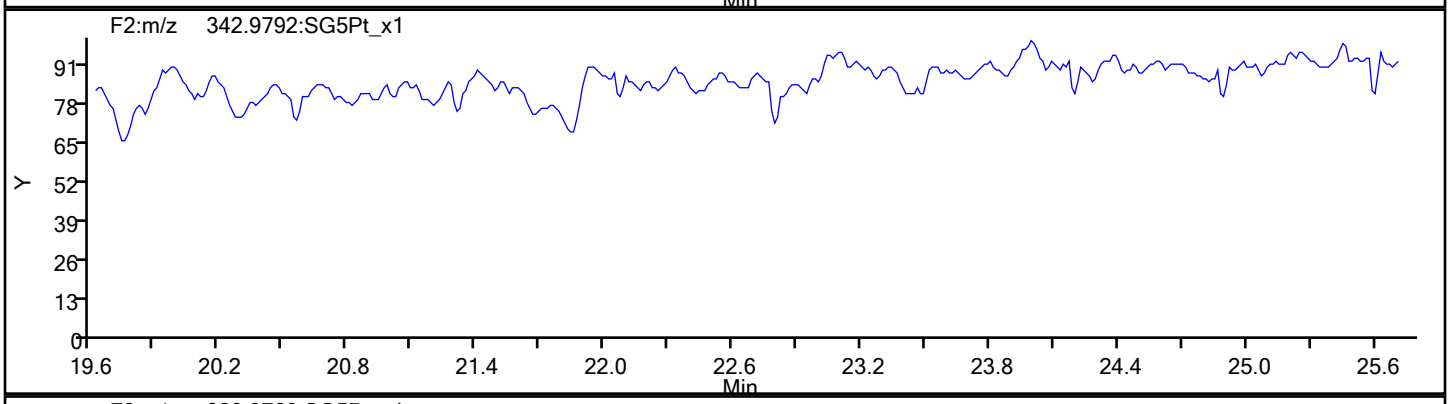

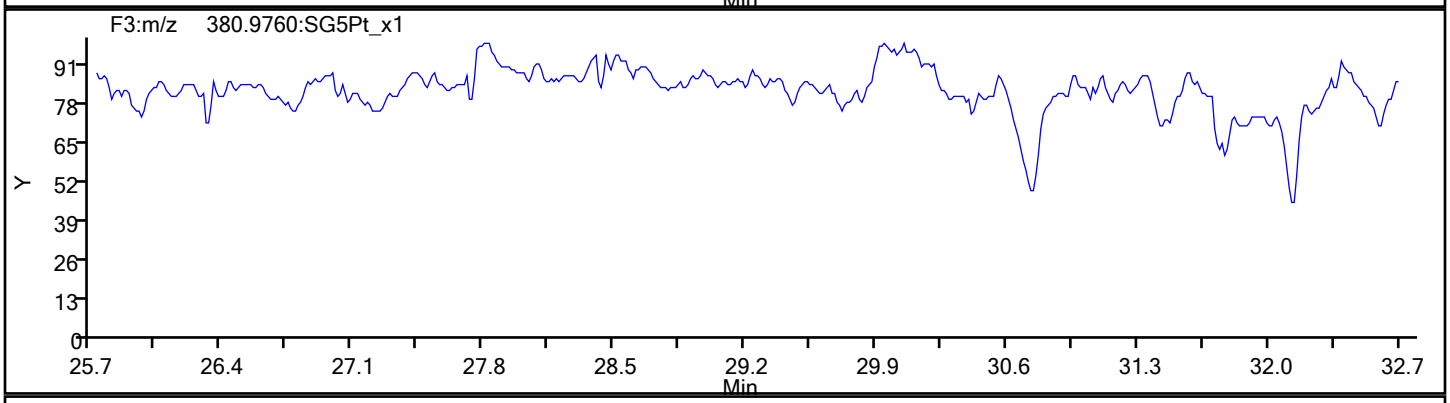

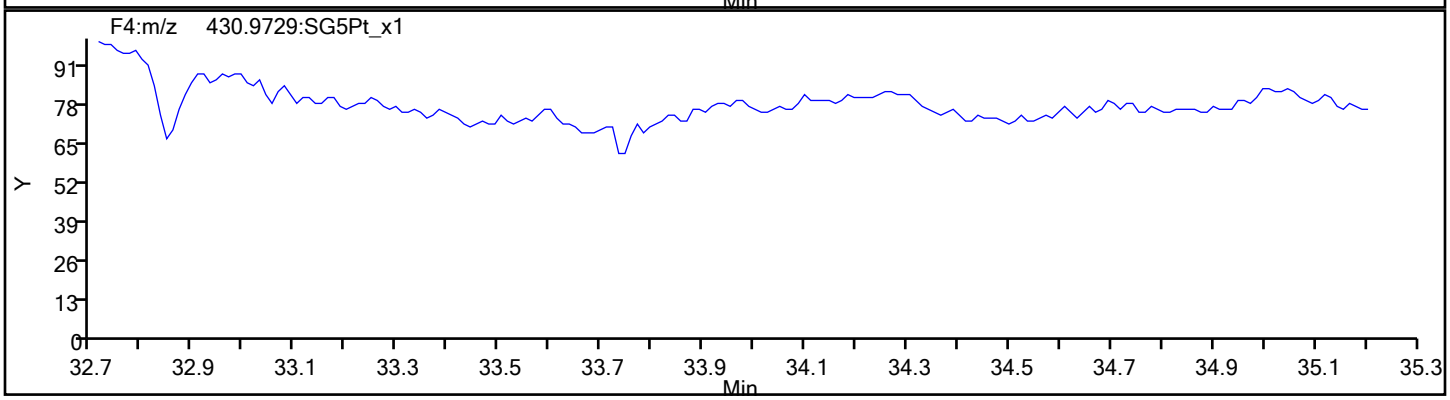

Report Date: 08-Nov-2019 09:27:32 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_12.d		
Injection Date:	06-Nov-2019 03:58:18	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336302	Sample Line#:	12
Column Type:	DB-5	Column Dia:	0.32 mm

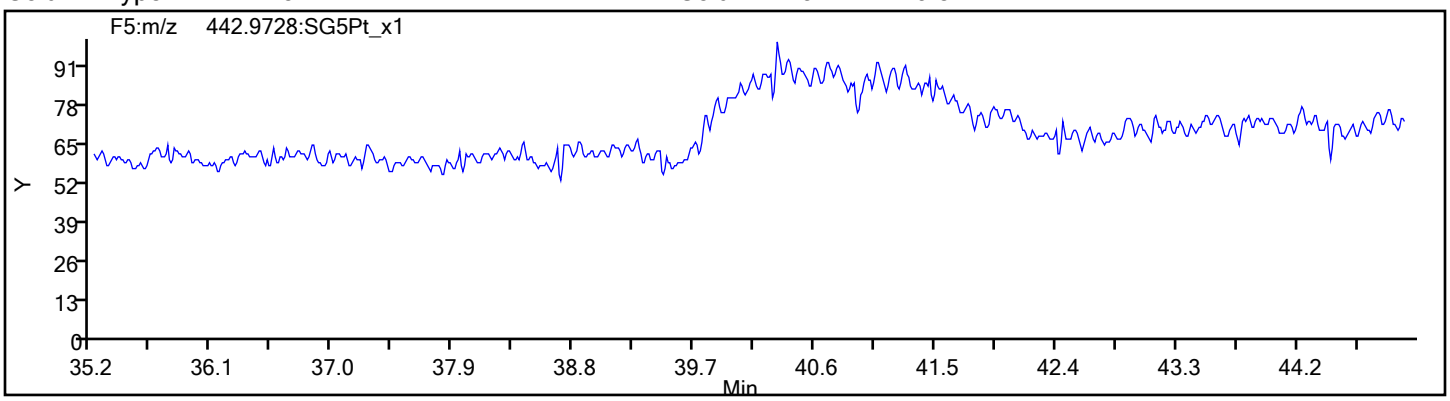

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Client Sample ID: INF 4 - DISSOLVED MS RA Lab Sample ID: 600-194690-11 MS RA

Matrix: Water Lab File ID: 07NO19A11D2_009.d

Analysis Method: 1613B Date Collected: 10/26/2019 22:10

Extract. Method: 1613B Date Extracted: 11/01/2019 08:11

Sample wt/vol: 1019.2(mL) Date Analyzed: 11/07/2019 20:05

Con. Extract Vol.: 20(uL) Dilution Factor: 50

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 336810 Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
51207-31-9	2,3,7,8-TCDF	107000		490	150

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
89059-46-1	13C-2,3,7,8-TCDF	67		24-169

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	110		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_009.d
Lims ID: 600-194690-A-11-B MS
Client ID: INF 4 - DISSOLVED
Sample Type: MS
Inject. Date: 07-Nov-2019 20:05:46 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 50.0000
Sample Info: 600-194690-A-11-B MS 50X
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20191107-86281.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 08-Nov-2019 11:07:13 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0309

First Level Reviewer: messecara Date: 07-Nov-2019 23:42:53

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.367	3041168	0.66	1.1E+06	2.000	2.000				Ma
D 13C-2,3,7,8-TCDF	16.533	2713594	0.84	1.3379	1.334	1.334	0.2860	0.2860	66.69	M
2,3,7,8-TCDF	16.560	123555411	0.78	0.8389	108.6	108.6	0.1563	0.1563	54277	
D 13C-2,3,7,8-TCDD	15.092	881720	0.67	0.9388	0.6176	0.6176	0.8609	0.8609	30.88	nMa
2,3,7,8-TCDD	15.120	23623800	0.78	1.1538	46.4	46.4	0.2619	0.2619	23221	a
$ 37Cl4-2,3,7,8-TCDD	15.120	1588085		1.1816	0.8838	0.8838	0.0289	0.0289	110	
S Total 2378-Chlorinated							0.000100	0.000100		

QC Flag Legend

Processing Flags
n - Failed Sig-To-Noise Test
Review Flags
M - Manually Integrated
a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_009.d
Lims ID: 600-194690-A-11-B MS
Client ID: INF 4 - DISSOLVED
Sample Type: MS
Inject. Date: 07-Nov-2019 20:05:46 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 50.0000
Sample Info: 600-194690-A-11-B MS 50X
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20191107-86281.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 08-Nov-2019 11:07:13 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0309

First Level Reviewer: messecara Date: 07-Nov-2019 23:42:53

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											Ma
331.9368	15.367	15.378	-1		1212735	284406	58257	145642	5		a
333.9339	15.381	15.378	0		1828433	418406	55350	138375	8	0.66(0.65-0.89)	
13C-2,3,7,8-TCDF											M
315.9419	16.533	16.560	-1	1.076	1235487	260268	30192	75480	9		
317.9389	16.519	16.560	-2	1.075	1478107	232553	23589	58972	10	0.84(0.65-0.89)	M
2,3,7,8-TCDF											
303.9016	16.560	16.571	-1	1.002	54058419	11396988	5809	14522	1962		
305.8987	16.560	16.571	-1	1.002	69496992	14824716	7112	17780	2084	0.78(0.65-0.89)	
13C-2,3,7,8-TCDD											nMa
331.9368	15.092	15.092	-1	0.982	353650	80589	58257	145642	1		M
333.9339	15.106	15.092	0	0.983	528070	123624	55350	138375	2	0.67(0.65-0.89)	
2,3,7,8-TCDD											a
319.8965	15.120	15.117	0	1.002	10375123	2527126	6336	15840	399		a
321.8936	15.120	15.117	0	1.002	13248677	3181056	6008	15020	529	0.78(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.120	15.117	0	0.984	1588085	363355	4802	12005	76		

Total 2378-Chlorinated Dioxins & Furans
0.0 0

QC Flag Legend

Processing Flags
n - Failed Sig-To-Noise Test

Review Flags

M - Manually Integrated

a - User Assigned ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_009.d				
Injection Date:	07-Nov-2019 20:05:46	Instrument ID:	11D2		
Lims ID:	600-194690-A-11-B MS				
Client ID:	INF 4 - DISSOLVED				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	50.0000		
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL		
Column:	DB-225 (0.32 mm)	Detector	F1:HRSIR		

13C-2,3,7,8-TCDF, CAS: 89059-46-1

Signal: 2

Processing Integration Results

RT: 16.52
Area: 1353476
Amount: 1.272564
Amount Units: pg/ul

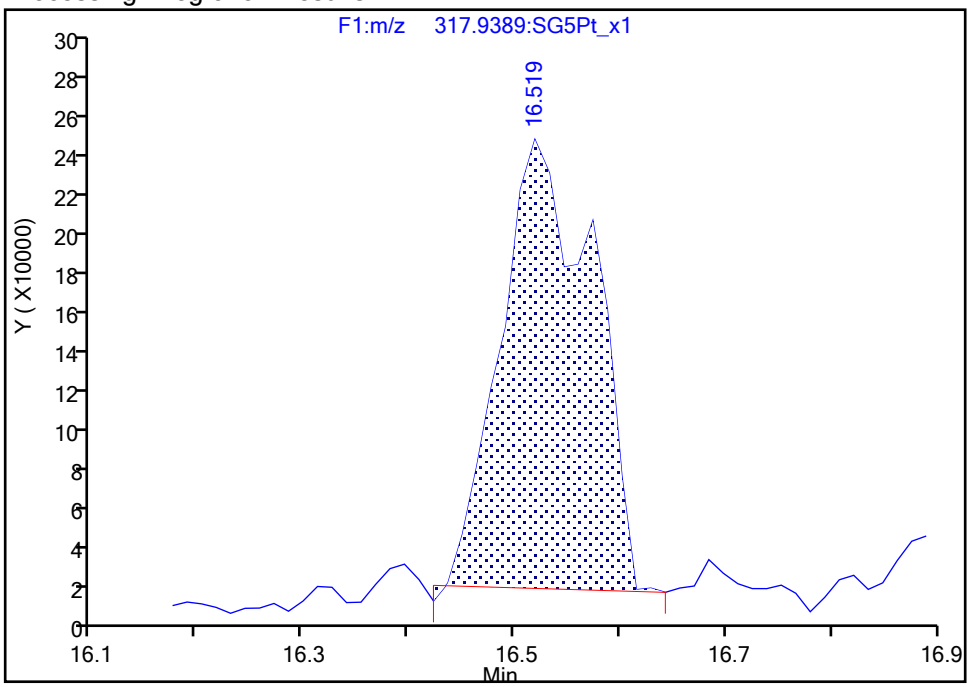

Manual Integration Results

RT: 16.52
Area: 1478107
Amount: 1.333825
Amount Units: pg/ul

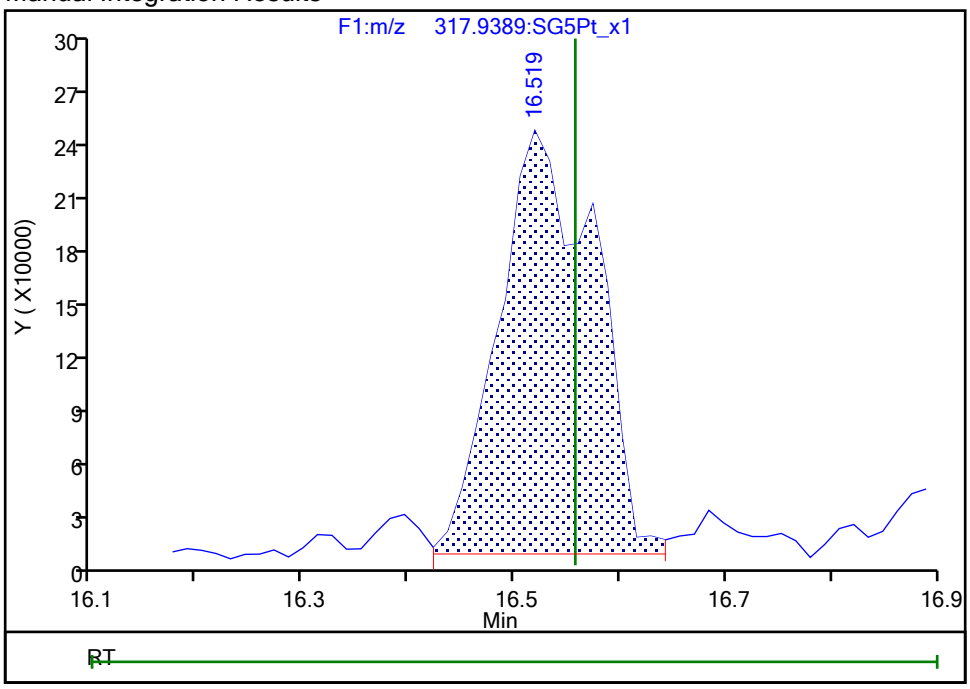

Reviewer: stephensk, 08-Nov-2019 11:06:31

Audit Action: Manually Integrated Audit Reason: Baseline

Report Date: 08-Nov-2019 11:07:44 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_009.d		
Injection Date:	07-Nov-2019 20:05:46	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336810	Sample Line#:	9
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

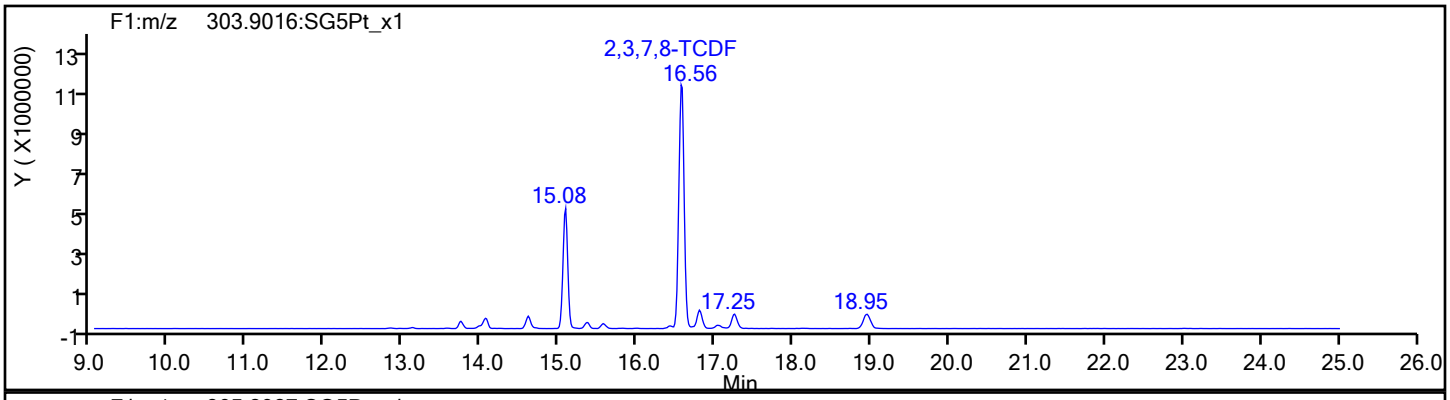

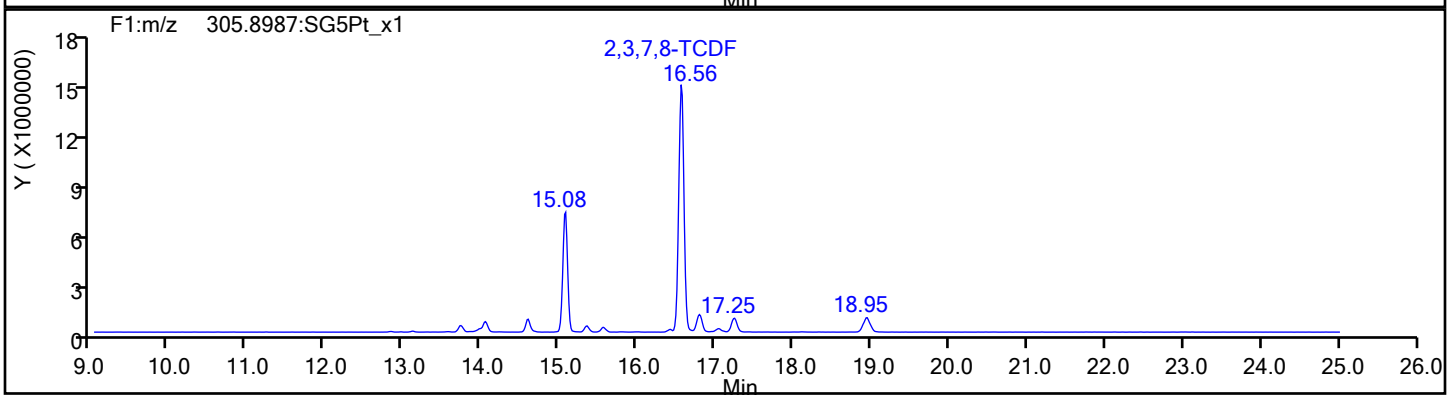

TCDF Standards

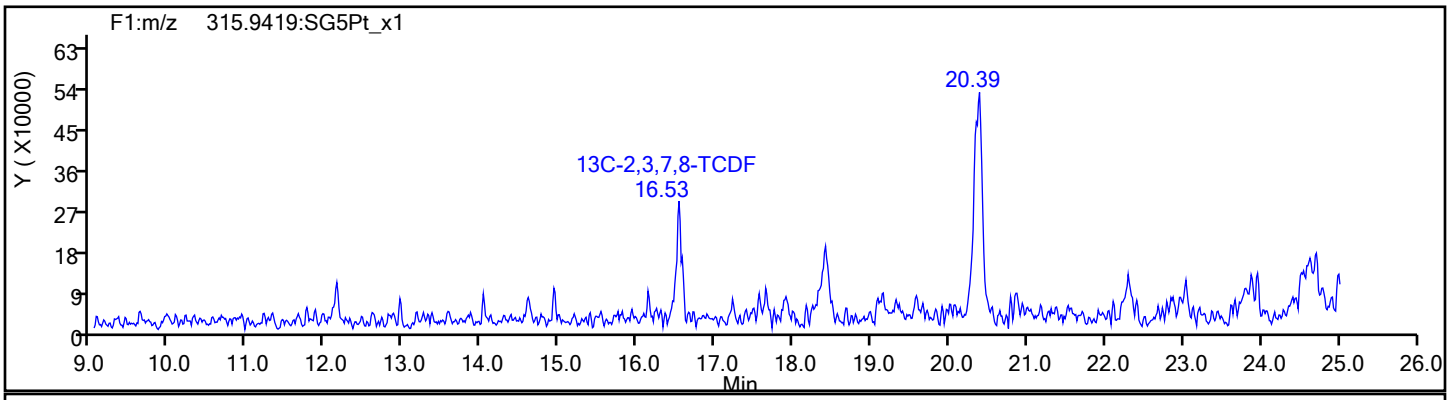

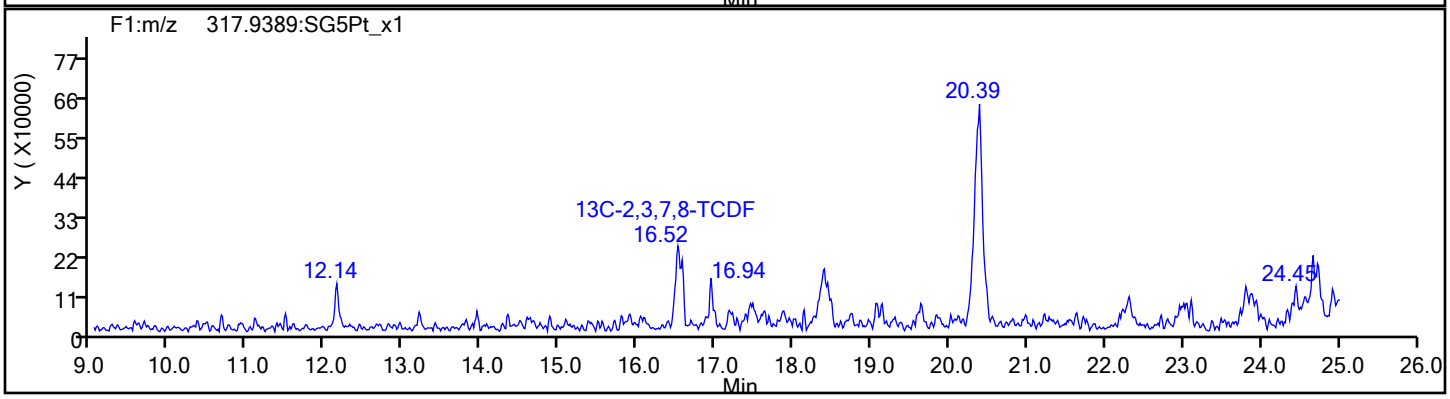

Report Date: 08-Nov-2019 11:07:44 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_009.d		
Injection Date:	07-Nov-2019 20:05:46	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336810	Sample Line#:	9
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

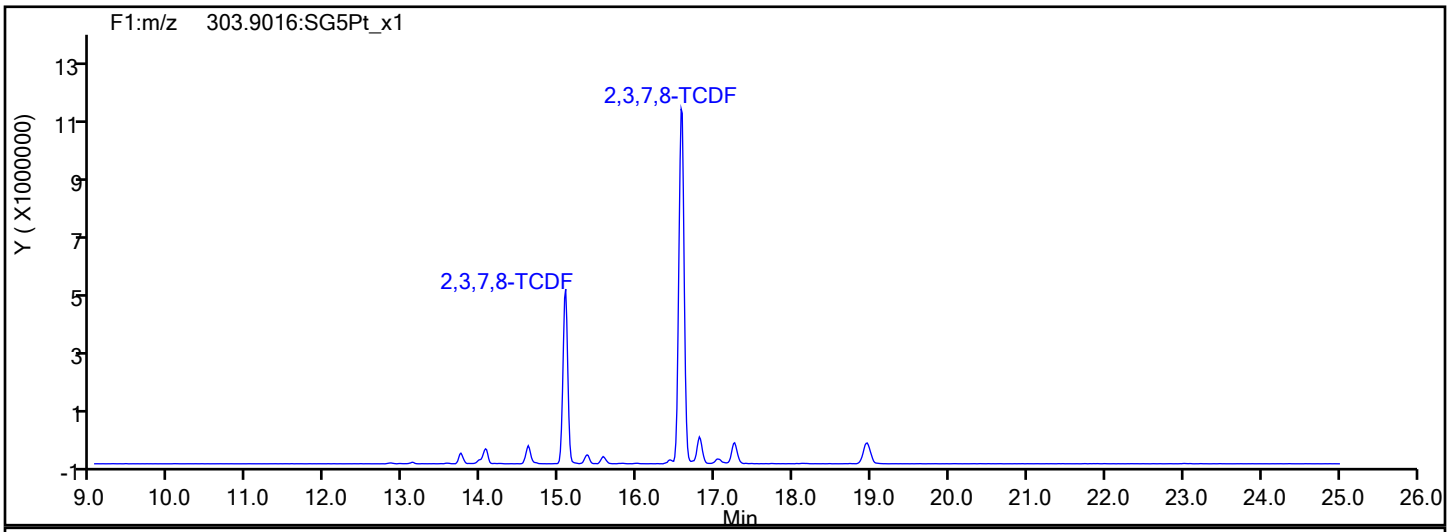

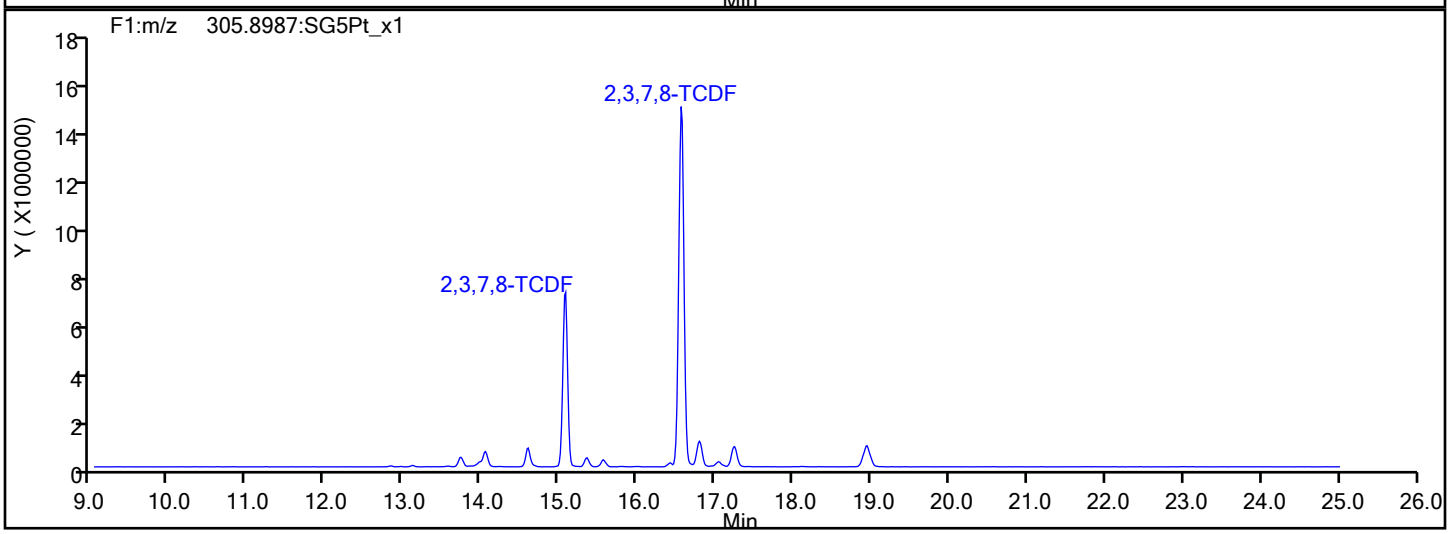

TCDF Interference Mass

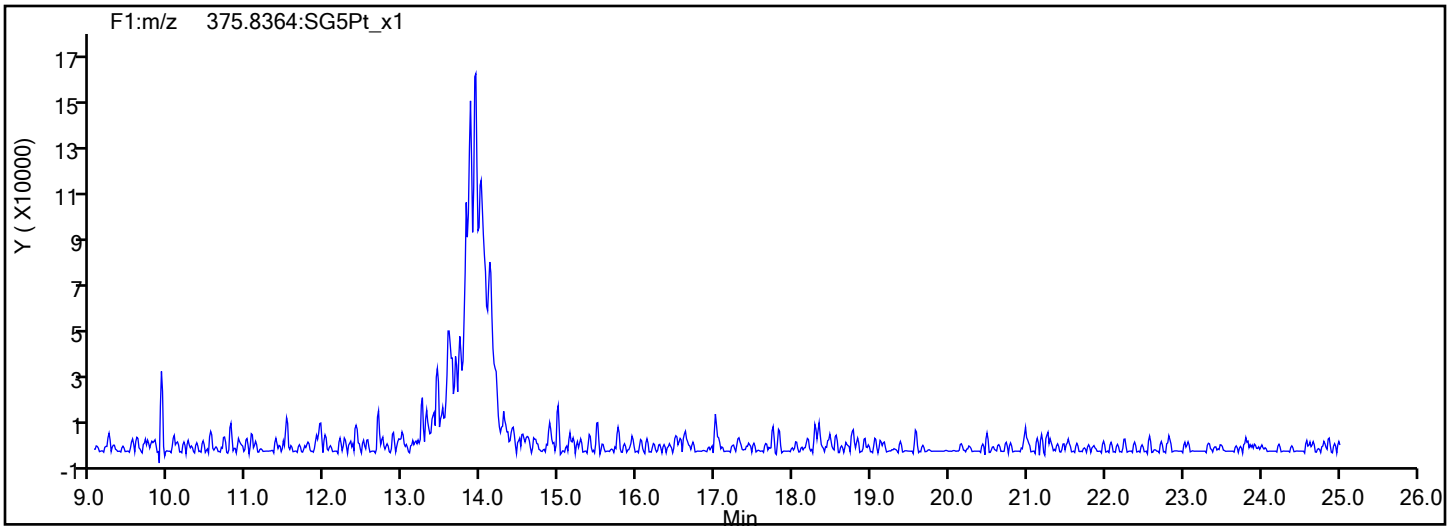

Report Date: 08-Nov-2019 11:07:44 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_009.d		
Injection Date:	07-Nov-2019 20:05:46	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336810	Sample Line#:	9
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

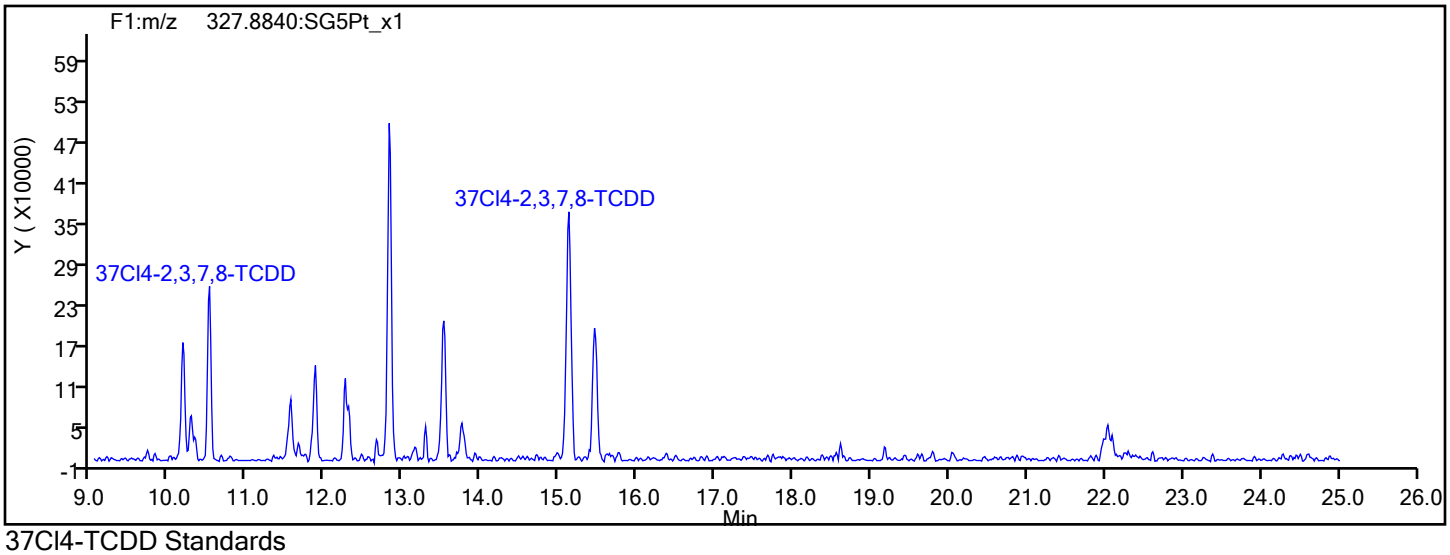

37Cl4-TCDD Standards

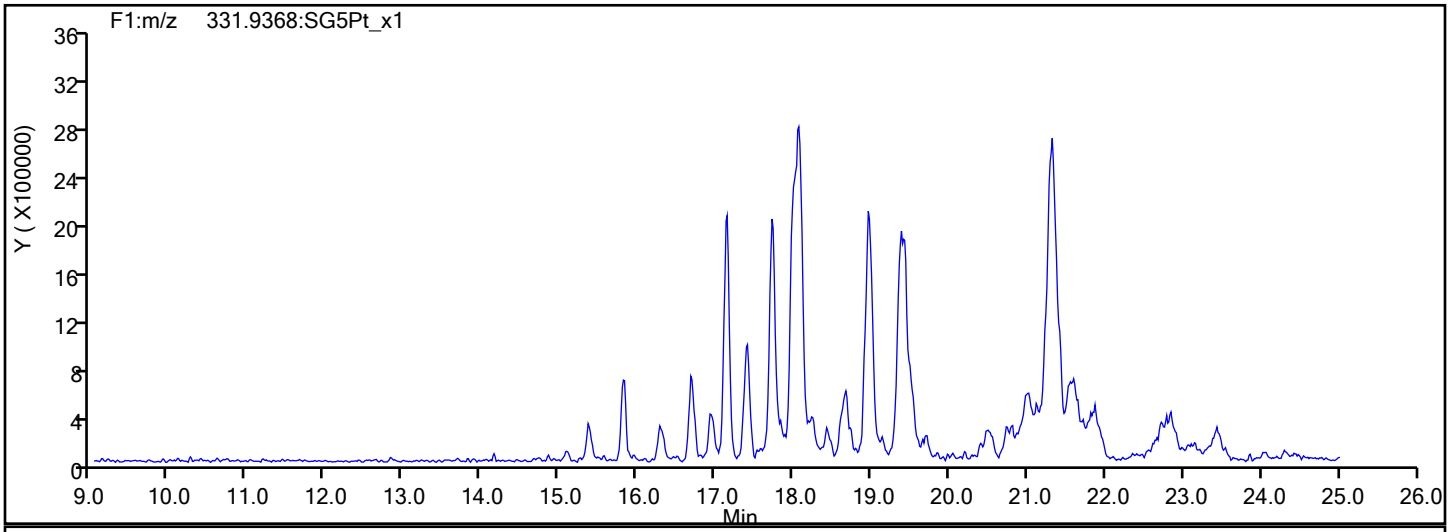

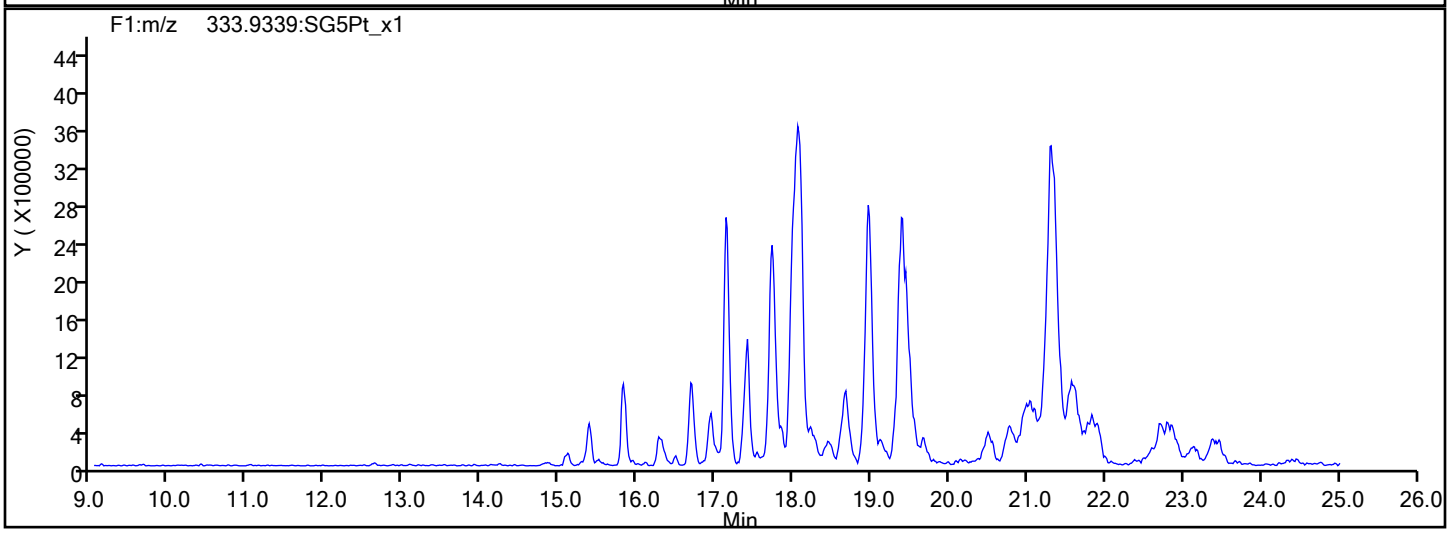

Report Date: 08-Nov-2019 11:07:44 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_009.d		
Injection Date:	07-Nov-2019 20:05:46	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336810	Sample Line#:	9
Column Type:	DB-225	Column Dia:	0.32 mm

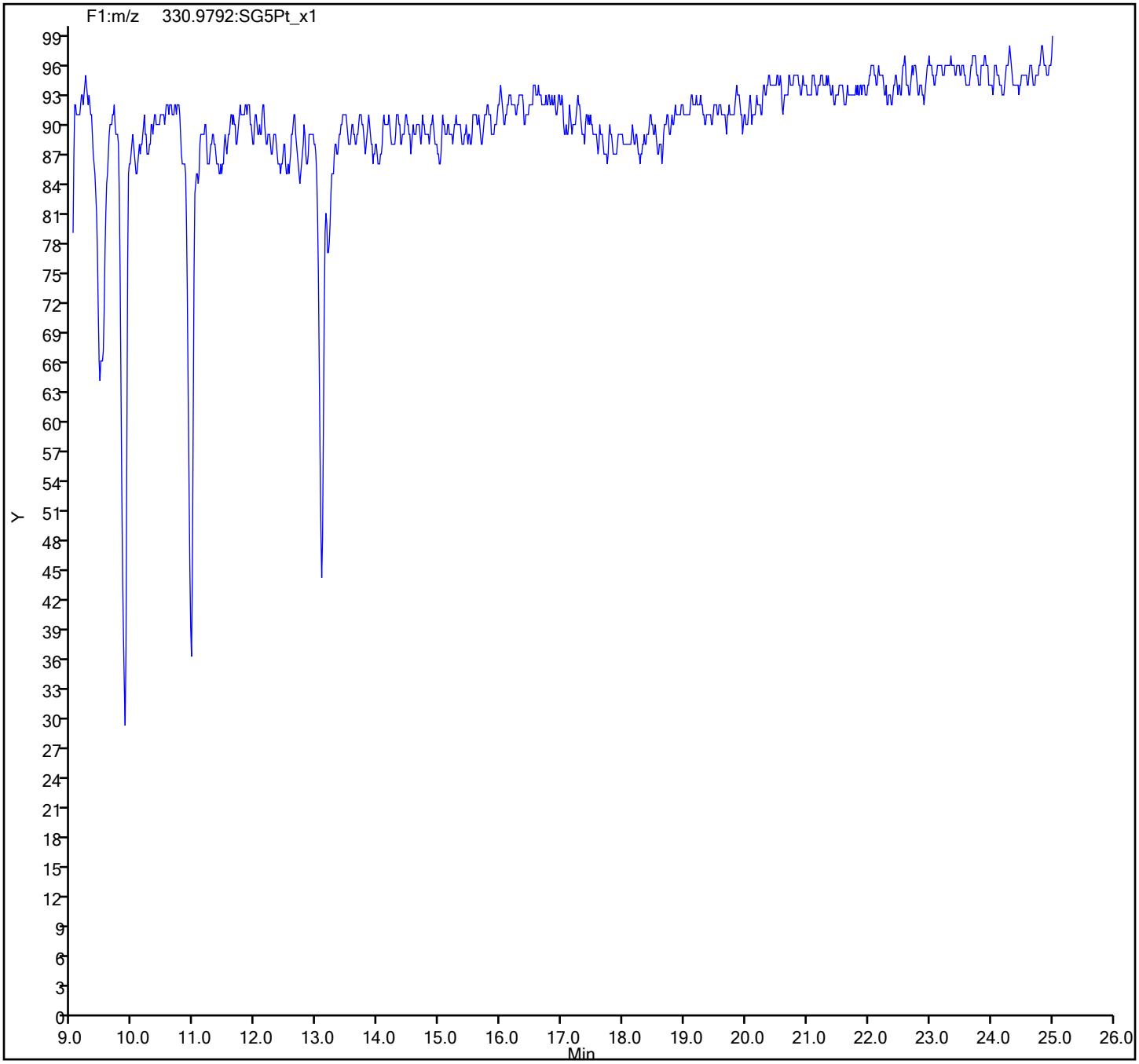

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Client Sample ID: INF 4 - DISSOLVED MS DL Lab Sample ID: 600-194690-11 MS DL

Matrix: Water Lab File ID: 07no19adfs1_11.d

Analysis Method: 1613B Date Collected: 10/26/2019 22:10

Extract. Method: 1613B Date Extracted: 11/01/2019 08:11

Sample wt/vol: 1019.2(mL) Date Analyzed: 11/07/2019 23:17

Con. Extract Vol.: 20(uL) Dilution Factor: 50

Injection Volume: 1(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 336838 Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	40900		490	190

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	28	q	25-164

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	89		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_11.d
Lims ID: 600-194690-A-11-B MS
Client ID: INF 4 - DISSOLVED
Sample Type: MS
Inject. Date: 07-Nov-2019 23:17:00 ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 50.0000
Sample Info: 600-194690-A-11-B MS (50x)
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\Dioxin_DFS1.m
Limit Group: HR - 1613B - ICAL
Last Update: 11-Nov-2019 10:37:12 Calib Date: 19-Oct-2019 00:02:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.07 :22.11)
Process Host: CTX0323

First Level Reviewer: shardaa Date: 08-Nov-2019 13:18:12

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	20.349	108989	0.76	5.2E+04	2.000	2.000				
D 13C-2,3,7,8-TCDF	19.433	55031	0.73	1.6096	0.6274	0.6274	0.1816	0.1816	31.37	
2,3,7,8-TCDF	19.442	4479728	0.73	1.2332	132.0	132.0	0.3941	0.3941	66008	
A Non-2,3,7,8-sub-TCDF	19.029	3211316	0.73	1.2332	94.6	94.6	0.3941	55.7	0.00	
S Total TCDF					226.7	226.7	0.3941	0.3941		
D 13C-2,3,7,8-TCDD	20.729	30521	0.77	0.9984	0.6079	0.5610	0.1635	0.1635	30.39	RQMa
2,3,7,8-TCDD	20.755	827080	0.80	1.1988	41.7	41.7	0.1916	0.1916	20860	
$ 37Cl4-2,3,7,8-TCDD	20.755	56603		1.4510	0.7159	0.7159	0.0124	0.0124	89.48	
A Non-2,3,7,8-sub-TCDD	19.859	82904	0.77	1.1988	4.223	4.182	0.1916	3.723	0.00	RQa
S Total TCDD					45.9	45.9	0.1916	0.1916		RQ
D 13C-1,2,3,7,8-PeCDF	26.493	36880	1.69	1.3678	0.4948	0.4948	0.006510	0.006510	24.74	
1,2,3,7,8-PeCDF	26.510	115171	1.60	1.1689	5.343	5.343	0.0932	0.0932	534	M
D 13C-2,3,4,7,8-PeCDF	27.944	40065	1.70	1.3045	0.5636	0.5636	0.006826	0.006826	28.18	
2,3,4,7,8-PeCDF	27.994	79978	1.54	1.1861	3.366	3.366	0.0964	0.0964	337	
A F1 PeCDFs	23.991						0.0319	0.0319		
A Non-2,3,7,8-sub-PeCDF	27.400	91690	1.55	1.1775	4.080	4.048	0.0948	1.615	0.00	RQMa
S Total PeCDF					12.8	12.8	0.0948	0.0948		RQ
D 13C-1,2,3,7,8-PeCDD	28.758	18154	1.55	0.8292	0.4467	0.4017	0.0258	0.0258	22.33	RQ
1,2,3,7,8-PeCDD	28.766	17637	1.67	1.1200	1.560	1.560	0.1148	0.1148	156	
A Non-2,3,7,8-sub-PeCDD	27.590						0.1148	0.1148		
S Total PeCDD					1.560	1.560	0.1148	0.1148		
D 13C-1,2,3,4,7,8-HxCDF	34.338	27907	0.58	1.1700	0.4377	0.4377	0.0188	0.0188	21.89	
1,2,3,4,7,8-HxCDF	34.363	127351	1.18	1.3021	7.009	7.009	0.0925	0.0925	701	
D 13C-1,2,3,6,7,8-HxCDF	34.523	29541	0.49	1.3168	0.4117	0.4117	0.0167	0.0167	20.59	
1,2,3,6,7,8-HxCDF	34.539	46398	1.25	1.2907	2.434	2.434	0.0828	0.0828	243	
D 13C-2,3,4,6,7,8-HxCDF	35.403	24428	0.53	1.2873	0.3482	0.3482	0.0171	0.0171	17.41	
2,3,4,6,7,8-HxCDF	35.437	19581	1.21	1.3039	1.230	1.230	0.0899	0.0899	123	M
D 13C-1,2,3,7,8,9-HxCDF	36.351	27121	0.57	1.1987	0.4152	0.4152	0.0183	0.0183	20.76	
1,2,3,7,8,9-HxCDF	36.360	17991	1.11	1.3329	0.995	0.995	0.0735	0.0735	99.54	M
A Non-2,3,7,8-sub-HxCDF	34.417	10560	1.17	1.3074	0.5928	0.5928	0.0841	0.3370	0.00	
S Total HxCDF					12.3	12.3	0.0847	0.0847		

Report Date: 11-Nov-2019 10:37:23 Chrom Revision: 2.3 31-Oct-2019 20:21:30
Data File: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_11.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	36.150	108978	1.31	5.8E+04	2.000	2.000				
D 13C-1,2,3,4,7,8-HxCDD	35.647	18748	1.24	0.8364	0.4506	0.4114	0.0357	0.0357	22.53	RQ
1,2,3,4,7,8-HxCDD	35.664	12371	1.27	1.1725	1.028	1.028	0.0870	0.0870	103	
D 13C-1,2,3,6,7,8-HxCDD	35.764	17029	1.24	0.9040	0.3868	0.3457	0.0331	0.0331	19.34	RQ
1,2,3,6,7,8-HxCDD	35.781	12776	1.23	1.1256	1.191	1.191	0.0953	0.0953	119	
1,2,3,7,8,9-HxCDD	36.175	12415	1.18	1.2327	1.018	1.018	0.0848	0.0848	102	Ma
A Non-2,3,7,8-sub-HxCDD	34.853						0.0889	0.0889		
S Total HxCDD					3.237	3.237	0.0890	0.0890		
D 13C-1,2,3,4,6,7,8-HpCDF	38.226	19231	0.46	0.9689	0.3643	0.3643	0.0591	0.0591	18.21	
1,2,3,4,6,7,8-HpCDF	38.234	34677	1.00	1.6176	2.229	2.229	0.0923	0.0923	223	
D 13C-1,2,3,4,7,8,9-HpCDF	39.509	23491	0.50	0.9231	0.4670	0.4670	0.0620	0.0620	23.35	
1,2,3,4,7,8,9-HpCDF	39.517	26471	1.00	1.4672	1.536	1.536	0.0855	0.0855	154	
A Non-2,3,7,8-sub-HpCDF	38.871	10521	1.14	1.5424	0.6386	0.6386	0.0884	0.6386	0.00	
S Total HpCDF					4.404	4.404	0.0889	0.0889		
D 13C-1,2,3,4,6,7,8-HpCDD	39.198	22753	1.12	0.9114	0.4582	0.4582	0.0245	0.0245	22.91	
1,2,3,4,6,7,8-HpCDD	39.215	25136	1.09	1.1237	1.966	1.966	0.0445	0.0445	197	
A Non-2,3,7,8-sub-HpCDD	39.134	18576	1.03	1.1237	1.453	1.453	0.0445	1.453	0.00	a
S Total HpCDD					3.419	3.419	0.0445	0.0445		
D 13C-OCDD	41.635	30027	0.96	0.6272	0.8786	0.8786	0.0709	0.0709	21.96	
OCDF	41.727	35108	0.79	1.5416	3.034	3.034	0.1181	0.1181	152	
OCDD	41.643	151186	0.89	1.1855	17.0	17.0	0.1292	0.1292	849	
1,3,6,8-TCDF	15.356						0.0	0.0		
1,3,6,8-TCDD	16.912						0.0	0.0		
2,3,4,7-TCDF	19.495						0.0	0.0		
1,2,3,7-TCDD	20.574	9907	0.93							R
1,2,3,9-TCDF	20.964						0.0	0.0		
1,2,3,9-TCDD	21.068						0.0	0.0		
1,2,8,9-TCDF	22.701						0.0	0.0		
1,2,8,9-TCDD	22.805						0.0	0.0		
1,3,4,6,8-PeCDF	23.367						0.0	0.0		
1,2,4,7,9-PeCDD	25.364						0.0	0.0		
1,2,3,8,9-PeCDD	29.817						0.0	0.0		
1,2,3,8,9-PeCDF	30.051						0.0	0.0		
1,2,3,4,6,8-HxCDF	32.362						0.0	0.0		
1,2,4,6,7,9-HxCDD	33.594						0.0	0.0		
1,2,3,4,6,7-HxCDD	36.111						0.0	0.0		
1,2,3,4,8,9-HxCDF	36.471						0.0	0.0		
1,2,3,4,6,7,9-HpCDD	38.561	18576	1.03							
1,2,3,8-TCDD	0.0						0.0	0.0		
1,3,7,9-TCDD	0.0						0.0	0.0		
1,2,3,4,6,7,9-HpCDF	0.0						0.0	0.0		
1,2,3,4,7-PeCDD	0.0						0.0	0.0		
1,4,7,8-TCDD	0.0						0.0	0.0		

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated
a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_11.d
Lims ID: 600-194690-A-11-B MS
Client ID: INF 4 - DISSOLVED
Sample Type: MS
Inject. Date: 07-Nov-2019 23:17:00 ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 50.0000
Sample Info: 600-194690-A-11-B MS (50x)
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\Dioxin_DFS1.m
Limit Group: HR - 1613B - ICAL
Last Update: 11-Nov-2019 10:37:12 Calib Date: 19-Oct-2019 00:02:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.07 :22.11)
Process Host: CTX0323

First Level Reviewer: shardaa Date: 08-Nov-2019 13:18:12

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	20.349	20.333	1		47074	7513	476	1190	16		
333.9338	20.357	20.333	1		61915	9333	74	185	126	0.76(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	19.433	19.392	2	0.955	23258	4034	695	1737	6		
317.9389	19.433	19.392	2	0.955	31773	5192	290	725	18	0.73(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	19.442	19.495	-3	1.000	1897247	285652	285	712	1002		
305.8987	19.442	19.495	-3	1.000	2582481	387643	612	1530	633	0.73(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.005	19.029	-121	0.875	43833	7927	285	712	28		
305.8987	17.005	19.029	-121	0.875	53882	10300	612	1530	17	0.81(0.65-0.89)	
303.9016	17.471	19.029	-93	0.899	60282	10824	285	712	38		
305.8987	17.471	19.029	-93	0.899	91871	13103	612	1530	21	0.66(0.65-0.89)	
303.9016	17.895	19.029	-68	0.921	53588	7369	285	712	26		
305.8987	17.886	19.029	-68	0.920	74384	10864	612	1530	18	0.72(0.65-0.89)	
303.9016	18.258	19.029	-46	0.940	81473	12388	285	712	43		
305.8987	18.240	19.029	-47	0.939	110582	15862	612	1530	26	0.74(0.65-0.89)	
303.9016	18.750	19.029	-17	0.965	791897	136281	285	712	478		
305.8987	18.742	19.029	-17	0.964	1097901	188744	612	1530	308	0.72(0.65-0.89)	
303.9016	19.131	19.029	6	0.984	35690	5975	285	712	21		
305.8987	19.139	19.029	7	0.985	46921	7501	612	1530	12	0.76(0.65-0.89)	
303.9016	20.210	19.029	71	1.040	110315	17158	285	712	60		
305.8987	20.210	19.029	71	1.040	148279	22419	612	1530	37	0.74(0.65-0.89)	
303.9016	20.625	19.029	96	1.061	29303	4762	285	712	17		
305.8987	20.617	19.029	95	1.061	36809	6037	612	1530	10	0.80(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
303.9016	22.682	19.029	219	1.167	145958	18749	285	712	66		
305.8987	22.665	19.029	218	1.166	198348	27604	612	1530	45	0.74(0.65-0.89)	
13C-2,3,7,8-TCDD											RQMa
331.9368	20.729	20.696	2	1.019	15830	2416	476	1190	5		M
	Empc Correction				13277	2229	476	1190	5		
333.9338	20.729	20.696	2	1.019	17244	2895	74	185	39	0.92(0.65-0.89)	a
2,3,7,8-TCDD											
319.8965	20.755	20.783	-2	1.001	367412	56095	170	425	330		
321.8936	20.755	20.783	-2	1.001	459668	68917	74	185	931	0.80(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	20.755	20.788	-2	1.020	56603	8399	61	152	138		
A Non-2,3,7,8-sub-TCDD											RQa
319.8965	20.574	19.859	43	0.992	4771	989	170	425	6		a
	Empc Correction				3954	958	170	425	6		
321.8936	20.556	19.859	42	0.992	5136	1245	74	185	17	0.93(0.65-0.89)	
319.8965	21.395	19.859	92	1.032	33248	5097	170	425	30		
321.8936	21.412	19.859	93	1.033	40566	6197	74	185	84	0.82(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	26.493	26.471	1	1.302	23154	4544	17	42	267		
353.8970	26.476	26.471	0	1.301	13726	2656	13	32	204	1.69(1.32-1.78)	
1,2,3,7,8-PeCDF											M
339.8597	26.510	26.488	1	1.001	70872	12642	66	165	192		M
341.8567	26.501	26.488	1	1.000	44299	7492	91	227	82	1.60(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	27.944	27.939	0	1.373	25236	3879	17	42	228		
353.8970	27.969	27.939	2	1.374	14829	2976	13	32	229	1.70(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	27.994	27.964	2	1.002	48527	7307	66	165	111		
341.8567	27.994	27.964	2	1.002	31451	5043	91	227	55	1.54(1.32-1.78)	
A F1 PeCDFs											
339.8597	23.991						3	7			
341.8567	23.991						50	125			
A Non-2,3,7,8-sub-PeCDF											RQMa
339.8597	25.092	27.400	-138	0.947	22330	3994	66	165	61		
341.8567	25.067	27.400	-140	0.946	14242	2733	91	227	30	1.57(1.32-1.78)	
339.8597	26.418	27.400	-59	0.997	4570	1048	66	165	16		M
341.8567	26.359	27.400	-62	0.995	3674	837	91	227	9	1.24(1.32-1.78)	
	Empc Correction				2948	676	91	227	7		
339.8597	27.089	27.400	-19	1.022	17125	3090	66	165	47		
341.8567	27.080	27.400	-19	1.022	11590	2301	91	227	25	1.48(1.32-1.78)	
339.8597	28.322	27.400	55	1.069	10925	2030	66	165	31		
341.8567	28.305	27.400	54	1.068	7960	1227	91	227	13	1.37(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											RQ
367.8949	28.758	28.727	2	1.413	11035	1864	41	102	45		
369.8919	28.758	28.727	2	1.413	9149	1590	31	77	51	1.21(1.32-1.78)	
	Empc Correction				7119	1202	31	77	39		

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDD											
355.8546	28.766	28.752	1	1.000	11040	1588	70	175	23		
357.8516	28.800	28.752	3	1.001	6597	1034	19	47	54	1.67(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	27.590						70	175			
357.8516	27.590						19	47			
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.338	34.326	1	0.950	10198	2148	58	145	37		
385.8610	34.330	34.326	0	0.950	17709	3332	73	182	46	0.58(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.363	34.343	1	1.001	68887	14233	90	225	158		
375.8178	34.355	34.343	1	1.000	58464	12701	42	105	302	1.18(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	34.523	34.503	1	0.955	9743	2272	58	145	39		
385.8610	34.523	34.503	1	0.955	19798	3903	73	182	53	0.49(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	34.539	34.519	1	1.000	25771	5138	90	225	57		
375.8178	34.531	34.519	1	1.000	20627	4266	42	105	102	1.25(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	35.403	35.392	1	0.979	8437	1847	58	145	32		
385.8610	35.403	35.392	1	0.979	15991	3784	73	182	52	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											M
373.8208	35.437	35.408	2	1.001	10729	2826	90	225	31		M
375.8178	35.420	35.408	1	1.000	8852	2072	42	105	49	1.21(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.351	36.340	1	1.006	9838	2586	58	145	45		
385.8610	36.343	36.340	0	1.005	17283	4154	73	182	57	0.57(0.43-0.59)	
1,2,3,7,8,9-HxCDF											M
373.8208	36.360	36.348	1	1.000	9458	2498	90	225	28		M
375.8178	36.360	36.348	1	1.000	8533	2305	42	105	55	1.11(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	32.686	34.417	-104	0.952	3179	572	90	225	6		
375.8178	32.686	34.417	-104	0.952	2824	497	42	105	12	1.13(1.05-1.43)	
373.8208	33.676	34.417	-44	0.981	2518	503	90	225	6		
375.8178	33.659	34.417	-45	0.980	2039	492	42	105	12	1.23(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	36.150	36.130	1		61870	17116	82	205	209		
403.8529	36.150	36.130	1		47108	12655	96	240	132	1.31(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											RQ
401.8559	35.647	35.627	1	0.986	12163	2947	82	205	36		
	Empc Correction				10378	2592	82	205	32		
403.8529	35.638	35.627	1	0.986	8370	2091	96	240	22	1.45(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	35.664	35.643	1	1.000	6930	1590	51	127	31		
391.8127	35.655	35.643	1	1.000	5441	1590	52	130	31	1.27(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											RQ
401.8559	35.764	35.752	1	0.989	9427	2907	82	205	35		
403.8529	35.748	35.752	0	0.989	9628	1885	96	240	20	0.98(1.05-1.43)	
	Empc Correction				7602	2344	96	240	24		
1,2,3,6,7,8-HxCDD											
389.8158	35.781	35.761	1	1.000	7050	1611	51	127	32		
391.8127	35.781	35.761	1	1.000	5726	1514	52	130	29	1.23(1.05-1.43)	
1,2,3,7,8,9-HxCDD											Ma
389.8158	36.175	36.147	2	1.015	6728	1567	51	127	31		M
391.8127	36.158	36.147	1	1.014	5687	1456	52	130	28	1.18(1.05-1.43)	a
A Non-2,3,7,8-sub-HxCDD											
389.8158	34.853						51	127			
391.8127	34.853						52	130			
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.226	38.213	1	1.057	6020	2238	236	590	9		
419.8220	38.226	38.213	1	1.057	13211	4555	105	262	43	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.234	38.229	0	1.000	17326	5735	160	400	36		
409.7788	38.234	38.229	0	1.000	17351	6051	43	107	141	1.00(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8250	39.509	39.497	1	1.093	7817	2528	236	590	11		
419.8220	39.509	39.497	1	1.093	15674	5555	105	262	53	0.50(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.517	39.513	0	1.000	13248	4540	160	400	28		
409.7788	39.517	39.513	0	1.000	13223	4443	43	107	103	1.00(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7817	38.611	38.871	-16	1.010	5598	1810	160	400	11		
409.7788	38.611	38.871	-16	1.010	4923	1527	43	107	36	1.14(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.198	39.187	1	1.084	12021	5077	97	242	52		
437.8140	39.198	39.187	1	1.084	10732	3315	36	90	92	1.12(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7767	39.215	39.202	1	1.000	13083	4273	56	140	76		
425.7737	39.215	39.202	1	1.000	12053	4440	28	70	159	1.09(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											a
423.7767	38.561	39.134	-34	0.984	9432	3232	56	140	58		a
425.7737	38.553	39.134	-35	0.984	9144	3104	28	70	111	1.03(0.88-1.20)	
13C-OCDD											
469.7780	41.635	41.624	1	1.152	14701	4124	180	450	23		
471.7750	41.627	41.624	0	1.151	15326	5148	85	212	61	0.96(0.76-1.02)	
OCDF											
441.7428	41.727	41.717	1	1.002	15468	5567	59	147	94		
443.7399	41.727	41.717	1	1.002	19640	6098	110	275	55	0.79(0.76-1.02)	
OCDD											
457.7377	41.643	41.633	1	1.000	71158	23012	64	160	360		
459.7348	41.643	41.633	1	1.000	80028	25229	78	195	323	0.89(0.76-1.02)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,3,6,8-TCDF											
303.9016	15.356						285	712			
305.8987	15.356						612	1530			
1,3,6,8-TCDD											
319.8965	16.912						170	425			
321.8936	16.912						74	185			
2,3,4,7-TCDF											
303.9016	19.495						285	712			
305.8987	19.495						612	1530			
1,2,3,7-TCDD											R
319.8965	20.574	20.575	0		4771	989	170	425	6		
321.8936	20.556	20.575	-1		5136	1245	74	185	17	0.93(0.65-0.89)	
1,2,3,9-TCDF											
303.9016	20.964						285	712			
303.9016	20.964						285	712			
1,2,3,9-TCDD											
319.8965	21.068						170	425			
321.8936	21.068						74	185			
1,2,8,9-TCDF											
303.9016	22.701						285	712			
305.8987	22.701						612	1530			
1,2,8,9-TCDD											
319.8965	22.805						170	425			
1,3,4,6,8-PeCDF											
339.8597	23.298						3	7			
341.8567	23.298						50	125			
1,2,4,7,9-PeCDD											
355.8546	25.364						70	175			
357.8516	25.364						19	47			
1,2,3,8,9-PeCDD											
355.8546	29.817						70	175			
357.8516	29.817						19	47			
1,2,3,8,9-PeCDF											
339.8597	29.977						66	165			
341.8567	29.977						91	227			
1,2,3,4,6,8-HxCDF											
373.8208	32.362						90	225			
375.8178	32.362						42	105			
1,2,4,6,7,9-HxCDD											
389.8158	33.594						51	127			
391.8127	33.594						52	130			
1,2,3,4,6,7-HxCDD											
389.8158	36.111						51	127			
391.8127	36.111						52	130			
1,2,3,4,8,9-HxCDF											
373.8208	36.471						90	225			
375.8178	36.471						42	105			

Report Date: 11-Nov-2019 10:37:23 Chrom Revision: 2.3 31-Oct-2019 20:21:30
Data File: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_11.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,9-HpCDD											
423.7767	38.561	38.548	1		9432	3232	56	140	58		
425.7737	38.553	38.548	0		9144	3104	28	70	111	1.03(0.88-1.20)	
1,2,3,8-TCDD											
319.8965	0.0						170	425			
319.8965	0.0						170	425			
1,3,7,9-TCDD											
319.8965	0.0						170	425			
321.8936	0.0						74	185			
1,2,3,4,6,7,9-HpCDF											
407.7817	0.0						160	400			
409.7788	0.0						43	107			
1,2,3,4,7-PeCDD											
355.8546	0.0						70	175			
357.8516	0.0						19	47			
1,4,7,8-TCDD											
319.8965	0.0						170	425			
321.8936	0.0						74	185			

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

a - User Assigned ID

Report Date: 11-Nov-2019 10:37:23 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_11.d		
Lims ID:	600-194690-A-11-B MS		
Client ID:	INF 4 - DISSOLVED		
Inject. Date:	07-Nov-2019 23:17:00	Dil. Factor:	50.0000
Sample Type:	MS, Matrix Spike		
Instrument ID:	DFS 1	Operator:	Xcalibur_System
Lims Batch ID:	336838	Lims Sample ID:	10

Non-2,3,7,8-sub-TCDF, RT: 19.029

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.233	D 13C-2,3,7,8-TCDF	100.000	55031	9226

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.233		2.000	55031	9226

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
17.005	43833	7927	53882	10300	2.88	0.81	
17.471	60282	10824	91871	13103	4.48	0.66	
17.895	53588	7369	74384	10864	3.77	0.72	
18.258	81473	12388	110582	15862	5.66	0.74	
18.750	791897	136281	1097901	188744	55.7	0.72	
19.131	35690	5975	46921	7501	2.43	0.76	
20.210	110315	17158	148279	22419	7.62	0.74	
20.625	29303	4762	36809	6037	1.95	0.80	
22.682	145958	18749	198348	27604	10.1	0.74	
Signal Totals:							
	1352339	221433	1858977	302434			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	3211316	523867				0.73	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)

Quant By: Area

Amount: 94.637 = (3211316 * 2.000) / (55031 * 1.233)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_11.d
Lims ID: 600-194690-A-11-B MS
Client ID: INF 4 - DISSOLVED
Inject. Date: 07-Nov-2019 23:17:00 Dil. Factor: 50.0000
Sample Type: MS, Matrix Spike
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 336838 Lims Sample ID: 10

Non-2,3,7,8-sub-TCDD, RT: 19.859

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.199	D 13C-2,3,7,8-TCDD	100.000	33074	5311

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.199		2.000	33074	5311

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
20.574	4771	989	5136	1245	0.4997	0.93	RQa
20.574	3954	958	5136	1245	0.4585		Empc Correction
21.395	33248	5097	40566	6197	3.72	0.82	
Signal Totals:							
	37202	6055	45702	7442			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	83721	13528				0.83	RQa
	82904	13497					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 4.223 = (83721 * 2.000) / (33074 * 1.199)
Empc Amount: 4.182 = (82904 * 2.000) / (33074 * 1.199)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_11.d
Lims ID: 600-194690-A-11-B MS
Client ID: INF 4 - DISSOLVED
Inject. Date: 07-Nov-2019 23:17:00 Dil. Factor: 50.0000
Sample Type: MS, Matrix Spike
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 336838 Lims Sample ID: 10

Non-2,3,7,8-sub-PeCDF, RT: 27.400

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.169	D 13C-1,2,3,7,8-PeCDF	100.000	36880	7200
2,3,4,7,8-PeCDF	1.186	D 13C-2,3,4,7,8-PeCDF	100.000	40065	6855

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.178		2.000	38472	7027

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
25.092	22330	3994	14242	2733	1.61	1.57	
26.418	4570	1048	3674	837	0.3640	1.24	RQMa
26.418	4570	1048	2948	676	0.3319		Empc Correction
27.089	17125	3090	11590	2301	1.27	1.48	
28.322	10925	2030	7960	1227	0.8338	1.37	
Signal Totals:							
	54950	10162	36740	6937			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	92416	17260				1.47	RQMa
	91690	17099					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 4.080 = (92416 * 2.000) / (38472 * 1.178)
Empc Amount: 4.048 = (91690 * 2.000) / (38472 * 1.178)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated
a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_11.d		
Lims ID:	600-194690-A-11-B MS		
Client ID:	INF 4 - DISSOLVED		
Inject. Date:	07-Nov-2019 23:17:00	Dil. Factor:	50.0000
Sample Type:	MS, Matrix Spike		
Instrument ID:	DFS 1	Operator:	Xcalibur_System
Lims Batch ID:	336838	Lims Sample ID:	10

Non-2,3,7,8-sub-HxCDF, RT: 34.417

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.302	D 13C-1,2,3,4,7,8-HxCDF	100.000	27907	5480
1,2,3,6,7,8-HxCDF	1.291	D 13C-1,2,3,6,7,8-HxCDF	100.000	29541	6175
2,3,4,6,7,8-HxCDF	1.304	D 13C-2,3,4,6,7,8-HxCDF	100.000	24428	5631
1,2,3,7,8,9-HxCDF	1.333	D 13C-1,2,3,7,8,9-HxCDF	100.000	27121	6740

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.307		2.000	27249	6006

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
32.686	3179	572	2824	497	0.3370	1.13	
33.676	2518	503	2039	492	0.2558	1.23	
Signal Totals:							
	5697	1075	4863	989			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	10560	2064				1.17	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.5928 = (10560 * 2.000) / (27249 * 1.307)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_11.d		
Lims ID:	600-194690-A-11-B MS		
Client ID:	INF 4 - DISSOLVED		
Inject. Date:	07-Nov-2019 23:17:00	Dil. Factor:	50.0000
Sample Type:	MS, Matrix Spike		
Instrument ID:	DFS 1	Operator:	Xcalibur_System
Lims Batch ID:	336838	Lims Sample ID:	10

Non-2,3,7,8-sub-HpCDF, RT: 38.871

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.618	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	19231	6793
1,2,3,4,7,8,9-HpCDF	1.467	D 13C-1,2,3,4,7,8,9-HpCDF	100.000	23491	8083

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.542		2.000	21361	7438

Sum the Uncalibrated Results

RT	407.7817 Area	407.7817 Height	409.7788 Area	409.7788 Height	Amount	Ratio	Flags
38.611	5598	1810	4923	1527	0.6386	1.14	
Signal Totals:							
	5598	1810	4923	1527			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	10521	3337				1.14	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.6386 = (10521 * 2.000) / (21361 * 1.542)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_11.d
Lims ID: 600-194690-A-11-B MS
Client ID: INF 4 - DISSOLVED
Inject. Date: 07-Nov-2019 23:17:00 Dil. Factor: 50.0000
Sample Type: MS, Matrix Spike
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 336838 Lims Sample ID: 10

Non-2,3,7,8-sub-HpCDD, RT: 39.134

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.124	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	22753	8392

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.124		2.000	22753	8392

Sum the Uncalibrated Results

RT	423.7767 Area	423.7767 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
38.561	9432	3232	9144	3104	1.45	1.03	a
Signal Totals:	9432	3232	9144	3104			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	18576	6336				1.03	a

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.453 = (18576 * 2.000) / (22753 * 1.124)

QC Flag Legend

Review Flags
a - User Assigned ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_11.d				
Injection Date:	07-Nov-2019 23:17:00	Instrument ID:	DFS 1		
Lims ID:	600-194690-A-11-B MS				
Client ID:	INF 4 - DISSOLVED				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	50.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1(14.07 :22.11)		

13C-2,3,7,8-TCDD, CAS: 76523-40-5

Signal: 2

Processing Integration Results

RT: 20.36
Area: 61915
Amount: 2.003213
Amount Units: pg/ul

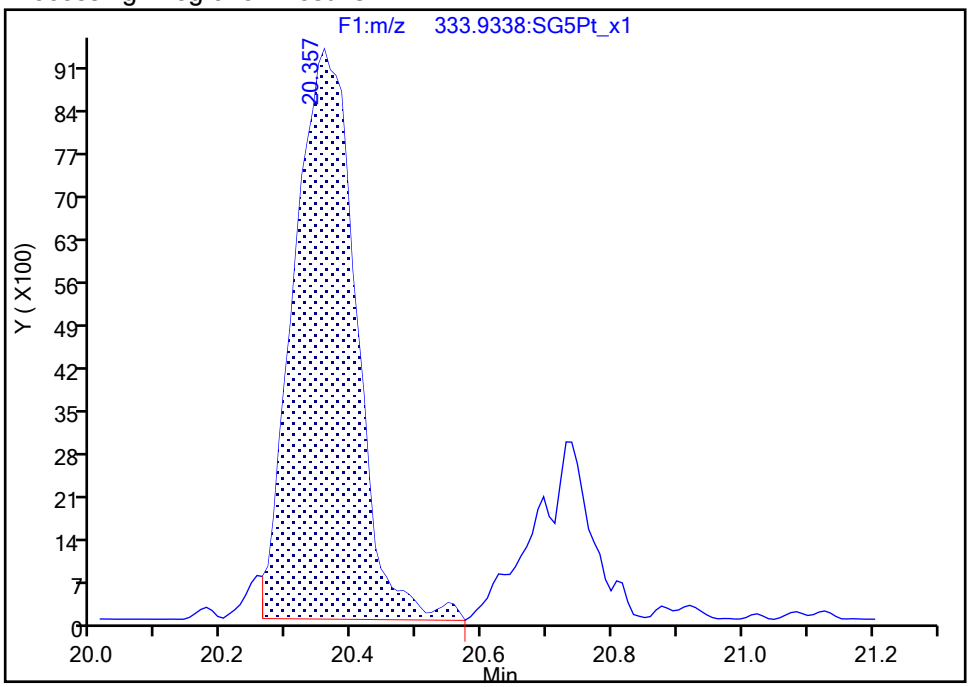

Manual Integration Results

RT: 20.73
Area: 17244
Amount: 0.607899
Amount Units: pg/ul

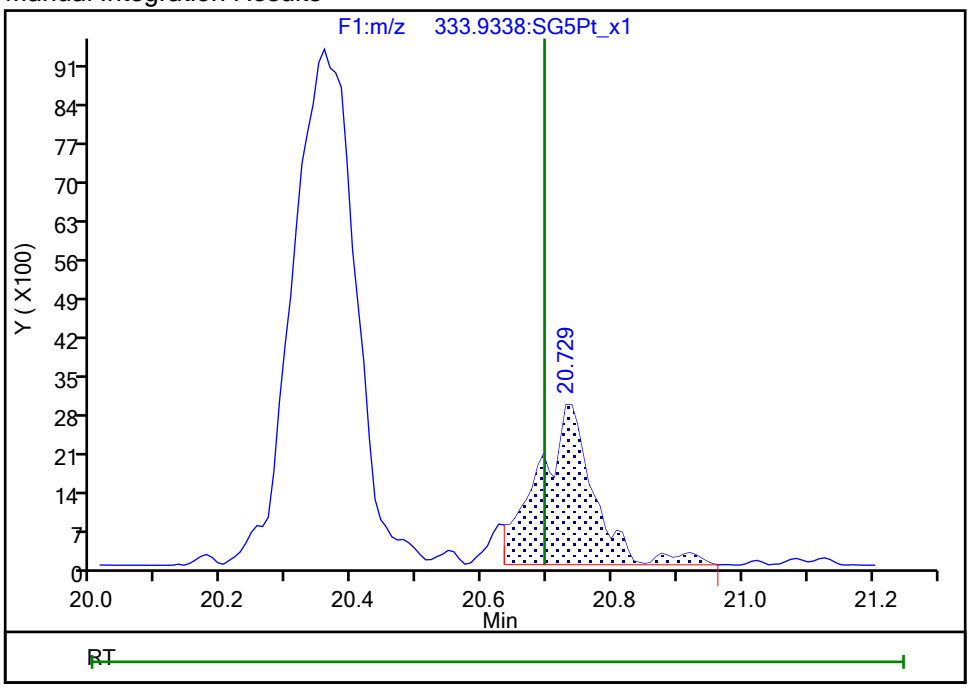

Reviewer: shardaa, 08-Nov-2019 13:17:15

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_11.d				
Injection Date:	07-Nov-2019 23:17:00	Instrument ID:	DFS 1		
Lims ID:	600-194690-A-11-B MS				
Client ID:	INF 4 - DISSOLVED				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	50.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1(14.07 :22.11)		

13C-2,3,7,8-TCDD, CAS: 76523-40-5

Signal: 1

Processing Integration Results

RT: 20.35
Area: 47074
Amount: 2.003213
Amount Units: pg/ul

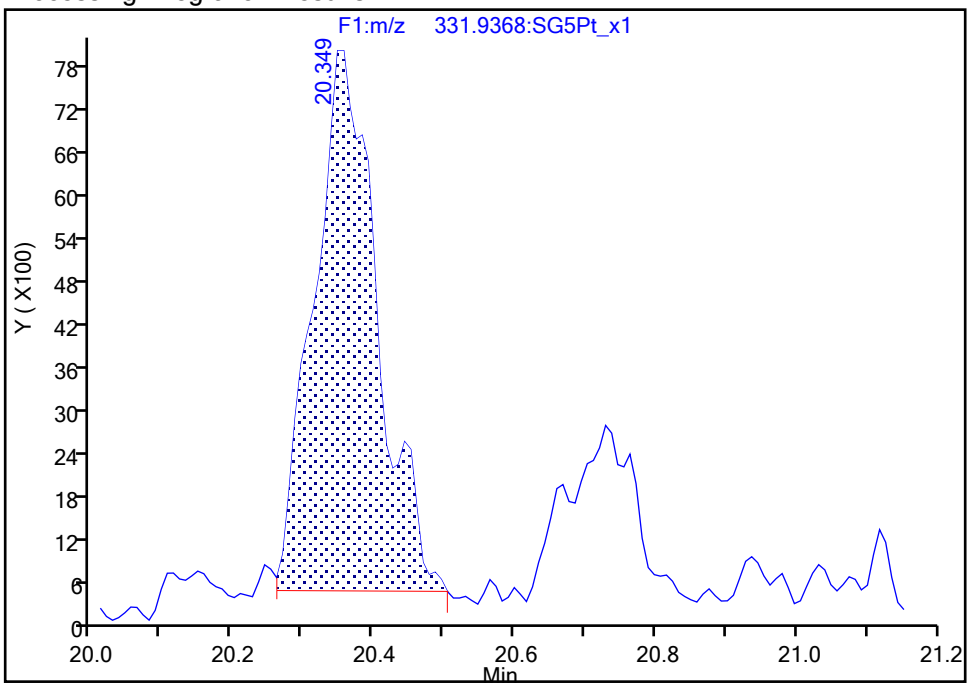

Manual Integration Results

RT: 20.73
Area: 15830
Amount: 0.607899
Amount Units: pg/ul

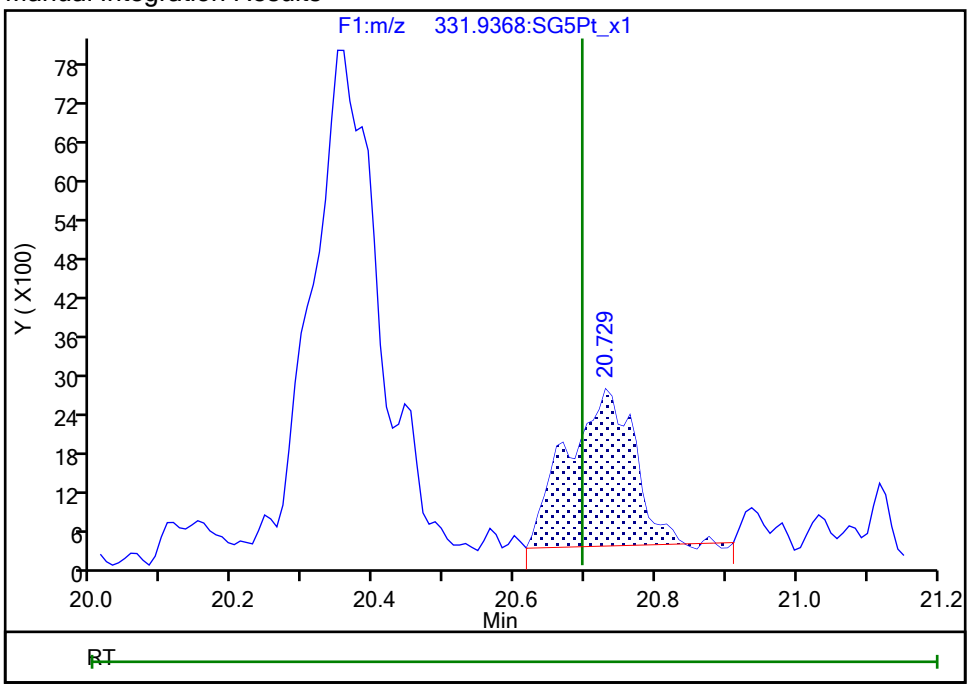

Reviewer: shardaa, 08-Nov-2019 13:17:22

Audit Action: Manually Integrated Audit Reason: Missed Peak

Report Date: 11-Nov-2019 10:37:24 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_11.d		
Injection Date:	07-Nov-2019 23:17:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336838	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

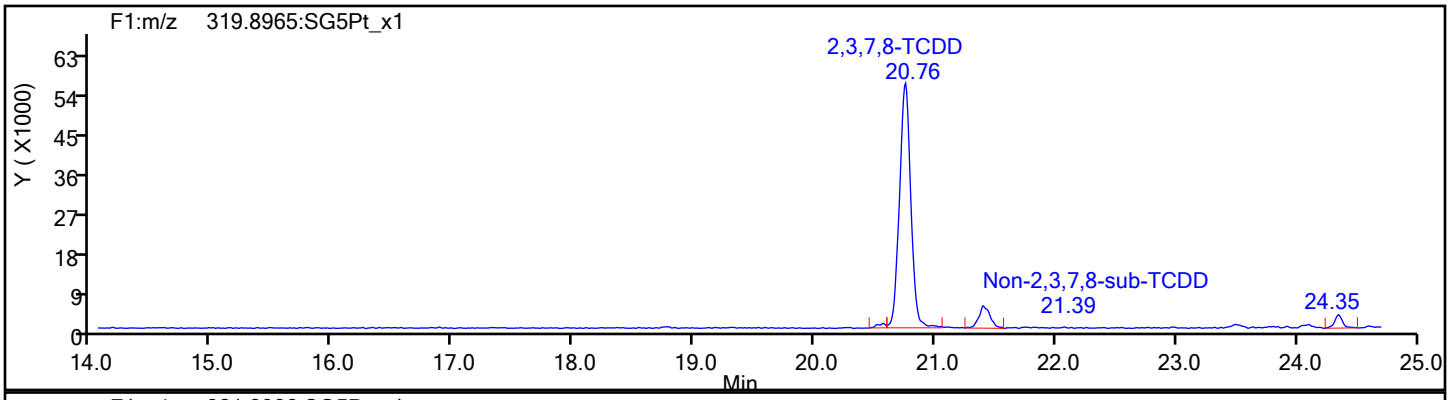

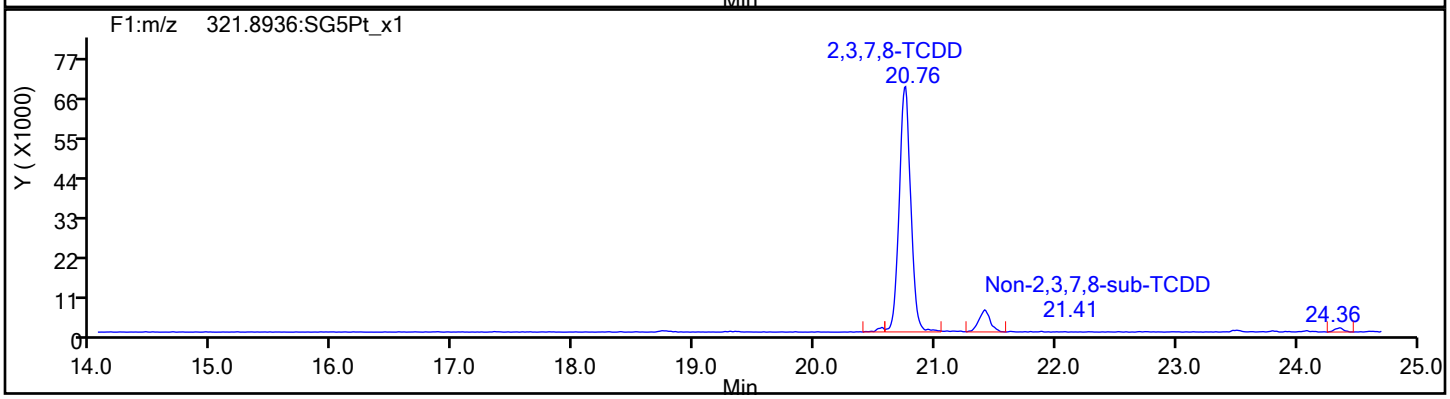

TCDD Standards

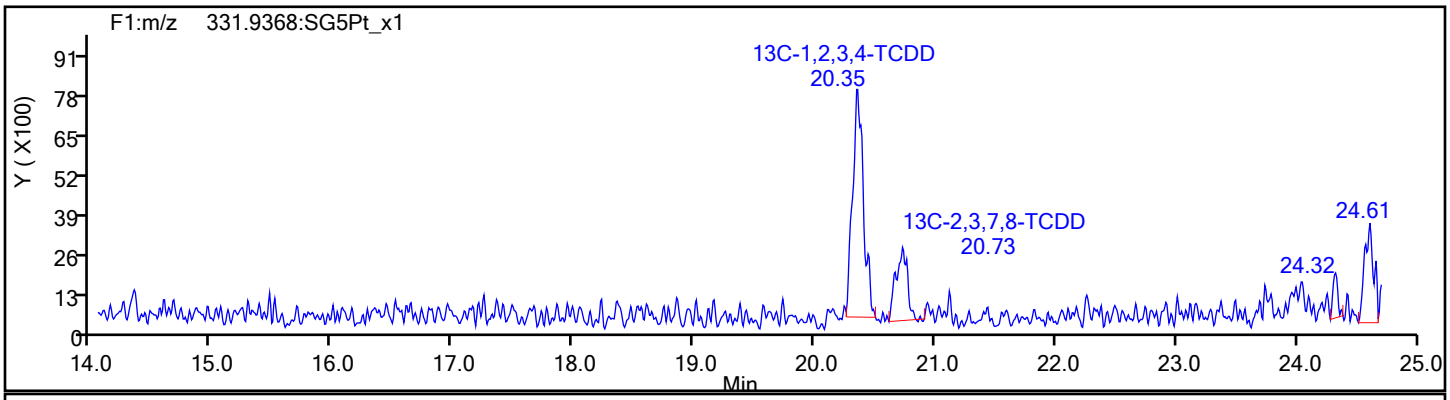

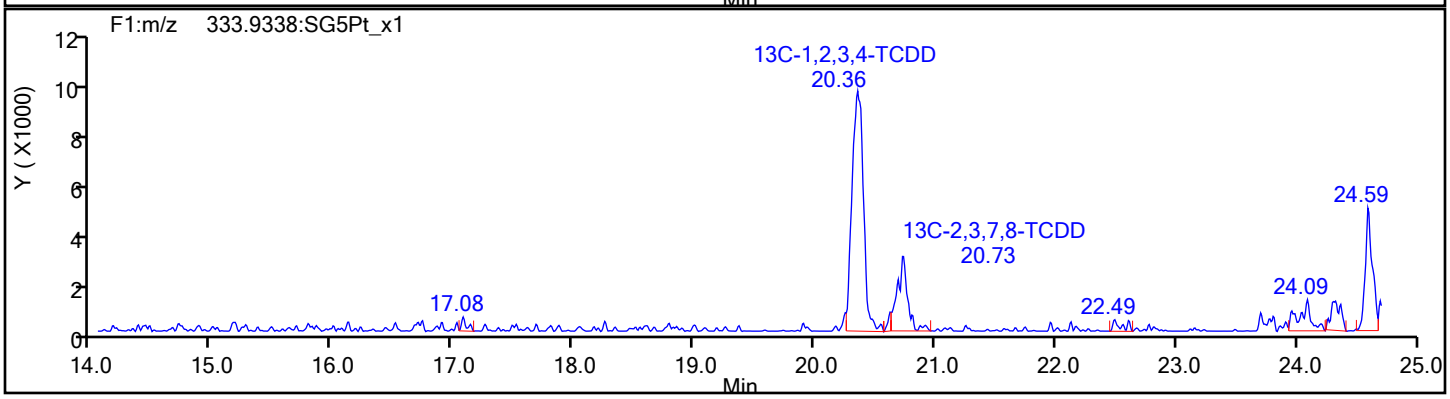

Report Date: 11-Nov-2019 10:37:24 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_11.d		
Injection Date:	07-Nov-2019 23:17:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336838	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

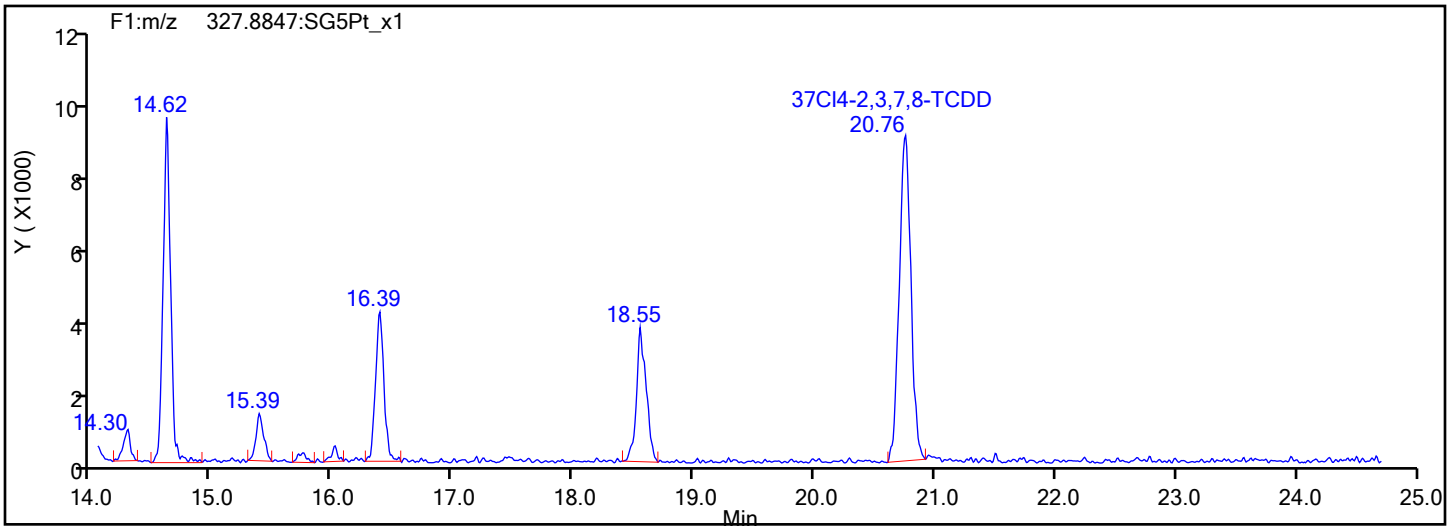

37Cl4-TCDD Standards

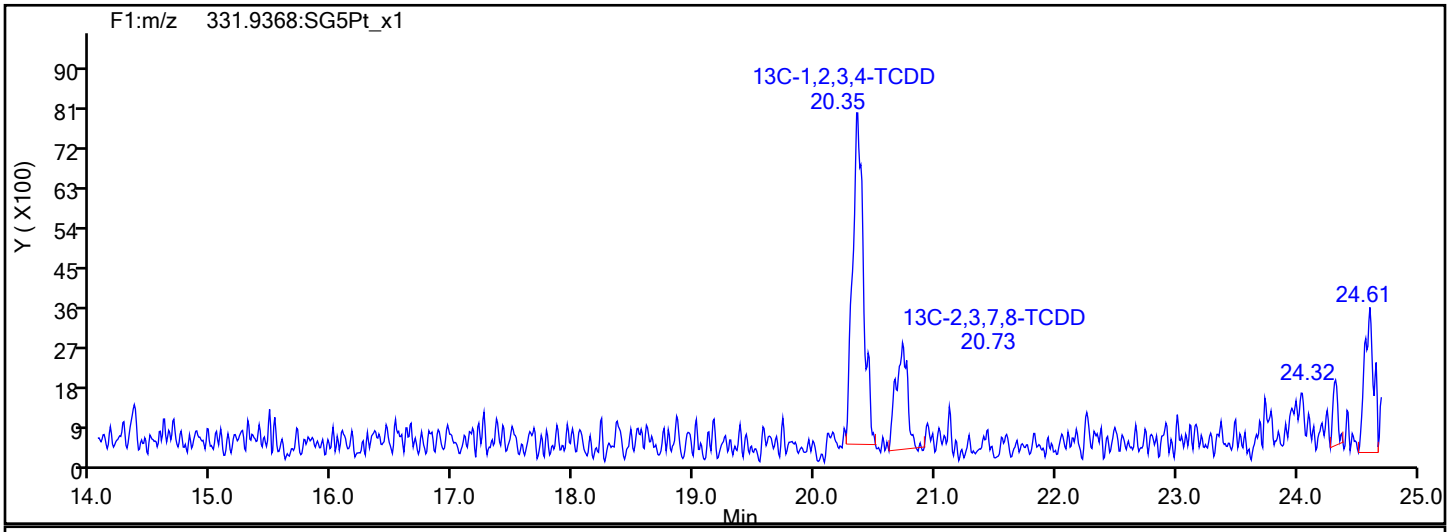

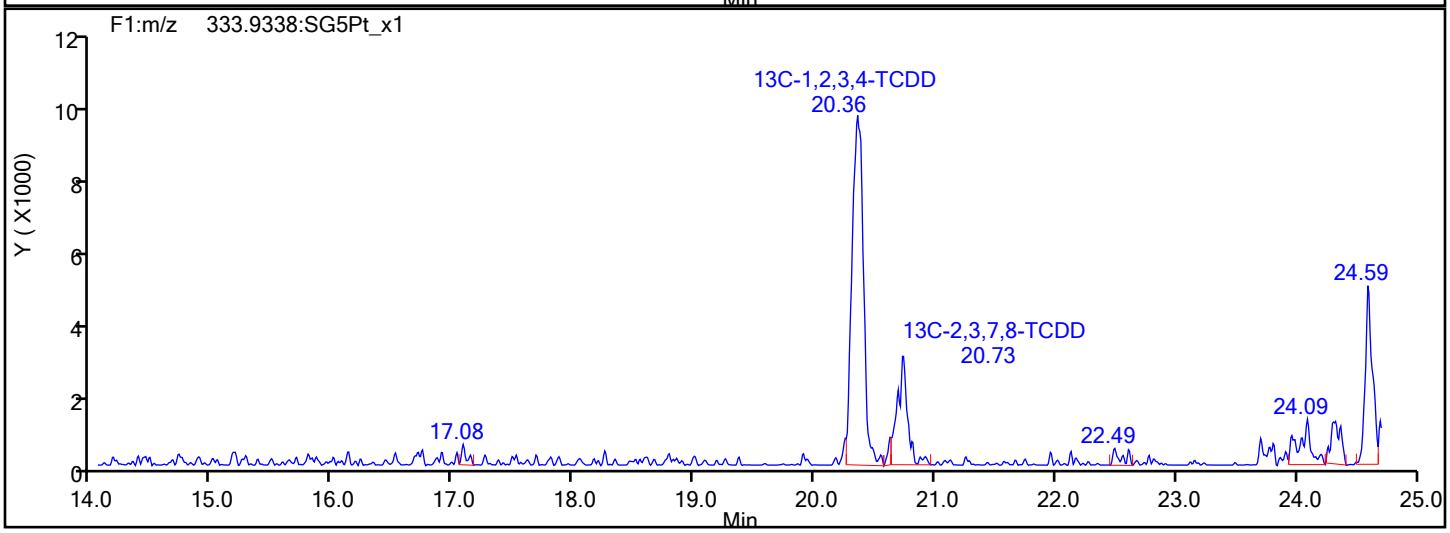

Report Date: 11-Nov-2019 10:37:26 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_11.d		
Injection Date:	07-Nov-2019 23:17:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336838	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

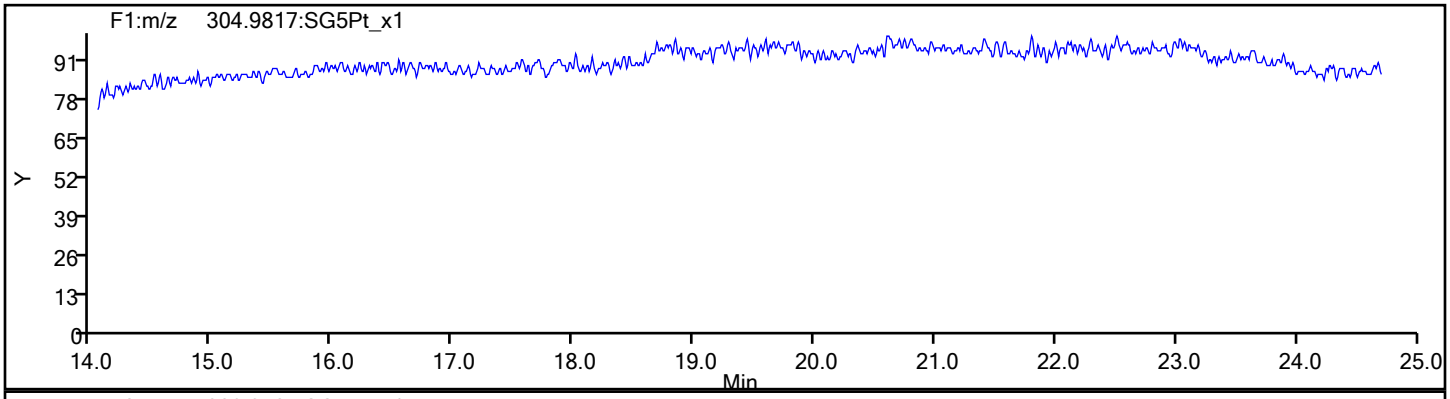

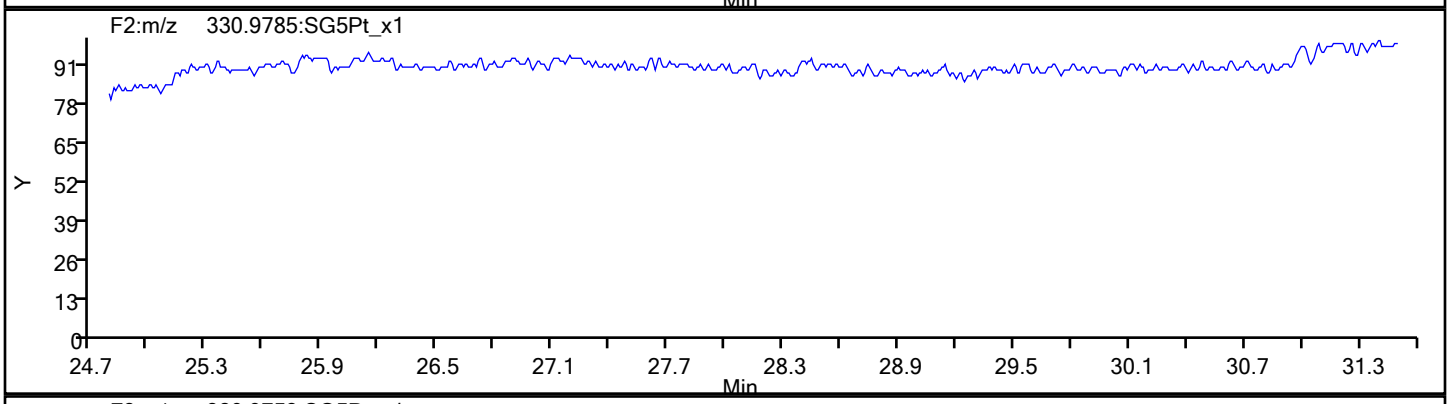

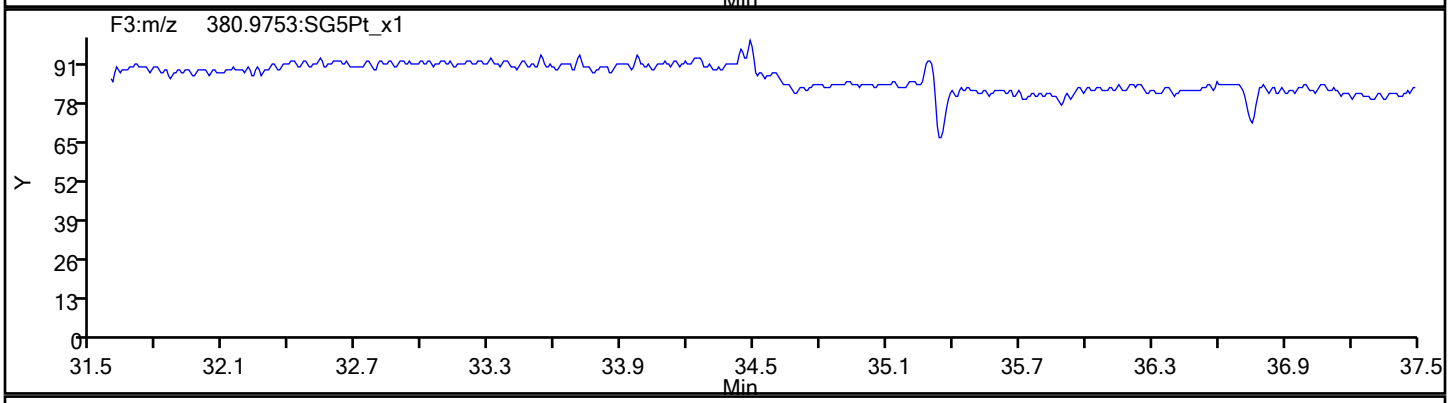

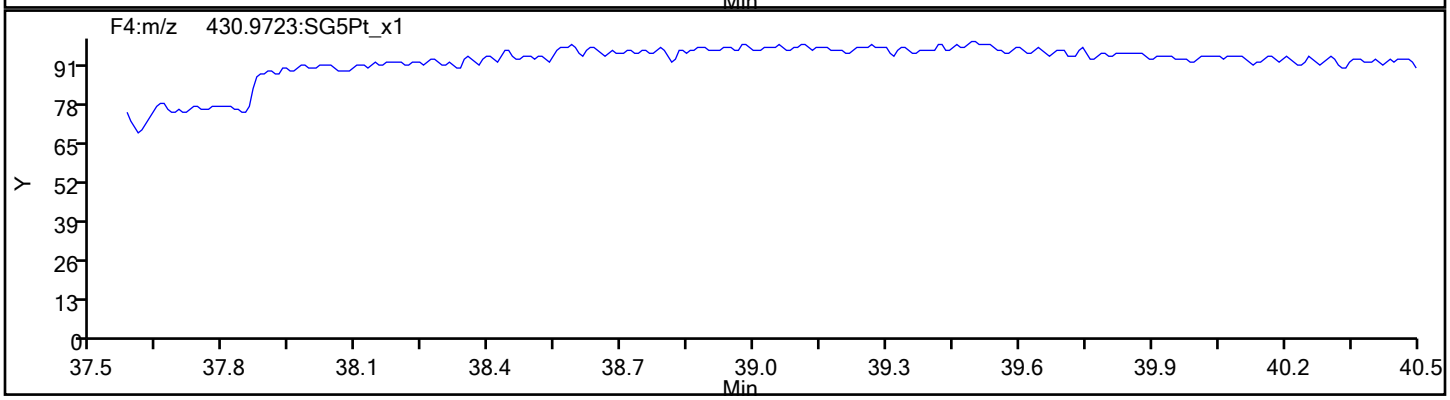

Report Date: 11-Nov-2019 10:37:26 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_11.d		
Injection Date:	07-Nov-2019 23:17:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336838	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

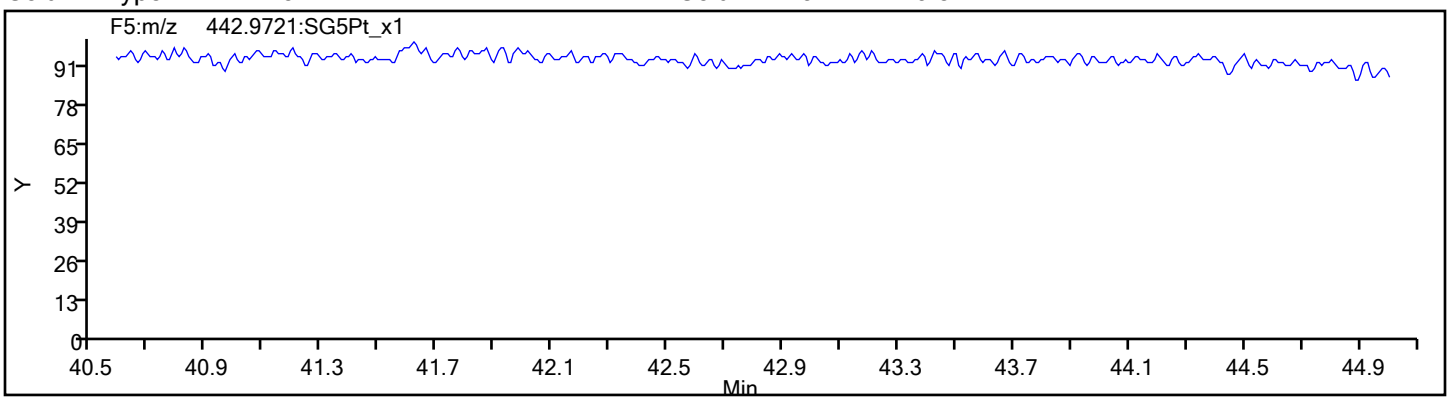

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Client Sample ID: INF 4 - DISSOLVED MSD Lab Sample ID: 600-194690-11 MSD

Matrix: Water Lab File ID: 05NO19B10D5_13.d

Analysis Method: 1613B Date Collected: 10/26/2019 22:10

Extract. Method: 1613B Date Extracted: 11/01/2019 08:11

Sample wt/vol: 982.5(mL) Date Analyzed: 11/06/2019 04:44

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 336302 Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
40321-76-4	1,2,3,7,8-PeCDD	1330		51	9.4
57117-41-6	1,2,3,7,8-PeCDF	3630		51	23
57117-31-4	2,3,4,7,8-PeCDF	2550		51	22
39227-28-6	1,2,3,4,7,8-HxCDD	1030		51	8.8
57653-85-7	1,2,3,6,7,8-HxCDD	1110		51	9.1
19408-74-3	1,2,3,7,8,9-HxCDD	980		51	8.1
70648-26-9	1,2,3,4,7,8-HxCDF	4240		51	40
57117-44-9	1,2,3,6,7,8-HxCDF	1920		51	37
72918-21-9	1,2,3,7,8,9-HxCDF	1060		51	23
60851-34-5	2,3,4,6,7,8-HxCDF	1160		51	26
35822-46-9	1,2,3,4,6,7,8-HpCDD	1700		51	12
67562-39-4	1,2,3,4,6,7,8-HpCDF	1830		51	17
55673-89-7	1,2,3,4,7,8,9-HpCDF	1330		51	17
3268-87-9	OCDD	11100		100	13
39001-02-0	OCDF	2450		100	5.1
41903-57-5	Total TCDD	24500		74	74
30402-14-3	Total TCDF	140000		320	320
36088-22-9	Total PeCDD	1370		51	9.4
30402-15-4	Total PeCDF	8480		51	22
34465-46-8	Total HxCDD	3300		51	8.7
55684-94-1	Total HxCDF	9040		51	31
37871-00-4	Total HpCDD	2640		51	12
38998-75-3	Total HpCDF	3540		51	17

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Client Sample ID: INF 4 - DISSOLVED MSD Lab Sample ID: 600-194690-11 MSD

Matrix: Water Lab File ID: 05NO19B10D5_13.d

Analysis Method: 1613B Date Collected: 10/26/2019 22:10

Extract. Method: 1613B Date Extracted: 11/01/2019 08:11

Sample wt/vol: 982.5(mL) Date Analyzed: 11/06/2019 04:44

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 336302 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	24	*	25-164
89059-46-1	13C-2,3,7,8-TCDF	27		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	25		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	25		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	27		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	22	*	32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	19	*	28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	22	*	26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	20	*	26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	21	*	29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	20	*	28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	17	*	23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	14	*	28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	17	*	26-138
114423-97-1	13C-OCDD	14	*	17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	99		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_13.d
Lims ID: 600-194690-A-11-C MSD
Client ID: INF 4 - DISSOLVED
Sample Type: MSD
Inject. Date: 06-Nov-2019 04:44:17 ALS Bottle#: 15 Worklist Smp#: 13
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 600-194690-A-11-C MSD 600-194690-A-11-C MSD
Misc. Info.: 05NO19B10D5
Operator ID: ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 08-Nov-2019 09:31:45 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0328

First Level Reviewer: arghestanis Date: 06-Nov-2019 09:41:27

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.306	79519310	0.79	9.6E+05	100.0	100.0				a
D 13C-2,3,7,8-TCDF	16.807	30469076	0.79	1.4384	26.6	26.6	0.4473	0.4473	26.64	
2,3,7,8-TCDF	16.837	1249617173	0.79	1.0507	3903.2	3903.2	15.8	15.8	39032	E
A Non-2,3,7,8-sub-TCDF	16.459	945537064	0.78	1.0507	2953.4	2953.4	15.8	1892.6	0.00	Ma
S Total TCDF					6856.7	6856.7	15.8	15.8		
D 13C-2,3,7,8-TCDD	17.502	17899033	0.79	0.9533	23.6	23.6	0.5173	0.5173	23.61	
2,3,7,8-TCDD	17.517	214659923	0.80	1.1064	1083.9	1083.9	3.650	3.650	10839	Ea
$ 37Cl4-2,3,7,8-TCDD	17.517	38408174		1.2224	39.5	39.5	0.3198	0.3198	98.78	
A Non-2,3,7,8-sub-TCDD	16.890	23327319	0.77	1.1064	117.8	117.8	3.650	104.9	0.00	a
S Total TCDD					1201.7	1201.7	3.650	3.650		
D 13C-1,2,3,7,8-PeCDF	21.595	20394172	1.57	1.0286	24.9	24.9	0.1198	0.1198	24.93	
1,2,3,7,8-PeCDF	21.608	39316198	1.60	1.0822	178.1	178.1	1.124	1.124	356	a
D 13C-2,3,4,7,8-PeCDF	22.836	21369327	1.54	0.9827	27.3	27.3	0.1254	0.1254	27.35	
2,3,4,7,8-PeCDF	22.863	29536316	1.62	1.1032	125.3	125.3	1.064	1.064	251	
A F1 PeCDFs	19.158	340544	1.55	1.0927	1.639	1.492	0.1046	1.492	0.00	RQa
A Non-2,3,7,8-sub-PeCDF	22.128	25483851	1.59	1.0927	111.7	111.7	1.093	45.7	0.00	a
S Total PeCDF					416.7	416.6	1.094	1.094		RQ
D 13C-1,2,3,7,8-PeCDD	23.504	15010166	1.60	0.7481	25.2	25.2	0.1237	0.1237	25.23	
1,2,3,7,8-PeCDD	23.545	8878217	1.56	0.9050	65.4	65.4	0.4616	0.4616	131	
A Non-2,3,7,8-sub-PeCDD	22.406	231696	1.55	0.9050	9.284	1.706	0.4616	0.997	0.00	RQa
S Total PeCDD					74.6	67.1	0.4616	0.4616		RQ
D 13C-1,2,3,4,7,8-HxCDF	29.573	15685946	0.51	1.1520	22.1	22.1	0.1100	0.1100	22.10	
1,2,3,4,7,8-HxCDF	29.600	39085690	1.27	1.1973	208.1	208.1	1.955	1.955	416	
D 13C-1,2,3,6,7,8-HxCDF	29.853	15239810	0.52	1.2434	19.9	19.9	0.1019	0.1019	19.90	
1,2,3,6,7,8-HxCDF	29.879	16981455	1.27	1.1807	94.4	94.4	1.812	1.812	189	
D 13C-2,3,4,6,7,8-HxCDF	30.931	14484501	0.50	1.1720	20.1	20.1	0.1081	0.1081	20.06	
2,3,4,6,7,8-HxCDF	30.944	9988255	1.25	1.2116	56.9	56.9	1.262	1.262	114	
D 13C-1,2,3,7,8,9-HxCDF	31.849	13883399	0.50	1.0655	21.2	21.2	0.1189	0.1189	21.15	
1,2,3,7,8,9-HxCDF	31.876	9043225	1.27	1.2451	52.3	52.3	1.116	1.116	105	
A Non-2,3,7,8-sub-HxCDF	29.354	5822819	1.25	1.2087	32.5	32.5	1.459	15.1	0.00	a

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					444.2	444.2	1.536	1.536		
* 13C-1,2,3,7,8,9-HxCDD	31.649	61598671	1.26	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.157	10612236	1.27	0.7812	22.1	22.1	0.1783	0.1783	22.05	
1,2,3,4,7,8-HxCDD	31.170	5944435	1.27	1.1088	50.5	50.5	0.4331	0.4331	101	
D 13C-1,2,3,6,7,8-HxCDD	31.277	10954427	1.22	0.9175	19.4	19.4	0.1518	0.1518	19.38	
1,2,3,6,7,8-HxCDD	31.303	6463142	1.30	1.0814	54.6	54.6	0.4478	0.4478	109	
1,2,3,7,8,9-HxCDD	31.676	6295494	1.28	1.2123	48.2	48.2	0.3978	0.3978	96.32	
A Non-2,3,7,8-sub-HxCDD	29.926	1095436	1.24	1.1342	9.502	8.957	0.4252	5.902	0.00	RQa
S Total HxCDD					162.7	162.2	0.4262	0.4262		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	33.406	7233896	0.41	0.8628	13.6	13.6	0.1798	0.1798	13.61	
1,2,3,4,6,7,8-HpCDF	33.406	10140051	1.07	1.5555	90.1	90.1	0.8145	0.8145	180	M
D 13C-1,2,3,4,7,8,9-HpCDF	34.451	8507704	0.44	0.7991	17.3	17.3	0.1942	0.1942	17.28	
1,2,3,4,7,8,9-HpCDF	34.463	7723768	1.04	1.3862	65.5	65.5	0.8300	0.8300	131	
A Non-2,3,7,8-sub-HpCDF	33.922	2091473	1.03	1.4709	18.1	18.1	0.8199	18.1	0.00	M
S Total HpCDF					173.7	173.7	0.8222	0.8222		
D 13C-1,2,3,4,6,7,8-HpCDD	34.171	9115750	1.03	0.8739	16.9	16.9	0.1352	0.1352	16.93	
1,2,3,4,6,7,8-HpCDD	34.183	7086463	1.03	0.9316	83.4	83.4	0.5752	0.5752	167	
A Non-2,3,7,8-sub-HpCDD	34.038	3918037	1.02	0.9316	46.1	46.1	0.5752	46.1	0.00	a
S Total HpCDD					129.6	129.6	0.5752	0.5752		
D 13C-OCDD	36.450	13590843	0.87	0.7744	28.5	28.5	0.1045	0.1045	14.25	
OCDF	36.546	10311997	0.90	1.2596	120.5	120.5	0.2512	0.2512	120	
OCDD	36.462	39197712	0.90	1.0621	543.1	543.1	0.6626	0.6626	543	
1,3,6,8-TCDF	14.448						0.0	0.0		
1,3,6,8-TCDD	15.310						0.0	0.0		
2,3,4,7-TCDF	16.837						0.0	0.0		U
1,2,3,7-TCDD	17.412						0.0	0.0		U
1,2,3,9-TCDF	17.578						0.0	0.0		
1,2,3,9-TCDD	17.517						0.0	0.0		U
1,2,8,9-TCDF	18.560						0.0	0.0		U
1,2,8,9-TCDD	18.470						0.0	0.0		
1,3,4,6,8-PeCDF	18.848						0.0	0.0		RU
1,2,4,7,9-PeCDD	20.504						0.0	0.0		RU
1,2,3,8,9-PeCDD	24.390						0.0	0.0		
1,2,3,8,9-PeCDF	24.677						0.0	0.0		U
1,2,3,4,6,8-HxCDF	26.765						0.0	0.0		
1,2,4,6,7,9-HxCDD	28.322						0.0	0.0		U
1,2,3,4,6,7-HxCDD	31.676						0.0	0.0		U
1,2,3,4,8,9-HxCDF	31.876						0.0	0.0		U
1,2,3,4,6,7,9-HpCDD	33.649						0.0	0.0		U
1,2,3,8-TCDD	0.0						0.0	0.0		
1,3,7,9-TCDD	0.0						0.0	0.0		
1,2,3,4,6,7,9-HpCDF	0.0						0.0	0.0		
1,2,3,4,7-PeCDD	0.0						0.0	0.0		
1,4,7,8-TCDD	0.0						0.0	0.0		

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test
E - Exceeded Maximum Amount
Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

U - Marked Undetected

a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_13.d
Lims ID: 600-194690-A-11-C MSD
Client ID: INF 4 - DISSOLVED
Sample Type: MSD
Inject. Date: 06-Nov-2019 04:44:17 ALS Bottle#: 15 Worklist Smp#: 13
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 600-194690-A-11-C MSD 600-194690-A-11-C MSD
Misc. Info.: 05NO19B10D5
Operator ID: ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 08-Nov-2019 09:31:45 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0328

First Level Reviewer: arghestanis Date: 06-Nov-2019 09:41:27

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											a
331.9368	17.306	17.230	5		35056329	8364900	14918	37295	561		a
333.9339	17.306	17.230	5		44462981	10363808	22030	55075	470	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.807	16.761	3	0.971	13459082	3613088	19412	48530	186		
317.9389	16.807	16.761	3	0.971	17009994	4583727	28782	71955	159	0.79(0.65-0.89)	
2,3,7,8-TCDF											E
303.9016	16.837	16.761	5	1.002	550018173	138773957	238874	597185	581		
305.8987	16.822	16.761	4	1.001	699599000	175143804	306437	766092	572	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											Ma
303.9016	15.234	16.459	-73	0.906	3795188	1217360	238874	597185	5		
305.8987	15.234	16.459	-73	0.906	4767790	1540796	306437	766092	5	0.80(0.65-0.89)	
303.9016	15.476	16.459	-59	0.921	20743394	5781638	238874	597185	24		M
305.8987	15.476	16.459	-59	0.921	27130945	7461622	306437	766092	24	0.76(0.65-0.89)	
303.9016	15.748	16.459	-43	0.937	22394789	4307609	238874	597185	18		M
305.8987	15.748	16.459	-43	0.937	30522980	5617340	306437	766092	18	0.73(0.65-0.89)	
303.9016	15.975	16.459	-29	0.951	18067285	4579570	238874	597185	19		
305.8987	15.960	16.459	-30	0.950	23164430	6021578	306437	766092	20	0.78(0.65-0.89)	
303.9016	16.187	16.459	-16	0.963	27581499	6494672	238874	597185	27		
305.8987	16.187	16.459	-16	0.963	35117843	8345201	306437	766092	27	0.79(0.65-0.89)	
303.9016	16.459	16.459	0	0.979	266191448	67921921	238874	597185	284		
305.8987	16.459	16.459	0	0.979	339723349	85828177	306437	766092	280	0.78(0.65-0.89)	
303.9016	16.671	16.459	13	0.992	11439922	2793795	238874	597185	12		
305.8987	16.671	16.459	13	0.992	14890546	3649972	306437	766092	12	0.77(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
303.9016	17.230	16.459	46	1.025	35140993	9160973	238874	597185	38		
305.8987	17.230	16.459	46	1.025	44832642	11633574	306437	766092	38	0.78(0.65-0.89)	
303.9016	17.487	16.459	62	1.040	8707725	1886111	238874	597185	8		
305.8987	17.487	16.459	62	1.040	11324296	2416327	306437	766092	8	0.77(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.502	17.427	5	1.011	7921820	2063117	14918	37295	138		
333.9339	17.502	17.427	5	1.011	9977213	2723084	22030	55075	124	0.79(0.65-0.89)	
2,3,7,8-TCDD											Ea
319.8965	17.517	17.427	5	1.001	95556912	26189650	46415	116037	564		a
321.8936	17.517	17.427	5	1.001	119103011	32496443	30907	77267	1051	0.80(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.517	17.442	5	1.012	38408174	10404456	29284	73210	355		
A Non-2,3,7,8-sub-TCDD											a
319.8965	17.412	16.890	31	0.995	1063342	312093	46415	116037	7		a
321.8936	17.412	16.890	31	0.995	1484160	412951	30907	77267	13	0.72(0.65-0.89)	
319.8965	17.835	16.890	57	1.019	9053030	2169925	46415	116037	47		
321.8936	17.835	16.890	57	1.019	11726787	2722749	30907	77267	88	0.77(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	21.595	21.513	5	1.248	12466264	2262792	5516	13790	410		
353.8970	21.581	21.513	4	1.247	7927908	1475007	3716	9290	397	1.57(1.32-1.78)	
1,2,3,7,8-PeCDF											a
339.8597	21.608	21.527	5	1.001	24167855	4381065	11140	27850	393		a
341.8567	21.608	21.527	5	1.001	15148343	2768858	7042	17605	393	1.60(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	22.836	22.781	3	1.320	12954249	2351137	5516	13790	426		
353.8970	22.836	22.781	3	1.320	8415078	1521849	3716	9290	410	1.54(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.863	22.795	4	1.001	18281703	3349760	11140	27850	301		
341.8567	22.863	22.795	4	1.001	11254613	2043607	7042	17605	290	1.62(1.32-1.78)	
A F1 PeCDFs											RQa
339.8597	18.848	19.158	-19	0.873	240510	54931	683	1707	80		a
	Empc Correction				206997	47963	683	1707	70		
341.8567	18.848	19.158	-19	0.873	133547	30944	1057	2642	29	1.80(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDF											a
339.8597	20.326	22.128	-108	0.941	6431722	1369469	11140	27850	123		
341.8567	20.326	22.128	-108	0.941	4002526	863078	7042	17605	123	1.61(1.32-1.78)	
339.8597	21.131	22.128	-60	0.979	578322	76062	11140	27850	7		
341.8567	21.145	22.128	-59	0.979	359422	44117	7042	17605	6	1.61(1.32-1.78)	
339.8597	21.486	22.128	-38	0.995	1095025	295359	11140	27850	27		a
341.8567	21.472	22.128	-39	0.994	708081	191315	7042	17605	27	1.55(1.32-1.78)	
339.8597	22.086	22.128	-3	1.023	4502431	855878	11140	27850	77		
341.8567	22.086	22.128	-3	1.023	2821470	531712	7042	17605	76	1.60(1.32-1.78)	
339.8597	23.177	22.128	63	1.073	3020078	484762	11140	27850	44		
341.8567	23.177	22.128	63	1.073	1964774	310227	7042	17605	44	1.54(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDD											
367.8949	23.504	23.463	2	1.358	9226201	1518008	3913	9782	388		
369.8919	23.504	23.463	2	1.358	5783965	966410	3018	7545	320	1.60(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.545	23.476	4	1.002	5407836	912479	2430	6075	376		
357.8516	23.545	23.476	4	1.002	3470381	573904	1722	4305	333	1.56(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											RQa
355.8546	20.504	22.406	-114	0.872	58533	11281	2430	6075	5		a
357.8516	20.504	22.406	-114	0.872	1054296	227441	1722	4305	132	0.06(1.32-1.78)	
	Empc Correction				37763	7278	1722	4305	4		
355.8546	21.636	22.406	-46	0.921	82302	17444	2430	6075	7		
357.8516	21.636	22.406	-46	0.921	66051	12012	1722	4305	7	1.25(1.32-1.78)	
	Empc Correction				53098	11254	1722	4305	7		
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.573	29.533	2	0.934	5285139	631342	2875	7187	220		
385.8610	29.573	29.533	2	0.934	10400807	1298937	4332	10830	300	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.600	29.533	4	1.001	21885906	2689073	10905	27262	247		
375.8178	29.600	29.533	4	1.001	17199784	2123956	7165	17912	296	1.27(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.853	29.813	2	0.943	5201199	719852	2875	7187	250		
385.8610	29.853	29.813	2	0.943	10038611	1392118	4332	10830	321	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	29.879	29.826	3	1.001	9514596	1324155	10905	27262	121		
375.8178	29.879	29.826	3	1.001	7466859	1042719	7165	17912	146	1.27(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	30.931	30.904	2	0.977	4827817	995103	2875	7187	346		
385.8610	30.931	30.904	2	0.977	9656684	1959544	4332	10830	452	0.50(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	30.944	30.917	2	1.000	5551824	1152112	10905	27262	106		
375.8178	30.944	30.917	2	1.000	4436431	925809	7165	17912	129	1.25(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.849	31.836	1	1.006	4642800	1094923	2875	7187	381		
385.8610	31.849	31.836	1	1.006	9240599	2156220	4332	10830	498	0.50(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.876	31.849	2	1.001	5059108	1228223	10905	27262	113		
375.8178	31.862	31.849	1	1.000	3984117	988620	7165	17912	138	1.27(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											a
373.8208	27.230	29.354	-127	0.921	981623	139854	10905	27262	13		
375.8178	27.217	29.354	-128	0.920	805784	113072	7165	17912	16	1.22(1.05-1.43)	
373.8208	28.468	29.354	-53	0.963	720871	99426	10905	27262	9		
375.8178	28.482	29.354	-52	0.963	605373	81513	7165	17912	11	1.19(1.05-1.43)	
373.8208	31.956	29.354	156	1.081	1526886	363783	10905	27262	33		a
375.8178	31.956	29.354	156	1.081	1182282	267552	7165	17912	37	1.29(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.649	31.636	1		34295813	7929646	4519	11297	1755		
403.8529	31.649	31.636	1		27302858	6290643	3402	8505	1849	1.26(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.157	31.143	1	0.984	5934205	1369226	4519	11297	303		
403.8529	31.157	31.143	1	0.984	4678031	1005636	3402	8505	296	1.27(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.170	31.144	2	1.000	3325622	745703	2448	6120	305		
391.8127	31.170	31.144	2	1.000	2618813	601882	2114	5285	285	1.27(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.277	31.263	1	0.988	6020464	1301244	4519	11297	288		
403.8529	31.277	31.263	1	0.988	4933963	1053795	3402	8505	310	1.22(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.303	31.277	2	1.001	3655607	781927	2448	6120	319		
391.8127	31.303	31.277	2	1.001	2807535	598008	2114	5285	283	1.30(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.676	31.649	2	1.017	3529625	801236	2448	6120	327		
391.8127	31.676	31.649	2	1.017	2765869	629749	2114	5285	298	1.28(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											RQa
389.8157	28.322	29.926	-96	0.906	386389	53323	2448	6120	22		a
391.8127	28.309	29.926	-97	0.905	335431	43191	2114	5285	20	1.15(1.05-1.43)	
389.8157	30.239	29.926	19	0.967	273485	36665	2448	6120	15		
	Empc Correction				206823	34257	2448	6120	14		
391.8127	30.225	29.926	18	0.966	166793	27627	2114	5285	13	1.64(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.406	33.393	1	1.055	2118692	665452	3084	7710	216		
419.8220	33.406	33.393	1	1.055	5115204	1555330	5742	14355	271	0.41(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											M
407.7818	33.406	33.394	1	1.000	5244130	1579519	6439	16097	245		
409.7789	33.406	33.394	1	1.000	4895921	1524979	4816	12040	317	1.07(0.88-1.20)	M
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.451	34.451	0	1.089	2593207	763049	3084	7710	247		
419.8220	34.451	34.451	0	1.089	5914497	1682462	5742	14355	293	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.463	34.451	1	1.000	3929242	1119941	6439	16097	174		
409.7789	34.463	34.451	1	1.000	3794526	1076898	4816	12040	224	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											M
407.7818	33.697	33.922	-13	1.009	1062960	342793	6439	16097	53		M
409.7789	33.697	33.922	-13	1.009	1028513	335497	4816	12040	70	1.03(0.88-1.20)	M
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.171	34.171	0	1.080	4615058	1299103	3606	9015	360		
437.8140	34.171	34.171	0	1.080	4500692	1260562	3114	7785	405	1.03(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.183	34.172	1	1.000	3594388	1031837	2762	6905	374		
425.7737	34.183	34.172	1	1.000	3492075	999185	2724	6810	367	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											a
423.7766	33.649	34.038	-23	0.985	1977983	618375	2762	6905	224		a
425.7737	33.649	34.038	-23	0.985	1940054	605818	2724	6810	222	1.02(0.88-1.20)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-OCDD											
469.7779	36.450	36.462	-1	1.152	6309976	1506623	2654	6635	568		
471.7750	36.462	36.462	0	1.152	7280867	1753663	1949	4872	900	0.87(0.76-1.02)	
OCDF											
441.7428	36.546	36.546	0	1.003	4884567	1251070	986	2465	1269		
443.7399	36.546	36.546	0	1.003	5427430	1407286	1077	2692	1307	0.90(0.76-1.02)	
OCDD											
457.7377	36.462	36.462	0	1.000	18563756	4578716	1967	4917	2328		
459.7348	36.462	36.462	0	1.000	20633956	5145138	2622	6555	1962	0.90(0.76-1.02)	
1,3,6,8-TCDF											
303.9016	14.448						238874	597185			
305.8987	14.448						306437	766092			
1,3,6,8-TCDD											
319.8965	15.310						46415	116037			
321.8936	15.310						30907	77267			
2,3,4,7-TCDF											U
303.9016	16.761						238874	597185			
305.8987	16.761						306437	766092			
1,2,3,7-TCDD											U
319.8965	17.306						46415	116037			
321.8936	17.306						30907	77267			
1,2,3,9-TCDF											
303.9016	17.578						238874	597185			
305.8987	17.578						306437	766092			
1,2,3,9-TCDD											U
319.8965	17.578						46415	116037			
321.8936	17.578						30907	77267			
1,2,8,9-TCDF											U
303.9016	18.470						238874	597185			
305.8987	18.470						306437	766092			
1,2,8,9-TCDD											
319.8965	18.470						46415	116037			
1,3,4,6,8-PeCDF											RU
339.8597	18.742						683	1707			
341.8567	18.742						1057	2642			
1,2,4,7,9-PeCDD											RU
355.8546	20.422						2430	6075			
357.8516	20.422						1722	4305			
1,2,3,8,9-PeCDD											
355.8546	24.390						2430	6075			
357.8516	24.390						1722	4305			
1,2,3,8,9-PeCDF											U
339.8597	24.608						11140	27850			
341.8567	24.608						7042	17605			
1,2,3,4,6,8-HxCDF											
373.8208	26.765						10905	27262			
375.8178	26.765						7165	17912			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,4,6,7,9-HxCDD											U
389.8157	28.256						2448	6120			
391.8127	28.256						2114	5285			
1,2,3,4,6,7-HxCDD											U
389.8157	31.597						2448	6120			
391.8127	31.597						2114	5285			
1,2,3,4,8,9-HxCDF											U
373.8208	31.942						10905	27262			
375.8178	31.942						7165	17912			
1,2,3,4,6,7,9-HpCDD											U
423.7766	33.637						2762	6905			
425.7737	33.637						2724	6810			
1,2,3,8-TCDD											
319.8965	0.0						46415	116037			
321.8936	0.0						30907	77267			
1,3,7,9-TCDD											
319.8965	0.0						46415	116037			
321.8936	0.0						30907	77267			
1,2,3,4,6,7,9-HpCDF											
407.7818	0.0						6439	16097			
409.7789	0.0						4816	12040			
1,2,3,4,7-PeCDD											
355.8546	0.0						2430	6075			
357.8516	0.0						1722	4305			
1,4,7,8-TCDD											
319.8965	0.0						46415	116037			
321.8936	0.0						30907	77267			

QC Flag Legend

Processing Flags

- R - Failed Signal Ratio Test
- E - Exceeded Maximum Amount
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags

- M - Manually Integrated
- U - Marked Undetected
- a - User Assigned ID

Report Date: 08-Nov-2019 09:31:50 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_13.d
Lims ID: 600-194690-A-11-C MSD
Client ID: INF 4 - DISSOLVED
Inject. Date: 06-Nov-2019 04:44:17 Dil. Factor: 1.0000
Sample Type: MSD, Matrix Spike Duplicate
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 13

Non-2,3,7,8-sub-TCDF, RT: 16.459

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.051	D 13C-2,3,7,8-TCDF	100.000	30469076	8196815

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.051		100.000	30469076	8196815

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
15.234	3795188	1217360	4767790	1540796	26.7	0.80	
15.476	20743394	5781638	27130945	7461622	149.5	0.76	Ma
15.748	22394789	4307609	30522980	5617340	165.3	0.73	M
15.975	18067285	4579570	23164430	6021578	128.8	0.78	
16.187	27581499	6494672	35117843	8345201	195.8	0.79	
16.459	266191448	67921921	339723349	85828177	1892.6	0.78	
16.671	11439922	2793795	14890546	3649972	82.2	0.77	
17.230	35140993	9160973	44832642	11633574	249.8	0.78	
17.487	8707725	1886111	11324296	2416327	62.6	0.77	
Signal Totals:	414062243	104143649	531474821	132514587			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	945537064	236658236				0.78	Ma

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 2953.4 = (945537064 * 100.000) / (30469076 * 1.051)

QC Flag Legend

Review Flags
M - Manually Integrated
a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_13.d
Lims ID: 600-194690-A-11-C MSD
Client ID: INF 4 - DISSOLVED
Inject. Date: 06-Nov-2019 04:44:17 Dil. Factor: 1.0000
Sample Type: MSD, Matrix Spike Duplicate
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 13

Non-2,3,7,8-sub-TCDD, RT: 16.890

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.106	D 13C-2,3,7,8-TCDD	100.000	17899033	4786201

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.106		100.000	17899033	4786201

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
17.412	1063342	312093	1484160	412951	12.9	0.72	a
17.835	9053030	2169925	11726787	2722749	104.9	0.77	
Signal Totals:							
	10116372	2482018	13210947	3135700			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	23327319	5617718				0.77	a

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 117.793 = (23327319 * 100.000) / (17899033 * 1.106)

QC Flag Legend

Review Flags
a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_13.d
Lims ID: 600-194690-A-11-C MSD
Client ID: INF 4 - DISSOLVED
Inject. Date: 06-Nov-2019 04:44:17 Dil. Factor: 1.0000
Sample Type: MSD, Matrix Spike Duplicate
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 13

F1 PeCDFs, RT: 19.158

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.082	D 13C-1,2,3,7,8-PeCDF	100.000	20394172	3737799
2,3,4,7,8-PeCDF	1.103	D 13C-2,3,4,7,8-PeCDF	100.000	21369327	3872986

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.093		100.000	20881749	3805392

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
18.848	240510	54931	133547	30944	1.64	1.80	RQa
18.848	206997	47963	133547	30944	1.49		Empc Correction
Signal Totals:							
	206997	47963	133547	30944			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	374057	85875				1.80	RQa
	340544	78907					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.639 = (374057 * 100.000) / (20881749 * 1.093)
Empc Amount: 1.492 = (340544 * 100.000) / (20881749 * 1.093)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_13.d
Lims ID: 600-194690-A-11-C MSD
Client ID: INF 4 - DISSOLVED
Inject. Date: 06-Nov-2019 04:44:17 Dil. Factor: 1.0000
Sample Type: MSD, Matrix Spike Duplicate
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 13

Non-2,3,7,8-sub-PeCDF, RT: 22.128

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.082	D 13C-1,2,3,7,8-PeCDF	100.000	20394172	3737799
2,3,4,7,8-PeCDF	1.103	D 13C-2,3,4,7,8-PeCDF	100.000	21369327	3872986

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.093		100.000	20881749	3805392

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
20.326	6431722	1369469	4002526	863078	45.7	1.61	
21.131	578322	76062	359422	44117	4.11	1.61	
21.486	1095025	295359	708081	191315	7.90	1.55	a
22.086	4502431	855878	2821470	531712	32.1	1.60	
23.177	3020078	484762	1964774	310227	21.8	1.54	
Signal Totals:							
	15627578	3081530	9856273	1940449			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	25483851	5021979				1.59	a

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 111.683 = (25483851 * 100.000) / (20881749 * 1.093)

QC Flag Legend

Review Flags
a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_13.d		
Lims ID:	600-194690-A-11-C MSD		
Client ID:	INF 4 - DISSOLVED		
Inject. Date:	06-Nov-2019 04:44:17	Dil. Factor:	1.0000
Sample Type:	MSD, Matrix Spike Duplicate		
Instrument ID:	10D5	Operator:	ALM
Lims Batch ID:	336302	Lims Sample ID:	13

Non-2,3,7,8-sub-PeCDD, RT: 22.406

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDD	0.905	D 13C-1,2,3,7,8-PeCDD	100.000	15010166	2484418

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.905		100.000	15010166	2484418

Sum the Uncalibrated Results

RT	355.8546 Area	355.8546 Height	357.8516 Area	357.8516 Height	Amount	Ratio	Flags
20.504	58533	11281	1054296	227441	8.19	0.06	RQa
20.504	58533	11281	37763	7278	0.7089		Empc Correction
21.636	82302	17444	66051	12012	1.09	1.25	RQ
21.636	82302	17444	53098	11254	1.00		Empc Correction
Signal Totals:							
	140835	28725	90861	18532			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1261182	268178				0.13	RQa
	231696	47257					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 9.284 = (1261182 * 100.000) / (15010166 * 0.905)
Empc Amount: 1.706 = (231696 * 100.000) / (15010166 * 0.905)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_13.d
Lims ID: 600-194690-A-11-C MSD
Client ID: INF 4 - DISSOLVED
Inject. Date: 06-Nov-2019 04:44:17 Dil. Factor: 1.0000
Sample Type: MSD, Matrix Spike Duplicate
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 13

Non-2,3,7,8-sub-HxCDF, RT: 29.354

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.197	D 13C-1,2,3,4,7,8-HxCDF	100.000	15685946	1930279
1,2,3,6,7,8-HxCDF	1.181	D 13C-1,2,3,6,7,8-HxCDF	100.000	15239810	2111970
2,3,4,6,7,8-HxCDF	1.212	D 13C-2,3,4,6,7,8-HxCDF	100.000	14484501	2954647
1,2,3,7,8,9-HxCDF	1.245	D 13C-1,2,3,7,8,9-HxCDF	100.000	13883399	3251143

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.209		100.000	14823414	2562009

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
27.230	981623	139854	805784	113072	9.98	1.22	
28.468	720871	99426	605373	81513	7.40	1.19	
31.956	1526886	363783	1182282	267552	15.1	1.29	a
Signal Totals:							
	3229380	603063	2593439	462137			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	5822819	1065200				1.25	a

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 32.499 = (5822819 * 100.000) / (14823414 * 1.209)

QC Flag Legend

Review Flags
a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_13.d		
Lims ID:	600-194690-A-11-C MSD		
Client ID:	INF 4 - DISSOLVED		
Inject. Date:	06-Nov-2019 04:44:17	Dil. Factor:	1.0000
Sample Type:	MSD, Matrix Spike Duplicate		
Instrument ID:	10D5	Operator:	ALM
Lims Batch ID:	336302	Lims Sample ID:	13

Non-2,3,7,8-sub-HxCDD, RT: 29.926

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.109	D 13C-1,2,3,4,7,8-HxCDD	100.000	10612236	2374862
1,2,3,6,7,8-HxCDD	1.081	D 13C-1,2,3,6,7,8-HxCDD	100.000	10954427	2355039
1,2,3,7,8,9-HxCDD	1.212				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.134		100.000	10783331	2364950

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
28.322	386389	53323	335431	43191	5.90	1.15	a
30.239	273485	36665	166793	27627	3.60	1.64	RQ
30.239	206823	34257	166793	27627	3.05		Empc Correction
Signal Totals:							
	593212	87580	502224	70818			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1162098	160806				1.31	RQa
	1095436	158398					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 9.502 = (1162098 * 100.000) / (10783331 * 1.134)
Empc Amount: 8.957 = (1095436 * 100.000) / (10783331 * 1.134)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_13.d
Lims ID: 600-194690-A-11-C MSD
Client ID: INF 4 - DISSOLVED
Inject. Date: 06-Nov-2019 04:44:17 Dil. Factor: 1.0000
Sample Type: MSD, Matrix Spike Duplicate
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 13

Non-2,3,7,8-sub-HpCDF, RT: 33.922

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.556	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	7233896	2220782
1,2,3,4,7,8,9-HpCDF	1.386	D 13C-1,2,3,4,7,8,9-HpCDF	100.000	8507704	2445511

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.471		100.000	7870800	2333146

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
33.697	1062960	342793	1028513	335497	18.1	1.03	M
Signal Totals:							
	1062960	342793	1028513	335497			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2091473	678290				1.03	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 18.066 = (2091473 * 100.000) / (7870800 * 1.471)

QC Flag Legend

Review Flags
M - Manually Integrated

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_13.d
Lims ID: 600-194690-A-11-C MSD
Client ID: INF 4 - DISSOLVED
Inject. Date: 06-Nov-2019 04:44:17 Dil. Factor: 1.0000
Sample Type: MSD, Matrix Spike Duplicate
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 336302 Lims Sample ID: 13

Non-2,3,7,8-sub-HpCDD, RT: 34.038

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.932	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	9115750	2559665

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.932		100.000	9115750	2559665

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
33.649	1977983	618375	1940054	605818	46.1	1.02	a
Signal Totals:							
	1977983	618375	1940054	605818			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	3918037	1224193				1.02	a

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 46.137 = (3918037 * 100.000) / (9115750 * 0.932)

QC Flag Legend

Review Flags
a - User Assigned ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_13.d				
Injection Date:	06-Nov-2019 04:44:17	Instrument ID:	10D5		
Lims ID:	600-194690-A-11-C MSD				
Client ID:	INF 4 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	15	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

Non-2,3,7,8-sub-TCDF, Signal: 1, m/z: 303.9016, RT: (14.42- 18.50)

Signal: 1

Processing Integration Results

RT = 15.476 Area = 21376799

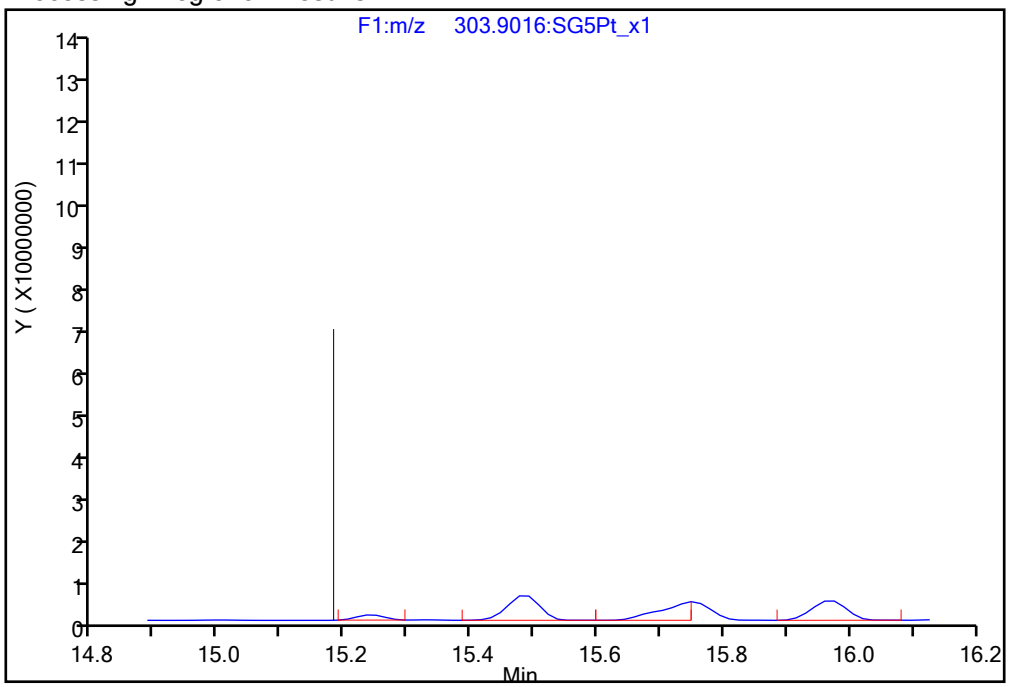

Manual Integration Results

RT = 15.476 Area = 20743394 M

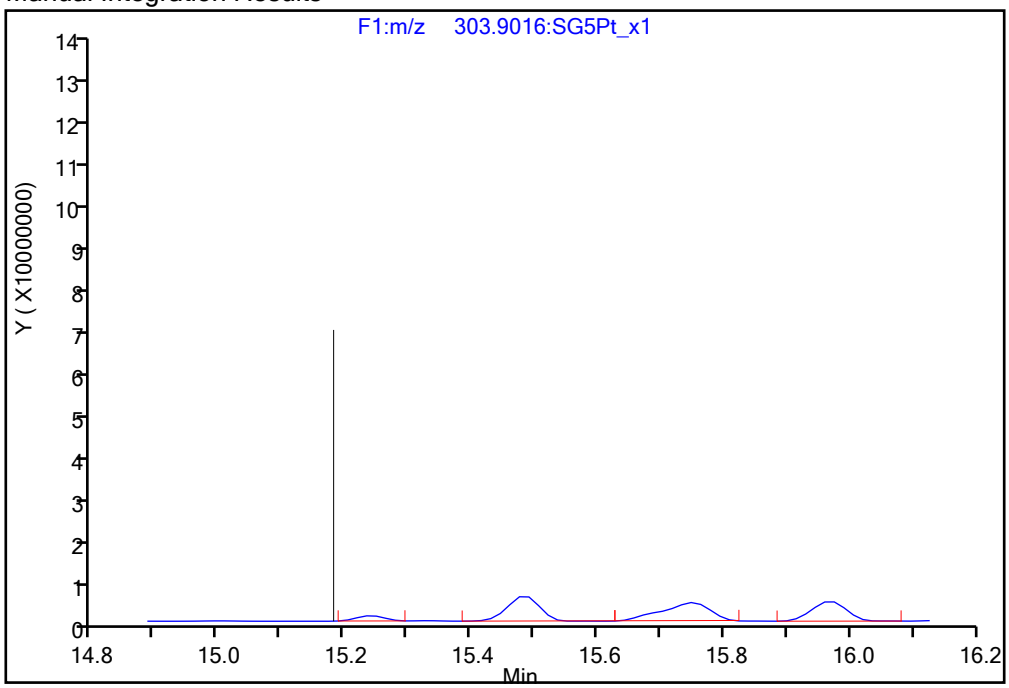

Reviewer: dadunj, 08-Nov-2019 09:25:50

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_13.d				
Injection Date:	06-Nov-2019 04:44:17	Instrument ID:	10D5		
Lims ID:	600-194690-A-11-C MSD				
Client ID:	INF 4 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	15	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

Non-2,3,7,8-sub-TCDF, Signal: 1, m/z: 303.9016, RT: (14.42- 18.50)

Signal: 1

Processing Integration Results

RT = 15.733 Area = 14446472

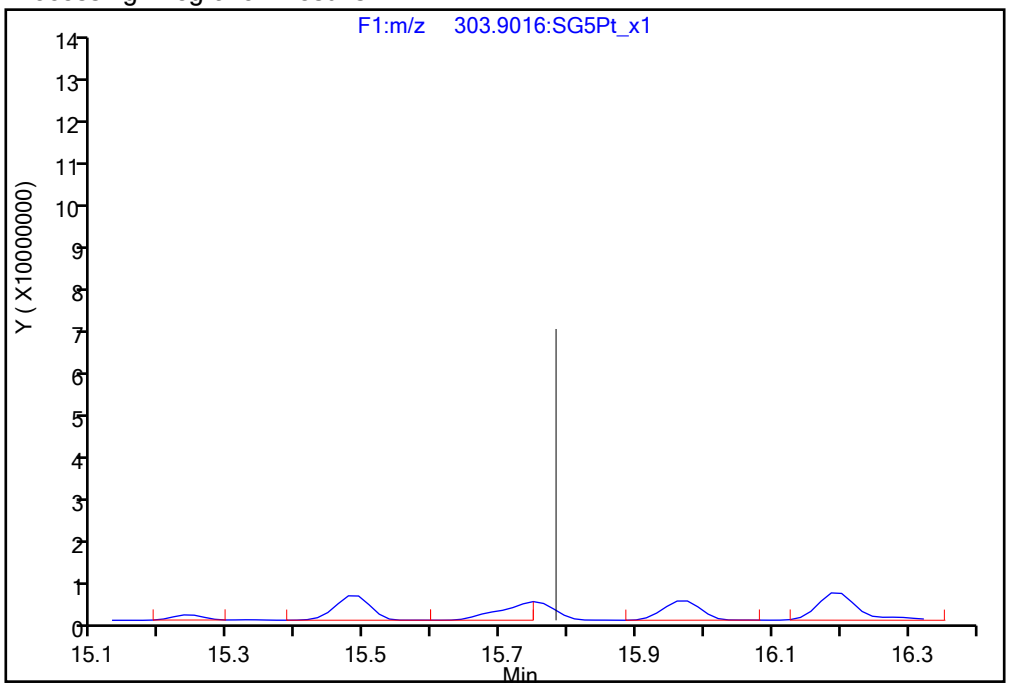

Manual Integration Results

RT = 15.748 Area = 22394789 M

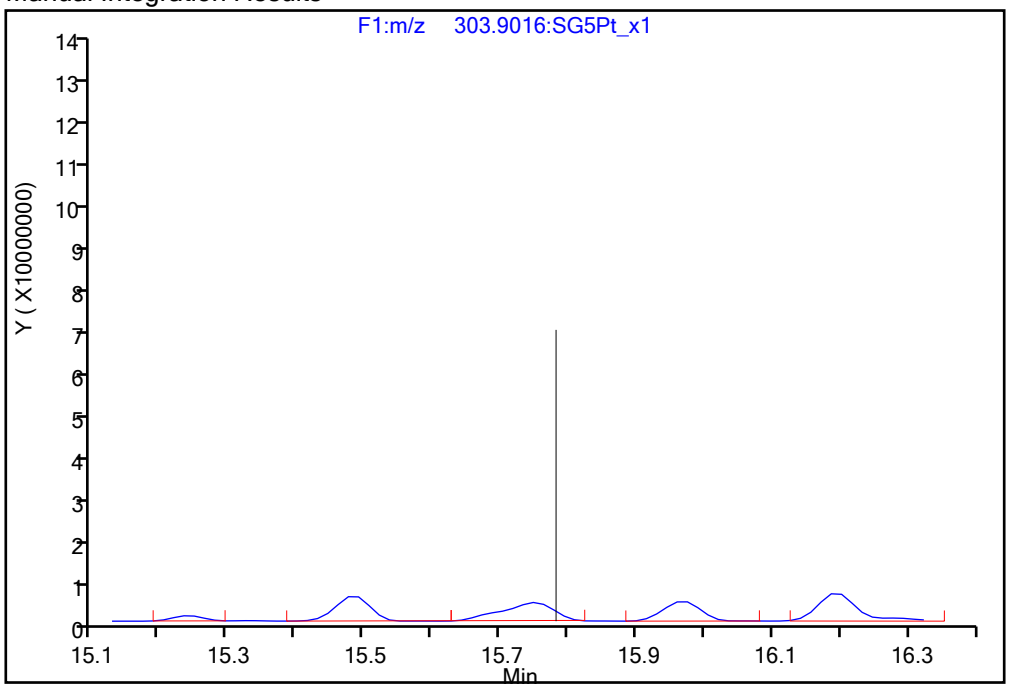

Reviewer: dadunj, 08-Nov-2019 09:25:50

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_13.d				
Injection Date:	06-Nov-2019 04:44:17	Instrument ID:	10D5		
Lims ID:	600-194690-A-11-C MSD				
Client ID:	INF 4 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	15	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDD, CAS: 1746-01-6

Signal: 1

Processing Integration Results

RT: 17.41
Area: 1063342
Amount: 12.863824
Amount Units: pg/ul

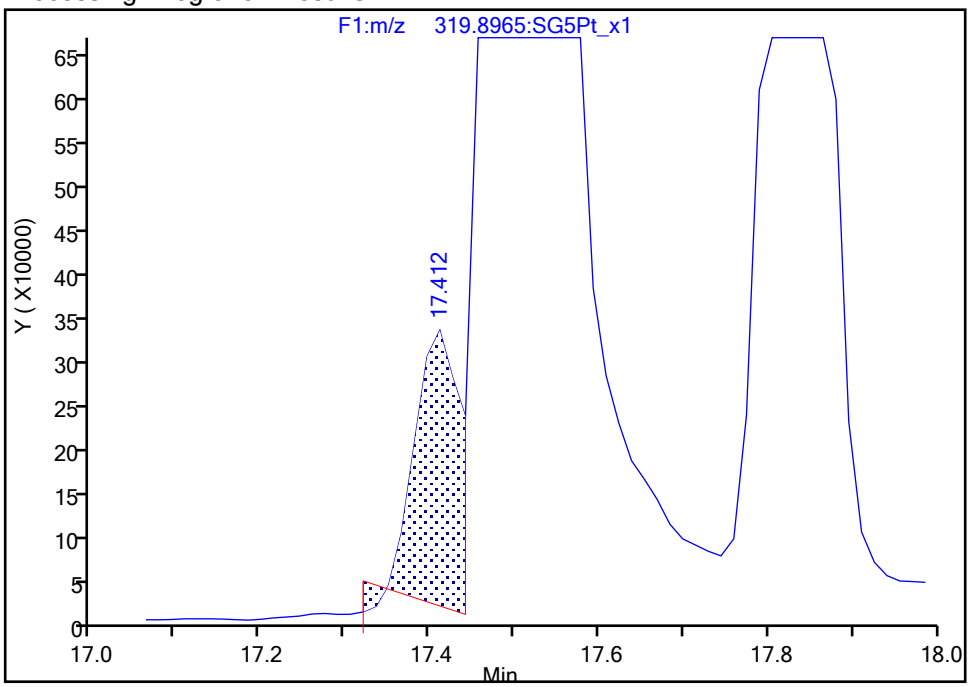

Manual Integration Results

RT: 17.52
Area: 95556912
Amount: 1083.9432
Amount Units: pg/ul

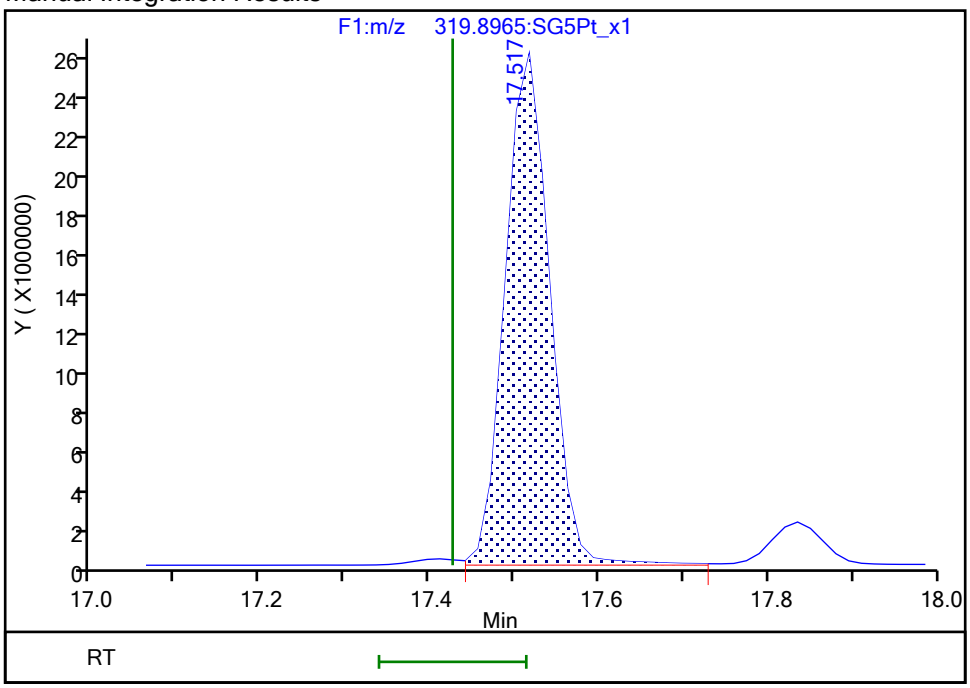

Reviewer: arghestanis, 06-Nov-2019 09:41:17

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_13.d				
Injection Date:	06-Nov-2019 04:44:17	Instrument ID:	10D5		
Lims ID:	600-194690-A-11-C MSD				
Client ID:	INF 4 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	15	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

1,2,3,7,8-PeCDF, CAS: 57117-41-6

Signal: 1

Processing Integration Results

RT: 21.49
Area: 1095025
Amount: 8.169391
Amount Units: pg/ul

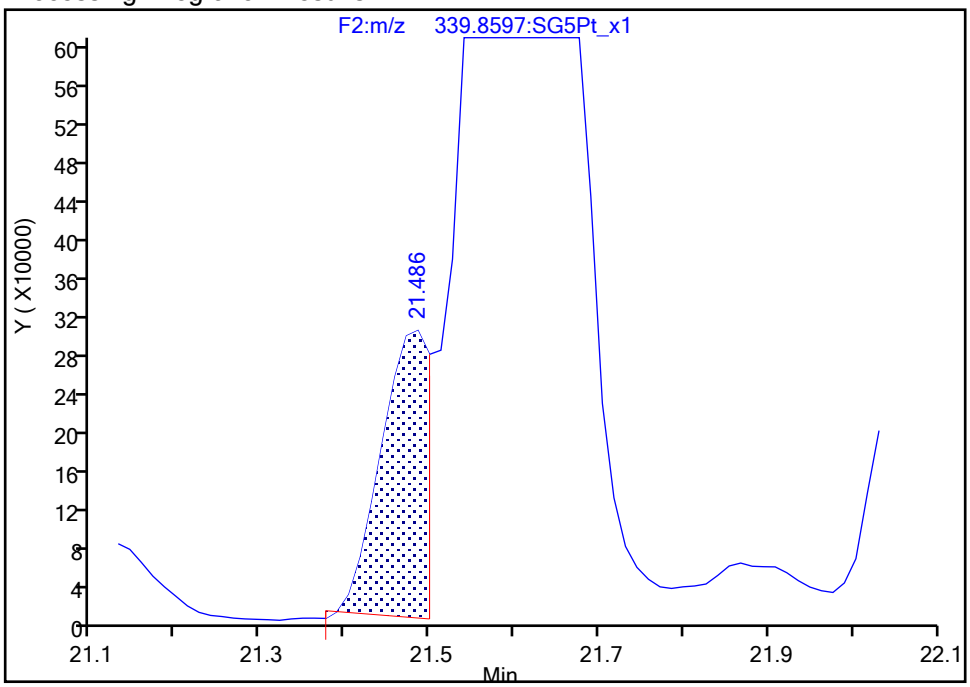

Manual Integration Results

RT: 21.61
Area: 24167855
Amount: 178.1312
Amount Units: pg/ul

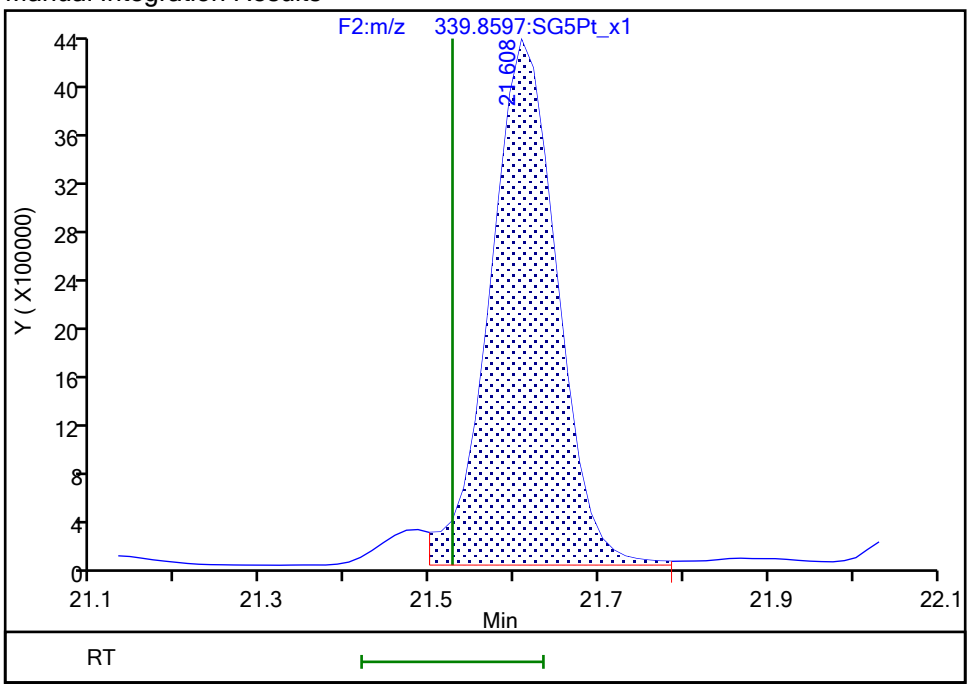

Reviewer: arghestanis, 07-Nov-2019 13:33:00

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_13.d				
Injection Date:	06-Nov-2019 04:44:17	Instrument ID:	10D5		
Lims ID:	600-194690-A-11-C MSD				
Client ID:	INF 4 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	15	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 2

Processing Integration Results

RT: 33.41
Area: 4951123
Amount: 90.602837
Amount Units: pg/ul

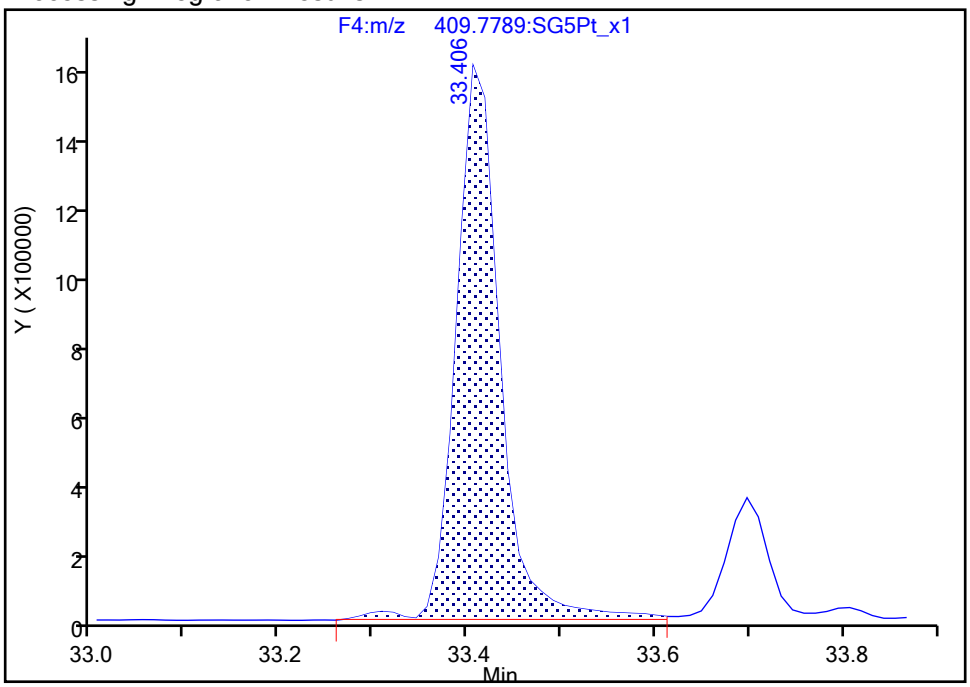

Manual Integration Results

RT: 33.41
Area: 4895921
Amount: 90.112269
Amount Units: pg/ul

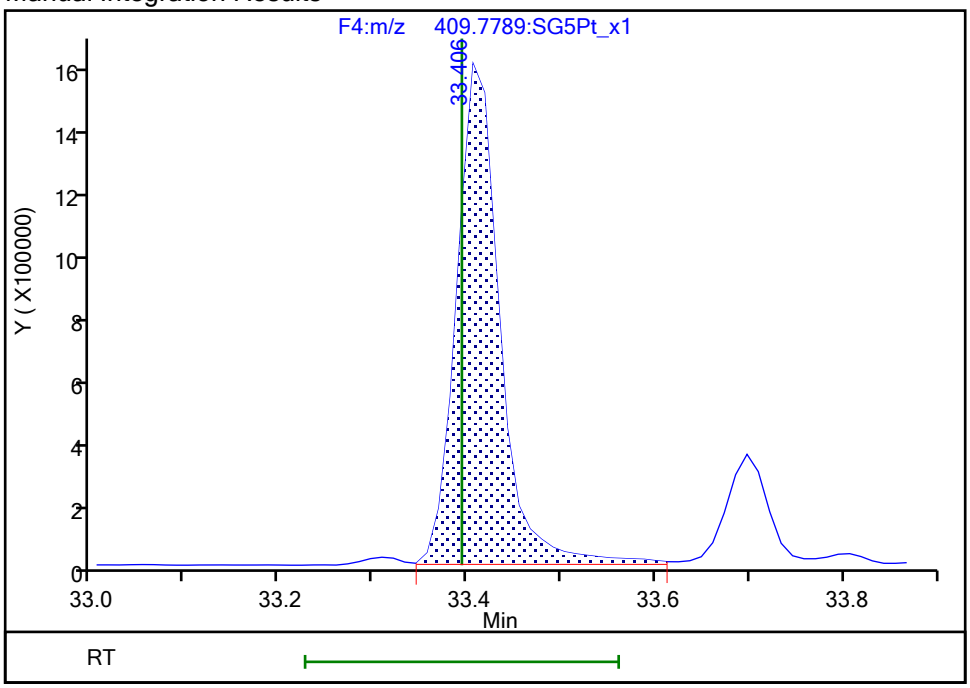

Reviewer: dadunj, 08-Nov-2019 09:29:14

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_13.d				
Injection Date:	06-Nov-2019 04:44:17	Instrument ID:	10D5		
Lims ID:	600-194690-A-11-C MSD				
Client ID:	INF 4 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	15	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

Non-2,3,7,8-sub-HpCDF, Signal: 1, m/z: 407.7818, RT: (33.36- 34.48)

Signal: 1

Processing Integration Results

RT = 33.697 Area = 1187957

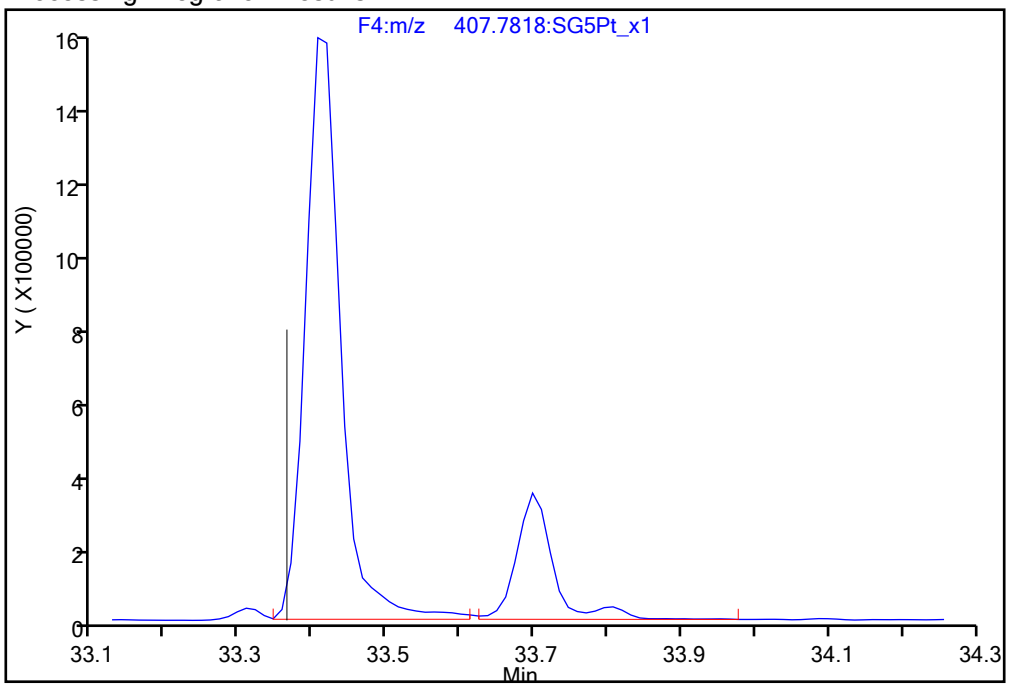

Manual Integration Results

RT = 33.697 Area = 1062960 M

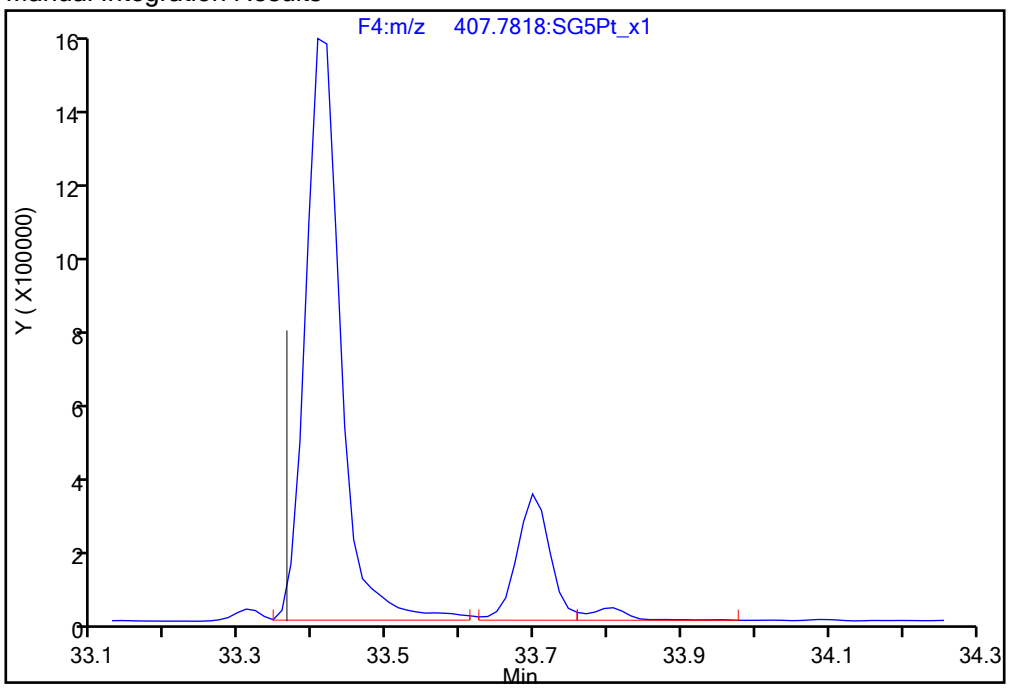

Reviewer: dadunj, 08-Nov-2019 09:29:23

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_13.d				
Injection Date:	06-Nov-2019 04:44:17	Instrument ID:	10D5		
Lims ID:	600-194690-A-11-C MSD				
Client ID:	INF 4 - DISSOLVED				
Operator ID:	ALM	ALS Bottle#:	15	Worklist Smp#:	13
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

Non-2,3,7,8-sub-HpCDF, Signal: 2, m/z: 409.7789, RT: (33.36- 34.48)

Signal: 2

Processing Integration Results

RT = 33.697 Area = 1154777

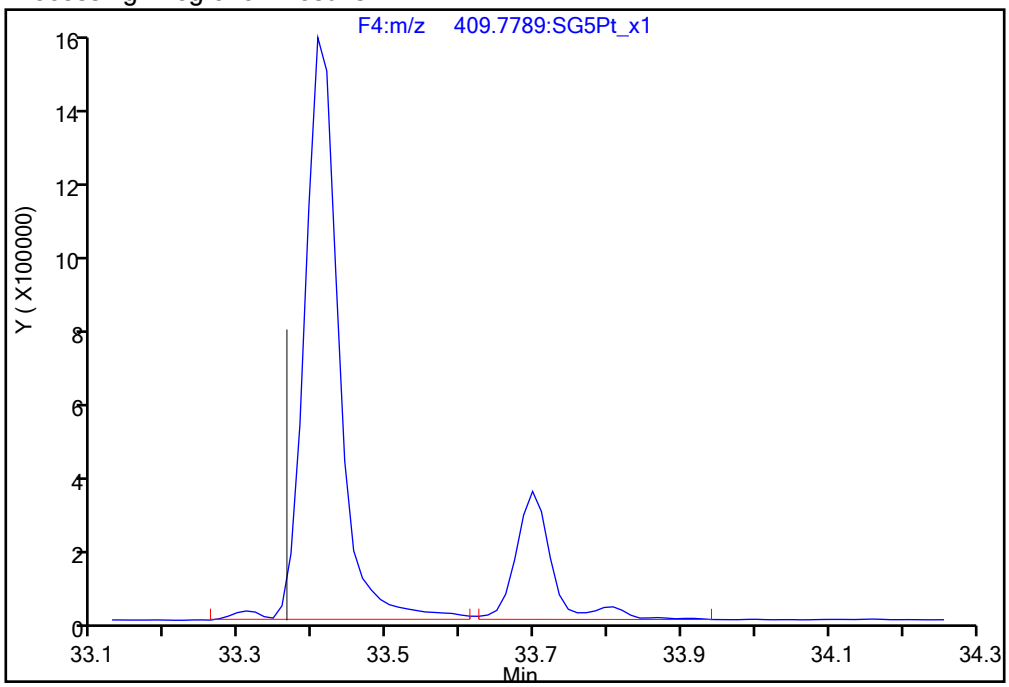

Manual Integration Results

RT = 33.697 Area = 1028513 M

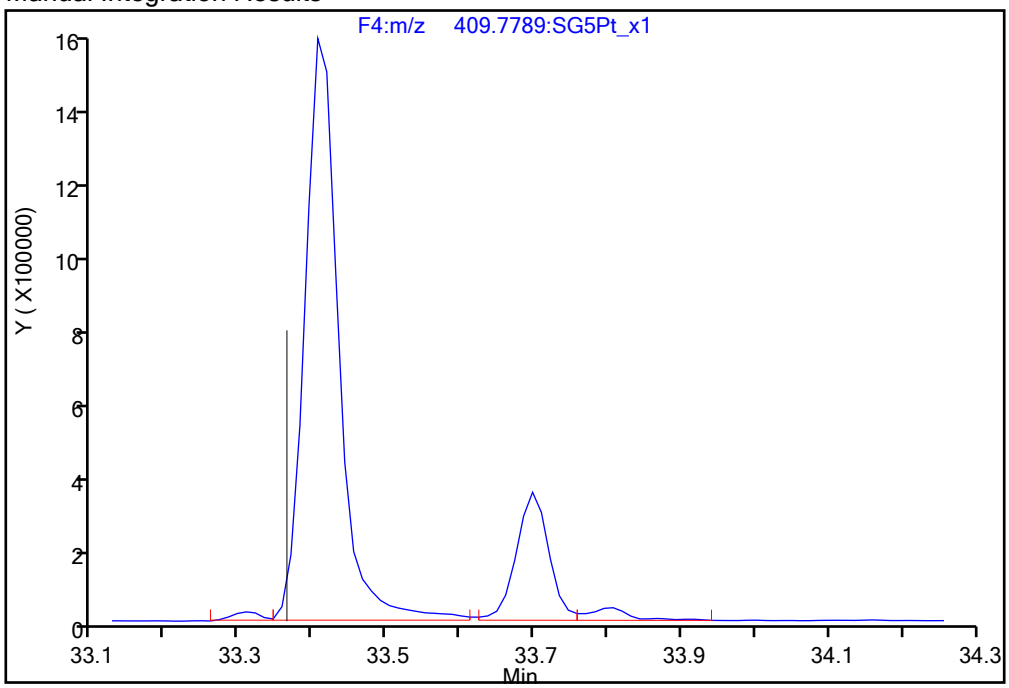

Reviewer: dadunj, 08-Nov-2019 09:29:31

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 08-Nov-2019 09:31:52 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_13.d		
Injection Date:	06-Nov-2019 04:44:17	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336302	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

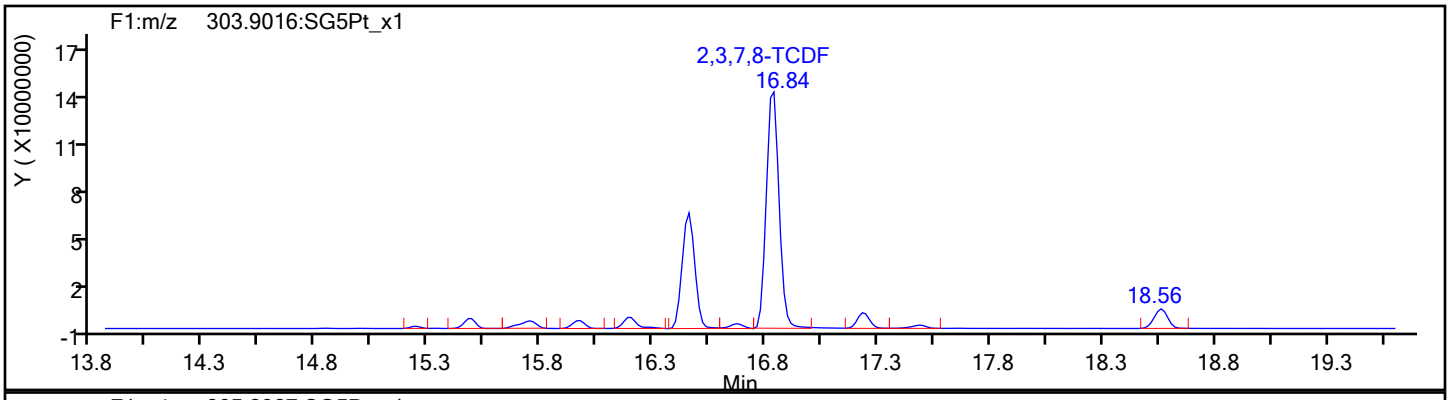

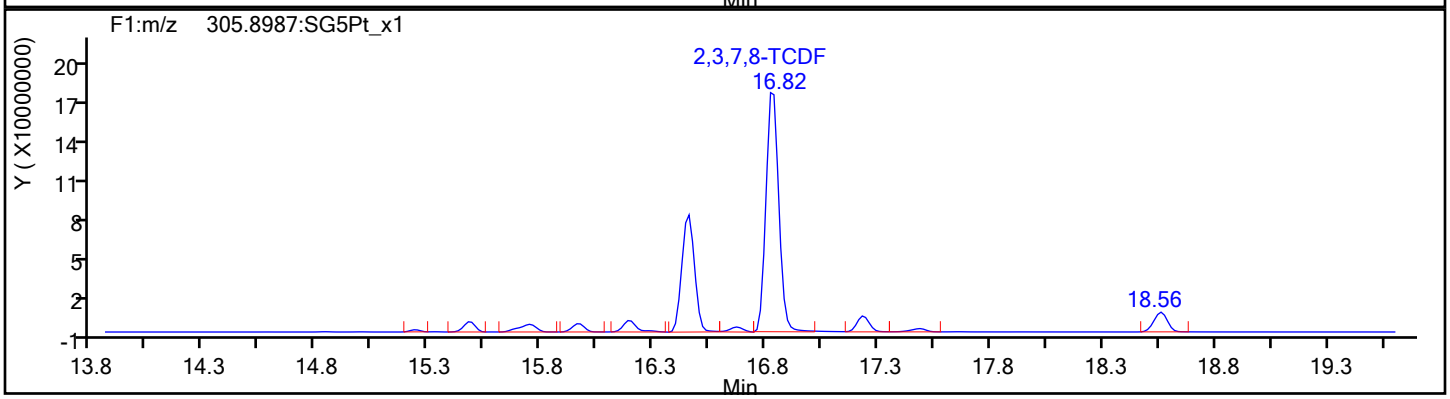

TCDF Standards

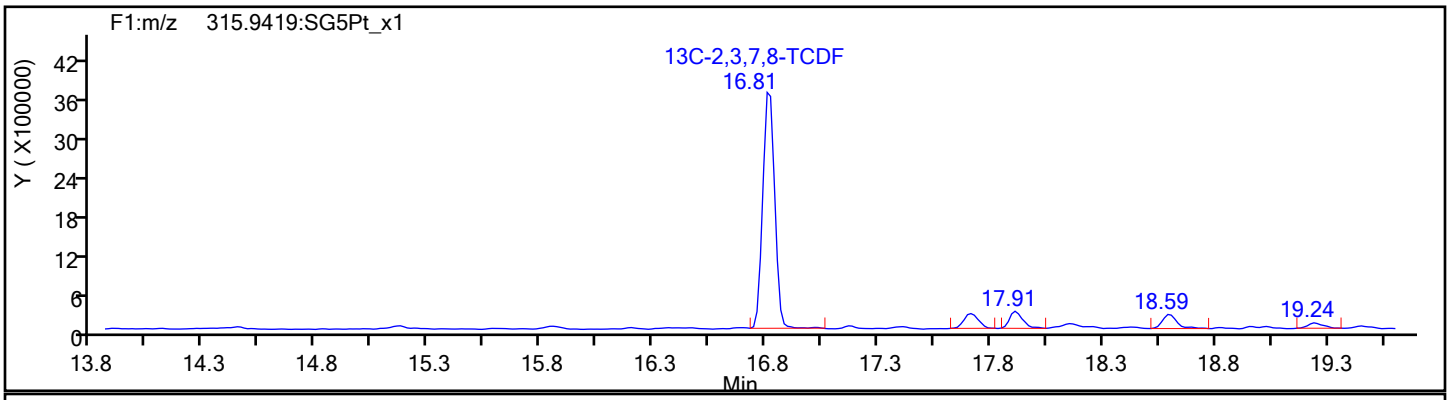

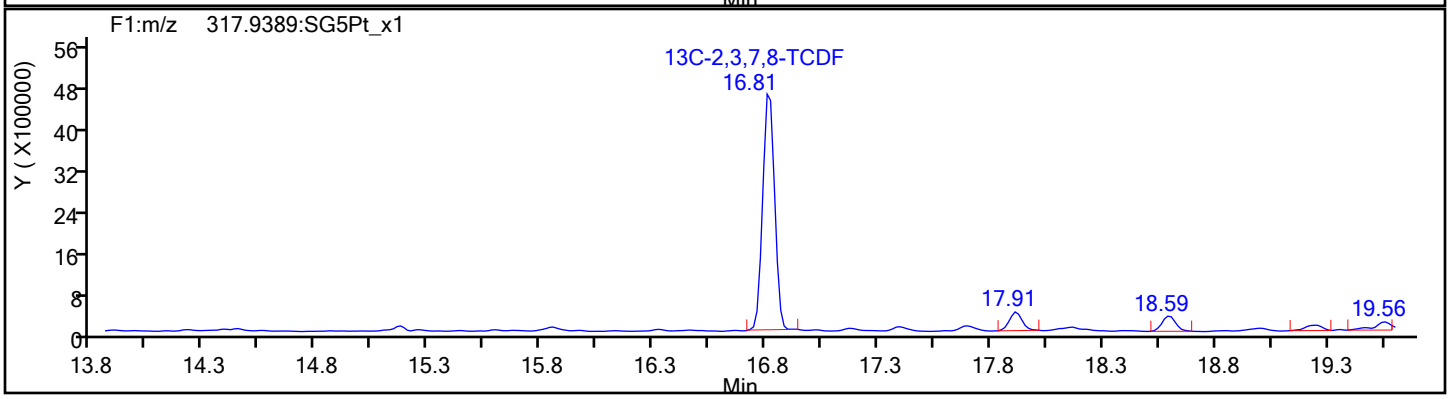

Report Date: 08-Nov-2019 09:31:52 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_13.d		
Injection Date:	06-Nov-2019 04:44:17	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336302	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

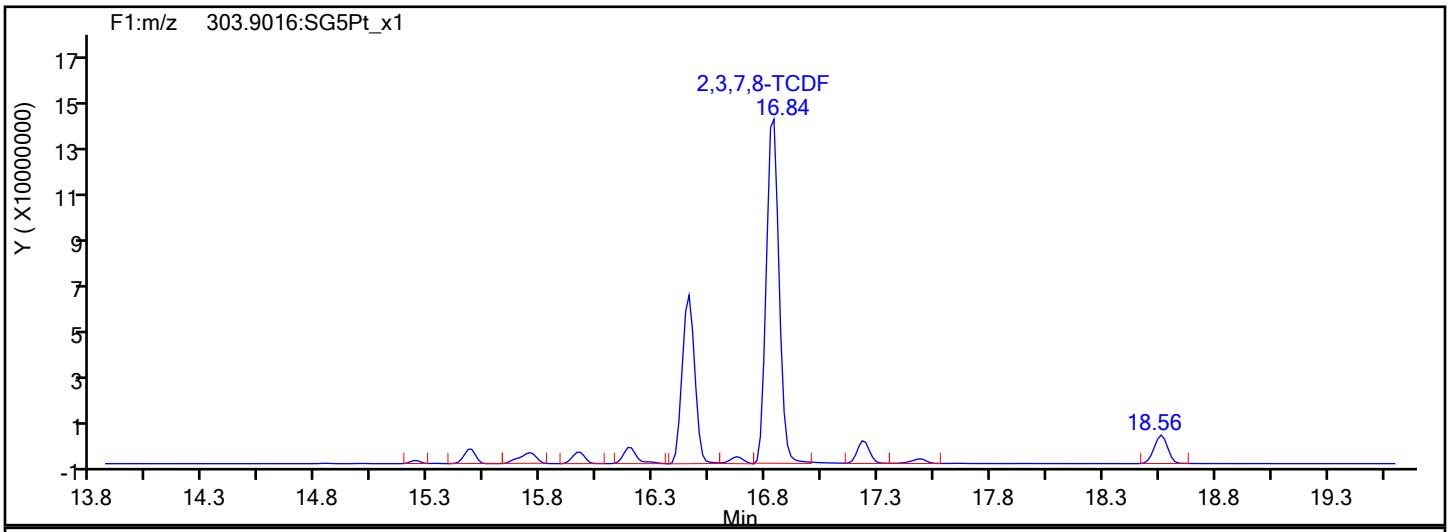

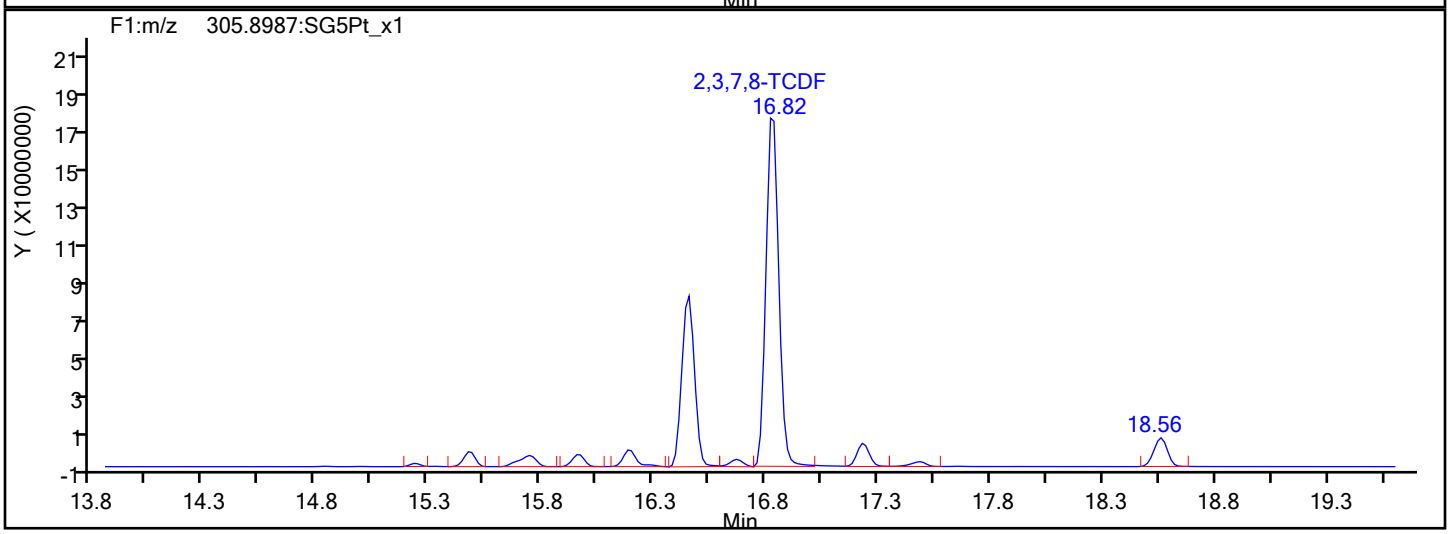

TCDF Interference Mass

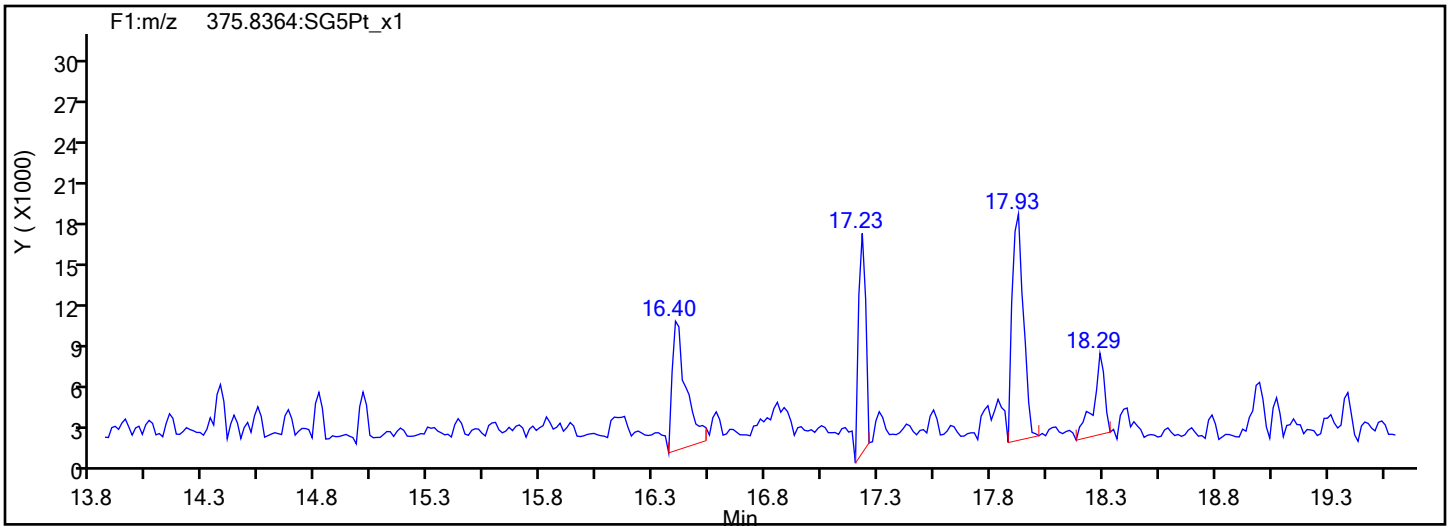

Report Date: 08-Nov-2019 09:31:52 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_13.d		
Injection Date:	06-Nov-2019 04:44:17	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336302	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

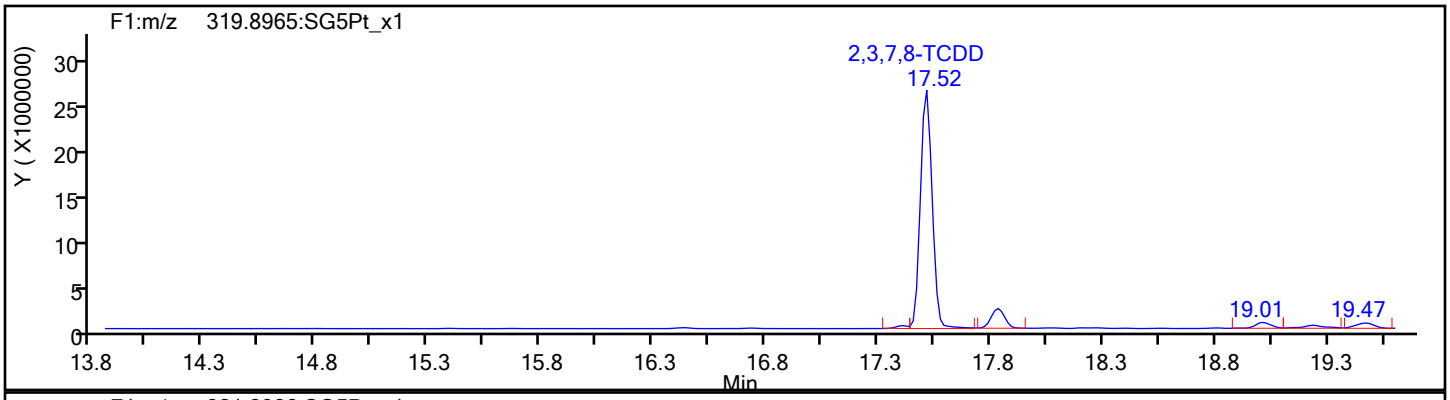

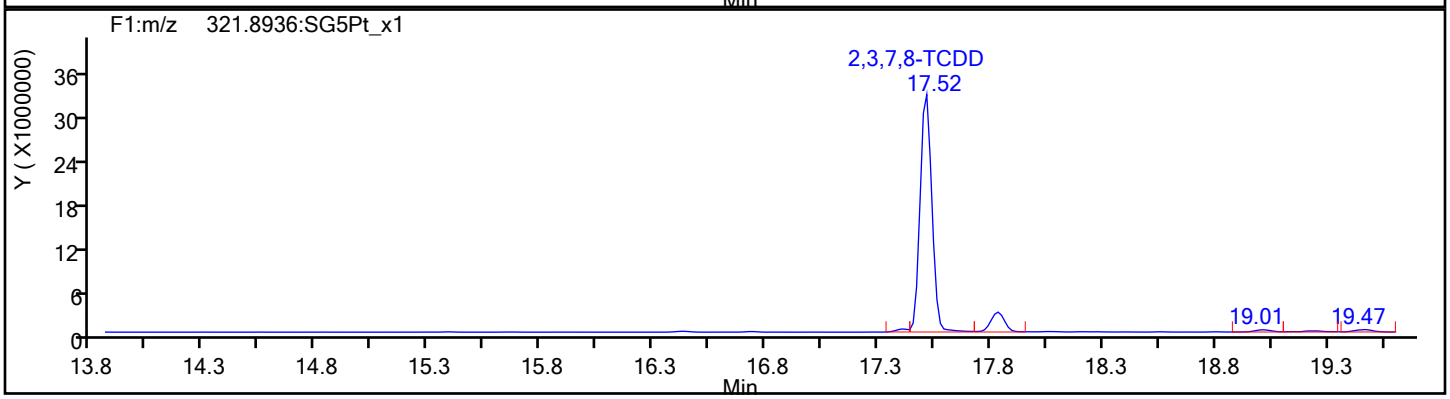

TCDD Standards

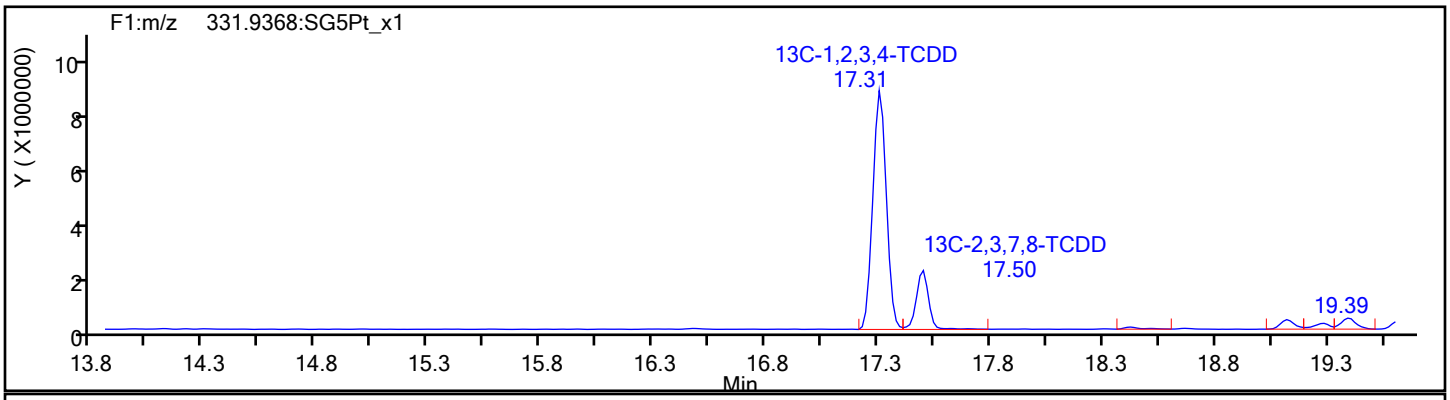

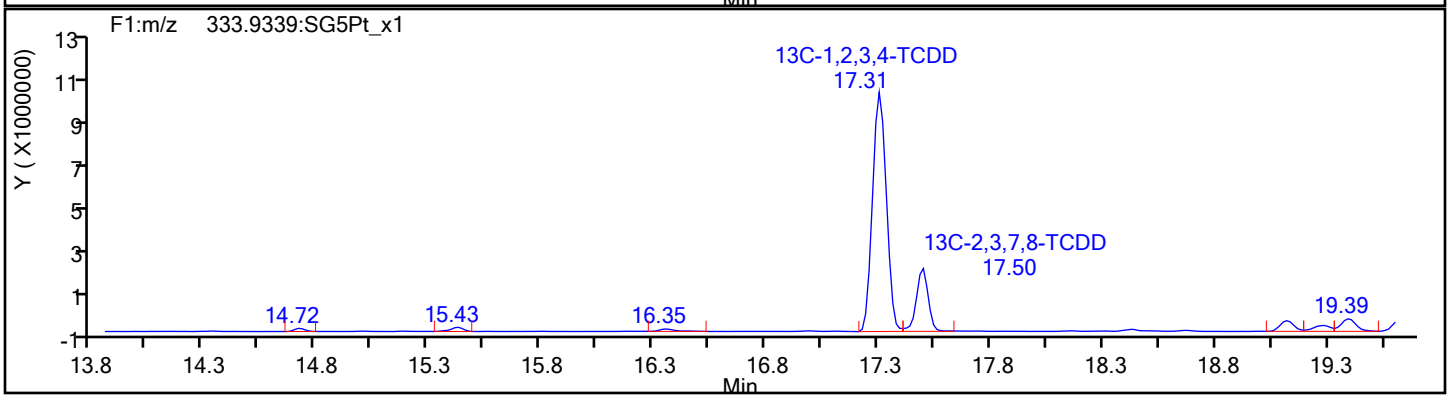

Report Date: 08-Nov-2019 09:31:52 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

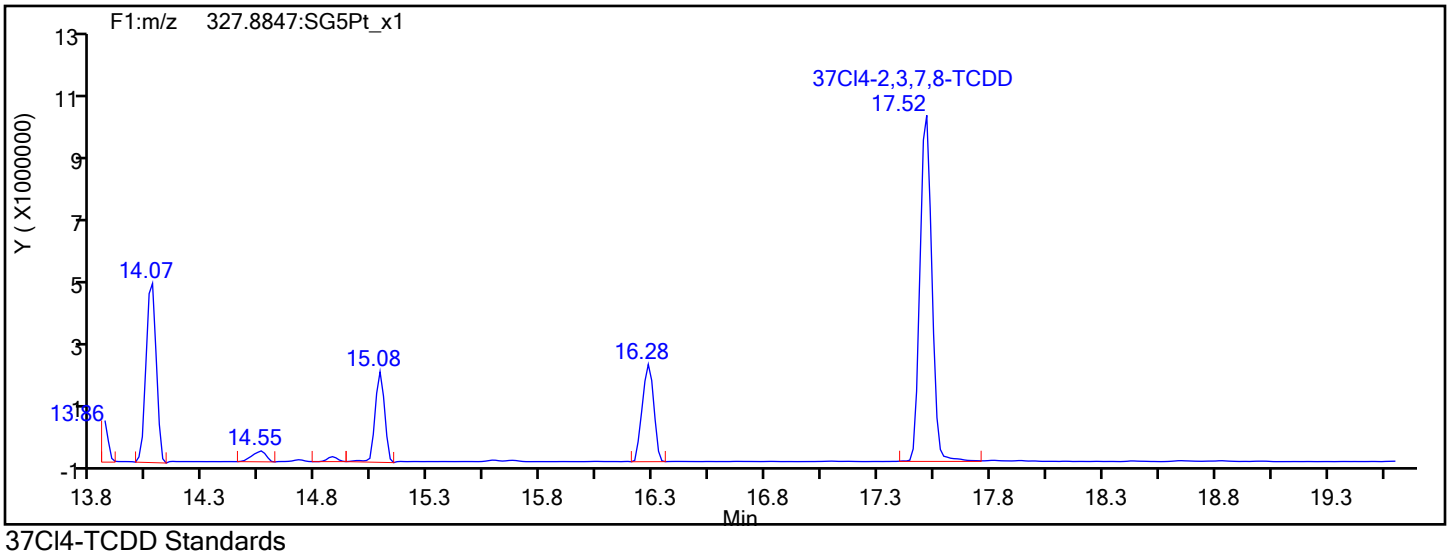

37Cl4-TCDD Standards

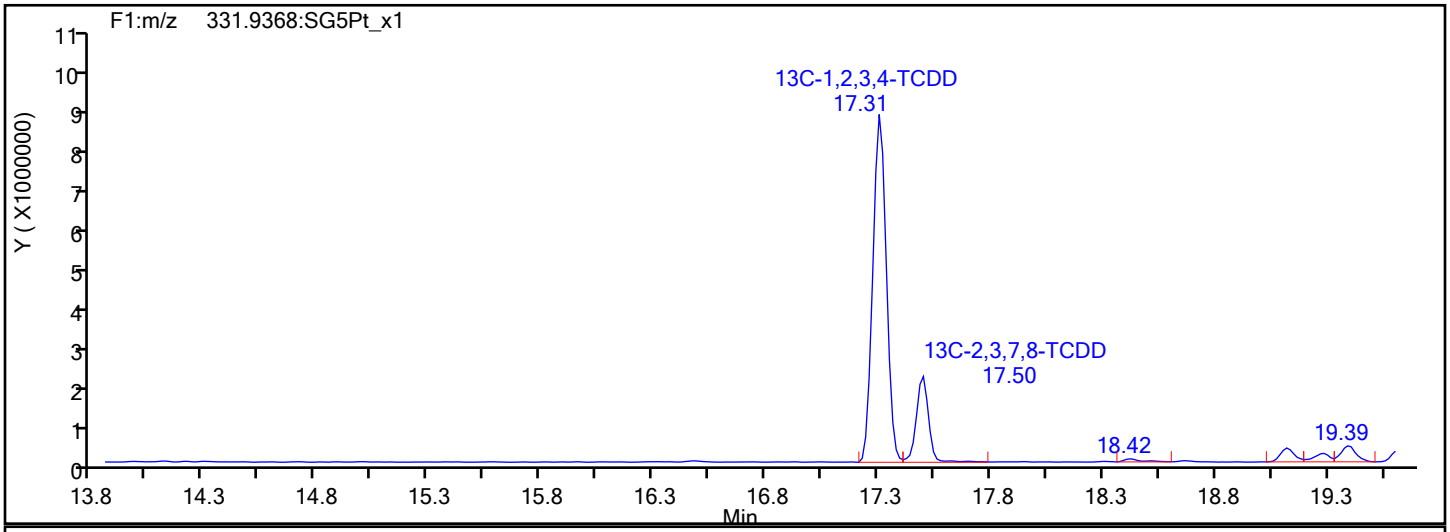

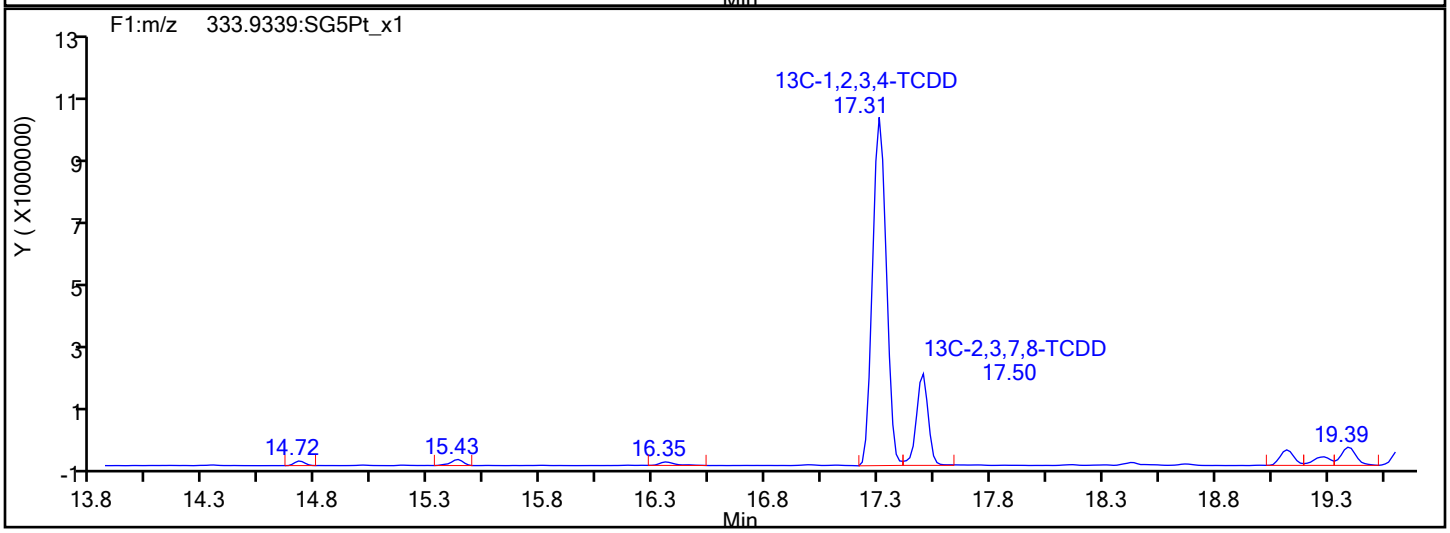

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

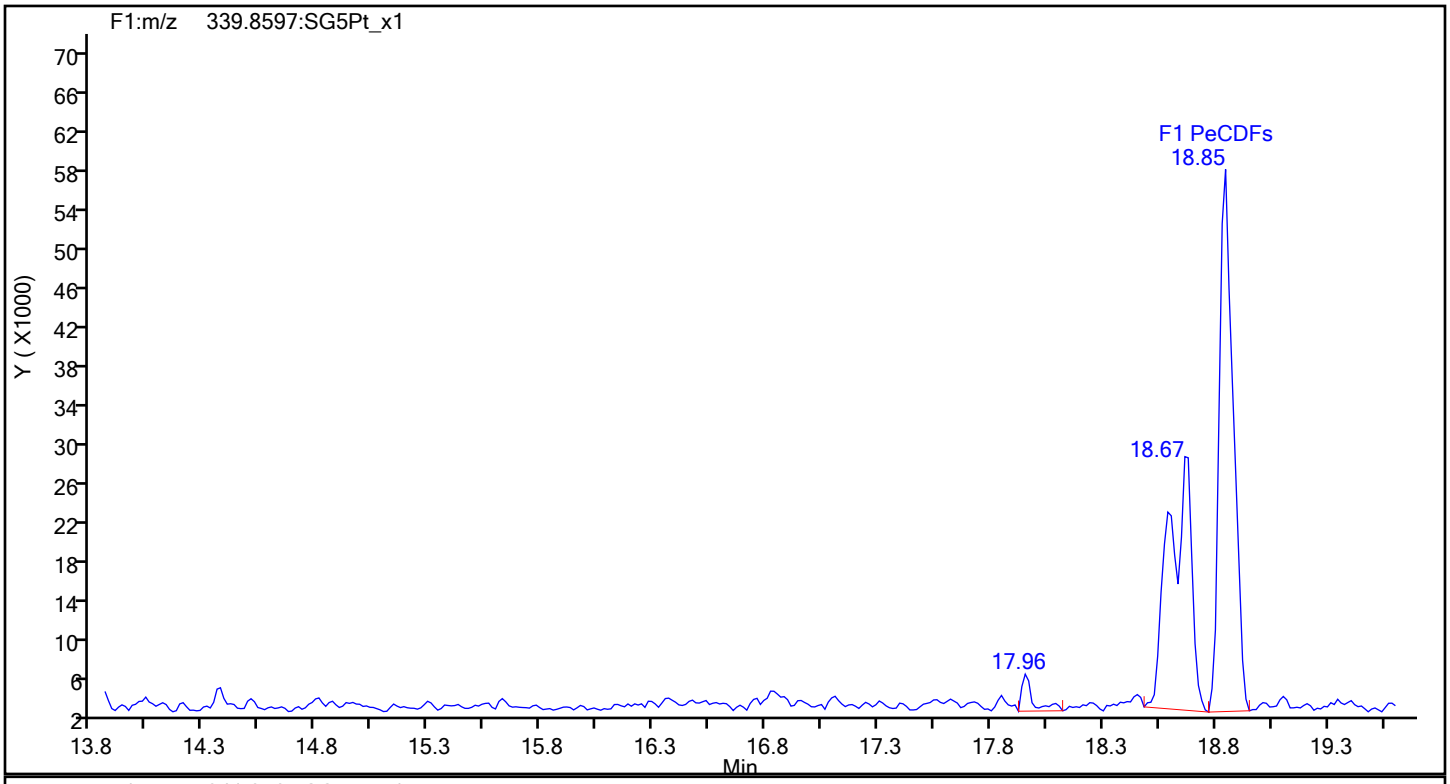

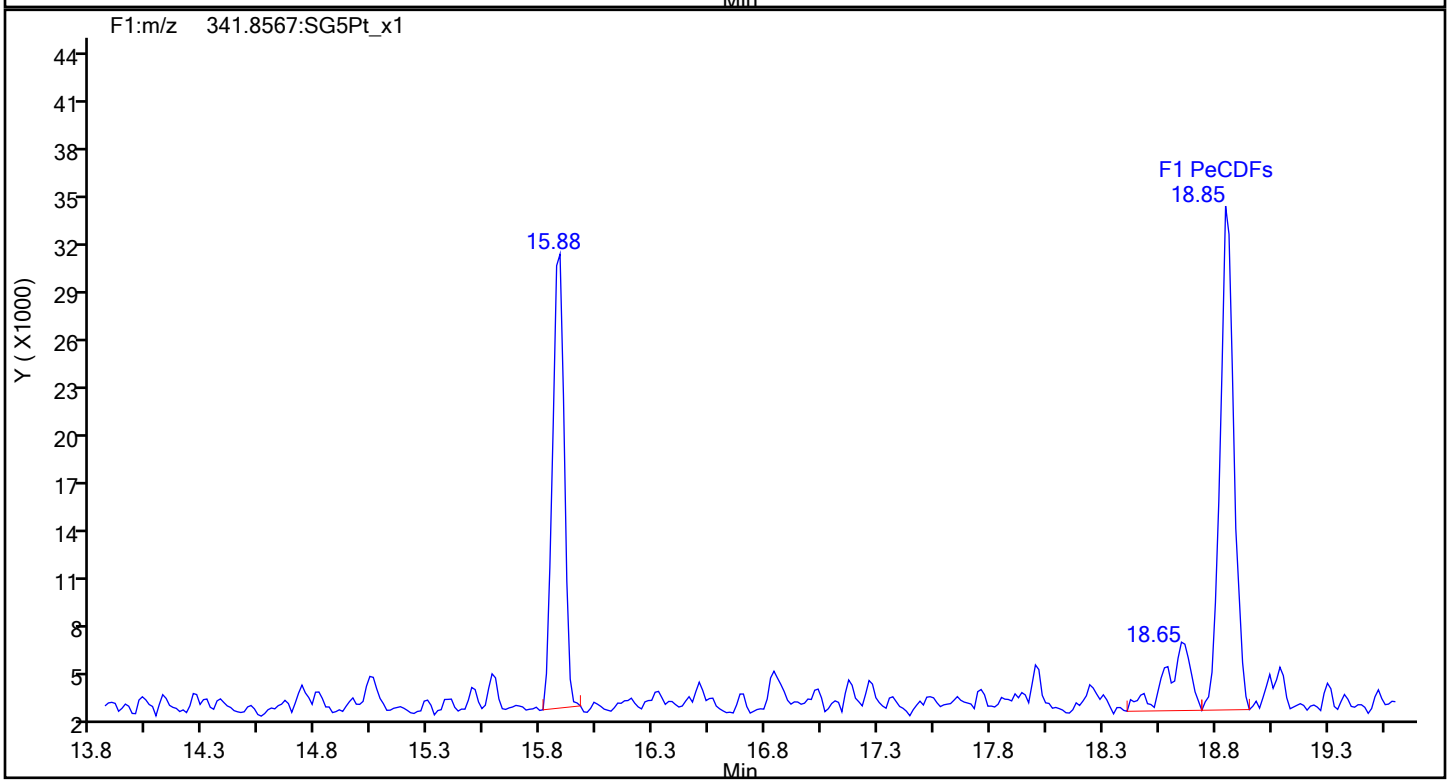

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

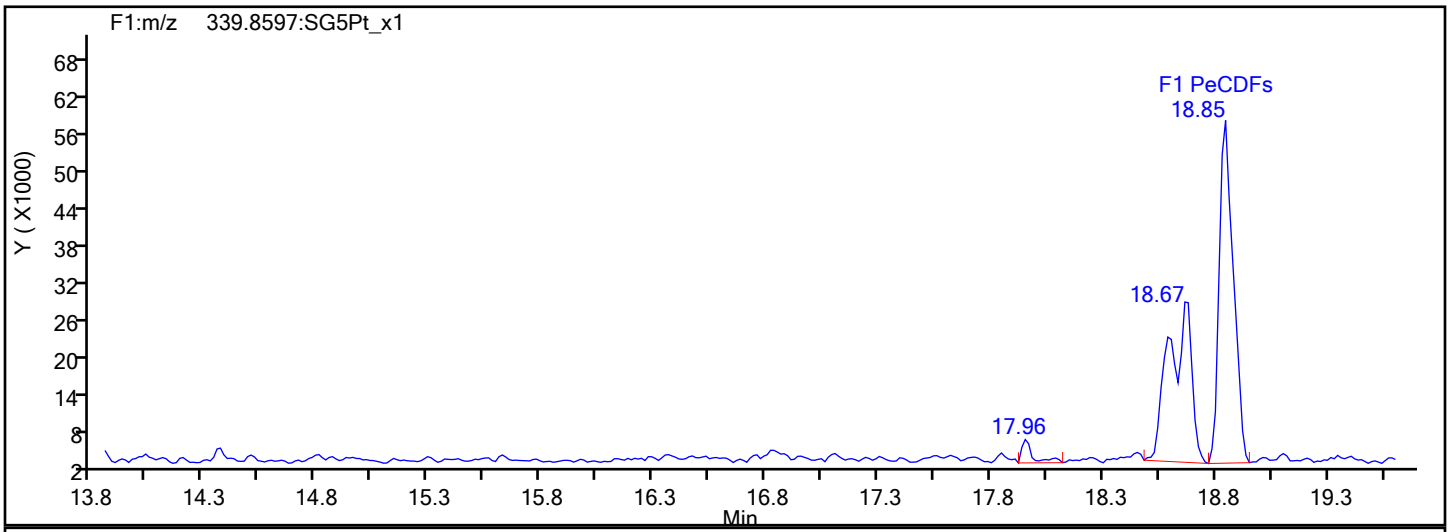

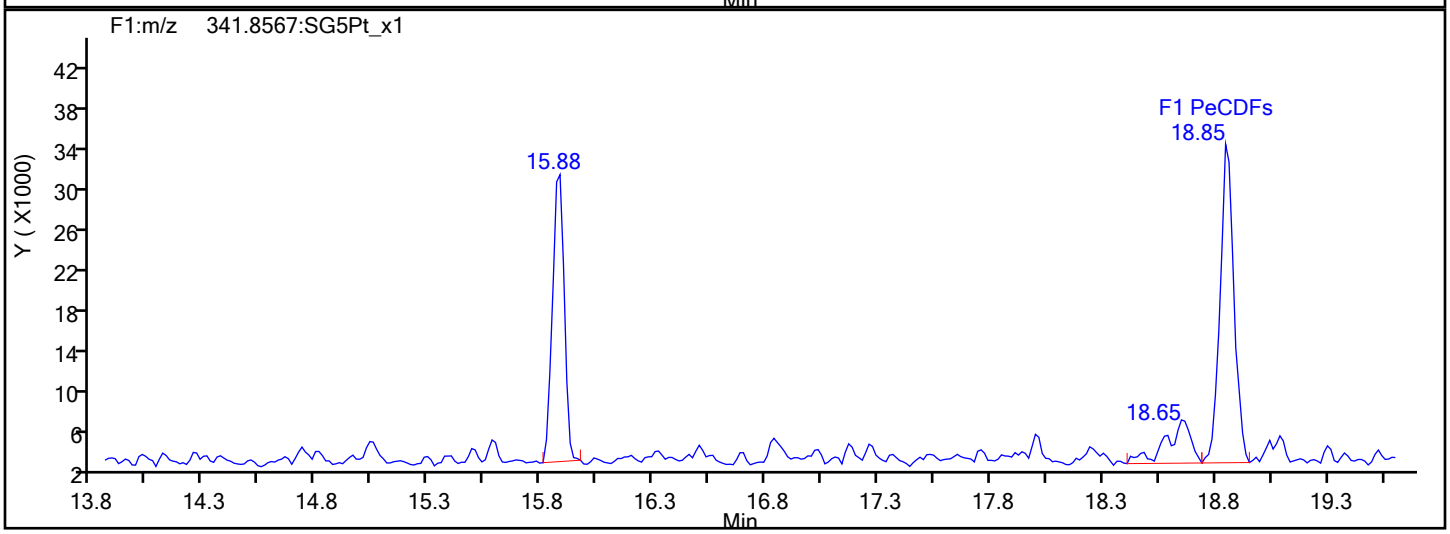

F1 PeCDFs Interference Mass

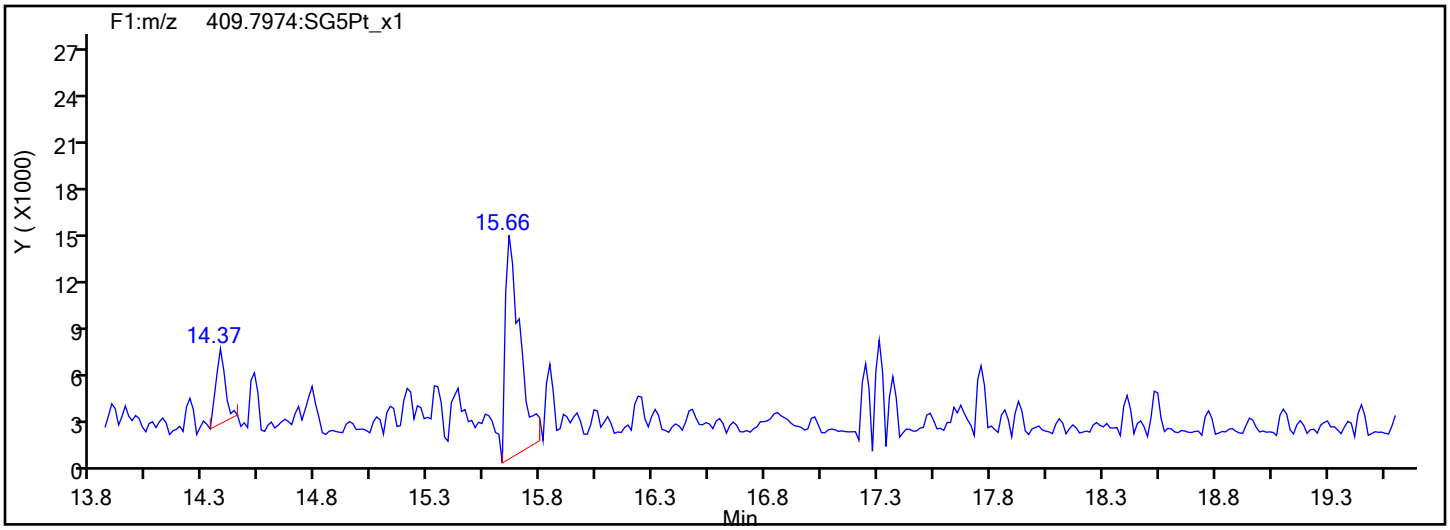

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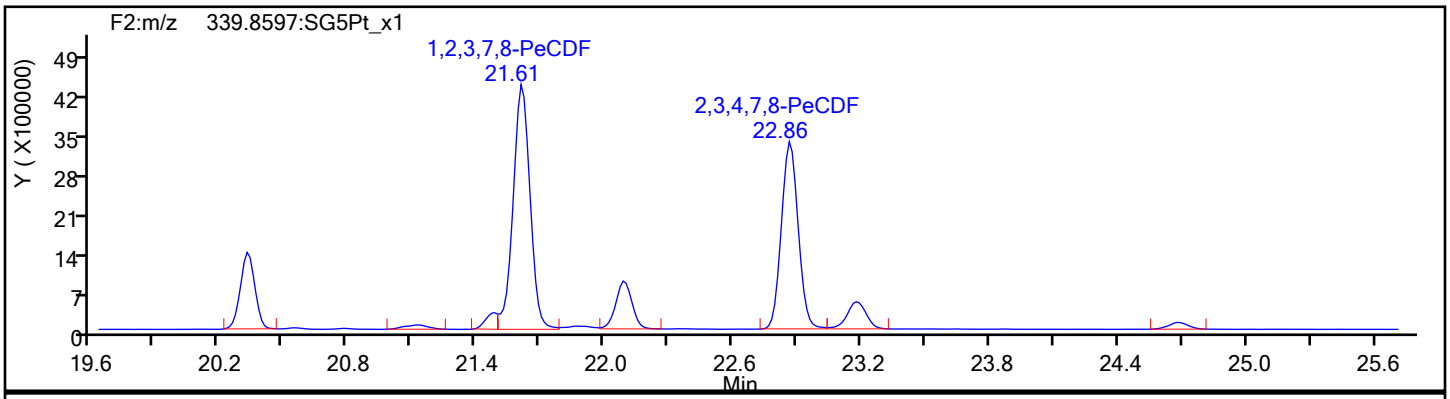

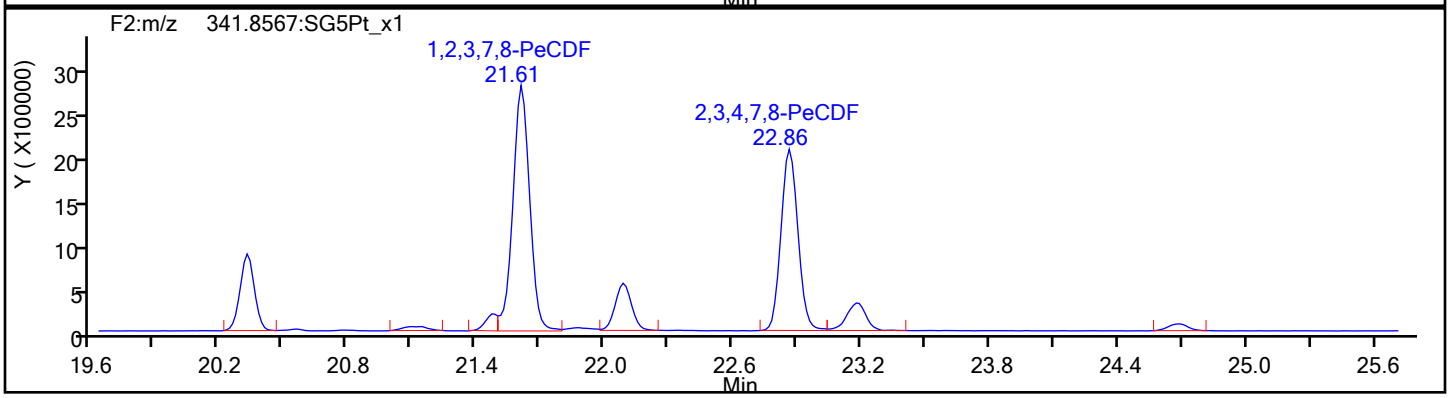

PeCDF Standards

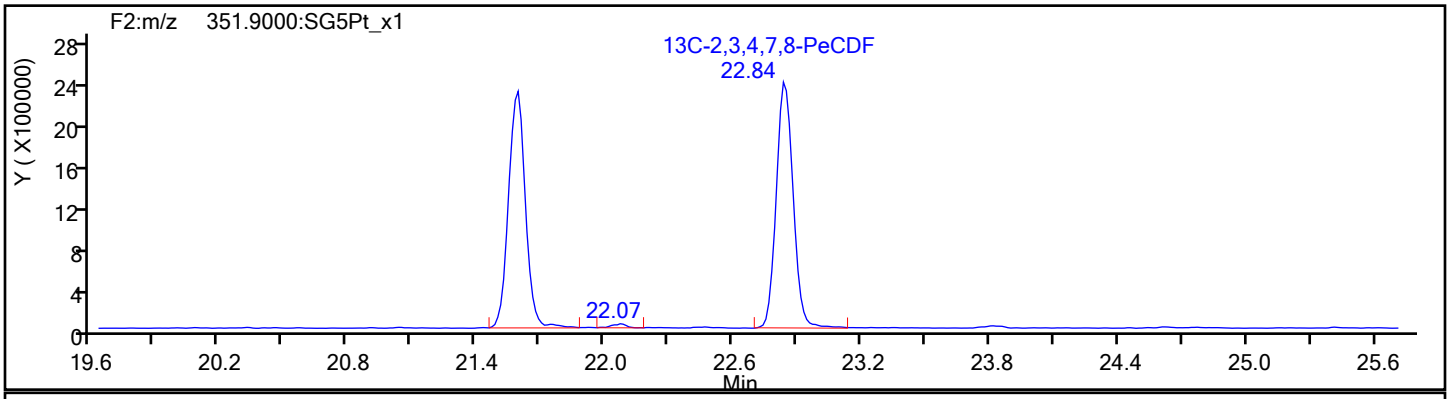

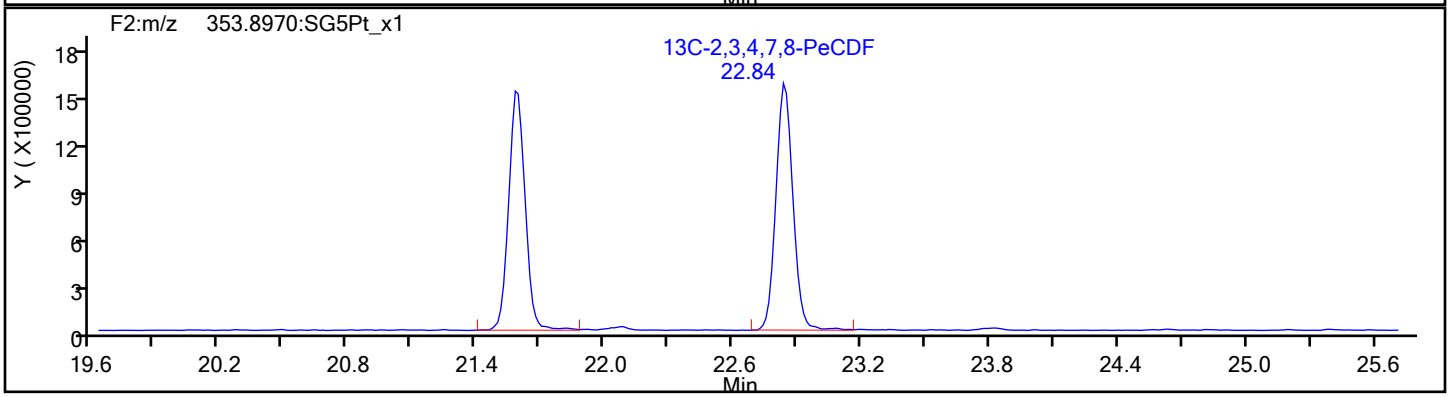

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Eurofins TestAmerica, Sacramento

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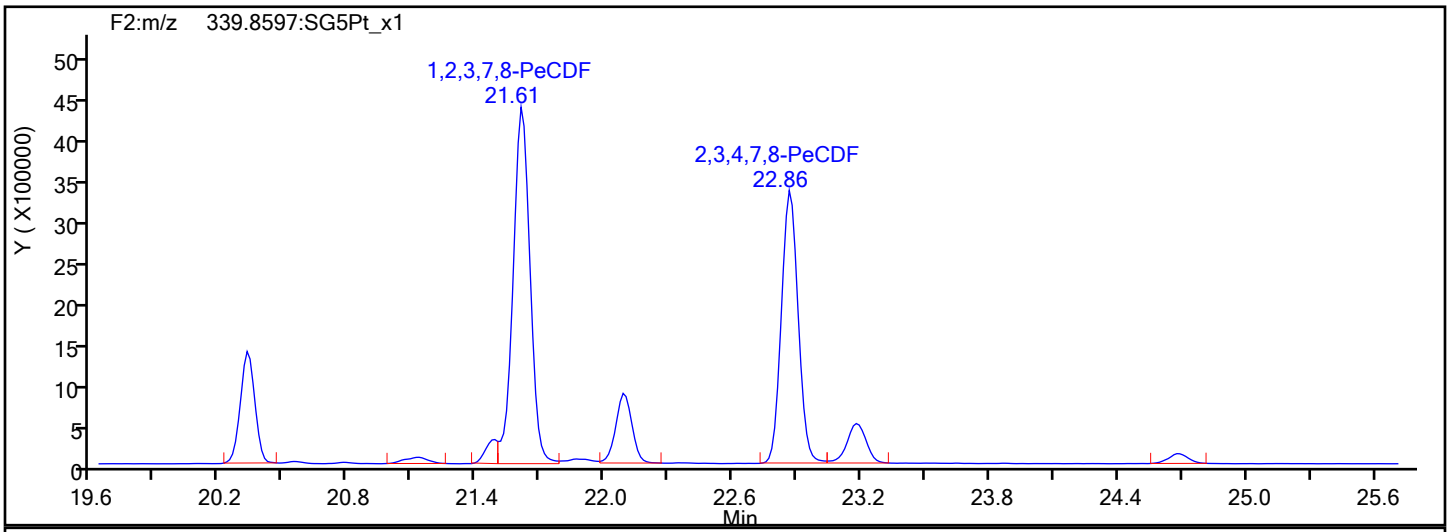

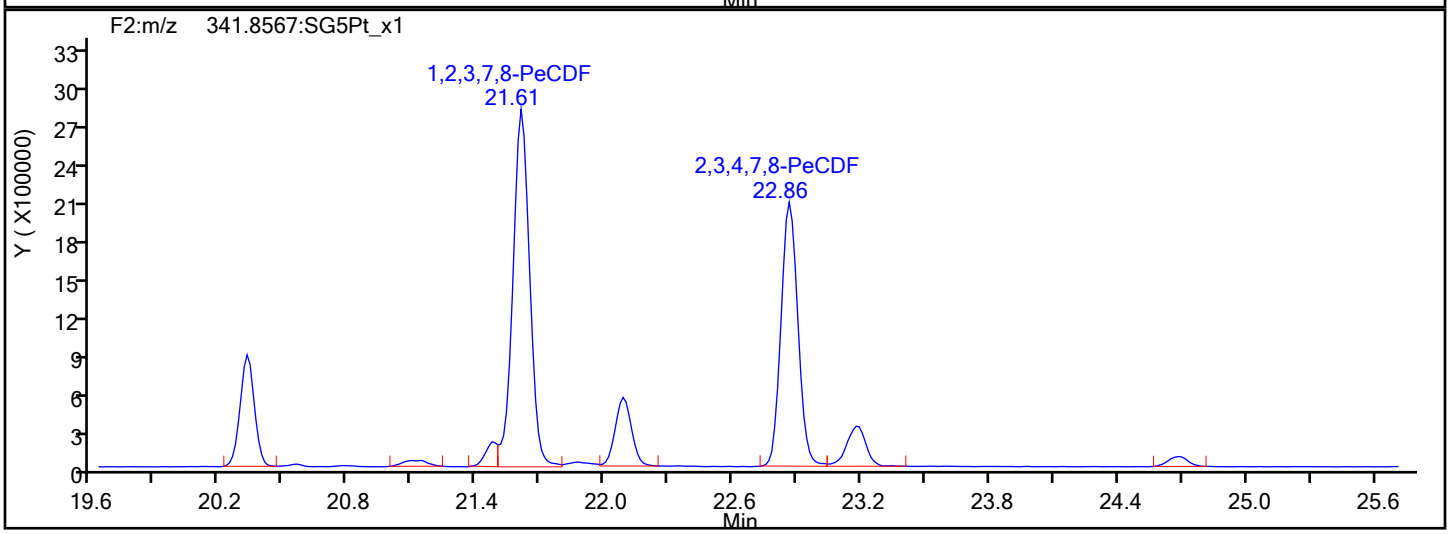

PeCDF Interference Mass

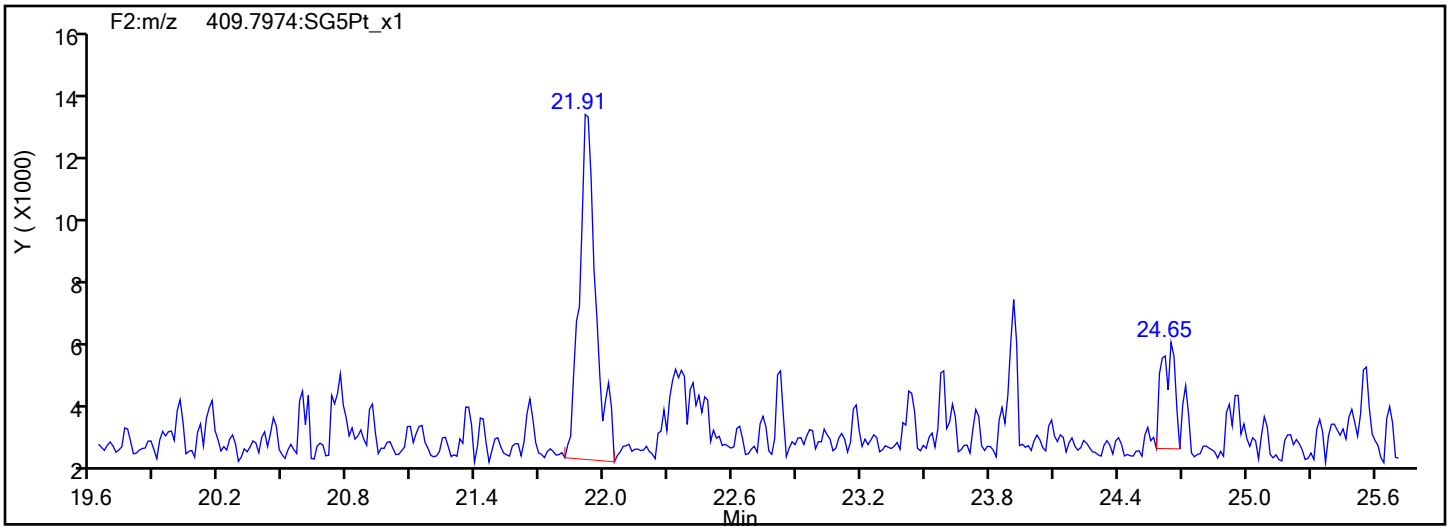

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Eurofins TestAmerica, Sacramento

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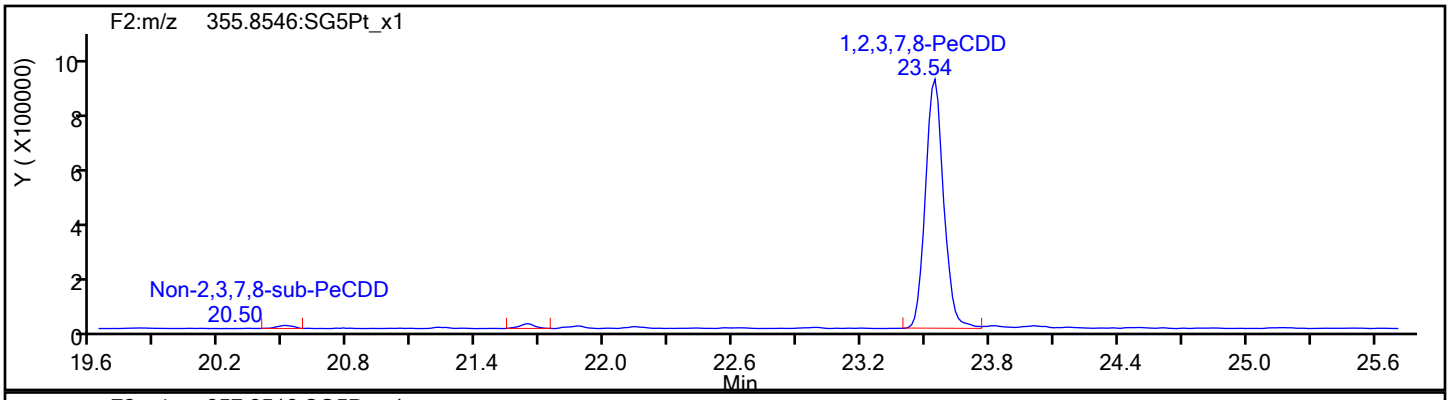

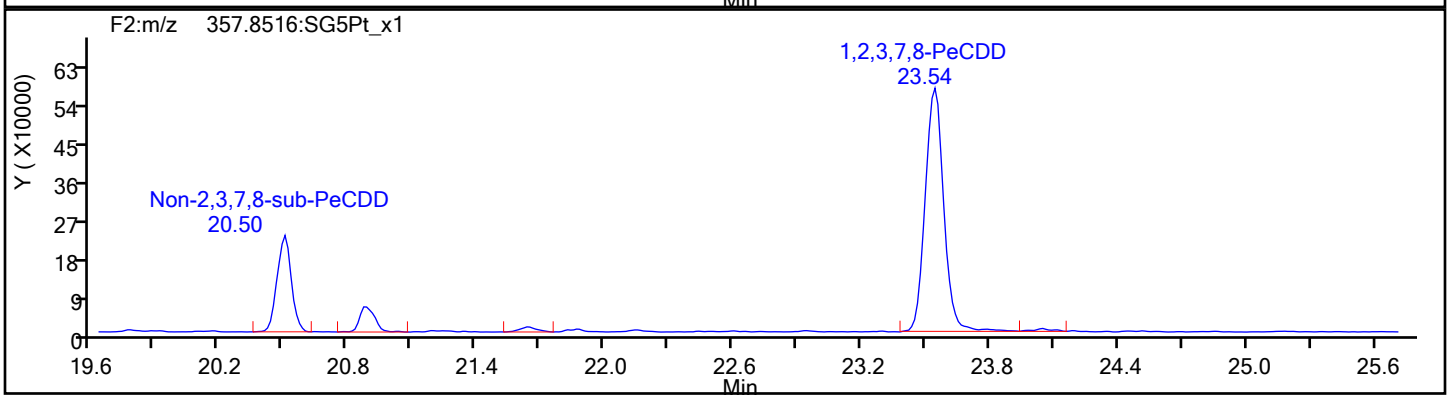

PeCDD Standards

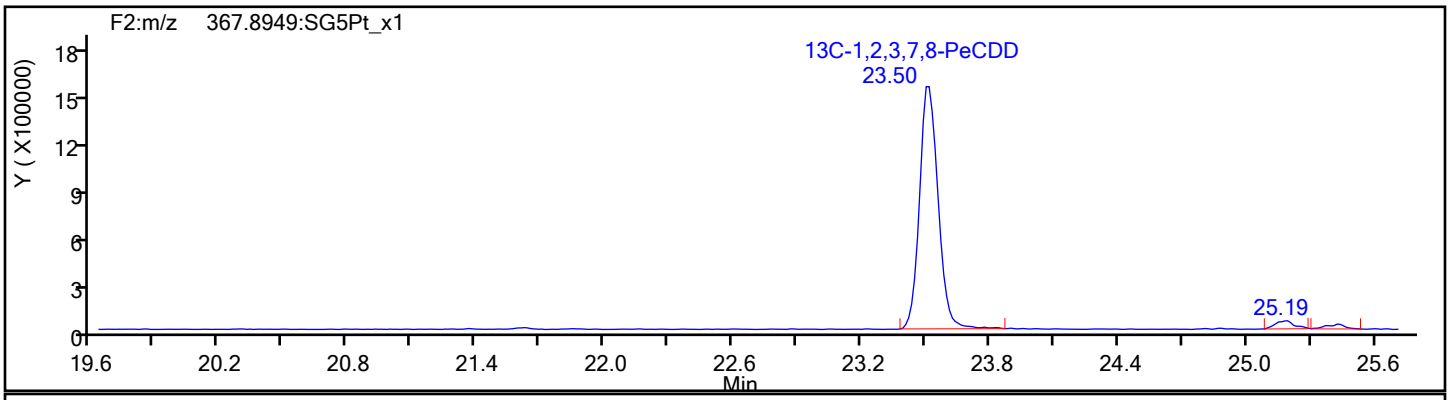

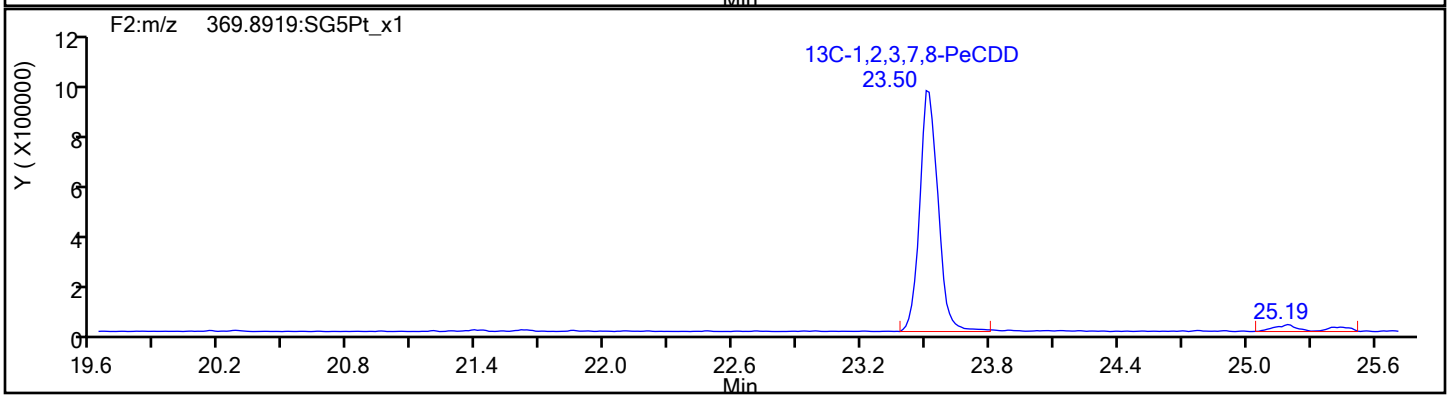

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Eurofins TestAmerica, Sacramento

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HxCDF

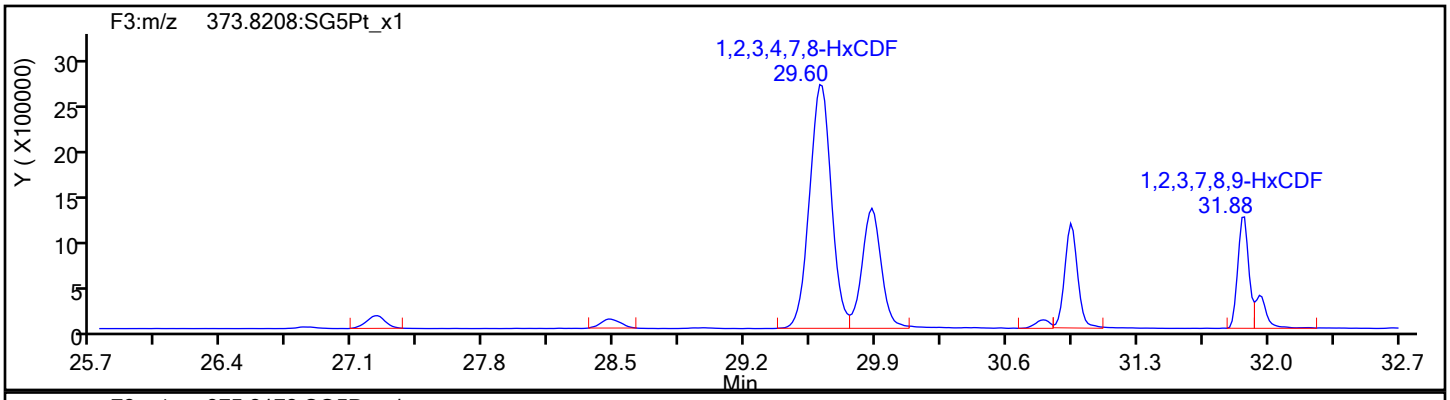

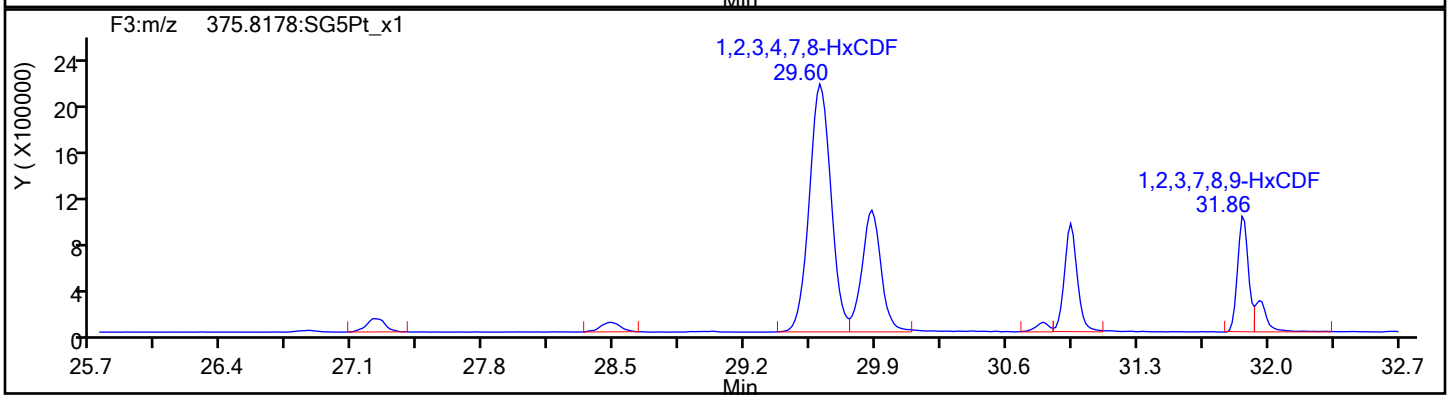

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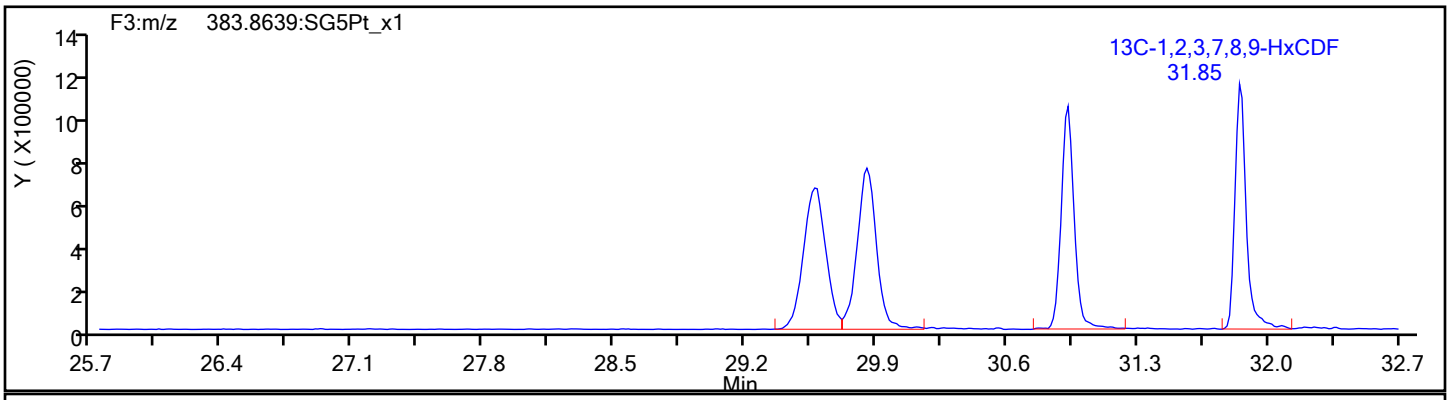

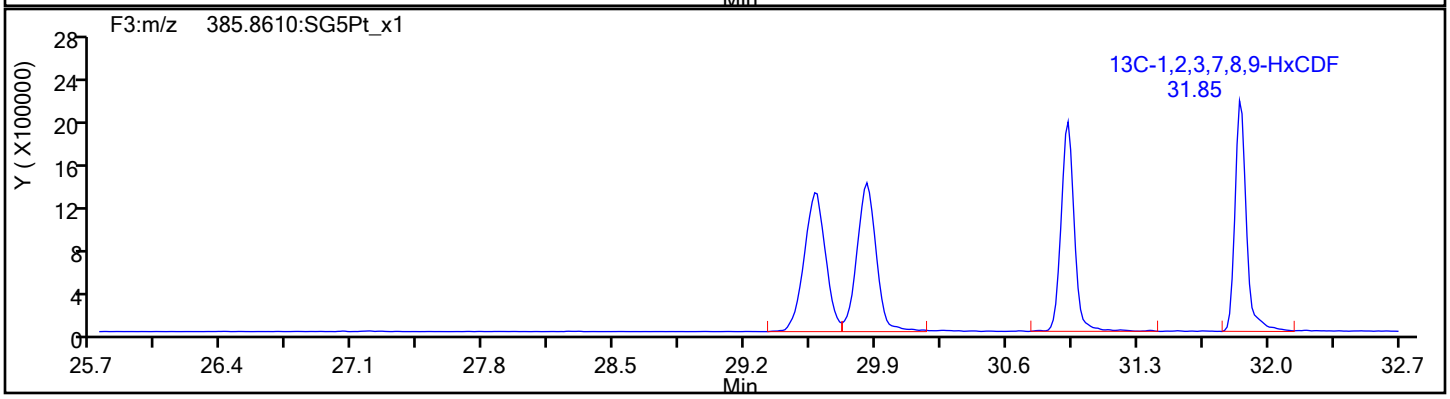

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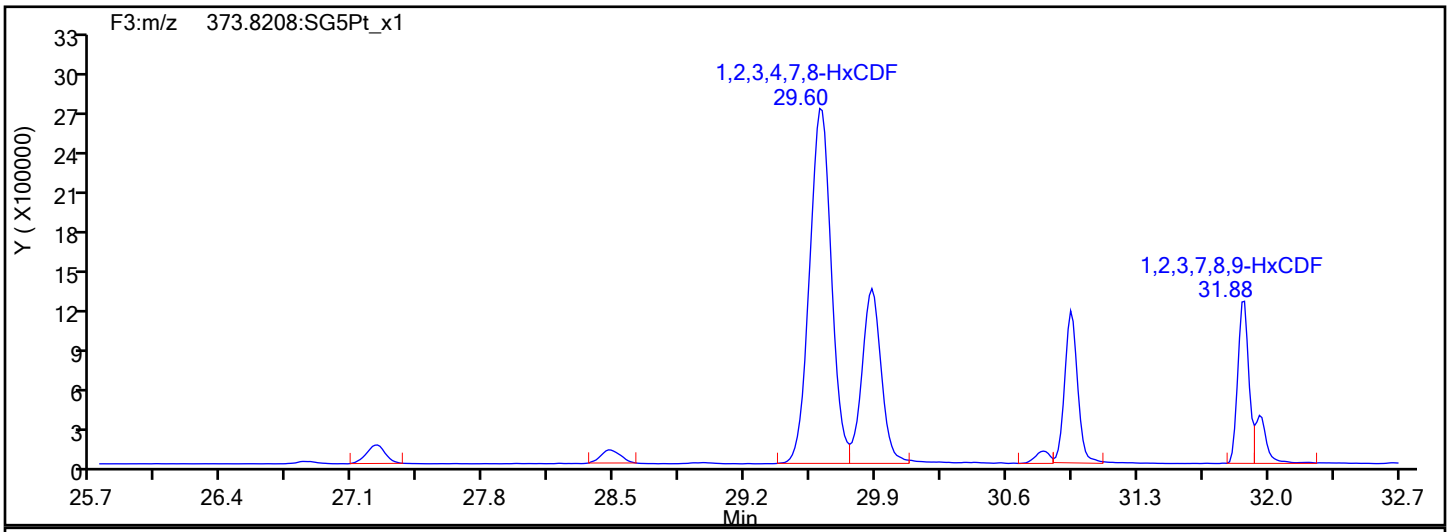

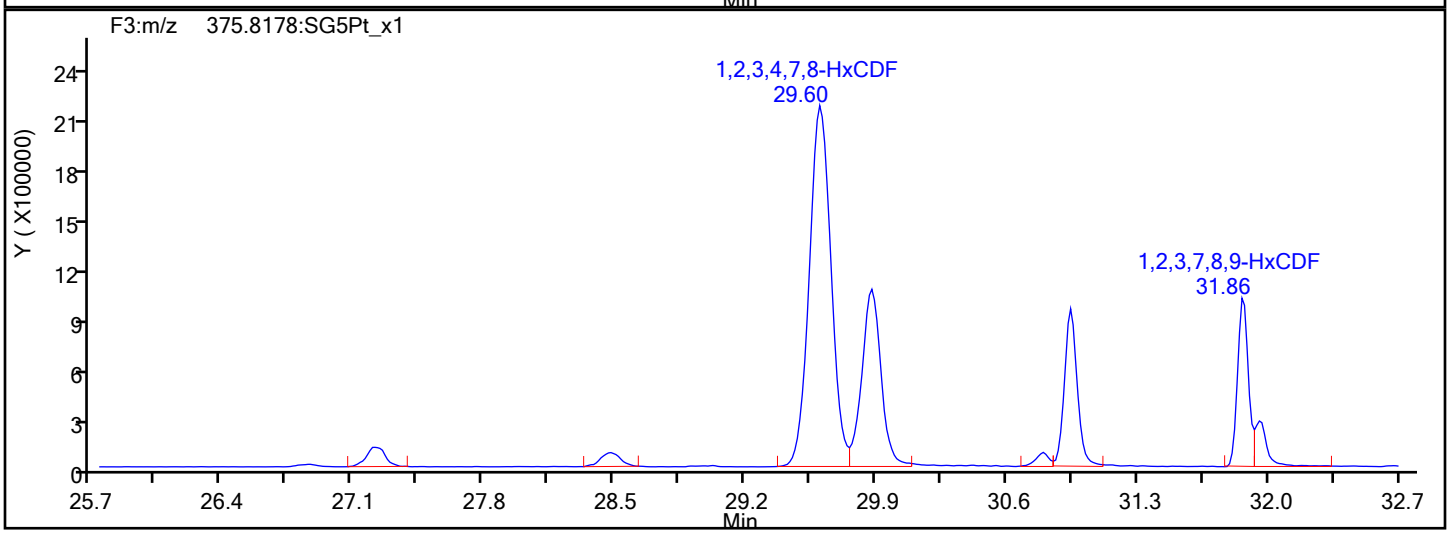

HxCDF Interference Mass

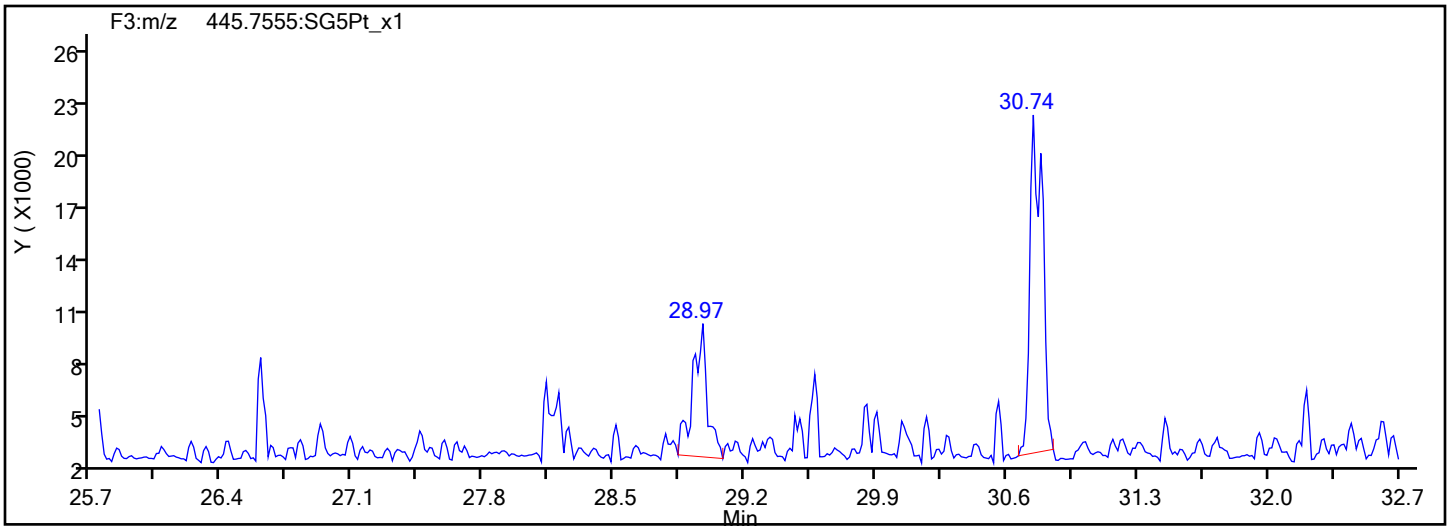

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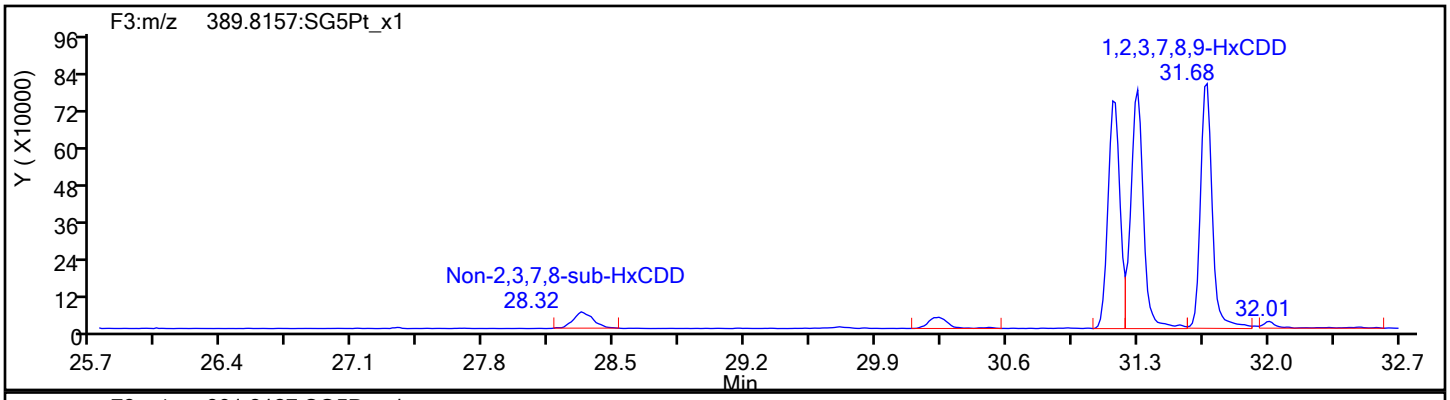

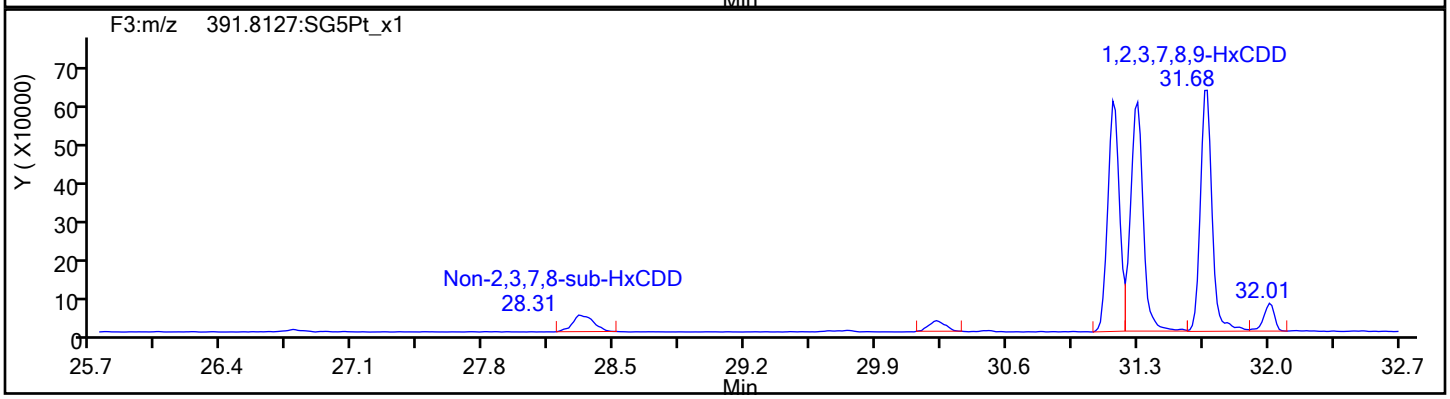

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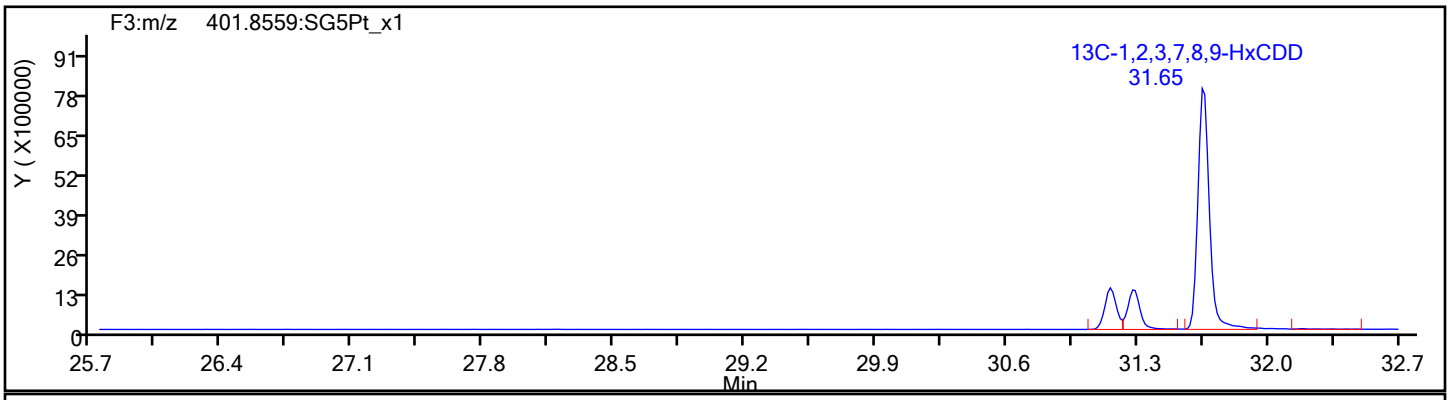

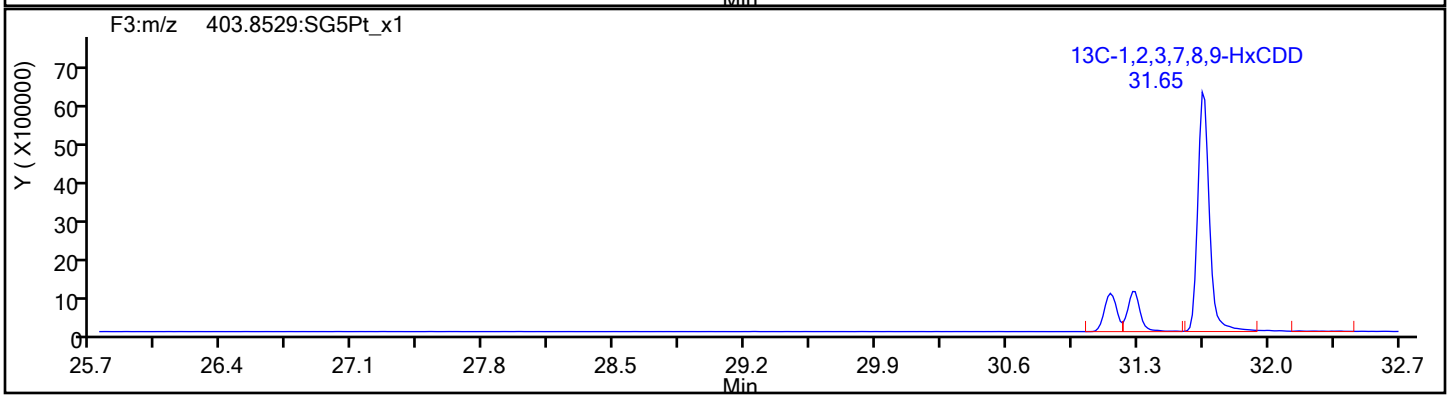

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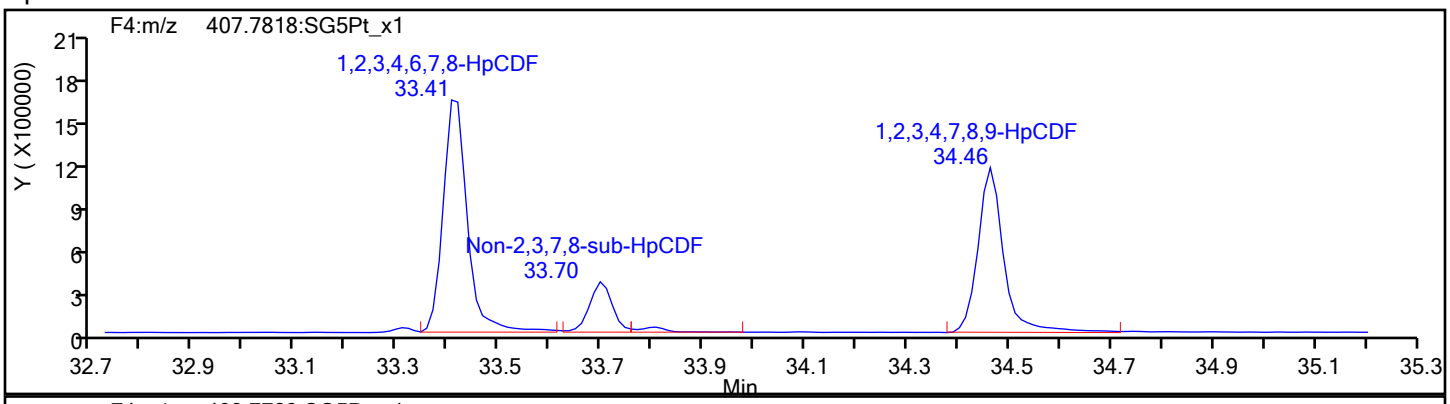

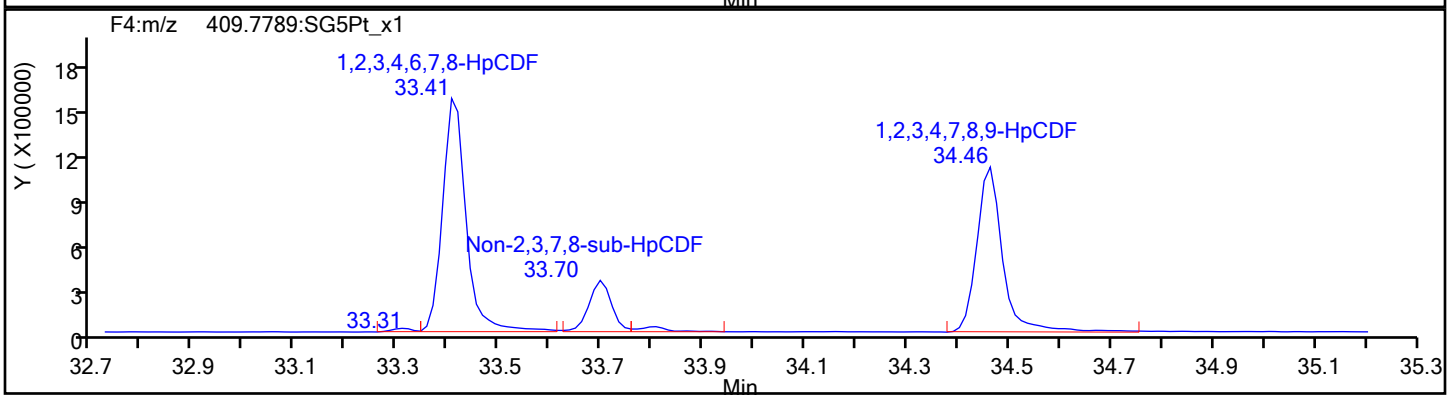

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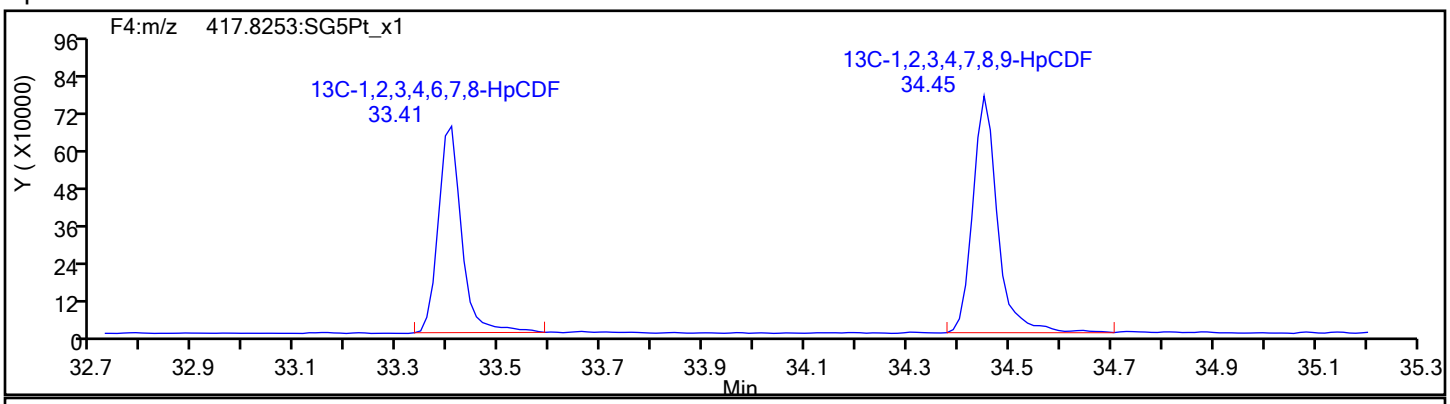

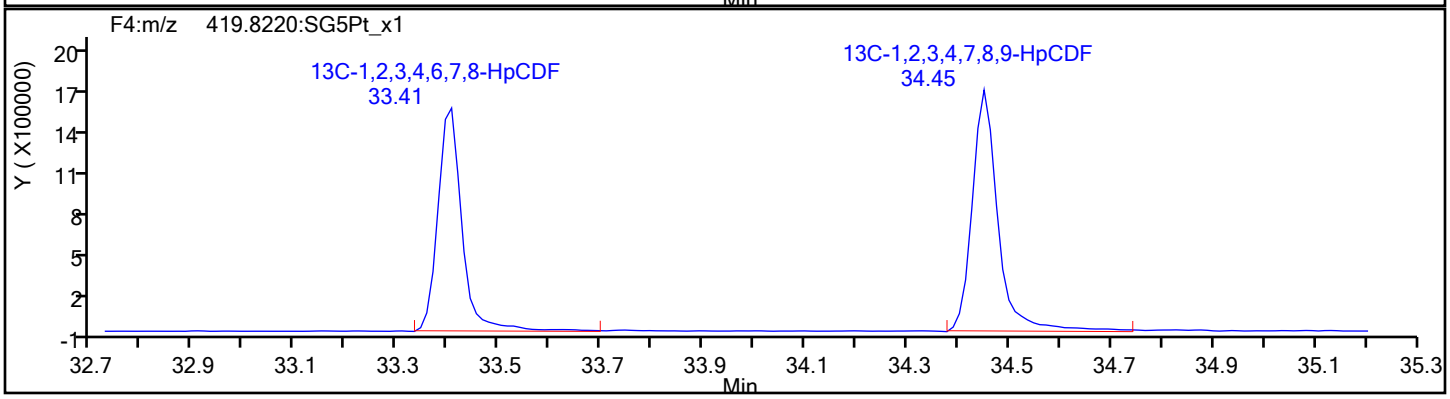

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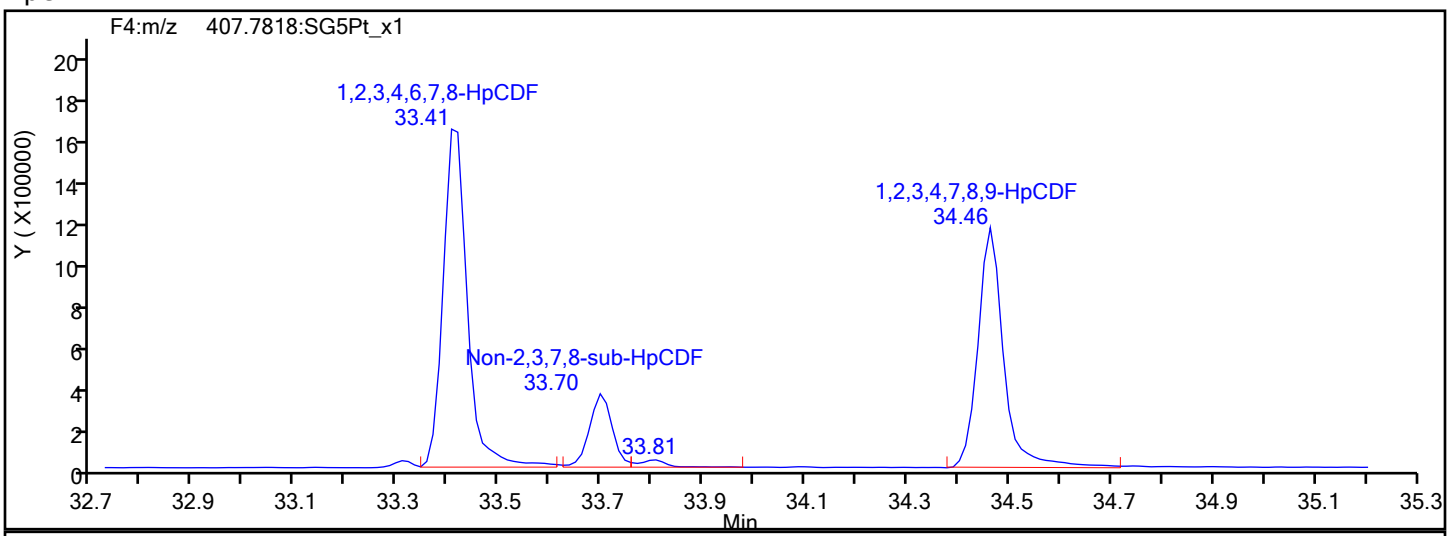

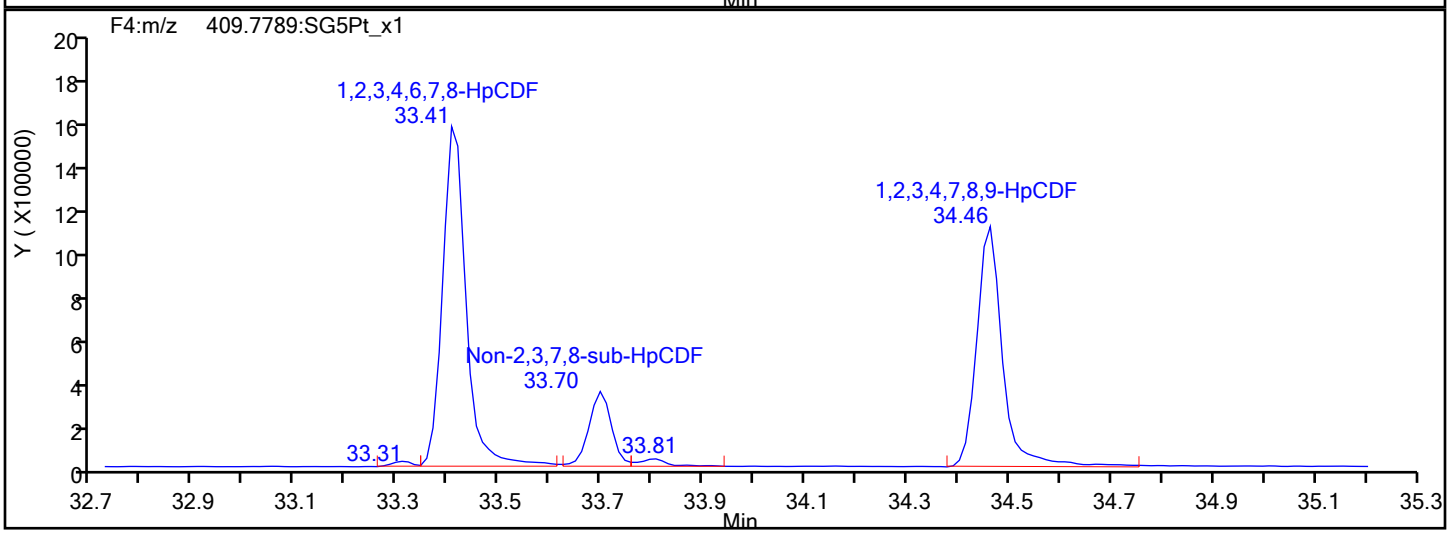

HpCDF Interference Mass

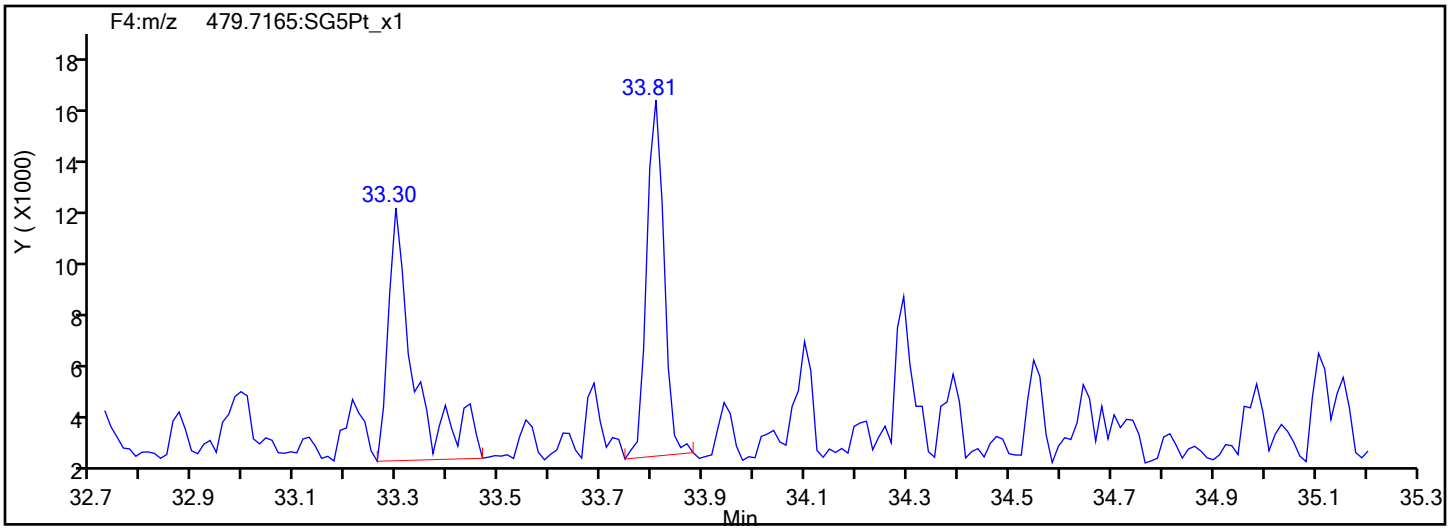

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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

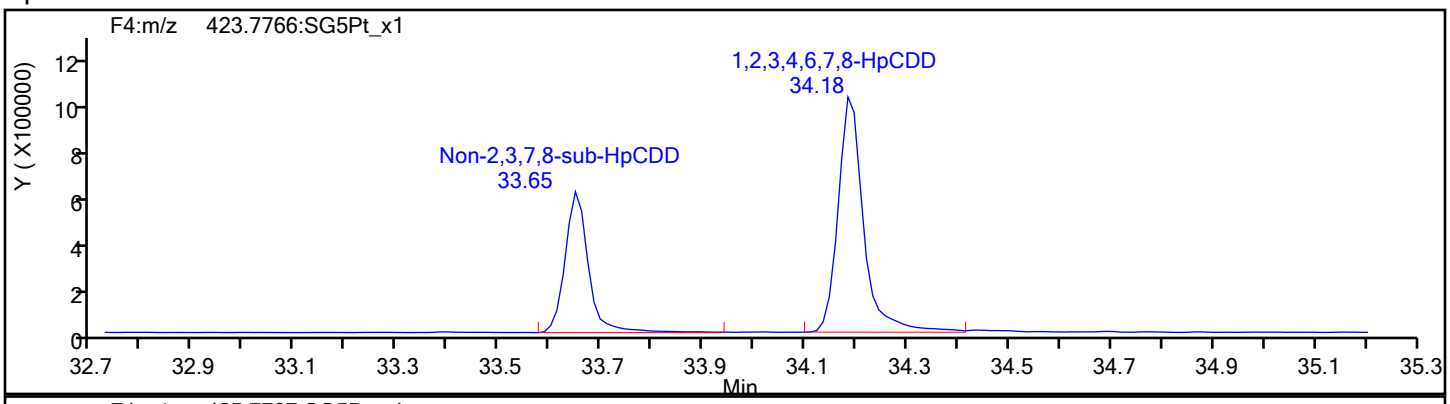

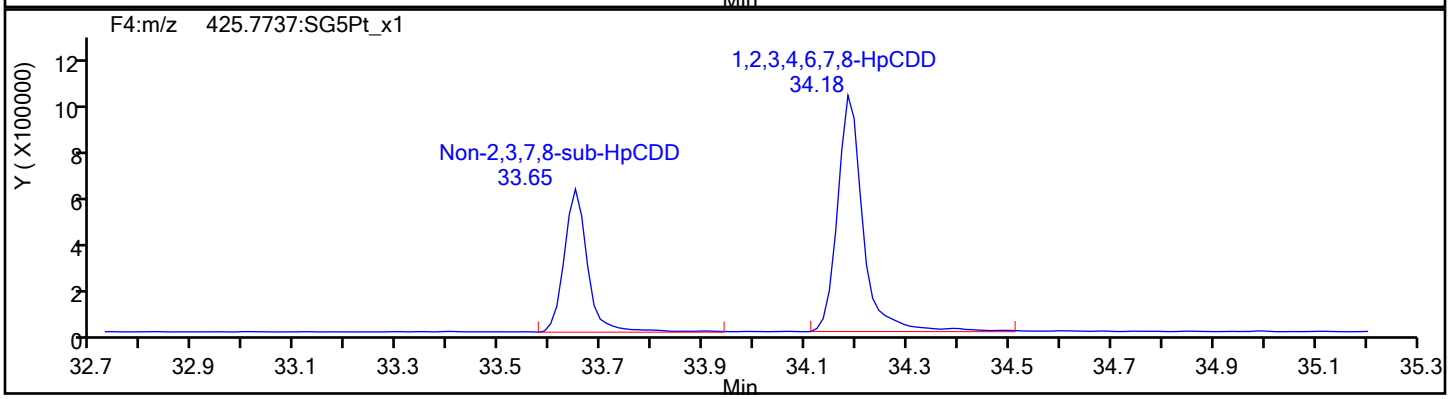

HpCDD Standards

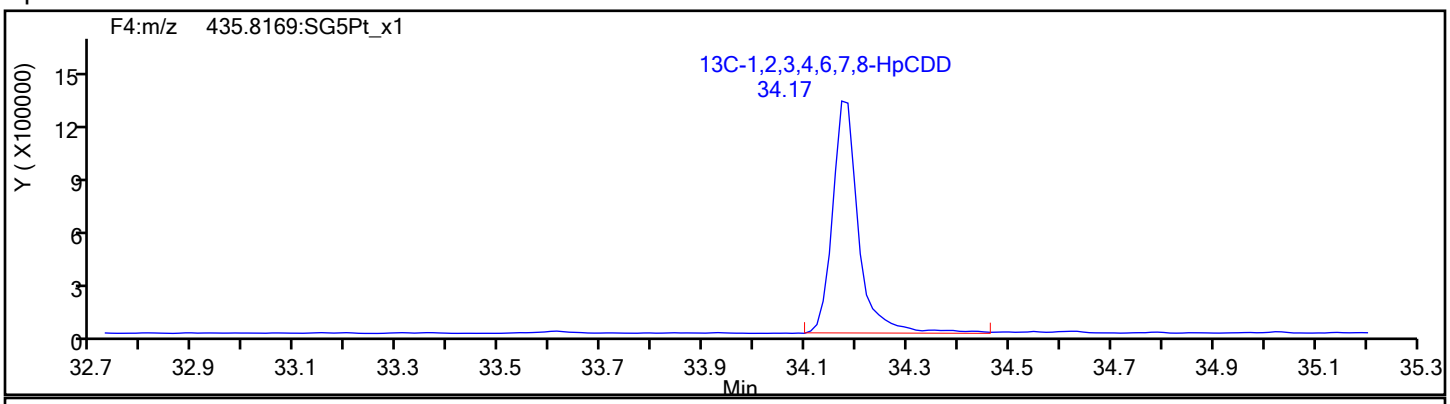

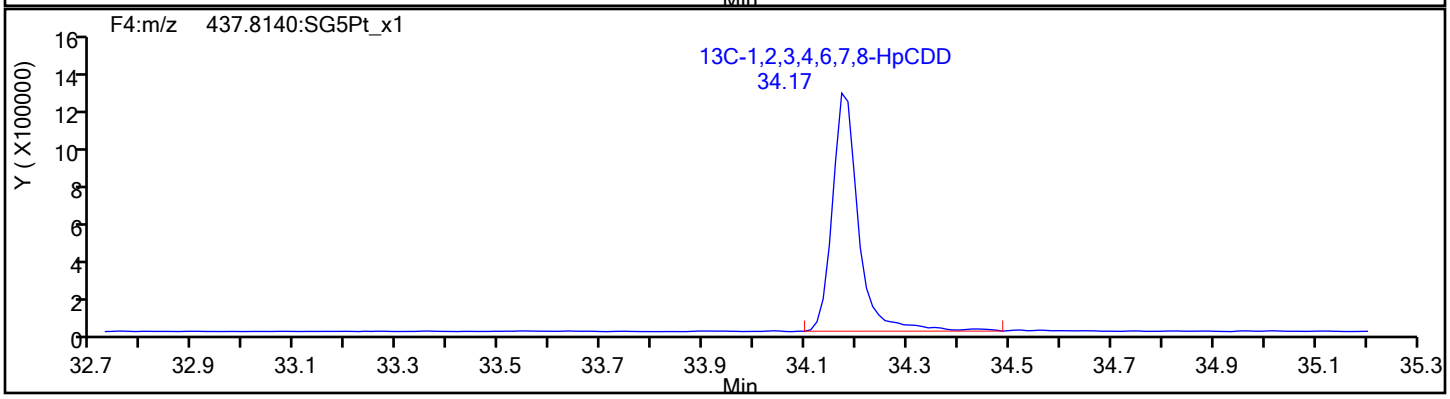

Report Date: 08-Nov-2019 09:31:52 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_13.d		
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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336302	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

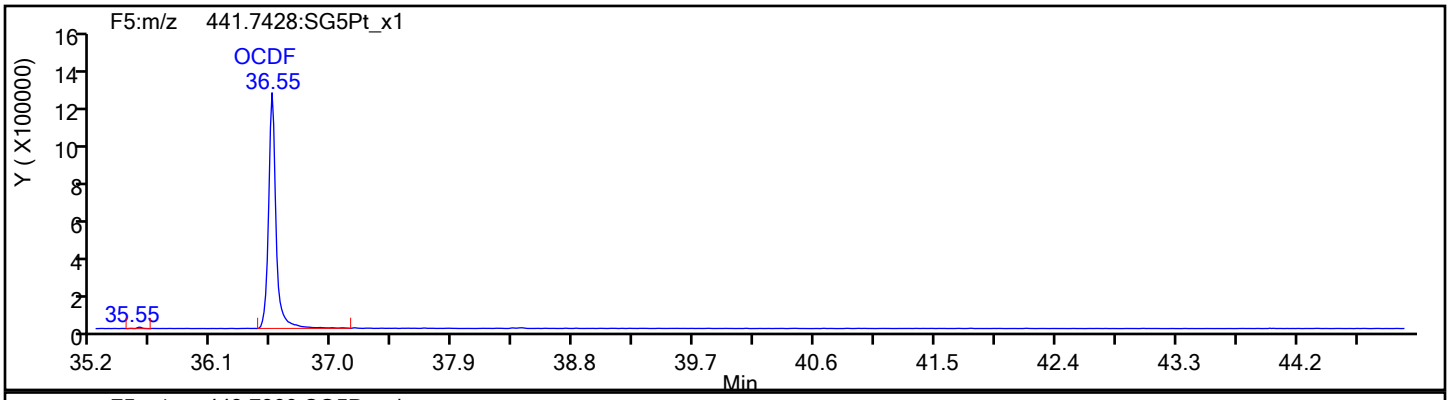

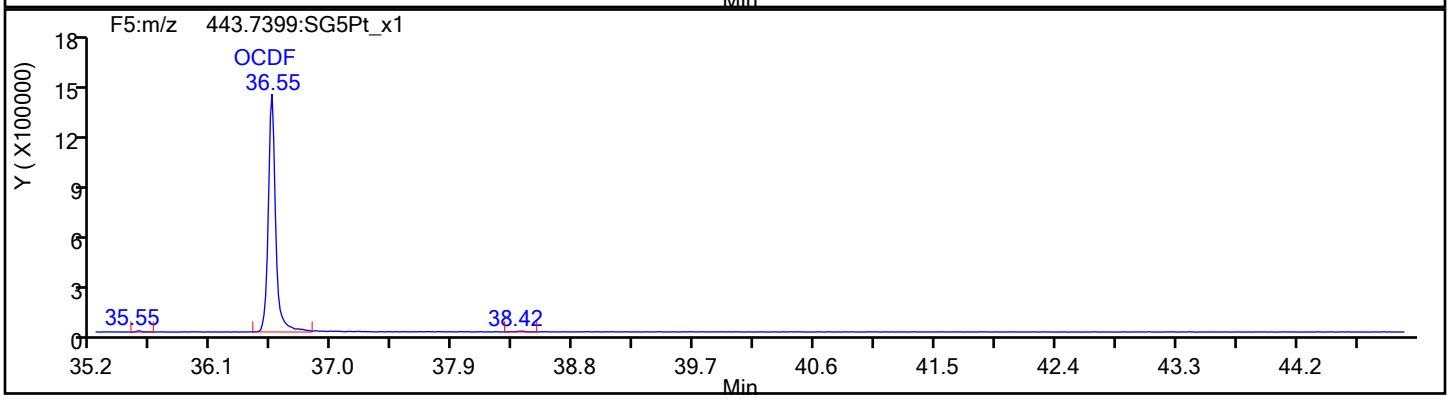

OCDF Standards

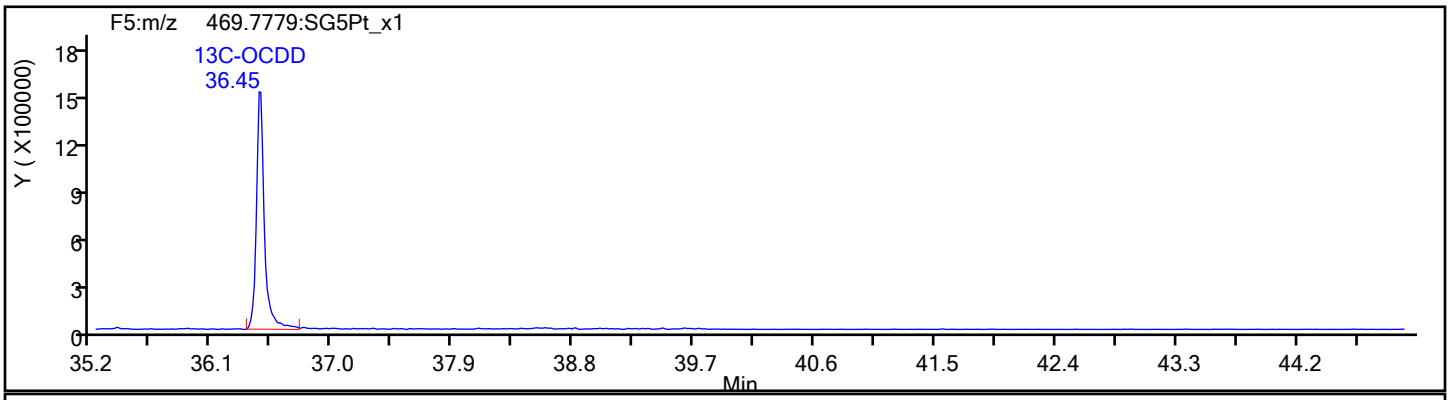

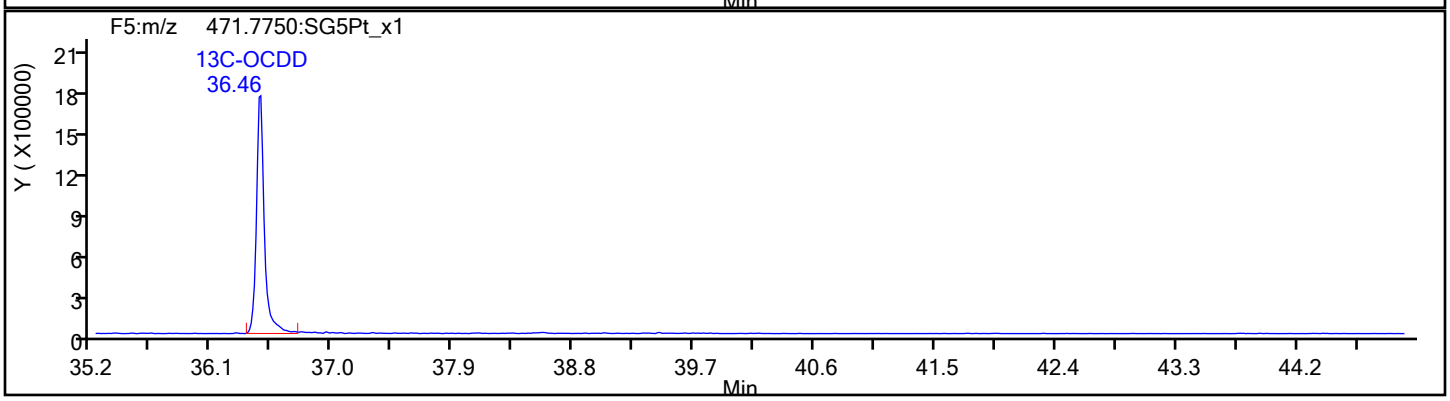

Report Date: 08-Nov-2019 09:31:52 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_13.d		
Injection Date:	06-Nov-2019 04:44:17	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336302	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

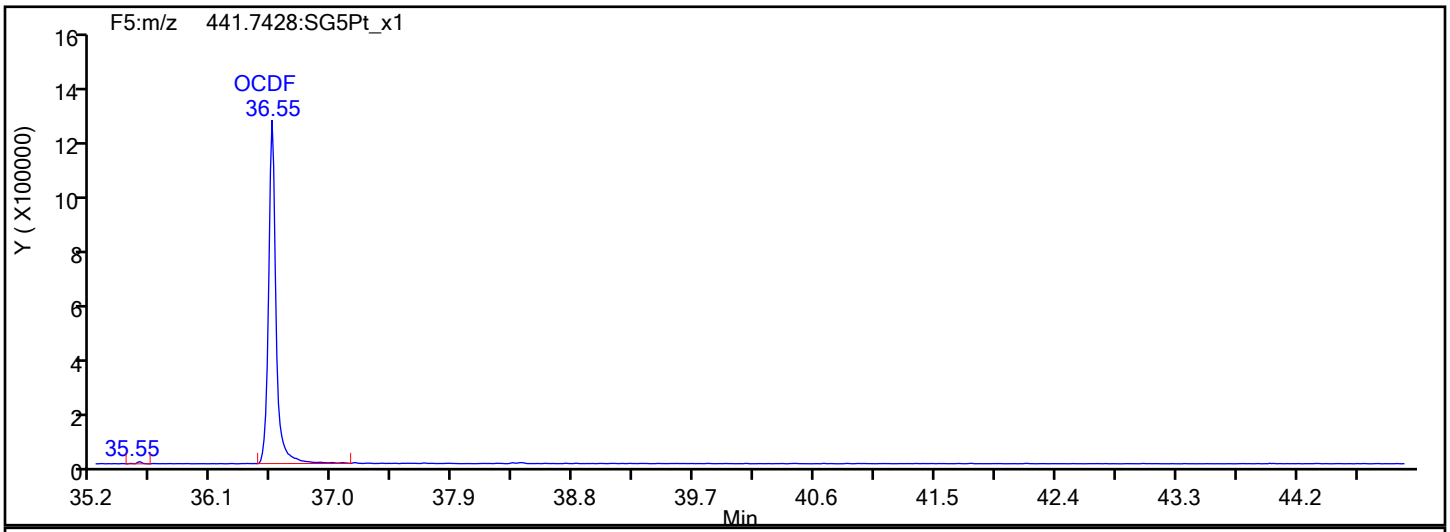

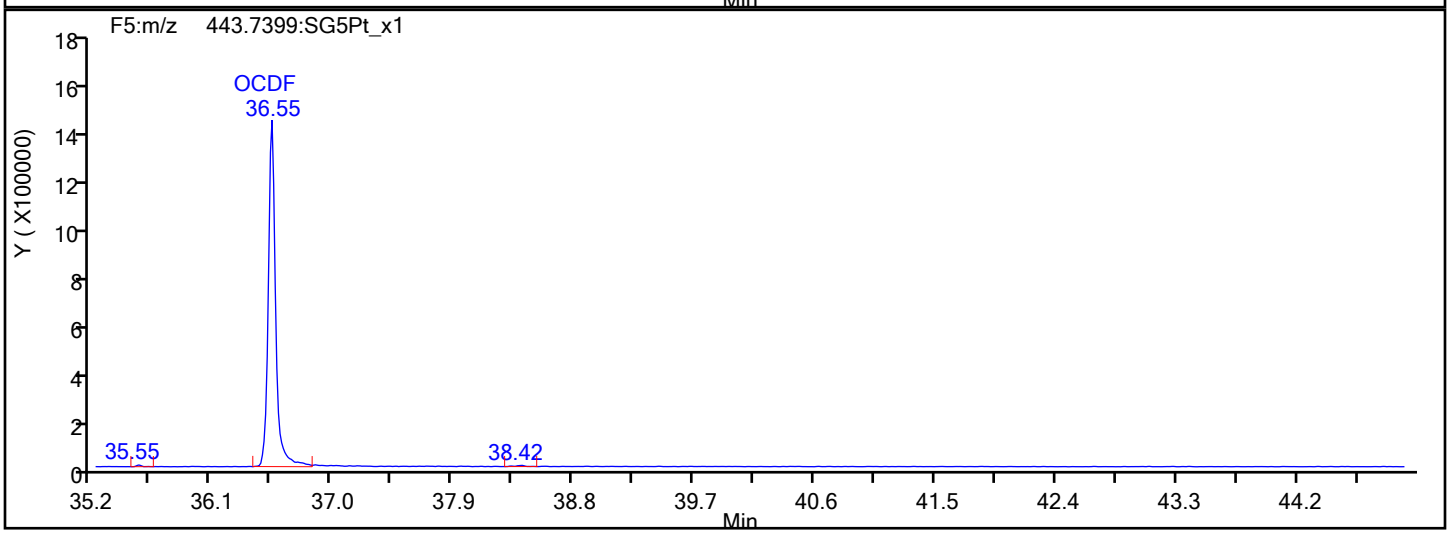

OCDF Interference Mass

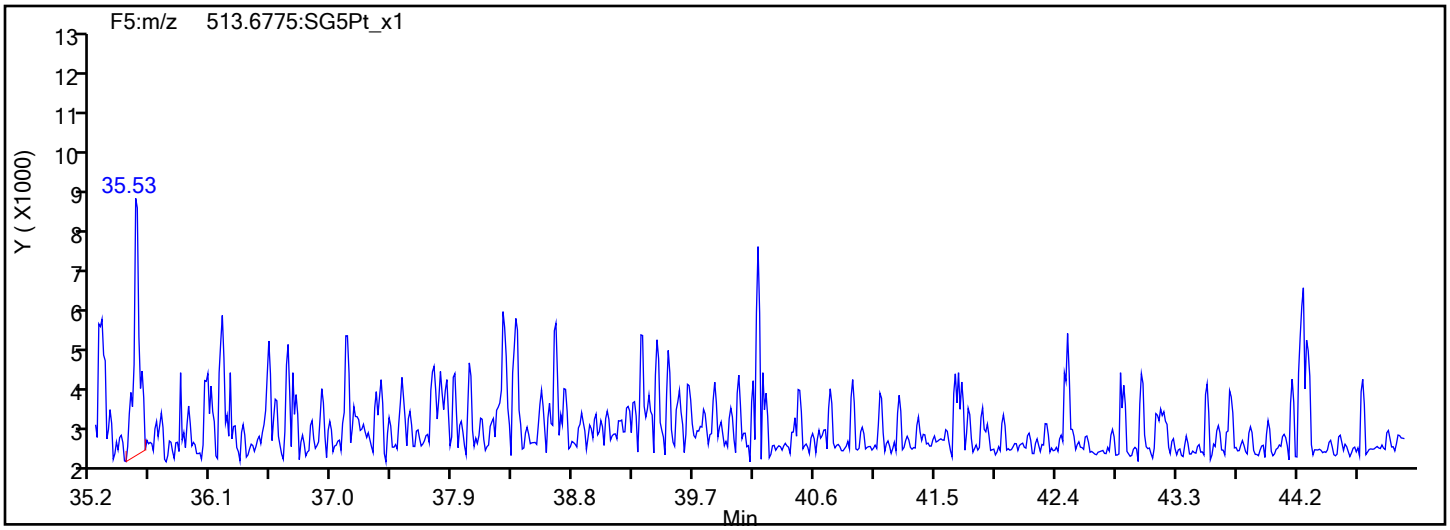

Report Date: 08-Nov-2019 09:31:52 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_13.d		
Injection Date:	06-Nov-2019 04:44:17	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336302	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

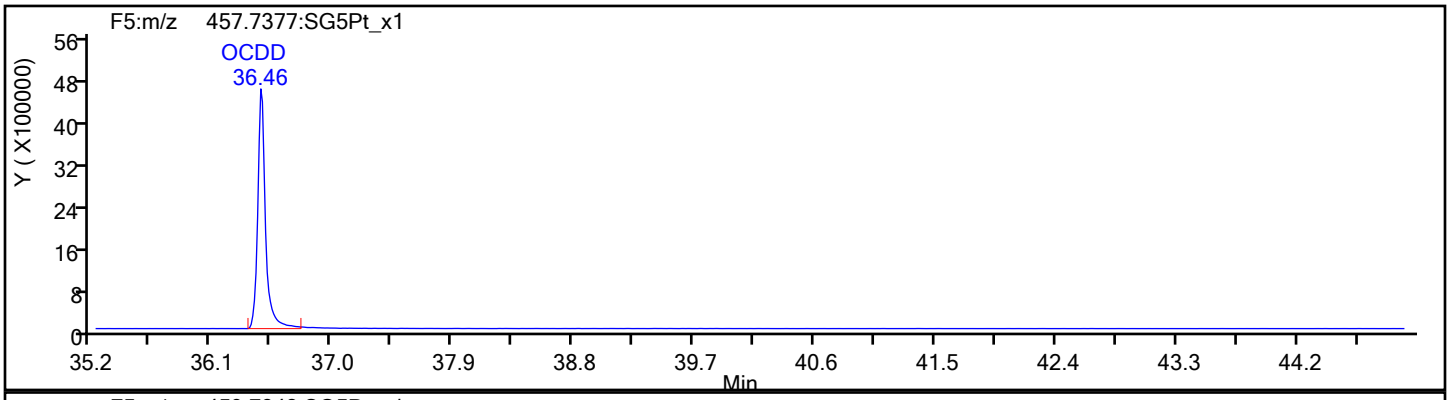

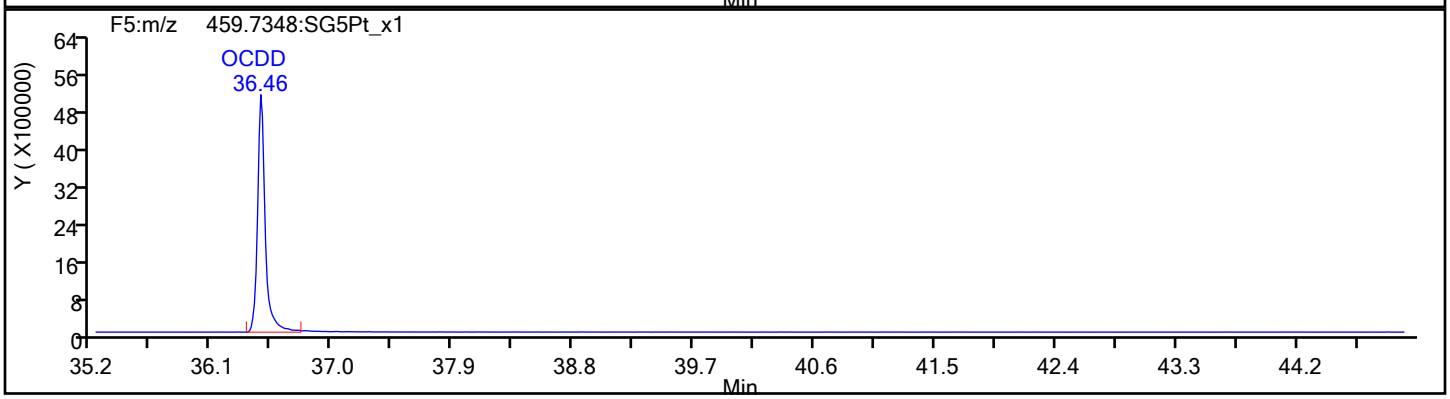

OCDD Standards

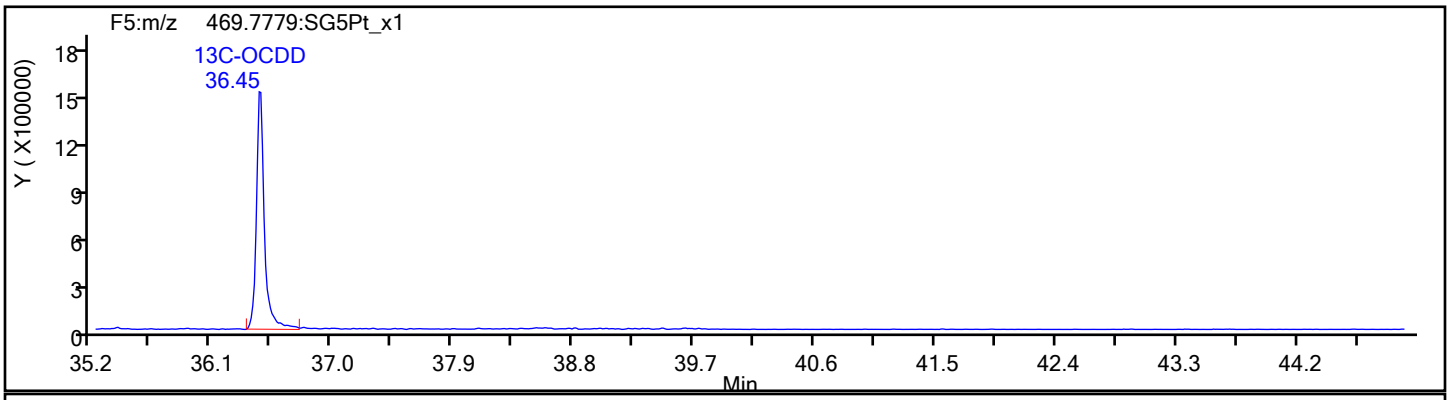

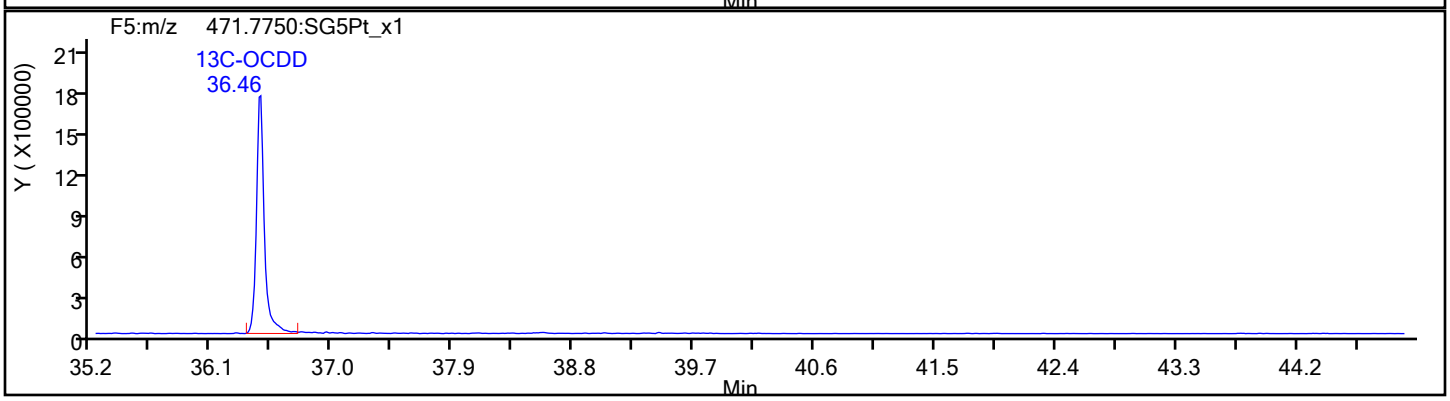

Report Date: 08-Nov-2019 09:31:52 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_13.d		
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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336302	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

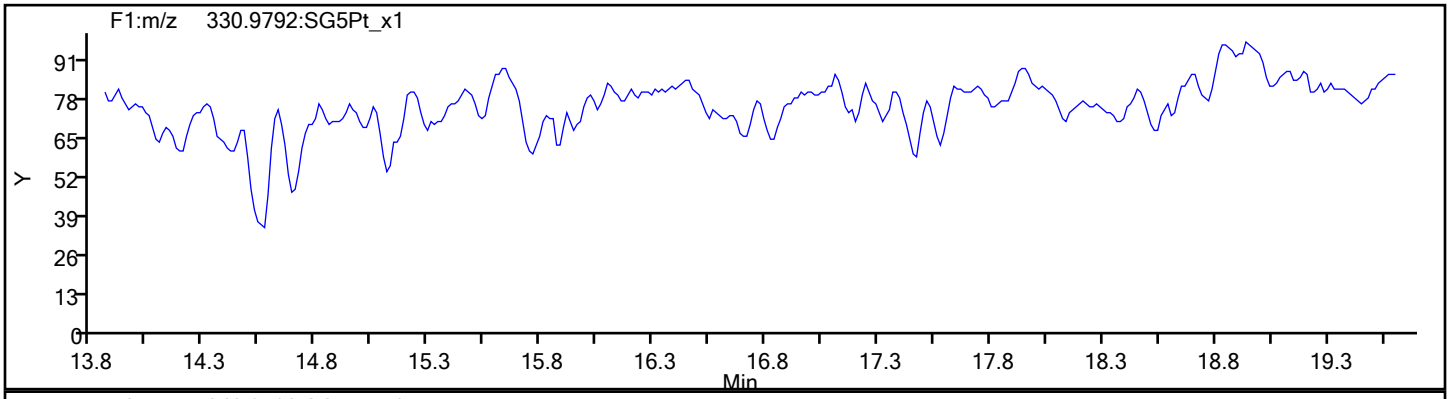

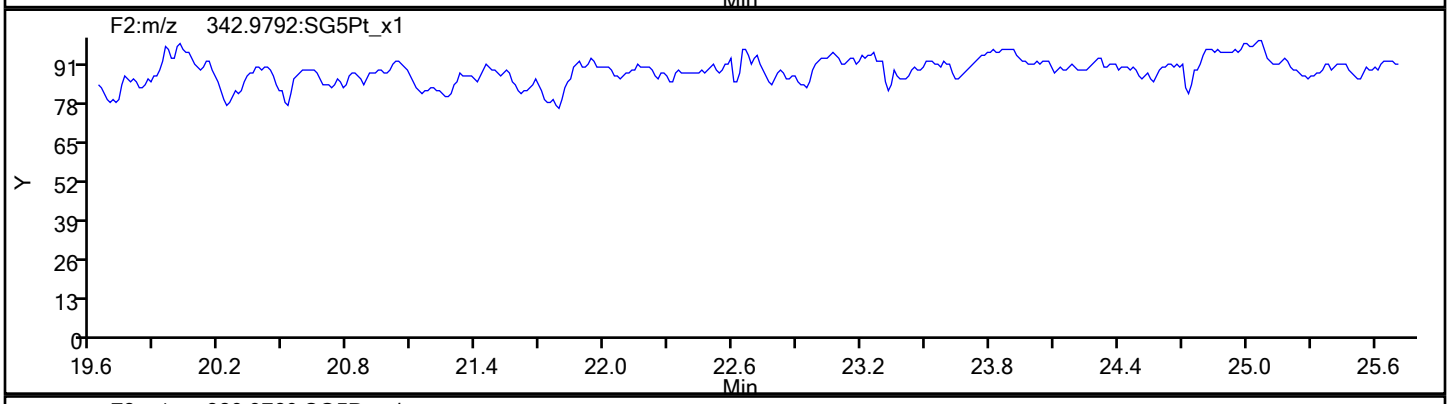

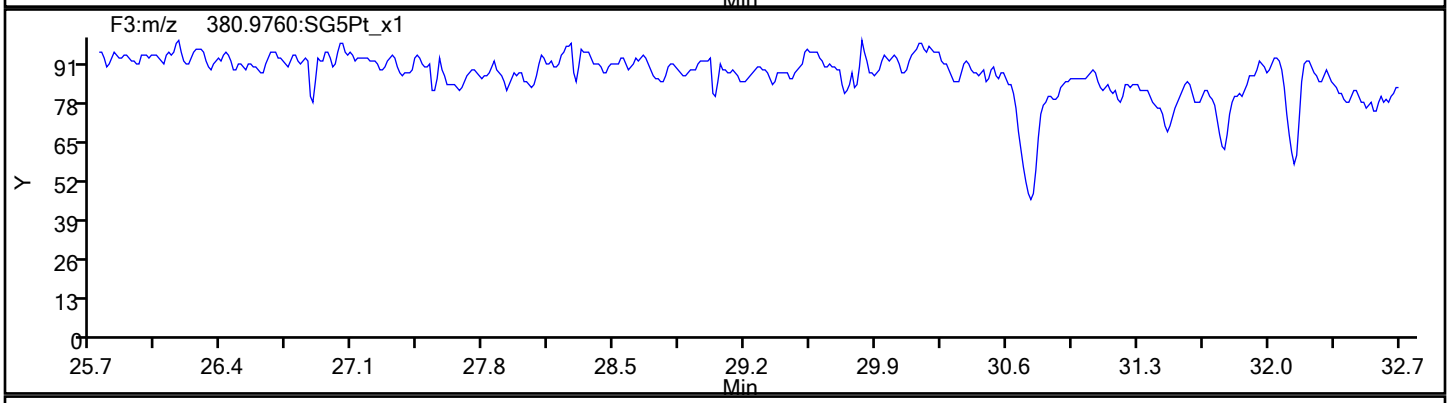

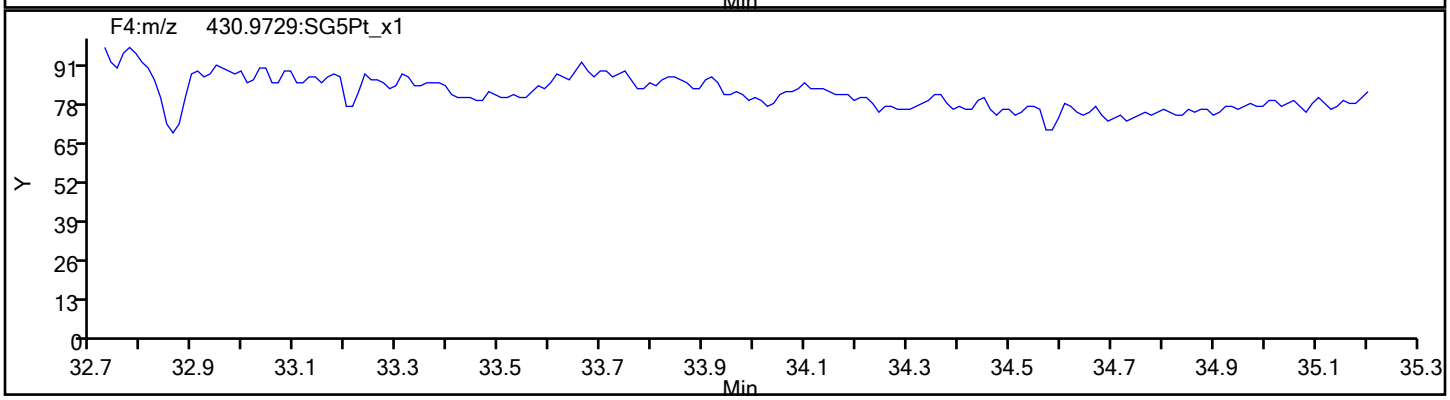

Report Date: 08-Nov-2019 09:31:52 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191106-86163.b\05NO19B10D5_13.d		
Injection Date:	06-Nov-2019 04:44:17	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336302	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

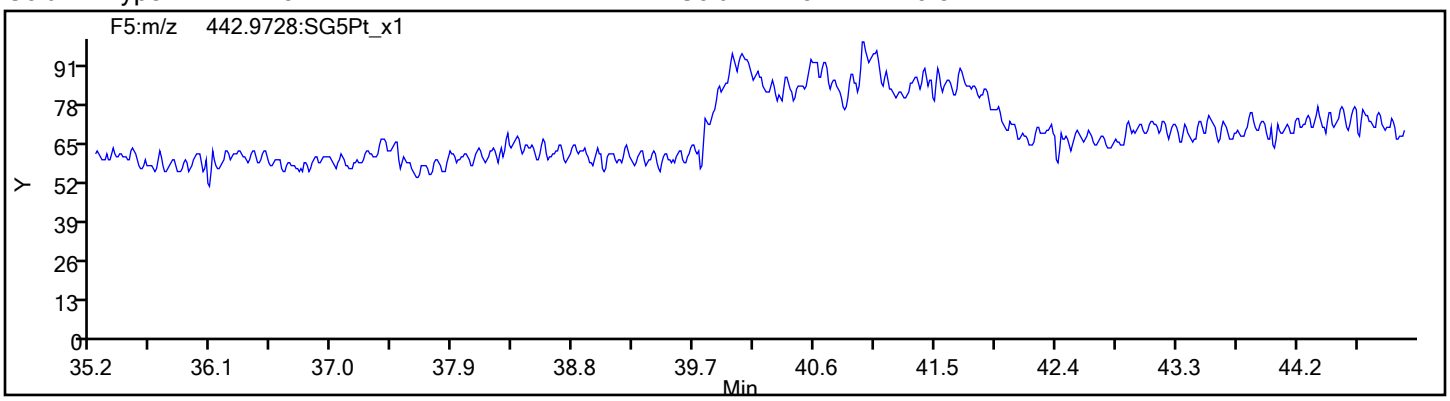

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Client Sample ID: INF 4 - DISSOLVED MSD RA Lab Sample ID: 600-194690-11 MSD RA

Matrix: Water Lab File ID: 07NO19A11D2_010.d

Analysis Method: 1613B Date Collected: 10/26/2019 22:10

Extract. Method: 1613B Date Extracted: 11/01/2019 08:11

Sample wt/vol: 982.5(mL) Date Analyzed: 11/07/2019 20:44

Con. Extract Vol.: 20(uL) Dilution Factor: 25

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 336810 Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
51207-31-9	2,3,7,8-TCDF	66300		250	130

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
89059-46-1	13C-2,3,7,8-TCDF	40		24-169

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	97		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_010.d
Lims ID: 600-194690-A-11-C MSD
Client ID: INF 4 - DISSOLVED
Sample Type: MSD
Inject. Date: 07-Nov-2019 20:44:08 ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 2.0 ul Dil. Factor: 25.0000
Sample Info: 600-194690-A-11C MSD 25X
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20191107-86281.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 08-Nov-2019 11:07:13 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0309

First Level Reviewer: messecara Date: 07-Nov-2019 23:38:19

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.380	5371270	0.69	1.1E+06	4.000	4.000				
D 13C-2,3,7,8-TCDF	16.533	2888752	0.70	1.3379	1.608	1.608	0.3293	0.3293	40.20	
2,3,7,8-TCDF	16.560	78870529	0.80	0.8389	130.2	130.2	0.2485	0.2485	32546	
D 13C-2,3,7,8-TCDD	15.092	1309755	0.83	0.9388	1.039	1.039	0.8127	0.8127	25.97	Ma
2,3,7,8-TCDD	15.120	15022540	0.77	1.1538	39.8	39.8	0.2578	0.2578	9941	a
$ 37Cl4-2,3,7,8-TCDD	15.106	2457183		1.1816	1.549	1.549	0.0540	0.0540	96.79	
S Total 2378-Chlorinated							0.000100	0.000100		

QC Flag Legend

Review Flags
M - Manually Integrated
a - User Assigned ID

Report Date: 08-Nov-2019 11:07:45 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_010.d
Lims ID: 600-194690-A-11-C MSD
Client ID: INF 4 - DISSOLVED
Sample Type: MSD
Inject. Date: 07-Nov-2019 20:44:08 ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 2.0 ul Dil. Factor: 25.0000
Sample Info: 600-194690-A-11C MSD 25X
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20191107-86281.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 08-Nov-2019 11:07:13 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0309

First Level Reviewer: messecara Date: 07-Nov-2019 23:38:19

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.380	15.378	0		2193564	504803	49985	124962	10		
333.9339	15.367	15.378	-1		3177706	657749	38719	96797	17	0.69(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.533	16.560	-1	1.075	1191010	192214	29999	74997	6		
317.9389	16.533	16.560	-1	1.075	1697742	271939	21214	53035	13	0.70(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.560	16.571	-1	1.002	34937145	7422613	4085	10212	1817		
305.8987	16.560	16.571	-1	1.002	43933384	9498471	5591	13977	1699	0.80(0.65-0.89)	
13C-2,3,7,8-TCDD											Ma
331.9368	15.092	15.092	-1	0.981	594840	156653	49985	124962	3		M
333.9339	15.092	15.092	-1	0.981	714915	181021	38719	96797	5	0.83(0.65-0.89)	
2,3,7,8-TCDD											a
319.8965	15.120	15.117	0	1.002	6522397	1534529	5766	14415	266		a
321.8936	15.106	15.117	-1	1.001	8500143	1984675	4277	10692	464	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.106	15.117	-1	0.982	2457183	536955	7421	18552	72		

Total 2378-Chlorinated Dioxins & Furans
0.0 0

QC Flag Legend

Review Flags
M - Manually Integrated
a - User Assigned ID

Report Date: 08-Nov-2019 11:07:45 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_010.d		
Injection Date:	07-Nov-2019 20:44:08	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336810	Sample Line#:	10
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

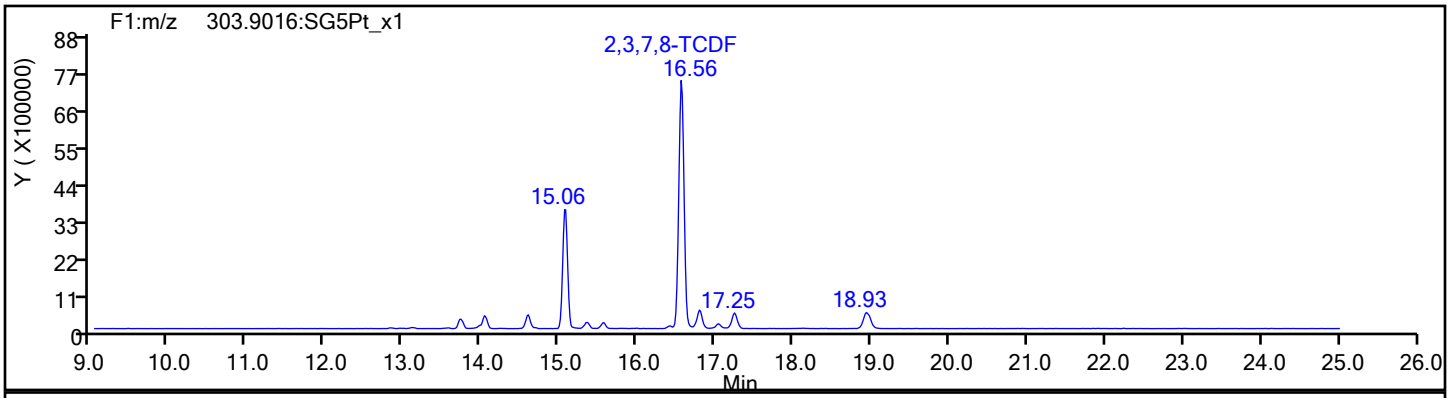

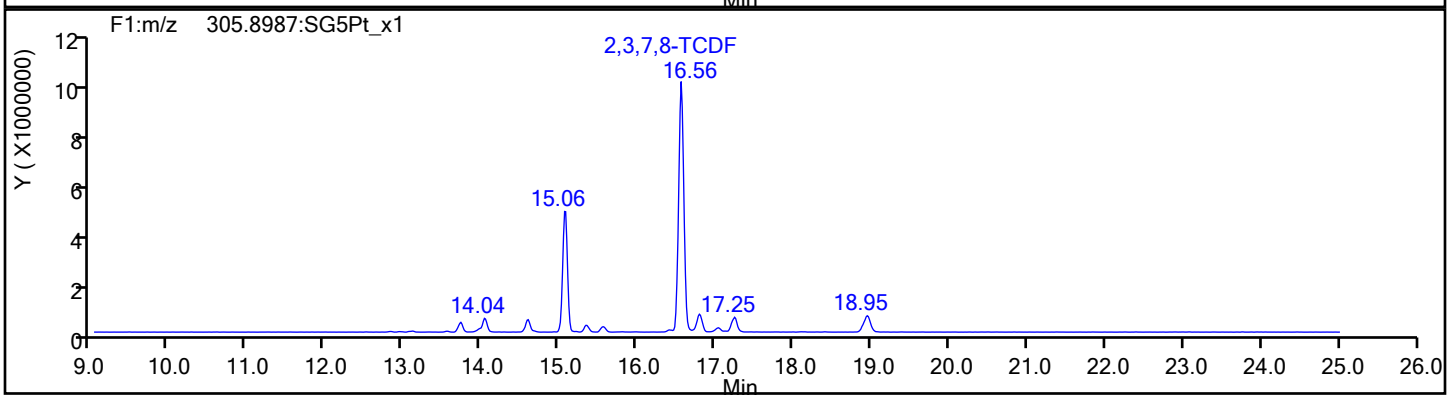

TCDF Standards

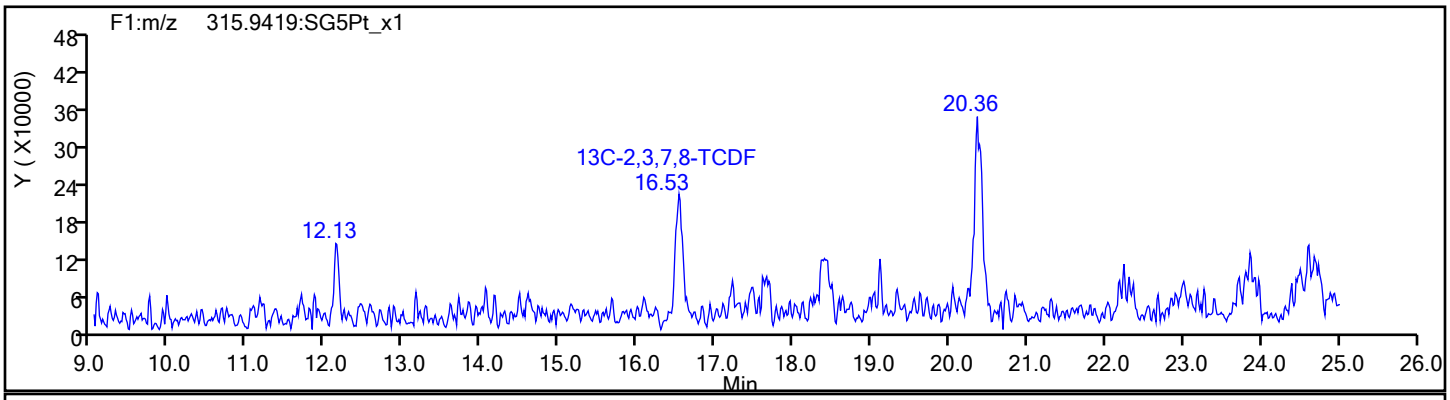

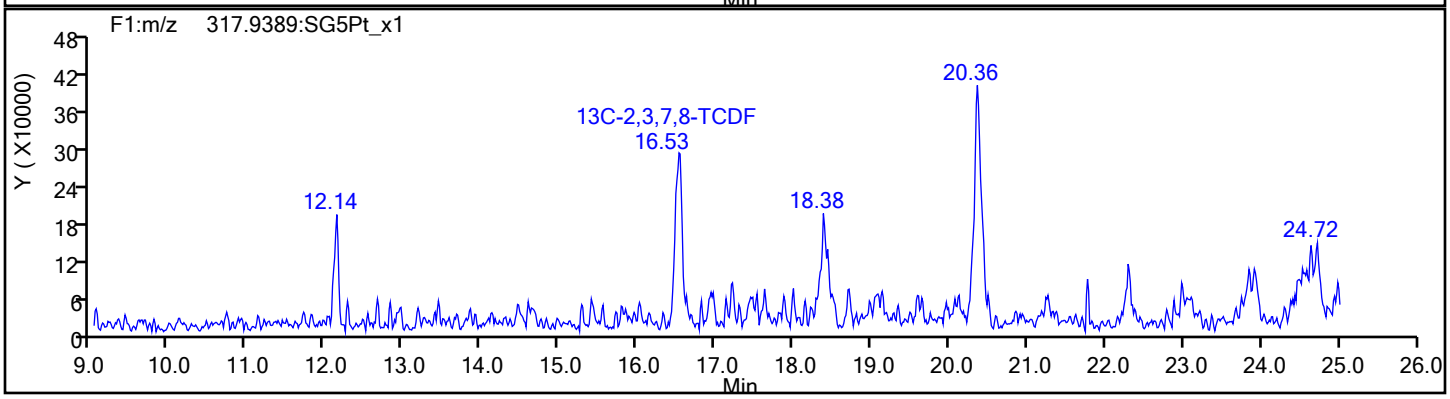

Report Date: 08-Nov-2019 11:07:45 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_010.d		
Injection Date:	07-Nov-2019 20:44:08	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336810	Sample Line#:	10
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

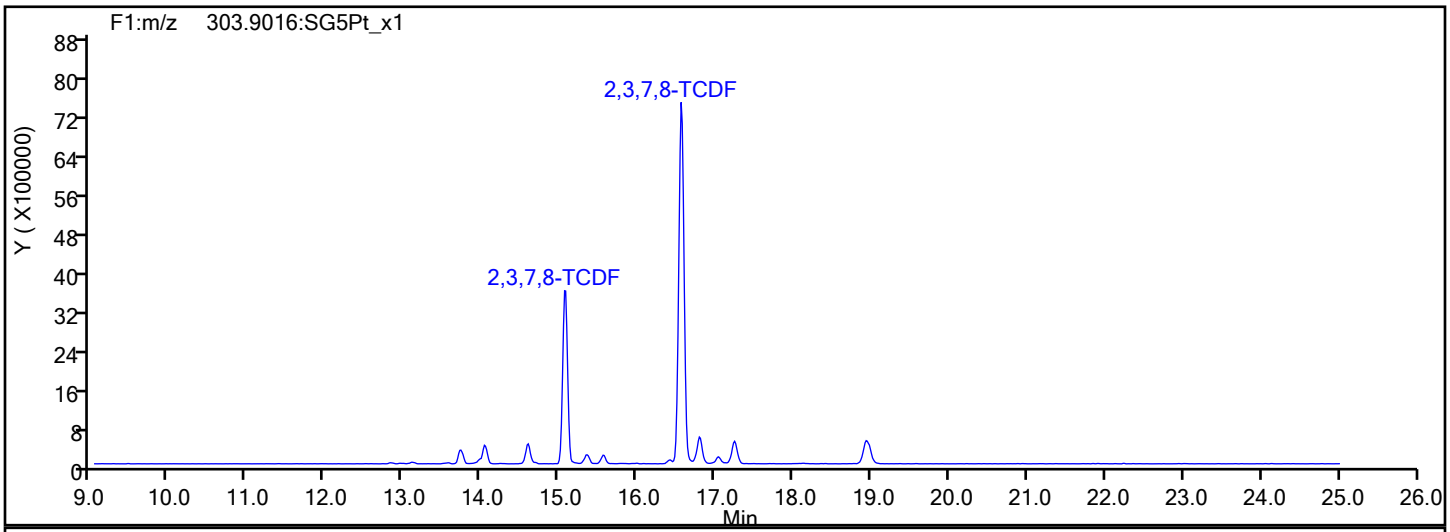

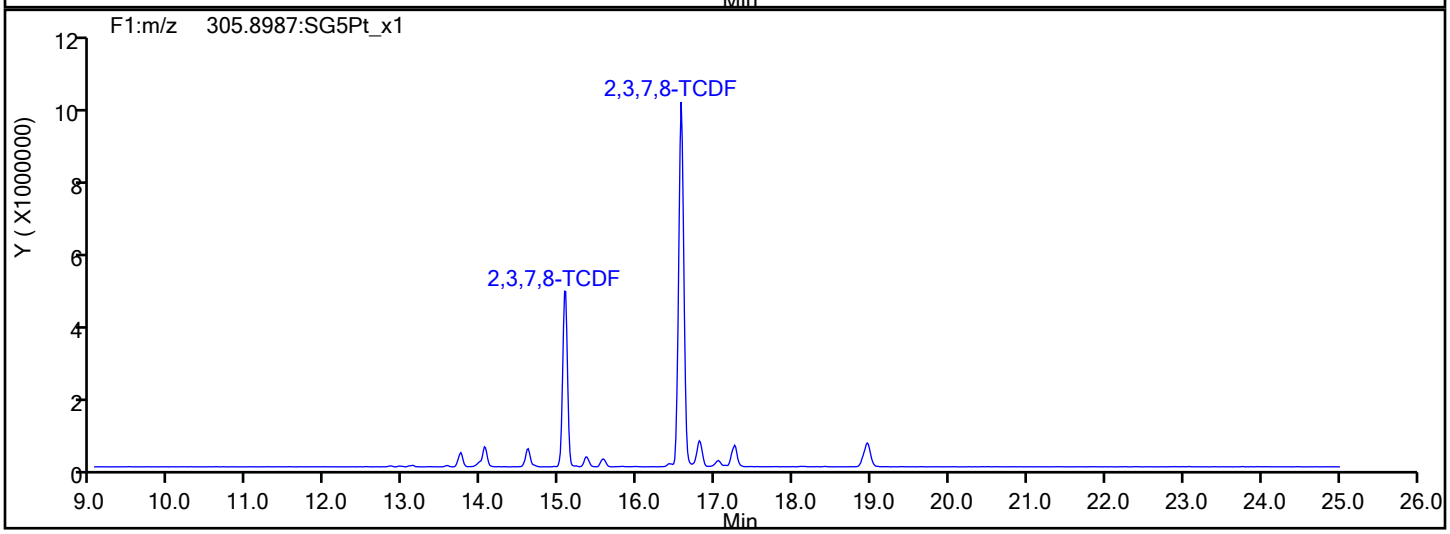

TCDF Interference Mass

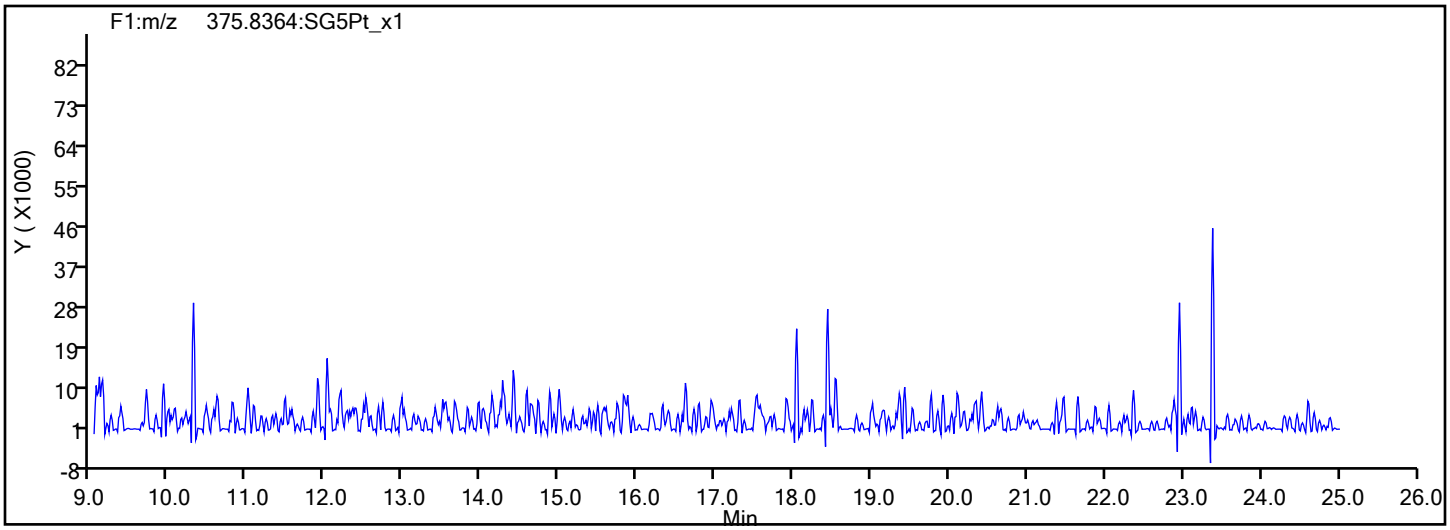

Report Date: 08-Nov-2019 11:07:45 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_010.d		
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Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336810	Sample Line#:	10
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

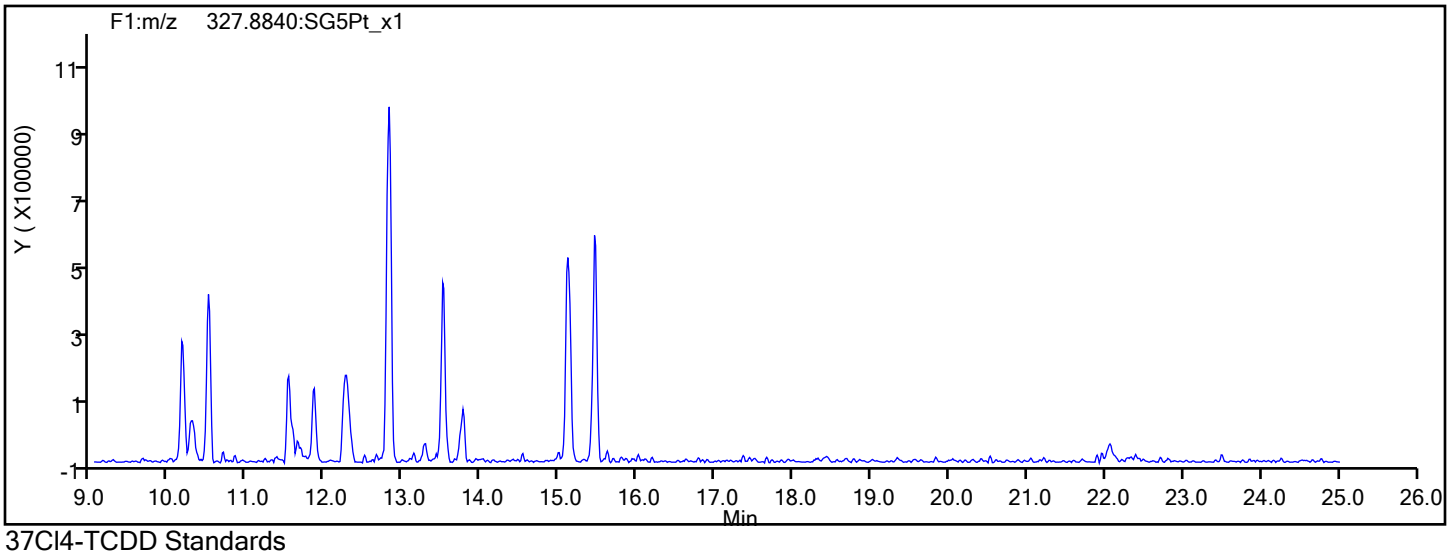

37Cl4-TCDD Standards

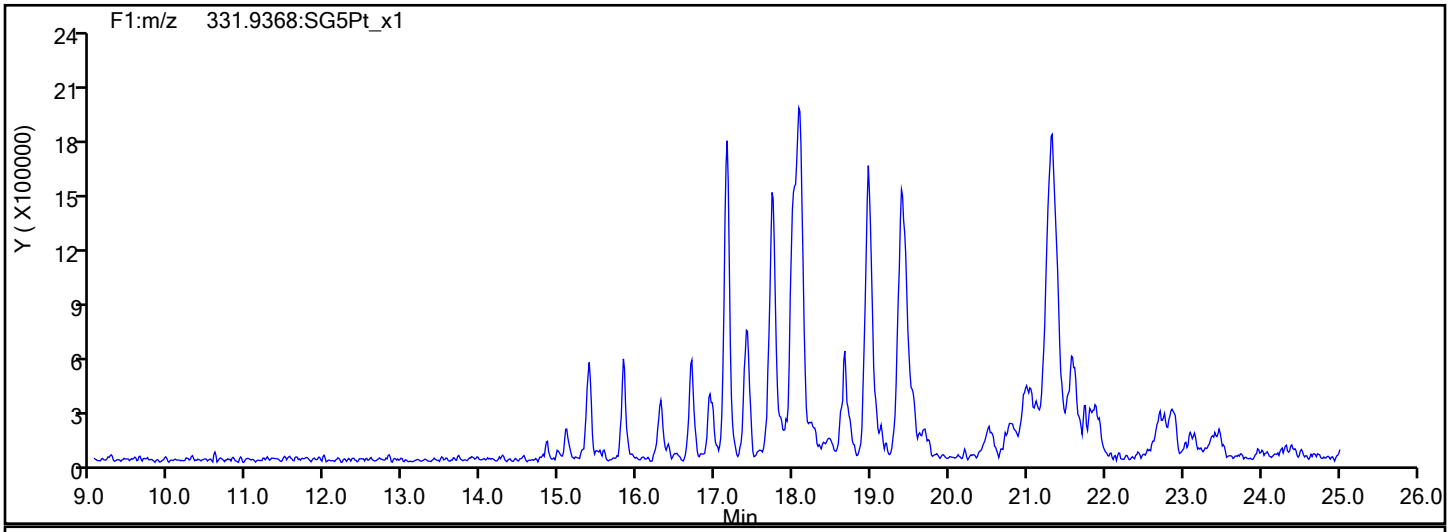

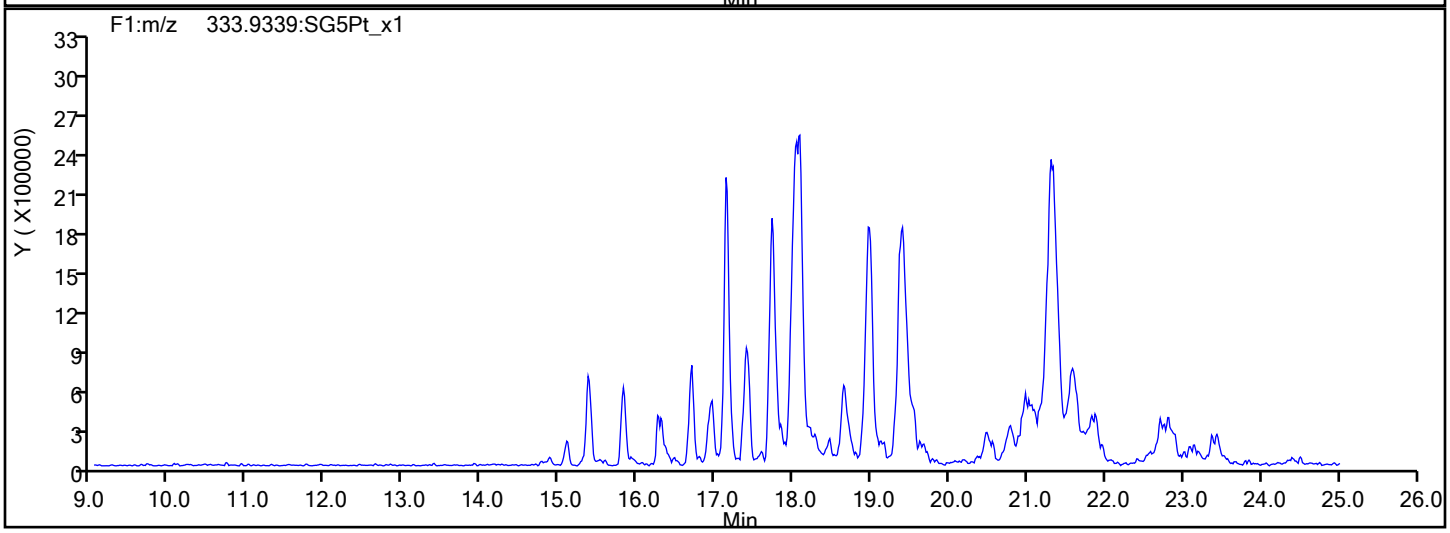

Report Date: 08-Nov-2019 11:07:45 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191107-86281.b\07NO19A11D2_010.d		
Injection Date:	07-Nov-2019 20:44:08	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336810	Sample Line#:	10
Column Type:	DB-225	Column Dia:	0.32 mm

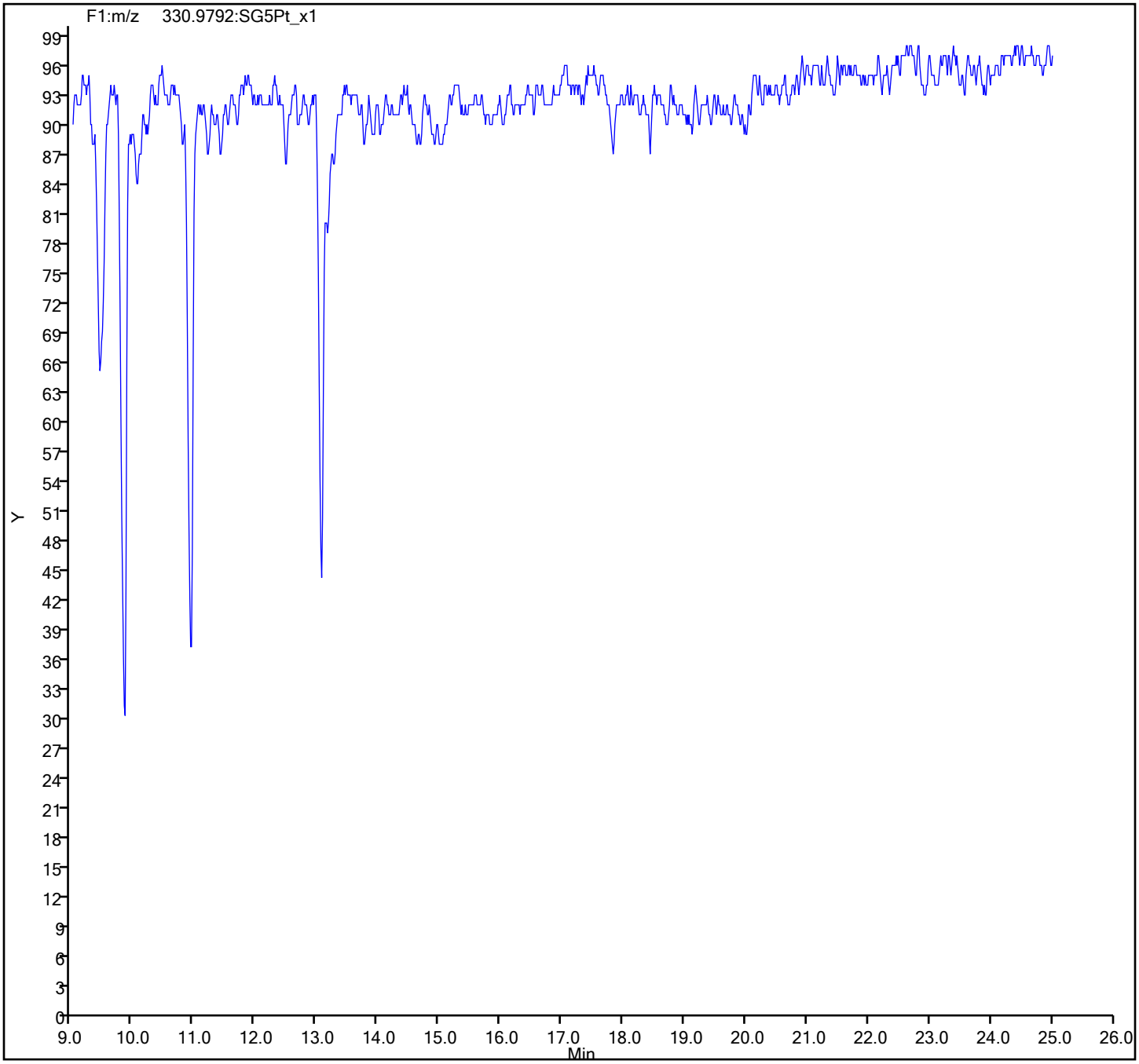

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Client Sample ID: INF 4 - DISSOLVED MSD DL Lab Sample ID: 600-194690-11 MSD DL

Matrix: Water Lab File ID: 07no19adfs1_12.d

Analysis Method: 1613B Date Collected: 10/26/2019 22:10

Extract. Method: 1613B Date Extracted: 11/01/2019 08:11

Sample wt/vol: 982.5(mL) Date Analyzed: 11/08/2019 00:05

Con. Extract Vol.: 20(uL) Dilution Factor: 25

Injection Volume: 1(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 336838 Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	20000		250	120

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	28		25-164

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	96		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_12.d
Lims ID: 600-194690-A-11-C MSD
Client ID: INF 4 - DISSOLVED
Sample Type: MSD
Inject. Date: 08-Nov-2019 00:05:00 ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 25.0000
Sample Info: 600-194690-A-11-C MSD (25x)
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\Dioxin_DFS1.m
Limit Group: HR - 1613B - ICAL
Last Update: 11-Nov-2019 10:40:41 Calib Date: 19-Oct-2019 00:02:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.07 :22.11)
Process Host: CTX0323

First Level Reviewer: shardaa Date: 08-Nov-2019 13:19:17

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	20.335	189989	0.83	5.2E+04	4.000	4.000				a
D 13C-2,3,7,8-TCDF	19.410	73248	0.77	1.6096	1.118	0.9581	0.2423	0.2423	27.94	RQ
2,3,7,8-TCDF	19.436	3222100	0.71	1.2332	122.3	122.3	0.2992	0.2992	30578	
A Non-2,3,7,8-sub-TCDF	19.029	2276357	0.77	1.2332	87.8	86.4	0.2992	48.3	0.00	RQ
S Total TCDF					210.1	208.7	0.2992	0.2992		RQ
D 13C-2,3,7,8-TCDD	20.715	52770	0.88	0.9984	1.113	1.113	0.2167	0.2167	27.82	Ma
2,3,7,8-TCDD	20.741	621264	0.78	1.1988	39.3	39.3	0.2375	0.2375	9821	
$ 37Cl4-2,3,7,8-TCDD	20.741	105470		1.4510	1.530	1.530	0.0208	0.0208	95.65	
A Non-2,3,7,8-sub-TCDD	19.859	62776	0.77	1.1988	4.028	3.969	0.2375	3.509	0.00	RQ
S Total TCDD					43.3	43.3	0.2375	0.2375		RQ
D 13C-1,2,3,7,8-PeCDF	26.489	60605	1.53	1.3678	0.9329	0.9329	0.0115	0.0115	23.32	
1,2,3,7,8-PeCDF	26.505	105134	1.58	1.1689	5.936	5.936	0.1019	0.1019	297	M
D 13C-2,3,4,7,8-PeCDF	27.940	61484	1.52	1.3045	0.992	0.992	0.0121	0.0121	24.81	
2,3,4,7,8-PeCDF	27.973	78842	1.53	1.1861	4.324	4.324	0.1041	0.1041	216	
A F1 PeCDFs	23.991						0.0384	0.0384		
A Non-2,3,7,8-sub-PeCDF	27.400	57063	1.61	1.1775	3.175	3.175	0.1030	1.591	0.00	Ma
S Total PeCDF					13.4	13.4	0.1030	0.1030		
D 13C-1,2,3,7,8-PeCDD	28.753	34643	1.72	0.8292	0.8796	0.8796	0.0348	0.0348	21.99	
1,2,3,7,8-PeCDD	28.762	24490	1.63	1.1200	2.525	2.525	0.1607	0.1607	126	
A Non-2,3,7,8-sub-PeCDD	27.590						0.1607	0.1607		
S Total PeCDD					2.525	2.525	0.1607	0.1607		
D 13C-1,2,3,4,7,8-HxCDF	34.336	49208	0.49	1.1700	0.8858	0.8858	0.0166	0.0166	22.14	
1,2,3,4,7,8-HxCDF	34.353	106255	1.15	1.3021	6.633	6.633	0.0734	0.0734	332	
D 13C-1,2,3,6,7,8-HxCDF	34.512	50345	0.51	1.3168	0.8052	0.8052	0.0148	0.0148	20.13	
1,2,3,6,7,8-HxCDF	34.529	51391	1.21	1.2907	3.163	3.163	0.0728	0.0728	158	
D 13C-2,3,4,6,7,8-HxCDF	35.401	48099	0.50	1.2873	0.7869	0.7869	0.0151	0.0151	19.67	
2,3,4,6,7,8-HxCDF	35.418	31192	1.29	1.3039	1.989	1.989	0.0629	0.0629	99.47	
D 13C-1,2,3,7,8,9-HxCDF	36.349	41642	0.45	1.1987	0.7316	0.7316	0.0162	0.0162	18.29	
1,2,3,7,8,9-HxCDF	36.357	25652	1.20	1.3329	1.849	1.849	0.0726	0.0726	92.43	M
A Non-2,3,7,8-sub-HxCDF	34.417	17717	1.24	1.3074	1.191	1.145	0.0701	0.4262	0.00	RQa
S Total HxCDF					14.8	14.8	0.0704	0.0704		RQ

Report Date: 11-Nov-2019 10:40:49 Chrom Revision: 2.3 31-Oct-2019 20:21:30
Data File: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_12.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	36.139	189933	1.16	5.8E+04	4.000	4.000				
D 13C-1,2,3,4,7,8-HxCDD	35.636	33991	1.25	0.8364	0.8559	0.8559	0.0496	0.0496	21.40	
1,2,3,4,7,8-HxCDD	35.645	18335	1.21	1.1725	1.840	1.840	0.0937	0.0937	92.01	
D 13C-1,2,3,6,7,8-HxCDD	35.762	33661	1.42	0.9040	0.7842	0.7842	0.0459	0.0459	19.60	
1,2,3,6,7,8-HxCDD	35.770	19248	1.26	1.1256	2.032	2.032	0.0985	0.0985	102	M
1,2,3,7,8,9-HxCDD	36.156	18041	1.20	1.2327	1.731	1.731	0.0895	0.0895	86.53	M
A Non-2,3,7,8-sub-HxCDD	34.853						0.0938	0.0938		
S Total HxCDD					5.603	5.603	0.0939	0.0939		
D 13C-1,2,3,4,6,7,8-HpCDF	38.223	33007	0.46	0.9689	0.7175	0.7175	0.0733	0.0733	17.94	
1,2,3,4,6,7,8-HpCDF	38.231	39647	0.94	1.6176	2.970	2.970	0.0938	0.0938	149	
D 13C-1,2,3,4,7,8,9-HpCDF	39.498	33553	0.44	0.9231	0.8722	0.7655	0.0769	0.0769	21.80	RQ
1,2,3,4,7,8,9-HpCDF	39.506	27715	0.92	1.4672	1.976	1.976	0.0763	0.0763	98.82	
A Non-2,3,7,8-sub-HpCDF	38.871	8801	0.96	1.5424	0.6408	0.6408	0.0835	0.6408	0.00	
S Total HpCDF					5.587	5.587	0.0850	0.0850		
D 13C-1,2,3,4,6,7,8-HpCDD	39.196	40470	1.16	0.9114	0.9352	0.9352	0.0278	0.0278	23.38	
1,2,3,4,6,7,8-HpCDD	39.196	28896	1.05	1.1237	2.542	2.542	0.0556	0.0556	127	
A Non-2,3,7,8-sub-HpCDD	39.134	9049	0.00	1.1237	0.7959	0.7959	0.0556	0.7959	0.00	M
S Total HpCDD					3.338	3.338	0.0556	0.0556		
D 13C-OCDD	41.624	66760	0.91	0.6272	2.242	2.242	0.0916	0.0916	28.02	
OCDF	41.717	47478	0.83	1.5416	3.691	3.691	0.1108	0.1108	92.26	
OCDD	41.633	173908	0.89	1.1855	17.6	17.6	0.1243	0.1243	439	
1,3,6,8-TCDF	15.356						0.0	0.0		
1,3,6,8-TCDD	16.912						0.0	0.0		
2,3,4,7-TCDF	19.495						0.0	0.0		
1,2,3,7-TCDD	20.741						0.0	0.0		U
1,2,3,9-TCDF	20.964						0.0	0.0		
1,2,3,9-TCDD	21.068						0.0	0.0		
1,2,8,9-TCDF	22.701						0.0	0.0		
1,2,8,9-TCDD	22.805						0.0	0.0		
1,3,4,6,8-PeCDF	23.367						0.0	0.0		
1,2,4,7,9-PeCDD	25.364						0.0	0.0		
1,2,3,8,9-PeCDD	29.817						0.0	0.0		
1,2,3,8,9-PeCDF	30.051						0.0	0.0		
1,2,3,4,6,8-HxCDF	32.362						0.0	0.0		
1,2,4,6,7,9-HxCDD	33.653						0.0	0.0		
1,2,3,4,6,7-HxCDD	36.156						0.0	0.0		U
1,2,3,4,8,9-HxCDF	36.466						0.0	0.0		U
1,2,3,4,6,7,9-HpCDD	38.550						0.0	0.0		U
1,2,3,8-TCDD	0.0						0.0	0.0		
1,3,7,9-TCDD	0.0						0.0	0.0		
1,2,3,4,6,7,9-HpCDF	0.0						0.0	0.0		
1,2,3,4,7-PeCDD	0.0						0.0	0.0		
1,4,7,8-TCDD	0.0						0.0	0.0		

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

U - Marked Undetected

a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_12.d
Lims ID: 600-194690-A-11-C MSD
Client ID: INF 4 - DISSOLVED
Sample Type: MSD
Inject. Date: 08-Nov-2019 00:05:00 ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 25.0000
Sample Info: 600-194690-A-11-C MSD (25x)
Operator ID: Xcalibur_System Instrument ID: DFS 1

Method: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\Dioxin_DFS1.m
Limit Group: HR - 1613B - ICAL
Last Update: 11-Nov-2019 10:40:41 Calib Date: 19-Oct-2019 00:02:00
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\Chromna\Sacramento\ChromData\DFS1\20191021-85289.b\18oc19adfs1_8.d

Column 1 : DB-5 (0.32 mm) Det: F1(14.07 :22.11)
Process Host: CTX0323

First Level Reviewer: shardaa Date: 08-Nov-2019 13:19:17

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											a
331.9368	20.335	20.333	0		86038	13810	552	1380	25		a
333.9338	20.344	20.333	1		103951	15950	92	230	173	0.83(0.65-0.89)	
13C-2,3,7,8-TCDF											RQ
315.9419	19.410	19.392	1	0.955	31865	6275	783	1957	8		
317.9389	19.402	19.392	1	0.954	53580	9031	378	945	24	0.59(0.65-0.89)	
	Empc Correction				41383	8149	378	945	22		
2,3,7,8-TCDF											
303.9016	19.436	19.495	-4	1.001	1337668	202898	358	895	567		
305.8987	19.436	19.495	-4	1.001	1884432	284162	207	517	1373	0.71(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											RQ
303.9016	16.982	19.029	-123	0.875	39835	7233	358	895	20		
305.8987	16.991	19.029	-122	0.875	59697	11055	207	517	53	0.67(0.65-0.89)	
303.9016	17.458	19.029	-94	0.899	48309	8597	358	895	24		
305.8987	17.458	19.029	-94	0.899	82408	11819	207	517	57	0.59(0.65-0.89)	
	Empc Correction				62738	11164	207	517	54		
303.9016	17.881	19.029	-69	0.921	37809	5718	358	895	16		
305.8987	17.872	19.029	-69	0.921	58222	7554	207	517	36	0.65(0.65-0.89)	
303.9016	18.244	19.029	-47	0.940	58225	8952	358	895	25		
305.8987	18.244	19.029	-47	0.940	85379	12963	207	517	63	0.68(0.65-0.89)	
303.9016	18.736	19.029	-18	0.965	535623	88201	358	895	246		
305.8987	18.736	19.029	-18	0.965	737417	122183	207	517	590	0.73(0.65-0.89)	
303.9016	19.125	19.029	6	0.985	23788	4220	358	895	12		
305.8987	19.134	19.029	6	0.986	39740	5484	207	517	26	0.60(0.65-0.89)	
	Empc Correction				30893	5480	207	517	26		
303.9016	20.188	19.029	69	1.040	79543	12802	358	895	36		
305.8987	20.197	19.029	70	1.041	119235	17150	207	517	83	0.67(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
303.9016	20.629	19.029	96	1.063	20187	3182	358	895	9		
305.8987	20.629	19.029	96	1.063	33312	4652	207	517	22	0.61(0.65-0.89)	
	Empc Correction				26216	4132	207	517	20		
303.9016	22.660	19.029	217	1.167	104221	14060	358	895	39		
305.8987	22.660	19.029	217	1.167	149020	19607	207	517	95	0.70(0.65-0.89)	
13C-2,3,7,8-TCDD											Ma
331.9368	20.715	20.696	1	1.019	24677	3720	552	1380	7		M
333.9338	20.698	20.696	0	1.018	28093	3868	92	230	42	0.88(0.65-0.89)	a
2,3,7,8-TCDD											
319.8965	20.741	20.783	-3	1.001	272667	41912	154	385	272		
321.8936	20.741	20.783	-3	1.001	348597	52021	62	155	839	0.78(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	20.741	20.788	-3	1.020	105470	15614	90	225	173		
A Non-2,3,7,8-sub-TCDD											RQ
319.8965	20.534	19.859	40	0.991	4095	729	154	385	5		
	Empc Correction				3165	663	154	385	4		
321.8936	20.568	19.859	43	0.993	4111	862	62	155	14	1.00(0.65-0.89)	
319.8965	21.398	19.859	92	1.033	23496	3570	154	385	23		
321.8936	21.389	19.859	92	1.033	32004	4526	62	155	73	0.73(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	26.489	26.471	1	1.303	36659	7335	28	70	262		
353.8970	26.480	26.471	1	1.302	23946	4816	19	47	253	1.53(1.32-1.78)	
1,2,3,7,8-PeCDF											M
339.8597	26.505	26.488	1	1.001	64368	11553	41	102	282		
341.8567	26.489	26.488	0	1.000	40766	7417	104	260	71	1.58(1.32-1.78)	M
13C-2,3,4,7,8-PeCDF											
351.9000	27.940	27.939	0	1.374	37104	6872	28	70	245		
353.8970	27.948	27.939	1	1.374	24380	4859	19	47	256	1.52(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	27.973	27.964	1	1.001	47730	8140	41	102	199		
341.8567	27.973	27.964	1	1.001	31112	5239	104	260	50	1.53(1.32-1.78)	
A F1 PeCDFs											
339.8597	23.991						4	10			
341.8567	23.991						50	125			
A Non-2,3,7,8-sub-PeCDF											Ma
339.8597	25.079	27.400	-139	0.947	17657	3168	41	102	77		
341.8567	25.071	27.400	-139	0.946	10939	2258	104	260	22	1.61(1.32-1.78)	
339.8597	26.396	27.400	-60	0.997	4049	870	41	102	21		M
341.8567	26.413	27.400	-59	0.997	2299	596	104	260	6	1.76(1.32-1.78)	
339.8597	27.084	27.400	-19	1.022	13474	2463	41	102	60		
341.8567	27.076	27.400	-19	1.022	8645	1744	104	260	17	1.56(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	28.753	28.727	2	1.414	21890	3802	41	102	93		
369.8919	28.736	28.727	1	1.413	12753	1866	45	112	41	1.72(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDD											
355.8546	28.762	28.752	1	1.000	15163	2300	77	192	30		
357.8516	28.745	28.752	0	1.000	9327	1434	25	62	57	1.63(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	27.590						77	192			
357.8516	27.590						25	62			
13C-1,2,3,4,7,8-HxCDF											
383.8639	34.336	34.326	1	0.950	16184	3726	23	57	162		
385.8610	34.328	34.326	0	0.950	33024	6939	76	190	91	0.49(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	34.353	34.343	1	1.000	56794	11911	58	145	205		
375.8178	34.345	34.343	0	1.000	49461	10002	44	110	227	1.15(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	34.512	34.503	1	0.955	16899	4126	23	57	179		
385.8610	34.504	34.503	0	0.955	33446	6736	76	190	89	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	34.529	34.519	1	1.000	28140	5597	58	145	97		
375.8178	34.521	34.519	0	1.000	23251	4748	44	110	108	1.21(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	35.401	35.392	1	0.980	16127	4305	23	57	187		
385.8610	35.401	35.392	1	0.980	31972	8140	76	190	107	0.50(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	35.418	35.408	1	1.000	17584	4159	58	145	72		
375.8178	35.410	35.408	0	1.000	13608	3107	44	110	71	1.29(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	36.349	36.340	1	1.006	12996	3394	23	57	148		
385.8610	36.341	36.340	0	1.006	28646	7148	76	190	94	0.45(0.43-0.59)	
1,2,3,7,8,9-HxCDF											M
373.8208	36.357	36.348	1	1.000	13989	3926	58	145	68		M
375.8178	36.349	36.348	0	1.000	11663	3219	44	110	73	1.20(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											RQa
373.8208	32.684	34.417	-104	0.952	2578	513	58	145	9		
375.8178	32.667	34.417	-105	0.951	2149	527	44	110	12	1.20(1.05-1.43)	
373.8208	33.674	34.417	-44	0.981	1808	420	58	145	7		
375.8178	33.665	34.417	-45	0.980	1769	429	44	110	10	1.02(1.05-1.43)	
	Empc Correction				1458	338	44	110	8		
373.8208	35.301	34.417	53	1.028	2133	553	58	145	10		
	Empc Correction				1733	403	58	145	7		
375.8178	35.301	34.417	53	1.028	1398	325	44	110	7	1.53(1.05-1.43)	
373.8208	36.466	34.417	123	1.062	3652	938	58	145	16		a
375.8178	36.475	34.417	123	1.062	2941	747	44	110	17	1.24(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	36.139	36.130	1		102196	27427	106	265	259		
403.8529	36.139	36.130	1		87737	23373	105	262	223	1.16(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,7,8-HxCDD											
401.8559	35.636	35.627	1	0.986	18854	5113	106	265	48		
403.8529	35.628	35.627	0	0.986	15137	4061	105	262	39	1.25(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8158	35.645	35.643	0	1.000	10039	2736	49	122	56		
391.8127	35.645	35.643	0	1.000	8296	2095	52	130	40	1.21(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	35.762	35.752	1	0.990	19741	5425	106	265	51		
403.8529	35.762	35.752	1	0.990	13920	3670	105	262	35	1.42(1.05-1.43)	
1,2,3,6,7,8-HxCDD											M
389.8158	35.770	35.761	1	1.000	10715	2781	49	122	57		
391.8127	35.770	35.761	1	1.000	8533	2293	52	130	44	1.26(1.05-1.43)	M
1,2,3,7,8,9-HxCDD											M
389.8158	36.156	36.147	1	1.015	9825	2645	49	122	54		M
391.8127	36.148	36.147	0	1.014	8216	2508	52	130	48	1.20(1.05-1.43)	M
A Non-2,3,7,8-sub-HxCDD											
389.8158	34.853						49	122			
391.8127	34.853						52	130			
13C-1,2,3,4,6,7,8-HpCDF											
417.8250	38.223	38.213	1	1.058	10430	2842	257	642	11		
419.8220	38.214	38.213	0	1.057	22577	6915	104	260	66	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7817	38.231	38.229	0	1.000	19183	6670	110	275	61		
409.7788	38.223	38.229	0	1.000	20464	6667	38	95	175	0.94(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											RQ
417.8250	39.498	39.497	0	1.093	14928	5089	257	642	20		
	Empc Correction				10252	3578	257	642	14		
419.8220	39.498	39.497	0	1.093	23301	8133	104	260	78	0.64(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7817	39.506	39.513	0	1.000	13259	4590	110	275	42		
409.7788	39.506	39.513	0	1.000	14456	4511	38	95	119	0.92(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7817	38.600	38.871	-16	1.010	4304	1651	110	275	15		
409.7788	38.600	38.871	-16	1.010	4497	1548	38	95	41	0.96(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	39.196	39.187	1	1.085	21732	6806	88	220	77		
437.8140	39.187	39.187	0	1.084	18738	6007	41	102	147	1.16(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7767	39.196	39.202	0	1.000	14783	5129	52	130	99		
425.7737	39.204	39.202	0	1.000	14113	4843	28	70	173	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											M
423.7767	38.550	39.134	-35	0.984	9049	3015	52	130	58		M
425.7737	38.509	39.134	-37	0.000			28	70		0.00(0.88-1.20)	
13C-OCDD											
469.7780	41.624	41.624	0	1.152	31815	10613	200	500	53		
471.7750	41.624	41.624	0	1.152	34945	10559	92	230	115	0.91(0.76-1.02)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
OCDF											
441.7428	41.717	41.717	0	1.002	21582	7124	59	147	121		
443.7399	41.708	41.717	-1	1.002	25896	8355	122	305	68	0.83(0.76-1.02)	
OCDD											
457.7377	41.633	41.633	0	1.000	81915	26661	71	177	376		
459.7348	41.633	41.633	0	1.000	91993	31038	85	212	365	0.89(0.76-1.02)	
1,3,6,8-TCDF											
303.9016	15.356						358	895			
305.8987	15.356						207	517			
1,3,6,8-TCDD											
319.8965	16.912						154	385			
321.8936	16.912						62	155			
2,3,4,7-TCDF											
303.9016	19.495						358	895			
305.8987	19.495						207	517			
1,2,3,7-TCDD											U
319.8965	20.575						154	385			
321.8936	20.575						62	155			
1,2,3,9-TCDF											
303.9016	20.964						358	895			
303.9016	20.964						358	895			
1,2,3,9-TCDD											
319.8965	21.068						154	385			
321.8936	21.068						62	155			
1,2,8,9-TCDF											
303.9016	22.701						358	895			
305.8987	22.701						207	517			
1,2,8,9-TCDD											
319.8965	22.805						154	385			
1,3,4,6,8-PeCDF											
339.8597	23.298						4	10			
341.8567	23.298						50	125			
1,2,4,7,9-PeCDD											
355.8546	25.364						77	192			
357.8516	25.364						25	62			
1,2,3,8,9-PeCDD											
355.8546	29.817						77	192			
357.8516	29.817						25	62			
1,2,3,8,9-PeCDF											
339.8597	29.977						41	102			
341.8567	29.977						104	260			
1,2,3,4,6,8-HxCDF											
373.8208	32.362						58	145			
375.8178	32.362						44	110			
1,2,4,6,7,9-HxCDD											
389.8158	33.594						49	122			
391.8127	33.594						52	130			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7-HxCDD											U
389.8158	36.111						49	122			
391.8127	36.111						52	130			
1,2,3,4,8,9-HxCDF											U
373.8208	36.471						58	145			
375.8178	36.471						44	110			
1,2,3,4,6,7,9-HpCDD											U
423.7767	38.548						52	130			
425.7737	38.548						28	70			
1,2,3,8-TCDD											
319.8965	0.0						154	385			
319.8965	0.0						154	385			
1,3,7,9-TCDD											
319.8965	0.0						154	385			
321.8936	0.0						62	155			
1,2,3,4,6,7,9-HpCDF											
407.7817	0.0						110	275			
409.7788	0.0						38	95			
1,2,3,4,7-PeCDD											
355.8546	0.0						77	192			
357.8516	0.0						25	62			
1,4,7,8-TCDD											
319.8965	0.0						154	385			
321.8936	0.0						62	155			

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

U - Marked Undetected

a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_12.d
Lims ID: 600-194690-A-11-C MSD
Client ID: INF 4 - DISSOLVED
Inject. Date: 08-Nov-2019 00:05:00 Dil. Factor: 25.0000
Sample Type: MSD, Matrix Spike Duplicate
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 336838 Lims Sample ID: 11

Non-2,3,7,8-sub-TCDF, RT: 19.029

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.233	D 13C-2,3,7,8-TCDF	100.000	85445	15306

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.233		4.000	85445	15306

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
16.982	39835	7233	59697	11055	3.78	0.67	
17.458	48309	8597	82408	11819	4.96	0.59	RQ
17.458	48309	8597	62738	11164	4.22		Empc Correction
17.881	37809	5718	58222	7554	3.65	0.65	
18.244	58225	8952	85379	12963	5.45	0.68	
18.736	535623	88201	737417	122183	48.3	0.73	
19.125	23788	4220	39740	5484	2.41	0.60	RQ
19.125	23788	4220	30893	5480	2.08		Empc Correction
20.188	79543	12802	119235	17150	7.55	0.67	
20.629	20187	3182	33312	4652	2.03	0.61	RQ
20.629	20187	3182	26216	4132	1.76		Empc Correction
22.660	104221	14060	149020	19607	9.61	0.70	
Signal Totals:							
	947540	152965	1328817	211288			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2311970	365432				0.69	RQ
	2276357	364253					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 87.763 = (2311970 * 4.000) / (85445 * 1.233)
Empc Amount: 86.411 = (2276357 * 4.000) / (85445 * 1.233)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_12.d
Lims ID: 600-194690-A-11-C MSD
Client ID: INF 4 - DISSOLVED
Inject. Date: 08-Nov-2019 00:05:00 Dil. Factor: 25.0000
Sample Type: MSD, Matrix Spike Duplicate
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 336838 Lims Sample ID: 11

Non-2,3,7,8-sub-TCDD, RT: 19.859

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.199	D 13C-2,3,7,8-TCDD	100.000	52770	7588

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.199		4.000	52770	7588

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
20.534	4095	729	4111	862	0.5189	1.00	RQ
20.534	3165	663	4111	862	0.4601		Empc Correction
21.398	23496	3570	32004	4526	3.51	0.73	
Signal Totals:							
	26661	4233	36115	5388			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	63706	9687				0.76	RQ
	62776	9621					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 4.028 = (63706 * 4.000) / (52770 * 1.199)
Empc Amount: 3.969 = (62776 * 4.000) / (52770 * 1.199)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_12.d		
Lims ID:	600-194690-A-11-C MSD		
Client ID:	INF 4 - DISSOLVED		
Inject. Date:	08-Nov-2019 00:05:00	Dil. Factor:	25.0000
Sample Type:	MSD, Matrix Spike Duplicate		
Instrument ID:	DFS 1	Operator:	Xcalibur_System
Lims Batch ID:	336838	Lims Sample ID:	11

Non-2,3,7,8-sub-PeCDF, RT: 27.400

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.169	D 13C-1,2,3,7,8-PeCDF	100.000	60605	12151
2,3,4,7,8-PeCDF	1.186	D 13C-2,3,4,7,8-PeCDF	100.000	61484	11731

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.178		4.000	61044	11941

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
25.079	17657	3168	10939	2258	1.59	1.61	
26.396	4049	870	2299	596	0.3533	1.76	Ma
27.084	13474	2463	8645	1744	1.23	1.56	
Signal Totals:							
	35180	6501	21883	4598			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	57063	11099				1.61	Ma

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 3.175 = (57063 * 4.000) / (61044 * 1.178)

QC Flag Legend

Review Flags
M - Manually Integrated
a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_12.d		
Lims ID:	600-194690-A-11-C MSD		
Client ID:	INF 4 - DISSOLVED		
Inject. Date:	08-Nov-2019 00:05:00	Dil. Factor:	25.0000
Sample Type:	MSD, Matrix Spike Duplicate		
Instrument ID:	DFS 1	Operator:	Xcalibur_System
Lims Batch ID:	336838	Lims Sample ID:	11

Non-2,3,7,8-sub-HxCDF, RT: 34.417

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.302	D 13C-1,2,3,4,7,8-HxCDF	100.000	49208	10665
1,2,3,6,7,8-HxCDF	1.291	D 13C-1,2,3,6,7,8-HxCDF	100.000	50345	10862
2,3,4,6,7,8-HxCDF	1.304	D 13C-2,3,4,6,7,8-HxCDF	100.000	48099	12445
1,2,3,7,8,9-HxCDF	1.333	D 13C-1,2,3,7,8,9-HxCDF	100.000	41642	10542

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.307		4.000	47323	11128

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
32.684	2578	513	2149	527	0.3056	1.20	
33.674	1808	420	1769	429	0.2313	1.02	RQ
33.674	1808	420	1458	338	0.2111		Empc Correction
35.301	2133	553	1398	325	0.2283	1.53	RQ
35.301	1733	403	1398	325	0.2024		Empc Correction
36.466	3652	938	2941	747	0.4262	1.24	a
Signal Totals:							
	9771	2274	7946	1937			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	18428	4452				1.23	RQa
	17717	4211					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.191 = (18428 * 4.000) / (47323 * 1.307)
Empc Amount: 1.145 = (17717 * 4.000) / (47323 * 1.307)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_12.d		
Lims ID:	600-194690-A-11-C MSD		
Client ID:	INF 4 - DISSOLVED		
Inject. Date:	08-Nov-2019 00:05:00	Dil. Factor:	25.0000
Sample Type:	MSD, Matrix Spike Duplicate		
Instrument ID:	DFS 1	Operator:	Xcalibur_System
Lims Batch ID:	336838	Lims Sample ID:	11

Non-2,3,7,8-sub-HpCDF, RT: 38.871

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.618	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	33007	9757
1,2,3,4,7,8,9-HpCDF	1.467	D 13C-1,2,3,4,7,8,9-HpCDF	100.000	38229	13222

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.542		4.000	35618	11489

Sum the Uncalibrated Results

RT	407.7817 Area	407.7817 Height	409.7788 Area	409.7788 Height	Amount	Ratio	Flags
38.600	4304	1651	4497	1548	0.6408	0.96	
Signal Totals:							
	4304	1651	4497	1548			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	8801	3199				0.96	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.6408 = (8801 * 4.000) / (35618 * 1.542)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_12.d
Lims ID: 600-194690-A-11-C MSD
Client ID: INF 4 - DISSOLVED
Inject. Date: 08-Nov-2019 00:05:00 Dil. Factor: 25.0000
Sample Type: MSD, Matrix Spike Duplicate
Instrument ID: DFS 1 Operator: Xcalibur_System
Lims Batch ID: 336838 Lims Sample ID: 11

Non-2,3,7,8-sub-HpCDD, RT: 39.134

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.124	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	40470	12813

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.124		4.000	40470	12813

Sum the Uncalibrated Results

RT	423.7767 Area	423.7767 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
38.550	9049	3015	0	0	0.7959	0.00	M
Signal Totals:							
	9049	3015	0	0			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	9049	3015				0.00	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.7959 = (9049 * 4.000) / (40470 * 1.124)

QC Flag Legend

Review Flags
M - Manually Integrated

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_12.d				
Injection Date:	08-Nov-2019 00:05:00	Instrument ID:	DFS 1		
Lims ID:	600-194690-A-11-C MSD				
Client ID:	INF 4 - DISSOLVED				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	25.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1(14.07 :22.11)		

13C-2,3,7,8-TCDD, CAS: 76523-40-5

Signal: 2

Processing Integration Results

RT: 20.34
Area: 103951
Amount: 4.006426
Amount Units: pg/ul

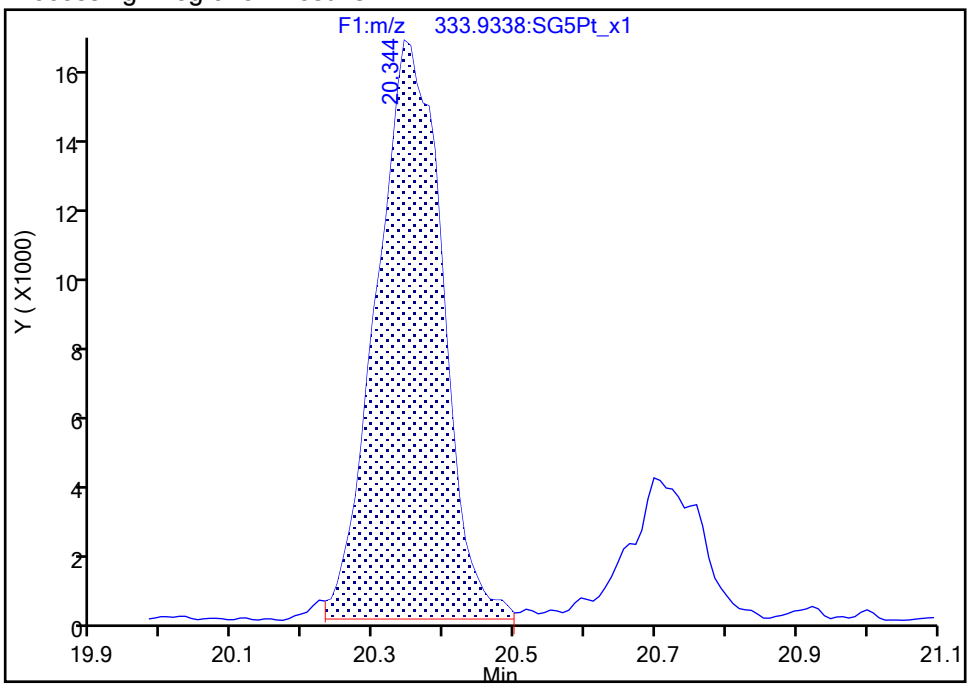

Manual Integration Results

RT: 20.70
Area: 28093
Amount: 1.112796
Amount Units: pg/ul

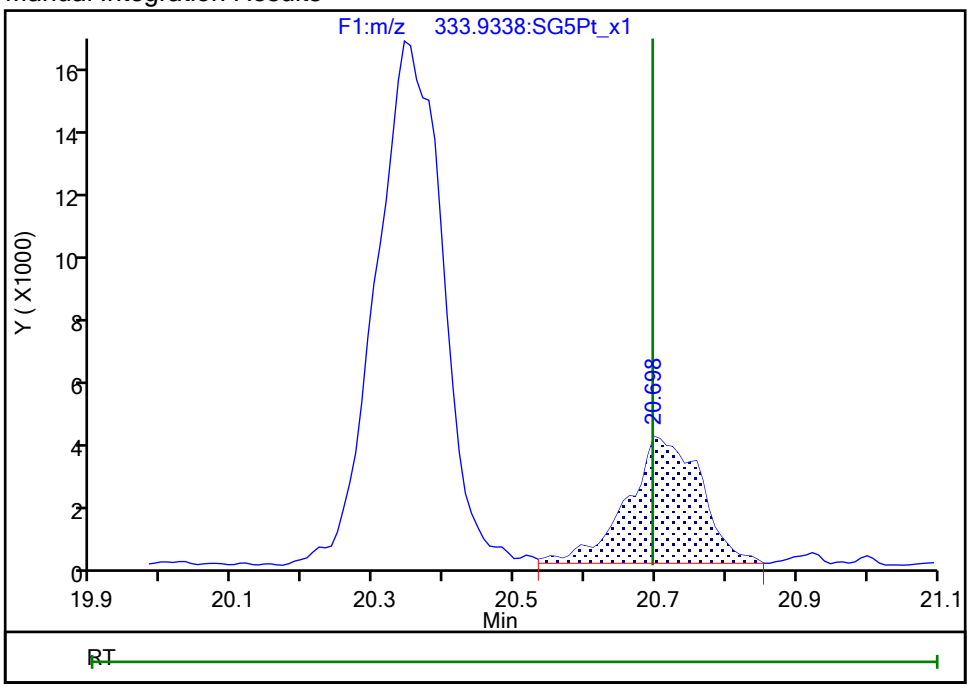

Reviewer: shardaa, 08-Nov-2019 13:18:43

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_12.d				
Injection Date:	08-Nov-2019 00:05:00	Instrument ID:	DFS 1		
Lims ID:	600-194690-A-11-C MSD				
Client ID:	INF 4 - DISSOLVED				
Operator ID:	Xcalibur_System	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	25.0000		
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1(14.07 :22.11)		

13C-2,3,7,8-TCDD, CAS: 76523-40-5

Signal: 1

Processing Integration Results

RT: 20.33
Area: 86038
Amount: 4.006426
Amount Units: pg/ul

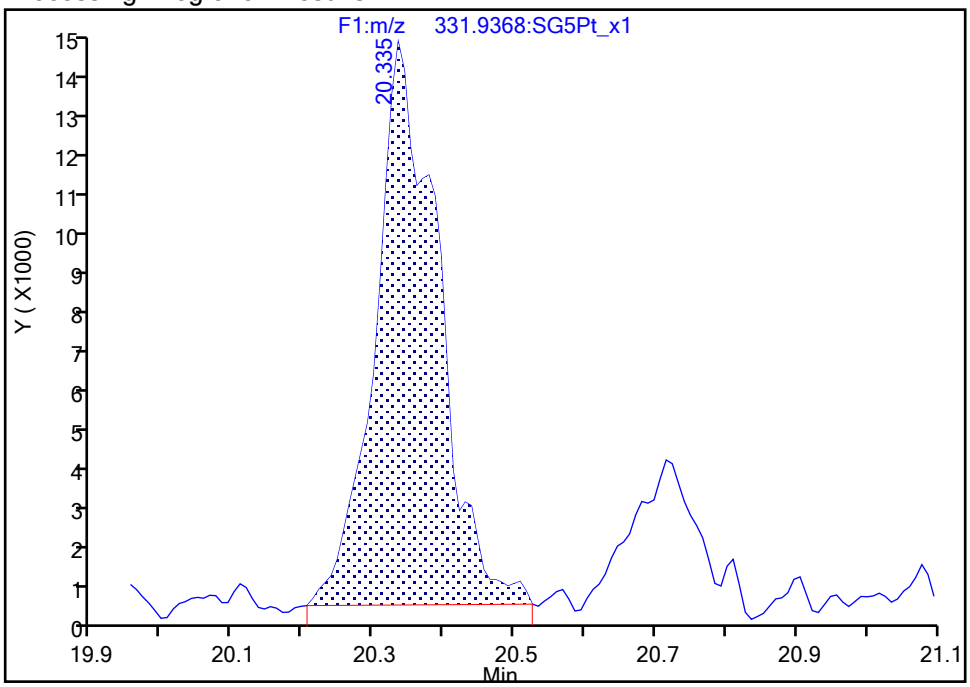

Manual Integration Results

RT: 20.72
Area: 24677
Amount: 1.112796
Amount Units: pg/ul

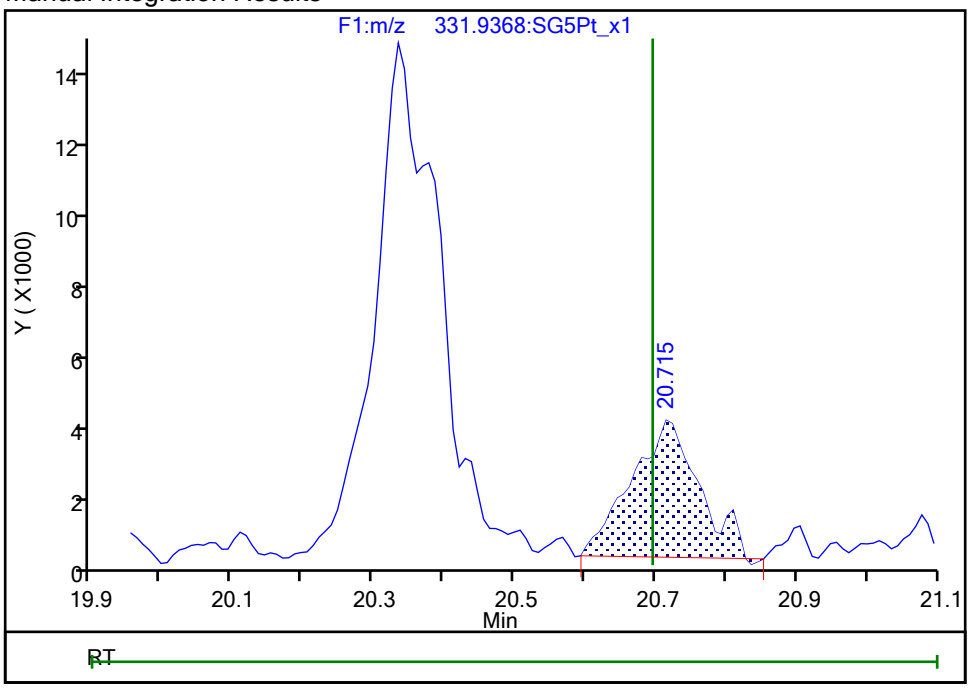

Reviewer: shardaa, 08-Nov-2019 13:18:52
Audit Action: Manually Integrated Audit Reason: Missed Peak

Report Date: 11-Nov-2019 10:40:52 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_12.d		
Injection Date:	08-Nov-2019 00:05:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336838	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

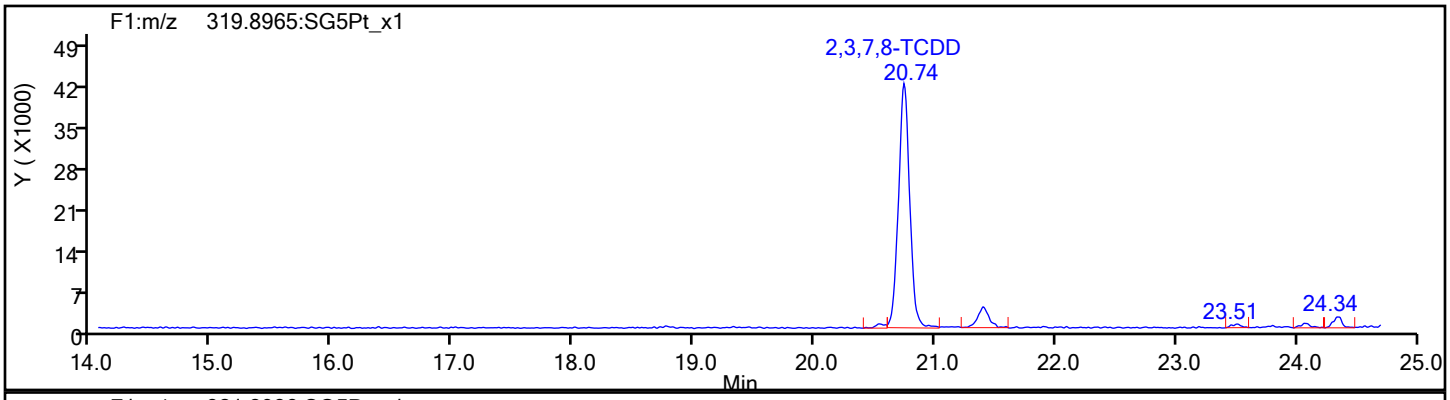

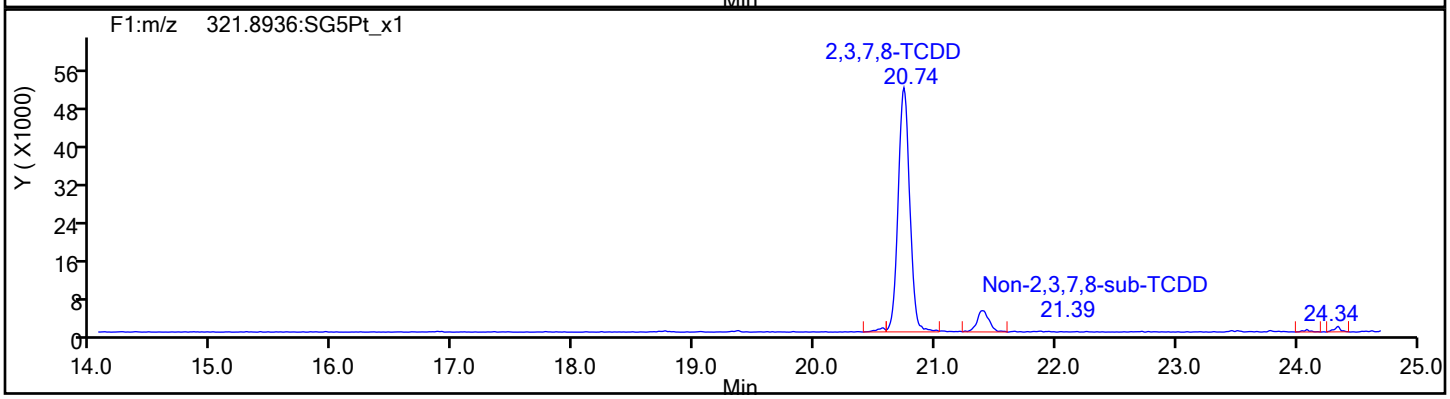

TCDD Standards

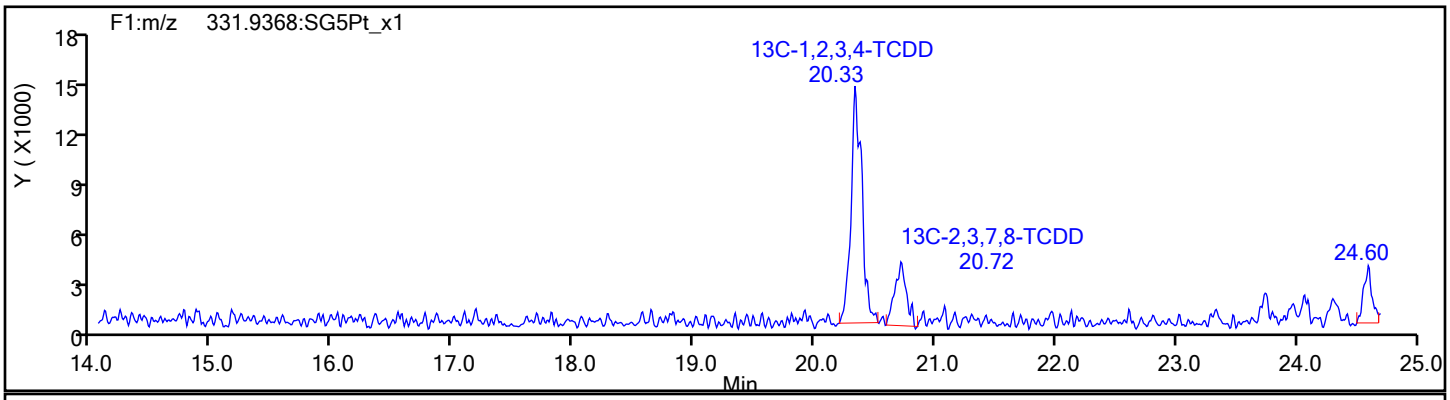

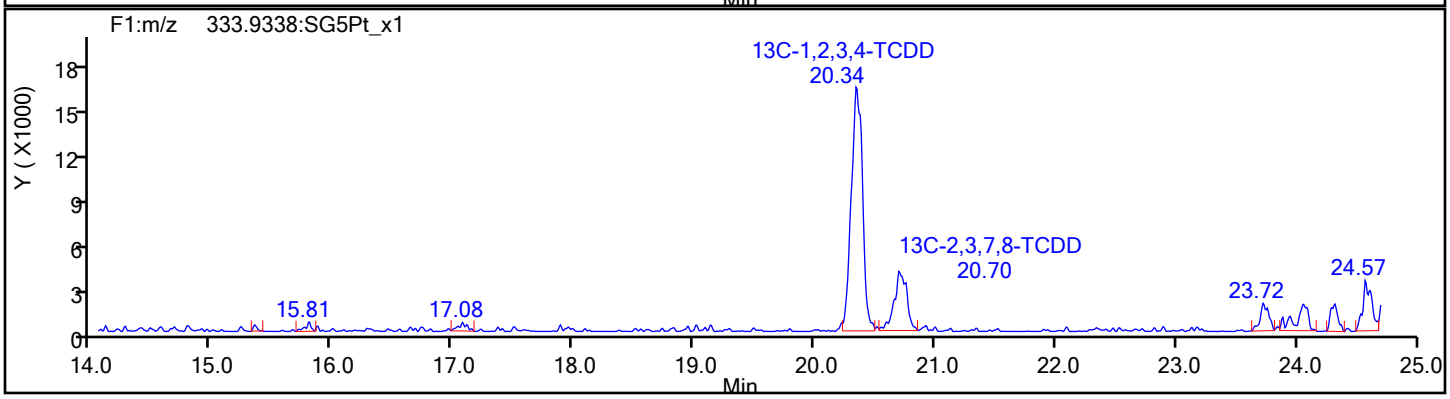

Report Date: 11-Nov-2019 10:40:52 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_12.d		
Injection Date:	08-Nov-2019 00:05:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336838	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

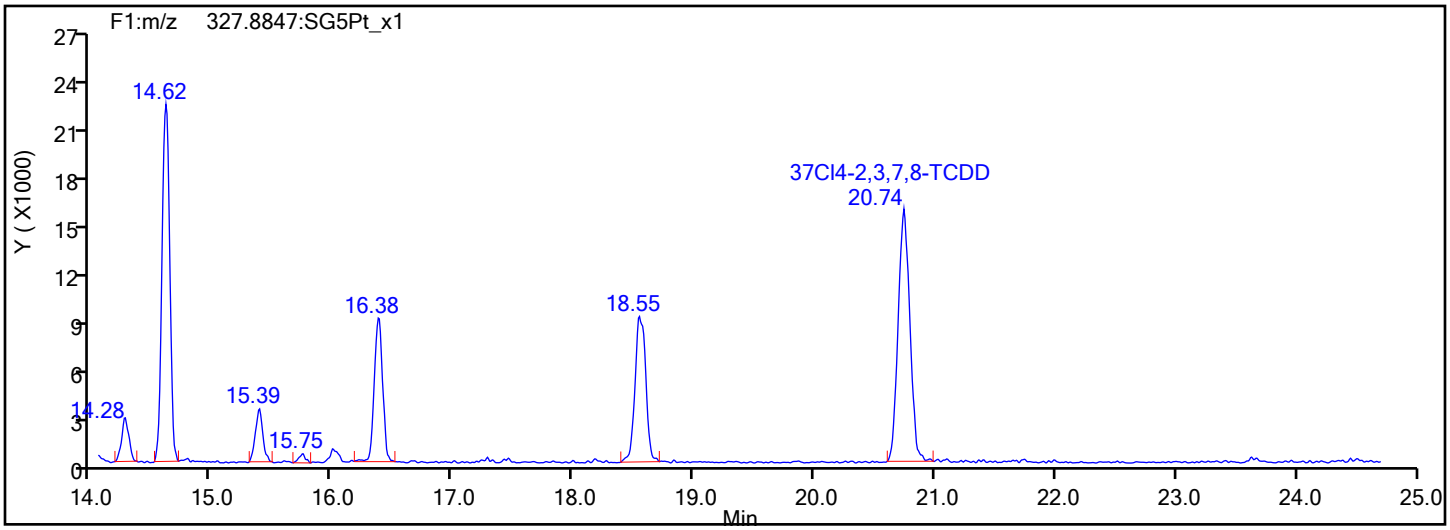

37Cl4-TCDD Standards

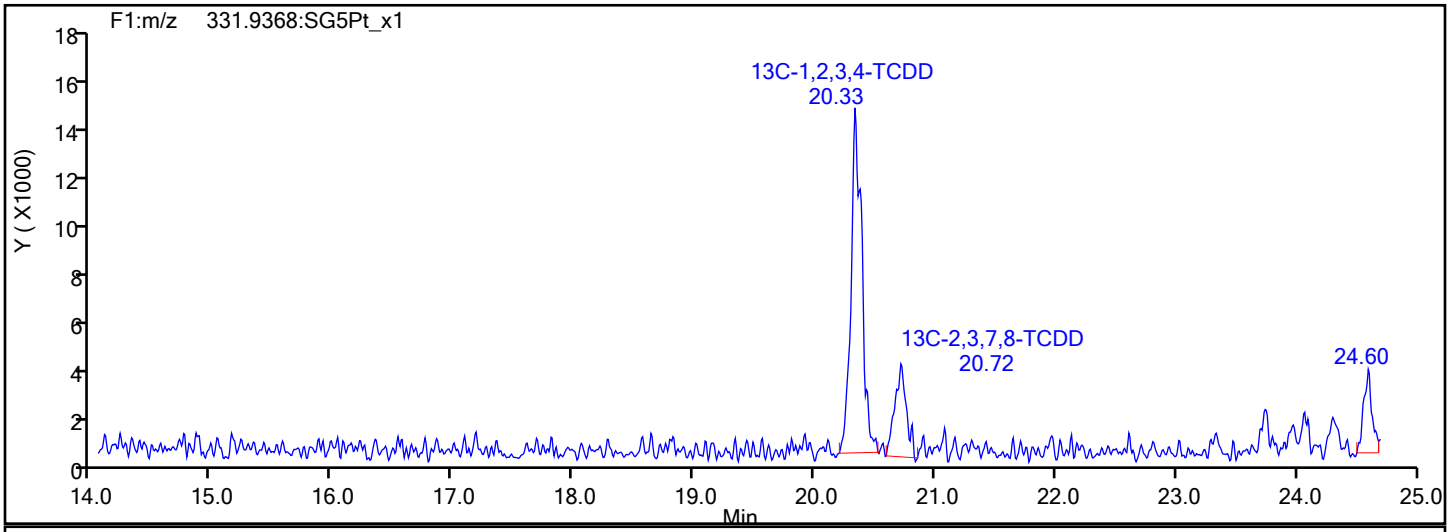

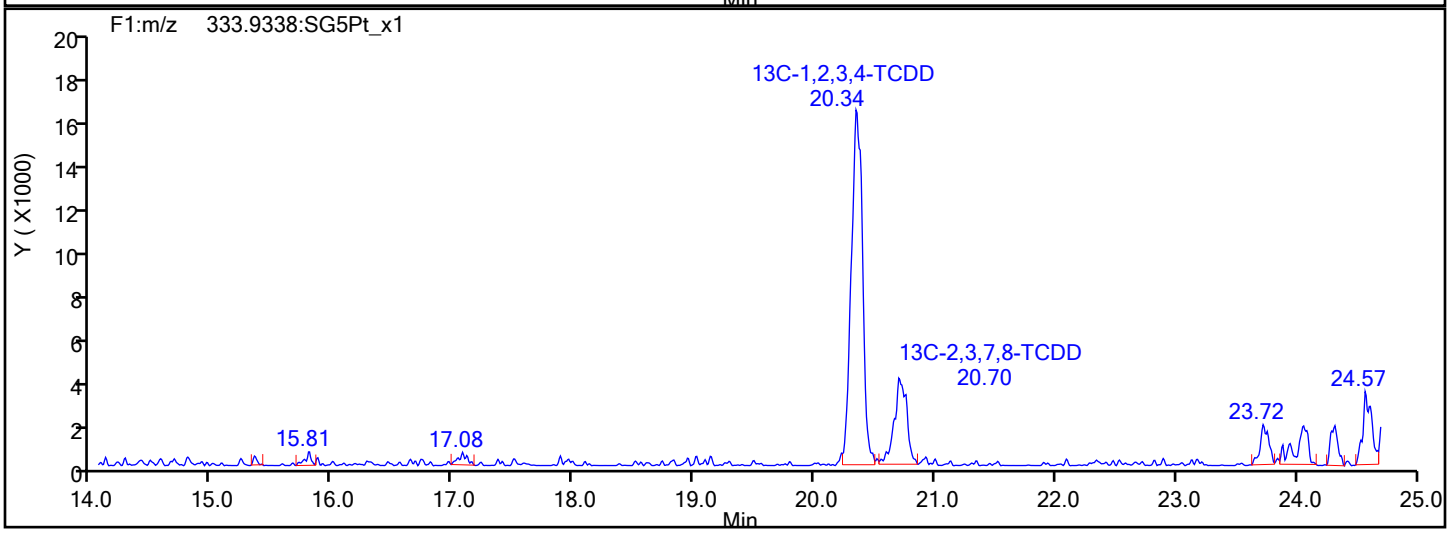

Report Date: 11-Nov-2019 10:40:54 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_12.d		
Injection Date:	08-Nov-2019 00:05:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336838	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm

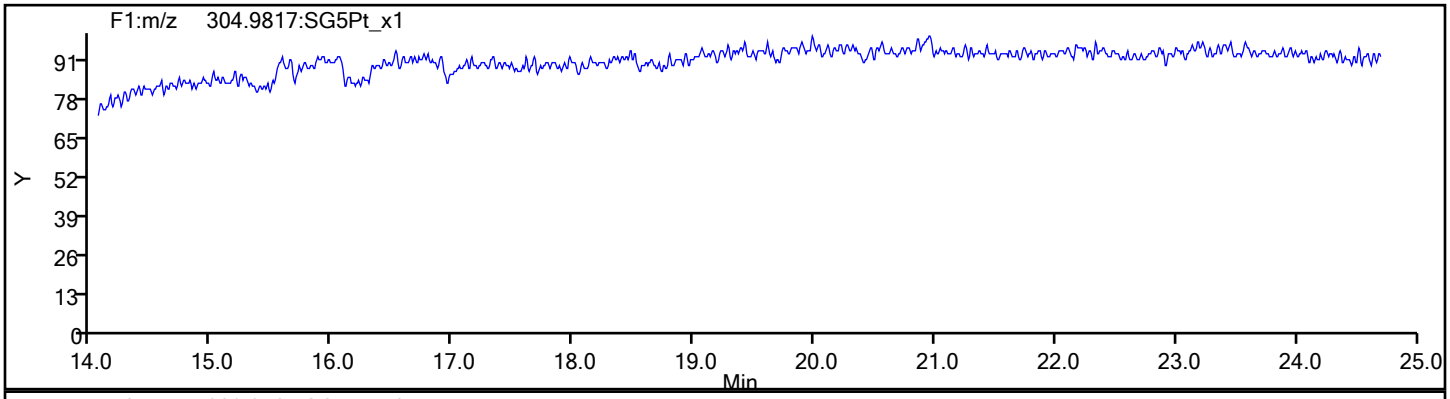

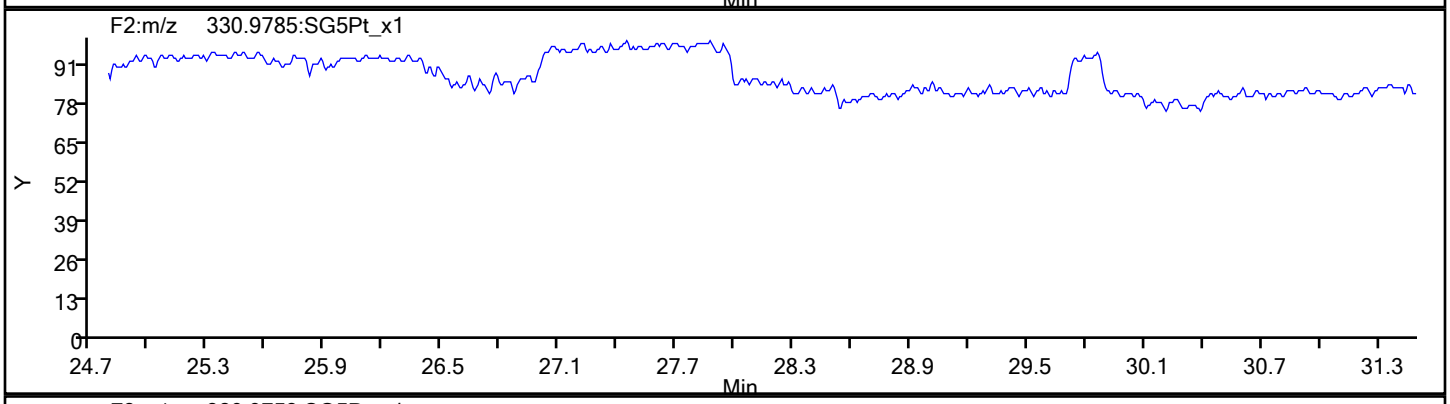

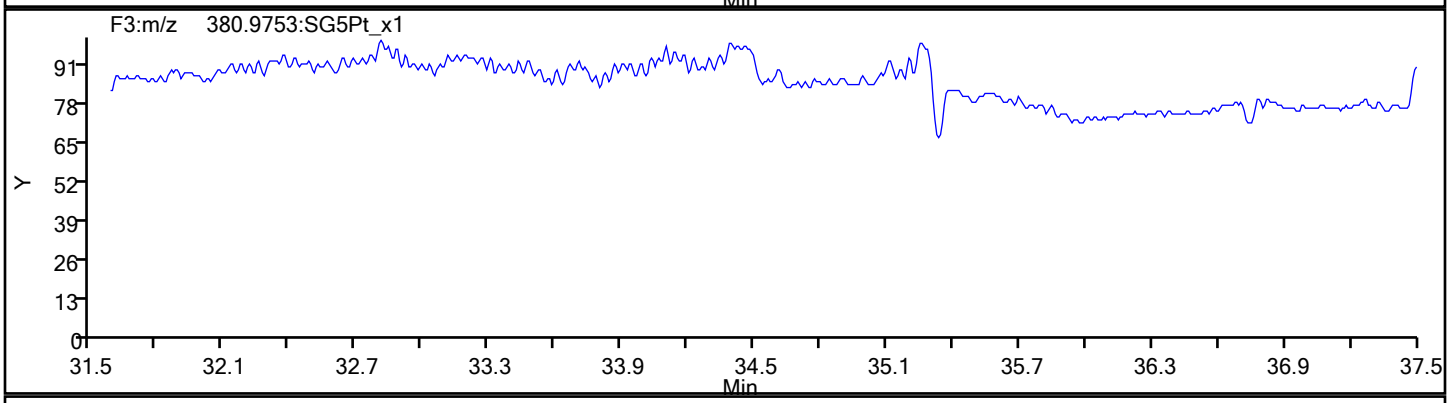

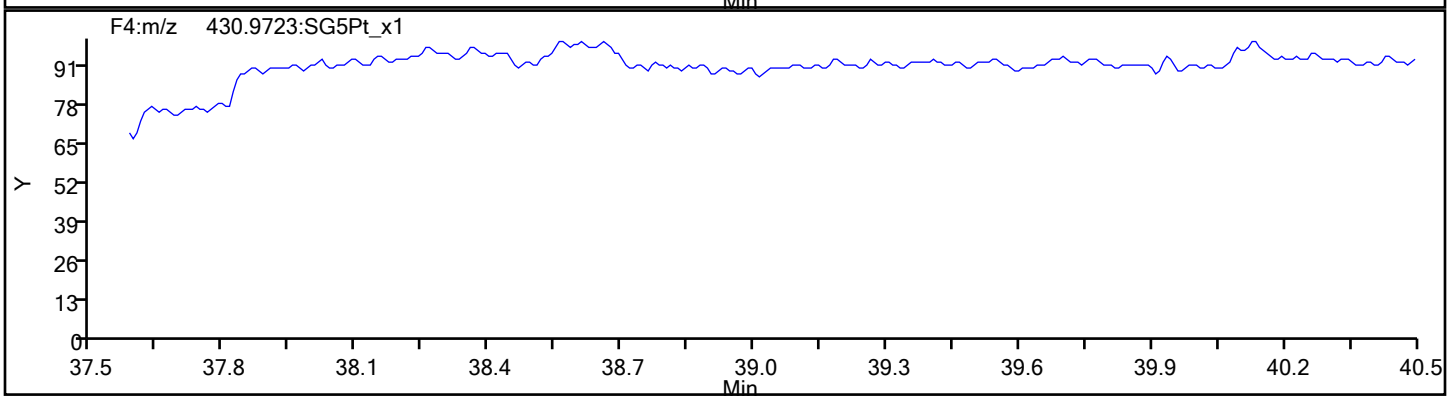

Report Date: 11-Nov-2019 10:40:54 Chrom Revision: 2.3 31-Oct-2019 20:21:30

Eurofins TestAmerica, Sacramento

Data File:	\\Chromna\Sacramento\ChromData\DFS1\20191107-86285.b\07no19adfs1_12.d		
Injection Date:	08-Nov-2019 00:05:00	Injection Vol:	1.0 ul
Instrument ID:	DFS 1	Operator ID:	Xcalibur_System
Method:	Dioxin_DFS1	Limit Group:	HR - 1613B - ICAL
Client ID:	INF 4 - DISSOLVED		
Worklist#:	336838	Sample Line#:	11
Column Type:	DB-5	Column Dia:	0.32 mm

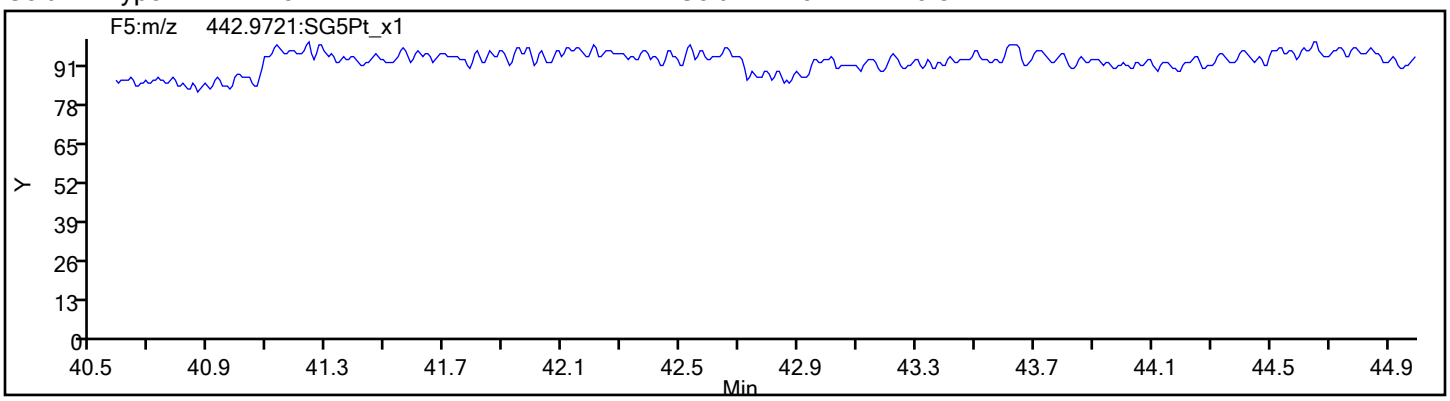

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Instrument ID: 11D2 Start Date: 08/02/2019 01:35

Analysis Batch Number: 312067 End Date: 08/02/2019 06:03

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CPS 320-312067/1		08/02/2019 01:35	1	02AU1911D2_001.d	DB-225 0.32(mm)
IC 320-312067/3		08/02/2019 02:52	1	02AU1911D2_003.d	DB-225 0.32(mm)
IC 320-312067/4		08/02/2019 03:30	1	02AU1911D2_004.d	DB-225 0.32(mm)
IC 320-312067/5		08/02/2019 04:08	1	02AU1911D2_005.d	DB-225 0.32(mm)
IC 320-312067/6		08/02/2019 04:46	1	02AU1911D2_006.d	DB-225 0.32(mm)
IC 320-312067/7		08/02/2019 05:25	1	02AU1911D2_007.d	DB-225 0.32(mm)
ICV 320-312067/8		08/02/2019 06:03	1	02AU1911D2_008.d	DB-225 0.32(mm)

1613B

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Instrument ID: 10D5 Start Date: 09/17/2019 11:28

Analysis Batch Number: 324128 End Date: 09/17/2019 18:27

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
WDM 320-324128/1		09/17/2019 11:28	1	17SE1910D5_1.d	DB-5 0.32(mm)
IC 320-324128/3		09/17/2019 13:03	1	17SE1910D5_3.d	DB-5 0.32(mm)
IC 320-324128/4		09/17/2019 13:49	1	17SE1910D5_4.d	DB-5 0.32(mm)
IC 320-324128/6		09/17/2019 15:21	1	17SE1910D5_6.d	DB-5 0.32(mm)
IC 320-324128/7		09/17/2019 16:09	1	17SE1910D5_7.d	DB-5 0.32(mm)
IC 320-324128/8		09/17/2019 16:55	1	17SE1910D5_8.d	DB-5 0.32(mm)
ICV 320-324128/10		09/17/2019 18:27	1	17SE1910D5_10.d	DB-5 0.32(mm)

1613B

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Instrument ID: DFS 1 Start Date: 10/18/2019 19:15

Analysis Batch Number: 332505 End Date: 10/19/2019 01:37

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
WDM 320-332505/1		10/18/2019 19:15	1	18oc19adfs1_2.d	DB-5 0.32(mm)
IC 320-332505/3		10/18/2019 20:50	1	18oc19adfs1_4.d	DB-5 0.32(mm)
IC 320-332505/4		10/18/2019 21:38	1	18oc19adfs1_5.d	DB-5 0.32(mm)
IC 320-332505/5		10/18/2019 22:26	1	18oc19adfs1_6.d	DB-5 0.32(mm)
IC 320-332505/6		10/18/2019 23:14	1	18oc19adfs1_7.d	DB-5 0.32(mm)
IC 320-332505/7		10/19/2019 00:02	1	18oc19adfs1_8.d	DB-5 0.32(mm)
ICV 320-332505/9		10/19/2019 01:37	1	18oc19adfs1_10.d	DB-5 0.32(mm)

1613B

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Instrument ID: 10D5 Start Date: 11/05/2019 19:16

Analysis Batch Number: 336302 End Date: 11/06/2019 05:40

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
WDM 320-336302/1		11/05/2019 19:16	1	05NO19B10D5_1.d	DB-5 0.32(mm)
CCV 320-336302/2		11/05/2019 20:11	1	05NO19B10D5_2.d	DB-5 0.32(mm)
MB 320-335248/1-A		11/05/2019 21:50	1	05NO19B10D5_4.d	DB-5 0.32(mm)
LCS 320-335248/2-A		11/05/2019 22:36	1	05NO19B10D5_5.d	DB-5 0.32(mm)
600-194690-1		11/05/2019 23:22	1	05NO19B10D5_6.d	DB-5 0.32(mm)
600-194690-3		11/06/2019 00:08	1	05NO19B10D5_7.d	DB-5 0.32(mm)
600-194690-8		11/06/2019 00:54	1	05NO19B10D5_8.d	DB-5 0.32(mm)
600-194690-9		11/06/2019 01:40	1	05NO19B10D5_9.d	DB-5 0.32(mm)
600-194690-10		11/06/2019 02:26	1	05NO19B10D5_10.d	DB-5 0.32(mm)
600-194690-11		11/06/2019 03:12	1	05NO19B10D5_11.d	DB-5 0.32(mm)
600-194690-11 MS		11/06/2019 03:58	1	05NO19B10D5_12.d	DB-5 0.32(mm)
600-194690-11 MSD		11/06/2019 04:44	1	05NO19B10D5_13.d	DB-5 0.32(mm)
ZZZZZ		11/06/2019 05:40	1		DB-5 0.32(mm)

1613B

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Instrument ID: 11D2 Start Date: 11/07/2019 14:58

Analysis Batch Number: 336810 End Date: 11/07/2019 20:44

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CPS 320-336810/1		11/07/2019 14:58	1	07NO19A11D2_001.d	DB-225 0.32(mm)
CCV 320-336810/2		11/07/2019 15:37	1	07NO19A11D2_002.d	DB-225 0.32(mm)
600-194690-1 RA		11/07/2019 16:53	1	07NO19A11D2_004.d	DB-225 0.32(mm)
600-194690-8 RA		11/07/2019 17:32	20	07NO19A11D2_005.d	DB-225 0.32(mm)
600-194690-9 RA		11/07/2019 18:10	5	07NO19A11D2_006.d	DB-225 0.32(mm)
600-194690-10 RA		11/07/2019 18:49	20	07NO19A11D2_007.d	DB-225 0.32(mm)
600-194690-11 RA		11/07/2019 19:27	1	07NO19A11D2_008.d	DB-225 0.32(mm)
600-194690-11 MS RA		11/07/2019 20:05	50	07NO19A11D2_009.d	DB-225 0.32(mm)
600-194690-11 MSD RA		11/07/2019 20:44	25	07NO19A11D2_010.d	DB-225 0.32(mm)

1613B

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-194690-1

SDG No.:

Instrument ID: DFS 1 Start Date: 11/07/2019 16:02

Analysis Batch Number: 336838 End Date: 11/08/2019 00:05

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
WDM 320-336838/1		11/07/2019 16:02	1	07no19adfs1_2.d	DB-5 0.32(mm)
CCV 320-336838/2		11/07/2019 16:49	1	07no19adfs1_3.d	DB-5 0.32(mm)
600-194690-8 DL		11/07/2019 21:41	20	07no19adfs1_9.d	DB-5 0.32(mm)
600-194690-10 DL		11/07/2019 22:29	20	07no19adfs1_10.d	DB-5 0.32(mm)
600-194690-11 MS DL		11/07/2019 23:17	50	07no19adfs1_11.d	DB-5 0.32(mm)
600-194690-11 MSD DL		11/08/2019 00:05	25	07no19adfs1_12.d	DB-5 0.32(mm)

1613B

DIOXIN BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Sacramen Job No.: 600-194690-1

SDG No.:

Batch Number: 335248 Batch Start Date: 11/01/19 08:11 Batch Analyst: Royce, Robert D

Batch Method: 1613B Batch End Date: 11/05/19 11:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	RotoVapID	HRDXNIDA 00392
MB 320-335248/1		1613B, 1613B				1000 mL	20 uL	8	1 mL
LCS 320-335248/2		1613B, 1613B				1000 mL	20 uL	6	1 mL
600-194690-C-1	1. CEFF	1613B, 1613B	T	1545.0 g	506.83 g	1038.2 mL	20 uL	8	1 mL
600-194690-C-3	FEFF 1	1613B, 1613B	T	1510.0 g	505.16 g	1004.8 mL	20 uL	6	1 mL
600-194690-C-8	INF 3	1613B, 1613B	T	1503.1 g	507.51 g	995.6 mL	20 uL	8	1 mL
600-194690-B-9	INF 3 - DISSOLVED	1613B, 1613B	T	1504.8 g	506.11 g	998.7 mL	20 uL	6	1 mL
600-194690-B-10	INF 4	1613B, 1613B	T	1484.4 g	506.36 g	978 mL	20 uL	8	1 mL
600-194690-A-11	INF 4 - DISSOLVED	1613B, 1613B	T	1488.6 g	505.82 g	982.8 mL	20 uL	6	1 mL
600-194690-A-11 MS	INF 4 - DISSOLVED	1613B, 1613B	T	1525.2 g	505.98 g	1019.2 mL	20 uL	8	1 mL
600-194690-A-11 MSD	INF 4 - DISSOLVED	1613B, 1613B	T	1489.5 g	506.96 g	982.5 mL	20 uL	6	1 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	HRDXNIS 00121	HRDXNSU 00221	HRDXNTA 00116			
MB 320-335248/1		1613B, 1613B		20 uL	1 mL				
LCS 320-335248/2		1613B, 1613B		20 uL	1 mL	50 uL			
600-194690-C-1	1. CEFF	1613B, 1613B	T	20 uL	1 mL				
600-194690-C-3	FEFF 1	1613B, 1613B	T	20 uL	1 mL				
600-194690-C-8	INF 3	1613B, 1613B	T	20 uL	1 mL				
600-194690-B-9	INF 3 - DISSOLVED	1613B, 1613B	T	20 uL	1 mL				
600-194690-B-10	INF 4	1613B, 1613B	T	20 uL	1 mL				
600-194690-A-11	INF 4 - DISSOLVED	1613B, 1613B	T	20 uL	1 mL				
600-194690-A-11 MS	INF 4 - DISSOLVED	1613B, 1613B	T	20 uL	1 mL	50 uL			
600-194690-A-11 MSD	INF 4 - DISSOLVED	1613B, 1613B	T	20 uL	1 mL	50 uL			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

DIOXIN BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Sacramen Job No.: 600-194690-1

SDG No.:

Batch Number: 335248 Batch Start Date: 11/01/19 08:11 Batch Analyst: Royce, Robert D

Batch Method: 1613B Batch End Date: 11/05/19 11:30

Batch Notes	
20% DCM:Hexane ID	1748766 mL
65% DCM:Hexane ID	1771190 mL
Acid Silica Gel ID	1799138
Acid Alumina ID	18X
Balance ID	QA-073
C14 ID	STBJ0716
Hexane ID	0000234727 mL
IFB Clean Up	GLB 11-5-19
MeCL2 ID	0000239900 mL
Na2SO4 ID	0000220237
Analyst ID - IDA Reagent Drop	A1A 11/01/19 HRDXNIDA_00392 B2/4 HD05018
Analyst ID - IDA Reagent Drop Witness	RDR 11/01/19
Analyst ID - IS Reagent Drop	GLB 11-5-19 20uL HRDXNIS00121 DB15270
Analyst ID - IS Reagent Drop Witness	TGL 11-5-19
Analyst ID - SU Reagent Drop	GLB 11-5-19 1.0mL HRDXNSU00221 B 3/4 HD05018
Analyst ID - SU Reagent Drop Witness	TGL 11-5-19
Analyst ID - TA Reagent Drop	A1A 11/01/19 HRDXNTA_00116 B10/10 DB15270
Analyst ID - TA Reagent Drop Witness	RDR 11/01/19
Silica Gel ID	1792419
Soxhlet/Soxtherm End	RDR 11/01/19
Soxhlet/Soxtherm Start	RDR 11/01/19
Storage Box ID	DXN 106

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Test America – Sacramento

Sample Dilution Record

Method ID 1613B **Job #** 600-194690

Analyst (Print Name) Adrian Messecar **Analyst Initials** ALM

Date 11-07-19

Sample#	Original F.V. (uL)	Aliquot (uL)	Dilution F.V. (uL)	Dilution Factor
C-8-A	20	2.0	40	20x
B-9-A	↓	↓	10	5x
B-10-A			40	20x
A-11-B MS			100	50x
A-11-C MSD			50	25x

Comments:

METALS

COVER PAGE
METALS

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-194690-1

SDG No.:

Project: San Jacinto River Waste Pits Superfund

Client Sample ID	Lab Sample ID
1. CEFF	600-194690-1
FEFF 1	600-194690-3
INF 3	600-194690-8
INF 3 - DISSOLVED	600-194690-9
INF 4	600-194690-10
INF 4 - DISSOLVED	600-194690-11

Comments:

COVER PAGE
METALS

Lab Name: Eurofins TestAmerica, Canton Job Number: 600-194690-1

SDG No.:

Project: San Jacinto River Waste Pits Superfund

Client Sample ID	Lab Sample ID
1. CEFF	600-194690-1
FEFF 1	600-194690-3
DUP	600-194690-5
INF 3	600-194690-8
INF 4 - DISSOLVED	600-194690-11

Comments:

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: 1. CEFF
Lab Sample ID: 600-194690-1
Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-194690-1
SDG ID.:
Matrix: Water
Date Sampled: 10/25/2019 19:25
Reporting Basis: WET
Date Received: 10/28/2019 14:52

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-22-4	Silver	ND	0.010	0.0013	mg/L			1	6010C
7440-38-2	Arsenic	ND	0.010	0.0029	mg/L			1	6010C
7440-39-3	Barium	0.29	0.020	0.00053	mg/L			1	6010C
7440-42-8	Boron	0.21	0.20	0.012	mg/L			1	6010C
7440-41-7	Beryllium	ND	0.0050	0.00042	mg/L			1	6010C
7440-70-2	Calcium	55	1.0	0.024	mg/L			1	6010C
7440-43-9	Cadmium	0.00040	0.0050	0.00028	mg/L	J		1	6010C
7440-48-4	Cobalt	0.00040	0.010	0.00031	mg/L	J		1	6010C
7440-47-3	Chromium	ND	0.010	0.0016	mg/L			1	6010C
7440-50-8	Copper	ND	0.010	0.0081	mg/L			1	6010C
7439-89-6	Iron	0.29	0.40	0.027	mg/L	J		1	6010C
7440-09-7	Potassium	12	1.0	0.037	mg/L			1	6010C
7439-95-4	Magnesium	33	1.0	0.056	mg/L			1	6010C
7439-96-5	Manganese	0.088	0.010	0.00036	mg/L			1	6010C
7440-23-5	Sodium	350	5.0	0.11	mg/L			5	6010C
7440-02-0	Nickel	0.0021	0.010	0.00080	mg/L	J		1	6010C
7439-92-1	Lead	ND	0.010	0.0022	mg/L			1	6010C
7440-36-0	Antimony	ND	0.050	0.0039	mg/L			1	6010C
7782-49-2	Selenium	ND	0.040	0.0029	mg/L			1	6010C
7439-98-7	Molybdenum	0.010	0.010	0.00054	mg/L			1	6010C
7440-28-0	Thallium	ND	0.030	0.0042	mg/L		^	1	6010C
7440-62-2	Vanadium	0.0036	0.010	0.00047	mg/L	J		1	6010C
7440-66-6	Zinc	0.045	0.030	0.0040	mg/L			1	6010C
7440-31-5	Tin	ND	0.010	0.00059	mg/L			1	6010C
7440-24-6	Strontium	0.48	0.0050	0.00034	mg/L			1	6010C
7440-32-6	Titanium	0.0011	0.010	0.00051	mg/L	J		1	6010C

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: FEFF 1
Lab Sample ID: 600-194690-3
Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-194690-1
SDG ID.:
Matrix: Water
Date Sampled: 10/26/2019 12:45
Reporting Basis: WET
Date Received: 10/28/2019 14:52

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-22-4	Silver	ND	0.010	0.0013	mg/L			1	6010C
7440-38-2	Arsenic	ND	0.010	0.0029	mg/L			1	6010C
7440-39-3	Barium	0.28	0.020	0.00053	mg/L			1	6010C
7440-42-8	Boron	0.20	0.20	0.012	mg/L			1	6010C
7440-41-7	Beryllium	ND	0.0050	0.00042	mg/L			1	6010C
7440-70-2	Calcium	53	1.0	0.024	mg/L			1	6010C
7440-43-9	Cadmium	ND	0.0050	0.00028	mg/L			1	6010C
7440-48-4	Cobalt	ND	0.010	0.00031	mg/L			1	6010C
7440-47-3	Chromium	ND	0.010	0.0016	mg/L			1	6010C
7440-50-8	Copper	ND	0.010	0.0081	mg/L			1	6010C
7439-89-6	Iron	0.13	0.40	0.027	mg/L	J		1	6010C
7440-09-7	Potassium	12	1.0	0.037	mg/L			1	6010C
7439-95-4	Magnesium	31	1.0	0.056	mg/L			1	6010C
7439-96-5	Manganese	0.029	0.010	0.00036	mg/L			1	6010C
7440-23-5	Sodium	360	5.0	0.11	mg/L			5	6010C
7440-02-0	Nickel	0.0020	0.010	0.00080	mg/L	J		1	6010C
7439-92-1	Lead	ND	0.010	0.0022	mg/L			1	6010C
7440-36-0	Antimony	ND	0.050	0.0039	mg/L			1	6010C
7782-49-2	Selenium	ND	0.040	0.0029	mg/L			1	6010C
7439-98-7	Molybdenum	0.010	0.010	0.00054	mg/L			1	6010C
7440-28-0	Thallium	0.026	0.030	0.0042	mg/L	J	B	1	6010C
7440-62-2	Vanadium	0.0028	0.010	0.00047	mg/L	J		1	6010C
7440-66-6	Zinc	0.036	0.030	0.0040	mg/L			1	6010C
7440-31-5	Tin	ND	0.010	0.00059	mg/L			1	6010C
7440-24-6	Strontium	0.46	0.0050	0.00034	mg/L			1	6010C
7440-32-6	Titanium	0.00070	0.010	0.00051	mg/L	J		1	6010C

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: INF 3
Lab Sample ID: 600-194690-8
Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-194690-1
SDG ID.:
Matrix: Water
Date Sampled: 10/25/2019 13:30
Reporting Basis: WET
Date Received: 10/28/2019 14:52

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-22-4	Silver	ND	0.010	0.0013	mg/L			1	6010C
7440-38-2	Arsenic	0.026	0.010	0.0029	mg/L			1	6010C
7440-39-3	Barium	1.1	0.020	0.00053	mg/L			1	6010C
7440-42-8	Boron	0.26	0.20	0.012	mg/L			1	6010C
7440-41-7	Beryllium	0.0074	0.0050	0.00042	mg/L			1	6010C
7440-70-2	Calcium	130	1.0	0.024	mg/L			1	6010C
7440-43-9	Cadmium	0.0028	0.0050	0.00028	mg/L	J		1	6010C
7440-48-4	Cobalt	0.051	0.010	0.00031	mg/L			1	6010C
7440-47-3	Chromium	0.12	0.010	0.0016	mg/L			1	6010C
7440-50-8	Copper	0.11	0.010	0.0081	mg/L			1	6010C
7439-89-6	Iron	110	0.40	0.027	mg/L			1	6010C
7440-09-7	Potassium	25	1.0	0.037	mg/L			1	6010C
7439-95-4	Magnesium	58	1.0	0.056	mg/L			1	6010C
7439-96-5	Manganese	1.1	0.010	0.00036	mg/L			1	6010C
7440-23-5	Sodium	340	5.0	0.11	mg/L			5	6010C
7440-02-0	Nickel	0.095	0.010	0.00080	mg/L			1	6010C
7439-92-1	Lead	0.12	0.010	0.0022	mg/L			1	6010C
7440-36-0	Antimony	ND	0.050	0.0039	mg/L			1	6010C
7782-49-2	Selenium	ND	0.040	0.0029	mg/L			1	6010C
7439-98-7	Molybdenum	0.0084	0.010	0.00054	mg/L	J		1	6010C
7440-28-0	Thallium	ND	0.030	0.0042	mg/L		^	1	6010C
7440-62-2	Vanadium	0.20	0.010	0.00047	mg/L			1	6010C
7440-66-6	Zinc	0.40	0.030	0.0040	mg/L			1	6010C
7440-31-5	Tin	0.0048	0.010	0.00059	mg/L	J		1	6010C
7440-24-6	Strontium	0.84	0.0050	0.00034	mg/L			1	6010C
7440-32-6	Titanium	0.23	0.010	0.00051	mg/L			1	6010C

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: INF 3 - DISSOLVED
Lab Sample ID: 600-194690-9
Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-194690-1
SDG ID.:
Matrix: Water
Date Sampled: 10/25/2019 13:30
Reporting Basis: WET
Date Received: 10/28/2019 14:52

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-22-4	Silver	ND	0.010	0.0013	mg/L			1	6010C
7440-38-2	Arsenic	0.014	0.010	0.0029	mg/L			1	6010C
7440-42-8	Boron	0.22	0.20	0.012	mg/L			1	6010C
7440-39-3	Barium	0.55	0.020	0.00053	mg/L			1	6010C
7440-41-7	Beryllium	0.0026	0.0050	0.00042	mg/L	J		1	6010C
7440-70-2	Calcium	67	1.0	0.024	mg/L			1	6010C
7440-43-9	Cadmium	0.0013	0.0050	0.00028	mg/L	J		1	6010C
7440-48-4	Cobalt	0.017	0.010	0.00031	mg/L			1	6010C
7440-47-3	Chromium	0.048	0.010	0.0016	mg/L			1	6010C
7440-50-8	Copper	0.036	0.010	0.0081	mg/L			1	6010C
7439-89-6	Iron	40	0.40	0.027	mg/L			1	6010C
7440-09-7	Potassium	17	1.0	0.037	mg/L			1	6010C
7439-95-4	Magnesium	42	1.0	0.056	mg/L			1	6010C
7439-96-5	Manganese	0.34	0.010	0.00036	mg/L			1	6010C
7439-98-7	Molybdenum	0.0084	0.010	0.00054	mg/L	J		1	6010C
7440-23-5	Sodium	340	5.0	0.11	mg/L			5	6010C
7440-02-0	Nickel	0.033	0.010	0.00080	mg/L			1	6010C
7439-92-1	Lead	0.037	0.010	0.0022	mg/L			1	6010C
7440-36-0	Antimony	ND	0.050	0.0039	mg/L			1	6010C
7782-49-2	Selenium	ND	0.040	0.0029	mg/L			1	6010C
7440-31-5	Tin	0.0012	0.010	0.00059	mg/L	J		1	6010C
7440-24-6	Strontium	0.57	0.0050	0.00034	mg/L			1	6010C
7440-32-6	Titanium	0.17	0.010	0.00051	mg/L			1	6010C
7440-28-0	Thallium	ND	0.030	0.0042	mg/L		^	1	6010C
7440-62-2	Vanadium	0.086	0.010	0.00047	mg/L			1	6010C
7440-66-6	Zinc	0.15	0.030	0.0040	mg/L			1	6010C

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: INF 4
Lab Sample ID: 600-194690-10
Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-194690-1
SDG ID.:
Matrix: Water
Date Sampled: 10/25/2019 20:50
Reporting Basis: WET
Date Received: 10/28/2019 14:52

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-22-4	Silver	ND	0.010	0.0013	mg/L			1	6010C
7440-38-2	Arsenic	0.023	0.010	0.0029	mg/L			1	6010C
7440-39-3	Barium	0.96	0.020	0.00053	mg/L			1	6010C
7440-42-8	Boron	0.25	0.20	0.012	mg/L			1	6010C
7440-41-7	Beryllium	0.0062	0.0050	0.00042	mg/L			1	6010C
7440-70-2	Calcium	120	1.0	0.024	mg/L			1	6010C
7440-43-9	Cadmium	0.0025	0.0050	0.00028	mg/L	J		1	6010C
7440-48-4	Cobalt	0.043	0.010	0.00031	mg/L			1	6010C
7440-47-3	Chromium	0.11	0.010	0.0016	mg/L			1	6010C
7440-50-8	Copper	0.093	0.010	0.0081	mg/L			1	6010C
7439-89-6	Iron	88	0.40	0.027	mg/L			1	6010C
7440-09-7	Potassium	23	1.0	0.037	mg/L			1	6010C
7439-95-4	Magnesium	54	1.0	0.056	mg/L			1	6010C
7439-96-5	Manganese	1.0	0.010	0.00036	mg/L			1	6010C
7440-23-5	Sodium	350	5.0	0.11	mg/L			5	6010C
7440-02-0	Nickel	0.081	0.010	0.00080	mg/L			1	6010C
7439-92-1	Lead	0.098	0.010	0.0022	mg/L			1	6010C
7440-36-0	Antimony	ND	0.050	0.0039	mg/L			1	6010C
7782-49-2	Selenium	ND	0.040	0.0029	mg/L			1	6010C
7439-98-7	Molybdenum	0.0090	0.010	0.00054	mg/L	J		1	6010C
7440-28-0	Thallium	ND	0.030	0.0042	mg/L		^	1	6010C
7440-62-2	Vanadium	0.17	0.010	0.00047	mg/L			1	6010C
7440-66-6	Zinc	0.36	0.030	0.0040	mg/L			1	6010C
7440-31-5	Tin	0.0057	0.010	0.00059	mg/L	J		1	6010C
7440-24-6	Strontium	0.79	0.0050	0.00034	mg/L			1	6010C
7440-32-6	Titanium	0.22	0.010	0.00051	mg/L			1	6010C

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: INF 4 - DISSOLVED
Lab Sample ID: 600-194690-11
Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-194690-1
SDG ID.:
Matrix: Water
Date Sampled: 10/26/2019 22:10
Reporting Basis: WET
Date Received: 10/28/2019 14:52

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-22-4	Silver	ND	0.010	0.0013	mg/L			1	6010C
7440-38-2	Arsenic	0.0041	0.010	0.0029	mg/L	J		1	6010C
7440-42-8	Boron	0.20	0.20	0.012	mg/L			1	6010C
7440-39-3	Barium	0.30	0.020	0.00053	mg/L			1	6010C
7440-41-7	Beryllium	ND	0.0050	0.00042	mg/L			1	6010C
7440-70-2	Calcium	55	1.0	0.024	mg/L			1	6010C
7440-43-9	Cadmium	0.00040	0.0050	0.00028	mg/L	J		1	6010C
7440-48-4	Cobalt	0.0012	0.010	0.00031	mg/L	J		1	6010C
7440-47-3	Chromium	0.0039	0.010	0.0016	mg/L	J		1	6010C
7440-50-8	Copper	ND	0.010	0.0081	mg/L			1	6010C
7439-89-6	Iron	2.9	0.40	0.027	mg/L			1	6010C
7440-09-7	Potassium	13	1.0	0.037	mg/L			1	6010C
7439-95-4	Magnesium	32	1.0	0.056	mg/L			1	6010C
7439-96-5	Manganese	0.035	0.010	0.00036	mg/L			1	6010C
7439-98-7	Molybdenum	0.010	0.010	0.00054	mg/L			1	6010C
7440-23-5	Sodium	350	5.0	0.11	mg/L			5	6010C
7440-02-0	Nickel	0.0030	0.010	0.00080	mg/L	J		1	6010C
7439-92-1	Lead	ND	0.010	0.0022	mg/L			1	6010C
7440-36-0	Antimony	ND	0.050	0.0039	mg/L			1	6010C
7782-49-2	Selenium	ND	0.040	0.0029	mg/L			1	6010C
7440-31-5	Tin	ND	0.010	0.00059	mg/L			1	6010C
7440-24-6	Strontium	0.47	0.0050	0.00034	mg/L			1	6010C
7440-32-6	Titanium	0.025	0.010	0.00051	mg/L			1	6010C
7440-28-0	Thallium	ND	0.030	0.0042	mg/L		^	1	6010C
7440-62-2	Vanadium	0.012	0.010	0.00047	mg/L			1	6010C
7440-66-6	Zinc	0.026	0.030	0.0040	mg/L	J		1	6010C

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: 1. CEFF

Lab Sample ID: 600-194690-1

Lab Name: Eurofins TestAmerica, Canton

Job No.: 600-194690-1

SDG ID.:

Matrix: Water

Date Sampled: 10/25/2019 19:25

Reporting Basis: WET

Date Received: 10/28/2019 14:52

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7439-97-6	Mercury	18	2.5	0.70	ng/L		B F1	5	1631E

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: FEFF 1

Lab Sample ID: 600-194690-3

Lab Name: Eurofins TestAmerica, Canton

Job No.: 600-194690-1

SDG ID.:

Matrix: Water

Date Sampled: 10/26/2019 12:45

Reporting Basis: WET

Date Received: 10/28/2019 14:52

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7439-97-6	Mercury	2.5	0.50	0.14	ng/L		B	1	1631E

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: DUP
Lab Sample ID: 600-194690-5
Lab Name: Eurofins TestAmerica, Canton
Job No.: 600-194690-1
SDG ID.:
Matrix: Water
Date Sampled: 10/26/2019 00:00
Reporting Basis: WET
Date Received: 10/28/2019 14:52

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7439-97-6	Mercury	6.3	0.50	0.14	ng/L		B	1	1631E

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: INF 3
Lab Sample ID: 600-194690-8
Lab Name: Eurofins TestAmerica, Canton
Job No.: 600-194690-1
SDG ID.:
Matrix: Water
Date Sampled: 10/25/2019 13:30
Reporting Basis: WET
Date Received: 10/28/2019 14:52

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7439-97-6	Mercury	28	0.50	0.14	ng/L		B	1	1631E

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: INF 4 - DISSOLVED
Lab Sample ID: 600-194690-11
Lab Name: Eurofins TestAmerica, Canton
Job No.: 600-194690-1
SDG ID.:
Matrix: Water
Date Sampled: 10/26/2019 22:10
Reporting Basis: WET
Date Received: 10/28/2019 14:52

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7439-97-6	Mercury	22	0.50	0.14	ng/L		B	1	1631E

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

ICV Source: METICPCCV_00027 Concentration Units: mg/L

CCV Source: METICPCCV_00028

Analyte	ICV 600-280132/15 11/12/2019 09:22				CCV 600-280132/85 11/12/2019 11:48				CCV 600-280132/98 11/12/2019 12:14			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Antimony	2.14		2.00	107	2.18		2.00	109	2.17		2.00	108
Arsenic	0.994		1.00	99	1.00		1.00	100	1.00		1.00	100
Barium	1.01		1.00	101	1.02		1.00	102	1.02		1.00	102
Beryllium	0.982		1.00	98	0.989		1.00	99	0.989		1.00	99
Boron	1.00		1.00	100	0.987		1.00	99	1.02		1.00	102
Cadmium	0.994		1.00	99	0.983		1.00	98	0.977		1.00	98
Calcium	20.1		20.0	100	19.2		20.0	96	19.3		20.0	97
Chromium	0.980		1.00	98	0.938		1.00	94	0.934		1.00	93
Cobalt	0.997		1.00	100	0.988		1.00	99	0.983		1.00	98
Copper	0.988		1.00	99	0.969		1.00	97	0.969		1.00	97
Iron	20.2		20.0	101	19.7		20.0	99	19.7		20.0	98
Lead	0.997		1.00	100	0.998		1.00	100	0.997		1.00	100
Magnesium	20.1		20.0	101	19.9		20.0	100	20.0		20.0	100
Manganese	1.00		1.00	100	0.988		1.00	99	0.982		1.00	98
Molybdenum	1.01		1.00	101	1.02		1.00	102	1.01		1.00	101
Nickel	1.00		1.00	100	1.01		1.00	101	1.01		1.00	101
Potassium	20.1		20.0	100	19.5		20.0	98	19.7		20.0	98
Selenium	0.996		1.00	100	0.996		1.00	100	0.986		1.00	99
Silver	0.494		0.500	99	0.489		0.500	98	0.485		0.500	97
Strontium	1.01		1.00	101	1.01		1.00	101	1.01		1.00	101
Thallium	1.06		1.00	106	1.05		1.00	105	1.08		1.00	108
Tin	0.999		1.00	100	1.01		1.00	101	1.01		1.00	101
Titanium	0.989		1.00	99	0.977		1.00	98	0.971		1.00	97
Vanadium	0.990		1.00	99	0.963		1.00	96	0.955		1.00	96
Zinc	1.00		1.00	100	0.989		1.00	99	0.990		1.00	99
Sodium	20.1		20.0	100	20.1		20.0	100	20.5		20.0	102

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

ICV Source: METICPCCV_00027 Concentration Units: mg/L

CCV Source: METICPCCV_00028

Analyte	CCV 600-280132/111 11/12/2019 12:40				CCV 600-280132/215 11/12/2019 16:14				CCV 600-280132/228 11/12/2019 16:40			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Antimony	2.17		2.00	109	2.15		2.00	108	2.16		2.00	108
Arsenic	1.00		1.00	100	0.996		1.00	100	0.991		1.00	99
Barium	1.03		1.00	103	0.991		1.00	99	1.02		1.00	102
Beryllium	0.993		1.00	99	1.01		1.00	101	1.03		1.00	103
Boron	1.01		1.00	101	1.01		1.00	101	1.02		1.00	102
Cadmium	0.974		1.00	97	0.977		1.00	98	0.972		1.00	97
Calcium	19.4		20.0	97	19.8		20.0	99	20.4		20.0	102
Chromium	0.931		1.00	93	0.951		1.00	95	0.934		1.00	93
Cobalt	0.979		1.00	98	0.988		1.00	99	0.974		1.00	97
Copper	0.975		1.00	97	0.965		1.00	96	0.963		1.00	96
Iron	19.8		20.0	99	19.7		20.0	98	20.4		20.0	102
Lead	0.999		1.00	100	1.01		1.00	101	0.992		1.00	99
Magnesium	20.0		20.0	100	20.5		20.0	102	20.8		20.0	104
Manganese	0.973		1.00	97	0.991		1.00	99	0.974		1.00	97
Molybdenum	1.00		1.00	100	1.00		1.00	100	0.997		1.00	100
Nickel	1.01		1.00	101	1.02		1.00	102	1.00		1.00	100
Potassium	19.9		20.0	99	19.1		20.0	96	19.6		20.0	98
Selenium	0.991		1.00	99	0.983		1.00	98	0.981		1.00	98
Silver	0.479		0.500	96	0.485		0.500	97	0.482		0.500	96
Strontium	1.02		1.00	102	0.985		1.00	98	1.01		1.00	101
Thallium	1.07		1.00	107	1.13		1.00	113	1.19		1.00	119
Tin	1.01		1.00	101	1.02		1.00	102	1.00		1.00	100
Titanium	0.963		1.00	96	0.971		1.00	97	0.960		1.00	96
Vanadium	0.950		1.00	95	0.963		1.00	96	0.949		1.00	95
Zinc	0.982		1.00	98	1.01		1.00	101	0.984		1.00	98
Sodium	20.0		20.0	100	19.2		20.0	96	19.8		20.0	99

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

ICV Source: MET1119CCVL_00001 Concentration Units: mg/L

CCV Source: MET1119CCVL_00001

Analyte	ICVL 600-280132/16 11/12/2019 09:25				CCVL 600-280132/86 11/12/2019 11:50				CCVL 600-280132/99 11/12/2019 12:16			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Antimony	0.0548		0.0500	110	0.0563		0.0500	113	0.0560		0.0500	112
Arsenic	0.0216		0.0200	108	0.0209		0.0200	105	0.0209		0.0200	105
Barium	0.0222		0.0200	111	0.0224		0.0200	112	0.0223		0.0200	112
Beryllium	0.0110		0.0100	110	0.0112		0.0100	112	0.0112		0.0100	112
Boron	0.211		0.200	105	0.224		0.200	112	0.212		0.200	106
Cadmium	0.0109		0.0100	109	0.0109		0.0100	109	0.0109		0.0100	109
Calcium	1.01		1.00	101	0.996	J	1.00	100	0.985	J	1.00	98
Chromium	0.0111		0.0100	111	0.0107		0.0100	107	0.0105		0.0100	105
Cobalt	0.0105		0.0100	105	0.0105		0.0100	105	0.0105		0.0100	105
Copper	0.0122		0.0100	122	0.0123		0.0100	123	0.0120		0.0100	120
Iron	0.202	J	0.200	101	0.216	J	0.200	108	0.209	J	0.200	105
Lead	0.0108		0.0100	108	0.0104		0.0100	104	0.0103		0.0100	103
Magnesium	1.10		1.00	110	1.09		1.00	109	1.08		1.00	108
Manganese	0.0112		0.0100	112	0.0111		0.0100	111	0.0110		0.0100	110
Molybdenum	0.0230		0.0200	115	0.0235		0.0200	118	0.0229		0.0200	115
Nickel	0.0109		0.0100	109	0.0113		0.0100	113	0.0113		0.0100	113
Potassium	1.08		1.00	108	1.05		1.00	105	1.06		1.00	106
Selenium	0.0202	J	0.0200	101	0.0216	J	0.0200	108	0.0206	J	0.0200	103
Silver	0.00940	J	0.0100	94	0.0104		0.0100	104	0.00910	J	0.0100	91
Strontium	0.0114		0.0100	114	0.0113		0.0100	113	0.0113		0.0100	113
Thallium	0.0535		0.0200	268								
Tin	0.0209		0.0200	105	0.0209		0.0200	105	0.0208		0.0200	104
Titanium	0.0106		0.0100	106	0.0113		0.0100	113	0.0109		0.0100	109
Vanadium	0.0105		0.0100	105	0.0105		0.0100	105	0.0103		0.0100	103
Zinc	0.0186		0.0200	93	0.0184		0.0200	92	0.0182		0.0200	91
Sodium	1.07		1.00	107	1.10		1.00	110				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

ICV Source: MET1119CCVL_00001 Concentration Units: mg/L

CCV Source: MET1119CCVL_00001

Analyte	CCVL 600-280132/112 11/12/2019 12:42				CCVL 600-280132/216 11/12/2019 16:15				CCVL 600-280132/229 11/12/2019 16:42			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Antimony	0.0558		0.0500	112	0.0580		0.0500	116	0.0589		0.0500	118
Arsenic	0.0225		0.0200	113	0.0225		0.0200	113	0.0212		0.0200	106
Barium	0.0225		0.0200	113	0.0216		0.0200	108	0.0215		0.0200	108
Beryllium	0.0111		0.0100	111	0.0113		0.0100	113	0.0114		0.0100	114
Boron	0.216		0.200	108	0.216		0.200	108	0.213		0.200	106
Cadmium	0.0107		0.0100	107	0.0108		0.0100	108	0.0107		0.0100	107
Calcium	0.984	J	1.00	98	1.01		1.00	101	1.02		1.00	102
Chromium	0.0104		0.0100	104	0.0107		0.0100	107	0.0102		0.0100	102
Cobalt	0.0104		0.0100	104	0.0107		0.0100	107	0.0103		0.0100	103
Copper	0.0118		0.0100	118	0.0124		0.0100	124	0.0119		0.0100	119
Iron	0.205	J	0.200	103	0.204	J	0.200	102	0.200	J	0.200	100
Lead	0.0101		0.0100	101	0.0110		0.0100	110	0.00930	J	0.0100	93
Magnesium	1.05		1.00	105	1.08		1.00	108	1.11		1.00	111
Manganese	0.0109		0.0100	109	0.0111		0.0100	111	0.0109		0.0100	109
Molybdenum	0.0228		0.0200	114	0.0230		0.0200	115	0.0228		0.0200	114
Nickel	0.0113		0.0100	113	0.0111		0.0100	111	0.0110		0.0100	110
Potassium	1.07		1.00	107	1.04		1.00	104	1.06		1.00	106
Selenium	0.0224	J	0.0200	112	0.0221	J	0.0200	111	0.0219	J	0.0200	110
Silver	0.0103		0.0100	103	0.00990	J	0.0100	99	0.00990	J	0.0100	99
Strontium	0.0115		0.0100	115	0.0112		0.0100	112	0.0112		0.0100	112
Thallium					0.0428		0.0200	214	0.0476		0.0200	238
Tin	0.0212		0.0200	106	0.0214		0.0200	107	0.0215		0.0200	108
Titanium	0.0111		0.0100	111	0.0109		0.0100	109	0.0107		0.0100	107
Vanadium	0.0105		0.0100	105	0.0102		0.0100	102	0.0101		0.0100	101
Zinc	0.0180		0.0200	90	0.0187		0.0200	94	0.0184		0.0200	92
Sodium	1.10		1.00	110	1.02		1.00	102	1.12		1.00	112

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

ICV Source: METICPCCV_00028 Concentration Units: mg/L

CCV Source: METICPCCV_00028

Analyte	ICV 600-280247/14 11/13/2019 10:23				CCV 600-280247/73 11/13/2019 12:39				CCV 600-280247/86 11/13/2019 13:06			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Sodium	20.4		20.0	102	20.0		20.0	100	19.9		20.0	100
Antimony	2.19		2.00	110	2.20		2.00	110				
Arsenic	1.02		1.00	102	1.01		1.00	101	1.01		1.00	101
Barium	1.03		1.00	103	1.03		1.00	103	1.02		1.00	102
Beryllium	1.03		1.00	103	1.02		1.00	102	1.01		1.00	101
Boron	1.03		1.00	103	0.993		1.00	99	0.983		1.00	98
Cadmium	1.03		1.00	103	1.02		1.00	102	1.03		1.00	103
Calcium	20.6		20.0	103	20.0		20.0	100	20.1		20.0	100
Chromium	1.02		1.00	102	0.984		1.00	98	0.977		1.00	98
Cobalt	1.02		1.00	102	0.994		1.00	99	1.00		1.00	100
Copper	1.01		1.00	101	1.00		1.00	100	0.998		1.00	100
Iron	20.6		20.0	103	20.1		20.0	100	20.1		20.0	101
Lead	1.02		1.00	102	1.01		1.00	101	1.02		1.00	102
Magnesium	20.6		20.0	103	19.7		20.0	98	19.7		20.0	98
Manganese	1.03		1.00	103	1.02		1.00	102	1.01		1.00	101
Molybdenum	1.05		1.00	105	1.05		1.00	105	1.05		1.00	105
Nickel	1.03		1.00	103	1.02		1.00	102	1.02		1.00	102
Potassium	20.6		20.0	103	19.8		20.0	99	19.7		20.0	98
Selenium	1.03		1.00	103	1.02		1.00	102	1.02		1.00	102
Strontium	1.03		1.00	103	1.03		1.00	103	1.02		1.00	102
Thallium	1.02		1.00	102	1.06		1.00	106	1.02		1.00	102
Tin	1.02		1.00	102	1.01		1.00	101	1.02		1.00	102
Titanium	1.03		1.00	103	1.01		1.00	101	1.00		1.00	100
Vanadium	1.03		1.00	103	1.01		1.00	101	1.00		1.00	100
Zinc	1.02		1.00	102	0.993		1.00	99	0.998		1.00	100

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

ICV Source: METICPCCV_00028 Concentration Units: mg/L

CCV Source: METICPCCV_00028

Analyte	CCV 600-280247/99 11/13/2019 13:33											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Sodium	19.8		20.0	99								
Antimony	2.19		2.00	110								
Arsenic	1.00		1.00	100								
Barium	1.02		1.00	102								
Beryllium	1.00		1.00	100								
Boron	0.970		1.00	97								
Cadmium	1.02		1.00	102								
Calcium	19.9		20.0	99								
Chromium	0.967		1.00	97								
Cobalt	0.987		1.00	99								
Copper	0.993		1.00	99								
Iron	20.0		20.0	100								
Lead	1.00		1.00	100								
Magnesium	19.3		20.0	97								
Manganese	1.01		1.00	101								
Molybdenum	1.04		1.00	104								
Nickel	1.01		1.00	101								
Potassium	19.5		20.0	97								
Selenium	1.01		1.00	101								
Strontium	1.02		1.00	102								
Thallium	1.02		1.00	102								
Tin	0.999		1.00	100								
Titanium	1.00		1.00	100								
Vanadium	0.998		1.00	100								
Zinc	0.985		1.00	98								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

ICV Source: METICPCAL2_00005 Concentration Units: mg/L

CCV Source: METICPCAL2_00005

Analyte	ICVL 600-280247/17 11/13/2019 10:37				CCVL 600-280247/74 11/13/2019 12:41				CCVL 600-280247/87 11/13/2019 13:08			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Sodium	1.02		1.00	102	1.04		1.00	104	1.04		1.00	104
Antimony	0.237		0.230	103	0.240		0.230	104	0.241		0.230	105
Arsenic	0.0309		0.0300	103	0.0316		0.0300	105	0.0325		0.0300	108
Barium	0.0307		0.0300	102	0.0311		0.0300	104	0.0311		0.0300	104
Beryllium	0.0313		0.0300	104	0.0312		0.0300	104	0.0314		0.0300	105
Boron	0.202		0.200	101	0.200		0.200	100	0.197	J	0.200	99
Cadmium	0.0307		0.0300	102	0.0307		0.0300	102	0.0310		0.0300	103
Calcium	0.976	J	1.00	98	0.969	J	1.00	97	0.976	J	1.00	98
Chromium	0.0307		0.0300	102	0.0302		0.0300	101	0.0304		0.0300	101
Cobalt	0.0294		0.0300	98	0.0290		0.0300	97	0.0291		0.0300	97
Copper	0.0314		0.0300	105	0.0316		0.0300	105	0.0323		0.0300	108
Iron	0.991		1.00	99	0.996		1.00	100	1.01		1.00	101
Lead	0.0302		0.0300	101	0.0310		0.0300	103	0.0318		0.0300	106
Magnesium	1.04		1.00	104	1.01		1.00	101	0.999	J	1.00	100
Manganese	0.0314		0.0300	105	0.0312		0.0300	104	0.0314		0.0300	105
Molybdenum	0.0308		0.0300	103	0.0313		0.0300	104	0.0315		0.0300	105
Nickel	0.0302		0.0300	101	0.0298		0.0300	99	0.0299		0.0300	100
Potassium	0.984	J	1.00	98	0.974	J	1.00	97	0.954	J	1.00	95
Selenium	0.0311	J	0.0300	104	0.0324	J	0.0300	108	0.0325	J	0.0300	108
Silver	0.102		0.100	102	0.103		0.100	103	0.102		0.100	102
Strontium	0.0309		0.0300	103	0.0313		0.0300	104	0.0318		0.0300	106
Tin	0.0298		0.0300	99	0.0291		0.0300	97	0.0298		0.0300	99
Titanium	0.0304		0.0300	101	0.0310		0.0300	103	0.0307		0.0300	102
Vanadium	0.0298		0.0300	99	0.0300		0.0300	100	0.0304		0.0300	101
Zinc	0.192		0.200	96	0.186		0.200	93	0.187		0.200	93

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

ICV Source: METICPCAL2_00005 Concentration Units: mg/L

CCV Source: METICPCAL2_00005

Analyte	CCVL 600-280247/100 11/13/2019 13:34											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Sodium	1.04		1.00	104								
Antimony	0.242		0.230	105								
Arsenic	0.0316		0.0300	105								
Barium	0.0308		0.0300	103								
Beryllium	0.0312		0.0300	104								
Boron	0.196	J	0.200	98								
Cadmium	0.0310		0.0300	103								
Calcium	0.970	J	1.00	97								
Chromium	0.0305		0.0300	102								
Cobalt	0.0290		0.0300	97								
Copper	0.0320		0.0300	107								
Iron	1.01		1.00	101								
Lead	0.0322		0.0300	107								
Magnesium	1.01		1.00	101								
Manganese	0.0314		0.0300	105								
Molybdenum	0.0317		0.0300	106								
Nickel	0.0300		0.0300	100								
Potassium	0.956	J	1.00	96								
Selenium	0.0327	J	0.0300	109								
Silver	0.103		0.100	103								
Strontium	0.0313		0.0300	104								
Tin	0.0295		0.0300	98								
Titanium	0.0309		0.0300	103								
Vanadium	0.0304		0.0300	101								
Zinc	0.187		0.200	93								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

ICV Source: METICPCCV_00028 Concentration Units: mg/L

CCV Source: METICPCCV_00028

Analyte	ICV 600-280693/15 11/19/2019 09:28				CCV 600-280693/46 11/19/2019 10:38				CCV 600-280693/59 11/19/2019 11:04			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Thallium	1.04		1.00	104	1.02		1.00	102	1.00		1.00	100
Antimony	2.11		2.00	106	2.11		2.00	106	2.11		2.00	105
Arsenic	1.00		1.00	100	0.995		1.00	100	1.00		1.00	100
Barium	0.999		1.00	100	0.991		1.00	99	0.990		1.00	99
Beryllium	1.03		1.00	103	1.01		1.00	101	1.01		1.00	101
Boron	0.998		1.00	100	0.955		1.00	95	0.956		1.00	96
Cadmium	1.01		1.00	101	1.00		1.00	100	1.01		1.00	101
Calcium	20.0		20.0	100	19.2		20.0	96	19.3		20.0	97
Chromium	0.982		1.00	98	0.950		1.00	95	0.944		1.00	94
Cobalt	0.987		1.00	99	0.974		1.00	97	0.973		1.00	97
Copper	0.978		1.00	98	0.957		1.00	96	0.951		1.00	95
Iron	20.0		20.0	100	19.6		20.0	98	19.5		20.0	97
Lead	0.997		1.00	100	0.984		1.00	98	0.988		1.00	99
Magnesium	19.9		20.0	99	19.6		20.0	98	19.4		20.0	97
Manganese	1.01		1.00	101	1.01		1.00	101	0.983		1.00	98
Molybdenum	1.02		1.00	102	1.02		1.00	102	1.02		1.00	102
Nickel	1.00		1.00	100	0.994		1.00	99	0.995		1.00	100
Potassium	19.8		20.0	99	18.9		20.0	95	19.4		20.0	97
Selenium	1.00		1.00	100	1.00		1.00	100	1.01		1.00	101
Silver	0.503		0.500	101	0.507		0.500	101	0.495		0.500	99
Sodium	19.9		20.0	99	19.6		20.0	98	19.8		20.0	99
Strontium	1.00		1.00	100	0.982		1.00	98	0.990		1.00	99
Tin	0.986		1.00	99	0.978		1.00	98	0.972		1.00	97
Titanium	1.00		1.00	100	1.00		1.00	100	0.988		1.00	99
Vanadium	1.00		1.00	100	0.991		1.00	99	0.979		1.00	98
Zinc	0.999		1.00	100	0.982		1.00	98	0.979		1.00	98

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

ICV Source: METICPCAL2_00005 Concentration Units: mg/L

CCV Source: METICPCAL2_00005

Analyte	ICVL 600-280693/16 11/19/2019 09:31				CCVL 600-280693/47 11/19/2019 10:39				CCVL 600-280693/60 11/19/2019 11:08			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Thallium	0.0346		0.0300	115	0.0356		0.0300	119	0.0303		0.0300	101
Antimony	0.240		0.230	104	0.239		0.230	104	0.239		0.230	104
Arsenic	0.0316		0.0300	105	0.0325		0.0300	108	0.0305		0.0300	102
Barium	0.0309		0.0300	103	0.0304		0.0300	101	0.0304		0.0300	101
Beryllium	0.0315		0.0300	105	0.0311		0.0300	104	0.0311		0.0300	104
Boron	0.204		0.200	102	0.204		0.200	102	0.195	J	0.200	97
Cadmium	0.0310		0.0300	103	0.0308		0.0300	103	0.0310		0.0300	103
Calcium	1.00		1.00	100	0.984	J	1.00	98	0.995	J	1.00	100
Chromium	0.0308		0.0300	103	0.0300		0.0300	100	0.0282		0.0300	94
Cobalt	0.0294		0.0300	98	0.0291		0.0300	97	0.0290		0.0300	97
Copper	0.0316		0.0300	105	0.0315		0.0300	105	0.0289		0.0300	96
Iron	1.01		1.00	101	0.997		1.00	100	0.990		1.00	99
Lead	0.0314		0.0300	105	0.0297		0.0300	99	0.0299		0.0300	100
Magnesium	1.02		1.00	102	1.01		1.00	101	1.01		1.00	101
Manganese	0.0319		0.0300	106	0.0317		0.0300	106	0.0294		0.0300	98
Molybdenum	0.0321		0.0300	107	0.0315		0.0300	105	0.0318		0.0300	106
Nickel	0.0299		0.0300	100	0.0292		0.0300	97	0.0292		0.0300	97
Potassium	1.01		1.00	101	0.969	J	1.00	97	0.994	J	1.00	99
Selenium	0.0316	J	0.0300	105	0.0318	J	0.0300	106	0.0330	J	0.0300	110
Silver	0.0890		0.100	89	0.0890		0.100	89	0.0826		0.100	83
Sodium	1.05		1.00	105	1.03		1.00	103	1.08		1.00	108
Strontium	0.0310		0.0300	103	0.0306		0.0300	102	0.0307		0.0300	102
Tin	0.0295		0.0300	98	0.0289		0.0300	96	0.0285		0.0300	95
Titanium	0.0310		0.0300	103	0.0309		0.0300	103	0.0290		0.0300	97
Vanadium	0.0306		0.0300	102	0.0299		0.0300	100	0.0283		0.0300	94
Zinc	0.191		0.200	96	0.188		0.200	94	0.186		0.200	93

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Canton Job No.: 600-194690-1

SDG No.:

ICV Source: LLHg-1631-ICV_00052 Concentration Units: ng/L

CCV Source: LLHg-CCV_00221

Analyte	ICV 240-405319/9-A 09/27/2019 11:43				CCV 240-409214/62 11/04/2019 15:52				CCV 240-409214/92 11/04/2019 18:17			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	5.21		5.00	104	4.41		5.00	88	4.14		5.00	83

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Canton Job No.: 600-194690-1

SDG No.:

ICV Source: LLHg-1631-ICV_00052 Concentration Units: ng/L

CCV Source: LLHg-CCV_00221

Analyte	ICV 240-405319/9-A 09/27/2019 11:43				CCV 240-409411/17 11/05/2019 11:58				CCV 240-409411/32 11/05/2019 13:10			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	5.21		5.00	104	4.54		5.00	91	4.73		5.00	95

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Canton Job No.: 600-194690-1

SDG No.:

ICV Source: LLHg-1631-ICV_00052 Concentration Units: ng/L

CCV Source: LLHg-CCV_00221

Analyte	CCV 240-409411/69 11/05/2019 16:09				CCV 240-409411/74 11/05/2019 16:33							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	4.87		5.00	97	4.82		5.00	96				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Concentration Units: mg/L

Analyte	RL	ICBIS 600-280132/17 11/12/2019 09:28		CCB 600-280132/87 11/12/2019 11:52		CCB 600-280132/100 11/12/2019 12:18		CCB 600-280132/113 11/12/2019 12:44	
		Found	C	Found	C	Found	C	Found	C
Antimony	0.050	ND		ND		ND		ND	
Arsenic	0.010	ND		ND		ND		ND	
Barium	0.020	ND		ND		ND		ND	
Beryllium	0.0050	ND		ND		ND		ND	
Boron	0.20	ND		ND		0.00790	J	ND	
Cadmium	0.0050	ND		ND		ND		ND	
Calcium	1.0	ND		ND		ND		ND	
Chromium	0.010	ND		ND		ND		ND	
Cobalt	0.010	ND		ND		ND		ND	
Copper	0.010	ND		0.00220	J	0.00170	J	ND	
Iron	0.40	ND		ND		ND		ND	
Lead	0.010	ND		ND		ND		ND	
Magnesium	1.0	ND		ND		ND		0.0340	J
Manganese	0.010	ND		ND		ND		ND	
Molybdenum	0.010	ND		ND		ND		ND	
Nickel	0.010	ND		ND		ND		ND	
Potassium	1.0	ND		ND		ND		ND	
Selenium	0.040	ND		ND		ND		ND	
Silver	0.010	ND		ND		ND		ND	
Strontium	0.0050	ND		ND		ND		0.000300	J
Thallium	0.030	0.0180	J	0.0147	J	0.0180	J	0.0131	J
Tin	0.010	ND		ND		ND		ND	
Titanium	0.010	ND		ND		ND		ND	
Vanadium	0.010	ND		ND		ND		ND	
Zinc	0.010	ND		ND		ND		ND	
Sodium	1.0	ND		ND		0.285	J	0.0343	J

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Concentration Units: mg/L

Analyte	RL	CCB 600-280132/217 11/12/2019 16:17		CCB 600-280132/230 11/12/2019 16:44					
		Found	C	Found	C	Found	C	Found	C
Antimony	0.050	ND		ND					
Arsenic	0.010	ND		ND					
Barium	0.020	ND		ND					
Beryllium	0.0050	ND		ND					
Boron	0.20	ND		ND					
Cadmium	0.0050	ND		ND					
Calcium	1.0	ND		ND					
Chromium	0.010	ND		ND					
Cobalt	0.010	ND		ND					
Copper	0.010	ND		ND					
Iron	0.40	ND		ND					
Lead	0.010	ND		ND					
Magnesium	1.0	ND		ND					
Manganese	0.010	ND		ND					
Molybdenum	0.010	ND		ND					
Nickel	0.010	ND		ND					
Potassium	1.0	ND		ND					
Selenium	0.040	ND		ND					
Silver	0.010	ND		ND					
Strontium	0.0050	0.000300	J	ND					
Thallium	0.030	0.0123	J	0.0150	J				
Tin	0.010	ND		ND					
Titanium	0.010	ND		ND					
Vanadium	0.010	ND		ND					
Zinc	0.010	ND		ND					
Sodium	1.0	ND		0.0548	J				

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Concentration Units: mg/L

Analyte	RL	ICBIS 600-280247/16 11/13/2019 10:31		CCB 600-280247/75 11/13/2019 12:43		CCB 600-280247/88 11/13/2019 13:10		CCB 600-280247/101 11/13/2019 13:36	
		Found	C	Found	C	Found	C	Found	C
Sodium	1.0	ND		ND		ND		ND	
Antimony	0.050	ND		ND		ND		ND	
Arsenic	0.010	ND		ND		ND		ND	
Barium	0.020	ND		ND		ND		ND	
Beryllium	0.0050	ND		ND		ND		ND	
Boron	0.20	ND		ND		ND		ND	
Cadmium	0.0050	ND		ND		ND		ND	
Calcium	1.0	ND		ND		ND		ND	
Chromium	0.010	ND		ND		ND		ND	
Cobalt	0.010	ND		ND		ND		ND	
Copper	0.010	ND		ND		ND		ND	
Iron	0.40	ND		ND		ND		ND	
Lead	0.010	ND		ND		ND		ND	
Magnesium	1.0	ND		ND		ND		ND	
Manganese	0.010	ND		ND		ND		ND	
Molybdenum	0.010	ND		ND		ND		ND	
Nickel	0.010	ND		ND		ND		ND	
Potassium	1.0	ND		ND		ND		ND	
Selenium	0.040	ND		ND		ND		ND	
Silver	0.010	ND							
Strontium	0.0050	ND		ND		ND		ND	
Thallium	0.030	0.0137	J	0.0130	J	0.00880	J	0.0137	J
Tin	0.010	ND		ND		ND		ND	
Titanium	0.010	ND		ND		ND		ND	
Vanadium	0.010	ND		ND		ND		ND	
Zinc	0.010	ND		ND		ND		ND	

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Concentration Units: mg/L

Analyte	RL	ICBIS 600-280693/17 11/19/2019 09:34		CCB 600-280693/48 11/19/2019 10:41		CCB 600-280693/61 11/19/2019 11:10			
		Found	C	Found	C	Found	C	Found	C
Thallium	0.030	ND		ND		ND			
Antimony	0.050	ND		ND		ND			
Arsenic	0.010	ND		ND		ND			
Barium	0.020	ND		ND		ND			
Beryllium	0.0050	ND		ND		ND			
Boron	0.20	ND		ND		ND			
Cadmium	0.0050	ND		ND		ND			
Calcium	1.0	ND		ND		ND			
Chromium	0.010	ND		ND		ND			
Cobalt	0.010	ND		ND		ND			
Copper	0.010	ND		0.00160	J	ND			
Iron	0.40	ND		ND		ND			
Lead	0.010	ND		ND		ND			
Magnesium	1.0	ND		ND		ND			
Manganese	0.010	ND		ND		ND			
Molybdenum	0.010	ND		ND		ND			
Nickel	0.010	ND		ND		ND			
Potassium	1.0	ND		ND		ND			
Selenium	0.040	ND		ND		ND			
Silver	0.010	ND		ND		ND			
Sodium	1.0	0.0289	J	ND		0.0595	J		
Strontium	0.0050	ND		ND		ND			
Tin	0.010	ND		ND		ND			
Titanium	0.010	ND		ND		ND			
Vanadium	0.010	ND		ND		ND			
Zinc	0.010	ND		ND		ND			

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins TestAmerica, Canton Job No.: 600-194690-1

SDG No.:

Concentration Units: ng/L

Analyte	RL	ICB 240-405319/10-A 09/27/2019 11:48		CCB 240-409214/63 11/04/2019 15:57		CCB 240-409214/93 11/04/2019 18:22			
		Found	C	Found	C	Found	C	Found	C
Mercury	0.50	ND		ND		ND			

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins TestAmerica, Canton Job No.: 600-194690-1

SDG No.:

Concentration Units: ng/L

Analyte	RL	ICB 240-405319/10-A 09/27/2019 11:48		CCB 240-409411/18 11/05/2019 12:03		CCB 240-409411/33 11/05/2019 13:15		CCB 240-409411/70 11/05/2019 16:13	
		Found	C	Found	C	Found	C	Found	C
Mercury	0.50	ND		0.213	J	0.240	J	0.207	J

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins TestAmerica, Canton Job No.: 600-194690-1

SDG No.:

Concentration Units: ng/L

Analyte	RL	CCB 240-409411/75 11/05/2019 16:37							
		Found	C	Found	C	Found	C	Found	C
Mercury	0.50	0.282	J						

Italicized analytes were not requested for this sequence.

3-IN
METHOD BLANK
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Concentration Units: mg/L Lab Sample ID: MB 600-279634/1-A

Instrument Code: Thermo6500 Batch No.: 280132

CAS No.	Analyte	Concentration	C	Q	Method
7440-22-4	Silver	ND			6010C
7440-38-2	Arsenic	ND			6010C
7440-39-3	Barium	ND			6010C
7440-42-8	Boron	ND			6010C
7440-41-7	Beryllium	ND			6010C
7440-70-2	Calcium	ND			6010C
7440-43-9	Cadmium	ND			6010C
7440-48-4	Cobalt	ND			6010C
7440-47-3	Chromium	ND			6010C
7440-50-8	Copper	ND			6010C
7439-89-6	Iron	ND			6010C
7440-09-7	Potassium	ND			6010C
7439-95-4	Magnesium	ND			6010C
7439-96-5	Manganese	ND			6010C
7440-02-0	Nickel	ND			6010C
7439-92-1	Lead	ND			6010C
7440-36-0	Antimony	ND			6010C
7439-98-7	Molybdenum	ND			6010C
7782-49-2	Selenium	ND			6010C
7440-31-5	Tin	ND			6010C
7440-24-6	Strontium	ND			6010C
7440-62-2	Vanadium	ND			6010C
7440-32-6	Titanium	ND			6010C
7440-66-6	Zinc	ND			6010C

3-IN
METHOD BLANK
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Concentration Units: mg/L Lab Sample ID: MB 600-279634/1-A

Instrument Code: Thermo6500 Batch No.: 280247

CAS No.	Analyte	Concentration	C	Q	Method
7440-23-5	Sodium	ND			6010C

FORM III-IN

3-IN
METHOD BLANK
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Concentration Units: mg/L Lab Sample ID: MB 600-279634/1-A

Instrument Code: Thermo6500 Batch No.: 280693

CAS No.	Analyte	Concentration	C	Q	Method
7440-28-0	Thallium	0.00830	J		6010C

FORM III-IN

3-IN
METHOD BLANK
METALS

Lab Name: Eurofins TestAmerica, Canton Job No.: 600-194690-1

SDG No.:

Concentration Units: ng/L Lab Sample ID: MB 240-408778/1-A

Instrument Code: H8 Batch No.: 409214

CAS No.	Analyte	Concentration	C	Q	Method
7439-97-6	Mercury	0.210	J		1631E

FORM III-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: ICSA 600-280132/18 Instrument ID: Thermo6500

Lab File ID: A111219.asc ICS Source: METISA_00135

Concentration Units: mg/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Antimony		**-0.0010**	
Arsenic		**0.0015**	
Barium		**-0.0001**	
Beryllium		**0.0001**	
Boron		**0.0089**	
Cadmium		**0.0028**	
Calcium	**500**	**505**	**101**
Chromium		**0.0023**	
Cobalt		**0.0003**	
Copper		**-0.0017**	
Iron	**200**	**199**	**99**
Lead		**-0.0002**	
Magnesium	**500**	**518**	**104**
Manganese		**-0.0042**	
Molybdenum		**0.0009**	
Nickel		**-0.0031**	
Potassium		**0.140**	
Selenium		**-0.0162**	
Silver		**0.0004**	
Strontium		**0.0050**	
Thallium		**-0.0060**	
Tin		**-0.0009**	
Titanium		**0.0037**	
Vanadium		**-0.0032**	
Zinc		**-0.0039**	
Aluminum	*500*	*555*	*111*
Lithium		*0.0100*	
Phosphorus		*0.0001*	
Silicon		*0.0107*	
Sodium		*0.151*	
Uranium		*1.31*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: ICSAB 600-280132/19 Instrument ID: Thermo6500

Lab File ID: A111219.asc ICS Source: METISB_00135

Concentration Units: mg/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Antimony	**2.00**	**2.09**	**104**
Arsenic	**2.00**	**1.98**	**99**
Barium	**2.00**	**1.99**	**99**
Beryllium	**1.00**	**0.965**	**96**
Boron	**0.500**	**0.499**	**100**
Cadmium	**1.00**	**1.01**	**101**
Calcium	**500**	**482**	**96**
Chromium	**1.00**	**0.916**	**92**
Cobalt	**1.00**	**1.00**	**100**
Copper	**1.00**	**1.01**	**101**
Iron	**200**	**190**	**95**
Lead	**1.00**	**0.976**	**98**
Magnesium	**500**	**501**	**100**
Manganese	**1.00**	**0.934**	**93**
Molybdenum	**1.00**	**0.935**	**93**
Nickel	**1.00**	**0.997**	**100**
Potassium	**10.0**	**10.7**	**107**
Selenium	**2.00**	**1.92**	**96**
Silver	**0.250**	**0.269**	**108**
Strontium	**1.00**	**0.989**	**99**
Thallium	**2.00**	**1.83**	**91**
Tin	**2.00**	**2.01**	**100**
Titanium	**1.00**	**0.956**	**96**
Vanadium	**1.00**	**0.930**	**93**
Zinc	**0.500**	**0.514**	**103**
Aluminum	*500*	*528*	*106*
Lithium	*1.00*	*1.04*	*104*
Phosphorus	*10.0*	*11.1*	*111*
Silicon	*2.00*	*1.73*	*86*
Sodium	*10.0*	*10.7*	*107*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: ICSA 600-280132/283 Instrument ID: Thermo6500

Lab File ID: A111219.asc ICS Source: METISA_00135

Concentration Units: mg/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Antimony		**0.0062**	
Arsenic		**0.0018**	
Barium		**-0.0002**	
Beryllium		**0.0000**	
Boron		**0.0133**	
Cadmium		**0.0028**	
Calcium	**500**	**502**	**100**
Chromium		**0.0022**	
Cobalt		**0.0000**	
Copper		**-0.0010**	
Iron	**200**	**193**	**97**
Lead		**-0.0009**	
Magnesium	**500**	**525**	**105**
Manganese		**-0.0042**	
Molybdenum		**0.0014**	
Nickel		**-0.0027**	
Potassium		**0.292**	
Selenium		**-0.0111**	
Silver		**0.0000**	
Strontium		**0.0047**	
Thallium		**-0.0071**	
Tin		**-0.0008**	
Titanium		**0.0031**	
Vanadium		**-0.0035**	
Zinc		**-0.0037**	
Aluminum	*500*	*551*	*110*
Lithium		*0.0087*	
Phosphorus		*-0.0015*	
Silicon		*0.0088*	
Sodium		*0.135*	
Sulfur		*-0.985*	
Uranium		*1.21*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: ICSA 600-280247/18 Instrument ID: Thermo6500

Lab File ID: A111319.asc ICS Source: METISA_00135

Concentration Units: mg/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Sodium		**0.0875**	
Aluminum	*500*	*560*	*112*
Antimony		*-0.0103*	
Arsenic		*-0.0180*	
Barium		*-0.0004*	
Beryllium		*0.0000*	
Boron		*0.0078*	
Cadmium		*0.0034*	
Calcium	*500*	*514*	*103*
Chromium		*0.0008*	
Cobalt		*-0.0003*	
Copper		*-0.0014*	
Iron	*200*	*202*	*101*
Lead		*0.0025*	
Lithium		*0.0092*	
Magnesium	*500*	*520*	*104*
Manganese		*-0.0042*	
Molybdenum		*0.0003*	
Nickel		*-0.0029*	
Phosphorus		*0.0011*	
Potassium		*0.155*	
Selenium		*-0.0167*	
Silicon		*0.0153*	
Silver		*0.0009*	
Strontium		*0.0047*	
Thallium		*0.0008*	
Tin		*0.0008*	
Titanium		*0.0032*	
Uranium		*1.24*	
Vanadium		*-0.0034*	
Zinc		*-0.0039*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: ICSAB 600-280247/20 Instrument ID: Thermo6500

Lab File ID: A111319.asc ICS Source: METISB_00135

Concentration Units: mg/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Sodium	**10.0**	**10.8**	**108**
Aluminum	*500*	*541*	*108*
Antimony	*2.00*	*2.14*	*107*
Arsenic	*2.00*	*1.98*	*99*
Barium	*2.00*	*2.03*	*102*
Beryllium	*1.00*	*1.01*	*101*
Boron	*0.500*	*0.509*	*102*
Cadmium	*1.00*	*1.04*	*104*
Calcium	*500*	*499*	*100*
Chromium	*1.00*	*0.957*	*96*
Cobalt	*1.00*	*1.02*	*102*
Copper	*1.00*	*1.05*	*105*
Iron	*200*	*195*	*98*
Lead	*1.00*	*1.01*	*101*
Lithium	*1.00*	*1.08*	*108*
Magnesium	*500*	*506*	*101*
Manganese	*1.00*	*0.967*	*97*
Molybdenum	*1.00*	*0.981*	*98*
Nickel	*1.00*	*1.03*	*103*
Phosphorus	*10.0*	*11.6*	*116*
Potassium	*10.0*	*11.0*	*110*
Selenium	*2.00*	*1.97*	*99*
Silicon	*2.00*	*1.95*	*97*
Strontium	*1.00*	*1.02*	*102*
Sulfur	*5.00*	*4.21*	*84*
Thallium	*2.00*	*1.85*	*93*
Tin	*2.00*	*2.07*	*103*
Titanium	*1.00*	*0.994*	*99*
Vanadium	*1.00*	*0.972*	*97*
Zinc	*0.500*	*0.526*	*105*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: ICSA 600-280247/250 Instrument ID: Thermo6500

Lab File ID: A111319.asc ICS Source: METISA_00135

Concentration Units: mg/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Sodium		**0.126**	
Aluminum	*500*	*542*	*108*
Antimony		*-0.0103*	
Arsenic		*-0.0157*	
Barium		*-0.0005*	
Beryllium		*0.0000*	
Boron		*0.0118*	
Cadmium		*0.0033*	
Calcium	*500*	*507*	*101*
Chromium		*0.0007*	
Cobalt		*-0.0002*	
Copper		*-0.0019*	
Iron	*200*	*199*	*100*
Lead		*0.0052*	
Lithium		*0.0081*	
Magnesium	*500*	*511*	*102*
Manganese		*-0.0041*	
Molybdenum		*0.0005*	
Nickel		*-0.0034*	
Phosphorus		*0.0013*	
Potassium		*0.0451*	
Selenium		*-0.0066*	
Silicon		*0.0140*	
Silver		*0.0008*	
Strontium		*0.0048*	
Sulfur		*-0.916*	
Thallium		*-0.0130*	
Tin		*0.0000*	
Titanium		*0.0030*	
Uranium		*1.37*	
Vanadium		*-0.0036*	
Zinc		*-0.0039*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: ICSA 600-280693/18 Instrument ID: Thermo6500

Lab File ID: A111919.asc ICS Source: METISA_00135

Concentration Units: mg/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Thallium		**-0.0002**	
Aluminum	*500*	*542*	*108*
Antimony		*-0.0078*	
Arsenic		*-0.0119*	
Barium		*-0.0003*	
Beryllium		*0.0002*	
Boron		*0.0096*	
Cadmium		*0.0033*	
Calcium	*500*	*497*	*99*
Chromium		*0.0007*	
Cobalt		*0.0001*	
Copper		*-0.0008*	
Iron	*200*	*196*	*98*
Lead		*-0.0017*	
Lithium		*0.0108*	
Magnesium	*500*	*520*	*104*
Manganese		*-0.0041*	
Molybdenum		*0.0008*	
Nickel		*-0.0124*	
Phosphorus		*0.0004*	
Potassium		*0.0320*	
Selenium		*-0.0090*	
Silicon		*0.0141*	
Silver		*-0.0006*	
Sodium		*0.0665*	
Strontium		*0.0048*	
Tin		*0.0000*	
Titanium		*0.0040*	
Uranium		*1.21*	
Vanadium		*-0.0023*	
Zinc		*-0.0031*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Lab Sample ID: ICSAB 600-280693/19 Instrument ID: Thermo6500

Lab File ID: A111919.asc ICS Source: METISB_00136

Concentration Units: mg/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Thallium	**1.00**	**0.841**	**84**
Aluminum	*500*	*532*	*106*
Antimony	*3.00*	*3.10*	*103*
Arsenic	*1.00*	*0.986*	*99*
Barium	*1.00*	*1.00*	*100*
Beryllium	*1.00*	*0.991*	*99*
Boron	*0.500*	*0.502*	*100*
Cadmium	*1.00*	*1.02*	*102*
Calcium	*500*	*493*	*99*
Chromium	*1.00*	*0.949*	*95*
Cobalt	*1.00*	*1.01*	*101*
Copper	*1.00*	*1.04*	*104*
Iron	*200*	*193*	*96*
Lead	*1.00*	*0.974*	*97*
Lithium	*1.00*	*1.05*	*105*
Magnesium	*500*	*506*	*101*
Manganese	*1.00*	*0.966*	*97*
Molybdenum	*1.00*	*0.944*	*94*
Nickel	*1.00*	*0.991*	*99*
Phosphorus	*5.00*	*5.56*	*111*
Potassium	*10.0*	*10.7*	*107*
Selenium	*1.00*	*0.972*	*97*
Silicon	*10.0*	*9.74*	*97*
Silver	*0.250*	*0.238*	*95*
Sodium	*10.0*	*11.0*	*110*
Strontium	*1.00*	*1.000*	*100*
Tin	*1.00*	*1.01*	*101*
Titanium	*1.00*	*0.990*	*99*
Vanadium	*1.00*	*0.970*	*97*
Zinc	*0.500*	*0.518*	*104*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: INF 4 - DISSOLVED MS
Lab ID: 600-194690-11 MS
Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-194690-1
SDG No.:
Matrix: Water
Concentration Units: mg/L
% Solids:

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Silver	0.258		ND		0.250	103	75-125		6010C
Arsenic	1.04		0.0041	J	1.00	104	75-125		6010C
Boron	0.712		0.20		0.500	102	75-125		6010C
Barium	1.27		0.30		1.00	98	75-125		6010C
Beryllium	1.02		ND		1.00	102	75-125		6010C
Calcium	64.6		55		10.0	100	75-125	4	6010C
Cadmium	1.01		0.00040	J	1.00	100	75-125		6010C
Cobalt	1.02		0.0012	J	1.00	102	75-125		6010C
Chromium	0.943		0.0039	J	1.00	94	75-125		6010C
Copper	0.986		ND		1.00	99	75-125		6010C
Iron	11.7		2.9		10.0	88	75-125		6010C
Potassium	22.5		13		10.0	99	75-125		6010C
Magnesium	42.0		32		10.0	97	75-125		6010C
Manganese	0.992		0.035		1.00	96	75-125		6010C
Molybdenum	1.00		0.010		1.00	99	75-125		6010C
Sodium	359		350		10.0	98	75-125	4	6010C
Nickel	1.05		0.0030	J	1.00	105	75-125		6010C
Lead	1.02		ND		1.00	102	75-125		6010C
Antimony	1.66		ND		1.50	111	75-125		6010C
Selenium	1.02		ND		1.00	102	75-125		6010C
Tin	1.05		ND		1.00	105	75-125		6010C
Strontium	1.45		0.47		1.00	98	75-125		6010C
Titanium	0.993		0.025		1.00	97	75-125		6010C
Thallium	1.01		ND		1.00	101	75-125	^	6010C
Vanadium	0.972		0.012		1.00	96	75-125		6010C
Zinc	0.561		0.026	J	0.500	107	75-125		6010C

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VA - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: INF 4 - DISSOLVED MSD
Lab ID: 600-194690-11 MSD
Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-194690-1
SDG No.:
Matrix: Water
Concentration Units: mg/L
% Solids:

Analyte	(SDR)	C	Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Silver	0.258		0.250	103	75-125	0	20		6010C
Arsenic	0.969		1.00	96	75-125	7	20		6010C
Boron	0.711		0.500	102	75-125	0	20		6010C
Barium	1.28		1.00	98	75-125	1	20		6010C
Beryllium	1.02		1.00	102	75-125	0	20		6010C
Calcium	64.5		10.0	99	75-125	0	20	4	6010C
Cadmium	0.936		1.00	94	75-125	7	20		6010C
Cobalt	0.951		1.00	95	75-125	7	20		6010C
Chromium	0.937		1.00	93	75-125	1	20		6010C
Copper	0.986		1.00	99	75-125	0	20		6010C
Iron	11.6		10.0	87	75-125	1	20		6010C
Potassium	22.4		10.0	97	75-125	1	20		6010C
Magnesium	41.5		10.0	92	75-125	1	20		6010C
Manganese	0.993		1.00	96	75-125	0	20		6010C
Molybdenum	0.939		1.00	93	75-125	7	20		6010C
Sodium	359		10.0	89	75-125	0	20	4	6010C
Nickel	0.980		1.00	98	75-125	7	20		6010C
Lead	0.949		1.00	95	75-125	7	20		6010C
Antimony	1.55		1.50	104	75-125	7	20		6010C
Selenium	0.955		1.00	96	75-125	7	20		6010C
Tin	0.982		1.00	98	75-125	7	20		6010C
Strontium	1.46		1.00	99	75-125	1	20		6010C
Titanium	0.991		1.00	97	75-125	0	20		6010C
Thallium	0.997		1.00	100	75-125	2	20	^	6010C
Vanadium	0.971		1.00	96	75-125	0	20		6010C
Zinc	0.521		0.500	99	75-125	7	20		6010C

SDR = Sample Duplicate Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VD - IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS

Client ID: 1. CEFF MS

Lab ID: 600-194690-1 MS

Lab Name: Eurofins TestAmerica, Canton

Job No.: 600-194690-1

SDG No.:

Matrix: Water

Concentration Units: ng/L

% Solids:

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Mercury	34.5		18		25.0	67	71-125	F1	1631E

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VA - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS

Client ID: 1. CEFF MSD

Lab ID: 600-194690-1 MSD

Lab Name: Eurofins TestAmerica, Canton

Job No.: 600-194690-1

SDG No.:

Matrix: Water

Concentration Units: ng/L

% Solids:

Analyte	(SDR)	C	Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Mercury	35.0		25.0	69	71-125	1	24	F1	1631E

SDR = Sample Duplicate Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VD - IN

6-IN
DUPLICATES
METALS - DISSOLVED

Client ID: INF 4 - DISSOLVED DU
Lab ID: 600-194690-11 DU
Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-194690-1
SDG No.:
% Solids for Sample:
% Solids for Duplicate:
Matrix: Water
Concentration Units: mg/L

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Silver	0.010	ND		ND		NC		6010C
Arsenic	0.010	0.0041	J	ND		NC		6010C
Barium	0.020	0.30		0.295		0.7		6010C
Boron	0.20	0.20		0.209		3		6010C
Beryllium	0.0050	ND		ND		NC		6010C
Calcium	1.0	55		54.6		0		6010C
Cadmium	0.0050	0.00040	J	0.000400	J	0		6010C
Cobalt	0.010	0.0012	J	0.00120	J	0		6010C
Chromium	0.010	0.0039	J	0.00410	J	5		6010C
Copper	0.010	ND		ND		NC		6010C
Iron	0.40	2.9		2.87		1		6010C
Potassium	1.0	13		12.6		0.6		6010C
Magnesium	1.0	32		32.7		1		6010C
Manganese	0.010	0.035		0.0356		0.6		6010C
Sodium	5.0	350		350		0		6010C
Nickel	0.010	0.0030	J	0.00310	J	3		6010C
Lead	0.010	ND		ND		NC		6010C
Antimony	0.050	ND		ND		NC		6010C
Molybdenum	0.010	0.010		0.0103		1		6010C
Selenium	0.040	ND		ND		NC		6010C
Thallium	0.030	ND		ND		NC	^	6010C
Tin	0.010	ND		ND		NC		6010C
Strontium	0.0050	0.47		0.475		0		6010C
Vanadium	0.010	0.012		0.0114		3		6010C
Titanium	0.010	0.025		0.0263		4		6010C
Zinc	0.030	0.026	J	0.0237	J	10		6010C

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VI-IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 600-279634/2-A

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

Sample Matrix: Water LCS Source: ICPMSCALMIX4S_00004

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Silver	0.250	0.248		99	80	120		6010C
Arsenic	1.00	1.00		100	80	120		6010C
Barium	1.00	1.02		102	80	120		6010C
Boron	0.500	0.505		101	80	120		6010C
Beryllium	1.00	0.986		99	80	120		6010C
Calcium	10.0	9.77		98	80	120		6010C
Cadmium	1.00	0.990		99	80	120		6010C
Cobalt	1.00	0.974		97	80	120		6010C
Chromium	1.00	0.940		94	80	120		6010C
Copper	1.00	0.981		98	80	120		6010C
Iron	10.0	10.0		100	80	120		6010C
Potassium	10.0	10.0		100	80	120		6010C
Magnesium	10.0	10.1		101	80	120		6010C
Manganese	1.00	0.986		99	80	120		6010C
Nickel	1.00	0.999		100	80	120		6010C
Lead	1.00	0.992		99	80	120		6010C
Antimony	1.50	1.66		110	80	120		6010C
Molybdenum	1.00	1.02		102	80	120		6010C
Selenium	1.00	1.00		100	80	120		6010C
Tin	1.00	0.998		100	80	120		6010C
Strontium	1.00	1.01		101	80	120		6010C
Vanadium	1.00	0.962		96	80	120		6010C
Titanium	1.00	0.971		97	80	120		6010C
Zinc	0.500	0.496		99	80	120		6010C

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 600-279634/2-A

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

Sample Matrix: Water LCS Source: ICPMSCALMIX2S_00003

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Sodium	10.0	10.2		102	80	120		6010C

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 600-279634/2-A

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

Sample Matrix: Water LCS Source: ICPMSCALMIX1S_00006

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Thallium	1.00	0.882		88	80	120		6010C

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 240-408778/2-A

Lab Name: Eurofins TestAmerica, Canton Job No.: 600-194690-1

Sample Matrix: Water LCS Source: LLHg-1631-ICV_00052

Analyte	Water(ng/L)							
	True	Found	C	%R	Limits		Q	Method
Mercury	5.00	4.88		98	77	123		1631E

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

9-IN
DETECTION LIMITS
METALS

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-194690-1

SDG Number:

Matrix: Water Instrument ID: Thermo6500

Method: 6010C MDL Date: 02/26/2018 16:36

Prep Method: 3010A

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Antimony		0.05	0.00393
Arsenic		0.01	0.00285
Barium		0.02	0.00053
Beryllium		0.005	0.00042
Boron		0.2	0.0116
Cadmium		0.005	0.00028
Calcium		1	0.024
Chromium		0.01	0.00159
Cobalt		0.01	0.00031
Copper		0.01	0.00813
Iron		0.4	0.027
Lead		0.01	0.00219
Magnesium		1	0.0555
Manganese		0.01	0.00036
Molybdenum		0.01	0.00054
Nickel		0.01	0.0008
Potassium		1	0.0374
Selenium		0.04	0.00287
Silver		0.01	0.00129
Sodium		1	0.0214
Strontium		0.005	0.00034
Thallium		0.03	0.00417
Tin		0.01	0.00059
Titanium		0.01	0.00051
Vanadium		0.01	0.00047
Zinc		0.03	0.004

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-194690-1

SDG Number:

Matrix: Water Instrument ID: Thermo6500

Method: 6010C XMDL Date: 09/01/2011 12:56

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Antimony		0.05	0.0063
Arsenic		0.01	0.00328
Barium		0.02	0.0022
Beryllium		0.005	0.00134
Boron		0.2	0.00771
Cadmium		0.005	0.00073
Calcium		1	0.0219
Chromium		0.01	0.00155
Cobalt		0.01	0.00063
Copper		0.01	0.00145
Iron		0.4	0.0866
Lead		0.01	0.0029
Magnesium		1	0.0191
Manganese		0.01	0.00084
Molybdenum		0.01	0.00273
Nickel		0.01	0.00179
Potassium		1	0.129
Selenium		0.04	0.00417
Silver		0.01	0.00125
Sodium		1	0.02
Strontium		0.005	0.00026
Thallium		0.03	0.00784
Tin		0.01	0.00278
Titanium		0.01	0.00108
Vanadium		0.01	0.00169
Zinc		0.01	0.00217

9-IN
DETECTION LIMITS
METALS - DISSOLVED

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-194690-1

SDG Number:

Matrix: Water Instrument ID: Thermo6500

Method: 6010C MDL Date: 02/26/2018 16:36

Prep Method: 3010A

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Antimony		0.05	0.00393
Arsenic		0.01	0.00285
Barium		0.02	0.00053
Beryllium		0.005	0.00042
Boron		0.2	0.0116
Cadmium		0.005	0.00028
Calcium		1	0.024
Chromium		0.01	0.00159
Cobalt		0.01	0.00031
Copper		0.01	0.00813
Iron		0.4	0.027
Lead		0.01	0.00219
Magnesium		1	0.0555
Manganese		0.01	0.00036
Molybdenum		0.01	0.00054
Nickel		0.01	0.0008
Potassium		1	0.0374
Selenium		0.04	0.00287
Silver		0.01	0.00129
Sodium		1	0.0214
Strontium		0.005	0.00034
Thallium		0.03	0.00417
Tin		0.01	0.00059
Titanium		0.01	0.00051
Vanadium		0.01	0.00047
Zinc		0.03	0.004

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - DISSOLVED

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-194690-1

SDG Number:

Matrix: Water Instrument ID: Thermo6500

Method: 6010C XMDL Date: 09/01/2011 12:56

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Antimony		0.05	0.0063
Arsenic		0.01	0.00328
Barium		0.02	0.0022
Beryllium		0.005	0.00134
Boron		0.2	0.00771
Cadmium		0.005	0.00073
Calcium		1	0.0219
Chromium		0.01	0.00155
Cobalt		0.01	0.00063
Copper		0.01	0.00145
Iron		0.4	0.0866
Lead		0.01	0.0029
Magnesium		1	0.0191
Manganese		0.01	0.00084
Molybdenum		0.01	0.00273
Nickel		0.01	0.00179
Potassium		1	0.129
Selenium		0.04	0.00417
Silver		0.01	0.00125
Sodium		1	0.02
Strontium		0.005	0.00026
Thallium		0.03	0.00784
Tin		0.01	0.00278
Titanium		0.01	0.00108
Vanadium		0.01	0.00169
Zinc		0.01	0.00217

9-IN
DETECTION LIMITS
METALS

Lab Name: Eurofins TestAmerica, Canton Job Number: 600-194690-1

SDG Number:

Matrix: Water Instrument ID: H8

Method: 1631E MDL Date: 02/22/2017 15:46

Prep Method: 1631E

Analyte	Wavelength/ Mass	RL (ng/L)	MDL (ng/L)
Mercury	253.7	0.5	0.14

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS

Lab Name: Eurofins TestAmerica, Canton Job Number: 600-194690-1

SDG Number:

Matrix: Water Instrument ID: H8

Method: 1631E XMDL Date: 02/22/2017 15:47

Analyte	Wavelength/ Mass	XRL (ng/L)	XMDL (ng/L)
Mercury	253.7	0.5	0.14

FORM IX - IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-194690-1

SDG No.:

ICP-AES Instrument ID: Thermo6500 Date: 12/11/2018

Analyte	Wave Length	Ag	Al	As	B	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Li
Aluminum													0.000088		
Antimony			-0.000021								0.013941		0.000007		
Arsenic											0.000632		-0.000059		
Barium															
Beryllium															
Boron													-0.000004		
Cadmium				0.016373									-0.000010		
Calcium													0.001053		
Chromium															
Cobalt															
Copper													0.000019		
Iron															
Lead			0.000117					0.000001		-0.000608		0.000928	-0.000046		
Lithium															
Magnesium													-0.000344		
Manganese													0.000011		
Molybdenum													-0.000010		
Nickel													0.000033		
Potassium													-0.000137		
Selenium													0.000007		
Silicon													-0.000029		
Silver															
Sodium													0.000050		
Strontium													0.000001		
Thallium										003101	0.000237				
Tin													0.000013		
Titanium											0.000188				
Vanadium													0.000016		
Zinc								-0.000004			-0.000095		0.000023		

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-194690-1

SDG No.:

ICP-AES Instrument ID: Thermo6500 Date: 12/11/2018

Analyte	Wave Length	Mg	Mn	Mo	Na	Ni	Pb	Sb	Se	Si	Sn	Sr	Ti	Tl	V
Aluminum				0.021995											0.045833
Antimony															
Arsenic				0.000902											
Barium															
Beryllium															0.000250
Boron															
Cadmium															0.000105
Calcium															
Chromium															
Cobalt						0.000120							0.002255		
Copper				-0.000202											-0.000268
Iron															
Lead				-0.002542		-0.000020									
Lithium															
Magnesium															
Manganese		0.000003													
Molybdenum															
Nickel				0.000860										0.000721	
Potassium															
Selenium				-0.013246											
Silicon				-0.013246											
Silver															0.000089
Sodium															
Strontium				0.000001											
Thallium			0.000748												0.000872
Tin															
Titanium				0.001410											
Vanadium				0.002508											
Zinc				0.000285											

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-194690-1

SDG No.:

ICP-AES Instrument ID: Thermo6500 Date: 12/11/2018

Analyte	Wave Length	Zn													
Aluminum															
Antimony															
Arsenic															
Barium															
Beryllium															
Boron															
Cadmium															
Calcium															
Chromium															
Cobalt															
Copper															
Iron															
Lead															
Lithium															
Magnesium															
Manganese															
Molybdenum															
Nickel															
Potassium															
Selenium															
Silicon															
Silver															
Sodium															
Strontium															
Thallium															
Tin															
Titanium															
Vanadium															
Zinc															

X-IN

11-IN
LINEAR RANGES
METALS

Lab Name: Eurofins TestAmerica, Houston Job No: 600-194690-1

SDG No.:

Instrument ID: Thermo6500 Date: 04/04/2016 09:34

Analyte	Integ. Time (Sec.)	Concentration (mg/L)	Method
Silver		2.00	6010C
Arsenic		50.0	6010C
Barium		40.0	6010C
Boron		5.00	6010C
Beryllium		5.00	6010C
Calcium		2000	6010C
Cadmium		10.0	6010C
Cobalt		25.0	6010C
Chromium		50.0	6010C
Copper		50.0	6010C
Iron		1000	6010C
Potassium		200.	6010C
Magnesium		500.	6010C
Manganese		10.0	6010C
Sodium		200.	6010C
Nickel		50.0	6010C
Lead		50.0	6010C
Antimony		25.0	6010C
Molybdenum		10.0	6010C
Selenium		25.0	6010C
Thallium		25.0	6010C
Tin		5.00	6010C
Strontium		5.00	6010C
Vanadium		50.0	6010C
Titanium		10.0	6010C
Zinc		10.0	6010C

12-IN
PREPARATION LOG
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Prep Method: 3010A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 600-279634/1-A	11/06/2019 15:20	279634		50	50
LCS 600-279634/2-A	11/06/2019 15:20	279634		50	50
600-194690-1	11/06/2019 15:20	279634		50	50
600-194690-3	11/06/2019 15:20	279634		50	50
600-194690-8	11/06/2019 15:20	279634		50	50
600-194690-9	11/06/2019 15:20	279634		50	50
600-194690-10	11/06/2019 15:20	279634		50	50
600-194690-11	11/06/2019 15:20	279634		50	50
600-194690-11 DU	11/06/2019 15:20	279634		50	50
600-194690-11 MS	11/06/2019 15:20	279634		50	50
600-194690-11 MSD	11/06/2019 15:20	279634		50	50

FORM XII-IN

12-IN
PREPARATION LOG
METALS

Lab Name: Eurofins TestAmerica, Canton Job No.: 600-194690-1

SDG No.:

Prep Method: 1631E

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 240-408778/1-A	11/01/2019 13:07	408778		40	40
LCS 240-408778/2-A	11/01/2019 13:07	408778		40	40
600-194690-1	11/01/2019 13:07	408778		40	40
600-194690-1 MS	11/01/2019 13:07	408778		40	40
600-194690-1 MSD	11/01/2019 13:07	408778		40	40
600-194690-3	11/01/2019 13:07	408778		40	40
600-194690-5	11/01/2019 13:07	408778		40	40
600-194690-8	11/01/2019 13:07	408778		40	40
600-194690-11	11/01/2019 13:07	408778		40	40

FORM XII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: Thermo6500 Analysis Method: 6010C

Start Date: 11/12/2019 08:53 End Date: 11/12/2019 18:40

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	As	B	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Ni	Pb	Sb	Se	Sn	Sr	Ti	Tl	V	Zn
ZZZZZZ			08:53																									
ZZZZZZ			08:55																									
ZZZZZZ			08:57																									
ZZZZZZ			09:00																									
ZZZZZZ			09:02																									
ZZZZZZ			09:04																									
ZZZZZZ			09:06																									
ZZZZZZ			09:08																									
CALIBSTD 600-280132/9 IC			09:10	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
CALIBSTD 600-280132/10 IC			09:12	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
CALIBSTD 600-280132/11 IC			09:14	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
CALIBSTD 600-280132/12 IC			09:16	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
ZZZZZZ			09:17																									
ZZZZZZ			09:19																									
ICV 600-280132/15	1		09:22	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
ICVL 600-280132/16	1		09:25	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
ICBIS 600-280132/17	1		09:28	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
ICSA 600-280132/18	1		09:30	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
ICSAB 600-280132/19	1		09:32	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
CCV 600-280132/20			09:34																									
CCVL 600-280132/21			09:36																									
CCB 600-280132/22			09:38																									
ZZZZZZ			09:40																									
ZZZZZZ			09:42																									
ZZZZZZ			09:44																									
ZZZZZZ			09:46																									
ZZZZZZ			09:48																									
ZZZZZZ			09:49																									
ZZZZZZ			09:51																									
ZZZZZZ			09:53																									
ZZZZZZ			09:55																									
ZZZZZZ			09:57																									
CCV 600-280132/33			10:00																									
CCVL 600-280132/34			10:01																									
CCB 600-280132/35			10:03																									
ZZZZZZ			10:06																									
ZZZZZZ			10:08																									
ZZZZZZ			10:10																									
ZZZZZZ			10:12																									
ZZZZZZ			10:14																									
ZZZZZZ			10:16																									
ZZZZZZ			10:18																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: Thermo6500 Analysis Method: 6010C

Start Date: 11/12/2019 08:53 End Date: 11/12/2019 18:40

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	As	B	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Ni	Pb	Sb	Se	Sn	Sr	Ti	Tl	V	Zn
ZZZZZZ			10:20																									
ZZZZZZ			10:22																									
ZZZZZZ			10:24																									
CCV 600-280132/46			10:26																									
CCVL 600-280132/47			10:28																									
CCB 600-280132/48			10:30																									
ZZZZZZ			10:32																									
ZZZZZZ			10:34																									
ZZZZZZ			10:36																									
ZZZZZZ			10:38																									
ZZZZZZ			10:41																									
ZZZZZZ			10:43																									
ZZZZZZ			10:45																									
ZZZZZZ			10:47																									
ZZZZZZ			10:49																									
ZZZZZZ			10:53																									
CCV 600-280132/59			10:56																									
CCVL 600-280132/60			10:57																									
CCB 600-280132/61			10:59																									
ZZZZZZ			11:02																									
ZZZZZZ			11:04																									
ZZZZZZ			11:06																									
ZZZZZZ			11:08																									
ZZZZZZ			11:10																									
ZZZZZZ			11:12																									
ZZZZZZ			11:14																									
ZZZZZZ			11:16																									
ZZZZZZ			11:18																									
ZZZZZZ			11:20																									
CCV 600-280132/72			11:22																									
CCVL 600-280132/73			11:24																									
CCB 600-280132/74			11:26																									
ZZZZZZ			11:28																									
ZZZZZZ			11:30																									
ZZZZZZ			11:32																									
ZZZZZZ			11:34																									
ZZZZZZ			11:36																									
ZZZZZZ			11:38																									
ZZZZZZ			11:40																									
ZZZZZZ			11:42																									
ZZZZZZ			11:44																									
ZZZZZZ			11:46																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: Thermo6500 Analysis Method: 6010C

Start Date: 11/12/2019 08:53 End Date: 11/12/2019 18:40

Lab Sample Id	D/F	Type	Time	Analytes																									
				Ag	As	B	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Ni	Pb	Sb	Se	Sn	Sr	Ti	Tl	V	Zn	
CCV 600-280132/85	1		11:48	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
CCVL 600-280132/86	1		11:50	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	
CCB 600-280132/87	1		11:52	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
MB 600-279634/1-A	1	T	11:54	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	
LCS 600-279634/2-A	1	T	11:56	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	
ZZZZZZ			11:58																										
ZZZZZZ			12:00																										
ZZZZZZ			12:02																										
ZZZZZZ			12:04																										
ZZZZZZ			12:06																										
ZZZZZZ			12:08																										
ZZZZZZ			12:10																										
ZZZZZZ			12:12																										
CCV 600-280132/98	1		12:14	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
CCVL 600-280132/99	1		12:16	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	
CCB 600-280132/100	1		12:18	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
ZZZZZZ			12:20																										
ZZZZZZ			12:22																										
ZZZZZZ			12:24																										
ZZZZZZ			12:26																										
ZZZZZZ			12:28																										
ZZZZZZ			12:30																										
ZZZZZZ			12:32																										
ZZZZZZ			12:34																										
ZZZZZZ			12:36																										
ZZZZZZ			12:38																										
CCV 600-280132/111	1		12:40	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
CCVL 600-280132/112	1		12:42	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	
CCB 600-280132/113	1		12:44	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
ZZZZZZ			12:46																										
ZZZZZZ			12:48																										
ZZZZZZ			12:50																										
ZZZZZZ			12:52																										
ZZZZZZ			12:54																										
ZZZZZZ			12:56																										
ZZZZZZ			12:58																										
ZZZZZZ			13:00																										
ZZZZZZ			13:02																										
ZZZZZZ			13:04																										
CCV 600-280132/124			13:06																										
CCVL 600-280132/125			13:07																										
CCB 600-280132/126			13:10																										

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: Thermo6500 Analysis Method: 6010C

Start Date: 11/12/2019 08:53 End Date: 11/12/2019 18:40

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	As	B	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Ni	Pb	Sb	Se	Sn	Sr	Ti	Tl	V	Zn
ZZZZZZ			13:12																									
ZZZZZZ			13:14																									
ZZZZZZ			13:16																									
ZZZZZZ			13:18																									
ZZZZZZ			13:20																									
ZZZZZZ			13:22																									
ZZZZZZ			13:24																									
ZZZZZZ			13:26																									
ZZZZZZ			13:31																									
ZZZZZZ			13:33																									
CCV 600-280132/137			13:35																									
CCVL 600-280132/138			13:37																									
CCB 600-280132/139			13:39																									
ZZZZZZ			13:41																									
ZZZZZZ			13:43																									
ZZZZZZ			13:45																									
ZZZZZZ			13:47																									
ZZZZZZ			13:49																									
ZZZZZZ			13:51																									
ZZZZZZ			13:54																									
ZZZZZZ			13:56																									
ZZZZZZ			13:58																									
ZZZZZZ			14:00																									
CCV 600-280132/150			14:02																									
ZZZZZZ			14:04																									
CCVL 600-280132/152			14:08																									
CCB 600-280132/153			14:10																									
ZZZZZZ			14:12																									
ZZZZZZ			14:14																									
ZZZZZZ			14:16																									
ZZZZZZ			14:18																									
ZZZZZZ			14:20																									
ZZZZZZ			14:22																									
ZZZZZZ			14:24																									
ZZZZZZ			14:26																									
ZZZZZZ			14:28																									
ZZZZZZ			14:30																									
CCV 600-280132/164			14:32																									
CCVL 600-280132/165			14:34																									
CCB 600-280132/166			14:36																									
ZZZZZZ			14:38																									
ZZZZZZ			14:40																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: Thermo6500 Analysis Method: 6010C

Start Date: 11/12/2019 08:53 End Date: 11/12/2019 18:40

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	As	B	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Ni	Pb	Sb	Se	Sn	Sr	Ti	Tl	V	Zn
ZZZZZZ			14:42																									
ZZZZZZ			14:44																									
ZZZZZZ			14:46																									
ZZZZZZ			14:48																									
ZZZZZZ			14:50																									
ZZZZZZ			14:52																									
ZZZZZZ			14:54																									
ZZZZZZ			14:56																									
CCV 600-280132/177			14:58																									
CCVL 600-280132/178			14:59																									
CCB 600-280132/179			15:01																									
ZZZZZZ			15:04																									
ZZZZZZ			15:06																									
ZZZZZZ			15:08																									
ZZZZZZ			15:09																									
ZZZZZZ			15:11																									
ZZZZZZ			15:13																									
ZZZZZZ			15:15																									
ZZZZZZ			15:18																									
ZZZZZZ			15:20																									
ZZZZZZ			15:22																									
CCV 600-280132/190			15:24																									
CCVL 600-280132/191			15:26																									
CCB 600-280132/192			15:28																									
ZZZZZZ			15:30																									
ZZZZZZ			15:32																									
ZZZZZZ			15:34																									
ZZZZZZ			15:36																									
ZZZZZZ			15:38																									
ZZZZZZ			15:40																									
ZZZZZZ			15:42																									
ZZZZZZ			15:44																									
ZZZZZZ			15:46																									
ZZZZZZ			15:48																									
CCV 600-280132/203			15:50																									
CCVL 600-280132/204			15:52																									
CCB 600-280132/205			15:54																									
ZZZZZZ			15:56																									
ZZZZZZ			15:58																									
ZZZZZZ			16:00																									
ZZZZZZ			16:02																									
ZZZZZZ			16:04																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: Thermo6500 Analysis Method: 6010C

Start Date: 11/12/2019 08:53 End Date: 11/12/2019 18:40

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	As	B	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Ni	Pb	Sb	Se	Sn	Sr	Ti	Tl	V	Zn
ZZZZZZ			16:06																									
ZZZZZZ			16:08																									
ZZZZZZ			16:10																									
ZZZZZZ			16:12																									
CCV 600-280132/215	1		16:14	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CCVL 600-280132/216	1		16:15	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CCB 600-280132/217	1		16:17	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ZZZZZZ			16:20																									
600-194690-1	1	T	16:22	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
600-194690-3	1	T	16:24	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X
600-194690-8	1	T	16:26	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
600-194690-9	1	D	16:28	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
600-194690-10	1	T	16:30	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
600-194690-11	1	D	16:32	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
600-194690-11 DU	1	D	16:34	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
600-194690-11 MS	1	D	16:36	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
600-194690-11 MSD	1	D	16:38	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CCV 600-280132/228	1		16:40	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CCVL 600-280132/229	1		16:42	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CCB 600-280132/230	1		16:44	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ZZZZZZ			16:46																									
ZZZZZZ			16:48																									
ZZZZZZ			16:50																									
ZZZZZZ			16:52																									
ZZZZZZ			16:54																									
ZZZZZZ			16:56																									
ZZZZZZ			16:59																									
ZZZZZZ			17:01																									
ZZZZZZ			17:03																									
ZZZZZZ			17:05																									
CCV 600-280132/241			17:07																									
CCVL 600-280132/242			17:09																									
CCB 600-280132/243			17:11																									
ZZZZZZ			17:13																									
ZZZZZZ			17:15																									
ZZZZZZ			17:17																									
ZZZZZZ			17:19																									
ZZZZZZ			17:21																									
ZZZZZZ			17:23																									
ZZZZZZ			17:25																									
ZZZZZZ			17:27																									
ZZZZZZ			17:29																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: Thermo6500 Analysis Method: 6010C

Start Date: 11/12/2019 08:53 End Date: 11/12/2019 18:40

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	As	B	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Ni	Pb	Sb	Se	Sn	Sr	Ti	Tl	V	Zn
ZZZZZZ			17:31																									
CCV 600-280132/254			17:33																									
CCVL 600-280132/255			17:35																									
CCB 600-280132/256			17:37																									
ZZZZZZ			17:39																									
ZZZZZZ			17:41																									
ZZZZZZ			17:44																									
ZZZZZZ			17:45																									
ZZZZZZ			17:48																									
ZZZZZZ			17:50																									
ZZZZZZ			17:52																									
ZZZZZZ			17:54																									
ZZZZZZ			17:56																									
ZZZZZZ			17:58																									
CCV 600-280132/267			18:00																									
CCVL 600-280132/268			18:02																									
CCB 600-280132/269			18:04																									
ZZZZZZ			18:06																									
ZZZZZZ			18:08																									
ZZZZZZ			18:10																									
ZZZZZZ			18:12																									
ZZZZZZ			18:14																									
ZZZZZZ			18:16																									
ZZZZZZ			18:18																									
ZZZZZZ			18:20																									
ZZZZZZ			18:22																									
ZZZZZZ			18:24																									
CCV 600-280132/280			18:26																									
CCVL 600-280132/281			18:28																									
CCB 600-280132/282			18:30																									
ICSA 600-280132/283	1		18:32	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
ZZZZZZ			18:34																									
ZZZZZZ			18:36																									
ZZZZZZ			18:38																									
ZZZZZZ			18:40																									

Prep Types:
D = Dissolved
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: Thermo6500 Analysis Method: 6010C

Start Date: 11/13/2019 09:54 End Date: 11/13/2019 20:04

Lab Sample Id	D/F	Type	Time	Analytes																							
				Na																							
ZZZZZZ			09:54																								
ZZZZZZ			09:57																								
ZZZZZZ			09:59																								
ZZZZZZ			10:01																								
ZZZZZZ			10:03																								
ZZZZZZ			10:05																								
ZZZZZZ			10:07																								
ZZZZZZ			10:09																								
CALIBSTD 600-280247/9 IC			10:11	X																							
CALIBSTD 600-280247/10 IC			10:13	X																							
CALIBSTD 600-280247/11 IC			10:15	X																							
CALIBSTD 600-280247/12 IC			10:17	X																							
ZZZZZZ			10:19																								
ICV 600-280247/14	1		10:23	X																							
ZZZZZZ			10:26																								
ICBIS 600-280247/16	1		10:31	X																							
ICVL 600-280247/17	1		10:37	X																							
ICSA 600-280247/18	1		10:39	X																							
ZZZZZZ			10:43																								
ICSAB 600-280247/20	1		10:48	X																							
CCV 600-280247/21			10:51																								
CCVL 600-280247/22			10:56																								
CCB 600-280247/23			10:58																								
ZZZZZZ			11:00																								
ZZZZZZ			11:02																								
ZZZZZZ			11:04																								
ZZZZZZ			11:06																								
ZZZZZZ			11:08																								
ZZZZZZ			11:10																								
ZZZZZZ			11:12																								
ZZZZZZ			11:14																								
ZZZZZZ			11:16																								
ZZZZZZ			11:18																								
CCV 600-280247/34			11:20																								
CCVL 600-280247/35			11:22																								
CCB 600-280247/36			11:24																								
ZZZZZZ			11:26																								
ZZZZZZ			11:29																								
ZZZZZZ			11:31																								
ZZZZZZ			11:33																								
ZZZZZZ			11:35																								
ZZZZZZ			11:37																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: Thermo6500 Analysis Method: 6010C

Start Date: 11/13/2019 09:54 End Date: 11/13/2019 20:04

Lab Sample Id	D/F	Type	Time	Analytes																							
				Na																							
ZZZZZZ			11:39																								
ZZZZZZ			11:41																								
ZZZZZZ			11:43																								
ZZZZZZ			11:45																								
CCV 600-280247/47			11:47																								
CCVL 600-280247/48			11:49																								
CCB 600-280247/49			11:51																								
ZZZZZZ			11:53																								
ZZZZZZ			11:55																								
ZZZZZZ			11:57																								
ZZZZZZ			11:59																								
ZZZZZZ			12:01																								
ZZZZZZ			12:03																								
ZZZZZZ			12:04																								
ZZZZZZ			12:06																								
ZZZZZZ			12:09																								
ZZZZZZ			12:10																								
CCV 600-280247/60			12:12																								
CCVL 600-280247/61			12:14																								
CCB 600-280247/62			12:16																								
ZZZZZZ			12:18																								
ZZZZZZ			12:21																								
ZZZZZZ			12:23																								
ZZZZZZ			12:24																								
ZZZZZZ			12:27																								
ZZZZZZ			12:29																								
ZZZZZZ			12:31																								
ZZZZZZ			12:33																								
ZZZZZZ			12:35																								
ZZZZZZ			12:37																								
CCV 600-280247/73	1		12:39	X																							
CCVL 600-280247/74	1		12:41	X																							
CCB 600-280247/75	1		12:43	X																							
MB 600-279634/1-A	1	T	12:46	X																							
LCS 600-279634/2-A	1	T	12:48	X																							
ZZZZZZ			12:50																								
ZZZZZZ			12:52																								
ZZZZZZ			12:54																								
600-194690-1	5	T	12:56	X																							
ZZZZZZ			12:58																								
600-194690-3	5	T	13:00	X																							
600-194690-8	5	T	13:02	X																							

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: Thermo6500 Analysis Method: 6010C

Start Date: 11/13/2019 09:54 End Date: 11/13/2019 20:04

Lab Sample Id	D/F	Type	Time	Analytes																							
				Na																							
600-194690-9	5	D	13:04	X																							
CCV 600-280247/86	1		13:06	X																							
CCVL 600-280247/87	1		13:08	X																							
CCB 600-280247/88	1		13:10	X																							
ZZZZZZ			13:12																								
ZZZZZZ			13:14																								
ZZZZZZ			13:16																								
600-194690-10	5	T	13:18	X																							
600-194690-11	5	D	13:20	X																							
600-194690-11 DU	5	D	13:22	X																							
600-194690-11 MS	5	D	13:24	X																							
600-194690-11 MSD	5	D	13:26	X																							
ZZZZZZ			13:28																								
ZZZZZZ			13:30																								
CCV 600-280247/99	1		13:33	X																							
CCVL 600-280247/100	1		13:34	X																							
CCB 600-280247/101	1		13:36	X																							
ZZZZZZ			13:38																								
ZZZZZZ			13:41																								
ZZZZZZ			13:42																								
ZZZZZZ			13:44																								
ZZZZZZ			13:46																								
ZZZZZZ			13:48																								
ZZZZZZ			13:50																								
ZZZZZZ			13:52																								
ZZZZZZ			13:54																								
ZZZZZZ			13:56																								
CCV 600-280247/112			13:58																								
CCVL 600-280247/113			14:00																								
CCB 600-280247/114			14:02																								
ZZZZZZ			14:04																								
ZZZZZZ			14:06																								
ZZZZZZ			14:08																								
ZZZZZZ			14:10																								
ZZZZZZ			14:12																								
ZZZZZZ			14:14																								
ZZZZZZ			14:16																								
ZZZZZZ			14:18																								
ZZZZZZ			14:20																								
CCV 600-280247/124			14:22																								
CCVL 600-280247/125			14:24																								
CCB 600-280247/126			14:26																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: Thermo6500 Analysis Method: 6010C

Start Date: 11/13/2019 09:54 End Date: 11/13/2019 20:04

Lab Sample Id	D/F	Type	Time	Analytes																							
				Na																							
ZZZZZZ			14:28																								
ZZZZZZ			14:30																								
ZZZZZZ			14:32																								
ZZZZZZ			14:34																								
ZZZZZZ			14:36																								
ZZZZZZ			14:38																								
ZZZZZZ			14:40																								
ZZZZZZ			14:42																								
ZZZZZZ			14:44																								
ZZZZZZ			14:46																								
CCV 600-280247/137			14:48																								
CCVL 600-280247/138			14:50																								
CCB 600-280247/139			14:52																								
ZZZZZZ			14:54																								
ZZZZZZ			14:56																								
ZZZZZZ			14:58																								
ZZZZZZ			15:00																								
ZZZZZZ			15:03																								
ZZZZZZ			15:05																								
ZZZZZZ			15:07																								
ZZZZZZ			15:09																								
ZZZZZZ			15:11																								
ZZZZZZ			15:13																								
CCV 600-280247/150			15:15																								
CCVL 600-280247/151			15:17																								
CCB 600-280247/152			15:19																								
ZZZZZZ			15:21																								
ZZZZZZ			15:23																								
ZZZZZZ			15:25																								
ZZZZZZ			15:27																								
ZZZZZZ			15:29																								
ZZZZZZ			15:31																								
ZZZZZZ			15:33																								
ZZZZZZ			15:35																								
ZZZZZZ			15:37																								
ZZZZZZ			15:39																								
CCV 600-280247/163			15:41																								
CCVL 600-280247/164			15:43																								
CCB 600-280247/165			15:45																								
ZZZZZZ			15:47																								
ZZZZZZ			15:49																								
ZZZZZZ			15:51																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: Thermo6500 Analysis Method: 6010C

Start Date: 11/13/2019 09:54 End Date: 11/13/2019 20:04

Lab Sample Id	D/F	Type	Time	Analytes																							
				Na																							
ZZZZZZ			15:53																								
ZZZZZZ			15:55																								
ZZZZZZ			15:57																								
ZZZZZZ			15:59																								
ZZZZZZ			16:01																								
ZZZZZZ			16:03																								
ZZZZZZ			16:05																								
CCV 600-280247/176			16:07																								
CCVL 600-280247/177			16:09																								
CCB 600-280247/178			16:11																								
ZZZZZZ			16:13																								
ZZZZZZ			16:15																								
ZZZZZZ			16:21																								
ZZZZZZ			16:23																								
ZZZZZZ			16:25																								
ZZZZZZ			16:27																								
ZZZZZZ			16:29																								
ZZZZZZ			16:31																								
ZZZZZZ			16:33																								
ZZZZZZ			16:35																								
CCV 600-280247/189			16:37																								
CCVL 600-280247/190			16:39																								
CCB 600-280247/191			16:41																								
ZZZZZZ			16:43																								
ZZZZZZ			16:45																								
ZZZZZZ			16:47																								
ZZZZZZ			16:49																								
ZZZZZZ			16:52																								
ZZZZZZ			16:54																								
ZZZZZZ			16:56																								
ZZZZZZ			16:58																								
CCV 600-280247/200			17:00																								
CCVL 600-280247/201			17:02																								
CCB 600-280247/202			17:04																								
ZZZZZZ			17:06																								
ZZZZZZ			17:08																								
ZZZZZZ			17:10																								
ZZZZZZ			17:12																								
ZZZZZZ			17:14																								
ZZZZZZ			17:17																								
ZZZZZZ			17:19																								
ZZZZZZ			17:21																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: Thermo6500 Analysis Method: 6010C

Start Date: 11/13/2019 09:54 End Date: 11/13/2019 20:04

Lab Sample Id	D/F	Type	Time	Analytes																							
				Na																							
ZZZZZZ			17:23																								
ZZZZZZ			17:25																								
CCV 600-280247/213			17:27																								
CCVL 600-280247/214			17:29																								
CCB 600-280247/215			17:31																								
ZZZZZZ			17:33																								
ZZZZZZ			17:35																								
ZZZZZZ			17:37																								
ZZZZZZ			17:38																								
ZZZZZZ			17:40																								
ZZZZZZ			17:42																								
ZZZZZZ			17:44																								
ZZZZZZ			17:46																								
ZZZZZZ			17:48																								
ZZZZZZ			17:50																								
CCV 600-280247/226			17:52																								
CCVL 600-280247/227			17:54																								
CCB 600-280247/228			17:56																								
ZZZZZZ			17:58																								
ZZZZZZ			18:00																								
ZZZZZZ			18:02																								
ZZZZZZ			18:04																								
ZZZZZZ			18:06																								
ZZZZZZ			18:08																								
ZZZZZZ			18:10																								
ZZZZZZ			18:13																								
ZZZZZZ			18:15																								
ZZZZZZ			18:17																								
CCV 600-280247/239			18:19																								
CCVL 600-280247/240			18:21																								
CCB 600-280247/241			18:23																								
ZZZZZZ			18:25																								
ZZZZZZ			18:27																								
ZZZZZZ			18:29																								
ZZZZZZ			18:31																								
ZZZZZZ			18:33																								
CCV 600-280247/247			18:35																								
CCVL 600-280247/248			18:37																								
CCB 600-280247/249			18:39																								
ICSA 600-280247/250	1		18:41	X																							
ZZZZZZ			18:43																								
ZZZZZZ			18:45																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: Thermo6500 Analysis Method: 6010C

Start Date: 11/13/2019 09:54 End Date: 11/13/2019 20:04

Lab Sample Id	D/F	Type	Time	Analytes																							
				Na																							
ZZZZZZ			18:47																								
ZZZZZZ			18:49																								
ZZZZZZ			18:51																								
ZZZZZZ			18:53																								
ZZZZZZ			18:55																								
ZZZZZZ			18:57																								
ZZZZZZ			18:59																								
CCV 600-280247/260			19:01																								
CCVL 600-280247/261			19:03																								
CCB 600-280247/262			19:05																								
ZZZZZZ			19:07																								
ZZZZZZ			19:09																								
ZZZZZZ			19:11																								
ZZZZZZ			19:13																								
ZZZZZZ			19:16																								
ZZZZZZ			19:17																								
ZZZZZZ			19:19																								
ZZZZZZ			19:22																								
ZZZZZZ			19:24																								
ZZZZZZ			19:26																								
CCV 600-280247/273			19:28																								
CCVL 600-280247/274			19:29																								
CCB 600-280247/275			19:31																								
ZZZZZZ			19:34																								
ZZZZZZ			19:36																								
ZZZZZZ			19:38																								
ZZZZZZ			19:40																								
ZZZZZZ			19:42																								
ZZZZZZ			19:44																								
ZZZZZZ			19:46																								
ZZZZZZ			19:48																								
ZZZZZZ			19:50																								
CCV 600-280247/285			19:52																								
CCVL 600-280247/286			19:54																								
CCB 600-280247/287			19:56																								
ZZZZZZ			19:58																								
ZZZZZZ			20:00																								
ZZZZZZ			20:02																								
ZZZZZZ			20:04																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: Thermo6500 Analysis Method: 6010C

Start Date: 11/13/2019 09:54 End Date: 11/13/2019 20:04

Lab Sample Id	D/F	Type	Time	Analytes																							
				Na																							

Prep Types:
D = Dissolved
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: Thermo6500 Analysis Method: 6010C

Start Date: 11/19/2019 08:59 End Date: 11/19/2019 12:42

Lab Sample Id	D/F	Type	Time	Analytes																							
				Tl																							
ZZZZZZ			08:59																								
ZZZZZZ			09:01																								
ZZZZZZ			09:03																								
ZZZZZZ			09:06																								
ZZZZZZ			09:08																								
ZZZZZZ			09:10																								
ZZZZZZ			09:12																								
ZZZZZZ			09:14																								
CALIBSTD 600-280693/9 IC			09:16	X																							
CALIBSTD 600-280693/10 IC			09:18	X																							
CALIBSTD 600-280693/11 IC			09:20	X																							
CALIBSTD 600-280693/12 IC			09:22	X																							
ZZZZZZ			09:23																								
ZZZZZZ			09:26																								
ICV 600-280693/15	1		09:28	X																							
ICVL 600-280693/16	1		09:31	X																							
ICBIS 600-280693/17	1		09:34	X																							
ICSA 600-280693/18	1		09:36	X																							
ICSAB 600-280693/19	1		09:39	X																							
CCV 600-280693/20			09:41																								
CCVL 600-280693/21			09:43																								
CCB 600-280693/22			09:45																								
ZZZZZZ			09:51																								
ZZZZZZ			09:53																								
ZZZZZZ			09:55																								
ZZZZZZ			09:57																								
ZZZZZZ			09:59																								
ZZZZZZ			10:01																								
ZZZZZZ			10:03																								
ZZZZZZ			10:05																								
ZZZZZZ			10:07																								
ZZZZZZ			10:09																								
CCV 600-280693/33			10:11																								
CCVL 600-280693/34			10:13																								
CCB 600-280693/35			10:15																								
ZZZZZZ			10:17																								
ZZZZZZ			10:20																								
ZZZZZZ			10:22																								
ZZZZZZ			10:24																								
ZZZZZZ			10:26																								
ZZZZZZ			10:28																								
ZZZZZZ			10:30																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: Thermo6500 Analysis Method: 6010C

Start Date: 11/19/2019 08:59 End Date: 11/19/2019 12:42

Lab Sample Id	D/F	Type	Time	Analytes																							
				Tl																							
ZZZZZZ			10:32																								
ZZZZZZ			10:34																								
ZZZZZZ			10:36																								
CCV 600-280693/46	1		10:38	X																							
CCVL 600-280693/47	1		10:39	X																							
CCB 600-280693/48	1		10:41	X																							
ZZZZZZ			10:43																								
ZZZZZZ			10:45																								
ZZZZZZ			10:47																								
ZZZZZZ			10:50																								
ZZZZZZ			10:52																								
ZZZZZZ			10:54																								
ZZZZZZ			10:56																								
MB 600-279634/1-A	1	T	10:58	X																							
LCS 600-279634/2-A	1	T	11:01	X																							
600-194690-3	1	T	11:02	X																							
CCV 600-280693/59	1		11:04	X																							
CCVL 600-280693/60	1		11:08	X																							
CCB 600-280693/61	1		11:10	X																							
ZZZZZZ			11:12																								
ZZZZZZ			11:14																								
ZZZZZZ			11:16																								
ZZZZZZ			11:18																								
ZZZZZZ			11:20																								
ZZZZZZ			11:22																								
ZZZZZZ			11:24																								
ZZZZZZ			11:26																								
ZZZZZZ			11:28																								
ZZZZZZ			11:30																								
CCV 600-280693/72			11:32																								
CCVL 600-280693/73			11:34																								
CCB 600-280693/74			11:36																								
ZZZZZZ			11:38																								
ZZZZZZ			11:40																								
ZZZZZZ			11:42																								
ZZZZZZ			11:44																								
ZZZZZZ			11:46																								
ZZZZZZ			11:48																								
ZZZZZZ			11:50																								
ZZZZZZ			11:52																								
ZZZZZZ			11:54																								
ZZZZZZ			11:56																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: Thermo6500 Analysis Method: 6010C

Start Date: 11/19/2019 08:59 End Date: 11/19/2019 12:42

Lab Sample Id	D/F	Type	Time	Analytes																							
				Tl																							
CCV 600-280693/85			11:58																								
CCVL 600-280693/86			12:00																								
CCB 600-280693/87			12:02																								
ZZZZZZ			12:04																								
ZZZZZZ			12:06																								
ZZZZZZ			12:08																								
ZZZZZZ			12:10																								
ZZZZZZ			12:12																								
ZZZZZZ			12:14																								
ZZZZZZ			12:16																								
ZZZZZZ			12:18																								
ZZZZZZ			12:20																								
ZZZZZZ			12:22																								
CCV 600-280693/98			12:24																								
CCVL 600-280693/99			12:26																								
CCB 600-280693/100			12:28																								
ZZZZZZ			12:34																								
ZZZZZZ			12:36																								
CCV 600-280693/103			12:38																								
CCVL 600-280693/104			12:40																								
CCB 600-280693/105			12:42																								

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Canton Job No.: 600-194690-1

SDG No.:

Instrument ID: H8 Analysis Method: 1631E

Start Date: 09/27/2019 10:52 End Date: 11/04/2019 20:27

Lab Sample Id	D/F	Type	Time	Analytes																							
				Hg																							
IC 240-405319/1-A			10:52	X																							
IC 240-405319/1-A			10:56	X																							
IC 240-405319/1-A			11:01	X																							
IC 240-405319/2-A			11:06	X																							
IC 240-405319/3-A			11:11	X																							
IC 240-405319/4-A			11:16	X																							
IC 240-405319/5-A			11:21	X																							
IC 240-405319/6-A			11:25	X																							
IC 240-405319/7-A			11:30	X																							
IC 240-405319/8-A			11:35	X																							
ICV 240-405319/9-A	1		11:43	X																							
ICB 240-405319/10-A	1		11:48	X																							
CCV 240-409214/13			11:09																								
CCB 240-409214/14			11:14																								
ZZZZZZ			11:19																								
ZZZZZZ			11:23																								
ZZZZZZ			11:28																								
ZZZZZZ			11:33																								
ZZZZZZ			11:38																								
ZZZZZZ			11:43																								
ZZZZZZ			11:47																								
ZZZZZZ			11:52																								
ZZZZZZ			11:57																								
ZZZZZZ			12:02																								
ZZZZZZ			12:07																								
ZZZZZZ			12:12																								
ZZZZZZ			12:16																								
ZZZZZZ			12:21																								
ZZZZZZ			12:26																								
ZZZZZZ			12:31																								
ZZZZZZ			12:36																								
ZZZZZZ			12:40																								
ZZZZZZ			12:45																								
ZZZZZZ			12:50																								
ZZZZZZ			12:55																								
ZZZZZZ			13:00																								
ZZZZZZ			13:04																								
ZZZZZZ			13:09																								
ZZZZZZ			13:14																								
ZZZZZZ			13:19																								
ZZZZZZ			13:24																								
ZZZZZZ			13:29																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Canton Job No.: 600-194690-1

SDG No.:

Instrument ID: H8 Analysis Method: 1631E

Start Date: 09/27/2019 10:52 End Date: 11/04/2019 20:27

Lab Sample Id	D/F	Type	Time	Analytes																							
				Hg																							
ZZZZZZ			13:33																								
ZZZZZZ			13:38																								
ZZZZZZ			13:43																								
ZZZZZZ			13:48																								
ZZZZZZ			13:53																								
ZZZZZZ			13:57																								
ZZZZZZ			14:02																								
CCV 240-409214/50			14:07																								
CCB 240-409214/51			14:12																								
CCV 240-409214/52			15:04																								
CCB 240-409214/53			15:09																								
ZZZZZZ			15:14																								
ZZZZZZ			15:18																								
CCV 240-409214/56			15:23																								
CCB 240-409214/57			15:28																								
ZZZZZZ			15:33																								
ZZZZZZ			15:38																								
ZZZZZZ			15:43																								
ZZZZZZ			15:47																								
CCV 240-409214/62	1		15:52	X																							
CCB 240-409214/63	1		15:57	X																							
ZZZZZZ			16:02																								
ZZZZZZ			16:07																								
ZZZZZZ			16:12																								
MB 240-408778/1-A	1	T	16:16	X																							
LCS 240-408778/2-A	1	T	16:21	X																							
ZZZZZZ			16:26																								
ZZZZZZ			16:31																								
ZZZZZZ			16:36																								
ZZZZZZ			16:41																								
ZZZZZZ			16:45																								
ZZZZZZ			16:50																								
ZZZZZZ			16:55																								
600-194690-3	1	T	17:00	X																							
600-194690-5	1	T	17:05	X																							
600-194690-8	1	T	17:09	X																							
600-194690-11	1	T	17:14	X																							
ZZZZZZ			17:19																								
ZZZZZZ			17:24																								
ZZZZZZ			17:29																								
ZZZZZZ			17:34																								
ZZZZZZ			17:38																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Canton Job No.: 600-194690-1

SDG No.:

Instrument ID: H8 Analysis Method: 1631E

Start Date: 09/27/2019 10:52 End Date: 11/04/2019 20:27

Lab Sample Id	D/F	Type	Time	Analytes																							
				Hg																							
ZZZZZZ			17:43																								
ZZZZZZ			17:48																								
ZZZZZZ			17:53																								
ZZZZZZ			17:58																								
ZZZZZZ			18:02																								
ZZZZZZ			18:07																								
ZZZZZZ			18:12																								
CCV 240-409214/92	1		18:17	X																							
CCB 240-409214/93	1		18:22	X																							
ZZZZZZ			18:27																								
ZZZZZZ			18:31																								
ZZZZZZ			18:36																								
ZZZZZZ			18:41																								
ZZZZZZ			18:46																								
ZZZZZZ			18:51																								
ZZZZZZ			18:55																								
ZZZZZZ			19:00																								
ZZZZZZ			19:05																								
ZZZZZZ			19:10																								
ZZZZZZ			19:15																								
ZZZZZZ			19:20																								
ZZZZZZ			19:24																								
ZZZZZZ			19:29																								
ZZZZZZ			19:34																								
ZZZZZZ			19:39																								
ZZZZZZ			19:44																								
ZZZZZZ			19:48																								
ZZZZZZ			19:53																								
ZZZZZZ			19:58																								
ZZZZZZ			20:03																								
ZZZZZZ			20:08																								
ZZZZZZ			20:12																								
ZZZZZZ			20:17																								
CCV 240-409214/118			20:22																								
CCB 240-409214/119			20:27																								

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Canton Job No.: 600-194690-1

SDG No.:

Instrument ID: H8 Analysis Method: 1631E

Start Date: 09/27/2019 10:52 End Date: 11/05/2019 16:37

Lab Sample Id	D/F	Type	Time	Analytes																							
				Hg																							
IC 240-405319/1-A			10:52	X																							
IC 240-405319/1-A			10:56	X																							
IC 240-405319/1-A			11:01	X																							
IC 240-405319/2-A			11:06	X																							
IC 240-405319/3-A			11:11	X																							
IC 240-405319/4-A			11:16	X																							
IC 240-405319/5-A			11:21	X																							
IC 240-405319/6-A			11:25	X																							
IC 240-405319/7-A			11:30	X																							
IC 240-405319/8-A			11:35	X																							
ICV 240-405319/9-A	1		11:43	X																							
ICB 240-405319/10-A	1		11:48	X																							
CCV 240-409411/13			11:19																								
CCB 240-409411/14			11:33																								
CCV 240-409411/15			11:38																								
CCB 240-409411/16			11:53																								
CCV 240-409411/17	1		11:58	X																							
CCB 240-409411/18	1		12:03	X																							
600-194690-1	5	T	12:08	X																							
600-194690-1 MS	5	T	12:13	X																							
600-194690-1 MSD	5	T	12:17	X																							
ZZZZZZ			12:22																								
ZZZZZZ			12:27																								
ZZZZZZ			12:32																								
ZZZZZZ			12:37																								
ZZZZZZ			12:42																								
ZZZZZZ			12:46																								
ZZZZZZ			12:51																								
ZZZZZZ			12:56																								
ZZZZZZ			13:01																								
ZZZZZZ			13:06																								
CCV 240-409411/32	1		13:10	X																							
CCB 240-409411/33	1		13:15	X																							
ZZZZZZ			13:20																								
ZZZZZZ			13:25																								
ZZZZZZ			13:30																								
ZZZZZZ			13:34																								
ZZZZZZ			13:39																								
ZZZZZZ			13:44																								
ZZZZZZ			13:49																								
CCV 240-409411/41			13:54																								
CCB 240-409411/42			13:59																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Canton Job No.: 600-194690-1

SDG No.:

Instrument ID: H8 Analysis Method: 1631E

Start Date: 09/27/2019 10:52 End Date: 11/05/2019 16:37

Lab Sample Id	D/F	Type	Time	Analytes																							
				Hg																							
ZZZZZZ			14:03																								
ZZZZZZ			14:08																								
ZZZZZZ			14:13																								
ZZZZZZ			14:18																								
ZZZZZZ			14:23																								
ZZZZZZ			14:27																								
ZZZZZZ			14:32																								
ZZZZZZ			14:37																								
ZZZZZZ			14:42																								
ZZZZZZ			14:47																								
ZZZZZZ			14:52																								
ZZZZZZ			14:56																								
ZZZZZZ			15:01																								
ZZZZZZ			15:06																								
ZZZZZZ			15:11																								
ZZZZZZ			15:16																								
ZZZZZZ			15:20																								
ZZZZZZ			15:25																								
ZZZZZZ			15:30																								
ZZZZZZ			15:35																								
ZZZZZZ			15:40																								
ZZZZZZ			15:45																								
ZZZZZZ			15:49																								
ZZZZZZ			15:54																								
ZZZZZZ			15:59																								
ZZZZZZ			16:04																								
CCV 240-409411/69	1		16:09	X																							
CCB 240-409411/70	1		16:13	X																							
ZZZZZZ			16:18																								
ZZZZZZ			16:23																								
ZZZZZZ			16:28																								
CCV 240-409411/74	1		16:33	X																							
CCB 240-409411/75	1		16:37	X																							

Prep Types:
T = Total/NA

FORM XIII-IN

15-IN
ICP INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

ICP Instrument ID: Thermo6500 Start Date: 11/12/2019 End Date: 11/12/2019

Lab Sample ID	Time	Internal Standards %RI For:									
		Element In 230.606	Q	Element Y 224.306	Q	Element Y 360.073	Q	Element Y 371.030	Q	Element	Q
ICV 600-280132/15	09:22										
ICVL 600-280132/16	09:25										
ICBIS 600-280132/17	09:28										
ICSA 600-280132/18	09:30	87		86		84		96			
ICSAB 600-280132/19	09:32	88		87		86		96			
CCV 600-280132/85	11:48	101		96		97		103			
CCVL 600-280132/86	11:50	103		98		101		104			
CCB 600-280132/87	11:52	104		98		101		103			
MB 600-279634/1-A	11:54	104		98		102		104			
LCS 600-279634/2-A	11:56	102		95		98		104			
CCV 600-280132/98	12:14	100		95		96		101			
CCVL 600-280132/99	12:16	104		98		100		102			
CCB 600-280132/100	12:18	103		97		100		101			
CCV 600-280132/111	12:40	99		95		97		101			
CCVL 600-280132/112	12:42	104		97		100		103			
CCB 600-280132/113	12:44	103		97		99		102			
CCV 600-280132/215	16:14	98		95		95		99			
CCVL 600-280132/216	16:15	101		98		99		101			
CCB 600-280132/217	16:17	100		97		98		98			
600-194690-1	16:22	95		88		88		97			
600-194690-3	16:24	101		87		87		102			
600-194690-8	16:26	93		92		92		103			
600-194690-9	16:28	94		91		91		100			
600-194690-10	16:30	94		92		92		102			
600-194690-11	16:32	95		89		90		98			
600-194690-11 DU	16:34	95		89		89		98			
600-194690-11 MS	16:36	94		89		88		98			
600-194690-11 MSD	16:38	94		95		89		99			
CCV 600-280132/228	16:40	95		94		95		97			
CCVL 600-280132/229	16:42	101		98		99		101			
CCB 600-280132/230	16:44	100		97		99		100			
ICSA 600-280132/283	18:32	84		85		82		91			

FORM XV - IN

15-IN
ICP INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

ICP Instrument ID: Thermo6500 Start Date: 11/13/2019 End Date: 11/13/2019

Lab Sample ID	Time	Internal Standards %RI For:									
		Element In 230.606	Q	Element Y 224.306	Q	Element Y 360.073	Q	Element Y 371.030	Q	Element	Q
ICV 600-280247/14	10:23										
ICBIS 600-280247/16	10:31										
ICVL 600-280247/17	10:37	100		101		101		101			
ICSA 600-280247/18	10:39	86		85		84		95			
ICSAB 600-280247/20	10:48	86		87		85		95			
CCV 600-280247/73	12:39	98		96		96		103			
CCVL 600-280247/74	12:41	101		99		100		103			
CCB 600-280247/75	12:43	101		98		101		104			
MB 600-279634/1-A	12:46	102		98		100		105			
LCS 600-279634/2-A	12:48	99		96		98		105			
600-194690-1	12:56	98		96		95		103			
600-194690-3	12:58	95		88		88		100			
600-194690-3	13:00	98		94		95		102			
600-194690-8	13:02	99		96		96		105			
600-194690-9	13:04	97		95		96		104			
CCV 600-280247/86	13:06	97		95		96		103			
CCVL 600-280247/87	13:08	101		98		100		104			
CCB 600-280247/88	13:10	101		98		100		103			
600-194690-10	13:18	98		95		99		104			
600-194690-11	13:20	100		94		95		104			
600-194690-11 DU	13:22	98		95		95		103			
600-194690-11 MS	13:24	99		95		95		104			
600-194690-11 MSD	13:26	98		94		95		103			
CCV 600-280247/99	13:33	98		95		96		104			
CCVL 600-280247/100	13:34	101		98		100		104			
CCB 600-280247/101	13:36	101		98		99		103			
ICSA 600-280247/250	18:41	83		85		82		92			

FORM XV - IN

15-IN
ICP INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

ICP Instrument ID: Thermo6500 Start Date: 11/19/2019 End Date: 11/19/2019

Lab Sample ID	Time	Internal Standards %RI For:									
		Element In 230.606	Q	Element Y 224.306	Q	Element Y 360.073	Q	Element Y 371.030	Q	Element	Q
ICV 600-280693/15	09:28										
ICVL 600-280693/16	09:31										
ICBIS 600-280693/17	09:34										
ICSA 600-280693/18	09:36	87		86		84		95			
ICSAB 600-280693/19	09:39	86		88		85		95			
CCV 600-280693/46	10:38	98		97		98		102			
CCVL 600-280693/47	10:39	100		100		101		102			
CCB 600-280693/48	10:41	100		100		101		101			
MB 600-279634/1-A	10:58	101		100		103		102			
LCS 600-279634/2-A	11:01	99		97		100		103			
600-194690-3	11:02	96		88		91		99			
CCV 600-280693/59	11:04	97		96		99		101			
CCVL 600-280693/60	11:08	99		100		107		102			
CCB 600-280693/61	11:10	101		100		102		101			

FORM XV - IN

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 279634 Batch Start Date: 11/06/19 15:20 Batch Analyst: Johnson, Phoenix Q

Batch Method: 3010A Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	ICPMSCALMIX1S 00006	ICPMSCALMIX2S 00003	ICPMSCALMIX3S 00004
MB 600-279634/1		3010A, 6010C			50 mL	50 mL			
LCS 600-279634/2		3010A, 6010C			50 mL	50 mL	0.5 mL	0.25 mL	0.25 mL
600-194690-F-1	1. CEFF	3010A, 6010C	T	<2	50 mL	50 mL			
600-194690-L-3	FEFF 1	3010A, 6010C	T	<2	50 mL	50 mL			
600-194690-G-8	INF 3	3010A, 6010C	T	<2	50 mL	50 mL			
600-194690-C-9	INF 3 - DISSOLVED	3010A, 6010C	D	<2	50 mL	50 mL			
600-194690-G-10	INF 4	3010A, 6010C	T	<2	50 mL	50 mL			
600-194690-E-11	INF 4 - DISSOLVED	3010A, 6010C	D	<2	50 mL	50 mL			
600-194690-E-11 DU	INF 4 - DISSOLVED	3010A, 6010C	D	<2	50 mL	50 mL			
600-194690-B-11 MS	INF 4 - DISSOLVED	3010A, 6010C	D	<2	50 mL	50 mL	0.5 mL	0.25 mL	0.25 mL
600-194690-B-11 MSD	INF 4 - DISSOLVED	3010A, 6010C	D	<2	50 mL	50 mL	0.5 mL	0.25 mL	0.25 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	ICPMSCALMIX4S 00004	METHCL 00283	METHNO3 00334	AnalysisComment		
MB 600-279634/1		3010A, 6010C			2.5 mL	2.5 mL			
LCS 600-279634/2		3010A, 6010C		0.25 mL	2.5 mL	2.5 mL			
600-194690-F-1	1. CEFF	3010A, 6010C	T		2.5 mL	2.5 mL			
600-194690-L-3	FEFF 1	3010A, 6010C	T		2.5 mL	2.5 mL			
600-194690-G-8	INF 3	3010A, 6010C	T		2.5 mL	2.5 mL			
600-194690-C-9	INF 3 - DISSOLVED	3010A, 6010C	D		2.5 mL	2.5 mL			
600-194690-G-10	INF 4	3010A, 6010C	T		2.5 mL	2.5 mL			
600-194690-E-11	INF 4 - DISSOLVED	3010A, 6010C	D		2.5 mL	2.5 mL			
600-194690-E-11 DU	INF 4 - DISSOLVED	3010A, 6010C	D		2.5 mL	2.5 mL			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 279634 Batch Start Date: 11/06/19 15:20 Batch Analyst: Johnson, Phoenix Q

Batch Method: 3010A Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	ICPMSCALMIX4S 00004	METHCL 00283	METHNO3 00334	AnalysisComment		
600-194690-B-11 MS	INF 4 - DISSOLVED	3010A, 6010C	D	0.25 mL	2.5 mL	2.5 mL	Used container labeled for MSD since this container is unfiltered sample.		
600-194690-B-11 MSD	INF 4 - DISSOLVED	3010A, 6010C	D	0.25 mL	2.5 mL	2.5 mL			

Batch Notes	
Hot Block ID	07
Oven, Bath or Block Temperature 1	94.6
Oven, Bath or Block Temperature 2	94.6
Pipette ID	M12
Thermometer ID	587 CF+0.6
Digestion Tube/Cup ID	1904119
Uncorrected Temperature	941 Celsius
Uncorrected Temperature 2	94 Celsius

Basis	Basis Description
T	Total/NA
D	Dissolved

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Canton Job No.: 600-194690-1

SDG No.:

Batch Number: 405319 Batch Start Date: 09/27/19 08:00 Batch Analyst: Colosi, Alexander J

Batch Method: 1631E Batch End Date: 09/27/19 08:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	1N BrCl 00041	LLHg-1631-ICV 00052		
ICV 240-405319/9		1631E, 1631E		40 mL	40 mL	0.2 mL	0.2 mL		
ICB 240-405319/10		1631E, 1631E		40 mL	40 mL	0.2 mL			

Batch Notes	
Pipette ID	LL2, LL3, A7, LL5
VOA Vial ID	BB901901VB

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Canton Job No.: 600-194690-1

SDG No.:

Batch Number: 408778 Batch Start Date: 11/01/19 13:07 Batch Analyst: Heakin, David

Batch Method: 1631E Batch End Date: 11/02/19 01:07

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	1N BrCl 00042	LLHg-1631-ICV 00052		
MB 240-408778/1		1631E, 1631E		40 mL	40 mL	0.2 mL			
LCS 240-408778/2		1631E, 1631E		40 mL	40 mL	0.2 mL	0.2 mL		
600-194690-K-1	1. CEFF	1631E, 1631E	T	40 mL	40 mL	0.2 mL			
600-194690-K-1 MS	1. CEFF	1631E, 1631E	T	40 mL	40 mL	0.2 mL			
600-194690-K-1 MSD	1. CEFF	1631E, 1631E	T	40 mL	40 mL	0.2 mL			
600-194690-N-3	FEFF 1	1631E, 1631E	T	40 mL	40 mL	0.2 mL			
600-194690-A-5	DUP	1631E, 1631E	T	40 mL	40 mL	0.2 mL			
600-194690-M-8	INF 3	1631E, 1631E	T	40 mL	40 mL	0.2 mL			
600-194690-F-11	INF 4 - DISSOLVED	1631E, 1631E	T	40 mL	40 mL	0.2 mL			

Batch Notes	
Pipette ID	LL1, LL2, LL4
VOA Vial ID	Lot #VB901901VB

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)
Ag 328.068 {103}	11/12/2019 9:17:48	11/12/2019 9:17:48	Linear	1/Conc	-0.000114	0.087523	0.000000	1.000000
Al 308.215 {109}	11/12/2019 9:17:48	11/12/2019 9:17:48	Linear	1/Conc	0.051627	0.612871	0.000000	1.000000
As 189.042 {478}	11/12/2019 9:17:48	11/12/2019 9:17:48	Linear	1/Conc	-0.000032	0.031865	0.000000	1.000000
B 249.678 {135}	11/12/2019 9:17:48	11/12/2019 9:17:48	Linear	1/Conc	0.000049	0.020589	0.000000	1.000000
Ba 455.403 { 74}	11/12/2019 9:17:48	11/12/2019 9:17:48	Linear	1/Conc	0.003749	2.499883	0.000000	1.000000
Be 313.042 {108}	11/12/2019 9:17:48	11/12/2019 9:17:48	Linear	1/Conc	0.000206	2.640152	0.000000	1.000000
Ca 315.887 {107}	11/12/2019 9:17:48	11/12/2019 9:17:48	Linear	1/Conc	-0.001778	1.338473	0.000000	1.000000
Cd 228.802 {447}	11/12/2019 9:17:48	11/12/2019 9:17:48	Linear	1/Conc	0.000357	0.742259	0.000000	1.000000
Co 228.616 {447}	11/12/2019 9:17:48	11/12/2019 9:17:48	Linear	1/Conc	0.000036	0.752609	0.000000	1.000000
Cr 267.716 {126}	11/12/2019 9:17:48	11/12/2019 9:17:48	Linear	1/Conc	0.000026	0.102055	0.000000	1.000000
Cu 324.754 {104}	11/12/2019 9:17:48	11/12/2019 9:17:48	Linear	1/Conc	0.004172	0.148254	0.000000	1.000000
Fe 240.488 {140}	11/12/2019 9:17:48	11/12/2019 9:17:48	Linear	1/Conc	0.017192	0.784553	0.000000	1.000000
In 230.606 {146}*	<not fit>	<Never Calibrated>	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
In 230.606 {446}*	<not fit>	<Never Calibrated>	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
K 766.490 { 44}	11/12/2019 9:17:48	11/12/2019 9:17:48	Linear	1/Conc	-0.002249	0.045007	0.000000	1.000000
Li 670.784 { 50}	11/12/2019 9:17:48	11/12/2019 9:17:48	Linear	1/Conc	0.001684	1.203650	0.000000	1.000000
Mg 279.079 {121}	11/12/2019 9:17:48	11/12/2019 9:17:48	Linear	1/Conc	-0.000106	0.005050	0.000000	1.000000
Mn 257.610 {131}	11/12/2019 9:17:48	11/12/2019 9:17:48	Linear	1/Conc	0.000128	0.610134	0.000000	1.000000
Mo 202.030 {467}	11/12/2019 9:17:48	11/12/2019 9:17:48	Linear	1/Conc	0.000184	0.177865	0.000000	1.000000
Na 589.592 { 57}	11/12/2019 9:17:48	11/12/2019 9:17:48	Linear	1/Conc	0.015518	0.163131	0.000000	1.000000
Ni 231.604 {445}	11/12/2019 9:17:48	11/12/2019 9:17:48	Linear	1/Conc	-0.000303	0.448016	0.000000	1.000000
P 178.284 {489}	11/12/2019 9:17:48	11/12/2019 9:17:48	Linear	1/Conc	0.000089	0.035735	0.000000	1.000000
Pb 220.353 {453}	11/12/2019 9:17:48	11/12/2019 9:17:48	Linear	1/Conc	-0.000163	0.112798	0.000000	1.000000
S 182.034 {485}	11/12/2019 9:17:48	11/12/2019 9:17:48	Linear	1/Conc	0.000065	0.011118	0.000000	1.000000
Sb 206.833 {463}	11/12/2019 9:17:48	11/12/2019 9:17:48	Linear	1/Conc	0.000001	0.045649	0.000000	1.000000
Se 196.090 {472}	11/12/2019 9:17:48	11/12/2019 9:17:48	Linear	1/Conc	-0.000051	0.020705	0.000000	1.000000
Si 251.611 {134}	11/12/2019 9:17:48	11/12/2019 9:17:48	Linear	1/Conc	0.000550	0.019904	0.000000	1.000000
Sn 189.989 {477}	11/12/2019 9:17:48	11/12/2019 9:17:48	Linear	1/Conc	0.000156	0.175734	0.000000	1.000000
Sr 421.552 { 80}	11/12/2019 9:17:48	11/12/2019 9:17:48	Linear	1/Conc	-0.000957	2.783611	0.000000	1.000000
Ti 334.904 {101}	11/12/2019 9:17:48	11/12/2019 9:17:48	Linear	1/Conc	-0.000138	0.113861	0.000000	1.000000
Tl 190.856 {477}	11/12/2019 9:17:48	11/12/2019 9:17:48	Linear	1/Conc	-0.000214	0.026226	0.000000	1.000000
U 367.007 { 92}	11/12/2019 9:17:48	11/12/2019 9:17:48	Linear	1/Conc	0.000229	0.000288	0.000000	1.000000
V 292.402 {115}	11/12/2019 9:17:48	11/12/2019 9:17:48	Linear	1/Conc	-0.000250	0.137242	0.000000	1.000000
W 239.709 {140}	11/12/2019 9:17:48	11/12/2019 9:17:48	Linear	1/Conc	0.000003	0.000935	0.000000	1.000000
Y 224.306 {450}*	11/11/2019 10:16:04	8/2/2010 18:01:14	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
Y 360.073 { 94}*	<not fit>	<Never Calibrated>	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
Y 371.030 { 91}*	11/11/2019 10:16:04	8/2/2010 18:01:14	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
Zn 206.200 {463}	11/12/2019 9:17:48	11/12/2019 9:17:48	Linear	1/Conc	0.001891	0.976740	0.000000	1.000000

Element, Wavelength and Order	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Reslope		QC Norm	
						Slope	Y-int	Slope factor	Offset
Ag 328.068 {103}	0.999967	0.000004	0.000565	0.001884	OK.	1.000000	0.000000	1	0
Al 308.215 {109}	0.999850	0.000811	0.022107	0.073691	OK.	1.000000	0.000000	1	0
As 189.042 {478}	0.999990	0.000002	0.002064	0.006880	OK.	1.000000	0.000000	1	0
B 249.678 {135}	0.999779	0.000005	0.007555	0.025184	OK.	1.000000	0.000000	1	0
Ba 455.403 { 74}	0.999958	0.000344	0.000245	0.000815	OK.	1.000000	0.000000	1	0
Be 313.042 {108}	0.999929	0.000236	0.000126	0.000421	OK.	1.000000	0.000000	1	0
Ca 315.887 {107}	0.999958	0.004644	0.007906	0.026353	OK.	1.000000	0.000000	1	0
Cd 228.802 {447}	0.999952	0.000056	0.000133	0.000442	OK.	1.000000	0.000000	1	0
Co 228.616 {447}	0.999981	0.000035	0.000190	0.000634	OK.	1.000000	0.000000	1	0
Cr 267.716 {126}	0.999895	0.000011	0.000287	0.000956	OK.	1.000000	0.000000	1	0
Cu 324.754 {104}	0.999981	0.000007	0.000333	0.001110	OK.	1.000000	0.000000	1	0
Fe 240.488 {140}	0.999971	0.000453	0.008730	0.029101	OK.	1.000000	0.000000	1	0
In 230.606 {146}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
In 230.606 {446}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
K 766.490 { 44}	0.999911	0.000227	0.030722	0.102405	OK.	1.000000	0.000000	1	0
Li 670.784 { 50}	0.999959	0.000082	0.001116	0.003719	OK.	1.000000	0.000000	1	0
Mg 279.079 {121}	0.999879	0.000030	0.032047	0.106823	OK.	1.000000	0.000000	1	0
Mn 257.610 {131}	0.999882	0.000070	0.000044	0.000146	OK.	1.000000	0.000000	1	0
Mo 202.030 {467}	0.999927	0.000016	0.000322	0.001073	OK.	1.000000	0.000000	1	0
Na 589.592 { 57}	0.999947	0.000632	0.007298	0.024325	OK.	1.000000	0.000000	1	0
Ni 231.604 {445}	0.999989	0.000016	0.000324	0.001082	OK.	1.000000	0.000000	1	0
P 178.284 {489}	0.999751	0.000192	0.001738	0.005794	OK.	1.000000	0.000000	1	0
Pb 220.353 {453}	0.999991	0.000004	0.001451	0.004837	OK.	1.000000	0.000000	1	0
S 182.034 {485}	0.981578	0.000261	0.003645	0.012148	OK.	1.000000	0.000000	1	0
Sb 206.833 {463}	0.999969	0.000006	0.001962	0.006540	OK.	1.000000	0.000000	1	0
Se 196.090 {472}	0.999991	0.000001	0.002664	0.008880	OK.	1.000000	0.000000	1	0
Si 251.611 {134}	0.998797	0.000047	0.008805	0.029349	OK.	1.000000	0.000000	1	0
Sn 189.989 {477}	0.999988	0.000013	0.000440	0.001465	OK.	1.000000	0.000000	1	0
Sr 421.552 { 80}	0.999931	0.000245	0.000176	0.000585	OK.	1.000000	0.000000	1	0
Ti 334.904 {101}	0.999965	0.000007	0.000420	0.001400	OK.	1.000000	0.000000	1	0
Tl 190.856 {477}	0.999595	0.000011	0.003136	0.010455	OK.	1.000000	0.000000	1	0
U 367.007 { 92}	0.999534	0.000000	0.085208	0.284028	OK.	1.000000	0.000000	1	0
V 292.402 {115}	0.999966	0.000008	0.000356	0.001186	OK.	1.000000	0.000000	1	0
W 239.709 {140}	0.982683	0.000002	0.064889	0.216297	OK.	1.000000	0.000000	1	0
Y 224.306 {450}*	0.000000	0.000000	0.000830	0.002767	Warnin	1.000000	0.000000	1	0
Y 360.073 { 94}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
Y 371.030 { 91}*	0.000000	0.000000	0.000248	0.000826	Warnin	1.000000	0.000000	1	0
Zn 206.200 {463}	0.999957	0.000097	0.000116	0.000386	OK.	1.000000	0.000000	1	0

```
[Sample Header]
Method=ICP6500Metals_TRY3(v5030)
SampleName=Rinse1
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=11/12/2019 8:53:12
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0003,.0001,23.70, -.0004, -.0003
Al3082,308.215 {109},In2306,ppm, -.0080,.0083,103.7, -.0021, -.0139
As1890,189.042 {478},Y_2243,ppm, .0032,.0005,14.42, .0029, .0035
B_2496,249.678 {135},Y_3710,ppm, -.0031,.0032,103.4, -.0053, -.0008
Ba4554,455.403 { 74},Y_3710,ppm, .0009,.0001,8.751, .0010, .0009
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,4.291, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, -.0107,.0042,39.60, -.0077, -.0136
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0000,29.35, -.0001, -.0001
Co2286,228.616 {447},In2306,ppm, .0001,.0000,15.25, .0001, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0002,.0001,46.32, .0002, .0001
Cu3247,324.754 {104},Y_3600,ppm, -.0011,.0001,9.556, -.0010, -.0011
Fe2404,240.488 {140},In2306,ppm, .0002,.0039,2545., -.0026, .0029
K_7664,766.490 { 44},Y_3710,ppm, -.0988,.0033,3.306, -.1011, -.0965
Li6707,670.784 { 50},Y_3710,ppm, .0012,.0005,38.73, .0016, .0009
Mg2790,279.079 {121},Y_3710,ppm, -.0090,.0189,209.1, -.0224, .0043
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,.4651, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, .0067,.0017,25.37, .0055, .0079
Na5895,589.592 { 57},Y_3710,ppm, -.0556,.0018,3.314, -.0543, -.0569
Ni2316,231.604 {445},In2306,ppm, -.0013,.0001,10.31, -.0012, -.0013
P_1782,178.284 {489},In2306,ppm, .0020,.0005,25.11, .0017, .0024
Pb2203,220.353 {453},In2306,ppm, -.0011,.0008,70.75, -.0006, -.0017
S_1820,182.034 {485},Y_2243,ppm, .0004,.0007,159.5, .0009, -.0001
Sb2068,206.833 {463},Y_2243,ppm, .0031,.0015,47.67, .0042, .0021
Se1960,196.090 {472},Y_2243,ppm, .0004,.0008,213.9, -.0002, .0009
Si2516,251.611 {134},Y_3710,ppm, .0111,.0056,50.29, .0151, .0072
Sn1899,189.989 {477},In2306,ppm, .0001,.0000,3.944, .0001, .0001
Sr4215,421.552 { 80},Y_3710,ppm, .0001,.0001,105.0, .0000, .0002
Ti3349,334.904 {101},Y_3600,ppm, .0002,.0000,16.25, .0002, .0002
Tl1908,190.856 {477},In2306,ppm, .0027,.0024,88.15, .0010, .0044
U_3670,367.007 { 92},Y_3600,ppm, -.7506,.0066,.8733, -.7460, -.7553
V_2924,292.402 {115},Y_3600,ppm, .0000,.0002,2868., -.0001, .0001
W_2397,239.709 {140},Y_2243,ppm, .0239,.0298,124.7, .0449, .0028
Zn2062,206.200 {463},In2306,ppm, -.0010,.0001,5.702, -.0010, -.0010

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 250.91,.76002,.30291,250.37,251.45
In2306,230.606 {446},Cts/S, 16999.,24.621,.14484,17017.,16982.
Y_2243,224.306 {450},Cts/S, 25717.,53.344,.20743,25755.,25679.
Y_3600,360.073 { 94},Cts/S, 210000.,191.92,.09139,210140.,209870.
Y_3710,371.030 { 91},Cts/S, 12532.,47.959,.38271,12498.,12565.

[Sample Header]
Method=ICP6500Metals_TRY3(v5030)
SampleName=Rinse2
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=11/12/2019 8:55:34
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Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0002,.0000,3.514, -.0002, -.0002
Al3082,308.215 {109},In2306,ppm, .0006,.0061,1082., .0049, -.0037
As1890,189.042 {478},Y_2243,ppm, .0024,.0012,52.04, .0015, .0032
B_2496,249.678 {135},Y_3710,ppm, -.0023,.0014,60.10, -.0032, -.0013
Ba4554,455.403 { 74},Y_3710,ppm, .0010,.0000,2.240, .0010, .0010
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,186.4, -.0000, .0000
Ca3158,315.887 {107},In2306,ppm, -.0135,.0035,26.15, -.0110, -.0160
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0000,75.03, -.0001, -.0000
Co2286,228.616 {447},In2306,ppm, .0001,.0001,156.5, .0001, -.0000
Cr2677,267.716 {126},Y_3600,ppm, .0001,.0001,160.7, .0002, -.0000
Cu3247,324.754 {104},Y_3600,ppm, -.0010,.0003,27.77, -.0012, -.0008
Fe2404,240.488 {140},In2306,ppm, .0034,.0029,85.14, .0055, .0014
K_7664,766.490 { 44},Y_3710,ppm, -.0752,.0183,24.30, -.0881, -.0623
Li6707,670.784 { 50},Y_3710,ppm, -.0002,.0004,224.4, -.0005, .0001
Mg2790,279.079 {121},Y_3710,ppm, -.0049,.0164,333.2, -.0165, .0067
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,4.033, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, .0008,.0002,26.24, .0006, .0009
Na5895,589.592 { 57},Y_3710,ppm, -.0363,.0039,10.84, -.0335, -.0391
Ni2316,231.604 {445},In2306,ppm, -.0014,.0003,18.14, -.0016, -.0012
P_1782,178.284 {489},In2306,ppm, .0003,.0003,80.58, .0005, .0001
Pb2203,220.353 {453},In2306,ppm, -.0010,.0005,51.57, -.0006, -.0013
S_1820,182.034 {485},Y_2243,ppm, -.0009,.0015,174.6, .0002, -.0019
Sb2068,206.833 {463},Y_2243,ppm, .0012,.0003,24.76, .0010, .0014
Se1960,196.090 {472},Y_2243,ppm, -.0013,.0018,137.7, -.0026, -.0000
Si2516,251.611 {134},Y_3710,ppm, .0113,.0010,9.251, .0121, .0106
Sn1899,189.989 {477},In2306,ppm, -.0003,.0003,97.68, -.0001, -.0006
Sr4215,421.552 { 80},Y_3710,ppm, .0000,.0000,20.55, .0000, .0000
Ti3349,334.904 {101},Y_3600,ppm, .0001,.0001,196.7, .0001, -.0000
Tl1908,190.856 {477},In2306,ppm, .0089,.0048,53.94, .0124, .0055
U_3670,367.007 { 92},Y_3600,ppm, -.7591,.0058,.7657, -.7550, -.7632
V_2924,292.402 {115},Y_3600,ppm, .0001,.0001,59.79, .0001, .0002
W_2397,239.709 {140},Y_2243,ppm, .0093,.0029,30.72, .0073, .0113
Zn2062,206.200 {463},In2306,ppm, -.0010,.0001,11.44, -.0011, -.0010

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 252.01,.81430,.32313,251.43,252.58
In2306,230.606 {446},Cts/S, 16995.,2.8700,.01689,16993.,16997.
Y_2243,224.306 {450},Cts/S, 25710.,15.071,.05862,25699.,25720.
Y_3600,360.073 { 94},Cts/S, 211340.,856.54,.40529,210740.,211950.
Y_3710,371.030 { 91},Cts/S, 12591.,39.445,.31329,12563.,12619.

[Sample Header]
Method=ICP6500Metals_TRY3(v5030)
SampleName=Rinse3
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=11/12/2019 8:57:58
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0005,.0000,7.027, .0005, .0005
Al3082,308.215 {109},In2306,ppm, -.0278,.0191,68.59, -.0413, -.0143
As1890,189.042 {478},Y_2243,ppm, .0017,.0006,33.64, .0013, .0021
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B_2496,249.678 {135},Y_3710,ppm, -.0018,.0022,119.9, -.0033, -.0003
Ba4554,455.403 { 74},Y_3710,ppm, .0011,.0001,6.676, .0010, .0011
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,65.08, -.0000, -.0001
Ca3158,315.887 {107},In2306,ppm, -.0115,.0020,17.46, -.0101, -.0129
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0000,47.35, .0000, .0000
Co2286,228.616 {447},In2306,ppm, .0001,.0002,155.6, .0003, -.0000
Cr2677,267.716 {126},Y_3600,ppm, .0004,.0001,31.52, .0004, .0003
Cu3247,324.754 {104},Y_3600,ppm, -.0009,.0001,13.03, -.0010, -.0008
Fe2404,240.488 {140},In2306,ppm, .0042,.0011,25.88, .0034, .0049
K_7664,766.490 { 44},Y_3710,ppm, -.0780,.0095,12.12, -.0714, -.0847
Li6707,670.784 { 50},Y_3710,ppm, .0004,.0005,118.6, .0008, .0001
Mg2790,279.079 {121},Y_3710,ppm, -.0168,.0104,62.33, -.0094, -.0241
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,2.061, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, .0006,.0001,16.74, .0007, .0005
Na5895,589.592 { 57},Y_3710,ppm, -.0260,.0029,11.26, -.0240, -.0281
Ni2316,231.604 {445},In2306,ppm, -.0013,.0002,16.05, -.0015, -.0012
P_1782,178.284 {489},In2306,ppm, .0004,.0005,116.4, .0001, .0007
Pb2203,220.353 {453},In2306,ppm, -.0012,.0013,103.4, -.0003, -.0021
S_1820,182.034 {485},Y_2243,ppm, -.0030,.0006,19.39, -.0034, -.0026
Sb2068,206.833 {463},Y_2243,ppm, .0016,.0000,.2323, .0016, .0016
Se1960,196.090 {472},Y_2243,ppm, -.0011,.0007,66.35, -.0016, -.0006
Si2516,251.611 {134},Y_3710,ppm, -.0001,.0037,4316., -.0027, .0026
Sn1899,189.989 {477},In2306,ppm, -.0004,.0002,51.87, -.0006, -.0003
Sr4215,421.552 { 80},Y_3710,ppm, .0001,.0003,241.1, -.0001, .0003
Ti3349,334.904 {101},Y_3600,ppm, -.0001,.0001,96.35, -.0000, -.0002
Tl1908,190.856 {477},In2306,ppm, .0026,.0017,63.90, .0038, .0015
U_3670,367.007 { 92},Y_3600,ppm, -.7851,.0165,2.096, -.7734, -.7967
V_2924,292.402 {115},Y_3600,ppm, .0003,.0000,.0675, .0003, .0003
W_2397,239.709 {140},Y_2243,ppm, .0139,.0489,352.8, .0485, -.0207
Zn2062,206.200 {463},In2306,ppm, -.0011,.0001,5.425, -.0012, -.0011

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 251.45,.66973,.26634,250.98,251.93
In2306,230.606 {446},Cts/S, 16993.,13.073,.07693,17002.,16984.
Y_2243,224.306 {450},Cts/S, 25707.,3.1301,.01218,25709.,25705.
Y_3600,360.073 { 94},Cts/S, 211140.,306.60,.14521,211360.,210920.
Y_3710,371.030 { 91},Cts/S, 12649.,26.417,.20884,12630.,12668.

[Sample Header]
Method=ICP6500Metals_TRY3(v5030)
SampleName=Rinse4
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=11/12/2019 9:00:03
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0002,.0000,23.31, -.0002, -.0002
Al3082,308.215 {109},In2306,ppm, .0000,.0142,34750., .0101, -.0100
As1890,189.042 {478},Y_2243,ppm, .0031,.0001,3.412, .0031, .0030
B_2496,249.678 {135},Y_3710,ppm, -.0010,.0039,389.4, .0017, -.0037
Ba4554,455.403 { 74},Y_3710,ppm, .0009,.0000,.1579, .0009, .0010
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,82.00, .0001, .0000
Ca3158,315.887 {107},In2306,ppm, -.0129,.0013,10.04, -.0138, -.0120
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,6.935, .0001, .0001
Co2286,228.616 {447},In2306,ppm, .0000,.0000,429.3, .0000, -.0000
Cr2677,267.716 {126},Y_3600,ppm, .0001,.0002,377.2, -.0001, .0002
Cu3247,324.754 {104},Y_3600,ppm, -.0007,.0000,2.855, -.0006, -.0007
Fe2404,240.488 {140},In2306,ppm, -.0048,.0080,166.6, .0009, -.0105
K_7664,766.490 { 44},Y_3710,ppm, -.0716,.0149,20.84, -.0611, -.0822
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Li6707,670.784 { 50},Y_3710,ppm, .0005,.0001,23.13, .0004, .0006
Mg2790,279.079 {121},Y_3710,ppm, .0212,.0144,67.83, .0314, .0110
Mn2576,257.610 {131},Y_3600,ppm, -.0002,.0000,2.169, -.0002, -.0002
Mo2020,202.030 {467},Y_2243,ppm, .0002,.0001,69.55, .0001, .0002
Na5895,589.592 { 57},Y_3710,ppm, -.0291,.0051,17.50, -.0327, -.0255
Ni2316,231.604 {445},In2306,ppm, -.0013,.0003,23.20, -.0015, -.0010
P_1782,178.284 {489},In2306,ppm, .0001,.0003,255.8, .0004, -.0001
Pb2203,220.353 {453},In2306,ppm, .0006,.0006,107.4, .0010, .0001
S_1820,182.034 {485},Y_2243,ppm, .0003,.0011,357.6, .0011, -.0005
Sb2068,206.833 {463},Y_2243,ppm, .0013,.0007,55.05, .0008, .0018
Se1960,196.090 {472},Y_2243,ppm, -.0019,.0010,52.23, -.0012, -.0026
Si2516,251.611 {134},Y_3710,ppm, .0055,.0001,1.878, .0054, .0056
Sn1899,189.989 {477},In2306,ppm, -.0004,.0000,5.014, -.0004, -.0004
Sr4215,421.552 { 80},Y_3710,ppm, -.0001,.0000,16.01, -.0001, -.0001
Ti3349,334.904 {101},Y_3600,ppm, .0003,.0003,105.7, .0001, .0004
Tl1908,190.856 {477},In2306,ppm, -.0017,.0031,180.3, .0005, -.0040
U_3670,367.007 { 92},Y_3600,ppm, -.7786,.0635,8.150, -.7337, -.8234
V_2924,292.402 {115},Y_3600,ppm, .0001,.0001,85.41, .0000, .0002
W_2397,239.709 {140},Y_2243,ppm, -.0093,.0398,428.3, .0188, -.0374
Zn2062,206.200 {463},In2306,ppm, -.0011,.0000,3.835, -.0012, -.0011

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 253.77,1.1746,.46286,252.94,254.60
In2306,230.606 {446},Cts/S, 16901.,5.8247,.03446,16897.,16905.
Y_2243,224.306 {450},Cts/S, 25592.,28.873,.11282,25612.,25571.
Y_3600,360.073 { 94},Cts/S, 210510.,487.09,.23139,210850.,210160.
Y_3710,371.030 { 91},Cts/S, 12698.,59.328,.46723,12740.,12656.

[Sample Header]
Method=ICP6500Metals_TRY3(v5030)
SampleName=Rinse5
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=11/12/2019 9:02:09
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0002,.0002,97.29, -.0004, -.0001
Al3082,308.215 {109},In2306,ppm, -.0033,.0049,150.1, .0002, -.0067
As1890,189.042 {478},Y_2243,ppm, .0027,.0017,63.00, .0015, .0039
B_2496,249.678 {135},Y_3710,ppm, -.0068,.0008,11.19, -.0062, -.0073
Ba4554,455.403 { 74},Y_3710,ppm, .0010,.0002,15.78, .0011, .0009
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,78.14, .0001, .0000
Ca3158,315.887 {107},In2306,ppm, -.0105,.0074,70.57, -.0157, -.0052
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0001,116.3, -.0000, -.0002
Co2286,228.616 {447},In2306,ppm, -.0001,.0000,40.66, -.0001, -.0002
Cr2677,267.716 {126},Y_3600,ppm, .0001,.0000,19.64, .0002, .0001
Cu3247,324.754 {104},Y_3600,ppm, -.0006,.0005,83.23, -.0002, -.0009
Fe2404,240.488 {140},In2306,ppm, -.0008,.0059,726.3, .0034, -.0050
K_7664,766.490 { 44},Y_3710,ppm, -.0814,.0141,17.36, -.0714, -.0913
Li6707,670.784 { 50},Y_3710,ppm, .0005,.0003,59.36, .0007, .0003
Mg2790,279.079 {121},Y_3710,ppm, -.0010,.0149,1554., .0096, -.0115
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,7.656, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, .0002,.0002,77.80, .0001, .0003
Na5895,589.592 { 57},Y_3710,ppm, -.0267,.0008,3.140, -.0261, -.0273
Ni2316,231.604 {445},In2306,ppm, -.0012,.0002,13.71, -.0011, -.0013
P_1782,178.284 {489},In2306,ppm, .0005,.0011,203.7, .0013, -.0002
Pb2203,220.353 {453},In2306,ppm, -.0010,.0009,88.46, -.0016, -.0004
S_1820,182.034 {485},Y_2243,ppm, -.0006,.0004,69.57, -.0008, -.0003
Sb2068,206.833 {463},Y_2243,ppm, .0021,.0004,20.38, .0024, .0018
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Se1960,196.090 {472},Y_2243,ppm, -.0023,.0005,23.07, -.0019, -.0027
Si2516,251.611 {134},Y_3710,ppm, -.0067,.0033,49.37, -.0044, -.0091
Sn1899,189.989 {477},In2306,ppm, -.0003,.0005,151.3, .0000, -.0007
Sr4215,421.552 { 80},Y_3710,ppm, .0001,.0000,7.570, .0001, .0001
Ti3349,334.904 {101},Y_3600,ppm, .0001,.0001,155.7, -.0000, .0002
Tl1908,190.856 {477},In2306,ppm, -.0019,.0027,141.5, .0000, -.0039
U_3670,367.007 { 92},Y_3600,ppm, -.7777,.0839,10.79, -.8370, -.7184
V_2924,292.402 {115},Y_3600,ppm, .0001,.0004,451.7, .0004, -.0002
W_2397,239.709 {140},Y_2243,ppm, -.0013,.0298,2247., -.0224, .0197
Zn2062,206.200 {463},In2306,ppm, -.0010,.0001,10.38, -.0009, -.0011

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 254.79,.13581,.05330,254.89,254.70
In2306,230.606 {446},Cts/S, 16948.,18.821,.11105,16961.,16934.
Y_2243,224.306 {450},Cts/S, 25625.,5.3911,.02104,25621.,25629.
Y_3600,360.073 { 94},Cts/S, 211650.,638.38,.30163,212100.,211190.
Y_3710,371.030 { 91},Cts/S, 12691.,61.307,.48306,12648.,12735.

[Sample Header]
Method=ICP6500Metals_TRY3(v5030)
SampleName=Rinse6
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=11/12/2019 9:04:15
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0002,.0002,115.5, -.0000, -.0003
Al3082,308.215 {109},In2306,ppm, -.0107,.0122,113.4, -.0193, -.0021
As1890,189.042 {478},Y_2243,ppm, .0030,.0014,46.92, .0020, .0040
B_2496,249.678 {135},Y_3710,ppm, .0020,.0042,209.5, .0049, -.0010
Ba4554,455.403 { 74},Y_3710,ppm, .0009,.0002,22.83, .0010, .0007
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,220.8, .0000, -.0000
Ca3158,315.887 {107},In2306,ppm, -.0144,.0018,12.65, -.0157, -.0132
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0000,3.197, .0000, .0000
Co2286,228.616 {447},In2306,ppm, .0001,.0000,4.932, .0001, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0002,.0000,12.28, .0002, .0002
Cu3247,324.754 {104},Y_3600,ppm, -.0006,.0002,42.84, -.0007, -.0004
Fe2404,240.488 {140},In2306,ppm, .0027,.0038,140.2, .0054, .0000
K_7664,766.490 { 44},Y_3710,ppm, -.0590,.0003,.5137, -.0587, -.0592
Li6707,670.784 { 50},Y_3710,ppm, -.0003,.0006,188.6, .0001, -.0007
Mg2790,279.079 {121},Y_3710,ppm, -.0073,.0190,261.7, .0062, -.0207
Mn2576,257.610 {131},Y_3600,ppm, -.0002,.0000,25.57, -.0001, -.0002
Mo2020,202.030 {467},Y_2243,ppm, .0000,.0003,12610., .0002, -.0002
Na5895,589.592 { 57},Y_3710,ppm, -.0281,.0031,10.99, -.0260, -.0303
Ni2316,231.604 {445},In2306,ppm, -.0013,.0000,1.188, -.0013, -.0013
P_1782,178.284 {489},In2306,ppm, .0013,.0016,121.9, .0002, .0024
Pb2203,220.353 {453},In2306,ppm, -.0010,.0011,101.2, -.0003, -.0018
S_1820,182.034 {485},Y_2243,ppm, -.0016,.0013,83.13, -.0026, -.0007
Sb2068,206.833 {463},Y_2243,ppm, .0016,.0009,54.68, .0022, .0010
Se1960,196.090 {472},Y_2243,ppm, -.0024,.0015,62.80, -.0014, -.0035
Si2516,251.611 {134},Y_3710,ppm, .0043,.0028,65.26, .0023, .0062
Sn1899,189.989 {477},In2306,ppm, -.0007,.0002,35.29, -.0005, -.0009
Sr4215,421.552 { 80},Y_3710,ppm, .0001,.0001,50.73, .0002, .0001
Ti3349,334.904 {101},Y_3600,ppm, .0002,.0001,71.16, .0001, .0002
Tl1908,190.856 {477},In2306,ppm, -.0010,.0042,431.0, .0020, -.0039
U_3670,367.007 { 92},Y_3600,ppm, -.7821,.0328,4.190, -.7589, -.8052
V_2924,292.402 {115},Y_3600,ppm, .0001,.0001,102.2, .0000, .0002
W_2397,239.709 {140},Y_2243,ppm, -.0126,.0292,231.4, .0080, -.0332
Zn2062,206.200 {463},In2306,ppm, -.0011,.0000,1.198, -.0011, -.0011
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[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 252.29,.17700,.07016,252.41,252.16
In2306,230.606 {446},Cts/S, 16796.,149.79,.89187,16901.,16690.
Y_2243,224.306 {450},Cts/S, 25399.,317.26,1.2491,25624.,25175.
Y_3600,360.073 { 94},Cts/S, 211100.,749.68,.35512,210570.,211630.
Y_3710,371.030 { 91},Cts/S, 12692.,.37151,.00293,12692.,12691.

[Sample Header]
Method=ICP6500Metals_TRY3(v5030)
SampleName=Blank
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=11/12/2019 9:06:22
Sample Type=Cal
Mode=IR
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,Cts/S, -.0001,.0000,21.26, -.0001, -.0001
Al3082,308.215 {109},In2306,Cts/S, .0516,.0004,.7701, .0519, .0514
As1890,189.042 {478},Y_2243,Cts/S, -.0000,.0000,110.4, -.0001, -.0000
B_2496,249.678 {135},Y_3710,Cts/S, .0000,.0001,295.4, .0002, -.0001
Ba4554,455.403 { 74},Y_3710,Cts/S, .0037,.0003,6.719, .0039, .0036
Be3130,313.042 {108},Y_3710,Cts/S, .0002,.0001,48.76, .0003, .0001
Ca3158,315.887 {107},In2306,Cts/S, -.0018,.0043,246.7, -.0048, .0013
Cd2288,228.802 {447},Y_2243,Cts/S, .0004,.0000,1.007, .0004, .0004
Co2286,228.616 {447},In2306,Cts/S, .0000,.0000,29.39, .0000, .0000
Cr2677,267.716 {126},Y_3600,Cts/S, .0000,.0000,30.69, .0000, .0000
Cu3247,324.754 {104},Y_3600,Cts/S, .0042,.0000,.0451, .0042, .0042
Fe2404,240.488 {140},In2306,Cts/S, .0172,.0038,22.06, .0199, .0145
K_7664,766.490 { 44},Y_3710,Cts/S, -.0023,.0017,74.91, -.0034, -.0011
Li6707,670.784 { 50},Y_3710,Cts/S, .0017,.0005,29.47, .0013, .0020
Mg2790,279.079 {121},Y_3710,Cts/S, -.0001,.0000,32.42, -.0001, -.0001
Mn2576,257.610 {131},Y_3600,Cts/S, .0001,.0000,5.887, .0001, .0001
Mo2020,202.030 {467},Y_2243,Cts/S, .0002,.0000,5.986, .0002, .0002
Na5895,589.592 { 57},Y_3710,Cts/S, .0155,.0001,.6928, .0154, .0156
Ni2316,231.604 {445},In2306,Cts/S, -.0003,.0000,1.914, -.0003, -.0003
P_1782,178.284 {489},In2306,Cts/S, .0001,.0000,33.79, .0001, .0001
Pb2203,220.353 {453},In2306,Cts/S, -.0002,.0000,21.28, -.0001, -.0002
S_1820,182.034 {485},Y_2243,Cts/S, .0001,.0000,.8639, .0001, .0001
Sb2068,206.833 {463},Y_2243,Cts/S, .0000,.0000,5799., -.0000, .0000
Se1960,196.090 {472},Y_2243,Cts/S, -.0001,.0000,47.75, -.0001, -.0000
Si2516,251.611 {134},Y_3710,Cts/S, .0006,.0001,18.97, .0006, .0005
Sn1899,189.989 {477},In2306,Cts/S, .0002,.0000,21.33, .0002, .0001
Sr4215,421.552 { 80},Y_3710,Cts/S, -.0010,.0003,33.04, -.0012, -.0007
Ti3349,334.904 {101},Y_3600,Cts/S, -.0001,.0000,29.11, -.0001, -.0002
Tl1908,190.856 {477},In2306,Cts/S, -.0002,.0000,10.85, -.0002, -.0002
U_3670,367.007 { 92},Y_3600,Cts/S, .0002,.0000,2.534, .0002, .0002
V_2924,292.402 {115},Y_3600,Cts/S, -.0003,.0000,.4472, -.0003, -.0002
W_2397,239.709 {140},Y_2243,Cts/S, .0000,.0000,218.5, -.0000, .0000
Zn2062,206.200 {463},In2306,Cts/S, .0019,.0000,1.110, .0019, .0019

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 252.45,2.5732,1.0193,250.63,254.27
In2306,230.606 {446},Cts/S, 16757.,8.9856,.05362,16750.,16763.
Y_2243,224.306 {450},Cts/S, 25240.,74.225,.29408,25187.,25292.
Y_3600,360.073 { 94},Cts/S, 210170.,321.24,.15285,209940.,210390.
Y_3710,371.030 { 91},Cts/S, 12684.,79.486,.62667,12628.,12740.

[Sample Header]
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[Results]
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Ag3280,328.068 {103},Y_3600,Cts/S, .0007,.0001,10.11, .0007, .0008
Al3082,308.215 {109},In2306,Cts/S, .1762,.0118,6.706, .1845, .1678
As1890,189.042 {478},Y_2243,Cts/S, .0006,.0000,7.903, .0006, .0006
B_2496,249.678 {135},Y_3710,Cts/S, .0006,.0000,8.837, .0005, .0006
Ba4554,455.403 { 74},Y_3710,Cts/S, .0574,.0006,1.034, .0569, .0578
Be3130,313.042 {108},Y_3710,Cts/S, .0287,.0001,.4515, .0286, .0288
Ca3158,315.887 {107},In2306,Cts/S, 1.330,.0258,1.940, 1.312, 1.349
Cd2288,228.802 {447},Y_2243,Cts/S, .0086,.0000,.5677, .0086, .0086
Co2286,228.616 {447},In2306,Cts/S, .0078,.0001,.8030, .0078, .0079
Cr2677,267.716 {126},Y_3600,Cts/S, .0011,.0001,10.89, .0010, .0012
Cu3247,324.754 {104},Y_3600,Cts/S, .0056,.0001,1.946, .0056, .0057
Fe2404,240.488 {140},In2306,Cts/S, .1720,.0099,5.737, .1650, .1790
K_7664,766.490 { 44},Y_3710,Cts/S, .0470,.0007,1.498, .0465, .0475
Li6707,670.784 { 50},Y_3710,Cts/S, .0144,.0001,.5315, .0144, .0143
Mg2790,279.079 {121},Y_3710,Cts/S, .0053,.0001,1.389, .0054, .0053
Mn2576,257.610 {131},Y_3600,Cts/S, .0065,.0006,9.040, .0061, .0069
Mo2020,202.030 {467},Y_2243,Cts/S, .0021,.0000,.9332, .0021, .0021
Na5895,589.592 { 57},Y_3710,Cts/S, .1852,.0009,.5021, .1846, .1859
Ni2316,231.604 {445},In2306,Cts/S, .0044,.0000,.0433, .0044, .0044
P_1782,178.284 {489},In2306,Cts/S, .0324,.0001,.2891, .0325, .0323
Pb2203,220.353 {453},In2306,Cts/S, .0010,.0001,9.243, .0009, .0010
S_1820,182.034 {485},Y_2243,Cts/S, .0039,.0000,1.056, .0039, .0039
Sb2068,206.833 {463},Y_2243,Cts/S, .0024,.0000,.7407, .0024, .0024
Se1960,196.090 {472},Y_2243,Cts/S, .0004,.0000,11.21, .0004, .0003
Si2516,251.611 {134},Y_3710,Cts/S, .0035,.0003,8.336, .0037, .0033
Sn1899,189.989 {477},In2306,Cts/S, .0036,.0000,1.008, .0036, .0037
Sr4215,421.552 { 80},Y_3710,Cts/S, .0299,.0001,.2638, .0300, .0299
Ti3349,334.904 {101},Y_3600,Cts/S, .0010,.0001,11.58, .0009, .0011
Tl1908,190.856 {477},In2306,Cts/S, .0005,.0000,2.463, .0005, .0004
U_3670,367.007 { 92},Y_3600,Cts/S, .0003,.0000,1.676, .0003, .0003
V_2924,292.402 {115},Y_3600,Cts/S, .0011,.0000,3.859, .0011, .0012
W_2397,239.709 {140},Y_2243,Cts/S, .0001,.0000,30.98, .0001, .0001
Zn2062,206.200 {463},In2306,Cts/S, .0195,.0001,.7273, .0196, .0194

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 252.50,1.8171,.71966,253.78,251.21
In2306,230.606 {446},Cts/S, 16514.,31.018,.18782,16493.,16536.
Y_2243,224.306 {450},Cts/S, 25292.,31.952,.12633,25269.,25315.
Y_3600,360.073 { 94},Cts/S, 220750.,15392.,6.9725,231630.,209870.
Y_3710,371.030 { 91},Cts/S, 12715.,65.642,.51628,12668.,12761.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,Cts/S, .0111,.0000,.3827, .0110, .0111
Al3082,308.215 {109},In2306,Cts/S, .7854,.0178,2.261, .7729, .7980
As1890,189.042 {478},Y_2243,Cts/S, .0161,.0001,.6425, .0162, .0160
B_2496,249.678 {135},Y_3710,Cts/S, .0054,.0001,1.295, .0054, .0053
Ba4554,455.403 { 74},Y_3710,Cts/S, 1.286,.0012,.0966, 1.285, 1.287
Be3130,313.042 {108},Y_3710,Cts/S, .6805,.0027,.3959, .6786, .6824
Ca3158,315.887 {107},In2306,Cts/S, 8.200,.1396,1.702, 8.102, 8.299
Cd2288,228.802 {447},Y_2243,Cts/S, .1973,.0003,.1573, .1976, .1971
Co2286,228.616 {447},In2306,Cts/S, .1885,.0006,.3181, .1881, .1889
Cr2677,267.716 {126},Y_3600,Cts/S, .0264,.0000,.0101, .0264, .0264
Cu3247,324.754 {104},Y_3600,Cts/S, .0420,.0000,.0072, .0420, .0420
Fe2404,240.488 {140},In2306,Cts/S, .9798,.0161,1.641, .9684, .9912
K_7664,766.490 { 44},Y_3710,Cts/S, .2768,.0006,.2248, .2772, .2763
Li6707,670.784 { 50},Y_3710,Cts/S, .3108,.0013,.4222, .3099, .3117
Mg2790,279.079 {121},Y_3710,Cts/S, .0312,.0001,.1847, .0312, .0312
Mn2576,257.610 {131},Y_3600,Cts/S, .1587,.0002,.1088, .1588, .1585
Mo2020,202.030 {467},Y_2243,Cts/S, .0459,.0000,.0902, .0459, .0460
Na5895,589.592 { 57},Y_3710,Cts/S, 1.026,.0008,.0759, 1.025, 1.026
Ni2316,231.604 {445},In2306,Cts/S, .1122,.0005,.4862, .1118, .1126
P_1782,178.284 {489},In2306,Cts/S, .0863,.0002,.1800, .0862, .0864
Pb2203,220.353 {453},In2306,Cts/S, .0282,.0001,.4077, .0283, .0281
S_1820,182.034 {485},Y_2243,Cts/S, .0101,.0000,.1741, .0101, .0100
Sb2068,206.833 {463},Y_2243,Cts/S, .0118,.0001,.7251, .0117, .0118
Se1960,196.090 {472},Y_2243,Cts/S, .0104,.0000,.1449, .0104, .0103
Si2516,251.611 {134},Y_3710,Cts/S, .0106,.0001,1.076, .0107, .0106
Sn1899,189.989 {477},In2306,Cts/S, .0877,.0002,.2270, .0876, .0879
Sr4215,421.552 { 80},Y_3710,Cts/S, .7169,.0038,.5313, .7142, .7196
Ti3349,334.904 {101},Y_3600,Cts/S, .0290,.0000,.0592, .0290, .0290
Tl1908,190.856 {477},In2306,Cts/S, .0120,.0001,.9686, .0119, .0121
U_3670,367.007 { 92},Y_3600,Cts/S, .0003,.0000,.7751, .0003, .0003
V_2924,292.402 {115},Y_3600,Cts/S, .0349,.0001,.3672, .0350, .0348
W_2397,239.709 {140},Y_2243,Cts/S, .0001,.0000,32.92, .0000, .0001
Zn2062,206.200 {463},In2306,Cts/S, .2440,.0013,.5529, .2430, .2449

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 249.00,1.4357,.57660,250.02,247.99
In2306,230.606 {446},Cts/S, 15858.,45.599,.28754,15891.,15826.
Y_2243,224.306 {450},Cts/S, 24974.,29.939,.11988,24996.,24953.
Y_3600,360.073 { 94},Cts/S, 206680.,414.23,.20042,206390.,206970.
Y_3710,371.030 { 91},Cts/S, 12665.,73.291,.57868,12613.,12717.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,Cts/S, .0220,.0000,.1709, .0220, .0219
Al3082,308.215 {109},In2306,Cts/S, 1.611,.0035,.2157, 1.609, 1.614
As1890,189.042 {478},Y_2243,Cts/S, .0316,.0002,.5220, .0315, .0317
B_2496,249.678 {135},Y_3710,Cts/S, .0106,.0003,2.954, .0103, .0108
Ba4554,455.403 { 74},Y_3710,Cts/S, 2.521,.0166,.6604, 2.509, 2.533
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Be3130,313.042 {108},Y_3710,Cts/S, 1.340,.0107,.7948, 1.333, 1.348
Ca3158,315.887 {107},In2306,Cts/S, 16.97,.0017,.0100, 16.97, 16.97
Cd2288,228.802 {447},Y_2243,Cts/S, .3846,.0011,.2866, .3839, .3854
Co2286,228.616 {447},In2306,Cts/S, .3719,.0002,.0618, .3721, .3717
Cr2677,267.716 {126},Y_3600,Cts/S, .0518,.0002,.3986, .0516, .0519
Cu3247,324.754 {104},Y_3600,Cts/S, .0782,.0002,.2227, .0781, .0783
Fe2404,240.488 {140},In2306,Cts/S, 1.992,.0172,.8613, 2.004, 1.980
K_7664,766.490 { 44},Y_3710,Cts/S, .5713,.0039,.6838, .5686, .5741
Li6707,670.784 { 50},Y_3710,Cts/S, .6079,.0015,.2407, .6069, .6089
Mg2790,279.079 {121},Y_3710,Cts/S, .0651,.0000,.0173, .0651, .0651
Mn2576,257.610 {131},Y_3600,Cts/S, .3098,.0010,.3152, .3091, .3105
Mo2020,202.030 {467},Y_2243,Cts/S, .0898,.0001,.1142, .0898, .0897
Na5895,589.592 { 57},Y_3710,Cts/S, 2.101,.0115,.5454, 2.093, 2.109
Ni2316,231.604 {445},In2306,Cts/S, .2219,.0002,.0935, .2221, .2218
P_1782,178.284 {489},In2306,Cts/S, .1749,.0001,.0544, .1748, .1749
Pb2203,220.353 {453},In2306,Cts/S, .0557,.0001,.1913, .0556, .0558
S_1820,182.034 {485},Y_2243,Cts/S, .0400,.0001,.1470, .0400, .0399
Sb2068,206.833 {463},Y_2243,Cts/S, .0232,.0002,.7201, .0233, .0231
Se1960,196.090 {472},Y_2243,Cts/S, .0205,.0000,.0083, .0205, .0205
Si2516,251.611 {134},Y_3710,Cts/S, .0197,.0003,1.613, .0195, .0200
Sn1899,189.989 {477},In2306,Cts/S, .1738,.0002,.1089, .1739, .1737
Sr4215,421.552 { 80},Y_3710,Cts/S, 1.403,.0082,.5845, 1.397, 1.409
Ti3349,334.904 {101},Y_3600,Cts/S, .0571,.0003,.4769, .0569, .0573
Tl1908,190.856 {477},In2306,Cts/S, .0253,.0001,.3042, .0252, .0254
U_3670,367.007 { 92},Y_3600,Cts/S, .0004,.0000,3.796, .0004, .0004
V_2924,292.402 {115},Y_3600,Cts/S, .0689,.0001,.2074, .0688, .0690
W_2397,239.709 {140},Y_2243,Cts/S, .0002,.0000,1.198, .0002, .0002
Zn2062,206.200 {463},In2306,Cts/S, .4852,.0019,.4010, .4866, .4839

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 247.70,2.3602,.95283,246.03,249.37
In2306,230.606 {446},Cts/S, 15416.,7.3999,.04800,15421.,15410.
Y_2243,224.306 {450},Cts/S, 24753.,60.252,.24341,24796.,24711.
Y_3600,360.073 { 94},Cts/S, 204650.,912.95,.44611,205290.,204000.
Y_3710,371.030 { 91},Cts/S, 12623.,7.1207,.05641,12618.,12628.

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[Results]
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Ag3280,328.068 {103},Y_3600,Cts/S, .0436,.0000,.0583, .0436, .0436
Al3082,308.215 {109},In2306,Cts/S, 3.124,.0757,2.424, 3.070, 3.177
As1890,189.042 {478},Y_2243,Cts/S, .0639,.0002,.2520, .0641, .0638
B_2496,249.678 {135},Y_3710,Cts/S, .0206,.0003,1.581, .0204, .0208
Ba4554,455.403 { 74},Y_3710,Cts/S, 5.010,.0125,.2495, 5.002, 5.019
Be3130,313.042 {108},Y_3710,Cts/S, 2.641,.0093,.3519, 2.635, 2.648
Ca3158,315.887 {107},In2306,Cts/S, 33.14,.4811,1.451, 32.80, 33.48
Cd2288,228.802 {447},Y_2243,Cts/S, .7704,.0003,.0356, .7702, .7705
Co2286,228.616 {447},In2306,Cts/S, .7535,.0031,.4167, .7557, .7513
Cr2677,267.716 {126},Y_3600,Cts/S, .1030,.0001,.1205, .1029, .1031
Cu3247,324.754 {104},Y_3600,Cts/S, .1528,.0001,.0713, .1529, .1527
Fe2404,240.488 {140},In2306,Cts/S, 3.909,.0466,1.193, 3.876, 3.942
K_7664,766.490 { 44},Y_3710,Cts/S, 1.111,.0047,.4269, 1.107, 1.114
Li6707,670.784 { 50},Y_3710,Cts/S, 1.206,.0052,.4295, 1.202, 1.210
Mg2790,279.079 {121},Y_3710,Cts/S, .1248,.0012,.9951, .1239, .1256
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Mn2576,257.610 {131},Y_3600,Cts/S, .6149,.0004,.0625, .6146, .6152
Mo2020,202.030 {467},Y_2243,Cts/S, .1795,.0004,.2411, .1792, .1798
Na5895,589.592 { 57},Y_3710,Cts/S, 4.064,.0105,.2579, 4.057, 4.072
Ni2316,231.604 {445},In2306,Cts/S, .4486,.0022,.4873, .4502, .4471
P_1782,178.284 {489},In2306,Cts/S, .3571,.0012,.3409, .3579, .3562
Pb2203,220.353 {453},In2306,Cts/S, .1129,.0004,.3862, .1132, .1126
S_1820,182.034 {485},Y_2243,Cts/S, .0604,.0001,.1572, .0605, .0603
Sb2068,206.833 {463},Y_2243,Cts/S, .0463,.0003,.6729, .0461, .0465
Se1960,196.090 {472},Y_2243,Cts/S, .0416,.0002,.4995, .0414, .0417
Si2516,251.611 {134},Y_3710,Cts/S, .0397,.0003,.7089, .0395, .0399
Sn1899,189.989 {477},In2306,Cts/S, .3526,.0011,.3131, .3534, .3518
Sr4215,421.552 { 80},Y_3710,Cts/S, 2.786,.0111,.4000, 2.778, 2.794
Ti3349,334.904 {101},Y_3600,Cts/S, .1145,.0000,.0046, .1145, .1145
Tl1908,190.856 {477},In2306,Cts/S, .0523,.0001,.0979, .0523, .0523
U_3670,367.007 { 92},Y_3600,Cts/S, .0005,.0000,3.183, .0005, .0005
V_2924,292.402 {115},Y_3600,Cts/S, .1380,.0000,.0105, .1380, .1381
W_2397,239.709 {140},Y_2243,Cts/S, .0005,.0000,1.882, .0005, .0005
Zn2062,206.200 {463},In2306,Cts/S, .9776,.0082,.8416, .9834, .9718

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 245.29,1.1503,.46896,246.10,244.47
In2306,230.606 {446},Cts/S, 14789.,38.089,.25754,14816.,14762.
Y_2243,224.306 {450},Cts/S, 24291.,144.03,.59295,24393.,24189.
Y_3600,360.073 { 94},Cts/S, 200690.,92.718,.04620,200760.,200630.
Y_3710,371.030 { 91},Cts/S, 12744.,46.811,.36731,12711.,12777.

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Al3082,308.215 {109},In2306,Cts/S, 6.333,.0048,.0765, 6.336, 6.329
As1890,189.042 {478},Y_2243,Cts/S, .1274,.0002,.1793, .1276, .1272
B_2496,249.678 {135},Y_3710,Cts/S, .0408,.0000,.0736, .0408, .0408
Ba4554,455.403 { 74},Y_3710,Cts/S, 9.943,.0316,.3179, 9.921, 9.966
Be3130,313.042 {108},Y_3710,Cts/S, 5.240,.0207,.3956, 5.225, 5.255
Ca3158,315.887 {107},In2306,Cts/S, 67.20,.1515,.2255, 67.09, 67.30
Cd2288,228.802 {447},Y_2243,Cts/S, 1.523,.0015,.1002, 1.524, 1.522
Co2286,228.616 {447},In2306,Cts/S, 1.515,.0032,.2098, 1.517, 1.513
Cr2677,267.716 {126},Y_3600,Cts/S, .2016,.0005,.2725, .2020, .2012
Cu3247,324.754 {104},Y_3600,Cts/S, .2995,.0003,.1092, .2992, .2997
Fe2404,240.488 {140},In2306,Cts/S, 7.900,.0567,.7171, 7.860, 7.940
K_7664,766.490 { 44},Y_3710,Cts/S, 2.247,.0001,.0029, 2.247, 2.247
Li6707,670.784 { 50},Y_3710,Cts/S, 2.395,.0010,.0406, 2.394, 2.396
Mg2790,279.079 {121},Y_3710,Cts/S, .2515,.0015,.5963, .2504, .2526
Mn2576,257.610 {131},Y_3600,Cts/S, 1.205,.0034,.2788, 1.208, 1.203
Mo2020,202.030 {467},Y_2243,Cts/S, .3523,.0003,.0794, .3525, .3521
Na5895,589.592 { 57},Y_3710,Cts/S, 8.158,.0200,.2456, 8.144, 8.172
Ni2316,231.604 {445},In2306,Cts/S, .8999,.0010,.1140, .9006, .8991
P_1782,178.284 {489},In2306,Cts/S, .7256,.0007,.0977, .7261, .7251
Pb2203,220.353 {453},In2306,Cts/S, .2251,.0000,.0096, .2251, .2251
S_1820,182.034 {485},Y_2243,Cts/S, .1011,.0001,.0978, .1012, .1011
Sb2068,206.833 {463},Y_2243,Cts/S, .0922,.0002,.2364, .0921, .0924
Se1960,196.090 {472},Y_2243,Cts/S, .0827,.0001,.1583, .0828, .0826
Si2516,251.611 {134},Y_3710,Cts/S, .0824,.0007,.8398, .0820, .0829
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Sn1899,189.989 {477},In2306,Cts/S, .7046,.0019,.2743, .7060, .7032
Sr4215,421.552 { 80},Y_3710,Cts/S, 5.525,.0088,.1593, 5.519, 5.532
Ti3349,334.904 {101},Y_3600,Cts/S, .2264,.0002,.0676, .2266, .2263
Tl1908,190.856 {477},In2306,Cts/S, .1066,.0002,.2183, .1064, .1068
U_3670,367.007 { 92},Y_3600,Cts/S, .0008,.0000,4.000, .0008, .0008
V_2924,292.402 {115},Y_3600,Cts/S, .2731,.0006,.2220, .2735, .2727
W_2397,239.709 {140},Y_2243,Cts/S, .0010,.0001,6.806, .0009, .0010
Zn2062,206.200 {463},In2306,Cts/S, 1.966,.0052,.2639, 1.970, 1.963

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 240.53,.18979,.07891,240.40,240.67
In2306,230.606 {446},Cts/S, 14081.,38.754,.27522,14108.,14054.
Y_2243,224.306 {450},Cts/S, 23864.,89.369,.37450,23927.,23801.
Y_3600,360.073 { 94},Cts/S, 197360.,32.841,.01664,197390.,197340.
Y_3710,371.030 { 91},Cts/S, 12678.,8.5402,.06736,12684.,12672.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .9895,.0005,.0553, .9892, .9899
Al3082,308.215 {109},In2306,ppm, 9.986,.1528,1.530, 9.878, 10.09
As1890,189.042 {478},Y_2243,ppm, 3.960,.0063,.1589, 3.965, 3.956
B_2496,249.678 {135},Y_3710,ppm, 1.985,.0008,.0412, 1.984, 1.985
Ba4554,455.403 { 74},Y_3710,ppm, 3.944,.0203,.5142, 3.929, 3.958
Be3130,313.042 {108},Y_3710,ppm, 1.978,.0074,.3724, 1.973, 1.983
Ca3158,315.887 {107},In2306,ppm, 49.47,.2999,.6063, 49.25, 49.68
Cd2288,228.802 {447},Y_2243,ppm, 1.963,.0015,.0767, 1.962, 1.964
Co2286,228.616 {447},In2306,ppm, 1.996,.0006,.0285, 1.996, 1.995
Cr2677,267.716 {126},Y_3600,ppm, 1.938,.0034,.1777, 1.936, 1.940
Cu3247,324.754 {104},Y_3600,ppm, 1.963,.0017,.0880, 1.962, 1.964
Fe2404,240.488 {140},In2306,ppm, 9.958,.0531,.5329, 9.920, 9.995
K_7664,766.490 { 44},Y_3710,ppm, 49.13,.0755,.1537, 49.08, 49.19
Li6707,670.784 { 50},Y_3710,ppm, 1.963,.0147,.7465, 1.953, 1.974
Mg2790,279.079 {121},Y_3710,ppm, 49.67,.1325,.2667, 49.58, 49.77
Mn2576,257.610 {131},Y_3600,ppm, 1.949,.0003,.0152, 1.950, 1.949
Mo2020,202.030 {467},Y_2243,ppm, 1.965,.0011,.0567, 1.964, 1.966
Na5895,589.592 { 57},Y_3710,ppm, 49.33,.1915,.3881, 49.20, 49.47
Ni2316,231.604 {445},In2306,ppm, 1.993,.0019,.0932, 1.995, 1.992
P_1782,178.284 {489},In2306,ppm, 20.29,.0166,.0821, 20.28, 20.30
Pb2203,220.353 {453},In2306,ppm, 1.988,.0027,.1354, 1.990, 1.987
S_1820,182.034 {485},Y_2243,ppm, 8.953,.0137,.1535, 8.943, 8.963
Sb2068,206.833 {463},Y_2243,ppm, 1.986,.0010,.0521, 1.986, 1.987
Se1960,196.090 {472},Y_2243,ppm, 3.949,.0066,.1659, 3.953, 3.944
Si2516,251.611 {134},Y_3710,ppm, 3.958,.0501,1.266, 3.922, 3.993
Sn1899,189.989 {477},In2306,ppm, 3.996,.0001,.0024, 3.996, 3.996
Sr4215,421.552 { 80},Y_3710,ppm, 1.965,.0124,.6297, 1.957, 1.974
Ti3349,334.904 {101},Y_3600,ppm, 1.964,.0010,.0528, 1.963, 1.965
Tl1908,190.856 {477},In2306,ppm, 4.104,.0018,.0450, 4.106, 4.103
U_3670,367.007 { 92},Y_3600,ppm, 1.749,.0355,2.031, 1.724, 1.774
V_2924,292.402 {115},Y_3600,ppm, 1.954,.0005,.0236, 1.953, 1.954
W_2397,239.709 {140},Y_2243,ppm, .9481,.0358,3.771, .9228, .9734
Zn2062,206.200 {463},In2306,ppm, 2.016,.0005,.0254, 2.017, 2.016

[Internal Standards]
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Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 242.05,.82879,.34240,242.64,241.47
In2306,230.606 {446},Cts/S, 14141.,2.2190,.01569,14143.,14140.
Y_2243,224.306 {450},Cts/S, 24040.,27.049,.11252,24059.,24021.
Y_3600,360.073 { 94},Cts/S, 199500.,838.50,.42030,198910.,200090.
Y_3710,371.030 { 91},Cts/S, 12726.,15.107,.11870,12716.,12737.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .4947,.0008,.1629, .4953, .4942
Al3082,308.215 {109},In2306,ppm, 20.17,.0821,.4071, 20.22, 20.11
As1890,189.042 {478},Y_2243,ppm, 1.002,.0023,.2273, 1.004, 1.001
B_2496,249.678 {135},Y_3710,ppm, 1.010,.0055,.5433, 1.014, 1.006
Ba4554,455.403 { 74},Y_3710,ppm, 1.017,.0000,.0041, 1.017, 1.017
Be3130,313.042 {108},Y_3710,ppm, .9871,.0043,.4308, .9840, .9901
Ca3158,315.887 {107},In2306,ppm, 19.92,.0821,.4120, 19.98, 19.86
Cd2288,228.802 {447},Y_2243,ppm, .9997,.0000,.0020, .9997, .9997
Co2286,228.616 {447},In2306,ppm, .9971,.0015,.1467, .9982, .9961
Cr2677,267.716 {126},Y_3600,ppm, .9846,.0023,.2357, .9862, .9829
Cu3247,324.754 {104},Y_3600,ppm, .9946,.0014,.1365, .9955, .9936
Fe2404,240.488 {140},In2306,ppm, 20.01,.0390,.1948, 20.03, 19.98
K_7664,766.490 { 44},Y_3710,ppm, 20.28,.0127,.0628, 20.29, 20.27
Li6707,670.784 { 50},Y_3710,ppm, 1.008,.0025,.2447, 1.009, 1.006
Mg2790,279.079 {121},Y_3710,ppm, 20.32,.1339,.6586, 20.23, 20.42
Mn2576,257.610 {131},Y_3600,ppm, 1.001,.0024,.2442, 1.003, .9997
Mo2020,202.030 {467},Y_2243,ppm, 1.010,.0012,.1148, 1.009, 1.010
Na5895,589.592 { 57},Y_3710,ppm, 20.18,.0332,.1644, 20.16, 20.21
Ni2316,231.604 {445},In2306,ppm, 1.001,.0011,.1148, 1.002, 1.000
P_1782,178.284 {489},In2306,ppm, 9.980,.0052,.0522, 9.984, 9.977
Pb2203,220.353 {453},In2306,ppm, .9952,.0049,.4921, .9986, .9917
S_1820,182.034 {485},Y_2243,ppm, 7.392,.0040,.0539, 7.395, 7.390
Sb2068,206.833 {463},Y_2243,ppm, 2.145,.0037,.1713, 2.143, 2.148
Se1960,196.090 {472},Y_2243,ppm, 1.002,.0027,.2698, 1.004, 1.000
Si2516,251.611 {134},Y_3710,ppm, 8.836,.0747,.8451, 8.784, 8.889
Sn1899,189.989 {477},In2306,ppm, .9943,.0039,.3932, .9970, .9915
Sr4215,421.552 { 80},Y_3710,ppm, 1.014,.0006,.0595, 1.013, 1.014
Ti3349,334.904 {101},Y_3600,ppm, .9907,.0008,.0799, .9912, .9901
Tl1908,190.856 {477},In2306,ppm, 1.134,.0140,1.233, 1.144, 1.125
U_3670,367.007 { 92},Y_3600,ppm, .9970,.0399,4.005, .9688, 1.025
V_2924,292.402 {115},Y_3600,ppm, .9934,.0009,.0954, .9941, .9927
W_2397,239.709 {140},Y_2243,ppm, 1.232,.0415,3.366, 1.202, 1.261
Zn2062,206.200 {463},In2306,ppm, .9987,.0062,.6232, 1.003, .9943

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 249.42,.21199,.08500,249.27,249.57
In2306,230.606 {446},Cts/S, 14881.,17.271,.11606,14868.,14893.
Y_2243,224.306 {450},Cts/S, 24522.,12.317,.05023,24530.,24513.
Y_3600,360.073 { 94},Cts/S, 204190.,246.72,.12083,204020.,204370.
Y_3710,371.030 { 91},Cts/S, 12822.,90.663,.70710,12886.,12758.

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Ag3280,328.068 {103},Y_3600,ppm, .4938,.0008,.1640, .4932, .4943
Al3082,308.215 {109},In2306,ppm, 20.46,.1760,.8599, 20.34, 20.59
As1890,189.042 {478},Y_2243,ppm, .9940,.0022,.2246, .9956, .9924
B_2496,249.678 {135},Y_3710,ppm, 1.004,.0040,.3942, 1.007, 1.002
Ba4554,455.403 { 74},Y_3710,ppm, 1.012,.0050,.4905, 1.009, 1.016
Be3130,313.042 {108},Y_3710,ppm, .9820,.0040,.4079, .9792, .9848
Ca3158,315.887 {107},In2306,ppm, 20.08,.1952,.9722, 19.94, 20.22
Cd2288,228.802 {447},Y_2243,ppm, .9939,.0010,.1038, .9946, .9932
Co2286,228.616 {447},In2306,ppm, .9974,.0007,.0656, .9970, .9979
Cr2677,267.716 {126},Y_3600,ppm, .9804,.0019,.1918, .9790, .9817
Cu3247,324.754 {104},Y_3600,ppm, .9879,.0010,.1019, .9871, .9886
Fe2404,240.488 {140},In2306,ppm, 20.23,.2324,1.149, 20.07, 20.40
K_7664,766.490 { 44},Y_3710,ppm, 20.06,.0806,.4019, 20.01, 20.12
Li6707,670.784 { 50},Y_3710,ppm, .9980,.0048,.4788, .9946, 1.001
Mg2790,279.079 {121},Y_3710,ppm, 20.12,.0283,.1409, 20.14, 20.10
Mn2576,257.610 {131},Y_3600,ppm, 1.002,.0002,.0174, 1.002, 1.002
Mo2020,202.030 {467},Y_2243,ppm, 1.009,.0043,.4264, 1.012, 1.006
Na5895,589.592 { 57},Y_3710,ppm, 20.05,.0706,.3521, 20.00, 20.10
Ni2316,231.604 {445},In2306,ppm, 1.004,.0012,.1197, 1.003, 1.005
P_1782,178.284 {489},In2306,ppm, 10.05,.0008,.0075, 10.05, 10.05
Pb2203,220.353 {453},In2306,ppm, .9974,.0027,.2663, .9955, .9993
S_1820,182.034 {485},Y_2243,ppm, 7.362,.0326,.4423, 7.385, 7.339
Sb2068,206.833 {463},Y_2243,ppm, 2.139,.0099,.4621, 2.146, 2.132
Se1960,196.090 {472},Y_2243,ppm, .9958,.0057,.5766, .9998, .9917
Si2516,251.611 {134},Y_3710,ppm, 8.780,.0399,.4546, 8.752, 8.808
Sn1899,189.989 {477},In2306,ppm, .9989,.0011,.1144, .9997, .9981
Sr4215,421.552 { 80},Y_3710,ppm, 1.007,.0059,.5827, 1.003, 1.011
Ti3349,334.904 {101},Y_3600,ppm, .9890,.0021,.2127, .9875, .9905
Tl1908,190.856 {477},In2306,ppm, 1.055,.0009,.0844, 1.055, 1.054
U_3670,367.007 { 92},Y_3600,ppm, .9722,.0675,6.943, 1.020, .9245
V_2924,292.402 {115},Y_3600,ppm, .9900,.0005,.0494, .9903, .9896
W_2397,239.709 {140},Y_2243,ppm, 1.195,.0341,2.851, 1.171, 1.219
Zn2062,206.200 {463},In2306,ppm, 1.004,.0015,.1447, 1.003, 1.005

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 247.25,1.4448,.58437,248.27,246.23
In2306,230.606 {446},Cts/S, 14831.,8.8704,.05981,14824.,14837.
Y_2243,224.306 {450},Cts/S, 24543.,56.650,.23082,24503.,24583.
Y_3600,360.073 { 94},Cts/S, 205380.,194.72,.09481,205240.,205510.
Y_3710,371.030 { 91},Cts/S, 12945.,7.8803,.06088,12939.,12951.

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Al3082,308.215 {109},In2306,ppm, .1934,.0390,20.14, .1659, .2210
As1890,189.042 {478},Y_2243,ppm, .0216,.0018,8.447, .0229, .0203
B_2496,249.678 {135},Y_3710,ppm, .2106,.0017,.7917, .2094, .2118
Ba4554,455.403 { 74},Y_3710,ppm, .0222,.0002,.9677, .0221, .0224
Be3130,313.042 {108},Y_3710,ppm, .0110,.0000,.3293, .0110, .0110
Ca3158,315.887 {107},In2306,ppm, 1.009,.0113,1.122, 1.001, 1.017
Cd2288,228.802 {447},Y_2243,ppm, .0109,.0001,.6250, .0109, .0110
Co2286,228.616 {447},In2306,ppm, .0105,.0001,1.337, .0104, .0106
Cr2677,267.716 {126},Y_3600,ppm, .0111,.0001,1.102, .0111, .0110
Cu3247,324.754 {104},Y_3600,ppm, .0122,.0001,.5585, .0122, .0123
Fe2404,240.488 {140},In2306,ppm, .2024,.0058,2.886, .2065, .1982
K_7664,766.490 { 44},Y_3710,ppm, 1.084,.0178,1.643, 1.096, 1.071
Li6707,670.784 { 50},Y_3710,ppm, .0118,.0004,3.003, .0121, .0116
Mg2790,279.079 {121},Y_3710,ppm, 1.104,.0122,1.102, 1.095, 1.112
Mn2576,257.610 {131},Y_3600,ppm, .0112,.0000,.0352, .0112, .0112
Mo2020,202.030 {467},Y_2243,ppm, .0230,.0000,.2011, .0229, .0230
Na5895,589.592 { 57},Y_3710,ppm, 1.066,.0090,.8413, 1.060, 1.073
Ni2316,231.604 {445},In2306,ppm, .0109,.0001,1.034, .0109, .0108
P_1782,178.284 {489},In2306,ppm, .9461,.0024,.2560, .9444, .9478
Pb2203,220.353 {453},In2306,ppm, .0108,.0015,13.87, .0118, .0097
S_1820,182.034 {485},Y_2243,ppm, .3565,.0002,.0588, .3564, .3567
Sb2068,206.833 {463},Y_2243,ppm, .0548,.0006,1.147, .0544, .0552
Se1960,196.090 {472},Y_2243,ppm, .0202,.0003,1.460, .0200, .0204
Si2516,251.611 {134},Y_3710,ppm, .1575,.0055,3.488, .1614, .1536
Sn1899,189.989 {477},In2306,ppm, .0209,.0001,.3742, .0209, .0210
Sr4215,421.552 { 80},Y_3710,ppm, .0114,.0001,.4852, .0114, .0115
Ti3349,334.904 {101},Y_3600,ppm, .0106,.0004,4.035, .0109, .0103
Tl1908,190.856 {477},In2306,ppm, .0535,.0003,.4900, .0537, .0533
U_3670,367.007 { 92},Y_3600,ppm, .0556,.0011,2.030, .0548, .0564
V_2924,292.402 {115},Y_3600,ppm, .0105,.0001,.8838, .0104, .0106
W_2397,239.709 {140},Y_2243,ppm, .0729,.0748,102.5, .1258, .0200
Zn2062,206.200 {463},In2306,ppm, .0186,.0001,.4979, .0186, .0187

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 257.16,3.0741,1.1954,259.33,254.98
In2306,230.606 {446},Cts/S, 16480.,7.4463,.04518,16475.,16486.
Y_2243,224.306 {450},Cts/S, 25434.,44.966,.17679,25402.,25466.
Y_3600,360.073 { 94},Cts/S, 215280.,151.06,.07017,215180.,215390.
Y_3710,371.030 { 91},Cts/S, 13014.,43.583,.33491,13044.,12983.

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Al3082,308.215 {109},In2306,ppm, -.0058,.0034,58.97, -.0082, -.0034
As1890,189.042 {478},Y_2243,ppm, .0012,.0005,42.43, .0008, .0016
B_2496,249.678 {135},Y_3710,ppm, .0076,.0103,135.6, .0149, .0003
Ba4554,455.403 { 74},Y_3710,ppm, -.0002,.0000,9.899, -.0001, -.0002
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0001,132.0, -.0002, -.0000
Ca3158,315.887 {107},In2306,ppm, -.0140,.0034,23.87, -.0164, -.0117
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Co2286,228.616 {447},In2306,ppm, -.0000,.0000,106.9, -.0000, -.0000
Cr2677,267.716 {126},Y_3600,ppm, -.0001,.0002,249.0, -.0002, .0001
Cu3247,324.754 {104},Y_3600,ppm, .0009,.0002,24.61, .0008, .0011
Fe2404,240.488 {140},In2306,ppm, -.0010,.0041,417.4, -.0038, .0019
K_7664,766.490 { 44},Y_3710,ppm, .0379,.0188,49.65, .0512, .0246
Li6707,670.784 { 50},Y_3710,ppm, -.0002,.0016,718.6, .0009, -.0014
Mg2790,279.079 {121},Y_3710,ppm, .0185,.0105,56.94, .0259, .0111
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,3.875, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, .0003,.0001,17.96, .0002, .0003
Na5895,589.592 { 57},Y_3710,ppm, -.0003,.0012,382.2, .0006, -.0012
Ni2316,231.604 {445},In2306,ppm, .0001,.0000,4.579, .0001, .0001
P_1782,178.284 {489},In2306,ppm, .0007,.0002,31.89, .0005, .0008
Pb2203,220.353 {453},In2306,ppm, -.0003,.0005,152.4, -.0007, .0000
S_1820,182.034 {485},Y_2243,ppm, .0025,.0002,8.266, .0027, .0024
Sb2068,206.833 {463},Y_2243,ppm, .0003,.0016,483.5, .0014, -.0008
Se1960,196.090 {472},Y_2243,ppm, .0002,.0033,1398., .0025, -.0021
Si2516,251.611 {134},Y_3710,ppm, -.0068,.0009,13.90, -.0075, -.0062
Sn1899,189.989 {477},In2306,ppm, -.0003,.0001,24.23, -.0003, -.0002
Sr4215,421.552 { 80},Y_3710,ppm, .0001,.0000,27.45, .0001, .0002
Ti3349,334.904 {101},Y_3600,ppm, .0001,.0000,6.776, .0001, .0001
Tl1908,190.856 {477},In2306,ppm, .0180,.0014,7.824, .0190, .0170
U_3670,367.007 { 92},Y_3600,ppm, -.0592,.0082,13.76, -.0650, -.0535
V_2924,292.402 {115},Y_3600,ppm, .0002,.0004,215.1, -.0001, .0005
W_2397,239.709 {140},Y_2243,ppm, -.0006,.0102,1780., .0066, -.0078
Zn2062,206.200 {463},In2306,ppm, -.0013,.0001,6.581, -.0012, -.0013

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 254.31,.23050,.09064,254.47,254.15
In2306,230.606 {446},Cts/S, 16572.,7.8489,.04736,16566.,16577.
Y_2243,224.306 {450},Cts/S, 25209.,3.2391,.01285,25211.,25206.
Y_3600,360.073 { 94},Cts/S, 213200.,313.03,.14682,212980.,213430.
Y_3710,371.030 { 91},Cts/S, 12829.,25.769,.20086,12811.,12848.

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Custom ID2=
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Mode=CONC
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Ag3280,328.068 {103},Y_3600,ppm, .0004,.0002,45.15, .0003, .0006
Al3082,308.215 {109},In2306,ppm, 555.0,2.449,.4414, 553.2, 556.7
As1890,189.042 {478},Y_2243,ppm, .0015,.0030,205.7, .0036, -.0007
B_2496,249.678 {135},Y_3710,ppm, .0089,.0044,49.47, .0058, .0120
Ba4554,455.403 { 74},Y_3710,ppm, -.0001,.0003,486.1, -.0003, .0001
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,17.67, .0001, .0002
Ca3158,315.887 {107},In2306,ppm, 504.6,2.446,.4848, 502.8, 506.3
Cd2288,228.802 {447},Y_2243,ppm, .0028,.0002,5.872, .0027, .0029
Co2286,228.616 {447},In2306,ppm, .0003,.0003,79.10, .0001, .0005
Cr2677,267.716 {126},Y_3600,ppm, .0023,.0003,14.88, .0025, .0021
Cu3247,324.754 {104},Y_3600,ppm, -.0017,.0002,10.23, -.0018, -.0016
Fe2404,240.488 {140},In2306,ppm, 198.5,1.181,.5948, 197.7, 199.4
K_7664,766.490 { 44},Y_3710,ppm, .1401,.0382,27.26, .1131, .1671
Li6707,670.784 { 50},Y_3710,ppm, .0100,.0005,4.776, .0103, .0096
Mg2790,279.079 {121},Y_3710,ppm, 518.0,2.381,.4596, 516.3, 519.7
Mn2576,257.610 {131},Y_3600,ppm, -.0042,.0000,.2042, -.0042, -.0042
Mo2020,202.030 {467},Y_2243,ppm, .0009,.0008,87.72, .0015, .0003
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Na5895,589.592 { 57},Y_3710,ppm, .1511,.0123,8.154, .1424, .1598
Ni2316,231.604 {445},In2306,ppm, -.0031,.0001,4.743, -.0032, -.0030
P_1782,178.284 {489},In2306,ppm, .0001,.0005,621.0, -.0003, .0004
Pb2203,220.353 {453},In2306,ppm, -.0002,.0036,1680., .0023, -.0027
S_1820,182.034 {485},Y_2243,ppm,F -1.018,.0145,1.428, -1.007, -1.028
Sb2068,206.833 {463},Y_2243,ppm, -.0010,.0044,439.8, -.0041, .0021
Se1960,196.090 {472},Y_2243,ppm, -.0162,.0011,6.682, -.0169, -.0154
Si2516,251.611 {134},Y_3710,ppm, .0107,.0040,37.31, .0135, .0079
Sn1899,189.989 {477},In2306,ppm, -.0009,.0016,179.8, .0002, -.0021
Sr4215,421.552 { 80},Y_3710,ppm, .0050,.0001,2.288, .0049, .0050
Ti3349,334.904 {101},Y_3600,ppm, .0037,.0002,5.537, .0035, .0038
Tl1908,190.856 {477},In2306,ppm, -.0060,.0078,129.1, -.0005, -.0115
U_3670,367.007 { 92},Y_3600,ppm,F 1.307,.0559,4.280, 1.346, 1.267
V_2924,292.402 {115},Y_3600,ppm, -.0032,.0002,5.960, -.0033, -.0030
W_2397,239.709 {140},Y_2243,ppm, .0052,.0316,605.1, .0275, -.0171
Zn2062,206.200 {463},In2306,ppm, -.0039,.0000,.7318, -.0039, -.0039

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 222.47,.87863,.39495,221.84,223.09
In2306,230.606 {446},Cts/S, 11600.,40.246,.34694,11572.,11629.
Y_2243,224.306 {450},Cts/S, 21582.,120.13,.55661,21497.,21667.
Y_3600,360.073 { 94},Cts/S, 179990.,757.06,.42061,179460.,180530.
Y_3710,371.030 { 91},Cts/S, 12296.,65.695,.53429,12249.,12342.

[Sample Header]
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Custom ID3=
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2694,.0010,.3718, .2701, .2687
Al3082,308.215 {109},In2306,ppm, 528.3,1.222,.2312, 529.2, 527.4
As1890,189.042 {478},Y_2243,ppm, 1.980,.0053,.2654, 1.984, 1.976
B_2496,249.678 {135},Y_3710,ppm, .4991,.0016,.3260, .5003, .4980
Ba4554,455.403 { 74},Y_3710,ppm, 1.985,.0071,.3597, 1.980, 1.990
Be3130,313.042 {108},Y_3710,ppm, .9647,.0016,.1673, .9636, .9659
Ca3158,315.887 {107},In2306,ppm, 481.5,1.542,.3203, 482.6, 480.4
Cd2288,228.802 {447},Y_2243,ppm, 1.005,.0014,.1378, 1.004, 1.006
Co2286,228.616 {447},In2306,ppm, 1.004,.0013,.1292, 1.005, 1.004
Cr2677,267.716 {126},Y_3600,ppm, .9164,.0023,.2485, .9180, .9148
Cu3247,324.754 {104},Y_3600,ppm, 1.012,.0013,.1323, 1.013, 1.011
Fe2404,240.488 {140},In2306,ppm, 189.9,.5714,.3009, 190.3, 189.5
K_7664,766.490 { 44},Y_3710,ppm, 10.69,.0370,.3458, 10.66, 10.72
Li6707,670.784 { 50},Y_3710,ppm, 1.039,.0035,.3417, 1.036, 1.041
Mg2790,279.079 {121},Y_3710,ppm, 500.7,.9571,.1911, 500.1, 501.4
Mn2576,257.610 {131},Y_3600,ppm, .9336,.0016,.1665, .9347, .9325
Mo2020,202.030 {467},Y_2243,ppm, .9347,.0015,.1583, .9358, .9337
Na5895,589.592 { 57},Y_3710,ppm, 10.66,.0570,.5344, 10.62, 10.70
Ni2316,231.604 {445},In2306,ppm, .9965,.0026,.2650, .9983, .9946
P_1782,178.284 {489},In2306,ppm, 11.11,.0101,.0908, 11.12, 11.10
Pb2203,220.353 {453},In2306,ppm, .9763,.0026,.2702, .9781, .9744
S_1820,182.034 {485},Y_2243,ppm, 2.588,.0132,.5098, 2.579, 2.598
Sb2068,206.833 {463},Y_2243,ppm, 2.087,.0054,.2589, 2.083, 2.091
Se1960,196.090 {472},Y_2243,ppm, 1.924,.0023,.1206, 1.922, 1.926
Si2516,251.611 {134},Y_3710,ppm, 1.727,.0034,.1987, 1.729, 1.725
Sn1899,189.989 {477},In2306,ppm, 2.009,.0003,.0156, 2.009, 2.009
Sr4215,421.552 { 80},Y_3710,ppm, .9887,.0055,.5589, .9848, .9926
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Ti3349,334.904 {101},Y_3600,ppm, .9558,.0011,.1099, .9565, .9550
Tl1908,190.856 {477},In2306,ppm, 1.825,.0102,.5588, 1.818, 1.832
U_3670,367.007 { 92},Y_3600,ppm, 2.107,.0516,2.450, 2.144, 2.071
V_2924,292.402 {115},Y_3600,ppm, .9299,.0008,.0819, .9304, .9294
W_2397,239.709 {140},Y_2243,ppm, .3527,.0335,9.485, .3763, .3290
Zn2062,206.200 {463},In2306,ppm, .5143,.0017,.3300, .5155, .5131

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 224.48,1.4590,.64997,223.45,225.51
In2306,230.606 {446},Cts/S, 11727.,11.306,.09641,11719.,11735.
Y_2243,224.306 {450},Cts/S, 22027.,12.781,.05803,22036.,22018.
Y_3600,360.073 { 94},Cts/S, 184020.,112.13,.06094,184100.,183940.
Y_3710,371.030 { 91},Cts/S, 12320.,.00176,.00001,12320.,12320.

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Custom ID3=
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .4903,.0011,.2282, .4895, .4911
Al3082,308.215 {109},In2306,ppm, 19.91,.2640,1.326, 19.73, 20.10
As1890,189.042 {478},Y_2243,ppm, .9894,.0019,.1960, .9907, .9880
B_2496,249.678 {135},Y_3710,ppm, .9891,.0073,.7391, .9839, .9942
Ba4554,455.403 { 74},Y_3710,ppm, .9992,.0083,.8273, .9934, 1.005
Be3130,313.042 {108},Y_3710,ppm, .9774,.0113,1.155, .9694, .9854
Ca3158,315.887 {107},In2306,ppm, 19.52,.2555,1.309, 19.34, 19.70
Cd2288,228.802 {447},Y_2243,ppm, .9849,.0021,.2165, .9864, .9834
Co2286,228.616 {447},In2306,ppm, .9912,.0013,.1305, .9921, .9903
Cr2677,267.716 {126},Y_3600,ppm, .9645,.0043,.4473, .9615, .9676
Cu3247,324.754 {104},Y_3600,ppm, .9737,.0027,.2773, .9718, .9756
Fe2404,240.488 {140},In2306,ppm, 19.67,.2078,1.056, 19.53, 19.82
K_7664,766.490 { 44},Y_3710,ppm, 19.73,.1394,.7066, 19.63, 19.83
Li6707,670.784 { 50},Y_3710,ppm, .9792,.0089,.9074, .9729, .9855
Mg2790,279.079 {121},Y_3710,ppm, 20.22,.2664,1.318, 20.03, 20.41
Mn2576,257.610 {131},Y_3600,ppm, .9948,.0034,.3438, .9924, .9972
Mo2020,202.030 {467},Y_2243,ppm, 1.001,.0028,.2826, 1.003, .9986
Na5895,589.592 { 57},Y_3710,ppm, 19.79,.1899,.9594, 19.66, 19.92
Ni2316,231.604 {445},In2306,ppm, 1.000,.0005,.0512, 1.001, .9999
P_1782,178.284 {489},In2306,ppm, 10.07,.0264,.2626, 10.09, 10.05
Pb2203,220.353 {453},In2306,ppm, .9949,.0006,.0595, .9945, .9954
S_1820,182.034 {485},Y_2243,ppm, 7.318,.0239,.3263, 7.335, 7.301
Sb2068,206.833 {463},Y_2243,ppm, 2.130,.0151,.7110, 2.141, 2.119
Se1960,196.090 {472},Y_2243,ppm, .9854,.0065,.6579, .9900, .9808
Si2516,251.611 {134},Y_3710,ppm, 8.677,.1089,1.255, 8.600, 8.754
Sn1899,189.989 {477},In2306,ppm, .9985,.0045,.4507, 1.002, .9953
Sr4215,421.552 { 80},Y_3710,ppm, .9924,.0084,.8456, .9865, .9984
Ti3349,334.904 {101},Y_3600,ppm, .9802,.0014,.1452, .9792, .9812
Tl1908,190.856 {477},In2306,ppm, 1.103,.0092,.8299, 1.110, 1.097
U_3670,367.007 { 92},Y_3600,ppm, .9327,.0226,2.419, .9487, .9168
V_2924,292.402 {115},Y_3600,ppm, .9758,.0029,.3002, .9738, .9779
W_2397,239.709 {140},Y_2243,ppm, 1.156,.1238,10.71, 1.068, 1.243
Zn2062,206.200 {463},In2306,ppm, 1.001,.0010,.0951, 1.002, 1.000

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 253.12,2.3909,.94458,254.81,251.43
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In2306,230.606 {446},Cts/S, 14777.,39.038,.26418,14749.,14805.
Y_2243,224.306 {450},Cts/S, 24549.,83.827,.34146,24490.,24609.
Y_3600,360.073 { 94},Cts/S, 206210.,645.92,.31323,206670.,205760.
Y_3710,371.030 { 91},Cts/S, 12972.,114.11,.87966,13053.,12891.

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Ag3280,328.068 {103},Y_3600,ppm, .0095,.0002,2.116, .0094, .0097
Al3082,308.215 {109},In2306,ppm, .2025,.0029,1.452, .2046, .2005
As1890,189.042 {478},Y_2243,ppm, .0201,.0010,4.727, .0194, .0208
B_2496,249.678 {135},Y_3710,ppm, .2160,.0009,.4118, .2166, .2153
Ba4554,455.403 { 74},Y_3710,ppm, .0223,.0000,.0009, .0223, .0223
Be3130,313.042 {108},Y_3710,ppm, .0110,.0000,.2841, .0110, .0110
Ca3158,315.887 {107},In2306,ppm, 1.017,.0117,1.149, 1.025, 1.009
Cd2288,228.802 {447},Y_2243,ppm, .0110,.0001,.5915, .0109, .0110
Co2286,228.616 {447},In2306,ppm, .0106,.0001,.7050, .0106, .0107
Cr2677,267.716 {126},Y_3600,ppm, .0111,.0001,.6620, .0110, .0111
Cu3247,324.754 {104},Y_3600,ppm, .0116,.0000,.3916, .0116, .0116
Fe2404,240.488 {140},In2306,ppm, .2208,.0000,.0131, .2208, .2207
K_7664,766.490 { 44},Y_3710,ppm, 1.095,.0086,.7874, 1.089, 1.101
Li6707,670.784 { 50},Y_3710,ppm, .0098,.0006,5.814, .0094, .0102
Mg2790,279.079 {121},Y_3710,ppm, 1.108,.0150,1.356, 1.097, 1.119
Mn2576,257.610 {131},Y_3600,ppm, .0111,.0001,1.023, .0110, .0112
Mo2020,202.030 {467},Y_2243,ppm, .0231,.0003,1.190, .0229, .0233
Na5895,589.592 { 57},Y_3710,ppm, 1.061,.0047,.4417, 1.064, 1.057
Ni2316,231.604 {445},In2306,ppm, .0109,.0001,1.089, .0108, .0110
P_1782,178.284 {489},In2306,ppm, .9506,.0007,.0694, .9510, .9501
Pb2203,220.353 {453},In2306,ppm, .0113,.0003,2.749, .0115, .0111
S_1820,182.034 {485},Y_2243,ppm, .3559,.0015,.4236, .3569, .3548
Sb2068,206.833 {463},Y_2243,ppm, .0547,.0002,.3888, .0549, .0546
Se1960,196.090 {472},Y_2243,ppm, .0217,.0020,9.169, .0232, .0203
Si2516,251.611 {134},Y_3710,ppm, .1503,.0024,1.574, .1520, .1487
Sn1899,189.989 {477},In2306,ppm, .0212,.0003,1.462, .0214, .0210
Sr4215,421.552 { 80},Y_3710,ppm, .0114,.0001,.5312, .0114, .0113
Ti3349,334.904 {101},Y_3600,ppm, .0107,.0002,1.851, .0106, .0108
Tl1908,190.856 {477},In2306,ppm, .0668,.0043,6.495, .0699, .0637
U_3670,367.007 { 92},Y_3600,ppm, .0456,.0464,101.7, .0784, .0128
V_2924,292.402 {115},Y_3600,ppm, .0104,.0000,.2317, .0104, .0104
W_2397,239.709 {140},Y_2243,ppm, .1012,.0153,15.09, .0904, .1120
Zn2062,206.200 {463},In2306,ppm, .0184,.0001,.4511, .0184, .0185

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 260.46,3.2906,1.2634,258.13,262.78
In2306,230.606 {446},Cts/S, 16421.,99.207,.60414,16491.,16351.
Y_2243,224.306 {450},Cts/S, 25373.,171.86,.67734,25495.,25252.
Y_3600,360.073 { 94},Cts/S, 215550.,2538.6,1.1777,217350.,213760.
Y_3710,371.030 { 91},Cts/S, 13042.,6.4694,.04961,13037.,13046.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0010,.0004,38.73, .0013, .0007
Al3082,308.215 {109},In2306,ppm, .0087,.0005,5.904, .0091, .0084
As1890,189.042 {478},Y_2243,ppm, -.0004,.0000,11.20, -.0004, -.0004
B_2496,249.678 {135},Y_3710,ppm, -.0068,.0031,46.18, -.0046, -.0090
Ba4554,455.403 { 74},Y_3710,ppm, -.0003,.0001,18.28, -.0003, -.0003
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,230.8, -.0000, .0000
Ca3158,315.887 {107},In2306,ppm, -.0039,.0066,168.6, .0007, -.0086
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0000,51.48, .0001, .0000
Co2286,228.616 {447},In2306,ppm, -.0000,.0001,338.7, .0000, -.0001
Cr2677,267.716 {126},Y_3600,ppm, -.0002,.0002,72.75, -.0004, -.0001
Cu3247,324.754 {104},Y_3600,ppm, .0011,.0002,16.54, .0013, .0010
Fe2404,240.488 {140},In2306,ppm, .0008,.0079,939.3, -.0047, .0064
K_7664,766.490 { 44},Y_3710,ppm, .0454,.0190,41.80, .0588, .0320
Li6707,670.784 { 50},Y_3710,ppm, -.0003,.0000,4.122, -.0003, -.0003
Mg2790,279.079 {121},Y_3710,ppm, .0145,.0357,246.1, .0397, -.0107
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,3.032, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, .0003,.0002,53.07, .0002, .0004
Na5895,589.592 { 57},Y_3710,ppm, .0038,.0043,114.0, .0007, .0069
Ni2316,231.604 {445},In2306,ppm, .0003,.0001,40.57, .0002, .0004
P_1782,178.284 {489},In2306,ppm, .0001,.0008,581.0, -.0004, .0007
Pb2203,220.353 {453},In2306,ppm, -.0011,.0001,12.42, -.0012, -.0010
S_1820,182.034 {485},Y_2243,ppm, .0024,.0017,71.01, .0012, .0036
Sb2068,206.833 {463},Y_2243,ppm, .0019,.0008,43.00, .0025, .0013
Se1960,196.090 {472},Y_2243,ppm, -.0004,.0033,851.4, .0019, -.0027
Si2516,251.611 {134},Y_3710,ppm, -.0070,.0007,9.946, -.0065, -.0074
Sn1899,189.989 {477},In2306,ppm, -.0004,.0001,14.14, -.0004, -.0005
Sr4215,421.552 { 80},Y_3710,ppm, .0001,.0000,64.55, .0001, .0000
Ti3349,334.904 {101},Y_3600,ppm, -.0000,.0002,659.0, -.0001, .0001
Tl1908,190.856 {477},In2306,ppm, .0216,.0002,.7309, .0217, .0215
U_3670,367.007 { 92},Y_3600,ppm, -.0998,.1177,117.9, -.0166, -.1830
V_2924,292.402 {115},Y_3600,ppm, .0000,.0001,582.9, -.0001, .0001
W_2397,239.709 {140},Y_2243,ppm, .0091,.0050,54.91, .0056, .0126
Zn2062,206.200 {463},In2306,ppm, -.0014,.0001,10.69, -.0012, -.0015

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 255.86,.22544,.08811,255.70,256.02
In2306,230.606 {446},Cts/S, 16515.,37.474,.22691,16489.,16542.
Y_2243,224.306 {450},Cts/S, 25111.,80.919,.32225,25054.,25168.
Y_3600,360.073 { 94},Cts/S, 214690.,10.757,.00501,214680.,214700.
Y_3710,371.030 { 91},Cts/S, 12906.,19.094,.14795,12919.,12892.

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[Results]
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Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0001,.0001,76.62, .0001, .0002
Al3082,308.215 {109},In2306,ppm, -.0228,.0029,12.54, -.0208, -.0248
As1890,189.042 {478},Y_2243,ppm, -.0014,.0010,68.07, -.0021, -.0007
B_2496,249.678 {135},Y_3710,ppm, -.0002,.0027,1384., -.0021, .0017
Ba4554,455.403 { 74},Y_3710,ppm, -.0001,.0000,39.19, -.0001, -.0001
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,70.41, -.0001, -.0000
Ca3158,315.887 {107},In2306,ppm, -.0070,.0030,42.70, -.0092, -.0049
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0001,130.2, .0001, .0000
Co2286,228.616 {447},In2306,ppm, -.0000,.0000,280.3, -.0000, .0000
Cr2677,267.716 {126},Y_3600,ppm, .0000,.0001,472.4, .0001, -.0001
Cu3247,324.754 {104},Y_3600,ppm, .0011,.0000,1.065, .0011, .0011
Fe2404,240.488 {140},In2306,ppm, -.0016,.0045,284.5, .0016, -.0048
K_7664,766.490 { 44},Y_3710,ppm, .0340,.0117,34.31, .0258, .0423
Li6707,670.784 { 50},Y_3710,ppm, -.0009,.0016,174.6, -.0021, .0002
Mg2790,279.079 {121},Y_3710,ppm, .0089,.0073,81.69, .0141, .0038
Mn2576,257.610 {131},Y_3600,ppm, .0003,.0000,1.679, .0003, .0004
Mo2020,202.030 {467},Y_2243,ppm, -.0001,.0001,90.49, -.0000, -.0002
Na5895,589.592 { 57},Y_3710,ppm, .0093,.0048,51.65, .0059, .0127
Ni2316,231.604 {445},In2306,ppm, .0003,.0001,38.57, .0002, .0003
P_1782,178.284 {489},In2306,ppm, .0022,.0007,32.31, .0017, .0026
Pb2203,220.353 {453},In2306,ppm, -.0012,.0007,62.05, -.0017, -.0007
S_1820,182.034 {485},Y_2243,ppm, .0056,.0007,12.79, .0051, .0061
Sb2068,206.833 {463},Y_2243,ppm, .0016,.0017,106.9, .0004, .0028
Se1960,196.090 {472},Y_2243,ppm, -.0009,.0010,113.4, -.0002, -.0015
Si2516,251.611 {134},Y_3710,ppm, -.0169,.0047,27.51, -.0202, -.0136
Sn1899,189.989 {477},In2306,ppm, .0001,.0002,246.6, .0003, -.0001
Sr4215,421.552 { 80},Y_3710,ppm, .0002,.0001,80.94, .0003, .0001
Ti3349,334.904 {101},Y_3600,ppm, .0002,.0002,148.1, -.0000, .0003
Tl1908,190.856 {477},In2306,ppm, .0105,.0015,14.12, .0115, .0094
U_3670,367.007 { 92},Y_3600,ppm, -.0556,.0430,77.37, -.0860, -.0252
V_2924,292.402 {115},Y_3600,ppm, .0001,.0001,124.8, .0000, .0001
W_2397,239.709 {140},Y_2243,ppm, -.0004,.0004,101.0, -.0007, -.0001
Zn2062,206.200 {463},In2306,ppm, .0037,.0000,.4731, .0037, .0037

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 258.97,2.0047,.77411,257.55,260.38
In2306,230.606 {446},Cts/S, 16605.,63.289,.38115,16560.,16649.
Y_2243,224.306 {450},Cts/S, 25340.,53.578,.21143,25303.,25378.
Y_3600,360.073 { 94},Cts/S, 215190.,2304.5,1.0709,213560.,216820.
Y_3710,371.030 { 91},Cts/S, 13195.,47.037,.35647,13162.,13229.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .2531,.0004,.1500, .2534, .2528
Al3082,308.215 {109},In2306,ppm, 10.29,.2556,2.484, 10.47, 10.11
As1890,189.042 {478},Y_2243,ppm, .9783,.0034,.3438, .9807, .9759
B_2496,249.678 {135},Y_3710,ppm, .5066,.0022,.4407, .5082, .5050
Ba4554,455.403 { 74},Y_3710,ppm, 1.004,.0065,.6455, 1.009, .9994
Be3130,313.042 {108},Y_3710,ppm, .9760,.0074,.7606, .9812, .9707
Ca3158,315.887 {107},In2306,ppm, 10.04,.2138,2.129, 10.19, 9.889
Cd2288,228.802 {447},Y_2243,ppm, .9787,.0009,.0895, .9793, .9780
Co2286,228.616 {447},In2306,ppm, .9677,.0016,.1702, .9689, .9666
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Cr2677,267.716 {126},Y_3600,ppm, .9445,.0039,.4175, .9473, .9417
Cu3247,324.754 {104},Y_3600,ppm, .9708,.0008,.0795, .9714, .9703
Fe2404,240.488 {140},In2306,ppm, 10.17,.2102,2.067, 10.32, 10.02
K_7664,766.490 { 44},Y_3710,ppm, 10.14,.0500,.4928, 10.17, 10.10
Li6707,670.784 { 50},Y_3710,ppm, .9853,.0076,.7694, .9907, .9799
Mg2790,279.079 {121},Y_3710,ppm, 10.31,.0717,.6953, 10.36, 10.26
Mn2576,257.610 {131},Y_3600,ppm, .9801,.0010,.1063, .9809, .9794
Mo2020,202.030 {467},Y_2243,ppm, .9972,.0014,.1390, .9982, .9962
Na5895,589.592 { 57},Y_3710,ppm, 10.28,.0693,.6735, 10.33, 10.23
Ni2316,231.604 {445},In2306,ppm, .9814,.0021,.2128, .9829, .9799
P_1782,178.284 {489},In2306,ppm, 5.102,.0005,.0090, 5.102, 5.103
Pb2203,220.353 {453},In2306,ppm, .9714,.0007,.0736, .9709, .9719
S_1820,182.034 {485},Y_2243,ppm, 3.765,.0077,.2044, 3.770, 3.759
Sb2068,206.833 {463},Y_2243,ppm, 1.621,.0010,.0647, 1.620, 1.622
Se1960,196.090 {472},Y_2243,ppm, .9717,.0028,.2902, .9737, .9697
Si2516,251.611 {134},Y_3710,ppm, 8.014,.0509,.6347, 8.050, 7.978
Sn1899,189.989 {477},In2306,ppm, .9742,.0003,.0296, .9740, .9744
Sr4215,421.552 { 80},Y_3710,ppm, .9948,.0049,.4940, .9983, .9913
Ti3349,334.904 {101},Y_3600,ppm, .9634,.0001,.0108, .9635, .9633
Tl1908,190.856 {477},In2306,ppm, .9746,.0070,.7213, .9696, .9795
U_3670,367.007 { 92},Y_3600,ppm, .4249,.0284,6.684, .4450, .4048
V_2924,292.402 {115},Y_3600,ppm, .9562,.0002,.0162, .9561, .9563
W_2397,239.709 {140},Y_2243,ppm, .4375,.0732,16.74, .4893, .3857
Zn2062,206.200 {463},In2306,ppm, .5066,.0009,.1697, .5072, .5060

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 254.15,5.5112,2.1685,250.25,258.04
In2306,230.606 {446},Cts/S, 15211.,34.974,.22993,15186.,15235.
Y_2243,224.306 {450},Cts/S, 24627.,77.873,.31621,24572.,24682.
Y_3600,360.073 { 94},Cts/S, 209440.,627.01,.29937,209000.,209880.
Y_3710,371.030 { 91},Cts/S, 13032.,60.009,.46049,12989.,13074.

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Ag3280,328.068 {103},Y_3600,ppm, .0000,.0001,203.4, .0001, -.0000
Al3082,308.215 {109},In2306,ppm, 8.522,.0015,.0181, 8.523, 8.521
As1890,189.042 {478},Y_2243,ppm, .0072,.0008,11.05, .0078, .0067
B_2496,249.678 {135},Y_3710,ppm, .0371,.0006,1.547, .0375, .0367
Ba4554,455.403 { 74},Y_3710,ppm, .1525,.0004,.2618, .1522, .1528
Be3130,313.042 {108},Y_3710,ppm, .0006,.0001,16.42, .0006, .0005
Ca3158,315.887 {107},In2306,ppm, 207.1,.3917,.1891, 207.4, 206.9
Cd2288,228.802 {447},Y_2243,ppm, .0008,.0001,14.16, .0007, .0008
Co2286,228.616 {447},In2306,ppm, .0034,.0001,3.011, .0035, .0034
Cr2677,267.716 {126},Y_3600,ppm, .0207,.0002,1.161, .0205, .0208
Cu3247,324.754 {104},Y_3600,ppm, .0254,.0002,.6871, .0252, .0255
Fe2404,240.488 {140},In2306,ppm, 7.446,.0023,.0313, 7.445, 7.448
K_7664,766.490 { 44},Y_3710,ppm, 1.527,.0107,.6979, 1.535, 1.519
Li6707,670.784 { 50},Y_3710,ppm, .0108,.0002,2.149, .0110, .0106
Mg2790,279.079 {121},Y_3710,ppm, 6.499,.0376,.5792, 6.472, 6.525
Mn2576,257.610 {131},Y_3600,ppm, .2124,.0002,.1173, .2126, .2122
Mo2020,202.030 {467},Y_2243,ppm, .0032,.0002,4.969, .0033, .0030
Na5895,589.592 { 57},Y_3710,ppm, 6.087,.0021,.0348, 6.085, 6.088
Ni2316,231.604 {445},In2306,ppm, .0157,.0003,1.710, .0159, .0155
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P_1782,178.284 {489},In2306,ppm, .1944,.0015,.7572, .1954, .1934
Pb2203,220.353 {453},In2306,ppm, .0239,.0027,11.17, .0220, .0258
S_1820,182.034 {485},Y_2243,ppm, 1.491,.0041,.2754, 1.488, 1.494
Sb2068,206.833 {463},Y_2243,ppm, .0032,.0003,10.52, .0034, .0029
Se1960,196.090 {472},Y_2243,ppm, .0006,.0017,277.7, -.0006, .0018
Si2516,251.611 {134},Y_3710,ppm, 12.09,.0628,.5196, 12.05, 12.14
Sn1899,189.989 {477},In2306,ppm, .0012,.0002,15.80, .0011, .0014
Sr4215,421.552 { 80},Y_3710,ppm, .3984,.0003,.0818, .3986, .3982
Ti3349,334.904 {101},Y_3600,ppm, .0900,.0008,.8570, .0905, .0894
Tl1908,190.856 {477},In2306,ppm, .0460,.0030,6.591, .0481, .0439
U_3670,367.007 { 92},Y_3600,ppm, -.0267,.0477,178.4, -.0604, .0070
V_2924,292.402 {115},Y_3600,ppm, .0168,.0001,.6923, .0169, .0167
W_2397,239.709 {140},Y_2243,ppm, -.0217,.0011,5.196, -.0209, -.0225
Zn2062,206.200 {463},In2306,ppm, .9492,.0033,.3436, .9515, .9469

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 249.16,1.9170,.76937,247.80,250.52
In2306,230.606 {446},Cts/S, 14082.,76.772,.54520,14136.,14027.
Y_2243,224.306 {450},Cts/S, 23928.,153.45,.64128,24037.,23820.
Y_3600,360.073 { 94},Cts/S, 202560.,94.102,.04646,202620.,202490.
Y_3710,371.030 { 91},Cts/S, 13044.,50.393,.38633,13008.,13080.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0003,.0004,131.9, .0006, .0000
Al3082,308.215 {109},In2306,ppm, 9.327,.0535,.5739, 9.289, 9.365
As1890,189.042 {478},Y_2243,ppm, .0060,.0006,10.11, .0056, .0065
B_2496,249.678 {135},Y_3710,ppm, .0322,.0023,7.208, .0306, .0339
Ba4554,455.403 { 74},Y_3710,ppm, .1549,.0005,.2916, .1546, .1552
Be3130,313.042 {108},Y_3710,ppm, .0003,.0000,6.587, .0003, .0003
Ca3158,315.887 {107},In2306,ppm, 211.2,.2355,.1115, 211.0, 211.3
Cd2288,228.802 {447},Y_2243,ppm, .0008,.0000,1.545, .0008, .0008
Co2286,228.616 {447},In2306,ppm, .0035,.0001,2.405, .0036, .0035
Cr2677,267.716 {126},Y_3600,ppm, .0222,.0000,.1140, .0222, .0222
Cu3247,324.754 {104},Y_3600,ppm, .0261,.0001,.5352, .0262, .0260
Fe2404,240.488 {140},In2306,ppm, 8.255,.0158,.1909, 8.244, 8.266
K_7664,766.490 { 44},Y_3710,ppm, 1.605,.0065,.4039, 1.610, 1.600
Li6707,670.784 { 50},Y_3710,ppm, .0110,.0004,3.210, .0113, .0108
Mg2790,279.079 {121},Y_3710,ppm, 6.787,.0039,.0581, 6.790, 6.784
Mn2576,257.610 {131},Y_3600,ppm, .2185,.0004,.1668, .2183, .2188
Mo2020,202.030 {467},Y_2243,ppm, .0030,.0001,3.702, .0029, .0030
Na5895,589.592 { 57},Y_3710,ppm, 6.238,.0084,.1355, 6.232, 6.244
Ni2316,231.604 {445},In2306,ppm, .0169,.0000,.2800, .0170, .0169
P_1782,178.284 {489},In2306,ppm, .2215,.0023,1.021, .2231, .2199
Pb2203,220.353 {453},In2306,ppm, .0239,.0020,8.295, .0225, .0253
S_1820,182.034 {485},Y_2243,ppm, 1.540,.0105,.6833, 1.547, 1.532
Sb2068,206.833 {463},Y_2243,ppm, .0022,.0004,19.29, .0025, .0019
Se1960,196.090 {472},Y_2243,ppm, -.0008,.0000,5.915, -.0008, -.0008
Si2516,251.611 {134},Y_3710,ppm, 13.19,.0517,.3915, 13.16, 13.23
Sn1899,189.989 {477},In2306,ppm, .0008,.0004,53.87, .0011, .0005
Sr4215,421.552 { 80},Y_3710,ppm, .4055,.0000,.0011, .4055, .4055
Ti3349,334.904 {101},Y_3600,ppm, .0984,.0003,.3242, .0982, .0986
Tl1908,190.856 {477},In2306,ppm, .0158,.0038,23.75, .0185, .0132
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U_3670,367.007 { 92},Y_3600,ppm, .0100,.0132,132.0, .0007, .0193
V_2924,292.402 {115},Y_3600,ppm, .0176,.0004,2.150, .0179, .0174
W_2397,239.709 {140},Y_2243,ppm, -.0199,.0285,143.7, .0003, -.0400
Zn2062,206.200 {463},In2306,ppm, .9477,.0015,.1600, .9466, .9487

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 247.38,.71820,.29032,247.89,246.87
In2306,230.606 {446},Cts/S, 14000.,36.864,.26331,13974.,14026.
Y_2243,224.306 {450},Cts/S, 23856.,117.66,.49321,23773.,23939.
Y_3600,360.073 { 94},Cts/S, 202820.,1812.1,.89347,201540.,204100.
Y_3710,371.030 { 91},Cts/S, 12910.,53.904,.41754,12948.,12872.

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Ag3280,328.068 {103},Y_3600,ppm, .2572,.0002,.0787, .2573, .2570
Al3082,308.215 {109},In2306,ppm, 25.76,.0763,.2962, 25.81, 25.70
As1890,189.042 {478},Y_2243,ppm, .9873,.0001,.0076, .9874, .9873
B_2496,249.678 {135},Y_3710,ppm, .5500,.0026,.4791, .5482, .5519
Ba4554,455.403 { 74},Y_3710,ppm, 1.148,.0076,.6602, 1.142, 1.153
Be3130,313.042 {108},Y_3710,ppm, .9644,.0046,.4785, .9611, .9676
Ca3158,315.887 {107},In2306,ppm, 222.0,.6961,.3136, 222.5, 221.5
Cd2288,228.802 {447},Y_2243,ppm, .9673,.0014,.1460, .9663, .9683
Co2286,228.616 {447},In2306,ppm, .9778,.0011,.1171, .9770, .9786
Cr2677,267.716 {126},Y_3600,ppm, .9309,.0018,.1978, .9322, .9296
Cu3247,324.754 {104},Y_3600,ppm, .9810,.0009,.0890, .9803, .9816
Fe2404,240.488 {140},In2306,ppm, 19.07,.0756,.3963, 19.12, 19.01
K_7664,766.490 { 44},Y_3710,ppm, 12.42,.0765,.6157, 12.37, 12.48
Li6707,670.784 { 50},Y_3710,ppm, .9923,.0065,.6574, .9876, .9969
Mg2790,279.079 {121},Y_3710,ppm, 16.74,.0421,.2513, 16.71, 16.77
Mn2576,257.610 {131},Y_3600,ppm, 1.158,.0023,.1989, 1.160, 1.157
Mo2020,202.030 {467},Y_2243,ppm, .9697,.0049,.5093, .9662, .9732
Na5895,589.592 { 57},Y_3710,ppm, 16.62,.0942,.5670, 16.55, 16.69
Ni2316,231.604 {445},In2306,ppm, 1.005,.0020,.1986, 1.004, 1.006
P_1782,178.284 {489},In2306,ppm, 5.845,.0086,.1467, 5.839, 5.851
Pb2203,220.353 {453},In2306,ppm, .9965,.0014,.1408, .9955, .9975
S_1820,182.034 {485},Y_2243,ppm, 5.359,.0043,.0795, 5.356, 5.362
Sb2068,206.833 {463},Y_2243,ppm, 1.615,.0027,.1666, 1.613, 1.616
Se1960,196.090 {472},Y_2243,ppm, .9646,.0034,.3498, .9622, .9670
Si2516,251.611 {134},Y_3710,ppm, 25.33,.1127,.4450, 25.25, 25.41
Sn1899,189.989 {477},In2306,ppm, .9868,.0015,.1535, .9878, .9857
Sr4215,421.552 { 80},Y_3710,ppm, 1.374,.0088,.6409, 1.368, 1.381
Ti3349,334.904 {101},Y_3600,ppm, 1.060,.0009,.0872, 1.061, 1.060
Tl1908,190.856 {477},In2306,ppm, .9549,.0004,.0454, .9546, .9552
U_3670,367.007 { 92},Y_3600,ppm, .5367,.0231,4.312, .5531, .5203
V_2924,292.402 {115},Y_3600,ppm, .9527,.0002,.0201, .9526, .9529
W_2397,239.709 {140},Y_2243,ppm, .4396,.0592,13.47, .4815, .3977
Zn2062,206.200 {463},In2306,ppm, 1.465,.0001,.0043, 1.465, 1.465

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 242.40,1.8002,.74266,241.13,243.68
In2306,230.606 {446},Cts/S, 13605.,60.297,.44319,13648.,13563.
Y_2243,224.306 {450},Cts/S, 23545.,141.93,.60281,23646.,23445.
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Y_3600,360.073 { 94},Cts/S, 200880.,101.52,.05054,200950.,200800.
Y_3710,371.030 { 91},Cts/S, 12938.,23.450,.18125,12955.,12921.

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Ag3280,328.068 {103},Y_3600,ppm, .2573,.0031,1.220, .2595, .2551
Al3082,308.215 {109},In2306,ppm, 25.42,.4700,1.849, 25.75, 25.08
As1890,189.042 {478},Y_2243,ppm, .9996,.0043,.4299, .9965, 1.003
B_2496,249.678 {135},Y_3710,ppm, .5513,.0083,1.500, .5572, .5455
Ba4554,455.403 { 74},Y_3710,ppm, 1.155,.0122,1.055, 1.164, 1.147
Be3130,313.042 {108},Y_3710,ppm, .9689,.0056,.5765, .9729, .9650
Ca3158,315.887 {107},In2306,ppm, 217.6,4.056,1.864, 220.5, 214.7
Cd2288,228.802 {447},Y_2243,ppm, .9746,.0051,.5216, .9710, .9782
Co2286,228.616 {447},In2306,ppm, .9876,.0019,.1887, .9863, .9889
Cr2677,267.716 {126},Y_3600,ppm, .9505,.0158,1.661, .9617, .9394
Cu3247,324.754 {104},Y_3600,ppm, 1.001,.0185,1.845, 1.014, .9880
Fe2404,240.488 {140},In2306,ppm, 18.80,.2431,1.293, 18.97, 18.63
K_7664,766.490 { 44},Y_3710,ppm, 12.30,.1198,.9737, 12.39, 12.22
Li6707,670.784 { 50},Y_3710,ppm, 1.001,.0085,.8460, 1.007, .9953
Mg2790,279.079 {121},Y_3710,ppm, 16.61,.0320,.1925, 16.59, 16.64
Mn2576,257.610 {131},Y_3600,ppm, 1.180,.0168,1.422, 1.192, 1.168
Mo2020,202.030 {467},Y_2243,ppm, .9801,.0041,.4227, .9771, .9830
Na5895,589.592 { 57},Y_3710,ppm, 16.47,.1684,1.022, 16.59, 16.36
Ni2316,231.604 {445},In2306,ppm, 1.018,.0003,.0255, 1.018, 1.018
P_1782,178.284 {489},In2306,ppm, 5.841,.0008,.0134, 5.842, 5.841
Pb2203,220.353 {453},In2306,ppm, 1.007,.0016,.1542, 1.006, 1.008
S_1820,182.034 {485},Y_2243,ppm, 5.381,.0451,.8372, 5.349, 5.413
Sb2068,206.833 {463},Y_2243,ppm, 1.622,.0140,.8638, 1.612, 1.632
Se1960,196.090 {472},Y_2243,ppm, .9739,.0113,1.162, .9659, .9819
Si2516,251.611 {134},Y_3710,ppm, 26.73,.0839,.3137, 26.79, 26.67
Sn1899,189.989 {477},In2306,ppm, 1.001,.0018,.1765, .9993, 1.002
Sr4215,421.552 { 80},Y_3710,ppm, 1.380,.0131,.9465, 1.389, 1.370
Ti3349,334.904 {101},Y_3600,ppm, 1.084,.0175,1.612, 1.096, 1.071
Tl1908,190.856 {477},In2306,ppm, 1.024,.0025,.2481, 1.022, 1.026
U_3670,367.007 { 92},Y_3600,ppm, .5574,.0394,7.065, .5853, .5296
V_2924,292.402 {115},Y_3600,ppm, .9705,.0167,1.723, .9823, .9587
W_2397,239.709 {140},Y_2243,ppm, .4296,.0127,2.947, .4207, .4386
Zn2062,206.200 {463},In2306,ppm, 1.464,.0007,.0498, 1.464, 1.463

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 248.15,5.0183,2.0223,244.60,251.70
In2306,230.606 {446},Cts/S, 13677.,63.483,.46415,13722.,13632.
Y_2243,224.306 {450},Cts/S, 23721.,182.67,.77007,23850.,23591.
Y_3600,360.073 { 94},Cts/S, 199510.,2193.9,1.0996,197960.,201060.
Y_3710,371.030 { 91},Cts/S, 13095.,99.397,.75904,13025.,13165.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0009,.0005,52.65, .0012, .0005
Al3082,308.215 {109},In2306,ppm, -.0036,.0196,544.3, .0103, -.0175
As1890,189.042 {478},Y_2243,ppm, -.0004,.0013,304.5, .0005, -.0014
B_2496,249.678 {135},Y_3710,ppm, .0016,.0009,52.12, .0010, .0023
Ba4554,455.403 { 74},Y_3710,ppm, .0151,.0002,1.098, .0150, .0152
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,188.5, .0002, -.0000
Ca3158,315.887 {107},In2306,ppm, 6.718,.1633,2.430, 6.834, 6.603
Cd2288,228.802 {447},Y_2243,ppm, .0003,.0000,3.845, .0003, .0003
Co2286,228.616 {447},In2306,ppm, .0001,.0001,87.11, .0000, .0002
Cr2677,267.716 {126},Y_3600,ppm, .0006,.0002,29.01, .0005, .0008
Cu3247,324.754 {104},Y_3600,ppm, .0021,.0001,4.600, .0022, .0020
Fe2404,240.488 {140},In2306,ppm, .0518,.0089,17.26, .0455, .0581
K_7664,766.490 { 44},Y_3710,ppm, .4086,.0291,7.116, .4292, .3881
Li6707,670.784 { 50},Y_3710,ppm, .0013,.0004,33.63, .0010, .0016
Mg2790,279.079 {121},Y_3710,ppm, 1.906,.0094,.4915, 1.899, 1.912
Mn2576,257.610 {131},Y_3600,ppm, .0329,.0009,2.801, .0335, .0322
Mo2020,202.030 {467},Y_2243,ppm, .0009,.0004,43.00, .0006, .0012
Na5895,589.592 { 57},Y_3710,ppm, 7.544,.0468,.6199, 7.577, 7.511
Ni2316,231.604 {445},In2306,ppm, .0008,.0002,30.36, .0006, .0009
P_1782,178.284 {489},In2306,ppm, .0483,.0007,1.439, .0478, .0488
Pb2203,220.353 {453},In2306,ppm, -.0010,.0000,3.732, -.0010, -.0009
S_1820,182.034 {485},Y_2243,ppm, .2802,.0025,.8847, .2820, .2785
Sb2068,206.833 {463},Y_2243,ppm, .0018,.0002,13.58, .0020, .0017
Se1960,196.090 {472},Y_2243,ppm, -.0002,.0012,574.1, -.0010, .0006
Si2516,251.611 {134},Y_3710,ppm, 3.706,.0079,.2122, 3.700, 3.711
Sn1899,189.989 {477},In2306,ppm, .0004,.0002,43.81, .0003, .0006
Sr4215,421.552 { 80},Y_3710,ppm, .0388,.0003,.7961, .0390, .0385
Ti3349,334.904 {101},Y_3600,ppm, .0008,.0001,8.294, .0008, .0009
Tl1908,190.856 {477},In2306,ppm, .0566,.0078,13.79, .0621, .0511
U_3670,367.007 { 92},Y_3600,ppm, -.0906,.0261,28.78, -.1090, -.0722
V_2924,292.402 {115},Y_3600,ppm, .0000,.0001,1002., .0001, -.0001
W_2397,239.709 {140},Y_2243,ppm, .0048,.0368,768.6, .0308, -.0212
Zn2062,206.200 {463},In2306,ppm, .0158,.0000,.2834, .0158, .0158

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 261.52,6.7567,2.5836,256.74,266.29
In2306,230.606 {446},Cts/S, 15860.,34.162,.21540,15836.,15884.
Y_2243,224.306 {450},Cts/S, 24912.,55.451,.22258,24873.,24952.
Y_3600,360.073 { 94},Cts/S, 212070.,4703.6,2.2179,208750.,215400.
Y_3710,371.030 { 91},Cts/S, 13279.,128.41,.96697,13188.,13370.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0006,.0003,62.58, .0008, .0003
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Al3082,308.215 {109},In2306,ppm, .1278,.0119,9.285, .1362, .1194
As1890,189.042 {478},Y_2243,ppm, .0098,.0007,7.226, .0103, .0093
B_2496,249.678 {135},Y_3710,ppm, .0092,.0090,97.73, .0155, .0028
Ba4554,455.403 { 74},Y_3710,ppm, .0113,.0003,2.805, .0115, .0111
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,40.73, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, .5319,.0160,3.001, .5431, .5206
Cd2288,228.802 {447},Y_2243,ppm, .0007,.0001,12.51, .0007, .0008
Co2286,228.616 {447},In2306,ppm, .0013,.0001,10.51, .0014, .0012
Cr2677,267.716 {126},Y_3600,ppm, .0008,.0002,20.60, .0009, .0007
Cu3247,324.754 {104},Y_3600,ppm, .0116,.0001,1.007, .0117, .0115
Fe2404,240.488 {140},In2306,ppm, 11.46,.3237,2.825, 11.69, 11.23
K_7664,766.490 { 44},Y_3710,ppm, .3228,.0094,2.898, .3294, .3162
Li6707,670.784 { 50},Y_3710,ppm, -.0006,.0001,9.153, -.0006, -.0007
Mg2790,279.079 {121},Y_3710,ppm, .6970,.0001,.0104, .6970, .6969
Mn2576,257.610 {131},Y_3600,ppm, .0512,.0003,.4989, .0511, .0514
Mo2020,202.030 {467},Y_2243,ppm, .0001,.0002,208.7, -.0001, .0003
Na5895,589.592 { 57},Y_3710,ppm, 3.922,.0982,2.504, 3.991, 3.852
Ni2316,231.604 {445},In2306,ppm, .0017,.0000,.3160, .0017, .0017
P_1782,178.284 {489},In2306,ppm, .0712,.0026,3.625, .0730, .0694
Pb2203,220.353 {453},In2306,ppm, .0006,.0004,66.49, .0008, .0003
S_1820,182.034 {485},Y_2243,ppm, .0312,.0017,5.389, .0300, .0324
Sb2068,206.833 {463},Y_2243,ppm, .0017,.0002,13.36, .0015, .0018
Se1960,196.090 {472},Y_2243,ppm, .0004,.0018,411.1, .0017, -.0008
Si2516,251.611 {134},Y_3710,ppm, 4.633,.1356,2.927, 4.729, 4.537
Sn1899,189.989 {477},In2306,ppm, .0005,.0003,66.37, .0003, .0007
Sr4215,421.552 { 80},Y_3710,ppm, .0057,.0002,3.935, .0059, .0056
Ti3349,334.904 {101},Y_3600,ppm, .0020,.0001,6.455, .0019, .0021
Tl1908,190.856 {477},In2306,ppm, .0239,.0036,14.85, .0264, .0214
U_3670,367.007 { 92},Y_3600,ppm, -.0571,.0200,35.07, -.0713, -.0430
V_2924,292.402 {115},Y_3600,ppm, .0007,.0001,11.32, .0006, .0008
W_2397,239.709 {140},Y_2243,ppm, -.0080,.0093,116.7, -.0014, -.0146
Zn2062,206.200 {463},In2306,ppm, .0265,.0003,1.106, .0267, .0263

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 263.23,7.5919,2.8841,257.86,268.60
In2306,230.606 {446},Cts/S, 15919.,81.728,.51342,15861.,15976.
Y_2243,224.306 {450},Cts/S, 24894.,141.63,.56893,24794.,24995.
Y_3600,360.073 { 94},Cts/S, 217490.,1053.4,.48436,218230.,216740.
Y_3710,371.030 { 91},Cts/S, 13290.,371.48,2.7953,13027.,13552.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0002,.0001,29.79, .0001, .0002
Al3082,308.215 {109},In2306,ppm, .1612,.0153,9.505, .1720, .1503
As1890,189.042 {478},Y_2243,ppm, -.0004,.0012,346.3, .0005, -.0012
B_2496,249.678 {135},Y_3710,ppm, .0092,.0066,71.75, .0045, .0139
Ba4554,455.403 { 74},Y_3710,ppm, .0114,.0002,2.046, .0116, .0112
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,27.40, .0000, .0000
Ca3158,315.887 {107},In2306,ppm, 51.04,1.316,2.578, 51.97, 50.11
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,158.2, .0001, -.0000
Co2286,228.616 {447},In2306,ppm, -.0002,.0002,85.61, -.0001, -.0003
Cr2677,267.716 {126},Y_3600,ppm, .0017,.0001,6.867, .0018, .0016
Cu3247,324.754 {104},Y_3600,ppm, .0022,.0000,1.684, .0022, .0022
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Fe2404,240.488 {140},In2306,ppm, .2453,.0050,2.029, .2488, .2418
K_7664,766.490 { 44},Y_3710,ppm, .3482,.0155,4.462, .3373, .3592
Li6707,670.784 { 50},Y_3710,ppm, .0026,.0006,21.26, .0030, .0022
Mg2790,279.079 {121},Y_3710,ppm, 5.740,.0598,1.041, 5.782, 5.697
Mn2576,257.610 {131},Y_3600,ppm, .0074,.0002,2.147, .0073, .0075
Mo2020,202.030 {467},Y_2243,ppm, .0000,.0000,438.2, -.0000, .0000
Na5895,589.592 { 57},Y_3710,ppm, 2.014,.0294,1.462, 2.035, 1.993
Ni2316,231.604 {445},In2306,ppm, .0003,.0003,87.02, .0001, .0005
P_1782,178.284 {489},In2306,ppm, .0611,.0001,.1725, .0610, .0612
Pb2203,220.353 {453},In2306,ppm, -.0006,.0004,67.20, -.0009, -.0003
S_1820,182.034 {485},Y_2243,ppm, .7710,.0068,.8865, .7758, .7661
Sb2068,206.833 {463},Y_2243,ppm, .0001,.0003,210.0, .0003, -.0001
Se1960,196.090 {472},Y_2243,ppm, -.0008,.0003,39.44, -.0011, -.0006
Si2516,251.611 {134},Y_3710,ppm, 3.574,.0327,.9154, 3.597, 3.551
Sn1899,189.989 {477},In2306,ppm, .0001,.0003,333.3, .0003, -.0001
Sr4215,421.552 { 80},Y_3710,ppm, .0560,.0012,2.152, .0568, .0551
Ti3349,334.904 {101},Y_3600,ppm, .0030,.0003,8.962, .0028, .0032
Tl1908,190.856 {477},In2306,ppm, .0104,.0021,20.34, .0120, .0089
U_3670,367.007 { 92},Y_3600,ppm, -.1137,.0217,19.08, -.1290, -.0983
V_2924,292.402 {115},Y_3600,ppm, .0005,.0001,12.26, .0005, .0005
W_2397,239.709 {140},Y_2243,ppm, -.0392,.0085,21.80, -.0452, -.0332
Zn2062,206.200 {463},In2306,ppm, .0181,.0001,.5583, .0180, .0181

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 255.11,7.5345,2.9534,249.78,260.44
In2306,230.606 {446},Cts/S, 15254.,42.676,.27978,15284.,15224.
Y_2243,224.306 {450},Cts/S, 24480.,45.308,.18508,24512.,24448.
Y_3600,360.073 { 94},Cts/S, 210790.,3085.1,1.4636,212970.,208610.
Y_3710,371.030 { 91},Cts/S, 13054.,209.67,1.6062,12906.,13202.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0001,.0002,209.1, .0003, -.0001
Al3082,308.215 {109},In2306,ppm, .0026,.0189,713.0, -.0107, .0160
As1890,189.042 {478},Y_2243,ppm, -.0012,.0016,140.2, -.0000, -.0023
B_2496,249.678 {135},Y_3710,ppm, .0105,.0013,12.53, .0096, .0115
Ba4554,455.403 { 74},Y_3710,ppm, .0163,.0003,1.908, .0160, .0165
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,490.0, .0001, -.0001
Ca3158,315.887 {107},In2306,ppm, 42.27,.7985,1.889, 41.70, 42.83
Cd2288,228.802 {447},Y_2243,ppm, .0011,.0000,2.211, .0012, .0011
Co2286,228.616 {447},In2306,ppm, -.0000,.0002,1348., -.0001, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0012,.0001,6.555, .0013, .0012
Cu3247,324.754 {104},Y_3600,ppm, .0025,.0003,13.03, .0023, .0028
Fe2404,240.488 {140},In2306,ppm, .0567,.0005,.8809, .0570, .0563
K_7664,766.490 { 44},Y_3710,ppm, .4322,.0272,6.287, .4130, .4514
Li6707,670.784 { 50},Y_3710,ppm, .0004,.0004,83.89, .0002, .0007
Mg2790,279.079 {121},Y_3710,ppm, 9.640,.1646,1.708, 9.523, 9.756
Mn2576,257.610 {131},Y_3600,ppm, .0043,.0001,3.062, .0044, .0042
Mo2020,202.030 {467},Y_2243,ppm, .0003,.0001,26.87, .0004, .0003
Na5895,589.592 { 57},Y_3710,ppm, 1.918,.0310,1.615, 1.896, 1.940
Ni2316,231.604 {445},In2306,ppm, .0006,.0001,23.14, .0007, .0005
P_1782,178.284 {489},In2306,ppm, .0426,.0016,3.724, .0414, .0437
Pb2203,220.353 {453},In2306,ppm, -.0004,.0004,94.60, -.0007, -.0001
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S_1820,182.034 {485},Y_2243,ppm, .5679,.0015,.2561, .5669, .5689
Sb2068,206.833 {463},Y_2243,ppm, -.0004,.0007,187.2, .0001, -.0009
Se1960,196.090 {472},Y_2243,ppm, .0004,.0001,33.06, .0005, .0003
Si2516,251.611 {134},Y_3710,ppm, 3.226,.0706,2.189, 3.176, 3.276
Sn1899,189.989 {477},In2306,ppm, -.0002,.0001,22.72, -.0002, -.0003
Sr4215,421.552 { 80},Y_3710,ppm, .0973,.0015,1.505, .0963, .0984
Ti3349,334.904 {101},Y_3600,ppm, .0010,.0002,24.72, .0008, .0011
Tl1908,190.856 {477},In2306,ppm, .0039,.0023,58.10, .0055, .0023
U_3670,367.007 { 92},Y_3600,ppm, -.1075,.0777,72.32, -.0525, -.1624
V_2924,292.402 {115},Y_3600,ppm, .0001,.0002,151.9, -.0000, .0002
W_2397,239.709 {140},Y_2243,ppm, -.0018,.1058,5838., .0730, -.0767
Zn2062,206.200 {463},In2306,ppm, .0233,.0002,.6634, .0234, .0232

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 253.36,4.0754,1.6085,256.25,250.48
In2306,230.606 {446},Cts/S, 15242.,35.136,.23053,15217.,15266.
Y_2243,224.306 {450},Cts/S, 24304.,13.943,.05737,24294.,24314.
Y_3600,360.073 { 94},Cts/S, 207230.,3501.3,1.6895,204760.,209710.
Y_3710,371.030 { 91},Cts/S, 12839.,146.30,1.1395,12942.,12736.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .4829,.0058,1.202, .4788, .4870
Al3082,308.215 {109},In2306,ppm, 20.52,.0287,.1398, 20.54, 20.50
As1890,189.042 {478},Y_2243,ppm, .9945,.0152,1.526, 1.005, .9838
B_2496,249.678 {135},Y_3710,ppm, .9987,.0075,.7536, 1.004, .9934
Ba4554,455.403 { 74},Y_3710,ppm, 1.032,.0099,.9597, 1.039, 1.025
Be3130,313.042 {108},Y_3710,ppm, .9951,.0106,1.067, 1.003, .9876
Ca3158,315.887 {107},In2306,ppm, 19.84,.0086,.0435, 19.85, 19.84
Cd2288,228.802 {447},Y_2243,ppm, .9811,.0116,1.187, .9893, .9729
Co2286,228.616 {447},In2306,ppm, .9918,.0125,1.259, 1.001, .9830
Cr2677,267.716 {126},Y_3600,ppm, .9481,.0104,1.101, .9408, .9555
Cu3247,324.754 {104},Y_3600,ppm, .9618,.0161,1.675, .9504, .9732
Fe2404,240.488 {140},In2306,ppm, 20.06,.0062,.0311, 20.06, 20.05
K_7664,766.490 { 44},Y_3710,ppm, 20.01,.1448,.7239, 20.11, 19.90
Li6707,670.784 { 50},Y_3710,ppm, 1.003,.0086,.8610, 1.009, .9969
Mg2790,279.079 {121},Y_3710,ppm, 20.32,.1198,.5894, 20.40, 20.24
Mn2576,257.610 {131},Y_3600,ppm, .9826,.0105,1.067, .9752, .9900
Mo2020,202.030 {467},Y_2243,ppm, 1.005,.0146,1.449, 1.015, .9944
Na5895,589.592 { 57},Y_3710,ppm, 20.28,.2367,1.167, 20.45, 20.11
Ni2316,231.604 {445},In2306,ppm, 1.010,.0126,1.246, 1.018, 1.001
P_1782,178.284 {489},In2306,ppm, 10.30,.1080,1.049, 10.37, 10.22
Pb2203,220.353 {453},In2306,ppm, 1.002,.0075,.7448, 1.007, .9963
S_1820,182.034 {485},Y_2243,ppm, 7.325,.1022,1.395, 7.397, 7.253
Sb2068,206.833 {463},Y_2243,ppm, 2.149,.0381,1.771, 2.176, 2.122
Se1960,196.090 {472},Y_2243,ppm, .9820,.0142,1.442, .9921, .9720
Si2516,251.611 {134},Y_3710,ppm, 9.026,.0917,1.016, 9.091, 8.961
Sn1899,189.989 {477},In2306,ppm, 1.008,.0128,1.273, 1.017, .9988
Sr4215,421.552 { 80},Y_3710,ppm, 1.021,.0081,.7970, 1.027, 1.015
Ti3349,334.904 {101},Y_3600,ppm, .9691,.0130,1.337, .9600, .9783
Tl1908,190.856 {477},In2306,ppm, 1.050,.0080,.7647, 1.056, 1.044
U_3670,367.007 { 92},Y_3600,ppm, .7886,.0221,2.808, .7729, .8042
V_2924,292.402 {115},Y_3600,ppm, .9596,.0110,1.151, .9518, .9674
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W_2397,239.709 {140},Y_2243,ppm, 1.192,.0255,2.140, 1.174, 1.210
Zn2062,206.200 {463},In2306,ppm, .9986,.0105,1.054, 1.006, .9912

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 247.69,2.1592,.87171,246.16,249.22
In2306,230.606 {446},Cts/S, 14554.,154.64,1.0625,14444.,14663.
Y_2243,224.306 {450},Cts/S, 24290.,298.24,1.2278,24079.,24501.
Y_3600,360.073 { 94},Cts/S, 207010.,2984.7,1.4418,209120.,204900.
Y_3710,371.030 { 91},Cts/S, 12779.,164.84,1.2900,12662.,12895.

[Sample Header]
Method=ICP6500Metals_TRY3(v5030)
SampleName=CCVL 3335863
Username=admin
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Custom ID3=
Run Time=11/12/2019 10:01:52
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Mode=CONC
CorrFactor=1.000
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0093,.0003,2.815, .0091, .0095
Al3082,308.215 {109},In2306,ppm, .1959,.0132,6.763, .1865, .2053
As1890,189.042 {478},Y_2243,ppm, .0218,.0014,6.327, .0228, .0208
B_2496,249.678 {135},Y_3710,ppm, .2149,.0059,2.727, .2108, .2191
Ba4554,455.403 { 74},Y_3710,ppm, .0224,.0001,.2729, .0224, .0223
Be3130,313.042 {108},Y_3710,ppm, .0113,.0001,1.045, .0113, .0112
Ca3158,315.887 {107},In2306,ppm, 1.009,.0205,2.037, 1.023, .9941
Cd2288,228.802 {447},Y_2243,ppm, .0109,.0000,.1057, .0109, .0109
Co2286,228.616 {447},In2306,ppm, .0104,.0001,1.334, .0103, .0105
Cr2677,267.716 {126},Y_3600,ppm, .0109,.0000,.3588, .0109, .0109
Cu3247,324.754 {104},Y_3600,ppm, .0121,.0003,2.135, .0120, .0123
Fe2404,240.488 {140},In2306,ppm, .2084,.0077,3.715, .2139, .2029
K_7664,766.490 { 44},Y_3710,ppm, 1.076,.0334,3.107, 1.053, 1.100
Li6707,670.784 { 50},Y_3710,ppm, .0107,.0007,6.613, .0112, .0102
Mg2790,279.079 {121},Y_3710,ppm, 1.088,.0267,2.453, 1.069, 1.106
Mn2576,257.610 {131},Y_3600,ppm, .0112,.0000,.3572, .0113, .0112
Mo2020,202.030 {467},Y_2243,ppm, .0230,.0000,.1633, .0230, .0230
Na5895,589.592 { 57},Y_3710,ppm, 1.087,.0050,.4633, 1.090, 1.083
Ni2316,231.604 {445},In2306,ppm, .0109,.0002,1.875, .0107, .0110
P_1782,178.284 {489},In2306,ppm, .9649,.0051,.5291, .9613, .9685
Pb2203,220.353 {453},In2306,ppm, .0116,.0003,2.453, .0114, .0118
S_1820,182.034 {485},Y_2243,ppm, .3497,.0002,.0579, .3496, .3499
Sb2068,206.833 {463},Y_2243,ppm, .0550,.0000,.0552, .0550, .0550
Se1960,196.090 {472},Y_2243,ppm, .0225,.0020,9.026, .0211, .0240
Si2516,251.611 {134},Y_3710,ppm, .1660,.0055,3.321, .1699, .1621
Sn1899,189.989 {477},In2306,ppm, .0209,.0005,2.513, .0212, .0205
Sr4215,421.552 { 80},Y_3710,ppm, .0116,.0001,.8016, .0117, .0116
Ti3349,334.904 {101},Y_3600,ppm, .0110,.0002,2.041, .0112, .0109
Tl1908,190.856 {477},In2306,ppm, .0464,.0037,8.009, .0490, .0438
U_3670,367.007 { 92},Y_3600,ppm, -.0174,.0153,88.01, -.0282, -.0066
V_2924,292.402 {115},Y_3600,ppm, .0104,.0002,1.543, .0102, .0105
W_2397,239.709 {140},Y_2243,ppm, .0131,.0960,732.8, .0810, -.0548
Zn2062,206.200 {463},In2306,ppm, .0185,.0003,1.608, .0182, .0187

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 258.41,6.9768,2.6999,253.48,263.35
In2306,230.606 {446},Cts/S, 16240.,12.936,.07966,16249.,16231.
Y_2243,224.306 {450},Cts/S, 25186.,44.067,.17496,25155.,25217.
Y_3600,360.073 { 94},Cts/S, 214080.,379.06,.17707,214350.,213810.
Y_3710,371.030 { 91},Cts/S, 12916.,168.01,1.3007,12798.,13035.
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Custom ID3=
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Mode=CONC
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0002,.0001,36.15, .0001, .0002
Al3082,308.215 {109},In2306,ppm, -.0096,.0076,79.48, -.0149, -.0042
As1890,189.042 {478},Y_2243,ppm, .0005,.0013,290.6, .0014, -.0005
B_2496,249.678 {135},Y_3710,ppm, .0052,.0051,97.01, .0016, .0088
Ba4554,455.403 { 74},Y_3710,ppm, -.0001,.0001,102.9, -.0001, -.0000
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,26.28, -.0001, -.0001
Ca3158,315.887 {107},In2306,ppm, -.0146,.0030,20.78, -.0125, -.0168
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0001,98.87, -.0002, -.0000
Co2286,228.616 {447},In2306,ppm, .0001,.0002,215.9, -.0000, .0002
Cr2677,267.716 {126},Y_3600,ppm, -.0000,.0001,834.8, .0001, -.0001
Cu3247,324.754 {104},Y_3600,ppm, .0010,.0000,.2107, .0010, .0010
Fe2404,240.488 {140},In2306,ppm, -.0060,.0012,19.85, -.0052, -.0068
K_7664,766.490 { 44},Y_3710,ppm, .0152,.0005,3.251, .0148, .0155
Li6707,670.784 { 50},Y_3710,ppm, -.0018,.0003,13.97, -.0017, -.0020
Mg2790,279.079 {121},Y_3710,ppm, .0052,.0211,408.6, .0200, -.0097
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,3.874, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, .0001,.0001,187.3, .0002, -.0000
Na5895,589.592 { 57},Y_3710,ppm, .0023,.0017,75.28, .0011, .0035
Ni2316,231.604 {445},In2306,ppm, .0002,.0001,57.73, .0001, .0003
P_1782,178.284 {489},In2306,ppm, .0002,.0000,28.69, .0002, .0001
Pb2203,220.353 {453},In2306,ppm, -.0002,.0009,515.0, .0005, -.0009
S_1820,182.034 {485},Y_2243,ppm, -.0013,.0026,199.1, -.0032, .0005
Sb2068,206.833 {463},Y_2243,ppm, .0014,.0005,40.19, .0017, .0010
Se1960,196.090 {472},Y_2243,ppm, -.0002,.0003,107.4, -.0001, -.0004
Si2516,251.611 {134},Y_3710,ppm, -.0099,.0072,73.34, -.0047, -.0150
Sn1899,189.989 {477},In2306,ppm, -.0007,.0001,16.77, -.0008, -.0006
Sr4215,421.552 { 80},Y_3710,ppm, .0001,.0000,44.54, .0001, .0001
Ti3349,334.904 {101},Y_3600,ppm, .0001,.0001,135.9, .0002, .0000
Tl1908,190.856 {477},In2306,ppm, .0131,.0037,28.29, .0157, .0105
U_3670,367.007 { 92},Y_3600,ppm, -.0713,.0824,115.5, -.0131, -.1296
V_2924,292.402 {115},Y_3600,ppm, .0000,.0002,861.6, .0002, -.0001
W_2397,239.709 {140},Y_2243,ppm, -.0269,.0146,54.39, -.0372, -.0165
Zn2062,206.200 {463},In2306,ppm, -.0015,.0000,.8425, -.0015, -.0015

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 258.40,1.4367,.55601,259.41,257.38
In2306,230.606 {446},Cts/S, 16371.,28.640,.17494,16392.,16351.
Y_2243,224.306 {450},Cts/S, 25039.,43.501,.17373,25070.,25008.
Y_3600,360.073 { 94},Cts/S, 214570.,244.70,.11404,214400.,214740.
Y_3710,371.030 { 91},Cts/S, 12922.,135.53,1.0488,13018.,12826.

[Sample Header]
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Username=admin
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Custom ID1=
Custom ID2=
Custom ID3=
Run Time=11/12/2019 10:06:02
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Mode=CONC
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0009,.0001,15.57, .0010, .0008
Al3082,308.215 {109},In2306,ppm, .0129,.0201,155.5, -.0013, .0272
As1890,189.042 {478},Y_2243,ppm, .0012,.0013,110.9, .0021, .0003
B_2496,249.678 {135},Y_3710,ppm, .0132,.0012,9.320, .0123, .0141
Ba4554,455.403 { 74},Y_3710,ppm, .0193,.0008,4.140, .0187, .0198
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,138.9, -.0001, -.0000
Ca3158,315.887 {107},In2306,ppm, 47.47,1.897,3.996, 46.13, 48.81
Cd2288,228.802 {447},Y_2243,ppm, .0008,.0000,5.006, .0008, .0008
Co2286,228.616 {447},In2306,ppm, .0006,.0000,8.412, .0006, .0006
Cr2677,267.716 {126},Y_3600,ppm, .0017,.0001,5.973, .0016, .0017
Cu3247,324.754 {104},Y_3600,ppm, .0028,.0005,18.44, .0024, .0032
Fe2404,240.488 {140},In2306,ppm, .0563,.0024,4.234, .0580, .0546
K_7664,766.490 { 44},Y_3710,ppm, .7686,.0254,3.311, .7506, .7866
Li6707,670.784 { 50},Y_3710,ppm, .0986,.0051,5.141, .0951, .1022
Mg2790,279.079 {121},Y_3710,ppm, 5.095,.1922,3.773, 4.959, 5.231
Mn2576,257.610 {131},Y_3600,ppm, .0050,.0001,2.787, .0049, .0051
Mo2020,202.030 {467},Y_2243,ppm, .0002,.0001,62.38, .0001, .0003
Na5895,589.592 { 57},Y_3710,ppm, 2.494,.1148,4.604, 2.412, 2.575
Ni2316,231.604 {445},In2306,ppm, .0007,.0003,38.98, .0010, .0005
P_1782,178.284 {489},In2306,ppm, .0623,.0007,1.128, .0628, .0618
Pb2203,220.353 {453},In2306,ppm, .0020,.0004,21.57, .0023, .0017
S_1820,182.034 {485},Y_2243,ppm, .6291,.0037,.5899, .6318, .6265
Sb2068,206.833 {463},Y_2243,ppm, .0018,.0007,41.30, .0013, .0023
Se1960,196.090 {472},Y_2243,ppm, -.0000,.0023,14180., .0016, -.0016
Si2516,251.611 {134},Y_3710,ppm, 3.252,.1528,4.698, 3.144, 3.360
Sn1899,189.989 {477},In2306,ppm, .0001,.0002,159.6, .0003, -.0000
Sr4215,421.552 { 80},Y_3710,ppm, .3076,.0139,4.504, .2978, .3174
Ti3349,334.904 {101},Y_3600,ppm, .0014,.0000,1.293, .0015, .0014
Tl1908,190.856 {477},In2306,ppm, .0126,.0021,16.66, .0141, .0111
U_3670,367.007 { 92},Y_3600,ppm, -.0781,.1010,129.3, -.1495, -.0067
V_2924,292.402 {115},Y_3600,ppm, .0003,.0001,57.49, .0004, .0002
W_2397,239.709 {140},Y_2243,ppm, .0286,.0685,239.6, .0770, -.0198
Zn2062,206.200 {463},In2306,ppm, .0217,.0003,1.364, .0219, .0215

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 258.30,6.3588,2.4618,262.80,253.81
In2306,230.606 {446},Cts/S, 15233.,25.923,.17018,15214.,15251.
Y_2243,224.306 {450},Cts/S, 24378.,35.471,.14550,24353.,24403.
Y_3600,360.073 { 94},Cts/S, 210930.,2548.8,1.2084,212730.,209120.
Y_3710,371.030 { 91},Cts/S, 13196.,358.49,2.7168,13449.,12942.

[Sample Header]
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Username=admin
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Custom ID3=
Run Time=11/12/2019 10:08:06
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0004,.0001,13.74, .0004, .0004
Al3082,308.215 {109},In2306,ppm, .0149,.0057,37.98, .0189, .0109
As1890,189.042 {478},Y_2243,ppm, .0011,.0005,47.05, .0015, .0008
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B_2496,249.678 {135},Y_3710,ppm, .0063,.0047,75.63, .0029, .0096
Ba4554,455.403 { 74},Y_3710,ppm, .0096,.0000,.0064, .0096, .0096
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,195.9, .0000, -.0001
Ca3158,315.887 {107},In2306,ppm, 33.65,.0804,.2388, 33.59, 33.71
Cd2288,228.802 {447},Y_2243,ppm, .0005,.0001,18.00, .0005, .0006
Co2286,228.616 {447},In2306,ppm, -.0000,.0000,33.85, -.0000, -.0000
Cr2677,267.716 {126},Y_3600,ppm, .0073,.0005,6.399, .0070, .0077
Cu3247,324.754 {104},Y_3600,ppm, .0021,.0001,2.462, .0021, .0022
Fe2404,240.488 {140},In2306,ppm, .0269,.0015,5.454, .0259, .0280
K_7664,766.490 { 44},Y_3710,ppm, .6230,.0308,4.936, .6447, .6013
Li6707,670.784 { 50},Y_3710,ppm, .0002,.0002,89.49, .0001, .0004
Mg2790,279.079 {121},Y_3710,ppm, 5.070,.0296,.5833, 5.091, 5.049
Mn2576,257.610 {131},Y_3600,ppm, .0020,.0000,.3232, .0020, .0021
Mo2020,202.030 {467},Y_2243,ppm, .0013,.0000,2.036, .0013, .0013
Na5895,589.592 { 57},Y_3710,ppm, 4.698,.0246,.5246, 4.681, 4.716
Ni2316,231.604 {445},In2306,ppm, .0002,.0001,53.58, .0003, .0001
P_1782,178.284 {489},In2306,ppm, .0904,.0024,2.635, .0921, .0887
Pb2203,220.353 {453},In2306,ppm, -.0004,.0006,158.0, .0000, -.0007
S_1820,182.034 {485},Y_2243,ppm, 1.213,.0066,.5468, 1.218, 1.208
Sb2068,206.833 {463},Y_2243,ppm, .0002,.0011,643.2, .0010, -.0006
Se1960,196.090 {472},Y_2243,ppm, .0012,.0010,79.95, .0005, .0019
Si2516,251.611 {134},Y_3710,ppm, 4.203,.0203,.4836, 4.189, 4.217
Sn1899,189.989 {477},In2306,ppm, -.0003,.0001,26.04, -.0002, -.0003
Sr4215,421.552 { 80},Y_3710,ppm, .0486,.0003,.6471, .0484, .0489
Ti3349,334.904 {101},Y_3600,ppm, .0009,.0002,18.65, .0008, .0010
Tl1908,190.856 {477},In2306,ppm, .0028,.0007,25.28, .0033, .0023
U_3670,367.007 { 92},Y_3600,ppm, -.1138,.0540,47.43, -.1520, -.0756
V_2924,292.402 {115},Y_3600,ppm, .0013,.0002,14.08, .0015, .0012
W_2397,239.709 {140},Y_2243,ppm, -.0224,.0672,300.3, .0251, -.0699
Zn2062,206.200 {463},In2306,ppm, .0154,.0000,.2326, .0154, .0155

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 254.31,2.1193,.83332,252.82,255.81
In2306,230.606 {446},Cts/S, 15366.,75.947,.49424,15313.,15420.
Y_2243,224.306 {450},Cts/S, 24492.,147.27,.60128,24388.,24596.
Y_3600,360.073 { 94},Cts/S, 209480.,74.485,.03556,209430.,209530.
Y_3710,371.030 { 91},Cts/S, 12971.,24.252,.18697,12954.,12989.

[Sample Header]
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Custom ID3=
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Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0002,.0005,212.8, .0006, -.0001
Al3082,308.215 {109},In2306,ppm, 1.099,.0094,.8553, 1.106, 1.092
As1890,189.042 {478},Y_2243,ppm, .0004,.0008,200.8, -.0002, .0010
B_2496,249.678 {135},Y_3710,ppm, -.0021,.0039,184.4, .0006, -.0048
Ba4554,455.403 { 74},Y_3710,ppm, .0155,.0003,1.616, .0157, .0154
Be3130,313.042 {108},Y_3710,ppm, .0002,.0000,20.56, .0001, .0002
Ca3158,315.887 {107},In2306,ppm, 47.12,.1102,.2339, 47.20, 47.04
Cd2288,228.802 {447},Y_2243,ppm, .0008,.0000,3.377, .0008, .0008
Co2286,228.616 {447},In2306,ppm, .0001,.0001,145.8, -.0000, .0002
Cr2677,267.716 {126},Y_3600,ppm, .0031,.0003,9.370, .0033, .0029
Cu3247,324.754 {104},Y_3600,ppm, .0030,.0004,14.83, .0033, .0027
Fe2404,240.488 {140},In2306,ppm, 1.399,.0055,.3908, 1.403, 1.395
K_7664,766.490 { 44},Y_3710,ppm, 2.465,.0108,.4382, 2.473, 2.457
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Li6707,670.784 { 50},Y_3710,ppm, .0083,.0006,6.726, .0079, .0087
Mg2790,279.079 {121},Y_3710,ppm, 5.273,.0158,.2993, 5.285, 5.262
Mn2576,257.610 {131},Y_3600,ppm, .0158,.0000,.1964, .0159, .0158
Mo2020,202.030 {467},Y_2243,ppm, .0000,.0003,3411., .0002, -.0002
Na5895,589.592 { 57},Y_3710,ppm, 2.118,.0054,.2533, 2.114, 2.121
Ni2316,231.604 {445},In2306,ppm, .0036,.0000,.7943, .0036, .0037
P_1782,178.284 {489},In2306,ppm, .1067,.0003,.2416, .1069, .1065
Pb2203,220.353 {453},In2306,ppm, .0001,.0004,446.4, -.0002, .0004
S_1820,182.034 {485},Y_2243,ppm, .5125,.0023,.4460, .5109, .5141
Sb2068,206.833 {463},Y_2243,ppm, -.0008,.0002,21.71, -.0009, -.0006
Se1960,196.090 {472},Y_2243,ppm, -.0001,.0001,81.98, -.0001, -.0002
Si2516,251.611 {134},Y_3710,ppm, 4.345,.0261,.6011, 4.327, 4.364
Sn1899,189.989 {477},In2306,ppm, .0001,.0003,325.8, -.0001, .0003
Sr4215,421.552 { 80},Y_3710,ppm, .0785,.0005,.6403, .0782, .0789
Ti3349,334.904 {101},Y_3600,ppm, .0189,.0002,1.122, .0190, .0187
Tl1908,190.856 {477},In2306,ppm, .0009,.0007,76.51, .0014, .0004
U_3670,367.007 { 92},Y_3600,ppm, -.1522,.0731,48.05, -.2039, -.1005
V_2924,292.402 {115},Y_3600,ppm, .0026,.0000,.6050, .0027, .0026
W_2397,239.709 {140},Y_2243,ppm, .0109,.0738,677.4, .0631, -.0413
Zn2062,206.200 {463},In2306,ppm, .0439,.0000,.0754, .0440, .0439

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 256.12,1.5110,.58994,255.05,257.19
In2306,230.606 {446},Cts/S, 15252.,39.487,.25890,15224.,15280.
Y_2243,224.306 {450},Cts/S, 24568.,83.926,.34161,24509.,24627.
Y_3600,360.073 { 94},Cts/S, 209290.,674.87,.32246,209770.,208810.
Y_3710,371.030 { 91},Cts/S, 13124.,65.393,.49828,13078.,13170.

[Sample Header]
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Username=admin
Comment=
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Custom ID2=
Custom ID3=
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Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0002,.0002,118.4, .0000, .0003
Al3082,308.215 {109},In2306,ppm, -.0031,.0034,109.2, -.0007, -.0055
As1890,189.042 {478},Y_2243,ppm, -.0004,.0003,78.97, -.0002, -.0006
B_2496,249.678 {135},Y_3710,ppm, .0067,.0067,99.61, .0115, .0020
Ba4554,455.403 { 74},Y_3710,ppm, .0186,.0003,1.700, .0184, .0189
Be3130,313.042 {108},Y_3710,ppm, .0000,.0001,628.2, -.0000, .0001
Ca3158,315.887 {107},In2306,ppm, 41.68,.0780,.1872, 41.74, 41.62
Cd2288,228.802 {447},Y_2243,ppm, .0005,.0000,8.035, .0005, .0006
Co2286,228.616 {447},In2306,ppm, -.0001,.0002,192.1, -.0003, .0000
Cr2677,267.716 {126},Y_3600,ppm, .0013,.0000,2.397, .0013, .0013
Cu3247,324.754 {104},Y_3600,ppm, .0027,.0000,.0024, .0027, .0027
Fe2404,240.488 {140},In2306,ppm, .0222,.0036,16.18, .0197, .0248
K_7664,766.490 { 44},Y_3710,ppm, .3947,.0235,5.963, .3780, .4113
Li6707,670.784 { 50},Y_3710,ppm, .0005,.0005,85.21, .0002, .0009
Mg2790,279.079 {121},Y_3710,ppm, 7.450,.0697,.9356, 7.401, 7.500
Mn2576,257.610 {131},Y_3600,ppm, .0016,.0000,.6113, .0016, .0016
Mo2020,202.030 {467},Y_2243,ppm, .0001,.0004,334.7, -.0002, .0004
Na5895,589.592 { 57},Y_3710,ppm, 1.607,.0056,.3456, 1.603, 1.611
Ni2316,231.604 {445},In2306,ppm, .0001,.0004,408.7, .0004, -.0002
P_1782,178.284 {489},In2306,ppm, .0352,.0004,1.182, .0355, .0349
Pb2203,220.353 {453},In2306,ppm, -.0000,.0005,8096., -.0004, .0003
S_1820,182.034 {485},Y_2243,ppm, .6522,.0001,.0109, .6523, .6522
Sb2068,206.833 {463},Y_2243,ppm, .0003,.0003,111.9, .0005, .0001
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Se1960,196.090 {472},Y_2243,ppm, .0010,.0011,112.6, .0002, .0018
Si2516,251.611 {134},Y_3710,ppm, 3.121,.0159,.5108, 3.110, 3.132
Sn1899,189.989 {477},In2306,ppm, .0002,.0001,27.38, .0003, .0002
Sr4215,421.552 { 80},Y_3710,ppm, .2166,.0021,.9592, .2152, .2181
Ti3349,334.904 {101},Y_3600,ppm, .0007,.0000,5.457, .0007, .0007
Tl1908,190.856 {477},In2306,ppm, .0062,.0014,22.98, .0052, .0072
U_3670,367.007 { 92},Y_3600,ppm, -.1511,.0547,36.19, -.1897, -.1124
V_2924,292.402 {115},Y_3600,ppm, .0001,.0001,120.4, .0002, .0000
W_2397,239.709 {140},Y_2243,ppm, -.0172,.0024,13.82, -.0155, -.0189
Zn2062,206.200 {463},In2306,ppm, .0206,.0001,.4951, .0206, .0207

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 256.27,1.6406,.64018,255.11,257.43
In2306,230.606 {446},Cts/S, 15247.,8.7795,.05758,15241.,15254.
Y_2243,224.306 {450},Cts/S, 24348.,7.2810,.02990,24342.,24353.
Y_3600,360.073 { 94},Cts/S, 209770.,1444.0,.68838,210800.,208750.
Y_3710,371.030 { 91},Cts/S, 13089.,21.766,.16630,13104.,13073.

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Custom ID2=
Custom ID3=
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Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0009,.0001,9.885, .0010, .0009
Al3082,308.215 {109},In2306,ppm, .1409,.0223,15.84, .1251, .1567
As1890,189.042 {478},Y_2243,ppm, -.0002,.0018,851.4, .0010, -.0015
B_2496,249.678 {135},Y_3710,ppm, .0081,.0005,5.894, .0084, .0078
Ba4554,455.403 { 74},Y_3710,ppm, .0080,.0001,1.493, .0080, .0081
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,34.21, -.0001, -.0001
Ca3158,315.887 {107},In2306,ppm, 8.611,.1353,1.571, 8.516, 8.707
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,56.23, .0001, .0002
Co2286,228.616 {447},In2306,ppm, .0001,.0001,46.44, .0001, .0002
Cr2677,267.716 {126},Y_3600,ppm, .0003,.0001,37.20, .0004, .0003
Cu3247,324.754 {104},Y_3600,ppm, .0025,.0002,7.079, .0023, .0026
Fe2404,240.488 {140},In2306,ppm, .5324,.0221,4.159, .5168, .5481
K_7664,766.490 { 44},Y_3710,ppm, 1.572,.0024,.1498, 1.570, 1.574
Li6707,670.784 { 50},Y_3710,ppm, .0001,.0002,227.8, -.0001, .0002
Mg2790,279.079 {121},Y_3710,ppm, 1.945,.0233,1.196, 1.929, 1.961
Mn2576,257.610 {131},Y_3600,ppm, .0070,.0000,.4481, .0070, .0071
Mo2020,202.030 {467},Y_2243,ppm, .0004,.0002,43.32, .0005, .0002
Na5895,589.592 { 57},Y_3710,ppm, .1673,.0002,.1346, .1675, .1672
Ni2316,231.604 {445},In2306,ppm, .0005,.0001,25.46, .0004, .0006
P_1782,178.284 {489},In2306,ppm, .0349,.0012,3.382, .0340, .0357
Pb2203,220.353 {453},In2306,ppm, .0159,.0006,4.036, .0163, .0154
S_1820,182.034 {485},Y_2243,ppm, 1.261,.0027,.2164, 1.263, 1.259
Sb2068,206.833 {463},Y_2243,ppm, .0019,.0001,3.497, .0019, .0018
Se1960,196.090 {472},Y_2243,ppm, -.0010,.0017,174.4, .0002, -.0022
Si2516,251.611 {134},Y_3710,ppm, .6333,.0062,.9826, .6289, .6377
Sn1899,189.989 {477},In2306,ppm, .0002,.0001,48.69, .0002, .0001
Sr4215,421.552 { 80},Y_3710,ppm, .0570,.0005,.8353, .0566, .0573
Ti3349,334.904 {101},Y_3600,ppm, .0028,.0003,10.07, .0026, .0030
Tl1908,190.856 {477},In2306,ppm, .0049,.0029,58.87, .0069, .0028
U_3670,367.007 { 92},Y_3600,ppm, -.1100,.0022,1.959, -.1115, -.1085
V_2924,292.402 {115},Y_3600,ppm, .0006,.0000,5.981, .0005, .0006
W_2397,239.709 {140},Y_2243,ppm, -.0282,.0523,185.2, .0087, -.0652
Zn2062,206.200 {463},In2306,ppm, 2.808,.0100,.3566, 2.801, 2.815
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[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 258.22,3.8431,1.4883,260.94,255.51
In2306,230.606 {446},Cts/S, 15958.,20.756,.13006,15973.,15943.
Y_2243,224.306 {450},Cts/S, 24820.,19.415,.07822,24833.,24806.
Y_3600,360.073 { 94},Cts/S, 213660.,1117.6,.52306,214450.,212870.
Y_3710,371.030 { 91},Cts/S, 13105.,91.502,.69823,13170.,13040.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0003,.0000,6.337, .0003, .0003
Al3082,308.215 {109},In2306,ppm, .0035,.0031,87.53, .0013, .0057
As1890,189.042 {478},Y_2243,ppm, .0011,.0004,35.18, .0008, .0014
B_2496,249.678 {135},Y_3710,ppm, .0031,.0009,28.50, .0024, .0037
Ba4554,455.403 { 74},Y_3710,ppm, .0738,.0004,.5212, .0741, .0736
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,90.07, .0001, .0000
Ca3158,315.887 {107},In2306,ppm, 12.44,.0438,.3519, 12.41, 12.47
Cd2288,228.802 {447},Y_2243,ppm, .0004,.0000,3.660, .0003, .0004
Co2286,228.616 {447},In2306,ppm, .0009,.0001,7.265, .0009, .0010
Cr2677,267.716 {126},Y_3600,ppm, .0024,.0001,3.579, .0024, .0025
Cu3247,324.754 {104},Y_3600,ppm, .0104,.0004,4.131, .0108, .0101
Fe2404,240.488 {140},In2306,ppm, .0486,.0056,11.60, .0446, .0525
K_7664,766.490 { 44},Y_3710,ppm, .8167,.0221,2.711, .8323, .8010
Li6707,670.784 { 50},Y_3710,ppm, .0023,.0003,12.23, .0025, .0021
Mg2790,279.079 {121},Y_3710,ppm, 2.108,.0067,.3180, 2.103, 2.112
Mn2576,257.610 {131},Y_3600,ppm, .1807,.0004,.2223, .1810, .1804
Mo2020,202.030 {467},Y_2243,ppm, .0001,.0001,113.7, .0000, .0001
Na5895,589.592 { 57},Y_3710,ppm, 5.948,.0363,.6109, 5.973, 5.922
Ni2316,231.604 {445},In2306,ppm, .0107,.0000,.1816, .0107, .0107
P_1782,178.284 {489},In2306,ppm, .0813,.0004,.5051, .0810, .0816
Pb2203,220.353 {453},In2306,ppm, -.0007,.0008,119.3, -.0013, -.0001
S_1820,182.034 {485},Y_2243,ppm, .2025,.0008,.3946, .2030, .2019
Sb2068,206.833 {463},Y_2243,ppm, .0003,.0013,441.5, -.0006, .0012
Se1960,196.090 {472},Y_2243,ppm, .0009,.0024,274.3, .0026, -.0008
Si2516,251.611 {134},Y_3710,ppm, 2.916,.0105,.3606, 2.909, 2.924
Sn1899,189.989 {477},In2306,ppm, .0001,.0000,43.45, .0001, .0001
Sr4215,421.552 { 80},Y_3710,ppm, .0522,.0001,.1971, .0522, .0521
Ti3349,334.904 {101},Y_3600,ppm, .0004,.0002,60.49, .0002, .0005
Tl1908,190.856 {477},In2306,ppm, .0009,.0011,118.9, .0001, .0017
U_3670,367.007 { 92},Y_3600,ppm, -.1940,.0308,15.88, -.2158, -.1723
V_2924,292.402 {115},Y_3600,ppm, -.0001,.0000,3.052, -.0001, -.0001
W_2397,239.709 {140},Y_2243,ppm, -.0185,.0231,124.8, -.0022, -.0349
Zn2062,206.200 {463},In2306,ppm, .0538,.0006,1.180, .0534, .0543

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 257.00,1.3585,.52859,257.96,256.04
In2306,230.606 {446},Cts/S, 15678.,35.761,.22809,15704.,15653.
Y_2243,224.306 {450},Cts/S, 24651.,.11608,.00047,24651.,24650.
Y_3600,360.073 { 94},Cts/S, 212710.,87.737,.04125,212650.,212780.
Y_3710,371.030 { 91},Cts/S, 13105.,92.772,.70794,13039.,13170.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0000,.0002,690.1, .0001, -.0002
Al3082,308.215 {109},In2306,ppm, .1846,.0159,8.624, .1959, .1734
As1890,189.042 {478},Y_2243,ppm, .0044,.0017,37.61, .0033, .0056
B_2496,249.678 {135},Y_3710,ppm, .7973,.0092,1.149, .8037, .7908
Ba4554,455.403 { 74},Y_3710,ppm, .1853,.0013,.7281, .1844, .1863
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,914.7, -.0000, .0000
Ca3158,315.887 {107},In2306,ppm, 27.88,.4921,1.765, 27.54, 28.23
Cd2288,228.802 {447},Y_2243,ppm, .0003,.0001,23.91, .0003, .0004
Co2286,228.616 {447},In2306,ppm, .0004,.0000,.5909, .0004, .0004
Cr2677,267.716 {126},Y_3600,ppm, .0039,.0000,.7977, .0039, .0039
Cu3247,324.754 {104},Y_3600,ppm, .0029,.0002,6.832, .0028, .0030
Fe2404,240.488 {140},In2306,ppm, 7.720,.1403,1.818, 7.620, 7.819
K_7664,766.490 { 44},Y_3710,ppm, 47.89,.3068,.6405, 47.67, 48.11
Li6707,670.784 { 50},Y_3710,ppm, .0000,.0009,1934., -.0006, .0007
Mg2790,279.079 {121},Y_3710,ppm, 21.23,.2155,1.015, 21.08, 21.39
Mn2576,257.610 {131},Y_3600,ppm, .2675,.0002,.0747, .2674, .2677
Mo2020,202.030 {467},Y_2243,ppm, .0005,.0002,47.87, .0003, .0007
Na5895,589.592 { 57},Y_3710,ppm, 111.4,.5529,.4962, 111.0, 111.8
Ni2316,231.604 {445},In2306,ppm, .0035,.0001,2.630, .0035, .0034
P_1782,178.284 {489},In2306,ppm, .1406,.0016,1.116, .1395, .1417
Pb2203,220.353 {453},In2306,ppm, -.0006,.0005,78.24, -.0010, -.0003
S_1820,182.034 {485},Y_2243,ppm, 2.889,.0126,.4356, 2.898, 2.880
Sb2068,206.833 {463},Y_2243,ppm, -.0011,.0001,11.79, -.0012, -.0010
Se1960,196.090 {472},Y_2243,ppm, .0020,.0009,42.69, .0014, .0026
Si2516,251.611 {134},Y_3710,ppm, 3.106,.0184,.5919, 3.093, 3.119
Sn1899,189.989 {477},In2306,ppm, .0007,.0002,28.30, .0005, .0008
Sr4215,421.552 { 80},Y_3710,ppm, .2702,.0020,.7500, .2687, .2716
Ti3349,334.904 {101},Y_3600,ppm, .0029,.0002,6.355, .0028, .0031
Tl1908,190.856 {477},In2306,ppm, .0046,.0011,24.78, .0054, .0038
U_3670,367.007 { 92},Y_3600,ppm, -.0572,.0519,90.72, -.0205, -.0938
V_2924,292.402 {115},Y_3600,ppm, .0010,.0001,7.867, .0009, .0010
W_2397,239.709 {140},Y_2243,ppm, -.0172,.0273,158.4, .0021, -.0365
Zn2062,206.200 {463},In2306,ppm, .0193,.0001,.7399, .0192, .0194

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 247.69,3.5915,1.4500,250.23,245.15
In2306,230.606 {446},Cts/S, 13876.,20.592,.14840,13890.,13861.
Y_2243,224.306 {450},Cts/S, 23301.,20.668,.08870,23316.,23286.
Y_3600,360.073 { 94},Cts/S, 199560.,770.55,.38612,199020.,200110.
Y_3710,371.030 { 91},Cts/S, 12958.,81.293,.62737,13015.,12900.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0006,.0004,66.70, .0009, .0003
Al3082,308.215 {109},In2306,ppm, -.0117,.0087,73.72, -.0056, -.0179
As1890,189.042 {478},Y_2243,ppm, .0001,.0006,1091., .0005, -.0004
B_2496,249.678 {135},Y_3710,ppm, .0107,.0028,26.71, .0127, .0087
Ba4554,455.403 { 74},Y_3710,ppm, .0238,.0004,1.873, .0235, .0241
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0002,217.5, -.0002, .0000
Ca3158,315.887 {107},In2306,ppm, 58.34,.4705,.8064, 58.00, 58.67
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,43.58, .0000, .0001
Co2286,228.616 {447},In2306,ppm, .0000,.0001,454.5, -.0001, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0007,.0001,17.53, .0007, .0006
Cu3247,324.754 {104},Y_3600,ppm, .0024,.0000,.8497, .0025, .0024
Fe2404,240.488 {140},In2306,ppm, .0520,.0067,12.89, .0567, .0472
K_7664,766.490 { 44},Y_3710,ppm, .9488,.0188,1.984, .9355, .9621
Li6707,670.784 { 50},Y_3710,ppm, .0013,.0003,24.69, .0010, .0015
Mg2790,279.079 {121},Y_3710,ppm, 7.963,.0261,.3276, 7.981, 7.945
Mn2576,257.610 {131},Y_3600,ppm, .0053,.0000,.3758, .0053, .0053
Mo2020,202.030 {467},Y_2243,ppm, .0001,.0002,256.2, -.0001, .0003
Na5895,589.592 { 57},Y_3710,ppm, 2.942,.0117,.3983, 2.934, 2.950
Ni2316,231.604 {445},In2306,ppm, .0008,.0001,10.35, .0007, .0008
P_1782,178.284 {489},In2306,ppm, .0335,.0017,5.160, .0348, .0323
Pb2203,220.353 {453},In2306,ppm, .0007,.0002,24.24, .0006, .0008
S_1820,182.034 {485},Y_2243,ppm, 1.548,.0001,.0095, 1.548, 1.547
Sb2068,206.833 {463},Y_2243,ppm, .0017,.0001,3.521, .0017, .0016
Se1960,196.090 {472},Y_2243,ppm, -.0010,.0024,233.6, -.0028, .0007
Si2516,251.611 {134},Y_3710,ppm, 3.291,.0297,.9025, 3.270, 3.312
Sn1899,189.989 {477},In2306,ppm, .0001,.0001,69.68, .0001, .0002
Sr4215,421.552 { 80},Y_3710,ppm, .1749,.0016,.9423, .1737, .1761
Ti3349,334.904 {101},Y_3600,ppm, .0006,.0001,18.09, .0005, .0007
Tl1908,190.856 {477},In2306,ppm, .0037,.0001,1.756, .0037, .0038
U_3670,367.007 { 92},Y_3600,ppm, -.1331,.0123,9.265, -.1418, -.1244
V_2924,292.402 {115},Y_3600,ppm, .0001,.0001,163.2, .0001, -.0000
W_2397,239.709 {140},Y_2243,ppm, .0234,.0329,140.9, .0466, .0001
Zn2062,206.200 {463},In2306,ppm, .0189,.0001,.7133, .0190, .0188

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 254.53,1.0621,.41727,255.28,253.78
In2306,230.606 {446},Cts/S, 15013.,57.959,.38605,15054.,14972.
Y_2243,224.306 {450},Cts/S, 24147.,126.14,.52241,24236.,24057.
Y_3600,360.073 { 94},Cts/S, 208330.,493.64,.23695,208680.,207980.
Y_3710,371.030 { 91},Cts/S, 13052.,16.478,.12625,13064.,13041.

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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0000,.0003,1245., -.0003, .0002
Al3082,308.215 {109},In2306,ppm, .0008,.0037,442.4, -.0018, .0035
As1890,189.042 {478},Y_2243,ppm, .0006,.0001,10.40, .0006, .0005
B_2496,249.678 {135},Y_3710,ppm, .0046,.0049,106.4, .0080, .0011
Ba4554,455.403 { 74},Y_3710,ppm, .0110,.0002,2.161, .0109, .0112
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Be3130,313.042 {108},Y_3710,ppm, .0000,.0001,596.9, -.0000, .0001
Ca3158,315.887 {107},In2306,ppm, 45.80,.0448,.0979, 45.84, 45.77
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0000,12.97, .0002, .0002
Co2286,228.616 {447},In2306,ppm, -.0001,.0001,44.58, -.0001, -.0002
Cr2677,267.716 {126},Y_3600,ppm, .0008,.0002,29.67, .0006, .0010
Cu3247,324.754 {104},Y_3600,ppm, .0020,.0002,9.579, .0019, .0022
Fe2404,240.488 {140},In2306,ppm, .0240,.0026,11.01, .0259, .0222
K_7664,766.490 { 44},Y_3710,ppm, .3337,.0077,2.294, .3391, .3282
Li6707,670.784 { 50},Y_3710,ppm, -.0003,.0001,31.62, -.0004, -.0003
Mg2790,279.079 {121},Y_3710,ppm, 5.321,.0269,.5048, 5.340, 5.302
Mn2576,257.610 {131},Y_3600,ppm, .0049,.0000,.4226, .0049, .0049
Mo2020,202.030 {467},Y_2243,ppm, -.0000,.0004,2507., -.0003, .0002
Na5895,589.592 { 57},Y_3710,ppm, 1.515,.0206,1.363, 1.500, 1.530
Ni2316,231.604 {445},In2306,ppm, .0003,.0001,33.69, .0002, .0003
P_1782,178.284 {489},In2306,ppm, .0488,.0010,1.961, .0482, .0495
Pb2203,220.353 {453},In2306,ppm, -.0003,.0020,587.9, .0011, -.0018
S_1820,182.034 {485},Y_2243,ppm, .4192,.0010,.2499, .4199, .4185
Sb2068,206.833 {463},Y_2243,ppm, -.0011,.0006,53.69, -.0007, -.0015
Se1960,196.090 {472},Y_2243,ppm, .0001,.0002,389.7, -.0001, .0002
Si2516,251.611 {134},Y_3710,ppm, 3.125,.0053,.1695, 3.121, 3.129
Sn1899,189.989 {477},In2306,ppm, .0003,.0004,133.9, .0006, .0000
Sr4215,421.552 { 80},Y_3710,ppm, .0735,.0004,.5762, .0732, .0738
Ti3349,334.904 {101},Y_3600,ppm, .0008,.0002,21.40, .0007, .0009
Tl1908,190.856 {477},In2306,ppm, .0060,.0008,12.57, .0055, .0065
U_3670,367.007 { 92},Y_3600,ppm, -.1504,.0841,55.87, -.2099, -.0910
V_2924,292.402 {115},Y_3600,ppm, .0001,.0000,15.88, .0001, .0001
W_2397,239.709 {140},Y_2243,ppm, -.0100,.0074,74.33, -.0047, -.0153
Zn2062,206.200 {463},In2306,ppm, .0177,.0001,.7384, .0176, .0178

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 256.92,.72284,.28135,257.43,256.41
In2306,230.606 {446},Cts/S, 15303.,3.7422,.02445,15300.,15305.
Y_2243,224.306 {450},Cts/S, 24415.,38.423,.15738,24388.,24442.
Y_3600,360.073 { 94},Cts/S, 210370.,510.78,.24280,210730.,210010.
Y_3710,371.030 { 91},Cts/S, 13100.,50.387,.38463,13136.,13064.

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Custom ID2=
Custom ID3=
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Sample Type=Unk
Mode=CONC
CorrFactor=1.000
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0005,.0003,68.22, .0008, .0003
Al3082,308.215 {109},In2306,ppm, .0347,.0096,27.63, .0279, .0414
As1890,189.042 {478},Y_2243,ppm, -.0001,.0001,76.19, -.0000, -.0001
B_2496,249.678 {135},Y_3710,ppm, .0813,.0030,3.637, .0792, .0834
Ba4554,455.403 { 74},Y_3710,ppm, .0463,.0001,.1670, .0462, .0463
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0001,104.8, -.0001, -.0000
Ca3158,315.887 {107},In2306,ppm, 22.31,.1349,.6049, 22.21, 22.41
Cd2288,228.802 {447},Y_2243,ppm, .0003,.0001,27.10, .0003, .0004
Co2286,228.616 {447},In2306,ppm, -.0000,.0001,1359., -.0001, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0017,.0001,8.477, .0018, .0016
Cu3247,324.754 {104},Y_3600,ppm, .0178,.0004,2.396, .0181, .0175
Fe2404,240.488 {140},In2306,ppm, 1.219,.0059,.4824, 1.223, 1.215
K_7664,766.490 { 44},Y_3710,ppm, 10.65,.0519,.4874, 10.61, 10.68
Li6707,670.784 { 50},Y_3710,ppm, .0170,.0006,3.699, .0174, .0165
Mg2790,279.079 {121},Y_3710,ppm, 12.58,.0572,.4548, 12.54, 12.63
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Mn2576,257.610 {131},Y_3600,ppm, .0299,.0000,.0141, .0299, .0299
Mo2020,202.030 {467},Y_2243,ppm, .0021,.0001,6.545, .0020, .0022
Na5895,589.592 { 57},Y_3710,ppm, 51.69,.2238,.4329, 51.54, 51.85
Ni2316,231.604 {445},In2306,ppm, .0028,.0001,4.824, .0027, .0028
P_1782,178.284 {489},In2306,ppm, 11.10,.1325,1.193, 11.01, 11.19
Pb2203,220.353 {453},In2306,ppm, .0011,.0010,89.88, .0019, .0004
S_1820,182.034 {485},Y_2243,ppm, 17.99,.1834,1.020, 17.86, 18.12
Sb2068,206.833 {463},Y_2243,ppm, .0002,.0029,1707., -.0019, .0023
Se1960,196.090 {472},Y_2243,ppm, -.0009,.0012,136.3, -.0017, -.0000
Si2516,251.611 {134},Y_3710,ppm, 3.230,.0013,.0406, 3.229, 3.231
Sn1899,189.989 {477},In2306,ppm, .0005,.0001,18.59, .0004, .0006
Sr4215,421.552 { 80},Y_3710,ppm, .1702,.0005,.2655, .1699, .1706
Ti3349,334.904 {101},Y_3600,ppm, .0017,.0001,7.722, .0016, .0018
Tl1908,190.856 {477},In2306,ppm, .0041,.0012,29.59, .0032, .0049
U_3670,367.007 { 92},Y_3600,ppm, -.1085,.0314,28.98, -.0863, -.1307
V_2924,292.402 {115},Y_3600,ppm, .0001,.0001,60.86, .0001, .0001
W_2397,239.709 {140},Y_2243,ppm, -.0318,.0349,109.6, -.0072, -.0565
Zn2062,206.200 {463},In2306,ppm, .0685,.0006,.9403, .0680, .0690

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 253.13,1.6737,.66118,254.32,251.95
In2306,230.606 {446},Cts/S, 14653.,141.68,.96689,14753.,14553.
Y_2243,224.306 {450},Cts/S, 23927.,212.34,.88743,24077.,23777.
Y_3600,360.073 { 94},Cts/S, 204290.,630.23,.30850,204740.,203850.
Y_3710,371.030 { 91},Cts/S, 13115.,18.547,.14142,13128.,13102.

[Sample Header]
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Custom ID3=
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .4893,.0001,.0166, .4893, .4894
Al3082,308.215 {109},In2306,ppm, 20.12,.1321,.6565, 20.02, 20.21
As1890,189.042 {478},Y_2243,ppm, .9981,.0013,.1299, .9972, .9990
B_2496,249.678 {135},Y_3710,ppm, .9911,.0139,1.407, .9813, 1.001
Ba4554,455.403 { 74},Y_3710,ppm, 1.013,.0037,.3627, 1.010, 1.015
Be3130,313.042 {108},Y_3710,ppm, .9836,.0055,.5571, .9797, .9875
Ca3158,315.887 {107},In2306,ppm, 19.51,.1838,.9423, 19.38, 19.64
Cd2288,228.802 {447},Y_2243,ppm, .9800,.0004,.0361, .9798, .9803
Co2286,228.616 {447},In2306,ppm, .9889,.0034,.3457, .9913, .9865
Cr2677,267.716 {126},Y_3600,ppm, .9515,.0001,.0139, .9516, .9514
Cu3247,324.754 {104},Y_3600,ppm, .9728,.0036,.3717, .9703, .9754
Fe2404,240.488 {140},In2306,ppm, 19.83,.2034,1.026, 19.69, 19.97
K_7664,766.490 { 44},Y_3710,ppm, 19.53,.1211,.6202, 19.44, 19.61
Li6707,670.784 { 50},Y_3710,ppm, .9810,.0043,.4350, .9780, .9840
Mg2790,279.079 {121},Y_3710,ppm, 20.12,.2458,1.221, 19.95, 20.30
Mn2576,257.610 {131},Y_3600,ppm, .9921,.0000,.0021, .9921, .9921
Mo2020,202.030 {467},Y_2243,ppm, 1.002,.0040,.4039, 1.005, .9994
Na5895,589.592 { 57},Y_3710,ppm, 19.90,.0439,.2206, 19.87, 19.93
Ni2316,231.604 {445},In2306,ppm, 1.009,.0031,.3070, 1.011, 1.007
P_1782,178.284 {489},In2306,ppm, 10.33,.0597,.5780, 10.37, 10.29
Pb2203,220.353 {453},In2306,ppm, .9979,.0033,.3273, 1.000, .9956
S_1820,182.034 {485},Y_2243,ppm, 7.327,.0222,.3032, 7.343, 7.312
Sb2068,206.833 {463},Y_2243,ppm, 2.157,.0004,.0202, 2.157, 2.157
Se1960,196.090 {472},Y_2243,ppm, .9818,.0040,.4039, .9790, .9846
Si2516,251.611 {134},Y_3710,ppm, 8.768,.1219,1.390, 8.682, 8.854
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Sn1899,189.989 {477},In2306,ppm, 1.008,.0008,.0832, 1.009, 1.008
Sr4215,421.552 { 80},Y_3710,ppm, .9993,.0055,.5458, .9954, 1.003
Ti3349,334.904 {101},Y_3600,ppm, .9792,.0013,.1364, .9782, .9801
Tl1908,190.856 {477},In2306,ppm, 1.051,.0042,.3974, 1.054, 1.048
U_3670,367.007 { 92},Y_3600,ppm, .7554,.0366,4.844, .7812, .7295
V_2924,292.402 {115},Y_3600,ppm, .9669,.0000,.0030, .9669, .9668
W_2397,239.709 {140},Y_2243,ppm, 1.176,.0605,5.145, 1.134, 1.219
Zn2062,206.200 {463},In2306,ppm, .9952,.0056,.5656, .9992, .9912

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 250.76,2.2424,.89427,249.17,252.34
In2306,230.606 {446},Cts/S, 14561.,8.0305,.05515,14555.,14566.
Y_2243,224.306 {450},Cts/S, 24296.,26.575,.10938,24315.,24278.
Y_3600,360.073 { 94},Cts/S, 206020.,31.072,.01508,206000.,206050.
Y_3710,371.030 { 91},Cts/S, 12934.,54.975,.42504,12895.,12973.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0093,.0002,1.992, .0094, .0092
Al3082,308.215 {109},In2306,ppm, .1889,.0057,3.022, .1930, .1849
As1890,189.042 {478},Y_2243,ppm, .0202,.0007,3.279, .0197, .0207
B_2496,249.678 {135},Y_3710,ppm, .2127,.0027,1.256, .2108, .2146
Ba4554,455.403 { 74},Y_3710,ppm, .0225,.0001,.6567, .0226, .0224
Be3130,313.042 {108},Y_3710,ppm, .0113,.0003,2.358, .0111, .0115
Ca3158,315.887 {107},In2306,ppm, .9982,.0169,1.693, 1.010, .9862
Cd2288,228.802 {447},Y_2243,ppm, .0110,.0002,1.408, .0109, .0111
Co2286,228.616 {447},In2306,ppm, .0106,.0001,1.347, .0105, .0107
Cr2677,267.716 {126},Y_3600,ppm, .0108,.0002,1.767, .0109, .0106
Cu3247,324.754 {104},Y_3600,ppm, .0121,.0001,.5888, .0122, .0121
Fe2404,240.488 {140},In2306,ppm, .2140,.0084,3.937, .2200, .2081
K_7664,766.490 { 44},Y_3710,ppm, 1.071,.0212,1.979, 1.086, 1.056
Li6707,670.784 { 50},Y_3710,ppm, .0108,.0001,1.288, .0107, .0109
Mg2790,279.079 {121},Y_3710,ppm, 1.084,.0010,.0907, 1.083, 1.085
Mn2576,257.610 {131},Y_3600,ppm, .0111,.0000,.3884, .0110, .0111
Mo2020,202.030 {467},Y_2243,ppm, .0231,.0001,.3175, .0232, .0231
Na5895,589.592 { 57},Y_3710,ppm, 1.084,.0091,.8389, 1.090, 1.077
Ni2316,231.604 {445},In2306,ppm, .0110,.0001,.8587, .0110, .0109
P_1782,178.284 {489},In2306,ppm, .9780,.0061,.6227, .9737, .9823
Pb2203,220.353 {453},In2306,ppm, .0098,.0003,3.389, .0101, .0096
S_1820,182.034 {485},Y_2243,ppm, .3536,.0067,1.908, .3488, .3583
Sb2068,206.833 {463},Y_2243,ppm, .0550,.0014,2.459, .0540, .0559
Se1960,196.090 {472},Y_2243,ppm, .0234,.0006,2.648, .0239, .0230
Si2516,251.611 {134},Y_3710,ppm, .1663,.0005,.2909, .1667, .1660
Sn1899,189.989 {477},In2306,ppm, .0208,.0002,1.172, .0210, .0207
Sr4215,421.552 { 80},Y_3710,ppm, .0115,.0001,.8090, .0116, .0115
Ti3349,334.904 {101},Y_3600,ppm, .0108,.0002,1.659, .0110, .0107
Tl1908,190.856 {477},In2306,ppm, .0518,.0009,1.820, .0525, .0511
U_3670,367.007 { 92},Y_3600,ppm, -.0612,.0389,63.67, -.0887, -.0336
V_2924,292.402 {115},Y_3600,ppm, .0101,.0001,.5565, .0101, .0102
W_2397,239.709 {140},Y_2243,ppm, .0608,.0744,122.2, .0083, .1134
Zn2062,206.200 {463},In2306,ppm, .0184,.0001,.5728, .0184, .0185

[Internal Standards]
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Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 260.58,1.7330,.66505,259.36,261.81
In2306,230.606 {446},Cts/S, 16122.,22.471,.13938,16106.,16138.
Y_2243,224.306 {450},Cts/S, 25069.,48.275,.19257,25035.,25103.
Y_3600,360.073 { 94},Cts/S, 216310.,881.05,.40731,216930.,215690.
Y_3710,371.030 { 91},Cts/S, 13022.,20.516,.15755,13037.,13008.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0003,.0001,35.58, .0002, .0004
Al3082,308.215 {109},In2306,ppm, .0089,.0000,.0181, .0089, .0089
As1890,189.042 {478},Y_2243,ppm, .0005,.0006,124.3, .0001, .0009
B_2496,249.678 {135},Y_3710,ppm, .0004,.0013,326.6, .0013, -.0005
Ba4554,455.403 { 74},Y_3710,ppm, -.0003,.0001,45.11, -.0004, -.0002
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,1058., .0000, -.0000
Ca3158,315.887 {107},In2306,ppm, -.0117,.0011,9.225, -.0125, -.0109
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0000,218.8, .0000, -.0000
Co2286,228.616 {447},In2306,ppm, .0001,.0000,5.601, .0001, .0001
Cr2677,267.716 {126},Y_3600,ppm, -.0001,.0001,115.5, -.0000, -.0001
Cu3247,324.754 {104},Y_3600,ppm, .0017,.0002,10.28, .0018, .0016
Fe2404,240.488 {140},In2306,ppm, .0109,.0014,12.91, .0118, .0099
K_7664,766.490 { 44},Y_3710,ppm, .0020,.0030,147.0, -.0001, .0041
Li6707,670.784 { 50},Y_3710,ppm, -.0016,.0003,20.28, -.0014, -.0019
Mg2790,279.079 {121},Y_3710,ppm, .0132,.0158,119.2, .0244, .0021
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,8.049, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, .0001,.0002,114.6, .0000, .0002
Na5895,589.592 { 57},Y_3710,ppm, .0012,.0050,403.0, -.0023, .0048
Ni2316,231.604 {445},In2306,ppm, .0004,.0001,17.36, .0005, .0004
P_1782,178.284 {489},In2306,ppm, .0015,.0013,88.09, .0006, .0024
Pb2203,220.353 {453},In2306,ppm, -.0000,.0006,11520., .0004, -.0004
S_1820,182.034 {485},Y_2243,ppm, -.0062,.0009,14.08, -.0056, -.0068
Sb2068,206.833 {463},Y_2243,ppm, .0018,.0004,23.70, .0021, .0015
Se1960,196.090 {472},Y_2243,ppm, .0016,.0008,49.54, .0022, .0011
Si2516,251.611 {134},Y_3710,ppm, -.0123,.0006,4.591, -.0119, -.0127
Sn1899,189.989 {477},In2306,ppm, -.0005,.0000,4.709, -.0005, -.0005
Sr4215,421.552 { 80},Y_3710,ppm, .0002,.0001,30.72, .0002, .0003
Ti3349,334.904 {101},Y_3600,ppm, .0002,.0002,96.56, .0001, .0004
Tl1908,190.856 {477},In2306,ppm, .0167,.0030,18.27, .0188, .0145
U_3670,367.007 { 92},Y_3600,ppm, -.1681,.0097,5.751, -.1749, -.1612
V_2924,292.402 {115},Y_3600,ppm, .0001,.0001,189.0, -.0000, .0002
W_2397,239.709 {140},Y_2243,ppm, .0096,.0198,204.9, -.0043, .0236
Zn2062,206.200 {463},In2306,ppm, -.0014,.0001,3.906, -.0014, -.0014

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 257.12,1.0484,.40773,257.87,256.38
In2306,230.606 {446},Cts/S, 16321.,94.554,.57934,16254.,16388.
Y_2243,224.306 {450},Cts/S, 25034.,186.30,.74420,24903.,25166.
Y_3600,360.073 { 94},Cts/S, 213850.,200.46,.09374,213700.,213990.
Y_3710,371.030 { 91},Cts/S, 12906.,9.9610,.07718,12899.,12913.

[Sample Header]
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SampleName=600-194441-D-1-A
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0077,.0005,6.046, .0081, .0074
Al3082,308.215 {109},In2306,ppm, .1711,.0004,.2173, .1713, .1708
As1890,189.042 {478},Y_2243,ppm, .0024,.0018,72.22, .0037, .0012
B_2496,249.678 {135},Y_3710,ppm, .1157,.0058,4.975, .1198, .1117
Ba4554,455.403 { 74},Y_3710,ppm, .0479,.0003,.6006, .0477, .0481
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0001,144.5, .0000, -.0002
Ca3158,315.887 {107},In2306,ppm, 31.89,.4530,1.420, 31.57, 32.21
Cd2288,228.802 {447},Y_2243,ppm, .0004,.0001,16.31, .0004, .0005
Co2286,228.616 {447},In2306,ppm, .0009,.0001,10.28, .0010, .0008
Cr2677,267.716 {126},Y_3600,ppm, .0032,.0001,2.363, .0032, .0033
Cu3247,324.754 {104},Y_3600,ppm, .1190,.0005,.4466, .1186, .1194
Fe2404,240.488 {140},In2306,ppm, .4053,.0026,.6297, .4071, .4035
K_7664,766.490 { 44},Y_3710,ppm, 50.28,.2677,.5323, 50.09, 50.47
Li6707,670.784 { 50},Y_3710,ppm, .0220,.0008,3.534, .0225, .0214
Mg2790,279.079 {121},Y_3710,ppm, 16.92,.0755,.4464, 16.87, 16.97
Mn2576,257.610 {131},Y_3600,ppm, .0442,.0002,.4874, .0440, .0443
Mo2020,202.030 {467},Y_2243,ppm, .0085,.0002,2.632, .0084, .0087
Na5895,589.592 { 57},Y_3710,ppm, 169.6,3.204,1.889, 167.3, 171.9
Ni2316,231.604 {445},In2306,ppm, .0067,.0000,.5670, .0067, .0067
P_1782,178.284 {489},In2306,ppm, 15.30,.0232,.1517, 15.31, 15.28
Pb2203,220.353 {453},In2306,ppm, -.0019,.0008,39.33, -.0025, -.0014
S_1820,182.034 {485},Y_2243,ppm, 42.72,.0228,.0535, 42.73, 42.70
Sb2068,206.833 {463},Y_2243,ppm, -.0005,.0013,273.2, .0004, -.0014
Se1960,196.090 {472},Y_2243,ppm, .0033,.0029,86.27, .0053, .0013
Si2516,251.611 {134},Y_3710,ppm, 6.066,.0295,.4860, 6.045, 6.087
Sn1899,189.989 {477},In2306,ppm, .0011,.0001,5.910, .0011, .0010
Sr4215,421.552 { 80},Y_3710,ppm, .2102,.0006,.2814, .2098, .2106
Ti3349,334.904 {101},Y_3600,ppm, .0030,.0001,3.339, .0031, .0029
Tl1908,190.856 {477},In2306,ppm, .0109,.0000,.0151, .0109, .0109
U_3670,367.007 { 92},Y_3600,ppm, -.0165,.0029,17.85, -.0186, -.0144
V_2924,292.402 {115},Y_3600,ppm, .0002,.0004,201.3, -.0001, .0004
W_2397,239.709 {140},Y_2243,ppm, -.0708,.0552,78.08, -.0317, -.1098
Zn2062,206.200 {463},In2306,ppm, .2751,.0009,.3339, .2744, .2757

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 249.03,3.7732,1.5152,251.70,246.36
In2306,230.606 {446},Cts/S, 13397.,60.892,.45451,13440.,13354.
Y_2243,224.306 {450},Cts/S, 22511.,87.802,.39005,22573.,22449.
Y_3600,360.073 { 94},Cts/S, 193590.,275.22,.14217,193390.,193780.
Y_3710,371.030 { 91},Cts/S, 12951.,122.84,.94847,13038.,12864.

[Sample Header]
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Username=admin
Comment=
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Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0007,.0003,44.45, .0009, .0005
Al3082,308.215 {109},In2306,ppm, .0159,.0149,94.20, .0053, .0264
As1890,189.042 {478},Y_2243,ppm, .0018,.0018,100.9, .0005, .0031
B_2496,249.678 {135},Y_3710,ppm, .1096,.0048,4.352, .1130, .1063
Ba4554,455.403 { 74},Y_3710,ppm, .0440,.0005,1.053, .0443, .0437
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,50.38, -.0001, -.0001
Ca3158,315.887 {107},In2306,ppm, 21.42,.0432,.2017, 21.45, 21.39
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0000,9.178, .0002, .0002
Co2286,228.616 {447},In2306,ppm, -.0001,.0000,32.37, -.0001, -.0001
Cr2677,267.716 {126},Y_3600,ppm, .0008,.0000,6.249, .0008, .0007
Cu3247,324.754 {104},Y_3600,ppm, .0053,.0003,6.095, .0056, .0051
Fe2404,240.488 {140},In2306,ppm, .3713,.0024,.6538, .3696, .3730
K_7664,766.490 { 44},Y_3710,ppm, 5.349,.0368,.6883, 5.375, 5.323
Li6707,670.784 { 50},Y_3710,ppm, .0288,.0003,.9564, .0286, .0290
Mg2790,279.079 {121},Y_3710,ppm, 15.15,.0494,.3259, 15.19, 15.12
Mn2576,257.610 {131},Y_3600,ppm, .0184,.0000,.1721, .0184, .0184
Mo2020,202.030 {467},Y_2243,ppm, .0023,.0000,.0408, .0023, .0023
Na5895,589.592 { 57},Y_3710,ppm, 40.19,.1927,.4794, 40.33, 40.06
Ni2316,231.604 {445},In2306,ppm, .0132,.0001,.8463, .0131, .0132
P_1782,178.284 {489},In2306,ppm, .4691,.0003,.0551, .4689, .4693
Pb2203,220.353 {453},In2306,ppm, .0002,.0004,168.3, -.0000, .0005
S_1820,182.034 {485},Y_2243,ppm, 26.24,.0237,.0903, 26.25, 26.22
Sb2068,206.833 {463},Y_2243,ppm, .0014,.0005,38.58, .0017, .0010
Se1960,196.090 {472},Y_2243,ppm, .0021,.0021,100.2, .0035, .0006
Si2516,251.611 {134},Y_3710,ppm, 5.172,.0522,1.009, 5.209, 5.135
Sn1899,189.989 {477},In2306,ppm, .0000,.0003,3136., .0003, -.0002
Sr4215,421.552 { 80},Y_3710,ppm, .1749,.0010,.5882, .1756, .1742
Ti3349,334.904 {101},Y_3600,ppm, .0009,.0001,15.41, .0010, .0008
Tl1908,190.856 {477},In2306,ppm, -.0003,.0003,85.52, -.0005, -.0001
U_3670,367.007 { 92},Y_3600,ppm, -.1435,.0232,16.17, -.1271, -.1599
V_2924,292.402 {115},Y_3600,ppm, .0002,.0001,79.10, .0003, .0001
W_2397,239.709 {140},Y_2243,ppm, .0509,.0093,18.20, .0575, .0444
Zn2062,206.200 {463},In2306,ppm, .0300,.0002,.5728, .0299, .0302

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 253.99,.76112,.29966,253.45,254.53
In2306,230.606 {446},Cts/S, 14658.,6.3608,.04339,14663.,14654.
Y_2243,224.306 {450},Cts/S, 23680.,51.116,.21586,23644.,23716.
Y_3600,360.073 { 94},Cts/S, 205080.,276.62,.13489,205270.,204880.
Y_3710,371.030 { 91},Cts/S, 13123.,102.24,.77911,13050.,13195.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0004,.0001,27.75, .0003, .0005
Al3082,308.215 {109},In2306,ppm, 23.68,.0121,.0509, 23.67, 23.68
As1890,189.042 {478},Y_2243,ppm, .0015,.0006,39.05, .0019, .0011
B_2496,249.678 {135},Y_3710,ppm, .0478,.0074,15.45, .0426, .0531
Ba4554,455.403 { 74},Y_3710,ppm, .0321,.0005,1.446, .0318, .0324
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,183.2, .0001, -.0000
Ca3158,315.887 {107},In2306,ppm, 14.01,.0999,.7129, 13.94, 14.08
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Cd2288,228.802 {447},Y_2243,ppm, .0002,.0001,57.09, .0001, .0002
Co2286,228.616 {447},In2306,ppm, .0004,.0001,30.38, .0005, .0003
Cr2677,267.716 {126},Y_3600,ppm, .0039,.0000,.4180, .0039, .0039
Cu3247,324.754 {104},Y_3600,ppm, .1247,.0010,.7689, .1254, .1240
Fe2404,240.488 {140},In2306,ppm, 1.149,.0062,.5370, 1.145, 1.153
K_7664,766.490 { 44},Y_3710,ppm, 2.049,.0384,1.875, 2.022, 2.076
Li6707,670.784 { 50},Y_3710,ppm, .0075,.0005,7.108, .0079, .0071
Mg2790,279.079 {121},Y_3710,ppm, 5.987,.1434,2.395, 5.886, 6.089
Mn2576,257.610 {131},Y_3600,ppm, .0344,.0001,.2548, .0345, .0343
Mo2020,202.030 {467},Y_2243,ppm, .0012,.0002,20.41, .0010, .0014
Na5895,589.592 { 57},Y_3710,ppm, 259.2,3.797,1.465, 256.5, 261.9
Ni2316,231.604 {445},In2306,ppm, .2651,.0018,.6796, .2638, .2663
P_1782,178.284 {489},In2306,ppm, 15.68,.0939,.5985, 15.62, 15.75
Pb2203,220.353 {453},In2306,ppm, .0038,.0001,3.535, .0038, .0037
S_1820,182.034 {485},Y_2243,ppm, 108.0,.6717,.6217, 107.6, 108.5
Sb2068,206.833 {463},Y_2243,ppm, .0003,.0016,508.9, -.0008, .0014
Se1960,196.090 {472},Y_2243,ppm, -.0006,.0008,151.6, -.0012, .0000
Si2516,251.611 {134},Y_3710,ppm, 4.384,.0711,1.621, 4.334, 4.435
Sn1899,189.989 {477},In2306,ppm, .0005,.0002,33.36, .0004, .0007
Sr4215,421.552 { 80},Y_3710,ppm, .0876,.0004,.4942, .0873, .0879
Ti3349,334.904 {101},Y_3600,ppm, .0046,.0000,1.063, .0046, .0047
Tl1908,190.856 {477},In2306,ppm, .0025,.0020,82.48, .0010, .0039
U_3670,367.007 { 92},Y_3600,ppm, -.0863,.0822,95.18, -.0282, -.1444
V_2924,292.402 {115},Y_3600,ppm, .0006,.0001,19.67, .0005, .0007
W_2397,239.709 {140},Y_2243,ppm, -.0323,.0067,20.74, -.0371, -.0276
Zn2062,206.200 {463},In2306,ppm, .1563,.0009,.5689, .1557, .1569

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 244.48,1.7081,.69867,245.68,243.27
In2306,230.606 {446},Cts/S, 13312.,147.77,1.1100,13417.,13208.
Y_2243,224.306 {450},Cts/S, 23378.,249.33,1.0665,23554.,23202.
Y_3600,360.073 { 94},Cts/S, 197420.,138.49,.07015,197520.,197330.
Y_3710,371.030 { 91},Cts/S, 12894.,239.31,1.8559,13064.,12725.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0065,.0000,.4120, .0065, .0064
Al3082,308.215 {109},In2306,ppm, .8382,.0380,4.528, .8650, .8114
As1890,189.042 {478},Y_2243,ppm, .0006,.0005,77.80, .0003, .0010
B_2496,249.678 {135},Y_3710,ppm, 6.468,.0186,.2876, 6.455, 6.481
Ba4554,455.403 { 74},Y_3710,ppm, .2396,.0010,.4260, .2389, .2403
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,8.896, -.0001, -.0001
Ca3158,315.887 {107},In2306,ppm, 35.92,.0001,.0002, 35.92, 35.92
Cd2288,228.802 {447},Y_2243,ppm, .0021,.0002,9.208, .0020, .0023
Co2286,228.616 {447},In2306,ppm, .0214,.0004,1.803, .0216, .0211
Cr2677,267.716 {126},Y_3600,ppm, 146.9,1.784,1.215, 148.1, 145.6
Cu3247,324.754 {104},Y_3600,ppm, .0618,.0008,1.368, .0624, .0612
Fe2404,240.488 {140},In2306,ppm, 1.227,.0035,.2890, 1.230, 1.225
K_7664,766.490 { 44},Y_3710,ppm, 2.915,.0377,1.292, 2.941, 2.888
Li6707,670.784 { 50},Y_3710,ppm, .0241,.0002,.8817, .0242, .0239
Mg2790,279.079 {121},Y_3710,ppm, .8262,.0173,2.092, .8384, .8140
Mn2576,257.610 {131},Y_3600,ppm, 4.606,.0663,1.439, 4.653, 4.559
Mo2020,202.030 {467},Y_2243,ppm, .0144,.0009,6.517, .0150, .0137
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Na5895,589.592 { 57},Y_3710,ppm, 158.6,1.462,.9219, 159.6, 157.6
Ni2316,231.604 {445},In2306,ppm, .1444,.0015,1.026, .1454, .1433
P_1782,178.284 {489},In2306,ppm, .1376,.0073,5.271, .1324, .1427
Pb2203,220.353 {453},In2306,ppm, -.0031,.0008,26.66, -.0037, -.0025
S_1820,182.034 {485},Y_2243,ppm, .7193,.0218,3.025, .7039, .7347
Sb2068,206.833 {463},Y_2243,ppm, -.4611,.0067,1.444, -.4658, -.4564
Se1960,196.090 {472},Y_2243,ppm, -.0045,.0019,43.21, -.0031, -.0059
Si2516,251.611 {134},Y_3710,ppm, 1.582,.0307,1.938, 1.560, 1.604
Sn1899,189.989 {477},In2306,ppm, -.0022,.0006,25.88, -.0018, -.0026
Sr4215,421.552 { 80},Y_3710,ppm, .1134,.0002,.2157, .1133, .1136
Ti3349,334.904 {101},Y_3600,ppm, .0107,.0004,3.447, .0110, .0105
Tl1908,190.856 {477},In2306,ppm, .2055,.0048,2.335, .2089, .2021
U_3670,367.007 { 92},Y_3600,ppm, .0062,.0399,641.9, .0344, -.0220
V_2924,292.402 {115},Y_3600,ppm, .0211,.0002,1.075, .0213, .0210
W_2397,239.709 {140},Y_2243,ppm, -.0698,.0593,84.97, -.1118, -.0279
Zn2062,206.200 {463},In2306,ppm, 208.9,.2909,.1393, 208.7, 209.1

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 243.03,.95275,.39203,242.36,243.71
In2306,230.606 {446},Cts/S, 13062.,25.804,.19755,13080.,13044.
Y_2243,224.306 {450},Cts/S, 22618.,66.490,.29397,22665.,22571.
Y_3600,360.073 { 94},Cts/S, 191780.,2513.5,1.3106,190010.,193560.
Y_3710,371.030 { 91},Cts/S, 12593.,17.549,.13935,12605.,12581.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0007,.0004,53.81, .0004, .0010
Al3082,308.215 {109},In2306,ppm, .0709,.0118,16.61, .0626, .0792
As1890,189.042 {478},Y_2243,ppm, -.0031,.0003,9.262, -.0029, -.0033
B_2496,249.678 {135},Y_3710,ppm, .7218,.0086,1.187, .7278, .7157
Ba4554,455.403 { 74},Y_3710,ppm, .0259,.0003,1.028, .0261, .0257
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,50.36, -.0000, -.0001
Ca3158,315.887 {107},In2306,ppm, 3.984,.1111,2.788, 3.905, 4.062
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0001,82.36, .0001, .0002
Co2286,228.616 {447},In2306,ppm, .0024,.0000,1.834, .0024, .0023
Cr2677,267.716 {126},Y_3600,ppm, 19.88,.1096,.5513, 19.80, 19.95
Cu3247,324.754 {104},Y_3600,ppm, .0079,.0002,1.952, .0080, .0078
Fe2404,240.488 {140},In2306,ppm, .1358,.0094,6.945, .1291, .1425
K_7664,766.490 { 44},Y_3710,ppm, .3348,.0321,9.587, .3121, .3575
Li6707,670.784 { 50},Y_3710,ppm, .0024,.0002,8.730, .0023, .0026
Mg2790,279.079 {121},Y_3710,ppm, .1095,.0010,.9426, .1103, .1088
Mn2576,257.610 {131},Y_3600,ppm, .5251,.0003,.0534, .5249, .5253
Mo2020,202.030 {467},Y_2243,ppm, .0020,.0001,5.609, .0021, .0020
Na5895,589.592 { 57},Y_3710,ppm, 17.72,.0749,.4229, 17.67, 17.77
Ni2316,231.604 {445},In2306,ppm, .0156,.0000,.0589, .0156, .0156
P_1782,178.284 {489},In2306,ppm, .0132,.0009,6.626, .0138, .0125
Pb2203,220.353 {453},In2306,ppm, -.0010,.0008,77.60, -.0004, -.0015
S_1820,182.034 {485},Y_2243,ppm, .0770,.0027,3.562, .0750, .0789
Sb2068,206.833 {463},Y_2243,ppm, -.1010,.0014,1.367, -.1000, -.1020
Se1960,196.090 {472},Y_2243,ppm, .0018,.0000,2.499, .0019, .0018
Si2516,251.611 {134},Y_3710,ppm, .1512,.0018,1.182, .1525, .1500
Sn1899,189.989 {477},In2306,ppm, .0002,.0001,89.28, .0003, .0001
Sr4215,421.552 { 80},Y_3710,ppm, .0125,.0000,.3592, .0125, .0124
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Ti3349,334.904 {101},Y_3600,ppm, .0003,.0003,81.25, .0005, .0001
Tl1908,190.856 {477},In2306,ppm, .0299,.0035,11.71, .0323, .0274
U_3670,367.007 { 92},Y_3600,ppm, -.0957,.0679,70.94, -.0477, -.1436
V_2924,292.402 {115},Y_3600,ppm, .0022,.0000,1.562, .0023, .0022
W_2397,239.709 {140},Y_2243,ppm, .0343,.0146,42.41, .0240, .0446
Zn2062,206.200 {463},In2306,ppm, 102.4,.1508,.1473, 102.5, 102.3

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 254.05,5.4405,2.1415,257.89,250.20
In2306,230.606 {446},Cts/S, 15345.,38.308,.24965,15318.,15372.
Y_2243,224.306 {450},Cts/S, 24660.,21.521,.08727,24644.,24675.
Y_3600,360.073 { 94},Cts/S, 210510.,232.83,.11060,210340.,210670.
Y_3710,371.030 { 91},Cts/S, 12954.,66.380,.51244,13001.,12907.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0011,.0007,64.22, .0015, .0006
Al3082,308.215 {109},In2306,ppm, -.0213,.0146,68.35, -.0316, -.0110
As1890,189.042 {478},Y_2243,ppm, .0000,.0014,12360., -.0010, .0010
B_2496,249.678 {135},Y_3710,ppm, .0368,.0026,7.182, .0387, .0349
Ba4554,455.403 { 74},Y_3710,ppm, .0007,.0001,7.509, .0008, .0007
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0001,87.25, -.0002, -.0000
Ca3158,315.887 {107},In2306,ppm, .1313,.0064,4.903, .1358, .1267
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,32.15, .0001, .0000
Co2286,228.616 {447},In2306,ppm, .0001,.0003,392.7, .0003, -.0001
Cr2677,267.716 {126},Y_3600,ppm, .7228,.0018,.2507, .7216, .7241
Cu3247,324.754 {104},Y_3600,ppm, .0012,.0004,36.11, .0009, .0015
Fe2404,240.488 {140},In2306,ppm, -.0021,.0023,108.5, -.0005, -.0037
K_7664,766.490 { 44},Y_3710,ppm, .0123,.0103,84.36, .0196, .0049
Li6707,670.784 { 50},Y_3710,ppm, -.0007,.0005,72.04, -.0003, -.0010
Mg2790,279.079 {121},Y_3710,ppm, .0011,.0051,462.5, .0048, -.0025
Mn2576,257.610 {131},Y_3600,ppm, .0192,.0001,.7356, .0191, .0193
Mo2020,202.030 {467},Y_2243,ppm, .0002,.0002,72.81, .0003, .0001
Na5895,589.592 { 57},Y_3710,ppm, .6428,.0106,1.649, .6503, .6353
Ni2316,231.604 {445},In2306,ppm, .0007,.0001,16.70, .0008, .0006
P_1782,178.284 {489},In2306,ppm, .0014,.0008,58.72, .0019, .0008
Pb2203,220.353 {453},In2306,ppm, -.0002,.0001,52.98, -.0002, -.0003
S_1820,182.034 {485},Y_2243,ppm, .0089,.0001,1.204, .0090, .0089
Sb2068,206.833 {463},Y_2243,ppm, -.0041,.0018,44.24, -.0054, -.0028
Se1960,196.090 {472},Y_2243,ppm, .0025,.0008,34.40, .0019, .0031
Si2516,251.611 {134},Y_3710,ppm, -.0110,.0017,15.36, -.0122, -.0098
Sn1899,189.989 {477},In2306,ppm, .0003,.0006,221.2, .0007, -.0001
Sr4215,421.552 { 80},Y_3710,ppm, .0007,.0000,3.092, .0007, .0007
Ti3349,334.904 {101},Y_3600,ppm, -.0000,.0004,1416., -.0003, .0002
Tl1908,190.856 {477},In2306,ppm, .0098,.0008,7.810, .0103, .0092
U_3670,367.007 { 92},Y_3600,ppm, -.1213,.0023,1.931, -.1197, -.1230
V_2924,292.402 {115},Y_3600,ppm, -.0001,.0003,218.1, .0001, -.0004
W_2397,239.709 {140},Y_2243,ppm, .0119,.0437,366.5, .0428, -.0190
Zn2062,206.200 {463},In2306,ppm, 5.170,.0187,.3626, 5.157, 5.183

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 260.81,5.0407,1.9327,257.25,264.38
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In2306,230.606 {446},Cts/S, 16346.,52.096,.31871,16383.,16309.
Y_2243,224.306 {450},Cts/S, 25205.,37.034,.14693,25232.,25179.
Y_3600,360.073 { 94},Cts/S, 213810.,262.07,.12257,214000.,213630.
Y_3710,371.030 { 91},Cts/S, 13228.,144.99,1.0961,13125.,13330.

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Ag3280,328.068 {103},Y_3600,ppm, .2470,.0172,6.970, .2592, .2348
Al3082,308.215 {109},In2306,ppm, 18.98,.0815,.4295, 18.92, 19.04
As1890,189.042 {478},Y_2243,ppm, .9948,.0016,.1561, .9959, .9937
B_2496,249.678 {135},Y_3710,ppm, .5360,.0133,2.489, .5454, .5265
Ba4554,455.403 { 74},Y_3710,ppm, 1.144,.0057,.4973, 1.148, 1.140
Be3130,313.042 {108},Y_3710,ppm, .9668,.0054,.5620, .9707, .9630
Ca3158,315.887 {107},In2306,ppm, 214.1,.2265,.1058, 213.9, 214.2
Cd2288,228.802 {447},Y_2243,ppm, .9728,.0012,.1262, .9737, .9719
Co2286,228.616 {447},In2306,ppm, .9788,.0019,.1903, .9801, .9775
Cr2677,267.716 {126},Y_3600,ppm, .9154,.0619,6.758, .9592, .8717
Cu3247,324.754 {104},Y_3600,ppm, .9658,.0691,7.158, 1.015, .9169
Fe2404,240.488 {140},In2306,ppm, 17.38,.0816,.4694, 17.44, 17.32
K_7664,766.490 { 44},Y_3710,ppm, 11.56,.0881,.7623, 11.62, 11.50
Li6707,670.784 { 50},Y_3710,ppm, 1.001,.0051,.5116, 1.004, .9971
Mg2790,279.079 {121},Y_3710,ppm, 16.14,.1751,1.085, 16.26, 16.02
Mn2576,257.610 {131},Y_3600,ppm, 1.133,.0793,7.006, 1.189, 1.076
Mo2020,202.030 {467},Y_2243,ppm, .9770,.0029,.2983, .9791, .9750
Na5895,589.592 { 57},Y_3710,ppm, 16.18,.0713,.4405, 16.23, 16.13
Ni2316,231.604 {445},In2306,ppm, 1.010,.0010,.0990, 1.010, 1.009
P_1782,178.284 {489},In2306,ppm, 5.895,.0090,.1523, 5.901, 5.888
Pb2203,220.353 {453},In2306,ppm, 1.006,.0008,.0764, 1.005, 1.006
S_1820,182.034 {485},Y_2243,ppm, 5.366,.0231,.4307, 5.382, 5.349
Sb2068,206.833 {463},Y_2243,ppm, 1.623,.0003,.0207, 1.623, 1.622
Se1960,196.090 {472},Y_2243,ppm, .9706,.0038,.3921, .9733, .9679
Si2516,251.611 {134},Y_3710,ppm, 20.09,.1838,.9151, 20.22, 19.96
Sn1899,189.989 {477},In2306,ppm, .9951,.0023,.2352, .9967, .9934
Sr4215,421.552 { 80},Y_3710,ppm, 1.372,.0092,.6713, 1.378, 1.365
Ti3349,334.904 {101},Y_3600,ppm, 1.019,.0737,7.230, 1.071, .9673
Tl1908,190.856 {477},In2306,ppm, 1.113,.0004,.0365, 1.113, 1.113
U_3670,367.007 { 92},Y_3600,ppm, .4315,.0260,6.021, .4499, .4132
V_2924,292.402 {115},Y_3600,ppm, .9347,.0669,7.158, .9820, .8874
W_2397,239.709 {140},Y_2243,ppm, .5294,.0422,7.973, .5593, .4996
Zn2062,206.200 {463},In2306,ppm, 1.439,.0046,.3166, 1.442, 1.436

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 243.09,.00591,.00243,243.09,243.09
In2306,230.606 {446},Cts/S, 13578.,22.205,.16354,13562.,13594.
Y_2243,224.306 {450},Cts/S, 23438.,49.683,.21198,23403.,23473.
Y_3600,360.073 { 94},Cts/S, 203490.,11818.,5.8075,195130.,211850.
Y_3710,371.030 { 91},Cts/S, 12862.,96.268,.74848,12794.,12930.

[Sample Header]
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Username=admin
Comment=
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Custom ID2=
Custom ID3=
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Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0008,.0002,19.62, .0009, .0007
Al3082,308.215 {109},In2306,ppm, 1.702,.0266,1.566, 1.683, 1.721
As1890,189.042 {478},Y_2243,ppm, .0001,.0004,410.0, -.0002, .0004
B_2496,249.678 {135},Y_3710,ppm, .0121,.0032,26.13, .0099, .0144
Ba4554,455.403 { 74},Y_3710,ppm, .0316,.0005,1.595, .0312, .0319
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,41.17, .0002, .0001
Ca3158,315.887 {107},In2306,ppm, 42.32,.0584,.1380, 42.28, 42.36
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0000,20.67, .0002, .0002
Co2286,228.616 {447},In2306,ppm, .0007,.0000,5.562, .0008, .0007
Cr2677,267.716 {126},Y_3600,ppm, .0055,.0001,2.363, .0056, .0054
Cu3247,324.754 {104},Y_3600,ppm, .0061,.0003,5.121, .0059, .0063
Fe2404,240.488 {140},In2306,ppm, 1.531,.0217,1.420, 1.515, 1.546
K_7664,766.490 { 44},Y_3710,ppm, .3361,.0134,4.000, .3266, .3457
Li6707,670.784 { 50},Y_3710,ppm, .0019,.0011,57.21, .0027, .0012
Mg2790,279.079 {121},Y_3710,ppm, 1.406,.0151,1.074, 1.417, 1.395
Mn2576,257.610 {131},Y_3600,ppm, .0447,.0001,.1742, .0447, .0446
Mo2020,202.030 {467},Y_2243,ppm, .0014,.0002,14.41, .0016, .0013
Na5895,589.592 { 57},Y_3710,ppm, 1.272,.0117,.9225, 1.263, 1.280
Ni2316,231.604 {445},In2306,ppm, .0036,.0001,3.549, .0037, .0035
P_1782,178.284 {489},In2306,ppm, .0406,.0005,1.296, .0410, .0402
Pb2203,220.353 {453},In2306,ppm, .0045,.0001,2.724, .0045, .0044
S_1820,182.034 {485},Y_2243,ppm, .3040,.0019,.6111, .3053, .3027
Sb2068,206.833 {463},Y_2243,ppm, .0026,.0001,4.190, .0027, .0025
Se1960,196.090 {472},Y_2243,ppm, .0008,.0033,391.2, -.0015, .0032
Si2516,251.611 {134},Y_3710,ppm, 2.515,.0044,.1744, 2.512, 2.518
Sn1899,189.989 {477},In2306,ppm, .0003,.0000,12.33, .0003, .0003
Sr4215,421.552 { 80},Y_3710,ppm, .0839,.0012,1.426, .0831, .0848
Ti3349,334.904 {101},Y_3600,ppm, .0188,.0001,.2831, .0188, .0187
Tl1908,190.856 {477},In2306,ppm, .0048,.0005,10.82, .0051, .0044
U_3670,367.007 { 92},Y_3600,ppm, -.0567,.0289,51.08, -.0362, -.0771
V_2924,292.402 {115},Y_3600,ppm, .0035,.0001,1.725, .0035, .0036
W_2397,239.709 {140},Y_2243,ppm, .0098,.0184,186.9, .0228, -.0032
Zn2062,206.200 {463},In2306,ppm, .1980,.0009,.4537, .1973, .1986

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 254.00,4.5767,1.8018,250.76,257.24
In2306,230.606 {446},Cts/S, 15342.,1.7300,.01128,15343.,15341.
Y_2243,224.306 {450},Cts/S, 24636.,9.9058,.04021,24643.,24629.
Y_3600,360.073 { 94},Cts/S, 210510.,100.04,.04752,210580.,210440.
Y_3710,371.030 { 91},Cts/S, 12813.,163.99,1.2798,12697.,12929.

[Sample Header]
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Custom ID2=
Custom ID3=
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[Results]
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Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0007,.0000,4.368, .0007, .0007
Al3082,308.215 {109},In2306,ppm, -.0038,.0126,330.5, -.0128, .0051
As1890,189.042 {478},Y_2243,ppm, .0031,.0002,7.511, .0029, .0033
B_2496,249.678 {135},Y_3710,ppm, .0733,.0037,5.006, .0759, .0707
Ba4554,455.403 { 74},Y_3710,ppm, .3997,.0040,.9908, .3969, .4025
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,46.19, .0002, .0001
Ca3158,315.887 {107},In2306,ppm, 287.7,3.338,1.160, 285.3, 290.1
Cd2288,228.802 {447},Y_2243,ppm, .0004,.0001,35.37, .0005, .0003
Co2286,228.616 {447},In2306,ppm, .0011,.0002,13.93, .0012, .0010
Cr2677,267.716 {126},Y_3600,ppm, .0016,.0001,5.460, .0017, .0015
Cu3247,324.754 {104},Y_3600,ppm, .0083,.0007,8.756, .0088, .0078
Fe2404,240.488 {140},In2306,ppm, .0269,.0153,56.77, .0377, .0161
K_7664,766.490 { 44},Y_3710,ppm, .9677,.0075,.7773, .9730, .9624
Li6707,670.784 { 50},Y_3710,ppm, .0384,.0008,2.148, .0378, .0390
Mg2790,279.079 {121},Y_3710,ppm, 54.31,.4801,.8841, 53.97, 54.64
Mn2576,257.610 {131},Y_3600,ppm, .1969,.0013,.6696, .1979, .1960
Mo2020,202.030 {467},Y_2243,ppm, .0002,.0001,46.27, .0002, .0003
Na5895,589.592 { 57},Y_3710,ppm, 245.5,.7872,.3207, 244.9, 246.0
Ni2316,231.604 {445},In2306,ppm, .0125,.0001,.6218, .0124, .0126
P_1782,178.284 {489},In2306,ppm, .3863,.0081,2.095, .3806, .3921
Pb2203,220.353 {453},In2306,ppm, .0016,.0008,53.59, .0010, .0022
S_1820,182.034 {485},Y_2243,ppm, 12.88,.0481,.3737, 12.91, 12.84
Sb2068,206.833 {463},Y_2243,ppm, .0017,.0015,88.76, .0028, .0006
Se1960,196.090 {472},Y_2243,ppm, -.0003,.0014,538.1, .0007, -.0013
Si2516,251.611 {134},Y_3710,ppm, 11.33,.0809,.7137, 11.27, 11.39
Sn1899,189.989 {477},In2306,ppm, -.0002,.0003,122.7, -.0004, -.0000
Sr4215,421.552 { 80},Y_3710,ppm, 1.222,.0108,.8797, 1.215, 1.230
Ti3349,334.904 {101},Y_3600,ppm, .0017,.0001,6.109, .0017, .0018
Tl1908,190.856 {477},In2306,ppm, .0031,.0015,47.62, .0041, .0020
U_3670,367.007 { 92},Y_3600,ppm, -.0022,.0035,159.2, .0003, -.0047
V_2924,292.402 {115},Y_3600,ppm, .0007,.0000,1.570, .0007, .0007
W_2397,239.709 {140},Y_2243,ppm, .0328,.0183,55.93, .0198, .0457
Zn2062,206.200 {463},In2306,ppm, .0378,.0003,.8103, .0380, .0376

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 243.15,2.7377,1.1260,245.08,241.21
In2306,230.606 {446},Cts/S, 12600.,22.481,.17841,12616.,12584.
Y_2243,224.306 {450},Cts/S, 21769.,33.671,.15467,21793.,21745.
Y_3600,360.073 { 94},Cts/S, 187580.,863.34,.46026,186970.,188190.
Y_3710,371.030 { 91},Cts/S, 12565.,130.16,1.0360,12657.,12473.

[Sample Header]
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Custom ID3=
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0003,.0003,97.92, -.0001, -.0005
Al3082,308.215 {109},In2306,ppm, .0034,.0036,103.7, .0009, .0059
As1890,189.042 {478},Y_2243,ppm, .0016,.0031,192.9, .0038, -.0006
B_2496,249.678 {135},Y_3710,ppm, .0749,.0008,1.022, .0754, .0743
Ba4554,455.403 { 74},Y_3710,ppm, .3964,.0017,.4378, .3952, .3976
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,207.6, -.0000, .0000
Ca3158,315.887 {107},In2306,ppm, 291.7,1.698,.5821, 290.5, 292.9
Cd2288,228.802 {447},Y_2243,ppm, .0006,.0000,1.634, .0006, .0006
Co2286,228.616 {447},In2306,ppm, .0012,.0001,6.354, .0013, .0011
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Cr2677,267.716 {126},Y_3600,ppm, .0012,.0002,16.21, .0011, .0014
Cu3247,324.754 {104},Y_3600,ppm, .0076,.0003,4.244, .0074, .0078
Fe2404,240.488 {140},In2306,ppm, .0177,.0015,8.520, .0188, .0167
K_7664,766.490 { 44},Y_3710,ppm, .9415,.0002,.0192, .9414, .9416
Li6707,670.784 { 50},Y_3710,ppm, .0393,.0012,2.988, .0384, .0401
Mg2790,279.079 {121},Y_3710,ppm, 53.77,.1016,.1890, 53.70, 53.84
Mn2576,257.610 {131},Y_3600,ppm, .1959,.0003,.1498, .1961, .1957
Mo2020,202.030 {467},Y_2243,ppm, .0001,.0005,519.8, .0005, -.0003
Na5895,589.592 { 57},Y_3710,ppm, 248.2,5.287,2.131, 244.4, 251.9
Ni2316,231.604 {445},In2306,ppm, .0126,.0006,4.701, .0130, .0122
P_1782,178.284 {489},In2306,ppm, .3798,.0105,2.776, .3723, .3872
Pb2203,220.353 {453},In2306,ppm, -.0001,.0019,2140., .0012, -.0014
S_1820,182.034 {485},Y_2243,ppm, 12.76,.0157,.1232, 12.75, 12.78
Sb2068,206.833 {463},Y_2243,ppm, -.0002,.0006,306.4, .0002, -.0006
Se1960,196.090 {472},Y_2243,ppm, .0010,.0019,181.6, -.0003, .0024
Si2516,251.611 {134},Y_3710,ppm, 11.26,.0501,.4445, 11.23, 11.30
Sn1899,189.989 {477},In2306,ppm, -.0001,.0001,142.9, -.0002, .0000
Sr4215,421.552 { 80},Y_3710,ppm, 1.215,.0062,.5138, 1.210, 1.219
Ti3349,334.904 {101},Y_3600,ppm, .0019,.0005,25.11, .0022, .0015
Tl1908,190.856 {477},In2306,ppm, -.0010,.0031,313.8, -.0031, .0012
U_3670,367.007 { 92},Y_3600,ppm, .0277,.0690,249.7, .0765, -.0212
V_2924,292.402 {115},Y_3600,ppm, .0004,.0001,39.17, .0003, .0005
W_2397,239.709 {140},Y_2243,ppm, .0519,.0511,98.35, .0158, .0880
Zn2062,206.200 {463},In2306,ppm, .0322,.0001,.3907, .0323, .0321

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 236.04,.87831,.37211,236.66,235.41
In2306,230.606 {446},Cts/S, 12577.,17.820,.14168,12590.,12564.
Y_2243,224.306 {450},Cts/S, 21757.,21.608,.09931,21773.,21742.
Y_3600,360.073 { 94},Cts/S, 186460.,530.19,.28434,186090.,186840.
Y_3710,371.030 { 91},Cts/S, 12446.,.38236,.00307,12446.,12446.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .4868,.0002,.0467, .4867, .4870
Al3082,308.215 {109},In2306,ppm, 20.20,.2540,1.257, 20.38, 20.02
As1890,189.042 {478},Y_2243,ppm, 1.002,.0026,.2556, 1.004, .9999
B_2496,249.678 {135},Y_3710,ppm, .9993,.0062,.6194, .9949, 1.004
Ba4554,455.403 { 74},Y_3710,ppm, 1.018,.0039,.3845, 1.020, 1.015
Be3130,313.042 {108},Y_3710,ppm, .9814,.0018,.1846, .9827, .9801
Ca3158,315.887 {107},In2306,ppm, 19.59,.1194,.6093, 19.67, 19.50
Cd2288,228.802 {447},Y_2243,ppm, .9842,.0017,.1709, .9854, .9831
Co2286,228.616 {447},In2306,ppm, .9933,.0017,.1753, .9946, .9921
Cr2677,267.716 {126},Y_3600,ppm, .9507,.0028,.2912, .9487, .9526
Cu3247,324.754 {104},Y_3600,ppm, .9742,.0007,.0681, .9737, .9747
Fe2404,240.488 {140},In2306,ppm, 19.77,.1807,.9140, 19.90, 19.64
K_7664,766.490 { 44},Y_3710,ppm, 19.80,.0089,.0450, 19.79, 19.81
Li6707,670.784 { 50},Y_3710,ppm, .9932,.0050,.5026, .9967, .9896
Mg2790,279.079 {121},Y_3710,ppm, 20.06,.0490,.2444, 20.02, 20.09
Mn2576,257.610 {131},Y_3600,ppm, .9869,.0028,.2798, .9850, .9889
Mo2020,202.030 {467},Y_2243,ppm, 1.006,.0017,.1706, 1.007, 1.005
Na5895,589.592 { 57},Y_3710,ppm, 20.07,.1023,.5097, 20.14, 20.00
Ni2316,231.604 {445},In2306,ppm, 1.015,.0036,.3541, 1.017, 1.012
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P_1782,178.284 {489},In2306,ppm, 10.56,.0223,.2114, 10.58, 10.54
Pb2203,220.353 {453},In2306,ppm, 1.006,.0045,.4486, 1.009, 1.003
S_1820,182.034 {485},Y_2243,ppm, 7.364,.0181,.2455, 7.377, 7.351
Sb2068,206.833 {463},Y_2243,ppm, 2.162,.0009,.0402, 2.163, 2.162
Se1960,196.090 {472},Y_2243,ppm, .9892,.0023,.2305, .9876, .9908
Si2516,251.611 {134},Y_3710,ppm, 8.879,.0398,.4477, 8.851, 8.907
Sn1899,189.989 {477},In2306,ppm, 1.018,.0016,.1596, 1.019, 1.016
Sr4215,421.552 { 80},Y_3710,ppm, 1.006,.0032,.3170, 1.008, 1.004
Ti3349,334.904 {101},Y_3600,ppm, .9752,.0029,.2962, .9732, .9773
Tl1908,190.856 {477},In2306,ppm, 1.054,.0037,.3556, 1.052, 1.057
U_3670,367.007 { 92},Y_3600,ppm, .8279,.0419,5.057, .8575, .7983
V_2924,292.402 {115},Y_3600,ppm, .9642,.0017,.1738, .9630, .9653
W_2397,239.709 {140},Y_2243,ppm, 1.221,.0111,.9060, 1.213, 1.229
Zn2062,206.200 {463},In2306,ppm, 1.006,.0022,.2208, 1.007, 1.004

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 248.84,3.5409,1.4230,246.34,251.35
In2306,230.606 {446},Cts/S, 14464.,22.619,.15638,14448.,14480.
Y_2243,224.306 {450},Cts/S, 24164.,40.702,.16844,24135.,24193.
Y_3600,360.073 { 94},Cts/S, 205600.,106.80,.05195,205680.,205530.
Y_3710,371.030 { 91},Cts/S, 12808.,33.221,.25939,12784.,12831.

[Sample Header]
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Mode=CONC
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0103,.0006,5.875, .0098, .0107
Al3082,308.215 {109},In2306,ppm, .1943,.0010,.5126, .1950, .1936
As1890,189.042 {478},Y_2243,ppm, .0209,.0001,.6935, .0210, .0208
B_2496,249.678 {135},Y_3710,ppm, .2145,.0065,3.016, .2099, .2190
Ba4554,455.403 { 74},Y_3710,ppm, .0224,.0000,.0026, .0224, .0224
Be3130,313.042 {108},Y_3710,ppm, .0111,.0000,.2503, .0111, .0111
Ca3158,315.887 {107},In2306,ppm, 1.016,.0180,1.769, 1.029, 1.003
Cd2288,228.802 {447},Y_2243,ppm, .0109,.0000,.1204, .0109, .0109
Co2286,228.616 {447},In2306,ppm, .0107,.0001,.6274, .0106, .0107
Cr2677,267.716 {126},Y_3600,ppm, .0112,.0002,1.614, .0113, .0111
Cu3247,324.754 {104},Y_3600,ppm, .0120,.0001,.6503, .0119, .0120
Fe2404,240.488 {140},In2306,ppm, .2190,.0105,4.806, .2265, .2116
K_7664,766.490 { 44},Y_3710,ppm, 1.062,.0094,.8818, 1.069, 1.056
Li6707,670.784 { 50},Y_3710,ppm, .0107,.0002,2.044, .0105, .0109
Mg2790,279.079 {121},Y_3710,ppm, 1.057,.0003,.0280, 1.057, 1.057
Mn2576,257.610 {131},Y_3600,ppm, .0111,.0001,.7926, .0110, .0112
Mo2020,202.030 {467},Y_2243,ppm, .0234,.0004,1.712, .0231, .0236
Na5895,589.592 { 57},Y_3710,ppm, 1.098,.0087,.7956, 1.104, 1.092
Ni2316,231.604 {445},In2306,ppm, .0113,.0001,1.289, .0112, .0114
P_1782,178.284 {489},In2306,ppm, 1.005,.0018,.1806, 1.003, 1.006
Pb2203,220.353 {453},In2306,ppm, .0106,.0003,3.215, .0104, .0109
S_1820,182.034 {485},Y_2243,ppm, .3550,.0027,.7704, .3569, .3531
Sb2068,206.833 {463},Y_2243,ppm, .0570,.0000,.0620, .0570, .0570
Se1960,196.090 {472},Y_2243,ppm, .0215,.0016,7.323, .0204, .0226
Si2516,251.611 {134},Y_3710,ppm, .1518,.0037,2.448, .1545, .1492
Sn1899,189.989 {477},In2306,ppm, .0213,.0000,.0685, .0213, .0213
Sr4215,421.552 { 80},Y_3710,ppm, .0115,.0000,.3003, .0115, .0114
Ti3349,334.904 {101},Y_3600,ppm, .0110,.0001,.9917, .0109, .0111
Tl1908,190.856 {477},In2306,ppm, .0481,.0016,3.273, .0492, .0470
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U_3670,367.007 { 92},Y_3600,ppm, -.0858,.0381,44.45, -.0588, -.1128
V_2924,292.402 {115},Y_3600,ppm, .0105,.0002,1.929, .0106, .0103
W_2397,239.709 {140},Y_2243,ppm, .0365,.0370,101.5, .0627, .0103
Zn2062,206.200 {463},In2306,ppm, .0202,.0001,.3178, .0202, .0203

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 257.09,2.6204,1.0193,255.23,258.94
In2306,230.606 {446},Cts/S, 16021.,63.978,.39933,16067.,15976.
Y_2243,224.306 {450},Cts/S, 24896.,86.118,.34592,24957.,24835.
Y_3600,360.073 { 94},Cts/S, 214870.,132.77,.06179,214770.,214960.
Y_3710,371.030 { 91},Cts/S, 13100.,134.91,1.0298,13004.,13195.

[Sample Header]
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Custom ID3=
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Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0010,.0001,8.685, .0011, .0010
Al3082,308.215 {109},In2306,ppm, -.0146,.0125,85.92, -.0234, -.0057
As1890,189.042 {478},Y_2243,ppm, -.0009,.0004,40.20, -.0012, -.0006
B_2496,249.678 {135},Y_3710,ppm, .0031,.0034,109.8, .0054, .0007
Ba4554,455.403 { 74},Y_3710,ppm, -.0003,.0001,39.74, -.0002, -.0004
Be3130,313.042 {108},Y_3710,ppm, .0000,.0001,354.8, .0001, -.0000
Ca3158,315.887 {107},In2306,ppm, -.0053,.0017,31.21, -.0041, -.0065
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0000,37.80, .0000, .0000
Co2286,228.616 {447},In2306,ppm, .0000,.0000,121.9, .0000, .0000
Cr2677,267.716 {126},Y_3600,ppm, -.0000,.0001,613.4, -.0001, .0001
Cu3247,324.754 {104},Y_3600,ppm, .0009,.0000,3.796, .0009, .0010
Fe2404,240.488 {140},In2306,ppm, .0040,.0018,44.96, .0053, .0027
K_7664,766.490 { 44},Y_3710,ppm, .0185,.0009,4.814, .0192, .0179
Li6707,670.784 { 50},Y_3710,ppm, -.0010,.0004,40.27, -.0007, -.0013
Mg2790,279.079 {121},Y_3710,ppm, .0148,.0350,236.2, -.0099, .0396
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,14.53, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, .0002,.0002,92.51, .0001, .0003
Na5895,589.592 { 57},Y_3710,ppm, .0195,.0043,21.97, .0165, .0226
Ni2316,231.604 {445},In2306,ppm, .0002,.0000,6.909, .0002, .0003
P_1782,178.284 {489},In2306,ppm, .0111,.0005,4.487, .0114, .0107
Pb2203,220.353 {453},In2306,ppm, -.0006,.0002,35.31, -.0004, -.0007
S_1820,182.034 {485},Y_2243,ppm, -.0015,.0033,221.7, -.0038, .0008
Sb2068,206.833 {463},Y_2243,ppm, .0009,.0011,116.9, .0002, .0017
Se1960,196.090 {472},Y_2243,ppm, -.0018,.0016,88.48, -.0030, -.0007
Si2516,251.611 {134},Y_3710,ppm, -.0119,.0099,83.55, -.0189, -.0049
Sn1899,189.989 {477},In2306,ppm, -.0007,.0001,11.69, -.0006, -.0008
Sr4215,421.552 { 80},Y_3710,ppm, .0001,.0001,89.02, .0001, .0000
Ti3349,334.904 {101},Y_3600,ppm, .0001,.0001,74.86, .0000, .0002
Tl1908,190.856 {477},In2306,ppm, .0130,.0009,6.813, .0136, .0124
U_3670,367.007 { 92},Y_3600,ppm, -.1696,.0436,25.71, -.1387, -.2004
V_2924,292.402 {115},Y_3600,ppm, -.0000,.0003,647.4, .0002, -.0002
W_2397,239.709 {140},Y_2243,ppm, -.0532,.0594,111.7, -.0953, -.0112
Zn2062,206.200 {463},In2306,ppm, -.0004,.0001,27.74, -.0004, -.0005

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 257.90,.82096,.31833,257.32,258.48
In2306,230.606 {446},Cts/S, 16266.,21.648,.13309,16281.,16251.
Y_2243,224.306 {450},Cts/S, 24865.,71.556,.28777,24916.,24815.
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Y_3600,360.073 { 94},Cts/S, 214920.,154.56,.07192,215030.,214810.
Y_3710,371.030 { 91},Cts/S, 12896.,10.468,.08117,12904.,12889.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0009,.0003,37.02, .0012, .0007
Al3082,308.215 {109},In2306,ppm, -.0132,.0145,110.0, -.0235, -.0029
As1890,189.042 {478},Y_2243,ppm, -.0013,.0002,18.06, -.0012, -.0015
B_2496,249.678 {135},Y_3710,ppm, .0026,.0016,60.83, .0038, .0015
Ba4554,455.403 { 74},Y_3710,ppm, -.0001,.0001,204.9, -.0002, .0000
Be3130,313.042 {108},Y_3710,ppm, .0000,.0001,157.5, -.0000, .0001
Ca3158,315.887 {107},In2306,ppm, .0058,.0011,18.59, .0065, .0050
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0001,31.33, .0002, .0002
Co2286,228.616 {447},In2306,ppm, -.0002,.0000,27.44, -.0002, -.0001
Cr2677,267.716 {126},Y_3600,ppm, .0012,.0001,9.126, .0012, .0013
Cu3247,324.754 {104},Y_3600,ppm, .0009,.0003,27.24, .0011, .0007
Fe2404,240.488 {140},In2306,ppm, .0076,.0130,172.1, .0168, -.0016
K_7664,766.490 { 44},Y_3710,ppm, .0313,.0023,7.240, .0297, .0329
Li6707,670.784 { 50},Y_3710,ppm, -.0010,.0001,4.801, -.0010, -.0011
Mg2790,279.079 {121},Y_3710,ppm, .0062,.0014,22.28, .0072, .0052
Mn2576,257.610 {131},Y_3600,ppm, .0002,.0000,16.62, .0002, .0002
Mo2020,202.030 {467},Y_2243,ppm, .0004,.0001,20.72, .0005, .0003
Na5895,589.592 { 57},Y_3710,ppm, .0336,.0020,5.970, .0322, .0350
Ni2316,231.604 {445},In2306,ppm, .0003,.0002,81.14, .0004, .0001
P_1782,178.284 {489},In2306,ppm, .0331,.0032,9.692, .0308, .0354
Pb2203,220.353 {453},In2306,ppm, .0001,.0012,2274., .0009, -.0008
S_1820,182.034 {485},Y_2243,ppm, .0008,.0011,135.1, .0016, .0000
Sb2068,206.833 {463},Y_2243,ppm, .0005,.0013,256.3, .0014, -.0004
Se1960,196.090 {472},Y_2243,ppm, .0003,.0033,958.2, -.0020, .0027
Si2516,251.611 {134},Y_3710,ppm, -.0093,.0041,44.16, -.0122, -.0064
Sn1899,189.989 {477},In2306,ppm, .0252,.0002,.7920, .0254, .0251
Sr4215,421.552 { 80},Y_3710,ppm, .0004,.0001,19.75, .0004, .0003
Ti3349,334.904 {101},Y_3600,ppm, .0000,.0001,448.9, .0001, -.0000
Tl1908,190.856 {477},In2306,ppm, .0079,.0013,16.06, .0070, .0088
U_3670,367.007 { 92},Y_3600,ppm, -.1140,.0658,57.75, -.1605, -.0674
V_2924,292.402 {115},Y_3600,ppm, .0001,.0002,153.6, .0002, -.0000
W_2397,239.709 {140},Y_2243,ppm, -.0545,.0204,37.53, -.0400, -.0689
Zn2062,206.200 {463},In2306,ppm, .0124,.0001,.5029, .0124, .0123

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 258.77,3.4278,1.3246,261.20,256.35
In2306,230.606 {446},Cts/S, 16223.,21.849,.13468,16239.,16208.
Y_2243,224.306 {450},Cts/S, 24920.,3.7206,.01493,24923.,24917.
Y_3600,360.073 { 94},Cts/S, 206790.,11111.,5.3731,214650.,198930.
Y_3710,371.030 { 91},Cts/S, 13121.,57.949,.44163,13162.,13080.

[Sample Header]
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Custom ID3=
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2971,.0006,.2057, .2976, .2967
Al3082,308.215 {109},In2306,ppm, 91.48,.3778,.4130, 91.74, 91.21
As1890,189.042 {478},Y_2243,ppm, 2.738,.0082,.2988, 2.744, 2.732
B_2496,249.678 {135},Y_3710,ppm, 5.330,.0119,.2224, 5.321, 5.338
Ba4554,455.403 { 74},Y_3710,ppm, 2.369,.0066,.2786, 2.364, 2.373
Be3130,313.042 {108},Y_3710,ppm, 1.589,.0029,.1824, 1.587, 1.591
Ca3158,315.887 {107},In2306,ppm, 131.6,.7414,.5635, 132.1, 131.1
Cd2288,228.802 {447},Y_2243,ppm, 1.540,.0037,.2380, 1.542, 1.537
Co2286,228.616 {447},In2306,ppm, 2.530,.0014,.0554, 2.531, 2.529
Cr2677,267.716 {126},Y_3600,ppm, 1.473,.0005,.0310, 1.473, 1.474
Cu3247,324.754 {104},Y_3600,ppm, .8779,.0013,.1510, .8788, .8770
Fe2404,240.488 {140},In2306,ppm, 130.9,.6304,.4815, 131.4, 130.5
K_7664,766.490 { 44},Y_3710,ppm, 93.43,.0748,.0800, 93.38, 93.49
Li6707,670.784 { 50},Y_3710,ppm, 2.334,.0033,.1395, 2.332, 2.337
Mg2790,279.079 {121},Y_3710,ppm, 109.9,.6138,.5585, 109.5, 110.3
Mn2576,257.610 {131},Y_3600,ppm, 10.25,.1984,1.936, 10.11, 10.39
Mo2020,202.030 {467},Y_2243,ppm, 1.699,.0042,.2497, 1.702, 1.696
Na5895,589.592 { 57},Y_3710,ppm, 118.9,.4748,.3995, 118.5, 119.2
Ni2316,231.604 {445},In2306,ppm, 1.077,.0008,.0768, 1.077, 1.076
P_1782,178.284 {489},In2306,ppm, 4.340,.0018,.0420, 4.342, 4.339
Pb2203,220.353 {453},In2306,ppm, 1.337,.0017,.1270, 1.338, 1.336
S_1820,182.034 {485},Y_2243,ppm, 2.060,.0091,.4398, 2.054, 2.067
Sb2068,206.833 {463},Y_2243,ppm, .3264,.0031,.9453, .3243, .3286
Se1960,196.090 {472},Y_2243,ppm, 2.653,.0061,.2294, 2.657, 2.648
Si2516,251.611 {134},Y_3710,ppm, 20.25,.0840,.4149, 20.19, 20.31
Sn1899,189.989 {477},In2306,ppm, 1.635,.0028,.1728, 1.637, 1.633
Sr4215,421.552 { 80},Y_3710,ppm, .8113,.0023,.2850, .8097, .8130
Ti3349,334.904 {101},Y_3600,ppm, 3.383,.0003,.0076, 3.383, 3.383
Tl1908,190.856 {477},In2306,ppm, 2.318,.0073,.3159, 2.312, 2.323
U_3670,367.007 { 92},Y_3600,ppm, 1.345,.0525,3.907, 1.382, 1.308
V_2924,292.402 {115},Y_3600,ppm, .2308,.0006,.2643, .2312, .2303
W_2397,239.709 {140},Y_2243,ppm, -.6541,.0455,6.953, -.6219, -.6862
Zn2062,206.200 {463},In2306,ppm, 4.584,.0010,.0218, 4.585, 4.583

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 238.19,3.1058,1.3039,236.00,240.39
In2306,230.606 {446},Cts/S, 12562.,28.152,.22410,12542.,12582.
Y_2243,224.306 {450},Cts/S, 23737.,64.188,.27041,23692.,23783.
Y_3600,360.073 { 94},Cts/S, 203730.,417.93,.20513,204030.,203440.
Y_3710,371.030 { 91},Cts/S, 13324.,87.393,.65591,13262.,13386.

[Sample Header]
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Custom ID3=
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0017,.0005,27.62, -.0014, -.0020
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Al3082,308.215 {109},In2306,ppm, 46.33,.1905,.4111, 46.20, 46.46
As1890,189.042 {478},Y_2243,ppm, .0828,.0022,2.714, .0844, .0812
B_2496,249.678 {135},Y_3710,ppm, .0489,.0086,17.59, .0550, .0428
Ba4554,455.403 { 74},Y_3710,ppm, .7012,.0026,.3717, .7030, .6994
Be3130,313.042 {108},Y_3710,ppm, .0027,.0001,4.594, .0028, .0026
Ca3158,315.887 {107},In2306,ppm, 923.8,22.32,2.416, 908.0, 939.6
Cd2288,228.802 {447},Y_2243,ppm, .0034,.0001,3.546, .0034, .0035
Co2286,228.616 {447},In2306,ppm, .1630,.0006,.3944, .1635, .1626
Cr2677,267.716 {126},Y_3600,ppm, .0757,.0001,.0872, .0757, .0758
Cu3247,324.754 {104},Y_3600,ppm, .1282,.0003,.2000, .1280, .1284
Fe2404,240.488 {140},In2306,ppm, 144.7,1.296,.8959, 143.8, 145.6
K_7664,766.490 { 44},Y_3710,ppm, 5.001,.0230,.4599, 5.017, 4.985
Li6707,670.784 { 50},Y_3710,ppm, .0976,.0018,1.856, .0989, .0963
Mg2790,279.079 {121},Y_3710,ppm, 187.3,1.044,.5571, 186.6, 188.1
Mn2576,257.610 {131},Y_3600,ppm, 7.353,.0285,.3883, 7.333, 7.373
Mo2020,202.030 {467},Y_2243,ppm, .0149,.0002,1.016, .0150, .0148
Na5895,589.592 { 57},Y_3710,ppm, 1.348,.0142,1.055, 1.358, 1.337
Ni2316,231.604 {445},In2306,ppm, .2485,.0007,.2848, .2490, .2480
P_1782,178.284 {489},In2306,ppm, 5.150,.0220,.4262, 5.166, 5.135
Pb2203,220.353 {453},In2306,ppm, .0967,.0003,.3367, .0965, .0970
S_1820,182.034 {485},Y_2243,ppm, .0557,.0143,25.68, .0658, .0456
Sb2068,206.833 {463},Y_2243,ppm, .0060,.0029,48.20, .0080, .0039
Se1960,196.090 {472},Y_2243,ppm, .0037,.0013,34.17, .0046, .0028
Si2516,251.611 {134},Y_3710,ppm, 10.12,.0196,.1932, 10.14, 10.11
Sn1899,189.989 {477},In2306,ppm, .0252,.0000,.1000, .0252, .0252
Sr4215,421.552 { 80},Y_3710,ppm, .8634,.0043,.5007, .8664, .8603
Ti3349,334.904 {101},Y_3600,ppm, .7645,.0000,.0039, .7645, .7645
Tl1908,190.856 {477},In2306,ppm, .0755,.0114,15.05, .0835, .0674
U_3670,367.007 { 92},Y_3600,ppm, .8428,.0380,4.510, .8697, .8159
V_2924,292.402 {115},Y_3600,ppm, .0994,.0005,.5067, .0997, .0990
W_2397,239.709 {140},Y_2243,ppm, -.0109,.0089,81.78, -.0173, -.0046
Zn2062,206.200 {463},In2306,ppm, .4323,.0001,.0250, .4323, .4322

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 225.87,2.0700,.91646,227.34,224.41
In2306,230.606 {446},Cts/S, 11700.,27.963,.23899,11720.,11681.
Y_2243,224.306 {450},Cts/S, 22465.,36.282,.16150,22491.,22439.
Y_3600,360.073 { 94},Cts/S, 191960.,355.73,.18531,191710.,192210.
Y_3710,371.030 { 91},Cts/S, 12879.,37.906,.29432,12906.,12853.

[Sample Header]
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Sample Type=Unk
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CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0018,.0003,16.70, -.0020, -.0016
Al3082,308.215 {109},In2306,ppm, 44.23,.8255,1.867, 43.64, 44.81
As1890,189.042 {478},Y_2243,ppm, .1119,.0006,.5407, .1123, .1115
B_2496,249.678 {135},Y_3710,ppm, .0455,.0063,13.88, .0499, .0410
Ba4554,455.403 { 74},Y_3710,ppm, .6684,.0021,.3154, .6699, .6669
Be3130,313.042 {108},Y_3710,ppm, .0032,.0000,.3709, .0032, .0032
Ca3158,315.887 {107},In2306,ppm, 1308.,34.14,2.609, 1284., 1332.
Cd2288,228.802 {447},Y_2243,ppm, .0040,.0000,.6925, .0039, .0040
Co2286,228.616 {447},In2306,ppm, .2179,.0001,.0632, .2178, .2180
Cr2677,267.716 {126},Y_3600,ppm, .0789,.0002,.2290, .0790, .0788
Cu3247,324.754 {104},Y_3600,ppm, .1409,.0007,.4711, .1414, .1405
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Fe2404,240.488 {140},In2306,ppm, 174.8,3.354,1.919, 172.4, 177.1
K_7664,766.490 { 44},Y_3710,ppm, 4.583,.0247,.5394, 4.601, 4.566
Li6707,670.784 { 50},Y_3710,ppm, .0952,.0006,.6141, .0948, .0956
Mg2790,279.079 {121},Y_3710,ppm, 190.9,.4633,.2427, 191.2, 190.6
Mn2576,257.610 {131},Y_3600,ppm, 10.26,.0564,.5499, 10.30, 10.22
Mo2020,202.030 {467},Y_2243,ppm, .0184,.0005,2.623, .0181, .0188
Na5895,589.592 { 57},Y_3710,ppm, 1.587,.0115,.7270, 1.595, 1.579
Ni2316,231.604 {445},In2306,ppm, .3005,.0007,.2453, .3010, .2999
P_1782,178.284 {489},In2306,ppm, 20.94,.0194,.0928, 20.96, 20.93
Pb2203,220.353 {453},In2306,ppm, .1457,.0017,1.182, .1469, .1445
S_1820,182.034 {485},Y_2243,ppm, .2560,.0155,6.066, .2670, .2450
Sb2068,206.833 {463},Y_2243,ppm, .0059,.0011,18.02, .0066, .0051
Se1960,196.090 {472},Y_2243,ppm, -.0003,.0014,542.9, -.0013, .0007
Si2516,251.611 {134},Y_3710,ppm, 8.520,.0696,.8169, 8.570, 8.471
Sn1899,189.989 {477},In2306,ppm, .0246,.0007,2.939, .0241, .0251
Sr4215,421.552 { 80},Y_3710,ppm, 1.450,.0034,.2368, 1.453, 1.448
Ti3349,334.904 {101},Y_3600,ppm, .5747,.0012,.2046, .5756, .5739
Tl1908,190.856 {477},In2306,ppm, .0351,.0035,10.08, .0376, .0326
U_3670,367.007 { 92},Y_3600,ppm, 1.103,.0207,1.872, 1.117, 1.088
V_2924,292.402 {115},Y_3600,ppm, .1289,.0006,.4855, .1293, .1284
W_2397,239.709 {140},Y_2243,ppm, -.1388,.0359,25.86, -.1134, -.1641
Zn2062,206.200 {463},In2306,ppm, .4491,.0012,.2699, .4483, .4500

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 222.23,3.0504,1.3727,224.39,220.07
In2306,230.606 {446},Cts/S, 11280.,36.756,.32585,11254.,11306.
Y_2243,224.306 {450},Cts/S, 22367.,83.215,.37204,22308.,22426.
Y_3600,360.073 { 94},Cts/S, 191800.,1.8754,.00098,191800.,191800.
Y_3710,371.030 { 91},Cts/S, 12926.,90.613,.70102,12862.,12990.

[Sample Header]
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Custom ID3=
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Sample Type=Unk
Mode=CONC
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2557,.0019,.7475, .2543, .2570
Al3082,308.215 {109},In2306,ppm, 82.10,1.246,1.518, 81.21, 82.98
As1890,189.042 {478},Y_2243,ppm, 1.094,.0034,.3138, 1.096, 1.091
B_2496,249.678 {135},Y_3710,ppm, .5721,.0024,.4216, .5704, .5738
Ba4554,455.403 { 74},Y_3710,ppm, 1.467,.0097,.6614, 1.460, 1.474
Be3130,313.042 {108},Y_3710,ppm, .9481,.0037,.3917, .9455, .9507
Ca3158,315.887 {107},In2306,ppm, 1532.,13.87,.9053, 1523., 1542.
Cd2288,228.802 {447},Y_2243,ppm, 1.000,.0007,.0709, .9996, 1.001
Co2286,228.616 {447},In2306,ppm, 1.198,.0012,.1024, 1.197, 1.199
Cr2677,267.716 {126},Y_3600,ppm, .9531,.0090,.9398, .9468, .9595
Cu3247,324.754 {104},Y_3600,ppm, 1.117,.0052,.4684, 1.113, 1.121
Fe2404,240.488 {140},In2306,ppm, 202.2,2.058,1.018, 200.8, 203.7
K_7664,766.490 { 44},Y_3710,ppm, 22.17,.0948,.4276, 22.10, 22.24
Li6707,670.784 { 50},Y_3710,ppm, 1.155,.0087,.7494, 1.149, 1.161
Mg2790,279.079 {121},Y_3710,ppm, 227.4,.0628,.0276, 227.5, 227.4
Mn2576,257.610 {131},Y_3600,ppm, 7.497,.0247,.3295, 7.479, 7.514
Mo2020,202.030 {467},Y_2243,ppm, .9374,.0015,.1621, .9384, .9363
Na5895,589.592 { 57},Y_3710,ppm, 12.20,.0684,.5605, 12.16, 12.25
Ni2316,231.604 {445},In2306,ppm, 1.315,.0002,.0114, 1.315, 1.315
P_1782,178.284 {489},In2306,ppm, 12.24,.0175,.1428, 12.23, 12.25
Pb2203,220.353 {453},In2306,ppm, 1.116,.0022,.2001, 1.114, 1.117
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S_1820,182.034 {485},Y_2243,ppm, 3.885,.0028,.0718, 3.887, 3.883
Sb2068,206.833 {463},Y_2243,ppm, 1.418,.0058,.4122, 1.422, 1.414
Se1960,196.090 {472},Y_2243,ppm, .9385,.0059,.6291, .9426, .9343
Si2516,251.611 {134},Y_3710,ppm, 16.62,.0062,.0370, 16.62, 16.62
Sn1899,189.989 {477},In2306,ppm, 1.055,.0002,.0167, 1.055, 1.055
Sr4215,421.552 { 80},Y_3710,ppm, 2.675,.0170,.6348, 2.663, 2.687
Ti3349,334.904 {101},Y_3600,ppm, 1.639,.0114,.6942, 1.630, 1.647
Tl1908,190.856 {477},In2306,ppm, .9819,.0077,.7872, .9764, .9873
U_3670,367.007 { 92},Y_3600,ppm, 1.838,.0956,5.202, 1.770, 1.905
V_2924,292.402 {115},Y_3600,ppm, 1.047,.0082,.7855, 1.041, 1.053
W_2397,239.709 {140},Y_2243,ppm, .2408,.0530,22.01, .2033, .2783
Zn2062,206.200 {463},In2306,ppm, .9716,.0001,.0088, .9716, .9715

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 220.66,1.0764,.48780,221.42,219.89
In2306,230.606 {446},Cts/S, 10833.,31.206,.28805,10811.,10855.
Y_2243,224.306 {450},Cts/S, 21583.,78.576,.36407,21527.,21638.
Y_3600,360.073 { 94},Cts/S, 184910.,1113.1,.60197,185700.,184120.
Y_3710,371.030 { 91},Cts/S, 12757.,44.067,.34544,12726.,12788.

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Ag3280,328.068 {103},Y_3600,ppm, -.0000,.0000,46.05, -.0000, -.0000
Al3082,308.215 {109},In2306,ppm, .0025,.0316,1287., .0248, -.0199
As1890,189.042 {478},Y_2243,ppm, .0024,.0018,72.54, .0037, .0012
B_2496,249.678 {135},Y_3710,ppm, .0679,.0023,3.370, .0695, .0663
Ba4554,455.403 { 74},Y_3710,ppm, .2831,.0008,.2897, .2825, .2837
Be3130,313.042 {108},Y_3710,ppm, .0003,.0000,6.546, .0003, .0003
Ca3158,315.887 {107},In2306,ppm, 105.2,2.072,1.970, 106.6, 103.7
Cd2288,228.802 {447},Y_2243,ppm, .0005,.0000,5.330, .0004, .0005
Co2286,228.616 {447},In2306,ppm, .0008,.0001,7.504, .0008, .0009
Cr2677,267.716 {126},Y_3600,ppm, .0007,.0003,42.70, .0009, .0005
Cu3247,324.754 {104},Y_3600,ppm, .0509,.0002,.4286, .0507, .0510
Fe2404,240.488 {140},In2306,ppm, .0605,.0093,15.42, .0671, .0539
K_7664,766.490 { 44},Y_3710,ppm, 1.038,.0098,.9435, 1.045, 1.031
Li6707,670.784 { 50},Y_3710,ppm, .0234,.0007,2.972, .0238, .0229
Mg2790,279.079 {121},Y_3710,ppm, 18.38,.0269,.1462, 18.36, 18.40
Mn2576,257.610 {131},Y_3600,ppm, .1184,.0005,.3949, .1187, .1180
Mo2020,202.030 {467},Y_2243,ppm, .0015,.0000,2.940, .0015, .0015
Na5895,589.592 { 57},Y_3710,ppm, 158.6,1.368,.8625, 157.6, 159.5
Ni2316,231.604 {445},In2306,ppm, .0014,.0002,16.03, .0012, .0015
P_1782,178.284 {489},In2306,ppm, .1260,.0045,3.557, .1229, .1292
Pb2203,220.353 {453},In2306,ppm, -.0004,.0002,44.38, -.0005, -.0002
S_1820,182.034 {485},Y_2243,ppm, 12.91,.0011,.0086, 12.91, 12.91
Sb2068,206.833 {463},Y_2243,ppm, .0013,.0004,33.20, .0016, .0010
Se1960,196.090 {472},Y_2243,ppm, .0011,.0017,147.0, .0023, -.0000
Si2516,251.611 {134},Y_3710,ppm, 11.99,.0806,.6724, 11.94, 12.05
Sn1899,189.989 {477},In2306,ppm, .0003,.0003,130.4, .0000, .0005
Sr4215,421.552 { 80},Y_3710,ppm, .4363,.0001,.0293, .4364, .4363
Ti3349,334.904 {101},Y_3600,ppm, .0015,.0001,7.328, .0015, .0014
Tl1908,190.856 {477},In2306,ppm, .0420,.0028,6.705, .0440, .0400
U_3670,367.007 { 92},Y_3600,ppm, -.1040,.0286,27.48, -.1243, -.0838
V_2924,292.402 {115},Y_3600,ppm, .0048,.0000,.8671, .0049, .0048
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W_2397,239.709 {140},Y_2243,ppm, -.0221,.0429,194.6, .0083, -.0524
Zn2062,206.200 {463},In2306,ppm, .0632,.0002,.3203, .0633, .0630

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 249.71,6.8388,2.7387,244.88,254.55
In2306,230.606 {446},Cts/S, 13535.,30.704,.22684,13557.,13514.
Y_2243,224.306 {450},Cts/S, 22903.,23.922,.10445,22919.,22886.
Y_3600,360.073 { 94},Cts/S, 195840.,401.78,.20516,196120.,195550.
Y_3710,371.030 { 91},Cts/S, 12810.,74.287,.57993,12757.,12862.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0004,.0006,177.4, .0008, -.0001
Al3082,308.215 {109},In2306,ppm, 2.862,.0349,1.219, 2.837, 2.886
As1890,189.042 {478},Y_2243,ppm, .2600,.0003,.1320, .2597, .2602
B_2496,249.678 {135},Y_3710,ppm, .0663,.0031,4.662, .0684, .0641
Ba4554,455.403 { 74},Y_3710,ppm, .0750,.0002,.3105, .0749, .0752
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,16.04, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, 14.37,.0920,.6402, 14.30, 14.43
Cd2288,228.802 {447},Y_2243,ppm, .0009,.0000,1.527, .0009, .0009
Co2286,228.616 {447},In2306,ppm, 3.583,.0090,.2506, 3.589, 3.576
Cr2677,267.716 {126},Y_3600,ppm, .3503,.0016,.4559, .3492, .3515
Cu3247,324.754 {104},Y_3600,ppm, .1535,.0003,.1701, .1537, .1533
Fe2404,240.488 {140},In2306,ppm, 4.855,.0530,1.091, 4.818, 4.893
K_7664,766.490 { 44},Y_3710,ppm, .6380,.0099,1.546, .6450, .6310
Li6707,670.784 { 50},Y_3710,ppm, .0011,.0009,76.60, .0005, .0017
Mg2790,279.079 {121},Y_3710,ppm, 2.663,.0247,.9278, 2.681, 2.646
Mn2576,257.610 {131},Y_3600,ppm, .2124,.0006,.2929, .2120, .2129
Mo2020,202.030 {467},Y_2243,ppm, .0844,.0004,.4236, .0846, .0841
Na5895,589.592 { 57},Y_3710,ppm, 27.20,.0797,.2931, 27.14, 27.26
Ni2316,231.604 {445},In2306,ppm, .0342,.0004,1.135, .0339, .0345
P_1782,178.284 {489},In2306,ppm, 81.15,.2636,.3248, 81.34, 80.96
Pb2203,220.353 {453},In2306,ppm, .1399,.0001,.1055, .1398, .1400
S_1820,182.034 {485},Y_2243,ppm, 2.600,.0049,.1866, 2.604, 2.597
Sb2068,206.833 {463},Y_2243,ppm, -.0020,.0004,20.81, -.0017, -.0023
Se1960,196.090 {472},Y_2243,ppm, .0023,.0033,140.9, .0000, .0046
Si2516,251.611 {134},Y_3710,ppm, 2.617,.0185,.7057, 2.604, 2.630
Sn1899,189.989 {477},In2306,ppm, .0104,.0000,.2356, .0104, .0104
Sr4215,421.552 { 80},Y_3710,ppm, .0667,.0001,.1721, .0666, .0668
Ti3349,334.904 {101},Y_3600,ppm, .6024,.0019,.3163, .6010, .6037
Tl1908,190.856 {477},In2306,ppm, .0309,.0040,12.84, .0337, .0281
U_3670,367.007 { 92},Y_3600,ppm, -.0528,.0029,5.527, -.0549, -.0507
V_2924,292.402 {115},Y_3600,ppm, .0095,.0001,.7291, .0095, .0096
W_2397,239.709 {140},Y_2243,ppm, -1.338,.0259,1.937, -1.320, -1.357
Zn2062,206.200 {463},In2306,ppm, 1.347,.0032,.2346, 1.349, 1.344

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 256.40,1.9415,.75723,257.77,255.03
In2306,230.606 {446},Cts/S, 15188.,4.1918,.02760,15185.,15191.
Y_2243,224.306 {450},Cts/S, 24682.,.32835,.00133,24682.,24682.
Y_3600,360.073 { 94},Cts/S, 210360.,498.23,.23684,210710.,210010.
Y_3710,371.030 { 91},Cts/S, 13035.,41.979,.32206,13064.,13005.
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Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0053,.0002,3.714, -.0052, -.0055
Al3082,308.215 {109},In2306,ppm, 152.4,1.896,1.244, 153.7, 151.1
As1890,189.042 {478},Y_2243,ppm, .1000,.0007,.7138, .1005, .0995
B_2496,249.678 {135},Y_3710,ppm, .9558,.0037,.3910, .9532, .9585
Ba4554,455.403 { 74},Y_3710,ppm, 6.640,.0692,1.043, 6.689, 6.591
Be3130,313.042 {108},Y_3710,ppm, .0425,.0005,1.114, .0422, .0429
Ca3158,315.887 {107},In2306,ppm, 28.62,.3678,1.285, 28.88, 28.36
Cd2288,228.802 {447},Y_2243,ppm, .0005,.0000,2.716, .0005, .0005
Co2286,228.616 {447},In2306,ppm, .3102,.0000,.0137, .3102, .3101
Cr2677,267.716 {126},Y_3600,ppm, .1481,.0002,.1340, .1480, .1483
Cu3247,324.754 {104},Y_3600,ppm, .0035,.0001,3.552, .0036, .0034
Fe2404,240.488 {140},In2306,ppm, 83.03,1.024,1.233, 83.76, 82.31
K_7664,766.490 { 44},Y_3710,ppm, .6795,.0040,.5941, .6766, .6823
Li6707,670.784 { 50},Y_3710,ppm, .0255,.0001,.4619, .0256, .0254
Mg2790,279.079 {121},Y_3710,ppm, 10.13,.0315,.3112, 10.16, 10.11
Mn2576,257.610 {131},Y_3600,ppm, 1.565,.0011,.0694, 1.564, 1.566
Mo2020,202.030 {467},Y_2243,ppm, .0117,.0001,.5581, .0118, .0117
Na5895,589.592 { 57},Y_3710,ppm, 1.602,.0030,.1849, 1.600, 1.605
Ni2316,231.604 {445},In2306,ppm, .6650,.0010,.1477, .6657, .6643
P_1782,178.284 {489},In2306,ppm, 10.90,.0341,.3132, 10.88, 10.93
Pb2203,220.353 {453},In2306,ppm, .0188,.0020,10.43, .0174, .0202
S_1820,182.034 {485},Y_2243,ppm, 16.03,.0196,.1226, 16.02, 16.04
Sb2068,206.833 {463},Y_2243,ppm, -.0057,.0004,6.509, -.0055, -.0060
Se1960,196.090 {472},Y_2243,ppm, -.0008,.0018,233.0, .0005, -.0021
Si2516,251.611 {134},Y_3710,ppm, 4.476,.0061,.1365, 4.471, 4.480
Sn1899,189.989 {477},In2306,ppm, .0632,.0003,.5288, .0630, .0634
Sr4215,421.552 { 80},Y_3710,ppm, 5.270,.0522,.9900, 5.307, 5.233
Ti3349,334.904 {101},Y_3600,ppm, 12.94,.1673,1.293, 12.82, 13.06
Tl1908,190.856 {477},In2306,ppm, -.0158,.0008,5.361, -.0165, -.0152
U_3670,367.007 { 92},Y_3600,ppm, .3588,.0117,3.273, .3505, .3671
V_2924,292.402 {115},Y_3600,ppm, .2782,.0002,.0841, .2784, .2780
W_2397,239.709 {140},Y_2243,ppm, -.0726,.0103,14.23, -.0653, -.0799
Zn2062,206.200 {463},In2306,ppm, .1761,.0001,.0725, .1760, .1762

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 253.56,5.7217,2.2565,249.52,257.61
In2306,230.606 {446},Cts/S, 14271.,29.917,.20963,14292.,14250.
Y_2243,224.306 {450},Cts/S, 32086.,46.938,.14629,32119.,32053.
Y_3600,360.073 { 94},Cts/S, 271160.,1582.0,.58341,272280.,270040.
Y_3710,371.030 { 91},Cts/S, 17193.,262.16,1.5248,17008.,17378.

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Ag3280,328.068 {103},Y_3600,ppm, -.0030,.0000,.1849, -.0030, -.0030
Al3082,308.215 {109},In2306,ppm, 110.5,.9873,.8938, 109.8, 111.2
As1890,189.042 {478},Y_2243,ppm, .1079,.0006,.5282, .1075, .1083
B_2496,249.678 {135},Y_3710,ppm, .4334,.0057,1.309, .4374, .4294
Ba4554,455.403 { 74},Y_3710,ppm, 5.618,.0252,.4481, 5.600, 5.635
Be3130,313.042 {108},Y_3710,ppm, .0370,.0001,.2214, .0371, .0370
Ca3158,315.887 {107},In2306,ppm, 22.28,.1431,.6422, 22.18, 22.38
Cd2288,228.802 {447},Y_2243,ppm, .0005,.0001,10.55, .0005, .0004
Co2286,228.616 {447},In2306,ppm, 3.861,.0046,.1180, 3.864, 3.858
Cr2677,267.716 {126},Y_3600,ppm, .1438,.0008,.5525, .1433, .1444
Cu3247,324.754 {104},Y_3600,ppm, .1656,.0009,.5242, .1662, .1650
Fe2404,240.488 {140},In2306,ppm, 67.02,.4273,.6376, 66.72, 67.32
K_7664,766.490 { 44},Y_3710,ppm, .2459,.0079,3.220, .2515, .2403
Li6707,670.784 { 50},Y_3710,ppm, .0188,.0001,.4498, .0187, .0189
Mg2790,279.079 {121},Y_3710,ppm, 8.593,.0930,1.082, 8.527, 8.659
Mn2576,257.610 {131},Y_3600,ppm, 1.236,.0001,.0069, 1.235, 1.236
Mo2020,202.030 {467},Y_2243,ppm, .0459,.0000,.0480, .0459, .0459
Na5895,589.592 { 57},Y_3710,ppm, .7651,.0057,.7511, .7610, .7692
Ni2316,231.604 {445},In2306,ppm, .6134,.0007,.1061, .6138, .6129
P_1782,178.284 {489},In2306,ppm, 7.845,.0207,.2642, 7.859, 7.830
Pb2203,220.353 {453},In2306,ppm, .0141,.0002,1.246, .0140, .0143
S_1820,182.034 {485},Y_2243,ppm, 13.54,.0222,.1639, 13.56, 13.53
Sb2068,206.833 {463},Y_2243,ppm, -.0038,.0011,28.12, -.0046, -.0031
Se1960,196.090 {472},Y_2243,ppm, -.0011,.0002,16.24, -.0010, -.0013
Si2516,251.611 {134},Y_3710,ppm, 4.164,.0181,.4342, 4.177, 4.151
Sn1899,189.989 {477},In2306,ppm, .0455,.0003,.6160, .0457, .0453
Sr4215,421.552 { 80},Y_3710,ppm, 3.961,.0172,.4330, 3.949, 3.973
Ti3349,334.904 {101},Y_3600,ppm, 10.71,.0873,.8148, 10.77, 10.65
Tl1908,190.856 {477},In2306,ppm, -.0010,.0007,69.10, -.0015, -.0005
U_3670,367.007 { 92},Y_3600,ppm, .3037,.0416,13.71, .2743, .3332
V_2924,292.402 {115},Y_3600,ppm, .2356,.0005,.2283, .2360, .2352
W_2397,239.709 {140},Y_2243,ppm, -.9161,.0228,2.488, -.9000, -.9322
Zn2062,206.200 {463},In2306,ppm, .1822,.0002,.1135, .1824, .1821

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 258.12,1.2974,.50263,259.03,257.20
In2306,230.606 {446},Cts/S, 14498.,30.081,.20748,14519.,14477.
Y_2243,224.306 {450},Cts/S, 31182.,73.130,.23453,31234.,31130.
Y_3600,360.073 { 94},Cts/S, 265780.,1003.1,.37742,265070.,266490.
Y_3710,371.030 { 91},Cts/S, 16833.,15.399,.09148,16844.,16822.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0017,.0005,32.58, -.0013, -.0020
Al3082,308.215 {109},In2306,ppm, 133.9,.9661,.7213, 134.6, 133.3
As1890,189.042 {478},Y_2243,ppm, .1051,.0005,.4690, .1055, .1048
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B_2496,249.678 {135},Y_3710,ppm, .5133,.0003,.0616, .5130, .5135
Ba4554,455.403 { 74},Y_3710,ppm, 6.509,.1535,2.359, 6.617, 6.400
Be3130,313.042 {108},Y_3710,ppm, .0411,.0004,.8637, .0409, .0414
Ca3158,315.887 {107},In2306,ppm, 31.70,.1997,.6299, 31.84, 31.56
Cd2288,228.802 {447},Y_2243,ppm, .0008,.0000,5.593, .0009, .0008
Co2286,228.616 {447},In2306,ppm, 4.845,.0065,.1333, 4.850, 4.841
Cr2677,267.716 {126},Y_3600,ppm, .1629,.0006,.3480, .1625, .1633
Cu3247,324.754 {104},Y_3600,ppm, .2525,.0005,.2011, .2529, .2522
Fe2404,240.488 {140},In2306,ppm, 81.93,.6181,.7544, 82.37, 81.49
K_7664,766.490 { 44},Y_3710,ppm, .2748,.0087,3.156, .2686, .2809
Li6707,670.784 { 50},Y_3710,ppm, .0214,.0000,.2090, .0214, .0215
Mg2790,279.079 {121},Y_3710,ppm, 10.20,.0390,.3819, 10.17, 10.23
Mn2576,257.610 {131},Y_3600,ppm, 1.615,.0041,.2555, 1.612, 1.618
Mo2020,202.030 {467},Y_2243,ppm, .0575,.0003,.5901, .0577, .0573
Na5895,589.592 { 57},Y_3710,ppm, .8331,.0006,.0696, .8326, .8335
Ni2316,231.604 {445},In2306,ppm, .7381,.0011,.1443, .7388, .7373
P_1782,178.284 {489},In2306,ppm, 10.32,.0167,.1622, 10.33, 10.30
Pb2203,220.353 {453},In2306,ppm, .0200,.0013,6.572, .0190, .0209
S_1820,182.034 {485},Y_2243,ppm, 17.68,.0494,.2793, 17.71, 17.64
Sb2068,206.833 {463},Y_2243,ppm, -.0051,.0014,28.19, -.0041, -.0062
Se1960,196.090 {472},Y_2243,ppm, -.0001,.0006,1163., -.0005, .0004
Si2516,251.611 {134},Y_3710,ppm, 3.965,.0330,.8333, 3.989, 3.942
Sn1899,189.989 {477},In2306,ppm, .0496,.0002,.3641, .0494, .0497
Sr4215,421.552 { 80},Y_3710,ppm, 4.978,.0206,.4140, 4.993, 4.963
Ti3349,334.904 {101},Y_3600,ppm, 12.17,.0320,.2632, 12.14, 12.19
Tl1908,190.856 {477},In2306,ppm, .0072,.0008,10.62, .0077, .0066
U_3670,367.007 { 92},Y_3600,ppm, .3509,.0137,3.916, .3411, .3606
V_2924,292.402 {115},Y_3600,ppm, .2585,.0007,.2640, .2580, .2590
W_2397,239.709 {140},Y_2243,ppm, -1.158,.0068,.5837, -1.153, -1.162
Zn2062,206.200 {463},In2306,ppm, .2054,.0003,.1464, .2056, .2052

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 255.82,2.8785,1.1252,253.78,257.85
In2306,230.606 {446},Cts/S, 14346.,10.986,.07658,14354.,14339.
Y_2243,224.306 {450},Cts/S, 32011.,19.883,.06211,32025.,31997.
Y_3600,360.073 { 94},Cts/S, 274640.,721.55,.26273,275150.,274130.
Y_3710,371.030 { 91},Cts/S, 17432.,47.209,.27081,17399.,17466.

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Custom ID2=
Custom ID3=
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .4862,.0007,.1523, .4857, .4867
Al3082,308.215 {109},In2306,ppm, 20.27,.6345,3.130, 19.82, 20.72
As1890,189.042 {478},Y_2243,ppm, .9933,.0012,.1235, .9942, .9924
B_2496,249.678 {135},Y_3710,ppm, .9880,.0284,2.879, .9679, 1.008
Ba4554,455.403 { 74},Y_3710,ppm, 1.015,.0181,1.784, 1.003, 1.028
Be3130,313.042 {108},Y_3710,ppm, .9807,.0209,2.133, .9659, .9955
Ca3158,315.887 {107},In2306,ppm, 19.45,.5647,2.903, 19.05, 19.85
Cd2288,228.802 {447},Y_2243,ppm, .9821,.0028,.2889, .9841, .9801
Co2286,228.616 {447},In2306,ppm, .9846,.0007,.0706, .9841, .9851
Cr2677,267.716 {126},Y_3600,ppm, .9387,.0003,.0299, .9385, .9389
Cu3247,324.754 {104},Y_3600,ppm, .9698,.0036,.3698, .9723, .9673
Fe2404,240.488 {140},In2306,ppm, 19.87,.6426,3.234, 19.41, 20.32
K_7664,766.490 { 44},Y_3710,ppm, 19.56,.2764,1.413, 19.36, 19.75
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Li6707,670.784 { 50},Y_3710,ppm, .9896,.0150,1.517, .9790, 1.000
Mg2790,279.079 {121},Y_3710,ppm, 19.91,.4832,2.427, 19.56, 20.25
Mn2576,257.610 {131},Y_3600,ppm, .9820,.0017,.1707, .9809, .9832
Mo2020,202.030 {467},Y_2243,ppm, 1.006,.0034,.3383, 1.008, 1.003
Na5895,589.592 { 57},Y_3710,ppm, 19.87,.3091,1.555, 19.65, 20.09
Ni2316,231.604 {445},In2306,ppm, 1.002,.0004,.0379, 1.001, 1.002
P_1782,178.284 {489},In2306,ppm, 10.30,.0191,.1849, 10.29, 10.32
Pb2203,220.353 {453},In2306,ppm, .9907,.0009,.0955, .9913, .9900
S_1820,182.034 {485},Y_2243,ppm, 7.366,.0158,.2148, 7.377, 7.355
Sb2068,206.833 {463},Y_2243,ppm, 2.162,.0048,.2214, 2.165, 2.159
Se1960,196.090 {472},Y_2243,ppm, .9896,.0009,.0878, .9903, .9890
Si2516,251.611 {134},Y_3710,ppm, 8.756,.1831,2.091, 8.626, 8.885
Sn1899,189.989 {477},In2306,ppm, .9980,.0011,.1087, .9973, .9988
Sr4215,421.552 { 80},Y_3710,ppm, 1.002,.0175,1.742, .9895, 1.014
Ti3349,334.904 {101},Y_3600,ppm, .9780,.0000,.0030, .9780, .9779
Tl1908,190.856 {477},In2306,ppm, 1.025,.0047,.4565, 1.022, 1.029
U_3670,367.007 { 92},Y_3600,ppm, .8867,.0290,3.267, .8663, .9072
V_2924,292.402 {115},Y_3600,ppm, .9605,.0005,.0540, .9608, .9601
W_2397,239.709 {140},Y_2243,ppm, 1.278,.0156,1.223, 1.289, 1.267
Zn2062,206.200 {463},In2306,ppm, .9819,.0041,.4142, .9790, .9847

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 254.05,6.6231,2.6070,258.73,249.37
In2306,230.606 {446},Cts/S, 14561.,31.383,.21552,14539.,14583.
Y_2243,224.306 {450},Cts/S, 24149.,107.71,.44600,24073.,24225.
Y_3600,360.073 { 94},Cts/S, 206510.,101.92,.04935,206440.,206580.
Y_3710,371.030 { 91},Cts/S, 13184.,212.72,1.6135,13334.,13033.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0103,.0002,1.798, .0101, .0104
Al3082,308.215 {109},In2306,ppm, .2053,.0070,3.406, .2003, .2102
As1890,189.042 {478},Y_2243,ppm, .0200,.0003,1.455, .0202, .0198
B_2496,249.678 {135},Y_3710,ppm, .2128,.0042,1.964, .2098, .2157
Ba4554,455.403 { 74},Y_3710,ppm, .0228,.0003,1.510, .0230, .0225
Be3130,313.042 {108},Y_3710,ppm, .0112,.0003,2.762, .0114, .0109
Ca3158,315.887 {107},In2306,ppm, 1.006,.0206,2.046, 1.020, .9911
Cd2288,228.802 {447},Y_2243,ppm, .0110,.0001,1.179, .0109, .0111
Co2286,228.616 {447},In2306,ppm, .0105,.0002,1.854, .0104, .0107
Cr2677,267.716 {126},Y_3600,ppm, .0107,.0000,.0903, .0107, .0107
Cu3247,324.754 {104},Y_3600,ppm, .0122,.0000,.0091, .0122, .0122
Fe2404,240.488 {140},In2306,ppm, .2155,.0181,8.403, .2283, .2027
K_7664,766.490 { 44},Y_3710,ppm, 1.051,.0082,.7780, 1.057, 1.045
Li6707,670.784 { 50},Y_3710,ppm, .0102,.0005,4.763, .0098, .0105
Mg2790,279.079 {121},Y_3710,ppm, 1.077,.0345,3.205, 1.102, 1.053
Mn2576,257.610 {131},Y_3600,ppm, .0111,.0000,.0625, .0111, .0111
Mo2020,202.030 {467},Y_2243,ppm, .0231,.0006,2.566, .0227, .0235
Na5895,589.592 { 57},Y_3710,ppm, 1.058,.0107,1.007, 1.066, 1.051
Ni2316,231.604 {445},In2306,ppm, .0113,.0001,1.026, .0112, .0113
P_1782,178.284 {489},In2306,ppm, .9727,.0095,.9735, .9660, .9794
Pb2203,220.353 {453},In2306,ppm, .0112,.0005,4.428, .0115, .0108
S_1820,182.034 {485},Y_2243,ppm, .3552,.0013,.3592, .3543, .3561
Sb2068,206.833 {463},Y_2243,ppm, .0548,.0001,.1083, .0548, .0548
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Se1960,196.090 {472},Y_2243,ppm, .0218,.0010,4.792, .0225, .0211
Si2516,251.611 {134},Y_3710,ppm, .1629,.0010,.6379, .1636, .1622
Sn1899,189.989 {477},In2306,ppm, .0211,.0000,.0768, .0211, .0212
Sr4215,421.552 { 80},Y_3710,ppm, .0118,.0003,2.289, .0120, .0116
Ti3349,334.904 {101},Y_3600,ppm, .0118,.0001,.7850, .0117, .0118
Tl1908,190.856 {477},In2306,ppm, .0531,.0047,8.888, .0564, .0498
U_3670,367.007 { 92},Y_3600,ppm, .0036,.0294,806.0, -.0171, .0244
V_2924,292.402 {115},Y_3600,ppm, .0102,.0000,.0009, .0102, .0102
W_2397,239.709 {140},Y_2243,ppm, .0865,.0489,56.54, .0519, .1211
Zn2062,206.200 {463},In2306,ppm, .0184,.0003,1.811, .0182, .0186

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 260.03,3.7896,1.4574,257.35,262.71
In2306,230.606 {446},Cts/S, 16192.,85.541,.52829,16253.,16132.
Y_2243,224.306 {450},Cts/S, 25003.,120.48,.48186,25088.,24917.
Y_3600,360.073 { 94},Cts/S, 216040.,115.85,.05362,215960.,216130.
Y_3710,371.030 { 91},Cts/S, 13117.,26.958,.20552,13098.,13137.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0009,.0003,37.08, .0011, .0006
Al3082,308.215 {109},In2306,ppm, -.0276,.0127,45.84, -.0366, -.0187
As1890,189.042 {478},Y_2243,ppm, .0005,.0005,101.2, .0009, .0001
B_2496,249.678 {135},Y_3710,ppm, -.0012,.0002,17.73, -.0010, -.0013
Ba4554,455.403 { 74},Y_3710,ppm, -.0001,.0000,29.78, -.0001, -.0001
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,45.28, -.0000, -.0000
Ca3158,315.887 {107},In2306,ppm, -.0110,.0003,2.807, -.0112, -.0108
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0001,136.8, .0000, .0001
Co2286,228.616 {447},In2306,ppm, .0001,.0001,80.34, .0002, .0001
Cr2677,267.716 {126},Y_3600,ppm, -.0003,.0001,37.23, -.0004, -.0002
Cu3247,324.754 {104},Y_3600,ppm, .0011,.0003,32.75, .0013, .0008
Fe2404,240.488 {140},In2306,ppm, .0009,.0022,252.7, -.0007, .0024
K_7664,766.490 { 44},Y_3710,ppm, -.0103,.0201,195.5, -.0245, .0039
Li6707,670.784 { 50},Y_3710,ppm, -.0005,.0011,242.1, -.0012, .0003
Mg2790,279.079 {121},Y_3710,ppm, .0066,.0152,231.7, .0173, -.0042
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,26.29, -.0000, -.0001
Mo2020,202.030 {467},Y_2243,ppm, .0000,.0001,1572., -.0001, .0001
Na5895,589.592 { 57},Y_3710,ppm, -.0133,.0047,35.56, -.0167, -.0100
Ni2316,231.604 {445},In2306,ppm, .0002,.0001,63.08, .0003, .0001
P_1782,178.284 {489},In2306,ppm, .0022,.0000,.5963, .0022, .0022
Pb2203,220.353 {453},In2306,ppm, -.0004,.0011,284.7, .0004, -.0011
S_1820,182.034 {485},Y_2243,ppm, .0020,.0010,48.65, .0013, .0027
Sb2068,206.833 {463},Y_2243,ppm, .0000,.0007,1762., .0005, -.0004
Se1960,196.090 {472},Y_2243,ppm, .0002,.0008,527.7, -.0004, .0007
Si2516,251.611 {134},Y_3710,ppm, -.0175,.0021,12.02, -.0160, -.0190
Sn1899,189.989 {477},In2306,ppm, -.0003,.0000,15.15, -.0004, -.0003
Sr4215,421.552 { 80},Y_3710,ppm, .0005,.0002,40.69, .0003, .0006
Ti3349,334.904 {101},Y_3600,ppm, .0006,.0001,25.95, .0005, .0007
Tl1908,190.856 {477},In2306,ppm, .0162,.0010,6.263, .0169, .0154
U_3670,367.007 { 92},Y_3600,ppm, -.1162,.0174,14.94, -.1039, -.1285
V_2924,292.402 {115},Y_3600,ppm, .0001,.0001,93.92, .0001, .0000
W_2397,239.709 {140},Y_2243,ppm, -.0055,.0308,560.8, -.0272, .0163
Zn2062,206.200 {463},In2306,ppm, -.0012,.0000,1.398, -.0012, -.0012
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[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 262.74,.13749,.05233,262.64,262.83
In2306,230.606 {446},Cts/S, 16396.,43.388,.26463,16426.,16365.
Y_2243,224.306 {450},Cts/S, 24980.,24.115,.09654,24997.,24963.
Y_3600,360.073 { 94},Cts/S, 213020.,689.56,.32370,212540.,213510.
Y_3710,371.030 { 91},Cts/S, 13095.,81.417,.62176,13152.,13037.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0016,.0001,4.649, -.0016, -.0015
Al3082,308.215 {109},In2306,ppm, 103.9,2.178,2.096, 102.3, 105.4
As1890,189.042 {478},Y_2243,ppm, .0914,.0006,.6969, .0918, .0909
B_2496,249.678 {135},Y_3710,ppm, .4115,.0051,1.237, .4151, .4079
Ba4554,455.403 { 74},Y_3710,ppm, 5.788,.0359,.6209, 5.763, 5.814
Be3130,313.042 {108},Y_3710,ppm, .0316,.0002,.7356, .0314, .0317
Ca3158,315.887 {107},In2306,ppm, 21.53,.3505,1.628, 21.28, 21.77
Cd2288,228.802 {447},Y_2243,ppm, .0006,.0000,.5991, .0006, .0006
Co2286,228.616 {447},In2306,ppm, 3.172,.0037,.1181, 3.175, 3.169
Cr2677,267.716 {126},Y_3600,ppm, .1247,.0000,.0382, .1246, .1247
Cu3247,324.754 {104},Y_3600,ppm, .0874,.0007,.7902, .0869, .0879
Fe2404,240.488 {140},In2306,ppm, 67.93,1.168,1.719, 67.11, 68.76
K_7664,766.490 { 44},Y_3710,ppm, .2460,.0044,1.786, .2429, .2491
Li6707,670.784 { 50},Y_3710,ppm, .0172,.0005,2.638, .0169, .0175
Mg2790,279.079 {121},Y_3710,ppm, 8.542,.0446,.5217, 8.511, 8.574
Mn2576,257.610 {131},Y_3600,ppm, 1.307,.0013,.0963, 1.306, 1.308
Mo2020,202.030 {467},Y_2243,ppm, .0405,.0001,.2831, .0406, .0405
Na5895,589.592 { 57},Y_3710,ppm, .7636,.0037,.4855, .7610, .7662
Ni2316,231.604 {445},In2306,ppm, .4851,.0038,.7890, .4878, .4824
P_1782,178.284 {489},In2306,ppm, 9.287,.0817,.8803, 9.345, 9.229
Pb2203,220.353 {453},In2306,ppm, .0156,.0012,8.023, .0164, .0147
S_1820,182.034 {485},Y_2243,ppm, 13.02,.0307,.2355, 13.04, 13.00
Sb2068,206.833 {463},Y_2243,ppm, -.0047,.0011,24.34, -.0039, -.0055
Se1960,196.090 {472},Y_2243,ppm, -.0002,.0005,222.4, .0001, -.0005
Si2516,251.611 {134},Y_3710,ppm, 3.667,.0154,.4193, 3.656, 3.678
Sn1899,189.989 {477},In2306,ppm, .0464,.0001,.2491, .0465, .0463
Sr4215,421.552 { 80},Y_3710,ppm, 4.588,.0287,.6247, 4.568, 4.608
Ti3349,334.904 {101},Y_3600,ppm, 10.19,.0215,.2110, 10.18, 10.21
Tl1908,190.856 {477},In2306,ppm, .0048,.0021,43.41, .0033, .0063
U_3670,367.007 { 92},Y_3600,ppm, .2544,.0752,29.54, .2013, .3076
V_2924,292.402 {115},Y_3600,ppm, .1962,.0003,.1377, .1961, .1964
W_2397,239.709 {140},Y_2243,ppm, -.7747,.0394,5.080, -.7469, -.8026
Zn2062,206.200 {463},In2306,ppm, .1469,.0012,.7884, .1477, .1461

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 255.85,3.8920,1.5212,258.60,253.10
In2306,230.606 {446},Cts/S, 14580.,46.896,.32164,14547.,14613.
Y_2243,224.306 {450},Cts/S, 30137.,115.01,.38161,30056.,30218.
Y_3600,360.073 { 94},Cts/S, 255710.,412.71,.16140,256010.,255420.
Y_3710,371.030 { 91},Cts/S, 16230.,60.025,.36983,16273.,16188.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0000,.0001,137.7, -.0000, -.0001
Al3082,308.215 {109},In2306,ppm, 128.7,.5683,.4415, 129.1, 128.3
As1890,189.042 {478},Y_2243,ppm, .1067,.0014,1.307, .1076, .1057
B_2496,249.678 {135},Y_3710,ppm, .7881,.0021,.2602, .7896, .7867
Ba4554,455.403 { 74},Y_3710,ppm, 6.244,.0240,.3851, 6.227, 6.261
Be3130,313.042 {108},Y_3710,ppm, .0392,.0000,.0376, .0392, .0392
Ca3158,315.887 {107},In2306,ppm, 27.40,.2085,.7612, 27.54, 27.25
Cd2288,228.802 {447},Y_2243,ppm, .0008,.0001,9.840, .0007, .0008
Co2286,228.616 {447},In2306,ppm, 4.658,.0105,.2249, 4.666, 4.651
Cr2677,267.716 {126},Y_3600,ppm, .1511,.0000,.0107, .1511, .1511
Cu3247,324.754 {104},Y_3600,ppm, .1422,.0003,.2149, .1424, .1420
Fe2404,240.488 {140},In2306,ppm, 92.51,.4995,.5399, 92.86, 92.15
K_7664,766.490 { 44},Y_3710,ppm, .2935,.0085,2.895, .2996, .2875
Li6707,670.784 { 50},Y_3710,ppm, .0195,.0001,.7107, .0194, .0196
Mg2790,279.079 {121},Y_3710,ppm, 9.738,.0241,.2480, 9.721, 9.755
Mn2576,257.610 {131},Y_3600,ppm, 1.698,.0013,.0770, 1.697, 1.699
Mo2020,202.030 {467},Y_2243,ppm, .0495,.0001,.1077, .0495, .0495
Na5895,589.592 { 57},Y_3710,ppm, 1.044,.0108,1.032, 1.036, 1.051
Ni2316,231.604 {445},In2306,ppm, .6519,.0027,.4077, .6538, .6500
P_1782,178.284 {489},In2306,ppm, 10.22,.0414,.4046, 10.25, 10.19
Pb2203,220.353 {453},In2306,ppm, .0192,.0011,5.543, .0199, .0184
S_1820,182.034 {485},Y_2243,ppm, 16.95,.0186,.1098, 16.96, 16.94
Sb2068,206.833 {463},Y_2243,ppm, -.0061,.0019,31.30, -.0047, -.0074
Se1960,196.090 {472},Y_2243,ppm, -.0009,.0002,20.05, -.0008, -.0011
Si2516,251.611 {134},Y_3710,ppm, 4.244,.0062,.1472, 4.249, 4.240
Sn1899,189.989 {477},In2306,ppm, .0523,.0001,.2672, .0522, .0524
Sr4215,421.552 { 80},Y_3710,ppm, 4.763,.0176,.3694, 4.751, 4.776
Ti3349,334.904 {101},Y_3600,ppm, 12.45,.0009,.0075, 12.45, 12.45
Tl1908,190.856 {477},In2306,ppm, .0033,.0037,111.7, .0059, .0007
U_3670,367.007 { 92},Y_3600,ppm, .4033,.0265,6.574, .4220, .3846
V_2924,292.402 {115},Y_3600,ppm, .2399,.0007,.2906, .2404, .2394
W_2397,239.709 {140},Y_2243,ppm, -1.097,.0856,7.800, -1.158, -1.037
Zn2062,206.200 {463},In2306,ppm, .2452,.0018,.7350, .2465, .2439

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 255.35,1.5761,.61722,254.23,256.46
In2306,230.606 {446},Cts/S, 14441.,1.6358,.01133,14442.,14440.
Y_2243,224.306 {450},Cts/S, 31489.,23.318,.07405,31505.,31472.
Y_3600,360.073 { 94},Cts/S, 269250.,337.61,.12539,269490.,269010.
Y_3710,371.030 { 91},Cts/S, 17068.,18.147,.10632,17081.,17056.

[Sample Header]
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Mode=CONC
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CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0005,.0002,34.25, .0007, .0004
Al3082,308.215 {109},In2306,ppm, 6.976,.1241,1.780, 7.064, 6.888
As1890,189.042 {478},Y_2243,ppm, .0020,.0001,7.042, .0021, .0019
B_2496,249.678 {135},Y_3710,ppm, .0211,.0025,11.91, .0194, .0229
Ba4554,455.403 { 74},Y_3710,ppm, .0711,.0004,.5477, .0714, .0708
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,224.1, .0000, -.0001
Ca3158,315.887 {107},In2306,ppm, .0698,.0116,16.65, .0780, .0616
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0001,69.64, -.0002, -.0001
Co2286,228.616 {447},In2306,ppm, .0124,.0003,2.345, .0122, .0126
Cr2677,267.716 {126},Y_3600,ppm, -.0001,.0001,82.86, -.0000, -.0001
Cu3247,324.754 {104},Y_3600,ppm, .0038,.0000,.3571, .0039, .0038
Fe2404,240.488 {140},In2306,ppm, -.0081,.0018,22.38, -.0068, -.0094
K_7664,766.490 { 44},Y_3710,ppm, .0403,.0141,35.04, .0502, .0303
Li6707,670.784 { 50},Y_3710,ppm, -.0006,.0001,20.39, -.0005, -.0007
Mg2790,279.079 {121},Y_3710,ppm, .0508,.0037,7.210, .0482, .0534
Mn2576,257.610 {131},Y_3600,ppm, .0028,.0001,2.244, .0029, .0028
Mo2020,202.030 {467},Y_2243,ppm, .0199,.0003,1.480, .0201, .0196
Na5895,589.592 { 57},Y_3710,ppm, 66.01,.4613,.6989, 66.34, 65.68
Ni2316,231.604 {445},In2306,ppm, 25.73,.0480,.1865, 25.76, 25.69
P_1782,178.284 {489},In2306,ppm, .0059,.0000,.4939, .0059, .0059
Pb2203,220.353 {453},In2306,ppm, .0005,.0005,84.36, .0009, .0002
S_1820,182.034 {485},Y_2243,ppm, .0508,.0013,2.655, .0517, .0498
Sb2068,206.833 {463},Y_2243,ppm, -.0005,.0002,31.26, -.0004, -.0006
Se1960,196.090 {472},Y_2243,ppm, -.0031,.0003,11.15, -.0033, -.0028
Si2516,251.611 {134},Y_3710,ppm, .0332,.0052,15.69, .0368, .0295
Sn1899,189.989 {477},In2306,ppm, .0022,.0008,35.44, .0027, .0016
Sr4215,421.552 { 80},Y_3710,ppm, .0037,.0004,10.69, .0040, .0034
Ti3349,334.904 {101},Y_3600,ppm, .0034,.0003,9.354, .0036, .0031
Tl1908,190.856 {477},In2306,ppm, .0065,.0015,23.27, .0055, .0076
U_3670,367.007 { 92},Y_3600,ppm, -.1948,.1336,68.56, -.2893, -.1004
V_2924,292.402 {115},Y_3600,ppm, -.0001,.0001,53.23, -.0002, -.0001
W_2397,239.709 {140},Y_2243,ppm, -.0111,.0709,639.0, .0390, -.0612
Zn2062,206.200 {463},In2306,ppm, .0353,.0002,.5796, .0354, .0351

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 259.77,2.0489,.78874,258.32,261.22
In2306,230.606 {446},Cts/S, 14842.,3.5115,.02366,14844.,14839.
Y_2243,224.306 {450},Cts/S, 24104.,27.268,.11313,24123.,24084.
Y_3600,360.073 { 94},Cts/S, 206660.,188.43,.09118,206530.,206790.
Y_3710,371.030 { 91},Cts/S, 13188.,40.913,.31024,13159.,13217.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .1258,.0003,.2323, .1260, .1256
Al3082,308.215 {109},In2306,ppm, 12.18,.0255,.2092, 12.16, 12.19
As1890,189.042 {478},Y_2243,ppm, .5095,.0029,.5762, .5115, .5074
B_2496,249.678 {135},Y_3710,ppm, .2601,.0060,2.291, .2559, .2643
Ba4554,455.403 { 74},Y_3710,ppm, .5781,.0046,.7873, .5749, .5813
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Be3130,313.042 {108},Y_3710,ppm, .4964,.0013,.2649, .4954, .4973
Ca3158,315.887 {107},In2306,ppm, 4.963,.0252,.5074, 4.981, 4.945
Cd2288,228.802 {447},Y_2243,ppm, .4982,.0000,.0015, .4982, .4982
Co2286,228.616 {447},In2306,ppm, .5067,.0010,.1997, .5075, .5060
Cr2677,267.716 {126},Y_3600,ppm, .4733,.0015,.3147, .4722, .4743
Cu3247,324.754 {104},Y_3600,ppm, .4894,.0020,.4119, .4908, .4880
Fe2404,240.488 {140},In2306,ppm, 4.959,.0367,.7396, 4.985, 4.933
K_7664,766.490 { 44},Y_3710,ppm, 5.040,.0099,.1974, 5.032, 5.047
Li6707,670.784 { 50},Y_3710,ppm, .4928,.0011,.2305, .4920, .4936
Mg2790,279.079 {121},Y_3710,ppm, 5.023,.0349,.6943, 4.999, 5.048
Mn2576,257.610 {131},Y_3600,ppm, .4939,.0013,.2668, .4929, .4948
Mo2020,202.030 {467},Y_2243,ppm, .5258,.0017,.3176, .5270, .5246
Na5895,589.592 { 57},Y_3710,ppm, 70.79,.3833,.5414, 70.52, 71.06
Ni2316,231.604 {445},In2306,ppm, 26.32,.0755,.2867, 26.37, 26.26
P_1782,178.284 {489},In2306,ppm, 2.666,.0121,.4523, 2.674, 2.657
Pb2203,220.353 {453},In2306,ppm, .4965,.0026,.5150, .4983, .4947
S_1820,182.034 {485},Y_2243,ppm, 1.952,.0211,1.080, 1.967, 1.938
Sb2068,206.833 {463},Y_2243,ppm, .8208,.0014,.1751, .8218, .8197
Se1960,196.090 {472},Y_2243,ppm, .4946,.0004,.0796, .4949, .4943
Si2516,251.611 {134},Y_3710,ppm, 1.625,.0356,2.191, 1.600, 1.651
Sn1899,189.989 {477},In2306,ppm, .4995,.0027,.5473, .5014, .4976
Sr4215,421.552 { 80},Y_3710,ppm, .5041,.0045,.8976, .5009, .5073
Ti3349,334.904 {101},Y_3600,ppm, .4890,.0002,.0373, .4889, .4892
Tl1908,190.856 {477},In2306,ppm, .4677,.0013,.2742, .4686, .4668
U_3670,367.007 { 92},Y_3600,ppm, .0650,.0087,13.41, .0712, .0589
V_2924,292.402 {115},Y_3600,ppm, .4808,.0005,.1131, .4804, .4812
W_2397,239.709 {140},Y_2243,ppm, .2678,.0570,21.29, .2275, .3082
Zn2062,206.200 {463},In2306,ppm, .2905,.0019,.6643, .2918, .2891

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 258.78,2.0942,.80925,257.30,260.26
In2306,230.606 {446},Cts/S, 14634.,.64622,.00442,14635.,14634.
Y_2243,224.306 {450},Cts/S, 24127.,33.255,.13783,24151.,24104.
Y_3600,360.073 { 94},Cts/S, 205450.,337.29,.16417,205690.,205210.
Y_3710,371.030 { 91},Cts/S, 13240.,18.923,.14293,13226.,13253.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0014,.0005,32.94, .0011, .0017
Al3082,308.215 {109},In2306,ppm, .0834,.0287,34.46, .1038, .0631
As1890,189.042 {478},Y_2243,ppm, -.0003,.0010,341.2, .0004, -.0010
B_2496,249.678 {135},Y_3710,ppm, .0077,.0038,49.72, .0050, .0104
Ba4554,455.403 { 74},Y_3710,ppm, .0066,.0002,2.414, .0067, .0065
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,31.34, .0000, .0000
Ca3158,315.887 {107},In2306,ppm, .1339,.0040,2.973, .1310, .1367
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0000,670.0, .0000, -.0000
Co2286,228.616 {447},In2306,ppm, .0004,.0001,24.15, .0003, .0004
Cr2677,267.716 {126},Y_3600,ppm, .0001,.0000,2.974, .0001, .0001
Cu3247,324.754 {104},Y_3600,ppm, .0019,.0003,17.46, .0017, .0022
Fe2404,240.488 {140},In2306,ppm, .0133,.0042,31.25, .0104, .0163
K_7664,766.490 { 44},Y_3710,ppm, .0652,.0328,50.36, .0884, .0420
Li6707,670.784 { 50},Y_3710,ppm, -.0001,.0004,253.5, .0001, -.0004
Mg2790,279.079 {121},Y_3710,ppm, .0477,.0222,46.59, .0320, .0634
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Mn2576,257.610 {131},Y_3600,ppm, .0025,.0000,.2361, .0025, .0025
Mo2020,202.030 {467},Y_2243,ppm, .4236,.0007,.1715, .4241, .4231
Na5895,589.592 { 57},Y_3710,ppm, 70.72,.1820,.2573, 70.85, 70.59
Ni2316,231.604 {445},In2306,ppm, .5227,.0012,.2231, .5235, .5219
P_1782,178.284 {489},In2306,ppm, .0120,.0005,3.787, .0123, .0117
Pb2203,220.353 {453},In2306,ppm, .0000,.0012,3998., -.0008, .0009
S_1820,182.034 {485},Y_2243,ppm, 1.064,.0014,.1356, 1.063, 1.065
Sb2068,206.833 {463},Y_2243,ppm, .0012,.0020,168.0, .0026, -.0002
Se1960,196.090 {472},Y_2243,ppm, .0021,.0003,13.13, .0023, .0019
Si2516,251.611 {134},Y_3710,ppm, .0192,.0008,4.146, .0187, .0198
Sn1899,189.989 {477},In2306,ppm, -.0003,.0001,39.80, -.0004, -.0002
Sr4215,421.552 { 80},Y_3710,ppm, .0010,.0000,2.595, .0011, .0010
Ti3349,334.904 {101},Y_3600,ppm, .0010,.0002,17.20, .0009, .0011
Tl1908,190.856 {477},In2306,ppm, .0274,.0020,7.369, .0289, .0260
U_3670,367.007 { 92},Y_3600,ppm, -.1284,.0196,15.28, -.1146, -.1423
V_2924,292.402 {115},Y_3600,ppm, -.0030,.0002,5.552, -.0028, -.0031
W_2397,239.709 {140},Y_2243,ppm, .0009,.0196,2093., .0148, -.0129
Zn2062,206.200 {463},In2306,ppm, 5.467,.0281,.5137, 5.487, 5.447

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 257.53,3.6738,1.4265,254.94,260.13
In2306,230.606 {446},Cts/S, 14709.,52.927,.35982,14672.,14747.
Y_2243,224.306 {450},Cts/S, 23846.,52.814,.22149,23808.,23883.
Y_3600,360.073 { 94},Cts/S, 204400.,645.13,.31562,203940.,204850.
Y_3710,371.030 { 91},Cts/S, 13064.,127.03,.97235,12975.,13154.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .1273,.0006,.4724, .1269, .1278
Al3082,308.215 {109},In2306,ppm, 5.271,.0876,1.663, 5.209, 5.333
As1890,189.042 {478},Y_2243,ppm, .5128,.0031,.5955, .5150, .5107
B_2496,249.678 {135},Y_3710,ppm, .2565,.0063,2.438, .2521, .2609
Ba4554,455.403 { 74},Y_3710,ppm, .5189,.0037,.7076, .5163, .5215
Be3130,313.042 {108},Y_3710,ppm, .5039,.0003,.0602, .5037, .5042
Ca3158,315.887 {107},In2306,ppm, 5.125,.0847,1.652, 5.065, 5.185
Cd2288,228.802 {447},Y_2243,ppm, .5027,.0006,.1162, .5031, .5023
Co2286,228.616 {447},In2306,ppm, .5028,.0013,.2636, .5037, .5018
Cr2677,267.716 {126},Y_3600,ppm, .4781,.0018,.3710, .4769, .4794
Cu3247,324.754 {104},Y_3600,ppm, .4915,.0025,.5014, .4897, .4932
Fe2404,240.488 {140},In2306,ppm, 5.123,.0611,1.192, 5.080, 5.166
K_7664,766.490 { 44},Y_3710,ppm, 5.061,.0173,.3414, 5.049, 5.073
Li6707,670.784 { 50},Y_3710,ppm, .4960,.0033,.6735, .4936, .4983
Mg2790,279.079 {121},Y_3710,ppm, 5.069,.0121,.2382, 5.077, 5.060
Mn2576,257.610 {131},Y_3600,ppm, .4971,.0001,.0249, .4972, .4970
Mo2020,202.030 {467},Y_2243,ppm, .9274,.0007,.0788, .9269, .9279
Na5895,589.592 { 57},Y_3710,ppm, 74.73,.2096,.2805, 74.58, 74.88
Ni2316,231.604 {445},In2306,ppm, 1.028,.0039,.3795, 1.030, 1.025
P_1782,178.284 {489},In2306,ppm, 2.716,.0031,.1135, 2.718, 2.714
Pb2203,220.353 {453},In2306,ppm, .5053,.0026,.5220, .5072, .5034
S_1820,182.034 {485},Y_2243,ppm, 2.955,.0082,.2777, 2.949, 2.961
Sb2068,206.833 {463},Y_2243,ppm, .8281,.0034,.4137, .8305, .8256
Se1960,196.090 {472},Y_2243,ppm, .5064,.0007,.1436, .5059, .5069
Si2516,251.611 {134},Y_3710,ppm, 4.088,.0469,1.147, 4.055, 4.122
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Sn1899,189.989 {477},In2306,ppm, .5089,.0011,.2096, .5096, .5081
Sr4215,421.552 { 80},Y_3710,ppm, .5064,.0024,.4744, .5047, .5081
Ti3349,334.904 {101},Y_3600,ppm, .4944,.0000,.0041, .4944, .4943
Tl1908,190.856 {477},In2306,ppm, .5002,.0030,.5919, .5023, .4981
U_3670,367.007 { 92},Y_3600,ppm, .2411,.0335,13.90, .2174, .2648
V_2924,292.402 {115},Y_3600,ppm, .4835,.0015,.3072, .4824, .4845
W_2397,239.709 {140},Y_2243,ppm, .2558,.0543,21.23, .2174, .2942
Zn2062,206.200 {463},In2306,ppm, 5.736,.0344,.6003, 5.761, 5.712

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 253.32,2.4917,.98362,255.09,251.56
In2306,230.606 {446},Cts/S, 14472.,5.9476,.04110,14476.,14467.
Y_2243,224.306 {450},Cts/S, 24006.,49.305,.20539,24041.,23971.
Y_3600,360.073 { 94},Cts/S, 204510.,630.17,.30813,204070.,204960.
Y_3710,371.030 { 91},Cts/S, 13164.,41.250,.31336,13135.,13193.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0003,.0003,119.0, .0005, .0000
Al3082,308.215 {109},In2306,ppm, 17.99,.0655,.3641, 18.04, 17.95
As1890,189.042 {478},Y_2243,ppm, .0023,.0030,130.3, .0002, .0045
B_2496,249.678 {135},Y_3710,ppm, .0067,.0036,53.20, .0092, .0042
Ba4554,455.403 { 74},Y_3710,ppm, .0227,.0001,.2961, .0228, .0227
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,55.77, .0001, .0000
Ca3158,315.887 {107},In2306,ppm, .1056,.0036,3.452, .1082, .1030
Cd2288,228.802 {447},Y_2243,ppm, -.0003,.0000,.5600, -.0003, -.0003
Co2286,228.616 {447},In2306,ppm, .0015,.0000,1.923, .0015, .0015
Cr2677,267.716 {126},Y_3600,ppm, -.0000,.0001,149.8, -.0001, .0000
Cu3247,324.754 {104},Y_3600,ppm, .0046,.0003,6.485, .0048, .0044
Fe2404,240.488 {140},In2306,ppm, -.0148,.0016,11.14, -.0136, -.0160
K_7664,766.490 { 44},Y_3710,ppm, .0874,.0210,24.01, .1022, .0725
Li6707,670.784 { 50},Y_3710,ppm, .0003,.0006,177.8, .0008, -.0001
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Mn2576,257.610 {131},Y_3600,ppm, .0017,.0000,.5835, .0017, .0017
Mo2020,202.030 {467},Y_2243,ppm, .0018,.0001,4.796, .0018, .0019
Na5895,589.592 { 57},Y_3710,ppm, 76.13,.0732,.0961, 76.08, 76.18
Ni2316,231.604 {445},In2306,ppm, 26.77,.0099,.0369, 26.77, 26.76
P_1782,178.284 {489},In2306,ppm, .0116,.0008,6.660, .0111, .0122
Pb2203,220.353 {453},In2306,ppm, -.0005,.0010,208.1, .0002, -.0012
S_1820,182.034 {485},Y_2243,ppm, .0211,.0018,8.414, .0198, .0223
Sb2068,206.833 {463},Y_2243,ppm, -.0007,.0006,90.16, -.0012, -.0003
Se1960,196.090 {472},Y_2243,ppm, -.0015,.0010,66.15, -.0008, -.0022
Si2516,251.611 {134},Y_3710,ppm, .0825,.0082,9.983, .0767, .0883
Sn1899,189.989 {477},In2306,ppm, .0055,.0002,3.658, .0054, .0056
Sr4215,421.552 { 80},Y_3710,ppm, .0014,.0000,.1234, .0014, .0014
Ti3349,334.904 {101},Y_3600,ppm, .0010,.0001,6.964, .0010, .0009
Tl1908,190.856 {477},In2306,ppm, .0318,.0011,3.367, .0326, .0310
U_3670,367.007 { 92},Y_3600,ppm, -.2800,.0051,1.811, -.2764, -.2836
V_2924,292.402 {115},Y_3600,ppm, .0002,.0003,176.4, .0004, -.0000
W_2397,239.709 {140},Y_2243,ppm, -.0108,.0215,200.3, -.0260, .0045
Zn2062,206.200 {463},In2306,ppm, .0945,.0001,.0549, .0945, .0945

[Internal Standards]
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Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 256.90,4.1642,1.6209,253.95,259.84
In2306,230.606 {446},Cts/S, 14650.,13.125,.08960,14659.,14640.
Y_2243,224.306 {450},Cts/S, 24172.,22.129,.09155,24187.,24156.
Y_3600,360.073 { 94},Cts/S, 205880.,475.54,.23098,205540.,206220.
Y_3710,371.030 { 91},Cts/S, 13162.,149.03,1.1323,13057.,13267.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0014,.0004,27.12, .0016, .0011
Al3082,308.215 {109},In2306,ppm, 2.388,.0062,.2600, 2.392, 2.383
As1890,189.042 {478},Y_2243,ppm, .0016,.0009,56.02, .0010, .0022
B_2496,249.678 {135},Y_3710,ppm, .0104,.0026,24.78, .0086, .0122
Ba4554,455.403 { 74},Y_3710,ppm, .0608,.0001,.1259, .0609, .0608
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,205.3, -.0000, .0000
Ca3158,315.887 {107},In2306,ppm, .0937,.0003,.3126, .0935, .0939
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Co2286,228.616 {447},In2306,ppm, .0030,.0001,2.478, .0031, .0030
Cr2677,267.716 {126},Y_3600,ppm, -.0002,.0002,79.20, -.0004, -.0001
Cu3247,324.754 {104},Y_3600,ppm, .0031,.0000,1.534, .0031, .0031
Fe2404,240.488 {140},In2306,ppm, -.0486,.0068,13.92, -.0438, -.0534
K_7664,766.490 { 44},Y_3710,ppm, .0415,.0120,28.98, .0330, .0500
Li6707,670.784 { 50},Y_3710,ppm, -.0003,.0000,4.065, -.0003, -.0003
Mg2790,279.079 {121},Y_3710,ppm, .0190,.0004,2.323, .0193, .0187
Mn2576,257.610 {131},Y_3600,ppm, .0014,.0000,2.869, .0014, .0014
Mo2020,202.030 {467},Y_2243,ppm, .0024,.0000,1.603, .0024, .0025
Na5895,589.592 { 57},Y_3710,ppm, 67.83,.0221,.0326, 67.81, 67.84
Ni2316,231.604 {445},In2306,ppm, 30.89,.0419,.1358, 30.92, 30.86
P_1782,178.284 {489},In2306,ppm, .0100,.0003,3.081, .0102, .0098
Pb2203,220.353 {453},In2306,ppm, .0004,.0009,218.1, .0010, -.0002
S_1820,182.034 {485},Y_2243,ppm, .0388,.0015,3.787, .0399, .0378
Sb2068,206.833 {463},Y_2243,ppm, -.0017,.0017,97.05, -.0030, -.0005
Se1960,196.090 {472},Y_2243,ppm, -.0020,.0034,175.5, .0005, -.0044
Si2516,251.611 {134},Y_3710,ppm, -.0046,.0003,6.118, -.0044, -.0048
Sn1899,189.989 {477},In2306,ppm, .0009,.0006,62.30, .0013, .0005
Sr4215,421.552 { 80},Y_3710,ppm, .0024,.0001,3.956, .0025, .0023
Ti3349,334.904 {101},Y_3600,ppm, -.0002,.0000,1.140, -.0002, -.0002
Tl1908,190.856 {477},In2306,ppm, .0137,.0002,1.796, .0138, .0135
U_3670,367.007 { 92},Y_3600,ppm, -.3200,.0021,.6631, -.3185, -.3215
V_2924,292.402 {115},Y_3600,ppm, .0003,.0000,12.23, .0003, .0003
W_2397,239.709 {140},Y_2243,ppm, .0204,.0066,32.33, .0250, .0157
Zn2062,206.200 {463},In2306,ppm, .0239,.0001,.3060, .0239, .0238

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 258.34,.56468,.21858,257.94,258.74
In2306,230.606 {446},Cts/S, 14802.,35.353,.23884,14827.,14777.
Y_2243,224.306 {450},Cts/S, 24019.,94.468,.39331,24086.,23952.
Y_3600,360.073 { 94},Cts/S, 206680.,79.965,.03869,206630.,206740.
Y_3710,371.030 { 91},Cts/S, 13242.,24.883,.18790,13225.,13260.

[Sample Header]
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SampleName=600-194953-A-1-C@2
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0011,.0001,11.65, .0012, .0010
Al3082,308.215 {109},In2306,ppm, .1927,.0112,5.801, .2006, .1848
As1890,189.042 {478},Y_2243,ppm, -.0001,.0020,1768., .0013, -.0015
B_2496,249.678 {135},Y_3710,ppm, .0022,.0002,10.50, .0024, .0021
Ba4554,455.403 { 74},Y_3710,ppm, .0089,.0001,1.431, .0090, .0088
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,66.67, -.0000, -.0000
Ca3158,315.887 {107},In2306,ppm, .0433,.0021,4.752, .0419, .0448
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0001,354.7, -.0000, .0001
Co2286,228.616 {447},In2306,ppm, .0002,.0001,40.92, .0002, .0001
Cr2677,267.716 {126},Y_3600,ppm, -.0003,.0000,.3399, -.0003, -.0003
Cu3247,324.754 {104},Y_3600,ppm, .0042,.0002,4.027, .0043, .0041
Fe2404,240.488 {140},In2306,ppm, -.0101,.0036,35.32, -.0076, -.0127
K_7664,766.490 { 44},Y_3710,ppm, .0439,.0134,30.48, .0534, .0345
Li6707,670.784 { 50},Y_3710,ppm, .0004,.0002,41.94, .0005, .0003
Mg2790,279.079 {121},Y_3710,ppm, .0060,.0145,243.0, .0162, -.0043
Mn2576,257.610 {131},Y_3600,ppm, .0039,.0000,1.223, .0039, .0040
Mo2020,202.030 {467},Y_2243,ppm, 2.519,.0026,.1027, 2.518, 2.521
Na5895,589.592 { 57},Y_3710,ppm, 69.57,.0668,.0961, 69.52, 69.61
Ni2316,231.604 {445},In2306,ppm, 8.468,.0030,.0358, 8.465, 8.470
P_1782,178.284 {489},In2306,ppm, .0334,.0006,1.822, .0338, .0329
Pb2203,220.353 {453},In2306,ppm, -.0000,.0002,4981., .0001, -.0001
S_1820,182.034 {485},Y_2243,ppm, 1.920,.0035,.1804, 1.917, 1.922
Sb2068,206.833 {463},Y_2243,ppm, .0000,.0012,5896., .0009, -.0009
Se1960,196.090 {472},Y_2243,ppm, -.0005,.0008,150.6, -.0011, .0000
Si2516,251.611 {134},Y_3710,ppm, .0205,.0038,18.76, .0178, .0232
Sn1899,189.989 {477},In2306,ppm, -.0002,.0002,119.6, -.0004, -.0000
Sr4215,421.552 { 80},Y_3710,ppm, .0010,.0001,9.440, .0009, .0011
Ti3349,334.904 {101},Y_3600,ppm, .0002,.0001,41.44, .0002, .0001
Tl1908,190.856 {477},In2306,ppm, .0077,.0002,2.390, .0076, .0079
U_3670,367.007 { 92},Y_3600,ppm, -.1520,.0019,1.217, -.1533, -.1507
V_2924,292.402 {115},Y_3600,ppm, -.0101,.0003,2.682, -.0099, -.0103
W_2397,239.709 {140},Y_2243,ppm, .0421,.0415,98.65, .0715, .0127
Zn2062,206.200 {463},In2306,ppm, .0137,.0001,.4550, .0137, .0136

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 257.84,3.3580,1.3024,255.46,260.21
In2306,230.606 {446},Cts/S, 14674.,26.227,.17873,14656.,14693.
Y_2243,224.306 {450},Cts/S, 23780.,18.643,.07840,23766.,23793.
Y_3600,360.073 { 94},Cts/S, 205620.,720.84,.35057,206130.,205110.
Y_3710,371.030 { 91},Cts/S, 13223.,21.251,.16071,13208.,13238.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0000,.0001,1861., .0001, -.0001
Al3082,308.215 {109},In2306,ppm, .0047,.0184,388.2, -.0083, .0177
As1890,189.042 {478},Y_2243,ppm, .0008,.0013,150.6, -.0001, .0017
B_2496,249.678 {135},Y_3710,ppm, .2570,.0008,.2946, .2565, .2575
Ba4554,455.403 { 74},Y_3710,ppm, .0498,.0002,.3961, .0497, .0499
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,40.57, -.0001, -.0001
Ca3158,315.887 {107},In2306,ppm, 47.05,.2530,.5376, 47.23, 46.87
Cd2288,228.802 {447},Y_2243,ppm, .0005,.0000,.0616, .0005, .0005
Co2286,228.616 {447},In2306,ppm, -.0004,.0001,13.62, -.0003, -.0004
Cr2677,267.716 {126},Y_3600,ppm, .0010,.0002,16.13, .0011, .0009
Cu3247,324.754 {104},Y_3600,ppm, .0029,.0002,5.326, .0030, .0028
Fe2404,240.488 {140},In2306,ppm, .0181,.0073,40.47, .0233, .0129
K_7664,766.490 { 44},Y_3710,ppm, 9.163,.0590,.6434, 9.205, 9.122
Li6707,670.784 { 50},Y_3710,ppm, .0428,.0007,1.678, .0423, .0433
Mg2790,279.079 {121},Y_3710,ppm, 49.75,.0337,.0676, 49.73, 49.78
Mn2576,257.610 {131},Y_3600,ppm, .0207,.0001,.3784, .0207, .0206
Mo2020,202.030 {467},Y_2243,ppm, .0030,.0000,1.015, .0031, .0030
Na5895,589.592 { 57},Y_3710,ppm, 470.3,6.133,1.304, 474.7, 466.0
Ni2316,231.604 {445},In2306,ppm, .0022,.0005,21.03, .0019, .0025
P_1782,178.284 {489},In2306,ppm, .0391,.0015,3.773, .0381, .0402
Pb2203,220.353 {453},In2306,ppm, -.0020,.0001,6.896, -.0019, -.0021
S_1820,182.034 {485},Y_2243,ppm, 24.35,.0276,.1134, 24.37, 24.33
Sb2068,206.833 {463},Y_2243,ppm, .0006,.0005,85.39, .0002, .0009
Se1960,196.090 {472},Y_2243,ppm, -.0017,.0004,24.72, -.0020, -.0014
Si2516,251.611 {134},Y_3710,ppm, 8.055,.0950,1.180, 8.122, 7.988
Sn1899,189.989 {477},In2306,ppm, -.0005,.0000,.8066, -.0005, -.0005
Sr4215,421.552 { 80},Y_3710,ppm, .5166,.0008,.1529, .5172, .5161
Ti3349,334.904 {101},Y_3600,ppm, .0004,.0000,2.871, .0004, .0004
Tl1908,190.856 {477},In2306,ppm, .0017,.0056,325.0, .0057, -.0023
U_3670,367.007 { 92},Y_3600,ppm, -.0247,.0154,62.18, -.0356, -.0138
V_2924,292.402 {115},Y_3600,ppm, -.0006,.0001,21.95, -.0005, -.0006
W_2397,239.709 {140},Y_2243,ppm, .0242,.0525,216.9, .0614, -.0129
Zn2062,206.200 {463},In2306,ppm, .0039,.0000,.7768, .0039, .0039

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 248.59,1.5065,.60604,247.52,249.65
In2306,230.606 {446},Cts/S, 12566.,9.5570,.07605,12559.,12573.
Y_2243,224.306 {450},Cts/S, 21753.,11.940,.05489,21761.,21745.
Y_3600,360.073 { 94},Cts/S, 186700.,588.92,.31543,186290.,187120.
Y_3710,371.030 { 91},Cts/S, 12868.,51.711,.40185,12832.,12905.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .4885,.0008,.1537, .4890, .4879
Al3082,308.215 {109},In2306,ppm, 20.12,.0376,.1868, 20.09, 20.14
As1890,189.042 {478},Y_2243,ppm, 1.003,.0022,.2198, 1.001, 1.004
B_2496,249.678 {135},Y_3710,ppm, .9866,.0041,.4151, .9895, .9837
Ba4554,455.403 { 74},Y_3710,ppm, 1.019,.0018,.1754, 1.018, 1.021
Be3130,313.042 {108},Y_3710,ppm, .9894,.0085,.8543, .9834, .9954
Ca3158,315.887 {107},In2306,ppm, 19.22,.1979,1.030, 19.08, 19.36
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Cd2288,228.802 {447},Y_2243,ppm, .9834,.0006,.0643, .9839, .9830
Co2286,228.616 {447},In2306,ppm, .9883,.0005,.0468, .9880, .9886
Cr2677,267.716 {126},Y_3600,ppm, .9382,.0024,.2556, .9365, .9399
Cu3247,324.754 {104},Y_3600,ppm, .9690,.0013,.1313, .9681, .9699
Fe2404,240.488 {140},In2306,ppm, 19.73,.1010,.5120, 19.66, 19.81
K_7664,766.490 { 44},Y_3710,ppm, 19.54,.1394,.7133, 19.44, 19.64
Li6707,670.784 { 50},Y_3710,ppm, .9876,.0013,.1309, .9867, .9885
Mg2790,279.079 {121},Y_3710,ppm, 19.94,.1388,.6962, 19.84, 20.04
Mn2576,257.610 {131},Y_3600,ppm, .9876,.0011,.1107, .9868, .9883
Mo2020,202.030 {467},Y_2243,ppm, 1.015,.0029,.2821, 1.017, 1.013
Na5895,589.592 { 57},Y_3710,ppm, 20.05,.0361,.1801, 20.02, 20.07
Ni2316,231.604 {445},In2306,ppm, 1.010,.0004,.0350, 1.010, 1.011
P_1782,178.284 {489},In2306,ppm, 10.42,.0072,.0689, 10.41, 10.42
Pb2203,220.353 {453},In2306,ppm, .9979,.0013,.1295, .9970, .9988
S_1820,182.034 {485},Y_2243,ppm, 7.431,.0015,.0197, 7.430, 7.432
Sb2068,206.833 {463},Y_2243,ppm, 2.181,.0058,.2673, 2.185, 2.177
Se1960,196.090 {472},Y_2243,ppm, .9960,.0032,.3187, .9937, .9982
Si2516,251.611 {134},Y_3710,ppm, 8.783,.0759,.8646, 8.729, 8.837
Sn1899,189.989 {477},In2306,ppm, 1.006,.0062,.6130, 1.002, 1.011
Sr4215,421.552 { 80},Y_3710,ppm, 1.005,.0022,.2224, 1.004, 1.007
Ti3349,334.904 {101},Y_3600,ppm, .9768,.0010,.1030, .9761, .9776
Tl1908,190.856 {477},In2306,ppm, 1.047,.0087,.8349, 1.041, 1.053
U_3670,367.007 { 92},Y_3600,ppm, .8519,.0824,9.668, .9101, .7937
V_2924,292.402 {115},Y_3600,ppm, .9628,.0030,.3139, .9607, .9650
W_2397,239.709 {140},Y_2243,ppm, 1.236,.0573,4.635, 1.276, 1.195
Zn2062,206.200 {463},In2306,ppm, .9889,.0028,.2875, .9869, .9909

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 256.31,.02029,.00791,256.29,256.32
In2306,230.606 {446},Cts/S, 14508.,27.159,.18720,14489.,14527.
Y_2243,224.306 {450},Cts/S, 24118.,64.286,.26655,24072.,24163.
Y_3600,360.073 { 94},Cts/S, 206820.,130.69,.06319,206910.,206730.
Y_3710,371.030 { 91},Cts/S, 13211.,28.732,.21750,13231.,13190.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0104,.0001,.8691, .0103, .0104
Al3082,308.215 {109},In2306,ppm, .1878,.0210,11.20, .1729, .2027
As1890,189.042 {478},Y_2243,ppm, .0209,.0007,3.353, .0214, .0204
B_2496,249.678 {135},Y_3710,ppm, .2240,.0042,1.873, .2269, .2210
Ba4554,455.403 { 74},Y_3710,ppm, .0224,.0001,.3773, .0223, .0224
Be3130,313.042 {108},Y_3710,ppm, .0112,.0000,.3651, .0112, .0112
Ca3158,315.887 {107},In2306,ppm, .9956,.0190,1.912, .9821, 1.009
Cd2288,228.802 {447},Y_2243,ppm, .0109,.0001,1.170, .0108, .0110
Co2286,228.616 {447},In2306,ppm, .0105,.0002,1.916, .0104, .0106
Cr2677,267.716 {126},Y_3600,ppm, .0107,.0001,1.157, .0106, .0108
Cu3247,324.754 {104},Y_3600,ppm, .0123,.0000,.1575, .0122, .0123
Fe2404,240.488 {140},In2306,ppm, .2162,.0024,1.115, .2179, .2145
K_7664,766.490 { 44},Y_3710,ppm, 1.051,.0078,.7410, 1.056, 1.045
Li6707,670.784 { 50},Y_3710,ppm, .0112,.0009,8.103, .0105, .0118
Mg2790,279.079 {121},Y_3710,ppm, 1.092,.0024,.2211, 1.090, 1.094
Mn2576,257.610 {131},Y_3600,ppm, .0111,.0000,.3458, .0110, .0111
Mo2020,202.030 {467},Y_2243,ppm, .0235,.0002,.8424, .0234, .0237
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Na5895,589.592 { 57},Y_3710,ppm, 1.098,.0002,.0190, 1.098, 1.098
Ni2316,231.604 {445},In2306,ppm, .0113,.0003,2.589, .0111, .0116
P_1782,178.284 {489},In2306,ppm, .9849,.0030,.3086, .9828, .9871
Pb2203,220.353 {453},In2306,ppm, .0104,.0002,1.468, .0103, .0105
S_1820,182.034 {485},Y_2243,ppm, .3584,.0001,.0228, .3585, .3583
Sb2068,206.833 {463},Y_2243,ppm, .0563,.0002,.3933, .0561, .0564
Se1960,196.090 {472},Y_2243,ppm, .0216,.0012,5.481, .0207, .0224
Si2516,251.611 {134},Y_3710,ppm, .1889,.0012,.6493, .1898, .1880
Sn1899,189.989 {477},In2306,ppm, .0209,.0009,4.128, .0203, .0215
Sr4215,421.552 { 80},Y_3710,ppm, .0113,.0000,.1683, .0113, .0113
Ti3349,334.904 {101},Y_3600,ppm, .0113,.0000,.0174, .0113, .0113
Tl1908,190.856 {477},In2306,ppm, .0543,.0049,8.942, .0578, .0509
U_3670,367.007 { 92},Y_3600,ppm, -.0383,.0203,52.90, -.0527, -.0240
V_2924,292.402 {115},Y_3600,ppm, .0105,.0000,.0519, .0105, .0105
W_2397,239.709 {140},Y_2243,ppm, .0099,.0878,890.6, -.0522, .0719
Zn2062,206.200 {463},In2306,ppm, .0184,.0000,.0513, .0184, .0184

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 262.88,.37722,.14350,263.15,262.62
In2306,230.606 {446},Cts/S, 16014.,2.9178,.01822,16016.,16012.
Y_2243,224.306 {450},Cts/S, 24813.,11.293,.04551,24805.,24821.
Y_3600,360.073 { 94},Cts/S, 215190.,528.10,.24540,215570.,214820.
Y_3710,371.030 { 91},Cts/S, 13336.,54.082,.40554,13298.,13374.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0001,.0006,443.5, .0006, -.0003
Al3082,308.215 {109},In2306,ppm, -.0071,.0021,28.88, -.0086, -.0057
As1890,189.042 {478},Y_2243,ppm, -.0010,.0006,57.06, -.0014, -.0006
B_2496,249.678 {135},Y_3710,ppm, .0057,.0079,138.4, .0001, .0113
Ba4554,455.403 { 74},Y_3710,ppm, -.0002,.0000,1.039, -.0002, -.0002
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,551.5, -.0000, .0000
Ca3158,315.887 {107},In2306,ppm, -.0148,.0044,29.60, -.0117, -.0179
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0001,527.1, -.0001, .0001
Co2286,228.616 {447},In2306,ppm, -.0000,.0000,376.7, -.0000, .0000
Cr2677,267.716 {126},Y_3600,ppm, -.0002,.0000,19.38, -.0002, -.0002
Cu3247,324.754 {104},Y_3600,ppm, .0022,.0002,7.444, .0021, .0023
Fe2404,240.488 {140},In2306,ppm, .0061,.0042,68.62, .0032, .0091
K_7664,766.490 { 44},Y_3710,ppm, .0123,.0201,163.6, .0265, -.0019
Li6707,670.784 { 50},Y_3710,ppm, -.0004,.0004,97.99, -.0007, -.0001
Mg2790,279.079 {121},Y_3710,ppm, .0108,.0229,212.6, .0269, -.0054
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,9.041, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, .0001,.0002,141.0, .0002, .0000
Na5895,589.592 { 57},Y_3710,ppm, .0114,.0019,16.28, .0101, .0127
Ni2316,231.604 {445},In2306,ppm, .0005,.0001,28.91, .0004, .0006
P_1782,178.284 {489},In2306,ppm, .0010,.0010,100.5, .0018, .0003
Pb2203,220.353 {453},In2306,ppm, .0000,.0003,1284., .0002, -.0002
S_1820,182.034 {485},Y_2243,ppm, .0008,.0028,347.3, .0028, -.0012
Sb2068,206.833 {463},Y_2243,ppm, .0009,.0010,116.2, .0015, .0002
Se1960,196.090 {472},Y_2243,ppm, .0006,.0028,467.9, -.0014, .0026
Si2516,251.611 {134},Y_3710,ppm, .0016,.0016,97.93, .0005, .0028
Sn1899,189.989 {477},In2306,ppm, .0003,.0001,28.02, .0003, .0004
Sr4215,421.552 { 80},Y_3710,ppm, .0002,.0001,78.19, .0001, .0003
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Ti3349,334.904 {101},Y_3600,ppm, .0001,.0000,19.51, .0001, .0001
Tl1908,190.856 {477},In2306,ppm, .0147,.0009,5.810, .0153, .0141
U_3670,367.007 { 92},Y_3600,ppm, -.1552,.0017,1.097, -.1564, -.1540
V_2924,292.402 {115},Y_3600,ppm, -.0000,.0001,187.5, .0000, -.0001
W_2397,239.709 {140},Y_2243,ppm, -.0031,.0371,1207., .0232, -.0293
Zn2062,206.200 {463},In2306,ppm, -.0014,.0001,4.545, -.0015, -.0014

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 264.80,.78510,.29649,264.25,265.36
In2306,230.606 {446},Cts/S, 16175.,56.542,.34956,16215.,16135.
Y_2243,224.306 {450},Cts/S, 24708.,29.908,.12105,24729.,24687.
Y_3600,360.073 { 94},Cts/S, 214920.,133.52,.06212,215010.,214820.
Y_3710,371.030 { 91},Cts/S, 13203.,3.2116,.02432,13201.,13206.

[Sample Header]
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Custom ID2=
Custom ID3=
Run Time=11/12/2019 11:54:50
Sample Type=Unk
Mode=CONC
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0004,.0004,93.86, .0007, .0001
Al3082,308.215 {109},In2306,ppm, -.0276,.0058,20.81, -.0236, -.0317
As1890,189.042 {478},Y_2243,ppm, -.0006,.0001,11.16, -.0007, -.0006
B_2496,249.678 {135},Y_3710,ppm, -.0014,.0021,148.1, .0001, -.0029
Ba4554,455.403 { 74},Y_3710,ppm, -.0003,.0001,20.08, -.0002, -.0003
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,154.0, -.0001, .0000
Ca3158,315.887 {107},In2306,ppm, -.0166,.0010,6.126, -.0158, -.0173
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,5.209, .0001, .0001
Co2286,228.616 {447},In2306,ppm, .0001,.0002,148.7, -.0000, .0002
Cr2677,267.716 {126},Y_3600,ppm, .0000,.0001,11430., .0001, -.0001
Cu3247,324.754 {104},Y_3600,ppm, .0019,.0001,5.471, .0018, .0020
Fe2404,240.488 {140},In2306,ppm, .0013,.0076,604.2, .0067, -.0041
K_7664,766.490 { 44},Y_3710,ppm, .0084,.0181,216.9, .0212, -.0045
Li6707,670.784 { 50},Y_3710,ppm, -.0005,.0003,54.27, -.0006, -.0003
Mg2790,279.079 {121},Y_3710,ppm, .0146,.0040,27.22, .0174, .0118
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,48.02, -.0000, -.0000
Mo2020,202.030 {467},Y_2243,ppm, .0003,.0001,46.74, .0002, .0004
Na5895,589.592 { 57},Y_3710,ppm, .0098,.0070,71.96, .0147, .0048
Ni2316,231.604 {445},In2306,ppm, .0003,.0001,25.00, .0002, .0004
P_1782,178.284 {489},In2306,ppm, .0009,.0002,25.94, .0007, .0010
Pb2203,220.353 {453},In2306,ppm, -.0001,.0006,460.7, -.0005, .0003
S_1820,182.034 {485},Y_2243,ppm, .0039,.0016,42.21, .0027, .0050
Sb2068,206.833 {463},Y_2243,ppm, -.0008,.0012,148.8, .0000, -.0016
Se1960,196.090 {472},Y_2243,ppm, .0008,.0001,12.55, .0009, .0008
Si2516,251.611 {134},Y_3710,ppm, -.0054,.0040,73.83, -.0083, -.0026
Sn1899,189.989 {477},In2306,ppm, -.0006,.0003,52.90, -.0004, -.0009
Sr4215,421.552 { 80},Y_3710,ppm, .0001,.0000,21.80, .0001, .0001
Ti3349,334.904 {101},Y_3600,ppm, .0003,.0002,83.38, .0004, .0001
Tl1908,190.856 {477},In2306,ppm, .0080,.0014,17.20, .0090, .0070
U_3670,367.007 { 92},Y_3600,ppm, -.2150,.0532,24.74, -.1774, -.2526
V_2924,292.402 {115},Y_3600,ppm, .0003,.0002,65.02, .0004, .0001
W_2397,239.709 {140},Y_2243,ppm, .0194,.0205,105.8, .0049, .0339
Zn2062,206.200 {463},In2306,ppm, .0020,.0002,8.375, .0019, .0021

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 264.33,.27812,.10522,264.14,264.53
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In2306,230.606 {446},Cts/S, 16199.,31.784,.19620,16177.,16222.
Y_2243,224.306 {450},Cts/S, 24762.,99.260,.40086,24691.,24832.
Y_3600,360.073 { 94},Cts/S, 216800.,383.93,.17709,217080.,216530.
Y_3710,371.030 { 91},Cts/S, 13383.,114.57,.85609,13464.,13302.

[Sample Header]
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Custom ID3=
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2480,.0000,.0196, .2480, .2481
Al3082,308.215 {109},In2306,ppm, 10.21,.0447,.4377, 10.18, 10.25
As1890,189.042 {478},Y_2243,ppm, 1.002,.0004,.0417, 1.003, 1.002
B_2496,249.678 {135},Y_3710,ppm, .5051,.0080,1.593, .5108, .4994
Ba4554,455.403 { 74},Y_3710,ppm, 1.019,.0004,.0419, 1.019, 1.019
Be3130,313.042 {108},Y_3710,ppm, .9859,.0003,.0324, .9861, .9857
Ca3158,315.887 {107},In2306,ppm, 9.772,.0081,.0829, 9.767, 9.778
Cd2288,228.802 {447},Y_2243,ppm, .9898,.0011,.1096, .9906, .9891
Co2286,228.616 {447},In2306,ppm, .9742,.0032,.3288, .9764, .9719
Cr2677,267.716 {126},Y_3600,ppm, .9400,.0009,.1000, .9407, .9394
Cu3247,324.754 {104},Y_3600,ppm, .9810,.0016,.1587, .9821, .9799
Fe2404,240.488 {140},In2306,ppm, 10.02,.0105,.1045, 10.01, 10.03
K_7664,766.490 { 44},Y_3710,ppm, 10.00,.0270,.2696, 10.02, 9.984
Li6707,670.784 { 50},Y_3710,ppm, .9944,.0021,.2098, .9929, .9959
Mg2790,279.079 {121},Y_3710,ppm, 10.08,.0354,.3513, 10.05, 10.10
Mn2576,257.610 {131},Y_3600,ppm, .9861,.0010,.1002, .9854, .9868
Mo2020,202.030 {467},Y_2243,ppm, 1.017,.0040,.3896, 1.020, 1.014
Na5895,589.592 { 57},Y_3710,ppm, 10.15,.0044,.0438, 10.14, 10.15
Ni2316,231.604 {445},In2306,ppm, .9992,.0026,.2637, 1.001, .9973
P_1782,178.284 {489},In2306,ppm, 5.165,.0203,.3933, 5.179, 5.151
Pb2203,220.353 {453},In2306,ppm, .9917,.0027,.2722, .9898, .9936
S_1820,182.034 {485},Y_2243,ppm, 3.763,.0041,.1089, 3.766, 3.760
Sb2068,206.833 {463},Y_2243,ppm, 1.657,.0010,.0608, 1.658, 1.656
Se1960,196.090 {472},Y_2243,ppm, .9996,.0002,.0176, .9995, .9997
Si2516,251.611 {134},Y_3710,ppm, 7.707,.0584,.7580, 7.665, 7.748
Sn1899,189.989 {477},In2306,ppm, .9983,.0023,.2263, .9999, .9967
Sr4215,421.552 { 80},Y_3710,ppm, 1.006,.0004,.0386, 1.006, 1.006
Ti3349,334.904 {101},Y_3600,ppm, .9706,.0011,.1096, .9699, .9714
Tl1908,190.856 {477},In2306,ppm, 1.009,.0025,.2459, 1.007, 1.011
U_3670,367.007 { 92},Y_3600,ppm, .3434,.0429,12.49, .3131, .3737
V_2924,292.402 {115},Y_3600,ppm, .9621,.0011,.1178, .9613, .9629
W_2397,239.709 {140},Y_2243,ppm, .4377,.0197,4.506, .4238, .4517
Zn2062,206.200 {463},In2306,ppm, .4958,.0015,.2980, .4968, .4948

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 258.77,.03962,.01531,258.74,258.79
In2306,230.606 {446},Cts/S, 14838.,15.846,.10680,14827.,14849.
Y_2243,224.306 {450},Cts/S, 24007.,15.750,.06561,24018.,23996.
Y_3600,360.073 { 94},Cts/S, 208910.,502.70,.24063,208550.,209260.
Y_3710,371.030 { 91},Cts/S, 13302.,36.781,.27651,13328.,13276.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0005,.0001,22.96, .0005, .0004
Al3082,308.215 {109},In2306,ppm, 1.157,.0028,.2425, 1.159, 1.155
As1890,189.042 {478},Y_2243,ppm, .0093,.0006,6.259, .0089, .0097
B_2496,249.678 {135},Y_3710,ppm, .0590,.0019,3.237, .0603, .0576
Ba4554,455.403 { 74},Y_3710,ppm, .3209,.0006,.1759, .3205, .3213
Be3130,313.042 {108},Y_3710,ppm, .0002,.0000,13.37, .0002, .0002
Ca3158,315.887 {107},In2306,ppm, 87.88,.7915,.9006, 87.32, 88.44
Cd2288,228.802 {447},Y_2243,ppm, .0003,.0001,56.07, .0002, .0004
Co2286,228.616 {447},In2306,ppm, .0002,.0001,51.84, .0002, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0032,.0000,.3659, .0032, .0032
Cu3247,324.754 {104},Y_3600,ppm, .0137,.0001,.8550, .0137, .0138
Fe2404,240.488 {140},In2306,ppm, .6821,.0065,.9492, .6867, .6776
K_7664,766.490 { 44},Y_3710,ppm, 3.343,.0135,.4045, 3.353, 3.334
Li6707,670.784 { 50},Y_3710,ppm, .0144,.0006,4.363, .0140, .0149
Mg2790,279.079 {121},Y_3710,ppm, 7.372,.0832,1.129, 7.313, 7.431
Mn2576,257.610 {131},Y_3600,ppm, .0330,.0000,.0937, .0330, .0330
Mo2020,202.030 {467},Y_2243,ppm, .0016,.0002,10.73, .0018, .0015
Na5895,589.592 { 57},Y_3710,ppm, 42.45,.2350,.5537, 42.28, 42.61
Ni2316,231.604 {445},In2306,ppm, .0059,.0002,3.708, .0058, .0061
P_1782,178.284 {489},In2306,ppm, .1592,.0021,1.305, .1577, .1606
Pb2203,220.353 {453},In2306,ppm, -.0009,.0008,88.80, -.0014, -.0003
S_1820,182.034 {485},Y_2243,ppm, 37.36,.0144,.0385, 37.35, 37.37
Sb2068,206.833 {463},Y_2243,ppm, .0032,.0011,35.18, .0024, .0039
Se1960,196.090 {472},Y_2243,ppm, .0037,.0002,4.691, .0036, .0039
Si2516,251.611 {134},Y_3710,ppm, 16.13,.0222,.1375, 16.12, 16.15
Sn1899,189.989 {477},In2306,ppm, .0001,.0002,119.2, .0002, .0000
Sr4215,421.552 { 80},Y_3710,ppm, .3673,.0020,.5358, .3659, .3687
Ti3349,334.904 {101},Y_3600,ppm, .0060,.0000,.5275, .0060, .0060
Tl1908,190.856 {477},In2306,ppm, .0433,.0072,16.53, .0484, .0382
U_3670,367.007 { 92},Y_3600,ppm, -.0458,.0237,51.71, -.0626, -.0291
V_2924,292.402 {115},Y_3600,ppm, .0088,.0003,2.923, .0090, .0086
W_2397,239.709 {140},Y_2243,ppm, .0147,.0299,203.6, -.0065, .0358
Zn2062,206.200 {463},In2306,ppm, .0512,.0005,1.039, .0508, .0516

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 255.13,1.5103,.59197,256.20,254.06
In2306,230.606 {446},Cts/S, 14197.,9.5284,.06712,14203.,14190.
Y_2243,224.306 {450},Cts/S, 23434.,18.572,.07925,23421.,23447.
Y_3600,360.073 { 94},Cts/S, 203320.,302.33,.14870,203110.,203530.
Y_3710,371.030 { 91},Cts/S, 13133.,66.308,.50489,13180.,13086.

[Sample Header]
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[Results]
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Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0003,.0002,92.22, .0001, .0004
Al3082,308.215 {109},In2306,ppm, 1.108,.0035,.3193, 1.106, 1.111
As1890,189.042 {478},Y_2243,ppm, .0088,.0010,11.84, .0080, .0095
B_2496,249.678 {135},Y_3710,ppm, .0596,.0051,8.475, .0632, .0561
Ba4554,455.403 { 74},Y_3710,ppm, .3192,.0016,.4886, .3203, .3181
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,182.9, .0000, -.0000
Ca3158,315.887 {107},In2306,ppm, 87.54,.4680,.5346, 87.87, 87.21
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0000,5.089, .0002, .0002
Co2286,228.616 {447},In2306,ppm, .0001,.0001,172.5, -.0000, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0032,.0000,.5294, .0033, .0032
Cu3247,324.754 {104},Y_3600,ppm, .0138,.0007,4.854, .0142, .0133
Fe2404,240.488 {140},In2306,ppm, .6637,.0072,1.084, .6587, .6688
K_7664,766.490 { 44},Y_3710,ppm, 3.391,.0025,.0735, 3.389, 3.393
Li6707,670.784 { 50},Y_3710,ppm, .0149,.0005,3.420, .0153, .0145
Mg2790,279.079 {121},Y_3710,ppm, 7.410,.0274,.3697, 7.429, 7.391
Mn2576,257.610 {131},Y_3600,ppm, .0324,.0000,.0008, .0324, .0324
Mo2020,202.030 {467},Y_2243,ppm, .0012,.0002,13.06, .0011, .0013
Na5895,589.592 { 57},Y_3710,ppm, 42.41,.1918,.4523, 42.54, 42.27
Ni2316,231.604 {445},In2306,ppm, .0058,.0000,.2571, .0058, .0058
P_1782,178.284 {489},In2306,ppm, .1563,.0000,.0120, .1563, .1563
Pb2203,220.353 {453},In2306,ppm, -.0008,.0002,22.96, -.0010, -.0007
S_1820,182.034 {485},Y_2243,ppm, 37.20,.0030,.0082, 37.20, 37.20
Sb2068,206.833 {463},Y_2243,ppm, .0012,.0008,68.42, .0018, .0006
Se1960,196.090 {472},Y_2243,ppm, .0028,.0024,84.30, .0011, .0045
Si2516,251.611 {134},Y_3710,ppm, 16.92,.0003,.0016, 16.92, 16.92
Sn1899,189.989 {477},In2306,ppm, .0001,.0001,173.2, -.0000, .0001
Sr4215,421.552 { 80},Y_3710,ppm, .3681,.0017,.4726, .3694, .3669
Ti3349,334.904 {101},Y_3600,ppm, .0058,.0001,2.450, .0057, .0059
Tl1908,190.856 {477},In2306,ppm, .0154,.0072,46.58, .0204, .0103
U_3670,367.007 { 92},Y_3600,ppm, -.0248,.0017,6.978, -.0260, -.0235
V_2924,292.402 {115},Y_3600,ppm, .0085,.0000,.3532, .0084, .0085
W_2397,239.709 {140},Y_2243,ppm, -.0123,.0806,652.9, .0446, -.0693
Zn2062,206.200 {463},In2306,ppm, .0282,.0002,.7428, .0283, .0280

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 256.81,3.0800,1.1993,254.64,258.99
In2306,230.606 {446},Cts/S, 14156.,17.825,.12592,14143.,14169.
Y_2243,224.306 {450},Cts/S, 23346.,.91961,.00394,23345.,23347.
Y_3600,360.073 { 94},Cts/S, 202730.,230.89,.11389,202900.,202570.
Y_3710,371.030 { 91},Cts/S, 13143.,159.20,1.2113,13030.,13255.

[Sample Header]
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Custom ID3=
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2510,.0010,.4073, .2517, .2503
Al3082,308.215 {109},In2306,ppm, 12.23,.0208,.1704, 12.22, 12.25
As1890,189.042 {478},Y_2243,ppm, 1.042,.0059,.5687, 1.046, 1.038
B_2496,249.678 {135},Y_3710,ppm, .5622,.0050,.8972, .5657, .5586
Ba4554,455.403 { 74},Y_3710,ppm, 1.347,.0073,.5436, 1.342, 1.352
Be3130,313.042 {108},Y_3710,ppm, .9990,.0007,.0711, .9995, .9985
Ca3158,315.887 {107},In2306,ppm, 97.98,.5092,.5197, 98.34, 97.62
Cd2288,228.802 {447},Y_2243,ppm, 1.004,.0019,.1877, 1.006, 1.003
Co2286,228.616 {447},In2306,ppm, .9945,.0038,.3828, .9972, .9918
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Cr2677,267.716 {126},Y_3600,ppm, .9316,.0041,.4441, .9345, .9286
Cu3247,324.754 {104},Y_3600,ppm, 1.002,.0015,.1498, 1.003, 1.001
Fe2404,240.488 {140},In2306,ppm, 10.84,.0425,.3921, 10.87, 10.81
K_7664,766.490 { 44},Y_3710,ppm, 13.59,.0014,.0101, 13.59, 13.59
Li6707,670.784 { 50},Y_3710,ppm, 1.028,.0051,.5011, 1.024, 1.031
Mg2790,279.079 {121},Y_3710,ppm, 17.38,.0262,.1510, 17.40, 17.36
Mn2576,257.610 {131},Y_3600,ppm, 1.004,.0034,.3361, 1.006, 1.001
Mo2020,202.030 {467},Y_2243,ppm, 1.018,.0011,.1097, 1.019, 1.017
Na5895,589.592 { 57},Y_3710,ppm, 52.75,.1257,.2383, 52.66, 52.84
Ni2316,231.604 {445},In2306,ppm, 1.024,.0038,.3735, 1.027, 1.022
P_1782,178.284 {489},In2306,ppm, 5.735,.0249,.4345, 5.752, 5.717
Pb2203,220.353 {453},In2306,ppm, .9980,.0028,.2785, 1.0000, .9960
S_1820,182.034 {485},Y_2243,ppm, 41.05,.0776,.1889, 41.11, 41.00
Sb2068,206.833 {463},Y_2243,ppm, 1.681,.0026,.1518, 1.683, 1.680
Se1960,196.090 {472},Y_2243,ppm, 1.028,.0047,.4558, 1.032, 1.025
Si2516,251.611 {134},Y_3710,ppm, 25.70,.0630,.2451, 25.74, 25.66
Sn1899,189.989 {477},In2306,ppm, 1.020,.0030,.2943, 1.022, 1.017
Sr4215,421.552 { 80},Y_3710,ppm, 1.380,.0066,.4798, 1.376, 1.385
Ti3349,334.904 {101},Y_3600,ppm, .9820,.0001,.0111, .9821, .9819
Tl1908,190.856 {477},In2306,ppm, 1.021,.0001,.0132, 1.021, 1.021
U_3670,367.007 { 92},Y_3600,ppm, .4460,.0692,15.52, .3970, .4949
V_2924,292.402 {115},Y_3600,ppm, .9686,.0015,.1586, .9697, .9675
W_2397,239.709 {140},Y_2243,ppm, .3567,.0541,15.17, .3184, .3949
Zn2062,206.200 {463},In2306,ppm, .5269,.0016,.3092, .5280, .5257

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 252.33,2.8258,1.1199,250.33,254.33
In2306,230.606 {446},Cts/S, 13668.,59.705,.43681,13626.,13711.
Y_2243,224.306 {450},Cts/S, 23074.,94.213,.40831,23007.,23140.
Y_3600,360.073 { 94},Cts/S, 201290.,978.14,.48594,200600.,201980.
Y_3710,371.030 { 91},Cts/S, 13064.,122.90,.94079,12977.,13151.

[Sample Header]
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Username=admin
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Custom ID3=
Run Time=11/12/2019 12:04:35
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2510,.0012,.4979, .2519, .2501
Al3082,308.215 {109},In2306,ppm, 12.55,.5037,4.015, 12.90, 12.19
As1890,189.042 {478},Y_2243,ppm, 1.035,.0022,.2171, 1.037, 1.034
B_2496,249.678 {135},Y_3710,ppm, .5783,.0229,3.956, .5945, .5621
Ba4554,455.403 { 74},Y_3710,ppm, 1.377,.0449,3.259, 1.408, 1.345
Be3130,313.042 {108},Y_3710,ppm, 1.015,.0295,2.909, 1.036, .9945
Ca3158,315.887 {107},In2306,ppm, 100.7,4.573,4.543, 103.9, 97.43
Cd2288,228.802 {447},Y_2243,ppm, .9995,.0007,.0683, .9991, 1.000
Co2286,228.616 {447},In2306,ppm, .9918,.0031,.3080, .9896, .9940
Cr2677,267.716 {126},Y_3600,ppm, .9326,.0029,.3121, .9346, .9305
Cu3247,324.754 {104},Y_3600,ppm, 1.001,.0037,.3721, 1.004, .9986
Fe2404,240.488 {140},In2306,ppm, 11.11,.4331,3.899, 11.41, 10.80
K_7664,766.490 { 44},Y_3710,ppm, 13.83,.4363,3.154, 14.14, 13.53
Li6707,670.784 { 50},Y_3710,ppm, 1.045,.0345,3.302, 1.070, 1.021
Mg2790,279.079 {121},Y_3710,ppm, 17.75,.3299,1.858, 17.99, 17.52
Mn2576,257.610 {131},Y_3600,ppm, 1.003,.0018,.1808, 1.004, 1.002
Mo2020,202.030 {467},Y_2243,ppm, 1.019,.0014,.1357, 1.018, 1.020
Na5895,589.592 { 57},Y_3710,ppm, 54.12,1.674,3.094, 55.30, 52.93
Ni2316,231.604 {445},In2306,ppm, 1.024,.0031,.3007, 1.021, 1.026
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P_1782,178.284 {489},In2306,ppm, 5.747,.0116,.2021, 5.739, 5.755
Pb2203,220.353 {453},In2306,ppm, .9946,.0077,.7789, .9891, 1.000
S_1820,182.034 {485},Y_2243,ppm, 41.28,.0517,.1251, 41.24, 41.32
Sb2068,206.833 {463},Y_2243,ppm, 1.685,.0010,.0569, 1.684, 1.685
Se1960,196.090 {472},Y_2243,ppm, 1.023,.0029,.2832, 1.021, 1.025
Si2516,251.611 {134},Y_3710,ppm, 27.82,.6980,2.509, 28.32, 27.33
Sn1899,189.989 {477},In2306,ppm, 1.019,.0042,.4166, 1.016, 1.022
Sr4215,421.552 { 80},Y_3710,ppm, 1.411,.0453,3.214, 1.443, 1.379
Ti3349,334.904 {101},Y_3600,ppm, .9825,.0010,.0974, .9832, .9819
Tl1908,190.856 {477},In2306,ppm, 1.075,.0044,.4088, 1.072, 1.078
U_3670,367.007 { 92},Y_3600,ppm, .4144,.1191,28.75, .3301, .4986
V_2924,292.402 {115},Y_3600,ppm, .9706,.0025,.2621, .9724, .9688
W_2397,239.709 {140},Y_2243,ppm, .5180,.0870,16.80, .5795, .4565
Zn2062,206.200 {463},In2306,ppm, .5273,.0025,.4795, .5255, .5291

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 248.75,8.9905,3.6142,242.40,255.11
In2306,230.606 {446},Cts/S, 13692.,39.335,.28729,13664.,13719.
Y_2243,224.306 {450},Cts/S, 23139.,90.237,.38998,23075.,23203.
Y_3600,360.073 { 94},Cts/S, 200590.,851.18,.42434,199980.,201190.
Y_3710,371.030 { 91},Cts/S, 12909.,255.60,1.9801,12728.,13089.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0008,.0003,34.89, -.0010, -.0006
Al3082,308.215 {109},In2306,ppm, .2524,.0218,8.630, .2370, .2678
As1890,189.042 {478},Y_2243,ppm, .0038,.0013,34.98, .0029, .0047
B_2496,249.678 {135},Y_3710,ppm, 8.090,.1068,1.321, 8.014, 8.165
Ba4554,455.403 { 74},Y_3710,ppm, .0560,.0005,.8264, .0556, .0563
Be3130,313.042 {108},Y_3710,ppm, .0002,.0001,72.38, .0003, .0001
Ca3158,315.887 {107},In2306,ppm, 282.5,5.292,1.873, 278.7, 286.2
Cd2288,228.802 {447},Y_2243,ppm, .0018,.0000,1.181, .0017, .0018
Co2286,228.616 {447},In2306,ppm, .0011,.0000,3.811, .0010, .0011
Cr2677,267.716 {126},Y_3600,ppm, .0374,.0004,1.003, .0371, .0377
Cu3247,324.754 {104},Y_3600,ppm, .0014,.0005,36.39, .0011, .0018
Fe2404,240.488 {140},In2306,ppm, .0139,.0024,16.98, .0155, .0122
K_7664,766.490 { 44},Y_3710,ppm, 6.096,.1289,2.115, 6.005, 6.187
Li6707,670.784 { 50},Y_3710,ppm, .0118,.0009,7.290, .0112, .0124
Mg2790,279.079 {121},Y_3710,ppm, .6390,.0436,6.828, .6081, .6698
Mn2576,257.610 {131},Y_3600,ppm, .0117,.0000,.1323, .0117, .0118
Mo2020,202.030 {467},Y_2243,ppm, .0290,.0000,.0902, .0290, .0289
Na5895,589.592 { 57},Y_3710,ppm,^ *****,-----,-----,^ -----,^ -----
Ni2316,231.604 {445},In2306,ppm, .0110,.0003,2.450, .0112, .0108
P_1782,178.284 {489},In2306,ppm, 495.1,1.963,.3965, 496.5, 493.7
Pb2203,220.353 {453},In2306,ppm, .0013,.0013,102.1, .0004, .0022
S_1820,182.034 {485},Y_2243,ppm, 257.4,.3341,.1298, 257.7, 257.2
Sb2068,206.833 {463},Y_2243,ppm, .0024,.0003,10.89, .0026, .0022
Se1960,196.090 {472},Y_2243,ppm, -.0021,.0027,130.8, -.0040, -.0002
Si2516,251.611 {134},Y_3710,ppm, .7866,.0128,1.625, .7776, .7957
Sn1899,189.989 {477},In2306,ppm, .0006,.0003,51.26, .0004, .0008
Sr4215,421.552 { 80},Y_3710,ppm, .3427,.0019,.5675, .3413, .3441
Ti3349,334.904 {101},Y_3600,ppm, .0032,.0004,11.28, .0035, .0030
Tl1908,190.856 {477},In2306,ppm, .0499,.0047,9.440, .0532, .0465
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U_3670,367.007 { 92},Y_3600,ppm, .0799,.0907,113.6, .0157, .1440
V_2924,292.402 {115},Y_3600,ppm, .0133,.0003,2.100, .0135, .0131
W_2397,239.709 {140},Y_2243,ppm, .0665,.0569,85.57, .0263, .1067
Zn2062,206.200 {463},In2306,ppm, .0259,.0001,.3034, .0259, .0258

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 225.67,2.7517,1.2193,227.62,223.72
In2306,230.606 {446},Cts/S, 9458.4,18.971,.20058,9471.8,9445.0
Y_2243,224.306 {450},Cts/S, 17878.,27.564,.15418,17898.,17859.
Y_3600,360.073 { 94},Cts/S, 153410.,292.71,.19080,153620.,153210.
Y_3710,371.030 { 91},Cts/S, 12036.,11.336,.09418,12028.,12044.

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Ag3280,328.068 {103},Y_3600,ppm, -.0017,.0003,17.52, -.0015, -.0019
Al3082,308.215 {109},In2306,ppm, .2507,.0162,6.461, .2392, .2621
As1890,189.042 {478},Y_2243,ppm, .0023,.0014,59.83, .0013, .0032
B_2496,249.678 {135},Y_3710,ppm, 8.228,.0540,.6565, 8.190, 8.267
Ba4554,455.403 { 74},Y_3710,ppm, .0589,.0008,1.287, .0583, .0594
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,222.6, .0000, -.0001
Ca3158,315.887 {107},In2306,ppm, 297.7,2.939,.9871, 295.6, 299.8
Cd2288,228.802 {447},Y_2243,ppm, .0025,.0002,6.194, .0026, .0024
Co2286,228.616 {447},In2306,ppm, .0016,.0002,10.22, .0015, .0017
Cr2677,267.716 {126},Y_3600,ppm, .0622,.0004,.7083, .0619, .0625
Cu3247,324.754 {104},Y_3600,ppm, .0012,.0002,13.95, .0011, .0013
Fe2404,240.488 {140},In2306,ppm, .0153,.0133,87.16, .0059, .0247
K_7664,766.490 { 44},Y_3710,ppm, 6.699,.0636,.9495, 6.654, 6.744
Li6707,670.784 { 50},Y_3710,ppm, .0143,.0003,1.822, .0141, .0145
Mg2790,279.079 {121},Y_3710,ppm, .8558,.0538,6.289, .8177, .8938
Mn2576,257.610 {131},Y_3600,ppm, .0108,.0001,.4714, .0108, .0107
Mo2020,202.030 {467},Y_2243,ppm, .0361,.0008,2.238, .0366, .0355
Na5895,589.592 { 57},Y_3710,ppm,^ *****,-----,-----,^ -----,^ -----
Ni2316,231.604 {445},In2306,ppm, .0120,.0001,.9288, .0120, .0119
P_1782,178.284 {489},In2306,ppm, 521.4,2.224,.4266, 519.8, 522.9
Pb2203,220.353 {453},In2306,ppm, .0001,.0011,786.4, -.0006, .0009
S_1820,182.034 {485},Y_2243,ppm, 253.0,.2503,.0989, 252.8, 253.2
Sb2068,206.833 {463},Y_2243,ppm, .0022,.0022,100.2, .0037, .0006
Se1960,196.090 {472},Y_2243,ppm, -.0010,.0017,175.8, .0002, -.0022
Si2516,251.611 {134},Y_3710,ppm, .7950,.0073,.9131, .7899, .8001
Sn1899,189.989 {477},In2306,ppm, -.0007,.0008,109.6, -.0002, -.0012
Sr4215,421.552 { 80},Y_3710,ppm, .3481,.0010,.2829, .3474, .3488
Ti3349,334.904 {101},Y_3600,ppm, .0032,.0001,2.050, .0033, .0032
Tl1908,190.856 {477},In2306,ppm, .0171,.0067,39.32, .0219, .0124
U_3670,367.007 { 92},Y_3600,ppm, .1384,.0198,14.30, .1524, .1244
V_2924,292.402 {115},Y_3600,ppm, .0135,.0001,.4651, .0135, .0134
W_2397,239.709 {140},Y_2243,ppm, .1044,.0201,19.26, .0902, .1186
Zn2062,206.200 {463},In2306,ppm, .0325,.0001,.1674, .0325, .0326

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 223.91,3.7565,1.6777,226.57,221.26
In2306,230.606 {446},Cts/S, 9296.4,27.837,.29944,9276.7,9316.1
Y_2243,224.306 {450},Cts/S, 17811.,79.776,.44792,17754.,17867.
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Y_3600,360.073 { 94},Cts/S, 152630.,585.85,.38384,152210.,153040.
Y_3710,371.030 { 91},Cts/S, 11912.,146.51,1.2299,12016.,11809.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0012,.0005,38.11, -.0009, -.0016
Al3082,308.215 {109},In2306,ppm, .3248,.0122,3.743, .3334, .3162
As1890,189.042 {478},Y_2243,ppm, .0038,.0000,.8813, .0039, .0038
B_2496,249.678 {135},Y_3710,ppm, 6.844,.0198,.2888, 6.858, 6.830
Ba4554,455.403 { 74},Y_3710,ppm, .0561,.0002,.2779, .0560, .0563
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,123.6, .0001, .0000
Ca3158,315.887 {107},In2306,ppm, 288.1,1.095,.3800, 288.9, 287.4
Cd2288,228.802 {447},Y_2243,ppm, .0017,.0000,.5081, .0017, .0017
Co2286,228.616 {447},In2306,ppm, .0015,.0002,15.52, .0017, .0014
Cr2677,267.716 {126},Y_3600,ppm, .0430,.0001,.1553, .0430, .0430
Cu3247,324.754 {104},Y_3600,ppm, .0015,.0000,2.157, .0015, .0016
Fe2404,240.488 {140},In2306,ppm, .0218,.0054,24.88, .0180, .0257
K_7664,766.490 { 44},Y_3710,ppm, 7.633,.0259,.3392, 7.615, 7.651
Li6707,670.784 { 50},Y_3710,ppm, .0134,.0001,.9837, .0135, .0133
Mg2790,279.079 {121},Y_3710,ppm, .9626,.0141,1.464, .9725, .9526
Mn2576,257.610 {131},Y_3600,ppm, .0082,.0000,.1979, .0082, .0081
Mo2020,202.030 {467},Y_2243,ppm, .0395,.0008,1.906, .0400, .0389
Na5895,589.592 { 57},Y_3710,ppm,^ *****,-----,-----,^ -----,^ -----
Ni2316,231.604 {445},In2306,ppm, .0123,.0000,.0273, .0123, .0123
P_1782,178.284 {489},In2306,ppm, 533.5,1.667,.3125, 532.3, 534.6
Pb2203,220.353 {453},In2306,ppm, -.0002,.0010,676.4, .0006, -.0009
S_1820,182.034 {485},Y_2243,ppm, 241.1,.3029,.1256, 241.3, 240.9
Sb2068,206.833 {463},Y_2243,ppm, .0050,.0002,4.832, .0051, .0048
Se1960,196.090 {472},Y_2243,ppm, .0029,.0037,128.0, .0055, .0003
Si2516,251.611 {134},Y_3710,ppm, .8908,.0137,1.533, .9005, .8811
Sn1899,189.989 {477},In2306,ppm, .0006,.0004,75.53, .0009, .0003
Sr4215,421.552 { 80},Y_3710,ppm, .3380,.0005,.1361, .3377, .3383
Ti3349,334.904 {101},Y_3600,ppm, .0028,.0002,6.972, .0029, .0027
Tl1908,190.856 {477},In2306,ppm, .0106,.0086,81.24, .0166, .0045
U_3670,367.007 { 92},Y_3600,ppm, .0788,.0126,16.04, .0878, .0699
V_2924,292.402 {115},Y_3600,ppm, .0142,.0003,1.986, .0140, .0144
W_2397,239.709 {140},Y_2243,ppm, .0547,.0796,145.6, -.0016, .1110
Zn2062,206.200 {463},In2306,ppm, .0309,.0002,.7985, .0311, .0307

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 223.23,.14054,.06296,223.33,223.13
In2306,230.606 {446},Cts/S, 9152.0,12.975,.14177,9161.2,9142.9
Y_2243,224.306 {450},Cts/S, 17616.,8.2613,.04690,17622.,17610.
Y_3600,360.073 { 94},Cts/S, 149210.,16.803,.01126,149220.,149200.
Y_3710,371.030 { 91},Cts/S, 11869.,48.358,.40744,11835.,11903.

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Ag3280,328.068 {103},Y_3600,ppm, .0003,.0001,17.80, .0003, .0003
Al3082,308.215 {109},In2306,ppm, .4037,.0105,2.613, .4112, .3963
As1890,189.042 {478},Y_2243,ppm, .0042,.0013,31.61, .0051, .0033
B_2496,249.678 {135},Y_3710,ppm, .0622,.0127,20.35, .0712, .0533
Ba4554,455.403 { 74},Y_3710,ppm, .0828,.0002,.2002, .0827, .0830
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,19.10, -.0000, -.0000
Ca3158,315.887 {107},In2306,ppm, 19.59,.1954,.9975, 19.73, 19.45
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0001,54.79, .0003, .0001
Co2286,228.616 {447},In2306,ppm, .0001,.0001,78.82, .0000, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0044,.0001,2.521, .0043, .0044
Cu3247,324.754 {104},Y_3600,ppm, .0351,.0002,.4892, .0352, .0350
Fe2404,240.488 {140},In2306,ppm, 1.428,.0085,.5930, 1.422, 1.434
K_7664,766.490 { 44},Y_3710,ppm, 3.885,.0102,.2617, 3.877, 3.892
Li6707,670.784 { 50},Y_3710,ppm, .0040,.0001,2.700, .0040, .0041
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Mn2576,257.610 {131},Y_3600,ppm, .0629,.0001,.1309, .0630, .0629
Mo2020,202.030 {467},Y_2243,ppm, .0388,.0001,.1621, .0388, .0387
Na5895,589.592 { 57},Y_3710,ppm, 82.77,.0397,.0480, 82.74, 82.80
Ni2316,231.604 {445},In2306,ppm, .0065,.0003,4.067, .0064, .0067
P_1782,178.284 {489},In2306,ppm, 3.495,.0402,1.151, 3.467, 3.523
Pb2203,220.353 {453},In2306,ppm, .0007,.0003,41.85, .0010, .0005
S_1820,182.034 {485},Y_2243,ppm, 4.593,.0411,.8959, 4.564, 4.622
Sb2068,206.833 {463},Y_2243,ppm, .0021,.0005,23.97, .0025, .0018
Se1960,196.090 {472},Y_2243,ppm, .0002,.0018,789.8, .0015, -.0011
Si2516,251.611 {134},Y_3710,ppm, 6.037,.0112,.1857, 6.029, 6.045
Sn1899,189.989 {477},In2306,ppm, .0004,.0007,177.4, .0009, -.0001
Sr4215,421.552 { 80},Y_3710,ppm, .1217,.0005,.4498, .1213, .1221
Ti3349,334.904 {101},Y_3600,ppm, .0032,.0002,6.240, .0030, .0033
Tl1908,190.856 {477},In2306,ppm, .0088,.0005,5.892, .0084, .0091
U_3670,367.007 { 92},Y_3600,ppm, -.0761,.0693,91.05, -.1252, -.0271
V_2924,292.402 {115},Y_3600,ppm, .0016,.0002,13.41, .0014, .0017
W_2397,239.709 {140},Y_2243,ppm, .0001,.0696,85230., .0493, -.0491
Zn2062,206.200 {463},In2306,ppm, .2738,.0007,.2542, .2733, .2743

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 254.77,3.5976,1.4121,252.23,257.32
In2306,230.606 {446},Cts/S, 14281.,26.750,.18731,14300.,14262.
Y_2243,224.306 {450},Cts/S, 23545.,50.073,.21267,23580.,23509.
Y_3600,360.073 { 94},Cts/S, 201020.,766.44,.38127,200480.,201570.
Y_3710,371.030 { 91},Cts/S, 13011.,40.238,.30926,12982.,13039.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .4853,.0013,.2649, .4862, .4843
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Al3082,308.215 {109},In2306,ppm, 20.14,.0133,.0663, 20.13, 20.15
As1890,189.042 {478},Y_2243,ppm, 1.000,.0096,.9627, .9934, 1.007
B_2496,249.678 {135},Y_3710,ppm, 1.017,.0053,.5242, 1.020, 1.013
Ba4554,455.403 { 74},Y_3710,ppm, 1.020,.0052,.5067, 1.023, 1.016
Be3130,313.042 {108},Y_3710,ppm, .9890,.0040,.4045, .9918, .9861
Ca3158,315.887 {107},In2306,ppm, 19.30,.0639,.3312, 19.26, 19.35
Cd2288,228.802 {447},Y_2243,ppm, .9765,.0053,.5421, .9727, .9802
Co2286,228.616 {447},In2306,ppm, .9831,.0052,.5272, .9794, .9868
Cr2677,267.716 {126},Y_3600,ppm, .9344,.0005,.0543, .9348, .9340
Cu3247,324.754 {104},Y_3600,ppm, .9692,.0049,.5053, .9727, .9657
Fe2404,240.488 {140},In2306,ppm, 19.65,.1964,.9998, 19.51, 19.79
K_7664,766.490 { 44},Y_3710,ppm, 19.67,.1611,.8192, 19.78, 19.55
Li6707,670.784 { 50},Y_3710,ppm, .9942,.0075,.7547, .9995, .9889
Mg2790,279.079 {121},Y_3710,ppm, 20.02,.0160,.0799, 20.01, 20.03
Mn2576,257.610 {131},Y_3600,ppm, .9815,.0001,.0055, .9814, .9815
Mo2020,202.030 {467},Y_2243,ppm, 1.006,.0078,.7707, 1.001, 1.012
Na5895,589.592 { 57},Y_3710,ppm, 20.47,.1592,.7775, 20.59, 20.36
Ni2316,231.604 {445},In2306,ppm, 1.012,.0055,.5397, 1.009, 1.016
P_1782,178.284 {489},In2306,ppm, 10.56,.0642,.6077, 10.52, 10.61
Pb2203,220.353 {453},In2306,ppm, .9972,.0023,.2308, .9956, .9989
S_1820,182.034 {485},Y_2243,ppm, 7.407,.0497,.6707, 7.372, 7.442
Sb2068,206.833 {463},Y_2243,ppm, 2.167,.0112,.5147, 2.160, 2.175
Se1960,196.090 {472},Y_2243,ppm, .9857,.0077,.7812, .9803, .9912
Si2516,251.611 {134},Y_3710,ppm, 9.031,.0130,.1444, 9.041, 9.022
Sn1899,189.989 {477},In2306,ppm, 1.014,.0028,.2727, 1.012, 1.016
Sr4215,421.552 { 80},Y_3710,ppm, 1.006,.0049,.4888, 1.010, 1.003
Ti3349,334.904 {101},Y_3600,ppm, .9712,.0004,.0396, .9715, .9709
Tl1908,190.856 {477},In2306,ppm, 1.080,.0081,.7531, 1.074, 1.086
U_3670,367.007 { 92},Y_3600,ppm, .8026,.0521,6.490, .8395, .7658
V_2924,292.402 {115},Y_3600,ppm, .9550,.0008,.0859, .9556, .9545
W_2397,239.709 {140},Y_2243,ppm, 1.194,.0197,1.648, 1.180, 1.208
Zn2062,206.200 {463},In2306,ppm, .9898,.0054,.5434, .9860, .9936

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 254.38,.51658,.20307,254.02,254.75
In2306,230.606 {446},Cts/S, 14334.,134.68,.93958,14429.,14238.
Y_2243,224.306 {450},Cts/S, 23949.,242.53,1.0127,24121.,23778.
Y_3600,360.073 { 94},Cts/S, 205070.,556.75,.27149,204680.,205470.
Y_3710,371.030 { 91},Cts/S, 12959.,127.65,.98505,12869.,13049.

[Sample Header]
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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0091,.0004,4.125, .0093, .0088
Al3082,308.215 {109},In2306,ppm, .1831,.0103,5.646, .1758, .1904
As1890,189.042 {478},Y_2243,ppm, .0209,.0022,10.38, .0224, .0194
B_2496,249.678 {135},Y_3710,ppm, .2116,.0075,3.536, .2169, .2063
Ba4554,455.403 { 74},Y_3710,ppm, .0223,.0002,.9577, .0222, .0225
Be3130,313.042 {108},Y_3710,ppm, .0112,.0002,2.185, .0110, .0114
Ca3158,315.887 {107},In2306,ppm, .9845,.0415,4.214, .9552, 1.014
Cd2288,228.802 {447},Y_2243,ppm, .0109,.0001,.9607, .0110, .0109
Co2286,228.616 {447},In2306,ppm, .0105,.0001,1.427, .0104, .0106
Cr2677,267.716 {126},Y_3600,ppm, .0105,.0002,1.579, .0104, .0106
Cu3247,324.754 {104},Y_3600,ppm, .0120,.0004,3.047, .0123, .0118
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Fe2404,240.488 {140},In2306,ppm, .2094,.0074,3.527, .2041, .2146
K_7664,766.490 { 44},Y_3710,ppm, 1.061,.0162,1.529, 1.049, 1.072
Li6707,670.784 { 50},Y_3710,ppm, .0109,.0008,7.435, .0103, .0114
Mg2790,279.079 {121},Y_3710,ppm, 1.076,.0090,.8323, 1.069, 1.082
Mn2576,257.610 {131},Y_3600,ppm, .0110,.0001,.8826, .0110, .0109
Mo2020,202.030 {467},Y_2243,ppm, .0229,.0001,.5747, .0230, .0228
Na5895,589.592 { 57},Y_3710,ppm, 1.506,.0036,.2395, 1.504, 1.509
Ni2316,231.604 {445},In2306,ppm, .0113,.0003,2.497, .0115, .0111
P_1782,178.284 {489},In2306,ppm, 1.023,.0054,.5230, 1.027, 1.019
Pb2203,220.353 {453},In2306,ppm, .0103,.0002,1.689, .0104, .0102
S_1820,182.034 {485},Y_2243,ppm, .3728,.0001,.0161, .3728, .3729
Sb2068,206.833 {463},Y_2243,ppm, .0560,.0000,.0030, .0560, .0560
Se1960,196.090 {472},Y_2243,ppm, .0206,.0005,2.303, .0203, .0210
Si2516,251.611 {134},Y_3710,ppm, .1715,.0026,1.543, .1696, .1733
Sn1899,189.989 {477},In2306,ppm, .0208,.0005,2.211, .0204, .0211
Sr4215,421.552 { 80},Y_3710,ppm, .0113,.0001,.7097, .0113, .0114
Ti3349,334.904 {101},Y_3600,ppm, .0109,.0005,4.692, .0105, .0112
Tl1908,190.856 {477},In2306,ppm, .0460,.0021,4.490, .0475, .0446
U_3670,367.007 { 92},Y_3600,ppm, -.0932,.0182,19.52, -.0803, -.1060
V_2924,292.402 {115},Y_3600,ppm, .0103,.0001,1.093, .0104, .0102
W_2397,239.709 {140},Y_2243,ppm, .0654,.0070,10.71, .0604, .0703
Zn2062,206.200 {463},In2306,ppm, .0182,.0001,.3800, .0181, .0182

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 264.16,6.1675,2.3348,268.52,259.80
In2306,230.606 {446},Cts/S, 15833.,75.467,.47664,15780.,15886.
Y_2243,224.306 {450},Cts/S, 24635.,136.96,.55594,24539.,24732.
Y_3600,360.073 { 94},Cts/S, 213640.,1684.6,.78851,212450.,214830.
Y_3710,371.030 { 91},Cts/S, 13109.,200.10,1.5265,13251.,12968.

[Sample Header]
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Custom ID3=
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0005,.0002,39.64, .0003, .0006
Al3082,308.215 {109},In2306,ppm, -.0380,.0038,10.09, -.0407, -.0353
As1890,189.042 {478},Y_2243,ppm, -.0003,.0011,337.5, -.0011, .0005
B_2496,249.678 {135},Y_3710,ppm, .0079,.0038,48.32, .0052, .0106
Ba4554,455.403 { 74},Y_3710,ppm, -.0004,.0001,24.70, -.0005, -.0003
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,55.40, .0000, .0000
Ca3158,315.887 {107},In2306,ppm, -.0140,.0015,10.36, -.0130, -.0151
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0000,469.1, .0000, -.0000
Co2286,228.616 {447},In2306,ppm, -.0000,.0001,916.9, .0000, -.0001
Cr2677,267.716 {126},Y_3600,ppm, -.0001,.0002,195.9, -.0003, .0000
Cu3247,324.754 {104},Y_3600,ppm, .0017,.0001,4.859, .0016, .0018
Fe2404,240.488 {140},In2306,ppm, -.0016,.0067,409.8, .0031, -.0064
K_7664,766.490 { 44},Y_3710,ppm, .0491,.0368,75.10, .0751, .0230
Li6707,670.784 { 50},Y_3710,ppm, .0004,.0005,130.8, .0007, .0000
Mg2790,279.079 {121},Y_3710,ppm, .0001,.0116,10270., -.0081, .0083
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,17.52, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, .0003,.0003,84.03, .0005, .0001
Na5895,589.592 { 57},Y_3710,ppm, .2853,.0080,2.802, .2910, .2797
Ni2316,231.604 {445},In2306,ppm, .0003,.0002,71.48, .0005, .0002
P_1782,178.284 {489},In2306,ppm, .0237,.0012,4.861, .0229, .0245
Pb2203,220.353 {453},In2306,ppm, .0004,.0000,2.799, .0004, .0004
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S_1820,182.034 {485},Y_2243,ppm, .0125,.0026,21.17, .0143, .0106
Sb2068,206.833 {463},Y_2243,ppm, -.0001,.0003,280.8, .0001, -.0004
Se1960,196.090 {472},Y_2243,ppm, .0003,.0002,68.42, .0002, .0005
Si2516,251.611 {134},Y_3710,ppm, .0031,.0008,26.62, .0025, .0037
Sn1899,189.989 {477},In2306,ppm, .0000,.0003,1025., -.0002, .0002
Sr4215,421.552 { 80},Y_3710,ppm, .0002,.0001,70.72, .0003, .0001
Ti3349,334.904 {101},Y_3600,ppm, .0001,.0002,203.0, -.0001, .0003
Tl1908,190.856 {477},In2306,ppm, .0180,.0040,22.35, .0209, .0152
U_3670,367.007 { 92},Y_3600,ppm, -.1450,.0253,17.49, -.1629, -.1270
V_2924,292.402 {115},Y_3600,ppm, -.0001,.0000,4.060, -.0001, -.0001
W_2397,239.709 {140},Y_2243,ppm, -.0206,.0135,65.47, -.0301, -.0111
Zn2062,206.200 {463},In2306,ppm, -.0014,.0000,2.648, -.0015, -.0014

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 262.72,.24409,.09291,262.89,262.54
In2306,230.606 {446},Cts/S, 16039.,15.145,.09443,16028.,16050.
Y_2243,224.306 {450},Cts/S, 24539.,25.985,.10589,24520.,24557.
Y_3600,360.073 { 94},Cts/S, 213870.,242.17,.11323,213700.,214040.
Y_3710,371.030 { 91},Cts/S, 12994.,28.956,.22284,12973.,13014.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0002,.0002,77.69, .0001, .0004
Al3082,308.215 {109},In2306,ppm, .3310,.0097,2.931, .3241, .3379
As1890,189.042 {478},Y_2243,ppm, .0048,.0000,.1358, .0048, .0048
B_2496,249.678 {135},Y_3710,ppm, .0587,.0004,.6501, .0590, .0584
Ba4554,455.403 { 74},Y_3710,ppm, .0779,.0003,.3239, .0778, .0781
Be3130,313.042 {108},Y_3710,ppm, .0001,.0002,136.2, .0002, .0000
Ca3158,315.887 {107},In2306,ppm, 18.88,.0583,.3088, 18.84, 18.92
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0000,9.394, .0002, .0002
Co2286,228.616 {447},In2306,ppm, .0003,.0002,59.62, .0004, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0047,.0001,1.405, .0047, .0046
Cu3247,324.754 {104},Y_3600,ppm, .0397,.0002,.4543, .0398, .0395
Fe2404,240.488 {140},In2306,ppm, 1.131,.0280,2.472, 1.112, 1.151
K_7664,766.490 { 44},Y_3710,ppm, 3.430,.0311,.9059, 3.452, 3.408
Li6707,670.784 { 50},Y_3710,ppm, .0026,.0002,6.434, .0027, .0024
Mg2790,279.079 {121},Y_3710,ppm, 3.256,.0448,1.377, 3.288, 3.224
Mn2576,257.610 {131},Y_3600,ppm, .0554,.0003,.5844, .0556, .0552
Mo2020,202.030 {467},Y_2243,ppm, .0323,.0001,.1756, .0323, .0323
Na5895,589.592 { 57},Y_3710,ppm, 82.44,.0181,.0220, 82.45, 82.42
Ni2316,231.604 {445},In2306,ppm, .0064,.0001,.8073, .0064, .0064
P_1782,178.284 {489},In2306,ppm, 3.395,.0087,.2571, 3.389, 3.401
Pb2203,220.353 {453},In2306,ppm, .0006,.0011,179.5, -.0002, .0014
S_1820,182.034 {485},Y_2243,ppm, 4.465,.0029,.0649, 4.467, 4.463
Sb2068,206.833 {463},Y_2243,ppm, .0029,.0011,39.00, .0037, .0021
Se1960,196.090 {472},Y_2243,ppm, .0009,.0022,248.6, .0024, -.0007
Si2516,251.611 {134},Y_3710,ppm, 6.303,.0267,.4231, 6.284, 6.321
Sn1899,189.989 {477},In2306,ppm, .0004,.0003,75.43, .0002, .0006
Sr4215,421.552 { 80},Y_3710,ppm, .1167,.0002,.1974, .1168, .1165
Ti3349,334.904 {101},Y_3600,ppm, .0024,.0005,19.56, .0021, .0027
Tl1908,190.856 {477},In2306,ppm, .0086,.0023,26.37, .0102, .0070
U_3670,367.007 { 92},Y_3600,ppm, -.1536,.0727,47.31, -.1022, -.2051
V_2924,292.402 {115},Y_3600,ppm, .0015,.0003,20.35, .0018, .0013
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W_2397,239.709 {140},Y_2243,ppm, .0382,.0181,47.28, .0254, .0510
Zn2062,206.200 {463},In2306,ppm, .2733,.0004,.1532, .2730, .2736

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 255.34,1.0454,.40943,256.08,254.60
In2306,230.606 {446},Cts/S, 14201.,8.5273,.06005,14195.,14207.
Y_2243,224.306 {450},Cts/S, 23403.,32.419,.13852,23380.,23426.
Y_3600,360.073 { 94},Cts/S, 203080.,1064.2,.52401,202330.,203840.
Y_3710,371.030 { 91},Cts/S, 13115.,54.869,.41836,13154.,13076.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0002,.0001,25.59, .0002, .0002
Al3082,308.215 {109},In2306,ppm, .3717,.0094,2.517, .3651, .3783
As1890,189.042 {478},Y_2243,ppm, .0055,.0019,34.82, .0068, .0041
B_2496,249.678 {135},Y_3710,ppm, .0626,.0030,4.821, .0647, .0605
Ba4554,455.403 { 74},Y_3710,ppm, .0813,.0008,.9854, .0807, .0819
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,1627., .0000, -.0000
Ca3158,315.887 {107},In2306,ppm, 19.11,.0450,.2357, 19.14, 19.08
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0000,8.138, .0002, .0003
Co2286,228.616 {447},In2306,ppm, .0001,.0001,165.9, .0001, -.0000
Cr2677,267.716 {126},Y_3600,ppm, .0043,.0000,.4973, .0043, .0043
Cu3247,324.754 {104},Y_3600,ppm, .0337,.0001,.3374, .0338, .0336
Fe2404,240.488 {140},In2306,ppm, 1.415,.0048,.3375, 1.412, 1.419
K_7664,766.490 { 44},Y_3710,ppm, 3.792,.0096,.2535, 3.785, 3.799
Li6707,670.784 { 50},Y_3710,ppm, .0025,.0003,10.68, .0023, .0027
Mg2790,279.079 {121},Y_3710,ppm, 3.355,.0130,.3875, 3.364, 3.345
Mn2576,257.610 {131},Y_3600,ppm, .0635,.0003,.4425, .0637, .0633
Mo2020,202.030 {467},Y_2243,ppm, .0402,.0002,.4354, .0400, .0403
Na5895,589.592 { 57},Y_3710,ppm, 80.80,.1048,.1297, 80.72, 80.87
Ni2316,231.604 {445},In2306,ppm, .0065,.0001,1.200, .0066, .0065
P_1782,178.284 {489},In2306,ppm, 3.301,.0050,.1516, 3.305, 3.298
Pb2203,220.353 {453},In2306,ppm, -.0005,.0020,366.1, -.0019, .0008
S_1820,182.034 {485},Y_2243,ppm, 4.543,.0105,.2310, 4.550, 4.535
Sb2068,206.833 {463},Y_2243,ppm, .0020,.0017,83.38, .0032, .0008
Se1960,196.090 {472},Y_2243,ppm, .0012,.0012,99.73, .0004, .0021
Si2516,251.611 {134},Y_3710,ppm, 5.961,.0190,.3188, 5.947, 5.974
Sn1899,189.989 {477},In2306,ppm, .0005,.0004,66.09, .0008, .0003
Sr4215,421.552 { 80},Y_3710,ppm, .1201,.0007,.5908, .1196, .1206
Ti3349,334.904 {101},Y_3600,ppm, .0031,.0004,13.33, .0034, .0028
Tl1908,190.856 {477},In2306,ppm, .0027,.0006,22.24, .0023, .0032
U_3670,367.007 { 92},Y_3600,ppm, -.1359,.1164,85.69, -.2182, -.0535
V_2924,292.402 {115},Y_3600,ppm, .0015,.0001,4.949, .0015, .0016
W_2397,239.709 {140},Y_2243,ppm, -.0020,.0824,4172., .0563, -.0602
Zn2062,206.200 {463},In2306,ppm, .2663,.0004,.1627, .2660, .2666

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 256.21,1.4885,.58099,255.15,257.26
In2306,230.606 {446},Cts/S, 14126.,30.132,.21330,14105.,14148.
Y_2243,224.306 {450},Cts/S, 23240.,87.859,.37805,23178.,23302.
Y_3600,360.073 { 94},Cts/S, 202970.,1748.9,.86164,201740.,204210.
Y_3710,371.030 { 91},Cts/S, 13070.,127.51,.97561,12979.,13160.
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Custom ID3=
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CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0001,.0004,365.4, .0004, -.0002
Al3082,308.215 {109},In2306,ppm, .2593,.0026,1.002, .2612, .2575
As1890,189.042 {478},Y_2243,ppm, .0040,.0020,49.81, .0026, .0054
B_2496,249.678 {135},Y_3710,ppm, .0591,.0082,13.94, .0532, .0649
Ba4554,455.403 { 74},Y_3710,ppm, .0797,.0000,.0044, .0796, .0797
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,71.43, .0000, .0000
Ca3158,315.887 {107},In2306,ppm, 19.16,.1944,1.014, 19.02, 19.30
Cd2288,228.802 {447},Y_2243,ppm, .0003,.0000,5.854, .0003, .0002
Co2286,228.616 {447},In2306,ppm, .0001,.0001,141.4, .0002, .0000
Cr2677,267.716 {126},Y_3600,ppm, .0035,.0000,1.284, .0036, .0035
Cu3247,324.754 {104},Y_3600,ppm, .0262,.0008,3.243, .0268, .0256
Fe2404,240.488 {140},In2306,ppm, 1.427,.0136,.9533, 1.417, 1.436
K_7664,766.490 { 44},Y_3710,ppm, 3.873,.0210,.5432, 3.858, 3.888
Li6707,670.784 { 50},Y_3710,ppm, .0029,.0000,.1703, .0029, .0029
Mg2790,279.079 {121},Y_3710,ppm, 3.335,.0281,.8424, 3.355, 3.315
Mn2576,257.610 {131},Y_3600,ppm, .0678,.0001,.1611, .0678, .0677
Mo2020,202.030 {467},Y_2243,ppm, .0408,.0021,5.068, .0423, .0394
Na5895,589.592 { 57},Y_3710,ppm, 78.77,.0600,.0762, 78.72, 78.81
Ni2316,231.604 {445},In2306,ppm, .0059,.0004,7.016, .0062, .0056
P_1782,178.284 {489},In2306,ppm, 3.070,.1523,4.963, 3.177, 2.962
Pb2203,220.353 {453},In2306,ppm, .0004,.0001,26.68, .0003, .0005
S_1820,182.034 {485},Y_2243,ppm, 4.322,.2062,4.769, 4.468, 4.177
Sb2068,206.833 {463},Y_2243,ppm, .0011,.0010,90.09, .0004, .0018
Se1960,196.090 {472},Y_2243,ppm, .0014,.0020,140.7, .0028, .0000
Si2516,251.611 {134},Y_3710,ppm, 5.530,.0202,.3659, 5.545, 5.516
Sn1899,189.989 {477},In2306,ppm, .0001,.0001,69.07, .0002, .0001
Sr4215,421.552 { 80},Y_3710,ppm, .1202,.0001,.0727, .1201, .1203
Ti3349,334.904 {101},Y_3600,ppm, .0023,.0001,5.968, .0024, .0022
Tl1908,190.856 {477},In2306,ppm, .0075,.0012,15.73, .0083, .0066
U_3670,367.007 { 92},Y_3600,ppm, -.0617,.0430,69.70, -.0921, -.0313
V_2924,292.402 {115},Y_3600,ppm, .0016,.0004,22.69, .0019, .0014
W_2397,239.709 {140},Y_2243,ppm, .0143,.0655,457.5, -.0320, .0607
Zn2062,206.200 {463},In2306,ppm, .2291,.0112,4.878, .2370, .2212

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 255.05,1.6522,.64781,256.22,253.88
In2306,230.606 {446},Cts/S, 14642.,618.60,4.2248,14205.,15080.
Y_2243,224.306 {450},Cts/S, 24081.,1045.2,4.3405,23342.,24820.
Y_3600,360.073 { 94},Cts/S, 204340.,55.850,.02733,204300.,204380.
Y_3710,371.030 { 91},Cts/S, 13166.,21.212,.16111,13151.,13181.

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Custom ID3=
Run Time=11/12/2019 12:26:33
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Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0011,.0003,24.24, .0009, .0013
Al3082,308.215 {109},In2306,ppm, .2420,.0056,2.329, .2380, .2460
As1890,189.042 {478},Y_2243,ppm, -.0008,.0004,46.04, -.0005, -.0010
B_2496,249.678 {135},Y_3710,ppm, .0254,.0009,3.649, .0247, .0260
Ba4554,455.403 { 74},Y_3710,ppm, .0059,.0001,1.561, .0060, .0059
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0001,167.5, .0000, -.0002
Ca3158,315.887 {107},In2306,ppm, 1.636,.0023,.1405, 1.634, 1.637
Cd2288,228.802 {447},Y_2243,ppm, .0006,.0001,20.78, .0005, .0007
Co2286,228.616 {447},In2306,ppm, -.0005,.0001,15.11, -.0005, -.0004
Cr2677,267.716 {126},Y_3600,ppm, .0017,.0001,7.658, .0016, .0018
Cu3247,324.754 {104},Y_3600,ppm, .0041,.0000,.4591, .0041, .0041
Fe2404,240.488 {140},In2306,ppm, .3716,.0012,.3179, .3724, .3707
K_7664,766.490 { 44},Y_3710,ppm, .2093,.0234,11.17, .2258, .1928
Li6707,670.784 { 50},Y_3710,ppm, .0004,.0000,7.548, .0003, .0004
Mg2790,279.079 {121},Y_3710,ppm, .5467,.0088,1.617, .5404, .5529
Mn2576,257.610 {131},Y_3600,ppm, .0196,.0000,.0778, .0196, .0196
Mo2020,202.030 {467},Y_2243,ppm, .5646,.0001,.0097, .5647, .5646
Na5895,589.592 { 57},Y_3710,ppm, 3.428,.0073,.2129, 3.423, 3.433
Ni2316,231.604 {445},In2306,ppm, .0043,.0003,7.140, .0041, .0045
P_1782,178.284 {489},In2306,ppm, .0606,.0007,1.215, .0611, .0600
Pb2203,220.353 {453},In2306,ppm, .0011,.0003,27.92, .0014, .0009
S_1820,182.034 {485},Y_2243,ppm, .1328,.0011,.8006, .1336, .1321
Sb2068,206.833 {463},Y_2243,ppm, -.0007,.0011,151.7, .0001, -.0015
Se1960,196.090 {472},Y_2243,ppm, .0025,.0001,2.101, .0025, .0024
Si2516,251.611 {134},Y_3710,ppm, 2.282,.0174,.7608, 2.270, 2.294
Sn1899,189.989 {477},In2306,ppm, -.0002,.0002,106.7, -.0003, -.0000
Sr4215,421.552 { 80},Y_3710,ppm, .0055,.0001,2.299, .0056, .0054
Ti3349,334.904 {101},Y_3600,ppm, .1573,.0003,.2076, .1575, .1571
Tl1908,190.856 {477},In2306,ppm, -.0000,.0024,5908., -.0017, .0017
U_3670,367.007 { 92},Y_3600,ppm, -.1930,.0383,19.85, -.1659, -.2201
V_2924,292.402 {115},Y_3600,ppm, -.0032,.0000,1.482, -.0031, -.0032
W_2397,239.709 {140},Y_2243,ppm, -.0291,.0030,10.13, -.0271, -.0312
Zn2062,206.200 {463},In2306,ppm, .5139,.0008,.1577, .5133, .5145

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 265.34,.67916,.25596,265.82,264.86
In2306,230.606 {446},Cts/S, 15590.,4.6179,.02962,15593.,15586.
Y_2243,224.306 {450},Cts/S, 24166.,23.274,.09631,24183.,24150.
Y_3600,360.073 { 94},Cts/S, 213590.,381.24,.17849,213860.,213320.
Y_3710,371.030 { 91},Cts/S, 13286.,38.965,.29329,13313.,13258.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0001,.0000,14.91, .0001, .0001
Al3082,308.215 {109},In2306,ppm, 4.657,.0368,.7909, 4.631, 4.683
As1890,189.042 {478},Y_2243,ppm, .0020,.0011,56.29, .0028, .0012
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B_2496,249.678 {135},Y_3710,ppm, .0210,.0029,13.93, .0190, .0231
Ba4554,455.403 { 74},Y_3710,ppm, .0828,.0001,.1311, .0829, .0827
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,1.883, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, 13.99,.0164,.1175, 13.98, 14.00
Cd2288,228.802 {447},Y_2243,ppm, .0018,.0000,1.602, .0019, .0018
Co2286,228.616 {447},In2306,ppm, .0011,.0000,1.636, .0011, .0011
Cr2677,267.716 {126},Y_3600,ppm, .0058,.0001,1.105, .0058, .0058
Cu3247,324.754 {104},Y_3600,ppm, .0109,.0001,.7274, .0109, .0110
Fe2404,240.488 {140},In2306,ppm, 7.013,.0470,.6701, 6.980, 7.046
K_7664,766.490 { 44},Y_3710,ppm, 1.439,.0417,2.898, 1.469, 1.410
Li6707,670.784 { 50},Y_3710,ppm, .0024,.0015,62.88, .0035, .0013
Mg2790,279.079 {121},Y_3710,ppm, 1.859,.0161,.8654, 1.870, 1.848
Mn2576,257.610 {131},Y_3600,ppm, .5662,.0068,1.203, .5710, .5614
Mo2020,202.030 {467},Y_2243,ppm, .0443,.0004,.8996, .0446, .0440
Na5895,589.592 { 57},Y_3710,ppm, 8.885,.0090,.1009, 8.892, 8.879
Ni2316,231.604 {445},In2306,ppm, .0036,.0001,3.603, .0037, .0035
P_1782,178.284 {489},In2306,ppm, .1726,.0014,.8127, .1736, .1716
Pb2203,220.353 {453},In2306,ppm, .0059,.0001,1.407, .0058, .0059
S_1820,182.034 {485},Y_2243,ppm, 1.169,.0004,.0374, 1.170, 1.169
Sb2068,206.833 {463},Y_2243,ppm, .0013,.0001,9.688, .0013, .0012
Se1960,196.090 {472},Y_2243,ppm, .0011,.0000,2.276, .0012, .0011
Si2516,251.611 {134},Y_3710,ppm, 8.544,.0337,.3949, 8.568, 8.520
Sn1899,189.989 {477},In2306,ppm, .0004,.0005,117.4, .0001, .0008
Sr4215,421.552 { 80},Y_3710,ppm, .0511,.0001,.2100, .0510, .0512
Ti3349,334.904 {101},Y_3600,ppm, .0322,.0002,.6552, .0323, .0320
Tl1908,190.856 {477},In2306,ppm, .0028,.0024,86.19, .0045, .0011
U_3670,367.007 { 92},Y_3600,ppm, -.1925,.0131,6.822, -.2018, -.1832
V_2924,292.402 {115},Y_3600,ppm, .0072,.0003,3.518, .0071, .0074
W_2397,239.709 {140},Y_2243,ppm, .0119,.0287,241.3, -.0084, .0322
Zn2062,206.200 {463},In2306,ppm, 1.658,.0048,.2871, 1.661, 1.654

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 259.37,.57058,.21999,259.77,258.96
In2306,230.606 {446},Cts/S, 15047.,17.614,.11706,15034.,15059.
Y_2243,224.306 {450},Cts/S, 23957.,38.367,.16015,23930.,23984.
Y_3600,360.073 { 94},Cts/S, 212370.,977.86,.46045,211680.,213070.
Y_3710,371.030 { 91},Cts/S, 13224.,34.713,.26251,13199.,13248.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0000,.0003,642.4, .0002, -.0001
Al3082,308.215 {109},In2306,ppm, .3136,.0031,.9730, .3158, .3115
As1890,189.042 {478},Y_2243,ppm, .0024,.0006,23.51, .0028, .0020
B_2496,249.678 {135},Y_3710,ppm, .0302,.0060,19.90, .0260, .0345
Ba4554,455.403 { 74},Y_3710,ppm, .0708,.0005,.7424, .0704, .0712
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,82.86, .0001, .0000
Ca3158,315.887 {107},In2306,ppm, 35.52,.0801,.2254, 35.47, 35.58
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0001,175.4, -.0001, .0000
Co2286,228.616 {447},In2306,ppm, .0004,.0001,19.27, .0004, .0005
Cr2677,267.716 {126},Y_3600,ppm, .0016,.0002,11.12, .0015, .0017
Cu3247,324.754 {104},Y_3600,ppm, .0094,.0000,.1538, .0094, .0094
Fe2404,240.488 {140},In2306,ppm, .4636,.0115,2.480, .4718, .4555
K_7664,766.490 { 44},Y_3710,ppm, 3.502,.0203,.5782, 3.488, 3.516
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Li6707,670.784 { 50},Y_3710,ppm, .0032,.0007,21.14, .0027, .0037
Mg2790,279.079 {121},Y_3710,ppm, 3.168,.0776,2.449, 3.113, 3.223
Mn2576,257.610 {131},Y_3600,ppm, .0888,.0003,.3010, .0886, .0890
Mo2020,202.030 {467},Y_2243,ppm, .0081,.0000,.3210, .0081, .0081
Na5895,589.592 { 57},Y_3710,ppm, 119.4,.1875,.1571, 119.2, 119.5
Ni2316,231.604 {445},In2306,ppm, .0059,.0001,.9022, .0059, .0058
P_1782,178.284 {489},In2306,ppm, .7461,.0006,.0762, .7457, .7465
Pb2203,220.353 {453},In2306,ppm, .0007,.0011,160.3, -.0001, .0015
S_1820,182.034 {485},Y_2243,ppm, 63.83,.1596,.2500, 63.95, 63.72
Sb2068,206.833 {463},Y_2243,ppm, .0008,.0004,53.43, .0011, .0005
Se1960,196.090 {472},Y_2243,ppm, .0009,.0021,219.5, -.0005, .0024
Si2516,251.611 {134},Y_3710,ppm, 3.927,.0540,1.375, 3.888, 3.965
Sn1899,189.989 {477},In2306,ppm, .0005,.0000,3.972, .0005, .0005
Sr4215,421.552 { 80},Y_3710,ppm, .1015,.0007,.6628, .1010, .1019
Ti3349,334.904 {101},Y_3600,ppm, .0018,.0002,9.011, .0019, .0017
Tl1908,190.856 {477},In2306,ppm, .0067,.0007,10.71, .0072, .0062
U_3670,367.007 { 92},Y_3600,ppm, -.0942,.0088,9.339, -.0880, -.1005
V_2924,292.402 {115},Y_3600,ppm, .0755,.0003,.3362, .0753, .0756
W_2397,239.709 {140},Y_2243,ppm, -.0456,.0562,123.2, -.0853, -.0059
Zn2062,206.200 {463},In2306,ppm, .0487,.0001,.1753, .0486, .0487

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 254.01,.28978,.11408,254.22,253.81
In2306,230.606 {446},Cts/S, 13768.,18.069,.13124,13756.,13781.
Y_2243,224.306 {450},Cts/S, 22997.,71.055,.30898,22946.,23047.
Y_3600,360.073 { 94},Cts/S, 199690.,318.22,.15936,199460.,199910.
Y_3710,371.030 { 91},Cts/S, 13014.,75.584,.58080,13067.,12960.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0001,127.2, -.0000, -.0001
Al3082,308.215 {109},In2306,ppm, .3779,.0147,3.886, .3883, .3675
As1890,189.042 {478},Y_2243,ppm, .0011,.0005,43.97, .0014, .0007
B_2496,249.678 {135},Y_3710,ppm, .0322,.0019,5.780, .0335, .0308
Ba4554,455.403 { 74},Y_3710,ppm, .0710,.0005,.6500, .0707, .0714
Be3130,313.042 {108},Y_3710,ppm, .0000,.0001,422.0, .0001, -.0000
Ca3158,315.887 {107},In2306,ppm, 36.10,.1781,.4934, 35.97, 36.23
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0001,31.09, .0002, .0003
Co2286,228.616 {447},In2306,ppm, .0003,.0001,27.29, .0002, .0003
Cr2677,267.716 {126},Y_3600,ppm, .0016,.0003,18.12, .0018, .0014
Cu3247,324.754 {104},Y_3600,ppm, .0135,.0001,.9990, .0136, .0135
Fe2404,240.488 {140},In2306,ppm, .4908,.0011,.2269, .4900, .4916
K_7664,766.490 { 44},Y_3710,ppm, 3.314,.0265,.8003, 3.295, 3.333
Li6707,670.784 { 50},Y_3710,ppm, .0023,.0000,1.571, .0023, .0023
Mg2790,279.079 {121},Y_3710,ppm, 3.174,.0498,1.570, 3.138, 3.209
Mn2576,257.610 {131},Y_3600,ppm, .1064,.0002,.1968, .1063, .1066
Mo2020,202.030 {467},Y_2243,ppm, .0082,.0001,1.752, .0081, .0083
Na5895,589.592 { 57},Y_3710,ppm, 110.4,.7208,.6527, 109.9, 111.0
Ni2316,231.604 {445},In2306,ppm, .0068,.0003,3.721, .0070, .0066
P_1782,178.284 {489},In2306,ppm, .7595,.0047,.6176, .7562, .7629
Pb2203,220.353 {453},In2306,ppm, .0005,.0004,66.06, .0008, .0003
S_1820,182.034 {485},Y_2243,ppm, 59.59,.0601,.1009, 59.55, 59.63
Sb2068,206.833 {463},Y_2243,ppm, .0016,.0000,.3092, .0016, .0016
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Se1960,196.090 {472},Y_2243,ppm, .0009,.0023,244.5, -.0007, .0025
Si2516,251.611 {134},Y_3710,ppm, 3.846,.0758,1.971, 3.792, 3.900
Sn1899,189.989 {477},In2306,ppm, -.0004,.0002,46.39, -.0006, -.0003
Sr4215,421.552 { 80},Y_3710,ppm, .1005,.0009,.9392, .0998, .1011
Ti3349,334.904 {101},Y_3600,ppm, .0019,.0000,2.293, .0019, .0018
Tl1908,190.856 {477},In2306,ppm, .0016,.0008,47.34, .0011, .0021
U_3670,367.007 { 92},Y_3600,ppm, -.1595,.0601,37.69, -.1170, -.2020
V_2924,292.402 {115},Y_3600,ppm, .0764,.0004,.5658, .0767, .0761
W_2397,239.709 {140},Y_2243,ppm, -.0281,.0206,73.19, -.0426, -.0136
Zn2062,206.200 {463},In2306,ppm, .0450,.0002,.5203, .0449, .0452

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 258.56,.09286,.03591,258.50,258.63
In2306,230.606 {446},Cts/S, 13928.,10.811,.07762,13920.,13935.
Y_2243,224.306 {450},Cts/S, 23241.,46.130,.19848,23208.,23273.
Y_3600,360.073 { 94},Cts/S, 200680.,91.444,.04557,200620.,200740.
Y_3710,371.030 { 91},Cts/S, 13041.,126.65,.97121,13130.,12951.

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[Results]
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Al3082,308.215 {109},In2306,ppm, .4112,.0087,2.127, .4174, .4050
As1890,189.042 {478},Y_2243,ppm, .0009,.0025,274.0, .0027, -.0009
B_2496,249.678 {135},Y_3710,ppm, .0310,.0050,15.99, .0275, .0345
Ba4554,455.403 { 74},Y_3710,ppm, .0621,.0000,.0512, .0621, .0622
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,260.4, -.0000, .0000
Ca3158,315.887 {107},In2306,ppm, 31.53,.3953,1.254, 31.81, 31.25
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,126.3, .0000, .0002
Co2286,228.616 {447},In2306,ppm, .0002,.0002,83.19, .0001, .0004
Cr2677,267.716 {126},Y_3600,ppm, .0016,.0003,17.91, .0018, .0014
Cu3247,324.754 {104},Y_3600,ppm, .0081,.0002,2.634, .0083, .0079
Fe2404,240.488 {140},In2306,ppm, .4728,.0015,.3119, .4738, .4718
K_7664,766.490 { 44},Y_3710,ppm, 3.263,.0330,1.013, 3.240, 3.287
Li6707,670.784 { 50},Y_3710,ppm, .0024,.0006,23.20, .0020, .0028
Mg2790,279.079 {121},Y_3710,ppm, 2.877,.0231,.8043, 2.893, 2.860
Mn2576,257.610 {131},Y_3600,ppm, .0838,.0011,1.266, .0845, .0830
Mo2020,202.030 {467},Y_2243,ppm, .0068,.0003,4.943, .0066, .0070
Na5895,589.592 { 57},Y_3710,ppm, 100.9,.1988,.1971, 101.0, 100.8
Ni2316,231.604 {445},In2306,ppm, .0050,.0001,2.867, .0051, .0049
P_1782,178.284 {489},In2306,ppm, .7518,.0070,.9259, .7469, .7567
Pb2203,220.353 {453},In2306,ppm, -.0005,.0003,73.08, -.0007, -.0002
S_1820,182.034 {485},Y_2243,ppm, 53.24,.6255,1.175, 52.80, 53.68
Sb2068,206.833 {463},Y_2243,ppm, .0010,.0009,89.86, .0004, .0017
Se1960,196.090 {472},Y_2243,ppm, .0009,.0051,554.5, -.0027, .0045
Si2516,251.611 {134},Y_3710,ppm, 3.741,.0245,.6540, 3.758, 3.723
Sn1899,189.989 {477},In2306,ppm, -.0001,.0001,100.7, -.0002, -.0000
Sr4215,421.552 { 80},Y_3710,ppm, .0893,.0003,.3664, .0895, .0891
Ti3349,334.904 {101},Y_3600,ppm, .0021,.0003,13.04, .0023, .0019
Tl1908,190.856 {477},In2306,ppm, -.0016,.0000,1.702, -.0016, -.0016
U_3670,367.007 { 92},Y_3600,ppm, -.0936,.0140,14.98, -.1035, -.0837
V_2924,292.402 {115},Y_3600,ppm, .0628,.0012,1.838, .0637, .0620
W_2397,239.709 {140},Y_2243,ppm, -.0039,.0354,903.4, -.0289, .0211
Zn2062,206.200 {463},In2306,ppm, .0383,.0004,1.117, .0380, .0386
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[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 256.26,4.4794,1.7480,253.09,259.43
In2306,230.606 {446},Cts/S, 13907.,57.099,.41057,13948.,13867.
Y_2243,224.306 {450},Cts/S, 23095.,83.211,.36030,23154.,23036.
Y_3600,360.073 { 94},Cts/S, 200040.,2267.2,1.1333,198440.,201650.
Y_3710,371.030 { 91},Cts/S, 13007.,133.93,1.0297,12913.,13102.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2496,.0048,1.914, .2462, .2530
Al3082,308.215 {109},In2306,ppm, 11.83,.2765,2.338, 11.63, 12.03
As1890,189.042 {478},Y_2243,ppm, 1.035,.0134,1.296, 1.045, 1.026
B_2496,249.678 {135},Y_3710,ppm, .5932,.0191,3.220, .5797, .6067
Ba4554,455.403 { 74},Y_3710,ppm, 1.365,.0254,1.860, 1.347, 1.383
Be3130,313.042 {108},Y_3710,ppm, 1.015,.0212,2.087, .9996, 1.029
Ca3158,315.887 {107},In2306,ppm, 98.49,2.276,2.311, 96.88, 100.1
Cd2288,228.802 {447},Y_2243,ppm, 1.002,.0092,.9178, 1.009, .9955
Co2286,228.616 {447},In2306,ppm, .9911,.0066,.6639, .9958, .9865
Cr2677,267.716 {126},Y_3600,ppm, .9154,.0197,2.147, .9015, .9293
Cu3247,324.754 {104},Y_3600,ppm, .9872,.0224,2.273, .9713, 1.003
Fe2404,240.488 {140},In2306,ppm, 10.93,.2258,2.066, 10.77, 11.09
K_7664,766.490 { 44},Y_3710,ppm, 13.66,.2566,1.879, 13.48, 13.84
Li6707,670.784 { 50},Y_3710,ppm, 1.046,.0184,1.764, 1.033, 1.059
Mg2790,279.079 {121},Y_3710,ppm, 17.47,.5293,3.029, 17.10, 17.85
Mn2576,257.610 {131},Y_3600,ppm, .9862,.0216,2.195, .9709, 1.002
Mo2020,202.030 {467},Y_2243,ppm, 1.016,.0087,.8566, 1.022, 1.010
Na5895,589.592 { 57},Y_3710,ppm, 52.81,.9330,1.767, 52.15, 53.47
Ni2316,231.604 {445},In2306,ppm, 1.027,.0070,.6771, 1.032, 1.022
P_1782,178.284 {489},In2306,ppm, 5.922,.0472,.7973, 5.955, 5.889
Pb2203,220.353 {453},In2306,ppm, 1.003,.0077,.7703, 1.008, .9975
S_1820,182.034 {485},Y_2243,ppm, 40.51,.3108,.7673, 40.73, 40.29
Sb2068,206.833 {463},Y_2243,ppm, 1.694,.0164,.9697, 1.705, 1.682
Se1960,196.090 {472},Y_2243,ppm, 1.023,.0165,1.609, 1.034, 1.011
Si2516,251.611 {134},Y_3710,ppm, 26.32,.7952,3.021, 25.76, 26.88
Sn1899,189.989 {477},In2306,ppm, 1.020,.0113,1.103, 1.028, 1.012
Sr4215,421.552 { 80},Y_3710,ppm, 1.398,.0258,1.845, 1.380, 1.416
Ti3349,334.904 {101},Y_3600,ppm, .9599,.0235,2.447, .9433, .9765
Tl1908,190.856 {477},In2306,ppm, 1.175,.0117,1.000, 1.183, 1.166
U_3670,367.007 { 92},Y_3600,ppm, .4040,.0180,4.464, .4167, .3912
V_2924,292.402 {115},Y_3600,ppm, .9497,.0200,2.103, .9355, .9638
W_2397,239.709 {140},Y_2243,ppm, .4052,.0893,22.03, .3421, .4683
Zn2062,206.200 {463},In2306,ppm, .5479,.0029,.5218, .5499, .5459

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 245.49,5.0811,2.0698,249.08,241.90
In2306,230.606 {446},Cts/S, 13618.,72.455,.53206,13567.,13669.
Y_2243,224.306 {450},Cts/S, 22996.,142.94,.62157,22895.,23097.
Y_3600,360.073 { 94},Cts/S, 203440.,3001.4,1.4753,205560.,201320.
Y_3710,371.030 { 91},Cts/S, 12757.,282.08,2.2113,12956.,12557.

[Sample Header]
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Mode=CONC
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0000,6.831, -.0001, -.0001
Al3082,308.215 {109},In2306,ppm, .2212,.0050,2.257, .2177, .2248
As1890,189.042 {478},Y_2243,ppm, .0005,.0000,1.310, .0005, .0005
B_2496,249.678 {135},Y_3710,ppm, .0184,.0024,12.92, .0168, .0201
Ba4554,455.403 { 74},Y_3710,ppm, .0679,.0006,.8474, .0675, .0683
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,112.1, .0001, .0000
Ca3158,315.887 {107},In2306,ppm, 18.48,.2422,1.311, 18.65, 18.31
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,138.6, .0000, .0002
Co2286,228.616 {447},In2306,ppm, .0000,.0001,529.1, .0001, -.0001
Cr2677,267.716 {126},Y_3600,ppm, .0005,.0000,8.272, .0006, .0005
Cu3247,324.754 {104},Y_3600,ppm, .0040,.0003,7.795, .0043, .0038
Fe2404,240.488 {140},In2306,ppm, .1501,.0055,3.639, .1540, .1463
K_7664,766.490 { 44},Y_3710,ppm, .7766,.0024,.3127, .7749, .7783
Li6707,670.784 { 50},Y_3710,ppm, .0026,.0001,2.297, .0026, .0027
Mg2790,279.079 {121},Y_3710,ppm, 1.591,.0208,1.308, 1.605, 1.576
Mn2576,257.610 {131},Y_3600,ppm, .0072,.0001,1.044, .0073, .0072
Mo2020,202.030 {467},Y_2243,ppm, .0009,.0001,14.50, .0010, .0008
Na5895,589.592 { 57},Y_3710,ppm, 9.059,.0164,.1815, 9.047, 9.070
Ni2316,231.604 {445},In2306,ppm, .0016,.0001,7.809, .0017, .0015
P_1782,178.284 {489},In2306,ppm, .0343,.0016,4.794, .0332, .0355
Pb2203,220.353 {453},In2306,ppm, -.0002,.0001,41.80, -.0002, -.0003
S_1820,182.034 {485},Y_2243,ppm, 7.732,.0210,.2721, 7.747, 7.717
Sb2068,206.833 {463},Y_2243,ppm, .0021,.0013,61.22, .0030, .0012
Se1960,196.090 {472},Y_2243,ppm, .0014,.0011,81.73, .0022, .0006
Si2516,251.611 {134},Y_3710,ppm, 3.628,.0215,.5933, 3.613, 3.644
Sn1899,189.989 {477},In2306,ppm, .0004,.0002,50.29, .0002, .0005
Sr4215,421.552 { 80},Y_3710,ppm, .0787,.0002,.2771, .0786, .0789
Ti3349,334.904 {101},Y_3600,ppm, .0014,.0001,5.119, .0014, .0013
Tl1908,190.856 {477},In2306,ppm, .0087,.0024,27.61, .0070, .0104
U_3670,367.007 { 92},Y_3600,ppm, -.2019,.0404,20.02, -.1733, -.2304
V_2924,292.402 {115},Y_3600,ppm, .0019,.0003,13.39, .0017, .0021
W_2397,239.709 {140},Y_2243,ppm, -.0108,.0151,139.7, -.0001, -.0215
Zn2062,206.200 {463},In2306,ppm, .0052,.0001,2.872, .0051, .0053

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 259.50,4.6142,1.7781,256.24,262.77
In2306,230.606 {446},Cts/S, 15162.,16.333,.10773,15150.,15173.
Y_2243,224.306 {450},Cts/S, 24118.,9.5326,.03953,24111.,24124.
Y_3600,360.073 { 94},Cts/S, 209610.,780.16,.37220,209060.,210160.
Y_3710,371.030 { 91},Cts/S, 13011.,77.073,.59236,12957.,13066.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .4790,.0009,.1846, .4796, .4784
Al3082,308.215 {109},In2306,ppm, 20.40,.0913,.4475, 20.34, 20.47
As1890,189.042 {478},Y_2243,ppm, 1.003,.0046,.4549, 1.007, 1.000
B_2496,249.678 {135},Y_3710,ppm, 1.008,.0066,.6551, 1.003, 1.013
Ba4554,455.403 { 74},Y_3710,ppm, 1.028,.0017,.1630, 1.029, 1.027
Be3130,313.042 {108},Y_3710,ppm, .9931,.0005,.0480, .9934, .9927
Ca3158,315.887 {107},In2306,ppm, 19.44,.1179,.6066, 19.36, 19.53
Cd2288,228.802 {447},Y_2243,ppm, .9739,.0058,.5920, .9780, .9698
Co2286,228.616 {447},In2306,ppm, .9785,.0084,.8553, .9844, .9726
Cr2677,267.716 {126},Y_3600,ppm, .9306,.0029,.3115, .9285, .9326
Cu3247,324.754 {104},Y_3600,ppm, .9749,.0046,.4689, .9716, .9781
Fe2404,240.488 {140},In2306,ppm, 19.80,.1304,.6587, 19.71, 19.90
K_7664,766.490 { 44},Y_3710,ppm, 19.86,.0875,.4404, 19.92, 19.80
Li6707,670.784 { 50},Y_3710,ppm, 1.003,.0003,.0336, 1.003, 1.003
Mg2790,279.079 {121},Y_3710,ppm, 20.04,.1445,.7209, 20.14, 19.94
Mn2576,257.610 {131},Y_3600,ppm, .9726,.0006,.0621, .9721, .9730
Mo2020,202.030 {467},Y_2243,ppm, 1.004,.0043,.4288, 1.007, 1.001
Na5895,589.592 { 57},Y_3710,ppm, 20.03,.0674,.3366, 20.08, 19.99
Ni2316,231.604 {445},In2306,ppm, 1.010,.0077,.7607, 1.015, 1.004
P_1782,178.284 {489},In2306,ppm, 10.56,.0861,.8154, 10.62, 10.50
Pb2203,220.353 {453},In2306,ppm, .9989,.0101,1.011, 1.006, .9917
S_1820,182.034 {485},Y_2243,ppm, 7.354,.0539,.7325, 7.392, 7.316
Sb2068,206.833 {463},Y_2243,ppm, 2.174,.0139,.6385, 2.184, 2.164
Se1960,196.090 {472},Y_2243,ppm, .9908,.0100,1.009, .9979, .9838
Si2516,251.611 {134},Y_3710,ppm, 9.109,.0287,.3146, 9.130, 9.089
Sn1899,189.989 {477},In2306,ppm, 1.012,.0133,1.317, 1.021, 1.002
Sr4215,421.552 { 80},Y_3710,ppm, 1.015,.0013,.1327, 1.016, 1.014
Ti3349,334.904 {101},Y_3600,ppm, .9632,.0008,.0854, .9637, .9626
Tl1908,190.856 {477},In2306,ppm, 1.072,.0102,.9479, 1.079, 1.065
U_3670,367.007 { 92},Y_3600,ppm, .7627,.0395,5.175, .7906, .7348
V_2924,292.402 {115},Y_3600,ppm, .9504,.0010,.1097, .9496, .9511
W_2397,239.709 {140},Y_2243,ppm, 1.116,.0049,.4374, 1.112, 1.119
Zn2062,206.200 {463},In2306,ppm, .9817,.0097,.9860, .9885, .9749

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 252.72,.00230,.00091,252.72,252.73
In2306,230.606 {446},Cts/S, 14276.,48.145,.33724,14242.,14310.
Y_2243,224.306 {450},Cts/S, 23851.,30.700,.12871,23830.,23873.
Y_3600,360.073 { 94},Cts/S, 206090.,986.48,.47866,206790.,205390.
Y_3710,371.030 { 91},Cts/S, 12949.,101.95,.78738,12877.,13021.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0103,.0004,4.208, .0100, .0106
Al3082,308.215 {109},In2306,ppm, .1697,.0097,5.704, .1629, .1766
As1890,189.042 {478},Y_2243,ppm, .0225,.0005,2.379, .0221, .0229
B_2496,249.678 {135},Y_3710,ppm, .2164,.0000,.0037, .2164, .2164
Ba4554,455.403 { 74},Y_3710,ppm, .0225,.0002,.8122, .0226, .0223
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Be3130,313.042 {108},Y_3710,ppm, .0111,.0002,1.661, .0113, .0110
Ca3158,315.887 {107},In2306,ppm, .9837,.0245,2.494, 1.001, .9664
Cd2288,228.802 {447},Y_2243,ppm, .0107,.0001,.5389, .0108, .0107
Co2286,228.616 {447},In2306,ppm, .0104,.0001,1.188, .0103, .0105
Cr2677,267.716 {126},Y_3600,ppm, .0104,.0000,.3565, .0104, .0104
Cu3247,324.754 {104},Y_3600,ppm, .0118,.0002,2.084, .0120, .0116
Fe2404,240.488 {140},In2306,ppm, .2051,.0111,5.419, .2130, .1973
K_7664,766.490 { 44},Y_3710,ppm, 1.071,.0004,.0333, 1.071, 1.071
Li6707,670.784 { 50},Y_3710,ppm, .0103,.0000,.1131, .0103, .0103
Mg2790,279.079 {121},Y_3710,ppm, 1.047,.0365,3.489, 1.073, 1.021
Mn2576,257.610 {131},Y_3600,ppm, .0109,.0001,1.046, .0110, .0109
Mo2020,202.030 {467},Y_2243,ppm, .0228,.0003,1.122, .0230, .0226
Na5895,589.592 { 57},Y_3710,ppm, 1.101,.0102,.9216, 1.109, 1.094
Ni2316,231.604 {445},In2306,ppm, .0113,.0003,2.289, .0111, .0115
P_1782,178.284 {489},In2306,ppm, .9984,.0027,.2727, .9965, 1.000
Pb2203,220.353 {453},In2306,ppm, .0101,.0012,11.37, .0110, .0093
S_1820,182.034 {485},Y_2243,ppm, .3584,.0010,.2861, .3591, .3576
Sb2068,206.833 {463},Y_2243,ppm, .0558,.0005,.9766, .0562, .0554
Se1960,196.090 {472},Y_2243,ppm, .0224,.0003,1.193, .0222, .0226
Si2516,251.611 {134},Y_3710,ppm, .1954,.0056,2.851, .1914, .1993
Sn1899,189.989 {477},In2306,ppm, .0212,.0000,.1724, .0212, .0212
Sr4215,421.552 { 80},Y_3710,ppm, .0115,.0001,1.019, .0116, .0115
Ti3349,334.904 {101},Y_3600,ppm, .0111,.0003,2.337, .0109, .0113
Tl1908,190.856 {477},In2306,ppm, .0486,.0025,5.121, .0468, .0504
U_3670,367.007 { 92},Y_3600,ppm, -.0344,.0657,191.2, -.0809, .0121
V_2924,292.402 {115},Y_3600,ppm, .0105,.0002,2.095, .0107, .0104
W_2397,239.709 {140},Y_2243,ppm, .0479,.0185,38.59, .0610, .0348
Zn2062,206.200 {463},In2306,ppm, .0180,.0002,1.273, .0179, .0182

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 263.44,5.2937,2.0095,259.70,267.18
In2306,230.606 {446},Cts/S, 15797.,3.8926,.02464,15795.,15800.
Y_2243,224.306 {450},Cts/S, 24569.,81.486,.33166,24511.,24626.
Y_3600,360.073 { 94},Cts/S, 214030.,247.73,.11574,214210.,213860.
Y_3710,371.030 { 91},Cts/S, 13188.,92.191,.69906,13123.,13253.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0005,.0005,100.2, .0008, .0001
Al3082,308.215 {109},In2306,ppm, -.0226,.0003,1.529, -.0223, -.0228
As1890,189.042 {478},Y_2243,ppm, -.0009,.0012,131.9, -.0018, -.0001
B_2496,249.678 {135},Y_3710,ppm, .0041,.0030,73.17, .0020, .0063
Ba4554,455.403 { 74},Y_3710,ppm, -.0004,.0000,10.53, -.0004, -.0004
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,5.646, .0001, .0000
Ca3158,315.887 {107},In2306,ppm, -.0149,.0029,19.50, -.0128, -.0169
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,32.19, .0001, .0001
Co2286,228.616 {447},In2306,ppm, .0001,.0001,121.7, .0002, .0000
Cr2677,267.716 {126},Y_3600,ppm, -.0001,.0002,209.1, .0001, -.0003
Cu3247,324.754 {104},Y_3600,ppm, .0003,.0003,86.98, .0001, .0006
Fe2404,240.488 {140},In2306,ppm, -.0079,.0085,108.1, -.0019, -.0139
K_7664,766.490 { 44},Y_3710,ppm, .0256,.0107,41.69, .0180, .0331
Li6707,670.784 { 50},Y_3710,ppm, -.0004,.0004,85.33, -.0002, -.0007
Mg2790,279.079 {121},Y_3710,ppm, .0340,.0060,17.61, .0297, .0382
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Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,6.449, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, .0001,.0004,341.9, -.0002, .0004
Na5895,589.592 { 57},Y_3710,ppm, .0343,.0064,18.58, .0388, .0298
Ni2316,231.604 {445},In2306,ppm, .0004,.0000,12.46, .0003, .0004
P_1782,178.284 {489},In2306,ppm, .0028,.0010,34.87, .0035, .0021
Pb2203,220.353 {453},In2306,ppm, -.0004,.0000,4.325, -.0003, -.0004
S_1820,182.034 {485},Y_2243,ppm, .0039,.0044,113.0, .0069, .0008
Sb2068,206.833 {463},Y_2243,ppm, .0001,.0008,1042., .0007, -.0005
Se1960,196.090 {472},Y_2243,ppm, -.0013,.0008,60.35, -.0019, -.0008
Si2516,251.611 {134},Y_3710,ppm, .0101,.0042,41.78, .0071, .0131
Sn1899,189.989 {477},In2306,ppm, -.0007,.0004,63.10, -.0004, -.0010
Sr4215,421.552 { 80},Y_3710,ppm, .0003,.0001,25.02, .0004, .0003
Ti3349,334.904 {101},Y_3600,ppm, .0002,.0004,226.8, .0004, -.0001
Tl1908,190.856 {477},In2306,ppm, .0131,.0001,1.122, .0130, .0132
U_3670,367.007 { 92},Y_3600,ppm, -.1089,.0419,38.44, -.1385, -.0793
V_2924,292.402 {115},Y_3600,ppm, .0001,.0002,134.0, .0002, .0000
W_2397,239.709 {140},Y_2243,ppm, -.0073,.0104,141.9, -.0146, .0000
Zn2062,206.200 {463},In2306,ppm, -.0014,.0000,3.157, -.0014, -.0014

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 262.75,4.6261,1.7606,259.48,266.02
In2306,230.606 {446},Cts/S, 16015.,60.454,.37749,16058.,15972.
Y_2243,224.306 {450},Cts/S, 24533.,104.07,.42420,24607.,24459.
Y_3600,360.073 { 94},Cts/S, 211200.,1238.7,.58650,212070.,210320.
Y_3710,371.030 { 91},Cts/S, 13045.,178.59,1.3690,12919.,13171.


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Ag3280,328.068 {103},Y_3600,ppm, .0003,.0001,19.90, .0003, .0004
Al3082,308.215 {109},In2306,ppm, -.0239,.0175,73.33, -.0115, -.0362
As1890,189.042 {478},Y_2243,ppm, .0009,.0006,62.65, .0013, .0005
B_2496,249.678 {135},Y_3710,ppm, -.0048,.0065,136.8, -.0094, -.0002
Ba4554,455.403 { 74},Y_3710,ppm, -.0002,.0001,48.75, -.0003, -.0001
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,13.25, .0000, .0000
Ca3158,315.887 {107},In2306,ppm, -.0073,.0113,153.8, -.0153, .0006
Cd2288,228.802 {447},Y_2243,ppm, -.0002,.0000,10.22, -.0002, -.0002
Co2286,228.616 {447},In2306,ppm, .0001,.0002,139.4, .0000, .0003
Cr2677,267.716 {126},Y_3600,ppm, -.0003,.0002,64.33, -.0002, -.0005
Cu3247,324.754 {104},Y_3600,ppm, .0007,.0003,38.54, .0009, .0005
Fe2404,240.488 {140},In2306,ppm, .0112,.0079,70.26, .0167, .0056
K_7664,766.490 { 44},Y_3710,ppm, .0185,.0333,180.2, .0420, -.0051
Li6707,670.784 { 50},Y_3710,ppm, .0009,.0001,8.625, .0009, .0010
Mg2790,279.079 {121},Y_3710,ppm, .0167,.0008,4.879, .0161, .0173
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,8.424, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, -.0003,.0000,16.20, -.0003, -.0003
Na5895,589.592 { 57},Y_3710,ppm, .0212,.0027,12.84, .0192, .0231
Ni2316,231.604 {445},In2306,ppm, .0006,.0002,25.61, .0005, .0008
P_1782,178.284 {489},In2306,ppm, .0016,.0002,9.958, .0015, .0018
Pb2203,220.353 {453},In2306,ppm, -.0016,.0000,.9776, -.0016, -.0016
S_1820,182.034 {485},Y_2243,ppm, .0142,.0006,3.963, .0146, .0138
Sb2068,206.833 {463},Y_2243,ppm, -.0007,.0010,150.0, -.0014, .0000
Se1960,196.090 {472},Y_2243,ppm, .0019,.0001,5.695, .0019, .0018
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Si2516,251.611 {134},Y_3710,ppm, -.0050,.0026,53.31, -.0031, -.0068
Sn1899,189.989 {477},In2306,ppm, -.0000,.0002,824.4, .0001, -.0002
Sr4215,421.552 { 80},Y_3710,ppm, .0002,.0001,34.46, .0002, .0003
Ti3349,334.904 {101},Y_3600,ppm, .0002,.0002,87.46, .0001, .0004
Tl1908,190.856 {477},In2306,ppm, .0044,.0006,14.20, .0049, .0040
U_3670,367.007 { 92},Y_3600,ppm, -.1267,.0298,23.56, -.1056, -.1478
V_2924,292.402 {115},Y_3600,ppm, .0003,.0003,99.21, .0006, .0001
W_2397,239.709 {140},Y_2243,ppm, -.0016,.0210,1350., .0133, -.0164
Zn2062,206.200 {463},In2306,ppm, .0203,.0005,2.341, .0200, .0207

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 263.87,2.5038,.94889,262.10,265.64
In2306,230.606 {446},Cts/S, 16053.,17.323,.10791,16066.,16041.
Y_2243,224.306 {450},Cts/S, 24514.,6.1663,.02515,24510.,24519.
Y_3600,360.073 { 94},Cts/S, 212310.,1484.0,.69897,211260.,213360.
Y_3710,371.030 { 91},Cts/S, 12996.,14.745,.11346,12985.,13006.

[Sample Header]
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Custom ID3=
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Ag3280,328.068 {103},Y_3600,ppm, .2557,.0003,.1188, .2559, .2555
Al3082,308.215 {109},In2306,ppm, 10.28,.2095,2.037, 10.14, 10.43
As1890,189.042 {478},Y_2243,ppm, 1.025,.0035,.3436, 1.027, 1.022
B_2496,249.678 {135},Y_3710,ppm, .5153,.0091,1.771, .5088, .5217
Ba4554,455.403 { 74},Y_3710,ppm, 1.019,.0068,.6637, 1.014, 1.023
Be3130,313.042 {108},Y_3710,ppm, .9985,.0093,.9292, .9919, 1.005
Ca3158,315.887 {107},In2306,ppm, 9.759,.1405,1.440, 9.660, 9.858
Cd2288,228.802 {447},Y_2243,ppm, 1.010,.0009,.0934, 1.010, 1.011
Co2286,228.616 {447},In2306,ppm, .9731,.0026,.2704, .9712, .9749
Cr2677,267.716 {126},Y_3600,ppm, .9258,.0001,.0127, .9258, .9257
Cu3247,324.754 {104},Y_3600,ppm, .9714,.0009,.0916, .9720, .9708
Fe2404,240.488 {140},In2306,ppm, 9.986,.1341,1.343, 9.891, 10.08
K_7664,766.490 { 44},Y_3710,ppm, 10.20,.0497,.4872, 10.16, 10.23
Li6707,670.784 { 50},Y_3710,ppm, 1.001,.0045,.4494, .9974, 1.004
Mg2790,279.079 {121},Y_3710,ppm, 10.10,.0917,.9079, 10.03, 10.16
Mn2576,257.610 {131},Y_3600,ppm, .9787,.0001,.0057, .9787, .9788
Mo2020,202.030 {467},Y_2243,ppm, .9892,.0028,.2817, .9872, .9912
Na5895,589.592 { 57},Y_3710,ppm, 10.30,.0631,.6122, 10.26, 10.35
Ni2316,231.604 {445},In2306,ppm, 1.011,.0021,.2039, 1.010, 1.013
P_1782,178.284 {489},In2306,ppm, 5.532,.0016,.0297, 5.531, 5.533
Pb2203,220.353 {453},In2306,ppm, 1.014,.0014,.1412, 1.015, 1.013
S_1820,182.034 {485},Y_2243,ppm, 3.987,.0042,.1058, 3.984, 3.990
Sb2068,206.833 {463},Y_2243,ppm, 1.689,.0003,.0196, 1.689, 1.690
Se1960,196.090 {472},Y_2243,ppm, 1.072,.0012,.1119, 1.071, 1.073
Si2516,251.611 {134},Y_3710,ppm, 8.334,.0575,.6895, 8.293, 8.374
Sn1899,189.989 {477},In2306,ppm, 1.012,.0016,.1605, 1.013, 1.011
Sr4215,421.552 { 80},Y_3710,ppm, 1.005,.0055,.5495, 1.001, 1.008
Ti3349,334.904 {101},Y_3600,ppm, .9513,.0006,.0628, .9509, .9517
Tl1908,190.856 {477},In2306,ppm, .9042,.0048,.5360, .9076, .9008
U_3670,367.007 { 92},Y_3600,ppm, .3829,.0621,16.21, .4268, .3390
V_2924,292.402 {115},Y_3600,ppm, .9368,.0005,.0496, .9371, .9365
W_2397,239.709 {140},Y_2243,ppm, .4564,.0188,4.124, .4697, .4431
Zn2062,206.200 {463},In2306,ppm, .5146,.0004,.0727, .5144, .5149
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[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 260.44,3.7700,1.4475,263.11,257.78
In2306,230.606 {446},Cts/S, 14657.,39.061,.26650,14685.,14630.
Y_2243,224.306 {450},Cts/S, 24043.,66.368,.27604,24090.,23996.
Y_3600,360.073 { 94},Cts/S, 207990.,402.93,.19373,207700.,208270.
Y_3710,371.030 { 91},Cts/S, 13232.,91.352,.69040,13296.,13167.

[Sample Header]
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Custom ID3=
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Mode=CONC
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0001,.0001,39.33, .0002, .0001
Al3082,308.215 {109},In2306,ppm, .0484,.0202,41.69, .0342, .0627
As1890,189.042 {478},Y_2243,ppm, .0031,.0008,24.38, .0037, .0026
B_2496,249.678 {135},Y_3710,ppm, .1519,.0029,1.907, .1539, .1498
Ba4554,455.403 { 74},Y_3710,ppm, .1552,.0025,1.581, .1535, .1570
Be3130,313.042 {108},Y_3710,ppm, .0002,.0002,98.56, .0003, .0001
Ca3158,315.887 {107},In2306,ppm, 18.73,.2522,1.346, 18.56, 18.91
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0000,20.22, -.0001, -.0001
Co2286,228.616 {447},In2306,ppm, .0002,.0001,30.55, .0002, .0003
Cr2677,267.716 {126},Y_3600,ppm, .0001,.0000,2.451, .0001, .0001
Cu3247,324.754 {104},Y_3600,ppm, .0029,.0001,4.524, .0028, .0030
Fe2404,240.488 {140},In2306,ppm, .0036,.0014,39.89, .0026, .0046
K_7664,766.490 { 44},Y_3710,ppm, .9764,.0006,.0666, .9759, .9768
Li6707,670.784 { 50},Y_3710,ppm, .0117,.0001,.4795, .0118, .0117
Mg2790,279.079 {121},Y_3710,ppm, 1.456,.0503,3.452, 1.421, 1.492
Mn2576,257.610 {131},Y_3600,ppm, .0038,.0001,1.474, .0039, .0038
Mo2020,202.030 {467},Y_2243,ppm, .0042,.0001,2.071, .0041, .0043
Na5895,589.592 { 57},Y_3710,ppm, 102.5,1.496,1.460, 101.4, 103.5
Ni2316,231.604 {445},In2306,ppm, .0007,.0001,17.47, .0008, .0006
P_1782,178.284 {489},In2306,ppm, .0222,.0002,1.053, .0224, .0220
Pb2203,220.353 {453},In2306,ppm, -.0020,.0005,25.30, -.0016, -.0024
S_1820,182.034 {485},Y_2243,ppm, 10.52,.0767,.7294, 10.58, 10.47
Sb2068,206.833 {463},Y_2243,ppm, .0190,.0004,1.993, .0187, .0193
Se1960,196.090 {472},Y_2243,ppm, .0039,.0013,33.83, .0048, .0029
Si2516,251.611 {134},Y_3710,ppm, 4.732,.0347,.7341, 4.707, 4.756
Sn1899,189.989 {477},In2306,ppm, -.0002,.0001,91.28, -.0003, -.0001
Sr4215,421.552 { 80},Y_3710,ppm, .1328,.0018,1.332, .1316, .1341
Ti3349,334.904 {101},Y_3600,ppm, .0007,.0001,15.16, .0007, .0006
Tl1908,190.856 {477},In2306,ppm, .0283,.0001,.2063, .0283, .0284
U_3670,367.007 { 92},Y_3600,ppm, -.1363,.0056,4.131, -.1402, -.1323
V_2924,292.402 {115},Y_3600,ppm, .0011,.0000,1.275, .0011, .0012
W_2397,239.709 {140},Y_2243,ppm, .0169,.0322,189.9, -.0058, .0397
Zn2062,206.200 {463},In2306,ppm, .0364,.0003,.8266, .0366, .0362

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 259.91,3.6433,1.4017,262.48,257.33
In2306,230.606 {446},Cts/S, 14219.,12.012,.08448,14211.,14228.
Y_2243,224.306 {450},Cts/S, 23731.,9.1265,.03846,23737.,23724.
Y_3600,360.073 { 94},Cts/S, 199230.,1525.2,.76556,198150.,200300.
Y_3710,371.030 { 91},Cts/S, 12954.,155.24,1.1983,13064.,12844.

[Sample Header]
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0002,188.5, .0000, -.0002
Al3082,308.215 {109},In2306,ppm, .0362,.0005,1.399, .0366, .0358
As1890,189.042 {478},Y_2243,ppm, .0046,.0006,13.89, .0050, .0041
B_2496,249.678 {135},Y_3710,ppm, .0810,.0099,12.26, .0880, .0740
Ba4554,455.403 { 74},Y_3710,ppm, .2365,.0005,.2001, .2368, .2361
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,79.16, -.0000, -.0001
Ca3158,315.887 {107},In2306,ppm, 40.01,.1864,.4659, 39.88, 40.14
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0000,85.11, -.0000, -.0000
Co2286,228.616 {447},In2306,ppm, .0004,.0001,31.14, .0003, .0005
Cr2677,267.716 {126},Y_3600,ppm, .0028,.0001,5.025, .0027, .0029
Cu3247,324.754 {104},Y_3600,ppm, .0035,.0003,8.039, .0033, .0037
Fe2404,240.488 {140},In2306,ppm, .4978,.0067,1.352, .4930, .5025
K_7664,766.490 { 44},Y_3710,ppm, 6.358,.0058,.0913, 6.363, 6.354
Li6707,670.784 { 50},Y_3710,ppm, .0247,.0005,1.933, .0244, .0251
Mg2790,279.079 {121},Y_3710,ppm, 5.710,.0170,.2983, 5.722, 5.698
Mn2576,257.610 {131},Y_3600,ppm, .0124,.0000,.2673, .0124, .0124
Mo2020,202.030 {467},Y_2243,ppm, .0052,.0000,.6206, .0052, .0052
Na5895,589.592 { 57},Y_3710,ppm, 57.10,.0664,.1162, 57.05, 57.14
Ni2316,231.604 {445},In2306,ppm, .0006,.0001,15.00, .0007, .0005
P_1782,178.284 {489},In2306,ppm, .0294,.0008,2.705, .0299, .0288
Pb2203,220.353 {453},In2306,ppm, -.0018,.0001,6.318, -.0019, -.0017
S_1820,182.034 {485},Y_2243,ppm, 5.163,.0183,.3539, 5.150, 5.176
Sb2068,206.833 {463},Y_2243,ppm, -.0002,.0003,126.0, -.0000, -.0004
Se1960,196.090 {472},Y_2243,ppm, -.0029,.0016,54.52, -.0018, -.0040
Si2516,251.611 {134},Y_3710,ppm, 8.369,.0047,.0556, 8.372, 8.366
Sn1899,189.989 {477},In2306,ppm, .0008,.0001,15.64, .0009, .0007
Sr4215,421.552 { 80},Y_3710,ppm, .5402,.0007,.1236, .5397, .5407
Ti3349,334.904 {101},Y_3600,ppm, .0012,.0002,21.08, .0010, .0013
Tl1908,190.856 {477},In2306,ppm, .0156,.0023,14.65, .0172, .0139
U_3670,367.007 { 92},Y_3600,ppm, -.1551,.0579,37.35, -.1960, -.1141
V_2924,292.402 {115},Y_3600,ppm, .0010,.0000,.5907, .0010, .0010
W_2397,239.709 {140},Y_2243,ppm, .0093,.0680,728.1, -.0387, .0574
Zn2062,206.200 {463},In2306,ppm, .0556,.0001,.1043, .0555, .0556

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 256.49,.90072,.35118,257.12,255.85
In2306,230.606 {446},Cts/S, 14115.,10.311,.07305,14122.,14108.
Y_2243,224.306 {450},Cts/S, 23392.,18.314,.07829,23405.,23379.
Y_3600,360.073 { 94},Cts/S, 201880.,133.88,.06631,201980.,201790.
Y_3710,371.030 { 91},Cts/S, 12997.,1.8775,.01445,12996.,12998.

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Repeats=2

[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0002,.0001,29.57, .0002, .0003
Al3082,308.215 {109},In2306,ppm, .0277,.0015,5.522, .0288, .0266
As1890,189.042 {478},Y_2243,ppm, .0044,.0018,40.75, .0031, .0056
B_2496,249.678 {135},Y_3710,ppm, .0932,.0020,2.154, .0946, .0918
Ba4554,455.403 { 74},Y_3710,ppm, .2290,.0002,.1067, .2288, .2292
Be3130,313.042 {108},Y_3710,ppm, .0000,.0001,340.4, -.0000, .0001
Ca3158,315.887 {107},In2306,ppm, 40.49,.1062,.2624, 40.42, 40.57
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0001,93.74, -.0000, -.0001
Co2286,228.616 {447},In2306,ppm, .0004,.0002,34.72, .0003, .0005
Cr2677,267.716 {126},Y_3600,ppm, .0027,.0002,7.456, .0026, .0028
Cu3247,324.754 {104},Y_3600,ppm, .0031,.0001,4.533, .0032, .0030
Fe2404,240.488 {140},In2306,ppm, .5051,.0044,.8732, .5082, .5019
K_7664,766.490 { 44},Y_3710,ppm, 6.471,.0199,.3078, 6.485, 6.457
Li6707,670.784 { 50},Y_3710,ppm, .0253,.0005,1.940, .0257, .0250
Mg2790,279.079 {121},Y_3710,ppm, 5.757,.1053,1.828, 5.683, 5.832
Mn2576,257.610 {131},Y_3600,ppm, .0124,.0000,.3618, .0124, .0123
Mo2020,202.030 {467},Y_2243,ppm, .0054,.0001,2.493, .0054, .0053
Na5895,589.592 { 57},Y_3710,ppm, 57.94,.0789,.1361, 57.89, 58.00
Ni2316,231.604 {445},In2306,ppm, .0008,.0000,3.506, .0008, .0007
P_1782,178.284 {489},In2306,ppm, .0311,.0016,5.015, .0322, .0300
Pb2203,220.353 {453},In2306,ppm, -.0013,.0015,118.1, -.0023, -.0002
S_1820,182.034 {485},Y_2243,ppm, 5.181,.0136,.2616, 5.191, 5.172
Sb2068,206.833 {463},Y_2243,ppm, -.0001,.0009,699.8, .0005, -.0007
Se1960,196.090 {472},Y_2243,ppm, .0014,.0015,106.4, .0024, .0003
Si2516,251.611 {134},Y_3710,ppm, 8.447,.0136,.1610, 8.438, 8.457
Sn1899,189.989 {477},In2306,ppm, .0010,.0005,48.98, .0007, .0014
Sr4215,421.552 { 80},Y_3710,ppm, .5485,.0010,.1831, .5478, .5492
Ti3349,334.904 {101},Y_3600,ppm, .0012,.0001,7.892, .0013, .0011
Tl1908,190.856 {477},In2306,ppm, .0098,.0013,12.82, .0089, .0107
U_3670,367.007 { 92},Y_3600,ppm, -.0939,.0051,5.470, -.0903, -.0975
V_2924,292.402 {115},Y_3600,ppm, .0004,.0002,43.28, .0003, .0005
W_2397,239.709 {140},Y_2243,ppm, .0145,.0052,36.08, .0108, .0182
Zn2062,206.200 {463},In2306,ppm, .0442,.0003,.5964, .0443, .0440

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 254.19,.09178,.03611,254.26,254.13
In2306,230.606 {446},Cts/S, 14111.,47.137,.33405,14078.,14144.
Y_2243,224.306 {450},Cts/S, 23387.,82.259,.35173,23329.,23445.
Y_3600,360.073 { 94},Cts/S, 201120.,640.32,.31838,200670.,201570.
Y_3710,371.030 { 91},Cts/S, 12853.,93.532,.72769,12919.,12787.

[Sample Header]
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2569,.0001,.0400, .2569, .2570
Al3082,308.215 {109},In2306,ppm, 10.74,.0265,.2465, 10.76, 10.72
As1890,189.042 {478},Y_2243,ppm, 1.051,.0053,.4996, 1.055, 1.048
B_2496,249.678 {135},Y_3710,ppm, .5969,.0005,.0787, .5966, .5972
Ba4554,455.403 { 74},Y_3710,ppm, 1.258,.0062,.4918, 1.254, 1.263
Be3130,313.042 {108},Y_3710,ppm, 1.018,.0018,.1743, 1.016, 1.019
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Ca3158,315.887 {107},In2306,ppm, 51.21,.1791,.3498, 51.34, 51.08
Cd2288,228.802 {447},Y_2243,ppm, 1.016,.0021,.2116, 1.017, 1.014
Co2286,228.616 {447},In2306,ppm, 1.003,.0027,.2667, 1.005, 1.001
Cr2677,267.716 {126},Y_3600,ppm, .9282,.0038,.4073, .9309, .9255
Cu3247,324.754 {104},Y_3600,ppm, .9789,.0068,.6987, .9838, .9741
Fe2404,240.488 {140},In2306,ppm, 10.78,.0028,.0264, 10.78, 10.77
K_7664,766.490 { 44},Y_3710,ppm, 16.83,.0388,.2304, 16.80, 16.85
Li6707,670.784 { 50},Y_3710,ppm, 1.032,.0025,.2461, 1.030, 1.034
Mg2790,279.079 {121},Y_3710,ppm, 15.98,.0185,.1157, 15.99, 15.96
Mn2576,257.610 {131},Y_3600,ppm, .9839,.0020,.1986, .9853, .9825
Mo2020,202.030 {467},Y_2243,ppm, 1.004,.0024,.2411, 1.006, 1.003
Na5895,589.592 { 57},Y_3710,ppm, 68.45,.1974,.2884, 68.31, 68.59
Ni2316,231.604 {445},In2306,ppm, 1.039,.0021,.1997, 1.040, 1.037
P_1782,178.284 {489},In2306,ppm, 5.985,.0107,.1780, 5.992, 5.977
Pb2203,220.353 {453},In2306,ppm, 1.035,.0020,.1971, 1.036, 1.033
S_1820,182.034 {485},Y_2243,ppm, 9.238,.0120,.1296, 9.246, 9.229
Sb2068,206.833 {463},Y_2243,ppm, 1.716,.0078,.4536, 1.722, 1.710
Se1960,196.090 {472},Y_2243,ppm, 1.080,.0005,.0472, 1.080, 1.081
Si2516,251.611 {134},Y_3710,ppm, 16.97,.0389,.2291, 16.99, 16.94
Sn1899,189.989 {477},In2306,ppm, 1.047,.0030,.2861, 1.049, 1.045
Sr4215,421.552 { 80},Y_3710,ppm, 1.563,.0079,.5043, 1.558, 1.569
Ti3349,334.904 {101},Y_3600,ppm, .9664,.0016,.1670, .9675, .9652
Tl1908,190.856 {477},In2306,ppm, .9397,.0038,.4044, .9370, .9424
U_3670,367.007 { 92},Y_3600,ppm, .3677,.0218,5.925, .3831, .3523
V_2924,292.402 {115},Y_3600,ppm, .9484,.0036,.3829, .9510, .9459
W_2397,239.709 {140},Y_2243,ppm, .4171,.0477,11.44, .3833, .4508
Zn2062,206.200 {463},In2306,ppm, .5759,.0016,.2768, .5770, .5748

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 249.57,.68237,.27342,249.08,250.05
In2306,230.606 {446},Cts/S, 13653.,11.102,.08132,13661.,13646.
Y_2243,224.306 {450},Cts/S, 23359.,29.203,.12502,23379.,23338.
Y_3600,360.073 { 94},Cts/S, 201090.,384.40,.19116,200810.,201360.
Y_3710,371.030 { 91},Cts/S, 12876.,46.361,.36006,12909.,12843.

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Custom ID3=
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Sample Type=Unk
Mode=CONC
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2526,.0004,.1433, .2529, .2524
Al3082,308.215 {109},In2306,ppm, 10.54,.0675,.6407, 10.49, 10.59
As1890,189.042 {478},Y_2243,ppm, 1.038,.0097,.9314, 1.044, 1.031
B_2496,249.678 {135},Y_3710,ppm, .5935,.0138,2.322, .6033, .5838
Ba4554,455.403 { 74},Y_3710,ppm, 1.239,.0005,.0390, 1.240, 1.239
Be3130,313.042 {108},Y_3710,ppm, 1.002,.0024,.2383, 1.000, 1.003
Ca3158,315.887 {107},In2306,ppm, 50.62,.4610,.9106, 50.30, 50.95
Cd2288,228.802 {447},Y_2243,ppm, 1.005,.0079,.7878, 1.010, .9991
Co2286,228.616 {447},In2306,ppm, .9922,.0093,.9361, .9988, .9856
Cr2677,267.716 {126},Y_3600,ppm, .9182,.0049,.5352, .9147, .9216
Cu3247,324.754 {104},Y_3600,ppm, .9677,.0038,.3958, .9650, .9704
Fe2404,240.488 {140},In2306,ppm, 10.59,.0707,.6672, 10.54, 10.64
K_7664,766.490 { 44},Y_3710,ppm, 16.59,.0165,.0995, 16.60, 16.57
Li6707,670.784 { 50},Y_3710,ppm, 1.014,.0065,.6426, 1.019, 1.010
Mg2790,279.079 {121},Y_3710,ppm, 15.75,.1196,.7590, 15.67, 15.84
Mn2576,257.610 {131},Y_3600,ppm, .9685,.0043,.4463, .9655, .9716
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Mo2020,202.030 {467},Y_2243,ppm, .9909,.0089,.9024, .9972, .9846
Na5895,589.592 { 57},Y_3710,ppm, 67.90,.0504,.0743, 67.93, 67.86
Ni2316,231.604 {445},In2306,ppm, 1.028,.0101,.9836, 1.036, 1.021
P_1782,178.284 {489},In2306,ppm, 5.944,.0745,1.253, 5.997, 5.891
Pb2203,220.353 {453},In2306,ppm, 1.025,.0138,1.342, 1.035, 1.016
S_1820,182.034 {485},Y_2243,ppm, 9.168,.0784,.8555, 9.223, 9.112
Sb2068,206.833 {463},Y_2243,ppm, 1.692,.0114,.6758, 1.700, 1.684
Se1960,196.090 {472},Y_2243,ppm, 1.066,.0062,.5843, 1.071, 1.062
Si2516,251.611 {134},Y_3710,ppm, 16.76,.0383,.2286, 16.73, 16.78
Sn1899,189.989 {477},In2306,ppm, 1.037,.0111,1.072, 1.045, 1.029
Sr4215,421.552 { 80},Y_3710,ppm, 1.543,.0009,.0613, 1.544, 1.542
Ti3349,334.904 {101},Y_3600,ppm, .9518,.0030,.3137, .9496, .9539
Tl1908,190.856 {477},In2306,ppm, .9791,.0048,.4883, .9825, .9757
U_3670,367.007 { 92},Y_3600,ppm, .3651,.0038,1.049, .3678, .3624
V_2924,292.402 {115},Y_3600,ppm, .9359,.0052,.5581, .9322, .9396
W_2397,239.709 {140},Y_2243,ppm, .3978,.0029,.7216, .3998, .3957
Zn2062,206.200 {463},In2306,ppm, .5713,.0075,1.319, .5766, .5660

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 252.55,2.5447,1.0076,254.35,250.75
In2306,230.606 {446},Cts/S, 13602.,35.996,.26463,13577.,13628.
Y_2243,224.306 {450},Cts/S, 23295.,31.472,.13510,23273.,23318.
Y_3600,360.073 { 94},Cts/S, 200490.,698.98,.34864,200980.,199990.
Y_3710,371.030 { 91},Cts/S, 13001.,86.189,.66296,13062.,12940.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0010,.0000,3.861, .0010, .0010
Al3082,308.215 {109},In2306,ppm, .6926,.0014,.2079, .6936, .6915
As1890,189.042 {478},Y_2243,ppm, .0069,.0007,10.86, .0064, .0074
B_2496,249.678 {135},Y_3710,ppm, .0584,.0059,10.10, .0626, .0542
Ba4554,455.403 { 74},Y_3710,ppm, .0861,.0003,.2947, .0863, .0859
Be3130,313.042 {108},Y_3710,ppm, .0002,.0001,25.19, .0003, .0002
Ca3158,315.887 {107},In2306,ppm, 43.18,.3749,.8682, 42.91, 43.44
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0001,356.2, -.0001, .0000
Co2286,228.616 {447},In2306,ppm, .0005,.0001,16.92, .0005, .0004
Cr2677,267.716 {126},Y_3600,ppm, .0022,.0001,3.545, .0021, .0023
Cu3247,324.754 {104},Y_3600,ppm, .0081,.0002,2.578, .0083, .0080
Fe2404,240.488 {140},In2306,ppm, .6200,.0010,.1681, .6207, .6192
K_7664,766.490 { 44},Y_3710,ppm, 5.620,.0151,.2683, 5.630, 5.609
Li6707,670.784 { 50},Y_3710,ppm, .0045,.0004,7.803, .0048, .0043
Mg2790,279.079 {121},Y_3710,ppm, 6.144,.0920,1.497, 6.079, 6.209
Mn2576,257.610 {131},Y_3600,ppm, .0696,.0002,.2916, .0694, .0697
Mo2020,202.030 {467},Y_2243,ppm, .0069,.0002,2.296, .0068, .0070
Na5895,589.592 { 57},Y_3710,ppm, 53.58,.4031,.7524, 53.86, 53.29
Ni2316,231.604 {445},In2306,ppm, .0023,.0001,5.639, .0024, .0022
P_1782,178.284 {489},In2306,ppm, .1536,.0023,1.505, .1519, .1552
Pb2203,220.353 {453},In2306,ppm, .0036,.0004,10.91, .0033, .0039
S_1820,182.034 {485},Y_2243,ppm, 14.27,.0627,.4394, 14.32, 14.23
Sb2068,206.833 {463},Y_2243,ppm, .0004,.0005,129.4, .0008, .0000
Se1960,196.090 {472},Y_2243,ppm, .0023,.0015,67.50, .0034, .0012
Si2516,251.611 {134},Y_3710,ppm, 6.045,.0298,.4935, 6.024, 6.066
Sn1899,189.989 {477},In2306,ppm, .0004,.0001,24.23, .0003, .0004
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Sr4215,421.552 { 80},Y_3710,ppm, .1958,.0004,.1937, .1961, .1955
Ti3349,334.904 {101},Y_3600,ppm, .0068,.0001,.9083, .0068, .0067
Tl1908,190.856 {477},In2306,ppm, .0431,.0001,.3335, .0432, .0430
U_3670,367.007 { 92},Y_3600,ppm, -.1019,.0746,73.27, -.0491, -.1547
V_2924,292.402 {115},Y_3600,ppm, .0047,.0001,1.423, .0048, .0047
W_2397,239.709 {140},Y_2243,ppm, .0156,.0117,75.02, .0073, .0239
Zn2062,206.200 {463},In2306,ppm, .1603,.0003,.1774, .1605, .1601

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 256.95,1.3088,.50936,257.88,256.03
In2306,230.606 {446},Cts/S, 14094.,1.2064,.00856,14093.,14095.
Y_2243,224.306 {450},Cts/S, 23219.,21.075,.09076,23234.,23204.
Y_3600,360.073 { 94},Cts/S, 202030.,484.52,.23982,201690.,202380.
Y_3710,371.030 { 91},Cts/S, 13008.,16.881,.12978,12996.,13020.

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Mode=CONC
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2561,.0010,.3778, .2568, .2554
Al3082,308.215 {109},In2306,ppm, 10.32,.1415,1.371, 10.22, 10.42
As1890,189.042 {478},Y_2243,ppm, 1.040,.0013,.1235, 1.041, 1.039
B_2496,249.678 {135},Y_3710,ppm, .6008,.0012,.2025, .5999, .6016
Ba4554,455.403 { 74},Y_3710,ppm, 1.241,.0022,.1733, 1.239, 1.242
Be3130,313.042 {108},Y_3710,ppm, 1.007,.0059,.5894, 1.002, 1.011
Ca3158,315.887 {107},In2306,ppm, 49.25,.6542,1.328, 48.79, 49.71
Cd2288,228.802 {447},Y_2243,ppm, 1.009,.0030,.2940, 1.011, 1.006
Co2286,228.616 {447},In2306,ppm, .9963,.0008,.0795, .9958, .9969
Cr2677,267.716 {126},Y_3600,ppm, .9227,.0029,.3138, .9248, .9207
Cu3247,324.754 {104},Y_3600,ppm, .9728,.0033,.3355, .9705, .9751
Fe2404,240.488 {140},In2306,ppm, 10.42,.1564,1.501, 10.31, 10.53
K_7664,766.490 { 44},Y_3710,ppm, 16.23,.0348,.2145, 16.20, 16.25
Li6707,670.784 { 50},Y_3710,ppm, 1.019,.0034,.3377, 1.017, 1.022
Mg2790,279.079 {121},Y_3710,ppm, 15.50,.0935,.6033, 15.43, 15.56
Mn2576,257.610 {131},Y_3600,ppm, .9785,.0019,.1966, .9799, .9772
Mo2020,202.030 {467},Y_2243,ppm, .9986,.0026,.2642, 1.000, .9968
Na5895,589.592 { 57},Y_3710,ppm, 65.86,.0937,.1423, 65.80, 65.93
Ni2316,231.604 {445},In2306,ppm, 1.034,.0004,.0405, 1.034, 1.035
P_1782,178.284 {489},In2306,ppm, 6.049,.0021,.0345, 6.047, 6.050
Pb2203,220.353 {453},In2306,ppm, 1.031,.0045,.4396, 1.028, 1.034
S_1820,182.034 {485},Y_2243,ppm, 9.102,.0228,.2510, 9.118, 9.086
Sb2068,206.833 {463},Y_2243,ppm, 1.692,.0006,.0374, 1.691, 1.692
Se1960,196.090 {472},Y_2243,ppm, 1.068,.0031,.2893, 1.070, 1.066
Si2516,251.611 {134},Y_3710,ppm, 16.72,.0492,.2940, 16.69, 16.76
Sn1899,189.989 {477},In2306,ppm, 1.041,.0001,.0099, 1.041, 1.041
Sr4215,421.552 { 80},Y_3710,ppm, 1.533,.0039,.2522, 1.530, 1.535
Ti3349,334.904 {101},Y_3600,ppm, .9609,.0014,.1491, .9619, .9598
Tl1908,190.856 {477},In2306,ppm, 1.245,.0050,.4039, 1.249, 1.241
U_3670,367.007 { 92},Y_3600,ppm, .3755,.0896,23.85, .3121, .4388
V_2924,292.402 {115},Y_3600,ppm, .9419,.0027,.2854, .9438, .9400
W_2397,239.709 {140},Y_2243,ppm, .4342,.0313,7.215, .4121, .4564
Zn2062,206.200 {463},In2306,ppm, .5792,.0024,.4095, .5775, .5809

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
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In2306,230.606 {146},Cts/S, 252.20,2.1414,.84909,253.71,250.68
In2306,230.606 {446},Cts/S, 13683.,5.7134,.04175,13679.,13688.
Y_2243,224.306 {450},Cts/S, 23393.,54.082,.23119,23355.,23431.
Y_3600,360.073 { 94},Cts/S, 201550.,970.55,.48153,202240.,200870.
Y_3710,371.030 { 91},Cts/S, 12965.,13.891,.10714,12975.,12956.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0013,.0001,7.938, .0012, .0013
Al3082,308.215 {109},In2306,ppm, -.0000,.0083,40620., .0059, -.0059
As1890,189.042 {478},Y_2243,ppm, .0011,.0003,27.68, .0009, .0014
B_2496,249.678 {135},Y_3710,ppm, .0219,.0058,26.34, .0178, .0259
Ba4554,455.403 { 74},Y_3710,ppm, .0464,.0004,.8720, .0461, .0467
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,33.51, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, 8.183,.0157,.1924, 8.171, 8.194
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,43.11, .0001, .0002
Co2286,228.616 {447},In2306,ppm, -.0001,.0001,118.9, -.0001, -.0000
Cr2677,267.716 {126},Y_3600,ppm, .0005,.0002,29.79, .0006, .0004
Cu3247,324.754 {104},Y_3600,ppm, .0017,.0001,5.087, .0017, .0016
Fe2404,240.488 {140},In2306,ppm, .1066,.0094,8.823, .1133, .1000
K_7664,766.490 { 44},Y_3710,ppm, 1.317,.0276,2.098, 1.297, 1.336
Li6707,670.784 { 50},Y_3710,ppm, .0050,.0003,5.032, .0048, .0052
Mg2790,279.079 {121},Y_3710,ppm, 1.165,.0017,.1459, 1.166, 1.163
Mn2576,257.610 {131},Y_3600,ppm, .0026,.0000,.5522, .0026, .0026
Mo2020,202.030 {467},Y_2243,ppm, .0021,.0002,9.537, .0020, .0023
Na5895,589.592 { 57},Y_3710,ppm, 11.67,.0367,.3144, 11.64, 11.69
Ni2316,231.604 {445},In2306,ppm, .0004,.0002,57.38, .0002, .0006
P_1782,178.284 {489},In2306,ppm, .0062,.0001,.9371, .0062, .0062
Pb2203,220.353 {453},In2306,ppm, -.0007,.0002,32.61, -.0006, -.0009
S_1820,182.034 {485},Y_2243,ppm, .9677,.0022,.2259, .9661, .9692
Sb2068,206.833 {463},Y_2243,ppm, .0021,.0008,38.46, .0026, .0015
Se1960,196.090 {472},Y_2243,ppm, .0014,.0001,4.955, .0013, .0014
Si2516,251.611 {134},Y_3710,ppm, 1.694,.0223,1.315, 1.678, 1.710
Sn1899,189.989 {477},In2306,ppm, .0001,.0000,31.40, .0002, .0001
Sr4215,421.552 { 80},Y_3710,ppm, .1119,.0011,1.000, .1111, .1127
Ti3349,334.904 {101},Y_3600,ppm, .0005,.0001,21.31, .0004, .0006
Tl1908,190.856 {477},In2306,ppm, .0342,.0011,3.277, .0350, .0334
U_3670,367.007 { 92},Y_3600,ppm, -.1105,.0520,47.06, -.1473, -.0738
V_2924,292.402 {115},Y_3600,ppm, .0004,.0002,40.75, .0003, .0005
W_2397,239.709 {140},Y_2243,ppm, -.0435,.0468,107.5, -.0104, -.0766
Zn2062,206.200 {463},In2306,ppm, .0085,.0001,1.148, .0085, .0086

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 261.91,2.5900,.98888,260.08,263.74
In2306,230.606 {446},Cts/S, 15210.,2.6348,.01732,15208.,15212.
Y_2243,224.306 {450},Cts/S, 24073.,30.384,.12622,24052.,24095.
Y_3600,360.073 { 94},Cts/S, 210260.,1344.8,.63960,211210.,209310.
Y_3710,371.030 { 91},Cts/S, 13095.,24.921,.19032,13077.,13112.

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Ag3280,328.068 {103},Y_3600,ppm, .4771,.0010,.2073, .4764, .4778
Al3082,308.215 {109},In2306,ppm, 20.43,.1535,.7513, 20.32, 20.54
As1890,189.042 {478},Y_2243,ppm, 1.006,.0030,.3003, 1.008, 1.004
B_2496,249.678 {135},Y_3710,ppm, 1.006,.0129,1.287, .9972, 1.016
Ba4554,455.403 { 74},Y_3710,ppm, 1.028,.0039,.3778, 1.025, 1.030
Be3130,313.042 {108},Y_3710,ppm, .9898,.0045,.4500, .9866, .9929
Ca3158,315.887 {107},In2306,ppm, 19.40,.0710,.3660, 19.35, 19.45
Cd2288,228.802 {447},Y_2243,ppm, .9718,.0010,.1012, .9725, .9711
Co2286,228.616 {447},In2306,ppm, .9784,.0000,.0050, .9784, .9785
Cr2677,267.716 {126},Y_3600,ppm, .9282,.0002,.0204, .9283, .9281
Cu3247,324.754 {104},Y_3600,ppm, .9706,.0032,.3339, .9683, .9729
Fe2404,240.488 {140},In2306,ppm, 19.77,.1239,.6263, 19.69, 19.86
K_7664,766.490 { 44},Y_3710,ppm, 19.79,.0263,.1329, 19.77, 19.81
Li6707,670.784 { 50},Y_3710,ppm, 1.002,.0016,.1603, 1.001, 1.003
Mg2790,279.079 {121},Y_3710,ppm, 19.94,.1686,.8458, 19.82, 20.06
Mn2576,257.610 {131},Y_3600,ppm, .9699,.0002,.0211, .9698, .9700
Mo2020,202.030 {467},Y_2243,ppm, 1.005,.0005,.0455, 1.005, 1.006
Na5895,589.592 { 57},Y_3710,ppm, 19.99,.0701,.3509, 19.94, 20.04
Ni2316,231.604 {445},In2306,ppm, 1.013,.0002,.0243, 1.013, 1.013
P_1782,178.284 {489},In2306,ppm, 10.65,.0089,.0839, 10.66, 10.65
Pb2203,220.353 {453},In2306,ppm, .9981,.0015,.1530, .9970, .9992
S_1820,182.034 {485},Y_2243,ppm, 7.351,.0114,.1547, 7.343, 7.359
Sb2068,206.833 {463},Y_2243,ppm, 2.175,.0028,.1286, 2.173, 2.177
Se1960,196.090 {472},Y_2243,ppm, .9867,.0019,.1951, .9881, .9854
Si2516,251.611 {134},Y_3710,ppm, 8.973,.0583,.6495, 8.932, 9.015
Sn1899,189.989 {477},In2306,ppm, 1.016,.0023,.2227, 1.014, 1.017
Sr4215,421.552 { 80},Y_3710,ppm, 1.015,.0031,.3061, 1.013, 1.017
Ti3349,334.904 {101},Y_3600,ppm, .9635,.0011,.1182, .9643, .9627
Tl1908,190.856 {477},In2306,ppm, 1.103,.0050,.4519, 1.099, 1.106
U_3670,367.007 { 92},Y_3600,ppm, .7372,.0307,4.161, .7155, .7589
V_2924,292.402 {115},Y_3600,ppm, .9490,.0004,.0405, .9492, .9487
W_2397,239.709 {140},Y_2243,ppm, 1.148,.0653,5.690, 1.195, 1.102
Zn2062,206.200 {463},In2306,ppm, .9829,.0028,.2870, .9809, .9849

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 252.35,.79072,.31334,252.91,251.79
In2306,230.606 {446},Cts/S, 14206.,7.1844,.05057,14201.,14211.
Y_2243,224.306 {450},Cts/S, 23780.,19.088,.08027,23767.,23794.
Y_3600,360.073 { 94},Cts/S, 205860.,13.538,.00658,205870.,205850.
Y_3710,371.030 { 91},Cts/S, 12980.,5.5369,.04266,12984.,12976.

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Al3082,308.215 {109},In2306,ppm, .1800,.0146,8.091, .1903, .1697
As1890,189.042 {478},Y_2243,ppm, .0218,.0005,2.517, .0221, .0214
B_2496,249.678 {135},Y_3710,ppm, .2148,.0054,2.533, .2186, .2110
Ba4554,455.403 { 74},Y_3710,ppm, .0222,.0000,.1967, .0222, .0222
Be3130,313.042 {108},Y_3710,ppm, .0111,.0001,.7242, .0111, .0110
Ca3158,315.887 {107},In2306,ppm, .9905,.0074,.7479, .9957, .9853
Cd2288,228.802 {447},Y_2243,ppm, .0111,.0006,4.974, .0115, .0107
Co2286,228.616 {447},In2306,ppm, .0106,.0003,2.569, .0108, .0104
Cr2677,267.716 {126},Y_3600,ppm, .0102,.0002,1.557, .0101, .0103
Cu3247,324.754 {104},Y_3600,ppm, .0121,.0001,.9026, .0120, .0122
Fe2404,240.488 {140},In2306,ppm, .2092,.0052,2.473, .2129, .2056
K_7664,766.490 { 44},Y_3710,ppm, 1.083,.0289,2.668, 1.103, 1.062
Li6707,670.784 { 50},Y_3710,ppm, .0113,.0000,.2702, .0113, .0113
Mg2790,279.079 {121},Y_3710,ppm, 1.027,.0224,2.183, 1.043, 1.011
Mn2576,257.610 {131},Y_3600,ppm, .0109,.0000,.1189, .0109, .0109
Mo2020,202.030 {467},Y_2243,ppm, .0236,.0008,3.276, .0241, .0230
Na5895,589.592 { 57},Y_3710,ppm, 1.103,.0028,.2522, 1.101, 1.105
Ni2316,231.604 {445},In2306,ppm, .0113,.0004,3.939, .0117, .0110
P_1782,178.284 {489},In2306,ppm, 1.022,.0394,3.852, 1.050, .9944
Pb2203,220.353 {453},In2306,ppm, .0123,.0003,2.442, .0121, .0125
S_1820,182.034 {485},Y_2243,ppm, .3619,.0183,5.065, .3749, .3489
Sb2068,206.833 {463},Y_2243,ppm, .0582,.0002,.4038, .0581, .0584
Se1960,196.090 {472},Y_2243,ppm, .0223,.0005,2.433, .0227, .0220
Si2516,251.611 {134},Y_3710,ppm, .1730,.0028,1.637, .1750, .1710
Sn1899,189.989 {477},In2306,ppm, .0223,.0007,3.139, .0228, .0218
Sr4215,421.552 { 80},Y_3710,ppm, .0116,.0000,.2554, .0115, .0116
Ti3349,334.904 {101},Y_3600,ppm, .0109,.0003,2.415, .0107, .0111
Tl1908,190.856 {477},In2306,ppm, .0570,.0069,12.12, .0619, .0521
U_3670,367.007 { 92},Y_3600,ppm, -.1337,.0238,17.79, -.1169, -.1505
V_2924,292.402 {115},Y_3600,ppm, .0102,.0001,.8860, .0103, .0101
W_2397,239.709 {140},Y_2243,ppm, .0870,.0100,11.49, .0941, .0799
Zn2062,206.200 {463},In2306,ppm, .0186,.0006,3.398, .0190, .0182

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 262.35,2.0887,.79613,260.88,263.83
In2306,230.606 {446},Cts/S, 15451.,470.50,3.0450,15119.,15784.
Y_2243,224.306 {450},Cts/S, 24044.,782.21,3.2533,23491.,24597.
Y_3600,360.073 { 94},Cts/S, 214330.,652.36,.30438,214790.,213870.
Y_3710,371.030 { 91},Cts/S, 13134.,18.773,.14293,13121.,13148.

[Sample Header]
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Custom ID1=
Custom ID2=
Custom ID3=
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Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0009,.0008,89.66, .0014, .0003
Al3082,308.215 {109},In2306,ppm, -.0194,.0009,4.436, -.0188, -.0200
As1890,189.042 {478},Y_2243,ppm, -.0009,.0010,101.8, -.0003, -.0016
B_2496,249.678 {135},Y_3710,ppm, .0032,.0005,15.41, .0035, .0028
Ba4554,455.403 { 74},Y_3710,ppm, -.0004,.0000,2.944, -.0004, -.0004
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,59.92, .0000, .0001
Ca3158,315.887 {107},In2306,ppm, -.0168,.0014,8.394, -.0178, -.0158
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0000,50.09, .0000, .0000
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Co2286,228.616 {447},In2306,ppm, .0000,.0001,289.3, .0001, -.0000
Cr2677,267.716 {126},Y_3600,ppm, -.0003,.0001,45.97, -.0004, -.0002
Cu3247,324.754 {104},Y_3600,ppm, .0007,.0002,24.61, .0008, .0006
Fe2404,240.488 {140},In2306,ppm, -.0010,.0017,163.1, .0002, -.0022
K_7664,766.490 { 44},Y_3710,ppm, .0346,.0006,1.673, .0350, .0342
Li6707,670.784 { 50},Y_3710,ppm, -.0002,.0008,348.3, .0003, -.0008
Mg2790,279.079 {121},Y_3710,ppm, .0185,.0079,42.56, .0130, .0241
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,2.361, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, .0002,.0000,28.17, .0001, .0002
Na5895,589.592 { 57},Y_3710,ppm, .0248,.0000,.1373, .0248, .0248
Ni2316,231.604 {445},In2306,ppm, .0003,.0002,64.86, .0004, .0001
P_1782,178.284 {489},In2306,ppm, .0010,.0004,40.54, .0007, .0013
Pb2203,220.353 {453},In2306,ppm, .0001,.0001,167.9, -.0000, .0002
S_1820,182.034 {485},Y_2243,ppm, .0024,.0000,1.099, .0024, .0024
Sb2068,206.833 {463},Y_2243,ppm, -.0000,.0010,3960., .0007, -.0008
Se1960,196.090 {472},Y_2243,ppm, -.0002,.0012,487.2, .0006, -.0011
Si2516,251.611 {134},Y_3710,ppm, -.0052,.0026,49.48, -.0070, -.0034
Sn1899,189.989 {477},In2306,ppm, -.0007,.0001,10.92, -.0007, -.0006
Sr4215,421.552 { 80},Y_3710,ppm, .0002,.0001,43.44, .0003, .0001
Ti3349,334.904 {101},Y_3600,ppm, .0002,.0003,126.2, .0000, .0005
Tl1908,190.856 {477},In2306,ppm, .0170,.0008,4.438, .0165, .0176
U_3670,367.007 { 92},Y_3600,ppm, -.1582,.0182,11.50, -.1710, -.1453
V_2924,292.402 {115},Y_3600,ppm, -.0000,.0003,740.6, .0001, -.0002
W_2397,239.709 {140},Y_2243,ppm, -.0604,.0552,91.38, -.0995, -.0214
Zn2062,206.200 {463},In2306,ppm, -.0015,.0000,2.036, -.0015, -.0015

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 265.10,1.4915,.56263,264.04,266.15
In2306,230.606 {446},Cts/S, 15877.,48.504,.30550,15843.,15911.
Y_2243,224.306 {450},Cts/S, 24393.,106.34,.43595,24318.,24468.
Y_3600,360.073 { 94},Cts/S, 213110.,98.260,.04611,213040.,213180.
Y_3710,371.030 { 91},Cts/S, 13010.,9.7429,.07489,13016.,13003.


[Sample Header]
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Custom ID2=
Custom ID3=
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0005,.0001,27.17, .0006, .0004
Al3082,308.215 {109},In2306,ppm, -.0376,.0053,14.23, -.0414, -.0338
As1890,189.042 {478},Y_2243,ppm, -.0013,.0007,51.54, -.0018, -.0008
B_2496,249.678 {135},Y_3710,ppm, .0042,.0003,6.231, .0044, .0040
Ba4554,455.403 { 74},Y_3710,ppm, -.0003,.0001,37.56, -.0004, -.0002
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0001,103.1, -.0001, -.0000
Ca3158,315.887 {107},In2306,ppm, -.0098,.0015,15.39, -.0108, -.0087
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0001,268.5, .0001, -.0000
Co2286,228.616 {447},In2306,ppm, -.0000,.0000,30.40, -.0000, -.0000
Cr2677,267.716 {126},Y_3600,ppm, -.0003,.0000,14.06, -.0002, -.0003
Cu3247,324.754 {104},Y_3600,ppm, .0008,.0003,32.35, .0006, .0010
Fe2404,240.488 {140},In2306,ppm, .0053,.0072,135.7, .0104, .0002
K_7664,766.490 { 44},Y_3710,ppm, .0212,.0355,167.7, .0463, -.0039
Li6707,670.784 { 50},Y_3710,ppm, -.0017,.0000,1.493, -.0017, -.0016
Mg2790,279.079 {121},Y_3710,ppm, .0091,.0169,185.2, -.0028, .0211
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,40.08, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, .0002,.0002,104.2, .0003, .0000
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Na5895,589.592 { 57},Y_3710,ppm, .0214,.0023,10.93, .0230, .0197
Ni2316,231.604 {445},In2306,ppm, .0005,.0004,75.74, .0002, .0008
P_1782,178.284 {489},In2306,ppm, .0017,.0007,43.29, .0012, .0022
Pb2203,220.353 {453},In2306,ppm, .0000,.0001,267.6, .0001, -.0000
S_1820,182.034 {485},Y_2243,ppm, .0044,.0022,49.00, .0059, .0029
Sb2068,206.833 {463},Y_2243,ppm, .0017,.0002,9.551, .0016, .0018
Se1960,196.090 {472},Y_2243,ppm, -.0012,.0022,184.8, -.0027, .0004
Si2516,251.611 {134},Y_3710,ppm, -.0063,.0050,78.57, -.0099, -.0028
Sn1899,189.989 {477},In2306,ppm, -.0003,.0000,8.321, -.0003, -.0003
Sr4215,421.552 { 80},Y_3710,ppm, .0002,.0000,5.201, .0002, .0002
Ti3349,334.904 {101},Y_3600,ppm, .0001,.0003,182.9, .0003, -.0000
Tl1908,190.856 {477},In2306,ppm, .0115,.0030,26.00, .0136, .0094
U_3670,367.007 { 92},Y_3600,ppm, -.1606,.0309,19.26, -.1825, -.1387
V_2924,292.402 {115},Y_3600,ppm, .0001,.0003,291.5, .0003, -.0001
W_2397,239.709 {140},Y_2243,ppm, -.0105,.0017,15.96, -.0093, -.0117
Zn2062,206.200 {463},In2306,ppm, .0028,.0000,.0801, .0028, .0028

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 265.43,1.3359,.50331,264.48,266.37
In2306,230.606 {446},Cts/S, 15902.,19.449,.12231,15888.,15915.
Y_2243,224.306 {450},Cts/S, 24530.,16.430,.06698,24519.,24542.
Y_3600,360.073 { 94},Cts/S, 214880.,243.57,.11335,214700.,215050.
Y_3710,371.030 { 91},Cts/S, 13175.,87.462,.66387,13236.,13113.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2441,.0008,.3288, .2436, .2447
Al3082,308.215 {109},In2306,ppm, 10.22,.0841,.8230, 10.16, 10.28
As1890,189.042 {478},Y_2243,ppm, .9919,.0080,.8046, .9975, .9862
B_2496,249.678 {135},Y_3710,ppm, .5092,.0025,.4898, .5074, .5109
Ba4554,455.403 { 74},Y_3710,ppm, 1.028,.0025,.2431, 1.026, 1.030
Be3130,313.042 {108},Y_3710,ppm, .9942,.0027,.2729, .9923, .9961
Ca3158,315.887 {107},In2306,ppm, 9.735,.1102,1.132, 9.657, 9.813
Cd2288,228.802 {447},Y_2243,ppm, .9676,.0086,.8933, .9738, .9615
Co2286,228.616 {447},In2306,ppm, .9585,.0076,.7941, .9639, .9532
Cr2677,267.716 {126},Y_3600,ppm, .9182,.0012,.1349, .9173, .9190
Cu3247,324.754 {104},Y_3600,ppm, .9688,.0042,.4339, .9659, .9718
Fe2404,240.488 {140},In2306,ppm, 9.983,.1071,1.073, 9.907, 10.06
K_7664,766.490 { 44},Y_3710,ppm, 10.02,.0205,.2045, 10.03, 10.01
Li6707,670.784 { 50},Y_3710,ppm, 1.003,.0009,.0899, 1.004, 1.002
Mg2790,279.079 {121},Y_3710,ppm, 10.10,.0251,.2485, 10.12, 10.08
Mn2576,257.610 {131},Y_3600,ppm, .9709,.0027,.2779, .9690, .9729
Mo2020,202.030 {467},Y_2243,ppm, 1.003,.0081,.8031, 1.009, .9974
Na5895,589.592 { 57},Y_3710,ppm, 10.25,.0154,.1504, 10.24, 10.26
Ni2316,231.604 {445},In2306,ppm, .9930,.0079,.7967, .9986, .9874
P_1782,178.284 {489},In2306,ppm, 5.256,.0356,.6771, 5.281, 5.231
Pb2203,220.353 {453},In2306,ppm, .9813,.0090,.9220, .9877, .9749
S_1820,182.034 {485},Y_2243,ppm, 3.718,.0296,.7962, 3.739, 3.697
Sb2068,206.833 {463},Y_2243,ppm, 1.639,.0094,.5704, 1.646, 1.633
Se1960,196.090 {472},Y_2243,ppm, .9759,.0005,.0468, .9762, .9755
Si2516,251.611 {134},Y_3710,ppm, 8.103,.0167,.2057, 8.115, 8.091
Sn1899,189.989 {477},In2306,ppm, .9899,.0074,.7498, .9952, .9847
Sr4215,421.552 { 80},Y_3710,ppm, 1.013,.0015,.1512, 1.012, 1.014
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Ti3349,334.904 {101},Y_3600,ppm, .9588,.0042,.4333, .9558, .9617
Tl1908,190.856 {477},In2306,ppm, 1.031,.0022,.2147, 1.032, 1.029
U_3670,367.007 { 92},Y_3600,ppm, .3409,.0735,21.57, .3929, .2889
V_2924,292.402 {115},Y_3600,ppm, .9406,.0024,.2543, .9389, .9423
W_2397,239.709 {140},Y_2243,ppm, .4164,.1011,24.27, .3450, .4879
Zn2062,206.200 {463},In2306,ppm, .4885,.0019,.3882, .4899, .4872

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 259.66,.81317,.31317,260.23,259.08
In2306,230.606 {446},Cts/S, 14752.,82.048,.55619,14694.,14810.
Y_2243,224.306 {450},Cts/S, 24062.,131.70,.54736,23969.,24155.
Y_3600,360.073 { 94},Cts/S, 209000.,1555.0,.74404,210100.,207900.
Y_3710,371.030 { 91},Cts/S, 13173.,33.855,.25700,13149.,13197.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0008,.0003,32.78, .0006, .0010
Al3082,308.215 {109},In2306,ppm, .0003,.0083,3164., -.0056, .0061
As1890,189.042 {478},Y_2243,ppm, .0045,.0012,27.31, .0036, .0054
B_2496,249.678 {135},Y_3710,ppm, .1398,.0001,.0943, .1399, .1397
Ba4554,455.403 { 74},Y_3710,ppm, 1.054,.0105,.9965, 1.061, 1.046
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,40.47, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, 198.4,1.315,.6629, 197.4, 199.3
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,69.98, .0001, .0002
Co2286,228.616 {447},In2306,ppm, .0003,.0000,11.15, .0003, .0004
Cr2677,267.716 {126},Y_3600,ppm, .0004,.0003,85.66, .0001, .0006
Cu3247,324.754 {104},Y_3600,ppm, .0018,.0001,4.732, .0018, .0017
Fe2404,240.488 {140},In2306,ppm, .1647,.0072,4.379, .1698, .1596
K_7664,766.490 { 44},Y_3710,ppm, 42.36,.3156,.7450, 42.58, 42.14
Li6707,670.784 { 50},Y_3710,ppm, .1961,.0029,1.476, .1982, .1941
Mg2790,279.079 {121},Y_3710,ppm, .8817,.0058,.6612, .8858, .8776
Mn2576,257.610 {131},Y_3600,ppm, .0136,.0000,.0880, .0136, .0136
Mo2020,202.030 {467},Y_2243,ppm, .0021,.0001,4.087, .0021, .0020
Na5895,589.592 { 57},Y_3710,ppm, 409.1,.8615,.2106, 409.7, 408.5
Ni2316,231.604 {445},In2306,ppm, .0023,.0003,11.10, .0021, .0025
P_1782,178.284 {489},In2306,ppm, .0076,.0021,26.97, .0062, .0091
Pb2203,220.353 {453},In2306,ppm, .0008,.0001,10.17, .0009, .0008
S_1820,182.034 {485},Y_2243,ppm, 1.435,.0029,.2004, 1.437, 1.433
Sb2068,206.833 {463},Y_2243,ppm, .0011,.0016,142.5, .0022, -.0000
Se1960,196.090 {472},Y_2243,ppm, .0002,.0011,584.3, .0010, -.0006
Si2516,251.611 {134},Y_3710,ppm, .7422,.0091,1.228, .7487, .7358
Sn1899,189.989 {477},In2306,ppm, -.0008,.0003,39.50, -.0010, -.0006
Sr4215,421.552 { 80},Y_3710,ppm, 3.823,.0364,.9514, 3.848, 3.797
Ti3349,334.904 {101},Y_3600,ppm, .0014,.0004,26.04, .0016, .0011
Tl1908,190.856 {477},In2306,ppm, .0476,.0090,18.89, .0540, .0413
U_3670,367.007 { 92},Y_3600,ppm, -.1294,.0483,37.31, -.1636, -.0953
V_2924,292.402 {115},Y_3600,ppm, -.0001,.0000,12.36, -.0001, -.0001
W_2397,239.709 {140},Y_2243,ppm, .0279,.0558,200.0, -.0116, .0673
Zn2062,206.200 {463},In2306,ppm, .0057,.0001,1.998, .0056, .0058

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 244.69,.53365,.21809,245.07,244.32
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In2306,230.606 {446},Cts/S, 12159.,58.330,.47972,12118.,12200.
Y_2243,224.306 {450},Cts/S, 21366.,167.79,.78532,21247.,21485.
Y_3600,360.073 { 94},Cts/S, 184430.,299.09,.16217,184640.,184220.
Y_3710,371.030 { 91},Cts/S, 12526.,114.49,.91401,12445.,12607.

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Custom ID2=
Custom ID3=
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Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0001,.0002,168.4, .0003, -.0000
Al3082,308.215 {109},In2306,ppm, .0198,.0122,61.70, .0112, .0285
As1890,189.042 {478},Y_2243,ppm, .0033,.0002,5.062, .0032, .0034
B_2496,249.678 {135},Y_3710,ppm, .1433,.0023,1.586, .1449, .1417
Ba4554,455.403 { 74},Y_3710,ppm, 1.029,.0011,.1102, 1.028, 1.030
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,99.06, -.0001, -.0000
Ca3158,315.887 {107},In2306,ppm, 197.2,1.060,.5377, 196.4, 197.9
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0000,334.4, -.0000, .0000
Co2286,228.616 {447},In2306,ppm, .0001,.0001,163.8, .0001, -.0000
Cr2677,267.716 {126},Y_3600,ppm, .0005,.0000,5.455, .0005, .0005
Cu3247,324.754 {104},Y_3600,ppm, .0020,.0000,2.465, .0019, .0020
Fe2404,240.488 {140},In2306,ppm, .1608,.0044,2.725, .1577, .1639
K_7664,766.490 { 44},Y_3710,ppm, 41.50,.1713,.4128, 41.38, 41.62
Li6707,670.784 { 50},Y_3710,ppm, .1918,.0016,.8532, .1906, .1929
Mg2790,279.079 {121},Y_3710,ppm, .8480,.0038,.4435, .8507, .8454
Mn2576,257.610 {131},Y_3600,ppm, .0135,.0001,.9801, .0136, .0135
Mo2020,202.030 {467},Y_2243,ppm, .0011,.0000,2.915, .0012, .0011
Na5895,589.592 { 57},Y_3710,ppm, 411.8,12.21,2.965, 403.1, 420.4
Ni2316,231.604 {445},In2306,ppm, .0020,.0002,9.476, .0022, .0019
P_1782,178.284 {489},In2306,ppm, .0097,.0010,10.02, .0090, .0104
Pb2203,220.353 {453},In2306,ppm, .0027,.0011,40.20, .0020, .0035
S_1820,182.034 {485},Y_2243,ppm, 1.438,.0054,.3765, 1.434, 1.442
Sb2068,206.833 {463},Y_2243,ppm, .0002,.0000,13.87, .0002, .0002
Se1960,196.090 {472},Y_2243,ppm, .0001,.0006,536.5, -.0003, .0005
Si2516,251.611 {134},Y_3710,ppm, .7219,.0055,.7579, .7181, .7258
Sn1899,189.989 {477},In2306,ppm, -.0004,.0002,44.14, -.0005, -.0002
Sr4215,421.552 { 80},Y_3710,ppm, 3.737,.0049,.1321, 3.733, 3.740
Ti3349,334.904 {101},Y_3600,ppm, .0014,.0005,39.14, .0010, .0017
Tl1908,190.856 {477},In2306,ppm, .0116,.0019,16.69, .0130, .0102
U_3670,367.007 { 92},Y_3600,ppm, -.0691,.0321,46.38, -.0918, -.0465
V_2924,292.402 {115},Y_3600,ppm, -.0003,.0002,94.82, -.0001, -.0004
W_2397,239.709 {140},Y_2243,ppm, .1487,.0515,34.63, .1851, .1123
Zn2062,206.200 {463},In2306,ppm, .0057,.0001,1.317, .0058, .0057

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 242.06,.97697,.40360,242.76,241.37
In2306,230.606 {446},Cts/S, 12156.,46.029,.37866,12123.,12188.
Y_2243,224.306 {450},Cts/S, 21306.,119.52,.56098,21221.,21390.
Y_3600,360.073 { 94},Cts/S, 184900.,14.705,.00795,184910.,184890.
Y_3710,371.030 { 91},Cts/S, 12485.,42.517,.34055,12515.,12455.

[Sample Header]
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SampleName=600-194407-C-1-C MS
Username=admin
Comment=
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Custom ID2=
Custom ID3=
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Mode=CONC
CorrFactor=1.000
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2615,.0005,.2053, .2611, .2618
Al3082,308.215 {109},In2306,ppm, 10.85,.0218,.2010, 10.87, 10.83
As1890,189.042 {478},Y_2243,ppm, 1.078,.0019,.1774, 1.079, 1.076
B_2496,249.678 {135},Y_3710,ppm, .6457,.0024,.3726, .6440, .6474
Ba4554,455.403 { 74},Y_3710,ppm, 2.081,.0089,.4297, 2.087, 2.074
Be3130,313.042 {108},Y_3710,ppm, 1.011,.0034,.3368, 1.013, 1.008
Ca3158,315.887 {107},In2306,ppm, 209.7,.9937,.4738, 210.4, 209.0
Cd2288,228.802 {447},Y_2243,ppm, 1.032,.0030,.2926, 1.034, 1.030
Co2286,228.616 {447},In2306,ppm, 1.026,.0048,.4698, 1.029, 1.022
Cr2677,267.716 {126},Y_3600,ppm, .9167,.0017,.1803, .9179, .9155
Cu3247,324.754 {104},Y_3600,ppm, .9924,.0014,.1424, .9914, .9934
Fe2404,240.488 {140},In2306,ppm, 10.35,.0225,.2175, 10.37, 10.33
K_7664,766.490 { 44},Y_3710,ppm, 52.06,.2489,.4781, 52.24, 51.89
Li6707,670.784 { 50},Y_3710,ppm, 1.213,.0071,.5819, 1.218, 1.208
Mg2790,279.079 {121},Y_3710,ppm, 10.71,.0251,.2346, 10.69, 10.73
Mn2576,257.610 {131},Y_3600,ppm, .9723,.0015,.1497, .9734, .9713
Mo2020,202.030 {467},Y_2243,ppm, 1.016,.0024,.2325, 1.017, 1.014
Na5895,589.592 { 57},Y_3710,ppm, 417.8,4.762,1.140, 421.1, 414.4
Ni2316,231.604 {445},In2306,ppm, 1.058,.0049,.4665, 1.062, 1.055
P_1782,178.284 {489},In2306,ppm, 6.380,.0268,.4207, 6.399, 6.361
Pb2203,220.353 {453},In2306,ppm, 1.025,.0099,.9688, 1.032, 1.018
S_1820,182.034 {485},Y_2243,ppm, 5.551,.0202,.3635, 5.566, 5.537
Sb2068,206.833 {463},Y_2243,ppm, 1.728,.0064,.3682, 1.732, 1.723
Se1960,196.090 {472},Y_2243,ppm, 1.049,.0010,.0925, 1.050, 1.048
Si2516,251.611 {134},Y_3710,ppm, 9.220,.0050,.0540, 9.216, 9.223
Sn1899,189.989 {477},In2306,ppm, 1.056,.0089,.8428, 1.062, 1.050
Sr4215,421.552 { 80},Y_3710,ppm, 4.801,.0249,.5194, 4.819, 4.784
Ti3349,334.904 {101},Y_3600,ppm, .9765,.0016,.1625, .9776, .9754
Tl1908,190.856 {477},In2306,ppm, 1.014,.0044,.4378, 1.018, 1.011
U_3670,367.007 { 92},Y_3600,ppm, .3860,.0268,6.942, .4050, .3671
V_2924,292.402 {115},Y_3600,ppm, .9568,.0022,.2300, .9584, .9553
W_2397,239.709 {140},Y_2243,ppm, .4968,.0085,1.714, .5028, .4908
Zn2062,206.200 {463},In2306,ppm, .5440,.0048,.8745, .5474, .5407

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 239.63,2.0432,.85265,238.19,241.08
In2306,230.606 {446},Cts/S, 11970.,18.699,.15621,11957.,11983.
Y_2243,224.306 {450},Cts/S, 21425.,12.365,.05771,21434.,21417.
Y_3600,360.073 { 94},Cts/S, 186160.,251.32,.13500,185980.,186340.
Y_3710,371.030 { 91},Cts/S, 12553.,87.434,.69653,12491.,12615.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .2608,.0002,.0850, .2609, .2606
Al3082,308.215 {109},In2306,ppm, 10.81,.0579,.5354, 10.85, 10.77
As1890,189.042 {478},Y_2243,ppm, 1.063,.0027,.2502, 1.065, 1.061
B_2496,249.678 {135},Y_3710,ppm, .6487,.0068,1.047, .6439, .6535
Ba4554,455.403 { 74},Y_3710,ppm, 2.070,.0091,.4373, 2.076, 2.064
Be3130,313.042 {108},Y_3710,ppm, 1.010,.0069,.6828, 1.015, 1.005
Ca3158,315.887 {107},In2306,ppm, 210.2,3.738,1.778, 212.8, 207.6
Cd2288,228.802 {447},Y_2243,ppm, 1.018,.0009,.0902, 1.017, 1.018
Co2286,228.616 {447},In2306,ppm, 1.017,.0009,.0921, 1.018, 1.017
Cr2677,267.716 {126},Y_3600,ppm, .9183,.0009,.0998, .9189, .9176
Cu3247,324.754 {104},Y_3600,ppm, .9958,.0022,.2253, .9942, .9974
Fe2404,240.488 {140},In2306,ppm, 10.35,.1755,1.696, 10.47, 10.22
K_7664,766.490 { 44},Y_3710,ppm, 52.12,.4836,.9278, 52.46, 51.78
Li6707,670.784 { 50},Y_3710,ppm, 1.215,.0053,.4380, 1.219, 1.211
Mg2790,279.079 {121},Y_3710,ppm, 10.87,.0709,.6526, 10.92, 10.82
Mn2576,257.610 {131},Y_3600,ppm, .9731,.0017,.1754, .9743, .9719
Mo2020,202.030 {467},Y_2243,ppm, 1.005,.0006,.0565, 1.005, 1.006
Na5895,589.592 { 57},Y_3710,ppm, 417.9,1.654,.3958, 416.7, 419.0
Ni2316,231.604 {445},In2306,ppm, 1.054,.0000,.0010, 1.054, 1.054
P_1782,178.284 {489},In2306,ppm, 6.311,.0041,.0647, 6.314, 6.309
Pb2203,220.353 {453},In2306,ppm, 1.021,.0014,.1405, 1.020, 1.022
S_1820,182.034 {485},Y_2243,ppm, 5.601,.0015,.0263, 5.600, 5.602
Sb2068,206.833 {463},Y_2243,ppm, 1.706,.0031,.1830, 1.709, 1.704
Se1960,196.090 {472},Y_2243,ppm, 1.033,.0061,.5905, 1.037, 1.028
Si2516,251.611 {134},Y_3710,ppm, 9.338,.0419,.4492, 9.368, 9.308
Sn1899,189.989 {477},In2306,ppm, 1.053,.0052,.4935, 1.057, 1.049
Sr4215,421.552 { 80},Y_3710,ppm, 4.787,.0221,.4622, 4.803, 4.772
Ti3349,334.904 {101},Y_3600,ppm, .9728,.0010,.0979, .9735, .9721
Tl1908,190.856 {477},In2306,ppm, 1.070,.0094,.8753, 1.077, 1.064
U_3670,367.007 { 92},Y_3600,ppm, .4165,.1414,33.95, .3165, .5165
V_2924,292.402 {115},Y_3600,ppm, .9570,.0012,.1251, .9578, .9561
W_2397,239.709 {140},Y_2243,ppm, .4488,.0721,16.06, .4998, .3979
Zn2062,206.200 {463},In2306,ppm, .5438,.0017,.3076, .5450, .5427

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 241.19,2.8957,1.2006,239.15,243.24
In2306,230.606 {446},Cts/S, 12038.,19.543,.16234,12052.,12024.
Y_2243,224.306 {450},Cts/S, 21640.,41.282,.19077,21669.,21610.
Y_3600,360.073 { 94},Cts/S, 185980.,92.768,.04988,185920.,186050.
Y_3710,371.030 { 91},Cts/S, 12558.,72.721,.57908,12507.,12610.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0009,.0005,56.57, .0013, .0005
Al3082,308.215 {109},In2306,ppm, -.0204,.0075,36.60, -.0257, -.0151
As1890,189.042 {478},Y_2243,ppm, .0034,.0010,27.92, .0027, .0041
B_2496,249.678 {135},Y_3710,ppm, .8812,.0112,1.267, .8733, .8891
Ba4554,455.403 { 74},Y_3710,ppm, .0287,.0005,1.584, .0284, .0290
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,164.6, .0001, -.0000
Ca3158,315.887 {107},In2306,ppm, 145.8,.5646,.3872, 146.2, 145.4
Cd2288,228.802 {447},Y_2243,ppm, .0007,.0002,33.52, .0005, .0009
Co2286,228.616 {447},In2306,ppm, .0004,.0002,47.47, .0003, .0005
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Cr2677,267.716 {126},Y_3600,ppm, .0005,.0002,28.76, .0006, .0004
Cu3247,324.754 {104},Y_3600,ppm, .0035,.0000,.5495, .0035, .0036
Fe2404,240.488 {140},In2306,ppm, .0202,.0070,34.66, .0252, .0153
K_7664,766.490 { 44},Y_3710,ppm, 18.22,.1246,.6839, 18.13, 18.31
Li6707,670.784 { 50},Y_3710,ppm, .1002,.0004,.4003, .1000, .1005
Mg2790,279.079 {121},Y_3710,ppm, 122.9,1.473,1.198, 121.9, 124.0
Mn2576,257.610 {131},Y_3600,ppm, .0327,.0000,.0291, .0327, .0327
Mo2020,202.030 {467},Y_2243,ppm, .0016,.0003,20.46, .0014, .0018
Na5895,589.592 { 57},Y_3710,ppm, 804.1,1.107,.1377, 803.3, 804.9
Ni2316,231.604 {445},In2306,ppm, .0014,.0001,5.882, .0014, .0013
P_1782,178.284 {489},In2306,ppm, .1188,.0029,2.429, .1168, .1209
Pb2203,220.353 {453},In2306,ppm, -.0010,.0013,134.2, -.0019, -.0001
S_1820,182.034 {485},Y_2243,ppm, 66.26,.2308,.3483, 66.43, 66.10
Sb2068,206.833 {463},Y_2243,ppm, .0006,.0002,33.28, .0007, .0004
Se1960,196.090 {472},Y_2243,ppm, .0001,.0013,2598., -.0009, .0010
Si2516,251.611 {134},Y_3710,ppm, 10.73,.1874,1.747, 10.60, 10.86
Sn1899,189.989 {477},In2306,ppm, -.0005,.0006,123.7, -.0009, -.0001
Sr4215,421.552 { 80},Y_3710,ppm, 1.523,.0087,.5728, 1.517, 1.530
Ti3349,334.904 {101},Y_3600,ppm, .0014,.0002,12.94, .0016, .0013
Tl1908,190.856 {477},In2306,ppm, .0558,.0069,12.33, .0607, .0510
U_3670,367.007 { 92},Y_3600,ppm, -.0523,.0065,12.42, -.0569, -.0477
V_2924,292.402 {115},Y_3600,ppm, -.0020,.0002,11.22, -.0021, -.0018
W_2397,239.709 {140},Y_2243,ppm, .0194,.0576,296.4, -.0213, .0602
Zn2062,206.200 {463},In2306,ppm, .0145,.0000,.2121, .0145, .0145

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 236.85,3.4495,1.4564,234.41,239.29
In2306,230.606 {446},Cts/S, 11415.,60.004,.52568,11372.,11457.
Y_2243,224.306 {450},Cts/S, 20349.,128.83,.63311,20258.,20440.
Y_3600,360.073 { 94},Cts/S, 177740.,882.65,.49660,177110.,178360.
Y_3710,371.030 { 91},Cts/S, 12350.,27.607,.22354,12330.,12369.

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Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0009,.0002,21.09, .0007, .0010
Al3082,308.215 {109},In2306,ppm, -.0097,.0257,266.0, .0085, -.0278
As1890,189.042 {478},Y_2243,ppm, -.0001,.0001,97.98, -.0000, -.0002
B_2496,249.678 {135},Y_3710,ppm, .2010,.0096,4.772, .2078, .1942
Ba4554,455.403 { 74},Y_3710,ppm, .0398,.0002,.5794, .0400, .0397
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,36.84, -.0001, -.0000
Ca3158,315.887 {107},In2306,ppm, 2.579,.0527,2.045, 2.616, 2.541
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0000,4.804, .0002, .0002
Co2286,228.616 {447},In2306,ppm, .0001,.0000,13.80, .0001, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0025,.0001,2.996, .0025, .0026
Cu3247,324.754 {104},Y_3600,ppm, .0025,.0001,3.827, .0025, .0026
Fe2404,240.488 {140},In2306,ppm, .0309,.0039,12.71, .0337, .0281
K_7664,766.490 { 44},Y_3710,ppm, 254.9,1.615,.6334, 256.1, 253.8
Li6707,670.784 { 50},Y_3710,ppm, .3593,.0049,1.360, .3628, .3559
Mg2790,279.079 {121},Y_3710,ppm, 4.913,.0687,1.398, 4.864, 4.961
Mn2576,257.610 {131},Y_3600,ppm, .0180,.0005,2.573, .0183, .0176
Mo2020,202.030 {467},Y_2243,ppm, .0004,.0001,15.68, .0004, .0003
Na5895,589.592 { 57},Y_3710,ppm, 458.3,5.997,1.308, 462.6, 454.1
Ni2316,231.604 {445},In2306,ppm, .0009,.0004,41.61, .0012, .0006
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P_1782,178.284 {489},In2306,ppm, .0219,.0018,8.166, .0232, .0206
Pb2203,220.353 {453},In2306,ppm, -.0014,.0000,1.486, -.0014, -.0013
S_1820,182.034 {485},Y_2243,ppm, 21.15,.1952,.9229, 21.29, 21.01
Sb2068,206.833 {463},Y_2243,ppm, .0003,.0007,211.7, .0008, -.0002
Se1960,196.090 {472},Y_2243,ppm, -.0000,.0003,5052., .0002, -.0002
Si2516,251.611 {134},Y_3710,ppm, .3112,.0022,.7212, .3128, .3096
Sn1899,189.989 {477},In2306,ppm, .0000,.0001,331.0, -.0001, .0001
Sr4215,421.552 { 80},Y_3710,ppm, .4696,.0029,.6154, .4717, .4676
Ti3349,334.904 {101},Y_3600,ppm, -.0001,.0003,433.4, .0001, -.0003
Tl1908,190.856 {477},In2306,ppm, .0236,.0024,10.09, .0253, .0219
U_3670,367.007 { 92},Y_3600,ppm, -.0919,.0358,38.97, -.0666, -.1173
V_2924,292.402 {115},Y_3600,ppm, .0001,.0001,129.3, .0000, .0002
W_2397,239.709 {140},Y_2243,ppm, .0383,.0440,114.9, .0694, .0072
Zn2062,206.200 {463},In2306,ppm, .0056,.0001,1.562, .0056, .0055

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 245.12,3.1880,1.3006,242.86,247.37
In2306,230.606 {446},Cts/S, 12308.,57.151,.46434,12268.,12348.
Y_2243,224.306 {450},Cts/S, 21676.,78.547,.36238,21620.,21731.
Y_3600,360.073 { 94},Cts/S, 189730.,3727.0,1.9644,187090.,192360.
Y_3710,371.030 { 91},Cts/S, 12428.,6.6349,.05339,12432.,12423.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0006,.0004,62.91, .0009, .0003
Al3082,308.215 {109},In2306,ppm, -.0098,.0239,243.7, -.0267, .0071
As1890,189.042 {478},Y_2243,ppm, .0026,.0006,22.22, .0030, .0022
B_2496,249.678 {135},Y_3710,ppm, .0054,.0006,11.58, .0049, .0058
Ba4554,455.403 { 74},Y_3710,ppm, -.0002,.0001,26.97, -.0002, -.0003
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,2134., -.0001, .0001
Ca3158,315.887 {107},In2306,ppm, -.0026,.0118,452.3, -.0109, .0057
Cd2288,228.802 {447},Y_2243,ppm, -.0002,.0000,3.877, -.0002, -.0002
Co2286,228.616 {447},In2306,ppm, .0002,.0001,27.91, .0003, .0002
Cr2677,267.716 {126},Y_3600,ppm, -.0001,.0001,75.92, -.0001, -.0002
Cu3247,324.754 {104},Y_3600,ppm, .0005,.0001,11.83, .0006, .0005
Fe2404,240.488 {140},In2306,ppm, .0145,.0009,6.509, .0138, .0152
K_7664,766.490 { 44},Y_3710,ppm, .1369,.0495,36.17, .1719, .1019
Li6707,670.784 { 50},Y_3710,ppm, -.0004,.0005,123.7, -.0007, -.0000
Mg2790,279.079 {121},Y_3710,ppm, .0100,.0192,191.8, .0236, -.0036
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0001,68.91, -.0001, -.0000
Mo2020,202.030 {467},Y_2243,ppm, .0001,.0001,102.4, .0002, .0000
Na5895,589.592 { 57},Y_3710,ppm, .0628,.0064,10.21, .0582, .0673
Ni2316,231.604 {445},In2306,ppm, .0004,.0002,48.88, .0003, .0006
P_1782,178.284 {489},In2306,ppm, .0033,.0021,62.09, .0048, .0019
Pb2203,220.353 {453},In2306,ppm, -.0001,.0010,1020., -.0008, .0006
S_1820,182.034 {485},Y_2243,ppm, .0054,.0003,4.805, .0056, .0052
Sb2068,206.833 {463},Y_2243,ppm, -.0004,.0016,442.6, -.0015, .0008
Se1960,196.090 {472},Y_2243,ppm, .0019,.0001,4.587, .0020, .0019
Si2516,251.611 {134},Y_3710,ppm, -.0040,.0016,40.99, -.0052, -.0029
Sn1899,189.989 {477},In2306,ppm, -.0000,.0001,234.5, -.0001, .0000
Sr4215,421.552 { 80},Y_3710,ppm, .0003,.0001,20.90, .0003, .0004
Ti3349,334.904 {101},Y_3600,ppm, .0002,.0002,72.59, .0001, .0003
Tl1908,190.856 {477},In2306,ppm, .0051,.0029,55.68, .0031, .0072
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U_3670,367.007 { 92},Y_3600,ppm, -.1388,.0342,24.67, -.1630, -.1146
V_2924,292.402 {115},Y_3600,ppm, .0001,.0003,213.0, -.0001, .0003
W_2397,239.709 {140},Y_2243,ppm, .0096,.0113,118.0, .0176, .0016
Zn2062,206.200 {463},In2306,ppm, .0026,.0000,.8158, .0026, .0026

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 255.74,.10388,.04062,255.82,255.67
In2306,230.606 {446},Cts/S, 15804.,3.3572,.02124,15802.,15807.
Y_2243,224.306 {450},Cts/S, 24510.,34.825,.14209,24535.,24485.
Y_3600,360.073 { 94},Cts/S, 208470.,322.15,.15453,208250.,208700.
Y_3710,371.030 { 91},Cts/S, 12570.,79.213,.63017,12514.,12626.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0009,.0000,.3097, .0009, .0009
Al3082,308.215 {109},In2306,ppm, 1.548,.0226,1.458, 1.532, 1.564
As1890,189.042 {478},Y_2243,ppm, .0034,.0036,104.8, .0060, .0009
B_2496,249.678 {135},Y_3710,ppm, .0455,.0071,15.70, .0404, .0505
Ba4554,455.403 { 74},Y_3710,ppm, .0632,.0007,1.112, .0627, .0637
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,646.6, -.0000, .0000
Ca3158,315.887 {107},In2306,ppm, 32.26,.4738,1.469, 31.93, 32.60
Cd2288,228.802 {447},Y_2243,ppm, .0007,.0003,37.17, .0005, .0009
Co2286,228.616 {447},In2306,ppm, .0006,.0001,13.28, .0006, .0007
Cr2677,267.716 {126},Y_3600,ppm, .0082,.0001,1.109, .0082, .0081
Cu3247,324.754 {104},Y_3600,ppm, .0038,.0002,4.135, .0039, .0037
Fe2404,240.488 {140},In2306,ppm, 2.712,.0200,.7379, 2.698, 2.726
K_7664,766.490 { 44},Y_3710,ppm, 10.81,.0717,.6632, 10.76, 10.86
Li6707,670.784 { 50},Y_3710,ppm, .0105,.0015,14.13, .0094, .0115
Mg2790,279.079 {121},Y_3710,ppm, 4.606,.0301,.6538, 4.627, 4.585
Mn2576,257.610 {131},Y_3600,ppm, .2522,.0005,.2019, .2526, .2519
Mo2020,202.030 {467},Y_2243,ppm, .0038,.0001,2.254, .0039, .0038
Na5895,589.592 { 57},Y_3710,ppm, 26.94,.2479,.9202, 26.76, 27.11
Ni2316,231.604 {445},In2306,ppm, .0016,.0004,22.64, .0019, .0014
P_1782,178.284 {489},In2306,ppm, .0635,.0000,.0191, .0635, .0635
Pb2203,220.353 {453},In2306,ppm, .0027,.0009,31.29, .0033, .0021
S_1820,182.034 {485},Y_2243,ppm, 4.360,.0200,.4597, 4.346, 4.374
Sb2068,206.833 {463},Y_2243,ppm, .0008,.0008,99.22, .0002, .0014
Se1960,196.090 {472},Y_2243,ppm, -.0004,.0005,114.6, -.0001, -.0008
Si2516,251.611 {134},Y_3710,ppm, 4.111,.0849,2.064, 4.051, 4.171
Sn1899,189.989 {477},In2306,ppm, -.0002,.0003,138.9, -.0004, -.0000
Sr4215,421.552 { 80},Y_3710,ppm, .1189,.0011,.9441, .1181, .1197
Ti3349,334.904 {101},Y_3600,ppm, .0159,.0001,.3278, .0158, .0159
Tl1908,190.856 {477},In2306,ppm, .0050,.0010,19.22, .0057, .0043
U_3670,367.007 { 92},Y_3600,ppm, -.1742,.0074,4.236, -.1690, -.1794
V_2924,292.402 {115},Y_3600,ppm, .0071,.0001,1.925, .0072, .0070
W_2397,239.709 {140},Y_2243,ppm, -.0397,.0236,59.55, -.0564, -.0230
Zn2062,206.200 {463},In2306,ppm, .0607,.0003,.5048, .0604, .0609

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 250.40,2.8217,1.1269,252.39,248.40
In2306,230.606 {446},Cts/S, 14377.,3.3452,.02327,14379.,14374.
Y_2243,224.306 {450},Cts/S, 23755.,17.079,.07190,23743.,23767.
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Y_3600,360.073 { 94},Cts/S, 202640.,389.02,.19197,202370.,202920.
Y_3710,371.030 { 91},Cts/S, 12505.,109.57,.87622,12583.,12428.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .4809,.0020,.4146, .4795, .4823
Al3082,308.215 {109},In2306,ppm, 20.03,.1388,.6930, 19.93, 20.13
As1890,189.042 {478},Y_2243,ppm, .9941,.0036,.3632, .9916, .9967
B_2496,249.678 {135},Y_3710,ppm, 1.003,.0204,2.035, .9881, 1.017
Ba4554,455.403 { 74},Y_3710,ppm, 1.020,.0050,.4891, 1.016, 1.023
Be3130,313.042 {108},Y_3710,ppm, .9930,.0075,.7595, .9877, .9983
Ca3158,315.887 {107},In2306,ppm, 19.23,.1865,.9695, 19.10, 19.37
Cd2288,228.802 {447},Y_2243,ppm, .9659,.0014,.1462, .9669, .9649
Co2286,228.616 {447},In2306,ppm, .9850,.0007,.0749, .9856, .9845
Cr2677,267.716 {126},Y_3600,ppm, .9378,.0021,.2239, .9393, .9363
Cu3247,324.754 {104},Y_3600,ppm, .9559,.0026,.2720, .9578, .9541
Fe2404,240.488 {140},In2306,ppm, 19.57,.2059,1.052, 19.42, 19.72
K_7664,766.490 { 44},Y_3710,ppm, 19.90,.1460,.7337, 19.80, 20.00
Li6707,670.784 { 50},Y_3710,ppm, .9902,.0026,.2630, .9883, .9920
Mg2790,279.079 {121},Y_3710,ppm, 20.42,.1607,.7873, 20.31, 20.53
Mn2576,257.610 {131},Y_3600,ppm, .9829,.0020,.1996, .9816, .9843
Mo2020,202.030 {467},Y_2243,ppm, .9979,.0020,.1979, .9993, .9965
Na5895,589.592 { 57},Y_3710,ppm, 19.93,.1023,.5133, 19.86, 20.00
Ni2316,231.604 {445},In2306,ppm, 1.021,.0009,.0912, 1.022, 1.020
P_1782,178.284 {489},In2306,ppm, 10.60,.0229,.2157, 10.61, 10.58
Pb2203,220.353 {453},In2306,ppm, 1.011,.0034,.3397, 1.013, 1.008
S_1820,182.034 {485},Y_2243,ppm, 7.293,.0008,.0107, 7.292, 7.293
Sb2068,206.833 {463},Y_2243,ppm, 2.143,.0011,.0490, 2.144, 2.143
Se1960,196.090 {472},Y_2243,ppm, .9751,.0002,.0213, .9749, .9752
Si2516,251.611 {134},Y_3710,ppm, 9.070,.1072,1.182, 8.994, 9.146
Sn1899,189.989 {477},In2306,ppm, 1.026,.0032,.3118, 1.029, 1.024
Sr4215,421.552 { 80},Y_3710,ppm, 1.007,.0035,.3471, 1.005, 1.010
Ti3349,334.904 {101},Y_3600,ppm, .9670,.0015,.1561, .9659, .9681
Tl1908,190.856 {477},In2306,ppm, 1.127,.0062,.5478, 1.123, 1.132
U_3670,367.007 { 92},Y_3600,ppm, .6947,.0640,9.215, .6494, .7399
V_2924,292.402 {115},Y_3600,ppm, .9528,.0003,.0322, .9525, .9530
W_2397,239.709 {140},Y_2243,ppm, 1.090,.0225,2.068, 1.106, 1.074
Zn2062,206.200 {463},In2306,ppm, 1.009,.0003,.0258, 1.010, 1.009

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 249.21,2.4551,.98514,250.95,247.48
In2306,230.606 {446},Cts/S, 14200.,36.537,.25731,14174.,14225.
Y_2243,224.306 {450},Cts/S, 23974.,60.140,.25085,23932.,24017.
Y_3600,360.073 { 94},Cts/S, 203900.,571.82,.28044,203500.,204310.
Y_3710,371.030 { 91},Cts/S, 12508.,138.11,1.1042,12606.,12410.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0093,.0005,5.579, .0096, .0089
Al3082,308.215 {109},In2306,ppm, .1739,.0033,1.881, .1716, .1762
As1890,189.042 {478},Y_2243,ppm, .0229,.0016,6.959, .0240, .0218
B_2496,249.678 {135},Y_3710,ppm, .2239,.0027,1.210, .2258, .2220
Ba4554,455.403 { 74},Y_3710,ppm, .0220,.0003,1.548, .0217, .0222
Be3130,313.042 {108},Y_3710,ppm, .0112,.0000,.2909, .0113, .0112
Ca3158,315.887 {107},In2306,ppm, .9801,.0026,.2671, .9820, .9783
Cd2288,228.802 {447},Y_2243,ppm, .0106,.0001,.6173, .0107, .0106
Co2286,228.616 {447},In2306,ppm, .0105,.0002,2.315, .0106, .0103
Cr2677,267.716 {126},Y_3600,ppm, .0105,.0004,4.036, .0108, .0102
Cu3247,324.754 {104},Y_3600,ppm, .0120,.0004,3.096, .0117, .0123
Fe2404,240.488 {140},In2306,ppm, .2068,.0020,.9909, .2083, .2054
K_7664,766.490 { 44},Y_3710,ppm, 1.111,.0177,1.591, 1.098, 1.123
Li6707,670.784 { 50},Y_3710,ppm, .0109,.0012,11.31, .0100, .0118
Mg2790,279.079 {121},Y_3710,ppm, 1.110,.0341,3.074, 1.086, 1.134
Mn2576,257.610 {131},Y_3600,ppm, .0110,.0000,.2499, .0110, .0110
Mo2020,202.030 {467},Y_2243,ppm, .0228,.0001,.3347, .0228, .0227
Na5895,589.592 { 57},Y_3710,ppm, 1.102,.0086,.7800, 1.109, 1.096
Ni2316,231.604 {445},In2306,ppm, .0114,.0001,.7586, .0114, .0113
P_1782,178.284 {489},In2306,ppm, 1.007,.0120,1.194, 1.016, .9990
Pb2203,220.353 {453},In2306,ppm, .0100,.0003,3.456, .0103, .0098
S_1820,182.034 {485},Y_2243,ppm, .3564,.0009,.2460, .3570, .3558
Sb2068,206.833 {463},Y_2243,ppm, .0551,.0003,.5343, .0549, .0553
Se1960,196.090 {472},Y_2243,ppm, .0206,.0004,1.864, .0203, .0209
Si2516,251.611 {134},Y_3710,ppm, .1887,.0054,2.868, .1925, .1849
Sn1899,189.989 {477},In2306,ppm, .0216,.0000,.1990, .0216, .0217
Sr4215,421.552 { 80},Y_3710,ppm, .0114,.0001,.8737, .0113, .0115
Ti3349,334.904 {101},Y_3600,ppm, .0109,.0001,1.218, .0110, .0108
Tl1908,190.856 {477},In2306,ppm, .0404,.0006,1.414, .0408, .0400
U_3670,367.007 { 92},Y_3600,ppm, -.1592,.0376,23.61, -.1326, -.1857
V_2924,292.402 {115},Y_3600,ppm, .0104,.0001,1.294, .0103, .0105
W_2397,239.709 {140},Y_2243,ppm, .0563,.0121,21.39, .0478, .0649
Zn2062,206.200 {463},In2306,ppm, .0186,.0000,.1137, .0186, .0185

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 258.39,.12223,.04730,258.47,258.30
In2306,230.606 {446},Cts/S, 15635.,96.799,.61911,15567.,15704.
Y_2243,224.306 {450},Cts/S, 24628.,123.04,.49961,24541.,24715.
Y_3600,360.073 { 94},Cts/S, 211890.,341.96,.16138,211650.,212140.
Y_3710,371.030 { 91},Cts/S, 12642.,63.557,.50275,12597.,12687.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0004,.0001,21.68, .0004, .0003
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Al3082,308.215 {109},In2306,ppm, -.0153,.0042,27.72, -.0183, -.0123
As1890,189.042 {478},Y_2243,ppm, .0002,.0011,683.7, -.0006, .0009
B_2496,249.678 {135},Y_3710,ppm, -.0023,.0049,213.2, -.0058, .0012
Ba4554,455.403 { 74},Y_3710,ppm, -.0003,.0002,70.19, -.0002, -.0005
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,5.463, -.0000, -.0000
Ca3158,315.887 {107},In2306,ppm, -.0171,.0013,7.484, -.0180, -.0162
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0001,387.0, -.0000, .0001
Co2286,228.616 {447},In2306,ppm, .0000,.0000,313.8, -.0000, .0000
Cr2677,267.716 {126},Y_3600,ppm, -.0002,.0000,18.28, -.0002, -.0002
Cu3247,324.754 {104},Y_3600,ppm, .0008,.0002,31.65, .0006, .0009
Fe2404,240.488 {140},In2306,ppm, -.0047,.0006,11.70, -.0043, -.0051
K_7664,766.490 { 44},Y_3710,ppm, .0646,.0143,22.09, .0747, .0545
Li6707,670.784 { 50},Y_3710,ppm, -.0006,.0013,215.1, .0003, -.0016
Mg2790,279.079 {121},Y_3710,ppm, .0018,.0224,1223., -.0140, .0177
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,13.04, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, .0000,.0001,204.2, -.0000, .0001
Na5895,589.592 { 57},Y_3710,ppm, .0312,.0005,1.479, .0308, .0315
Ni2316,231.604 {445},In2306,ppm, .0004,.0003,83.55, .0006, .0001
P_1782,178.284 {489},In2306,ppm, .0015,.0018,115.5, .0003, .0028
Pb2203,220.353 {453},In2306,ppm, -.0006,.0007,112.6, -.0012, -.0001
S_1820,182.034 {485},Y_2243,ppm, .0003,.0020,699.1, .0017, -.0011
Sb2068,206.833 {463},Y_2243,ppm, .0013,.0001,5.423, .0013, .0012
Se1960,196.090 {472},Y_2243,ppm, -.0005,.0009,178.0, .0001, -.0011
Si2516,251.611 {134},Y_3710,ppm, .0106,.0005,4.341, .0109, .0103
Sn1899,189.989 {477},In2306,ppm, -.0001,.0000,28.49, -.0001, -.0001
Sr4215,421.552 { 80},Y_3710,ppm, .0002,.0000,15.02, .0002, .0002
Ti3349,334.904 {101},Y_3600,ppm, .0002,.0002,100.3, .0001, .0004
Tl1908,190.856 {477},In2306,ppm, .0135,.0001,.5145, .0135, .0134
U_3670,367.007 { 92},Y_3600,ppm, -.1906,.0121,6.328, -.1991, -.1821
V_2924,292.402 {115},Y_3600,ppm, .0002,.0002,120.5, .0003, .0000
W_2397,239.709 {140},Y_2243,ppm, -.0032,.0079,248.9, .0024, -.0087
Zn2062,206.200 {463},In2306,ppm, -.0015,.0000,1.257, -.0015, -.0016

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 255.97,5.5476,2.1673,252.05,259.89
In2306,230.606 {446},Cts/S, 15771.,26.812,.17001,15790.,15752.
Y_2243,224.306 {450},Cts/S, 24428.,30.017,.12288,24449.,24406.
Y_3600,360.073 { 94},Cts/S, 210120.,438.90,.20888,210430.,209810.
Y_3710,371.030 { 91},Cts/S, 12603.,101.98,.80915,12531.,12675.


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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0008,.0001,19.77, .0006, .0009
Al3082,308.215 {109},In2306,ppm, -.0055,.0002,2.751, -.0056, -.0054
As1890,189.042 {478},Y_2243,ppm, .0017,.0004,25.29, .0014, .0020
B_2496,249.678 {135},Y_3710,ppm, .1567,.0117,7.497, .1484, .1650
Ba4554,455.403 { 74},Y_3710,ppm, .6923,.0492,7.109, .6575, .7271
Be3130,313.042 {108},Y_3710,ppm, .0000,.0001,307.5, -.0000, .0001
Ca3158,315.887 {107},In2306,ppm, 211.1,14.88,7.050, 200.5, 221.6
Cd2288,228.802 {447},Y_2243,ppm, .0004,.0000,9.576, .0004, .0004
Co2286,228.616 {447},In2306,ppm, .0000,.0001,395.0, -.0000, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0005,.0001,26.65, .0004, .0006
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Cu3247,324.754 {104},Y_3600,ppm, .0015,.0002,10.08, .0014, .0017
Fe2404,240.488 {140},In2306,ppm, .0111,.0070,63.38, .0061, .0160
K_7664,766.490 { 44},Y_3710,ppm, 3.431,.2502,7.291, 3.254, 3.608
Li6707,670.784 { 50},Y_3710,ppm, .0523,.0033,6.314, .0500, .0547
Mg2790,279.079 {121},Y_3710,ppm, 36.02,2.583,7.170, 34.20, 37.85
Mn2576,257.610 {131},Y_3600,ppm, .0973,.0009,.8794, .0979, .0967
Mo2020,202.030 {467},Y_2243,ppm, .0005,.0002,49.24, .0006, .0003
Na5895,589.592 { 57},Y_3710,ppm, 147.2,6.805,4.623, 142.4, 152.0
Ni2316,231.604 {445},In2306,ppm, .0015,.0000,1.195, .0015, .0015
P_1782,178.284 {489},In2306,ppm, .0830,.0005,.6600, .0826, .0833
Pb2203,220.353 {453},In2306,ppm, -.0005,.0011,206.9, .0002, -.0013
S_1820,182.034 {485},Y_2243,ppm, 5.700,.0470,.8248, 5.733, 5.667
Sb2068,206.833 {463},Y_2243,ppm, .0019,.0008,41.69, .0013, .0024
Se1960,196.090 {472},Y_2243,ppm, -.0020,.0007,35.34, -.0025, -.0015
Si2516,251.611 {134},Y_3710,ppm, 12.88,.9579,7.438, 12.20, 13.56
Sn1899,189.989 {477},In2306,ppm, -.0008,.0000,1.448, -.0008, -.0008
Sr4215,421.552 { 80},Y_3710,ppm, 1.012,.0745,7.355, .9596, 1.065
Ti3349,334.904 {101},Y_3600,ppm, .0018,.0004,19.81, .0016, .0021
Tl1908,190.856 {477},In2306,ppm, .0087,.0016,18.48, .0098, .0075
U_3670,367.007 { 92},Y_3600,ppm, -.0751,.0593,78.87, -.1170, -.0332
V_2924,292.402 {115},Y_3600,ppm, .0018,.0000,.7291, .0018, .0018
W_2397,239.709 {140},Y_2243,ppm, -.0016,.0201,1238., .0126, -.0159
Zn2062,206.200 {463},In2306,ppm, .0042,.0001,1.493, .0042, .0043

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 251.52,13.303,5.2888,260.93,242.12
In2306,230.606 {446},Cts/S, 12682.,42.754,.33713,12652.,12712.
Y_2243,224.306 {450},Cts/S, 22028.,110.29,.50067,21950.,22106.
Y_3600,360.073 { 94},Cts/S, 190560.,793.95,.41664,190000.,191120.
Y_3710,371.030 { 91},Cts/S, 12899.,689.88,5.3484,13387.,12411.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0001,.0000,6.876, .0002, .0001
Al3082,308.215 {109},In2306,ppm, -.0058,.0114,197.2, -.0138, .0023
As1890,189.042 {478},Y_2243,ppm, .0052,.0013,24.48, .0060, .0043
B_2496,249.678 {135},Y_3710,ppm, .2443,.0050,2.061, .2408, .2479
Ba4554,455.403 { 74},Y_3710,ppm, .1255,.0001,.0852, .1256, .1254
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,1573., .0000, -.0001
Ca3158,315.887 {107},In2306,ppm, 75.34,1.030,1.367, 74.61, 76.07
Cd2288,228.802 {447},Y_2243,ppm, .0005,.0001,20.10, .0005, .0006
Co2286,228.616 {447},In2306,ppm, -.0002,.0001,46.57, -.0001, -.0002
Cr2677,267.716 {126},Y_3600,ppm, .0005,.0001,29.13, .0005, .0004
Cu3247,324.754 {104},Y_3600,ppm, .0027,.0003,10.86, .0029, .0025
Fe2404,240.488 {140},In2306,ppm, .0095,.0004,4.517, .0098, .0092
K_7664,766.490 { 44},Y_3710,ppm, 6.000,.0152,.2530, 5.989, 6.011
Li6707,670.784 { 50},Y_3710,ppm, .0444,.0009,2.108, .0438, .0451
Mg2790,279.079 {121},Y_3710,ppm, 24.10,.0519,.2154, 24.07, 24.14
Mn2576,257.610 {131},Y_3600,ppm, .0619,.0007,1.110, .0623, .0614
Mo2020,202.030 {467},Y_2243,ppm, .0071,.0000,.0584, .0071, .0071
Na5895,589.592 { 57},Y_3710,ppm, 237.2,.7111,.2998, 236.7, 237.7
Ni2316,231.604 {445},In2306,ppm, -.0001,.0000,37.63, -.0001, -.0001
P_1782,178.284 {489},In2306,ppm, .1322,.0000,.0207, .1322, .1322
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Pb2203,220.353 {453},In2306,ppm, -.0017,.0001,7.258, -.0016, -.0018
S_1820,182.034 {485},Y_2243,ppm, 12.49,.0095,.0760, 12.50, 12.49
Sb2068,206.833 {463},Y_2243,ppm, .0015,.0012,81.80, .0024, .0006
Se1960,196.090 {472},Y_2243,ppm, -.0017,.0004,23.14, -.0020, -.0014
Si2516,251.611 {134},Y_3710,ppm, 8.253,.0999,1.210, 8.183, 8.324
Sn1899,189.989 {477},In2306,ppm, -.0003,.0001,15.38, -.0004, -.0003
Sr4215,421.552 { 80},Y_3710,ppm, .5060,.0013,.2583, .5051, .5069
Ti3349,334.904 {101},Y_3600,ppm, .0005,.0000,3.544, .0005, .0006
Tl1908,190.856 {477},In2306,ppm, .0019,.0025,132.0, .0037, .0001
U_3670,367.007 { 92},Y_3600,ppm, -.1685,.0025,1.479, -.1667, -.1702
V_2924,292.402 {115},Y_3600,ppm, -.0001,.0003,404.1, .0001, -.0003
W_2397,239.709 {140},Y_2243,ppm, .0332,.0136,40.87, .0428, .0236
Zn2062,206.200 {463},In2306,ppm, .0095,.0000,.1521, .0096, .0095

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 243.08,3.2965,1.3562,245.41,240.75
In2306,230.606 {446},Cts/S, 12839.,63.459,.49425,12884.,12794.
Y_2243,224.306 {450},Cts/S, 22241.,97.284,.43741,22310.,22172.
Y_3600,360.073 { 94},Cts/S, 189530.,1350.5,.71259,188570.,190480.
Y_3710,371.030 { 91},Cts/S, 12319.,37.162,.30166,12346.,12293.

[Sample Header]
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Custom ID3=
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0007,.0003,42.91, .0009, .0005
Al3082,308.215 {109},In2306,ppm, .0213,.0074,34.86, .0160, .0265
As1890,189.042 {478},Y_2243,ppm, .0091,.0005,5.647, .0094, .0087
B_2496,249.678 {135},Y_3710,ppm, .5263,.0120,2.287, .5178, .5349
Ba4554,455.403 { 74},Y_3710,ppm, .8715,.0041,.4746, .8744, .8686
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,94.36, -.0001, -.0000
Ca3158,315.887 {107},In2306,ppm, 71.89,.6200,.8624, 71.45, 72.33
Cd2288,228.802 {447},Y_2243,ppm, .0006,.0001,13.48, .0006, .0007
Co2286,228.616 {447},In2306,ppm, .0001,.0003,279.2, .0003, -.0001
Cr2677,267.716 {126},Y_3600,ppm, .0008,.0001,7.729, .0008, .0009
Cu3247,324.754 {104},Y_3600,ppm, .0016,.0003,16.99, .0018, .0014
Fe2404,240.488 {140},In2306,ppm, 6.856,.0696,1.015, 6.807, 6.905
K_7664,766.490 { 44},Y_3710,ppm, 79.97,.3166,.3959, 80.19, 79.75
Li6707,670.784 { 50},Y_3710,ppm, .1211,.0007,.5386, .1215, .1206
Mg2790,279.079 {121},Y_3710,ppm, 93.31,.1804,.1934, 93.44, 93.18
Mn2576,257.610 {131},Y_3600,ppm, .4105,.0018,.4439, .4092, .4118
Mo2020,202.030 {467},Y_2243,ppm, .0018,.0002,13.21, .0019, .0016
Na5895,589.592 { 57},Y_3710,ppm, 959.8,11.27,1.174, 967.8, 951.9
Ni2316,231.604 {445},In2306,ppm, -.0001,.0001,163.2, -.0001, .0000
P_1782,178.284 {489},In2306,ppm, .8998,.0079,.8768, .8942, .9054
Pb2203,220.353 {453},In2306,ppm, -.0017,.0020,118.5, -.0031, -.0003
S_1820,182.034 {485},Y_2243,ppm, .3295,.0064,1.935, .3250, .3340
Sb2068,206.833 {463},Y_2243,ppm, -.0003,.0003,85.79, -.0005, -.0001
Se1960,196.090 {472},Y_2243,ppm, .0004,.0007,185.2, -.0001, .0009
Si2516,251.611 {134},Y_3710,ppm, 8.341,.0151,.1808, 8.352, 8.330
Sn1899,189.989 {477},In2306,ppm, .0000,.0004,2283., .0003, -.0002
Sr4215,421.552 { 80},Y_3710,ppm, 1.119,.0052,.4671, 1.122, 1.115
Ti3349,334.904 {101},Y_3600,ppm, .0011,.0001,10.57, .0012, .0010
Tl1908,190.856 {477},In2306,ppm, .0038,.0050,132.0, .0073, .0002
U_3670,367.007 { 92},Y_3600,ppm, .0044,.0333,761.0, .0279, -.0192
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V_2924,292.402 {115},Y_3600,ppm, -.0013,.0002,11.36, -.0012, -.0014
W_2397,239.709 {140},Y_2243,ppm, .0490,.0394,80.26, .0212, .0769
Zn2062,206.200 {463},In2306,ppm, .0173,.0002,1.429, .0171, .0175

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 233.86,1.0097,.43177,234.57,233.14
In2306,230.606 {446},Cts/S, 11335.,6.0288,.05319,11330.,11339.
Y_2243,224.306 {450},Cts/S, 20614.,37.350,.18119,20587.,20640.
Y_3600,360.073 { 94},Cts/S, 172940.,209.01,.12086,172790.,173090.
Y_3710,371.030 { 91},Cts/S, 11986.,66.959,.55862,11939.,12034.

[Sample Header]
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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0000,.0001,402.0, .0001, -.0000
Al3082,308.215 {109},In2306,ppm, -.0218,.0059,26.79, -.0177, -.0260
As1890,189.042 {478},Y_2243,ppm, .0049,.0019,38.46, .0036, .0063
B_2496,249.678 {135},Y_3710,ppm, .4985,.0072,1.437, .4934, .5035
Ba4554,455.403 { 74},Y_3710,ppm, .4460,.0017,.3771, .4472, .4448
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,25.94, .0000, .0000
Ca3158,315.887 {107},In2306,ppm, 62.73,.0865,.1380, 62.79, 62.67
Cd2288,228.802 {447},Y_2243,ppm, .0015,.0001,9.184, .0016, .0014
Co2286,228.616 {447},In2306,ppm, .0004,.0002,54.40, .0005, .0002
Cr2677,267.716 {126},Y_3600,ppm, .0007,.0002,22.91, .0006, .0008
Cu3247,324.754 {104},Y_3600,ppm, .0020,.0003,13.20, .0022, .0018
Fe2404,240.488 {140},In2306,ppm, .0366,.0049,13.41, .0401, .0332
K_7664,766.490 { 44},Y_3710,ppm, 14.96,.0951,.6359, 15.03, 14.89
Li6707,670.784 { 50},Y_3710,ppm, .0163,.0008,5.166, .0169, .0157
Mg2790,279.079 {121},Y_3710,ppm, 58.71,.9828,1.674, 59.41, 58.02
Mn2576,257.610 {131},Y_3600,ppm, .2412,.0006,.2436, .2416, .2408
Mo2020,202.030 {467},Y_2243,ppm, .0013,.0005,35.05, .0010, .0017
Na5895,589.592 { 57},Y_3710,ppm, 676.8,12.70,1.876, 685.8, 667.9
Ni2316,231.604 {445},In2306,ppm, .0028,.0002,6.880, .0030, .0027
P_1782,178.284 {489},In2306,ppm, .2207,.0008,.3628, .2201, .2213
Pb2203,220.353 {453},In2306,ppm, -.0017,.0004,25.52, -.0014, -.0020
S_1820,182.034 {485},Y_2243,ppm, .7457,.0010,.1372, .7450, .7465
Sb2068,206.833 {463},Y_2243,ppm, -.0009,.0009,93.72, -.0015, -.0003
Se1960,196.090 {472},Y_2243,ppm, -.0038,.0033,88.07, -.0062, -.0014
Si2516,251.611 {134},Y_3710,ppm, 9.381,.0299,.3190, 9.403, 9.360
Sn1899,189.989 {477},In2306,ppm, .0029,.0035,123.6, .0004, .0054
Sr4215,421.552 { 80},Y_3710,ppm, .7747,.0023,.3018, .7764, .7731
Ti3349,334.904 {101},Y_3600,ppm, .0006,.0001,15.50, .0007, .0006
Tl1908,190.856 {477},In2306,ppm, -.0009,.0019,223.2, -.0023, .0005
U_3670,367.007 { 92},Y_3600,ppm, -.0797,.0282,35.32, -.0598, -.0997
V_2924,292.402 {115},Y_3600,ppm, -.0011,.0002,18.38, -.0010, -.0012
W_2397,239.709 {140},Y_2243,ppm, .0273,.0350,128.0, .0520, .0026
Zn2062,206.200 {463},In2306,ppm, .0100,.0001,1.421, .0101, .0099

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 238.87,.26254,.10991,238.68,239.06
In2306,230.606 {446},Cts/S, 11863.,33.436,.28186,11887.,11839.
Y_2243,224.306 {450},Cts/S, 21345.,68.617,.32146,21394.,21297.
Y_3600,360.073 { 94},Cts/S, 179400.,947.81,.52832,178730.,180070.
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Y_3710,371.030 { 91},Cts/S, 12172.,173.51,1.4254,12050.,12295.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0011,.0001,10.55, .0012, .0010
Al3082,308.215 {109},In2306,ppm, -.0176,.0287,163.3, .0027, -.0379
As1890,189.042 {478},Y_2243,ppm, .0135,.0008,5.868, .0140, .0129
B_2496,249.678 {135},Y_3710,ppm, .5481,.0092,1.678, .5546, .5416
Ba4554,455.403 { 74},Y_3710,ppm, .4213,.0009,.2142, .4207, .4220
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0001,106.5, -.0002, -.0000
Ca3158,315.887 {107},In2306,ppm, 36.65,.3938,1.074, 36.93, 36.38
Cd2288,228.802 {447},Y_2243,ppm, .0005,.0001,26.35, .0004, .0005
Co2286,228.616 {447},In2306,ppm, .0001,.0001,68.22, .0002, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0009,.0001,11.42, .0009, .0010
Cu3247,324.754 {104},Y_3600,ppm, .0015,.0000,1.621, .0015, .0015
Fe2404,240.488 {140},In2306,ppm, .4122,.0048,1.174, .4156, .4088
K_7664,766.490 { 44},Y_3710,ppm, 114.2,.5269,.4613, 113.9, 114.6
Li6707,670.784 { 50},Y_3710,ppm, .0609,.0006,1.041, .0605, .0614
Mg2790,279.079 {121},Y_3710,ppm, 68.56,.2836,.4137, 68.76, 68.36
Mn2576,257.610 {131},Y_3600,ppm, .0459,.0004,.9736, .0462, .0456
Mo2020,202.030 {467},Y_2243,ppm, .0016,.0001,3.285, .0016, .0016
Na5895,589.592 { 57},Y_3710,ppm, 901.0,3.364,.3734, 898.6, 903.4
Ni2316,231.604 {445},In2306,ppm, .0018,.0006,32.91, .0013, .0022
P_1782,178.284 {489},In2306,ppm, .9336,.0102,1.091, .9264, .9408
Pb2203,220.353 {453},In2306,ppm, -.0023,.0017,72.03, -.0035, -.0011
S_1820,182.034 {485},Y_2243,ppm, 1.048,.0037,.3558, 1.051, 1.045
Sb2068,206.833 {463},Y_2243,ppm, .0002,.0008,350.1, .0008, -.0004
Se1960,196.090 {472},Y_2243,ppm, -.0006,.0020,344.3, .0008, -.0020
Si2516,251.611 {134},Y_3710,ppm, 10.06,.0930,.9240, 9.998, 10.13
Sn1899,189.989 {477},In2306,ppm, -.0006,.0000,.5393, -.0006, -.0006
Sr4215,421.552 { 80},Y_3710,ppm, .6464,.0024,.3741, .6446, .6481
Ti3349,334.904 {101},Y_3600,ppm, .0006,.0002,28.93, .0007, .0005
Tl1908,190.856 {477},In2306,ppm, .0042,.0020,48.34, .0028, .0056
U_3670,367.007 { 92},Y_3600,ppm, -.0980,.0130,13.23, -.0889, -.1072
V_2924,292.402 {115},Y_3600,ppm, -.0009,.0003,29.07, -.0011, -.0007
W_2397,239.709 {140},Y_2243,ppm, .0400,.0487,121.9, .0055, .0744
Zn2062,206.200 {463},In2306,ppm, .0169,.0004,2.259, .0166, .0172

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 240.64,1.4679,.60998,239.60,241.68
In2306,230.606 {446},Cts/S, 11430.,154.60,1.3525,11321.,11540.
Y_2243,224.306 {450},Cts/S, 20647.,468.46,2.2690,20315.,20978.
Y_3600,360.073 { 94},Cts/S, 177400.,243.71,.13738,177570.,177230.
Y_3710,371.030 { 91},Cts/S, 12478.,8.3598,.06700,12483.,12472.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0006,.0008,136.3, .0012, .0000
Al3082,308.215 {109},In2306,ppm, -.0041,.0162,396.0, .0074, -.0155
As1890,189.042 {478},Y_2243,ppm, .0128,.0019,14.93, .0142, .0115
B_2496,249.678 {135},Y_3710,ppm, .5493,.0095,1.732, .5560, .5425
Ba4554,455.403 { 74},Y_3710,ppm, .4126,.0012,.2948, .4118, .4135
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,298.9, -.0001, .0001
Ca3158,315.887 {107},In2306,ppm, 37.03,.6109,1.650, 37.47, 36.60
Cd2288,228.802 {447},Y_2243,ppm, .0004,.0001,18.78, .0004, .0005
Co2286,228.616 {447},In2306,ppm, -.0001,.0003,307.9, -.0003, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0008,.0002,29.16, .0009, .0006
Cu3247,324.754 {104},Y_3600,ppm, .0020,.0002,12.44, .0018, .0021
Fe2404,240.488 {140},In2306,ppm, .4312,.0196,4.549, .4451, .4174
K_7664,766.490 { 44},Y_3710,ppm, 113.6,.3113,.2739, 113.4, 113.9
Li6707,670.784 { 50},Y_3710,ppm, .0584,.0004,.6120, .0582, .0587
Mg2790,279.079 {121},Y_3710,ppm, 71.27,.8730,1.225, 71.88, 70.65
Mn2576,257.610 {131},Y_3600,ppm, .0482,.0001,.2608, .0481, .0483
Mo2020,202.030 {467},Y_2243,ppm, .0016,.0004,27.04, .0013, .0019
Na5895,589.592 { 57},Y_3710,ppm, 901.5,6.217,.6897, 897.1, 905.9
Ni2316,231.604 {445},In2306,ppm, .0021,.0001,3.244, .0021, .0020
P_1782,178.284 {489},In2306,ppm, .9097,.0056,.6138, .9136, .9057
Pb2203,220.353 {453},In2306,ppm, -.0010,.0005,49.26, -.0007, -.0014
S_1820,182.034 {485},Y_2243,ppm, 1.024,.0021,.2053, 1.026, 1.023
Sb2068,206.833 {463},Y_2243,ppm, .0005,.0007,147.5, .0010, -.0000
Se1960,196.090 {472},Y_2243,ppm, .0002,.0000,7.627, .0002, .0002
Si2516,251.611 {134},Y_3710,ppm, 10.42,.0590,.5656, 10.38, 10.46
Sn1899,189.989 {477},In2306,ppm, -.0002,.0004,176.6, .0001, -.0006
Sr4215,421.552 { 80},Y_3710,ppm, .6336,.0044,.7018, .6305, .6368
Ti3349,334.904 {101},Y_3600,ppm, .0004,.0001,24.71, .0005, .0004
Tl1908,190.856 {477},In2306,ppm, .0028,.0003,9.977, .0026, .0030
U_3670,367.007 { 92},Y_3600,ppm, -.1340,.1143,85.29, -.2148, -.0532
V_2924,292.402 {115},Y_3600,ppm, -.0008,.0001,14.02, -.0009, -.0007
W_2397,239.709 {140},Y_2243,ppm, .0825,.0516,62.51, .1189, .0460
Zn2062,206.200 {463},In2306,ppm, .0047,.0003,6.297, .0049, .0045

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 230.99,4.4047,1.9068,227.88,234.11
In2306,230.606 {446},Cts/S, 11432.,167.14,1.4621,11550.,11314.
Y_2243,224.306 {450},Cts/S, 20633.,517.59,2.5086,20999.,20267.
Y_3600,360.073 { 94},Cts/S, 173530.,610.51,.35182,173100.,173960.
Y_3710,371.030 { 91},Cts/S, 11750.,97.099,.82634,11682.,11819.

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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0003,.0000,13.75, -.0003, -.0002
Al3082,308.215 {109},In2306,ppm, -.0053,.0166,310.5, -.0171, .0064
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As1890,189.042 {478},Y_2243,ppm, .0023,.0013,56.79, .0033, .0014
B_2496,249.678 {135},Y_3710,ppm, .4604,.0050,1.094, .4568, .4639
Ba4554,455.403 { 74},Y_3710,ppm, .3237,.0001,.0220, .3236, .3237
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,5706., .0001, -.0001
Ca3158,315.887 {107},In2306,ppm, 91.88,.5125,.5578, 91.52, 92.25
Cd2288,228.802 {447},Y_2243,ppm, .0007,.0001,15.58, .0006, .0007
Co2286,228.616 {447},In2306,ppm, -.0001,.0000,27.83, -.0001, -.0001
Cr2677,267.716 {126},Y_3600,ppm, .0006,.0002,25.02, .0005, .0007
Cu3247,324.754 {104},Y_3600,ppm, .0020,.0004,21.60, .0017, .0023
Fe2404,240.488 {140},In2306,ppm, .0717,.0052,7.213, .0753, .0680
K_7664,766.490 { 44},Y_3710,ppm, 18.08,.0525,.2906, 18.04, 18.12
Li6707,670.784 { 50},Y_3710,ppm, .0176,.0004,2.128, .0173, .0178
Mg2790,279.079 {121},Y_3710,ppm, 59.62,.8093,1.357, 59.05, 60.19
Mn2576,257.610 {131},Y_3600,ppm, .5047,.0036,.7220, .5021, .5073
Mo2020,202.030 {467},Y_2243,ppm, .0139,.0003,1.834, .0141, .0137
Na5895,589.592 { 57},Y_3710,ppm, 405.7,3.478,.8574, 403.2, 408.2
Ni2316,231.604 {445},In2306,ppm, .0006,.0003,48.94, .0008, .0004
P_1782,178.284 {489},In2306,ppm, .1182,.0018,1.564, .1169, .1195
Pb2203,220.353 {453},In2306,ppm, -.0013,.0007,50.60, -.0008, -.0018
S_1820,182.034 {485},Y_2243,ppm, .4108,.0026,.6351, .4126, .4089
Sb2068,206.833 {463},Y_2243,ppm, -.0013,.0002,12.94, -.0011, -.0014
Se1960,196.090 {472},Y_2243,ppm, .0007,.0012,161.0, -.0001, .0016
Si2516,251.611 {134},Y_3710,ppm, 6.667,.0761,1.141, 6.614, 6.721
Sn1899,189.989 {477},In2306,ppm, -.0005,.0001,28.30, -.0006, -.0004
Sr4215,421.552 { 80},Y_3710,ppm, .9441,.0021,.2208, .9456, .9427
Ti3349,334.904 {101},Y_3600,ppm, .0011,.0001,8.573, .0010, .0012
Tl1908,190.856 {477},In2306,ppm, .0016,.0025,159.2, -.0002, .0034
U_3670,367.007 { 92},Y_3600,ppm, -.0572,.0414,72.31, -.0864, -.0279
V_2924,292.402 {115},Y_3600,ppm, -.0015,.0000,3.011, -.0016, -.0015
W_2397,239.709 {140},Y_2243,ppm, .0163,.0031,19.00, .0141, .0184
Zn2062,206.200 {463},In2306,ppm, .0042,.0001,2.980, .0043, .0041

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 244.35,.65067,.26629,244.81,243.89
In2306,230.606 {446},Cts/S, 12258.,52.469,.42806,12220.,12295.
Y_2243,224.306 {450},Cts/S, 21544.,73.717,.34217,21492.,21596.
Y_3600,360.073 { 94},Cts/S, 183870.,128.46,.06986,183960.,183780.
Y_3710,371.030 { 91},Cts/S, 12539.,67.760,.54040,12587.,12491.

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Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0008,.0003,40.95, .0010, .0006
Al3082,308.215 {109},In2306,ppm, -.0108,.0094,87.42, -.0175, -.0041
As1890,189.042 {478},Y_2243,ppm, .0043,.0002,4.236, .0044, .0042
B_2496,249.678 {135},Y_3710,ppm, .5089,.0086,1.699, .5028, .5150
Ba4554,455.403 { 74},Y_3710,ppm, .6843,.0001,.0118, .6842, .6844
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,124.8, -.0000, -.0000
Ca3158,315.887 {107},In2306,ppm, 105.4,.0686,.0651, 105.4, 105.3
Cd2288,228.802 {447},Y_2243,ppm, .0005,.0000,8.118, .0005, .0006
Co2286,228.616 {447},In2306,ppm, -.0001,.0002,223.8, -.0003, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0007,.0003,41.11, .0009, .0005
Cu3247,324.754 {104},Y_3600,ppm, .0023,.0004,17.38, .0026, .0020
Fe2404,240.488 {140},In2306,ppm, 3.768,.0023,.0600, 3.769, 3.766
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K_7664,766.490 { 44},Y_3710,ppm, 15.88,.0512,.3223, 15.84, 15.92
Li6707,670.784 { 50},Y_3710,ppm, .0247,.0006,2.312, .0242, .0251
Mg2790,279.079 {121},Y_3710,ppm, 83.35,.9540,1.145, 82.68, 84.03
Mn2576,257.610 {131},Y_3600,ppm, .9086,.0023,.2549, .9102, .9070
Mo2020,202.030 {467},Y_2243,ppm, .0004,.0001,29.37, .0005, .0003
Na5895,589.592 { 57},Y_3710,ppm, 819.4,18.52,2.260, 806.3, 832.5
Ni2316,231.604 {445},In2306,ppm, -.0011,.0008,77.01, -.0005, -.0016
P_1782,178.284 {489},In2306,ppm, .4591,.0041,.8920, .4620, .4562
Pb2203,220.353 {453},In2306,ppm, -.0017,.0020,121.7, -.0002, -.0031
S_1820,182.034 {485},Y_2243,ppm, .2399,.0030,1.260, .2420, .2377
Sb2068,206.833 {463},Y_2243,ppm, .0000,.0005,1741., .0003, -.0003
Se1960,196.090 {472},Y_2243,ppm, .0011,.0020,175.3, -.0003, .0025
Si2516,251.611 {134},Y_3710,ppm, 19.38,.2690,1.388, 19.19, 19.57
Sn1899,189.989 {477},In2306,ppm, -.0008,.0003,36.01, -.0006, -.0010
Sr4215,421.552 { 80},Y_3710,ppm, 1.219,.0008,.0650, 1.218, 1.219
Ti3349,334.904 {101},Y_3600,ppm, .0011,.0002,17.62, .0012, .0010
Tl1908,190.856 {477},In2306,ppm, -.0025,.0030,121.8, -.0003, -.0046
U_3670,367.007 { 92},Y_3600,ppm, -.1377,.0339,24.63, -.1617, -.1138
V_2924,292.402 {115},Y_3600,ppm, -.0016,.0001,8.985, -.0017, -.0015
W_2397,239.709 {140},Y_2243,ppm, .0551,.0359,65.09, .0805, .0298
Zn2062,206.200 {463},In2306,ppm, .0190,.0000,.2614, .0190, .0189

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 232.24,3.5139,1.5130,234.73,229.76
In2306,230.606 {446},Cts/S, 11546.,12.233,.10595,11537.,11554.
Y_2243,224.306 {450},Cts/S, 21235.,18.457,.08692,21222.,21248.
Y_3600,360.073 { 94},Cts/S, 173300.,1413.2,.81550,172300.,174300.
Y_3710,371.030 { 91},Cts/S, 11883.,276.87,2.3299,12079.,11688.

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Ag3280,328.068 {103},Y_3600,ppm, .0010,.0002,17.65, .0011, .0009
Al3082,308.215 {109},In2306,ppm, 12.69,.0664,.5233, 12.64, 12.73
As1890,189.042 {478},Y_2243,ppm, .0043,.0006,14.50, .0048, .0039
B_2496,249.678 {135},Y_3710,ppm, .0324,.0018,5.698, .0311, .0337
Ba4554,455.403 { 74},Y_3710,ppm, .0201,.0003,1.438, .0203, .0199
Be3130,313.042 {108},Y_3710,ppm, .0003,.0000,6.255, .0003, .0004
Ca3158,315.887 {107},In2306,ppm, 14.38,.0091,.0631, 14.38, 14.37
Cd2288,228.802 {447},Y_2243,ppm, .0003,.0000,7.230, .0003, .0003
Co2286,228.616 {447},In2306,ppm, .0020,.0000,1.483, .0020, .0020
Cr2677,267.716 {126},Y_3600,ppm, .0095,.0001,.9335, .0096, .0094
Cu3247,324.754 {104},Y_3600,ppm, .0219,.0001,.6276, .0220, .0218
Fe2404,240.488 {140},In2306,ppm, 8.556,.0158,.1847, 8.545, 8.567
K_7664,766.490 { 44},Y_3710,ppm, 6.517,.0062,.0956, 6.521, 6.513
Li6707,670.784 { 50},Y_3710,ppm, .0100,.0005,5.430, .0104, .0097
Mg2790,279.079 {121},Y_3710,ppm, 3.839,.0369,.9611, 3.865, 3.813
Mn2576,257.610 {131},Y_3600,ppm, .0615,.0000,.0432, .0615, .0615
Mo2020,202.030 {467},Y_2243,ppm, .0007,.0001,10.06, .0007, .0008
Na5895,589.592 { 57},Y_3710,ppm, 6.077,.0204,.3349, 6.092, 6.063
Ni2316,231.604 {445},In2306,ppm, .0078,.0004,5.145, .0081, .0075
P_1782,178.284 {489},In2306,ppm, .2606,.0019,.7258, .2620, .2593
Pb2203,220.353 {453},In2306,ppm, .0083,.0006,7.375, .0078, .0087
S_1820,182.034 {485},Y_2243,ppm, 2.083,.0016,.0747, 2.084, 2.082
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Sb2068,206.833 {463},Y_2243,ppm, .0012,.0002,16.64, .0013, .0010
Se1960,196.090 {472},Y_2243,ppm, .0007,.0005,60.30, .0011, .0004
Si2516,251.611 {134},Y_3710,ppm, 10.71,.0016,.0152, 10.71, 10.71
Sn1899,189.989 {477},In2306,ppm, .0003,.0000,5.140, .0003, .0003
Sr4215,421.552 { 80},Y_3710,ppm, .0293,.0000,.0479, .0293, .0293
Ti3349,334.904 {101},Y_3600,ppm, .0635,.0005,.7477, .0638, .0631
Tl1908,190.856 {477},In2306,ppm, -.0004,.0001,31.12, -.0003, -.0005
U_3670,367.007 { 92},Y_3600,ppm, -.2111,.0058,2.767, -.2152, -.2069
V_2924,292.402 {115},Y_3600,ppm, .0150,.0000,.1485, .0150, .0150
W_2397,239.709 {140},Y_2243,ppm, .0139,.0255,183.6, .0319, -.0041
Zn2062,206.200 {463},In2306,ppm, .0471,.0000,.1047, .0470, .0471

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 243.14,.65530,.26951,243.61,242.68
In2306,230.606 {446},Cts/S, 14850.,8.8335,.05948,14844.,14857.
Y_2243,224.306 {450},Cts/S, 24632.,1.8502,.00751,24631.,24633.
Y_3600,360.073 { 94},Cts/S, 204000.,263.38,.12911,204190.,203810.
Y_3710,371.030 { 91},Cts/S, 12154.,39.204,.32256,12126.,12182.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0011,.0001,10.41, .0012, .0010
Al3082,308.215 {109},In2306,ppm, -.0141,.0053,37.77, -.0178, -.0103
As1890,189.042 {478},Y_2243,ppm, -.0004,.0013,309.7, .0005, -.0013
B_2496,249.678 {135},Y_3710,ppm, .0096,.0007,7.808, .0090, .0101
Ba4554,455.403 { 74},Y_3710,ppm, -.0001,.0000,6.611, -.0001, -.0002
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,46.68, -.0001, -.0000
Ca3158,315.887 {107},In2306,ppm, -.0042,.0061,144.1, -.0086, .0001
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0002,1476., -.0001, .0001
Co2286,228.616 {447},In2306,ppm, .0000,.0000,107.4, .0000, .0000
Cr2677,267.716 {126},Y_3600,ppm, -.0002,.0001,32.52, -.0001, -.0002
Cu3247,324.754 {104},Y_3600,ppm, .0018,.0002,10.35, .0019, .0016
Fe2404,240.488 {140},In2306,ppm, .0003,.0066,2461., .0049, -.0044
K_7664,766.490 { 44},Y_3710,ppm, .1144,.0083,7.242, .1086, .1203
Li6707,670.784 { 50},Y_3710,ppm, .0006,.0010,175.9, -.0001, .0012
Mg2790,279.079 {121},Y_3710,ppm, .0139,.0023,16.21, .0123, .0155
Mn2576,257.610 {131},Y_3600,ppm, .0000,.0000,78.83, .0000, .0000
Mo2020,202.030 {467},Y_2243,ppm, .0001,.0001,175.8, -.0000, .0002
Na5895,589.592 { 57},Y_3710,ppm, .7255,.0036,.4984, .7229, .7281
Ni2316,231.604 {445},In2306,ppm, .0002,.0000,20.09, .0002, .0001
P_1782,178.284 {489},In2306,ppm, .0026,.0017,67.81, .0013, .0038
Pb2203,220.353 {453},In2306,ppm, -.0000,.0004,1194., -.0003, .0002
S_1820,182.034 {485},Y_2243,ppm, .0101,.0011,10.94, .0093, .0109
Sb2068,206.833 {463},Y_2243,ppm, -.0001,.0000,25.79, -.0001, -.0001
Se1960,196.090 {472},Y_2243,ppm, .0009,.0011,121.1, .0016, .0001
Si2516,251.611 {134},Y_3710,ppm, .1813,.0028,1.545, .1793, .1833
Sn1899,189.989 {477},In2306,ppm, -.0001,.0001,148.4, -.0001, .0000
Sr4215,421.552 { 80},Y_3710,ppm, .0003,.0001,25.87, .0002, .0003
Ti3349,334.904 {101},Y_3600,ppm, .0001,.0001,111.5, .0000, .0002
Tl1908,190.856 {477},In2306,ppm, -.0002,.0010,562.1, -.0008, .0005
U_3670,367.007 { 92},Y_3600,ppm, -.2455,.0656,26.74, -.2919, -.1991
V_2924,292.402 {115},Y_3600,ppm, -.0002,.0001,64.95, -.0001, -.0003
W_2397,239.709 {140},Y_2243,ppm, -.0252,.0071,28.11, -.0303, -.0202
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Zn2062,206.200 {463},In2306,ppm, .0032,.0000,.8306, .0033, .0032

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 249.93,2.6806,1.0725,251.83,248.04
In2306,230.606 {446},Cts/S, 15783.,23.340,.14788,15799.,15766.
Y_2243,224.306 {450},Cts/S, 24799.,113.91,.45933,24880.,24719.
Y_3600,360.073 { 94},Cts/S, 209270.,874.56,.41791,209890.,208650.
Y_3710,371.030 { 91},Cts/S, 12142.,96.696,.79640,12073.,12210.

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Ag3280,328.068 {103},Y_3600,ppm, .4531,.0565,12.47, .4930, .4131
Al3082,308.215 {109},In2306,ppm, 20.25,.0459,.2268, 20.28, 20.22
As1890,189.042 {478},Y_2243,ppm, .9984,.0024,.2448, 1.000, .9967
B_2496,249.678 {135},Y_3710,ppm, 1.028,.0167,1.624, 1.016, 1.040
Ba4554,455.403 { 74},Y_3710,ppm, 1.017,.0044,.4355, 1.014, 1.020
Be3130,313.042 {108},Y_3710,ppm, 1.001,.0044,.4397, .9984, 1.005
Ca3158,315.887 {107},In2306,ppm, 19.68,.1341,.6815, 19.77, 19.58
Cd2288,228.802 {447},Y_2243,ppm, .9758,.0045,.4574, .9790, .9727
Co2286,228.616 {447},In2306,ppm, .9908,.0034,.3433, .9932, .9884
Cr2677,267.716 {126},Y_3600,ppm, .8861,.1079,12.18, .9625, .8098
Cu3247,324.754 {104},Y_3600,ppm, .8943,.1129,12.62, .9741, .8145
Fe2404,240.488 {140},In2306,ppm, 20.02,.0906,.4524, 20.08, 19.95
K_7664,766.490 { 44},Y_3710,ppm, 20.05,.0475,.2368, 20.02, 20.08
Li6707,670.784 { 50},Y_3710,ppm, .9935,.0017,.1703, .9923, .9947
Mg2790,279.079 {121},Y_3710,ppm, 20.93,.0349,.1670, 20.90, 20.95
Mn2576,257.610 {131},Y_3600,ppm, .9241,.1166,12.62, 1.007, .8417
Mo2020,202.030 {467},Y_2243,ppm, .9939,.0033,.3361, .9963, .9915
Na5895,589.592 { 57},Y_3710,ppm, 20.11,.0811,.4030, 20.06, 20.17
Ni2316,231.604 {445},In2306,ppm, 1.028,.0038,.3717, 1.031, 1.026
P_1782,178.284 {489},In2306,ppm, 10.74,.0312,.2904, 10.76, 10.72
Pb2203,220.353 {453},In2306,ppm, 1.027,.0049,.4740, 1.030, 1.023
S_1820,182.034 {485},Y_2243,ppm, 7.326,.0140,.1905, 7.335, 7.316
Sb2068,206.833 {463},Y_2243,ppm, 2.138,.0007,.0309, 2.137, 2.138
Se1960,196.090 {472},Y_2243,ppm, .9791,.0033,.3368, .9815, .9768
Si2516,251.611 {134},Y_3710,ppm, 9.295,.0927,.9968, 9.230, 9.361
Sn1899,189.989 {477},In2306,ppm, 1.040,.0051,.4880, 1.043, 1.036
Sr4215,421.552 { 80},Y_3710,ppm, 1.005,.0047,.4676, 1.002, 1.009
Ti3349,334.904 {101},Y_3600,ppm, .8990,.1154,12.84, .9806, .8173
Tl1908,190.856 {477},In2306,ppm, 1.132,.0085,.7524, 1.138, 1.126
U_3670,367.007 { 92},Y_3600,ppm, .5796,.1220,21.05, .6658, .4933
V_2924,292.402 {115},Y_3600,ppm, .8914,.1118,12.54, .9705, .8124
W_2397,239.709 {140},Y_2243,ppm, 1.132,.0060,.5311, 1.128, 1.137
Zn2062,206.200 {463},In2306,ppm, 1.024,.0054,.5281, 1.028, 1.020

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 241.74,2.6062,1.0781,239.90,243.59
In2306,230.606 {446},Cts/S, 14134.,43.561,.30820,14103.,14165.
Y_2243,224.306 {450},Cts/S, 23927.,66.511,.27797,23880.,23974.
Y_3600,360.073 { 94},Cts/S, 213360.,20457.,9.5882,198890.,227820.
Y_3710,371.030 { 91},Cts/S, 12145.,3.8437,.03165,12148.,12143.
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Ag3280,328.068 {103},Y_3600,ppm,s .0104,.0012,11.21, .0096,s .0113
Al3082,308.215 {109},In2306,ppm,k .1773,.0011,.6441, .1781,k .1765
As1890,189.042 {478},Y_2243,ppm,k .0214,.0008,3.595, .0220,k .0209
B_2496,249.678 {135},Y_3710,ppm, .2295,.0036,1.548, .2270, .2320
Ba4554,455.403 { 74},Y_3710,ppm, .0226,.0002,.8637, .0227, .0224
Be3130,313.042 {108},Y_3710,ppm,k .0115,.0002,1.648, .0116,k .0114
Ca3158,315.887 {107},In2306,ppm, 1.027,.0280,2.723, 1.007, 1.046
Cd2288,228.802 {447},Y_2243,ppm,k .0110,.0001,1.319, .0109,k .0111
Co2286,228.616 {447},In2306,ppm,k .0105,.0001,.6205, .0105,k .0106
Cr2677,267.716 {126},Y_3600,ppm,s .0124,.0019,15.13, .0111,s .0137
Cu3247,324.754 {104},Y_3600,ppm,s .0150,.0044,29.27, .0119,s .0181
Fe2404,240.488 {140},In2306,ppm, .2075,.0143,6.873, .1974, .2176
K_7664,766.490 { 44},Y_3710,ppm, 1.165,.0019,.1627, 1.166, 1.163
Li6707,670.784 { 50},Y_3710,ppm, .0100,.0008,8.173, .0105, .0094
Mg2790,279.079 {121},Y_3710,ppm, 1.134,.0141,1.247, 1.144, 1.124
Mn2576,257.610 {131},Y_3600,ppm,s .0126,.0019,15.28, .0112,s .0140
Mo2020,202.030 {467},Y_2243,ppm, .0229,.0001,.3957, .0229, .0228
Na5895,589.592 { 57},Y_3710,ppm, 1.165,.0021,.1760, 1.163, 1.166
Ni2316,231.604 {445},In2306,ppm,k .0115,.0001,.7279, .0114,k .0115
P_1782,178.284 {489},In2306,ppm, 1.024,.0033,.3246, 1.022, 1.027
Pb2203,220.353 {453},In2306,ppm,k .0108,.0002,2.194, .0106,k .0110
S_1820,182.034 {485},Y_2243,ppm, .3530,.0018,.5048, .3517, .3542
Sb2068,206.833 {463},Y_2243,ppm,k .0550,.0020,3.584, .0564,k .0536
Se1960,196.090 {472},Y_2243,ppm, .0214,.0004,1.828, .0211, .0216
Si2516,251.611 {134},Y_3710,ppm, .2234,.0088,3.926, .2172, .2296
Sn1899,189.989 {477},In2306,ppm, .0213,.0001,.4977, .0213, .0212
Sr4215,421.552 { 80},Y_3710,ppm, .0116,.0000,.3161, .0117, .0116
Ti3349,334.904 {101},Y_3600,ppm,s .0123,.0022,17.80, .0107,s .0138
Tl1908,190.856 {477},In2306,ppm,k .0430,.0016,3.637, .0441,k .0419
U_3670,367.007 { 92},Y_3600,ppm,s -.0539,.1294,240.0, -.1454,s .0376
V_2924,292.402 {115},Y_3600,ppm,s .0114,.0013,11.68, .0104,s .0123
W_2397,239.709 {140},Y_2243,ppm, .0615,.0169,27.51, .0495, .0734
Zn2062,206.200 {463},In2306,ppm,k .0189,.0001,.6041, .0188,k .0190

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 249.75,2.9373,1.1761,251.83,247.67
In2306,230.606 {446},Cts/S, 15643.,26.210,.16755,15624.,15661.
Y_2243,224.306 {450},Cts/S, 24731.,90.150,.36452,24667.,24795.
Y_3600,360.073 { 94},Cts/S,^ *****,-----,-----,208160.,^-----
Y_3710,371.030 { 91},Cts/S, 12245.,9.7200,.07938,12238.,12252.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0094,.0000,.4437, .0094, .0093
Al3082,308.215 {109},In2306,ppm, .2013,.0285,14.14, .1812, .2214
As1890,189.042 {478},Y_2243,ppm, .0214,.0008,3.660, .0220, .0209
B_2496,249.678 {135},Y_3710,ppm, .2095,.0061,2.887, .2053, .2138
Ba4554,455.403 { 74},Y_3710,ppm, .0222,.0002,.7793, .0221, .0223
Be3130,313.042 {108},Y_3710,ppm, .0111,.0000,.2325, .0111, .0111
Ca3158,315.887 {107},In2306,ppm, .9992,.0085,.8543, .9932, 1.005
Cd2288,228.802 {447},Y_2243,ppm, .0107,.0001,1.321, .0106, .0108
Co2286,228.616 {447},In2306,ppm, .0105,.0001,.7363, .0105, .0106
Cr2677,267.716 {126},Y_3600,ppm, .0106,.0002,1.586, .0105, .0107
Cu3247,324.754 {104},Y_3600,ppm, .0120,.0001,.4167, .0120, .0121
Fe2404,240.488 {140},In2306,ppm, .2118,.0038,1.815, .2091, .2145
K_7664,766.490 { 44},Y_3710,ppm, 1.121,.0096,.8563, 1.128, 1.114
Li6707,670.784 { 50},Y_3710,ppm, .0115,.0002,2.029, .0113, .0117
Mg2790,279.079 {121},Y_3710,ppm, 1.105,.0529,4.790, 1.068, 1.143
Mn2576,257.610 {131},Y_3600,ppm, .0111,.0000,.1840, .0111, .0111
Mo2020,202.030 {467},Y_2243,ppm, .0219,.0001,.6597, .0220, .0218
Na5895,589.592 { 57},Y_3710,ppm, 1.136,.0033,.2906, 1.134, 1.139
Ni2316,231.604 {445},In2306,ppm, .0112,.0003,2.822, .0114, .0110
P_1782,178.284 {489},In2306,ppm, 1.018,.0002,.0197, 1.018, 1.018
Pb2203,220.353 {453},In2306,ppm, .0106,.0001,1.331, .0108, .0105
S_1820,182.034 {485},Y_2243,ppm, .3517,.0023,.6515, .3534, .3501
Sb2068,206.833 {463},Y_2243,ppm, .0550,.0007,1.307, .0545, .0555
Se1960,196.090 {472},Y_2243,ppm, .0215,.0002,.9761, .0214, .0217
Si2516,251.611 {134},Y_3710,ppm, .1891,.0066,3.491, .1844, .1938
Sn1899,189.989 {477},In2306,ppm, .0215,.0001,.6909, .0214, .0216
Sr4215,421.552 { 80},Y_3710,ppm, .0114,.0000,.1228, .0115, .0114
Ti3349,334.904 {101},Y_3600,ppm, .0107,.0002,2.007, .0105, .0108
Tl1908,190.856 {477},In2306,ppm, .0251,.0025,9.846, .0268, .0233
U_3670,367.007 { 92},Y_3600,ppm, -.1325,.0130,9.815, -.1416, -.1233
V_2924,292.402 {115},Y_3600,ppm, .0103,.0001,1.256, .0102, .0104
W_2397,239.709 {140},Y_2243,ppm, .1345,.0191,14.17, .1211, .1480
Zn2062,206.200 {463},In2306,ppm, .0188,.0001,.5925, .0187, .0188

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 252.57,.03022,.01196,252.55,252.59
In2306,230.606 {446},Cts/S, 15667.,34.712,.22156,15692.,15643.
Y_2243,224.306 {450},Cts/S, 24745.,34.913,.14109,24770.,24720.
Y_3600,360.073 { 94},Cts/S, 208910.,852.80,.40821,208310.,209510.
Y_3710,371.030 { 91},Cts/S, 12403.,23.196,.18702,12386.,12419.

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Custom ID2=
Custom ID3=
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Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0004,.0001,32.49, .0005, .0003
Al3082,308.215 {109},In2306,ppm, -.0155,.0164,105.7, -.0272, -.0039
As1890,189.042 {478},Y_2243,ppm, -.0005,.0005,90.57, -.0009, -.0002
B_2496,249.678 {135},Y_3710,ppm, .0096,.0041,42.76, .0067, .0125
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Ba4554,455.403 { 74},Y_3710,ppm, -.0004,.0000,11.64, -.0004, -.0004
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0001,73.32, -.0001, -.0002
Ca3158,315.887 {107},In2306,ppm, -.0112,.0103,92.42, -.0039, -.0185
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0000,104.8, .0000, .0000
Co2286,228.616 {447},In2306,ppm, -.0001,.0002,123.9, -.0000, -.0002
Cr2677,267.716 {126},Y_3600,ppm, -.0002,.0000,26.93, -.0002, -.0001
Cu3247,324.754 {104},Y_3600,ppm, .0007,.0001,19.01, .0008, .0006
Fe2404,240.488 {140},In2306,ppm, .0094,.0053,56.83, .0056, .0131
K_7664,766.490 { 44},Y_3710,ppm, .0567,.0186,32.75, .0699, .0436
Li6707,670.784 { 50},Y_3710,ppm, -.0002,.0011,571.7, .0006, -.0010
Mg2790,279.079 {121},Y_3710,ppm, .0041,.0061,149.5, .0084, -.0002
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,10.24, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, .0002,.0001,70.46, .0003, .0001
Na5895,589.592 { 57},Y_3710,ppm, .0654,.0012,1.890, .0645, .0662
Ni2316,231.604 {445},In2306,ppm, .0004,.0001,17.43, .0005, .0004
P_1782,178.284 {489},In2306,ppm, .0019,.0002,10.47, .0018, .0021
Pb2203,220.353 {453},In2306,ppm, .0001,.0014,1412., .0011, -.0009
S_1820,182.034 {485},Y_2243,ppm, -.0016,.0022,140.9, -.0000, -.0032
Sb2068,206.833 {463},Y_2243,ppm, .0010,.0013,133.9, .0019, .0001
Se1960,196.090 {472},Y_2243,ppm, .0008,.0007,84.46, .0003, .0014
Si2516,251.611 {134},Y_3710,ppm, .0130,.0107,82.05, .0055, .0206
Sn1899,189.989 {477},In2306,ppm, -.0002,.0002,111.3, -.0003, -.0000
Sr4215,421.552 { 80},Y_3710,ppm, .0002,.0001,31.47, .0001, .0002
Ti3349,334.904 {101},Y_3600,ppm, -.0002,.0001,26.27, -.0002, -.0003
Tl1908,190.856 {477},In2306,ppm, .0099,.0027,27.20, .0080, .0118
U_3670,367.007 { 92},Y_3600,ppm, -.1869,.0018,.9394, -.1856, -.1881
V_2924,292.402 {115},Y_3600,ppm, -.0004,.0001,30.58, -.0003, -.0004
W_2397,239.709 {140},Y_2243,ppm, -.0497,.0251,50.49, -.0674, -.0319
Zn2062,206.200 {463},In2306,ppm, -.0014,.0001,7.888, -.0015, -.0013

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 252.97,2.3623,.93383,251.30,254.64
In2306,230.606 {446},Cts/S, 15886.,35.645,.22438,15861.,15911.
Y_2243,224.306 {450},Cts/S, 24721.,55.148,.22308,24682.,24760.
Y_3600,360.073 { 94},Cts/S, 207940.,17.230,.00829,207930.,207960.
Y_3710,371.030 { 91},Cts/S, 12194.,15.993,.13116,12183.,12205.

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Custom ID3=
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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0002,.0003,112.5, .0004, .0001
Al3082,308.215 {109},In2306,ppm, .9400,.0305,3.248, .9184, .9616
As1890,189.042 {478},Y_2243,ppm, .0001,.0021,1435., -.0013, .0016
B_2496,249.678 {135},Y_3710,ppm, .0369,.0026,6.940, .0387, .0351
Ba4554,455.403 { 74},Y_3710,ppm, .0151,.0001,.9393, .0152, .0150
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,73.32, -.0000, -.0000
Ca3158,315.887 {107},In2306,ppm, 23.24,.1058,.4553, 23.16, 23.31
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0000,4.579, .0002, .0003
Co2286,228.616 {447},In2306,ppm, .0005,.0001,17.69, .0005, .0004
Cr2677,267.716 {126},Y_3600,ppm, .0012,.0001,8.186, .0011, .0012
Cu3247,324.754 {104},Y_3600,ppm, .0042,.0004,9.848, .0045, .0040
Fe2404,240.488 {140},In2306,ppm, .6362,.0029,.4543, .6382, .6341
K_7664,766.490 { 44},Y_3710,ppm, 1.509,.0008,.0511, 1.510, 1.508
Li6707,670.784 { 50},Y_3710,ppm, .0008,.0002,26.92, .0006, .0009
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Mg2790,279.079 {121},Y_3710,ppm, 5.230,.0664,1.270, 5.183, 5.277
Mn2576,257.610 {131},Y_3600,ppm, .0214,.0000,.0266, .0214, .0214
Mo2020,202.030 {467},Y_2243,ppm, .0027,.0001,3.764, .0027, .0028
Na5895,589.592 { 57},Y_3710,ppm, .7436,.0038,.5066, .7463, .7410
Ni2316,231.604 {445},In2306,ppm, .0018,.0000,1.241, .0018, .0018
P_1782,178.284 {489},In2306,ppm, .1351,.0000,.0204, .1351, .1351
Pb2203,220.353 {453},In2306,ppm, .0020,.0006,31.14, .0024, .0015
S_1820,182.034 {485},Y_2243,ppm, 4.395,.0011,.0254, 4.396, 4.394
Sb2068,206.833 {463},Y_2243,ppm, .0026,.0018,68.78, .0039, .0014
Se1960,196.090 {472},Y_2243,ppm, .0008,.0002,23.50, .0007, .0009
Si2516,251.611 {134},Y_3710,ppm, 1.540,.0161,1.049, 1.529, 1.551
Sn1899,189.989 {477},In2306,ppm, -.0007,.0001,21.06, -.0008, -.0006
Sr4215,421.552 { 80},Y_3710,ppm, .0777,.0002,.2951, .0775, .0779
Ti3349,334.904 {101},Y_3600,ppm, .0063,.0000,.0033, .0063, .0063
Tl1908,190.856 {477},In2306,ppm, -.0002,.0009,575.8, .0005, -.0008
U_3670,367.007 { 92},Y_3600,ppm, -.1520,.0066,4.368, -.1567, -.1473
V_2924,292.402 {115},Y_3600,ppm, .0011,.0001,9.607, .0012, .0011
W_2397,239.709 {140},Y_2243,ppm, -.0257,.0126,49.01, -.0168, -.0346
Zn2062,206.200 {463},In2306,ppm, .0273,.0002,.7718, .0275, .0272

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 251.37,1.3196,.52498,250.43,252.30
In2306,230.606 {446},Cts/S, 15098.,36.137,.23935,15072.,15123.
Y_2243,224.306 {450},Cts/S, 24204.,50.740,.20963,24168.,24240.
Y_3600,360.073 { 94},Cts/S, 205670.,856.95,.41666,206280.,205070.
Y_3710,371.030 { 91},Cts/S, 12468.,25.961,.20822,12450.,12486.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0009,.0001,7.954, .0008, .0009
Al3082,308.215 {109},In2306,ppm, -.0124,.0025,19.99, -.0107, -.0142
As1890,189.042 {478},Y_2243,ppm, .0023,.0013,56.72, .0033, .0014
B_2496,249.678 {135},Y_3710,ppm, .0101,.0068,67.35, .0053, .0149
Ba4554,455.403 { 74},Y_3710,ppm, .0934,.0037,3.964, .0908, .0961
Be3130,313.042 {108},Y_3710,ppm, .0000,.0001,602.1, -.0000, .0000
Ca3158,315.887 {107},In2306,ppm, 197.2,8.370,4.244, 191.3, 203.1
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0001,45.83, .0001, .0002
Co2286,228.616 {447},In2306,ppm, .0000,.0000,39.40, .0001, .0000
Cr2677,267.716 {126},Y_3600,ppm, .0003,.0001,35.69, .0002, .0004
Cu3247,324.754 {104},Y_3600,ppm, .0020,.0000,2.376, .0019, .0020
Fe2404,240.488 {140},In2306,ppm, .0164,.0028,17.31, .0144, .0184
K_7664,766.490 { 44},Y_3710,ppm, .9760,.0210,2.152, .9611, .9908
Li6707,670.784 { 50},Y_3710,ppm, .0045,.0001,2.792, .0046, .0044
Mg2790,279.079 {121},Y_3710,ppm, 1.857,.0533,2.873, 1.819, 1.894
Mn2576,257.610 {131},Y_3600,ppm, .0577,.0002,.3961, .0578, .0575
Mo2020,202.030 {467},Y_2243,ppm, -.0002,.0003,184.4, .0000, -.0004
Na5895,589.592 { 57},Y_3710,ppm, .4200,.0087,2.062, .4139, .4261
Ni2316,231.604 {445},In2306,ppm, .0006,.0006,104.9, .0001, .0010
P_1782,178.284 {489},In2306,ppm, .0796,.0016,2.063, .0784, .0807
Pb2203,220.353 {453},In2306,ppm, .0018,.0013,71.21, .0009, .0027
S_1820,182.034 {485},Y_2243,ppm, 3.818,.0051,.1338, 3.821, 3.814
Sb2068,206.833 {463},Y_2243,ppm, .0006,.0011,196.2, .0014, -.0002
Se1960,196.090 {472},Y_2243,ppm, -.0004,.0003,69.36, -.0002, -.0007
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Si2516,251.611 {134},Y_3710,ppm, .5228,.0341,6.523, .4987, .5469
Sn1899,189.989 {477},In2306,ppm, .0000,.0002,520.0, .0002, -.0001
Sr4215,421.552 { 80},Y_3710,ppm, .4754,.0168,3.536, .4636, .4873
Ti3349,334.904 {101},Y_3600,ppm, .0016,.0000,2.683, .0016, .0015
Tl1908,190.856 {477},In2306,ppm, -.0007,.0020,299.5, .0008, -.0021
U_3670,367.007 { 92},Y_3600,ppm, -.1491,.0092,6.187, -.1556, -.1426
V_2924,292.402 {115},Y_3600,ppm, .0008,.0006,81.37, .0003, .0012
W_2397,239.709 {140},Y_2243,ppm, -.0389,.0098,25.11, -.0320, -.0458
Zn2062,206.200 {463},In2306,ppm, .0162,.0000,.0528, .0162, .0162

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 245.97,9.1390,3.7155,252.43,239.50
In2306,230.606 {446},Cts/S, 13746.,12.972,.09437,13737.,13755.
Y_2243,224.306 {450},Cts/S, 23047.,4.3650,.01894,23044.,23050.
Y_3600,360.073 { 94},Cts/S, 195070.,341.51,.17507,194820.,195310.
Y_3710,371.030 { 91},Cts/S, 12391.,323.13,2.6078,12620.,12163.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0009,.0003,33.81, .0007, .0011
Al3082,308.215 {109},In2306,ppm, -.0010,.0040,418.0, .0019, -.0038
As1890,189.042 {478},Y_2243,ppm, .0038,.0010,26.60, .0031, .0045
B_2496,249.678 {135},Y_3710,ppm, .0059,.0002,4.263, .0057, .0060
Ba4554,455.403 { 74},Y_3710,ppm, .0951,.0009,.9128, .0944, .0957
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,235.5, -.0001, .0000
Ca3158,315.887 {107},In2306,ppm, 199.1,.0462,.0232, 199.1, 199.0
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0001,36.58, .0002, .0003
Co2286,228.616 {447},In2306,ppm, .0002,.0001,50.31, .0001, .0003
Cr2677,267.716 {126},Y_3600,ppm, .0006,.0001,13.70, .0005, .0006
Cu3247,324.754 {104},Y_3600,ppm, .0023,.0004,18.47, .0020, .0025
Fe2404,240.488 {140},In2306,ppm, .0062,.0049,79.24, .0097, .0027
K_7664,766.490 { 44},Y_3710,ppm, 1.000,.0175,1.750, .9878, 1.013
Li6707,670.784 { 50},Y_3710,ppm, .0043,.0009,20.62, .0050, .0037
Mg2790,279.079 {121},Y_3710,ppm, 1.888,.0707,3.742, 1.838, 1.938
Mn2576,257.610 {131},Y_3600,ppm, .0573,.0002,.3519, .0575, .0572
Mo2020,202.030 {467},Y_2243,ppm, -.0002,.0000,10.19, -.0003, -.0002
Na5895,589.592 { 57},Y_3710,ppm, .4243,.0035,.8139, .4268, .4219
Ni2316,231.604 {445},In2306,ppm, .0005,.0000,6.768, .0005, .0005
P_1782,178.284 {489},In2306,ppm, .0815,.0017,2.084, .0803, .0827
Pb2203,220.353 {453},In2306,ppm, .0026,.0001,3.413, .0026, .0025
S_1820,182.034 {485},Y_2243,ppm, 3.803,.0102,.2670, 3.810, 3.796
Sb2068,206.833 {463},Y_2243,ppm, .0017,.0010,56.04, .0024, .0010
Se1960,196.090 {472},Y_2243,ppm, -.0011,.0037,322.5, .0015, -.0038
Si2516,251.611 {134},Y_3710,ppm, .5303,.0002,.0334, .5302, .5305
Sn1899,189.989 {477},In2306,ppm, -.0004,.0003,66.09, -.0006, -.0002
Sr4215,421.552 { 80},Y_3710,ppm, .4833,.0030,.6236, .4811, .4854
Ti3349,334.904 {101},Y_3600,ppm, .0013,.0002,13.14, .0014, .0012
Tl1908,190.856 {477},In2306,ppm, .0062,.0003,4.209, .0063, .0060
U_3670,367.007 { 92},Y_3600,ppm, -.1300,.0133,10.24, -.1206, -.1395
V_2924,292.402 {115},Y_3600,ppm, .0006,.0005,84.05, .0002, .0009
W_2397,239.709 {140},Y_2243,ppm, -.0638,.0289,45.34, -.0434, -.0843
Zn2062,206.200 {463},In2306,ppm, .0157,.0001,.4870, .0156, .0157
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[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 243.30,1.5175,.62373,242.23,244.38
In2306,230.606 {446},Cts/S, 13769.,22.583,.16401,13753.,13785.
Y_2243,224.306 {450},Cts/S, 23098.,72.684,.31468,23046.,23149.
Y_3600,360.073 { 94},Cts/S, 195770.,1371.8,.70072,194800.,196740.
Y_3710,371.030 { 91},Cts/S, 12192.,22.934,.18810,12209.,12176.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2545,.0007,.2903, .2551, .2540
Al3082,308.215 {109},In2306,ppm, 10.72,.1373,1.281, 10.62, 10.82
As1890,189.042 {478},Y_2243,ppm, 1.029,.0093,.9007, 1.022, 1.035
B_2496,249.678 {135},Y_3710,ppm, .5251,.0042,.7958, .5222, .5281
Ba4554,455.403 { 74},Y_3710,ppm, 1.124,.0068,.6042, 1.119, 1.129
Be3130,313.042 {108},Y_3710,ppm, 1.019,.0056,.5487, 1.015, 1.023
Ca3158,315.887 {107},In2306,ppm, 210.7,2.629,1.248, 208.8, 212.5
Cd2288,228.802 {447},Y_2243,ppm, .9939,.0069,.6897, .9891, .9987
Co2286,228.616 {447},In2306,ppm, 1.001,.0057,.5730, .9974, 1.006
Cr2677,267.716 {126},Y_3600,ppm, .9479,.0087,.9148, .9540, .9418
Cu3247,324.754 {104},Y_3600,ppm, .9955,.0028,.2795, .9975, .9935
Fe2404,240.488 {140},In2306,ppm, 10.21,.1646,1.612, 10.10, 10.33
K_7664,766.490 { 44},Y_3710,ppm, 11.51,.1342,1.166, 11.42, 11.61
Li6707,670.784 { 50},Y_3710,ppm, 1.034,.0089,.8635, 1.027, 1.040
Mg2790,279.079 {121},Y_3710,ppm, 12.22,.0550,.4503, 12.18, 12.26
Mn2576,257.610 {131},Y_3600,ppm, 1.046,.0058,.5547, 1.050, 1.042
Mo2020,202.030 {467},Y_2243,ppm, .9966,.0059,.5963, .9924, 1.001
Na5895,589.592 { 57},Y_3710,ppm, 10.99,.0158,.1439, 10.98, 11.00
Ni2316,231.604 {445},In2306,ppm, 1.037,.0075,.7266, 1.031, 1.042
P_1782,178.284 {489},In2306,ppm, 5.991,.0273,.4557, 5.972, 6.010
Pb2203,220.353 {453},In2306,ppm, 1.031,.0032,.3056, 1.029, 1.034
S_1820,182.034 {485},Y_2243,ppm, 7.730,.0323,.4185, 7.707, 7.753
Sb2068,206.833 {463},Y_2243,ppm, 1.645,.0043,.2602, 1.642, 1.648
Se1960,196.090 {472},Y_2243,ppm, 1.006,.0020,.1973, 1.005, 1.008
Si2516,251.611 {134},Y_3710,ppm, 9.247,.0696,.7525, 9.198, 9.296
Sn1899,189.989 {477},In2306,ppm, 1.049,.0030,.2821, 1.047, 1.051
Sr4215,421.552 { 80},Y_3710,ppm, 1.499,.0096,.6417, 1.492, 1.506
Ti3349,334.904 {101},Y_3600,ppm, .9840,.0051,.5217, .9877, .9804
Tl1908,190.856 {477},In2306,ppm, 1.027,.0100,.9700, 1.020, 1.034
U_3670,367.007 { 92},Y_3600,ppm, .3253,.0162,4.986, .3368, .3139
V_2924,292.402 {115},Y_3600,ppm, .9720,.0065,.6674, .9766, .9674
W_2397,239.709 {140},Y_2243,ppm, .3562,.0113,3.177, .3482, .3642
Zn2062,206.200 {463},In2306,ppm, .5413,.0008,.1413, .5408, .5418

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 238.61,1.2291,.51513,239.48,237.74
In2306,230.606 {446},Cts/S, 13395.,68.014,.50774,13444.,13347.
Y_2243,224.306 {450},Cts/S, 23167.,128.35,.55401,23258.,23076.
Y_3600,360.073 { 94},Cts/S, 194640.,47.391,.02435,194670.,194600.
Y_3710,371.030 { 91},Cts/S, 12142.,28.673,.23615,12121.,12162.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2544,.0063,2.478, .2588, .2499
Al3082,308.215 {109},In2306,ppm, 10.95,.1881,1.718, 10.82, 11.08
As1890,189.042 {478},Y_2243,ppm, 1.041,.0150,1.443, 1.051, 1.030
B_2496,249.678 {135},Y_3710,ppm, .5415,.0024,.4500, .5432, .5397
Ba4554,455.403 { 74},Y_3710,ppm, 1.142,.0045,.3943, 1.139, 1.145
Be3130,313.042 {108},Y_3710,ppm, 1.036,.0048,.4602, 1.033, 1.039
Ca3158,315.887 {107},In2306,ppm, 215.3,4.085,1.898, 212.4, 218.1
Cd2288,228.802 {447},Y_2243,ppm, 1.004,.0181,1.802, 1.016, .9907
Co2286,228.616 {447},In2306,ppm, 1.007,.0154,1.532, 1.017, .9956
Cr2677,267.716 {126},Y_3600,ppm, .9476,.0282,2.975, .9675, .9276
Cu3247,324.754 {104},Y_3600,ppm, .9983,.0315,3.158, 1.021, .9760
Fe2404,240.488 {140},In2306,ppm, 10.43,.2176,2.086, 10.28, 10.59
K_7664,766.490 { 44},Y_3710,ppm, 11.73,.0434,.3698, 11.70, 11.76
Li6707,670.784 { 50},Y_3710,ppm, 1.052,.0019,.1796, 1.051, 1.053
Mg2790,279.079 {121},Y_3710,ppm, 12.33,.0561,.4552, 12.29, 12.37
Mn2576,257.610 {131},Y_3600,ppm, 1.044,.0283,2.713, 1.064, 1.024
Mo2020,202.030 {467},Y_2243,ppm, 1.008,.0174,1.729, 1.020, .9954
Na5895,589.592 { 57},Y_3710,ppm, 11.11,.0116,.1042, 11.10, 11.12
Ni2316,231.604 {445},In2306,ppm, 1.042,.0137,1.316, 1.052, 1.033
P_1782,178.284 {489},In2306,ppm, 6.042,.0953,1.577, 6.110, 5.975
Pb2203,220.353 {453},In2306,ppm, 1.034,.0155,1.494, 1.045, 1.023
S_1820,182.034 {485},Y_2243,ppm, 7.745,.1159,1.496, 7.827, 7.663
Sb2068,206.833 {463},Y_2243,ppm, 1.664,.0225,1.352, 1.680, 1.648
Se1960,196.090 {472},Y_2243,ppm, 1.018,.0190,1.871, 1.031, 1.004
Si2516,251.611 {134},Y_3710,ppm, 9.432,.0427,.4522, 9.402, 9.463
Sn1899,189.989 {477},In2306,ppm, 1.053,.0160,1.522, 1.065, 1.042
Sr4215,421.552 { 80},Y_3710,ppm, 1.523,.0064,.4188, 1.519, 1.528
Ti3349,334.904 {101},Y_3600,ppm, .9825,.0272,2.769, 1.002, .9632
Tl1908,190.856 {477},In2306,ppm, 1.100,.0126,1.141, 1.109, 1.091
U_3670,367.007 { 92},Y_3600,ppm, .3353,.0729,21.75, .3869, .2838
V_2924,292.402 {115},Y_3600,ppm, .9689,.0272,2.804, .9881, .9497
W_2397,239.709 {140},Y_2243,ppm, .4536,.0217,4.779, .4383, .4690
Zn2062,206.200 {463},In2306,ppm, .5395,.0065,1.199, .5440, .5349

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 238.97,4.1799,1.7492,241.92,236.01
In2306,230.606 {446},Cts/S, 13361.,152.40,1.1406,13254.,13469.
Y_2243,224.306 {450},Cts/S, 23076.,271.93,1.1784,22883.,23268.
Y_3600,360.073 { 94},Cts/S, 195820.,3952.6,2.0185,193030.,198620.
Y_3710,371.030 { 91},Cts/S, 12270.,76.685,.62497,12324.,12216.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0012,.0003,22.13, .0014, .0010
Al3082,308.215 {109},In2306,ppm, -.0011,.0100,942.6, .0060, -.0082
As1890,189.042 {478},Y_2243,ppm, .0029,.0001,2.026, .0028, .0029
B_2496,249.678 {135},Y_3710,ppm, .0192,.0011,5.497, .0199, .0184
Ba4554,455.403 { 74},Y_3710,ppm, .0861,.0019,2.167, .0848, .0875
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,23.53, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, 205.9,2.727,1.325, 203.9, 207.8
Cd2288,228.802 {447},Y_2243,ppm, .0003,.0000,11.20, .0003, .0003
Co2286,228.616 {447},In2306,ppm, .0002,.0001,30.90, .0003, .0002
Cr2677,267.716 {126},Y_3600,ppm, .0005,.0001,13.11, .0005, .0004
Cu3247,324.754 {104},Y_3600,ppm, .0022,.0001,5.696, .0021, .0022
Fe2404,240.488 {140},In2306,ppm, .0131,.0017,13.18, .0119, .0144
K_7664,766.490 { 44},Y_3710,ppm, 2.016,.0917,4.551, 1.951, 2.081
Li6707,670.784 { 50},Y_3710,ppm, .0043,.0011,24.69, .0035, .0050
Mg2790,279.079 {121},Y_3710,ppm, 2.545,.0563,2.212, 2.506, 2.585
Mn2576,257.610 {131},Y_3600,ppm, .0565,.0005,.8663, .0561, .0568
Mo2020,202.030 {467},Y_2243,ppm, .0007,.0000,.9839, .0007, .0007
Na5895,589.592 { 57},Y_3710,ppm, .9939,.0226,2.269, .9780, 1.010
Ni2316,231.604 {445},In2306,ppm, .0006,.0001,17.10, .0005, .0007
P_1782,178.284 {489},In2306,ppm, .2541,.0034,1.319, .2565, .2517
Pb2203,220.353 {453},In2306,ppm, .0014,.0007,51.81, .0009, .0019
S_1820,182.034 {485},Y_2243,ppm, .9585,.0025,.2638, .9602, .9567
Sb2068,206.833 {463},Y_2243,ppm, .0010,.0017,179.7, .0022, -.0003
Se1960,196.090 {472},Y_2243,ppm, .0007,.0019,276.0, .0020, -.0006
Si2516,251.611 {134},Y_3710,ppm, .7490,.0080,1.064, .7433, .7546
Sn1899,189.989 {477},In2306,ppm, -.0001,.0001,80.26, -.0002, -.0000
Sr4215,421.552 { 80},Y_3710,ppm, .4428,.0078,1.753, .4373, .4483
Ti3349,334.904 {101},Y_3600,ppm, .0018,.0003,17.51, .0016, .0020
Tl1908,190.856 {477},In2306,ppm, .0584,.0056,9.534, .0623, .0544
U_3670,367.007 { 92},Y_3600,ppm, -.1383,.0334,24.13, -.1147, -.1619
V_2924,292.402 {115},Y_3600,ppm, .0004,.0003,81.34, .0002, .0006
W_2397,239.709 {140},Y_2243,ppm, -.0123,.0559,453.5, -.0519, .0272
Zn2062,206.200 {463},In2306,ppm, .0100,.0000,.1300, .0100, .0100

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 244.95,2.5773,1.0522,246.77,243.13
In2306,230.606 {446},Cts/S, 13728.,63.534,.46280,13683.,13773.
Y_2243,224.306 {450},Cts/S, 22974.,95.458,.41550,22907.,23042.
Y_3600,360.073 { 94},Cts/S, 195870.,844.98,.43139,196470.,195280.
Y_3710,371.030 { 91},Cts/S, 12262.,220.04,1.7944,12418.,12106.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0005,.0001,11.32, .0004, .0005
Al3082,308.215 {109},In2306,ppm, -.0074,.0101,136.3, -.0145, -.0003
As1890,189.042 {478},Y_2243,ppm, .0027,.0000,1.757, .0027, .0028
B_2496,249.678 {135},Y_3710,ppm, .0082,.0006,6.731, .0078, .0086
Ba4554,455.403 { 74},Y_3710,ppm, .1421,.0002,.1061, .1422, .1420
Be3130,313.042 {108},Y_3710,ppm, .0000,.0001,8412., -.0001, .0001

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Ca3158,315.887 {107},In2306,ppm, 197.7,1.891,.9568, 196.3, 199.0
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0001,47.59, .0003, .0002
Co2286,228.616 {447},In2306,ppm, .0002,.0000,30.48, .0001, .0002
Cr2677,267.716 {126},Y_3600,ppm, .0005,.0001,14.20, .0004, .0005
Cu3247,324.754 {104},Y_3600,ppm, .0019,.0000,1.649, .0019, .0019
Fe2404,240.488 {140},In2306,ppm, .0057,.0006,10.39, .0061, .0053
K_7664,766.490 { 44},Y_3710,ppm, .8978,.0185,2.057, .9108, .8847
Li6707,670.784 { 50},Y_3710,ppm, .0039,.0003,7.221, .0037, .0041
Mg2790,279.079 {121},Y_3710,ppm, 1.498,.0134,.8975, 1.508, 1.489
Mn2576,257.610 {131},Y_3600,ppm, .0419,.0003,.6988, .0417, .0421
Mo2020,202.030 {467},Y_2243,ppm, .0002,.0001,52.23, .0002, .0001
Na5895,589.592 { 57},Y_3710,ppm, .7504,.0016,.2146, .7515, .7492
Ni2316,231.604 {445},In2306,ppm, .0002,.0002,103.3, .0001, .0004
P_1782,178.284 {489},In2306,ppm, .0705,.0006,.8745, .0710, .0701
Pb2203,220.353 {453},In2306,ppm, .0008,.0006,71.50, .0004, .0012
S_1820,182.034 {485},Y_2243,ppm, .6157,.0066,1.076, .6204, .6110
Sb2068,206.833 {463},Y_2243,ppm, .0019,.0012,63.65, .0010, .0028
Se1960,196.090 {472},Y_2243,ppm, -.0017,.0017,102.4, -.0028, -.0005
Si2516,251.611 {134},Y_3710,ppm, .5324,.0019,.3544, .5310, .5337
Sn1899,189.989 {477},In2306,ppm, -.0005,.0001,27.43, -.0004, -.0006
Sr4215,421.552 { 80},Y_3710,ppm, .4335,.0012,.2773, .4327, .4344
Ti3349,334.904 {101},Y_3600,ppm, .0013,.0001,4.653, .0012, .0013
Tl1908,190.856 {477},In2306,ppm, .0175,.0013,7.636, .0185, .0166
U_3670,367.007 { 92},Y_3600,ppm, -.1704,.0549,32.19, -.2092, -.1317
V_2924,292.402 {115},Y_3600,ppm, .0003,.0002,50.13, .0002, .0005
W_2397,239.709 {140},Y_2243,ppm, -.0270,.0596,221.0, .0152, -.0691
Zn2062,206.200 {463},In2306,ppm, .0082,.0000,.1408, .0082, .0082

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 243.81,1.9036,.78078,245.16,242.47
In2306,230.606 {446},Cts/S, 13772.,4.6505,.03377,13775.,13769.
Y_2243,224.306 {450},Cts/S, 23031.,36.379,.15796,23057.,23005.
Y_3600,360.073 { 94},Cts/S, 196890.,397.04,.20166,196610.,197170.
Y_3710,371.030 { 91},Cts/S, 12264.,47.944,.39094,12298.,12230.

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Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0001,211.8, .0000, -.0001
Al3082,308.215 {109},In2306,ppm, -.0074,.0030,40.69, -.0052, -.0095
As1890,189.042 {478},Y_2243,ppm, .0036,.0004,10.05, .0033, .0038
B_2496,249.678 {135},Y_3710,ppm, .0118,.0011,9.174, .0126, .0110
Ba4554,455.403 { 74},Y_3710,ppm, .1578,.0012,.7291, .1570, .1586
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,23.20, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, 217.0,.3043,.1402, 216.8, 217.2
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,4.323, .0001, .0001
Co2286,228.616 {447},In2306,ppm, .0003,.0000,5.965, .0003, .0003
Cr2677,267.716 {126},Y_3600,ppm, .0005,.0002,44.38, .0006, .0003
Cu3247,324.754 {104},Y_3600,ppm, .0020,.0004,20.73, .0022, .0017
Fe2404,240.488 {140},In2306,ppm, .0145,.0037,25.68, .0172, .0119
K_7664,766.490 { 44},Y_3710,ppm, .8594,.0083,.9635, .8652, .8535
Li6707,670.784 { 50},Y_3710,ppm, .0047,.0005,10.05, .0044, .0051
Mg2790,279.079 {121},Y_3710,ppm, 2.214,.0698,3.154, 2.165, 2.263
Mn2576,257.610 {131},Y_3600,ppm, .0638,.0001,.1597, .0637, .0639
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Mo2020,202.030 {467},Y_2243,ppm, .0001,.0000,21.24, .0001, .0001
Na5895,589.592 { 57},Y_3710,ppm, .8902,.0088,.9867, .8840, .8964
Ni2316,231.604 {445},In2306,ppm, .0010,.0004,41.83, .0007, .0013
P_1782,178.284 {489},In2306,ppm, .0679,.0006,.8799, .0683, .0674
Pb2203,220.353 {453},In2306,ppm, .0025,.0016,62.39, .0036, .0014
S_1820,182.034 {485},Y_2243,ppm, .6249,.0044,.7108, .6281, .6218
Sb2068,206.833 {463},Y_2243,ppm, .0012,.0010,86.61, .0005, .0019
Se1960,196.090 {472},Y_2243,ppm, -.0022,.0028,123.8, -.0042, -.0003
Si2516,251.611 {134},Y_3710,ppm, .5080,.0012,.2285, .5071, .5088
Sn1899,189.989 {477},In2306,ppm, -.0005,.0002,32.43, -.0004, -.0006
Sr4215,421.552 { 80},Y_3710,ppm, .4577,.0012,.2593, .4569, .4585
Ti3349,334.904 {101},Y_3600,ppm, .0014,.0001,5.686, .0013, .0014
Tl1908,190.856 {477},In2306,ppm, .0132,.0007,5.276, .0137, .0127
U_3670,367.007 { 92},Y_3600,ppm, -.1398,.1320,94.40, -.0465, -.2332
V_2924,292.402 {115},Y_3600,ppm, .0012,.0000,1.176, .0012, .0012
W_2397,239.709 {140},Y_2243,ppm, .0036,.0115,324.4, .0117, -.0046
Zn2062,206.200 {463},In2306,ppm, .0101,.0002,1.782, .0102, .0100

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 240.60,.94120,.39118,241.27,239.94
In2306,230.606 {446},Cts/S, 13723.,41.600,.30315,13693.,13752.
Y_2243,224.306 {450},Cts/S, 23004.,126.97,.55194,22914.,23094.
Y_3600,360.073 { 94},Cts/S, 195700.,521.29,.26637,195330.,196070.
Y_3710,371.030 { 91},Cts/S, 12151.,124.19,1.0221,12239.,12063.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .2587,.0003,.1094, .2589, .2585
Al3082,308.215 {109},In2306,ppm, 10.61,.0553,.5212, 10.57, 10.65
As1890,189.042 {478},Y_2243,ppm, 1.057,.0015,.1424, 1.058, 1.056
B_2496,249.678 {135},Y_3710,ppm, .6449,.0012,.1783, .6441, .6457
Ba4554,455.403 { 74},Y_3710,ppm, 2.023,.0031,.1554, 2.020, 2.025
Be3130,313.042 {108},Y_3710,ppm, 1.009,.0014,.1386, 1.010, 1.008
Ca3158,315.887 {107},In2306,ppm, 209.6,.5660,.2701, 210.0, 209.2
Cd2288,228.802 {447},Y_2243,ppm, 1.014,.0001,.0114, 1.014, 1.014
Co2286,228.616 {447},In2306,ppm, 1.021,.0006,.0588, 1.020, 1.021
Cr2677,267.716 {126},Y_3600,ppm, .9464,.0010,.1094, .9472, .9457
Cu3247,324.754 {104},Y_3600,ppm, .9978,.0011,.1068, .9985, .9970
Fe2404,240.488 {140},In2306,ppm, 10.28,.0410,.3990, 10.25, 10.30
K_7664,766.490 { 44},Y_3710,ppm, 51.98,.1305,.2511, 52.08, 51.89
Li6707,670.784 { 50},Y_3710,ppm, 1.196,.0007,.0563, 1.196, 1.195
Mg2790,279.079 {121},Y_3710,ppm, 10.80,.0343,.3179, 10.83, 10.78
Mn2576,257.610 {131},Y_3600,ppm, .9866,.0004,.0404, .9869, .9863
Mo2020,202.030 {467},Y_2243,ppm, .9891,.0005,.0546, .9895, .9887
Na5895,589.592 { 57},Y_3710,ppm, 414.9,7.032,1.695, 419.9, 410.0
Ni2316,231.604 {445},In2306,ppm, 1.055,.0014,.1287, 1.054, 1.056
P_1782,178.284 {489},In2306,ppm, 6.470,.0079,.1224, 6.464, 6.476
Pb2203,220.353 {453},In2306,ppm, 1.036,.0022,.2077, 1.034, 1.037
S_1820,182.034 {485},Y_2243,ppm, 5.539,.0099,.1793, 5.546, 5.532
Sb2068,206.833 {463},Y_2243,ppm, 1.658,.0034,.2041, 1.656, 1.660
Se1960,196.090 {472},Y_2243,ppm, 1.027,.0028,.2742, 1.029, 1.025
Si2516,251.611 {134},Y_3710,ppm, 9.810,.0466,.4749, 9.777, 9.843
Sn1899,189.989 {477},In2306,ppm, 1.067,.0035,.3286, 1.064, 1.069
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Sr4215,421.552 { 80},Y_3710,ppm, 4.684,.0050,.1071, 4.681, 4.688
Ti3349,334.904 {101},Y_3600,ppm, .9752,.0014,.1459, .9742, .9762
Tl1908,190.856 {477},In2306,ppm, 1.112,.0008,.0726, 1.112, 1.113
U_3670,367.007 { 92},Y_3600,ppm, .4256,.0190,4.462, .4122, .4391
V_2924,292.402 {115},Y_3600,ppm, .9667,.0002,.0244, .9669, .9665
W_2397,239.709 {140},Y_2243,ppm, .4790,.0707,14.77, .5291, .4290
Zn2062,206.200 {463},In2306,ppm, .5516,.0033,.5980, .5493, .5540

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 232.94,.76603,.32885,232.40,233.48
In2306,230.606 {446},Cts/S, 12066.,19.232,.15939,12052.,12079.
Y_2243,224.306 {450},Cts/S, 21791.,59.937,.27505,21749.,21833.
Y_3600,360.073 { 94},Cts/S, 182720.,305.80,.16736,182930.,182500.
Y_3710,371.030 { 91},Cts/S, 12036.,67.051,.55709,11989.,12084.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0014,.0001,6.390, .0014, .0013
Al3082,308.215 {109},In2306,ppm, .0005,.0035,713.9, -.0020, .0030
As1890,189.042 {478},Y_2243,ppm, .0014,.0001,9.952, .0013, .0015
B_2496,249.678 {135},Y_3710,ppm, .0359,.0007,1.838, .0364, .0354
Ba4554,455.403 { 74},Y_3710,ppm, .2185,.0084,3.861, .2245, .2125
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,206.9, .0002, -.0000
Ca3158,315.887 {107},In2306,ppm, 42.67,1.277,2.993, 43.58, 41.77
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0000,115.0, .0000, .0000
Co2286,228.616 {447},In2306,ppm, .0000,.0000,10.60, .0000, .0000
Cr2677,267.716 {126},Y_3600,ppm, .0001,.0001,161.5, -.0000, .0002
Cu3247,324.754 {104},Y_3600,ppm, .0015,.0001,4.481, .0015, .0016
Fe2404,240.488 {140},In2306,ppm, .0400,.0042,10.63, .0430, .0370
K_7664,766.490 { 44},Y_3710,ppm, 8.944,.3287,3.675, 9.176, 8.712
Li6707,670.784 { 50},Y_3710,ppm, .0395,.0006,1.501, .0399, .0390
Mg2790,279.079 {121},Y_3710,ppm, .2012,.0003,.1709, .2015, .2010
Mn2576,257.610 {131},Y_3600,ppm, .0030,.0000,.8614, .0030, .0030
Mo2020,202.030 {467},Y_2243,ppm, .0008,.0001,13.65, .0008, .0009
Na5895,589.592 { 57},Y_3710,ppm, 87.56,3.116,3.559, 89.76, 85.36
Ni2316,231.604 {445},In2306,ppm, .0008,.0003,30.98, .0010, .0006
P_1782,178.284 {489},In2306,ppm, .0025,.0005,19.11, .0028, .0021
Pb2203,220.353 {453},In2306,ppm, -.0001,.0008,897.6, .0005, -.0006
S_1820,182.034 {485},Y_2243,ppm, .2783,.0005,.1963, .2787, .2780
Sb2068,206.833 {463},Y_2243,ppm, .0035,.0012,35.39, .0026, .0043
Se1960,196.090 {472},Y_2243,ppm, -.0002,.0020,995.5, -.0016, .0012
Si2516,251.611 {134},Y_3710,ppm, .1739,.0108,6.226, .1815, .1662
Sn1899,189.989 {477},In2306,ppm, .0003,.0002,61.58, .0005, .0002
Sr4215,421.552 { 80},Y_3710,ppm, .7934,.0293,3.691, .8141, .7727
Ti3349,334.904 {101},Y_3600,ppm, .0003,.0002,68.99, .0002, .0005
Tl1908,190.856 {477},In2306,ppm, .0168,.0022,13.09, .0184, .0153
U_3670,367.007 { 92},Y_3600,ppm, -.2459,.0309,12.56, -.2678, -.2241
V_2924,292.402 {115},Y_3600,ppm, -.0003,.0001,21.44, -.0003, -.0004
W_2397,239.709 {140},Y_2243,ppm, -.0156,.0120,77.11, -.0071, -.0240
Zn2062,206.200 {463},In2306,ppm, .0001,.0002,153.5, -.0000, .0002

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
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```
In2306,230.606 {146},Cts/S, 238.33,4.3369,1.8197,235.27,241.40
In2306,230.606 {446},Cts/S, 13864.,46.785,.33746,13831.,13897.
Y_2243,224.306 {450},Cts/S, 23427.,82.603,.35260,23369.,23485.
Y_3600,360.073 { 94},Cts/S, 196190.,332.77,.16962,195950.,196420.
Y_3710,371.030 { 91},Cts/S, 11862.,322.39,2.7178,11634.,12090.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .4876,.0001,.0238, .4875, .4877
Al3082,308.215 {109},In2306,ppm, 20.34,.0725,.3566, 20.29, 20.39
As1890,189.042 {478},Y_2243,ppm, .9970,.0006,.0567, .9974, .9966
B_2496,249.678 {135},Y_3710,ppm, 1.025,.0000,.0046, 1.025, 1.025
Ba4554,455.403 { 74},Y_3710,ppm, 1.016,.0046,.4544, 1.012, 1.019
Be3130,313.042 {108},Y_3710,ppm, 1.001,.0060,.6043, .9969, 1.005
Ca3158,315.887 {107},In2306,ppm, 19.65,.1055,.5368, 19.57, 19.72
Cd2288,228.802 {447},Y_2243,ppm, .9717,.0026,.2680, .9736, .9699
Co2286,228.616 {447},In2306,ppm, .9854,.0020,.2027, .9868, .9839
Cr2677,267.716 {126},Y_3600,ppm, .9643,.0010,.1017, .9637, .9650
Cu3247,324.754 {104},Y_3600,ppm, .9762,.0006,.0665, .9758, .9767
Fe2404,240.488 {140},In2306,ppm, 19.93,.1717,.8615, 19.81, 20.05
K_7664,766.490 { 44},Y_3710,ppm, 20.09,.0834,.4152, 20.03, 20.15
Li6707,670.784 { 50},Y_3710,ppm, .9926,.0051,.5100, .9890, .9962
Mg2790,279.079 {121},Y_3710,ppm, 20.64,.2302,1.115, 20.48, 20.80
Mn2576,257.610 {131},Y_3600,ppm, .9983,.0028,.2822, 1.000, .9963
Mo2020,202.030 {467},Y_2243,ppm, .9901,.0029,.2908, .9922, .9881
Na5895,589.592 { 57},Y_3710,ppm, 20.03,.0615,.3070, 19.98, 20.07
Ni2316,231.604 {445},In2306,ppm, 1.017,.0020,.1961, 1.019, 1.016
P_1782,178.284 {489},In2306,ppm, 10.65,.0411,.3862, 10.67, 10.62
Pb2203,220.353 {453},In2306,ppm, 1.015,.0009,.0874, 1.015, 1.014
S_1820,182.034 {485},Y_2243,ppm, 7.267,.0251,.3461, 7.285, 7.249
Sb2068,206.833 {463},Y_2243,ppm, 2.134,.0010,.0490, 2.135, 2.133
Se1960,196.090 {472},Y_2243,ppm, .9805,.0046,.4719, .9837, .9772
Si2516,251.611 {134},Y_3710,ppm, 9.185,.1495,1.627, 9.079, 9.290
Sn1899,189.989 {477},In2306,ppm, 1.034,.0013,.1290, 1.035, 1.033
Sr4215,421.552 { 80},Y_3710,ppm, 1.005,.0052,.5153, 1.002, 1.009
Ti3349,334.904 {101},Y_3600,ppm, .9745,.0002,.0205, .9747, .9744
Tl1908,190.856 {477},In2306,ppm, 1.130,.0027,.2414, 1.132, 1.128
U_3670,367.007 { 92},Y_3600,ppm, .7202,.0275,3.813, .7396, .7008
V_2924,292.402 {115},Y_3600,ppm, .9690,.0009,.0938, .9697, .9684
W_2397,239.709 {140},Y_2243,ppm, 1.061,.0155,1.460, 1.050, 1.071
Zn2062,206.200 {463},In2306,ppm, 1.013,.0007,.0719, 1.014, 1.012

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 244.32,.73239,.29976,244.84,243.81
In2306,230.606 {446},Cts/S, 14181.,67.558,.47638,14134.,14229.
Y_2243,224.306 {450},Cts/S, 23950.,106.73,.44563,23874.,24025.
Y_3600,360.073 { 94},Cts/S, 200090.,45.058,.02252,200060.,200130.
Y_3710,371.030 { 91},Cts/S, 12333.,73.474,.59575,12385.,12281.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0105,.0005,5.153, .0109, .0101
Al3082,308.215 {109},In2306,ppm, .1894,.0041,2.162, .1923, .1866
As1890,189.042 {478},Y_2243,ppm, .0209,.0008,3.702, .0215, .0204
B_2496,249.678 {135},Y_3710,ppm, .2222,.0017,.7706, .2210, .2234
Ba4554,455.403 { 74},Y_3710,ppm, .0225,.0001,.3705, .0225, .0224
Be3130,313.042 {108},Y_3710,ppm, .0115,.0000,.2827, .0115, .0115
Ca3158,315.887 {107},In2306,ppm, 1.007,.0069,.6845, 1.002, 1.012
Cd2288,228.802 {447},Y_2243,ppm, .0109,.0001,1.015, .0109, .0110
Co2286,228.616 {447},In2306,ppm, .0104,.0001,.9480, .0104, .0105
Cr2677,267.716 {126},Y_3600,ppm, .0108,.0000,.2196, .0108, .0108
Cu3247,324.754 {104},Y_3600,ppm, .0119,.0003,2.459, .0117, .0121
Fe2404,240.488 {140},In2306,ppm, .2051,.0038,1.860, .2024, .2078
K_7664,766.490 { 44},Y_3710,ppm, 1.140,.0360,3.155, 1.165, 1.114
Li6707,670.784 { 50},Y_3710,ppm, .0104,.0000,.2673, .0104, .0104
Mg2790,279.079 {121},Y_3710,ppm, 1.088,.0064,.5918, 1.092, 1.083
Mn2576,257.610 {131},Y_3600,ppm, .0111,.0000,.0616, .0111, .0111
Mo2020,202.030 {467},Y_2243,ppm, .0227,.0002,1.089, .0225, .0228
Na5895,589.592 { 57},Y_3710,ppm, 1.141,.0040,.3469, 1.138, 1.144
Ni2316,231.604 {445},In2306,ppm, .0112,.0001,1.131, .0111, .0113
P_1782,178.284 {489},In2306,ppm, 1.014,.0042,.4124, 1.012, 1.017
Pb2203,220.353 {453},In2306,ppm, .0110,.0019,17.55, .0124, .0097
S_1820,182.034 {485},Y_2243,ppm, .3523,.0000,.0041, .3523, .3522
Sb2068,206.833 {463},Y_2243,ppm, .0564,.0004,.7739, .0561, .0567
Se1960,196.090 {472},Y_2243,ppm, .0224,.0010,4.567, .0231, .0217
Si2516,251.611 {134},Y_3710,ppm, .2012,.0055,2.754, .2051, .1973
Sn1899,189.989 {477},In2306,ppm, .0218,.0004,1.693, .0215, .0221
Sr4215,421.552 { 80},Y_3710,ppm, .0114,.0002,1.903, .0116, .0113
Ti3349,334.904 {101},Y_3600,ppm, .0110,.0001,1.179, .0111, .0109
Tl1908,190.856 {477},In2306,ppm, .0400,.0009,2.329, .0394, .0407
U_3670,367.007 { 92},Y_3600,ppm, -.0400,.0349,87.41, -.0647, -.0153
V_2924,292.402 {115},Y_3600,ppm, .0103,.0001,.6643, .0103, .0102
W_2397,239.709 {140},Y_2243,ppm, .0991,.0429,43.31, .0688, .1295
Zn2062,206.200 {463},In2306,ppm, .0186,.0000,.2162, .0187, .0186

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 254.04,.53843,.21195,253.66,254.42
In2306,230.606 {446},Cts/S, 15670.,15.725,.10035,15681.,15659.
Y_2243,224.306 {450},Cts/S, 24672.,11.633,.04715,24680.,24663.
Y_3600,360.073 { 94},Cts/S, 209480.,76.606,.03657,209530.,209420.
Y_3710,371.030 { 91},Cts/S, 12388.,99.424,.80258,12318.,12458.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0011,.0004,39.25, .0014, .0008
Al3082,308.215 {109},In2306,ppm, -.0217,.0158,73.01, -.0329, -.0105
As1890,189.042 {478},Y_2243,ppm, .0001,.0008,1200., -.0005, .0007
B_2496,249.678 {135},Y_3710,ppm, .0045,.0015,33.11, .0055, .0034
Ba4554,455.403 { 74},Y_3710,ppm, -.0002,.0000,5.578, -.0002, -.0002
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,28.99, -.0001, -.0001
Ca3158,315.887 {107},In2306,ppm, -.0137,.0020,14.45, -.0151, -.0123
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0001,1467., .0001, -.0001
Co2286,228.616 {447},In2306,ppm, .0000,.0000,91.72, .0000, .0001
Cr2677,267.716 {126},Y_3600,ppm, -.0001,.0001,74.15, -.0001, -.0002
Cu3247,324.754 {104},Y_3600,ppm, .0010,.0003,29.52, .0008, .0012
Fe2404,240.488 {140},In2306,ppm, .0001,.0068,7021., -.0047, .0049
K_7664,766.490 { 44},Y_3710,ppm, .0519,.0043,8.325, .0488, .0550
Li6707,670.784 { 50},Y_3710,ppm, -.0000,.0007,1707., .0005, -.0006
Mg2790,279.079 {121},Y_3710,ppm, .0160,.0074,46.17, .0108, .0212
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,5.473, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, .0001,.0001,125.9, .0000, .0002
Na5895,589.592 { 57},Y_3710,ppm, .0586,.0060,10.21, .0629, .0544
Ni2316,231.604 {445},In2306,ppm, .0002,.0001,25.34, .0002, .0003
P_1782,178.284 {489},In2306,ppm, .0005,.0002,33.95, .0006, .0004
Pb2203,220.353 {453},In2306,ppm, -.0000,.0008,1640., -.0006, .0005
S_1820,182.034 {485},Y_2243,ppm, .0007,.0008,124.1, .0001, .0013
Sb2068,206.833 {463},Y_2243,ppm, .0010,.0001,13.28, .0009, .0011
Se1960,196.090 {472},Y_2243,ppm, .0006,.0011,193.9, -.0002, .0013
Si2516,251.611 {134},Y_3710,ppm, .0011,.0039,345.8, .0039, -.0016
Sn1899,189.989 {477},In2306,ppm, -.0005,.0001,30.21, -.0004, -.0006
Sr4215,421.552 { 80},Y_3710,ppm, .0001,.0001,90.80, .0002, .0000
Ti3349,334.904 {101},Y_3600,ppm, -.0003,.0003,102.0, -.0001, -.0005
Tl1908,190.856 {477},In2306,ppm, .0065,.0009,13.77, .0071, .0058
U_3670,367.007 { 92},Y_3600,ppm, -.1625,.0314,19.34, -.1847, -.1403
V_2924,292.402 {115},Y_3600,ppm, -.0001,.0001,36.69, -.0001, -.0002
W_2397,239.709 {140},Y_2243,ppm, -.0107,.0576,537.0, .0300, -.0514
Zn2062,206.200 {463},In2306,ppm, -.0015,.0001,8.085, -.0014, -.0016

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 252.85,5.0664,2.0037,256.43,249.27
In2306,230.606 {446},Cts/S, 15883.,40.363,.25413,15855.,15912.
Y_2243,224.306 {450},Cts/S, 24646.,15.993,.06489,24635.,24657.
Y_3600,360.073 { 94},Cts/S, 207860.,368.95,.17750,207590.,208120.
Y_3710,371.030 { 91},Cts/S, 12375.,172.94,1.3974,12498.,12253.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0011,.0001,8.012, .0011, .0010
Al3082,308.215 {109},In2306,ppm, -.0220,.0037,16.81, -.0194, -.0246
As1890,189.042 {478},Y_2243,ppm, -.0013,.0002,18.23, -.0015, -.0011
B_2496,249.678 {135},Y_3710,ppm, .0028,.0024,87.23, .0011, .0045
Ba4554,455.403 { 74},Y_3710,ppm, .0023,.0000,1.292, .0023, .0023
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,1291., -.0001, .0001
Ca3158,315.887 {107},In2306,ppm, .0081,.0003,3.148, .0079, .0083
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0001,70.31, .0003, .0001
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Co2286,228.616 {447},In2306,ppm, -.0001,.0001,95.26, -.0001, -.0000
Cr2677,267.716 {126},Y_3600,ppm, .0003,.0002,58.49, .0004, .0002
Cu3247,324.754 {104},Y_3600,ppm, .0006,.0005,75.53, .0003, .0009
Fe2404,240.488 {140},In2306,ppm, .0058,.0130,223.4, .0150, -.0034
K_7664,766.490 { 44},Y_3710,ppm, .0753,.0250,33.24, .0576, .0930
Li6707,670.784 { 50},Y_3710,ppm, -.0003,.0003,89.45, -.0001, -.0005
Mg2790,279.079 {121},Y_3710,ppm, .0012,.0268,2207., .0202, -.0177
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,38.63, -.0000, -.0000
Mo2020,202.030 {467},Y_2243,ppm, .0004,.0002,55.86, .0006, .0003
Na5895,589.592 { 57},Y_3710,ppm, .0550,.0040,7.221, .0578, .0522
Ni2316,231.604 {445},In2306,ppm, .0004,.0002,46.26, .0005, .0003
P_1782,178.284 {489},In2306,ppm, .0165,.0013,7.589, .0156, .0174
Pb2203,220.353 {453},In2306,ppm, -.0003,.0005,161.1, -.0006, .0000
S_1820,182.034 {485},Y_2243,ppm, -.0000,.0003,7964., .0002, -.0002
Sb2068,206.833 {463},Y_2243,ppm, .0029,.0002,5.669, .0030, .0028
Se1960,196.090 {472},Y_2243,ppm, .0009,.0012,142.8, -.0000, .0017
Si2516,251.611 {134},Y_3710,ppm, .0061,.0050,81.64, .0096, .0026
Sn1899,189.989 {477},In2306,ppm, .0146,.0001,.3829, .0146, .0145
Sr4215,421.552 { 80},Y_3710,ppm, .0004,.0000,1.297, .0004, .0004
Ti3349,334.904 {101},Y_3600,ppm, .0000,.0003,537.3, -.0001, .0002
Tl1908,190.856 {477},In2306,ppm, .0036,.0029,81.89, .0056, .0015
U_3670,367.007 { 92},Y_3600,ppm, -.1599,.0044,2.772, -.1567, -.1630
V_2924,292.402 {115},Y_3600,ppm, -.0000,.0000,61.86, -.0000, -.0001
W_2397,239.709 {140},Y_2243,ppm, .0599,.0152,25.41, .0707, .0492
Zn2062,206.200 {463},In2306,ppm, .0111,.0002,1.474, .0112, .0110

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 257.60,2.7507,1.0678,255.65,259.54
In2306,230.606 {446},Cts/S, 15759.,66.696,.42321,15712.,15807.
Y_2243,224.306 {450},Cts/S, 24555.,76.507,.31157,24501.,24609.
Y_3600,360.073 { 94},Cts/S, 210780.,3454.8,1.6390,213230.,208340.
Y_3710,371.030 { 91},Cts/S, 12608.,26.155,.20744,12590.,12627.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .2794,.0007,.2485, .2789, .2799
Al3082,308.215 {109},In2306,ppm, 90.82,.4752,.5232, 91.15, 90.48
As1890,189.042 {478},Y_2243,ppm, 2.763,.0045,.1638, 2.760, 2.766
B_2496,249.678 {135},Y_3710,ppm, 5.436,.0522,.9598, 5.399, 5.473
Ba4554,455.403 { 74},Y_3710,ppm, 2.349,.0127,.5401, 2.340, 2.358
Be3130,313.042 {108},Y_3710,ppm, 1.624,.0060,.3678, 1.620, 1.628
Ca3158,315.887 {107},In2306,ppm, 132.6,.8336,.6287, 133.2, 132.0
Cd2288,228.802 {447},Y_2243,ppm, 1.476,.0019,.1304, 1.475, 1.477
Co2286,228.616 {447},In2306,ppm, 2.525,.0030,.1197, 2.523, 2.527
Cr2677,267.716 {126},Y_3600,ppm, 1.500,.0037,.2441, 1.502, 1.497
Cu3247,324.754 {104},Y_3600,ppm, .8876,.0012,.1377, .8885, .8867
Fe2404,240.488 {140},In2306,ppm, 128.5,1.029,.8004, 129.2, 127.8
K_7664,766.490 { 44},Y_3710,ppm, 94.34,.3429,.3634, 94.10, 94.59
Li6707,670.784 { 50},Y_3710,ppm, 2.364,.0150,.6334, 2.353, 2.374
Mg2790,279.079 {121},Y_3710,ppm, 112.6,.2434,.2161, 112.4, 112.8
Mn2576,257.610 {131},Y_3600,ppm, 10.45,.0678,.6490, 10.50, 10.41
Mo2020,202.030 {467},Y_2243,ppm, 1.681,.0009,.0519, 1.680, 1.682
Na5895,589.592 { 57},Y_3710,ppm, 116.5,.3738,.3209, 116.2, 116.7
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Ni2316,231.604 {445},In2306,ppm, 1.088,.0013,.1219, 1.087, 1.089
P_1782,178.284 {489},In2306,ppm, 4.409,.0069,.1570, 4.404, 4.414
Pb2203,220.353 {453},In2306,ppm, 1.358,.0001,.0055, 1.358, 1.358
S_1820,182.034 {485},Y_2243,ppm, 1.984,.0123,.6184, 1.975, 1.992
Sb2068,206.833 {463},Y_2243,ppm, .3031,.0010,.3390, .3038, .3023
Se1960,196.090 {472},Y_2243,ppm, 2.662,.0181,.6805, 2.649, 2.675
Si2516,251.611 {134},Y_3710,ppm, 14.59,.0795,.5453, 14.53, 14.64
Sn1899,189.989 {477},In2306,ppm, 1.628,.0085,.5235, 1.622, 1.634
Sr4215,421.552 { 80},Y_3710,ppm, .8062,.0053,.6591, .8024, .8099
Ti3349,334.904 {101},Y_3600,ppm, 3.051,.0059,.1949, 3.055, 3.047
Tl1908,190.856 {477},In2306,ppm, 2.347,.0253,1.077, 2.329, 2.365
U_3670,367.007 { 92},Y_3600,ppm, 1.265,.0416,3.288, 1.235, 1.294
V_2924,292.402 {115},Y_3600,ppm, .2296,.0007,.3122, .2291, .2301
W_2397,239.709 {140},Y_2243,ppm, -.8053,.0861,10.69, -.7445, -.8662
Zn2062,206.200 {463},In2306,ppm, 4.644,.0043,.0917, 4.641, 4.647

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 233.38,3.4990,1.4993,230.90,235.85
In2306,230.606 {446},Cts/S, 12365.,17.629,.14257,12378.,12353.
Y_2243,224.306 {450},Cts/S, 23481.,44.270,.18853,23513.,23450.
Y_3600,360.073 { 94},Cts/S, 198290.,856.80,.43209,197690.,198900.
Y_3710,371.030 { 91},Cts/S, 12761.,51.101,.40044,12725.,12797.

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Ag3280,328.068 {103},Y_3600,ppm, -.0043,.0004,8.814, -.0046, -.0041
Al3082,308.215 {109},In2306,ppm, 148.9,.0159,.0107, 148.9, 148.9
As1890,189.042 {478},Y_2243,ppm, .0528,.0016,2.936, .0539, .0517
B_2496,249.678 {135},Y_3710,ppm, .0196,.0002,1.080, .0194, .0197
Ba4554,455.403 { 74},Y_3710,ppm, 1.428,.0104,.7264, 1.421, 1.435
Be3130,313.042 {108},Y_3710,ppm, .0093,.0001,.6451, .0093, .0093
Ca3158,315.887 {107},In2306,ppm, 18.73,.0451,.2408, 18.69, 18.76
Cd2288,228.802 {447},Y_2243,ppm, .0012,.0000,1.723, .0012, .0012
Co2286,228.616 {447},In2306,ppm, .0372,.0007,1.834, .0367, .0377
Cr2677,267.716 {126},Y_3600,ppm, .0909,.0009,.9857, .0903, .0915
Cu3247,324.754 {104},Y_3600,ppm, .0627,.0000,.0206, .0627, .0626
Fe2404,240.488 {140},In2306,ppm, 74.00,.0225,.0304, 74.02, 73.99
K_7664,766.490 { 44},Y_3710,ppm, 5.702,.0340,.5970, 5.678, 5.726
Li6707,670.784 { 50},Y_3710,ppm, .0351,.0007,2.106, .0346, .0356
Mg2790,279.079 {121},Y_3710,ppm, 12.88,.0984,.7641, 12.81, 12.95
Mn2576,257.610 {131},Y_3600,ppm, .0709,.0002,.3449, .0708, .0711
Mo2020,202.030 {467},Y_2243,ppm, .0044,.0000,.7281, .0044, .0043
Na5895,589.592 { 57},Y_3710,ppm, 2.765,.0168,.6094, 2.753, 2.777
Ni2316,231.604 {445},In2306,ppm, .0522,.0004,.8218, .0519, .0525
P_1782,178.284 {489},In2306,ppm, .3297,.0043,1.311, .3266, .3327
Pb2203,220.353 {453},In2306,ppm, .1627,.0020,1.209, .1613, .1640
S_1820,182.034 {485},Y_2243,ppm, -.0459,.0051,11.04, -.0423, -.0494
Sb2068,206.833 {463},Y_2243,ppm, -.0030,.0038,128.8, -.0003, -.0057
Se1960,196.090 {472},Y_2243,ppm, .0024,.0012,49.84, .0015, .0032
Si2516,251.611 {134},Y_3710,ppm, 15.71,.1097,.6980, 15.63, 15.79
Sn1899,189.989 {477},In2306,ppm, .0150,.0001,.8345, .0150, .0149
Sr4215,421.552 { 80},Y_3710,ppm, .3005,.0031,1.032, .2983, .3027
Ti3349,334.904 {101},Y_3600,ppm, .1298,.0005,.3760, .1295, .1302
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Tl1908,190.856 {477},In2306,ppm, .0777,.0083,10.71, .0836, .0718
U_3670,367.007 { 92},Y_3600,ppm, .2745,.0298,10.84, .2535, .2956
V_2924,292.402 {115},Y_3600,ppm, .2128,.0008,.3952, .2122, .2134
W_2397,239.709 {140},Y_2243,ppm, -.1065,.0218,20.48, -.1220, -.0911
Zn2062,206.200 {463},In2306,ppm, .2273,.0033,1.450, .2250, .2296

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 249.38,2.1762,.87266,247.84,250.91
In2306,230.606 {446},Cts/S, 13962.,109.02,.78081,14039.,13885.
Y_2243,224.306 {450},Cts/S, 26800.,122.44,.45686,26887.,26714.
Y_3600,360.073 { 94},Cts/S, 224660.,143.24,.06376,224760.,224560.
Y_3710,371.030 { 91},Cts/S, 13825.,5.1215,.03705,13829.,13821.

[Sample Header]
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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0041,.0004,8.850, -.0044, -.0039
Al3082,308.215 {109},In2306,ppm, 144.5,.8281,.5732, 145.0, 143.9
As1890,189.042 {478},Y_2243,ppm, .0398,.0002,.3812, .0399, .0397
B_2496,249.678 {135},Y_3710,ppm, .0172,.0046,26.63, .0140, .0205
Ba4554,455.403 { 74},Y_3710,ppm, 1.382,.0028,.2057, 1.380, 1.384
Be3130,313.042 {108},Y_3710,ppm, .0091,.0001,.8156, .0090, .0091
Ca3158,315.887 {107},In2306,ppm, 18.47,.0137,.0740, 18.48, 18.46
Cd2288,228.802 {447},Y_2243,ppm, .0008,.0001,15.47, .0009, .0007
Co2286,228.616 {447},In2306,ppm, .0391,.0001,.1476, .0392, .0391
Cr2677,267.716 {126},Y_3600,ppm, .0903,.0000,.0197, .0903, .0903
Cu3247,324.754 {104},Y_3600,ppm, .0613,.0004,.6820, .0616, .0610
Fe2404,240.488 {140},In2306,ppm, 46.85,.4572,.9760, 47.17, 46.52
K_7664,766.490 { 44},Y_3710,ppm, 5.276,.0091,.1724, 5.269, 5.282
Li6707,670.784 { 50},Y_3710,ppm, .0316,.0009,2.806, .0310, .0322
Mg2790,279.079 {121},Y_3710,ppm, 12.48,.0233,.1870, 12.49, 12.46
Mn2576,257.610 {131},Y_3600,ppm, .0677,.0003,.4420, .0675, .0679
Mo2020,202.030 {467},Y_2243,ppm, .0032,.0001,3.034, .0033, .0032
Na5895,589.592 { 57},Y_3710,ppm, 2.639,.0064,.2410, 2.635, 2.644
Ni2316,231.604 {445},In2306,ppm, .0526,.0003,.4938, .0528, .0524
P_1782,178.284 {489},In2306,ppm, .3396,.0006,.1655, .3392, .3400
Pb2203,220.353 {453},In2306,ppm, .1583,.0006,.3693, .1579, .1587
S_1820,182.034 {485},Y_2243,ppm, .1504,.0007,.4877, .1499, .1509
Sb2068,206.833 {463},Y_2243,ppm, -.0022,.0025,114.8, -.0004, -.0040
Se1960,196.090 {472},Y_2243,ppm, .0014,.0004,32.05, .0017, .0011
Si2516,251.611 {134},Y_3710,ppm, 14.96,.1641,1.096, 14.85, 15.08
Sn1899,189.989 {477},In2306,ppm, .0159,.0002,1.324, .0160, .0157
Sr4215,421.552 { 80},Y_3710,ppm, .2978,.0009,.2915, .2972, .2984
Ti3349,334.904 {101},Y_3600,ppm, .1295,.0002,.1808, .1297, .1293
Tl1908,190.856 {477},In2306,ppm, .0144,.0016,11.43, .0155, .0132
U_3670,367.007 { 92},Y_3600,ppm, .0719,.0176,24.50, .0843, .0594
V_2924,292.402 {115},Y_3600,ppm, .1867,.0003,.1611, .1869, .1865
W_2397,239.709 {140},Y_2243,ppm, -.0817,.0363,44.39, -.1074, -.0561
Zn2062,206.200 {463},In2306,ppm, .2254,.0001,.0390, .2255, .2253

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 249.02,4.1619,1.6714,246.07,251.96
In2306,230.606 {446},Cts/S, 14139.,4.1099,.02907,14136.,14142.
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Y_2243,224.306 {450},Cts/S, 27087.,25.551,.09433,27069.,27105.
Y_3600,360.073 { 94},Cts/S, 224890.,590.30,.26248,225310.,224470.
Y_3710,371.030 { 91},Cts/S, 13890.,128.74,.92690,13799.,13981.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2255,.0015,.6461, .2265, .2244
Al3082,308.215 {109},In2306,ppm, 454.7,.3630,.0798, 454.9, 454.4
As1890,189.042 {478},Y_2243,ppm, .8700,.0018,.2075, .8713, .8687
B_2496,249.678 {135},Y_3710,ppm, .3355,.0047,1.393, .3322, .3388
Ba4554,455.403 { 74},Y_3710,ppm, 2.401,.0001,.0032, 2.401, 2.401
Be3130,313.042 {108},Y_3710,ppm, .8958,.0029,.3243, .8979, .8938
Ca3158,315.887 {107},In2306,ppm, 28.67,.0477,.1664, 28.71, 28.64
Cd2288,228.802 {447},Y_2243,ppm, .8419,.0030,.3586, .8440, .8398
Co2286,228.616 {447},In2306,ppm, 1.045,.0049,.4666, 1.048, 1.041
Cr2677,267.716 {126},Y_3600,ppm, 1.064,.0019,.1802, 1.066, 1.063
Cu3247,324.754 {104},Y_3600,ppm, .9661,.0014,.1408, .9671, .9652
Fe2404,240.488 {140},In2306,ppm, 116.0,.0660,.0569, 116.0, 115.9
K_7664,766.490 { 44},Y_3710,ppm, 20.80,.0582,.2796, 20.85, 20.76
Li6707,670.784 { 50},Y_3710,ppm, .9659,.0015,.1581, .9670, .9648
Mg2790,279.079 {121},Y_3710,ppm, 30.40,.0547,.1800, 30.44, 30.36
Mn2576,257.610 {131},Y_3600,ppm, 1.018,.0006,.0543, 1.018, 1.018
Mo2020,202.030 {467},Y_2243,ppm, .7549,.0016,.2084, .7560, .7538
Na5895,589.592 { 57},Y_3710,ppm, 11.74,.0261,.2227, 11.76, 11.72
Ni2316,231.604 {445},In2306,ppm, 1.150,.0050,.4369, 1.154, 1.147
P_1782,178.284 {489},In2306,ppm, 6.156,.0283,.4599, 6.176, 6.136
Pb2203,220.353 {453},In2306,ppm, 1.169,.0100,.8554, 1.176, 1.162
S_1820,182.034 {485},Y_2243,ppm, 2.970,.0047,.1593, 2.974, 2.967
Sb2068,206.833 {463},Y_2243,ppm, .4567,.0001,.0189, .4568, .4567
Se1960,196.090 {472},Y_2243,ppm, .8007,.0089,1.112, .8070, .7944
Si2516,251.611 {134},Y_3710,ppm, 19.15,.0772,.4031, 19.21, 19.10
Sn1899,189.989 {477},In2306,ppm, .9106,.0082,.9017, .9164, .9048
Sr4215,421.552 { 80},Y_3710,ppm, 1.228,.0002,.0180, 1.228, 1.228
Ti3349,334.904 {101},Y_3600,ppm, .5544,.0009,.1545, .5550, .5537
Tl1908,190.856 {477},In2306,ppm, .9977,.0010,.0978, .9984, .9970
U_3670,367.007 { 92},Y_3600,ppm, .8901,.0295,3.311, .8693, .9110
V_2924,292.402 {115},Y_3600,ppm, 1.166,.0006,.0523, 1.167, 1.166
W_2397,239.709 {140},Y_2243,ppm, -.0881,.0392,44.46, -.0604, -.1158
Zn2062,206.200 {463},In2306,ppm, .9535,.0062,.6465, .9579, .9491

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 240.96,2.2374,.92854,239.38,242.54
In2306,230.606 {446},Cts/S, 12994.,29.349,.22587,12973.,13014.
Y_2243,224.306 {450},Cts/S, 26437.,19.284,.07294,26424.,26451.
Y_3600,360.073 { 94},Cts/S, 214590.,627.90,.29260,215040.,214150.
Y_3710,371.030 { 91},Cts/S, 14007.,146.69,1.0472,13903.,14111.

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Ag3280,328.068 {103},Y_3600,ppm, .0010,.0002,20.25, .0009, .0011
Al3082,308.215 {109},In2306,ppm, .0501,.0121,24.16, .0587, .0416
As1890,189.042 {478},Y_2243,ppm, .0017,.0006,34.74, .0021, .0013
B_2496,249.678 {135},Y_3710,ppm, .0121,.0077,63.30, .0175, .0067
Ba4554,455.403 { 74},Y_3710,ppm, .1143,.0008,.6647, .1138, .1149
Be3130,313.042 {108},Y_3710,ppm, .0002,.0001,56.69, .0002, .0001
Ca3158,315.887 {107},In2306,ppm, 215.6,.5253,.2436, 215.2, 216.0
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0000,14.98, .0002, .0002
Co2286,228.616 {447},In2306,ppm, .0005,.0001,24.06, .0004, .0006
Cr2677,267.716 {126},Y_3600,ppm, .0005,.0000,7.424, .0006, .0005
Cu3247,324.754 {104},Y_3600,ppm, .0017,.0002,8.967, .0016, .0018
Fe2404,240.488 {140},In2306,ppm, .0333,.0052,15.75, .0370, .0296
K_7664,766.490 { 44},Y_3710,ppm, .3117,.0125,4.009, .3206, .3029
Li6707,670.784 { 50},Y_3710,ppm, .0043,.0009,22.15, .0036, .0049
Mg2790,279.079 {121},Y_3710,ppm, 1.915,.0125,.6516, 1.906, 1.924
Mn2576,257.610 {131},Y_3600,ppm, .3425,.0002,.0575, .3424, .3427
Mo2020,202.030 {467},Y_2243,ppm, .0008,.0001,14.62, .0007, .0009
Na5895,589.592 { 57},Y_3710,ppm, 1.561,.0127,.8147, 1.552, 1.570
Ni2316,231.604 {445},In2306,ppm, .0014,.0001,7.845, .0015, .0013
P_1782,178.284 {489},In2306,ppm, .0067,.0002,2.480, .0068, .0066
Pb2203,220.353 {453},In2306,ppm, .0028,.0004,13.67, .0025, .0030
S_1820,182.034 {485},Y_2243,ppm, .2534,.0069,2.709, .2583, .2486
Sb2068,206.833 {463},Y_2243,ppm, .0019,.0017,90.57, .0031, .0007
Se1960,196.090 {472},Y_2243,ppm, .0005,.0015,301.6, -.0006, .0016
Si2516,251.611 {134},Y_3710,ppm, .3066,.0058,1.881, .3025, .3106
Sn1899,189.989 {477},In2306,ppm, .0002,.0001,24.99, .0002, .0002
Sr4215,421.552 { 80},Y_3710,ppm, .2000,.0016,.7999, .1989, .2012
Ti3349,334.904 {101},Y_3600,ppm, .0019,.0002,11.33, .0020, .0017
Tl1908,190.856 {477},In2306,ppm, .0434,.0012,2.712, .0443, .0426
U_3670,367.007 { 92},Y_3600,ppm, -.0960,.0775,80.80, -.0411, -.1508
V_2924,292.402 {115},Y_3600,ppm, .0006,.0002,35.24, .0005, .0008
W_2397,239.709 {140},Y_2243,ppm, -.0379,.0473,125.0, -.0044, -.0713
Zn2062,206.200 {463},In2306,ppm, .0417,.0002,.3623, .0418, .0416

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 243.25,.53188,.21865,242.88,243.63
In2306,230.606 {446},Cts/S, 13709.,37.257,.27177,13683.,13735.
Y_2243,224.306 {450},Cts/S, 23045.,97.861,.42466,22975.,23114.
Y_3600,360.073 { 94},Cts/S, 194810.,62.700,.03218,194770.,194860.
Y_3710,371.030 { 91},Cts/S, 12183.,123.12,1.0106,12096.,12270.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
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Ag3280,328.068 {103},Y_3600,ppm, -.0037,.0003,9.009, -.0034, -.0039
Al3082,308.215 {109},In2306,ppm, 111.8,.1259,.1126, 111.7, 111.9
As1890,189.042 {478},Y_2243,ppm, .0199,.0010,4.823, .0192, .0206
B_2496,249.678 {135},Y_3710,ppm, .0093,.0012,13.01, .0101, .0084
Ba4554,455.403 { 74},Y_3710,ppm, 1.275,.0028,.2169, 1.273, 1.277
Be3130,313.042 {108},Y_3710,ppm, .0072,.0001,1.216, .0071, .0072
Ca3158,315.887 {107},In2306,ppm, 17.85,.0311,.1743, 17.87, 17.82
Cd2288,228.802 {447},Y_2243,ppm, .0005,.0001,21.60, .0005, .0004
Co2286,228.616 {447},In2306,ppm, .0386,.0002,.4430, .0384, .0387
Cr2677,267.716 {126},Y_3600,ppm, .0549,.0001,.1147, .0550, .0549
Cu3247,324.754 {104},Y_3600,ppm, .0469,.0005,1.073, .0465, .0472
Fe2404,240.488 {140},In2306,ppm, 26.57,.0497,.1869, 26.54, 26.61
K_7664,766.490 { 44},Y_3710,ppm, 4.920,.0109,.2215, 4.928, 4.912
Li6707,670.784 { 50},Y_3710,ppm, .0195,.0004,2.163, .0198, .0192
Mg2790,279.079 {121},Y_3710,ppm, 12.21,.0695,.5687, 12.26, 12.16
Mn2576,257.610 {131},Y_3600,ppm, .0526,.0001,.2306, .0525, .0527
Mo2020,202.030 {467},Y_2243,ppm, .0007,.0002,26.83, .0008, .0005
Na5895,589.592 { 57},Y_3710,ppm, 3.507,.0029,.0819, 3.505, 3.509
Ni2316,231.604 {445},In2306,ppm, .0490,.0003,.5285, .0492, .0489
P_1782,178.284 {489},In2306,ppm, .3226,.0008,.2534, .3232, .3221
Pb2203,220.353 {453},In2306,ppm, .1140,.0001,.1284, .1141, .1139
S_1820,182.034 {485},Y_2243,ppm, 1.024,.0051,.4984, 1.028, 1.021
Sb2068,206.833 {463},Y_2243,ppm, -.0020,.0002,7.768, -.0019, -.0022
Se1960,196.090 {472},Y_2243,ppm, -.0034,.0031,93.00, -.0056, -.0011
Si2516,251.611 {134},Y_3710,ppm, 14.89,.1155,.7753, 14.97, 14.81
Sn1899,189.989 {477},In2306,ppm, .0157,.0001,.8148, .0156, .0158
Sr4215,421.552 { 80},Y_3710,ppm, .2871,.0003,.1156, .2873, .2869
Ti3349,334.904 {101},Y_3600,ppm, .1308,.0003,.2020, .1306, .1309
Tl1908,190.856 {477},In2306,ppm, .0129,.0016,12.56, .0140, .0117
U_3670,367.007 { 92},Y_3600,ppm, -.0165,.0379,229.7, -.0433, .0103
V_2924,292.402 {115},Y_3600,ppm, .0574,.0004,.6286, .0572, .0577
W_2397,239.709 {140},Y_2243,ppm, -.0736,.0156,21.15, -.0846, -.0626
Zn2062,206.200 {463},In2306,ppm, .1595,.0004,.2365, .1598, .1592

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 247.93,.83378,.33629,247.34,248.52
In2306,230.606 {446},Cts/S, 14238.,13.253,.09308,14229.,14247.
Y_2243,224.306 {450},Cts/S, 26297.,68.314,.25978,26249.,26345.
Y_3600,360.073 { 94},Cts/S, 220950.,276.75,.12525,220760.,221150.
Y_3710,371.030 { 91},Cts/S, 13496.,74.676,.55331,13443.,13549.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0043,.0002,4.495, -.0041, -.0044
Al3082,308.215 {109},In2306,ppm, 105.3,.1845,.1752, 105.4, 105.2
As1890,189.042 {478},Y_2243,ppm, .0237,.0007,2.787, .0241, .0232
B_2496,249.678 {135},Y_3710,ppm, .0136,.0001,1.043, .0135, .0137
Ba4554,455.403 { 74},Y_3710,ppm, 1.522,.0023,.1497, 1.520, 1.524
Be3130,313.042 {108},Y_3710,ppm, .0080,.0001,1.487, .0081, .0079
Ca3158,315.887 {107},In2306,ppm, 27.62,.1045,.3783, 27.69, 27.54
Cd2288,228.802 {447},Y_2243,ppm, .0006,.0000,7.954, .0005, .0006
Co2286,228.616 {447},In2306,ppm, .0519,.0001,.1450, .0520, .0519
Cr2677,267.716 {126},Y_3600,ppm, .0531,.0001,.2048, .0531, .0532
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Cu3247,324.754 {104},Y_3600,ppm, .0771,.0000,.0515, .0770, .0771
Fe2404,240.488 {140},In2306,ppm, 37.73,.0320,.0847, 37.75, 37.71
K_7664,766.490 { 44},Y_3710,ppm, 5.738,.0003,.0054, 5.739, 5.738
Li6707,670.784 { 50},Y_3710,ppm, .0088,.0003,3.103, .0086, .0090
Mg2790,279.079 {121},Y_3710,ppm, 16.56,.0235,.1416, 16.55, 16.58
Mn2576,257.610 {131},Y_3600,ppm, .0560,.0000,.0813, .0561, .0560
Mo2020,202.030 {467},Y_2243,ppm, .0009,.0002,21.41, .0008, .0011
Na5895,589.592 { 57},Y_3710,ppm, 5.518,.0019,.0339, 5.520, 5.517
Ni2316,231.604 {445},In2306,ppm, .0617,.0004,.6416, .0620, .0614
P_1782,178.284 {489},In2306,ppm, .4112,.0011,.2769, .4104, .4120
Pb2203,220.353 {453},In2306,ppm, .1283,.0006,.4852, .1288, .1279
S_1820,182.034 {485},Y_2243,ppm, -.1028,.0018,1.733, -.1041, -.1016
Sb2068,206.833 {463},Y_2243,ppm, -.0035,.0013,36.92, -.0045, -.0026
Se1960,196.090 {472},Y_2243,ppm, -.0015,.0009,61.47, -.0022, -.0009
Si2516,251.611 {134},Y_3710,ppm, 14.58,.0280,.1922, 14.56, 14.60
Sn1899,189.989 {477},In2306,ppm, .0162,.0001,.4908, .0162, .0163
Sr4215,421.552 { 80},Y_3710,ppm, .3967,.0012,.3091, .3958, .3976
Ti3349,334.904 {101},Y_3600,ppm, .1173,.0004,.3355, .1171, .1176
Tl1908,190.856 {477},In2306,ppm, .0009,.0010,113.9, .0016, .0002
U_3670,367.007 { 92},Y_3600,ppm, -.0347,.0363,104.5, -.0091, -.0604
V_2924,292.402 {115},Y_3600,ppm, .0658,.0001,.1412, .0659, .0658
W_2397,239.709 {140},Y_2243,ppm, -.0567,.0047,8.344, -.0533, -.0600
Zn2062,206.200 {463},In2306,ppm, .2558,.0006,.2418, .2554, .2563

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 245.23,1.2344,.50335,244.36,246.10
In2306,230.606 {446},Cts/S, 14088.,21.546,.15294,14103.,14073.
Y_2243,224.306 {450},Cts/S, 26319.,3.3194,.01261,26322.,26317.
Y_3600,360.073 { 94},Cts/S, 220040.,60.223,.02737,220000.,220080.
Y_3710,371.030 { 91},Cts/S, 13520.,21.270,.15732,13505.,13535.

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Ag3280,328.068 {103},Y_3600,ppm, -.0025,.0002,8.524, -.0027, -.0024
Al3082,308.215 {109},In2306,ppm, 113.0,.3598,.3185, 113.2, 112.7
As1890,189.042 {478},Y_2243,ppm, .0444,.0034,7.584, .0421, .0468
B_2496,249.678 {135},Y_3710,ppm, .0097,.0015,15.38, .0108, .0087
Ba4554,455.403 { 74},Y_3710,ppm, 1.319,.0068,.5182, 1.314, 1.323
Be3130,313.042 {108},Y_3710,ppm, .0092,.0001,1.387, .0091, .0093
Ca3158,315.887 {107},In2306,ppm, 8.386,.0751,.8961, 8.439, 8.332
Cd2288,228.802 {447},Y_2243,ppm, .0017,.0001,3.143, .0017, .0018
Co2286,228.616 {447},In2306,ppm, .0327,.0001,.1653, .0326, .0327
Cr2677,267.716 {126},Y_3600,ppm, .1344,.0001,.0999, .1345, .1344
Cu3247,324.754 {104},Y_3600,ppm, .0610,.0000,.0355, .0609, .0610
Fe2404,240.488 {140},In2306,ppm, 135.5,.8852,.6533, 136.1, 134.9
K_7664,766.490 { 44},Y_3710,ppm, 6.107,.0098,.1601, 6.113, 6.100
Li6707,670.784 { 50},Y_3710,ppm, .0375,.0002,.6389, .0373, .0377
Mg2790,279.079 {121},Y_3710,ppm, 7.374,.0887,1.203, 7.437, 7.311
Mn2576,257.610 {131},Y_3600,ppm, .2317,.0007,.2989, .2322, .2312
Mo2020,202.030 {467},Y_2243,ppm, .0049,.0007,14.63, .0055, .0044
Na5895,589.592 { 57},Y_3710,ppm, .6344,.0041,.6384, .6373, .6316
Ni2316,231.604 {445},In2306,ppm, .0517,.0001,.1966, .0517, .0516
P_1782,178.284 {489},In2306,ppm, 1.074,.0005,.0441, 1.074, 1.074
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Pb2203,220.353 {453},In2306,ppm, .1251,.0002,.1784, .1250, .1253
S_1820,182.034 {485},Y_2243,ppm, -.2513,.0087,3.456, -.2575, -.2452
Sb2068,206.833 {463},Y_2243,ppm, -.0027,.0015,53.51, -.0037, -.0017
Se1960,196.090 {472},Y_2243,ppm, .0047,.0024,51.47, .0064, .0030
Si2516,251.611 {134},Y_3710,ppm, 14.46,.0096,.0662, 14.46, 14.45
Sn1899,189.989 {477},In2306,ppm, .0156,.0004,2.295, .0153, .0158
Sr4215,421.552 { 80},Y_3710,ppm, .1407,.0005,.3218, .1403, .1410
Ti3349,334.904 {101},Y_3600,ppm, .3467,.0002,.0606, .3466, .3469
Tl1908,190.856 {477},In2306,ppm, .0039,.0007,17.94, .0034, .0044
U_3670,367.007 { 92},Y_3600,ppm, .5925,.0803,13.55, .6493, .5358
V_2924,292.402 {115},Y_3600,ppm, .3136,.0007,.2106, .3140, .3131
W_2397,239.709 {140},Y_2243,ppm, -.0569,.0070,12.25, -.0618, -.0520
Zn2062,206.200 {463},In2306,ppm, .1664,.0000,.0254, .1664, .1665

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 250.68,3.4283,1.3676,248.25,253.10
In2306,230.606 {446},Cts/S, 14183.,56.410,.39774,14143.,14223.
Y_2243,224.306 {450},Cts/S, 25303.,124.82,.49329,25215.,25392.
Y_3600,360.073 { 94},Cts/S, 212530.,244.33,.11496,212360.,212710.
Y_3710,371.030 { 91},Cts/S, 13171.,117.86,.89486,13087.,13254.

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Ag3280,328.068 {103},Y_3600,ppm, -.0050,.0000,.9755, -.0050, -.0049
Al3082,308.215 {109},In2306,ppm, 180.3,.6488,.3599, 179.8, 180.7
As1890,189.042 {478},Y_2243,ppm, .0662,.0017,2.565, .0674, .0650
B_2496,249.678 {135},Y_3710,ppm, .0076,.0047,62.55, .0042, .0109
Ba4554,455.403 { 74},Y_3710,ppm, 2.494,.0032,.1300, 2.492, 2.496
Be3130,313.042 {108},Y_3710,ppm, .0246,.0000,.1753, .0246, .0245
Ca3158,315.887 {107},In2306,ppm, 41.47,.0080,.0194, 41.47, 41.48
Cd2288,228.802 {447},Y_2243,ppm, .0020,.0000,.7852, .0020, .0021
Co2286,228.616 {447},In2306,ppm, .1467,.0000,.0258, .1466, .1467
Cr2677,267.716 {126},Y_3600,ppm, .1389,.0002,.1739, .1388, .1391
Cu3247,324.754 {104},Y_3600,ppm, .0778,.0002,.2142, .0777, .0779
Fe2404,240.488 {140},In2306,ppm, 172.5,.2220,.1287, 172.3, 172.7
K_7664,766.490 { 44},Y_3710,ppm, 4.637,.0445,.9604, 4.669, 4.606
Li6707,670.784 { 50},Y_3710,ppm, .0350,.0007,2.007, .0355, .0345
Mg2790,279.079 {121},Y_3710,ppm, 22.33,.1899,.8505, 22.46, 22.19
Mn2576,257.610 {131},Y_3600,ppm, .1481,.0003,.1800, .1483, .1479
Mo2020,202.030 {467},Y_2243,ppm, .0029,.0001,3.552, .0030, .0028
Na5895,589.592 { 57},Y_3710,ppm, 6.424,.0070,.1085, 6.419, 6.429
Ni2316,231.604 {445},In2306,ppm, .1589,.0008,.4861, .1583, .1594
P_1782,178.284 {489},In2306,ppm, .3943,.0037,.9314, .3969, .3917
Pb2203,220.353 {453},In2306,ppm, .2071,.0007,.3163, .2066, .2075
S_1820,182.034 {485},Y_2243,ppm, -.3995,.0022,.5606, -.3980, -.4011
Sb2068,206.833 {463},Y_2243,ppm, -.0038,.0001,1.883, -.0038, -.0039
Se1960,196.090 {472},Y_2243,ppm, -.0012,.0025,199.4, .0005, -.0030
Si2516,251.611 {134},Y_3710,ppm, 13.40,.0939,.7007, 13.47, 13.33
Sn1899,189.989 {477},In2306,ppm, .0156,.0001,.7749, .0157, .0155
Sr4215,421.552 { 80},Y_3710,ppm, .4681,.0005,.1042, .4684, .4677
Ti3349,334.904 {101},Y_3600,ppm, .1271,.0001,.0401, .1272, .1271
Tl1908,190.856 {477},In2306,ppm, -.0057,.0022,37.95, -.0072, -.0042
U_3670,367.007 { 92},Y_3600,ppm, .7082,.0178,2.508, .7208, .6957
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V_2924,292.402 {115},Y_3600,ppm, .3003,.0003,.0858, .3001, .3005
W_2397,239.709 {140},Y_2243,ppm, -.0740,.0494,66.79, -.0391, -.1090
Zn2062,206.200 {463},In2306,ppm, .2339,.0000,.0127, .2339, .2339

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 243.56,1.0013,.41111,242.85,244.27
In2306,230.606 {446},Cts/S, 13591.,32.899,.24207,13567.,13614.
Y_2243,224.306 {450},Cts/S, 27833.,69.633,.25018,27784.,27882.
Y_3600,360.073 { 94},Cts/S, 233150.,469.54,.20139,232820.,233480.
Y_3710,371.030 { 91},Cts/S, 14520.,125.93,.86728,14431.,14609.

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Ag3280,328.068 {103},Y_3600,ppm, .4869,.0014,.2907, .4859, .4879
Al3082,308.215 {109},In2306,ppm, 20.23,.1880,.9294, 20.10, 20.36
As1890,189.042 {478},Y_2243,ppm, .9973,.0020,.1990, .9959, .9987
B_2496,249.678 {135},Y_3710,ppm, 1.033,.0065,.6326, 1.028, 1.037
Ba4554,455.403 { 74},Y_3710,ppm, 1.013,.0021,.2027, 1.012, 1.015
Be3130,313.042 {108},Y_3710,ppm, 1.002,.0005,.0496, 1.001, 1.002
Ca3158,315.887 {107},In2306,ppm, 19.59,.0985,.5030, 19.52, 19.66
Cd2288,228.802 {447},Y_2243,ppm, .9740,.0012,.1257, .9731, .9749
Co2286,228.616 {447},In2306,ppm, .9834,.0006,.0597, .9830, .9839
Cr2677,267.716 {126},Y_3600,ppm, .9637,.0035,.3615, .9612, .9661
Cu3247,324.754 {104},Y_3600,ppm, .9797,.0042,.4324, .9767, .9827
Fe2404,240.488 {140},In2306,ppm, 19.84,.0857,.4318, 19.78, 19.91
K_7664,766.490 { 44},Y_3710,ppm, 20.10,.0228,.1133, 20.12, 20.09
Li6707,670.784 { 50},Y_3710,ppm, .9980,.0000,.0004, .9980, .9980
Mg2790,279.079 {121},Y_3710,ppm, 20.77,.0709,.3413, 20.82, 20.72
Mn2576,257.610 {131},Y_3600,ppm, .9955,.0054,.5377, .9917, .9993
Mo2020,202.030 {467},Y_2243,ppm, .9908,.0026,.2655, .9889, .9926
Na5895,589.592 { 57},Y_3710,ppm, 19.91,.0265,.1332, 19.90, 19.93
Ni2316,231.604 {445},In2306,ppm, 1.017,.0010,.0973, 1.016, 1.018
P_1782,178.284 {489},In2306,ppm, 10.62,.0224,.2112, 10.60, 10.64
Pb2203,220.353 {453},In2306,ppm, 1.011,.0016,.1599, 1.010, 1.012
S_1820,182.034 {485},Y_2243,ppm, 7.273,.0165,.2271, 7.261, 7.285
Sb2068,206.833 {463},Y_2243,ppm, 2.134,.0059,.2754, 2.130, 2.138
Se1960,196.090 {472},Y_2243,ppm, .9781,.0060,.6085, .9739, .9823
Si2516,251.611 {134},Y_3710,ppm, 9.279,.0355,.3825, 9.253, 9.304
Sn1899,189.989 {477},In2306,ppm, 1.024,.0025,.2415, 1.023, 1.026
Sr4215,421.552 { 80},Y_3710,ppm, 1.005,.0027,.2644, 1.003, 1.006
Ti3349,334.904 {101},Y_3600,ppm, .9739,.0051,.5246, .9703, .9775
Tl1908,190.856 {477},In2306,ppm, 1.121,.0016,.1415, 1.120, 1.123
U_3670,367.007 { 92},Y_3600,ppm, .7436,.1142,15.36, .8243, .6628
V_2924,292.402 {115},Y_3600,ppm, .9693,.0041,.4260, .9664, .9722
W_2397,239.709 {140},Y_2243,ppm, 1.095,.0630,5.753, 1.140, 1.050
Zn2062,206.200 {463},In2306,ppm, 1.007,.0016,.1638, 1.008, 1.006

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 248.20,1.3305,.53609,249.14,247.25
In2306,230.606 {446},Cts/S, 14223.,19.317,.13582,14236.,14209.
Y_2243,224.306 {450},Cts/S, 23954.,54.962,.22944,23993.,23916.
Y_3600,360.073 { 94},Cts/S, 200060.,538.40,.26912,200440.,199680.
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Y_3710,371.030 { 91},Cts/S, 12393.,21.032,.16971,12408.,12378.

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Al3082,308.215 {109},In2306,ppm, .1833,.0003,.1695, .1830, .1835
As1890,189.042 {478},Y_2243,ppm, .0212,.0008,3.904, .0217, .0206
B_2496,249.678 {135},Y_3710,ppm, .2211,.0008,.3751, .2205, .2217
Ba4554,455.403 { 74},Y_3710,ppm, .0223,.0002,.8875, .0225, .0222
Be3130,313.042 {108},Y_3710,ppm, .0113,.0001,1.041, .0113, .0112
Ca3158,315.887 {107},In2306,ppm, .9976,.0085,.8484, .9916, 1.004
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Co2286,228.616 {447},In2306,ppm, .0104,.0000,.1423, .0104, .0104
Cr2677,267.716 {126},Y_3600,ppm, .0108,.0002,1.635, .0107, .0110
Cu3247,324.754 {104},Y_3600,ppm, .0113,.0000,.3786, .0113, .0112
Fe2404,240.488 {140},In2306,ppm, .2162,.0001,.0473, .2161, .2163
K_7664,766.490 { 44},Y_3710,ppm, 1.116,.0063,.5663, 1.120, 1.111
Li6707,670.784 { 50},Y_3710,ppm, .0115,.0007,6.023, .0110, .0120
Mg2790,279.079 {121},Y_3710,ppm, 1.137,.0141,1.243, 1.147, 1.127
Mn2576,257.610 {131},Y_3600,ppm, .0111,.0000,.4223, .0110, .0111
Mo2020,202.030 {467},Y_2243,ppm, .0224,.0000,.1187, .0224, .0224
Na5895,589.592 { 57},Y_3710,ppm, 1.095,.0034,.3079, 1.092, 1.097
Ni2316,231.604 {445},In2306,ppm, .0112,.0004,3.891, .0109, .0115
P_1782,178.284 {489},In2306,ppm, 1.007,.0021,.2132, 1.009, 1.006
Pb2203,220.353 {453},In2306,ppm, .0099,.0004,4.278, .0102, .0096
S_1820,182.034 {485},Y_2243,ppm, .3508,.0023,.6547, .3492, .3525
Sb2068,206.833 {463},Y_2243,ppm, .0555,.0014,2.600, .0545, .0566
Se1960,196.090 {472},Y_2243,ppm, .0204,.0010,5.030, .0196, .0211
Si2516,251.611 {134},Y_3710,ppm, .1820,.0112,6.163, .1741, .1899
Sn1899,189.989 {477},In2306,ppm, .0218,.0002,.8105, .0217, .0220
Sr4215,421.552 { 80},Y_3710,ppm, .0114,.0000,.0082, .0114, .0114
Ti3349,334.904 {101},Y_3600,ppm, .0108,.0003,3.135, .0106, .0111
Tl1908,190.856 {477},In2306,ppm, .0421,.0025,5.966, .0438, .0403
U_3670,367.007 { 92},Y_3600,ppm, -.0525,.0900,171.5, .0112, -.1162
V_2924,292.402 {115},Y_3600,ppm, .0104,.0002,1.877, .0103, .0106
W_2397,239.709 {140},Y_2243,ppm, .0410,.0132,32.30, .0503, .0316
Zn2062,206.200 {463},In2306,ppm, .0186,.0000,.2487, .0186, .0186

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 256.35,1.9151,.74707,255.00,257.71
In2306,230.606 {446},Cts/S, 15789.,27.060,.17139,15770.,15808.
Y_2243,224.306 {450},Cts/S, 24843.,32.649,.13142,24820.,24866.
Y_3600,360.073 { 94},Cts/S, 210640.,30.633,.01454,210620.,210670.
Y_3710,371.030 { 91},Cts/S, 12469.,26.815,.21506,12450.,12488.

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Al3082,308.215 {109},In2306,ppm, -.0242,.0018,7.504, -.0255, -.0229
As1890,189.042 {478},Y_2243,ppm, -.0016,.0022,139.8, -.0000, -.0031
B_2496,249.678 {135},Y_3710,ppm, .0031,.0008,24.72, .0025, .0036
Ba4554,455.403 { 74},Y_3710,ppm, -.0003,.0001,21.73, -.0003, -.0002
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0001,103.4, -.0000, -.0001
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Cr2677,267.716 {126},Y_3600,ppm, -.0000,.0001,121.4, -.0000, -.0001
Cu3247,324.754 {104},Y_3600,ppm, .0008,.0003,39.23, .0010, .0006
Fe2404,240.488 {140},In2306,ppm, .0127,.0101,79.51, .0198, .0056
K_7664,766.490 { 44},Y_3710,ppm, .0407,.0128,31.56, .0316, .0497
Li6707,670.784 { 50},Y_3710,ppm, .0001,.0001,151.5, .0002, -.0000
Mg2790,279.079 {121},Y_3710,ppm, .0362,.0208,57.43, .0215, .0508
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,17.41, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, .0001,.0001,85.13, .0000, .0002
Na5895,589.592 { 57},Y_3710,ppm, .0191,.0020,10.44, .0205, .0177
Ni2316,231.604 {445},In2306,ppm, -.0000,.0001,1028., -.0001, .0001
P_1782,178.284 {489},In2306,ppm, .0013,.0003,20.57, .0011, .0015
Pb2203,220.353 {453},In2306,ppm, -.0007,.0002,28.50, -.0009, -.0006
S_1820,182.034 {485},Y_2243,ppm, .0000,.0019,4041., .0014, -.0013
Sb2068,206.833 {463},Y_2243,ppm, .0003,.0005,187.1, -.0001, .0006
Se1960,196.090 {472},Y_2243,ppm, .0014,.0020,141.9, .0028, -.0000
Si2516,251.611 {134},Y_3710,ppm, .0004,.0035,931.5, -.0021, .0029
Sn1899,189.989 {477},In2306,ppm, -.0002,.0003,197.7, -.0004, .0001
Sr4215,421.552 { 80},Y_3710,ppm, .0002,.0001,47.22, .0001, .0003
Ti3349,334.904 {101},Y_3600,ppm, .0002,.0000,6.582, .0002, .0002
Tl1908,190.856 {477},In2306,ppm, .0089,.0020,22.20, .0075, .0103
U_3670,367.007 { 92},Y_3600,ppm, -.2075,.0674,32.50, -.1598, -.2552
V_2924,292.402 {115},Y_3600,ppm, .0002,.0002,92.18, .0003, .0001
W_2397,239.709 {140},Y_2243,ppm, .0296,.0218,73.84, .0141, .0450
Zn2062,206.200 {463},In2306,ppm, -.0014,.0000,1.607, -.0014, -.0015

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 255.99,.36983,.14447,256.25,255.73
In2306,230.606 {446},Cts/S, 15879.,23.795,.14985,15896.,15862.
Y_2243,224.306 {450},Cts/S, 24652.,55.274,.22422,24691.,24613.
Y_3600,360.073 { 94},Cts/S, 209440.,1568.9,.74909,210550.,208330.
Y_3710,371.030 { 91},Cts/S, 12441.,38.992,.31342,12468.,12413.

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Al3082,308.215 {109},In2306,ppm, 115.4,.7448,.6454, 114.9, 115.9
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As1890,189.042 {478},Y_2243,ppm, .0369,.0006,1.641, .0365, .0374
B_2496,249.678 {135},Y_3710,ppm, .0135,.0033,24.78, .0111, .0158
Ba4554,455.403 { 74},Y_3710,ppm, 2.030,.0025,.1249, 2.028, 2.032
Be3130,313.042 {108},Y_3710,ppm, .0149,.0000,.1731, .0149, .0149
Ca3158,315.887 {107},In2306,ppm, 41.35,.0256,.0619, 41.37, 41.33
Cd2288,228.802 {447},Y_2243,ppm, .0014,.0001,4.343, .0015, .0014
Co2286,228.616 {447},In2306,ppm, .1477,.0009,.6283, .1470, .1483
Cr2677,267.716 {126},Y_3600,ppm, .0919,.0003,.3703, .0922, .0917
Cu3247,324.754 {104},Y_3600,ppm, .0735,.0005,.7094, .0731, .0738
Fe2404,240.488 {140},In2306,ppm, 95.90,.1453,.1516, 95.80, 96.00
K_7664,766.490 { 44},Y_3710,ppm, 5.633,.0114,.2024, 5.641, 5.625
Li6707,670.784 { 50},Y_3710,ppm, .0134,.0005,3.515, .0138, .0131
Mg2790,279.079 {121},Y_3710,ppm, 22.79,.0051,.0224, 22.79, 22.80
Mn2576,257.610 {131},Y_3600,ppm, .3344,.0006,.1808, .3348, .3339
Mo2020,202.030 {467},Y_2243,ppm, .0025,.0001,5.860, .0024, .0026
Na5895,589.592 { 57},Y_3710,ppm, 12.85,.0150,.1170, 12.86, 12.84
Ni2316,231.604 {445},In2306,ppm, .1121,.0010,.9020, .1113, .1128
P_1782,178.284 {489},In2306,ppm, .6208,.0018,.2879, .6220, .6195
Pb2203,220.353 {453},In2306,ppm, .1298,.0004,.2794, .1295, .1301
S_1820,182.034 {485},Y_2243,ppm, -.3876,.0010,.2687, -.3868, -.3883
Sb2068,206.833 {463},Y_2243,ppm, -.0022,.0014,62.87, -.0032, -.0012
Se1960,196.090 {472},Y_2243,ppm, .0005,.0003,48.42, .0007, .0004
Si2516,251.611 {134},Y_3710,ppm, 14.93,.0572,.3830, 14.97, 14.89
Sn1899,189.989 {477},In2306,ppm, .0159,.0001,.4382, .0160, .0159
Sr4215,421.552 { 80},Y_3710,ppm, .4842,.0005,.1054, .4839, .4846
Ti3349,334.904 {101},Y_3600,ppm, .1372,.0000,.0072, .1373, .1372
Tl1908,190.856 {477},In2306,ppm, .0066,.0030,45.78, .0088, .0045
U_3670,367.007 { 92},Y_3600,ppm, .3201,.1123,35.08, .2407, .3995
V_2924,292.402 {115},Y_3600,ppm, .1427,.0004,.2790, .1430, .1424
W_2397,239.709 {140},Y_2243,ppm, -.1127,.0200,17.76, -.1269, -.0986
Zn2062,206.200 {463},In2306,ppm, .3883,.0038,.9803, .3856, .3910

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 246.36,.76188,.30925,245.83,246.90
In2306,230.606 {446},Cts/S, 13764.,16.659,.12103,13776.,13752.
Y_2243,224.306 {450},Cts/S, 26162.,22.696,.08675,26178.,26146.
Y_3600,360.073 { 94},Cts/S, 220860.,265.35,.12015,221050.,220670.
Y_3710,371.030 { 91},Cts/S, 13750.,152.23,1.1071,13643.,13858.

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Ag3280,328.068 {103},Y_3600,ppm, -.0034,.0005,15.51, -.0031, -.0038
Al3082,308.215 {109},In2306,ppm, 206.0,2.301,1.117, 204.4, 207.6
As1890,189.042 {478},Y_2243,ppm, .0648,.0014,2.102, .0657, .0638
B_2496,249.678 {135},Y_3710,ppm, .0217,.0016,7.318, .0228, .0205
Ba4554,455.403 { 74},Y_3710,ppm, 1.776,.0104,.5853, 1.769, 1.783
Be3130,313.042 {108},Y_3710,ppm, .0104,.0001,.4944, .0104, .0104
Ca3158,315.887 {107},In2306,ppm, 16.13,.1571,.9739, 16.02, 16.24
Cd2288,228.802 {447},Y_2243,ppm, .0027,.0002,9.023, .0028, .0025
Co2286,228.616 {447},In2306,ppm, .0399,.0003,.7249, .0397, .0401
Cr2677,267.716 {126},Y_3600,ppm, .1861,.0002,.1292, .1860, .1863
Cu3247,324.754 {104},Y_3600,ppm, .1127,.0006,.5680, .1122, .1131
Fe2404,240.488 {140},In2306,ppm, 222.2,2.241,1.009, 220.6, 223.8
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K_7664,766.490 { 44},Y_3710,ppm, 12.78,.0656,.5133, 12.73, 12.82
Li6707,670.784 { 50},Y_3710,ppm, .0660,.0001,.1829, .0659, .0661
Mg2790,279.079 {121},Y_3710,ppm, 13.11,.0049,.0377, 13.11, 13.10
Mn2576,257.610 {131},Y_3600,ppm, .2496,.0004,.1418, .2494, .2499
Mo2020,202.030 {467},Y_2243,ppm, .0071,.0000,.2437, .0071, .0071
Na5895,589.592 { 57},Y_3710,ppm, .4339,.0074,1.695, .4391, .4287
Ni2316,231.604 {445},In2306,ppm, .1050,.0008,.7350, .1055, .1044
P_1782,178.284 {489},In2306,ppm, .8342,.0083,1.001, .8401, .8283
Pb2203,220.353 {453},In2306,ppm, .1537,.0005,.3226, .1534, .1541
S_1820,182.034 {485},Y_2243,ppm, -.6285,.0167,2.653, -.6167, -.6403
Sb2068,206.833 {463},Y_2243,ppm, .0017,.0033,193.4, .0040, -.0006
Se1960,196.090 {472},Y_2243,ppm, .0009,.0055,628.5, -.0030, .0048
Si2516,251.611 {134},Y_3710,ppm, 16.27,.0419,.2576, 16.24, 16.30
Sn1899,189.989 {477},In2306,ppm, .0183,.0005,2.649, .0179, .0186
Sr4215,421.552 { 80},Y_3710,ppm, .1835,.0018,.9777, .1822, .1848
Ti3349,334.904 {101},Y_3600,ppm, .6665,.0009,.1342, .6671, .6659
Tl1908,190.856 {477},In2306,ppm, .0012,.0029,237.3, .0032, -.0008
U_3670,367.007 { 92},Y_3600,ppm, .9465,.0662,6.993, .8997, .9933
V_2924,292.402 {115},Y_3600,ppm, .4249,.0013,.3026, .4258, .4239
W_2397,239.709 {140},Y_2243,ppm, -.0254,.0220,86.87, -.0410, -.0098
Zn2062,206.200 {463},In2306,ppm, .2487,.0012,.4683, .2495, .2479

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 246.66,.20035,.08122,246.80,246.52
In2306,230.606 {446},Cts/S, 13737.,11.348,.08261,13728.,13745.
Y_2243,224.306 {450},Cts/S, 25726.,3.2699,.01271,25729.,25724.
Y_3600,360.073 { 94},Cts/S, 214630.,10.843,.00505,214630.,214640.
Y_3710,371.030 { 91},Cts/S, 13422.,58.012,.43220,13381.,13463.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0029,.0003,11.76, -.0027, -.0031
Al3082,308.215 {109},In2306,ppm, 206.3,.5951,.2885, 205.9, 206.7
As1890,189.042 {478},Y_2243,ppm, .1155,.0010,.8520, .1162, .1148
B_2496,249.678 {135},Y_3710,ppm, .0245,.0027,11.16, .0264, .0226
Ba4554,455.403 { 74},Y_3710,ppm, 1.250,.0015,.1202, 1.249, 1.251
Be3130,313.042 {108},Y_3710,ppm, .0164,.0002,1.143, .0162, .0165
Ca3158,315.887 {107},In2306,ppm, 11.06,.0260,.2348, 11.07, 11.04
Cd2288,228.802 {447},Y_2243,ppm, .0059,.0001,.8941, .0060, .0059
Co2286,228.616 {447},In2306,ppm, .0676,.0001,.1355, .0677, .0675
Cr2677,267.716 {126},Y_3600,ppm, .6570,.0027,.4126, .6551, .6589
Cu3247,324.754 {104},Y_3600,ppm, .1079,.0001,.0610, .1079, .1080
Fe2404,240.488 {140},In2306,ppm, 520.2,.3472,.0667, 520.5, 520.0
K_7664,766.490 { 44},Y_3710,ppm, 10.06,.0850,.8449, 10.12, 10.00
Li6707,670.784 { 50},Y_3710,ppm, .0516,.0004,.7772, .0519, .0513
Mg2790,279.079 {121},Y_3710,ppm, 10.48,.0992,.9465, 10.55, 10.41
Mn2576,257.610 {131},Y_3600,ppm, .7970,.0022,.2793, .7954, .7986
Mo2020,202.030 {467},Y_2243,ppm, .0146,.0006,3.855, .0150, .0142
Na5895,589.592 { 57},Y_3710,ppm, .4184,.0035,.8308, .4209, .4159
Ni2316,231.604 {445},In2306,ppm, .1463,.0001,.0935, .1462, .1464
P_1782,178.284 {489},In2306,ppm, 1.921,.0066,.3427, 1.916, 1.926
Pb2203,220.353 {453},In2306,ppm, .2408,.0026,1.065, .2390, .2426
S_1820,182.034 {485},Y_2243,ppm, -1.992,.0026,.1324, -1.990, -1.994
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Sb2068,206.833 {463},Y_2243,ppm, .0057,.0023,40.87, .0040, .0073
Se1960,196.090 {472},Y_2243,ppm, .0009,.0019,208.2, .0023, -.0004
Si2516,251.611 {134},Y_3710,ppm, 15.83,.0028,.0177, 15.83, 15.83
Sn1899,189.989 {477},In2306,ppm, .0166,.0004,2.507, .0163, .0168
Sr4215,421.552 { 80},Y_3710,ppm, .1465,.0004,.2967, .1462, .1469
Ti3349,334.904 {101},Y_3600,ppm, .6626,.0017,.2603, .6614, .6638
Tl1908,190.856 {477},In2306,ppm, .0064,.0038,59.61, .0090, .0037
U_3670,367.007 { 92},Y_3600,ppm, 2.668,.0484,1.812, 2.634, 2.703
V_2924,292.402 {115},Y_3600,ppm, .7845,.0031,.3953, .7823, .7867
W_2397,239.709 {140},Y_2243,ppm, -.0735,.0269,36.63, -.0545, -.0926
Zn2062,206.200 {463},In2306,ppm, .2841,.0008,.2882, .2835, .2846

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 248.73,1.3042,.52435,247.81,249.65
In2306,230.606 {446},Cts/S, 13477.,5.1547,.03825,13473.,13481.
Y_2243,224.306 {450},Cts/S, 24612.,6.6462,.02700,24608.,24617.
Y_3600,360.073 { 94},Cts/S, 207810.,70.565,.03396,207760.,207860.
Y_3710,371.030 { 91},Cts/S, 13098.,103.96,.79375,13024.,13171.

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Ag3280,328.068 {103},Y_3600,ppm, -.0030,.0001,1.901, -.0031, -.0030
Al3082,308.215 {109},In2306,ppm, 171.7,.4510,.2627, 171.3, 172.0
As1890,189.042 {478},Y_2243,ppm, .1244,.0000,.0243, .1244, .1244
B_2496,249.678 {135},Y_3710,ppm, .0185,.0034,18.29, .0209, .0161
Ba4554,455.403 { 74},Y_3710,ppm, 1.122,.0060,.5332, 1.118, 1.127
Be3130,313.042 {108},Y_3710,ppm, .0130,.0001,.8372, .0129, .0131
Ca3158,315.887 {107},In2306,ppm, 11.28,.0396,.3508, 11.25, 11.31
Cd2288,228.802 {447},Y_2243,ppm, .0042,.0001,1.978, .0043, .0042
Co2286,228.616 {447},In2306,ppm, .0495,.0004,.7128, .0497, .0492
Cr2677,267.716 {126},Y_3600,ppm, .2276,.0012,.5455, .2267, .2284
Cu3247,324.754 {104},Y_3600,ppm, .0781,.0000,.0376, .0781, .0781
Fe2404,240.488 {140},In2306,ppm, 373.2,.6722,.1801, 373.7, 372.7
K_7664,766.490 { 44},Y_3710,ppm, 8.280,.0607,.7329, 8.237, 8.323
Li6707,670.784 { 50},Y_3710,ppm, .0421,.0013,3.054, .0412, .0430
Mg2790,279.079 {121},Y_3710,ppm, 10.17,.0632,.6220, 10.12, 10.21
Mn2576,257.610 {131},Y_3600,ppm, .3422,.0017,.4893, .3410, .3434
Mo2020,202.030 {467},Y_2243,ppm, .0103,.0002,1.950, .0102, .0105
Na5895,589.592 { 57},Y_3710,ppm, .4640,.0018,.3937, .4653, .4627
Ni2316,231.604 {445},In2306,ppm, .0728,.0001,.0803, .0729, .0728
P_1782,178.284 {489},In2306,ppm, 1.278,.0049,.3853, 1.281, 1.274
Pb2203,220.353 {453},In2306,ppm, .1894,.0009,.4675, .1900, .1887
S_1820,182.034 {485},Y_2243,ppm, -1.555,.0006,.0377, -1.554, -1.555
Sb2068,206.833 {463},Y_2243,ppm, .0048,.0020,42.02, .0034, .0062
Se1960,196.090 {472},Y_2243,ppm, .0050,.0012,23.81, .0059, .0042
Si2516,251.611 {134},Y_3710,ppm, 15.48,.0896,.5784, 15.42, 15.55
Sn1899,189.989 {477},In2306,ppm, .0162,.0005,3.229, .0158, .0166
Sr4215,421.552 { 80},Y_3710,ppm, .1503,.0017,1.107, .1491, .1515
Ti3349,334.904 {101},Y_3600,ppm, .5406,.0021,.3873, .5392, .5421
Tl1908,190.856 {477},In2306,ppm, .0036,.0025,69.55, .0018, .0053
U_3670,367.007 { 92},Y_3600,ppm, 1.838,.0350,1.902, 1.863, 1.814
V_2924,292.402 {115},Y_3600,ppm, .6991,.0032,.4598, .6968, .7014
W_2397,239.709 {140},Y_2243,ppm, -.0690,.0227,32.95, -.0851, -.0529
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Zn2062,206.200 {463},In2306,ppm, .1793,.0007,.3997, .1798, .1788

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 247.28,.25022,.10119,247.10,247.46
In2306,230.606 {446},Cts/S, 13693.,22.173,.16193,13708.,13677.
Y_2243,224.306 {450},Cts/S, 24877.,38.271,.15384,24904.,24850.
Y_3600,360.073 { 94},Cts/S, 209190.,340.39,.16272,208950.,209430.
Y_3710,371.030 { 91},Cts/S, 13044.,35.732,.27393,13069.,13019.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0034,.0004,13.10, -.0030, -.0037
Al3082,308.215 {109},In2306,ppm, 125.6,1.830,1.457, 126.9, 124.3
As1890,189.042 {478},Y_2243,ppm, .0313,.0020,6.339, .0299, .0327
B_2496,249.678 {135},Y_3710,ppm, .0065,.0029,44.69, .0086, .0044
Ba4554,455.403 { 74},Y_3710,ppm, 1.023,.0054,.5320, 1.019, 1.027
Be3130,313.042 {108},Y_3710,ppm, .0051,.0001,2.144, .0052, .0050
Ca3158,315.887 {107},In2306,ppm, 21.19,.3857,1.821, 21.46, 20.91
Cd2288,228.802 {447},Y_2243,ppm, .0009,.0001,13.84, .0010, .0009
Co2286,228.616 {447},In2306,ppm, .0328,.0000,.0394, .0328, .0328
Cr2677,267.716 {126},Y_3600,ppm, .0765,.0004,.5596, .0762, .0768
Cu3247,324.754 {104},Y_3600,ppm, .0497,.0004,.7272, .0494, .0499
Fe2404,240.488 {140},In2306,ppm, 81.00,1.489,1.838, 82.06, 79.95
K_7664,766.490 { 44},Y_3710,ppm, 5.836,.0049,.0834, 5.832, 5.839
Li6707,670.784 { 50},Y_3710,ppm, .0149,.0001,.8032, .0150, .0148
Mg2790,279.079 {121},Y_3710,ppm, 15.97,.0349,.2187, 15.95, 16.00
Mn2576,257.610 {131},Y_3600,ppm, .0833,.0001,.1724, .0832, .0834
Mo2020,202.030 {467},Y_2243,ppm, .0027,.0002,8.019, .0025, .0028
Na5895,589.592 { 57},Y_3710,ppm, 1.784,.0078,.4362, 1.779, 1.790
Ni2316,231.604 {445},In2306,ppm, .0339,.0003,.8570, .0337, .0341
P_1782,178.284 {489},In2306,ppm, .2543,.0013,.5042, .2534, .2552
Pb2203,220.353 {453},In2306,ppm, .1054,.0003,.3292, .1056, .1051
S_1820,182.034 {485},Y_2243,ppm, -.3245,.0097,2.992, -.3314, -.3177
Sb2068,206.833 {463},Y_2243,ppm, -.0055,.0025,46.19, -.0072, -.0037
Se1960,196.090 {472},Y_2243,ppm, -.0036,.0031,85.15, -.0014, -.0058
Si2516,251.611 {134},Y_3710,ppm, 13.81,.0141,.1021, 13.82, 13.80
Sn1899,189.989 {477},In2306,ppm, .0157,.0003,1.923, .0159, .0154
Sr4215,421.552 { 80},Y_3710,ppm, .2786,.0015,.5370, .2775, .2797
Ti3349,334.904 {101},Y_3600,ppm, .1317,.0002,.1591, .1315, .1318
Tl1908,190.856 {477},In2306,ppm, -.0060,.0085,141.1, -.0120, -.0000
U_3670,367.007 { 92},Y_3600,ppm, .2073,.0188,9.044, .1941, .2206
V_2924,292.402 {115},Y_3600,ppm, .1323,.0003,.2427, .1321, .1325
W_2397,239.709 {140},Y_2243,ppm, -.0296,.0397,134.0, -.0577, -.0016
Zn2062,206.200 {463},In2306,ppm, .1671,.0002,.1029, .1672, .1670

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 246.93,4.3174,1.7484,243.88,249.98
In2306,230.606 {446},Cts/S, 14123.,54.797,.38799,14162.,14085.
Y_2243,224.306 {450},Cts/S, 26873.,166.02,.61780,26991.,26756.
Y_3600,360.073 { 94},Cts/S, 224880.,426.17,.18951,224580.,225180.
Y_3710,371.030 { 91},Cts/S, 13893.,17.816,.12824,13880.,13905.
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CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0152,.0002,1.434, .0150, .0153
Al3082,308.215 {109},In2306,ppm, 48.74,.1033,.2119, 48.66, 48.81
As1890,189.042 {478},Y_2243,ppm, .1320,.0043,3.293, .1290, .1351
B_2496,249.678 {135},Y_3710,ppm, .0557,.0030,5.439, .0578, .0535
Ba4554,455.403 { 74},Y_3710,ppm, 1.372,.0059,.4338, 1.367, 1.376
Be3130,313.042 {108},Y_3710,ppm, .0030,.0000,.4757, .0031, .0030
Ca3158,315.887 {107},In2306,ppm, 3217.,36.13,1.123, 3191., 3242.
Cd2288,228.802 {447},Y_2243,ppm, .0170,.0000,.0019, .0170, .0170
Co2286,228.616 {447},In2306,ppm, .0724,.0001,.0891, .0723, .0724
Cr2677,267.716 {126},Y_3600,ppm, .7057,.0017,.2389, .7045, .7069
Cu3247,324.754 {104},Y_3600,ppm, .3998,.0004,.1079, .4001, .3994
Fe2404,240.488 {140},In2306,ppm, 126.1,.2536,.2012, 125.9, 126.2
K_7664,766.490 { 44},Y_3710,ppm, 6.946,.2148,3.092, 6.794, 7.098
Li6707,670.784 { 50},Y_3710,ppm, .1314,.0012,.9073, .1306, .1322
Mg2790,279.079 {121},Y_3710,ppm, 104.0,.6222,.5985, 103.5, 104.4
Mn2576,257.610 {131},Y_3600,ppm, 3.928,.0046,.1171, 3.925, 3.932
Mo2020,202.030 {467},Y_2243,ppm, .0336,.0003,.7727, .0338, .0335
Na5895,589.592 { 57},Y_3710,ppm, 10.44,.0350,.3356, 10.42, 10.47
Ni2316,231.604 {445},In2306,ppm, 1.063,.0005,.0426, 1.063, 1.064
P_1782,178.284 {489},In2306,ppm, 8.949,.0498,.5563, 8.914, 8.984
Pb2203,220.353 {453},In2306,ppm, .3021,.0003,.0926, .3023, .3019
S_1820,182.034 {485},Y_2243,ppm, 4.089,.0192,.4695, 4.075, 4.102
Sb2068,206.833 {463},Y_2243,ppm, .0080,.0015,18.78, .0070, .0091
Se1960,196.090 {472},Y_2243,ppm, .0001,.0003,344.0, -.0001, .0003
Si2516,251.611 {134},Y_3710,ppm, 15.39,.0921,.5982, 15.33, 15.46
Sn1899,189.989 {477},In2306,ppm, .0299,.0001,.3070, .0300, .0298
Sr4215,421.552 { 80},Y_3710,ppm, 7.266,.0128,.1755, 7.257, 7.275
Ti3349,334.904 {101},Y_3600,ppm, .9249,.0003,.0356, .9247, .9251
Tl1908,190.856 {477},In2306,ppm, -.0035,.0028,80.40, -.0015, -.0055
U_3670,367.007 { 92},Y_3600,ppm, 1.042,.0246,2.365, 1.060, 1.025
V_2924,292.402 {115},Y_3600,ppm, .1378,.0005,.3463, .1381, .1375
W_2397,239.709 {140},Y_2243,ppm, -.0096,.0160,167.5, -.0209, .0018
Zn2062,206.200 {463},In2306,ppm, 7.987,.0121,.1517, 7.979, 7.996

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 207.22,.21922,.10579,207.06,207.37
In2306,230.606 {446},Cts/S, 9755.9,7.7316,.07925,9750.4,9761.4
Y_2243,224.306 {450},Cts/S, 20021.,25.346,.12660,20003.,20039.
Y_3600,360.073 { 94},Cts/S, 171420.,352.78,.20580,171670.,171170.
Y_3710,371.030 { 91},Cts/S, 11671.,48.858,.41863,11705.,11636.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0173,.0004,2.139, .0176, .0171
Al3082,308.215 {109},In2306,ppm, 49.41,.1550,.3137, 49.30, 49.52
As1890,189.042 {478},Y_2243,ppm, .1024,.0012,1.157, .1015, .1032
B_2496,249.678 {135},Y_3710,ppm, .0474,.0049,10.43, .0509, .0439
Ba4554,455.403 { 74},Y_3710,ppm, 1.450,.0012,.0833, 1.449, 1.451
Be3130,313.042 {108},Y_3710,ppm, .0030,.0000,.8687, .0030, .0029
Ca3158,315.887 {107},In2306,ppm, 3311.,21.73,.6562, 3295., 3326.
Cd2288,228.802 {447},Y_2243,ppm, .0146,.0001,.6950, .0145, .0146
Co2286,228.616 {447},In2306,ppm, .0750,.0002,.2949, .0751, .0748
Cr2677,267.716 {126},Y_3600,ppm, .6510,.0033,.5107, .6533, .6486
Cu3247,324.754 {104},Y_3600,ppm, .3884,.0010,.2618, .3891, .3877
Fe2404,240.488 {140},In2306,ppm, 109.7,.6820,.6216, 109.2, 110.2
K_7664,766.490 { 44},Y_3710,ppm, 7.293,.0659,.9031, 7.246, 7.339
Li6707,670.784 { 50},Y_3710,ppm, .1223,.0003,.2639, .1225, .1221
Mg2790,279.079 {121},Y_3710,ppm, 87.23,.2164,.2481, 87.07, 87.38
Mn2576,257.610 {131},Y_3600,ppm, 3.563,.0232,.6517, 3.547, 3.580
Mo2020,202.030 {467},Y_2243,ppm, .0254,.0001,.5498, .0253, .0255
Na5895,589.592 { 57},Y_3710,ppm, 11.11,.0230,.2069, 11.09, 11.13
Ni2316,231.604 {445},In2306,ppm, 1.116,.0048,.4302, 1.119, 1.112
P_1782,178.284 {489},In2306,ppm, 8.720,.0262,.3002, 8.739, 8.702
Pb2203,220.353 {453},In2306,ppm, .2876,.0049,1.692, .2842, .2910
S_1820,182.034 {485},Y_2243,ppm, 3.681,.0190,.5153, 3.695, 3.668
Sb2068,206.833 {463},Y_2243,ppm, .0068,.0002,2.741, .0069, .0066
Se1960,196.090 {472},Y_2243,ppm, -.0051,.0006,11.23, -.0055, -.0047
Si2516,251.611 {134},Y_3710,ppm, 15.07,.0513,.3402, 15.03, 15.11
Sn1899,189.989 {477},In2306,ppm, .0275,.0001,.4712, .0275, .0276
Sr4215,421.552 { 80},Y_3710,ppm, 8.061,.0126,.1559, 8.052, 8.070
Ti3349,334.904 {101},Y_3600,ppm, .8374,.0024,.2820, .8391, .8357
Tl1908,190.856 {477},In2306,ppm, -.0046,.0038,82.63, -.0072, -.0019
U_3670,367.007 { 92},Y_3600,ppm, .9438,.0333,3.528, .9202, .9673
V_2924,292.402 {115},Y_3600,ppm, .1358,.0001,.0523, .1359, .1358
W_2397,239.709 {140},Y_2243,ppm, -.0697,.0064,9.120, -.0742, -.0652
Zn2062,206.200 {463},In2306,ppm, 8.105,.0382,.4714, 8.132, 8.078

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 206.74,.47470,.22961,207.08,206.41
In2306,230.606 {446},Cts/S, 9685.6,19.612,.20248,9699.5,9671.7
Y_2243,224.306 {450},Cts/S, 19735.,33.359,.16903,19759.,19712.
Y_3600,360.073 { 94},Cts/S, 169810.,142.83,.08411,169710.,169910.
Y_3710,371.030 { 91},Cts/S, 11636.,32.117,.27600,11659.,11614.

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Custom ID3=
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Mode=CONC
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0017,.0003,18.67, .0015, .0020
Al3082,308.215 {109},In2306,ppm, 41.10,.0270,.0657, 41.08, 41.12
As1890,189.042 {478},Y_2243,ppm, .0562,.0022,3.876, .0577, .0546
B_2496,249.678 {135},Y_3710,ppm, .0413,.0016,3.909, .0424, .0401
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Ba4554,455.403 { 74},Y_3710,ppm, .8950,.0005,.0551, .8953, .8946
Be3130,313.042 {108},Y_3710,ppm, .0025,.0001,5.951, .0026, .0024
Ca3158,315.887 {107},In2306,ppm, 1661.,29.13,1.754, 1640., 1681.
Cd2288,228.802 {447},Y_2243,ppm, .0069,.0000,.1995, .0069, .0069
Co2286,228.616 {447},In2306,ppm, .0721,.0001,.1753, .0720, .0722
Cr2677,267.716 {126},Y_3600,ppm, .7775,.0028,.3653, .7795, .7755
Cu3247,324.754 {104},Y_3600,ppm, .2294,.0016,.7177, .2283, .2306
Fe2404,240.488 {140},In2306,ppm, 137.0,.0508,.0371, 137.0, 136.9
K_7664,766.490 { 44},Y_3710,ppm, 5.453,.0595,1.091, 5.495, 5.411
Li6707,670.784 { 50},Y_3710,ppm, .0944,.0002,.1960, .0945, .0942
Mg2790,279.079 {121},Y_3710,ppm, 90.58,.4236,.4676, 90.88, 90.28
Mn2576,257.610 {131},Y_3600,ppm, 2.386,.0125,.5257, 2.395, 2.377
Mo2020,202.030 {467},Y_2243,ppm, .0569,.0000,.0672, .0569, .0569
Na5895,589.592 { 57},Y_3710,ppm, 4.437,.0025,.0572, 4.435, 4.439
Ni2316,231.604 {445},In2306,ppm, .8439,.0015,.1810, .8449, .8428
P_1782,178.284 {489},In2306,ppm, 6.730,.0125,.1850, 6.739, 6.721
Pb2203,220.353 {453},In2306,ppm, .1420,.0008,.5423, .1415, .1426
S_1820,182.034 {485},Y_2243,ppm, 2.621,.0017,.0652, 2.620, 2.622
Sb2068,206.833 {463},Y_2243,ppm, .0033,.0010,30.65, .0026, .0040
Se1960,196.090 {472},Y_2243,ppm, .0011,.0011,96.47, .0019, .0004
Si2516,251.611 {134},Y_3710,ppm, 10.43,.0715,.6850, 10.48, 10.38
Sn1899,189.989 {477},In2306,ppm, .0196,.0007,3.532, .0201, .0191
Sr4215,421.552 { 80},Y_3710,ppm, 3.013,.0099,.3279, 3.020, 3.006
Ti3349,334.904 {101},Y_3600,ppm, 1.114,.0033,.2968, 1.116, 1.112
Tl1908,190.856 {477},In2306,ppm, -.0034,.0019,55.29, -.0020, -.0047
U_3670,367.007 { 92},Y_3600,ppm, .8600,.0786,9.140, .8045, .9156
V_2924,292.402 {115},Y_3600,ppm, .1262,.0011,.8659, .1270, .1255
W_2397,239.709 {140},Y_2243,ppm, -.0234,.0438,187.4, -.0543, .0076
Zn2062,206.200 {463},In2306,ppm, 3.699,.0115,.3116, 3.708, 3.691

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 215.23,.31744,.14749,215.45,215.00
In2306,230.606 {446},Cts/S, 10880.,13.982,.12851,10870.,10890.
Y_2243,224.306 {450},Cts/S, 21547.,.30193,.00140,21548.,21547.
Y_3600,360.073 { 94},Cts/S, 182640.,113.59,.06219,182560.,182720.
Y_3710,371.030 { 91},Cts/S, 12195.,6.0548,.04965,12190.,12199.

[Sample Header]
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Custom ID2=
Custom ID3=
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Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0047,.0001,1.226, .0047, .0048
Al3082,308.215 {109},In2306,ppm, 28.01,.1983,.7080, 28.15, 27.87
As1890,189.042 {478},Y_2243,ppm, .0473,.0019,3.921, .0460, .0486
B_2496,249.678 {135},Y_3710,ppm, .0406,.0010,2.369, .0413, .0399
Ba4554,455.403 { 74},Y_3710,ppm, 1.382,.0042,.3016, 1.379, 1.385
Be3130,313.042 {108},Y_3710,ppm, .0014,.0000,2.772, .0014, .0014
Ca3158,315.887 {107},In2306,ppm, 3583.,24.90,.6950, 3565., 3600.
Cd2288,228.802 {447},Y_2243,ppm, .0101,.0000,.2051, .0101, .0101
Co2286,228.616 {447},In2306,ppm, .0483,.0003,.5625, .0481, .0485
Cr2677,267.716 {126},Y_3600,ppm, 1.068,.0085,.7940, 1.074, 1.062
Cu3247,324.754 {104},Y_3600,ppm, .3320,.0012,.3472, .3328, .3312
Fe2404,240.488 {140},In2306,ppm, 109.6,.5025,.4585, 109.9, 109.2
K_7664,766.490 { 44},Y_3710,ppm, 3.517,.0370,1.053, 3.491, 3.543
Li6707,670.784 { 50},Y_3710,ppm, .1059,.0005,.4489, .1063, .1056
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Mg2790,279.079 {121},Y_3710,ppm, 72.39,.0587,.0811, 72.43, 72.34
Mn2576,257.610 {131},Y_3600,ppm, 1.899,.0105,.5513, 1.906, 1.891
Mo2020,202.030 {467},Y_2243,ppm, .0818,.0000,.0186, .0818, .0818
Na5895,589.592 { 57},Y_3710,ppm, 16.96,.0594,.3500, 16.92, 17.01
Ni2316,231.604 {445},In2306,ppm, 1.332,.0049,.3681, 1.335, 1.328
P_1782,178.284 {489},In2306,ppm, 5.470,.0192,.3509, 5.484, 5.456
Pb2203,220.353 {453},In2306,ppm, .1622,.0035,2.159, .1647, .1597
S_1820,182.034 {485},Y_2243,ppm, 3.973,.0063,.1577, 3.977, 3.968
Sb2068,206.833 {463},Y_2243,ppm, .0081,.0004,4.779, .0084, .0078
Se1960,196.090 {472},Y_2243,ppm, -.0056,.0042,75.23, -.0026, -.0086
Si2516,251.611 {134},Y_3710,ppm, 8.424,.0073,.0872, 8.419, 8.429
Sn1899,189.989 {477},In2306,ppm, .0288,.0013,4.693, .0297, .0278
Sr4215,421.552 { 80},Y_3710,ppm, 9.350,.0183,.1961, 9.363, 9.337
Ti3349,334.904 {101},Y_3600,ppm, .8077,.0023,.2822, .8094, .8061
Tl1908,190.856 {477},In2306,ppm, -.0048,.0040,82.49, -.0020, -.0076
U_3670,367.007 { 92},Y_3600,ppm, 1.090,.0152,1.395, 1.079, 1.101
V_2924,292.402 {115},Y_3600,ppm, .0771,.0002,.2352, .0770, .0772
W_2397,239.709 {140},Y_2243,ppm, -.0825,.0129,15.64, -.0734, -.0917
Zn2062,206.200 {463},In2306,ppm, 5.687,.0401,.7044, 5.715, 5.659

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 203.90,.57929,.28411,203.49,204.31
In2306,230.606 {446},Cts/S, 9605.6,14.086,.14664,9595.7,9615.6
Y_2243,224.306 {450},Cts/S, 19120.,6.3991,.03347,19124.,19115.
Y_3600,360.073 { 94},Cts/S, 164810.,522.04,.31675,164440.,165180.
Y_3710,371.030 { 91},Cts/S, 11357.,45.891,.40408,11389.,11324.

[Sample Header]
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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0159,.0003,1.940, .0161, .0157
Al3082,308.215 {109},In2306,ppm, 99.85,.4557,.4563, 100.2, 99.53
As1890,189.042 {478},Y_2243,ppm, .0974,.0027,2.776, .0954, .0993
B_2496,249.678 {135},Y_3710,ppm, .1033,.0081,7.830, .0976, .1091
Ba4554,455.403 { 74},Y_3710,ppm, 1.832,.0053,.2893, 1.835, 1.828
Be3130,313.042 {108},Y_3710,ppm, .0044,.0002,5.630, .0046, .0042
Ca3158,315.887 {107},In2306,ppm, 3363.,5.038,.1498, 3360., 3367.
Cd2288,228.802 {447},Y_2243,ppm, .0223,.0002,.7548, .0224, .0222
Co2286,228.616 {447},In2306,ppm, .0955,.0004,.4551, .0958, .0952
Cr2677,267.716 {126},Y_3600,ppm, 1.585,.0054,.3418, 1.589, 1.581
Cu3247,324.754 {104},Y_3600,ppm, 1.026,.0014,.1380, 1.027, 1.025
Fe2404,240.488 {140},In2306,ppm, 222.5,.5031,.2261, 222.2, 222.9
K_7664,766.490 { 44},Y_3710,ppm, 10.51,.0385,.3663, 10.48, 10.53
Li6707,670.784 { 50},Y_3710,ppm, .2003,.0007,.3290, .2008, .1999
Mg2790,279.079 {121},Y_3710,ppm, 140.6,1.026,.7295, 139.9, 141.4
Mn2576,257.610 {131},Y_3600,ppm, 4.642,.0117,.2511, 4.633, 4.650
Mo2020,202.030 {467},Y_2243,ppm, .1062,.0006,.5736, .1067, .1058
Na5895,589.592 { 57},Y_3710,ppm, 9.929,.0261,.2625, 9.948, 9.911
Ni2316,231.604 {445},In2306,ppm, 1.745,.0010,.0592, 1.746, 1.744
P_1782,178.284 {489},In2306,ppm, 12.04,.0210,.1743, 12.03, 12.06
Pb2203,220.353 {453},In2306,ppm, .4291,.0024,.5643, .4308, .4273
S_1820,182.034 {485},Y_2243,ppm, 4.714,.0027,.0574, 4.712, 4.716
Sb2068,206.833 {463},Y_2243,ppm, .0089,.0012,13.34, .0080, .0097
Se1960,196.090 {472},Y_2243,ppm, .0002,.0035,1443., .0027, -.0022
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Si2516,251.611 {134},Y_3710,ppm, 16.79,.0558,.3323, 16.83, 16.75
Sn1899,189.989 {477},In2306,ppm, .0524,.0003,.6169, .0526, .0521
Sr4215,421.552 { 80},Y_3710,ppm, 7.389,.0602,.8149, 7.346, 7.431
Ti3349,334.904 {101},Y_3600,ppm, 2.073,.0031,.1510, 2.075, 2.070
Tl1908,190.856 {477},In2306,ppm, -.0020,.0036,177.6, .0005, -.0046
U_3670,367.007 { 92},Y_3600,ppm, 1.709,.0471,2.756, 1.742, 1.675
V_2924,292.402 {115},Y_3600,ppm, .2178,.0000,.0072, .2178, .2178
W_2397,239.709 {140},Y_2243,ppm, -.0222,.0377,169.7, .0044, -.0489
Zn2062,206.200 {463},In2306,ppm, 18.88,.0243,.1289, 18.86, 18.90

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 203.24,1.5283,.75201,202.16,204.32
In2306,230.606 {446},Cts/S, 9565.0,.08430,.00088,9564.9,9565.0
Y_2243,224.306 {450},Cts/S, 20028.,12.237,.06110,20019.,20036.
Y_3600,360.073 { 94},Cts/S, 170800.,525.45,.30763,171170.,170430.
Y_3710,371.030 { 91},Cts/S, 11809.,39.700,.33617,11781.,11837.

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Repeats=2

[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .4829,.0009,.1811, .4823, .4835
Al3082,308.215 {109},In2306,ppm, 20.47,.1019,.4976, 20.54, 20.40
As1890,189.042 {478},Y_2243,ppm, .9946,.0006,.0614, .9942, .9950
B_2496,249.678 {135},Y_3710,ppm, 1.022,.0128,1.255, 1.012, 1.031
Ba4554,455.403 { 74},Y_3710,ppm, 1.005,.0030,.2986, 1.003, 1.007
Be3130,313.042 {108},Y_3710,ppm, 1.014,.0011,.1121, 1.013, 1.015
Ca3158,315.887 {107},In2306,ppm, 20.64,.3405,1.650, 20.88, 20.40
Cd2288,228.802 {447},Y_2243,ppm, .9712,.0016,.1660, .9700, .9723
Co2286,228.616 {447},In2306,ppm, .9834,.0008,.0794, .9840, .9829
Cr2677,267.716 {126},Y_3600,ppm, .9608,.0007,.0751, .9613, .9603
Cu3247,324.754 {104},Y_3600,ppm, .9718,.0006,.0621, .9713, .9722
Fe2404,240.488 {140},In2306,ppm, 19.92,.1427,.7162, 20.02, 19.82
K_7664,766.490 { 44},Y_3710,ppm, 20.02,.0510,.2545, 19.99, 20.06
Li6707,670.784 { 50},Y_3710,ppm, .9877,.0023,.2301, .9861, .9893
Mg2790,279.079 {121},Y_3710,ppm, 20.89,.0859,.4114, 20.95, 20.83
Mn2576,257.610 {131},Y_3600,ppm, .9894,.0004,.0428, .9897, .9891
Mo2020,202.030 {467},Y_2243,ppm, .9930,.0009,.0928, .9923, .9936
Na5895,589.592 { 57},Y_3710,ppm, 19.67,.0332,.1688, 19.64, 19.69
Ni2316,231.604 {445},In2306,ppm, 1.020,.0034,.3329, 1.022, 1.017
P_1782,178.284 {489},In2306,ppm, 10.55,.0136,.1291, 10.54, 10.55
Pb2203,220.353 {453},In2306,ppm, 1.013,.0056,.5554, 1.017, 1.009
S_1820,182.034 {485},Y_2243,ppm, 7.221,.0036,.0502, 7.223, 7.218
Sb2068,206.833 {463},Y_2243,ppm, 2.133,.0091,.4265, 2.127, 2.140
Se1960,196.090 {472},Y_2243,ppm, .9789,.0067,.6873, .9741, .9836
Si2516,251.611 {134},Y_3710,ppm, 9.264,.0384,.4150, 9.236, 9.291
Sn1899,189.989 {477},In2306,ppm, 1.031,.0026,.2544, 1.033, 1.029
Sr4215,421.552 { 80},Y_3710,ppm, 1.000,.0037,.3655, .9975, 1.003
Ti3349,334.904 {101},Y_3600,ppm, .9693,.0011,.1159, .9701, .9685
Tl1908,190.856 {477},In2306,ppm, 1.180,.0068,.5738, 1.184, 1.175
U_3670,367.007 { 92},Y_3600,ppm, .7547,.0201,2.657, .7405, .7689
V_2924,292.402 {115},Y_3600,ppm, .9626,.0004,.0400, .9629, .9624
W_2397,239.709 {140},Y_2243,ppm, 1.002,.0412,4.114, 1.031, .9725
Zn2062,206.200 {463},In2306,ppm, 1.014,.0044,.4306, 1.017, 1.011
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[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 245.91,2.4502,.99639,244.18,247.64
In2306,230.606 {446},Cts/S, 14207.,3.7452,.02636,14210.,14205.
Y_2243,224.306 {450},Cts/S, 23953.,49.618,.20715,23988.,23918.
Y_3600,360.073 { 94},Cts/S, 201780.,144.14,.07143,201880.,201680.
Y_3710,371.030 { 91},Cts/S, 12372.,11.622,.09394,12363.,12380.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0101,.0001,.9447, .0102, .0101
Al3082,308.215 {109},In2306,ppm, .2133,.0027,1.258, .2114, .2152
As1890,189.042 {478},Y_2243,ppm, .0213,.0014,6.373, .0223, .0204
B_2496,249.678 {135},Y_3710,ppm, .2210,.0029,1.317, .2190, .2231
Ba4554,455.403 { 74},Y_3710,ppm, .0220,.0000,.0577, .0220, .0220
Be3130,313.042 {108},Y_3710,ppm, .0116,.0001,1.002, .0115, .0117
Ca3158,315.887 {107},In2306,ppm, 1.148,.0101,.8795, 1.155, 1.141
Cd2288,228.802 {447},Y_2243,ppm, .0109,.0000,.3523, .0108, .0109
Co2286,228.616 {447},In2306,ppm, .0105,.0002,2.234, .0107, .0104
Cr2677,267.716 {126},Y_3600,ppm, .0107,.0000,.1504, .0108, .0107
Cu3247,324.754 {104},Y_3600,ppm, .0113,.0001,.7772, .0114, .0113
Fe2404,240.488 {140},In2306,ppm, .2151,.0078,3.640, .2206, .2095
K_7664,766.490 { 44},Y_3710,ppm, 1.107,.0404,3.646, 1.078, 1.135
Li6707,670.784 { 50},Y_3710,ppm, .0107,.0009,8.123, .0113, .0101
Mg2790,279.079 {121},Y_3710,ppm, 1.126,.0157,1.394, 1.115, 1.137
Mn2576,257.610 {131},Y_3600,ppm, .0112,.0001,.6221, .0113, .0112
Mo2020,202.030 {467},Y_2243,ppm, .0234,.0001,.6261, .0233, .0235
Na5895,589.592 { 57},Y_3710,ppm, 1.080,.0052,.4775, 1.084, 1.076
Ni2316,231.604 {445},In2306,ppm, .0112,.0001,.9693, .0113, .0112
P_1782,178.284 {489},In2306,ppm, 1.021,.0075,.7302, 1.027, 1.016
Pb2203,220.353 {453},In2306,ppm, .0107,.0011,9.806, .0100, .0115
S_1820,182.034 {485},Y_2243,ppm, .3513,.0008,.2385, .3518, .3507
Sb2068,206.833 {463},Y_2243,ppm, .0562,.0003,.5355, .0559, .0564
Se1960,196.090 {472},Y_2243,ppm, .0201,.0020,9.691, .0215, .0188
Si2516,251.611 {134},Y_3710,ppm, .1781,.0037,2.052, .1807, .1755
Sn1899,189.989 {477},In2306,ppm, .0220,.0000,.2179, .0221, .0220
Sr4215,421.552 { 80},Y_3710,ppm, .0117,.0000,.3753, .0118, .0117
Ti3349,334.904 {101},Y_3600,ppm, .0108,.0000,.3940, .0108, .0107
Tl1908,190.856 {477},In2306,ppm, .0298,.0005,1.558, .0301, .0295
U_3670,367.007 { 92},Y_3600,ppm, -.0723,.0068,9.395, -.0675, -.0771
V_2924,292.402 {115},Y_3600,ppm, .0103,.0000,.0977, .0103, .0103
W_2397,239.709 {140},Y_2243,ppm, .0576,.0456,79.14, .0254, .0898
Zn2062,206.200 {463},In2306,ppm, .0191,.0000,.0500, .0191, .0191

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 254.78,.59037,.23172,255.20,254.36
In2306,230.606 {446},Cts/S, 15598.,34.194,.21922,15574.,15622.
Y_2243,224.306 {450},Cts/S, 24549.,12.513,.05097,24540.,24558.
Y_3600,360.073 { 94},Cts/S, 208940.,134.92,.06457,209040.,208850.
Y_3710,371.030 { 91},Cts/S, 12552.,82.613,.65814,12611.,12494.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0010,.0000,4.514, .0010, .0009
Al3082,308.215 {109},In2306,ppm, -.0239,.0102,42.83, -.0312, -.0167
As1890,189.042 {478},Y_2243,ppm, -.0015,.0002,11.23, -.0017, -.0014
B_2496,249.678 {135},Y_3710,ppm, .0059,.0035,60.09, .0034, .0083
Ba4554,455.403 { 74},Y_3710,ppm, -.0003,.0001,19.37, -.0003, -.0003
Be3130,313.042 {108},Y_3710,ppm, .0000,.0001,113.6, .0001, .0000
Ca3158,315.887 {107},In2306,ppm, .0326,.0046,14.06, .0358, .0293
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,13.97, .0001, .0001
Co2286,228.616 {447},In2306,ppm, .0001,.0001,112.5, .0002, .0000
Cr2677,267.716 {126},Y_3600,ppm, -.0003,.0003,96.19, -.0005, -.0001
Cu3247,324.754 {104},Y_3600,ppm, .0008,.0000,2.446, .0007, .0008
Fe2404,240.488 {140},In2306,ppm, .0054,.0077,142.6, .0109, -.0000
K_7664,766.490 { 44},Y_3710,ppm, .0513,.0096,18.74, .0445, .0581
Li6707,670.784 { 50},Y_3710,ppm, -.0001,.0002,225.5, .0001, -.0003
Mg2790,279.079 {121},Y_3710,ppm, .0170,.0163,95.69, .0055, .0286
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,50.37, -.0001, -.0000
Mo2020,202.030 {467},Y_2243,ppm, .0001,.0000,84.39, .0000, .0001
Na5895,589.592 { 57},Y_3710,ppm, .0187,.0067,35.97, .0140, .0235
Ni2316,231.604 {445},In2306,ppm, .0005,.0002,35.19, .0004, .0007
P_1782,178.284 {489},In2306,ppm, .0011,.0010,88.16, .0018, .0004
Pb2203,220.353 {453},In2306,ppm, -.0003,.0017,564.2, -.0015, .0009
S_1820,182.034 {485},Y_2243,ppm, -.0025,.0003,12.12, -.0023, -.0027
Sb2068,206.833 {463},Y_2243,ppm, .0020,.0001,6.843, .0019, .0021
Se1960,196.090 {472},Y_2243,ppm, .0014,.0015,106.2, .0025, .0004
Si2516,251.611 {134},Y_3710,ppm, -.0053,.0004,8.264, -.0050, -.0056
Sn1899,189.989 {477},In2306,ppm, -.0007,.0001,18.34, -.0007, -.0008
Sr4215,421.552 { 80},Y_3710,ppm, .0003,.0000,3.703, .0003, .0003
Ti3349,334.904 {101},Y_3600,ppm, .0001,.0001,121.5, .0002, .0000
Tl1908,190.856 {477},In2306,ppm, .0077,.0025,33.07, .0095, .0059
U_3670,367.007 { 92},Y_3600,ppm, -.2213,.0309,13.95, -.1995, -.2431
V_2924,292.402 {115},Y_3600,ppm, -.0001,.0001,87.21, -.0000, -.0001
W_2397,239.709 {140},Y_2243,ppm, .0264,.0284,107.4, .0465, .0064
Zn2062,206.200 {463},In2306,ppm, -.0014,.0000,.3387, -.0014, -.0014

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 253.75,2.3462,.92459,252.10,255.41
In2306,230.606 {446},Cts/S, 15766.,39.452,.25023,15739.,15794.
Y_2243,224.306 {450},Cts/S, 24474.,54.861,.22416,24435.,24513.
Y_3600,360.073 { 94},Cts/S, 208730.,732.25,.35081,208220.,209250.
Y_3710,371.030 { 91},Cts/S, 12502.,20.250,.16198,12488.,12516.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0122,.0002,1.987, .0120, .0123
Al3082,308.215 {109},In2306,ppm, 131.7,1.465,1.112, 132.8, 130.7
As1890,189.042 {478},Y_2243,ppm, .1075,.0011,1.032, .1083, .1067
B_2496,249.678 {135},Y_3710,ppm, .1261,.0083,6.580, .1319, .1202
Ba4554,455.403 { 74},Y_3710,ppm, 2.592,.0123,.4758, 2.584, 2.601
Be3130,313.042 {108},Y_3710,ppm, .0053,.0000,.4015, .0053, .0053
Ca3158,315.887 {107},In2306,ppm, 3328.,11.60,.3486, 3336., 3320.
Cd2288,228.802 {447},Y_2243,ppm, .0247,.0006,2.534, .0251, .0242
Co2286,228.616 {447},In2306,ppm, .1151,.0023,1.958, .1167, .1135
Cr2677,267.716 {126},Y_3600,ppm, 2.303,.0169,.7325, 2.291, 2.315
Cu3247,324.754 {104},Y_3600,ppm, 1.187,.0003,.0247, 1.187, 1.187
Fe2404,240.488 {140},In2306,ppm, 284.9,2.629,.9230, 286.7, 283.0
K_7664,766.490 { 44},Y_3710,ppm, 10.75,.1406,1.308, 10.65, 10.85
Li6707,670.784 { 50},Y_3710,ppm, .1975,.0024,1.208, .1958, .1992
Mg2790,279.079 {121},Y_3710,ppm, 122.2,1.654,1.354, 121.0, 123.4
Mn2576,257.610 {131},Y_3600,ppm, 5.282,.0347,.6565, 5.257, 5.307
Mo2020,202.030 {467},Y_2243,ppm, .1349,.0020,1.514, .1364, .1335
Na5895,589.592 { 57},Y_3710,ppm, 11.07,.0499,.4504, 11.04, 11.11
Ni2316,231.604 {445},In2306,ppm, 2.018,.0317,1.569, 2.040, 1.996
P_1782,178.284 {489},In2306,ppm, 13.34,.2294,1.720, 13.50, 13.18
Pb2203,220.353 {453},In2306,ppm, .4070,.0029,.7175, .4091, .4049
S_1820,182.034 {485},Y_2243,ppm, 4.645,.0872,1.877, 4.707, 4.583
Sb2068,206.833 {463},Y_2243,ppm, .0031,.0017,54.95, .0043, .0019
Se1960,196.090 {472},Y_2243,ppm, -.0021,.0018,84.21, -.0009, -.0034
Si2516,251.611 {134},Y_3710,ppm, 20.19,.1636,.8104, 20.07, 20.30
Sn1899,189.989 {477},In2306,ppm, .0506,.0014,2.714, .0516, .0496
Sr4215,421.552 { 80},Y_3710,ppm, 7.185,.0370,.5144, 7.211, 7.159
Ti3349,334.904 {101},Y_3600,ppm, 3.128,.0127,.4052, 3.119, 3.137
Tl1908,190.856 {477},In2306,ppm, .0014,.0077,531.4, .0069, -.0040
U_3670,367.007 { 92},Y_3600,ppm, 1.998,.0897,4.492, 1.934, 2.061
V_2924,292.402 {115},Y_3600,ppm, .2752,.0022,.8057, .2736, .2767
W_2397,239.709 {140},Y_2243,ppm, -.0165,.0257,156.4, -.0346, .0017
Zn2062,206.200 {463},In2306,ppm, 18.09,.2500,1.382, 18.26, 17.91

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 203.09,2.4631,1.2128,201.35,204.84
In2306,230.606 {446},Cts/S, 9460.6,150.17,1.5874,9354.4,9566.8
Y_2243,224.306 {450},Cts/S, 19983.,301.60,1.5093,19770.,20197.
Y_3600,360.073 { 94},Cts/S, 173050.,39.797,.02300,173080.,173020.
Y_3710,371.030 { 91},Cts/S, 12124.,77.122,.63613,12178.,12069.

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Ag3280,328.068 {103},Y_3600,ppm, .0165,.0005,3.280, .0161, .0169
Al3082,308.215 {109},In2306,ppm, 70.55,.3802,.5389, 70.28, 70.82
As1890,189.042 {478},Y_2243,ppm, .0663,.0001,.0759, .0663, .0662
B_2496,249.678 {135},Y_3710,ppm, .0662,.0084,12.67, .0603, .0721
Ba4554,455.403 { 74},Y_3710,ppm, 1.333,.0057,.4248, 1.337, 1.329
Be3130,313.042 {108},Y_3710,ppm, .0037,.0002,4.803, .0038, .0035
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Ca3158,315.887 {107},In2306,ppm, 2722.,16.91,.6213, 2710., 2734.
Cd2288,228.802 {447},Y_2243,ppm, .0147,.0001,.6227, .0146, .0147
Co2286,228.616 {447},In2306,ppm, .0866,.0001,.1392, .0867, .0865
Cr2677,267.716 {126},Y_3600,ppm, .9046,.0050,.5544, .9011, .9082
Cu3247,324.754 {104},Y_3600,ppm, .6099,.0027,.4391, .6081, .6118
Fe2404,240.488 {140},In2306,ppm, 163.5,.9001,.5506, 162.8, 164.1
K_7664,766.490 { 44},Y_3710,ppm, 8.619,.0318,.3694, 8.597, 8.642
Li6707,670.784 { 50},Y_3710,ppm, .1267,.0001,.0407, .1266, .1267
Mg2790,279.079 {121},Y_3710,ppm, 133.4,.0625,.0469, 133.4, 133.4
Mn2576,257.610 {131},Y_3600,ppm, 3.533,.0148,.4195, 3.543, 3.522
Mo2020,202.030 {467},Y_2243,ppm, .0549,.0000,.0179, .0549, .0549
Na5895,589.592 { 57},Y_3710,ppm, 6.479,.0170,.2617, 6.491, 6.467
Ni2316,231.604 {445},In2306,ppm, 1.163,.0028,.2412, 1.161, 1.165
P_1782,178.284 {489},In2306,ppm, 9.820,.0065,.0666, 9.825, 9.816
Pb2203,220.353 {453},In2306,ppm, .3418,.0004,.1213, .3415, .3421
S_1820,182.034 {485},Y_2243,ppm, 4.682,.0128,.2734, 4.692, 4.673
Sb2068,206.833 {463},Y_2243,ppm, .0074,.0011,15.05, .0066, .0082
Se1960,196.090 {472},Y_2243,ppm, -.0046,.0023,49.67, -.0030, -.0063
Si2516,251.611 {134},Y_3710,ppm, 16.70,.0429,.2569, 16.67, 16.73
Sn1899,189.989 {477},In2306,ppm, .0396,.0001,.1311, .0396, .0396
Sr4215,421.552 { 80},Y_3710,ppm, 4.792,.0197,.4106, 4.806, 4.778
Ti3349,334.904 {101},Y_3600,ppm, 1.336,.0042,.3168, 1.333, 1.339
Tl1908,190.856 {477},In2306,ppm, -.0068,.0027,40.28, -.0049, -.0088
U_3670,367.007 { 92},Y_3600,ppm, 1.258,.0547,4.343, 1.220, 1.297
V_2924,292.402 {115},Y_3600,ppm, .1517,.0003,.1907, .1515, .1519
W_2397,239.709 {140},Y_2243,ppm, -.0461,.0234,50.85, -.0295, -.0627
Zn2062,206.200 {463},In2306,ppm, 10.78,.0382,.3546, 10.75, 10.81

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 211.46,1.1850,.56038,212.30,210.62
In2306,230.606 {446},Cts/S, 10067.,45.420,.45119,10035.,10099.
Y_2243,224.306 {450},Cts/S, 20656.,92.144,.44609,20591.,20721.
Y_3600,360.073 { 94},Cts/S, 176040.,988.88,.56175,176730.,175340.
Y_3710,371.030 { 91},Cts/S, 12053.,76.149,.63180,11999.,12107.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0021,.0002,12.16, -.0019, -.0022
Al3082,308.215 {109},In2306,ppm, 134.4,1.244,.9252, 133.6, 135.3
As1890,189.042 {478},Y_2243,ppm, .4925,.0030,.6192, .4947, .4904
B_2496,249.678 {135},Y_3710,ppm, .0816,.0003,.4090, .0818, .0813
Ba4554,455.403 { 74},Y_3710,ppm, 1.232,.0017,.1344, 1.231, 1.233
Be3130,313.042 {108},Y_3710,ppm, .0043,.0000,.0180, .0043, .0043
Ca3158,315.887 {107},In2306,ppm, 1420.,60.40,4.254, 1377., 1463.
Cd2288,228.802 {447},Y_2243,ppm, .0005,.0002,46.15, .0003, .0006
Co2286,228.616 {447},In2306,ppm, .0325,.0000,.1194, .0325, .0325
Cr2677,267.716 {126},Y_3600,ppm, .2163,.0017,.8087, .2150, .2175
Cu3247,324.754 {104},Y_3600,ppm, .3682,.0006,.1722, .3686, .3677
Fe2404,240.488 {140},In2306,ppm, 80.80,.8426,1.043, 80.20, 81.39
K_7664,766.490 { 44},Y_3710,ppm, 6.639,.0681,1.026, 6.591, 6.687
Li6707,670.784 { 50},Y_3710,ppm, .0582,.0001,.1266, .0582, .0581
Mg2790,279.079 {121},Y_3710,ppm, 32.94,.3958,1.201, 32.66, 33.22
Mn2576,257.610 {131},Y_3600,ppm, 1.333,.0053,.3969, 1.329, 1.337
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Mo2020,202.030 {467},Y_2243,ppm, .0480,.0004,.9291, .0483, .0477
Na5895,589.592 { 57},Y_3710,ppm, 13.18,.0143,.1088, 13.17, 13.19
Ni2316,231.604 {445},In2306,ppm, .2977,.0005,.1664, .2981, .2974
P_1782,178.284 {489},In2306,ppm, 14.91,.0442,.2962, 14.94, 14.87
Pb2203,220.353 {453},In2306,ppm, .3372,.0039,1.154, .3344, .3399
S_1820,182.034 {485},Y_2243,ppm, 8.703,.0390,.4481, 8.731, 8.676
Sb2068,206.833 {463},Y_2243,ppm, .0275,.0005,1.844, .0271, .0278
Se1960,196.090 {472},Y_2243,ppm, -.0118,.0028,23.86, -.0098, -.0138
Si2516,251.611 {134},Y_3710,ppm, 16.79,.1346,.8016, 16.69, 16.88
Sn1899,189.989 {477},In2306,ppm, .0330,.0009,2.819, .0337, .0324
Sr4215,421.552 { 80},Y_3710,ppm, 1.553,.0013,.0814, 1.552, 1.554
Ti3349,334.904 {101},Y_3600,ppm, 1.194,.0050,.4187, 1.190, 1.197
Tl1908,190.856 {477},In2306,ppm, -.0065,.0034,53.06, -.0041, -.0089
U_3670,367.007 { 92},Y_3600,ppm, .4762,.0415,8.706, .4469, .5055
V_2924,292.402 {115},Y_3600,ppm, .8080,.0038,.4705, .8053, .8107
W_2397,239.709 {140},Y_2243,ppm, -.0401,.0394,98.15, -.0123, -.0680
Zn2062,206.200 {463},In2306,ppm, 14.00,.0341,.2433, 14.03, 13.98

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 221.24,3.1737,1.4345,223.49,219.00
In2306,230.606 {446},Cts/S, 10992.,42.239,.38428,10962.,11022.
Y_2243,224.306 {450},Cts/S, 21466.,93.113,.43378,21400.,21532.
Y_3600,360.073 { 94},Cts/S, 181690.,757.16,.41674,182220.,181150.
Y_3710,371.030 { 91},Cts/S, 12373.,52.555,.42474,12410.,12336.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0131,.0009,6.550, .0125, .0138
Al3082,308.215 {109},In2306,ppm, 7.394,.0236,.3193, 7.411, 7.377
As1890,189.042 {478},Y_2243,ppm, .1415,.0046,3.261, .1383, .1448
B_2496,249.678 {135},Y_3710,ppm, .0372,.0006,1.552, .0367, .0376
Ba4554,455.403 { 74},Y_3710,ppm, .2217,.0001,.0245, .2218, .2217
Be3130,313.042 {108},Y_3710,ppm, .0002,.0001,28.88, .0002, .0003
Ca3158,315.887 {107},In2306,ppm, 140.4,1.269,.9040, 141.2, 139.5
Cd2288,228.802 {447},Y_2243,ppm, 1.494,.0005,.0334, 1.494, 1.493
Co2286,228.616 {447},In2306,ppm, .4654,.0006,.1288, .4658, .4649
Cr2677,267.716 {126},Y_3600,ppm, 11.50,.0114,.0995, 11.50, 11.49
Cu3247,324.754 {104},Y_3600,ppm, 34.17,.2331,.6822, 34.00, 34.33
Fe2404,240.488 {140},In2306,ppm, 3510.,7.431,.2117, 3505., 3515.
K_7664,766.490 { 44},Y_3710,ppm, .6889,.0039,.5635, .6917, .6862
Li6707,670.784 { 50},Y_3710,ppm, .0215,.0008,3.540, .0221, .0210
Mg2790,279.079 {121},Y_3710,ppm, 6.582,.0590,.8970, 6.540, 6.624
Mn2576,257.610 {131},Y_3600,ppm, 20.73,.1939,.9354, 20.87, 20.59
Mo2020,202.030 {467},Y_2243,ppm, 1.667,.0028,.1675, 1.669, 1.665
Na5895,589.592 { 57},Y_3710,ppm, 136.0,2.397,1.763, 134.3, 137.7
Ni2316,231.604 {445},In2306,ppm, 4.371,.0006,.0136, 4.372, 4.371
P_1782,178.284 {489},In2306,ppm, 1.069,.0078,.7289, 1.064, 1.075
Pb2203,220.353 {453},In2306,ppm, 3.097,.0009,.0293, 3.098, 3.097
S_1820,182.034 {485},Y_2243,ppm, -10.79,.0388,.3595, -10.76, -10.81
Sb2068,206.833 {463},Y_2243,ppm, .1506,.0018,1.213, .1493, .1519
Se1960,196.090 {472},Y_2243,ppm, .0197,.0008,4.287, .0203, .0191
Si2516,251.611 {134},Y_3710,ppm, 16.29,.0277,.1702, 16.27, 16.30
Sn1899,189.989 {477},In2306,ppm, 1.048,.0017,.1602, 1.047, 1.049
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Sr4215,421.552 { 80},Y_3710,ppm, .3162,.0002,.0618, .3161, .3164
Ti3349,334.904 {101},Y_3600,ppm, .2247,.0006,.2584, .2252, .2243
Tl1908,190.856 {477},In2306,ppm, .0524,.0056,10.75, .0564, .0485
U_3670,367.007 { 92},Y_3600,ppm, 33.50,.1110,.3312, 33.58, 33.43
V_2924,292.402 {115},Y_3600,ppm, .1994,.0003,.1363, .1996, .1992
W_2397,239.709 {140},Y_2243,ppm, -.5553,.1669,30.06, -.6733, -.4373
Zn2062,206.200 {463},In2306,ppm, 2.402,.0012,.0484, 2.401, 2.403

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 220.61,.56512,.25616,220.21,221.01
In2306,230.606 {446},Cts/S, 10642.,22.342,.20994,10626.,10658.
Y_2243,224.306 {450},Cts/S, 17773.,66.636,.37492,17726.,17820.
Y_3600,360.073 { 94},Cts/S, 162610.,117.66,.07236,162530.,162690.
Y_3710,371.030 { 91},Cts/S, 11264.,38.940,.34569,11292.,11237.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0032,.0003,10.88, .0030, .0035
Al3082,308.215 {109},In2306,ppm, 1.392,.0322,2.314, 1.415, 1.370
As1890,189.042 {478},Y_2243,ppm, .0290,.0004,1.488, .0287, .0293
B_2496,249.678 {135},Y_3710,ppm, .0147,.0007,4.904, .0152, .0142
Ba4554,455.403 { 74},Y_3710,ppm, .0425,.0004,.8408, .0422, .0427
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,328.4, -.0001, .0000
Ca3158,315.887 {107},In2306,ppm, 30.68,.0907,.2956, 30.62, 30.74
Cd2288,228.802 {447},Y_2243,ppm, .2955,.0003,.0883, .2953, .2957
Co2286,228.616 {447},In2306,ppm, .1015,.0003,.2765, .1013, .1017
Cr2677,267.716 {126},Y_3600,ppm, 2.527,.0375,1.483, 2.501, 2.554
Cu3247,324.754 {104},Y_3600,ppm, 6.673,.0580,.8696, 6.632, 6.714
Fe2404,240.488 {140},In2306,ppm, 1049.,3.996,.3811, 1046., 1051.
K_7664,766.490 { 44},Y_3710,ppm, .1638,.0018,1.084, .1626, .1651
Li6707,670.784 { 50},Y_3710,ppm, .0042,.0005,12.63, .0046, .0038
Mg2790,279.079 {121},Y_3710,ppm, 1.582,.0075,.4717, 1.576, 1.587
Mn2576,257.610 {131},Y_3600,ppm, 4.899,.2484,5.071, 4.723, 5.074
Mo2020,202.030 {467},Y_2243,ppm, .3517,.0014,.4048, .3507, .3528
Na5895,589.592 { 57},Y_3710,ppm, 26.23,.0455,.1734, 26.20, 26.26
Ni2316,231.604 {445},In2306,ppm, .9743,.0006,.0600, .9739, .9747
P_1782,178.284 {489},In2306,ppm, .2148,.0004,.1661, .2145, .2150
Pb2203,220.353 {453},In2306,ppm, .7388,.0031,.4236, .7366, .7410
S_1820,182.034 {485},Y_2243,ppm, -3.830,.0150,.3922, -3.819, -3.840
Sb2068,206.833 {463},Y_2243,ppm, .0288,.0007,2.312, .0284, .0293
Se1960,196.090 {472},Y_2243,ppm, .0057,.0027,47.94, .0076, .0038
Si2516,251.611 {134},Y_3710,ppm, 3.324,.0202,.6063, 3.310, 3.339
Sn1899,189.989 {477},In2306,ppm, .2362,.0010,.4436, .2369, .2355
Sr4215,421.552 { 80},Y_3710,ppm, .0617,.0003,.4508, .0615, .0618
Ti3349,334.904 {101},Y_3600,ppm, .0463,.0008,1.664, .0458, .0469
Tl1908,190.856 {477},In2306,ppm, .0183,.0003,1.814, .0180, .0185
U_3670,367.007 { 92},Y_3600,ppm, 6.049,.0783,1.295, 5.994, 6.105
V_2924,292.402 {115},Y_3600,ppm, .0296,.0000,.1490, .0296, .0296
W_2397,239.709 {140},Y_2243,ppm, -.0912,.0935,102.5, -.0251, -.1573
Zn2062,206.200 {463},In2306,ppm, .5534,.0006,.1026, .5530, .5538

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
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In2306,230.606 {146},Cts/S, 240.62,.05119,.02127,240.59,240.66
In2306,230.606 {446},Cts/S, 13300.,36.444,.27400,13326.,13275.
Y_2243,224.306 {450},Cts/S, 22257.,82.403,.37023,22315.,22199.
Y_3600,360.073 { 94},Cts/S, 191490.,2253.9,1.1771,193080.,189890.
Y_3710,371.030 { 91},Cts/S, 12253.,10.320,.08423,12245.,12260.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0007,.0003,51.94, .0009, .0004
Al3082,308.215 {109},In2306,ppm, 4.978,.0598,1.201, 4.935, 5.020
As1890,189.042 {478},Y_2243,ppm, .0059,.0008,13.87, .0065, .0053
B_2496,249.678 {135},Y_3710,ppm, .0033,.0045,137.0, .0065, .0001
Ba4554,455.403 { 74},Y_3710,ppm, .0681,.0006,.8703, .0677, .0685
Be3130,313.042 {108},Y_3710,ppm, .0007,.0000,2.449, .0007, .0007
Ca3158,315.887 {107},In2306,ppm, 1.004,.0112,1.117, 1.011, .9956
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0001,34.44, .0002, .0001
Co2286,228.616 {447},In2306,ppm, .0128,.0001,.7494, .0129, .0127
Cr2677,267.716 {126},Y_3600,ppm, .0112,.0001,.7258, .0113, .0112
Cu3247,324.754 {104},Y_3600,ppm, .0058,.0000,.1572, .0058, .0058
Fe2404,240.488 {140},In2306,ppm, 3.328,.0684,2.056, 3.376, 3.279
K_7664,766.490 { 44},Y_3710,ppm, .5303,.0171,3.223, .5182, .5424
Li6707,670.784 { 50},Y_3710,ppm, .0018,.0003,16.47, .0020, .0016
Mg2790,279.079 {121},Y_3710,ppm, .4626,.0119,2.564, .4542, .4710
Mn2576,257.610 {131},Y_3600,ppm, .0475,.0003,.5880, .0477, .0473
Mo2020,202.030 {467},Y_2243,ppm, .0009,.0002,25.63, .0007, .0010
Na5895,589.592 { 57},Y_3710,ppm, .1013,.0003,.3157, .1011, .1015
Ni2316,231.604 {445},In2306,ppm, .0040,.0002,5.274, .0038, .0041
P_1782,178.284 {489},In2306,ppm, .0984,.0014,1.406, .0993, .0974
Pb2203,220.353 {453},In2306,ppm, .0166,.0011,6.773, .0174, .0158
S_1820,182.034 {485},Y_2243,ppm, .0343,.0031,9.136, .0321, .0365
Sb2068,206.833 {463},Y_2243,ppm, .0009,.0009,104.7, .0015, .0002
Se1960,196.090 {472},Y_2243,ppm, -.0006,.0008,139.4, -.0011, -.0000
Si2516,251.611 {134},Y_3710,ppm, 2.934,.0055,.1876, 2.930, 2.938
Sn1899,189.989 {477},In2306,ppm, .0113,.0003,2.825, .0111, .0115
Sr4215,421.552 { 80},Y_3710,ppm, .0158,.0000,.0141, .0158, .0158
Ti3349,334.904 {101},Y_3600,ppm, .1048,.0008,.7516, .1054, .1042
Tl1908,190.856 {477},In2306,ppm, -.0017,.0030,182.0, .0005, -.0038
U_3670,367.007 { 92},Y_3600,ppm, -.1854,.0581,31.34, -.2265, -.1443
V_2924,292.402 {115},Y_3600,ppm, .0249,.0001,.2500, .0249, .0248
W_2397,239.709 {140},Y_2243,ppm, -.0388,.0880,226.8, .0234, -.1010
Zn2062,206.200 {463},In2306,ppm, .0373,.0001,.2593, .0373, .0372

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 257.60,2.0271,.78691,256.16,259.03
In2306,230.606 {446},Cts/S, 15707.,32.166,.20479,15684.,15730.
Y_2243,224.306 {450},Cts/S, 24959.,31.841,.12758,24981.,24936.
Y_3600,360.073 { 94},Cts/S, 213850.,1120.3,.52387,213060.,214650.
Y_3710,371.030 { 91},Cts/S, 12976.,96.147,.74098,12908.,13044.

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Ag3280,328.068 {103},Y_3600,ppm, .0002,.0001,42.54, .0003, .0002
Al3082,308.215 {109},In2306,ppm, 4.462,.0226,.5059, 4.446, 4.478
As1890,189.042 {478},Y_2243,ppm, .0040,.0018,45.04, .0053, .0027
B_2496,249.678 {135},Y_3710,ppm, .0074,.0011,14.59, .0081, .0066
Ba4554,455.403 { 74},Y_3710,ppm, .0606,.0003,.4932, .0604, .0608
Be3130,313.042 {108},Y_3710,ppm, .0005,.0001,10.83, .0005, .0006
Ca3158,315.887 {107},In2306,ppm, .6108,.0071,1.165, .6158, .6058
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0000,9.644, .0002, .0002
Co2286,228.616 {447},In2306,ppm, .0036,.0003,7.295, .0038, .0034
Cr2677,267.716 {126},Y_3600,ppm, .0089,.0003,3.147, .0091, .0087
Cu3247,324.754 {104},Y_3600,ppm, .0040,.0004,10.78, .0043, .0037
Fe2404,240.488 {140},In2306,ppm, 2.582,.0106,.4097, 2.574, 2.589
K_7664,766.490 { 44},Y_3710,ppm, .4958,.0085,1.713, .4898, .5018
Li6707,670.784 { 50},Y_3710,ppm, .0010,.0007,70.64, .0014, .0005
Mg2790,279.079 {121},Y_3710,ppm, .3974,.0097,2.453, .4043, .3905
Mn2576,257.610 {131},Y_3600,ppm, .0154,.0000,.1613, .0154, .0154
Mo2020,202.030 {467},Y_2243,ppm, .0003,.0001,35.51, .0004, .0003
Na5895,589.592 { 57},Y_3710,ppm, .0539,.0051,9.401, .0503, .0575
Ni2316,231.604 {445},In2306,ppm, .0031,.0003,8.589, .0033, .0029
P_1782,178.284 {489},In2306,ppm, .0887,.0003,.3937, .0884, .0889
Pb2203,220.353 {453},In2306,ppm, .0238,.0010,4.348, .0245, .0230
S_1820,182.034 {485},Y_2243,ppm, .0180,.0036,20.15, .0206, .0154
Sb2068,206.833 {463},Y_2243,ppm, .0001,.0001,59.38, .0001, .0002
Se1960,196.090 {472},Y_2243,ppm, -.0007,.0010,150.2, .0000, -.0014
Si2516,251.611 {134},Y_3710,ppm, 2.771,.0301,1.088, 2.750, 2.793
Sn1899,189.989 {477},In2306,ppm, .0114,.0003,2.348, .0116, .0113
Sr4215,421.552 { 80},Y_3710,ppm, .0202,.0002,.7602, .0201, .0204
Ti3349,334.904 {101},Y_3600,ppm, .0806,.0002,.2037, .0805, .0807
Tl1908,190.856 {477},In2306,ppm, .0030,.0035,116.9, .0055, .0005
U_3670,367.007 { 92},Y_3600,ppm, -.1938,.0178,9.199, -.2064, -.1812
V_2924,292.402 {115},Y_3600,ppm, .0188,.0001,.3976, .0187, .0188
W_2397,239.709 {140},Y_2243,ppm, -.0281,.0776,275.7, .0267, -.0830
Zn2062,206.200 {463},In2306,ppm, .0322,.0000,.1153, .0322, .0322

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 257.35,.52452,.20382,257.72,256.97
In2306,230.606 {446},Cts/S, 15717.,57.508,.36591,15757.,15676.
Y_2243,224.306 {450},Cts/S, 24825.,95.628,.38520,24893.,24758.
Y_3600,360.073 { 94},Cts/S, 212130.,186.14,.08775,212000.,212270.
Y_3710,371.030 { 91},Cts/S, 13032.,4.9342,.03786,13036.,13029.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .2453,.0014,.5681, .2443, .2463
Al3082,308.215 {109},In2306,ppm, 36.58,.1950,.5331, 36.44, 36.71
As1890,189.042 {478},Y_2243,ppm, .9607,.0029,.2974, .9586, .9627
B_2496,249.678 {135},Y_3710,ppm, .5134,.0106,2.063, .5059, .5209
Ba4554,455.403 { 74},Y_3710,ppm, 1.088,.0023,.2147, 1.086, 1.089
Be3130,313.042 {108},Y_3710,ppm, .9950,.0040,.4051, .9921, .9978
Ca3158,315.887 {107},In2306,ppm, 11.02,.0664,.6028, 10.97, 11.07
Cd2288,228.802 {447},Y_2243,ppm, .9457,.0003,.0303, .9459, .9455
Co2286,228.616 {447},In2306,ppm, .9744,.0000,.0000, .9744, .9744
Cr2677,267.716 {126},Y_3600,ppm, .9589,.0044,.4640, .9557, .9620
Cu3247,324.754 {104},Y_3600,ppm, .9548,.0025,.2622, .9531, .9566
Fe2404,240.488 {140},In2306,ppm, 17.10,.2027,1.185, 16.96, 17.25
K_7664,766.490 { 44},Y_3710,ppm, 11.40,.0292,.2558, 11.42, 11.38
Li6707,670.784 { 50},Y_3710,ppm, .9558,.0008,.0817, .9564, .9553
Mg2790,279.079 {121},Y_3710,ppm, 11.72,.0646,.5509, 11.68, 11.77
Mn2576,257.610 {131},Y_3600,ppm, 1.007,.0042,.4208, 1.004, 1.010
Mo2020,202.030 {467},Y_2243,ppm, .9789,.0002,.0228, .9791, .9788
Na5895,589.592 { 57},Y_3710,ppm, 10.01,.0155,.1549, 9.997, 10.02
Ni2316,231.604 {445},In2306,ppm, 1.008,.0001,.0113, 1.008, 1.008
P_1782,178.284 {489},In2306,ppm, 5.419,.0090,.1662, 5.425, 5.412
Pb2203,220.353 {453},In2306,ppm, 1.011,.0020,.1968, 1.010, 1.012
S_1820,182.034 {485},Y_2243,ppm, 3.650,.0130,.3557, 3.659, 3.640
Sb2068,206.833 {463},Y_2243,ppm, 1.541,.0022,.1398, 1.543, 1.540
Se1960,196.090 {472},Y_2243,ppm, .9227,.0048,.5197, .9261, .9193
Si2516,251.611 {134},Y_3710,ppm, 9.723,.0276,.2843, 9.703, 9.742
Sn1899,189.989 {477},In2306,ppm, .9998,.0033,.3303, 1.002, .9975
Sr4215,421.552 { 80},Y_3710,ppm, 1.011,.0005,.0504, 1.011, 1.011
Ti3349,334.904 {101},Y_3600,ppm, 1.098,.0055,.4969, 1.094, 1.101
Tl1908,190.856 {477},In2306,ppm, 1.015,.0036,.3566, 1.012, 1.017
U_3670,367.007 { 92},Y_3600,ppm, .2740,.0205,7.498, .2885, .2595
V_2924,292.402 {115},Y_3600,ppm, .9833,.0050,.5058, .9798, .9868
W_2397,239.709 {140},Y_2243,ppm, .4142,.0211,5.091, .4291, .3993
Zn2062,206.200 {463},In2306,ppm, .5599,.0001,.0267, .5598, .5600

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 248.15,.49431,.19919,247.80,248.50
In2306,230.606 {446},Cts/S, 14493.,22.879,.15787,14476.,14509.
Y_2243,224.306 {450},Cts/S, 24200.,40.875,.16890,24172.,24229.
Y_3600,360.073 { 94},Cts/S, 205780.,44.292,.02152,205750.,205810.
Y_3710,371.030 { 91},Cts/S, 12809.,64.399,.50277,12763.,12854.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2304,.0009,.3711, .2298, .2310
Al3082,308.215 {109},In2306,ppm, 160.8,1.632,1.015, 159.7, 162.0
As1890,189.042 {478},Y_2243,ppm, .9348,.0010,.1099, .9341, .9355
B_2496,249.678 {135},Y_3710,ppm, .4954,.0023,.4558, .4938, .4970
Ba4554,455.403 { 74},Y_3710,ppm, 2.256,.0104,.4604, 2.249, 2.264
Be3130,313.042 {108},Y_3710,ppm, .9086,.0010,.1056, .9093, .9079
Ca3158,315.887 {107},In2306,ppm, 28.60,.1803,.6302, 28.47, 28.73
Cd2288,228.802 {447},Y_2243,ppm, .8704,.0011,.1291, .8696, .8712
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Co2286,228.616 {447},In2306,ppm, 1.033,.0030,.2871, 1.031, 1.035
Cr2677,267.716 {126},Y_3600,ppm, .9373,.0014,.1472, .9383, .9364
Cu3247,324.754 {104},Y_3600,ppm, .9480,.0056,.5864, .9441, .9520
Fe2404,240.488 {140},In2306,ppm, 82.55,.5660,.6857, 82.15, 82.95
K_7664,766.490 { 44},Y_3710,ppm, 13.98,.0433,.3102, 13.94, 14.01
Li6707,670.784 { 50},Y_3710,ppm, .9019,.0022,.2474, .9003, .9035
Mg2790,279.079 {121},Y_3710,ppm, 21.89,.1222,.5584, 21.98, 21.81
Mn2576,257.610 {131},Y_3600,ppm, .9503,.0002,.0222, .9501, .9504
Mo2020,202.030 {467},Y_2243,ppm, .8945,.0022,.2467, .8929, .8960
Na5895,589.592 { 57},Y_3710,ppm, 11.36,.0353,.3107, 11.34, 11.39
Ni2316,231.604 {445},In2306,ppm, 1.078,.0027,.2491, 1.076, 1.080
P_1782,178.284 {489},In2306,ppm, 5.891,.0155,.2639, 5.880, 5.902
Pb2203,220.353 {453},In2306,ppm, 1.159,.0031,.2676, 1.157, 1.162
S_1820,182.034 {485},Y_2243,ppm, 3.303,.0088,.2674, 3.297, 3.310
Sb2068,206.833 {463},Y_2243,ppm, 1.437,.0020,.1387, 1.436, 1.439
Se1960,196.090 {472},Y_2243,ppm, .8643,.0020,.2356, .8657, .8629
Si2516,251.611 {134},Y_3710,ppm, 22.66,.0530,.2339, 22.70, 22.62
Sn1899,189.989 {477},In2306,ppm, 1.034,.0008,.0758, 1.034, 1.033
Sr4215,421.552 { 80},Y_3710,ppm, 1.175,.0051,.4359, 1.171, 1.178
Ti3349,334.904 {101},Y_3600,ppm, .9930,.0003,.0313, .9928, .9932
Tl1908,190.856 {477},In2306,ppm, 1.160,.0060,.5214, 1.164, 1.156
U_3670,367.007 { 92},Y_3600,ppm, .7323,.0248,3.384, .7498, .7148
V_2924,292.402 {115},Y_3600,ppm, 1.067,.0017,.1627, 1.065, 1.068
W_2397,239.709 {140},Y_2243,ppm, .2004,.0045,2.261, .2036, .1972
Zn2062,206.200 {463},In2306,ppm, .7453,.0024,.3284, .7435, .7470

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 246.79,.23743,.09621,246.96,246.62
In2306,230.606 {446},Cts/S, 13707.,3.8425,.02803,13704.,13709.
Y_2243,224.306 {450},Cts/S, 26372.,12.548,.04758,26363.,26381.
Y_3600,360.073 { 94},Cts/S, 222150.,367.22,.16530,222410.,221890.
Y_3710,371.030 { 91},Cts/S, 14098.,119.35,.84660,14014.,14183.

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Ag3280,328.068 {103},Y_3600,ppm, -.0010,.0002,16.20, -.0009, -.0011
Al3082,308.215 {109},In2306,ppm, 31.23,.2622,.8395, 31.04, 31.41
As1890,189.042 {478},Y_2243,ppm, .0118,.0002,1.635, .0120, .0117
B_2496,249.678 {135},Y_3710,ppm, .0057,.0029,51.27, .0078, .0036
Ba4554,455.403 { 74},Y_3710,ppm, .3162,.0014,.4390, .3152, .3172
Be3130,313.042 {108},Y_3710,ppm, .0022,.0000,1.684, .0022, .0022
Ca3158,315.887 {107},In2306,ppm, 3.916,.0291,.7438, 3.896, 3.937
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0001,29.00, .0002, .0002
Co2286,228.616 {447},In2306,ppm, .0076,.0002,2.450, .0075, .0078
Cr2677,267.716 {126},Y_3600,ppm, .0203,.0000,.2221, .0203, .0204
Cu3247,324.754 {104},Y_3600,ppm, .0152,.0002,1.476, .0154, .0151
Fe2404,240.488 {140},In2306,ppm, 15.52,.0599,.3857, 15.48, 15.56
K_7664,766.490 { 44},Y_3710,ppm, 1.183,.0432,3.652, 1.213, 1.152
Li6707,670.784 { 50},Y_3710,ppm, .0079,.0005,5.864, .0076, .0082
Mg2790,279.079 {121},Y_3710,ppm, 2.906,.0689,2.373, 2.857, 2.954
Mn2576,257.610 {131},Y_3600,ppm, .0163,.0000,.0197, .0163, .0163
Mo2020,202.030 {467},Y_2243,ppm, .0014,.0003,19.66, .0012, .0016
Na5895,589.592 { 57},Y_3710,ppm, .5700,.0069,1.205, .5651, .5748
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Ni2316,231.604 {445},In2306,ppm, .0103,.0000,.0234, .0103, .0103
P_1782,178.284 {489},In2306,ppm, .0635,.0002,.3363, .0637, .0634
Pb2203,220.353 {453},In2306,ppm, .0316,.0001,.3508, .0316, .0315
S_1820,182.034 {485},Y_2243,ppm, -.0046,.0026,55.59, -.0028, -.0064
Sb2068,206.833 {463},Y_2243,ppm, .0019,.0010,50.94, .0026, .0012
Se1960,196.090 {472},Y_2243,ppm, .0003,.0004,122.2, .0000, .0006
Si2516,251.611 {134},Y_3710,ppm, 3.471,.0173,.4985, 3.459, 3.483
Sn1899,189.989 {477},In2306,ppm, .0036,.0004,12.00, .0039, .0033
Sr4215,421.552 { 80},Y_3710,ppm, .0672,.0003,.3963, .0670, .0674
Ti3349,334.904 {101},Y_3600,ppm, .0296,.0000,.0715, .0296, .0296
Tl1908,190.856 {477},In2306,ppm, .0209,.0004,2.002, .0212, .0206
U_3670,367.007 { 92},Y_3600,ppm, -.1058,.0470,44.44, -.0726, -.1391
V_2924,292.402 {115},Y_3600,ppm, .0482,.0002,.4956, .0484, .0480
W_2397,239.709 {140},Y_2243,ppm, -.0390,.0166,42.65, -.0508, -.0273
Zn2062,206.200 {463},In2306,ppm, .0408,.0001,.1675, .0409, .0408

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 254.69,1.8552,.72845,256.00,253.37
In2306,230.606 {446},Cts/S, 15151.,63.349,.41813,15195.,15106.
Y_2243,224.306 {450},Cts/S, 25230.,104.12,.41270,25304.,25156.
Y_3600,360.073 { 94},Cts/S, 213310.,1445.9,.67785,212290.,214340.
Y_3710,371.030 { 91},Cts/S, 13137.,64.417,.49036,13182.,13091.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .4841,.0003,.0606, .4843, .4839
Al3082,308.215 {109},In2306,ppm, 20.38,.1950,.9568, 20.24, 20.52
As1890,189.042 {478},Y_2243,ppm, .9942,.0035,.3510, .9967, .9918
B_2496,249.678 {135},Y_3710,ppm, .9922,.0076,.7687, .9868, .9976
Ba4554,455.403 { 74},Y_3710,ppm, .9874,.0049,.4973, .9839, .9909
Be3130,313.042 {108},Y_3710,ppm, 1.006,.0057,.5694, 1.002, 1.010
Ca3158,315.887 {107},In2306,ppm, 19.66,.1917,.9754, 19.52, 19.79
Cd2288,228.802 {447},Y_2243,ppm, .9704,.0005,.0520, .9701, .9708
Co2286,228.616 {447},In2306,ppm, .9835,.0020,.2081, .9820, .9849
Cr2677,267.716 {126},Y_3600,ppm, .9445,.0013,.1394, .9435, .9454
Cu3247,324.754 {104},Y_3600,ppm, .9577,.0061,.6407, .9534, .9621
Fe2404,240.488 {140},In2306,ppm, 19.61,.2135,1.089, 19.46, 19.76
K_7664,766.490 { 44},Y_3710,ppm, 19.10,.1398,.7320, 19.01, 19.20
Li6707,670.784 { 50},Y_3710,ppm, .9475,.0061,.6409, .9432, .9518
Mg2790,279.079 {121},Y_3710,ppm, 20.39,.1544,.7569, 20.28, 20.50
Mn2576,257.610 {131},Y_3600,ppm, .9878,.0020,.1987, .9892, .9864
Mo2020,202.030 {467},Y_2243,ppm, .9919,.0021,.2125, .9934, .9904
Na5895,589.592 { 57},Y_3710,ppm, 19.11,.1119,.5855, 19.03, 19.19
Ni2316,231.604 {445},In2306,ppm, 1.015,.0008,.0807, 1.014, 1.015
P_1782,178.284 {489},In2306,ppm, 10.47,.0059,.0565, 10.47, 10.46
Pb2203,220.353 {453},In2306,ppm, 1.007,.0033,.3324, 1.004, 1.009
S_1820,182.034 {485},Y_2243,ppm, 7.235,.0083,.1145, 7.241, 7.229
Sb2068,206.833 {463},Y_2243,ppm, 2.128,.0081,.3787, 2.134, 2.122
Se1960,196.090 {472},Y_2243,ppm, .9764,.0047,.4792, .9797, .9731
Si2516,251.611 {134},Y_3710,ppm, 9.047,.1221,1.350, 8.961, 9.133
Sn1899,189.989 {477},In2306,ppm, 1.021,.0045,.4379, 1.025, 1.018
Sr4215,421.552 { 80},Y_3710,ppm, .9811,.0071,.7274, .9760, .9861
Ti3349,334.904 {101},Y_3600,ppm, .9672,.0010,.1075, .9680, .9665
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Tl1908,190.856 {477},In2306,ppm, 1.163,.0003,.0269, 1.164, 1.163
U_3670,367.007 { 92},Y_3600,ppm, .7669,.1268,16.54, .6772, .8566
V_2924,292.402 {115},Y_3600,ppm, .9583,.0003,.0352, .9581, .9586
W_2397,239.709 {140},Y_2243,ppm, 1.156,.0531,4.591, 1.118, 1.193
Zn2062,206.200 {463},In2306,ppm, 1.008,.0036,.3591, 1.006, 1.011

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 249.28,1.7963,.72060,250.55,248.01
In2306,230.606 {446},Cts/S, 14228.,21.841,.15351,14243.,14212.
Y_2243,224.306 {450},Cts/S, 23933.,29.651,.12389,23954.,23912.
Y_3600,360.073 { 94},Cts/S, 202280.,468.68,.23170,202620.,201950.
Y_3710,371.030 { 91},Cts/S, 12737.,50.079,.39319,12772.,12701.

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Al3082,308.215 {109},In2306,ppm, .1863,.0059,3.168, .1905, .1822
As1890,189.042 {478},Y_2243,ppm, .0219,.0009,4.183, .0226, .0213
B_2496,249.678 {135},Y_3710,ppm, .2212,.0042,1.893, .2242, .2183
Ba4554,455.403 { 74},Y_3710,ppm, .0216,.0001,.3335, .0215, .0216
Be3130,313.042 {108},Y_3710,ppm, .0113,.0001,1.084, .0114, .0112
Ca3158,315.887 {107},In2306,ppm, 1.013,.0106,1.048, 1.021, 1.006
Cd2288,228.802 {447},Y_2243,ppm, .0108,.0000,.3097, .0107, .0108
Co2286,228.616 {447},In2306,ppm, .0105,.0001,.7458, .0104, .0105
Cr2677,267.716 {126},Y_3600,ppm, .0105,.0000,.3088, .0105, .0105
Cu3247,324.754 {104},Y_3600,ppm, .0117,.0005,3.859, .0121, .0114
Fe2404,240.488 {140},In2306,ppm, .2156,.0071,3.294, .2106, .2207
K_7664,766.490 { 44},Y_3710,ppm, 1.007,.0065,.6417, 1.003, 1.012
Li6707,670.784 { 50},Y_3710,ppm, .0104,.0006,5.938, .0100, .0109
Mg2790,279.079 {121},Y_3710,ppm, 1.116,.0295,2.645, 1.137, 1.095
Mn2576,257.610 {131},Y_3600,ppm, .0111,.0000,.0878, .0111, .0111
Mo2020,202.030 {467},Y_2243,ppm, .0228,.0004,1.758, .0231, .0225
Na5895,589.592 { 57},Y_3710,ppm, 1.031,.0006,.0542, 1.031, 1.030
Ni2316,231.604 {445},In2306,ppm, .0112,.0001,.8994, .0111, .0112
P_1782,178.284 {489},In2306,ppm, 1.006,.0001,.0136, 1.006, 1.006
Pb2203,220.353 {453},In2306,ppm, .0106,.0015,14.37, .0095, .0117
S_1820,182.034 {485},Y_2243,ppm, .3498,.0016,.4544, .3509, .3487
Sb2068,206.833 {463},Y_2243,ppm, .0562,.0012,2.075, .0553, .0570
Se1960,196.090 {472},Y_2243,ppm, .0211,.0008,3.746, .0217, .0205
Si2516,251.611 {134},Y_3710,ppm, .1759,.0024,1.361, .1742, .1776
Sn1899,189.989 {477},In2306,ppm, .0211,.0002,.9268, .0210, .0213
Sr4215,421.552 { 80},Y_3710,ppm, .0112,.0003,2.433, .0114, .0110
Ti3349,334.904 {101},Y_3600,ppm, .0110,.0001,.9657, .0111, .0109
Tl1908,190.856 {477},In2306,ppm, .0350,.0010,2.823, .0343, .0357
U_3670,367.007 { 92},Y_3600,ppm, -.0727,.0845,116.2, -.1324, -.0130
V_2924,292.402 {115},Y_3600,ppm, .0104,.0001,.5455, .0103, .0104
W_2397,239.709 {140},Y_2243,ppm, .0575,.0704,122.6, .1073, .0076
Zn2062,206.200 {463},In2306,ppm, .0187,.0000,.1201, .0188, .0187

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 259.00,.97331,.37579,258.32,259.69
In2306,230.606 {446},Cts/S, 15735.,.43885,.00279,15734.,15735.
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Y_2243,224.306 {450},Cts/S, 24666.,19.741,.08003,24652.,24680.
Y_3600,360.073 { 94},Cts/S, 210060.,154.86,.07372,210170.,209950.
Y_3710,371.030 { 91},Cts/S, 12766.,102.07,.79959,12838.,12693.

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As1890,189.042 {478},Y_2243,ppm, -.0005,.0003,59.07, -.0003, -.0007
B_2496,249.678 {135},Y_3710,ppm, .0059,.0061,102.3, .0016, .0102
Ba4554,455.403 { 74},Y_3710,ppm, -.0003,.0004,118.3, -.0006, -.0001
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0001,155.1, .0000, -.0001
Ca3158,315.887 {107},In2306,ppm, -.0146,.0006,3.983, -.0150, -.0142
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0000,35.63, .0000, .0001
Co2286,228.616 {447},In2306,ppm, .0002,.0001,51.24, .0001, .0002
Cr2677,267.716 {126},Y_3600,ppm, .0001,.0000,19.05, .0001, .0001
Cu3247,324.754 {104},Y_3600,ppm, .0012,.0001,6.011, .0013, .0012
Fe2404,240.488 {140},In2306,ppm, .0004,.0046,1150., .0037, -.0029
K_7664,766.490 { 44},Y_3710,ppm, -.0014,.0023,163.6, -.0030, .0002
Li6707,670.784 { 50},Y_3710,ppm, .0002,.0002,99.17, .0001, .0004
Mg2790,279.079 {121},Y_3710,ppm, -.0096,.0118,122.7, -.0180, -.0013
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,18.94, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, .0001,.0001,75.88, .0000, .0002
Na5895,589.592 { 57},Y_3710,ppm, -.0094,.0069,73.07, -.0046, -.0143
Ni2316,231.604 {445},In2306,ppm, .0003,.0002,85.27, .0001, .0004
P_1782,178.284 {489},In2306,ppm, -.0001,.0007,936.2, .0004, -.0005
Pb2203,220.353 {453},In2306,ppm, -.0007,.0002,23.51, -.0008, -.0006
S_1820,182.034 {485},Y_2243,ppm, -.0008,.0010,135.0, -.0015, -.0000
Sb2068,206.833 {463},Y_2243,ppm, .0010,.0012,122.1, .0019, .0001
Se1960,196.090 {472},Y_2243,ppm, .0011,.0014,120.0, .0021, .0002
Si2516,251.611 {134},Y_3710,ppm, -.0068,.0015,21.93, -.0079, -.0058
Sn1899,189.989 {477},In2306,ppm, -.0001,.0002,218.1, -.0003, .0001
Sr4215,421.552 { 80},Y_3710,ppm, .0002,.0000,6.435, .0002, .0002
Ti3349,334.904 {101},Y_3600,ppm, .0001,.0001,99.53, .0002, .0000
Tl1908,190.856 {477},In2306,ppm, .0086,.0015,18.07, .0097, .0075
U_3670,367.007 { 92},Y_3600,ppm, -.2031,.0070,3.427, -.1981, -.2080
V_2924,292.402 {115},Y_3600,ppm, -.0002,.0001,54.05, -.0001, -.0003
W_2397,239.709 {140},Y_2243,ppm, -.0034,.0262,775.7, -.0219, .0152
Zn2062,206.200 {463},In2306,ppm, -.0015,.0000,.1966, -.0015, -.0015

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 257.16,5.1903,2.0183,260.83,253.49
In2306,230.606 {446},Cts/S, 15915.,25.452,.15993,15933.,15897.
Y_2243,224.306 {450},Cts/S, 24609.,7.0848,.02879,24604.,24614.
Y_3600,360.073 { 94},Cts/S, 209650.,47.548,.02268,209690.,209620.
Y_3710,371.030 { 91},Cts/S, 12723.,172.07,1.3525,12844.,12601.

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Ag3280,328.068 {103},Y_3600,ppm, .0009,.0005,53.36, .0012, .0005
Al3082,308.215 {109},In2306,ppm, -.0112,.0035,31.22, -.0087, -.0137
As1890,189.042 {478},Y_2243,ppm, -.0005,.0010,186.9, -.0012, .0002
B_2496,249.678 {135},Y_3710,ppm, .0031,.0022,72.38, .0015, .0047
Ba4554,455.403 { 74},Y_3710,ppm, -.0003,.0000,17.30, -.0003, -.0003
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,31.02, -.0001, -.0001
Ca3158,315.887 {107},In2306,ppm, -.0159,.0104,65.29, -.0232, -.0085
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0001,47.82, .0002, .0001
Co2286,228.616 {447},In2306,ppm, -.0001,.0001,68.46, -.0001, -.0000
Cr2677,267.716 {126},Y_3600,ppm, .0004,.0000,8.272, .0004, .0004
Cu3247,324.754 {104},Y_3600,ppm, .0013,.0005,37.87, .0009, .0016
Fe2404,240.488 {140},In2306,ppm, .0106,.0147,139.5, .0210, .0001
K_7664,766.490 { 44},Y_3710,ppm, .0150,.0047,31.10, .0117, .0183
Li6707,670.784 { 50},Y_3710,ppm, -.0009,.0005,58.47, -.0013, -.0005
Mg2790,279.079 {121},Y_3710,ppm, .0103,.0118,115.1, .0186, .0019
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,741.1, .0000, -.0000
Mo2020,202.030 {467},Y_2243,ppm, .0004,.0002,58.05, .0002, .0005
Na5895,589.592 { 57},Y_3710,ppm, .0073,.0073,99.39, .0125, .0022
Ni2316,231.604 {445},In2306,ppm, .0003,.0001,18.87, .0002, .0003
P_1782,178.284 {489},In2306,ppm, .0267,.0022,8.352, .0251, .0283
Pb2203,220.353 {453},In2306,ppm, .0003,.0010,309.1, -.0004, .0011
S_1820,182.034 {485},Y_2243,ppm, -.0031,.0003,10.76, -.0033, -.0028
Sb2068,206.833 {463},Y_2243,ppm, .0005,.0026,565.9, .0023, -.0014
Se1960,196.090 {472},Y_2243,ppm, -.0004,.0015,354.2, .0006, -.0015
Si2516,251.611 {134},Y_3710,ppm, -.0041,.0028,70.04, -.0021, -.0061
Sn1899,189.989 {477},In2306,ppm, .0232,.0001,.2243, .0232, .0232
Sr4215,421.552 { 80},Y_3710,ppm, .0003,.0000,2.304, .0003, .0003
Ti3349,334.904 {101},Y_3600,ppm, .0007,.0002,27.12, .0009, .0006
Tl1908,190.856 {477},In2306,ppm, .0081,.0017,20.56, .0093, .0069
U_3670,367.007 { 92},Y_3600,ppm, -.1902,.0824,43.32, -.1319, -.2485
V_2924,292.402 {115},Y_3600,ppm, -.0001,.0002,306.0, -.0003, .0001
W_2397,239.709 {140},Y_2243,ppm, -.0112,.0175,156.3, -.0236, .0012
Zn2062,206.200 {463},In2306,ppm, .0011,.0000,3.643, .0011, .0010

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 258.36,.93819,.36313,257.70,259.03
In2306,230.606 {446},Cts/S, 15855.,10.644,.06714,15862.,15847.
Y_2243,224.306 {450},Cts/S, 24618.,32.151,.13060,24640.,24595.
Y_3600,360.073 { 94},Cts/S, 212340.,554.65,.26121,212730.,211940.
Y_3710,371.030 { 91},Cts/S, 12857.,45.722,.35562,12825.,12889.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .3051,.0006,.1840, .3055, .3047
Al3082,308.215 {109},In2306,ppm, 91.64,.4179,.4560, 91.34, 91.93
As1890,189.042 {478},Y_2243,ppm, 2.783,.0002,.0086, 2.784, 2.783
B_2496,249.678 {135},Y_3710,ppm, 5.349,.0046,.0866, 5.352, 5.346
Ba4554,455.403 { 74},Y_3710,ppm, 2.271,.0005,.0207, 2.272, 2.271
Be3130,313.042 {108},Y_3710,ppm, 1.658,.0005,.0285, 1.658, 1.658
Ca3158,315.887 {107},In2306,ppm, 136.8,.2450,.1791, 136.6, 136.9
Cd2288,228.802 {447},Y_2243,ppm, 1.563,.0004,.0277, 1.563, 1.563
Co2286,228.616 {447},In2306,ppm, 2.560,.0005,.0203, 2.560, 2.560
Cr2677,267.716 {126},Y_3600,ppm, 1.495,.0100,.6696, 1.503, 1.488
Cu3247,324.754 {104},Y_3600,ppm, .8874,.0007,.0756, .8879, .8869
Fe2404,240.488 {140},In2306,ppm, 129.8,.3401,.2621, 129.5, 130.0
K_7664,766.490 { 44},Y_3710,ppm, 92.92,.0290,.0312, 92.94, 92.90
Li6707,670.784 { 50},Y_3710,ppm, 2.278,.0007,.0305, 2.279, 2.278
Mg2790,279.079 {121},Y_3710,ppm, 113.7,.5229,.4600, 113.3, 114.1
Mn2576,257.610 {131},Y_3600,ppm, 10.59,.0040,.0379, 10.59, 10.60
Mo2020,202.030 {467},Y_2243,ppm, 1.722,.0021,.1214, 1.724, 1.721
Na5895,589.592 { 57},Y_3710,ppm, 117.9,1.767,1.498, 116.7, 119.2
Ni2316,231.604 {445},In2306,ppm, 1.101,.0005,.0451, 1.101, 1.102
P_1782,178.284 {489},In2306,ppm, 4.469,.0017,.0385, 4.467, 4.470
Pb2203,220.353 {453},In2306,ppm, 1.375,.0009,.0648, 1.374, 1.375
S_1820,182.034 {485},Y_2243,ppm, 2.103,.0047,.2230, 2.106, 2.099
Sb2068,206.833 {463},Y_2243,ppm, .3067,.0013,.4379, .3058, .3077
Se1960,196.090 {472},Y_2243,ppm, 2.687,.0130,.4852, 2.696, 2.677
Si2516,251.611 {134},Y_3710,ppm, 2.636,.0036,.1377, 2.633, 2.638
Sn1899,189.989 {477},In2306,ppm, 1.686,.0042,.2470, 1.689, 1.683
Sr4215,421.552 { 80},Y_3710,ppm, .7870,.0005,.0579, .7873, .7867
Ti3349,334.904 {101},Y_3600,ppm, 3.040,.0103,.3399, 3.048, 3.033
Tl1908,190.856 {477},In2306,ppm, 2.404,.0078,.3261, 2.398, 2.409
U_3670,367.007 { 92},Y_3600,ppm, 1.317,.0523,3.969, 1.353, 1.280
V_2924,292.402 {115},Y_3600,ppm, .2226,.0004,.1624, .2229, .2224
W_2397,239.709 {140},Y_2243,ppm, -.7608,.0647,8.504, -.7150, -.8065
Zn2062,206.200 {463},In2306,ppm, 4.691,.0012,.0251, 4.690, 4.692

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 234.89,1.1887,.50609,235.73,234.05
In2306,230.606 {446},Cts/S, 12394.,17.396,.14035,12407.,12382.
Y_2243,224.306 {450},Cts/S, 23516.,14.496,.06164,23526.,23506.
Y_3600,360.073 { 94},Cts/S, 199040.,924.84,.46464,198390.,199700.
Y_3710,371.030 { 91},Cts/S, 13158.,16.079,.12220,13170.,13147.

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Ag3280,328.068 {103},Y_3600,ppm, -.0012,.0005,42.01, -.0015, -.0008
Al3082,308.215 {109},In2306,ppm, 14.69,.0051,.0348, 14.69, 14.68
As1890,189.042 {478},Y_2243,ppm, .0311,.0020,6.500, .0296, .0325
B_2496,249.678 {135},Y_3710,ppm, .0174,.0005,2.734, .0177, .0170
Ba4554,455.403 { 74},Y_3710,ppm, .1854,.0007,.3718, .1859, .1849
Be3130,313.042 {108},Y_3710,ppm, .0018,.0000,1.862, .0018, .0018
Ca3158,315.887 {107},In2306,ppm, 533.9,.0351,.0066, 533.9, 533.9
Cd2288,228.802 {447},Y_2243,ppm, .0009,.0002,25.82, .0011, .0008
Co2286,228.616 {447},In2306,ppm, .0178,.0000,.1588, .0178, .0179
Cr2677,267.716 {126},Y_3600,ppm, .0719,.0003,.3486, .0721, .0717
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Cu3247,324.754 {104},Y_3600,ppm, .0289,.0001,.3834, .0290, .0288
Fe2404,240.488 {140},In2306,ppm, 42.85,.1156,.2698, 42.77, 42.93
K_7664,766.490 { 44},Y_3710,ppm, 2.469,.0040,.1636, 2.472, 2.466
Li6707,670.784 { 50},Y_3710,ppm, .0167,.0011,6.577, .0175, .0159
Mg2790,279.079 {121},Y_3710,ppm, 3.493,.0157,.4507, 3.504, 3.482
Mn2576,257.610 {131},Y_3600,ppm, 1.423,.0060,.4207, 1.419, 1.427
Mo2020,202.030 {467},Y_2243,ppm, .0158,.0001,.4221, .0158, .0157
Na5895,589.592 { 57},Y_3710,ppm, .6798,.0132,1.942, .6892, .6705
Ni2316,231.604 {445},In2306,ppm, .0394,.0003,.7884, .0391, .0396
P_1782,178.284 {489},In2306,ppm, 1.667,.0011,.0652, 1.667, 1.666
Pb2203,220.353 {453},In2306,ppm, .0313,.0003,.9478, .0311, .0315
S_1820,182.034 {485},Y_2243,ppm, .1324,.0009,.6834, .1317, .1330
Sb2068,206.833 {463},Y_2243,ppm, .0027,.0023,85.06, .0043, .0011
Se1960,196.090 {472},Y_2243,ppm, .0004,.0012,303.6, -.0004, .0012
Si2516,251.611 {134},Y_3710,ppm, 2.298,.0314,1.365, 2.320, 2.275
Sn1899,189.989 {477},In2306,ppm, .0248,.0004,1.595, .0250, .0245
Sr4215,421.552 { 80},Y_3710,ppm, 1.324,.0054,.4072, 1.328, 1.320
Ti3349,334.904 {101},Y_3600,ppm, .1893,.0002,.0972, .1894, .1891
Tl1908,190.856 {477},In2306,ppm, .0756,.0123,16.31, .0843, .0669
U_3670,367.007 { 92},Y_3600,ppm, .1277,.0557,43.58, .1671, .0884
V_2924,292.402 {115},Y_3600,ppm, .0807,.0000,.0454, .0807, .0807
W_2397,239.709 {140},Y_2243,ppm, -.0255,.0146,57.50, -.0151, -.0358
Zn2062,206.200 {463},In2306,ppm, .0870,.0005,.5439, .0874, .0867

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 235.47,.71195,.30235,234.97,235.98
In2306,230.606 {446},Cts/S, 12653.,18.668,.14754,12640.,12666.
Y_2243,224.306 {450},Cts/S, 22698.,39.859,.17561,22670.,22726.
Y_3600,360.073 { 94},Cts/S, 193840.,616.96,.31829,194270.,193400.
Y_3710,371.030 { 91},Cts/S, 12611.,106.75,.84648,12536.,12687.

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Ag3280,328.068 {103},Y_3600,ppm, -.0012,.0001,6.734, -.0013, -.0012
Al3082,308.215 {109},In2306,ppm, 14.59,.0064,.0436, 14.59, 14.58
As1890,189.042 {478},Y_2243,ppm, .0356,.0001,.2351, .0356, .0355
B_2496,249.678 {135},Y_3710,ppm, .0126,.0063,50.23, .0171, .0081
Ba4554,455.403 { 74},Y_3710,ppm, .1061,.0001,.1012, .1060, .1061
Be3130,313.042 {108},Y_3710,ppm, .0017,.0000,.9410, .0017, .0017
Ca3158,315.887 {107},In2306,ppm, 221.3,.2757,.1246, 221.4, 221.1
Cd2288,228.802 {447},Y_2243,ppm, .0010,.0001,13.09, .0011, .0010
Co2286,228.616 {447},In2306,ppm, .0211,.0000,.1937, .0211, .0210
Cr2677,267.716 {126},Y_3600,ppm, .0771,.0007,.9550, .0766, .0776
Cu3247,324.754 {104},Y_3600,ppm, .0303,.0005,1.541, .0299, .0306
Fe2404,240.488 {140},In2306,ppm, 52.69,.0164,.0311, 52.70, 52.68
K_7664,766.490 { 44},Y_3710,ppm, 2.318,.0216,.9309, 2.333, 2.303
Li6707,670.784 { 50},Y_3710,ppm, .0119,.0006,5.308, .0114, .0123
Mg2790,279.079 {121},Y_3710,ppm, 2.906,.0415,1.428, 2.877, 2.935
Mn2576,257.610 {131},Y_3600,ppm, .8289,.0023,.2801, .8273, .8306
Mo2020,202.030 {467},Y_2243,ppm, .0144,.0004,2.550, .0147, .0142
Na5895,589.592 { 57},Y_3710,ppm, .5060,.0090,1.777, .4997, .5124
Ni2316,231.604 {445},In2306,ppm, .0442,.0003,.5723, .0440, .0444
P_1782,178.284 {489},In2306,ppm, 1.168,.0016,.1410, 1.169, 1.167
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Pb2203,220.353 {453},In2306,ppm, .0319,.0009,2.782, .0312, .0325
S_1820,182.034 {485},Y_2243,ppm, .0345,.0038,10.94, .0372, .0319
Sb2068,206.833 {463},Y_2243,ppm, .0019,.0025,133.7, .0037, .0001
Se1960,196.090 {472},Y_2243,ppm, -.0009,.0035,372.4, -.0034, .0015
Si2516,251.611 {134},Y_3710,ppm, 2.364,.0070,.2963, 2.359, 2.369
Sn1899,189.989 {477},In2306,ppm, .0239,.0003,1.206, .0241, .0237
Sr4215,421.552 { 80},Y_3710,ppm, .3083,.0002,.0509, .3084, .3082
Ti3349,334.904 {101},Y_3600,ppm, .1930,.0014,.7387, .1920, .1940
Tl1908,190.856 {477},In2306,ppm, .0263,.0049,18.77, .0298, .0228
U_3670,367.007 { 92},Y_3600,ppm, .1295,.0501,38.68, .0941, .1649
V_2924,292.402 {115},Y_3600,ppm, .0887,.0009,1.066, .0880, .0894
W_2397,239.709 {140},Y_2243,ppm, -.0838,.0429,51.19, -.1141, -.0535
Zn2062,206.200 {463},In2306,ppm, .0943,.0000,.0128, .0943, .0943

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 242.80,1.1173,.46019,242.01,243.59
In2306,230.606 {446},Cts/S, 13593.,25.232,.18562,13575.,13611.
Y_2243,224.306 {450},Cts/S, 23502.,70.291,.29908,23453.,23552.
Y_3600,360.073 { 94},Cts/S, 199230.,253.38,.12718,199410.,199050.
Y_3710,371.030 { 91},Cts/S, 12692.,12.835,.10113,12683.,12701.

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Ag3280,328.068 {103},Y_3600,ppm, .2395,.0010,.4016, .2389, .2402
Al3082,308.215 {109},In2306,ppm, 91.49,1.570,1.716, 90.38, 92.60
As1890,189.042 {478},Y_2243,ppm, 1.005,.0036,.3584, 1.002, 1.007
B_2496,249.678 {135},Y_3710,ppm, .5158,.0143,2.770, .5057, .5259
Ba4554,455.403 { 74},Y_3710,ppm, 1.177,.0053,.4535, 1.174, 1.181
Be3130,313.042 {108},Y_3710,ppm, .9923,.0100,1.010, .9852, .9994
Ca3158,315.887 {107},In2306,ppm, 233.2,5.077,2.177, 229.6, 236.8
Cd2288,228.802 {447},Y_2243,ppm, .9480,.0042,.4392, .9451, .9510
Co2286,228.616 {447},In2306,ppm, 1.017,.0016,.1614, 1.016, 1.018
Cr2677,267.716 {126},Y_3600,ppm, 1.106,.0020,.1816, 1.105, 1.108
Cu3247,324.754 {104},Y_3600,ppm, .9978,.0012,.1192, .9987, .9970
Fe2404,240.488 {140},In2306,ppm, 88.69,1.831,2.064, 87.40, 89.99
K_7664,766.490 { 44},Y_3710,ppm, 19.24,.0960,.4988, 19.17, 19.31
Li6707,670.784 { 50},Y_3710,ppm, .9942,.0040,.4054, .9913, .9970
Mg2790,279.079 {121},Y_3710,ppm, 18.39,.3162,1.720, 18.17, 18.61
Mn2576,257.610 {131},Y_3600,ppm, 1.915,.0014,.0734, 1.914, 1.916
Mo2020,202.030 {467},Y_2243,ppm, .9964,.0030,.2996, .9943, .9986
Na5895,589.592 { 57},Y_3710,ppm, 10.45,.0440,.4208, 10.42, 10.48
Ni2316,231.604 {445},In2306,ppm, 1.086,.0030,.2771, 1.084, 1.088
P_1782,178.284 {489},In2306,ppm, 7.109,.0371,.5222, 7.083, 7.136
Pb2203,220.353 {453},In2306,ppm, 1.030,.0014,.1317, 1.031, 1.029
S_1820,182.034 {485},Y_2243,ppm, 3.582,.0157,.4388, 3.571, 3.593
Sb2068,206.833 {463},Y_2243,ppm, 1.275,.0064,.5039, 1.270, 1.279
Se1960,196.090 {472},Y_2243,ppm, .9337,.0001,.0096, .9337, .9338
Si2516,251.611 {134},Y_3710,ppm, 5.566,.0781,1.403, 5.511, 5.622
Sn1899,189.989 {477},In2306,ppm, 1.025,.0002,.0215, 1.025, 1.025
Sr4215,421.552 { 80},Y_3710,ppm, 1.275,.0071,.5597, 1.270, 1.280
Ti3349,334.904 {101},Y_3600,ppm, 1.371,.0002,.0152, 1.371, 1.371
Tl1908,190.856 {477},In2306,ppm, 1.045,.0062,.5944, 1.041, 1.050
U_3670,367.007 { 92},Y_3600,ppm, .7697,.0578,7.506, .8106, .7289
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V_2924,292.402 {115},Y_3600,ppm, 1.078,.0002,.0218, 1.078, 1.078
W_2397,239.709 {140},Y_2243,ppm, .1317,.0645,49.01, .0860, .1773
Zn2062,206.200 {463},In2306,ppm, .6451,.0012,.1875, .6443, .6460

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 239.16,3.2638,1.3647,241.47,236.85
In2306,230.606 {446},Cts/S, 12948.,32.834,.25357,12972.,12925.
Y_2243,224.306 {450},Cts/S, 23225.,69.212,.29800,23274.,23176.
Y_3600,360.073 { 94},Cts/S, 197870.,258.47,.13062,197690.,198060.
Y_3710,371.030 { 91},Cts/S, 12781.,71.769,.56154,12831.,12730.

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Al3082,308.215 {109},In2306,ppm, 4.565,.0911,1.996, 4.501, 4.630
As1890,189.042 {478},Y_2243,ppm, .0083,.0027,32.69, .0064, .0102
B_2496,249.678 {135},Y_3710,ppm,s .0383,.0022,5.854,s .0399, .0367
Ba4554,455.403 { 74},Y_3710,ppm,s .6769,.1115,16.47,s .7557, .5980
Be3130,313.042 {108},Y_3710,ppm,s -.0000,.0001,150.4,s .0000, -.0001
Ca3158,315.887 {107},In2306,ppm, 31.38,.4160,1.326, 31.08, 31.67
Cd2288,228.802 {447},Y_2243,ppm, .2343,.0005,.2160, .2347, .2339
Co2286,228.616 {447},In2306,ppm, .0932,.0002,.2214, .0933, .0931
Cr2677,267.716 {126},Y_3600,ppm, 3.147,.0073,.2307, 3.142, 3.152
Cu3247,324.754 {104},Y_3600,ppm, .0745,.0002,.2024, .0746, .0744
Fe2404,240.488 {140},In2306,ppm, 84.67,1.391,1.642, 83.69, 85.66
K_7664,766.490 { 44},Y_3710,ppm,s 1.455,.2493,17.13,s 1.632, 1.279
Li6707,670.784 { 50},Y_3710,ppm,s .0055,.0009,16.11,s .0061, .0049
Mg2790,279.079 {121},Y_3710,ppm,s 3.105,.4835,15.57,s 3.447, 2.763
Mn2576,257.610 {131},Y_3600,ppm,k .6891,.0009,.1273,k .6884, .6897
Mo2020,202.030 {467},Y_2243,ppm, .0082,.0001,1.591, .0082, .0083
Na5895,589.592 { 57},Y_3710,ppm,s 1.788,.3184,17.81,s 2.013, 1.563
Ni2316,231.604 {445},In2306,ppm,k .0231,.0001,.6142,k .0230, .0232
P_1782,178.284 {489},In2306,ppm, 3.099,.0004,.0139, 3.099, 3.099
Pb2203,220.353 {453},In2306,ppm,k 5.874,.0008,.0128,k 5.874, 5.873
S_1820,182.034 {485},Y_2243,ppm, 1.040,.0083,.7946, 1.045, 1.034
Sb2068,206.833 {463},Y_2243,ppm, -.0060,.0000,.2891, -.0060, -.0060
Se1960,196.090 {472},Y_2243,ppm, .0032,.0018,56.24, .0045, .0019
Si2516,251.611 {134},Y_3710,ppm,s .3577,.0723,20.22,s .4088, .3065
Sn1899,189.989 {477},In2306,ppm, .0148,.0008,5.463, .0142, .0154
Sr4215,421.552 { 80},Y_3710,ppm,s .0407,.0064,15.71,s .0453, .0362
Ti3349,334.904 {101},Y_3600,ppm, .7634,.0006,.0827, .7630, .7639
Tl1908,190.856 {477},In2306,ppm,k .0406,.0051,12.52,k .0442, .0370
U_3670,367.007 { 92},Y_3600,ppm, .3309,.0249,7.521, .3133, .3485
V_2924,292.402 {115},Y_3600,ppm, .0099,.0002,1.911, .0100, .0097
W_2397,239.709 {140},Y_2243,ppm, -.1132,.0985,86.99, -.0436, -.1828
Zn2062,206.200 {463},In2306,ppm, 4.444,.0026,.0594, 4.446, 4.443

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 252.73,3.1798,1.2582,254.98,250.48
In2306,230.606 {446},Cts/S, 14878.,2.3002,.01546,14876.,14879.
Y_2243,224.306 {450},Cts/S, 24166.,9.0125,.03729,24160.,24173.
Y_3600,360.073 { 94},Cts/S, 206060.,500.07,.24268,205710.,206410.
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Y_3710,371.030 { 91},Cts/S,^ *****,-----,-----,^-----,12805.

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Ag3280,328.068 {103},Y_3600,ppm, .0007,.0003,38.42, .0009, .0005
Al3082,308.215 {109},In2306,ppm, 2.231,.0161,.7230, 2.220, 2.242
As1890,189.042 {478},Y_2243,ppm, .0049,.0023,47.44, .0032, .0065
B_2496,249.678 {135},Y_3710,ppm, .0137,.0024,17.59, .0120, .0154
Ba4554,455.403 { 74},Y_3710,ppm, .2933,.0007,.2376, .2928, .2937
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,53.14, -.0001, -.0001
Ca3158,315.887 {107},In2306,ppm, 15.47,.1101,.7117, 15.40, 15.55
Cd2288,228.802 {447},Y_2243,ppm, .1138,.0005,.4166, .1135, .1141
Co2286,228.616 {447},In2306,ppm, .0452,.0001,.2039, .0453, .0451
Cr2677,267.716 {126},Y_3600,ppm, 1.544,.0076,.4938, 1.550, 1.539
Cu3247,324.754 {104},Y_3600,ppm, .0375,.0001,.2137, .0374, .0376
Fe2404,240.488 {140},In2306,ppm, 42.20,.3907,.9260, 41.92, 42.47
K_7664,766.490 { 44},Y_3710,ppm, .6320,.0341,5.403, .6079, .6561
Li6707,670.784 { 50},Y_3710,ppm, .0023,.0007,29.12, .0028, .0018
Mg2790,279.079 {121},Y_3710,ppm, 1.352,.0093,.6888, 1.345, 1.358
Mn2576,257.610 {131},Y_3600,ppm, .3407,.0016,.4653, .3418, .3396
Mo2020,202.030 {467},Y_2243,ppm, .0037,.0001,1.914, .0038, .0037
Na5895,589.592 { 57},Y_3710,ppm, .7571,.0068,.8996, .7523, .7619
Ni2316,231.604 {445},In2306,ppm, .0109,.0001,.9102, .0110, .0108
P_1782,178.284 {489},In2306,ppm, 1.480,.0031,.2116, 1.477, 1.482
Pb2203,220.353 {453},In2306,ppm, 2.896,.0136,.4679, 2.887, 2.906
S_1820,182.034 {485},Y_2243,ppm, .4947,.0027,.5432, .4966, .4928
Sb2068,206.833 {463},Y_2243,ppm, -.0038,.0015,38.64, -.0028, -.0049
Se1960,196.090 {472},Y_2243,ppm, .0004,.0001,18.10, .0003, .0004
Si2516,251.611 {134},Y_3710,ppm, .1469,.0028,1.935, .1449, .1489
Sn1899,189.989 {477},In2306,ppm, .0066,.0001,1.877, .0067, .0065
Sr4215,421.552 { 80},Y_3710,ppm, .0177,.0001,.5351, .0176, .0177
Ti3349,334.904 {101},Y_3600,ppm, .3766,.0019,.5085, .3780, .3753
Tl1908,190.856 {477},In2306,ppm, .0162,.0008,4.869, .0167, .0156
U_3670,367.007 { 92},Y_3600,ppm, .0626,.0304,48.57, .0411, .0840
V_2924,292.402 {115},Y_3600,ppm, .0049,.0002,4.864, .0048, .0051
W_2397,239.709 {140},Y_2243,ppm, -.1190,.0078,6.588, -.1134, -.1245
Zn2062,206.200 {463},In2306,ppm, 2.164,.0068,.3155, 2.159, 2.168

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 253.63,2.7569,1.0870,255.58,251.68
In2306,230.606 {446},Cts/S, 15216.,67.800,.44559,15264.,15168.
Y_2243,224.306 {450},Cts/S, 24366.,79.334,.32559,24422.,24310.
Y_3600,360.073 { 94},Cts/S, 208540.,240.67,.11541,208370.,208710.
Y_3710,371.030 { 91},Cts/S, 12799.,131.33,1.0261,12892.,12706.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2509,.0006,.2282, .2505, .2513
Al3082,308.215 {109},In2306,ppm, 25.82,.1020,.3951, 25.75, 25.89
As1890,189.042 {478},Y_2243,ppm, 1.048,.0048,.4610, 1.044, 1.051
B_2496,249.678 {135},Y_3710,ppm, .5270,.0032,.5993, .5248, .5293
Ba4554,455.403 { 74},Y_3710,ppm, 1.170,.0029,.2450, 1.172, 1.168
Be3130,313.042 {108},Y_3710,ppm, 1.001,.0003,.0316, 1.002, 1.001
Ca3158,315.887 {107},In2306,ppm, 540.1,1.968,.3644, 538.7, 541.5
Cd2288,228.802 {447},Y_2243,ppm, .9876,.0015,.1552, .9865, .9887
Co2286,228.616 {447},In2306,ppm, 1.032,.0004,.0354, 1.032, 1.033
Cr2677,267.716 {126},Y_3600,ppm, .9840,.0044,.4467, .9809, .9871
Cu3247,324.754 {104},Y_3600,ppm, .9952,.0000,.0010, .9952, .9952
Fe2404,240.488 {140},In2306,ppm, 52.64,.1489,.2828, 52.54, 52.75
K_7664,766.490 { 44},Y_3710,ppm, 12.32,.0061,.0496, 12.32, 12.33
Li6707,670.784 { 50},Y_3710,ppm, .9990,.0027,.2689, 1.001, .9971
Mg2790,279.079 {121},Y_3710,ppm, 13.15,.0507,.3852, 13.19, 13.12
Mn2576,257.610 {131},Y_3600,ppm, 2.323,.0081,.3494, 2.317, 2.329
Mo2020,202.030 {467},Y_2243,ppm, 1.002,.0029,.2938, 1.000, 1.004
Na5895,589.592 { 57},Y_3710,ppm, 10.67,.0371,.3477, 10.69, 10.64
Ni2316,231.604 {445},In2306,ppm, 1.082,.0004,.0387, 1.081, 1.082
P_1782,178.284 {489},In2306,ppm, 7.812,.0007,.0085, 7.812, 7.813
Pb2203,220.353 {453},In2306,ppm, 1.047,.0014,.1362, 1.046, 1.048
S_1820,182.034 {485},Y_2243,ppm, 4.063,.0212,.5220, 4.048, 4.078
Sb2068,206.833 {463},Y_2243,ppm, 1.653,.0048,.2880, 1.650, 1.656
Se1960,196.090 {472},Y_2243,ppm, .9830,.0013,.1277, .9821, .9839
Si2516,251.611 {134},Y_3710,ppm, 10.99,.0140,.1269, 10.98, 11.00
Sn1899,189.989 {477},In2306,ppm, 1.067,.0003,.0285, 1.067, 1.067
Sr4215,421.552 { 80},Y_3710,ppm, 2.278,.0038,.1666, 2.281, 2.275
Ti3349,334.904 {101},Y_3600,ppm, 1.143,.0042,.3674, 1.140, 1.146
Tl1908,190.856 {477},In2306,ppm, 1.140,.0023,.2058, 1.142, 1.139
U_3670,367.007 { 92},Y_3600,ppm, .6726,.0506,7.524, .6368, .7084
V_2924,292.402 {115},Y_3600,ppm, 1.021,.0043,.4229, 1.018, 1.024
W_2397,239.709 {140},Y_2243,ppm, .3352,.1149,34.28, .2540, .4165
Zn2062,206.200 {463},In2306,ppm, .6255,.0002,.0319, .6253, .6256

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 231.80,.28343,.12227,231.60,232.00
In2306,230.606 {446},Cts/S, 12420.,16.044,.12918,12431.,12408.
Y_2243,224.306 {450},Cts/S, 22480.,45.505,.20243,22512.,22448.
Y_3600,360.073 { 94},Cts/S, 193020.,186.14,.09643,193160.,192890.
Y_3710,371.030 { 91},Cts/S, 12614.,68.758,.54509,12566.,12663.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0002,144.7, -.0003, .0000
Al3082,308.215 {109},In2306,ppm, 3.526,.0429,1.215, 3.496, 3.556
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As1890,189.042 {478},Y_2243,ppm, .0081,.0008,9.368, .0087, .0076
B_2496,249.678 {135},Y_3710,ppm, .0081,.0047,58.31, .0115, .0048
Ba4554,455.403 { 74},Y_3710,ppm, .0466,.0004,.8344, .0463, .0469
Be3130,313.042 {108},Y_3710,ppm, .0005,.0000,5.608, .0005, .0005
Ca3158,315.887 {107},In2306,ppm, 131.4,1.073,.8161, 130.7, 132.2
Cd2288,228.802 {447},Y_2243,ppm, .0004,.0001,21.00, .0005, .0003
Co2286,228.616 {447},In2306,ppm, .0045,.0001,3.198, .0046, .0044
Cr2677,267.716 {126},Y_3600,ppm, .0187,.0002,1.108, .0188, .0185
Cu3247,324.754 {104},Y_3600,ppm, .0082,.0002,2.640, .0084, .0081
Fe2404,240.488 {140},In2306,ppm, 10.56,.0930,.8807, 10.49, 10.62
K_7664,766.490 { 44},Y_3710,ppm, .6262,.0232,3.705, .6098, .6426
Li6707,670.784 { 50},Y_3710,ppm, .0053,.0000,.8709, .0053, .0053
Mg2790,279.079 {121},Y_3710,ppm, .9217,.0604,6.554, .8790, .9644
Mn2576,257.610 {131},Y_3600,ppm, .3610,.0022,.6094, .3626, .3595
Mo2020,202.030 {467},Y_2243,ppm, .0042,.0001,1.666, .0041, .0042
Na5895,589.592 { 57},Y_3710,ppm, .1488,.0015,1.003, .1499, .1478
Ni2316,231.604 {445},In2306,ppm, .0096,.0001,.6794, .0097, .0096
P_1782,178.284 {489},In2306,ppm, .3881,.0018,.4754, .3894, .3868
Pb2203,220.353 {453},In2306,ppm, .0089,.0007,8.458, .0083, .0094
S_1820,182.034 {485},Y_2243,ppm, .0384,.0055,14.43, .0423, .0344
Sb2068,206.833 {463},Y_2243,ppm, .0048,.0018,37.04, .0061, .0035
Se1960,196.090 {472},Y_2243,ppm, -.0019,.0004,19.31, -.0022, -.0017
Si2516,251.611 {134},Y_3710,ppm, .5819,.0000,.0055, .5819, .5819
Sn1899,189.989 {477},In2306,ppm, .0055,.0002,4.225, .0056, .0053
Sr4215,421.552 { 80},Y_3710,ppm, .3322,.0033,.9859, .3299, .3345
Ti3349,334.904 {101},Y_3600,ppm, .0464,.0006,1.321, .0469, .0460
Tl1908,190.856 {477},In2306,ppm, .0076,.0024,31.16, .0060, .0093
U_3670,367.007 { 92},Y_3600,ppm, -.0527,.0112,21.32, -.0606, -.0447
V_2924,292.402 {115},Y_3600,ppm, .0202,.0001,.2665, .0202, .0201
W_2397,239.709 {140},Y_2243,ppm, -.0207,.0284,136.8, -.0408, -.0007
Zn2062,206.200 {463},In2306,ppm, .0343,.0007,2.049, .0348, .0338

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 247.07,2.4229,.98065,248.79,245.36
In2306,230.606 {446},Cts/S, 14058.,125.51,.89282,13969.,14147.
Y_2243,224.306 {450},Cts/S, 23441.,170.89,.72900,23320.,23562.
Y_3600,360.073 { 94},Cts/S, 202220.,525.63,.25993,201850.,202590.
Y_3710,371.030 { 91},Cts/S, 12718.,188.72,1.4840,12851.,12584.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .4854,.0025,.5114, .4872, .4837
Al3082,308.215 {109},In2306,ppm, 20.53,.2449,1.193, 20.36, 20.70
As1890,189.042 {478},Y_2243,ppm, .9960,.0023,.2259, .9976, .9944
B_2496,249.678 {135},Y_3710,ppm, 1.008,.0124,1.233, .9992, 1.017
Ba4554,455.403 { 74},Y_3710,ppm, .9906,.0091,.9236, .9841, .9971
Be3130,313.042 {108},Y_3710,ppm, 1.006,.0074,.7344, 1.001, 1.011
Ca3158,315.887 {107},In2306,ppm, 19.82,.2606,1.315, 19.64, 20.00
Cd2288,228.802 {447},Y_2243,ppm, .9767,.0063,.6424, .9811, .9723
Co2286,228.616 {447},In2306,ppm, .9884,.0054,.5423, .9922, .9846
Cr2677,267.716 {126},Y_3600,ppm, .9514,.0026,.2725, .9533, .9496
Cu3247,324.754 {104},Y_3600,ppm, .9646,.0061,.6303, .9689, .9603
Fe2404,240.488 {140},In2306,ppm, 19.69,.2494,1.266, 19.52, 19.87
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K_7664,766.490 { 44},Y_3710,ppm, 19.13,.2206,1.153, 18.97, 19.29
Li6707,670.784 { 50},Y_3710,ppm, .9535,.0106,1.114, .9460, .9610
Mg2790,279.079 {121},Y_3710,ppm, 20.48,.1084,.5294, 20.40, 20.56
Mn2576,257.610 {131},Y_3600,ppm, .9908,.0055,.5521, .9947, .9870
Mo2020,202.030 {467},Y_2243,ppm, 1.001,.0060,.5988, 1.006, .9971
Na5895,589.592 { 57},Y_3710,ppm, 19.19,.1483,.7727, 19.08, 19.29
Ni2316,231.604 {445},In2306,ppm, 1.020,.0050,.4952, 1.023, 1.016
P_1782,178.284 {489},In2306,ppm, 10.63,.0599,.5637, 10.67, 10.58
Pb2203,220.353 {453},In2306,ppm, 1.008,.0012,.1156, 1.009, 1.007
S_1820,182.034 {485},Y_2243,ppm, 7.333,.0437,.5961, 7.364, 7.302
Sb2068,206.833 {463},Y_2243,ppm, 2.150,.0116,.5410, 2.158, 2.142
Se1960,196.090 {472},Y_2243,ppm, .9834,.0037,.3808, .9861, .9808
Si2516,251.611 {134},Y_3710,ppm, 8.934,.1665,1.864, 8.816, 9.051
Sn1899,189.989 {477},In2306,ppm, 1.024,.0041,.4037, 1.027, 1.021
Sr4215,421.552 { 80},Y_3710,ppm, .9846,.0104,1.059, .9772, .9919
Ti3349,334.904 {101},Y_3600,ppm, .9711,.0055,.5688, .9750, .9672
Tl1908,190.856 {477},In2306,ppm, 1.130,.0006,.0532, 1.129, 1.130
U_3670,367.007 { 92},Y_3600,ppm, .8051,.0499,6.196, .8404, .7699
V_2924,292.402 {115},Y_3600,ppm, .9631,.0052,.5410, .9668, .9594
W_2397,239.709 {140},Y_2243,ppm, 1.188,.0296,2.491, 1.209, 1.167
Zn2062,206.200 {463},In2306,ppm, 1.010,.0051,.5015, 1.014, 1.007

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 248.39,1.6828,.67748,249.58,247.21
In2306,230.606 {446},Cts/S, 14216.,70.223,.49396,14167.,14266.
Y_2243,224.306 {450},Cts/S, 23897.,146.07,.61125,23793.,24000.
Y_3600,360.073 { 94},Cts/S, 202020.,441.78,.21868,201710.,202330.
Y_3710,371.030 { 91},Cts/S, 12757.,58.745,.46050,12798.,12715.

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Ag3280,328.068 {103},Y_3600,ppm, .0099,.0004,4.263, .0096, .0102
Al3082,308.215 {109},In2306,ppm, .1893,.0039,2.053, .1866, .1921
As1890,189.042 {478},Y_2243,ppm, .0225,.0010,4.338, .0218, .0232
B_2496,249.678 {135},Y_3710,ppm, .2160,.0093,4.310, .2094, .2226
Ba4554,455.403 { 74},Y_3710,ppm, .0216,.0000,.1435, .0216, .0216
Be3130,313.042 {108},Y_3710,ppm, .0113,.0001,.5268, .0114, .0113
Ca3158,315.887 {107},In2306,ppm, 1.013,.0015,.1439, 1.012, 1.014
Cd2288,228.802 {447},Y_2243,ppm, .0108,.0001,1.001, .0109, .0108
Co2286,228.616 {447},In2306,ppm, .0107,.0001,1.280, .0106, .0108
Cr2677,267.716 {126},Y_3600,ppm, .0107,.0000,.0099, .0107, .0107
Cu3247,324.754 {104},Y_3600,ppm, .0124,.0002,1.647, .0126, .0123
Fe2404,240.488 {140},In2306,ppm, .2039,.0056,2.743, .2078, .1999
K_7664,766.490 { 44},Y_3710,ppm, 1.040,.0171,1.647, 1.052, 1.027
Li6707,670.784 { 50},Y_3710,ppm, .0098,.0003,3.532, .0096, .0100
Mg2790,279.079 {121},Y_3710,ppm, 1.084,.0205,1.887, 1.098, 1.069
Mn2576,257.610 {131},Y_3600,ppm, .0111,.0000,.3399, .0111, .0112
Mo2020,202.030 {467},Y_2243,ppm, .0230,.0001,.2921, .0231, .0230
Na5895,589.592 { 57},Y_3710,ppm, 1.022,.0051,.5035, 1.018, 1.026
Ni2316,231.604 {445},In2306,ppm, .0111,.0003,2.810, .0114, .0109
P_1782,178.284 {489},In2306,ppm, 1.014,.0052,.5091, 1.017, 1.010
Pb2203,220.353 {453},In2306,ppm, .0110,.0002,1.976, .0112, .0109
S_1820,182.034 {485},Y_2243,ppm, .3534,.0027,.7604, .3515, .3553
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Sb2068,206.833 {463},Y_2243,ppm, .0580,.0020,3.499, .0595, .0566
Se1960,196.090 {472},Y_2243,ppm, .0221,.0013,5.698, .0212, .0230
Si2516,251.611 {134},Y_3710,ppm, .1745,.0022,1.277, .1761, .1729
Sn1899,189.989 {477},In2306,ppm, .0214,.0004,1.891, .0217, .0211
Sr4215,421.552 { 80},Y_3710,ppm, .0112,.0001,.7834, .0112, .0111
Ti3349,334.904 {101},Y_3600,ppm, .0109,.0005,4.323, .0106, .0112
Tl1908,190.856 {477},In2306,ppm, .0428,.0014,3.320, .0438, .0418
U_3670,367.007 { 92},Y_3600,ppm, -.0552,.0048,8.651, -.0586, -.0518
V_2924,292.402 {115},Y_3600,ppm, .0102,.0002,2.161, .0104, .0100
W_2397,239.709 {140},Y_2243,ppm, .0508,.0378,74.35, .0776, .0241
Zn2062,206.200 {463},In2306,ppm, .0187,.0003,1.421, .0189, .0186

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 257.63,2.4266,.94188,259.35,255.91
In2306,230.606 {446},Cts/S, 15728.,15.114,.09610,15717.,15738.
Y_2243,224.306 {450},Cts/S, 24698.,1.1453,.00464,24697.,24699.
Y_3600,360.073 { 94},Cts/S, 210950.,52.759,.02501,210980.,210910.
Y_3710,371.030 { 91},Cts/S, 12915.,42.023,.32539,12944.,12885.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0002,.0004,255.3, .0005, -.0001
Al3082,308.215 {109},In2306,ppm, -.0261,.0060,22.94, -.0219, -.0304
As1890,189.042 {478},Y_2243,ppm, -.0008,.0008,102.3, -.0002, -.0014
B_2496,249.678 {135},Y_3710,ppm, -.0038,.0030,77.27, -.0017, -.0059
Ba4554,455.403 { 74},Y_3710,ppm, -.0005,.0000,5.841, -.0005, -.0005
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,7.444, -.0001, -.0001
Ca3158,315.887 {107},In2306,ppm, -.0122,.0034,27.60, -.0145, -.0098
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,18.25, .0001, .0001
Co2286,228.616 {447},In2306,ppm, .0001,.0000,38.50, .0000, .0001
Cr2677,267.716 {126},Y_3600,ppm, -.0001,.0002,236.5, .0001, -.0003
Cu3247,324.754 {104},Y_3600,ppm, .0008,.0001,13.42, .0008, .0007
Fe2404,240.488 {140},In2306,ppm, -.0019,.0044,235.6, -.0049, .0012
K_7664,766.490 { 44},Y_3710,ppm, .0318,.0127,39.82, .0228, .0407
Li6707,670.784 { 50},Y_3710,ppm, -.0001,.0007,774.5, .0004, -.0006
Mg2790,279.079 {121},Y_3710,ppm, .0150,.0069,45.60, .0199, .0102
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,36.45, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, .0002,.0001,34.91, .0001, .0002
Na5895,589.592 { 57},Y_3710,ppm, -.0100,.0029,28.98, -.0079, -.0120
Ni2316,231.604 {445},In2306,ppm, .0003,.0002,59.06, .0005, .0002
P_1782,178.284 {489},In2306,ppm, -.0000,.0003,6119., .0002, -.0002
Pb2203,220.353 {453},In2306,ppm, -.0004,.0008,218.2, -.0009, .0002
S_1820,182.034 {485},Y_2243,ppm, -.0049,.0001,1.085, -.0049, -.0048
Sb2068,206.833 {463},Y_2243,ppm, .0024,.0005,20.42, .0020, .0027
Se1960,196.090 {472},Y_2243,ppm, .0013,.0012,91.66, .0022, .0005
Si2516,251.611 {134},Y_3710,ppm, -.0065,.0064,97.51, -.0110, -.0020
Sn1899,189.989 {477},In2306,ppm, -.0003,.0000,10.30, -.0003, -.0003
Sr4215,421.552 { 80},Y_3710,ppm, .0003,.0001,36.93, .0003, .0002
Ti3349,334.904 {101},Y_3600,ppm, .0002,.0000,.0484, .0002, .0002
Tl1908,190.856 {477},In2306,ppm, .0123,.0025,20.05, .0140, .0105
U_3670,367.007 { 92},Y_3600,ppm, -.2033,.1036,50.98, -.2766, -.1300
V_2924,292.402 {115},Y_3600,ppm, -.0003,.0000,6.352, -.0003, -.0003
W_2397,239.709 {140},Y_2243,ppm, .0676,.0282,41.74, .0476, .0875
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Zn2062,206.200 {463},In2306,ppm, -.0014,.0000,.1121, -.0014, -.0014

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 254.42,3.9232,1.5420,251.65,257.20
In2306,230.606 {446},Cts/S, 15844.,74.175,.46815,15896.,15792.
Y_2243,224.306 {450},Cts/S, 24546.,73.084,.29774,24598.,24494.
Y_3600,360.073 { 94},Cts/S, 209300.,57.347,.02740,209260.,209340.
Y_3710,371.030 { 91},Cts/S, 12617.,128.20,1.0161,12527.,12708.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0008,.0003,41.08, .0010, .0006
Al3082,308.215 {109},In2306,ppm, .3284,.0016,.4926, .3272, .3295
As1890,189.042 {478},Y_2243,ppm, .0021,.0005,22.21, .0018, .0024
B_2496,249.678 {135},Y_3710,ppm, .0706,.0072,10.23, .0757, .0655
Ba4554,455.403 { 74},Y_3710,ppm, .0370,.0001,.3143, .0371, .0369
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,36.63, -.0001, -.0001
Ca3158,315.887 {107},In2306,ppm, 39.67,.2370,.5974, 39.50, 39.84
Cd2288,228.802 {447},Y_2243,ppm, .0003,.0000,11.50, .0003, .0003
Co2286,228.616 {447},In2306,ppm, .0004,.0002,46.36, .0003, .0006
Cr2677,267.716 {126},Y_3600,ppm, .0003,.0001,19.59, .0002, .0003
Cu3247,324.754 {104},Y_3600,ppm, .0024,.0002,8.657, .0022, .0025
Fe2404,240.488 {140},In2306,ppm, .1566,.0020,1.294, .1552, .1580
K_7664,766.490 { 44},Y_3710,ppm, 5.283,.0088,.1672, 5.277, 5.290
Li6707,670.784 { 50},Y_3710,ppm, .0059,.0002,3.052, .0060, .0058
Mg2790,279.079 {121},Y_3710,ppm, 21.34,.0586,.2746, 21.38, 21.30
Mn2576,257.610 {131},Y_3600,ppm, .0491,.0002,.4524, .0492, .0489
Mo2020,202.030 {467},Y_2243,ppm, .0035,.0000,1.336, .0035, .0035
Na5895,589.592 { 57},Y_3710,ppm, 795.7,2.422,.3044, 794.0, 797.4
Ni2316,231.604 {445},In2306,ppm, .0064,.0003,4.476, .0066, .0062
P_1782,178.284 {489},In2306,ppm, .0800,.0026,3.254, .0782, .0819
Pb2203,220.353 {453},In2306,ppm, .0006,.0002,35.47, .0004, .0007
S_1820,182.034 {485},Y_2243,ppm, 325.6,.4834,.1485, 325.9, 325.2
Sb2068,206.833 {463},Y_2243,ppm, .0023,.0008,32.98, .0018, .0028
Se1960,196.090 {472},Y_2243,ppm, -.0021,.0035,168.5, -.0046, .0004
Si2516,251.611 {134},Y_3710,ppm, 2.298,.0233,1.012, 2.314, 2.281
Sn1899,189.989 {477},In2306,ppm, -.0002,.0000,7.527, -.0002, -.0002
Sr4215,421.552 { 80},Y_3710,ppm, .1538,.0010,.6793, .1545, .1530
Ti3349,334.904 {101},Y_3600,ppm, .0006,.0005,89.48, .0002, .0010
Tl1908,190.856 {477},In2306,ppm, .0049,.0019,38.22, .0062, .0035
U_3670,367.007 { 92},Y_3600,ppm, -.0019,.0190,988.1, .0115, -.0154
V_2924,292.402 {115},Y_3600,ppm, .0006,.0001,18.91, .0005, .0007
W_2397,239.709 {140},Y_2243,ppm, .0463,.0181,39.10, .0591, .0335
Zn2062,206.200 {463},In2306,ppm, .0963,.0010,1.039, .0970, .0956

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 236.64,3.0215,1.2768,238.78,234.50
In2306,230.606 {446},Cts/S, 11988.,40.805,.34038,11959.,12017.
Y_2243,224.306 {450},Cts/S, 21576.,55.941,.25927,21537.,21616.
Y_3600,360.073 { 94},Cts/S, 179170.,803.02,.44819,178600.,179740.
Y_3710,371.030 { 91},Cts/S, 12212.,83.656,.68503,12271.,12153.
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0010,.0000,1.474, .0010, .0010
Al3082,308.215 {109},In2306,ppm, .0912,.0044,4.782, .0943, .0881
As1890,189.042 {478},Y_2243,ppm, .0016,.0007,46.06, .0011, .0021
B_2496,249.678 {135},Y_3710,ppm, .2074,.0008,.3717, .2079, .2068
Ba4554,455.403 { 74},Y_3710,ppm, .2898,.0006,.2078, .2893, .2902
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0001,193.0, -.0001, .0000
Ca3158,315.887 {107},In2306,ppm, 55.41,.0250,.0451, 55.40, 55.43
Cd2288,228.802 {447},Y_2243,ppm, .0004,.0000,5.837, .0004, .0004
Co2286,228.616 {447},In2306,ppm, .0004,.0002,40.85, .0003, .0006
Cr2677,267.716 {126},Y_3600,ppm, .0005,.0002,47.33, .0007, .0003
Cu3247,324.754 {104},Y_3600,ppm, .0042,.0004,9.006, .0039, .0044
Fe2404,240.488 {140},In2306,ppm, .2942,.0004,.1345, .2945, .2939
K_7664,766.490 { 44},Y_3710,ppm, 12.46,.0360,.2890, 12.44, 12.49
Li6707,670.784 { 50},Y_3710,ppm, .0129,.0009,6.852, .0123, .0135
Mg2790,279.079 {121},Y_3710,ppm, 33.01,.2315,.7011, 32.85, 33.18
Mn2576,257.610 {131},Y_3600,ppm, .0879,.0000,.0469, .0879, .0879
Mo2020,202.030 {467},Y_2243,ppm, .0102,.0000,.0656, .0102, .0102
Na5895,589.592 { 57},Y_3710,ppm, 329.6,4.286,1.300, 326.6, 332.7
Ni2316,231.604 {445},In2306,ppm, .0021,.0001,6.701, .0022, .0020
P_1782,178.284 {489},In2306,ppm, .0087,.0002,1.968, .0088, .0085
Pb2203,220.353 {453},In2306,ppm, -.0008,.0004,51.49, -.0012, -.0005
S_1820,182.034 {485},Y_2243,ppm, 13.54,.0121,.0894, 13.55, 13.53
Sb2068,206.833 {463},Y_2243,ppm, .0029,.0008,28.78, .0035, .0023
Se1960,196.090 {472},Y_2243,ppm, .0008,.0004,57.99, .0011, .0005
Si2516,251.611 {134},Y_3710,ppm, 2.910,.0467,1.604, 2.877, 2.943
Sn1899,189.989 {477},In2306,ppm, -.0004,.0001,33.35, -.0003, -.0005
Sr4215,421.552 { 80},Y_3710,ppm, .4802,.0012,.2510, .4794, .4811
Ti3349,334.904 {101},Y_3600,ppm, .0011,.0001,7.779, .0010, .0011
Tl1908,190.856 {477},In2306,ppm, .0009,.0008,87.52, .0003, .0014
U_3670,367.007 { 92},Y_3600,ppm, -.1356,.0942,69.49, -.2022, -.0689
V_2924,292.402 {115},Y_3600,ppm, .0036,.0001,2.146, .0035, .0036
W_2397,239.709 {140},Y_2243,ppm, .0166,.0080,48.55, .0109, .0222
Zn2062,206.200 {463},In2306,ppm, .0452,.0002,.5131, .0454, .0451

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 241.26,.48318,.20028,240.92,241.60
In2306,230.606 {446},Cts/S, 12789.,7.2361,.05658,12794.,12784.
Y_2243,224.306 {450},Cts/S, 22223.,32.093,.14441,22246.,22200.
Y_3600,360.073 { 94},Cts/S, 188630.,156.56,.08300,188740.,188520.
Y_3710,371.030 { 91},Cts/S, 12418.,26.410,.21268,12437.,12399.

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Custom ID3=
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0007,.0006,83.72, .0011, .0003
Al3082,308.215 {109},In2306,ppm, .0343,.0006,1.707, .0339, .0347
As1890,189.042 {478},Y_2243,ppm, .0022,.0015,68.32, .0012, .0033
B_2496,249.678 {135},Y_3710,ppm, .1988,.0130,6.544, .1896, .2079
Ba4554,455.403 { 74},Y_3710,ppm, .2796,.0221,7.887, .2640, .2952
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,251.4, -.0001, .0000
Ca3158,315.887 {107},In2306,ppm, 52.82,3.963,7.503, 50.02, 55.62
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0001,22.94, .0003, .0002
Co2286,228.616 {447},In2306,ppm, .0003,.0001,22.89, .0003, .0004
Cr2677,267.716 {126},Y_3600,ppm, .0002,.0002,136.9, .0003, .0000
Cu3247,324.754 {104},Y_3600,ppm, .0037,.0005,14.80, .0033, .0041
Fe2404,240.488 {140},In2306,ppm, .1251,.0114,9.102, .1170, .1331
K_7664,766.490 { 44},Y_3710,ppm, 11.79,.8505,7.212, 11.19, 12.39
Li6707,670.784 { 50},Y_3710,ppm, .0125,.0021,16.60, .0110, .0139
Mg2790,279.079 {121},Y_3710,ppm, 31.14,2.467,7.921, 29.40, 32.89
Mn2576,257.610 {131},Y_3600,ppm, .0287,.0002,.7237, .0286, .0289
Mo2020,202.030 {467},Y_2243,ppm, .0103,.0002,2.332, .0105, .0101
Na5895,589.592 { 57},Y_3710,ppm, 320.7,19.73,6.154, 306.7, 334.6
Ni2316,231.604 {445},In2306,ppm, .0020,.0002,10.77, .0019, .0022
P_1782,178.284 {489},In2306,ppm, .0118,.0006,4.891, .0114, .0122
Pb2203,220.353 {453},In2306,ppm, -.0021,.0004,20.22, -.0018, -.0024
S_1820,182.034 {485},Y_2243,ppm, 13.62,.0245,.1799, 13.64, 13.60
Sb2068,206.833 {463},Y_2243,ppm, .0023,.0008,35.05, .0017, .0029
Se1960,196.090 {472},Y_2243,ppm, .0018,.0010,55.89, .0011, .0026
Si2516,251.611 {134},Y_3710,ppm, 1.917,.1704,8.890, 1.797, 2.038
Sn1899,189.989 {477},In2306,ppm, -.0002,.0003,103.8, -.0001, -.0004
Sr4215,421.552 { 80},Y_3710,ppm, .4607,.0375,8.145, .4341, .4872
Ti3349,334.904 {101},Y_3600,ppm, .0007,.0002,27.13, .0005, .0008
Tl1908,190.856 {477},In2306,ppm, .0080,.0015,18.43, .0090, .0069
U_3670,367.007 { 92},Y_3600,ppm, .0400,.0403,101.0, .0685, .0114
V_2924,292.402 {115},Y_3600,ppm, .0028,.0001,2.954, .0028, .0029
W_2397,239.709 {140},Y_2243,ppm, .0071,.0269,379.2, .0261, -.0119
Zn2062,206.200 {463},In2306,ppm, .0359,.0001,.3522, .0358, .0360

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 256.04,13.292,5.1913,265.44,246.64
In2306,230.606 {446},Cts/S, 12705.,26.856,.21137,12724.,12686.
Y_2243,224.306 {450},Cts/S, 22032.,12.676,.05753,22041.,22023.
Y_3600,360.073 { 94},Cts/S, 186530.,576.36,.30899,186940.,186120.
Y_3710,371.030 { 91},Cts/S, 13103.,722.84,5.5167,13614.,12592.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0015,.0002,14.17, -.0017, -.0014
Al3082,308.215 {109},In2306,ppm, 161.6,1.650,1.021, 160.5, 162.8
As1890,189.042 {478},Y_2243,ppm, .0264,.0011,4.036, .0257, .0272
B_2496,249.678 {135},Y_3710,ppm, .2596,.0024,.9053, .2579, .2612
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Ba4554,455.403 { 74},Y_3710,ppm, 1.097,.0027,.2502, 1.095, 1.099
Be3130,313.042 {108},Y_3710,ppm, .0074,.0001,.8169, .0074, .0075
Ca3158,315.887 {107},In2306,ppm, 129.6,1.454,1.122, 128.6, 130.7
Cd2288,228.802 {447},Y_2243,ppm, .0028,.0001,4.063, .0027, .0029
Co2286,228.616 {447},In2306,ppm, .0510,.0002,.4068, .0511, .0508
Cr2677,267.716 {126},Y_3600,ppm, .1208,.0005,.3875, .1211, .1205
Cu3247,324.754 {104},Y_3600,ppm, .1051,.0001,.0898, .1050, .1051
Fe2404,240.488 {140},In2306,ppm, 105.5,1.298,1.231, 104.6, 106.4
K_7664,766.490 { 44},Y_3710,ppm, 24.55,.0528,.2151, 24.51, 24.58
Li6707,670.784 { 50},Y_3710,ppm, .0887,.0006,.6602, .0882, .0891
Mg2790,279.079 {121},Y_3710,ppm, 58.03,.3236,.5577, 57.80, 58.26
Mn2576,257.610 {131},Y_3600,ppm, 1.145,.0040,.3452, 1.148, 1.142
Mo2020,202.030 {467},Y_2243,ppm, .0084,.0004,4.719, .0081, .0087
Na5895,589.592 { 57},Y_3710,ppm, 306.0,2.652,.8665, 304.1, 307.9
Ni2316,231.604 {445},In2306,ppm, .0949,.0004,.4242, .0946, .0952
P_1782,178.284 {489},In2306,ppm, 1.579,.0034,.2170, 1.582, 1.577
Pb2203,220.353 {453},In2306,ppm, .1186,.0018,1.499, .1174, .1199
S_1820,182.034 {485},Y_2243,ppm, 14.11,.0082,.0584, 14.11, 14.12
Sb2068,206.833 {463},Y_2243,ppm, -.0009,.0002,25.23, -.0007, -.0011
Se1960,196.090 {472},Y_2243,ppm, .0014,.0017,124.7, .0025, .0002
Si2516,251.611 {134},Y_3710,ppm, 42.10,.4377,1.040, 41.79, 42.41
Sn1899,189.989 {477},In2306,ppm, .0048,.0003,7.013, .0045, .0050
Sr4215,421.552 { 80},Y_3710,ppm, .8353,.0019,.2311, .8339, .8367
Ti3349,334.904 {101},Y_3600,ppm, .2329,.0005,.2269, .2332, .2325
Tl1908,190.856 {477},In2306,ppm, .0008,.0054,713.7, .0046, -.0031
U_3670,367.007 { 92},Y_3600,ppm, .4650,.0425,9.139, .4350, .4951
V_2924,292.402 {115},Y_3600,ppm, .2025,.0009,.4589, .2031, .2018
W_2397,239.709 {140},Y_2243,ppm, -.0375,.0056,14.93, -.0415, -.0336
Zn2062,206.200 {463},In2306,ppm, .3967,.0016,.4096, .3978, .3955

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 236.41,1.8742,.79278,237.73,235.08
In2306,230.606 {446},Cts/S, 12065.,27.761,.23010,12084.,12045.
Y_2243,224.306 {450},Cts/S, 23193.,103.77,.44741,23266.,23120.
Y_3600,360.073 { 94},Cts/S, 196830.,13.633,.00693,196820.,196840.
Y_3710,371.030 { 91},Cts/S, 13216.,3.0429,.02302,13214.,13218.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0002,.0001,73.72, -.0002, -.0001
Al3082,308.215 {109},In2306,ppm, 62.57,.1606,.2566, 62.68, 62.45
As1890,189.042 {478},Y_2243,ppm, .0135,.0019,13.79, .0149, .0122
B_2496,249.678 {135},Y_3710,ppm, .2230,.0020,.9017, .2216, .2244
Ba4554,455.403 { 74},Y_3710,ppm, .5507,.0000,.0082, .5507, .5507
Be3130,313.042 {108},Y_3710,ppm, .0026,.0001,2.950, .0026, .0027
Ca3158,315.887 {107},In2306,ppm, 67.38,.0410,.0609, 67.41, 67.35
Cd2288,228.802 {447},Y_2243,ppm, .0013,.0002,13.08, .0014, .0012
Co2286,228.616 {447},In2306,ppm, .0171,.0001,.8270, .0172, .0170
Cr2677,267.716 {126},Y_3600,ppm, .0484,.0007,1.343, .0480, .0489
Cu3247,324.754 {104},Y_3600,ppm, .0359,.0002,.5898, .0357, .0360
Fe2404,240.488 {140},In2306,ppm, 40.09,.0840,.2097, 40.03, 40.15
K_7664,766.490 { 44},Y_3710,ppm, 17.03,.0788,.4627, 17.09, 16.98
Li6707,670.784 { 50},Y_3710,ppm, .0425,.0004,1.056, .0429, .0422
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Mg2790,279.079 {121},Y_3710,ppm, 41.51,.1396,.3362, 41.41, 41.61
Mn2576,257.610 {131},Y_3600,ppm, .3426,.0005,.1585, .3422, .3430
Mo2020,202.030 {467},Y_2243,ppm, .0084,.0001,.7735, .0084, .0083
Na5895,589.592 { 57},Y_3710,ppm, 304.1,.0877,.0288, 304.2, 304.1
Ni2316,231.604 {445},In2306,ppm, .0334,.0007,2.157, .0339, .0329
P_1782,178.284 {489},In2306,ppm, .5268,.0031,.5857, .5247, .5290
Pb2203,220.353 {453},In2306,ppm, .0371,.0006,1.539, .0375, .0367
S_1820,182.034 {485},Y_2243,ppm, 12.01,.0185,.1541, 12.03, 12.00
Sb2068,206.833 {463},Y_2243,ppm, .0006,.0007,116.6, .0001, .0011
Se1960,196.090 {472},Y_2243,ppm, .0015,.0023,149.3, -.0001, .0031
Si2516,251.611 {134},Y_3710,ppm, 45.40,.3269,.7200, 45.17, 45.63
Sn1899,189.989 {477},In2306,ppm, .0012,.0002,19.87, .0014, .0011
Sr4215,421.552 { 80},Y_3710,ppm, .5658,.0010,.1838, .5666, .5651
Ti3349,334.904 {101},Y_3600,ppm, .1731,.0001,.0485, .1732, .1731
Tl1908,190.856 {477},In2306,ppm, .0020,.0021,102.0, .0035, .0006
U_3670,367.007 { 92},Y_3600,ppm, .1429,.0789,55.22, .0871, .1987
V_2924,292.402 {115},Y_3600,ppm, .0858,.0004,.4941, .0855, .0861
W_2397,239.709 {140},Y_2243,ppm, .0310,.0360,116.3, .0564, .0055
Zn2062,206.200 {463},In2306,ppm, .1486,.0003,.1686, .1487, .1484

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 239.96,1.0956,.45657,239.18,240.73
In2306,230.606 {446},Cts/S, 12550.,65.016,.51806,12504.,12596.
Y_2243,224.306 {450},Cts/S, 22922.,143.70,.62693,22820.,23023.
Y_3600,360.073 { 94},Cts/S, 193170.,669.11,.34638,192700.,193640.
Y_3710,371.030 { 91},Cts/S, 12875.,39.266,.30498,12847.,12903.

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Ag3280,328.068 {103},Y_3600,ppm, -.0011,.0002,16.73, -.0012, -.0010
Al3082,308.215 {109},In2306,ppm, 151.2,.5420,.3585, 150.8, 151.6
As1890,189.042 {478},Y_2243,ppm, .0231,.0018,7.824, .0218, .0244
B_2496,249.678 {135},Y_3710,ppm, .2499,.0030,1.217, .2477, .2520
Ba4554,455.403 { 74},Y_3710,ppm, .9638,.0033,.3379, .9661, .9615
Be3130,313.042 {108},Y_3710,ppm, .0062,.0001,1.412, .0062, .0061
Ca3158,315.887 {107},In2306,ppm, 124.5,.3302,.2653, 124.7, 124.2
Cd2288,228.802 {447},Y_2243,ppm, .0025,.0000,1.766, .0025, .0026
Co2286,228.616 {447},In2306,ppm, .0425,.0001,.2062, .0424, .0425
Cr2677,267.716 {126},Y_3600,ppm, .1050,.0006,.5571, .1045, .1054
Cu3247,324.754 {104},Y_3600,ppm, .0932,.0004,.3910, .0930, .0935
Fe2404,240.488 {140},In2306,ppm, 88.05,.1382,.1569, 88.15, 87.95
K_7664,766.490 { 44},Y_3710,ppm, 23.01,.1266,.5502, 23.10, 22.92
Li6707,670.784 { 50},Y_3710,ppm, .0778,.0001,.1905, .0779, .0777
Mg2790,279.079 {121},Y_3710,ppm, 54.11,.5221,.9648, 54.48, 53.74
Mn2576,257.610 {131},Y_3600,ppm, 1.011,.0020,.1935, 1.009, 1.012
Mo2020,202.030 {467},Y_2243,ppm, .0090,.0001,1.445, .0089, .0091
Na5895,589.592 { 57},Y_3710,ppm, 316.6,4.125,1.303, 313.7, 319.6
Ni2316,231.604 {445},In2306,ppm, .0809,.0001,.1269, .0808, .0809
P_1782,178.284 {489},In2306,ppm, 1.744,.0003,.0156, 1.744, 1.743
Pb2203,220.353 {453},In2306,ppm, .0979,.0014,1.424, .0989, .0969
S_1820,182.034 {485},Y_2243,ppm, 15.27,.0052,.0342, 15.26, 15.27
Sb2068,206.833 {463},Y_2243,ppm, -.0019,.0010,50.60, -.0026, -.0012
Se1960,196.090 {472},Y_2243,ppm, .0011,.0040,357.4, -.0017, .0040
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Si2516,251.611 {134},Y_3710,ppm, 33.59,.0311,.0925, 33.61, 33.56
Sn1899,189.989 {477},In2306,ppm, .0057,.0008,13.45, .0063, .0052
Sr4215,421.552 { 80},Y_3710,ppm, .7930,.0023,.2852, .7946, .7914
Ti3349,334.904 {101},Y_3600,ppm, .2196,.0010,.4505, .2189, .2203
Tl1908,190.856 {477},In2306,ppm, -.0068,.0015,21.74, -.0079, -.0058
U_3670,367.007 { 92},Y_3600,ppm, .2857,.0156,5.459, .2968, .2747
V_2924,292.402 {115},Y_3600,ppm, .1747,.0006,.3161, .1743, .1751
W_2397,239.709 {140},Y_2243,ppm, -.0758,.0279,36.81, -.0955, -.0560
Zn2062,206.200 {463},In2306,ppm, .3592,.0001,.0378, .3591, .3593

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 239.96,.96426,.40185,240.64,239.27
In2306,230.606 {446},Cts/S, 12145.,12.839,.10572,12135.,12154.
Y_2243,224.306 {450},Cts/S, 23179.,22.825,.09847,23162.,23195.
Y_3600,360.073 { 94},Cts/S, 197110.,325.79,.16528,196880.,197340.
Y_3710,371.030 { 91},Cts/S, 13144.,56.603,.43062,13104.,13184.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0002,.0001,60.92, -.0001, -.0002
Al3082,308.215 {109},In2306,ppm, 5.240,.0471,.8995, 5.206, 5.273
As1890,189.042 {478},Y_2243,ppm, .0041,.0007,17.43, .0046, .0036
B_2496,249.678 {135},Y_3710,ppm, .2032,.0045,2.237, .2064, .2000
Ba4554,455.403 { 74},Y_3710,ppm, .2973,.0001,.0247, .2972, .2974
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,18.16, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, 54.59,.6385,1.170, 54.14, 55.04
Cd2288,228.802 {447},Y_2243,ppm, .0004,.0000,11.75, .0004, .0003
Co2286,228.616 {447},In2306,ppm, .0012,.0001,10.86, .0013, .0011
Cr2677,267.716 {126},Y_3600,ppm, .0039,.0001,1.566, .0040, .0039
Cu3247,324.754 {104},Y_3600,ppm, .0057,.0004,6.794, .0054, .0060
Fe2404,240.488 {140},In2306,ppm, 2.894,.0481,1.661, 2.860, 2.928
K_7664,766.490 { 44},Y_3710,ppm, 12.66,.0599,.4727, 12.62, 12.70
Li6707,670.784 { 50},Y_3710,ppm, .0129,.0001,.9655, .0128, .0130
Mg2790,279.079 {121},Y_3710,ppm, 32.32,.1968,.6090, 32.46, 32.18
Mn2576,257.610 {131},Y_3600,ppm, .0354,.0000,.0518, .0354, .0354
Mo2020,202.030 {467},Y_2243,ppm, .0104,.0002,1.975, .0106, .0103
Na5895,589.592 { 57},Y_3710,ppm, 325.9,.6771,.2078, 325.4, 326.3
Ni2316,231.604 {445},In2306,ppm, .0030,.0001,4.820, .0031, .0029
P_1782,178.284 {489},In2306,ppm, .0629,.0007,1.098, .0624, .0634
Pb2203,220.353 {453},In2306,ppm, .0013,.0006,46.15, .0009, .0017
S_1820,182.034 {485},Y_2243,ppm, 13.15,.0989,.7523, 13.22, 13.08
Sb2068,206.833 {463},Y_2243,ppm, .0009,.0013,153.6, -.0001, .0018
Se1960,196.090 {472},Y_2243,ppm, .0005,.0000,9.028, .0004, .0005
Si2516,251.611 {134},Y_3710,ppm, 9.761,.0134,.1374, 9.751, 9.770
Sn1899,189.989 {477},In2306,ppm, -.0002,.0001,51.56, -.0001, -.0003
Sr4215,421.552 { 80},Y_3710,ppm, .4747,.0006,.1335, .4743, .4752
Ti3349,334.904 {101},Y_3600,ppm, .0252,.0002,.8349, .0254, .0251
Tl1908,190.856 {477},In2306,ppm, .0024,.0003,12.83, .0022, .0026
U_3670,367.007 { 92},Y_3600,ppm, -.0920,.0722,78.47, -.0410, -.1431
V_2924,292.402 {115},Y_3600,ppm, .0117,.0000,.3941, .0117, .0117
W_2397,239.709 {140},Y_2243,ppm, .0367,.0348,94.79, .0121, .0613
Zn2062,206.200 {463},In2306,ppm, .0262,.0003,1.225, .0264, .0259
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[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 242.52,3.8584,1.5910,245.25,239.80
In2306,230.606 {446},Cts/S, 12716.,9.4071,.07398,12722.,12709.
Y_2243,224.306 {450},Cts/S, 22326.,50.176,.22474,22362.,22291.
Y_3600,360.073 { 94},Cts/S, 190910.,890.93,.46668,190280.,191540.
Y_3710,371.030 { 91},Cts/S, 12612.,34.294,.27192,12636.,12587.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0004,534.4, .0002, -.0003
Al3082,308.215 {109},In2306,ppm, 5.161,.0642,1.243, 5.116, 5.206
As1890,189.042 {478},Y_2243,ppm, .0026,.0009,34.94, .0033, .0020
B_2496,249.678 {135},Y_3710,ppm, .2089,.0096,4.602, .2157, .2021
Ba4554,455.403 { 74},Y_3710,ppm, .2953,.0012,.3901, .2961, .2945
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,63.42, .0002, .0001
Ca3158,315.887 {107},In2306,ppm, 54.59,.6642,1.217, 54.12, 55.06
Cd2288,228.802 {447},Y_2243,ppm, .0004,.0000,8.595, .0004, .0005
Co2286,228.616 {447},In2306,ppm, .0012,.0001,12.16, .0011, .0012
Cr2677,267.716 {126},Y_3600,ppm, .0041,.0001,3.509, .0042, .0040
Cu3247,324.754 {104},Y_3600,ppm, .0055,.0000,.1930, .0055, .0055
Fe2404,240.488 {140},In2306,ppm, 2.865,.0298,1.040, 2.844, 2.886
K_7664,766.490 { 44},Y_3710,ppm, 12.59,.0146,.1156, 12.60, 12.58
Li6707,670.784 { 50},Y_3710,ppm, .0135,.0007,4.930, .0131, .0140
Mg2790,279.079 {121},Y_3710,ppm, 32.67,.2395,.7330, 32.84, 32.50
Mn2576,257.610 {131},Y_3600,ppm, .0356,.0000,.1129, .0356, .0356
Mo2020,202.030 {467},Y_2243,ppm, .0103,.0001,.9899, .0103, .0104
Na5895,589.592 { 57},Y_3710,ppm, 325.1,8.387,2.580, 319.1, 331.0
Ni2316,231.604 {445},In2306,ppm, .0031,.0002,6.175, .0030, .0032
P_1782,178.284 {489},In2306,ppm, .0614,.0015,2.382, .0624, .0603
Pb2203,220.353 {453},In2306,ppm, .0018,.0009,50.11, .0011, .0024
S_1820,182.034 {485},Y_2243,ppm, 13.16,.0248,.1888, 13.14, 13.17
Sb2068,206.833 {463},Y_2243,ppm, .0010,.0020,200.0, -.0004, .0024
Se1960,196.090 {472},Y_2243,ppm, -.0001,.0048,4559., .0033, -.0035
Si2516,251.611 {134},Y_3710,ppm, 9.553,.0260,.2718, 9.572, 9.535
Sn1899,189.989 {477},In2306,ppm, -.0006,.0007,118.9, -.0001, -.0011
Sr4215,421.552 { 80},Y_3710,ppm, .4748,.0004,.0927, .4745, .4751
Ti3349,334.904 {101},Y_3600,ppm, .0263,.0000,.1844, .0263, .0264
Tl1908,190.856 {477},In2306,ppm, .0040,.0024,58.90, .0057, .0024
U_3670,367.007 { 92},Y_3600,ppm, -.1036,.0998,96.33, -.1741, -.0330
V_2924,292.402 {115},Y_3600,ppm, .0114,.0002,1.445, .0115, .0112
W_2397,239.709 {140},Y_2243,ppm, .0135,.0361,267.5, -.0120, .0391
Zn2062,206.200 {463},In2306,ppm, .0237,.0001,.4067, .0236, .0238

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 241.81,2.1972,.90862,243.37,240.26
In2306,230.606 {446},Cts/S, 12715.,41.394,.32555,12686.,12744.
Y_2243,224.306 {450},Cts/S, 22356.,93.112,.41650,22290.,22422.
Y_3600,360.073 { 94},Cts/S, 189040.,560.01,.29625,188640.,189430.
Y_3710,371.030 { 91},Cts/S, 12542.,52.754,.42062,12505.,12579.

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Ag3280,328.068 {103},Y_3600,ppm, .2578,.0001,.0559, .2579, .2577
Al3082,308.215 {109},In2306,ppm, 15.04,.0299,.1991, 15.02, 15.06
As1890,189.042 {478},Y_2243,ppm, 1.040,.0001,.0129, 1.040, 1.040
B_2496,249.678 {135},Y_3710,ppm, .7124,.0030,.4190, .7145, .7103
Ba4554,455.403 { 74},Y_3710,ppm, 1.273,.0016,.1261, 1.274, 1.271
Be3130,313.042 {108},Y_3710,ppm, 1.020,.0019,.1832, 1.018, 1.021
Ca3158,315.887 {107},In2306,ppm, 64.56,.1018,.1577, 64.48, 64.63
Cd2288,228.802 {447},Y_2243,ppm, 1.005,.0003,.0323, 1.005, 1.004
Co2286,228.616 {447},In2306,ppm, 1.020,.0008,.0782, 1.020, 1.019
Cr2677,267.716 {126},Y_3600,ppm, .9432,.0037,.3884, .9458, .9406
Cu3247,324.754 {104},Y_3600,ppm, .9855,.0028,.2804, .9836, .9875
Fe2404,240.488 {140},In2306,ppm, 11.66,.0207,.1778, 11.65, 11.68
K_7664,766.490 { 44},Y_3710,ppm, 22.52,.0201,.0891, 22.54, 22.51
Li6707,670.784 { 50},Y_3710,ppm, .9729,.0037,.3769, .9755, .9704
Mg2790,279.079 {121},Y_3710,ppm, 42.02,.2993,.7123, 41.81, 42.23
Mn2576,257.610 {131},Y_3600,ppm, .9917,.0040,.4006, .9945, .9889
Mo2020,202.030 {467},Y_2243,ppm, 1.004,.0004,.0398, 1.004, 1.004
Na5895,589.592 { 57},Y_3710,ppm, 333.0,2.542,.7633, 334.8, 331.2
Ni2316,231.604 {445},In2306,ppm, 1.050,.0005,.0505, 1.050, 1.051
P_1782,178.284 {489},In2306,ppm, 6.129,.0186,.3031, 6.142, 6.116
Pb2203,220.353 {453},In2306,ppm, 1.021,.0010,.0941, 1.020, 1.022
S_1820,182.034 {485},Y_2243,ppm, 17.12,.0048,.0282, 17.12, 17.12
Sb2068,206.833 {463},Y_2243,ppm, 1.663,.0015,.0930, 1.665, 1.662
Se1960,196.090 {472},Y_2243,ppm, 1.020,.0008,.0737, 1.019, 1.020
Si2516,251.611 {134},Y_3710,ppm, 15.05,.0308,.2045, 15.03, 15.07
Sn1899,189.989 {477},In2306,ppm, 1.052,.0018,.1757, 1.054, 1.051
Sr4215,421.552 { 80},Y_3710,ppm, 1.453,.0014,.0988, 1.454, 1.451
Ti3349,334.904 {101},Y_3600,ppm, .9928,.0025,.2474, .9946, .9911
Tl1908,190.856 {477},In2306,ppm, 1.014,.0038,.3746, 1.011, 1.017
U_3670,367.007 { 92},Y_3600,ppm, .3664,.0281,7.670, .3465, .3863
V_2924,292.402 {115},Y_3600,ppm, .9723,.0042,.4280, .9753, .9694
W_2397,239.709 {140},Y_2243,ppm, .4358,.0957,21.96, .5035, .3681
Zn2062,206.200 {463},In2306,ppm, .5605,.0002,.0328, .5606, .5604

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 239.22,.40221,.16813,238.94,239.51
In2306,230.606 {446},Cts/S, 12544.,17.351,.13832,12556.,12532.
Y_2243,224.306 {450},Cts/S, 22400.,45.778,.20437,22432.,22367.
Y_3600,360.073 { 94},Cts/S, 187940.,42.655,.02270,187910.,187970.
Y_3710,371.030 { 91},Cts/S, 12562.,11.182,.08901,12554.,12570.

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Ag3280,328.068 {103},Y_3600,ppm, .2582,.0018,.7069, .2595, .2569
Al3082,308.215 {109},In2306,ppm, 14.97,.1273,.8504, 15.06, 14.88
As1890,189.042 {478},Y_2243,ppm, .9688,.1116,11.52, .8899, 1.048
B_2496,249.678 {135},Y_3710,ppm, .7114,.0096,1.356, .7046, .7182
Ba4554,455.403 { 74},Y_3710,ppm, 1.282,.0019,.1474, 1.283, 1.281
Be3130,313.042 {108},Y_3710,ppm, 1.023,.0014,.1391, 1.022, 1.024
Ca3158,315.887 {107},In2306,ppm, 64.45,.7684,1.192, 64.99, 63.91
Cd2288,228.802 {447},Y_2243,ppm, .9360,.1073,11.47, .8601, 1.012
Co2286,228.616 {447},In2306,ppm, .9510,.1079,11.34, .8747, 1.027
Cr2677,267.716 {126},Y_3600,ppm, .9373,.0011,.1176, .9381, .9365
Cu3247,324.754 {104},Y_3600,ppm, .9861,.0031,.3145, .9839, .9883
Fe2404,240.488 {140},In2306,ppm, 11.60,.0671,.5786, 11.65, 11.56
K_7664,766.490 { 44},Y_3710,ppm, 22.38,.0414,.1849, 22.41, 22.35
Li6707,670.784 { 50},Y_3710,ppm, .9817,.0031,.3157, .9839, .9796
Mg2790,279.079 {121},Y_3710,ppm, 41.50,.5220,1.258, 41.13, 41.87
Mn2576,257.610 {131},Y_3600,ppm, .9926,.0016,.1586, .9937, .9915
Mo2020,202.030 {467},Y_2243,ppm, .9394,.1077,11.46, .8633, 1.016
Na5895,589.592 { 57},Y_3710,ppm, 332.5,2.311,.6950, 330.9, 334.2
Ni2316,231.604 {445},In2306,ppm, .9797,.1117,11.40, .9007, 1.059
P_1782,178.284 {489},In2306,ppm, 5.662,.6430,11.36, 5.207, 6.116
Pb2203,220.353 {453},In2306,ppm, .9487,.1063,11.20, .8736, 1.024
S_1820,182.034 {485},Y_2243,ppm, 15.85,1.794,11.31, 14.59, 17.12
Sb2068,206.833 {463},Y_2243,ppm, 1.553,.1851,11.92, 1.422, 1.684
Se1960,196.090 {472},Y_2243,ppm, .9552,.1106,11.58, .8769, 1.033
Si2516,251.611 {134},Y_3710,ppm, 14.92,.0780,.5228, 14.87, 14.98
Sn1899,189.989 {477},In2306,ppm, .9823,.1121,11.41, .9030, 1.062
Sr4215,421.552 { 80},Y_3710,ppm, 1.461,.0016,.1078, 1.462, 1.460
Ti3349,334.904 {101},Y_3600,ppm, .9913,.0008,.0836, .9919, .9908
Tl1908,190.856 {477},In2306,ppm, .9965,.1183,11.88, .9128, 1.080
U_3670,367.007 { 92},Y_3600,ppm, .4391,.0947,21.56, .5061, .3722
V_2924,292.402 {115},Y_3600,ppm, .9714,.0005,.0498, .9717, .9710
W_2397,239.709 {140},Y_2243,ppm, .4844,.0610,12.59, .4412, .5275
Zn2062,206.200 {463},In2306,ppm, .5208,.0588,11.29, .4792, .5624

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 239.27,1.9341,.80836,237.90,240.64
In2306,230.606 {446},Cts/S, 13386.,1224.3,9.1462,14252.,12521.
Y_2243,224.306 {450},Cts/S, 23859.,2170.6,9.0974,25394.,22324.
Y_3600,360.073 { 94},Cts/S, 189860.,147.49,.07768,189760.,189970.
Y_3710,371.030 { 91},Cts/S, 12666.,41.021,.32385,12695.,12637.


[Sample Header]
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Custom ID3=
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .4821,.0021,.4362, .4836, .4806
Al3082,308.215 {109},In2306,ppm, 21.25,1.159,5.456, 22.07, 20.43
As1890,189.042 {478},Y_2243,ppm, .9910,.0021,.2166, .9925, .9895
B_2496,249.678 {135},Y_3710,ppm, 1.018,.0486,4.776, 1.052, .9835
Ba4554,455.403 { 74},Y_3710,ppm, 1.016,.0435,4.282, 1.047, .9852
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Be3130,313.042 {108},Y_3710,ppm, 1.030,.0490,4.761, 1.065, .9955
Ca3158,315.887 {107},In2306,ppm, 20.44,1.251,6.119, 21.32, 19.55
Cd2288,228.802 {447},Y_2243,ppm, .9723,.0007,.0678, .9727, .9718
Co2286,228.616 {447},In2306,ppm, .9736,.0012,.1230, .9728, .9745
Cr2677,267.716 {126},Y_3600,ppm, .9342,.0063,.6749, .9297, .9386
Cu3247,324.754 {104},Y_3600,ppm, .9632,.0031,.3242, .9610, .9654
Fe2404,240.488 {140},In2306,ppm, 20.36,1.194,5.864, 21.20, 19.52
K_7664,766.490 { 44},Y_3710,ppm, 19.59,1.054,5.378, 20.34, 18.85
Li6707,670.784 { 50},Y_3710,ppm, .9813,.0427,4.350, 1.011, .9511
Mg2790,279.079 {121},Y_3710,ppm, 20.83,.9230,4.432, 21.48, 20.17
Mn2576,257.610 {131},Y_3600,ppm, .9740,.0018,.1879, .9727, .9753
Mo2020,202.030 {467},Y_2243,ppm, .9971,.0012,.1252, .9980, .9962
Na5895,589.592 { 57},Y_3710,ppm, 19.83,.9498,4.791, 20.50, 19.16
Ni2316,231.604 {445},In2306,ppm, 1.001,.0013,.1321, 1.002, 1.000
P_1782,178.284 {489},In2306,ppm, 10.39,.0089,.0854, 10.39, 10.38
Pb2203,220.353 {453},In2306,ppm, .9916,.0033,.3309, .9940, .9893
S_1820,182.034 {485},Y_2243,ppm, 7.238,.0065,.0899, 7.243, 7.233
Sb2068,206.833 {463},Y_2243,ppm, 2.156,.0032,.1506, 2.159, 2.154
Se1960,196.090 {472},Y_2243,ppm, .9811,.0008,.0860, .9817, .9805
Si2516,251.611 {134},Y_3710,ppm, 9.333,.4425,4.741, 9.646, 9.020
Sn1899,189.989 {477},In2306,ppm, 1.004,.0003,.0250, 1.004, 1.004
Sr4215,421.552 { 80},Y_3710,ppm, 1.010,.0450,4.457, 1.042, .9782
Ti3349,334.904 {101},Y_3600,ppm, .9603,.0007,.0716, .9598, .9608
Tl1908,190.856 {477},In2306,ppm, 1.191,.0005,.0403, 1.191, 1.190
U_3670,367.007 { 92},Y_3600,ppm, .7647,.1026,13.41, .6922, .8372
V_2924,292.402 {115},Y_3600,ppm, .9493,.0042,.4381, .9463, .9522
W_2397,239.709 {140},Y_2243,ppm, 1.137,.0555,4.885, 1.098, 1.176
Zn2062,206.200 {463},In2306,ppm, .9837,.0001,.0060, .9836, .9837

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 240.84,15.517,6.4427,229.87,251.81
In2306,230.606 {446},Cts/S, 14258.,21.541,.15108,14243.,14273.
Y_2243,224.306 {450},Cts/S, 23781.,53.204,.22373,23743.,23818.
Y_3600,360.073 { 94},Cts/S, 203430.,1455.4,.71545,204460.,202400.
Y_3710,371.030 { 91},Cts/S, 12499.,660.53,5.2847,12032.,12966.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0099,.0003,2.786, .0101, .0097
Al3082,308.215 {109},In2306,ppm, .1797,.0029,1.588, .1817, .1777
As1890,189.042 {478},Y_2243,ppm, .0212,.0003,1.503, .0214, .0209
B_2496,249.678 {135},Y_3710,ppm, .2127,.0091,4.276, .2063, .2192
Ba4554,455.403 { 74},Y_3710,ppm, .0215,.0000,.0112, .0215, .0215
Be3130,313.042 {108},Y_3710,ppm, .0114,.0001,.9648, .0113, .0115
Ca3158,315.887 {107},In2306,ppm, 1.017,.0040,.3887, 1.014, 1.020
Cd2288,228.802 {447},Y_2243,ppm, .0107,.0000,.1993, .0107, .0107
Co2286,228.616 {447},In2306,ppm, .0103,.0001,.6847, .0104, .0103
Cr2677,267.716 {126},Y_3600,ppm, .0102,.0001,1.123, .0101, .0102
Cu3247,324.754 {104},Y_3600,ppm, .0119,.0001,.8387, .0119, .0120
Fe2404,240.488 {140},In2306,ppm, .1995,.0094,4.723, .2062, .1929
K_7664,766.490 { 44},Y_3710,ppm, 1.062,.0117,1.098, 1.070, 1.054
Li6707,670.784 { 50},Y_3710,ppm, .0110,.0004,3.852, .0113, .0107
Mg2790,279.079 {121},Y_3710,ppm, 1.114,.0289,2.596, 1.093, 1.134
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Mn2576,257.610 {131},Y_3600,ppm, .0109,.0000,.0139, .0109, .0109
Mo2020,202.030 {467},Y_2243,ppm, .0228,.0001,.2820, .0229, .0228
Na5895,589.592 { 57},Y_3710,ppm, 1.117,.0043,.3843, 1.114, 1.120
Ni2316,231.604 {445},In2306,ppm, .0110,.0000,.0159, .0110, .0110
P_1782,178.284 {489},In2306,ppm, .9970,.0045,.4507, 1.000, .9938
Pb2203,220.353 {453},In2306,ppm, .0093,.0009,9.888, .0087, .0100
S_1820,182.034 {485},Y_2243,ppm, .3572,.0040,1.129, .3601, .3544
Sb2068,206.833 {463},Y_2243,ppm, .0589,.0008,1.392, .0583, .0595
Se1960,196.090 {472},Y_2243,ppm, .0219,.0024,10.92, .0202, .0236
Si2516,251.611 {134},Y_3710,ppm, .1780,.0046,2.609, .1813, .1747
Sn1899,189.989 {477},In2306,ppm, .0215,.0001,.5228, .0216, .0214
Sr4215,421.552 { 80},Y_3710,ppm, .0112,.0001,1.018, .0113, .0111
Ti3349,334.904 {101},Y_3600,ppm, .0107,.0002,1.716, .0106, .0109
Tl1908,190.856 {477},In2306,ppm, .0476,.0026,5.554, .0495, .0457
U_3670,367.007 { 92},Y_3600,ppm, -.0423,.0221,52.14, -.0579, -.0267
V_2924,292.402 {115},Y_3600,ppm, .0101,.0003,2.991, .0104, .0099
W_2397,239.709 {140},Y_2243,ppm, .0443,.0357,80.67, .0695, .0190
Zn2062,206.200 {463},In2306,ppm, .0184,.0000,.0097, .0184, .0184

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 256.26,1.4584,.56910,255.23,257.29
In2306,230.606 {446},Cts/S, 15794.,26.567,.16821,15775.,15813.
Y_2243,224.306 {450},Cts/S, 24655.,61.454,.24926,24611.,24698.
Y_3600,360.073 { 94},Cts/S, 211410.,62.126,.02939,211450.,211360.
Y_3710,371.030 { 91},Cts/S, 12915.,27.088,.20975,12934.,12896.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0008,.0002,28.58, .0010, .0007
Al3082,308.215 {109},In2306,ppm, -.0231,.0020,8.615, -.0217, -.0245
As1890,189.042 {478},Y_2243,ppm, .0004,.0004,95.29, .0001, .0007
B_2496,249.678 {135},Y_3710,ppm, .0015,.0015,100.5, .0004, .0025
Ba4554,455.403 { 74},Y_3710,ppm, -.0004,.0001,13.94, -.0004, -.0003
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,3.684, -.0001, -.0001
Ca3158,315.887 {107},In2306,ppm, -.0165,.0035,21.09, -.0140, -.0189
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0000,153.9, -.0000, .0001
Co2286,228.616 {447},In2306,ppm, .0001,.0002,266.6, .0003, -.0001
Cr2677,267.716 {126},Y_3600,ppm, -.0002,.0002,136.0, -.0004, -.0000
Cu3247,324.754 {104},Y_3600,ppm, .0013,.0001,9.449, .0013, .0012
Fe2404,240.488 {140},In2306,ppm, .0050,.0114,228.1, .0130, -.0031
K_7664,766.490 { 44},Y_3710,ppm, .0324,.0098,30.17, .0255, .0394
Li6707,670.784 { 50},Y_3710,ppm, -.0005,.0007,141.0, -.0000, -.0009
Mg2790,279.079 {121},Y_3710,ppm, .0105,.0029,27.33, .0125, .0085
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,5.024, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, .0003,.0000,4.166, .0003, .0003
Na5895,589.592 { 57},Y_3710,ppm, .0548,.0010,1.793, .0555, .0541
Ni2316,231.604 {445},In2306,ppm, .0003,.0001,34.42, .0002, .0004
P_1782,178.284 {489},In2306,ppm, -.0002,.0004,180.2, .0001, -.0005
Pb2203,220.353 {453},In2306,ppm, -.0001,.0001,144.4, -.0002, .0000
S_1820,182.034 {485},Y_2243,ppm, .0058,.0054,92.69, .0097, .0020
Sb2068,206.833 {463},Y_2243,ppm, .0023,.0004,17.49, .0025, .0020
Se1960,196.090 {472},Y_2243,ppm, .0001,.0023,2680., .0017, -.0015
Si2516,251.611 {134},Y_3710,ppm, .0056,.0011,20.13, .0048, .0064
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Sn1899,189.989 {477},In2306,ppm, -.0003,.0002,53.51, -.0002, -.0004
Sr4215,421.552 { 80},Y_3710,ppm, .0002,.0000,8.203, .0002, .0003
Ti3349,334.904 {101},Y_3600,ppm, .0001,.0000,69.36, .0001, .0000
Tl1908,190.856 {477},In2306,ppm, .0150,.0011,7.513, .0142, .0158
U_3670,367.007 { 92},Y_3600,ppm, -.1861,.0801,43.05, -.2428, -.1295
V_2924,292.402 {115},Y_3600,ppm, -.0002,.0001,47.50, -.0003, -.0002
W_2397,239.709 {140},Y_2243,ppm, -.0528,.0163,30.96, -.0644, -.0412
Zn2062,206.200 {463},In2306,ppm, -.0015,.0001,3.533, -.0016, -.0015

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 254.34,.15789,.06208,254.22,254.45
In2306,230.606 {446},Cts/S, 15952.,99.658,.62475,15881.,16022.
Y_2243,224.306 {450},Cts/S, 24519.,148.55,.60587,24414.,24624.
Y_3600,360.073 { 94},Cts/S, 211280.,681.64,.32262,210800.,211760.
Y_3710,371.030 { 91},Cts/S, 12857.,48.825,.37974,12892.,12823.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0011,.0001,8.063, .0011, .0012
Al3082,308.215 {109},In2306,ppm, -.0328,.0076,23.17, -.0382, -.0275
As1890,189.042 {478},Y_2243,ppm, -.0014,.0004,25.33, -.0011, -.0016
B_2496,249.678 {135},Y_3710,ppm, .0012,.0074,609.0, .0064, -.0040
Ba4554,455.403 { 74},Y_3710,ppm, -.0003,.0003,103.0, -.0005, -.0001
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,58.35, -.0001, -.0000
Ca3158,315.887 {107},In2306,ppm, .0034,.0020,59.22, .0048, .0020
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,10.46, .0001, .0001
Co2286,228.616 {447},In2306,ppm, -.0001,.0001,118.7, -.0000, -.0001
Cr2677,267.716 {126},Y_3600,ppm, -.0002,.0000,3.063, -.0002, -.0002
Cu3247,324.754 {104},Y_3600,ppm, .0012,.0003,23.81, .0010, .0014
Fe2404,240.488 {140},In2306,ppm, .0084,.0060,71.27, .0127, .0042
K_7664,766.490 { 44},Y_3710,ppm, .0204,.0055,26.99, .0165, .0243
Li6707,670.784 { 50},Y_3710,ppm, -.0000,.0006,1761., -.0004, .0004
Mg2790,279.079 {121},Y_3710,ppm, .0140,.0133,95.07, .0046, .0235
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,39.05, -.0001, -.0000
Mo2020,202.030 {467},Y_2243,ppm, .0001,.0002,305.0, .0002, -.0001
Na5895,589.592 { 57},Y_3710,ppm, .0387,.0001,.1429, .0387, .0386
Ni2316,231.604 {445},In2306,ppm, .0000,.0001,605.4, -.0000, .0000
P_1782,178.284 {489},In2306,ppm, .0022,.0008,37.58, .0016, .0028
Pb2203,220.353 {453},In2306,ppm, -.0003,.0003,91.91, -.0005, -.0001
S_1820,182.034 {485},Y_2243,ppm, .0086,.0024,27.64, .0103, .0069
Sb2068,206.833 {463},Y_2243,ppm, .0000,.0006,1404., -.0004, .0005
Se1960,196.090 {472},Y_2243,ppm, -.0016,.0011,69.25, -.0008, -.0024
Si2516,251.611 {134},Y_3710,ppm, -.0026,.0027,105.2, -.0007, -.0045
Sn1899,189.989 {477},In2306,ppm, -.0001,.0001,176.9, -.0002, .0000
Sr4215,421.552 { 80},Y_3710,ppm, .0002,.0001,23.03, .0003, .0002
Ti3349,334.904 {101},Y_3600,ppm, .0004,.0002,44.49, .0005, .0003
Tl1908,190.856 {477},In2306,ppm, .0028,.0042,150.3, .0058, -.0002
U_3670,367.007 { 92},Y_3600,ppm, -.2259,.0039,1.713, -.2232, -.2286
V_2924,292.402 {115},Y_3600,ppm, -.0002,.0001,49.48, -.0001, -.0002
W_2397,239.709 {140},Y_2243,ppm, -.0752,.0038,5.098, -.0725, -.0779
Zn2062,206.200 {463},In2306,ppm, .0013,.0001,4.205, .0012, .0013

[Internal Standards]
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Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 256.54,2.1765,.84840,258.08,255.00
In2306,230.606 {446},Cts/S, 15960.,6.2428,.03912,15964.,15955.
Y_2243,224.306 {450},Cts/S, 24552.,33.640,.13702,24528.,24575.
Y_3600,360.073 { 94},Cts/S, 212280.,768.98,.36224,212830.,211740.
Y_3710,371.030 { 91},Cts/S, 13009.,24.300,.18679,13027.,12992.

[Sample Header]
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2563,.0003,.1075, .2565, .2561
Al3082,308.215 {109},In2306,ppm, 11.05,.1572,1.423, 10.94, 11.16
As1890,189.042 {478},Y_2243,ppm, 1.030,.0024,.2335, 1.028, 1.031
B_2496,249.678 {135},Y_3710,ppm, .5207,.0074,1.425, .5260, .5155
Ba4554,455.403 { 74},Y_3710,ppm, 1.034,.0107,1.033, 1.026, 1.041
Be3130,313.042 {108},Y_3710,ppm, 1.051,.0080,.7606, 1.045, 1.057
Ca3158,315.887 {107},In2306,ppm, 10.64,.1079,1.014, 10.56, 10.72
Cd2288,228.802 {447},Y_2243,ppm, 1.020,.0014,.1344, 1.021, 1.019
Co2286,228.616 {447},In2306,ppm, 1.012,.0027,.2699, 1.014, 1.010
Cr2677,267.716 {126},Y_3600,ppm, .9821,.0014,.1449, .9811, .9831
Cu3247,324.754 {104},Y_3600,ppm, 1.016,.0008,.0789, 1.017, 1.016
Fe2404,240.488 {140},In2306,ppm, 10.53,.1026,.9737, 10.46, 10.61
K_7664,766.490 { 44},Y_3710,ppm, 10.17,.0490,.4817, 10.13, 10.20
Li6707,670.784 { 50},Y_3710,ppm, 1.000,.0068,.6755, .9952, 1.005
Mg2790,279.079 {121},Y_3710,ppm, 10.81,.0862,.7975, 10.75, 10.87
Mn2576,257.610 {131},Y_3600,ppm, 1.024,.0016,.1611, 1.025, 1.023
Mo2020,202.030 {467},Y_2243,ppm, 1.047,.0009,.0850, 1.047, 1.046
Na5895,589.592 { 57},Y_3710,ppm, 10.30,.0548,.5318, 10.26, 10.34
Ni2316,231.604 {445},In2306,ppm, 1.042,.0032,.3108, 1.044, 1.040
P_1782,178.284 {489},In2306,ppm, 5.465,.0337,.6165, 5.489, 5.441
Pb2203,220.353 {453},In2306,ppm, 1.036,.0058,.5639, 1.040, 1.032
S_1820,182.034 {485},Y_2243,ppm, 3.849,.0037,.0962, 3.846, 3.851
Sb2068,206.833 {463},Y_2243,ppm, 1.699,.0062,.3624, 1.695, 1.703
Se1960,196.090 {472},Y_2243,ppm, 1.021,.0021,.2041, 1.019, 1.022
Si2516,251.611 {134},Y_3710,ppm, 8.981,.0837,.9321, 8.921, 9.040
Sn1899,189.989 {477},In2306,ppm, 1.041,.0015,.1441, 1.042, 1.040
Sr4215,421.552 { 80},Y_3710,ppm, 1.027,.0107,1.039, 1.019, 1.034
Ti3349,334.904 {101},Y_3600,ppm, 1.008,.0028,.2786, 1.010, 1.006
Tl1908,190.856 {477},In2306,ppm, 1.073,.0037,.3471, 1.071, 1.076
U_3670,367.007 { 92},Y_3600,ppm, .3170,.0186,5.878, .3301, .3038
V_2924,292.402 {115},Y_3600,ppm, .9909,.0007,.0701, .9914, .9904
W_2397,239.709 {140},Y_2243,ppm, .4646,.0541,11.65, .4263, .5029
Zn2062,206.200 {463},In2306,ppm, .5196,.0028,.5293, .5216, .5177

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 245.83,1.5723,.63960,246.94,244.72
In2306,230.606 {446},Cts/S, 14724.,9.7635,.06631,14731.,14717.
Y_2243,224.306 {450},Cts/S, 24070.,61.303,.25468,24114.,24027.
Y_3600,360.073 { 94},Cts/S, 206700.,274.70,.13290,206500.,206890.
Y_3710,371.030 { 91},Cts/S, 12809.,59.801,.46689,12851.,12766.

[Sample Header]
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SampleName=LB 600-279459/1-B
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Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0003,.0003,119.9, .0005, .0000
Al3082,308.215 {109},In2306,ppm, -.0168,.0051,30.38, -.0132, -.0204
As1890,189.042 {478},Y_2243,ppm, .0006,.0005,85.98, .0010, .0002
B_2496,249.678 {135},Y_3710,ppm, .0062,.0051,81.53, .0026, .0098
Ba4554,455.403 { 74},Y_3710,ppm, .0008,.0001,16.60, .0009, .0007
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,100.4, .0001, .0000
Ca3158,315.887 {107},In2306,ppm, .0482,.0006,1.271, .0486, .0477
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,18.58, .0001, .0002
Co2286,228.616 {447},In2306,ppm, -.0000,.0001,3654., -.0001, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0001,.0000,49.72, .0001, .0000
Cu3247,324.754 {104},Y_3600,ppm, .0013,.0001,5.634, .0014, .0013
Fe2404,240.488 {140},In2306,ppm, .0034,.0011,31.52, .0042, .0027
K_7664,766.490 { 44},Y_3710,ppm, .0677,.0158,23.37, .0789, .0565
Li6707,670.784 { 50},Y_3710,ppm, -.0000,.0003,693.1, -.0003, .0002
Mg2790,279.079 {121},Y_3710,ppm, .0070,.0249,356.5, -.0106, .0246
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,22750., -.0000, .0000
Mo2020,202.030 {467},Y_2243,ppm, .0009,.0000,3.669, .0009, .0010
Na5895,589.592 { 57},Y_3710,ppm, .0511,.0017,3.377, .0523, .0499
Ni2316,231.604 {445},In2306,ppm, .0001,.0002,168.7, .0003, -.0000
P_1782,178.284 {489},In2306,ppm, .0225,.0001,.5631, .0226, .0224
Pb2203,220.353 {453},In2306,ppm, -.0007,.0007,99.89, -.0002, -.0012
S_1820,182.034 {485},Y_2243,ppm, .0155,.0014,9.028, .0165, .0146
Sb2068,206.833 {463},Y_2243,ppm, .0017,.0003,14.69, .0019, .0016
Se1960,196.090 {472},Y_2243,ppm, .0007,.0011,153.9, -.0001, .0014
Si2516,251.611 {134},Y_3710,ppm, .0094,.0014,14.77, .0104, .0084
Sn1899,189.989 {477},In2306,ppm, .0002,.0000,21.18, .0001, .0002
Sr4215,421.552 { 80},Y_3710,ppm, .0004,.0000,8.881, .0005, .0004
Ti3349,334.904 {101},Y_3600,ppm, .0004,.0001,34.82, .0004, .0003
Tl1908,190.856 {477},In2306,ppm, .0419,.0051,12.19, .0455, .0383
U_3670,367.007 { 92},Y_3600,ppm, -.1527,.0043,2.807, -.1558, -.1497
V_2924,292.402 {115},Y_3600,ppm, -.0002,.0002,95.76, -.0004, -.0001
W_2397,239.709 {140},Y_2243,ppm, -.0132,.0047,35.84, -.0099, -.0166
Zn2062,206.200 {463},In2306,ppm, .0108,.0000,.1019, .0108, .0108

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 259.23,3.8195,1.4734,261.93,256.53
In2306,230.606 {446},Cts/S, 16051.,13.237,.08247,16061.,16042.
Y_2243,224.306 {450},Cts/S, 24616.,10.265,.04170,24609.,24624.
Y_3600,360.073 { 94},Cts/S, 212140.,1691.9,.79754,210950.,213340.
Y_3710,371.030 { 91},Cts/S, 13056.,52.749,.40403,13018.,13093.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0000,.0005,1144., -.0004, .0003
Al3082,308.215 {109},In2306,ppm, .3368,.0129,3.837, .3277, .3460
As1890,189.042 {478},Y_2243,ppm, .0046,.0020,44.91, .0031, .0060
B_2496,249.678 {135},Y_3710,ppm, .2546,.0042,1.638, .2576, .2517
Ba4554,455.403 { 74},Y_3710,ppm, .0182,.0005,2.523, .0179, .0186
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,295.1, .0000, -.0000
Ca3158,315.887 {107},In2306,ppm, .1825,.0037,2.022, .1799, .1851
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,39.76, .0001, .0001
Co2286,228.616 {447},In2306,ppm, .0002,.0001,23.71, .0002, .0002
Cr2677,267.716 {126},Y_3600,ppm, .6011,.0044,.7333, .6042, .5980
Cu3247,324.754 {104},Y_3600,ppm, .0273,.0002,.7369, .0272, .0275
Fe2404,240.488 {140},In2306,ppm, .0528,.0132,25.10, .0622, .0434
K_7664,766.490 { 44},Y_3710,ppm, 974.7,9.338,.9580, 968.1, 981.3
Li6707,670.784 { 50},Y_3710,ppm, .0602,.0023,3.850, .0585, .0618
Mg2790,279.079 {121},Y_3710,ppm, .0132,.0338,256.3, -.0107, .0371
Mn2576,257.610 {131},Y_3600,ppm, .0017,.0000,1.307, .0017, .0018
Mo2020,202.030 {467},Y_2243,ppm, .0448,.0001,.2996, .0449, .0447
Na5895,589.592 { 57},Y_3710,ppm, 1425.,16.81,1.180, 1413., 1437.
Ni2316,231.604 {445},In2306,ppm, .0009,.0002,24.26, .0008, .0011
P_1782,178.284 {489},In2306,ppm, .3012,.0044,1.473, .2981, .3044
Pb2203,220.353 {453},In2306,ppm, -.0011,.0006,57.01, -.0016, -.0007
S_1820,182.034 {485},Y_2243,ppm, 1.160,.0048,.4153, 1.157, 1.163
Sb2068,206.833 {463},Y_2243,ppm, -.0022,.0004,19.71, -.0019, -.0025
Se1960,196.090 {472},Y_2243,ppm, .0002,.0019,1101., .0015, -.0011
Si2516,251.611 {134},Y_3710,ppm, .7499,.0024,.3257, .7516, .7481
Sn1899,189.989 {477},In2306,ppm, .0007,.0006,80.04, .0011, .0003
Sr4215,421.552 { 80},Y_3710,ppm, .0082,.0001,1.369, .0081, .0083
Ti3349,334.904 {101},Y_3600,ppm, .0003,.0001,34.89, .0004, .0002
Tl1908,190.856 {477},In2306,ppm, .0080,.0002,2.224, .0082, .0079
U_3670,367.007 { 92},Y_3600,ppm, -.0005,.0091,1737., -.0070, .0059
V_2924,292.402 {115},Y_3600,ppm, .0076,.0003,4.190, .0078, .0073
W_2397,239.709 {140},Y_2243,ppm, .0802,.0212,26.40, .0952, .0652
Zn2062,206.200 {463},In2306,ppm, .0280,.0001,.5295, .0281, .0279

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 230.88,2.1868,.94715,232.43,229.33
In2306,230.606 {446},Cts/S, 10976.,54.366,.49532,11014.,10938.
Y_2243,224.306 {450},Cts/S, 20190.,137.35,.68031,20287.,20093.
Y_3600,360.073 { 94},Cts/S, 163720.,890.93,.54417,163090.,164350.
Y_3710,371.030 { 91},Cts/S, 12209.,148.54,1.2166,12314.,12104.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0010,.0004,38.62, .0007, .0012
Al3082,308.215 {109},In2306,ppm, .0272,.0012,4.569, .0281, .0263
As1890,189.042 {478},Y_2243,ppm, -.0002,.0017,935.9, .0010, -.0014
B_2496,249.678 {135},Y_3710,ppm, .0307,.0022,7.204, .0291, .0322
Ba4554,455.403 { 74},Y_3710,ppm, .0018,.0001,3.232, .0017, .0018
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,5101., -.0001, .0001
Ca3158,315.887 {107},In2306,ppm, .0112,.0042,37.29, .0142, .0083
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Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,14.60, .0001, .0001
Co2286,228.616 {447},In2306,ppm, .0000,.0001,2986., -.0000, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0649,.0010,1.585, .0656, .0641
Cu3247,324.754 {104},Y_3600,ppm, .0044,.0002,5.217, .0042, .0045
Fe2404,240.488 {140},In2306,ppm, .0070,.0084,119.9, .0130, .0011
K_7664,766.490 { 44},Y_3710,ppm, 107.5,.0444,.0413, 107.5, 107.5
Li6707,670.784 { 50},Y_3710,ppm, .0079,.0002,2.681, .0078, .0081
Mg2790,279.079 {121},Y_3710,ppm, .0035,.0019,54.52, .0048, .0021
Mn2576,257.610 {131},Y_3600,ppm, .0002,.0000,9.654, .0002, .0002
Mo2020,202.030 {467},Y_2243,ppm, .0051,.0001,1.022, .0051, .0052
Na5895,589.592 { 57},Y_3710,ppm, 165.8,2.496,1.505, 164.0, 167.5
Ni2316,231.604 {445},In2306,ppm, .0003,.0000,13.10, .0002, .0003
P_1782,178.284 {489},In2306,ppm, .0287,.0008,2.752, .0281, .0293
Pb2203,220.353 {453},In2306,ppm, -.0007,.0008,115.2, -.0001, -.0013
S_1820,182.034 {485},Y_2243,ppm, .1159,.0007,.6143, .1154, .1164
Sb2068,206.833 {463},Y_2243,ppm, .0007,.0000,3.014, .0006, .0007
Se1960,196.090 {472},Y_2243,ppm, -.0012,.0005,38.18, -.0009, -.0015
Si2516,251.611 {134},Y_3710,ppm, .0753,.0017,2.249, .0741, .0765
Sn1899,189.989 {477},In2306,ppm, .0000,.0002,386.0, .0002, -.0001
Sr4215,421.552 { 80},Y_3710,ppm, .0010,.0000,2.447, .0010, .0010
Ti3349,334.904 {101},Y_3600,ppm, .0004,.0001,22.61, .0003, .0005
Tl1908,190.856 {477},In2306,ppm, .0072,.0006,8.457, .0068, .0077
U_3670,367.007 { 92},Y_3600,ppm, -.1007,.0443,43.99, -.0694, -.1321
V_2924,292.402 {115},Y_3600,ppm, .0008,.0001,11.07, .0007, .0008
W_2397,239.709 {140},Y_2243,ppm, -.0079,.0622,791.6, .0361, -.0518
Zn2062,206.200 {463},In2306,ppm, .0018,.0000,.7503, .0018, .0018

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 251.88,2.6346,1.0460,250.02,253.74
In2306,230.606 {446},Cts/S, 13554.,159.32,1.1755,13666.,13441.
Y_2243,224.306 {450},Cts/S, 22999.,268.28,1.1664,23189.,22810.
Y_3600,360.073 { 94},Cts/S, 194410.,1177.1,.60545,193580.,195240.
Y_3710,371.030 { 91},Cts/S, 13040.,10.332,.07923,13033.,13047.

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Custom ID3=
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0002,.0002,131.2, -.0004, -.0000
Al3082,308.215 {109},In2306,ppm, .3037,.0181,5.963, .3165, .2909
As1890,189.042 {478},Y_2243,ppm, .0040,.0001,1.619, .0040, .0039
B_2496,249.678 {135},Y_3710,ppm, .2487,.0023,.9177, .2504, .2471
Ba4554,455.403 { 74},Y_3710,ppm, .0187,.0001,.3872, .0188, .0187
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,33.26, .0000, .0000
Ca3158,315.887 {107},In2306,ppm, .1928,.0039,2.032, .1901, .1956
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0001,1058., -.0001, .0001
Co2286,228.616 {447},In2306,ppm, .0001,.0001,197.0, .0001, -.0000
Cr2677,267.716 {126},Y_3600,ppm, .5754,.0079,1.366, .5810, .5698
Cu3247,324.754 {104},Y_3600,ppm, .0271,.0004,1.562, .0274, .0268
Fe2404,240.488 {140},In2306,ppm, .0501,.0068,13.53, .0453, .0549
K_7664,766.490 { 44},Y_3710,ppm, 939.4,21.45,2.283, 924.3, 954.6
Li6707,670.784 { 50},Y_3710,ppm, .0608,.0014,2.382, .0618, .0598
Mg2790,279.079 {121},Y_3710,ppm, .0276,.0223,80.82, .0118, .0434
Mn2576,257.610 {131},Y_3600,ppm, .0014,.0000,.7375, .0014, .0014
Mo2020,202.030 {467},Y_2243,ppm, .0440,.0003,.6569, .0438, .0442
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Na5895,589.592 { 57},Y_3710,ppm, 1373.,10.09,.7350, 1366., 1380.
Ni2316,231.604 {445},In2306,ppm, .0010,.0000,2.228, .0010, .0009
P_1782,178.284 {489},In2306,ppm, .2941,.0006,.2089, .2946, .2937
Pb2203,220.353 {453},In2306,ppm, -.0007,.0009,124.8, -.0014, -.0001
S_1820,182.034 {485},Y_2243,ppm, 1.145,.0002,.0170, 1.146, 1.145
Sb2068,206.833 {463},Y_2243,ppm, -.0025,.0014,56.46, -.0015, -.0034
Se1960,196.090 {472},Y_2243,ppm, -.0007,.0011,155.1, -.0015, .0001
Si2516,251.611 {134},Y_3710,ppm, .7397,.0155,2.095, .7287, .7506
Sn1899,189.989 {477},In2306,ppm, .0003,.0003,108.2, .0005, .0001
Sr4215,421.552 { 80},Y_3710,ppm, .0082,.0000,.2632, .0082, .0082
Ti3349,334.904 {101},Y_3600,ppm, -.0001,.0001,149.6, .0000, -.0001
Tl1908,190.856 {477},In2306,ppm, -.0001,.0038,2916., .0026, -.0028
U_3670,367.007 { 92},Y_3600,ppm, -.0549,.0332,60.48, -.0314, -.0783
V_2924,292.402 {115},Y_3600,ppm, .0071,.0000,.5404, .0072, .0071
W_2397,239.709 {140},Y_2243,ppm, .1028,.0407,39.61, .1316, .0740
Zn2062,206.200 {463},In2306,ppm, .0364,.0004,1.007, .0366, .0361

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 233.47,.28217,.12086,233.27,233.67
In2306,230.606 {446},Cts/S, 10907.,38.787,.35563,10934.,10879.
Y_2243,224.306 {450},Cts/S, 19970.,124.76,.62471,20058.,19882.
Y_3600,360.073 { 94},Cts/S, 165220.,713.38,.43178,164720.,165720.
Y_3710,371.030 { 91},Cts/S, 12156.,164.64,1.3544,12272.,12040.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0002,.0001,40.49, -.0001, -.0002
Al3082,308.215 {109},In2306,ppm, .0327,.0256,78.23, .0508, .0146
As1890,189.042 {478},Y_2243,ppm, -.0001,.0007,639.9, .0004, -.0006
B_2496,249.678 {135},Y_3710,ppm, .0335,.0022,6.649, .0319, .0351
Ba4554,455.403 { 74},Y_3710,ppm, .0017,.0000,1.340, .0017, .0017
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,730.4, -.0001, .0000
Ca3158,315.887 {107},In2306,ppm, .0189,.0044,23.47, .0220, .0158
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0000,151.8, -.0000, .0000
Co2286,228.616 {447},In2306,ppm, .0001,.0001,225.0, .0001, -.0000
Cr2677,267.716 {126},Y_3600,ppm, .0637,.0004,.6726, .0634, .0640
Cu3247,324.754 {104},Y_3600,ppm, .0040,.0001,1.721, .0041, .0040
Fe2404,240.488 {140},In2306,ppm, .0147,.0012,7.943, .0155, .0139
K_7664,766.490 { 44},Y_3710,ppm, 104.5,.0609,.0583, 104.5, 104.4
Li6707,670.784 { 50},Y_3710,ppm, .0077,.0011,14.52, .0069, .0085
Mg2790,279.079 {121},Y_3710,ppm, -.0032,.0141,447.2, -.0131, .0068
Mn2576,257.610 {131},Y_3600,ppm, .0002,.0000,6.654, .0002, .0002
Mo2020,202.030 {467},Y_2243,ppm, .0051,.0001,2.528, .0052, .0050
Na5895,589.592 { 57},Y_3710,ppm, 160.9,1.150,.7146, 160.1, 161.7
Ni2316,231.604 {445},In2306,ppm, .0003,.0001,42.65, .0004, .0002
P_1782,178.284 {489},In2306,ppm, .0298,.0011,3.636, .0306, .0290
Pb2203,220.353 {453},In2306,ppm, -.0003,.0003,90.06, -.0005, -.0001
S_1820,182.034 {485},Y_2243,ppm, .1145,.0001,.1097, .1144, .1146
Sb2068,206.833 {463},Y_2243,ppm, -.0015,.0014,94.85, -.0005, -.0025
Se1960,196.090 {472},Y_2243,ppm, -.0003,.0020,680.1, .0011, -.0017
Si2516,251.611 {134},Y_3710,ppm, .0705,.0113,16.08, .0785, .0624
Sn1899,189.989 {477},In2306,ppm, .0003,.0003,88.60, .0001, .0005
Sr4215,421.552 { 80},Y_3710,ppm, .0011,.0001,9.779, .0010, .0011
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Ti3349,334.904 {101},Y_3600,ppm, .0001,.0000,15.04, .0001, .0002
Tl1908,190.856 {477},In2306,ppm, .0020,.0012,60.08, .0028, .0011
U_3670,367.007 { 92},Y_3600,ppm, -.1206,.0615,51.01, -.0771, -.1641
V_2924,292.402 {115},Y_3600,ppm, .0008,.0001,13.39, .0008, .0009
W_2397,239.709 {140},Y_2243,ppm, .0510,.0835,163.6, .1101, -.0080
Zn2062,206.200 {463},In2306,ppm, .0033,.0001,1.966, .0032, .0033

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 238.01,1.3382,.56221,238.96,237.07
In2306,230.606 {446},Cts/S, 13426.,21.316,.15877,13441.,13411.
Y_2243,224.306 {450},Cts/S, 22958.,73.755,.32125,23011.,22906.
Y_3600,360.073 { 94},Cts/S, 192310.,165.28,.08594,192430.,192200.
Y_3710,371.030 { 91},Cts/S, 12286.,95.584,.77797,12354.,12219.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2995,.0006,.1864, .2999, .2991
Al3082,308.215 {109},In2306,ppm, 11.85,.1836,1.549, 11.72, 11.98
As1890,189.042 {478},Y_2243,ppm, 1.152,.0044,.3797, 1.149, 1.156
B_2496,249.678 {135},Y_3710,ppm, .7778,.0006,.0722, .7774, .7782
Ba4554,455.403 { 74},Y_3710,ppm, 1.059,.0038,.3587, 1.057, 1.062
Be3130,313.042 {108},Y_3710,ppm, 1.062,.0021,.2000, 1.060, 1.063
Ca3158,315.887 {107},In2306,ppm, 10.94,.1439,1.316, 10.83, 11.04
Cd2288,228.802 {447},Y_2243,ppm, 1.115,.0002,.0216, 1.115, 1.116
Co2286,228.616 {447},In2306,ppm, 1.113,.0054,.4886, 1.109, 1.117
Cr2677,267.716 {126},Y_3600,ppm, 1.578,.0005,.0344, 1.578, 1.577
Cu3247,324.754 {104},Y_3600,ppm, 1.076,.0031,.2889, 1.078, 1.074
Fe2404,240.488 {140},In2306,ppm, 10.82,.1735,1.603, 10.70, 10.95
K_7664,766.490 { 44},Y_3710,ppm, 974.6,11.73,1.203, 966.3, 982.9
Li6707,670.784 { 50},Y_3710,ppm, 1.074,.0049,.4527, 1.070, 1.077
Mg2790,279.079 {121},Y_3710,ppm, 10.62,.0651,.6132, 10.57, 10.66
Mn2576,257.610 {131},Y_3600,ppm, 1.035,.0008,.0769, 1.036, 1.034
Mo2020,202.030 {467},Y_2243,ppm, 1.063,.0004,.0362, 1.064, 1.063
Na5895,589.592 { 57},Y_3710,ppm, 1424.,16.80,1.179, 1412., 1436.
Ni2316,231.604 {445},In2306,ppm, 1.143,.0059,.5202, 1.139, 1.147
P_1782,178.284 {489},In2306,ppm, 7.407,.0241,.3251, 7.390, 7.424
Pb2203,220.353 {453},In2306,ppm, 1.096,.0050,.4590, 1.093, 1.100
S_1820,182.034 {485},Y_2243,ppm, 5.466,.0223,.4072, 5.450, 5.482
Sb2068,206.833 {463},Y_2243,ppm, 1.765,.0129,.7320, 1.774, 1.756
Se1960,196.090 {472},Y_2243,ppm, 1.119,.0009,.0767, 1.119, 1.118
Si2516,251.611 {134},Y_3710,ppm, 10.09,.0633,.6271, 10.04, 10.13
Sn1899,189.989 {477},In2306,ppm, 1.150,.0055,.4822, 1.146, 1.154
Sr4215,421.552 { 80},Y_3710,ppm, 1.040,.0038,.3641, 1.038, 1.043
Ti3349,334.904 {101},Y_3600,ppm, 1.020,.0025,.2467, 1.022, 1.018
Tl1908,190.856 {477},In2306,ppm, 1.036,.0113,1.086, 1.028, 1.044
U_3670,367.007 { 92},Y_3600,ppm, .5154,.1002,19.44, .4445, .5862
V_2924,292.402 {115},Y_3600,ppm, 1.016,.0005,.0528, 1.017, 1.016
W_2397,239.709 {140},Y_2243,ppm, .4685,.0157,3.360, .4796, .4574
Zn2062,206.200 {463},In2306,ppm, .6709,.0056,.8287, .6670, .6748

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 223.97,3.7064,1.6549,226.59,221.35
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In2306,230.606 {446},Cts/S, 10806.,1.4072,.01302,10805.,10807.
Y_2243,224.306 {450},Cts/S, 20566.,27.235,.13242,20547.,20586.
Y_3600,360.073 { 94},Cts/S, 167660.,307.48,.18340,167880.,167440.
Y_3710,371.030 { 91},Cts/S, 11896.,76.708,.64482,11950.,11842.

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Ag3280,328.068 {103},Y_3600,ppm, .0302,.0003,.9626, .0304, .0300
Al3082,308.215 {109},In2306,ppm, 1.232,.0168,1.365, 1.220, 1.244
As1890,189.042 {478},Y_2243,ppm, .1201,.0011,.9194, .1209, .1193
B_2496,249.678 {135},Y_3710,ppm, .0880,.0036,4.110, .0905, .0854
Ba4554,455.403 { 74},Y_3710,ppm, .1162,.0002,.1686, .1160, .1163
Be3130,313.042 {108},Y_3710,ppm, .1200,.0001,.0908, .1199, .1201
Ca3158,315.887 {107},In2306,ppm, 1.210,.0036,.2997, 1.207, 1.212
Cd2288,228.802 {447},Y_2243,ppm, .1197,.0025,2.053, .1215, .1180
Co2286,228.616 {447},In2306,ppm, .1210,.0027,2.264, .1229, .1190
Cr2677,267.716 {126},Y_3600,ppm, .1816,.0005,.2844, .1820, .1813
Cu3247,324.754 {104},Y_3600,ppm, .1165,.0004,.3216, .1162, .1167
Fe2404,240.488 {140},In2306,ppm, 1.193,.0056,.4677, 1.197, 1.189
K_7664,766.490 { 44},Y_3710,ppm, 108.6,.7583,.6983, 108.1, 109.1
Li6707,670.784 { 50},Y_3710,ppm, .1167,.0009,.8040, .1174, .1161
Mg2790,279.079 {121},Y_3710,ppm, 1.247,.0152,1.217, 1.258, 1.236
Mn2576,257.610 {131},Y_3600,ppm, .1174,.0003,.2502, .1176, .1171
Mo2020,202.030 {467},Y_2243,ppm, .1239,.0031,2.503, .1261, .1217
Na5895,589.592 { 57},Y_3710,ppm, 166.4,2.087,1.254, 164.9, 167.9
Ni2316,231.604 {445},In2306,ppm, .1253,.0026,2.065, .1272, .1235
P_1782,178.284 {489},In2306,ppm, .7202,.0162,2.256, .7317, .7087
Pb2203,220.353 {453},In2306,ppm, .1210,.0042,3.429, .1240, .1181
S_1820,182.034 {485},Y_2243,ppm, .5743,.0140,2.434, .5842, .5644
Sb2068,206.833 {463},Y_2243,ppm, .1896,.0049,2.585, .1930, .1861
Se1960,196.090 {472},Y_2243,ppm, .1200,.0033,2.783, .1223, .1176
Si2516,251.611 {134},Y_3710,ppm, 1.110,.0068,.6106, 1.106, 1.115
Sn1899,189.989 {477},In2306,ppm, .1248,.0041,3.258, .1277, .1219
Sr4215,421.552 { 80},Y_3710,ppm, .1145,.0001,.0893, .1145, .1144
Ti3349,334.904 {101},Y_3600,ppm, .1146,.0009,.7559, .1152, .1139
Tl1908,190.856 {477},In2306,ppm, .1576,.0055,3.493, .1615, .1537
U_3670,367.007 { 92},Y_3600,ppm, -.1412,.0553,39.18, -.1803, -.1021
V_2924,292.402 {115},Y_3600,ppm, .1119,.0007,.6258, .1124, .1114
W_2397,239.709 {140},Y_2243,ppm, .0327,.0329,100.6, .0560, .0094
Zn2062,206.200 {463},In2306,ppm, .0695,.0016,2.319, .0707, .0684

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 232.58,2.2564,.97016,234.18,230.99
In2306,230.606 {446},Cts/S, 13215.,249.90,1.8911,13038.,13391.
Y_2243,224.306 {450},Cts/S, 22903.,362.77,1.5840,22646.,23159.
Y_3600,360.073 { 94},Cts/S, 189020.,140.62,.07439,189120.,188920.
Y_3710,371.030 { 91},Cts/S, 11775.,154.19,1.3095,11884.,11666.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0007,.0002,34.07, .0009, .0005
Al3082,308.215 {109},In2306,ppm, .0089,.0280,313.8, -.0109, .0287
As1890,189.042 {478},Y_2243,ppm, -.0012,.0003,21.89, -.0014, -.0010
B_2496,249.678 {135},Y_3710,ppm, .0025,.0052,206.8, .0062, -.0012
Ba4554,455.403 { 74},Y_3710,ppm, -.0002,.0000,20.65, -.0003, -.0002
Be3130,313.042 {108},Y_3710,ppm, .0000,.0001,208.7, -.0000, .0001
Ca3158,315.887 {107},In2306,ppm, .0061,.0007,11.92, .0055, .0066
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0000,453.5, -.0000, .0000
Co2286,228.616 {447},In2306,ppm, .0001,.0000,24.18, .0000, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0000,.0000,148.4, -.0000, .0001
Cu3247,324.754 {104},Y_3600,ppm, .0022,.0004,17.76, .0019, .0025
Fe2404,240.488 {140},In2306,ppm, .0063,.0077,122.3, .0117, .0008
K_7664,766.490 { 44},Y_3710,ppm, .6952,.0261,3.751, .7136, .6767
Li6707,670.784 { 50},Y_3710,ppm, .0004,.0002,52.99, .0005, .0002
Mg2790,279.079 {121},Y_3710,ppm, .0071,.0051,71.73, .0108, .0035
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,11.99, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, .0006,.0002,29.05, .0008, .0005
Na5895,589.592 { 57},Y_3710,ppm, 140.6,2.153,1.531, 139.1, 142.2
Ni2316,231.604 {445},In2306,ppm, -.0000,.0002,952.1, .0001, -.0001
P_1782,178.284 {489},In2306,ppm, .0030,.0009,30.42, .0023, .0036
Pb2203,220.353 {453},In2306,ppm, -.0005,.0004,89.97, -.0002, -.0008
S_1820,182.034 {485},Y_2243,ppm, .0045,.0025,54.99, .0028, .0063
Sb2068,206.833 {463},Y_2243,ppm, .0019,.0018,95.08, .0006, .0031
Se1960,196.090 {472},Y_2243,ppm, .0018,.0004,21.82, .0021, .0015
Si2516,251.611 {134},Y_3710,ppm, -.0036,.0030,82.85, -.0015, -.0058
Sn1899,189.989 {477},In2306,ppm, -.0005,.0005,103.1, -.0008, -.0001
Sr4215,421.552 { 80},Y_3710,ppm, .0003,.0001,31.18, .0004, .0002
Ti3349,334.904 {101},Y_3600,ppm, .0004,.0004,94.94, .0001, .0007
Tl1908,190.856 {477},In2306,ppm, .0230,.0026,11.51, .0249, .0211
U_3670,367.007 { 92},Y_3600,ppm, -.2025,.0813,40.14, -.2599, -.1450
V_2924,292.402 {115},Y_3600,ppm, -.0003,.0003,91.42, -.0001, -.0006
W_2397,239.709 {140},Y_2243,ppm, .0646,.0013,2.043, .0637, .0655
Zn2062,206.200 {463},In2306,ppm, .0022,.0001,4.281, .0021, .0023

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 235.10,.16709,.07107,234.98,235.22
In2306,230.606 {446},Cts/S, 13903.,44.722,.32166,13935.,13872.
Y_2243,224.306 {450},Cts/S, 23446.,68.747,.29321,23495.,23398.
Y_3600,360.073 { 94},Cts/S, 206780.,19020.,9.1980,220230.,193330.
Y_3710,371.030 { 91},Cts/S, 11946.,31.761,.26587,11968.,11924.

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Ag3280,328.068 {103},Y_3600,ppm, .4907,.0009,.1776, .4913, .4901
Al3082,308.215 {109},In2306,ppm, 20.65,.2974,1.440, 20.44, 20.86
As1890,189.042 {478},Y_2243,ppm, .9783,.0027,.2725, .9802, .9764
B_2496,249.678 {135},Y_3710,ppm, 1.018,.0053,.5188, 1.022, 1.014
Ba4554,455.403 { 74},Y_3710,ppm, .9763,.0068,.6967, .9715, .9811
Be3130,313.042 {108},Y_3710,ppm, 1.010,.0073,.7197, 1.005, 1.015
Ca3158,315.887 {107},In2306,ppm, 20.22,.2789,1.380, 20.02, 20.41
Cd2288,228.802 {447},Y_2243,ppm, .9721,.0009,.0936, .9714, .9727
Co2286,228.616 {447},In2306,ppm, .9856,.0002,.0181, .9858, .9855
Cr2677,267.716 {126},Y_3600,ppm, .9595,.0084,.8713, .9655, .9536
Cu3247,324.754 {104},Y_3600,ppm, .9614,.0074,.7647, .9666, .9562
Fe2404,240.488 {140},In2306,ppm, 19.96,.3345,1.676, 19.72, 20.20
K_7664,766.490 { 44},Y_3710,ppm, 19.46,.0527,.2706, 19.42, 19.50
Li6707,670.784 { 50},Y_3710,ppm, .9454,.0044,.4666, .9423, .9485
Mg2790,279.079 {121},Y_3710,ppm, 21.11,.0543,.2574, 21.07, 21.15
Mn2576,257.610 {131},Y_3600,ppm, .9952,.0043,.4336, .9982, .9921
Mo2020,202.030 {467},Y_2243,ppm, .9846,.0022,.2240, .9830, .9862
Na5895,589.592 { 57},Y_3710,ppm, 19.28,.1065,.5524, 19.21, 19.36
Ni2316,231.604 {445},In2306,ppm, 1.013,.0025,.2435, 1.015, 1.012
P_1782,178.284 {489},In2306,ppm, 10.47,.0114,.1091, 10.47, 10.46
Pb2203,220.353 {453},In2306,ppm, 1.013,.0001,.0118, 1.013, 1.013
S_1820,182.034 {485},Y_2243,ppm, 7.202,.0110,.1522, 7.209, 7.194
Sb2068,206.833 {463},Y_2243,ppm, 2.107,.0062,.2933, 2.111, 2.102
Se1960,196.090 {472},Y_2243,ppm, .9653,.0038,.3954, .9680, .9626
Si2516,251.611 {134},Y_3710,ppm, 9.052,.0744,.8223, 8.999, 9.105
Sn1899,189.989 {477},In2306,ppm, 1.023,.0019,.1878, 1.022, 1.025
Sr4215,421.552 { 80},Y_3710,ppm, .9726,.0084,.8682, .9666, .9785
Ti3349,334.904 {101},Y_3600,ppm, .9705,.0049,.5067, .9740, .9670
Tl1908,190.856 {477},In2306,ppm, 1.155,.0027,.2319, 1.157, 1.153
U_3670,367.007 { 92},Y_3600,ppm, .6259,.0134,2.140, .6165, .6354
V_2924,292.402 {115},Y_3600,ppm, .9630,.0055,.5679, .9669, .9592
W_2397,239.709 {140},Y_2243,ppm, 1.062,.0094,.8888, 1.068, 1.055
Zn2062,206.200 {463},In2306,ppm, 1.026,.0014,.1316, 1.027, 1.025

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 233.76,.33065,.14145,233.99,233.53
In2306,230.606 {446},Cts/S, 14322.,42.070,.29375,14351.,14292.
Y_2243,224.306 {450},Cts/S, 24177.,92.509,.38264,24242.,24111.
Y_3600,360.073 { 94},Cts/S, 199600.,1983.4,.99367,198200.,201000.
Y_3710,371.030 { 91},Cts/S, 12006.,66.311,.55234,11959.,12052.

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Ag3280,328.068 {103},Y_3600,ppm, .0093,.0005,5.621, .0096, .0089
Al3082,308.215 {109},In2306,ppm, .1958,.0050,2.558, .1923, .1993
As1890,189.042 {478},Y_2243,ppm, .0204,.0015,7.351, .0214, .0193
B_2496,249.678 {135},Y_3710,ppm, .2150,.0058,2.691, .2109, .2191
Ba4554,455.403 { 74},Y_3710,ppm, .0215,.0002,.7769, .0214, .0216
Be3130,313.042 {108},Y_3710,ppm, .0113,.0002,1.641, .0111, .0114
Ca3158,315.887 {107},In2306,ppm, 1.018,.0187,1.833, 1.005, 1.031
Cd2288,228.802 {447},Y_2243,ppm, .0108,.0000,.0215, .0108, .0108
Co2286,228.616 {447},In2306,ppm, .0107,.0002,2.149, .0105, .0108
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Cr2677,267.716 {126},Y_3600,ppm, .0107,.0002,2.135, .0109, .0106
Cu3247,324.754 {104},Y_3600,ppm, .0123,.0002,1.816, .0125, .0121
Fe2404,240.488 {140},In2306,ppm, .2211,.0040,1.793, .2239, .2183
K_7664,766.490 { 44},Y_3710,ppm, 1.309,.0068,.5217, 1.305, 1.314
Li6707,670.784 { 50},Y_3710,ppm, .0107,.0004,3.326, .0104, .0109
Mg2790,279.079 {121},Y_3710,ppm, 1.148,.0188,1.641, 1.135, 1.161
Mn2576,257.610 {131},Y_3600,ppm, .0112,.0000,.3564, .0113, .0112
Mo2020,202.030 {467},Y_2243,ppm, .0227,.0001,.6383, .0228, .0226
Na5895,589.592 { 57},Y_3710,ppm, 1.179,.0016,.1385, 1.180, 1.177
Ni2316,231.604 {445},In2306,ppm, .0111,.0001,1.273, .0110, .0112
P_1782,178.284 {489},In2306,ppm, 1.002,.0038,.3772, .9997, 1.005
Pb2203,220.353 {453},In2306,ppm, .0106,.0002,1.547, .0107, .0105
S_1820,182.034 {485},Y_2243,ppm, .3544,.0010,.2927, .3537, .3552
Sb2068,206.833 {463},Y_2243,ppm, .0565,.0009,1.527, .0571, .0559
Se1960,196.090 {472},Y_2243,ppm, .0220,.0008,3.720, .0226, .0214
Si2516,251.611 {134},Y_3710,ppm, .1731,.0062,3.583, .1687, .1775
Sn1899,189.989 {477},In2306,ppm, .0218,.0002,.9874, .0216, .0219
Sr4215,421.552 { 80},Y_3710,ppm, .0110,.0001,1.206, .0111, .0109
Ti3349,334.904 {101},Y_3600,ppm, .0108,.0001,.8385, .0109, .0107
Tl1908,190.856 {477},In2306,ppm, .0316,.0017,5.290, .0328, .0304
U_3670,367.007 { 92},Y_3600,ppm, -.1186,.0675,56.86, -.0709, -.1663
V_2924,292.402 {115},Y_3600,ppm, .0105,.0001,1.039, .0106, .0104
W_2397,239.709 {140},Y_2243,ppm, .1026,.0101,9.817, .0954, .1097
Zn2062,206.200 {463},In2306,ppm, .0192,.0002,.8084, .0191, .0193

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 242.98,.62002,.25517,243.42,242.54
In2306,230.606 {446},Cts/S, 15803.,15.005,.09495,15792.,15813.
Y_2243,224.306 {450},Cts/S, 24853.,22.867,.09201,24837.,24869.
Y_3600,360.073 { 94},Cts/S, 206970.,633.25,.30596,207420.,206520.
Y_3710,371.030 { 91},Cts/S, 12188.,5.5097,.04521,12184.,12192.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0011,.0007,65.46, .0016, .0006
Al3082,308.215 {109},In2306,ppm, -.0369,.0109,29.56, -.0446, -.0292
As1890,189.042 {478},Y_2243,ppm, -.0009,.0007,76.93, -.0004, -.0014
B_2496,249.678 {135},Y_3710,ppm, .0096,.0003,2.863, .0098, .0094
Ba4554,455.403 { 74},Y_3710,ppm, -.0004,.0002,55.20, -.0002, -.0006
Be3130,313.042 {108},Y_3710,ppm, .0000,.0001,1012., -.0000, .0001
Ca3158,315.887 {107},In2306,ppm, -.0172,.0018,10.39, -.0185, -.0159
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0000,65.00, -.0000, -.0001
Co2286,228.616 {447},In2306,ppm, -.0001,.0001,67.82, -.0002, -.0001
Cr2677,267.716 {126},Y_3600,ppm, -.0005,.0001,26.96, -.0004, -.0006
Cu3247,324.754 {104},Y_3600,ppm, .0012,.0001,4.670, .0012, .0011
Fe2404,240.488 {140},In2306,ppm, -.0035,.0083,238.0, .0024, -.0094
K_7664,766.490 { 44},Y_3710,ppm, .2601,.0279,10.71, .2799, .2404
Li6707,670.784 { 50},Y_3710,ppm, .0004,.0006,150.8, -.0000, .0008
Mg2790,279.079 {121},Y_3710,ppm, -.0117,.0096,82.00, -.0049, -.0184
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,19.94, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, -.0000,.0003,24690., -.0002, .0002
Na5895,589.592 { 57},Y_3710,ppm, .1223,.0007,.5703, .1218, .1228
Ni2316,231.604 {445},In2306,ppm, .0002,.0002,124.1, .0000, .0003
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P_1782,178.284 {489},In2306,ppm, -.0007,.0009,128.3, -.0014, -.0001
Pb2203,220.353 {453},In2306,ppm, -.0013,.0010,76.92, -.0006, -.0020
S_1820,182.034 {485},Y_2243,ppm, -.0028,.0006,22.55, -.0023, -.0032
Sb2068,206.833 {463},Y_2243,ppm, .0025,.0012,47.12, .0017, .0033
Se1960,196.090 {472},Y_2243,ppm, .0007,.0011,158.0, .0015, -.0001
Si2516,251.611 {134},Y_3710,ppm, -.0054,.0054,100.9, -.0092, -.0015
Sn1899,189.989 {477},In2306,ppm, -.0004,.0001,32.84, -.0003, -.0004
Sr4215,421.552 { 80},Y_3710,ppm, -.0002,.0000,5.048, -.0002, -.0002
Ti3349,334.904 {101},Y_3600,ppm, -.0001,.0003,176.8, -.0003, .0000
Tl1908,190.856 {477},In2306,ppm, .0061,.0015,25.26, .0072, .0050
U_3670,367.007 { 92},Y_3600,ppm, -.1806,.0235,13.00, -.1640, -.1972
V_2924,292.402 {115},Y_3600,ppm, -.0002,.0004,254.3, .0001, -.0004
W_2397,239.709 {140},Y_2243,ppm, -.0648,.0187,28.85, -.0516, -.0780
Zn2062,206.200 {463},In2306,ppm, -.0016,.0001,5.549, -.0017, -.0016

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 246.20,2.2445,.91165,247.79,244.61
In2306,230.606 {446},Cts/S, 16003.,70.602,.44118,16053.,15953.
Y_2243,224.306 {450},Cts/S, 24811.,71.361,.28762,24862.,24761.
Y_3600,360.073 { 94},Cts/S, 206000.,1659.6,.80567,204820.,207170.
Y_3710,371.030 { 91},Cts/S, 12164.,104.75,.86116,12238.,12090.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0003,.0002,73.37, -.0002, -.0005
Al3082,308.215 {109},In2306,ppm, .0390,.0186,47.74, .0258, .0522
As1890,189.042 {478},Y_2243,ppm, -.0011,.0010,92.39, -.0018, -.0004
B_2496,249.678 {135},Y_3710,ppm, .0147,.0054,36.84, .0109, .0185
Ba4554,455.403 { 74},Y_3710,ppm, .0935,.0001,.1036, .0936, .0934
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0001,101.9, -.0001, -.0000
Ca3158,315.887 {107},In2306,ppm, 13.64,.0800,.5865, 13.70, 13.58
Cd2288,228.802 {447},Y_2243,ppm, .0010,.0000,4.473, .0010, .0011
Co2286,228.616 {447},In2306,ppm, .0010,.0001,8.212, .0010, .0011
Cr2677,267.716 {126},Y_3600,ppm, .0030,.0002,7.178, .0032, .0029
Cu3247,324.754 {104},Y_3600,ppm, .1510,.0001,.0623, .1511, .1509
Fe2404,240.488 {140},In2306,ppm, .5053,.0161,3.186, .5167, .4939
K_7664,766.490 { 44},Y_3710,ppm, .3863,.0011,.2734, .3856, .3870
Li6707,670.784 { 50},Y_3710,ppm, .0010,.0003,32.62, .0008, .0013
Mg2790,279.079 {121},Y_3710,ppm, .2557,.0270,10.57, .2748, .2366
Mn2576,257.610 {131},Y_3600,ppm, .0324,.0001,.4319, .0323, .0325
Mo2020,202.030 {467},Y_2243,ppm, .0006,.0001,15.18, .0006, .0007
Na5895,589.592 { 57},Y_3710,ppm, 132.3,.7942,.6002, 132.9, 131.8
Ni2316,231.604 {445},In2306,ppm, .0042,.0001,1.530, .0043, .0042
P_1782,178.284 {489},In2306,ppm, .0046,.0005,11.44, .0043, .0050
Pb2203,220.353 {453},In2306,ppm, .0072,.0001,1.058, .0071, .0072
S_1820,182.034 {485},Y_2243,ppm, .0907,.0011,1.189, .0915, .0900
Sb2068,206.833 {463},Y_2243,ppm, .0024,.0001,2.799, .0024, .0025
Se1960,196.090 {472},Y_2243,ppm, .0001,.0003,254.3, .0004, -.0001
Si2516,251.611 {134},Y_3710,ppm, .3647,.0084,2.296, .3588, .3706
Sn1899,189.989 {477},In2306,ppm, -.0001,.0000,25.69, -.0001, -.0001
Sr4215,421.552 { 80},Y_3710,ppm, .0121,.0000,.2879, .0121, .0121
Ti3349,334.904 {101},Y_3600,ppm, -.0001,.0003,364.6, .0001, -.0003
Tl1908,190.856 {477},In2306,ppm, .0069,.0014,20.67, .0059, .0079
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U_3670,367.007 { 92},Y_3600,ppm, -.1298,.0108,8.347, -.1374, -.1221
V_2924,292.402 {115},Y_3600,ppm, -.0002,.0003,159.8, -.0005, .0000
W_2397,239.709 {140},Y_2243,ppm, -.0002,.0213,13800., -.0152, .0149
Zn2062,206.200 {463},In2306,ppm, 9.682,.1143,1.181, 9.763, 9.601

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 236.96,1.8688,.78865,235.64,238.28
In2306,230.606 {446},Cts/S, 13805.,57.638,.41753,13764.,13845.
Y_2243,224.306 {450},Cts/S, 23378.,80.221,.34314,23322.,23435.
Y_3600,360.073 { 94},Cts/S, 193300.,287.07,.14851,193100.,193500.
Y_3710,371.030 { 91},Cts/S, 11925.,5.7181,.04795,11921.,11929.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0000,44.29, -.0001, -.0001
Al3082,308.215 {109},In2306,ppm, .2544,.0067,2.623, .2497, .2592
As1890,189.042 {478},Y_2243,ppm, .0012,.0001,6.542, .0011, .0012
B_2496,249.678 {135},Y_3710,ppm, .0229,.0013,5.793, .0238, .0220
Ba4554,455.403 { 74},Y_3710,ppm, .0143,.0007,4.780, .0147, .0138
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0001,50.69, -.0001, -.0002
Ca3158,315.887 {107},In2306,ppm, .4853,.0152,3.130, .4961, .4746
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0000,199.6, -.0000, .0000
Co2286,228.616 {447},In2306,ppm, -.0000,.0001,291.6, -.0001, .0000
Cr2677,267.716 {126},Y_3600,ppm, .0003,.0001,14.82, .0003, .0004
Cu3247,324.754 {104},Y_3600,ppm, .0028,.0001,4.012, .0027, .0029
Fe2404,240.488 {140},In2306,ppm, .1333,.0037,2.812, .1359, .1306
K_7664,766.490 { 44},Y_3710,ppm, .3024,.0251,8.296, .3201, .2846
Li6707,670.784 { 50},Y_3710,ppm, .0012,.0012,101.4, .0020, .0003
Mg2790,279.079 {121},Y_3710,ppm, .0524,.0027,5.227, .0543, .0505
Mn2576,257.610 {131},Y_3600,ppm, .0179,.0003,1.563, .0177, .0181
Mo2020,202.030 {467},Y_2243,ppm, .0000,.0001,325.1, .0001, -.0001
Na5895,589.592 { 57},Y_3710,ppm, 135.9,.3210,.2363, 136.1, 135.6
Ni2316,231.604 {445},In2306,ppm, .0026,.0003,9.866, .0025, .0028
P_1782,178.284 {489},In2306,ppm, .0042,.0016,38.00, .0053, .0031
Pb2203,220.353 {453},In2306,ppm, -.0020,.0012,59.12, -.0028, -.0012
S_1820,182.034 {485},Y_2243,ppm, 60.82,.0429,.0705, 60.79, 60.85
Sb2068,206.833 {463},Y_2243,ppm, .0001,.0004,346.6, .0004, -.0002
Se1960,196.090 {472},Y_2243,ppm, .0014,.0020,138.1, .0000, .0028
Si2516,251.611 {134},Y_3710,ppm, .0999,.0045,4.511, .1030, .0967
Sn1899,189.989 {477},In2306,ppm, .0004,.0006,136.3, .0009, .0000
Sr4215,421.552 { 80},Y_3710,ppm, .0029,.0001,4.510, .0030, .0028
Ti3349,334.904 {101},Y_3600,ppm, -.0003,.0003,101.0, -.0001, -.0005
Tl1908,190.856 {477},In2306,ppm, .0019,.0008,41.20, .0013, .0024
U_3670,367.007 { 92},Y_3600,ppm, -.1256,.0202,16.11, -.1113, -.1399
V_2924,292.402 {115},Y_3600,ppm, -.0004,.0001,25.80, -.0005, -.0004
W_2397,239.709 {140},Y_2243,ppm, .0362,.0308,85.17, .0144, .0580
Zn2062,206.200 {463},In2306,ppm, .0695,.0007,1.015, .0690, .0700

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 239.22,5.7291,2.3949,235.17,243.27
In2306,230.606 {446},Cts/S, 14014.,24.429,.17432,14031.,13997.
Y_2243,224.306 {450},Cts/S, 23501.,51.598,.21955,23538.,23465.
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Y_3600,360.073 { 94},Cts/S, 192370.,792.70,.41208,192930.,191810.
Y_3710,371.030 { 91},Cts/S, 12065.,367.48,3.0459,11805.,12325.

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Ag3280,328.068 {103},Y_3600,ppm, .2523,.0002,.0960, .2521, .2524
Al3082,308.215 {109},In2306,ppm, 10.69,.0930,.8701, 10.62, 10.76
As1890,189.042 {478},Y_2243,ppm, 1.015,.0051,.5010, 1.019, 1.012
B_2496,249.678 {135},Y_3710,ppm, .5261,.0140,2.665, .5161, .5360
Ba4554,455.403 { 74},Y_3710,ppm, .9925,.0061,.6187, .9881, .9968
Be3130,313.042 {108},Y_3710,ppm, 1.025,.0046,.4460, 1.022, 1.028
Ca3158,315.887 {107},In2306,ppm, 10.69,.0847,.7927, 10.63, 10.75
Cd2288,228.802 {447},Y_2243,ppm, .9940,.0011,.1070, .9948, .9933
Co2286,228.616 {447},In2306,ppm, 1.010,.0016,.1551, 1.011, 1.009
Cr2677,267.716 {126},Y_3600,ppm, .9729,.0023,.2359, .9713, .9746
Cu3247,324.754 {104},Y_3600,ppm, .9762,.0004,.0383, .9765, .9760
Fe2404,240.488 {140},In2306,ppm, 10.25,.1059,1.033, 10.18, 10.33
K_7664,766.490 { 44},Y_3710,ppm, 10.14,.0965,.9515, 10.08, 10.21
Li6707,670.784 { 50},Y_3710,ppm, .9450,.0053,.5641, .9413, .9488
Mg2790,279.079 {121},Y_3710,ppm, 10.63,.0943,.8874, 10.56, 10.70
Mn2576,257.610 {131},Y_3600,ppm, 1.017,.0009,.0871, 1.016, 1.018
Mo2020,202.030 {467},Y_2243,ppm, .9929,.0029,.2957, .9950, .9908
Na5895,589.592 { 57},Y_3710,ppm, 142.3,2.231,1.567, 140.8, 143.9
Ni2316,231.604 {445},In2306,ppm, 1.042,.0022,.2113, 1.044, 1.041
P_1782,178.284 {489},In2306,ppm, 5.690,.0092,.1619, 5.696, 5.683
Pb2203,220.353 {453},In2306,ppm, 1.025,.0022,.2190, 1.027, 1.024
S_1820,182.034 {485},Y_2243,ppm, 63.65,.0550,.0864, 63.69, 63.62
Sb2068,206.833 {463},Y_2243,ppm, 1.602,.0112,.6979, 1.610, 1.594
Se1960,196.090 {472},Y_2243,ppm, 1.018,.0030,.2948, 1.020, 1.016
Si2516,251.611 {134},Y_3710,ppm, 7.848,.0887,1.130, 7.786, 7.911
Sn1899,189.989 {477},In2306,ppm, 1.041,.0043,.4162, 1.044, 1.038
Sr4215,421.552 { 80},Y_3710,ppm, .9774,.0067,.6862, .9727, .9822
Ti3349,334.904 {101},Y_3600,ppm, .9821,.0009,.0933, .9815, .9828
Tl1908,190.856 {477},In2306,ppm, 1.011,.0013,.1266, 1.010, 1.012
U_3670,367.007 { 92},Y_3600,ppm, .2805,.1212,43.22, .1948, .3662
V_2924,292.402 {115},Y_3600,ppm, .9765,.0008,.0769, .9760, .9770
W_2397,239.709 {140},Y_2243,ppm, .3552,.0442,12.45, .3240, .3865
Zn2062,206.200 {463},In2306,ppm, .5645,.0008,.1448, .5650, .5639

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 236.45,.27810,.11762,236.65,236.25
In2306,230.606 {446},Cts/S, 13648.,28.565,.20929,13628.,13669.
Y_2243,224.306 {450},Cts/S, 23475.,64.832,.27618,23429.,23520.
Y_3600,360.073 { 94},Cts/S, 192560.,574.55,.29838,192970.,192150.
Y_3710,371.030 { 91},Cts/S, 12055.,25.866,.21457,12073.,12036.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0001,.0000,27.34, .0001, .0001
Al3082,308.215 {109},In2306,ppm, .3381,.0127,3.757, .3291, .3471
As1890,189.042 {478},Y_2243,ppm, .0022,.0002,6.845, .0021, .0023
B_2496,249.678 {135},Y_3710,ppm, .0256,.0055,21.35, .0295, .0218
Ba4554,455.403 { 74},Y_3710,ppm, .1217,.0003,.2383, .1215, .1219
Be3130,313.042 {108},Y_3710,ppm, .0004,.0001,15.34, .0004, .0003
Ca3158,315.887 {107},In2306,ppm, 30.56,.0293,.0958, 30.58, 30.54
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0001,47.26, .0001, .0003
Co2286,228.616 {447},In2306,ppm, .0022,.0002,8.592, .0021, .0023
Cr2677,267.716 {126},Y_3600,ppm, .0005,.0002,44.87, .0006, .0003
Cu3247,324.754 {104},Y_3600,ppm, .0027,.0002,7.894, .0028, .0025
Fe2404,240.488 {140},In2306,ppm, .1277,.0056,4.365, .1316, .1238
K_7664,766.490 { 44},Y_3710,ppm, 1.486,.0029,.1925, 1.484, 1.488
Li6707,670.784 { 50},Y_3710,ppm, .0010,.0002,19.36, .0009, .0011
Mg2790,279.079 {121},Y_3710,ppm, 1.561,.0205,1.315, 1.575, 1.546
Mn2576,257.610 {131},Y_3600,ppm, .3738,.0008,.2045, .3733, .3744
Mo2020,202.030 {467},Y_2243,ppm, .0006,.0000,1.248, .0006, .0006
Na5895,589.592 { 57},Y_3710,ppm, 115.9,.2441,.2105, 116.1, 115.8
Ni2316,231.604 {445},In2306,ppm, .0026,.0001,2.686, .0025, .0026
P_1782,178.284 {489},In2306,ppm, .0023,.0016,71.04, .0034, .0011
Pb2203,220.353 {453},In2306,ppm, .0026,.0007,27.11, .0031, .0021
S_1820,182.034 {485},Y_2243,ppm, .3239,.0179,5.514, .3366, .3113
Sb2068,206.833 {463},Y_2243,ppm, .0003,.0004,127.3, .0005, .0000
Se1960,196.090 {472},Y_2243,ppm, .0012,.0029,237.5, .0032, -.0008
Si2516,251.611 {134},Y_3710,ppm, .4326,.0037,.8574, .4352, .4299
Sn1899,189.989 {477},In2306,ppm, -.0002,.0006,337.0, -.0006, .0003
Sr4215,421.552 { 80},Y_3710,ppm, .0565,.0002,.2778, .0564, .0566
Ti3349,334.904 {101},Y_3600,ppm, .0011,.0004,35.71, .0008, .0013
Tl1908,190.856 {477},In2306,ppm, .0460,.0066,14.42, .0507, .0413
U_3670,367.007 { 92},Y_3600,ppm, -.1476,.0770,52.18, -.2021, -.0932
V_2924,292.402 {115},Y_3600,ppm, -.0000,.0001,302.6, -.0001, .0000
W_2397,239.709 {140},Y_2243,ppm, -.0478,.0567,118.7, -.0879, -.0077
Zn2062,206.200 {463},In2306,ppm, .0721,.0003,.4231, .0724, .0719

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 238.21,.64304,.26995,238.66,237.75
In2306,230.606 {446},Cts/S, 13945.,65.752,.47151,13991.,13898.
Y_2243,224.306 {450},Cts/S, 23662.,187.65,.79304,23795.,23530.
Y_3600,360.073 { 94},Cts/S, 195150.,849.26,.43518,195750.,194550.
Y_3710,371.030 { 91},Cts/S, 12046.,29.915,.24834,12067.,12025.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0004,477.0, .0002, -.0004
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Al3082,308.215 {109},In2306,ppm, .0022,.0083,379.0, .0081, -.0037
As1890,189.042 {478},Y_2243,ppm, .0054,.0003,6.041, .0052, .0056
B_2496,249.678 {135},Y_3710,ppm, .0268,.0049,18.44, .0303, .0233
Ba4554,455.403 { 74},Y_3710,ppm, .0410,.0006,1.434, .0406, .0414
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,182.5, .0002, -.0000
Ca3158,315.887 {107},In2306,ppm, 11.87,.3007,2.532, 11.66, 12.09
Cd2288,228.802 {447},Y_2243,ppm, .0006,.0001,11.65, .0006, .0007
Co2286,228.616 {447},In2306,ppm, .0001,.0001,95.06, .0002, .0000
Cr2677,267.716 {126},Y_3600,ppm, .0154,.0002,1.223, .0155, .0152
Cu3247,324.754 {104},Y_3600,ppm, .0329,.0002,.4787, .0330, .0328
Fe2404,240.488 {140},In2306,ppm, .0198,.0037,18.48, .0172, .0224
K_7664,766.490 { 44},Y_3710,ppm, 1.038,.0086,.8306, 1.032, 1.044
Li6707,670.784 { 50},Y_3710,ppm, .0013,.0003,25.75, .0011, .0016
Mg2790,279.079 {121},Y_3710,ppm, 1.032,.0099,.9630, 1.025, 1.039
Mn2576,257.610 {131},Y_3600,ppm, .0326,.0000,.0682, .0326, .0327
Mo2020,202.030 {467},Y_2243,ppm, .0000,.0001,525.6, -.0001, .0001
Na5895,589.592 { 57},Y_3710,ppm, 112.1,2.131,1.900, 110.6, 113.7
Ni2316,231.604 {445},In2306,ppm, .0026,.0001,4.691, .0025, .0027
P_1782,178.284 {489},In2306,ppm, .1252,.0031,2.458, .1273, .1230
Pb2203,220.353 {453},In2306,ppm, -.0014,.0012,84.34, -.0006, -.0023
S_1820,182.034 {485},Y_2243,ppm, 1.472,.0075,.5091, 1.467, 1.478
Sb2068,206.833 {463},Y_2243,ppm, .0015,.0001,8.337, .0015, .0016
Se1960,196.090 {472},Y_2243,ppm, .0004,.0010,234.0, .0011, -.0003
Si2516,251.611 {134},Y_3710,ppm, .0938,.0002,.2170, .0940, .0937
Sn1899,189.989 {477},In2306,ppm, .0001,.0002,219.3, .0002, -.0000
Sr4215,421.552 { 80},Y_3710,ppm, .0819,.0016,1.932, .0808, .0830
Ti3349,334.904 {101},Y_3600,ppm, .0007,.0002,31.07, .0006, .0009
Tl1908,190.856 {477},In2306,ppm, .0197,.0035,17.87, .0222, .0172
U_3670,367.007 { 92},Y_3600,ppm, -.1813,.0804,44.32, -.1245, -.2381
V_2924,292.402 {115},Y_3600,ppm, -.0003,.0000,1.015, -.0003, -.0003
W_2397,239.709 {140},Y_2243,ppm, .0223,.1095,491.0, .0998, -.0552
Zn2062,206.200 {463},In2306,ppm, .1094,.0009,.7985, .1088, .1100

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 239.33,6.2974,2.6312,243.78,234.88
In2306,230.606 {446},Cts/S, 14159.,45.723,.32293,14191.,14127.
Y_2243,224.306 {450},Cts/S, 23761.,126.96,.53434,23851.,23671.
Y_3600,360.073 { 94},Cts/S, 195310.,436.78,.22364,195620.,195000.
Y_3710,371.030 { 91},Cts/S, 12087.,193.39,1.6001,12223.,11950.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2502,.0051,2.047, .2539, .2466
Al3082,308.215 {109},In2306,ppm, 10.64,.0337,.3162, 10.62, 10.67
As1890,189.042 {478},Y_2243,ppm, 1.014,.0069,.6816, 1.009, 1.019
B_2496,249.678 {135},Y_3710,ppm, .5257,.0203,3.857, .5113, .5400
Ba4554,455.403 { 74},Y_3710,ppm, 1.028,.0050,.4866, 1.024, 1.031
Be3130,313.042 {108},Y_3710,ppm, 1.025,.0064,.6225, 1.020, 1.029
Ca3158,315.887 {107},In2306,ppm, 23.25,.1034,.4445, 23.18, 23.32
Cd2288,228.802 {447},Y_2243,ppm, .9943,.0036,.3592, .9917, .9968
Co2286,228.616 {447},In2306,ppm, 1.014,.0049,.4822, 1.010, 1.017
Cr2677,267.716 {126},Y_3600,ppm, .9775,.0182,1.867, .9904, .9646
Cu3247,324.754 {104},Y_3600,ppm, .9937,.0208,2.096, 1.008, .9790
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Fe2404,240.488 {140},In2306,ppm, 10.21,.0590,.5777, 10.17, 10.25
K_7664,766.490 { 44},Y_3710,ppm, 10.91,.0917,.8399, 10.85, 10.98
Li6707,670.784 { 50},Y_3710,ppm, .9514,.0086,.8994, .9453, .9574
Mg2790,279.079 {121},Y_3710,ppm, 11.63,.1051,.9038, 11.55, 11.70
Mn2576,257.610 {131},Y_3600,ppm, 1.020,.0209,2.051, 1.035, 1.005
Mo2020,202.030 {467},Y_2243,ppm, .9918,.0051,.5141, .9882, .9954
Na5895,589.592 { 57},Y_3710,ppm, 128.3,1.043,.8126, 129.1, 127.6
Ni2316,231.604 {445},In2306,ppm, 1.044,.0041,.3955, 1.041, 1.047
P_1782,178.284 {489},In2306,ppm, 5.867,.0288,.4916, 5.846, 5.887
Pb2203,220.353 {453},In2306,ppm, 1.032,.0061,.5905, 1.027, 1.036
S_1820,182.034 {485},Y_2243,ppm, 5.370,.0146,.2715, 5.359, 5.380
Sb2068,206.833 {463},Y_2243,ppm, 1.607,.0098,.6109, 1.600, 1.614
Se1960,196.090 {472},Y_2243,ppm, .9958,.0049,.4961, .9923, .9993
Si2516,251.611 {134},Y_3710,ppm, 6.804,.0834,1.226, 6.745, 6.863
Sn1899,189.989 {477},In2306,ppm, 1.047,.0073,.6961, 1.042, 1.053
Sr4215,421.552 { 80},Y_3710,ppm, 1.067,.0075,.6994, 1.062, 1.073
Ti3349,334.904 {101},Y_3600,ppm, .9711,.0200,2.062, .9853, .9570
Tl1908,190.856 {477},In2306,ppm, 1.035,.0151,1.462, 1.025, 1.046
U_3670,367.007 { 92},Y_3600,ppm, .3511,.0093,2.645, .3577, .3446
V_2924,292.402 {115},Y_3600,ppm, .9678,.0207,2.134, .9824, .9532
W_2397,239.709 {140},Y_2243,ppm, .3610,.0600,16.61, .4034, .3186
Zn2062,206.200 {463},In2306,ppm, .6560,.0032,.4843, .6538, .6583

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 237.15,1.2626,.53239,236.25,238.04
In2306,230.606 {446},Cts/S, 13719.,51.352,.37431,13755.,13683.
Y_2243,224.306 {450},Cts/S, 23714.,79.338,.33456,23770.,23658.
Y_3600,360.073 { 94},Cts/S, 196170.,2078.1,1.0594,194700.,197640.
Y_3710,371.030 { 91},Cts/S, 12229.,34.601,.28294,12205.,12254.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0003,.0004,125.5, .0006, .0000
Al3082,308.215 {109},In2306,ppm, -.0053,.0191,359.4, -.0188, .0082
As1890,189.042 {478},Y_2243,ppm, .0009,.0000,4.553, .0009, .0008
B_2496,249.678 {135},Y_3710,ppm, .0130,.0034,25.97, .0153, .0106
Ba4554,455.403 { 74},Y_3710,ppm, .0298,.0004,1.341, .0295, .0301
Be3130,313.042 {108},Y_3710,ppm, .0000,.0001,887.1, .0001, -.0000
Ca3158,315.887 {107},In2306,ppm, .2674,.0036,1.339, .2649, .2699
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,65.74, .0001, .0002
Co2286,228.616 {447},In2306,ppm, .0001,.0002,146.5, .0003, -.0000
Cr2677,267.716 {126},Y_3600,ppm, .0004,.0003,66.90, .0006, .0002
Cu3247,324.754 {104},Y_3600,ppm, .0023,.0000,1.847, .0023, .0024
Fe2404,240.488 {140},In2306,ppm, .0361,.0027,7.403, .0380, .0342
K_7664,766.490 { 44},Y_3710,ppm, .2310,.0275,11.92, .2505, .2116
Li6707,670.784 { 50},Y_3710,ppm, .0003,.0002,47.14, .0004, .0002
Mg2790,279.079 {121},Y_3710,ppm, .0239,.0195,81.69, .0377, .0101
Mn2576,257.610 {131},Y_3600,ppm, .0148,.0001,.4968, .0148, .0147
Mo2020,202.030 {467},Y_2243,ppm, .0076,.0000,.1143, .0076, .0076
Na5895,589.592 { 57},Y_3710,ppm, 130.3,.2578,.1978, 130.5, 130.1
Ni2316,231.604 {445},In2306,ppm, .0022,.0002,10.06, .0020, .0023
P_1782,178.284 {489},In2306,ppm, .0058,.0013,22.71, .0049, .0068
Pb2203,220.353 {453},In2306,ppm, .0014,.0005,37.16, .0018, .0010
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S_1820,182.034 {485},Y_2243,ppm, .0903,.0014,1.552, .0913, .0893
Sb2068,206.833 {463},Y_2243,ppm, .0015,.0002,11.72, .0016, .0013
Se1960,196.090 {472},Y_2243,ppm, .0013,.0020,161.8, -.0002, .0027
Si2516,251.611 {134},Y_3710,ppm, .0088,.0095,108.2, .0155, .0021
Sn1899,189.989 {477},In2306,ppm, .0017,.0009,52.53, .0023, .0011
Sr4215,421.552 { 80},Y_3710,ppm, .0013,.0001,5.381, .0013, .0014
Ti3349,334.904 {101},Y_3600,ppm, .0002,.0003,164.7, .0004, -.0000
Tl1908,190.856 {477},In2306,ppm, .0456,.0066,14.49, .0502, .0409
U_3670,367.007 { 92},Y_3600,ppm, -.1212,.0886,73.08, -.1839, -.0586
V_2924,292.402 {115},Y_3600,ppm, -.0002,.0002,96.15, -.0001, -.0003
W_2397,239.709 {140},Y_2243,ppm, .0032,.0408,1285., .0321, -.0257
Zn2062,206.200 {463},In2306,ppm, .0357,.0003,.8302, .0355, .0359

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 238.98,2.8523,1.1935,236.96,240.99
In2306,230.606 {446},Cts/S, 13964.,143.46,1.0274,14066.,13863.
Y_2243,224.306 {450},Cts/S, 23419.,255.62,1.0915,23599.,23238.
Y_3600,360.073 { 94},Cts/S, 194870.,299.18,.15353,194660.,195080.
Y_3710,371.030 { 91},Cts/S, 12123.,46.688,.38512,12090.,12156.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2526,.0013,.5237, .2517, .2535
Al3082,308.215 {109},In2306,ppm, 10.48,.0254,.2421, 10.46, 10.50
As1890,189.042 {478},Y_2243,ppm, 1.009,.0013,.1277, 1.009, 1.010
B_2496,249.678 {135},Y_3710,ppm, .5170,.0012,.2276, .5162, .5178
Ba4554,455.403 { 74},Y_3710,ppm, 1.009,.0039,.3832, 1.006, 1.012
Be3130,313.042 {108},Y_3710,ppm, 1.031,.0080,.7723, 1.025, 1.037
Ca3158,315.887 {107},In2306,ppm, 10.50,.1116,1.063, 10.42, 10.58
Cd2288,228.802 {447},Y_2243,ppm, .9962,.0011,.1115, .9954, .9969
Co2286,228.616 {447},In2306,ppm, 1.011,.0003,.0305, 1.011, 1.011
Cr2677,267.716 {126},Y_3600,ppm, .9696,.0028,.2883, .9676, .9716
Cu3247,324.754 {104},Y_3600,ppm, .9713,.0053,.5407, .9676, .9750
Fe2404,240.488 {140},In2306,ppm, 10.18,.0700,.6877, 10.13, 10.23
K_7664,766.490 { 44},Y_3710,ppm, 10.00,.0652,.6517, 9.958, 10.05
Li6707,670.784 { 50},Y_3710,ppm, .9444,.0010,.1110, .9436, .9451
Mg2790,279.079 {121},Y_3710,ppm, 10.73,.0654,.6097, 10.68, 10.77
Mn2576,257.610 {131},Y_3600,ppm, 1.012,.0011,.1054, 1.011, 1.013
Mo2020,202.030 {467},Y_2243,ppm, .9952,.0022,.2258, .9936, .9968
Na5895,589.592 { 57},Y_3710,ppm, 127.8,1.101,.8612, 127.0, 128.6
Ni2316,231.604 {445},In2306,ppm, 1.040,.0019,.1784, 1.041, 1.038
P_1782,178.284 {489},In2306,ppm, 5.659,.0188,.3322, 5.672, 5.645
Pb2203,220.353 {453},In2306,ppm, 1.027,.0010,.0998, 1.026, 1.028
S_1820,182.034 {485},Y_2243,ppm, 3.912,.0210,.5380, 3.927, 3.897
Sb2068,206.833 {463},Y_2243,ppm, 1.614,.0016,.0972, 1.615, 1.613
Se1960,196.090 {472},Y_2243,ppm, .9993,.0029,.2931, 1.001, .9973
Si2516,251.611 {134},Y_3710,ppm, 7.993,.0866,1.084, 7.932, 8.055
Sn1899,189.989 {477},In2306,ppm, 1.042,.0037,.3556, 1.044, 1.039
Sr4215,421.552 { 80},Y_3710,ppm, .9788,.0038,.3910, .9760, .9815
Ti3349,334.904 {101},Y_3600,ppm, .9800,.0010,.1013, .9793, .9807
Tl1908,190.856 {477},In2306,ppm, 1.053,.0051,.4860, 1.049, 1.056
U_3670,367.007 { 92},Y_3600,ppm, .2806,.0314,11.19, .3028, .2584
V_2924,292.402 {115},Y_3600,ppm, .9756,.0022,.2259, .9740, .9771
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W_2397,239.709 {140},Y_2243,ppm, .3866,.0437,11.29, .3558, .4175
Zn2062,206.200 {463},In2306,ppm, .5794,.0000,.0076, .5794, .5795

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 237.25,1.0410,.43876,237.99,236.52
In2306,230.606 {446},Cts/S, 13751.,38.922,.28304,13779.,13724.
Y_2243,224.306 {450},Cts/S, 23649.,86.005,.36368,23709.,23588.
Y_3600,360.073 { 94},Cts/S, 195300.,208.13,.10657,195450.,195150.
Y_3710,371.030 { 91},Cts/S, 12092.,54.365,.44960,12130.,12053.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0005,.0001,21.67, .0006, .0004
Al3082,308.215 {109},In2306,ppm, .0002,.0090,4098., .0066, -.0061
As1890,189.042 {478},Y_2243,ppm, .0030,.0003,9.766, .0028, .0032
B_2496,249.678 {135},Y_3710,ppm, .0122,.0055,44.88, .0161, .0083
Ba4554,455.403 { 74},Y_3710,ppm, .2318,.0008,.3314, .2312, .2323
Be3130,313.042 {108},Y_3710,ppm, .0002,.0000,5.447, .0002, .0002
Ca3158,315.887 {107},In2306,ppm, 70.63,.2622,.3712, 70.44, 70.81
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0000,321.0, -.0000, .0000
Co2286,228.616 {447},In2306,ppm, .0001,.0000,10.17, .0001, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0003,.0001,25.42, .0003, .0002
Cu3247,324.754 {104},Y_3600,ppm, .0017,.0001,7.127, .0016, .0018
Fe2404,240.488 {140},In2306,ppm, .0187,.0055,29.63, .0148, .0226
K_7664,766.490 { 44},Y_3710,ppm, .2454,.0113,4.602, .2534, .2374
Li6707,670.784 { 50},Y_3710,ppm, .0012,.0002,15.78, .0013, .0011
Mg2790,279.079 {121},Y_3710,ppm, 1.241,.0012,.0962, 1.241, 1.242
Mn2576,257.610 {131},Y_3600,ppm, .0422,.0001,.3025, .0422, .0421
Mo2020,202.030 {467},Y_2243,ppm, .0008,.0005,58.39, .0005, .0012
Na5895,589.592 { 57},Y_3710,ppm, 129.6,.2899,.2237, 129.4, 129.8
Ni2316,231.604 {445},In2306,ppm, .0007,.0002,31.70, .0008, .0005
P_1782,178.284 {489},In2306,ppm, .0170,.0014,7.959, .0180, .0161
Pb2203,220.353 {453},In2306,ppm, .0009,.0007,77.83, .0004, .0014
S_1820,182.034 {485},Y_2243,ppm, .1515,.0053,3.510, .1552, .1477
Sb2068,206.833 {463},Y_2243,ppm, .0030,.0010,34.64, .0023, .0037
Se1960,196.090 {472},Y_2243,ppm, .0014,.0014,104.3, .0004, .0024
Si2516,251.611 {134},Y_3710,ppm, .3981,.0048,1.202, .3947, .4015
Sn1899,189.989 {477},In2306,ppm, .0006,.0002,43.00, .0007, .0004
Sr4215,421.552 { 80},Y_3710,ppm, .1632,.0006,.3374, .1628, .1636
Ti3349,334.904 {101},Y_3600,ppm, .0008,.0002,26.16, .0006, .0009
Tl1908,190.856 {477},In2306,ppm, .0434,.0041,9.420, .0463, .0405
U_3670,367.007 { 92},Y_3600,ppm, -.1184,.0318,26.84, -.0960, -.1409
V_2924,292.402 {115},Y_3600,ppm, -.0002,.0000,7.905, -.0003, -.0002
W_2397,239.709 {140},Y_2243,ppm, -.0010,.0260,2664., .0174, -.0194
Zn2062,206.200 {463},In2306,ppm, .0170,.0001,.4117, .0170, .0171

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 234.31,.42749,.18244,234.62,234.01
In2306,230.606 {446},Cts/S, 13670.,29.999,.21945,13649.,13691.
Y_2243,224.306 {450},Cts/S, 23256.,94.785,.40757,23189.,23323.
Y_3600,360.073 { 94},Cts/S, 192010.,358.46,.18669,191760.,192260.
Y_3710,371.030 { 91},Cts/S, 12047.,3.4782,.02887,12045.,12050.
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Ag3280,328.068 {103},Y_3600,ppm, .0007,.0003,42.70, .0010, .0005
Al3082,308.215 {109},In2306,ppm, .1423,.0072,5.074, .1372, .1474
As1890,189.042 {478},Y_2243,ppm, .0014,.0018,124.7, .0002, .0027
B_2496,249.678 {135},Y_3710,ppm, .0168,.0021,12.32, .0183, .0153
Ba4554,455.403 { 74},Y_3710,ppm, .0473,.0006,1.368, .0468, .0478
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,174.4, .0000, -.0001
Ca3158,315.887 {107},In2306,ppm, 9.630,.1484,1.542, 9.525, 9.735
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,146.8, -.0000, .0001
Co2286,228.616 {447},In2306,ppm, .0004,.0000,.2264, .0004, .0004
Cr2677,267.716 {126},Y_3600,ppm, .0003,.0000,11.62, .0003, .0002
Cu3247,324.754 {104},Y_3600,ppm, .0019,.0002,9.257, .0018, .0021
Fe2404,240.488 {140},In2306,ppm, .0595,.0076,12.71, .0542, .0649
K_7664,766.490 { 44},Y_3710,ppm, .2700,.0062,2.295, .2656, .2744
Li6707,670.784 { 50},Y_3710,ppm, .0005,.0007,129.5, .0010, .0000
Mg2790,279.079 {121},Y_3710,ppm, 2.096,.0225,1.074, 2.080, 2.112
Mn2576,257.610 {131},Y_3600,ppm, .0192,.0002,.9466, .0190, .0193
Mo2020,202.030 {467},Y_2243,ppm, .0002,.0004,267.4, -.0001, .0005
Na5895,589.592 { 57},Y_3710,ppm, 123.7,.1392,.1125, 123.8, 123.6
Ni2316,231.604 {445},In2306,ppm, .0007,.0002,25.67, .0005, .0008
P_1782,178.284 {489},In2306,ppm, .0021,.0011,52.02, .0029, .0013
Pb2203,220.353 {453},In2306,ppm, .0005,.0003,64.17, .0003, .0008
S_1820,182.034 {485},Y_2243,ppm, .1945,.0016,.8214, .1934, .1956
Sb2068,206.833 {463},Y_2243,ppm, .0011,.0011,102.9, .0019, .0003
Se1960,196.090 {472},Y_2243,ppm, -.0006,.0004,60.04, -.0003, -.0008
Si2516,251.611 {134},Y_3710,ppm, .6186,.0031,.5078, .6208, .6164
Sn1899,189.989 {477},In2306,ppm, -.0000,.0000,39.04, -.0000, -.0001
Sr4215,421.552 { 80},Y_3710,ppm, .0182,.0002,1.064, .0181, .0183
Ti3349,334.904 {101},Y_3600,ppm, .0020,.0003,12.25, .0019, .0022
Tl1908,190.856 {477},In2306,ppm, .0141,.0032,22.52, .0164, .0119
U_3670,367.007 { 92},Y_3600,ppm, -.1398,.0567,40.54, -.0997, -.1799
V_2924,292.402 {115},Y_3600,ppm, -.0002,.0000,18.74, -.0002, -.0003
W_2397,239.709 {140},Y_2243,ppm, -.0064,.0260,405.5, -.0248, .0120
Zn2062,206.200 {463},In2306,ppm, .1022,.0001,.0648, .1023, .1022

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 238.36,.37073,.15553,238.62,238.10
In2306,230.606 {446},Cts/S, 14060.,25.033,.17805,14042.,14078.
Y_2243,224.306 {450},Cts/S, 23739.,65.768,.27705,23692.,23785.
Y_3600,360.073 { 94},Cts/S, 195660.,1068.2,.54593,196410.,194900.
Y_3710,371.030 { 91},Cts/S, 12190.,65.530,.53759,12143.,12236.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .4944,.0071,1.445, .4995, .4894
Al3082,308.215 {109},In2306,ppm, 20.56,.1375,.6686, 20.46, 20.66
As1890,189.042 {478},Y_2243,ppm, .9709,.0117,1.202, .9792, .9627
B_2496,249.678 {135},Y_3710,ppm, .9853,.0069,.7004, .9804, .9902
Ba4554,455.403 { 74},Y_3710,ppm, .9692,.0032,.3287, .9670, .9715
Be3130,313.042 {108},Y_3710,ppm, .9951,.0022,.2200, .9935, .9966
Ca3158,315.887 {107},In2306,ppm, 20.06,.0555,.2766, 20.02, 20.10
Cd2288,228.802 {447},Y_2243,ppm, .9665,.0061,.6355, .9708, .9621
Co2286,228.616 {447},In2306,ppm, .9756,.0057,.5809, .9796, .9716
Cr2677,267.716 {126},Y_3600,ppm, .9639,.0107,1.113, .9715, .9563
Cu3247,324.754 {104},Y_3600,ppm, .9653,.0167,1.728, .9771, .9535
Fe2404,240.488 {140},In2306,ppm, 19.82,.0995,.5020, 19.75, 19.89
K_7664,766.490 { 44},Y_3710,ppm, 18.99,.0086,.0452, 18.99, 18.98
Li6707,670.784 { 50},Y_3710,ppm, .9357,.0019,.2021, .9344, .9371
Mg2790,279.079 {121},Y_3710,ppm, 20.66,.0464,.2247, 20.62, 20.69
Mn2576,257.610 {131},Y_3600,ppm, 1.001,.0120,1.195, 1.009, .9924
Mo2020,202.030 {467},Y_2243,ppm, .9805,.0077,.7879, .9860, .9751
Na5895,589.592 { 57},Y_3710,ppm, 19.04,.0321,.1685, 19.02, 19.06
Ni2316,231.604 {445},In2306,ppm, 1.000,.0069,.6850, 1.005, .9953
P_1782,178.284 {489},In2306,ppm, 10.29,.0633,.6147, 10.34, 10.25
Pb2203,220.353 {453},In2306,ppm, 1.000,.0050,.4969, 1.004, .9967
S_1820,182.034 {485},Y_2243,ppm, 7.143,.0677,.9475, 7.191, 7.095
Sb2068,206.833 {463},Y_2243,ppm, 2.095,.0139,.6655, 2.105, 2.085
Se1960,196.090 {472},Y_2243,ppm, .9601,.0081,.8424, .9659, .9544
Si2516,251.611 {134},Y_3710,ppm, 8.859,.0538,.6077, 8.820, 8.897
Sn1899,189.989 {477},In2306,ppm, 1.007,.0065,.6477, 1.012, 1.003
Sr4215,421.552 { 80},Y_3710,ppm, .9633,.0024,.2516, .9615, .9650
Ti3349,334.904 {101},Y_3600,ppm, .9784,.0129,1.323, .9875, .9692
Tl1908,190.856 {477},In2306,ppm, 1.142,.0124,1.086, 1.150, 1.133
U_3670,367.007 { 92},Y_3600,ppm, .7671,.0358,4.664, .7924, .7418
V_2924,292.402 {115},Y_3600,ppm, .9705,.0123,1.272, .9793, .9618
W_2397,239.709 {140},Y_2243,ppm, 1.116,.0800,7.172, 1.059, 1.172
Zn2062,206.200 {463},In2306,ppm, 1.010,.0049,.4825, 1.013, 1.006

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 236.07,.19198,.08132,235.94,236.21
In2306,230.606 {446},Cts/S, 14456.,94.159,.65136,14389.,14522.
Y_2243,224.306 {450},Cts/S, 24282.,186.21,.76687,24151.,24414.
Y_3600,360.073 { 94},Cts/S, 198800.,2299.9,1.1569,197170.,200430.
Y_3710,371.030 { 91},Cts/S, 12279.,38.499,.31353,12252.,12306.

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Custom ID3=
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0094,.0009,9.591, .0100, .0087
Al3082,308.215 {109},In2306,ppm, .1992,.0097,4.888, .2061, .1923
As1890,189.042 {478},Y_2243,ppm, .0208,.0004,1.812, .0210, .0205
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B_2496,249.678 {135},Y_3710,ppm, .2159,.0002,.1104, .2160, .2157
Ba4554,455.403 { 74},Y_3710,ppm, .0215,.0000,.1584, .0215, .0215
Be3130,313.042 {108},Y_3710,ppm, .0113,.0001,.4609, .0113, .0114
Ca3158,315.887 {107},In2306,ppm, 1.040,.0060,.5733, 1.044, 1.036
Cd2288,228.802 {447},Y_2243,ppm, .0107,.0001,1.069, .0106, .0108
Co2286,228.616 {447},In2306,ppm, .0105,.0001,.8238, .0105, .0106
Cr2677,267.716 {126},Y_3600,ppm, .0105,.0001,.5918, .0104, .0105
Cu3247,324.754 {104},Y_3600,ppm, .0121,.0005,4.448, .0124, .0117
Fe2404,240.488 {140},In2306,ppm, .2152,.0020,.9497, .2137, .2166
K_7664,766.490 { 44},Y_3710,ppm, 1.108,.0114,1.028, 1.100, 1.116
Li6707,670.784 { 50},Y_3710,ppm, .0107,.0003,2.750, .0109, .0105
Mg2790,279.079 {121},Y_3710,ppm, 1.110,.0079,.7083, 1.104, 1.116
Mn2576,257.610 {131},Y_3600,ppm, .0111,.0001,1.262, .0112, .0110
Mo2020,202.030 {467},Y_2243,ppm, .0226,.0001,.6631, .0227, .0225
Na5895,589.592 { 57},Y_3710,ppm, 1.079,.0003,.0235, 1.079, 1.079
Ni2316,231.604 {445},In2306,ppm, .0110,.0000,.0896, .0110, .0110
P_1782,178.284 {489},In2306,ppm, .9922,.0013,.1276, .9913, .9930
Pb2203,220.353 {453},In2306,ppm, .0097,.0007,7.500, .0092, .0102
S_1820,182.034 {485},Y_2243,ppm, .3698,.0014,.3820, .3708, .3688
Sb2068,206.833 {463},Y_2243,ppm, .0575,.0012,2.029, .0584, .0567
Se1960,196.090 {472},Y_2243,ppm, .0216,.0008,3.521, .0211, .0222
Si2516,251.611 {134},Y_3710,ppm, .1710,.0001,.0333, .1711, .1710
Sn1899,189.989 {477},In2306,ppm, .0209,.0003,1.478, .0211, .0207
Sr4215,421.552 { 80},Y_3710,ppm, .0110,.0001,.5390, .0111, .0110
Ti3349,334.904 {101},Y_3600,ppm, .0108,.0003,2.554, .0106, .0110
Tl1908,190.856 {477},In2306,ppm, .0301,.0027,8.833, .0319, .0282
U_3670,367.007 { 92},Y_3600,ppm, -.1676,.0015,.9208, -.1687, -.1665
V_2924,292.402 {115},Y_3600,ppm, .0102,.0001,.9558, .0103, .0102
W_2397,239.709 {140},Y_2243,ppm, .0636,.0294,46.23, .0428, .0843
Zn2062,206.200 {463},In2306,ppm, .0189,.0001,.6411, .0189, .0190

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 243.38,1.3082,.53752,242.45,244.30
In2306,230.606 {446},Cts/S, 15909.,26.808,.16851,15890.,15928.
Y_2243,224.306 {450},Cts/S, 24892.,42.991,.17271,24862.,24922.
Y_3600,360.073 { 94},Cts/S, 209060.,2278.4,1.0898,207440.,210670.
Y_3710,371.030 { 91},Cts/S, 12262.,49.234,.40150,12297.,12228.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0006,.0001,19.38, .0007, .0005
Al3082,308.215 {109},In2306,ppm, -.0221,.0086,38.94, -.0282, -.0160
As1890,189.042 {478},Y_2243,ppm, -.0006,.0003,47.40, -.0008, -.0004
B_2496,249.678 {135},Y_3710,ppm, .0058,.0022,37.06, .0074, .0043
Ba4554,455.403 { 74},Y_3710,ppm, -.0001,.0000,25.30, -.0001, -.0001
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,189.5, -.0001, .0000
Ca3158,315.887 {107},In2306,ppm, -.0242,.0045,18.46, -.0273, -.0210
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0000,91.82, -.0001, -.0000
Co2286,228.616 {447},In2306,ppm, -.0001,.0001,93.10, -.0001, -.0000
Cr2677,267.716 {126},Y_3600,ppm, -.0003,.0001,43.52, -.0002, -.0003
Cu3247,324.754 {104},Y_3600,ppm, .0008,.0005,64.09, .0004, .0011
Fe2404,240.488 {140},In2306,ppm, -.0001,.0011,1346., -.0008, .0007
K_7664,766.490 { 44},Y_3710,ppm, .1176,.0064,5.440, .1222, .1131
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Li6707,670.784 { 50},Y_3710,ppm, -.0005,.0012,255.5, -.0013, .0004
Mg2790,279.079 {121},Y_3710,ppm, .0068,.0197,291.3, .0207, -.0072
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,31.82, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, .0001,.0001,108.5, .0000, .0002
Na5895,589.592 { 57},Y_3710,ppm, .0347,.0032,9.113, .0369, .0324
Ni2316,231.604 {445},In2306,ppm, .0002,.0001,30.47, .0002, .0002
P_1782,178.284 {489},In2306,ppm, .0019,.0008,42.63, .0025, .0013
Pb2203,220.353 {453},In2306,ppm, .0001,.0018,1311., -.0012, .0014
S_1820,182.034 {485},Y_2243,ppm, .0174,.0013,7.593, .0165, .0184
Sb2068,206.833 {463},Y_2243,ppm, .0022,.0017,77.17, .0034, .0010
Se1960,196.090 {472},Y_2243,ppm, .0024,.0008,31.36, .0019, .0030
Si2516,251.611 {134},Y_3710,ppm, -.0042,.0023,54.95, -.0026, -.0059
Sn1899,189.989 {477},In2306,ppm, -.0007,.0002,34.47, -.0008, -.0005
Sr4215,421.552 { 80},Y_3710,ppm, .0002,.0001,51.41, .0001, .0003
Ti3349,334.904 {101},Y_3600,ppm, -.0004,.0003,86.02, -.0001, -.0006
Tl1908,190.856 {477},In2306,ppm, .0086,.0023,26.68, .0102, .0070
U_3670,367.007 { 92},Y_3600,ppm, -.1937,.0234,12.06, -.1772, -.2102
V_2924,292.402 {115},Y_3600,ppm, .0000,.0004,1411., .0003, -.0003
W_2397,239.709 {140},Y_2243,ppm, -.0634,.0066,10.42, -.0681, -.0587
Zn2062,206.200 {463},In2306,ppm, -.0015,.0000,1.592, -.0015, -.0015

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 245.29,.80825,.32951,244.72,245.86
In2306,230.606 {446},Cts/S, 16161.,36.011,.22283,16136.,16187.
Y_2243,224.306 {450},Cts/S, 24948.,15.071,.06041,24937.,24958.
Y_3600,360.073 { 94},Cts/S, 207370.,559.68,.26990,206970.,207760.
Y_3710,371.030 { 91},Cts/S, 12213.,129.60,1.0612,12121.,12304.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0007,.0004,55.09, .0004, .0010
Al3082,308.215 {109},In2306,ppm, .0023,.0176,760.8, -.0101, .0147
As1890,189.042 {478},Y_2243,ppm, .0016,.0024,151.8, -.0001, .0033
B_2496,249.678 {135},Y_3710,ppm, .0086,.0067,78.45, .0133, .0038
Ba4554,455.403 { 74},Y_3710,ppm, .0675,.0007,1.020, .0670, .0680
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0001,62.49, -.0001, -.0002
Ca3158,315.887 {107},In2306,ppm, 49.94,.0585,.1172, 49.89, 49.98
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0000,215.9, .0000, -.0000
Co2286,228.616 {447},In2306,ppm, .0015,.0001,5.698, .0016, .0014
Cr2677,267.716 {126},Y_3600,ppm, .0004,.0003,74.66, .0002, .0006
Cu3247,324.754 {104},Y_3600,ppm, .0023,.0003,14.44, .0026, .0021
Fe2404,240.488 {140},In2306,ppm, .0259,.0002,.8321, .0258, .0261
K_7664,766.490 { 44},Y_3710,ppm, .2452,.0253,10.30, .2273, .2631
Li6707,670.784 { 50},Y_3710,ppm, .0009,.0004,45.01, .0012, .0006
Mg2790,279.079 {121},Y_3710,ppm, .6715,.0021,.3059, .6730, .6701
Mn2576,257.610 {131},Y_3600,ppm, .0849,.0002,.2217, .0851, .0848
Mo2020,202.030 {467},Y_2243,ppm, -.0002,.0001,37.35, -.0002, -.0001
Na5895,589.592 { 57},Y_3710,ppm, 124.6,2.347,1.884, 126.3, 122.9
Ni2316,231.604 {445},In2306,ppm, .0010,.0002,15.67, .0011, .0009
P_1782,178.284 {489},In2306,ppm, .0018,.0015,84.22, .0029, .0007
Pb2203,220.353 {453},In2306,ppm, .0001,.0005,700.7, -.0003, .0004
S_1820,182.034 {485},Y_2243,ppm, .1056,.0008,.7583, .1061, .1050
Sb2068,206.833 {463},Y_2243,ppm, .0018,.0004,24.36, .0021, .0015
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Se1960,196.090 {472},Y_2243,ppm, .0009,.0008,87.94, .0014, .0003
Si2516,251.611 {134},Y_3710,ppm, .1937,.0080,4.147, .1993, .1880
Sn1899,189.989 {477},In2306,ppm, .0003,.0008,257.2, -.0002, .0008
Sr4215,421.552 { 80},Y_3710,ppm, .0313,.0002,.6786, .0311, .0314
Ti3349,334.904 {101},Y_3600,ppm, .0004,.0000,7.667, .0004, .0004
Tl1908,190.856 {477},In2306,ppm, .0012,.0016,132.1, .0023, .0001
U_3670,367.007 { 92},Y_3600,ppm, -.0546,.0184,33.63, -.0416, -.0676
V_2924,292.402 {115},Y_3600,ppm, -.0002,.0001,47.70, -.0003, -.0002
W_2397,239.709 {140},Y_2243,ppm, .0175,.0077,44.20, .0120, .0230
Zn2062,206.200 {463},In2306,ppm, .0515,.0004,.7094, .0518, .0513

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 236.00,.46210,.19580,235.68,236.33
In2306,230.606 {446},Cts/S, 13918.,36.217,.26022,13944.,13892.
Y_2243,224.306 {450},Cts/S, 23576.,53.460,.22676,23614.,23538.
Y_3600,360.073 { 94},Cts/S, 194530.,501.86,.25799,194170.,194880.
Y_3710,371.030 { 91},Cts/S, 12203.,.66810,.00547,12203.,12202.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0001,.0000,16.81, .0001, .0001
Al3082,308.215 {109},In2306,ppm, 4.338,.0155,.3579, 4.327, 4.349
As1890,189.042 {478},Y_2243,ppm, .0049,.0004,8.016, .0052, .0046
B_2496,249.678 {135},Y_3710,ppm, .0228,.0002,.8559, .0230, .0227
Ba4554,455.403 { 74},Y_3710,ppm, .0145,.0003,1.758, .0147, .0143
Be3130,313.042 {108},Y_3710,ppm, .0002,.0001,41.80, .0002, .0003
Ca3158,315.887 {107},In2306,ppm, 70.93,.2221,.3131, 71.09, 70.78
Cd2288,228.802 {447},Y_2243,ppm, .0117,.0000,.0433, .0117, .0117
Co2286,228.616 {447},In2306,ppm, .0170,.0001,.3376, .0170, .0171
Cr2677,267.716 {126},Y_3600,ppm, .0665,.0004,.6562, .0668, .0662
Cu3247,324.754 {104},Y_3600,ppm, .2117,.0003,.1551, .2115, .2119
Fe2404,240.488 {140},In2306,ppm, 1.396,.0119,.8501, 1.387, 1.404
K_7664,766.490 { 44},Y_3710,ppm, 15.12,.0762,.5040, 15.17, 15.07
Li6707,670.784 { 50},Y_3710,ppm, .0076,.0003,3.676, .0078, .0074
Mg2790,279.079 {121},Y_3710,ppm, 25.94,.1567,.6039, 25.83, 26.05
Mn2576,257.610 {131},Y_3600,ppm, 1.106,.0034,.3117, 1.109, 1.104
Mo2020,202.030 {467},Y_2243,ppm, .0051,.0003,5.554, .0049, .0053
Na5895,589.592 { 57},Y_3710,ppm, 280.7,.4210,.1500, 281.0, 280.4
Ni2316,231.604 {445},In2306,ppm, .0853,.0003,.3787, .0850, .0855
P_1782,178.284 {489},In2306,ppm, .3020,.0008,.2713, .3025, .3014
Pb2203,220.353 {453},In2306,ppm, .0058,.0005,8.966, .0062, .0055
S_1820,182.034 {485},Y_2243,ppm, 90.54,.0183,.0202, 90.53, 90.55
Sb2068,206.833 {463},Y_2243,ppm, .0129,.0010,7.555, .0136, .0122
Se1960,196.090 {472},Y_2243,ppm, .0405,.0003,.6363, .0404, .0407
Si2516,251.611 {134},Y_3710,ppm, .1478,.0059,3.976, .1437, .1520
Sn1899,189.989 {477},In2306,ppm, .0007,.0000,3.884, .0007, .0006
Sr4215,421.552 { 80},Y_3710,ppm, .2546,.0010,.4027, .2553, .2539
Ti3349,334.904 {101},Y_3600,ppm, .0143,.0001,.4433, .0143, .0142
Tl1908,190.856 {477},In2306,ppm, .0011,.0005,39.88, .0015, .0008
U_3670,367.007 { 92},Y_3600,ppm, -.0376,.0644,171.2, -.0832, .0079
V_2924,292.402 {115},Y_3600,ppm, .0086,.0002,2.832, .0084, .0088
W_2397,239.709 {140},Y_2243,ppm, .0087,.0703,805.1, .0584, -.0410
Zn2062,206.200 {463},In2306,ppm, 7.197,.0177,.2457, 7.184, 7.209
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[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 236.26,.02766,.01171,236.24,236.27
In2306,230.606 {446},Cts/S, 13022.,23.541,.18078,13039.,13006.
Y_2243,224.306 {450},Cts/S, 22741.,30.092,.13232,22763.,22720.
Y_3600,360.073 { 94},Cts/S, 188200.,90.738,.04821,188270.,188140.
Y_3710,371.030 { 91},Cts/S, 12120.,24.987,.20617,12137.,12102.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .2632,.0004,.1565, .2629, .2635
Al3082,308.215 {109},In2306,ppm, 14.92,.2325,1.558, 15.08, 14.75
As1890,189.042 {478},Y_2243,ppm, 1.054,.0027,.2516, 1.056, 1.052
B_2496,249.678 {135},Y_3710,ppm, .5268,.0052,.9914, .5305, .5231
Ba4554,455.403 { 74},Y_3710,ppm, 1.003,.0012,.1166, 1.004, 1.002
Be3130,313.042 {108},Y_3710,ppm, 1.030,.0007,.0717, 1.031, 1.030
Ca3158,315.887 {107},In2306,ppm, 77.40,1.089,1.407, 78.17, 76.63
Cd2288,228.802 {447},Y_2243,ppm, 1.039,.0016,.1531, 1.040, 1.038
Co2286,228.616 {447},In2306,ppm, 1.052,.0006,.0591, 1.053, 1.052
Cr2677,267.716 {126},Y_3600,ppm, 1.033,.0042,.4075, 1.031, 1.036
Cu3247,324.754 {104},Y_3600,ppm, 1.190,.0034,.2869, 1.187, 1.192
Fe2404,240.488 {140},In2306,ppm, 11.66,.1119,.9593, 11.74, 11.59
K_7664,766.490 { 44},Y_3710,ppm, 23.92,.0375,.1566, 23.95, 23.90
Li6707,670.784 { 50},Y_3710,ppm, .9696,.0054,.5542, .9734, .9658
Mg2790,279.079 {121},Y_3710,ppm, 34.58,.1267,.3664, 34.49, 34.67
Mn2576,257.610 {131},Y_3600,ppm, 2.026,.0020,.0996, 2.025, 2.028
Mo2020,202.030 {467},Y_2243,ppm, 1.015,.0021,.2104, 1.016, 1.013
Na5895,589.592 { 57},Y_3710,ppm, 270.1,5.440,2.014, 266.3, 274.0
Ni2316,231.604 {445},In2306,ppm, 1.136,.0007,.0600, 1.137, 1.136
P_1782,178.284 {489},In2306,ppm, 6.309,.0013,.0214, 6.310, 6.308
Pb2203,220.353 {453},In2306,ppm, 1.043,.0014,.1346, 1.044, 1.042
S_1820,182.034 {485},Y_2243,ppm, 87.56,.0469,.0535, 87.59, 87.52
Sb2068,206.833 {463},Y_2243,ppm, 1.663,.0072,.4330, 1.668, 1.657
Se1960,196.090 {472},Y_2243,ppm, 1.080,.0044,.4085, 1.083, 1.076
Si2516,251.611 {134},Y_3710,ppm, 7.790,.0788,1.011, 7.734, 7.845
Sn1899,189.989 {477},In2306,ppm, 1.062,.0023,.2129, 1.064, 1.061
Sr4215,421.552 { 80},Y_3710,ppm, 1.218,.0006,.0497, 1.217, 1.218
Ti3349,334.904 {101},Y_3600,ppm, 1.007,.0014,.1431, 1.006, 1.008
Tl1908,190.856 {477},In2306,ppm, 1.004,.0013,.1311, 1.005, 1.003
U_3670,367.007 { 92},Y_3600,ppm, .3993,.0579,14.49, .4402, .3584
V_2924,292.402 {115},Y_3600,ppm, .9993,.0026,.2560, .9975, 1.001
W_2397,239.709 {140},Y_2243,ppm, .4642,.0417,8.989, .4347, .4937
Zn2062,206.200 {463},In2306,ppm, 7.221,.0037,.0513, 7.218, 7.223

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 229.41,3.0254,1.3188,227.27,231.55
In2306,230.606 {446},Cts/S, 12906.,2.5608,.01984,12904.,12907.
Y_2243,224.306 {450},Cts/S, 22628.,9.0400,.03995,22621.,22634.
Y_3600,360.073 { 94},Cts/S, 187450.,67.464,.03599,187410.,187500.
Y_3710,371.030 { 91},Cts/S, 12060.,20.047,.16622,12074.,12046.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0006,.0002,41.75, .0007, .0004
Al3082,308.215 {109},In2306,ppm, -.0007,.0126,1718., .0082, -.0096
As1890,189.042 {478},Y_2243,ppm, .0007,.0006,77.12, .0003, .0011
B_2496,249.678 {135},Y_3710,ppm, .0155,.0068,43.54, .0203, .0107
Ba4554,455.403 { 74},Y_3710,ppm, .0244,.0001,.3618, .0244, .0243
Be3130,313.042 {108},Y_3710,ppm, .0001,.0002,230.5, .0002, -.0000
Ca3158,315.887 {107},In2306,ppm, .3934,.0005,.1373, .3930, .3937
Cd2288,228.802 {447},Y_2243,ppm, .0003,.0003,126.2, .0000, .0005
Co2286,228.616 {447},In2306,ppm, .0002,.0001,60.97, .0001, .0004
Cr2677,267.716 {126},Y_3600,ppm, .0003,.0000,.0051, .0003, .0003
Cu3247,324.754 {104},Y_3600,ppm, .0019,.0002,10.03, .0021, .0018
Fe2404,240.488 {140},In2306,ppm, .0075,.0010,13.82, .0067, .0082
K_7664,766.490 { 44},Y_3710,ppm, .1824,.0375,20.56, .2090, .1559
Li6707,670.784 { 50},Y_3710,ppm, .0010,.0000,3.366, .0010, .0010
Mg2790,279.079 {121},Y_3710,ppm, .0100,.0345,343.5, -.0144, .0345
Mn2576,257.610 {131},Y_3600,ppm, .0002,.0001,27.69, .0003, .0002
Mo2020,202.030 {467},Y_2243,ppm, .0020,.0003,15.78, .0018, .0022
Na5895,589.592 { 57},Y_3710,ppm, 130.8,2.889,2.209, 128.7, 132.8
Ni2316,231.604 {445},In2306,ppm, .0004,.0002,60.20, .0002, .0005
P_1782,178.284 {489},In2306,ppm, .0016,.0004,22.09, .0013, .0018
Pb2203,220.353 {453},In2306,ppm, -.0003,.0009,341.9, -.0009, .0004
S_1820,182.034 {485},Y_2243,ppm, .0608,.0043,7.062, .0578, .0639
Sb2068,206.833 {463},Y_2243,ppm, .0031,.0003,10.72, .0029, .0034
Se1960,196.090 {472},Y_2243,ppm, .0014,.0012,85.07, .0023, .0006
Si2516,251.611 {134},Y_3710,ppm, .0592,.0043,7.209, .0561, .0622
Sn1899,189.989 {477},In2306,ppm, .0015,.0008,55.40, .0009, .0020
Sr4215,421.552 { 80},Y_3710,ppm, .0013,.0002,15.37, .0014, .0012
Ti3349,334.904 {101},Y_3600,ppm, .0003,.0002,62.97, .0001, .0004
Tl1908,190.856 {477},In2306,ppm, .0377,.0057,15.23, .0418, .0336
U_3670,367.007 { 92},Y_3600,ppm, -.2288,.0400,17.49, -.2005, -.2571
V_2924,292.402 {115},Y_3600,ppm, .0021,.0001,4.280, .0021, .0020
W_2397,239.709 {140},Y_2243,ppm, .0148,.0311,210.1, .0368, -.0072
Zn2062,206.200 {463},In2306,ppm, 79.47,.5811,.7312, 79.89, 79.06

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 237.64,1.3930,.58619,238.62,236.65
In2306,230.606 {446},Cts/S, 14025.,.36856,.00263,14026.,14025.
Y_2243,224.306 {450},Cts/S, 23495.,5.7662,.02454,23499.,23491.
Y_3600,360.073 { 94},Cts/S, 194670.,377.53,.19394,194930.,194400.
Y_3710,371.030 { 91},Cts/S, 12113.,67.613,.55820,12161.,12065.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .2550,.0007,.2793, .2555, .2544
Al3082,308.215 {109},In2306,ppm, 10.50,.0055,.0525, 10.50, 10.49
As1890,189.042 {478},Y_2243,ppm, 1.010,.0021,.2127, 1.012, 1.009
B_2496,249.678 {135},Y_3710,ppm, .5133,.0085,1.659, .5073, .5194
Ba4554,455.403 { 74},Y_3710,ppm, 1.008,.0023,.2241, 1.007, 1.010
Be3130,313.042 {108},Y_3710,ppm, 1.032,.0030,.2895, 1.030, 1.034
Ca3158,315.887 {107},In2306,ppm, 10.65,.0139,.1301, 10.66, 10.64
Cd2288,228.802 {447},Y_2243,ppm, 1.000,.0039,.3874, 1.003, .9976
Co2286,228.616 {447},In2306,ppm, 1.021,.0009,.0866, 1.022, 1.021
Cr2677,267.716 {126},Y_3600,ppm, .9703,.0008,.0868, .9709, .9697
Cu3247,324.754 {104},Y_3600,ppm, .9736,.0007,.0698, .9741, .9731
Fe2404,240.488 {140},In2306,ppm, 10.16,.0031,.0303, 10.16, 10.15
K_7664,766.490 { 44},Y_3710,ppm, 9.966,.0586,.5882, 9.925, 10.01
Li6707,670.784 { 50},Y_3710,ppm, .9462,.0006,.0604, .9457, .9466
Mg2790,279.079 {121},Y_3710,ppm, 10.56,.0491,.4649, 10.52, 10.59
Mn2576,257.610 {131},Y_3600,ppm, 1.005,.0008,.0780, 1.005, 1.004
Mo2020,202.030 {467},Y_2243,ppm, .9991,.0026,.2640, 1.001, .9972
Na5895,589.592 { 57},Y_3710,ppm, 137.8,.5424,.3936, 138.2, 137.4
Ni2316,231.604 {445},In2306,ppm, 1.045,.0009,.0899, 1.045, 1.044
P_1782,178.284 {489},In2306,ppm, 5.675,.0210,.3706, 5.689, 5.660
Pb2203,220.353 {453},In2306,ppm, 1.028,.0032,.3090, 1.031, 1.026
S_1820,182.034 {485},Y_2243,ppm, 3.885,.0020,.0505, 3.883, 3.886
Sb2068,206.833 {463},Y_2243,ppm, 1.623,.0102,.6257, 1.630, 1.616
Se1960,196.090 {472},Y_2243,ppm, 1.005,.0069,.6832, 1.009, .9998
Si2516,251.611 {134},Y_3710,ppm, 8.221,.0209,.2541, 8.206, 8.236
Sn1899,189.989 {477},In2306,ppm, 1.045,.0012,.1166, 1.045, 1.044
Sr4215,421.552 { 80},Y_3710,ppm, .9810,.0020,.2046, .9796, .9825
Ti3349,334.904 {101},Y_3600,ppm, .9902,.0014,.1410, .9912, .9893
Tl1908,190.856 {477},In2306,ppm, 1.035,.0030,.2909, 1.037, 1.033
U_3670,367.007 { 92},Y_3600,ppm, .3352,.0601,17.92, .3776, .2927
V_2924,292.402 {115},Y_3600,ppm, .9841,.0026,.2597, .9859, .9823
W_2397,239.709 {140},Y_2243,ppm, .3364,.0463,13.77, .3036, .3692
Zn2062,206.200 {463},In2306,ppm, 80.12,.2962,.3697, 79.91, 80.33

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 239.18,.26562,.11105,239.00,239.37
In2306,230.606 {446},Cts/S, 13773.,28.737,.20864,13753.,13793.
Y_2243,224.306 {450},Cts/S, 23795.,60.017,.25222,23753.,23838.
Y_3600,360.073 { 94},Cts/S, 195660.,780.81,.39906,195110.,196220.
Y_3710,371.030 { 91},Cts/S, 12280.,7.5026,.06110,12285.,12274.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0000,.0003,688.4, .0002, -.0002
Al3082,308.215 {109},In2306,ppm, .0763,.0102,13.33, .0835, .0691
As1890,189.042 {478},Y_2243,ppm, .0012,.0012,101.4, .0020, .0003
B_2496,249.678 {135},Y_3710,ppm, .0144,.0028,19.22, .0164, .0125
Ba4554,455.403 { 74},Y_3710,ppm, .0978,.0000,.0228, .0977, .0978
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Be3130,313.042 {108},Y_3710,ppm, .0002,.0001,26.92, .0003, .0002
Ca3158,315.887 {107},In2306,ppm, 7.622,.0724,.9498, 7.673, 7.570
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0002,123.4, .0000, .0002
Co2286,228.616 {447},In2306,ppm, .0026,.0001,2.242, .0025, .0026
Cr2677,267.716 {126},Y_3600,ppm, .0004,.0003,79.91, .0006, .0002
Cu3247,324.754 {104},Y_3600,ppm, .0028,.0002,5.558, .0027, .0030
Fe2404,240.488 {140},In2306,ppm, .0255,.0061,23.95, .0212, .0298
K_7664,766.490 { 44},Y_3710,ppm, .2456,.0219,8.909, .2611, .2302
Li6707,670.784 { 50},Y_3710,ppm, .0002,.0000,2.024, .0002, .0002
Mg2790,279.079 {121},Y_3710,ppm, .8293,.0002,.0231, .8294, .8291
Mn2576,257.610 {131},Y_3600,ppm, .0463,.0000,.1059, .0463, .0462
Mo2020,202.030 {467},Y_2243,ppm, .0009,.0001,15.90, .0008, .0010
Na5895,589.592 { 57},Y_3710,ppm, 128.3,.3911,.3049, 128.5, 128.0
Ni2316,231.604 {445},In2306,ppm, .0033,.0002,5.891, .0032, .0034
P_1782,178.284 {489},In2306,ppm, .0025,.0022,88.97, .0009, .0041
Pb2203,220.353 {453},In2306,ppm, .0016,.0011,64.13, .0009, .0024
S_1820,182.034 {485},Y_2243,ppm, .1547,.0010,.6610, .1540, .1554
Sb2068,206.833 {463},Y_2243,ppm, .0023,.0022,98.14, .0039, .0007
Se1960,196.090 {472},Y_2243,ppm, .0010,.0025,260.0, -.0008, .0027
Si2516,251.611 {134},Y_3710,ppm, .2561,.0048,1.865, .2595, .2527
Sn1899,189.989 {477},In2306,ppm, .0001,.0000,3.524, .0001, .0001
Sr4215,421.552 { 80},Y_3710,ppm, .0284,.0001,.2976, .0284, .0285
Ti3349,334.904 {101},Y_3600,ppm, .0007,.0002,20.35, .0006, .0009
Tl1908,190.856 {477},In2306,ppm, .0477,.0049,10.21, .0512, .0443
U_3670,367.007 { 92},Y_3600,ppm, -.0594,.0839,141.3, -.0000, -.1187
V_2924,292.402 {115},Y_3600,ppm, -.0000,.0001,5083., .0001, -.0001
W_2397,239.709 {140},Y_2243,ppm, -.0124,.0081,65.68, -.0066, -.0181
Zn2062,206.200 {463},In2306,ppm, .0450,.0113,25.06, .0370, .0530

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 242.11,2.6448,1.0924,240.24,243.98
In2306,230.606 {446},Cts/S, 14116.,2.6083,.01848,14114.,14118.
Y_2243,224.306 {450},Cts/S, 23675.,9.4136,.03976,23668.,23681.
Y_3600,360.073 { 94},Cts/S, 195830.,503.62,.25717,195470.,196180.
Y_3710,371.030 { 91},Cts/S, 12221.,97.980,.80173,12152.,12290.

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Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0010,.0004,44.32, .0013, .0007
Al3082,308.215 {109},In2306,ppm, .0713,.0228,32.01, .0875, .0552
As1890,189.042 {478},Y_2243,ppm, -.0000,.0010,2777., .0007, -.0007
B_2496,249.678 {135},Y_3710,ppm, .0105,.0003,2.750, .0107, .0103
Ba4554,455.403 { 74},Y_3710,ppm, .0978,.0004,.4236, .0975, .0981
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,81.67, .0001, .0000
Ca3158,315.887 {107},In2306,ppm, 7.649,.0351,.4587, 7.624, 7.674
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0002,302.8, -.0001, .0002
Co2286,228.616 {447},In2306,ppm, .0023,.0002,7.157, .0024, .0021
Cr2677,267.716 {126},Y_3600,ppm, .0003,.0003,95.60, .0005, .0001
Cu3247,324.754 {104},Y_3600,ppm, .0030,.0001,3.128, .0030, .0029
Fe2404,240.488 {140},In2306,ppm, .0408,.0052,12.75, .0445, .0371
K_7664,766.490 { 44},Y_3710,ppm, .2266,.0109,4.816, .2189, .2344
Li6707,670.784 { 50},Y_3710,ppm, .0018,.0015,83.12, .0007, .0029
Mg2790,279.079 {121},Y_3710,ppm, .8235,.0239,2.905, .8404, .8066
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Mn2576,257.610 {131},Y_3600,ppm, .0463,.0000,.1050, .0463, .0463
Mo2020,202.030 {467},Y_2243,ppm, .0001,.0002,188.3, -.0000, .0002
Na5895,589.592 { 57},Y_3710,ppm, 128.1,.7126,.5562, 128.6, 127.6
Ni2316,231.604 {445},In2306,ppm, .0032,.0000,1.394, .0032, .0032
P_1782,178.284 {489},In2306,ppm, .0022,.0007,31.31, .0018, .0027
Pb2203,220.353 {453},In2306,ppm, .0017,.0006,33.62, .0013, .0022
S_1820,182.034 {485},Y_2243,ppm, .1562,.0045,2.880, .1530, .1594
Sb2068,206.833 {463},Y_2243,ppm, .0012,.0013,109.2, .0021, .0003
Se1960,196.090 {472},Y_2243,ppm, .0006,.0005,96.19, .0002, .0009
Si2516,251.611 {134},Y_3710,ppm, .2310,.0121,5.259, .2224, .2395
Sn1899,189.989 {477},In2306,ppm, .0001,.0004,512.2, .0004, -.0002
Sr4215,421.552 { 80},Y_3710,ppm, .0280,.0001,.4939, .0279, .0281
Ti3349,334.904 {101},Y_3600,ppm, -.0001,.0002,274.3, .0001, -.0002
Tl1908,190.856 {477},In2306,ppm, .0195,.0024,12.30, .0211, .0178
U_3670,367.007 { 92},Y_3600,ppm, -.1146,.0036,3.148, -.1172, -.1121
V_2924,292.402 {115},Y_3600,ppm, -.0004,.0001,25.62, -.0004, -.0003
W_2397,239.709 {140},Y_2243,ppm, .0029,.0476,1638., -.0308, .0366
Zn2062,206.200 {463},In2306,ppm, .0414,.0001,.1376, .0414, .0415

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 238.55,.87484,.36673,239.17,237.93
In2306,230.606 {446},Cts/S, 14120.,68.557,.48555,14168.,14071.
Y_2243,224.306 {450},Cts/S, 23647.,137.16,.58005,23744.,23550.
Y_3600,360.073 { 94},Cts/S, 194370.,1338.4,.68857,193420.,195320.
Y_3710,371.030 { 91},Cts/S, 12160.,145.98,1.2005,12263.,12057.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .2554,.0004,.1731, .2551, .2558
Al3082,308.215 {109},In2306,ppm, 10.75,.0383,.3566, 10.73, 10.78
As1890,189.042 {478},Y_2243,ppm, 1.004,.0013,.1305, 1.005, 1.003
B_2496,249.678 {135},Y_3710,ppm, .5254,.0061,1.161, .5211, .5297
Ba4554,455.403 { 74},Y_3710,ppm, 1.076,.0144,1.334, 1.087, 1.066
Be3130,313.042 {108},Y_3710,ppm, 1.025,.0117,1.141, 1.033, 1.016
Ca3158,315.887 {107},In2306,ppm, 18.29,.1268,.6934, 18.20, 18.38
Cd2288,228.802 {447},Y_2243,ppm, .9934,.0009,.0923, .9928, .9941
Co2286,228.616 {447},In2306,ppm, 1.009,.0032,.3198, 1.007, 1.011
Cr2677,267.716 {126},Y_3600,ppm, .9684,.0041,.4216, .9713, .9655
Cu3247,324.754 {104},Y_3600,ppm, .9756,.0030,.3091, .9778, .9735
Fe2404,240.488 {140},In2306,ppm, 10.37,.0004,.0037, 10.37, 10.37
K_7664,766.490 { 44},Y_3710,ppm, 10.16,.0795,.7828, 10.21, 10.10
Li6707,670.784 { 50},Y_3710,ppm, .9470,.0127,1.346, .9560, .9379
Mg2790,279.079 {121},Y_3710,ppm, 11.48,.0539,.4694, 11.52, 11.44
Mn2576,257.610 {131},Y_3600,ppm, 1.036,.0024,.2345, 1.034, 1.038
Mo2020,202.030 {467},Y_2243,ppm, .9894,.0012,.1227, .9886, .9903
Na5895,589.592 { 57},Y_3710,ppm, 136.5,.5511,.4037, 136.9, 136.1
Ni2316,231.604 {445},In2306,ppm, 1.029,.0026,.2520, 1.027, 1.031
P_1782,178.284 {489},In2306,ppm, 5.649,.0074,.1309, 5.644, 5.654
Pb2203,220.353 {453},In2306,ppm, 1.014,.0057,.5649, 1.010, 1.018
S_1820,182.034 {485},Y_2243,ppm, 4.006,.0066,.1641, 4.002, 4.011
Sb2068,206.833 {463},Y_2243,ppm, 1.610,.0041,.2537, 1.607, 1.613
Se1960,196.090 {472},Y_2243,ppm, .9967,.0012,.1182, .9975, .9958
Si2516,251.611 {134},Y_3710,ppm, 7.891,.0255,.3227, 7.909, 7.873
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Sn1899,189.989 {477},In2306,ppm, 1.027,.0029,.2833, 1.025, 1.029
Sr4215,421.552 { 80},Y_3710,ppm, 1.004,.0134,1.339, 1.014, .9945
Ti3349,334.904 {101},Y_3600,ppm, .9783,.0008,.0800, .9777, .9788
Tl1908,190.856 {477},In2306,ppm, .9898,.0022,.2253, .9882, .9913
U_3670,367.007 { 92},Y_3600,ppm, .3892,.0863,22.16, .4502, .3282
V_2924,292.402 {115},Y_3600,ppm, .9758,.0008,.0816, .9752, .9764
W_2397,239.709 {140},Y_2243,ppm, .4802,.0271,5.637, .4993, .4610
Zn2062,206.200 {463},In2306,ppm, .5760,.0019,.3353, .5746, .5773

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 234.86,1.6423,.69928,236.02,233.70
In2306,230.606 {446},Cts/S, 13803.,15.337,.11111,13814.,13792.
Y_2243,224.306 {450},Cts/S, 23687.,3.0183,.01274,23685.,23689.
Y_3600,360.073 { 94},Cts/S, 194890.,408.35,.20953,194610.,195180.
Y_3710,371.030 { 91},Cts/S, 12189.,63.167,.51822,12145.,12234.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0005,.0000,9.935, .0005, .0004
Al3082,308.215 {109},In2306,ppm, -.0072,.0014,19.91, -.0083, -.0062
As1890,189.042 {478},Y_2243,ppm, .0005,.0020,398.7, -.0009, .0019
B_2496,249.678 {135},Y_3710,ppm, -.0008,.0014,180.9, .0002, -.0018
Ba4554,455.403 { 74},Y_3710,ppm, -.0001,.0003,283.4, .0001, -.0003
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,44.11, .0001, .0000
Ca3158,315.887 {107},In2306,ppm, -.0143,.0028,19.64, -.0163, -.0123
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,49.49, .0000, .0001
Co2286,228.616 {447},In2306,ppm, -.0001,.0000,28.06, -.0001, -.0001
Cr2677,267.716 {126},Y_3600,ppm, -.0001,.0002,202.7, -.0002, .0000
Cu3247,324.754 {104},Y_3600,ppm, .0011,.0001,9.020, .0012, .0010
Fe2404,240.488 {140},In2306,ppm, .0088,.0037,41.57, .0114, .0062
K_7664,766.490 { 44},Y_3710,ppm, .0819,.0074,8.978, .0767, .0871
Li6707,670.784 { 50},Y_3710,ppm, -.0002,.0002,95.11, -.0003, -.0001
Mg2790,279.079 {121},Y_3710,ppm, .0164,.0041,24.88, .0135, .0192
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,13.80, -.0000, -.0000
Mo2020,202.030 {467},Y_2243,ppm, .0006,.0004,69.77, .0003, .0009
Na5895,589.592 { 57},Y_3710,ppm, .0831,.0026,3.143, .0850, .0813
Ni2316,231.604 {445},In2306,ppm, .0003,.0000,13.55, .0003, .0003
P_1782,178.284 {489},In2306,ppm, .0011,.0015,134.9, .0021, .0001
Pb2203,220.353 {453},In2306,ppm, -.0009,.0001,11.97, -.0008, -.0010
S_1820,182.034 {485},Y_2243,ppm, .0105,.0005,4.445, .0108, .0101
Sb2068,206.833 {463},Y_2243,ppm, .0027,.0017,63.57, .0015, .0039
Se1960,196.090 {472},Y_2243,ppm, .0026,.0011,43.89, .0033, .0018
Si2516,251.611 {134},Y_3710,ppm, -.0035,.0034,97.41, -.0011, -.0059
Sn1899,189.989 {477},In2306,ppm, .0001,.0001,68.57, .0002, .0001
Sr4215,421.552 { 80},Y_3710,ppm, .0004,.0000,8.212, .0005, .0004
Ti3349,334.904 {101},Y_3600,ppm, .0004,.0001,23.74, .0004, .0005
Tl1908,190.856 {477},In2306,ppm, .0438,.0061,14.03, .0481, .0394
U_3670,367.007 { 92},Y_3600,ppm, -.1184,.0889,75.09, -.1813, -.0556
V_2924,292.402 {115},Y_3600,ppm, .0001,.0003,405.5, .0003, -.0001
W_2397,239.709 {140},Y_2243,ppm, -.0206,.0288,139.6, -.0410, -.0003
Zn2062,206.200 {463},In2306,ppm, .0027,.0000,1.001, .0027, .0027

[Internal Standards]
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Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 250.45,.14046,.05608,250.35,250.55
In2306,230.606 {446},Cts/S, 16241.,36.537,.22496,16216.,16267.
Y_2243,224.306 {450},Cts/S, 24984.,94.804,.37945,24917.,25052.
Y_3600,360.073 { 94},Cts/S, 210130.,273.77,.13028,209940.,210320.
Y_3710,371.030 { 91},Cts/S, 12483.,134.80,1.0799,12387.,12578.

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Custom ID3=
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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0005,.0002,36.13, -.0007, -.0004
Al3082,308.215 {109},In2306,ppm, 2.325,.0296,1.274, 2.304, 2.346
As1890,189.042 {478},Y_2243,ppm, .0049,.0008,17.26, .0043, .0055
B_2496,249.678 {135},Y_3710,ppm, .0619,.0040,6.397, .0591, .0647
Ba4554,455.403 { 74},Y_3710,ppm, .1200,.0010,.8187, .1193, .1207
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,7.504, -.0000, -.0000
Ca3158,315.887 {107},In2306,ppm, 105.4,.3370,.3196, 105.7, 105.2
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,23.90, .0001, .0001
Co2286,228.616 {447},In2306,ppm, .0035,.0001,2.643, .0034, .0036
Cr2677,267.716 {126},Y_3600,ppm, .0688,.0147,21.43, .0792, .0583
Cu3247,324.754 {104},Y_3600,ppm, .2162,.0476,22.02, .2498, .1825
Fe2404,240.488 {140},In2306,ppm, .0180,.0035,19.69, .0205, .0155
K_7664,766.490 { 44},Y_3710,ppm, 47.74,.2062,.4320, 47.60, 47.89
Li6707,670.784 { 50},Y_3710,ppm, .0098,.0003,2.593, .0096, .0100
Mg2790,279.079 {121},Y_3710,ppm, -.0126,.0025,20.19, -.0108, -.0144
Mn2576,257.610 {131},Y_3600,ppm, .0001,.0001,51.10, .0002, .0001
Mo2020,202.030 {467},Y_2243,ppm, .0323,.0006,1.890, .0327, .0318
Na5895,589.592 { 57},Y_3710,ppm, 31.18,.0872,.2797, 31.12, 31.24
Ni2316,231.604 {445},In2306,ppm, .0312,.0001,.3091, .0311, .0312
P_1782,178.284 {489},In2306,ppm, .0169,.0003,2.076, .0166, .0171
Pb2203,220.353 {453},In2306,ppm, .0009,.0006,69.89, .0014, .0005
S_1820,182.034 {485},Y_2243,ppm, 22.01,.1981,.8998, 22.15, 21.87
Sb2068,206.833 {463},Y_2243,ppm, .0041,.0021,52.68, .0025, .0056
Se1960,196.090 {472},Y_2243,ppm, .0051,.0007,13.68, .0046, .0056
Si2516,251.611 {134},Y_3710,ppm, 3.198,.0203,.6342, 3.184, 3.213
Sn1899,189.989 {477},In2306,ppm, .0002,.0002,83.99, .0004, .0001
Sr4215,421.552 { 80},Y_3710,ppm, .9153,.0013,.1451, .9144, .9162
Ti3349,334.904 {101},Y_3600,ppm, .0006,.0005,83.47, .0010, .0003
Tl1908,190.856 {477},In2306,ppm, .0158,.0001,.9023, .0159, .0157
U_3670,367.007 { 92},Y_3600,ppm, .0116,.1466,1260., .1153, -.0920
V_2924,292.402 {115},Y_3600,ppm, .0329,.0071,21.51, .0379, .0279
W_2397,239.709 {140},Y_2243,ppm, .0101,.0582,578.2, -.0311, .0512
Zn2062,206.200 {463},In2306,ppm, .0170,.0001,.4361, .0171, .0170

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 240.34,1.2399,.51590,239.46,241.22
In2306,230.606 {446},Cts/S, 14109.,76.568,.54268,14055.,14163.
Y_2243,224.306 {450},Cts/S, 23374.,198.29,.84832,23234.,23514.
Y_3600,360.073 { 94},Cts/S, 175100.,32064.,18.311,152430.,197780.
Y_3710,371.030 { 91},Cts/S, 12340.,6.1642,.04995,12344.,12335.

[Sample Header]
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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .4886,.0001,.0203, .4886, .4887
Al3082,308.215 {109},In2306,ppm, 20.23,.0201,.0996, 20.24, 20.21
As1890,189.042 {478},Y_2243,ppm, .9779,.0022,.2285, .9794, .9763
B_2496,249.678 {135},Y_3710,ppm, 1.004,.0010,.0994, 1.003, 1.004
Ba4554,455.403 { 74},Y_3710,ppm, .9635,.0007,.0764, .9641, .9630
Be3130,313.042 {108},Y_3710,ppm, .9955,.0007,.0665, .9951, .9960
Ca3158,315.887 {107},In2306,ppm, 19.81,.0605,.3055, 19.76, 19.85
Cd2288,228.802 {447},Y_2243,ppm, .9718,.0004,.0384, .9721, .9715
Co2286,228.616 {447},In2306,ppm, .9771,.0005,.0491, .9775, .9768
Cr2677,267.716 {126},Y_3600,ppm, .9596,.0021,.2202, .9611, .9581
Cu3247,324.754 {104},Y_3600,ppm, .9637,.0034,.3478, .9613, .9661
Fe2404,240.488 {140},In2306,ppm, 19.51,.0802,.4111, 19.45, 19.56
K_7664,766.490 { 44},Y_3710,ppm, 19.06,.0618,.3242, 19.11, 19.02
Li6707,670.784 { 50},Y_3710,ppm, .9380,.0050,.5283, .9415, .9345
Mg2790,279.079 {121},Y_3710,ppm, 20.69,.1889,.9132, 20.55, 20.82
Mn2576,257.610 {131},Y_3600,ppm, .9881,.0032,.3225, .9903, .9858
Mo2020,202.030 {467},Y_2243,ppm, .9813,.0017,.1712, .9801, .9825
Na5895,589.592 { 57},Y_3710,ppm, 19.01,.0303,.1593, 19.03, 18.99
Ni2316,231.604 {445},In2306,ppm, .9960,.0009,.0920, .9953, .9966
P_1782,178.284 {489},In2306,ppm, 10.24,.0001,.0010, 10.24, 10.24
Pb2203,220.353 {453},In2306,ppm, .9939,.0028,.2776, .9920, .9959
S_1820,182.034 {485},Y_2243,ppm, 7.206,.0033,.0456, 7.204, 7.209
Sb2068,206.833 {463},Y_2243,ppm, 2.093,.0025,.1175, 2.091, 2.094
Se1960,196.090 {472},Y_2243,ppm, .9706,.0027,.2799, .9687, .9725
Si2516,251.611 {134},Y_3710,ppm, 8.831,.0453,.5131, 8.799, 8.863
Sn1899,189.989 {477},In2306,ppm, 1.001,.0016,.1598, .9997, 1.002
Sr4215,421.552 { 80},Y_3710,ppm, .9624,.0003,.0328, .9621, .9626
Ti3349,334.904 {101},Y_3600,ppm, .9677,.0016,.1659, .9688, .9665
Tl1908,190.856 {477},In2306,ppm, 1.124,.0049,.4344, 1.120, 1.127
U_3670,367.007 { 92},Y_3600,ppm, .7133,.0117,1.639, .7216, .7050
V_2924,292.402 {115},Y_3600,ppm, .9654,.0012,.1223, .9663, .9646
W_2397,239.709 {140},Y_2243,ppm, 1.140,.0906,7.949, 1.204, 1.076
Zn2062,206.200 {463},In2306,ppm, 1.009,.0017,.1703, 1.010, 1.008

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 239.63,.38495,.16064,239.36,239.90
In2306,230.606 {446},Cts/S, 14547.,49.839,.34261,14582.,14512.
Y_2243,224.306 {450},Cts/S, 24306.,71.262,.29319,24356.,24255.
Y_3600,360.073 { 94},Cts/S, 200250.,146.88,.07335,200350.,200140.
Y_3710,371.030 { 91},Cts/S, 12255.,18.187,.14841,12242.,12268.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0101,.0002,2.245, .0099, .0102
Al3082,308.215 {109},In2306,ppm, .2031,.0027,1.328, .2012, .2050
As1890,189.042 {478},Y_2243,ppm, .0208,.0020,9.602, .0222, .0194
B_2496,249.678 {135},Y_3710,ppm, .2162,.0032,1.495, .2185, .2139
Ba4554,455.403 { 74},Y_3710,ppm, .0211,.0000,.2366, .0211, .0211
Be3130,313.042 {108},Y_3710,ppm, .0114,.0001,1.131, .0115, .0113
Ca3158,315.887 {107},In2306,ppm, 1.020,.0035,.3392, 1.018, 1.022
Cd2288,228.802 {447},Y_2243,ppm, .0109,.0001,1.187, .0109, .0110
Co2286,228.616 {447},In2306,ppm, .0104,.0001,.8918, .0105, .0104
Cr2677,267.716 {126},Y_3600,ppm, .0107,.0001,.8520, .0106, .0108
Cu3247,324.754 {104},Y_3600,ppm, .0117,.0002,1.307, .0116, .0118
Fe2404,240.488 {140},In2306,ppm, .2059,.0024,1.160, .2042, .2076
K_7664,766.490 { 44},Y_3710,ppm, 1.101,.0255,2.313, 1.119, 1.083
Li6707,670.784 { 50},Y_3710,ppm, .0099,.0006,5.880, .0103, .0095
Mg2790,279.079 {121},Y_3710,ppm, 1.102,.0028,.2557, 1.100, 1.104
Mn2576,257.610 {131},Y_3600,ppm, .0111,.0000,.1861, .0111, .0111
Mo2020,202.030 {467},Y_2243,ppm, .0223,.0000,.0320, .0223, .0223
Na5895,589.592 { 57},Y_3710,ppm, 1.048,.0084,.8016, 1.042, 1.054
Ni2316,231.604 {445},In2306,ppm, .0110,.0003,2.557, .0111, .0108
P_1782,178.284 {489},In2306,ppm, .9841,.0026,.2624, .9859, .9822
Pb2203,220.353 {453},In2306,ppm, .0109,.0003,2.974, .0107, .0111
S_1820,182.034 {485},Y_2243,ppm, .3545,.0036,1.018, .3519, .3570
Sb2068,206.833 {463},Y_2243,ppm, .0557,.0009,1.625, .0551, .0563
Se1960,196.090 {472},Y_2243,ppm, .0218,.0014,6.490, .0228, .0208
Si2516,251.611 {134},Y_3710,ppm, .1649,.0049,2.996, .1684, .1614
Sn1899,189.989 {477},In2306,ppm, .0207,.0001,.4077, .0208, .0207
Sr4215,421.552 { 80},Y_3710,ppm, .0107,.0002,2.016, .0108, .0105
Ti3349,334.904 {101},Y_3600,ppm, .0110,.0001,1.187, .0109, .0111
Tl1908,190.856 {477},In2306,ppm, .0313,.0001,.4577, .0312, .0314
U_3670,367.007 { 92},Y_3600,ppm, -.0147,.0576,392.9, -.0554, .0261
V_2924,292.402 {115},Y_3600,ppm, .0105,.0004,4.141, .0102, .0108
W_2397,239.709 {140},Y_2243,ppm, .0891,.0198,22.26, .0750, .1031
Zn2062,206.200 {463},In2306,ppm, .0189,.0001,.7902, .0190, .0188

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 245.95,4.8173,1.9587,249.35,242.54
In2306,230.606 {446},Cts/S, 16116.,23.544,.14610,16099.,16132.
Y_2243,224.306 {450},Cts/S, 25099.,13.126,.05230,25108.,25090.
Y_3600,360.073 { 94},Cts/S, 208740.,144.88,.06941,208640.,208840.
Y_3710,371.030 { 91},Cts/S, 12354.,45.363,.36720,12386.,12322.

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Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0002,.0001,71.40, -.0001, -.0003
Al3082,308.215 {109},In2306,ppm, -.0219,.0223,101.9, -.0376, -.0061
As1890,189.042 {478},Y_2243,ppm, .0001,.0002,328.6, .0002, -.0001
B_2496,249.678 {135},Y_3710,ppm, .0026,.0072,278.9, .0077, -.0025
Ba4554,455.403 { 74},Y_3710,ppm, -.0002,.0001,36.56, -.0002, -.0001
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0001,43.27, -.0001, -.0002
Ca3158,315.887 {107},In2306,ppm, -.0173,.0006,3.340, -.0177, -.0169
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Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,250.2, .0001, -.0000
Co2286,228.616 {447},In2306,ppm, -.0000,.0000,31.05, -.0000, -.0000
Cr2677,267.716 {126},Y_3600,ppm, -.0001,.0002,171.6, .0000, -.0003
Cu3247,324.754 {104},Y_3600,ppm, .0010,.0003,30.79, .0008, .0012
Fe2404,240.488 {140},In2306,ppm, -.0007,.0025,376.2, -.0024, .0011
K_7664,766.490 { 44},Y_3710,ppm, .0782,.0329,42.10, .0549, .1015
Li6707,670.784 { 50},Y_3710,ppm, .0003,.0003,82.69, .0001, .0005
Mg2790,279.079 {121},Y_3710,ppm, .0210,.0525,249.6, -.0161, .0582
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,11.03, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, .0003,.0003,111.8, .0001, .0005
Na5895,589.592 { 57},Y_3710,ppm, .0228,.0026,11.35, .0246, .0209
Ni2316,231.604 {445},In2306,ppm, .0003,.0001,20.77, .0003, .0004
P_1782,178.284 {489},In2306,ppm, .0008,.0007,90.73, .0013, .0003
Pb2203,220.353 {453},In2306,ppm, -.0011,.0005,47.39, -.0015, -.0007
S_1820,182.034 {485},Y_2243,ppm, .0044,.0006,14.43, .0049, .0040
Sb2068,206.833 {463},Y_2243,ppm, .0012,.0002,18.55, .0011, .0014
Se1960,196.090 {472},Y_2243,ppm, .0010,.0006,64.15, .0005, .0014
Si2516,251.611 {134},Y_3710,ppm, -.0129,.0047,36.20, -.0096, -.0162
Sn1899,189.989 {477},In2306,ppm, -.0006,.0005,88.83, -.0002, -.0010
Sr4215,421.552 { 80},Y_3710,ppm, .0000,.0001,373.0, -.0001, .0001
Ti3349,334.904 {101},Y_3600,ppm, .0000,.0003,1467., -.0002, .0003
Tl1908,190.856 {477},In2306,ppm, .0094,.0005,5.043, .0090, .0097
U_3670,367.007 { 92},Y_3600,ppm, -.1002,.0549,54.83, -.0614, -.1391
V_2924,292.402 {115},Y_3600,ppm, -.0001,.0001,205.7, .0000, -.0001
W_2397,239.709 {140},Y_2243,ppm, -.0350,.0475,135.7, -.0014, -.0686
Zn2062,206.200 {463},In2306,ppm, -.0015,.0001,4.994, -.0014, -.0015

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 243.81,5.2946,2.1716,240.07,247.56
In2306,230.606 {446},Cts/S, 16271.,24.806,.15245,16254.,16289.
Y_2243,224.306 {450},Cts/S, 24975.,3.3767,.01352,24972.,24977.
Y_3600,360.073 { 94},Cts/S, 207850.,49.675,.02390,207820.,207890.
Y_3710,371.030 { 91},Cts/S, 12276.,27.683,.22550,12256.,12296.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2559,.0013,.5143, .2549, .2568
Al3082,308.215 {109},In2306,ppm, 13.14,.0313,.2382, 13.16, 13.12
As1890,189.042 {478},Y_2243,ppm, 1.012,.0018,.1780, 1.013, 1.011
B_2496,249.678 {135},Y_3710,ppm, .5644,.0088,1.563, .5582, .5706
Ba4554,455.403 { 74},Y_3710,ppm, 1.091,.0019,.1748, 1.090, 1.092
Be3130,313.042 {108},Y_3710,ppm, 1.011,.0010,.0947, 1.012, 1.010
Ca3158,315.887 {107},In2306,ppm, 117.5,.1563,.1330, 117.6, 117.4
Cd2288,228.802 {447},Y_2243,ppm, 1.008,.0023,.2285, 1.010, 1.006
Co2286,228.616 {447},In2306,ppm, 1.002,.0027,.2726, 1.0000, 1.004
Cr2677,267.716 {126},Y_3600,ppm, 1.021,.0030,.2965, 1.019, 1.023
Cu3247,324.754 {104},Y_3600,ppm, 1.177,.0036,.3059, 1.174, 1.179
Fe2404,240.488 {140},In2306,ppm, 10.24,.0595,.5812, 10.28, 10.19
K_7664,766.490 { 44},Y_3710,ppm, 57.58,.1426,.2476, 57.68, 57.48
Li6707,670.784 { 50},Y_3710,ppm, .9670,.0011,.1115, .9662, .9677
Mg2790,279.079 {121},Y_3710,ppm, 10.29,.0081,.0783, 10.29, 10.28
Mn2576,257.610 {131},Y_3600,ppm, .9840,.0017,.1764, .9828, .9853
Mo2020,202.030 {467},Y_2243,ppm, 1.028,.0019,.1849, 1.030, 1.027
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Na5895,589.592 { 57},Y_3710,ppm, 40.86,.0168,.0412, 40.87, 40.84
Ni2316,231.604 {445},In2306,ppm, 1.046,.0028,.2714, 1.044, 1.048
P_1782,178.284 {489},In2306,ppm, 5.657,.0058,.1032, 5.661, 5.653
Pb2203,220.353 {453},In2306,ppm, 1.008,.0043,.4235, 1.005, 1.011
S_1820,182.034 {485},Y_2243,ppm, 25.90,.0377,.1456, 25.92, 25.87
Sb2068,206.833 {463},Y_2243,ppm, 1.645,.0066,.3998, 1.650, 1.640
Se1960,196.090 {472},Y_2243,ppm, 1.013,.0025,.2486, 1.015, 1.011
Si2516,251.611 {134},Y_3710,ppm, 11.27,.0442,.3919, 11.30, 11.24
Sn1899,189.989 {477},In2306,ppm, 1.018,.0030,.2989, 1.016, 1.020
Sr4215,421.552 { 80},Y_3710,ppm, 1.876,.0006,.0332, 1.876, 1.877
Ti3349,334.904 {101},Y_3600,ppm, .9767,.0018,.1793, .9754, .9779
Tl1908,190.856 {477},In2306,ppm, .9944,.0089,.8907, .9882, 1.001
U_3670,367.007 { 92},Y_3600,ppm, .4172,.0175,4.186, .4049, .4296
V_2924,292.402 {115},Y_3600,ppm, 1.003,.0029,.2885, 1.001, 1.005
W_2397,239.709 {140},Y_2243,ppm, .3949,.0476,12.06, .4286, .3613
Zn2062,206.200 {463},In2306,ppm, .5364,.0040,.7512, .5335, .5392

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 233.35,1.7272,.74014,232.13,234.58
In2306,230.606 {446},Cts/S, 13675.,30.530,.22325,13653.,13696.
Y_2243,224.306 {450},Cts/S, 23251.,143.16,.61574,23149.,23352.
Y_3600,360.073 { 94},Cts/S, 193850.,870.83,.44923,194460.,193230.
Y_3710,371.030 { 91},Cts/S, 12263.,93.352,.76127,12197.,12329.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0002,.0003,149.8, .0005, -.0000
Al3082,308.215 {109},In2306,ppm, 2.220,.0326,1.470, 2.197, 2.243
As1890,189.042 {478},Y_2243,ppm, .0047,.0020,43.89, .0032, .0061
B_2496,249.678 {135},Y_3710,ppm, .0826,.0095,11.48, .0759, .0893
Ba4554,455.403 { 74},Y_3710,ppm, .1123,.0022,2.002, .1107, .1139
Be3130,313.042 {108},Y_3710,ppm, .0002,.0000,16.67, .0002, .0002
Ca3158,315.887 {107},In2306,ppm, 91.02,.0181,.0199, 91.03, 91.01
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,22.31, .0001, .0001
Co2286,228.616 {447},In2306,ppm, .0019,.0003,13.18, .0021, .0018
Cr2677,267.716 {126},Y_3600,ppm, .0603,.0000,.0127, .0603, .0603
Cu3247,324.754 {104},Y_3600,ppm, .0796,.0005,.6160, .0800, .0793
Fe2404,240.488 {140},In2306,ppm, .0263,.0114,43.38, .0344, .0183
K_7664,766.490 { 44},Y_3710,ppm, 41.09,.4926,1.199, 40.74, 41.44
Li6707,670.784 { 50},Y_3710,ppm, .0057,.0005,9.241, .0061, .0053
Mg2790,279.079 {121},Y_3710,ppm, .0260,.0046,17.85, .0293, .0227
Mn2576,257.610 {131},Y_3600,ppm, .0002,.0000,2.991, .0002, .0002
Mo2020,202.030 {467},Y_2243,ppm, .0335,.0004,1.272, .0338, .0332
Na5895,589.592 { 57},Y_3710,ppm, 42.79,.3244,.7580, 42.56, 43.02
Ni2316,231.604 {445},In2306,ppm, .0202,.0001,.5882, .0202, .0201
P_1782,178.284 {489},In2306,ppm, .0171,.0004,2.460, .0174, .0168
Pb2203,220.353 {453},In2306,ppm, .0007,.0012,171.0, -.0001, .0016
S_1820,182.034 {485},Y_2243,ppm, 30.45,.0998,.3278, 30.38, 30.52
Sb2068,206.833 {463},Y_2243,ppm, .0054,.0008,15.20, .0060, .0048
Se1960,196.090 {472},Y_2243,ppm, .0079,.0014,17.52, .0089, .0070
Si2516,251.611 {134},Y_3710,ppm, 4.108,.0548,1.334, 4.069, 4.147
Sn1899,189.989 {477},In2306,ppm, .0001,.0002,184.5, -.0000, .0003
Sr4215,421.552 { 80},Y_3710,ppm, .7997,.0093,1.160, .7931, .8062
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Ti3349,334.904 {101},Y_3600,ppm, .0011,.0002,18.15, .0013, .0010
Tl1908,190.856 {477},In2306,ppm, .0384,.0048,12.40, .0418, .0351
U_3670,367.007 { 92},Y_3600,ppm, -.0208,.1461,702.6, -.1241, .0825
V_2924,292.402 {115},Y_3600,ppm, .0453,.0001,.2641, .0452, .0454
W_2397,239.709 {140},Y_2243,ppm, -.0515,.0052,10.19, -.0552, -.0478
Zn2062,206.200 {463},In2306,ppm, .0152,.0002,1.634, .0151, .0154

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 238.79,1.5748,.65947,237.68,239.91
In2306,230.606 {446},Cts/S, 14049.,44.102,.31393,14080.,14017.
Y_2243,224.306 {450},Cts/S, 23290.,23.234,.09976,23306.,23273.
Y_3600,360.073 { 94},Cts/S, 194420.,347.09,.17853,194670.,194180.
Y_3710,371.030 { 91},Cts/S, 12261.,65.046,.53052,12307.,12215.

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Ag3280,328.068 {103},Y_3600,ppm, -.0003,.0006,175.5, .0001, -.0007
Al3082,308.215 {109},In2306,ppm, 2.611,.0150,.5735, 2.622, 2.601
As1890,189.042 {478},Y_2243,ppm, .0028,.0019,67.07, .0015, .0042
B_2496,249.678 {135},Y_3710,ppm, .0808,.0048,5.917, .0775, .0842
Ba4554,455.403 { 74},Y_3710,ppm, .1354,.0012,.9044, .1345, .1362
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,63.26, .0000, .0000
Ca3158,315.887 {107},In2306,ppm, 96.83,.8178,.8445, 97.41, 96.25
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0000,36.60, .0000, .0000
Co2286,228.616 {447},In2306,ppm, .0015,.0000,2.906, .0015, .0015
Cr2677,267.716 {126},Y_3600,ppm, .0392,.0033,8.470, .0368, .0415
Cu3247,324.754 {104},Y_3600,ppm, .0572,.0045,7.865, .0540, .0604
Fe2404,240.488 {140},In2306,ppm, .0275,.0033,12.07, .0298, .0251
K_7664,766.490 { 44},Y_3710,ppm, 30.34,.0942,.3106, 30.27, 30.41
Li6707,670.784 { 50},Y_3710,ppm, .0072,.0003,3.528, .0074, .0070
Mg2790,279.079 {121},Y_3710,ppm, .0264,.0074,27.83, .0316, .0212
Mn2576,257.610 {131},Y_3600,ppm, .0002,.0000,4.000, .0001, .0002
Mo2020,202.030 {467},Y_2243,ppm, .0321,.0001,.3948, .0322, .0320
Na5895,589.592 { 57},Y_3710,ppm, 35.83,.1439,.4017, 35.73, 35.93
Ni2316,231.604 {445},In2306,ppm, .0184,.0003,1.504, .0182, .0186
P_1782,178.284 {489},In2306,ppm, .0358,.0000,.0847, .0358, .0358
Pb2203,220.353 {453},In2306,ppm, -.0000,.0003,638.0, .0002, -.0003
S_1820,182.034 {485},Y_2243,ppm, 20.73,.0145,.0700, 20.74, 20.72
Sb2068,206.833 {463},Y_2243,ppm, .0042,.0016,37.36, .0031, .0054
Se1960,196.090 {472},Y_2243,ppm, .0050,.0003,5.917, .0052, .0048
Si2516,251.611 {134},Y_3710,ppm, 3.693,.0191,.5184, 3.680, 3.707
Sn1899,189.989 {477},In2306,ppm, -.0000,.0001,244.4, .0000, -.0001
Sr4215,421.552 { 80},Y_3710,ppm, .7865,.0029,.3737, .7845, .7886
Ti3349,334.904 {101},Y_3600,ppm, .0006,.0000,.7948, .0006, .0006
Tl1908,190.856 {477},In2306,ppm, .0143,.0046,32.12, .0176, .0111
U_3670,367.007 { 92},Y_3600,ppm, -.1011,.0201,19.91, -.0869, -.1153
V_2924,292.402 {115},Y_3600,ppm, .0384,.0029,7.645, .0363, .0404
W_2397,239.709 {140},Y_2243,ppm, -.0086,.0241,280.8, -.0256, .0085
Zn2062,206.200 {463},In2306,ppm, .0294,.0000,.0630, .0295, .0294

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 236.35,3.5321,1.4945,233.85,238.84
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In2306,230.606 {446},Cts/S, 14106.,17.714,.12557,14094.,14119.
Y_2243,224.306 {450},Cts/S, 23375.,34.186,.14625,23351.,23399.
Y_3600,360.073 { 94},Cts/S, 204640.,13424.,6.5598,214130.,195150.
Y_3710,371.030 { 91},Cts/S, 12215.,.60124,.00492,12215.,12214.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0001,.0002,293.4, -.0001, .0002
Al3082,308.215 {109},In2306,ppm, 2.318,.0081,.3490, 2.313, 2.324
As1890,189.042 {478},Y_2243,ppm, .0037,.0020,53.59, .0023, .0051
B_2496,249.678 {135},Y_3710,ppm, .0480,.0119,24.85, .0564, .0396
Ba4554,455.403 { 74},Y_3710,ppm, .2138,.0003,.1478, .2136, .2141
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,30.00, -.0001, -.0001
Ca3158,315.887 {107},In2306,ppm, 163.9,1.341,.8184, 164.8, 162.9
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0000,23.66, -.0001, -.0001
Co2286,228.616 {447},In2306,ppm, .0024,.0002,6.320, .0023, .0025
Cr2677,267.716 {126},Y_3600,ppm, .1311,.0003,.2117, .1313, .1309
Cu3247,324.754 {104},Y_3600,ppm, .1251,.0002,.1343, .1252, .1250
Fe2404,240.488 {140},In2306,ppm, .0204,.0011,5.398, .0196, .0212
K_7664,766.490 { 44},Y_3710,ppm, 31.12,.2119,.6808, 31.27, 30.97
Li6707,670.784 { 50},Y_3710,ppm, .0071,.0004,5.879, .0074, .0068
Mg2790,279.079 {121},Y_3710,ppm, .0300,.0019,6.342, .0313, .0286
Mn2576,257.610 {131},Y_3600,ppm, .0001,.0000,18.19, .0001, .0001
Mo2020,202.030 {467},Y_2243,ppm, .0391,.0003,.7137, .0393, .0389
Na5895,589.592 { 57},Y_3710,ppm, 34.27,.0171,.0500, 34.26, 34.28
Ni2316,231.604 {445},In2306,ppm, .0259,.0004,1.581, .0256, .0262
P_1782,178.284 {489},In2306,ppm, .0162,.0020,12.48, .0148, .0177
Pb2203,220.353 {453},In2306,ppm, .0010,.0014,139.9, .0020, .0000
S_1820,182.034 {485},Y_2243,ppm, 13.80,.0000,.0001, 13.80, 13.80
Sb2068,206.833 {463},Y_2243,ppm, .0028,.0009,32.36, .0035, .0022
Se1960,196.090 {472},Y_2243,ppm, .0025,.0000,.7881, .0025, .0025
Si2516,251.611 {134},Y_3710,ppm, 2.488,.0168,.6758, 2.500, 2.477
Sn1899,189.989 {477},In2306,ppm, -.0004,.0001,24.01, -.0004, -.0003
Sr4215,421.552 { 80},Y_3710,ppm, 1.962,.0018,.0929, 1.961, 1.964
Ti3349,334.904 {101},Y_3600,ppm, .0013,.0001,10.99, .0012, .0014
Tl1908,190.856 {477},In2306,ppm, .0127,.0003,2.283, .0125, .0129
U_3670,367.007 { 92},Y_3600,ppm, -.1029,.0049,4.716, -.1063, -.0995
V_2924,292.402 {115},Y_3600,ppm, .0169,.0001,.8341, .0168, .0170
W_2397,239.709 {140},Y_2243,ppm, -.0197,.0603,306.5, .0230, -.0623
Zn2062,206.200 {463},In2306,ppm, .0316,.0002,.7091, .0317, .0314

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 236.36,2.8571,1.2088,234.34,238.38
In2306,230.606 {446},Cts/S, 13746.,13.289,.09668,13755.,13736.
Y_2243,224.306 {450},Cts/S, 23021.,4.5665,.01984,23018.,23025.
Y_3600,360.073 { 94},Cts/S, 192500.,237.17,.12321,192330.,192660.
Y_3710,371.030 { 91},Cts/S, 12105.,110.56,.91330,12027.,12184.

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Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0007,.0001,21.52, .0006, .0008
Al3082,308.215 {109},In2306,ppm, .0560,.0160,28.64, .0446, .0673
As1890,189.042 {478},Y_2243,ppm, .0015,.0014,94.08, .0025, .0005
B_2496,249.678 {135},Y_3710,ppm, .1548,.0040,2.555, .1576, .1520
Ba4554,455.403 { 74},Y_3710,ppm, .0820,.0004,.5412, .0817, .0823
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,2516., -.0000, .0000
Ca3158,315.887 {107},In2306,ppm, 33.50,.2727,.8141, 33.70, 33.31
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0000,17.65, .0001, .0002
Co2286,228.616 {447},In2306,ppm, .0010,.0002,17.17, .0012, .0009
Cr2677,267.716 {126},Y_3600,ppm, .0007,.0000,3.246, .0007, .0007
Cu3247,324.754 {104},Y_3600,ppm, .0075,.0000,.5840, .0074, .0075
Fe2404,240.488 {140},In2306,ppm, .1221,.0083,6.831, .1280, .1162
K_7664,766.490 { 44},Y_3710,ppm, 1.776,.0343,1.934, 1.800, 1.751
Li6707,670.784 { 50},Y_3710,ppm, .0035,.0001,3.934, .0034, .0036
Mg2790,279.079 {121},Y_3710,ppm, 1.107,.0154,1.390, 1.096, 1.118
Mn2576,257.610 {131},Y_3600,ppm, .1073,.0003,.3046, .1076, .1071
Mo2020,202.030 {467},Y_2243,ppm, .0093,.0001,.9722, .0093, .0094
Na5895,589.592 { 57},Y_3710,ppm, 120.9,.4548,.3762, 120.6, 121.2
Ni2316,231.604 {445},In2306,ppm, .0071,.0003,4.880, .0073, .0068
P_1782,178.284 {489},In2306,ppm, .2459,.0008,.3293, .2454, .2465
Pb2203,220.353 {453},In2306,ppm, .0003,.0008,257.9, -.0003, .0009
S_1820,182.034 {485},Y_2243,ppm, 2.062,.0005,.0233, 2.063, 2.062
Sb2068,206.833 {463},Y_2243,ppm, .0007,.0002,29.49, .0009, .0006
Se1960,196.090 {472},Y_2243,ppm, .0016,.0007,44.73, .0021, .0011
Si2516,251.611 {134},Y_3710,ppm, .3665,.0018,.4853, .3653, .3678
Sn1899,189.989 {477},In2306,ppm, .0004,.0006,166.3, -.0001, .0008
Sr4215,421.552 { 80},Y_3710,ppm, .0751,.0000,.0657, .0751, .0752
Ti3349,334.904 {101},Y_3600,ppm, .0004,.0002,45.27, .0006, .0003
Tl1908,190.856 {477},In2306,ppm, .0039,.0025,64.09, .0057, .0021
U_3670,367.007 { 92},Y_3600,ppm, -.0959,.0395,41.21, -.1238, -.0680
V_2924,292.402 {115},Y_3600,ppm, -.0001,.0001,180.6, -.0002, .0000
W_2397,239.709 {140},Y_2243,ppm, .0171,.0036,21.27, .0197, .0145
Zn2062,206.200 {463},In2306,ppm, .5360,.0027,.5025, .5379, .5341

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 237.75,3.4925,1.4690,235.28,240.22
In2306,230.606 {446},Cts/S, 14053.,31.095,.22127,14031.,14075.
Y_2243,224.306 {450},Cts/S, 23621.,8.3766,.03546,23615.,23627.
Y_3600,360.073 { 94},Cts/S, 193880.,1028.7,.53055,193160.,194610.
Y_3710,371.030 { 91},Cts/S, 12205.,3.8712,.03172,12208.,12203.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .2860,.0259,9.069, .3043, .2677
Al3082,308.215 {109},In2306,ppm, 10.52,.0445,.4229, 10.49, 10.55
As1890,189.042 {478},Y_2243,ppm, .9891,.0057,.5766, .9931, .9850
B_2496,249.678 {135},Y_3710,ppm, .5266,.0031,.5906, .5288, .5244
Ba4554,455.403 { 74},Y_3710,ppm, 1.057,.0025,.2401, 1.056, 1.059
Be3130,313.042 {108},Y_3710,ppm, 1.007,.0042,.4212, 1.004, 1.010
Ca3158,315.887 {107},In2306,ppm, 17.90,.1738,.9713, 17.77, 18.02
Cd2288,228.802 {447},Y_2243,ppm, .9871,.0052,.5236, .9907, .9834
Co2286,228.616 {447},In2306,ppm, .9972,.0084,.8407, 1.003, .9913
Cr2677,267.716 {126},Y_3600,ppm, 1.069,.0972,9.098, 1.138, 1.000
Cu3247,324.754 {104},Y_3600,ppm, 1.060,.0976,9.203, 1.129, .9911
Fe2404,240.488 {140},In2306,ppm, 10.16,.1098,1.081, 10.08, 10.24
K_7664,766.490 { 44},Y_3710,ppm, 9.922,.0820,.8269, 9.864, 9.980
Li6707,670.784 { 50},Y_3710,ppm, .9321,.0032,.3460, .9299, .9344
Mg2790,279.079 {121},Y_3710,ppm, 11.21,.0028,.0251, 11.21, 11.20
Mn2576,257.610 {131},Y_3600,ppm, 1.139,.1060,9.310, 1.214, 1.064
Mo2020,202.030 {467},Y_2243,ppm, .9766,.0047,.4829, .9799, .9733
Na5895,589.592 { 57},Y_3710,ppm, 135.3,1.916,1.417, 133.9, 136.6
Ni2316,231.604 {445},In2306,ppm, 1.016,.0102,1.003, 1.023, 1.009
P_1782,178.284 {489},In2306,ppm, 5.710,.0362,.6331, 5.736, 5.685
Pb2203,220.353 {453},In2306,ppm, .9997,.0052,.5185, 1.003, .9961
S_1820,182.034 {485},Y_2243,ppm, 4.058,.0050,.1222, 4.062, 4.055
Sb2068,206.833 {463},Y_2243,ppm, 1.598,.0055,.3412, 1.602, 1.594
Se1960,196.090 {472},Y_2243,ppm, .9854,.0009,.0918, .9860, .9847
Si2516,251.611 {134},Y_3710,ppm, 8.978,.0286,.3183, 8.958, 8.999
Sn1899,189.989 {477},In2306,ppm, 1.013,.0067,.6588, 1.018, 1.009
Sr4215,421.552 { 80},Y_3710,ppm, .9883,.0026,.2678, .9864, .9901
Ti3349,334.904 {101},Y_3600,ppm, 1.075,.1006,9.364, 1.146, 1.004
Tl1908,190.856 {477},In2306,ppm, 1.104,.0110,.9996, 1.112, 1.096
U_3670,367.007 { 92},Y_3600,ppm, .5463,.0133,2.436, .5557, .5369
V_2924,292.402 {115},Y_3600,ppm, 1.071,.0999,9.320, 1.142, 1.001
W_2397,239.709 {140},Y_2243,ppm, .4135,.0295,7.139, .3926, .4343
Zn2062,206.200 {463},In2306,ppm, .5775,.0051,.8788, .5811, .5739

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 233.57,1.3395,.57349,234.51,232.62
In2306,230.606 {446},Cts/S, 13958.,69.814,.50016,13909.,14008.
Y_2243,224.306 {450},Cts/S, 23895.,62.530,.26169,23850.,23939.
Y_3600,360.073 { 94},Cts/S, 181510.,12647.,6.9678,172570.,190450.
Y_3710,371.030 { 91},Cts/S, 12179.,31.960,.26242,12201.,12156.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0001,.0000,28.89, .0001, .0001
Al3082,308.215 {109},In2306,ppm, .0129,.0089,68.43, .0192, .0067
As1890,189.042 {478},Y_2243,ppm, .0002,.0020,1299., .0016, -.0013
B_2496,249.678 {135},Y_3710,ppm, .0118,.0019,16.47, .0105, .0132
Ba4554,455.403 { 74},Y_3710,ppm, .0196,.0002,.9440, .0197, .0194
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,21.60, .0002, .0001
Ca3158,315.887 {107},In2306,ppm, 1.540,.0186,1.208, 1.527, 1.553
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0002,222.0, -.0000, .0002
Co2286,228.616 {447},In2306,ppm, .0004,.0001,27.87, .0005, .0003
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Cr2677,267.716 {126},Y_3600,ppm, -.0002,.0001,39.33, -.0001, -.0003
Cu3247,324.754 {104},Y_3600,ppm, .0013,.0001,7.606, .0014, .0012
Fe2404,240.488 {140},In2306,ppm, .0108,.0004,3.408, .0106, .0111
K_7664,766.490 { 44},Y_3710,ppm, .1178,.0018,1.495, .1165, .1190
Li6707,670.784 { 50},Y_3710,ppm, -.0009,.0016,174.1, .0002, -.0020
Mg2790,279.079 {121},Y_3710,ppm, .1681,.0339,20.14, .1442, .1921
Mn2576,257.610 {131},Y_3600,ppm, .0097,.0001,.7454, .0096, .0097
Mo2020,202.030 {467},Y_2243,ppm, .0006,.0001,19.87, .0005, .0007
Na5895,589.592 { 57},Y_3710,ppm, 26.60,.2433,.9147, 26.77, 26.43
Ni2316,231.604 {445},In2306,ppm, .0006,.0001,20.32, .0005, .0007
P_1782,178.284 {489},In2306,ppm, .0012,.0012,97.54, .0004, .0020
Pb2203,220.353 {453},In2306,ppm, .0008,.0010,123.7, .0001, .0016
S_1820,182.034 {485},Y_2243,ppm, .0361,.0027,7.525, .0341, .0380
Sb2068,206.833 {463},Y_2243,ppm, .0022,.0003,11.37, .0024, .0021
Se1960,196.090 {472},Y_2243,ppm, .0000,.0019,8750., .0014, -.0013
Si2516,251.611 {134},Y_3710,ppm, .0569,.0151,26.63, .0676, .0462
Sn1899,189.989 {477},In2306,ppm, -.0001,.0001,45.69, -.0002, -.0001
Sr4215,421.552 { 80},Y_3710,ppm, .0060,.0003,4.463, .0062, .0058
Ti3349,334.904 {101},Y_3600,ppm, .0000,.0003,1075., .0002, -.0002
Tl1908,190.856 {477},In2306,ppm, .0084,.0009,10.34, .0078, .0090
U_3670,367.007 { 92},Y_3600,ppm, -.1640,.0088,5.345, -.1702, -.1578
V_2924,292.402 {115},Y_3600,ppm, -.0001,.0002,190.9, .0000, -.0002
W_2397,239.709 {140},Y_2243,ppm, -.0181,.0458,253.4, -.0504, .0143
Zn2062,206.200 {463},In2306,ppm, .0053,.0002,3.381, .0054, .0051

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 242.24,2.5570,1.0555,244.05,240.43
In2306,230.606 {446},Cts/S, 15278.,21.264,.13919,15293.,15263.
Y_2243,224.306 {450},Cts/S, 24496.,40.825,.16666,24525.,24467.
Y_3600,360.073 { 94},Cts/S, 201160.,939.62,.46711,201820.,200490.
Y_3710,371.030 { 91},Cts/S, 12294.,51.667,.42026,12257.,12330.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0009,.0008,87.24, .0015, .0003
Al3082,308.215 {109},In2306,ppm, .0647,.0171,26.44, .0526, .0768
As1890,189.042 {478},Y_2243,ppm, .0063,.0002,3.008, .0064, .0062
B_2496,249.678 {135},Y_3710,ppm, .1724,.0051,2.977, .1688, .1760
Ba4554,455.403 { 74},Y_3710,ppm, .0568,.0006,1.030, .0564, .0572
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0001,93.30, -.0000, -.0001
Ca3158,315.887 {107},In2306,ppm, 72.14,1.619,2.245, 73.28, 70.99
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0000,25.95, -.0001, -.0001
Co2286,228.616 {447},In2306,ppm, -.0000,.0001,861.2, .0001, -.0001
Cr2677,267.716 {126},Y_3600,ppm, .0219,.0000,.1867, .0219, .0220
Cu3247,324.754 {104},Y_3600,ppm, .0040,.0003,7.955, .0043, .0038
Fe2404,240.488 {140},In2306,ppm, .0258,.0013,5.145, .0268, .0249
K_7664,766.490 { 44},Y_3710,ppm, 6.051,.0073,.1210, 6.056, 6.046
Li6707,670.784 { 50},Y_3710,ppm, .0111,.0005,4.241, .0107, .0114
Mg2790,279.079 {121},Y_3710,ppm, 5.134,.0285,.5552, 5.154, 5.113
Mn2576,257.610 {131},Y_3600,ppm, .0017,.0000,1.832, .0017, .0016
Mo2020,202.030 {467},Y_2243,ppm, .0650,.0002,.2642, .0652, .0649
Na5895,589.592 { 57},Y_3710,ppm, 14.50,.0170,.1175, 14.52, 14.49
Ni2316,231.604 {445},In2306,ppm, .0006,.0002,33.01, .0005, .0007
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P_1782,178.284 {489},In2306,ppm, .0168,.0011,6.502, .0176, .0160
Pb2203,220.353 {453},In2306,ppm, -.0016,.0023,141.3, -.0033, -.0000
S_1820,182.034 {485},Y_2243,ppm, 33.03,.1255,.3801, 32.94, 33.12
Sb2068,206.833 {463},Y_2243,ppm, .0007,.0008,109.7, .0002, .0013
Se1960,196.090 {472},Y_2243,ppm, .0058,.0020,33.60, .0072, .0044
Si2516,251.611 {134},Y_3710,ppm, 13.11,.1476,1.126, 13.01, 13.22
Sn1899,189.989 {477},In2306,ppm, -.0003,.0000,15.21, -.0003, -.0003
Sr4215,421.552 { 80},Y_3710,ppm, .2824,.0001,.0258, .2825, .2824
Ti3349,334.904 {101},Y_3600,ppm, .0008,.0002,23.07, .0007, .0009
Tl1908,190.856 {477},In2306,ppm, .0029,.0009,31.19, .0023, .0036
U_3670,367.007 { 92},Y_3600,ppm, -.0943,.0629,66.78, -.1388, -.0497
V_2924,292.402 {115},Y_3600,ppm, .0450,.0003,.7433, .0452, .0448
W_2397,239.709 {140},Y_2243,ppm, -.0361,.0165,45.57, -.0478, -.0245
Zn2062,206.200 {463},In2306,ppm, .0143,.0000,.3440, .0143, .0143

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 237.20,4.6078,1.9426,233.94,240.45
In2306,230.606 {446},Cts/S, 14762.,7.3598,.04986,14757.,14767.
Y_2243,224.306 {450},Cts/S, 24098.,4.5834,.01902,24102.,24095.
Y_3600,360.073 { 94},Cts/S, 196910.,1952.1,.99135,195530.,198290.
Y_3710,371.030 { 91},Cts/S, 11946.,43.477,.36395,11977.,11915.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0005,.0006,115.7, .0001, .0009
Al3082,308.215 {109},In2306,ppm, .3185,.0204,6.400, .3329, .3041
As1890,189.042 {478},Y_2243,ppm, .0066,.0001,.7683, .0066, .0065
B_2496,249.678 {135},Y_3710,ppm, .1455,.0009,.6273, .1449, .1462
Ba4554,455.403 { 74},Y_3710,ppm, .0694,.0002,.3490, .0692, .0695
Be3130,313.042 {108},Y_3710,ppm, .0000,.0001,1307., .0001, -.0000
Ca3158,315.887 {107},In2306,ppm, 60.59,.1532,.2528, 60.48, 60.69
Cd2288,228.802 {447},Y_2243,ppm, -.0002,.0001,73.60, -.0003, -.0001
Co2286,228.616 {447},In2306,ppm, .0002,.0000,19.19, .0002, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0172,.0002,1.219, .0174, .0171
Cu3247,324.754 {104},Y_3600,ppm, .0055,.0000,.4017, .0055, .0055
Fe2404,240.488 {140},In2306,ppm, .2956,.0050,1.695, .2991, .2920
K_7664,766.490 { 44},Y_3710,ppm, 4.250,.0043,.1010, 4.247, 4.253
Li6707,670.784 { 50},Y_3710,ppm, .0090,.0009,9.877, .0084, .0097
Mg2790,279.079 {121},Y_3710,ppm, 4.638,.0039,.0841, 4.636, 4.641
Mn2576,257.610 {131},Y_3600,ppm, .0156,.0001,.7323, .0155, .0157
Mo2020,202.030 {467},Y_2243,ppm, .0481,.0001,.1502, .0482, .0481
Na5895,589.592 { 57},Y_3710,ppm, 11.99,.0485,.4045, 11.96, 12.03
Ni2316,231.604 {445},In2306,ppm, .0010,.0001,14.26, .0009, .0011
P_1782,178.284 {489},In2306,ppm, .0236,.0006,2.492, .0240, .0232
Pb2203,220.353 {453},In2306,ppm, -.0001,.0006,592.6, .0003, -.0006
S_1820,182.034 {485},Y_2243,ppm, 25.65,.1477,.5756, 25.76, 25.55
Sb2068,206.833 {463},Y_2243,ppm, .0010,.0021,198.8, .0025, -.0004
Se1960,196.090 {472},Y_2243,ppm, .0026,.0029,112.3, .0047, .0005
Si2516,251.611 {134},Y_3710,ppm, 10.24,.0240,.2343, 10.22, 10.25
Sn1899,189.989 {477},In2306,ppm, -.0004,.0002,44.32, -.0002, -.0005
Sr4215,421.552 { 80},Y_3710,ppm, .2407,.0007,.2802, .2403, .2412
Ti3349,334.904 {101},Y_3600,ppm, .0029,.0004,12.61, .0031, .0026
Tl1908,190.856 {477},In2306,ppm, .0019,.0007,39.97, .0024, .0013
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U_3670,367.007 { 92},Y_3600,ppm, -.1439,.0514,35.69, -.1076, -.1802
V_2924,292.402 {115},Y_3600,ppm, .0413,.0003,.6666, .0415, .0412
W_2397,239.709 {140},Y_2243,ppm, .0590,.0060,10.24, .0547, .0633
Zn2062,206.200 {463},In2306,ppm, .0211,.0001,.3023, .0212, .0211

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 239.05,1.3369,.55924,240.00,238.10
In2306,230.606 {446},Cts/S, 14842.,51.232,.34518,14806.,14878.
Y_2243,224.306 {450},Cts/S, 24122.,73.373,.30417,24070.,24174.
Y_3600,360.073 { 94},Cts/S, 197100.,1250.5,.63447,196210.,197980.
Y_3710,371.030 { 91},Cts/S, 12140.,64.616,.53223,12186.,12095.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0003,.0001,54.36, .0002, .0004
Al3082,308.215 {109},In2306,ppm, .7958,.0201,2.531, .7815, .8100
As1890,189.042 {478},Y_2243,ppm, .0022,.0001,3.561, .0022, .0023
B_2496,249.678 {135},Y_3710,ppm, .0126,.0039,31.36, .0098, .0154
Ba4554,455.403 { 74},Y_3710,ppm, .0145,.0001,.4696, .0144, .0145
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,22.06, -.0001, -.0001
Ca3158,315.887 {107},In2306,ppm, 19.10,.1690,.8851, 18.98, 19.22
Cd2288,228.802 {447},Y_2243,ppm, -.0002,.0000,10.77, -.0002, -.0002
Co2286,228.616 {447},In2306,ppm, .0006,.0001,10.76, .0005, .0006
Cr2677,267.716 {126},Y_3600,ppm, .0011,.0002,21.31, .0009, .0012
Cu3247,324.754 {104},Y_3600,ppm, .0112,.0002,1.857, .0114, .0111
Fe2404,240.488 {140},In2306,ppm, .6843,.0051,.7449, .6807, .6879
K_7664,766.490 { 44},Y_3710,ppm, 1.905,.0200,1.048, 1.891, 1.919
Li6707,670.784 { 50},Y_3710,ppm, .0011,.0006,54.65, .0015, .0007
Mg2790,279.079 {121},Y_3710,ppm, 4.324,.0525,1.213, 4.286, 4.361
Mn2576,257.610 {131},Y_3600,ppm, .0088,.0003,3.262, .0090, .0086
Mo2020,202.030 {467},Y_2243,ppm, .0004,.0000,6.148, .0004, .0004
Na5895,589.592 { 57},Y_3710,ppm, 1.010,.0079,.7818, 1.005, 1.016
Ni2316,231.604 {445},In2306,ppm, .0011,.0003,25.67, .0013, .0009
P_1782,178.284 {489},In2306,ppm, .1028,.0003,.2809, .1026, .1030
Pb2203,220.353 {453},In2306,ppm, .0002,.0005,256.8, -.0002, .0005
S_1820,182.034 {485},Y_2243,ppm, 3.048,.0017,.0559, 3.047, 3.049
Sb2068,206.833 {463},Y_2243,ppm, -.0000,.0015,3808., -.0011, .0010
Se1960,196.090 {472},Y_2243,ppm, .0008,.0012,161.0, -.0001, .0016
Si2516,251.611 {134},Y_3710,ppm, 2.440,.0303,1.240, 2.419, 2.461
Sn1899,189.989 {477},In2306,ppm, -.0006,.0001,11.78, -.0006, -.0007
Sr4215,421.552 { 80},Y_3710,ppm, .1177,.0005,.4207, .1173, .1180
Ti3349,334.904 {101},Y_3600,ppm, .0052,.0001,1.218, .0052, .0052
Tl1908,190.856 {477},In2306,ppm, .0045,.0019,43.42, .0031, .0058
U_3670,367.007 { 92},Y_3600,ppm, -.1943,.0943,48.55, -.1276, -.2610
V_2924,292.402 {115},Y_3600,ppm, .0015,.0001,5.069, .0015, .0016
W_2397,239.709 {140},Y_2243,ppm, .0300,.0239,79.57, .0131, .0469
Zn2062,206.200 {463},In2306,ppm, .0137,.0000,.1496, .0137, .0137

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 241.96,2.1103,.87216,243.46,240.47
In2306,230.606 {446},Cts/S, 15653.,50.002,.31944,15618.,15688.
Y_2243,224.306 {450},Cts/S, 24768.,86.054,.34744,24707.,24829.
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Y_3600,360.073 { 94},Cts/S, 206730.,6207.2,3.0026,202340.,211120.
Y_3710,371.030 { 91},Cts/S, 12240.,121.86,.99562,12326.,12154.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .4914,.0015,.3088, .4903, .4924
Al3082,308.215 {109},In2306,ppm, 20.26,.1376,.6793, 20.16, 20.35
As1890,189.042 {478},Y_2243,ppm, .9706,.0033,.3396, .9683, .9729
B_2496,249.678 {135},Y_3710,ppm, .9999,.0112,1.123, 1.008, .9920
Ba4554,455.403 { 74},Y_3710,ppm, .9617,.0063,.6513, .9573, .9662
Be3130,313.042 {108},Y_3710,ppm, .9958,.0077,.7782, .9903, 1.001
Ca3158,315.887 {107},In2306,ppm, 20.04,.1884,.9399, 19.91, 20.18
Cd2288,228.802 {447},Y_2243,ppm, .9738,.0021,.2172, .9753, .9723
Co2286,228.616 {447},In2306,ppm, .9807,.0006,.0650, .9812, .9803
Cr2677,267.716 {126},Y_3600,ppm, .9743,.0009,.0887, .9737, .9749
Cu3247,324.754 {104},Y_3600,ppm, .9656,.0011,.1134, .9664, .9649
Fe2404,240.488 {140},In2306,ppm, 19.74,.1309,.6630, 19.65, 19.83
K_7664,766.490 { 44},Y_3710,ppm, 19.08,.0482,.2528, 19.05, 19.12
Li6707,670.784 { 50},Y_3710,ppm, .9374,.0018,.1912, .9361, .9387
Mg2790,279.079 {121},Y_3710,ppm, 20.78,.1719,.8274, 20.66, 20.90
Mn2576,257.610 {131},Y_3600,ppm, .9963,.0028,.2821, .9943, .9983
Mo2020,202.030 {467},Y_2243,ppm, .9798,.0013,.1366, .9808, .9789
Na5895,589.592 { 57},Y_3710,ppm, 19.00,.0798,.4198, 18.94, 19.05
Ni2316,231.604 {445},In2306,ppm, .9966,.0005,.0495, .9963, .9969
P_1782,178.284 {489},In2306,ppm, 10.19,.0076,.0747, 10.20, 10.19
Pb2203,220.353 {453},In2306,ppm, .9970,.0005,.0478, .9973, .9967
S_1820,182.034 {485},Y_2243,ppm, 7.191,.0273,.3794, 7.210, 7.171
Sb2068,206.833 {463},Y_2243,ppm, 2.083,.0189,.9089, 2.096, 2.070
Se1960,196.090 {472},Y_2243,ppm, .9673,.0046,.4804, .9706, .9640
Si2516,251.611 {134},Y_3710,ppm, 8.904,.0715,.8030, 8.854, 8.955
Sn1899,189.989 {477},In2306,ppm, .9997,.0016,.1558, 1.001, .9986
Sr4215,421.552 { 80},Y_3710,ppm, .9613,.0055,.5725, .9574, .9652
Ti3349,334.904 {101},Y_3600,ppm, .9724,.0015,.1563, .9713, .9734
Tl1908,190.856 {477},In2306,ppm, 1.107,.0053,.4769, 1.111, 1.104
U_3670,367.007 { 92},Y_3600,ppm, .7837,.0168,2.138, .7955, .7718
V_2924,292.402 {115},Y_3600,ppm, .9730,.0029,.2962, .9709, .9750
W_2397,239.709 {140},Y_2243,ppm, 1.166,.0805,6.900, 1.110, 1.223
Zn2062,206.200 {463},In2306,ppm, 1.017,.0037,.3654, 1.015, 1.020

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 237.31,.01176,.00496,237.32,237.31
In2306,230.606 {446},Cts/S, 14575.,19.984,.13711,14589.,14561.
Y_2243,224.306 {450},Cts/S, 24342.,3.3822,.01389,24344.,24339.
Y_3600,360.073 { 94},Cts/S, 198840.,421.78,.21212,199140.,198540.
Y_3710,371.030 { 91},Cts/S, 12188.,5.4643,.04483,12184.,12192.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0094,.0000,.4819, .0093, .0094
Al3082,308.215 {109},In2306,ppm, .2031,.0091,4.505, .2096, .1966
As1890,189.042 {478},Y_2243,ppm, .0214,.0004,1.641, .0212, .0217
B_2496,249.678 {135},Y_3710,ppm, .2179,.0043,1.974, .2148, .2209
Ba4554,455.403 { 74},Y_3710,ppm, .0215,.0001,.4773, .0214, .0216
Be3130,313.042 {108},Y_3710,ppm, .0113,.0002,1.376, .0112, .0114
Ca3158,315.887 {107},In2306,ppm, 1.032,.0027,.2630, 1.031, 1.034
Cd2288,228.802 {447},Y_2243,ppm, .0108,.0000,.3948, .0108, .0109
Co2286,228.616 {447},In2306,ppm, .0105,.0000,.4660, .0104, .0105
Cr2677,267.716 {126},Y_3600,ppm, .0110,.0002,2.129, .0108, .0111
Cu3247,324.754 {104},Y_3600,ppm, .0117,.0003,2.287, .0115, .0119
Fe2404,240.488 {140},In2306,ppm, .2079,.0009,.4157, .2073, .2085
K_7664,766.490 { 44},Y_3710,ppm, 1.109,.0017,.1560, 1.108, 1.111
Li6707,670.784 { 50},Y_3710,ppm, .0107,.0007,6.951, .0113, .0102
Mg2790,279.079 {121},Y_3710,ppm, 1.087,.0208,1.917, 1.101, 1.072
Mn2576,257.610 {131},Y_3600,ppm, .0111,.0000,.1799, .0111, .0111
Mo2020,202.030 {467},Y_2243,ppm, .0223,.0001,.4337, .0223, .0222
Na5895,589.592 { 57},Y_3710,ppm, 1.053,.0041,.3894, 1.050, 1.055
Ni2316,231.604 {445},In2306,ppm, .0109,.0000,.1660, .0109, .0109
P_1782,178.284 {489},In2306,ppm, .9818,.0036,.3688, .9792, .9844
Pb2203,220.353 {453},In2306,ppm, .0105,.0003,2.495, .0107, .0103
S_1820,182.034 {485},Y_2243,ppm, .3555,.0007,.1936, .3550, .3559
Sb2068,206.833 {463},Y_2243,ppm, .0571,.0013,2.344, .0580, .0561
Se1960,196.090 {472},Y_2243,ppm, .0219,.0035,15.87, .0244, .0195
Si2516,251.611 {134},Y_3710,ppm, .1825,.0092,5.014, .1760, .1890
Sn1899,189.989 {477},In2306,ppm, .0207,.0000,.0089, .0207, .0207
Sr4215,421.552 { 80},Y_3710,ppm, .0111,.0001,1.035, .0110, .0112
Ti3349,334.904 {101},Y_3600,ppm, .0110,.0003,2.495, .0112, .0108
Tl1908,190.856 {477},In2306,ppm, .0253,.0000,.0205, .0253, .0252
U_3670,367.007 { 92},Y_3600,ppm, .0089,.0365,410.5, .0347, -.0169
V_2924,292.402 {115},Y_3600,ppm, .0106,.0003,2.486, .0107, .0104
W_2397,239.709 {140},Y_2243,ppm, .0571,.0048,8.385, .0605, .0537
Zn2062,206.200 {463},In2306,ppm, .0190,.0001,.3382, .0189, .0190

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 244.29,.61581,.25208,244.73,243.86
In2306,230.606 {446},Cts/S, 16131.,33.608,.20835,16155.,16107.
Y_2243,224.306 {450},Cts/S, 25111.,35.930,.14309,25136.,25085.
Y_3600,360.073 { 94},Cts/S, 206690.,380.15,.18392,206960.,206420.
Y_3710,371.030 { 91},Cts/S, 12200.,76.526,.62728,12146.,12254.

[Sample Header]
Method=ICP6500Metals_TRY3(v5030)
SampleName=CCB
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=11/12/2019 18:30:24
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0004,.0005,111.9, -.0001, -.0008
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Al3082,308.215 {109},In2306,ppm, -.0168,.0082,49.21, -.0226, -.0109
As1890,189.042 {478},Y_2243,ppm, .0002,.0015,719.0, .0013, -.0009
B_2496,249.678 {135},Y_3710,ppm, .0026,.0031,118.4, .0048, .0004
Ba4554,455.403 { 74},Y_3710,ppm, -.0001,.0000,8.174, -.0001, -.0001
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,210.6, -.0000, .0001
Ca3158,315.887 {107},In2306,ppm, -.0214,.0033,15.38, -.0191, -.0237
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0000,130.8, -.0000, -.0000
Co2286,228.616 {447},In2306,ppm, -.0000,.0000,80.39, -.0001, -.0000
Cr2677,267.716 {126},Y_3600,ppm, -.0000,.0002,866.6, .0001, -.0002
Cu3247,324.754 {104},Y_3600,ppm, .0007,.0001,19.09, .0006, .0008
Fe2404,240.488 {140},In2306,ppm, -.0105,.0084,79.92, -.0046, -.0164
K_7664,766.490 { 44},Y_3710,ppm, .0899,.0270,30.06, .1090, .0708
Li6707,670.784 { 50},Y_3710,ppm, .0003,.0007,253.2, -.0002, .0008
Mg2790,279.079 {121},Y_3710,ppm, .0126,.0002,1.404, .0125, .0127
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,6.898, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, .0002,.0002,100.8, .0001, .0003
Na5895,589.592 { 57},Y_3710,ppm, .0098,.0067,68.10, .0146, .0051
Ni2316,231.604 {445},In2306,ppm, .0001,.0003,347.9, -.0001, .0003
P_1782,178.284 {489},In2306,ppm, .0003,.0003,123.7, .0000, .0005
Pb2203,220.353 {453},In2306,ppm, -.0016,.0009,57.76, -.0009, -.0022
S_1820,182.034 {485},Y_2243,ppm, .0038,.0010,25.24, .0031, .0045
Sb2068,206.833 {463},Y_2243,ppm, .0017,.0006,33.37, .0022, .0013
Se1960,196.090 {472},Y_2243,ppm, -.0003,.0005,187.1, -.0007, .0001
Si2516,251.611 {134},Y_3710,ppm, -.0012,.0095,793.2, .0055, -.0079
Sn1899,189.989 {477},In2306,ppm, -.0004,.0002,42.08, -.0003, -.0005
Sr4215,421.552 { 80},Y_3710,ppm, .0002,.0001,38.64, .0001, .0002
Ti3349,334.904 {101},Y_3600,ppm, -.0001,.0000,2.603, -.0001, -.0001
Tl1908,190.856 {477},In2306,ppm, .0045,.0006,13.95, .0040, .0049
U_3670,367.007 { 92},Y_3600,ppm, -.0880,.0026,3.010, -.0899, -.0861
V_2924,292.402 {115},Y_3600,ppm, -.0000,.0001,594.1, -.0001, .0001
W_2397,239.709 {140},Y_2243,ppm, .0172,.0382,221.4, .0442, -.0097
Zn2062,206.200 {463},In2306,ppm, -.0015,.0000,2.011, -.0015, -.0015

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 243.19,2.0832,.85660,244.67,241.72
In2306,230.606 {446},Cts/S, 16381.,2.9205,.01783,16383.,16379.
Y_2243,224.306 {450},Cts/S, 25119.,13.566,.05401,25128.,25109.
Y_3600,360.073 { 94},Cts/S, 206770.,622.69,.30116,207210.,206330.
Y_3710,371.030 { 91},Cts/S, 12097.,22.086,.18257,12113.,12082.

[Sample Header]
Method=ICP6500Metals_TRY3(v5030)
SampleName=ICSA 3345330
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=11/12/2019 18:32:30
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0000,.0001,275.7, .0001, -.0000
Al3082,308.215 {109},In2306,ppm, 551.3,4.343,.7878, 548.2, 554.4
As1890,189.042 {478},Y_2243,ppm, .0018,.0010,55.30, .0011, .0025
B_2496,249.678 {135},Y_3710,ppm, .0133,.0089,66.92, .0196, .0070
Ba4554,455.403 { 74},Y_3710,ppm, -.0002,.0002,100.6, -.0003, -.0001
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,1039., -.0000, .0000
Ca3158,315.887 {107},In2306,ppm, 501.5,2.473,.4931, 499.8, 503.3
Cd2288,228.802 {447},Y_2243,ppm, .0028,.0001,2.205, .0027, .0028
Co2286,228.616 {447},In2306,ppm, -.0000,.0000,49.64, -.0000, -.0000
Cr2677,267.716 {126},Y_3600,ppm, .0022,.0001,3.518, .0022, .0023
Cu3247,324.754 {104},Y_3600,ppm, -.0010,.0000,2.826, -.0009, -.0010
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Fe2404,240.488 {140},In2306,ppm, 193.4,1.143,.5909, 192.6, 194.2
K_7664,766.490 { 44},Y_3710,ppm, .2916,.0491,16.84, .2569, .3263
Li6707,670.784 { 50},Y_3710,ppm, .0087,.0010,11.23, .0094, .0080
Mg2790,279.079 {121},Y_3710,ppm, 525.1,2.332,.4441, 523.4, 526.7
Mn2576,257.610 {131},Y_3600,ppm, -.0042,.0000,.3587, -.0042, -.0042
Mo2020,202.030 {467},Y_2243,ppm, .0014,.0002,15.69, .0016, .0013
Na5895,589.592 { 57},Y_3710,ppm, .1352,.0067,4.956, .1305, .1399
Ni2316,231.604 {445},In2306,ppm, -.0027,.0002,8.673, -.0029, -.0026
P_1782,178.284 {489},In2306,ppm, -.0015,.0000,1.910, -.0015, -.0015
Pb2203,220.353 {453},In2306,ppm, -.0009,.0028,324.7, .0011, -.0028
S_1820,182.034 {485},Y_2243,ppm,F -.9847,.0063,.6366, -.9803, -.9892
Sb2068,206.833 {463},Y_2243,ppm, .0062,.0057,91.72, .0102, .0022
Se1960,196.090 {472},Y_2243,ppm, -.0111,.0039,34.69, -.0138, -.0084
Si2516,251.611 {134},Y_3710,ppm, .0088,.0018,20.57, .0100, .0075
Sn1899,189.989 {477},In2306,ppm, -.0008,.0000,5.468, -.0007, -.0008
Sr4215,421.552 { 80},Y_3710,ppm, .0047,.0001,1.090, .0047, .0046
Ti3349,334.904 {101},Y_3600,ppm, .0031,.0002,5.946, .0029, .0032
Tl1908,190.856 {477},In2306,ppm, -.0071,.0013,18.70, -.0062, -.0081
U_3670,367.007 { 92},Y_3600,ppm,F 1.210,.0148,1.220, 1.200, 1.221
V_2924,292.402 {115},Y_3600,ppm, -.0035,.0003,9.049, -.0033, -.0037
W_2397,239.709 {140},Y_2243,ppm,F .0232,.0077,33.36, .0177, .0287
Zn2062,206.200 {463},In2306,ppm, -.0037,.0000,.6715, -.0037, -.0036

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 213.51,.68727,.32189,213.02,213.99
In2306,230.606 {446},Cts/S, 11507.,65.018,.56505,11461.,11553.
Y_2243,224.306 {450},Cts/S, 21410.,125.67,.58696,21321.,21499.
Y_3600,360.073 { 94},Cts/S, 174620.,267.90,.15342,174810.,174430.
Y_3710,371.030 { 91},Cts/S, 11621.,76.157,.65533,11567.,11675.

[Sample Header]
Method=ICP6500Metals_TRY3(v5030)
SampleName=Rinse7
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=11/12/2019 18:34:33
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0005,.0006,117.8, -.0001, -.0009
Al3082,308.215 {109},In2306,ppm, .0957,.0279,29.17, .1155, .0760
As1890,189.042 {478},Y_2243,ppm, -.0001,.0000,15.09, -.0001, -.0001
B_2496,249.678 {135},Y_3710,ppm, .0026,.0044,167.9, .0058, -.0005
Ba4554,455.403 { 74},Y_3710,ppm, .0000,.0000,21.39, .0000, .0000
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,36.66, .0000, .0000
Ca3158,315.887 {107},In2306,ppm, .0769,.0302,39.34, .0982, .0555
Cd2288,228.802 {447},Y_2243,ppm, -.0002,.0001,42.79, -.0003, -.0001
Co2286,228.616 {447},In2306,ppm, .0002,.0002,142.0, .0003, -.0000
Cr2677,267.716 {126},Y_3600,ppm, -.0001,.0000,50.72, -.0001, -.0001
Cu3247,324.754 {104},Y_3600,ppm, .0020,.0003,14.42, .0022, .0018
Fe2404,240.488 {140},In2306,ppm, .0371,.0055,14.88, .0410, .0332
K_7664,766.490 { 44},Y_3710,ppm, .1894,.0077,4.042, .1948, .1839
Li6707,670.784 { 50},Y_3710,ppm, -.0001,.0001,42.50, -.0001, -.0002
Mg2790,279.079 {121},Y_3710,ppm, .1215,.0235,19.37, .1382, .1049
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,26.62, -.0002, -.0001
Mo2020,202.030 {467},Y_2243,ppm, .0003,.0002,68.55, .0002, .0005
Na5895,589.592 { 57},Y_3710,ppm, .0122,.0027,22.10, .0103, .0141
Ni2316,231.604 {445},In2306,ppm, .0005,.0000,9.211, .0004, .0005
P_1782,178.284 {489},In2306,ppm, -.0008,.0004,49.50, -.0005, -.0011
Pb2203,220.353 {453},In2306,ppm, -.0001,.0001,69.11, -.0002, -.0001
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S_1820,182.034 {485},Y_2243,ppm, -.0059,.0001,1.122, -.0059, -.0058
Sb2068,206.833 {463},Y_2243,ppm, -.0008,.0010,130.6, -.0001, -.0015
Se1960,196.090 {472},Y_2243,ppm, .0005,.0008,167.4, -.0001, .0011
Si2516,251.611 {134},Y_3710,ppm, .0870,.0107,12.29, .0946, .0795
Sn1899,189.989 {477},In2306,ppm, -.0012,.0007,56.75, -.0017, -.0007
Sr4215,421.552 { 80},Y_3710,ppm, .0000,.0000,101.3, .0001, .0000
Ti3349,334.904 {101},Y_3600,ppm, -.0001,.0001,183.4, -.0001, .0000
Tl1908,190.856 {477},In2306,ppm, .0041,.0001,2.015, .0042, .0041
U_3670,367.007 { 92},Y_3600,ppm, -.0725,.0464,63.98, -.0397, -.1053
V_2924,292.402 {115},Y_3600,ppm, -.0001,.0002,238.6, .0000, -.0002
W_2397,239.709 {140},Y_2243,ppm, -.0499,.0212,42.55, -.0649, -.0349
Zn2062,206.200 {463},In2306,ppm, -.0014,.0001,6.501, -.0013, -.0014

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 251.61,.03803,.01511,251.63,251.58
In2306,230.606 {446},Cts/S, 17177.,43.761,.25476,17208.,17146.
Y_2243,224.306 {450},Cts/S, 25964.,154.92,.59669,26073.,25854.
Y_3600,360.073 { 94},Cts/S, 213470.,988.23,.46294,214170.,212770.
Y_3710,371.030 { 91},Cts/S, 12361.,13.145,.10634,12370.,12352.

[Sample Header]
Method=ICP6500Metals_TRY3(v5030)
SampleName=Rinse8
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=11/12/2019 18:36:39
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0008,.0004,55.57, .0011, .0005
Al3082,308.215 {109},In2306,ppm, -.0311,.0040,12.96, -.0340, -.0283
As1890,189.042 {478},Y_2243,ppm, .0018,.0002,8.732, .0017, .0019
B_2496,249.678 {135},Y_3710,ppm, .0009,.0041,451.6, -.0020, .0038
Ba4554,455.403 { 74},Y_3710,ppm, -.0001,.0001,175.5, .0000, -.0002
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0001,64.01, -.0000, -.0001
Ca3158,315.887 {107},In2306,ppm, -.0185,.0121,65.33, -.0271, -.0100
Cd2288,228.802 {447},Y_2243,ppm, -.0003,.0000,.9074, -.0003, -.0003
Co2286,228.616 {447},In2306,ppm, .0001,.0000,33.05, .0002, .0001
Cr2677,267.716 {126},Y_3600,ppm, -.0003,.0002,73.45, -.0001, -.0004
Cu3247,324.754 {104},Y_3600,ppm, .0019,.0001,7.835, .0018, .0020
Fe2404,240.488 {140},In2306,ppm, -.0021,.0014,67.42, -.0011, -.0030
K_7664,766.490 { 44},Y_3710,ppm, .1237,.0112,9.035, .1316, .1158
Li6707,670.784 { 50},Y_3710,ppm, -.0010,.0001,13.33, -.0011, -.0009
Mg2790,279.079 {121},Y_3710,ppm, .0095,.0064,67.66, .0141, .0050
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,6.606, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, .0000,.0000,181.6, .0001, -.0000
Na5895,589.592 { 57},Y_3710,ppm, -.0025,.0035,140.6, -.0000, -.0050
Ni2316,231.604 {445},In2306,ppm, .0005,.0003,66.54, .0002, .0007
P_1782,178.284 {489},In2306,ppm, -.0005,.0009,170.0, .0001, -.0012
Pb2203,220.353 {453},In2306,ppm, .0006,.0002,30.98, .0005, .0008
S_1820,182.034 {485},Y_2243,ppm, -.0022,.0003,15.42, -.0025, -.0020
Sb2068,206.833 {463},Y_2243,ppm, .0001,.0002,356.2, -.0001, .0002
Se1960,196.090 {472},Y_2243,ppm, .0012,.0004,32.87, .0009, .0015
Si2516,251.611 {134},Y_3710,ppm, .0364,.0018,5.028, .0376, .0351
Sn1899,189.989 {477},In2306,ppm, -.0005,.0001,24.36, -.0006, -.0004
Sr4215,421.552 { 80},Y_3710,ppm, .0001,.0002,155.4, .0003, -.0000
Ti3349,334.904 {101},Y_3600,ppm, -.0002,.0000,18.88, -.0002, -.0002
Tl1908,190.856 {477},In2306,ppm, .0018,.0025,137.0, .0036, .0001
U_3670,367.007 { 92},Y_3600,ppm, -.0919,.0292,31.76, -.1125, -.0712
V_2924,292.402 {115},Y_3600,ppm, -.0001,.0000,15.41, -.0001, -.0001
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W_2397,239.709 {140},Y_2243,ppm, .0226,.0214,94.64, .0378, .0075
Zn2062,206.200 {463},In2306,ppm, -.0014,.0000,3.199, -.0014, -.0014

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 253.64,1.6420,.64738,254.80,252.48
In2306,230.606 {446},Cts/S, 17021.,78.651,.46209,17076.,16965.
Y_2243,224.306 {450},Cts/S, 25632.,198.34,.77380,25772.,25492.
Y_3600,360.073 { 94},Cts/S, 210590.,231.09,.10973,210760.,210430.
Y_3710,371.030 { 91},Cts/S, 12463.,2.1979,.01763,12462.,12465.

[Sample Header]
Method=ICP6500Metals_TRY3(v5030)
SampleName=Rinse9
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Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=11/12/2019 18:38:44
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0000,11.68, -.0001, -.0001
Al3082,308.215 {109},In2306,ppm, -.0127,.0021,16.69, -.0143, -.0112
As1890,189.042 {478},Y_2243,ppm, .0019,.0015,78.84, .0029, .0008
B_2496,249.678 {135},Y_3710,ppm, -.0002,.0038,1970., -.0029, .0025
Ba4554,455.403 { 74},Y_3710,ppm, -.0001,.0000,16.43, -.0001, -.0001
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,104.5, .0001, .0000
Ca3158,315.887 {107},In2306,ppm, -.0194,.0023,12.08, -.0178, -.0211
Cd2288,228.802 {447},Y_2243,ppm, -.0003,.0001,44.40, -.0002, -.0003
Co2286,228.616 {447},In2306,ppm, .0001,.0001,104.4, .0002, .0000
Cr2677,267.716 {126},Y_3600,ppm, -.0002,.0003,178.4, .0000, -.0004
Cu3247,324.754 {104},Y_3600,ppm, .0015,.0003,18.36, .0013, .0016
Fe2404,240.488 {140},In2306,ppm, .0016,.0141,894.5, .0116, -.0084
K_7664,766.490 { 44},Y_3710,ppm, .1222,.0230,18.80, .1059, .1384
Li6707,670.784 { 50},Y_3710,ppm, -.0011,.0005,48.15, -.0007, -.0014
Mg2790,279.079 {121},Y_3710,ppm, .0167,.0077,46.47, .0112, .0221
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,29.01, -.0002, -.0001
Mo2020,202.030 {467},Y_2243,ppm, -.0001,.0003,275.7, -.0003, .0001
Na5895,589.592 { 57},Y_3710,ppm, -.0038,.0039,103.2, -.0066, -.0010
Ni2316,231.604 {445},In2306,ppm, .0001,.0000,80.11, .0001, .0000
P_1782,178.284 {489},In2306,ppm, -.0013,.0003,21.87, -.0011, -.0015
Pb2203,220.353 {453},In2306,ppm, -.0010,.0003,33.56, -.0013, -.0008
S_1820,182.034 {485},Y_2243,ppm, -.0096,.0021,21.71, -.0111, -.0081
Sb2068,206.833 {463},Y_2243,ppm, -.0011,.0012,107.5, -.0020, -.0003
Se1960,196.090 {472},Y_2243,ppm, .0013,.0001,6.921, .0013, .0014
Si2516,251.611 {134},Y_3710,ppm, .0300,.0016,5.246, .0311, .0289
Sn1899,189.989 {477},In2306,ppm, -.0008,.0004,56.02, -.0005, -.0011
Sr4215,421.552 { 80},Y_3710,ppm, .0001,.0000,9.824, .0001, .0001
Ti3349,334.904 {101},Y_3600,ppm, -.0002,.0001,37.88, -.0002, -.0003
Tl1908,190.856 {477},In2306,ppm, .0049,.0031,63.07, .0071, .0027
U_3670,367.007 { 92},Y_3600,ppm, -.1514,.1093,72.22, -.0741, -.2287
V_2924,292.402 {115},Y_3600,ppm, -.0003,.0001,20.88, -.0002, -.0003
W_2397,239.709 {140},Y_2243,ppm, .0196,.0386,196.9, .0469, -.0077
Zn2062,206.200 {463},In2306,ppm, -.0016,.0001,7.330, -.0015, -.0017

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 250.03,4.1467,1.6585,252.97,247.10
In2306,230.606 {446},Cts/S, 17098.,75.578,.44202,17045.,17152.
Y_2243,224.306 {450},Cts/S, 25732.,134.82,.52396,25637.,25827.
Y_3600,360.073 { 94},Cts/S, 209180.,357.96,.17112,208930.,209430.
Y_3710,371.030 { 91},Cts/S, 12345.,5.1514,.04173,12349.,12342.
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[Sample Header]
Method=ICP6500Metals_TRY3(v5030)
SampleName=Rinse10
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=11/12/2019 18:40:50
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0004,.0005,115.6, .0008, .0001
Al3082,308.215 {109},In2306,ppm, -.0185,.0177,95.68, -.0060, -.0310
As1890,189.042 {478},Y_2243,ppm, .0013,.0015,120.7, .0002, .0023
B_2496,249.678 {135},Y_3710,ppm, .0067,.0064,95.49, .0022, .0112
Ba4554,455.403 { 74},Y_3710,ppm, -.0001,.0002,240.3, -.0003, .0001
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,196.1, -.0001, .0000
Ca3158,315.887 {107},In2306,ppm, -.0260,.0084,32.50, -.0200, -.0319
Cd2288,228.802 {447},Y_2243,ppm, -.0003,.0000,16.49, -.0003, -.0002
Co2286,228.616 {447},In2306,ppm, .0001,.0001,74.17, .0002, .0001
Cr2677,267.716 {126},Y_3600,ppm, -.0003,.0001,41.48, -.0002, -.0004
Cu3247,324.754 {104},Y_3600,ppm, .0018,.0004,24.92, .0021, .0015
Fe2404,240.488 {140},In2306,ppm, .0003,.0007,222.4, .0008, -.0002
K_7664,766.490 { 44},Y_3710,ppm, .0997,.0058,5.855, .0956, .1038
Li6707,670.784 { 50},Y_3710,ppm, -.0016,.0020,128.6, -.0001, -.0030
Mg2790,279.079 {121},Y_3710,ppm, .0076,.0153,201.9, -.0032, .0184
Mn2576,257.610 {131},Y_3600,ppm, -.0002,.0000,5.120, -.0002, -.0002
Mo2020,202.030 {467},Y_2243,ppm, -.0003,.0001,33.87, -.0004, -.0002
Na5895,589.592 { 57},Y_3710,ppm, -.0198,.0022,11.16, -.0182, -.0213
Ni2316,231.604 {445},In2306,ppm, .0002,.0002,104.3, .0003, .0000
P_1782,178.284 {489},In2306,ppm, .0001,.0012,1628., .0010, -.0008
Pb2203,220.353 {453},In2306,ppm, -.0004,.0015,374.6, -.0014, .0006
S_1820,182.034 {485},Y_2243,ppm, -.0119,.0013,11.31, -.0110, -.0129
Sb2068,206.833 {463},Y_2243,ppm, -.0007,.0003,37.64, -.0005, -.0009
Se1960,196.090 {472},Y_2243,ppm, .0011,.0011,102.0, .0003, .0019
Si2516,251.611 {134},Y_3710,ppm, .0195,.0005,2.490, .0199, .0192
Sn1899,189.989 {477},In2306,ppm, -.0011,.0000,.3057, -.0011, -.0011
Sr4215,421.552 { 80},Y_3710,ppm, .0002,.0001,40.63, .0001, .0002
Ti3349,334.904 {101},Y_3600,ppm, -.0002,.0003,157.3, .0000, -.0004
Tl1908,190.856 {477},In2306,ppm, .0027,.0006,20.48, .0023, .0031
U_3670,367.007 { 92},Y_3600,ppm, -.1071,.0317,29.60, -.0847, -.1296
V_2924,292.402 {115},Y_3600,ppm, -.0000,.0002,1696., .0002, -.0002
W_2397,239.709 {140},Y_2243,ppm, .0008,.0382,5040., .0278, -.0263
Zn2062,206.200 {463},In2306,ppm, -.0016,.0000,3.155, -.0016, -.0015

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 251.26,.90761,.36123,250.62,251.90
In2306,230.606 {446},Cts/S, 17059.,8.7454,.05127,17065.,17053.
Y_2243,224.306 {450},Cts/S, 25676.,22.170,.08635,25692.,25661.
Y_3600,360.073 { 94},Cts/S, 209320.,774.24,.36988,209870.,208780.
Y_3710,371.030 { 91},Cts/S, 12364.,46.693,.37766,12397.,12331.
```

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)
Ag 328.068 {103}	11/13/2019 10:19:01	11/13/2019 10:19:01	Linear	1/Conc	-0.000113	0.074054	0.000000	1.000000
Al 308.215 {109}	11/13/2019 10:19:01	11/13/2019 10:19:01	Linear	1/Conc	0.047596	0.629666	0.000000	1.000000
As 189.042 {478}	11/13/2019 10:19:01	11/13/2019 10:19:01	Linear	1/Conc	-0.000109	0.030465	0.000000	1.000000
B 249.678 {135}	11/13/2019 10:19:01	11/13/2019 10:19:01	Linear	1/Conc	0.000119	0.020729	0.000000	1.000000
Ba 455.403 { 74}	11/13/2019 10:19:01	11/13/2019 10:19:01	Linear	1/Conc	0.004244	2.391437	0.000000	1.000000
Be 313.042 {108}	11/13/2019 10:19:01	11/13/2019 10:19:01	Linear	1/Conc	0.000150	2.574733	0.000000	1.000000
Ca 315.887 {107}	11/13/2019 10:19:01	11/13/2019 10:19:01	Linear	1/Conc	0.004177	1.367975	0.000000	1.000000
Cd 228.802 {447}	11/13/2019 10:19:01	11/13/2019 10:19:01	Linear	1/Conc	0.000383	0.726970	0.000000	1.000000
Co 228.616 {447}	11/13/2019 10:19:01	11/13/2019 10:19:01	Linear	1/Conc	0.000045	0.731354	0.000000	1.000000
Cr 267.716 {126}	11/13/2019 10:19:01	11/13/2019 10:19:01	Linear	1/Conc	-0.000001	0.102041	0.000000	1.000000
Cu 324.754 {104}	11/13/2019 10:19:01	11/13/2019 10:19:01	Linear	1/Conc	0.003880	0.151442	0.000000	1.000000
Fe 240.488 {140}	11/13/2019 10:19:01	11/13/2019 10:19:01	Linear	1/Conc	0.014294	0.774956	0.000000	1.000000
In 230.606 {146}*	<not fit>	<Never Calibrated>	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
In 230.606 {446}*	<not fit>	<Never Calibrated>	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
K 766.490 { 44}	11/13/2019 10:19:01	11/13/2019 10:19:01	Linear	1/Conc	0.000733	0.044175	0.000000	1.000000
Li 670.784 { 50}	11/13/2019 10:19:01	11/13/2019 10:19:01	Linear	1/Conc	0.001824	1.160863	0.000000	1.000000
Mg 279.079 {121}	11/13/2019 10:19:01	11/13/2019 10:19:01	Linear	1/Conc	-0.000058	0.004988	0.000000	1.000000
Mn 257.610 {131}	11/13/2019 10:19:01	11/13/2019 10:19:01	Linear	1/Conc	0.000101	0.587581	0.000000	1.000000
Mo 202.030 {467}	11/13/2019 10:19:01	11/13/2019 10:19:01	Linear	1/Conc	0.000270	0.171826	0.000000	1.000000
Na 589.592 { 57}	11/13/2019 10:19:01	11/13/2019 10:19:01	Linear	1/Conc	0.012107	0.154997	0.000000	1.000000
Ni 231.604 {445}	11/13/2019 10:19:01	11/13/2019 10:19:01	Linear	1/Conc	-0.000351	0.427509	0.000000	1.000000
P 178.284 {489}	11/13/2019 10:19:01	11/13/2019 10:19:01	Linear	1/Conc	0.000154	0.034666	0.000000	1.000000
Pb 220.353 {453}	11/13/2019 10:19:01	11/13/2019 10:19:01	Linear	1/Conc	-0.000248	0.108314	0.000000	1.000000
S 182.034 {485}	11/13/2019 10:19:01	11/13/2019 10:19:01	Linear	1/Conc	0.000035	0.007998	0.000000	1.000000
Sb 206.833 {463}	11/13/2019 10:19:01	11/13/2019 10:19:01	Linear	1/Conc	-0.000095	0.043980	0.000000	1.000000
Se 196.090 {472}	11/13/2019 10:19:01	11/13/2019 10:19:01	Linear	1/Conc	-0.000051	0.020405	0.000000	1.000000
Si 251.611 {134}	11/13/2019 10:19:01	11/13/2019 10:19:01	Linear	1/Conc	0.000385	0.017934	0.000000	1.000000
Sn 189.989 {477}	11/13/2019 10:19:01	11/13/2019 10:19:01	Linear	1/Conc	0.000095	0.168262	0.000000	1.000000
Sr 421.552 { 80}	11/13/2019 10:19:01	11/13/2019 10:19:01	Linear	1/Conc	-0.000350	2.693521	0.000000	1.000000
Ti 334.904 {101}	11/13/2019 10:19:01	11/13/2019 10:19:01	Linear	1/Conc	-0.000142	0.109485	0.000000	1.000000
Tl 190.856 {477}	11/13/2019 10:19:01	11/13/2019 10:19:01	Linear	1/Conc	-0.000270	0.026359	0.000000	1.000000
U 367.007 { 92}	11/13/2019 10:19:01	11/13/2019 10:19:01	Linear	1/Conc	0.000264	0.000302	0.000000	1.000000
V 292.402 {115}	11/13/2019 10:19:01	11/13/2019 10:19:01	Linear	1/Conc	-0.000264	0.134236	0.000000	1.000000
W 239.709 {140}	11/13/2019 10:19:01	11/13/2019 10:19:01	Linear	1/Conc	-0.000015	0.001212	0.000000	1.000000
Y 224.306 {450}*	11/11/2019 10:16:04	8/2/2010 18:01:14	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
Y 360.073 { 94}*	<not fit>	<Never Calibrated>	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
Y 371.030 { 91}*	11/11/2019 10:16:04	8/2/2010 18:01:14	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
Zn 206.200 {463}	11/13/2019 10:19:01	11/13/2019 10:19:01	Linear	1/Conc	0.001793	0.935107	0.000000	1.000000

Element, Wavelength and Order	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Reslope		QC Norm	
						Slope	Y-int	Slope factor	Offset
Ag 328.068 {103}	0.999977	0.000003	0.000673	0.002245	OK.	1.000000	0.000000	1	0
Al 308.215 {109}	0.999989	0.000626	0.022563	0.075208	OK.	1.000000	0.000000	1	0
As 189.042 {478}	0.999969	0.000002	0.002218	0.007393	OK.	1.000000	0.000000	1	0
B 249.678 {135}	0.999974	0.000005	0.007776	0.025919	OK.	1.000000	0.000000	1	0
Ba 455.403 { 74}	0.999977	0.000114	0.000257	0.000857	OK.	1.000000	0.000000	1	0
Be 313.042 {108}	0.999926	0.000220	0.000136	0.000452	OK.	1.000000	0.000000	1	0
Ca 315.887 {107}	0.999971	0.003701	0.008119	0.027065	OK.	1.000000	0.000000	1	0
Cd 228.802 {447}	0.999960	0.000046	0.000138	0.000460	OK.	1.000000	0.000000	1	0
Co 228.616 {447}	0.999966	0.000042	0.000196	0.000652	OK.	1.000000	0.000000	1	0
Cr 267.716 {126}	0.999872	0.000011	0.000297	0.000989	OK.	1.000000	0.000000	1	0
Cu 324.754 {104}	0.999942	0.000011	0.000335	0.001117	OK.	1.000000	0.000000	1	0
Fe 240.488 {140}	0.999962	0.001440	0.009163	0.030543	OK.	1.000000	0.000000	1	0
In 230.606 {146}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
In 230.606 {446}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
K 766.490 { 44}	0.999974	0.000114	0.031442	0.104808	OK.	1.000000	0.000000	1	0
Li 670.784 { 50}	0.999961	0.000415	0.001157	0.003857	OK.	1.000000	0.000000	1	0
Mg 279.079 {121}	0.999936	0.000020	0.033470	0.111565	OK.	1.000000	0.000000	1	0
Mn 257.610 {131}	0.999896	0.000059	0.000046	0.000154	OK.	1.000000	0.000000	1	0
Mo 202.030 {467}	0.999954	0.000012	0.000340	0.001134	OK.	1.000000	0.000000	1	0
Na 589.592 { 57}	0.999965	0.000459	0.007706	0.025687	OK.	1.000000	0.000000	1	0
Ni 231.604 {445}	0.999973	0.000022	0.000342	0.001140	OK.	1.000000	0.000000	1	0
P 178.284 {489}	0.999467	0.000266	0.001816	0.006052	OK.	1.000000	0.000000	1	0
Pb 220.353 {453}	0.999958	0.000007	0.001516	0.005052	OK.	1.000000	0.000000	1	0
S 182.034 {485}	0.999991	0.000008	0.005278	0.017594	OK.	1.000000	0.000000	1	0
Sb 206.833 {463}	0.999976	0.000006	0.002092	0.006973	OK.	1.000000	0.000000	1	0
Se 196.090 {472}	0.999956	0.000002	0.002748	0.009158	OK.	1.000000	0.000000	1	0
Si 251.611 {134}	0.999982	0.000007	0.010247	0.034156	OK.	1.000000	0.000000	1	0
Sn 189.989 {477}	0.999964	0.000010	0.000462	0.001541	OK.	1.000000	0.000000	1	0
Sr 421.552 { 80}	0.999957	0.000176	0.000183	0.000610	OK.	1.000000	0.000000	1	0
Ti 334.904 {101}	0.999978	0.000005	0.000442	0.001474	OK.	1.000000	0.000000	1	0
Tl 190.856 {477}	0.999853	0.000006	0.003155	0.010516	OK.	1.000000	0.000000	1	0
U 367.007 { 92}	0.996468	0.000001	0.084195	0.280651	OK.	1.000000	0.000000	1	0
V 292.402 {115}	0.999968	0.000008	0.000370	0.001233	OK.	1.000000	0.000000	1	0
W 239.709 {140}	0.997244	0.000002	0.051749	0.172496	OK.	1.000000	0.000000	1	0
Y 224.306 {450}*	0.000000	0.000000	0.000830	0.002767	Warnin	1.000000	0.000000	1	0
Y 360.073 { 94}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
Y 371.030 { 91}*	0.000000	0.000000	0.000248	0.000826	Warnin	1.000000	0.000000	1	0
Zn 206.200 {463}	0.999294	0.000371	0.000121	0.000403	OK.	1.000000	0.000000	1	0

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[Sample Header]
Method=ICP6500Metals_TRY3(v5033)
SampleName=Rinse1
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=11/13/2019 9:54:55
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0000,.0003,149400., .0002, -.0002
Al3082,308.215 {109},In2306,ppm, .0551,.0176,31.89, .0427, .0675
As1890,189.042 {478},Y_2243,ppm, -.0003,.0003,86.37, -.0001, -.0005
B_2496,249.678 {135},Y_3710,ppm, .0030,.0043,142.3, .0061, -.0000
Ba4554,455.403 { 74},Y_3710,ppm, -.0000,.0001,289.5, .0000, -.0001
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,56.04, -.0001, -.0000
Ca3158,315.887 {107},In2306,ppm, -.0260,.0056,21.61, -.0300, -.0220
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0001,47.73, -.0002, -.0001
Co2286,228.616 {447},In2306,ppm, -.0002,.0002,125.0, -.0004, -.0000
Cr2677,267.716 {126},Y_3600,ppm, -.0001,.0000,26.94, -.0001, -.0001
Cu3247,324.754 {104},Y_3600,ppm, -.0017,.0001,6.294, -.0016, -.0017
Fe2404,240.488 {140},In2306,ppm, .0274,.0380,138.9, .0543, .0005
K_7664,766.490 { 44},Y_3710,ppm, .0229,.0030,13.20, .0208, .0250
Li6707,670.784 { 50},Y_3710,ppm, -.0002,.0001,27.96, -.0002, -.0003
Mg2790,279.079 {121},Y_3710,ppm, .0067,.0032,47.80, .0090, .0045
Mn2576,257.610 {131},Y_3600,ppm, -.0002,.0000,18.91, -.0002, -.0002
Mo2020,202.030 {467},Y_2243,ppm, .0074,.0014,18.47, .0064, .0083
Na5895,589.592 { 57},Y_3710,ppm, -.0443,.0014,3.230, -.0454, -.0433
Ni2316,231.604 {445},In2306,ppm, .0000,.0001,821.6, .0001, -.0001
P_1782,178.284 {489},In2306,ppm, .0005,.0021,391.6, .0020, -.0010
Pb2203,220.353 {453},In2306,ppm, -.0007,.0012,167.2, -.0016, .0001
S_1820,182.034 {485},Y_2243,ppm, -.0009,.0061,705.4, .0035, -.0052
Sb2068,206.833 {463},Y_2243,ppm, -.0031,.0003,10.98, -.0028, -.0033
Se1960,196.090 {472},Y_2243,ppm, .0001,.0004,393.7, -.0002, .0004
Si2516,251.611 {134},Y_3710,ppm, .0306,.0213,69.58, .0457, .0156
Sn1899,189.989 {477},In2306,ppm, -.0003,.0001,23.31, -.0003, -.0004
Sr4215,421.552 { 80},Y_3710,ppm, .0000,.0000,36.78, .0000, .0000
Ti3349,334.904 {101},Y_3600,ppm, -.0002,.0001,27.86, -.0002, -.0003
Tl1908,190.856 {477},In2306,ppm, .0032,.0010,32.23, .0025, .0040
U_3670,367.007 { 92},Y_3600,ppm, .2184,.0349,15.97, .1937, .2430
V_2924,292.402 {115},Y_3600,ppm, -.0003,.0001,44.17, -.0004, -.0002
W_2397,239.709 {140},Y_2243,ppm, .0081,.0842,1043., -.0515, .0676
Zn2062,206.200 {463},In2306,ppm, -.0015,.0000,1.020, -.0015, -.0015

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 244.43,2.9869,1.2220,242.32,246.54
In2306,230.606 {446},Cts/S, 16642.,40.313,.24224,16613.,16671.
Y_2243,224.306 {450},Cts/S, 24744.,59.933,.24221,24702.,24786.
Y_3600,360.073 { 94},Cts/S, 203030.,888.46,.43761,203650.,202400.
Y_3710,371.030 { 91},Cts/S, 12347.,15.099,.12229,12337.,12358.

[Sample Header]
Method=ICP6500Metals_TRY3(v5033)
SampleName=Rinse2
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=11/13/2019 9:57:00
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Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0001,118.3, -.0000, -.0002
Al3082,308.215 {109},In2306,ppm, -.0124,.0841,676.2, -.0719, .0470
As1890,189.042 {478},Y_2243,ppm, -.0005,.0002,34.44, -.0006, -.0003
B_2496,249.678 {135},Y_3710,ppm, -.0016,.0035,218.7, -.0041, .0009
Ba4554,455.403 { 74},Y_3710,ppm, -.0001,.0000,38.67, -.0001, -.0001
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,4.162, -.0001, -.0001
Ca3158,315.887 {107},In2306,ppm, -.0228,.0012,5.442, -.0219, -.0237
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0001,132.3, -.0001, -.0000
Co2286,228.616 {447},In2306,ppm, -.0001,.0000,29.93, -.0001, -.0001
Cr2677,267.716 {126},Y_3600,ppm, -.0004,.0002,43.73, -.0003, -.0005
Cu3247,324.754 {104},Y_3600,ppm, -.0015,.0004,26.71, -.0012, -.0018
Fe2404,240.488 {140},In2306,ppm, .0363,.0353,97.22, .0113, .0612
K_7664,766.490 { 44},Y_3710,ppm, .0253,.0056,21.94, .0292, .0214
Li6707,670.784 { 50},Y_3710,ppm, -.0009,.0002,18.16, -.0010, -.0008
Mg2790,279.079 {121},Y_3710,ppm, .0200,.0001,.2611, .0199, .0200
Mn2576,257.610 {131},Y_3600,ppm, -.0002,.0000,16.82, -.0002, -.0002
Mo2020,202.030 {467},Y_2243,ppm, .0007,.0001,20.52, .0006, .0008
Na5895,589.592 { 57},Y_3710,ppm, -.0292,.0000,.0617, -.0291, -.0292
Ni2316,231.604 {445},In2306,ppm, .0000,.0001,651.4, -.0001, .0001
P_1782,178.284 {489},In2306,ppm, .0003,.0011,409.3, -.0005, .0010
Pb2203,220.353 {453},In2306,ppm, -.0004,.0006,148.2, -.0009, .0000
S_1820,182.034 {485},Y_2243,ppm, -.0034,.0031,92.04, -.0012, -.0056
Sb2068,206.833 {463},Y_2243,ppm, -.0034,.0011,33.64, -.0026, -.0042
Se1960,196.090 {472},Y_2243,ppm, -.0004,.0000,4.923, -.0004, -.0004
Si2516,251.611 {134},Y_3710,ppm, -.0029,.0012,39.45, -.0021, -.0037
Sn1899,189.989 {477},In2306,ppm, -.0003,.0000,6.344, -.0003, -.0003
Sr4215,421.552 { 80},Y_3710,ppm, -.0001,.0000,29.75, -.0001, -.0001
Ti3349,334.904 {101},Y_3600,ppm, -.0001,.0001,39.36, -.0002, -.0001
Tl1908,190.856 {477},In2306,ppm, .0005,.0007,154.8, .0010, -.0000
U_3670,367.007 { 92},Y_3600,ppm, .1804,.0921,51.05, .1153, .2455
V_2924,292.402 {115},Y_3600,ppm, -.0001,.0001,64.66, -.0001, -.0001
W_2397,239.709 {140},Y_2243,ppm, -.0419,.0241,57.39, -.0589, -.0249
Zn2062,206.200 {463},In2306,ppm, -.0015,.0000,.2778, -.0015, -.0015

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 244.10,1.4355,.58809,245.12,243.09
In2306,230.606 {446},Cts/S, 16609.,72.965,.43931,16558.,16661.
Y_2243,224.306 {450},Cts/S, 24684.,169.20,.68544,24564.,24804.
Y_3600,360.073 { 94},Cts/S, 202410.,203.00,.10029,202270.,202560.
Y_3710,371.030 { 91},Cts/S, 12371.,54.032,.43678,12332.,12409.

[Sample Header]
Method=ICP6500Metals_TRY3(v5033)
SampleName=Rinse3
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=11/13/2019 9:59:06
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0009,.0001,8.738, .0008, .0009
Al3082,308.215 {109},In2306,ppm, .0578,.1054,182.3, -.0167, .1324
As1890,189.042 {478},Y_2243,ppm, -.0009,.0003,31.40, -.0007, -.0011
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B_2496,249.678 {135},Y_3710,ppm, .0034,.0017,50.69, .0046, .0022
Ba4554,455.403 { 74},Y_3710,ppm, -.0001,.0001,139.8, -.0001, -.0000
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,3657., -.0001, .0001
Ca3158,315.887 {107},In2306,ppm, -.0214,.0014,6.527, -.0204, -.0224
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0000,30.53, -.0000, -.0000
Co2286,228.616 {447},In2306,ppm, -.0002,.0000,11.00, -.0002, -.0002
Cr2677,267.716 {126},Y_3600,ppm, -.0001,.0001,72.61, -.0002, -.0001
Cu3247,324.754 {104},Y_3600,ppm, -.0019,.0007,33.74, -.0015, -.0024
Fe2404,240.488 {140},In2306,ppm, .0230,.0243,105.5, .0058, .0401
K_7664,766.490 { 44},Y_3710,ppm, .0338,.0163,48.34, .0453, .0222
Li6707,670.784 { 50},Y_3710,ppm, -.0007,.0001,14.72, -.0006, -.0007
Mg2790,279.079 {121},Y_3710,ppm, .0081,.0061,74.79, .0124, .0038
Mn2576,257.610 {131},Y_3600,ppm, -.0002,.0000,4.654, -.0002, -.0002
Mo2020,202.030 {467},Y_2243,ppm, .0002,.0001,48.51, .0002, .0003
Na5895,589.592 { 57},Y_3710,ppm, -.0303,.0050,16.39, -.0338, -.0268
Ni2316,231.604 {445},In2306,ppm, .0001,.0002,245.6, .0003, -.0001
P_1782,178.284 {489},In2306,ppm, -.0004,.0002,45.69, -.0003, -.0005
Pb2203,220.353 {453},In2306,ppm, -.0015,.0006,38.56, -.0011, -.0020
S_1820,182.034 {485},Y_2243,ppm, -.0053,.0001,2.049, -.0052, -.0054
Sb2068,206.833 {463},Y_2243,ppm, -.0034,.0024,70.58, -.0051, -.0017
Se1960,196.090 {472},Y_2243,ppm, -.0004,.0010,275.0, -.0011, .0003
Si2516,251.611 {134},Y_3710,ppm, -.0429,.0230,53.55, -.0266, -.0591
Sn1899,189.989 {477},In2306,ppm, -.0002,.0001,32.30, -.0001, -.0002
Sr4215,421.552 { 80},Y_3710,ppm, -.0000,.0000,334.8, -.0000, .0000
Ti3349,334.904 {101},Y_3600,ppm, -.0002,.0001,51.67, -.0002, -.0001
Tl1908,190.856 {477},In2306,ppm, .0014,.0005,32.48, .0018, .0011
U_3670,367.007 { 92},Y_3600,ppm, .2652,.0423,15.93, .2353, .2951
V_2924,292.402 {115},Y_3600,ppm, -.0000,.0000,457.3, -.0000, .0000
W_2397,239.709 {140},Y_2243,ppm, .0542,.0772,142.3, -.0003, .1088
Zn2062,206.200 {463},In2306,ppm, -.0015,.0001,4.439, -.0015, -.0014

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 242.95,.96521,.39728,242.27,243.63
In2306,230.606 {446},Cts/S, 16359.,52.816,.32285,16322.,16396.
Y_2243,224.306 {450},Cts/S, 24401.,31.371,.12857,24379.,24423.
Y_3600,360.073 { 94},Cts/S, 200340.,372.71,.18603,200610.,200080.
Y_3710,371.030 { 91},Cts/S, 12372.,25.444,.20566,12354.,12390.

[Sample Header]
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SampleName=Rinse4
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Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=11/13/2019 10:01:11
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0000,.0004,33150., -.0003, .0003
Al3082,308.215 {109},In2306,ppm, .0242,.0339,140.1, .0002, .0481
As1890,189.042 {478},Y_2243,ppm, -.0007,.0002,29.49, -.0009, -.0006
B_2496,249.678 {135},Y_3710,ppm, .0019,.0052,279.7, -.0018, .0056
Ba4554,455.403 { 74},Y_3710,ppm, -.0001,.0002,185.0, -.0002, .0000
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,48.38, -.0001, -.0001
Ca3158,315.887 {107},In2306,ppm, -.0166,.0048,28.82, -.0200, -.0132
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0001,192.0, -.0002, .0000
Co2286,228.616 {447},In2306,ppm, -.0000,.0000,33.77, -.0001, -.0000
Cr2677,267.716 {126},Y_3600,ppm, -.0002,.0001,51.63, -.0001, -.0003
Cu3247,324.754 {104},Y_3600,ppm, -.0016,.0001,4.254, -.0015, -.0016
Fe2404,240.488 {140},In2306,ppm, -.0238,.0210,88.51, -.0386, -.0089
K_7664,766.490 { 44},Y_3710,ppm, .0306,.0154,50.44, .0197, .0415
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Li6707,670.784 { 50},Y_3710,ppm, -.0002,.0001,62.13, -.0003, -.0001
Mg2790,279.079 {121},Y_3710,ppm, .0167,.0051,30.55, .0131, .0203
Mn2576,257.610 {131},Y_3600,ppm, -.0002,.0000,2.717, -.0002, -.0002
Mo2020,202.030 {467},Y_2243,ppm, .0002,.0001,35.48, .0001, .0002
Na5895,589.592 { 57},Y_3710,ppm, -.0251,.0023,9.018, -.0235, -.0267
Ni2316,231.604 {445},In2306,ppm, -.0000,.0002,829.5, -.0001, .0001
P_1782,178.284 {489},In2306,ppm, -.0002,.0009,389.9, -.0008, .0004
Pb2203,220.353 {453},In2306,ppm, .0006,.0012,194.8, .0014, -.0002
S_1820,182.034 {485},Y_2243,ppm, -.0073,.0022,30.75, -.0088, -.0057
Sb2068,206.833 {463},Y_2243,ppm, -.0023,.0020,88.39, -.0037, -.0009
Se1960,196.090 {472},Y_2243,ppm, -.0001,.0002,141.9, .0000, -.0003
Si2516,251.611 {134},Y_3710,ppm, -.0205,.0133,64.70, -.0111, -.0299
Sn1899,189.989 {477},In2306,ppm, -.0002,.0002,84.67, -.0001, -.0003
Sr4215,421.552 { 80},Y_3710,ppm, .0001,.0001,64.95, .0002, .0001
Ti3349,334.904 {101},Y_3600,ppm, -.0003,.0002,62.36, -.0004, -.0002
Tl1908,190.856 {477},In2306,ppm, -.0000,.0004,4171., -.0003, .0003
U_3670,367.007 { 92},Y_3600,ppm, .1343,.1060,78.95, .2093, .0593
V_2924,292.402 {115},Y_3600,ppm, -.0001,.0003,540.9, .0002, -.0003
W_2397,239.709 {140},Y_2243,ppm, -.0177,.0298,168.0, -.0388, .0033
Zn2062,206.200 {463},In2306,ppm, -.0010,.0001,7.553, -.0010, -.0011

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 246.43,.11858,.04812,246.34,246.51
In2306,230.606 {446},Cts/S, 16483.,68.392,.41492,16435.,16532.
Y_2243,224.306 {450},Cts/S, 24646.,147.88,.60000,24542.,24751.
Y_3600,360.073 { 94},Cts/S, 203540.,554.15,.27226,203930.,203150.
Y_3710,371.030 { 91},Cts/S, 12382.,52.017,.42011,12345.,12418.

[Sample Header]
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SampleName=Rinse5
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=11/13/2019 10:03:16
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0002,.0003,158.1, -.0000, .0005
Al3082,308.215 {109},In2306,ppm, -.0123,.0682,552.8, .0359, -.0606
As1890,189.042 {478},Y_2243,ppm, -.0008,.0008,96.80, -.0003, -.0014
B_2496,249.678 {135},Y_3710,ppm, .0027,.0001,4.573, .0028, .0027
Ba4554,455.403 { 74},Y_3710,ppm, -.0001,.0000,4.667, -.0001, -.0001
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,61.34, -.0000, -.0001
Ca3158,315.887 {107},In2306,ppm, -.0154,.0019,12.58, -.0140, -.0168
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0001,60.96, -.0001, -.0002
Co2286,228.616 {447},In2306,ppm, -.0002,.0000,14.72, -.0002, -.0002
Cr2677,267.716 {126},Y_3600,ppm, -.0001,.0001,53.49, -.0002, -.0001
Cu3247,324.754 {104},Y_3600,ppm, -.0013,.0003,24.83, -.0011, -.0015
Fe2404,240.488 {140},In2306,ppm, .0320,.0350,109.1, .0073, .0568
K_7664,766.490 { 44},Y_3710,ppm, .0268,.0071,26.54, .0318, .0217
Li6707,670.784 { 50},Y_3710,ppm, -.0005,.0013,269.6, .0004, -.0014
Mg2790,279.079 {121},Y_3710,ppm, .0064,.0268,419.8, -.0126, .0253
Mn2576,257.610 {131},Y_3600,ppm, -.0002,.0000,1.290, -.0002, -.0002
Mo2020,202.030 {467},Y_2243,ppm, .0001,.0001,152.9, -.0000, .0002
Na5895,589.592 { 57},Y_3710,ppm, -.0271,.0018,6.527, -.0284, -.0259
Ni2316,231.604 {445},In2306,ppm, -.0000,.0002,739.4, -.0001, .0001
P_1782,178.284 {489},In2306,ppm, .0003,.0003,129.3, .0000, .0005
Pb2203,220.353 {453},In2306,ppm, .0005,.0000,2.117, .0005, .0005
S_1820,182.034 {485},Y_2243,ppm, -.0087,.0003,3.564, -.0089, -.0085
Sb2068,206.833 {463},Y_2243,ppm, -.0033,.0022,66.89, -.0048, -.0017
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Se1960,196.090 {472},Y_2243,ppm, -.0006,.0003,43.48, -.0008, -.0004
Si2516,251.611 {134},Y_3710,ppm, -.0707,.0013,1.854, -.0716, -.0698
Sn1899,189.989 {477},In2306,ppm, -.0004,.0001,20.79, -.0003, -.0004
Sr4215,421.552 { 80},Y_3710,ppm, .0000,.0001,171.1, .0001, -.0000
Ti3349,334.904 {101},Y_3600,ppm, -.0006,.0002,38.95, -.0007, -.0004
Tl1908,190.856 {477},In2306,ppm, .0004,.0004,107.5, .0001, .0007
U_3670,367.007 { 92},Y_3600,ppm, .1912,.0267,13.99, .2101, .1723
V_2924,292.402 {115},Y_3600,ppm, -.0002,.0002,72.15, -.0001, -.0003
W_2397,239.709 {140},Y_2243,ppm, .0106,.0481,453.3, -.0234, .0446
Zn2062,206.200 {463},In2306,ppm, -.0010,.0000,2.437, -.0010, -.0010

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 247.16,2.3095,.93444,245.52,248.79
In2306,230.606 {446},Cts/S, 16482.,69.297,.42045,16531.,16433.
Y_2243,224.306 {450},Cts/S, 24691.,143.45,.58098,24792.,24590.
Y_3600,360.073 { 94},Cts/S, 203830.,552.07,.27085,204220.,203440.
Y_3710,371.030 { 91},Cts/S, 12479.,49.427,.39609,12514.,12444.

[Sample Header]
Method=ICP6500Metals_TRY3(v5033)
SampleName=Rinse6
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Comment=
Custom ID1=
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Custom ID3=
Run Time=11/13/2019 10:05:22
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0003,244.8, -.0003, .0001
Al3082,308.215 {109},In2306,ppm, -.0565,.0250,44.17, -.0741, -.0388
As1890,189.042 {478},Y_2243,ppm, -.0006,.0005,83.70, -.0002, -.0009
B_2496,249.678 {135},Y_3710,ppm, .0013,.0025,183.5, -.0004, .0031
Ba4554,455.403 { 74},Y_3710,ppm, -.0001,.0001,48.46, -.0001, -.0001
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,10.14, -.0001, -.0001
Ca3158,315.887 {107},In2306,ppm, -.0150,.0001,.8712, -.0151, -.0149
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0001,321.2, .0000, -.0001
Co2286,228.616 {447},In2306,ppm, -.0001,.0000,35.77, -.0001, -.0001
Cr2677,267.716 {126},Y_3600,ppm, -.0001,.0002,328.3, .0001, -.0002
Cu3247,324.754 {104},Y_3600,ppm, -.0019,.0002,11.67, -.0021, -.0018
Fe2404,240.488 {140},In2306,ppm, .0059,.0512,867.1, -.0303, .0421
K_7664,766.490 { 44},Y_3710,ppm, .0300,.0068,22.55, .0347, .0252
Li6707,670.784 { 50},Y_3710,ppm, -.0012,.0011,86.44, -.0020, -.0005
Mg2790,279.079 {121},Y_3710,ppm, -.0071,.0023,32.17, -.0055, -.0087
Mn2576,257.610 {131},Y_3600,ppm, -.0002,.0000,7.511, -.0002, -.0002
Mo2020,202.030 {467},Y_2243,ppm, .0002,.0003,160.7, -.0000, .0004
Na5895,589.592 { 57},Y_3710,ppm, -.0231,.0045,19.70, -.0263, -.0199
Ni2316,231.604 {445},In2306,ppm, -.0000,.0001,543.2, -.0001, .0001
P_1782,178.284 {489},In2306,ppm, -.0001,.0008,1226., -.0006, .0005
Pb2203,220.353 {453},In2306,ppm, -.0009,.0005,63.32, -.0013, -.0005
S_1820,182.034 {485},Y_2243,ppm, -.0076,.0015,19.89, -.0066, -.0087
Sb2068,206.833 {463},Y_2243,ppm, -.0038,.0003,6.650, -.0037, -.0040
Se1960,196.090 {472},Y_2243,ppm, .0000,.0000,780.7, -.0000, .0000
Si2516,251.611 {134},Y_3710,ppm, -.0092,.0690,747.5, .0395, -.0580
Sn1899,189.989 {477},In2306,ppm, -.0001,.0002,167.7, -.0002, .0000
Sr4215,421.552 { 80},Y_3710,ppm, .0000,.0001,383.6, -.0000, .0001
Ti3349,334.904 {101},Y_3600,ppm, -.0002,.0001,53.41, -.0001, -.0003
Tl1908,190.856 {477},In2306,ppm, -.0003,.0012,472.3, .0006, -.0011
U_3670,367.007 { 92},Y_3600,ppm, .1160,.0513,44.20, .0797, .1522
V_2924,292.402 {115},Y_3600,ppm, -.0002,.0001,25.62, -.0002, -.0003
W_2397,239.709 {140},Y_2243,ppm, .0244,.0603,247.4, -.0183, .0670
Zn2062,206.200 {463},In2306,ppm, -.0009,.0001,6.396, -.0009, -.0010
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[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 244.93,.79804,.32582,245.49,244.36
In2306,230.606 {446},Cts/S, 16525.,49.606,.30018,16490.,16560.
Y_2243,224.306 {450},Cts/S, 24551.,83.357,.33952,24492.,24610.
Y_3600,360.073 { 94},Cts/S, 202060.,686.16,.33958,201580.,202550.
Y_3710,371.030 { 91},Cts/S, 12415.,138.87,1.1185,12317.,12513.

[Sample Header]
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Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
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Sample Type=Cal
Mode=IR
CorrFactor=1.000
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,Cts/S, -.0001,.0000,14.98, -.0001, -.0001
Al3082,308.215 {109},In2306,Cts/S, .0476,.0109,22.87, .0553, .0399
As1890,189.042 {478},Y_2243,Cts/S, -.0001,.0001,52.02, -.0001, -.0001
B_2496,249.678 {135},Y_3710,Cts/S, .0001,.0001,102.9, .0002, .0000
Ba4554,455.403 { 74},Y_3710,Cts/S, .0042,.0003,7.918, .0040, .0045
Be3130,313.042 {108},Y_3710,Cts/S, .0001,.0001,74.30, .0001, .0002
Ca3158,315.887 {107},In2306,Cts/S, .0042,.0004,10.63, .0045, .0039
Cd2288,228.802 {447},Y_2243,Cts/S, .0004,.0001,31.23, .0003, .0005
Co2286,228.616 {447},In2306,Cts/S, .0000,.0000,5.123, .0000, .0000
Cr2677,267.716 {126},Y_3600,Cts/S, -.0000,.0000,386.7, -.0000, .0000
Cu3247,324.754 {104},Y_3600,Cts/S, .0039,.0000,.9194, .0039, .0039
Fe2404,240.488 {140},In2306,Cts/S, .0143,.0039,27.49, .0115, .0170
K_7664,766.490 { 44},Y_3710,Cts/S, .0007,.0005,62.65, .0011, .0004
Li6707,670.784 { 50},Y_3710,Cts/S, .0018,.0007,39.31, .0023, .0013
Mg2790,279.079 {121},Y_3710,Cts/S, -.0001,.0000,8.523, -.0001, -.0001
Mn2576,257.610 {131},Y_3600,Cts/S, .0001,.0000,11.31, .0001, .0001
Mo2020,202.030 {467},Y_2243,Cts/S, .0003,.0000,2.268, .0003, .0003
Na5895,589.592 { 57},Y_3710,Cts/S, .0121,.0004,3.360, .0124, .0118
Ni2316,231.604 {445},In2306,Cts/S, -.0004,.0000,3.731, -.0003, -.0004
P_1782,178.284 {489},In2306,Cts/S, .0002,.0000,21.79, .0002, .0001
Pb2203,220.353 {453},In2306,Cts/S, -.0002,.0001,37.27, -.0003, -.0002
S_1820,182.034 {485},Y_2243,Cts/S, .0000,.0000,57.68, .0000, .0000
Sb2068,206.833 {463},Y_2243,Cts/S, -.0001,.0000,36.43, -.0001, -.0001
Se1960,196.090 {472},Y_2243,Cts/S, -.0001,.0000,73.41, -.0001, -.0000
Si2516,251.611 {134},Y_3710,Cts/S, .0004,.0000,7.913, .0004, .0004
Sn1899,189.989 {477},In2306,Cts/S, .0001,.0000,33.10, .0001, .0001
Sr4215,421.552 { 80},Y_3710,Cts/S, -.0004,.0003,93.19, -.0006, -.0001
Ti3349,334.904 {101},Y_3600,Cts/S, -.0001,.0000,10.60, -.0001, -.0002
Tl1908,190.856 {477},In2306,Cts/S, -.0003,.0000,.5765, -.0003, -.0003
U_3670,367.007 { 92},Y_3600,Cts/S, .0003,.0000,.3241, .0003, .0003
V_2924,292.402 {115},Y_3600,Cts/S, -.0003,.0000,2.854, -.0003, -.0003
W_2397,239.709 {140},Y_2243,Cts/S, -.0000,.0000,281.4, -.0000, .0000
Zn2062,206.200 {463},In2306,Cts/S, .0018,.0000,.3499, .0018, .0018

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 244.60,1.5979,.65328,243.47,245.73
In2306,230.606 {446},Cts/S, 16454.,5.4645,.03321,16450.,16458.
Y_2243,224.306 {450},Cts/S, 24431.,78.274,.32038,24376.,24487.
Y_3600,360.073 { 94},Cts/S, 203620.,381.81,.18751,203350.,203890.
Y_3710,371.030 { 91},Cts/S, 12318.,37.162,.30168,12292.,12344.

[Sample Header]
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SampleName=CalibStd-1
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
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Sample Type=Cal
Mode=IR
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,Cts/S, .0011,.0000,1.283, .0011, .0011
Al3082,308.215 {109},In2306,Cts/S, .2902,.0011,.3627, .2909, .2895
As1890,189.042 {478},Y_2243,Cts/S, .0002,.0000,14.22, .0002, .0002
Ba4554,455.403 { 74},Y_3710,Cts/S, .0296,.0004,1.258, .0299, .0294
Be3130,313.042 {108},Y_3710,Cts/S, .0283,.0008,2.698, .0277, .0288
Cd2288,228.802 {447},Y_2243,Cts/S, .0084,.0000,.2822, .0084, .0084
Co2286,228.616 {447},In2306,Cts/S, .0075,.0002,2.221, .0077, .0074
Cr2677,267.716 {126},Y_3600,Cts/S, .0011,.0000,1.200, .0011, .0011
Cu3247,324.754 {104},Y_3600,Cts/S, .0056,.0000,.0882, .0056, .0056
Fe2404,240.488 {140},In2306,Cts/S, .3324,.0019,.5855, .3310, .3338
Mn2576,257.610 {131},Y_3600,Cts/S, .0066,.0000,.0603, .0066, .0066
Mo2020,202.030 {467},Y_2243,Cts/S, .0020,.0000,.5752, .0020, .0020
Ni2316,231.604 {445},In2306,Cts/S, .0042,.0000,.6608, .0043, .0042
P_1782,178.284 {489},In2306,Cts/S, .0322,.0001,.2917, .0322, .0321
Pb2203,220.353 {453},In2306,Cts/S, .0010,.0000,1.618, .0010, .0010
S_1820,182.034 {485},Y_2243,Cts/S, .0080,.0000,.4135, .0079, .0080
Sb2068,206.833 {463},Y_2243,Cts/S, .0018,.0001,5.611, .0018, .0017
Si2516,251.611 {134},Y_3710,Cts/S, .0021,.0001,3.593, .0022, .0021
Sn1899,189.989 {477},In2306,Cts/S, .0018,.0001,7.380, .0019, .0017
Sr4215,421.552 { 80},Y_3710,Cts/S, .0292,.0001,.2821, .0292, .0291
Ti3349,334.904 {101},Y_3600,Cts/S, .0010,.0000,4.315, .0010, .0010
U_3670,367.007 { 92},Y_3600,Cts/S, .0003,.0000,4.336, .0003, .0003
V_2924,292.402 {115},Y_3600,Cts/S, .0012,.0000,1.425, .0012, .0011
W_2397,239.709 {140},Y_2243,Cts/S, .0001,.0001,88.84, .0002, .0000
Zn2062,206.200 {463},In2306,Cts/S, .0284,.0001,.4750, .0283, .0285

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 246.96,1.7822,.72166,245.70,248.22
In2306,230.606 {446},Cts/S, 16375.,3.2313,.01973,16373.,16377.
Y_2243,224.306 {450},Cts/S, 24702.,44.387,.17969,24670.,24733.
Y_3600,360.073 { 94},Cts/S, 203910.,169.74,.08324,204030.,203790.
Y_3710,371.030 { 91},Cts/S, 12520.,33.018,.26372,12497.,12544.

[Sample Header]
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Comment=
Custom ID1=
Custom ID2=
Custom ID3=
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Sample Type=Cal
Mode=IR
CorrFactor=1.000
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,Cts/S, .0074,.0000,.2012, .0074, .0074
Al3082,308.215 {109},In2306,Cts/S, .6749,.0103,1.521, .6677, .6822
As1890,189.042 {478},Y_2243,Cts/S, .0009,.0001,7.871, .0008, .0009
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B_2496,249.678 {135},Y_3710,Cts/S, .0044,.0001,1.554, .0043, .0044
Ba4554,455.403 { 74},Y_3710,Cts/S, .0776,.0004,.5588, .0779, .0773
Be3130,313.042 {108},Y_3710,Cts/S, .0802,.0000,.0447, .0802, .0802
Ca3158,315.887 {107},In2306,Cts/S, 1.355,.0357,2.638, 1.330, 1.380
Cd2288,228.802 {447},Y_2243,Cts/S, .0232,.0001,.3814, .0232, .0231
Co2286,228.616 {447},In2306,Cts/S, .0215,.0000,.1435, .0215, .0215
Cr2677,267.716 {126},Y_3600,Cts/S, .0032,.0000,.3354, .0032, .0032
Cu3247,324.754 {104},Y_3600,Cts/S, .0086,.0001,.6506, .0086, .0086
Fe2404,240.488 {140},In2306,Cts/S, .8043,.0283,3.515, .7843, .8243
K_7664,766.490 { 44},Y_3710,Cts/S, .0460,.0015,3.235, .0471, .0450
Mg2790,279.079 {121},Y_3710,Cts/S, .0052,.0001,1.825, .0052, .0051
Mn2576,257.610 {131},Y_3600,Cts/S, .0186,.0000,.0894, .0186, .0185
Mo2020,202.030 {467},Y_2243,Cts/S, .0055,.0000,.3537, .0055, .0055
Na5895,589.592 { 57},Y_3710,Cts/S, .1721,.0016,.9240, .1710, .1732
Ni2316,231.604 {445},In2306,Cts/S, .0121,.0001,1.180, .0120, .0122
P_1782,178.284 {489},In2306,Cts/S, .0643,.0002,.2487, .0642, .0645
Pb2203,220.353 {453},In2306,Cts/S, .0031,.0001,4.881, .0032, .0030
S_1820,182.034 {485},Y_2243,Cts/S, .0160,.0001,.3222, .0160, .0159
Sb2068,206.833 {463},Y_2243,Cts/S, .0103,.0000,.2505, .0103, .0103
Se1960,196.090 {472},Y_2243,Cts/S, .0006,.0000,.8821, .0006, .0006
Si2516,251.611 {134},Y_3710,Cts/S, .0061,.0001,.9115, .0061, .0060
Sn1899,189.989 {477},In2306,Cts/S, .0050,.0000,.7147, .0050, .0049
Sr4215,421.552 { 80},Y_3710,Cts/S, .0825,.0001,.0941, .0826, .0825
Ti3349,334.904 {101},Y_3600,Cts/S, .0032,.0000,.7617, .0032, .0032
Tl1908,190.856 {477},In2306,Cts/S, .0006,.0001,13.50, .0007, .0006
U_3670,367.007 { 92},Y_3600,Cts/S, .0003,.0000,1.703, .0003, .0003
V_2924,292.402 {115},Y_3600,Cts/S, .0038,.0000,.7218, .0039, .0038
W_2397,239.709 {140},Y_2243,Cts/S, .0003,.0000,12.98, .0003, .0003
Zn2062,206.200 {463},In2306,Cts/S, .1788,.0002,.1374, .1786, .1789

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 244.64,.41534,.16977,244.35,244.94
In2306,230.606 {446},Cts/S, 16241.,11.247,.06925,16233.,16249.
Y_2243,224.306 {450},Cts/S, 24531.,33.825,.13789,24507.,24554.
Y_3600,360.073 { 94},Cts/S, 202850.,371.78,.18328,202590.,203110.
Y_3710,371.030 { 91},Cts/S, 12437.,88.871,.71456,12374.,12500.

[Sample Header]
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Custom ID1=
Custom ID2=
Custom ID3=
Run Time=11/13/2019 10:13:37
Sample Type=Cal
Mode=IR
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,Cts/S, .0184,.0000,.0407, .0184, .0184
Al3082,308.215 {109},In2306,Cts/S, 3.211,.0053,.1647, 3.208, 3.215
As1890,189.042 {478},Y_2243,Cts/S, .0076,.0000,.2013, .0076, .0076
B_2496,249.678 {135},Y_3710,Cts/S, .0105,.0000,.1080, .0105, .0105
Ba4554,455.403 { 74},Y_3710,Cts/S, .6127,.0004,.0584, .6129, .6124
Be3130,313.042 {108},Y_3710,Cts/S, .6639,.0005,.0824, .6643, .6635
Ca3158,315.887 {107},In2306,Cts/S, 6.953,.0172,.2469, 6.941, 6.966
Cd2288,228.802 {447},Y_2243,Cts/S, .1895,.0002,.0879, .1896, .1893
Co2286,228.616 {447},In2306,Cts/S, .1813,.0007,.3806, .1808, .1818
Cr2677,267.716 {126},Y_3600,Cts/S, .0265,.0001,.4036, .0264, .0266
Cu3247,324.754 {104},Y_3600,Cts/S, .0426,.0001,.1282, .0426, .0426
Fe2404,240.488 {140},In2306,Cts/S, 3.961,.0004,.0092, 3.961, 3.962
K_7664,766.490 { 44},Y_3710,Cts/S, .2263,.0000,.0200, .2262, .2263
Li6707,670.784 { 50},Y_3710,Cts/S, .3008,.0013,.4188, .2999, .3017
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Mg2790,279.079 {121},Y_3710,Cts/S, .0257,.0001,.5095, .0256, .0258
Mn2576,257.610 {131},Y_3600,Cts/S, .1520,.0001,.0974, .1519, .1521
Mo2020,202.030 {467},Y_2243,Cts/S, .0445,.0001,.3101, .0446, .0444
Na5895,589.592 { 57},Y_3710,Cts/S, .8075,.0008,.0970, .8070, .8081
Ni2316,231.604 {445},In2306,Cts/S, .1057,.0005,.4535, .1053, .1060
P_1782,178.284 {489},In2306,Cts/S, .1314,.0005,.3788, .1310, .1317
Pb2203,220.353 {453},In2306,Cts/S, .0273,.0000,.1614, .0273, .0273
S_1820,182.034 {485},Y_2243,Cts/S, .0320,.0001,.2201, .0320, .0321
Sb2068,206.833 {463},Y_2243,Cts/S, .0333,.0000,.0139, .0333, .0333
Se1960,196.090 {472},Y_2243,Cts/S, .0051,.0001,1.093, .0052, .0051
Si2516,251.611 {134},Y_3710,Cts/S, .0455,.0002,.3424, .0456, .0454
Sn1899,189.989 {477},In2306,Cts/S, .0415,.0002,.4928, .0414, .0417
Sr4215,421.552 { 80},Y_3710,Cts/S, .6887,.0014,.2080, .6877, .6897
Ti3349,334.904 {101},Y_3600,Cts/S, .0278,.0001,.3823, .0278, .0279
Tl1908,190.856 {477},In2306,Cts/S, .0065,.0000,.0275, .0065, .0065
U_3670,367.007 { 92},Y_3600,Cts/S, .0004,.0000,3.961, .0004, .0004
V_2924,292.402 {115},Y_3600,Cts/S, .0341,.0001,.4232, .0340, .0342
W_2397,239.709 {140},Y_2243,Cts/S, .0005,.0001,14.74, .0004, .0005
Zn2062,206.200 {463},In2306,Cts/S, .4499,.0037,.8312, .4472, .4525

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 239.96,.41957,.17485,240.25,239.66
In2306,230.606 {446},Cts/S, 15640.,46.143,.29503,15608.,15673.
Y_2243,224.306 {450},Cts/S, 24260.,128.44,.52942,24170.,24351.
Y_3600,360.073 { 94},Cts/S, 199850.,803.82,.40220,200420.,199280.
Y_3710,371.030 { 91},Cts/S, 12367.,48.170,.38950,12333.,12401.

[Sample Header]
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Custom ID2=
Custom ID3=
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Mode=IR
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,Cts/S, .0370,.0001,.2238, .0370, .0369
Al3082,308.215 {109},In2306,Cts/S, 12.61,.0938,.7438, 12.68, 12.55
As1890,189.042 {478},Y_2243,Cts/S, .0303,.0001,.4120, .0302, .0304
B_2496,249.678 {135},Y_3710,Cts/S, .0210,.0000,.0619, .0210, .0210
Ba4554,455.403 { 74},Y_3710,Cts/S, 2.397,.0070,.2922, 2.392, 2.402
Be3130,313.042 {108},Y_3710,Cts/S, 2.588,.0155,.5999, 2.577, 2.598
Ca3158,315.887 {107},In2306,Cts/S, 27.65,.0752,.2718, 27.60, 27.71
Cd2288,228.802 {447},Y_2243,Cts/S, .7387,.0003,.0366, .7389, .7385
Co2286,228.616 {447},In2306,Cts/S, .7262,.0013,.1830, .7271, .7252
Cr2677,267.716 {126},Y_3600,Cts/S, .1029,.0006,.6025, .1033, .1025
Cu3247,324.754 {104},Y_3600,Cts/S, .1545,.0003,.1715, .1543, .1547
Fe2404,240.488 {140},In2306,Cts/S, 15.65,.0096,.0615, 15.66, 15.64
K_7664,766.490 { 44},Y_3710,Cts/S, .8873,.0038,.4227, .8846, .8899
Li6707,670.784 { 50},Y_3710,Cts/S, 1.163,.0055,.4730, 1.159, 1.167
Mg2790,279.079 {121},Y_3710,Cts/S, .1001,.0012,1.209, .0992, .1010
Mn2576,257.610 {131},Y_3600,Cts/S, .5920,.0023,.3889, .5936, .5904
Mo2020,202.030 {467},Y_2243,Cts/S, .1727,.0002,.1285, .1728, .1725
Na5895,589.592 { 57},Y_3710,Cts/S, 3.116,.0130,.4169, 3.107, 3.125
Ni2316,231.604 {445},In2306,Cts/S, .4252,.0001,.0322, .4251, .4253
P_1782,178.284 {489},In2306,Cts/S, .3459,.0004,.1129, .3462, .3456
Pb2203,220.353 {453},In2306,Cts/S, .1078,.0002,.1854, .1080, .1077
S_1820,182.034 {485},Y_2243,Cts/S, .0807,.0002,.2135, .0808, .0806
Sb2068,206.833 {463},Y_2243,Cts/S, .0885,.0003,.2994, .0883, .0887
Se1960,196.090 {472},Y_2243,Cts/S, .0203,.0001,.3355, .0203, .0204
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Si2516,251.611 {134},Y_3710,Cts/S, .1797,.0021,1.193, .1782, .1812
Sn1899,189.989 {477},In2306,Cts/S, .1671,.0001,.0345, .1671, .1671
Sr4215,421.552 { 80},Y_3710,Cts/S, 2.696,.0067,.2482, 2.691, 2.700
Ti3349,334.904 {101},Y_3600,Cts/S, .1096,.0004,.3643, .1098, .1093
Tl1908,190.856 {477},In2306,Cts/S, .0264,.0001,.4691, .0263, .0265
U_3670,367.007 { 92},Y_3600,Cts/S, .0006,.0000,3.196, .0006, .0006
V_2924,292.402 {115},Y_3600,Cts/S, .1347,.0003,.2042, .1349, .1345
W_2397,239.709 {140},Y_2243,Cts/S, .0011,.0000,3.570, .0011, .0011
Zn2062,206.200 {463},In2306,Cts/S, .9381,.0017,.1830, .9393, .9368

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 239.56,1.6776,.70027,238.38,240.75
In2306,230.606 {446},Cts/S, 14676.,.18744,.00128,14676.,14676.
Y_2243,224.306 {450},Cts/S, 23835.,1.5415,.00647,23834.,23836.
Y_3600,360.073 { 94},Cts/S, 196250.,982.99,.50088,195560.,196950.
Y_3710,371.030 { 91},Cts/S, 12487.,56.787,.45475,12528.,12447.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,Cts/S, .0737,.0002,.2355, .0738, .0736
Al3082,308.215 {109},In2306,Cts/S, 31.70,.1581,.4988, 31.81, 31.59
As1890,189.042 {478},Y_2243,Cts/S, .0609,.0001,.2265, .0610, .0608
B_2496,249.678 {135},Y_3710,Cts/S, .0414,.0004,.8757, .0411, .0416
Ba4554,455.403 { 74},Y_3710,Cts/S, 4.772,.0036,.0760, 4.770, 4.775
Be3130,313.042 {108},Y_3710,Cts/S, 5.114,.0028,.0552, 5.112, 5.116
Ca3158,315.887 {107},In2306,Cts/S, 68.13,.3962,.5816, 68.41, 67.85
Cd2288,228.802 {447},Y_2243,Cts/S, 1.473,.0007,.0489, 1.473, 1.472
Co2286,228.616 {447},In2306,Cts/S, 1.476,.0005,.0352, 1.476, 1.475
Cr2677,267.716 {126},Y_3600,Cts/S, .2020,.0005,.2508, .2016, .2024
Cu3247,324.754 {104},Y_3600,Cts/S, .3063,.0005,.1755, .3067, .3060
Fe2404,240.488 {140},In2306,Cts/S, 38.53,.1073,.2784, 38.61, 38.45
K_7664,766.490 { 44},Y_3710,Cts/S, 2.200,.0050,.2282, 2.204, 2.197
Li6707,670.784 { 50},Y_3710,Cts/S, 2.315,.0020,.0878, 2.316, 2.313
Mg2790,279.079 {121},Y_3710,Cts/S, .2478,.0011,.4377, .2470, .2486
Mn2576,257.610 {131},Y_3600,Cts/S, 1.165,.0012,.0988, 1.164, 1.166
Mo2020,202.030 {467},Y_2243,Cts/S, .3419,.0002,.0645, .3420, .3417
Na5895,589.592 { 57},Y_3710,Cts/S, 7.733,.0060,.0781, 7.737, 7.729
Ni2316,231.604 {445},In2306,Cts/S, .8601,.0010,.1110, .8608, .8594
P_1782,178.284 {489},In2306,Cts/S, .7096,.0001,.0187, .7095, .7097
Pb2203,220.353 {453},In2306,Cts/S, .2171,.0001,.0282, .2172, .2171
S_1820,182.034 {485},Y_2243,Cts/S, .1626,.0000,.0283, .1626, .1626
Sb2068,206.833 {463},Y_2243,Cts/S, .1765,.0003,.1786, .1767, .1763
Se1960,196.090 {472},Y_2243,Cts/S, .0407,.0001,.1513, .0407, .0406
Si2516,251.611 {134},Y_3710,Cts/S, .3585,.0015,.4122, .3575, .3596
Sn1899,189.989 {477},In2306,Cts/S, .3388,.0003,.0810, .3387, .3390
Sr4215,421.552 { 80},Y_3710,Cts/S, 5.364,.0047,.0881, 5.361, 5.367
Ti3349,334.904 {101},Y_3600,Cts/S, .2185,.0003,.1454, .2183, .2187
Tl1908,190.856 {477},In2306,Cts/S, .0523,.0001,.1547, .0523, .0522
U_3670,367.007 { 92},Y_3600,Cts/S, .0009,.0000,1.036, .0009, .0009
V_2924,292.402 {115},Y_3600,Cts/S, .2677,.0003,.1226, .2674, .2679
W_2397,239.709 {140},Y_2243,Cts/S, .0024,.0000,.3283, .0024, .0024
Zn2062,206.200 {463},In2306,Cts/S, 1.895,.0023,.1208, 1.893, 1.896
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[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 236.57,1.7941,.75838,235.30,237.84
In2306,230.606 {446},Cts/S, 13780.,41.767,.30310,13750.,13809.
Y_2243,224.306 {450},Cts/S, 23241.,77.644,.33408,23186.,23296.
Y_3600,360.073 { 94},Cts/S, 191580.,468.78,.24470,191910.,191240.
Y_3710,371.030 { 91},Cts/S, 12459.,18.058,.14494,12446.,12471.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .9982,.0029,.2907, 1.000, .9961
Al3082,308.215 {109},In2306,ppm, 50.61,.2112,.4173, 50.46, 50.76
As1890,189.042 {478},Y_2243,ppm, 2.007,.0006,.0323, 2.007, 2.006
B_2496,249.678 {135},Y_3710,ppm, 1.987,.0223,1.120, 1.971, 2.003
Ba4554,455.403 { 74},Y_3710,ppm, 1.993,.0039,.1951, 1.991, 1.996
Be3130,313.042 {108},Y_3710,ppm, 1.977,.0096,.4872, 1.970, 1.984
Ca3158,315.887 {107},In2306,ppm, 50.07,.2047,.4087, 49.93, 50.22
Cd2288,228.802 {447},Y_2243,ppm, 2.001,.0014,.0696, 2.000, 2.002
Co2286,228.616 {447},In2306,ppm, 2.011,.0017,.0850, 2.010, 2.012
Cr2677,267.716 {126},Y_3600,ppm, 1.974,.0004,.0213, 1.974, 1.974
Cu3247,324.754 {104},Y_3600,ppm, 2.010,.0064,.3197, 2.015, 2.006
Fe2404,240.488 {140},In2306,ppm, 50.06,.1640,.3276, 49.94, 50.17
K_7664,766.490 { 44},Y_3710,ppm, 49.90,.1136,.2277, 49.82, 49.98
Li6707,670.784 { 50},Y_3710,ppm, 1.999,.0097,.4855, 1.992, 2.006
Mg2790,279.079 {121},Y_3710,ppm, 49.55,.1262,.2548, 49.46, 49.64
Mn2576,257.610 {131},Y_3600,ppm, 1.976,.0014,.0698, 1.975, 1.977
Mo2020,202.030 {467},Y_2243,ppm, 1.995,.0045,.2265, 1.992, 1.999
Na5895,589.592 { 57},Y_3710,ppm, 49.76,.1418,.2850, 49.66, 49.86
Ni2316,231.604 {445},In2306,ppm, 2.010,.0008,.0379, 2.009, 2.010
P_1782,178.284 {489},In2306,ppm, 20.45,.0027,.0134, 20.45, 20.45
Pb2203,220.353 {453},In2306,ppm, 1.995,.0006,.0286, 1.995, 1.995
S_1820,182.034 {485},Y_2243,ppm, 20.16,.0111,.0549, 20.15, 20.16
Sb2068,206.833 {463},Y_2243,ppm, 4.015,.0101,.2512, 4.007, 4.022
Se1960,196.090 {472},Y_2243,ppm, 2.010,.0073,.3637, 2.005, 2.015
Si2516,251.611 {134},Y_3710,ppm, 19.87,.1251,.6295, 19.79, 19.96
Sn1899,189.989 {477},In2306,ppm, 2.006,.0011,.0546, 2.007, 2.005
Sr4215,421.552 { 80},Y_3710,ppm, 1.994,.0046,.2323, 1.991, 1.998
Ti3349,334.904 {101},Y_3600,ppm, 1.991,.0008,.0381, 1.991, 1.992
Tl1908,190.856 {477},In2306,ppm, 2.019,.0036,.1763, 2.022, 2.017
U_3670,367.007 { 92},Y_3600,ppm, 2.019,.0587,2.906, 2.061, 1.978
V_2924,292.402 {115},Y_3600,ppm, 1.992,.0012,.0593, 1.991, 1.993
W_2397,239.709 {140},Y_2243,ppm, 2.030,.0006,.0285, 2.030, 2.029
Zn2062,206.200 {463},In2306,ppm, 2.015,.0039,.1931, 2.017, 2.012

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 236.07,.64110,.27158,235.61,236.52
In2306,230.606 {446},Cts/S, 13737.,41.110,.29927,13766.,13708.
Y_2243,224.306 {450},Cts/S, 23100.,80.136,.34691,23156.,23043.
Y_3600,360.073 { 94},Cts/S, 191070.,215.83,.11296,190920.,191230.
Y_3710,371.030 { 91},Cts/S, 12543.,25.438,.20281,12525.,12561.

[Sample Header]
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .5820,.0001,.0086, .5820, .5819
Al3082,308.215 {109},In2306,ppm, 20.62,.0960,.4653, 20.69, 20.55
As1890,189.042 {478},Y_2243,ppm, 1.023,.0002,.0151, 1.023, 1.023
B_2496,249.678 {135},Y_3710,ppm, 1.030,.0079,.7634, 1.025, 1.036
Ba4554,455.403 { 74},Y_3710,ppm, 1.033,.0025,.2435, 1.031, 1.035
Be3130,313.042 {108},Y_3710,ppm, 1.031,.0029,.2799, 1.029, 1.034
Ca3158,315.887 {107},In2306,ppm, 20.64,.1690,.8188, 20.76, 20.52
Cd2288,228.802 {447},Y_2243,ppm, 1.032,.0009,.0856, 1.032, 1.031
Co2286,228.616 {447},In2306,ppm, 1.015,.0029,.2825, 1.017, 1.013
Cr2677,267.716 {126},Y_3600,ppm, 1.018,.0031,.3007, 1.016, 1.020
Cu3247,324.754 {104},Y_3600,ppm, 1.014,.0012,.1179, 1.015, 1.013
Fe2404,240.488 {140},In2306,ppm, 20.59,.0516,.2506, 20.63, 20.55
K_7664,766.490 { 44},Y_3710,ppm, 20.63,.0719,.3483, 20.68, 20.58
Li6707,670.784 { 50},Y_3710,ppm, 1.034,.0001,.0125, 1.034, 1.034
Mg2790,279.079 {121},Y_3710,ppm, 20.58,.0720,.3499, 20.53, 20.63
Mn2576,257.610 {131},Y_3600,ppm, 1.033,.0032,.3079, 1.030, 1.035
Mo2020,202.030 {467},Y_2243,ppm, 1.054,.0016,.1547, 1.055, 1.053
Na5895,589.592 { 57},Y_3710,ppm, 20.44,.0454,.2221, 20.41, 20.48
Ni2316,231.604 {445},In2306,ppm, 1.029,.0016,.1540, 1.030, 1.028
P_1782,178.284 {489},In2306,ppm, 10.27,.0179,.1739, 10.28, 10.26
Pb2203,220.353 {453},In2306,ppm, 1.022,.0018,.1765, 1.023, 1.021
S_1820,182.034 {485},Y_2243,ppm, 10.68,.0077,.0722, 10.69, 10.68
Sb2068,206.833 {463},Y_2243,ppm, 2.193,.0004,.0181, 2.194, 2.193
Se1960,196.090 {472},Y_2243,ppm, 1.028,.0004,.0350, 1.029, 1.028
Si2516,251.611 {134},Y_3710,ppm, 10.09,.0079,.0780, 10.09, 10.10
Sn1899,189.989 {477},In2306,ppm, 1.017,.0036,.3508, 1.020, 1.014
Sr4215,421.552 { 80},Y_3710,ppm, 1.034,.0018,.1774, 1.033, 1.036
Ti3349,334.904 {101},Y_3600,ppm, 1.025,.0012,.1170, 1.024, 1.026
Tl1908,190.856 {477},In2306,ppm, 1.016,.0015,.1478, 1.015, 1.017
U_3670,367.007 { 92},Y_3600,ppm, .9989,.0226,2.267, .9829, 1.015
V_2924,292.402 {115},Y_3600,ppm, 1.029,.0013,.1254, 1.028, 1.030
W_2397,239.709 {140},Y_2243,ppm, .9828,.0702,7.146, 1.032, .9331
Zn2062,206.200 {463},In2306,ppm, 1.022,.0055,.5367, 1.025, 1.018

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 240.12,3.3291,1.3864,237.76,242.47
In2306,230.606 {446},Cts/S, 14603.,4.3591,.02985,14606.,14600.
Y_2243,224.306 {450},Cts/S, 23724.,35.298,.14879,23749.,23699.
Y_3600,360.073 { 94},Cts/S, 196850.,406.16,.20633,197140.,196560.
Y_3710,371.030 { 91},Cts/S, 12557.,78.680,.62660,12501.,12612.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0111,.0001,.5672, .0111, .0110
Al3082,308.215 {109},In2306,ppm, .2004,.0254,12.68, .2184, .1825
As1890,189.042 {478},Y_2243,ppm, .0232,.0005,2.197, .0236, .0228
B_2496,249.678 {135},Y_3710,ppm, .2059,.0039,1.877, .2031, .2086
Ba4554,455.403 { 74},Y_3710,ppm, .0223,.0001,.6591, .0224, .0222
Be3130,313.042 {108},Y_3710,ppm, .0114,.0000,.1526, .0114, .0114
Ca3158,315.887 {107},In2306,ppm, 1.034,.0010,.0993, 1.034, 1.035
Cd2288,228.802 {447},Y_2243,ppm, .0112,.0000,.4429, .0112, .0113
Co2286,228.616 {447},In2306,ppm, .0107,.0000,.3606, .0106, .0107
Cr2677,267.716 {126},Y_3600,ppm, .0115,.0002,1.503, .0116, .0114
Cu3247,324.754 {104},Y_3600,ppm, .0114,.0001,.5141, .0114, .0115
Fe2404,240.488 {140},In2306,ppm, .2144,.0009,.4107, .2150, .2138
K_7664,766.490 { 44},Y_3710,ppm, 1.046,.0019,.1811, 1.047, 1.045
Li6707,670.784 { 50},Y_3710,ppm, .0110,.0004,3.324, .0112, .0107
Mg2790,279.079 {121},Y_3710,ppm, 1.083,.0394,3.638, 1.055, 1.111
Mn2576,257.610 {131},Y_3600,ppm, .0114,.0001,.4450, .0115, .0114
Mo2020,202.030 {467},Y_2243,ppm, .0233,.0002,1.035, .0232, .0235
Na5895,589.592 { 57},Y_3710,ppm, 1.083,.0050,.4608, 1.079, 1.086
Ni2316,231.604 {445},In2306,ppm, .0112,.0000,.1994, .0112, .0113
P_1782,178.284 {489},In2306,ppm, .9722,.0039,.4038, .9750, .9695
Pb2203,220.353 {453},In2306,ppm, .0107,.0009,8.113, .0113, .0101
S_1820,182.034 {485},Y_2243,ppm, .5138,.0039,.7559, .5110, .5165
Sb2068,206.833 {463},Y_2243,ppm, .0571,.0007,1.146, .0575, .0566
Se1960,196.090 {472},Y_2243,ppm, .0253,.0010,3.901, .0246, .0260
Si2516,251.611 {134},Y_3710,ppm, .1916,.0009,.4674, .1910, .1923
Sn1899,189.989 {477},In2306,ppm, .0211,.0002,1.047, .0210, .0213
Sr4215,421.552 { 80},Y_3710,ppm, .0114,.0002,1.429, .0113, .0115
Ti3349,334.904 {101},Y_3600,ppm, .0112,.0003,2.867, .0110, .0115
Tl1908,190.856 {477},In2306,ppm, .0394,.0012,3.123, .0402, .0385
U_3670,367.007 { 92},Y_3600,ppm, .0606,.0294,48.59, .0814, .0398
V_2924,292.402 {115},Y_3600,ppm, .0108,.0000,.3975, .0108, .0108
W_2397,239.709 {140},Y_2243,ppm, .0722,.0185,25.58, .0591, .0852
Zn2062,206.200 {463},In2306,ppm, .0187,.0002,.9174, .0188, .0185

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 249.11,.10556,.04238,249.19,249.04
In2306,230.606 {446},Cts/S, 16194.,7.1481,.04414,16199.,16189.
Y_2243,224.306 {450},Cts/S, 24542.,17.347,.07068,24554.,24530.
Y_3600,360.073 { 94},Cts/S, 206130.,1308.5,.63478,205210.,207060.
Y_3710,371.030 { 91},Cts/S, 12730.,10.958,.08608,12738.,12723.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0009,.0001,15.33, .0008, .0009
Al3082,308.215 {109},In2306,ppm, -.0117,.0107,91.24, -.0192, -.0041
As1890,189.042 {478},Y_2243,ppm, -.0008,.0007,88.57, -.0003, -.0014
B_2496,249.678 {135},Y_3710,ppm, .0015,.0077,530.8, -.0040, .0069
Ba4554,455.403 { 74},Y_3710,ppm, -.0004,.0001,30.22, -.0003, -.0005
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,72.74, -.0000, -.0000
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Ca3158,315.887 {107},In2306,ppm, -.0222,.0008,3.693, -.0216, -.0228
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,34.06, .0000, .0001
Co2286,228.616 {447},In2306,ppm, -.0000,.0000,62.85, -.0000, -.0000
Cr2677,267.716 {126},Y_3600,ppm, .0000,.0002,347.6, -.0001, .0002
Cu3247,324.754 {104},Y_3600,ppm, .0002,.0001,77.84, .0003, .0001
Fe2404,240.488 {140},In2306,ppm, .0023,.0008,36.36, .0029, .0017
K_7664,766.490 { 44},Y_3710,ppm, -.0166,.0249,149.6, .0010, -.0342
Li6707,670.784 { 50},Y_3710,ppm, -.0010,.0003,26.22, -.0008, -.0011
Mg2790,279.079 {121},Y_3710,ppm, -.0001,.0245,18430., -.0174, .0172
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,6.934, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, -.0002,.0001,54.56, -.0003, -.0002
Na5895,589.592 { 57},Y_3710,ppm, -.0094,.0022,23.51, -.0109, -.0078
Ni2316,231.604 {445},In2306,ppm, .0004,.0003,90.35, .0006, .0001
P_1782,178.284 {489},In2306,ppm, -.0010,.0001,13.77, -.0011, -.0009
Pb2203,220.353 {453},In2306,ppm, .0015,.0006,44.04, .0010, .0019
S_1820,182.034 {485},Y_2243,ppm, -.0001,.0026,4868., .0018, -.0019
Sb2068,206.833 {463},Y_2243,ppm, .0005,.0013,248.1, .0014, -.0004
Se1960,196.090 {472},Y_2243,ppm, .0010,.0002,18.26, .0008, .0011
Si2516,251.611 {134},Y_3710,ppm, .0046,.0001,2.899, .0047, .0045
Sn1899,189.989 {477},In2306,ppm, .0001,.0002,301.8, .0002, -.0001
Sr4215,421.552 { 80},Y_3710,ppm, -.0001,.0001,121.5, -.0000, -.0001
Ti3349,334.904 {101},Y_3600,ppm, -.0000,.0004,36670., -.0003, .0003
Tl1908,190.856 {477},In2306,ppm, .0137,.0017,12.56, .0149, .0125
U_3670,367.007 { 92},Y_3600,ppm, -.0995,.0149,15.02, -.0889, -.1101
V_2924,292.402 {115},Y_3600,ppm, .0001,.0002,251.8, .0002, -.0001
W_2397,239.709 {140},Y_2243,ppm, .0319,.0305,95.68, .0535, .0103
Zn2062,206.200 {463},In2306,ppm, -.0015,.0001,6.505, -.0015, -.0016

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 249.98,.88352,.35344,250.60,249.35
In2306,230.606 {446},Cts/S, 16339.,5.3696,.03286,16335.,16342.
Y_2243,224.306 {450},Cts/S, 24420.,14.218,.05822,24410.,24430.
Y_3600,360.073 { 94},Cts/S, 205520.,1159.6,.56423,206340.,204700.
Y_3710,371.030 { 91},Cts/S, 12626.,60.604,.47998,12583.,12669.

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Ag3280,328.068 {103},Y_3600,ppm, .1022,.0002,.1618, .1023, .1021
Al3082,308.215 {109},In2306,ppm, .9874,.0050,.5064, .9910, .9839
As1890,189.042 {478},Y_2243,ppm, .0309,.0002,.7607, .0311, .0308
B_2496,249.678 {135},Y_3710,ppm, .2023,.0038,1.876, .1996, .2049
Ba4554,455.403 { 74},Y_3710,ppm, .0307,.0003,.9679, .0309, .0305
Be3130,313.042 {108},Y_3710,ppm, .0313,.0002,.5066, .0314, .0312
Ca3158,315.887 {107},In2306,ppm, .9757,.0058,.5972, .9716, .9799
Cd2288,228.802 {447},Y_2243,ppm, .0307,.0001,.1820, .0307, .0307
Co2286,228.616 {447},In2306,ppm, .0294,.0003,1.001, .0292, .0297
Cr2677,267.716 {126},Y_3600,ppm, .0307,.0002,.5484, .0306, .0308
Cu3247,324.754 {104},Y_3600,ppm, .0314,.0002,.4813, .0313, .0316
Fe2404,240.488 {140},In2306,ppm, .9911,.0046,.4616, .9944, .9879
K_7664,766.490 { 44},Y_3710,ppm, .9837,.0336,3.413, 1.007, .9599
Li6707,670.784 { 50},Y_3710,ppm, .0307,.0001,.2678, .0308, .0307
Mg2790,279.079 {121},Y_3710,ppm, 1.044,.0127,1.218, 1.053, 1.035
Mn2576,257.610 {131},Y_3600,ppm, .0314,.0001,.1866, .0314, .0314
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Mo2020,202.030 {467},Y_2243,ppm, .0308,.0005,1.549, .0305, .0312
Na5895,589.592 { 57},Y_3710,ppm, 1.021,.0054,.5318, 1.025, 1.017
Ni2316,231.604 {445},In2306,ppm, .0302,.0001,.3304, .0302, .0301
P_1782,178.284 {489},In2306,ppm, 1.913,.0093,.4865, 1.906, 1.919
Pb2203,220.353 {453},In2306,ppm, .0302,.0006,2.113, .0297, .0306
S_1820,182.034 {485},Y_2243,ppm, 1.995,.0039,.1939, 1.993, 1.998
Sb2068,206.833 {463},Y_2243,ppm, .2373,.0027,1.124, .2354, .2392
Se1960,196.090 {472},Y_2243,ppm, .0311,.0027,8.812, .0292, .0331
Si2516,251.611 {134},Y_3710,ppm, .2983,.0150,5.034, .2876, .3089
Sn1899,189.989 {477},In2306,ppm, .0298,.0000,.0099, .0298, .0298
Sr4215,421.552 { 80},Y_3710,ppm, .0309,.0000,.1016, .0309, .0309
Ti3349,334.904 {101},Y_3600,ppm, .0304,.0000,.0416, .0304, .0304
Tl1908,190.856 {477},In2306,ppm, .0336,.0004,1.073, .0334, .0339
U_3670,367.007 { 92},Y_3600,ppm, .0645,.0739,114.6, .1168, .0123
V_2924,292.402 {115},Y_3600,ppm, .0298,.0004,1.493, .0301, .0295
W_2397,239.709 {140},Y_2243,ppm, .2051,.0462,22.54, .2377, .1724
Zn2062,206.200 {463},In2306,ppm, .1918,.0012,.6244, .1910, .1927

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 250.07,1.7637,.70529,248.82,251.31
In2306,230.606 {446},Cts/S, 16067.,30.996,.19292,16089.,16045.
Y_2243,224.306 {450},Cts/S, 24543.,.05865,.00024,24542.,24543.
Y_3600,360.073 { 94},Cts/S, 206630.,191.66,.09276,206760.,206490.
Y_3710,371.030 { 91},Cts/S, 12720.,117.06,.92027,12637.,12803.

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Al3082,308.215 {109},In2306,ppm, 560.3,.3026,.0540, 560.5, 560.1
As1890,189.042 {478},Y_2243,ppm, -.0180,.0027,14.86, -.0199, -.0161
B_2496,249.678 {135},Y_3710,ppm, .0078,.0024,30.65, .0095, .0061
Ba4554,455.403 { 74},Y_3710,ppm, -.0004,.0001,35.69, -.0003, -.0005
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,41.02, .0000, .0001
Ca3158,315.887 {107},In2306,ppm, 513.9,2.436,.4740, 515.6, 512.2
Cd2288,228.802 {447},Y_2243,ppm, .0034,.0001,1.894, .0034, .0033
Co2286,228.616 {447},In2306,ppm, -.0003,.0003,112.5, -.0005, -.0001
Cr2677,267.716 {126},Y_3600,ppm, .0008,.0003,32.48, .0006, .0010
Cu3247,324.754 {104},Y_3600,ppm, -.0014,.0005,35.37, -.0010, -.0017
Fe2404,240.488 {140},In2306,ppm, 201.5,.7910,.3926, 202.1, 200.9
K_7664,766.490 { 44},Y_3710,ppm, .1548,.0383,24.72, .1277, .1818
Li6707,670.784 { 50},Y_3710,ppm, .0092,.0003,3.651, .0094, .0090
Mg2790,279.079 {121},Y_3710,ppm, 519.7,.0181,.0035, 519.7, 519.7
Mn2576,257.610 {131},Y_3600,ppm, -.0042,.0001,2.053, -.0041, -.0042
Mo2020,202.030 {467},Y_2243,ppm, .0003,.0004,117.4, .0001, .0006
Na5895,589.592 { 57},Y_3710,ppm, .0875,.0029,3.352, .0854, .0896
Ni2316,231.604 {445},In2306,ppm, -.0029,.0007,24.18, -.0034, -.0024
P_1782,178.284 {489},In2306,ppm, .0011,.0002,17.85, .0012, .0010
Pb2203,220.353 {453},In2306,ppm, .0025,.0004,16.64, .0028, .0022
S_1820,182.034 {485},Y_2243,ppm,F -1.036,.0060,.5806, -1.041, -1.032
Sb2068,206.833 {463},Y_2243,ppm,F -.0103,.0038,36.81, -.0076, -.0130
Se1960,196.090 {472},Y_2243,ppm, -.0167,.0009,5.133, -.0173, -.0161
Si2516,251.611 {134},Y_3710,ppm, .0153,.0099,64.87, .0083, .0222
Sn1899,189.989 {477},In2306,ppm, .0008,.0006,79.47, .0003, .0012
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Sr4215,421.552 { 80},Y_3710,ppm, .0047,.0000,.1845, .0047, .0047
Ti3349,334.904 {101},Y_3600,ppm, .0032,.0002,7.198, .0030, .0033
Tl1908,190.856 {477},In2306,ppm, .0008,.0020,251.1, -.0006, .0022
U_3670,367.007 { 92},Y_3600,ppm,F 1.244,.0832,6.690, 1.185, 1.303
V_2924,292.402 {115},Y_3600,ppm, -.0034,.0004,12.15, -.0031, -.0037
W_2397,239.709 {140},Y_2243,ppm, -.0078,.0154,198.8, .0031, -.0186
Zn2062,206.200 {463},In2306,ppm, -.0039,.0003,6.590, -.0041, -.0038

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 215.03,1.3958,.64915,214.04,216.01
In2306,230.606 {446},Cts/S, 11400.,33.048,.28988,11424.,11377.
Y_2243,224.306 {450},Cts/S, 20863.,68.484,.32825,20912.,20815.
Y_3600,360.073 { 94},Cts/S, 173660.,1196.4,.68895,172820.,174510.
Y_3710,371.030 { 91},Cts/S, 12002.,27.768,.23137,11982.,12021.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .3179,.0009,.2881, .3185, .3172
Al3082,308.215 {109},In2306,ppm, 487.8,75.09,15.40, 434.7, 540.9
As1890,189.042 {478},Y_2243,ppm, 1.980,.0011,.0556, 1.981, 1.979
B_2496,249.678 {135},Y_3710,ppm, .4632,.0652,14.08, .4171, .5093
Ba4554,455.403 { 74},Y_3710,ppm, 1.838,.2662,14.48, 1.650, 2.026
Be3130,313.042 {108},Y_3710,ppm, .9193,.1252,13.62, .8308, 1.008
Ca3158,315.887 {107},In2306,ppm, 451.1,64.62,14.32, 405.4, 496.8
Cd2288,228.802 {447},Y_2243,ppm, 1.040,.0004,.0343, 1.040, 1.040
Co2286,228.616 {447},In2306,ppm, 1.021,.0002,.0158, 1.021, 1.021
Cr2677,267.716 {126},Y_3600,ppm, .9493,.0029,.3080, .9472, .9513
Cu3247,324.754 {104},Y_3600,ppm, 1.041,.0003,.0317, 1.042, 1.041
Fe2404,240.488 {140},In2306,ppm, 176.8,25.86,14.63, 158.5, 195.1
K_7664,766.490 { 44},Y_3710,ppm, 9.973,1.392,13.96, 8.989, 10.96
Li6707,670.784 { 50},Y_3710,ppm, .9789,.1425,14.56, .8782, 1.080
Mg2790,279.079 {121},Y_3710,ppm, 460.3,59.77,12.99, 418.0, 502.5
Mn2576,257.610 {131},Y_3600,ppm, .9677,.0025,.2628, .9695, .9659
Mo2020,202.030 {467},Y_2243,ppm, .9778,.0003,.0341, .9780, .9775
Na5895,589.592 { 57},Y_3710,ppm, 9.850,1.376,13.96, 8.878, 10.82
Ni2316,231.604 {445},In2306,ppm, 1.026,.0009,.0889, 1.026, 1.027
P_1782,178.284 {489},In2306,ppm, 11.56,.0236,.2044, 11.54, 11.57
Pb2203,220.353 {453},In2306,ppm, 1.016,.0129,1.270, 1.025, 1.007
S_1820,182.034 {485},Y_2243,ppm, 4.278,.1334,3.117, 4.373, 4.184
Sb2068,206.833 {463},Y_2243,ppm, 2.139,.0024,.1105, 2.141, 2.138
Se1960,196.090 {472},Y_2243,ppm, 1.973,.0103,.5235, 1.980, 1.966
Si2516,251.611 {134},Y_3710,ppm, 1.765,.2374,13.45, 1.597, 1.933
Sn1899,189.989 {477},In2306,ppm, 2.066,.0037,.1812, 2.063, 2.068
Sr4215,421.552 { 80},Y_3710,ppm, .9230,.1343,14.55, .8280, 1.018
Ti3349,334.904 {101},Y_3600,ppm, .9942,.0034,.3402, .9966, .9918
Tl1908,190.856 {477},In2306,ppm, 1.797,.0052,.2866, 1.793, 1.801
U_3670,367.007 { 92},Y_3600,ppm, 2.145,.0347,1.617, 2.120, 2.169
V_2924,292.402 {115},Y_3600,ppm, .9686,.0029,.2968, .9707, .9666
W_2397,239.709 {140},Y_2243,ppm, .3368,.0756,22.44, .2834, .3903
Zn2062,206.200 {463},In2306,ppm, .5265,.0003,.0626, .5267, .5263

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
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In2306,230.606 {146},Cts/S, 234.52,23.534,10.035,251.17,217.88
In2306,230.606 {446},Cts/S, 11461.,19.567,.17072,11447.,11475.
Y_2243,224.306 {450},Cts/S, 21172.,52.404,.24752,21135.,21209.
Y_3600,360.073 { 94},Cts/S, 175150.,823.66,.47027,174560.,175730.
Y_3710,371.030 { 91},Cts/S, 13012.,1177.0,9.0451,13844.,12180.


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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .3175,.0001,.0290, .3176, .3175
Al3082,308.215 {109},In2306,ppm, 540.7,1.521,.2813, 539.7, 541.8
As1890,189.042 {478},Y_2243,ppm, 1.982,.0001,.0050, 1.982, 1.982
B_2496,249.678 {135},Y_3710,ppm, .5086,.0028,.5594, .5106, .5066
Ba4554,455.403 { 74},Y_3710,ppm, 2.032,.0007,.0352, 2.031, 2.032
Be3130,313.042 {108},Y_3710,ppm, 1.014,.0023,.2228, 1.012, 1.015
Ca3158,315.887 {107},In2306,ppm, 499.2,.5782,.1158, 498.8, 499.6
Cd2288,228.802 {447},Y_2243,ppm, 1.041,.0024,.2347, 1.039, 1.042
Co2286,228.616 {447},In2306,ppm, 1.023,.0005,.0537, 1.023, 1.024
Cr2677,267.716 {126},Y_3600,ppm, .9569,.0018,.1890, .9582, .9556
Cu3247,324.754 {104},Y_3600,ppm, 1.048,.0032,.3019, 1.050, 1.046
Fe2404,240.488 {140},In2306,ppm, 195.1,.7403,.3795, 194.5, 195.6
K_7664,766.490 { 44},Y_3710,ppm, 11.01,.0309,.2804, 10.99, 11.04
Li6707,670.784 { 50},Y_3710,ppm, 1.083,.0001,.0091, 1.083, 1.083
Mg2790,279.079 {121},Y_3710,ppm, 505.8,1.001,.1980, 505.0, 506.5
Mn2576,257.610 {131},Y_3600,ppm, .9667,.0000,.0051, .9667, .9668
Mo2020,202.030 {467},Y_2243,ppm, .9807,.0008,.0797, .9801, .9812
Na5895,589.592 { 57},Y_3710,ppm, 10.83,.0161,.1483, 10.84, 10.82
Ni2316,231.604 {445},In2306,ppm, 1.027,.0007,.0715, 1.027, 1.026
P_1782,178.284 {489},In2306,ppm, 11.61,.0124,.1064, 11.60, 11.62
Pb2203,220.353 {453},In2306,ppm, 1.008,.0011,.1079, 1.007, 1.009
S_1820,182.034 {485},Y_2243,ppm, 4.212,.0203,.4829, 4.227, 4.198
Sb2068,206.833 {463},Y_2243,ppm, 2.144,.0047,.2190, 2.140, 2.147
Se1960,196.090 {472},Y_2243,ppm, 1.973,.0031,.1574, 1.971, 1.975
Si2516,251.611 {134},Y_3710,ppm, 1.946,.0006,.0302, 1.945, 1.946
Sn1899,189.989 {477},In2306,ppm, 2.069,.0073,.3539, 2.074, 2.064
Sr4215,421.552 { 80},Y_3710,ppm, 1.020,.0004,.0358, 1.020, 1.020
Ti3349,334.904 {101},Y_3600,ppm, .9937,.0006,.0566, .9941, .9933
Tl1908,190.856 {477},In2306,ppm, 1.854,.0027,.1455, 1.853, 1.856
U_3670,367.007 { 92},Y_3600,ppm, 2.097,.0421,2.010, 2.126, 2.067
V_2924,292.402 {115},Y_3600,ppm, .9722,.0006,.0568, .9726, .9719
W_2397,239.709 {140},Y_2243,ppm, .2700,.0427,15.81, .2398, .3002
Zn2062,206.200 {463},In2306,ppm, .5260,.0003,.0569, .5258, .5262

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 215.82,.17715,.08208,215.69,215.94
In2306,230.606 {446},Cts/S, 11476.,32.821,.28600,11499.,11452.
Y_2243,224.306 {450},Cts/S, 21227.,64.878,.30563,21273.,21182.
Y_3600,360.073 { 94},Cts/S, 174720.,323.72,.18528,174950.,174490.
Y_3710,371.030 { 91},Cts/S, 12020.,13.945,.11601,12010.,12030.

[Sample Header]
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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .5832,.0002,.0401, .5834, .5831
Al3082,308.215 {109},In2306,ppm, 20.91,.1784,.8535, 21.03, 20.78
As1890,189.042 {478},Y_2243,ppm, 1.019,.0006,.0602, 1.019, 1.018
B_2496,249.678 {135},Y_3710,ppm, 1.035,.0013,.1253, 1.034, 1.036
Ba4554,455.403 { 74},Y_3710,ppm, 1.046,.0057,.5473, 1.050, 1.042
Be3130,313.042 {108},Y_3710,ppm, 1.045,.0021,.2004, 1.046, 1.043
Ca3158,315.887 {107},In2306,ppm, 20.83,.0270,.1296, 20.81, 20.85
Cd2288,228.802 {447},Y_2243,ppm, 1.034,.0025,.2378, 1.033, 1.036
Co2286,228.616 {447},In2306,ppm, 1.024,.0021,.2082, 1.025, 1.022
Cr2677,267.716 {126},Y_3600,ppm, 1.018,.0006,.0557, 1.018, 1.019
Cu3247,324.754 {104},Y_3600,ppm, 1.021,.0014,.1407, 1.022, 1.020
Fe2404,240.488 {140},In2306,ppm, 20.79,.0344,.1655, 20.82, 20.77
K_7664,766.490 { 44},Y_3710,ppm, 20.87,.0674,.3229, 20.92, 20.83
Li6707,670.784 { 50},Y_3710,ppm, 1.043,.0043,.4106, 1.046, 1.040
Mg2790,279.079 {121},Y_3710,ppm, 20.76,.0156,.0751, 20.77, 20.75
Mn2576,257.610 {131},Y_3600,ppm, 1.037,.0011,.1084, 1.036, 1.038
Mo2020,202.030 {467},Y_2243,ppm, 1.062,.0006,.0597, 1.061, 1.062
Na5895,589.592 { 57},Y_3710,ppm, 20.60,.0768,.3730, 20.65, 20.55
Ni2316,231.604 {445},In2306,ppm, 1.044,.0018,.1731, 1.045, 1.043
P_1782,178.284 {489},In2306,ppm, 10.55,.0002,.0016, 10.55, 10.55
Pb2203,220.353 {453},In2306,ppm, 1.041,.0014,.1320, 1.040, 1.042
S_1820,182.034 {485},Y_2243,ppm, 10.74,.0195,.1818, 10.72, 10.75
Sb2068,206.833 {463},Y_2243,ppm, 2.231,.0074,.3336, 2.226, 2.236
Se1960,196.090 {472},Y_2243,ppm, 1.028,.0024,.2345, 1.027, 1.030
Si2516,251.611 {134},Y_3710,ppm, 10.16,.0367,.3616, 10.13, 10.18
Sn1899,189.989 {477},In2306,ppm, 1.041,.0001,.0054, 1.041, 1.041
Sr4215,421.552 { 80},Y_3710,ppm, 1.047,.0043,.4143, 1.050, 1.044
Ti3349,334.904 {101},Y_3600,ppm, 1.027,.0005,.0452, 1.028, 1.027
Tl1908,190.856 {477},In2306,ppm, 1.085,.0024,.2211, 1.084, 1.087
U_3670,367.007 { 92},Y_3600,ppm, .8948,.0054,.6081, .8910, .8987
V_2924,292.402 {115},Y_3600,ppm, 1.029,.0001,.0060, 1.029, 1.029
W_2397,239.709 {140},Y_2243,ppm, .9089,.0022,.2467, .9073, .9105
Zn2062,206.200 {463},In2306,ppm, 1.034,.0039,.3804, 1.037, 1.031

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 237.86,1.4846,.62417,236.81,238.91
In2306,230.606 {446},Cts/S, 14405.,29.934,.20780,14426.,14384.
Y_2243,224.306 {450},Cts/S, 23580.,77.949,.33056,23636.,23525.
Y_3600,360.073 { 94},Cts/S, 196680.,422.03,.21458,196380.,196980.
Y_3710,371.030 { 91},Cts/S, 12464.,29.420,.23604,12443.,12485.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0115,.0007,6.139, .0120, .0110
Al3082,308.215 {109},In2306,ppm, .2185,.0201,9.188, .2043, .2327
As1890,189.042 {478},Y_2243,ppm, .0237,.0011,4.581, .0230, .0245
B_2496,249.678 {135},Y_3710,ppm, .2076,.0023,1.126, .2092, .2059
Ba4554,455.403 { 74},Y_3710,ppm, .0218,.0000,.2108, .0219, .0218
Be3130,313.042 {108},Y_3710,ppm, .0112,.0001,1.172, .0113, .0111
Ca3158,315.887 {107},In2306,ppm, 1.014,.0035,.3412, 1.017, 1.012
Cd2288,228.802 {447},Y_2243,ppm, .0113,.0001,1.151, .0112, .0114
Co2286,228.616 {447},In2306,ppm, .0105,.0000,.3526, .0105, .0106
Cr2677,267.716 {126},Y_3600,ppm, .0110,.0002,1.986, .0112, .0109
Cu3247,324.754 {104},Y_3600,ppm, .0113,.0002,1.379, .0114, .0112
Fe2404,240.488 {140},In2306,ppm, .2203,.0003,.1355, .2206, .2201
K_7664,766.490 { 44},Y_3710,ppm, 1.088,.0141,1.294, 1.098, 1.078
Li6707,670.784 { 50},Y_3710,ppm, .0103,.0001,.8063, .0102, .0103
Mg2790,279.079 {121},Y_3710,ppm, 1.075,.0213,1.985, 1.090, 1.060
Mn2576,257.610 {131},Y_3600,ppm, .0114,.0000,.3482, .0114, .0114
Mo2020,202.030 {467},Y_2243,ppm, .0235,.0003,1.274, .0233, .0237
Na5895,589.592 { 57},Y_3710,ppm, 1.050,.0102,.9680, 1.057, 1.043
Ni2316,231.604 {445},In2306,ppm, .0110,.0001,1.291, .0109, .0111
P_1782,178.284 {489},In2306,ppm, .9878,.0007,.0666, .9873, .9882
Pb2203,220.353 {453},In2306,ppm, .0112,.0014,12.30, .0102, .0122
S_1820,182.034 {485},Y_2243,ppm, .5123,.0034,.6658, .5099, .5147
Sb2068,206.833 {463},Y_2243,ppm, .0575,.0010,1.791, .0567, .0582
Se1960,196.090 {472},Y_2243,ppm, .0238,.0022,9.145, .0223, .0254
Si2516,251.611 {134},Y_3710,ppm, .1885,.0035,1.845, .1861, .1910
Sn1899,189.989 {477},In2306,ppm, .0218,.0003,1.171, .0216, .0220
Sr4215,421.552 { 80},Y_3710,ppm, .0110,.0002,1.484, .0112, .0109
Ti3349,334.904 {101},Y_3600,ppm, .0113,.0001,.9326, .0112, .0114
Tl1908,190.856 {477},In2306,ppm, .0482,.0004,.7790, .0479, .0485
U_3670,367.007 { 92},Y_3600,ppm, .0540,.0276,51.21, .0344, .0735
V_2924,292.402 {115},Y_3600,ppm, .0111,.0002,2.031, .0113, .0110
W_2397,239.709 {140},Y_2243,ppm, .0583,.0194,33.26, .0446, .0720
Zn2062,206.200 {463},In2306,ppm, .0188,.0000,.1423, .0188, .0188

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 252.45,1.0903,.43189,251.68,253.22
In2306,230.606 {446},Cts/S, 15982.,3.5501,.02221,15980.,15985.
Y_2243,224.306 {450},Cts/S, 24354.,60.123,.24687,24396.,24311.
Y_3600,360.073 { 94},Cts/S, 205110.,279.17,.13611,205310.,204910.
Y_3710,371.030 { 91},Cts/S, 12891.,111.44,.86451,12812.,12969.

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Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0000,41.43, -.0002, -.0001
Al3082,308.215 {109},In2306,ppm, .0107,.0127,119.6, .0197, .0016
As1890,189.042 {478},Y_2243,ppm, .0010,.0014,145.3, -.0000, .0020
B_2496,249.678 {135},Y_3710,ppm, -.0009,.0042,482.6, .0021, -.0038
Ba4554,455.403 { 74},Y_3710,ppm, -.0003,.0000,6.776, -.0003, -.0003
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,5132., .0000, -.0000
Ca3158,315.887 {107},In2306,ppm, -.0217,.0030,13.74, -.0238, -.0196
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Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0000,180.4, -.0001, .0000
Co2286,228.616 {447},In2306,ppm, -.0000,.0000,239.2, -.0000, .0000
Cr2677,267.716 {126},Y_3600,ppm, .0001,.0003,268.8, .0004, -.0001
Cu3247,324.754 {104},Y_3600,ppm, .0003,.0002,76.86, .0001, .0005
Fe2404,240.488 {140},In2306,ppm, .0039,.0059,153.0, .0081, -.0003
K_7664,766.490 { 44},Y_3710,ppm, .0099,.0230,232.4, -.0064, .0262
Li6707,670.784 { 50},Y_3710,ppm, -.0006,.0002,34.45, -.0005, -.0008
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Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,15.73, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, -.0004,.0001,32.48, -.0003, -.0005
Na5895,589.592 { 57},Y_3710,ppm, -.0135,.0030,22.18, -.0157, -.0114
Ni2316,231.604 {445},In2306,ppm, .0004,.0001,21.87, .0004, .0005
P_1782,178.284 {489},In2306,ppm, -.0019,.0008,42.62, -.0013, -.0025
Pb2203,220.353 {453},In2306,ppm, .0014,.0002,13.41, .0015, .0013
S_1820,182.034 {485},Y_2243,ppm, -.0004,.0001,40.28, -.0003, -.0005
Sb2068,206.833 {463},Y_2243,ppm, .0022,.0007,33.59, .0027, .0017
Se1960,196.090 {472},Y_2243,ppm, -.0001,.0020,3227., .0014, -.0015
Si2516,251.611 {134},Y_3710,ppm, -.0096,.0083,85.96, -.0154, -.0038
Sn1899,189.989 {477},In2306,ppm, -.0003,.0002,65.84, -.0002, -.0005
Sr4215,421.552 { 80},Y_3710,ppm, -.0002,.0001,33.77, -.0001, -.0002
Ti3349,334.904 {101},Y_3600,ppm, -.0002,.0004,240.6, -.0004, .0001
Tl1908,190.856 {477},In2306,ppm, .0128,.0016,12.37, .0139, .0117
U_3670,367.007 { 92},Y_3600,ppm, -.0358,.0581,162.3, -.0769, .0053
V_2924,292.402 {115},Y_3600,ppm, -.0001,.0003,234.7, -.0004, .0001
W_2397,239.709 {140},Y_2243,ppm, -.0210,.0944,449.2, -.0878, .0457
Zn2062,206.200 {463},In2306,ppm, -.0015,.0001,9.147, -.0016, -.0014

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 244.91,1.7179,.70145,243.70,246.13
In2306,230.606 {446},Cts/S, 16182.,50.985,.31507,16218.,16146.
Y_2243,224.306 {450},Cts/S, 24243.,88.976,.36701,24306.,24180.
Y_3600,360.073 { 94},Cts/S, 205110.,125.16,.06102,205200.,205030.
Y_3710,371.030 { 91},Cts/S, 12500.,83.456,.66763,12441.,12559.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0088,.0000,.2238, .0088, .0088
Al3082,308.215 {109},In2306,ppm, 24.03,.0409,.1701, 24.06, 24.00
As1890,189.042 {478},Y_2243,ppm, .0647,.0016,2.407, .0658, .0636
B_2496,249.678 {135},Y_3710,ppm, .0322,.0019,5.917, .0308, .0335
Ba4554,455.403 { 74},Y_3710,ppm, .7178,.0006,.0792, .7174, .7182
Be3130,313.042 {108},Y_3710,ppm, .0018,.0001,4.762, .0019, .0018
Ca3158,315.887 {107},In2306,ppm, 1800.,27.08,1.504, 1781., 1819.
Cd2288,228.802 {447},Y_2243,ppm, .0091,.0001,1.412, .0092, .0090
Co2286,228.616 {447},In2306,ppm, .0372,.0003,.8449, .0374, .0369
Cr2677,267.716 {126},Y_3600,ppm, .3975,.0013,.3260, .3965, .3984
Cu3247,324.754 {104},Y_3600,ppm, .2120,.0001,.0267, .2120, .2119
Fe2404,240.488 {140},In2306,ppm, 66.33,.0637,.0961, 66.28, 66.37
K_7664,766.490 { 44},Y_3710,ppm, 3.568,.0095,.2653, 3.561, 3.575
Li6707,670.784 { 50},Y_3710,ppm, .0638,.0007,1.164, .0632, .0643
Mg2790,279.079 {121},Y_3710,ppm, 53.18,.0411,.0774, 53.15, 53.20
Mn2576,257.610 {131},Y_3600,ppm, 2.150,.0033,.1523, 2.148, 2.153
Mo2020,202.030 {467},Y_2243,ppm, .0180,.0004,2.034, .0178, .0183
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Na5895,589.592 { 57},Y_3710,ppm, 5.358,.0071,.1325, 5.353, 5.363
Ni2316,231.604 {445},In2306,ppm, .5451,.0023,.4281, .5468, .5435
P_1782,178.284 {489},In2306,ppm, 4.191,.0307,.7314, 4.212, 4.169
Pb2203,220.353 {453},In2306,ppm, .1586,.0024,1.497, .1603, .1570
S_1820,182.034 {485},Y_2243,ppm, 3.145,.0119,.3773, 3.153, 3.137
Sb2068,206.833 {463},Y_2243,ppm, .0028,.0035,125.9, .0052, .0003
Se1960,196.090 {472},Y_2243,ppm, -.0015,.0011,75.27, -.0023, -.0007
Si2516,251.611 {134},Y_3710,ppm, 8.524,.0145,.1705, 8.514, 8.534
Sn1899,189.989 {477},In2306,ppm, .0157,.0001,.8332, .0158, .0156
Sr4215,421.552 { 80},Y_3710,ppm, 3.877,.0052,.1347, 3.873, 3.880
Ti3349,334.904 {101},Y_3600,ppm, .5051,.0002,.0360, .5050, .5052
Tl1908,190.856 {477},In2306,ppm, .0044,.0054,122.3, .0083, .0006
U_3670,367.007 { 92},Y_3600,ppm, .7126,.0140,1.970, .7225, .7027
V_2924,292.402 {115},Y_3600,ppm, .0758,.0001,.1711, .0757, .0759
W_2397,239.709 {140},Y_2243,ppm, -.0291,.0161,55.35, -.0177, -.0405
Zn2062,206.200 {463},In2306,ppm, 4.082,.0412,1.010, 4.111, 4.053

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 214.78,.60857,.28335,214.35,215.21
In2306,230.606 {446},Cts/S, 11051.,4.1233,.03731,11048.,11054.
Y_2243,224.306 {450},Cts/S, 20597.,54.200,.26315,20635.,20558.
Y_3600,360.073 { 94},Cts/S, 174360.,93.795,.05379,174290.,174430.
Y_3710,371.030 { 91},Cts/S, 12095.,7.9913,.06607,12089.,12100.

[Sample Header]
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Ag3280,328.068 {103},Y_3600,ppm, .0099,.0001,.6253, .0099, .0100
Al3082,308.215 {109},In2306,ppm, 24.04,.2548,1.060, 23.86, 24.22
As1890,189.042 {478},Y_2243,ppm, .0448,.0013,2.828, .0457, .0440
B_2496,249.678 {135},Y_3710,ppm, .0189,.0018,9.667, .0176, .0202
Ba4554,455.403 { 74},Y_3710,ppm, .7549,.0009,.1167, .7543, .7555
Be3130,313.042 {108},Y_3710,ppm, .0017,.0002,10.91, .0018, .0016
Ca3158,315.887 {107},In2306,ppm, 1813.,15.15,.8355, 1802., 1824.
Cd2288,228.802 {447},Y_2243,ppm, .0078,.0000,.1958, .0078, .0078
Co2286,228.616 {447},In2306,ppm, .0384,.0003,.6913, .0386, .0383
Cr2677,267.716 {126},Y_3600,ppm, .3663,.0006,.1632, .3667, .3658
Cu3247,324.754 {104},Y_3600,ppm, .2027,.0002,.1228, .2028, .2025
Fe2404,240.488 {140},In2306,ppm, 57.30,.0868,.1515, 57.24, 57.36
K_7664,766.490 { 44},Y_3710,ppm, 3.787,.0186,.4903, 3.773, 3.800
Li6707,670.784 { 50},Y_3710,ppm, .0590,.0007,1.187, .0595, .0585
Mg2790,279.079 {121},Y_3710,ppm, 44.45,.0970,.2182, 44.52, 44.38
Mn2576,257.610 {131},Y_3600,ppm, 1.938,.0034,.1766, 1.935, 1.940
Mo2020,202.030 {467},Y_2243,ppm, .0132,.0007,5.066, .0137, .0128
Na5895,589.592 { 57},Y_3710,ppm, 5.682,.0140,.2465, 5.673, 5.692
Ni2316,231.604 {445},In2306,ppm, .5711,.0018,.3195, .5724, .5698
P_1782,178.284 {489},In2306,ppm, 4.051,.0151,.3717, 4.062, 4.040
Pb2203,220.353 {453},In2306,ppm, .1500,.0001,.0515, .1499, .1500
S_1820,182.034 {485},Y_2243,ppm, 2.802,.0109,.3892, 2.810, 2.795
Sb2068,206.833 {463},Y_2243,ppm, .0053,.0009,17.04, .0059, .0047
Se1960,196.090 {472},Y_2243,ppm, -.0007,.0035,485.3, .0017, -.0032
Si2516,251.611 {134},Y_3710,ppm, 8.276,.0081,.0973, 8.270, 8.282
Sn1899,189.989 {477},In2306,ppm, .0148,.0001,.7654, .0147, .0148
Sr4215,421.552 { 80},Y_3710,ppm, 4.265,.0046,.1074, 4.262, 4.268
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Ti3349,334.904 {101},Y_3600,ppm, .4561,.0003,.0627, .4559, .4563
Tl1908,190.856 {477},In2306,ppm, .0027,.0020,74.17, .0042, .0013
U_3670,367.007 { 92},Y_3600,ppm, .6360,.0468,7.365, .6692, .6029
V_2924,292.402 {115},Y_3600,ppm, .0745,.0003,.4180, .0748, .0743
W_2397,239.709 {140},Y_2243,ppm, -.0198,.0578,291.9, .0211, -.0607
Zn2062,206.200 {463},In2306,ppm, 4.139,.0189,.4562, 4.152, 4.125

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 216.31,.80271,.37109,216.88,215.74
In2306,230.606 {446},Cts/S, 11078.,18.214,.16441,11091.,11065.
Y_2243,224.306 {450},Cts/S, 20566.,64.859,.31537,20612.,20520.
Y_3600,360.073 { 94},Cts/S, 173590.,260.35,.14998,173770.,173410.
Y_3710,371.030 { 91},Cts/S, 12124.,22.802,.18807,12108.,12140.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0008,.0006,77.70, .0013, .0004
Al3082,308.215 {109},In2306,ppm, 13.29,.3917,2.948, 13.01, 13.57
As1890,189.042 {478},Y_2243,ppm, .0225,.0007,3.156, .0230, .0220
B_2496,249.678 {135},Y_3710,ppm, .0081,.0018,21.95, .0068, .0094
Ba4554,455.403 { 74},Y_3710,ppm, .6957,.0245,3.519, .6784, .7130
Be3130,313.042 {108},Y_3710,ppm, .0009,.0000,3.999, .0009, .0009
Ca3158,315.887 {107},In2306,ppm, 1967.,14.40,.7319, 1977., 1957.
Cd2288,228.802 {447},Y_2243,ppm, .0051,.0001,2.452, .0052, .0050
Co2286,228.616 {447},In2306,ppm, .0248,.0003,1.125, .0250, .0246
Cr2677,267.716 {126},Y_3600,ppm, .5904,.0005,.0909, .5908, .5901
Cu3247,324.754 {104},Y_3600,ppm, .1735,.0004,.2559, .1738, .1732
Fe2404,240.488 {140},In2306,ppm, 55.58,1.508,2.713, 54.51, 56.64
K_7664,766.490 { 44},Y_3710,ppm, 1.776,.0653,3.675, 1.730, 1.822
Li6707,670.784 { 50},Y_3710,ppm, .0485,.0026,5.302, .0466, .0503
Mg2790,279.079 {121},Y_3710,ppm, 35.65,1.260,3.536, 34.76, 36.54
Mn2576,257.610 {131},Y_3600,ppm, 1.023,.0012,.1148, 1.024, 1.022
Mo2020,202.030 {467},Y_2243,ppm, .0440,.0000,.1023, .0440, .0439
Na5895,589.592 { 57},Y_3710,ppm, 8.412,.3109,3.696, 8.192, 8.632
Ni2316,231.604 {445},In2306,ppm, .6791,.0006,.0949, .6795, .6786
P_1782,178.284 {489},In2306,ppm, 2.540,.0025,.0978, 2.538, 2.541
Pb2203,220.353 {453},In2306,ppm, .0868,.0020,2.352, .0882, .0853
S_1820,182.034 {485},Y_2243,ppm, 2.968,.0120,.4044, 2.977, 2.960
Sb2068,206.833 {463},Y_2243,ppm, .0000,.0015,7038., .0011, -.0010
Se1960,196.090 {472},Y_2243,ppm, -.0009,.0018,185.5, -.0022, .0003
Si2516,251.611 {134},Y_3710,ppm, 4.431,.1813,4.091, 4.303, 4.559
Sn1899,189.989 {477},In2306,ppm, .0149,.0006,3.838, .0145, .0153
Sr4215,421.552 { 80},Y_3710,ppm, 4.884,.1741,3.565, 4.761, 5.007
Ti3349,334.904 {101},Y_3600,ppm, .4328,.0005,.1123, .4324, .4331
Tl1908,190.856 {477},In2306,ppm, .0034,.0062,181.2, .0079, -.0010
U_3670,367.007 { 92},Y_3600,ppm, .6293,.0928,14.74, .6949, .5637
V_2924,292.402 {115},Y_3600,ppm, .0417,.0002,.5889, .0419, .0416
W_2397,239.709 {140},Y_2243,ppm, .0012,.0311,2642., -.0208, .0232
Zn2062,206.200 {463},In2306,ppm, 2.879,.0059,.2059, 2.883, 2.875

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 217.79,4.7479,2.1800,221.15,214.43
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In2306,230.606 {446},Cts/S, 10980.,33.305,.30333,11004.,10957.
Y_2243,224.306 {450},Cts/S, 20109.,68.639,.34134,20157.,20060.
Y_3600,360.073 { 94},Cts/S, 170250.,242.64,.14252,170080.,170420.
Y_3710,371.030 { 91},Cts/S, 12175.,378.25,3.1067,12443.,11908.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0099,.0007,7.044, .0104, .0094
Al3082,308.215 {109},In2306,ppm, 48.17,.3803,.7895, 47.91, 48.44
As1890,189.042 {478},Y_2243,ppm, .0447,.0025,5.669, .0429, .0465
B_2496,249.678 {135},Y_3710,ppm, .0508,.0080,15.77, .0451, .0564
Ba4554,455.403 { 74},Y_3710,ppm, .9570,.0038,.3944, .9544, .9597
Be3130,313.042 {108},Y_3710,ppm, .0021,.0001,5.133, .0022, .0020
Ca3158,315.887 {107},In2306,ppm, 1847.,26.21,1.419, 1829., 1866.
Cd2288,228.802 {447},Y_2243,ppm, .0118,.0001,1.085, .0118, .0117
Co2286,228.616 {447},In2306,ppm, .0490,.0002,.3082, .0491, .0489
Cr2677,267.716 {126},Y_3600,ppm, .8813,.0028,.3134, .8833, .8794
Cu3247,324.754 {104},Y_3600,ppm, .5329,.0004,.0799, .5326, .5332
Fe2404,240.488 {140},In2306,ppm, 116.0,.9910,.8540, 115.3, 116.7
K_7664,766.490 { 44},Y_3710,ppm, 5.442,.0349,.6418, 5.417, 5.466
Li6707,670.784 { 50},Y_3710,ppm, .1006,.0007,.6663, .1011, .1001
Mg2790,279.079 {121},Y_3710,ppm, 71.65,.3731,.5207, 71.39, 71.91
Mn2576,257.610 {131},Y_3600,ppm, 2.570,.0054,.2119, 2.574, 2.566
Mo2020,202.030 {467},Y_2243,ppm, .0591,.0001,.1564, .0592, .0591
Na5895,589.592 { 57},Y_3710,ppm, 5.098,.0075,.1463, 5.104, 5.093
Ni2316,231.604 {445},In2306,ppm, .8960,.0046,.5091, .8992, .8928
P_1782,178.284 {489},In2306,ppm, 5.632,.0241,.4280, 5.649, 5.615
Pb2203,220.353 {453},In2306,ppm, .2233,.0027,1.209, .2252, .2214
S_1820,182.034 {485},Y_2243,ppm, 3.747,.0377,1.005, 3.774, 3.721
Sb2068,206.833 {463},Y_2243,ppm, -.0032,.0008,23.94, -.0027, -.0037
Se1960,196.090 {472},Y_2243,ppm, .0007,.0005,75.35, .0010, .0003
Si2516,251.611 {134},Y_3710,ppm, 9.257,.0127,.1375, 9.266, 9.248
Sn1899,189.989 {477},In2306,ppm, .0275,.0001,.2658, .0275, .0274
Sr4215,421.552 { 80},Y_3710,ppm, 3.887,.0103,.2661, 3.880, 3.895
Ti3349,334.904 {101},Y_3600,ppm, 1.123,.0013,.1133, 1.124, 1.123
Tl1908,190.856 {477},In2306,ppm, .0077,.0071,92.05, .0128, .0027
U_3670,367.007 { 92},Y_3600,ppm, .9647,.0774,8.023, .9100, 1.019
V_2924,292.402 {115},Y_3600,ppm, .1196,.0003,.2869, .1194, .1199
W_2397,239.709 {140},Y_2243,ppm, -.0208,.0267,128.5, -.0397, -.0019
Zn2062,206.200 {463},In2306,ppm, 9.743,.0680,.6977, 9.791, 9.695

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 212.67,1.1874,.55831,213.51,211.83
In2306,230.606 {446},Cts/S, 10936.,22.977,.21011,10920.,10952.
Y_2243,224.306 {450},Cts/S, 20748.,22.759,.10969,20732.,20765.
Y_3600,360.073 { 94},Cts/S, 175120.,199.98,.11420,175260.,174980.
Y_3710,371.030 { 91},Cts/S, 12240.,43.682,.35687,12210.,12271.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0066,.0001,1.868, .0067, .0065
Al3082,308.215 {109},In2306,ppm, 62.81,1.097,1.746, 63.58, 62.03
As1890,189.042 {478},Y_2243,ppm, .0433,.0007,1.720, .0438, .0427
B_2496,249.678 {135},Y_3710,ppm, .0568,.0040,7.094, .0540, .0597
Ba4554,455.403 { 74},Y_3710,ppm, 1.369,.0058,.4238, 1.373, 1.365
Be3130,313.042 {108},Y_3710,ppm, .0026,.0000,.9072, .0026, .0026
Ca3158,315.887 {107},In2306,ppm, 1824.,36.19,1.984, 1850., 1799.
Cd2288,228.802 {447},Y_2243,ppm, .0129,.0000,.0172, .0129, .0129
Co2286,228.616 {447},In2306,ppm, .0573,.0002,.3850, .0572, .0575
Cr2677,267.716 {126},Y_3600,ppm, 1.294,.0119,.9187, 1.286, 1.302
Cu3247,324.754 {104},Y_3600,ppm, .6238,.0014,.2293, .6248, .6228
Fe2404,240.488 {140},In2306,ppm, 147.7,2.478,1.678, 149.5, 146.0
K_7664,766.490 { 44},Y_3710,ppm, 5.708,.0308,.5397, 5.730, 5.686
Li6707,670.784 { 50},Y_3710,ppm, .1012,.0006,.5932, .1016, .1007
Mg2790,279.079 {121},Y_3710,ppm, 62.87,.4880,.7762, 63.22, 62.53
Mn2576,257.610 {131},Y_3600,ppm, 2.921,.0094,.3210, 2.928, 2.915
Mo2020,202.030 {467},Y_2243,ppm, .0735,.0008,1.132, .0741, .0729
Na5895,589.592 { 57},Y_3710,ppm, 5.774,.0218,.3777, 5.789, 5.758
Ni2316,231.604 {445},In2306,ppm, 1.019,.0016,.1589, 1.020, 1.018
P_1782,178.284 {489},In2306,ppm, 6.104,.0171,.2800, 6.116, 6.092
Pb2203,220.353 {453},In2306,ppm, .2080,.0006,.2649, .2076, .2084
S_1820,182.034 {485},Y_2243,ppm, 3.696,.0178,.4830, 3.683, 3.709
Sb2068,206.833 {463},Y_2243,ppm, .0005,.0044,862.9, .0036, -.0026
Se1960,196.090 {472},Y_2243,ppm, -.0030,.0006,21.86, -.0034, -.0025
Si2516,251.611 {134},Y_3710,ppm, 11.18,.0753,.6733, 11.23, 11.12
Sn1899,189.989 {477},In2306,ppm, .0258,.0003,1.238, .0260, .0255
Sr4215,421.552 { 80},Y_3710,ppm, 3.879,.0139,.3595, 3.889, 3.869
Ti3349,334.904 {101},Y_3600,ppm, 1.703,.0069,.4028, 1.698, 1.708
Tl1908,190.856 {477},In2306,ppm, .0102,.0087,85.08, .0163, .0041
U_3670,367.007 { 92},Y_3600,ppm, 1.202,.0280,2.330, 1.182, 1.222
V_2924,292.402 {115},Y_3600,ppm, .1528,.0007,.4738, .1523, .1533
W_2397,239.709 {140},Y_2243,ppm, -.0078,.0126,162.4, .0012, -.0167
Zn2062,206.200 {463},In2306,ppm, 9.224,.0153,.1658, 9.213, 9.235

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 213.89,4.9154,2.2981,210.41,217.36
In2306,230.606 {446},Cts/S, 10955.,7.0615,.06446,10960.,10950.
Y_2243,224.306 {450},Cts/S, 20849.,12.664,.06074,20858.,20840.
Y_3600,360.073 { 94},Cts/S, 176180.,464.69,.26376,176510.,175850.
Y_3710,371.030 { 91},Cts/S, 12388.,89.313,.72096,12325.,12451.

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[Results]
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Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0103,.0006,5.621, .0099, .0107
Al3082,308.215 {109},In2306,ppm, 33.50,.0401,.1197, 33.53, 33.48
As1890,189.042 {478},Y_2243,ppm, .0267,.0001,.5184, .0266, .0268
B_2496,249.678 {135},Y_3710,ppm, .0242,.0021,8.732, .0227, .0256
Ba4554,455.403 { 74},Y_3710,ppm, .6942,.0046,.6604, .6910, .6974
Be3130,313.042 {108},Y_3710,ppm, .0020,.0000,1.840, .0019, .0020
Ca3158,315.887 {107},In2306,ppm, 1434.,25.03,1.746, 1416., 1451.
Cd2288,228.802 {447},Y_2243,ppm, .0078,.0000,.3946, .0078, .0078
Co2286,228.616 {447},In2306,ppm, .0440,.0004,.8634, .0437, .0443
Cr2677,267.716 {126},Y_3600,ppm, .5017,.0014,.2857, .5007, .5027
Cu3247,324.754 {104},Y_3600,ppm, .3227,.0006,.1861, .3223, .3231
Fe2404,240.488 {140},In2306,ppm, 83.78,.0087,.0104, 83.78, 83.77
K_7664,766.490 { 44},Y_3710,ppm, 4.456,.0349,.7827, 4.431, 4.481
Li6707,670.784 { 50},Y_3710,ppm, .0627,.0006,.9230, .0622, .0631
Mg2790,279.079 {121},Y_3710,ppm, 66.80,.8573,1.283, 66.20, 67.41
Mn2576,257.610 {131},Y_3600,ppm, 1.925,.0025,.1319, 1.927, 1.923
Mo2020,202.030 {467},Y_2243,ppm, .0297,.0006,2.135, .0301, .0292
Na5895,589.592 { 57},Y_3710,ppm, 3.335,.0214,.6405, 3.320, 3.350
Ni2316,231.604 {445},In2306,ppm, .5922,.0001,.0104, .5921, .5922
P_1782,178.284 {489},In2306,ppm, 4.577,.0001,.0024, 4.577, 4.577
Pb2203,220.353 {453},In2306,ppm, .1744,.0019,1.113, .1758, .1730
S_1820,182.034 {485},Y_2243,ppm, 3.603,.0129,.3570, 3.612, 3.594
Sb2068,206.833 {463},Y_2243,ppm, -.0003,.0028,870.3, .0016, -.0023
Se1960,196.090 {472},Y_2243,ppm, -.0031,.0013,41.64, -.0022, -.0039
Si2516,251.611 {134},Y_3710,ppm, 9.042,.0996,1.101, 8.971, 9.112
Sn1899,189.989 {477},In2306,ppm, .0205,.0004,2.044, .0202, .0208
Sr4215,421.552 { 80},Y_3710,ppm, 2.528,.0201,.7966, 2.513, 2.542
Ti3349,334.904 {101},Y_3600,ppm, .7212,.0005,.0688, .7208, .7215
Tl1908,190.856 {477},In2306,ppm, .0008,.0030,375.4, .0029, -.0013
U_3670,367.007 { 92},Y_3600,ppm, .6569,.0386,5.877, .6842, .6296
V_2924,292.402 {115},Y_3600,ppm, .0832,.0005,.5881, .0836, .0829
W_2397,239.709 {140},Y_2243,ppm, -.0427,.0200,46.78, -.0569, -.0286
Zn2062,206.200 {463},In2306,ppm, 5.489,.0009,.0167, 5.490, 5.488

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 221.38,1.0704,.48354,220.62,222.13
In2306,230.606 {446},Cts/S, 11346.,14.194,.12510,11336.,11356.
Y_2243,224.306 {450},Cts/S, 21113.,34.843,.16503,21089.,21138.
Y_3600,360.073 { 94},Cts/S, 177980.,101.23,.05688,178050.,177910.
Y_3710,371.030 { 91},Cts/S, 12427.,88.421,.71152,12490.,12364.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0017,.0001,8.650, .0016, .0018
Al3082,308.215 {109},In2306,ppm, .7062,.0289,4.095, .7267, .6858
As1890,189.042 {478},Y_2243,ppm, -.0500,.0001,.2621, -.0501, -.0499
B_2496,249.678 {135},Y_3710,ppm, .0023,.0081,349.3, -.0034, .0081
Ba4554,455.403 { 74},Y_3710,ppm, .0221,.0002,.7289, .0222, .0220
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,69.60, .0001, .0000
Ca3158,315.887 {107},In2306,ppm, 16.17,.0640,.3960, 16.12, 16.21
Cd2288,228.802 {447},Y_2243,ppm, .1589,.0006,.3791, .1585, .1593
Co2286,228.616 {447},In2306,ppm, .0524,.0001,.1531, .0523, .0524
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Cr2677,267.716 {126},Y_3600,ppm, 1.349,.0016,.1191, 1.348, 1.350
Cu3247,324.754 {104},Y_3600,ppm, 3.510,.0022,.0628, 3.509, 3.512
Fe2404,240.488 {140},In2306,ppm, 572.5,2.787,.4869, 570.5, 574.5
K_7664,766.490 { 44},Y_3710,ppm, .0778,.0043,5.465, .0808, .0748
Li6707,670.784 { 50},Y_3710,ppm, .0016,.0001,8.387, .0015, .0017
Mg2790,279.079 {121},Y_3710,ppm, .8090,.0308,3.812, .8308, .7872
Mn2576,257.610 {131},Y_3600,ppm, 2.699,.0227,.8402, 2.683, 2.715
Mo2020,202.030 {467},Y_2243,ppm, .1874,.0007,.3682, .1869, .1879
Na5895,589.592 { 57},Y_3710,ppm, 13.76,.0399,.2900, 13.79, 13.73
Ni2316,231.604 {445},In2306,ppm, .5033,.0009,.1872, .5039, .5026
P_1782,178.284 {489},In2306,ppm, .1037,.0016,1.560, .1026, .1049
Pb2203,220.353 {453},In2306,ppm, .3930,.0020,.5008, .3916, .3944
S_1820,182.034 {485},Y_2243,ppm, -1.794,.0188,1.048, -1.781, -1.808
Sb2068,206.833 {463},Y_2243,ppm, .0089,.0009,10.29, .0096, .0083
Se1960,196.090 {472},Y_2243,ppm, .0008,.0036,439.7, -.0017, .0034
Si2516,251.611 {134},Y_3710,ppm, 1.728,.0037,.2147, 1.726, 1.731
Sn1899,189.989 {477},In2306,ppm, .1212,.0000,.0032, .1212, .1212
Sr4215,421.552 { 80},Y_3710,ppm, .0328,.0004,1.281, .0331, .0325
Ti3349,334.904 {101},Y_3600,ppm, .0249,.0001,.3758, .0248, .0250
Tl1908,190.856 {477},In2306,ppm, .0131,.0015,11.75, .0120, .0142
U_3670,367.007 { 92},Y_3600,ppm, 3.119,.0198,.6349, 3.105, 3.133
V_2924,292.402 {115},Y_3600,ppm, .0162,.0005,3.064, .0159, .0166
W_2397,239.709 {140},Y_2243,ppm, -.0041,.0261,643.5, .0144, -.0225
Zn2062,206.200 {463},In2306,ppm, .2820,.0009,.3245, .2826, .2813

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 241.25,.47800,.19813,240.91,241.59
In2306,230.606 {446},Cts/S, 14253.,12.214,.08570,14244.,14261.
Y_2243,224.306 {450},Cts/S, 22780.,18.261,.08016,22793.,22767.
Y_3600,360.073 { 94},Cts/S, 192480.,522.10,.27125,192850.,192110.
Y_3710,371.030 { 91},Cts/S, 12639.,94.225,.74549,12573.,12706.

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Ag3280,328.068 {103},Y_3600,ppm, -.0002,.0003,153.3, .0000, -.0005
Al3082,308.215 {109},In2306,ppm, .0061,.0184,298.8, .0191, -.0068
As1890,189.042 {478},Y_2243,ppm, .0029,.0027,94.07, .0010, .0048
B_2496,249.678 {135},Y_3710,ppm, .1612,.0018,1.137, .1625, .1599
Ba4554,455.403 { 74},Y_3710,ppm, .7311,.0007,.0921, .7306, .7316
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0002,370.1, .0001, -.0001
Ca3158,315.887 {107},In2306,ppm, 233.2,2.855,1.224, 235.2, 231.1
Cd2288,228.802 {447},Y_2243,ppm, .0003,.0000,9.622, .0003, .0002
Co2286,228.616 {447},In2306,ppm, -.0001,.0001,137.9, -.0001, -.0000
Cr2677,267.716 {126},Y_3600,ppm, .0007,.0004,55.84, .0010, .0004
Cu3247,324.754 {104},Y_3600,ppm, .0025,.0001,5.648, .0026, .0024
Fe2404,240.488 {140},In2306,ppm, .0795,.0188,23.65, .0928, .0662
K_7664,766.490 { 44},Y_3710,ppm, 3.602,.0016,.0441, 3.604, 3.601
Li6707,670.784 { 50},Y_3710,ppm, .0565,.0008,1.479, .0571, .0559
Mg2790,279.079 {121},Y_3710,ppm, 37.56,.0209,.0557, 37.57, 37.54
Mn2576,257.610 {131},Y_3600,ppm, .1015,.0002,.2240, .1014, .1017
Mo2020,202.030 {467},Y_2243,ppm, .0003,.0001,15.32, .0004, .0003
Na5895,589.592 { 57},Y_3710,ppm, 154.5,.0874,.0566, 154.4, 154.5
Ni2316,231.604 {445},In2306,ppm, .0018,.0000,1.254, .0018, .0018
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P_1782,178.284 {489},In2306,ppm, .0905,.0002,.2317, .0904, .0907
Pb2203,220.353 {453},In2306,ppm, -.0002,.0005,312.1, -.0006, .0002
S_1820,182.034 {485},Y_2243,ppm, 8.305,.0748,.9011, 8.357, 8.252
Sb2068,206.833 {463},Y_2243,ppm, -.0002,.0005,286.8, -.0005, .0002
Se1960,196.090 {472},Y_2243,ppm, .0006,.0033,591.4, -.0018, .0029
Si2516,251.611 {134},Y_3710,ppm, 14.28,.1233,.8630, 14.37, 14.20
Sn1899,189.989 {477},In2306,ppm, .0004,.0000,1.207, .0004, .0004
Sr4215,421.552 { 80},Y_3710,ppm, 1.087,.0013,.1184, 1.086, 1.088
Ti3349,334.904 {101},Y_3600,ppm, .0018,.0003,18.96, .0016, .0020
Tl1908,190.856 {477},In2306,ppm, .0071,.0045,62.80, .0103, .0040
U_3670,367.007 { 92},Y_3600,ppm, .0950,.1297,136.6, .0032, .1867
V_2924,292.402 {115},Y_3600,ppm, .0018,.0002,12.21, .0020, .0017
W_2397,239.709 {140},Y_2243,ppm, .0300,.0124,41.24, .0212, .0387
Zn2062,206.200 {463},In2306,ppm, .0149,.0001,.4742, .0149, .0148

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 234.55,3.1185,1.3296,232.34,236.75
In2306,230.606 {446},Cts/S, 12938.,57.825,.44694,12897.,12979.
Y_2243,224.306 {450},Cts/S, 21684.,145.05,.66893,21582.,21787.
Y_3600,360.073 { 94},Cts/S, 183820.,1032.8,.56183,184550.,183090.
Y_3710,371.030 { 91},Cts/S, 12485.,4.2536,.03407,12482.,12488.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0004,.0001,29.11, -.0003, -.0005
Al3082,308.215 {109},In2306,ppm, .0422,.0122,28.79, .0508, .0336
As1890,189.042 {478},Y_2243,ppm, .0032,.0051,161.8, -.0005, .0068
B_2496,249.678 {135},Y_3710,ppm, .2379,.0034,1.437, .2403, .2355
Ba4554,455.403 { 74},Y_3710,ppm, .1252,.0013,1.077, .1242, .1261
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0001,99.19, -.0002, -.0000
Ca3158,315.887 {107},In2306,ppm, 78.37,1.038,1.324, 77.64, 79.11
Cd2288,228.802 {447},Y_2243,ppm, .0006,.0001,25.02, .0007, .0005
Co2286,228.616 {447},In2306,ppm, -.0003,.0001,28.51, -.0003, -.0004
Cr2677,267.716 {126},Y_3600,ppm, .0006,.0000,8.378, .0006, .0006
Cu3247,324.754 {104},Y_3600,ppm, .0021,.0001,3.719, .0020, .0021
Fe2404,240.488 {140},In2306,ppm, .0270,.0061,22.64, .0314, .0227
K_7664,766.490 { 44},Y_3710,ppm, 5.997,.0639,1.066, 5.951, 6.042
Li6707,670.784 { 50},Y_3710,ppm, .0445,.0002,.4712, .0447, .0444
Mg2790,279.079 {121},Y_3710,ppm, 23.41,.4539,1.939, 23.08, 23.73
Mn2576,257.610 {131},Y_3600,ppm, .0643,.0000,.0305, .0643, .0643
Mo2020,202.030 {467},Y_2243,ppm, .0072,.0003,4.799, .0075, .0070
Na5895,589.592 { 57},Y_3710,ppm, 242.0,6.047,2.499, 237.7, 246.3
Ni2316,231.604 {445},In2306,ppm, .0002,.0003,114.1, .0004, .0000
P_1782,178.284 {489},In2306,ppm, .1398,.0023,1.636, .1382, .1414
Pb2203,220.353 {453},In2306,ppm, -.0005,.0015,278.5, .0005, -.0016
S_1820,182.034 {485},Y_2243,ppm, 18.21,.0588,.3230, 18.17, 18.26
Sb2068,206.833 {463},Y_2243,ppm, .0000,.0008,2579., -.0005, .0006
Se1960,196.090 {472},Y_2243,ppm, .0006,.0009,145.9, -.0000, .0012
Si2516,251.611 {134},Y_3710,ppm, 8.838,.2319,2.624, 8.674, 9.001
Sn1899,189.989 {477},In2306,ppm, -.0001,.0000,68.06, -.0001, -.0000
Sr4215,421.552 { 80},Y_3710,ppm, .5118,.0043,.8382, .5088, .5148
Ti3349,334.904 {101},Y_3600,ppm, .0008,.0004,46.70, .0006, .0011
Tl1908,190.856 {477},In2306,ppm, .0013,.0002,13.52, .0011, .0014
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U_3670,367.007 { 92},Y_3600,ppm, .1009,.0060,5.951, .1051, .0966
V_2924,292.402 {115},Y_3600,ppm, -.0002,.0004,187.3, -.0005, .0001
W_2397,239.709 {140},Y_2243,ppm, .0120,.0410,341.5, -.0170, .0410
Zn2062,206.200 {463},In2306,ppm, .0170,.0001,.7685, .0169, .0170

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 238.69,2.5662,1.0751,240.50,236.87
In2306,230.606 {446},Cts/S, 13060.,34.461,.26387,13084.,13035.
Y_2243,224.306 {450},Cts/S, 21865.,62.676,.28664,21910.,21821.
Y_3600,360.073 { 94},Cts/S, 182540.,596.72,.32690,182960.,182120.
Y_3710,371.030 { 91},Cts/S, 12645.,172.43,1.3636,12767.,12523.

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Ag3280,328.068 {103},Y_3600,ppm, .0012,.0001,11.79, .0013, .0011
Al3082,308.215 {109},In2306,ppm, .0443,.0138,31.21, .0541, .0346
As1890,189.042 {478},Y_2243,ppm, .0099,.0003,3.111, .0101, .0096
B_2496,249.678 {135},Y_3710,ppm, .5356,.0052,.9656, .5319, .5392
Ba4554,455.403 { 74},Y_3710,ppm, .8792,.0054,.6134, .8754, .8830
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,156.6, .0000, -.0000
Ca3158,315.887 {107},In2306,ppm, 75.42,.2322,.3079, 75.26, 75.58
Cd2288,228.802 {447},Y_2243,ppm, .0007,.0003,35.59, .0009, .0005
Co2286,228.616 {447},In2306,ppm, -.0000,.0001,132.0, -.0000, -.0001
Cr2677,267.716 {126},Y_3600,ppm, .0011,.0004,32.95, .0013, .0008
Cu3247,324.754 {104},Y_3600,ppm, .0024,.0004,18.47, .0021, .0027
Fe2404,240.488 {140},In2306,ppm, 7.012,.0218,.3104, 6.996, 7.027
K_7664,766.490 { 44},Y_3710,ppm, 81.58,.5753,.7051, 81.18, 81.99
Li6707,670.784 { 50},Y_3710,ppm, .1241,.0010,.8355, .1234, .1248
Mg2790,279.079 {121},Y_3710,ppm, 92.89,.7125,.7671, 92.38, 93.39
Mn2576,257.610 {131},Y_3600,ppm, .4212,.0018,.4302, .4199, .4225
Mo2020,202.030 {467},Y_2243,ppm, .0016,.0001,7.269, .0017, .0015
Na5895,589.592 { 57},Y_3710,ppm, 989.2,4.787,.4839, 985.8, 992.6
Ni2316,231.604 {445},In2306,ppm, .0001,.0007,779.7, .0006, -.0004
P_1782,178.284 {489},In2306,ppm, .8670,.0089,1.025, .8733, .8607
Pb2203,220.353 {453},In2306,ppm, -.0003,.0014,426.4, -.0013, .0006
S_1820,182.034 {485},Y_2243,ppm, .4974,.0043,.8671, .5004, .4943
Sb2068,206.833 {463},Y_2243,ppm, -.0023,.0011,48.12, -.0031, -.0015
Se1960,196.090 {472},Y_2243,ppm, .0002,.0012,630.6, -.0007, .0011
Si2516,251.611 {134},Y_3710,ppm, 9.144,.1211,1.324, 9.058, 9.229
Sn1899,189.989 {477},In2306,ppm, -.0001,.0002,208.7, .0000, -.0002
Sr4215,421.552 { 80},Y_3710,ppm, 1.146,.0079,.6917, 1.141, 1.152
Ti3349,334.904 {101},Y_3600,ppm, .0010,.0002,23.93, .0008, .0011
Tl1908,190.856 {477},In2306,ppm, .0074,.0022,29.49, .0089, .0058
U_3670,367.007 { 92},Y_3600,ppm, .0775,.0561,72.42, .1171, .0378
V_2924,292.402 {115},Y_3600,ppm, -.0015,.0005,32.73, -.0018, -.0011
W_2397,239.709 {140},Y_2243,ppm, .0139,.0258,185.4, -.0043, .0322
Zn2062,206.200 {463},In2306,ppm, .0199,.0005,2.389, .0202, .0196

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 227.57,.08760,.03850,227.63,227.51
In2306,230.606 {446},Cts/S, 11595.,162.33,1.4000,11480.,11710.
Y_2243,224.306 {450},Cts/S, 20342.,295.51,1.4527,20133.,20551.
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Y_3600,360.073 { 94},Cts/S, 168330.,981.23,.58291,169030.,167640.
Y_3710,371.030 { 91},Cts/S, 12078.,54.973,.45514,12117.,12039.

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Ag3280,328.068 {103},Y_3600,ppm, .5824,.0037,.6337, .5850, .5798
Al3082,308.215 {109},In2306,ppm, 20.59,.0063,.0305, 20.59, 20.58
As1890,189.042 {478},Y_2243,ppm, 1.012,.0102,1.005, 1.005, 1.019
B_2496,249.678 {135},Y_3710,ppm, 1.007,.0089,.8829, 1.001, 1.013
Ba4554,455.403 { 74},Y_3710,ppm, 1.024,.0174,1.701, 1.012, 1.037
Be3130,313.042 {108},Y_3710,ppm, 1.016,.0159,1.568, 1.004, 1.027
Ca3158,315.887 {107},In2306,ppm, 20.33,.0701,.3448, 20.38, 20.28
Cd2288,228.802 {447},Y_2243,ppm, 1.028,.0144,1.399, 1.017, 1.038
Co2286,228.616 {447},In2306,ppm, 1.003,.0161,1.609, .9913, 1.014
Cr2677,267.716 {126},Y_3600,ppm, 1.002,.0038,.3747, 1.004, .9991
Cu3247,324.754 {104},Y_3600,ppm, 1.016,.0064,.6298, 1.020, 1.011
Fe2404,240.488 {140},In2306,ppm, 20.31,.0067,.0329, 20.31, 20.32
K_7664,766.490 { 44},Y_3710,ppm, 20.12,.2989,1.486, 19.91, 20.33
Li6707,670.784 { 50},Y_3710,ppm, 1.015,.0156,1.533, 1.004, 1.026
Mg2790,279.079 {121},Y_3710,ppm, 19.92,.2555,1.282, 19.74, 20.10
Mn2576,257.610 {131},Y_3600,ppm, 1.023,.0057,.5593, 1.027, 1.019
Mo2020,202.030 {467},Y_2243,ppm, 1.048,.0113,1.074, 1.040, 1.056
Na5895,589.592 { 57},Y_3710,ppm, 20.21,.2699,1.335, 20.02, 20.41
Ni2316,231.604 {445},In2306,ppm, 1.018,.0159,1.561, 1.007, 1.029
P_1782,178.284 {489},In2306,ppm, 10.24,.1232,1.204, 10.15, 10.32
Pb2203,220.353 {453},In2306,ppm, 1.013,.0164,1.617, 1.001, 1.024
S_1820,182.034 {485},Y_2243,ppm, 10.54,.1179,1.119, 10.46, 10.63
Sb2068,206.833 {463},Y_2243,ppm, 2.195,.0215,.9781, 2.180, 2.210
Se1960,196.090 {472},Y_2243,ppm, 1.023,.0114,1.113, 1.015, 1.031
Si2516,251.611 {134},Y_3710,ppm, 9.817,.2255,2.297, 9.658, 9.977
Sn1899,189.989 {477},In2306,ppm, 1.007,.0177,1.756, .9944, 1.019
Sr4215,421.552 { 80},Y_3710,ppm, 1.025,.0172,1.682, 1.013, 1.037
Ti3349,334.904 {101},Y_3600,ppm, 1.018,.0069,.6777, 1.023, 1.013
Tl1908,190.856 {477},In2306,ppm, 1.012,.0134,1.327, 1.003, 1.022
U_3670,367.007 { 92},Y_3600,ppm, .9344,.0621,6.649, .9783, .8904
V_2924,292.402 {115},Y_3600,ppm, 1.019,.0051,.5011, 1.023, 1.016
W_2397,239.709 {140},Y_2243,ppm, .9020,.0464,5.142, .9348, .8692
Zn2062,206.200 {463},In2306,ppm, 1.002,.0185,1.845, .9886, 1.015

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 240.73,1.1058,.45935,239.95,241.52
In2306,230.606 {446},Cts/S, 14445.,178.77,1.2376,14571.,14318.
Y_2243,224.306 {450},Cts/S, 23394.,253.27,1.0827,23573.,23214.
Y_3600,360.073 { 94},Cts/S, 195640.,1869.8,.95576,194310.,196960.
Y_3710,371.030 { 91},Cts/S, 12828.,172.60,1.3455,12950.,12706.

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Al3082,308.215 {109},In2306,ppm, .2025,.0303,14.96, .1811, .2239
As1890,189.042 {478},Y_2243,ppm, .0220,.0021,9.717, .0235, .0205
B_2496,249.678 {135},Y_3710,ppm, .2090,.0093,4.456, .2156, .2024
Ba4554,455.403 { 74},Y_3710,ppm, .0219,.0006,2.732, .0223, .0215
Be3130,313.042 {108},Y_3710,ppm, .0113,.0002,2.066, .0115, .0112
Ca3158,315.887 {107},In2306,ppm, 1.026,.0222,2.160, 1.042, 1.011
Cd2288,228.802 {447},Y_2243,ppm, .0114,.0001,1.184, .0113, .0115
Co2286,228.616 {447},In2306,ppm, .0106,.0004,3.348, .0103, .0108
Cr2677,267.716 {126},Y_3600,ppm, .0115,.0003,2.252, .0117, .0114
Cu3247,324.754 {104},Y_3600,ppm, .0117,.0002,1.417, .0118, .0116
Fe2404,240.488 {140},In2306,ppm, .2193,.0175,7.980, .2316, .2069
K_7664,766.490 { 44},Y_3710,ppm, 1.113,.0077,.6898, 1.118, 1.107
Li6707,670.784 { 50},Y_3710,ppm, .0105,.0007,6.585, .0110, .0100
Mg2790,279.079 {121},Y_3710,ppm, 1.074,.0330,3.070, 1.098, 1.051
Mn2576,257.610 {131},Y_3600,ppm, .0115,.0003,2.338, .0117, .0113
Mo2020,202.030 {467},Y_2243,ppm, .0238,.0003,1.074, .0236, .0239
Na5895,589.592 { 57},Y_3710,ppm, 1.112,.0211,1.900, 1.127, 1.097
Ni2316,231.604 {445},In2306,ppm, .0111,.0001,.8414, .0110, .0112
P_1782,178.284 {489},In2306,ppm, .9736,.0067,.6896, .9689, .9784
Pb2203,220.353 {453},In2306,ppm, .0118,.0009,7.578, .0112, .0124
S_1820,182.034 {485},Y_2243,ppm, .5136,.0032,.6320, .5114, .5159
Sb2068,206.833 {463},Y_2243,ppm, .0587,.0010,1.703, .0580, .0595
Se1960,196.090 {472},Y_2243,ppm, .0235,.0031,13.22, .0213, .0257
Si2516,251.611 {134},Y_3710,ppm, .2160,.0000,.0046, .2160, .2160
Sn1899,189.989 {477},In2306,ppm, .0217,.0001,.3516, .0216, .0217
Sr4215,421.552 { 80},Y_3710,ppm, .0114,.0001,1.137, .0115, .0113
Ti3349,334.904 {101},Y_3600,ppm, .0115,.0001,1.065, .0114, .0116
Tl1908,190.856 {477},In2306,ppm, .0351,.0010,2.910, .0359, .0344
U_3670,367.007 { 92},Y_3600,ppm, .1107,.0122,11.06, .1194, .1020
V_2924,292.402 {115},Y_3600,ppm, .0111,.0002,2.199, .0113, .0110
W_2397,239.709 {140},Y_2243,ppm, .0656,.0025,3.885, .0638, .0674
Zn2062,206.200 {463},In2306,ppm, .0185,.0002,1.052, .0183, .0186

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 254.13,2.9923,1.1775,252.02,256.25
In2306,230.606 {446},Cts/S, 16056.,40.572,.25269,16085.,16027.
Y_2243,224.306 {450},Cts/S, 24151.,76.691,.31755,24205.,24096.
Y_3600,360.073 { 94},Cts/S, 205390.,2766.7,1.3470,203440.,207350.
Y_3710,371.030 { 91},Cts/S, 13128.,173.77,1.3237,13005.,13251.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0004,.0000,8.386, .0004, .0004
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Al3082,308.215 {109},In2306,ppm, .0056,.0121,215.2, .0142, -.0029
As1890,189.042 {478},Y_2243,ppm, .0007,.0012,174.9, .0015, -.0002
B_2496,249.678 {135},Y_3710,ppm, .0003,.0016,640.6, -.0009, .0014
Ba4554,455.403 { 74},Y_3710,ppm, -.0003,.0001,15.65, -.0004, -.0003
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,15.31, .0000, .0000
Ca3158,315.887 {107},In2306,ppm, -.0124,.0045,36.09, -.0093, -.0156
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0000,63.58, -.0001, -.0000
Co2286,228.616 {447},In2306,ppm, -.0001,.0004,280.2, .0001, -.0004
Cr2677,267.716 {126},Y_3600,ppm, -.0000,.0002,405.0, .0001, -.0002
Cu3247,324.754 {104},Y_3600,ppm, -.0002,.0001,39.01, -.0002, -.0001
Fe2404,240.488 {140},In2306,ppm, .0039,.0002,4.552, .0038, .0040
K_7664,766.490 { 44},Y_3710,ppm, .0223,.0296,132.6, .0014, .0433
Li6707,670.784 { 50},Y_3710,ppm, -.0008,.0004,46.49, -.0006, -.0011
Mg2790,279.079 {121},Y_3710,ppm, -.0011,.0090,825.3, .0053, -.0074
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,188.8, .0000, -.0001
Mo2020,202.030 {467},Y_2243,ppm, -.0002,.0002,86.57, -.0003, -.0001
Na5895,589.592 { 57},Y_3710,ppm, .0136,.0035,25.38, .0112, .0161
Ni2316,231.604 {445},In2306,ppm, -.0001,.0001,136.2, -.0002, -.0000
P_1782,178.284 {489},In2306,ppm, -.0006,.0001,11.81, -.0007, -.0006
Pb2203,220.353 {453},In2306,ppm, .0006,.0019,307.9, .0020, -.0007
S_1820,182.034 {485},Y_2243,ppm, -.0017,.0021,122.1, -.0032, -.0002
Sb2068,206.833 {463},Y_2243,ppm, .0007,.0012,168.9, -.0001, .0015
Se1960,196.090 {472},Y_2243,ppm, .0034,.0012,35.38, .0043, .0026
Si2516,251.611 {134},Y_3710,ppm, .0173,.0020,11.70, .0159, .0187
Sn1899,189.989 {477},In2306,ppm, -.0002,.0001,61.17, -.0001, -.0002
Sr4215,421.552 { 80},Y_3710,ppm, -.0002,.0000,13.04, -.0001, -.0002
Ti3349,334.904 {101},Y_3600,ppm, -.0000,.0006,5180., .0004, -.0005
Tl1908,190.856 {477},In2306,ppm, .0093,.0016,17.66, .0104, .0081
U_3670,367.007 { 92},Y_3600,ppm, .0700,.0166,23.75, .0582, .0817
V_2924,292.402 {115},Y_3600,ppm, .0000,.0002,771.9, .0001, -.0001
W_2397,239.709 {140},Y_2243,ppm, -.0078,.0319,411.5, -.0303, .0148
Zn2062,206.200 {463},In2306,ppm, -.0014,.0001,4.246, -.0015, -.0014

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 251.96,1.7785,.70588,250.70,253.21
In2306,230.606 {446},Cts/S, 16268.,27.887,.17142,16288.,16248.
Y_2243,224.306 {450},Cts/S, 24058.,64.015,.26609,24103.,24013.
Y_3600,360.073 { 94},Cts/S, 203870.,362.28,.17770,204130.,203610.
Y_3710,371.030 { 91},Cts/S, 12873.,108.75,.84475,12796.,12950.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0008,.0008,93.11, .0014, .0003
Al3082,308.215 {109},In2306,ppm, .0089,.0117,131.5, .0171, .0006
As1890,189.042 {478},Y_2243,ppm, .0043,.0008,18.70, .0037, .0049
B_2496,249.678 {135},Y_3710,ppm, .4918,.0025,.5115, .4900, .4936
Ba4554,455.403 { 74},Y_3710,ppm, .4477,.0030,.6716, .4456, .4499
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0001,100.6, -.0001, -.0000
Ca3158,315.887 {107},In2306,ppm, 66.22,1.778,2.685, 64.96, 67.48
Cd2288,228.802 {447},Y_2243,ppm, .0016,.0000,1.248, .0016, .0016
Co2286,228.616 {447},In2306,ppm, .0002,.0002,120.0, .0000, .0003
Cr2677,267.716 {126},Y_3600,ppm, .0008,.0003,44.98, .0010, .0005
Cu3247,324.754 {104},Y_3600,ppm, .0038,.0002,4.806, .0039, .0037
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Fe2404,240.488 {140},In2306,ppm, .0469,.0063,13.39, .0513, .0424
K_7664,766.490 { 44},Y_3710,ppm, 14.92,.1009,.6767, 14.85, 14.99
Li6707,670.784 { 50},Y_3710,ppm, .0163,.0007,4.036, .0158, .0167
Mg2790,279.079 {121},Y_3710,ppm, 57.08,.2949,.5167, 57.29, 56.87
Mn2576,257.610 {131},Y_3600,ppm, .2498,.0028,1.106, .2478, .2517
Mo2020,202.030 {467},Y_2243,ppm, .0010,.0003,36.09, .0012, .0007
Na5895,589.592 { 57},Y_3710,ppm, 685.4,.7402,.1080, 684.9, 686.0
Ni2316,231.604 {445},In2306,ppm, .0027,.0001,3.684, .0028, .0027
P_1782,178.284 {489},In2306,ppm, .2102,.0001,.0316, .2102, .2101
Pb2203,220.353 {453},In2306,ppm, -.0001,.0004,406.3, .0002, -.0004
S_1820,182.034 {485},Y_2243,ppm, 1.077,.0040,.3746, 1.080, 1.074
Sb2068,206.833 {463},Y_2243,ppm, .0014,.0034,244.8, .0038, -.0010
Se1960,196.090 {472},Y_2243,ppm, .0006,.0003,48.52, .0004, .0008
Si2516,251.611 {134},Y_3710,ppm, 9.863,.0406,.4119, 9.834, 9.892
Sn1899,189.989 {477},In2306,ppm, .0003,.0006,198.6, .0008, -.0001
Sr4215,421.552 { 80},Y_3710,ppm, .7893,.0055,.6986, .7854, .7932
Ti3349,334.904 {101},Y_3600,ppm, .0008,.0001,18.21, .0009, .0007
Tl1908,190.856 {477},In2306,ppm, .0025,.0043,172.7, .0055, -.0006
U_3670,367.007 { 92},Y_3600,ppm, .1696,.0017,.9989, .1708, .1684
V_2924,292.402 {115},Y_3600,ppm, -.0012,.0001,8.103, -.0013, -.0011
W_2397,239.709 {140},Y_2243,ppm, .0393,.0389,98.92, .0118, .0669
Zn2062,206.200 {463},In2306,ppm, .0172,.0000,.2374, .0171, .0172

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 230.52,6.2244,2.7001,234.92,226.12
In2306,230.606 {446},Cts/S, 12110.,17.639,.14566,12097.,12122.
Y_2243,224.306 {450},Cts/S, 20863.,32.702,.15675,20840.,20886.
Y_3600,360.073 { 94},Cts/S, 172660.,2075.0,1.2018,174130.,171190.
Y_3710,371.030 { 91},Cts/S, 12453.,17.332,.13917,12466.,12441.

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Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0002,127.7, -.0000, -.0003
Al3082,308.215 {109},In2306,ppm, .0096,.0142,147.8, -.0004, .0197
As1890,189.042 {478},Y_2243,ppm, .0125,.0012,9.456, .0133, .0116
B_2496,249.678 {135},Y_3710,ppm, .5324,.0014,.2625, .5315, .5334
Ba4554,455.403 { 74},Y_3710,ppm, .4172,.0007,.1793, .4167, .4177
Be3130,313.042 {108},Y_3710,ppm, .0000,.0001,195.4, .0001, -.0000
Ca3158,315.887 {107},In2306,ppm, 38.45,.2407,.6261, 38.28, 38.62
Cd2288,228.802 {447},Y_2243,ppm, .0005,.0000,.8667, .0005, .0005
Co2286,228.616 {447},In2306,ppm, .0003,.0000,9.955, .0003, .0003
Cr2677,267.716 {126},Y_3600,ppm, .0012,.0001,9.809, .0011, .0013
Cu3247,324.754 {104},Y_3600,ppm, .0028,.0000,1.294, .0028, .0027
Fe2404,240.488 {140},In2306,ppm, .4309,.0053,1.222, .4347, .4272
K_7664,766.490 { 44},Y_3710,ppm, 115.4,.0186,.0161, 115.4, 115.4
Li6707,670.784 { 50},Y_3710,ppm, .0609,.0005,.8182, .0605, .0612
Mg2790,279.079 {121},Y_3710,ppm, 68.72,.3116,.4535, 68.94, 68.50
Mn2576,257.610 {131},Y_3600,ppm, .0483,.0001,.1157, .0482, .0483
Mo2020,202.030 {467},Y_2243,ppm, .0011,.0001,8.985, .0010, .0012
Na5895,589.592 { 57},Y_3710,ppm, 918.4,2.743,.2987, 920.3, 916.4
Ni2316,231.604 {445},In2306,ppm, .0021,.0001,3.837, .0022, .0021
P_1782,178.284 {489},In2306,ppm, .9004,.0023,.2605, .9021, .8988
Pb2203,220.353 {453},In2306,ppm, -.0008,.0001,9.838, -.0008, -.0009
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S_1820,182.034 {485},Y_2243,ppm, 1.513,.0043,.2828, 1.510, 1.516
Sb2068,206.833 {463},Y_2243,ppm, -.0009,.0001,6.725, -.0009, -.0009
Se1960,196.090 {472},Y_2243,ppm, -.0006,.0031,540.7, .0016, -.0028
Si2516,251.611 {134},Y_3710,ppm, 10.92,.0852,.7808, 10.86, 10.98
Sn1899,189.989 {477},In2306,ppm, -.0001,.0004,479.6, .0002, -.0004
Sr4215,421.552 { 80},Y_3710,ppm, .6501,.0002,.0302, .6502, .6499
Ti3349,334.904 {101},Y_3600,ppm, .0006,.0000,6.337, .0006, .0006
Tl1908,190.856 {477},In2306,ppm, .0011,.0021,190.8, .0026, -.0004
U_3670,367.007 { 92},Y_3600,ppm, .0681,.0234,34.30, .0516, .0847
V_2924,292.402 {115},Y_3600,ppm, -.0007,.0001,8.157, -.0007, -.0008
W_2397,239.709 {140},Y_2243,ppm, .0601,.0471,78.43, .0934, .0268
Zn2062,206.200 {463},In2306,ppm, .0188,.0001,.7562, .0189, .0187

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 233.03,1.2405,.53234,233.91,232.15
In2306,230.606 {446},Cts/S, 11748.,5.2834,.04497,11744.,11752.
Y_2243,224.306 {450},Cts/S, 20512.,6.1134,.02980,20517.,20508.
Y_3600,360.073 { 94},Cts/S, 170380.,359.66,.21110,170630.,170120.
Y_3710,371.030 { 91},Cts/S, 12463.,47.677,.38256,12429.,12496.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0001,.0000,4.386, .0001, .0001
Al3082,308.215 {109},In2306,ppm, -.0076,.0027,35.41, -.0095, -.0057
As1890,189.042 {478},Y_2243,ppm, .0117,.0001,.7432, .0117, .0116
B_2496,249.678 {135},Y_3710,ppm, .5290,.0122,2.304, .5204, .5376
Ba4554,455.403 { 74},Y_3710,ppm, .4093,.0006,.1505, .4088, .4097
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,56.24, -.0000, -.0001
Ca3158,315.887 {107},In2306,ppm, 37.99,.3265,.8596, 38.22, 37.76
Cd2288,228.802 {447},Y_2243,ppm, .0005,.0000,.7918, .0005, .0005
Co2286,228.616 {447},In2306,ppm, .0002,.0003,173.8, .0004, -.0000
Cr2677,267.716 {126},Y_3600,ppm, .0010,.0002,19.48, .0012, .0009
Cu3247,324.754 {104},Y_3600,ppm, .0017,.0004,24.54, .0020, .0014
Fe2404,240.488 {140},In2306,ppm, .4259,.0105,2.465, .4185, .4334
K_7664,766.490 { 44},Y_3710,ppm, 112.7,.7023,.6230, 112.2, 113.2
Li6707,670.784 { 50},Y_3710,ppm, .0591,.0003,.4607, .0589, .0593
Mg2790,279.079 {121},Y_3710,ppm, 67.41,.3313,.4915, 67.17, 67.64
Mn2576,257.610 {131},Y_3600,ppm, .0486,.0000,.0028, .0486, .0486
Mo2020,202.030 {467},Y_2243,ppm, .0011,.0002,20.79, .0010, .0013
Na5895,589.592 { 57},Y_3710,ppm, 903.3,2.571,.2847, 905.1, 901.4
Ni2316,231.604 {445},In2306,ppm, .0019,.0002,12.68, .0017, .0021
P_1782,178.284 {489},In2306,ppm, .8832,.0081,.9151, .8889, .8775
Pb2203,220.353 {453},In2306,ppm, -.0012,.0007,54.78, -.0007, -.0017
S_1820,182.034 {485},Y_2243,ppm, 1.483,.0050,.3352, 1.487, 1.479
Sb2068,206.833 {463},Y_2243,ppm, -.0017,.0000,2.932, -.0017, -.0017
Se1960,196.090 {472},Y_2243,ppm, -.0011,.0028,260.9, .0009, -.0030
Si2516,251.611 {134},Y_3710,ppm, 10.99,.1160,1.055, 10.91, 11.07
Sn1899,189.989 {477},In2306,ppm, .0007,.0003,46.92, .0005, .0009
Sr4215,421.552 { 80},Y_3710,ppm, .6397,.0010,.1508, .6390, .6404
Ti3349,334.904 {101},Y_3600,ppm, .0008,.0004,46.67, .0011, .0005
Tl1908,190.856 {477},In2306,ppm, .0050,.0006,12.25, .0046, .0054
U_3670,367.007 { 92},Y_3600,ppm, .0955,.0383,40.15, .0684, .1226
V_2924,292.402 {115},Y_3600,ppm, -.0008,.0002,22.79, -.0009, -.0006
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W_2397,239.709 {140},Y_2243,ppm, .0302,.0855,283.2, .0906, -.0302
Zn2062,206.200 {463},In2306,ppm, .0115,.0001,1.171, .0116, .0114

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 232.48,2.7062,1.1641,230.56,234.39
In2306,230.606 {446},Cts/S, 11727.,20.063,.17108,11741.,11713.
Y_2243,224.306 {450},Cts/S, 20479.,10.249,.05005,20486.,20471.
Y_3600,360.073 { 94},Cts/S, 171050.,294.81,.17235,170840.,171260.
Y_3710,371.030 { 91},Cts/S, 12543.,54.537,.43479,12582.,12505.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0014,.0000,1.100, .0014, .0014
Al3082,308.215 {109},In2306,ppm, .0113,.0146,130.2, .0009, .0216
As1890,189.042 {478},Y_2243,ppm, .0002,.0025,1391., -.0016, .0019
B_2496,249.678 {135},Y_3710,ppm, .4481,.0056,1.240, .4442, .4521
Ba4554,455.403 { 74},Y_3710,ppm, .3235,.0015,.4617, .3224, .3245
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,3.311, -.0000, -.0000
Ca3158,315.887 {107},In2306,ppm, 96.10,.1911,.1988, 95.97, 96.24
Cd2288,228.802 {447},Y_2243,ppm, .0005,.0000,5.769, .0005, .0006
Co2286,228.616 {447},In2306,ppm, -.0003,.0002,62.03, -.0004, -.0002
Cr2677,267.716 {126},Y_3600,ppm, .0006,.0002,35.79, .0005, .0008
Cu3247,324.754 {104},Y_3600,ppm, .0019,.0001,4.150, .0018, .0019
Fe2404,240.488 {140},In2306,ppm, .0913,.0085,9.322, .0974, .0853
K_7664,766.490 { 44},Y_3710,ppm, 17.98,.0811,.4510, 17.93, 18.04
Li6707,670.784 { 50},Y_3710,ppm, .0182,.0016,8.587, .0193, .0171
Mg2790,279.079 {121},Y_3710,ppm, 59.11,.5392,.9121, 58.73, 59.49
Mn2576,257.610 {131},Y_3600,ppm, .5200,.0010,.1967, .5207, .5192
Mo2020,202.030 {467},Y_2243,ppm, .0144,.0005,3.565, .0140, .0148
Na5895,589.592 { 57},Y_3710,ppm, 408.4,4.818,1.180, 405.0, 411.8
Ni2316,231.604 {445},In2306,ppm, .0004,.0000,4.137, .0004, .0004
P_1782,178.284 {489},In2306,ppm, .1161,.0026,2.216, .1143, .1179
Pb2203,220.353 {453},In2306,ppm, .0009,.0006,60.50, .0013, .0005
S_1820,182.034 {485},Y_2243,ppm, .5974,.0185,3.097, .5843, .6105
Sb2068,206.833 {463},Y_2243,ppm, -.0014,.0007,45.80, -.0019, -.0010
Se1960,196.090 {472},Y_2243,ppm, .0020,.0004,19.91, .0017, .0023
Si2516,251.611 {134},Y_3710,ppm, 7.228,.0729,1.009, 7.176, 7.279
Sn1899,189.989 {477},In2306,ppm, .0002,.0000,18.30, .0002, .0001
Sr4215,421.552 { 80},Y_3710,ppm, .9506,.0025,.2637, .9488, .9524
Ti3349,334.904 {101},Y_3600,ppm, .0009,.0002,17.33, .0008, .0010
Tl1908,190.856 {477},In2306,ppm, .0021,.0009,41.16, .0015, .0027
U_3670,367.007 { 92},Y_3600,ppm, .0815,.0175,21.51, .0691, .0939
V_2924,292.402 {115},Y_3600,ppm, -.0013,.0000,3.203, -.0013, -.0012
W_2397,239.709 {140},Y_2243,ppm, .0184,.0259,141.0, .0001, .0367
Zn2062,206.200 {463},In2306,ppm, .0108,.0004,3.574, .0105, .0111

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 233.58,.70843,.30329,234.08,233.08
In2306,230.606 {446},Cts/S, 12238.,281.14,2.2973,12437.,12039.
Y_2243,224.306 {450},Cts/S, 20661.,476.93,2.3084,20998.,20323.
Y_3600,360.073 { 94},Cts/S, 178500.,72.940,.04086,178550.,178440.
Y_3710,371.030 { 91},Cts/S, 12560.,122.26,.97338,12646.,12474.
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Run Time=11/13/2019 11:35:24
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0006,.0002,35.50, .0008, .0005
Al3082,308.215 {109},In2306,ppm, .0255,.0072,28.31, .0204, .0306
As1890,189.042 {478},Y_2243,ppm, .0047,.0012,25.19, .0055, .0038
B_2496,249.678 {135},Y_3710,ppm, .4957,.0098,1.985, .4887, .5026
Ba4554,455.403 { 74},Y_3710,ppm, .6917,.0033,.4783, .6893, .6940
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,126.5, -.0000, -.0001
Ca3158,315.887 {107},In2306,ppm, 109.3,.5907,.5405, 108.9, 109.7
Cd2288,228.802 {447},Y_2243,ppm, .0007,.0000,5.965, .0007, .0006
Co2286,228.616 {447},In2306,ppm, -.0001,.0000,18.45, -.0001, -.0001
Cr2677,267.716 {126},Y_3600,ppm, .0006,.0001,15.27, .0006, .0005
Cu3247,324.754 {104},Y_3600,ppm, .0024,.0000,.4401, .0024, .0024
Fe2404,240.488 {140},In2306,ppm, 3.842,.0517,1.346, 3.805, 3.878
K_7664,766.490 { 44},Y_3710,ppm, 15.90,.0897,.5641, 15.84, 15.96
Li6707,670.784 { 50},Y_3710,ppm, .0244,.0005,2.093, .0247, .0240
Mg2790,279.079 {121},Y_3710,ppm, 79.97,.0594,.0743, 79.93, 80.02
Mn2576,257.610 {131},Y_3600,ppm, .9173,.0017,.1830, .9185, .9161
Mo2020,202.030 {467},Y_2243,ppm, -.0004,.0001,18.04, -.0003, -.0004
Na5895,589.592 { 57},Y_3710,ppm, 824.0,1.207,.1464, 823.2, 824.9
Ni2316,231.604 {445},In2306,ppm, -.0007,.0004,55.55, -.0010, -.0004
P_1782,178.284 {489},In2306,ppm, .4314,.0013,.2988, .4305, .4323
Pb2203,220.353 {453},In2306,ppm, -.0008,.0003,38.99, -.0006, -.0010
S_1820,182.034 {485},Y_2243,ppm, .3525,.0068,1.919, .3573, .3477
Sb2068,206.833 {463},Y_2243,ppm, -.0001,.0002,168.0, -.0002, .0000
Se1960,196.090 {472},Y_2243,ppm, .0004,.0000,1.978, .0004, .0004
Si2516,251.611 {134},Y_3710,ppm, 20.85,.2631,1.262, 20.66, 21.04
Sn1899,189.989 {477},In2306,ppm, .0007,.0002,33.25, .0006, .0009
Sr4215,421.552 { 80},Y_3710,ppm, 1.251,.0068,.5454, 1.247, 1.256
Ti3349,334.904 {101},Y_3600,ppm, .0014,.0000,1.032, .0013, .0014
Tl1908,190.856 {477},In2306,ppm, .0018,.0008,43.81, .0012, .0023
U_3670,367.007 { 92},Y_3600,ppm, .1494,.1123,75.14, .0700, .2288
V_2924,292.402 {115},Y_3600,ppm, -.0014,.0003,17.73, -.0012, -.0016
W_2397,239.709 {140},Y_2243,ppm, -.0012,.0270,2268., -.0203, .0179
Zn2062,206.200 {463},In2306,ppm, .0177,.0000,.2560, .0178, .0177

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 231.78,2.1153,.91263,233.28,230.29
In2306,230.606 {446},Cts/S, 11670.,1.2751,.01093,11671.,11669.
Y_2243,224.306 {450},Cts/S, 20300.,13.669,.06734,20310.,20291.
Y_3600,360.073 { 94},Cts/S, 171310.,1143.0,.66720,170510.,172120.
Y_3710,371.030 { 91},Cts/S, 12524.,15.568,.12431,12535.,12513.

[Sample Header]
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Custom ID3=
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0011,.0006,57.54, .0016, .0007
Al3082,308.215 {109},In2306,ppm, -.0103,.0142,137.6, -.0003, -.0204
As1890,189.042 {478},Y_2243,ppm, .0000,.0010,2861., .0008, -.0007
B_2496,249.678 {135},Y_3710,ppm, .0015,.0006,38.68, .0011, .0019
Ba4554,455.403 { 74},Y_3710,ppm, -.0003,.0002,54.20, -.0004, -.0002
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,15.12, -.0000, -.0001
Ca3158,315.887 {107},In2306,ppm, -.0044,.0024,54.36, -.0027, -.0061
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0000,225.3, .0000, -.0000
Co2286,228.616 {447},In2306,ppm, -.0002,.0000,1.525, -.0002, -.0002
Cr2677,267.716 {126},Y_3600,ppm, .0002,.0000,9.867, .0001, .0002
Cu3247,324.754 {104},Y_3600,ppm, .0009,.0000,5.479, .0008, .0009
Fe2404,240.488 {140},In2306,ppm, .0009,.0024,260.6, -.0008, .0026
K_7664,766.490 { 44},Y_3710,ppm, .0750,.0161,21.47, .0863, .0636
Li6707,670.784 { 50},Y_3710,ppm, -.0006,.0003,48.73, -.0004, -.0009
Mg2790,279.079 {121},Y_3710,ppm, .0145,.0153,105.9, .0253, .0036
Mn2576,257.610 {131},Y_3600,ppm, .0001,.0000,24.54, .0001, .0001
Mo2020,202.030 {467},Y_2243,ppm, -.0008,.0001,12.23, -.0009, -.0007
Na5895,589.592 { 57},Y_3710,ppm, .8221,.0488,5.937, .8566, .7876
Ni2316,231.604 {445},In2306,ppm, -.0000,.0001,303.2, .0000, -.0001
P_1782,178.284 {489},In2306,ppm, .0005,.0013,245.9, .0014, -.0004
Pb2203,220.353 {453},In2306,ppm, -.0000,.0006,34780., .0004, -.0004
S_1820,182.034 {485},Y_2243,ppm, .0181,.0044,24.26, .0212, .0150
Sb2068,206.833 {463},Y_2243,ppm, .0005,.0003,64.12, .0003, .0008
Se1960,196.090 {472},Y_2243,ppm, .0012,.0015,127.4, .0022, .0001
Si2516,251.611 {134},Y_3710,ppm, .1861,.0072,3.891, .1810, .1912
Sn1899,189.989 {477},In2306,ppm, .0002,.0003,142.0, -.0000, .0004
Sr4215,421.552 { 80},Y_3710,ppm, .0002,.0001,35.55, .0003, .0002
Ti3349,334.904 {101},Y_3600,ppm, .0001,.0001,68.50, .0002, .0001
Tl1908,190.856 {477},In2306,ppm, .0021,.0004,20.54, .0025, .0018
U_3670,367.007 { 92},Y_3600,ppm, -.0088,.0185,210.8, -.0218, .0043
V_2924,292.402 {115},Y_3600,ppm, -.0001,.0001,215.7, -.0002, .0000
W_2397,239.709 {140},Y_2243,ppm, .0058,.0052,89.89, .0021, .0095
Zn2062,206.200 {463},In2306,ppm, .0031,.0001,2.030, .0031, .0030

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 254.41,1.0804,.42467,253.64,255.17
In2306,230.606 {446},Cts/S, 16176.,49.938,.30872,16211.,16141.
Y_2243,224.306 {450},Cts/S, 24154.,107.45,.44485,24230.,24078.
Y_3600,360.073 { 94},Cts/S, 207390.,171.16,.08253,207270.,207520.
Y_3710,371.030 { 91},Cts/S, 13130.,6.9555,.05298,13135.,13125.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0007,.0003,46.01, .0010, .0005
Al3082,308.215 {109},In2306,ppm, .0148,.0049,32.74, .0183, .0114
As1890,189.042 {478},Y_2243,ppm, .0023,.0020,89.89, .0008, .0037
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B_2496,249.678 {135},Y_3710,ppm, .0033,.0047,143.4, .0065, -.0000
Ba4554,455.403 { 74},Y_3710,ppm, .0959,.0007,.7719, .0954, .0965
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,190.2, .0000, -.0001
Ca3158,315.887 {107},In2306,ppm, 207.2,.0165,.0079, 207.2, 207.2
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0000,22.06, .0002, .0002
Co2286,228.616 {447},In2306,ppm, .0003,.0000,14.69, .0003, .0004
Cr2677,267.716 {126},Y_3600,ppm, .0004,.0002,44.25, .0006, .0003
Cu3247,324.754 {104},Y_3600,ppm, .0054,.0004,6.676, .0052, .0057
Fe2404,240.488 {140},In2306,ppm, .0176,.0037,20.94, .0202, .0150
K_7664,766.490 { 44},Y_3710,ppm, .9821,.0081,.8201, .9878, .9764
Li6707,670.784 { 50},Y_3710,ppm, .0039,.0011,28.98, .0047, .0031
Mg2790,279.079 {121},Y_3710,ppm, 1.775,.0108,.6101, 1.767, 1.783
Mn2576,257.610 {131},Y_3600,ppm, .0585,.0001,.2195, .0584, .0586
Mo2020,202.030 {467},Y_2243,ppm, -.0007,.0001,8.258, -.0007, -.0007
Na5895,589.592 { 57},Y_3710,ppm, .4402,.0037,.8400, .4428, .4376
Ni2316,231.604 {445},In2306,ppm, .0005,.0005,98.47, .0009, .0002
P_1782,178.284 {489},In2306,ppm, .0777,.0004,.5093, .0774, .0780
Pb2203,220.353 {453},In2306,ppm, .0022,.0003,15.86, .0024, .0019
S_1820,182.034 {485},Y_2243,ppm, 5.481,.0060,.1098, 5.477, 5.486
Sb2068,206.833 {463},Y_2243,ppm, .0009,.0023,259.1, .0025, -.0007
Se1960,196.090 {472},Y_2243,ppm, .0019,.0019,100.6, .0005, .0032
Si2516,251.611 {134},Y_3710,ppm, .6227,.0001,.0151, .6226, .6227
Sn1899,189.989 {477},In2306,ppm, .0000,.0005,1700., .0004, -.0003
Sr4215,421.552 { 80},Y_3710,ppm, .4959,.0008,.1658, .4954, .4965
Ti3349,334.904 {101},Y_3600,ppm, .0018,.0000,1.158, .0018, .0018
Tl1908,190.856 {477},In2306,ppm, .0019,.0002,8.631, .0018, .0020
U_3670,367.007 { 92},Y_3600,ppm, .0729,.0021,2.946, .0714, .0744
V_2924,292.402 {115},Y_3600,ppm, .0006,.0000,3.767, .0006, .0005
W_2397,239.709 {140},Y_2243,ppm, .0109,.0191,175.4, .0244, -.0026
Zn2062,206.200 {463},In2306,ppm, .0158,.0001,.4134, .0159, .0158

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 241.08,.77529,.32159,240.53,241.63
In2306,230.606 {446},Cts/S, 14005.,40.358,.28817,14034.,13976.
Y_2243,224.306 {450},Cts/S, 22517.,37.858,.16813,22543.,22490.
Y_3600,360.073 { 94},Cts/S, 192540.,183.17,.09513,192410.,192670.
Y_3710,371.030 { 91},Cts/S, 12833.,18.465,.14389,12820.,12846.

[Sample Header]
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Custom ID2=
Custom ID3=
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0013,.0004,27.86, .0011, .0016
Al3082,308.215 {109},In2306,ppm, -.0092,.0068,73.34, -.0044, -.0140
As1890,189.042 {478},Y_2243,ppm, .0032,.0013,41.13, .0023, .0042
B_2496,249.678 {135},Y_3710,ppm, .0056,.0011,19.97, .0048, .0064
Ba4554,455.403 { 74},Y_3710,ppm, .0960,.0009,.9348, .0954, .0967
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,593.3, .0000, -.0000
Ca3158,315.887 {107},In2306,ppm, 203.5,1.250,.6143, 202.6, 204.3
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0001,52.36, .0002, .0001
Co2286,228.616 {447},In2306,ppm, -.0000,.0000,21420., .0000, -.0000
Cr2677,267.716 {126},Y_3600,ppm, .0007,.0001,15.90, .0008, .0006
Cu3247,324.754 {104},Y_3600,ppm, .0058,.0003,5.844, .0060, .0055
Fe2404,240.488 {140},In2306,ppm, .0059,.0092,155.7, .0124, -.0006
K_7664,766.490 { 44},Y_3710,ppm, .9198,.0170,1.849, .9078, .9319
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Li6707,670.784 { 50},Y_3710,ppm, .0043,.0002,5.745, .0045, .0041
Mg2790,279.079 {121},Y_3710,ppm, 1.769,.0124,.6981, 1.778, 1.761
Mn2576,257.610 {131},Y_3600,ppm, .0585,.0003,.4904, .0587, .0583
Mo2020,202.030 {467},Y_2243,ppm, -.0005,.0000,7.226, -.0005, -.0004
Na5895,589.592 { 57},Y_3710,ppm, .4079,.0016,.3807, .4090, .4068
Ni2316,231.604 {445},In2306,ppm, .0007,.0002,23.37, .0008, .0006
P_1782,178.284 {489},In2306,ppm, .0778,.0006,.7619, .0782, .0774
Pb2203,220.353 {453},In2306,ppm, .0035,.0008,21.28, .0030, .0041
S_1820,182.034 {485},Y_2243,ppm, 5.500,.0150,.2722, 5.489, 5.510
Sb2068,206.833 {463},Y_2243,ppm, .0003,.0002,64.42, .0002, .0005
Se1960,196.090 {472},Y_2243,ppm, -.0009,.0029,332.2, .0012, -.0029
Si2516,251.611 {134},Y_3710,ppm, .5867,.0090,1.530, .5804, .5930
Sn1899,189.989 {477},In2306,ppm, .0002,.0000,22.24, .0001, .0002
Sr4215,421.552 { 80},Y_3710,ppm, .4926,.0031,.6293, .4904, .4948
Ti3349,334.904 {101},Y_3600,ppm, .0016,.0002,11.66, .0018, .0015
Tl1908,190.856 {477},In2306,ppm, .0072,.0003,4.184, .0070, .0074
U_3670,367.007 { 92},Y_3600,ppm, .0172,.0377,219.4, -.0095, .0438
V_2924,292.402 {115},Y_3600,ppm, .0009,.0001,16.21, .0008, .0010
W_2397,239.709 {140},Y_2243,ppm, -.0140,.0455,324.5, -.0462, .0182
Zn2062,206.200 {463},In2306,ppm, .0154,.0001,.7096, .0154, .0153

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 244.78,.88230,.36044,245.41,244.16
In2306,230.606 {446},Cts/S, 13998.,20.584,.14705,13984.,14013.
Y_2243,224.306 {450},Cts/S, 22451.,26.201,.11670,22433.,22470.
Y_3600,360.073 { 94},Cts/S, 192900.,1496.5,.77578,191850.,193960.
Y_3710,371.030 { 91},Cts/S, 12941.,68.072,.52602,12989.,12893.

[Sample Header]
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Custom ID2=
Custom ID3=
Run Time=11/13/2019 11:43:41
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2995,.0004,.1498, .2998, .2992
Al3082,308.215 {109},In2306,ppm, 10.83,.1065,.9831, 10.91, 10.76
As1890,189.042 {478},Y_2243,ppm, 1.031,.0114,1.101, 1.039, 1.023
B_2496,249.678 {135},Y_3710,ppm, .5067,.0001,.0246, .5068, .5066
Ba4554,455.403 { 74},Y_3710,ppm, 1.127,.0015,.1314, 1.126, 1.128
Be3130,313.042 {108},Y_3710,ppm, 1.030,.0063,.6117, 1.026, 1.035
Ca3158,315.887 {107},In2306,ppm, 217.2,2.682,1.235, 219.1, 215.3
Cd2288,228.802 {447},Y_2243,ppm, 1.038,.0133,1.278, 1.047, 1.028
Co2286,228.616 {447},In2306,ppm, .9993,.0126,1.259, 1.008, .9904
Cr2677,267.716 {126},Y_3600,ppm, .9672,.0046,.4783, .9705, .9640
Cu3247,324.754 {104},Y_3600,ppm, 1.045,.0029,.2774, 1.047, 1.043
Fe2404,240.488 {140},In2306,ppm, 10.39,.1054,1.014, 10.47, 10.32
K_7664,766.490 { 44},Y_3710,ppm, 11.36,.0097,.0858, 11.36, 11.35
Li6707,670.784 { 50},Y_3710,ppm, 1.047,.0029,.2744, 1.049, 1.045
Mg2790,279.079 {121},Y_3710,ppm, 11.64,.1743,1.497, 11.52, 11.77
Mn2576,257.610 {131},Y_3600,ppm, 1.055,.0036,.3411, 1.057, 1.052
Mo2020,202.030 {467},Y_2243,ppm, 1.044,.0125,1.201, 1.053, 1.035
Na5895,589.592 { 57},Y_3710,ppm, 10.93,.0105,.0958, 10.92, 10.93
Ni2316,231.604 {445},In2306,ppm, 1.019,.0112,1.099, 1.027, 1.011
P_1782,178.284 {489},In2306,ppm, 5.722,.0540,.9431, 5.760, 5.684
Pb2203,220.353 {453},In2306,ppm, 1.006,.0082,.8188, 1.012, 1.000
S_1820,182.034 {485},Y_2243,ppm, 11.12,.0962,.8652, 11.19, 11.05
Sb2068,206.833 {463},Y_2243,ppm, 1.688,.0167,.9902, 1.700, 1.676
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Se1960,196.090 {472},Y_2243,ppm, 1.038,.0100,.9591, 1.045, 1.031
Si2516,251.611 {134},Y_3710,ppm, 9.745,.0605,.6212, 9.702, 9.788
Sn1899,189.989 {477},In2306,ppm, 1.008,.0103,1.026, 1.016, 1.001
Sr4215,421.552 { 80},Y_3710,ppm, 1.519,.0002,.0136, 1.519, 1.519
Ti3349,334.904 {101},Y_3600,ppm, 1.015,.0006,.0579, 1.015, 1.015
Tl1908,190.856 {477},In2306,ppm, .9209,.0038,.4094, .9236, .9182
U_3670,367.007 { 92},Y_3600,ppm, .5531,.0017,.3117, .5519, .5543
V_2924,292.402 {115},Y_3600,ppm, 1.007,.0026,.2548, 1.009, 1.005
W_2397,239.709 {140},Y_2243,ppm, .3972,.0196,4.933, .3833, .4110
Zn2062,206.200 {463},In2306,ppm, .5183,.0045,.8679, .5214, .5151

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 239.61,3.8689,1.6147,236.88,242.35
In2306,230.606 {446},Cts/S, 13695.,129.18,.94331,13603.,13786.
Y_2243,224.306 {450},Cts/S, 22660.,235.00,1.0371,22494.,22826.
Y_3600,360.073 { 94},Cts/S, 192350.,313.37,.16291,192570.,192130.
Y_3710,371.030 { 91},Cts/S, 12973.,6.7440,.05199,12978.,12968.

[Sample Header]
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Custom ID3=
Run Time=11/13/2019 11:45:30
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Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .3013,.0009,.2903, .3020, .3007
Al3082,308.215 {109},In2306,ppm, 10.83,.0184,.1697, 10.82, 10.85
As1890,189.042 {478},Y_2243,ppm, 1.050,.0091,.8631, 1.056, 1.043
B_2496,249.678 {135},Y_3710,ppm, .5054,.0144,2.849, .4952, .5155
Ba4554,455.403 { 74},Y_3710,ppm, 1.134,.0025,.2189, 1.132, 1.135
Be3130,313.042 {108},Y_3710,ppm, 1.035,.0054,.5260, 1.031, 1.039
Ca3158,315.887 {107},In2306,ppm, 218.0,.7802,.3580, 217.4, 218.5
Cd2288,228.802 {447},Y_2243,ppm, 1.053,.0018,.1711, 1.054, 1.051
Co2286,228.616 {447},In2306,ppm, 1.010,.0017,.1645, 1.011, 1.009
Cr2677,267.716 {126},Y_3600,ppm, .9700,.0023,.2324, .9716, .9684
Cu3247,324.754 {104},Y_3600,ppm, 1.030,.0017,.1660, 1.029, 1.031
Fe2404,240.488 {140},In2306,ppm, 10.44,.0418,.4004, 10.41, 10.47
K_7664,766.490 { 44},Y_3710,ppm, 11.40,.0736,.6455, 11.34, 11.45
Li6707,670.784 { 50},Y_3710,ppm, 1.052,.0058,.5523, 1.048, 1.056
Mg2790,279.079 {121},Y_3710,ppm, 11.60,.1208,1.041, 11.51, 11.68
Mn2576,257.610 {131},Y_3600,ppm, 1.058,.0013,.1238, 1.059, 1.057
Mo2020,202.030 {467},Y_2243,ppm, 1.066,.0068,.6372, 1.071, 1.061
Na5895,589.592 { 57},Y_3710,ppm, 10.94,.0161,.1470, 10.93, 10.95
Ni2316,231.604 {445},In2306,ppm, 1.030,.0026,.2524, 1.031, 1.028
P_1782,178.284 {489},In2306,ppm, 5.822,.0462,.7941, 5.855, 5.789
Pb2203,220.353 {453},In2306,ppm, 1.020,.0121,1.188, 1.029, 1.011
S_1820,182.034 {485},Y_2243,ppm, 11.21,.0323,.2880, 11.24, 11.19
Sb2068,206.833 {463},Y_2243,ppm, 1.726,.0074,.4279, 1.731, 1.720
Se1960,196.090 {472},Y_2243,ppm, 1.056,.0069,.6578, 1.061, 1.051
Si2516,251.611 {134},Y_3710,ppm, 9.843,.0775,.7877, 9.788, 9.898
Sn1899,189.989 {477},In2306,ppm, 1.019,.0072,.7078, 1.024, 1.014
Sr4215,421.552 { 80},Y_3710,ppm, 1.526,.0055,.3621, 1.522, 1.530
Ti3349,334.904 {101},Y_3600,ppm, 1.019,.0000,.0043, 1.019, 1.019
Tl1908,190.856 {477},In2306,ppm, .9932,.0110,1.108, 1.001, .9854
U_3670,367.007 { 92},Y_3600,ppm, .5849,.0050,.8553, .5884, .5814
V_2924,292.402 {115},Y_3600,ppm, 1.009,.0020,.1961, 1.010, 1.007
W_2397,239.709 {140},Y_2243,ppm, .4429,.0207,4.675, .4283, .4576
Zn2062,206.200 {463},In2306,ppm, .5206,.0004,.0853, .5209, .5203
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[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 240.60,.36031,.14975,240.34,240.85
In2306,230.606 {446},Cts/S, 13533.,1.1284,.00834,13532.,13534.
Y_2243,224.306 {450},Cts/S, 22346.,13.174,.05896,22356.,22337.
Y_3600,360.073 { 94},Cts/S, 192280.,216.64,.11267,192130.,192430.
Y_3710,371.030 { 91},Cts/S, 13063.,51.978,.39792,13099.,13026.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .5749,.0032,.5491, .5727, .5771
Al3082,308.215 {109},In2306,ppm, 21.40,.9600,4.486, 20.72, 22.08
As1890,189.042 {478},Y_2243,ppm, 1.011,.0022,.2146, 1.009, 1.012
B_2496,249.678 {135},Y_3710,ppm, 1.031,.0453,4.395, .9992, 1.063
Ba4554,455.403 { 74},Y_3710,ppm, 1.060,.0523,4.934, 1.023, 1.097
Be3130,313.042 {108},Y_3710,ppm, 1.045,.0529,5.060, 1.007, 1.082
Ca3158,315.887 {107},In2306,ppm, 21.00,.9840,4.686, 20.30, 21.70
Cd2288,228.802 {447},Y_2243,ppm, 1.025,.0015,.1416, 1.026, 1.024
Co2286,228.616 {447},In2306,ppm, .9988,.0003,.0291, .9986, .9990
Cr2677,267.716 {126},Y_3600,ppm, .9819,.0064,.6508, .9774, .9865
Cu3247,324.754 {104},Y_3600,ppm, 1.004,.0078,.7734, .9986, 1.010
Fe2404,240.488 {140},In2306,ppm, 21.06,.9070,4.306, 20.42, 21.70
K_7664,766.490 { 44},Y_3710,ppm, 20.69,1.218,5.886, 19.83, 21.55
Li6707,670.784 { 50},Y_3710,ppm, 1.049,.0548,5.225, 1.010, 1.087
Mg2790,279.079 {121},Y_3710,ppm, 20.43,1.091,5.338, 19.66, 21.20
Mn2576,257.610 {131},Y_3600,ppm, 1.009,.0098,.9673, 1.002, 1.016
Mo2020,202.030 {467},Y_2243,ppm, 1.052,.0034,.3253, 1.054, 1.049
Na5895,589.592 { 57},Y_3710,ppm, 20.76,1.154,5.556, 19.95, 21.58
Ni2316,231.604 {445},In2306,ppm, 1.017,.0005,.0502, 1.017, 1.018
P_1782,178.284 {489},In2306,ppm, 10.28,.0200,.1942, 10.30, 10.27
Pb2203,220.353 {453},In2306,ppm, 1.008,.0008,.0822, 1.009, 1.008
S_1820,182.034 {485},Y_2243,ppm, 10.55,.0270,.2559, 10.57, 10.53
Sb2068,206.833 {463},Y_2243,ppm, 2.213,.0122,.5517, 2.222, 2.205
Se1960,196.090 {472},Y_2243,ppm, 1.022,.0074,.7258, 1.027, 1.017
Si2516,251.611 {134},Y_3710,ppm, 10.13,.5619,5.550, 9.728, 10.52
Sn1899,189.989 {477},In2306,ppm, 1.009,.0039,.3877, 1.012, 1.006
Sr4215,421.552 { 80},Y_3710,ppm, 1.060,.0535,5.046, 1.022, 1.098
Ti3349,334.904 {101},Y_3600,ppm, 1.006,.0092,.9152, .9998, 1.013
Tl1908,190.856 {477},In2306,ppm, 1.074,.0111,1.036, 1.082, 1.067
U_3670,367.007 { 92},Y_3600,ppm, .8965,.0145,1.621, .9068, .8862
V_2924,292.402 {115},Y_3600,ppm, 1.004,.0084,.8324, .9983, 1.010
W_2397,239.709 {140},Y_2243,ppm, 1.017,.0545,5.357, .9785, 1.056
Zn2062,206.200 {463},In2306,ppm, .9927,.0027,.2692, .9909, .9946

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 235.27,9.6572,4.1048,242.10,228.44
In2306,230.606 {446},Cts/S, 14431.,37.023,.25656,14404.,14457.
Y_2243,224.306 {450},Cts/S, 23337.,68.344,.29286,23288.,23385.
Y_3600,360.073 { 94},Cts/S, 197800.,1740.1,.87973,199030.,196570.
Y_3710,371.030 { 91},Cts/S, 12621.,587.39,4.6540,13037.,12206.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0123,.0004,2.860, .0125, .0120
Al3082,308.215 {109},In2306,ppm, .1903,.0037,1.941, .1877, .1929
As1890,189.042 {478},Y_2243,ppm, .0219,.0021,9.451, .0205, .0234
B_2496,249.678 {135},Y_3710,ppm, .2035,.0062,3.070, .2079, .1991
Ba4554,455.403 { 74},Y_3710,ppm, .0222,.0001,.4710, .0222, .0223
Be3130,313.042 {108},Y_3710,ppm, .0115,.0002,1.976, .0116, .0113
Ca3158,315.887 {107},In2306,ppm, 1.036,.0111,1.068, 1.028, 1.044
Cd2288,228.802 {447},Y_2243,ppm, .0113,.0000,.4284, .0114, .0113
Co2286,228.616 {447},In2306,ppm, .0106,.0000,.3028, .0106, .0106
Cr2677,267.716 {126},Y_3600,ppm, .0112,.0001,.7958, .0112, .0113
Cu3247,324.754 {104},Y_3600,ppm, .0121,.0006,4.891, .0117, .0125
Fe2404,240.488 {140},In2306,ppm, .2168,.0013,.6051, .2177, .2158
K_7664,766.490 { 44},Y_3710,ppm, 1.047,.0183,1.748, 1.060, 1.034
Li6707,670.784 { 50},Y_3710,ppm, .0105,.0002,1.608, .0106, .0103
Mg2790,279.079 {121},Y_3710,ppm, 1.042,.0315,3.020, 1.064, 1.019
Mn2576,257.610 {131},Y_3600,ppm, .0114,.0001,.7149, .0113, .0114
Mo2020,202.030 {467},Y_2243,ppm, .0240,.0000,.0555, .0240, .0240
Na5895,589.592 { 57},Y_3710,ppm, 1.092,.0024,.2192, 1.094, 1.090
Ni2316,231.604 {445},In2306,ppm, .0113,.0001,.7096, .0113, .0112
P_1782,178.284 {489},In2306,ppm, .9827,.0006,.0631, .9823, .9831
Pb2203,220.353 {453},In2306,ppm, .0114,.0004,3.595, .0116, .0111
S_1820,182.034 {485},Y_2243,ppm, .5191,.0013,.2525, .5201, .5182
Sb2068,206.833 {463},Y_2243,ppm, .0597,.0009,1.487, .0603, .0591
Se1960,196.090 {472},Y_2243,ppm, .0230,.0009,3.960, .0223, .0236
Si2516,251.611 {134},Y_3710,ppm, .2080,.0005,.2575, .2084, .2076
Sn1899,189.989 {477},In2306,ppm, .0217,.0005,2.168, .0213, .0220
Sr4215,421.552 { 80},Y_3710,ppm, .0113,.0001,.9561, .0112, .0114
Ti3349,334.904 {101},Y_3600,ppm, .0114,.0000,.2291, .0114, .0114
Tl1908,190.856 {477},In2306,ppm, .0497,.0058,11.57, .0538, .0457
U_3670,367.007 { 92},Y_3600,ppm, .0649,.0417,64.16, .0944, .0355
V_2924,292.402 {115},Y_3600,ppm, .0109,.0000,.4147, .0109, .0108
W_2397,239.709 {140},Y_2243,ppm, .0594,.0032,5.378, .0617, .0572
Zn2062,206.200 {463},In2306,ppm, .0183,.0003,1.376, .0181, .0185

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 256.07,1.0072,.39333,255.35,256.78
In2306,230.606 {446},Cts/S, 16004.,10.164,.06351,16011.,15997.
Y_2243,224.306 {450},Cts/S, 24119.,33.622,.13940,24095.,24143.
Y_3600,360.073 { 94},Cts/S, 206530.,1013.3,.49061,207250.,205810.
Y_3710,371.030 { 91},Cts/S, 13255.,123.12,.92891,13167.,13342.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0010,.0002,23.50, .0009, .0012
Al3082,308.215 {109},In2306,ppm, -.0073,.0306,416.9, .0143, -.0290
As1890,189.042 {478},Y_2243,ppm, .0003,.0013,446.3, -.0006, .0013
B_2496,249.678 {135},Y_3710,ppm, -.0003,.0009,290.5, .0003, -.0010
Ba4554,455.403 { 74},Y_3710,ppm, -.0004,.0001,14.44, -.0003, -.0004
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,69.22, .0000, .0001
Ca3158,315.887 {107},In2306,ppm, -.0150,.0021,14.18, -.0165, -.0135
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0001,781.7, -.0000, .0001
Co2286,228.616 {447},In2306,ppm, -.0002,.0002,158.7, .0000, -.0003
Cr2677,267.716 {126},Y_3600,ppm, .0000,.0001,358.6, -.0001, .0001
Cu3247,324.754 {104},Y_3600,ppm, .0008,.0004,46.51, .0005, .0011
Fe2404,240.488 {140},In2306,ppm, .0057,.0043,74.94, .0027, .0088
K_7664,766.490 { 44},Y_3710,ppm, .0151,.0055,36.55, .0190, .0112
Li6707,670.784 { 50},Y_3710,ppm, -.0006,.0011,202.3, .0002, -.0014
Mg2790,279.079 {121},Y_3710,ppm, .0372,.0278,74.59, .0569, .0176
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,1.148, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, -.0003,.0000,14.21, -.0003, -.0003
Na5895,589.592 { 57},Y_3710,ppm, .0132,.0009,6.720, .0138, .0126
Ni2316,231.604 {445},In2306,ppm, .0000,.0003,623.0, -.0002, .0002
P_1782,178.284 {489},In2306,ppm, -.0011,.0009,81.52, -.0005, -.0018
Pb2203,220.353 {453},In2306,ppm, -.0005,.0003,55.33, -.0007, -.0003
S_1820,182.034 {485},Y_2243,ppm, .0065,.0022,33.93, .0049, .0080
Sb2068,206.833 {463},Y_2243,ppm, .0002,.0014,753.1, -.0008, .0012
Se1960,196.090 {472},Y_2243,ppm, -.0007,.0007,109.9, -.0012, -.0001
Si2516,251.611 {134},Y_3710,ppm, .0146,.0134,91.45, .0241, .0052
Sn1899,189.989 {477},In2306,ppm, .0002,.0001,67.46, .0002, .0001
Sr4215,421.552 { 80},Y_3710,ppm, -.0000,.0001,111.7, -.0001, -.0000
Ti3349,334.904 {101},Y_3600,ppm, .0004,.0001,25.38, .0004, .0003
Tl1908,190.856 {477},In2306,ppm, .0202,.0007,3.477, .0198, .0207
U_3670,367.007 { 92},Y_3600,ppm, -.0149,.0414,278.0, .0144, -.0442
V_2924,292.402 {115},Y_3600,ppm, .0001,.0000,3.421, .0001, .0001
W_2397,239.709 {140},Y_2243,ppm, -.0023,.0380,1670., -.0291, .0246
Zn2062,206.200 {463},In2306,ppm, -.0015,.0001,4.894, -.0015, -.0014

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 253.49,3.1753,1.2526,255.74,251.25
In2306,230.606 {446},Cts/S, 16156.,27.787,.17199,16136.,16175.
Y_2243,224.306 {450},Cts/S, 24056.,53.837,.22380,24018.,24094.
Y_3600,360.073 { 94},Cts/S, 205760.,340.65,.16556,205520.,206000.
Y_3710,371.030 { 91},Cts/S, 13132.,18.550,.14126,13119.,13145.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0008,.0005,67.45, .0012, .0004
Al3082,308.215 {109},In2306,ppm, -.0086,.0152,176.9, -.0193, .0021
As1890,189.042 {478},Y_2243,ppm, -.0003,.0018,562.7, -.0016, .0010
B_2496,249.678 {135},Y_3710,ppm, .0005,.0024,496.0, -.0012, .0021
Ba4554,455.403 { 74},Y_3710,ppm, -.0003,.0001,34.55, -.0003, -.0004
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Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,567.0, -.0001, .0001
Ca3158,315.887 {107},In2306,ppm, -.0038,.0003,8.854, -.0040, -.0035
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,137.7, .0000, .0001
Co2286,228.616 {447},In2306,ppm, -.0001,.0001,61.50, -.0001, -.0002
Cr2677,267.716 {126},Y_3600,ppm, -.0001,.0001,203.8, .0000, -.0002
Cu3247,324.754 {104},Y_3600,ppm, .0015,.0003,18.02, .0013, .0017
Fe2404,240.488 {140},In2306,ppm, .0062,.0018,28.81, .0074, .0049
K_7664,766.490 { 44},Y_3710,ppm, -.0200,.0059,29.38, -.0241, -.0158
Li6707,670.784 { 50},Y_3710,ppm, .0001,.0001,54.87, .0001, .0001
Mg2790,279.079 {121},Y_3710,ppm, -.0133,.0190,142.8, .0001, -.0268
Mn2576,257.610 {131},Y_3600,ppm, .0001,.0000,21.10, .0001, .0001
Mo2020,202.030 {467},Y_2243,ppm, -.0005,.0002,43.62, -.0003, -.0006
Na5895,589.592 { 57},Y_3710,ppm, .0177,.0006,3.509, .0182, .0173
Ni2316,231.604 {445},In2306,ppm, .0004,.0003,89.43, .0001, .0006
P_1782,178.284 {489},In2306,ppm, -.0013,.0011,86.43, -.0005, -.0020
Pb2203,220.353 {453},In2306,ppm, .0010,.0014,146.3, .0020, -.0000
S_1820,182.034 {485},Y_2243,ppm, .0034,.0050,149.5, .0069, -.0002
Sb2068,206.833 {463},Y_2243,ppm, -.0001,.0001,141.8, .0000, -.0002
Se1960,196.090 {472},Y_2243,ppm, .0016,.0002,12.11, .0017, .0014
Si2516,251.611 {134},Y_3710,ppm, .0221,.0023,10.49, .0204, .0237
Sn1899,189.989 {477},In2306,ppm, .0003,.0001,37.57, .0004, .0002
Sr4215,421.552 { 80},Y_3710,ppm, .0001,.0001,89.27, .0000, .0001
Ti3349,334.904 {101},Y_3600,ppm, .0001,.0003,282.6, -.0001, .0003
Tl1908,190.856 {477},In2306,ppm, .0141,.0009,6.147, .0147, .0135
U_3670,367.007 { 92},Y_3600,ppm, -.0753,.0306,40.63, -.0969, -.0537
V_2924,292.402 {115},Y_3600,ppm, -.0002,.0001,76.26, -.0001, -.0003
W_2397,239.709 {140},Y_2243,ppm, -.0110,.0129,117.0, -.0019, -.0201
Zn2062,206.200 {463},In2306,ppm, .0064,.0001,2.315, .0063, .0065

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 259.47,.33523,.12920,259.24,259.71
In2306,230.606 {446},Cts/S, 16273.,44.709,.27474,16304.,16241.
Y_2243,224.306 {450},Cts/S, 24200.,44.952,.18575,24232.,24169.
Y_3600,360.073 { 94},Cts/S, 209960.,523.46,.24931,210330.,209590.
Y_3710,371.030 { 91},Cts/S, 13406.,105.78,.78910,13480.,13331.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2930,.0006,.2082, .2926, .2934
Al3082,308.215 {109},In2306,ppm, 10.32,.0148,.1434, 10.33, 10.31
As1890,189.042 {478},Y_2243,ppm, .9988,.0019,.1911, 1.000, .9974
B_2496,249.678 {135},Y_3710,ppm, .4945,.0007,.1515, .4939, .4950
Ba4554,455.403 { 74},Y_3710,ppm, 1.023,.0083,.8103, 1.029, 1.017
Be3130,313.042 {108},Y_3710,ppm, 1.007,.0032,.3217, 1.010, 1.005
Ca3158,315.887 {107},In2306,ppm, 10.07,.0072,.0712, 10.07, 10.08
Cd2288,228.802 {447},Y_2243,ppm, 1.022,.0005,.0516, 1.021, 1.022
Co2286,228.616 {447},In2306,ppm, .9690,.0010,.1083, .9698, .9683
Cr2677,267.716 {126},Y_3600,ppm, .9644,.0014,.1492, .9634, .9654
Cu3247,324.754 {104},Y_3600,ppm, .9972,.0011,.1131, .9964, .9980
Fe2404,240.488 {140},In2306,ppm, 10.11,.0277,.2741, 10.09, 10.13
K_7664,766.490 { 44},Y_3710,ppm, 10.07,.1160,1.152, 10.15, 9.986
Li6707,670.784 { 50},Y_3710,ppm, 1.013,.0111,1.096, 1.020, 1.005
Mg2790,279.079 {121},Y_3710,ppm, 9.874,.0099,.1005, 9.881, 9.867
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Mn2576,257.610 {131},Y_3600,ppm, 1.002,.0010,.1038, 1.001, 1.003
Mo2020,202.030 {467},Y_2243,ppm, 1.043,.0003,.0259, 1.043, 1.043
Na5895,589.592 { 57},Y_3710,ppm, 10.21,.0628,.6148, 10.26, 10.17
Ni2316,231.604 {445},In2306,ppm, .9904,.0031,.3152, .9926, .9882
P_1782,178.284 {489},In2306,ppm, 5.124,.0013,.0257, 5.125, 5.123
Pb2203,220.353 {453},In2306,ppm, .9881,.0015,.1560, .9892, .9870
S_1820,182.034 {485},Y_2243,ppm, 5.397,.0033,.0615, 5.399, 5.394
Sb2068,206.833 {463},Y_2243,ppm, 1.642,.0001,.0080, 1.642, 1.642
Se1960,196.090 {472},Y_2243,ppm, 1.014,.0009,.0927, 1.014, 1.015
Si2516,251.611 {134},Y_3710,ppm, 6.288,.0225,.3572, 6.304, 6.272
Sn1899,189.989 {477},In2306,ppm, .9819,.0022,.2272, .9835, .9803
Sr4215,421.552 { 80},Y_3710,ppm, 1.021,.0096,.9369, 1.028, 1.015
Ti3349,334.904 {101},Y_3600,ppm, .9924,.0004,.0397, .9922, .9927
Tl1908,190.856 {477},In2306,ppm, .9415,.0056,.5950, .9375, .9454
U_3670,367.007 { 92},Y_3600,ppm, .5009,.0088,1.752, .5071, .4947
V_2924,292.402 {115},Y_3600,ppm, .9909,.0005,.0533, .9905, .9913
W_2397,239.709 {140},Y_2243,ppm, .3779,.0418,11.07, .4075, .3484
Zn2062,206.200 {463},In2306,ppm, .4888,.0024,.4909, .4905, .4871

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 252.46,.07613,.03015,252.41,252.52
In2306,230.606 {446},Cts/S, 15007.,36.817,.24533,14981.,15033.
Y_2243,224.306 {450},Cts/S, 23549.,24.474,.10393,23532.,23566.
Y_3600,360.073 { 94},Cts/S, 203080.,53.193,.02619,203040.,203110.
Y_3710,371.030 { 91},Cts/S, 13344.,46.446,.34808,13311.,13376.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0007,.0004,50.70, .0004, .0009
Al3082,308.215 {109},In2306,ppm, 6.472,.0120,.1854, 6.463, 6.480
As1890,189.042 {478},Y_2243,ppm, .0037,.0016,41.75, .0026, .0049
B_2496,249.678 {135},Y_3710,ppm, .0534,.0035,6.550, .0509, .0559
Ba4554,455.403 { 74},Y_3710,ppm, .1562,.0005,.3351, .1566, .1558
Be3130,313.042 {108},Y_3710,ppm, .0003,.0000,7.036, .0004, .0003
Ca3158,315.887 {107},In2306,ppm, 27.55,.0568,.2060, 27.59, 27.51
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0001,34.87, .0002, .0002
Co2286,228.616 {447},In2306,ppm, .0007,.0001,7.961, .0007, .0008
Cr2677,267.716 {126},Y_3600,ppm, .0066,.0002,3.012, .0065, .0067
Cu3247,324.754 {104},Y_3600,ppm, .0077,.0000,.3469, .0077, .0077
Fe2404,240.488 {140},In2306,ppm, 3.368,.0023,.0672, 3.370, 3.367
K_7664,766.490 { 44},Y_3710,ppm, 2.621,.0031,.1196, 2.618, 2.623
Li6707,670.784 { 50},Y_3710,ppm, .0048,.0000,.4504, .0047, .0048
Mg2790,279.079 {121},Y_3710,ppm, 3.134,.0294,.9382, 3.155, 3.113
Mn2576,257.610 {131},Y_3600,ppm, .9403,.0013,.1407, .9394, .9412
Mo2020,202.030 {467},Y_2243,ppm, .0032,.0002,7.743, .0030, .0033
Na5895,589.592 { 57},Y_3710,ppm, 4.620,.0224,.4855, 4.636, 4.604
Ni2316,231.604 {445},In2306,ppm, .0029,.0004,13.61, .0027, .0032
P_1782,178.284 {489},In2306,ppm, .0970,.0045,4.653, .0938, .1001
Pb2203,220.353 {453},In2306,ppm, .0032,.0003,8.772, .0030, .0034
S_1820,182.034 {485},Y_2243,ppm, 8.092,.1216,1.503, 8.006, 8.178
Sb2068,206.833 {463},Y_2243,ppm, .0041,.0010,25.66, .0048, .0033
Se1960,196.090 {472},Y_2243,ppm, .0036,.0002,4.691, .0034, .0037
Si2516,251.611 {134},Y_3710,ppm, 8.552,.0009,.0110, 8.552, 8.553
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Sn1899,189.989 {477},In2306,ppm, .0007,.0001,7.266, .0008, .0007
Sr4215,421.552 { 80},Y_3710,ppm, .1374,.0007,.5087, .1379, .1369
Ti3349,334.904 {101},Y_3600,ppm, .0575,.0000,.0574, .0576, .0575
Tl1908,190.856 {477},In2306,ppm, .0415,.0032,7.721, .0438, .0392
U_3670,367.007 { 92},Y_3600,ppm, .0050,.0026,51.75, .0032, .0069
V_2924,292.402 {115},Y_3600,ppm, .0118,.0005,3.833, .0121, .0114
W_2397,239.709 {140},Y_2243,ppm, .0145,.0346,239.0, .0390, -.0100
Zn2062,206.200 {463},In2306,ppm, .3785,.0068,1.807, .3736, .3833

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 252.40,.75413,.29879,252.93,251.86
In2306,230.606 {446},Cts/S, 15252.,205.92,1.3500,15398.,15107.
Y_2243,224.306 {450},Cts/S, 23847.,273.27,1.1459,24041.,23654.
Y_3600,360.073 { 94},Cts/S, 204230.,757.80,.37105,204770.,203690.
Y_3710,371.030 { 91},Cts/S, 13307.,44.287,.33281,13338.,13276.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0007,.0004,55.50, .0010, .0005
Al3082,308.215 {109},In2306,ppm, 6.283,.0700,1.113, 6.234, 6.333
As1890,189.042 {478},Y_2243,ppm, .0030,.0008,27.41, .0036, .0025
B_2496,249.678 {135},Y_3710,ppm, .0549,.0015,2.665, .0559, .0539
Ba4554,455.403 { 74},Y_3710,ppm, .1473,.0015,1.007, .1462, .1483
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,33.46, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, 26.99,.0991,.3674, 26.92, 27.06
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,13.51, .0001, .0002
Co2286,228.616 {447},In2306,ppm, .0008,.0000,4.686, .0008, .0008
Cr2677,267.716 {126},Y_3600,ppm, .0061,.0001,1.413, .0062, .0060
Cu3247,324.754 {104},Y_3600,ppm, .0076,.0002,3.000, .0077, .0074
Fe2404,240.488 {140},In2306,ppm, 3.276,.0307,.9360, 3.255, 3.298
K_7664,766.490 { 44},Y_3710,ppm, 2.518,.0060,.2400, 2.513, 2.522
Li6707,670.784 { 50},Y_3710,ppm, .0038,.0003,7.042, .0040, .0036
Mg2790,279.079 {121},Y_3710,ppm, 3.057,.0726,2.375, 3.006, 3.108
Mn2576,257.610 {131},Y_3600,ppm, .9420,.0035,.3666, .9396, .9445
Mo2020,202.030 {467},Y_2243,ppm, .0022,.0001,3.578, .0021, .0023
Na5895,589.592 { 57},Y_3710,ppm, 4.498,.0419,.9312, 4.468, 4.527
Ni2316,231.604 {445},In2306,ppm, .0027,.0004,15.53, .0030, .0024
P_1782,178.284 {489},In2306,ppm, .0946,.0009,.9616, .0940, .0953
Pb2203,220.353 {453},In2306,ppm, .0033,.0001,2.903, .0033, .0034
S_1820,182.034 {485},Y_2243,ppm, 7.995,.0442,.5533, 8.026, 7.964
Sb2068,206.833 {463},Y_2243,ppm, -.0005,.0024,451.4, -.0022, .0012
Se1960,196.090 {472},Y_2243,ppm, .0025,.0011,44.26, .0032, .0017
Si2516,251.611 {134},Y_3710,ppm, 8.720,.1096,1.257, 8.642, 8.797
Sn1899,189.989 {477},In2306,ppm, -.0001,.0000,16.85, -.0001, -.0001
Sr4215,421.552 { 80},Y_3710,ppm, .1328,.0011,.7905, .1321, .1336
Ti3349,334.904 {101},Y_3600,ppm, .0567,.0007,1.291, .0562, .0572
Tl1908,190.856 {477},In2306,ppm, .0177,.0006,3.319, .0182, .0173
U_3670,367.007 { 92},Y_3600,ppm, -.0515,.0459,89.03, -.0839, -.0191
V_2924,292.402 {115},Y_3600,ppm, .0116,.0001,1.222, .0115, .0117
W_2397,239.709 {140},Y_2243,ppm, .0011,.0069,632.7, .0060, -.0038
Zn2062,206.200 {463},In2306,ppm, .3587,.0002,.0625, .3589, .3586

[Internal Standards]
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Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 254.42,1.1669,.45863,255.24,253.59
In2306,230.606 {446},Cts/S, 15230.,62.615,.41113,15186.,15274.
Y_2243,224.306 {450},Cts/S, 23811.,137.89,.57908,23714.,23909.
Y_3600,360.073 { 94},Cts/S, 204200.,730.27,.35762,204720.,203680.
Y_3710,371.030 { 91},Cts/S, 13611.,98.705,.72518,13681.,13541.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2928,.0006,.2217, .2933, .2924
Al3082,308.215 {109},In2306,ppm, 18.13,.1716,.9462, 18.25, 18.01
As1890,189.042 {478},Y_2243,ppm, 1.010,.0008,.0773, 1.010, 1.009
B_2496,249.678 {135},Y_3710,ppm, .5369,.0010,.1776, .5362, .5376
Ba4554,455.403 { 74},Y_3710,ppm, 1.172,.0032,.2708, 1.175, 1.170
Be3130,313.042 {108},Y_3710,ppm, .9990,.0005,.0479, .9987, .9994
Ca3158,315.887 {107},In2306,ppm, 36.94,.2464,.6670, 37.12, 36.77
Cd2288,228.802 {447},Y_2243,ppm, 1.021,.0023,.2245, 1.019, 1.023
Co2286,228.616 {447},In2306,ppm, .9782,.0007,.0722, .9787, .9777
Cr2677,267.716 {126},Y_3600,ppm, .9567,.0007,.0723, .9562, .9571
Cu3247,324.754 {104},Y_3600,ppm, 1.007,.0022,.2191, 1.009, 1.006
Fe2404,240.488 {140},In2306,ppm, 13.21,.0880,.6659, 13.28, 13.15
K_7664,766.490 { 44},Y_3710,ppm, 12.78,.0380,.2970, 12.80, 12.75
Li6707,670.784 { 50},Y_3710,ppm, 1.011,.0050,.4947, 1.015, 1.008
Mg2790,279.079 {121},Y_3710,ppm, 12.86,.1050,.8160, 12.79, 12.94
Mn2576,257.610 {131},Y_3600,ppm, 1.916,.0008,.0429, 1.916, 1.915
Mo2020,202.030 {467},Y_2243,ppm, 1.041,.0003,.0288, 1.040, 1.041
Na5895,589.592 { 57},Y_3710,ppm, 14.71,.0372,.2527, 14.73, 14.68
Ni2316,231.604 {445},In2306,ppm, 1.005,.0013,.1271, 1.006, 1.004
P_1782,178.284 {489},In2306,ppm, 5.363,.0011,.0201, 5.363, 5.362
Pb2203,220.353 {453},In2306,ppm, .9952,.0003,.0346, .9949, .9954
S_1820,182.034 {485},Y_2243,ppm, 13.56,.0236,.1738, 13.54, 13.58
Sb2068,206.833 {463},Y_2243,ppm, 1.629,.0086,.5270, 1.623, 1.635
Se1960,196.090 {472},Y_2243,ppm, 1.011,.0039,.3865, 1.008, 1.013
Si2516,251.611 {134},Y_3710,ppm, 13.34,.0413,.3096, 13.31, 13.37
Sn1899,189.989 {477},In2306,ppm, .9884,.0027,.2731, .9865, .9904
Sr4215,421.552 { 80},Y_3710,ppm, 1.149,.0053,.4641, 1.153, 1.145
Ti3349,334.904 {101},Y_3600,ppm, 1.048,.0011,.1068, 1.047, 1.049
Tl1908,190.856 {477},In2306,ppm, .9494,.0040,.4241, .9465, .9522
U_3670,367.007 { 92},Y_3600,ppm, .5110,.0331,6.473, .5344, .4876
V_2924,292.402 {115},Y_3600,ppm, 1.000,.0006,.0645, 1.000, 1.001
W_2397,239.709 {140},Y_2243,ppm, .3985,.0086,2.154, .4045, .3924
Zn2062,206.200 {463},In2306,ppm, .8567,.0029,.3349, .8587, .8547

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 253.07,.62584,.24730,252.63,253.51
In2306,230.606 {446},Cts/S, 14536.,14.129,.09720,14546.,14526.
Y_2243,224.306 {450},Cts/S, 23339.,49.537,.21225,23374.,23304.
Y_3600,360.073 { 94},Cts/S, 200820.,26.252,.01307,200800.,200830.
Y_3710,371.030 { 91},Cts/S, 13483.,64.559,.47880,13529.,13438.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .2941,.0004,.1379, .2938, .2943
Al3082,308.215 {109},In2306,ppm, 18.30,.0250,.1365, 18.28, 18.32
As1890,189.042 {478},Y_2243,ppm, 1.012,.0020,.1946, 1.013, 1.010
B_2496,249.678 {135},Y_3710,ppm, .5430,.0080,1.469, .5486, .5374
Ba4554,455.403 { 74},Y_3710,ppm, 1.181,.0001,.0117, 1.181, 1.181
Be3130,313.042 {108},Y_3710,ppm, 1.003,.0030,.2989, 1.001, 1.005
Ca3158,315.887 {107},In2306,ppm, 37.20,.2111,.5675, 37.05, 37.35
Cd2288,228.802 {447},Y_2243,ppm, 1.027,.0025,.2396, 1.025, 1.029
Co2286,228.616 {447},In2306,ppm, .9798,.0015,.1508, .9788, .9809
Cr2677,267.716 {126},Y_3600,ppm, .9563,.0018,.1896, .9551, .9576
Cu3247,324.754 {104},Y_3600,ppm, 1.010,.0024,.2420, 1.008, 1.012
Fe2404,240.488 {140},In2306,ppm, 13.23,.0443,.3352, 13.20, 13.26
K_7664,766.490 { 44},Y_3710,ppm, 12.77,.0079,.0622, 12.76, 12.78
Li6707,670.784 { 50},Y_3710,ppm, 1.020,.0006,.0600, 1.021, 1.020
Mg2790,279.079 {121},Y_3710,ppm, 12.87,.0975,.7575, 12.80, 12.94
Mn2576,257.610 {131},Y_3600,ppm, 1.917,.0043,.2230, 1.914, 1.920
Mo2020,202.030 {467},Y_2243,ppm, 1.048,.0008,.0788, 1.049, 1.048
Na5895,589.592 { 57},Y_3710,ppm, 14.76,.0273,.1850, 14.74, 14.78
Ni2316,231.604 {445},In2306,ppm, 1.003,.0026,.2585, 1.001, 1.005
P_1782,178.284 {489},In2306,ppm, 5.309,.0014,.0262, 5.308, 5.310
Pb2203,220.353 {453},In2306,ppm, .9884,.0019,.1938, .9871, .9898
S_1820,182.034 {485},Y_2243,ppm, 13.58,.0142,.1046, 13.57, 13.59
Sb2068,206.833 {463},Y_2243,ppm, 1.666,.0031,.1842, 1.669, 1.664
Se1960,196.090 {472},Y_2243,ppm, 1.021,.0045,.4370, 1.024, 1.017
Si2516,251.611 {134},Y_3710,ppm, 20.44,.0611,.2988, 20.40, 20.49
Sn1899,189.989 {477},In2306,ppm, .9847,.0010,.1036, .9854, .9840
Sr4215,421.552 { 80},Y_3710,ppm, 1.156,.0010,.0865, 1.155, 1.156
Ti3349,334.904 {101},Y_3600,ppm, 1.048,.0030,.2846, 1.046, 1.050
Tl1908,190.856 {477},In2306,ppm, .9860,.0017,.1696, .9871, .9848
U_3670,367.007 { 92},Y_3600,ppm, .5637,.0011,.1893, .5629, .5644
V_2924,292.402 {115},Y_3600,ppm, 1.003,.0018,.1793, 1.002, 1.005
W_2397,239.709 {140},Y_2243,ppm, .3664,.0628,17.13, .4108, .3220
Zn2062,206.200 {463},In2306,ppm, .8549,.0031,.3674, .8526, .8571

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 251.42,1.4251,.56681,252.43,250.42
In2306,230.606 {446},Cts/S, 14450.,25.897,.17922,14431.,14468.
Y_2243,224.306 {450},Cts/S, 23088.,47.994,.20788,23054.,23122.
Y_3600,360.073 { 94},Cts/S, 200530.,262.17,.13074,200720.,200340.
Y_3710,371.030 { 91},Cts/S, 13501.,64.959,.48113,13547.,13455.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0007,.0003,48.88, .0004, .0009
Al3082,308.215 {109},In2306,ppm, .4082,.0162,3.980, .4197, .3967
As1890,189.042 {478},Y_2243,ppm, 1.324,.0178,1.344, 1.336, 1.311
B_2496,249.678 {135},Y_3710,ppm, .3255,.0055,1.677, .3293, .3216
Ba4554,455.403 { 74},Y_3710,ppm, 1.158,.0002,.0181, 1.158, 1.158
Be3130,313.042 {108},Y_3710,ppm, .0004,.0000,4.151, .0004, .0004
Ca3158,315.887 {107},In2306,ppm, 118.7,.3758,.3166, 118.4, 119.0
Cd2288,228.802 {447},Y_2243,ppm, -.0008,.0002,25.80, -.0009, -.0006
Co2286,228.616 {447},In2306,ppm, .0053,.0002,4.530, .0055, .0051
Cr2677,267.716 {126},Y_3600,ppm, .0036,.0000,.8665, .0036, .0036
Cu3247,324.754 {104},Y_3600,ppm, .0402,.0007,1.750, .0407, .0397
Fe2404,240.488 {140},In2306,ppm, 83.51,.3426,.4102, 83.27, 83.75
K_7664,766.490 { 44},Y_3710,ppm, 1.401,.0121,.8631, 1.392, 1.410
Li6707,670.784 { 50},Y_3710,ppm, .0223,.0005,2.225, .0227, .0220
Mg2790,279.079 {121},Y_3710,ppm, 22.98,.3190,1.388, 23.21, 22.76
Mn2576,257.610 {131},Y_3600,ppm, .5035,.0003,.0535, .5033, .5037
Mo2020,202.030 {467},Y_2243,ppm, .0035,.0004,10.31, .0033, .0038
Na5895,589.592 { 57},Y_3710,ppm, 374.8,6.000,1.601, 379.1, 370.6
Ni2316,231.604 {445},In2306,ppm, .0210,.0000,.0495, .0210, .0210
P_1782,178.284 {489},In2306,ppm, 13.11,.1100,.8390, 13.19, 13.03
Pb2203,220.353 {453},In2306,ppm, .0050,.0010,20.75, .0043, .0058
S_1820,182.034 {485},Y_2243,ppm, 651.1,7.321,1.124, 656.3, 645.9
Sb2068,206.833 {463},Y_2243,ppm, .0021,.0032,148.6, .0044, -.0001
Se1960,196.090 {472},Y_2243,ppm, .0392,.0021,5.397, .0407, .0377
Si2516,251.611 {134},Y_3710,ppm, 14.70,.0712,.4841, 14.65, 14.75
Sn1899,189.989 {477},In2306,ppm, .0010,.0001,12.74, .0009, .0011
Sr4215,421.552 { 80},Y_3710,ppm, 1.076,.0010,.0936, 1.076, 1.075
Ti3349,334.904 {101},Y_3600,ppm, .0067,.0001,1.047, .0067, .0068
Tl1908,190.856 {477},In2306,ppm, .0418,.0052,12.35, .0455, .0382
U_3670,367.007 { 92},Y_3600,ppm, .5871,.0118,2.008, .5787, .5954
V_2924,292.402 {115},Y_3600,ppm, .0007,.0003,42.11, .0010, .0005
W_2397,239.709 {140},Y_2243,ppm, .0403,.0414,102.6, .0696, .0111
Zn2062,206.200 {463},In2306,ppm, .0725,.0006,.7809, .0729, .0721

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 240.60,.47234,.19632,240.94,240.27
In2306,230.606 {446},Cts/S, 12736.,98.325,.77201,12667.,12806.
Y_2243,224.306 {450},Cts/S, 21634.,244.08,1.1282,21461.,21807.
Y_3600,360.073 { 94},Cts/S, 182930.,336.43,.18391,183170.,182690.
Y_3710,371.030 { 91},Cts/S, 13020.,53.063,.40754,12983.,13058.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0005,670.4, -.0004, .0003
Al3082,308.215 {109},In2306,ppm, .1654,.0117,7.103, .1737, .1571
As1890,189.042 {478},Y_2243,ppm, .0050,.0015,29.11, .0061, .0040
B_2496,249.678 {135},Y_3710,ppm, .0899,.0025,2.747, .0882, .0917
Ba4554,455.403 { 74},Y_3710,ppm, .1181,.0004,.3155, .1178, .1184
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,65.59, .0000, .0001
Ca3158,315.887 {107},In2306,ppm, 77.43,1.079,1.394, 78.19, 76.66
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Cd2288,228.802 {447},Y_2243,ppm, .0003,.0001,19.01, .0003, .0003
Co2286,228.616 {447},In2306,ppm, -.0003,.0001,36.50, -.0002, -.0004
Cr2677,267.716 {126},Y_3600,ppm, .0013,.0001,11.13, .0014, .0012
Cu3247,324.754 {104},Y_3600,ppm, .0071,.0002,2.129, .0070, .0072
Fe2404,240.488 {140},In2306,ppm, .3681,.0019,.5092, .3694, .3667
K_7664,766.490 { 44},Y_3710,ppm, 8.645,.0578,.6687, 8.604, 8.686
Li6707,670.784 { 50},Y_3710,ppm, .0091,.0008,9.057, .0097, .0085
Mg2790,279.079 {121},Y_3710,ppm, 6.871,.0379,.5519, 6.844, 6.897
Mn2576,257.610 {131},Y_3600,ppm, .0621,.0002,.3083, .0619, .0622
Mo2020,202.030 {467},Y_2243,ppm, .1381,.0005,.3260, .1378, .1384
Na5895,589.592 { 57},Y_3710,ppm, 184.3,2.758,1.496, 182.4, 186.3
Ni2316,231.604 {445},In2306,ppm, .0032,.0000,.1478, .0032, .0032
P_1782,178.284 {489},In2306,ppm, .9296,.0055,.5910, .9257, .9335
Pb2203,220.353 {453},In2306,ppm, .0006,.0025,443.9, -.0012, .0023
S_1820,182.034 {485},Y_2243,ppm, 32.21,.0019,.0059, 32.21, 32.21
Sb2068,206.833 {463},Y_2243,ppm, .0024,.0015,61.19, .0034, .0014
Se1960,196.090 {472},Y_2243,ppm, .0025,.0004,16.52, .0022, .0028
Si2516,251.611 {134},Y_3710,ppm, 7.144,.0558,.7811, 7.105, 7.184
Sn1899,189.989 {477},In2306,ppm, -.0002,.0003,152.6, .0000, -.0005
Sr4215,421.552 { 80},Y_3710,ppm, .5008,.0013,.2579, .4999, .5018
Ti3349,334.904 {101},Y_3600,ppm, .0029,.0000,1.542, .0028, .0029
Tl1908,190.856 {477},In2306,ppm, .0206,.0005,2.604, .0210, .0202
U_3670,367.007 { 92},Y_3600,ppm, .1224,.0224,18.33, .1065, .1383
V_2924,292.402 {115},Y_3600,ppm, .0029,.0001,1.815, .0029, .0029
W_2397,239.709 {140},Y_2243,ppm, .0217,.0305,140.6, .0001, .0433
Zn2062,206.200 {463},In2306,ppm, .0408,.0001,.2046, .0407, .0408

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 243.51,4.7098,1.9341,240.18,246.84
In2306,230.606 {446},Cts/S, 13392.,15.392,.11494,13402.,13381.
Y_2243,224.306 {450},Cts/S, 22017.,4.0492,.01839,22020.,22014.
Y_3600,360.073 { 94},Cts/S, 187670.,709.94,.37830,188170.,187160.
Y_3710,371.030 { 91},Cts/S, 13093.,40.891,.31231,13064.,13122.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .2929,.0029,.9978, .2908, .2949
Al3082,308.215 {109},In2306,ppm, 16.60,.2070,1.247, 16.45, 16.74
As1890,189.042 {478},Y_2243,ppm, .9966,.0005,.0473, .9962, .9969
B_2496,249.678 {135},Y_3710,ppm, .5442,.0077,1.424, .5387, .5497
Ba4554,455.403 { 74},Y_3710,ppm, 1.141,.0130,1.138, 1.132, 1.150
Be3130,313.042 {108},Y_3710,ppm, .9715,.0069,.7113, .9666, .9764
Ca3158,315.887 {107},In2306,ppm, 37.15,.3606,.9706, 36.90, 37.41
Cd2288,228.802 {447},Y_2243,ppm, 1.008,.0056,.5561, 1.004, 1.012
Co2286,228.616 {447},In2306,ppm, .9581,.0016,.1621, .9570, .9592
Cr2677,267.716 {126},Y_3600,ppm, .9468,.0055,.5810, .9429, .9507
Cu3247,324.754 {104},Y_3600,ppm, .9866,.0090,.9098, .9802, .9929
Fe2404,240.488 {140},In2306,ppm, 13.35,.1331,.9965, 13.26, 13.45
K_7664,766.490 { 44},Y_3710,ppm, 12.37,.1345,1.087, 12.28, 12.47
Li6707,670.784 { 50},Y_3710,ppm, .9944,.0106,1.063, .9870, 1.002
Mg2790,279.079 {121},Y_3710,ppm, 12.64,.0844,.6674, 12.58, 12.70
Mn2576,257.610 {131},Y_3600,ppm, 1.881,.0153,.8121, 1.870, 1.892
Mo2020,202.030 {467},Y_2243,ppm, 1.026,.0027,.2667, 1.024, 1.028
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Na5895,589.592 { 57},Y_3710,ppm, 14.47,.1391,.9615, 14.37, 14.57
Ni2316,231.604 {445},In2306,ppm, .9785,.0004,.0436, .9782, .9788
P_1782,178.284 {489},In2306,ppm, 5.279,.0237,.4480, 5.263, 5.296
Pb2203,220.353 {453},In2306,ppm, .9682,.0008,.0790, .9688, .9677
S_1820,182.034 {485},Y_2243,ppm, 13.50,.0597,.4423, 13.46, 13.54
Sb2068,206.833 {463},Y_2243,ppm, 1.655,.0076,.4571, 1.649, 1.660
Se1960,196.090 {472},Y_2243,ppm, 1.006,.0092,.9175, .9991, 1.012
Si2516,251.611 {134},Y_3710,ppm, 18.02,.2541,1.410, 17.84, 18.20
Sn1899,189.989 {477},In2306,ppm, .9637,.0059,.6073, .9596, .9678
Sr4215,421.552 { 80},Y_3710,ppm, 1.125,.0111,.9870, 1.117, 1.133
Ti3349,334.904 {101},Y_3600,ppm, 1.032,.0092,.8896, 1.025, 1.038
Tl1908,190.856 {477},In2306,ppm, 1.050,.0123,1.167, 1.041, 1.059
U_3670,367.007 { 92},Y_3600,ppm, .5823,.0772,13.27, .5277, .6369
V_2924,292.402 {115},Y_3600,ppm, .9794,.0066,.6772, .9747, .9840
W_2397,239.709 {140},Y_2243,ppm, .4182,.0114,2.724, .4101, .4262
Zn2062,206.200 {463},In2306,ppm, .8444,.0017,.2025, .8432, .8456

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 246.02,2.1401,.86987,247.54,244.51
In2306,230.606 {446},Cts/S, 14469.,30.897,.21353,14491.,14448.
Y_2243,224.306 {450},Cts/S, 23032.,85.101,.36950,23092.,22971.
Y_3600,360.073 { 94},Cts/S, 199470.,1047.3,.52503,200210.,198730.
Y_3710,371.030 { 91},Cts/S, 13308.,43.244,.32495,13339.,13277.

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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0003,.0001,31.50, .0003, .0002
Al3082,308.215 {109},In2306,ppm, 1.356,.0048,.3569, 1.360, 1.353
As1890,189.042 {478},Y_2243,ppm, .0006,.0000,6.984, .0006, .0006
B_2496,249.678 {135},Y_3710,ppm, .0093,.0026,27.71, .0111, .0075
Ba4554,455.403 { 74},Y_3710,ppm, .0319,.0002,.5699, .0317, .0320
Be3130,313.042 {108},Y_3710,ppm, .0002,.0000,10.59, .0002, .0002
Ca3158,315.887 {107},In2306,ppm, 5.774,.0064,.1112, 5.769, 5.778
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0001,411.5, -.0001, .0001
Co2286,228.616 {447},In2306,ppm, .0001,.0000,7.223, .0001, .0002
Cr2677,267.716 {126},Y_3600,ppm, .0015,.0001,5.853, .0016, .0014
Cu3247,324.754 {104},Y_3600,ppm, .0025,.0000,1.220, .0025, .0025
Fe2404,240.488 {140},In2306,ppm, .7031,.0157,2.227, .7141, .6920
K_7664,766.490 { 44},Y_3710,ppm, .5398,.0133,2.459, .5304, .5492
Li6707,670.784 { 50},Y_3710,ppm, .0003,.0002,63.77, .0001, .0004
Mg2790,279.079 {121},Y_3710,ppm, .6726,.0233,3.460, .6891, .6562
Mn2576,257.610 {131},Y_3600,ppm, .2015,.0028,1.380, .1995, .2034
Mo2020,202.030 {467},Y_2243,ppm, .0008,.0002,31.97, .0009, .0006
Na5895,589.592 { 57},Y_3710,ppm, .9908,.0011,.1158, .9900, .9916
Ni2316,231.604 {445},In2306,ppm, .0009,.0000,5.362, .0009, .0008
P_1782,178.284 {489},In2306,ppm, .0213,.0019,9.060, .0227, .0199
Pb2203,220.353 {453},In2306,ppm, .0010,.0006,64.96, .0014, .0005
S_1820,182.034 {485},Y_2243,ppm, 1.702,.0207,1.215, 1.716, 1.687
Sb2068,206.833 {463},Y_2243,ppm, .0036,.0019,53.42, .0049, .0022
Se1960,196.090 {472},Y_2243,ppm, .0016,.0026,157.6, -.0002, .0034
Si2516,251.611 {134},Y_3710,ppm, 1.926,.0130,.6772, 1.917, 1.936
Sn1899,189.989 {477},In2306,ppm, .0005,.0003,49.43, .0003, .0007
Sr4215,421.552 { 80},Y_3710,ppm, .0290,.0000,.1388, .0291, .0290
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Ti3349,334.904 {101},Y_3600,ppm, .0125,.0000,.2390, .0125, .0125
Tl1908,190.856 {477},In2306,ppm, .0060,.0003,5.540, .0062, .0058
U_3670,367.007 { 92},Y_3600,ppm, -.0397,.0023,5.794, -.0413, -.0381
V_2924,292.402 {115},Y_3600,ppm, .0025,.0002,9.421, .0023, .0026
W_2397,239.709 {140},Y_2243,ppm, .0148,.0044,29.60, .0117, .0179
Zn2062,206.200 {463},In2306,ppm, .0732,.0003,.4653, .0734, .0730

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 252.72,.64234,.25417,252.27,253.18
In2306,230.606 {446},Cts/S, 15924.,112.35,.70555,15844.,16003.
Y_2243,224.306 {450},Cts/S, 24030.,237.58,.98871,23862.,24198.
Y_3600,360.073 { 94},Cts/S, 205110.,1855.0,.90440,206420.,203800.
Y_3710,371.030 { 91},Cts/S, 13194.,25.662,.19449,13212.,13176.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
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Al3082,308.215 {109},In2306,ppm, 20.63,.3075,1.491, 20.41, 20.85
As1890,189.042 {478},Y_2243,ppm, 1.004,.0027,.2662, 1.006, 1.003
B_2496,249.678 {135},Y_3710,ppm, .9861,.0117,1.188, .9778, .9944
Ba4554,455.403 { 74},Y_3710,ppm, 1.035,.0121,1.169, 1.026, 1.043
Be3130,313.042 {108},Y_3710,ppm, 1.022,.0141,1.379, 1.012, 1.032
Ca3158,315.887 {107},In2306,ppm, 20.25,.3081,1.522, 20.03, 20.46
Cd2288,228.802 {447},Y_2243,ppm, 1.019,.0052,.5093, 1.023, 1.016
Co2286,228.616 {447},In2306,ppm, .9963,.0059,.5875, 1.000, .9921
Cr2677,267.716 {126},Y_3600,ppm, .9842,.0057,.5829, .9801, .9882
Cu3247,324.754 {104},Y_3600,ppm, 1.010,.0062,.6134, 1.005, 1.014
Fe2404,240.488 {140},In2306,ppm, 20.27,.1916,.9456, 20.13, 20.40
K_7664,766.490 { 44},Y_3710,ppm, 19.92,.1734,.8706, 19.80, 20.04
Li6707,670.784 { 50},Y_3710,ppm, 1.018,.0111,1.089, 1.010, 1.026
Mg2790,279.079 {121},Y_3710,ppm, 19.81,.2556,1.290, 19.63, 19.99
Mn2576,257.610 {131},Y_3600,ppm, 1.019,.0068,.6625, 1.014, 1.024
Mo2020,202.030 {467},Y_2243,ppm, 1.045,.0058,.5533, 1.049, 1.041
Na5895,589.592 { 57},Y_3710,ppm, 20.12,.2308,1.147, 19.96, 20.28
Ni2316,231.604 {445},In2306,ppm, 1.021,.0052,.5130, 1.024, 1.017
P_1782,178.284 {489},In2306,ppm, 10.33,.0290,.2806, 10.35, 10.30
Pb2203,220.353 {453},In2306,ppm, 1.008,.0045,.4494, 1.011, 1.005
S_1820,182.034 {485},Y_2243,ppm, 10.57,.0614,.5815, 10.61, 10.52
Sb2068,206.833 {463},Y_2243,ppm, 2.200,.0053,.2428, 2.203, 2.196
Se1960,196.090 {472},Y_2243,ppm, 1.020,.0032,.3110, 1.023, 1.018
Si2516,251.611 {134},Y_3710,ppm, 9.842,.1667,1.694, 9.724, 9.960
Sn1899,189.989 {477},In2306,ppm, 1.012,.0065,.6411, 1.017, 1.007
Sr4215,421.552 { 80},Y_3710,ppm, 1.034,.0120,1.161, 1.026, 1.043
Ti3349,334.904 {101},Y_3600,ppm, 1.018,.0066,.6519, 1.014, 1.023
Tl1908,190.856 {477},In2306,ppm, 1.024,.0039,.3783, 1.021, 1.026
U_3670,367.007 { 92},Y_3600,ppm, 1.004,.0136,1.353, .9947, 1.014
V_2924,292.402 {115},Y_3600,ppm, 1.012,.0070,.6936, 1.007, 1.017
W_2397,239.709 {140},Y_2243,ppm, .9335,.0189,2.025, .9468, .9201
Zn2062,206.200 {463},In2306,ppm, .9982,.0090,.8993, 1.005, .9918

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 244.14,.08235,.03373,244.19,244.08
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In2306,230.606 {446},Cts/S, 14365.,41.109,.28617,14336.,14394.
Y_2243,224.306 {450},Cts/S, 23327.,67.679,.29014,23279.,23374.
Y_3600,360.073 { 94},Cts/S, 196930.,459.45,.23330,197260.,196610.
Y_3710,371.030 { 91},Cts/S, 13017.,15.311,.11762,13028.,13006.

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Al3082,308.215 {109},In2306,ppm, .2122,.0137,6.452, .2025, .2219
As1890,189.042 {478},Y_2243,ppm, .0219,.0004,1.683, .0217, .0222
B_2496,249.678 {135},Y_3710,ppm, .2092,.0089,4.267, .2029, .2155
Ba4554,455.403 { 74},Y_3710,ppm, .0225,.0000,.2133, .0225, .0224
Be3130,313.042 {108},Y_3710,ppm, .0114,.0001,.6046, .0114, .0115
Ca3158,315.887 {107},In2306,ppm, 1.042,.0127,1.220, 1.033, 1.051
Cd2288,228.802 {447},Y_2243,ppm, .0113,.0001,.6753, .0113, .0112
Co2286,228.616 {447},In2306,ppm, .0105,.0001,1.144, .0106, .0104
Cr2677,267.716 {126},Y_3600,ppm, .0112,.0000,.0827, .0112, .0112
Cu3247,324.754 {104},Y_3600,ppm, .0122,.0000,.1303, .0122, .0123
Fe2404,240.488 {140},In2306,ppm, .2186,.0069,3.148, .2234, .2137
K_7664,766.490 { 44},Y_3710,ppm, 1.043,.0264,2.534, 1.062, 1.025
Li6707,670.784 { 50},Y_3710,ppm, .0113,.0009,7.956, .0107, .0119
Mg2790,279.079 {121},Y_3710,ppm, 1.050,.0122,1.159, 1.058, 1.041
Mn2576,257.610 {131},Y_3600,ppm, .0114,.0000,.2129, .0113, .0114
Mo2020,202.030 {467},Y_2243,ppm, .0238,.0003,1.215, .0240, .0236
Na5895,589.592 { 57},Y_3710,ppm, 1.090,.0064,.5889, 1.095, 1.086
Ni2316,231.604 {445},In2306,ppm, .0111,.0002,1.794, .0110, .0112
P_1782,178.284 {489},In2306,ppm, .9903,.0055,.5591, .9942, .9864
Pb2203,220.353 {453},In2306,ppm, .0116,.0004,3.856, .0119, .0113
S_1820,182.034 {485},Y_2243,ppm, .5313,.0033,.6251, .5337, .5290
Sb2068,206.833 {463},Y_2243,ppm, .0592,.0017,2.955, .0579, .0604
Se1960,196.090 {472},Y_2243,ppm, .0240,.0006,2.391, .0244, .0236
Si2516,251.611 {134},Y_3710,ppm, .2135,.0015,.6859, .2125, .2146
Sn1899,189.989 {477},In2306,ppm, .0221,.0001,.3208, .0221, .0220
Sr4215,421.552 { 80},Y_3710,ppm, .0114,.0001,1.223, .0115, .0113
Ti3349,334.904 {101},Y_3600,ppm, .0110,.0000,.2193, .0110, .0111
Tl1908,190.856 {477},In2306,ppm, .0358,.0023,6.314, .0374, .0342
U_3670,367.007 { 92},Y_3600,ppm, .0193,.0267,138.6, .0382, .0004
V_2924,292.402 {115},Y_3600,ppm, .0109,.0001,.4614, .0109, .0108
W_2397,239.709 {140},Y_2243,ppm, .0654,.0327,49.99, .0886, .0423
Zn2062,206.200 {463},In2306,ppm, .0182,.0000,.2214, .0182, .0182

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 251.01,2.0854,.83082,252.48,249.53
In2306,230.606 {446},Cts/S, 16003.,3.4006,.02125,16005.,16000.
Y_2243,224.306 {450},Cts/S, 24130.,16.560,.06863,24142.,24118.
Y_3600,360.073 { 94},Cts/S, 206770.,951.23,.46004,206100.,207440.
Y_3710,371.030 { 91},Cts/S, 13215.,39.674,.30022,13187.,13243.

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Al3082,308.215 {109},In2306,ppm, -.0023,.0292,1299., .0184, -.0229
As1890,189.042 {478},Y_2243,ppm, .0002,.0006,263.2, -.0002, .0006
B_2496,249.678 {135},Y_3710,ppm, -.0030,.0053,179.2, -.0068, .0008
Ba4554,455.403 { 74},Y_3710,ppm, -.0005,.0002,35.32, -.0004, -.0006
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,13.93, -.0000, -.0000
Ca3158,315.887 {107},In2306,ppm, -.0252,.0036,14.43, -.0278, -.0226
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Co2286,228.616 {447},In2306,ppm, -.0002,.0001,48.65, -.0001, -.0002
Cr2677,267.716 {126},Y_3600,ppm, .0002,.0000,23.73, .0002, .0002
Cu3247,324.754 {104},Y_3600,ppm, .0010,.0001,6.062, .0009, .0010
Fe2404,240.488 {140},In2306,ppm, .0058,.0017,29.84, .0046, .0070
K_7664,766.490 { 44},Y_3710,ppm, -.0263,.0045,17.08, -.0295, -.0231
Li6707,670.784 { 50},Y_3710,ppm, -.0010,.0000,1.263, -.0010, -.0010
Mg2790,279.079 {121},Y_3710,ppm, .0042,.0107,256.7, -.0034, .0118
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,46.29, -.0001, -.0000
Mo2020,202.030 {467},Y_2243,ppm, -.0002,.0002,95.20, -.0004, -.0001
Na5895,589.592 { 57},Y_3710,ppm, .0032,.0054,167.8, -.0006, .0070
Ni2316,231.604 {445},In2306,ppm, .0002,.0001,43.41, .0003, .0002
P_1782,178.284 {489},In2306,ppm, -.0014,.0003,23.27, -.0016, -.0011
Pb2203,220.353 {453},In2306,ppm, -.0001,.0000,26.39, -.0001, -.0001
S_1820,182.034 {485},Y_2243,ppm, .0174,.0044,25.23, .0204, .0143
Sb2068,206.833 {463},Y_2243,ppm, .0015,.0009,57.09, .0009, .0021
Se1960,196.090 {472},Y_2243,ppm, .0012,.0011,88.46, .0020, .0005
Si2516,251.611 {134},Y_3710,ppm, .0194,.0141,72.62, .0294, .0094
Sn1899,189.989 {477},In2306,ppm, .0005,.0007,144.0, .0009, -.0000
Sr4215,421.552 { 80},Y_3710,ppm, -.0001,.0000,43.50, -.0001, -.0001
Ti3349,334.904 {101},Y_3600,ppm, .0003,.0000,3.658, .0003, .0003
Tl1908,190.856 {477},In2306,ppm, .0112,.0010,9.246, .0119, .0104
U_3670,367.007 { 92},Y_3600,ppm, -.0493,.0572,116.0, -.0089, -.0898
V_2924,292.402 {115},Y_3600,ppm, -.0001,.0001,245.3, .0000, -.0002
W_2397,239.709 {140},Y_2243,ppm, .0057,.0327,572.2, -.0174, .0288
Zn2062,206.200 {463},In2306,ppm, -.0015,.0000,1.041, -.0015, -.0015

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 253.07,4.0610,1.6047,250.20,255.94
In2306,230.606 {446},Cts/S, 16065.,3.2072,.01996,16067.,16062.
Y_2243,224.306 {450},Cts/S, 23948.,17.606,.07352,23936.,23961.
Y_3600,360.073 { 94},Cts/S, 205780.,1045.6,.50809,206520.,205040.
Y_3710,371.030 { 91},Cts/S, 13055.,45.380,.34762,13087.,13023.


[Sample Header]
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Custom ID2=
Custom ID3=
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Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0002,.0003,118.0, .0004, .0000
Al3082,308.215 {109},In2306,ppm, -.0010,.0219,2306., .0145, -.0164
As1890,189.042 {478},Y_2243,ppm, -.0005,.0001,16.61, -.0006, -.0004
B_2496,249.678 {135},Y_3710,ppm, -.0003,.0034,1331., .0021, -.0027
Ba4554,455.403 { 74},Y_3710,ppm, -.0005,.0000,3.864, -.0005, -.0005
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,274.7, .0000, -.0000
Ca3158,315.887 {107},In2306,ppm, -.0195,.0042,21.78, -.0224, -.0165
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,5.799, .0001, .0001
Co2286,228.616 {447},In2306,ppm, -.0002,.0001,23.85, -.0002, -.0003
Cr2677,267.716 {126},Y_3600,ppm, .0005,.0001,24.99, .0006, .0004
Cu3247,324.754 {104},Y_3600,ppm, .0017,.0003,19.53, .0015, .0020
Fe2404,240.488 {140},In2306,ppm, .0089,.0085,94.84, .0029, .0150
K_7664,766.490 { 44},Y_3710,ppm, -.0174,.0179,102.6, -.0301, -.0048
Li6707,670.784 { 50},Y_3710,ppm, .0002,.0010,605.4, .0009, -.0005
Mg2790,279.079 {121},Y_3710,ppm, -.0055,.0038,69.54, -.0028, -.0082
Mn2576,257.610 {131},Y_3600,ppm, .0000,.0000,1243., .0000, -.0000
Mo2020,202.030 {467},Y_2243,ppm, -.0002,.0001,44.97, -.0001, -.0003
Na5895,589.592 { 57},Y_3710,ppm, 140.1,.3542,.2527, 139.9, 140.4
Ni2316,231.604 {445},In2306,ppm, .0002,.0003,183.8, .0004, -.0001
P_1782,178.284 {489},In2306,ppm, .0008,.0002,27.42, .0010, .0007
Pb2203,220.353 {453},In2306,ppm, -.0005,.0000,2.159, -.0005, -.0005
S_1820,182.034 {485},Y_2243,ppm, .0223,.0005,2.306, .0226, .0219
Sb2068,206.833 {463},Y_2243,ppm, .0018,.0006,34.83, .0013, .0022
Se1960,196.090 {472},Y_2243,ppm, .0014,.0018,129.2, .0001, .0027
Si2516,251.611 {134},Y_3710,ppm, .0115,.0138,119.8, .0018, .0212
Sn1899,189.989 {477},In2306,ppm, .0009,.0007,79.91, .0015, .0004
Sr4215,421.552 { 80},Y_3710,ppm, -.0002,.0000,31.61, -.0002, -.0001
Ti3349,334.904 {101},Y_3600,ppm, .0000,.0003,568.1, .0002, -.0001
Tl1908,190.856 {477},In2306,ppm, .0033,.0005,14.95, .0030, .0037
U_3670,367.007 { 92},Y_3600,ppm, -.0278,.0093,33.30, -.0213, -.0344
V_2924,292.402 {115},Y_3600,ppm, -.0002,.0002,125.7, -.0004, -.0000
W_2397,239.709 {140},Y_2243,ppm, .0272,.0551,202.5, .0662, -.0118
Zn2062,206.200 {463},In2306,ppm, .0016,.0001,4.456, .0015, .0016

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 246.86,.23490,.09516,247.03,246.69
In2306,230.606 {446},Cts/S, 13931.,26.861,.19282,13912.,13950.
Y_2243,224.306 {450},Cts/S, 22470.,26.859,.11953,22451.,22489.
Y_3600,360.073 { 94},Cts/S, 192320.,172.26,.08957,192450.,192200.
Y_3710,371.030 { 91},Cts/S, 13057.,32.898,.25196,13034.,13080.

[Sample Header]
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Custom ID2=
Custom ID3=
Run Time=11/13/2019 12:21:04
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0014,.0001,6.960, .0013, .0015
Al3082,308.215 {109},In2306,ppm, -.0169,.0133,78.47, -.0075, -.0263
As1890,189.042 {478},Y_2243,ppm, -.0008,.0026,318.2, -.0027, .0010
B_2496,249.678 {135},Y_3710,ppm, -.0056,.0015,25.95, -.0066, -.0046
Ba4554,455.403 { 74},Y_3710,ppm, -.0004,.0002,40.94, -.0003, -.0005
Be3130,313.042 {108},Y_3710,ppm, .0000,.0001,506.3, -.0000, .0001
Ca3158,315.887 {107},In2306,ppm, -.0224,.0110,49.37, -.0146, -.0302
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0000,6.526, -.0001, -.0001
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Co2286,228.616 {447},In2306,ppm, -.0001,.0002,246.9, .0000, -.0002
Cr2677,267.716 {126},Y_3600,ppm, .0003,.0002,68.89, .0001, .0004
Cu3247,324.754 {104},Y_3600,ppm, .0010,.0001,6.791, .0010, .0009
Fe2404,240.488 {140},In2306,ppm, -.0001,.0072,12690., .0050, -.0052
K_7664,766.490 { 44},Y_3710,ppm, -.0398,.0528,132.7, -.0025, -.0771
Li6707,670.784 { 50},Y_3710,ppm, -.0013,.0005,40.69, -.0009, -.0016
Mg2790,279.079 {121},Y_3710,ppm, .0069,.0165,238.2, .0186, -.0047
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,82.21, -.0000, -.0001
Mo2020,202.030 {467},Y_2243,ppm, -.0006,.0001,17.48, -.0005, -.0007
Na5895,589.592 { 57},Y_3710,ppm, .0377,.0097,25.84, .0446, .0308
Ni2316,231.604 {445},In2306,ppm, .0003,.0002,64.55, .0004, .0001
P_1782,178.284 {489},In2306,ppm, -.0002,.0008,366.2, -.0008, .0003
Pb2203,220.353 {453},In2306,ppm, .0005,.0008,154.2, .0011, -.0000
S_1820,182.034 {485},Y_2243,ppm, .0147,.0027,18.51, .0166, .0127
Sb2068,206.833 {463},Y_2243,ppm, .0008,.0000,.4350, .0008, .0008
Se1960,196.090 {472},Y_2243,ppm, .0004,.0025,574.1, -.0014, .0022
Si2516,251.611 {134},Y_3710,ppm, .0050,.0003,5.109, .0052, .0048
Sn1899,189.989 {477},In2306,ppm, .0006,.0004,63.84, .0003, .0009
Sr4215,421.552 { 80},Y_3710,ppm, .0001,.0000,53.92, .0001, .0001
Ti3349,334.904 {101},Y_3600,ppm, .0000,.0002,686.6, -.0001, .0002
Tl1908,190.856 {477},In2306,ppm, .0040,.0031,78.83, .0062, .0018
U_3670,367.007 { 92},Y_3600,ppm, -.0863,.0116,13.48, -.0780, -.0945
V_2924,292.402 {115},Y_3600,ppm, -.0001,.0000,3.413, -.0001, -.0001
W_2397,239.709 {140},Y_2243,ppm, .0162,.0225,138.8, .0003, .0320
Zn2062,206.200 {463},In2306,ppm, .0010,.0000,1.677, .0010, .0010

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 256.03,1.5485,.60481,254.94,257.13
In2306,230.606 {446},Cts/S, 16099.,6.1096,.03795,16095.,16104.
Y_2243,224.306 {450},Cts/S, 23955.,14.936,.06235,23965.,23944.
Y_3600,360.073 { 94},Cts/S, 208280.,560.41,.26907,207880.,208670.
Y_3710,371.030 { 91},Cts/S, 13256.,142.55,1.0754,13155.,13356.

[Sample Header]
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Custom ID2=
Custom ID3=
Run Time=11/13/2019 12:23:09
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2906,.0004,.1402, .2904, .2909
Al3082,308.215 {109},In2306,ppm, 10.34,.1661,1.606, 10.46, 10.23
As1890,189.042 {478},Y_2243,ppm, .9934,.0007,.0730, .9939, .9928
B_2496,249.678 {135},Y_3710,ppm, .4899,.0058,1.193, .4858, .4940
Ba4554,455.403 { 74},Y_3710,ppm, 1.020,.0038,.3714, 1.017, 1.023
Be3130,313.042 {108},Y_3710,ppm, 1.008,.0013,.1276, 1.007, 1.009
Ca3158,315.887 {107},In2306,ppm, 10.12,.1961,1.938, 10.26, 9.979
Cd2288,228.802 {447},Y_2243,ppm, 1.014,.0001,.0071, 1.014, 1.014
Co2286,228.616 {447},In2306,ppm, .9717,.0025,.2537, .9700, .9735
Cr2677,267.716 {126},Y_3600,ppm, .9619,.0008,.0824, .9625, .9614
Cu3247,324.754 {104},Y_3600,ppm, .9945,.0024,.2400, .9928, .9962
Fe2404,240.488 {140},In2306,ppm, 10.17,.2009,1.975, 10.31, 10.03
K_7664,766.490 { 44},Y_3710,ppm, 10.02,.0528,.5274, 9.978, 10.05
Li6707,670.784 { 50},Y_3710,ppm, 1.009,.0067,.6632, 1.005, 1.014
Mg2790,279.079 {121},Y_3710,ppm, 9.943,.0012,.0124, 9.944, 9.942
Mn2576,257.610 {131},Y_3600,ppm, 1.004,.0032,.3227, 1.006, 1.002
Mo2020,202.030 {467},Y_2243,ppm, 1.041,.0032,.3077, 1.043, 1.038
Na5895,589.592 { 57},Y_3710,ppm, 10.17,.0252,.2474, 10.15, 10.19
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Ni2316,231.604 {445},In2306,ppm, .9962,.0009,.0925, .9955, .9968
P_1782,178.284 {489},In2306,ppm, 5.086,.0197,.3879, 5.072, 5.100
Pb2203,220.353 {453},In2306,ppm, .9906,.0017,.1714, .9918, .9894
S_1820,182.034 {485},Y_2243,ppm, 5.328,.0182,.3414, 5.341, 5.315
Sb2068,206.833 {463},Y_2243,ppm, 1.658,.0017,.1045, 1.656, 1.659
Se1960,196.090 {472},Y_2243,ppm, 1.006,.0024,.2356, 1.008, 1.004
Si2516,251.611 {134},Y_3710,ppm, 9.278,.0506,.5454, 9.243, 9.314
Sn1899,189.989 {477},In2306,ppm, .9864,.0035,.3580, .9839, .9889
Sr4215,421.552 { 80},Y_3710,ppm, 1.018,.0038,.3714, 1.015, 1.021
Ti3349,334.904 {101},Y_3600,ppm, .9966,.0027,.2736, .9986, .9947
Tl1908,190.856 {477},In2306,ppm, .9376,.0125,1.335, .9287, .9464
U_3670,367.007 { 92},Y_3600,ppm, .4276,.0237,5.537, .4109, .4443
V_2924,292.402 {115},Y_3600,ppm, .9904,.0015,.1512, .9914, .9893
W_2397,239.709 {140},Y_2243,ppm, .3528,.0187,5.304, .3395, .3660
Zn2062,206.200 {463},In2306,ppm, .4887,.0022,.4493, .4872, .4903

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 248.99,6.0180,2.4169,244.74,253.25
In2306,230.606 {446},Cts/S, 14884.,1.6214,.01089,14883.,14885.
Y_2243,224.306 {450},Cts/S, 23531.,56.024,.23809,23491.,23570.
Y_3600,360.073 { 94},Cts/S, 201300.,447.53,.22231,200990.,201620.
Y_3710,371.030 { 91},Cts/S, 13230.,56.262,.42525,13191.,13270.

[Sample Header]
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Custom ID3=
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Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0003,.0004,128.4, .0006, .0000
Al3082,308.215 {109},In2306,ppm, -.0042,.0207,492.5, -.0189, .0104
As1890,189.042 {478},Y_2243,ppm, .0009,.0008,87.41, .0014, .0003
B_2496,249.678 {135},Y_3710,ppm, .0020,.0024,120.0, .0037, .0003
Ba4554,455.403 { 74},Y_3710,ppm, .0256,.0003,.9956, .0254, .0258
Be3130,313.042 {108},Y_3710,ppm, .0000,.0002,1709., .0001, -.0001
Ca3158,315.887 {107},In2306,ppm, .3763,.0018,.4679, .3750, .3775
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0001,54.88, .0001, .0003
Co2286,228.616 {447},In2306,ppm, .0001,.0002,148.3, -.0000, .0002
Cr2677,267.716 {126},Y_3600,ppm, .0005,.0000,4.612, .0005, .0005
Cu3247,324.754 {104},Y_3600,ppm, .0014,.0002,16.00, .0016, .0013
Fe2404,240.488 {140},In2306,ppm, .0112,.0042,36.99, .0083, .0142
K_7664,766.490 { 44},Y_3710,ppm, .0172,.0115,66.89, .0253, .0090
Li6707,670.784 { 50},Y_3710,ppm, .0008,.0006,71.29, .0004, .0012
Mg2790,279.079 {121},Y_3710,ppm, .0165,.0149,90.34, .0270, .0060
Mn2576,257.610 {131},Y_3600,ppm, .0001,.0000,5.506, .0001, .0001
Mo2020,202.030 {467},Y_2243,ppm, .0011,.0002,20.08, .0009, .0012
Na5895,589.592 { 57},Y_3710,ppm, 139.6,1.905,1.364, 138.3, 141.0
Ni2316,231.604 {445},In2306,ppm, .0008,.0005,66.36, .0004, .0012
P_1782,178.284 {489},In2306,ppm, .0015,.0035,228.3, -.0009, .0040
Pb2203,220.353 {453},In2306,ppm, .0013,.0016,122.4, .0002, .0025
S_1820,182.034 {485},Y_2243,ppm, .0572,.0023,4.005, .0556, .0589
Sb2068,206.833 {463},Y_2243,ppm, .0023,.0014,60.51, .0013, .0033
Se1960,196.090 {472},Y_2243,ppm, .0026,.0005,20.41, .0022, .0029
Si2516,251.611 {134},Y_3710,ppm, .0823,.0003,.3300, .0825, .0821
Sn1899,189.989 {477},In2306,ppm, .0014,.0005,37.09, .0010, .0018
Sr4215,421.552 { 80},Y_3710,ppm, .0011,.0001,11.34, .0012, .0010
Ti3349,334.904 {101},Y_3600,ppm, .0001,.0000,7.542, .0001, .0001
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Tl1908,190.856 {477},In2306,ppm, .0415,.0057,13.70, .0456, .0375
U_3670,367.007 { 92},Y_3600,ppm, .0183,.0226,124.0, .0022, .0343
V_2924,292.402 {115},Y_3600,ppm, .0024,.0000,.9815, .0024, .0024
W_2397,239.709 {140},Y_2243,ppm, .0159,.0286,180.4, .0361, -.0044
Zn2062,206.200 {463},In2306,ppm, 76.34,.9852,1.291, 75.64, 77.03

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 248.49,.04698,.01891,248.52,248.46
In2306,230.606 {446},Cts/S, 14004.,35.102,.25066,14029.,13979.
Y_2243,224.306 {450},Cts/S, 22622.,46.052,.20357,22654.,22589.
Y_3600,360.073 { 94},Cts/S, 192520.,481.26,.24998,192180.,192860.
Y_3710,371.030 { 91},Cts/S, 12935.,41.901,.32394,12965.,12905.

[Sample Header]
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Custom ID3=
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Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0003,.0006,216.3, .0007, -.0001
Al3082,308.215 {109},In2306,ppm, -.0034,.0182,541.3, -.0163, .0095
As1890,189.042 {478},Y_2243,ppm, .0011,.0014,120.2, .0021, .0002
B_2496,249.678 {135},Y_3710,ppm, -.0066,.0067,101.4, -.0019, -.0114
Ba4554,455.403 { 74},Y_3710,ppm, .0009,.0000,4.718, .0009, .0009
Be3130,313.042 {108},Y_3710,ppm, .0000,.0001,2188., -.0001, .0001
Ca3158,315.887 {107},In2306,ppm, -.0018,.0100,569.5, -.0089, .0053
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0000,3.137, -.0001, -.0001
Co2286,228.616 {447},In2306,ppm, -.0001,.0001,104.8, -.0000, -.0001
Cr2677,267.716 {126},Y_3600,ppm, -.0001,.0003,411.4, .0001, -.0003
Cu3247,324.754 {104},Y_3600,ppm, .0010,.0000,3.223, .0010, .0011
Fe2404,240.488 {140},In2306,ppm, .0002,.0063,3076., .0047, -.0043
K_7664,766.490 { 44},Y_3710,ppm, -.0462,.0085,18.34, -.0403, -.0522
Li6707,670.784 { 50},Y_3710,ppm, -.0002,.0003,191.0, -.0004, .0001
Mg2790,279.079 {121},Y_3710,ppm, -.0185,.0013,7.229, -.0175, -.0194
Mn2576,257.610 {131},Y_3600,ppm, .0000,.0000,52.56, .0001, .0000
Mo2020,202.030 {467},Y_2243,ppm, -.0004,.0003,74.47, -.0002, -.0006
Na5895,589.592 { 57},Y_3710,ppm, 7.197,.0042,.0583, 7.200, 7.194
Ni2316,231.604 {445},In2306,ppm, .0004,.0000,10.19, .0004, .0004
P_1782,178.284 {489},In2306,ppm, -.0016,.0008,49.73, -.0021, -.0010
Pb2203,220.353 {453},In2306,ppm, .0007,.0009,130.8, .0001, .0013
S_1820,182.034 {485},Y_2243,ppm, .0096,.0020,20.93, .0110, .0082
Sb2068,206.833 {463},Y_2243,ppm, -.0005,.0010,216.3, -.0012, .0002
Se1960,196.090 {472},Y_2243,ppm, .0012,.0018,153.4, .0024, -.0001
Si2516,251.611 {134},Y_3710,ppm, .0090,.0042,46.51, .0060, .0119
Sn1899,189.989 {477},In2306,ppm, .0005,.0001,21.23, .0005, .0004
Sr4215,421.552 { 80},Y_3710,ppm, -.0001,.0000,53.14, -.0000, -.0001
Ti3349,334.904 {101},Y_3600,ppm, -.0003,.0000,16.13, -.0003, -.0003
Tl1908,190.856 {477},In2306,ppm, .0140,.0002,1.198, .0142, .0139
U_3670,367.007 { 92},Y_3600,ppm, -.0117,.0308,263.5, -.0335, .0101
V_2924,292.402 {115},Y_3600,ppm, -.0000,.0001,188.5, .0000, -.0001
W_2397,239.709 {140},Y_2243,ppm, -.0089,.0545,608.8, -.0475, .0296
Zn2062,206.200 {463},In2306,ppm, 4.676,.0018,.0381, 4.675, 4.677

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 248.65,1.3264,.53344,249.58,247.71
In2306,230.606 {446},Cts/S, 15797.,4.5285,.02867,15801.,15794.
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```
Y_2243,224.306 {450},Cts/S, 24025.,6.5733,.02736,24020.,24030.
Y_3600,360.073 { 94},Cts/S, 204650.,323.69,.15817,204420.,204880.
Y_3710,371.030 { 91},Cts/S, 13137.,4.2374,.03225,13140.,13134.

[Sample Header]
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SampleName=600-195191-a-1-d ms
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=11/13/2019 12:29:19
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .3010,.0003,.1114, .3013, .3008
Al3082,308.215 {109},In2306,ppm, 10.61,.0133,.1251, 10.62, 10.60
As1890,189.042 {478},Y_2243,ppm, 1.047,.0009,.0837, 1.047, 1.046
B_2496,249.678 {135},Y_3710,ppm, .4956,.0043,.8678, .4926, .4987
Ba4554,455.403 { 74},Y_3710,ppm, 1.060,.0078,.7398, 1.065, 1.054
Be3130,313.042 {108},Y_3710,ppm, 1.037,.0005,.0515, 1.037, 1.038
Ca3158,315.887 {107},In2306,ppm, 10.74,.0661,.6159, 10.69, 10.79
Cd2288,228.802 {447},Y_2243,ppm, 1.052,.0042,.3968, 1.055, 1.049
Co2286,228.616 {447},In2306,ppm, 1.034,.0038,.3641, 1.036, 1.031
Cr2677,267.716 {126},Y_3600,ppm, .9834,.0022,.2190, .9819, .9849
Cu3247,324.754 {104},Y_3600,ppm, 1.013,.0027,.2683, 1.015, 1.011
Fe2404,240.488 {140},In2306,ppm, 10.45,.0449,.4296, 10.41, 10.48
K_7664,766.490 { 44},Y_3710,ppm, 10.15,.0561,.5523, 10.19, 10.11
Li6707,670.784 { 50},Y_3710,ppm, 1.012,.0082,.8129, 1.018, 1.007
Mg2790,279.079 {121},Y_3710,ppm, 9.849,.0288,.2922, 9.870, 9.829
Mn2576,257.610 {131},Y_3600,ppm, 1.019,.0033,.3276, 1.016, 1.021
Mo2020,202.030 {467},Y_2243,ppm, 1.060,.0036,.3415, 1.063, 1.058
Na5895,589.592 { 57},Y_3710,ppm, 144.6,4.258,2.946, 147.6, 141.5
Ni2316,231.604 {445},In2306,ppm, 1.056,.0039,.3646, 1.059, 1.054
P_1782,178.284 {489},In2306,ppm, 5.633,.0276,.4908, 5.653, 5.614
Pb2203,220.353 {453},In2306,ppm, 1.031,.0052,.5011, 1.035, 1.028
S_1820,182.034 {485},Y_2243,ppm, 5.639,.0070,.1237, 5.634, 5.643
Sb2068,206.833 {463},Y_2243,ppm, 1.696,.0049,.2894, 1.700, 1.693
Se1960,196.090 {472},Y_2243,ppm, 1.057,.0025,.2396, 1.059, 1.055
Si2516,251.611 {134},Y_3710,ppm, 8.830,.0260,.2946, 8.849, 8.812
Sn1899,189.989 {477},In2306,ppm, 1.040,.0023,.2249, 1.042, 1.038
Sr4215,421.552 { 80},Y_3710,ppm, 1.034,.0074,.7150, 1.039, 1.029
Ti3349,334.904 {101},Y_3600,ppm, 1.020,.0004,.0440, 1.019, 1.020
Tl1908,190.856 {477},In2306,ppm, .9505,.0032,.3345, .9527, .9482
U_3670,367.007 { 92},Y_3600,ppm, .5726,.0019,.3295, .5713, .5740
V_2924,292.402 {115},Y_3600,ppm, 1.018,.0033,.3266, 1.016, 1.020
W_2397,239.709 {140},Y_2243,ppm, .3785,.0780,20.60, .4336, .3234
Zn2062,206.200 {463},In2306,ppm, 77.10,.4335,.5623, 77.41, 76.80

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 241.51,.71796,.29728,242.02,241.01
In2306,230.606 {446},Cts/S, 13631.,34.406,.25242,13606.,13655.
Y_2243,224.306 {450},Cts/S, 22718.,48.127,.21184,22684.,22752.
Y_3600,360.073 { 94},Cts/S, 193110.,262.48,.13592,193300.,192930.
Y_3710,371.030 { 91},Cts/S, 13083.,25.121,.19201,13065.,13101.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0155,.0003,1.655, .0157, .0153
Al3082,308.215 {109},In2306,ppm, .5158,.0015,.2833, .5147, .5168
As1890,189.042 {478},Y_2243,ppm, .0511,.0005,.8845, .0514, .0507
B_2496,249.678 {135},Y_3710,ppm, .0314,.0072,23.02, .0365, .0263
Ba4554,455.403 { 74},Y_3710,ppm, .0554,.0006,1.071, .0549, .0558
Be3130,313.042 {108},Y_3710,ppm, .0539,.0003,.6116, .0536, .0541
Ca3158,315.887 {107},In2306,ppm, .5248,.0063,1.201, .5292, .5203
Cd2288,228.802 {447},Y_2243,ppm, .0544,.0000,.0018, .0544, .0544
Co2286,228.616 {447},In2306,ppm, .0506,.0001,.1990, .0506, .0507
Cr2677,267.716 {126},Y_3600,ppm, .0519,.0004,.7714, .0516, .0522
Cu3247,324.754 {104},Y_3600,ppm, .0538,.0000,.0688, .0539, .0538
Fe2404,240.488 {140},In2306,ppm, .5286,.0102,1.927, .5214, .5358
K_7664,766.490 { 44},Y_3710,ppm, .5001,.0148,2.957, .5105, .4896
Li6707,670.784 { 50},Y_3710,ppm, .0538,.0002,.3274, .0539, .0537
Mg2790,279.079 {121},Y_3710,ppm, .5066,.0036,.7197, .5040, .5092
Mn2576,257.610 {131},Y_3600,ppm, .0543,.0002,.4085, .0541, .0544
Mo2020,202.030 {467},Y_2243,ppm, .0560,.0000,.0581, .0560, .0559
Na5895,589.592 { 57},Y_3710,ppm, 7.734,.0630,.8147, 7.690, 7.779
Ni2316,231.604 {445},In2306,ppm, .0526,.0001,.1015, .0527, .0526
P_1782,178.284 {489},In2306,ppm, .2568,.0019,.7530, .2555, .2582
Pb2203,220.353 {453},In2306,ppm, .0522,.0001,.1794, .0523, .0522
S_1820,182.034 {485},Y_2243,ppm, .2852,.0059,2.081, .2894, .2810
Sb2068,206.833 {463},Y_2243,ppm, .0865,.0016,1.854, .0876, .0853
Se1960,196.090 {472},Y_2243,ppm, .0541,.0028,5.245, .0561, .0521
Si2516,251.611 {134},Y_3710,ppm, .4555,.0123,2.706, .4643, .4468
Sn1899,189.989 {477},In2306,ppm, .0515,.0000,.0305, .0515, .0515
Sr4215,421.552 { 80},Y_3710,ppm, .0545,.0005,1.007, .0541, .0548
Ti3349,334.904 {101},Y_3600,ppm, .0535,.0001,.2243, .0534, .0536
Tl1908,190.856 {477},In2306,ppm, .0941,.0054,5.698, .0978, .0903
U_3670,367.007 { 92},Y_3600,ppm, -.0587,.0668,113.8, -.1059, -.0115
V_2924,292.402 {115},Y_3600,ppm, .0529,.0006,1.101, .0525, .0533
W_2397,239.709 {140},Y_2243,ppm, -.0099,.0127,128.9, -.0009, -.0189
Zn2062,206.200 {463},In2306,ppm, 4.710,.0002,.0043, 4.710, 4.710

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 254.39,1.2418,.48813,253.51,255.27
In2306,230.606 {446},Cts/S, 15658.,6.9398,.04432,15654.,15663.
Y_2243,224.306 {450},Cts/S, 23871.,14.480,.06066,23861.,23882.
Y_3600,360.073 { 94},Cts/S, 204520.,501.35,.24514,204870.,204160.
Y_3710,371.030 { 91},Cts/S, 13118.,65.565,.49981,13164.,13072.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0000,.0004,5256., .0003, -.0003
Al3082,308.215 {109},In2306,ppm, .0825,.0046,5.538, .0857, .0792
As1890,189.042 {478},Y_2243,ppm, .0001,.0003,437.5, .0003, -.0001
B_2496,249.678 {135},Y_3710,ppm, .0025,.0025,99.62, .0007, .0042
Ba4554,455.403 { 74},Y_3710,ppm, .1024,.0008,.7386, .1018, .1029
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,52.75, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, 7.680,.0465,.6053, 7.647, 7.713
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,94.31, .0001, .0000
Co2286,228.616 {447},In2306,ppm, .0022,.0002,7.907, .0024, .0021
Cr2677,267.716 {126},Y_3600,ppm, .0003,.0001,25.04, .0003, .0004
Cu3247,324.754 {104},Y_3600,ppm, .0032,.0000,.7683, .0031, .0032
Fe2404,240.488 {140},In2306,ppm, .0180,.0066,36.92, .0133, .0227
K_7664,766.490 { 44},Y_3710,ppm, .0915,.0208,22.76, .0768, .1063
Li6707,670.784 { 50},Y_3710,ppm, -.0006,.0001,9.348, -.0006, -.0007
Mg2790,279.079 {121},Y_3710,ppm, .7854,.0343,4.365, .8097, .7612
Mn2576,257.610 {131},Y_3600,ppm, .0472,.0001,.1791, .0473, .0472
Mo2020,202.030 {467},Y_2243,ppm, -.0003,.0000,.9167, -.0003, -.0003
Na5895,589.592 { 57},Y_3710,ppm, 133.6,.6055,.4533, 134.0, 133.2
Ni2316,231.604 {445},In2306,ppm, .0033,.0002,5.413, .0032, .0035
P_1782,178.284 {489},In2306,ppm, .0002,.0007,372.9, -.0003, .0006
Pb2203,220.353 {453},In2306,ppm, .0019,.0000,.8474, .0019, .0019
S_1820,182.034 {485},Y_2243,ppm, .2203,.0014,.6211, .2212, .2193
Sb2068,206.833 {463},Y_2243,ppm, .0001,.0000,16.83, .0001, .0001
Se1960,196.090 {472},Y_2243,ppm, -.0005,.0005,97.07, -.0009, -.0002
Si2516,251.611 {134},Y_3710,ppm, .2646,.0053,2.018, .2683, .2608
Sn1899,189.989 {477},In2306,ppm, .0004,.0004,102.9, .0006, .0001
Sr4215,421.552 { 80},Y_3710,ppm, .0296,.0003,.9952, .0294, .0298
Ti3349,334.904 {101},Y_3600,ppm, .0006,.0002,25.02, .0005, .0008
Tl1908,190.856 {477},In2306,ppm, .0193,.0009,4.590, .0199, .0186
U_3670,367.007 { 92},Y_3600,ppm, .0711,.0096,13.52, .0643, .0779
V_2924,292.402 {115},Y_3600,ppm, -.0001,.0002,201.8, .0001, -.0003
W_2397,239.709 {140},Y_2243,ppm, .0351,.0262,74.57, .0537, .0166
Zn2062,206.200 {463},In2306,ppm, .0314,.0007,2.387, .0308, .0319

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 245.60,.69463,.28283,245.10,246.09
In2306,230.606 {446},Cts/S, 13981.,46.508,.33266,13948.,14014.
Y_2243,224.306 {450},Cts/S, 22685.,149.68,.65983,22579.,22791.
Y_3600,360.073 { 94},Cts/S, 192500.,335.54,.17431,192260.,192740.
Y_3710,371.030 { 91},Cts/S, 13082.,16.959,.12964,13070.,13094.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0014,.0006,40.85, .0018, .0010
Al3082,308.215 {109},In2306,ppm, .0773,.0036,4.623, .0798, .0748
As1890,189.042 {478},Y_2243,ppm, .0003,.0012,402.7, -.0005, .0011
B_2496,249.678 {135},Y_3710,ppm, .0097,.0057,58.06, .0057, .0138
Ba4554,455.403 { 74},Y_3710,ppm, .1035,.0001,.0486, .1035, .1036
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,91.53, .0001, .0000
Ca3158,315.887 {107},In2306,ppm, 7.630,.0810,1.062, 7.573, 7.688
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0001,206.3, .0001, -.0000
Co2286,228.616 {447},In2306,ppm, .0021,.0001,3.005, .0020, .0021
Cr2677,267.716 {126},Y_3600,ppm, .0004,.0002,39.06, .0003, .0005
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Cu3247,324.754 {104},Y_3600,ppm, .0027,.0005,18.65, .0023, .0030
Fe2404,240.488 {140},In2306,ppm, .0342,.0051,14.78, .0378, .0307
K_7664,766.490 { 44},Y_3710,ppm, .0963,.0106,10.96, .0888, .1037
Li6707,670.784 { 50},Y_3710,ppm, -.0001,.0007,564.6, -.0006, .0004
Mg2790,279.079 {121},Y_3710,ppm, .7757,.0001,.0156, .7758, .7756
Mn2576,257.610 {131},Y_3600,ppm, .0473,.0005,1.018, .0470, .0476
Mo2020,202.030 {467},Y_2243,ppm, -.0005,.0002,37.73, -.0004, -.0006
Na5895,589.592 { 57},Y_3710,ppm, 133.1,2.173,1.632, 134.7, 131.6
Ni2316,231.604 {445},In2306,ppm, .0035,.0003,8.170, .0033, .0037
P_1782,178.284 {489},In2306,ppm, .0010,.0005,52.30, .0013, .0006
Pb2203,220.353 {453},In2306,ppm, .0011,.0004,38.60, .0008, .0014
S_1820,182.034 {485},Y_2243,ppm, .2348,.0046,1.963, .2380, .2315
Sb2068,206.833 {463},Y_2243,ppm, .0002,.0003,183.6, .0004, -.0001
Se1960,196.090 {472},Y_2243,ppm, -.0017,.0013,78.14, -.0007, -.0026
Si2516,251.611 {134},Y_3710,ppm, .2688,.0108,4.002, .2612, .2764
Sn1899,189.989 {477},In2306,ppm, .0002,.0004,246.1, .0004, -.0001
Sr4215,421.552 { 80},Y_3710,ppm, .0296,.0000,.1072, .0296, .0296
Ti3349,334.904 {101},Y_3600,ppm, .0003,.0001,29.18, .0004, .0002
Tl1908,190.856 {477},In2306,ppm, .0071,.0021,29.28, .0086, .0057
U_3670,367.007 { 92},Y_3600,ppm, -.0343,.0405,118.3, -.0629, -.0056
V_2924,292.402 {115},Y_3600,ppm, -.0002,.0004,201.1, .0001, -.0004
W_2397,239.709 {140},Y_2243,ppm, .0076,.0252,330.9, -.0102, .0254
Zn2062,206.200 {463},In2306,ppm, .0357,.0000,.0943, .0357, .0357

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 245.89,1.1946,.48582,246.74,245.05
In2306,230.606 {446},Cts/S, 13923.,69.092,.49625,13874.,13972.
Y_2243,224.306 {450},Cts/S, 22515.,100.26,.44532,22444.,22586.
Y_3600,360.073 { 94},Cts/S, 193850.,271.13,.13987,194040.,193660.
Y_3710,371.030 { 91},Cts/S, 12991.,146.01,1.1239,12888.,13094.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .3006,.0003,.1156, .3009, .3004
Al3082,308.215 {109},In2306,ppm, 10.61,.0143,.1352, 10.62, 10.60
As1890,189.042 {478},Y_2243,ppm, 1.034,.0006,.0555, 1.035, 1.034
B_2496,249.678 {135},Y_3710,ppm, .5055,.0045,.8965, .5087, .5023
Ba4554,455.403 { 74},Y_3710,ppm, 1.130,.0005,.0480, 1.130, 1.131
Be3130,313.042 {108},Y_3710,ppm, 1.028,.0025,.2440, 1.026, 1.030
Ca3158,315.887 {107},In2306,ppm, 17.94,.0337,.1880, 17.91, 17.96
Cd2288,228.802 {447},Y_2243,ppm, 1.040,.0007,.0683, 1.039, 1.040
Co2286,228.616 {447},In2306,ppm, 1.022,.0036,.3564, 1.024, 1.019
Cr2677,267.716 {126},Y_3600,ppm, .9769,.0012,.1180, .9777, .9760
Cu3247,324.754 {104},Y_3600,ppm, 1.010,.0021,.2053, 1.011, 1.008
Fe2404,240.488 {140},In2306,ppm, 10.38,.0427,.4116, 10.35, 10.41
K_7664,766.490 { 44},Y_3710,ppm, 10.34,.0040,.0383, 10.35, 10.34
Li6707,670.784 { 50},Y_3710,ppm, 1.012,.0008,.0752, 1.013, 1.012
Mg2790,279.079 {121},Y_3710,ppm, 10.76,.0684,.6359, 10.71, 10.80
Mn2576,257.610 {131},Y_3600,ppm, 1.053,.0002,.0167, 1.053, 1.053
Mo2020,202.030 {467},Y_2243,ppm, 1.049,.0007,.0626, 1.049, 1.050
Na5895,589.592 { 57},Y_3710,ppm, 144.9,.2498,.1724, 144.8, 145.1
Ni2316,231.604 {445},In2306,ppm, 1.043,.0039,.3776, 1.046, 1.041
P_1782,178.284 {489},In2306,ppm, 5.641,.0036,.0644, 5.643, 5.638
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Pb2203,220.353 {453},In2306,ppm, 1.021,.0050,.4904, 1.024, 1.017
S_1820,182.034 {485},Y_2243,ppm, 5.827,.0111,.1909, 5.835, 5.819
Sb2068,206.833 {463},Y_2243,ppm, 1.691,.0084,.4969, 1.685, 1.697
Se1960,196.090 {472},Y_2243,ppm, 1.052,.0005,.0508, 1.052, 1.053
Si2516,251.611 {134},Y_3710,ppm, 8.450,.0451,.5341, 8.418, 8.482
Sn1899,189.989 {477},In2306,ppm, 1.031,.0020,.1918, 1.032, 1.030
Sr4215,421.552 { 80},Y_3710,ppm, 1.057,.0004,.0332, 1.057, 1.057
Ti3349,334.904 {101},Y_3600,ppm, 1.014,.0015,.1455, 1.015, 1.012
Tl1908,190.856 {477},In2306,ppm, .9425,.0011,.1168, .9417, .9433
U_3670,367.007 { 92},Y_3600,ppm, .5932,.0482,8.122, .6273, .5592
V_2924,292.402 {115},Y_3600,ppm, 1.009,.0016,.1615, 1.010, 1.007
W_2397,239.709 {140},Y_2243,ppm, .4406,.0109,2.481, .4483, .4328
Zn2062,206.200 {463},In2306,ppm, .5578,.0050,.8992, .5613, .5542

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 244.78,1.0340,.42241,244.05,245.51
In2306,230.606 {446},Cts/S, 13659.,13.658,.09999,13649.,13669.
Y_2243,224.306 {450},Cts/S, 22700.,31.822,.14019,22722.,22677.
Y_3600,360.073 { 94},Cts/S, 191970.,66.747,.03477,192010.,191920.
Y_3710,371.030 { 91},Cts/S, 13014.,9.9345,.07634,13021.,13007.

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[Results]
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Al3082,308.215 {109},In2306,ppm, 20.36,.1713,.8417, 20.48, 20.24
As1890,189.042 {478},Y_2243,ppm, 1.009,.0017,.1681, 1.010, 1.007
B_2496,249.678 {135},Y_3710,ppm, .9932,.0085,.8591, .9992, .9871
Ba4554,455.403 { 74},Y_3710,ppm, 1.027,.0003,.0267, 1.027, 1.027
Be3130,313.042 {108},Y_3710,ppm, 1.015,.0013,.1326, 1.014, 1.016
Ca3158,315.887 {107},In2306,ppm, 20.00,.0009,.0045, 20.00, 20.00
Cd2288,228.802 {447},Y_2243,ppm, 1.019,.0010,.0944, 1.020, 1.018
Co2286,228.616 {447},In2306,ppm, .9942,.0012,.1191, .9934, .9951
Cr2677,267.716 {126},Y_3600,ppm, .9843,.0005,.0531, .9839, .9847
Cu3247,324.754 {104},Y_3600,ppm, 1.002,.0010,.0986, 1.003, 1.002
Fe2404,240.488 {140},In2306,ppm, 20.08,.0523,.2604, 20.12, 20.05
K_7664,766.490 { 44},Y_3710,ppm, 19.80,.0461,.2326, 19.77, 19.83
Li6707,670.784 { 50},Y_3710,ppm, 1.012,.0001,.0052, 1.012, 1.012
Mg2790,279.079 {121},Y_3710,ppm, 19.67,.1787,.9084, 19.55, 19.80
Mn2576,257.610 {131},Y_3600,ppm, 1.016,.0009,.0842, 1.015, 1.016
Mo2020,202.030 {467},Y_2243,ppm, 1.045,.0012,.1167, 1.046, 1.044
Na5895,589.592 { 57},Y_3710,ppm, 20.03,.0125,.0625, 20.04, 20.02
Ni2316,231.604 {445},In2306,ppm, 1.017,.0005,.0457, 1.017, 1.016
P_1782,178.284 {489},In2306,ppm, 10.27,.0147,.1429, 10.26, 10.28
Pb2203,220.353 {453},In2306,ppm, 1.007,.0019,.1861, 1.006, 1.008
S_1820,182.034 {485},Y_2243,ppm, 10.54,.0071,.0675, 10.54, 10.53
Sb2068,206.833 {463},Y_2243,ppm, 2.195,.0070,.3187, 2.200, 2.190
Se1960,196.090 {472},Y_2243,ppm, 1.023,.0055,.5385, 1.027, 1.019
Si2516,251.611 {134},Y_3710,ppm, 9.718,.0845,.8692, 9.659, 9.778
Sn1899,189.989 {477},In2306,ppm, 1.010,.0028,.2723, 1.008, 1.012
Sr4215,421.552 { 80},Y_3710,ppm, 1.026,.0010,.1021, 1.027, 1.025
Ti3349,334.904 {101},Y_3600,ppm, 1.011,.0003,.0296, 1.011, 1.011
Tl1908,190.856 {477},In2306,ppm, 1.058,.0044,.4131, 1.061, 1.055
U_3670,367.007 { 92},Y_3600,ppm, .9380,.0035,.3735, .9356, .9405
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V_2924,292.402 {115},Y_3600,ppm, 1.009,.0020,.2015, 1.008, 1.011
W_2397,239.709 {140},Y_2243,ppm, .9921,.0418,4.217, 1.022, .9625
Zn2062,206.200 {463},In2306,ppm, .9930,.0016,.1642, .9918, .9941

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 245.48,.83645,.34075,244.89,246.07
In2306,230.606 {446},Cts/S, 14414.,.46532,.00323,14414.,14413.
Y_2243,224.306 {450},Cts/S, 23342.,21.422,.09177,23327.,23357.
Y_3600,360.073 { 94},Cts/S, 196360.,386.33,.19675,196090.,196630.
Y_3710,371.030 { 91},Cts/S, 12991.,34.063,.26220,13015.,12967.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .1026,.0005,.5318, .1022, .1030
Al3082,308.215 {109},In2306,ppm, .9718,.0026,.2645, .9700, .9736
As1890,189.042 {478},Y_2243,ppm, .0316,.0007,2.238, .0311, .0321
B_2496,249.678 {135},Y_3710,ppm, .2002,.0146,7.310, .1899, .2106
Ba4554,455.403 { 74},Y_3710,ppm, .0311,.0002,.6017, .0312, .0309
Be3130,313.042 {108},Y_3710,ppm, .0312,.0001,.2808, .0311, .0312
Ca3158,315.887 {107},In2306,ppm, .9691,.0016,.1616, .9680, .9702
Cd2288,228.802 {447},Y_2243,ppm, .0307,.0002,.5739, .0306, .0308
Co2286,228.616 {447},In2306,ppm, .0290,.0001,.1792, .0289, .0290
Cr2677,267.716 {126},Y_3600,ppm, .0302,.0002,.7734, .0301, .0304
Cu3247,324.754 {104},Y_3600,ppm, .0316,.0004,1.203, .0313, .0319
Fe2404,240.488 {140},In2306,ppm, .9959,.0084,.8455, .9899, 1.002
K_7664,766.490 { 44},Y_3710,ppm, .9735,.0010,.1020, .9742, .9728
Li6707,670.784 { 50},Y_3710,ppm, .0309,.0005,1.618, .0306, .0313
Mg2790,279.079 {121},Y_3710,ppm, 1.011,.0117,1.156, 1.003, 1.019
Mn2576,257.610 {131},Y_3600,ppm, .0312,.0001,.2629, .0311, .0312
Mo2020,202.030 {467},Y_2243,ppm, .0313,.0001,.2954, .0313, .0314
Na5895,589.592 { 57},Y_3710,ppm, 1.038,.0047,.4540, 1.042, 1.035
Ni2316,231.604 {445},In2306,ppm, .0298,.0002,.5112, .0297, .0299
P_1782,178.284 {489},In2306,ppm, 1.909,.0009,.0481, 1.909, 1.910
Pb2203,220.353 {453},In2306,ppm, .0310,.0006,1.797, .0314, .0306
S_1820,182.034 {485},Y_2243,ppm, 1.999,.0071,.3547, 2.004, 1.994
Sb2068,206.833 {463},Y_2243,ppm, .2401,.0021,.8899, .2416, .2386
Se1960,196.090 {472},Y_2243,ppm, .0324,.0019,5.731, .0337, .0311
Si2516,251.611 {134},Y_3710,ppm, .3175,.0032,1.003, .3197, .3152
Sn1899,189.989 {477},In2306,ppm, .0291,.0004,1.290, .0294, .0288
Sr4215,421.552 { 80},Y_3710,ppm, .0313,.0002,.7721, .0311, .0315
Ti3349,334.904 {101},Y_3600,ppm, .0310,.0002,.5560, .0308, .0311
Tl1908,190.856 {477},In2306,ppm, .0609,.0016,2.631, .0620, .0597
U_3670,367.007 { 92},Y_3600,ppm, .1043,.0472,45.31, .1377, .0709
V_2924,292.402 {115},Y_3600,ppm, .0300,.0002,.7302, .0301, .0298
W_2397,239.709 {140},Y_2243,ppm, .2891,.0066,2.294, .2938, .2844
Zn2062,206.200 {463},In2306,ppm, .1859,.0005,.2952, .1855, .1863

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 252.45,2.4587,.97391,254.19,250.71
In2306,230.606 {446},Cts/S, 15927.,39.302,.24677,15955.,15899.
Y_2243,224.306 {450},Cts/S, 24095.,22.619,.09388,24111.,24079.
Y_3600,360.073 { 94},Cts/S, 205860.,236.61,.11494,205690.,206030.
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Y_3710,371.030 { 91},Cts/S, 13049.,8.4635,.06486,13055.,13043.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0007,.0003,37.85, .0009, .0005
Al3082,308.215 {109},In2306,ppm, -.0047,.0034,72.82, -.0023, -.0071
As1890,189.042 {478},Y_2243,ppm, .0009,.0007,80.34, .0014, .0004
B_2496,249.678 {135},Y_3710,ppm, -.0039,.0058,147.1, .0002, -.0080
Ba4554,455.403 { 74},Y_3710,ppm, -.0004,.0001,19.37, -.0004, -.0005
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0001,204.1, -.0001, .0000
Ca3158,315.887 {107},In2306,ppm, -.0280,.0022,7.836, -.0296, -.0265
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0001,667.0, -.0001, .0001
Co2286,228.616 {447},In2306,ppm, .0001,.0000,45.93, .0001, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0000,.0000,95.27, .0001, .0000
Cu3247,324.754 {104},Y_3600,ppm, .0013,.0004,33.02, .0010, .0016
Fe2404,240.488 {140},In2306,ppm, .0014,.0097,716.0, .0082, -.0055
K_7664,766.490 { 44},Y_3710,ppm, -.0444,.0122,27.41, -.0358, -.0530
Li6707,670.784 { 50},Y_3710,ppm, -.0011,.0004,35.03, -.0008, -.0013
Mg2790,279.079 {121},Y_3710,ppm, -.0033,.0160,477.0, .0079, -.0146
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,12.65, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, -.0002,.0001,26.13, -.0002, -.0002
Na5895,589.592 { 57},Y_3710,ppm, -.0003,.0032,1264., .0020, -.0025
Ni2316,231.604 {445},In2306,ppm, .0003,.0002,75.65, .0001, .0004
P_1782,178.284 {489},In2306,ppm, -.0015,.0002,16.01, -.0017, -.0013
Pb2203,220.353 {453},In2306,ppm, .0008,.0001,7.547, .0008, .0008
S_1820,182.034 {485},Y_2243,ppm, .0054,.0020,37.90, .0039, .0068
Sb2068,206.833 {463},Y_2243,ppm, .0024,.0012,50.77, .0033, .0015
Se1960,196.090 {472},Y_2243,ppm, -.0006,.0025,412.5, .0011, -.0023
Si2516,251.611 {134},Y_3710,ppm, .0050,.0004,7.016, .0053, .0048
Sn1899,189.989 {477},In2306,ppm, .0002,.0002,91.87, .0004, .0001
Sr4215,421.552 { 80},Y_3710,ppm, -.0000,.0002,511.8, -.0002, .0001
Ti3349,334.904 {101},Y_3600,ppm, .0001,.0000,3.099, .0001, .0001
Tl1908,190.856 {477},In2306,ppm, .0130,.0033,25.74, .0154, .0106
U_3670,367.007 { 92},Y_3600,ppm, -.0556,.0119,21.42, -.0472, -.0640
V_2924,292.402 {115},Y_3600,ppm, .0000,.0001,1832., .0001, -.0001
W_2397,239.709 {140},Y_2243,ppm, -.0132,.0217,164.5, -.0286, .0022
Zn2062,206.200 {463},In2306,ppm, -.0012,.0000,.9836, -.0013, -.0012

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 253.57,.76749,.30268,253.02,254.11
In2306,230.606 {446},Cts/S, 16128.,6.8277,.04233,16123.,16133.
Y_2243,224.306 {450},Cts/S, 23941.,3.7307,.01558,23938.,23943.
Y_3600,360.073 { 94},Cts/S, 206580.,282.92,.13696,206380.,206780.
Y_3710,371.030 { 91},Cts/S, 13108.,39.310,.29989,13080.,13136.

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Custom ID1=
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Custom ID3=
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Mode=CONC
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0015,.0004,29.81, .0018, .0012
Al3082,308.215 {109},In2306,ppm, -.0060,.0050,83.28, -.0096, -.0025
As1890,189.042 {478},Y_2243,ppm, -.0000,.0014,3686., .0009, -.0010
B_2496,249.678 {135},Y_3710,ppm, -.0011,.0016,153.0, .0001, -.0022
Ba4554,455.403 { 74},Y_3710,ppm, -.0004,.0000,8.014, -.0004, -.0004
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0001,145.3, .0000, -.0001
Ca3158,315.887 {107},In2306,ppm, -.0203,.0042,20.88, -.0233, -.0173
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0001,190.9, -.0002, .0000
Co2286,228.616 {447},In2306,ppm, .0000,.0002,810.8, -.0001, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0002,.0000,3.804, .0002, .0002
Cu3247,324.754 {104},Y_3600,ppm, .0013,.0001,9.321, .0012, .0014
Fe2404,240.488 {140},In2306,ppm, .0088,.0019,21.32, .0074, .0101
K_7664,766.490 { 44},Y_3710,ppm, -.0487,.0213,43.70, -.0637, -.0336
Li6707,670.784 { 50},Y_3710,ppm, -.0002,.0001,41.48, -.0002, -.0003
Mg2790,279.079 {121},Y_3710,ppm, .0033,.0231,697.1, -.0130, .0196
Mn2576,257.610 {131},Y_3600,ppm, .0000,.0000,256.0, .0000, -.0000
Mo2020,202.030 {467},Y_2243,ppm, -.0004,.0001,14.95, -.0004, -.0005
Na5895,589.592 { 57},Y_3710,ppm, -.0006,.0053,837.1, .0031, -.0044
Ni2316,231.604 {445},In2306,ppm, .0005,.0001,11.33, .0006, .0005
P_1782,178.284 {489},In2306,ppm, -.0008,.0006,71.21, -.0004, -.0012
Pb2203,220.353 {453},In2306,ppm, .0001,.0008,1459., -.0005, .0006
S_1820,182.034 {485},Y_2243,ppm, .0078,.0025,31.84, .0096, .0061
Sb2068,206.833 {463},Y_2243,ppm, .0026,.0032,121.5, .0049, .0004
Se1960,196.090 {472},Y_2243,ppm, .0004,.0012,264.8, .0013, -.0004
Si2516,251.611 {134},Y_3710,ppm, .0025,.0027,109.6, .0006, .0044
Sn1899,189.989 {477},In2306,ppm, .0003,.0000,6.740, .0004, .0003
Sr4215,421.552 { 80},Y_3710,ppm, .0000,.0001,1392., .0001, -.0001
Ti3349,334.904 {101},Y_3600,ppm, .0002,.0003,147.7, -.0000, .0005
Tl1908,190.856 {477},In2306,ppm, .0101,.0016,15.31, .0112, .0090
U_3670,367.007 { 92},Y_3600,ppm, .0272,.0421,154.9, .0569, -.0026
V_2924,292.402 {115},Y_3600,ppm, .0002,.0002,108.6, .0003, .0000
W_2397,239.709 {140},Y_2243,ppm, -.0215,.0342,158.7, .0026, -.0457
Zn2062,206.200 {463},In2306,ppm, .0023,.0001,3.257, .0023, .0022

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 255.91,1.1069,.43256,256.69,255.13
In2306,230.606 {446},Cts/S, 16125.,17.110,.10611,16137.,16113.
Y_2243,224.306 {450},Cts/S, 23975.,57.008,.23779,24015.,23934.
Y_3600,360.073 { 94},Cts/S, 206360.,306.84,.14870,206140.,206570.
Y_3710,371.030 { 91},Cts/S, 13318.,48.500,.36417,13284.,13352.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2938,.0013,.4441, .2948, .2929
Al3082,308.215 {109},In2306,ppm, 10.37,.1100,1.061, 10.29, 10.44
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As1890,189.042 {478},Y_2243,ppm, 1.005,.0019,.1903, 1.004, 1.007
B_2496,249.678 {135},Y_3710,ppm, .4873,.0009,.1915, .4866, .4879
Ba4554,455.403 { 74},Y_3710,ppm, 1.023,.0025,.2428, 1.022, 1.025
Be3130,313.042 {108},Y_3710,ppm, 1.008,.0048,.4761, 1.005, 1.012
Ca3158,315.887 {107},In2306,ppm, 10.15,.0533,.5254, 10.11, 10.19
Cd2288,228.802 {447},Y_2243,ppm, 1.023,.0014,.1377, 1.024, 1.022
Co2286,228.616 {447},In2306,ppm, .9776,.0013,.1338, .9785, .9767
Cr2677,267.716 {126},Y_3600,ppm, .9701,.0050,.5134, .9736, .9665
Cu3247,324.754 {104},Y_3600,ppm, 1.005,.0009,.0906, 1.004, 1.005
Fe2404,240.488 {140},In2306,ppm, 10.20,.0457,.4481, 10.17, 10.23
K_7664,766.490 { 44},Y_3710,ppm, 10.02,.0435,.4341, 10.05, 9.985
Li6707,670.784 { 50},Y_3710,ppm, 1.015,.0009,.0914, 1.014, 1.015
Mg2790,279.079 {121},Y_3710,ppm, 9.824,.0187,.1899, 9.810, 9.837
Mn2576,257.610 {131},Y_3600,ppm, 1.007,.0038,.3745, 1.010, 1.004
Mo2020,202.030 {467},Y_2243,ppm, 1.049,.0017,.1592, 1.050, 1.047
Na5895,589.592 { 57},Y_3710,ppm, 10.20,.0288,.2826, 10.18, 10.22
Ni2316,231.604 {445},In2306,ppm, 1.001,.0006,.0619, 1.001, 1.000
P_1782,178.284 {489},In2306,ppm, 5.124,.0303,.5919, 5.145, 5.102
Pb2203,220.353 {453},In2306,ppm, .9970,.0042,.4210, 1.0000, .9940
S_1820,182.034 {485},Y_2243,ppm, 5.396,.0298,.5514, 5.417, 5.375
Sb2068,206.833 {463},Y_2243,ppm, 1.668,.0074,.4424, 1.674, 1.663
Se1960,196.090 {472},Y_2243,ppm, 1.017,.0062,.6054, 1.021, 1.013
Si2516,251.611 {134},Y_3710,ppm, 8.410,.0707,.8411, 8.360, 8.460
Sn1899,189.989 {477},In2306,ppm, .9880,.0050,.5086, .9916, .9845
Sr4215,421.552 { 80},Y_3710,ppm, 1.022,.0016,.1611, 1.021, 1.023
Ti3349,334.904 {101},Y_3600,ppm, 1.001,.0020,.1955, 1.002, .9996
Tl1908,190.856 {477},In2306,ppm, .9436,.0027,.2876, .9455, .9417
U_3670,367.007 { 92},Y_3600,ppm, .4919,.0671,13.63, .4445, .5393
V_2924,292.402 {115},Y_3600,ppm, .9974,.0034,.3368, .9998, .9951
W_2397,239.709 {140},Y_2243,ppm, .3864,.0512,13.26, .3502, .4226
Zn2062,206.200 {463},In2306,ppm, .4933,.0000,.0071, .4934, .4933

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 247.39,1.6472,.66586,248.55,246.22
In2306,230.606 {446},Cts/S, 14865.,3.2769,.02204,14868.,14863.
Y_2243,224.306 {450},Cts/S, 23404.,5.2424,.02240,23401.,23408.
Y_3600,360.073 { 94},Cts/S, 200490.,519.46,.25909,200130.,200860.
Y_3710,371.030 { 91},Cts/S, 13204.,35.994,.27260,13179.,13229.

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Custom ID2=
Custom ID3=
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Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0003,.0001,31.05, .0004, .0003
Al3082,308.215 {109},In2306,ppm, .0149,.0076,50.84, .0203, .0096
As1890,189.042 {478},Y_2243,ppm, .0013,.0000,.7708, .0013, .0012
B_2496,249.678 {135},Y_3710,ppm, .0075,.0048,64.65, .0109, .0040
Ba4554,455.403 { 74},Y_3710,ppm, .0869,.0000,.0231, .0869, .0869
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,9.030, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, 210.6,1.046,.4968, 209.9, 211.4
Cd2288,228.802 {447},Y_2243,ppm, .0003,.0000,1.968, .0003, .0003
Co2286,228.616 {447},In2306,ppm, .0002,.0001,49.60, .0003, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0006,.0000,.5478, .0006, .0006
Cu3247,324.754 {104},Y_3600,ppm, .0028,.0000,1.200, .0028, .0027
Fe2404,240.488 {140},In2306,ppm, .0131,.0050,37.85, .0166, .0096
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K_7664,766.490 { 44},Y_3710,ppm, 1.878,.0107,.5679, 1.870, 1.886
Li6707,670.784 { 50},Y_3710,ppm, .0038,.0000,.2397, .0038, .0038
Mg2790,279.079 {121},Y_3710,ppm, 2.359,.0019,.0790, 2.358, 2.360
Mn2576,257.610 {131},Y_3600,ppm, .0574,.0002,.3789, .0575, .0572
Mo2020,202.030 {467},Y_2243,ppm, .0004,.0004,98.67, .0001, .0007
Na5895,589.592 { 57},Y_3710,ppm, .9407,.0037,.3891, .9433, .9382
Ni2316,231.604 {445},In2306,ppm, .0002,.0001,62.18, .0003, .0001
P_1782,178.284 {489},In2306,ppm, .2460,.0011,.4462, .2468, .2453
Pb2203,220.353 {453},In2306,ppm, .0018,.0010,55.82, .0011, .0025
S_1820,182.034 {485},Y_2243,ppm, 1.400,.0013,.0956, 1.399, 1.401
Sb2068,206.833 {463},Y_2243,ppm, .0019,.0008,39.59, .0025, .0014
Se1960,196.090 {472},Y_2243,ppm, .0014,.0008,57.79, .0008, .0020
Si2516,251.611 {134},Y_3710,ppm, .7673,.0071,.9243, .7623, .7723
Sn1899,189.989 {477},In2306,ppm, .0004,.0000,5.596, .0003, .0004
Sr4215,421.552 { 80},Y_3710,ppm, .4508,.0003,.0668, .4506, .4510
Ti3349,334.904 {101},Y_3600,ppm, .0020,.0002,10.35, .0018, .0021
Tl1908,190.856 {477},In2306,ppm, .0432,.0082,19.05, .0490, .0373
U_3670,367.007 { 92},Y_3600,ppm, .1386,.0245,17.70, .1559, .1212
V_2924,292.402 {115},Y_3600,ppm, .0004,.0001,35.50, .0003, .0004
W_2397,239.709 {140},Y_2243,ppm, -.0270,.0083,30.67, -.0212, -.0329
Zn2062,206.200 {463},In2306,ppm, .0097,.0001,1.077, .0097, .0098

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 243.39,1.5302,.62870,244.48,242.31
In2306,230.606 {446},Cts/S, 13865.,24.403,.17600,13883.,13848.
Y_2243,224.306 {450},Cts/S, 22180.,68.642,.30948,22228.,22131.
Y_3600,360.073 { 94},Cts/S, 192080.,62.620,.03260,192120.,192030.
Y_3710,371.030 { 91},Cts/S, 12926.,69.644,.53881,12975.,12876.

[Sample Header]
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Comment=
Custom ID1=
Custom ID2=
Custom ID3=
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Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

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Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0004,.0001,25.10, .0005, .0003
Al3082,308.215 {109},In2306,ppm, .0099,.0169,171.2, -.0021, .0218
As1890,189.042 {478},Y_2243,ppm, .0018,.0000,.0635, .0018, .0018
B_2496,249.678 {135},Y_3710,ppm, .0035,.0014,39.30, .0044, .0025
Ba4554,455.403 { 74},Y_3710,ppm, .1441,.0011,.7944, .1432, .1449
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0001,83.86, -.0000, -.0001
Ca3158,315.887 {107},In2306,ppm, 205.2,.6402,.3120, 205.7, 204.7
Cd2288,228.802 {447},Y_2243,ppm, .0003,.0000,13.46, .0003, .0003
Co2286,228.616 {447},In2306,ppm, .0002,.0001,57.61, .0001, .0002
Cr2677,267.716 {126},Y_3600,ppm, .0006,.0002,37.01, .0007, .0004
Cu3247,324.754 {104},Y_3600,ppm, .0021,.0002,8.508, .0019, .0022
Fe2404,240.488 {140},In2306,ppm, .0157,.0034,21.73, .0181, .0132
K_7664,766.490 { 44},Y_3710,ppm, .7718,.0230,2.976, .7881, .7556
Li6707,670.784 { 50},Y_3710,ppm, .0036,.0003,7.597, .0037, .0034
Mg2790,279.079 {121},Y_3710,ppm, 1.393,.0106,.7635, 1.385, 1.400
Mn2576,257.610 {131},Y_3600,ppm, .0428,.0002,.3910, .0427, .0429
Mo2020,202.030 {467},Y_2243,ppm, -.0003,.0003,105.7, -.0006, -.0001
Na5895,589.592 { 57},Y_3710,ppm, .7018,.0023,.3264, .7034, .7002
Ni2316,231.604 {445},In2306,ppm, .0002,.0003,165.3, .0004, -.0000
P_1782,178.284 {489},In2306,ppm, .0688,.0016,2.270, .0677, .0700
Pb2203,220.353 {453},In2306,ppm, .0010,.0014,147.3, .0020, -.0000
S_1820,182.034 {485},Y_2243,ppm, .9110,.0050,.5539, .9074, .9145
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Sb2068,206.833 {463},Y_2243,ppm, .0013,.0010,82.59, .0020, .0005
Se1960,196.090 {472},Y_2243,ppm, .0016,.0030,187.9, .0037, -.0005
Si2516,251.611 {134},Y_3710,ppm, .5481,.0087,1.578, .5420, .5542
Sn1899,189.989 {477},In2306,ppm, .0000,.0002,1899., .0002, -.0001
Sr4215,421.552 { 80},Y_3710,ppm, .4457,.0004,.1006, .4454, .4460
Ti3349,334.904 {101},Y_3600,ppm, .0018,.0001,4.747, .0019, .0017
Tl1908,190.856 {477},In2306,ppm, .0138,.0024,17.25, .0154, .0121
U_3670,367.007 { 92},Y_3600,ppm, .1042,.0865,83.04, .0430, .1654
V_2924,292.402 {115},Y_3600,ppm, .0003,.0001,39.92, .0004, .0002
W_2397,239.709 {140},Y_2243,ppm, -.0089,.0310,347.6, -.0309, .0130
Zn2062,206.200 {463},In2306,ppm, .0084,.0001,1.693, .0085, .0083

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 240.89,1.1765,.48839,240.05,241.72
In2306,230.606 {446},Cts/S, 13889.,34.267,.24672,13913.,13865.
Y_2243,224.306 {450},Cts/S, 22249.,80.332,.36106,22306.,22192.
Y_3600,360.073 { 94},Cts/S, 191810.,565.08,.29460,192210.,191410.
Y_3710,371.030 { 91},Cts/S, 12925.,77.088,.59643,12870.,12979.

[Sample Header]
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Custom ID2=
Custom ID3=
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Mode=CONC
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0013,.0000,3.230, .0013, .0012
Al3082,308.215 {109},In2306,ppm, .0076,.0103,135.9, .0003, .0149
As1890,189.042 {478},Y_2243,ppm, .0042,.0022,51.63, .0027, .0058
B_2496,249.678 {135},Y_3710,ppm, .0059,.0050,85.89, .0023, .0094
Ba4554,455.403 { 74},Y_3710,ppm, .1605,.0014,.8566, .1596, .1615
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,36.42, -.0001, -.0001
Ca3158,315.887 {107},In2306,ppm, 223.1,.1280,.0574, 223.0, 223.2
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0000,8.161, .0002, .0002
Co2286,228.616 {447},In2306,ppm, .0003,.0001,28.83, .0004, .0003
Cr2677,267.716 {126},Y_3600,ppm, .0009,.0000,2.879, .0009, .0009
Cu3247,324.754 {104},Y_3600,ppm, .0016,.0001,7.414, .0016, .0017
Fe2404,240.488 {140},In2306,ppm, .0209,.0069,33.11, .0258, .0160
K_7664,766.490 { 44},Y_3710,ppm, .7928,.0211,2.665, .7778, .8077
Li6707,670.784 { 50},Y_3710,ppm, .0045,.0012,27.37, .0053, .0036
Mg2790,279.079 {121},Y_3710,ppm, 2.069,.0198,.9587, 2.055, 2.083
Mn2576,257.610 {131},Y_3600,ppm, .0655,.0001,.0988, .0655, .0654
Mo2020,202.030 {467},Y_2243,ppm, -.0004,.0000,3.640, -.0004, -.0004
Na5895,589.592 { 57},Y_3710,ppm, .8316,.0048,.5803, .8282, .8350
Ni2316,231.604 {445},In2306,ppm, .0006,.0001,15.27, .0005, .0007
P_1782,178.284 {489},In2306,ppm, .0670,.0012,1.835, .0661, .0678
Pb2203,220.353 {453},In2306,ppm, .0018,.0013,74.24, .0009, .0027
S_1820,182.034 {485},Y_2243,ppm, .9133,.0057,.6187, .9093, .9173
Sb2068,206.833 {463},Y_2243,ppm, -.0004,.0026,588.4, .0014, -.0023
Se1960,196.090 {472},Y_2243,ppm, .0007,.0027,400.6, .0026, -.0012
Si2516,251.611 {134},Y_3710,ppm, .5214,.0020,.3923, .5199, .5228
Sn1899,189.989 {477},In2306,ppm, .0006,.0002,41.66, .0008, .0004
Sr4215,421.552 { 80},Y_3710,ppm, .4693,.0015,.3189, .4683, .4704
Ti3349,334.904 {101},Y_3600,ppm, .0019,.0001,3.931, .0019, .0018
Tl1908,190.856 {477},In2306,ppm, .0050,.0012,24.38, .0058, .0041
U_3670,367.007 { 92},Y_3600,ppm, .0317,.1225,386.0, -.0549, .1184
V_2924,292.402 {115},Y_3600,ppm, .0014,.0001,5.060, .0014, .0015
W_2397,239.709 {140},Y_2243,ppm, .0139,.0378,271.3, -.0128, .0407
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Zn2062,206.200 {463},In2306,ppm, .0098,.0001,.7247, .0099, .0098

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 239.91,.86310,.35976,239.30,240.52
In2306,230.606 {446},Cts/S, 13756.,2.0169,.01466,13758.,13755.
Y_2243,224.306 {450},Cts/S, 22061.,8.8447,.04009,22068.,22055.
Y_3600,360.073 { 94},Cts/S, 190230.,760.71,.39988,190770.,189690.
Y_3710,371.030 { 91},Cts/S, 12804.,13.737,.10729,12814.,12795.

[Sample Header]
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Custom ID3=
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Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0009,.0004,48.70, .0012, .0006
Al3082,308.215 {109},In2306,ppm, .0167,.0054,32.32, .0129, .0205
As1890,189.042 {478},Y_2243,ppm, .0011,.0010,89.45, .0004, .0018
B_2496,249.678 {135},Y_3710,ppm, .0378,.0005,1.264, .0381, .0375
Ba4554,455.403 { 74},Y_3710,ppm, .0608,.0001,.2088, .0607, .0609
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,76.68, -.0000, -.0000
Ca3158,315.887 {107},In2306,ppm, 11.54,.0127,.1099, 11.54, 11.55
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0001,265.4, -.0000, .0001
Co2286,228.616 {447},In2306,ppm, .0000,.0000,12.14, .0000, .0000
Cr2677,267.716 {126},Y_3600,ppm, .0001,.0000,15.85, .0001, .0001
Cu3247,324.754 {104},Y_3600,ppm, .0016,.0003,19.05, .0019, .0014
Fe2404,240.488 {140},In2306,ppm, .0653,.0047,7.265, .0620, .0687
K_7664,766.490 { 44},Y_3710,ppm, 2.578,.0052,.2018, 2.575, 2.582
Li6707,670.784 { 50},Y_3710,ppm, .0027,.0004,15.80, .0024, .0030
Mg2790,279.079 {121},Y_3710,ppm, 6.395,.0320,.4999, 6.418, 6.373
Mn2576,257.610 {131},Y_3600,ppm, .0187,.0001,.5350, .0188, .0186
Mo2020,202.030 {467},Y_2243,ppm, .0018,.0004,22.57, .0021, .0015
Na5895,589.592 { 57},Y_3710,ppm, 70.61,.2777,.3933, 70.41, 70.80
Ni2316,231.604 {445},In2306,ppm, .0008,.0000,.3663, .0008, .0008
P_1782,178.284 {489},In2306,ppm, .0028,.0009,32.03, .0021, .0034
Pb2203,220.353 {453},In2306,ppm, -.0004,.0004,86.37, -.0007, -.0002
S_1820,182.034 {485},Y_2243,ppm, 3.725,.1571,4.218, 3.836, 3.613
Sb2068,206.833 {463},Y_2243,ppm, -.0006,.0008,147.7, -.0012, .0000
Se1960,196.090 {472},Y_2243,ppm, .0025,.0033,129.8, .0002, .0048
Si2516,251.611 {134},Y_3710,ppm, .6319,.0035,.5562, .6294, .6344
Sn1899,189.989 {477},In2306,ppm, -.0004,.0000,8.289, -.0004, -.0004
Sr4215,421.552 { 80},Y_3710,ppm, .1027,.0005,.4909, .1024, .1031
Ti3349,334.904 {101},Y_3600,ppm, .0005,.0001,24.02, .0004, .0006
Tl1908,190.856 {477},In2306,ppm, .0066,.0004,6.034, .0069, .0063
U_3670,367.007 { 92},Y_3600,ppm, -.0345,.0195,56.40, -.0207, -.0483
V_2924,292.402 {115},Y_3600,ppm, .0006,.0001,17.50, .0005, .0006
W_2397,239.709 {140},Y_2243,ppm, -.0052,.0211,403.9, .0097, -.0202
Zn2062,206.200 {463},In2306,ppm, .0076,.0004,5.866, .0079, .0072

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 245.97,.43920,.17856,245.66,246.28
In2306,230.606 {446},Cts/S, 14652.,399.48,2.7266,14369.,14934.
Y_2243,224.306 {450},Cts/S, 23333.,643.46,2.7577,22878.,23788.
Y_3600,360.073 { 94},Cts/S, 194890.,331.72,.17021,194650.,195120.
Y_3710,371.030 { 91},Cts/S, 12981.,54.393,.41902,13019.,12942.
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Mode=CONC
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0010,.0004,36.04, .0013, .0008
Al3082,308.215 {109},In2306,ppm, .0709,.0267,37.69, .0520, .0898
As1890,189.042 {478},Y_2243,ppm, .0023,.0001,2.771, .0023, .0022
B_2496,249.678 {135},Y_3710,ppm, .1961,.0009,.4478, .1954, .1967
Ba4554,455.403 { 74},Y_3710,ppm, .3063,.0012,.4073, .3072, .3054
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,43.35, -.0001, -.0000
Ca3158,315.887 {107},In2306,ppm, 57.50,.1801,.3132, 57.62, 57.37
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0001,39.51, .0001, .0002
Co2286,228.616 {447},In2306,ppm, .0004,.0000,2.766, .0004, .0004
Cr2677,267.716 {126},Y_3600,ppm, .0007,.0001,12.00, .0006, .0007
Cu3247,324.754 {104},Y_3600,ppm, .0039,.0008,20.77, .0033, .0045
Fe2404,240.488 {140},In2306,ppm, .1614,.0100,6.195, .1685, .1543
K_7664,766.490 { 44},Y_3710,ppm, 12.89,.0113,.0878, 12.90, 12.88
Li6707,670.784 { 50},Y_3710,ppm, .0118,.0001,.8094, .0117, .0118
Mg2790,279.079 {121},Y_3710,ppm, 31.80,.1251,.3934, 31.89, 31.71
Mn2576,257.610 {131},Y_3600,ppm, .0295,.0004,1.434, .0292, .0298
Mo2020,202.030 {467},Y_2243,ppm, .0104,.0001,.9318, .0105, .0103
Na5895,589.592 { 57},Y_3710,ppm, 357.7,2.774,.7756, 355.7, 359.6
Ni2316,231.604 {445},In2306,ppm, .0017,.0003,16.21, .0015, .0019
P_1782,178.284 {489},In2306,ppm, .0107,.0017,15.49, .0096, .0119
Pb2203,220.353 {453},In2306,ppm, .0002,.0011,447.9, -.0005, .0010
S_1820,182.034 {485},Y_2243,ppm, 19.74,.0274,.1386, 19.72, 19.76
Sb2068,206.833 {463},Y_2243,ppm, .0021,.0009,41.32, .0027, .0015
Se1960,196.090 {472},Y_2243,ppm, .0014,.0038,259.9, .0041, -.0012
Si2516,251.611 {134},Y_3710,ppm, 2.176,.0247,1.137, 2.193, 2.158
Sn1899,189.989 {477},In2306,ppm, -.0004,.0001,25.00, -.0003, -.0005
Sr4215,421.552 { 80},Y_3710,ppm, .5081,.0020,.3855, .5095, .5067
Ti3349,334.904 {101},Y_3600,ppm, .0007,.0001,18.71, .0006, .0008
Tl1908,190.856 {477},In2306,ppm, .0061,.0025,41.27, .0043, .0079
U_3670,367.007 { 92},Y_3600,ppm, .0448,.1266,282.4, -.0447, .1344
V_2924,292.402 {115},Y_3600,ppm, .0032,.0004,13.19, .0035, .0029
W_2397,239.709 {140},Y_2243,ppm, .0475,.0090,19.00, .0411, .0539
Zn2062,206.200 {463},In2306,ppm, .0369,.0000,.0168, .0369, .0369

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 237.49,1.3032,.54875,236.56,238.41
In2306,230.606 {446},Cts/S, 12736.,31.756,.24933,12759.,12714.
Y_2243,224.306 {450},Cts/S, 21384.,82.904,.38769,21443.,21325.
Y_3600,360.073 { 94},Cts/S, 181820.,1150.5,.63280,182630.,181010.
Y_3710,371.030 { 91},Cts/S, 12681.,80.045,.63122,12624.,12738.

[Sample Header]
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Custom ID2=
Custom ID3=
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Sample Type=Unk
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Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0003,.0003,85.27, .0001, .0005
Al3082,308.215 {109},In2306,ppm, .0260,.0095,36.56, .0193, .0328
As1890,189.042 {478},Y_2243,ppm, .0002,.0017,728.8, .0014, -.0009
B_2496,249.678 {135},Y_3710,ppm, .0312,.0061,19.39, .0355, .0269
Ba4554,455.403 { 74},Y_3710,ppm, .0610,.0004,.6653, .0613, .0607
Be3130,313.042 {108},Y_3710,ppm, .0000,.0002,5854., .0001, -.0001
Ca3158,315.887 {107},In2306,ppm, 11.67,.0563,.4822, 11.63, 11.71
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0001,271.1, -.0000, .0001
Co2286,228.616 {447},In2306,ppm, -.0001,.0002,309.3, .0001, -.0002
Cr2677,267.716 {126},Y_3600,ppm, .0004,.0001,14.25, .0004, .0003
Cu3247,324.754 {104},Y_3600,ppm, .0016,.0003,17.97, .0018, .0014
Fe2404,240.488 {140},In2306,ppm, .0370,.0057,15.48, .0410, .0329
K_7664,766.490 { 44},Y_3710,ppm, 2.535,.0077,.3045, 2.540, 2.529
Li6707,670.784 { 50},Y_3710,ppm, .0021,.0000,1.608, .0021, .0021
Mg2790,279.079 {121},Y_3710,ppm, 6.388,.0007,.0106, 6.387, 6.388
Mn2576,257.610 {131},Y_3600,ppm, .0060,.0000,.7579, .0060, .0060
Mo2020,202.030 {467},Y_2243,ppm, .0016,.0001,3.358, .0016, .0016
Na5895,589.592 { 57},Y_3710,ppm, 71.31,.1762,.2471, 71.43, 71.18
Ni2316,231.604 {445},In2306,ppm, .0005,.0001,22.94, .0006, .0005
P_1782,178.284 {489},In2306,ppm, .0013,.0015,111.3, .0024, .0003
Pb2203,220.353 {453},In2306,ppm, .0011,.0003,29.97, .0013, .0009
S_1820,182.034 {485},Y_2243,ppm, 3.829,.0000,.0001, 3.829, 3.829
Sb2068,206.833 {463},Y_2243,ppm, -.0000,.0019,6740., .0013, -.0014
Se1960,196.090 {472},Y_2243,ppm, .0038,.0003,8.447, .0036, .0040
Si2516,251.611 {134},Y_3710,ppm, .4325,.0010,.2222, .4332, .4318
Sn1899,189.989 {477},In2306,ppm, .0006,.0003,50.15, .0008, .0004
Sr4215,421.552 { 80},Y_3710,ppm, .1027,.0002,.2429, .1029, .1025
Ti3349,334.904 {101},Y_3600,ppm, .0002,.0002,95.34, .0001, .0003
Tl1908,190.856 {477},In2306,ppm, .0103,.0025,24.23, .0120, .0085
U_3670,367.007 { 92},Y_3600,ppm, .0381,.0032,8.403, .0359, .0404
V_2924,292.402 {115},Y_3600,ppm, .0006,.0003,43.83, .0004, .0008
W_2397,239.709 {140},Y_2243,ppm, -.0073,.0374,511.7, -.0338, .0192
Zn2062,206.200 {463},In2306,ppm, .0063,.0001,1.408, .0063, .0064

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 244.20,2.9589,1.2117,246.29,242.11
In2306,230.606 {446},Cts/S, 14383.,54.027,.37562,14345.,14421.
Y_2243,224.306 {450},Cts/S, 22937.,84.596,.36882,22877.,22997.
Y_3600,360.073 { 94},Cts/S, 195100.,26.520,.01359,195120.,195080.
Y_3710,371.030 { 91},Cts/S, 12939.,36.217,.27990,12965.,12913.

[Sample Header]
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Custom ID2=
Custom ID3=
Run Time=11/13/2019 13:02:48
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0002,.0002,151.1, .0003, -.0000
Al3082,308.215 {109},In2306,ppm, 31.40,.2798,.8910, 31.20, 31.60
As1890,189.042 {478},Y_2243,ppm, .0042,.0008,18.86, .0036, .0047
B_2496,249.678 {135},Y_3710,ppm, .0494,.0050,10.19, .0530, .0458
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Ba4554,455.403 { 74},Y_3710,ppm, .2431,.0002,.0862, .2429, .2432
Be3130,313.042 {108},Y_3710,ppm, .0015,.0001,4.423, .0015, .0016
Ca3158,315.887 {107},In2306,ppm, 26.69,.2080,.7791, 26.55, 26.84
Cd2288,228.802 {447},Y_2243,ppm, .0008,.0000,.6027, .0008, .0008
Co2286,228.616 {447},In2306,ppm, .0104,.0000,.0664, .0104, .0104
Cr2677,267.716 {126},Y_3600,ppm, .0279,.0002,.6512, .0277, .0280
Cu3247,324.754 {104},Y_3600,ppm, .0237,.0005,2.090, .0234, .0241
Fe2404,240.488 {140},In2306,ppm, 22.18,.2704,1.219, 21.99, 22.37
K_7664,766.490 { 44},Y_3710,ppm, 5.333,.0217,.4074, 5.348, 5.318
Li6707,670.784 { 50},Y_3710,ppm, .0190,.0002,.9734, .0189, .0191
Mg2790,279.079 {121},Y_3710,ppm, 12.09,.0179,.1478, 12.08, 12.11
Mn2576,257.610 {131},Y_3600,ppm, .2623,.0010,.3708, .2616, .2630
Mo2020,202.030 {467},Y_2243,ppm, .0011,.0000,3.730, .0011, .0012
Na5895,589.592 { 57},Y_3710,ppm, 68.31,.1222,.1789, 68.40, 68.22
Ni2316,231.604 {445},In2306,ppm, .0192,.0003,1.445, .0190, .0194
P_1782,178.284 {489},In2306,ppm, .2963,.0000,.0042, .2963, .2963
Pb2203,220.353 {453},In2306,ppm, .0259,.0009,3.661, .0265, .0252
S_1820,182.034 {485},Y_2243,ppm, 4.369,.0043,.0976, 4.366, 4.372
Sb2068,206.833 {463},Y_2243,ppm, -.0016,.0016,96.49, -.0005, -.0028
Se1960,196.090 {472},Y_2243,ppm, -.0007,.0005,73.81, -.0003, -.0010
Si2516,251.611 {134},Y_3710,ppm, 9.494,.0112,.1180, 9.486, 9.502
Sn1899,189.989 {477},In2306,ppm, .0013,.0002,14.56, .0014, .0012
Sr4215,421.552 { 80},Y_3710,ppm, .1863,.0003,.1614, .1865, .1861
Ti3349,334.904 {101},Y_3600,ppm, .0529,.0007,1.260, .0525, .0534
Tl1908,190.856 {477},In2306,ppm, .0053,.0022,41.79, .0038, .0069
U_3670,367.007 { 92},Y_3600,ppm, .1839,.0094,5.122, .1905, .1772
V_2924,292.402 {115},Y_3600,ppm, .0465,.0004,.9191, .0462, .0468
W_2397,239.709 {140},Y_2243,ppm, .0179,.0435,243.5, .0486, -.0129
Zn2062,206.200 {463},In2306,ppm, .0790,.0005,.5775, .0787, .0793

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 246.95,2.1998,.89079,248.51,245.39
In2306,230.606 {446},Cts/S, 14087.,7.8707,.05587,14081.,14092.
Y_2243,224.306 {450},Cts/S, 23424.,40.759,.17401,23395.,23453.
Y_3600,360.073 { 94},Cts/S, 196500.,625.02,.31807,196940.,196060.
Y_3710,371.030 { 91},Cts/S, 13274.,.56051,.00422,13273.,13274.

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Ag3280,328.068 {103},Y_3600,ppm, -.0002,.0001,33.43, -.0001, -.0002
Al3082,308.215 {109},In2306,ppm, 12.42,.1236,.9944, 12.34, 12.51
As1890,189.042 {478},Y_2243,ppm, .0019,.0001,6.317, .0020, .0018
B_2496,249.678 {135},Y_3710,ppm, .0458,.0045,9.883, .0426, .0490
Ba4554,455.403 { 74},Y_3710,ppm, .1175,.0007,.5536, .1170, .1180
Be3130,313.042 {108},Y_3710,ppm, .0006,.0000,1.297, .0006, .0006
Ca3158,315.887 {107},In2306,ppm, 13.98,.0335,.2396, 13.96, 14.00
Cd2288,228.802 {447},Y_2243,ppm, .0003,.0001,34.17, .0004, .0002
Co2286,228.616 {447},In2306,ppm, .0033,.0001,1.815, .0033, .0034
Cr2677,267.716 {126},Y_3600,ppm, .0109,.0003,2.529, .0111, .0108
Cu3247,324.754 {104},Y_3600,ppm, .0085,.0002,2.415, .0084, .0087
Fe2404,240.488 {140},In2306,ppm, 8.416,.0225,.2677, 8.400, 8.432
K_7664,766.490 { 44},Y_3710,ppm, 3.545,.0113,.3178, 3.553, 3.537
Li6707,670.784 { 50},Y_3710,ppm, .0085,.0003,3.871, .0082, .0087
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Mg2790,279.079 {121},Y_3710,ppm, 8.406,.0257,.3059, 8.388, 8.424
Mn2576,257.610 {131},Y_3600,ppm, .0753,.0001,.1150, .0753, .0752
Mo2020,202.030 {467},Y_2243,ppm, .0013,.0001,5.700, .0014, .0013
Na5895,589.592 { 57},Y_3710,ppm, 67.02,.1355,.2021, 66.92, 67.11
Ni2316,231.604 {445},In2306,ppm, .0064,.0002,3.701, .0066, .0063
P_1782,178.284 {489},In2306,ppm, .0985,.0015,1.538, .0974, .0995
Pb2203,220.353 {453},In2306,ppm, .0080,.0006,7.107, .0076, .0084
S_1820,182.034 {485},Y_2243,ppm, 3.543,.0157,.4444, 3.554, 3.532
Sb2068,206.833 {463},Y_2243,ppm, -.0002,.0019,786.8, .0011, -.0016
Se1960,196.090 {472},Y_2243,ppm, -.0016,.0017,105.6, -.0028, -.0004
Si2516,251.611 {134},Y_3710,ppm, 9.800,.1066,1.087, 9.725, 9.875
Sn1899,189.989 {477},In2306,ppm, .0009,.0001,16.12, .0009, .0008
Sr4215,421.552 { 80},Y_3710,ppm, .1216,.0008,.6983, .1210, .1222
Ti3349,334.904 {101},Y_3600,ppm, .0380,.0007,1.728, .0375, .0385
Tl1908,190.856 {477},In2306,ppm, .0024,.0039,158.2, .0052, -.0003
U_3670,367.007 { 92},Y_3600,ppm, -.0141,.0299,212.5, .0071, -.0352
V_2924,292.402 {115},Y_3600,ppm, .0191,.0001,.5131, .0190, .0192
W_2397,239.709 {140},Y_2243,ppm, .0115,.0796,690.8, -.0448, .0678
Zn2062,206.200 {463},In2306,ppm, .0282,.0002,.7364, .0283, .0280

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 242.11,.37469,.15476,242.37,241.84
In2306,230.606 {446},Cts/S, 14240.,7.5116,.05275,14245.,14234.
Y_2243,224.306 {450},Cts/S, 23130.,42.945,.18567,23161.,23100.
Y_3600,360.073 { 94},Cts/S, 197090.,328.50,.16668,196850.,197320.
Y_3710,371.030 { 91},Cts/S, 13068.,18.741,.14342,13054.,13081.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .5732,.0078,1.364, .5677, .5787
Al3082,308.215 {109},In2306,ppm, 20.48,.4716,2.303, 20.15, 20.81
As1890,189.042 {478},Y_2243,ppm, 1.010,.0082,.8126, 1.004, 1.015
B_2496,249.678 {135},Y_3710,ppm, .9834,.0166,1.690, .9716, .9951
Ba4554,455.403 { 74},Y_3710,ppm, 1.023,.0203,1.989, 1.008, 1.037
Be3130,313.042 {108},Y_3710,ppm, 1.011,.0179,1.773, .9980, 1.023
Ca3158,315.887 {107},In2306,ppm, 20.07,.3662,1.824, 19.81, 20.33
Cd2288,228.802 {447},Y_2243,ppm, 1.025,.0107,1.041, 1.018, 1.033
Co2286,228.616 {447},In2306,ppm, 1.000,.0096,.9579, .9934, 1.007
Cr2677,267.716 {126},Y_3600,ppm, .9774,.0148,1.518, .9670, .9879
Cu3247,324.754 {104},Y_3600,ppm, .9979,.0136,1.364, .9883, 1.008
Fe2404,240.488 {140},In2306,ppm, 20.13,.3574,1.775, 19.88, 20.38
K_7664,766.490 { 44},Y_3710,ppm, 19.69,.3513,1.784, 19.44, 19.94
Li6707,670.784 { 50},Y_3710,ppm, 1.008,.0199,1.979, .9936, 1.022
Mg2790,279.079 {121},Y_3710,ppm, 19.65,.3243,1.650, 19.42, 19.88
Mn2576,257.610 {131},Y_3600,ppm, 1.008,.0139,1.380, .9981, 1.018
Mo2020,202.030 {467},Y_2243,ppm, 1.051,.0101,.9603, 1.043, 1.058
Na5895,589.592 { 57},Y_3710,ppm, 19.94,.3406,1.708, 19.70, 20.18
Ni2316,231.604 {445},In2306,ppm, 1.023,.0125,1.225, 1.014, 1.031
P_1782,178.284 {489},In2306,ppm, 10.36,.1258,1.215, 10.27, 10.45
Pb2203,220.353 {453},In2306,ppm, 1.015,.0078,.7727, 1.010, 1.021
S_1820,182.034 {485},Y_2243,ppm, 10.60,.1196,1.128, 10.51, 10.68
Sb2068,206.833 {463},Y_2243,ppm, 2.211,.0184,.8327, 2.198, 2.224
Se1960,196.090 {472},Y_2243,ppm, 1.019,.0056,.5446, 1.015, 1.023
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Si2516,251.611 {134},Y_3710,ppm, 9.668,.2376,2.457, 9.500, 9.836
Sn1899,189.989 {477},In2306,ppm, 1.015,.0079,.7738, 1.009, 1.020
Sr4215,421.552 { 80},Y_3710,ppm, 1.022,.0199,1.947, 1.008, 1.036
Ti3349,334.904 {101},Y_3600,ppm, 1.002,.0145,1.449, .9921, 1.013
Tl1908,190.856 {477},In2306,ppm, 1.019,.0101,.9875, 1.012, 1.026
U_3670,367.007 { 92},Y_3600,ppm, .9748,.0759,7.791, .9211, 1.028
V_2924,292.402 {115},Y_3600,ppm, 1.003,.0142,1.411, .9931, 1.013
W_2397,239.709 {140},Y_2243,ppm, 1.016,.0536,5.274, .9780, 1.054
Zn2062,206.200 {463},In2306,ppm, .9983,.0104,1.038, .9910, 1.006

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 243.58,2.0006,.82133,244.99,242.16
In2306,230.606 {446},Cts/S, 14288.,137.63,.96320,14386.,14191.
Y_2243,224.306 {450},Cts/S, 23158.,207.79,.89728,23305.,23011.
Y_3600,360.073 { 94},Cts/S, 197350.,2316.7,1.1739,198990.,195710.
Y_3710,371.030 { 91},Cts/S, 13011.,89.033,.68427,13074.,12948.

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Ag3280,328.068 {103},Y_3600,ppm, .1019,.0001,.0934, .1019, .1018
Al3082,308.215 {109},In2306,ppm, 1.040,.0046,.4451, 1.043, 1.036
As1890,189.042 {478},Y_2243,ppm, .0325,.0026,7.878, .0307, .0344
B_2496,249.678 {135},Y_3710,ppm, .1974,.0015,.7435, .1984, .1963
Ba4554,455.403 { 74},Y_3710,ppm, .0311,.0002,.5063, .0313, .0310
Be3130,313.042 {108},Y_3710,ppm, .0314,.0002,.5089, .0315, .0313
Ca3158,315.887 {107},In2306,ppm, .9764,.0019,.1979, .9750, .9778
Cd2288,228.802 {447},Y_2243,ppm, .0310,.0001,.1811, .0309, .0310
Co2286,228.616 {447},In2306,ppm, .0291,.0002,.6792, .0290, .0293
Cr2677,267.716 {126},Y_3600,ppm, .0304,.0001,.2972, .0303, .0304
Cu3247,324.754 {104},Y_3600,ppm, .0323,.0003,.9000, .0325, .0321
Fe2404,240.488 {140},In2306,ppm, 1.010,.0051,.5042, 1.013, 1.006
K_7664,766.490 { 44},Y_3710,ppm, .9541,.0108,1.133, .9465, .9618
Li6707,670.784 { 50},Y_3710,ppm, .0314,.0002,.5770, .0313, .0316
Mg2790,279.079 {121},Y_3710,ppm, .9993,.0094,.9378, 1.006, .9927
Mn2576,257.610 {131},Y_3600,ppm, .0314,.0000,.1456, .0314, .0313
Mo2020,202.030 {467},Y_2243,ppm, .0315,.0001,.4094, .0314, .0316
Na5895,589.592 { 57},Y_3710,ppm, 1.041,.0158,1.514, 1.052, 1.030
Ni2316,231.604 {445},In2306,ppm, .0299,.0002,.6072, .0298, .0300
P_1782,178.284 {489},In2306,ppm, 1.918,.0141,.7350, 1.908, 1.928
Pb2203,220.353 {453},In2306,ppm, .0318,.0010,3.008, .0311, .0325
S_1820,182.034 {485},Y_2243,ppm, 2.005,.0191,.9541, 1.991, 2.018
Sb2068,206.833 {463},Y_2243,ppm, .2408,.0002,.0806, .2410, .2407
Se1960,196.090 {472},Y_2243,ppm, .0325,.0006,1.976, .0330, .0321
Si2516,251.611 {134},Y_3710,ppm, .3365,.0059,1.764, .3407, .3323
Sn1899,189.989 {477},In2306,ppm, .0298,.0003,1.144, .0296, .0301
Sr4215,421.552 { 80},Y_3710,ppm, .0318,.0005,1.490, .0321, .0315
Ti3349,334.904 {101},Y_3600,ppm, .0307,.0003,.8717, .0305, .0309
Tl1908,190.856 {477},In2306,ppm, .0463,.0005,1.035, .0460, .0466
U_3670,367.007 { 92},Y_3600,ppm, .1554,.0333,21.42, .1789, .1318
V_2924,292.402 {115},Y_3600,ppm, .0304,.0001,.4303, .0303, .0305
W_2397,239.709 {140},Y_2243,ppm, .2442,.0001,.0354, .2441, .2442
Zn2062,206.200 {463},In2306,ppm, .1868,.0021,1.127, .1853, .1883
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[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 251.86,1.6497,.65500,250.70,253.03
In2306,230.606 {446},Cts/S, 15839.,109.78,.69306,15917.,15762.
Y_2243,224.306 {450},Cts/S, 23951.,107.35,.44822,24027.,23875.
Y_3600,360.073 { 94},Cts/S, 205640.,396.98,.19304,205920.,205360.
Y_3710,371.030 { 91},Cts/S, 13116.,50.878,.38790,13080.,13152.

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[Results]
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Al3082,308.215 {109},In2306,ppm, -.0072,.0037,51.35, -.0098, -.0046
As1890,189.042 {478},Y_2243,ppm, -.0004,.0013,308.0, -.0013, .0005
B_2496,249.678 {135},Y_3710,ppm, -.0039,.0017,44.10, -.0052, -.0027
Ba4554,455.403 { 74},Y_3710,ppm, -.0006,.0001,21.11, -.0005, -.0007
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,57.13, .0000, .0000
Ca3158,315.887 {107},In2306,ppm, -.0203,.0045,22.44, -.0235, -.0170
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,52.98, .0002, .0001
Co2286,228.616 {447},In2306,ppm, -.0001,.0001,58.30, -.0002, -.0001
Cr2677,267.716 {126},Y_3600,ppm, -.0001,.0003,336.5, -.0003, .0001
Cu3247,324.754 {104},Y_3600,ppm, .0007,.0001,13.56, .0007, .0006
Fe2404,240.488 {140},In2306,ppm, .0179,.0002,1.246, .0177, .0180
K_7664,766.490 { 44},Y_3710,ppm, -.0309,.0042,13.50, -.0338, -.0279
Li6707,670.784 { 50},Y_3710,ppm, -.0007,.0008,115.6, -.0012, -.0001
Mg2790,279.079 {121},Y_3710,ppm, -.0008,.0012,145.7, -.0016, .0000
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,66.98, -.0000, -.0001
Mo2020,202.030 {467},Y_2243,ppm, -.0003,.0001,34.14, -.0003, -.0002
Na5895,589.592 { 57},Y_3710,ppm, .0016,.0012,73.15, .0008, .0025
Ni2316,231.604 {445},In2306,ppm, .0001,.0000,23.74, .0001, .0001
P_1782,178.284 {489},In2306,ppm, -.0012,.0003,26.36, -.0010, -.0014
Pb2203,220.353 {453},In2306,ppm, .0003,.0001,45.67, .0002, .0003
S_1820,182.034 {485},Y_2243,ppm, .0067,.0016,23.93, .0055, .0078
Sb2068,206.833 {463},Y_2243,ppm, .0012,.0019,158.3, -.0001, .0025
Se1960,196.090 {472},Y_2243,ppm, .0004,.0009,206.2, -.0002, .0011
Si2516,251.611 {134},Y_3710,ppm, .0099,.0041,40.85, .0071, .0128
Sn1899,189.989 {477},In2306,ppm, -.0004,.0003,67.99, -.0005, -.0002
Sr4215,421.552 { 80},Y_3710,ppm, -.0000,.0001,325.7, -.0001, .0001
Ti3349,334.904 {101},Y_3600,ppm, .0000,.0001,384.5, -.0001, .0001
Tl1908,190.856 {477},In2306,ppm, .0088,.0015,16.52, .0099, .0078
U_3670,367.007 { 92},Y_3600,ppm, -.0501,.0215,42.88, -.0653, -.0349
V_2924,292.402 {115},Y_3600,ppm, .0000,.0000,90.30, .0001, .0000
W_2397,239.709 {140},Y_2243,ppm, .0460,.0483,105.0, .0118, .0801
Zn2062,206.200 {463},In2306,ppm, -.0013,.0001,4.641, -.0014, -.0013

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 252.98,.31440,.12428,253.21,252.76
In2306,230.606 {446},Cts/S, 16072.,31.167,.19392,16094.,16050.
Y_2243,224.306 {450},Cts/S, 23852.,75.508,.31657,23905.,23798.
Y_3600,360.073 { 94},Cts/S, 204810.,390.79,.19080,205090.,204540.
Y_3710,371.030 { 91},Cts/S, 13051.,15.201,.11647,13041.,13062.

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Al3082,308.215 {109},In2306,ppm, -.0060,.0089,147.5, -.0123, .0003
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B_2496,249.678 {135},Y_3710,ppm, -.0022,.0019,84.58, -.0009, -.0036
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Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,1522., -.0000, .0000
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Co2286,228.616 {447},In2306,ppm, .0000,.0001,157.4, .0001, -.0000
Cr2677,267.716 {126},Y_3600,ppm, .0002,.0001,47.97, .0002, .0001
Cu3247,324.754 {104},Y_3600,ppm, .0013,.0000,1.172, .0014, .0013
Fe2404,240.488 {140},In2306,ppm, .0056,.0035,62.53, .0081, .0031
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Li6707,670.784 { 50},Y_3710,ppm, -.0003,.0005,175.4, -.0006, .0001
Mg2790,279.079 {121},Y_3710,ppm, .0314,.0213,67.66, .0465, .0164
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,.3721, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, -.0010,.0001,15.19, -.0011, -.0009
Na5895,589.592 { 57},Y_3710,ppm, 142.5,.3471,.2436, 142.2, 142.7
Ni2316,231.604 {445},In2306,ppm, .0006,.0002,34.33, .0007, .0004
P_1782,178.284 {489},In2306,ppm, -.0007,.0006,86.25, -.0003, -.0011
Pb2203,220.353 {453},In2306,ppm, -.0001,.0002,434.0, -.0002, .0001
S_1820,182.034 {485},Y_2243,ppm, .0102,.0018,17.22, .0090, .0114
Sb2068,206.833 {463},Y_2243,ppm, -.0010,.0003,33.37, -.0007, -.0012
Se1960,196.090 {472},Y_2243,ppm, .0010,.0004,40.19, .0012, .0007
Si2516,251.611 {134},Y_3710,ppm, .0002,.0031,1349., -.0019, .0024
Sn1899,189.989 {477},In2306,ppm, .0003,.0005,178.6, .0006, -.0001
Sr4215,421.552 { 80},Y_3710,ppm, .0001,.0002,161.3, .0002, -.0000
Ti3349,334.904 {101},Y_3600,ppm, .0003,.0001,37.81, .0002, .0004
Tl1908,190.856 {477},In2306,ppm, .0087,.0001,1.422, .0086, .0088
U_3670,367.007 { 92},Y_3600,ppm, .0385,.0091,23.51, .0449, .0321
V_2924,292.402 {115},Y_3600,ppm, -.0002,.0001,71.26, -.0003, -.0001
W_2397,239.709 {140},Y_2243,ppm, .0311,.0224,72.01, .0153, .0470
Zn2062,206.200 {463},In2306,ppm, .0027,.0001,4.306, .0028, .0026

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 248.12,1.8602,.74974,249.44,246.80
In2306,230.606 {446},Cts/S, 13984.,29.868,.21359,14005.,13963.
Y_2243,224.306 {450},Cts/S, 22769.,92.955,.40825,22835.,22704.
Y_3600,360.073 { 94},Cts/S, 190700.,914.16,.47937,191350.,190060.
Y_3710,371.030 { 91},Cts/S, 12942.,1.8391,.01421,12944.,12941.

[Sample Header]
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Comment=
Custom ID1=
Custom ID2=
Custom ID3=
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Sample Type=Unk
Mode=CONC
CorrFactor=1.000
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0006,.0003,56.76, .0003, .0008
Al3082,308.215 {109},In2306,ppm, -.0007,.0017,233.6, .0005, -.0020
As1890,189.042 {478},Y_2243,ppm, .0040,.0018,43.84, .0053, .0028
B_2496,249.678 {135},Y_3710,ppm, -.0005,.0006,117.9, -.0009, -.0001
Ba4554,455.403 { 74},Y_3710,ppm, -.0003,.0002,53.83, -.0002, -.0005
Be3130,313.042 {108},Y_3710,ppm, .0000,.0001,243.8, .0001, -.0000
Ca3158,315.887 {107},In2306,ppm, -.0144,.0094,65.21, -.0078, -.0210
Cd2288,228.802 {447},Y_2243,ppm, -.0003,.0000,4.939, -.0003, -.0003
Co2286,228.616 {447},In2306,ppm, .0001,.0001,41.26, .0001, .0002
Cr2677,267.716 {126},Y_3600,ppm, .0001,.0001,48.77, .0001, .0002
Cu3247,324.754 {104},Y_3600,ppm, .0010,.0001,12.34, .0010, .0011
Fe2404,240.488 {140},In2306,ppm, .0083,.0045,54.36, .0115, .0051
K_7664,766.490 { 44},Y_3710,ppm, -.0367,.0338,92.01, -.0128, -.0606
Li6707,670.784 { 50},Y_3710,ppm, .0001,.0011,1033., -.0007, .0009
Mg2790,279.079 {121},Y_3710,ppm, -.0074,.0444,601.0, -.0388, .0240
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,22.50, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, -.0007,.0000,3.321, -.0007, -.0007
Na5895,589.592 { 57},Y_3710,ppm, .0315,.0114,36.02, .0396, .0235
Ni2316,231.604 {445},In2306,ppm, .0006,.0001,14.00, .0007, .0006
P_1782,178.284 {489},In2306,ppm, .0003,.0008,306.6, -.0003, .0008
Pb2203,220.353 {453},In2306,ppm, .0011,.0005,45.73, .0014, .0007
S_1820,182.034 {485},Y_2243,ppm, .0016,.0074,475.8, .0068, -.0037
Sb2068,206.833 {463},Y_2243,ppm, -.0003,.0007,240.6, .0002, -.0008
Se1960,196.090 {472},Y_2243,ppm, .0019,.0006,31.82, .0023, .0015
Si2516,251.611 {134},Y_3710,ppm, .0038,.0054,141.4, .0077, .0000
Sn1899,189.989 {477},In2306,ppm, .0004,.0000,1.662, .0004, .0004
Sr4215,421.552 { 80},Y_3710,ppm, -.0000,.0000,110.6, -.0000, -.0001
Ti3349,334.904 {101},Y_3600,ppm, .0004,.0004,103.9, .0001, .0007
Tl1908,190.856 {477},In2306,ppm, .0064,.0020,31.78, .0050, .0078
U_3670,367.007 { 92},Y_3600,ppm, -.0374,.0373,99.50, -.0111, -.0638
V_2924,292.402 {115},Y_3600,ppm, .0003,.0001,40.15, .0002, .0004
W_2397,239.709 {140},Y_2243,ppm, -.0049,.0295,597.3, -.0258, .0159
Zn2062,206.200 {463},In2306,ppm, .0024,.0001,2.890, .0023, .0024

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 253.35,.26458,.10443,253.53,253.16
In2306,230.606 {446},Cts/S, 16140.,31.385,.19445,16163.,16118.
Y_2243,224.306 {450},Cts/S, 23926.,103.19,.43131,23999.,23853.
Y_3600,360.073 { 94},Cts/S, 202450.,350.15,.17295,202700.,202200.
Y_3710,371.030 { 91},Cts/S, 13083.,10.196,.07794,13090.,13075.

[Sample Header]
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Custom ID3=
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .3080,.0000,.0106, .3080, .3080
Al3082,308.215 {109},In2306,ppm, 10.50,.0291,.2772, 10.48, 10.52
As1890,189.042 {478},Y_2243,ppm, 1.034,.0000,.0038, 1.034, 1.034
B_2496,249.678 {135},Y_3710,ppm, .4996,.0044,.8859, .4965, .5027
Ba4554,455.403 { 74},Y_3710,ppm, 1.019,.0041,.4072, 1.016, 1.022
Be3130,313.042 {108},Y_3710,ppm, 1.027,.0041,.4027, 1.024, 1.030
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Ca3158,315.887 {107},In2306,ppm, 10.27,.0106,.1033, 10.26, 10.28
Cd2288,228.802 {447},Y_2243,ppm, 1.061,.0006,.0569, 1.061, 1.061
Co2286,228.616 {447},In2306,ppm, .9868,.0004,.0374, .9871, .9866
Cr2677,267.716 {126},Y_3600,ppm, .9726,.0013,.1372, .9716, .9735
Cu3247,324.754 {104},Y_3600,ppm, 1.006,.0027,.2654, 1.004, 1.007
Fe2404,240.488 {140},In2306,ppm, 10.33,.0048,.0465, 10.32, 10.33
K_7664,766.490 { 44},Y_3710,ppm, 10.19,.0475,.4656, 10.16, 10.23
Li6707,670.784 { 50},Y_3710,ppm, 1.011,.0039,.3891, 1.008, 1.014
Mg2790,279.079 {121},Y_3710,ppm, 10.17,.0614,.6037, 10.13, 10.22
Mn2576,257.610 {131},Y_3600,ppm, 1.014,.0000,.0049, 1.014, 1.014
Mo2020,202.030 {467},Y_2243,ppm, 1.030,.0023,.2199, 1.029, 1.032
Na5895,589.592 { 57},Y_3710,ppm, 10.37,.0376,.3629, 10.34, 10.39
Ni2316,231.604 {445},In2306,ppm, 1.012,.0020,.1986, 1.014, 1.011
P_1782,178.284 {489},In2306,ppm, 5.446,.0113,.2076, 5.454, 5.438
Pb2203,220.353 {453},In2306,ppm, 1.021,.0008,.0826, 1.022, 1.021
S_1820,182.034 {485},Y_2243,ppm, 5.772,.0093,.1617, 5.765, 5.778
Sb2068,206.833 {463},Y_2243,ppm, 1.713,.0088,.5129, 1.707, 1.719
Se1960,196.090 {472},Y_2243,ppm, 1.117,.0038,.3358, 1.115, 1.120
Si2516,251.611 {134},Y_3710,ppm, 9.058,.0298,.3286, 9.037, 9.079
Sn1899,189.989 {477},In2306,ppm, 1.008,.0000,.0030, 1.008, 1.008
Sr4215,421.552 { 80},Y_3710,ppm, 1.020,.0051,.5028, 1.016, 1.024
Ti3349,334.904 {101},Y_3600,ppm, .9949,.0003,.0309, .9947, .9951
Tl1908,190.856 {477},In2306,ppm, .8251,.0015,.1793, .8240, .8261
U_3670,367.007 { 92},Y_3600,ppm, .4890,.1068,21.84, .4135, .5645
V_2924,292.402 {115},Y_3600,ppm, .9924,.0007,.0680, .9919, .9929
W_2397,239.709 {140},Y_2243,ppm, .3736,.0091,2.443, .3671, .3800
Zn2062,206.200 {463},In2306,ppm, .5160,.0034,.6601, .5184, .5136

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 246.64,.32237,.13071,246.87,246.41
In2306,230.606 {446},Cts/S, 14811.,51.255,.34607,14847.,14774.
Y_2243,224.306 {450},Cts/S, 23463.,142.38,.60685,23563.,23362.
Y_3600,360.073 { 94},Cts/S, 198630.,630.09,.31721,198190.,199080.
Y_3710,371.030 { 91},Cts/S, 13104.,60.529,.46191,13147.,13061.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0003,.0005,168.5, .0001, -.0006
Al3082,308.215 {109},In2306,ppm, 29.64,.0842,.2842, 29.58, 29.70
As1890,189.042 {478},Y_2243,ppm, .0008,.0024,302.1, -.0009, .0025
B_2496,249.678 {135},Y_3710,ppm, .0467,.0031,6.697, .0489, .0445
Ba4554,455.403 { 74},Y_3710,ppm, .2109,.0002,.0989, .2108, .2111
Be3130,313.042 {108},Y_3710,ppm, .0014,.0002,15.69, .0015, .0012
Ca3158,315.887 {107},In2306,ppm, 25.77,.0360,.1399, 25.79, 25.74
Cd2288,228.802 {447},Y_2243,ppm, .0007,.0000,1.397, .0007, .0008
Co2286,228.616 {447},In2306,ppm, .0085,.0001,1.282, .0085, .0084
Cr2677,267.716 {126},Y_3600,ppm, .0231,.0013,5.635, .0222, .0240
Cu3247,324.754 {104},Y_3600,ppm, .0207,.0008,3.776, .0201, .0212
Fe2404,240.488 {140},In2306,ppm, 18.49,.1057,.5713, 18.42, 18.57
K_7664,766.490 { 44},Y_3710,ppm, 4.941,.0187,.3791, 4.928, 4.955
Li6707,670.784 { 50},Y_3710,ppm, .0170,.0003,1.565, .0168, .0171
Mg2790,279.079 {121},Y_3710,ppm, 11.05,.0242,.2187, 11.06, 11.03
Mn2576,257.610 {131},Y_3600,ppm, .2174,.0097,4.454, .2105, .2242
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Mo2020,202.030 {467},Y_2243,ppm, .0022,.0000,.3603, .0022, .0022
Na5895,589.592 { 57},Y_3710,ppm, 70.61,.0148,.0210, 70.62, 70.60
Ni2316,231.604 {445},In2306,ppm, .0161,.0003,1.563, .0159, .0162
P_1782,178.284 {489},In2306,ppm, .3198,.0009,.2715, .3192, .3204
Pb2203,220.353 {453},In2306,ppm, .0213,.0002,.8556, .0211, .0214
S_1820,182.034 {485},Y_2243,ppm, 4.617,.0016,.0340, 4.618, 4.616
Sb2068,206.833 {463},Y_2243,ppm, .0002,.0015,689.0, -.0008, .0013
Se1960,196.090 {472},Y_2243,ppm, .0041,.0004,8.600, .0039, .0044
Si2516,251.611 {134},Y_3710,ppm, 7.322,.0239,.3269, 7.305, 7.339
Sn1899,189.989 {477},In2306,ppm, .0015,.0004,28.35, .0018, .0012
Sr4215,421.552 { 80},Y_3710,ppm, .1748,.0000,.0134, .1747, .1748
Ti3349,334.904 {101},Y_3600,ppm, .0470,.0017,3.722, .0457, .0482
Tl1908,190.856 {477},In2306,ppm, .0591,.0041,6.970, .0620, .0561
U_3670,367.007 { 92},Y_3600,ppm, .0349,.0340,97.28, .0109, .0589
V_2924,292.402 {115},Y_3600,ppm, .0383,.0015,4.044, .0372, .0394
W_2397,239.709 {140},Y_2243,ppm, -.0330,.0014,4.260, -.0320, -.0340
Zn2062,206.200 {463},In2306,ppm, .0689,.0004,.5427, .0686, .0692

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 245.64,.34837,.14182,245.40,245.89
In2306,230.606 {446},Cts/S, 14019.,8.3477,.05955,14013.,14025.
Y_2243,224.306 {450},Cts/S, 23171.,64.229,.27719,23126.,23217.
Y_3600,360.073 { 94},Cts/S, 203310.,6627.7,3.2600,207990.,198620.
Y_3710,371.030 { 91},Cts/S, 13180.,41.822,.31732,13150.,13209.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0002,.0009,376.8, .0008, -.0004
Al3082,308.215 {109},In2306,ppm, 1.030,.0075,.7285, 1.036, 1.025
As1890,189.042 {478},Y_2243,ppm, .0007,.0007,103.7, .0002, .0012
B_2496,249.678 {135},Y_3710,ppm, .0446,.0061,13.69, .0490, .0403
Ba4554,455.403 { 74},Y_3710,ppm, .0625,.0004,.6950, .0622, .0628
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,939.7, -.0000, .0000
Ca3158,315.887 {107},In2306,ppm, 11.19,.0492,.4394, 11.22, 11.15
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,102.9, .0002, .0000
Co2286,228.616 {447},In2306,ppm, .0003,.0000,11.92, .0002, .0003
Cr2677,267.716 {126},Y_3600,ppm, .0008,.0001,9.971, .0008, .0007
Cu3247,324.754 {104},Y_3600,ppm, .0026,.0003,9.942, .0024, .0028
Fe2404,240.488 {140},In2306,ppm, .6018,.0024,.4039, .6001, .6035
K_7664,766.490 { 44},Y_3710,ppm, 2.603,.0248,.9513, 2.585, 2.620
Li6707,670.784 { 50},Y_3710,ppm, .0027,.0003,12.00, .0025, .0029
Mg2790,279.079 {121},Y_3710,ppm, 6.447,.0785,1.217, 6.392, 6.503
Mn2576,257.610 {131},Y_3600,ppm, .0076,.0001,1.452, .0075, .0077
Mo2020,202.030 {467},Y_2243,ppm, .0020,.0002,10.55, .0018, .0021
Na5895,589.592 { 57},Y_3710,ppm, 69.92,.2112,.3021, 69.77, 70.07
Ni2316,231.604 {445},In2306,ppm, .0010,.0001,12.93, .0011, .0009
P_1782,178.284 {489},In2306,ppm, .0118,.0011,9.456, .0126, .0110
Pb2203,220.353 {453},In2306,ppm, .0012,.0006,47.42, .0016, .0008
S_1820,182.034 {485},Y_2243,ppm, 3.734,.0284,.7602, 3.755, 3.714
Sb2068,206.833 {463},Y_2243,ppm, .0015,.0000,1.458, .0015, .0015
Se1960,196.090 {472},Y_2243,ppm, .0015,.0008,56.09, .0009, .0020
Si2516,251.611 {134},Y_3710,ppm, 2.129,.0349,1.640, 2.105, 2.154
Sn1899,189.989 {477},In2306,ppm, .0003,.0000,2.442, .0003, .0003
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Sr4215,421.552 { 80},Y_3710,ppm, .1020,.0010,.9843, .1013, .1027
Ti3349,334.904 {101},Y_3600,ppm, .0055,.0003,4.718, .0057, .0053
Tl1908,190.856 {477},In2306,ppm, .0191,.0009,4.746, .0184, .0197
U_3670,367.007 { 92},Y_3600,ppm, -.0722,.0262,36.25, -.0907, -.0537
V_2924,292.402 {115},Y_3600,ppm, .0027,.0000,.4245, .0026, .0027
W_2397,239.709 {140},Y_2243,ppm, .0029,.0359,1240., .0283, -.0225
Zn2062,206.200 {463},In2306,ppm, .0041,.0001,1.561, .0041, .0040

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 251.14,2.0326,.80934,249.70,252.57
In2306,230.606 {446},Cts/S, 14358.,11.992,.08352,14367.,14350.
Y_2243,224.306 {450},Cts/S, 22992.,38.901,.16919,23020.,22965.
Y_3600,360.073 { 94},Cts/S, 195910.,1120.3,.57185,196710.,195120.
Y_3710,371.030 { 91},Cts/S, 13103.,116.94,.89246,13186.,13020.

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CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0000,.0003,660.2, -.0003, .0002
Al3082,308.215 {109},In2306,ppm, 1.022,.0224,2.197, 1.038, 1.006
As1890,189.042 {478},Y_2243,ppm, -.0002,.0004,157.9, -.0005, .0000
B_2496,249.678 {135},Y_3710,ppm, .0357,.0022,6.189, .0341, .0373
Ba4554,455.403 { 74},Y_3710,ppm, .0617,.0001,.0956, .0617, .0618
Be3130,313.042 {108},Y_3710,ppm, .0000,.0001,231.6, -.0000, .0001
Ca3158,315.887 {107},In2306,ppm, 11.39,.1066,.9364, 11.46, 11.31
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0001,252.7, .0001, -.0000
Co2286,228.616 {447},In2306,ppm, .0003,.0002,61.16, .0004, .0002
Cr2677,267.716 {126},Y_3600,ppm, .0009,.0002,27.28, .0011, .0007
Cu3247,324.754 {104},Y_3600,ppm, .0024,.0002,7.794, .0022, .0025
Fe2404,240.488 {140},In2306,ppm, .5934,.0129,2.181, .6025, .5842
K_7664,766.490 { 44},Y_3710,ppm, 2.601,.0022,.0842, 2.599, 2.602
Li6707,670.784 { 50},Y_3710,ppm, .0019,.0003,13.46, .0017, .0021
Mg2790,279.079 {121},Y_3710,ppm, 6.412,.0008,.0126, 6.411, 6.412
Mn2576,257.610 {131},Y_3600,ppm, .0076,.0000,.3381, .0076, .0076
Mo2020,202.030 {467},Y_2243,ppm, .0018,.0001,5.078, .0019, .0018
Na5895,589.592 { 57},Y_3710,ppm, 69.93,.2818,.4029, 69.73, 70.13
Ni2316,231.604 {445},In2306,ppm, .0009,.0003,37.74, .0011, .0007
P_1782,178.284 {489},In2306,ppm, .0101,.0013,13.20, .0111, .0092
Pb2203,220.353 {453},In2306,ppm, .0002,.0004,171.8, -.0001, .0005
S_1820,182.034 {485},Y_2243,ppm, 3.725,.0063,.1680, 3.729, 3.721
Sb2068,206.833 {463},Y_2243,ppm, .0007,.0003,44.80, .0005, .0010
Se1960,196.090 {472},Y_2243,ppm, .0006,.0021,364.7, .0020, -.0009
Si2516,251.611 {134},Y_3710,ppm, 2.066,.0128,.6218, 2.057, 2.075
Sn1899,189.989 {477},In2306,ppm, .0004,.0002,62.64, .0006, .0002
Sr4215,421.552 { 80},Y_3710,ppm, .1015,.0001,.0828, .1015, .1016
Ti3349,334.904 {101},Y_3600,ppm, .0056,.0002,2.760, .0057, .0054
Tl1908,190.856 {477},In2306,ppm, .0096,.0041,43.00, .0126, .0067
U_3670,367.007 { 92},Y_3600,ppm, -.0513,.1094,213.1, .0260, -.1287
V_2924,292.402 {115},Y_3600,ppm, .0023,.0002,8.473, .0025, .0022
W_2397,239.709 {140},Y_2243,ppm, .0452,.0340,75.35, .0211, .0692
Zn2062,206.200 {463},In2306,ppm, .0035,.0001,3.526, .0036, .0034

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
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```
In2306,230.606 {146},Cts/S, 244.65,3.3480,1.3685,242.28,247.02
In2306,230.606 {446},Cts/S, 14425.,2.1705,.01505,14423.,14426.
Y_2243,224.306 {450},Cts/S, 23097.,17.894,.07747,23084.,23110.
Y_3600,360.073 { 94},Cts/S, 196130.,590.70,.30118,196550.,195710.
Y_3710,371.030 { 91},Cts/S, 13048.,3.6843,.02824,13051.,13046.

[Sample Header]
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SampleName=600-194690-B-11AMS@5
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=11/13/2019 13:24:52
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0620,.0006,.9812, .0616, .0625
Al3082,308.215 {109},In2306,ppm, 2.968,.0141,.4759, 2.958, 2.978
As1890,189.042 {478},Y_2243,ppm, .2097,.0024,1.121, .2113, .2080
B_2496,249.678 {135},Y_3710,ppm, .1379,.0014,.9834, .1370, .1389
Ba4554,455.403 { 74},Y_3710,ppm, .2728,.0008,.3103, .2722, .2734
Be3130,313.042 {108},Y_3710,ppm, .2125,.0001,.0571, .2126, .2124
Ca3158,315.887 {107},In2306,ppm, 13.19,.1142,.8659, 13.11, 13.27
Cd2288,228.802 {447},Y_2243,ppm, .2143,.0012,.5802, .2152, .2134
Co2286,228.616 {447},In2306,ppm, .2059,.0010,.4653, .2066, .2053
Cr2677,267.716 {126},Y_3600,ppm, .2017,.0001,.0713, .2018, .2016
Cu3247,324.754 {104},Y_3600,ppm, .2063,.0003,.1490, .2061, .2065
Fe2404,240.488 {140},In2306,ppm, 2.404,.0218,.9055, 2.388, 2.419
K_7664,766.490 { 44},Y_3710,ppm, 4.634,.0008,.0166, 4.635, 4.634
Li6707,670.784 { 50},Y_3710,ppm, .2083,.0005,.2430, .2086, .2079
Mg2790,279.079 {121},Y_3710,ppm, 8.333,.0726,.8716, 8.384, 8.281
Mn2576,257.610 {131},Y_3600,ppm, .2124,.0000,.0145, .2124, .2125
Mo2020,202.030 {467},Y_2243,ppm, .2183,.0009,.4054, .2189, .2177
Na5895,589.592 { 57},Y_3710,ppm, 71.89,.0835,.1162, 71.95, 71.83
Ni2316,231.604 {445},In2306,ppm, .2125,.0013,.6088, .2134, .2116
P_1782,178.284 {489},In2306,ppm, 1.130,.0062,.5492, 1.134, 1.126
Pb2203,220.353 {453},In2306,ppm, .2092,.0023,1.088, .2108, .2076
S_1820,182.034 {485},Y_2243,ppm, 4.910,.0075,.1519, 4.915, 4.904
Sb2068,206.833 {463},Y_2243,ppm, .3427,.0017,.5040, .3439, .3415
Se1960,196.090 {472},Y_2243,ppm, .2130,.0007,.3502, .2125, .2135
Si2516,251.611 {134},Y_3710,ppm, 3.259,.0029,.0901, 3.257, 3.261
Sn1899,189.989 {477},In2306,ppm, .2089,.0016,.7578, .2100, .2077
Sr4215,421.552 { 80},Y_3710,ppm, .3101,.0004,.1322, .3098, .3104
Ti3349,334.904 {101},Y_3600,ppm, .2121,.0001,.0535, .2120, .2122
Tl1908,190.856 {477},In2306,ppm, .1911,.0001,.0783, .1912, .1910
U_3670,367.007 { 92},Y_3600,ppm, .0189,.0932,492.9, -.0470, .0848
V_2924,292.402 {115},Y_3600,ppm, .2092,.0002,.0843, .2093, .2091
W_2397,239.709 {140},Y_2243,ppm, .0809,.0043,5.299, .0779, .0840
Zn2062,206.200 {463},In2306,ppm, .1080,.0007,.6570, .1085, .1075

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 248.36,1.0677,.42990,249.12,247.61
In2306,230.606 {446},Cts/S, 14317.,32.172,.22471,14340.,14294.
Y_2243,224.306 {450},Cts/S, 23133.,48.000,.20749,23167.,23099.
Y_3600,360.073 { 94},Cts/S, 196140.,942.06,.48030,196810.,195480.
Y_3710,371.030 { 91},Cts/S, 13129.,79.307,.60406,13073.,13185.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0605,.0000,.0201, .0605, .0605
Al3082,308.215 {109},In2306,ppm, 2.904,.0169,.5810, 2.892, 2.916
As1890,189.042 {478},Y_2243,ppm, .2129,.0001,.0605, .2128, .2130
B_2496,249.678 {135},Y_3710,ppm, .1437,.0076,5.322, .1383, .1491
Ba4554,455.403 { 74},Y_3710,ppm, .2741,.0008,.3015, .2735, .2747
Be3130,313.042 {108},Y_3710,ppm, .2136,.0004,.2093, .2133, .2139
Ca3158,315.887 {107},In2306,ppm, 13.29,.0757,.5696, 13.24, 13.34
Cd2288,228.802 {447},Y_2243,ppm, .2152,.0005,.2128, .2155, .2149
Co2286,228.616 {447},In2306,ppm, .2069,.0003,.1425, .2071, .2067
Cr2677,267.716 {126},Y_3600,ppm, .2030,.0001,.0595, .2031, .2029
Cu3247,324.754 {104},Y_3600,ppm, .2070,.0014,.6591, .2060, .2079
Fe2404,240.488 {140},In2306,ppm, 2.399,.0225,.9397, 2.384, 2.415
K_7664,766.490 { 44},Y_3710,ppm, 4.698,.0323,.6875, 4.675, 4.720
Li6707,670.784 { 50},Y_3710,ppm, .2111,.0015,.7214, .2101, .2122
Mg2790,279.079 {121},Y_3710,ppm, 8.331,.0157,.1889, 8.320, 8.342
Mn2576,257.610 {131},Y_3600,ppm, .2133,.0008,.3549, .2138, .2127
Mo2020,202.030 {467},Y_2243,ppm, .2201,.0001,.0415, .2202, .2200
Na5895,589.592 { 57},Y_3710,ppm, 71.71,.1772,.2472, 71.58, 71.83
Ni2316,231.604 {445},In2306,ppm, .2127,.0001,.0620, .2126, .2128
P_1782,178.284 {489},In2306,ppm, 1.120,.0026,.2348, 1.122, 1.118
Pb2203,220.353 {453},In2306,ppm, .2089,.0020,.9417, .2103, .2075
S_1820,182.034 {485},Y_2243,ppm, 4.881,.0180,.3687, 4.894, 4.869
Sb2068,206.833 {463},Y_2243,ppm, .3447,.0012,.3483, .3438, .3455
Se1960,196.090 {472},Y_2243,ppm, .2136,.0022,1.039, .2120, .2151
Si2516,251.611 {134},Y_3710,ppm, 3.260,.0365,1.120, 3.234, 3.286
Sn1899,189.989 {477},In2306,ppm, .2088,.0000,.0191, .2087, .2088
Sr4215,421.552 { 80},Y_3710,ppm, .3111,.0013,.4304, .3101, .3120
Ti3349,334.904 {101},Y_3600,ppm, .2127,.0007,.3448, .2133, .2122
Tl1908,190.856 {477},In2306,ppm, .1941,.0000,.0051, .1942, .1941
U_3670,367.007 { 92},Y_3600,ppm, .1005,.0560,55.74, .1401, .0609
V_2924,292.402 {115},Y_3600,ppm, .2098,.0006,.2766, .2102, .2094
W_2397,239.709 {140},Y_2243,ppm, .0840,.0983,117.0, .1536, .0145
Zn2062,206.200 {463},In2306,ppm, .1077,.0000,.0169, .1077, .1077

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 245.11,.27152,.11077,244.92,245.30
In2306,230.606 {446},Cts/S, 14303.,5.7591,.04026,14307.,14299.
Y_2243,224.306 {450},Cts/S, 23068.,4.5809,.01986,23065.,23071.
Y_3600,360.073 { 94},Cts/S, 195520.,202.34,.10349,195660.,195370.
Y_3710,371.030 { 91},Cts/S, 12993.,48.192,.37090,12959.,13027.

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Ag3280,328.068 {103},Y_3600,ppm, .0012,.0002,16.96, .0011, .0014
Al3082,308.215 {109},In2306,ppm, .0414,.0074,17.80, .0362, .0466
As1890,189.042 {478},Y_2243,ppm, .0034,.0010,28.42, .0027, .0041
B_2496,249.678 {135},Y_3710,ppm, .0043,.0049,115.8, .0077, .0008
Ba4554,455.403 { 74},Y_3710,ppm, .0297,.0002,.5062, .0298, .0296
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,489.9, -.0000, .0000
Ca3158,315.887 {107},In2306,ppm, 14.69,.0403,.2742, 14.66, 14.71
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,47.43, .0002, .0001
Co2286,228.616 {447},In2306,ppm, .0002,.0001,50.90, .0001, .0003
Cr2677,267.716 {126},Y_3600,ppm, .0005,.0001,27.94, .0006, .0004
Cu3247,324.754 {104},Y_3600,ppm, .0027,.0002,8.371, .0029, .0026
Fe2404,240.488 {140},In2306,ppm, .1981,.0087,4.375, .2042, .1920
K_7664,766.490 { 44},Y_3710,ppm, .0279,.0053,18.94, .0242, .0317
Li6707,670.784 { 50},Y_3710,ppm, -.0000,.0006,8927., .0004, -.0004
Mg2790,279.079 {121},Y_3710,ppm, .1727,.0248,14.38, .1552, .1903
Mn2576,257.610 {131},Y_3600,ppm, .0075,.0000,.2918, .0075, .0075
Mo2020,202.030 {467},Y_2243,ppm, -.0000,.0001,1455., .0001, -.0001
Na5895,589.592 { 57},Y_3710,ppm, 134.1,.5428,.4047, 133.7, 134.5
Ni2316,231.604 {445},In2306,ppm, .0014,.0000,3.249, .0014, .0014
P_1782,178.284 {489},In2306,ppm, .0037,.0007,19.49, .0032, .0043
Pb2203,220.353 {453},In2306,ppm, .0047,.0011,22.89, .0039, .0055
S_1820,182.034 {485},Y_2243,ppm, .0859,.0039,4.496, .0831, .0886
Sb2068,206.833 {463},Y_2243,ppm, .0057,.0002,4.139, .0055, .0058
Se1960,196.090 {472},Y_2243,ppm, .0018,.0025,136.3, .0001, .0035
Si2516,251.611 {134},Y_3710,ppm, .0784,.0035,4.422, .0808, .0759
Sn1899,189.989 {477},In2306,ppm, .0003,.0002,74.17, .0001, .0004
Sr4215,421.552 { 80},Y_3710,ppm, .0088,.0000,.2214, .0088, .0088
Ti3349,334.904 {101},Y_3600,ppm, .0002,.0001,23.93, .0003, .0002
Tl1908,190.856 {477},In2306,ppm, .0110,.0002,2.058, .0112, .0109
U_3670,367.007 { 92},Y_3600,ppm, -.0064,.0549,858.0, .0324, -.0452
V_2924,292.402 {115},Y_3600,ppm, -.0002,.0001,46.55, -.0001, -.0002
W_2397,239.709 {140},Y_2243,ppm, -.0083,.0166,200.4, .0035, -.0200
Zn2062,206.200 {463},In2306,ppm, 2.162,.0006,.0256, 2.162, 2.162

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 243.07,2.5878,1.0647,244.90,241.24
In2306,230.606 {446},Cts/S, 13838.,101.21,.73144,13909.,13766.
Y_2243,224.306 {450},Cts/S, 22616.,186.30,.82373,22748.,22484.
Y_3600,360.073 { 94},Cts/S, 190430.,474.76,.24931,190770.,190100.
Y_3710,371.030 { 91},Cts/S, 12907.,44.561,.34526,12938.,12875.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0002,.0004,178.3, .0005, -.0001
Al3082,308.215 {109},In2306,ppm, .0328,.0260,79.26, .0511, .0144
As1890,189.042 {478},Y_2243,ppm, .0039,.0018,46.15, .0026, .0051
B_2496,249.678 {135},Y_3710,ppm, .0052,.0034,65.36, .0076, .0028
Ba4554,455.403 { 74},Y_3710,ppm, .0299,.0002,.6499, .0300, .0298
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,56.07, .0000, .0001
Ca3158,315.887 {107},In2306,ppm, 14.83,.1335,.9003, 14.73, 14.92
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,177.9, .0002, -.0000
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Co2286,228.616 {447},In2306,ppm, .0001,.0001,58.09, .0002, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0005,.0002,48.70, .0007, .0003
Cu3247,324.754 {104},Y_3600,ppm, .0027,.0004,13.76, .0030, .0024
Fe2404,240.488 {140},In2306,ppm, .2032,.0079,3.877, .2088, .1977
K_7664,766.490 { 44},Y_3710,ppm, .0308,.0074,24.10, .0256, .0361
Li6707,670.784 { 50},Y_3710,ppm, .0012,.0001,10.22, .0011, .0013
Mg2790,279.079 {121},Y_3710,ppm, .1602,.0260,16.26, .1418, .1786
Mn2576,257.610 {131},Y_3600,ppm, .0075,.0000,.5522, .0076, .0075
Mo2020,202.030 {467},Y_2243,ppm, -.0003,.0004,123.7, -.0000, -.0006
Na5895,589.592 { 57},Y_3710,ppm, 135.8,.0181,.0133, 135.8, 135.8
Ni2316,231.604 {445},In2306,ppm, .0012,.0003,22.59, .0010, .0014
P_1782,178.284 {489},In2306,ppm, .0026,.0012,48.48, .0017, .0034
Pb2203,220.353 {453},In2306,ppm, .0049,.0005,9.434, .0045, .0052
S_1820,182.034 {485},Y_2243,ppm, .0923,.0020,2.141, .0909, .0937
Sb2068,206.833 {463},Y_2243,ppm, .0061,.0011,17.63, .0054, .0069
Se1960,196.090 {472},Y_2243,ppm, .0012,.0024,208.7, -.0006, .0029
Si2516,251.611 {134},Y_3710,ppm, .0776,.0051,6.608, .0812, .0740
Sn1899,189.989 {477},In2306,ppm, .0001,.0001,67.84, .0000, .0001
Sr4215,421.552 { 80},Y_3710,ppm, .0087,.0001,.9045, .0086, .0088
Ti3349,334.904 {101},Y_3600,ppm, .0001,.0001,68.56, .0001, .0002
Tl1908,190.856 {477},In2306,ppm, .0075,.0017,22.57, .0063, .0087
U_3670,367.007 { 92},Y_3600,ppm, .0025,.0183,739.5, .0154, -.0105
V_2924,292.402 {115},Y_3600,ppm, -.0001,.0001,102.1, -.0000, -.0002
W_2397,239.709 {140},Y_2243,ppm, .0548,.0194,35.44, .0685, .0411
Zn2062,206.200 {463},In2306,ppm, 2.161,.0012,.0549, 2.162, 2.161

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 242.68,.48609,.20030,243.03,242.34
In2306,230.606 {446},Cts/S, 13891.,13.467,.09694,13901.,13882.
Y_2243,224.306 {450},Cts/S, 22675.,17.141,.07559,22687.,22663.
Y_3600,360.073 { 94},Cts/S, 190630.,161.55,.08475,190740.,190510.
Y_3710,371.030 { 91},Cts/S, 12888.,32.658,.25340,12865.,12911.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .5768,.0025,.4315, .5785, .5750
Al3082,308.215 {109},In2306,ppm, 20.35,.0224,.1103, 20.33, 20.37
As1890,189.042 {478},Y_2243,ppm, 1.004,.0073,.7290, 1.009, .9990
B_2496,249.678 {135},Y_3710,ppm, .9703,.0015,.1511, .9693, .9713
Ba4554,455.403 { 74},Y_3710,ppm, 1.019,.0032,.3118, 1.016, 1.021
Be3130,313.042 {108},Y_3710,ppm, 1.001,.0001,.0058, 1.001, 1.001
Ca3158,315.887 {107},In2306,ppm, 19.85,.0012,.0061, 19.85, 19.85
Cd2288,228.802 {447},Y_2243,ppm, 1.016,.0009,.0862, 1.017, 1.016
Co2286,228.616 {447},In2306,ppm, .9874,.0005,.0467, .9871, .9877
Cr2677,267.716 {126},Y_3600,ppm, .9671,.0029,.2991, .9692, .9651
Cu3247,324.754 {104},Y_3600,ppm, .9932,.0000,.0035, .9932, .9932
Fe2404,240.488 {140},In2306,ppm, 20.00,.0574,.2870, 19.96, 20.04
K_7664,766.490 { 44},Y_3710,ppm, 19.48,.0340,.1746, 19.46, 19.50
Li6707,670.784 { 50},Y_3710,ppm, 1.002,.0016,.1645, 1.001, 1.003
Mg2790,279.079 {121},Y_3710,ppm, 19.32,.0409,.2118, 19.29, 19.35
Mn2576,257.610 {131},Y_3600,ppm, 1.006,.0019,.1925, 1.007, 1.004
Mo2020,202.030 {467},Y_2243,ppm, 1.039,.0029,.2761, 1.041, 1.037
Na5895,589.592 { 57},Y_3710,ppm, 19.82,.0586,.2954, 19.78, 19.86
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Ni2316,231.604 {445},In2306,ppm, 1.009,.0008,.0826, 1.010, 1.009
P_1782,178.284 {489},In2306,ppm, 10.21,.0046,.0447, 10.22, 10.21
Pb2203,220.353 {453},In2306,ppm, 1.003,.0002,.0221, 1.003, 1.003
S_1820,182.034 {485},Y_2243,ppm, 10.48,.0233,.2220, 10.49, 10.46
Sb2068,206.833 {463},Y_2243,ppm, 2.192,.0062,.2807, 2.187, 2.196
Se1960,196.090 {472},Y_2243,ppm, 1.014,.0016,.1555, 1.015, 1.013
Si2516,251.611 {134},Y_3710,ppm, 9.437,.0368,.3897, 9.411, 9.463
Sn1899,189.989 {477},In2306,ppm, .9994,.0006,.0625, .9989, .9998
Sr4215,421.552 { 80},Y_3710,ppm, 1.017,.0030,.2959, 1.015, 1.020
Ti3349,334.904 {101},Y_3600,ppm, 1.001,.0013,.1294, 1.002, 1.000
Tl1908,190.856 {477},In2306,ppm, 1.019,.0003,.0287, 1.020, 1.019
U_3670,367.007 { 92},Y_3600,ppm, .9331,.0659,7.063, .8865, .9797
V_2924,292.402 {115},Y_3600,ppm, .9975,.0010,.1048, .9983, .9968
W_2397,239.709 {140},Y_2243,ppm, 1.024,.0526,5.133, .9871, 1.061
Zn2062,206.200 {463},In2306,ppm, .9845,.0010,.1010, .9852, .9837

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 245.30,.29826,.12159,245.51,245.09
In2306,230.606 {446},Cts/S, 14371.,10.570,.07355,14378.,14363.
Y_2243,224.306 {450},Cts/S, 23225.,6.4045,.02758,23230.,23221.
Y_3600,360.073 { 94},Cts/S, 196710.,151.16,.07684,196600.,196820.
Y_3710,371.030 { 91},Cts/S, 13173.,34.230,.25984,13198.,13149.

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As1890,189.042 {478},Y_2243,ppm, .0316,.0010,3.066, .0323, .0310
B_2496,249.678 {135},Y_3710,ppm, .1962,.0101,5.122, .1891, .2033
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Be3130,313.042 {108},Y_3710,ppm, .0312,.0005,1.482, .0309, .0316
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Cr2677,267.716 {126},Y_3600,ppm, .0305,.0001,.2410, .0306, .0305
Cu3247,324.754 {104},Y_3600,ppm, .0320,.0007,2.144, .0315, .0325
Fe2404,240.488 {140},In2306,ppm, 1.011,.0082,.8155, 1.006, 1.017
K_7664,766.490 { 44},Y_3710,ppm, .9562,.0115,1.201, .9644, .9481
Li6707,670.784 { 50},Y_3710,ppm, .0310,.0001,.3038, .0309, .0310
Mg2790,279.079 {121},Y_3710,ppm, 1.011,.0122,1.203, 1.020, 1.003
Mn2576,257.610 {131},Y_3600,ppm, .0314,.0002,.5926, .0313, .0316
Mo2020,202.030 {467},Y_2243,ppm, .0317,.0000,.0768, .0317, .0317
Na5895,589.592 { 57},Y_3710,ppm, 1.042,.0108,1.032, 1.034, 1.049
Ni2316,231.604 {445},In2306,ppm, .0300,.0001,.3828, .0299, .0301
P_1782,178.284 {489},In2306,ppm, 1.919,.0044,.2317, 1.922, 1.916
Pb2203,220.353 {453},In2306,ppm, .0322,.0002,.7002, .0324, .0321
S_1820,182.034 {485},Y_2243,ppm, 2.005,.0121,.6011, 2.014, 1.997
Sb2068,206.833 {463},Y_2243,ppm, .2417,.0008,.3360, .2423, .2411
Se1960,196.090 {472},Y_2243,ppm, .0327,.0016,4.797, .0316, .0339
Si2516,251.611 {134},Y_3710,ppm, .3106,.0049,1.579, .3071, .3140
Sn1899,189.989 {477},In2306,ppm, .0295,.0004,1.222, .0297, .0292
Sr4215,421.552 { 80},Y_3710,ppm, .0313,.0003,.8663, .0311, .0315
Ti3349,334.904 {101},Y_3600,ppm, .0309,.0002,.6919, .0307, .0310
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Tl1908,190.856 {477},In2306,ppm, .0479,.0025,5.227, .0497, .0461
U_3670,367.007 { 92},Y_3600,ppm, .1618,.0642,39.69, .1164, .2072
V_2924,292.402 {115},Y_3600,ppm, .0304,.0002,.5247, .0305, .0303
W_2397,239.709 {140},Y_2243,ppm, .2400,.0162,6.760, .2285, .2515
Zn2062,206.200 {463},In2306,ppm, .1868,.0006,.3009, .1872, .1864

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 252.93,.02064,.00816,252.94,252.91
In2306,230.606 {446},Cts/S, 15865.,16.540,.10426,15853.,15876.
Y_2243,224.306 {450},Cts/S, 23946.,32.126,.13416,23923.,23969.
Y_3600,360.073 { 94},Cts/S, 204970.,73.150,.03569,205020.,204920.
Y_3710,371.030 { 91},Cts/S, 13115.,85.847,.65458,13176.,13054.

[Sample Header]
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Custom ID2=
Custom ID3=
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Mode=CONC
CorrFactor=1.000
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0009,.0004,48.11, .0012, .0006
Al3082,308.215 {109},In2306,ppm, .0012,.0136,1162., -.0084, .0108
As1890,189.042 {478},Y_2243,ppm, .0004,.0011,262.4, .0012, -.0004
B_2496,249.678 {135},Y_3710,ppm, -.0048,.0023,48.68, -.0032, -.0065
Ba4554,455.403 { 74},Y_3710,ppm, -.0005,.0000,5.227, -.0004, -.0005
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,405.0, .0000, -.0000
Ca3158,315.887 {107},In2306,ppm, -.0190,.0005,2.756, -.0186, -.0194
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0000,227.9, -.0000, .0000
Co2286,228.616 {447},In2306,ppm, -.0001,.0002,114.7, -.0000, -.0003
Cr2677,267.716 {126},Y_3600,ppm, .0002,.0002,71.34, .0003, .0001
Cu3247,324.754 {104},Y_3600,ppm, .0001,.0004,383.6, -.0002, .0004
Fe2404,240.488 {140},In2306,ppm, .0022,.0061,279.6, .0065, -.0021
K_7664,766.490 { 44},Y_3710,ppm, -.0092,.0038,40.79, -.0066, -.0119
Li6707,670.784 { 50},Y_3710,ppm, -.0016,.0004,23.64, -.0019, -.0013
Mg2790,279.079 {121},Y_3710,ppm, .0045,.0188,418.9, -.0088, .0178
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,32.58, -.0001, -.0000
Mo2020,202.030 {467},Y_2243,ppm, -.0001,.0002,204.6, .0001, -.0003
Na5895,589.592 { 57},Y_3710,ppm, .0050,.0008,16.77, .0056, .0044
Ni2316,231.604 {445},In2306,ppm, .0003,.0002,65.29, .0002, .0005
P_1782,178.284 {489},In2306,ppm, -.0008,.0026,335.7, .0011, -.0027
Pb2203,220.353 {453},In2306,ppm, .0013,.0023,171.1, -.0003, .0029
S_1820,182.034 {485},Y_2243,ppm, .0042,.0024,58.05, .0059, .0025
Sb2068,206.833 {463},Y_2243,ppm, .0014,.0003,21.45, .0012, .0016
Se1960,196.090 {472},Y_2243,ppm, .0005,.0017,309.9, .0017, -.0006
Si2516,251.611 {134},Y_3710,ppm, -.0027,.0002,5.969, -.0028, -.0026
Sn1899,189.989 {477},In2306,ppm, .0002,.0004,207.2, .0004, -.0001
Sr4215,421.552 { 80},Y_3710,ppm, -.0001,.0000,.8011, -.0001, -.0001
Ti3349,334.904 {101},Y_3600,ppm, -.0002,.0000,4.786, -.0002, -.0002
Tl1908,190.856 {477},In2306,ppm, .0137,.0031,22.94, .0159, .0115
U_3670,367.007 { 92},Y_3600,ppm, -.0297,.0368,124.0, -.0557, -.0036
V_2924,292.402 {115},Y_3600,ppm, -.0000,.0002,1352., .0001, -.0001
W_2397,239.709 {140},Y_2243,ppm, -.0094,.0287,305.4, .0109, -.0297
Zn2062,206.200 {463},In2306,ppm, -.0013,.0000,1.673, -.0013, -.0013

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 252.51,1.9486,.77169,253.89,251.13
In2306,230.606 {446},Cts/S, 16096.,13.729,.08530,16106.,16086.
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Y_2243,224.306 {450},Cts/S, 23878.,32.682,.13687,23901.,23855.
Y_3600,360.073 { 94},Cts/S, 203590.,745.56,.36620,203060.,204120.
Y_3710,371.030 { 91},Cts/S, 13035.,99.381,.76241,13105.,12965.


[Sample Header]
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Custom ID2=
Custom ID3=
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0003,.0003,125.3, .0005, .0000
Al3082,308.215 {109},In2306,ppm, -.0061,.0042,69.59, -.0031, -.0091
As1890,189.042 {478},Y_2243,ppm, .0005,.0009,196.3, .0011, -.0002
B_2496,249.678 {135},Y_3710,ppm, .0004,.0036,818.4, .0030, -.0021
Ba4554,455.403 { 74},Y_3710,ppm, -.0006,.0001,12.68, -.0006, -.0005
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,64.42, .0000, .0000
Ca3158,315.887 {107},In2306,ppm, -.0154,.0080,51.93, -.0211, -.0098
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0001,46.52, .0001, .0002
Co2286,228.616 {447},In2306,ppm, -.0001,.0000,20.64, -.0001, -.0001
Cr2677,267.716 {126},Y_3600,ppm, .0003,.0000,12.74, .0002, .0003
Cu3247,324.754 {104},Y_3600,ppm, .0012,.0002,20.26, .0013, .0010
Fe2404,240.488 {140},In2306,ppm, .0081,.0035,42.78, .0057, .0106
K_7664,766.490 { 44},Y_3710,ppm, -.0316,.0103,32.70, -.0243, -.0389
Li6707,670.784 { 50},Y_3710,ppm, -.0006,.0011,198.8, -.0014, .0002
Mg2790,279.079 {121},Y_3710,ppm, .0132,.0211,159.6, .0281, -.0017
Mn2576,257.610 {131},Y_3600,ppm, .0000,.0000,39.58, .0000, .0000
Mo2020,202.030 {467},Y_2243,ppm, -.0006,.0001,14.89, -.0006, -.0005
Na5895,589.592 { 57},Y_3710,ppm, .0022,.0012,53.09, .0031, .0014
Ni2316,231.604 {445},In2306,ppm, .0002,.0001,26.19, .0002, .0002
P_1782,178.284 {489},In2306,ppm, .0002,.0014,585.4, -.0008, .0013
Pb2203,220.353 {453},In2306,ppm, .0004,.0007,173.6, .0009, -.0001
S_1820,182.034 {485},Y_2243,ppm, -.0009,.0015,174.1, -.0020, .0002
Sb2068,206.833 {463},Y_2243,ppm, .0004,.0013,358.6, -.0005, .0012
Se1960,196.090 {472},Y_2243,ppm, .0007,.0008,124.8, .0001, .0013
Si2516,251.611 {134},Y_3710,ppm, -.0062,.0015,24.83, -.0073, -.0051
Sn1899,189.989 {477},In2306,ppm, .0002,.0001,69.43, .0001, .0002
Sr4215,421.552 { 80},Y_3710,ppm, -.0001,.0000,25.99, -.0001, -.0001
Ti3349,334.904 {101},Y_3600,ppm, .0001,.0005,964.8, .0004, -.0003
Tl1908,190.856 {477},In2306,ppm, .0029,.0010,35.68, .0022, .0037
U_3670,367.007 { 92},Y_3600,ppm, .0195,.0300,153.8, -.0017, .0408
V_2924,292.402 {115},Y_3600,ppm, .0001,.0000,3.311, .0001, .0001
W_2397,239.709 {140},Y_2243,ppm, .0299,.0377,126.0, .0566, .0033
Zn2062,206.200 {463},In2306,ppm, .0022,.0000,1.555, .0021, .0022

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 255.88,.32930,.12869,256.12,255.65
In2306,230.606 {446},Cts/S, 16132.,33.222,.20594,16109.,16156.
Y_2243,224.306 {450},Cts/S, 23908.,47.293,.19781,23875.,23941.
Y_3600,360.073 { 94},Cts/S, 206710.,1450.7,.70180,207740.,205690.
Y_3710,371.030 { 91},Cts/S, 13187.,56.532,.42868,13147.,13227.

[Sample Header]
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Custom ID3=
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2879,.0001,.0448, .2880, .2878
Al3082,308.215 {109},In2306,ppm, 10.18,.0010,.0101, 10.18, 10.18
As1890,189.042 {478},Y_2243,ppm, .9889,.0003,.0256, .9888, .9891
B_2496,249.678 {135},Y_3710,ppm, .4841,.0045,.9386, .4809, .4873
Ba4554,455.403 { 74},Y_3710,ppm, 1.014,.0012,.1215, 1.015, 1.014
Be3130,313.042 {108},Y_3710,ppm, .9972,.0054,.5401, .9934, 1.001
Ca3158,315.887 {107},In2306,ppm, 9.956,.0090,.0899, 9.962, 9.950
Cd2288,228.802 {447},Y_2243,ppm, 1.009,.0019,.1866, 1.008, 1.010
Co2286,228.616 {447},In2306,ppm, .9608,.0023,.2433, .9592, .9625
Cr2677,267.716 {126},Y_3600,ppm, .9684,.0024,.2527, .9667, .9701
Cu3247,324.754 {104},Y_3600,ppm, .9982,.0005,.0488, .9985, .9979
Fe2404,240.488 {140},In2306,ppm, 10.01,.0056,.0559, 10.02, 10.01
K_7664,766.490 { 44},Y_3710,ppm, 9.959,.0143,.1439, 9.969, 9.949
Li6707,670.784 { 50},Y_3710,ppm, 1.009,.0012,.1238, 1.010, 1.008
Mg2790,279.079 {121},Y_3710,ppm, 9.742,.1168,1.199, 9.660, 9.825
Mn2576,257.610 {131},Y_3600,ppm, .9981,.0025,.2505, .9964, .9999
Mo2020,202.030 {467},Y_2243,ppm, 1.032,.0005,.0521, 1.031, 1.032
Na5895,589.592 { 57},Y_3710,ppm, 10.07,.0056,.0557, 10.08, 10.07
Ni2316,231.604 {445},In2306,ppm, .9795,.0030,.3112, .9774, .9817
P_1782,178.284 {489},In2306,ppm, 5.040,.0033,.0654, 5.037, 5.042
Pb2203,220.353 {453},In2306,ppm, .9750,.0010,.1016, .9743, .9757
S_1820,182.034 {485},Y_2243,ppm, 5.316,.0019,.0352, 5.318, 5.315
Sb2068,206.833 {463},Y_2243,ppm, 1.643,.0007,.0396, 1.643, 1.643
Se1960,196.090 {472},Y_2243,ppm, .9983,.0003,.0344, .9986, .9981
Si2516,251.611 {134},Y_3710,ppm, 8.830,.1034,1.171, 8.757, 8.903
Sn1899,189.989 {477},In2306,ppm, .9698,.0005,.0516, .9701, .9694
Sr4215,421.552 { 80},Y_3710,ppm, 1.015,.0006,.0609, 1.016, 1.015
Ti3349,334.904 {101},Y_3600,ppm, .9897,.0022,.2250, .9881, .9912
Tl1908,190.856 {477},In2306,ppm, .9118,.0041,.4522, .9088, .9147
U_3670,367.007 { 92},Y_3600,ppm, .5130,.0223,4.356, .5288, .4972
V_2924,292.402 {115},Y_3600,ppm, .9915,.0026,.2592, .9897, .9933
W_2397,239.709 {140},Y_2243,ppm, .4141,.0655,15.82, .3678, .4605
Zn2062,206.200 {463},In2306,ppm, .4806,.0002,.0448, .4805, .4808

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 249.58,2.3544,.94333,247.92,251.25
In2306,230.606 {446},Cts/S, 14884.,50.242,.33756,14919.,14848.
Y_2243,224.306 {450},Cts/S, 23369.,74.827,.32019,23422.,23316.
Y_3600,360.073 { 94},Cts/S, 199240.,629.61,.31601,199680.,198790.
Y_3710,371.030 { 91},Cts/S, 13172.,5.2304,.03971,13176.,13168.

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[Results]
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Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0008,.0001,16.47, .0009, .0007
Al3082,308.215 {109},In2306,ppm, 2.705,.0330,1.221, 2.728, 2.681
As1890,189.042 {478},Y_2243,ppm, .0047,.0005,11.35, .0043, .0050
B_2496,249.678 {135},Y_3710,ppm, .0791,.0004,.5519, .0794, .0788
Ba4554,455.403 { 74},Y_3710,ppm, .0936,.0005,.4993, .0933, .0940
Be3130,313.042 {108},Y_3710,ppm, .0002,.0000,5.991, .0002, .0002
Ca3158,315.887 {107},In2306,ppm, 43.79,.3932,.8979, 44.06, 43.51
Cd2288,228.802 {447},Y_2243,ppm, .0003,.0000,2.220, .0003, .0003
Co2286,228.616 {447},In2306,ppm, .0005,.0002,46.53, .0007, .0003
Cr2677,267.716 {126},Y_3600,ppm, .0087,.0002,2.326, .0088, .0085
Cu3247,324.754 {104},Y_3600,ppm, .0089,.0000,.2153, .0089, .0089
Fe2404,240.488 {140},In2306,ppm, 1.888,.0082,.4347, 1.894, 1.883
K_7664,766.490 { 44},Y_3710,ppm, 3.140,.0094,.2991, 3.146, 3.133
Li6707,670.784 { 50},Y_3710,ppm, .0097,.0000,.3416, .0097, .0097
Mg2790,279.079 {121},Y_3710,ppm, 5.362,.0289,.5397, 5.342, 5.383
Mn2576,257.610 {131},Y_3600,ppm, .0876,.0000,.0036, .0876, .0876
Mo2020,202.030 {467},Y_2243,ppm, .0264,.0002,.6488, .0263, .0265
Na5895,589.592 { 57},Y_3710,ppm, 95.22,.0140,.0147, 95.21, 95.23
Ni2316,231.604 {445},In2306,ppm, .0032,.0003,7.844, .0030, .0034
P_1782,178.284 {489},In2306,ppm, .3908,.0008,.2045, .3914, .3903
Pb2203,220.353 {453},In2306,ppm, .0077,.0011,14.14, .0070, .0085
S_1820,182.034 {485},Y_2243,ppm, 47.42,.0077,.0162, 47.43, 47.42
Sb2068,206.833 {463},Y_2243,ppm, .0026,.0013,50.71, .0035, .0017
Se1960,196.090 {472},Y_2243,ppm, .0046,.0015,32.57, .0056, .0035
Si2516,251.611 {134},Y_3710,ppm, 6.858,.0238,.3475, 6.841, 6.874
Sn1899,189.989 {477},In2306,ppm, .0002,.0002,83.45, .0001, .0004
Sr4215,421.552 { 80},Y_3710,ppm, .2946,.0009,.3137, .2939, .2952
Ti3349,334.904 {101},Y_3600,ppm, .0180,.0001,.6977, .0179, .0181
Tl1908,190.856 {477},In2306,ppm, .0446,.0059,13.31, .0488, .0404
U_3670,367.007 { 92},Y_3600,ppm, .0686,.0129,18.84, .0595, .0777
V_2924,292.402 {115},Y_3600,ppm, .0076,.0001,1.293, .0075, .0077
W_2397,239.709 {140},Y_2243,ppm, -.0294,.0261,88.78, -.0479, -.0110
Zn2062,206.200 {463},In2306,ppm, .2835,.0005,.1590, .2832, .2838

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 245.72,2.1256,.86508,244.21,247.22
In2306,230.606 {446},Cts/S, 13951.,22.042,.15799,13936.,13967.
Y_2243,224.306 {450},Cts/S, 22492.,26.076,.11594,22473.,22510.
Y_3600,360.073 { 94},Cts/S, 193120.,187.57,.09713,193250.,192990.
Y_3710,371.030 { 91},Cts/S, 13171.,34.753,.26385,13196.,13147.

[Sample Header]
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Custom ID2=
Custom ID3=
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0006,.0009,138.7, .0000, .0013
Al3082,308.215 {109},In2306,ppm, 2.537,.0316,1.244, 2.515, 2.559
As1890,189.042 {478},Y_2243,ppm, .0049,.0033,67.31, .0073, .0026
B_2496,249.678 {135},Y_3710,ppm, .0789,.0048,6.138, .0823, .0755
Ba4554,455.403 { 74},Y_3710,ppm, .0861,.0001,.0825, .0862, .0861
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,49.02, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, 43.50,.0337,.0774, 43.48, 43.52
Cd2288,228.802 {447},Y_2243,ppm, .0004,.0002,52.88, .0006, .0003
Co2286,228.616 {447},In2306,ppm, .0007,.0001,8.486, .0007, .0006
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Cr2677,267.716 {126},Y_3600,ppm, .0086,.0000,.0418, .0086, .0086
Cu3247,324.754 {104},Y_3600,ppm, .0099,.0001,1.401, .0098, .0100
Fe2404,240.488 {140},In2306,ppm, 1.785,.0033,.1854, 1.783, 1.788
K_7664,766.490 { 44},Y_3710,ppm, 3.264,.0272,.8339, 3.245, 3.283
Li6707,670.784 { 50},Y_3710,ppm, .0090,.0005,5.332, .0086, .0093
Mg2790,279.079 {121},Y_3710,ppm, 5.426,.0385,.7099, 5.454, 5.399
Mn2576,257.610 {131},Y_3600,ppm, .0860,.0001,.0766, .0860, .0861
Mo2020,202.030 {467},Y_2243,ppm, .0249,.0002,.9948, .0251, .0247
Na5895,589.592 { 57},Y_3710,ppm, 95.19,.2076,.2181, 95.33, 95.04
Ni2316,231.604 {445},In2306,ppm, .0037,.0001,3.521, .0036, .0038
P_1782,178.284 {489},In2306,ppm, .3968,.0010,.2616, .3961, .3975
Pb2203,220.353 {453},In2306,ppm, .0087,.0017,19.79, .0075, .0099
S_1820,182.034 {485},Y_2243,ppm, 47.14,.0992,.2103, 47.21, 47.07
Sb2068,206.833 {463},Y_2243,ppm, .0006,.0016,242.5, .0017, -.0005
Se1960,196.090 {472},Y_2243,ppm, .0015,.0001,5.549, .0014, .0015
Si2516,251.611 {134},Y_3710,ppm, 6.662,.0237,.3553, 6.679, 6.645
Sn1899,189.989 {477},In2306,ppm, -.0001,.0001,95.90, -.0000, -.0002
Sr4215,421.552 { 80},Y_3710,ppm, .2932,.0000,.0157, .2932, .2931
Ti3349,334.904 {101},Y_3600,ppm, .0166,.0002,.9768, .0167, .0165
Tl1908,190.856 {477},In2306,ppm, .0125,.0019,15.00, .0138, .0111
U_3670,367.007 { 92},Y_3600,ppm, -.0000,.0160,53540., .0113, -.0113
V_2924,292.402 {115},Y_3600,ppm, .0070,.0001,.7960, .0070, .0069
W_2397,239.709 {140},Y_2243,ppm, -.0091,.0262,288.8, .0094, -.0276
Zn2062,206.200 {463},In2306,ppm, .2483,.0009,.3654, .2477, .2489

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 245.59,.46853,.19078,245.92,245.26
In2306,230.606 {446},Cts/S, 14020.,68.229,.48667,13971.,14068.
Y_2243,224.306 {450},Cts/S, 22620.,114.82,.50760,22539.,22701.
Y_3600,360.073 { 94},Cts/S, 193330.,125.35,.06484,193420.,193240.
Y_3710,371.030 { 91},Cts/S, 13029.,53.510,.41071,12991.,13067.

[Sample Header]
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Username=admin
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Custom ID1=
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Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2876,.0012,.4068, .2867, .2884
Al3082,308.215 {109},In2306,ppm, 13.80,.0665,.4821, 13.84, 13.75
As1890,189.042 {478},Y_2243,ppm, 1.000,.0012,.1156, .9993, 1.001
B_2496,249.678 {135},Y_3710,ppm, .5455,.0043,.7821, .5424, .5485
Ba4554,455.403 { 74},Y_3710,ppm, 1.071,.0021,.1961, 1.069, 1.072
Be3130,313.042 {108},Y_3710,ppm, .9735,.0023,.2351, .9751, .9719
Ca3158,315.887 {107},In2306,ppm, 51.85,.2329,.4491, 52.01, 51.68
Cd2288,228.802 {447},Y_2243,ppm, 1.000,.0002,.0154, 1.000, 1.000
Co2286,228.616 {447},In2306,ppm, .9645,.0028,.2870, .9664, .9625
Cr2677,267.716 {126},Y_3600,ppm, .9352,.0009,.0931, .9346, .9358
Cu3247,324.754 {104},Y_3600,ppm, .9778,.0001,.0086, .9777, .9779
Fe2404,240.488 {140},In2306,ppm, 11.65,.0446,.3828, 11.68, 11.62
K_7664,766.490 { 44},Y_3710,ppm, 12.92,.0340,.2635, 12.89, 12.94
Li6707,670.784 { 50},Y_3710,ppm, .9803,.0012,.1255, .9812, .9795
Mg2790,279.079 {121},Y_3710,ppm, 14.67,.0015,.0103, 14.68, 14.67
Mn2576,257.610 {131},Y_3600,ppm, 1.042,.0025,.2418, 1.040, 1.044
Mo2020,202.030 {467},Y_2243,ppm, 1.035,.0007,.0696, 1.035, 1.036
Na5895,589.592 { 57},Y_3710,ppm, 101.4,.0316,.0312, 101.4, 101.5
Ni2316,231.604 {445},In2306,ppm, .9862,.0052,.5286, .9899, .9825
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P_1782,178.284 {489},In2306,ppm, 5.732,.0269,.4685, 5.751, 5.713
Pb2203,220.353 {453},In2306,ppm, .9748,.0046,.4741, .9781, .9716
S_1820,182.034 {485},Y_2243,ppm, 50.85,.0160,.0314, 50.86, 50.84
Sb2068,206.833 {463},Y_2243,ppm, 1.626,.0040,.2454, 1.624, 1.629
Se1960,196.090 {472},Y_2243,ppm, 1.005,.0006,.0611, 1.005, 1.005
Si2516,251.611 {134},Y_3710,ppm, 16.54,.0138,.0837, 16.54, 16.53
Sn1899,189.989 {477},In2306,ppm, .9764,.0064,.6554, .9810, .9719
Sr4215,421.552 { 80},Y_3710,ppm, 1.263,.0036,.2833, 1.261, 1.266
Ti3349,334.904 {101},Y_3600,ppm, .9849,.0017,.1770, .9836, .9861
Tl1908,190.856 {477},In2306,ppm, .9019,.0011,.1227, .9011, .9026
U_3670,367.007 { 92},Y_3600,ppm, .4947,.0747,15.10, .4419, .5475
V_2924,292.402 {115},Y_3600,ppm, .9725,.0016,.1606, .9714, .9736
W_2397,239.709 {140},Y_2243,ppm, .3990,.0389,9.753, .4265, .3715
Zn2062,206.200 {463},In2306,ppm, .7285,.0053,.7342, .7322, .7247

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 242.18,1.4017,.57881,241.18,243.17
In2306,230.606 {446},Cts/S, 13671.,50.588,.37003,13707.,13636.
Y_2243,224.306 {450},Cts/S, 22429.,167.85,.74836,22548.,22310.
Y_3600,360.073 { 94},Cts/S, 191510.,88.055,.04598,191570.,191450.
Y_3710,371.030 { 91},Cts/S, 12950.,13.898,.10732,12940.,12960.

[Sample Header]
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Custom ID2=
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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .2969,.0024,.7946, .2986, .2952
Al3082,308.215 {109},In2306,ppm, 14.56,.0763,.5241, 14.50, 14.61
As1890,189.042 {478},Y_2243,ppm, 1.038,.0001,.0134, 1.038, 1.038
B_2496,249.678 {135},Y_3710,ppm, .5763,.0051,.8824, .5727, .5799
Ba4554,455.403 { 74},Y_3710,ppm, 1.113,.0031,.2791, 1.111, 1.115
Be3130,313.042 {108},Y_3710,ppm, 1.012,.0058,.5770, 1.008, 1.016
Ca3158,315.887 {107},In2306,ppm, 54.24,.5303,.9776, 53.87, 54.62
Cd2288,228.802 {447},Y_2243,ppm, 1.037,.0009,.0825, 1.038, 1.037
Co2286,228.616 {447},In2306,ppm, 1.005,.0029,.2878, 1.003, 1.007
Cr2677,267.716 {126},Y_3600,ppm, .9714,.0014,.1390, .9724, .9705
Cu3247,324.754 {104},Y_3600,ppm, 1.016,.0023,.2244, 1.018, 1.015
Fe2404,240.488 {140},In2306,ppm, 12.21,.1288,1.055, 12.12, 12.30
K_7664,766.490 { 44},Y_3710,ppm, 13.37,.0268,.2002, 13.35, 13.39
Li6707,670.784 { 50},Y_3710,ppm, 1.017,.0019,.1842, 1.016, 1.019
Mg2790,279.079 {121},Y_3710,ppm, 15.25,.1159,.7598, 15.17, 15.33
Mn2576,257.610 {131},Y_3600,ppm, 1.085,.0008,.0711, 1.085, 1.084
Mo2020,202.030 {467},Y_2243,ppm, 1.076,.0009,.0870, 1.075, 1.077
Na5895,589.592 { 57},Y_3710,ppm, 105.5,.1642,.1556, 105.4, 105.6
Ni2316,231.604 {445},In2306,ppm, 1.027,.0034,.3300, 1.025, 1.030
P_1782,178.284 {489},In2306,ppm, 5.951,.0037,.0628, 5.954, 5.949
Pb2203,220.353 {453},In2306,ppm, 1.010,.0011,.1120, 1.009, 1.010
S_1820,182.034 {485},Y_2243,ppm, 52.59,.0640,.1218, 52.55, 52.64
Sb2068,206.833 {463},Y_2243,ppm, 1.688,.0010,.0599, 1.689, 1.687
Se1960,196.090 {472},Y_2243,ppm, 1.048,.0060,.5679, 1.044, 1.052
Si2516,251.611 {134},Y_3710,ppm, 17.48,.1534,.8775, 17.37, 17.59
Sn1899,189.989 {477},In2306,ppm, 1.020,.0042,.4088, 1.017, 1.023
Sr4215,421.552 { 80},Y_3710,ppm, 1.310,.0047,.3613, 1.307, 1.314
Ti3349,334.904 {101},Y_3600,ppm, 1.026,.0014,.1398, 1.027, 1.024
Tl1908,190.856 {477},In2306,ppm, .9724,.0004,.0437, .9727, .9721
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U_3670,367.007 { 92},Y_3600,ppm, .5553,.0530,9.547, .5928, .5178
V_2924,292.402 {115},Y_3600,ppm, 1.010,.0004,.0367, 1.011, 1.010
W_2397,239.709 {140},Y_2243,ppm, .4008,.1029,25.66, .3281, .4735
Zn2062,206.200 {463},In2306,ppm, .7612,.0036,.4728, .7586, .7637

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 240.01,1.3015,.54226,240.93,239.09
In2306,230.606 {446},Cts/S, 13589.,5.3959,.03971,13585.,13592.
Y_2243,224.306 {450},Cts/S, 22344.,33.169,.14845,22320.,22367.
Y_3600,360.073 { 94},Cts/S, 190730.,158.46,.08308,190850.,190620.
Y_3710,371.030 { 91},Cts/S, 12949.,33.951,.26220,12973.,12925.

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Custom ID3=
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Repeats=2

[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0009,.0003,28.32, .0011, .0007
Al3082,308.215 {109},In2306,ppm, .5414,.0187,3.447, .5546, .5282
As1890,189.042 {478},Y_2243,ppm, .0054,.0005,8.527, .0057, .0051
B_2496,249.678 {135},Y_3710,ppm, .0484,.0038,7.853, .0510, .0457
Ba4554,455.403 { 74},Y_3710,ppm, .0773,.0010,1.320, .0766, .0781
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,43.13, .0002, .0001
Ca3158,315.887 {107},In2306,ppm, 19.62,.1510,.7696, 19.51, 19.72
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0001,24.95, .0002, .0003
Co2286,228.616 {447},In2306,ppm, -.0001,.0001,140.2, -.0000, -.0002
Cr2677,267.716 {126},Y_3600,ppm, .0054,.0001,2.340, .0054, .0053
Cu3247,324.754 {104},Y_3600,ppm, .0551,.0001,.1147, .0552, .0551
Fe2404,240.488 {140},In2306,ppm, .9206,.0057,.6223, .9247, .9166
K_7664,766.490 { 44},Y_3710,ppm, 3.753,.0388,1.035, 3.725, 3.780
Li6707,670.784 { 50},Y_3710,ppm, .0027,.0004,13.53, .0030, .0025
Mg2790,279.079 {121},Y_3710,ppm, 3.077,.0088,.2863, 3.071, 3.084
Mn2576,257.610 {131},Y_3600,ppm, .0377,.0001,.2165, .0377, .0378
Mo2020,202.030 {467},Y_2243,ppm, .1603,.0004,.2714, .1600, .1606
Na5895,589.592 { 57},Y_3710,ppm, 92.84,.8836,.9518, 92.21, 93.46
Ni2316,231.604 {445},In2306,ppm, .0062,.0001,1.077, .0062, .0062
P_1782,178.284 {489},In2306,ppm, 3.779,.0032,.0844, 3.782, 3.777
Pb2203,220.353 {453},In2306,ppm, -.0005,.0015,308.5, -.0016, .0006
S_1820,182.034 {485},Y_2243,ppm, 7.196,.0166,.2304, 7.208, 7.185
Sb2068,206.833 {463},Y_2243,ppm, .0029,.0013,45.26, .0020, .0038
Se1960,196.090 {472},Y_2243,ppm, .0019,.0032,168.9, .0042, -.0004
Si2516,251.611 {134},Y_3710,ppm, 7.716,.0235,.3050, 7.700, 7.733
Sn1899,189.989 {477},In2306,ppm, .0007,.0003,48.53, .0004, .0009
Sr4215,421.552 { 80},Y_3710,ppm, .1146,.0011,.9833, .1138, .1154
Ti3349,334.904 {101},Y_3600,ppm, .0033,.0003,8.056, .0035, .0031
Tl1908,190.856 {477},In2306,ppm, .0526,.0091,17.31, .0591, .0462
U_3670,367.007 { 92},Y_3600,ppm, -.0028,.0389,1394., .0247, -.0303
V_2924,292.402 {115},Y_3600,ppm, .0006,.0001,12.49, .0006, .0007
W_2397,239.709 {140},Y_2243,ppm, -.0071,.0057,81.45, -.0030, -.0111
Zn2062,206.200 {463},In2306,ppm, .2650,.0009,.3501, .2657, .2644

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 244.13,.34816,.14262,244.37,243.88
In2306,230.606 {446},Cts/S, 14248.,32.804,.23024,14271.,14224.
Y_2243,224.306 {450},Cts/S, 22864.,70.065,.30644,22914.,22815.
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Y_3600,360.073 { 94},Cts/S, 194700.,921.69,.47339,195350.,194050.
Y_3710,371.030 { 91},Cts/S, 13022.,40.162,.30841,12994.,13051.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0011,.0007,64.95, .0016, .0006
Al3082,308.215 {109},In2306,ppm, .9706,.0201,2.069, .9564, .9848
As1890,189.042 {478},Y_2243,ppm, .0050,.0008,16.68, .0044, .0056
B_2496,249.678 {135},Y_3710,ppm, .0451,.0001,.2185, .0452, .0450
Ba4554,455.403 { 74},Y_3710,ppm, .0821,.0001,.1026, .0820, .0821
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,10.68, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, 20.10,.1227,.6103, 20.02, 20.19
Cd2288,228.802 {447},Y_2243,ppm, .0003,.0000,5.411, .0003, .0003
Co2286,228.616 {447},In2306,ppm, .0002,.0002,119.1, .0004, .0000
Cr2677,267.716 {126},Y_3600,ppm, .0057,.0001,1.288, .0057, .0058
Cu3247,324.754 {104},Y_3600,ppm, .0500,.0005,1.051, .0503, .0496
Fe2404,240.488 {140},In2306,ppm, 1.376,.0017,.1201, 1.375, 1.377
K_7664,766.490 { 44},Y_3710,ppm, 4.323,.0312,.7207, 4.345, 4.301
Li6707,670.784 { 50},Y_3710,ppm, .0026,.0006,21.93, .0022, .0030
Mg2790,279.079 {121},Y_3710,ppm, 3.241,.0098,.3039, 3.248, 3.234
Mn2576,257.610 {131},Y_3600,ppm, .0513,.0002,.3379, .0514, .0512
Mo2020,202.030 {467},Y_2243,ppm, .0781,.0002,.2936, .0783, .0779
Na5895,589.592 { 57},Y_3710,ppm, 90.25,.0406,.0450, 90.27, 90.22
Ni2316,231.604 {445},In2306,ppm, .0068,.0000,.4049, .0067, .0068
P_1782,178.284 {489},In2306,ppm, 3.838,.0228,.5928, 3.854, 3.822
Pb2203,220.353 {453},In2306,ppm, .0020,.0002,8.745, .0018, .0021
S_1820,182.034 {485},Y_2243,ppm, 7.602,.0068,.0894, 7.607, 7.597
Sb2068,206.833 {463},Y_2243,ppm, .0002,.0024,1544., -.0016, .0019
Se1960,196.090 {472},Y_2243,ppm, .0006,.0033,567.4, -.0017, .0029
Si2516,251.611 {134},Y_3710,ppm, 8.109,.0376,.4639, 8.136, 8.082
Sn1899,189.989 {477},In2306,ppm, .0003,.0001,18.68, .0003, .0004
Sr4215,421.552 { 80},Y_3710,ppm, .1188,.0001,.1193, .1189, .1187
Ti3349,334.904 {101},Y_3600,ppm, .0060,.0001,2.364, .0059, .0061
Tl1908,190.856 {477},In2306,ppm, .0194,.0005,2.433, .0191, .0197
U_3670,367.007 { 92},Y_3600,ppm, .0180,.0098,54.56, .0249, .0111
V_2924,292.402 {115},Y_3600,ppm, .0024,.0001,5.703, .0023, .0025
W_2397,239.709 {140},Y_2243,ppm, .0327,.0219,66.90, .0173, .0482
Zn2062,206.200 {463},In2306,ppm, .2871,.0029,1.013, .2892, .2851

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 247.30,1.7754,.71794,248.55,246.04
In2306,230.606 {446},Cts/S, 14201.,5.9477,.04188,14197.,14205.
Y_2243,224.306 {450},Cts/S, 22768.,61.367,.26953,22811.,22725.
Y_3600,360.073 { 94},Cts/S, 195060.,240.24,.12316,195230.,194890.
Y_3710,371.030 { 91},Cts/S, 13147.,23.647,.17986,13131.,13164.

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Custom ID3=
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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0009,.0003,29.97, .0011, .0007
Al3082,308.215 {109},In2306,ppm, .9833,.0049,.5017, .9868, .9799
As1890,189.042 {478},Y_2243,ppm, .0054,.0010,18.31, .0061, .0047
B_2496,249.678 {135},Y_3710,ppm, .0516,.0009,1.689, .0522, .0510
Ba4554,455.403 { 74},Y_3710,ppm, .0819,.0006,.7048, .0815, .0823
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,190.0, -.0000, .0001
Ca3158,315.887 {107},In2306,ppm, 19.69,.0445,.2262, 19.72, 19.66
Cd2288,228.802 {447},Y_2243,ppm, .0004,.0001,31.70, .0003, .0004
Co2286,228.616 {447},In2306,ppm, .0001,.0000,46.33, .0001, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0056,.0002,3.444, .0057, .0055
Cu3247,324.754 {104},Y_3600,ppm, .0478,.0003,.6892, .0480, .0475
Fe2404,240.488 {140},In2306,ppm, 1.437,.0043,.2963, 1.434, 1.440
K_7664,766.490 { 44},Y_3710,ppm, 4.228,.0289,.6831, 4.207, 4.248
Li6707,670.784 { 50},Y_3710,ppm, .0027,.0004,14.84, .0030, .0024
Mg2790,279.079 {121},Y_3710,ppm, 3.157,.0402,1.272, 3.186, 3.129
Mn2576,257.610 {131},Y_3600,ppm, .0522,.0002,.3262, .0523, .0521
Mo2020,202.030 {467},Y_2243,ppm, .0612,.0002,.3757, .0611, .0614
Na5895,589.592 { 57},Y_3710,ppm, 87.84,.2558,.2912, 87.66, 88.02
Ni2316,231.604 {445},In2306,ppm, .0067,.0001,1.512, .0067, .0066
P_1782,178.284 {489},In2306,ppm, 3.711,.0054,.1448, 3.715, 3.707
Pb2203,220.353 {453},In2306,ppm, .0009,.0015,168.3, -.0002, .0020
S_1820,182.034 {485},Y_2243,ppm, 7.382,.0094,.1272, 7.388, 7.375
Sb2068,206.833 {463},Y_2243,ppm, .0011,.0023,210.6, -.0005, .0028
Se1960,196.090 {472},Y_2243,ppm, .0011,.0031,269.1, -.0010, .0033
Si2516,251.611 {134},Y_3710,ppm, 7.959,.0440,.5525, 7.928, 7.990
Sn1899,189.989 {477},In2306,ppm, .0003,.0002,50.62, .0005, .0002
Sr4215,421.552 { 80},Y_3710,ppm, .1172,.0002,.1895, .1170, .1174
Ti3349,334.904 {101},Y_3600,ppm, .0066,.0000,.5594, .0065, .0066
Tl1908,190.856 {477},In2306,ppm, .0098,.0008,7.952, .0104, .0093
U_3670,367.007 { 92},Y_3600,ppm, .0793,.0125,15.71, .0705, .0881
V_2924,292.402 {115},Y_3600,ppm, .0022,.0001,2.917, .0021, .0022
W_2397,239.709 {140},Y_2243,ppm, .0179,.0016,9.135, .0168, .0191
Zn2062,206.200 {463},In2306,ppm, .2775,.0007,.2387, .2770, .2780

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 246.29,1.8378,.74620,244.99,247.59
In2306,230.606 {446},Cts/S, 14204.,9.5160,.06699,14211.,14197.
Y_2243,224.306 {450},Cts/S, 22739.,12.701,.05586,22730.,22748.
Y_3600,360.073 { 94},Cts/S, 193630.,86.826,.04484,193570.,193690.
Y_3710,371.030 { 91},Cts/S, 13097.,28.982,.22130,13076.,13117.

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Custom ID2=
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0010,.0005,51.82, .0014, .0007
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Al3082,308.215 {109},In2306,ppm, .5785,.0196,3.383, .5647, .5923
As1890,189.042 {478},Y_2243,ppm, .0057,.0006,11.23, .0053, .0062
B_2496,249.678 {135},Y_3710,ppm, .0509,.0007,1.291, .0505, .0514
Ba4554,455.403 { 74},Y_3710,ppm, .0762,.0001,.1805, .0761, .0763
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,79.42, .0001, .0000
Ca3158,315.887 {107},In2306,ppm, 20.00,.2628,1.314, 19.81, 20.18
Cd2288,228.802 {447},Y_2243,ppm, .0003,.0001,34.23, .0003, .0002
Co2286,228.616 {447},In2306,ppm, -.0001,.0003,305.3, .0001, -.0003
Cr2677,267.716 {126},Y_3600,ppm, .0049,.0001,1.808, .0049, .0048
Cu3247,324.754 {104},Y_3600,ppm, .0312,.0000,.0847, .0312, .0311
Fe2404,240.488 {140},In2306,ppm, 1.135,.0178,1.566, 1.122, 1.147
K_7664,766.490 { 44},Y_3710,ppm, 4.351,.0013,.0292, 4.352, 4.350
Li6707,670.784 { 50},Y_3710,ppm, .0022,.0005,23.60, .0018, .0025
Mg2790,279.079 {121},Y_3710,ppm, 3.260,.0080,.2463, 3.254, 3.266
Mn2576,257.610 {131},Y_3600,ppm, .0570,.0002,.3128, .0569, .0571
Mo2020,202.030 {467},Y_2243,ppm, .0465,.0008,1.656, .0471, .0460
Na5895,589.592 { 57},Y_3710,ppm, 88.27,.0416,.0471, 88.30, 88.24
Ni2316,231.604 {445},In2306,ppm, .0063,.0002,2.678, .0062, .0064
P_1782,178.284 {489},In2306,ppm, 3.720,.0266,.7152, 3.739, 3.701
Pb2203,220.353 {453},In2306,ppm, .0013,.0005,37.83, .0010, .0017
S_1820,182.034 {485},Y_2243,ppm, 7.406,.0338,.4567, 7.430, 7.382
Sb2068,206.833 {463},Y_2243,ppm, -.0001,.0003,300.9, -.0003, .0001
Se1960,196.090 {472},Y_2243,ppm, .0002,.0014,747.1, -.0008, .0011
Si2516,251.611 {134},Y_3710,ppm, 7.383,.0169,.2289, 7.371, 7.395
Sn1899,189.989 {477},In2306,ppm, .0003,.0003,97.00, .0001, .0005
Sr4215,421.552 { 80},Y_3710,ppm, .1196,.0006,.4792, .1192, .1200
Ti3349,334.904 {101},Y_3600,ppm, .0040,.0001,1.798, .0040, .0041
Tl1908,190.856 {477},In2306,ppm, .0064,.0032,50.26, .0087, .0041
U_3670,367.007 { 92},Y_3600,ppm, -.0139,.0540,387.5, -.0521, .0243
V_2924,292.402 {115},Y_3600,ppm, .0020,.0000,.0787, .0020, .0019
W_2397,239.709 {140},Y_2243,ppm, -.0090,.0198,219.2, .0050, -.0230
Zn2062,206.200 {463},In2306,ppm, .2309,.0019,.8058, .2322, .2295

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 247.22,1.4721,.59548,248.26,246.18
In2306,230.606 {446},Cts/S, 14217.,25.708,.18083,14198.,14235.
Y_2243,224.306 {450},Cts/S, 22783.,6.8833,.03021,22788.,22778.
Y_3600,360.073 { 94},Cts/S, 194510.,259.25,.13328,194330.,194700.
Y_3710,371.030 { 91},Cts/S, 13068.,35.062,.26830,13043.,13093.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .5942,.0436,7.340, .6250, .5633
Al3082,308.215 {109},In2306,ppm, 20.27,.0316,.1558, 20.29, 20.25
As1890,189.042 {478},Y_2243,ppm, 1.010,.0053,.5251, 1.013, 1.006
B_2496,249.678 {135},Y_3710,ppm, .9801,.0179,1.827, .9674, .9928
Ba4554,455.403 { 74},Y_3710,ppm, 1.023,.0045,.4428, 1.020, 1.026
Be3130,313.042 {108},Y_3710,ppm, 1.007,.0085,.8435, 1.001, 1.013
Ca3158,315.887 {107},In2306,ppm, 19.94,.0653,.3276, 19.90, 19.99
Cd2288,228.802 {447},Y_2243,ppm, 1.020,.0048,.4708, 1.023, 1.016
Co2286,228.616 {447},In2306,ppm, .9905,.0033,.3362, .9928, .9881
Cr2677,267.716 {126},Y_3600,ppm, 1.009,.0802,7.951, 1.066, .9524
Cu3247,324.754 {104},Y_3600,ppm, 1.030,.0749,7.265, 1.083, .9775
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Fe2404,240.488 {140},In2306,ppm, 20.01,.1307,.6533, 19.92, 20.10
K_7664,766.490 { 44},Y_3710,ppm, 19.83,.1084,.5466, 19.75, 19.90
Li6707,670.784 { 50},Y_3710,ppm, 1.011,.0028,.2723, 1.009, 1.013
Mg2790,279.079 {121},Y_3710,ppm, 19.59,.4630,2.363, 19.27, 19.92
Mn2576,257.610 {131},Y_3600,ppm, 1.041,.0816,7.838, 1.098, .9829
Mo2020,202.030 {467},Y_2243,ppm, 1.045,.0063,.6022, 1.050, 1.041
Na5895,589.592 { 57},Y_3710,ppm, 19.93,.0936,.4697, 19.86, 19.99
Ni2316,231.604 {445},In2306,ppm, 1.012,.0067,.6666, 1.017, 1.007
P_1782,178.284 {489},In2306,ppm, 10.23,.0659,.6442, 10.28, 10.19
Pb2203,220.353 {453},In2306,ppm, 1.001,.0025,.2540, 1.003, .9996
S_1820,182.034 {485},Y_2243,ppm, 10.52,.0720,.6845, 10.57, 10.47
Sb2068,206.833 {463},Y_2243,ppm, 2.202,.0162,.7357, 2.214, 2.191
Se1960,196.090 {472},Y_2243,ppm, 1.022,.0115,1.129, 1.031, 1.014
Si2516,251.611 {134},Y_3710,ppm, 9.685,.1446,1.493, 9.583, 9.787
Sn1899,189.989 {477},In2306,ppm, 1.005,.0130,1.296, 1.014, .9954
Sr4215,421.552 { 80},Y_3710,ppm, 1.023,.0042,.4087, 1.020, 1.026
Ti3349,334.904 {101},Y_3600,ppm, 1.036,.0807,7.786, 1.093, .9789
Tl1908,190.856 {477},In2306,ppm, 1.027,.0127,1.237, 1.036, 1.018
U_3670,367.007 { 92},Y_3600,ppm, 1.069,.0730,6.828, 1.121, 1.018
V_2924,292.402 {115},Y_3600,ppm, 1.035,.0815,7.867, 1.093, .9778
W_2397,239.709 {140},Y_2243,ppm, .9822,.0167,1.695, .9940, .9704
Zn2062,206.200 {463},In2306,ppm, .9823,.0045,.4532, .9854, .9791

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 244.08,.02686,.01100,244.06,244.10
In2306,230.606 {446},Cts/S, 14328.,52.647,.36744,14291.,14365.
Y_2243,224.306 {450},Cts/S, 23123.,89.756,.38817,23059.,23186.
Y_3600,360.073 { 94},Cts/S, 191020.,11585.,6.0647,182830.,199210.
Y_3710,371.030 { 91},Cts/S, 12960.,154.11,1.1891,13069.,12851.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0125,.0002,1.550, .0126, .0123
Al3082,308.215 {109},In2306,ppm, .2154,.0087,4.042, .2215, .2092
As1890,189.042 {478},Y_2243,ppm, .0226,.0016,7.258, .0214, .0238
B_2496,249.678 {135},Y_3710,ppm, .2045,.0131,6.423, .1952, .2138
Ba4554,455.403 { 74},Y_3710,ppm, .0223,.0003,1.168, .0221, .0224
Be3130,313.042 {108},Y_3710,ppm, .0114,.0001,.5041, .0113, .0114
Ca3158,315.887 {107},In2306,ppm, 1.031,.0035,.3406, 1.028, 1.033
Cd2288,228.802 {447},Y_2243,ppm, .0112,.0001,.5433, .0111, .0112
Co2286,228.616 {447},In2306,ppm, .0105,.0000,.2469, .0105, .0105
Cr2677,267.716 {126},Y_3600,ppm, .0109,.0003,2.349, .0111, .0107
Cu3247,324.754 {104},Y_3600,ppm, .0116,.0004,3.142, .0114, .0119
Fe2404,240.488 {140},In2306,ppm, .2148,.0025,1.145, .2130, .2165
K_7664,766.490 { 44},Y_3710,ppm, 1.039,.0272,2.616, 1.058, 1.020
Li6707,670.784 { 50},Y_3710,ppm, .0113,.0001,.6467, .0112, .0113
Mg2790,279.079 {121},Y_3710,ppm, 1.036,.0303,2.929, 1.015, 1.057
Mn2576,257.610 {131},Y_3600,ppm, .0114,.0001,.7428, .0113, .0115
Mo2020,202.030 {467},Y_2243,ppm, .0236,.0002,.9376, .0234, .0238
Na5895,589.592 { 57},Y_3710,ppm, 1.077,.0014,.1338, 1.078, 1.076
Ni2316,231.604 {445},In2306,ppm, .0111,.0000,.3996, .0111, .0110
P_1782,178.284 {489},In2306,ppm, .9774,.0026,.2685, .9793, .9756
Pb2203,220.353 {453},In2306,ppm, .0115,.0001,.8812, .0114, .0115
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S_1820,182.034 {485},Y_2243,ppm, .5124,.0029,.5622, .5104, .5145
Sb2068,206.833 {463},Y_2243,ppm, .0575,.0004,.6253, .0577, .0572
Se1960,196.090 {472},Y_2243,ppm, .0223,.0010,4.572, .0230, .0215
Si2516,251.611 {134},Y_3710,ppm, .1790,.0003,.1473, .1788, .1792
Sn1899,189.989 {477},In2306,ppm, .0221,.0003,1.342, .0223, .0219
Sr4215,421.552 { 80},Y_3710,ppm, .0115,.0001,.6369, .0116, .0115
Ti3349,334.904 {101},Y_3600,ppm, .0115,.0000,.0068, .0115, .0115
Tl1908,190.856 {477},In2306,ppm, .0357,.0045,12.62, .0389, .0325
U_3670,367.007 { 92},Y_3600,ppm, .0670,.0427,63.74, .0972, .0368
V_2924,292.402 {115},Y_3600,ppm, .0109,.0002,2.091, .0108, .0111
W_2397,239.709 {140},Y_2243,ppm, .0089,.0029,32.11, .0109, .0069
Zn2062,206.200 {463},In2306,ppm, .0186,.0001,.4363, .0185, .0186

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 250.68,2.0254,.80794,252.12,249.25
In2306,230.606 {446},Cts/S, 15922.,59.858,.37595,15880.,15964.
Y_2243,224.306 {450},Cts/S, 23986.,83.808,.34940,23927.,24045.
Y_3600,360.073 { 94},Cts/S, 203640.,621.19,.30504,204080.,203200.
Y_3710,371.030 { 91},Cts/S, 13046.,108.00,.82780,13123.,12970.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0000,.0001,905.0, .0001, -.0001
Al3082,308.215 {109},In2306,ppm, .0084,.0120,142.8, -.0001, .0169
As1890,189.042 {478},Y_2243,ppm, -.0002,.0019,790.5, .0011, -.0016
B_2496,249.678 {135},Y_3710,ppm, -.0075,.0043,57.10, -.0106, -.0045
Ba4554,455.403 { 74},Y_3710,ppm, -.0006,.0001,17.65, -.0006, -.0007
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,15.17, -.0001, -.0001
Ca3158,315.887 {107},In2306,ppm, -.0222,.0032,14.49, -.0199, -.0245
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0000,107.1, -.0000, -.0000
Co2286,228.616 {447},In2306,ppm, -.0000,.0000,410.5, -.0000, .0000
Cr2677,267.716 {126},Y_3600,ppm, .0001,.0001,251.0, -.0000, .0001
Cu3247,324.754 {104},Y_3600,ppm, .0005,.0001,26.85, .0004, .0006
Fe2404,240.488 {140},In2306,ppm, .0044,.0058,130.7, .0085, .0003
K_7664,766.490 { 44},Y_3710,ppm, -.0359,.0129,35.99, -.0268, -.0451
Li6707,670.784 { 50},Y_3710,ppm, -.0004,.0002,46.59, -.0006, -.0003
Mg2790,279.079 {121},Y_3710,ppm, .0064,.0099,155.1, -.0006, .0134
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,33.49, -.0000, -.0000
Mo2020,202.030 {467},Y_2243,ppm, -.0005,.0003,60.96, -.0007, -.0003
Na5895,589.592 { 57},Y_3710,ppm, -.0002,.0061,2994., .0041, -.0045
Ni2316,231.604 {445},In2306,ppm, .0003,.0002,76.22, .0002, .0005
P_1782,178.284 {489},In2306,ppm, -.0003,.0003,103.4, -.0001, -.0005
Pb2203,220.353 {453},In2306,ppm, .0006,.0019,311.0, -.0007, .0020
S_1820,182.034 {485},Y_2243,ppm, -.0002,.0001,81.81, -.0003, -.0001
Sb2068,206.833 {463},Y_2243,ppm, .0005,.0012,215.2, .0013, -.0003
Se1960,196.090 {472},Y_2243,ppm, .0007,.0002,32.03, .0006, .0009
Si2516,251.611 {134},Y_3710,ppm, .0038,.0001,2.758, .0039, .0038
Sn1899,189.989 {477},In2306,ppm, -.0000,.0003,1290., -.0003, .0002
Sr4215,421.552 { 80},Y_3710,ppm, -.0001,.0001,79.97, -.0002, -.0001
Ti3349,334.904 {101},Y_3600,ppm, .0004,.0001,33.42, .0003, .0005
Tl1908,190.856 {477},In2306,ppm, .0109,.0027,24.75, .0090, .0128
U_3670,367.007 { 92},Y_3600,ppm, -.0088,.0453,512.5, .0232, -.0409
V_2924,292.402 {115},Y_3600,ppm, .0002,.0001,52.98, .0003, .0001
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W_2397,239.709 {140},Y_2243,ppm, .0017,.0377,2206., .0284, -.0249
Zn2062,206.200 {463},In2306,ppm, -.0013,.0000,3.173, -.0014, -.0013

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 252.45,.00415,.00164,252.45,252.44
In2306,230.606 {446},Cts/S, 16062.,19.944,.12417,16076.,16048.
Y_2243,224.306 {450},Cts/S, 23815.,35.562,.14933,23840.,23790.
Y_3600,360.073 { 94},Cts/S, 201150.,3021.9,1.5023,199010.,203290.
Y_3710,371.030 { 91},Cts/S, 12971.,32.372,.24957,12948.,12994.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0002,.0007,272.3, .0007, -.0002
Al3082,308.215 {109},In2306,ppm, -.0131,.0099,75.80, -.0061, -.0201
As1890,189.042 {478},Y_2243,ppm, .0000,.0002,425.6, .0002, -.0001
B_2496,249.678 {135},Y_3710,ppm, -.0040,.0049,121.2, -.0006, -.0074
Ba4554,455.403 { 74},Y_3710,ppm, -.0005,.0000,7.418, -.0005, -.0005
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,63.57, .0001, .0000
Ca3158,315.887 {107},In2306,ppm, -.0155,.0009,6.113, -.0149, -.0162
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,24.01, .0001, .0001
Co2286,228.616 {447},In2306,ppm, .0000,.0000,258.5, .0000, -.0000
Cr2677,267.716 {126},Y_3600,ppm, .0003,.0002,96.48, .0004, .0001
Cu3247,324.754 {104},Y_3600,ppm, .0010,.0000,2.563, .0010, .0010
Fe2404,240.488 {140},In2306,ppm, .0015,.0082,533.2, .0073, -.0043
K_7664,766.490 { 44},Y_3710,ppm, -.0165,.0134,81.47, -.0070, -.0260
Li6707,670.784 { 50},Y_3710,ppm, -.0005,.0004,87.55, -.0008, -.0002
Mg2790,279.079 {121},Y_3710,ppm, .0001,.0050,7696., .0036, -.0035
Mn2576,257.610 {131},Y_3600,ppm, .0003,.0000,.4932, .0003, .0003
Mo2020,202.030 {467},Y_2243,ppm, -.0001,.0001,172.6, -.0002, .0000
Na5895,589.592 { 57},Y_3710,ppm, .0062,.0041,66.56, .0091, .0033
Ni2316,231.604 {445},In2306,ppm, .0002,.0002,80.14, .0001, .0004
P_1782,178.284 {489},In2306,ppm, .0174,.0007,3.817, .0170, .0179
Pb2203,220.353 {453},In2306,ppm, .0008,.0011,134.5, .0016, .0000
S_1820,182.034 {485},Y_2243,ppm, .0052,.0003,5.279, .0054, .0050
Sb2068,206.833 {463},Y_2243,ppm, .0044,.0021,47.56, .0058, .0029
Se1960,196.090 {472},Y_2243,ppm, .0004,.0013,363.9, .0013, -.0006
Si2516,251.611 {134},Y_3710,ppm, .0052,.0039,75.12, .0025, .0080
Sn1899,189.989 {477},In2306,ppm, .0123,.0001,.8651, .0122, .0124
Sr4215,421.552 { 80},Y_3710,ppm, -.0001,.0000,34.29, -.0001, -.0001
Ti3349,334.904 {101},Y_3600,ppm, .0004,.0001,31.57, .0003, .0005
Tl1908,190.856 {477},In2306,ppm, .0073,.0028,38.30, .0093, .0053
U_3670,367.007 { 92},Y_3600,ppm, -.0127,.0259,203.9, -.0311, .0056
V_2924,292.402 {115},Y_3600,ppm, .0001,.0004,642.1, .0003, -.0002
W_2397,239.709 {140},Y_2243,ppm, .0270,.0477,176.6, .0607, -.0067
Zn2062,206.200 {463},In2306,ppm, .0016,.0001,5.061, .0017, .0016

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 256.37,5.6913,2.2199,252.35,260.40
In2306,230.606 {446},Cts/S, 16065.,34.542,.21502,16089.,16040.
Y_2243,224.306 {450},Cts/S, 23865.,104.33,.43717,23939.,23791.
Y_3600,360.073 { 94},Cts/S, 208080.,.91251,.00044,208080.,208080.
Y_3710,371.030 { 91},Cts/S, 13372.,157.14,1.1751,13261.,13483.
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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .3271,.0017,.5109, .3283, .3259
Al3082,308.215 {109},In2306,ppm, 92.25,2.480,2.689, 90.49, 94.00
As1890,189.042 {478},Y_2243,ppm, 2.848,.0034,.1180, 2.846, 2.850
B_2496,249.678 {135},Y_3710,ppm, 5.393,.0291,.5395, 5.372, 5.414
Ba4554,455.403 { 74},Y_3710,ppm, 2.323,.0157,.6759, 2.311, 2.334
Be3130,313.042 {108},Y_3710,ppm, 1.669,.0071,.4240, 1.664, 1.674
Ca3158,315.887 {107},In2306,ppm, 138.6,3.425,2.470, 136.2, 141.1
Cd2288,228.802 {447},Y_2243,ppm, 1.510,.0026,.1737, 1.512, 1.508
Co2286,228.616 {447},In2306,ppm, 2.587,.0017,.0673, 2.588, 2.586
Cr2677,267.716 {126},Y_3600,ppm, 1.547,.0001,.0034, 1.547, 1.547
Cu3247,324.754 {104},Y_3600,ppm, .9347,.0019,.1989, .9361, .9334
Fe2404,240.488 {140},In2306,ppm, 134.8,3.649,2.707, 132.2, 137.4
K_7664,766.490 { 44},Y_3710,ppm, 97.72,.4362,.4464, 97.41, 98.03
Li6707,670.784 { 50},Y_3710,ppm, 2.430,.0123,.5057, 2.421, 2.439
Mg2790,279.079 {121},Y_3710,ppm, 108.5,.0667,.0615, 108.4, 108.5
Mn2576,257.610 {131},Y_3600,ppm, 10.78,.0988,.9158, 10.71, 10.85
Mo2020,202.030 {467},Y_2243,ppm, 1.832,.0017,.0940, 1.834, 1.831
Na5895,589.592 { 57},Y_3710,ppm, 113.7,.5835,.5132, 113.3, 114.1
Ni2316,231.604 {445},In2306,ppm, 1.101,.0009,.0837, 1.101, 1.100
P_1782,178.284 {489},In2306,ppm, 4.421,.0015,.0337, 4.422, 4.420
Pb2203,220.353 {453},In2306,ppm, 1.379,.0021,.1554, 1.381, 1.378
S_1820,182.034 {485},Y_2243,ppm, 3.048,.0247,.8087, 3.066, 3.031
Sb2068,206.833 {463},Y_2243,ppm, .3876,.0019,.4906, .3863, .3890
Se1960,196.090 {472},Y_2243,ppm, 2.822,.0032,.1150, 2.819, 2.824
Si2516,251.611 {134},Y_3710,ppm, 3.933,.0137,.3475, 3.943, 3.923
Sn1899,189.989 {477},In2306,ppm, 1.653,.0029,.1768, 1.651, 1.655
Sr4215,421.552 { 80},Y_3710,ppm, .8133,.0049,.6039, .8098, .8167
Ti3349,334.904 {101},Y_3600,ppm, 3.235,.0025,.0772, 3.237, 3.233
Tl1908,190.856 {477},In2306,ppm, 2.178,.0115,.5292, 2.169, 2.186
U_3670,367.007 { 92},Y_3600,ppm, 1.474,.0271,1.838, 1.494, 1.455
V_2924,292.402 {115},Y_3600,ppm, .2375,.0001,.0607, .2374, .2376
W_2397,239.709 {140},Y_2243,ppm, -.3997,.0497,12.43, -.3646, -.4349
Zn2062,206.200 {463},In2306,ppm, 4.590,.0091,.1986, 4.597, 4.584

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 230.97,4.8363,2.0939,234.39,227.55
In2306,230.606 {446},Cts/S, 12413.,38.263,.30826,12440.,12386.
Y_2243,224.306 {450},Cts/S, 22650.,43.556,.19230,22681.,22619.
Y_3600,360.073 { 94},Cts/S, 194240.,375.36,.19324,193980.,194510.
Y_3710,371.030 { 91},Cts/S, 13490.,13.058,.09680,13481.,13500.

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Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0019,.0008,43.89, -.0025, -.0013
Al3082,308.215 {109},In2306,ppm, 18.92,.0894,.4723, 18.86, 18.99
As1890,189.042 {478},Y_2243,ppm, .0309,.0020,6.453, .0323, .0295
B_2496,249.678 {135},Y_3710,ppm, .0411,.0044,10.70, .0380, .0443
Ba4554,455.403 { 74},Y_3710,ppm, 1.022,.0022,.2151, 1.024, 1.021
Be3130,313.042 {108},Y_3710,ppm, .0021,.0000,.1663, .0021, .0021
Ca3158,315.887 {107},In2306,ppm, 3794.,45.14,1.190, 3762., 3826.
Cd2288,228.802 {447},Y_2243,ppm, .0028,.0001,2.755, .0028, .0027
Co2286,228.616 {447},In2306,ppm, .0146,.0004,2.765, .0143, .0149
Cr2677,267.716 {126},Y_3600,ppm, .0689,.0002,.2699, .0691, .0688
Cu3247,324.754 {104},Y_3600,ppm, .1039,.0005,.4500, .1035, .1042
Fe2404,240.488 {140},In2306,ppm, 26.16,.2981,1.139, 25.95, 26.37
K_7664,766.490 { 44},Y_3710,ppm, 8.622,.0359,.4158, 8.597, 8.648
Li6707,670.784 { 50},Y_3710,ppm, .0883,.0008,.9075, .0889, .0878
Mg2790,279.079 {121},Y_3710,ppm, 18.79,.1440,.7665, 18.69, 18.89
Mn2576,257.610 {131},Y_3600,ppm, 1.063,.0038,.3576, 1.066, 1.060
Mo2020,202.030 {467},Y_2243,ppm, .1009,.0008,.8089, .1015, .1003
Na5895,589.592 { 57},Y_3710,ppm, 1.022,.0087,.8514, 1.028, 1.016
Ni2316,231.604 {445},In2306,ppm, .0597,.0003,.4491, .0599, .0595
P_1782,178.284 {489},In2306,ppm, 6.912,.0343,.4956, 6.936, 6.888
Pb2203,220.353 {453},In2306,ppm, .1728,.0027,1.580, .1709, .1748
S_1820,182.034 {485},Y_2243,ppm, 16.99,.1518,.8936, 17.10, 16.88
Sb2068,206.833 {463},Y_2243,ppm, .0047,.0008,17.55, .0052, .0041
Se1960,196.090 {472},Y_2243,ppm, -.0012,.0036,303.1, -.0038, .0014
Si2516,251.611 {134},Y_3710,ppm, 3.200,.0280,.8756, 3.181, 3.220
Sn1899,189.989 {477},In2306,ppm, .0162,.0003,1.979, .0160, .0165
Sr4215,421.552 { 80},Y_3710,ppm, 1.610,.0005,.0323, 1.610, 1.609
Ti3349,334.904 {101},Y_3600,ppm, .2505,.0000,.0029, .2505, .2505
Tl1908,190.856 {477},In2306,ppm, .0560,.0067,11.97, .0607, .0513
U_3670,367.007 { 92},Y_3600,ppm, .8399,.1046,12.46, .9139, .7659
V_2924,292.402 {115},Y_3600,ppm, .1943,.0006,.3183, .1939, .1948
W_2397,239.709 {140},Y_2243,ppm, -.0316,.0838,264.9, .0276, -.0909
Zn2062,206.200 {463},In2306,ppm, 1.120,.0007,.0580, 1.121, 1.120

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 206.51,.89681,.43427,207.14,205.88
In2306,230.606 {446},Cts/S, 9632.3,35.014,.36350,9657.0,9607.5
Y_2243,224.306 {450},Cts/S, 17711.,51.762,.29227,17747.,17674.
Y_3600,360.073 { 94},Cts/S, 155790.,64.690,.04152,155840.,155740.
Y_3710,371.030 { 91},Cts/S, 11878.,8.9560,.07540,11884.,11872.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0019,.0000,2.339, -.0019, -.0019
Al3082,308.215 {109},In2306,ppm, 97.40,.9977,1.024, 98.10, 96.69
As1890,189.042 {478},Y_2243,ppm, .3444,.0005,.1515, .3440, .3447
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B_2496,249.678 {135},Y_3710,ppm, .0942,.0044,4.649, .0911, .0973
Ba4554,455.403 { 74},Y_3710,ppm, 1.877,.0029,.1561, 1.879, 1.875
Be3130,313.042 {108},Y_3710,ppm, .0086,.0000,.1218, .0086, .0086
Ca3158,315.887 {107},In2306,ppm, 379.1,2.952,.7787, 381.2, 377.0
Cd2288,228.802 {447},Y_2243,ppm, .0093,.0001,1.471, .0092, .0094
Co2286,228.616 {447},In2306,ppm, .0725,.0001,.0771, .0726, .0725
Cr2677,267.716 {126},Y_3600,ppm, .7569,.0261,3.452, .7384, .7754
Cu3247,324.754 {104},Y_3600,ppm, 1.437,.0575,4.004, 1.396, 1.478
Fe2404,240.488 {140},In2306,ppm, 305.1,2.559,.8389, 306.9, 303.3
K_7664,766.490 { 44},Y_3710,ppm, 6.501,.0081,.1244, 6.496, 6.507
Li6707,670.784 { 50},Y_3710,ppm, .0625,.0007,1.108, .0620, .0630
Mg2790,279.079 {121},Y_3710,ppm, 26.04,.1716,.6589, 25.92, 26.16
Mn2576,257.610 {131},Y_3600,ppm, 3.071,.0796,2.592, 3.014, 3.127
Mo2020,202.030 {467},Y_2243,ppm, .5833,.0026,.4403, .5815, .5851
Na5895,589.592 { 57},Y_3710,ppm, 3.933,.0061,.1545, 3.928, 3.937
Ni2316,231.604 {445},In2306,ppm, .1878,.0006,.3263, .1883, .1874
P_1782,178.284 {489},In2306,ppm, 2.724,.0009,.0335, 2.724, 2.725
Pb2203,220.353 {453},In2306,ppm, 4.003,.0142,.3552, 4.013, 3.993
S_1820,182.034 {485},Y_2243,ppm, 18.17,.0430,.2366, 18.14, 18.20
Sb2068,206.833 {463},Y_2243,ppm, -.0029,.0006,20.42, -.0033, -.0025
Se1960,196.090 {472},Y_2243,ppm, .0048,.0016,33.55, .0037, .0059
Si2516,251.611 {134},Y_3710,ppm, 2.613,.0032,.1231, 2.611, 2.616
Sn1899,189.989 {477},In2306,ppm, .1037,.0010,.9634, .1030, .1044
Sr4215,421.552 { 80},Y_3710,ppm, 1.314,.0015,.1150, 1.315, 1.313
Ti3349,334.904 {101},Y_3600,ppm, .2693,.0098,3.622, .2624, .2762
Tl1908,190.856 {477},In2306,ppm, .0215,.0025,11.60, .0197, .0232
U_3670,367.007 { 92},Y_3600,ppm, 1.763,.0063,.3555, 1.759, 1.768
V_2924,292.402 {115},Y_3600,ppm, .2674,.0103,3.857, .2601, .2747
W_2397,239.709 {140},Y_2243,ppm, -.0736,.0711,96.68, -.1239, -.0233
Zn2062,206.200 {463},In2306,ppm, 2.258,.0108,.4793, 2.266, 2.250

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 237.10,.81641,.34433,236.53,237.68
In2306,230.606 {446},Cts/S, 12733.,32.825,.25780,12756.,12709.
Y_2243,224.306 {450},Cts/S, 22823.,115.52,.50615,22905.,22741.
Y_3600,360.073 { 94},Cts/S, 201610.,5971.5,2.9620,205830.,197380.
Y_3710,371.030 { 91},Cts/S, 13776.,66.435,.48226,13823.,13729.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0025,.0006,22.83, -.0021, -.0029
Al3082,308.215 {109},In2306,ppm, 105.2,.7610,.7235, 105.7, 104.6
As1890,189.042 {478},Y_2243,ppm, .1683,.0033,1.944, .1660, .1706
B_2496,249.678 {135},Y_3710,ppm, .1131,.0031,2.747, .1153, .1109
Ba4554,455.403 { 74},Y_3710,ppm, 1.873,.0078,.4187, 1.868, 1.879
Be3130,313.042 {108},Y_3710,ppm, .0090,.0002,2.241, .0088, .0091
Ca3158,315.887 {107},In2306,ppm, 805.7,7.429,.9221, 811.0, 800.5
Cd2288,228.802 {447},Y_2243,ppm, .0106,.0001,.8763, .0106, .0105
Co2286,228.616 {447},In2306,ppm, .0656,.0002,.2840, .0657, .0655
Cr2677,267.716 {126},Y_3600,ppm, .5233,.0001,.0115, .5232, .5233
Cu3247,324.754 {104},Y_3600,ppm, .9295,.0060,.6432, .9252, .9337
Fe2404,240.488 {140},In2306,ppm, 241.9,1.505,.6222, 242.9, 240.8
K_7664,766.490 { 44},Y_3710,ppm, 7.212,.0211,.2927, 7.197, 7.227
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Li6707,670.784 { 50},Y_3710,ppm, .0742,.0004,.5125, .0739, .0745
Mg2790,279.079 {121},Y_3710,ppm, 31.34,.0952,.3037, 31.27, 31.41
Mn2576,257.610 {131},Y_3600,ppm, 3.751,.0033,.0869, 3.753, 3.749
Mo2020,202.030 {467},Y_2243,ppm, .2908,.0010,.3375, .2915, .2901
Na5895,589.592 { 57},Y_3710,ppm, 4.044,.0234,.5783, 4.028, 4.061
Ni2316,231.604 {445},In2306,ppm, .1594,.0012,.7312, .1586, .1602
P_1782,178.284 {489},In2306,ppm, 3.128,.0140,.4492, 3.118, 3.138
Pb2203,220.353 {453},In2306,ppm, 2.803,.0060,.2123, 2.807, 2.799
S_1820,182.034 {485},Y_2243,ppm, 14.57,.0186,.1274, 14.55, 14.58
Sb2068,206.833 {463},Y_2243,ppm, -.0013,.0002,16.26, -.0014, -.0011
Se1960,196.090 {472},Y_2243,ppm, .0051,.0000,.1352, .0051, .0051
Si2516,251.611 {134},Y_3710,ppm, 4.026,.0028,.0698, 4.028, 4.024
Sn1899,189.989 {477},In2306,ppm, .0540,.0004,.8059, .0543, .0537
Sr4215,421.552 { 80},Y_3710,ppm, 1.905,.0097,.5068, 1.898, 1.912
Ti3349,334.904 {101},Y_3600,ppm, .3555,.0000,.0082, .3555, .3555
Tl1908,190.856 {477},In2306,ppm, .0056,.0014,24.59, .0046, .0066
U_3670,367.007 { 92},Y_3600,ppm, 1.520,.0380,2.502, 1.547, 1.493
V_2924,292.402 {115},Y_3600,ppm, .2945,.0006,.2181, .2940, .2950
W_2397,239.709 {140},Y_2243,ppm, -.0078,.0124,158.9, .0010, -.0165
Zn2062,206.200 {463},In2306,ppm, 2.298,.0111,.4835, 2.306, 2.290

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 227.26,2.6479,1.1652,225.38,229.13
In2306,230.606 {446},Cts/S, 11969.,16.010,.13375,11958.,11981.
Y_2243,224.306 {450},Cts/S, 22385.,9.0638,.04049,22379.,22392.
Y_3600,360.073 { 94},Cts/S, 190700.,270.34,.14176,190890.,190510.
Y_3710,371.030 { 91},Cts/S, 13584.,8.5676,.06307,13590.,13578.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2835,.0007,.2533, .2830, .2840
Al3082,308.215 {109},In2306,ppm, 306.1,2.575,.8411, 304.3, 307.9
As1890,189.042 {478},Y_2243,ppm, 1.075,.0029,.2742, 1.077, 1.073
B_2496,249.678 {135},Y_3710,ppm, .5258,.0154,2.928, .5149, .5367
Ba4554,455.403 { 74},Y_3710,ppm, 2.860,.0185,.6462, 2.847, 2.873
Be3130,313.042 {108},Y_3710,ppm, .9365,.0065,.6983, .9319, .9411
Ca3158,315.887 {107},In2306,ppm, 297.4,2.823,.9492, 295.4, 299.4
Cd2288,228.802 {447},Y_2243,ppm, .9650,.0013,.1311, .9659, .9641
Co2286,228.616 {447},In2306,ppm, 1.059,.0021,.2000, 1.058, 1.061
Cr2677,267.716 {126},Y_3600,ppm, 1.970,.0031,.1594, 1.972, 1.967
Cu3247,324.754 {104},Y_3600,ppm, 2.238,.0007,.0318, 2.238, 2.237
Fe2404,240.488 {140},In2306,ppm, 222.2,1.989,.8950, 220.8, 223.6
K_7664,766.490 { 44},Y_3710,ppm, 23.80,.1908,.8019, 23.67, 23.93
Li6707,670.784 { 50},Y_3710,ppm, 1.139,.0093,.8122, 1.133, 1.146
Mg2790,279.079 {121},Y_3710,ppm, 42.79,.0186,.0436, 42.80, 42.77
Mn2576,257.610 {131},Y_3600,ppm, 3.163,.0281,.8876, 3.183, 3.143
Mo2020,202.030 {467},Y_2243,ppm, 1.507,.0006,.0369, 1.507, 1.507
Na5895,589.592 { 57},Y_3710,ppm, 13.82,.0707,.5118, 13.77, 13.87
Ni2316,231.604 {445},In2306,ppm, 1.184,.0026,.2226, 1.182, 1.186
P_1782,178.284 {489},In2306,ppm, 8.191,.0189,.2308, 8.177, 8.204
Pb2203,220.353 {453},In2306,ppm, 3.960,.0013,.0319, 3.959, 3.961
S_1820,182.034 {485},Y_2243,ppm, 21.18,.0030,.0141, 21.18, 21.19
Sb2068,206.833 {463},Y_2243,ppm, .8278,.0042,.5083, .8248, .8308
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Se1960,196.090 {472},Y_2243,ppm, .9164,.0022,.2359, .9179, .9148
Si2516,251.611 {134},Y_3710,ppm, 3.397,.0343,1.010, 3.373, 3.422
Sn1899,189.989 {477},In2306,ppm, 1.153,.0020,.1717, 1.151, 1.154
Sr4215,421.552 { 80},Y_3710,ppm, 2.049,.0138,.6749, 2.039, 2.059
Ti3349,334.904 {101},Y_3600,ppm, 1.332,.0000,.0026, 1.333, 1.332
Tl1908,190.856 {477},In2306,ppm, .9070,.0020,.2206, .9056, .9084
U_3670,367.007 { 92},Y_3600,ppm, 1.818,.0231,1.271, 1.834, 1.802
V_2924,292.402 {115},Y_3600,ppm, 1.354,.0005,.0339, 1.354, 1.354
W_2397,239.709 {140},Y_2243,ppm, .1235,.0286,23.14, .1437, .1033
Zn2062,206.200 {463},In2306,ppm, 2.392,.0097,.4062, 2.385, 2.399

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 234.76,.98505,.41960,235.46,234.06
In2306,230.606 {446},Cts/S, 12472.,18.493,.14828,12459.,12485.
Y_2243,224.306 {450},Cts/S, 22982.,72.525,.31557,22931.,23033.
Y_3600,360.073 { 94},Cts/S, 193560.,366.96,.18959,193300.,193820.
Y_3710,371.030 { 91},Cts/S, 13837.,45.453,.32848,13870.,13805.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .2893,.0004,.1214, .2891, .2896
Al3082,308.215 {109},In2306,ppm, 107.4,.5181,.4825, 107.0, 107.7
As1890,189.042 {478},Y_2243,ppm, 1.298,.0002,.0166, 1.299, 1.298
B_2496,249.678 {135},Y_3710,ppm, .5683,.0016,.2735, .5672, .5694
Ba4554,455.403 { 74},Y_3710,ppm, 2.778,.0009,.0339, 2.779, 2.777
Be3130,313.042 {108},Y_3710,ppm, .9350,.0033,.3563, .9374, .9326
Ca3158,315.887 {107},In2306,ppm, 386.2,.6178,.1599, 386.7, 385.8
Cd2288,228.802 {447},Y_2243,ppm, .9778,.0015,.1495, .9768, .9789
Co2286,228.616 {447},In2306,ppm, 1.050,.0017,.1632, 1.048, 1.051
Cr2677,267.716 {126},Y_3600,ppm, 1.644,.0015,.0931, 1.642, 1.645
Cu3247,324.754 {104},Y_3600,ppm, 2.434,.0143,.5878, 2.424, 2.444
Fe2404,240.488 {140},In2306,ppm, 312.5,.4490,.1437, 312.1, 312.8
K_7664,766.490 { 44},Y_3710,ppm, 15.94,.0563,.3533, 15.98, 15.91
Li6707,670.784 { 50},Y_3710,ppm, 1.039,.0014,.1346, 1.040, 1.038
Mg2790,279.079 {121},Y_3710,ppm, 34.28,.0891,.2598, 34.34, 34.22
Mn2576,257.610 {131},Y_3600,ppm, 3.863,.0363,.9397, 3.837, 3.889
Mo2020,202.030 {467},Y_2243,ppm, 1.519,.0005,.0319, 1.518, 1.519
Na5895,589.592 { 57},Y_3710,ppm, 13.51,.0134,.0988, 13.52, 13.51
Ni2316,231.604 {445},In2306,ppm, 1.171,.0002,.0162, 1.171, 1.171
P_1782,178.284 {489},In2306,ppm, 8.370,.0037,.0442, 8.372, 8.367
Pb2203,220.353 {453},In2306,ppm, 4.865,.0034,.0693, 4.867, 4.862
S_1820,182.034 {485},Y_2243,ppm, 22.96,.0399,.1736, 22.94, 22.99
Sb2068,206.833 {463},Y_2243,ppm, 1.577,.0005,.0323, 1.577, 1.578
Se1960,196.090 {472},Y_2243,ppm, .9616,.0033,.3397, .9640, .9593
Si2516,251.611 {134},Y_3710,ppm, 10.97,.0894,.8155, 11.03, 10.90
Sn1899,189.989 {477},In2306,ppm, 1.075,.0042,.3868, 1.078, 1.072
Sr4215,421.552 { 80},Y_3710,ppm, 2.230,.0026,.1171, 2.232, 2.228
Ti3349,334.904 {101},Y_3600,ppm, 1.191,.0011,.0890, 1.192, 1.191
Tl1908,190.856 {477},In2306,ppm, .9574,.0036,.3708, .9599, .9548
U_3670,367.007 { 92},Y_3600,ppm, 2.393,.0724,3.024, 2.342, 2.445
V_2924,292.402 {115},Y_3600,ppm, 1.188,.0007,.0569, 1.188, 1.188
W_2397,239.709 {140},Y_2243,ppm, .3633,.0104,2.872, .3707, .3559
Zn2062,206.200 {463},In2306,ppm, 2.690,.0003,.0097, 2.690, 2.690
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[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 231.91,.13218,.05700,231.82,232.00
In2306,230.606 {446},Cts/S, 12523.,14.498,.11577,12513.,12533.
Y_2243,224.306 {450},Cts/S, 22582.,30.828,.13652,22560.,22604.
Y_3600,360.073 { 94},Cts/S, 194890.,919.64,.47187,195540.,194240.
Y_3710,371.030 { 91},Cts/S, 13711.,112.71,.82200,13632.,13791.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
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Al3082,308.215 {109},In2306,ppm, 20.12,.1294,.6431, 20.02, 20.21
As1890,189.042 {478},Y_2243,ppm, .0795,.0002,.2808, .0794, .0797
B_2496,249.678 {135},Y_3710,ppm, .0236,.0018,7.585, .0224, .0249
Ba4554,455.403 { 74},Y_3710,ppm, .4189,.0056,1.337, .4149, .4228
Be3130,313.042 {108},Y_3710,ppm, .0021,.0001,2.837, .0021, .0020
Ca3158,315.887 {107},In2306,ppm, 81.69,.3463,.4239, 81.44, 81.93
Cd2288,228.802 {447},Y_2243,ppm, .0021,.0000,1.253, .0021, .0021
Co2286,228.616 {447},In2306,ppm, .0158,.0003,1.823, .0156, .0160
Cr2677,267.716 {126},Y_3600,ppm, .1857,.0004,.2288, .1854, .1860
Cu3247,324.754 {104},Y_3600,ppm, .3313,.0007,.2156, .3308, .3318
Fe2404,240.488 {140},In2306,ppm, 67.30,.2047,.3041, 67.15, 67.44
K_7664,766.490 { 44},Y_3710,ppm, 1.417,.0070,.4956, 1.422, 1.412
Li6707,670.784 { 50},Y_3710,ppm, .0140,.0003,2.118, .0138, .0142
Mg2790,279.079 {121},Y_3710,ppm, 6.032,.1161,1.925, 5.950, 6.114
Mn2576,257.610 {131},Y_3600,ppm, .7421,.0034,.4645, .7397, .7445
Mo2020,202.030 {467},Y_2243,ppm, .1362,.0001,.0372, .1362, .1363
Na5895,589.592 { 57},Y_3710,ppm, .8566,.0176,2.053, .8442, .8691
Ni2316,231.604 {445},In2306,ppm, .0403,.0006,1.371, .0400, .0407
P_1782,178.284 {489},In2306,ppm, .5592,.0022,.3995, .5576, .5608
Pb2203,220.353 {453},In2306,ppm, .8998,.0046,.5097, .8965, .9030
S_1820,182.034 {485},Y_2243,ppm, 4.131,.0279,.6764, 4.112, 4.151
Sb2068,206.833 {463},Y_2243,ppm, -.0014,.0002,13.47, -.0015, -.0012
Se1960,196.090 {472},Y_2243,ppm, .0035,.0015,42.29, .0025, .0046
Si2516,251.611 {134},Y_3710,ppm, .5950,.0008,.1295, .5955, .5944
Sn1899,189.989 {477},In2306,ppm, .0232,.0005,2.114, .0229, .0236
Sr4215,421.552 { 80},Y_3710,ppm, .2950,.0038,1.274, .2923, .2977
Ti3349,334.904 {101},Y_3600,ppm, .0635,.0002,.2594, .0633, .0636
Tl1908,190.856 {477},In2306,ppm, .0295,.0046,15.62, .0327, .0262
U_3670,367.007 { 92},Y_3600,ppm, .4269,.0992,23.25, .4971, .3567
V_2924,292.402 {115},Y_3600,ppm, .0627,.0000,.0236, .0627, .0628
W_2397,239.709 {140},Y_2243,ppm, -.0214,.0305,142.2, -.0430, .0001
Zn2062,206.200 {463},In2306,ppm, .4868,.0036,.7446, .4842, .4893

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 243.37,1.6248,.66762,242.22,244.52
In2306,230.606 {446},Cts/S, 14369.,1.8208,.01267,14370.,14367.
Y_2243,224.306 {450},Cts/S, 23239.,46.281,.19915,23207.,23272.
Y_3600,360.073 { 94},Cts/S, 198180.,479.17,.24179,197840.,198510.
Y_3710,371.030 { 91},Cts/S, 13163.,36.951,.28071,13190.,13137.

[Sample Header]
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Repeats=2

[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0004,.0000,7.831, -.0004, -.0004
Al3082,308.215 {109},In2306,ppm, 3.667,.3322,9.058, 3.432, 3.902
As1890,189.042 {478},Y_2243,ppm, .0075,.0017,22.39, .0063, .0087
B_2496,249.678 {135},Y_3710,ppm, .0095,.0059,62.09, .0053, .0136
Ba4554,455.403 { 74},Y_3710,ppm, .2164,.0193,8.918, .2028, .2301
Be3130,313.042 {108},Y_3710,ppm, .0004,.0001,19.82, .0004, .0005
Ca3158,315.887 {107},In2306,ppm, 868.4,67.84,7.812, 820.4, 916.3
Cd2288,228.802 {447},Y_2243,ppm, .0006,.0000,5.964, .0006, .0005
Co2286,228.616 {447},In2306,ppm, .0028,.0001,2.897, .0028, .0027
Cr2677,267.716 {126},Y_3600,ppm, .0149,.0003,2.117, .0147, .0151
Cu3247,324.754 {104},Y_3600,ppm, .0207,.0004,1.711, .0205, .0210
Fe2404,240.488 {140},In2306,ppm, 5.552,.5135,9.250, 5.189, 5.915
K_7664,766.490 { 44},Y_3710,ppm, 1.696,.1223,7.209, 1.610, 1.782
Li6707,670.784 { 50},Y_3710,ppm, .0152,.0015,9.532, .0142, .0163
Mg2790,279.079 {121},Y_3710,ppm, 4.223,.3488,8.260, 3.976, 4.469
Mn2576,257.610 {131},Y_3600,ppm, .2249,.0010,.4300, .2242, .2256
Mo2020,202.030 {467},Y_2243,ppm, .0213,.0002,.9677, .0215, .0212
Na5895,589.592 { 57},Y_3710,ppm, .1990,.0177,8.910, .1865, .2116
Ni2316,231.604 {445},In2306,ppm, .0119,.0001,1.038, .0118, .0120
P_1782,178.284 {489},In2306,ppm, 1.249,.0114,.9138, 1.241, 1.257
Pb2203,220.353 {453},In2306,ppm, .0368,.0001,.2962, .0367, .0369
S_1820,182.034 {485},Y_2243,ppm, 3.293,.0309,.9388, 3.271, 3.315
Sb2068,206.833 {463},Y_2243,ppm, .0049,.0001,1.678, .0048, .0050
Se1960,196.090 {472},Y_2243,ppm, -.0002,.0014,659.0, -.0012, .0008
Si2516,251.611 {134},Y_3710,ppm, .6893,.0746,10.82, .6365, .7420
Sn1899,189.989 {477},In2306,ppm, .0029,.0000,.8522, .0029, .0029
Sr4215,421.552 { 80},Y_3710,ppm, .3416,.0278,8.139, .3219, .3612
Ti3349,334.904 {101},Y_3600,ppm, .0510,.0001,.1649, .0510, .0511
Tl1908,190.856 {477},In2306,ppm, .0077,.0007,8.667, .0082, .0072
U_3670,367.007 { 92},Y_3600,ppm, .1620,.1876,115.8, .2947, .0294
V_2924,292.402 {115},Y_3600,ppm, .0401,.0003,.8154, .0398, .0403
W_2397,239.709 {140},Y_2243,ppm, -.0242,.0155,63.98, -.0132, -.0351
Zn2062,206.200 {463},In2306,ppm, .2266,.0020,.8687, .2252, .2280

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 222.96,16.902,7.5807,234.91,211.01
In2306,230.606 {446},Cts/S, 12106.,95.050,.78513,12174.,12039.
Y_2243,224.306 {450},Cts/S, 20514.,166.73,.81278,20632.,20396.
Y_3600,360.073 { 94},Cts/S, 178030.,21.735,.01221,178040.,178010.
Y_3710,371.030 { 91},Cts/S, 11964.,831.86,6.9529,12552.,11376.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .5766,.0012,.2038, .5774, .5758
Al3082,308.215 {109},In2306,ppm, 20.25,.0002,.0012, 20.25, 20.25
As1890,189.042 {478},Y_2243,ppm, 1.001,.0036,.3616, 1.003, .9983
B_2496,249.678 {135},Y_3710,ppm, .9858,.0115,1.172, .9776, .9939
Ba4554,455.403 { 74},Y_3710,ppm, 1.027,.0025,.2474, 1.025, 1.029
Be3130,313.042 {108},Y_3710,ppm, 1.006,.0055,.5476, 1.002, 1.010
Ca3158,315.887 {107},In2306,ppm, 20.02,.1765,.8814, 19.89, 20.14
Cd2288,228.802 {447},Y_2243,ppm, 1.012,.0027,.2717, 1.014, 1.010
Co2286,228.616 {447},In2306,ppm, .9913,.0048,.4853, .9947, .9879
Cr2677,267.716 {126},Y_3600,ppm, .9871,.0016,.1639, .9860, .9883
Cu3247,324.754 {104},Y_3600,ppm, 1.008,.0038,.3752, 1.005, 1.010
Fe2404,240.488 {140},In2306,ppm, 20.06,.1282,.6391, 19.97, 20.15
K_7664,766.490 { 44},Y_3710,ppm, 19.79,.1356,.6851, 19.69, 19.88
Li6707,670.784 { 50},Y_3710,ppm, 1.011,.0027,.2705, 1.009, 1.013
Mg2790,279.079 {121},Y_3710,ppm, 19.50,.2615,1.341, 19.32, 19.69
Mn2576,257.610 {131},Y_3600,ppm, 1.013,.0005,.0542, 1.013, 1.014
Mo2020,202.030 {467},Y_2243,ppm, 1.040,.0038,.3645, 1.043, 1.037
Na5895,589.592 { 57},Y_3710,ppm, 19.92,.0801,.4022, 19.86, 19.98
Ni2316,231.604 {445},In2306,ppm, 1.012,.0030,.3013, 1.014, 1.010
P_1782,178.284 {489},In2306,ppm, 10.29,.0281,.2727, 10.31, 10.27
Pb2203,220.353 {453},In2306,ppm, 1.005,.0031,.3046, 1.007, 1.003
S_1820,182.034 {485},Y_2243,ppm, 10.49,.0367,.3499, 10.52, 10.46
Sb2068,206.833 {463},Y_2243,ppm, 2.182,.0029,.1340, 2.184, 2.180
Se1960,196.090 {472},Y_2243,ppm, 1.013,.0056,.5489, 1.009, 1.017
Si2516,251.611 {134},Y_3710,ppm, 9.681,.1222,1.262, 9.594, 9.767
Sn1899,189.989 {477},In2306,ppm, 1.006,.0023,.2277, 1.004, 1.008
Sr4215,421.552 { 80},Y_3710,ppm, 1.028,.0035,.3436, 1.026, 1.031
Ti3349,334.904 {101},Y_3600,ppm, 1.007,.0001,.0136, 1.007, 1.007
Tl1908,190.856 {477},In2306,ppm, 1.029,.0031,.3042, 1.027, 1.031
U_3670,367.007 { 92},Y_3600,ppm, .9903,.0796,8.033, 1.047, .9340
V_2924,292.402 {115},Y_3600,ppm, 1.008,.0015,.1524, 1.007, 1.009
W_2397,239.709 {140},Y_2243,ppm, .9565,.0658,6.881, .9100, 1.003
Zn2062,206.200 {463},In2306,ppm, .9889,.0026,.2634, .9908, .9871

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 243.95,1.3678,.56070,244.92,242.98
In2306,230.606 {446},Cts/S, 14358.,88.850,.61882,14295.,14421.
Y_2243,224.306 {450},Cts/S, 23300.,144.93,.62202,23197.,23402.
Y_3600,360.073 { 94},Cts/S, 194820.,295.18,.15152,195030.,194610.
Y_3710,371.030 { 91},Cts/S, 12926.,96.198,.74422,12994.,12858.

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Ag3280,328.068 {103},Y_3600,ppm, .0117,.0008,7.093, .0123, .0111
Al3082,308.215 {109},In2306,ppm, .2109,.0131,6.220, .2017, .2202
As1890,189.042 {478},Y_2243,ppm, .0225,.0016,7.172, .0237, .0214
B_2496,249.678 {135},Y_3710,ppm, .2064,.0111,5.355, .1985, .2142
Ba4554,455.403 { 74},Y_3710,ppm, .0223,.0002,.8886, .0224, .0221
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Be3130,313.042 {108},Y_3710,ppm, .0112,.0002,1.537, .0113, .0111
Ca3158,315.887 {107},In2306,ppm, 1.033,.0060,.5803, 1.038, 1.029
Cd2288,228.802 {447},Y_2243,ppm, .0112,.0000,.2561, .0112, .0112
Co2286,228.616 {447},In2306,ppm, .0104,.0000,.0888, .0104, .0104
Cr2677,267.716 {126},Y_3600,ppm, .0114,.0000,.0262, .0114, .0114
Cu3247,324.754 {104},Y_3600,ppm, .0121,.0001,1.140, .0122, .0120
Fe2404,240.488 {140},In2306,ppm, .2191,.0052,2.362, .2227, .2154
K_7664,766.490 { 44},Y_3710,ppm, 1.026,.0208,2.029, 1.041, 1.012
Li6707,670.784 { 50},Y_3710,ppm, .0109,.0008,7.076, .0103, .0114
Mg2790,279.079 {121},Y_3710,ppm, 1.008,.0300,2.972, .9870, 1.029
Mn2576,257.610 {131},Y_3600,ppm, .0114,.0001,.5264, .0115, .0114
Mo2020,202.030 {467},Y_2243,ppm, .0232,.0004,1.668, .0234, .0229
Na5895,589.592 { 57},Y_3710,ppm, 1.063,.0102,.9635, 1.070, 1.055
Ni2316,231.604 {445},In2306,ppm, .0110,.0002,1.408, .0109, .0111
P_1782,178.284 {489},In2306,ppm, .9812,.0021,.2106, .9798, .9827
Pb2203,220.353 {453},In2306,ppm, .0125,.0003,2.806, .0122, .0127
S_1820,182.034 {485},Y_2243,ppm, .5179,.0026,.5107, .5197, .5160
Sb2068,206.833 {463},Y_2243,ppm, .0562,.0001,.1501, .0563, .0561
Se1960,196.090 {472},Y_2243,ppm, .0220,.0000,.2141, .0220, .0220
Si2516,251.611 {134},Y_3710,ppm, .1956,.0105,5.390, .2030, .1881
Sn1899,189.989 {477},In2306,ppm, .0218,.0002,.9623, .0216, .0219
Sr4215,421.552 { 80},Y_3710,ppm, .0114,.0001,.8169, .0115, .0113
Ti3349,334.904 {101},Y_3600,ppm, .0115,.0002,1.411, .0116, .0114
Tl1908,190.856 {477},In2306,ppm, .0357,.0002,.6382, .0356, .0359
U_3670,367.007 { 92},Y_3600,ppm, .0896,.0412,45.95, .0605, .1187
V_2924,292.402 {115},Y_3600,ppm, .0109,.0000,.1148, .0109, .0109
W_2397,239.709 {140},Y_2243,ppm, .0692,.0078,11.21, .0747, .0637
Zn2062,206.200 {463},In2306,ppm, .0184,.0000,.0744, .0184, .0184

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 251.89,2.0563,.81636,250.43,253.34
In2306,230.606 {446},Cts/S, 15874.,26.477,.16680,15892.,15855.
Y_2243,224.306 {450},Cts/S, 23967.,31.696,.13225,23989.,23945.
Y_3600,360.073 { 94},Cts/S, 205110.,665.20,.32432,204640.,205580.
Y_3710,371.030 { 91},Cts/S, 13143.,26.413,.20096,13125.,13162.

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Al3082,308.215 {109},In2306,ppm, .0008,.0012,155.7, .0017, -.0001
As1890,189.042 {478},Y_2243,ppm, -.0004,.0001,25.53, -.0004, -.0005
B_2496,249.678 {135},Y_3710,ppm, -.0041,.0057,137.7, -.0082, -.0001
Ba4554,455.403 { 74},Y_3710,ppm, -.0006,.0003,47.99, -.0008, -.0004
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,25.66, -.0001, -.0001
Ca3158,315.887 {107},In2306,ppm, -.0169,.0002,1.317, -.0167, -.0171
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0001,170.4, .0001, -.0000
Co2286,228.616 {447},In2306,ppm, -.0002,.0001,67.93, -.0003, -.0001
Cr2677,267.716 {126},Y_3600,ppm, .0002,.0000,.8961, .0002, .0002
Cu3247,324.754 {104},Y_3600,ppm, .0009,.0001,8.654, .0009, .0010
Fe2404,240.488 {140},In2306,ppm, .0062,.0021,34.65, .0077, .0047
K_7664,766.490 { 44},Y_3710,ppm, -.0343,.0245,71.61, -.0516, -.0169
Li6707,670.784 { 50},Y_3710,ppm, -.0005,.0012,239.7, .0004, -.0014
Mg2790,279.079 {121},Y_3710,ppm, .0102,.0394,387.3, .0381, -.0177
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Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,24.68, -.0000, -.0000
Mo2020,202.030 {467},Y_2243,ppm, -.0002,.0000,1.602, -.0002, -.0002
Na5895,589.592 { 57},Y_3710,ppm, -.0093,.0056,60.17, -.0133, -.0054
Ni2316,231.604 {445},In2306,ppm, .0005,.0002,41.63, .0003, .0006
P_1782,178.284 {489},In2306,ppm, -.0007,.0001,21.54, -.0008, -.0006
Pb2203,220.353 {453},In2306,ppm, .0004,.0002,59.46, .0006, .0002
S_1820,182.034 {485},Y_2243,ppm, .0071,.0057,80.19, .0111, .0031
Sb2068,206.833 {463},Y_2243,ppm, .0012,.0007,54.34, .0017, .0008
Se1960,196.090 {472},Y_2243,ppm, -.0008,.0003,38.58, -.0010, -.0006
Si2516,251.611 {134},Y_3710,ppm, -.0047,.0053,112.9, -.0085, -.0010
Sn1899,189.989 {477},In2306,ppm, .0001,.0001,91.15, .0000, .0002
Sr4215,421.552 { 80},Y_3710,ppm, -.0000,.0000,51.78, -.0000, -.0001
Ti3349,334.904 {101},Y_3600,ppm, .0000,.0004,6517., .0003, -.0003
Tl1908,190.856 {477},In2306,ppm, .0084,.0014,16.81, .0074, .0094
U_3670,367.007 { 92},Y_3600,ppm, -.1033,.0555,53.74, -.1426, -.0640
V_2924,292.402 {115},Y_3600,ppm, .0002,.0003,177.0, .0004, -.0000
W_2397,239.709 {140},Y_2243,ppm, -.0014,.0128,911.2, -.0104, .0076
Zn2062,206.200 {463},In2306,ppm, -.0012,.0000,.6144, -.0012, -.0011

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 251.53,.18768,.07461,251.40,251.66
In2306,230.606 {446},Cts/S, 16070.,41.760,.25987,16040.,16099.
Y_2243,224.306 {450},Cts/S, 23880.,30.627,.12825,23858.,23902.
Y_3600,360.073 { 94},Cts/S, 204910.,559.90,.27324,205310.,204510.
Y_3710,371.030 { 91},Cts/S, 13028.,33.721,.25883,13052.,13004.

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Al3082,308.215 {109},In2306,ppm, .4567,.0289,6.318, .4363, .4771
As1890,189.042 {478},Y_2243,ppm, .0031,.0011,36.20, .0023, .0039
B_2496,249.678 {135},Y_3710,ppm, .0169,.0073,42.98, .0220, .0118
Ba4554,455.403 { 74},Y_3710,ppm, .0083,.0001,.6581, .0083, .0084
Be3130,313.042 {108},Y_3710,ppm, -.0002,.0001,44.25, -.0001, -.0002
Ca3158,315.887 {107},In2306,ppm, 1.768,.0351,1.984, 1.743, 1.792
Cd2288,228.802 {447},Y_2243,ppm, .0009,.0000,1.543, .0009, .0009
Co2286,228.616 {447},In2306,ppm, -.0003,.0000,15.27, -.0003, -.0002
Cr2677,267.716 {126},Y_3600,ppm, .0033,.0001,2.722, .0032, .0033
Cu3247,324.754 {104},Y_3600,ppm, .0082,.0001,.8747, .0083, .0082
Fe2404,240.488 {140},In2306,ppm, .7294,.0108,1.480, .7218, .7371
K_7664,766.490 { 44},Y_3710,ppm, .1913,.0074,3.844, .1965, .1861
Li6707,670.784 { 50},Y_3710,ppm, -.0000,.0001,852.8, -.0001, .0001
Mg2790,279.079 {121},Y_3710,ppm, .2266,.0188,8.310, .2133, .2400
Mn2576,257.610 {131},Y_3600,ppm, .0176,.0000,.0078, .0176, .0176
Mo2020,202.030 {467},Y_2243,ppm, .9042,.0003,.0291, .9040, .9044
Na5895,589.592 { 57},Y_3710,ppm, 4.647,.0129,.2785, 4.656, 4.638
Ni2316,231.604 {445},In2306,ppm, .0030,.0002,8.028, .0028, .0032
P_1782,178.284 {489},In2306,ppm, .0811,.0028,3.509, .0791, .0832
Pb2203,220.353 {453},In2306,ppm, .0042,.0002,4.298, .0043, .0040
S_1820,182.034 {485},Y_2243,ppm, .2589,.0011,.4378, .2597, .2581
Sb2068,206.833 {463},Y_2243,ppm, -.0003,.0003,91.36, -.0001, -.0005
Se1960,196.090 {472},Y_2243,ppm, .0013,.0007,50.90, .0008, .0018
Si2516,251.611 {134},Y_3710,ppm, 2.808,.0099,.3510, 2.801, 2.815
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Sn1899,189.989 {477},In2306,ppm, -.0003,.0005,162.4, .0000, -.0007
Sr4215,421.552 { 80},Y_3710,ppm, .0058,.0000,.6546, .0058, .0058
Ti3349,334.904 {101},Y_3600,ppm, .5721,.0001,.0192, .5720, .5721
Tl1908,190.856 {477},In2306,ppm, .0101,.0002,1.572, .0100, .0102
U_3670,367.007 { 92},Y_3600,ppm, .0449,.0345,76.86, .0205, .0693
V_2924,292.402 {115},Y_3600,ppm, -.0037,.0003,7.392, -.0035, -.0039
W_2397,239.709 {140},Y_2243,ppm, .0216,.0583,269.6, .0629, -.0196
Zn2062,206.200 {463},In2306,ppm, .7483,.0047,.6267, .7449, .7516

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 257.43,3.7341,1.4506,260.07,254.79
In2306,230.606 {446},Cts/S, 15726.,2.2757,.01447,15724.,15728.
Y_2243,224.306 {450},Cts/S, 23772.,54.509,.22930,23733.,23810.
Y_3600,360.073 { 94},Cts/S, 204370.,432.42,.21158,204680.,204070.
Y_3710,371.030 { 91},Cts/S, 13429.,38.861,.28938,13456.,13401.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0003,.0004,161.2, -.0000, .0006
Al3082,308.215 {109},In2306,ppm, 1.823,.0332,1.822, 1.799, 1.846
As1890,189.042 {478},Y_2243,ppm, .0021,.0006,30.13, .0017, .0025
B_2496,249.678 {135},Y_3710,ppm, .0231,.0084,36.40, .0172, .0291
Ba4554,455.403 { 74},Y_3710,ppm, .0626,.0001,.2110, .0625, .0627
Be3130,313.042 {108},Y_3710,ppm, .0000,.0001,180.0, .0001, -.0000
Ca3158,315.887 {107},In2306,ppm, 18.03,.0007,.0038, 18.03, 18.03
Cd2288,228.802 {447},Y_2243,ppm, .0006,.0000,2.381, .0006, .0007
Co2286,228.616 {447},In2306,ppm, .0001,.0002,114.1, .0002, .0000
Cr2677,267.716 {126},Y_3600,ppm, .0026,.0003,10.37, .0027, .0024
Cu3247,324.754 {104},Y_3600,ppm, .0061,.0000,.3059, .0061, .0061
Fe2404,240.488 {140},In2306,ppm, 2.112,.0035,.1674, 2.110, 2.115
K_7664,766.490 { 44},Y_3710,ppm, 1.280,.0005,.0388, 1.279, 1.280
Li6707,670.784 { 50},Y_3710,ppm, .0024,.0003,10.60, .0022, .0026
Mg2790,279.079 {121},Y_3710,ppm, 1.393,.0146,1.047, 1.404, 1.383
Mn2576,257.610 {131},Y_3600,ppm, .2525,.0007,.2957, .2531, .2520
Mo2020,202.030 {467},Y_2243,ppm, .0274,.0005,1.658, .0271, .0277
Na5895,589.592 { 57},Y_3710,ppm, 8.797,.0061,.0699, 8.792, 8.801
Ni2316,231.604 {445},In2306,ppm, .0021,.0001,3.085, .0021, .0022
P_1782,178.284 {489},In2306,ppm, .0688,.0003,.3933, .0686, .0690
Pb2203,220.353 {453},In2306,ppm, .0033,.0008,25.22, .0039, .0027
S_1820,182.034 {485},Y_2243,ppm, 1.946,.0056,.2859, 1.942, 1.950
Sb2068,206.833 {463},Y_2243,ppm, .0015,.0005,32.43, .0019, .0012
Se1960,196.090 {472},Y_2243,ppm, .0009,.0008,95.80, .0014, .0003
Si2516,251.611 {134},Y_3710,ppm, 4.886,.0026,.0523, 4.884, 4.887
Sn1899,189.989 {477},In2306,ppm, -.0001,.0004,421.4, .0002, -.0004
Sr4215,421.552 { 80},Y_3710,ppm, .0615,.0002,.3831, .0613, .0617
Ti3349,334.904 {101},Y_3600,ppm, .0101,.0000,.0465, .0101, .0101
Tl1908,190.856 {477},In2306,ppm, .0027,.0002,6.996, .0028, .0026
U_3670,367.007 { 92},Y_3600,ppm, .0433,.0978,226.0, .1124, -.0259
V_2924,292.402 {115},Y_3600,ppm, .0031,.0002,5.054, .0030, .0032
W_2397,239.709 {140},Y_2243,ppm, .0179,.0013,7.327, .0170, .0188
Zn2062,206.200 {463},In2306,ppm, .7499,.0060,.8046, .7456, .7541

[Internal Standards]
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Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 250.26,1.5620,.62415,249.15,251.36
In2306,230.606 {446},Cts/S, 15274.,56.097,.36727,15235.,15314.
Y_2243,224.306 {450},Cts/S, 23515.,157.21,.66852,23404.,23627.
Y_3600,360.073 { 94},Cts/S, 201460.,300.33,.14907,201250.,201680.
Y_3710,371.030 { 91},Cts/S, 13191.,41.430,.31407,13162.,13221.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .3038,.0007,.2231, .3033, .3043
Al3082,308.215 {109},In2306,ppm, 10.51,.0099,.0940, 10.50, 10.52
As1890,189.042 {478},Y_2243,ppm, 1.042,.0029,.2814, 1.044, 1.040
B_2496,249.678 {135},Y_3710,ppm, .4932,.0056,1.128, .4972, .4893
Ba4554,455.403 { 74},Y_3710,ppm, 1.030,.0012,.1187, 1.029, 1.031
Be3130,313.042 {108},Y_3710,ppm, 1.012,.0004,.0404, 1.012, 1.012
Ca3158,315.887 {107},In2306,ppm, 25.02,.0086,.0342, 25.02, 25.01
Cd2288,228.802 {447},Y_2243,ppm, 1.040,.0013,.1260, 1.039, 1.041
Co2286,228.616 {447},In2306,ppm, 1.004,.0006,.0632, 1.005, 1.004
Cr2677,267.716 {126},Y_3600,ppm, .9569,.0021,.2231, .9584, .9554
Cu3247,324.754 {104},Y_3600,ppm, .9836,.0010,.1006, .9829, .9843
Fe2404,240.488 {140},In2306,ppm, 10.46,.0147,.1400, 10.45, 10.47
K_7664,766.490 { 44},Y_3710,ppm, 10.12,.0819,.8090, 10.18, 10.06
Li6707,670.784 { 50},Y_3710,ppm, .9827,.0030,.3010, .9848, .9806
Mg2790,279.079 {121},Y_3710,ppm, 9.957,.0003,.0033, 9.957, 9.957
Mn2576,257.610 {131},Y_3600,ppm, .9971,.0003,.0303, .9973, .9969
Mo2020,202.030 {467},Y_2243,ppm, 1.014,.0000,.0049, 1.014, 1.014
Na5895,589.592 { 57},Y_3710,ppm, 143.5,.0405,.0283, 143.5, 143.4
Ni2316,231.604 {445},In2306,ppm, 1.029,.0017,.1694, 1.031, 1.028
P_1782,178.284 {489},In2306,ppm, 5.845,.0120,.2045, 5.854, 5.837
Pb2203,220.353 {453},In2306,ppm, 1.028,.0003,.0264, 1.029, 1.028
S_1820,182.034 {485},Y_2243,ppm, 5.962,.0184,.3079, 5.949, 5.975
Sb2068,206.833 {463},Y_2243,ppm, 1.686,.0048,.2865, 1.683, 1.689
Se1960,196.090 {472},Y_2243,ppm, 1.102,.0007,.0634, 1.101, 1.102
Si2516,251.611 {134},Y_3710,ppm, 9.101,.0086,.0941, 9.095, 9.107
Sn1899,189.989 {477},In2306,ppm, 1.020,.0028,.2792, 1.022, 1.018
Sr4215,421.552 { 80},Y_3710,ppm, 1.008,.0001,.0120, 1.008, 1.008
Ti3349,334.904 {101},Y_3600,ppm, .9871,.0005,.0463, .9868, .9875
Tl1908,190.856 {477},In2306,ppm, .8160,.0007,.0877, .8155, .8165
U_3670,367.007 { 92},Y_3600,ppm, .4330,.0327,7.541, .4099, .4561
V_2924,292.402 {115},Y_3600,ppm, .9844,.0013,.1293, .9853, .9835
W_2397,239.709 {140},Y_2243,ppm, .3885,.0196,5.046, .3746, .4024
Zn2062,206.200 {463},In2306,ppm, 2.669,.0036,.1346, 2.672, 2.667

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 240.78,.72353,.30049,241.29,240.27
In2306,230.606 {446},Cts/S, 13589.,4.4494,.03274,13586.,13592.
Y_2243,224.306 {450},Cts/S, 22739.,22.844,.10046,22755.,22723.
Y_3600,360.073 { 94},Cts/S, 191140.,71.962,.03765,191190.,191090.
Y_3710,371.030 { 91},Cts/S, 12957.,5.5452,.04280,12953.,12961.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0007,.0000,4.099, .0007, .0007
Al3082,308.215 {109},In2306,ppm, 23.66,.0176,.0744, 23.67, 23.65
As1890,189.042 {478},Y_2243,ppm, .0049,.0007,13.75, .0053, .0044
B_2496,249.678 {135},Y_3710,ppm, .0478,.0024,4.946, .0494, .0461
Ba4554,455.403 { 74},Y_3710,ppm, .2965,.0017,.5774, .2977, .2953
Be3130,313.042 {108},Y_3710,ppm, .0002,.0000,2.030, .0002, .0002
Ca3158,315.887 {107},In2306,ppm, .4162,.0018,.4374, .4175, .4150
Cd2288,228.802 {447},Y_2243,ppm, -.0002,.0000,7.269, -.0002, -.0002
Co2286,228.616 {447},In2306,ppm, .0004,.0003,59.58, .0003, .0006
Cr2677,267.716 {126},Y_3600,ppm, .0003,.0000,8.296, .0003, .0003
Cu3247,324.754 {104},Y_3600,ppm, .0036,.0003,7.199, .0035, .0038
Fe2404,240.488 {140},In2306,ppm, .1168,.0008,.7128, .1162, .1174
K_7664,766.490 { 44},Y_3710,ppm, .1961,.0175,8.935, .1837, .2085
Li6707,670.784 { 50},Y_3710,ppm, .0045,.0002,4.374, .0046, .0044
Mg2790,279.079 {121},Y_3710,ppm, .0172,.0420,244.6, .0468, -.0125
Mn2576,257.610 {131},Y_3600,ppm, .0059,.0001,.9213, .0060, .0059
Mo2020,202.030 {467},Y_2243,ppm, .0008,.0001,15.98, .0007, .0009
Na5895,589.592 { 57},Y_3710,ppm, 132.0,4.376,3.315, 128.9, 135.1
Ni2316,231.604 {445},In2306,ppm, .0031,.0003,9.216, .0029, .0034
P_1782,178.284 {489},In2306,ppm, .0024,.0026,107.3, .0043, .0006
Pb2203,220.353 {453},In2306,ppm, .0021,.0013,60.87, .0029, .0012
S_1820,182.034 {485},Y_2243,ppm, .1787,.0039,2.160, .1815, .1760
Sb2068,206.833 {463},Y_2243,ppm, -.0011,.0001,9.285, -.0012, -.0010
Se1960,196.090 {472},Y_2243,ppm, .0031,.0031,99.23, .0009, .0053
Si2516,251.611 {134},Y_3710,ppm, .0272,.0045,16.37, .0304, .0241
Sn1899,189.989 {477},In2306,ppm, .0002,.0005,209.9, -.0001, .0006
Sr4215,421.552 { 80},Y_3710,ppm, .0054,.0000,.3037, .0054, .0055
Ti3349,334.904 {101},Y_3600,ppm, .0004,.0004,92.81, .0001, .0006
Tl1908,190.856 {477},In2306,ppm, .0263,.0003,1.220, .0260, .0265
U_3670,367.007 { 92},Y_3600,ppm, -.0148,.0630,426.5, -.0593, .0298
V_2924,292.402 {115},Y_3600,ppm, -.0001,.0001,85.59, -.0001, -.0002
W_2397,239.709 {140},Y_2243,ppm, .0184,.0077,41.63, .0238, .0130
Zn2062,206.200 {463},In2306,ppm, .0994,.0007,.7267, .0999, .0989

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 242.34,.20180,.08327,242.20,242.48
In2306,230.606 {446},Cts/S, 13902.,8.0188,.05768,13908.,13897.
Y_2243,224.306 {450},Cts/S, 23059.,58.421,.25336,23100.,23018.
Y_3600,360.073 { 94},Cts/S, 192280.,625.66,.32540,191830.,192720.
Y_3710,371.030 { 91},Cts/S, 12949.,89.995,.69497,13013.,12886.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .3057,.0003,.0828, .3056, .3059
Al3082,308.215 {109},In2306,ppm, 37.18,.1966,.5288, 37.05, 37.32
As1890,189.042 {478},Y_2243,ppm, 1.056,.0021,.2015, 1.055, 1.058
B_2496,249.678 {135},Y_3710,ppm, .5446,.0072,1.328, .5497, .5395
Ba4554,455.403 { 74},Y_3710,ppm, 1.318,.0001,.0053, 1.318, 1.318
Be3130,313.042 {108},Y_3710,ppm, 1.025,.0001,.0062, 1.025, 1.025
Ca3158,315.887 {107},In2306,ppm, 10.78,.1077,.9987, 10.71, 10.86
Cd2288,228.802 {447},Y_2243,ppm, 1.051,.0018,.1690, 1.053, 1.050
Co2286,228.616 {447},In2306,ppm, 1.021,.0010,.0998, 1.020, 1.021
Cr2677,267.716 {126},Y_3600,ppm, .9713,.0050,.5170, .9748, .9677
Cu3247,324.754 {104},Y_3600,ppm, 1.001,.0044,.4379, 1.004, .9977
Fe2404,240.488 {140},In2306,ppm, 10.52,.0837,.7962, 10.46, 10.57
K_7664,766.490 { 44},Y_3710,ppm, 10.37,.0480,.4631, 10.40, 10.34
Li6707,670.784 { 50},Y_3710,ppm, .9994,.0009,.0948, 1.000, .9987
Mg2790,279.079 {121},Y_3710,ppm, 9.993,.0559,.5596, 9.954, 10.03
Mn2576,257.610 {131},Y_3600,ppm, 1.010,.0019,.1847, 1.011, 1.009
Mo2020,202.030 {467},Y_2243,ppm, 1.024,.0014,.1375, 1.023, 1.025
Na5895,589.592 { 57},Y_3710,ppm, 142.4,.5268,.3698, 142.8, 142.1
Ni2316,231.604 {445},In2306,ppm, 1.050,.0011,.1061, 1.049, 1.051
P_1782,178.284 {489},In2306,ppm, 5.916,.0188,.3175, 5.903, 5.930
Pb2203,220.353 {453},In2306,ppm, 1.037,.0019,.1801, 1.036, 1.039
S_1820,182.034 {485},Y_2243,ppm, 6.088,.0132,.2160, 6.079, 6.098
Sb2068,206.833 {463},Y_2243,ppm, 1.694,.0004,.0235, 1.694, 1.695
Se1960,196.090 {472},Y_2243,ppm, 1.112,.0007,.0654, 1.113, 1.112
Si2516,251.611 {134},Y_3710,ppm, 8.987,.0034,.0374, 8.989, 8.984
Sn1899,189.989 {477},In2306,ppm, 1.038,.0000,.0036, 1.038, 1.038
Sr4215,421.552 { 80},Y_3710,ppm, 1.028,.0006,.0598, 1.028, 1.027
Ti3349,334.904 {101},Y_3600,ppm, .9953,.0025,.2488, .9970, .9935
Tl1908,190.856 {477},In2306,ppm, .8570,.0044,.5110, .8539, .8601
U_3670,367.007 { 92},Y_3600,ppm, .5266,.0618,11.74, .5703, .4829
V_2924,292.402 {115},Y_3600,ppm, .9952,.0020,.2038, .9966, .9938
W_2397,239.709 {140},Y_2243,ppm, .4423,.0426,9.634, .4724, .4121
Zn2062,206.200 {463},In2306,ppm, .6395,.0007,.1163, .6390, .6400

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 242.07,1.0710,.44244,242.83,241.32
In2306,230.606 {446},Cts/S, 13510.,39.276,.29073,13482.,13537.
Y_2243,224.306 {450},Cts/S, 22743.,86.865,.38193,22682.,22805.
Y_3600,360.073 { 94},Cts/S, 190780.,543.80,.28504,190390.,191160.
Y_3710,371.030 { 91},Cts/S, 13042.,47.668,.36549,13008.,13076.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0008,.0001,12.03, .0008, .0007
Al3082,308.215 {109},In2306,ppm, .0067,.0220,329.3, -.0089, .0223
As1890,189.042 {478},Y_2243,ppm, .0020,.0003,14.16, .0022, .0018
B_2496,249.678 {135},Y_3710,ppm, .0090,.0002,1.829, .0089, .0091
Ba4554,455.403 { 74},Y_3710,ppm, .0251,.0001,.3315, .0250, .0251
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,48.29, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, 2.297,.0744,3.238, 2.244, 2.350
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Cd2288,228.802 {447},Y_2243,ppm, .0003,.0003,111.3, .0001, .0005
Co2286,228.616 {447},In2306,ppm, .0053,.0001,2.517, .0052, .0054
Cr2677,267.716 {126},Y_3600,ppm, .0002,.0001,69.50, .0003, .0001
Cu3247,324.754 {104},Y_3600,ppm, .0154,.0003,1.875, .0152, .0156
Fe2404,240.488 {140},In2306,ppm, .0204,.0022,10.98, .0220, .0188
K_7664,766.490 { 44},Y_3710,ppm, .1280,.0218,17.05, .1125, .1434
Li6707,670.784 { 50},Y_3710,ppm, .0005,.0006,119.0, .0010, .0001
Mg2790,279.079 {121},Y_3710,ppm, .0674,.0239,35.49, .0844, .0505
Mn2576,257.610 {131},Y_3600,ppm, 1.432,.0005,.0337, 1.432, 1.433
Mo2020,202.030 {467},Y_2243,ppm, .0012,.0004,30.83, .0009, .0014
Na5895,589.592 { 57},Y_3710,ppm, 134.8,.3815,.2831, 135.0, 134.5
Ni2316,231.604 {445},In2306,ppm, .0366,.0007,1.853, .0361, .0371
P_1782,178.284 {489},In2306,ppm, .0096,.0013,13.09, .0087, .0105
Pb2203,220.353 {453},In2306,ppm, .0004,.0002,51.35, .0005, .0002
S_1820,182.034 {485},Y_2243,ppm, .2467,.0007,.2644, .2472, .2463
Sb2068,206.833 {463},Y_2243,ppm, -.0005,.0023,491.8, -.0021, .0012
Se1960,196.090 {472},Y_2243,ppm, .0024,.0006,24.45, .0028, .0020
Si2516,251.611 {134},Y_3710,ppm, .0460,.0058,12.61, .0419, .0501
Sn1899,189.989 {477},In2306,ppm, .0010,.0004,35.75, .0008, .0013
Sr4215,421.552 { 80},Y_3710,ppm, .0049,.0001,2.499, .0050, .0048
Ti3349,334.904 {101},Y_3600,ppm, .0004,.0001,29.47, .0003, .0005
Tl1908,190.856 {477},In2306,ppm, .0365,.0011,2.918, .0372, .0357
U_3670,367.007 { 92},Y_3600,ppm, .0295,.0171,58.11, .0173, .0416
V_2924,292.402 {115},Y_3600,ppm, .0000,.0000,44.76, .0000, .0001
W_2397,239.709 {140},Y_2243,ppm, .0045,.0094,206.6, -.0021, .0112
Zn2062,206.200 {463},In2306,ppm, 64.91,.2377,.3663, 65.07, 64.74

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 245.34,3.5087,1.4302,247.82,242.86
In2306,230.606 {446},Cts/S, 13896.,8.4935,.06112,13890.,13902.
Y_2243,224.306 {450},Cts/S, 22601.,29.300,.12964,22580.,22622.
Y_3600,360.073 { 94},Cts/S, 189230.,98.704,.05216,189300.,189160.
Y_3710,371.030 { 91},Cts/S, 12883.,46.710,.36256,12916.,12850.

[Sample Header]
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Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=11/13/2019 14:40:40
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CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .3069,.0007,.2185, .3074, .3064
Al3082,308.215 {109},In2306,ppm, 10.10,.4931,4.881, 9.754, 10.45
As1890,189.042 {478},Y_2243,ppm, 1.048,.0009,.0882, 1.049, 1.047
B_2496,249.678 {135},Y_3710,ppm, .4935,.0183,3.717, .4805, .5065
Ba4554,455.403 { 74},Y_3710,ppm, .9962,.0534,5.359, .9584, 1.034
Be3130,313.042 {108},Y_3710,ppm, .9777,.0540,5.521, .9395, 1.016
Ca3158,315.887 {107},In2306,ppm, 12.13,.5816,4.794, 11.72, 12.54
Cd2288,228.802 {447},Y_2243,ppm, 1.046,.0024,.2280, 1.048, 1.045
Co2286,228.616 {447},In2306,ppm, 1.019,.0013,.1235, 1.020, 1.018
Cr2677,267.716 {126},Y_3600,ppm, .9747,.0051,.5188, .9783, .9712
Cu3247,324.754 {104},Y_3600,ppm, 1.016,.0075,.7379, 1.021, 1.011
Fe2404,240.488 {140},In2306,ppm, 9.888,.5319,5.379, 9.512, 10.26
K_7664,766.490 { 44},Y_3710,ppm, 10.00,.4945,4.943, 9.655, 10.35
Li6707,670.784 { 50},Y_3710,ppm, .9605,.0502,5.227, .9250, .9960
Mg2790,279.079 {121},Y_3710,ppm, 9.542,.5034,5.275, 9.186, 9.898
Mn2576,257.610 {131},Y_3600,ppm, 2.403,.0060,.2511, 2.407, 2.399
Mo2020,202.030 {467},Y_2243,ppm, 1.017,.0015,.1441, 1.018, 1.016
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Na5895,589.592 { 57},Y_3710,ppm, 136.3,5.612,4.119, 132.3, 140.2
Ni2316,231.604 {445},In2306,ppm, 1.074,.0024,.2261, 1.076, 1.073
P_1782,178.284 {489},In2306,ppm, 5.865,.0114,.1940, 5.873, 5.857
Pb2203,220.353 {453},In2306,ppm, 1.032,.0013,.1290, 1.033, 1.031
S_1820,182.034 {485},Y_2243,ppm, 6.133,.0438,.7139, 6.164, 6.102
Sb2068,206.833 {463},Y_2243,ppm, 1.691,.0074,.4386, 1.696, 1.685
Se1960,196.090 {472},Y_2243,ppm, 1.113,.0113,1.016, 1.121, 1.105
Si2516,251.611 {134},Y_3710,ppm, 8.608,.4251,4.938, 8.308, 8.909
Sn1899,189.989 {477},In2306,ppm, 1.029,.0074,.7168, 1.034, 1.023
Sr4215,421.552 { 80},Y_3710,ppm, .9785,.0540,5.517, .9403, 1.017
Ti3349,334.904 {101},Y_3600,ppm, .9959,.0016,.1637, .9971, .9948
Tl1908,190.856 {477},In2306,ppm, .8671,.0042,.4847, .8701, .8642
U_3670,367.007 { 92},Y_3600,ppm, .6146,.0450,7.323, .6464, .5828
V_2924,292.402 {115},Y_3600,ppm, .9981,.0035,.3509, 1.001, .9957
W_2397,239.709 {140},Y_2243,ppm, .3976,.0054,1.367, .3938, .4014
Zn2062,206.200 {463},In2306,ppm, 64.96,1.270,1.955, 65.86, 64.06

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 251.59,10.026,3.9849,258.68,244.50
In2306,230.606 {446},Cts/S, 13574.,1.7201,.01267,13572.,13575.
Y_2243,224.306 {450},Cts/S, 22749.,3.2212,.01416,22747.,22752.
Y_3600,360.073 { 94},Cts/S, 188780.,515.89,.27327,188420.,189150.
Y_3710,371.030 { 91},Cts/S, 13487.,577.50,4.2818,13896.,13079.

[Sample Header]
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Custom ID3=
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0011,.0002,14.18, .0010, .0012
Al3082,308.215 {109},In2306,ppm, .0096,.0210,220.1, -.0053, .0244
As1890,189.042 {478},Y_2243,ppm, .0033,.0001,3.812, .0032, .0034
B_2496,249.678 {135},Y_3710,ppm, .0080,.0056,69.28, .0041, .0120
Ba4554,455.403 { 74},Y_3710,ppm, .0310,.0002,.6080, .0311, .0309
Be3130,313.042 {108},Y_3710,ppm, .0000,.0002,770.0, .0002, -.0001
Ca3158,315.887 {107},In2306,ppm, .0867,.0033,3.789, .0890, .0844
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0001,113.2, -.0002, -.0000
Co2286,228.616 {447},In2306,ppm, .0004,.0001,25.29, .0004, .0003
Cr2677,267.716 {126},Y_3600,ppm, .0001,.0000,16.67, .0001, .0001
Cu3247,324.754 {104},Y_3600,ppm, .0046,.0001,1.222, .0047, .0046
Fe2404,240.488 {140},In2306,ppm, .0453,.0088,19.44, .0515, .0391
K_7664,766.490 { 44},Y_3710,ppm, .0367,.0292,79.47, .0573, .0161
Li6707,670.784 { 50},Y_3710,ppm, .0003,.0012,408.8, -.0005, .0011
Mg2790,279.079 {121},Y_3710,ppm, .0144,.0119,82.53, .0060, .0228
Mn2576,257.610 {131},Y_3600,ppm, .0106,.0000,.4477, .0106, .0106
Mo2020,202.030 {467},Y_2243,ppm, .0003,.0004,113.6, .0001, .0006
Na5895,589.592 { 57},Y_3710,ppm, 138.6,.5993,.4324, 138.2, 139.0
Ni2316,231.604 {445},In2306,ppm, .0083,.0000,.1251, .0083, .0084
P_1782,178.284 {489},In2306,ppm, .0067,.0001,.8085, .0066, .0067
Pb2203,220.353 {453},In2306,ppm, .0015,.0001,5.633, .0016, .0015
S_1820,182.034 {485},Y_2243,ppm, .0615,.0044,7.120, .0646, .0584
Sb2068,206.833 {463},Y_2243,ppm, .0000,.0020,5679., -.0014, .0015
Se1960,196.090 {472},Y_2243,ppm, .0024,.0002,9.411, .0022, .0025
Si2516,251.611 {134},Y_3710,ppm, .0101,.0008,8.229, .0107, .0095
Sn1899,189.989 {477},In2306,ppm, .0005,.0004,83.27, .0002, .0008
Sr4215,421.552 { 80},Y_3710,ppm, .0013,.0001,6.275, .0013, .0012
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Ti3349,334.904 {101},Y_3600,ppm, .0005,.0000,8.597, .0005, .0005
Tl1908,190.856 {477},In2306,ppm, .0356,.0030,8.410, .0377, .0335
U_3670,367.007 { 92},Y_3600,ppm, .0572,.0279,48.72, .0769, .0375
V_2924,292.402 {115},Y_3600,ppm, .0004,.0002,63.63, .0006, .0002
W_2397,239.709 {140},Y_2243,ppm, .0430,.0207,48.10, .0576, .0283
Zn2062,206.200 {463},In2306,ppm, .0301,.0072,23.87, .0250, .0351

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 248.59,.48411,.19474,248.94,248.25
In2306,230.606 {446},Cts/S, 13943.,47.442,.34024,13910.,13977.
Y_2243,224.306 {450},Cts/S, 22398.,104.32,.46575,22325.,22472.
Y_3600,360.073 { 94},Cts/S, 190540.,557.12,.29239,190930.,190150.
Y_3710,371.030 { 91},Cts/S, 13220.,7.7500,.05862,13226.,13215.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .3080,.0002,.0812, .3081, .3078
Al3082,308.215 {109},In2306,ppm, 12.77,.0192,.1502, 12.78, 12.76
As1890,189.042 {478},Y_2243,ppm, 1.016,.0048,.4689, 1.013, 1.019
B_2496,249.678 {135},Y_3710,ppm, .5831,.0114,1.963, .5750, .5912
Ba4554,455.403 { 74},Y_3710,ppm, 1.083,.0010,.0934, 1.083, 1.084
Be3130,313.042 {108},Y_3710,ppm, .9766,.0003,.0289, .9768, .9764
Ca3158,315.887 {107},In2306,ppm, 52.16,.1660,.3182, 52.04, 52.27
Cd2288,228.802 {447},Y_2243,ppm, 1.012,.0024,.2409, 1.010, 1.014
Co2286,228.616 {447},In2306,ppm, .9698,.0028,.2849, .9678, .9717
Cr2677,267.716 {126},Y_3600,ppm, .9415,.0001,.0091, .9415, .9414
Cu3247,324.754 {104},Y_3600,ppm, .9894,.0020,.2069, .9909, .9880
Fe2404,240.488 {140},In2306,ppm, 11.73,.0216,.1841, 11.71, 11.74
K_7664,766.490 { 44},Y_3710,ppm, 12.93,.0320,.2474, 12.91, 12.95
Li6707,670.784 { 50},Y_3710,ppm, .9903,.0031,.3179, .9881, .9925
Mg2790,279.079 {121},Y_3710,ppm, 14.75,.1064,.7217, 14.82, 14.67
Mn2576,257.610 {131},Y_3600,ppm, 1.054,.0010,.0986, 1.054, 1.055
Mo2020,202.030 {467},Y_2243,ppm, 1.047,.0008,.0737, 1.046, 1.047
Na5895,589.592 { 57},Y_3710,ppm, 102.7,.0435,.0424, 102.7, 102.8
Ni2316,231.604 {445},In2306,ppm, .9893,.0030,.3031, .9872, .9914
P_1782,178.284 {489},In2306,ppm, 5.951,.0017,.0280, 5.949, 5.952
Pb2203,220.353 {453},In2306,ppm, .9742,.0012,.1202, .9734, .9750
S_1820,182.034 {485},Y_2243,ppm, 51.63,.0993,.1924, 51.56, 51.70
Sb2068,206.833 {463},Y_2243,ppm, 1.678,.0078,.4622, 1.684, 1.673
Se1960,196.090 {472},Y_2243,ppm, 1.018,.0018,.1751, 1.020, 1.017
Si2516,251.611 {134},Y_3710,ppm, 15.45,.0399,.2584, 15.42, 15.48
Sn1899,189.989 {477},In2306,ppm, .9758,.0010,.1061, .9751, .9766
Sr4215,421.552 { 80},Y_3710,ppm, 1.281,.0013,.1041, 1.280, 1.282
Ti3349,334.904 {101},Y_3600,ppm, .9941,.0013,.1354, .9931, .9950
Tl1908,190.856 {477},In2306,ppm, 1.052,.0016,.1534, 1.053, 1.051
U_3670,367.007 { 92},Y_3600,ppm, .5479,.0251,4.586, .5657, .5302
V_2924,292.402 {115},Y_3600,ppm, .9792,.0006,.0610, .9796, .9788
W_2397,239.709 {140},Y_2243,ppm, .5046,.0090,1.785, .4982, .5109
Zn2062,206.200 {463},In2306,ppm, .7681,.0032,.4109, .7658, .7703

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 243.96,.53193,.21804,243.58,244.34
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In2306,230.606 {446},Cts/S, 13640.,34.445,.25253,13665.,13616.
Y_2243,224.306 {450},Cts/S, 22210.,33.315,.15000,22234.,22187.
Y_3600,360.073 { 94},Cts/S, 190210.,524.51,.27575,190590.,189840.
Y_3710,371.030 { 91},Cts/S, 13073.,64.619,.49429,13028.,13119.

[Sample Header]
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Custom ID3=
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Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0011,.0003,28.55, .0009, .0013
Al3082,308.215 {109},In2306,ppm, .5641,.0066,1.176, .5594, .5688
As1890,189.042 {478},Y_2243,ppm, .0013,.0009,72.77, .0006, .0019
B_2496,249.678 {135},Y_3710,ppm, .0188,.0004,2.199, .0185, .0191
Ba4554,455.403 { 74},Y_3710,ppm, .0186,.0001,.2801, .0187, .0186
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,80.20, .0001, .0002
Ca3158,315.887 {107},In2306,ppm, 9.387,.0033,.0352, 9.384, 9.389
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,98.73, .0001, .0000
Co2286,228.616 {447},In2306,ppm, .0001,.0001,60.39, .0001, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0019,.0000,2.348, .0018, .0019
Cu3247,324.754 {104},Y_3600,ppm, .0031,.0003,9.092, .0033, .0029
Fe2404,240.488 {140},In2306,ppm, .4025,.0036,.8846, .4000, .4050
K_7664,766.490 { 44},Y_3710,ppm, .6302,.0056,.8906, .6341, .6262
Li6707,670.784 { 50},Y_3710,ppm, .0025,.0004,14.22, .0028, .0023
Mg2790,279.079 {121},Y_3710,ppm, 1.157,.0224,1.932, 1.173, 1.142
Mn2576,257.610 {131},Y_3600,ppm, .0192,.0000,.1256, .0191, .0192
Mo2020,202.030 {467},Y_2243,ppm, .0058,.0000,.1890, .0058, .0058
Na5895,589.592 { 57},Y_3710,ppm, 20.25,.0440,.2171, 20.28, 20.22
Ni2316,231.604 {445},In2306,ppm, .0011,.0001,8.622, .0011, .0010
P_1782,178.284 {489},In2306,ppm, .0762,.0006,.8205, .0757, .0766
Pb2203,220.353 {453},In2306,ppm, .0025,.0010,38.78, .0032, .0018
S_1820,182.034 {485},Y_2243,ppm, 9.886,.0567,.5736, 9.846, 9.926
Sb2068,206.833 {463},Y_2243,ppm, .0034,.0012,35.80, .0025, .0042
Se1960,196.090 {472},Y_2243,ppm, .0018,.0017,98.30, .0030, .0005
Si2516,251.611 {134},Y_3710,ppm, 1.459,.0064,.4363, 1.464, 1.455
Sn1899,189.989 {477},In2306,ppm, .0006,.0002,31.81, .0008, .0005
Sr4215,421.552 { 80},Y_3710,ppm, .0627,.0001,.2248, .0628, .0626
Ti3349,334.904 {101},Y_3600,ppm, .0043,.0002,4.587, .0042, .0045
Tl1908,190.856 {477},In2306,ppm, .0229,.0009,4.074, .0235, .0222
U_3670,367.007 { 92},Y_3600,ppm, .0680,.0107,15.76, .0756, .0604
V_2924,292.402 {115},Y_3600,ppm, .0017,.0001,3.064, .0017, .0018
W_2397,239.709 {140},Y_2243,ppm, -.0222,.0313,141.5, -.0443, .0000
Zn2062,206.200 {463},In2306,ppm, .0557,.0007,1.176, .0553, .0562

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 247.52,.07157,.02891,247.47,247.57
In2306,230.606 {446},Cts/S, 15182.,11.305,.07446,15174.,15190.
Y_2243,224.306 {450},Cts/S, 23347.,41.433,.17747,23317.,23376.
Y_3600,360.073 { 94},Cts/S, 199860.,788.47,.39451,200420.,199300.
Y_3710,371.030 { 91},Cts/S, 13147.,19.408,.14762,13161.,13134.

[Sample Header]
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Username=admin
Comment=
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Custom ID3=
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .5794,.0033,.5654, .5817, .5771
Al3082,308.215 {109},In2306,ppm, 19.96,.4054,2.031, 20.25, 19.68
As1890,189.042 {478},Y_2243,ppm, 1.007,.0021,.2036, 1.006, 1.009
B_2496,249.678 {135},Y_3710,ppm, .9517,.0247,2.598, .9692, .9342
Ba4554,455.403 { 74},Y_3710,ppm, 1.003,.0119,1.187, 1.011, .9944
Be3130,313.042 {108},Y_3710,ppm, .9836,.0130,1.318, .9928, .9745
Ca3158,315.887 {107},In2306,ppm, 19.62,.4380,2.232, 19.93, 19.31
Cd2288,228.802 {447},Y_2243,ppm, 1.015,.0008,.0746, 1.016, 1.015
Co2286,228.616 {447},In2306,ppm, .9838,.0033,.3404, .9861, .9814
Cr2677,267.716 {126},Y_3600,ppm, .9718,.0056,.5777, .9758, .9678
Cu3247,324.754 {104},Y_3600,ppm, .9993,.0024,.2423, .9976, 1.001
Fe2404,240.488 {140},In2306,ppm, 19.80,.3931,1.986, 20.08, 19.52
K_7664,766.490 { 44},Y_3710,ppm, 19.27,.2868,1.488, 19.47, 19.07
Li6707,670.784 { 50},Y_3710,ppm, .9840,.0104,1.056, .9913, .9767
Mg2790,279.079 {121},Y_3710,ppm, 19.10,.3719,1.947, 19.36, 18.84
Mn2576,257.610 {131},Y_3600,ppm, 1.007,.0075,.7420, 1.012, 1.001
Mo2020,202.030 {467},Y_2243,ppm, 1.037,.0007,.0657, 1.037, 1.036
Na5895,589.592 { 57},Y_3710,ppm, 19.52,.2456,1.258, 19.70, 19.35
Ni2316,231.604 {445},In2306,ppm, 1.004,.0032,.3157, 1.006, 1.001
P_1782,178.284 {489},In2306,ppm, 10.13,.0320,.3162, 10.15, 10.10
Pb2203,220.353 {453},In2306,ppm, .9947,.0036,.3601, .9972, .9921
S_1820,182.034 {485},Y_2243,ppm, 10.45,.0169,.1619, 10.46, 10.44
Sb2068,206.833 {463},Y_2243,ppm, 2.178,.0010,.0471, 2.177, 2.179
Se1960,196.090 {472},Y_2243,ppm, 1.012,.0065,.6454, 1.008, 1.017
Si2516,251.611 {134},Y_3710,ppm, 9.403,.1075,1.143, 9.479, 9.327
Sn1899,189.989 {477},In2306,ppm, .9949,.0005,.0471, .9952, .9945
Sr4215,421.552 { 80},Y_3710,ppm, 1.003,.0125,1.245, 1.012, .9942
Ti3349,334.904 {101},Y_3600,ppm, 1.005,.0049,.4864, 1.008, 1.001
Tl1908,190.856 {477},In2306,ppm, 1.016,.0023,.2302, 1.014, 1.017
U_3670,367.007 { 92},Y_3600,ppm, .9487,.0170,1.787, .9368, .9607
V_2924,292.402 {115},Y_3600,ppm, 1.003,.0047,.4702, 1.006, .9996
W_2397,239.709 {140},Y_2243,ppm, .9967,.0482,4.840, .9626, 1.031
Zn2062,206.200 {463},In2306,ppm, .9778,.0044,.4530, .9810, .9747

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 243.80,5.8214,2.3878,239.69,247.92
In2306,230.606 {446},Cts/S, 14376.,43.794,.30464,14345.,14407.
Y_2243,224.306 {450},Cts/S, 23164.,26.985,.11649,23145.,23183.
Y_3600,360.073 { 94},Cts/S, 194950.,664.15,.34069,194480.,195420.
Y_3710,371.030 { 91},Cts/S, 13066.,211.44,1.6183,12916.,13215.

[Sample Header]
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Sample Type=Unk
Mode=CONC
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Repeats=2

[Results]
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Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0105,.0006,5.602, .0109, .0101
Al3082,308.215 {109},In2306,ppm, .1869,.0060,3.208, .1826, .1911
As1890,189.042 {478},Y_2243,ppm, .0233,.0006,2.469, .0237, .0229
B_2496,249.678 {135},Y_3710,ppm, .2065,.0103,4.994, .2137, .1992
Ba4554,455.403 { 74},Y_3710,ppm, .0219,.0001,.3211, .0220, .0219
Be3130,313.042 {108},Y_3710,ppm, .0112,.0000,.0310, .0112, .0112
Ca3158,315.887 {107},In2306,ppm, 1.004,.0172,1.713, .9914, 1.016
Cd2288,228.802 {447},Y_2243,ppm, .0114,.0000,.4055, .0114, .0114
Co2286,228.616 {447},In2306,ppm, .0105,.0001,1.033, .0104, .0106
Cr2677,267.716 {126},Y_3600,ppm, .0111,.0003,2.575, .0113, .0109
Cu3247,324.754 {104},Y_3600,ppm, .0120,.0002,1.323, .0119, .0121
Fe2404,240.488 {140},In2306,ppm, .2180,.0011,.5048, .2187, .2172
K_7664,766.490 { 44},Y_3710,ppm, 1.010,.0341,3.375, 1.034, .9861
Li6707,670.784 { 50},Y_3710,ppm, .0107,.0005,4.449, .0103, .0110
Mg2790,279.079 {121},Y_3710,ppm, 1.029,.0017,.1673, 1.028, 1.031
Mn2576,257.610 {131},Y_3600,ppm, .0112,.0000,.1199, .0113, .0112
Mo2020,202.030 {467},Y_2243,ppm, .0236,.0002,.6787, .0237, .0235
Na5895,589.592 { 57},Y_3710,ppm, 1.056,.0005,.0470, 1.056, 1.056
Ni2316,231.604 {445},In2306,ppm, .0108,.0005,4.605, .0104, .0111
P_1782,178.284 {489},In2306,ppm, .9753,.0015,.1520, .9764, .9743
Pb2203,220.353 {453},In2306,ppm, .0115,.0001,.8998, .0116, .0114
S_1820,182.034 {485},Y_2243,ppm, .5133,.0034,.6535, .5157, .5109
Sb2068,206.833 {463},Y_2243,ppm, .0589,.0013,2.174, .0598, .0580
Se1960,196.090 {472},Y_2243,ppm, .0201,.0028,14.15, .0221, .0181
Si2516,251.611 {134},Y_3710,ppm, .1841,.0133,7.202, .1935, .1747
Sn1899,189.989 {477},In2306,ppm, .0207,.0000,.1249, .0208, .0207
Sr4215,421.552 { 80},Y_3710,ppm, .0112,.0000,.0909, .0112, .0112
Ti3349,334.904 {101},Y_3600,ppm, .0115,.0001,1.055, .0116, .0114
Tl1908,190.856 {477},In2306,ppm, .0341,.0015,4.396, .0352, .0331
U_3670,367.007 { 92},Y_3600,ppm, .0430,.0288,66.88, .0227, .0634
V_2924,292.402 {115},Y_3600,ppm, .0109,.0001,.6184, .0110, .0109
W_2397,239.709 {140},Y_2243,ppm, .0325,.0452,138.9, .0644, .0006
Zn2062,206.200 {463},In2306,ppm, .0187,.0002,1.109, .0189, .0186

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 252.46,.49011,.19413,252.12,252.81
In2306,230.606 {446},Cts/S, 15904.,11.505,.07234,15896.,15912.
Y_2243,224.306 {450},Cts/S, 23884.,9.0216,.03777,23891.,23878.
Y_3600,360.073 { 94},Cts/S, 205640.,1111.0,.54023,204860.,206430.
Y_3710,371.030 { 91},Cts/S, 13264.,124.31,.93725,13176.,13351.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0003,.0003,100.1, .0005, .0001
Al3082,308.215 {109},In2306,ppm, .0041,.0134,327.7, -.0054, .0135
As1890,189.042 {478},Y_2243,ppm, .0002,.0006,293.7, .0007, -.0002
B_2496,249.678 {135},Y_3710,ppm, -.0049,.0091,187.0, -.0113, .0016
Ba4554,455.403 { 74},Y_3710,ppm, -.0004,.0002,36.12, -.0006, -.0003
Be3130,313.042 {108},Y_3710,ppm, .0000,.0001,263.8, -.0000, .0001
Ca3158,315.887 {107},In2306,ppm, -.0270,.0042,15.47, -.0240, -.0299
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,34.05, .0001, .0001
Co2286,228.616 {447},In2306,ppm, -.0001,.0001,81.86, -.0000, -.0002
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Cr2677,267.716 {126},Y_3600,ppm, .0000,.0000,26.10, .0000, .0000
Cu3247,324.754 {104},Y_3600,ppm, .0008,.0002,20.38, .0009, .0007
Fe2404,240.488 {140},In2306,ppm, .0121,.0034,27.65, .0145, .0098
K_7664,766.490 { 44},Y_3710,ppm, -.0082,.0077,94.38, -.0027, -.0136
Li6707,670.784 { 50},Y_3710,ppm, -.0001,.0002,288.0, .0001, -.0002
Mg2790,279.079 {121},Y_3710,ppm, .0015,.0051,337.9, .0051, -.0021
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,7.040, -.0000, -.0000
Mo2020,202.030 {467},Y_2243,ppm, -.0003,.0001,26.70, -.0003, -.0002
Na5895,589.592 { 57},Y_3710,ppm, -.0009,.0019,205.2, -.0023, .0004
Ni2316,231.604 {445},In2306,ppm, .0002,.0001,70.26, .0001, .0003
P_1782,178.284 {489},In2306,ppm, -.0002,.0003,130.4, -.0000, -.0005
Pb2203,220.353 {453},In2306,ppm, .0014,.0011,81.07, .0022, .0006
S_1820,182.034 {485},Y_2243,ppm, .0022,.0002,8.881, .0023, .0020
Sb2068,206.833 {463},Y_2243,ppm, .0001,.0003,270.9, -.0001, .0004
Se1960,196.090 {472},Y_2243,ppm, .0007,.0016,219.3, -.0004, .0018
Si2516,251.611 {134},Y_3710,ppm, -.0006,.0065,1062., -.0052, .0040
Sn1899,189.989 {477},In2306,ppm, .0002,.0000,6.834, .0002, .0002
Sr4215,421.552 { 80},Y_3710,ppm, -.0002,.0002,84.17, -.0003, -.0001
Ti3349,334.904 {101},Y_3600,ppm, .0001,.0005,497.1, -.0002, .0004
Tl1908,190.856 {477},In2306,ppm, .0132,.0017,13.14, .0144, .0120
U_3670,367.007 { 92},Y_3600,ppm, .0301,.0344,114.5, .0057, .0544
V_2924,292.402 {115},Y_3600,ppm, -.0002,.0002,130.9, -.0003, -.0000
W_2397,239.709 {140},Y_2243,ppm, .0343,.0197,57.46, .0482, .0203
Zn2062,206.200 {463},In2306,ppm, -.0009,.0000,2.060, -.0009, -.0009

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 249.35,2.1633,.86756,250.88,247.82
In2306,230.606 {446},Cts/S, 16108.,23.336,.14487,16125.,16092.
Y_2243,224.306 {450},Cts/S, 23825.,52.506,.22038,23863.,23788.
Y_3600,360.073 { 94},Cts/S, 203720.,650.97,.31954,203260.,204180.
Y_3710,371.030 { 91},Cts/S, 12995.,2.1906,.01686,12997.,12994.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .3135,.0001,.0194, .3135, .3136
Al3082,308.215 {109},In2306,ppm, 10.65,.0719,.6756, 10.59, 10.70
As1890,189.042 {478},Y_2243,ppm, 1.063,.0010,.0988, 1.063, 1.062
B_2496,249.678 {135},Y_3710,ppm, .5146,.0076,1.485, .5092, .5200
Ba4554,455.403 { 74},Y_3710,ppm, 1.050,.0010,.0985, 1.049, 1.050
Be3130,313.042 {108},Y_3710,ppm, 1.024,.0051,.5030, 1.020, 1.028
Ca3158,315.887 {107},In2306,ppm, 10.37,.1020,.9834, 10.30, 10.45
Cd2288,228.802 {447},Y_2243,ppm, 1.059,.0075,.7090, 1.064, 1.054
Co2286,228.616 {447},In2306,ppm, 1.004,.0041,.4103, 1.006, 1.001
Cr2677,267.716 {126},Y_3600,ppm, .9579,.0012,.1220, .9587, .9570
Cu3247,324.754 {104},Y_3600,ppm, 1.007,.0015,.1501, 1.006, 1.008
Fe2404,240.488 {140},In2306,ppm, 10.44,.1052,1.007, 10.37, 10.52
K_7664,766.490 { 44},Y_3710,ppm, 10.20,.0294,.2879, 10.18, 10.22
Li6707,670.784 { 50},Y_3710,ppm, .9990,.0047,.4747, .9956, 1.002
Mg2790,279.079 {121},Y_3710,ppm, 9.779,.0062,.0631, 9.775, 9.783
Mn2576,257.610 {131},Y_3600,ppm, 1.004,.0001,.0124, 1.004, 1.004
Mo2020,202.030 {467},Y_2243,ppm, 1.018,.0049,.4848, 1.021, 1.014
Na5895,589.592 { 57},Y_3710,ppm, 147.8,1.413,.9561, 148.8, 146.8
Ni2316,231.604 {445},In2306,ppm, 1.033,.0039,.3787, 1.036, 1.031
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P_1782,178.284 {489},In2306,ppm, 5.899,.0063,.1069, 5.903, 5.894
Pb2203,220.353 {453},In2306,ppm, 1.025,.0055,.5360, 1.029, 1.021
S_1820,182.034 {485},Y_2243,ppm, 6.036,.0290,.4809, 6.057, 6.016
Sb2068,206.833 {463},Y_2243,ppm, 1.714,.0109,.6338, 1.722, 1.707
Se1960,196.090 {472},Y_2243,ppm, 1.126,.0073,.6452, 1.132, 1.121
Si2516,251.611 {134},Y_3710,ppm, 8.926,.0682,.7638, 8.877, 8.974
Sn1899,189.989 {477},In2306,ppm, 1.014,.0063,.6260, 1.018, 1.009
Sr4215,421.552 { 80},Y_3710,ppm, 1.016,.0007,.0707, 1.016, 1.017
Ti3349,334.904 {101},Y_3600,ppm, .9915,.0023,.2277, .9899, .9931
Tl1908,190.856 {477},In2306,ppm, .8187,.0022,.2648, .8202, .8172
U_3670,367.007 { 92},Y_3600,ppm, .5396,.0493,9.133, .5048, .5745
V_2924,292.402 {115},Y_3600,ppm, .9905,.0004,.0421, .9902, .9908
W_2397,239.709 {140},Y_2243,ppm, .3670,.0395,10.75, .3949, .3391
Zn2062,206.200 {463},In2306,ppm, .5529,.0031,.5526, .5550, .5507

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 243.03,.36668,.15088,243.29,242.77
In2306,230.606 {446},Cts/S, 13623.,7.4991,.05505,13618.,13629.
Y_2243,224.306 {450},Cts/S, 22573.,32.775,.14519,22550.,22596.
Y_3600,360.073 { 94},Cts/S, 190750.,380.48,.19946,191020.,190480.
Y_3710,371.030 { 91},Cts/S, 13162.,30.276,.23003,13140.,13183.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0006,.0004,59.50, .0004, .0009
Al3082,308.215 {109},In2306,ppm, -.0075,.0058,77.90, -.0034, -.0116
As1890,189.042 {478},Y_2243,ppm, .0030,.0009,28.86, .0024, .0036
B_2496,249.678 {135},Y_3710,ppm, .0051,.0043,85.45, .0081, .0020
Ba4554,455.403 { 74},Y_3710,ppm, .0170,.0001,.3450, .0170, .0171
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,57.33, .0000, .0000
Ca3158,315.887 {107},In2306,ppm, .0621,.0001,.1026, .0622, .0621
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0000,31.33, -.0002, -.0001
Co2286,228.616 {447},In2306,ppm, .0003,.0000,6.123, .0003, .0003
Cr2677,267.716 {126},Y_3600,ppm, .0002,.0002,85.50, .0004, .0001
Cu3247,324.754 {104},Y_3600,ppm, .0016,.0002,13.29, .0014, .0017
Fe2404,240.488 {140},In2306,ppm, .0462,.0038,8.267, .0435, .0489
K_7664,766.490 { 44},Y_3710,ppm, .0837,.0119,14.21, .0921, .0752
Li6707,670.784 { 50},Y_3710,ppm, .0006,.0001,9.880, .0005, .0006
Mg2790,279.079 {121},Y_3710,ppm, -.0004,.0047,1089., -.0038, .0029
Mn2576,257.610 {131},Y_3600,ppm, .0020,.0000,1.512, .0021, .0020
Mo2020,202.030 {467},Y_2243,ppm, .0002,.0001,87.30, .0003, .0001
Na5895,589.592 { 57},Y_3710,ppm, 141.1,.2119,.1502, 141.2, 140.9
Ni2316,231.604 {445},In2306,ppm, .0008,.0001,7.825, .0009, .0008
P_1782,178.284 {489},In2306,ppm, .0034,.0019,56.95, .0020, .0048
Pb2203,220.353 {453},In2306,ppm, .0004,.0003,92.13, .0006, .0001
S_1820,182.034 {485},Y_2243,ppm, .0791,.0016,2.049, .0802, .0779
Sb2068,206.833 {463},Y_2243,ppm, .0003,.0007,211.6, .0008, -.0002
Se1960,196.090 {472},Y_2243,ppm, -.0001,.0003,218.1, -.0003, .0001
Si2516,251.611 {134},Y_3710,ppm, .0043,.0067,156.3, -.0004, .0090
Sn1899,189.989 {477},In2306,ppm, .0009,.0000,4.014, .0008, .0009
Sr4215,421.552 { 80},Y_3710,ppm, .0008,.0000,5.812, .0008, .0009
Ti3349,334.904 {101},Y_3600,ppm, .0003,.0002,58.22, .0002, .0005
Tl1908,190.856 {477},In2306,ppm, .0227,.0005,2.123, .0224, .0230
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U_3670,367.007 { 92},Y_3600,ppm, .0915,.1055,115.2, .0169, .1661
V_2924,292.402 {115},Y_3600,ppm, .0002,.0001,71.61, .0003, .0001
W_2397,239.709 {140},Y_2243,ppm, .0347,.0732,211.0, -.0171, .0864
Zn2062,206.200 {463},In2306,ppm, .1062,.0001,.0764, .1063, .1062

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 244.37,.10592,.04334,244.44,244.29
In2306,230.606 {446},Cts/S, 13913.,33.770,.24272,13937.,13889.
Y_2243,224.306 {450},Cts/S, 22480.,108.98,.48478,22557.,22402.
Y_3600,360.073 { 94},Cts/S, 189010.,379.03,.20054,188740.,189270.
Y_3710,371.030 { 91},Cts/S, 12979.,6.8905,.05309,12974.,12984.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0015,.0006,41.16, .0019, .0011
Al3082,308.215 {109},In2306,ppm, -.0024,.0017,73.46, -.0036, -.0011
As1890,189.042 {478},Y_2243,ppm, .0034,.0002,5.656, .0036, .0033
B_2496,249.678 {135},Y_3710,ppm, .0139,.0039,27.97, .0112, .0166
Ba4554,455.403 { 74},Y_3710,ppm, .0266,.0001,.3185, .0266, .0265
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,2.564, .0000, .0000
Ca3158,315.887 {107},In2306,ppm, 9.479,.0202,.2127, 9.493, 9.464
Cd2288,228.802 {447},Y_2243,ppm, -.0002,.0001,73.19, -.0003, -.0001
Co2286,228.616 {447},In2306,ppm, .0002,.0000,23.30, .0002, .0002
Cr2677,267.716 {126},Y_3600,ppm, .0002,.0000,19.79, .0002, .0002
Cu3247,324.754 {104},Y_3600,ppm, .0017,.0004,25.15, .0014, .0020
Fe2404,240.488 {140},In2306,ppm, .0215,.0021,9.683, .0200, .0229
K_7664,766.490 { 44},Y_3710,ppm, 8.423,.0015,.0182, 8.422, 8.424
Li6707,670.784 { 50},Y_3710,ppm, .0008,.0005,66.03, .0004, .0011
Mg2790,279.079 {121},Y_3710,ppm, .7700,.0085,1.106, .7761, .7640
Mn2576,257.610 {131},Y_3600,ppm, .2800,.0002,.0597, .2799, .2801
Mo2020,202.030 {467},Y_2243,ppm, -.0005,.0004,73.63, -.0003, -.0008
Na5895,589.592 { 57},Y_3710,ppm, 190.4,.5691,.2989, 190.0, 190.8
Ni2316,231.604 {445},In2306,ppm, .0009,.0001,14.15, .0010, .0008
P_1782,178.284 {489},In2306,ppm, .0016,.0022,134.3, .0001, .0032
Pb2203,220.353 {453},In2306,ppm, .0016,.0018,112.3, .0003, .0029
S_1820,182.034 {485},Y_2243,ppm, .8527,.0033,.3860, .8504, .8550
Sb2068,206.833 {463},Y_2243,ppm, -.0004,.0003,72.03, -.0006, -.0002
Se1960,196.090 {472},Y_2243,ppm, .0020,.0014,72.22, .0030, .0010
Si2516,251.611 {134},Y_3710,ppm, .0613,.0030,4.921, .0592, .0635
Sn1899,189.989 {477},In2306,ppm, -.0004,.0004,92.22, -.0001, -.0006
Sr4215,421.552 { 80},Y_3710,ppm, .0854,.0006,.6876, .0858, .0850
Ti3349,334.904 {101},Y_3600,ppm, -.0001,.0001,85.31, -.0002, -.0000
Tl1908,190.856 {477},In2306,ppm, .0140,.0018,12.96, .0127, .0153
U_3670,367.007 { 92},Y_3600,ppm, .0912,.0169,18.51, .1031, .0792
V_2924,292.402 {115},Y_3600,ppm, .0011,.0001,7.505, .0011, .0012
W_2397,239.709 {140},Y_2243,ppm, .0415,.0209,50.29, .0563, .0268
Zn2062,206.200 {463},In2306,ppm, .0187,.0000,.2335, .0187, .0187

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 241.34,.01222,.00506,241.33,241.35
In2306,230.606 {446},Cts/S, 13523.,55.801,.41263,13484.,13563.
Y_2243,224.306 {450},Cts/S, 22224.,96.198,.43286,22156.,22292.
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Y_3600,360.073 { 94},Cts/S, 186170.,459.71,.24693,186500.,185840.
Y_3710,371.030 { 91},Cts/S, 12794.,9.4976,.07423,12801.,12788.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0011,.0001,10.46, .0011, .0010
Al3082,308.215 {109},In2306,ppm, -.0317,.0232,73.30, -.0481, -.0153
As1890,189.042 {478},Y_2243,ppm, .0072,.0002,2.348, .0073, .0071
B_2496,249.678 {135},Y_3710,ppm, .0061,.0055,90.34, .0100, .0022
Ba4554,455.403 { 74},Y_3710,ppm, .0132,.0001,.6602, .0132, .0131
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,20.69, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, 27.61,.3358,1.216, 27.38, 27.85
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0000,25.47, .0001, .0002
Co2286,228.616 {447},In2306,ppm, .0055,.0001,2.259, .0055, .0056
Cr2677,267.716 {126},Y_3600,ppm, .2890,.0001,.0449, .2889, .2890
Cu3247,324.754 {104},Y_3600,ppm, .0834,.0006,.6607, .0831, .0838
Fe2404,240.488 {140},In2306,ppm, .0088,.0005,6.043, .0092, .0085
K_7664,766.490 { 44},Y_3710,ppm, .7349,.0140,1.910, .7448, .7250
Li6707,670.784 { 50},Y_3710,ppm, .4678,.0006,.1233, .4682, .4674
Mg2790,279.079 {121},Y_3710,ppm, .6206,.0164,2.645, .6090, .6322
Mn2576,257.610 {131},Y_3600,ppm, 1.107,.0070,.6360, 1.102, 1.112
Mo2020,202.030 {467},Y_2243,ppm, .0199,.0002,1.137, .0197, .0200
Na5895,589.592 { 57},Y_3710,ppm, 135.9,.0543,.0399, 135.9, 136.0
Ni2316,231.604 {445},In2306,ppm, .1700,.0004,.2625, .1696, .1703
P_1782,178.284 {489},In2306,ppm, .3074,.0006,.1901, .3070, .3078
Pb2203,220.353 {453},In2306,ppm, .0000,.0000,106.7, .0001, .0000
S_1820,182.034 {485},Y_2243,ppm, 27.38,.0336,.1227, 27.35, 27.40
Sb2068,206.833 {463},Y_2243,ppm, -.0032,.0014,45.43, -.0022, -.0042
Se1960,196.090 {472},Y_2243,ppm, .0097,.0015,15.20, .0108, .0087
Si2516,251.611 {134},Y_3710,ppm, .6438,.0010,.1592, .6431, .6446
Sn1899,189.989 {477},In2306,ppm, -.0005,.0001,21.12, -.0005, -.0004
Sr4215,421.552 { 80},Y_3710,ppm, .0398,.0004,1.020, .0401, .0396
Ti3349,334.904 {101},Y_3600,ppm, .0011,.0000,.2108, .0011, .0011
Tl1908,190.856 {477},In2306,ppm, .0177,.0033,18.64, .0201, .0154
U_3670,367.007 { 92},Y_3600,ppm, .0498,.0375,75.19, .0233, .0763
V_2924,292.402 {115},Y_3600,ppm, .7442,.0053,.7058, .7405, .7479
W_2397,239.709 {140},Y_2243,ppm, 1.125,.0691,6.145, 1.076, 1.174
Zn2062,206.200 {463},In2306,ppm, 1.473,.0027,.1860, 1.471, 1.475

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 243.42,4.3484,1.7864,246.49,240.34
In2306,230.606 {446},Cts/S, 13838.,9.8096,.07089,13831.,13845.
Y_2243,224.306 {450},Cts/S, 22516.,35.856,.15925,22490.,22541.
Y_3600,360.073 { 94},Cts/S, 189510.,1086.9,.57350,190280.,188750.
Y_3710,371.030 { 91},Cts/S, 12705.,34.171,.26896,12729.,12681.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0003,.0002,53.98, .0004, .0002
Al3082,308.215 {109},In2306,ppm, .0053,.0095,178.5, .0120, -.0014
As1890,189.042 {478},Y_2243,ppm, .0031,.0005,16.03, .0027, .0034
B_2496,249.678 {135},Y_3710,ppm, .0075,.0051,67.95, .0111, .0039
Ba4554,455.403 { 74},Y_3710,ppm, .1132,.0006,.5095, .1128, .1137
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,98.26, -.0000, -.0001
Ca3158,315.887 {107},In2306,ppm, 75.14,.2220,.2954, 75.30, 74.99
Cd2288,228.802 {447},Y_2243,ppm, -.0002,.0000,11.34, -.0002, -.0002
Co2286,228.616 {447},In2306,ppm, .0008,.0001,6.883, .0008, .0007
Cr2677,267.716 {126},Y_3600,ppm, .0007,.0002,35.39, .0009, .0005
Cu3247,324.754 {104},Y_3600,ppm, .0016,.0008,47.07, .0011, .0022
Fe2404,240.488 {140},In2306,ppm, .0125,.0046,37.28, .0092, .0158
K_7664,766.490 { 44},Y_3710,ppm, .5003,.0095,1.902, .4936, .5070
Li6707,670.784 { 50},Y_3710,ppm, .0017,.0007,43.35, .0022, .0012
Mg2790,279.079 {121},Y_3710,ppm, 1.315,.0087,.6646, 1.309, 1.322
Mn2576,257.610 {131},Y_3600,ppm, .4494,.0010,.2207, .4501, .4487
Mo2020,202.030 {467},Y_2243,ppm, .0009,.0003,28.23, .0007, .0011
Na5895,589.592 { 57},Y_3710,ppm, 134.1,1.644,1.226, 133.0, 135.3
Ni2316,231.604 {445},In2306,ppm, .0021,.0001,6.008, .0020, .0021
P_1782,178.284 {489},In2306,ppm, -.0018,.0010,52.51, -.0012, -.0025
Pb2203,220.353 {453},In2306,ppm, .0017,.0000,.7649, .0017, .0017
S_1820,182.034 {485},Y_2243,ppm, 3.943,.0008,.0209, 3.942, 3.943
Sb2068,206.833 {463},Y_2243,ppm, -.0001,.0000,33.12, -.0000, -.0001
Se1960,196.090 {472},Y_2243,ppm, .0012,.0008,62.42, .0007, .0018
Si2516,251.611 {134},Y_3710,ppm, 1.437,.0054,.3749, 1.433, 1.441
Sn1899,189.989 {477},In2306,ppm, .0000,.0001,354.8, .0001, -.0001
Sr4215,421.552 { 80},Y_3710,ppm, .1802,.0008,.4217, .1796, .1807
Ti3349,334.904 {101},Y_3600,ppm, .0007,.0004,60.75, .0010, .0004
Tl1908,190.856 {477},In2306,ppm, .0115,.0020,17.18, .0101, .0128
U_3670,367.007 { 92},Y_3600,ppm, .0188,.0065,34.64, .0142, .0235
V_2924,292.402 {115},Y_3600,ppm, .0002,.0000,19.08, .0002, .0003
W_2397,239.709 {140},Y_2243,ppm, .0146,.0397,271.9, .0427, -.0135
Zn2062,206.200 {463},In2306,ppm, .0125,.0001,.4207, .0126, .0125

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 242.26,2.3152,.95565,240.63,243.90
In2306,230.606 {446},Cts/S, 13536.,16.715,.12348,13548.,13524.
Y_2243,224.306 {450},Cts/S, 22180.,21.131,.09527,22195.,22166.
Y_3600,360.073 { 94},Cts/S, 186680.,599.23,.32099,186260.,187110.
Y_3710,371.030 { 91},Cts/S, 12826.,10.994,.08572,12834.,12819.

[Sample Header]
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Custom ID3=
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .3277,.0060,1.846, .3320, .3235
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Al3082,308.215 {109},In2306,ppm, 10.57,.0547,.5177, 10.53, 10.61
As1890,189.042 {478},Y_2243,ppm, 1.044,.0317,3.040, 1.021, 1.066
B_2496,249.678 {135},Y_3710,ppm, .5219,.0119,2.277, .5135, .5303
Ba4554,455.403 { 74},Y_3710,ppm, 1.124,.0059,.5284, 1.129, 1.120
Be3130,313.042 {108},Y_3710,ppm, 1.026,.0008,.0803, 1.026, 1.025
Ca3158,315.887 {107},In2306,ppm, 85.08,.3585,.4214, 84.83, 85.34
Cd2288,228.802 {447},Y_2243,ppm, 1.033,.0306,2.965, 1.012, 1.055
Co2286,228.616 {447},In2306,ppm, .9939,.0281,2.831, .9740, 1.014
Cr2677,267.716 {126},Y_3600,ppm, 1.009,.0160,1.589, 1.021, .9979
Cu3247,324.754 {104},Y_3600,ppm, 1.046,.0199,1.900, 1.060, 1.032
Fe2404,240.488 {140},In2306,ppm, 10.32,.0456,.4416, 10.29, 10.36
K_7664,766.490 { 44},Y_3710,ppm, 10.73,.0593,.5524, 10.77, 10.69
Li6707,670.784 { 50},Y_3710,ppm, 1.002,.0066,.6634, 1.006, .9969
Mg2790,279.079 {121},Y_3710,ppm, 11.18,.0773,.6917, 11.13, 11.24
Mn2576,257.610 {131},Y_3600,ppm, 1.511,.0276,1.826, 1.530, 1.491
Mo2020,202.030 {467},Y_2243,ppm, 1.006,.0315,3.131, .9834, 1.028
Na5895,589.592 { 57},Y_3710,ppm, 145.2,1.365,.9399, 144.3, 146.2
Ni2316,231.604 {445},In2306,ppm, 1.018,.0300,2.949, .9968, 1.039
P_1782,178.284 {489},In2306,ppm, 5.878,.1629,2.771, 5.763, 5.993
Pb2203,220.353 {453},In2306,ppm, 1.013,.0274,2.706, .9937, 1.032
S_1820,182.034 {485},Y_2243,ppm, 9.663,.3071,3.178, 9.445, 9.880
Sb2068,206.833 {463},Y_2243,ppm, 1.679,.0533,3.172, 1.642, 1.717
Se1960,196.090 {472},Y_2243,ppm, 1.092,.0271,2.482, 1.073, 1.112
Si2516,251.611 {134},Y_3710,ppm, 10.32,.0310,.2999, 10.30, 10.35
Sn1899,189.989 {477},In2306,ppm, 1.014,.0266,2.628, .9948, 1.033
Sr4215,421.552 { 80},Y_3710,ppm, 1.188,.0058,.4912, 1.192, 1.184
Ti3349,334.904 {101},Y_3600,ppm, 1.050,.0190,1.805, 1.064, 1.037
Tl1908,190.856 {477},In2306,ppm, .8025,.0298,3.713, .7815, .8236
U_3670,367.007 { 92},Y_3600,ppm, .5692,.0325,5.708, .5462, .5922
V_2924,292.402 {115},Y_3600,ppm, 1.048,.0184,1.756, 1.061, 1.035
W_2397,239.709 {140},Y_2243,ppm, .4158,.0027,.6439, .4139, .4177
Zn2062,206.200 {463},In2306,ppm, .5399,.0136,2.516, .5303, .5495

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 240.35,1.4482,.60255,241.38,239.33
In2306,230.606 {446},Cts/S, 13472.,364.79,2.7078,13730.,13214.
Y_2243,224.306 {450},Cts/S, 22655.,637.28,2.8130,23105.,22204.
Y_3600,360.073 { 94},Cts/S, 180400.,2514.6,1.3939,178620.,182170.
Y_3710,371.030 { 91},Cts/S, 12897.,65.833,.51046,12943.,12850.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0008,.0002,19.60, .0009, .0007
Al3082,308.215 {109},In2306,ppm, .0091,.0070,76.71, .0141, .0042
As1890,189.042 {478},Y_2243,ppm, .0036,.0002,4.683, .0037, .0035
B_2496,249.678 {135},Y_3710,ppm, .0040,.0056,138.7, .0080, .0001
Ba4554,455.403 { 74},Y_3710,ppm, .1309,.0007,.5350, .1314, .1304
Be3130,313.042 {108},Y_3710,ppm, .0000,.0001,340.2, .0001, -.0000
Ca3158,315.887 {107},In2306,ppm, 75.10,.0595,.0793, 75.05, 75.14
Cd2288,228.802 {447},Y_2243,ppm, -.0002,.0001,24.22, -.0003, -.0002
Co2286,228.616 {447},In2306,ppm, .0005,.0002,43.40, .0003, .0007
Cr2677,267.716 {126},Y_3600,ppm, .0004,.0000,8.112, .0004, .0004
Cu3247,324.754 {104},Y_3600,ppm, .0014,.0000,1.844, .0014, .0014
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Fe2404,240.488 {140},In2306,ppm, .0018,.0039,217.7, -.0010, .0045
K_7664,766.490 { 44},Y_3710,ppm, .1843,.0071,3.847, .1893, .1793
Li6707,670.784 { 50},Y_3710,ppm, .0006,.0001,10.71, .0007, .0006
Mg2790,279.079 {121},Y_3710,ppm, .8794,.0313,3.555, .9016, .8573
Mn2576,257.610 {131},Y_3600,ppm, .0680,.0000,.0632, .0680, .0680
Mo2020,202.030 {467},Y_2243,ppm, .0006,.0001,10.89, .0006, .0007
Na5895,589.592 { 57},Y_3710,ppm, 136.0,1.483,1.091, 134.9, 137.0
Ni2316,231.604 {445},In2306,ppm, .0007,.0001,13.20, .0006, .0007
P_1782,178.284 {489},In2306,ppm, .0015,.0002,16.03, .0017, .0014
Pb2203,220.353 {453},In2306,ppm, .0010,.0010,98.56, .0017, .0003
S_1820,182.034 {485},Y_2243,ppm, .6441,.0011,.1651, .6433, .6448
Sb2068,206.833 {463},Y_2243,ppm, -.0007,.0007,96.92, -.0012, -.0002
Se1960,196.090 {472},Y_2243,ppm, -.0004,.0009,242.6, -.0010, .0003
Si2516,251.611 {134},Y_3710,ppm, .7482,.0049,.6502, .7448, .7516
Sn1899,189.989 {477},In2306,ppm, .0003,.0001,20.43, .0004, .0003
Sr4215,421.552 { 80},Y_3710,ppm, .1577,.0002,.1124, .1578, .1576
Ti3349,334.904 {101},Y_3600,ppm, .0009,.0006,66.23, .0014, .0005
Tl1908,190.856 {477},In2306,ppm, .0271,.0001,.2210, .0271, .0270
U_3670,367.007 { 92},Y_3600,ppm, .1013,.0076,7.519, .0959, .1067
V_2924,292.402 {115},Y_3600,ppm, .0008,.0002,21.51, .0009, .0007
W_2397,239.709 {140},Y_2243,ppm, -.0212,.0628,296.0, .0232, -.0656
Zn2062,206.200 {463},In2306,ppm, .0091,.0001,.8428, .0090, .0091

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 241.31,.44658,.18507,241.62,240.99
In2306,230.606 {446},Cts/S, 13473.,12.237,.09083,13482.,13464.
Y_2243,224.306 {450},Cts/S, 22068.,1.8068,.00819,22069.,22067.
Y_3600,360.073 { 94},Cts/S, 185820.,132.81,.07147,185910.,185720.
Y_3710,371.030 { 91},Cts/S, 12802.,111.56,.87143,12881.,12723.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0006,.0005,83.65, -.0003, -.0010
Al3082,308.215 {109},In2306,ppm, -.0008,.0036,472.6, -.0033, .0018
As1890,189.042 {478},Y_2243,ppm, .0042,.0015,34.64, .0052, .0032
B_2496,249.678 {135},Y_3710,ppm, .0113,.0050,43.98, .0149, .0078
Ba4554,455.403 { 74},Y_3710,ppm, .0640,.0000,.0198, .0641, .0640
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,28.48, -.0001, -.0001
Ca3158,315.887 {107},In2306,ppm, 76.05,.2868,.3770, 75.85, 76.25
Cd2288,228.802 {447},Y_2243,ppm, -.0003,.0001,21.92, -.0003, -.0002
Co2286,228.616 {447},In2306,ppm, .0004,.0002,58.08, .0006, .0002
Cr2677,267.716 {126},Y_3600,ppm, .0003,.0003,87.62, .0005, .0001
Cu3247,324.754 {104},Y_3600,ppm, .0011,.0000,2.754, .0011, .0011
Fe2404,240.488 {140},In2306,ppm, .0069,.0009,12.76, .0075, .0062
K_7664,766.490 { 44},Y_3710,ppm, .3978,.0400,10.05, .4261, .3695
Li6707,670.784 { 50},Y_3710,ppm, .0026,.0006,22.38, .0022, .0030
Mg2790,279.079 {121},Y_3710,ppm, .6152,.0370,6.015, .5890, .6413
Mn2576,257.610 {131},Y_3600,ppm, .0140,.0001,.7234, .0139, .0141
Mo2020,202.030 {467},Y_2243,ppm, .0014,.0003,19.52, .0012, .0015
Na5895,589.592 { 57},Y_3710,ppm, 139.7,1.433,1.026, 138.7, 140.8
Ni2316,231.604 {445},In2306,ppm, .0013,.0002,17.71, .0011, .0014
P_1782,178.284 {489},In2306,ppm, .0034,.0000,.4155, .0034, .0034
Pb2203,220.353 {453},In2306,ppm, .0008,.0013,156.4, -.0001, .0018
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S_1820,182.034 {485},Y_2243,ppm, .5664,.0025,.4502, .5682, .5646
Sb2068,206.833 {463},Y_2243,ppm, -.0014,.0003,24.04, -.0016, -.0012
Se1960,196.090 {472},Y_2243,ppm, .0011,.0011,98.53, .0019, .0003
Si2516,251.611 {134},Y_3710,ppm, .3532,.0027,.7661, .3513, .3551
Sn1899,189.989 {477},In2306,ppm, -.0002,.0000,21.71, -.0002, -.0001
Sr4215,421.552 { 80},Y_3710,ppm, .1093,.0001,.1339, .1094, .1092
Ti3349,334.904 {101},Y_3600,ppm, .0005,.0002,49.86, .0003, .0006
Tl1908,190.856 {477},In2306,ppm, .0149,.0019,12.87, .0136, .0163
U_3670,367.007 { 92},Y_3600,ppm, .0940,.0616,65.54, .0504, .1376
V_2924,292.402 {115},Y_3600,ppm, .0027,.0002,5.761, .0028, .0026
W_2397,239.709 {140},Y_2243,ppm, -.0406,.0138,34.00, -.0308, -.0503
Zn2062,206.200 {463},In2306,ppm, .0243,.0000,.0590, .0242, .0243

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 238.12,1.9771,.83032,239.51,236.72
In2306,230.606 {446},Cts/S, 13474.,21.265,.15783,13459.,13489.
Y_2243,224.306 {450},Cts/S, 22099.,93.199,.42173,22033.,22165.
Y_3600,360.073 { 94},Cts/S, 185740.,517.24,.27847,186110.,185380.
Y_3710,371.030 { 91},Cts/S, 12691.,13.434,.10585,12682.,12701.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0006,.0005,81.01, .0009, .0002
Al3082,308.215 {109},In2306,ppm, .7339,.0228,3.102, .7500, .7178
As1890,189.042 {478},Y_2243,ppm, .0023,.0004,16.84, .0026, .0020
B_2496,249.678 {135},Y_3710,ppm, .0052,.0059,112.6, .0011, .0094
Ba4554,455.403 { 74},Y_3710,ppm, .0074,.0002,3.168, .0075, .0072
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,43.34, -.0000, -.0000
Ca3158,315.887 {107},In2306,ppm, 5.233,.0309,.5907, 5.211, 5.255
Cd2288,228.802 {447},Y_2243,ppm, -.0002,.0001,31.84, -.0002, -.0001
Co2286,228.616 {447},In2306,ppm, .0000,.0002,461.7, -.0001, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0004,.0002,54.63, .0002, .0005
Cu3247,324.754 {104},Y_3600,ppm, .0134,.0002,1.507, .0135, .0133
Fe2404,240.488 {140},In2306,ppm, .0405,.0007,1.845, .0400, .0410
K_7664,766.490 { 44},Y_3710,ppm, .1519,.0193,12.68, .1383, .1656
Li6707,670.784 { 50},Y_3710,ppm, -.0001,.0004,298.5, -.0004, .0002
Mg2790,279.079 {121},Y_3710,ppm, 1.036,.0067,.6472, 1.031, 1.041
Mn2576,257.610 {131},Y_3600,ppm, .0032,.0000,.0754, .0032, .0032
Mo2020,202.030 {467},Y_2243,ppm, -.0005,.0001,13.61, -.0005, -.0004
Na5895,589.592 { 57},Y_3710,ppm, .1542,.0149,9.689, .1648, .1437
Ni2316,231.604 {445},In2306,ppm, .0007,.0002,21.38, .0008, .0006
P_1782,178.284 {489},In2306,ppm, .0160,.0003,2.053, .0162, .0157
Pb2203,220.353 {453},In2306,ppm, .0003,.0001,32.83, .0004, .0002
S_1820,182.034 {485},Y_2243,ppm, .6588,.0020,.3042, .6603, .6574
Sb2068,206.833 {463},Y_2243,ppm, -.0006,.0011,183.3, .0002, -.0014
Se1960,196.090 {472},Y_2243,ppm, .0006,.0010,176.2, .0013, -.0001
Si2516,251.611 {134},Y_3710,ppm, .1459,.0020,1.393, .1473, .1445
Sn1899,189.989 {477},In2306,ppm, .0002,.0001,43.09, .0001, .0002
Sr4215,421.552 { 80},Y_3710,ppm, .0096,.0000,.4174, .0095, .0096
Ti3349,334.904 {101},Y_3600,ppm, .0007,.0002,32.30, .0005, .0009
Tl1908,190.856 {477},In2306,ppm, .0108,.0012,11.56, .0117, .0099
U_3670,367.007 { 92},Y_3600,ppm, -.0376,.0152,40.52, -.0268, -.0483
V_2924,292.402 {115},Y_3600,ppm, .0004,.0000,.6630, .0004, .0004
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W_2397,239.709 {140},Y_2243,ppm, -.0176,.0352,199.8, .0073, -.0425
Zn2062,206.200 {463},In2306,ppm, .0274,.0001,.4966, .0275, .0273

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 250.80,.44804,.17864,251.12,250.48
In2306,230.606 {446},Cts/S, 15857.,63.000,.39731,15901.,15812.
Y_2243,224.306 {450},Cts/S, 23672.,124.15,.52444,23760.,23585.
Y_3600,360.073 { 94},Cts/S, 200870.,211.39,.10524,201020.,200720.
Y_3710,371.030 { 91},Cts/S, 13138.,10.886,.08286,13146.,13131.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0010,.0000,2.698, .0010, .0010
Al3082,308.215 {109},In2306,ppm, 17.73,.2241,1.264, 17.57, 17.89
As1890,189.042 {478},Y_2243,ppm, .0064,.0002,2.551, .0063, .0065
B_2496,249.678 {135},Y_3710,ppm, .0185,.0034,18.14, .0209, .0161
Ba4554,455.403 { 74},Y_3710,ppm, .1387,.0004,.2876, .1384, .1390
Be3130,313.042 {108},Y_3710,ppm, .0008,.0000,5.370, .0008, .0008
Ca3158,315.887 {107},In2306,ppm, 22.16,.2828,1.276, 21.96, 22.36
Cd2288,228.802 {447},Y_2243,ppm, .0006,.0001,8.943, .0006, .0005
Co2286,228.616 {447},In2306,ppm, .0106,.0003,2.355, .0108, .0105
Cr2677,267.716 {126},Y_3600,ppm, .0212,.0000,.1741, .0211, .0212
Cu3247,324.754 {104},Y_3600,ppm, .0535,.0007,1.258, .0540, .0530
Fe2404,240.488 {140},In2306,ppm, 18.93,.2415,1.276, 18.76, 19.10
K_7664,766.490 { 44},Y_3710,ppm, 13.09,.0646,.4934, 13.05, 13.14
Li6707,670.784 { 50},Y_3710,ppm, .0163,.0003,1.556, .0161, .0165
Mg2790,279.079 {121},Y_3710,ppm, 8.184,.1260,1.539, 8.095, 8.273
Mn2576,257.610 {131},Y_3600,ppm, .6109,.0013,.2084, .6118, .6100
Mo2020,202.030 {467},Y_2243,ppm, -.0002,.0002,86.45, -.0001, -.0004
Na5895,589.592 { 57},Y_3710,ppm, .6288,.0090,1.425, .6351, .6225
Ni2316,231.604 {445},In2306,ppm, .0178,.0002,1.180, .0179, .0176
P_1782,178.284 {489},In2306,ppm, 1.225,.0035,.2891, 1.227, 1.222
Pb2203,220.353 {453},In2306,ppm, .0158,.0016,10.14, .0147, .0170
S_1820,182.034 {485},Y_2243,ppm, 1.256,.0088,.6968, 1.262, 1.250
Sb2068,206.833 {463},Y_2243,ppm, -.0016,.0007,41.20, -.0011, -.0021
Se1960,196.090 {472},Y_2243,ppm, .0004,.0009,220.9, .0010, -.0002
Si2516,251.611 {134},Y_3710,ppm, 20.08,.0830,.4134, 20.02, 20.14
Sn1899,189.989 {477},In2306,ppm, .0012,.0000,4.226, .0011, .0012
Sr4215,421.552 { 80},Y_3710,ppm, .0390,.0001,.1599, .0389, .0390
Ti3349,334.904 {101},Y_3600,ppm, .1781,.0006,.3375, .1777, .1785
Tl1908,190.856 {477},In2306,ppm, .0121,.0006,5.259, .0125, .0116
U_3670,367.007 { 92},Y_3600,ppm, .1761,.0017,.9479, .1773, .1749
V_2924,292.402 {115},Y_3600,ppm, .0233,.0003,1.428, .0235, .0230
W_2397,239.709 {140},Y_2243,ppm, -.0337,.0077,22.88, -.0392, -.0283
Zn2062,206.200 {463},In2306,ppm, .1090,.0008,.7473, .1096, .1084

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 247.53,3.4269,1.3844,249.95,245.11
In2306,230.606 {446},Cts/S, 14863.,10.788,.07259,14870.,14855.
Y_2243,224.306 {450},Cts/S, 23372.,93.871,.40164,23438.,23305.
Y_3600,360.073 { 94},Cts/S, 198060.,397.34,.20062,197780.,198340.
Y_3710,371.030 { 91},Cts/S, 13301.,105.20,.79096,13375.,13226.
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .5746,.0019,.3252, .5760, .5733
Al3082,308.215 {109},In2306,ppm, 20.09,.2636,1.312, 19.90, 20.28
As1890,189.042 {478},Y_2243,ppm, 1.012,.0020,.1942, 1.010, 1.013
B_2496,249.678 {135},Y_3710,ppm, .9630,.0005,.0512, .9634, .9627
Ba4554,455.403 { 74},Y_3710,ppm, 1.018,.0047,.4629, 1.015, 1.021
Be3130,313.042 {108},Y_3710,ppm, .9928,.0024,.2370, .9911, .9945
Ca3158,315.887 {107},In2306,ppm, 19.75,.3246,1.644, 19.52, 19.98
Cd2288,228.802 {447},Y_2243,ppm, 1.018,.0001,.0093, 1.018, 1.018
Co2286,228.616 {447},In2306,ppm, .9853,.0000,.0019, .9852, .9853
Cr2677,267.716 {126},Y_3600,ppm, .9763,.0003,.0329, .9766, .9761
Cu3247,324.754 {104},Y_3600,ppm, 1.004,.0005,.0515, 1.004, 1.003
Fe2404,240.488 {140},In2306,ppm, 19.85,.2849,1.435, 19.65, 20.05
K_7664,766.490 { 44},Y_3710,ppm, 19.56,.0033,.0171, 19.56, 19.56
Li6707,670.784 { 50},Y_3710,ppm, 1.003,.0029,.2873, 1.001, 1.005
Mg2790,279.079 {121},Y_3710,ppm, 19.22,.1833,.9533, 19.09, 19.35
Mn2576,257.610 {131},Y_3600,ppm, 1.003,.0005,.0449, 1.003, 1.003
Mo2020,202.030 {467},Y_2243,ppm, 1.039,.0002,.0150, 1.038, 1.039
Na5895,589.592 { 57},Y_3710,ppm, 19.75,.0584,.2954, 19.71, 19.80
Ni2316,231.604 {445},In2306,ppm, 1.001,.0011,.1053, 1.000, 1.002
P_1782,178.284 {489},In2306,ppm, 10.13,.0092,.0906, 10.13, 10.14
Pb2203,220.353 {453},In2306,ppm, .9962,.0045,.4554, .9930, .9994
S_1820,182.034 {485},Y_2243,ppm, 10.46,.0012,.0114, 10.46, 10.46
Sb2068,206.833 {463},Y_2243,ppm, 2.178,.0032,.1448, 2.180, 2.176
Se1960,196.090 {472},Y_2243,ppm, 1.013,.0086,.8440, 1.019, 1.007
Si2516,251.611 {134},Y_3710,ppm, 9.468,.0628,.6635, 9.423, 9.512
Sn1899,189.989 {477},In2306,ppm, .9913,.0016,.1570, .9924, .9902
Sr4215,421.552 { 80},Y_3710,ppm, 1.019,.0025,.2465, 1.017, 1.021
Ti3349,334.904 {101},Y_3600,ppm, 1.001,.0005,.0462, 1.000, 1.001
Tl1908,190.856 {477},In2306,ppm, 1.014,.0019,.1827, 1.015, 1.012
U_3670,367.007 { 92},Y_3600,ppm, 1.003,.0700,6.980, 1.053, .9536
V_2924,292.402 {115},Y_3600,ppm, 1.002,.0005,.0463, 1.003, 1.002
W_2397,239.709 {140},Y_2243,ppm, 1.009,.0293,2.904, 1.029, .9880
Zn2062,206.200 {463},In2306,ppm, .9767,.0034,.3459, .9744, .9791

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 245.00,2.7345,1.1161,246.94,243.07
In2306,230.606 {446},Cts/S, 14380.,35.655,.24794,14355.,14406.
Y_2243,224.306 {450},Cts/S, 23138.,86.148,.37233,23077.,23199.
Y_3600,360.073 { 94},Cts/S, 195520.,253.49,.12965,195340.,195700.
Y_3710,371.030 { 91},Cts/S, 13073.,16.335,.12495,13061.,13084.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0122,.0005,3.808, .0125, .0119
Al3082,308.215 {109},In2306,ppm, .1963,.0046,2.342, .1930, .1995
As1890,189.042 {478},Y_2243,ppm, .0233,.0018,7.885, .0246, .0220
B_2496,249.678 {135},Y_3710,ppm, .2052,.0028,1.362, .2032, .2071
Ba4554,455.403 { 74},Y_3710,ppm, .0223,.0002,.9370, .0222, .0225
Be3130,313.042 {108},Y_3710,ppm, .0113,.0001,.6220, .0113, .0114
Ca3158,315.887 {107},In2306,ppm, 1.021,.0005,.0531, 1.021, 1.020
Cd2288,228.802 {447},Y_2243,ppm, .0112,.0001,.6067, .0113, .0112
Co2286,228.616 {447},In2306,ppm, .0102,.0000,.4050, .0102, .0101
Cr2677,267.716 {126},Y_3600,ppm, .0112,.0003,2.843, .0114, .0109
Cu3247,324.754 {104},Y_3600,ppm, .0120,.0002,1.655, .0121, .0118
Fe2404,240.488 {140},In2306,ppm, .2228,.0008,.3777, .2222, .2234
K_7664,766.490 { 44},Y_3710,ppm, 1.033,.0292,2.831, 1.012, 1.054
Li6707,670.784 { 50},Y_3710,ppm, .0115,.0002,1.785, .0117, .0114
Mg2790,279.079 {121},Y_3710,ppm, 1.018,.0190,1.863, 1.031, 1.004
Mn2576,257.610 {131},Y_3600,ppm, .0113,.0001,.4693, .0113, .0113
Mo2020,202.030 {467},Y_2243,ppm, .0234,.0004,1.729, .0237, .0231
Na5895,589.592 { 57},Y_3710,ppm, 1.078,.0035,.3290, 1.081, 1.076
Ni2316,231.604 {445},In2306,ppm, .0108,.0001,.4893, .0108, .0108
P_1782,178.284 {489},In2306,ppm, .9673,.0002,.0199, .9672, .9674
Pb2203,220.353 {453},In2306,ppm, .0112,.0002,1.570, .0111, .0114
S_1820,182.034 {485},Y_2243,ppm, .5100,.0052,1.024, .5137, .5063
Sb2068,206.833 {463},Y_2243,ppm, .0581,.0009,1.492, .0587, .0574
Se1960,196.090 {472},Y_2243,ppm, .0228,.0021,9.124, .0213, .0243
Si2516,251.611 {134},Y_3710,ppm, .1840,.0048,2.619, .1806, .1874
Sn1899,189.989 {477},In2306,ppm, .0208,.0002,.7277, .0207, .0209
Sr4215,421.552 { 80},Y_3710,ppm, .0114,.0000,.0639, .0114, .0114
Ti3349,334.904 {101},Y_3600,ppm, .0113,.0003,2.930, .0111, .0116
Tl1908,190.856 {477},In2306,ppm, .0408,.0003,.7355, .0406, .0410
U_3670,367.007 { 92},Y_3600,ppm, .0752,.0848,112.7, .0153, .1352
V_2924,292.402 {115},Y_3600,ppm, .0111,.0001,1.210, .0112, .0110
W_2397,239.709 {140},Y_2243,ppm, .0467,.0257,55.02, .0649, .0285
Zn2062,206.200 {463},In2306,ppm, .0181,.0000,.0808, .0181, .0181

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 251.99,.47914,.19015,251.65,252.33
In2306,230.606 {446},Cts/S, 15876.,17.035,.10730,15864.,15888.
Y_2243,224.306 {450},Cts/S, 23725.,52.700,.22213,23688.,23762.
Y_3600,360.073 { 94},Cts/S, 204090.,198.00,.09702,204230.,203950.
Y_3710,371.030 { 91},Cts/S, 13041.,141.63,1.0860,12941.,13141.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0013,.0002,16.95, .0014, .0011
Al3082,308.215 {109},In2306,ppm, -.0068,.0011,16.21, -.0076, -.0060
As1890,189.042 {478},Y_2243,ppm, .0012,.0003,29.50, .0014, .0009
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B_2496,249.678 {135},Y_3710,ppm, -.0059,.0053,88.76, -.0022, -.0096
Ba4554,455.403 { 74},Y_3710,ppm, -.0006,.0002,37.20, -.0007, -.0004
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0002,288.0, .0001, -.0002
Ca3158,315.887 {107},In2306,ppm, -.0208,.0002,1.025, -.0209, -.0206
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0001,885.0, -.0001, .0000
Co2286,228.616 {447},In2306,ppm, -.0000,.0000,13.17, -.0000, -.0000
Cr2677,267.716 {126},Y_3600,ppm, .0001,.0001,133.3, .0001, .0000
Cu3247,324.754 {104},Y_3600,ppm, .0010,.0002,17.18, .0011, .0008
Fe2404,240.488 {140},In2306,ppm, .0042,.0044,103.4, .0011, .0074
K_7664,766.490 { 44},Y_3710,ppm, -.0285,.0101,35.40, -.0357, -.0214
Li6707,670.784 { 50},Y_3710,ppm, -.0004,.0000,6.063, -.0004, -.0004
Mg2790,279.079 {121},Y_3710,ppm, -.0057,.0226,393.1, .0102, -.0217
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,66.04, -.0000, -.0000
Mo2020,202.030 {467},Y_2243,ppm, -.0002,.0002,106.7, -.0004, -.0001
Na5895,589.592 { 57},Y_3710,ppm, .0007,.0031,483.5, .0029, -.0016
Ni2316,231.604 {445},In2306,ppm, .0004,.0005,126.0, .0000, .0008
P_1782,178.284 {489},In2306,ppm, -.0017,.0012,67.99, -.0025, -.0009
Pb2203,220.353 {453},In2306,ppm, -.0001,.0013,2095., -.0010, .0009
S_1820,182.034 {485},Y_2243,ppm, .0045,.0007,15.15, .0040, .0050
Sb2068,206.833 {463},Y_2243,ppm, .0010,.0001,5.062, .0011, .0010
Se1960,196.090 {472},Y_2243,ppm, .0029,.0012,43.01, .0020, .0037
Si2516,251.611 {134},Y_3710,ppm, .0066,.0017,26.20, .0078, .0054
Sn1899,189.989 {477},In2306,ppm, -.0003,.0003,88.51, -.0005, -.0001
Sr4215,421.552 { 80},Y_3710,ppm, .0002,.0000,10.87, .0001, .0002
Ti3349,334.904 {101},Y_3600,ppm, .0004,.0001,33.59, .0004, .0003
Tl1908,190.856 {477},In2306,ppm, .0081,.0030,36.60, .0103, .0060
U_3670,367.007 { 92},Y_3600,ppm, .0511,.1073,210.0, .1270, -.0248
V_2924,292.402 {115},Y_3600,ppm, .0003,.0002,76.50, .0004, .0001
W_2397,239.709 {140},Y_2243,ppm, .0419,.0230,54.96, .0582, .0256
Zn2062,206.200 {463},In2306,ppm, -.0011,.0000,2.262, -.0011, -.0011

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 251.12,2.0074,.79936,249.70,252.54
In2306,230.606 {446},Cts/S, 16010.,2.6686,.01667,16008.,16011.
Y_2243,224.306 {450},Cts/S, 23595.,38.363,.16259,23567.,23622.
Y_3600,360.073 { 94},Cts/S, 203220.,249.84,.12294,203400.,203040.
Y_3710,371.030 { 91},Cts/S, 13051.,101.10,.77467,12980.,13123.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0002,158.3, -.0002, .0000
Al3082,308.215 {109},In2306,ppm, .6523,.0256,3.930, .6341, .6704
As1890,189.042 {478},Y_2243,ppm, .0043,.0002,4.555, .0041, .0044
B_2496,249.678 {135},Y_3710,ppm, .0143,.0003,1.893, .0141, .0145
Ba4554,455.403 { 74},Y_3710,ppm, .0301,.0002,.5647, .0303, .0300
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0001,147.4, -.0001, .0000
Ca3158,315.887 {107},In2306,ppm, 12.59,.0071,.0566, 12.59, 12.58
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0000,7.904, -.0001, -.0001
Co2286,228.616 {447},In2306,ppm, .0004,.0001,18.72, .0003, .0004
Cr2677,267.716 {126},Y_3600,ppm, .0014,.0001,5.157, .0014, .0015
Cu3247,324.754 {104},Y_3600,ppm, .0169,.0003,1.494, .0170, .0167
Fe2404,240.488 {140},In2306,ppm, .4953,.0039,.7956, .4981, .4925
K_7664,766.490 { 44},Y_3710,ppm, 1.781,.0086,.4828, 1.787, 1.775
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Li6707,670.784 { 50},Y_3710,ppm, .0025,.0000,.3595, .0025, .0025
Mg2790,279.079 {121},Y_3710,ppm, 2.525,.0506,2.002, 2.490, 2.561
Mn2576,257.610 {131},Y_3600,ppm, .0272,.0001,.3087, .0271, .0273
Mo2020,202.030 {467},Y_2243,ppm, .0015,.0002,11.10, .0016, .0014
Na5895,589.592 { 57},Y_3710,ppm, 1.134,.0022,.1930, 1.136, 1.133
Ni2316,231.604 {445},In2306,ppm, .0014,.0003,18.67, .0016, .0012
P_1782,178.284 {489},In2306,ppm, .0710,.0001,.1761, .0709, .0710
Pb2203,220.353 {453},In2306,ppm, .0027,.0005,17.76, .0024, .0030
S_1820,182.034 {485},Y_2243,ppm, 1.657,.0012,.0735, 1.656, 1.658
Sb2068,206.833 {463},Y_2243,ppm, .0021,.0022,102.6, .0036, .0006
Se1960,196.090 {472},Y_2243,ppm, .0015,.0045,293.1, .0047, -.0017
Si2516,251.611 {134},Y_3710,ppm, .7314,.0006,.0786, .7318, .7309
Sn1899,189.989 {477},In2306,ppm, .0001,.0005,494.5, .0005, -.0003
Sr4215,421.552 { 80},Y_3710,ppm, .0269,.0001,.3262, .0268, .0269
Ti3349,334.904 {101},Y_3600,ppm, .0080,.0001,1.631, .0079, .0080
Tl1908,190.856 {477},In2306,ppm, .0051,.0017,34.38, .0063, .0038
U_3670,367.007 { 92},Y_3600,ppm, .1001,.0273,27.26, .0808, .1194
V_2924,292.402 {115},Y_3600,ppm, .0012,.0002,14.54, .0013, .0011
W_2397,239.709 {140},Y_2243,ppm, .0504,.0321,63.80, .0731, .0276
Zn2062,206.200 {463},In2306,ppm, .0321,.0003,1.063, .0323, .0319

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 250.06,1.8700,.74783,251.38,248.73
In2306,230.606 {446},Cts/S, 15609.,24.686,.15815,15627.,15592.
Y_2243,224.306 {450},Cts/S, 23558.,104.16,.44215,23631.,23484.
Y_3600,360.073 { 94},Cts/S, 199460.,382.43,.19173,199730.,199190.
Y_3710,371.030 { 91},Cts/S, 13131.,102.11,.77761,13204.,13059.

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Ag3280,328.068 {103},Y_3600,ppm, -.0000,.0002,592.4, .0001, -.0002
Al3082,308.215 {109},In2306,ppm, .0253,.0025,9.853, .0235, .0270
As1890,189.042 {478},Y_2243,ppm, .0050,.0003,6.515, .0048, .0052
B_2496,249.678 {135},Y_3710,ppm, .0685,.0061,8.935, .0642, .0728
Ba4554,455.403 { 74},Y_3710,ppm, .7150,.0003,.0359, .7149, .7152
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,278.2, -.0000, .0000
Ca3158,315.887 {107},In2306,ppm, 110.2,.0295,.0267, 110.2, 110.2
Cd2288,228.802 {447},Y_2243,ppm, -.0002,.0000,23.08, -.0001, -.0002
Co2286,228.616 {447},In2306,ppm, .0003,.0002,68.95, .0002, .0005
Cr2677,267.716 {126},Y_3600,ppm, .0011,.0000,2.991, .0012, .0011
Cu3247,324.754 {104},Y_3600,ppm, .0058,.0004,6.965, .0055, .0060
Fe2404,240.488 {140},In2306,ppm, .5961,.0075,1.257, .6014, .5908
K_7664,766.490 { 44},Y_3710,ppm, 2.075,.0328,1.581, 2.098, 2.052
Li6707,670.784 { 50},Y_3710,ppm, .0199,.0001,.2569, .0200, .0199
Mg2790,279.079 {121},Y_3710,ppm, 7.822,.0822,1.051, 7.764, 7.880
Mn2576,257.610 {131},Y_3600,ppm, .0044,.0000,.1744, .0044, .0044
Mo2020,202.030 {467},Y_2243,ppm, -.0006,.0001,21.51, -.0007, -.0005
Na5895,589.592 { 57},Y_3710,ppm, 55.65,.0305,.0548, 55.67, 55.62
Ni2316,231.604 {445},In2306,ppm, .0006,.0001,15.17, .0006, .0005
P_1782,178.284 {489},In2306,ppm, .0726,.0009,1.276, .0732, .0719
Pb2203,220.353 {453},In2306,ppm, .0011,.0024,212.2, -.0006, .0028
S_1820,182.034 {485},Y_2243,ppm, 4.247,.0107,.2517, 4.239, 4.254
Sb2068,206.833 {463},Y_2243,ppm, -.0009,.0005,58.52, -.0012, -.0005
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Se1960,196.090 {472},Y_2243,ppm, .0010,.0003,35.08, .0012, .0007
Si2516,251.611 {134},Y_3710,ppm, 13.83,.0214,.1546, 13.81, 13.84
Sn1899,189.989 {477},In2306,ppm, .0002,.0001,53.44, .0001, .0003
Sr4215,421.552 { 80},Y_3710,ppm, .2023,.0005,.2402, .2026, .2019
Ti3349,334.904 {101},Y_3600,ppm, .0013,.0002,16.31, .0015, .0012
Tl1908,190.856 {477},In2306,ppm, .0076,.0004,4.707, .0078, .0073
U_3670,367.007 { 92},Y_3600,ppm, .0450,.0619,137.4, .0888, .0013
V_2924,292.402 {115},Y_3600,ppm, .0020,.0002,10.35, .0021, .0018
W_2397,239.709 {140},Y_2243,ppm, .0480,.0543,113.0, .0864, .0097
Zn2062,206.200 {463},In2306,ppm, .0765,.0008,1.075, .0770, .0759

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 241.51,1.2898,.53407,240.60,242.42
In2306,230.606 {446},Cts/S, 13823.,42.582,.30805,13793.,13853.
Y_2243,224.306 {450},Cts/S, 22280.,35.558,.15960,22255.,22305.
Y_3600,360.073 { 94},Cts/S, 188990.,516.23,.27315,188630.,189360.
Y_3710,371.030 { 91},Cts/S, 12894.,21.234,.16468,12910.,12879.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0000,.0000,365.2, -.0000, .0000
Al3082,308.215 {109},In2306,ppm, 3.053,.0412,1.351, 3.023, 3.082
As1890,189.042 {478},Y_2243,ppm, .0034,.0004,12.96, .0037, .0030
B_2496,249.678 {135},Y_3710,ppm, .0780,.0054,6.885, .0818, .0742
Ba4554,455.403 { 74},Y_3710,ppm, .0873,.0008,.9090, .0867, .0878
Be3130,313.042 {108},Y_3710,ppm, .0002,.0002,88.44, .0003, .0001
Ca3158,315.887 {107},In2306,ppm, 43.36,.4561,1.052, 43.04, 43.69
Cd2288,228.802 {447},Y_2243,ppm, .0004,.0001,16.31, .0003, .0004
Co2286,228.616 {447},In2306,ppm, .0008,.0000,.7323, .0008, .0008
Cr2677,267.716 {126},Y_3600,ppm, .0096,.0000,.4095, .0096, .0096
Cu3247,324.754 {104},Y_3600,ppm, .0087,.0004,5.113, .0091, .0084
Fe2404,240.488 {140},In2306,ppm, 2.241,.0325,1.453, 2.218, 2.264
K_7664,766.490 { 44},Y_3710,ppm, 3.092,.0329,1.063, 3.115, 3.069
Li6707,670.784 { 50},Y_3710,ppm, .0090,.0004,4.812, .0093, .0087
Mg2790,279.079 {121},Y_3710,ppm, 5.150,.0449,.8712, 5.118, 5.182
Mn2576,257.610 {131},Y_3600,ppm, .0868,.0000,.0124, .0868, .0868
Mo2020,202.030 {467},Y_2243,ppm, .0237,.0001,.4829, .0236, .0238
Na5895,589.592 { 57},Y_3710,ppm, 87.92,.4152,.4723, 87.62, 88.21
Ni2316,231.604 {445},In2306,ppm, .0035,.0002,7.186, .0036, .0033
P_1782,178.284 {489},In2306,ppm, .3665,.0006,.1744, .3670, .3661
Pb2203,220.353 {453},In2306,ppm, .0094,.0008,8.488, .0088, .0100
S_1820,182.034 {485},Y_2243,ppm, 44.59,.0195,.0437, 44.60, 44.58
Sb2068,206.833 {463},Y_2243,ppm, .0008,.0002,23.00, .0010, .0007
Se1960,196.090 {472},Y_2243,ppm, .0021,.0025,115.8, .0004, .0039
Si2516,251.611 {134},Y_3710,ppm, 7.435,.0212,.2849, 7.450, 7.420
Sn1899,189.989 {477},In2306,ppm, .0003,.0005,163.1, .0007, -.0000
Sr4215,421.552 { 80},Y_3710,ppm, .2810,.0009,.3090, .2804, .2816
Ti3349,334.904 {101},Y_3600,ppm, .0198,.0005,2.405, .0202, .0195
Tl1908,190.856 {477},In2306,ppm, .0028,.0014,51.14, .0038, .0018
U_3670,367.007 { 92},Y_3600,ppm, .1394,.0591,42.41, .0976, .1812
V_2924,292.402 {115},Y_3600,ppm, .0079,.0000,.5715, .0078, .0079
W_2397,239.709 {140},Y_2243,ppm, .0040,.0351,873.3, -.0208, .0289
Zn2062,206.200 {463},In2306,ppm, .2572,.0030,1.150, .2551, .2593
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[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 246.75,2.5195,1.0211,248.53,244.97
In2306,230.606 {446},Cts/S, 13947.,29.458,.21122,13926.,13968.
Y_2243,224.306 {450},Cts/S, 22340.,125.03,.55967,22252.,22429.
Y_3600,360.073 { 94},Cts/S, 191860.,276.71,.14423,192050.,191660.
Y_3710,371.030 { 91},Cts/S, 13083.,15.918,.12166,13095.,13072.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0012,.0000,1.441, .0012, .0012
Al3082,308.215 {109},In2306,ppm, .0099,.0138,139.1, .0002, .0197
As1890,189.042 {478},Y_2243,ppm, .0020,.0021,104.6, .0034, .0005
B_2496,249.678 {135},Y_3710,ppm, .1146,.0023,1.976, .1162, .1130
Ba4554,455.403 { 74},Y_3710,ppm, .0047,.0001,2.200, .0046, .0047
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,244.9, -.0001, .0000
Ca3158,315.887 {107},In2306,ppm, 7.188,.0660,.9189, 7.234, 7.141
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,77.54, .0000, .0002
Co2286,228.616 {447},In2306,ppm, .0001,.0001,64.68, .0001, .0002
Cr2677,267.716 {126},Y_3600,ppm, .0010,.0001,8.960, .0010, .0009
Cu3247,324.754 {104},Y_3600,ppm, .0496,.0005,.9650, .0493, .0499
Fe2404,240.488 {140},In2306,ppm, .3482,.0045,1.295, .3514, .3450
K_7664,766.490 { 44},Y_3710,ppm, 15.95,.0376,.2360, 15.98, 15.92
Li6707,670.784 { 50},Y_3710,ppm, .0012,.0001,6.295, .0012, .0011
Mg2790,279.079 {121},Y_3710,ppm, 3.656,.0303,.8279, 3.635, 3.678
Mn2576,257.610 {131},Y_3600,ppm, .0059,.0001,.9430, .0058, .0059
Mo2020,202.030 {467},Y_2243,ppm, .0110,.0001,.9730, .0111, .0109
Na5895,589.592 { 57},Y_3710,ppm, 11.74,.0200,.1707, 11.75, 11.72
Ni2316,231.604 {445},In2306,ppm, .0122,.0000,.0194, .0122, .0122
P_1782,178.284 {489},In2306,ppm, .2446,.0003,.1095, .2445, .2448
Pb2203,220.353 {453},In2306,ppm, .0003,.0001,32.94, .0003, .0002
S_1820,182.034 {485},Y_2243,ppm, 5.429,.0269,.4963, 5.448, 5.410
Sb2068,206.833 {463},Y_2243,ppm, .0008,.0004,42.28, .0011, .0006
Se1960,196.090 {472},Y_2243,ppm, -.0010,.0000,4.841, -.0010, -.0010
Si2516,251.611 {134},Y_3710,ppm, 2.951,.0181,.6127, 2.939, 2.964
Sn1899,189.989 {477},In2306,ppm, .0007,.0003,39.93, .0005, .0009
Sr4215,421.552 { 80},Y_3710,ppm, .0308,.0001,.2083, .0308, .0307
Ti3349,334.904 {101},Y_3600,ppm, .0004,.0001,15.97, .0004, .0004
Tl1908,190.856 {477},In2306,ppm, .0049,.0014,27.89, .0039, .0059
U_3670,367.007 { 92},Y_3600,ppm, .0836,.0111,13.29, .0915, .0758
V_2924,292.402 {115},Y_3600,ppm, .1828,.0007,.3989, .1822, .1833
W_2397,239.709 {140},Y_2243,ppm, -.0077,.0432,560.9, .0229, -.0383
Zn2062,206.200 {463},In2306,ppm, .0555,.0001,.2488, .0556, .0554

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 248.15,.61290,.24699,247.72,248.58
In2306,230.606 {446},Cts/S, 15177.,12.695,.08365,15186.,15168.
Y_2243,224.306 {450},Cts/S, 23170.,28.545,.12320,23150.,23191.
Y_3600,360.073 { 94},Cts/S, 198630.,415.43,.20914,198930.,198340.
Y_3710,371.030 { 91},Cts/S, 13164.,.25953,.00197,13164.,13164.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0010,.0008,81.27, .0015, .0004
Al3082,308.215 {109},In2306,ppm, .0105,.0001,.5195, .0105, .0106
As1890,189.042 {478},Y_2243,ppm, .0075,.0008,11.25, .0069, .0081
B_2496,249.678 {135},Y_3710,ppm, .1661,.0022,1.318, .1646, .1677
Ba4554,455.403 { 74},Y_3710,ppm, .1639,.0001,.0664, .1640, .1638
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,23.48, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, 126.0,.8681,.6889, 126.6, 125.4
Cd2288,228.802 {447},Y_2243,ppm, .0003,.0000,14.35, .0003, .0002
Co2286,228.616 {447},In2306,ppm, .0002,.0002,105.9, .0004, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0031,.0001,4.770, .0032, .0030
Cu3247,324.754 {104},Y_3600,ppm, .0099,.0004,3.676, .0101, .0096
Fe2404,240.488 {140},In2306,ppm, .0713,.0104,14.59, .0640, .0787
K_7664,766.490 { 44},Y_3710,ppm, 14.45,.0745,.5152, 14.50, 14.40
Li6707,670.784 { 50},Y_3710,ppm, .0184,.0007,3.939, .0179, .0189
Mg2790,279.079 {121},Y_3710,ppm, 10.58,.0385,.3635, 10.56, 10.61
Mn2576,257.610 {131},Y_3600,ppm, .0064,.0000,.0655, .0063, .0064
Mo2020,202.030 {467},Y_2243,ppm, .0538,.0006,1.204, .0543, .0534
Na5895,589.592 { 57},Y_3710,ppm, 588.2,4.259,.7241, 591.2, 585.1
Ni2316,231.604 {445},In2306,ppm, .0068,.0003,4.010, .0070, .0066
P_1782,178.284 {489},In2306,ppm, 1.196,.0073,.6090, 1.201, 1.191
Pb2203,220.353 {453},In2306,ppm, -.0001,.0003,213.7, .0001, -.0004
S_1820,182.034 {485},Y_2243,ppm, 450.5,.1879,.0417, 450.3, 450.6
Sb2068,206.833 {463},Y_2243,ppm, .0026,.0004,16.27, .0023, .0029
Se1960,196.090 {472},Y_2243,ppm, -.0009,.0002,26.32, -.0010, -.0007
Si2516,251.611 {134},Y_3710,ppm, 12.81,.0048,.0379, 12.80, 12.81
Sn1899,189.989 {477},In2306,ppm, .0001,.0003,305.6, .0003, -.0001
Sr4215,421.552 { 80},Y_3710,ppm, .8340,.0024,.2890, .8357, .8323
Ti3349,334.904 {101},Y_3600,ppm, .0008,.0002,28.64, .0009, .0006
Tl1908,190.856 {477},In2306,ppm, .0099,.0004,4.455, .0096, .0102
U_3670,367.007 { 92},Y_3600,ppm, .1522,.0085,5.566, .1462, .1582
V_2924,292.402 {115},Y_3600,ppm, .0053,.0000,.1947, .0053, .0053
W_2397,239.709 {140},Y_2243,ppm, .0127,.0295,232.0, -.0081, .0335
Zn2062,206.200 {463},In2306,ppm, .0245,.0001,.3970, .0245, .0244

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 229.94,.88159,.38339,229.32,230.57
In2306,230.606 {446},Cts/S, 12158.,32.936,.27090,12181.,12134.
Y_2243,224.306 {450},Cts/S, 20748.,84.406,.40682,20808.,20688.
Y_3600,360.073 { 94},Cts/S, 173410.,292.61,.16874,173610.,173200.
Y_3710,371.030 { 91},Cts/S, 12497.,32.213,.25776,12475.,12520.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0011,.0001,5.171, .0010, .0011
Al3082,308.215 {109},In2306,ppm, .0374,.0422,112.9, .0672, .0075
As1890,189.042 {478},Y_2243,ppm, .3673,.0013,.3422, .3681, .3664
B_2496,249.678 {135},Y_3710,ppm, .3873,.0033,.8409, .3850, .3896
Ba4554,455.403 { 74},Y_3710,ppm, 1.524,.0032,.2114, 1.522, 1.527
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,686.3, -.0000, .0000
Ca3158,315.887 {107},In2306,ppm, 87.97,.1268,.1442, 87.88, 88.06
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0000,9.079, -.0001, -.0001
Co2286,228.616 {447},In2306,ppm, .0017,.0001,5.716, .0018, .0016
Cr2677,267.716 {126},Y_3600,ppm, .0021,.0000,.4917, .0021, .0021
Cu3247,324.754 {104},Y_3600,ppm, .0011,.0000,3.006, .0011, .0011
Fe2404,240.488 {140},In2306,ppm, 5.025,.0355,.7058, 5.000, 5.050
K_7664,766.490 { 44},Y_3710,ppm, 4.209,.0429,1.019, 4.178, 4.239
Li6707,670.784 { 50},Y_3710,ppm, .0533,.0004,.8134, .0536, .0530
Mg2790,279.079 {121},Y_3710,ppm, 106.5,1.445,1.356, 105.5, 107.6
Mn2576,257.610 {131},Y_3600,ppm, .2129,.0001,.0575, .2128, .2130
Mo2020,202.030 {467},Y_2243,ppm, .0111,.0006,5.758, .0116, .0107
Na5895,589.592 { 57},Y_3710,ppm, 108.7,.2219,.2041, 108.6, 108.9
Ni2316,231.604 {445},In2306,ppm, .0299,.0000,.1062, .0298, .0299
P_1782,178.284 {489},In2306,ppm, 30.01,.0800,.2665, 30.07, 29.95
Pb2203,220.353 {453},In2306,ppm, .0008,.0026,315.2, .0027, -.0010
S_1820,182.034 {485},Y_2243,ppm, 47.93,.0191,.0398, 47.94, 47.92
Sb2068,206.833 {463},Y_2243,ppm, -.0001,.0004,358.5, -.0004, .0002
Se1960,196.090 {472},Y_2243,ppm, .0021,.0004,18.63, .0018, .0024
Si2516,251.611 {134},Y_3710,ppm, 13.93,.2195,1.576, 13.77, 14.08
Sn1899,189.989 {477},In2306,ppm, .1127,.0000,.0283, .1127, .1126
Sr4215,421.552 { 80},Y_3710,ppm, 2.895,.0025,.0871, 2.893, 2.897
Ti3349,334.904 {101},Y_3600,ppm, .0014,.0003,23.58, .0016, .0012
Tl1908,190.856 {477},In2306,ppm, .0006,.0033,549.2, .0030, -.0017
U_3670,367.007 { 92},Y_3600,ppm, .2364,.0203,8.602, .2508, .2221
V_2924,292.402 {115},Y_3600,ppm, .0021,.0002,8.243, .0019, .0022
W_2397,239.709 {140},Y_2243,ppm, -.0305,.0094,30.94, -.0372, -.0238
Zn2062,206.200 {463},In2306,ppm, .1377,.0010,.6938, .1384, .1370

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 237.44,.01305,.00549,237.45,237.43
In2306,230.606 {446},Cts/S, 13230.,1.0024,.00758,13230.,13231.
Y_2243,224.306 {450},Cts/S, 21550.,25.633,.11895,21568.,21532.
Y_3600,360.073 { 94},Cts/S, 184840.,828.84,.44840,185430.,184260.
Y_3710,371.030 { 91},Cts/S, 12844.,13.250,.10316,12853.,12835.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0008,.0004,44.24, .0011, .0006
Al3082,308.215 {109},In2306,ppm, .0082,.0219,268.9, .0237, -.0074
As1890,189.042 {478},Y_2243,ppm, .2936,.0023,.7966, .2920, .2953
B_2496,249.678 {135},Y_3710,ppm, .4201,.0001,.0320, .4200, .4202
Ba4554,455.403 { 74},Y_3710,ppm, 1.690,.0149,.8820, 1.701, 1.680
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Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,12.16, -.0001, -.0001
Ca3158,315.887 {107},In2306,ppm, 127.2,2.056,1.617, 128.6, 125.7
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0001,1438., .0001, -.0001
Co2286,228.616 {447},In2306,ppm, .0006,.0001,13.52, .0006, .0005
Cr2677,267.716 {126},Y_3600,ppm, .0014,.0003,23.47, .0016, .0012
Cu3247,324.754 {104},Y_3600,ppm, .0009,.0001,11.38, .0010, .0008
Fe2404,240.488 {140},In2306,ppm, 11.38,.1088,.9557, 11.46, 11.30
K_7664,766.490 { 44},Y_3710,ppm, 4.641,.0581,1.251, 4.682, 4.600
Li6707,670.784 { 50},Y_3710,ppm, .0667,.0009,1.423, .0673, .0660
Mg2790,279.079 {121},Y_3710,ppm, 83.11,1.090,1.311, 83.88, 82.34
Mn2576,257.610 {131},Y_3600,ppm, .1877,.0018,.9691, .1864, .1890
Mo2020,202.030 {467},Y_2243,ppm, .0008,.0003,33.11, .0006, .0010
Na5895,589.592 { 57},Y_3710,ppm, 104.1,1.104,1.060, 104.9, 103.4
Ni2316,231.604 {445},In2306,ppm, .0278,.0003,1.231, .0281, .0276
P_1782,178.284 {489},In2306,ppm, 18.70,.0335,.1793, 18.67, 18.72
Pb2203,220.353 {453},In2306,ppm, .0011,.0014,128.5, .0001, .0022
S_1820,182.034 {485},Y_2243,ppm, 14.91,.0020,.0132, 14.91, 14.91
Sb2068,206.833 {463},Y_2243,ppm, .0009,.0027,303.7, .0028, -.0010
Se1960,196.090 {472},Y_2243,ppm, -.0016,.0006,37.54, -.0012, -.0020
Si2516,251.611 {134},Y_3710,ppm, 14.71,.0961,.6535, 14.78, 14.64
Sn1899,189.989 {477},In2306,ppm, -.0003,.0003,110.2, -.0001, -.0005
Sr4215,421.552 { 80},Y_3710,ppm, 2.397,.0231,.9621, 2.413, 2.380
Ti3349,334.904 {101},Y_3600,ppm, .0010,.0001,14.13, .0011, .0009
Tl1908,190.856 {477},In2306,ppm, .0056,.0019,34.12, .0042, .0069
U_3670,367.007 { 92},Y_3600,ppm, .2822,.0368,13.06, .2561, .3082
V_2924,292.402 {115},Y_3600,ppm, -.0004,.0003,69.70, -.0002, -.0006
W_2397,239.709 {140},Y_2243,ppm, .0549,.0114,20.80, .0469, .0630
Zn2062,206.200 {463},In2306,ppm, .0552,.0003,.4563, .0551, .0554

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 232.68,3.7996,1.6330,229.99,235.36
In2306,230.606 {446},Cts/S, 13081.,3.4226,.02616,13084.,13079.
Y_2243,224.306 {450},Cts/S, 21302.,43.734,.20530,21271.,21333.
Y_3600,360.073 { 94},Cts/S, 184370.,2038.9,1.1059,185810.,182920.
Y_3710,371.030 { 91},Cts/S, 12797.,218.18,1.7049,12643.,12951.

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Custom ID2=
Custom ID3=
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Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0001,.0001,113.9, .0002, .0000
Al3082,308.215 {109},In2306,ppm, -.0062,.0063,100.5, -.0107, -.0018
As1890,189.042 {478},Y_2243,ppm, .3357,.0006,.1722, .3362, .3353
B_2496,249.678 {135},Y_3710,ppm, .4291,.0017,.3893, .4279, .4303
Ba4554,455.403 { 74},Y_3710,ppm, 1.316,.0013,.0966, 1.317, 1.315
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0001,189.5, .0000, -.0002
Ca3158,315.887 {107},In2306,ppm, 58.22,.1806,.3102, 58.09, 58.35
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0002,152.8, .0000, -.0003
Co2286,228.616 {447},In2306,ppm, -.0003,.0001,19.49, -.0003, -.0003
Cr2677,267.716 {126},Y_3600,ppm, .0007,.0001,14.24, .0006, .0008
Cu3247,324.754 {104},Y_3600,ppm, .0010,.0007,74.00, .0005, .0015
Fe2404,240.488 {140},In2306,ppm, 8.844,.0034,.0383, 8.846, 8.841
K_7664,766.490 { 44},Y_3710,ppm, 3.522,.0264,.7493, 3.541, 3.503
Li6707,670.784 { 50},Y_3710,ppm, .0452,.0008,1.672, .0458, .0447
Mg2790,279.079 {121},Y_3710,ppm, 80.56,.8789,1.091, 79.94, 81.18
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Mn2576,257.610 {131},Y_3600,ppm, .1431,.0003,.2147, .1433, .1429
Mo2020,202.030 {467},Y_2243,ppm, .0093,.0002,2.393, .0094, .0091
Na5895,589.592 { 57},Y_3710,ppm, 83.40,.0961,.1153, 83.33, 83.47
Ni2316,231.604 {445},In2306,ppm, .0523,.0003,.5710, .0525, .0521
P_1782,178.284 {489},In2306,ppm, 19.29,.0105,.0544, 19.30, 19.28
Pb2203,220.353 {453},In2306,ppm, .0011,.0002,17.69, .0010, .0013
S_1820,182.034 {485},Y_2243,ppm, 20.28,.0342,.1685, 20.30, 20.25
Sb2068,206.833 {463},Y_2243,ppm, .0004,.0013,322.0, .0013, -.0005
Se1960,196.090 {472},Y_2243,ppm, .0010,.0000,.4911, .0010, .0010
Si2516,251.611 {134},Y_3710,ppm, 11.26,.0273,.2425, 11.24, 11.28
Sn1899,189.989 {477},In2306,ppm, -.0004,.0003,76.11, -.0002, -.0006
Sr4215,421.552 { 80},Y_3710,ppm, 2.589,.0007,.0253, 2.590, 2.589
Ti3349,334.904 {101},Y_3600,ppm, .0010,.0001,10.17, .0009, .0010
Tl1908,190.856 {477},In2306,ppm, .0046,.0007,14.95, .0041, .0051
U_3670,367.007 { 92},Y_3600,ppm, .2269,.0804,35.44, .2838, .1701
V_2924,292.402 {115},Y_3600,ppm, -.0011,.0001,10.60, -.0011, -.0012
W_2397,239.709 {140},Y_2243,ppm, .0047,.0064,134.9, .0002, .0093
Zn2062,206.200 {463},In2306,ppm, .0338,.0000,.1051, .0337, .0338

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 236.40,.34657,.14660,236.64,236.15
In2306,230.606 {446},Cts/S, 13542.,19.166,.14153,13556.,13529.
Y_2243,224.306 {450},Cts/S, 21840.,64.588,.29573,21886.,21794.
Y_3600,360.073 { 94},Cts/S, 186520.,1243.8,.66686,185640.,187400.
Y_3710,371.030 { 91},Cts/S, 12772.,105.29,.82442,12846.,12697.

[Sample Header]
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Custom ID2=
Custom ID3=
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Sample Type=Unk
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0007,.0002,25.11, .0006, .0008
Al3082,308.215 {109},In2306,ppm, .0040,.0208,516.9, .0188, -.0107
As1890,189.042 {478},Y_2243,ppm, .4598,.0019,.4206, .4612, .4584
B_2496,249.678 {135},Y_3710,ppm, .3058,.0000,.0038, .3058, .3058
Ba4554,455.403 { 74},Y_3710,ppm, .5781,.0021,.3627, .5766, .5796
Be3130,313.042 {108},Y_3710,ppm, .0000,.0001,212.4, .0001, -.0000
Ca3158,315.887 {107},In2306,ppm, 63.18,.5180,.8199, 63.55, 62.82
Cd2288,228.802 {447},Y_2243,ppm, -.0005,.0000,.3377, -.0005, -.0005
Co2286,228.616 {447},In2306,ppm, .0016,.0001,5.712, .0017, .0015
Cr2677,267.716 {126},Y_3600,ppm, .0009,.0002,18.86, .0007, .0010
Cu3247,324.754 {104},Y_3600,ppm, .0009,.0001,10.21, .0009, .0010
Fe2404,240.488 {140},In2306,ppm, 5.317,.0076,.1436, 5.322, 5.311
K_7664,766.490 { 44},Y_3710,ppm, 2.994,.0181,.6056, 3.007, 2.982
Li6707,670.784 { 50},Y_3710,ppm, .0239,.0004,1.792, .0236, .0242
Mg2790,279.079 {121},Y_3710,ppm, 70.38,.9108,1.294, 71.02, 69.73
Mn2576,257.610 {131},Y_3600,ppm, .2824,.0005,.1800, .2821, .2828
Mo2020,202.030 {467},Y_2243,ppm, .0283,.0002,.5352, .0284, .0282
Na5895,589.592 { 57},Y_3710,ppm, 26.39,.0128,.0485, 26.38, 26.40
Ni2316,231.604 {445},In2306,ppm, .0431,.0003,.7505, .0429, .0433
P_1782,178.284 {489},In2306,ppm, 12.15,.0357,.2938, 12.12, 12.17
Pb2203,220.353 {453},In2306,ppm, .0013,.0004,29.53, .0016, .0010
S_1820,182.034 {485},Y_2243,ppm, 14.19,.0368,.2595, 14.16, 14.21
Sb2068,206.833 {463},Y_2243,ppm, .0016,.0010,58.37, .0023, .0010
Se1960,196.090 {472},Y_2243,ppm, .0016,.0007,42.06, .0012, .0021
Si2516,251.611 {134},Y_3710,ppm, 9.584,.0325,.3391, 9.607, 9.561
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Sn1899,189.989 {477},In2306,ppm, .0006,.0003,46.05, .0009, .0004
Sr4215,421.552 { 80},Y_3710,ppm, 2.444,.0071,.2899, 2.439, 2.449
Ti3349,334.904 {101},Y_3600,ppm, .0008,.0003,37.52, .0010, .0006
Tl1908,190.856 {477},In2306,ppm, .0058,.0002,3.833, .0060, .0057
U_3670,367.007 { 92},Y_3600,ppm, .1871,.0419,22.37, .2167, .1575
V_2924,292.402 {115},Y_3600,ppm, -.0013,.0002,15.89, -.0011, -.0014
W_2397,239.709 {140},Y_2243,ppm, -.0052,.0199,378.9, -.0193, .0088
Zn2062,206.200 {463},In2306,ppm, .0166,.0002,1.294, .0164, .0167

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 238.49,2.2022,.92339,236.93,240.05
In2306,230.606 {446},Cts/S, 13992.,10.886,.07780,13984.,13999.
Y_2243,224.306 {450},Cts/S, 22200.,51.589,.23238,22164.,22237.
Y_3600,360.073 { 94},Cts/S, 190000.,292.76,.15408,189800.,190210.
Y_3710,371.030 { 91},Cts/S, 12856.,161.89,1.2593,12741.,12970.

[Sample Header]
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Custom ID3=
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0003,.0009,261.6, .0003, -.0010
Al3082,308.215 {109},In2306,ppm, 10.34,.0003,.0033, 10.34, 10.34
As1890,189.042 {478},Y_2243,ppm, .0073,.0005,7.323, .0077, .0070
B_2496,249.678 {135},Y_3710,ppm, .1274,.0090,7.057, .1210, .1337
Ba4554,455.403 { 74},Y_3710,ppm, .4492,.0020,.4351, .4478, .4505
Be3130,313.042 {108},Y_3710,ppm, .0004,.0001,20.99, .0004, .0003
Ca3158,315.887 {107},In2306,ppm, 97.87,.1178,.1203, 97.95, 97.78
Cd2288,228.802 {447},Y_2243,ppm, .0006,.0001,23.22, .0007, .0005
Co2286,228.616 {447},In2306,ppm, .0074,.0003,3.865, .0072, .0076
Cr2677,267.716 {126},Y_3600,ppm, 1.197,.0013,.1098, 1.198, 1.196
Cu3247,324.754 {104},Y_3600,ppm, .0327,.0000,.0203, .0327, .0327
Fe2404,240.488 {140},In2306,ppm, 12.29,.1076,.8751, 12.22, 12.37
K_7664,766.490 { 44},Y_3710,ppm, 9.895,.0941,.9506, 9.828, 9.961
Li6707,670.784 { 50},Y_3710,ppm, .0453,.0016,3.439, .0442, .0464
Mg2790,279.079 {121},Y_3710,ppm, 38.99,.5761,1.478, 38.58, 39.39
Mn2576,257.610 {131},Y_3600,ppm, .1205,.0002,.1485, .1206, .1203
Mo2020,202.030 {467},Y_2243,ppm, .0652,.0001,.1907, .0651, .0653
Na5895,589.592 { 57},Y_3710,ppm, 12.87,.0328,.2549, 12.85, 12.89
Ni2316,231.604 {445},In2306,ppm, .2443,.0001,.0496, .2444, .2442
P_1782,178.284 {489},In2306,ppm, .1934,.0016,.8106, .1945, .1923
Pb2203,220.353 {453},In2306,ppm, .0031,.0018,58.44, .0044, .0018
S_1820,182.034 {485},Y_2243,ppm, 2.979,.0001,.0046, 2.978, 2.979
Sb2068,206.833 {463},Y_2243,ppm, -.0094,.0015,16.32, -.0083, -.0105
Se1960,196.090 {472},Y_2243,ppm, .0051,.0006,11.99, .0055, .0046
Si2516,251.611 {134},Y_3710,ppm, 27.90,.5751,2.061, 27.49, 28.31
Sn1899,189.989 {477},In2306,ppm, .0114,.0004,3.688, .0111, .0116
Sr4215,421.552 { 80},Y_3710,ppm, 1.632,.0045,.2754, 1.629, 1.635
Ti3349,334.904 {101},Y_3600,ppm, .1057,.0001,.0765, .1056, .1057
Tl1908,190.856 {477},In2306,ppm, .0023,.0004,18.56, .0026, .0020
U_3670,367.007 { 92},Y_3600,ppm, .2008,.0174,8.640, .1886, .2131
V_2924,292.402 {115},Y_3600,ppm, .0386,.0000,.0810, .0385, .0386
W_2397,239.709 {140},Y_2243,ppm, .0485,.0314,64.86, .0262, .0707
Zn2062,206.200 {463},In2306,ppm, .0964,.0001,.1246, .0963, .0964

[Internal Standards]
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Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 236.86,1.4415,.60860,235.84,237.88
In2306,230.606 {446},Cts/S, 13992.,9.9932,.07142,13999.,13985.
Y_2243,224.306 {450},Cts/S, 22599.,15.948,.07057,22610.,22588.
Y_3600,360.073 { 94},Cts/S, 191270.,67.850,.03547,191320.,191220.
Y_3710,371.030 { 91},Cts/S, 12910.,43.234,.33488,12941.,12880.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .5792,.0015,.2639, .5781, .5803
Al3082,308.215 {109},In2306,ppm, 20.37,.1414,.6941, 20.27, 20.47
As1890,189.042 {478},Y_2243,ppm, 1.017,.0008,.0773, 1.017, 1.018
B_2496,249.678 {135},Y_3710,ppm, .9952,.0133,1.335, .9858, 1.005
Ba4554,455.403 { 74},Y_3710,ppm, 1.015,.0029,.2872, 1.013, 1.017
Be3130,313.042 {108},Y_3710,ppm, .9940,.0036,.3620, .9915, .9966
Ca3158,315.887 {107},In2306,ppm, 20.09,.1324,.6589, 20.00, 20.18
Cd2288,228.802 {447},Y_2243,ppm, 1.028,.0000,.0038, 1.028, 1.028
Co2286,228.616 {447},In2306,ppm, .9896,.0008,.0788, .9902, .9891
Cr2677,267.716 {126},Y_3600,ppm, .9932,.0039,.3930, .9904, .9959
Cu3247,324.754 {104},Y_3600,ppm, 1.014,.0002,.0217, 1.014, 1.013
Fe2404,240.488 {140},In2306,ppm, 20.08,.1197,.5960, 20.00, 20.17
K_7664,766.490 { 44},Y_3710,ppm, 19.86,.1038,.5223, 19.79, 19.94
Li6707,670.784 { 50},Y_3710,ppm, 1.011,.0048,.4765, 1.008, 1.015
Mg2790,279.079 {121},Y_3710,ppm, 19.35,.0573,.2963, 19.31, 19.39
Mn2576,257.610 {131},Y_3600,ppm, 1.008,.0041,.4070, 1.005, 1.011
Mo2020,202.030 {467},Y_2243,ppm, 1.044,.0007,.0691, 1.044, 1.045
Na5895,589.592 { 57},Y_3710,ppm, 19.86,.0599,.3016, 19.81, 19.90
Ni2316,231.604 {445},In2306,ppm, .9996,.0010,.1024, 1.000, .9989
P_1782,178.284 {489},In2306,ppm, 10.06,.0070,.0691, 10.07, 10.06
Pb2203,220.353 {453},In2306,ppm, .9944,.0034,.3382, .9968, .9920
S_1820,182.034 {485},Y_2243,ppm, 10.56,.0155,.1466, 10.55, 10.57
Sb2068,206.833 {463},Y_2243,ppm, 2.187,.0010,.0459, 2.187, 2.188
Se1960,196.090 {472},Y_2243,ppm, 1.018,.0022,.2162, 1.020, 1.017
Si2516,251.611 {134},Y_3710,ppm, 9.719,.0425,.4370, 9.689, 9.749
Sn1899,189.989 {477},In2306,ppm, .9896,.0005,.0493, .9899, .9892
Sr4215,421.552 { 80},Y_3710,ppm, 1.020,.0047,.4603, 1.017, 1.024
Ti3349,334.904 {101},Y_3600,ppm, 1.007,.0021,.2133, 1.006, 1.009
Tl1908,190.856 {477},In2306,ppm, .9901,.0008,.0796, .9907, .9896
U_3670,367.007 { 92},Y_3600,ppm, 1.085,.0161,1.483, 1.096, 1.073
V_2924,292.402 {115},Y_3600,ppm, 1.016,.0038,.3744, 1.013, 1.019
W_2397,239.709 {140},Y_2243,ppm, .9543,.0400,4.192, .9826, .9260
Zn2062,206.200 {463},In2306,ppm, .9787,.0005,.0515, .9790, .9783

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 237.31,1.8667,.78664,238.63,235.99
In2306,230.606 {446},Cts/S, 14353.,13.141,.09155,14344.,14362.
Y_2243,224.306 {450},Cts/S, 22961.,12.578,.05478,22953.,22970.
Y_3600,360.073 { 94},Cts/S, 193200.,215.98,.11179,193050.,193350.
Y_3710,371.030 { 91},Cts/S, 12723.,61.931,.48675,12767.,12680.

[Sample Header]
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Mode=CONC
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0114,.0000,.2025, .0114, .0114
Al3082,308.215 {109},In2306,ppm, .2078,.0000,.0104, .2078, .2078
As1890,189.042 {478},Y_2243,ppm, .0219,.0001,.3361, .0220, .0219
B_2496,249.678 {135},Y_3710,ppm, .2065,.0010,.4845, .2058, .2073
Ba4554,455.403 { 74},Y_3710,ppm, .0218,.0000,.1604, .0219, .0218
Be3130,313.042 {108},Y_3710,ppm, .0111,.0000,.1669, .0111, .0111
Ca3158,315.887 {107},In2306,ppm, 1.014,.0046,.4505, 1.011, 1.018
Cd2288,228.802 {447},Y_2243,ppm, .0114,.0001,1.181, .0115, .0113
Co2286,228.616 {447},In2306,ppm, .0103,.0001,.5575, .0104, .0103
Cr2677,267.716 {126},Y_3600,ppm, .0114,.0001,.7617, .0113, .0114
Cu3247,324.754 {104},Y_3600,ppm, .0117,.0004,3.469, .0115, .0120
Fe2404,240.488 {140},In2306,ppm, .2030,.0029,1.415, .2010, .2050
K_7664,766.490 { 44},Y_3710,ppm, 1.044,.0368,3.523, 1.018, 1.070
Li6707,670.784 { 50},Y_3710,ppm, .0109,.0002,1.929, .0107, .0110
Mg2790,279.079 {121},Y_3710,ppm, 1.030,.0180,1.751, 1.017, 1.043
Mn2576,257.610 {131},Y_3600,ppm, .0113,.0000,.2603, .0113, .0113
Mo2020,202.030 {467},Y_2243,ppm, .0230,.0002,.9145, .0231, .0228
Na5895,589.592 { 57},Y_3710,ppm, 1.085,.0071,.6546, 1.090, 1.080
Ni2316,231.604 {445},In2306,ppm, .0109,.0001,1.253, .0109, .0108
P_1782,178.284 {489},In2306,ppm, .9694,.0127,1.307, .9784, .9605
Pb2203,220.353 {453},In2306,ppm, .0108,.0004,3.578, .0110, .0105
S_1820,182.034 {485},Y_2243,ppm, .5165,.0204,3.955, .5310, .5021
Sb2068,206.833 {463},Y_2243,ppm, .0573,.0005,.8373, .0569, .0576
Se1960,196.090 {472},Y_2243,ppm, .0237,.0011,4.769, .0245, .0229
Si2516,251.611 {134},Y_3710,ppm, .2313,.0022,.9584, .2297, .2328
Sn1899,189.989 {477},In2306,ppm, .0210,.0004,1.869, .0213, .0207
Sr4215,421.552 { 80},Y_3710,ppm, .0112,.0001,.9428, .0113, .0112
Ti3349,334.904 {101},Y_3600,ppm, .0114,.0002,1.705, .0113, .0116
Tl1908,190.856 {477},In2306,ppm, .0364,.0029,8.060, .0385, .0344
U_3670,367.007 { 92},Y_3600,ppm, .1397,.0186,13.30, .1528, .1265
V_2924,292.402 {115},Y_3600,ppm, .0109,.0001,1.209, .0110, .0108
W_2397,239.709 {140},Y_2243,ppm, .0842,.0030,3.604, .0864, .0821
Zn2062,206.200 {463},In2306,ppm, .0184,.0003,1.775, .0186, .0181

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 252.43,3.3463,1.3256,254.80,250.07
In2306,230.606 {446},Cts/S, 16051.,130.03,.81010,15959.,16143.
Y_2243,224.306 {450},Cts/S, 23986.,193.99,.80876,23849.,24123.
Y_3600,360.073 { 94},Cts/S, 202260.,67.845,.03354,202220.,202310.
Y_3710,371.030 { 91},Cts/S, 12995.,.68182,.00525,12995.,12994.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0001,.0002,263.2, .0002, -.0001
Al3082,308.215 {109},In2306,ppm, -.0028,.0041,149.2, -.0057, .0002
As1890,189.042 {478},Y_2243,ppm, .0002,.0009,476.2, .0008, -.0004
B_2496,249.678 {135},Y_3710,ppm, -.0040,.0004,10.60, -.0044, -.0037
Ba4554,455.403 { 74},Y_3710,ppm, -.0004,.0000,8.380, -.0004, -.0004
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,636.1, .0000, -.0000
Ca3158,315.887 {107},In2306,ppm, -.0194,.0037,19.04, -.0168, -.0220
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,75.29, .0001, .0000
Co2286,228.616 {447},In2306,ppm, -.0002,.0001,56.02, -.0002, -.0001
Cr2677,267.716 {126},Y_3600,ppm, .0001,.0004,325.6, .0004, -.0001
Cu3247,324.754 {104},Y_3600,ppm, .0004,.0001,17.04, .0003, .0004
Fe2404,240.488 {140},In2306,ppm, .0035,.0051,146.8, -.0001, .0071
K_7664,766.490 { 44},Y_3710,ppm, -.0206,.0184,89.15, -.0076, -.0336
Li6707,670.784 { 50},Y_3710,ppm, -.0003,.0000,12.98, -.0003, -.0003
Mg2790,279.079 {121},Y_3710,ppm, -.0035,.0031,89.14, -.0013, -.0057
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,27.98, -.0000, -.0000
Mo2020,202.030 {467},Y_2243,ppm, -.0004,.0002,57.96, -.0002, -.0006
Na5895,589.592 { 57},Y_3710,ppm, .0053,.0045,84.28, .0021, .0085
Ni2316,231.604 {445},In2306,ppm, .0001,.0000,31.22, .0001, .0001
P_1782,178.284 {489},In2306,ppm, .0049,.0001,1.216, .0049, .0049
Pb2203,220.353 {453},In2306,ppm, .0008,.0010,126.7, .0001, .0015
S_1820,182.034 {485},Y_2243,ppm, .0101,.0006,6.212, .0097, .0105
Sb2068,206.833 {463},Y_2243,ppm, .0006,.0008,126.6, .0001, .0012
Se1960,196.090 {472},Y_2243,ppm, .0002,.0013,711.4, .0011, -.0008
Si2516,251.611 {134},Y_3710,ppm, .0252,.0093,36.98, .0186, .0318
Sn1899,189.989 {477},In2306,ppm, .0003,.0000,9.900, .0003, .0003
Sr4215,421.552 { 80},Y_3710,ppm, .0001,.0000,7.722, .0001, .0001
Ti3349,334.904 {101},Y_3600,ppm, .0001,.0001,66.00, .0001, .0002
Tl1908,190.856 {477},In2306,ppm, .0115,.0008,7.061, .0121, .0109
U_3670,367.007 { 92},Y_3600,ppm, .0606,.0492,81.15, .0258, .0954
V_2924,292.402 {115},Y_3600,ppm, -.0002,.0001,53.60, -.0002, -.0001
W_2397,239.709 {140},Y_2243,ppm, .0279,.0507,181.8, .0637, -.0080
Zn2062,206.200 {463},In2306,ppm, -.0012,.0000,1.678, -.0012, -.0012

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 251.01,2.0042,.79843,249.60,252.43
In2306,230.606 {446},Cts/S, 16203.,41.161,.25404,16232.,16174.
Y_2243,224.306 {450},Cts/S, 23792.,22.437,.09430,23808.,23776.
Y_3600,360.073 { 94},Cts/S, 201780.,33.649,.01668,201800.,201750.
Y_3710,371.030 { 91},Cts/S, 12938.,52.704,.40737,12900.,12975.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0000,.0000,116.3, .0000, .0000
Al3082,308.215 {109},In2306,ppm, 2.319,.0142,.6103, 2.309, 2.329
As1890,189.042 {478},Y_2243,ppm, .0072,.0005,6.358, .0076, .0069
B_2496,249.678 {135},Y_3710,ppm, .0679,.0026,3.765, .0697, .0660
Ba4554,455.403 { 74},Y_3710,ppm, .3379,.0001,.0221, .3379, .3380
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,6072., -.0000, .0000
Ca3158,315.887 {107},In2306,ppm, 65.41,.4488,.6861, 65.09, 65.72
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Cd2288,228.802 {447},Y_2243,ppm, .0003,.0000,3.882, .0003, .0003
Co2286,228.616 {447},In2306,ppm, .0004,.0000,8.141, .0004, .0005
Cr2677,267.716 {126},Y_3600,ppm, .0088,.0001,.9482, .0089, .0087
Cu3247,324.754 {104},Y_3600,ppm, .0078,.0002,2.037, .0079, .0077
Fe2404,240.488 {140},In2306,ppm, 1.617,.0376,2.327, 1.591, 1.644
K_7664,766.490 { 44},Y_3710,ppm, 5.196,.0670,1.290, 5.148, 5.243
Li6707,670.784 { 50},Y_3710,ppm, .0227,.0000,.0585, .0227, .0228
Mg2790,279.079 {121},Y_3710,ppm, 11.54,.0481,.4166, 11.51, 11.58
Mn2576,257.610 {131},Y_3600,ppm, .0367,.0001,.3664, .0368, .0367
Mo2020,202.030 {467},Y_2243,ppm, .0049,.0003,5.685, .0051, .0047
Na5895,589.592 { 57},Y_3710,ppm, 11.87,.0079,.0669, 11.88, 11.87
Ni2316,231.604 {445},In2306,ppm, .0076,.0001,.9673, .0076, .0075
P_1782,178.284 {489},In2306,ppm, .8236,.0061,.7376, .8279, .8193
Pb2203,220.353 {453},In2306,ppm, .0023,.0001,2.824, .0024, .0023
S_1820,182.034 {485},Y_2243,ppm, 4.256,.0278,.6541, 4.276, 4.236
Sb2068,206.833 {463},Y_2243,ppm, .0023,.0014,58.35, .0033, .0014
Se1960,196.090 {472},Y_2243,ppm, .0010,.0040,391.8, .0038, -.0018
Si2516,251.611 {134},Y_3710,ppm, 13.70,.1027,.7498, 13.63, 13.77
Sn1899,189.989 {477},In2306,ppm, .0120,.0002,1.452, .0119, .0121
Sr4215,421.552 { 80},Y_3710,ppm, .4819,.0006,.1187, .4815, .4823
Ti3349,334.904 {101},Y_3600,ppm, .0265,.0001,.3460, .0266, .0265
Tl1908,190.856 {477},In2306,ppm, .0088,.0025,28.26, .0105, .0070
U_3670,367.007 { 92},Y_3600,ppm, .1443,.0460,31.90, .1768, .1117
V_2924,292.402 {115},Y_3600,ppm, .0091,.0001,1.168, .0090, .0092
W_2397,239.709 {140},Y_2243,ppm, .0389,.0490,126.2, .0042, .0735
Zn2062,206.200 {463},In2306,ppm, .0595,.0005,.9183, .0598, .0591

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 243.94,1.2673,.51952,244.83,243.04
In2306,230.606 {446},Cts/S, 14557.,28.965,.19898,14577.,14536.
Y_2243,224.306 {450},Cts/S, 22895.,68.917,.30102,22944.,22846.
Y_3600,360.073 { 94},Cts/S, 194730.,113.95,.05852,194650.,194810.
Y_3710,371.030 { 91},Cts/S, 13021.,15.422,.11844,13010.,13032.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0009,.0003,30.18, .0011, .0007
Al3082,308.215 {109},In2306,ppm, 7.626,.0331,.4344, 7.602, 7.649
As1890,189.042 {478},Y_2243,ppm, .0067,.0008,12.58, .0061, .0073
B_2496,249.678 {135},Y_3710,ppm, .1285,.0012,.9715, .1294, .1276
Ba4554,455.403 { 74},Y_3710,ppm, .4312,.0022,.5169, .4296, .4328
Be3130,313.042 {108},Y_3710,ppm, .0003,.0000,13.10, .0002, .0003
Ca3158,315.887 {107},In2306,ppm, 93.23,1.054,1.131, 92.48, 93.97
Cd2288,228.802 {447},Y_2243,ppm, .0006,.0000,4.967, .0006, .0006
Co2286,228.616 {447},In2306,ppm, .0055,.0000,.2966, .0055, .0055
Cr2677,267.716 {126},Y_3600,ppm, .8902,.0072,.8102, .8953, .8851
Cu3247,324.754 {104},Y_3600,ppm, .0254,.0006,2.337, .0258, .0250
Fe2404,240.488 {140},In2306,ppm, 9.168,.0907,.9889, 9.104, 9.232
K_7664,766.490 { 44},Y_3710,ppm, 9.368,.0715,.7630, 9.317, 9.418
Li6707,670.784 { 50},Y_3710,ppm, .0427,.0019,4.344, .0414, .0440
Mg2790,279.079 {121},Y_3710,ppm, 38.54,.3426,.8889, 38.30, 38.79
Mn2576,257.610 {131},Y_3600,ppm, .0946,.0006,.6210, .0951, .0942
Mo2020,202.030 {467},Y_2243,ppm, .0519,.0005,.8783, .0522, .0516
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Na5895,589.592 { 57},Y_3710,ppm, 13.08,.0874,.6686, 13.02, 13.14
Ni2316,231.604 {445},In2306,ppm, .2036,.0015,.7273, .2046, .2025
P_1782,178.284 {489},In2306,ppm, .1284,.0024,1.853, .1267, .1300
Pb2203,220.353 {453},In2306,ppm, -.0001,.0014,1464., .0009, -.0011
S_1820,182.034 {485},Y_2243,ppm, 3.064,.0245,.7990, 3.081, 3.047
Sb2068,206.833 {463},Y_2243,ppm, -.0063,.0009,14.58, -.0070, -.0057
Se1960,196.090 {472},Y_2243,ppm, .0040,.0003,7.106, .0042, .0038
Si2516,251.611 {134},Y_3710,ppm, 22.98,.3594,1.564, 22.72, 23.23
Sn1899,189.989 {477},In2306,ppm, .0610,.0002,.3309, .0612, .0609
Sr4215,421.552 { 80},Y_3710,ppm, 1.617,.0099,.6107, 1.610, 1.623
Ti3349,334.904 {101},Y_3600,ppm, .0816,.0008,1.038, .0822, .0810
Tl1908,190.856 {477},In2306,ppm, .0021,.0011,52.22, .0013, .0029
U_3670,367.007 { 92},Y_3600,ppm, .1397,.0481,34.42, .1737, .1057
V_2924,292.402 {115},Y_3600,ppm, .0299,.0001,.1904, .0299, .0298
W_2397,239.709 {140},Y_2243,ppm, -.0182,.0189,103.8, -.0048, -.0316
Zn2062,206.200 {463},In2306,ppm, .1105,.0005,.4285, .1108, .1101

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 239.46,2.1464,.89635,240.98,237.95
In2306,230.606 {446},Cts/S, 14027.,5.6654,.04039,14031.,14023.
Y_2243,224.306 {450},Cts/S, 22651.,13.477,.05950,22660.,22641.
Y_3600,360.073 { 94},Cts/S, 191900.,1781.7,.92843,190640.,193160.
Y_3710,371.030 { 91},Cts/S, 12887.,64.954,.50402,12933.,12841.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0001,.0000,5.631, .0001, .0002
Al3082,308.215 {109},In2306,ppm, 1.055,.0193,1.830, 1.041, 1.069
As1890,189.042 {478},Y_2243,ppm, .0015,.0011,74.46, .0007, .0022
B_2496,249.678 {135},Y_3710,ppm, .0205,.0021,10.09, .0191, .0220
Ba4554,455.403 { 74},Y_3710,ppm, .0903,.0003,.3514, .0900, .0905
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,129.8, .0000, .0000
Ca3158,315.887 {107},In2306,ppm, 37.98,.3961,1.043, 37.70, 38.26
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,47.69, .0002, .0001
Co2286,228.616 {447},In2306,ppm, .0002,.0000,9.266, .0003, .0002
Cr2677,267.716 {126},Y_3600,ppm, .0033,.0001,2.110, .0032, .0033
Cu3247,324.754 {104},Y_3600,ppm, .0058,.0001,2.291, .0059, .0057
Fe2404,240.488 {140},In2306,ppm, 1.142,.0046,.4047, 1.139, 1.145
K_7664,766.490 { 44},Y_3710,ppm, 1.538,.0345,2.245, 1.514, 1.563
Li6707,670.784 { 50},Y_3710,ppm, .0015,.0001,3.303, .0016, .0015
Mg2790,279.079 {121},Y_3710,ppm, 3.504,.0365,1.042, 3.478, 3.530
Mn2576,257.610 {131},Y_3600,ppm, .0552,.0001,.2473, .0553, .0551
Mo2020,202.030 {467},Y_2243,ppm, .0007,.0000,3.956, .0007, .0007
Na5895,589.592 { 57},Y_3710,ppm, 10.88,.0152,.1397, 10.87, 10.89
Ni2316,231.604 {445},In2306,ppm, .0022,.0001,4.597, .0022, .0023
P_1782,178.284 {489},In2306,ppm, .0527,.0008,1.553, .0533, .0522
Pb2203,220.353 {453},In2306,ppm, .0031,.0012,39.36, .0040, .0023
S_1820,182.034 {485},Y_2243,ppm, 2.804,.0044,.1561, 2.801, 2.807
Sb2068,206.833 {463},Y_2243,ppm, .0010,.0005,54.69, .0006, .0013
Se1960,196.090 {472},Y_2243,ppm, -.0016,.0004,24.01, -.0019, -.0013
Si2516,251.611 {134},Y_3710,ppm, 3.976,.0198,.4978, 3.962, 3.990
Sn1899,189.989 {477},In2306,ppm, .0006,.0001,11.81, .0005, .0006
Sr4215,421.552 { 80},Y_3710,ppm, .1596,.0002,.1553, .1594, .1598
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Ti3349,334.904 {101},Y_3600,ppm, .0129,.0000,.2023, .0129, .0130
Tl1908,190.856 {477},In2306,ppm, .0079,.0007,8.386, .0084, .0074
U_3670,367.007 { 92},Y_3600,ppm, .1653,.0288,17.40, .1856, .1449
V_2924,292.402 {115},Y_3600,ppm, .0036,.0003,7.387, .0038, .0034
W_2397,239.709 {140},Y_2243,ppm, .0188,.0297,157.9, -.0022, .0398
Zn2062,206.200 {463},In2306,ppm, .1413,.0007,.4978, .1408, .1418

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 246.79,2.2336,.90505,248.37,245.21
In2306,230.606 {446},Cts/S, 15014.,45.449,.30271,15046.,14982.
Y_2243,224.306 {450},Cts/S, 23187.,19.166,.08266,23201.,23174.
Y_3600,360.073 { 94},Cts/S, 198690.,13.319,.00670,198680.,198700.
Y_3710,371.030 { 91},Cts/S, 13029.,58.471,.44877,13071.,12988.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0002,.0007,273.7, .0007, -.0002
Al3082,308.215 {109},In2306,ppm, .0239,.0032,13.39, .0261, .0216
As1890,189.042 {478},Y_2243,ppm, .0048,.0035,73.80, .0073, .0023
B_2496,249.678 {135},Y_3710,ppm, .3960,.0008,.2002, .3954, .3965
Ba4554,455.403 { 74},Y_3710,ppm, .1118,.0004,.3716, .1116, .1121
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,103.8, .0000, .0001
Ca3158,315.887 {107},In2306,ppm, 78.84,.3247,.4118, 78.62, 79.07
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,66.31, .0001, .0000
Co2286,228.616 {447},In2306,ppm, -.0002,.0002,100.2, -.0004, -.0001
Cr2677,267.716 {126},Y_3600,ppm, .0014,.0001,9.243, .0015, .0013
Cu3247,324.754 {104},Y_3600,ppm, .0032,.0003,10.20, .0030, .0035
Fe2404,240.488 {140},In2306,ppm, .1014,.0115,11.33, .0933, .1096
K_7664,766.490 { 44},Y_3710,ppm, 9.544,.0370,.3877, 9.518, 9.570
Li6707,670.784 { 50},Y_3710,ppm, .0771,.0005,.6789, .0767, .0774
Mg2790,279.079 {121},Y_3710,ppm, 5.943,.0656,1.104, 5.897, 5.990
Mn2576,257.610 {131},Y_3600,ppm, .0034,.0001,2.690, .0033, .0034
Mo2020,202.030 {467},Y_2243,ppm, .5961,.0003,.0439, .5963, .5959
Na5895,589.592 { 57},Y_3710,ppm, 570.4,11.55,2.026, 562.2, 578.5
Ni2316,231.604 {445},In2306,ppm, .0096,.0003,3.538, .0098, .0094
P_1782,178.284 {489},In2306,ppm, 1.083,.0019,.1789, 1.082, 1.085
Pb2203,220.353 {453},In2306,ppm, .0001,.0011,859.0, .0009, -.0007
S_1820,182.034 {485},Y_2243,ppm, 340.2,.8270,.2431, 340.8, 339.6
Sb2068,206.833 {463},Y_2243,ppm, .0013,.0004,30.94, .0011, .0016
Se1960,196.090 {472},Y_2243,ppm, .0169,.0017,10.15, .0157, .0181
Si2516,251.611 {134},Y_3710,ppm, 5.412,.0705,1.302, 5.362, 5.461
Sn1899,189.989 {477},In2306,ppm, -.0003,.0001,20.03, -.0003, -.0003
Sr4215,421.552 { 80},Y_3710,ppm, 1.755,.0040,.2291, 1.752, 1.758
Ti3349,334.904 {101},Y_3600,ppm, .0003,.0002,62.69, .0005, .0002
Tl1908,190.856 {477},In2306,ppm, -.0003,.0033,1254., .0021, -.0026
U_3670,367.007 { 92},Y_3600,ppm, .1800,.0004,.2178, .1803, .1798
V_2924,292.402 {115},Y_3600,ppm, .0048,.0004,8.477, .0051, .0045
W_2397,239.709 {140},Y_2243,ppm, .0056,.0384,682.8, -.0216, .0328
Zn2062,206.200 {463},In2306,ppm, .0852,.0001,.0837, .0851, .0852

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 231.75,.52683,.22732,232.13,231.38
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In2306,230.606 {446},Cts/S, 12334.,16.295,.13211,12323.,12346.
Y_2243,224.306 {450},Cts/S, 20998.,25.034,.11922,20981.,21016.
Y_3600,360.073 { 94},Cts/S, 176430.,460.67,.26111,176760.,176100.
Y_3710,371.030 { 91},Cts/S, 12612.,53.982,.42800,12651.,12574.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0010,.0003,29.30, .0013, .0008
Al3082,308.215 {109},In2306,ppm, .8409,.0033,.3969, .8386, .8433
As1890,189.042 {478},Y_2243,ppm, .0009,.0001,9.984, .0010, .0008
B_2496,249.678 {135},Y_3710,ppm, .1036,.0065,6.281, .1082, .0990
Ba4554,455.403 { 74},Y_3710,ppm, .0921,.0002,.2561, .0920, .0923
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,867.6, -.0001, .0000
Ca3158,315.887 {107},In2306,ppm, 56.10,.5348,.9532, 56.48, 55.72
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0000,15.20, .0003, .0002
Co2286,228.616 {447},In2306,ppm, .0001,.0001,187.5, .0002, -.0000
Cr2677,267.716 {126},Y_3600,ppm, .0063,.0002,2.943, .0064, .0061
Cu3247,324.754 {104},Y_3600,ppm, .0111,.0003,2.499, .0109, .0113
Fe2404,240.488 {140},In2306,ppm, .8602,.0140,1.630, .8702, .8503
K_7664,766.490 { 44},Y_3710,ppm, 2.773,.0335,1.207, 2.749, 2.796
Li6707,670.784 { 50},Y_3710,ppm, .0079,.0001,1.760, .0080, .0078
Mg2790,279.079 {121},Y_3710,ppm, 5.674,.0275,.4853, 5.654, 5.693
Mn2576,257.610 {131},Y_3600,ppm, .1035,.0002,.1772, .1036, .1033
Mo2020,202.030 {467},Y_2243,ppm, .0412,.0002,.4205, .0413, .0411
Na5895,589.592 { 57},Y_3710,ppm, 98.82,.1847,.1869, 98.69, 98.95
Ni2316,231.604 {445},In2306,ppm, .0022,.0001,4.797, .0022, .0021
P_1782,178.284 {489},In2306,ppm, .2531,.0023,.9186, .2515, .2547
Pb2203,220.353 {453},In2306,ppm, .0025,.0008,31.44, .0031, .0020
S_1820,182.034 {485},Y_2243,ppm, 58.22,.1558,.2676, 58.33, 58.11
Sb2068,206.833 {463},Y_2243,ppm, .0024,.0004,17.27, .0021, .0026
Se1960,196.090 {472},Y_2243,ppm, .0127,.0002,1.537, .0126, .0129
Si2516,251.611 {134},Y_3710,ppm, 6.490,.0388,.5973, 6.463, 6.518
Sn1899,189.989 {477},In2306,ppm, .0006,.0002,24.84, .0005, .0007
Sr4215,421.552 { 80},Y_3710,ppm, .2598,.0011,.4203, .2590, .2606
Ti3349,334.904 {101},Y_3600,ppm, .0060,.0002,2.601, .0059, .0061
Tl1908,190.856 {477},In2306,ppm, -.0005,.0005,98.44, -.0008, -.0001
U_3670,367.007 { 92},Y_3600,ppm, .1388,.0224,16.11, .1230, .1547
V_2924,292.402 {115},Y_3600,ppm, .0052,.0001,1.143, .0052, .0053
W_2397,239.709 {140},Y_2243,ppm, .0446,.0221,49.58, .0290, .0603
Zn2062,206.200 {463},In2306,ppm, .0416,.0001,.1368, .0416, .0417

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 239.57,2.9492,1.2311,237.49,241.66
In2306,230.606 {446},Cts/S, 13937.,18.220,.13074,13950.,13924.
Y_2243,224.306 {450},Cts/S, 22312.,3.9144,.01754,22309.,22315.
Y_3600,360.073 { 94},Cts/S, 188960.,448.35,.23728,188640.,189270.
Y_3710,371.030 { 91},Cts/S, 12784.,15.600,.12203,12773.,12795.

[Sample Header]
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Comment=
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Custom ID3=
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0000,.0005,1720., -.0004, .0003
Al3082,308.215 {109},In2306,ppm, .9295,.0048,.5191, .9261, .9329
As1890,189.042 {478},Y_2243,ppm, .0025,.0001,2.561, .0026, .0025
B_2496,249.678 {135},Y_3710,ppm, .0972,.0016,1.687, .0960, .0984
Ba4554,455.403 { 74},Y_3710,ppm, .0933,.0009,.9704, .0926, .0939
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,102.9, .0001, .0000
Ca3158,315.887 {107},In2306,ppm, 56.04,.6643,1.185, 55.57, 56.51
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0000,6.525, .0001, .0002
Co2286,228.616 {447},In2306,ppm, .0001,.0000,8.703, .0002, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0063,.0006,9.640, .0068, .0059
Cu3247,324.754 {104},Y_3600,ppm, .0109,.0006,5.396, .0113, .0105
Fe2404,240.488 {140},In2306,ppm, .8787,.0008,.0884, .8793, .8782
K_7664,766.490 { 44},Y_3710,ppm, 2.768,.0270,.9760, 2.749, 2.787
Li6707,670.784 { 50},Y_3710,ppm, .0090,.0004,4.756, .0087, .0093
Mg2790,279.079 {121},Y_3710,ppm, 5.798,.1018,1.756, 5.726, 5.870
Mn2576,257.610 {131},Y_3600,ppm, .1075,.0064,5.943, .1120, .1030
Mo2020,202.030 {467},Y_2243,ppm, .0408,.0001,.3538, .0407, .0409
Na5895,589.592 { 57},Y_3710,ppm, 99.74,.6557,.6573, 99.28, 100.2
Ni2316,231.604 {445},In2306,ppm, .0023,.0000,.1385, .0023, .0023
P_1782,178.284 {489},In2306,ppm, .2543,.0026,1.040, .2561, .2524
Pb2203,220.353 {453},In2306,ppm, .0023,.0022,96.79, .0007, .0039
S_1820,182.034 {485},Y_2243,ppm, 58.43,.0987,.1688, 58.50, 58.36
Sb2068,206.833 {463},Y_2243,ppm, .0025,.0006,22.31, .0021, .0029
Se1960,196.090 {472},Y_2243,ppm, .0119,.0022,18.33, .0134, .0103
Si2516,251.611 {134},Y_3710,ppm, 6.654,.1119,1.682, 6.575, 6.733
Sn1899,189.989 {477},In2306,ppm, .0000,.0001,484.7, .0001, -.0001
Sr4215,421.552 { 80},Y_3710,ppm, .2625,.0022,.8343, .2609, .2640
Ti3349,334.904 {101},Y_3600,ppm, .0066,.0006,8.661, .0070, .0062
Tl1908,190.856 {477},In2306,ppm, .0052,.0002,3.924, .0054, .0051
U_3670,367.007 { 92},Y_3600,ppm, .2315,.1689,72.94, .3509, .1121
V_2924,292.402 {115},Y_3600,ppm, .0050,.0003,6.846, .0052, .0047
W_2397,239.709 {140},Y_2243,ppm, .0031,.0684,2183., -.0452, .0515
Zn2062,206.200 {463},In2306,ppm, .0396,.0002,.4456, .0395, .0397

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 242.00,2.7503,1.1365,243.95,240.06
In2306,230.606 {446},Cts/S, 13850.,68.044,.49130,13802.,13898.
Y_2243,224.306 {450},Cts/S, 22174.,113.50,.51184,22094.,22254.
Y_3600,360.073 { 94},Cts/S, 183510.,8546.1,4.6570,177470.,189550.
Y_3710,371.030 { 91},Cts/S, 12777.,150.29,1.1763,12883.,12670.

[Sample Header]
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Custom ID3=
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[Results]
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Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .3024,.0011,.3729, .3032, .3016
Al3082,308.215 {109},In2306,ppm, 11.81,.1381,1.169, 11.72, 11.91
As1890,189.042 {478},Y_2243,ppm, 1.057,.0005,.0498, 1.057, 1.057
B_2496,249.678 {135},Y_3710,ppm, .6053,.0018,.3044, .6040, .6066
Ba4554,455.403 { 74},Y_3710,ppm, 1.113,.0261,2.345, 1.095, 1.132
Be3130,313.042 {108},Y_3710,ppm, 1.007,.0261,2.591, .9890, 1.026
Ca3158,315.887 {107},In2306,ppm, 65.72,.7356,1.119, 65.20, 66.24
Cd2288,228.802 {447},Y_2243,ppm, 1.061,.0021,.2017, 1.059, 1.062
Co2286,228.616 {447},In2306,ppm, 1.015,.0004,.0371, 1.015, 1.015
Cr2677,267.716 {126},Y_3600,ppm, .9979,.0052,.5172, 1.002, .9943
Cu3247,324.754 {104},Y_3600,ppm, 1.047,.0052,.4980, 1.050, 1.043
Fe2404,240.488 {140},In2306,ppm, 11.15,.1154,1.035, 11.07, 11.23
K_7664,766.490 { 44},Y_3710,ppm, 13.04,.3478,2.666, 12.80, 13.29
Li6707,670.784 { 50},Y_3710,ppm, 1.028,.0255,2.484, 1.010, 1.046
Mg2790,279.079 {121},Y_3710,ppm, 15.34,.4344,2.831, 15.03, 15.65
Mn2576,257.610 {131},Y_3600,ppm, 1.116,.0012,.1099, 1.117, 1.115
Mo2020,202.030 {467},Y_2243,ppm, 1.110,.0025,.2248, 1.108, 1.112
Na5895,589.592 { 57},Y_3710,ppm, 108.1,2.519,2.329, 106.4, 109.9
Ni2316,231.604 {445},In2306,ppm, 1.029,.0015,.1443, 1.028, 1.030
P_1782,178.284 {489},In2306,ppm, 5.822,.0086,.1483, 5.816, 5.828
Pb2203,220.353 {453},In2306,ppm, 1.009,.0035,.3429, 1.007, 1.012
S_1820,182.034 {485},Y_2243,ppm, 63.60,.1333,.2096, 63.50, 63.69
Sb2068,206.833 {463},Y_2243,ppm, 1.707,.0030,.1760, 1.705, 1.710
Se1960,196.090 {472},Y_2243,ppm, 1.074,.0005,.0469, 1.073, 1.074
Si2516,251.611 {134},Y_3710,ppm, 15.72,.3801,2.417, 15.45, 15.99
Sn1899,189.989 {477},In2306,ppm, 1.015,.0011,.1080, 1.016, 1.014
Sr4215,421.552 { 80},Y_3710,ppm, 1.279,.0320,2.505, 1.257, 1.302
Ti3349,334.904 {101},Y_3600,ppm, 1.029,.0012,.1165, 1.030, 1.028
Tl1908,190.856 {477},In2306,ppm, .9238,.0030,.3208, .9217, .9258
U_3670,367.007 { 92},Y_3600,ppm, .6296,.0082,1.295, .6354, .6238
V_2924,292.402 {115},Y_3600,ppm, 1.032,.0027,.2661, 1.034, 1.030
W_2397,239.709 {140},Y_2243,ppm, .4476,.0005,.1182, .4473, .4480
Zn2062,206.200 {463},In2306,ppm, .5493,.0013,.2346, .5503, .5484

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 241.70,1.2199,.50473,242.56,240.84
In2306,230.606 {446},Cts/S, 13550.,25.843,.19073,13568.,13532.
Y_2243,224.306 {450},Cts/S, 22054.,50.744,.23009,22089.,22018.
Y_3600,360.073 { 94},Cts/S, 187690.,78.680,.04192,187640.,187750.
Y_3710,371.030 { 91},Cts/S, 12910.,259.34,2.0088,13094.,12727.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2992,.0001,.0172, .2992, .2992
Al3082,308.215 {109},In2306,ppm, 11.92,.0341,.2860, 11.94, 11.89
As1890,189.042 {478},Y_2243,ppm, 1.052,.0009,.0822, 1.052, 1.051
B_2496,249.678 {135},Y_3710,ppm, .6066,.0074,1.218, .6014, .6119
Ba4554,455.403 { 74},Y_3710,ppm, 1.115,.0081,.7266, 1.109, 1.121
Be3130,313.042 {108},Y_3710,ppm, 1.011,.0072,.7094, 1.006, 1.016
Ca3158,315.887 {107},In2306,ppm, 65.69,.0265,.0403, 65.67, 65.71
Cd2288,228.802 {447},Y_2243,ppm, 1.050,.0016,.1569, 1.052, 1.049
Co2286,228.616 {447},In2306,ppm, 1.008,.0029,.2924, 1.010, 1.006
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Cr2677,267.716 {126},Y_3600,ppm, .9861,.0018,.1861, .9848, .9874
Cu3247,324.754 {104},Y_3600,ppm, 1.032,.0034,.3274, 1.030, 1.034
Fe2404,240.488 {140},In2306,ppm, 11.18,.0707,.6322, 11.23, 11.13
K_7664,766.490 { 44},Y_3710,ppm, 13.00,.0905,.6964, 12.94, 13.06
Li6707,670.784 { 50},Y_3710,ppm, 1.026,.0061,.5920, 1.022, 1.031
Mg2790,279.079 {121},Y_3710,ppm, 15.54,.1048,.6741, 15.47, 15.62
Mn2576,257.610 {131},Y_3600,ppm, 1.105,.0014,.1291, 1.104, 1.106
Mo2020,202.030 {467},Y_2243,ppm, 1.099,.0027,.2498, 1.101, 1.097
Na5895,589.592 { 57},Y_3710,ppm, 108.5,.7593,.6997, 108.0, 109.1
Ni2316,231.604 {445},In2306,ppm, 1.023,.0069,.6750, 1.028, 1.018
P_1782,178.284 {489},In2306,ppm, 5.766,.0222,.3857, 5.781, 5.750
Pb2203,220.353 {453},In2306,ppm, .9978,.0042,.4211, 1.001, .9949
S_1820,182.034 {485},Y_2243,ppm, 63.22,.1577,.2494, 63.33, 63.10
Sb2068,206.833 {463},Y_2243,ppm, 1.692,.0073,.4317, 1.697, 1.686
Se1960,196.090 {472},Y_2243,ppm, 1.061,.0022,.2076, 1.062, 1.059
Si2516,251.611 {134},Y_3710,ppm, 15.83,.0943,.5955, 15.76, 15.90
Sn1899,189.989 {477},In2306,ppm, 1.005,.0048,.4810, 1.008, 1.001
Sr4215,421.552 { 80},Y_3710,ppm, 1.281,.0096,.7495, 1.274, 1.288
Ti3349,334.904 {101},Y_3600,ppm, 1.020,.0019,.1835, 1.019, 1.022
Tl1908,190.856 {477},In2306,ppm, .9644,.0006,.0590, .9640, .9648
U_3670,367.007 { 92},Y_3600,ppm, .5908,.0061,1.028, .5865, .5951
V_2924,292.402 {115},Y_3600,ppm, 1.021,.0017,.1641, 1.020, 1.022
W_2397,239.709 {140},Y_2243,ppm, .4280,.0204,4.762, .4136, .4424
Zn2062,206.200 {463},In2306,ppm, .5476,.0036,.6648, .5502, .5450

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 240.91,1.3037,.54115,239.99,241.83
In2306,230.606 {446},Cts/S, 13545.,15.821,.11681,13533.,13556.
Y_2243,224.306 {450},Cts/S, 22089.,1.7924,.00811,22091.,22088.
Y_3600,360.073 { 94},Cts/S, 188270.,874.47,.46448,188890.,187650.
Y_3710,371.030 { 91},Cts/S, 12840.,52.539,.40918,12877.,12803.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0009,.0001,13.70, .0008, .0010
Al3082,308.215 {109},In2306,ppm, 1.557,.0309,1.982, 1.536, 1.579
As1890,189.042 {478},Y_2243,ppm, .0010,.0009,83.48, .0004, .0017
B_2496,249.678 {135},Y_3710,ppm, .0525,.0003,.6133, .0523, .0528
Ba4554,455.403 { 74},Y_3710,ppm, .0690,.0004,.5196, .0688, .0693
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,12.64, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, 54.71,.5012,.9160, 54.36, 55.07
Cd2288,228.802 {447},Y_2243,ppm, .0005,.0000,4.107, .0005, .0004
Co2286,228.616 {447},In2306,ppm, .0029,.0001,4.137, .0030, .0028
Cr2677,267.716 {126},Y_3600,ppm, .0022,.0002,6.971, .0021, .0023
Cu3247,324.754 {104},Y_3600,ppm, .0181,.0000,.0656, .0180, .0181
Fe2404,240.488 {140},In2306,ppm, 1.619,.0151,.9304, 1.608, 1.629
K_7664,766.490 { 44},Y_3710,ppm, 7.484,.0567,.7577, 7.444, 7.524
Li6707,670.784 { 50},Y_3710,ppm, .0017,.0007,42.51, .0012, .0023
Mg2790,279.079 {121},Y_3710,ppm, 28.94,.2023,.6990, 28.80, 29.09
Mn2576,257.610 {131},Y_3600,ppm, .3754,.0017,.4633, .3766, .3742
Mo2020,202.030 {467},Y_2243,ppm, .0011,.0002,21.50, .0010, .0013
Na5895,589.592 { 57},Y_3710,ppm, 6.529,.0164,.2519, 6.518, 6.541
Ni2316,231.604 {445},In2306,ppm, .0018,.0001,5.001, .0017, .0018
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P_1782,178.284 {489},In2306,ppm, .1750,.0017,.9988, .1738, .1763
Pb2203,220.353 {453},In2306,ppm, .0042,.0006,15.06, .0037, .0046
S_1820,182.034 {485},Y_2243,ppm, 36.26,.0898,.2477, 36.33, 36.20
Sb2068,206.833 {463},Y_2243,ppm, .0009,.0014,164.9, .0019, -.0001
Se1960,196.090 {472},Y_2243,ppm, .0021,.0004,19.74, .0018, .0024
Si2516,251.611 {134},Y_3710,ppm, 3.039,.0053,.1760, 3.035, 3.042
Sn1899,189.989 {477},In2306,ppm, .0006,.0001,11.14, .0007, .0006
Sr4215,421.552 { 80},Y_3710,ppm, .1220,.0009,.7092, .1214, .1226
Ti3349,334.904 {101},Y_3600,ppm, .0164,.0000,.0682, .0164, .0164
Tl1908,190.856 {477},In2306,ppm, .0495,.0035,7.110, .0520, .0470
U_3670,367.007 { 92},Y_3600,ppm, .1160,.0601,51.81, .1585, .0735
V_2924,292.402 {115},Y_3600,ppm, .0019,.0000,1.452, .0019, .0019
W_2397,239.709 {140},Y_2243,ppm, -.0350,.0023,6.459, -.0365, -.0334
Zn2062,206.200 {463},In2306,ppm, .0233,.0001,.3394, .0233, .0234

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 244.60,2.9191,1.1934,246.67,242.54
In2306,230.606 {446},Cts/S, 14563.,17.725,.12171,14575.,14550.
Y_2243,224.306 {450},Cts/S, 22608.,29.218,.12924,22629.,22588.
Y_3600,360.073 { 94},Cts/S, 195580.,379.14,.19385,195310.,195850.
Y_3710,371.030 { 91},Cts/S, 13017.,126.95,.97526,13107.,12927.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0009,.0003,28.21, .0011, .0007
Al3082,308.215 {109},In2306,ppm, 1.928,.0159,.8244, 1.916, 1.939
As1890,189.042 {478},Y_2243,ppm, .0016,.0006,38.79, .0012, .0021
B_2496,249.678 {135},Y_3710,ppm, .0515,.0039,7.648, .0487, .0543
Ba4554,455.403 { 74},Y_3710,ppm, .0694,.0002,.2640, .0695, .0692
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,151.1, -.0000, .0002
Ca3158,315.887 {107},In2306,ppm, 34.75,.2744,.7896, 34.56, 34.94
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0001,29.29, .0002, .0003
Co2286,228.616 {447},In2306,ppm, .0005,.0002,29.57, .0004, .0006
Cr2677,267.716 {126},Y_3600,ppm, .0019,.0002,10.94, .0021, .0018
Cu3247,324.754 {104},Y_3600,ppm, .0250,.0005,1.866, .0246, .0253
Fe2404,240.488 {140},In2306,ppm, 2.659,.0390,1.468, 2.632, 2.687
K_7664,766.490 { 44},Y_3710,ppm, 3.842,.0085,.2206, 3.836, 3.848
Li6707,670.784 { 50},Y_3710,ppm, .0053,.0014,25.95, .0043, .0063
Mg2790,279.079 {121},Y_3710,ppm, 3.244,.0250,.7709, 3.262, 3.226
Mn2576,257.610 {131},Y_3600,ppm, .1296,.0003,.2023, .1298, .1295
Mo2020,202.030 {467},Y_2243,ppm, .0007,.0001,7.888, .0006, .0007
Na5895,589.592 { 57},Y_3710,ppm, 16.23,.0018,.0113, 16.23, 16.23
Ni2316,231.604 {445},In2306,ppm, .0023,.0001,5.582, .0024, .0022
P_1782,178.284 {489},In2306,ppm, .0865,.0008,.8973, .0871, .0860
Pb2203,220.353 {453},In2306,ppm, .0030,.0003,10.53, .0028, .0032
S_1820,182.034 {485},Y_2243,ppm, 8.285,.0064,.0774, 8.280, 8.289
Sb2068,206.833 {463},Y_2243,ppm, .0004,.0005,150.9, -.0000, .0007
Se1960,196.090 {472},Y_2243,ppm, .0001,.0009,1075., .0007, -.0006
Si2516,251.611 {134},Y_3710,ppm, 6.440,.0360,.5591, 6.415, 6.466
Sn1899,189.989 {477},In2306,ppm, .0002,.0004,173.4, .0005, -.0001
Sr4215,421.552 { 80},Y_3710,ppm, .2429,.0011,.4326, .2437, .2422
Ti3349,334.904 {101},Y_3600,ppm, .0125,.0002,1.994, .0123, .0127
Tl1908,190.856 {477},In2306,ppm, .0192,.0017,8.595, .0204, .0180
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U_3670,367.007 { 92},Y_3600,ppm, .1062,.0327,30.82, .1293, .0830
V_2924,292.402 {115},Y_3600,ppm, .0049,.0004,7.785, .0046, .0052
W_2397,239.709 {140},Y_2243,ppm, .0481,.0141,29.31, .0580, .0381
Zn2062,206.200 {463},In2306,ppm, .0173,.0002,1.051, .0174, .0171

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 246.40,1.8166,.73727,247.68,245.12
In2306,230.606 {446},Cts/S, 14916.,16.447,.11026,14928.,14905.
Y_2243,224.306 {450},Cts/S, 23256.,59.666,.25657,23298.,23213.
Y_3600,360.073 { 94},Cts/S, 197310.,257.81,.13066,197130.,197490.
Y_3710,371.030 { 91},Cts/S, 13075.,51.182,.39145,13111.,13039.


[Sample Header]
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .5772,.0007,.1269, .5777, .5767
Al3082,308.215 {109},In2306,ppm, 20.10,.2555,1.271, 19.92, 20.28
As1890,189.042 {478},Y_2243,ppm, 1.010,.0057,.5692, 1.014, 1.006
B_2496,249.678 {135},Y_3710,ppm, .9702,.0051,.5230, .9738, .9666
Ba4554,455.403 { 74},Y_3710,ppm, 1.018,.0034,.3326, 1.016, 1.020
Be3130,313.042 {108},Y_3710,ppm, .9963,.0008,.0781, .9958, .9969
Ca3158,315.887 {107},In2306,ppm, 19.83,.2041,1.030, 19.68, 19.97
Cd2288,228.802 {447},Y_2243,ppm, 1.020,.0028,.2779, 1.022, 1.018
Co2286,228.616 {447},In2306,ppm, .9863,.0014,.1408, .9872, .9853
Cr2677,267.716 {126},Y_3600,ppm, .9797,.0052,.5336, .9834, .9760
Cu3247,324.754 {104},Y_3600,ppm, 1.000,.0082,.8207, 1.006, .9945
Fe2404,240.488 {140},In2306,ppm, 19.89,.1682,.8455, 19.77, 20.01
K_7664,766.490 { 44},Y_3710,ppm, 19.68,.0020,.0099, 19.68, 19.68
Li6707,670.784 { 50},Y_3710,ppm, 1.004,.0004,.0430, 1.004, 1.003
Mg2790,279.079 {121},Y_3710,ppm, 19.42,.0523,.2693, 19.39, 19.46
Mn2576,257.610 {131},Y_3600,ppm, 1.006,.0008,.0804, 1.006, 1.007
Mo2020,202.030 {467},Y_2243,ppm, 1.038,.0036,.3508, 1.041, 1.036
Na5895,589.592 { 57},Y_3710,ppm, 19.86,.0242,.1218, 19.85, 19.88
Ni2316,231.604 {445},In2306,ppm, 1.002,.0035,.3497, 1.005, .9997
P_1782,178.284 {489},In2306,ppm, 10.07,.0367,.3645, 10.10, 10.05
Pb2203,220.353 {453},In2306,ppm, .9939,.0005,.0456, .9942, .9936
S_1820,182.034 {485},Y_2243,ppm, 10.50,.0187,.1778, 10.52, 10.49
Sb2068,206.833 {463},Y_2243,ppm, 2.171,.0138,.6366, 2.181, 2.161
Se1960,196.090 {472},Y_2243,ppm, 1.013,.0030,.2915, 1.015, 1.011
Si2516,251.611 {134},Y_3710,ppm, 9.592,.0846,.8822, 9.532, 9.652
Sn1899,189.989 {477},In2306,ppm, .9894,.0037,.3749, .9920, .9868
Sr4215,421.552 { 80},Y_3710,ppm, 1.020,.0017,.1643, 1.019, 1.021
Ti3349,334.904 {101},Y_3600,ppm, 1.003,.0008,.0798, 1.003, 1.002
Tl1908,190.856 {477},In2306,ppm, 1.003,.0013,.1334, 1.002, 1.004
U_3670,367.007 { 92},Y_3600,ppm, 1.082,.0528,4.882, 1.045, 1.119
V_2924,292.402 {115},Y_3600,ppm, 1.005,.0027,.2698, 1.007, 1.003
W_2397,239.709 {140},Y_2243,ppm, 1.025,.0002,.0165, 1.025, 1.025
Zn2062,206.200 {463},In2306,ppm, .9822,.0006,.0632, .9827, .9818

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 241.83,2.1175,.87561,243.33,240.33
In2306,230.606 {446},Cts/S, 14425.,16.441,.11398,14414.,14437.
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Y_2243,224.306 {450},Cts/S, 23176.,32.625,.14077,23153.,23199.
Y_3600,360.073 { 94},Cts/S, 194680.,574.15,.29492,194280.,195090.
Y_3710,371.030 { 91},Cts/S, 12885.,23.146,.17964,12901.,12868.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0120,.0001,.8233, .0121, .0119
Al3082,308.215 {109},In2306,ppm, .2212,.0103,4.658, .2285, .2139
As1890,189.042 {478},Y_2243,ppm, .0231,.0004,1.705, .0228, .0234
B_2496,249.678 {135},Y_3710,ppm, .2018,.0017,.8268, .2006, .2030
Ba4554,455.403 { 74},Y_3710,ppm, .0220,.0003,1.412, .0218, .0222
Be3130,313.042 {108},Y_3710,ppm, .0112,.0001,.9356, .0112, .0113
Ca3158,315.887 {107},In2306,ppm, 1.024,.0235,2.299, 1.007, 1.040
Cd2288,228.802 {447},Y_2243,ppm, .0113,.0001,.7610, .0112, .0113
Co2286,228.616 {447},In2306,ppm, .0105,.0000,.1990, .0105, .0105
Cr2677,267.716 {126},Y_3600,ppm, .0112,.0002,1.684, .0113, .0111
Cu3247,324.754 {104},Y_3600,ppm, .0119,.0000,.2777, .0120, .0119
Fe2404,240.488 {140},In2306,ppm, .2135,.0035,1.657, .2160, .2110
K_7664,766.490 { 44},Y_3710,ppm, 1.062,.0009,.0852, 1.062, 1.061
Li6707,670.784 { 50},Y_3710,ppm, .0109,.0005,4.177, .0106, .0113
Mg2790,279.079 {121},Y_3710,ppm, 1.016,.0180,1.770, 1.004, 1.029
Mn2576,257.610 {131},Y_3600,ppm, .0113,.0000,.1380, .0113, .0113
Mo2020,202.030 {467},Y_2243,ppm, .0233,.0005,2.264, .0229, .0237
Na5895,589.592 { 57},Y_3710,ppm, 1.072,.0026,.2400, 1.070, 1.074
Ni2316,231.604 {445},In2306,ppm, .0109,.0002,2.231, .0111, .0108
P_1782,178.284 {489},In2306,ppm, .9651,.0023,.2386, .9668, .9635
Pb2203,220.353 {453},In2306,ppm, .0112,.0007,6.174, .0117, .0107
S_1820,182.034 {485},Y_2243,ppm, .5226,.0037,.7157, .5199, .5252
Sb2068,206.833 {463},Y_2243,ppm, .0580,.0007,1.141, .0576, .0585
Se1960,196.090 {472},Y_2243,ppm, .0232,.0008,3.248, .0227, .0237
Si2516,251.611 {134},Y_3710,ppm, .1996,.0103,5.169, .2069, .1923
Sn1899,189.989 {477},In2306,ppm, .0215,.0005,2.288, .0219, .0212
Sr4215,421.552 { 80},Y_3710,ppm, .0112,.0000,.2516, .0113, .0112
Ti3349,334.904 {101},Y_3600,ppm, .0113,.0004,3.336, .0111, .0116
Tl1908,190.856 {477},In2306,ppm, .0388,.0015,3.802, .0399, .0378
U_3670,367.007 { 92},Y_3600,ppm, .0730,.0238,32.60, .0561, .0898
V_2924,292.402 {115},Y_3600,ppm, .0109,.0001,.5385, .0108, .0109
W_2397,239.709 {140},Y_2243,ppm, .0787,.0052,6.619, .0824, .0751
Zn2062,206.200 {463},In2306,ppm, .0184,.0000,.2537, .0184, .0185

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 250.65,.02333,.00931,250.63,250.66
In2306,230.606 {446},Cts/S, 15946.,16.553,.10380,15958.,15935.
Y_2243,224.306 {450},Cts/S, 23827.,49.003,.20566,23862.,23793.
Y_3600,360.073 { 94},Cts/S, 203370.,453.71,.22309,203050.,203690.
Y_3710,371.030 { 91},Cts/S, 13082.,51.477,.39350,13118.,13045.

[Sample Header]
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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0012,.0001,6.324, .0012, .0013
Al3082,308.215 {109},In2306,ppm, .0027,.0240,892.4, .0196, -.0143
As1890,189.042 {478},Y_2243,ppm, .0012,.0007,53.97, .0017, .0008
B_2496,249.678 {135},Y_3710,ppm, -.0008,.0022,279.2, .0008, -.0024
Ba4554,455.403 { 74},Y_3710,ppm, -.0005,.0001,15.09, -.0005, -.0004
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,243.0, -.0000, .0000
Ca3158,315.887 {107},In2306,ppm, -.0183,.0066,36.06, -.0136, -.0229
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0000,15.16, -.0001, -.0001
Co2286,228.616 {447},In2306,ppm, .0000,.0001,187.3, .0001, -.0000
Cr2677,267.716 {126},Y_3600,ppm, -.0000,.0001,1643., -.0000, .0000
Cu3247,324.754 {104},Y_3600,ppm, .0006,.0001,12.36, .0005, .0006
Fe2404,240.488 {140},In2306,ppm, -.0026,.0054,211.3, .0013, -.0064
K_7664,766.490 { 44},Y_3710,ppm, -.0145,.0006,4.372, -.0141, -.0150
Li6707,670.784 { 50},Y_3710,ppm, -.0001,.0007,1064., -.0005, .0004
Mg2790,279.079 {121},Y_3710,ppm, .0042,.0119,284.7, .0125, -.0042
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,21.23, -.0000, -.0000
Mo2020,202.030 {467},Y_2243,ppm, -.0004,.0001,42.04, -.0005, -.0002
Na5895,589.592 { 57},Y_3710,ppm, .0039,.0007,17.64, .0034, .0044
Ni2316,231.604 {445},In2306,ppm, .0003,.0001,30.62, .0002, .0003
P_1782,178.284 {489},In2306,ppm, -.0002,.0002,116.9, -.0000, -.0003
Pb2203,220.353 {453},In2306,ppm, .0004,.0002,51.24, .0006, .0003
S_1820,182.034 {485},Y_2243,ppm, .0079,.0032,41.03, .0102, .0056
Sb2068,206.833 {463},Y_2243,ppm, .0004,.0011,277.9, -.0004, .0012
Se1960,196.090 {472},Y_2243,ppm, .0022,.0021,94.13, .0007, .0037
Si2516,251.611 {134},Y_3710,ppm, .0134,.0113,84.49, .0214, .0054
Sn1899,189.989 {477},In2306,ppm, -.0001,.0002,136.3, -.0000, -.0003
Sr4215,421.552 { 80},Y_3710,ppm, -.0000,.0001,284.8, .0000, -.0001
Ti3349,334.904 {101},Y_3600,ppm, .0000,.0002,682.0, .0002, -.0001
Tl1908,190.856 {477},In2306,ppm, .0090,.0009,10.04, .0084, .0097
U_3670,367.007 { 92},Y_3600,ppm, .0721,.0148,20.53, .0616, .0825
V_2924,292.402 {115},Y_3600,ppm, -.0002,.0001,92.38, -.0003, -.0001
W_2397,239.709 {140},Y_2243,ppm, .0130,.0324,249.3, -.0099, .0360
Zn2062,206.200 {463},In2306,ppm, -.0012,.0001,9.687, -.0011, -.0013

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 246.56,4.7957,1.9450,243.17,249.95
In2306,230.606 {446},Cts/S, 16174.,27.456,.16975,16155.,16194.
Y_2243,224.306 {450},Cts/S, 23834.,99.547,.41766,23764.,23905.
Y_3600,360.073 { 94},Cts/S, 202980.,502.30,.24746,202620.,203330.
Y_3710,371.030 { 91},Cts/S, 12898.,48.171,.37347,12864.,12932.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
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Ag3280,328.068 {103},Y_3600,ppm, .0010,.0003,29.74, .0008, .0012
Al3082,308.215 {109},In2306,ppm, .1286,.0159,12.34, .1399, .1174
As1890,189.042 {478},Y_2243,ppm, .0063,.0007,11.39, .0058, .0068
B_2496,249.678 {135},Y_3710,ppm, .1541,.0034,2.212, .1566, .1517
Ba4554,455.403 { 74},Y_3710,ppm, .0981,.0001,.1090, .0980, .0982
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,769.9, -.0000, .0000
Ca3158,315.887 {107},In2306,ppm, 84.32,.3838,.4552, 84.59, 84.04
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0000,20.85, .0001, .0002
Co2286,228.616 {447},In2306,ppm, -.0000,.0001,204.9, -.0001, .0000
Cr2677,267.716 {126},Y_3600,ppm, .0014,.0001,6.490, .0015, .0014
Cu3247,324.754 {104},Y_3600,ppm, .0055,.0005,8.766, .0059, .0052
Fe2404,240.488 {140},In2306,ppm, .0856,.0062,7.249, .0900, .0812
K_7664,766.490 { 44},Y_3710,ppm, 9.302,.0524,.5634, 9.339, 9.265
Li6707,670.784 { 50},Y_3710,ppm, .0119,.0006,5.019, .0124, .0115
Mg2790,279.079 {121},Y_3710,ppm, 7.606,.0815,1.072, 7.664, 7.549
Mn2576,257.610 {131},Y_3600,ppm, .0133,.0001,.4358, .0133, .0132
Mo2020,202.030 {467},Y_2243,ppm, .0030,.0000,1.138, .0030, .0030
Na5895,589.592 { 57},Y_3710,ppm, 61.07,.0402,.0659, 61.10, 61.04
Ni2316,231.604 {445},In2306,ppm, .0032,.0003,8.841, .0030, .0034
P_1782,178.284 {489},In2306,ppm, 4.109,.0106,.2580, 4.117, 4.102
Pb2203,220.353 {453},In2306,ppm, -.0003,.0009,307.6, .0003, -.0009
S_1820,182.034 {485},Y_2243,ppm, 86.79,.1439,.1658, 86.89, 86.69
Sb2068,206.833 {463},Y_2243,ppm, .0017,.0001,6.690, .0016, .0018
Se1960,196.090 {472},Y_2243,ppm, .0032,.0014,41.97, .0042, .0023
Si2516,251.611 {134},Y_3710,ppm, 8.515,.0029,.0339, 8.513, 8.517
Sn1899,189.989 {477},In2306,ppm, .0001,.0002,284.2, .0003, -.0001
Sr4215,421.552 { 80},Y_3710,ppm, .5928,.0007,.1127, .5923, .5933
Ti3349,334.904 {101},Y_3600,ppm, .0011,.0005,46.27, .0007, .0014
Tl1908,190.856 {477},In2306,ppm, .0040,.0038,94.75, .0067, .0013
U_3670,367.007 { 92},Y_3600,ppm, .0864,.0442,51.08, .1177, .0552
V_2924,292.402 {115},Y_3600,ppm, .0040,.0003,6.586, .0042, .0038
W_2397,239.709 {140},Y_2243,ppm, -.0162,.0159,98.01, -.0275, -.0050
Zn2062,206.200 {463},In2306,ppm, .0190,.0002,1.132, .0188, .0191

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 244.43,1.4504,.59340,243.40,245.45
In2306,230.606 {446},Cts/S, 14024.,75.437,.53791,13971.,14077.
Y_2243,224.306 {450},Cts/S, 22371.,149.32,.66746,22266.,22477.
Y_3600,360.073 { 94},Cts/S, 191220.,49.147,.02570,191250.,191180.
Y_3710,371.030 { 91},Cts/S, 12911.,112.35,.87022,12831.,12990.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0000,.0002,355.1, .0001, -.0002
Al3082,308.215 {109},In2306,ppm, .6315,.0088,1.397, .6253, .6377
As1890,189.042 {478},Y_2243,ppm, .0042,.0009,21.44, .0035, .0048
B_2496,249.678 {135},Y_3710,ppm, .0174,.0010,5.541, .0167, .0181
Ba4554,455.403 { 74},Y_3710,ppm, .0378,.0001,.3466, .0377, .0379
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,338.0, -.0001, .0000
Ca3158,315.887 {107},In2306,ppm, 15.44,.0849,.5501, 15.38, 15.50
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,95.57, .0000, .0001
Co2286,228.616 {447},In2306,ppm, .0000,.0001,136.9, .0000, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0016,.0002,11.68, .0018, .0015
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Cu3247,324.754 {104},Y_3600,ppm, .0047,.0001,2.131, .0046, .0048
Fe2404,240.488 {140},In2306,ppm, .5418,.0065,1.196, .5464, .5372
K_7664,766.490 { 44},Y_3710,ppm, 3.027,.0141,.4650, 3.037, 3.017
Li6707,670.784 { 50},Y_3710,ppm, .0012,.0003,28.49, .0014, .0010
Mg2790,279.079 {121},Y_3710,ppm, 1.588,.0011,.0710, 1.589, 1.588
Mn2576,257.610 {131},Y_3600,ppm, .0239,.0000,.1304, .0239, .0239
Mo2020,202.030 {467},Y_2243,ppm, .0079,.0004,4.745, .0076, .0081
Na5895,589.592 { 57},Y_3710,ppm, 33.67,.1505,.4470, 33.57, 33.78
Ni2316,231.604 {445},In2306,ppm, .0018,.0000,1.171, .0018, .0017
P_1782,178.284 {489},In2306,ppm, .0992,.0000,.0081, .0992, .0992
Pb2203,220.353 {453},In2306,ppm, .0008,.0001,14.68, .0007, .0008
S_1820,182.034 {485},Y_2243,ppm, 3.088,.0108,.3507, 3.096, 3.081
Sb2068,206.833 {463},Y_2243,ppm, .0012,.0024,205.9, -.0005, .0028
Se1960,196.090 {472},Y_2243,ppm, .0024,.0005,19.21, .0028, .0021
Si2516,251.611 {134},Y_3710,ppm, 3.554,.0046,.1291, 3.551, 3.557
Sn1899,189.989 {477},In2306,ppm, .0001,.0002,151.4, -.0000, .0003
Sr4215,421.552 { 80},Y_3710,ppm, .0795,.0003,.3570, .0793, .0797
Ti3349,334.904 {101},Y_3600,ppm, .0044,.0003,7.085, .0042, .0046
Tl1908,190.856 {477},In2306,ppm, .0030,.0024,79.74, .0047, .0013
U_3670,367.007 { 92},Y_3600,ppm, .0589,.0342,58.05, .0347, .0831
V_2924,292.402 {115},Y_3600,ppm, .0032,.0001,1.632, .0032, .0031
W_2397,239.709 {140},Y_2243,ppm, .0112,.0025,22.37, .0130, .0094
Zn2062,206.200 {463},In2306,ppm, .0512,.0002,.3205, .0511, .0513

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 248.94,2.1870,.87855,250.48,247.39
In2306,230.606 {446},Cts/S, 14908.,2.2999,.01543,14906.,14909.
Y_2243,224.306 {450},Cts/S, 23210.,50.050,.21564,23174.,23245.
Y_3600,360.073 { 94},Cts/S, 198450.,232.61,.11721,198620.,198290.
Y_3710,371.030 { 91},Cts/S, 13103.,50.876,.38827,13139.,13067.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0005,.0004,75.74, .0008, .0002
Al3082,308.215 {109},In2306,ppm, -.0091,.0017,18.98, -.0079, -.0103
As1890,189.042 {478},Y_2243,ppm, -.0005,.0002,35.95, -.0004, -.0006
B_2496,249.678 {135},Y_3710,ppm, -.0013,.0048,366.9, .0021, -.0047
Ba4554,455.403 { 74},Y_3710,ppm, -.0003,.0001,35.96, -.0002, -.0003
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,1.259, -.0001, -.0001
Ca3158,315.887 {107},In2306,ppm, -.0212,.0030,14.26, -.0233, -.0190
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0000,4935., -.0000, .0000
Co2286,228.616 {447},In2306,ppm, .0001,.0000,2.114, .0001, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0003,.0000,4.884, .0003, .0003
Cu3247,324.754 {104},Y_3600,ppm, .0011,.0008,77.71, .0005, .0016
Fe2404,240.488 {140},In2306,ppm, .0016,.0119,762.4, .0100, -.0069
K_7664,766.490 { 44},Y_3710,ppm, -.0101,.0114,112.6, -.0021, -.0182
Li6707,670.784 { 50},Y_3710,ppm, -.0006,.0004,71.46, -.0008, -.0003
Mg2790,279.079 {121},Y_3710,ppm, .0003,.0011,432.5, -.0005, .0010
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0001,295.2, .0000, -.0001
Mo2020,202.030 {467},Y_2243,ppm, -.0004,.0002,55.85, -.0003, -.0006
Na5895,589.592 { 57},Y_3710,ppm, .0073,.0062,85.00, .0118, .0029
Ni2316,231.604 {445},In2306,ppm, .0001,.0001,117.5, .0000, .0002
P_1782,178.284 {489},In2306,ppm, -.0005,.0011,222.7, -.0012, .0003
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Pb2203,220.353 {453},In2306,ppm, .0017,.0014,84.59, .0007, .0027
S_1820,182.034 {485},Y_2243,ppm, .0045,.0035,77.30, .0021, .0070
Sb2068,206.833 {463},Y_2243,ppm, .0016,.0002,13.67, .0018, .0015
Se1960,196.090 {472},Y_2243,ppm, .0012,.0003,28.43, .0009, .0014
Si2516,251.611 {134},Y_3710,ppm, .0193,.0091,47.26, .0257, .0128
Sn1899,189.989 {477},In2306,ppm, .0007,.0000,5.297, .0008, .0007
Sr4215,421.552 { 80},Y_3710,ppm, .0001,.0001,107.8, .0000, .0001
Ti3349,334.904 {101},Y_3600,ppm, .0001,.0001,86.69, .0000, .0002
Tl1908,190.856 {477},In2306,ppm, .0031,.0007,22.32, .0026, .0036
U_3670,367.007 { 92},Y_3600,ppm, .0399,.0447,112.0, .0715, .0083
V_2924,292.402 {115},Y_3600,ppm, -.0001,.0001,168.5, .0000, -.0002
W_2397,239.709 {140},Y_2243,ppm, -.0018,.0756,4165., .0516, -.0553
Zn2062,206.200 {463},In2306,ppm, .0018,.0000,2.666, .0018, .0018

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 251.87,3.5538,1.4110,249.35,254.38
In2306,230.606 {446},Cts/S, 16136.,9.8797,.06123,16129.,16143.
Y_2243,224.306 {450},Cts/S, 23906.,57.416,.24017,23866.,23947.
Y_3600,360.073 { 94},Cts/S, 203610.,356.74,.17521,203350.,203860.
Y_3710,371.030 { 91},Cts/S, 13036.,39.357,.30191,13008.,13064.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2946,.0069,2.341, .2897, .2995
Al3082,308.215 {109},In2306,ppm, 10.10,.0916,.9071, 10.16, 10.03
As1890,189.042 {478},Y_2243,ppm, .9971,.0053,.5349, 1.001, .9934
B_2496,249.678 {135},Y_3710,ppm, .4830,.0104,2.160, .4904, .4756
Ba4554,455.403 { 74},Y_3710,ppm, 1.008,.0051,.5029, 1.012, 1.005
Be3130,313.042 {108},Y_3710,ppm, .9869,.0047,.4774, .9902, .9835
Ca3158,315.887 {107},In2306,ppm, 9.948,.0807,.8114, 10.00, 9.891
Cd2288,228.802 {447},Y_2243,ppm, 1.012,.0050,.4969, 1.015, 1.008
Co2286,228.616 {447},In2306,ppm, .9657,.0046,.4791, .9689, .9624
Cr2677,267.716 {126},Y_3600,ppm, .9801,.0265,2.699, .9614, .9988
Cu3247,324.754 {104},Y_3600,ppm, 1.008,.0234,2.321, .9910, 1.024
Fe2404,240.488 {140},In2306,ppm, 10.01,.1142,1.140, 10.09, 9.932
K_7664,766.490 { 44},Y_3710,ppm, 9.881,.0806,.8153, 9.938, 9.824
Li6707,670.784 { 50},Y_3710,ppm, .9978,.0058,.5844, 1.002, .9936
Mg2790,279.079 {121},Y_3710,ppm, 9.677,.0479,.4947, 9.643, 9.711
Mn2576,257.610 {131},Y_3600,ppm, 1.013,.0269,2.660, .9935, 1.032
Mo2020,202.030 {467},Y_2243,ppm, 1.032,.0042,.4108, 1.035, 1.029
Na5895,589.592 { 57},Y_3710,ppm, 10.00,.0513,.5132, 10.04, 9.966
Ni2316,231.604 {445},In2306,ppm, .9850,.0034,.3462, .9874, .9826
P_1782,178.284 {489},In2306,ppm, 5.072,.0198,.3906, 5.086, 5.058
Pb2203,220.353 {453},In2306,ppm, .9891,.0025,.2561, .9909, .9873
S_1820,182.034 {485},Y_2243,ppm, 5.351,.0201,.3762, 5.366, 5.337
Sb2068,206.833 {463},Y_2243,ppm, 1.622,.0144,.8884, 1.632, 1.612
Se1960,196.090 {472},Y_2243,ppm, 1.003,.0024,.2368, 1.002, 1.005
Si2516,251.611 {134},Y_3710,ppm, 9.068,.0240,.2647, 9.085, 9.051
Sn1899,189.989 {477},In2306,ppm, .9766,.0028,.2912, .9786, .9746
Sr4215,421.552 { 80},Y_3710,ppm, 1.009,.0045,.4418, 1.012, 1.006
Ti3349,334.904 {101},Y_3600,ppm, 1.004,.0256,2.550, .9860, 1.022
Tl1908,190.856 {477},In2306,ppm, .9203,.0035,.3844, .9178, .9228
U_3670,367.007 { 92},Y_3600,ppm, .5040,.0869,17.24, .4426, .5655
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V_2924,292.402 {115},Y_3600,ppm, 1.004,.0240,2.390, .9871, 1.021
W_2397,239.709 {140},Y_2243,ppm, .4175,.0050,1.199, .4211, .4140
Zn2062,206.200 {463},In2306,ppm, .4864,.0015,.3046, .4874, .4853

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 246.73,1.5807,.64066,245.62,247.85
In2306,230.606 {446},Cts/S, 14902.,64.238,.43108,14856.,14947.
Y_2243,224.306 {450},Cts/S, 23450.,100.38,.42808,23379.,23521.
Y_3600,360.073 { 94},Cts/S, 197020.,4442.8,2.2550,200160.,193880.
Y_3710,371.030 { 91},Cts/S, 13142.,51.970,.39545,13179.,13105.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0010,.0000,2.431, .0010, .0011
Al3082,308.215 {109},In2306,ppm, .0003,.0185,5817., -.0128, .0134
As1890,189.042 {478},Y_2243,ppm, .0007,.0017,251.5, .0019, -.0005
B_2496,249.678 {135},Y_3710,ppm, .0036,.0002,6.245, .0034, .0037
Ba4554,455.403 { 74},Y_3710,ppm, -.0002,.0001,38.89, -.0003, -.0002
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,31.42, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, -.0174,.0019,11.15, -.0188, -.0160
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0001,625.2, -.0001, .0001
Co2286,228.616 {447},In2306,ppm, -.0002,.0000,1.969, -.0002, -.0001
Cr2677,267.716 {126},Y_3600,ppm, .0003,.0001,37.69, .0002, .0004
Cu3247,324.754 {104},Y_3600,ppm, .0010,.0000,1.243, .0010, .0011
Fe2404,240.488 {140},In2306,ppm, .0025,.0025,102.7, .0042, .0007
K_7664,766.490 { 44},Y_3710,ppm, -.0167,.0062,37.41, -.0123, -.0211
Li6707,670.784 { 50},Y_3710,ppm, -.0002,.0000,13.20, -.0002, -.0002
Mg2790,279.079 {121},Y_3710,ppm, -.0023,.0277,1196., -.0219, .0173
Mn2576,257.610 {131},Y_3600,ppm, .0000,.0000,32.65, .0000, .0001
Mo2020,202.030 {467},Y_2243,ppm, .0003,.0001,45.61, .0004, .0002
Na5895,589.592 { 57},Y_3710,ppm, .0049,.0031,62.96, .0071, .0027
Ni2316,231.604 {445},In2306,ppm, .0002,.0003,144.7, .0004, -.0000
P_1782,178.284 {489},In2306,ppm, -.0010,.0016,158.1, .0001, -.0022
Pb2203,220.353 {453},In2306,ppm, -.0006,.0007,121.1, -.0011, -.0001
S_1820,182.034 {485},Y_2243,ppm, .0084,.0004,4.403, .0081, .0087
Sb2068,206.833 {463},Y_2243,ppm, .0041,.0020,48.03, .0055, .0027
Se1960,196.090 {472},Y_2243,ppm, .0005,.0016,324.4, .0016, -.0006
Si2516,251.611 {134},Y_3710,ppm, .0164,.0067,40.77, .0117, .0212
Sn1899,189.989 {477},In2306,ppm, .0002,.0002,85.74, .0001, .0003
Sr4215,421.552 { 80},Y_3710,ppm, .0001,.0000,52.81, .0001, .0001
Ti3349,334.904 {101},Y_3600,ppm, .0003,.0000,10.51, .0003, .0003
Tl1908,190.856 {477},In2306,ppm, .0441,.0025,5.769, .0460, .0423
U_3670,367.007 { 92},Y_3600,ppm, .0263,.0353,134.6, .0512, .0013
V_2924,292.402 {115},Y_3600,ppm, -.0001,.0000,78.43, -.0001, -.0000
W_2397,239.709 {140},Y_2243,ppm, .0159,.0089,55.66, .0222, .0097
Zn2062,206.200 {463},In2306,ppm, .0023,.0001,2.502, .0024, .0023

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 253.77,1.8305,.72133,255.07,252.48
In2306,230.606 {446},Cts/S, 16158.,32.350,.20021,16135.,16181.
Y_2243,224.306 {450},Cts/S, 23926.,58.496,.24448,23885.,23968.
Y_3600,360.073 { 94},Cts/S, 203800.,145.70,.07149,203910.,203700.
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Y_3710,371.030 { 91},Cts/S, 13082.,153.36,1.1722,13191.,12974.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0006,.0006,105.0, .0010, .0002
Al3082,308.215 {109},In2306,ppm, .0137,.0151,110.7, .0030, .0243
As1890,189.042 {478},Y_2243,ppm, .0034,.0001,2.204, .0034, .0033
B_2496,249.678 {135},Y_3710,ppm, .0695,.0031,4.432, .0673, .0717
Ba4554,455.403 { 74},Y_3710,ppm, .3646,.0004,.1137, .3649, .3644
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,73.82, .0000, .0001
Ca3158,315.887 {107},In2306,ppm, 751.4,15.88,2.114, 740.2, 762.6
Cd2288,228.802 {447},Y_2243,ppm, .0004,.0001,36.72, .0003, .0005
Co2286,228.616 {447},In2306,ppm, .0005,.0003,64.31, .0007, .0003
Cr2677,267.716 {126},Y_3600,ppm, .0014,.0007,53.48, .0019, .0009
Cu3247,324.754 {104},Y_3600,ppm, .0033,.0000,.9431, .0033, .0033
Fe2404,240.488 {140},In2306,ppm, .0168,.0060,35.68, .0210, .0125
K_7664,766.490 { 44},Y_3710,ppm, 8.080,.0572,.7083, 8.040, 8.121
Li6707,670.784 { 50},Y_3710,ppm, .0122,.0002,1.410, .0121, .0123
Mg2790,279.079 {121},Y_3710,ppm, 4.245,.0474,1.117, 4.211, 4.279
Mn2576,257.610 {131},Y_3600,ppm, .2610,.0003,.1330, .2608, .2613
Mo2020,202.030 {467},Y_2243,ppm, .0042,.0002,5.569, .0043, .0040
Na5895,589.592 { 57},Y_3710,ppm, 1304.,1.785,.1370, 1302., 1305.
Ni2316,231.604 {445},In2306,ppm, .0005,.0001,26.74, .0004, .0006
P_1782,178.284 {489},In2306,ppm, 1.456,.0046,.3183, 1.459, 1.452
Pb2203,220.353 {453},In2306,ppm, .0056,.0008,14.03, .0051, .0062
S_1820,182.034 {485},Y_2243,ppm, 2.055,.0078,.3781, 2.060, 2.049
Sb2068,206.833 {463},Y_2243,ppm, .0036,.0011,30.37, .0028, .0043
Se1960,196.090 {472},Y_2243,ppm, .0035,.0051,147.0, .0071, -.0001
Si2516,251.611 {134},Y_3710,ppm, 1.175,.0012,.0988, 1.176, 1.174
Sn1899,189.989 {477},In2306,ppm, .0017,.0003,15.14, .0015, .0019
Sr4215,421.552 { 80},Y_3710,ppm, .3749,.0005,.1330, .3753, .3745
Ti3349,334.904 {101},Y_3600,ppm, .0049,.0006,12.23, .0045, .0053
Tl1908,190.856 {477},In2306,ppm, .0116,.0012,10.06, .0107, .0124
U_3670,367.007 { 92},Y_3600,ppm, .3031,.0057,1.897, .2991, .3072
V_2924,292.402 {115},Y_3600,ppm, .0013,.0001,7.673, .0012, .0013
W_2397,239.709 {140},Y_2243,ppm, .0443,.0784,177.1, .0997, -.0112
Zn2062,206.200 {463},In2306,ppm, .2939,.0007,.2506, .2934, .2944

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 218.99,.48300,.22056,218.65,219.33
In2306,230.606 {446},Cts/S, 10629.,20.371,.19166,10643.,10614.
Y_2243,224.306 {450},Cts/S, 18620.,28.834,.15485,18640.,18599.
Y_3600,360.073 { 94},Cts/S, 159100.,80.385,.05052,159160.,159040.
Y_3710,371.030 { 91},Cts/S, 12112.,80.495,.66459,12169.,12055.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0011,.0009,76.81, .0018, .0005
Al3082,308.215 {109},In2306,ppm, .0088,.0184,208.5, .0219, -.0042
As1890,189.042 {478},Y_2243,ppm, .0059,.0027,46.68, .0039, .0078
B_2496,249.678 {135},Y_3710,ppm, .0685,.0077,11.26, .0631, .0740
Ba4554,455.403 { 74},Y_3710,ppm, .3642,.0002,.0616, .3640, .3643
Be3130,313.042 {108},Y_3710,ppm, .0000,.0001,545.4, -.0000, .0001
Ca3158,315.887 {107},In2306,ppm, 749.6,5.230,.6978, 753.3, 745.9
Cd2288,228.802 {447},Y_2243,ppm, .0004,.0001,28.52, .0003, .0005
Co2286,228.616 {447},In2306,ppm, .0006,.0001,18.10, .0007, .0006
Cr2677,267.716 {126},Y_3600,ppm, .0012,.0004,32.27, .0009, .0014
Cu3247,324.754 {104},Y_3600,ppm, .0034,.0001,2.347, .0033, .0035
Fe2404,240.488 {140},In2306,ppm, .0241,.0002,.8489, .0242, .0240
K_7664,766.490 { 44},Y_3710,ppm, 8.067,.0344,.4260, 8.043, 8.092
Li6707,670.784 { 50},Y_3710,ppm, .0135,.0002,1.479, .0137, .0134
Mg2790,279.079 {121},Y_3710,ppm, 4.289,.0470,1.097, 4.255, 4.322
Mn2576,257.610 {131},Y_3600,ppm, .2617,.0007,.2546, .2613, .2622
Mo2020,202.030 {467},Y_2243,ppm, .0041,.0007,18.32, .0035, .0046
Na5895,589.592 { 57},Y_3710,ppm, 1289.,7.734,.6002, 1283., 1294.
Ni2316,231.604 {445},In2306,ppm, .0005,.0002,44.08, .0006, .0003
P_1782,178.284 {489},In2306,ppm, 1.462,.0038,.2607, 1.465, 1.459
Pb2203,220.353 {453},In2306,ppm, .0092,.0016,17.34, .0103, .0081
S_1820,182.034 {485},Y_2243,ppm, 2.065,.0092,.4471, 2.058, 2.071
Sb2068,206.833 {463},Y_2243,ppm, .0027,.0024,89.16, .0010, .0045
Se1960,196.090 {472},Y_2243,ppm, .0058,.0015,25.53, .0048, .0069
Si2516,251.611 {134},Y_3710,ppm, 1.155,.0138,1.194, 1.145, 1.164
Sn1899,189.989 {477},In2306,ppm, .0020,.0005,23.66, .0023, .0017
Sr4215,421.552 { 80},Y_3710,ppm, .3739,.0006,.1574, .3735, .3743
Ti3349,334.904 {101},Y_3600,ppm, .0051,.0004,8.557, .0048, .0055
Tl1908,190.856 {477},In2306,ppm, .0047,.0029,60.29, .0068, .0027
U_3670,367.007 { 92},Y_3600,ppm, .3595,.0240,6.668, .3426, .3765
V_2924,292.402 {115},Y_3600,ppm, .0012,.0000,3.693, .0012, .0012
W_2397,239.709 {140},Y_2243,ppm, .0421,.0007,1.603, .0416, .0426
Zn2062,206.200 {463},In2306,ppm, .2565,.0010,.3727, .2558, .2572

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 220.86,1.7753,.80380,219.61,222.12
In2306,230.606 {446},Cts/S, 10664.,11.852,.11114,10656.,10673.
Y_2243,224.306 {450},Cts/S, 18708.,19.978,.10679,18694.,18722.
Y_3600,360.073 { 94},Cts/S, 158700.,146.22,.09214,158800.,158590.
Y_3710,371.030 { 91},Cts/S, 12133.,122.12,1.0065,12220.,12047.

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Custom ID2=
Custom ID3=
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Sample Type=Unk
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CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .3382,.0011,.3161, .3374, .3390
Al3082,308.215 {109},In2306,ppm, 11.13,.0891,.8005, 11.07, 11.20
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As1890,189.042 {478},Y_2243,ppm, 1.159,.0024,.2067, 1.158, 1.161
B_2496,249.678 {135},Y_3710,ppm, .5698,.0087,1.520, .5637, .5759
Ba4554,455.403 { 74},Y_3710,ppm, 1.405,.0037,.2622, 1.408, 1.402
Be3130,313.042 {108},Y_3710,ppm, .9939,.0018,.1857, .9926, .9952
Ca3158,315.887 {107},In2306,ppm, 777.4,11.29,1.452, 769.4, 785.4
Cd2288,228.802 {447},Y_2243,ppm, 1.140,.0016,.1425, 1.139, 1.142
Co2286,228.616 {447},In2306,ppm, 1.036,.0032,.3098, 1.038, 1.034
Cr2677,267.716 {126},Y_3600,ppm, .9608,.0050,.5213, .9573, .9644
Cu3247,324.754 {104},Y_3600,ppm, 1.074,.0027,.2555, 1.072, 1.076
Fe2404,240.488 {140},In2306,ppm, 10.17,.1123,1.104, 10.09, 10.25
K_7664,766.490 { 44},Y_3710,ppm, 18.92,.1403,.7414, 18.82, 19.02
Li6707,670.784 { 50},Y_3710,ppm, 1.082,.0013,.1193, 1.082, 1.083
Mg2790,279.079 {121},Y_3710,ppm, 13.52,.0810,.5993, 13.46, 13.58
Mn2576,257.610 {131},Y_3600,ppm, 1.237,.0022,.1785, 1.236, 1.239
Mo2020,202.030 {467},Y_2243,ppm, 1.048,.0004,.0420, 1.048, 1.048
Na5895,589.592 { 57},Y_3710,ppm, 1300.,11.78,.9064, 1292., 1308.
Ni2316,231.604 {445},In2306,ppm, 1.041,.0043,.4163, 1.045, 1.038
P_1782,178.284 {489},In2306,ppm, 8.110,.0057,.0703, 8.114, 8.106
Pb2203,220.353 {453},In2306,ppm, 1.003,.0073,.7309, 1.008, .9976
S_1820,182.034 {485},Y_2243,ppm, 8.190,.0080,.0979, 8.184, 8.195
Sb2068,206.833 {463},Y_2243,ppm, 1.782,.0054,.3034, 1.778, 1.786
Se1960,196.090 {472},Y_2243,ppm, 1.199,.0052,.4346, 1.195, 1.202
Si2516,251.611 {134},Y_3710,ppm, 10.78,.1284,1.191, 10.69, 10.87
Sn1899,189.989 {477},In2306,ppm, 1.024,.0063,.6161, 1.028, 1.020
Sr4215,421.552 { 80},Y_3710,ppm, 1.408,.0001,.0041, 1.408, 1.408
Ti3349,334.904 {101},Y_3600,ppm, 1.012,.0037,.3700, 1.009, 1.015
Tl1908,190.856 {477},In2306,ppm, .8417,.0045,.5350, .8386, .8449
U_3670,367.007 { 92},Y_3600,ppm, .9564,.0093,.9774, .9498, .9630
V_2924,292.402 {115},Y_3600,ppm, 1.016,.0022,.2182, 1.014, 1.017
W_2397,239.709 {140},Y_2243,ppm, .5745,.0053,.9179, .5782, .5708
Zn2062,206.200 {463},In2306,ppm, .8006,.0073,.9110, .8058, .7955

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 218.69,2.6926,1.2312,220.59,216.79
In2306,230.606 {446},Cts/S, 10574.,29.618,.28010,10595.,10553.
Y_2243,224.306 {450},Cts/S, 18750.,87.951,.46907,18812.,18688.
Y_3600,360.073 { 94},Cts/S, 159610.,381.62,.23910,159880.,159340.
Y_3710,371.030 { 91},Cts/S, 12110.,103.93,.85820,12184.,12037.

[Sample Header]
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Custom ID2=
Custom ID3=
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Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .3211,.0001,.0216, .3212, .3211
Al3082,308.215 {109},In2306,ppm, 10.76,.0528,.4912, 10.79, 10.72
As1890,189.042 {478},Y_2243,ppm, 1.113,.0032,.2911, 1.115, 1.111
B_2496,249.678 {135},Y_3710,ppm, .5452,.0010,.1832, .5445, .5459
Ba4554,455.403 { 74},Y_3710,ppm, 1.349,.0040,.2933, 1.352, 1.346
Be3130,313.042 {108},Y_3710,ppm, .9567,.0020,.2134, .9581, .9553
Ca3158,315.887 {107},In2306,ppm, 764.8,8.254,1.079, 770.7, 759.0
Cd2288,228.802 {447},Y_2243,ppm, 1.099,.0007,.0627, 1.100, 1.099
Co2286,228.616 {447},In2306,ppm, 1.001,.0015,.1484, 1.002, .9999
Cr2677,267.716 {126},Y_3600,ppm, .9446,.0033,.3534, .9422, .9470
Cu3247,324.754 {104},Y_3600,ppm, 1.047,.0009,.0847, 1.046, 1.047
Fe2404,240.488 {140},In2306,ppm, 9.907,.1036,1.046, 9.980, 9.833
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K_7664,766.490 { 44},Y_3710,ppm, 18.76,.0644,.3434, 18.80, 18.71
Li6707,670.784 { 50},Y_3710,ppm, 1.054,.0014,.1358, 1.055, 1.053
Mg2790,279.079 {121},Y_3710,ppm, 13.15,.0433,.3296, 13.12, 13.18
Mn2576,257.610 {131},Y_3600,ppm, 1.192,.0043,.3614, 1.189, 1.195
Mo2020,202.030 {467},Y_2243,ppm, 1.015,.0009,.0838, 1.015, 1.016
Na5895,589.592 { 57},Y_3710,ppm, 1262.,16.99,1.346, 1250., 1274.
Ni2316,231.604 {445},In2306,ppm, 1.005,.0004,.0396, 1.005, 1.006
P_1782,178.284 {489},In2306,ppm, 7.984,.0000,.0002, 7.984, 7.984
Pb2203,220.353 {453},In2306,ppm, .9722,.0024,.2470, .9705, .9739
S_1820,182.034 {485},Y_2243,ppm, 8.131,.0005,.0058, 8.131, 8.132
Sb2068,206.833 {463},Y_2243,ppm, 1.720,.0037,.2146, 1.722, 1.717
Se1960,196.090 {472},Y_2243,ppm, 1.147,.0020,.1710, 1.145, 1.148
Si2516,251.611 {134},Y_3710,ppm, 10.50,.0658,.6270, 10.45, 10.55
Sn1899,189.989 {477},In2306,ppm, .9868,.0004,.0381, .9865, .9871
Sr4215,421.552 { 80},Y_3710,ppm, 1.361,.0032,.2343, 1.363, 1.359
Ti3349,334.904 {101},Y_3600,ppm, .9758,.0043,.4378, .9727, .9788
Tl1908,190.856 {477},In2306,ppm, .9590,.0021,.2176, .9605, .9575
U_3670,367.007 { 92},Y_3600,ppm, 1.017,.0200,1.969, 1.031, 1.003
V_2924,292.402 {115},Y_3600,ppm, .9854,.0034,.3488, .9829, .9878
W_2397,239.709 {140},Y_2243,ppm, .5710,.1062,18.61, .6461, .4959
Zn2062,206.200 {463},In2306,ppm, .7873,.0004,.0522, .7870, .7876

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 214.39,1.3245,.61782,213.45,215.32
In2306,230.606 {446},Cts/S, 10620.,33.510,.31554,10596.,10644.
Y_2243,224.306 {450},Cts/S, 18789.,66.001,.35127,18743.,18836.
Y_3600,360.073 { 94},Cts/S, 159010.,6.5445,.00412,159010.,159010.
Y_3710,371.030 { 91},Cts/S, 11859.,11.466,.09669,11867.,11850.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0002,.0011,529.3, .0010, -.0006
Al3082,308.215 {109},In2306,ppm, .0050,.0137,273.3, -.0047, .0147
As1890,189.042 {478},Y_2243,ppm, .0031,.0033,107.1, .0054, .0007
B_2496,249.678 {135},Y_3710,ppm, .0151,.0030,20.00, .0130, .0173
Ba4554,455.403 { 74},Y_3710,ppm, .0859,.0005,.5445, .0856, .0863
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,12.30, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, 183.1,.4989,.2725, 183.4, 182.7
Cd2288,228.802 {447},Y_2243,ppm, .0003,.0003,87.84, .0001, .0005
Co2286,228.616 {447},In2306,ppm, .0002,.0000,5.403, .0002, .0002
Cr2677,267.716 {126},Y_3600,ppm, .0007,.0000,5.560, .0007, .0008
Cu3247,324.754 {104},Y_3600,ppm, .0025,.0002,7.895, .0024, .0027
Fe2404,240.488 {140},In2306,ppm, .0090,.0037,41.46, .0064, .0117
K_7664,766.490 { 44},Y_3710,ppm, 1.887,.0126,.6669, 1.896, 1.878
Li6707,670.784 { 50},Y_3710,ppm, .0030,.0000,.4364, .0030, .0030
Mg2790,279.079 {121},Y_3710,ppm, 1.060,.0599,5.656, 1.102, 1.017
Mn2576,257.610 {131},Y_3600,ppm, .0632,.0002,.3136, .0633, .0631
Mo2020,202.030 {467},Y_2243,ppm, .0019,.0002,10.81, .0017, .0020
Na5895,589.592 { 57},Y_3710,ppm, 316.9,4.163,1.314, 319.9, 314.0
Ni2316,231.604 {445},In2306,ppm, .0003,.0003,75.34, .0005, .0002
P_1782,178.284 {489},In2306,ppm, .3085,.0011,.3425, .3093, .3078
Pb2203,220.353 {453},In2306,ppm, .0023,.0001,6.347, .0022, .0024
S_1820,182.034 {485},Y_2243,ppm, .4737,.0019,.3999, .4751, .4724
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Sb2068,206.833 {463},Y_2243,ppm, .0055,.0012,22.20, .0064, .0047
Se1960,196.090 {472},Y_2243,ppm, .0028,.0004,13.83, .0031, .0025
Si2516,251.611 {134},Y_3710,ppm, .2800,.0068,2.436, .2848, .2752
Sn1899,189.989 {477},In2306,ppm, .0011,.0007,60.64, .0006, .0016
Sr4215,421.552 { 80},Y_3710,ppm, .0884,.0000,.0492, .0883, .0884
Ti3349,334.904 {101},Y_3600,ppm, .0016,.0003,17.58, .0014, .0018
Tl1908,190.856 {477},In2306,ppm, .0192,.0003,1.702, .0190, .0194
U_3670,367.007 { 92},Y_3600,ppm, .2607,.1238,47.49, .1732, .3483
V_2924,292.402 {115},Y_3600,ppm, .0001,.0002,200.6, -.0000, .0003
W_2397,239.709 {140},Y_2243,ppm, .0277,.0589,212.7, -.0140, .0693
Zn2062,206.200 {463},In2306,ppm, .0739,.0002,.2727, .0740, .0737

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 229.96,.41891,.18216,229.67,230.26
In2306,230.606 {446},Cts/S, 12667.,6.0167,.04750,12663.,12671.
Y_2243,224.306 {450},Cts/S, 21051.,7.3191,.03477,21045.,21056.
Y_3600,360.073 { 94},Cts/S, 176290.,348.61,.19774,176050.,176540.
Y_3710,371.030 { 91},Cts/S, 12272.,7.7224,.06293,12267.,12278.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .5753,.0013,.2344, .5763, .5744
Al3082,308.215 {109},In2306,ppm, 20.03,.1052,.5254, 19.96, 20.11
As1890,189.042 {478},Y_2243,ppm, 1.010,.0061,.6034, 1.015, 1.006
B_2496,249.678 {135},Y_3710,ppm, .9763,.0081,.8293, .9706, .9821
Ba4554,455.403 { 74},Y_3710,ppm, 1.006,.0010,.1000, 1.005, 1.006
Be3130,313.042 {108},Y_3710,ppm, .9848,.0001,.0140, .9849, .9847
Ca3158,315.887 {107},In2306,ppm, 20.03,.1921,.9594, 19.89, 20.16
Cd2288,228.802 {447},Y_2243,ppm, 1.022,.0007,.0697, 1.023, 1.022
Co2286,228.616 {447},In2306,ppm, .9902,.0041,.4169, .9873, .9931
Cr2677,267.716 {126},Y_3600,ppm, .9985,.0019,.1942, .9971, .9998
Cu3247,324.754 {104},Y_3600,ppm, 1.011,.0028,.2818, 1.009, 1.013
Fe2404,240.488 {140},In2306,ppm, 20.01,.2955,1.477, 19.80, 20.21
K_7664,766.490 { 44},Y_3710,ppm, 19.73,.0220,.1117, 19.71, 19.74
Li6707,670.784 { 50},Y_3710,ppm, 1.003,.0032,.3181, 1.005, 1.000
Mg2790,279.079 {121},Y_3710,ppm, 19.39,.0496,.2557, 19.35, 19.42
Mn2576,257.610 {131},Y_3600,ppm, 1.006,.0015,.1488, 1.007, 1.005
Mo2020,202.030 {467},Y_2243,ppm, 1.043,.0003,.0311, 1.043, 1.043
Na5895,589.592 { 57},Y_3710,ppm, 19.83,.0020,.0101, 19.83, 19.83
Ni2316,231.604 {445},In2306,ppm, .9973,.0043,.4284, .9943, 1.000
P_1782,178.284 {489},In2306,ppm, 10.00,.0429,.4288, 9.972, 10.03
Pb2203,220.353 {453},In2306,ppm, .9880,.0069,.7010, .9831, .9929
S_1820,182.034 {485},Y_2243,ppm, 10.52,.0058,.0552, 10.52, 10.51
Sb2068,206.833 {463},Y_2243,ppm, 2.178,.0021,.0956, 2.180, 2.177
Se1960,196.090 {472},Y_2243,ppm, 1.022,.0028,.2731, 1.024, 1.020
Si2516,251.611 {134},Y_3710,ppm, 9.498,.0629,.6623, 9.454, 9.543
Sn1899,189.989 {477},In2306,ppm, .9875,.0047,.4737, .9842, .9908
Sr4215,421.552 { 80},Y_3710,ppm, 1.012,.0007,.0736, 1.012, 1.013
Ti3349,334.904 {101},Y_3600,ppm, 1.005,.0025,.2476, 1.007, 1.003
Tl1908,190.856 {477},In2306,ppm, .9979,.0028,.2818, .9999, .9959
U_3670,367.007 { 92},Y_3600,ppm, 1.149,.0518,4.506, 1.186, 1.112
V_2924,292.402 {115},Y_3600,ppm, 1.014,.0009,.0879, 1.015, 1.014
W_2397,239.709 {140},Y_2243,ppm, .9794,.0312,3.187, .9574, 1.002
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Zn2062,206.200 {463},In2306,ppm, .9804,.0087,.8861, .9742, .9865

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 239.33,.38821,.16221,239.60,239.05
In2306,230.606 {446},Cts/S, 14417.,4.5789,.03176,14414.,14420.
Y_2243,224.306 {450},Cts/S, 23093.,79.746,.34532,23037.,23150.
Y_3600,360.073 { 94},Cts/S, 192620.,274.36,.14243,192430.,192810.
Y_3710,371.030 { 91},Cts/S, 12766.,81.424,.63780,12709.,12824.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0123,.0004,3.652, .0120, .0126
Al3082,308.215 {109},In2306,ppm, .1930,.0194,10.04, .2067, .1793
As1890,189.042 {478},Y_2243,ppm, .0224,.0006,2.608, .0220, .0228
B_2496,249.678 {135},Y_3710,ppm, .2034,.0002,.0753, .2035, .2033
Ba4554,455.403 { 74},Y_3710,ppm, .0220,.0001,.2615, .0219, .0220
Be3130,313.042 {108},Y_3710,ppm, .0112,.0001,.8053, .0112, .0113
Ca3158,315.887 {107},In2306,ppm, 1.041,.0021,.1984, 1.040, 1.043
Cd2288,228.802 {447},Y_2243,ppm, .0114,.0001,.5924, .0114, .0115
Co2286,228.616 {447},In2306,ppm, .0105,.0001,.8777, .0106, .0105
Cr2677,267.716 {126},Y_3600,ppm, .0110,.0002,1.488, .0112, .0109
Cu3247,324.754 {104},Y_3600,ppm, .0114,.0000,.1269, .0114, .0114
Fe2404,240.488 {140},In2306,ppm, .2098,.0029,1.394, .2118, .2077
K_7664,766.490 { 44},Y_3710,ppm, 1.046,.0157,1.500, 1.057, 1.035
Li6707,670.784 { 50},Y_3710,ppm, .0110,.0005,4.978, .0114, .0106
Mg2790,279.079 {121},Y_3710,ppm, 1.025,.0220,2.150, 1.009, 1.040
Mn2576,257.610 {131},Y_3600,ppm, .0113,.0001,.9054, .0114, .0113
Mo2020,202.030 {467},Y_2243,ppm, .0237,.0000,.0294, .0237, .0237
Na5895,589.592 { 57},Y_3710,ppm, 1.176,.0105,.8964, 1.169, 1.184
Ni2316,231.604 {445},In2306,ppm, .0108,.0001,.9039, .0109, .0108
P_1782,178.284 {489},In2306,ppm, .9560,.0009,.0890, .9566, .9554
Pb2203,220.353 {453},In2306,ppm, .0116,.0003,2.202, .0118, .0115
S_1820,182.034 {485},Y_2243,ppm, .5158,.0009,.1774, .5165, .5152
Sb2068,206.833 {463},Y_2243,ppm, .0580,.0004,.6158, .0578, .0583
Se1960,196.090 {472},Y_2243,ppm, .0228,.0004,1.720, .0225, .0231
Si2516,251.611 {134},Y_3710,ppm, .1845,.0078,4.218, .1790, .1900
Sn1899,189.989 {477},In2306,ppm, .0209,.0006,2.730, .0213, .0205
Sr4215,421.552 { 80},Y_3710,ppm, .0114,.0000,.1027, .0113, .0114
Ti3349,334.904 {101},Y_3600,ppm, .0115,.0003,2.875, .0118, .0113
Tl1908,190.856 {477},In2306,ppm, .0332,.0007,2.029, .0336, .0327
U_3670,367.007 { 92},Y_3600,ppm, .1658,.0182,10.95, .1787, .1530
V_2924,292.402 {115},Y_3600,ppm, .0109,.0003,2.506, .0107, .0111
W_2397,239.709 {140},Y_2243,ppm, .0576,.0248,43.12, .0751, .0400
Zn2062,206.200 {463},In2306,ppm, .0183,.0002,1.166, .0185, .0182

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 250.25,1.6010,.63978,249.12,251.38
In2306,230.606 {446},Cts/S, 15972.,9.1432,.05724,15966.,15979.
Y_2243,224.306 {450},Cts/S, 23805.,10.578,.04444,23813.,23798.
Y_3600,360.073 { 94},Cts/S, 201390.,370.59,.18402,201650.,201130.
Y_3710,371.030 { 91},Cts/S, 12898.,54.871,.42542,12937.,12859.
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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0002,.0005,295.9, .0002, -.0005
Al3082,308.215 {109},In2306,ppm, -.0127,.0064,50.08, -.0172, -.0082
As1890,189.042 {478},Y_2243,ppm, -.0006,.0001,12.07, -.0007, -.0006
B_2496,249.678 {135},Y_3710,ppm, -.0032,.0016,50.73, -.0021, -.0044
Ba4554,455.403 { 74},Y_3710,ppm, -.0005,.0000,10.37, -.0005, -.0004
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,87.20, .0002, .0000
Ca3158,315.887 {107},In2306,ppm, -.0071,.0019,26.85, -.0057, -.0084
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,42.09, .0000, .0001
Co2286,228.616 {447},In2306,ppm, -.0000,.0001,310.5, .0000, -.0001
Cr2677,267.716 {126},Y_3600,ppm, .0000,.0000,52.88, .0000, .0001
Cu3247,324.754 {104},Y_3600,ppm, -.0001,.0003,263.9, .0001, -.0004
Fe2404,240.488 {140},In2306,ppm, .0027,.0039,145.5, .0055, -.0001
K_7664,766.490 { 44},Y_3710,ppm, .0044,.0031,69.91, .0022, .0065
Li6707,670.784 { 50},Y_3710,ppm, -.0004,.0010,267.6, .0003, -.0010
Mg2790,279.079 {121},Y_3710,ppm, -.0071,.0077,108.9, -.0125, -.0016
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,20.35, -.0000, -.0000
Mo2020,202.030 {467},Y_2243,ppm, -.0006,.0001,10.55, -.0005, -.0006
Na5895,589.592 { 57},Y_3710,ppm, .0677,.0056,8.269, .0716, .0637
Ni2316,231.604 {445},In2306,ppm, .0002,.0001,44.05, .0003, .0001
P_1782,178.284 {489},In2306,ppm, -.0002,.0008,517.0, .0004, -.0007
Pb2203,220.353 {453},In2306,ppm, .0012,.0001,12.19, .0011, .0013
S_1820,182.034 {485},Y_2243,ppm, .0043,.0005,11.49, .0046, .0039
Sb2068,206.833 {463},Y_2243,ppm, .0017,.0011,64.44, .0025, .0009
Se1960,196.090 {472},Y_2243,ppm, .0007,.0024,337.9, .0024, -.0010
Si2516,251.611 {134},Y_3710,ppm, .0070,.0061,87.02, .0027, .0113
Sn1899,189.989 {477},In2306,ppm, .0002,.0006,304.8, -.0002, .0006
Sr4215,421.552 { 80},Y_3710,ppm, .0000,.0001,252.6, .0001, -.0000
Ti3349,334.904 {101},Y_3600,ppm, -.0000,.0003,1004., .0002, -.0002
Tl1908,190.856 {477},In2306,ppm, .0114,.0019,16.57, .0128, .0101
U_3670,367.007 { 92},Y_3600,ppm, .1057,.0055,5.247, .1018, .1097
V_2924,292.402 {115},Y_3600,ppm, -.0001,.0001,164.1, .0000, -.0001
W_2397,239.709 {140},Y_2243,ppm, .0017,.0150,857.2, -.0088, .0123
Zn2062,206.200 {463},In2306,ppm, -.0012,.0000,2.737, -.0013, -.0012

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 248.21,2.5272,1.0182,250.00,246.43
In2306,230.606 {446},Cts/S, 15868.,460.41,2.9016,15542.,16193.
Y_2243,224.306 {450},Cts/S, 23337.,680.92,2.9177,22856.,23819.
Y_3600,360.073 { 94},Cts/S, 201290.,191.70,.09524,201150.,201420.
Y_3710,371.030 { 91},Cts/S, 12813.,12.044,.09400,12805.,12822.

[Sample Header]
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Custom ID3=
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0009,.0001,16.10, .0010, .0008
Al3082,308.215 {109},In2306,ppm, .2195,.0008,.3631, .2200, .2189
As1890,189.042 {478},Y_2243,ppm, .0019,.0007,34.61, .0024, .0014
B_2496,249.678 {135},Y_3710,ppm, .0186,.0053,28.49, .0149, .0223
Ba4554,455.403 { 74},Y_3710,ppm, .0413,.0004,.8700, .0410, .0415
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,7.747, -.0001, -.0001
Ca3158,315.887 {107},In2306,ppm, 9.633,.0886,.9202, 9.696, 9.570
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,47.26, .0001, .0001
Co2286,228.616 {447},In2306,ppm, .0003,.0003,95.36, .0005, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0017,.0001,7.857, .0016, .0018
Cu3247,324.754 {104},Y_3600,ppm, .0649,.0002,.3764, .0647, .0651
Fe2404,240.488 {140},In2306,ppm, 1.140,.0040,.3468, 1.143, 1.137
K_7664,766.490 { 44},Y_3710,ppm, .8905,.0202,2.265, .8763, .9048
Li6707,670.784 { 50},Y_3710,ppm, .0055,.0004,7.364, .0052, .0058
Mg2790,279.079 {121},Y_3710,ppm, .9885,.0182,1.837, .9757, 1.001
Mn2576,257.610 {131},Y_3600,ppm, .0189,.0000,.0681, .0189, .0189
Mo2020,202.030 {467},Y_2243,ppm, .0491,.0004,.8226, .0494, .0488
Na5895,589.592 { 57},Y_3710,ppm, 50.17,.1805,.3597, 50.04, 50.30
Ni2316,231.604 {445},In2306,ppm, .0186,.0001,.7892, .0188, .0185
P_1782,178.284 {489},In2306,ppm, .1641,.0011,.6943, .1633, .1649
Pb2203,220.353 {453},In2306,ppm, .0023,.0001,2.225, .0023, .0024
S_1820,182.034 {485},Y_2243,ppm, 2.909,.0075,.2584, 2.914, 2.904
Sb2068,206.833 {463},Y_2243,ppm, .0012,.0013,102.1, .0003, .0021
Se1960,196.090 {472},Y_2243,ppm, .0018,.0008,45.06, .0024, .0012
Si2516,251.611 {134},Y_3710,ppm, 2.519,.0021,.0853, 2.517, 2.520
Sn1899,189.989 {477},In2306,ppm, .0001,.0004,319.6, .0004, -.0001
Sr4215,421.552 { 80},Y_3710,ppm, .0394,.0001,.2256, .0393, .0394
Ti3349,334.904 {101},Y_3600,ppm, .0017,.0002,11.88, .0018, .0015
Tl1908,190.856 {477},In2306,ppm, .0102,.0011,10.84, .0110, .0094
U_3670,367.007 { 92},Y_3600,ppm, .1128,.0247,21.88, .1302, .0953
V_2924,292.402 {115},Y_3600,ppm, .0012,.0001,4.862, .0012, .0013
W_2397,239.709 {140},Y_2243,ppm, .0008,.0238,2861., -.0160, .0177
Zn2062,206.200 {463},In2306,ppm, .0643,.0001,.0866, .0642, .0643

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 243.53,3.8253,1.5708,240.83,246.24
In2306,230.606 {446},Cts/S, 14833.,.57266,.00386,14834.,14833.
Y_2243,224.306 {450},Cts/S, 23108.,22.163,.09591,23123.,23092.
Y_3600,360.073 { 94},Cts/S, 195060.,223.43,.11455,194900.,195210.
Y_3710,371.030 { 91},Cts/S, 12799.,104.37,.81546,12725.,12873.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0010,.0003,26.99, .0012, .0008
Al3082,308.215 {109},In2306,ppm, .0628,.0121,19.31, .0714, .0542
As1890,189.042 {478},Y_2243,ppm, .0076,.0004,5.481, .0079, .0073
B_2496,249.678 {135},Y_3710,ppm, .2968,.0082,2.764, .2910, .3026
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Ba4554,455.403 { 74},Y_3710,ppm, .2660,.0006,.2088, .2657, .2664
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,18.66, -.0000, -.0000
Ca3158,315.887 {107},In2306,ppm, 116.2,2.050,1.764, 117.7, 114.8
Cd2288,228.802 {447},Y_2243,ppm, .0003,.0001,33.60, .0002, .0004
Co2286,228.616 {447},In2306,ppm, -.0004,.0001,15.25, -.0004, -.0005
Cr2677,267.716 {126},Y_3600,ppm, .0033,.0002,6.292, .0034, .0031
Cu3247,324.754 {104},Y_3600,ppm, .0047,.0002,4.808, .0046, .0049
Fe2404,240.488 {140},In2306,ppm, .3313,.0051,1.546, .3349, .3276
K_7664,766.490 { 44},Y_3710,ppm, 31.91,.0670,.2099, 31.96, 31.87
Li6707,670.784 { 50},Y_3710,ppm, .0334,.0000,.0359, .0334, .0334
Mg2790,279.079 {121},Y_3710,ppm, 37.43,.4082,1.091, 37.14, 37.72
Mn2576,257.610 {131},Y_3600,ppm, .0085,.0000,.1982, .0085, .0085
Mo2020,202.030 {467},Y_2243,ppm, .0243,.0002,.7638, .0242, .0245
Na5895,589.592 { 57},Y_3710,ppm, 252.4,6.650,2.635, 247.7, 257.1
Ni2316,231.604 {445},In2306,ppm, .0019,.0001,5.594, .0020, .0018
P_1782,178.284 {489},In2306,ppm, 4.879,.0022,.0445, 4.880, 4.877
Pb2203,220.353 {453},In2306,ppm, -.0004,.0008,184.5, -.0010, .0001
S_1820,182.034 {485},Y_2243,ppm, 143.2,.1870,.1306, 143.3, 143.1
Sb2068,206.833 {463},Y_2243,ppm, .0034,.0014,40.46, .0043, .0024
Se1960,196.090 {472},Y_2243,ppm, .0002,.0009,400.2, -.0004, .0008
Si2516,251.611 {134},Y_3710,ppm, 16.49,.2342,1.420, 16.33, 16.66
Sn1899,189.989 {477},In2306,ppm, -.0001,.0002,142.1, -.0003, .0000
Sr4215,421.552 { 80},Y_3710,ppm, .7683,.0016,.2102, .7695, .7672
Ti3349,334.904 {101},Y_3600,ppm, .0017,.0000,.9162, .0017, .0016
Tl1908,190.856 {477},In2306,ppm, .0020,.0009,42.86, .0014, .0027
U_3670,367.007 { 92},Y_3600,ppm, .2018,.0003,.1443, .2016, .2020
V_2924,292.402 {115},Y_3600,ppm, .0176,.0001,.4357, .0175, .0176
W_2397,239.709 {140},Y_2243,ppm, .0106,.0495,469.1, .0456, -.0244
Zn2062,206.200 {463},In2306,ppm, .0288,.0001,.3343, .0288, .0287

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 233.38,3.1663,1.3568,231.14,235.61
In2306,230.606 {446},Cts/S, 12844.,74.468,.57980,12791.,12897.
Y_2243,224.306 {450},Cts/S, 21134.,165.13,.78138,21017.,21250.
Y_3600,360.073 { 94},Cts/S, 178730.,243.43,.13620,178550.,178900.
Y_3710,371.030 { 91},Cts/S, 12657.,64.579,.51023,12703.,12611.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0010,.0002,20.87, .0012, .0009
Al3082,308.215 {109},In2306,ppm, -.0063,.0016,25.42, -.0074, -.0052
As1890,189.042 {478},Y_2243,ppm, .0004,.0002,37.32, .0006, .0003
B_2496,249.678 {135},Y_3710,ppm, .0186,.0004,2.356, .0183, .0189
Ba4554,455.403 { 74},Y_3710,ppm, .0032,.0001,2.443, .0033, .0032
Be3130,313.042 {108},Y_3710,ppm, .0000,.0001,263.3, .0001, -.0000
Ca3158,315.887 {107},In2306,ppm, .2415,.0029,1.194, .2435, .2394
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0001,119.6, .0001, .0000
Co2286,228.616 {447},In2306,ppm, .3554,.0009,.2636, .3547, .3560
Cr2677,267.716 {126},Y_3600,ppm, .0003,.0001,22.91, .0003, .0004
Cu3247,324.754 {104},Y_3600,ppm, .1684,.0010,.5969, .1691, .1677
Fe2404,240.488 {140},In2306,ppm, .0109,.0014,13.04, .0119, .0099
K_7664,766.490 { 44},Y_3710,ppm, .1119,.0105,9.348, .1193, .1045
Li6707,670.784 { 50},Y_3710,ppm, -.0001,.0001,168.0, -.0002, .0000
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Mg2790,279.079 {121},Y_3710,ppm, .0762,.0168,22.00, .0880, .0643
Mn2576,257.610 {131},Y_3600,ppm, .0015,.0000,.3090, .0015, .0015
Mo2020,202.030 {467},Y_2243,ppm, -.0005,.0002,44.72, -.0007, -.0003
Na5895,589.592 { 57},Y_3710,ppm, 9.082,.0756,.8329, 9.135, 9.028
Ni2316,231.604 {445},In2306,ppm, .0009,.0000,3.425, .0009, .0009
P_1782,178.284 {489},In2306,ppm, .0558,.0010,1.721, .0551, .0565
Pb2203,220.353 {453},In2306,ppm, .0007,.0006,83.98, .0011, .0003
S_1820,182.034 {485},Y_2243,ppm, .9486,.0040,.4257, .9515, .9458
Sb2068,206.833 {463},Y_2243,ppm, .0013,.0011,84.33, .0021, .0005
Se1960,196.090 {472},Y_2243,ppm, .0018,.0017,94.75, .0006, .0031
Si2516,251.611 {134},Y_3710,ppm, .3669,.0143,3.885, .3770, .3568
Sn1899,189.989 {477},In2306,ppm, .0009,.0002,22.94, .0008, .0011
Sr4215,421.552 { 80},Y_3710,ppm, .0007,.0000,3.290, .0008, .0007
Ti3349,334.904 {101},Y_3600,ppm, .0004,.0001,20.82, .0005, .0003
Tl1908,190.856 {477},In2306,ppm, .0076,.0049,64.04, .0110, .0042
U_3670,367.007 { 92},Y_3600,ppm, .0632,.0195,30.80, .0770, .0494
V_2924,292.402 {115},Y_3600,ppm, -.0001,.0002,184.1, .0000, -.0002
W_2397,239.709 {140},Y_2243,ppm, -.0561,.0009,1.660, -.0568, -.0555
Zn2062,206.200 {463},In2306,ppm, .4010,.0016,.4099, .3999, .4022

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 248.61,5.1811,2.0840,244.95,252.27
In2306,230.606 {446},Cts/S, 15797.,14.209,.08995,15787.,15807.
Y_2243,224.306 {450},Cts/S, 23473.,48.426,.20631,23439.,23507.
Y_3600,360.073 { 94},Cts/S, 201960.,2.5978,.00129,201960.,201960.
Y_3710,371.030 { 91},Cts/S, 13043.,221.64,1.6993,12886.,13200.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0020,.0000,1.642, .0019, .0020
Al3082,308.215 {109},In2306,ppm, -1.697,.0228,1.342, -1.713, -1.681
As1890,189.042 {478},Y_2243,ppm, -.0032,.0026,82.61, -.0050, -.0013
B_2496,249.678 {135},Y_3710,ppm, .9313,.0088,.9496, .9250, .9376
Ba4554,455.403 { 74},Y_3710,ppm, .0019,.0002,9.878, .0020, .0018
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0001,169.4, -.0001, .0000
Ca3158,315.887 {107},In2306,ppm, 1.392,.0058,.4202, 1.396, 1.388
Cd2288,228.802 {447},Y_2243,ppm, .0233,.0002,.8987, .0234, .0231
Co2286,228.616 {447},In2306,ppm, 401.9,.3285,.0818, 401.6, 402.1
Cr2677,267.716 {126},Y_3600,ppm, .0025,.0002,8.344, .0026, .0023
Cu3247,324.754 {104},Y_3600,ppm, 1.144,.0017,.1466, 1.142, 1.145
Fe2404,240.488 {140},In2306,ppm, -.2048,.0133,6.491, -.1954, -.2142
K_7664,766.490 { 44},Y_3710,ppm, 1.230,.0467,3.796, 1.197, 1.263
Li6707,670.784 { 50},Y_3710,ppm, .0012,.0002,16.78, .0014, .0011
Mg2790,279.079 {121},Y_3710,ppm, .0309,.0088,28.45, .0372, .0247
Mn2576,257.610 {131},Y_3600,ppm, .0132,.0000,.2502, .0131, .0132
Mo2020,202.030 {467},Y_2243,ppm, .0005,.0004,72.50, .0007, .0002
Na5895,589.592 { 57},Y_3710,ppm, 1869.,21.44,1.147, 1884., 1854.
Ni2316,231.604 {445},In2306,ppm, .1489,.0024,1.579, .1473, .1506
P_1782,178.284 {489},In2306,ppm, .3288,.0017,.5300, .3276, .3300
Pb2203,220.353 {453},In2306,ppm, -.0530,.0038,7.147, -.0503, -.0557
S_1820,182.034 {485},Y_2243,ppm, 1.939,.0095,.4915, 1.932, 1.946
Sb2068,206.833 {463},Y_2243,ppm, .0061,.0013,21.91, .0070, .0052
Se1960,196.090 {472},Y_2243,ppm, .0372,.0044,11.73, .0341, .0402
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Si2516,251.611 {134},Y_3710,ppm, .2058,.0015,.7512, .2047, .2069
Sn1899,189.989 {477},In2306,ppm, .0085,.0005,6.293, .0082, .0089
Sr4215,421.552 { 80},Y_3710,ppm, .0028,.0000,.3625, .0028, .0028
Ti3349,334.904 {101},Y_3600,ppm, -.0022,.0000,.5012, -.0022, -.0022
Tl1908,190.856 {477},In2306,ppm, 3.530,.0044,.1234, 3.527, 3.533
U_3670,367.007 { 92},Y_3600,ppm, 1.377,.0696,5.053, 1.426, 1.328
V_2924,292.402 {115},Y_3600,ppm, -.0008,.0002,24.53, -.0007, -.0010
W_2397,239.709 {140},Y_2243,ppm, -145.6,1.002,.6883, -144.9, -146.3
Zn2062,206.200 {463},In2306,ppm, 12.17,.0289,.2372, 12.20, 12.15

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 255.98,.72820,.28448,255.46,256.49
In2306,230.606 {446},Cts/S, 11977.,31.088,.25957,11999.,11955.
Y_2243,224.306 {450},Cts/S, 19065.,44.666,.23428,19097.,19034.
Y_3600,360.073 { 94},Cts/S, 157860.,54.041,.03423,157830.,157900.
Y_3710,371.030 { 91},Cts/S, 12185.,56.947,.46736,12225.,12144.

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Ag3280,328.068 {103},Y_3600,ppm, .0005,.0005,105.8, .0009, .0001
Al3082,308.215 {109},In2306,ppm, -.2155,.0096,4.433, -.2222, -.2087
As1890,189.042 {478},Y_2243,ppm, .0012,.0005,38.53, .0015, .0009
B_2496,249.678 {135},Y_3710,ppm, .0948,.0051,5.332, .0983, .0912
Ba4554,455.403 { 74},Y_3710,ppm, -.0003,.0001,29.02, -.0003, -.0004
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,211.2, -.0001, .0000
Ca3158,315.887 {107},In2306,ppm, .1461,.0005,.3120, .1458, .1464
Cd2288,228.802 {447},Y_2243,ppm, .0021,.0000,1.429, .0021, .0020
Co2286,228.616 {447},In2306,ppm, 60.81,.1053,.1731, 60.88, 60.74
Cr2677,267.716 {126},Y_3600,ppm, .0002,.0000,11.63, .0002, .0002
Cu3247,324.754 {104},Y_3600,ppm, .1136,.0001,.1194, .1135, .1137
Fe2404,240.488 {140},In2306,ppm, -.0164,.0012,7.172, -.0172, -.0156
K_7664,766.490 { 44},Y_3710,ppm, .1223,.0049,4.014, .1258, .1188
Li6707,670.784 { 50},Y_3710,ppm, .0022,.0002,10.14, .0021, .0024
Mg2790,279.079 {121},Y_3710,ppm, .0076,.0149,195.5, .0181, -.0029
Mn2576,257.610 {131},Y_3600,ppm, .0014,.0000,2.256, .0014, .0014
Mo2020,202.030 {467},Y_2243,ppm, -.0007,.0001,17.58, -.0008, -.0006
Na5895,589.592 { 57},Y_3710,ppm, 207.7,1.211,.5830, 206.8, 208.5
Ni2316,231.604 {445},In2306,ppm, .0163,.0001,.4412, .0163, .0162
P_1782,178.284 {489},In2306,ppm, .0285,.0008,2.673, .0290, .0279
Pb2203,220.353 {453},In2306,ppm, .0042,.0002,5.166, .0043, .0040
S_1820,182.034 {485},Y_2243,ppm, .2031,.0049,2.432, .2066, .1996
Sb2068,206.833 {463},Y_2243,ppm, .0003,.0011,367.4, .0011, -.0005
Se1960,196.090 {472},Y_2243,ppm, .0006,.0001,22.07, .0007, .0005
Si2516,251.611 {134},Y_3710,ppm, .0371,.0003,.8924, .0373, .0368
Sn1899,189.989 {477},In2306,ppm, .0023,.0000,2.011, .0023, .0022
Sr4215,421.552 { 80},Y_3710,ppm, .0002,.0001,48.68, .0003, .0001
Ti3349,334.904 {101},Y_3600,ppm, -.0005,.0000,2.220, -.0005, -.0006
Tl1908,190.856 {477},In2306,ppm, .3353,.0005,.1441, .3356, .3350
U_3670,367.007 { 92},Y_3600,ppm, .2181,.0118,5.402, .2098, .2264
V_2924,292.402 {115},Y_3600,ppm, -.0001,.0001,58.95, -.0001, -.0002
W_2397,239.709 {140},Y_2243,ppm, -14.95,.0337,.2253, -14.93, -14.98
Zn2062,206.200 {463},In2306,ppm, 1.295,.0025,.1932, 1.293, 1.296
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[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 241.05,.60047,.24910,241.48,240.63
In2306,230.606 {446},Cts/S, 13750.,6.4490,.04690,13755.,13746.
Y_2243,224.306 {450},Cts/S, 22263.,2.3729,.01066,22265.,22261.
Y_3600,360.073 { 94},Cts/S, 185080.,405.58,.21914,184790.,185370.
Y_3710,371.030 { 91},Cts/S, 12541.,45.817,.36534,12574.,12509.

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Ag3280,328.068 {103},Y_3600,ppm, .0007,.0006,86.30, .0011, .0003
Al3082,308.215 {109},In2306,ppm, -.0346,.0142,41.04, -.0245, -.0446
As1890,189.042 {478},Y_2243,ppm, .0024,.0002,7.875, .0023, .0026
B_2496,249.678 {135},Y_3710,ppm, .0216,.0037,17.28, .0243, .0190
Ba4554,455.403 { 74},Y_3710,ppm, -.0005,.0001,14.71, -.0005, -.0006
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,5.945, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, .0161,.0030,18.76, .0183, .0140
Cd2288,228.802 {447},Y_2243,ppm, .0008,.0001,8.729, .0009, .0008
Co2286,228.616 {447},In2306,ppm, 12.86,.0055,.0427, 12.85, 12.86
Cr2677,267.716 {126},Y_3600,ppm, .0000,.0003,578.4, -.0001, .0002
Cu3247,324.754 {104},Y_3600,ppm, .0248,.0003,1.095, .0246, .0249
Fe2404,240.488 {140},In2306,ppm, .0018,.0089,485.4, .0081, -.0045
K_7664,766.490 { 44},Y_3710,ppm, -.0102,.0033,32.04, -.0079, -.0125
Li6707,670.784 { 50},Y_3710,ppm, .0001,.0003,203.0, .0004, -.0001
Mg2790,279.079 {121},Y_3710,ppm, .0010,.0020,197.5, -.0004, .0025
Mn2576,257.610 {131},Y_3600,ppm, .0003,.0000,2.280, .0003, .0003
Mo2020,202.030 {467},Y_2243,ppm, -.0005,.0000,7.089, -.0004, -.0005
Na5895,589.592 { 57},Y_3710,ppm, 44.14,.0600,.1359, 44.18, 44.10
Ni2316,231.604 {445},In2306,ppm, .0036,.0002,4.413, .0035, .0037
P_1782,178.284 {489},In2306,ppm, .0039,.0009,22.76, .0046, .0033
Pb2203,220.353 {453},In2306,ppm, .0018,.0006,36.15, .0013, .0022
S_1820,182.034 {485},Y_2243,ppm, .0491,.0069,14.06, .0540, .0442
Sb2068,206.833 {463},Y_2243,ppm, .0002,.0009,498.9, -.0004, .0008
Se1960,196.090 {472},Y_2243,ppm, -.0013,.0031,231.6, .0008, -.0035
Si2516,251.611 {134},Y_3710,ppm, .0098,.0127,129.7, .0187, .0008
Sn1899,189.989 {477},In2306,ppm, .0012,.0007,57.24, .0007, .0017
Sr4215,421.552 { 80},Y_3710,ppm, .0001,.0000,4.123, .0001, .0001
Ti3349,334.904 {101},Y_3600,ppm, .0001,.0003,433.6, -.0001, .0003
Tl1908,190.856 {477},In2306,ppm, .0648,.0001,.1304, .0649, .0648
U_3670,367.007 { 92},Y_3600,ppm, .0687,.0378,55.06, .0419, .0954
V_2924,292.402 {115},Y_3600,ppm, -.0003,.0003,98.99, -.0006, -.0001
W_2397,239.709 {140},Y_2243,ppm, -3.005,.0645,2.145, -2.960, -3.051
Zn2062,206.200 {463},In2306,ppm, .2576,.0006,.2448, .2580, .2571

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 241.47,1.1933,.49418,240.63,242.31
In2306,230.606 {446},Cts/S, 14990.,8.6922,.05799,14984.,14996.
Y_2243,224.306 {450},Cts/S, 23354.,24.879,.10653,23336.,23371.
Y_3600,360.073 { 94},Cts/S, 195280.,430.96,.22069,194980.,195590.
Y_3710,371.030 { 91},Cts/S, 12730.,6.1764,.04852,12726.,12734.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0025,.0003,12.00, .0027, .0023
Al3082,308.215 {109},In2306,ppm, -.7800,.0181,2.318, -.7927, -.7672
As1890,189.042 {478},Y_2243,ppm, -.0009,.0020,211.4, -.0023, .0005
B_2496,249.678 {135},Y_3710,ppm, .4203,.0023,.5397, .4219, .4187
Ba4554,455.403 { 74},Y_3710,ppm, .1908,.0010,.5477, .1900, .1915
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0002,467.6, .0001, -.0002
Ca3158,315.887 {107},In2306,ppm, 1.490,.0165,1.105, 1.502, 1.479
Cd2288,228.802 {447},Y_2243,ppm, .0098,.0001,1.414, .0099, .0097
Co2286,228.616 {447},In2306,ppm, 222.4,.9183,.4130, 223.0, 221.7
Cr2677,267.716 {126},Y_3600,ppm, .0007,.0002,32.14, .0005, .0009
Cu3247,324.754 {104},Y_3600,ppm, .2798,.0013,.4646, .2807, .2789
Fe2404,240.488 {140},In2306,ppm, .0497,.0082,16.42, .0439, .0554
K_7664,766.490 { 44},Y_3710,ppm, .4462,.0062,1.386, .4506, .4418
Li6707,670.784 { 50},Y_3710,ppm, .0013,.0001,9.315, .0014, .0013
Mg2790,279.079 {121},Y_3710,ppm, .0396,.0194,48.90, .0259, .0533
Mn2576,257.610 {131},Y_3600,ppm, .0326,.0000,.1113, .0326, .0327
Mo2020,202.030 {467},Y_2243,ppm, .0025,.0003,12.81, .0023, .0027
Na5895,589.592 { 57},Y_3710,ppm, 905.7,9.798,1.082, 898.8, 912.6
Ni2316,231.604 {445},In2306,ppm, .0514,.0003,.6132, .0517, .0512
P_1782,178.284 {489},In2306,ppm, .0340,.0000,.0829, .0340, .0340
Pb2203,220.353 {453},In2306,ppm, .0006,.0005,92.14, .0009, .0002
S_1820,182.034 {485},Y_2243,ppm, 1.328,.0011,.0848, 1.328, 1.329
Sb2068,206.833 {463},Y_2243,ppm, -.0005,.0008,168.1, .0001, -.0011
Se1960,196.090 {472},Y_2243,ppm, .0136,.0035,25.37, .0112, .0161
Si2516,251.611 {134},Y_3710,ppm, .2866,.0013,.4659, .2857, .2876
Sn1899,189.989 {477},In2306,ppm, .0048,.0004,8.930, .0051, .0045
Sr4215,421.552 { 80},Y_3710,ppm, .0043,.0000,.4993, .0043, .0043
Ti3349,334.904 {101},Y_3600,ppm, -.0010,.0002,19.15, -.0009, -.0012
Tl1908,190.856 {477},In2306,ppm, 1.458,.0017,.1169, 1.457, 1.459
U_3670,367.007 { 92},Y_3600,ppm, .6429,.0405,6.296, .6715, .6143
V_2924,292.402 {115},Y_3600,ppm, -.0006,.0001,19.32, -.0007, -.0005
W_2397,239.709 {140},Y_2243,ppm, -60.05,.2409,.4012, -59.88, -60.22
Zn2062,206.200 {463},In2306,ppm, 17.68,.0426,.2407, 17.71, 17.65

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 247.71,3.1031,1.2527,245.51,249.90
In2306,230.606 {446},Cts/S, 12544.,18.185,.14497,12531.,12557.
Y_2243,224.306 {450},Cts/S, 20568.,37.281,.18126,20542.,20595.
Y_3600,360.073 { 94},Cts/S, 170900.,96.861,.05668,170970.,170830.
Y_3710,371.030 { 91},Cts/S, 12359.,23.337,.18883,12376.,12343.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0001,.0001,181.1, -.0000, .0001
Al3082,308.215 {109},In2306,ppm, -.1015,.0146,14.37, -.0912, -.1118
As1890,189.042 {478},Y_2243,ppm, -.0001,.0004,702.5, .0002, -.0003
B_2496,249.678 {135},Y_3710,ppm, .0427,.0018,4.105, .0439, .0415
Ba4554,455.403 { 74},Y_3710,ppm, .0194,.0003,1.542, .0192, .0196
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,37.75, -.0000, -.0000
Ca3158,315.887 {107},In2306,ppm, .1406,.0018,1.247, .1419, .1394
Cd2288,228.802 {447},Y_2243,ppm, .0009,.0000,1.476, .0009, .0009
Co2286,228.616 {447},In2306,ppm, 27.13,.1987,.7324, 27.28, 26.99
Cr2677,267.716 {126},Y_3600,ppm, .0003,.0003,109.4, .0001, .0005
Cu3247,324.754 {104},Y_3600,ppm, .0294,.0007,2.342, .0299, .0289
Fe2404,240.488 {140},In2306,ppm, .0129,.0043,33.40, .0098, .0159
K_7664,766.490 { 44},Y_3710,ppm, .0295,.0058,19.67, .0254, .0336
Li6707,670.784 { 50},Y_3710,ppm, .0003,.0002,68.78, .0002, .0005
Mg2790,279.079 {121},Y_3710,ppm, .0316,.0360,113.9, .0062, .0571
Mn2576,257.610 {131},Y_3600,ppm, .0034,.0000,.8598, .0035, .0034
Mo2020,202.030 {467},Y_2243,ppm, -.0004,.0002,57.31, -.0006, -.0003
Na5895,589.592 { 57},Y_3710,ppm, 96.64,.2978,.3081, 96.43, 96.86
Ni2316,231.604 {445},In2306,ppm, .0054,.0001,2.036, .0053, .0055
P_1782,178.284 {489},In2306,ppm, -.0005,.0013,272.9, -.0014, .0004
Pb2203,220.353 {453},In2306,ppm, .0017,.0020,119.5, .0031, .0003
S_1820,182.034 {485},Y_2243,ppm, .1438,.0002,.1110, .1436, .1439
Sb2068,206.833 {463},Y_2243,ppm, -.0007,.0001,14.41, -.0008, -.0007
Se1960,196.090 {472},Y_2243,ppm, -.0012,.0018,158.5, .0001, -.0025
Si2516,251.611 {134},Y_3710,ppm, .0350,.0007,2.032, .0345, .0355
Sn1899,189.989 {477},In2306,ppm, .0015,.0001,8.442, .0016, .0014
Sr4215,421.552 { 80},Y_3710,ppm, .0003,.0001,34.27, .0004, .0002
Ti3349,334.904 {101},Y_3600,ppm, -.0002,.0001,64.60, -.0001, -.0003
Tl1908,190.856 {477},In2306,ppm, .1437,.0011,.7364, .1444, .1429
U_3670,367.007 { 92},Y_3600,ppm, .0568,.0676,119.1, .1046, .0090
V_2924,292.402 {115},Y_3600,ppm, -.0004,.0001,31.91, -.0005, -.0003
W_2397,239.709 {140},Y_2243,ppm, -6.486,.0276,.4253, -6.466, -6.505
Zn2062,206.200 {463},In2306,ppm, 1.816,.0044,.2422, 1.819, 1.813

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 244.57,.54880,.22439,244.18,244.96
In2306,230.606 {446},Cts/S, 14477.,13.528,.09345,14486.,14467.
Y_2243,224.306 {450},Cts/S, 22934.,71.312,.31095,22984.,22883.
Y_3600,360.073 { 94},Cts/S, 191590.,274.07,.14305,191790.,191400.
Y_3710,371.030 { 91},Cts/S, 12712.,81.404,.64038,12770.,12654.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .5745,.0007,.1148, .5741, .5750
Al3082,308.215 {109},In2306,ppm, 20.11,.2219,1.103, 20.27, 19.96
As1890,189.042 {478},Y_2243,ppm, .9849,.0287,2.909, 1.005, .9646
B_2496,249.678 {135},Y_3710,ppm, .9663,.0035,.3663, .9638, .9688
Ba4554,455.403 { 74},Y_3710,ppm, 1.008,.0018,.1767, 1.007, 1.009
Be3130,313.042 {108},Y_3710,ppm, .9871,.0051,.5134, .9835, .9906
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Ca3158,315.887 {107},In2306,ppm, 19.85,.1251,.6302, 19.94, 19.77
Cd2288,228.802 {447},Y_2243,ppm, .9957,.0320,3.213, 1.018, .9731
Co2286,228.616 {447},In2306,ppm, .9624,.0309,3.206, .9842, .9406
Cr2677,267.716 {126},Y_3600,ppm, .9794,.0023,.2398, .9811, .9778
Cu3247,324.754 {104},Y_3600,ppm, .9992,.0008,.0760, .9987, .9998
Fe2404,240.488 {140},In2306,ppm, 20.07,.1411,.7030, 20.17, 19.97
K_7664,766.490 { 44},Y_3710,ppm, 19.46,.0571,.2934, 19.42, 19.50
Li6707,670.784 { 50},Y_3710,ppm, .9943,.0014,.1401, .9933, .9953
Mg2790,279.079 {121},Y_3710,ppm, 19.34,.2362,1.222, 19.17, 19.51
Mn2576,257.610 {131},Y_3600,ppm, 1.000,.0017,.1678, 1.001, .9990
Mo2020,202.030 {467},Y_2243,ppm, 1.010,.0325,3.220, 1.033, .9866
Na5895,589.592 { 57},Y_3710,ppm, 19.71,.0864,.4385, 19.65, 19.77
Ni2316,231.604 {445},In2306,ppm, .9699,.0303,3.124, .9914, .9485
P_1782,178.284 {489},In2306,ppm, 9.711,.3034,3.124, 9.926, 9.497
Pb2203,220.353 {453},In2306,ppm, .9664,.0303,3.135, .9878, .9450
S_1820,182.034 {485},Y_2243,ppm, 10.18,.3363,3.305, 10.41, 9.938
Sb2068,206.833 {463},Y_2243,ppm, 2.109,.0684,3.242, 2.157, 2.061
Se1960,196.090 {472},Y_2243,ppm, .9889,.0327,3.304, 1.012, .9658
Si2516,251.611 {134},Y_3710,ppm, 9.384,.0806,.8585, 9.327, 9.441
Sn1899,189.989 {477},In2306,ppm, .9604,.0332,3.454, .9838, .9369
Sr4215,421.552 { 80},Y_3710,ppm, 1.010,.0022,.2177, 1.008, 1.011
Ti3349,334.904 {101},Y_3600,ppm, .9987,.0021,.2137, 1.000, .9972
Tl1908,190.856 {477},In2306,ppm, .9581,.0290,3.025, .9786, .9376
U_3670,367.007 { 92},Y_3600,ppm, 1.091,.0063,.5750, 1.087, 1.096
V_2924,292.402 {115},Y_3600,ppm, 1.004,.0021,.2119, 1.006, 1.003
W_2397,239.709 {140},Y_2243,ppm, .9914,.1181,11.91, 1.075, .9079
Zn2062,206.200 {463},In2306,ppm, .9511,.0309,3.247, .9730, .9293

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 239.58,3.0892,1.2894,237.40,241.77
In2306,230.606 {446},Cts/S, 14755.,363.95,2.4666,14498.,15012.
Y_2243,224.306 {450},Cts/S, 23630.,604.38,2.5577,23203.,24057.
Y_3600,360.073 { 94},Cts/S, 194350.,376.78,.19386,194090.,194620.
Y_3710,371.030 { 91},Cts/S, 12886.,59.079,.45849,12927.,12844.

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Ag3280,328.068 {103},Y_3600,ppm, .0124,.0003,2.813, .0127, .0122
Al3082,308.215 {109},In2306,ppm, .1928,.0163,8.449, .2043, .1813
As1890,189.042 {478},Y_2243,ppm, .0230,.0007,2.886, .0225, .0234
B_2496,249.678 {135},Y_3710,ppm, .2061,.0060,2.901, .2018, .2103
Ba4554,455.403 { 74},Y_3710,ppm, .0220,.0002,.7169, .0221, .0219
Be3130,313.042 {108},Y_3710,ppm, .0112,.0003,2.705, .0110, .0114
Ca3158,315.887 {107},In2306,ppm, 1.010,.0166,1.645, .9979, 1.021
Cd2288,228.802 {447},Y_2243,ppm, .0113,.0001,1.032, .0114, .0113
Co2286,228.616 {447},In2306,ppm, .0148,.0009,5.758, .0142, .0154
Cr2677,267.716 {126},Y_3600,ppm, .0113,.0002,1.469, .0114, .0111
Cu3247,324.754 {104},Y_3600,ppm, .0122,.0000,.0619, .0122, .0122
Fe2404,240.488 {140},In2306,ppm, .2038,.0017,.8473, .2026, .2051
K_7664,766.490 { 44},Y_3710,ppm, 1.029,.0202,1.961, 1.014, 1.043
Li6707,670.784 { 50},Y_3710,ppm, .0114,.0007,6.316, .0109, .0119
Mg2790,279.079 {121},Y_3710,ppm, 1.036,.0357,3.451, 1.061, 1.011
Mn2576,257.610 {131},Y_3600,ppm, .0113,.0000,.2404, .0113, .0114
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Mo2020,202.030 {467},Y_2243,ppm, .0232,.0003,1.218, .0230, .0234
Na5895,589.592 { 57},Y_3710,ppm, 1.138,.0026,.2303, 1.136, 1.139
Ni2316,231.604 {445},In2306,ppm, .0108,.0001,.4826, .0108, .0107
P_1782,178.284 {489},In2306,ppm, .9557,.0057,.5945, .9597, .9517
Pb2203,220.353 {453},In2306,ppm, .0109,.0016,14.91, .0098, .0120
S_1820,182.034 {485},Y_2243,ppm, .5157,.0016,.3161, .5146, .5169
Sb2068,206.833 {463},Y_2243,ppm, .0570,.0008,1.355, .0564, .0575
Se1960,196.090 {472},Y_2243,ppm, .0232,.0004,1.874, .0235, .0229
Si2516,251.611 {134},Y_3710,ppm, .1898,.0079,4.167, .1842, .1954
Sn1899,189.989 {477},In2306,ppm, .0213,.0000,.1009, .0214, .0213
Sr4215,421.552 { 80},Y_3710,ppm, .0112,.0000,.0946, .0112, .0113
Ti3349,334.904 {101},Y_3600,ppm, .0114,.0003,2.835, .0116, .0112
Tl1908,190.856 {477},In2306,ppm, .0367,.0002,.6107, .0366, .0369
U_3670,367.007 { 92},Y_3600,ppm, .0301,.0167,55.51, .0183, .0419
V_2924,292.402 {115},Y_3600,ppm, .0111,.0000,.0118, .0111, .0111
W_2397,239.709 {140},Y_2243,ppm, .0549,.0353,64.31, .0798, .0299
Zn2062,206.200 {463},In2306,ppm, .0186,.0002,.8825, .0187, .0185

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 249.73,.07085,.02837,249.68,249.78
In2306,230.606 {446},Cts/S, 16041.,1.1877,.00740,16041.,16040.
Y_2243,224.306 {450},Cts/S, 23871.,29.018,.12156,23892.,23851.
Y_3600,360.073 { 94},Cts/S, 202750.,201.61,.09944,202890.,202610.
Y_3710,371.030 { 91},Cts/S, 12931.,103.37,.79937,12858.,13004.

[Sample Header]
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0002,.0006,384.0, -.0003, .0006
Al3082,308.215 {109},In2306,ppm, .0141,.0039,27.73, .0168, .0113
As1890,189.042 {478},Y_2243,ppm, .0008,.0006,75.12, .0012, .0004
B_2496,249.678 {135},Y_3710,ppm, .0026,.0009,33.30, .0020, .0032
Ba4554,455.403 { 74},Y_3710,ppm, -.0004,.0000,9.214, -.0004, -.0004
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,38.82, .0000, .0000
Ca3158,315.887 {107},In2306,ppm, -.0228,.0033,14.58, -.0252, -.0205
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0001,265.8, .0001, -.0000
Co2286,228.616 {447},In2306,ppm, .0012,.0003,27.66, .0014, .0010
Cr2677,267.716 {126},Y_3600,ppm, .0000,.0001,496.2, -.0001, .0001
Cu3247,324.754 {104},Y_3600,ppm, .0007,.0001,20.09, .0006, .0008
Fe2404,240.488 {140},In2306,ppm, .0052,.0045,86.23, .0084, .0020
K_7664,766.490 { 44},Y_3710,ppm, -.0208,.0095,45.77, -.0276, -.0141
Li6707,670.784 { 50},Y_3710,ppm, .0002,.0009,474.4, .0008, -.0004
Mg2790,279.079 {121},Y_3710,ppm, .0236,.0204,86.45, .0380, .0092
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,15.20, -.0000, -.0000
Mo2020,202.030 {467},Y_2243,ppm, -.0003,.0002,67.12, -.0004, -.0001
Na5895,589.592 { 57},Y_3710,ppm, .0536,.0024,4.456, .0519, .0553
Ni2316,231.604 {445},In2306,ppm, .0003,.0002,80.54, .0001, .0004
P_1782,178.284 {489},In2306,ppm, .0001,.0002,206.0, .0002, -.0000
Pb2203,220.353 {453},In2306,ppm, -.0002,.0018,889.1, -.0015, .0011
S_1820,182.034 {485},Y_2243,ppm, .0027,.0041,153.6, .0056, -.0002
Sb2068,206.833 {463},Y_2243,ppm, .0011,.0001,5.900, .0011, .0010
Se1960,196.090 {472},Y_2243,ppm, -.0004,.0018,450.0, -.0017, .0009
Si2516,251.611 {134},Y_3710,ppm, .0099,.0026,26.07, .0117, .0081
Sn1899,189.989 {477},In2306,ppm, -.0005,.0003,66.86, -.0008, -.0003
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Sr4215,421.552 { 80},Y_3710,ppm, -.0001,.0002,223.1, .0001, -.0003
Ti3349,334.904 {101},Y_3600,ppm, .0005,.0000,3.041, .0005, .0005
Tl1908,190.856 {477},In2306,ppm, .0114,.0008,7.041, .0120, .0108
U_3670,367.007 { 92},Y_3600,ppm, .0195,.0134,68.76, .0100, .0290
V_2924,292.402 {115},Y_3600,ppm, -.0002,.0001,48.23, -.0001, -.0002
W_2397,239.709 {140},Y_2243,ppm, .0247,.0293,118.6, .0040, .0453
Zn2062,206.200 {463},In2306,ppm, -.0010,.0000,3.523, -.0010, -.0011

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 244.87,1.2505,.51070,245.75,243.98
In2306,230.606 {446},Cts/S, 16089.,207.22,1.2879,15943.,16236.
Y_2243,224.306 {450},Cts/S, 23575.,299.79,1.2717,23363.,23787.
Y_3600,360.073 { 94},Cts/S, 202000.,951.19,.47089,201320.,202670.
Y_3710,371.030 { 91},Cts/S, 12771.,26.603,.20830,12752.,12790.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0001,.0002,299.0, -.0001, .0002
Al3082,308.215 {109},In2306,ppm, -.0165,.0143,87.11, -.0063, -.0266
As1890,189.042 {478},Y_2243,ppm, .0007,.0008,107.4, .0013, .0002
B_2496,249.678 {135},Y_3710,ppm, .0064,.0100,157.7, -.0007, .0134
Ba4554,455.403 { 74},Y_3710,ppm, .0038,.0000,.4814, .0037, .0038
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,28.27, -.0001, -.0001
Ca3158,315.887 {107},In2306,ppm, .0111,.0008,7.583, .0117, .0105
Cd2288,228.802 {447},Y_2243,ppm, .0004,.0001,22.29, .0003, .0004
Co2286,228.616 {447},In2306,ppm, 5.380,.0047,.0871, 5.383, 5.377
Cr2677,267.716 {126},Y_3600,ppm, -.0000,.0001,167.3, -.0001, .0000
Cu3247,324.754 {104},Y_3600,ppm, .0065,.0001,1.611, .0066, .0065
Fe2404,240.488 {140},In2306,ppm, .0124,.0009,7.522, .0131, .0117
K_7664,766.490 { 44},Y_3710,ppm, -.0276,.0029,10.67, -.0256, -.0297
Li6707,670.784 { 50},Y_3710,ppm, -.0006,.0005,75.39, -.0010, -.0003
Mg2790,279.079 {121},Y_3710,ppm, .0012,.0042,353.9, .0041, -.0018
Mn2576,257.610 {131},Y_3600,ppm, .0007,.0000,.9718, .0007, .0007
Mo2020,202.030 {467},Y_2243,ppm, -.0006,.0003,49.97, -.0004, -.0008
Na5895,589.592 { 57},Y_3710,ppm, 19.82,.0161,.0812, 19.81, 19.83
Ni2316,231.604 {445},In2306,ppm, .0014,.0001,6.755, .0014, .0013
P_1782,178.284 {489},In2306,ppm, -.0027,.0006,23.02, -.0031, -.0022
Pb2203,220.353 {453},In2306,ppm, .0009,.0003,32.29, .0012, .0007
S_1820,182.034 {485},Y_2243,ppm, .0327,.0020,6.041, .0341, .0313
Sb2068,206.833 {463},Y_2243,ppm, .0005,.0005,95.93, .0002, .0009
Se1960,196.090 {472},Y_2243,ppm, -.0017,.0031,184.5, .0005, -.0039
Si2516,251.611 {134},Y_3710,ppm, .0116,.0036,31.25, .0142, .0091
Sn1899,189.989 {477},In2306,ppm, .0007,.0000,5.923, .0007, .0007
Sr4215,421.552 { 80},Y_3710,ppm, .0001,.0000,17.74, .0001, .0002
Ti3349,334.904 {101},Y_3600,ppm, .0000,.0002,5595., -.0002, .0002
Tl1908,190.856 {477},In2306,ppm, .0303,.0008,2.748, .0297, .0309
U_3670,367.007 { 92},Y_3600,ppm, .0507,.0266,52.38, .0695, .0319
V_2924,292.402 {115},Y_3600,ppm, .0000,.0001,231.5, .0001, -.0000
W_2397,239.709 {140},Y_2243,ppm, -1.302,.0228,1.754, -1.318, -1.286
Zn2062,206.200 {463},In2306,ppm, .3533,.0013,.3550, .3541, .3524

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
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In2306,230.606 {146},Cts/S, 245.28,1.7033,.69442,246.49,244.08
In2306,230.606 {446},Cts/S, 15512.,81.096,.52278,15570.,15455.
Y_2243,224.306 {450},Cts/S, 23625.,151.68,.64201,23732.,23518.
Y_3600,360.073 { 94},Cts/S, 199910.,94.734,.04739,199840.,199980.
Y_3710,371.030 { 91},Cts/S, 12908.,41.188,.31908,12879.,12937.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0011,.0003,30.45, .0013, .0009
Al3082,308.215 {109},In2306,ppm, .0125,.0057,45.74, .0166, .0085
As1890,189.042 {478},Y_2243,ppm, .0399,.0008,2.016, .0393, .0405
B_2496,249.678 {135},Y_3710,ppm, .2401,.0026,1.104, .2419, .2382
Ba4554,455.403 { 74},Y_3710,ppm, .5056,.0000,.0007, .5056, .5056
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,47.70, .0001, .0000
Ca3158,315.887 {107},In2306,ppm, 148.3,1.786,1.204, 149.6, 147.1
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0001,56.86, .0001, .0003
Co2286,228.616 {447},In2306,ppm, .0017,.0002,12.17, .0016, .0019
Cr2677,267.716 {126},Y_3600,ppm, .0004,.0001,38.30, .0004, .0003
Cu3247,324.754 {104},Y_3600,ppm, .0012,.0002,14.03, .0011, .0013
Fe2404,240.488 {140},In2306,ppm, 9.734,.1755,1.803, 9.858, 9.609
K_7664,766.490 { 44},Y_3710,ppm, .4158,.0141,3.403, .4258, .4057
Li6707,670.784 { 50},Y_3710,ppm, .0039,.0002,5.655, .0040, .0037
Mg2790,279.079 {121},Y_3710,ppm, 8.422,.0718,.8525, 8.371, 8.473
Mn2576,257.610 {131},Y_3600,ppm, 2.145,.0035,.1635, 2.147, 2.143
Mo2020,202.030 {467},Y_2243,ppm, .0041,.0001,1.813, .0042, .0040
Na5895,589.592 { 57},Y_3710,ppm, 18.72,.0510,.2722, 18.69, 18.76
Ni2316,231.604 {445},In2306,ppm, .0000,.0002,1024., .0002, -.0001
P_1782,178.284 {489},In2306,ppm, .0993,.0004,.4458, .0996, .0990
Pb2203,220.353 {453},In2306,ppm, .0003,.0004,173.5, -.0001, .0006
S_1820,182.034 {485},Y_2243,ppm, .9109,.0009,.0952, .9115, .9103
Sb2068,206.833 {463},Y_2243,ppm, .0004,.0005,134.5, .0007, .0000
Se1960,196.090 {472},Y_2243,ppm, .0016,.0007,43.69, .0011, .0021
Si2516,251.611 {134},Y_3710,ppm, 10.87,.0737,.6783, 10.82, 10.92
Sn1899,189.989 {477},In2306,ppm, -.0002,.0005,223.1, .0001, -.0006
Sr4215,421.552 { 80},Y_3710,ppm, .4834,.0001,.0202, .4834, .4835
Ti3349,334.904 {101},Y_3600,ppm, .0011,.0000,.7913, .0011, .0011
Tl1908,190.856 {477},In2306,ppm, .0055,.0021,38.21, .0070, .0040
U_3670,367.007 { 92},Y_3600,ppm, .2221,.0022,.9829, .2236, .2205
V_2924,292.402 {115},Y_3600,ppm, .0011,.0001,5.003, .0012, .0011
W_2397,239.709 {140},Y_2243,ppm, .0134,.0208,154.8, -.0013, .0281
Zn2062,206.200 {463},In2306,ppm, .0127,.0001,.5223, .0127, .0126

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 238.54,3.6097,1.5133,235.98,241.09
In2306,230.606 {446},Cts/S, 14062.,3.0672,.02181,14064.,14060.
Y_2243,224.306 {450},Cts/S, 22529.,21.012,.09326,22514.,22544.
Y_3600,360.073 { 94},Cts/S, 192130.,438.06,.22801,192440.,191820.
Y_3710,371.030 { 91},Cts/S, 12856.,2.7454,.02136,12858.,12854.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0000,.0004,1433., .0003, -.0003
Al3082,308.215 {109},In2306,ppm, .0070,.0094,133.3, .0136, .0004
As1890,189.042 {478},Y_2243,ppm, .0394,.0016,4.073, .0383, .0406
B_2496,249.678 {135},Y_3710,ppm, .2452,.0065,2.652, .2498, .2406
Ba4554,455.403 { 74},Y_3710,ppm, .4935,.0007,.1433, .4930, .4940
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,523.1, .0000, -.0000
Ca3158,315.887 {107},In2306,ppm, 147.9,1.148,.7760, 147.1, 148.7
Cd2288,228.802 {447},Y_2243,ppm, .0003,.0002,62.69, .0004, .0002
Co2286,228.616 {447},In2306,ppm, .0010,.0002,16.07, .0011, .0009
Cr2677,267.716 {126},Y_3600,ppm, .0006,.0001,21.70, .0007, .0005
Cu3247,324.754 {104},Y_3600,ppm, .0011,.0001,7.330, .0010, .0011
Fe2404,240.488 {140},In2306,ppm, 9.414,.1267,1.346, 9.325, 9.504
K_7664,766.490 { 44},Y_3710,ppm, .4056,.0074,1.827, .4108, .4003
Li6707,670.784 { 50},Y_3710,ppm, .0026,.0005,17.82, .0029, .0023
Mg2790,279.079 {121},Y_3710,ppm, 8.473,.0382,.4513, 8.446, 8.500
Mn2576,257.610 {131},Y_3600,ppm, 2.151,.0058,.2685, 2.147, 2.155
Mo2020,202.030 {467},Y_2243,ppm, .0046,.0001,2.432, .0045, .0046
Na5895,589.592 { 57},Y_3710,ppm, 18.75,.0040,.0212, 18.75, 18.76
Ni2316,231.604 {445},In2306,ppm, .0001,.0002,153.9, -.0000, .0003
P_1782,178.284 {489},In2306,ppm, .0983,.0021,2.156, .0998, .0968
Pb2203,220.353 {453},In2306,ppm, .0018,.0004,20.96, .0015, .0020
S_1820,182.034 {485},Y_2243,ppm, .8897,.0009,.1021, .8890, .8903
Sb2068,206.833 {463},Y_2243,ppm, .0040,.0017,42.10, .0052, .0028
Se1960,196.090 {472},Y_2243,ppm, -.0015,.0010,71.14, -.0007, -.0022
Si2516,251.611 {134},Y_3710,ppm, 11.68,.0803,.6872, 11.63, 11.74
Sn1899,189.989 {477},In2306,ppm, -.0001,.0003,243.7, .0001, -.0004
Sr4215,421.552 { 80},Y_3710,ppm, .4849,.0013,.2688, .4839, .4858
Ti3349,334.904 {101},Y_3600,ppm, .0008,.0000,.7299, .0008, .0008
Tl1908,190.856 {477},In2306,ppm, .0036,.0013,36.59, .0027, .0046
U_3670,367.007 { 92},Y_3600,ppm, .1692,.0183,10.82, .1821, .1563
V_2924,292.402 {115},Y_3600,ppm, .0010,.0001,13.72, .0011, .0009
W_2397,239.709 {140},Y_2243,ppm, .0015,.0128,865.2, .0105, -.0076
Zn2062,206.200 {463},In2306,ppm, .0125,.0002,1.260, .0124, .0126

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 240.50,.64012,.26617,240.95,240.04
In2306,230.606 {446},Cts/S, 14073.,22.079,.15689,14058.,14089.
Y_2243,224.306 {450},Cts/S, 22541.,33.745,.14971,22517.,22565.
Y_3600,360.073 { 94},Cts/S, 191530.,646.68,.33764,191070.,191980.
Y_3710,371.030 { 91},Cts/S, 12966.,69.152,.53333,12917.,13015.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0008,.0002,27.68, .0007, .0010
Al3082,308.215 {109},In2306,ppm, .0207,.0175,84.78, .0083, .0330
As1890,189.042 {478},Y_2243,ppm, .0073,.0027,37.61, .0092, .0053
B_2496,249.678 {135},Y_3710,ppm, 1.221,.0202,1.657, 1.235, 1.207
Ba4554,455.403 { 74},Y_3710,ppm, .0249,.0001,.5161, .0248, .0250
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,81.45, -.0000, -.0001
Ca3158,315.887 {107},In2306,ppm, 568.9,2.378,.4181, 570.5, 567.2
Cd2288,228.802 {447},Y_2243,ppm, .0009,.0001,8.543, .0008, .0009
Co2286,228.616 {447},In2306,ppm, .0000,.0001,695.0, .0001, -.0001
Cr2677,267.716 {126},Y_3600,ppm, .0090,.0001,.5664, .0089, .0090
Cu3247,324.754 {104},Y_3600,ppm, .0160,.0001,.4817, .0159, .0160
Fe2404,240.488 {140},In2306,ppm, .0851,.0009,1.017, .0845, .0857
K_7664,766.490 { 44},Y_3710,ppm, 26.61,.0100,.0377, 26.60, 26.61
Li6707,670.784 { 50},Y_3710,ppm, .4062,.0003,.0825, .4065, .4060
Mg2790,279.079 {121},Y_3710,ppm, 220.2,.9831,.4465, 220.9, 219.5
Mn2576,257.610 {131},Y_3600,ppm, .0064,.0000,.0009, .0064, .0064
Mo2020,202.030 {467},Y_2243,ppm, .0002,.0003,134.9, .0005, .0000
Na5895,589.592 { 57},Y_3710,ppm, 545.5,.3442,.0631, 545.8, 545.3
Ni2316,231.604 {445},In2306,ppm, .0096,.0001,.9645, .0097, .0096
P_1782,178.284 {489},In2306,ppm, .0362,.0009,2.581, .0356, .0369
Pb2203,220.353 {453},In2306,ppm, .0012,.0013,108.5, .0022, .0003
S_1820,182.034 {485},Y_2243,ppm, 380.9,.1499,.0394, 381.0, 380.8
Sb2068,206.833 {463},Y_2243,ppm, .0016,.0009,58.44, .0009, .0022
Se1960,196.090 {472},Y_2243,ppm, .0518,.0005,.9239, .0522, .0515
Si2516,251.611 {134},Y_3710,ppm, 29.25,.1165,.3983, 29.17, 29.33
Sn1899,189.989 {477},In2306,ppm, .0003,.0003,107.5, .0005, .0001
Sr4215,421.552 { 80},Y_3710,ppm, 11.83,.0398,.3365, 11.86, 11.80
Ti3349,334.904 {101},Y_3600,ppm, .0036,.0000,1.268, .0036, .0037
Tl1908,190.856 {477},In2306,ppm, -.0003,.0030,908.0, .0018, -.0025
U_3670,367.007 { 92},Y_3600,ppm, .2858,.0354,12.38, .2608, .3109
V_2924,292.402 {115},Y_3600,ppm, .0197,.0004,2.248, .0194, .0200
W_2397,239.709 {140},Y_2243,ppm, .0903,.0412,45.58, .0612, .1195
Zn2062,206.200 {463},In2306,ppm, .0308,.0002,.6952, .0309, .0306

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 219.51,.58045,.26443,219.10,219.92
In2306,230.606 {446},Cts/S, 11293.,3.1064,.02751,11295.,11291.
Y_2243,224.306 {450},Cts/S, 19297.,11.621,.06022,19305.,19289.
Y_3600,360.073 { 94},Cts/S, 164660.,758.00,.46033,164130.,165200.
Y_3710,371.030 { 91},Cts/S, 11978.,37.272,.31118,11951.,12004.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0031,.0002,7.955, .0030, .0033
Al3082,308.215 {109},In2306,ppm, .0942,.0053,5.597, .0905, .0980
As1890,189.042 {478},Y_2243,ppm, .0019,.0012,63.04, .0027, .0010
B_2496,249.678 {135},Y_3710,ppm, .0235,.0040,17.00, .0207, .0263
Ba4554,455.403 { 74},Y_3710,ppm, .0136,.0001,.6609, .0136, .0135
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,155.5, -.0001, .0000
Ca3158,315.887 {107},In2306,ppm, 2.142,.0316,1.477, 2.164, 2.120
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0001,67.06, .0003, .0001
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Co2286,228.616 {447},In2306,ppm, .0029,.0000,.1122, .0029, .0029
Cr2677,267.716 {126},Y_3600,ppm, .0627,.0006,.9704, .0632, .0623
Cu3247,324.754 {104},Y_3600,ppm, .0069,.0002,2.901, .0070, .0068
Fe2404,240.488 {140},In2306,ppm, .9983,.0002,.0197, .9981, .9984
K_7664,766.490 { 44},Y_3710,ppm, .2823,.0031,1.083, .2801, .2844
Li6707,670.784 { 50},Y_3710,ppm, .0021,.0001,4.521, .0021, .0020
Mg2790,279.079 {121},Y_3710,ppm, .3067,.0076,2.474, .3013, .3121
Mn2576,257.610 {131},Y_3600,ppm, .0205,.0001,.6255, .0205, .0204
Mo2020,202.030 {467},Y_2243,ppm, .0863,.0005,.6216, .0867, .0859
Na5895,589.592 { 57},Y_3710,ppm, 3.693,.0207,.5606, 3.708, 3.679
Ni2316,231.604 {445},In2306,ppm, .2417,.0002,.0895, .2416, .2419
P_1782,178.284 {489},In2306,ppm, 4.483,.0030,.0668, 4.481, 4.485
Pb2203,220.353 {453},In2306,ppm, .0004,.0003,76.81, .0007, .0002
S_1820,182.034 {485},Y_2243,ppm, 999.5,4.361,.4363, 996.4, 1003.
Sb2068,206.833 {463},Y_2243,ppm, -.0009,.0004,40.67, -.0011, -.0006
Se1960,196.090 {472},Y_2243,ppm, .0031,.0001,2.618, .0032, .0030
Si2516,251.611 {134},Y_3710,ppm, .7672,.0079,1.026, .7728, .7617
Sn1899,189.989 {477},In2306,ppm, .0003,.0003,88.66, .0006, .0001
Sr4215,421.552 { 80},Y_3710,ppm, .0142,.0004,2.644, .0144, .0139
Ti3349,334.904 {101},Y_3600,ppm, .0014,.0000,2.297, .0015, .0014
Tl1908,190.856 {477},In2306,ppm, .0011,.0011,92.36, .0004, .0019
U_3670,367.007 { 92},Y_3600,ppm, .0966,.0110,11.35, .1043, .0888
V_2924,292.402 {115},Y_3600,ppm, .0002,.0003,156.2, -.0000, .0004
W_2397,239.709 {140},Y_2243,ppm, .0494,.0161,32.64, .0609, .0380
Zn2062,206.200 {463},In2306,ppm, .3597,.0002,.0485, .3596, .3599

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 254.46,1.6955,.66630,253.26,255.66
In2306,230.606 {446},Cts/S, 16042.,50.795,.31664,16078.,16006.
Y_2243,224.306 {450},Cts/S, 23735.,65.125,.27438,23781.,23689.
Y_3600,360.073 { 94},Cts/S, 203860.,665.68,.32653,203390.,204330.
Y_3710,371.030 { 91},Cts/S, 13185.,43.490,.32985,13216.,13154.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0005,.0004,68.18, .0008, .0003
Al3082,308.215 {109},In2306,ppm, .1572,.0071,4.521, .1622, .1522
As1890,189.042 {478},Y_2243,ppm, .0032,.0011,33.95, .0024, .0040
B_2496,249.678 {135},Y_3710,ppm, .1201,.0010,.8445, .1194, .1208
Ba4554,455.403 { 74},Y_3710,ppm, .1312,.0003,.2588, .1314, .1309
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,14.03, -.0001, -.0001
Ca3158,315.887 {107},In2306,ppm, 72.24,.6693,.9266, 71.76, 72.71
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0001,24.50, .0003, .0002
Co2286,228.616 {447},In2306,ppm, .0000,.0000,255.2, .0000, -.0000
Cr2677,267.716 {126},Y_3600,ppm, .0007,.0000,6.287, .0006, .0007
Cu3247,324.754 {104},Y_3600,ppm, .0020,.0001,2.463, .0020, .0021
Fe2404,240.488 {140},In2306,ppm, .2529,.0020,.8010, .2543, .2514
K_7664,766.490 { 44},Y_3710,ppm, 2.988,.0265,.8854, 3.007, 2.969
Li6707,670.784 { 50},Y_3710,ppm, .0118,.0009,7.451, .0112, .0125
Mg2790,279.079 {121},Y_3710,ppm, 14.78,.1300,.8796, 14.68, 14.87
Mn2576,257.610 {131},Y_3600,ppm, .1020,.0003,.2639, .1022, .1018
Mo2020,202.030 {467},Y_2243,ppm, .0038,.0003,7.270, .0036, .0040
Na5895,589.592 { 57},Y_3710,ppm, 73.84,.0997,.1350, 73.91, 73.77
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Ni2316,231.604 {445},In2306,ppm, .0007,.0003,42.36, .0010, .0005
P_1782,178.284 {489},In2306,ppm, .1368,.0001,.0499, .1369, .1368
Pb2203,220.353 {453},In2306,ppm, -.0010,.0002,21.09, -.0008, -.0011
S_1820,182.034 {485},Y_2243,ppm, 10.22,.0580,.5681, 10.26, 10.18
Sb2068,206.833 {463},Y_2243,ppm, -.0011,.0005,41.06, -.0014, -.0008
Se1960,196.090 {472},Y_2243,ppm, .0004,.0017,420.3, .0016, -.0008
Si2516,251.611 {134},Y_3710,ppm, 3.730,.0086,.2299, 3.724, 3.736
Sn1899,189.989 {477},In2306,ppm, -.0003,.0001,41.37, -.0004, -.0002
Sr4215,421.552 { 80},Y_3710,ppm, .2915,.0023,.8040, .2931, .2898
Ti3349,334.904 {101},Y_3600,ppm, .0016,.0003,18.18, .0018, .0014
Tl1908,190.856 {477},In2306,ppm, .0048,.0012,25.01, .0057, .0040
U_3670,367.007 { 92},Y_3600,ppm, .1407,.0431,30.65, .1712, .1102
V_2924,292.402 {115},Y_3600,ppm, .0017,.0000,1.493, .0017, .0017
W_2397,239.709 {140},Y_2243,ppm, .0083,.0173,208.2, -.0039, .0205
Zn2062,206.200 {463},In2306,ppm, .0224,.0000,.1236, .0224, .0224

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 241.38,1.7387,.72033,242.61,240.15
In2306,230.606 {446},Cts/S, 14014.,7.8366,.05592,14008.,14019.
Y_2243,224.306 {450},Cts/S, 22333.,23.607,.10571,22316.,22349.
Y_3600,360.073 { 94},Cts/S, 189810.,532.80,.28070,189430.,190190.
Y_3710,371.030 { 91},Cts/S, 12882.,43.522,.33786,12913.,12851.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0001,.0002,162.8, .0003, -.0000
Al3082,308.215 {109},In2306,ppm, 1.009,.0070,.6923, 1.004, 1.014
As1890,189.042 {478},Y_2243,ppm, .0015,.0005,31.29, .0019, .0012
B_2496,249.678 {135},Y_3710,ppm, .0333,.0069,20.76, .0382, .0284
Ba4554,455.403 { 74},Y_3710,ppm, .1445,.0004,.2451, .1442, .1448
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,7.626, -.0001, -.0001
Ca3158,315.887 {107},In2306,ppm, 41.45,.1114,.2688, 41.53, 41.38
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0000,21.43, .0002, .0002
Co2286,228.616 {447},In2306,ppm, .0004,.0001,19.27, .0003, .0004
Cr2677,267.716 {126},Y_3600,ppm, .0024,.0001,2.545, .0024, .0023
Cu3247,324.754 {104},Y_3600,ppm, .0048,.0000,.5057, .0048, .0048
Fe2404,240.488 {140},In2306,ppm, .7104,.0139,1.950, .7202, .7006
K_7664,766.490 { 44},Y_3710,ppm, 2.040,.0036,.1762, 2.038, 2.043
Li6707,670.784 { 50},Y_3710,ppm, .0032,.0003,8.458, .0030, .0034
Mg2790,279.079 {121},Y_3710,ppm, 5.886,.1085,1.844, 5.809, 5.963
Mn2576,257.610 {131},Y_3600,ppm, .0266,.0002,.8322, .0267, .0264
Mo2020,202.030 {467},Y_2243,ppm, .0076,.0001,1.108, .0076, .0077
Na5895,589.592 { 57},Y_3710,ppm, 9.810,.0343,.3494, 9.786, 9.834
Ni2316,231.604 {445},In2306,ppm, .0011,.0002,13.66, .0012, .0010
P_1782,178.284 {489},In2306,ppm, .0289,.0009,3.260, .0282, .0296
Pb2203,220.353 {453},In2306,ppm, .0014,.0010,67.08, .0008, .0021
S_1820,182.034 {485},Y_2243,ppm, 4.464,.0092,.2068, 4.471, 4.458
Sb2068,206.833 {463},Y_2243,ppm, .0016,.0013,84.49, .0026, .0006
Se1960,196.090 {472},Y_2243,ppm, .0002,.0012,696.7, -.0007, .0010
Si2516,251.611 {134},Y_3710,ppm, 4.947,.0293,.5919, 4.926, 4.968
Sn1899,189.989 {477},In2306,ppm, .0002,.0006,264.3, .0006, -.0002
Sr4215,421.552 { 80},Y_3710,ppm, .2076,.0010,.4995, .2069, .2084
Ti3349,334.904 {101},Y_3600,ppm, .0086,.0001,1.624, .0087, .0085
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Tl1908,190.856 {477},In2306,ppm, .0016,.0006,39.59, .0012, .0020
U_3670,367.007 { 92},Y_3600,ppm, .0871,.0362,41.61, .1127, .0615
V_2924,292.402 {115},Y_3600,ppm, .0038,.0001,2.852, .0039, .0037
W_2397,239.709 {140},Y_2243,ppm, .0060,.0336,562.3, -.0178, .0298
Zn2062,206.200 {463},In2306,ppm, .0454,.0004,.8027, .0457, .0451

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 245.53,1.3180,.53680,244.60,246.46
In2306,230.606 {446},Cts/S, 14993.,7.9898,.05329,14988.,14999.
Y_2243,224.306 {450},Cts/S, 23200.,33.863,.14596,23224.,23176.
Y_3600,360.073 { 94},Cts/S, 198650.,438.38,.22068,198960.,198340.
Y_3710,371.030 { 91},Cts/S, 13044.,18.309,.14036,13057.,13031.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0010,.0001,13.86, .0011, .0009
Al3082,308.215 {109},In2306,ppm, 1.052,.0340,3.231, 1.076, 1.028
As1890,189.042 {478},Y_2243,ppm, .0037,.0002,5.771, .0038, .0035
B_2496,249.678 {135},Y_3710,ppm, .0374,.0010,2.700, .0367, .0381
Ba4554,455.403 { 74},Y_3710,ppm, .1415,.0003,.2174, .1412, .1417
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,716.7, -.0001, .0000
Ca3158,315.887 {107},In2306,ppm, 39.40,.5147,1.307, 39.76, 39.03
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,23.00, .0001, .0002
Co2286,228.616 {447},In2306,ppm, .0001,.0002,124.0, .0002, .0000
Cr2677,267.716 {126},Y_3600,ppm, .0022,.0003,12.43, .0024, .0020
Cu3247,324.754 {104},Y_3600,ppm, .0048,.0001,1.241, .0049, .0048
Fe2404,240.488 {140},In2306,ppm, .7304,.0192,2.635, .7441, .7168
K_7664,766.490 { 44},Y_3710,ppm, 2.063,.0069,.3337, 2.058, 2.068
Li6707,670.784 { 50},Y_3710,ppm, .0029,.0004,12.31, .0027, .0032
Mg2790,279.079 {121},Y_3710,ppm, 5.800,.0524,.9039, 5.837, 5.763
Mn2576,257.610 {131},Y_3600,ppm, .0228,.0001,.4526, .0229, .0227
Mo2020,202.030 {467},Y_2243,ppm, .0080,.0005,6.103, .0083, .0076
Na5895,589.592 { 57},Y_3710,ppm, 9.773,.0230,.2356, 9.756, 9.789
Ni2316,231.604 {445},In2306,ppm, .0008,.0004,44.07, .0011, .0006
P_1782,178.284 {489},In2306,ppm, .0285,.0010,3.341, .0292, .0278
Pb2203,220.353 {453},In2306,ppm, .0011,.0008,74.37, .0005, .0017
S_1820,182.034 {485},Y_2243,ppm, 4.434,.0037,.0840, 4.437, 4.432
Sb2068,206.833 {463},Y_2243,ppm, .0012,.0003,25.42, .0014, .0010
Se1960,196.090 {472},Y_2243,ppm, .0008,.0006,82.04, .0012, .0003
Si2516,251.611 {134},Y_3710,ppm, 5.063,.0050,.0991, 5.067, 5.060
Sn1899,189.989 {477},In2306,ppm, .0004,.0000,6.812, .0005, .0004
Sr4215,421.552 { 80},Y_3710,ppm, .2066,.0001,.0604, .2065, .2066
Ti3349,334.904 {101},Y_3600,ppm, .0091,.0000,.1334, .0091, .0091
Tl1908,190.856 {477},In2306,ppm, .0034,.0000,.0026, .0034, .0034
U_3670,367.007 { 92},Y_3600,ppm, .0922,.0239,25.95, .1092, .0753
V_2924,292.402 {115},Y_3600,ppm, .0039,.0000,.7912, .0039, .0039
W_2397,239.709 {140},Y_2243,ppm, .0247,.0368,149.2, .0507, -.0014
Zn2062,206.200 {463},In2306,ppm, .0403,.0001,.2871, .0404, .0402

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 248.40,2.9049,1.1695,246.34,250.45
In2306,230.606 {446},Cts/S, 15000.,71.917,.47944,14949.,15051.
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Y_2243,224.306 {450},Cts/S, 23205.,105.99,.45676,23130.,23280.
Y_3600,360.073 { 94},Cts/S, 198580.,364.79,.18370,198320.,198840.
Y_3710,371.030 { 91},Cts/S, 13099.,5.7759,.04409,13103.,13095.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0005,365.4, -.0005, .0002
Al3082,308.215 {109},In2306,ppm, .0879,.0383,43.54, .0608, .1150
As1890,189.042 {478},Y_2243,ppm, .0013,.0002,16.08, .0015, .0012
B_2496,249.678 {135},Y_3710,ppm, .0201,.0016,8.193, .0213, .0189
Ba4554,455.403 { 74},Y_3710,ppm, .0844,.0005,.5996, .0840, .0847
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,8.587, -.0001, -.0001
Ca3158,315.887 {107},In2306,ppm, 43.43,.1024,.2359, 43.50, 43.36
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0000,16.44, .0002, .0002
Co2286,228.616 {447},In2306,ppm, .0002,.0001,40.71, .0003, .0002
Cr2677,267.716 {126},Y_3600,ppm, .0006,.0002,34.64, .0007, .0004
Cu3247,324.754 {104},Y_3600,ppm, .0022,.0002,9.983, .0023, .0020
Fe2404,240.488 {140},In2306,ppm, .2898,.0021,.7138, .2913, .2884
K_7664,766.490 { 44},Y_3710,ppm, 2.445,.0213,.8718, 2.430, 2.460
Li6707,670.784 { 50},Y_3710,ppm, .0022,.0003,11.57, .0020, .0024
Mg2790,279.079 {121},Y_3710,ppm, 5.503,.0578,1.050, 5.462, 5.544
Mn2576,257.610 {131},Y_3600,ppm, .0428,.0002,.5300, .0427, .0430
Mo2020,202.030 {467},Y_2243,ppm, .0018,.0003,14.48, .0019, .0016
Na5895,589.592 { 57},Y_3710,ppm, 6.317,.0055,.0864, 6.313, 6.321
Ni2316,231.604 {445},In2306,ppm, .0011,.0000,2.213, .0011, .0011
P_1782,178.284 {489},In2306,ppm, .0507,.0008,1.482, .0512, .0502
Pb2203,220.353 {453},In2306,ppm, .0020,.0006,29.03, .0024, .0016
S_1820,182.034 {485},Y_2243,ppm, 2.746,.0017,.0625, 2.745, 2.747
Sb2068,206.833 {463},Y_2243,ppm, -.0012,.0001,6.139, -.0013, -.0012
Se1960,196.090 {472},Y_2243,ppm, .0026,.0000,1.746, .0025, .0026
Si2516,251.611 {134},Y_3710,ppm, 2.853,.0118,.4141, 2.844, 2.861
Sn1899,189.989 {477},In2306,ppm, .0002,.0002,120.5, .0000, .0003
Sr4215,421.552 { 80},Y_3710,ppm, .1554,.0010,.6263, .1547, .1561
Ti3349,334.904 {101},Y_3600,ppm, .0009,.0001,10.97, .0010, .0008
Tl1908,190.856 {477},In2306,ppm, .0088,.0029,33.19, .0108, .0067
U_3670,367.007 { 92},Y_3600,ppm, .1058,.0680,64.28, .0577, .1539
V_2924,292.402 {115},Y_3600,ppm, .0043,.0002,4.099, .0044, .0041
W_2397,239.709 {140},Y_2243,ppm, .0075,.0420,556.9, -.0222, .0373
Zn2062,206.200 {463},In2306,ppm, .0192,.0000,.1181, .0192, .0192

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 248.50,2.3285,.93702,246.86,250.15
In2306,230.606 {446},Cts/S, 15070.,33.512,.22238,15094.,15046.
Y_2243,224.306 {450},Cts/S, 23183.,42.343,.18264,23213.,23153.
Y_3600,360.073 { 94},Cts/S, 196750.,384.82,.19558,197030.,196480.
Y_3710,371.030 { 91},Cts/S, 13021.,32.911,.25276,12997.,13044.

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Ag3280,328.068 {103},Y_3600,ppm, .0011,.0004,38.37, .0015, .0008
Al3082,308.215 {109},In2306,ppm, .0935,.0143,15.25, .0834, .1036
As1890,189.042 {478},Y_2243,ppm, .0015,.0026,178.9, -.0004, .0033
B_2496,249.678 {135},Y_3710,ppm, .0165,.0020,12.31, .0180, .0151
Ba4554,455.403 { 74},Y_3710,ppm, .0842,.0001,.0863, .0842, .0843
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,18.68, -.0001, -.0001
Ca3158,315.887 {107},In2306,ppm, 43.85,.3932,.8967, 43.58, 44.13
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0000,15.76, .0002, .0002
Co2286,228.616 {447},In2306,ppm, .0002,.0002,95.32, .0003, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0008,.0001,13.30, .0009, .0007
Cu3247,324.754 {104},Y_3600,ppm, .0018,.0002,11.70, .0020, .0017
Fe2404,240.488 {140},In2306,ppm, .2812,.0030,1.077, .2790, .2833
K_7664,766.490 { 44},Y_3710,ppm, 2.465,.0167,.6769, 2.453, 2.477
Li6707,670.784 { 50},Y_3710,ppm, .0022,.0005,23.67, .0018, .0026
Mg2790,279.079 {121},Y_3710,ppm, 5.553,.0081,.1451, 5.558, 5.547
Mn2576,257.610 {131},Y_3600,ppm, .0430,.0001,.1764, .0431, .0430
Mo2020,202.030 {467},Y_2243,ppm, .0022,.0002,8.938, .0023, .0021
Na5895,589.592 { 57},Y_3710,ppm, 6.322,.0189,.2983, 6.309, 6.335
Ni2316,231.604 {445},In2306,ppm, .0014,.0003,19.11, .0016, .0012
P_1782,178.284 {489},In2306,ppm, .0501,.0024,4.739, .0518, .0485
Pb2203,220.353 {453},In2306,ppm, .0010,.0013,130.2, .0001, .0019
S_1820,182.034 {485},Y_2243,ppm, 2.828,.0140,.4943, 2.838, 2.818
Sb2068,206.833 {463},Y_2243,ppm, -.0005,.0021,395.2, -.0020, .0009
Se1960,196.090 {472},Y_2243,ppm, .0001,.0010,750.9, .0008, -.0005
Si2516,251.611 {134},Y_3710,ppm, 2.895,.0079,.2742, 2.901, 2.889
Sn1899,189.989 {477},In2306,ppm, -.0000,.0004,1772., -.0003, .0003
Sr4215,421.552 { 80},Y_3710,ppm, .1561,.0010,.6595, .1553, .1568
Ti3349,334.904 {101},Y_3600,ppm, .0008,.0001,10.26, .0008, .0009
Tl1908,190.856 {477},In2306,ppm, .0069,.0015,22.23, .0058, .0080
U_3670,367.007 { 92},Y_3600,ppm, .0682,.0550,80.75, .0292, .1071
V_2924,292.402 {115},Y_3600,ppm, .0043,.0001,2.879, .0044, .0042
W_2397,239.709 {140},Y_2243,ppm, .0180,.0147,81.53, .0284, .0076
Zn2062,206.200 {463},In2306,ppm, .0157,.0001,.6670, .0158, .0156

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 246.28,1.3007,.52813,247.20,245.36
In2306,230.606 {446},Cts/S, 15090.,108.07,.71614,15166.,15013.
Y_2243,224.306 {450},Cts/S, 23204.,150.68,.64937,23311.,23098.
Y_3600,360.073 { 94},Cts/S, 198050.,1167.6,.58956,197220.,198870.
Y_3710,371.030 { 91},Cts/S, 12967.,69.823,.53846,12918.,13016.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
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Ag3280,328.068 {103},Y_3600,ppm, .5760,.0003,.0527, .5762, .5758
Al3082,308.215 {109},In2306,ppm, 20.25,.0005,.0025, 20.25, 20.25
As1890,189.042 {478},Y_2243,ppm, 1.003,.0038,.3825, 1.000, 1.006
B_2496,249.678 {135},Y_3710,ppm, .9670,.0006,.0628, .9674, .9666
Ba4554,455.403 { 74},Y_3710,ppm, 1.016,.0024,.2364, 1.015, 1.018
Be3130,313.042 {108},Y_3710,ppm, .9873,.0016,.1661, .9862, .9885
Ca3158,315.887 {107},In2306,ppm, 19.98,.0511,.2555, 20.02, 19.95
Cd2288,228.802 {447},Y_2243,ppm, 1.018,.0003,.0274, 1.018, 1.018
Co2286,228.616 {447},In2306,ppm, .9822,.0025,.2563, .9840, .9804
Cr2677,267.716 {126},Y_3600,ppm, .9799,.0034,.3427, .9823, .9776
Cu3247,324.754 {104},Y_3600,ppm, 1.005,.0032,.3214, 1.003, 1.007
Fe2404,240.488 {140},In2306,ppm, 20.08,.0509,.2532, 20.05, 20.12
K_7664,766.490 { 44},Y_3710,ppm, 19.70,.0426,.2163, 19.73, 19.67
Li6707,670.784 { 50},Y_3710,ppm, 1.003,.0028,.2747, 1.001, 1.005
Mg2790,279.079 {121},Y_3710,ppm, 19.25,.1073,.5573, 19.17, 19.33
Mn2576,257.610 {131},Y_3600,ppm, 1.002,.0047,.4657, 1.006, .9992
Mo2020,202.030 {467},Y_2243,ppm, 1.036,.0002,.0210, 1.036, 1.036
Na5895,589.592 { 57},Y_3710,ppm, 19.73,.0274,.1386, 19.71, 19.75
Ni2316,231.604 {445},In2306,ppm, .9951,.0030,.3037, .9972, .9930
P_1782,178.284 {489},In2306,ppm, 10.01,.0040,.0395, 10.02, 10.01
Pb2203,220.353 {453},In2306,ppm, .9888,.0053,.5334, .9925, .9851
S_1820,182.034 {485},Y_2243,ppm, 10.43,.0055,.0531, 10.43, 10.43
Sb2068,206.833 {463},Y_2243,ppm, 2.166,.0007,.0336, 2.165, 2.166
Se1960,196.090 {472},Y_2243,ppm, 1.011,.0008,.0804, 1.011, 1.010
Si2516,251.611 {134},Y_3710,ppm, 9.490,.0674,.7099, 9.443, 9.538
Sn1899,189.989 {477},In2306,ppm, .9865,.0065,.6621, .9911, .9819
Sr4215,421.552 { 80},Y_3710,ppm, 1.018,.0037,.3665, 1.015, 1.020
Ti3349,334.904 {101},Y_3600,ppm, 1.001,.0012,.1248, 1.002, 1.000
Tl1908,190.856 {477},In2306,ppm, .9917,.0013,.1327, .9926, .9908
U_3670,367.007 { 92},Y_3600,ppm, 1.087,.0092,.8507, 1.080, 1.093
V_2924,292.402 {115},Y_3600,ppm, 1.006,.0013,.1284, 1.007, 1.005
W_2397,239.709 {140},Y_2243,ppm, .9848,.0290,2.947, .9643, 1.005
Zn2062,206.200 {463},In2306,ppm, .9731,.0031,.3191, .9753, .9709

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 238.88,1.5497,.64877,237.78,239.97
In2306,230.606 {446},Cts/S, 14480.,37.888,.26166,14453.,14507.
Y_2243,224.306 {450},Cts/S, 23234.,29.912,.12874,23213.,23256.
Y_3600,360.073 { 94},Cts/S, 195170.,205.62,.10535,195320.,195030.
Y_3710,371.030 { 91},Cts/S, 12864.,47.631,.37026,12830.,12898.

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Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0119,.0001,.8493, .0118, .0119
Al3082,308.215 {109},In2306,ppm, .1938,.0040,2.041, .1910, .1966
As1890,189.042 {478},Y_2243,ppm, .0228,.0013,5.619, .0238, .0219
B_2496,249.678 {135},Y_3710,ppm, .0953,.0087,9.089, .0891, .1014
Ba4554,455.403 { 74},Y_3710,ppm, .0222,.0001,.2600, .0221, .0222
Be3130,313.042 {108},Y_3710,ppm, .0112,.0001,.6112, .0112, .0111
Ca3158,315.887 {107},In2306,ppm, 1.010,.0090,.8915, 1.003, 1.016
Cd2288,228.802 {447},Y_2243,ppm, .0111,.0000,.0213, .0111, .0111
Co2286,228.616 {447},In2306,ppm, .0102,.0002,1.667, .0103, .0101
Cr2677,267.716 {126},Y_3600,ppm, .0111,.0001,1.148, .0112, .0110
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Cu3247,324.754 {104},Y_3600,ppm, .0115,.0005,4.361, .0119, .0112
Fe2404,240.488 {140},In2306,ppm, .2106,.0066,3.150, .2153, .2059
K_7664,766.490 { 44},Y_3710,ppm, 1.018,.0196,1.930, 1.004, 1.032
Li6707,670.784 { 50},Y_3710,ppm, .0118,.0009,7.454, .0124, .0112
Mg2790,279.079 {121},Y_3710,ppm, 1.031,.0379,3.675, 1.004, 1.057
Mn2576,257.610 {131},Y_3600,ppm, .0112,.0001,1.127, .0113, .0111
Mo2020,202.030 {467},Y_2243,ppm, .0161,.0000,.1727, .0160, .0161
Na5895,589.592 { 57},Y_3710,ppm, 1.081,.0059,.5421, 1.077, 1.085
Ni2316,231.604 {445},In2306,ppm, .0109,.0002,2.048, .0107, .0110
P_1782,178.284 {489},In2306,ppm, .9454,.0018,.1950, .9467, .9441
Pb2203,220.353 {453},In2306,ppm, .0111,.0002,1.980, .0110, .0113
S_1820,182.034 {485},Y_2243,ppm, .5240,.0021,.4047, .5255, .5225
Sb2068,206.833 {463},Y_2243,ppm, .0576,.0026,4.555, .0557, .0594
Se1960,196.090 {472},Y_2243,ppm, .0229,.0025,10.95, .0246, .0211
Si2516,251.611 {134},Y_3710,ppm, .2031,.0008,.4018, .2037, .2025
Sn1899,189.989 {477},In2306,ppm, .0206,.0001,.3538, .0205, .0206
Sr4215,421.552 { 80},Y_3710,ppm, .0113,.0000,.3004, .0113, .0113
Ti3349,334.904 {101},Y_3600,ppm, .0112,.0003,2.554, .0114, .0110
Tl1908,190.856 {477},In2306,ppm, .0324,.0019,5.831, .0337, .0311
U_3670,367.007 { 92},Y_3600,ppm, .1595,.0501,31.43, .1949, .1240
V_2924,292.402 {115},Y_3600,ppm, .0110,.0000,.3684, .0109, .0110
W_2397,239.709 {140},Y_2243,ppm, .0755,.0701,92.80, .0260, .1251
Zn2062,206.200 {463},In2306,ppm, .0175,.0000,.1557, .0175, .0174

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 249.55,.02278,.00913,249.57,249.53
In2306,230.606 {446},Cts/S, 16088.,9.2943,.05777,16082.,16095.
Y_2243,224.306 {450},Cts/S, 23910.,8.4512,.03535,23904.,23916.
Y_3600,360.073 { 94},Cts/S, 204530.,172.63,.08441,204410.,204650.
Y_3710,371.030 { 91},Cts/S, 12979.,27.426,.21131,12998.,12960.

[Sample Header]
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Custom ID2=
Custom ID3=
Run Time=11/13/2019 17:31:08
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Mode=CONC
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0008,.0002,19.97, .0009, .0007
Al3082,308.215 {109},In2306,ppm, -.0070,.0011,16.44, -.0078, -.0062
As1890,189.042 {478},Y_2243,ppm, .0005,.0005,92.58, .0009, .0002
B_2496,249.678 {135},Y_3710,ppm, .0022,.0064,290.4, -.0023, .0067
Ba4554,455.403 { 74},Y_3710,ppm, -.0006,.0003,45.42, -.0004, -.0008
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,959.4, .0000, -.0001
Ca3158,315.887 {107},In2306,ppm, -.0184,.0028,15.21, -.0204, -.0164
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0001,495.1, -.0001, .0000
Co2286,228.616 {447},In2306,ppm, -.0001,.0001,108.6, -.0002, -.0000
Cr2677,267.716 {126},Y_3600,ppm, .0001,.0000,14.52, .0001, .0001
Cu3247,324.754 {104},Y_3600,ppm, .0003,.0002,66.03, .0005, .0002
Fe2404,240.488 {140},In2306,ppm, .0025,.0003,11.38, .0027, .0023
K_7664,766.490 { 44},Y_3710,ppm, -.0245,.0029,11.87, -.0225, -.0266
Li6707,670.784 { 50},Y_3710,ppm, -.0006,.0000,2.883, -.0006, -.0005
Mg2790,279.079 {121},Y_3710,ppm, .0157,.0166,106.1, .0039, .0274
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,9.941, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, -.0005,.0001,19.38, -.0006, -.0004
Na5895,589.592 { 57},Y_3710,ppm, .0218,.0008,3.518, .0223, .0213
Ni2316,231.604 {445},In2306,ppm, .0004,.0003,69.81, .0002, .0007
P_1782,178.284 {489},In2306,ppm, -.0009,.0001,7.518, -.0009, -.0008
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Pb2203,220.353 {453},In2306,ppm, .0001,.0011,1170., -.0007, .0009
S_1820,182.034 {485},Y_2243,ppm, .0175,.0032,18.19, .0197, .0152
Sb2068,206.833 {463},Y_2243,ppm, .0003,.0001,49.66, .0002, .0003
Se1960,196.090 {472},Y_2243,ppm, -.0001,.0001,54.54, -.0001, -.0002
Si2516,251.611 {134},Y_3710,ppm, .0132,.0036,27.03, .0157, .0106
Sn1899,189.989 {477},In2306,ppm, -.0002,.0001,78.53, -.0001, -.0002
Sr4215,421.552 { 80},Y_3710,ppm, -.0001,.0000,23.65, -.0001, -.0001
Ti3349,334.904 {101},Y_3600,ppm, .0004,.0002,57.65, .0005, .0002
Tl1908,190.856 {477},In2306,ppm, .0126,.0007,5.735, .0121, .0131
U_3670,367.007 { 92},Y_3600,ppm, .0793,.0313,39.49, .1014, .0571
V_2924,292.402 {115},Y_3600,ppm, -.0001,.0003,462.9, -.0003, .0002
W_2397,239.709 {140},Y_2243,ppm, .0195,.0096,49.56, .0126, .0263
Zn2062,206.200 {463},In2306,ppm, -.0014,.0000,2.332, -.0014, -.0015

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 250.40,1.5057,.60133,249.33,251.46
In2306,230.606 {446},Cts/S, 16284.,5.7781,.03548,16280.,16288.
Y_2243,224.306 {450},Cts/S, 23844.,30.941,.12976,23822.,23866.
Y_3600,360.073 { 94},Cts/S, 203370.,132.96,.06538,203280.,203460.
Y_3710,371.030 { 91},Cts/S, 12940.,57.600,.44513,12981.,12900.

[Sample Header]
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Custom ID2=
Custom ID3=
Run Time=11/13/2019 17:33:15
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0003,.0004,129.7, -.0000, -.0005
Al3082,308.215 {109},In2306,ppm, .0026,.0062,241.1, .0069, -.0018
As1890,189.042 {478},Y_2243,ppm, -.0008,.0012,147.5, .0000, -.0017
B_2496,249.678 {135},Y_3710,ppm, -.0020,.0031,155.5, .0002, -.0042
Ba4554,455.403 { 74},Y_3710,ppm, -.0004,.0001,21.98, -.0004, -.0003
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0001,42.28, -.0002, -.0001
Ca3158,315.887 {107},In2306,ppm, .0309,.0044,14.24, .0340, .0278
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,91.86, .0002, .0000
Co2286,228.616 {447},In2306,ppm, -.0001,.0001,96.69, -.0000, -.0001
Cr2677,267.716 {126},Y_3600,ppm, .0003,.0000,1.413, .0003, .0003
Cu3247,324.754 {104},Y_3600,ppm, .0008,.0001,18.45, .0009, .0007
Fe2404,240.488 {140},In2306,ppm, .0095,.0077,80.40, .0150, .0041
K_7664,766.490 { 44},Y_3710,ppm, .0022,.0022,102.6, .0006, .0038
Li6707,670.784 { 50},Y_3710,ppm, .0000,.0001,669.5, -.0000, .0000
Mg2790,279.079 {121},Y_3710,ppm, .0124,.0475,383.8, -.0212, .0460
Mn2576,257.610 {131},Y_3600,ppm, .0001,.0000,33.85, .0002, .0001
Mo2020,202.030 {467},Y_2243,ppm, -.0006,.0001,16.64, -.0007, -.0005
Na5895,589.592 { 57},Y_3710,ppm, .1139,.0016,1.441, .1127, .1150
Ni2316,231.604 {445},In2306,ppm, -.0000,.0000,65.85, -.0000, -.0000
P_1782,178.284 {489},In2306,ppm, -.0009,.0001,13.97, -.0010, -.0008
Pb2203,220.353 {453},In2306,ppm, .0004,.0005,134.7, .0007, .0000
S_1820,182.034 {485},Y_2243,ppm, .0348,.0035,9.997, .0373, .0323
Sb2068,206.833 {463},Y_2243,ppm, -.0001,.0010,1030., -.0008, .0006
Se1960,196.090 {472},Y_2243,ppm, -.0013,.0004,31.68, -.0016, -.0010
Si2516,251.611 {134},Y_3710,ppm, .0203,.0102,50.33, .0131, .0275
Sn1899,189.989 {477},In2306,ppm, .0002,.0001,41.21, .0002, .0003
Sr4215,421.552 { 80},Y_3710,ppm, -.0000,.0000,51.10, -.0001, -.0000
Ti3349,334.904 {101},Y_3600,ppm, .0003,.0003,94.64, .0005, .0001
Tl1908,190.856 {477},In2306,ppm, .0053,.0012,21.83, .0061, .0045
U_3670,367.007 { 92},Y_3600,ppm, .1016,.0513,50.49, .1379, .0653
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V_2924,292.402 {115},Y_3600,ppm, -.0000,.0003,2442., -.0002, .0002
W_2397,239.709 {140},Y_2243,ppm, .0214,.0549,256.1, -.0174, .0602
Zn2062,206.200 {463},In2306,ppm, .0117,.0001,1.073, .0116, .0118

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 254.62,1.9215,.75465,255.98,253.26
In2306,230.606 {446},Cts/S, 16338.,48.278,.29550,16372.,16304.
Y_2243,224.306 {450},Cts/S, 23929.,90.116,.37659,23993.,23866.
Y_3600,360.073 { 94},Cts/S, 206900.,676.60,.32702,206420.,207380.
Y_3710,371.030 { 91},Cts/S, 13310.,3.0739,.02310,13312.,13308.

[Sample Header]
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SampleName=LCS 600-279897/2-B
Username=admin
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Custom ID2=
Custom ID3=
Run Time=11/13/2019 17:35:20
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .5640,.0005,.0859, .5643, .5636
Al3082,308.215 {109},In2306,ppm, 19.97,.2083,1.043, 20.12, 19.83
As1890,189.042 {478},Y_2243,ppm, 1.949,.0001,.0050, 1.949, 1.949
B_2496,249.678 {135},Y_3710,ppm, .9343,.0085,.9129, .9403, .9282
Ba4554,455.403 { 74},Y_3710,ppm, 1.963,.0076,.3862, 1.968, 1.958
Be3130,313.042 {108},Y_3710,ppm, 1.902,.0000,.0023, 1.902, 1.902
Ca3158,315.887 {107},In2306,ppm, 19.59,.2189,1.118, 19.74, 19.43
Cd2288,228.802 {447},Y_2243,ppm, 1.976,.0028,.1440, 1.978, 1.974
Co2286,228.616 {447},In2306,ppm, 1.885,.0017,.0906, 1.886, 1.884
Cr2677,267.716 {126},Y_3600,ppm, 1.864,.0082,.4397, 1.870, 1.858
Cu3247,324.754 {104},Y_3600,ppm, 1.961,.0054,.2746, 1.957, 1.965
Fe2404,240.488 {140},In2306,ppm, 19.71,.2041,1.035, 19.86, 19.57
K_7664,766.490 { 44},Y_3710,ppm, 19.28,.0712,.3694, 19.34, 19.23
Li6707,670.784 { 50},Y_3710,ppm, 1.944,.0066,.3395, 1.949, 1.939
Mg2790,279.079 {121},Y_3710,ppm, 18.57,.0022,.0120, 18.57, 18.57
Mn2576,257.610 {131},Y_3600,ppm, 1.910,.0074,.3862, 1.915, 1.905
Mo2020,202.030 {467},Y_2243,ppm, 2.007,.0026,.1309, 2.009, 2.005
Na5895,589.592 { 57},Y_3710,ppm, 19.52,.0954,.4887, 19.59, 19.46
Ni2316,231.604 {445},In2306,ppm, 1.908,.0033,.1712, 1.910, 1.905
P_1782,178.284 {489},In2306,ppm, 9.898,.0219,.2210, 9.913, 9.882
Pb2203,220.353 {453},In2306,ppm, 1.883,.0036,.1888, 1.885, 1.880
S_1820,182.034 {485},Y_2243,ppm, 10.50,.0183,.1740, 10.51, 10.49
Sb2068,206.833 {463},Y_2243,ppm, 3.189,.0068,.2131, 3.194, 3.184
Se1960,196.090 {472},Y_2243,ppm, 1.970,.0036,.1806, 1.967, 1.972
Si2516,251.611 {134},Y_3710,ppm, 15.04,.0415,.2760, 15.06, 15.01
Sn1899,189.989 {477},In2306,ppm, 1.877,.0044,.2347, 1.874, 1.881
Sr4215,421.552 { 80},Y_3710,ppm, 1.966,.0053,.2685, 1.970, 1.962
Ti3349,334.904 {101},Y_3600,ppm, 1.923,.0007,.0374, 1.922, 1.923
Tl1908,190.856 {477},In2306,ppm, 1.775,.0198,1.117, 1.761, 1.789
U_3670,367.007 { 92},Y_3600,ppm, 1.069,.0521,4.871, 1.106, 1.033
V_2924,292.402 {115},Y_3600,ppm, 1.928,.0041,.2131, 1.931, 1.926
W_2397,239.709 {140},Y_2243,ppm, .7666,.0325,4.242, .7896, .7436
Zn2062,206.200 {463},In2306,ppm, .9433,.0001,.0079, .9433, .9434

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 242.70,3.2653,1.3454,240.39,245.01
In2306,230.606 {446},Cts/S, 14443.,17.069,.11819,14431.,14455.
Y_2243,224.306 {450},Cts/S, 22936.,40.704,.17747,22907.,22964.
Y_3600,360.073 { 94},Cts/S, 196540.,367.93,.18720,196280.,196800.
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Y_3710,371.030 { 91},Cts/S, 13216.,81.014,.61301,13158.,13273.

[Sample Header]
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SampleName=600-195030-B-4-C MS
Username=admin
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Custom ID1=
Custom ID2=
Custom ID3=
Run Time=11/13/2019 17:37:08
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2952,.0010,.3284, .2945, .2959
Al3082,308.215 {109},In2306,ppm, 10.66,.0722,.6776, 10.61, 10.71
As1890,189.042 {478},Y_2243,ppm, 1.026,.0007,.0672, 1.025, 1.026
B_2496,249.678 {135},Y_3710,ppm, .5091,.0052,1.019, .5054, .5127
Ba4554,455.403 { 74},Y_3710,ppm, 1.102,.0056,.5049, 1.099, 1.106
Be3130,313.042 {108},Y_3710,ppm, .9975,.0039,.3925, .9947, 1.000
Ca3158,315.887 {107},In2306,ppm, 53.99,.1588,.2942, 53.88, 54.10
Cd2288,228.802 {447},Y_2243,ppm, 1.037,.0006,.0546, 1.036, 1.037
Co2286,228.616 {447},In2306,ppm, .9881,.0007,.0715, .9886, .9876
Cr2677,267.716 {126},Y_3600,ppm, .9746,.0011,.1088, .9738, .9753
Cu3247,324.754 {104},Y_3600,ppm, 1.023,.0065,.6393, 1.018, 1.028
Fe2404,240.488 {140},In2306,ppm, 10.60,.0776,.7324, 10.54, 10.65
K_7664,766.490 { 44},Y_3710,ppm, 12.55,.0305,.2431, 12.53, 12.57
Li6707,670.784 { 50},Y_3710,ppm, 1.023,.0045,.4383, 1.020, 1.026
Mg2790,279.079 {121},Y_3710,ppm, 15.06,.0971,.6446, 14.99, 15.13
Mn2576,257.610 {131},Y_3600,ppm, 1.032,.0030,.2922, 1.034, 1.030
Mo2020,202.030 {467},Y_2243,ppm, 1.059,.0007,.0687, 1.058, 1.059
Na5895,589.592 { 57},Y_3710,ppm, 16.35,.0460,.2815, 16.32, 16.38
Ni2316,231.604 {445},In2306,ppm, .9949,.0008,.0810, .9943, .9954
P_1782,178.284 {489},In2306,ppm, 5.327,.0016,.0303, 5.326, 5.328
Pb2203,220.353 {453},In2306,ppm, .9876,.0001,.0118, .9875, .9877
S_1820,182.034 {485},Y_2243,ppm, 8.256,.0049,.0599, 8.252, 8.259
Sb2068,206.833 {463},Y_2243,ppm, 1.677,.0005,.0305, 1.678, 1.677
Se1960,196.090 {472},Y_2243,ppm, 1.026,.0024,.2336, 1.028, 1.024
Si2516,251.611 {134},Y_3710,ppm, 11.70,.0174,.1488, 11.68, 11.71
Sn1899,189.989 {477},In2306,ppm, .9776,.0006,.0648, .9781, .9772
Sr4215,421.552 { 80},Y_3710,ppm, 1.175,.0050,.4222, 1.172, 1.179
Ti3349,334.904 {101},Y_3600,ppm, 1.006,.0008,.0828, 1.007, 1.006
Tl1908,190.856 {477},In2306,ppm, .9820,.0072,.7315, .9870, .9769
U_3670,367.007 { 92},Y_3600,ppm, .6637,.0261,3.929, .6821, .6453
V_2924,292.402 {115},Y_3600,ppm, 1.011,.0003,.0282, 1.011, 1.011
W_2397,239.709 {140},Y_2243,ppm, .3907,.0082,2.100, .3965, .3849
Zn2062,206.200 {463},In2306,ppm, .5024,.0014,.2717, .5034, .5015

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 243.28,.01841,.00757,243.27,243.30
In2306,230.606 {446},Cts/S, 14402.,18.217,.12649,14414.,14389.
Y_2243,224.306 {450},Cts/S, 22949.,33.424,.14565,22972.,22925.
Y_3600,360.073 { 94},Cts/S, 195860.,906.77,.46298,196500.,195220.
Y_3710,371.030 { 91},Cts/S, 13185.,28.377,.21522,13165.,13205.

[Sample Header]
Method=ICP6500Metals_TRY3(v5033)
SampleName=600-195030-B-4-D MSD
Username=admin
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Custom ID1=
Custom ID2=

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Custom ID3=
Run Time=11/13/2019 17:38:57
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2936,.0011,.3620, .2943, .2928
Al3082,308.215 {109},In2306,ppm, 10.50,.0341,.3242, 10.53, 10.48
As1890,189.042 {478},Y_2243,ppm, 1.023,.0040,.3913, 1.026, 1.021
B_2496,249.678 {135},Y_3710,ppm, .5008,.0025,.4936, .4990, .5025
Ba4554,455.403 { 74},Y_3710,ppm, 1.102,.0034,.3048, 1.099, 1.104
Be3130,313.042 {108},Y_3710,ppm, .9968,.0009,.0894, .9962, .9974
Ca3158,315.887 {107},In2306,ppm, 53.61,.4273,.7970, 53.91, 53.31
Cd2288,228.802 {447},Y_2243,ppm, 1.035,.0010,.0938, 1.036, 1.035
Co2286,228.616 {447},In2306,ppm, .9784,.0016,.1644, .9795, .9773
Cr2677,267.716 {126},Y_3600,ppm, .9785,.0010,.0974, .9778, .9792
Cu3247,324.754 {104},Y_3600,ppm, 1.030,.0002,.0181, 1.030, 1.030
Fe2404,240.488 {140},In2306,ppm, 10.44,.0856,.8201, 10.50, 10.38
K_7664,766.490 { 44},Y_3710,ppm, 12.53,.0565,.4512, 12.57, 12.49
Li6707,670.784 { 50},Y_3710,ppm, 1.025,.0002,.0171, 1.025, 1.025
Mg2790,279.079 {121},Y_3710,ppm, 14.98,.0215,.1433, 14.96, 14.99
Mn2576,257.610 {131},Y_3600,ppm, 1.032,.0007,.0654, 1.033, 1.032
Mo2020,202.030 {467},Y_2243,ppm, 1.055,.0022,.2128, 1.056, 1.053
Na5895,589.592 { 57},Y_3710,ppm, 16.35,.0074,.0454, 16.34, 16.35
Ni2316,231.604 {445},In2306,ppm, .9896,.0002,.0155, .9895, .9897
P_1782,178.284 {489},In2306,ppm, 5.287,.0187,.3532, 5.300, 5.273
Pb2203,220.353 {453},In2306,ppm, .9816,.0027,.2718, .9835, .9797
S_1820,182.034 {485},Y_2243,ppm, 8.210,.0236,.2872, 8.227, 8.194
Sb2068,206.833 {463},Y_2243,ppm, 1.676,.0075,.4462, 1.681, 1.670
Se1960,196.090 {472},Y_2243,ppm, 1.024,.0001,.0124, 1.024, 1.024
Si2516,251.611 {134},Y_3710,ppm, 11.69,.0260,.2226, 11.67, 11.71
Sn1899,189.989 {477},In2306,ppm, .9764,.0005,.0488, .9767, .9761
Sr4215,421.552 { 80},Y_3710,ppm, 1.176,.0041,.3467, 1.173, 1.179
Ti3349,334.904 {101},Y_3600,ppm, 1.005,.0009,.0933, 1.004, 1.006
Tl1908,190.856 {477},In2306,ppm, .9667,.0044,.4552, .9698, .9636
U_3670,367.007 { 92},Y_3600,ppm, .7138,.0275,3.854, .7332, .6943
V_2924,292.402 {115},Y_3600,ppm, 1.012,.0002,.0230, 1.012, 1.012
W_2397,239.709 {140},Y_2243,ppm, .4277,.0218,5.096, .4431, .4123
Zn2062,206.200 {463},In2306,ppm, .4982,.0004,.0820, .4979, .4985

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 246.37,3.2790,1.3309,244.05,248.69
In2306,230.606 {446},Cts/S, 14377.,15.138,.10529,14367.,14388.
Y_2243,224.306 {450},Cts/S, 22875.,4.6556,.02035,22872.,22879.
Y_3600,360.073 { 94},Cts/S, 194600.,213.37,.10965,194450.,194750.
Y_3710,371.030 { 91},Cts/S, 13220.,65.380,.49457,13173.,13266.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0005,364.7, -.0005, .0002
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Al3082,308.215 {109},In2306,ppm, .0334,.0065,19.48, .0288, .0380
As1890,189.042 {478},Y_2243,ppm, .0062,.0002,2.971, .0060, .0063
B_2496,249.678 {135},Y_3710,ppm, .1489,.0016,1.067, .1478, .1501
Ba4554,455.403 { 74},Y_3710,ppm, .0590,.0004,.7474, .0587, .0593
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,2.248, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, 32.72,.2245,.6862, 32.57, 32.88
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0000,17.11, .0002, .0002
Co2286,228.616 {447},In2306,ppm, .0001,.0000,60.79, .0001, .0000
Cr2677,267.716 {126},Y_3600,ppm, .0014,.0001,9.067, .0013, .0015
Cu3247,324.754 {104},Y_3600,ppm, .0043,.0002,4.530, .0044, .0042
Fe2404,240.488 {140},In2306,ppm, .0304,.0039,12.84, .0331, .0276
K_7664,766.490 { 44},Y_3710,ppm, 2.876,.0112,.3884, 2.868, 2.884
Li6707,670.784 { 50},Y_3710,ppm, .0033,.0007,20.83, .0028, .0038
Mg2790,279.079 {121},Y_3710,ppm, 3.059,.0578,1.889, 3.100, 3.018
Mn2576,257.610 {131},Y_3600,ppm, .0006,.0000,2.321, .0006, .0006
Mo2020,202.030 {467},Y_2243,ppm, .0130,.0000,.1853, .0130, .0130
Na5895,589.592 { 57},Y_3710,ppm, 5.525,.0074,.1338, 5.520, 5.531
Ni2316,231.604 {445},In2306,ppm, .0006,.0001,24.55, .0005, .0007
P_1782,178.284 {489},In2306,ppm, .0914,.0024,2.610, .0898, .0931
Pb2203,220.353 {453},In2306,ppm, .0007,.0003,48.70, .0009, .0004
S_1820,182.034 {485},Y_2243,ppm, 8.269,.0004,.0052, 8.269, 8.268
Sb2068,206.833 {463},Y_2243,ppm, .0044,.0004,9.740, .0047, .0041
Se1960,196.090 {472},Y_2243,ppm, .0034,.0008,22.97, .0029, .0040
Si2516,251.611 {134},Y_3710,ppm, 5.264,.0026,.0500, 5.262, 5.266
Sn1899,189.989 {477},In2306,ppm, .0003,.0002,71.00, .0005, .0002
Sr4215,421.552 { 80},Y_3710,ppm, .1605,.0009,.5623, .1599, .1611
Ti3349,334.904 {101},Y_3600,ppm, .0015,.0001,5.654, .0016, .0014
Tl1908,190.856 {477},In2306,ppm, .0552,.0051,9.169, .0587, .0516
U_3670,367.007 { 92},Y_3600,ppm, .1406,.0117,8.321, .1489, .1324
V_2924,292.402 {115},Y_3600,ppm, .0071,.0001,1.286, .0072, .0071
W_2397,239.709 {140},Y_2243,ppm, -.0117,.0160,137.2, -.0003, -.0230
Zn2062,206.200 {463},In2306,ppm, .0071,.0000,.2460, .0071, .0071

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 249.99,1.4068,.56273,250.98,248.99
In2306,230.606 {446},Cts/S, 15305.,26.726,.17462,15324.,15286.
Y_2243,224.306 {450},Cts/S, 23306.,38.514,.16525,23334.,23279.
Y_3600,360.073 { 94},Cts/S, 198710.,93.355,.04698,198780.,198650.
Y_3710,371.030 { 91},Cts/S, 13205.,82.323,.62341,13147.,13263.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0001,.0002,136.4, .0002, .0000
Al3082,308.215 {109},In2306,ppm, .0222,.0194,87.48, .0084, .0359
As1890,189.042 {478},Y_2243,ppm, .0065,.0026,39.82, .0047, .0083
B_2496,249.678 {135},Y_3710,ppm, .1441,.0062,4.318, .1485, .1397
Ba4554,455.403 { 74},Y_3710,ppm, .0584,.0001,.2382, .0585, .0583
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,174.7, -.0000, .0000
Ca3158,315.887 {107},In2306,ppm, 32.23,.0299,.0927, 32.21, 32.25
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,45.82, .0002, .0001
Co2286,228.616 {447},In2306,ppm, -.0002,.0000,4.143, -.0002, -.0002
Cr2677,267.716 {126},Y_3600,ppm, .0015,.0001,4.008, .0016, .0015
Cu3247,324.754 {104},Y_3600,ppm, .0054,.0003,6.269, .0051, .0056
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Fe2404,240.488 {140},In2306,ppm, .0350,.0052,14.97, .0313, .0387
K_7664,766.490 { 44},Y_3710,ppm, 2.795,.0161,.5776, 2.806, 2.784
Li6707,670.784 { 50},Y_3710,ppm, .0028,.0008,28.30, .0034, .0023
Mg2790,279.079 {121},Y_3710,ppm, 3.085,.0944,3.059, 3.019, 3.152
Mn2576,257.610 {131},Y_3600,ppm, .0006,.0000,3.805, .0006, .0006
Mo2020,202.030 {467},Y_2243,ppm, .0120,.0005,4.038, .0124, .0117
Na5895,589.592 { 57},Y_3710,ppm, 5.461,.0089,.1637, 5.467, 5.455
Ni2316,231.604 {445},In2306,ppm, .0002,.0001,35.57, .0002, .0001
P_1782,178.284 {489},In2306,ppm, .0904,.0010,1.056, .0911, .0898
Pb2203,220.353 {453},In2306,ppm, .0005,.0010,215.3, .0012, -.0003
S_1820,182.034 {485},Y_2243,ppm, 8.209,.0282,.3441, 8.229, 8.189
Sb2068,206.833 {463},Y_2243,ppm, .0013,.0014,106.4, .0003, .0022
Se1960,196.090 {472},Y_2243,ppm, .0015,.0021,146.1, -.0000, .0030
Si2516,251.611 {134},Y_3710,ppm, 5.210,.0013,.0253, 5.209, 5.211
Sn1899,189.989 {477},In2306,ppm, .0000,.0004,14620., -.0003, .0003
Sr4215,421.552 { 80},Y_3710,ppm, .1579,.0001,.0415, .1579, .1580
Ti3349,334.904 {101},Y_3600,ppm, .0011,.0001,6.906, .0012, .0011
Tl1908,190.856 {477},In2306,ppm, .0250,.0045,17.99, .0282, .0218
U_3670,367.007 { 92},Y_3600,ppm, .0553,.0602,108.9, .0127, .0978
V_2924,292.402 {115},Y_3600,ppm, .0072,.0004,5.479, .0075, .0069
W_2397,239.709 {140},Y_2243,ppm, -.0169,.0414,244.4, -.0462, .0123
Zn2062,206.200 {463},In2306,ppm, .0053,.0000,.0978, .0053, .0053

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 248.42,1.0623,.42764,249.17,247.67
In2306,230.606 {446},Cts/S, 15329.,14.602,.09526,15319.,15339.
Y_2243,224.306 {450},Cts/S, 23280.,43.371,.18630,23249.,23310.
Y_3600,360.073 { 94},Cts/S, 200500.,319.96,.15958,200730.,200270.
Y_3710,371.030 { 91},Cts/S, 13154.,26.268,.19970,13173.,13135.

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Ag3280,328.068 {103},Y_3600,ppm, .2907,.0010,.3441, .2914, .2900
Al3082,308.215 {109},In2306,ppm, 10.22,.0137,.1338, 10.21, 10.23
As1890,189.042 {478},Y_2243,ppm, 1.007,.0001,.0088, 1.007, 1.007
B_2496,249.678 {135},Y_3710,ppm, .6392,.0126,1.974, .6303, .6481
Ba4554,455.403 { 74},Y_3710,ppm, 1.065,.0007,.0621, 1.066, 1.065
Be3130,313.042 {108},Y_3710,ppm, .9863,.0023,.2337, .9846, .9879
Ca3158,315.887 {107},In2306,ppm, 42.75,.0292,.0683, 42.73, 42.77
Cd2288,228.802 {447},Y_2243,ppm, 1.018,.0006,.0576, 1.018, 1.019
Co2286,228.616 {447},In2306,ppm, .9653,.0034,.3535, .9678, .9629
Cr2677,267.716 {126},Y_3600,ppm, .9653,.0077,.7999, .9708, .9599
Cu3247,324.754 {104},Y_3600,ppm, 1.012,.0027,.2623, 1.014, 1.010
Fe2404,240.488 {140},In2306,ppm, 10.02,.0600,.5985, 9.983, 10.07
K_7664,766.490 { 44},Y_3710,ppm, 12.79,.0288,.2250, 12.81, 12.77
Li6707,670.784 { 50},Y_3710,ppm, 1.011,.0012,.1147, 1.011, 1.010
Mg2790,279.079 {121},Y_3710,ppm, 12.58,.1011,.8035, 12.51, 12.65
Mn2576,257.610 {131},Y_3600,ppm, .9827,.0048,.4925, .9861, .9792
Mo2020,202.030 {467},Y_2243,ppm, 1.045,.0012,.1192, 1.046, 1.044
Na5895,589.592 { 57},Y_3710,ppm, 15.44,.0066,.0429, 15.44, 15.43
Ni2316,231.604 {445},In2306,ppm, .9771,.0024,.2433, .9788, .9755
P_1782,178.284 {489},In2306,ppm, 5.199,.0195,.3753, 5.213, 5.185
Pb2203,220.353 {453},In2306,ppm, .9715,.0026,.2688, .9733, .9696
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S_1820,182.034 {485},Y_2243,ppm, 13.54,.0170,.1253, 13.56, 13.53
Sb2068,206.833 {463},Y_2243,ppm, 1.641,.0037,.2248, 1.644, 1.639
Se1960,196.090 {472},Y_2243,ppm, 1.006,.0032,.3180, 1.009, 1.004
Si2516,251.611 {134},Y_3710,ppm, 13.52,.0607,.4493, 13.47, 13.56
Sn1899,189.989 {477},In2306,ppm, .9678,.0065,.6686, .9724, .9632
Sr4215,421.552 { 80},Y_3710,ppm, 1.168,.0000,.0038, 1.168, 1.168
Ti3349,334.904 {101},Y_3600,ppm, .9909,.0033,.3359, .9932, .9885
Tl1908,190.856 {477},In2306,ppm, .9098,.0002,.0229, .9099, .9096
U_3670,367.007 { 92},Y_3600,ppm, .5472,.0286,5.235, .5674, .5269
V_2924,292.402 {115},Y_3600,ppm, .9980,.0047,.4746, 1.001, .9947
W_2397,239.709 {140},Y_2243,ppm, .3950,.0561,14.22, .3553, .4347
Zn2062,206.200 {463},In2306,ppm, .4853,.0019,.3836, .4866, .4840

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 243.92,.65760,.26959,243.46,244.39
In2306,230.606 {446},Cts/S, 14561.,35.499,.24380,14586.,14536.
Y_2243,224.306 {450},Cts/S, 23141.,98.355,.42503,23210.,23071.
Y_3600,360.073 { 94},Cts/S, 196220.,503.49,.25659,195860.,196580.
Y_3710,371.030 { 91},Cts/S, 13009.,6.3587,.04888,13004.,13013.

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Ag3280,328.068 {103},Y_3600,ppm, .2908,.0004,.1313, .2911, .2905
Al3082,308.215 {109},In2306,ppm, 10.26,.1675,1.632, 10.14, 10.38
As1890,189.042 {478},Y_2243,ppm, 1.005,.0044,.4368, 1.008, 1.002
B_2496,249.678 {135},Y_3710,ppm, .6315,.0020,.3110, .6329, .6301
Ba4554,455.403 { 74},Y_3710,ppm, 1.066,.0062,.5850, 1.062, 1.071
Be3130,313.042 {108},Y_3710,ppm, .9850,.0026,.2663, .9831, .9868
Ca3158,315.887 {107},In2306,ppm, 43.05,.3380,.7850, 42.81, 43.29
Cd2288,228.802 {447},Y_2243,ppm, 1.018,.0020,.1960, 1.019, 1.016
Co2286,228.616 {447},In2306,ppm, .9613,.0017,.1813, .9625, .9601
Cr2677,267.716 {126},Y_3600,ppm, .9615,.0020,.2105, .9601, .9629
Cu3247,324.754 {104},Y_3600,ppm, 1.007,.0036,.3538, 1.005, 1.010
Fe2404,240.488 {140},In2306,ppm, 10.10,.1335,1.321, 10.01, 10.20
K_7664,766.490 { 44},Y_3710,ppm, 12.91,.0343,.2658, 12.89, 12.93
Li6707,670.784 { 50},Y_3710,ppm, 1.009,.0086,.8538, 1.003, 1.015
Mg2790,279.079 {121},Y_3710,ppm, 12.69,.0422,.3327, 12.72, 12.66
Mn2576,257.610 {131},Y_3600,ppm, .9810,.0007,.0674, .9806, .9815
Mo2020,202.030 {467},Y_2243,ppm, 1.046,.0035,.3314, 1.049, 1.044
Na5895,589.592 { 57},Y_3710,ppm, 15.61,.0466,.2987, 15.58, 15.64
Ni2316,231.604 {445},In2306,ppm, .9730,.0024,.2421, .9747, .9714
P_1782,178.284 {489},In2306,ppm, 5.171,.0209,.4041, 5.186, 5.156
Pb2203,220.353 {453},In2306,ppm, .9656,.0010,.1013, .9663, .9649
S_1820,182.034 {485},Y_2243,ppm, 13.64,.0438,.3211, 13.67, 13.61
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Se1960,196.090 {472},Y_2243,ppm, 1.007,.0024,.2428, 1.008, 1.005
Si2516,251.611 {134},Y_3710,ppm, 14.08,.0348,.2469, 14.06, 14.11
Sn1899,189.989 {477},In2306,ppm, .9633,.0012,.1268, .9641, .9624
Sr4215,421.552 { 80},Y_3710,ppm, 1.170,.0073,.6240, 1.164, 1.175
Ti3349,334.904 {101},Y_3600,ppm, .9883,.0011,.1146, .9875, .9891
Tl1908,190.856 {477},In2306,ppm, .9490,.0005,.0572, .9486, .9493
U_3670,367.007 { 92},Y_3600,ppm, .5964,.0849,14.23, .5364, .6565
V_2924,292.402 {115},Y_3600,ppm, .9969,.0001,.0111, .9969, .9970
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W_2397,239.709 {140},Y_2243,ppm, .4407,.0131,2.974, .4499, .4314
Zn2062,206.200 {463},In2306,ppm, .4814,.0014,.2904, .4824, .4804

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 245.22,.49356,.20127,244.87,245.57
In2306,230.606 {446},Cts/S, 14530.,31.770,.21865,14507.,14552.
Y_2243,224.306 {450},Cts/S, 22998.,40.340,.17541,22970.,23027.
Y_3600,360.073 { 94},Cts/S, 196380.,363.63,.18517,196640.,196120.
Y_3710,371.030 { 91},Cts/S, 13067.,154.39,1.1815,12958.,13177.

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Al3082,308.215 {109},In2306,ppm, .1971,.0176,8.944, .1846, .2095
As1890,189.042 {478},Y_2243,ppm, .0045,.0007,16.69, .0039, .0050
B_2496,249.678 {135},Y_3710,ppm, .0854,.0062,7.299, .0810, .0898
Ba4554,455.403 { 74},Y_3710,ppm, .0488,.0004,.8712, .0485, .0491
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,57.36, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, 28.62,.4092,1.430, 28.91, 28.33
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,83.16, .0000, .0002
Co2286,228.616 {447},In2306,ppm, .0000,.0001,251.8, -.0000, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0014,.0001,5.229, .0013, .0015
Cu3247,324.754 {104},Y_3600,ppm, .0042,.0004,8.650, .0045, .0040
Fe2404,240.488 {140},In2306,ppm, .1487,.0007,.4902, .1481, .1492
K_7664,766.490 { 44},Y_3710,ppm, 2.695,.0002,.0075, 2.695, 2.696
Li6707,670.784 { 50},Y_3710,ppm, .0030,.0005,15.74, .0027, .0033
Mg2790,279.079 {121},Y_3710,ppm, 2.481,.0510,2.055, 2.445, 2.517
Mn2576,257.610 {131},Y_3600,ppm, .0014,.0000,.9054, .0014, .0014
Mo2020,202.030 {467},Y_2243,ppm, .0108,.0001,1.224, .0107, .0109
Na5895,589.592 { 57},Y_3710,ppm, 5.644,.0045,.0802, 5.640, 5.647
Ni2316,231.604 {445},In2306,ppm, .0005,.0000,8.931, .0005, .0004
P_1782,178.284 {489},In2306,ppm, .0934,.0005,.4869, .0937, .0931
Pb2203,220.353 {453},In2306,ppm, .0013,.0005,38.83, .0010, .0017
S_1820,182.034 {485},Y_2243,ppm, 7.371,.0014,.0185, 7.372, 7.370
Sb2068,206.833 {463},Y_2243,ppm, .0017,.0001,4.062, .0017, .0016
Se1960,196.090 {472},Y_2243,ppm, .0025,.0003,11.25, .0026, .0023
Si2516,251.611 {134},Y_3710,ppm, 3.788,.0372,.9822, 3.762, 3.815
Sn1899,189.989 {477},In2306,ppm, .0004,.0004,104.3, .0001, .0006
Sr4215,421.552 { 80},Y_3710,ppm, .1193,.0010,.8483, .1186, .1200
Ti3349,334.904 {101},Y_3600,ppm, .0026,.0001,5.341, .0025, .0027
Tl1908,190.856 {477},In2306,ppm, .0456,.0038,8.331, .0483, .0429
U_3670,367.007 { 92},Y_3600,ppm, .0969,.0708,73.07, .0468, .1469
V_2924,292.402 {115},Y_3600,ppm, .0048,.0001,2.612, .0047, .0048
W_2397,239.709 {140},Y_2243,ppm, -.0081,.0190,233.7, -.0215, .0053
Zn2062,206.200 {463},In2306,ppm, .0128,.0001,.4464, .0128, .0128

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 248.71,4.5863,1.8441,245.46,251.95
In2306,230.606 {446},Cts/S, 15524.,3.4687,.02234,15521.,15526.
Y_2243,224.306 {450},Cts/S, 23448.,44.379,.18927,23416.,23479.
Y_3600,360.073 { 94},Cts/S, 200990.,513.80,.25563,201350.,200630.
Y_3710,371.030 { 91},Cts/S, 13028.,25.611,.19659,13010.,13046.
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Custom ID3=
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Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0008,.0005,65.05, .0011, .0004
Al3082,308.215 {109},In2306,ppm, .1293,.0004,.3294, .1296, .1290
As1890,189.042 {478},Y_2243,ppm, .0027,.0004,14.71, .0029, .0024
B_2496,249.678 {135},Y_3710,ppm, .0091,.0014,15.70, .0101, .0080
Ba4554,455.403 { 74},Y_3710,ppm, .0332,.0001,.4224, .0333, .0331
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,20.07, -.0001, -.0001
Ca3158,315.887 {107},In2306,ppm, 19.43,.0619,.3187, 19.39, 19.48
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,131.7, .0000, .0002
Co2286,228.616 {447},In2306,ppm, -.0000,.0000,84.02, -.0001, -.0000
Cr2677,267.716 {126},Y_3600,ppm, .0009,.0000,.2736, .0009, .0009
Cu3247,324.754 {104},Y_3600,ppm, .0022,.0001,3.391, .0021, .0023
Fe2404,240.488 {140},In2306,ppm, .1004,.0066,6.595, .0957, .1051
K_7664,766.490 { 44},Y_3710,ppm, 1.974,.0064,.3241, 1.969, 1.978
Li6707,670.784 { 50},Y_3710,ppm, .0008,.0001,13.19, .0007, .0009
Mg2790,279.079 {121},Y_3710,ppm, 2.149,.0024,.1139, 2.147, 2.151
Mn2576,257.610 {131},Y_3600,ppm, .0011,.0001,4.520, .0012, .0011
Mo2020,202.030 {467},Y_2243,ppm, .0019,.0001,2.952, .0019, .0019
Na5895,589.592 { 57},Y_3710,ppm, 3.382,.0027,.0810, 3.384, 3.380
Ni2316,231.604 {445},In2306,ppm, .0004,.0004,95.34, .0007, .0001
P_1782,178.284 {489},In2306,ppm, .0776,.0008,.9953, .0781, .0771
Pb2203,220.353 {453},In2306,ppm, .0014,.0002,15.98, .0015, .0012
S_1820,182.034 {485},Y_2243,ppm, 2.978,.0009,.0309, 2.979, 2.977
Sb2068,206.833 {463},Y_2243,ppm, .0005,.0011,232.5, .0013, -.0003
Se1960,196.090 {472},Y_2243,ppm, .0023,.0001,3.578, .0024, .0023
Si2516,251.611 {134},Y_3710,ppm, 2.153,.0015,.0719, 2.152, 2.155
Sn1899,189.989 {477},In2306,ppm, -.0001,.0000,23.57, -.0001, -.0002
Sr4215,421.552 { 80},Y_3710,ppm, .0673,.0005,.7257, .0676, .0669
Ti3349,334.904 {101},Y_3600,ppm, .0021,.0002,9.052, .0022, .0019
Tl1908,190.856 {477},In2306,ppm, .0179,.0022,12.52, .0195, .0163
U_3670,367.007 { 92},Y_3600,ppm, .0976,.0187,19.18, .1108, .0844
V_2924,292.402 {115},Y_3600,ppm, .0100,.0001,.8309, .0099, .0101
W_2397,239.709 {140},Y_2243,ppm, .0000,.0091,81450., -.0064, .0065
Zn2062,206.200 {463},In2306,ppm, .0183,.0001,.3120, .0182, .0183

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 249.91,3.2543,1.3022,252.21,247.61
In2306,230.606 {446},Cts/S, 15664.,4.4213,.02823,15667.,15661.
Y_2243,224.306 {450},Cts/S, 23550.,22.366,.09498,23534.,23566.
Y_3600,360.073 { 94},Cts/S, 201490.,313.09,.15539,201260.,201710.
Y_3710,371.030 { 91},Cts/S, 13072.,55.570,.42509,13112.,13033.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .5753,.0019,.3222, .5766, .5740
Al3082,308.215 {109},In2306,ppm, 20.13,.0036,.0179, 20.13, 20.13
As1890,189.042 {478},Y_2243,ppm, 1.007,.0000,.0036, 1.007, 1.007
B_2496,249.678 {135},Y_3710,ppm, .9713,.0089,.9206, .9776, .9650
Ba4554,455.403 { 74},Y_3710,ppm, 1.014,.0032,.3140, 1.012, 1.016
Be3130,313.042 {108},Y_3710,ppm, .9877,.0025,.2508, .9859, .9894
Ca3158,315.887 {107},In2306,ppm, 19.86,.1140,.5742, 19.94, 19.78
Cd2288,228.802 {447},Y_2243,ppm, 1.022,.0019,.1854, 1.024, 1.021
Co2286,228.616 {447},In2306,ppm, .9797,.0010,.1023, .9790, .9804
Cr2677,267.716 {126},Y_3600,ppm, .9801,.0010,.0997, .9808, .9794
Cu3247,324.754 {104},Y_3600,ppm, 1.005,.0030,.3021, 1.003, 1.007
Fe2404,240.488 {140},In2306,ppm, 19.95,.0902,.4522, 20.01, 19.88
K_7664,766.490 { 44},Y_3710,ppm, 19.62,.0612,.3120, 19.67, 19.58
Li6707,670.784 { 50},Y_3710,ppm, 1.004,.0005,.0452, 1.004, 1.004
Mg2790,279.079 {121},Y_3710,ppm, 19.17,.0590,.3080, 19.21, 19.12
Mn2576,257.610 {131},Y_3600,ppm, .9991,.0014,.1373, 1.000, .9981
Mo2020,202.030 {467},Y_2243,ppm, 1.040,.0004,.0341, 1.040, 1.040
Na5895,589.592 { 57},Y_3710,ppm, 19.75,.0067,.0338, 19.75, 19.74
Ni2316,231.604 {445},In2306,ppm, .9899,.0004,.0424, .9902, .9896
P_1782,178.284 {489},In2306,ppm, 9.927,.0152,.1528, 9.938, 9.917
Pb2203,220.353 {453},In2306,ppm, .9838,.0005,.0489, .9841, .9834
S_1820,182.034 {485},Y_2243,ppm, 10.42,.0204,.1955, 10.44, 10.41
Sb2068,206.833 {463},Y_2243,ppm, 2.173,.0009,.0435, 2.174, 2.172
Se1960,196.090 {472},Y_2243,ppm, 1.003,.0035,.3539, 1.006, 1.001
Si2516,251.611 {134},Y_3710,ppm, 9.473,.0135,.1423, 9.483, 9.464
Sn1899,189.989 {477},In2306,ppm, .9749,.0000,.0017, .9749, .9750
Sr4215,421.552 { 80},Y_3710,ppm, 1.017,.0026,.2511, 1.015, 1.019
Ti3349,334.904 {101},Y_3600,ppm, 1.001,.0006,.0641, 1.001, 1.000
Tl1908,190.856 {477},In2306,ppm, .9933,.0000,.0028, .9933, .9933
U_3670,367.007 { 92},Y_3600,ppm, 1.071,.0394,3.680, 1.099, 1.044
V_2924,292.402 {115},Y_3600,ppm, 1.005,.0002,.0153, 1.005, 1.005
W_2397,239.709 {140},Y_2243,ppm, .9816,.0516,5.258, .9451, 1.018
Zn2062,206.200 {463},In2306,ppm, .9662,.0003,.0329, .9660, .9664

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 238.56,3.4243,1.4354,236.14,240.98
In2306,230.606 {446},Cts/S, 14512.,6.6125,.04556,14517.,14508.
Y_2243,224.306 {450},Cts/S, 23175.,17.764,.07665,23163.,23188.
Y_3600,360.073 { 94},Cts/S, 195920.,30.077,.01535,195900.,195940.
Y_3710,371.030 { 91},Cts/S, 12848.,134.30,1.0453,12753.,12943.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0116,.0000,.2187, .0116, .0116
Al3082,308.215 {109},In2306,ppm, .2167,.0003,.1242, .2169, .2165
As1890,189.042 {478},Y_2243,ppm, .0222,.0006,2.923, .0227, .0217
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B_2496,249.678 {135},Y_3710,ppm, .0972,.0025,2.585, .0989, .0954
Ba4554,455.403 { 74},Y_3710,ppm, .0220,.0000,.1406, .0220, .0221
Be3130,313.042 {108},Y_3710,ppm, .0112,.0000,.3470, .0112, .0112
Ca3158,315.887 {107},In2306,ppm, 1.004,.0064,.6373, 1.008, .9991
Cd2288,228.802 {447},Y_2243,ppm, .0113,.0000,.3363, .0113, .0112
Co2286,228.616 {447},In2306,ppm, .0103,.0002,2.085, .0101, .0104
Cr2677,267.716 {126},Y_3600,ppm, .0112,.0001,.7671, .0111, .0113
Cu3247,324.754 {104},Y_3600,ppm, .0113,.0002,1.477, .0114, .0111
Fe2404,240.488 {140},In2306,ppm, .2098,.0087,4.139, .2160, .2037
K_7664,766.490 { 44},Y_3710,ppm, 1.003,.0005,.0481, 1.003, 1.003
Li6707,670.784 { 50},Y_3710,ppm, .0114,.0002,1.901, .0115, .0112
Mg2790,279.079 {121},Y_3710,ppm, 1.030,.0258,2.509, 1.011, 1.048
Mn2576,257.610 {131},Y_3600,ppm, .0112,.0000,.0769, .0112, .0112
Mo2020,202.030 {467},Y_2243,ppm, .0162,.0000,.1645, .0162, .0162
Na5895,589.592 { 57},Y_3710,ppm, 1.069,.0014,.1340, 1.070, 1.068
Ni2316,231.604 {445},In2306,ppm, .0105,.0000,.1680, .0105, .0105
P_1782,178.284 {489},In2306,ppm, .9489,.0018,.1861, .9502, .9477
Pb2203,220.353 {453},In2306,ppm, .0125,.0018,14.38, .0138, .0112
S_1820,182.034 {485},Y_2243,ppm, .5196,.0009,.1642, .5202, .5190
Sb2068,206.833 {463},Y_2243,ppm, .0560,.0006,1.028, .0564, .0556
Se1960,196.090 {472},Y_2243,ppm, .0204,.0004,2.028, .0201, .0207
Si2516,251.611 {134},Y_3710,ppm, .1998,.0051,2.553, .1962, .2034
Sn1899,189.989 {477},In2306,ppm, .0205,.0001,.3607, .0205, .0204
Sr4215,421.552 { 80},Y_3710,ppm, .0112,.0000,.2154, .0112, .0113
Ti3349,334.904 {101},Y_3600,ppm, .0112,.0000,.1428, .0112, .0113
Tl1908,190.856 {477},In2306,ppm, .0360,.0030,8.414, .0381, .0338
U_3670,367.007 { 92},Y_3600,ppm, .1542,.0658,42.64, .1077, .2007
V_2924,292.402 {115},Y_3600,ppm, .0108,.0003,3.083, .0111, .0106
W_2397,239.709 {140},Y_2243,ppm, .0578,.0052,9.008, .0614, .0541
Zn2062,206.200 {463},In2306,ppm, .0177,.0000,.0776, .0177, .0177

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 247.10,1.9621,.79405,245.71,248.48
In2306,230.606 {446},Cts/S, 16090.,45.459,.28252,16058.,16123.
Y_2243,224.306 {450},Cts/S, 23910.,82.895,.34670,23851.,23968.
Y_3600,360.073 { 94},Cts/S, 203210.,415.98,.20471,203500.,202910.
Y_3710,371.030 { 91},Cts/S, 12886.,20.113,.15609,12872.,12900.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0011,.0003,22.57, .0009, .0013
Al3082,308.215 {109},In2306,ppm, -.0009,.0035,377.9, -.0034, .0015
As1890,189.042 {478},Y_2243,ppm, .0007,.0000,2.822, .0007, .0007
B_2496,249.678 {135},Y_3710,ppm, .0047,.0021,46.13, .0062, .0031
Ba4554,455.403 { 74},Y_3710,ppm, -.0004,.0000,3.214, -.0004, -.0004
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,161.5, .0001, -.0000
Ca3158,315.887 {107},In2306,ppm, -.0283,.0034,11.94, -.0307, -.0259
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0001,81.65, -.0001, -.0000
Co2286,228.616 {447},In2306,ppm, -.0002,.0000,17.40, -.0003, -.0002
Cr2677,267.716 {126},Y_3600,ppm, -.0000,.0003,4140., .0002, -.0002
Cu3247,324.754 {104},Y_3600,ppm, .0000,.0002,560.9, -.0001, .0002
Fe2404,240.488 {140},In2306,ppm, .0152,.0054,35.77, .0190, .0113
K_7664,766.490 { 44},Y_3710,ppm, -.0314,.0076,24.17, -.0260, -.0367
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Li6707,670.784 { 50},Y_3710,ppm, -.0005,.0009,186.0, .0002, -.0012
Mg2790,279.079 {121},Y_3710,ppm, -.0285,.0026,9.148, -.0267, -.0304
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,41.29, -.0001, -.0000
Mo2020,202.030 {467},Y_2243,ppm, -.0003,.0003,126.1, -.0000, -.0005
Na5895,589.592 { 57},Y_3710,ppm, .0109,.0038,34.90, .0136, .0082
Ni2316,231.604 {445},In2306,ppm, -.0001,.0000,31.75, -.0001, -.0001
P_1782,178.284 {489},In2306,ppm, -.0012,.0009,73.61, -.0019, -.0006
Pb2203,220.353 {453},In2306,ppm, .0009,.0000,1.556, .0009, .0009
S_1820,182.034 {485},Y_2243,ppm, .0165,.0002,1.081, .0166, .0164
Sb2068,206.833 {463},Y_2243,ppm, .0011,.0014,124.7, .0001, .0020
Se1960,196.090 {472},Y_2243,ppm, .0005,.0001,29.14, .0004, .0006
Si2516,251.611 {134},Y_3710,ppm, .0060,.0022,36.27, .0044, .0075
Sn1899,189.989 {477},In2306,ppm, -.0001,.0000,68.39, -.0001, -.0000
Sr4215,421.552 { 80},Y_3710,ppm, .0001,.0002,156.7, .0002, -.0000
Ti3349,334.904 {101},Y_3600,ppm, -.0002,.0001,71.53, -.0003, -.0001
Tl1908,190.856 {477},In2306,ppm, .0128,.0026,20.11, .0146, .0110
U_3670,367.007 { 92},Y_3600,ppm, .0762,.0375,49.16, .0497, .1027
V_2924,292.402 {115},Y_3600,ppm, -.0003,.0000,.4028, -.0003, -.0003
W_2397,239.709 {140},Y_2243,ppm, -.0095,.0122,128.9, -.0008, -.0181
Zn2062,206.200 {463},In2306,ppm, -.0015,.0000,1.013, -.0015, -.0015

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 249.22,.49517,.19869,249.57,248.87
In2306,230.606 {446},Cts/S, 16292.,22.577,.13858,16276.,16308.
Y_2243,224.306 {450},Cts/S, 23892.,4.4370,.01857,23889.,23895.
Y_3600,360.073 { 94},Cts/S, 203500.,97.424,.04788,203560.,203430.
Y_3710,371.030 { 91},Cts/S, 12876.,.84839,.00659,12875.,12877.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0008,.0005,61.09, .0012, .0005
Al3082,308.215 {109},In2306,ppm, .0124,.0164,131.9, .0240, .0008
As1890,189.042 {478},Y_2243,ppm, .0027,.0003,9.927, .0025, .0029
B_2496,249.678 {135},Y_3710,ppm, .0357,.0065,18.24, .0403, .0311
Ba4554,455.403 { 74},Y_3710,ppm, .1241,.0007,.5546, .1236, .1246
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,238.0, .0000, -.0000
Ca3158,315.887 {107},In2306,ppm, 34.50,.0049,.0142, 34.50, 34.50
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0000,79.28, .0000, .0001
Co2286,228.616 {447},In2306,ppm, .0000,.0001,280.0, .0001, -.0000
Cr2677,267.716 {126},Y_3600,ppm, .0012,.0002,13.62, .0013, .0010
Cu3247,324.754 {104},Y_3600,ppm, .0034,.0001,1.763, .0034, .0035
Fe2404,240.488 {140},In2306,ppm, .0261,.0044,16.89, .0230, .0292
K_7664,766.490 { 44},Y_3710,ppm, 1.820,.0206,1.132, 1.806, 1.835
Li6707,670.784 { 50},Y_3710,ppm, .0016,.0011,71.30, .0008, .0024
Mg2790,279.079 {121},Y_3710,ppm, 5.413,.0247,.4560, 5.431, 5.396
Mn2576,257.610 {131},Y_3600,ppm, .0004,.0000,6.775, .0004, .0004
Mo2020,202.030 {467},Y_2243,ppm, .0081,.0002,2.263, .0080, .0082
Na5895,589.592 { 57},Y_3710,ppm, 9.495,.0193,.2028, 9.482, 9.509
Ni2316,231.604 {445},In2306,ppm, .0007,.0001,12.17, .0008, .0007
P_1782,178.284 {489},In2306,ppm, .0064,.0004,5.746, .0066, .0061
Pb2203,220.353 {453},In2306,ppm, .0005,.0008,143.0, .0011, -.0000
S_1820,182.034 {485},Y_2243,ppm, 4.299,.0234,.5453, 4.315, 4.282
Sb2068,206.833 {463},Y_2243,ppm, .0022,.0012,57.40, .0013, .0030
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Se1960,196.090 {472},Y_2243,ppm, -.0001,.0020,1965., -.0015, .0013
Si2516,251.611 {134},Y_3710,ppm, 3.047,.0006,.0195, 3.047, 3.046
Sn1899,189.989 {477},In2306,ppm, .0002,.0001,43.47, .0003, .0002
Sr4215,421.552 { 80},Y_3710,ppm, .1954,.0013,.6871, .1945, .1964
Ti3349,334.904 {101},Y_3600,ppm, .0005,.0001,18.24, .0004, .0006
Tl1908,190.856 {477},In2306,ppm, .0115,.0003,2.258, .0117, .0113
U_3670,367.007 { 92},Y_3600,ppm, .1463,.0020,1.367, .1449, .1477
V_2924,292.402 {115},Y_3600,ppm, .0021,.0001,3.423, .0021, .0022
W_2397,239.709 {140},Y_2243,ppm, -.0077,.0329,427.2, -.0310, .0156
Zn2062,206.200 {463},In2306,ppm, .0139,.0001,.7898, .0138, .0140

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 248.70,.94271,.37905,248.03,249.37
In2306,230.606 {446},Cts/S, 15176.,7.3502,.04843,15181.,15171.
Y_2243,224.306 {450},Cts/S, 23205.,13.003,.05603,23214.,23196.
Y_3600,360.073 { 94},Cts/S, 198320.,559.38,.28206,197920.,198720.
Y_3710,371.030 { 91},Cts/S, 13024.,14.176,.10884,13014.,13034.

[Sample Header]
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Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0001,.0000,34.15, .0002, .0001
Al3082,308.215 {109},In2306,ppm, .0260,.0093,35.70, .0325, .0194
As1890,189.042 {478},Y_2243,ppm, .0030,.0001,4.267, .0029, .0031
B_2496,249.678 {135},Y_3710,ppm, .0366,.0003,.8048, .0368, .0364
Ba4554,455.403 { 74},Y_3710,ppm, .1228,.0002,.1295, .1227, .1229
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,76.00, -.0001, -.0000
Ca3158,315.887 {107},In2306,ppm, 34.82,.0363,.1044, 34.79, 34.84
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,109.4, .0002, .0000
Co2286,228.616 {447},In2306,ppm, .0001,.0000,46.28, .0001, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0009,.0001,13.38, .0009, .0010
Cu3247,324.754 {104},Y_3600,ppm, .0029,.0000,.2292, .0029, .0029
Fe2404,240.488 {140},In2306,ppm, .0133,.0085,63.84, .0073, .0193
K_7664,766.490 { 44},Y_3710,ppm, 1.788,.0302,1.688, 1.767, 1.810
Li6707,670.784 { 50},Y_3710,ppm, .0022,.0000,.3569, .0022, .0022
Mg2790,279.079 {121},Y_3710,ppm, 5.380,.0832,1.547, 5.439, 5.321
Mn2576,257.610 {131},Y_3600,ppm, .0004,.0000,6.140, .0004, .0004
Mo2020,202.030 {467},Y_2243,ppm, .0081,.0001,1.692, .0080, .0082
Na5895,589.592 { 57},Y_3710,ppm, 9.480,.0069,.0727, 9.485, 9.475
Ni2316,231.604 {445},In2306,ppm, .0005,.0003,58.46, .0003, .0007
P_1782,178.284 {489},In2306,ppm, .0071,.0001,2.058, .0073, .0070
Pb2203,220.353 {453},In2306,ppm, .0007,.0002,35.22, .0008, .0005
S_1820,182.034 {485},Y_2243,ppm, 4.278,.0135,.3164, 4.287, 4.268
Sb2068,206.833 {463},Y_2243,ppm, .0035,.0034,96.54, .0011, .0059
Se1960,196.090 {472},Y_2243,ppm, -.0004,.0002,39.96, -.0005, -.0003
Si2516,251.611 {134},Y_3710,ppm, 3.071,.0039,.1258, 3.069, 3.074
Sn1899,189.989 {477},In2306,ppm, .0002,.0000,23.54, .0002, .0002
Sr4215,421.552 { 80},Y_3710,ppm, .1934,.0004,.2013, .1937, .1931
Ti3349,334.904 {101},Y_3600,ppm, .0004,.0001,33.48, .0005, .0003
Tl1908,190.856 {477},In2306,ppm, .0105,.0019,17.62, .0118, .0092
U_3670,367.007 { 92},Y_3600,ppm, .1424,.0052,3.664, .1387, .1460
V_2924,292.402 {115},Y_3600,ppm, .0022,.0001,4.841, .0022, .0023
W_2397,239.709 {140},Y_2243,ppm, .0082,.0307,375.6, .0298, -.0135
Zn2062,206.200 {463},In2306,ppm, .0129,.0000,.2122, .0129, .0129
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[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 243.81,.08454,.03467,243.87,243.75
In2306,230.606 {446},Cts/S, 15156.,5.2776,.03482,15152.,15159.
Y_2243,224.306 {450},Cts/S, 23142.,28.501,.12316,23122.,23163.
Y_3600,360.073 { 94},Cts/S, 194030.,4811.5,2.4798,197430.,190620.
Y_3710,371.030 { 91},Cts/S, 12957.,56.626,.43702,12917.,12997.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0004,.0002,60.05, .0006, .0002
Al3082,308.215 {109},In2306,ppm, .0077,.0130,168.7, .0169, -.0015
As1890,189.042 {478},Y_2243,ppm, .0038,.0016,41.98, .0027, .0050
B_2496,249.678 {135},Y_3710,ppm, .0180,.0013,7.459, .0170, .0189
Ba4554,455.403 { 74},Y_3710,ppm, .0782,.0005,.6784, .0778, .0786
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0001,73.51, -.0002, -.0001
Ca3158,315.887 {107},In2306,ppm, 42.53,.0940,.2210, 42.60, 42.47
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,157.4, .0001, -.0000
Co2286,228.616 {447},In2306,ppm, -.0001,.0001,122.4, -.0000, -.0002
Cr2677,267.716 {126},Y_3600,ppm, .0008,.0002,20.33, .0009, .0007
Cu3247,324.754 {104},Y_3600,ppm, .0020,.0004,17.71, .0018, .0023
Fe2404,240.488 {140},In2306,ppm, .0646,.0022,3.409, .0631, .0662
K_7664,766.490 { 44},Y_3710,ppm, 2.305,.0050,.2161, 2.308, 2.301
Li6707,670.784 { 50},Y_3710,ppm, .0016,.0012,70.81, .0024, .0008
Mg2790,279.079 {121},Y_3710,ppm, 5.348,.0463,.8653, 5.381, 5.316
Mn2576,257.610 {131},Y_3600,ppm, .0006,.0000,.8538, .0006, .0006
Mo2020,202.030 {467},Y_2243,ppm, .0018,.0000,.4149, .0018, .0018
Na5895,589.592 { 57},Y_3710,ppm, 6.137,.0022,.0366, 6.135, 6.138
Ni2316,231.604 {445},In2306,ppm, .0011,.0002,20.95, .0010, .0013
P_1782,178.284 {489},In2306,ppm, .0280,.0003,1.037, .0278, .0282
Pb2203,220.353 {453},In2306,ppm, .0001,.0004,494.2, -.0002, .0003
S_1820,182.034 {485},Y_2243,ppm, 2.674,.0120,.4488, 2.665, 2.682
Sb2068,206.833 {463},Y_2243,ppm, .0010,.0001,10.35, .0009, .0010
Se1960,196.090 {472},Y_2243,ppm, .0017,.0001,6.529, .0018, .0017
Si2516,251.611 {134},Y_3710,ppm, 2.641,.0057,.2175, 2.645, 2.637
Sn1899,189.989 {477},In2306,ppm, .0005,.0001,11.13, .0004, .0005
Sr4215,421.552 { 80},Y_3710,ppm, .1498,.0012,.8022, .1490, .1507
Ti3349,334.904 {101},Y_3600,ppm, .0005,.0002,31.32, .0004, .0007
Tl1908,190.856 {477},In2306,ppm, .0029,.0006,21.70, .0033, .0024
U_3670,367.007 { 92},Y_3600,ppm, .1273,.0187,14.71, .1140, .1405
V_2924,292.402 {115},Y_3600,ppm, .0032,.0002,7.272, .0030, .0034
W_2397,239.709 {140},Y_2243,ppm, .0149,.0105,70.37, .0223, .0075
Zn2062,206.200 {463},In2306,ppm, .0099,.0002,1.582, .0100, .0098

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 244.90,.99395,.40586,244.20,245.60
In2306,230.606 {446},Cts/S, 15178.,70.283,.46307,15227.,15128.
Y_2243,224.306 {450},Cts/S, 23243.,144.80,.62298,23346.,23141.
Y_3600,360.073 { 94},Cts/S, 199290.,736.14,.36939,198760.,199810.
Y_3710,371.030 { 91},Cts/S, 12941.,28.096,.21711,12921.,12961.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0012,.0003,27.33, .0014, .0010
Al3082,308.215 {109},In2306,ppm, .0484,.0050,10.30, .0519, .0448
As1890,189.042 {478},Y_2243,ppm, .0007,.0006,89.42, .0002, .0011
B_2496,249.678 {135},Y_3710,ppm, .0303,.0098,32.45, .0372, .0233
Ba4554,455.403 { 74},Y_3710,ppm, .0186,.0002,1.260, .0184, .0188
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,104.8, .0000, .0000
Ca3158,315.887 {107},In2306,ppm, 11.75,.0201,.1707, 11.76, 11.73
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0000,37.30, .0000, .0001
Co2286,228.616 {447},In2306,ppm, -.0002,.0000,18.25, -.0003, -.0002
Cr2677,267.716 {126},Y_3600,ppm, .0064,.0001,1.890, .0063, .0065
Cu3247,324.754 {104},Y_3600,ppm, .0068,.0002,3.508, .0069, .0066
Fe2404,240.488 {140},In2306,ppm, .0392,.0011,2.824, .0384, .0400
K_7664,766.490 { 44},Y_3710,ppm, 11.80,.0564,.4776, 11.76, 11.84
Li6707,670.784 { 50},Y_3710,ppm, .0015,.0007,49.78, .0010, .0020
Mg2790,279.079 {121},Y_3710,ppm, 1.677,.0191,1.141, 1.663, 1.690
Mn2576,257.610 {131},Y_3600,ppm, .0014,.0000,2.687, .0014, .0014
Mo2020,202.030 {467},Y_2243,ppm, .0008,.0006,82.84, .0012, .0003
Na5895,589.592 { 57},Y_3710,ppm, 2.881,.0127,.4423, 2.890, 2.872
Ni2316,231.604 {445},In2306,ppm, .0016,.0001,9.488, .0017, .0015
P_1782,178.284 {489},In2306,ppm, .2649,.0007,.2599, .2654, .2644
Pb2203,220.353 {453},In2306,ppm, .0008,.0014,178.1, .0017, -.0002
S_1820,182.034 {485},Y_2243,ppm, 3.450,.0062,.1791, 3.454, 3.446
Sb2068,206.833 {463},Y_2243,ppm, .0020,.0004,18.60, .0023, .0018
Se1960,196.090 {472},Y_2243,ppm, .0018,.0015,80.14, .0028, .0008
Si2516,251.611 {134},Y_3710,ppm, 1.883,.0185,.9847, 1.896, 1.870
Sn1899,189.989 {477},In2306,ppm, .0006,.0001,17.41, .0005, .0007
Sr4215,421.552 { 80},Y_3710,ppm, .0376,.0001,.3036, .0377, .0376
Ti3349,334.904 {101},Y_3600,ppm, .0025,.0003,12.42, .0022, .0027
Tl1908,190.856 {477},In2306,ppm, .0059,.0030,50.69, .0080, .0038
U_3670,367.007 { 92},Y_3600,ppm, .1135,.0260,22.90, .1319, .0951
V_2924,292.402 {115},Y_3600,ppm, .0011,.0002,16.72, .0009, .0012
W_2397,239.709 {140},Y_2243,ppm, -.0188,.0267,142.1, .0001, -.0377
Zn2062,206.200 {463},In2306,ppm, .0395,.0002,.3999, .0394, .0396

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 247.41,.31075,.12560,247.63,247.19
In2306,230.606 {446},Cts/S, 15550.,45.761,.29428,15518.,15583.
Y_2243,224.306 {450},Cts/S, 23333.,108.11,.46331,23257.,23410.
Y_3600,360.073 { 94},Cts/S, 200390.,555.37,.27714,200780.,200000.
Y_3710,371.030 { 91},Cts/S, 12973.,21.161,.16311,12958.,12988.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0010,.0001,6.818, .0010, .0009
Al3082,308.215 {109},In2306,ppm, .1057,.0138,13.05, .1155, .0960
As1890,189.042 {478},Y_2243,ppm, .0010,.0006,57.63, .0014, .0006
B_2496,249.678 {135},Y_3710,ppm, .0143,.0117,81.65, .0060, .0225
Ba4554,455.403 { 74},Y_3710,ppm, .2217,.0013,.5999, .2207, .2226
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,37.15, -.0001, -.0000
Ca3158,315.887 {107},In2306,ppm, 35.79,.2170,.6062, 35.64, 35.94
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0000,1.514, .0002, .0002
Co2286,228.616 {447},In2306,ppm, .0007,.0001,13.44, .0006, .0007
Cr2677,267.716 {126},Y_3600,ppm, .0004,.0001,12.97, .0004, .0005
Cu3247,324.754 {104},Y_3600,ppm, .0012,.0001,8.592, .0013, .0011
Fe2404,240.488 {140},In2306,ppm, 6.920,.0323,.4671, 6.897, 6.943
K_7664,766.490 { 44},Y_3710,ppm, 4.370,.0170,.3890, 4.358, 4.382
Li6707,670.784 { 50},Y_3710,ppm, .0010,.0003,31.88, .0008, .0012
Mg2790,279.079 {121},Y_3710,ppm, 7.965,.0227,.2849, 7.981, 7.949
Mn2576,257.610 {131},Y_3600,ppm, .6000,.0033,.5460, .6024, .5977
Mo2020,202.030 {467},Y_2243,ppm, .0022,.0003,14.62, .0020, .0025
Na5895,589.592 { 57},Y_3710,ppm, 48.74,.3342,.6856, 48.51, 48.98
Ni2316,231.604 {445},In2306,ppm, .0021,.0003,14.11, .0023, .0019
P_1782,178.284 {489},In2306,ppm, .0106,.0001,.9521, .0106, .0105
Pb2203,220.353 {453},In2306,ppm, .0017,.0006,36.22, .0022, .0013
S_1820,182.034 {485},Y_2243,ppm, 3.324,.0331,.9965, 3.348, 3.301
Sb2068,206.833 {463},Y_2243,ppm, -.0005,.0005,83.33, -.0009, -.0002
Se1960,196.090 {472},Y_2243,ppm, .0022,.0001,4.643, .0022, .0021
Si2516,251.611 {134},Y_3710,ppm, 4.146,.0299,.7209, 4.125, 4.167
Sn1899,189.989 {477},In2306,ppm, -.0001,.0002,219.1, .0001, -.0002
Sr4215,421.552 { 80},Y_3710,ppm, .2235,.0014,.6198, .2225, .2245
Ti3349,334.904 {101},Y_3600,ppm, .0010,.0002,16.87, .0009, .0011
Tl1908,190.856 {477},In2306,ppm, .0020,.0002,11.93, .0019, .0022
U_3670,367.007 { 92},Y_3600,ppm, .2583,.0731,28.31, .2066, .3101
V_2924,292.402 {115},Y_3600,ppm, -.0002,.0002,122.3, -.0000, -.0004
W_2397,239.709 {140},Y_2243,ppm, -.0255,.0596,233.3, -.0677, .0166
Zn2062,206.200 {463},In2306,ppm, .0076,.0001,.7912, .0076, .0075

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 244.60,2.2609,.92434,246.19,243.00
In2306,230.606 {446},Cts/S, 14569.,31.762,.21801,14547.,14591.
Y_2243,224.306 {450},Cts/S, 22805.,56.512,.24780,22765.,22845.
Y_3600,360.073 { 94},Cts/S, 194180.,294.05,.15143,193970.,194390.
Y_3710,371.030 { 91},Cts/S, 12871.,62.943,.48901,12916.,12827.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0006,.0011,175.2, .0014, -.0001
Al3082,308.215 {109},In2306,ppm, 2.455,.0189,.7687, 2.442, 2.468
As1890,189.042 {478},Y_2243,ppm, .0040,.0015,38.12, .0029, .0050
B_2496,249.678 {135},Y_3710,ppm, .0156,.0015,9.680, .0167, .0146
Ba4554,455.403 { 74},Y_3710,ppm, .1673,.0003,.1995, .1671, .1675
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Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,77.26, -.0000, -.0000
Ca3158,315.887 {107},In2306,ppm, 23.70,.1754,.7398, 23.58, 23.83
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0000,16.46, .0002, .0003
Co2286,228.616 {447},In2306,ppm, .0006,.0001,18.05, .0007, .0005
Cr2677,267.716 {126},Y_3600,ppm, .0021,.0002,9.723, .0023, .0020
Cu3247,324.754 {104},Y_3600,ppm, .0016,.0006,37.58, .0012, .0020
Fe2404,240.488 {140},In2306,ppm, 4.204,.0412,.9790, 4.175, 4.233
K_7664,766.490 { 44},Y_3710,ppm, 3.129,.0034,.1096, 3.131, 3.127
Li6707,670.784 { 50},Y_3710,ppm, .0003,.0001,34.53, .0002, .0003
Mg2790,279.079 {121},Y_3710,ppm, 5.703,.0696,1.221, 5.654, 5.752
Mn2576,257.610 {131},Y_3600,ppm, .3306,.0004,.1243, .3303, .3309
Mo2020,202.030 {467},Y_2243,ppm, .0109,.0001,.9236, .0110, .0108
Na5895,589.592 { 57},Y_3710,ppm, 37.51,.0231,.0617, 37.49, 37.52
Ni2316,231.604 {445},In2306,ppm, .0020,.0001,2.681, .0020, .0021
P_1782,178.284 {489},In2306,ppm, .0249,.0022,8.783, .0264, .0233
Pb2203,220.353 {453},In2306,ppm, .0003,.0007,264.3, .0008, -.0002
S_1820,182.034 {485},Y_2243,ppm, 3.298,.0108,.3261, 3.290, 3.306
Sb2068,206.833 {463},Y_2243,ppm, .0010,.0001,7.217, .0010, .0009
Se1960,196.090 {472},Y_2243,ppm, -.0007,.0008,104.2, -.0013, -.0002
Si2516,251.611 {134},Y_3710,ppm, 3.870,.0058,.1506, 3.874, 3.866
Sn1899,189.989 {477},In2306,ppm, .0008,.0003,33.37, .0006, .0009
Sr4215,421.552 { 80},Y_3710,ppm, .1571,.0002,.1073, .1570, .1572
Ti3349,334.904 {101},Y_3600,ppm, .0074,.0002,3.303, .0076, .0072
Tl1908,190.856 {477},In2306,ppm, .0034,.0007,21.30, .0039, .0029
U_3670,367.007 { 92},Y_3600,ppm, .1209,.0633,52.34, .0762, .1657
V_2924,292.402 {115},Y_3600,ppm, .0031,.0003,8.098, .0029, .0033
W_2397,239.709 {140},Y_2243,ppm, -.0079,.0268,338.0, .0110, -.0269
Zn2062,206.200 {463},In2306,ppm, .0180,.0000,.2220, .0180, .0181

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 246.16,.17222,.06996,246.04,246.28
In2306,230.606 {446},Cts/S, 14873.,36.322,.24421,14899.,14848.
Y_2243,224.306 {450},Cts/S, 23272.,60.194,.25866,23314.,23229.
Y_3600,360.073 { 94},Cts/S, 197410.,393.65,.19941,197130.,197690.
Y_3710,371.030 { 91},Cts/S, 12994.,71.637,.55131,12943.,13045.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0009,.0005,59.37, -.0005, -.0013
Al3082,308.215 {109},In2306,ppm, .0208,.0099,47.49, .0138, .0278
As1890,189.042 {478},Y_2243,ppm, .0017,.0013,72.93, .0008, .0026
B_2496,249.678 {135},Y_3710,ppm, .7852,.0154,1.959, .7744, .7961
Ba4554,455.403 { 74},Y_3710,ppm, .0108,.0003,2.410, .0110, .0106
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,87.44, -.0001, -.0000
Ca3158,315.887 {107},In2306,ppm, 537.1,1.115,.2076, 537.9, 536.3
Cd2288,228.802 {447},Y_2243,ppm, .0006,.0001,17.55, .0005, .0007
Co2286,228.616 {447},In2306,ppm, -.0000,.0001,435.0, .0001, -.0001
Cr2677,267.716 {126},Y_3600,ppm, .0014,.0003,17.74, .0016, .0013
Cu3247,324.754 {104},Y_3600,ppm, .0017,.0001,6.602, .0018, .0016
Fe2404,240.488 {140},In2306,ppm, .0126,.0033,26.29, .0149, .0103
K_7664,766.490 { 44},Y_3710,ppm, 9.527,.0747,.7839, 9.474, 9.580
Li6707,670.784 { 50},Y_3710,ppm, .1281,.0014,1.095, .1291, .1271
Mg2790,279.079 {121},Y_3710,ppm, 196.5,2.312,1.176, 194.9, 198.2
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Mn2576,257.610 {131},Y_3600,ppm, .0053,.0000,.3611, .0053, .0053
Mo2020,202.030 {467},Y_2243,ppm, .0083,.0003,3.458, .0085, .0081
Na5895,589.592 { 57},Y_3710,ppm, 290.2,.8020,.2763, 289.6, 290.8
Ni2316,231.604 {445},In2306,ppm, -.0002,.0001,41.68, -.0002, -.0001
P_1782,178.284 {489},In2306,ppm, .0005,.0036,735.6, .0030, -.0020
Pb2203,220.353 {453},In2306,ppm, .0043,.0016,38.12, .0031, .0054
S_1820,182.034 {485},Y_2243,ppm, 742.7,1.820,.2451, 744.0, 741.4
Sb2068,206.833 {463},Y_2243,ppm, .0045,.0002,3.512, .0046, .0044
Se1960,196.090 {472},Y_2243,ppm, .0078,.0006,7.127, .0074, .0082
Si2516,251.611 {134},Y_3710,ppm, 8.656,.0776,.8968, 8.601, 8.711
Sn1899,189.989 {477},In2306,ppm, .0005,.0001,11.34, .0005, .0006
Sr4215,421.552 { 80},Y_3710,ppm, 10.70,.0577,.5390, 10.66, 10.74
Ti3349,334.904 {101},Y_3600,ppm, .0034,.0003,9.018, .0036, .0032
Tl1908,190.856 {477},In2306,ppm, .0073,.0006,8.824, .0077, .0068
U_3670,367.007 { 92},Y_3600,ppm, .2137,.1020,47.72, .1416, .2858
V_2924,292.402 {115},Y_3600,ppm, .0028,.0001,3.535, .0029, .0028
W_2397,239.709 {140},Y_2243,ppm, .0235,.0003,1.485, .0238, .0233
Zn2062,206.200 {463},In2306,ppm, .0185,.0003,1.890, .0187, .0182

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 221.96,.46300,.20860,222.28,221.63
In2306,230.606 {446},Cts/S, 11808.,18.689,.15827,11821.,11795.
Y_2243,224.306 {450},Cts/S, 20011.,54.813,.27392,20050.,19972.
Y_3600,360.073 { 94},Cts/S, 168310.,4.4674,.00265,168310.,168310.
Y_3710,371.030 { 91},Cts/S, 11973.,173.65,1.4503,12096.,11851.

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Custom ID2=
Custom ID3=
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Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0005,.0003,73.22, -.0007, -.0002
Al3082,308.215 {109},In2306,ppm, .0005,.0081,1768., -.0052, .0062
As1890,189.042 {478},Y_2243,ppm, -.0004,.0008,218.6, -.0010, .0002
B_2496,249.678 {135},Y_3710,ppm, .7931,.0022,.2815, .7915, .7946
Ba4554,455.403 { 74},Y_3710,ppm, .0104,.0000,.0430, .0104, .0104
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,89.14, .0000, .0001
Ca3158,315.887 {107},In2306,ppm, 546.1,3.313,.6067, 543.7, 548.4
Cd2288,228.802 {447},Y_2243,ppm, .0006,.0000,4.246, .0006, .0006
Co2286,228.616 {447},In2306,ppm, .0001,.0000,66.23, .0001, .0000
Cr2677,267.716 {126},Y_3600,ppm, .0011,.0000,2.865, .0011, .0011
Cu3247,324.754 {104},Y_3600,ppm, .0012,.0006,50.85, .0016, .0008
Fe2404,240.488 {140},In2306,ppm, .0188,.0046,24.26, .0156, .0221
K_7664,766.490 { 44},Y_3710,ppm, 9.528,.0333,.3498, 9.505, 9.552
Li6707,670.784 { 50},Y_3710,ppm, .1278,.0006,.4490, .1274, .1282
Mg2790,279.079 {121},Y_3710,ppm, 197.3,.7923,.4016, 196.7, 197.8
Mn2576,257.610 {131},Y_3600,ppm, .0052,.0000,.1689, .0052, .0052
Mo2020,202.030 {467},Y_2243,ppm, .0082,.0003,3.781, .0085, .0080
Na5895,589.592 { 57},Y_3710,ppm, 285.5,4.882,1.710, 282.0, 288.9
Ni2316,231.604 {445},In2306,ppm, .0003,.0000,2.524, .0003, .0003
P_1782,178.284 {489},In2306,ppm, .0008,.0005,66.08, .0012, .0004
Pb2203,220.353 {453},In2306,ppm, .0032,.0012,36.84, .0024, .0040
S_1820,182.034 {485},Y_2243,ppm, 741.5,1.351,.1823, 742.4, 740.5
Sb2068,206.833 {463},Y_2243,ppm, .0001,.0019,2510., .0014, -.0012
Se1960,196.090 {472},Y_2243,ppm, .0094,.0021,22.89, .0109, .0078
Si2516,251.611 {134},Y_3710,ppm, 8.649,.0906,1.047, 8.585, 8.713
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Sn1899,189.989 {477},In2306,ppm, .0005,.0001,20.50, .0004, .0005
Sr4215,421.552 { 80},Y_3710,ppm, 10.71,.2221,2.074, 10.55, 10.86
Ti3349,334.904 {101},Y_3600,ppm, .0033,.0005,14.72, .0036, .0029
Tl1908,190.856 {477},In2306,ppm, .0039,.0020,51.60, .0053, .0025
U_3670,367.007 { 92},Y_3600,ppm, .2852,.0221,7.744, .2696, .3008
V_2924,292.402 {115},Y_3600,ppm, .0025,.0002,9.479, .0023, .0026
W_2397,239.709 {140},Y_2243,ppm, .0440,.0283,64.37, .0240, .0640
Zn2062,206.200 {463},In2306,ppm, .0133,.0002,1.838, .0135, .0131

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 217.48,2.1182,.97398,218.98,215.99
In2306,230.606 {446},Cts/S, 11823.,20.676,.17488,11838.,11809.
Y_2243,224.306 {450},Cts/S, 20027.,43.134,.21537,20058.,19997.
Y_3600,360.073 { 94},Cts/S, 168220.,695.26,.41330,167730.,168710.
Y_3710,371.030 { 91},Cts/S, 11913.,81.368,.68300,11971.,11856.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .3174,.0008,.2669, .3180, .3168
Al3082,308.215 {109},In2306,ppm, 10.63,.1384,1.302, 10.73, 10.53
As1890,189.042 {478},Y_2243,ppm, 1.095,.0059,.5415, 1.091, 1.099
B_2496,249.678 {135},Y_3710,ppm, 1.296,.0071,.5463, 1.291, 1.301
Ba4554,455.403 { 74},Y_3710,ppm, 1.020,.0026,.2570, 1.022, 1.018
Be3130,313.042 {108},Y_3710,ppm, .9770,.0000,.0010, .9770, .9770
Ca3158,315.887 {107},In2306,ppm, 556.4,9.947,1.788, 563.4, 549.3
Cd2288,228.802 {447},Y_2243,ppm, 1.083,.0037,.3419, 1.080, 1.086
Co2286,228.616 {447},In2306,ppm, 1.011,.0003,.0247, 1.011, 1.011
Cr2677,267.716 {126},Y_3600,ppm, .9743,.0024,.2502, .9760, .9726
Cu3247,324.754 {104},Y_3600,ppm, 1.037,.0041,.3998, 1.040, 1.034
Fe2404,240.488 {140},In2306,ppm, 10.08,.1391,1.381, 10.18, 9.978
K_7664,766.490 { 44},Y_3710,ppm, 20.12,.1633,.8116, 20.24, 20.01
Li6707,670.784 { 50},Y_3710,ppm, 1.157,.0038,.3311, 1.160, 1.155
Mg2790,279.079 {121},Y_3710,ppm, 212.0,.0514,.0243, 212.0, 212.0
Mn2576,257.610 {131},Y_3600,ppm, .9931,.0002,.0220, .9933, .9930
Mo2020,202.030 {467},Y_2243,ppm, 1.046,.0075,.7160, 1.040, 1.051
Na5895,589.592 { 57},Y_3710,ppm, 301.8,1.668,.5528, 300.6, 302.9
Ni2316,231.604 {445},In2306,ppm, 1.015,.0041,.4052, 1.018, 1.012
P_1782,178.284 {489},In2306,ppm, 6.161,.0058,.0946, 6.157, 6.165
Pb2203,220.353 {453},In2306,ppm, .9902,.0013,.1325, .9892, .9911
S_1820,182.034 {485},Y_2243,ppm, 751.1,1.416,.1885, 750.1, 752.1
Sb2068,206.833 {463},Y_2243,ppm, 1.707,.0135,.7885, 1.698, 1.717
Se1960,196.090 {472},Y_2243,ppm, 1.138,.0087,.7602, 1.132, 1.144
Si2516,251.611 {134},Y_3710,ppm, 17.74,.0160,.0904, 17.75, 17.72
Sn1899,189.989 {477},In2306,ppm, 1.011,.0041,.4048, 1.013, 1.008
Sr4215,421.552 { 80},Y_3710,ppm, 11.77,.0797,.6767, 11.72, 11.83
Ti3349,334.904 {101},Y_3600,ppm, 1.009,.0020,.1935, 1.010, 1.007
Tl1908,190.856 {477},In2306,ppm, .8513,.0041,.4873, .8484, .8542
U_3670,367.007 { 92},Y_3600,ppm, .7492,.1094,14.60, .8265, .6719
V_2924,292.402 {115},Y_3600,ppm, 1.020,.0025,.2491, 1.022, 1.018
W_2397,239.709 {140},Y_2243,ppm, .4610,.0405,8.787, .4897, .4324
Zn2062,206.200 {463},In2306,ppm, .5379,.0043,.7976, .5409, .5349

[Internal Standards]
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Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 217.29,4.2082,1.9366,214.32,220.27
In2306,230.606 {446},Cts/S, 11641.,68.335,.58700,11690.,11593.
Y_2243,224.306 {450},Cts/S, 20039.,185.42,.92529,20170.,19908.
Y_3600,360.073 { 94},Cts/S, 168200.,120.39,.07158,168120.,168290.
Y_3710,371.030 { 91},Cts/S, 11690.,42.652,.36487,11659.,11720.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .3199,.0023,.7263, .3216, .3183
Al3082,308.215 {109},In2306,ppm, 10.85,.0055,.0508, 10.85, 10.84
As1890,189.042 {478},Y_2243,ppm, 1.097,.0033,.2977, 1.094, 1.099
B_2496,249.678 {135},Y_3710,ppm, 1.306,.0120,.9187, 1.298, 1.315
Ba4554,455.403 { 74},Y_3710,ppm, 1.025,.0034,.3297, 1.023, 1.028
Be3130,313.042 {108},Y_3710,ppm, .9810,.0003,.0304, .9808, .9812
Ca3158,315.887 {107},In2306,ppm, 573.9,4.502,.7845, 577.0, 570.7
Cd2288,228.802 {447},Y_2243,ppm, 1.090,.0000,.0016, 1.090, 1.090
Co2286,228.616 {447},In2306,ppm, 1.017,.0019,.1882, 1.016, 1.018
Cr2677,267.716 {126},Y_3600,ppm, .9794,.0040,.4053, .9822, .9766
Cu3247,324.754 {104},Y_3600,ppm, 1.043,.0006,.0535, 1.042, 1.043
Fe2404,240.488 {140},In2306,ppm, 10.32,.0874,.8467, 10.38, 10.26
K_7664,766.490 { 44},Y_3710,ppm, 20.32,.1165,.5733, 20.24, 20.40
Li6707,670.784 { 50},Y_3710,ppm, 1.168,.0043,.3701, 1.165, 1.171
Mg2790,279.079 {121},Y_3710,ppm, 214.1,.3303,.1543, 214.3, 213.9
Mn2576,257.610 {131},Y_3600,ppm, .9966,.0020,.2036, .9981, .9952
Mo2020,202.030 {467},Y_2243,ppm, 1.050,.0028,.2647, 1.052, 1.048
Na5895,589.592 { 57},Y_3710,ppm, 306.7,.4278,.1395, 306.4, 307.0
Ni2316,231.604 {445},In2306,ppm, 1.019,.0021,.2038, 1.018, 1.020
P_1782,178.284 {489},In2306,ppm, 6.195,.0236,.3807, 6.178, 6.212
Pb2203,220.353 {453},In2306,ppm, .9963,.0012,.1235, .9954, .9972
S_1820,182.034 {485},Y_2243,ppm, 759.7,.4514,.0594, 759.4, 760.0
Sb2068,206.833 {463},Y_2243,ppm, 1.724,.0088,.5130, 1.730, 1.718
Se1960,196.090 {472},Y_2243,ppm, 1.152,.0010,.0891, 1.153, 1.152
Si2516,251.611 {134},Y_3710,ppm, 18.09,.0710,.3927, 18.04, 18.14
Sn1899,189.989 {477},In2306,ppm, 1.013,.0012,.1184, 1.013, 1.014
Sr4215,421.552 { 80},Y_3710,ppm, 12.21,.0453,.3713, 12.17, 12.24
Ti3349,334.904 {101},Y_3600,ppm, 1.012,.0004,.0407, 1.012, 1.012
Tl1908,190.856 {477},In2306,ppm, .9016,.0068,.7541, .8968, .9064
U_3670,367.007 { 92},Y_3600,ppm, .7800,.0714,9.149, .7295, .8305
V_2924,292.402 {115},Y_3600,ppm, 1.025,.0023,.2251, 1.026, 1.023
W_2397,239.709 {140},Y_2243,ppm, .4668,.0425,9.106, .4368, .4969
Zn2062,206.200 {463},In2306,ppm, .5394,.0021,.3932, .5379, .5409

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 212.92,1.6470,.77352,211.75,214.08
In2306,230.606 {446},Cts/S, 11629.,2.1399,.01840,11630.,11627.
Y_2243,224.306 {450},Cts/S, 20000.,38.693,.19347,19973.,20027.
Y_3600,360.073 { 94},Cts/S, 167490.,12.133,.00724,167500.,167480.
Y_3710,371.030 { 91},Cts/S, 11674.,5.1467,.04409,11678.,11670.

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Ag3280,328.068 {103},Y_3600,ppm, .5841,.0003,.0453, .5839, .5843
Al3082,308.215 {109},In2306,ppm, 20.91,1.330,6.361, 19.97, 21.85
As1890,189.042 {478},Y_2243,ppm, 1.003,.0013,.1251, 1.003, 1.004
B_2496,249.678 {135},Y_3710,ppm, 1.046,.0751,7.182, .9931, 1.099
Ba4554,455.403 { 74},Y_3710,ppm, 1.053,.0669,6.349, 1.006, 1.101
Be3130,313.042 {108},Y_3710,ppm, 1.048,.0691,6.593, .9988, 1.096
Ca3158,315.887 {107},In2306,ppm, 21.25,1.320,6.212, 20.32, 22.19
Cd2288,228.802 {447},Y_2243,ppm, 1.023,.0000,.0026, 1.023, 1.023
Co2286,228.616 {447},In2306,ppm, .9944,.0008,.0769, .9938, .9949
Cr2677,267.716 {126},Y_3600,ppm, 1.016,.0050,.4934, 1.013, 1.020
Cu3247,324.754 {104},Y_3600,ppm, 1.005,.0004,.0411, 1.005, 1.004
Fe2404,240.488 {140},In2306,ppm, 21.17,1.400,6.613, 20.18, 22.16
K_7664,766.490 { 44},Y_3710,ppm, 20.93,1.315,6.284, 20.00, 21.86
Li6707,670.784 { 50},Y_3710,ppm, 1.044,.0613,5.868, 1.001, 1.087
Mg2790,279.079 {121},Y_3710,ppm, 21.31,1.600,7.508, 20.18, 22.44
Mn2576,257.610 {131},Y_3600,ppm, 1.026,.0024,.2295, 1.024, 1.027
Mo2020,202.030 {467},Y_2243,ppm, 1.034,.0014,.1330, 1.035, 1.033
Na5895,589.592 { 57},Y_3710,ppm, 20.89,1.340,6.414, 19.94, 21.84
Ni2316,231.604 {445},In2306,ppm, 1.005,.0014,.1349, 1.004, 1.006
P_1782,178.284 {489},In2306,ppm, 9.983,.0055,.0549, 9.979, 9.986
Pb2203,220.353 {453},In2306,ppm, 1.004,.0011,.1082, 1.005, 1.003
S_1820,182.034 {485},Y_2243,ppm, 10.53,.0341,.3234, 10.56, 10.51
Sb2068,206.833 {463},Y_2243,ppm, 2.129,.0074,.3476, 2.134, 2.123
Se1960,196.090 {472},Y_2243,ppm, 1.001,.0048,.4768, 1.004, .9977
Si2516,251.611 {134},Y_3710,ppm, 10.31,.6931,6.720, 9.823, 10.80
Sn1899,189.989 {477},In2306,ppm, .9948,.0021,.2080, .9962, .9933
Sr4215,421.552 { 80},Y_3710,ppm, 1.061,.0667,6.282, 1.014, 1.108
Ti3349,334.904 {101},Y_3600,ppm, 1.019,.0020,.1982, 1.018, 1.021
Tl1908,190.856 {477},In2306,ppm, 1.040,.0039,.3755, 1.043, 1.038
U_3670,367.007 { 92},Y_3600,ppm, .8333,.0861,10.33, .8942, .7724
V_2924,292.402 {115},Y_3600,ppm, 1.026,.0022,.2167, 1.025, 1.028
W_2397,239.709 {140},Y_2243,ppm, .8813,.0577,6.544, .9221, .8405
Zn2062,206.200 {463},In2306,ppm, 1.012,.0032,.3151, 1.009, 1.014

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 219.24,12.805,5.8404,228.30,210.19
In2306,230.606 {446},Cts/S, 14509.,24.058,.16581,14526.,14492.
Y_2243,224.306 {450},Cts/S, 23426.,20.555,.08774,23440.,23411.
Y_3600,360.073 { 94},Cts/S, 190730.,601.25,.31524,191150.,190300.
Y_3710,371.030 { 91},Cts/S, 11482.,700.98,6.1049,11978.,10987.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0117,.0002,1.994, .0119, .0116
Al3082,308.215 {109},In2306,ppm, .2156,.0018,.8409, .2169, .2143
As1890,189.042 {478},Y_2243,ppm, .0228,.0001,.2882, .0229, .0228
B_2496,249.678 {135},Y_3710,ppm, .0907,.0006,.6164, .0911, .0903
Ba4554,455.403 { 74},Y_3710,ppm, .0220,.0002,.9898, .0222, .0219
Be3130,313.042 {108},Y_3710,ppm, .0112,.0001,.8405, .0113, .0111
Ca3158,315.887 {107},In2306,ppm, 1.040,.0146,1.402, 1.030, 1.050
Cd2288,228.802 {447},Y_2243,ppm, .0112,.0001,.7376, .0113, .0112
Co2286,228.616 {447},In2306,ppm, .0104,.0000,.3912, .0105, .0104
Cr2677,267.716 {126},Y_3600,ppm, .0115,.0004,3.539, .0118, .0112
Cu3247,324.754 {104},Y_3600,ppm, .0113,.0003,2.422, .0115, .0111
Fe2404,240.488 {140},In2306,ppm, .2111,.0091,4.312, .2046, .2175
K_7664,766.490 { 44},Y_3710,ppm, 1.009,.0123,1.219, 1.001, 1.018
Li6707,670.784 { 50},Y_3710,ppm, .0106,.0005,5.150, .0110, .0102
Mg2790,279.079 {121},Y_3710,ppm, 1.071,.0526,4.909, 1.034, 1.108
Mn2576,257.610 {131},Y_3600,ppm, .0114,.0000,.3027, .0114, .0114
Mo2020,202.030 {467},Y_2243,ppm, .0163,.0001,.4360, .0163, .0162
Na5895,589.592 { 57},Y_3710,ppm, 1.107,.0026,.2358, 1.105, 1.109
Ni2316,231.604 {445},In2306,ppm, .0108,.0001,1.065, .0107, .0108
P_1782,178.284 {489},In2306,ppm, .9493,.0002,.0212, .9494, .9492
Pb2203,220.353 {453},In2306,ppm, .0118,.0015,13.14, .0129, .0107
S_1820,182.034 {485},Y_2243,ppm, .5923,.0051,.8683, .5960, .5887
Sb2068,206.833 {463},Y_2243,ppm, .0548,.0013,2.382, .0558, .0539
Se1960,196.090 {472},Y_2243,ppm, .0218,.0028,12.83, .0198, .0238
Si2516,251.611 {134},Y_3710,ppm, .1965,.0127,6.477, .1875, .2055
Sn1899,189.989 {477},In2306,ppm, .0207,.0003,1.535, .0205, .0209
Sr4215,421.552 { 80},Y_3710,ppm, .0114,.0001,.9822, .0115, .0113
Ti3349,334.904 {101},Y_3600,ppm, .0115,.0002,1.610, .0117, .0114
Tl1908,190.856 {477},In2306,ppm, .0493,.0051,10.38, .0529, .0457
U_3670,367.007 { 92},Y_3600,ppm, -.0279,.0436,156.0, .0029, -.0588
V_2924,292.402 {115},Y_3600,ppm, .0112,.0002,2.199, .0113, .0110
W_2397,239.709 {140},Y_2243,ppm, .0715,.0020,2.777, .0729, .0701
Zn2062,206.200 {463},In2306,ppm, .0184,.0000,.1631, .0184, .0184

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 236.68,3.2279,1.3638,238.96,234.39
In2306,230.606 {446},Cts/S, 16088.,8.9154,.05542,16095.,16082.
Y_2243,224.306 {450},Cts/S, 24122.,30.712,.12732,24100.,24143.
Y_3600,360.073 { 94},Cts/S, 199580.,70.901,.03553,199630.,199530.
Y_3710,371.030 { 91},Cts/S, 12196.,56.881,.46641,12236.,12155.

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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0000,34.69, -.0001, -.0002
Al3082,308.215 {109},In2306,ppm, -.0029,.0043,149.5, -.0059, .0002
As1890,189.042 {478},Y_2243,ppm, .0005,.0009,173.1, .0011, -.0001
B_2496,249.678 {135},Y_3710,ppm, .0029,.0038,132.4, .0055, .0002
Ba4554,455.403 { 74},Y_3710,ppm, -.0002,.0000,15.84, -.0002, -.0002
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,179.2, .0002, -.0000
Ca3158,315.887 {107},In2306,ppm, -.0043,.0064,150.2, .0003, -.0088
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Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0001,153.2, -.0002, .0000
Co2286,228.616 {447},In2306,ppm, .0001,.0001,94.45, .0000, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0002,.0002,102.8, .0003, .0000
Cu3247,324.754 {104},Y_3600,ppm, .0005,.0001,23.36, .0006, .0004
Fe2404,240.488 {140},In2306,ppm, .0095,.0189,200.4, .0228, -.0039
K_7664,766.490 { 44},Y_3710,ppm, .0042,.0297,699.1, -.0168, .0253
Li6707,670.784 { 50},Y_3710,ppm, .0004,.0001,33.33, .0005, .0003
Mg2790,279.079 {121},Y_3710,ppm, -.0341,.0144,42.16, -.0443, -.0239
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,19.60, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, -.0002,.0000,6.182, -.0002, -.0002
Na5895,589.592 { 57},Y_3710,ppm, .0350,.0021,6.127, .0335, .0366
Ni2316,231.604 {445},In2306,ppm, -.0001,.0004,713.5, -.0003, .0002
P_1782,178.284 {489},In2306,ppm, -.0015,.0003,17.75, -.0017, -.0013
Pb2203,220.353 {453},In2306,ppm, -.0006,.0007,120.4, -.0011, -.0001
S_1820,182.034 {485},Y_2243,ppm, .0785,.0014,1.814, .0795, .0775
Sb2068,206.833 {463},Y_2243,ppm, .0019,.0003,17.18, .0017, .0021
Se1960,196.090 {472},Y_2243,ppm, .0004,.0007,172.0, -.0001, .0009
Si2516,251.611 {134},Y_3710,ppm, .0061,.0016,26.27, .0072, .0050
Sn1899,189.989 {477},In2306,ppm, .0001,.0003,221.2, -.0001, .0003
Sr4215,421.552 { 80},Y_3710,ppm, .0001,.0000,.8440, .0001, .0001
Ti3349,334.904 {101},Y_3600,ppm, .0000,.0001,309.2, -.0001, .0001
Tl1908,190.856 {477},In2306,ppm, .0171,.0000,.2545, .0172, .0171
U_3670,367.007 { 92},Y_3600,ppm, -.0060,.0448,753.3, .0258, -.0377
V_2924,292.402 {115},Y_3600,ppm, .0001,.0002,382.5, -.0001, .0002
W_2397,239.709 {140},Y_2243,ppm, .0112,.0146,130.8, .0008, .0215
Zn2062,206.200 {463},In2306,ppm, -.0015,.0000,2.530, -.0015, -.0016

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 238.03,2.2137,.93000,236.46,239.59
In2306,230.606 {446},Cts/S, 16251.,24.527,.15093,16268.,16234.
Y_2243,224.306 {450},Cts/S, 24087.,57.076,.23696,24128.,24047.
Y_3600,360.073 { 94},Cts/S, 199330.,536.94,.26938,199710.,198950.
Y_3710,371.030 { 91},Cts/S, 12097.,12.525,.10354,12106.,12088.

[Sample Header]
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Custom ID2=
Custom ID3=
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0007,.0002,32.18, -.0005, -.0008
Al3082,308.215 {109},In2306,ppm, .0257,.0103,39.96, .0184, .0330
As1890,189.042 {478},Y_2243,ppm, .0025,.0001,3.493, .0024, .0025
B_2496,249.678 {135},Y_3710,ppm, .3358,.0088,2.614, .3296, .3420
Ba4554,455.403 { 74},Y_3710,ppm, .0332,.0003,1.015, .0329, .0334
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0002,318.8, -.0002, .0001
Ca3158,315.887 {107},In2306,ppm, 613.5,2.103,.3427, 612.0, 615.0
Cd2288,228.802 {447},Y_2243,ppm, .0005,.0000,4.443, .0005, .0004
Co2286,228.616 {447},In2306,ppm, .0002,.0001,28.18, .0003, .0002
Cr2677,267.716 {126},Y_3600,ppm, .0006,.0000,1.963, .0006, .0006
Cu3247,324.754 {104},Y_3600,ppm, .0021,.0002,7.999, .0020, .0023
Fe2404,240.488 {140},In2306,ppm, .0185,.0050,27.20, .0150, .0221
K_7664,766.490 { 44},Y_3710,ppm, 5.187,.0543,1.047, 5.149, 5.225
Li6707,670.784 { 50},Y_3710,ppm, .0833,.0006,.6990, .0837, .0829
Mg2790,279.079 {121},Y_3710,ppm, 70.78,.3991,.5639, 70.49, 71.06
Mn2576,257.610 {131},Y_3600,ppm, .0031,.0000,1.124, .0031, .0032
Mo2020,202.030 {467},Y_2243,ppm, .0091,.0006,6.252, .0087, .0095
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Na5895,589.592 { 57},Y_3710,ppm, 122.7,.0600,.0489, 122.6, 122.7
Ni2316,231.604 {445},In2306,ppm, .0014,.0001,9.330, .0015, .0013
P_1782,178.284 {489},In2306,ppm, .0149,.0011,7.123, .0142, .0157
Pb2203,220.353 {453},In2306,ppm, .0045,.0017,37.27, .0056, .0033
S_1820,182.034 {485},Y_2243,ppm, 599.6,.6365,.1062, 600.0, 599.1
Sb2068,206.833 {463},Y_2243,ppm, .0018,.0022,118.8, .0003, .0034
Se1960,196.090 {472},Y_2243,ppm, -.0001,.0002,151.2, .0000, -.0002
Si2516,251.611 {134},Y_3710,ppm, 2.217,.0082,.3688, 2.212, 2.223
Sn1899,189.989 {477},In2306,ppm, .0001,.0003,479.6, .0003, -.0002
Sr4215,421.552 { 80},Y_3710,ppm, 8.219,.0164,.1998, 8.207, 8.230
Ti3349,334.904 {101},Y_3600,ppm, .0041,.0004,8.951, .0044, .0038
Tl1908,190.856 {477},In2306,ppm, .0071,.0018,24.91, .0084, .0059
U_3670,367.007 { 92},Y_3600,ppm, .1839,.0503,27.36, .1483, .2195
V_2924,292.402 {115},Y_3600,ppm, -.0010,.0002,24.91, -.0012, -.0008
W_2397,239.709 {140},Y_2243,ppm, -.0080,.0472,593.9, .0254, -.0413
Zn2062,206.200 {463},In2306,ppm, .0313,.0002,.6884, .0314, .0311

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 217.28,.32168,.14805,217.51,217.05
In2306,230.606 {446},Cts/S, 12304.,54.131,.43994,12266.,12342.
Y_2243,224.306 {450},Cts/S, 20656.,73.023,.35353,20604.,20707.
Y_3600,360.073 { 94},Cts/S, 172610.,503.48,.29169,172250.,172960.
Y_3710,371.030 { 91},Cts/S, 11736.,18.903,.16107,11723.,11749.

[Sample Header]
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Custom ID2=
Custom ID3=
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Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0007,.0001,9.169, .0008, .0007
Al3082,308.215 {109},In2306,ppm, .0203,.0033,16.31, .0227, .0180
As1890,189.042 {478},Y_2243,ppm, .0024,.0016,66.37, .0036, .0013
B_2496,249.678 {135},Y_3710,ppm, .3232,.0084,2.603, .3172, .3291
Ba4554,455.403 { 74},Y_3710,ppm, .0328,.0003,.8146, .0326, .0330
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,85.67, .0000, .0000
Ca3158,315.887 {107},In2306,ppm, 608.0,5.332,.8769, 611.8, 604.3
Cd2288,228.802 {447},Y_2243,ppm, .0004,.0000,6.018, .0004, .0005
Co2286,228.616 {447},In2306,ppm, .0000,.0001,466.8, -.0000, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0007,.0002,30.56, .0008, .0005
Cu3247,324.754 {104},Y_3600,ppm, .0011,.0002,20.54, .0010, .0013
Fe2404,240.488 {140},In2306,ppm, .0182,.0017,9.193, .0194, .0170
K_7664,766.490 { 44},Y_3710,ppm, 5.077,.0692,1.363, 5.028, 5.125
Li6707,670.784 { 50},Y_3710,ppm, .0833,.0004,.4681, .0836, .0831
Mg2790,279.079 {121},Y_3710,ppm, 69.84,1.183,1.693, 69.01, 70.68
Mn2576,257.610 {131},Y_3600,ppm, .0024,.0001,2.272, .0024, .0025
Mo2020,202.030 {467},Y_2243,ppm, .0093,.0001,1.197, .0094, .0092
Na5895,589.592 { 57},Y_3710,ppm, 121.2,.5747,.4741, 120.8, 121.6
Ni2316,231.604 {445},In2306,ppm, .0010,.0000,1.743, .0009, .0010
P_1782,178.284 {489},In2306,ppm, .0140,.0021,14.91, .0125, .0154
Pb2203,220.353 {453},In2306,ppm, .0049,.0002,4.958, .0047, .0051
S_1820,182.034 {485},Y_2243,ppm, 590.3,2.191,.3712, 591.8, 588.7
Sb2068,206.833 {463},Y_2243,ppm, .0018,.0014,76.52, .0008, .0028
Se1960,196.090 {472},Y_2243,ppm, -.0019,.0007,38.05, -.0024, -.0014
Si2516,251.611 {134},Y_3710,ppm, 2.170,.0177,.8140, 2.158, 2.183
Sn1899,189.989 {477},In2306,ppm, .0007,.0004,58.53, .0004, .0011
Sr4215,421.552 { 80},Y_3710,ppm, 8.023,.2007,2.502, 7.881, 8.165
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Ti3349,334.904 {101},Y_3600,ppm, .0038,.0004,10.14, .0036, .0041
Tl1908,190.856 {477},In2306,ppm, .0040,.0022,54.45, .0025, .0056
U_3670,367.007 { 92},Y_3600,ppm, .1604,.0204,12.72, .1460, .1749
V_2924,292.402 {115},Y_3600,ppm, -.0007,.0001,13.92, -.0006, -.0007
W_2397,239.709 {140},Y_2243,ppm, .0134,.0752,560.5, -.0397, .0666
Zn2062,206.200 {463},In2306,ppm, .0207,.0003,1.509, .0209, .0205

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 216.72,1.3049,.60213,215.80,217.64
In2306,230.606 {446},Cts/S, 12340.,48.664,.39436,12306.,12374.
Y_2243,224.306 {450},Cts/S, 20734.,43.565,.21011,20703.,20765.
Y_3600,360.073 { 94},Cts/S, 172530.,536.45,.31093,172150.,172910.
Y_3710,371.030 { 91},Cts/S, 11732.,140.72,1.1995,11831.,11632.

[Sample Header]
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Custom ID2=
Custom ID3=
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Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0006,.0002,36.69, -.0007, -.0004
Al3082,308.215 {109},In2306,ppm, .0410,.0225,54.88, .0251, .0568
As1890,189.042 {478},Y_2243,ppm, .0030,.0013,44.69, .0040, .0021
B_2496,249.678 {135},Y_3710,ppm, .2727,.0058,2.119, .2686, .2767
Ba4554,455.403 { 74},Y_3710,ppm, .0188,.0004,2.079, .0191, .0185
Be3130,313.042 {108},Y_3710,ppm, .0000,.0001,273.7, .0001, -.0000
Ca3158,315.887 {107},In2306,ppm, 589.4,4.829,.8192, 586.0, 592.8
Cd2288,228.802 {447},Y_2243,ppm, .0004,.0001,16.69, .0003, .0004
Co2286,228.616 {447},In2306,ppm, -.0001,.0002,198.8, .0000, -.0002
Cr2677,267.716 {126},Y_3600,ppm, .0006,.0002,35.03, .0005, .0008
Cu3247,324.754 {104},Y_3600,ppm, .0013,.0003,19.55, .0015, .0011
Fe2404,240.488 {140},In2306,ppm, .0109,.0048,43.77, .0076, .0143
K_7664,766.490 { 44},Y_3710,ppm, 4.054,.0462,1.140, 4.087, 4.021
Li6707,670.784 { 50},Y_3710,ppm, .0737,.0012,1.603, .0746, .0729
Mg2790,279.079 {121},Y_3710,ppm, 55.28,.4363,.7892, 55.59, 54.97
Mn2576,257.610 {131},Y_3600,ppm, .0029,.0000,.2090, .0029, .0029
Mo2020,202.030 {467},Y_2243,ppm, .0081,.0002,2.654, .0079, .0082
Na5895,589.592 { 57},Y_3710,ppm, 81.69,.6323,.7741, 82.13, 81.24
Ni2316,231.604 {445},In2306,ppm, .0004,.0006,174.2, .0008, -.0001
P_1782,178.284 {489},In2306,ppm, -.0013,.0002,13.54, -.0014, -.0011
Pb2203,220.353 {453},In2306,ppm, .0046,.0009,19.10, .0053, .0040
S_1820,182.034 {485},Y_2243,ppm, 554.7,.4425,.0798, 555.0, 554.4
Sb2068,206.833 {463},Y_2243,ppm, .0038,.0047,125.5, .0071, .0004
Se1960,196.090 {472},Y_2243,ppm, .0055,.0023,41.86, .0039, .0071
Si2516,251.611 {134},Y_3710,ppm, 4.711,.0591,1.255, 4.753, 4.669
Sn1899,189.989 {477},In2306,ppm, -.0004,.0000,12.76, -.0004, -.0003
Sr4215,421.552 { 80},Y_3710,ppm, 7.799,.0546,.7003, 7.837, 7.760
Ti3349,334.904 {101},Y_3600,ppm, .0033,.0001,2.750, .0034, .0032
Tl1908,190.856 {477},In2306,ppm, .0042,.0007,17.70, .0036, .0047
U_3670,367.007 { 92},Y_3600,ppm, .1266,.0323,25.48, .1494, .1038
V_2924,292.402 {115},Y_3600,ppm, .0003,.0003,116.0, .0000, .0005
W_2397,239.709 {140},Y_2243,ppm, .0137,.0073,53.03, .0189, .0086
Zn2062,206.200 {463},In2306,ppm, .0095,.0000,.2349, .0096, .0095

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 219.11,.41421,.18904,219.40,218.82
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In2306,230.606 {446},Cts/S, 12469.,18.847,.15115,12482.,12456.
Y_2243,224.306 {450},Cts/S, 20731.,8.5428,.04121,20725.,20737.
Y_3600,360.073 { 94},Cts/S, 173770.,443.80,.25540,174080.,173450.
Y_3710,371.030 { 91},Cts/S, 11696.,178.82,1.5289,11569.,11822.

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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2889,.0006,.2151, .2885, .2893
Al3082,308.215 {109},In2306,ppm, 9.933,.0454,.4571, 9.901, 9.965
As1890,189.042 {478},Y_2243,ppm, .9902,.0107,1.083, .9978, .9826
B_2496,249.678 {135},Y_3710,ppm, .6257,.0008,.1357, .6263, .6251
Ba4554,455.403 { 74},Y_3710,ppm, 1.034,.0017,.1664, 1.036, 1.033
Be3130,313.042 {108},Y_3710,ppm, .9677,.0026,.2648, .9659, .9695
Ca3158,315.887 {107},In2306,ppm, 42.65,.0702,.1646, 42.70, 42.60
Cd2288,228.802 {447},Y_2243,ppm, 1.011,.0095,.9352, 1.018, 1.004
Co2286,228.616 {447},In2306,ppm, .9645,.0115,1.191, .9726, .9564
Cr2677,267.716 {126},Y_3600,ppm, .9797,.0055,.5569, .9758, .9835
Cu3247,324.754 {104},Y_3600,ppm, .9879,.0051,.5145, .9843, .9915
Fe2404,240.488 {140},In2306,ppm, 9.977,.0080,.0797, 9.971, 9.982
K_7664,766.490 { 44},Y_3710,ppm, 12.73,.0627,.4924, 12.78, 12.69
Li6707,670.784 { 50},Y_3710,ppm, .9765,.0032,.3295, .9787, .9742
Mg2790,279.079 {121},Y_3710,ppm, 12.89,.0362,.2807, 12.86, 12.92
Mn2576,257.610 {131},Y_3600,ppm, .9887,.0031,.3163, .9865, .9909
Mo2020,202.030 {467},Y_2243,ppm, 1.029,.0100,.9745, 1.036, 1.022
Na5895,589.592 { 57},Y_3710,ppm, 15.26,.0725,.4750, 15.32, 15.21
Ni2316,231.604 {445},In2306,ppm, .9737,.0099,1.020, .9807, .9667
P_1782,178.284 {489},In2306,ppm, 5.069,.0420,.8285, 5.098, 5.039
Pb2203,220.353 {453},In2306,ppm, .9708,.0088,.9027, .9770, .9646
S_1820,182.034 {485},Y_2243,ppm, 13.44,.1140,.8487, 13.52, 13.35
Sb2068,206.833 {463},Y_2243,ppm, 1.591,.0155,.9746, 1.602, 1.580
Se1960,196.090 {472},Y_2243,ppm, .9824,.0068,.6945, .9872, .9775
Si2516,251.611 {134},Y_3710,ppm, 14.12,.0705,.4992, 14.17, 14.07
Sn1899,189.989 {477},In2306,ppm, .9599,.0102,1.058, .9671, .9527
Sr4215,421.552 { 80},Y_3710,ppm, 1.136,.0038,.3314, 1.139, 1.134
Ti3349,334.904 {101},Y_3600,ppm, .9855,.0040,.4039, .9827, .9884
Tl1908,190.856 {477},In2306,ppm, 1.005,.0128,1.278, 1.014, .9955
U_3670,367.007 { 92},Y_3600,ppm, .5432,.0110,2.016, .5355, .5510
V_2924,292.402 {115},Y_3600,ppm, .9966,.0048,.4804, .9932, 1.000
W_2397,239.709 {140},Y_2243,ppm, .3835,.0519,13.53, .4202, .3468
Zn2062,206.200 {463},In2306,ppm, .4997,.0058,1.170, .5038, .4955

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 236.14,2.4760,1.0485,234.39,237.89
In2306,230.606 {446},Cts/S, 14580.,87.472,.59993,14519.,14642.
Y_2243,224.306 {450},Cts/S, 23226.,116.57,.50188,23144.,23308.
Y_3600,360.073 { 94},Cts/S, 192440.,265.47,.13795,192620.,192250.
Y_3710,371.030 { 91},Cts/S, 12481.,136.10,1.0904,12385.,12578.

[Sample Header]
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Custom ID3=
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Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0000,.0002,3407., .0002, -.0001
Al3082,308.215 {109},In2306,ppm, .0303,.0017,5.613, .0315, .0291
As1890,189.042 {478},Y_2243,ppm, .0027,.0005,18.40, .0031, .0024
B_2496,249.678 {135},Y_3710,ppm, .0306,.0016,5.385, .0317, .0294
Ba4554,455.403 { 74},Y_3710,ppm, .0118,.0001,.5002, .0117, .0118
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,32.04, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, 6.717,.0281,.4178, 6.737, 6.697
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0000,17.19, -.0000, -.0000
Co2286,228.616 {447},In2306,ppm, -.0000,.0000,156.3, -.0001, .0000
Cr2677,267.716 {126},Y_3600,ppm, .0004,.0002,51.41, .0005, .0003
Cu3247,324.754 {104},Y_3600,ppm, .0014,.0003,23.19, .0016, .0011
Fe2404,240.488 {140},In2306,ppm, .0191,.0061,32.02, .0234, .0147
K_7664,766.490 { 44},Y_3710,ppm, .5870,.0030,.5114, .5849, .5891
Li6707,670.784 { 50},Y_3710,ppm, -.0001,.0007,664.2, .0004, -.0006
Mg2790,279.079 {121},Y_3710,ppm, .6745,.0157,2.325, .6856, .6634
Mn2576,257.610 {131},Y_3600,ppm, .0002,.0001,33.05, .0002, .0001
Mo2020,202.030 {467},Y_2243,ppm, .0029,.0001,3.738, .0029, .0028
Na5895,589.592 { 57},Y_3710,ppm, 1.162,.0079,.6767, 1.157, 1.168
Ni2316,231.604 {445},In2306,ppm, .0002,.0001,81.66, .0001, .0002
P_1782,178.284 {489},In2306,ppm, .0176,.0013,7.121, .0185, .0167
Pb2203,220.353 {453},In2306,ppm, .0002,.0001,87.19, .0001, .0003
S_1820,182.034 {485},Y_2243,ppm, 1.722,.0009,.0531, 1.722, 1.721
Sb2068,206.833 {463},Y_2243,ppm, .0023,.0007,29.06, .0018, .0028
Se1960,196.090 {472},Y_2243,ppm, .0009,.0024,275.8, -.0008, .0026
Si2516,251.611 {134},Y_3710,ppm, 1.109,.0112,1.007, 1.117, 1.101
Sn1899,189.989 {477},In2306,ppm, .0000,.0001,2081., .0001, -.0001
Sr4215,421.552 { 80},Y_3710,ppm, .0327,.0000,.0251, .0327, .0327
Ti3349,334.904 {101},Y_3600,ppm, .0006,.0001,21.23, .0007, .0005
Tl1908,190.856 {477},In2306,ppm, .0088,.0015,17.29, .0077, .0098
U_3670,367.007 { 92},Y_3600,ppm, .0511,.0544,106.5, .0895, .0126
V_2924,292.402 {115},Y_3600,ppm, .0016,.0005,30.11, .0019, .0012
W_2397,239.709 {140},Y_2243,ppm, -.0077,.0151,196.1, .0030, -.0184
Zn2062,206.200 {463},In2306,ppm, .0005,.0001,12.78, .0005, .0006

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 242.84,.69467,.28606,242.35,243.33
In2306,230.606 {446},Cts/S, 16085.,21.743,.13517,16070.,16100.
Y_2243,224.306 {450},Cts/S, 24102.,35.879,.14886,24077.,24128.
Y_3600,360.073 { 94},Cts/S, 199200.,41.174,.02067,199170.,199230.
Y_3710,371.030 { 91},Cts/S, 12427.,75.860,.61043,12481.,12374.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .5803,.0002,.0364, .5804, .5801
Al3082,308.215 {109},In2306,ppm, 19.79,.0468,.2366, 19.82, 19.75
As1890,189.042 {478},Y_2243,ppm, 1.001,.0003,.0315, 1.001, 1.001
B_2496,249.678 {135},Y_3710,ppm, .9775,.0099,1.016, .9705, .9846
Ba4554,455.403 { 74},Y_3710,ppm, 1.003,.0026,.2615, 1.002, 1.005
Be3130,313.042 {108},Y_3710,ppm, .9882,.0025,.2573, .9864, .9900
Ca3158,315.887 {107},In2306,ppm, 19.94,.0029,.0147, 19.94, 19.94
Cd2288,228.802 {447},Y_2243,ppm, 1.020,.0024,.2338, 1.021, 1.018
Co2286,228.616 {447},In2306,ppm, .9915,.0050,.5067, .9950, .9879
Cr2677,267.716 {126},Y_3600,ppm, 1.008,.0009,.0853, 1.009, 1.008
Cu3247,324.754 {104},Y_3600,ppm, .9983,.0011,.1064, .9975, .9990
Fe2404,240.488 {140},In2306,ppm, 20.01,.0098,.0489, 20.01, 20.02
K_7664,766.490 { 44},Y_3710,ppm, 19.69,.0265,.1345, 19.67, 19.71
Li6707,670.784 { 50},Y_3710,ppm, .9904,.0018,.1845, .9891, .9917
Mg2790,279.079 {121},Y_3710,ppm, 19.82,.0320,.1614, 19.80, 19.85
Mn2576,257.610 {131},Y_3600,ppm, 1.019,.0011,.1124, 1.019, 1.018
Mo2020,202.030 {467},Y_2243,ppm, 1.032,.0045,.4391, 1.035, 1.029
Na5895,589.592 { 57},Y_3710,ppm, 19.74,.0401,.2033, 19.71, 19.77
Ni2316,231.604 {445},In2306,ppm, 1.001,.0034,.3443, 1.004, .9990
P_1782,178.284 {489},In2306,ppm, 9.923,.0655,.6598, 9.969, 9.876
Pb2203,220.353 {453},In2306,ppm, .9990,.0040,.4034, 1.002, .9961
S_1820,182.034 {485},Y_2243,ppm, 10.46,.0363,.3472, 10.49, 10.44
Sb2068,206.833 {463},Y_2243,ppm, 2.130,.0070,.3289, 2.135, 2.125
Se1960,196.090 {472},Y_2243,ppm, 1.005,.0008,.0763, 1.006, 1.005
Si2516,251.611 {134},Y_3710,ppm, 9.523,.0562,.5905, 9.484, 9.563
Sn1899,189.989 {477},In2306,ppm, .9914,.0050,.5019, .9949, .9879
Sr4215,421.552 { 80},Y_3710,ppm, 1.007,.0025,.2525, 1.005, 1.008
Ti3349,334.904 {101},Y_3600,ppm, 1.010,.0011,.1103, 1.011, 1.010
Tl1908,190.856 {477},In2306,ppm, .9887,.0071,.7206, .9937, .9836
U_3670,367.007 { 92},Y_3600,ppm, .9662,.0961,9.944, .8982, 1.034
V_2924,292.402 {115},Y_3600,ppm, 1.021,.0013,.1255, 1.022, 1.020
W_2397,239.709 {140},Y_2243,ppm, .9139,.0503,5.507, .9495, .8783
Zn2062,206.200 {463},In2306,ppm, 1.007,.0047,.4687, 1.011, 1.004

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 233.59,1.2797,.54785,232.68,234.49
In2306,230.606 {446},Cts/S, 14627.,21.726,.14853,14611.,14642.
Y_2243,224.306 {450},Cts/S, 23561.,.07049,.00030,23561.,23561.
Y_3600,360.073 { 94},Cts/S, 192810.,656.19,.34033,192340.,193270.
Y_3710,371.030 { 91},Cts/S, 12326.,1.6613,.01348,12325.,12327.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0105,.0004,3.353, .0107, .0102
Al3082,308.215 {109},In2306,ppm, .1897,.0346,18.25, .1652, .2142
As1890,189.042 {478},Y_2243,ppm, .0211,.0005,2.486, .0215, .0207
B_2496,249.678 {135},Y_3710,ppm, .0893,.0036,3.996, .0918, .0868
Ba4554,455.403 { 74},Y_3710,ppm, .0218,.0000,.0871, .0218, .0218
Be3130,313.042 {108},Y_3710,ppm, .0112,.0000,.1657, .0112, .0111
Ca3158,315.887 {107},In2306,ppm, 1.006,.0100,.9942, 1.014, .9994
Cd2288,228.802 {447},Y_2243,ppm, .0111,.0000,.0558, .0111, .0111
Co2286,228.616 {447},In2306,ppm, .0104,.0001,.9900, .0105, .0104
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Cr2677,267.716 {126},Y_3600,ppm, .0113,.0003,2.436, .0115, .0111
Cu3247,324.754 {104},Y_3600,ppm, .0114,.0003,2.257, .0112, .0116
Fe2404,240.488 {140},In2306,ppm, .2154,.0059,2.762, .2196, .2111
K_7664,766.490 { 44},Y_3710,ppm, 1.024,.0129,1.257, 1.033, 1.015
Li6707,670.784 { 50},Y_3710,ppm, .0114,.0005,4.225, .0111, .0117
Mg2790,279.079 {121},Y_3710,ppm, 1.066,.0078,.7340, 1.061, 1.072
Mn2576,257.610 {131},Y_3600,ppm, .0115,.0001,1.300, .0116, .0114
Mo2020,202.030 {467},Y_2243,ppm, .0159,.0002,1.544, .0160, .0157
Na5895,589.592 { 57},Y_3710,ppm, 1.074,.0055,.5104, 1.070, 1.077
Ni2316,231.604 {445},In2306,ppm, .0107,.0001,1.251, .0108, .0106
P_1782,178.284 {489},In2306,ppm, .9430,.0031,.3236, .9451, .9408
Pb2203,220.353 {453},In2306,ppm, .0114,.0001,1.138, .0113, .0115
S_1820,182.034 {485},Y_2243,ppm, .5547,.0037,.6756, .5573, .5520
Sb2068,206.833 {463},Y_2243,ppm, .0557,.0022,3.945, .0573, .0542
Se1960,196.090 {472},Y_2243,ppm, .0212,.0011,5.003, .0220, .0205
Si2516,251.611 {134},Y_3710,ppm, .1946,.0030,1.545, .1967, .1924
Sn1899,189.989 {477},In2306,ppm, .0211,.0001,.5192, .0212, .0211
Sr4215,421.552 { 80},Y_3710,ppm, .0110,.0002,1.601, .0109, .0111
Ti3349,334.904 {101},Y_3600,ppm, .0115,.0002,1.483, .0116, .0114
Tl1908,190.856 {477},In2306,ppm, .0326,.0002,.7340, .0328, .0324
U_3670,367.007 { 92},Y_3600,ppm, .1224,.0586,47.88, .1639, .0810
V_2924,292.402 {115},Y_3600,ppm, .0110,.0002,1.781, .0112, .0109
W_2397,239.709 {140},Y_2243,ppm, .0417,.0463,111.2, .0744, .0089
Zn2062,206.200 {463},In2306,ppm, .0183,.0001,.3714, .0183, .0184

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 242.12,2.8474,1.1760,240.11,244.13
In2306,230.606 {446},Cts/S, 16175.,1.2385,.00766,16174.,16175.
Y_2243,224.306 {450},Cts/S, 24263.,16.799,.06924,24275.,24251.
Y_3600,360.073 { 94},Cts/S, 199970.,563.08,.28158,199570.,200370.
Y_3710,371.030 { 91},Cts/S, 12294.,58.349,.47460,12253.,12336.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0013,.0001,9.839, .0012, .0013
Al3082,308.215 {109},In2306,ppm, .0029,.0077,261.9, .0084, -.0025
As1890,189.042 {478},Y_2243,ppm, -.0005,.0002,40.22, -.0007, -.0004
B_2496,249.678 {135},Y_3710,ppm, -.0008,.0059,723.6, -.0050, .0034
Ba4554,455.403 { 74},Y_3710,ppm, -.0003,.0000,11.71, -.0003, -.0003
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,607.5, -.0001, .0001
Ca3158,315.887 {107},In2306,ppm, -.0174,.0062,35.85, -.0130, -.0218
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0001,265.1, -.0001, .0000
Co2286,228.616 {447},In2306,ppm, -.0003,.0001,28.89, -.0002, -.0003
Cr2677,267.716 {126},Y_3600,ppm, -.0001,.0002,235.6, -.0002, .0001
Cu3247,324.754 {104},Y_3600,ppm, .0002,.0000,9.292, .0002, .0002
Fe2404,240.488 {140},In2306,ppm, .0044,.0075,169.9, -.0009, .0097
K_7664,766.490 { 44},Y_3710,ppm, -.0043,.0306,717.8, -.0259, .0174
Li6707,670.784 { 50},Y_3710,ppm, -.0008,.0000,6.003, -.0008, -.0007
Mg2790,279.079 {121},Y_3710,ppm, .0092,.0050,54.86, .0056, .0127
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,41.76, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, -.0004,.0002,49.71, -.0002, -.0005
Na5895,589.592 { 57},Y_3710,ppm, .0145,.0036,24.73, .0170, .0120
Ni2316,231.604 {445},In2306,ppm, .0001,.0001,189.8, .0001, -.0000
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P_1782,178.284 {489},In2306,ppm, -.0004,.0022,587.7, -.0019, .0012
Pb2203,220.353 {453},In2306,ppm, .0004,.0005,125.1, .0000, .0007
S_1820,182.034 {485},Y_2243,ppm, .0518,.0026,4.922, .0500, .0536
Sb2068,206.833 {463},Y_2243,ppm, .0002,.0007,300.2, .0008, -.0003
Se1960,196.090 {472},Y_2243,ppm, .0009,.0027,303.5, -.0010, .0028
Si2516,251.611 {134},Y_3710,ppm, -.0001,.0063,4624., -.0046, .0043
Sn1899,189.989 {477},In2306,ppm, -.0003,.0002,74.93, -.0001, -.0004
Sr4215,421.552 { 80},Y_3710,ppm, .0001,.0001,82.28, .0000, .0002
Ti3349,334.904 {101},Y_3600,ppm, -.0001,.0001,118.2, -.0002, -.0000
Tl1908,190.856 {477},In2306,ppm, .0118,.0012,10.14, .0127, .0110
U_3670,367.007 { 92},Y_3600,ppm, -.0123,.0631,512.6, -.0570, .0323
V_2924,292.402 {115},Y_3600,ppm, .0000,.0000,126.4, .0001, .0000
W_2397,239.709 {140},Y_2243,ppm, -.0316,.0031,9.687, -.0295, -.0338
Zn2062,206.200 {463},In2306,ppm, -.0015,.0000,.4366, -.0014, -.0015

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 241.45,2.6030,1.0781,239.61,243.29
In2306,230.606 {446},Cts/S, 16342.,5.4533,.03337,16338.,16346.
Y_2243,224.306 {450},Cts/S, 24203.,27.109,.11201,24184.,24223.
Y_3600,360.073 { 94},Cts/S, 200040.,782.99,.39142,200590.,199490.
Y_3710,371.030 { 91},Cts/S, 12196.,13.379,.10970,12187.,12206.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0008,.0002,28.37, .0006, .0009
Al3082,308.215 {109},In2306,ppm, 541.8,3.165,.5842, 539.6, 544.0
As1890,189.042 {478},Y_2243,ppm, -.0157,.0037,23.79, -.0131, -.0184
B_2496,249.678 {135},Y_3710,ppm, .0118,.0005,4.294, .0122, .0114
Ba4554,455.403 { 74},Y_3710,ppm, -.0005,.0002,29.89, -.0004, -.0006
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,7.983, .0000, .0000
Ca3158,315.887 {107},In2306,ppm, 506.5,1.079,.2130, 505.8, 507.3
Cd2288,228.802 {447},Y_2243,ppm, .0033,.0001,3.099, .0032, .0034
Co2286,228.616 {447},In2306,ppm, -.0002,.0000,17.12, -.0002, -.0003
Cr2677,267.716 {126},Y_3600,ppm, .0007,.0002,30.41, .0008, .0005
Cu3247,324.754 {104},Y_3600,ppm, -.0019,.0000,2.578, -.0019, -.0020
Fe2404,240.488 {140},In2306,ppm, 199.1,.7934,.3986, 198.5, 199.6
K_7664,766.490 { 44},Y_3710,ppm, .0451,.0250,55.29, .0275, .0628
Li6707,670.784 { 50},Y_3710,ppm, .0081,.0000,.4674, .0082, .0081
Mg2790,279.079 {121},Y_3710,ppm, 511.2,1.924,.3764, 509.9, 512.6
Mn2576,257.610 {131},Y_3600,ppm, -.0041,.0000,.3309, -.0041, -.0041
Mo2020,202.030 {467},Y_2243,ppm, .0005,.0001,26.62, .0004, .0006
Na5895,589.592 { 57},Y_3710,ppm, .1262,.0007,.5275, .1257, .1266
Ni2316,231.604 {445},In2306,ppm, -.0034,.0000,1.123, -.0034, -.0034
P_1782,178.284 {489},In2306,ppm, .0013,.0009,72.89, .0006, .0019
Pb2203,220.353 {453},In2306,ppm, .0052,.0020,39.17, .0037, .0066
S_1820,182.034 {485},Y_2243,ppm,F -.9160,.0162,1.765, -.9046, -.9275
Sb2068,206.833 {463},Y_2243,ppm,F -.0103,.0009,8.579, -.0097, -.0109
Se1960,196.090 {472},Y_2243,ppm, -.0066,.0039,59.09, -.0038, -.0093
Si2516,251.611 {134},Y_3710,ppm, .0140,.0075,53.16, .0088, .0193
Sn1899,189.989 {477},In2306,ppm, -.0000,.0003,1660., -.0002, .0002
Sr4215,421.552 { 80},Y_3710,ppm, .0048,.0002,3.630, .0046, .0049
Ti3349,334.904 {101},Y_3600,ppm, .0030,.0003,10.09, .0028, .0032
Tl1908,190.856 {477},In2306,ppm, -.0130,.0027,20.49, -.0111, -.0148
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U_3670,367.007 { 92},Y_3600,ppm,F 1.373,.1151,8.382, 1.292, 1.454
V_2924,292.402 {115},Y_3600,ppm, -.0036,.0001,3.602, -.0035, -.0037
W_2397,239.709 {140},Y_2243,ppm, .0179,.0140,78.23, .0080, .0279
Zn2062,206.200 {463},In2306,ppm, -.0039,.0001,1.851, -.0039, -.0040

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 207.29,1.9194,.92594,205.93,208.65
In2306,230.606 {446},Cts/S, 11471.,.71938,.00627,11470.,11471.
Y_2243,224.306 {450},Cts/S, 20703.,42.744,.20647,20673.,20733.
Y_3600,360.073 { 94},Cts/S, 168190.,90.193,.05363,168250.,168130.
Y_3710,371.030 { 91},Cts/S, 11580.,85.299,.73664,11519.,11640.

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Repeats=2

[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0001,175.7, .0000, -.0002
Al3082,308.215 {109},In2306,ppm, .0825,.0233,28.26, .0990, .0660
As1890,189.042 {478},Y_2243,ppm, -.0021,.0005,22.57, -.0018, -.0024
B_2496,249.678 {135},Y_3710,ppm, -.0066,.0001,1.388, -.0066, -.0067
Ba4554,455.403 { 74},Y_3710,ppm, -.0003,.0001,28.49, -.0003, -.0002
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0001,118.8, -.0000, -.0002
Ca3158,315.887 {107},In2306,ppm, .0520,.0151,29.02, .0626, .0413
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0001,38.17, .0001, .0003
Co2286,228.616 {447},In2306,ppm, .0000,.0001,219.2, -.0000, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0012,.0001,8.727, .0012, .0011
Cu3247,324.754 {104},Y_3600,ppm, .0004,.0004,92.59, .0001, .0007
Fe2404,240.488 {140},In2306,ppm, .0324,.0130,40.04, .0416, .0232
K_7664,766.490 { 44},Y_3710,ppm, .0268,.0171,63.54, .0389, .0148
Li6707,670.784 { 50},Y_3710,ppm, -.0007,.0004,50.20, -.0010, -.0005
Mg2790,279.079 {121},Y_3710,ppm, .0760,.0012,1.633, .0769, .0751
Mn2576,257.610 {131},Y_3600,ppm, .0000,.0000,53.01, .0000, .0001
Mo2020,202.030 {467},Y_2243,ppm, -.0001,.0001,41.20, -.0001, -.0002
Na5895,589.592 { 57},Y_3710,ppm, .0207,.0025,11.99, .0225, .0190
Ni2316,231.604 {445},In2306,ppm, .0004,.0003,56.76, .0003, .0006
P_1782,178.284 {489},In2306,ppm, .0249,.0002,.7967, .0251, .0248
Pb2203,220.353 {453},In2306,ppm, .0014,.0009,64.43, .0020, .0007
S_1820,182.034 {485},Y_2243,ppm, .0475,.0017,3.667, .0488, .0463
Sb2068,206.833 {463},Y_2243,ppm, .0003,.0016,569.7, .0014, -.0008
Se1960,196.090 {472},Y_2243,ppm, .0009,.0019,197.5, -.0004, .0023
Si2516,251.611 {134},Y_3710,ppm, -.0021,.0022,106.5, -.0037, -.0005
Sn1899,189.989 {477},In2306,ppm, .0259,.0000,.0209, .0259, .0259
Sr4215,421.552 { 80},Y_3710,ppm, -.0000,.0001,572.9, -.0001, .0001
Ti3349,334.904 {101},Y_3600,ppm, .0001,.0004,390.6, -.0002, .0003
Tl1908,190.856 {477},In2306,ppm, .0058,.0014,23.76, .0067, .0048
U_3670,367.007 { 92},Y_3600,ppm, -.0383,.0416,108.6, -.0089, -.0678
V_2924,292.402 {115},Y_3600,ppm, .0000,.0000,135.3, .0000, .0001
W_2397,239.709 {140},Y_2243,ppm, -.0072,.0378,526.9, -.0339, .0196
Zn2062,206.200 {463},In2306,ppm, .0075,.0001,1.103, .0075, .0074

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 238.21,1.4040,.58941,239.20,237.22
In2306,230.606 {446},Cts/S, 16347.,2.2614,.01383,16349.,16345.
Y_2243,224.306 {450},Cts/S, 24242.,7.2923,.03008,24247.,24236.
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Y_3600,360.073 { 94},Cts/S, 202230.,70.138,.03468,202280.,202180.
Y_3710,371.030 { 91},Cts/S, 12353.,21.847,.17685,12369.,12338.

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CorrFactor=1.000
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Ag3280,328.068 {103},Y_3600,ppm, .3451,.0005,.1358, .3448, .3454
Al3082,308.215 {109},In2306,ppm, 95.63,2.766,2.892, 93.67, 97.58
As1890,189.042 {478},Y_2243,ppm, 2.822,.0118,.4186, 2.831, 2.814
B_2496,249.678 {135},Y_3710,ppm, 5.339,.0476,.8922, 5.305, 5.372
Ba4554,455.403 { 74},Y_3710,ppm, 2.308,.0194,.8423, 2.294, 2.322
Be3130,313.042 {108},Y_3710,ppm, 1.629,.0101,.6194, 1.622, 1.637
Ca3158,315.887 {107},In2306,ppm, 139.1,3.421,2.460, 136.7, 141.5
Cd2288,228.802 {447},Y_2243,ppm, 1.582,.0010,.0624, 1.581, 1.583
Co2286,228.616 {447},In2306,ppm, 2.598,.0056,.2149, 2.594, 2.601
Cr2677,267.716 {126},Y_3600,ppm, 1.597,.0041,.2542, 1.594, 1.600
Cu3247,324.754 {104},Y_3600,ppm, .9311,.0035,.3775, .9286, .9336
Fe2404,240.488 {140},In2306,ppm, 138.8,3.407,2.454, 136.4, 141.2
K_7664,766.490 { 44},Y_3710,ppm, 95.94,.8943,.9321, 95.31, 96.58
Li6707,670.784 { 50},Y_3710,ppm, 2.384,.0212,.8887, 2.369, 2.399
Mg2790,279.079 {121},Y_3710,ppm, 110.3,.9163,.8304, 109.7, 111.0
Mn2576,257.610 {131},Y_3600,ppm, 10.79,.0050,.0468, 10.80, 10.79
Mo2020,202.030 {467},Y_2243,ppm, 1.777,.0001,.0048, 1.777, 1.777
Na5895,589.592 { 57},Y_3710,ppm, 118.3,1.195,1.010, 117.4, 119.1
Ni2316,231.604 {445},In2306,ppm, 1.090,.0020,.1815, 1.089, 1.092
P_1782,178.284 {489},In2306,ppm, 4.377,.0013,.0287, 4.378, 4.376
Pb2203,220.353 {453},In2306,ppm, 1.373,.0035,.2556, 1.370, 1.375
S_1820,182.034 {485},Y_2243,ppm, 3.193,.0088,.2742, 3.199, 3.187
Sb2068,206.833 {463},Y_2243,ppm, .2961,.0009,.2974, .2955, .2967
Se1960,196.090 {472},Y_2243,ppm, 2.735,.0004,.0133, 2.735, 2.735
Si2516,251.611 {134},Y_3710,ppm, 14.92,.1105,.7409, 14.84, 14.99
Sn1899,189.989 {477},In2306,ppm, 1.628,.0025,.1506, 1.627, 1.630
Sr4215,421.552 { 80},Y_3710,ppm, .8316,.0062,.7493, .8272, .8360
Ti3349,334.904 {101},Y_3600,ppm, 3.738,.0024,.0631, 3.736, 3.740
Tl1908,190.856 {477},In2306,ppm, 2.065,.0171,.8283, 2.053, 2.077
U_3670,367.007 { 92},Y_3600,ppm, 1.499,.0127,.8453, 1.508, 1.490
V_2924,292.402 {115},Y_3600,ppm, .2590,.0005,.1775, .2586, .2593
W_2397,239.709 {140},Y_2243,ppm, -.3420,.0216,6.305, -.3572, -.3267
Zn2062,206.200 {463},In2306,ppm, 4.708,.0149,.3175, 4.697, 4.718

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 221.16,4.9610,2.2432,224.67,217.65
In2306,230.606 {446},Cts/S, 12667.,14.820,.11700,12677.,12656.
Y_2243,224.306 {450},Cts/S, 23122.,3.2186,.01392,23119.,23124.
Y_3600,360.073 { 94},Cts/S, 191310.,201.61,.10538,191170.,191460.
Y_3710,371.030 { 91},Cts/S, 12777.,68.031,.53247,12825.,12728.

[Sample Header]
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Custom ID3=
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0027,.0005,19.43, -.0023, -.0031
Al3082,308.215 {109},In2306,ppm, 25.67,.4352,1.696, 25.36, 25.98
As1890,189.042 {478},Y_2243,ppm, .1508,.0078,5.143, .1563, .1454
B_2496,249.678 {135},Y_3710,ppm, .1631,.0056,3.427, .1671, .1592
Ba4554,455.403 { 74},Y_3710,ppm, .6251,.0012,.1931, .6259, .6242
Be3130,313.042 {108},Y_3710,ppm, .0036,.0001,1.835, .0035, .0036
Ca3158,315.887 {107},In2306,ppm, 4930.,117.5,2.384, 4847., 5014.
Cd2288,228.802 {447},Y_2243,ppm, .0060,.0001,1.408, .0060, .0059
Co2286,228.616 {447},In2306,ppm, .0362,.0014,3.832, .0372, .0352
Cr2677,267.716 {126},Y_3600,ppm, .1309,.0002,.1509, .1307, .1310
Cu3247,324.754 {104},Y_3600,ppm, .2445,.0012,.4919, .2437, .2454
Fe2404,240.488 {140},In2306,ppm, 139.9,2.053,1.468, 138.4, 141.3
K_7664,766.490 { 44},Y_3710,ppm, 9.136,.0414,.4537, 9.165, 9.107
Li6707,670.784 { 50},Y_3710,ppm, .1394,.0001,.1052, .1393, .1395
Mg2790,279.079 {121},Y_3710,ppm, 489.3,1.219,.2491, 488.4, 490.1
Mn2576,257.610 {131},Y_3600,ppm, 3.706,.0124,.3356, 3.697, 3.715
Mo2020,202.030 {467},Y_2243,ppm, .0145,.0006,4.020, .0149, .0141
Na5895,589.592 { 57},Y_3710,ppm, 2.919,.0052,.1796, 2.915, 2.923
Ni2316,231.604 {445},In2306,ppm, .1161,.0051,4.401, .1197, .1125
P_1782,178.284 {489},In2306,ppm, 3.413,.1667,4.884, 3.531, 3.295
Pb2203,220.353 {453},In2306,ppm, .3806,.0152,3.987, .3913, .3698
S_1820,182.034 {485},Y_2243,ppm, 19.22,.8721,4.536, 19.84, 18.61
Sb2068,206.833 {463},Y_2243,ppm, .0024,.0032,135.9, .0047, .0001
Se1960,196.090 {472},Y_2243,ppm, -.0078,.0000,.4353, -.0079, -.0078
Si2516,251.611 {134},Y_3710,ppm, 4.493,.0100,.2217, 4.486, 4.500
Sn1899,189.989 {477},In2306,ppm, .0344,.0016,4.787, .0356, .0332
Sr4215,421.552 { 80},Y_3710,ppm, 2.861,.0029,.0999, 2.863, 2.859
Ti3349,334.904 {101},Y_3600,ppm, .4679,.0008,.1677, .4685, .4674
Tl1908,190.856 {477},In2306,ppm, .0607,.0124,20.37, .0695, .0520
U_3670,367.007 { 92},Y_3600,ppm, 1.722,.0423,2.456, 1.692, 1.752
V_2924,292.402 {115},Y_3600,ppm, .1024,.0007,.6786, .1029, .1019
W_2397,239.709 {140},Y_2243,ppm, .0094,.0183,196.1, -.0036, .0223
Zn2062,206.200 {463},In2306,ppm, 1.410,.0719,5.102, 1.461, 1.359

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 180.73,1.9480,1.0779,182.10,179.35
In2306,230.606 {446},Cts/S, 8762.3,364.68,4.1619,8504.5,9020.2
Y_2243,224.306 {450},Cts/S, 17548.,638.78,3.6403,17096.,17999.
Y_3600,360.073 { 94},Cts/S, 151960.,312.87,.20589,152180.,151740.
Y_3710,371.030 { 91},Cts/S, 11171.,8.6262,.07722,11164.,11177.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0010,.0000,.5773, -.0010, -.0010
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Al3082,308.215 {109},In2306,ppm, 134.9,.8659,.6418, 135.5, 134.3
As1890,189.042 {478},Y_2243,ppm, .6504,.0024,.3704, .6487, .6521
B_2496,249.678 {135},Y_3710,ppm, .1767,.0053,2.998, .1730, .1805
Ba4554,455.403 { 74},Y_3710,ppm, 1.226,.0020,.1653, 1.227, 1.225
Be3130,313.042 {108},Y_3710,ppm, .0121,.0001,.7125, .0122, .0120
Ca3158,315.887 {107},In2306,ppm, 815.2,4.813,.5904, 818.6, 811.8
Cd2288,228.802 {447},Y_2243,ppm, .0145,.0001,.7904, .0145, .0144
Co2286,228.616 {447},In2306,ppm, .1456,.0003,.1974, .1458, .1454
Cr2677,267.716 {126},Y_3600,ppm, .2478,.0010,.3840, .2484, .2471
Cu3247,324.754 {104},Y_3600,ppm, .7943,.0002,.0285, .7941, .7944
Fe2404,240.488 {140},In2306,ppm, 368.1,1.490,.4048, 369.1, 367.0
K_7664,766.490 { 44},Y_3710,ppm, 13.56,.0230,.1699, 13.57, 13.54
Li6707,670.784 { 50},Y_3710,ppm, .1519,.0003,.2085, .1521, .1517
Mg2790,279.079 {121},Y_3710,ppm, 191.7,1.010,.5267, 191.0, 192.5
Mn2576,257.610 {131},Y_3600,ppm, 4.574,.0027,.0588, 4.573, 4.576
Mo2020,202.030 {467},Y_2243,ppm, .0428,.0003,.6818, .0426, .0430
Na5895,589.592 { 57},Y_3710,ppm, 1.357,.0068,.5022, 1.361, 1.352
Ni2316,231.604 {445},In2306,ppm, .3264,.0007,.2293, .3270, .3259
P_1782,178.284 {489},In2306,ppm, 9.425,.0073,.0771, 9.430, 9.420
Pb2203,220.353 {453},In2306,ppm, 1.597,.0056,.3504, 1.593, 1.601
S_1820,182.034 {485},Y_2243,ppm, 13.63,.0012,.0090, 13.63, 13.63
Sb2068,206.833 {463},Y_2243,ppm, .0145,.0013,8.739, .0154, .0136
Se1960,196.090 {472},Y_2243,ppm, .0067,.0002,3.267, .0068, .0065
Si2516,251.611 {134},Y_3710,ppm, 4.051,.0007,.0161, 4.051, 4.051
Sn1899,189.989 {477},In2306,ppm, .0677,.0005,.7977, .0673, .0681
Sr4215,421.552 { 80},Y_3710,ppm, .6258,.0011,.1751, .6266, .6251
Ti3349,334.904 {101},Y_3600,ppm, 1.930,.0024,.1234, 1.932, 1.928
Tl1908,190.856 {477},In2306,ppm, .0270,.0066,24.52, .0316, .0223
U_3670,367.007 { 92},Y_3600,ppm, 2.326,.1688,7.257, 2.446, 2.207
V_2924,292.402 {115},Y_3600,ppm, .3309,.0011,.3366, .3301, .3317
W_2397,239.709 {140},Y_2243,ppm, -.0713,.0362,50.80, -.0457, -.0970
Zn2062,206.200 {463},In2306,ppm, 3.862,.0072,.1857, 3.857, 3.867

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 211.39,.14103,.06671,211.29,211.49
In2306,230.606 {446},Cts/S, 11744.,12.694,.10809,11753.,11735.
Y_2243,224.306 {450},Cts/S, 22093.,6.0621,.02744,22098.,22089.
Y_3600,360.073 { 94},Cts/S, 183020.,324.35,.17722,182790.,183250.
Y_3710,371.030 { 91},Cts/S, 12624.,72.323,.57290,12675.,12573.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0008,.0004,52.35, -.0012, -.0005
Al3082,308.215 {109},In2306,ppm, 112.1,.2959,.2640, 111.9, 112.3
As1890,189.042 {478},Y_2243,ppm, .6036,.0001,.0115, .6035, .6036
B_2496,249.678 {135},Y_3710,ppm, .2082,.0181,8.717, .2210, .1953
Ba4554,455.403 { 74},Y_3710,ppm, 1.309,.0006,.0493, 1.309, 1.310
Be3130,313.042 {108},Y_3710,ppm, .0114,.0001,.5613, .0114, .0115
Ca3158,315.887 {107},In2306,ppm, 1381.,20.38,1.475, 1367., 1396.
Cd2288,228.802 {447},Y_2243,ppm, .0159,.0002,1.441, .0158, .0161
Co2286,228.616 {447},In2306,ppm, .1291,.0006,.4721, .1295, .1286
Cr2677,267.716 {126},Y_3600,ppm, .2601,.0010,.3869, .2608, .2594
Cu3247,324.754 {104},Y_3600,ppm, .7846,.0024,.3073, .7864, .7829
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Fe2404,240.488 {140},In2306,ppm, 397.1,1.336,.3365, 396.1, 398.0
K_7664,766.490 { 44},Y_3710,ppm, 13.11,.0878,.6700, 13.04, 13.17
Li6707,670.784 { 50},Y_3710,ppm, .1387,.0014,1.012, .1397, .1378
Mg2790,279.079 {121},Y_3710,ppm, 279.9,1.863,.6658, 278.6, 281.2
Mn2576,257.610 {131},Y_3600,ppm, 5.751,.0126,.2185, 5.760, 5.742
Mo2020,202.030 {467},Y_2243,ppm, .0537,.0005,.8955, .0534, .0541
Na5895,589.592 { 57},Y_3710,ppm, 2.236,.0040,.1808, 2.239, 2.233
Ni2316,231.604 {445},In2306,ppm, .3148,.0000,.0144, .3148, .3149
P_1782,178.284 {489},In2306,ppm, 9.484,.0254,.2679, 9.502, 9.466
Pb2203,220.353 {453},In2306,ppm, 1.455,.0060,.4132, 1.459, 1.450
S_1820,182.034 {485},Y_2243,ppm, 17.17,.0068,.0399, 17.18, 17.17
Sb2068,206.833 {463},Y_2243,ppm, .0160,.0005,2.924, .0164, .0157
Se1960,196.090 {472},Y_2243,ppm, .0048,.0037,77.55, .0022, .0075
Si2516,251.611 {134},Y_3710,ppm, 6.434,.0140,.2182, 6.424, 6.444
Sn1899,189.989 {477},In2306,ppm, .0748,.0001,.0791, .0748, .0749
Sr4215,421.552 { 80},Y_3710,ppm, .9420,.0005,.0531, .9416, .9423
Ti3349,334.904 {101},Y_3600,ppm, 1.875,.0001,.0052, 1.875, 1.875
Tl1908,190.856 {477},In2306,ppm, .0194,.0042,21.58, .0224, .0165
U_3670,367.007 { 92},Y_3600,ppm, 2.563,.0056,.2182, 2.567, 2.559
V_2924,292.402 {115},Y_3600,ppm, .3151,.0009,.2955, .3158, .3145
W_2397,239.709 {140},Y_2243,ppm, -.0586,.0264,45.09, -.0399, -.0773
Zn2062,206.200 {463},In2306,ppm, 3.515,.0037,.1061, 3.518, 3.512

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 204.61,.53463,.26128,204.99,204.24
In2306,230.606 {446},Cts/S, 10976.,10.458,.09528,10969.,10984.
Y_2243,224.306 {450},Cts/S, 21004.,7.1025,.03382,20999.,21009.
Y_3600,360.073 { 94},Cts/S, 175090.,182.77,.10438,175220.,174960.
Y_3710,371.030 { 91},Cts/S, 12380.,52.119,.42100,12417.,12343.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2821,.0006,.2116, .2817, .2825
Al3082,308.215 {109},In2306,ppm, 225.9,3.623,1.604, 223.4, 228.5
As1890,189.042 {478},Y_2243,ppm, 1.673,.0012,.0713, 1.674, 1.672
B_2496,249.678 {135},Y_3710,ppm, .7004,.0051,.7290, .6968, .7040
Ba4554,455.403 { 74},Y_3710,ppm, 2.300,.0113,.4905, 2.292, 2.308
Be3130,313.042 {108},Y_3710,ppm, .9212,.0041,.4485, .9182, .9241
Ca3158,315.887 {107},In2306,ppm, 774.5,1.382,.1785, 775.4, 773.5
Cd2288,228.802 {447},Y_2243,ppm, .9971,.0011,.1136, .9963, .9979
Co2286,228.616 {447},In2306,ppm, 1.145,.0036,.3111, 1.143, 1.148
Cr2677,267.716 {126},Y_3600,ppm, 1.206,.0023,.1895, 1.208, 1.205
Cu3247,324.754 {104},Y_3600,ppm, 1.795,.0025,.1420, 1.793, 1.797
Fe2404,240.488 {140},In2306,ppm, 423.7,5.872,1.386, 419.6, 427.9
K_7664,766.490 { 44},Y_3710,ppm, 34.21,.0232,.0677, 34.23, 34.19
Li6707,670.784 { 50},Y_3710,ppm, 1.177,.0030,.2534, 1.175, 1.180
Mg2790,279.079 {121},Y_3710,ppm, 205.4,.7924,.3857, 204.9, 206.0
Mn2576,257.610 {131},Y_3600,ppm, 5.823,.0039,.0671, 5.825, 5.820
Mo2020,202.030 {467},Y_2243,ppm, .9531,.0009,.0900, .9525, .9538
Na5895,589.592 { 57},Y_3710,ppm, 11.22,.0332,.2961, 11.20, 11.25
Ni2316,231.604 {445},In2306,ppm, 1.347,.0031,.2273, 1.345, 1.349
P_1782,178.284 {489},In2306,ppm, 14.95,.0546,.3655, 14.91, 14.99
Pb2203,220.353 {453},In2306,ppm, 2.421,.0043,.1757, 2.418, 2.424
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S_1820,182.034 {485},Y_2243,ppm, 16.80,.0377,.2241, 16.83, 16.78
Sb2068,206.833 {463},Y_2243,ppm, .8057,.0007,.0877, .8062, .8052
Se1960,196.090 {472},Y_2243,ppm, .9407,.0080,.8481, .9464, .9351
Si2516,251.611 {134},Y_3710,ppm, 10.74,.0863,.8032, 10.68, 10.80
Sn1899,189.989 {477},In2306,ppm, 1.019,.0006,.0618, 1.018, 1.019
Sr4215,421.552 { 80},Y_3710,ppm, 1.564,.0054,.3430, 1.560, 1.568
Ti3349,334.904 {101},Y_3600,ppm, 3.705,.0033,.0885, 3.702, 3.707
Tl1908,190.856 {477},In2306,ppm, .7770,.0017,.2229, .7782, .7758
U_3670,367.007 { 92},Y_3600,ppm, 3.038,.1121,3.692, 2.958, 3.117
V_2924,292.402 {115},Y_3600,ppm, 1.363,.0017,.1273, 1.362, 1.364
W_2397,239.709 {140},Y_2243,ppm, .2117,.0152,7.204, .2225, .2009
Zn2062,206.200 {463},In2306,ppm, 3.798,.0222,.5856, 3.783, 3.814

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 210.43,2.4754,1.1763,212.18,208.68
In2306,230.606 {446},Cts/S, 11602.,3.2227,.02778,11600.,11604.
Y_2243,224.306 {450},Cts/S, 22112.,35.747,.16166,22087.,22137.
Y_3600,360.073 { 94},Cts/S, 182350.,591.82,.32455,182770.,181930.
Y_3710,371.030 { 91},Cts/S, 12653.,12.461,.09848,12662.,12644.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0034,.0000,.4951, -.0035, -.0034
Al3082,308.215 {109},In2306,ppm, 202.8,2.408,1.188, 204.5, 201.1
As1890,189.042 {478},Y_2243,ppm, .1473,.0007,.4948, .1478, .1468
B_2496,249.678 {135},Y_3710,ppm, .0492,.0012,2.373, .0484, .0501
Ba4554,455.403 { 74},Y_3710,ppm, 1.042,.0023,.2190, 1.043, 1.040
Be3130,313.042 {108},Y_3710,ppm, .0090,.0002,2.062, .0092, .0089
Ca3158,315.887 {107},In2306,ppm, 84.18,.8254,.9805, 84.77, 83.60
Cd2288,228.802 {447},Y_2243,ppm, .0058,.0001,1.326, .0058, .0057
Co2286,228.616 {447},In2306,ppm, .1960,.0008,.4181, .1954, .1965
Cr2677,267.716 {126},Y_3600,ppm, .2074,.0010,.5013, .2066, .2081
Cu3247,324.754 {104},Y_3600,ppm, .2851,.0006,.2091, .2847, .2856
Fe2404,240.488 {140},In2306,ppm, 393.3,4.095,1.041, 396.1, 390.4
K_7664,766.490 { 44},Y_3710,ppm, 13.61,.0205,.1506, 13.62, 13.59
Li6707,670.784 { 50},Y_3710,ppm, .1567,.0009,.6042, .1573, .1560
Mg2790,279.079 {121},Y_3710,ppm, 32.55,.0662,.2034, 32.50, 32.60
Mn2576,257.610 {131},Y_3600,ppm, 6.879,.0254,.3698, 6.861, 6.897
Mo2020,202.030 {467},Y_2243,ppm, .0240,.0003,1.341, .0237, .0242
Na5895,589.592 { 57},Y_3710,ppm, .7089,.0093,1.318, .7155, .7023
Ni2316,231.604 {445},In2306,ppm, .2892,.0012,.4179, .2883, .2900
P_1782,178.284 {489},In2306,ppm, 4.531,.0046,.1026, 4.528, 4.535
Pb2203,220.353 {453},In2306,ppm, .2880,.0010,.3428, .2873, .2887
S_1820,182.034 {485},Y_2243,ppm, .1003,.0271,26.98, .0812, .1194
Sb2068,206.833 {463},Y_2243,ppm, .0037,.0011,29.55, .0045, .0030
Se1960,196.090 {472},Y_2243,ppm, .0048,.0028,58.31, .0028, .0068
Si2516,251.611 {134},Y_3710,ppm, 4.750,.0037,.0777, 4.753, 4.747
Sn1899,189.989 {477},In2306,ppm, .0359,.0006,1.663, .0355, .0364
Sr4215,421.552 { 80},Y_3710,ppm, .1763,.0003,.1611, .1765, .1761
Ti3349,334.904 {101},Y_3600,ppm, 1.888,.0060,.3152, 1.884, 1.892
Tl1908,190.856 {477},In2306,ppm, .0292,.0029,9.887, .0313, .0272
U_3670,367.007 { 92},Y_3600,ppm, 2.145,.0026,.1217, 2.143, 2.147
V_2924,292.402 {115},Y_3600,ppm, .3667,.0023,.6401, .3650, .3683
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W_2397,239.709 {140},Y_2243,ppm, -.0533,.0020,3.731, -.0547, -.0519
Zn2062,206.200 {463},In2306,ppm, .9117,.0018,.2021, .9104, .9130

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 226.96,3.7595,1.6564,224.30,229.62
In2306,230.606 {446},Cts/S, 13525.,62.975,.46562,13480.,13570.
Y_2243,224.306 {450},Cts/S, 24390.,97.624,.40026,24321.,24459.
Y_3600,360.073 { 94},Cts/S, 198060.,216.97,.10955,197900.,198210.
Y_3710,371.030 { 91},Cts/S, 13094.,71.695,.54754,13043.,13145.

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Ag3280,328.068 {103},Y_3600,ppm, -.0032,.0006,18.75, -.0037, -.0028
Al3082,308.215 {109},In2306,ppm, 213.3,.9339,.4378, 214.0, 212.7
As1890,189.042 {478},Y_2243,ppm, .1922,.0005,.2683, .1918, .1926
B_2496,249.678 {135},Y_3710,ppm, .0491,.0012,2.538, .0482, .0500
Ba4554,455.403 { 74},Y_3710,ppm, .7088,.0037,.5232, .7062, .7114
Be3130,313.042 {108},Y_3710,ppm, .0074,.0000,.0536, .0074, .0074
Ca3158,315.887 {107},In2306,ppm, 55.14,.2808,.5093, 55.34, 54.95
Cd2288,228.802 {447},Y_2243,ppm, .0064,.0000,.4439, .0063, .0064
Co2286,228.616 {447},In2306,ppm, .1530,.0001,.0387, .1530, .1531
Cr2677,267.716 {126},Y_3600,ppm, .2279,.0002,.1063, .2281, .2277
Cu3247,324.754 {104},Y_3600,ppm, .3343,.0008,.2327, .3338, .3349
Fe2404,240.488 {140},In2306,ppm, 451.1,1.991,.4413, 452.5, 449.7
K_7664,766.490 { 44},Y_3710,ppm, 13.76,.1074,.7801, 13.69, 13.84
Li6707,670.784 { 50},Y_3710,ppm, .1819,.0009,.4727, .1813, .1825
Mg2790,279.079 {121},Y_3710,ppm, 33.55,.1289,.3841, 33.46, 33.64
Mn2576,257.610 {131},Y_3600,ppm, 4.765,.0511,1.072, 4.729, 4.801
Mo2020,202.030 {467},Y_2243,ppm, .0304,.0001,.3026, .0305, .0304
Na5895,589.592 { 57},Y_3710,ppm, .5838,.0006,.0971, .5842, .5834
Ni2316,231.604 {445},In2306,ppm, .2991,.0012,.4033, .3000, .2983
P_1782,178.284 {489},In2306,ppm, 4.841,.0105,.2174, 4.833, 4.848
Pb2203,220.353 {453},In2306,ppm, .2357,.0010,.4286, .2364, .2350
S_1820,182.034 {485},Y_2243,ppm, -.5735,.0092,1.605, -.5800, -.5670
Sb2068,206.833 {463},Y_2243,ppm, .0008,.0010,121.9, .0015, .0001
Se1960,196.090 {472},Y_2243,ppm, -.0005,.0010,202.1, .0002, -.0011
Si2516,251.611 {134},Y_3710,ppm, 5.864,.0172,.2939, 5.852, 5.876
Sn1899,189.989 {477},In2306,ppm, .0262,.0000,.1432, .0262, .0262
Sr4215,421.552 { 80},Y_3710,ppm, .1754,.0005,.3063, .1751, .1758
Ti3349,334.904 {101},Y_3600,ppm, 1.973,.0033,.1656, 1.971, 1.975
Tl1908,190.856 {477},In2306,ppm, .0147,.0038,25.51, .0174, .0121
U_3670,367.007 { 92},Y_3600,ppm, 2.531,.0002,.0073, 2.531, 2.531
V_2924,292.402 {115},Y_3600,ppm, .3984,.0014,.3500, .3974, .3994
W_2397,239.709 {140},Y_2243,ppm, -.0411,.0319,77.59, -.0186, -.0637
Zn2062,206.200 {463},In2306,ppm, 1.033,.0068,.6614, 1.037, 1.028

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 228.84,2.5923,1.1328,227.01,230.68
In2306,230.606 {446},Cts/S, 13577.,3.7295,.02747,13580.,13575.
Y_2243,224.306 {450},Cts/S, 23468.,25.689,.10946,23486.,23450.
Y_3600,360.073 { 94},Cts/S, 190720.,1227.0,.64334,191590.,189860.
Y_3710,371.030 { 91},Cts/S, 12559.,27.581,.21961,12539.,12578.
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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0023,.0004,18.87, -.0020, -.0026
Al3082,308.215 {109},In2306,ppm, 159.4,.5768,.3620, 158.9, 159.8
As1890,189.042 {478},Y_2243,ppm, .1942,.0027,1.391, .1923, .1961
B_2496,249.678 {135},Y_3710,ppm, .0377,.0011,2.977, .0369, .0385
Ba4554,455.403 { 74},Y_3710,ppm, .7133,.0007,.1004, .7138, .7128
Be3130,313.042 {108},Y_3710,ppm, .0069,.0000,.2212, .0069, .0069
Ca3158,315.887 {107},In2306,ppm, 162.7,.2171,.1334, 162.9, 162.6
Cd2288,228.802 {447},Y_2243,ppm, .0062,.0002,2.434, .0063, .0061
Co2286,228.616 {447},In2306,ppm, .2044,.0002,.0941, .2042, .2045
Cr2677,267.716 {126},Y_3600,ppm, .1715,.0004,.2527, .1712, .1718
Cu3247,324.754 {104},Y_3600,ppm, .3434,.0006,.1798, .3430, .3439
Fe2404,240.488 {140},In2306,ppm, 399.2,.2589,.0649, 399.1, 399.4
K_7664,766.490 { 44},Y_3710,ppm, 10.66,.0149,.1397, 10.68, 10.65
Li6707,670.784 { 50},Y_3710,ppm, .1449,.0002,.1569, .1447, .1450
Mg2790,279.079 {121},Y_3710,ppm, 35.67,.0254,.0712, 35.68, 35.65
Mn2576,257.610 {131},Y_3600,ppm, 7.524,.0235,.3125, 7.541, 7.508
Mo2020,202.030 {467},Y_2243,ppm, .0317,.0002,.7013, .0315, .0318
Na5895,589.592 { 57},Y_3710,ppm, .5127,.0062,1.203, .5084, .5171
Ni2316,231.604 {445},In2306,ppm, .2811,.0007,.2426, .2806, .2816
P_1782,178.284 {489},In2306,ppm, 5.846,.0124,.2128, 5.855, 5.837
Pb2203,220.353 {453},In2306,ppm, .2397,.0005,.2234, .2401, .2393
S_1820,182.034 {485},Y_2243,ppm, .3837,.0072,1.878, .3888, .3786
Sb2068,206.833 {463},Y_2243,ppm, .0044,.0023,52.21, .0028, .0061
Se1960,196.090 {472},Y_2243,ppm, .0019,.0029,150.1, -.0001, .0040
Si2516,251.611 {134},Y_3710,ppm, 3.819,.0143,.3745, 3.809, 3.829
Sn1899,189.989 {477},In2306,ppm, .0247,.0011,4.468, .0255, .0239
Sr4215,421.552 { 80},Y_3710,ppm, .1936,.0011,.5692, .1928, .1944
Ti3349,334.904 {101},Y_3600,ppm, 1.470,.0039,.2626, 1.467, 1.472
Tl1908,190.856 {477},In2306,ppm, .0090,.0022,24.49, .0105, .0074
U_3670,367.007 { 92},Y_3600,ppm, 2.267,.1181,5.212, 2.183, 2.350
V_2924,292.402 {115},Y_3600,ppm, .3130,.0009,.2741, .3124, .3136
W_2397,239.709 {140},Y_2243,ppm, -.0402,.0697,173.2, .0091, -.0895
Zn2062,206.200 {463},In2306,ppm, 1.006,.0017,.1725, 1.007, 1.005

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 227.36,1.3078,.57523,226.44,228.28
In2306,230.606 {446},Cts/S, 13381.,19.168,.14325,13394.,13367.
Y_2243,224.306 {450},Cts/S, 23192.,28.746,.12395,23212.,23172.
Y_3600,360.073 { 94},Cts/S, 190430.,348.35,.18293,190180.,190670.
Y_3710,371.030 { 91},Cts/S, 12572.,101.98,.81115,12500.,12644.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .5773,.0012,.2076, .5781, .5764
Al3082,308.215 {109},In2306,ppm, 19.42,.2096,1.080, 19.56, 19.27
As1890,189.042 {478},Y_2243,ppm, .9980,.0024,.2412, .9997, .9963
B_2496,249.678 {135},Y_3710,ppm, .9656,.0052,.5367, .9619, .9692
Ba4554,455.403 { 74},Y_3710,ppm, .9940,.0023,.2318, .9956, .9924
Be3130,313.042 {108},Y_3710,ppm, .9702,.0029,.3034, .9682, .9723
Ca3158,315.887 {107},In2306,ppm, 19.65,.1165,.5928, 19.73, 19.57
Cd2288,228.802 {447},Y_2243,ppm, 1.015,.0024,.2397, 1.017, 1.013
Co2286,228.616 {447},In2306,ppm, .9832,.0013,.1319, .9842, .9823
Cr2677,267.716 {126},Y_3600,ppm, 1.004,.0047,.4713, 1.007, 1.001
Cu3247,324.754 {104},Y_3600,ppm, .9944,.0053,.5314, .9982, .9907
Fe2404,240.488 {140},In2306,ppm, 19.85,.1281,.6453, 19.94, 19.76
K_7664,766.490 { 44},Y_3710,ppm, 19.64,.1029,.5242, 19.71, 19.57
Li6707,670.784 { 50},Y_3710,ppm, .9832,.0057,.5787, .9873, .9792
Mg2790,279.079 {121},Y_3710,ppm, 19.47,.2444,1.255, 19.30, 19.65
Mn2576,257.610 {131},Y_3600,ppm, 1.011,.0017,.1656, 1.013, 1.010
Mo2020,202.030 {467},Y_2243,ppm, 1.025,.0007,.0706, 1.025, 1.024
Na5895,589.592 { 57},Y_3710,ppm, 19.57,.0243,.1243, 19.59, 19.56
Ni2316,231.604 {445},In2306,ppm, .9882,.0020,.2022, .9896, .9868
P_1782,178.284 {489},In2306,ppm, 9.809,.0152,.1549, 9.820, 9.799
Pb2203,220.353 {453},In2306,ppm, .9875,.0004,.0445, .9871, .9878
S_1820,182.034 {485},Y_2243,ppm, 10.36,.0395,.3808, 10.39, 10.33
Sb2068,206.833 {463},Y_2243,ppm, 2.112,.0039,.1832, 2.115, 2.109
Se1960,196.090 {472},Y_2243,ppm, 1.001,.0002,.0240, 1.000, 1.001
Si2516,251.611 {134},Y_3710,ppm, 9.500,.0934,.9833, 9.434, 9.566
Sn1899,189.989 {477},In2306,ppm, .9814,.0024,.2439, .9831, .9797
Sr4215,421.552 { 80},Y_3710,ppm, .9998,.0015,.1521, 1.001, .9987
Ti3349,334.904 {101},Y_3600,ppm, 1.005,.0019,.1928, 1.007, 1.004
Tl1908,190.856 {477},In2306,ppm, .9736,.0003,.0279, .9738, .9734
U_3670,367.007 { 92},Y_3600,ppm, .9969,.0061,.6118, .9925, 1.001
V_2924,292.402 {115},Y_3600,ppm, 1.018,.0025,.2435, 1.020, 1.016
W_2397,239.709 {140},Y_2243,ppm, .8922,.0195,2.187, .9060, .8784
Zn2062,206.200 {463},In2306,ppm, .9947,.0022,.2222, .9962, .9931

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 234.61,3.3174,1.4140,232.27,236.96
In2306,230.606 {446},Cts/S, 14775.,53.629,.36298,14737.,14813.
Y_2243,224.306 {450},Cts/S, 23729.,82.630,.34823,23670.,23787.
Y_3600,360.073 { 94},Cts/S, 194020.,1431.4,.73777,193010.,195030.
Y_3710,371.030 { 91},Cts/S, 12300.,30.198,.24552,12278.,12321.

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Al3082,308.215 {109},In2306,ppm, .2034,.0298,14.68, .2245, .1823
As1890,189.042 {478},Y_2243,ppm, .0226,.0017,7.315, .0215, .0238
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B_2496,249.678 {135},Y_3710,ppm, .0902,.0005,.5088, .0905, .0899
Ba4554,455.403 { 74},Y_3710,ppm, .0215,.0003,1.248, .0213, .0217
Be3130,313.042 {108},Y_3710,ppm, .0110,.0001,1.020, .0110, .0109
Ca3158,315.887 {107},In2306,ppm, 1.016,.0160,1.575, 1.028, 1.005
Cd2288,228.802 {447},Y_2243,ppm, .0111,.0001,.8888, .0112, .0111
Co2286,228.616 {447},In2306,ppm, .0103,.0002,1.918, .0101, .0104
Cr2677,267.716 {126},Y_3600,ppm, .0110,.0002,1.865, .0111, .0108
Cu3247,324.754 {104},Y_3600,ppm, .0114,.0001,.5441, .0114, .0113
Fe2404,240.488 {140},In2306,ppm, .2302,.0133,5.769, .2208, .2395
K_7664,766.490 { 44},Y_3710,ppm, .9981,.0194,1.946, 1.012, .9844
Li6707,670.784 { 50},Y_3710,ppm, .0116,.0009,8.040, .0109, .0122
Mg2790,279.079 {121},Y_3710,ppm, 1.040,.0250,2.403, 1.022, 1.058
Mn2576,257.610 {131},Y_3600,ppm, .0115,.0000,.0662, .0115, .0115
Mo2020,202.030 {467},Y_2243,ppm, .0154,.0002,1.386, .0153, .0156
Na5895,589.592 { 57},Y_3710,ppm, 1.040,.0008,.0804, 1.041, 1.040
Ni2316,231.604 {445},In2306,ppm, .0104,.0000,.3540, .0104, .0104
P_1782,178.284 {489},In2306,ppm, .9293,.0025,.2669, .9311, .9276
Pb2203,220.353 {453},In2306,ppm, .0117,.0013,11.42, .0126, .0107
S_1820,182.034 {485},Y_2243,ppm, .5311,.0047,.8920, .5278, .5345
Sb2068,206.833 {463},Y_2243,ppm, .0551,.0008,1.363, .0556, .0546
Se1960,196.090 {472},Y_2243,ppm, .0228,.0015,6.770, .0217, .0239
Si2516,251.611 {134},Y_3710,ppm, .1952,.0033,1.713, .1928, .1975
Sn1899,189.989 {477},In2306,ppm, .0202,.0002,1.230, .0204, .0200
Sr4215,421.552 { 80},Y_3710,ppm, .0112,.0000,.3397, .0112, .0112
Ti3349,334.904 {101},Y_3600,ppm, .0111,.0002,1.501, .0109, .0112
Tl1908,190.856 {477},In2306,ppm, .0343,.0027,7.848, .0362, .0324
U_3670,367.007 { 92},Y_3600,ppm, .1691,.0275,16.27, .1885, .1496
V_2924,292.402 {115},Y_3600,ppm, .0109,.0003,2.509, .0111, .0107
W_2397,239.709 {140},Y_2243,ppm, .0783,.0218,27.81, .0938, .0629
Zn2062,206.200 {463},In2306,ppm, .0181,.0000,.2112, .0181, .0181

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 242.70,4.1170,1.6963,239.79,245.61
In2306,230.606 {446},Cts/S, 16280.,45.647,.28039,16247.,16312.
Y_2243,224.306 {450},Cts/S, 24204.,45.173,.18663,24172.,24236.
Y_3600,360.073 { 94},Cts/S, 201320.,465.52,.23124,201650.,200990.
Y_3710,371.030 { 91},Cts/S, 12459.,85.666,.68759,12398.,12519.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0011,.0000,2.287, .0012, .0011
Al3082,308.215 {109},In2306,ppm, .0025,.0083,336.5, -.0034, .0083
As1890,189.042 {478},Y_2243,ppm, .0002,.0001,45.36, .0003, .0002
B_2496,249.678 {135},Y_3710,ppm, .0012,.0012,100.9, .0003, .0020
Ba4554,455.403 { 74},Y_3710,ppm, -.0004,.0002,41.48, -.0003, -.0005
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,647.0, .0000, -.0001
Ca3158,315.887 {107},In2306,ppm, -.0107,.0022,20.69, -.0091, -.0122
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0001,70.33, -.0001, -.0000
Co2286,228.616 {447},In2306,ppm, -.0002,.0003,159.4, .0000, -.0003
Cr2677,267.716 {126},Y_3600,ppm, .0002,.0001,32.25, .0002, .0001
Cu3247,324.754 {104},Y_3600,ppm, .0001,.0001,102.2, .0000, .0002
Fe2404,240.488 {140},In2306,ppm, .0111,.0000,.1710, .0110, .0111
K_7664,766.490 { 44},Y_3710,ppm, -.0408,.0011,2.747, -.0400, -.0416
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Li6707,670.784 { 50},Y_3710,ppm, -.0006,.0002,41.77, -.0007, -.0004
Mg2790,279.079 {121},Y_3710,ppm, -.0065,.0086,132.4, -.0004, -.0126
Mn2576,257.610 {131},Y_3600,ppm, .0001,.0000,20.38, .0001, .0001
Mo2020,202.030 {467},Y_2243,ppm, -.0003,.0001,30.41, -.0004, -.0002
Na5895,589.592 { 57},Y_3710,ppm, -.0127,.0105,82.66, -.0202, -.0053
Ni2316,231.604 {445},In2306,ppm, .0002,.0003,152.4, .0004, -.0000
P_1782,178.284 {489},In2306,ppm, -.0005,.0002,45.05, -.0007, -.0004
Pb2203,220.353 {453},In2306,ppm, .0005,.0002,33.52, .0006, .0004
S_1820,182.034 {485},Y_2243,ppm, .0224,.0034,15.25, .0199, .0248
Sb2068,206.833 {463},Y_2243,ppm, .0013,.0015,115.1, .0024, .0002
Se1960,196.090 {472},Y_2243,ppm, .0021,.0033,155.8, -.0002, .0044
Si2516,251.611 {134},Y_3710,ppm, .0031,.0011,37.25, .0023, .0039
Sn1899,189.989 {477},In2306,ppm, .0004,.0001,25.94, .0005, .0003
Sr4215,421.552 { 80},Y_3710,ppm, -.0002,.0002,90.33, -.0001, -.0003
Ti3349,334.904 {101},Y_3600,ppm, -.0003,.0006,214.2, -.0007, .0001
Tl1908,190.856 {477},In2306,ppm, .0086,.0021,23.89, .0101, .0072
U_3670,367.007 { 92},Y_3600,ppm, .0474,.0690,145.6, .0962, -.0014
V_2924,292.402 {115},Y_3600,ppm, .0000,.0001,127.6, .0001, .0000
W_2397,239.709 {140},Y_2243,ppm, .0044,.0002,5.376, .0046, .0043
Zn2062,206.200 {463},In2306,ppm, -.0013,.0000,3.147, -.0013, -.0013

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 242.78,.97727,.40254,242.08,243.47
In2306,230.606 {446},Cts/S, 16482.,39.569,.24008,16510.,16454.
Y_2243,224.306 {450},Cts/S, 24220.,103.01,.42531,24293.,24147.
Y_3600,360.073 { 94},Cts/S, 201420.,1160.8,.57629,200600.,202240.
Y_3710,371.030 { 91},Cts/S, 12421.,124.52,1.0025,12333.,12509.

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Ag3280,328.068 {103},Y_3600,ppm, -.0016,.0003,17.06, -.0018, -.0014
Al3082,308.215 {109},In2306,ppm, 58.30,.0028,.0048, 58.29, 58.30
As1890,189.042 {478},Y_2243,ppm, .1132,.0004,.3451, .1135, .1130
B_2496,249.678 {135},Y_3710,ppm, .0537,.0021,3.831, .0552, .0523
Ba4554,455.403 { 74},Y_3710,ppm, .2807,.0001,.0447, .2806, .2808
Be3130,313.042 {108},Y_3710,ppm, .0038,.0000,.8100, .0038, .0038
Ca3158,315.887 {107},In2306,ppm, 2123.,10.84,.5108, 2115., 2130.
Cd2288,228.802 {447},Y_2243,ppm, .0043,.0001,2.707, .0042, .0044
Co2286,228.616 {447},In2306,ppm, .1077,.0002,.1998, .1076, .1079
Cr2677,267.716 {126},Y_3600,ppm, .0925,.0008,.9055, .0920, .0931
Cu3247,324.754 {104},Y_3600,ppm, .1745,.0020,1.147, .1730, .1759
Fe2404,240.488 {140},In2306,ppm, 189.6,.6645,.3506, 189.1, 190.0
K_7664,766.490 { 44},Y_3710,ppm, 6.516,.0172,.2640, 6.504, 6.528
Li6707,670.784 { 50},Y_3710,ppm, .0919,.0011,1.169, .0926, .0911
Mg2790,279.079 {121},Y_3710,ppm, 106.5,.3584,.3365, 106.3, 106.8
Mn2576,257.610 {131},Y_3600,ppm, 4.563,.0475,1.040, 4.530, 4.597
Mo2020,202.030 {467},Y_2243,ppm, .0228,.0002,1.069, .0226, .0230
Na5895,589.592 { 57},Y_3710,ppm, 1.053,.0096,.9107, 1.060, 1.046
Ni2316,231.604 {445},In2306,ppm, .1919,.0003,.1591, .1917, .1921
P_1782,178.284 {489},In2306,ppm, 3.571,.0018,.0496, 3.570, 3.573
Pb2203,220.353 {453},In2306,ppm, .1770,.0015,.8303, .1780, .1759
S_1820,182.034 {485},Y_2243,ppm, 3.857,.0085,.2205, 3.863, 3.851
Sb2068,206.833 {463},Y_2243,ppm, .0073,.0026,35.12, .0092, .0055
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Se1960,196.090 {472},Y_2243,ppm, -.0012,.0009,76.45, -.0005, -.0018
Si2516,251.611 {134},Y_3710,ppm, 2.515,.0340,1.352, 2.539, 2.491
Sn1899,189.989 {477},In2306,ppm, .0289,.0010,3.617, .0297, .0282
Sr4215,421.552 { 80},Y_3710,ppm, .8356,.0001,.0134, .8357, .8356
Ti3349,334.904 {101},Y_3600,ppm, .8362,.0036,.4264, .8337, .8388
Tl1908,190.856 {477},In2306,ppm, .0023,.0003,12.36, .0025, .0021
U_3670,367.007 { 92},Y_3600,ppm, 1.659,.1381,8.325, 1.562, 1.757
V_2924,292.402 {115},Y_3600,ppm, .1288,.0014,1.117, .1278, .1298
W_2397,239.709 {140},Y_2243,ppm, -.0593,.0556,93.79, -.0986, -.0200
Zn2062,206.200 {463},In2306,ppm, .7217,.0009,.1256, .7211, .7224

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 206.75,.53848,.26045,206.37,207.14
In2306,230.606 {446},Cts/S, 10793.,53.574,.49639,10755.,10831.
Y_2243,224.306 {450},Cts/S, 20962.,104.16,.49691,20888.,21035.
Y_3600,360.073 { 94},Cts/S, 173080.,80.401,.04645,173140.,173030.
Y_3710,371.030 { 91},Cts/S, 12244.,31.800,.25971,12222.,12267.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0008,.0002,29.00, -.0009, -.0006
Al3082,308.215 {109},In2306,ppm, 47.62,.1165,.2447, 47.71, 47.54
As1890,189.042 {478},Y_2243,ppm, .1085,.0003,.2359, .1087, .1083
B_2496,249.678 {135},Y_3710,ppm, .0222,.0052,23.58, .0258, .0185
Ba4554,455.403 { 74},Y_3710,ppm, .2599,.0008,.3237, .2593, .2605
Be3130,313.042 {108},Y_3710,ppm, .0035,.0000,.0594, .0035, .0035
Ca3158,315.887 {107},In2306,ppm, 6.796,.0932,1.372, 6.862, 6.730
Cd2288,228.802 {447},Y_2243,ppm, .0046,.0002,4.652, .0047, .0044
Co2286,228.616 {447},In2306,ppm, .1514,.0011,.7341, .1521, .1506
Cr2677,267.716 {126},Y_3600,ppm, .0808,.0005,.5940, .0805, .0811
Cu3247,324.754 {104},Y_3600,ppm, .1601,.0003,.2005, .1604, .1599
Fe2404,240.488 {140},In2306,ppm, 193.4,.7089,.3665, 193.9, 192.9
K_7664,766.490 { 44},Y_3710,ppm, 4.988,.0074,.1487, 4.983, 4.993
Li6707,670.784 { 50},Y_3710,ppm, .0521,.0007,1.401, .0526, .0515
Mg2790,279.079 {121},Y_3710,ppm, 12.39,.0692,.5587, 12.34, 12.44
Mn2576,257.610 {131},Y_3600,ppm, 4.991,.0076,.1521, 4.985, 4.996
Mo2020,202.030 {467},Y_2243,ppm, .0296,.0000,.0301, .0296, .0296
Na5895,589.592 { 57},Y_3710,ppm, .2525,.0053,2.090, .2562, .2487
Ni2316,231.604 {445},In2306,ppm, .2701,.0020,.7337, .2715, .2687
P_1782,178.284 {489},In2306,ppm, 3.436,.0227,.6619, 3.452, 3.420
Pb2203,220.353 {453},In2306,ppm, .1172,.0004,.3542, .1175, .1169
S_1820,182.034 {485},Y_2243,ppm, -.3548,.0015,.4174, -.3537, -.3558
Sb2068,206.833 {463},Y_2243,ppm, .0043,.0019,43.59, .0056, .0030
Se1960,196.090 {472},Y_2243,ppm, .0015,.0005,36.28, .0019, .0011
Si2516,251.611 {134},Y_3710,ppm, 3.253,.0066,.2027, 3.258, 3.249
Sn1899,189.989 {477},In2306,ppm, .0239,.0008,3.495, .0245, .0233
Sr4215,421.552 { 80},Y_3710,ppm, .0426,.0000,.0088, .0426, .0426
Ti3349,334.904 {101},Y_3600,ppm, .7811,.0015,.1907, .7822, .7801
Tl1908,190.856 {477},In2306,ppm, .0036,.0033,93.91, .0059, .0012
U_3670,367.007 { 92},Y_3600,ppm, 1.049,.0703,6.709, .9988, 1.098
V_2924,292.402 {115},Y_3600,ppm, .1310,.0000,.0334, .1311, .1310
W_2397,239.709 {140},Y_2243,ppm, -.0125,.0491,393.5, -.0472, .0222
Zn2062,206.200 {463},In2306,ppm, .5521,.0003,.0550, .5524, .5519
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[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 237.57,1.9956,.84002,236.16,238.98
In2306,230.606 {446},Cts/S, 14866.,17.633,.11861,14854.,14879.
Y_2243,224.306 {450},Cts/S, 24623.,36.444,.14801,24597.,24649.
Y_3600,360.073 { 94},Cts/S, 203160.,467.80,.23026,203490.,202830.
Y_3710,371.030 { 91},Cts/S, 13093.,55.363,.42284,13054.,13132.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0025,.0002,8.706, -.0026, -.0023
Al3082,308.215 {109},In2306,ppm, 129.7,1.705,1.314, 128.5, 130.9
As1890,189.042 {478},Y_2243,ppm, .0586,.0035,6.034, .0561, .0611
B_2496,249.678 {135},Y_3710,ppm, .0427,.0046,10.78, .0460, .0395
Ba4554,455.403 { 74},Y_3710,ppm, 1.755,.0038,.2191, 1.753, 1.758
Be3130,313.042 {108},Y_3710,ppm, .0088,.0000,.3301, .0088, .0088
Ca3158,315.887 {107},In2306,ppm, 784.8,5.731,.7303, 780.8, 788.9
Cd2288,228.802 {447},Y_2243,ppm, .0126,.0000,.0455, .0126, .0126
Co2286,228.616 {447},In2306,ppm, .0852,.0004,.4330, .0854, .0849
Cr2677,267.716 {126},Y_3600,ppm, .3244,.0012,.3690, .3253, .3236
Cu3247,324.754 {104},Y_3600,ppm, .2739,.0005,.1971, .2735, .2743
Fe2404,240.488 {140},In2306,ppm, 182.5,2.263,1.240, 180.9, 184.1
K_7664,766.490 { 44},Y_3710,ppm, 19.26,.0325,.1688, 19.29, 19.24
Li6707,670.784 { 50},Y_3710,ppm, .0952,.0003,.3617, .0955, .0950
Mg2790,279.079 {121},Y_3710,ppm, 41.95,.0192,.0459, 41.96, 41.93
Mn2576,257.610 {131},Y_3600,ppm, 4.580,.0176,.3833, 4.593, 4.568
Mo2020,202.030 {467},Y_2243,ppm, .0194,.0000,.0082, .0194, .0194
Na5895,589.592 { 57},Y_3710,ppm, 1.606,.0059,.3692, 1.602, 1.610
Ni2316,231.604 {445},In2306,ppm, .2784,.0010,.3519, .2791, .2777
P_1782,178.284 {489},In2306,ppm, 5.657,.0156,.2751, 5.668, 5.646
Pb2203,220.353 {453},In2306,ppm, .2824,.0003,.1089, .2822, .2826
S_1820,182.034 {485},Y_2243,ppm, 8.168,.0289,.3541, 8.188, 8.147
Sb2068,206.833 {463},Y_2243,ppm, .0014,.0027,185.0, -.0004, .0033
Se1960,196.090 {472},Y_2243,ppm, -.0004,.0012,309.3, -.0012, .0005
Si2516,251.611 {134},Y_3710,ppm, 7.300,.0182,.2498, 7.313, 7.287
Sn1899,189.989 {477},In2306,ppm, .0347,.0002,.7187, .0349, .0345
Sr4215,421.552 { 80},Y_3710,ppm, 1.200,.0035,.2891, 1.198, 1.202
Ti3349,334.904 {101},Y_3600,ppm, .2605,.0017,.6511, .2617, .2593
Tl1908,190.856 {477},In2306,ppm, .0041,.0049,119.0, .0007, .0076
U_3670,367.007 { 92},Y_3600,ppm, 1.249,.0403,3.222, 1.221, 1.278
V_2924,292.402 {115},Y_3600,ppm, .2878,.0009,.3263, .2884, .2871
W_2397,239.709 {140},Y_2243,ppm, .0165,.0102,61.75, .0093, .0237
Zn2062,206.200 {463},In2306,ppm, 1.738,.0047,.2705, 1.741, 1.735

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 218.85,1.8815,.85970,220.18,217.52
In2306,230.606 {446},Cts/S, 12220.,18.622,.15239,12234.,12207.
Y_2243,224.306 {450},Cts/S, 22852.,73.781,.32286,22904.,22800.
Y_3600,360.073 { 94},Cts/S, 186710.,345.15,.18487,186950.,186460.
Y_3710,371.030 { 91},Cts/S, 12832.,75.747,.59029,12779.,12886.

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Ag3280,328.068 {103},Y_3600,ppm, -.0034,.0005,15.12, -.0030, -.0038
Al3082,308.215 {109},In2306,ppm, 95.73,.1724,.1801, 95.85, 95.60
As1890,189.042 {478},Y_2243,ppm, .0494,.0001,.1100, .0494, .0493
B_2496,249.678 {135},Y_3710,ppm, .0347,.0065,18.60, .0301, .0393
Ba4554,455.403 { 74},Y_3710,ppm, 2.004,.0010,.0518, 2.003, 2.005
Be3130,313.042 {108},Y_3710,ppm, .0071,.0001,1.177, .0070, .0071
Ca3158,315.887 {107},In2306,ppm, 902.9,4.780,.5295, 906.3, 899.5
Cd2288,228.802 {447},Y_2243,ppm, .0029,.0001,4.160, .0030, .0029
Co2286,228.616 {447},In2306,ppm, .0693,.0001,.1039, .0694, .0693
Cr2677,267.716 {126},Y_3600,ppm, .1028,.0003,.2640, .1030, .1026
Cu3247,324.754 {104},Y_3600,ppm, .1179,.0012,1.059, .1188, .1170
Fe2404,240.488 {140},In2306,ppm, 107.6,.4534,.4213, 107.9, 107.3
K_7664,766.490 { 44},Y_3710,ppm, 7.881,.0486,.6169, 7.847, 7.915
Li6707,670.784 { 50},Y_3710,ppm, .0714,.0002,.3357, .0712, .0715
Mg2790,279.079 {121},Y_3710,ppm, 82.58,.0239,.0289, 82.60, 82.57
Mn2576,257.610 {131},Y_3600,ppm, 2.806,.0061,.2181, 2.810, 2.801
Mo2020,202.030 {467},Y_2243,ppm, .0064,.0000,.1483, .0064, .0064
Na5895,589.592 { 57},Y_3710,ppm, 9.288,.0134,.1446, 9.298, 9.279
Ni2316,231.604 {445},In2306,ppm, .1204,.0000,.0045, .1204, .1204
P_1782,178.284 {489},In2306,ppm, 2.202,.0016,.0736, 2.203, 2.201
Pb2203,220.353 {453},In2306,ppm, .1545,.0001,.0545, .1545, .1544
S_1820,182.034 {485},Y_2243,ppm, 2.226,.0035,.1581, 2.223, 2.228
Sb2068,206.833 {463},Y_2243,ppm, .0013,.0021,169.5, -.0003, .0028
Se1960,196.090 {472},Y_2243,ppm, -.0017,.0026,156.6, .0002, -.0036
Si2516,251.611 {134},Y_3710,ppm, 7.379,.0171,.2321, 7.367, 7.391
Sn1899,189.989 {477},In2306,ppm, .0306,.0004,1.317, .0309, .0304
Sr4215,421.552 { 80},Y_3710,ppm, 1.385,.0022,.1577, 1.384, 1.387
Ti3349,334.904 {101},Y_3600,ppm, .2692,.0009,.3254, .2699, .2686
Tl1908,190.856 {477},In2306,ppm, .0051,.0014,28.23, .0061, .0041
U_3670,367.007 { 92},Y_3600,ppm, .8573,.0285,3.322, .8372, .8774
V_2924,292.402 {115},Y_3600,ppm, .2044,.0010,.4726, .2051, .2037
W_2397,239.709 {140},Y_2243,ppm, .0321,.0420,130.8, .0618, .0024
Zn2062,206.200 {463},In2306,ppm, 1.472,.0066,.4478, 1.477, 1.468

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 215.58,2.7494,1.2754,213.63,217.52
In2306,230.606 {446},Cts/S, 12052.,11.259,.09342,12060.,12045.
Y_2243,224.306 {450},Cts/S, 22438.,4.5396,.02023,22442.,22435.
Y_3600,360.073 { 94},Cts/S, 183300.,511.46,.27903,182940.,183660.
Y_3710,371.030 { 91},Cts/S, 12505.,154.33,1.2342,12396.,12614.

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Al3082,308.215 {109},In2306,ppm, 88.63,.1774,.2001, 88.50, 88.75
As1890,189.042 {478},Y_2243,ppm, .1773,.0001,.0544, .1774, .1772
B_2496,249.678 {135},Y_3710,ppm, .0204,.0040,19.69, .0176, .0232
Ba4554,455.403 { 74},Y_3710,ppm, .9472,.0017,.1790, .9460, .9484
Be3130,313.042 {108},Y_3710,ppm, .0066,.0000,.5690, .0066, .0067
Ca3158,315.887 {107},In2306,ppm, 362.9,.4704,.1296, 362.5, 363.2
Cd2288,228.802 {447},Y_2243,ppm, .0054,.0001,1.095, .0053, .0054
Co2286,228.616 {447},In2306,ppm, .0454,.0000,.0384, .0454, .0454
Cr2677,267.716 {126},Y_3600,ppm, .1495,.0006,.3813, .1491, .1499
Cu3247,324.754 {104},Y_3600,ppm, .2311,.0003,.1223, .2309, .2313
Fe2404,240.488 {140},In2306,ppm, 116.1,.2057,.1772, 115.9, 116.2
K_7664,766.490 { 44},Y_3710,ppm, 7.582,.0107,.1414, 7.574, 7.590
Li6707,670.784 { 50},Y_3710,ppm, .0459,.0006,1.278, .0455, .0463
Mg2790,279.079 {121},Y_3710,ppm, 12.62,.1950,1.545, 12.48, 12.76
Mn2576,257.610 {131},Y_3600,ppm, 2.146,.0037,.1720, 2.149, 2.144
Mo2020,202.030 {467},Y_2243,ppm, .0074,.0002,2.831, .0076, .0073
Na5895,589.592 { 57},Y_3710,ppm, 1.533,.0004,.0279, 1.533, 1.533
Ni2316,231.604 {445},In2306,ppm, .1051,.0004,.3795, .1048, .1053
P_1782,178.284 {489},In2306,ppm, 2.066,.0139,.6734, 2.056, 2.076
Pb2203,220.353 {453},In2306,ppm, .2921,.0017,.5983, .2909, .2933
S_1820,182.034 {485},Y_2243,ppm, 1.799,.0033,.1819, 1.796, 1.801
Sb2068,206.833 {463},Y_2243,ppm, .0005,.0009,177.2, -.0001, .0011
Se1960,196.090 {472},Y_2243,ppm, -.0015,.0042,274.2, .0014, -.0045
Si2516,251.611 {134},Y_3710,ppm, 6.335,.0152,.2405, 6.324, 6.346
Sn1899,189.989 {477},In2306,ppm, .0341,.0001,.1746, .0341, .0340
Sr4215,421.552 { 80},Y_3710,ppm, .6821,.0016,.2331, .6810, .6832
Ti3349,334.904 {101},Y_3600,ppm, .2601,.0002,.0689, .2600, .2602
Tl1908,190.856 {477},In2306,ppm, -.0042,.0075,178.9, .0011, -.0095
U_3670,367.007 { 92},Y_3600,ppm, .8622,.1180,13.68, .7788, .9456
V_2924,292.402 {115},Y_3600,ppm, .2053,.0000,.0062, .2053, .2053
W_2397,239.709 {140},Y_2243,ppm, -.0025,.0031,125.9, -.0047, -.0003
Zn2062,206.200 {463},In2306,ppm, 15.14,.0413,.2728, 15.17, 15.11

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 225.22,.72550,.32213,224.71,225.74
In2306,230.606 {446},Cts/S, 13279.,6.4539,.04860,13275.,13284.
Y_2243,224.306 {450},Cts/S, 23467.,9.9951,.04259,23460.,23474.
Y_3600,360.073 { 94},Cts/S, 192200.,35.388,.01841,192170.,192220.
Y_3710,371.030 { 91},Cts/S, 12766.,51.386,.40254,12802.,12729.

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Ag3280,328.068 {103},Y_3600,ppm, -.0032,.0005,15.22, -.0028, -.0035
Al3082,308.215 {109},In2306,ppm, 106.7,.2042,.1914, 106.5, 106.8
As1890,189.042 {478},Y_2243,ppm, .1209,.0017,1.391, .1221, .1197
B_2496,249.678 {135},Y_3710,ppm, .0331,.0075,22.74, .0384, .0278
Ba4554,455.403 { 74},Y_3710,ppm, 1.301,.0087,.6664, 1.295, 1.308
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Be3130,313.042 {108},Y_3710,ppm, .0095,.0001,.7627, .0096, .0095
Ca3158,315.887 {107},In2306,ppm, 251.9,1.235,.4902, 252.8, 251.0
Cd2288,228.802 {447},Y_2243,ppm, .0026,.0001,3.139, .0026, .0027
Co2286,228.616 {447},In2306,ppm, .0679,.0001,.1642, .0678, .0680
Cr2677,267.716 {126},Y_3600,ppm, .1464,.0002,.1588, .1463, .1466
Cu3247,324.754 {104},Y_3600,ppm, .1360,.0003,.2146, .1362, .1358
Fe2404,240.488 {140},In2306,ppm, 122.2,.5354,.4383, 122.5, 121.8
K_7664,766.490 { 44},Y_3710,ppm, 5.968,.0425,.7124, 5.938, 5.998
Li6707,670.784 { 50},Y_3710,ppm, .0505,.0007,1.470, .0500, .0510
Mg2790,279.079 {121},Y_3710,ppm, 16.25,.0875,.5384, 16.18, 16.31
Mn2576,257.610 {131},Y_3600,ppm, 3.826,.0071,.1846, 3.831, 3.821
Mo2020,202.030 {467},Y_2243,ppm, .0079,.0000,.2514, .0079, .0078
Na5895,589.592 { 57},Y_3710,ppm, 3.853,.0182,.4711, 3.840, 3.866
Ni2316,231.604 {445},In2306,ppm, .1170,.0006,.4878, .1174, .1166
P_1782,178.284 {489},In2306,ppm, 2.477,.0083,.3367, 2.483, 2.471
Pb2203,220.353 {453},In2306,ppm, .1738,.0002,.1051, .1737, .1739
S_1820,182.034 {485},Y_2243,ppm, 3.557,.0065,.1832, 3.553, 3.562
Sb2068,206.833 {463},Y_2243,ppm, -.0036,.0035,97.96, -.0011, -.0061
Se1960,196.090 {472},Y_2243,ppm, .0012,.0001,7.710, .0013, .0011
Si2516,251.611 {134},Y_3710,ppm, 5.003,.0027,.0543, 5.001, 5.005
Sn1899,189.989 {477},In2306,ppm, .0296,.0001,.5016, .0297, .0295
Sr4215,421.552 { 80},Y_3710,ppm, .4794,.0031,.6562, .4771, .4816
Ti3349,334.904 {101},Y_3600,ppm, .1754,.0004,.2550, .1757, .1751
Tl1908,190.856 {477},In2306,ppm, .0029,.0023,78.53, .0013, .0046
U_3670,367.007 { 92},Y_3600,ppm, .7789,.0494,6.340, .7440, .8138
V_2924,292.402 {115},Y_3600,ppm, .2731,.0009,.3198, .2725, .2737
W_2397,239.709 {140},Y_2243,ppm, -.0267,.0067,24.89, -.0220, -.0314
Zn2062,206.200 {463},In2306,ppm, .8883,.0043,.4861, .8913, .8852

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 228.93,2.9092,1.2708,226.87,230.98
In2306,230.606 {446},Cts/S, 13485.,18.644,.13826,13498.,13472.
Y_2243,224.306 {450},Cts/S, 24184.,50.808,.21009,24220.,24148.
Y_3600,360.073 { 94},Cts/S, 197480.,98.760,.05001,197550.,197410.
Y_3710,371.030 { 91},Cts/S, 13097.,97.298,.74290,13028.,13166.

[Sample Header]
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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0023,.0000,1.525, -.0022, -.0023
Al3082,308.215 {109},In2306,ppm, 118.6,.3456,.2915, 118.3, 118.8
As1890,189.042 {478},Y_2243,ppm, .1872,.0003,.1784, .1874, .1869
B_2496,249.678 {135},Y_3710,ppm, .0408,.0011,2.633, .0416, .0401
Ba4554,455.403 { 74},Y_3710,ppm, .9775,.0001,.0058, .9774, .9775
Be3130,313.042 {108},Y_3710,ppm, .0082,.0001,.8967, .0081, .0082
Ca3158,315.887 {107},In2306,ppm, 1538.,16.15,1.051, 1526., 1549.
Cd2288,228.802 {447},Y_2243,ppm, .0035,.0001,1.650, .0035, .0036
Co2286,228.616 {447},In2306,ppm, .0572,.0009,1.654, .0579, .0566
Cr2677,267.716 {126},Y_3600,ppm, .1928,.0021,1.100, .1913, .1943
Cu3247,324.754 {104},Y_3600,ppm, .1360,.0002,.1127, .1359, .1361
Fe2404,240.488 {140},In2306,ppm, 129.5,1.183,.9132, 128.7, 130.4
K_7664,766.490 { 44},Y_3710,ppm, 10.15,.0674,.6644, 10.19, 10.10
Li6707,670.784 { 50},Y_3710,ppm, .0742,.0002,.3053, .0740, .0744
Mg2790,279.079 {121},Y_3710,ppm, 67.45,.1596,.2366, 67.33, 67.56
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Mn2576,257.610 {131},Y_3600,ppm, 3.266,.0335,1.024, 3.243, 3.290
Mo2020,202.030 {467},Y_2243,ppm, .0118,.0005,3.812, .0121, .0115
Na5895,589.592 { 57},Y_3710,ppm, .7854,.0094,1.194, .7920, .7787
Ni2316,231.604 {445},In2306,ppm, .1169,.0001,.1048, .1168, .1170
P_1782,178.284 {489},In2306,ppm, 3.620,.0196,.5408, 3.633, 3.606
Pb2203,220.353 {453},In2306,ppm, .1860,.0007,.3581, .1855, .1865
S_1820,182.034 {485},Y_2243,ppm, 3.962,.0187,.4707, 3.976, 3.949
Sb2068,206.833 {463},Y_2243,ppm, -.0040,.0015,36.59, -.0030, -.0050
Se1960,196.090 {472},Y_2243,ppm, -.0000,.0004,860.6, -.0003, .0003
Si2516,251.611 {134},Y_3710,ppm, 8.634,.0244,.2831, 8.651, 8.616
Sn1899,189.989 {477},In2306,ppm, .0324,.0010,3.071, .0331, .0316
Sr4215,421.552 { 80},Y_3710,ppm, 1.106,.0002,.0175, 1.106, 1.106
Ti3349,334.904 {101},Y_3600,ppm, .2605,.0015,.5806, .2594, .2616
Tl1908,190.856 {477},In2306,ppm, -.0092,.0017,18.98, -.0104, -.0080
U_3670,367.007 { 92},Y_3600,ppm, 1.080,.1240,11.48, .9922, 1.168
V_2924,292.402 {115},Y_3600,ppm, .2689,.0026,.9743, .2671, .2708
W_2397,239.709 {140},Y_2243,ppm, .0200,.0271,135.8, .0392, .0008
Zn2062,206.200 {463},In2306,ppm, 1.739,.0095,.5475, 1.746, 1.733

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 208.15,.71201,.34207,208.65,207.64
In2306,230.606 {446},Cts/S, 11308.,11.522,.10190,11299.,11316.
Y_2243,224.306 {450},Cts/S, 22046.,34.228,.15525,22022.,22070.
Y_3600,360.073 { 94},Cts/S, 180870.,36.796,.02034,180900.,180840.
Y_3710,371.030 { 91},Cts/S, 12572.,32.617,.25944,12549.,12595.

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Ag3280,328.068 {103},Y_3600,ppm, -.0029,.0007,22.85, -.0024, -.0033
Al3082,308.215 {109},In2306,ppm, 84.92,.1062,.1250, 84.99, 84.84
As1890,189.042 {478},Y_2243,ppm, .0574,.0018,3.202, .0561, .0587
B_2496,249.678 {135},Y_3710,ppm, .0659,.0036,5.487, .0634, .0685
Ba4554,455.403 { 74},Y_3710,ppm, 1.072,.0048,.4525, 1.068, 1.075
Be3130,313.042 {108},Y_3710,ppm, .0140,.0002,1.248, .0139, .0141
Ca3158,315.887 {107},In2306,ppm, 2967.,21.43,.7222, 2982., 2952.
Cd2288,228.802 {447},Y_2243,ppm, .0034,.0003,8.733, .0036, .0032
Co2286,228.616 {447},In2306,ppm, .0437,.0004,.8461, .0434, .0440
Cr2677,267.716 {126},Y_3600,ppm, .1288,.0003,.2424, .1286, .1291
Cu3247,324.754 {104},Y_3600,ppm, .1224,.0004,.3471, .1221, .1227
Fe2404,240.488 {140},In2306,ppm, 80.89,.0761,.0941, 80.94, 80.83
K_7664,766.490 { 44},Y_3710,ppm, 5.186,.0525,1.013, 5.149, 5.223
Li6707,670.784 { 50},Y_3710,ppm, .0980,.0005,.4875, .0977, .0984
Mg2790,279.079 {121},Y_3710,ppm, 41.79,.6467,1.548, 41.33, 42.24
Mn2576,257.610 {131},Y_3600,ppm, 5.431,.0414,.7626, 5.402, 5.460
Mo2020,202.030 {467},Y_2243,ppm, .0074,.0000,.0280, .0074, .0074
Na5895,589.592 { 57},Y_3710,ppm, 17.34,.0992,.5722, 17.27, 17.41
Ni2316,231.604 {445},In2306,ppm, .0813,.0004,.4570, .0810, .0816
P_1782,178.284 {489},In2306,ppm, 3.977,.0010,.0243, 3.978, 3.977
Pb2203,220.353 {453},In2306,ppm, .1896,.0030,1.578, .1875, .1917
S_1820,182.034 {485},Y_2243,ppm, 12.45,.0088,.0705, 12.44, 12.45
Sb2068,206.833 {463},Y_2243,ppm, .0019,.0000,.9889, .0019, .0019
Se1960,196.090 {472},Y_2243,ppm, -.0029,.0003,9.817, -.0027, -.0031
Si2516,251.611 {134},Y_3710,ppm, 7.810,.0909,1.164, 7.745, 7.874
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Sn1899,189.989 {477},In2306,ppm, .0324,.0002,.6197, .0322, .0325
Sr4215,421.552 { 80},Y_3710,ppm, 7.348,.0279,.3797, 7.328, 7.367
Ti3349,334.904 {101},Y_3600,ppm, .3121,.0011,.3614, .3113, .3129
Tl1908,190.856 {477},In2306,ppm, -.0053,.0029,54.52, -.0032, -.0073
U_3670,367.007 { 92},Y_3600,ppm, .9941,.0434,4.368, .9634, 1.025
V_2924,292.402 {115},Y_3600,ppm, .1719,.0012,.6997, .1711, .1728
W_2397,239.709 {140},Y_2243,ppm, -.0159,.0107,67.73, -.0083, -.0235
Zn2062,206.200 {463},In2306,ppm, 1.174,.0017,.1488, 1.175, 1.173

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 201.13,1.1901,.59169,200.29,201.98
In2306,230.606 {446},Cts/S, 10348.,4.3015,.04157,10351.,10345.
Y_2243,224.306 {450},Cts/S, 20286.,5.9715,.02944,20290.,20281.
Y_3600,360.073 { 94},Cts/S, 168500.,636.07,.37749,168950.,168050.
Y_3710,371.030 { 91},Cts/S, 11863.,28.516,.24039,11883.,11842.

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Ag3280,328.068 {103},Y_3600,ppm, -.0029,.0004,13.21, -.0026, -.0031
Al3082,308.215 {109},In2306,ppm, 131.9,.5169,.3920, 131.5, 132.2
As1890,189.042 {478},Y_2243,ppm, .0735,.0022,2.928, .0750, .0720
B_2496,249.678 {135},Y_3710,ppm, .0377,.0004,.9389, .0380, .0375
Ba4554,455.403 { 74},Y_3710,ppm, 1.363,.0025,.1836, 1.361, 1.365
Be3130,313.042 {108},Y_3710,ppm, .0105,.0002,1.461, .0104, .0106
Ca3158,315.887 {107},In2306,ppm, 278.3,.6902,.2480, 277.8, 278.8
Cd2288,228.802 {447},Y_2243,ppm, .0032,.0001,3.022, .0031, .0032
Co2286,228.616 {447},In2306,ppm, .0518,.0001,.2281, .0519, .0518
Cr2677,267.716 {126},Y_3600,ppm, .1384,.0013,.9581, .1393, .1374
Cu3247,324.754 {104},Y_3600,ppm, .1480,.0000,.0203, .1479, .1480
Fe2404,240.488 {140},In2306,ppm, 125.6,.4460,.3551, 125.3, 125.9
K_7664,766.490 { 44},Y_3710,ppm, 8.744,.0089,.1014, 8.738, 8.751
Li6707,670.784 { 50},Y_3710,ppm, .0578,.0004,.6241, .0581, .0576
Mg2790,279.079 {121},Y_3710,ppm, 18.39,.0292,.1585, 18.37, 18.41
Mn2576,257.610 {131},Y_3600,ppm, 1.954,.0134,.6861, 1.964, 1.945
Mo2020,202.030 {467},Y_2243,ppm, .0071,.0006,8.023, .0075, .0067
Na5895,589.592 { 57},Y_3710,ppm, .6347,.0007,.1156, .6342, .6352
Ni2316,231.604 {445},In2306,ppm, .0958,.0002,.2475, .0956, .0959
P_1782,178.284 {489},In2306,ppm, 2.747,.0053,.1929, 2.751, 2.743
Pb2203,220.353 {453},In2306,ppm, .1967,.0002,.1225, .1969, .1965
S_1820,182.034 {485},Y_2243,ppm, 4.544,.0134,.2942, 4.553, 4.534
Sb2068,206.833 {463},Y_2243,ppm, .0031,.0002,7.195, .0029, .0032
Se1960,196.090 {472},Y_2243,ppm, .0026,.0039,148.4, .0054, -.0001
Si2516,251.611 {134},Y_3710,ppm, 7.137,.0278,.3892, 7.117, 7.156
Sn1899,189.989 {477},In2306,ppm, .0343,.0001,.2020, .0343, .0344
Sr4215,421.552 { 80},Y_3710,ppm, .3708,.0014,.3803, .3698, .3718
Ti3349,334.904 {101},Y_3600,ppm, .1963,.0001,.0697, .1964, .1962
Tl1908,190.856 {477},In2306,ppm, -.0001,.0002,183.1, .0000, -.0002
U_3670,367.007 { 92},Y_3600,ppm, .8700,.0315,3.622, .8923, .8477
V_2924,292.402 {115},Y_3600,ppm, .2623,.0016,.6250, .2635, .2612
W_2397,239.709 {140},Y_2243,ppm, -.0388,.0270,69.53, -.0579, -.0197
Zn2062,206.200 {463},In2306,ppm, 1.017,.0047,.4575, 1.020, 1.014

[Internal Standards]
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Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 228.91,1.2939,.56523,228.00,229.83
In2306,230.606 {446},Cts/S, 13364.,46.464,.34767,13397.,13332.
Y_2243,224.306 {450},Cts/S, 24094.,93.753,.38911,24160.,24028.
Y_3600,360.073 { 94},Cts/S, 196670.,1652.8,.84038,195500.,197840.
Y_3710,371.030 { 91},Cts/S, 13186.,116.55,.88392,13103.,13268.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0044,.0006,13.51, -.0048, -.0039
Al3082,308.215 {109},In2306,ppm, 131.2,1.366,1.041, 130.2, 132.1
As1890,189.042 {478},Y_2243,ppm, .1771,.0073,4.099, .1822, .1719
B_2496,249.678 {135},Y_3710,ppm, .0324,.0049,15.14, .0359, .0289
Ba4554,455.403 { 74},Y_3710,ppm, 1.012,.0093,.9141, 1.006, 1.019
Be3130,313.042 {108},Y_3710,ppm, .0081,.0001,1.536, .0080, .0082
Ca3158,315.887 {107},In2306,ppm, 729.3,7.572,1.038, 724.0, 734.7
Cd2288,228.802 {447},Y_2243,ppm, .0039,.0001,3.411, .0040, .0038
Co2286,228.616 {447},In2306,ppm, .0553,.0025,4.551, .0570, .0535
Cr2677,267.716 {126},Y_3600,ppm, .1493,.0010,.6430, .1500, .1487
Cu3247,324.754 {104},Y_3600,ppm, .1309,.0016,1.235, .1320, .1297
Fe2404,240.488 {140},In2306,ppm, 146.7,1.577,1.075, 145.5, 147.8
K_7664,766.490 { 44},Y_3710,ppm, 5.155,.0585,1.135, 5.114, 5.196
Li6707,670.784 { 50},Y_3710,ppm, .0574,.0015,2.553, .0564, .0585
Mg2790,279.079 {121},Y_3710,ppm, 31.26,.4066,1.301, 30.97, 31.55
Mn2576,257.610 {131},Y_3600,ppm, 1.483,.0147,.9922, 1.494, 1.473
Mo2020,202.030 {467},Y_2243,ppm, .0087,.0005,5.463, .0090, .0084
Na5895,589.592 { 57},Y_3710,ppm, 6.355,.0411,.6471, 6.326, 6.384
Ni2316,231.604 {445},In2306,ppm, .0910,.0044,4.850, .0941, .0879
P_1782,178.284 {489},In2306,ppm, 1.145,.0511,4.460, 1.181, 1.109
Pb2203,220.353 {453},In2306,ppm, .2369,.0111,4.670, .2447, .2290
S_1820,182.034 {485},Y_2243,ppm, 1.432,.1012,7.067, 1.504, 1.360
Sb2068,206.833 {463},Y_2243,ppm, -.0065,.0020,31.25, -.0051, -.0080
Se1960,196.090 {472},Y_2243,ppm, -.0018,.0006,34.37, -.0022, -.0014
Si2516,251.611 {134},Y_3710,ppm, 7.589,.0859,1.132, 7.528, 7.649
Sn1899,189.989 {477},In2306,ppm, .0312,.0024,7.664, .0329, .0295
Sr4215,421.552 { 80},Y_3710,ppm, 1.272,.0119,.9350, 1.263, 1.280
Ti3349,334.904 {101},Y_3600,ppm, .2266,.0026,1.133, .2284, .2248
Tl1908,190.856 {477},In2306,ppm, .0004,.0014,360.9, -.0006, .0013
U_3670,367.007 { 92},Y_3600,ppm, 1.058,.0660,6.237, 1.105, 1.011
V_2924,292.402 {115},Y_3600,ppm, .3195,.0029,.9082, .3216, .3175
W_2397,239.709 {140},Y_2243,ppm, -.0106,.0292,276.6, .0101, -.0312
Zn2062,206.200 {463},In2306,ppm, .8150,.0352,4.314, .8399, .7902

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 216.90,1.2151,.56020,217.76,216.04
In2306,230.606 {446},Cts/S, 12000.,473.41,3.9450,11666.,12335.
Y_2243,224.306 {450},Cts/S, 22269.,842.07,3.7814,21673.,22864.
Y_3600,360.073 { 94},Cts/S, 182800.,767.41,.41980,182260.,183340.
Y_3710,371.030 { 91},Cts/S, 12584.,82.943,.65912,12643.,12525.

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Ag3280,328.068 {103},Y_3600,ppm, .5765,.0028,.4869, .5745, .5785
Al3082,308.215 {109},In2306,ppm, 18.63,.7411,3.979, 19.15, 18.10
As1890,189.042 {478},Y_2243,ppm, .9996,.0010,.0976, .9989, 1.000
B_2496,249.678 {135},Y_3710,ppm, .9507,.0594,6.246, .9927, .9087
Ba4554,455.403 { 74},Y_3710,ppm, .9549,.0516,5.402, .9914, .9185
Be3130,313.042 {108},Y_3710,ppm, .9330,.0484,5.187, .9672, .8987
Ca3158,315.887 {107},In2306,ppm, 19.06,.8806,4.619, 19.69, 18.44
Cd2288,228.802 {447},Y_2243,ppm, 1.015,.0011,.1096, 1.015, 1.016
Co2286,228.616 {447},In2306,ppm, .9804,.0007,.0665, .9808, .9799
Cr2677,267.716 {126},Y_3600,ppm, 1.000,.0056,.5571, .9961, 1.004
Cu3247,324.754 {104},Y_3600,ppm, .9951,.0023,.2354, .9935, .9968
Fe2404,240.488 {140},In2306,ppm, 19.28,.8293,4.301, 19.87, 18.70
K_7664,766.490 { 44},Y_3710,ppm, 18.69,.9357,5.006, 19.35, 18.03
Li6707,670.784 { 50},Y_3710,ppm, .9404,.0523,5.560, .9774, .9034
Mg2790,279.079 {121},Y_3710,ppm, 18.81,.9320,4.955, 19.47, 18.15
Mn2576,257.610 {131},Y_3600,ppm, 1.004,.0045,.4527, 1.001, 1.008
Mo2020,202.030 {467},Y_2243,ppm, 1.026,.0010,.0946, 1.026, 1.027
Na5895,589.592 { 57},Y_3710,ppm, 18.82,.9638,5.121, 19.50, 18.14
Ni2316,231.604 {445},In2306,ppm, .9855,.0029,.2970, .9876, .9834
P_1782,178.284 {489},In2306,ppm, 9.782,.0178,.1821, 9.794, 9.769
Pb2203,220.353 {453},In2306,ppm, .9810,.0010,.1013, .9817, .9803
S_1820,182.034 {485},Y_2243,ppm, 10.37,.0143,.1375, 10.36, 10.38
Sb2068,206.833 {463},Y_2243,ppm, 2.115,.0049,.2302, 2.112, 2.118
Se1960,196.090 {472},Y_2243,ppm, .9965,.0033,.3297, .9942, .9989
Si2516,251.611 {134},Y_3710,ppm, 9.118,.4058,4.451, 9.405, 8.831
Sn1899,189.989 {477},In2306,ppm, .9696,.0012,.1242, .9704, .9687
Sr4215,421.552 { 80},Y_3710,ppm, .9596,.0512,5.336, .9958, .9234
Ti3349,334.904 {101},Y_3600,ppm, 1.001,.0040,.3978, .9977, 1.003
Tl1908,190.856 {477},In2306,ppm, .9642,.0013,.1338, .9652, .9633
U_3670,367.007 { 92},Y_3600,ppm, .9718,.0352,3.624, .9469, .9967
V_2924,292.402 {115},Y_3600,ppm, 1.013,.0036,.3543, 1.010, 1.015
W_2397,239.709 {140},Y_2243,ppm, .9317,.0262,2.807, .9501, .9132
Zn2062,206.200 {463},In2306,ppm, .9852,.0039,.3926, .9879, .9824

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 240.25,5.9290,2.4678,236.06,244.44
In2306,230.606 {446},Cts/S, 14768.,6.2461,.04230,14763.,14772.
Y_2243,224.306 {450},Cts/S, 23649.,30.378,.12845,23671.,23628.
Y_3600,360.073 { 94},Cts/S, 194370.,159.73,.08218,194490.,194260.
Y_3710,371.030 { 91},Cts/S, 12703.,395.27,3.1116,12424.,12983.

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Ag3280,328.068 {103},Y_3600,ppm, .0119,.0001,.9008, .0118, .0120
Al3082,308.215 {109},In2306,ppm, .1973,.0066,3.335, .2020, .1927
As1890,189.042 {478},Y_2243,ppm, .0232,.0001,.4394, .0232, .0231
B_2496,249.678 {135},Y_3710,ppm, .0873,.0027,3.139, .0854, .0892
Ba4554,455.403 { 74},Y_3710,ppm, .0218,.0000,.0021, .0218, .0218
Be3130,313.042 {108},Y_3710,ppm, .0109,.0002,1.713, .0110, .0108
Ca3158,315.887 {107},In2306,ppm, 1.035,.0228,2.200, 1.018, 1.051
Cd2288,228.802 {447},Y_2243,ppm, .0113,.0000,.0512, .0113, .0113
Co2286,228.616 {447},In2306,ppm, .0102,.0001,1.119, .0103, .0101
Cr2677,267.716 {126},Y_3600,ppm, .0113,.0001,.6076, .0113, .0114
Cu3247,324.754 {104},Y_3600,ppm, .0113,.0004,3.505, .0116, .0110
Fe2404,240.488 {140},In2306,ppm, .2235,.0037,1.668, .2209, .2261
K_7664,766.490 { 44},Y_3710,ppm, 1.010,.0064,.6317, 1.005, 1.014
Li6707,670.784 { 50},Y_3710,ppm, .0102,.0004,3.946, .0099, .0105
Mg2790,279.079 {121},Y_3710,ppm, 1.034,.0063,.6124, 1.038, 1.029
Mn2576,257.610 {131},Y_3600,ppm, .0114,.0000,.2918, .0114, .0114
Mo2020,202.030 {467},Y_2243,ppm, .0154,.0003,1.955, .0156, .0152
Na5895,589.592 { 57},Y_3710,ppm, 1.041,.0018,.1742, 1.042, 1.040
Ni2316,231.604 {445},In2306,ppm, .0106,.0000,.4242, .0106, .0107
P_1782,178.284 {489},In2306,ppm, .9293,.0026,.2813, .9274, .9311
Pb2203,220.353 {453},In2306,ppm, .0114,.0002,1.449, .0115, .0112
S_1820,182.034 {485},Y_2243,ppm, .5114,.0007,.1414, .5119, .5108
Sb2068,206.833 {463},Y_2243,ppm, .0549,.0005,.8819, .0546, .0553
Se1960,196.090 {472},Y_2243,ppm, .0233,.0021,9.186, .0218, .0248
Si2516,251.611 {134},Y_3710,ppm, .1955,.0019,.9851, .1969, .1942
Sn1899,189.989 {477},In2306,ppm, .0202,.0007,3.586, .0196, .0207
Sr4215,421.552 { 80},Y_3710,ppm, .0112,.0000,.2427, .0112, .0112
Ti3349,334.904 {101},Y_3600,ppm, .0113,.0001,1.318, .0112, .0114
Tl1908,190.856 {477},In2306,ppm, .0330,.0040,11.97, .0358, .0302
U_3670,367.007 { 92},Y_3600,ppm, .1728,.0035,2.042, .1753, .1703
V_2924,292.402 {115},Y_3600,ppm, .0111,.0001,.5823, .0110, .0111
W_2397,239.709 {140},Y_2243,ppm, .0633,.0204,32.17, .0777, .0489
Zn2062,206.200 {463},In2306,ppm, .0180,.0000,.1299, .0179, .0180

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 246.37,1.9891,.80735,247.78,244.96
In2306,230.606 {446},Cts/S, 16340.,18.802,.11507,16326.,16353.
Y_2243,224.306 {450},Cts/S, 24247.,51.038,.21050,24210.,24283.
Y_3600,360.073 { 94},Cts/S, 202470.,430.86,.21281,202770.,202160.
Y_3710,371.030 { 91},Cts/S, 12616.,46.107,.36545,12649.,12584.

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Ag3280,328.068 {103},Y_3600,ppm, .0001,.0001,57.51, .0001, .0001
Al3082,308.215 {109},In2306,ppm, -.0113,.0117,103.2, -.0031, -.0195
As1890,189.042 {478},Y_2243,ppm, .0003,.0021,640.8, .0018, -.0012
B_2496,249.678 {135},Y_3710,ppm, -.0105,.0014,13.47, -.0115, -.0095
Ba4554,455.403 { 74},Y_3710,ppm, -.0004,.0000,2.024, -.0004, -.0004
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0002,203.1, .0000, -.0002
Ca3158,315.887 {107},In2306,ppm, .0091,.0005,5.651, .0094, .0087
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Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0002,654.9, .0001, -.0002
Co2286,228.616 {447},In2306,ppm, -.0001,.0001,83.19, -.0000, -.0002
Cr2677,267.716 {126},Y_3600,ppm, .0001,.0001,199.4, -.0000, .0002
Cu3247,324.754 {104},Y_3600,ppm, .0001,.0002,245.1, -.0001, .0003
Fe2404,240.488 {140},In2306,ppm, .0021,.0044,209.2, -.0010, .0053
K_7664,766.490 { 44},Y_3710,ppm, -.0619,.0272,43.99, -.0811, -.0426
Li6707,670.784 { 50},Y_3710,ppm, -.0007,.0013,174.4, .0002, -.0017
Mg2790,279.079 {121},Y_3710,ppm, -.0190,.0036,18.90, -.0164, -.0215
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,183.0, .0000, -.0000
Mo2020,202.030 {467},Y_2243,ppm, -.0003,.0001,26.90, -.0004, -.0002
Na5895,589.592 { 57},Y_3710,ppm, -.0151,.0016,10.48, -.0139, -.0162
Ni2316,231.604 {445},In2306,ppm, .0002,.0000,2.091, .0002, .0002
P_1782,178.284 {489},In2306,ppm, .0004,.0006,146.0, .0008, -.0000
Pb2203,220.353 {453},In2306,ppm, .0002,.0005,212.7, -.0001, .0005
S_1820,182.034 {485},Y_2243,ppm, .0165,.0029,17.62, .0185, .0144
Sb2068,206.833 {463},Y_2243,ppm, -.0000,.0004,866.0, -.0003, .0003
Se1960,196.090 {472},Y_2243,ppm, .0006,.0002,26.38, .0007, .0005
Si2516,251.611 {134},Y_3710,ppm, .0039,.0068,172.2, -.0009, .0088
Sn1899,189.989 {477},In2306,ppm, .0000,.0000,146.2, -.0000, .0000
Sr4215,421.552 { 80},Y_3710,ppm, -.0001,.0001,59.12, -.0001, -.0001
Ti3349,334.904 {101},Y_3600,ppm, -.0001,.0002,434.3, .0001, -.0002
Tl1908,190.856 {477},In2306,ppm, .0072,.0012,16.31, .0064, .0080
U_3670,367.007 { 92},Y_3600,ppm, .0511,.0650,127.3, .0971, .0051
V_2924,292.402 {115},Y_3600,ppm, -.0001,.0001,69.03, -.0001, -.0000
W_2397,239.709 {140},Y_2243,ppm, -.0025,.0277,1130., -.0220, .0171
Zn2062,206.200 {463},In2306,ppm, -.0013,.0000,3.685, -.0012, -.0013

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 246.75,2.4489,.99246,245.02,248.48
In2306,230.606 {446},Cts/S, 16547.,4.8736,.02945,16551.,16544.
Y_2243,224.306 {450},Cts/S, 24147.,51.972,.21523,24184.,24110.
Y_3600,360.073 { 94},Cts/S, 200950.,129.11,.06425,201050.,200860.
Y_3710,371.030 { 91},Cts/S, 12428.,21.978,.17685,12412.,12443.

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Ag3280,328.068 {103},Y_3600,ppm, -.0026,.0007,25.71, -.0030, -.0021
Al3082,308.215 {109},In2306,ppm, 57.59,.1583,.2749, 57.70, 57.48
As1890,189.042 {478},Y_2243,ppm, .0305,.0019,6.191, .0318, .0291
B_2496,249.678 {135},Y_3710,ppm, .0479,.0000,.0512, .0479, .0479
Ba4554,455.403 { 74},Y_3710,ppm, .7741,.0012,.1594, .7732, .7750
Be3130,313.042 {108},Y_3710,ppm, .0033,.0000,1.087, .0034, .0033
Ca3158,315.887 {107},In2306,ppm, 3265.,12.72,.3895, 3256., 3274.
Cd2288,228.802 {447},Y_2243,ppm, .0022,.0001,4.094, .0022, .0023
Co2286,228.616 {447},In2306,ppm, .0362,.0006,1.552, .0366, .0358
Cr2677,267.716 {126},Y_3600,ppm, .1251,.0006,.5079, .1247, .1256
Cu3247,324.754 {104},Y_3600,ppm, .1183,.0001,.0661, .1182, .1183
Fe2404,240.488 {140},In2306,ppm, 56.27,.1094,.1945, 56.19, 56.34
K_7664,766.490 { 44},Y_3710,ppm, 4.869,.0194,.3983, 4.855, 4.883
Li6707,670.784 { 50},Y_3710,ppm, .0948,.0005,.5127, .0951, .0944
Mg2790,279.079 {121},Y_3710,ppm, 31.49,.0878,.2787, 31.43, 31.55
Mn2576,257.610 {131},Y_3600,ppm, 1.741,.0079,.4514, 1.736, 1.747
Mo2020,202.030 {467},Y_2243,ppm, .0090,.0004,4.418, .0087, .0092
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Na5895,589.592 { 57},Y_3710,ppm, 2.877,.0069,.2411, 2.872, 2.882
Ni2316,231.604 {445},In2306,ppm, .0608,.0005,.8278, .0612, .0605
P_1782,178.284 {489},In2306,ppm, 1.841,.0032,.1750, 1.839, 1.844
Pb2203,220.353 {453},In2306,ppm, .1288,.0033,2.527, .1312, .1265
S_1820,182.034 {485},Y_2243,ppm, 4.037,.0317,.7853, 4.059, 4.014
Sb2068,206.833 {463},Y_2243,ppm, .0042,.0015,35.88, .0031, .0052
Se1960,196.090 {472},Y_2243,ppm, -.0052,.0015,27.79, -.0042, -.0062
Si2516,251.611 {134},Y_3710,ppm, 6.851,.0090,.1308, 6.858, 6.845
Sn1899,189.989 {477},In2306,ppm, .0320,.0005,1.622, .0316, .0323
Sr4215,421.552 { 80},Y_3710,ppm, 7.265,.0089,.1219, 7.258, 7.271
Ti3349,334.904 {101},Y_3600,ppm, .6303,.0009,.1374, .6297, .6309
Tl1908,190.856 {477},In2306,ppm, -.0053,.0071,133.6, -.0003, -.0104
U_3670,367.007 { 92},Y_3600,ppm, 1.020,.0182,1.785, 1.007, 1.032
V_2924,292.402 {115},Y_3600,ppm, .1077,.0003,.2525, .1075, .1079
W_2397,239.709 {140},Y_2243,ppm, .0160,.0793,494.4, .0721, -.0400
Zn2062,206.200 {463},In2306,ppm, .9061,.0014,.1492, .9071, .9052

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 199.68,1.6429,.82279,198.51,200.84
In2306,230.606 {446},Cts/S, 10107.,30.647,.30324,10128.,10085.
Y_2243,224.306 {450},Cts/S, 19181.,57.329,.29889,19221.,19140.
Y_3600,360.073 { 94},Cts/S, 161800.,230.98,.14276,161960.,161640.
Y_3710,371.030 { 91},Cts/S, 11586.,72.422,.62508,11535.,11637.

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Ag3280,328.068 {103},Y_3600,ppm, -.0019,.0003,14.50, -.0021, -.0017
Al3082,308.215 {109},In2306,ppm, 97.14,.1661,.1710, 97.26, 97.03
As1890,189.042 {478},Y_2243,ppm, .0815,.0016,2.023, .0827, .0804
B_2496,249.678 {135},Y_3710,ppm, .0540,.0010,1.797, .0534, .0547
Ba4554,455.403 { 74},Y_3710,ppm, 1.046,.0027,.2548, 1.044, 1.048
Be3130,313.042 {108},Y_3710,ppm, .0054,.0001,1.580, .0055, .0053
Ca3158,315.887 {107},In2306,ppm, 3077.,5.483,.1782, 3073., 3081.
Cd2288,228.802 {447},Y_2243,ppm, .0024,.0000,1.423, .0024, .0024
Co2286,228.616 {447},In2306,ppm, .0282,.0002,.7784, .0280, .0283
Cr2677,267.716 {126},Y_3600,ppm, .1321,.0001,.0959, .1322, .1321
Cu3247,324.754 {104},Y_3600,ppm, .0962,.0003,.3027, .0964, .0960
Fe2404,240.488 {140},In2306,ppm, 85.07,.3017,.3547, 85.28, 84.86
K_7664,766.490 { 44},Y_3710,ppm, 6.862,.0123,.1793, 6.853, 6.870
Li6707,670.784 { 50},Y_3710,ppm, .0998,.0003,.2632, .1000, .0996
Mg2790,279.079 {121},Y_3710,ppm, 26.64,.1407,.5282, 26.54, 26.74
Mn2576,257.610 {131},Y_3600,ppm, 4.092,.0040,.0975, 4.095, 4.089
Mo2020,202.030 {467},Y_2243,ppm, .0049,.0006,12.57, .0053, .0045
Na5895,589.592 { 57},Y_3710,ppm, 22.36,.0556,.2487, 22.33, 22.40
Ni2316,231.604 {445},In2306,ppm, .0629,.0009,1.436, .0635, .0622
P_1782,178.284 {489},In2306,ppm, 2.953,.0085,.2895, 2.959, 2.947
Pb2203,220.353 {453},In2306,ppm, .1679,.0006,.3863, .1683, .1674
S_1820,182.034 {485},Y_2243,ppm, 8.739,.0100,.1144, 8.746, 8.732
Sb2068,206.833 {463},Y_2243,ppm, .0002,.0014,675.6, -.0008, .0012
Se1960,196.090 {472},Y_2243,ppm, .0007,.0016,225.4, .0018, -.0004
Si2516,251.611 {134},Y_3710,ppm, 7.748,.0146,.1888, 7.759, 7.738
Sn1899,189.989 {477},In2306,ppm, .0303,.0009,2.825, .0297, .0309
Sr4215,421.552 { 80},Y_3710,ppm, 8.318,.0193,.2320, 8.305, 8.332
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Ti3349,334.904 {101},Y_3600,ppm, .2662,.0004,.1407, .2664, .2659
Tl1908,190.856 {477},In2306,ppm, -.0037,.0046,124.3, -.0070, -.0005
U_3670,367.007 { 92},Y_3600,ppm, 1.153,.1350,11.71, 1.249, 1.058
V_2924,292.402 {115},Y_3600,ppm, .1784,.0001,.0317, .1785, .1784
W_2397,239.709 {140},Y_2243,ppm, .0043,.0095,221.8, .0110, -.0024
Zn2062,206.200 {463},In2306,ppm, 1.592,.0026,.1646, 1.590, 1.594

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 201.83,.60620,.30035,201.40,202.26
In2306,230.606 {446},Cts/S, 10275.,1.2902,.01256,10275.,10274.
Y_2243,224.306 {450},Cts/S, 19968.,23.995,.12017,19951.,19985.
Y_3600,360.073 { 94},Cts/S, 166410.,226.49,.13610,166250.,166570.
Y_3710,371.030 { 91},Cts/S, 11806.,21.513,.18222,11821.,11790.

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Ag3280,328.068 {103},Y_3600,ppm, -.0007,.0000,6.903, -.0007, -.0008
Al3082,308.215 {109},In2306,ppm, 56.51,.2143,.3792, 56.66, 56.36
As1890,189.042 {478},Y_2243,ppm, .1679,.0023,1.350, .1695, .1663
B_2496,249.678 {135},Y_3710,ppm, .1394,.0000,.0155, .1394, .1394
Ba4554,455.403 { 74},Y_3710,ppm, 2.288,.0070,.3057, 2.293, 2.283
Be3130,313.042 {108},Y_3710,ppm, .0031,.0000,.7656, .0032, .0031
Ca3158,315.887 {107},In2306,ppm, 990.6,9.142,.9229, 984.1, 997.0
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Co2286,228.616 {447},In2306,ppm, .0473,.0004,.7753, .0475, .0470
Cr2677,267.716 {126},Y_3600,ppm, .3999,.0008,.1985, .4005, .3994
Cu3247,324.754 {104},Y_3600,ppm, .2306,.0003,.1131, .2308, .2304
Fe2404,240.488 {140},In2306,ppm, 101.7,.3463,.3404, 102.0, 101.5
K_7664,766.490 { 44},Y_3710,ppm, 17.09,.0211,.1234, 17.10, 17.07
Li6707,670.784 { 50},Y_3710,ppm, .0773,.0002,.2240, .0772, .0774
Mg2790,279.079 {121},Y_3710,ppm, 38.69,.1581,.4088, 38.80, 38.57
Mn2576,257.610 {131},Y_3600,ppm, 2.425,.0078,.3204, 2.431, 2.420
Mo2020,202.030 {467},Y_2243,ppm, .1778,.0006,.3292, .1783, .1774
Na5895,589.592 { 57},Y_3710,ppm, 37.63,.0283,.0752, 37.65, 37.61
Ni2316,231.604 {445},In2306,ppm, 1.196,.0008,.0638, 1.196, 1.195
P_1782,178.284 {489},In2306,ppm, 2.812,.0083,.2958, 2.818, 2.807
Pb2203,220.353 {453},In2306,ppm, .2751,.0031,1.121, .2773, .2730
S_1820,182.034 {485},Y_2243,ppm, 27.74,.0064,.0230, 27.74, 27.73
Sb2068,206.833 {463},Y_2243,ppm, .0022,.0022,100.7, .0037, .0006
Se1960,196.090 {472},Y_2243,ppm, .0331,.0005,1.542, .0335, .0328
Si2516,251.611 {134},Y_3710,ppm, 6.829,.0153,.2240, 6.840, 6.818
Sn1899,189.989 {477},In2306,ppm, .0372,.0003,.8773, .0375, .0370
Sr4215,421.552 { 80},Y_3710,ppm, 1.285,.0028,.2191, 1.287, 1.283
Ti3349,334.904 {101},Y_3600,ppm, .8239,.0023,.2796, .8256, .8223
Tl1908,190.856 {477},In2306,ppm, .0113,.0063,56.01, .0157, .0068
U_3670,367.007 { 92},Y_3600,ppm, .8500,.0029,.3373, .8479, .8520
V_2924,292.402 {115},Y_3600,ppm, 2.335,.0034,.1464, 2.337, 2.332
W_2397,239.709 {140},Y_2243,ppm, .0341,.0299,87.67, .0129, .0552
Zn2062,206.200 {463},In2306,ppm, 9.068,.0227,.2504, 9.084, 9.051

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 218.58,1.2059,.55169,217.73,219.43
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In2306,230.606 {446},Cts/S, 11997.,29.908,.24930,11976.,12018.
Y_2243,224.306 {450},Cts/S, 21892.,47.647,.21764,21859.,21926.
Y_3600,360.073 { 94},Cts/S, 180630.,707.93,.39191,181130.,180130.
Y_3710,371.030 { 91},Cts/S, 12345.,38.114,.30874,12318.,12372.

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Mode=CONC
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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0279,.0000,.1691, .0280, .0279
Al3082,308.215 {109},In2306,ppm, 3398.,10.12,.2980, 3391., 3405.
As1890,189.042 {478},Y_2243,ppm, -.0030,.0014,45.23, -.0021, -.0040
B_2496,249.678 {135},Y_3710,ppm, .0182,.0067,36.83, .0135, .0229
Ba4554,455.403 { 74},Y_3710,ppm, .0237,.0000,.0560, .0237, .0237
Be3130,313.042 {108},Y_3710,ppm, .0271,.0001,.4731, .0272, .0270
Ca3158,315.887 {107},In2306,ppm, 3.904,.0139,.3570, 3.913, 3.894
Cd2288,228.802 {447},Y_2243,ppm, .0057,.0000,.3428, .0057, .0057
Co2286,228.616 {447},In2306,ppm, .0288,.0001,.4626, .0288, .0289
Cr2677,267.716 {126},Y_3600,ppm, .2516,.0004,.1538, .2519, .2513
Cu3247,324.754 {104},Y_3600,ppm, .9000,.0046,.5137, .9033, .8968
Fe2404,240.488 {140},In2306,ppm, 367.7,2.944,.8006, 369.8, 365.6
K_7664,766.490 { 44},Y_3710,ppm, .2903,.0287,9.894, .2700, .3106
Li6707,670.784 { 50},Y_3710,ppm, .0877,.0008,.9446, .0882, .0871
Mg2790,279.079 {121},Y_3710,ppm, .3080,.0151,4.899, .2973, .3186
Mn2576,257.610 {131},Y_3600,ppm, 2.813,.0043,.1534, 2.816, 2.810
Mo2020,202.030 {467},Y_2243,ppm, .0068,.0017,25.50, .0056, .0080
Na5895,589.592 { 57},Y_3710,ppm, 23.97,.0177,.0740, 23.95, 23.98
Ni2316,231.604 {445},In2306,ppm, .2383,.0002,.0822, .2381, .2384
P_1782,178.284 {489},In2306,ppm, .0198,.0068,34.50, .0246, .0150
Pb2203,220.353 {453},In2306,ppm, .1208,.0040,3.334, .1180, .1237
S_1820,182.034 {485},Y_2243,ppm, -2.096,.0126,.6017, -2.105, -2.087
Sb2068,206.833 {463},Y_2243,ppm, -.1078,.0057,5.319, -.1037, -.1119
Se1960,196.090 {472},Y_2243,ppm, -.0610,.0014,2.323, -.0600, -.0620
Si2516,251.611 {134},Y_3710,ppm, .8553,.0072,.8417, .8502, .8604
Sn1899,189.989 {477},In2306,ppm, .0485,.0025,5.248, .0467, .0503
Sr4215,421.552 { 80},Y_3710,ppm, .0241,.0002,.7094, .0240, .0242
Ti3349,334.904 {101},Y_3600,ppm, .0473,.0002,.4528, .0474, .0471
Tl1908,190.856 {477},In2306,ppm, -.0492,.0003,.5899, -.0494, -.0490
U_3670,367.007 { 92},Y_3600,ppm, 2.454,.0068,.2763, 2.449, 2.459
V_2924,292.402 {115},Y_3600,ppm, .0311,.0003,1.096, .0308, .0313
W_2397,239.709 {140},Y_2243,ppm, -.0184,.0071,38.81, -.0234, -.0133
Zn2062,206.200 {463},In2306,ppm, 2.820,.0050,.1763, 2.824, 2.817

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 221.97,2.1607,.97342,220.44,223.50
In2306,230.606 {446},Cts/S, 11502.,16.897,.14690,11514.,11490.
Y_2243,224.306 {450},Cts/S, 22010.,71.293,.32391,22061.,21960.
Y_3600,360.073 { 94},Cts/S, 160320.,444.72,.27740,160000.,160630.
Y_3710,371.030 { 91},Cts/S, 12090.,16.576,.13711,12078.,12101.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0102,.0004,3.963, .0100, .0105
Al3082,308.215 {109},In2306,ppm, 3221.,61.46,1.908, 3178., 3265.
As1890,189.042 {478},Y_2243,ppm, -.0026,.0033,128.0, -.0002, -.0049
B_2496,249.678 {135},Y_3710,ppm, .0172,.0026,15.20, .0190, .0153
Ba4554,455.403 { 74},Y_3710,ppm, .0338,.0000,.1058, .0338, .0339
Be3130,313.042 {108},Y_3710,ppm, .0254,.0001,.5325, .0255, .0253
Ca3158,315.887 {107},In2306,ppm, 3.795,.0108,.2855, 3.787, 3.803
Cd2288,228.802 {447},Y_2243,ppm, .0052,.0000,.3816, .0052, .0052
Co2286,228.616 {447},In2306,ppm, .0249,.0008,3.327, .0255, .0244
Cr2677,267.716 {126},Y_3600,ppm, .2515,.0003,.1179, .2513, .2517
Cu3247,324.754 {104},Y_3600,ppm, .8233,.0057,.6974, .8192, .8273
Fe2404,240.488 {140},In2306,ppm, 341.9,.4966,.1453, 341.5, 342.2
K_7664,766.490 { 44},Y_3710,ppm, .2850,.0255,8.946, .2670, .3030
Li6707,670.784 { 50},Y_3710,ppm, .0858,.0000,.0424, .0858, .0857
Mg2790,279.079 {121},Y_3710,ppm, .2895,.0052,1.811, .2858, .2932
Mn2576,257.610 {131},Y_3600,ppm, 2.709,.0098,.3627, 2.702, 2.716
Mo2020,202.030 {467},Y_2243,ppm, .0069,.0007,9.729, .0074, .0064
Na5895,589.592 { 57},Y_3710,ppm, 22.86,.0893,.3909, 22.79, 22.92
Ni2316,231.604 {445},In2306,ppm, .2558,.0002,.0967, .2560, .2556
P_1782,178.284 {489},In2306,ppm, .0351,.0003,.9293, .0354, .0349
Pb2203,220.353 {453},In2306,ppm, .1320,.0114,8.667, .1401, .1239
S_1820,182.034 {485},Y_2243,ppm, -1.950,.0134,.6851, -1.940, -1.959
Sb2068,206.833 {463},Y_2243,ppm, -.1221,.0019,1.565, -.1208, -.1235
Se1960,196.090 {472},Y_2243,ppm, -.0520,.0065,12.47, -.0566, -.0474
Si2516,251.611 {134},Y_3710,ppm, .7454,.0061,.8220, .7411, .7497
Sn1899,189.989 {477},In2306,ppm, .0453,.0005,1.073, .0457, .0450
Sr4215,421.552 { 80},Y_3710,ppm, .0245,.0000,.1833, .0245, .0245
Ti3349,334.904 {101},Y_3600,ppm, .0646,.0001,.1349, .0645, .0646
Tl1908,190.856 {477},In2306,ppm, -.0380,.0041,10.70, -.0352, -.0409
U_3670,367.007 { 92},Y_3600,ppm, 2.319,.0020,.0843, 2.321, 2.318
V_2924,292.402 {115},Y_3600,ppm, .0262,.0003,1.310, .0259, .0264
W_2397,239.709 {140},Y_2243,ppm, .0023,.0111,492.8, .0101, -.0056
Zn2062,206.200 {463},In2306,ppm, 2.534,.0049,.1924, 2.537, 2.531

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 222.71,.19679,.08836,222.85,222.57
In2306,230.606 {446},Cts/S, 11586.,15.626,.13488,11575.,11597.
Y_2243,224.306 {450},Cts/S, 22152.,38.421,.17344,22125.,22179.
Y_3600,360.073 { 94},Cts/S, 160730.,1136.3,.70695,161540.,159930.
Y_3710,371.030 { 91},Cts/S, 12285.,30.800,.25072,12306.,12263.

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[Results]
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Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .3425,.0008,.2449, .3419, .3431
Al3082,308.215 {109},In2306,ppm, 3627.,16.25,.4482, 3615., 3638.
As1890,189.042 {478},Y_2243,ppm, .1287,.0038,2.935, .1260, .1313
B_2496,249.678 {135},Y_3710,ppm, .4192,.0004,.1038, .4189, .4195
Ba4554,455.403 { 74},Y_3710,ppm, 1.000,.0005,.0489, .9997, 1.000
Be3130,313.042 {108},Y_3710,ppm, 1.042,.0045,.4333, 1.039, 1.045
Ca3158,315.887 {107},In2306,ppm, 13.90,.0155,.1117, 13.89, 13.91
Cd2288,228.802 {447},Y_2243,ppm, 1.033,.0031,.2975, 1.035, 1.030
Co2286,228.616 {447},In2306,ppm, 1.029,.0021,.2049, 1.031, 1.028
Cr2677,267.716 {126},Y_3600,ppm, 1.089,.0101,.9233, 1.082, 1.096
Cu3247,324.754 {104},Y_3600,ppm, 1.265,.0013,.1021, 1.265, 1.266
Fe2404,240.488 {140},In2306,ppm, 65.79,.0354,.0539, 65.81, 65.76
K_7664,766.490 { 44},Y_3710,ppm, 10.33,.0497,.4813, 10.29, 10.36
Li6707,670.784 { 50},Y_3710,ppm, 1.084,.0009,.0835, 1.084, 1.083
Mg2790,279.079 {121},Y_3710,ppm, 9.508,.1063,1.118, 9.433, 9.583
Mn2576,257.610 {131},Y_3600,ppm, 1.510,.0140,.9241, 1.500, 1.520
Mo2020,202.030 {467},Y_2243,ppm, .6629,.0023,.3491, .6646, .6613
Na5895,589.592 { 57},Y_3710,ppm, 36.39,.1077,.2958, 36.32, 36.47
Ni2316,231.604 {445},In2306,ppm, 1.084,.0016,.1434, 1.085, 1.083
P_1782,178.284 {489},In2306,ppm, 2.606,.0079,.3051, 2.611, 2.600
Pb2203,220.353 {453},In2306,ppm, 1.085,.0137,1.261, 1.095, 1.075
S_1820,182.034 {485},Y_2243,ppm, .7711,.0029,.3800, .7732, .7691
Sb2068,206.833 {463},Y_2243,ppm, .9156,.0042,.4599, .9126, .9186
Se1960,196.090 {472},Y_2243,ppm, -.0341,.0079,23.18, -.0285, -.0397
Si2516,251.611 {134},Y_3710,ppm, 6.361,.0500,.7866, 6.397, 6.326
Sn1899,189.989 {477},In2306,ppm, .9715,.0001,.0142, .9714, .9716
Sr4215,421.552 { 80},Y_3710,ppm, 1.033,.0001,.0052, 1.033, 1.033
Ti3349,334.904 {101},Y_3600,ppm, 1.039,.0078,.7546, 1.034, 1.045
Tl1908,190.856 {477},In2306,ppm, .7420,.0012,.1627, .7412, .7429
U_3670,367.007 { 92},Y_3600,ppm, 1.092,.0260,2.380, 1.074, 1.111
V_2924,292.402 {115},Y_3600,ppm, .9740,.0087,.8969, .9678, .9801
W_2397,239.709 {140},Y_2243,ppm, -.1164,.0702,60.27, -.0668, -.1660
Zn2062,206.200 {463},In2306,ppm, 1.497,.0054,.3577, 1.501, 1.494

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 219.58,1.2971,.59071,218.67,220.50
In2306,230.606 {446},Cts/S, 11400.,26.878,.23578,11419.,11381.
Y_2243,224.306 {450},Cts/S, 22023.,1.7029,.00773,22024.,22022.
Y_3600,360.073 { 94},Cts/S, 158330.,1410.4,.89081,159320.,157330.
Y_3710,371.030 { 91},Cts/S, 12048.,52.886,.43894,12011.,12086.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0018,.0006,33.48, .0014, .0022
Al3082,308.215 {109},In2306,ppm, 25.62,.1436,.5605, 25.72, 25.52
As1890,189.042 {478},Y_2243,ppm, .0513,.0003,.5605, .0511, .0516
B_2496,249.678 {135},Y_3710,ppm, .0238,.0051,21.22, .0274, .0202
Ba4554,455.403 { 74},Y_3710,ppm, .0949,.0004,.4353, .0946, .0952
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,11.54, .0000, .0000
Ca3158,315.887 {107},In2306,ppm, -.0603,.0016,2.581, -.0614, -.0592
Cd2288,228.802 {447},Y_2243,ppm, .0138,.0003,2.025, .0136, .0140
Co2286,228.616 {447},In2306,ppm, .1296,.0005,.3817, .1300, .1293
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Cr2677,267.716 {126},Y_3600,ppm, 22.26,.0428,.1923, 22.29, 22.23
Cu3247,324.754 {104},Y_3600,ppm, .2150,.0009,.4290, .2144, .2157
Fe2404,240.488 {140},In2306,ppm, 650.5,1.157,.1779, 651.3, 649.7
K_7664,766.490 { 44},Y_3710,ppm, 7.203,.0168,.2332, 7.215, 7.191
Li6707,670.784 { 50},Y_3710,ppm, .0006,.0009,153.3, -.0001, .0013
Mg2790,279.079 {121},Y_3710,ppm, .1175,.0035,2.939, .1200, .1151
Mn2576,257.610 {131},Y_3600,ppm, 4.683,.0513,1.096, 4.646, 4.719
Mo2020,202.030 {467},Y_2243,ppm, .0290,.0007,2.537, .0284, .0295
Na5895,589.592 { 57},Y_3710,ppm, .2785,.0088,3.174, .2847, .2722
Ni2316,231.604 {445},In2306,ppm, .1572,.0004,.2378, .1575, .1569
P_1782,178.284 {489},In2306,ppm, .6429,.0056,.8682, .6468, .6390
Pb2203,220.353 {453},In2306,ppm, 49.08,.2944,.5999, 49.29, 48.88
S_1820,182.034 {485},Y_2243,ppm, 4.850,.0438,.9031, 4.881, 4.819
Sb2068,206.833 {463},Y_2243,ppm, -.1811,.0000,.0094, -.1812, -.1811
Se1960,196.090 {472},Y_2243,ppm, .0028,.0001,4.217, .0029, .0027
Si2516,251.611 {134},Y_3710,ppm, .3175,.0025,.7886, .3157, .3193
Sn1899,189.989 {477},In2306,ppm, .0140,.0002,1.706, .0139, .0142
Sr4215,421.552 { 80},Y_3710,ppm, .0035,.0002,7.134, .0037, .0033
Ti3349,334.904 {101},Y_3600,ppm, .0058,.0004,6.501, .0061, .0056
Tl1908,190.856 {477},In2306,ppm, .0427,.0013,2.949, .0418, .0436
U_3670,367.007 { 92},Y_3600,ppm, 3.813,.0793,2.080, 3.869, 3.757
V_2924,292.402 {115},Y_3600,ppm, .0249,.0004,1.474, .0246, .0252
W_2397,239.709 {140},Y_2243,ppm, -.0480,.0440,91.81, -.0791, -.0168
Zn2062,206.200 {463},In2306,ppm, 25.44,.0611,.2403, 25.48, 25.39

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 238.15,1.2119,.50886,237.29,239.01
In2306,230.606 {446},Cts/S, 14498.,13.041,.08996,14507.,14488.
Y_2243,224.306 {450},Cts/S, 22815.,8.5466,.03746,22821.,22809.
Y_3600,360.073 { 94},Cts/S, 189720.,606.37,.31961,190150.,189300.
Y_3710,371.030 { 91},Cts/S, 12296.,17.074,.13886,12284.,12308.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .2961,.0015,.5001, .2951, .2972
Al3082,308.215 {109},In2306,ppm, 138.7,.7413,.5344, 139.2, 138.2
As1890,189.042 {478},Y_2243,ppm, 1.597,.0054,.3359, 1.601, 1.593
B_2496,249.678 {135},Y_3710,ppm, .6485,.0013,.2059, .6476, .6494
Ba4554,455.403 { 74},Y_3710,ppm, 2.140,.0041,.1894, 2.137, 2.143
Be3130,313.042 {108},Y_3710,ppm, .8944,.0040,.4454, .8916, .8972
Ca3158,315.887 {107},In2306,ppm, 775.2,1.751,.2259, 773.9, 776.4
Cd2288,228.802 {447},Y_2243,ppm, .9911,.0008,.0762, .9916, .9905
Co2286,228.616 {447},In2306,ppm, 1.121,.0038,.3345, 1.124, 1.119
Cr2677,267.716 {126},Y_3600,ppm, 1.121,.0064,.5674, 1.117, 1.126
Cu3247,324.754 {104},Y_3600,ppm, 1.764,.0004,.0233, 1.764, 1.764
Fe2404,240.488 {140},In2306,ppm, 363.6,.8780,.2415, 364.2, 363.0
K_7664,766.490 { 44},Y_3710,ppm, 22.67,.0641,.2828, 22.62, 22.71
Li6707,670.784 { 50},Y_3710,ppm, 1.121,.0009,.0807, 1.120, 1.121
Mg2790,279.079 {121},Y_3710,ppm, 192.6,.7067,.3668, 192.1, 193.1
Mn2576,257.610 {131},Y_3600,ppm, 5.283,.0143,.2709, 5.272, 5.293
Mo2020,202.030 {467},Y_2243,ppm, .9645,.0029,.2969, .9665, .9624
Na5895,589.592 { 57},Y_3710,ppm, 11.04,.0063,.0568, 11.04, 11.04
Ni2316,231.604 {445},In2306,ppm, 1.283,.0046,.3587, 1.286, 1.280
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P_1782,178.284 {489},In2306,ppm, 14.72,.0269,.1828, 14.73, 14.70
Pb2203,220.353 {453},In2306,ppm, 2.472,.0114,.4615, 2.480, 2.464
S_1820,182.034 {485},Y_2243,ppm, 18.44,.0087,.0474, 18.43, 18.44
Sb2068,206.833 {463},Y_2243,ppm, 1.518,.0050,.3300, 1.522, 1.515
Se1960,196.090 {472},Y_2243,ppm, .9509,.0055,.5790, .9548, .9470
Si2516,251.611 {134},Y_3710,ppm, 12.50,.0777,.6218, 12.45, 12.56
Sn1899,189.989 {477},In2306,ppm, 1.014,.0076,.7534, 1.019, 1.009
Sr4215,421.552 { 80},Y_3710,ppm, 1.548,.0023,.1475, 1.546, 1.550
Ti3349,334.904 {101},Y_3600,ppm, 2.810,.0059,.2105, 2.806, 2.814
Tl1908,190.856 {477},In2306,ppm, .9175,.0104,1.137, .9249, .9101
U_3670,367.007 { 92},Y_3600,ppm, 2.884,.0113,.3928, 2.876, 2.892
V_2924,292.402 {115},Y_3600,ppm, 1.243,.0049,.3969, 1.240, 1.247
W_2397,239.709 {140},Y_2243,ppm, .3120,.0154,4.934, .3012, .3229
Zn2062,206.200 {463},In2306,ppm, 4.190,.0244,.5829, 4.207, 4.172

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 219.29,1.2953,.59069,218.38,220.21
In2306,230.606 {446},Cts/S, 11751.,28.131,.23939,11771.,11731.
Y_2243,224.306 {450},Cts/S, 22039.,83.882,.38060,22099.,21980.
Y_3600,360.073 { 94},Cts/S, 184000.,585.85,.31840,184410.,183590.
Y_3710,371.030 { 91},Cts/S, 12959.,1.3307,.01027,12960.,12958.

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Run Time=11/13/2019 19:50:14
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Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0002,.0001,84.56, .0001, .0003
Al3082,308.215 {109},In2306,ppm, 30.43,.5144,1.691, 30.79, 30.06
As1890,189.042 {478},Y_2243,ppm, .1645,.0012,.7541, .1636, .1654
B_2496,249.678 {135},Y_3710,ppm, .0447,.0006,1.306, .0443, .0452
Ba4554,455.403 { 74},Y_3710,ppm, .3208,.0028,.8783, .3188, .3228
Be3130,313.042 {108},Y_3710,ppm, .0033,.0000,1.278, .0033, .0032
Ca3158,315.887 {107},In2306,ppm, 196.4,2.949,1.501, 198.5, 194.3
Cd2288,228.802 {447},Y_2243,ppm, .0039,.0000,.9441, .0039, .0039
Co2286,228.616 {447},In2306,ppm, .0349,.0002,.5366, .0350, .0348
Cr2677,267.716 {126},Y_3600,ppm, .0678,.0009,1.295, .0685, .0672
Cu3247,324.754 {104},Y_3600,ppm, .2029,.0004,.2095, .2026, .2032
Fe2404,240.488 {140},In2306,ppm, 91.64,1.331,1.452, 92.58, 90.70
K_7664,766.490 { 44},Y_3710,ppm, 3.381,.0380,1.123, 3.354, 3.408
Li6707,670.784 { 50},Y_3710,ppm, .0386,.0001,.3276, .0387, .0385
Mg2790,279.079 {121},Y_3710,ppm, 50.18,.4939,.9842, 49.83, 50.53
Mn2576,257.610 {131},Y_3600,ppm, 1.237,.0044,.3597, 1.240, 1.234
Mo2020,202.030 {467},Y_2243,ppm, .0111,.0002,2.232, .0113, .0110
Na5895,589.592 { 57},Y_3710,ppm, .3088,.0018,.5933, .3101, .3075
Ni2316,231.604 {445},In2306,ppm, .0786,.0002,.2105, .0784, .0787
P_1782,178.284 {489},In2306,ppm, 2.129,.0060,.2832, 2.133, 2.125
Pb2203,220.353 {453},In2306,ppm, .3963,.0002,.0565, .3961, .3964
S_1820,182.034 {485},Y_2243,ppm, 3.525,.0036,.1026, 3.528, 3.523
Sb2068,206.833 {463},Y_2243,ppm, .0075,.0017,23.03, .0087, .0063
Se1960,196.090 {472},Y_2243,ppm, .0048,.0012,24.36, .0040, .0057
Si2516,251.611 {134},Y_3710,ppm, 1.078,.0087,.8031, 1.072, 1.084
Sn1899,189.989 {477},In2306,ppm, .0163,.0002,1.345, .0161, .0164
Sr4215,421.552 { 80},Y_3710,ppm, .1632,.0017,1.028, .1621, .1644
Ti3349,334.904 {101},Y_3600,ppm, .5063,.0012,.2358, .5072, .5055
Tl1908,190.856 {477},In2306,ppm, .0193,.0026,13.58, .0174, .0212
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U_3670,367.007 { 92},Y_3600,ppm, .6248,.0762,12.20, .5709, .6787
V_2924,292.402 {115},Y_3600,ppm, .0871,.0006,.6799, .0875, .0867
W_2397,239.709 {140},Y_2243,ppm, -.0326,.0326,99.94, -.0556, -.0096
Zn2062,206.200 {463},In2306,ppm, .9380,.0034,.3633, .9356, .9404

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 231.32,6.2092,2.6842,226.93,235.72
In2306,230.606 {446},Cts/S, 13784.,15.114,.10965,13774.,13795.
Y_2243,224.306 {450},Cts/S, 22863.,32.919,.14399,22839.,22886.
Y_3600,360.073 { 94},Cts/S, 189610.,100.60,.05306,189540.,189680.
Y_3710,371.030 { 91},Cts/S, 12362.,115.73,.93618,12281.,12444.

[Sample Header]
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SampleName=CCV 3346819
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=11/13/2019 19:52:11
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .5770,.0004,.0672, .5773, .5767
Al3082,308.215 {109},In2306,ppm, 19.28,.0100,.0518, 19.28, 19.29
As1890,189.042 {478},Y_2243,ppm, .9570,.0685,7.161, 1.005, .9086
B_2496,249.678 {135},Y_3710,ppm, .9889,.0142,1.438, .9789, .9990
Ba4554,455.403 { 74},Y_3710,ppm, 1.008,.0012,.1206, 1.008, 1.009
Be3130,313.042 {108},Y_3710,ppm, .9683,.0015,.1507, .9673, .9694
Ca3158,315.887 {107},In2306,ppm, 19.43,.0426,.2195, 19.40, 19.46
Cd2288,228.802 {447},Y_2243,ppm, .9733,.0700,7.188, 1.023, .9239
Co2286,228.616 {447},In2306,ppm, .9307,.0680,7.311, .9788, .8826
Cr2677,267.716 {126},Y_3600,ppm, 1.000,.0019,.1908, 1.001, .9987
Cu3247,324.754 {104},Y_3600,ppm, 1.001,.0008,.0781, 1.001, 1.002
Fe2404,240.488 {140},In2306,ppm, 19.98,.1067,.5342, 19.90, 20.05
K_7664,766.490 { 44},Y_3710,ppm, 19.55,.0257,.1317, 19.57, 19.53
Li6707,670.784 { 50},Y_3710,ppm, .9935,.0026,.2609, .9917, .9954
Mg2790,279.079 {121},Y_3710,ppm, 19.47,.0494,.2538, 19.43, 19.50
Mn2576,257.610 {131},Y_3600,ppm, 1.004,.0005,.0521, 1.004, 1.003
Mo2020,202.030 {467},Y_2243,ppm, .9813,.0713,7.268, 1.032, .9309
Na5895,589.592 { 57},Y_3710,ppm, 19.76,.0245,.1238, 19.75, 19.78
Ni2316,231.604 {445},In2306,ppm, .9341,.0695,7.441, .9832, .8849
P_1782,178.284 {489},In2306,ppm, 9.237,.6710,7.264, 9.712, 8.763
Pb2203,220.353 {453},In2306,ppm, .9333,.0651,6.978, .9793, .8872
S_1820,182.034 {485},Y_2243,ppm, 9.946,.7136,7.175, 10.45, 9.441
Sb2068,206.833 {463},Y_2243,ppm, 2.027,.1497,7.387, 2.133, 1.921
Se1960,196.090 {472},Y_2243,ppm, .9565,.0623,6.512, 1.001, .9125
Si2516,251.611 {134},Y_3710,ppm, 9.551,.0089,.0931, 9.557, 9.545
Sn1899,189.989 {477},In2306,ppm, .9201,.0675,7.333, .9678, .8724
Sr4215,421.552 { 80},Y_3710,ppm, 1.010,.0025,.2508, 1.008, 1.012
Ti3349,334.904 {101},Y_3600,ppm, 1.006,.0002,.0204, 1.006, 1.006
Tl1908,190.856 {477},In2306,ppm, .9232,.0642,6.954, .9686, .8778
U_3670,367.007 { 92},Y_3600,ppm, 1.086,.0082,.7517, 1.092, 1.080
V_2924,292.402 {115},Y_3600,ppm, 1.016,.0006,.0552, 1.016, 1.017
W_2397,239.709 {140},Y_2243,ppm, .9363,.0104,1.107, .9290, .9437
Zn2062,206.200 {463},In2306,ppm, .9283,.0682,7.343, .9765, .8801

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 238.07,.31454,.13212,237.85,238.29
In2306,230.606 {446},Cts/S, 15400.,859.72,5.5827,14792.,16008.
Y_2243,224.306 {450},Cts/S, 24490.,1352.6,5.5229,23534.,25446.
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Y_3600,360.073 { 94},Cts/S, 193750.,32.599,.01683,193770.,193720.
Y_3710,371.030 { 91},Cts/S, 12425.,12.293,.09894,12416.,12434.

[Sample Header]
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SampleName=CCVL 3335863
Username=admin
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Custom ID2=
Custom ID3=
Run Time=11/13/2019 19:54:00
Sample Type=Unk
Mode=CONC
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0115,.0007,5.667, .0120, .0111
Al3082,308.215 {109},In2306,ppm, .2032,.0110,5.421, .2110, .1954
As1890,189.042 {478},Y_2243,ppm, .0235,.0008,3.393, .0229, .0240
B_2496,249.678 {135},Y_3710,ppm, .0887,.0060,6.764, .0930, .0845
Ba4554,455.403 { 74},Y_3710,ppm, .0220,.0001,.2425, .0220, .0221
Be3130,313.042 {108},Y_3710,ppm, .0110,.0002,1.860, .0111, .0108
Ca3158,315.887 {107},In2306,ppm, 1.009,.0001,.0102, 1.009, 1.009
Cd2288,228.802 {447},Y_2243,ppm, .0113,.0001,.4791, .0114, .0113
Co2286,228.616 {447},In2306,ppm, .0101,.0001,1.065, .0101, .0102
Cr2677,267.716 {126},Y_3600,ppm, .0112,.0001,1.332, .0113, .0111
Cu3247,324.754 {104},Y_3600,ppm, .0113,.0001,1.212, .0112, .0114
Fe2404,240.488 {140},In2306,ppm, .2294,.0138,5.996, .2391, .2197
K_7664,766.490 { 44},Y_3710,ppm, 1.020,.0258,2.527, 1.038, 1.001
Li6707,670.784 { 50},Y_3710,ppm, .0117,.0011,9.464, .0110, .0125
Mg2790,279.079 {121},Y_3710,ppm, 1.034,.0350,3.389, 1.059, 1.009
Mn2576,257.610 {131},Y_3600,ppm, .0114,.0001,.4744, .0114, .0114
Mo2020,202.030 {467},Y_2243,ppm, .0158,.0001,.5241, .0159, .0157
Na5895,589.592 { 57},Y_3710,ppm, 1.036,.0030,.2854, 1.034, 1.038
Ni2316,231.604 {445},In2306,ppm, .0107,.0001,.9563, .0106, .0107
P_1782,178.284 {489},In2306,ppm, .9231,.0011,.1221, .9223, .9239
Pb2203,220.353 {453},In2306,ppm, .0113,.0012,10.40, .0104, .0121
S_1820,182.034 {485},Y_2243,ppm, .5285,.0026,.4839, .5267, .5304
Sb2068,206.833 {463},Y_2243,ppm, .0555,.0003,.5208, .0553, .0557
Se1960,196.090 {472},Y_2243,ppm, .0247,.0009,3.552, .0241, .0254
Si2516,251.611 {134},Y_3710,ppm, .2037,.0138,6.781, .2135, .1940
Sn1899,189.989 {477},In2306,ppm, .0205,.0003,1.671, .0203, .0208
Sr4215,421.552 { 80},Y_3710,ppm, .0113,.0000,.3765, .0113, .0113
Ti3349,334.904 {101},Y_3600,ppm, .0111,.0003,3.034, .0114, .0109
Tl1908,190.856 {477},In2306,ppm, .0372,.0014,3.763, .0382, .0362
U_3670,367.007 { 92},Y_3600,ppm, .1505,.0080,5.323, .1562, .1449
V_2924,292.402 {115},Y_3600,ppm, .0108,.0000,.2434, .0108, .0109
W_2397,239.709 {140},Y_2243,ppm, .0705,.0792,112.3, .0145, .1265
Zn2062,206.200 {463},In2306,ppm, .0181,.0001,.6062, .0180, .0182

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 245.01,.08851,.03612,244.94,245.07
In2306,230.606 {446},Cts/S, 16370.,10.620,.06487,16362.,16377.
Y_2243,224.306 {450},Cts/S, 24142.,89.177,.36938,24079.,24205.
Y_3600,360.073 { 94},Cts/S, 202300.,874.37,.43222,202920.,201680.
Y_3710,371.030 { 91},Cts/S, 12540.,5.4652,.04358,12537.,12544.

[Sample Header]
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Comment=
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Custom ID2=
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Custom ID3=
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Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0003,.0003,130.1, -.0000, -.0005
Al3082,308.215 {109},In2306,ppm, .0106,.0172,163.1, .0228, -.0016
As1890,189.042 {478},Y_2243,ppm, .0007,.0009,127.7, .0014, .0001
B_2496,249.678 {135},Y_3710,ppm, .0011,.0012,109.3, .0019, .0002
Ba4554,455.403 { 74},Y_3710,ppm, -.0004,.0002,45.07, -.0003, -.0005
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,3.475, -.0001, -.0001
Ca3158,315.887 {107},In2306,ppm, -.0136,.0006,4.167, -.0132, -.0140
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0001,342.8, -.0000, .0001
Co2286,228.616 {447},In2306,ppm, -.0000,.0001,934.0, .0000, -.0001
Cr2677,267.716 {126},Y_3600,ppm, .0003,.0002,54.20, .0004, .0002
Cu3247,324.754 {104},Y_3600,ppm, .0000,.0003,4542., .0002, -.0002
Fe2404,240.488 {140},In2306,ppm, .0142,.0020,14.37, .0157, .0128
K_7664,766.490 { 44},Y_3710,ppm, -.0590,.0014,2.410, -.0600, -.0580
Li6707,670.784 { 50},Y_3710,ppm, -.0006,.0001,15.82, -.0006, -.0005
Mg2790,279.079 {121},Y_3710,ppm, .0101,.0220,217.8, -.0054, .0256
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,101.8, -.0001, -.0000
Mo2020,202.030 {467},Y_2243,ppm, -.0004,.0000,6.299, -.0004, -.0004
Na5895,589.592 { 57},Y_3710,ppm, -.0330,.0056,16.97, -.0369, -.0290
Ni2316,231.604 {445},In2306,ppm, -.0000,.0001,149.9, -.0001, .0000
P_1782,178.284 {489},In2306,ppm, .0006,.0004,75.91, .0009, .0003
Pb2203,220.353 {453},In2306,ppm, .0002,.0003,145.2, -.0000, .0005
S_1820,182.034 {485},Y_2243,ppm, .0183,.0004,1.922, .0186, .0181
Sb2068,206.833 {463},Y_2243,ppm, .0021,.0003,16.37, .0024, .0019
Se1960,196.090 {472},Y_2243,ppm, .0012,.0012,104.2, .0021, .0003
Si2516,251.611 {134},Y_3710,ppm, -.0005,.0073,1404., .0046, -.0056
Sn1899,189.989 {477},In2306,ppm, .0000,.0003,1077., .0003, -.0002
Sr4215,421.552 { 80},Y_3710,ppm, -.0000,.0002,532.7, .0001, -.0002
Ti3349,334.904 {101},Y_3600,ppm, -.0001,.0003,228.1, .0001, -.0003
Tl1908,190.856 {477},In2306,ppm, .0099,.0003,3.273, .0101, .0097
U_3670,367.007 { 92},Y_3600,ppm, .1392,.0052,3.751, .1356, .1429
V_2924,292.402 {115},Y_3600,ppm, -.0001,.0004,490.2, .0002, -.0003
W_2397,239.709 {140},Y_2243,ppm, -.0089,.0174,196.1, .0034, -.0212
Zn2062,206.200 {463},In2306,ppm, -.0012,.0000,4.022, -.0012, -.0011

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 246.94,2.0701,.83829,245.48,248.40
In2306,230.606 {446},Cts/S, 16521.,8.8000,.05326,16515.,16527.
Y_2243,224.306 {450},Cts/S, 24058.,59.884,.24892,24016.,24100.
Y_3600,360.073 { 94},Cts/S, 201620.,519.52,.25768,201990.,201250.
Y_3710,371.030 { 91},Cts/S, 12667.,27.658,.21835,12686.,12647.

[Sample Header]
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SampleName=Rinse7
Username=admin
Comment=
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Custom ID3=
Run Time=11/13/2019 19:58:10
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0008,.0004,47.92, .0011, .0006
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Al3082,308.215 {109},In2306,ppm, .0155,.0042,26.79, .0184, .0126
As1890,189.042 {478},Y_2243,ppm, .0014,.0003,20.48, .0012, .0017
B_2496,249.678 {135},Y_3710,ppm, -.0017,.0096,574.9, .0051, -.0084
Ba4554,455.403 { 74},Y_3710,ppm, -.0000,.0002,2192., .0001, -.0001
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,5.608, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, -.0151,.0014,9.272, -.0141, -.0161
Cd2288,228.802 {447},Y_2243,ppm, -.0003,.0000,10.14, -.0003, -.0002
Co2286,228.616 {447},In2306,ppm, .0000,.0000,1.467, .0000, .0000
Cr2677,267.716 {126},Y_3600,ppm, .0001,.0000,37.86, .0000, .0001
Cu3247,324.754 {104},Y_3600,ppm, .0007,.0002,23.29, .0009, .0006
Fe2404,240.488 {140},In2306,ppm, .0106,.0029,26.91, .0086, .0127
K_7664,766.490 { 44},Y_3710,ppm, -.0494,.0143,28.84, -.0394, -.0595
Li6707,670.784 { 50},Y_3710,ppm, -.0004,.0001,36.19, -.0003, -.0004
Mg2790,279.079 {121},Y_3710,ppm, .0084,.0007,8.852, .0078, .0089
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,6.367, -.0000, -.0000
Mo2020,202.030 {467},Y_2243,ppm, -.0007,.0002,23.91, -.0008, -.0006
Na5895,589.592 { 57},Y_3710,ppm, -.0407,.0023,5.666, -.0423, -.0390
Ni2316,231.604 {445},In2306,ppm, .0004,.0000,8.104, .0003, .0004
P_1782,178.284 {489},In2306,ppm, -.0014,.0008,54.60, -.0009, -.0020
Pb2203,220.353 {453},In2306,ppm, -.0001,.0000,11.63, -.0001, -.0001
S_1820,182.034 {485},Y_2243,ppm, .0077,.0035,44.98, .0102, .0053
Sb2068,206.833 {463},Y_2243,ppm, -.0010,.0014,139.5, -.0020, -.0000
Se1960,196.090 {472},Y_2243,ppm, .0003,.0017,535.9, -.0009, .0015
Si2516,251.611 {134},Y_3710,ppm, .0931,.0045,4.825, .0963, .0900
Sn1899,189.989 {477},In2306,ppm, -.0001,.0002,270.2, .0001, -.0002
Sr4215,421.552 { 80},Y_3710,ppm, .0000,.0000,189.8, -.0000, .0000
Ti3349,334.904 {101},Y_3600,ppm, -.0002,.0001,22.31, -.0003, -.0002
Tl1908,190.856 {477},In2306,ppm, .0064,.0007,10.80, .0069, .0060
U_3670,367.007 { 92},Y_3600,ppm, .0934,.0350,37.48, .0686, .1182
V_2924,292.402 {115},Y_3600,ppm, .0002,.0002,89.44, .0001, .0003
W_2397,239.709 {140},Y_2243,ppm, .0003,.0123,3711., .0090, -.0083
Zn2062,206.200 {463},In2306,ppm, -.0013,.0001,5.785, -.0014, -.0012

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 255.28,1.2124,.47495,256.14,254.42
In2306,230.606 {446},Cts/S, 17364.,23.903,.13766,17381.,17347.
Y_2243,224.306 {450},Cts/S, 24849.,32.148,.12937,24872.,24826.
Y_3600,360.073 { 94},Cts/S, 205780.,230.63,.11207,205620.,205950.
Y_3710,371.030 { 91},Cts/S, 12752.,1.2644,.00992,12753.,12751.

[Sample Header]
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Username=admin
Comment=
Custom ID1=
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Custom ID3=
Run Time=11/13/2019 20:00:16
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0002,.0002,106.2, .0004, .0001
Al3082,308.215 {109},In2306,ppm, -.0012,.0068,560.5, -.0060, .0036
As1890,189.042 {478},Y_2243,ppm, .0037,.0014,36.93, .0047, .0028
B_2496,249.678 {135},Y_3710,ppm, -.0043,.0002,5.073, -.0041, -.0045
Ba4554,455.403 { 74},Y_3710,ppm, -.0002,.0000,17.05, -.0002, -.0003
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,558.0, -.0001, .0001
Ca3158,315.887 {107},In2306,ppm, -.0200,.0016,8.207, -.0189, -.0212
Cd2288,228.802 {447},Y_2243,ppm, -.0003,.0001,40.66, -.0002, -.0004
Co2286,228.616 {447},In2306,ppm, .0001,.0001,158.2, .0002, -.0000
Cr2677,267.716 {126},Y_3600,ppm, .0001,.0000,60.75, .0000, .0001
Cu3247,324.754 {104},Y_3600,ppm, .0005,.0001,15.45, .0006, .0005
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Fe2404,240.488 {140},In2306,ppm, .0001,.0052,4114., -.0035, .0038
K_7664,766.490 { 44},Y_3710,ppm, -.0616,.0002,.3184, -.0617, -.0615
Li6707,670.784 { 50},Y_3710,ppm, -.0008,.0009,110.8, -.0015, -.0002
Mg2790,279.079 {121},Y_3710,ppm, .0225,.0199,88.77, .0084, .0366
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,9.162, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, -.0006,.0000,3.383, -.0006, -.0006
Na5895,589.592 { 57},Y_3710,ppm, -.0424,.0018,4.230, -.0412, -.0437
Ni2316,231.604 {445},In2306,ppm, .0006,.0003,48.26, .0007, .0004
P_1782,178.284 {489},In2306,ppm, -.0023,.0002,10.08, -.0021, -.0025
Pb2203,220.353 {453},In2306,ppm, .0005,.0006,122.5, .0009, .0001
S_1820,182.034 {485},Y_2243,ppm, .0046,.0026,57.00, .0028, .0065
Sb2068,206.833 {463},Y_2243,ppm, -.0002,.0003,203.4, -.0004, .0001
Se1960,196.090 {472},Y_2243,ppm, .0001,.0009,1561., -.0005, .0007
Si2516,251.611 {134},Y_3710,ppm, .0515,.0121,23.56, .0601, .0429
Sn1899,189.989 {477},In2306,ppm, -.0003,.0003,91.02, -.0001, -.0005
Sr4215,421.552 { 80},Y_3710,ppm, .0000,.0001,594.6, .0001, -.0000
Ti3349,334.904 {101},Y_3600,ppm, .0003,.0001,16.81, .0003, .0004
Tl1908,190.856 {477},In2306,ppm, .0079,.0014,17.27, .0069, .0089
U_3670,367.007 { 92},Y_3600,ppm, .1087,.0055,5.088, .1126, .1048
V_2924,292.402 {115},Y_3600,ppm, .0001,.0002,230.7, -.0001, .0002
W_2397,239.709 {140},Y_2243,ppm, .0104,.0365,351.9, .0362, -.0154
Zn2062,206.200 {463},In2306,ppm, -.0013,.0001,5.889, -.0013, -.0014

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 253.80,.11236,.04427,253.88,253.72
In2306,230.606 {446},Cts/S, 17240.,18.828,.10921,17254.,17227.
Y_2243,224.306 {450},Cts/S, 24611.,94.785,.38513,24678.,24544.
Y_3600,360.073 { 94},Cts/S, 203550.,271.40,.13333,203740.,203360.
Y_3710,371.030 { 91},Cts/S, 12739.,61.890,.48584,12783.,12695.

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Custom ID3=
Run Time=11/13/2019 20:02:22
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CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0002,.0001,31.57, .0002, .0003
Al3082,308.215 {109},In2306,ppm, -.0058,.0004,7.270, -.0061, -.0055
As1890,189.042 {478},Y_2243,ppm, .0029,.0001,3.614, .0028, .0030
B_2496,249.678 {135},Y_3710,ppm, -.0005,.0040,795.5, .0023, -.0033
Ba4554,455.403 { 74},Y_3710,ppm, -.0005,.0000,9.686, -.0004, -.0005
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,453.4, .0000, -.0001
Ca3158,315.887 {107},In2306,ppm, -.0260,.0014,5.446, -.0250, -.0270
Cd2288,228.802 {447},Y_2243,ppm, -.0002,.0000,12.05, -.0003, -.0002
Co2286,228.616 {447},In2306,ppm, .0000,.0000,133.2, .0001, .0000
Cr2677,267.716 {126},Y_3600,ppm, -.0000,.0001,517.7, .0001, -.0001
Cu3247,324.754 {104},Y_3600,ppm, .0003,.0002,74.63, .0002, .0005
Fe2404,240.488 {140},In2306,ppm, -.0019,.0117,628.4, .0064, -.0101
K_7664,766.490 { 44},Y_3710,ppm, -.0626,.0450,71.92, -.0945, -.0308
Li6707,670.784 { 50},Y_3710,ppm, -.0006,.0010,157.0, .0001, -.0013
Mg2790,279.079 {121},Y_3710,ppm, .0075,.0033,43.88, .0098, .0052
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,29.43, -.0001, -.0002
Mo2020,202.030 {467},Y_2243,ppm, -.0008,.0001,14.15, -.0008, -.0009
Na5895,589.592 { 57},Y_3710,ppm, -.0410,.0001,.2183, -.0411, -.0410
Ni2316,231.604 {445},In2306,ppm, .0006,.0000,.7659, .0006, .0006
P_1782,178.284 {489},In2306,ppm, -.0017,.0001,4.626, -.0016, -.0017
Pb2203,220.353 {453},In2306,ppm, .0009,.0004,39.68, .0007, .0012
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S_1820,182.034 {485},Y_2243,ppm, -.0062,.0024,39.12, -.0045, -.0079
Sb2068,206.833 {463},Y_2243,ppm, -.0018,.0013,70.07, -.0009, -.0027
Se1960,196.090 {472},Y_2243,ppm, .0022,.0019,84.73, .0009, .0035
Si2516,251.611 {134},Y_3710,ppm, .0488,.0128,26.17, .0579, .0398
Sn1899,189.989 {477},In2306,ppm, -.0006,.0003,40.19, -.0005, -.0008
Sr4215,421.552 { 80},Y_3710,ppm, -.0000,.0000,91.72, -.0000, -.0000
Ti3349,334.904 {101},Y_3600,ppm, .0001,.0000,59.66, .0000, .0001
Tl1908,190.856 {477},In2306,ppm, .0057,.0021,35.67, .0043, .0072
U_3670,367.007 { 92},Y_3600,ppm, .1370,.0409,29.88, .1659, .1081
V_2924,292.402 {115},Y_3600,ppm, -.0001,.0000,14.82, -.0001, -.0001
W_2397,239.709 {140},Y_2243,ppm, .0530,.0547,103.2, .0143, .0917
Zn2062,206.200 {463},In2306,ppm, -.0015,.0000,1.347, -.0015, -.0015

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 253.00,.08145,.03219,252.94,253.06
In2306,230.606 {446},Cts/S, 17250.,41.141,.23850,17279.,17221.
Y_2243,224.306 {450},Cts/S, 24533.,87.062,.35488,24594.,24471.
Y_3600,360.073 { 94},Cts/S, 203000.,222.15,.10943,203160.,202840.
Y_3710,371.030 { 91},Cts/S, 12652.,53.537,.42316,12689.,12614.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0004,.0000,5.931, .0003, .0004
Al3082,308.215 {109},In2306,ppm, .0014,.0014,103.0, .0004, .0024
As1890,189.042 {478},Y_2243,ppm, .0027,.0010,37.89, .0020, .0034
B_2496,249.678 {135},Y_3710,ppm, -.0032,.0023,71.76, -.0016, -.0048
Ba4554,455.403 { 74},Y_3710,ppm, -.0003,.0000,10.33, -.0003, -.0003
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,6187., .0000, -.0000
Ca3158,315.887 {107},In2306,ppm, -.0225,.0031,13.67, -.0203, -.0247
Cd2288,228.802 {447},Y_2243,ppm, -.0004,.0000,1.254, -.0004, -.0004
Co2286,228.616 {447},In2306,ppm, .0000,.0000,168.2, -.0000, .0001
Cr2677,267.716 {126},Y_3600,ppm, -.0001,.0002,261.7, .0001, -.0002
Cu3247,324.754 {104},Y_3600,ppm, .0007,.0001,18.67, .0008, .0006
Fe2404,240.488 {140},In2306,ppm, .0046,.0003,7.271, .0048, .0044
K_7664,766.490 { 44},Y_3710,ppm, -.0526,.0041,7.730, -.0498, -.0555
Li6707,670.784 { 50},Y_3710,ppm, -.0009,.0003,28.19, -.0007, -.0011
Mg2790,279.079 {121},Y_3710,ppm, -.0043,.0060,140.5, -.0000, -.0085
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,12.07, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, -.0008,.0002,31.18, -.0009, -.0006
Na5895,589.592 { 57},Y_3710,ppm, -.0439,.0024,5.479, -.0456, -.0422
Ni2316,231.604 {445},In2306,ppm, .0004,.0002,67.46, .0002, .0005
P_1782,178.284 {489},In2306,ppm, -.0015,.0004,27.16, -.0012, -.0018
Pb2203,220.353 {453},In2306,ppm, .0004,.0007,147.1, .0009, -.0000
S_1820,182.034 {485},Y_2243,ppm, -.0038,.0004,9.952, -.0035, -.0040
Sb2068,206.833 {463},Y_2243,ppm, -.0003,.0003,101.2, -.0001, -.0005
Se1960,196.090 {472},Y_2243,ppm, -.0000,.0006,5111., .0004, -.0004
Si2516,251.611 {134},Y_3710,ppm, .0295,.0075,25.41, .0242, .0348
Sn1899,189.989 {477},In2306,ppm, -.0004,.0002,37.15, -.0006, -.0003
Sr4215,421.552 { 80},Y_3710,ppm, -.0000,.0000,99.76, -.0000, -.0000
Ti3349,334.904 {101},Y_3600,ppm, .0002,.0001,68.04, .0001, .0002
Tl1908,190.856 {477},In2306,ppm, .0046,.0021,45.25, .0032, .0061
U_3670,367.007 { 92},Y_3600,ppm, .1176,.0312,26.52, .1397, .0956
V_2924,292.402 {115},Y_3600,ppm, .0001,.0002,325.4, .0002, -.0001
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W_2397,239.709 {140},Y_2243,ppm, .0375,.0123,32.81, .0288, .0463
Zn2062,206.200 {463},In2306,ppm, -.0016,.0000,.9249, -.0016, -.0017

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 254.38,2.0081,.78941,255.80,252.96
In2306,230.606 {446},Cts/S, 17229.,78.210,.45393,17285.,17174.
Y_2243,224.306 {450},Cts/S, 24658.,113.20,.45908,24738.,24578.
Y_3600,360.073 { 94},Cts/S, 203380.,82.988,.04080,203440.,203320.
Y_3710,371.030 { 91},Cts/S, 12691.,75.202,.59254,12745.,12638.

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)
Ag 328.068 {103}	11/19/2019 9:23:54	11/19/2019 9:23:54	Linear	1/Conc	-0.000033	0.104553	0.000000	1.000000
Al 308.215 {109}	11/19/2019 9:23:54	11/19/2019 9:23:54	Linear	1/Conc	0.046717	0.612475	0.000000	1.000000
As 189.042 {478}	11/19/2019 9:23:54	11/19/2019 9:23:54	Linear	1/Conc	-0.000083	0.030576	0.000000	1.000000
B 249.678 {135}	11/19/2019 9:23:54	11/19/2019 9:23:54	Linear	1/Conc	0.000051	0.019586	0.000000	1.000000
Ba 455.403 { 74}	11/19/2019 9:23:54	11/19/2019 9:23:54	Linear	1/Conc	0.003558	2.332733	0.000000	1.000000
Be 313.042 {108}	11/19/2019 9:23:54	11/19/2019 9:23:54	Linear	1/Conc	-0.000213	2.380113	0.000000	1.000000
Ca 315.887 {107}	11/19/2019 9:23:54	11/19/2019 9:23:54	Linear	1/Conc	-0.024685	1.322933	0.000000	1.000000
Cd 228.802 {447}	11/19/2019 9:23:54	11/19/2019 9:23:54	Linear	1/Conc	0.000374	0.721865	0.000000	1.000000
Co 228.616 {447}	11/19/2019 9:23:54	11/19/2019 9:23:54	Linear	1/Conc	-0.000073	0.685274	0.000000	1.000000
Cr 267.716 {126}	11/19/2019 9:23:54	11/19/2019 9:23:54	Linear	1/Conc	0.000004	0.124664	0.000000	1.000000
Cu 324.754 {104}	11/19/2019 9:23:54	11/19/2019 9:23:54	Linear	1/Conc	0.004635	0.194416	0.000000	1.000000
Fe 240.488 {140}	11/19/2019 9:23:54	11/19/2019 9:23:54	Linear	1/Conc	0.022735	0.748199	0.000000	1.000000
In 230.606 {146}*	<not fit>	<Never Calibrated>	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
In 230.606 {446}*	<not fit>	<Never Calibrated>	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
K 766.490 { 44}	11/19/2019 9:23:54	11/19/2019 9:23:54	Linear	1/Conc	-0.000054	0.043446	0.000000	1.000000
Li 670.784 { 50}	11/19/2019 9:23:54	11/19/2019 9:23:54	Linear	1/Conc	0.002306	1.186492	0.000000	1.000000
Mg 279.079 {121}	11/19/2019 9:23:54	11/19/2019 9:23:54	Linear	1/Conc	-0.000008	0.004446	0.000000	1.000000
Mn 257.610 {131}	11/19/2019 9:23:54	11/19/2019 9:23:54	Linear	1/Conc	0.000100	0.698181	0.000000	1.000000
Mo 202.030 {467}	11/19/2019 9:23:54	11/19/2019 9:23:54	Linear	1/Conc	0.000216	0.169057	0.000000	1.000000
Na 589.592 { 57}	11/19/2019 9:23:54	11/19/2019 9:23:54	Linear	1/Conc	0.004597	0.151685	0.000000	1.000000
Ni 231.604 {445}	11/19/2019 9:23:54	11/19/2019 9:23:54	Linear	1/Conc	0.000297	0.381950	0.000000	1.000000
P 178.284 {489}	11/19/2019 9:23:54	11/19/2019 9:23:54	Linear	1/Conc	0.000110	0.030989	0.000000	1.000000
Pb 220.353 {453}	11/19/2019 9:23:54	11/19/2019 9:23:54	Linear	1/Conc	-0.000147	0.093528	0.000000	1.000000
S 182.034 {485}	11/19/2019 9:23:54	11/19/2019 9:23:54	Linear	1/Conc	0.000171	0.007938	0.000000	1.000000
Sb 206.833 {463}	11/19/2019 9:23:54	11/19/2019 9:23:54	Linear	1/Conc	-0.000098	0.042812	0.000000	1.000000
Se 196.090 {472}	11/19/2019 9:23:54	11/19/2019 9:23:54	Linear	1/Conc	-0.000034	0.020063	0.000000	1.000000
Si 251.611 {134}	11/19/2019 9:23:54	11/19/2019 9:23:54	Linear	1/Conc	0.000364	0.015678	0.000000	1.000000
Sn 189.989 {477}	11/19/2019 9:23:54	11/19/2019 9:23:54	Linear	1/Conc	0.000093	0.148540	0.000000	1.000000
Sr 421.552 { 80}	11/19/2019 9:23:54	11/19/2019 9:23:54	Linear	1/Conc	-0.000607	2.640166	0.000000	1.000000
Ti 334.904 {101}	11/19/2019 9:23:54	11/19/2019 9:23:54	Linear	1/Conc	-0.000197	0.132760	0.000000	1.000000
Tl 190.856 {477}	11/19/2019 9:23:54	11/19/2019 9:23:54	Linear	1/Conc	-0.000145	0.022558	0.000000	1.000000
U 367.007 { 92}	11/19/2019 9:23:54	11/19/2019 9:23:54	Linear	1/Conc	0.000512	0.000417	0.000000	1.000000
V 292.402 {115}	11/19/2019 9:23:54	11/19/2019 9:23:54	Linear	1/Conc	-0.000291	0.166864	0.000000	1.000000
W 239.709 {140}	11/19/2019 9:23:54	11/19/2019 9:23:54	Linear	1/Conc	-0.000030	0.001296	0.000000	1.000000
Y 224.306 {450}*	11/11/2019 10:16:04	8/2/2010 18:01:14	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
Y 360.073 { 94}*	<not fit>	<Never Calibrated>	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
Y 371.030 { 91}*	11/11/2019 10:16:04	8/2/2010 18:01:14	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
Zn 206.200 {463}	11/19/2019 9:23:54	11/19/2019 9:23:54	Linear	1/Conc	0.001234	0.815054	0.000000	1.000000

Element, Wavelength and Order	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Reslope		QC Norm	
						Slope	Y-int	Slope factor	Offset
Ag 328.068 {103}	0.999991	0.000003	0.000561	0.001869	OK.	1.000000	0.000000	1	0
Al 308.215 {109}	0.999993	0.000499	0.021732	0.072440	OK.	1.000000	0.000000	1	0
As 189.042 {478}	0.999994	0.000001	0.002173	0.007243	OK.	1.000000	0.000000	1	0
B 249.678 {135}	0.999960	0.000006	0.007389	0.024630	OK.	1.000000	0.000000	1	0
Ba 455.403 { 74}	0.999948	0.000166	0.000239	0.000795	OK.	1.000000	0.000000	1	0
Be 313.042 {108}	0.999863	0.000276	0.000133	0.000442	OK.	1.000000	0.000000	1	0
Ca 315.887 {107}	0.999950	0.004697	0.008027	0.026756	OK.	1.000000	0.000000	1	0
Cd 228.802 {447}	0.999954	0.000049	0.000135	0.000450	OK.	1.000000	0.000000	1	0
Co 228.616 {447}	0.999980	0.000031	0.000194	0.000645	OK.	1.000000	0.000000	1	0
Cr 267.716 {126}	0.999866	0.000014	0.000290	0.000967	OK.	1.000000	0.000000	1	0
Cu 324.754 {104}	0.999980	0.000009	0.000311	0.001036	OK.	1.000000	0.000000	1	0
Fe 240.488 {140}	0.999959	0.001447	0.008722	0.029074	OK.	1.000000	0.000000	1	0
In 230.606 {146}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
In 230.606 {446}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
K 766.490 { 44}	0.999969	0.000122	0.028417	0.094725	OK.	1.000000	0.000000	1	0
Li 670.784 { 50}	0.999965	0.000400	0.001020	0.003401	OK.	1.000000	0.000000	1	0
Mg 279.079 {121}	0.999915	0.000021	0.033398	0.111327	OK.	1.000000	0.000000	1	0
Mn 257.610 {131}	0.999858	0.000083	0.000046	0.000154	OK.	1.000000	0.000000	1	0
Mo 202.030 {467}	0.999926	0.000014	0.000340	0.001133	OK.	1.000000	0.000000	1	0
Na 589.592 { 57}	0.999953	0.000525	0.007135	0.023783	OK.	1.000000	0.000000	1	0
Ni 231.604 {445}	0.999981	0.000017	0.000350	0.001168	OK.	1.000000	0.000000	1	0
P 178.284 {489}	0.999532	0.000223	0.001895	0.006316	OK.	1.000000	0.000000	1	0
Pb 220.353 {453}	0.999988	0.000003	0.001620	0.005400	OK.	1.000000	0.000000	1	0
S 182.034 {485}	0.999981	0.000012	0.005225	0.017417	OK.	1.000000	0.000000	1	0
Sb 206.833 {463}	0.999970	0.000007	0.002097	0.006991	OK.	1.000000	0.000000	1	0
Se 196.090 {472}	0.999941	0.000003	0.002735	0.009115	OK.	1.000000	0.000000	1	0
Si 251.611 {134}	0.999930	0.000013	0.010466	0.034887	OK.	1.000000	0.000000	1	0
Sn 189.989 {477}	0.999979	0.000007	0.000490	0.001635	OK.	1.000000	0.000000	1	0
Sr 421.552 { 80}	0.999922	0.000231	0.000170	0.000565	OK.	1.000000	0.000000	1	0
Ti 334.904 {101}	0.999958	0.000009	0.000432	0.001441	OK.	1.000000	0.000000	1	0
Tl 190.856 {477}	0.999948	0.000003	0.003412	0.011373	OK.	1.000000	0.000000	1	0
U 367.007 { 92}	0.998304	0.000001	0.074268	0.247560	OK.	1.000000	0.000000	1	0
V 292.402 {115}	0.999974	0.000009	0.000354	0.001181	OK.	1.000000	0.000000	1	0
W 239.709 {140}	0.997177	0.000002	0.048268	0.160893	OK.	1.000000	0.000000	1	0
Y 224.306 {450}*	0.000000	0.000000	0.000830	0.002767	Warnin	1.000000	0.000000	1	0
Y 360.073 { 94}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
Y 371.030 { 91}*	0.000000	0.000000	0.000248	0.000826	Warnin	1.000000	0.000000	1	0
Zn 206.200 {463}	0.999875	0.000167	0.000129	0.000428	OK.	1.000000	0.000000	1	0

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[Results]
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Al3082,308.215 {109},In2306,ppm, .0151,.0017,11.32, .0139, .0163
As1890,189.042 {478},Y_2243,ppm, .0002,.0011,584.2, -.0006, .0010
B_2496,249.678 {135},Y_3710,ppm, -.0045,.0026,56.64, -.0063, -.0027
Ba4554,455.403 { 74},Y_3710,ppm, .0011,.0002,15.02, .0012, .0010
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0001,144.5, .0000, -.0002
Ca3158,315.887 {107},In2306,ppm, -.0179,.0001,.4478, -.0179, -.0178
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0001,241.8, .0000, -.0001
Co2286,228.616 {447},In2306,ppm, .0000,.0000,143.5, .0001, -.0000
Cr2677,267.716 {126},Y_3600,ppm, .0005,.0000,1.567, .0005, .0005
Cu3247,324.754 {104},Y_3600,ppm, -.0003,.0002,77.95, -.0004, -.0001
Fe2404,240.488 {140},In2306,ppm, -.0060,.0100,165.2, .0010, -.0131
K_7664,766.490 { 44},Y_3710,ppm, .0217,.0019,8.828, .0203, .0231
Li6707,670.784 { 50},Y_3710,ppm, .0000,.0004,1031., -.0002, .0003
Mg2790,279.079 {121},Y_3710,ppm, -.0015,.0123,805.2, -.0102, .0072
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,48.14, -.0001, -.0000
Mo2020,202.030 {467},Y_2243,ppm, .0067,.0010,14.74, .0060, .0074
Na5895,589.592 { 57},Y_3710,ppm, -.0652,.0020,3.021, -.0666, -.0638
Ni2316,231.604 {445},In2306,ppm, .0000,.0002,26000., .0001, -.0001
P_1782,178.284 {489},In2306,ppm, -.0090,.0014,15.97, -.0100, -.0080
Pb2203,220.353 {453},In2306,ppm, .0004,.0001,15.46, .0005, .0004
S_1820,182.034 {485},Y_2243,ppm, .0104,.0023,22.55, .0120, .0087
Sb2068,206.833 {463},Y_2243,ppm, -.0030,.0000,.0151, -.0030, -.0030
Se1960,196.090 {472},Y_2243,ppm, .0002,.0005,239.5, -.0002, .0006
Si2516,251.611 {134},Y_3710,ppm, .0012,.0032,276.0, -.0011, .0034
Sn1899,189.989 {477},In2306,ppm, -.0001,.0000,30.45, -.0001, -.0001
Sr4215,421.552 { 80},Y_3710,ppm, .0001,.0000,54.42, .0000, .0001
Ti3349,334.904 {101},Y_3600,ppm, .0005,.0001,25.63, .0004, .0006
Tl1908,190.856 {477},In2306,ppm, .0003,.0002,60.29, .0004, .0002
U_3670,367.007 { 92},Y_3600,ppm, .1572,.0537,34.16, .1951, .1192
V_2924,292.402 {115},Y_3600,ppm, -.0005,.0002,42.43, -.0003, -.0006
W_2397,239.709 {140},Y_2243,ppm, .0063,.0231,367.8, .0226, -.0100
Zn2062,206.200 {463},In2306,ppm, -.0010,.0000,2.527, -.0010, -.0010

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 253.40,1.1355,.44813,254.20,252.59
In2306,230.606 {446},Cts/S, 17027.,17.423,.10233,17015.,17040.
Y_2243,224.306 {450},Cts/S, 23722.,28.892,.12180,23702.,23742.
Y_3600,360.073 { 94},Cts/S, 165350.,588.19,.35572,165770.,164930.
Y_3710,371.030 { 91},Cts/S, 13418.,25.571,.19057,13400.,13436.

[Sample Header]
Method=ICP6500Metals_TRY3(v5040)
SampleName=Rinse2
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=11/19/2019 9:01:52
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Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0009,.0004,48.68, .0012, .0006
Al3082,308.215 {109},In2306,ppm, .0343,.0077,22.47, .0288, .0397
As1890,189.042 {478},Y_2243,ppm, -.0001,.0012,809.6, .0007, -.0010
B_2496,249.678 {135},Y_3710,ppm, -.0072,.0005,6.274, -.0075, -.0069
Ba4554,455.403 { 74},Y_3710,ppm, .0011,.0001,8.697, .0012, .0010
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,8.122, -.0000, -.0000
Ca3158,315.887 {107},In2306,ppm, -.0078,.0049,61.99, -.0113, -.0044
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0000,58.43, -.0000, -.0001
Co2286,228.616 {447},In2306,ppm, -.0000,.0000,69.43, -.0000, -.0001
Cr2677,267.716 {126},Y_3600,ppm, .0005,.0001,20.58, .0006, .0005
Cu3247,324.754 {104},Y_3600,ppm, .0002,.0001,75.34, .0003, .0001
Fe2404,240.488 {140},In2306,ppm, -.0157,.0020,12.60, -.0171, -.0143
K_7664,766.490 { 44},Y_3710,ppm, .0010,.0038,391.1, -.0017, .0037
Li6707,670.784 { 50},Y_3710,ppm, .0016,.0002,12.09, .0015, .0018
Mg2790,279.079 {121},Y_3710,ppm, .0216,.0026,12.26, .0197, .0234
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,7.854, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, .0008,.0000,4.585, .0008, .0009
Na5895,589.592 { 57},Y_3710,ppm, -.0679,.0010,1.412, -.0672, -.0686
Ni2316,231.604 {445},In2306,ppm, .0002,.0002,114.6, .0003, .0000
P_1782,178.284 {489},In2306,ppm, -.0093,.0022,24.00, -.0109, -.0077
Pb2203,220.353 {453},In2306,ppm, .0001,.0005,458.6, .0005, -.0003
S_1820,182.034 {485},Y_2243,ppm, .0050,.0001,1.749, .0051, .0049
Sb2068,206.833 {463},Y_2243,ppm, -.0047,.0001,1.187, -.0048, -.0047
Se1960,196.090 {472},Y_2243,ppm, .0006,.0004,57.09, .0009, .0004
Si2516,251.611 {134},Y_3710,ppm, .0015,.0032,214.4, .0038, -.0008
Sn1899,189.989 {477},In2306,ppm, -.0001,.0001,82.53, -.0001, -.0002
Sr4215,421.552 { 80},Y_3710,ppm, .0001,.0001,221.1, .0001, -.0000
Ti3349,334.904 {101},Y_3600,ppm, .0004,.0001,24.71, .0003, .0004
Tl1908,190.856 {477},In2306,ppm, -.0021,.0004,21.06, -.0024, -.0018
U_3670,367.007 { 92},Y_3600,ppm, .1927,.0995,51.62, .1224, .2630
V_2924,292.402 {115},Y_3600,ppm, -.0005,.0001,18.05, -.0006, -.0005
W_2397,239.709 {140},Y_2243,ppm, -.0363,.0201,55.27, -.0505, -.0221
Zn2062,206.200 {463},In2306,ppm, -.0010,.0001,10.10, -.0009, -.0011

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 256.25,2.9316,1.1440,254.18,258.32
In2306,230.606 {446},Cts/S, 17137.,85.483,.49883,17197.,17076.
Y_2243,224.306 {450},Cts/S, 23982.,183.31,.76437,24111.,23852.
Y_3600,360.073 { 94},Cts/S, 164500.,829.35,.50418,163910.,165080.
Y_3710,371.030 { 91},Cts/S, 13342.,28.929,.21682,13363.,13322.

[Sample Header]
Method=ICP6500Metals_TRY3(v5040)
SampleName=Rinse3
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=11/19/2019 9:03:57
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0011,.0006,54.70, .0015, .0006
Al3082,308.215 {109},In2306,ppm, .0248,.0025,10.06, .0265, .0230
As1890,189.042 {478},Y_2243,ppm, -.0004,.0002,37.45, -.0003, -.0006
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B_2496,249.678 {135},Y_3710,ppm, -.0038,.0022,57.63, -.0053, -.0022
Ba4554,455.403 { 74},Y_3710,ppm, .0011,.0001,5.658, .0011, .0011
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,14.65, -.0001, -.0001
Ca3158,315.887 {107},In2306,ppm, -.0186,.0028,15.07, -.0206, -.0166
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0000,1271., -.0000, .0000
Co2286,228.616 {447},In2306,ppm, .0000,.0001,597.2, .0001, -.0001
Cr2677,267.716 {126},Y_3600,ppm, .0004,.0003,89.36, .0006, .0001
Cu3247,324.754 {104},Y_3600,ppm, .0002,.0001,33.21, .0001, .0002
Fe2404,240.488 {140},In2306,ppm, -.0058,.0020,33.72, -.0044, -.0072
K_7664,766.490 { 44},Y_3710,ppm, .0147,.0256,174.7, -.0035, .0328
Li6707,670.784 { 50},Y_3710,ppm, .0007,.0011,173.8, .0015, -.0001
Mg2790,279.079 {121},Y_3710,ppm, .0524,.0143,27.28, .0423, .0625
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,19.05, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, .0005,.0001,25.44, .0004, .0006
Na5895,589.592 { 57},Y_3710,ppm, -.0649,.0007,1.133, -.0644, -.0654
Ni2316,231.604 {445},In2306,ppm, .0000,.0000,53.32, .0000, .0000
P_1782,178.284 {489},In2306,ppm, -.0100,.0003,2.648, -.0098, -.0102
Pb2203,220.353 {453},In2306,ppm, .0015,.0001,6.739, .0015, .0016
S_1820,182.034 {485},Y_2243,ppm, .0037,.0048,130.9, .0071, .0003
Sb2068,206.833 {463},Y_2243,ppm, -.0039,.0001,1.908, -.0039, -.0040
Se1960,196.090 {472},Y_2243,ppm, .0021,.0001,6.032, .0022, .0020
Si2516,251.611 {134},Y_3710,ppm, -.0038,.0030,78.10, -.0017, -.0059
Sn1899,189.989 {477},In2306,ppm, -.0008,.0005,59.53, -.0004, -.0011
Sr4215,421.552 { 80},Y_3710,ppm, -.0001,.0000,7.536, -.0001, -.0001
Ti3349,334.904 {101},Y_3600,ppm, .0003,.0002,76.81, .0004, .0001
Tl1908,190.856 {477},In2306,ppm, -.0031,.0014,44.46, -.0041, -.0021
U_3670,367.007 { 92},Y_3600,ppm, .1510,.0022,1.445, .1526, .1495
V_2924,292.402 {115},Y_3600,ppm, -.0006,.0000,3.233, -.0005, -.0006
W_2397,239.709 {140},Y_2243,ppm, -.0308,.0119,38.63, -.0392, -.0224
Zn2062,206.200 {463},In2306,ppm, -.0010,.0000,1.785, -.0010, -.0010

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 252.06,2.1583,.85627,250.53,253.59
In2306,230.606 {446},Cts/S, 17027.,34.793,.20434,17051.,17002.
Y_2243,224.306 {450},Cts/S, 23873.,95.514,.40009,23941.,23806.
Y_3600,360.073 { 94},Cts/S, 163400.,678.73,.41538,162920.,163880.
Y_3710,371.030 { 91},Cts/S, 13310.,12.775,.09598,13301.,13319.

[Sample Header]
Method=ICP6500Metals_TRY3(v5040)
SampleName=Rinse4
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=11/19/2019 9:06:02
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0003,.0001,52.99, -.0004, -.0002
Al3082,308.215 {109},In2306,ppm, .0094,.0076,80.85, .0148, .0040
As1890,189.042 {478},Y_2243,ppm, -.0000,.0012,3200., -.0009, .0008
B_2496,249.678 {135},Y_3710,ppm, -.0038,.0025,64.25, -.0055, -.0021
Ba4554,455.403 { 74},Y_3710,ppm, .0012,.0001,10.51, .0011, .0013
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,19.07, -.0000, -.0001
Ca3158,315.887 {107},In2306,ppm, -.0150,.0011,7.616, -.0142, -.0158
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0001,101.9, -.0000, -.0002
Co2286,228.616 {447},In2306,ppm, .0001,.0000,29.77, .0001, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0000,.0001,557.6, .0001, -.0001
Cu3247,324.754 {104},Y_3600,ppm, .0010,.0002,23.96, .0008, .0011
Fe2404,240.488 {140},In2306,ppm, -.0018,.0080,447.2, .0039, -.0074
K_7664,766.490 { 44},Y_3710,ppm, .0175,.0070,39.84, .0224, .0125
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Li6707,670.784 { 50},Y_3710,ppm, .0008,.0002,22.51, .0010, .0007
Mg2790,279.079 {121},Y_3710,ppm, .0078,.0305,390.7, .0294, -.0138
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,68.51, -.0000, -.0001
Mo2020,202.030 {467},Y_2243,ppm, .0006,.0002,42.81, .0008, .0004
Na5895,589.592 { 57},Y_3710,ppm, -.0591,.0084,14.13, -.0651, -.0532
Ni2316,231.604 {445},In2306,ppm, .0002,.0002,110.9, .0004, .0000
P_1782,178.284 {489},In2306,ppm, -.0080,.0022,27.13, -.0065, -.0096
Pb2203,220.353 {453},In2306,ppm, -.0000,.0011,2393., -.0008, .0008
S_1820,182.034 {485},Y_2243,ppm, .0025,.0001,4.423, .0026, .0024
Sb2068,206.833 {463},Y_2243,ppm, -.0025,.0012,47.00, -.0034, -.0017
Se1960,196.090 {472},Y_2243,ppm, .0008,.0019,239.1, .0021, -.0005
Si2516,251.611 {134},Y_3710,ppm, .0007,.0006,98.11, .0011, .0002
Sn1899,189.989 {477},In2306,ppm, -.0003,.0000,10.93, -.0002, -.0003
Sr4215,421.552 { 80},Y_3710,ppm, .0001,.0000,27.48, .0001, .0001
Ti3349,334.904 {101},Y_3600,ppm, .0005,.0001,12.40, .0005, .0004
Tl1908,190.856 {477},In2306,ppm, -.0005,.0036,741.8, .0021, -.0030
U_3670,367.007 { 92},Y_3600,ppm, .1423,.0242,16.97, .1594, .1253
V_2924,292.402 {115},Y_3600,ppm, -.0007,.0001,8.906, -.0007, -.0008
W_2397,239.709 {140},Y_2243,ppm, -.0182,.0096,52.74, -.0114, -.0249
Zn2062,206.200 {463},In2306,ppm, -.0010,.0001,7.065, -.0011, -.0010

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 252.05,2.5679,1.0188,250.23,253.86
In2306,230.606 {446},Cts/S, 17083.,84.843,.49664,17023.,17143.
Y_2243,224.306 {450},Cts/S, 23983.,106.22,.44289,23908.,24058.
Y_3600,360.073 { 94},Cts/S, 160670.,3821.9,2.3787,157970.,163380.
Y_3710,371.030 { 91},Cts/S, 13340.,17.234,.12919,13352.,13328.

[Sample Header]
Method=ICP6500Metals_TRY3(v5040)
SampleName=Rinse5
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=11/19/2019 9:08:08
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0002,.0001,47.67, .0003, .0001
Al3082,308.215 {109},In2306,ppm, .0196,.0064,32.91, .0150, .0241
As1890,189.042 {478},Y_2243,ppm, -.0022,.0009,42.89, -.0015, -.0029
B_2496,249.678 {135},Y_3710,ppm, -.0013,.0025,192.9, .0005, -.0031
Ba4554,455.403 { 74},Y_3710,ppm, .0011,.0001,5.950, .0011, .0010
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,305.2, .0000, -.0001
Ca3158,315.887 {107},In2306,ppm, -.0150,.0008,5.560, -.0144, -.0156
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0002,316.7, -.0002, .0001
Co2286,228.616 {447},In2306,ppm, .0001,.0003,434.9, .0003, -.0001
Cr2677,267.716 {126},Y_3600,ppm, .0004,.0000,2.386, .0004, .0004
Cu3247,324.754 {104},Y_3600,ppm, .0011,.0000,2.129, .0010, .0011
Fe2404,240.488 {140},In2306,ppm, .0005,.0020,420.3, -.0009, .0019
K_7664,766.490 { 44},Y_3710,ppm, .0048,.0336,699.5, .0286, -.0190
Li6707,670.784 { 50},Y_3710,ppm, .0009,.0008,91.85, .0015, .0003
Mg2790,279.079 {121},Y_3710,ppm, .0081,.0092,113.9, .0146, .0016
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,36.54, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, .0001,.0003,282.9, .0003, -.0001
Na5895,589.592 { 57},Y_3710,ppm, -.0596,.0014,2.329, -.0586, -.0606
Ni2316,231.604 {445},In2306,ppm, .0002,.0002,90.15, .0004, .0001
P_1782,178.284 {489},In2306,ppm, -.0092,.0012,13.18, -.0101, -.0084
Pb2203,220.353 {453},In2306,ppm, .0012,.0007,63.08, .0007, .0017
S_1820,182.034 {485},Y_2243,ppm, .0008,.0005,63.31, .0012, .0005
Sb2068,206.833 {463},Y_2243,ppm, -.0026,.0006,23.92, -.0021, -.0030
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Se1960,196.090 {472},Y_2243,ppm, .0012,.0019,155.7, -.0001, .0026
Si2516,251.611 {134},Y_3710,ppm, .0035,.0046,130.0, .0003, .0068
Sn1899,189.989 {477},In2306,ppm, -.0007,.0003,46.84, -.0005, -.0009
Sr4215,421.552 { 80},Y_3710,ppm, .0001,.0000,42.41, .0001, .0000
Ti3349,334.904 {101},Y_3600,ppm, .0005,.0000,.2660, .0005, .0005
Tl1908,190.856 {477},In2306,ppm, -.0027,.0002,7.920, -.0025, -.0028
U_3670,367.007 { 92},Y_3600,ppm, .0142,.0899,633.7, .0777, -.0494
V_2924,292.402 {115},Y_3600,ppm, -.0005,.0000,5.932, -.0005, -.0006
W_2397,239.709 {140},Y_2243,ppm, -.0131,.0142,108.6, -.0030, -.0231
Zn2062,206.200 {463},In2306,ppm, -.0009,.0000,3.886, -.0009, -.0009

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 257.34,2.3652,.91909,259.01,255.67
In2306,230.606 {446},Cts/S, 17050.,55.008,.32263,17089.,17011.
Y_2243,224.306 {450},Cts/S, 23974.,98.606,.41130,24044.,23905.
Y_3600,360.073 { 94},Cts/S, 162470.,281.33,.17316,162270.,162670.
Y_3710,371.030 { 91},Cts/S, 13444.,20.302,.15102,13429.,13458.

[Sample Header]
Method=ICP6500Metals_TRY3(v5040)
SampleName=Rinse6
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=11/19/2019 9:10:14
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0012,.0004,31.42, .0014, .0009
Al3082,308.215 {109},In2306,ppm, .0149,.0007,4.928, .0144, .0155
As1890,189.042 {478},Y_2243,ppm, -.0001,.0008,701.2, .0004, -.0007
B_2496,249.678 {135},Y_3710,ppm, -.0036,.0008,21.04, -.0031, -.0042
Ba4554,455.403 { 74},Y_3710,ppm, .0010,.0002,18.66, .0008, .0011
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0001,67.35, -.0001, -.0002
Ca3158,315.887 {107},In2306,ppm, -.0184,.0004,1.983, -.0186, -.0181
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0000,88.48, -.0000, -.0001
Co2286,228.616 {447},In2306,ppm, -.0000,.0000,43.72, -.0001, -.0000
Cr2677,267.716 {126},Y_3600,ppm, .0002,.0003,134.1, .0000, .0004
Cu3247,324.754 {104},Y_3600,ppm, .0011,.0000,1.698, .0011, .0010
Fe2404,240.488 {140},In2306,ppm, -.0080,.0015,18.61, -.0090, -.0069
K_7664,766.490 { 44},Y_3710,ppm, .0215,.0024,11.09, .0199, .0232
Li6707,670.784 { 50},Y_3710,ppm, .0010,.0010,106.6, .0017, .0002
Mg2790,279.079 {121},Y_3710,ppm, .0297,.0137,46.17, .0393, .0200
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,44.21, -.0001, -.0000
Mo2020,202.030 {467},Y_2243,ppm, -.0002,.0002,68.55, -.0001, -.0004
Na5895,589.592 { 57},Y_3710,ppm, -.0602,.0029,4.866, -.0581, -.0622
Ni2316,231.604 {445},In2306,ppm, .0002,.0002,124.9, .0003, .0000
P_1782,178.284 {489},In2306,ppm, -.0077,.0008,10.56, -.0072, -.0083
Pb2203,220.353 {453},In2306,ppm, .0005,.0017,360.7, .0017, -.0007
S_1820,182.034 {485},Y_2243,ppm, .0008,.0010,131.3, .0001, .0015
Sb2068,206.833 {463},Y_2243,ppm, -.0030,.0005,17.01, -.0034, -.0027
Se1960,196.090 {472},Y_2243,ppm, .0005,.0014,257.3, .0015, -.0004
Si2516,251.611 {134},Y_3710,ppm, -.0038,.0044,116.8, -.0007, -.0069
Sn1899,189.989 {477},In2306,ppm, -.0004,.0002,57.96, -.0002, -.0006
Sr4215,421.552 { 80},Y_3710,ppm, .0001,.0000,29.13, .0001, .0001
Ti3349,334.904 {101},Y_3600,ppm, .0000,.0006,2204., -.0004, .0004
Tl1908,190.856 {477},In2306,ppm, -.0015,.0002,14.71, -.0016, -.0013
U_3670,367.007 { 92},Y_3600,ppm, .0661,.0179,27.05, .0535, .0788
V_2924,292.402 {115},Y_3600,ppm, -.0006,.0004,66.26, -.0008, -.0003
W_2397,239.709 {140},Y_2243,ppm, -.0316,.0091,28.65, -.0252, -.0380
Zn2062,206.200 {463},In2306,ppm, -.0010,.0001,5.882, -.0010, -.0009
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[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 256.60,1.9445,.75782,257.97,255.22
In2306,230.606 {446},Cts/S, 17044.,24.212,.14205,17062.,17027.
Y_2243,224.306 {450},Cts/S, 23969.,14.326,.05977,23979.,23959.
Y_3600,360.073 { 94},Cts/S, 161290.,990.07,.61384,160590.,161990.
Y_3710,371.030 { 91},Cts/S, 13390.,6.1788,.04614,13395.,13386.

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Custom ID2=
Custom ID3=
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,Cts/S, -.0000,.0000,30.77, -.0000, -.0000
Al3082,308.215 {109},In2306,Cts/S, .0467,.0022,4.815, .0451, .0483
As1890,189.042 {478},Y_2243,Cts/S, -.0001,.0000,1.089, -.0001, -.0001
B_2496,249.678 {135},Y_3710,Cts/S, .0001,.0000,9.036, .0001, .0000
Ba4554,455.403 { 74},Y_3710,Cts/S, .0036,.0005,14.42, .0039, .0032
Be3130,313.042 {108},Y_3710,Cts/S, -.0002,.0000,1.517, -.0002, -.0002
Ca3158,315.887 {107},In2306,Cts/S, -.0247,.0015,6.147, -.0258, -.0236
Cd2288,228.802 {447},Y_2243,Cts/S, .0004,.0000,12.83, .0003, .0004
Co2286,228.616 {447},In2306,Cts/S, -.0001,.0000,65.72, -.0001, -.0000
Cr2677,267.716 {126},Y_3600,Cts/S, .0000,.0000,148.9, .0000, -.0000
Cu3247,324.754 {104},Y_3600,Cts/S, .0046,.0000,.2598, .0046, .0046
Fe2404,240.488 {140},In2306,Cts/S, .0227,.0074,32.72, .0175, .0280
K_7664,766.490 { 44},Y_3710,Cts/S, -.0001,.0001,101.6, -.0001, -.0000
Li6707,670.784 { 50},Y_3710,Cts/S, .0023,.0002,8.797, .0024, .0022
Mg2790,279.079 {121},Y_3710,Cts/S, -.0000,.0001,1792., .0001, -.0001
Mn2576,257.610 {131},Y_3600,Cts/S, .0001,.0000,11.13, .0001, .0001
Mo2020,202.030 {467},Y_2243,Cts/S, .0002,.0000,.2894, .0002, .0002
Na5895,589.592 { 57},Y_3710,Cts/S, .0046,.0004,7.934, .0043, .0048
Ni2316,231.604 {445},In2306,Cts/S, .0003,.0000,2.622, .0003, .0003
P_1782,178.284 {489},In2306,Cts/S, .0001,.0000,16.98, .0001, .0001
Pb2203,220.353 {453},In2306,Cts/S, -.0001,.0001,63.83, -.0001, -.0002
S_1820,182.034 {485},Y_2243,Cts/S, .0002,.0000,10.15, .0002, .0002
Sb2068,206.833 {463},Y_2243,Cts/S, -.0001,.0000,49.66, -.0001, -.0001
Se1960,196.090 {472},Y_2243,Cts/S, -.0000,.0001,146.0, .0000, -.0001
Si2516,251.611 {134},Y_3710,Cts/S, .0004,.0001,16.34, .0004, .0003
Sn1899,189.989 {477},In2306,Cts/S, .0001,.0000,12.31, .0001, .0001
Sr4215,421.552 { 80},Y_3710,Cts/S, -.0006,.0002,25.77, -.0005, -.0007
Ti3349,334.904 {101},Y_3600,Cts/S, -.0002,.0000,3.170, -.0002, -.0002
Tl1908,190.856 {477},In2306,Cts/S, -.0001,.0000,9.843, -.0001, -.0002
U_3670,367.007 { 92},Y_3600,Cts/S, .0005,.0000,5.285, .0005, .0005
V_2924,292.402 {115},Y_3600,Cts/S, -.0003,.0000,5.376, -.0003, -.0003
W_2397,239.709 {140},Y_2243,Cts/S, -.0000,.0000,47.95, -.0000, -.0000
Zn2062,206.200 {463},In2306,Cts/S, .0012,.0001,4.713, .0013, .0012

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 254.27,.99581,.39163,254.98,253.57
In2306,230.606 {446},Cts/S, 17057.,15.188,.08904,17068.,17046.
Y_2243,224.306 {450},Cts/S, 23986.,16.744,.06981,23998.,23974.
Y_3600,360.073 { 94},Cts/S, 161990.,393.97,.24320,162270.,161710.
Y_3710,371.030 { 91},Cts/S, 13328.,18.450,.13843,13315.,13341.

[Sample Header]
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Custom ID3=
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,Cts/S, .0016,.0000,2.533, .0016, .0016
Al3082,308.215 {109},In2306,Cts/S, .2947,.0029,.9751, .2926, .2967
As1890,189.042 {478},Y_2243,Cts/S, .0002,.0000,1.568, .0002, .0002
Ba4554,455.403 { 74},Y_3710,Cts/S, .0299,.0006,1.997, .0295, .0303
Be3130,313.042 {108},Y_3710,Cts/S, .0274,.0001,.4361, .0273, .0275
Cd2288,228.802 {447},Y_2243,Cts/S, .0086,.0000,.4729, .0087, .0086
Co2286,228.616 {447},In2306,Cts/S, .0074,.0001,.8055, .0073, .0074
Cr2677,267.716 {126},Y_3600,Cts/S, .0015,.0000,1.222, .0015, .0015
Cu3247,324.754 {104},Y_3600,Cts/S, .0067,.0001,1.194, .0067, .0068
Fe2404,240.488 {140},In2306,Cts/S, .3387,.0056,1.660, .3348, .3427
Mn2576,257.610 {131},Y_3600,Cts/S, .0082,.0000,.1036, .0082, .0082
Mo2020,202.030 {467},Y_2243,Cts/S, .0021,.0000,1.528, .0021, .0021
Ni2316,231.604 {445},In2306,Cts/S, .0044,.0001,2.473, .0045, .0044
P_1782,178.284 {489},In2306,Cts/S, .0289,.0000,.1283, .0289, .0288
Pb2203,220.353 {453},In2306,Cts/S, .0009,.0001,10.33, .0008, .0009
S_1820,182.034 {485},Y_2243,Cts/S, .0081,.0000,.0514, .0081, .0081
Sb2068,206.833 {463},Y_2243,Cts/S, .0017,.0001,3.352, .0018, .0017
Si2516,251.611 {134},Y_3710,Cts/S, .0020,.0000,.8701, .0020, .0020
Sn1899,189.989 {477},In2306,Cts/S, .0016,.0000,2.218, .0016, .0017
Sr4215,421.552 { 80},Y_3710,Cts/S, .0298,.0001,.2406, .0298, .0297
Ti3349,334.904 {101},Y_3600,Cts/S, .0013,.0000,3.248, .0013, .0013
U_3670,367.007 { 92},Y_3600,Cts/S, .0005,.0000,2.545, .0005, .0006
V_2924,292.402 {115},Y_3600,Cts/S, .0015,.0000,.2360, .0015, .0015
W_2397,239.709 {140},Y_2243,Cts/S, .0002,.0000,12.84, .0001, .0002
Zn2062,206.200 {463},In2306,Cts/S, .0252,.0001,.3611, .0251, .0253

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 252.82,1.9917,.78778,254.23,251.42
In2306,230.606 {446},Cts/S, 16954.,95.156,.56126,16887.,17021.
Y_2243,224.306 {450},Cts/S, 24135.,148.21,.61408,24030.,24240.
Y_3600,360.073 { 94},Cts/S, 162490.,367.54,.22619,162750.,162230.
Y_3710,371.030 { 91},Cts/S, 13295.,5.2984,.03985,13291.,13299.

[Sample Header]
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Mode=IR
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,Cts/S, .0105,.0000,.2884, .0105, .0104
Al3082,308.215 {109},In2306,Cts/S, .6536,.0006,.0905, .6540, .6532
As1890,189.042 {478},Y_2243,Cts/S, .0009,.0000,2.916, .0008, .0009
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B_2496,249.678 {135},Y_3710,Cts/S, .0040,.0000,.9657, .0040, .0040
Ba4554,455.403 { 74},Y_3710,Cts/S, .0766,.0002,.2297, .0765, .0767
Be3130,313.042 {108},Y_3710,Cts/S, .0750,.0002,.2357, .0751, .0749
Ca3158,315.887 {107},In2306,Cts/S, 1.299,.0068,.5248, 1.294, 1.304
Cd2288,228.802 {447},Y_2243,Cts/S, .0233,.0000,.0943, .0233, .0233
Co2286,228.616 {447},In2306,Cts/S, .0206,.0000,.0961, .0206, .0206
Cr2677,267.716 {126},Y_3600,Cts/S, .0040,.0000,.2217, .0040, .0040
Cu3247,324.754 {104},Y_3600,Cts/S, .0106,.0000,.2353, .0106, .0107
Fe2404,240.488 {140},In2306,Cts/S, .7836,.0068,.8659, .7788, .7884
K_7664,766.490 { 44},Y_3710,Cts/S, .0439,.0004,.9233, .0436, .0441
Mg2790,279.079 {121},Y_3710,Cts/S, .0047,.0001,1.487, .0048, .0047
Mn2576,257.610 {131},Y_3600,Cts/S, .0224,.0001,.2757, .0224, .0225
Mo2020,202.030 {467},Y_2243,Cts/S, .0055,.0000,.7072, .0055, .0055
Na5895,589.592 { 57},Y_3710,Cts/S, .1643,.0011,.6969, .1635, .1651
Ni2316,231.604 {445},In2306,Cts/S, .0117,.0000,.2566, .0118, .0117
P_1782,178.284 {489},In2306,Cts/S, .0577,.0002,.3949, .0576, .0579
Pb2203,220.353 {453},In2306,Cts/S, .0027,.0000,1.458, .0027, .0027
S_1820,182.034 {485},Y_2243,Cts/S, .0160,.0000,.2223, .0160, .0160
Sb2068,206.833 {463},Y_2243,Cts/S, .0100,.0000,.4103, .0100, .0100
Se1960,196.090 {472},Y_2243,Cts/S, .0006,.0000,2.641, .0006, .0006
Si2516,251.611 {134},Y_3710,Cts/S, .0054,.0002,3.361, .0053, .0055
Sn1899,189.989 {477},In2306,Cts/S, .0044,.0000,.4793, .0044, .0044
Sr4215,421.552 { 80},Y_3710,Cts/S, .0830,.0005,.5573, .0827, .0833
Ti3349,334.904 {101},Y_3600,Cts/S, .0039,.0000,.0796, .0039, .0039
Tl1908,190.856 {477},In2306,Cts/S, .0005,.0000,3.396, .0005, .0005
U_3670,367.007 { 92},Y_3600,Cts/S, .0006,.0000,3.953, .0006, .0006
V_2924,292.402 {115},Y_3600,Cts/S, .0049,.0000,1.025, .0048, .0049
W_2397,239.709 {140},Y_2243,Cts/S, .0003,.0001,43.93, .0002, .0003
Zn2062,206.200 {463},In2306,Cts/S, .1567,.0001,.0739, .1568, .1566

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 254.71,1.5965,.62681,255.84,253.58
In2306,230.606 {446},Cts/S, 16734.,16.438,.09823,16722.,16745.
Y_2243,224.306 {450},Cts/S, 23840.,.75851,.00318,23840.,23841.
Y_3600,360.073 { 94},Cts/S, 161280.,833.55,.51683,161870.,160690.
Y_3710,371.030 { 91},Cts/S, 13259.,2.2461,.01694,13261.,13257.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,Cts/S, .0261,.0000,.0602, .0262, .0261
Al3082,308.215 {109},In2306,Cts/S, 3.080,.0232,.7541, 3.063, 3.096
As1890,189.042 {478},Y_2243,Cts/S, .0076,.0001,1.099, .0076, .0075
B_2496,249.678 {135},Y_3710,Cts/S, .0100,.0000,.0696, .0100, .0100
Ba4554,455.403 { 74},Y_3710,Cts/S, .5971,.0005,.0909, .5975, .5967
Be3130,313.042 {108},Y_3710,Cts/S, .6162,.0011,.1728, .6155, .6170
Ca3158,315.887 {107},In2306,Cts/S, 6.661,.0436,.6544, 6.630, 6.691
Cd2288,228.802 {447},Y_2243,Cts/S, .1866,.0001,.0740, .1865, .1867
Co2286,228.616 {447},In2306,Cts/S, .1698,.0001,.0511, .1697, .1698
Cr2677,267.716 {126},Y_3600,Cts/S, .0321,.0001,.3687, .0322, .0321
Cu3247,324.754 {104},Y_3600,Cts/S, .0538,.0001,.0952, .0538, .0538
Fe2404,240.488 {140},In2306,Cts/S, 3.798,.0220,.5795, 3.782, 3.814
K_7664,766.490 { 44},Y_3710,Cts/S, .2221,.0011,.5166, .2213, .2229
Li6707,670.784 { 50},Y_3710,Cts/S, .3074,.0003,.0870, .3072, .3076
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Mg2790,279.079 {121},Y_3710,Cts/S, .0230,.0002,.8347, .0228, .0231
Mn2576,257.610 {131},Y_3600,Cts/S, .1802,.0006,.3196, .1806, .1798
Mo2020,202.030 {467},Y_2243,Cts/S, .0433,.0001,.1456, .0434, .0433
Na5895,589.592 { 57},Y_3710,Cts/S, .7795,.0004,.0517, .7792, .7798
Ni2316,231.604 {445},In2306,Cts/S, .0949,.0002,.2549, .0951, .0947
P_1782,178.284 {489},In2306,Cts/S, .1177,.0002,.2026, .1179, .1176
Pb2203,220.353 {453},In2306,Cts/S, .0233,.0001,.3413, .0234, .0232
S_1820,182.034 {485},Y_2243,Cts/S, .0316,.0000,.1363, .0317, .0316
Sb2068,206.833 {463},Y_2243,Cts/S, .0323,.0001,.4497, .0324, .0322
Se1960,196.090 {472},Y_2243,Cts/S, .0050,.0000,.5584, .0050, .0050
Si2516,251.611 {134},Y_3710,Cts/S, .0408,.0002,.3809, .0409, .0407
Sn1899,189.989 {477},In2306,Cts/S, .0366,.0000,.0274, .0366, .0366
Sr4215,421.552 { 80},Y_3710,Cts/S, .6750,.0002,.0357, .6751, .6748
Ti3349,334.904 {101},Y_3600,Cts/S, .0336,.0000,.1205, .0336, .0335
Tl1908,190.856 {477},In2306,Cts/S, .0055,.0000,.1480, .0055, .0055
U_3670,367.007 { 92},Y_3600,Cts/S, .0007,.0000,4.402, .0007, .0007
V_2924,292.402 {115},Y_3600,Cts/S, .0421,.0000,.0060, .0421, .0421
W_2397,239.709 {140},Y_2243,Cts/S, .0005,.0000,1.094, .0005, .0005
Zn2062,206.200 {463},In2306,Cts/S, .3986,.0000,.0037, .3986, .3986

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 249.35,.23569,.09452,249.18,249.52
In2306,230.606 {446},Cts/S, 16197.,17.676,.10913,16184.,16209.
Y_2243,224.306 {450},Cts/S, 23786.,34.642,.14564,23762.,23811.
Y_3600,360.073 { 94},Cts/S, 158430.,459.52,.29004,158110.,158760.
Y_3710,371.030 { 91},Cts/S, 13183.,51.170,.38816,13147.,13219.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,Cts/S, .0523,.0001,.1457, .0523, .0524
Al3082,308.215 {109},In2306,Cts/S, 12.35,.0413,.3341, 12.38, 12.32
As1890,189.042 {478},Y_2243,Cts/S, .0305,.0001,.2472, .0305, .0304
B_2496,249.678 {135},Y_3710,Cts/S, .0197,.0001,.7322, .0198, .0196
Ba4554,455.403 { 74},Y_3710,Cts/S, 2.339,.0058,.2463, 2.335, 2.343
Be3130,313.042 {108},Y_3710,Cts/S, 2.398,.0111,.4640, 2.390, 2.406
Ca3158,315.887 {107},In2306,Cts/S, 26.86,.1015,.3779, 26.94, 26.79
Cd2288,228.802 {447},Y_2243,Cts/S, .7351,.0007,.0889, .7346, .7355
Co2286,228.616 {447},In2306,Cts/S, .6842,.0013,.1941, .6851, .6832
Cr2677,267.716 {126},Y_3600,Cts/S, .1251,.0004,.2844, .1249, .1254
Cu3247,324.754 {104},Y_3600,Cts/S, .1982,.0002,.0907, .1980, .1983
Fe2404,240.488 {140},In2306,Cts/S, 15.15,.0695,.4590, 15.20, 15.10
K_7664,766.490 { 44},Y_3710,Cts/S, .8742,.0014,.1630, .8732, .8752
Li6707,670.784 { 50},Y_3710,Cts/S, 1.188,.0005,.0397, 1.189, 1.188
Mg2790,279.079 {121},Y_3710,Cts/S, .0895,.0005,.5816, .0891, .0898
Mn2576,257.610 {131},Y_3600,Cts/S, .7050,.0030,.4220, .7029, .7071
Mo2020,202.030 {467},Y_2243,Cts/S, .1708,.0001,.0450, .1708, .1709
Na5895,589.592 { 57},Y_3710,Cts/S, 3.055,.0084,.2762, 3.049, 3.061
Ni2316,231.604 {445},In2306,Cts/S, .3818,.0007,.1818, .3823, .3813
P_1782,178.284 {489},In2306,Cts/S, .3098,.0008,.2678, .3104, .3092
Pb2203,220.353 {453},In2306,Cts/S, .0939,.0002,.2104, .0938, .0941
S_1820,182.034 {485},Y_2243,Cts/S, .0808,.0001,.1254, .0808, .0809
Sb2068,206.833 {463},Y_2243,Cts/S, .0863,.0000,.0276, .0863, .0863
Se1960,196.090 {472},Y_2243,Cts/S, .0200,.0001,.3017, .0199, .0200
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Si2516,251.611 {134},Y_3710,Cts/S, .1574,.0005,.3194, .1570, .1577
Sn1899,189.989 {477},In2306,Cts/S, .1484,.0005,.3614, .1488, .1481
Sr4215,421.552 { 80},Y_3710,Cts/S, 2.642,.0082,.3113, 2.637, 2.648
Ti3349,334.904 {101},Y_3600,Cts/S, .1332,.0004,.2955, .1329, .1334
Tl1908,190.856 {477},In2306,Cts/S, .0228,.0000,.1517, .0228, .0229
U_3670,367.007 { 92},Y_3600,Cts/S, .0009,.0000,1.063, .0009, .0009
V_2924,292.402 {115},Y_3600,Cts/S, .1676,.0005,.2824, .1673, .1679
W_2397,239.709 {140},Y_2243,Cts/S, .0012,.0001,8.542, .0011, .0013
Zn2062,206.200 {463},In2306,Cts/S, .8211,.0042,.5131, .8241, .8181

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 243.95,1.4498,.59429,242.93,244.98
In2306,230.606 {446},Cts/S, 15120.,49.815,.32947,15155.,15085.
Y_2243,224.306 {450},Cts/S, 23172.,111.69,.48200,23251.,23093.
Y_3600,360.073 { 94},Cts/S, 154770.,1044.2,.67465,155510.,154030.
Y_3710,371.030 { 91},Cts/S, 13246.,28.720,.21681,13267.,13226.

[Sample Header]
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[Results]
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Ag3280,328.068 {103},Y_3600,Cts/S, .1043,.0003,.2874, .1046, .1041
Al3082,308.215 {109},In2306,Cts/S, 30.79,.1126,.3657, 30.87, 30.71
As1890,189.042 {478},Y_2243,Cts/S, .0612,.0001,.1686, .0613, .0611
B_2496,249.678 {135},Y_3710,Cts/S, .0389,.0001,.3192, .0389, .0390
Ba4554,455.403 { 74},Y_3710,Cts/S, 4.650,.0180,.3866, 4.637, 4.662
Be3130,313.042 {108},Y_3710,Cts/S, 4.715,.0197,.4181, 4.701, 4.729
Ca3158,315.887 {107},In2306,Cts/S, 65.73,.3559,.5414, 65.98, 65.47
Cd2288,228.802 {447},Y_2243,Cts/S, 1.462,.0032,.2204, 1.464, 1.460
Co2286,228.616 {447},In2306,Cts/S, 1.378,.0003,.0190, 1.378, 1.377
Cr2677,267.716 {126},Y_3600,Cts/S, .2474,.0004,.1439, .2477, .2472
Cu3247,324.754 {104},Y_3600,Cts/S, .3934,.0004,.1124, .3938, .3931
Fe2404,240.488 {140},In2306,Cts/S, 37.20,.1275,.3428, 37.29, 37.11
K_7664,766.490 { 44},Y_3710,Cts/S, 2.161,.0019,.0860, 2.160, 2.162
Li6707,670.784 { 50},Y_3710,Cts/S, 2.367,.0062,.2625, 2.363, 2.372
Mg2790,279.079 {121},Y_3710,Cts/S, .2207,.0009,.4282, .2200, .2213
Mn2576,257.610 {131},Y_3600,Cts/S, 1.382,.0020,.1420, 1.384, 1.381
Mo2020,202.030 {467},Y_2243,Cts/S, .3354,.0004,.1108, .3357, .3352
Na5895,589.592 { 57},Y_3710,Cts/S, 7.548,.0190,.2518, 7.535, 7.562
Ni2316,231.604 {445},In2306,Cts/S, .7675,.0003,.0401, .7673, .7678
P_1782,178.284 {489},In2306,Cts/S, .6330,.0005,.0849, .6327, .6334
Pb2203,220.353 {453},In2306,Cts/S, .1872,.0004,.1981, .1869, .1875
S_1820,182.034 {485},Y_2243,Cts/S, .1612,.0002,.1274, .1613, .1610
Sb2068,206.833 {463},Y_2243,Cts/S, .1717,.0004,.2293, .1720, .1714
Se1960,196.090 {472},Y_2243,Cts/S, .0401,.0000,.1008, .0401, .0401
Si2516,251.611 {134},Y_3710,Cts/S, .3121,.0013,.4321, .3112, .3131
Sn1899,189.989 {477},In2306,Cts/S, .2982,.0004,.1177, .2985, .2980
Sr4215,421.552 { 80},Y_3710,Cts/S, 5.253,.0179,.3406, 5.241, 5.266
Ti3349,334.904 {101},Y_3600,Cts/S, .2646,.0005,.1790, .2649, .2642
Tl1908,190.856 {477},In2306,Cts/S, .0449,.0000,.0413, .0449, .0449
U_3670,367.007 { 92},Y_3600,Cts/S, .0013,.0000,1.681, .0013, .0014
V_2924,292.402 {115},Y_3600,Cts/S, .3330,.0002,.0693, .3331, .3328
W_2397,239.709 {140},Y_2243,Cts/S, .0025,.0000,.7972, .0026, .0025
Zn2062,206.200 {463},In2306,Cts/S, 1.647,.0011,.0667, 1.647, 1.646
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[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 242.16,2.2864,.94415,240.55,243.78
In2306,230.606 {446},Cts/S, 14126.,8.1239,.05751,14120.,14132.
Y_2243,224.306 {450},Cts/S, 22468.,31.049,.13819,22447.,22490.
Y_3600,360.073 { 94},Cts/S, 150240.,42.825,.02850,150210.,150270.
Y_3710,371.030 { 91},Cts/S, 13294.,25.477,.19164,13276.,13312.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .8699,.0016,.1854, .8687, .8710
Al3082,308.215 {109},In2306,ppm, 50.83,.6062,1.193, 50.40, 51.25
As1890,189.042 {478},Y_2243,ppm, 2.015,.0034,.1687, 2.013, 2.017
B_2496,249.678 {135},Y_3710,ppm, 1.997,.0036,.1792, 2.000, 1.995
Ba4554,455.403 { 74},Y_3710,ppm, 1.998,.0107,.5370, 1.991, 2.006
Be3130,313.042 {108},Y_3710,ppm, 1.996,.0000,.0009, 1.996, 1.996
Ca3158,315.887 {107},In2306,ppm, 50.54,.2210,.4373, 50.38, 50.69
Cd2288,228.802 {447},Y_2243,ppm, 2.004,.0011,.0572, 2.005, 2.004
Co2286,228.616 {447},In2306,ppm, 2.014,.0044,.2162, 2.011, 2.017
Cr2677,267.716 {126},Y_3600,ppm, 1.972,.0001,.0026, 1.972, 1.972
Cu3247,324.754 {104},Y_3600,ppm, 2.006,.0012,.0613, 2.007, 2.006
Fe2404,240.488 {140},In2306,ppm, 50.43,.4434,.8793, 50.11, 50.74
K_7664,766.490 { 44},Y_3710,ppm, 50.06,.1395,.2786, 49.96, 50.16
Li6707,670.784 { 50},Y_3710,ppm, 1.999,.0107,.5333, 1.991, 2.006
Mg2790,279.079 {121},Y_3710,ppm, 50.07,.1152,.2300, 50.15, 49.99
Mn2576,257.610 {131},Y_3600,ppm, 1.984,.0027,.1370, 1.982, 1.986
Mo2020,202.030 {467},Y_2243,ppm, 1.994,.0009,.0449, 1.993, 1.995
Na5895,589.592 { 57},Y_3710,ppm, 50.11,.1461,.2915, 50.00, 50.21
Ni2316,231.604 {445},In2306,ppm, 2.018,.0047,.2312, 2.015, 2.021
P_1782,178.284 {489},In2306,ppm, 20.60,.0377,.1830, 20.57, 20.63
Pb2203,220.353 {453},In2306,ppm, 2.008,.0026,.1281, 2.006, 2.009
S_1820,182.034 {485},Y_2243,ppm, 19.87,.0224,.1129, 19.86, 19.89
Sb2068,206.833 {463},Y_2243,ppm, 4.013,.0049,.1210, 4.017, 4.010
Se1960,196.090 {472},Y_2243,ppm, 2.016,.0004,.0197, 2.017, 2.016
Si2516,251.611 {134},Y_3710,ppm, 20.03,.0884,.4415, 19.97, 20.09
Sn1899,189.989 {477},In2306,ppm, 2.018,.0060,.2976, 2.014, 2.022
Sr4215,421.552 { 80},Y_3710,ppm, 2.001,.0107,.5332, 1.993, 2.008
Ti3349,334.904 {101},Y_3600,ppm, 2.000,.0008,.0410, 2.000, 2.001
Tl1908,190.856 {477},In2306,ppm, 1.830,.0162,.8859, 1.819, 1.842
U_3670,367.007 { 92},Y_3600,ppm, 1.996,.0376,1.885, 1.970, 2.023
V_2924,292.402 {115},Y_3600,ppm, 1.993,.0010,.0521, 1.992, 1.994
W_2397,239.709 {140},Y_2243,ppm, 2.065,.0268,1.296, 2.046, 2.084
Zn2062,206.200 {463},In2306,ppm, 2.025,.0087,.4293, 2.019, 2.031

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 241.01,.45249,.18775,241.33,240.69
In2306,230.606 {446},Cts/S, 14134.,38.794,.27448,14161.,14106.
Y_2243,224.306 {450},Cts/S, 22478.,46.690,.20771,22511.,22445.
Y_3600,360.073 { 94},Cts/S, 150800.,416.99,.27653,150500.,151090.
Y_3710,371.030 { 91},Cts/S, 13348.,79.669,.59688,13291.,13404.

[Sample Header]
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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .9977,.0020,.2025, .9991, .9963
Al3082,308.215 {109},In2306,ppm, 50.01,.6509,1.302, 49.55, 50.47
As1890,189.042 {478},Y_2243,ppm, 2.005,.0027,.1356, 2.007, 2.003
B_2496,249.678 {135},Y_3710,ppm, 1.975,.0007,.0351, 1.976, 1.975
Ba4554,455.403 { 74},Y_3710,ppm, 1.986,.0005,.0247, 1.987, 1.986
Be3130,313.042 {108},Y_3710,ppm, 1.976,.0074,.3752, 1.970, 1.981
Ca3158,315.887 {107},In2306,ppm, 49.58,.7470,1.507, 49.05, 50.11
Cd2288,228.802 {447},Y_2243,ppm, 1.986,.0005,.0246, 1.987, 1.986
Co2286,228.616 {447},In2306,ppm, 2.004,.0048,.2414, 2.007, 2.001
Cr2677,267.716 {126},Y_3600,ppm, 1.952,.0077,.3925, 1.957, 1.946
Cu3247,324.754 {104},Y_3600,ppm, 1.985,.0044,.2204, 1.988, 1.982
Fe2404,240.488 {140},In2306,ppm, 49.45,.6946,1.405, 48.96, 49.95
K_7664,766.490 { 44},Y_3710,ppm, 49.53,.0359,.0724, 49.51, 49.56
Li6707,670.784 { 50},Y_3710,ppm, 1.983,.0038,.1916, 1.980, 1.986
Mg2790,279.079 {121},Y_3710,ppm, 49.24,.3432,.6971, 49.00, 49.48
Mn2576,257.610 {131},Y_3600,ppm, 1.965,.0037,.1887, 1.967, 1.962
Mo2020,202.030 {467},Y_2243,ppm, 1.979,.0031,.1543, 1.981, 1.977
Na5895,589.592 { 57},Y_3710,ppm, 49.56,.0416,.0840, 49.53, 49.59
Ni2316,231.604 {445},In2306,ppm, 2.012,.0060,.2999, 2.016, 2.008
P_1782,178.284 {489},In2306,ppm, 20.48,.0551,.2692, 20.52, 20.44
Pb2203,220.353 {453},In2306,ppm, 1.998,.0062,.3113, 2.002, 1.994
S_1820,182.034 {485},Y_2243,ppm, 20.01,.0375,.1876, 20.04, 19.99
Sb2068,206.833 {463},Y_2243,ppm, 3.973,.0044,.1119, 3.970, 3.976
Se1960,196.090 {472},Y_2243,ppm, 2.009,.0008,.0390, 2.008, 2.009
Si2516,251.611 {134},Y_3710,ppm, 19.67,.0939,.4775, 19.61, 19.74
Sn1899,189.989 {477},In2306,ppm, 2.005,.0040,.1971, 2.008, 2.003
Sr4215,421.552 { 80},Y_3710,ppm, 1.983,.0004,.0189, 1.983, 1.984
Ti3349,334.904 {101},Y_3600,ppm, 1.982,.0028,.1421, 1.984, 1.980
Tl1908,190.856 {477},In2306,ppm, 2.018,.0028,.1393, 2.020, 2.016
U_3670,367.007 { 92},Y_3600,ppm, 2.014,.1076,5.344, 2.090, 1.938
V_2924,292.402 {115},Y_3600,ppm, 1.977,.0046,.2314, 1.980, 1.974
W_2397,239.709 {140},Y_2243,ppm, 1.977,.0637,3.219, 1.932, 2.022
Zn2062,206.200 {463},In2306,ppm, 2.023,.0100,.4940, 2.030, 2.016

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 241.94,1.6061,.66386,243.07,240.80
In2306,230.606 {446},Cts/S, 14173.,60.201,.42475,14131.,14216.
Y_2243,224.306 {450},Cts/S, 22553.,79.656,.35319,22497.,22610.
Y_3600,360.073 { 94},Cts/S, 150690.,53.277,.03536,150650.,150720.
Y_3710,371.030 { 91},Cts/S, 13327.,45.094,.33837,13295.,13359.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .5031,.0011,.2137, .5024, .5039
Al3082,308.215 {109},In2306,ppm, 19.93,.0758,.3802, 19.88, 19.98
As1890,189.042 {478},Y_2243,ppm, 1.001,.0045,.4456, .9982, 1.005
B_2496,249.678 {135},Y_3710,ppm, .9978,.0071,.7141, 1.003, .9928
Ba4554,455.403 { 74},Y_3710,ppm, .9994,.0033,.3329, .9971, 1.002
Be3130,313.042 {108},Y_3710,ppm, 1.025,.0037,.3593, 1.022, 1.027
Ca3158,315.887 {107},In2306,ppm, 19.98,.0611,.3059, 20.02, 19.94
Cd2288,228.802 {447},Y_2243,ppm, 1.006,.0020,.1991, 1.005, 1.008
Co2286,228.616 {447},In2306,ppm, .9866,.0020,.2025, .9880, .9852
Cr2677,267.716 {126},Y_3600,ppm, .9818,.0018,.1840, .9805, .9830
Cu3247,324.754 {104},Y_3600,ppm, .9775,.0001,.0144, .9776, .9774
Fe2404,240.488 {140},In2306,ppm, 19.97,.0038,.0190, 19.98, 19.97
K_7664,766.490 { 44},Y_3710,ppm, 19.81,.0320,.1615, 19.83, 19.79
Li6707,670.784 { 50},Y_3710,ppm, .9928,.0021,.2066, .9913, .9942
Mg2790,279.079 {121},Y_3710,ppm, 19.85,.0705,.3552, 19.80, 19.90
Mn2576,257.610 {131},Y_3600,ppm, 1.010,.0045,.4451, 1.007, 1.013
Mo2020,202.030 {467},Y_2243,ppm, 1.021,.0031,.3000, 1.019, 1.023
Na5895,589.592 { 57},Y_3710,ppm, 19.85,.0453,.2283, 19.82, 19.88
Ni2316,231.604 {445},In2306,ppm, .9998,.0019,.1928, 1.001, .9985
P_1782,178.284 {489},In2306,ppm, 9.941,.0065,.0654, 9.936, 9.945
Pb2203,220.353 {453},In2306,ppm, .9967,.0020,.2012, .9981, .9953
S_1820,182.034 {485},Y_2243,ppm, 10.19,.0332,.3260, 10.17, 10.22
Sb2068,206.833 {463},Y_2243,ppm, 2.112,.0097,.4593, 2.106, 2.119
Se1960,196.090 {472},Y_2243,ppm, 1.001,.0002,.0166, 1.001, 1.001
Si2516,251.611 {134},Y_3710,ppm, 9.730,.0155,.1589, 9.719, 9.741
Sn1899,189.989 {477},In2306,ppm, .9859,.0023,.2283, .9874, .9843
Sr4215,421.552 { 80},Y_3710,ppm, 1.001,.0028,.2813, .9987, 1.003
Ti3349,334.904 {101},Y_3600,ppm, 1.003,.0017,.1721, 1.002, 1.005
Tl1908,190.856 {477},In2306,ppm, 1.038,.0010,.0987, 1.039, 1.038
U_3670,367.007 { 92},Y_3600,ppm, .8598,.0162,1.890, .8483, .8713
V_2924,292.402 {115},Y_3600,ppm, 1.002,.0030,.2959, .9997, 1.004
W_2397,239.709 {140},Y_2243,ppm, 1.015,.0814,8.019, .9574, 1.073
Zn2062,206.200 {463},In2306,ppm, .9994,.0070,.7018, 1.004, .9945

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 246.73,2.4332,.98616,245.01,248.45
In2306,230.606 {446},Cts/S, 15092.,47.164,.31252,15125.,15058.
Y_2243,224.306 {450},Cts/S, 23084.,139.20,.60300,23183.,22986.
Y_3600,360.073 { 94},Cts/S, 156340.,204.20,.13061,156480.,156200.
Y_3710,371.030 { 91},Cts/S, 13531.,117.38,.86751,13448.,13614.

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Al3082,308.215 {109},In2306,ppm, .9935,.0073,.7339, .9883, .9987
As1890,189.042 {478},Y_2243,ppm, .0316,.0010,3.089, .0323, .0309
B_2496,249.678 {135},Y_3710,ppm, .2037,.0087,4.259, .2098, .1976
Ba4554,455.403 { 74},Y_3710,ppm, .0309,.0000,.0782, .0309, .0309
Be3130,313.042 {108},Y_3710,ppm, .0315,.0003,.9857, .0313, .0317
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Ca3158,315.887 {107},In2306,ppm, 1.001,.0072,.7236, .9955, 1.006
Cd2288,228.802 {447},Y_2243,ppm, .0310,.0001,.1879, .0310, .0309
Co2286,228.616 {447},In2306,ppm, .0294,.0001,.3973, .0294, .0293
Cr2677,267.716 {126},Y_3600,ppm, .0308,.0002,.7971, .0310, .0306
Cu3247,324.754 {104},Y_3600,ppm, .0316,.0000,.1243, .0317, .0316
Fe2404,240.488 {140},In2306,ppm, 1.013,.0117,1.155, 1.004, 1.021
K_7664,766.490 { 44},Y_3710,ppm, 1.009,.0206,2.044, 1.024, .9947
Li6707,670.784 { 50},Y_3710,ppm, .0317,.0002,.5429, .0316, .0318
Mg2790,279.079 {121},Y_3710,ppm, 1.018,.0198,1.946, 1.004, 1.032
Mn2576,257.610 {131},Y_3600,ppm, .0319,.0001,.1979, .0319, .0320
Mo2020,202.030 {467},Y_2243,ppm, .0321,.0002,.6480, .0320, .0323
Na5895,589.592 { 57},Y_3710,ppm, 1.050,.0014,.1307, 1.049, 1.051
Ni2316,231.604 {445},In2306,ppm, .0299,.0004,1.293, .0296, .0302
P_1782,178.284 {489},In2306,ppm, 1.874,.0096,.5110, 1.881, 1.867
Pb2203,220.353 {453},In2306,ppm, .0314,.0006,1.826, .0310, .0318
S_1820,182.034 {485},Y_2243,ppm, 1.969,.0042,.2147, 1.972, 1.966
Sb2068,206.833 {463},Y_2243,ppm, .2400,.0015,.6254, .2410, .2389
Se1960,196.090 {472},Y_2243,ppm, .0316,.0006,1.900, .0321, .0312
Si2516,251.611 {134},Y_3710,ppm, .3097,.0202,6.530, .3240, .2954
Sn1899,189.989 {477},In2306,ppm, .0295,.0004,1.491, .0298, .0292
Sr4215,421.552 { 80},Y_3710,ppm, .0310,.0001,.4216, .0311, .0310
Ti3349,334.904 {101},Y_3600,ppm, .0310,.0005,1.695, .0306, .0314
Tl1908,190.856 {477},In2306,ppm, .0346,.0002,.7175, .0344, .0348
U_3670,367.007 { 92},Y_3600,ppm, .1009,.0014,1.384, .1018, .0999
V_2924,292.402 {115},Y_3600,ppm, .0306,.0006,1.815, .0302, .0310
W_2397,239.709 {140},Y_2243,ppm, .2584,.0022,.8349, .2569, .2600
Zn2062,206.200 {463},In2306,ppm, .1914,.0006,.3261, .1919, .1910

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 257.62,.41559,.16132,257.92,257.33
In2306,230.606 {446},Cts/S, 16726.,86.153,.51507,16787.,16665.
Y_2243,224.306 {450},Cts/S, 23875.,144.67,.60596,23977.,23772.
Y_3600,360.073 { 94},Cts/S, 162210.,69.637,.04293,162160.,162260.
Y_3710,371.030 { 91},Cts/S, 13825.,1.0872,.00786,13825.,13826.

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Al3082,308.215 {109},In2306,ppm, .0131,.0112,85.14, .0210, .0052
As1890,189.042 {478},Y_2243,ppm, -.0000,.0004,3211., -.0003, .0003
B_2496,249.678 {135},Y_3710,ppm, -.0008,.0010,122.9, -.0001, -.0015
Ba4554,455.403 { 74},Y_3710,ppm, -.0002,.0000,23.15, -.0002, -.0002
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,101.1, .0000, .0002
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Co2286,228.616 {447},In2306,ppm, .0002,.0001,75.26, .0001, .0003
Cr2677,267.716 {126},Y_3600,ppm, .0002,.0001,90.89, .0002, .0001
Cu3247,324.754 {104},Y_3600,ppm, .0014,.0002,17.90, .0012, .0016
Fe2404,240.488 {140},In2306,ppm, -.0054,.0087,161.2, .0008, -.0116
K_7664,766.490 { 44},Y_3710,ppm, -.0028,.0050,180.0, -.0063, .0008
Li6707,670.784 { 50},Y_3710,ppm, .0005,.0000,2.308, .0005, .0005
Mg2790,279.079 {121},Y_3710,ppm, .0072,.0073,101.5, .0020, .0123
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,81.99, -.0000, -.0000
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Mo2020,202.030 {467},Y_2243,ppm, .0003,.0002,66.29, .0001, .0004
Na5895,589.592 { 57},Y_3710,ppm, .0289,.0074,25.51, .0237, .0341
Ni2316,231.604 {445},In2306,ppm, -.0003,.0002,60.71, -.0004, -.0002
P_1782,178.284 {489},In2306,ppm, -.0004,.0001,41.81, -.0002, -.0005
Pb2203,220.353 {453},In2306,ppm, -.0008,.0018,225.7, -.0021, .0005
S_1820,182.034 {485},Y_2243,ppm, -.0083,.0008,9.787, -.0078, -.0089
Sb2068,206.833 {463},Y_2243,ppm, .0018,.0009,51.43, .0011, .0024
Se1960,196.090 {472},Y_2243,ppm, -.0007,.0001,10.23, -.0007, -.0008
Si2516,251.611 {134},Y_3710,ppm, .0016,.0130,804.0, .0108, -.0076
Sn1899,189.989 {477},In2306,ppm, -.0000,.0000,44.25, -.0000, -.0000
Sr4215,421.552 { 80},Y_3710,ppm, .0001,.0000,39.11, .0001, .0002
Ti3349,334.904 {101},Y_3600,ppm, .0003,.0002,62.50, .0002, .0005
Tl1908,190.856 {477},In2306,ppm, .0025,.0038,150.0, .0052, -.0002
U_3670,367.007 { 92},Y_3600,ppm, -.1232,.0254,20.58, -.1411, -.1053
V_2924,292.402 {115},Y_3600,ppm, .0002,.0001,30.52, .0003, .0002
W_2397,239.709 {140},Y_2243,ppm, .0252,.0378,150.1, .0519, -.0015
Zn2062,206.200 {463},In2306,ppm, -.0011,.0001,12.45, -.0012, -.0010

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 258.26,1.1509,.44563,257.45,259.08
In2306,230.606 {446},Cts/S, 16895.,87.688,.51902,16957.,16833.
Y_2243,224.306 {450},Cts/S, 23704.,129.37,.54579,23795.,23612.
Y_3600,360.073 { 94},Cts/S, 160900.,62.973,.03914,160950.,160860.
Y_3710,371.030 { 91},Cts/S, 13663.,15.026,.10998,13674.,13653.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0006,.0002,35.99, -.0008, -.0005
Al3082,308.215 {109},In2306,ppm, 542.0,3.373,.6224, 544.4, 539.6
As1890,189.042 {478},Y_2243,ppm, -.0119,.0017,14.70, -.0106, -.0131
B_2496,249.678 {135},Y_3710,ppm, .0096,.0010,10.30, .0103, .0089
Ba4554,455.403 { 74},Y_3710,ppm, -.0003,.0000,18.50, -.0003, -.0002
Be3130,313.042 {108},Y_3710,ppm, .0002,.0000,23.51, .0002, .0002
Ca3158,315.887 {107},In2306,ppm, 497.0,.9957,.2004, 497.7, 496.3
Cd2288,228.802 {447},Y_2243,ppm, .0033,.0001,2.079, .0034, .0033
Co2286,228.616 {447},In2306,ppm, .0001,.0002,177.3, .0003, -.0000
Cr2677,267.716 {126},Y_3600,ppm, .0007,.0003,50.36, .0004, .0009
Cu3247,324.754 {104},Y_3600,ppm, -.0008,.0001,7.872, -.0009, -.0008
Fe2404,240.488 {140},In2306,ppm, 196.0,.4469,.2280, 196.3, 195.7
K_7664,766.490 { 44},Y_3710,ppm, .0320,.0091,28.37, .0256, .0385
Li6707,670.784 { 50},Y_3710,ppm, .0108,.0001,1.220, .0109, .0107
Mg2790,279.079 {121},Y_3710,ppm, 520.3,2.834,.5446, 518.3, 522.3
Mn2576,257.610 {131},Y_3600,ppm, -.0041,.0000,.6382, -.0041, -.0041
Mo2020,202.030 {467},Y_2243,ppm, .0008,.0001,13.82, .0008, .0009
Na5895,589.592 { 57},Y_3710,ppm, .0665,.0002,.2525, .0663, .0666
Ni2316,231.604 {445},In2306,ppm, -.0124,.0004,3.317, -.0121, -.0127
P_1782,178.284 {489},In2306,ppm, .0004,.0019,482.7, -.0010, .0018
Pb2203,220.353 {453},In2306,ppm, -.0017,.0006,35.61, -.0021, -.0013
S_1820,182.034 {485},Y_2243,ppm,F -1.028,.0013,.1231, -1.027, -1.029
Sb2068,206.833 {463},Y_2243,ppm, -.0078,.0005,5.976, -.0081, -.0075
Se1960,196.090 {472},Y_2243,ppm, -.0090,.0008,8.460, -.0095, -.0084
Si2516,251.611 {134},Y_3710,ppm, .0141,.0050,35.50, .0106, .0177
Sn1899,189.989 {477},In2306,ppm, .0000,.0004,7728., .0003, -.0003
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Sr4215,421.552 { 80},Y_3710,ppm, .0048,.0001,1.613, .0049, .0048
Ti3349,334.904 {101},Y_3600,ppm, .0040,.0004,9.137, .0042, .0037
Tl1908,190.856 {477},In2306,ppm, -.0002,.0022,1145., .0014, -.0018
U_3670,367.007 { 92},Y_3600,ppm,F 1.211,.0229,1.891, 1.195, 1.227
V_2924,292.402 {115},Y_3600,ppm, -.0023,.0000,1.350, -.0023, -.0023
W_2397,239.709 {140},Y_2243,ppm, -.0176,.0040,22.46, -.0204, -.0148
Zn2062,206.200 {463},In2306,ppm, -.0031,.0002,5.123, -.0032, -.0030

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 225.19,2.1316,.94661,223.68,226.69
In2306,230.606 {446},Cts/S, 11803.,12.773,.10822,11794.,11812.
Y_2243,224.306 {450},Cts/S, 20405.,23.191,.11365,20389.,20422.
Y_3600,360.073 { 94},Cts/S, 135680.,541.81,.39932,135300.,136060.
Y_3710,371.030 { 91},Cts/S, 12913.,40.635,.31467,12885.,12942.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2384,.0002,.0824, .2383, .2385
Al3082,308.215 {109},In2306,ppm, 531.7,1.784,.3355, 533.0, 530.5
As1890,189.042 {478},Y_2243,ppm, .9858,.0026,.2647, .9877, .9840
B_2496,249.678 {135},Y_3710,ppm, .5015,.0042,.8276, .4986, .5045
Ba4554,455.403 { 74},Y_3710,ppm, 1.000,.0042,.4223, .9973, 1.003
Be3130,313.042 {108},Y_3710,ppm, .9911,.0033,.3304, .9888, .9934
Ca3158,315.887 {107},In2306,ppm, 492.9,3.313,.6721, 495.2, 490.5
Cd2288,228.802 {447},Y_2243,ppm, 1.021,.0010,.0995, 1.022, 1.020
Co2286,228.616 {447},In2306,ppm, 1.008,.0009,.0850, 1.007, 1.008
Cr2677,267.716 {126},Y_3600,ppm, .9486,.0064,.6774, .9532, .9441
Cu3247,324.754 {104},Y_3600,ppm, 1.042,.0022,.2117, 1.043, 1.040
Fe2404,240.488 {140},In2306,ppm, 192.8,1.111,.5765, 193.6, 192.0
K_7664,766.490 { 44},Y_3710,ppm, 10.66,.0433,.4061, 10.63, 10.69
Li6707,670.784 { 50},Y_3710,ppm, 1.049,.0040,.3831, 1.046, 1.052
Mg2790,279.079 {121},Y_3710,ppm, 505.5,.0430,.0085, 505.6, 505.5
Mn2576,257.610 {131},Y_3600,ppm, .9663,.0068,.7014, .9711, .9615
Mo2020,202.030 {467},Y_2243,ppm, .9444,.0006,.0624, .9448, .9440
Na5895,589.592 { 57},Y_3710,ppm, 11.01,.0428,.3891, 10.98, 11.04
Ni2316,231.604 {445},In2306,ppm, .9910,.0020,.2003, .9896, .9924
P_1782,178.284 {489},In2306,ppm, 5.564,.0018,.0325, 5.562, 5.565
Pb2203,220.353 {453},In2306,ppm, .9737,.0059,.6082, .9696, .9779
S_1820,182.034 {485},Y_2243,ppm, 3.950,.0203,.5140, 3.935, 3.964
Sb2068,206.833 {463},Y_2243,ppm, 3.101,.0006,.0207, 3.102, 3.101
Se1960,196.090 {472},Y_2243,ppm, .9724,.0027,.2740, .9705, .9743
Si2516,251.611 {134},Y_3710,ppm, 9.739,.0910,.9341, 9.674, 9.803
Sn1899,189.989 {477},In2306,ppm, 1.006,.0011,.1048, 1.005, 1.007
Sr4215,421.552 { 80},Y_3710,ppm, .9999,.0031,.3135, .9976, 1.002
Ti3349,334.904 {101},Y_3600,ppm, .9901,.0029,.2936, .9921, .9880
Tl1908,190.856 {477},In2306,ppm, .8409,.0114,1.353, .8328, .8489
U_3670,367.007 { 92},Y_3600,ppm, 1.429,.0226,1.583, 1.413, 1.445
V_2924,292.402 {115},Y_3600,ppm, .9697,.0053,.5452, .9734, .9660
W_2397,239.709 {140},Y_2243,ppm, .3394,.0155,4.556, .3504, .3285
Zn2062,206.200 {463},In2306,ppm, .5183,.0041,.7874, .5154, .5212

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
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In2306,230.606 {146},Cts/S, 223.32,1.2419,.55611,222.44,224.20
In2306,230.606 {446},Cts/S, 11895.,20.245,.17020,11909.,11881.
Y_2243,224.306 {450},Cts/S, 20794.,30.563,.14698,20815.,20772.
Y_3600,360.073 { 94},Cts/S, 137150.,72.220,.05266,137100.,137200.
Y_3710,371.030 { 91},Cts/S, 12928.,32.314,.24995,12951.,12905.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .5111,.0026,.5181, .5130, .5092
Al3082,308.215 {109},In2306,ppm, 19.83,.1809,.9121, 19.70, 19.96
As1890,189.042 {478},Y_2243,ppm, .9887,.0008,.0772, .9881, .9892
B_2496,249.678 {135},Y_3710,ppm, .9896,.0214,2.164, 1.005, .9745
Ba4554,455.403 { 74},Y_3710,ppm, 1.003,.0038,.3747, 1.000, 1.005
Be3130,313.042 {108},Y_3710,ppm, 1.032,.0012,.1118, 1.031, 1.032
Ca3158,315.887 {107},In2306,ppm, 19.77,.0642,.3247, 19.72, 19.81
Cd2288,228.802 {447},Y_2243,ppm, 1.001,.0016,.1616, 1.002, .9998
Co2286,228.616 {447},In2306,ppm, .9878,.0008,.0811, .9884, .9873
Cr2677,267.716 {126},Y_3600,ppm, 1.003,.0054,.5374, 1.007, .9990
Cu3247,324.754 {104},Y_3600,ppm, .9881,.0034,.3470, .9857, .9906
Fe2404,240.488 {140},In2306,ppm, 19.81,.1118,.5641, 19.73, 19.89
K_7664,766.490 { 44},Y_3710,ppm, 19.76,.0540,.2733, 19.72, 19.80
Li6707,670.784 { 50},Y_3710,ppm, .9898,.0032,.3183, .9875, .9920
Mg2790,279.079 {121},Y_3710,ppm, 20.03,.0534,.2668, 20.06, 19.99
Mn2576,257.610 {131},Y_3600,ppm, 1.033,.0060,.5823, 1.038, 1.029
Mo2020,202.030 {467},Y_2243,ppm, 1.020,.0005,.0522, 1.020, 1.019
Na5895,589.592 { 57},Y_3710,ppm, 19.94,.0412,.2065, 19.91, 19.97
Ni2316,231.604 {445},In2306,ppm, .9977,.0008,.0785, .9983, .9972
P_1782,178.284 {489},In2306,ppm, 9.877,.0025,.0253, 9.875, 9.879
Pb2203,220.353 {453},In2306,ppm, .9907,.0018,.1772, .9919, .9894
S_1820,182.034 {485},Y_2243,ppm, 10.16,.0074,.0724, 10.15, 10.16
Sb2068,206.833 {463},Y_2243,ppm, 2.115,.0042,.1993, 2.118, 2.112
Se1960,196.090 {472},Y_2243,ppm, .9936,.0042,.4214, .9906, .9966
Si2516,251.611 {134},Y_3710,ppm, 9.762,.0202,.2071, 9.776, 9.747
Sn1899,189.989 {477},In2306,ppm, .9948,.0019,.1871, .9934, .9961
Sr4215,421.552 { 80},Y_3710,ppm, 1.001,.0032,.3228, .9984, 1.003
Ti3349,334.904 {101},Y_3600,ppm, 1.013,.0012,.1140, 1.014, 1.013
Tl1908,190.856 {477},In2306,ppm, 1.070,.0012,.1104, 1.069, 1.071
U_3670,367.007 { 92},Y_3600,ppm, .8805,.0263,2.982, .8991, .8619
V_2924,292.402 {115},Y_3600,ppm, 1.017,.0037,.3681, 1.020, 1.014
W_2397,239.709 {140},Y_2243,ppm, 1.016,.0021,.2054, 1.018, 1.015
Zn2062,206.200 {463},In2306,ppm, 1.004,.0001,.0092, 1.004, 1.004

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 249.00,1.8089,.72646,250.28,247.72
In2306,230.606 {446},Cts/S, 15125.,20.839,.13777,15140.,15111.
Y_2243,224.306 {450},Cts/S, 23259.,13.516,.05811,23268.,23249.
Y_3600,360.073 { 94},Cts/S, 153500.,261.61,.17043,153310.,153680.
Y_3710,371.030 { 91},Cts/S, 13489.,36.260,.26880,13515.,13464.

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Ag3280,328.068 {103},Y_3600,ppm, .0893,.0008,.8902, .0899, .0888
Al3082,308.215 {109},In2306,ppm, 1.028,.0009,.0875, 1.029, 1.027
As1890,189.042 {478},Y_2243,ppm, .0319,.0031,9.777, .0297, .0341
B_2496,249.678 {135},Y_3710,ppm, .2012,.0015,.7676, .2001, .2023
Ba4554,455.403 { 74},Y_3710,ppm, .0309,.0002,.7745, .0308, .0311
Be3130,313.042 {108},Y_3710,ppm, .0314,.0003,1.026, .0312, .0316
Ca3158,315.887 {107},In2306,ppm, 1.003,.0165,1.646, 1.014, .9909
Cd2288,228.802 {447},Y_2243,ppm, .0308,.0002,.5102, .0307, .0309
Co2286,228.616 {447},In2306,ppm, .0295,.0001,.4655, .0295, .0294
Cr2677,267.716 {126},Y_3600,ppm, .0316,.0001,.2558, .0316, .0317
Cu3247,324.754 {104},Y_3600,ppm, .0318,.0002,.5365, .0319, .0317
Fe2404,240.488 {140},In2306,ppm, .9894,.0048,.4810, .9927, .9860
K_7664,766.490 { 44},Y_3710,ppm, .9971,.0151,1.510, .9864, 1.008
Li6707,670.784 { 50},Y_3710,ppm, .0305,.0000,.0768, .0306, .0305
Mg2790,279.079 {121},Y_3710,ppm, 1.073,.0043,.3994, 1.070, 1.076
Mn2576,257.610 {131},Y_3600,ppm, .0322,.0002,.7679, .0320, .0324
Mo2020,202.030 {467},Y_2243,ppm, .0316,.0000,.1506, .0316, .0316
Na5895,589.592 { 57},Y_3710,ppm, 1.060,.0021,.1992, 1.059, 1.062
Ni2316,231.604 {445},In2306,ppm, .0293,.0001,.3318, .0292, .0293
P_1782,178.284 {489},In2306,ppm, 1.859,.0015,.0814, 1.858, 1.861
Pb2203,220.353 {453},In2306,ppm, .0300,.0002,.7663, .0302, .0299
S_1820,182.034 {485},Y_2243,ppm, 1.961,.0058,.2981, 1.957, 1.965
Sb2068,206.833 {463},Y_2243,ppm, .2407,.0003,.1425, .2410, .2405
Se1960,196.090 {472},Y_2243,ppm, .0354,.0026,7.466, .0335, .0372
Si2516,251.611 {134},Y_3710,ppm, .2840,.0034,1.208, .2816, .2865
Sn1899,189.989 {477},In2306,ppm, .0295,.0005,1.714, .0298, .0291
Sr4215,421.552 { 80},Y_3710,ppm, .0310,.0000,.0308, .0310, .0310
Ti3349,334.904 {101},Y_3600,ppm, .0314,.0002,.6349, .0313, .0316
Tl1908,190.856 {477},In2306,ppm, .0350,.0001,.2695, .0350, .0351
U_3670,367.007 { 92},Y_3600,ppm, .1442,.0029,1.981, .1422, .1462
V_2924,292.402 {115},Y_3600,ppm, .0308,.0003,.8719, .0310, .0306
W_2397,239.709 {140},Y_2243,ppm, .2151,.0364,16.91, .1894, .2408
Zn2062,206.200 {463},In2306,ppm, .1903,.0005,.2842, .1899, .1906

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 256.74,.55157,.21484,256.35,257.13
In2306,230.606 {446},Cts/S, 16723.,16.007,.09572,16735.,16712.
Y_2243,224.306 {450},Cts/S, 23893.,21.103,.08832,23908.,23878.
Y_3600,360.073 { 94},Cts/S, 160060.,552.88,.34543,159660.,160450.
Y_3710,371.030 { 91},Cts/S, 13662.,10.948,.08013,13655.,13670.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0011,.0004,35.76, -.0008, -.0014
Al3082,308.215 {109},In2306,ppm, -.0016,.0207,1264., -.0163, .0130
As1890,189.042 {478},Y_2243,ppm, .0008,.0008,102.5, .0014, .0002
B_2496,249.678 {135},Y_3710,ppm, .0017,.0042,248.3, .0046, -.0013
Ba4554,455.403 { 74},Y_3710,ppm, -.0003,.0000,2.401, -.0003, -.0003
Be3130,313.042 {108},Y_3710,ppm, .0002,.0001,32.06, .0002, .0003
Ca3158,315.887 {107},In2306,ppm, -.0003,.0017,620.6, .0009, -.0015
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0000,87.41, -.0000, -.0001
Co2286,228.616 {447},In2306,ppm, -.0000,.0001,288.4, .0000, -.0001
Cr2677,267.716 {126},Y_3600,ppm, .0003,.0000,13.84, .0002, .0003
Cu3247,324.754 {104},Y_3600,ppm, .0003,.0001,51.42, .0004, .0002
Fe2404,240.488 {140},In2306,ppm, -.0067,.0034,51.62, -.0042, -.0091
K_7664,766.490 { 44},Y_3710,ppm, -.0012,.0003,20.99, -.0010, -.0014
Li6707,670.784 { 50},Y_3710,ppm, -.0002,.0006,299.9, -.0006, .0002
Mg2790,279.079 {121},Y_3710,ppm, .0169,.0118,70.01, .0252, .0085
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,214.0, .0000, -.0000
Mo2020,202.030 {467},Y_2243,ppm, -.0001,.0000,21.87, -.0001, -.0001
Na5895,589.592 { 57},Y_3710,ppm, .0445,.0001,.1692, .0446, .0445
Ni2316,231.604 {445},In2306,ppm, .0001,.0003,478.3, -.0002, .0003
P_1782,178.284 {489},In2306,ppm, -.0002,.0005,200.3, -.0006, .0001
Pb2203,220.353 {453},In2306,ppm, .0003,.0005,181.8, -.0001, .0006
S_1820,182.034 {485},Y_2243,ppm, -.0047,.0015,31.07, -.0037, -.0057
Sb2068,206.833 {463},Y_2243,ppm, .0033,.0006,17.69, .0028, .0037
Se1960,196.090 {472},Y_2243,ppm, .0001,.0004,328.6, .0004, -.0002
Si2516,251.611 {134},Y_3710,ppm, -.0076,.0045,59.58, -.0107, -.0044
Sn1899,189.989 {477},In2306,ppm, .0002,.0003,165.6, -.0000, .0004
Sr4215,421.552 { 80},Y_3710,ppm, .0001,.0001,152.1, .0001, -.0000
Ti3349,334.904 {101},Y_3600,ppm, -.0001,.0004,345.4, .0001, -.0004
Tl1908,190.856 {477},In2306,ppm, .0050,.0020,39.35, .0063, .0036
U_3670,367.007 { 92},Y_3600,ppm, .0062,.0647,1051., .0519, -.0396
V_2924,292.402 {115},Y_3600,ppm, -.0000,.0001,262.1, -.0001, .0000
W_2397,239.709 {140},Y_2243,ppm, .0407,.0075,18.50, .0460, .0353
Zn2062,206.200 {463},In2306,ppm, -.0011,.0000,.6747, -.0011, -.0011

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 260.51,.97075,.37263,259.83,261.20
In2306,230.606 {446},Cts/S, 16932.,37.046,.21879,16959.,16906.
Y_2243,224.306 {450},Cts/S, 23775.,146.90,.61786,23879.,23671.
Y_3600,360.073 { 94},Cts/S, 158870.,480.03,.30215,158530.,159210.
Y_3710,371.030 { 91},Cts/S, 13541.,32.875,.24278,13565.,13518.


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Custom ID2=
Custom ID3=
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Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0000,.0004,954.2, -.0004, .0003
Al3082,308.215 {109},In2306,ppm, .0162,.0076,47.01, .0216, .0108
As1890,189.042 {478},Y_2243,ppm, .0007,.0006,95.51, .0002, .0011
B_2496,249.678 {135},Y_3710,ppm, .0009,.0023,260.0, .0026, -.0008
Ba4554,455.403 { 74},Y_3710,ppm, .0000,.0001,273.0, -.0000, .0001
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,2.858, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, .0065,.0010,15.96, .0058, .0073
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Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0000,24.73, -.0000, -.0000
Co2286,228.616 {447},In2306,ppm, -.0001,.0000,20.60, -.0002, -.0001
Cr2677,267.716 {126},Y_3600,ppm, .0002,.0001,64.66, .0001, .0003
Cu3247,324.754 {104},Y_3600,ppm, .0002,.0001,50.10, .0003, .0001
Fe2404,240.488 {140},In2306,ppm, -.0074,.0062,82.93, -.0118, -.0031
K_7664,766.490 { 44},Y_3710,ppm, -.0264,.0236,89.32, -.0431, -.0097
Li6707,670.784 { 50},Y_3710,ppm, -.0007,.0001,17.98, -.0008, -.0006
Mg2790,279.079 {121},Y_3710,ppm, -.0156,.0141,90.40, -.0255, -.0056
Mn2576,257.610 {131},Y_3600,ppm, .0000,.0000,86.89, .0001, .0000
Mo2020,202.030 {467},Y_2243,ppm, -.0000,.0003,2257., -.0002, .0002
Na5895,589.592 { 57},Y_3710,ppm, .0408,.0068,16.73, .0456, .0360
Ni2316,231.604 {445},In2306,ppm, .0001,.0002,206.0, -.0000, .0002
P_1782,178.284 {489},In2306,ppm, -.0005,.0008,159.6, -.0011, .0001
Pb2203,220.353 {453},In2306,ppm, .0004,.0008,214.3, .0009, -.0002
S_1820,182.034 {485},Y_2243,ppm, -.0064,.0032,50.42, -.0087, -.0041
Sb2068,206.833 {463},Y_2243,ppm, .0011,.0001,7.022, .0010, .0011
Se1960,196.090 {472},Y_2243,ppm, -.0002,.0025,1650., -.0019, .0016
Si2516,251.611 {134},Y_3710,ppm, -.0073,.0175,239.4, .0051, -.0197
Sn1899,189.989 {477},In2306,ppm, -.0004,.0005,118.4, -.0001, -.0007
Sr4215,421.552 { 80},Y_3710,ppm, .0002,.0000,19.38, .0002, .0001
Ti3349,334.904 {101},Y_3600,ppm, -.0001,.0000,1.596, -.0001, -.0001
Tl1908,190.856 {477},In2306,ppm, .0040,.0028,68.54, .0021, .0060
U_3670,367.007 { 92},Y_3600,ppm, -.0025,.0279,1138., -.0222, .0173
V_2924,292.402 {115},Y_3600,ppm, -.0001,.0002,168.7, .0000, -.0002
W_2397,239.709 {140},Y_2243,ppm, .0517,.0416,80.34, .0223, .0811
Zn2062,206.200 {463},In2306,ppm, .0072,.0000,.4195, .0072, .0071

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 254.20,4.2453,1.6700,251.20,257.20
In2306,230.606 {446},Cts/S, 16871.,2.7293,.01618,16869.,16873.
Y_2243,224.306 {450},Cts/S, 23639.,8.7691,.03710,23645.,23632.
Y_3600,360.073 { 94},Cts/S, 161430.,109.54,.06786,161500.,161350.
Y_3710,371.030 { 91},Cts/S, 13496.,46.787,.34666,13530.,13463.

[Sample Header]
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Custom ID3=
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2588,.0011,.4361, .2596, .2580
Al3082,308.215 {109},In2306,ppm, 10.28,.0397,.3856, 10.26, 10.31
As1890,189.042 {478},Y_2243,ppm, 1.024,.0012,.1130, 1.024, 1.023
B_2496,249.678 {135},Y_3710,ppm, .5144,.0058,1.134, .5102, .5185
Ba4554,455.403 { 74},Y_3710,ppm, 1.030,.0007,.0645, 1.031, 1.030
Be3130,313.042 {108},Y_3710,ppm, 1.036,.0039,.3780, 1.033, 1.039
Ca3158,315.887 {107},In2306,ppm, 10.33,.0670,.6484, 10.29, 10.38
Cd2288,228.802 {447},Y_2243,ppm, 1.042,.0023,.2193, 1.043, 1.040
Co2286,228.616 {447},In2306,ppm, 1.003,.0007,.0659, 1.004, 1.003
Cr2677,267.716 {126},Y_3600,ppm, 1.015,.0052,.5111, 1.018, 1.011
Cu3247,324.754 {104},Y_3600,ppm, 1.020,.0015,.1455, 1.021, 1.019
Fe2404,240.488 {140},In2306,ppm, 10.32,.0636,.6158, 10.28, 10.37
K_7664,766.490 { 44},Y_3710,ppm, 10.38,.0374,.3601, 10.41, 10.36
Li6707,670.784 { 50},Y_3710,ppm, 1.033,.0008,.0791, 1.033, 1.034
Mg2790,279.079 {121},Y_3710,ppm, 10.48,.0125,.1195, 10.47, 10.49
Mn2576,257.610 {131},Y_3600,ppm, 1.037,.0064,.6132, 1.042, 1.033
Mo2020,202.030 {467},Y_2243,ppm, 1.058,.0027,.2531, 1.060, 1.056
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Na5895,589.592 { 57},Y_3710,ppm, 10.50,.0165,.1572, 10.49, 10.52
Ni2316,231.604 {445},In2306,ppm, 1.018,.0029,.2835, 1.021, 1.016
P_1782,178.284 {489},In2306,ppm, 5.143,.0012,.0224, 5.144, 5.142
Pb2203,220.353 {453},In2306,ppm, 1.018,.0015,.1508, 1.017, 1.019
S_1820,182.034 {485},Y_2243,ppm, 5.379,.0047,.0879, 5.382, 5.376
Sb2068,206.833 {463},Y_2243,ppm, 1.652,.0072,.4346, 1.657, 1.647
Se1960,196.090 {472},Y_2243,ppm, 1.025,.0024,.2342, 1.023, 1.026
Si2516,251.611 {134},Y_3710,ppm, 8.913,.0239,.2685, 8.896, 8.930
Sn1899,189.989 {477},In2306,ppm, .9990,.0012,.1188, .9982, .9998
Sr4215,421.552 { 80},Y_3710,ppm, 1.031,.0003,.0339, 1.031, 1.032
Ti3349,334.904 {101},Y_3600,ppm, 1.029,.0044,.4237, 1.032, 1.026
Tl1908,190.856 {477},In2306,ppm, .9155,.0037,.4073, .9129, .9181
U_3670,367.007 { 92},Y_3600,ppm, .4736,.0243,5.132, .4907, .4564
V_2924,292.402 {115},Y_3600,ppm, 1.028,.0050,.4874, 1.032, 1.025
W_2397,239.709 {140},Y_2243,ppm, .4633,.0329,7.097, .4866, .4401
Zn2062,206.200 {463},In2306,ppm, .5158,.0002,.0320, .5157, .5159

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 251.50,.67489,.26835,251.97,251.02
In2306,230.606 {446},Cts/S, 15564.,4.9799,.03200,15560.,15567.
Y_2243,224.306 {450},Cts/S, 23157.,17.310,.07475,23145.,23169.
Y_3600,360.073 { 94},Cts/S, 156990.,186.26,.11865,156860.,157120.
Y_3710,371.030 { 91},Cts/S, 13552.,9.7182,.07171,13546.,13559.

[Sample Header]
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Custom ID2=
Custom ID3=
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0001,209.1, .0000, -.0002
Al3082,308.215 {109},In2306,ppm, .0065,.0230,355.3, -.0098, .0228
As1890,189.042 {478},Y_2243,ppm, .0008,.0004,57.68, .0005, .0011
B_2496,249.678 {135},Y_3710,ppm, .0025,.0011,41.99, .0018, .0033
Ba4554,455.403 { 74},Y_3710,ppm, .0004,.0001,28.49, .0005, .0003
Be3130,313.042 {108},Y_3710,ppm, .0003,.0000,.0431, .0003, .0003
Ca3158,315.887 {107},In2306,ppm, .0038,.0037,96.93, .0064, .0012
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0002,85.54, .0001, .0004
Co2286,228.616 {447},In2306,ppm, .0006,.0002,32.97, .0005, .0007
Cr2677,267.716 {126},Y_3600,ppm, .0007,.0002,25.56, .0009, .0006
Cu3247,324.754 {104},Y_3600,ppm, .0013,.0002,11.75, .0012, .0014
Fe2404,240.488 {140},In2306,ppm, -.0051,.0027,53.03, -.0032, -.0070
K_7664,766.490 { 44},Y_3710,ppm, -.0016,.0046,293.3, -.0048, .0017
Li6707,670.784 { 50},Y_3710,ppm, .0001,.0011,1045., -.0007, .0009
Mg2790,279.079 {121},Y_3710,ppm, .0002,.0264,11540., .0189, -.0185
Mn2576,257.610 {131},Y_3600,ppm, .0002,.0000,4.579, .0002, .0002
Mo2020,202.030 {467},Y_2243,ppm, .0015,.0002,12.11, .0013, .0016
Na5895,589.592 { 57},Y_3710,ppm, 142.7,.6980,.4892, 142.2, 143.2
Ni2316,231.604 {445},In2306,ppm, .0005,.0001,24.04, .0004, .0006
P_1782,178.284 {489},In2306,ppm, .0045,.0005,11.49, .0049, .0041
Pb2203,220.353 {453},In2306,ppm, -.0002,.0002,83.23, -.0001, -.0004
S_1820,182.034 {485},Y_2243,ppm, .0000,.0031,6595., .0023, -.0022
Sb2068,206.833 {463},Y_2243,ppm, .0017,.0027,155.7, -.0002, .0036
Se1960,196.090 {472},Y_2243,ppm, .0041,.0028,67.82, .0061, .0021
Si2516,251.611 {134},Y_3710,ppm, .0038,.0011,30.07, .0046, .0030
Sn1899,189.989 {477},In2306,ppm, .0002,.0003,114.4, .0004, .0000
Sr4215,421.552 { 80},Y_3710,ppm, .0003,.0001,25.68, .0002, .0003
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Ti3349,334.904 {101},Y_3600,ppm, .0003,.0000,7.713, .0002, .0003
Tl1908,190.856 {477},In2306,ppm, .0314,.0045,14.40, .0346, .0282
U_3670,367.007 { 92},Y_3600,ppm, .0994,.0342,34.44, .0752, .1236
V_2924,292.402 {115},Y_3600,ppm, .0000,.0000,342.1, .0000, -.0000
W_2397,239.709 {140},Y_2243,ppm, .0149,.0336,225.8, .0386, -.0089
Zn2062,206.200 {463},In2306,ppm, .0067,.0001,1.824, .0066, .0068

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 253.50,1.0356,.40854,252.76,254.23
In2306,230.606 {446},Cts/S, 14745.,44.582,.30236,14713.,14776.
Y_2243,224.306 {450},Cts/S, 22416.,60.158,.26837,22373.,22459.
Y_3600,360.073 { 94},Cts/S, 151600.,44.335,.02925,151570.,151630.
Y_3710,371.030 { 91},Cts/S, 13627.,7.7379,.05678,13633.,13622.

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Custom ID3=
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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0002,.0005,321.8, .0005, -.0002
Al3082,308.215 {109},In2306,ppm, .0120,.0320,267.1, .0346, -.0107
As1890,189.042 {478},Y_2243,ppm, -.0023,.0011,48.91, -.0015, -.0031
B_2496,249.678 {135},Y_3710,ppm, -.0028,.0001,3.136, -.0027, -.0028
Ba4554,455.403 { 74},Y_3710,ppm, -.0001,.0005,766.8, -.0004, .0003
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,52.48, .0001, .0002
Ca3158,315.887 {107},In2306,ppm, .0123,.0031,25.03, .0102, .0145
Cd2288,228.802 {447},Y_2243,ppm, .0003,.0000,9.834, .0004, .0003
Co2286,228.616 {447},In2306,ppm, .0001,.0001,184.5, .0002, -.0000
Cr2677,267.716 {126},Y_3600,ppm, .0009,.0002,16.69, .0008, .0010
Cu3247,324.754 {104},Y_3600,ppm, .0020,.0000,2.475, .0020, .0020
Fe2404,240.488 {140},In2306,ppm, -.0007,.0052,783.4, -.0043, .0030
K_7664,766.490 { 44},Y_3710,ppm, .0097,.0232,238.7, .0262, -.0067
Li6707,670.784 { 50},Y_3710,ppm, -.0009,.0000,4.450, -.0009, -.0009
Mg2790,279.079 {121},Y_3710,ppm, -.0057,.0214,374.0, .0094, -.0208
Mn2576,257.610 {131},Y_3600,ppm, .0001,.0000,1.603, .0001, .0001
Mo2020,202.030 {467},Y_2243,ppm, .0008,.0001,13.76, .0009, .0007
Na5895,589.592 { 57},Y_3710,ppm, .0602,.0056,9.252, .0641, .0563
Ni2316,231.604 {445},In2306,ppm, .0014,.0004,31.44, .0017, .0011
P_1782,178.284 {489},In2306,ppm, .0254,.0002,.7227, .0253, .0256
Pb2203,220.353 {453},In2306,ppm, -.0020,.0006,31.79, -.0016, -.0025
S_1820,182.034 {485},Y_2243,ppm, -.0026,.0015,55.61, -.0037, -.0016
Sb2068,206.833 {463},Y_2243,ppm, .0032,.0016,49.17, .0043, .0021
Se1960,196.090 {472},Y_2243,ppm, .0006,.0001,19.78, .0005, .0007
Si2516,251.611 {134},Y_3710,ppm, -.0017,.0044,250.4, -.0048, .0013
Sn1899,189.989 {477},In2306,ppm, .0257,.0002,.7133, .0258, .0255
Sr4215,421.552 { 80},Y_3710,ppm, .0000,.0001,313.8, .0001, -.0000
Ti3349,334.904 {101},Y_3600,ppm, .0002,.0001,59.38, .0003, .0001
Tl1908,190.856 {477},In2306,ppm, .0152,.0023,15.25, .0168, .0135
U_3670,367.007 { 92},Y_3600,ppm, .0176,.0548,310.7, .0564, -.0211
V_2924,292.402 {115},Y_3600,ppm, -.0000,.0001,258.6, .0000, -.0001
W_2397,239.709 {140},Y_2243,ppm, .0048,.0427,886.4, -.0254, .0350
Zn2062,206.200 {463},In2306,ppm, .0126,.0001,.6666, .0127, .0126

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 253.68,1.2236,.48234,254.54,252.81
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In2306,230.606 {446},Cts/S, 16679.,50.518,.30288,16715.,16644.
Y_2243,224.306 {450},Cts/S, 23271.,99.444,.42733,23341.,23201.
Y_3600,360.073 { 94},Cts/S, 161860.,113.44,.07008,161940.,161780.
Y_3710,371.030 { 91},Cts/S, 13714.,26.049,.18994,13696.,13732.

[Sample Header]
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Custom ID2=
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Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2829,.0012,.4342, .2820, .2838
Al3082,308.215 {109},In2306,ppm, 94.35,.1381,.1464, 94.26, 94.45
As1890,189.042 {478},Y_2243,ppm, 2.774,.0032,.1142, 2.772, 2.776
B_2496,249.678 {135},Y_3710,ppm, 5.333,.0170,.3195, 5.345, 5.321
Ba4554,455.403 { 74},Y_3710,ppm, 2.281,.0065,.2851, 2.276, 2.285
Be3130,313.042 {108},Y_3710,ppm, 1.640,.0046,.2830, 1.643, 1.637
Ca3158,315.887 {107},In2306,ppm, 136.3,.4216,.3094, 136.6, 136.0
Cd2288,228.802 {447},Y_2243,ppm, 1.495,.0014,.0966, 1.496, 1.494
Co2286,228.616 {447},In2306,ppm, 2.531,.0046,.1835, 2.527, 2.534
Cr2677,267.716 {126},Y_3600,ppm, 1.539,.0010,.0649, 1.538, 1.540
Cu3247,324.754 {104},Y_3600,ppm, .8872,.0011,.1229, .8880, .8864
Fe2404,240.488 {140},In2306,ppm, 134.0,.2784,.2078, 134.2, 133.8
K_7664,766.490 { 44},Y_3710,ppm, 95.25,.0458,.0481, 95.28, 95.22
Li6707,670.784 { 50},Y_3710,ppm, 2.359,.0007,.0280, 2.358, 2.359
Mg2790,279.079 {121},Y_3710,ppm, 111.8,.3019,.2701, 111.6, 112.0
Mn2576,257.610 {131},Y_3600,ppm, 10.69,.0179,.1677, 10.68, 10.71
Mo2020,202.030 {467},Y_2243,ppm, 1.730,.0023,.1357, 1.732, 1.729
Na5895,589.592 { 57},Y_3710,ppm, 114.2,.1664,.1457, 114.1, 114.3
Ni2316,231.604 {445},In2306,ppm, 1.077,.0023,.2106, 1.075, 1.078
P_1782,178.284 {489},In2306,ppm, 4.361,.0111,.2549, 4.353, 4.369
Pb2203,220.353 {453},In2306,ppm, 1.331,.0014,.1036, 1.330, 1.332
S_1820,182.034 {485},Y_2243,ppm, 3.075,.0010,.0339, 3.075, 3.076
Sb2068,206.833 {463},Y_2243,ppm, .2693,.0034,1.245, .2670, .2717
Se1960,196.090 {472},Y_2243,ppm, 2.712,.0010,.0352, 2.712, 2.711
Si2516,251.611 {134},Y_3710,ppm, 22.72,.1172,.5158, 22.63, 22.80
Sn1899,189.989 {477},In2306,ppm, 1.592,.0050,.3113, 1.588, 1.595
Sr4215,421.552 { 80},Y_3710,ppm, .8199,.0008,.1005, .8193, .8205
Ti3349,334.904 {101},Y_3600,ppm, 3.585,.0017,.0486, 3.584, 3.586
Tl1908,190.856 {477},In2306,ppm, 2.028,.0127,.6240, 2.019, 2.037
U_3670,367.007 { 92},Y_3600,ppm, 1.399,.0416,2.975, 1.369, 1.428
V_2924,292.402 {115},Y_3600,ppm, .2474,.0006,.2562, .2479, .2470
W_2397,239.709 {140},Y_2243,ppm, -.2685,.0079,2.953, -.2741, -.2629
Zn2062,206.200 {463},In2306,ppm, 4.605,.0295,.6404, 4.584, 4.626

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 237.72,1.0283,.43256,237.00,238.45
In2306,230.606 {446},Cts/S, 13121.,55.932,.42628,13081.,13160.
Y_2243,224.306 {450},Cts/S, 22675.,152.34,.67186,22567.,22783.
Y_3600,360.073 { 94},Cts/S, 154510.,103.46,.06696,154430.,154580.
Y_3710,371.030 { 91},Cts/S, 14076.,37.581,.26700,14049.,14102.

[Sample Header]
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Mode=CONC
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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0037,.0002,6.345, -.0036, -.0039
Al3082,308.215 {109},In2306,ppm, 121.9,.9325,.7650, 121.2, 122.5
As1890,189.042 {478},Y_2243,ppm, .0359,.0006,1.691, .0364, .0355
B_2496,249.678 {135},Y_3710,ppm, .0364,.0029,8.104, .0343, .0385
Ba4554,455.403 { 74},Y_3710,ppm, 1.064,.0011,.1006, 1.063, 1.065
Be3130,313.042 {108},Y_3710,ppm, .0076,.0000,.4195, .0076, .0075
Ca3158,315.887 {107},In2306,ppm, 114.0,.9034,.7922, 113.4, 114.7
Cd2288,228.802 {447},Y_2243,ppm, .0020,.0001,5.911, .0019, .0021
Co2286,228.616 {447},In2306,ppm, .0276,.0000,.1226, .0276, .0275
Cr2677,267.716 {126},Y_3600,ppm, .1257,.0006,.4885, .1253, .1262
Cu3247,324.754 {104},Y_3600,ppm, .0732,.0003,.4480, .0735, .0730
Fe2404,240.488 {140},In2306,ppm, 114.0,.8906,.7816, 113.3, 114.6
K_7664,766.490 { 44},Y_3710,ppm, 5.100,.0056,.1088, 5.104, 5.097
Li6707,670.784 { 50},Y_3710,ppm, .0405,.0001,.1826, .0404, .0405
Mg2790,279.079 {121},Y_3710,ppm, 11.48,.1118,.9738, 11.40, 11.56
Mn2576,257.610 {131},Y_3600,ppm, .4812,.0003,.0653, .4814, .4809
Mo2020,202.030 {467},Y_2243,ppm, .0043,.0004,8.887, .0040, .0046
Na5895,589.592 { 57},Y_3710,ppm, 1.700,.0069,.4049, 1.695, 1.705
Ni2316,231.604 {445},In2306,ppm, .0428,.0001,.2226, .0427, .0429
P_1782,178.284 {489},In2306,ppm, .5536,.0015,.2749, .5525, .5547
Pb2203,220.353 {453},In2306,ppm, .1784,.0018,1.020, .1797, .1772
S_1820,182.034 {485},Y_2243,ppm, .5437,.0143,2.632, .5538, .5336
Sb2068,206.833 {463},Y_2243,ppm, -.0024,.0002,7.811, -.0023, -.0026
Se1960,196.090 {472},Y_2243,ppm, .0029,.0030,105.2, .0050, .0007
Si2516,251.611 {134},Y_3710,ppm, 24.09,.0618,.2565, 24.05, 24.13
Sn1899,189.989 {477},In2306,ppm, .0265,.0002,.6429, .0267, .0264
Sr4215,421.552 { 80},Y_3710,ppm, .3060,.0000,.0024, .3060, .3060
Ti3349,334.904 {101},Y_3600,ppm, .2358,.0000,.0002, .2358, .2358
Tl1908,190.856 {477},In2306,ppm, .0582,.0094,16.22, .0649, .0515
U_3670,367.007 { 92},Y_3600,ppm, .5747,.1007,17.53, .6460, .5035
V_2924,292.402 {115},Y_3600,ppm, .2736,.0003,.1265, .2738, .2733
W_2397,239.709 {140},Y_2243,ppm, -.0022,.0126,567.3, .0067, -.0112
Zn2062,206.200 {463},In2306,ppm, .2192,.0005,.2233, .2188, .2195

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 249.49,1.5156,.60746,250.56,248.42
In2306,230.606 {446},Cts/S, 14413.,1.1262,.00781,14414.,14412.
Y_2243,224.306 {450},Cts/S, 23674.,20.004,.08450,23660.,23689.
Y_3600,360.073 { 94},Cts/S, 161280.,82.359,.05106,161220.,161340.
Y_3710,371.030 { 91},Cts/S, 14361.,27.455,.19118,14380.,14341.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0032,.0002,5.118, -.0031, -.0033
Al3082,308.215 {109},In2306,ppm, 102.8,.4851,.4718, 102.5, 103.2
As1890,189.042 {478},Y_2243,ppm, .0405,.0004,1.079, .0402, .0408
B_2496,249.678 {135},Y_3710,ppm, .0394,.0018,4.570, .0407, .0382
Ba4554,455.403 { 74},Y_3710,ppm, 1.110,.0053,.4806, 1.106, 1.113
Be3130,313.042 {108},Y_3710,ppm, .0074,.0000,.2469, .0074, .0073
Ca3158,315.887 {107},In2306,ppm, 245.4,.9300,.3790, 244.8, 246.1
Cd2288,228.802 {447},Y_2243,ppm, .0021,.0000,.2158, .0021, .0021
Co2286,228.616 {447},In2306,ppm, .0302,.0004,1.168, .0300, .0305
Cr2677,267.716 {126},Y_3600,ppm, .1502,.0007,.4545, .1507, .1497
Cu3247,324.754 {104},Y_3600,ppm, .0734,.0007,.9730, .0739, .0729
Fe2404,240.488 {140},In2306,ppm, 109.6,.5770,.5263, 109.2, 110.1
K_7664,766.490 { 44},Y_3710,ppm, 5.449,.0093,.1701, 5.442, 5.455
Li6707,670.784 { 50},Y_3710,ppm, .0444,.0008,1.868, .0450, .0438
Mg2790,279.079 {121},Y_3710,ppm, 14.98,.0034,.0230, 14.98, 14.98
Mn2576,257.610 {131},Y_3600,ppm, .8334,.0003,.0394, .8331, .8336
Mo2020,202.030 {467},Y_2243,ppm, .0045,.0003,6.473, .0047, .0042
Na5895,589.592 { 57},Y_3710,ppm, 2.145,.0002,.0089, 2.145, 2.145
Ni2316,231.604 {445},In2306,ppm, .0588,.0005,.8141, .0591, .0584
P_1782,178.284 {489},In2306,ppm, .6479,.0002,.0334, .6478, .6481
Pb2203,220.353 {453},In2306,ppm, .2514,.0014,.5382, .2524, .2505
S_1820,182.034 {485},Y_2243,ppm, .7212,.0045,.6256, .7243, .7180
Sb2068,206.833 {463},Y_2243,ppm, .0002,.0003,132.5, .0004, .0000
Se1960,196.090 {472},Y_2243,ppm, -.0009,.0017,180.7, .0003, -.0021
Si2516,251.611 {134},Y_3710,ppm, 19.95,.0307,.1537, 19.93, 19.97
Sn1899,189.989 {477},In2306,ppm, .0255,.0004,1.634, .0252, .0258
Sr4215,421.552 { 80},Y_3710,ppm, .5756,.0017,.3040, .5743, .5768
Ti3349,334.904 {101},Y_3600,ppm, .2597,.0014,.5312, .2607, .2587
Tl1908,190.856 {477},In2306,ppm, .0162,.0029,17.66, .0183, .0142
U_3670,367.007 { 92},Y_3600,ppm, .5085,.0335,6.594, .5322, .4848
V_2924,292.402 {115},Y_3600,ppm, .2905,.0006,.2016, .2901, .2909
W_2397,239.709 {140},Y_2243,ppm, .0050,.0088,174.2, -.0012, .0112
Zn2062,206.200 {463},In2306,ppm, .2597,.0008,.3060, .2591, .2602

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 244.31,1.5210,.62255,245.39,243.24
In2306,230.606 {446},Cts/S, 13922.,47.118,.33844,13956.,13889.
Y_2243,224.306 {450},Cts/S, 23105.,64.903,.28090,23151.,23060.
Y_3600,360.073 { 94},Cts/S, 157870.,33.570,.02126,157850.,157900.
Y_3710,371.030 { 91},Cts/S, 14225.,60.107,.42253,14268.,14183.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2523,.0001,.0366, .2524, .2523
Al3082,308.215 {109},In2306,ppm, 341.1,3.412,1.000, 343.5, 338.7
As1890,189.042 {478},Y_2243,ppm, .9691,.0010,.0984, .9698, .9684
B_2496,249.678 {135},Y_3710,ppm, .4660,.0008,.1797, .4666, .4654
Ba4554,455.403 { 74},Y_3710,ppm, 5.261,.0063,.1197, 5.265, 5.256
Be3130,313.042 {108},Y_3710,ppm, .9259,.0010,.1040, .9252, .9266
Ca3158,315.887 {107},In2306,ppm, 918.8,3.874,.4216, 921.6, 916.1
Cd2288,228.802 {447},Y_2243,ppm, .9517,.0013,.1362, .9526, .9508
Co2286,228.616 {447},In2306,ppm, 1.048,.0028,.2718, 1.050, 1.046
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Cr2677,267.716 {126},Y_3600,ppm, 1.101,.0013,.1191, 1.101, 1.102
Cu3247,324.754 {104},Y_3600,ppm, 1.034,.0012,.1188, 1.035, 1.034
Fe2404,240.488 {140},In2306,ppm, 174.2,1.838,1.055, 175.5, 172.9
K_7664,766.490 { 44},Y_3710,ppm, 23.23,.0911,.3923, 23.29, 23.16
Li6707,670.784 { 50},Y_3710,ppm, 1.079,.0053,.4940, 1.083, 1.075
Mg2790,279.079 {121},Y_3710,ppm, 40.17,.0018,.0045, 40.17, 40.16
Mn2576,257.610 {131},Y_3600,ppm, 4.231,.0543,1.284, 4.192, 4.269
Mo2020,202.030 {467},Y_2243,ppm, .8605,.0001,.0124, .8605, .8604
Na5895,589.592 { 57},Y_3710,ppm, 15.75,.0241,.1531, 15.77, 15.74
Ni2316,231.604 {445},In2306,ppm, 1.149,.0004,.0352, 1.149, 1.148
P_1782,178.284 {489},In2306,ppm, 6.851,.0465,.6783, 6.884, 6.818
Pb2203,220.353 {453},In2306,ppm, 1.325,.0015,.1094, 1.324, 1.326
S_1820,182.034 {485},Y_2243,ppm, 7.696,.0039,.0511, 7.698, 7.693
Sb2068,206.833 {463},Y_2243,ppm, .8263,.0016,.1950, .8274, .8251
Se1960,196.090 {472},Y_2243,ppm, .9019,.0012,.1343, .9027, .9010
Si2516,251.611 {134},Y_3710,ppm, 12.13,.1108,.9139, 12.20, 12.05
Sn1899,189.989 {477},In2306,ppm, .9806,.0079,.8028, .9862, .9751
Sr4215,421.552 { 80},Y_3710,ppm, 2.670,.0075,.2825, 2.676, 2.665
Ti3349,334.904 {101},Y_3600,ppm, 1.435,.0003,.0239, 1.435, 1.435
Tl1908,190.856 {477},In2306,ppm, .8500,.0022,.2647, .8516, .8484
U_3670,367.007 { 92},Y_3600,ppm, 1.394,.0138,.9933, 1.384, 1.404
V_2924,292.402 {115},Y_3600,ppm, 1.264,.0017,.1379, 1.263, 1.266
W_2397,239.709 {140},Y_2243,ppm, .1486,.0142,9.551, .1586, .1386
Zn2062,206.200 {463},In2306,ppm, 1.053,.0028,.2641, 1.055, 1.051

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 229.35,3.3881,1.4773,226.95,231.74
In2306,230.606 {446},Cts/S, 12060.,13.311,.11037,12070.,12051.
Y_2243,224.306 {450},Cts/S, 22396.,57.484,.25667,22436.,22355.
Y_3600,360.073 { 94},Cts/S, 149060.,7.0268,.00471,149060.,149070.
Y_3710,371.030 { 91},Cts/S, 14372.,108.09,.75206,14295.,14448.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0015,.0006,43.53, -.0010, -.0019
Al3082,308.215 {109},In2306,ppm, 22.77,.3320,1.458, 23.01, 22.54
As1890,189.042 {478},Y_2243,ppm, .0178,.0004,2.417, .0175, .0181
B_2496,249.678 {135},Y_3710,ppm, .0524,.0054,10.29, .0486, .0563
Ba4554,455.403 { 74},Y_3710,ppm, 3.728,.0018,.0486, 3.729, 3.726
Be3130,313.042 {108},Y_3710,ppm, .0005,.0001,11.90, .0006, .0005
Ca3158,315.887 {107},In2306,ppm, 3633.,42.19,1.161, 3663., 3603.
Cd2288,228.802 {447},Y_2243,ppm, .0019,.0002,8.425, .0018, .0020
Co2286,228.616 {447},In2306,ppm, .0026,.0003,10.26, .0024, .0027
Cr2677,267.716 {126},Y_3600,ppm, .0210,.0006,2.656, .0206, .0214
Cu3247,324.754 {104},Y_3600,ppm, .1110,.0004,.3554, .1107, .1113
Fe2404,240.488 {140},In2306,ppm, 3.417,.0424,1.240, 3.447, 3.387
K_7664,766.490 { 44},Y_3710,ppm, 1.157,.0034,.2907, 1.160, 1.155
Li6707,670.784 { 50},Y_3710,ppm, .0977,.0003,.3558, .0975, .0980
Mg2790,279.079 {121},Y_3710,ppm, 151.3,.8056,.5324, 150.7, 151.9
Mn2576,257.610 {131},Y_3600,ppm, .1134,.0005,.4226, .1137, .1130
Mo2020,202.030 {467},Y_2243,ppm, .0041,.0001,1.377, .0040, .0041
Na5895,589.592 { 57},Y_3710,ppm, 2.793,.0212,.7605, 2.778, 2.808
Ni2316,231.604 {445},In2306,ppm, .0146,.0002,1.521, .0144, .0147
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P_1782,178.284 {489},In2306,ppm, .4813,.0083,1.724, .4755, .4872
Pb2203,220.353 {453},In2306,ppm, .0189,.0014,7.286, .0179, .0199
S_1820,182.034 {485},Y_2243,ppm, 1.457,.0080,.5503, 1.452, 1.463
Sb2068,206.833 {463},Y_2243,ppm, .0065,.0005,8.135, .0061, .0068
Se1960,196.090 {472},Y_2243,ppm, -.0054,.0048,89.01, -.0087, -.0020
Si2516,251.611 {134},Y_3710,ppm, 10.57,.0009,.0082, 10.57, 10.57
Sn1899,189.989 {477},In2306,ppm, .0363,.0010,2.833, .0356, .0370
Sr4215,421.552 { 80},Y_3710,ppm, 15.87,.1820,1.146, 15.74, 16.00
Ti3349,334.904 {101},Y_3600,ppm, .0710,.0004,.5595, .0707, .0713
Tl1908,190.856 {477},In2306,ppm, .0237,.0105,44.36, .0311, .0162
U_3670,367.007 { 92},Y_3600,ppm, .6268,.0114,1.822, .6187, .6348
V_2924,292.402 {115},Y_3600,ppm, .0363,.0004,1.215, .0366, .0360
W_2397,239.709 {140},Y_2243,ppm, .0485,.0294,60.52, .0693, .0278
Zn2062,206.200 {463},In2306,ppm, 4.524,.0080,.1773, 4.530, 4.519

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 208.62,3.0339,1.4543,206.47,210.76
In2306,230.606 {446},Cts/S, 9973.2,37.699,.37800,9946.6,9999.9
Y_2243,224.306 {450},Cts/S, 17376.,75.340,.43359,17322.,17429.
Y_3600,360.073 { 94},Cts/S, 119930.,398.68,.33243,119650.,120210.
Y_3710,371.030 { 91},Cts/S, 12255.,17.624,.14381,12268.,12243.

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Al3082,308.215 {109},In2306,ppm, 4.198,.0637,1.517, 4.153, 4.243
As1890,189.042 {478},Y_2243,ppm, .0043,.0011,25.88, .0050, .0035
B_2496,249.678 {135},Y_3710,ppm, .0136,.0027,19.73, .0155, .0117
Ba4554,455.403 { 74},Y_3710,ppm, .7286,.0016,.2132, .7275, .7297
Be3130,313.042 {108},Y_3710,ppm, .0002,.0000,26.01, .0002, .0002
Ca3158,315.887 {107},In2306,ppm, 798.8,4.288,.5368, 801.9, 795.8
Cd2288,228.802 {447},Y_2243,ppm, .0005,.0000,6.332, .0005, .0005
Co2286,228.616 {447},In2306,ppm, .0004,.0002,42.35, .0003, .0005
Cr2677,267.716 {126},Y_3600,ppm, .0047,.0003,6.067, .0045, .0049
Cu3247,324.754 {104},Y_3600,ppm, .0234,.0005,2.256, .0238, .0230
Fe2404,240.488 {140},In2306,ppm, .6784,.0084,1.233, .6843, .6725
K_7664,766.490 { 44},Y_3710,ppm, .2777,.0068,2.453, .2729, .2826
Li6707,670.784 { 50},Y_3710,ppm, .0153,.0005,3.092, .0157, .0150
Mg2790,279.079 {121},Y_3710,ppm, 30.77,.0762,.2476, 30.72, 30.82
Mn2576,257.610 {131},Y_3600,ppm, .0236,.0000,.1499, .0236, .0237
Mo2020,202.030 {467},Y_2243,ppm, .0007,.0004,60.80, .0009, .0004
Na5895,589.592 { 57},Y_3710,ppm, .5524,.0000,.0040, .5525, .5524
Ni2316,231.604 {445},In2306,ppm, .0027,.0001,4.417, .0026, .0027
P_1782,178.284 {489},In2306,ppm, .0800,.0028,3.458, .0780, .0819
Pb2203,220.353 {453},In2306,ppm, .0050,.0022,43.77, .0066, .0035
S_1820,182.034 {485},Y_2243,ppm, .2525,.0044,1.740, .2557, .2494
Sb2068,206.833 {463},Y_2243,ppm, .0039,.0004,10.81, .0042, .0036
Se1960,196.090 {472},Y_2243,ppm, -.0034,.0009,25.66, -.0040, -.0028
Si2516,251.611 {134},Y_3710,ppm, 2.069,.0146,.7054, 2.059, 2.079
Sn1899,189.989 {477},In2306,ppm, .0081,.0009,11.50, .0087, .0074
Sr4215,421.552 { 80},Y_3710,ppm, 3.167,.0053,.1670, 3.163, 3.170
Ti3349,334.904 {101},Y_3600,ppm, .0144,.0001,.7169, .0145, .0144
Tl1908,190.856 {477},In2306,ppm, .0064,.0010,15.26, .0057, .0071
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U_3670,367.007 { 92},Y_3600,ppm, .0923,.0618,66.99, .0486, .1360
V_2924,292.402 {115},Y_3600,ppm, .0066,.0003,4.379, .0064, .0068
W_2397,239.709 {140},Y_2243,ppm, .0151,.0279,184.7, -.0046, .0348
Zn2062,206.200 {463},In2306,ppm, .9083,.0005,.0572, .9079, .9087

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 237.56,2.1466,.90359,236.04,239.08
In2306,230.606 {446},Cts/S, 12786.,10.717,.08381,12794.,12779.
Y_2243,224.306 {450},Cts/S, 20651.,30.078,.14565,20672.,20630.
Y_3600,360.073 { 94},Cts/S, 140720.,463.73,.32954,141050.,140390.
Y_3710,371.030 { 91},Cts/S, 13229.,59.761,.45173,13187.,13271.

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Al3082,308.215 {109},In2306,ppm, 19.69,.1499,.7613, 19.80, 19.58
As1890,189.042 {478},Y_2243,ppm, .9899,.0007,.0748, .9893, .9904
B_2496,249.678 {135},Y_3710,ppm, .9606,.0075,.7807, .9659, .9553
Ba4554,455.403 { 74},Y_3710,ppm, .9918,.0033,.3319, .9894, .9941
Be3130,313.042 {108},Y_3710,ppm, 1.020,.0016,.1605, 1.019, 1.021
Ca3158,315.887 {107},In2306,ppm, 19.45,.1475,.7583, 19.55, 19.34
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Co2286,228.616 {447},In2306,ppm, .9732,.0006,.0604, .9728, .9736
Cr2677,267.716 {126},Y_3600,ppm, .9608,.0011,.1196, .9600, .9616
Cu3247,324.754 {104},Y_3600,ppm, .9623,.0027,.2769, .9605, .9642
Fe2404,240.488 {140},In2306,ppm, 19.69,.0851,.4322, 19.75, 19.63
K_7664,766.490 { 44},Y_3710,ppm, 19.03,.0097,.0512, 19.04, 19.03
Li6707,670.784 { 50},Y_3710,ppm, .9668,.0010,.1006, .9662, .9675
Mg2790,279.079 {121},Y_3710,ppm, 19.80,.0313,.1578, 19.78, 19.83
Mn2576,257.610 {131},Y_3600,ppm, 1.021,.0022,.2162, 1.022, 1.019
Mo2020,202.030 {467},Y_2243,ppm, 1.011,.0002,.0236, 1.011, 1.012
Na5895,589.592 { 57},Y_3710,ppm, 19.65,.0403,.2049, 19.62, 19.68
Ni2316,231.604 {445},In2306,ppm, .9898,.0007,.0661, .9903, .9894
P_1782,178.284 {489},In2306,ppm, 9.839,.0215,.2190, 9.823, 9.854
Pb2203,220.353 {453},In2306,ppm, .9804,.0023,.2318, .9788, .9820
S_1820,182.034 {485},Y_2243,ppm, 10.06,.0168,.1673, 10.05, 10.07
Sb2068,206.833 {463},Y_2243,ppm, 2.108,.0043,.2028, 2.105, 2.111
Se1960,196.090 {472},Y_2243,ppm, .9982,.0043,.4275, .9952, 1.001
Si2516,251.611 {134},Y_3710,ppm, 9.456,.0129,.1362, 9.466, 9.447
Sn1899,189.989 {477},In2306,ppm, .9811,.0007,.0695, .9816, .9806
Sr4215,421.552 { 80},Y_3710,ppm, .9833,.0035,.3609, .9808, .9858
Ti3349,334.904 {101},Y_3600,ppm, 1.006,.0018,.1782, 1.007, 1.005
Tl1908,190.856 {477},In2306,ppm, 1.023,.0056,.5442, 1.027, 1.019
U_3670,367.007 { 92},Y_3600,ppm, .8363,.0327,3.916, .8131, .8594
V_2924,292.402 {115},Y_3600,ppm, .9973,.0005,.0527, .9969, .9976
W_2397,239.709 {140},Y_2243,ppm, 1.051,.0162,1.540, 1.040, 1.063
Zn2062,206.200 {463},In2306,ppm, .9869,.0002,.0211, .9867, .9870

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 252.60,2.8763,1.1387,250.57,254.63
In2306,230.606 {446},Cts/S, 15165.,16.485,.10870,15154.,15177.
Y_2243,224.306 {450},Cts/S, 23202.,13.959,.06016,23192.,23212.
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Y_3600,360.073 { 94},Cts/S, 155810.,229.06,.14701,155650.,155970.
Y_3710,371.030 { 91},Cts/S, 13949.,88.267,.63280,13886.,14011.

[Sample Header]
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Custom ID2=
Custom ID3=
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Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0895,.0001,.1314, .0896, .0895
Al3082,308.215 {109},In2306,ppm, 1.004,.0175,1.746, 1.017, .9919
As1890,189.042 {478},Y_2243,ppm, .0307,.0002,.5956, .0306, .0308
B_2496,249.678 {135},Y_3710,ppm, .2016,.0095,4.709, .2083, .1949
Ba4554,455.403 { 74},Y_3710,ppm, .0306,.0001,.1812, .0306, .0307
Be3130,313.042 {108},Y_3710,ppm, .0314,.0001,.2799, .0313, .0314
Ca3158,315.887 {107},In2306,ppm, .9931,.0088,.8818, .9869, .9993
Cd2288,228.802 {447},Y_2243,ppm, .0308,.0001,.4637, .0309, .0307
Co2286,228.616 {447},In2306,ppm, .0291,.0000,.0531, .0291, .0291
Cr2677,267.716 {126},Y_3600,ppm, .0305,.0002,.6270, .0303, .0306
Cu3247,324.754 {104},Y_3600,ppm, .0318,.0003,.8907, .0316, .0320
Fe2404,240.488 {140},In2306,ppm, .9887,.0171,1.734, .9766, 1.001
K_7664,766.490 { 44},Y_3710,ppm, 1.006,.0061,.6049, 1.011, 1.002
Li6707,670.784 { 50},Y_3710,ppm, .0298,.0007,2.223, .0294, .0303
Mg2790,279.079 {121},Y_3710,ppm, 1.010,.0504,4.988, .9743, 1.046
Mn2576,257.610 {131},Y_3600,ppm, .0318,.0001,.1945, .0318, .0319
Mo2020,202.030 {467},Y_2243,ppm, .0314,.0002,.6636, .0313, .0316
Na5895,589.592 { 57},Y_3710,ppm, 1.046,.0025,.2384, 1.048, 1.044
Ni2316,231.604 {445},In2306,ppm, .0292,.0004,1.334, .0294, .0289
P_1782,178.284 {489},In2306,ppm, 1.860,.0022,.1189, 1.858, 1.861
Pb2203,220.353 {453},In2306,ppm, .0295,.0013,4.365, .0304, .0286
S_1820,182.034 {485},Y_2243,ppm, 1.938,.0003,.0153, 1.938, 1.938
Sb2068,206.833 {463},Y_2243,ppm, .2407,.0014,.5785, .2416, .2397
Se1960,196.090 {472},Y_2243,ppm, .0342,.0039,11.38, .0370, .0315
Si2516,251.611 {134},Y_3710,ppm, .2995,.0141,4.719, .3095, .2895
Sn1899,189.989 {477},In2306,ppm, .0295,.0004,1.341, .0292, .0297
Sr4215,421.552 { 80},Y_3710,ppm, .0310,.0001,.3457, .0309, .0311
Ti3349,334.904 {101},Y_3600,ppm, .0310,.0002,.5895, .0309, .0311
Tl1908,190.856 {477},In2306,ppm, .0268,.0025,9.153, .0286, .0251
U_3670,367.007 { 92},Y_3600,ppm, .0743,.0225,30.27, .0584, .0903
V_2924,292.402 {115},Y_3600,ppm, .0305,.0000,.0601, .0305, .0305
W_2397,239.709 {140},Y_2243,ppm, .2427,.0297,12.25, .2637, .2216
Zn2062,206.200 {463},In2306,ppm, .1875,.0007,.3760, .1880, .1870

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 260.28,.00580,.00223,260.28,260.27
In2306,230.606 {446},Cts/S, 16823.,22.715,.13502,16839.,16807.
Y_2243,224.306 {450},Cts/S, 23893.,45.399,.19001,23925.,23860.
Y_3600,360.073 { 94},Cts/S, 162370.,73.052,.04499,162420.,162320.
Y_3710,371.030 { 91},Cts/S, 13923.,127.94,.91889,13833.,14014.

[Sample Header]
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Custom ID3=
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Mode=CONC
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0012,.0005,45.09, -.0008, -.0016
Al3082,308.215 {109},In2306,ppm, -.0039,.0069,177.7, -.0088, .0010
As1890,189.042 {478},Y_2243,ppm, .0015,.0006,41.25, .0019, .0011
B_2496,249.678 {135},Y_3710,ppm, -.0022,.0062,278.5, .0021, -.0066
Ba4554,455.403 { 74},Y_3710,ppm, -.0002,.0000,1.859, -.0002, -.0002
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,21.51, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, .0068,.0041,60.36, .0039, .0098
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0000,36.10, -.0001, -.0000
Co2286,228.616 {447},In2306,ppm, .0001,.0000,23.32, .0001, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0001,.0001,117.0, .0000, .0002
Cu3247,324.754 {104},Y_3600,ppm, .0006,.0001,17.47, .0007, .0006
Fe2404,240.488 {140},In2306,ppm, -.0164,.0048,29.35, -.0199, -.0130
K_7664,766.490 { 44},Y_3710,ppm, -.0008,.0216,2684., -.0160, .0144
Li6707,670.784 { 50},Y_3710,ppm, -.0005,.0005,90.93, -.0002, -.0009
Mg2790,279.079 {121},Y_3710,ppm, -.0053,.0185,351.8, .0078, -.0183
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,16.76, -.0000, -.0000
Mo2020,202.030 {467},Y_2243,ppm, -.0000,.0001,339.7, .0000, -.0001
Na5895,589.592 { 57},Y_3710,ppm, .0213,.0041,19.02, .0184, .0242
Ni2316,231.604 {445},In2306,ppm, -.0001,.0002,409.0, -.0002, .0001
P_1782,178.284 {489},In2306,ppm, -.0007,.0000,3.335, -.0006, -.0007
Pb2203,220.353 {453},In2306,ppm, -.0008,.0004,48.82, -.0005, -.0011
S_1820,182.034 {485},Y_2243,ppm, -.0153,.0000,.2937, -.0153, -.0152
Sb2068,206.833 {463},Y_2243,ppm, .0017,.0007,43.55, .0022, .0012
Se1960,196.090 {472},Y_2243,ppm, .0002,.0002,91.11, .0001, .0004
Si2516,251.611 {134},Y_3710,ppm, -.0079,.0054,68.51, -.0041, -.0118
Sn1899,189.989 {477},In2306,ppm, -.0004,.0001,28.62, -.0003, -.0005
Sr4215,421.552 { 80},Y_3710,ppm, .0002,.0000,1.726, .0002, .0002
Ti3349,334.904 {101},Y_3600,ppm, -.0001,.0002,268.4, .0001, -.0003
Tl1908,190.856 {477},In2306,ppm, .0032,.0001,4.329, .0031, .0033
U_3670,367.007 { 92},Y_3600,ppm, -.0012,.0227,1829., .0148, -.0173
V_2924,292.402 {115},Y_3600,ppm, -.0001,.0000,14.61, -.0002, -.0001
W_2397,239.709 {140},Y_2243,ppm, .0128,.0173,135.5, .0005, .0250
Zn2062,206.200 {463},In2306,ppm, -.0011,.0001,5.930, -.0011, -.0010

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 258.96,1.1211,.43292,258.17,259.75
In2306,230.606 {446},Cts/S, 16961.,45.458,.26802,16993.,16928.
Y_2243,224.306 {450},Cts/S, 23739.,73.820,.31096,23791.,23687.
Y_3600,360.073 { 94},Cts/S, 161440.,512.25,.31731,161800.,161070.
Y_3710,371.030 { 91},Cts/S, 13764.,135.79,.98656,13860.,13668.


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Custom ID3=
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
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Ag3280,328.068 {103},Y_3600,ppm, .0002,.0001,38.66, .0003, .0002
Al3082,308.215 {109},In2306,ppm, .0187,.0078,41.99, .0242, .0131
As1890,189.042 {478},Y_2243,ppm, -.0001,.0004,561.0, -.0004, .0002
B_2496,249.678 {135},Y_3710,ppm, .0099,.0011,10.88, .0106, .0091
Ba4554,455.403 { 74},Y_3710,ppm, .0634,.0002,.3128, .0635, .0632
Be3130,313.042 {108},Y_3710,ppm, .0002,.0001,31.33, .0001, .0002
Ca3158,315.887 {107},In2306,ppm, 40.32,.1915,.4750, 40.45, 40.18
Cd2288,228.802 {447},Y_2243,ppm, .0086,.0001,.7386, .0087, .0086
Co2286,228.616 {447},In2306,ppm, .0021,.0002,7.257, .0020, .0022
Cr2677,267.716 {126},Y_3600,ppm, .0004,.0001,19.47, .0004, .0003
Cu3247,324.754 {104},Y_3600,ppm, .0047,.0004,7.873, .0044, .0050
Fe2404,240.488 {140},In2306,ppm, .4888,.0079,1.615, .4944, .4832
K_7664,766.490 { 44},Y_3710,ppm, 2.093,.0055,.2616, 2.097, 2.089
Li6707,670.784 { 50},Y_3710,ppm, .0032,.0002,6.869, .0031, .0034
Mg2790,279.079 {121},Y_3710,ppm, 1.488,.0053,.3542, 1.484, 1.492
Mn2576,257.610 {131},Y_3600,ppm, .4357,.0014,.3142, .4366, .4347
Mo2020,202.030 {467},Y_2243,ppm, .0002,.0000,2.630, .0002, .0002
Na5895,589.592 { 57},Y_3710,ppm, 167.3,3.077,1.839, 165.1, 169.5
Ni2316,231.604 {445},In2306,ppm, .0137,.0000,.3088, .0137, .0137
P_1782,178.284 {489},In2306,ppm, .0013,.0007,56.46, .0008, .0018
Pb2203,220.353 {453},In2306,ppm, -.0001,.0008,1467., -.0006, .0005
S_1820,182.034 {485},Y_2243,ppm, .7654,.0006,.0801, .7658, .7649
Sb2068,206.833 {463},Y_2243,ppm, .0003,.0014,410.4, .0013, -.0006
Se1960,196.090 {472},Y_2243,ppm, -.0008,.0044,572.2, .0024, -.0039
Si2516,251.611 {134},Y_3710,ppm, .4958,.0049,.9892, .4923, .4993
Sn1899,189.989 {477},In2306,ppm, .0004,.0001,25.08, .0003, .0004
Sr4215,421.552 { 80},Y_3710,ppm, .1284,.0000,.0074, .1284, .1284
Ti3349,334.904 {101},Y_3600,ppm, .0006,.0002,25.80, .0005, .0007
Tl1908,190.856 {477},In2306,ppm, .0009,.0022,253.3, -.0007, .0024
U_3670,367.007 { 92},Y_3600,ppm, .0840,.0033,3.923, .0817, .0864
V_2924,292.402 {115},Y_3600,ppm, -.0004,.0001,18.30, -.0004, -.0003
W_2397,239.709 {140},Y_2243,ppm, .0219,.0024,10.74, .0202, .0236
Zn2062,206.200 {463},In2306,ppm, .8092,.0005,.0615, .8088, .8095

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 251.40,.72783,.28952,251.91,250.88
In2306,230.606 {446},Cts/S, 14268.,36.093,.25296,14243.,14294.
Y_2243,224.306 {450},Cts/S, 22075.,61.609,.27909,22032.,22119.
Y_3600,360.073 { 94},Cts/S, 148950.,171.82,.11536,148830.,149070.
Y_3710,371.030 { 91},Cts/S, 13587.,27.349,.20129,13606.,13568.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0003,.0005,143.7, -.0000, .0006
Al3082,308.215 {109},In2306,ppm, .0058,.0048,83.07, .0024, .0092
As1890,189.042 {478},Y_2243,ppm, .0036,.0014,39.59, .0046, .0026
B_2496,249.678 {135},Y_3710,ppm, .0093,.0016,16.60, .0104, .0082
Ba4554,455.403 { 74},Y_3710,ppm, .0222,.0000,.0357, .0222, .0222
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,46.22, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, .1370,.0033,2.395, .1346, .1393
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,76.16, .0002, .0000
Co2286,228.616 {447},In2306,ppm, .0002,.0001,48.62, .0001, .0003
Cr2677,267.716 {126},Y_3600,ppm, .0008,.0000,1.482, .0008, .0008
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Cu3247,324.754 {104},Y_3600,ppm, .0032,.0003,10.22, .0030, .0034
Fe2404,240.488 {140},In2306,ppm, .0305,.0012,3.943, .0313, .0296
K_7664,766.490 { 44},Y_3710,ppm, .0798,.0084,10.58, .0738, .0858
Li6707,670.784 { 50},Y_3710,ppm, -.0006,.0003,51.17, -.0009, -.0004
Mg2790,279.079 {121},Y_3710,ppm, -.0191,.0201,105.3, -.0049, -.0333
Mn2576,257.610 {131},Y_3600,ppm, .0020,.0000,2.231, .0019, .0020
Mo2020,202.030 {467},Y_2243,ppm, .0004,.0002,56.17, .0002, .0005
Na5895,589.592 { 57},Y_3710,ppm, 135.1,.3705,.2742, 134.9, 135.4
Ni2316,231.604 {445},In2306,ppm, .0060,.0001,2.294, .0059, .0061
P_1782,178.284 {489},In2306,ppm, .0225,.0001,.3423, .0226, .0225
Pb2203,220.353 {453},In2306,ppm, -.0004,.0003,85.35, -.0006, -.0002
S_1820,182.034 {485},Y_2243,ppm, .0451,.0004,.8306, .0453, .0448
Sb2068,206.833 {463},Y_2243,ppm, .0008,.0008,102.4, .0002, .0014
Se1960,196.090 {472},Y_2243,ppm, .0048,.0016,32.28, .0037, .0059
Si2516,251.611 {134},Y_3710,ppm, -.0043,.0009,21.51, -.0049, -.0036
Sn1899,189.989 {477},In2306,ppm, .0010,.0004,36.42, .0007, .0012
Sr4215,421.552 { 80},Y_3710,ppm, .0009,.0001,5.871, .0009, .0010
Ti3349,334.904 {101},Y_3600,ppm, .0002,.0004,237.8, -.0001, .0005
Tl1908,190.856 {477},In2306,ppm, .0015,.0016,101.7, .0004, .0027
U_3670,367.007 { 92},Y_3600,ppm, .0047,.0117,249.5, .0130, -.0036
V_2924,292.402 {115},Y_3600,ppm, .0005,.0002,36.81, .0003, .0006
W_2397,239.709 {140},Y_2243,ppm, .0291,.0100,34.53, .0220, .0362
Zn2062,206.200 {463},In2306,ppm, .0563,.0004,.6427, .0560, .0565

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 246.31,.72966,.29624,245.79,246.82
In2306,230.606 {446},Cts/S, 14559.,32.936,.22622,14536.,14583.
Y_2243,224.306 {450},Cts/S, 22157.,44.018,.19866,22126.,22188.
Y_3600,360.073 { 94},Cts/S, 147490.,415.02,.28139,147780.,147190.
Y_3710,371.030 { 91},Cts/S, 13207.,45.345,.34334,13239.,13175.

[Sample Header]
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Custom ID2=
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CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2586,.0013,.5097, .2595, .2576
Al3082,308.215 {109},In2306,ppm, 10.42,.0689,.6616, 10.47, 10.37
As1890,189.042 {478},Y_2243,ppm, 1.051,.0022,.2074, 1.053, 1.050
B_2496,249.678 {135},Y_3710,ppm, .5209,.0008,.1448, .5214, .5203
Ba4554,455.403 { 74},Y_3710,ppm, 1.040,.0018,.1713, 1.041, 1.038
Be3130,313.042 {108},Y_3710,ppm, 1.044,.0004,.0397, 1.044, 1.044
Ca3158,315.887 {107},In2306,ppm, 10.56,.0010,.0091, 10.56, 10.56
Cd2288,228.802 {447},Y_2243,ppm, 1.027,.0013,.1226, 1.028, 1.027
Co2286,228.616 {447},In2306,ppm, 1.034,.0057,.5533, 1.038, 1.030
Cr2677,267.716 {126},Y_3600,ppm, 1.021,.0009,.0914, 1.021, 1.020
Cu3247,324.754 {104},Y_3600,ppm, .9818,.0003,.0344, .9820, .9815
Fe2404,240.488 {140},In2306,ppm, 10.58,.0237,.2236, 10.57, 10.60
K_7664,766.490 { 44},Y_3710,ppm, 10.44,.0055,.0524, 10.44, 10.45
Li6707,670.784 { 50},Y_3710,ppm, 1.006,.0017,.1724, 1.005, 1.007
Mg2790,279.079 {121},Y_3710,ppm, 10.44,.0441,.4220, 10.47, 10.41
Mn2576,257.610 {131},Y_3600,ppm, 1.041,.0040,.3854, 1.043, 1.038
Mo2020,202.030 {467},Y_2243,ppm, 1.048,.0039,.3737, 1.050, 1.045
Na5895,589.592 { 57},Y_3710,ppm, 146.0,.0856,.0586, 146.0, 146.1
Ni2316,231.604 {445},In2306,ppm, 1.054,.0031,.2917, 1.056, 1.052
P_1782,178.284 {489},In2306,ppm, 5.534,.0276,.4986, 5.554, 5.515
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Pb2203,220.353 {453},In2306,ppm, 1.018,.0046,.4552, 1.021, 1.015
S_1820,182.034 {485},Y_2243,ppm, 5.421,.0265,.4892, 5.440, 5.403
Sb2068,206.833 {463},Y_2243,ppm, 1.526,.0052,.3435, 1.530, 1.523
Se1960,196.090 {472},Y_2243,ppm, 1.075,.0037,.3430, 1.078, 1.073
Si2516,251.611 {134},Y_3710,ppm, 9.450,.0265,.2809, 9.432, 9.469
Sn1899,189.989 {477},In2306,ppm, 1.021,.0068,.6685, 1.025, 1.016
Sr4215,421.552 { 80},Y_3710,ppm, 1.018,.0005,.0478, 1.019, 1.018
Ti3349,334.904 {101},Y_3600,ppm, 1.035,.0017,.1689, 1.036, 1.034
Tl1908,190.856 {477},In2306,ppm, .7045,.0030,.4250, .7066, .7024
U_3670,367.007 { 92},Y_3600,ppm, .5331,.0127,2.382, .5241, .5421
V_2924,292.402 {115},Y_3600,ppm, 1.041,.0033,.3195, 1.043, 1.038
W_2397,239.709 {140},Y_2243,ppm, .4516,.0222,4.920, .4359, .4673
Zn2062,206.200 {463},In2306,ppm, .6021,.0020,.3312, .6035, .6007

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 241.30,3.1411,1.3017,239.08,243.52
In2306,230.606 {446},Cts/S, 14165.,8.1268,.05737,14160.,14171.
Y_2243,224.306 {450},Cts/S, 22198.,14.036,.06323,22208.,22188.
Y_3600,360.073 { 94},Cts/S, 148170.,126.12,.08512,148080.,148260.
Y_3710,371.030 { 91},Cts/S, 13218.,124.94,.94521,13130.,13306.

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Mode=CONC
CorrFactor=1.000
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0005,.0004,74.33, -.0008, -.0003
Al3082,308.215 {109},In2306,ppm, .0617,.0106,17.23, .0542, .0692
As1890,189.042 {478},Y_2243,ppm, .0010,.0024,236.8, -.0007, .0027
B_2496,249.678 {135},Y_3710,ppm, .0156,.0033,21.31, .0132, .0179
Ba4554,455.403 { 74},Y_3710,ppm, .0960,.0004,.4584, .0963, .0957
Be3130,313.042 {108},Y_3710,ppm, .0002,.0001,44.51, .0002, .0003
Ca3158,315.887 {107},In2306,ppm, 13.10,.0404,.3082, 13.07, 13.13
Cd2288,228.802 {447},Y_2243,ppm, .0047,.0001,1.212, .0047, .0047
Co2286,228.616 {447},In2306,ppm, .0024,.0000,.9410, .0024, .0024
Cr2677,267.716 {126},Y_3600,ppm, .0026,.0000,1.072, .0026, .0026
Cu3247,324.754 {104},Y_3600,ppm, 3.128,.0114,.3655, 3.136, 3.120
Fe2404,240.488 {140},In2306,ppm, 3.320,.0165,.4968, 3.308, 3.331
K_7664,766.490 { 44},Y_3710,ppm, .3043,.0015,.4903, .3053, .3032
Li6707,670.784 { 50},Y_3710,ppm, .0018,.0006,35.52, .0022, .0013
Mg2790,279.079 {121},Y_3710,ppm, .7276,.0074,1.017, .7328, .7224
Mn2576,257.610 {131},Y_3600,ppm, .5021,.0010,.2064, .5013, .5028
Mo2020,202.030 {467},Y_2243,ppm, .0008,.0001,15.11, .0007, .0009
Na5895,589.592 { 57},Y_3710,ppm, 142.5,1.333,.9355, 141.6, 143.5
Ni2316,231.604 {445},In2306,ppm, .0717,.0001,.1364, .0716, .0718
P_1782,178.284 {489},In2306,ppm, .0057,.0018,31.07, .0044, .0069
Pb2203,220.353 {453},In2306,ppm, .0421,.0004,.8917, .0418, .0424
S_1820,182.034 {485},Y_2243,ppm, .2505,.0043,1.703, .2474, .2535
Sb2068,206.833 {463},Y_2243,ppm, .0026,.0022,81.92, .0042, .0011
Se1960,196.090 {472},Y_2243,ppm, .0022,.0011,50.45, .0014, .0030
Si2516,251.611 {134},Y_3710,ppm, .3439,.0047,1.368, .3472, .3406
Sn1899,189.989 {477},In2306,ppm, .0016,.0001,9.087, .0015, .0017
Sr4215,421.552 { 80},Y_3710,ppm, .0592,.0005,.8026, .0595, .0589
Ti3349,334.904 {101},Y_3600,ppm, .0008,.0001,6.694, .0008, .0007
Tl1908,190.856 {477},In2306,ppm, .0303,.0013,4.430, .0312, .0293
U_3670,367.007 { 92},Y_3600,ppm, .1001,.0720,71.99, .0491, .1510
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V_2924,292.402 {115},Y_3600,ppm, -.0002,.0001,62.10, -.0002, -.0001
W_2397,239.709 {140},Y_2243,ppm, .0119,.0219,183.7, .0274, -.0036
Zn2062,206.200 {463},In2306,ppm, 3.059,.0061,.2000, 3.055, 3.064

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 248.99,1.4963,.60095,250.05,247.93
In2306,230.606 {446},Cts/S, 14626.,14.784,.10108,14616.,14637.
Y_2243,224.306 {450},Cts/S, 22202.,32.599,.14683,22179.,22225.
Y_3600,360.073 { 94},Cts/S, 151970.,414.43,.27270,151680.,152270.
Y_3710,371.030 { 91},Cts/S, 13519.,28.819,.21318,13539.,13498.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0001,77.66, -.0002, -.0000
Al3082,308.215 {109},In2306,ppm, .0024,.0085,351.6, .0084, -.0036
As1890,189.042 {478},Y_2243,ppm, .0001,.0015,2107., -.0010, .0011
B_2496,249.678 {135},Y_3710,ppm, .0015,.0025,161.7, .0033, -.0002
Ba4554,455.403 { 74},Y_3710,ppm, -.0001,.0001,157.9, -.0001, .0000
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,35.76, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, .0120,.0049,41.06, .0085, .0154
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0001,406.6, .0001, -.0000
Co2286,228.616 {447},In2306,ppm, .0000,.0001,474.9, -.0000, .0000
Cr2677,267.716 {126},Y_3600,ppm, .0004,.0001,22.34, .0003, .0004
Cu3247,324.754 {104},Y_3600,ppm, .0006,.0002,28.94, .0005, .0007
Fe2404,240.488 {140},In2306,ppm, -.0031,.0045,146.4, .0001, -.0063
K_7664,766.490 { 44},Y_3710,ppm, -.0018,.0085,483.0, -.0078, .0043
Li6707,670.784 { 50},Y_3710,ppm, -.0005,.0000,2.704, -.0005, -.0005
Mg2790,279.079 {121},Y_3710,ppm, .0188,.0128,67.91, .0098, .0278
Mn2576,257.610 {131},Y_3600,ppm, .0002,.0000,11.95, .0001, .0002
Mo2020,202.030 {467},Y_2243,ppm, .0001,.0000,12.29, .0001, .0001
Na5895,589.592 { 57},Y_3710,ppm, .0820,.0054,6.529, .0858, .0782
Ni2316,231.604 {445},In2306,ppm, .0000,.0002,446.1, -.0001, .0002
P_1782,178.284 {489},In2306,ppm, .0108,.0004,3.398, .0110, .0105
Pb2203,220.353 {453},In2306,ppm, -.0005,.0019,353.5, .0008, -.0019
S_1820,182.034 {485},Y_2243,ppm, .0029,.0000,.4574, .0029, .0029
Sb2068,206.833 {463},Y_2243,ppm, .0004,.0010,229.0, .0011, -.0003
Se1960,196.090 {472},Y_2243,ppm, .0020,.0011,53.77, .0027, .0012
Si2516,251.611 {134},Y_3710,ppm, -.0059,.0019,32.66, -.0073, -.0046
Sn1899,189.989 {477},In2306,ppm, .0002,.0002,154.6, .0003, -.0000
Sr4215,421.552 { 80},Y_3710,ppm, .0002,.0001,34.07, .0003, .0002
Ti3349,334.904 {101},Y_3600,ppm, .0003,.0002,67.52, .0005, .0002
Tl1908,190.856 {477},In2306,ppm, .0139,.0025,17.81, .0156, .0121
U_3670,367.007 { 92},Y_3600,ppm, -.0078,.0534,688.2, .0300, -.0455
V_2924,292.402 {115},Y_3600,ppm, .0001,.0002,326.3, -.0001, .0002
W_2397,239.709 {140},Y_2243,ppm, .0020,.0187,915.6, .0152, -.0112
Zn2062,206.200 {463},In2306,ppm, .0067,.0001,.8984, .0067, .0067

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 261.00,3.5474,1.3592,258.49,263.51
In2306,230.606 {446},Cts/S, 16979.,62.522,.36822,17024.,16935.
Y_2243,224.306 {450},Cts/S, 23554.,81.156,.34455,23612.,23497.
Y_3600,360.073 { 94},Cts/S, 165220.,203.22,.12300,165080.,165370.
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Y_3710,371.030 { 91},Cts/S, 13991.,9.1903,.06569,13984.,13997.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0010,.0001,11.78, -.0009, -.0011
Al3082,308.215 {109},In2306,ppm, .0925,.0035,3.733, .0949, .0900
As1890,189.042 {478},Y_2243,ppm, .0031,.0015,46.70, .0042, .0021
B_2496,249.678 {135},Y_3710,ppm, .0113,.0028,24.28, .0094, .0133
Ba4554,455.403 { 74},Y_3710,ppm, .3039,.0005,.1567, .3043, .3036
Be3130,313.042 {108},Y_3710,ppm, .0003,.0001,39.39, .0004, .0002
Ca3158,315.887 {107},In2306,ppm, 145.4,1.439,.9900, 144.3, 146.4
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0000,3.756, .0002, .0002
Co2286,228.616 {447},In2306,ppm, .0009,.0001,15.12, .0010, .0008
Cr2677,267.716 {126},Y_3600,ppm, .0004,.0001,30.74, .0005, .0003
Cu3247,324.754 {104},Y_3600,ppm, .0019,.0001,3.849, .0018, .0019
Fe2404,240.488 {140},In2306,ppm, .5913,.0081,1.374, .5970, .5856
K_7664,766.490 { 44},Y_3710,ppm, .0789,.0122,15.43, .0703, .0876
Li6707,670.784 { 50},Y_3710,ppm, .0022,.0006,27.38, .0018, .0026
Mg2790,279.079 {121},Y_3710,ppm, 2.925,.0421,1.438, 2.955, 2.896
Mn2576,257.610 {131},Y_3600,ppm, .2883,.0003,.1117, .2885, .2880
Mo2020,202.030 {467},Y_2243,ppm, -.0001,.0000,10.03, -.0001, -.0002
Na5895,589.592 { 57},Y_3710,ppm, 2.646,.0069,.2609, 2.641, 2.651
Ni2316,231.604 {445},In2306,ppm, .0010,.0001,14.30, .0011, .0009
P_1782,178.284 {489},In2306,ppm, -.0015,.0006,37.36, -.0019, -.0011
Pb2203,220.353 {453},In2306,ppm, .0062,.0008,13.09, .0068, .0056
S_1820,182.034 {485},Y_2243,ppm, .1676,.0014,.8504, .1666, .1686
Sb2068,206.833 {463},Y_2243,ppm, .0017,.0007,41.99, .0012, .0022
Se1960,196.090 {472},Y_2243,ppm, .0011,.0022,210.0, .0027, -.0005
Si2516,251.611 {134},Y_3710,ppm, .1853,.0063,3.399, .1809, .1898
Sn1899,189.989 {477},In2306,ppm, .0002,.0001,47.48, .0001, .0003
Sr4215,421.552 { 80},Y_3710,ppm, .1554,.0001,.0903, .1555, .1553
Ti3349,334.904 {101},Y_3600,ppm, .0011,.0001,11.48, .0012, .0010
Tl1908,190.856 {477},In2306,ppm, .0114,.0013,11.77, .0105, .0124
U_3670,367.007 { 92},Y_3600,ppm, .0279,.0307,110.2, .0496, .0062
V_2924,292.402 {115},Y_3600,ppm, -.0003,.0001,31.53, -.0002, -.0004
W_2397,239.709 {140},Y_2243,ppm, -.0032,.0170,536.9, -.0152, .0088
Zn2062,206.200 {463},In2306,ppm, .0622,.0001,.1526, .0623, .0622

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 252.10,.08028,.03184,252.16,252.05
In2306,230.606 {446},Cts/S, 14885.,31.884,.21421,14907.,14862.
Y_2243,224.306 {450},Cts/S, 22164.,66.539,.30021,22211.,22117.
Y_3600,360.073 { 94},Cts/S, 154390.,150.03,.09717,154500.,154290.
Y_3710,371.030 { 91},Cts/S, 13715.,149.77,1.0920,13609.,13821.

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Username=admin
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Custom ID1=
Custom ID2=
Custom ID3=
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0013,.0002,17.40, -.0011, -.0014
Al3082,308.215 {109},In2306,ppm, .0885,.0001,.1321, .0886, .0884
As1890,189.042 {478},Y_2243,ppm, .0025,.0004,16.86, .0022, .0027
B_2496,249.678 {135},Y_3710,ppm, .0130,.0008,6.424, .0124, .0136
Ba4554,455.403 { 74},Y_3710,ppm, .3056,.0015,.4882, .3066, .3045
Be3130,313.042 {108},Y_3710,ppm, .0004,.0000,1.137, .0004, .0004
Ca3158,315.887 {107},In2306,ppm, 145.5,.5986,.4113, 146.0, 145.1
Cd2288,228.802 {447},Y_2243,ppm, .0004,.0000,8.030, .0004, .0003
Co2286,228.616 {447},In2306,ppm, .0011,.0000,.5251, .0011, .0011
Cr2677,267.716 {126},Y_3600,ppm, .0007,.0002,21.66, .0006, .0009
Cu3247,324.754 {104},Y_3600,ppm, .0026,.0001,5.342, .0025, .0027
Fe2404,240.488 {140},In2306,ppm, .5897,.0104,1.759, .5971, .5824
K_7664,766.490 { 44},Y_3710,ppm, .0914,.0243,26.56, .1085, .0742
Li6707,670.784 { 50},Y_3710,ppm, .0012,.0001,4.833, .0013, .0012
Mg2790,279.079 {121},Y_3710,ppm, 2.907,.0260,.8939, 2.926, 2.889
Mn2576,257.610 {131},Y_3600,ppm, .2901,.0008,.2850, .2895, .2907
Mo2020,202.030 {467},Y_2243,ppm, -.0001,.0002,345.1, -.0002, .0001
Na5895,589.592 { 57},Y_3710,ppm, 2.663,.0086,.3248, 2.657, 2.669
Ni2316,231.604 {445},In2306,ppm, .0008,.0003,37.93, .0010, .0006
P_1782,178.284 {489},In2306,ppm, -.0014,.0017,118.1, -.0026, -.0002
Pb2203,220.353 {453},In2306,ppm, .0078,.0005,6.930, .0074, .0082
S_1820,182.034 {485},Y_2243,ppm, .1672,.0003,.1726, .1674, .1670
Sb2068,206.833 {463},Y_2243,ppm, -.0014,.0007,51.26, -.0009, -.0019
Se1960,196.090 {472},Y_2243,ppm, .0013,.0016,118.9, .0002, .0024
Si2516,251.611 {134},Y_3710,ppm, .1896,.0096,5.081, .1828, .1964
Sn1899,189.989 {477},In2306,ppm, .0000,.0002,1589., .0002, -.0002
Sr4215,421.552 { 80},Y_3710,ppm, .1567,.0004,.2619, .1564, .1570
Ti3349,334.904 {101},Y_3600,ppm, .0015,.0000,2.396, .0015, .0015
Tl1908,190.856 {477},In2306,ppm, .0072,.0019,25.91, .0086, .0059
U_3670,367.007 { 92},Y_3600,ppm, .0256,.0174,67.95, .0133, .0379
V_2924,292.402 {115},Y_3600,ppm, -.0002,.0002,99.75, -.0001, -.0003
W_2397,239.709 {140},Y_2243,ppm, -.0050,.0102,204.3, -.0122, .0022
Zn2062,206.200 {463},In2306,ppm, .0613,.0005,.8158, .0616, .0609

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 252.43,.95984,.38024,251.75,253.11
In2306,230.606 {446},Cts/S, 14886.,56.273,.37803,14926.,14846.
Y_2243,224.306 {450},Cts/S, 22211.,155.08,.69822,22321.,22102.
Y_3600,360.073 { 94},Cts/S, 154160.,352.93,.22895,154410.,153910.
Y_3710,371.030 { 91},Cts/S, 13858.,75.158,.54233,13805.,13911.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2561,.0009,.3463, .2554, .2567
Al3082,308.215 {109},In2306,ppm, 10.55,.0910,.8624, 10.48, 10.61
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As1890,189.042 {478},Y_2243,ppm, 1.046,.0000,.0028, 1.046, 1.046
B_2496,249.678 {135},Y_3710,ppm, .5037,.0003,.0499, .5035, .5038
Ba4554,455.403 { 74},Y_3710,ppm, 1.316,.0001,.0090, 1.316, 1.316
Be3130,313.042 {108},Y_3710,ppm, 1.027,.0011,.1089, 1.026, 1.027
Ca3158,315.887 {107},In2306,ppm, 156.6,1.126,.7187, 155.8, 157.4
Cd2288,228.802 {447},Y_2243,ppm, 1.042,.0022,.2110, 1.044, 1.041
Co2286,228.616 {447},In2306,ppm, .9985,.0024,.2428, .9968, 1.000
Cr2677,267.716 {126},Y_3600,ppm, .9585,.0023,.2446, .9602, .9569
Cu3247,324.754 {104},Y_3600,ppm, .9907,.0023,.2322, .9891, .9924
Fe2404,240.488 {140},In2306,ppm, 10.83,.1105,1.020, 10.76, 10.91
K_7664,766.490 { 44},Y_3710,ppm, 10.31,.0168,.1632, 10.30, 10.32
Li6707,670.784 { 50},Y_3710,ppm, 1.021,.0014,.1378, 1.020, 1.022
Mg2790,279.079 {121},Y_3710,ppm, 12.87,.0848,.6593, 12.81, 12.93
Mn2576,257.610 {131},Y_3600,ppm, 1.293,.0033,.2517, 1.295, 1.290
Mo2020,202.030 {467},Y_2243,ppm, 1.044,.0055,.5271, 1.048, 1.040
Na5895,589.592 { 57},Y_3710,ppm, 13.08,.0139,.1060, 13.07, 13.09
Ni2316,231.604 {445},In2306,ppm, 1.022,.0015,.1449, 1.021, 1.023
P_1782,178.284 {489},In2306,ppm, 5.553,.0226,.4074, 5.569, 5.537
Pb2203,220.353 {453},In2306,ppm, 1.016,.0035,.3490, 1.018, 1.013
S_1820,182.034 {485},Y_2243,ppm, 5.666,.0294,.5184, 5.687, 5.646
Sb2068,206.833 {463},Y_2243,ppm, 1.654,.0175,1.057, 1.666, 1.642
Se1960,196.090 {472},Y_2243,ppm, 1.045,.0051,.4875, 1.048, 1.041
Si2516,251.611 {134},Y_3710,ppm, 9.143,.0526,.5749, 9.106, 9.180
Sn1899,189.989 {477},In2306,ppm, .9975,.0017,.1705, .9987, .9963
Sr4215,421.552 { 80},Y_3710,ppm, 1.161,.0004,.0328, 1.161, 1.161
Ti3349,334.904 {101},Y_3600,ppm, 1.023,.0015,.1444, 1.024, 1.022
Tl1908,190.856 {477},In2306,ppm, .8910,.0051,.5767, .8874, .8947
U_3670,367.007 { 92},Y_3600,ppm, .4509,.0908,20.13, .5150, .3867
V_2924,292.402 {115},Y_3600,ppm, 1.005,.0010,.1038, 1.006, 1.005
W_2397,239.709 {140},Y_2243,ppm, .4667,.0305,6.544, .4882, .4451
Zn2062,206.200 {463},In2306,ppm, .5543,.0025,.4424, .5525, .5560

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 247.26,1.5455,.62504,248.35,246.17
In2306,230.606 {446},Cts/S, 14390.,21.022,.14609,14375.,14405.
Y_2243,224.306 {450},Cts/S, 22223.,79.284,.35676,22167.,22280.
Y_3600,360.073 { 94},Cts/S, 154020.,305.16,.19813,154240.,153810.
Y_3710,371.030 { 91},Cts/S, 13842.,32.830,.23718,13865.,13818.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2610,.0009,.3295, .2616, .2604
Al3082,308.215 {109},In2306,ppm, 10.30,.0470,.4565, 10.34, 10.27
As1890,189.042 {478},Y_2243,ppm, 1.045,.0013,.1248, 1.046, 1.044
B_2496,249.678 {135},Y_3710,ppm, .5117,.0092,1.792, .5052, .5182
Ba4554,455.403 { 74},Y_3710,ppm, 1.311,.0078,.5958, 1.305, 1.316
Be3130,313.042 {108},Y_3710,ppm, 1.024,.0053,.5160, 1.021, 1.028
Ca3158,315.887 {107},In2306,ppm, 156.2,.9056,.5799, 156.8, 155.5
Cd2288,228.802 {447},Y_2243,ppm, 1.038,.0009,.0868, 1.039, 1.038
Co2286,228.616 {447},In2306,ppm, .9939,.0015,.1558, .9950, .9928
Cr2677,267.716 {126},Y_3600,ppm, .9452,.0007,.0721, .9456, .9447
Cu3247,324.754 {104},Y_3600,ppm, .9830,.0015,.1543, .9840, .9819
Fe2404,240.488 {140},In2306,ppm, 10.60,.0907,.8558, 10.67, 10.54
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K_7664,766.490 { 44},Y_3710,ppm, 10.10,.0827,.8190, 10.04, 10.16
Li6707,670.784 { 50},Y_3710,ppm, 1.018,.0068,.6639, 1.013, 1.022
Mg2790,279.079 {121},Y_3710,ppm, 12.68,.0553,.4363, 12.72, 12.64
Mn2576,257.610 {131},Y_3600,ppm, 1.282,.0009,.0722, 1.282, 1.281
Mo2020,202.030 {467},Y_2243,ppm, 1.038,.0013,.1257, 1.038, 1.037
Na5895,589.592 { 57},Y_3710,ppm, 12.90,.0618,.4793, 12.86, 12.95
Ni2316,231.604 {445},In2306,ppm, 1.018,.0004,.0430, 1.018, 1.019
P_1782,178.284 {489},In2306,ppm, 5.534,.0041,.0749, 5.537, 5.531
Pb2203,220.353 {453},In2306,ppm, 1.011,.0019,.1915, 1.012, 1.009
S_1820,182.034 {485},Y_2243,ppm, 5.676,.0198,.3491, 5.690, 5.662
Sb2068,206.833 {463},Y_2243,ppm, 1.650,.0110,.6671, 1.658, 1.643
Se1960,196.090 {472},Y_2243,ppm, 1.037,.0004,.0389, 1.037, 1.037
Si2516,251.611 {134},Y_3710,ppm, 8.000,.0118,.1478, 8.008, 7.991
Sn1899,189.989 {477},In2306,ppm, .9911,.0004,.0443, .9908, .9914
Sr4215,421.552 { 80},Y_3710,ppm, 1.157,.0063,.5483, 1.153, 1.162
Ti3349,334.904 {101},Y_3600,ppm, 1.013,.0009,.0919, 1.013, 1.014
Tl1908,190.856 {477},In2306,ppm, .9388,.0029,.3046, .9408, .9368
U_3670,367.007 { 92},Y_3600,ppm, .4358,.0360,8.264, .4612, .4103
V_2924,292.402 {115},Y_3600,ppm, .9957,.0007,.0664, .9962, .9953
W_2397,239.709 {140},Y_2243,ppm, .4933,.0084,1.697, .4992, .4873
Zn2062,206.200 {463},In2306,ppm, .5749,.0000,.0079, .5749, .5749

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 250.34,2.4329,.97185,248.62,252.06
In2306,230.606 {446},Cts/S, 14410.,31.040,.21541,14432.,14388.
Y_2243,224.306 {450},Cts/S, 22235.,47.843,.21517,22268.,22201.
Y_3600,360.073 { 94},Cts/S, 154800.,307.29,.19851,154580.,155010.
Y_3710,371.030 { 91},Cts/S, 13908.,3.8906,.02797,13911.,13906.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0011,.0009,81.76, -.0017, -.0005
Al3082,308.215 {109},In2306,ppm, .0401,.0010,2.604, .0409, .0394
As1890,189.042 {478},Y_2243,ppm, -.0300,.0015,5.078, -.0311, -.0289
B_2496,249.678 {135},Y_3710,ppm, .0060,.0078,129.5, .0005, .0115
Ba4554,455.403 { 74},Y_3710,ppm, .0027,.0002,9.050, .0029, .0025
Be3130,313.042 {108},Y_3710,ppm, .0002,.0000,19.65, .0002, .0002
Ca3158,315.887 {107},In2306,ppm, -.6579,.0060,.9144, -.6622, -.6537
Cd2288,228.802 {447},Y_2243,ppm, .0126,.0002,1.685, .0124, .0127
Co2286,228.616 {447},In2306,ppm, .0480,.0000,.0794, .0479, .0480
Cr2677,267.716 {126},Y_3600,ppm, .6078,.0032,.5211, .6056, .6101
Cu3247,324.754 {104},Y_3600,ppm, .9993,.0052,.5200, .9956, 1.003
Fe2404,240.488 {140},In2306,ppm, 982.1,1.657,.1687, 983.3, 981.0
K_7664,766.490 { 44},Y_3710,ppm, .0639,.0077,12.05, .0693, .0584
Li6707,670.784 { 50},Y_3710,ppm, -.0005,.0004,77.49, -.0008, -.0002
Mg2790,279.079 {121},Y_3710,ppm, .0840,.0014,1.704, .0850, .0830
Mn2576,257.610 {131},Y_3600,ppm, 1.836,.0073,.3957, 1.831, 1.841
Mo2020,202.030 {467},Y_2243,ppm, .0666,.0002,.3261, .0664, .0667
Na5895,589.592 { 57},Y_3710,ppm, .4710,.0012,.2533, .4702, .4719
Ni2316,231.604 {445},In2306,ppm, .3521,.0005,.1424, .3518, .3525
P_1782,178.284 {489},In2306,ppm, .1466,.0001,.1017, .1465, .1467
Pb2203,220.353 {453},In2306,ppm, -.0382,.0014,3.595, -.0372, -.0391
S_1820,182.034 {485},Y_2243,ppm, 494.0,.4671,.0946, 493.7, 494.4
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Sb2068,206.833 {463},Y_2243,ppm, .0218,.0025,11.63, .0236, .0200
Se1960,196.090 {472},Y_2243,ppm, 1.581,.0022,.1383, 1.579, 1.582
Si2516,251.611 {134},Y_3710,ppm, .0732,.0071,9.664, .0782, .0682
Sn1899,189.989 {477},In2306,ppm, .0184,.0007,4.044, .0179, .0190
Sr4215,421.552 { 80},Y_3710,ppm, .0044,.0000,.9443, .0044, .0045
Ti3349,334.904 {101},Y_3600,ppm, .0484,.0008,1.579, .0479, .0490
Tl1908,190.856 {477},In2306,ppm, .0497,.0050,9.992, .0533, .0462
U_3670,367.007 { 92},Y_3600,ppm, 5.778,.1430,2.475, 5.677, 5.879
V_2924,292.402 {115},Y_3600,ppm, .0229,.0002,.7740, .0230, .0228
W_2397,239.709 {140},Y_2243,ppm, -.0540,.0095,17.49, -.0607, -.0474
Zn2062,206.200 {463},In2306,ppm, -.0011,.0001,5.284, -.0010, -.0011

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 255.66,1.1165,.43671,254.87,256.44
In2306,230.606 {446},Cts/S, 14645.,4.9036,.03348,14642.,14649.
Y_2243,224.306 {450},Cts/S, 21341.,23.658,.11086,21358.,21324.
Y_3600,360.073 { 94},Cts/S, 148550.,122.83,.08269,148460.,148640.
Y_3710,371.030 { 91},Cts/S, 13660.,2.4241,.01775,13658.,13661.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .5065,.0010,.1914, .5058, .5071
Al3082,308.215 {109},In2306,ppm, 19.46,.1279,.6571, 19.37, 19.55
As1890,189.042 {478},Y_2243,ppm, .9951,.0060,.5985, .9909, .9993
B_2496,249.678 {135},Y_3710,ppm, .9546,.0104,1.092, .9620, .9472
Ba4554,455.403 { 74},Y_3710,ppm, .9906,.0026,.2605, .9888, .9924
Be3130,313.042 {108},Y_3710,ppm, 1.013,.0025,.2497, 1.015, 1.011
Ca3158,315.887 {107},In2306,ppm, 19.16,.0470,.2452, 19.19, 19.13
Cd2288,228.802 {447},Y_2243,ppm, 1.003,.0018,.1756, 1.002, 1.005
Co2286,228.616 {447},In2306,ppm, .9735,.0049,.5051, .9700, .9770
Cr2677,267.716 {126},Y_3600,ppm, .9503,.0024,.2510, .9520, .9486
Cu3247,324.754 {104},Y_3600,ppm, .9568,.0006,.0596, .9572, .9564
Fe2404,240.488 {140},In2306,ppm, 19.60,.0261,.1331, 19.62, 19.58
K_7664,766.490 { 44},Y_3710,ppm, 18.94,.0495,.2613, 18.91, 18.98
Li6707,670.784 { 50},Y_3710,ppm, .9672,.0073,.7497, .9620, .9723
Mg2790,279.079 {121},Y_3710,ppm, 19.55,.0528,.2700, 19.59, 19.51
Mn2576,257.610 {131},Y_3600,ppm, 1.008,.0001,.0065, 1.008, 1.008
Mo2020,202.030 {467},Y_2243,ppm, 1.016,.0001,.0068, 1.016, 1.016
Na5895,589.592 { 57},Y_3710,ppm, 19.60,.0594,.3032, 19.56, 19.64
Ni2316,231.604 {445},In2306,ppm, .9938,.0048,.4782, .9905, .9972
P_1782,178.284 {489},In2306,ppm, 9.904,.0360,.3631, 9.878, 9.929
Pb2203,220.353 {453},In2306,ppm, .9835,.0017,.1695, .9823, .9847
S_1820,182.034 {485},Y_2243,ppm, 10.18,.0049,.0477, 10.19, 10.18
Sb2068,206.833 {463},Y_2243,ppm, 2.110,.0057,.2689, 2.114, 2.106
Se1960,196.090 {472},Y_2243,ppm, 1.002,.0011,.1116, 1.003, 1.001
Si2516,251.611 {134},Y_3710,ppm, 9.315,.0108,.1156, 9.323, 9.307
Sn1899,189.989 {477},In2306,ppm, .9781,.0030,.3052, .9760, .9802
Sr4215,421.552 { 80},Y_3710,ppm, .9823,.0036,.3625, .9797, .9848
Ti3349,334.904 {101},Y_3600,ppm, 1.002,.0010,.1007, 1.002, 1.001
Tl1908,190.856 {477},In2306,ppm, 1.023,.0064,.6263, 1.018, 1.027
U_3670,367.007 { 92},Y_3600,ppm, .7606,.0267,3.508, .7794, .7417
V_2924,292.402 {115},Y_3600,ppm, .9911,.0006,.0586, .9907, .9916
W_2397,239.709 {140},Y_2243,ppm, 1.018,.0564,5.542, 1.058, .9784
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Zn2062,206.200 {463},In2306,ppm, .9824,.0084,.8512, .9765, .9883

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 253.55,.15506,.06116,253.66,253.45
In2306,230.606 {446},Cts/S, 15093.,27.083,.17944,15074.,15112.
Y_2243,224.306 {450},Cts/S, 22961.,89.938,.39170,22898.,23025.
Y_3600,360.073 { 94},Cts/S, 156880.,15.062,.00960,156870.,156890.
Y_3710,371.030 { 91},Cts/S, 13996.,27.046,.19324,13977.,14015.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0890,.0003,.2943, .0892, .0888
Al3082,308.215 {109},In2306,ppm, .9920,.0132,1.328, .9827, 1.001
As1890,189.042 {478},Y_2243,ppm, .0325,.0002,.5239, .0323, .0326
B_2496,249.678 {135},Y_3710,ppm, .2040,.0024,1.172, .2057, .2023
Ba4554,455.403 { 74},Y_3710,ppm, .0304,.0001,.2152, .0304, .0303
Be3130,313.042 {108},Y_3710,ppm, .0311,.0001,.2057, .0310, .0311
Ca3158,315.887 {107},In2306,ppm, .9836,.0061,.6155, .9793, .9879
Cd2288,228.802 {447},Y_2243,ppm, .0308,.0000,.0166, .0308, .0308
Co2286,228.616 {447},In2306,ppm, .0291,.0000,.0728, .0291, .0291
Cr2677,267.716 {126},Y_3600,ppm, .0300,.0002,.7487, .0298, .0302
Cu3247,324.754 {104},Y_3600,ppm, .0315,.0002,.7579, .0317, .0314
Fe2404,240.488 {140},In2306,ppm, .9965,.0080,.7994, .9908, 1.002
K_7664,766.490 { 44},Y_3710,ppm, .9691,.0161,1.662, .9577, .9805
Li6707,670.784 { 50},Y_3710,ppm, .0302,.0006,2.123, .0298, .0307
Mg2790,279.079 {121},Y_3710,ppm, 1.013,.0211,2.083, 1.028, .9979
Mn2576,257.610 {131},Y_3600,ppm, .0317,.0000,.0225, .0317, .0317
Mo2020,202.030 {467},Y_2243,ppm, .0315,.0000,.1418, .0315, .0314
Na5895,589.592 { 57},Y_3710,ppm, 1.029,.0044,.4282, 1.026, 1.032
Ni2316,231.604 {445},In2306,ppm, .0292,.0002,.5787, .0294, .0291
P_1782,178.284 {489},In2306,ppm, 1.870,.0008,.0436, 1.871, 1.870
Pb2203,220.353 {453},In2306,ppm, .0297,.0009,2.876, .0303, .0291
S_1820,182.034 {485},Y_2243,ppm, 1.979,.0026,.1295, 1.981, 1.977
Sb2068,206.833 {463},Y_2243,ppm, .2385,.0003,.1062, .2384, .2387
Se1960,196.090 {472},Y_2243,ppm, .0318,.0004,1.341, .0315, .0321
Si2516,251.611 {134},Y_3710,ppm, .2970,.0158,5.305, .3081, .2859
Sn1899,189.989 {477},In2306,ppm, .0289,.0000,.0265, .0288, .0289
Sr4215,421.552 { 80},Y_3710,ppm, .0306,.0003,.8599, .0304, .0307
Ti3349,334.904 {101},Y_3600,ppm, .0309,.0004,1.364, .0306, .0312
Tl1908,190.856 {477},In2306,ppm, .0356,.0004,1.210, .0359, .0353
U_3670,367.007 { 92},Y_3600,ppm, .0902,.0039,4.375, .0874, .0930
V_2924,292.402 {115},Y_3600,ppm, .0299,.0002,.6285, .0300, .0298
W_2397,239.709 {140},Y_2243,ppm, .2119,.0504,23.78, .2476, .1763
Zn2062,206.200 {463},In2306,ppm, .1880,.0006,.3140, .1876, .1885

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 258.57,1.5941,.61652,259.70,257.45
In2306,230.606 {446},Cts/S, 16737.,6.6344,.03964,16742.,16732.
Y_2243,224.306 {450},Cts/S, 23768.,6.3935,.02690,23772.,23763.
Y_3600,360.073 { 94},Cts/S, 162730.,363.33,.22328,162980.,162470.
Y_3710,371.030 { 91},Cts/S, 13995.,27.971,.19986,13976.,14015.
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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0001,.0004,519.2, -.0002, .0003
Al3082,308.215 {109},In2306,ppm, -.0090,.0007,7.554, -.0095, -.0085
As1890,189.042 {478},Y_2243,ppm, -.0009,.0002,16.59, -.0008, -.0010
B_2496,249.678 {135},Y_3710,ppm, .0030,.0079,267.5, .0086, -.0026
Ba4554,455.403 { 74},Y_3710,ppm, -.0002,.0002,104.7, -.0003, -.0000
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,18.30, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, .0049,.0072,146.6, .0100, -.0002
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0000,115.7, .0000, .0000
Co2286,228.616 {447},In2306,ppm, .0002,.0000,25.40, .0002, .0002
Cr2677,267.716 {126},Y_3600,ppm, .0000,.0001,154.5, -.0000, .0001
Cu3247,324.754 {104},Y_3600,ppm, .0016,.0001,8.757, .0015, .0017
Fe2404,240.488 {140},In2306,ppm, -.0099,.0089,89.43, -.0162, -.0036
K_7664,766.490 { 44},Y_3710,ppm, -.0312,.0001,.3656, -.0313, -.0311
Li6707,670.784 { 50},Y_3710,ppm, -.0002,.0003,161.3, .0000, -.0003
Mg2790,279.079 {121},Y_3710,ppm, .0021,.0253,1179., .0200, -.0157
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,32.72, -.0000, -.0001
Mo2020,202.030 {467},Y_2243,ppm, -.0001,.0000,.7912, -.0001, -.0001
Na5895,589.592 { 57},Y_3710,ppm, .0172,.0068,39.68, .0220, .0123
Ni2316,231.604 {445},In2306,ppm, .0001,.0004,472.0, .0004, -.0002
P_1782,178.284 {489},In2306,ppm, -.0011,.0015,143.1, .0000, -.0021
Pb2203,220.353 {453},In2306,ppm, .0003,.0017,523.0, .0015, -.0009
S_1820,182.034 {485},Y_2243,ppm, .0060,.0071,117.8, .0110, .0010
Sb2068,206.833 {463},Y_2243,ppm, .0024,.0004,14.78, .0027, .0022
Se1960,196.090 {472},Y_2243,ppm, .0008,.0019,242.5, .0021, -.0006
Si2516,251.611 {134},Y_3710,ppm, -.0143,.0081,56.50, -.0200, -.0086
Sn1899,189.989 {477},In2306,ppm, -.0004,.0005,121.6, -.0001, -.0008
Sr4215,421.552 { 80},Y_3710,ppm, -.0000,.0002,843.1, .0001, -.0001
Ti3349,334.904 {101},Y_3600,ppm, .0001,.0004,426.6, .0004, -.0002
Tl1908,190.856 {477},In2306,ppm, .0064,.0047,73.77, .0097, .0030
U_3670,367.007 { 92},Y_3600,ppm, -.1866,.0149,7.963, -.1761, -.1971
V_2924,292.402 {115},Y_3600,ppm, .0000,.0000,65.34, .0000, .0001
W_2397,239.709 {140},Y_2243,ppm, .0053,.0896,1685., -.0581, .0687
Zn2062,206.200 {463},In2306,ppm, -.0011,.0001,10.83, -.0010, -.0012

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 258.39,.25003,.09676,258.22,258.57
In2306,230.606 {446},Cts/S, 16966.,25.391,.14966,16949.,16984.
Y_2243,224.306 {450},Cts/S, 23676.,42.907,.18122,23646.,23707.
Y_3600,360.073 { 94},Cts/S, 162420.,222.03,.13670,162270.,162580.
Y_3710,371.030 { 91},Cts/S, 13762.,74.008,.53778,13814.,13709.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0022,.0001,4.611, -.0021, -.0023
Al3082,308.215 {109},In2306,ppm, 204.1,2.967,1.454, 202.0, 206.2
As1890,189.042 {478},Y_2243,ppm, .1096,.0046,4.157, .1128, .1064
B_2496,249.678 {135},Y_3710,ppm, .0718,.0043,5.972, .0688, .0749
Ba4554,455.403 { 74},Y_3710,ppm, 1.600,.0037,.2306, 1.597, 1.603
Be3130,313.042 {108},Y_3710,ppm, .0125,.0000,.3317, .0125, .0125
Ca3158,315.887 {107},In2306,ppm, 137.1,1.864,1.360, 135.7, 138.4
Cd2288,228.802 {447},Y_2243,ppm, .0074,.0001,.8802, .0074, .0075
Co2286,228.616 {447},In2306,ppm, .0833,.0001,.0939, .0833, .0832
Cr2677,267.716 {126},Y_3600,ppm, .5568,.0034,.6176, .5592, .5544
Cu3247,324.754 {104},Y_3600,ppm, 1.550,.0040,.2600, 1.553, 1.547
Fe2404,240.488 {140},In2306,ppm, 408.8,5.262,1.287, 405.1, 412.5
K_7664,766.490 { 44},Y_3710,ppm, 15.98,.1017,.6364, 15.90, 16.05
Li6707,670.784 { 50},Y_3710,ppm, .1517,.0004,.2323, .1514, .1519
Mg2790,279.079 {121},Y_3710,ppm, 21.74,.2073,.9536, 21.59, 21.89
Mn2576,257.610 {131},Y_3600,ppm, 5.030,.0139,.2769, 5.040, 5.021
Mo2020,202.030 {467},Y_2243,ppm, .0662,.0001,.1657, .0661, .0662
Na5895,589.592 { 57},Y_3710,ppm, 2.333,.0077,.3294, 2.328, 2.339
Ni2316,231.604 {445},In2306,ppm, .1689,.0009,.5062, .1695, .1683
P_1782,178.284 {489},In2306,ppm, 8.688,.0326,.3751, 8.711, 8.665
Pb2203,220.353 {453},In2306,ppm, 1.185,.0070,.5890, 1.190, 1.180
S_1820,182.034 {485},Y_2243,ppm, 3.207,.0364,1.134, 3.232, 3.181
Sb2068,206.833 {463},Y_2243,ppm, -.0010,.0002,20.28, -.0009, -.0011
Se1960,196.090 {472},Y_2243,ppm, .0062,.0005,7.787, .0065, .0058
Si2516,251.611 {134},Y_3710,ppm, 19.38,.1176,.6070, 19.29, 19.46
Sn1899,189.989 {477},In2306,ppm, .0779,.0004,.4541, .0781, .0776
Sr4215,421.552 { 80},Y_3710,ppm, .4602,.0003,.0695, .4599, .4604
Ti3349,334.904 {101},Y_3600,ppm, 1.526,.0036,.2373, 1.529, 1.524
Tl1908,190.856 {477},In2306,ppm, -.0088,.0027,30.83, -.0069, -.0108
U_3670,367.007 { 92},Y_3600,ppm, 2.149,.0279,1.298, 2.168, 2.129
V_2924,292.402 {115},Y_3600,ppm, .5347,.0020,.3746, .5361, .5332
W_2397,239.709 {140},Y_2243,ppm, -.0250,.0155,62.11, -.0140, -.0360
Zn2062,206.200 {463},In2306,ppm, 1.079,.0040,.3697, 1.081, 1.076

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 244.24,2.2066,.90345,245.80,242.68
In2306,230.606 {446},Cts/S, 13663.,12.900,.09442,13672.,13654.
Y_2243,224.306 {450},Cts/S, 22880.,44.398,.19405,22911.,22848.
Y_3600,360.073 { 94},Cts/S, 156310.,652.18,.41723,155850.,156770.
Y_3710,371.030 { 91},Cts/S, 14306.,14.572,.10186,14316.,14295.

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Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0050,.0004,7.981, -.0053, -.0047
Al3082,308.215 {109},In2306,ppm, 178.4,2.097,1.175, 176.9, 179.8
As1890,189.042 {478},Y_2243,ppm, .0495,.0000,.0075, .0495, .0495
B_2496,249.678 {135},Y_3710,ppm, .0511,.0027,5.204, .0530, .0493
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Ba4554,455.403 { 74},Y_3710,ppm, 1.325,.0015,.1123, 1.324, 1.326
Be3130,313.042 {108},Y_3710,ppm, .0246,.0000,.0538, .0246, .0246
Ca3158,315.887 {107},In2306,ppm, 48.43,.4651,.9604, 48.10, 48.76
Cd2288,228.802 {447},Y_2243,ppm, .0045,.0001,1.259, .0046, .0045
Co2286,228.616 {447},In2306,ppm, .2003,.0002,.0945, .2001, .2004
Cr2677,267.716 {126},Y_3600,ppm, .1827,.0009,.5063, .1834, .1820
Cu3247,324.754 {104},Y_3600,ppm, .1449,.0000,.0047, .1449, .1449
Fe2404,240.488 {140},In2306,ppm, 225.0,2.387,1.061, 223.3, 226.7
K_7664,766.490 { 44},Y_3710,ppm, 15.80,.0368,.2328, 15.82, 15.77
Li6707,670.784 { 50},Y_3710,ppm, .1260,.0004,.2933, .1262, .1257
Mg2790,279.079 {121},Y_3710,ppm, 22.65,.0471,.2079, 22.69, 22.62
Mn2576,257.610 {131},Y_3600,ppm, 6.983,.0408,.5840, 7.012, 6.954
Mo2020,202.030 {467},Y_2243,ppm, .0079,.0002,2.813, .0078, .0081
Na5895,589.592 { 57},Y_3710,ppm, 3.913,.0037,.0947, 3.911, 3.916
Ni2316,231.604 {445},In2306,ppm, .2395,.0013,.5434, .2386, .2404
P_1782,178.284 {489},In2306,ppm, 11.33,.0272,.2400, 11.31, 11.35
Pb2203,220.353 {453},In2306,ppm, .2723,.0004,.1560, .2720, .2726
S_1820,182.034 {485},Y_2243,ppm, .9490,.0184,1.938, .9620, .9360
Sb2068,206.833 {463},Y_2243,ppm, -.0031,.0008,25.35, -.0026, -.0037
Se1960,196.090 {472},Y_2243,ppm, .0015,.0011,73.22, .0007, .0023
Si2516,251.611 {134},Y_3710,ppm, 15.45,.0107,.0694, 15.46, 15.44
Sn1899,189.989 {477},In2306,ppm, .0270,.0006,2.147, .0266, .0274
Sr4215,421.552 { 80},Y_3710,ppm, .2852,.0004,.1277, .2855, .2849
Ti3349,334.904 {101},Y_3600,ppm, 1.651,.0032,.1910, 1.653, 1.649
Tl1908,190.856 {477},In2306,ppm, -.0154,.0004,2.906, -.0151, -.0157
U_3670,367.007 { 92},Y_3600,ppm, .9679,.0612,6.319, 1.011, .9246
V_2924,292.402 {115},Y_3600,ppm, .3148,.0021,.6600, .3162, .3133
W_2397,239.709 {140},Y_2243,ppm, .0015,.0027,183.7, -.0004, .0034
Zn2062,206.200 {463},In2306,ppm, .7880,.0076,.9627, .7826, .7934

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 246.48,1.6972,.68855,247.68,245.28
In2306,230.606 {446},Cts/S, 14259.,49.646,.34817,14224.,14294.
Y_2243,224.306 {450},Cts/S, 26324.,169.58,.64421,26204.,26444.
Y_3600,360.073 { 94},Cts/S, 176330.,866.52,.49141,175720.,176950.
Y_3710,371.030 { 91},Cts/S, 15905.,15.337,.09643,15894.,15916.

[Sample Header]
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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0003,.0001,25.67, -.0003, -.0004
Al3082,308.215 {109},In2306,ppm, 924.8,6.534,.7066, 920.2, 929.4
As1890,189.042 {478},Y_2243,ppm, .0086,.0060,70.25, .0128, .0043
B_2496,249.678 {135},Y_3710,ppm, .0247,.0019,7.863, .0260, .0233
Ba4554,455.403 { 74},Y_3710,ppm, .0016,.0003,17.14, .0014, .0018
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,79.40, .0000, .0001
Ca3158,315.887 {107},In2306,ppm, .0532,.0003,.4776, .0531, .0534
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0001,158.6, -.0001, .0000
Co2286,228.616 {447},In2306,ppm, -.0002,.0002,70.23, -.0001, -.0003
Cr2677,267.716 {126},Y_3600,ppm, .0006,.0001,13.60, .0006, .0007
Cu3247,324.754 {104},Y_3600,ppm, .0018,.0000,1.992, .0017, .0018
Fe2404,240.488 {140},In2306,ppm, .0671,.0042,6.270, .0701, .0641
K_7664,766.490 { 44},Y_3710,ppm, 1.965,.0257,1.310, 1.947, 1.983
Li6707,670.784 { 50},Y_3710,ppm, .0006,.0003,45.66, .0008, .0004
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Mg2790,279.079 {121},Y_3710,ppm, -.0162,.0029,18.16, -.0183, -.0141
Mn2576,257.610 {131},Y_3600,ppm, .0005,.0000,1.271, .0005, .0005
Mo2020,202.030 {467},Y_2243,ppm, .0005,.0003,50.13, .0003, .0007
Na5895,589.592 { 57},Y_3710,ppm, 2168.,14.00,.6455, 2158., 2178.
Ni2316,231.604 {445},In2306,ppm, .0071,.0003,4.114, .0073, .0069
P_1782,178.284 {489},In2306,ppm, .0452,.0032,6.975, .0430, .0475
Pb2203,220.353 {453},In2306,ppm, .0404,.0012,3.082, .0395, .0413
S_1820,182.034 {485},Y_2243,ppm, .3126,.0071,2.266, .3076, .3176
Sb2068,206.833 {463},Y_2243,ppm, -.0289,.0047,16.41, -.0323, -.0256
Se1960,196.090 {472},Y_2243,ppm, -.0156,.0015,9.327, -.0167, -.0146
Si2516,251.611 {134},Y_3710,ppm, .3027,.0055,1.815, .2988, .3066
Sn1899,189.989 {477},In2306,ppm, .0307,.0014,4.414, .0297, .0316
Sr4215,421.552 { 80},Y_3710,ppm, .0009,.0000,4.802, .0009, .0009
Ti3349,334.904 {101},Y_3600,ppm, .0006,.0001,21.25, .0007, .0005
Tl1908,190.856 {477},In2306,ppm, -.0295,.0052,17.52, -.0331, -.0258
U_3670,367.007 { 92},Y_3600,ppm, .0859,.0685,79.75, .0374, .1343
V_2924,292.402 {115},Y_3600,ppm, -.0012,.0001,10.57, -.0011, -.0013
W_2397,239.709 {140},Y_2243,ppm, .1321,.0003,.2572, .1324, .1319
Zn2062,206.200 {463},In2306,ppm, .0381,.0002,.5280, .0382, .0380

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 230.62,3.9120,1.6963,233.39,227.85
In2306,230.606 {446},Cts/S, 10805.,15.470,.14318,10794.,10816.
Y_2243,224.306 {450},Cts/S, 20966.,58.329,.27821,20925.,21007.
Y_3600,360.073 { 94},Cts/S, 131690.,32.132,.02440,131710.,131670.
Y_3710,371.030 { 91},Cts/S, 13314.,194.95,1.4643,13452.,13176.

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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0015,.0001,7.720, -.0014, -.0016
Al3082,308.215 {109},In2306,ppm, .0857,.0072,8.427, .0909, .0806
As1890,189.042 {478},Y_2243,ppm, .0007,.0011,157.2, .0014, -.0001
B_2496,249.678 {135},Y_3710,ppm, .0314,.0001,.4018, .0315, .0313
Ba4554,455.403 { 74},Y_3710,ppm, .0994,.0007,.6957, .0989, .0999
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,12.17, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, 1.363,.0197,1.445, 1.377, 1.349
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0000,10.87, .0002, .0002
Co2286,228.616 {447},In2306,ppm, .0002,.0000,5.681, .0002, .0002
Cr2677,267.716 {126},Y_3600,ppm, .0008,.0000,4.356, .0008, .0009
Cu3247,324.754 {104},Y_3600,ppm, .0033,.0001,3.559, .0034, .0032
Fe2404,240.488 {140},In2306,ppm, .0628,.0016,2.515, .0617, .0640
K_7664,766.490 { 44},Y_3710,ppm, .2099,.0080,3.829, .2156, .2042
Li6707,670.784 { 50},Y_3710,ppm, .0009,.0005,53.95, .0006, .0013
Mg2790,279.079 {121},Y_3710,ppm, .2405,.0009,.3855, .2411, .2398
Mn2576,257.610 {131},Y_3600,ppm, .0030,.0000,.9089, .0030, .0030
Mo2020,202.030 {467},Y_2243,ppm, -.0003,.0003,103.1, -.0001, -.0005
Na5895,589.592 { 57},Y_3710,ppm, 141.0,.7303,.5181, 140.4, 141.5
Ni2316,231.604 {445},In2306,ppm, .0009,.0000,3.132, .0009, .0009
P_1782,178.284 {489},In2306,ppm, .2429,.0019,.7827, .2442, .2415
Pb2203,220.353 {453},In2306,ppm, .0007,.0000,.3660, .0007, .0007
S_1820,182.034 {485},Y_2243,ppm, .2591,.0004,.1655, .2588, .2594
Sb2068,206.833 {463},Y_2243,ppm, .0007,.0013,198.3, -.0003, .0016
Se1960,196.090 {472},Y_2243,ppm, .0001,.0007,679.2, .0006, -.0004
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Si2516,251.611 {134},Y_3710,ppm, .0785,.0048,6.109, .0751, .0819
Sn1899,189.989 {477},In2306,ppm, .0039,.0005,12.86, .0036, .0043
Sr4215,421.552 { 80},Y_3710,ppm, .0059,.0001,1.630, .0060, .0059
Ti3349,334.904 {101},Y_3600,ppm, .0004,.0003,75.60, .0002, .0005
Tl1908,190.856 {477},In2306,ppm, .0033,.0010,29.48, .0026, .0040
U_3670,367.007 { 92},Y_3600,ppm, .0203,.0940,463.4, .0868, -.0462
V_2924,292.402 {115},Y_3600,ppm, -.0003,.0001,19.28, -.0003, -.0002
W_2397,239.709 {140},Y_2243,ppm, -.0068,.0090,132.7, -.0004, -.0131
Zn2062,206.200 {463},In2306,ppm, .2841,.0014,.4919, .2831, .2851

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 253.12,1.3351,.52745,252.18,254.07
In2306,230.606 {446},Cts/S, 14790.,27.348,.18490,14810.,14771.
Y_2243,224.306 {450},Cts/S, 22467.,.19562,.00087,22467.,22467.
Y_3600,360.073 { 94},Cts/S, 151740.,135.33,.08919,151840.,151650.
Y_3710,371.030 { 91},Cts/S, 13678.,18.942,.13848,13665.,13692.

[Sample Header]
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Custom ID3=
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Mode=CONC
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2607,.0006,.2246, .2603, .2611
Al3082,308.215 {109},In2306,ppm, 10.30,.0625,.6063, 10.26, 10.35
As1890,189.042 {478},Y_2243,ppm, 1.014,.0326,3.214, 1.037, .9908
B_2496,249.678 {135},Y_3710,ppm, .5280,.0021,.4004, .5295, .5265
Ba4554,455.403 { 74},Y_3710,ppm, 1.109,.0020,.1824, 1.107, 1.110
Be3130,313.042 {108},Y_3710,ppm, 1.025,.0011,.1027, 1.025, 1.026
Ca3158,315.887 {107},In2306,ppm, 11.60,.0807,.6951, 11.55, 11.66
Cd2288,228.802 {447},Y_2243,ppm, 1.015,.0313,3.082, 1.038, .9933
Co2286,228.616 {447},In2306,ppm, .9933,.0332,3.344, 1.017, .9698
Cr2677,267.716 {126},Y_3600,ppm, .9853,.0001,.0076, .9853, .9852
Cu3247,324.754 {104},Y_3600,ppm, .9891,.0018,.1782, .9904, .9879
Fe2404,240.488 {140},In2306,ppm, 10.38,.0639,.6156, 10.33, 10.42
K_7664,766.490 { 44},Y_3710,ppm, 10.35,.0259,.2500, 10.33, 10.36
Li6707,670.784 { 50},Y_3710,ppm, 1.003,.0015,.1508, 1.002, 1.004
Mg2790,279.079 {121},Y_3710,ppm, 10.37,.0166,.1602, 10.38, 10.36
Mn2576,257.610 {131},Y_3600,ppm, 1.020,.0025,.2448, 1.018, 1.022
Mo2020,202.030 {467},Y_2243,ppm, 1.012,.0317,3.132, 1.034, .9895
Na5895,589.592 { 57},Y_3710,ppm, 147.1,.2140,.1455, 147.2, 146.9
Ni2316,231.604 {445},In2306,ppm, 1.016,.0342,3.371, 1.040, .9915
P_1782,178.284 {489},In2306,ppm, 5.646,.1831,3.244, 5.775, 5.516
Pb2203,220.353 {453},In2306,ppm, .9937,.0298,2.998, 1.015, .9727
S_1820,182.034 {485},Y_2243,ppm, 5.582,.1723,3.087, 5.704, 5.461
Sb2068,206.833 {463},Y_2243,ppm, 1.602,.0499,3.119, 1.637, 1.566
Se1960,196.090 {472},Y_2243,ppm, 1.013,.0287,2.834, 1.033, .9927
Si2516,251.611 {134},Y_3710,ppm, 9.096,.0462,.5074, 9.128, 9.063
Sn1899,189.989 {477},In2306,ppm, .9964,.0349,3.507, 1.021, .9717
Sr4215,421.552 { 80},Y_3710,ppm, 1.013,.0022,.2202, 1.012, 1.015
Ti3349,334.904 {101},Y_3600,ppm, 1.019,.0013,.1301, 1.018, 1.020
Tl1908,190.856 {477},In2306,ppm, .8769,.0286,3.261, .8971, .8567
U_3670,367.007 { 92},Y_3600,ppm, .4848,.0183,3.768, .4977, .4719
V_2924,292.402 {115},Y_3600,ppm, 1.016,.0006,.0599, 1.016, 1.017
W_2397,239.709 {140},Y_2243,ppm, .4501,.0669,14.86, .4028, .4974
Zn2062,206.200 {463},In2306,ppm, .7953,.0286,3.593, .8155, .7751
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[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 248.26,2.0331,.81894,249.70,246.82
In2306,230.606 {446},Cts/S, 14684.,363.26,2.4738,14427.,14941.
Y_2243,224.306 {450},Cts/S, 22935.,519.38,2.2646,22567.,23302.
Y_3600,360.073 { 94},Cts/S, 151910.,126.07,.08299,152000.,151820.
Y_3710,371.030 { 91},Cts/S, 13681.,15.752,.11514,13692.,13670.

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Repeats=2

[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0010,.0000,2.717, -.0009, -.0010
Al3082,308.215 {109},In2306,ppm, .0263,.0049,18.76, .0297, .0228
As1890,189.042 {478},Y_2243,ppm, -.0000,.0016,4250., -.0012, .0011
B_2496,249.678 {135},Y_3710,ppm, .0230,.0019,8.318, .0244, .0217
Ba4554,455.403 { 74},Y_3710,ppm, .0974,.0009,.9016, .0967, .0980
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,55.66, .0002, .0001
Ca3158,315.887 {107},In2306,ppm, 1.517,.0089,.5868, 1.523, 1.510
Cd2288,228.802 {447},Y_2243,ppm, .0003,.0000,8.801, .0003, .0003
Co2286,228.616 {447},In2306,ppm, .0004,.0002,44.32, .0003, .0006
Cr2677,267.716 {126},Y_3600,ppm, .0007,.0000,5.380, .0007, .0007
Cu3247,324.754 {104},Y_3600,ppm, .0019,.0001,6.582, .0019, .0020
Fe2404,240.488 {140},In2306,ppm, .0318,.0094,29.63, .0385, .0251
K_7664,766.490 { 44},Y_3710,ppm, .1847,.0225,12.17, .2006, .1688
Li6707,670.784 { 50},Y_3710,ppm, .0005,.0009,169.6, .0011, -.0001
Mg2790,279.079 {121},Y_3710,ppm, .2265,.0004,.1754, .2268, .2263
Mn2576,257.610 {131},Y_3600,ppm, .0027,.0001,1.868, .0028, .0027
Mo2020,202.030 {467},Y_2243,ppm, .0010,.0002,16.83, .0009, .0011
Na5895,589.592 { 57},Y_3710,ppm, 141.9,3.258,2.296, 139.6, 144.2
Ni2316,231.604 {445},In2306,ppm, .0009,.0004,46.06, .0006, .0011
P_1782,178.284 {489},In2306,ppm, .2726,.0012,.4460, .2717, .2734
Pb2203,220.353 {453},In2306,ppm, -.0005,.0009,172.7, .0001, -.0012
S_1820,182.034 {485},Y_2243,ppm, .2508,.0016,.6517, .2496, .2519
Sb2068,206.833 {463},Y_2243,ppm, .0003,.0012,373.6, .0012, -.0005
Se1960,196.090 {472},Y_2243,ppm, -.0007,.0011,169.2, -.0015, .0001
Si2516,251.611 {134},Y_3710,ppm, .0649,.0006,.8493, .0653, .0645
Sn1899,189.989 {477},In2306,ppm, .0033,.0002,6.162, .0031, .0034
Sr4215,421.552 { 80},Y_3710,ppm, .0062,.0001,.8820, .0063, .0062
Ti3349,334.904 {101},Y_3600,ppm, .0001,.0003,269.1, -.0001, .0004
Tl1908,190.856 {477},In2306,ppm, .0282,.0020,6.938, .0295, .0268
U_3670,367.007 { 92},Y_3600,ppm, .0014,.0325,2267., .0244, -.0215
V_2924,292.402 {115},Y_3600,ppm, -.0001,.0001,36.66, -.0001, -.0002
W_2397,239.709 {140},Y_2243,ppm, .0133,.0169,126.6, .0253, .0014
Zn2062,206.200 {463},In2306,ppm, .1563,.0010,.6529, .1555, .1570

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 250.63,.44774,.17865,250.95,250.32
In2306,230.606 {446},Cts/S, 14704.,115.06,.78250,14786.,14623.
Y_2243,224.306 {450},Cts/S, 22251.,161.54,.72600,22365.,22136.
Y_3600,360.073 { 94},Cts/S, 152130.,229.16,.15063,151970.,152290.
Y_3710,371.030 { 91},Cts/S, 13575.,17.462,.12863,13587.,13563.

[Sample Header]
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Repeats=2

[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0011,.0004,37.12, -.0008, -.0013
Al3082,308.215 {109},In2306,ppm, .0197,.0016,8.371, .0209, .0185
As1890,189.042 {478},Y_2243,ppm, .0014,.0001,8.876, .0015, .0013
B_2496,249.678 {135},Y_3710,ppm, .0111,.0019,17.05, .0098, .0125
Ba4554,455.403 { 74},Y_3710,ppm, .2167,.0012,.5652, .2159, .2176
Be3130,313.042 {108},Y_3710,ppm, .0002,.0001,32.89, .0001, .0002
Ca3158,315.887 {107},In2306,ppm, 65.77,.5738,.8724, 65.37, 66.18
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0001,162.5, -.0000, .0001
Co2286,228.616 {447},In2306,ppm, .0009,.0001,15.55, .0009, .0008
Cr2677,267.716 {126},Y_3600,ppm, .0007,.0002,26.67, .0008, .0006
Cu3247,324.754 {104},Y_3600,ppm, .0009,.0002,25.98, .0007, .0011
Fe2404,240.488 {140},In2306,ppm, .0099,.0068,68.83, .0147, .0051
K_7664,766.490 { 44},Y_3710,ppm, .2773,.0230,8.283, .2611, .2935
Li6707,670.784 { 50},Y_3710,ppm, .0018,.0004,20.24, .0016, .0021
Mg2790,279.079 {121},Y_3710,ppm, 1.898,.0195,1.027, 1.912, 1.884
Mn2576,257.610 {131},Y_3600,ppm, .1521,.0003,.1739, .1523, .1519
Mo2020,202.030 {467},Y_2243,ppm, .0005,.0001,25.10, .0006, .0004
Na5895,589.592 { 57},Y_3710,ppm, 135.0,.5214,.3862, 135.4, 134.6
Ni2316,231.604 {445},In2306,ppm, .0007,.0000,5.351, .0007, .0007
P_1782,178.284 {489},In2306,ppm, -.0013,.0006,44.54, -.0009, -.0017
Pb2203,220.353 {453},In2306,ppm, .0049,.0003,5.601, .0051, .0047
S_1820,182.034 {485},Y_2243,ppm, .1113,.0027,2.422, .1094, .1132
Sb2068,206.833 {463},Y_2243,ppm, .0013,.0024,178.0, -.0003, .0030
Se1960,196.090 {472},Y_2243,ppm, .0004,.0003,84.39, .0006, .0001
Si2516,251.611 {134},Y_3710,ppm, .1178,.0021,1.742, .1164, .1193
Sn1899,189.989 {477},In2306,ppm, .0002,.0001,34.33, .0003, .0002
Sr4215,421.552 { 80},Y_3710,ppm, .1452,.0009,.6328, .1445, .1458
Ti3349,334.904 {101},Y_3600,ppm, .0008,.0000,3.595, .0008, .0008
Tl1908,190.856 {477},In2306,ppm, .0120,.0003,2.152, .0122, .0118
U_3670,367.007 { 92},Y_3600,ppm, .0362,.0256,70.86, .0180, .0543
V_2924,292.402 {115},Y_3600,ppm, -.0000,.0001,202.0, .0000, -.0001
W_2397,239.709 {140},Y_2243,ppm, .0342,.0117,34.17, .0425, .0259
Zn2062,206.200 {463},In2306,ppm, .0309,.0001,.3164, .0308, .0309

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 247.09,2.1592,.87385,248.62,245.57
In2306,230.606 {446},Cts/S, 14405.,25.898,.17979,14386.,14423.
Y_2243,224.306 {450},Cts/S, 22088.,41.198,.18651,22059.,22118.
Y_3600,360.073 { 94},Cts/S, 150940.,231.09,.15310,150780.,151100.
Y_3710,371.030 { 91},Cts/S, 13599.,18.393,.13526,13586.,13612.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0009,.0001,15.87, -.0008, -.0010
Al3082,308.215 {109},In2306,ppm, -.0024,.0092,389.8, .0041, -.0088
As1890,189.042 {478},Y_2243,ppm, -.0009,.0009,101.0, -.0015, -.0003
B_2496,249.678 {135},Y_3710,ppm, .0026,.0025,95.42, .0043, .0008
Ba4554,455.403 { 74},Y_3710,ppm, -.0001,.0000,9.887, -.0001, -.0002
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,46.87, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, .0055,.0013,23.99, .0046, .0064
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0001,75.39, -.0000, -.0001
Co2286,228.616 {447},In2306,ppm, .0001,.0000,33.61, .0001, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0000,.0000,15.44, .0000, .0000
Cu3247,324.754 {104},Y_3600,ppm, .0007,.0003,46.01, .0005, .0010
Fe2404,240.488 {140},In2306,ppm, -.0079,.0043,55.05, -.0048, -.0109
K_7664,766.490 { 44},Y_3710,ppm, -.0050,.0048,96.91, -.0084, -.0016
Li6707,670.784 { 50},Y_3710,ppm, .0002,.0003,162.4, -.0000, .0003
Mg2790,279.079 {121},Y_3710,ppm, -.0159,.0299,188.0, .0052, -.0370
Mn2576,257.610 {131},Y_3600,ppm, .0000,.0000,38.59, .0001, .0000
Mo2020,202.030 {467},Y_2243,ppm, -.0003,.0003,95.31, -.0006, -.0001
Na5895,589.592 { 57},Y_3710,ppm, .1274,.0051,4.033, .1310, .1237
Ni2316,231.604 {445},In2306,ppm, .0001,.0003,288.9, -.0001, .0003
P_1782,178.284 {489},In2306,ppm, -.0004,.0018,467.0, -.0016, .0009
Pb2203,220.353 {453},In2306,ppm, -.0001,.0018,1526., -.0014, .0012
S_1820,182.034 {485},Y_2243,ppm, .0023,.0043,186.0, .0054, -.0007
Sb2068,206.833 {463},Y_2243,ppm, -.0008,.0004,50.74, -.0005, -.0010
Se1960,196.090 {472},Y_2243,ppm, .0006,.0013,221.3, .0015, -.0003
Si2516,251.611 {134},Y_3710,ppm, -.0052,.0057,108.7, -.0093, -.0012
Sn1899,189.989 {477},In2306,ppm, .0005,.0001,18.71, .0004, .0005
Sr4215,421.552 { 80},Y_3710,ppm, .0001,.0001,75.64, .0001, .0000
Ti3349,334.904 {101},Y_3600,ppm, .0001,.0001,117.5, .0002, .0000
Tl1908,190.856 {477},In2306,ppm, .0083,.0006,7.298, .0078, .0087
U_3670,367.007 { 92},Y_3600,ppm, -.0573,.0021,3.729, -.0558, -.0588
V_2924,292.402 {115},Y_3600,ppm, .0000,.0001,426.0, .0001, -.0000
W_2397,239.709 {140},Y_2243,ppm, .0205,.0209,101.9, .0057, .0352
Zn2062,206.200 {463},In2306,ppm, .0025,.0000,1.726, .0024, .0025

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 260.83,.34862,.13366,261.08,260.59
In2306,230.606 {446},Cts/S, 17032.,12.227,.07179,17040.,17023.
Y_2243,224.306 {450},Cts/S, 23628.,21.911,.09273,23613.,23644.
Y_3600,360.073 { 94},Cts/S, 165070.,507.49,.30745,164710.,165420.
Y_3710,371.030 { 91},Cts/S, 13938.,29.327,.21042,13958.,13917.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2536,.0002,.0913, .2538, .2534
Al3082,308.215 {109},In2306,ppm, 10.05,.1353,1.346, 9.956, 10.15
As1890,189.042 {478},Y_2243,ppm, 1.009,.0012,.1151, 1.010, 1.008
B_2496,249.678 {135},Y_3710,ppm, .4972,.0056,1.133, .4932, .5012
Ba4554,455.403 { 74},Y_3710,ppm, .9987,.0027,.2724, .9968, 1.001
Be3130,313.042 {108},Y_3710,ppm, 1.000,.0006,.0581, 1.000, 1.001
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Ca3158,315.887 {107},In2306,ppm, 9.949,.1159,1.165, 9.867, 10.03
Cd2288,228.802 {447},Y_2243,ppm, 1.023,.0019,.1814, 1.025, 1.022
Co2286,228.616 {447},In2306,ppm, .9627,.0033,.3415, .9650, .9604
Cr2677,267.716 {126},Y_3600,ppm, .9531,.0009,.0923, .9537, .9524
Cu3247,324.754 {104},Y_3600,ppm, .9647,.0018,.1890, .9659, .9634
Fe2404,240.488 {140},In2306,ppm, 10.07,.1295,1.287, 9.976, 10.16
K_7664,766.490 { 44},Y_3710,ppm, 9.887,.0383,.3875, 9.915, 9.860
Li6707,670.784 { 50},Y_3710,ppm, .9936,.0014,.1413, .9946, .9926
Mg2790,279.079 {121},Y_3710,ppm, 10.05,.0709,.7048, 10.00, 10.10
Mn2576,257.610 {131},Y_3600,ppm, .9985,.0002,.0230, .9987, .9983
Mo2020,202.030 {467},Y_2243,ppm, 1.035,.0001,.0068, 1.035, 1.035
Na5895,589.592 { 57},Y_3710,ppm, 10.25,.0015,.0145, 10.25, 10.25
Ni2316,231.604 {445},In2306,ppm, .9871,.0033,.3363, .9895, .9848
P_1782,178.284 {489},In2306,ppm, 5.012,.0103,.2046, 5.020, 5.005
Pb2203,220.353 {453},In2306,ppm, .9803,.0019,.1900, .9816, .9790
S_1820,182.034 {485},Y_2243,ppm, 5.237,.0089,.1693, 5.231, 5.243
Sb2068,206.833 {463},Y_2243,ppm, 1.627,.0087,.5326, 1.621, 1.633
Se1960,196.090 {472},Y_2243,ppm, 1.006,.0045,.4456, 1.003, 1.010
Si2516,251.611 {134},Y_3710,ppm, 8.464,.0581,.6870, 8.423, 8.505
Sn1899,189.989 {477},In2306,ppm, .9585,.0040,.4170, .9613, .9557
Sr4215,421.552 { 80},Y_3710,ppm, .9971,.0019,.1945, .9957, .9984
Ti3349,334.904 {101},Y_3600,ppm, .9968,.0023,.2328, .9984, .9951
Tl1908,190.856 {477},In2306,ppm, .8820,.0021,.2403, .8805, .8835
U_3670,367.007 { 92},Y_3600,ppm, .4152,.0693,16.68, .3663, .4642
V_2924,292.402 {115},Y_3600,ppm, .9889,.0006,.0599, .9893, .9885
W_2397,239.709 {140},Y_2243,ppm, .4635,.0220,4.749, .4791, .4480
Zn2062,206.200 {463},In2306,ppm, .4881,.0031,.6250, .4903, .4860

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 256.23,2.6256,1.0247,258.08,254.37
In2306,230.606 {446},Cts/S, 15630.,31.654,.20252,15652.,15608.
Y_2243,224.306 {450},Cts/S, 22908.,78.240,.34154,22964.,22853.
Y_3600,360.073 { 94},Cts/S, 160970.,171.65,.10663,161090.,160850.
Y_3710,371.030 { 91},Cts/S, 14059.,.45267,.00322,14058.,14059.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0011,.0001,13.58, -.0012, -.0010
Al3082,308.215 {109},In2306,ppm, .0783,.0189,24.07, .0916, .0650
As1890,189.042 {478},Y_2243,ppm, .0014,.0012,88.39, .0023, .0005
B_2496,249.678 {135},Y_3710,ppm, .1967,.0005,.2503, .1964, .1971
Ba4554,455.403 { 74},Y_3710,ppm, .2979,.0003,.1095, .2977, .2981
Be3130,313.042 {108},Y_3710,ppm, .0002,.0001,49.75, .0002, .0001
Ca3158,315.887 {107},In2306,ppm, 55.44,.0904,.1631, 55.38, 55.50
Cd2288,228.802 {447},Y_2243,ppm, .0004,.0001,33.85, .0003, .0005
Co2286,228.616 {447},In2306,ppm, .0008,.0002,28.74, .0007, .0010
Cr2677,267.716 {126},Y_3600,ppm, .0005,.0000,6.777, .0005, .0005
Cu3247,324.754 {104},Y_3600,ppm, .0029,.0004,12.72, .0027, .0032
Fe2404,240.488 {140},In2306,ppm, .1382,.0012,.8993, .1390, .1373
K_7664,766.490 { 44},Y_3710,ppm, 12.69,.0578,.4557, 12.65, 12.73
Li6707,670.784 { 50},Y_3710,ppm, .0108,.0006,5.104, .0112, .0104
Mg2790,279.079 {121},Y_3710,ppm, 31.70,.0026,.0084, 31.70, 31.69
Mn2576,257.610 {131},Y_3600,ppm, .0287,.0000,.0839, .0287, .0287
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Mo2020,202.030 {467},Y_2243,ppm, .0113,.0000,.1637, .0113, .0113
Na5895,589.592 { 57},Y_3710,ppm, 341.4,2.582,.7562, 339.6, 343.2
Ni2316,231.604 {445},In2306,ppm, .0017,.0000,.4764, .0017, .0017
P_1782,178.284 {489},In2306,ppm, .0112,.0008,6.980, .0118, .0107
Pb2203,220.353 {453},In2306,ppm, -.0008,.0021,264.8, .0007, -.0023
S_1820,182.034 {485},Y_2243,ppm, 19.04,.0369,.1940, 19.07, 19.02
Sb2068,206.833 {463},Y_2243,ppm, .0027,.0005,20.38, .0023, .0030
Se1960,196.090 {472},Y_2243,ppm, .0028,.0010,36.28, .0035, .0021
Si2516,251.611 {134},Y_3710,ppm, 2.220,.0320,1.444, 2.197, 2.242
Sn1899,189.989 {477},In2306,ppm, .0001,.0002,115.7, .0000, .0002
Sr4215,421.552 { 80},Y_3710,ppm, .4901,.0014,.2803, .4892, .4911
Ti3349,334.904 {101},Y_3600,ppm, .0011,.0006,49.55, .0007, .0015
Tl1908,190.856 {477},In2306,ppm, .0261,.0014,5.356, .0251, .0270
U_3670,367.007 { 92},Y_3600,ppm, .1033,.0550,53.25, .0644, .1422
V_2924,292.402 {115},Y_3600,ppm, .0034,.0001,3.015, .0034, .0033
W_2397,239.709 {140},Y_2243,ppm, .0316,.0028,8.810, .0296, .0336
Zn2062,206.200 {463},In2306,ppm, .0338,.0001,.2066, .0339, .0338

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 247.07,.59865,.24230,247.49,246.65
In2306,230.606 {446},Cts/S, 13416.,43.408,.32357,13385.,13446.
Y_2243,224.306 {450},Cts/S, 20965.,105.03,.50095,20891.,21039.
Y_3600,360.073 { 94},Cts/S, 145640.,640.83,.44002,145180.,146090.
Y_3710,371.030 { 91},Cts/S, 13562.,66.585,.49096,13609.,13515.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .4954,.0010,.2061, .4961, .4947
Al3082,308.215 {109},In2306,ppm, 19.46,.1463,.7516, 19.36, 19.57
As1890,189.042 {478},Y_2243,ppm, 1.002,.0030,.3038, .9999, 1.004
B_2496,249.678 {135},Y_3710,ppm, .9555,.0061,.6394, .9598, .9512
Ba4554,455.403 { 74},Y_3710,ppm, .9902,.0020,.2016, .9888, .9916
Be3130,313.042 {108},Y_3710,ppm, 1.008,.0001,.0070, 1.008, 1.008
Ca3158,315.887 {107},In2306,ppm, 19.33,.1008,.5214, 19.26, 19.40
Cd2288,228.802 {447},Y_2243,ppm, 1.012,.0005,.0481, 1.013, 1.012
Co2286,228.616 {447},In2306,ppm, .9731,.0010,.1015, .9738, .9724
Cr2677,267.716 {126},Y_3600,ppm, .9442,.0013,.1380, .9433, .9451
Cu3247,324.754 {104},Y_3600,ppm, .9509,.0028,.2966, .9489, .9529
Fe2404,240.488 {140},In2306,ppm, 19.45,.1244,.6397, 19.36, 19.54
K_7664,766.490 { 44},Y_3710,ppm, 19.35,.0176,.0909, 19.36, 19.34
Li6707,670.784 { 50},Y_3710,ppm, .9833,.0002,.0251, .9832, .9835
Mg2790,279.079 {121},Y_3710,ppm, 19.39,.0623,.3210, 19.35, 19.44
Mn2576,257.610 {131},Y_3600,ppm, .9831,.0014,.1465, .9841, .9821
Mo2020,202.030 {467},Y_2243,ppm, 1.020,.0012,.1164, 1.021, 1.019
Na5895,589.592 { 57},Y_3710,ppm, 19.79,.0035,.0178, 19.80, 19.79
Ni2316,231.604 {445},In2306,ppm, .9950,.0008,.0808, .9955, .9944
P_1782,178.284 {489},In2306,ppm, 9.955,.0137,.1379, 9.965, 9.946
Pb2203,220.353 {453},In2306,ppm, .9878,.0012,.1211, .9870, .9887
S_1820,182.034 {485},Y_2243,ppm, 10.18,.0204,.2005, 10.20, 10.17
Sb2068,206.833 {463},Y_2243,ppm, 2.105,.0079,.3752, 2.110, 2.099
Se1960,196.090 {472},Y_2243,ppm, 1.005,.0033,.3258, 1.007, 1.002
Si2516,251.611 {134},Y_3710,ppm, 9.417,.0198,.2106, 9.403, 9.431
Sn1899,189.989 {477},In2306,ppm, .9720,.0002,.0171, .9721, .9719
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Sr4215,421.552 { 80},Y_3710,ppm, .9903,.0016,.1641, .9892, .9915
Ti3349,334.904 {101},Y_3600,ppm, .9880,.0001,.0152, .9882, .9879
Tl1908,190.856 {477},In2306,ppm, 1.001,.0047,.4733, .9974, 1.004
U_3670,367.007 { 92},Y_3600,ppm, .8705,.0546,6.267, .9091, .8319
V_2924,292.402 {115},Y_3600,ppm, .9791,.0009,.0964, .9785, .9798
W_2397,239.709 {140},Y_2243,ppm, .9637,.0077,.7953, .9583, .9691
Zn2062,206.200 {463},In2306,ppm, .9790,.0001,.0086, .9790, .9789

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 250.73,.23608,.09415,250.90,250.56
In2306,230.606 {446},Cts/S, 15140.,.23822,.00157,15140.,15140.
Y_2243,224.306 {450},Cts/S, 22860.,12.783,.05592,22851.,22869.
Y_3600,360.073 { 94},Cts/S, 158660.,94.590,.05962,158590.,158730.
Y_3710,371.030 { 91},Cts/S, 13759.,74.614,.54229,13706.,13812.

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Ag3280,328.068 {103},Y_3600,ppm, .0826,.0062,7.518, .0870, .0782
Al3082,308.215 {109},In2306,ppm, .9930,.0078,.7904, .9986, .9875
As1890,189.042 {478},Y_2243,ppm, .0305,.0002,.8198, .0303, .0306
B_2496,249.678 {135},Y_3710,ppm, .1947,.0062,3.198, .1903, .1991
Ba4554,455.403 { 74},Y_3710,ppm, .0304,.0004,1.206, .0302, .0307
Be3130,313.042 {108},Y_3710,ppm, .0311,.0001,.2613, .0311, .0312
Ca3158,315.887 {107},In2306,ppm, .9950,.0038,.3794, .9923, .9976
Cd2288,228.802 {447},Y_2243,ppm, .0310,.0002,.5349, .0311, .0309
Co2286,228.616 {447},In2306,ppm, .0290,.0001,.3283, .0290, .0291
Cr2677,267.716 {126},Y_3600,ppm, .0282,.0019,6.727, .0295, .0269
Cu3247,324.754 {104},Y_3600,ppm, .0289,.0016,5.702, .0301, .0278
Fe2404,240.488 {140},In2306,ppm, .9900,.0022,.2270, .9884, .9916
K_7664,766.490 { 44},Y_3710,ppm, .9937,.0082,.8288, .9878, .9995
Li6707,670.784 { 50},Y_3710,ppm, .0302,.0010,3.183, .0309, .0295
Mg2790,279.079 {121},Y_3710,ppm, 1.012,.0069,.6841, 1.007, 1.017
Mn2576,257.610 {131},Y_3600,ppm, .0294,.0021,7.003, .0308, .0279
Mo2020,202.030 {467},Y_2243,ppm, .0318,.0001,.3820, .0318, .0317
Na5895,589.592 { 57},Y_3710,ppm, 1.078,.0004,.0379, 1.078, 1.078
Ni2316,231.604 {445},In2306,ppm, .0292,.0002,.5858, .0290, .0293
P_1782,178.284 {489},In2306,ppm, 1.879,.0025,.1346, 1.881, 1.878
Pb2203,220.353 {453},In2306,ppm, .0299,.0010,3.212, .0292, .0306
S_1820,182.034 {485},Y_2243,ppm, 1.957,.0104,.5290, 1.965, 1.950
Sb2068,206.833 {463},Y_2243,ppm, .2388,.0023,.9740, .2371, .2404
Se1960,196.090 {472},Y_2243,ppm, .0330,.0001,.4178, .0329, .0331
Si2516,251.611 {134},Y_3710,ppm, .3061,.0128,4.173, .2971, .3151
Sn1899,189.989 {477},In2306,ppm, .0285,.0005,1.926, .0282, .0289
Sr4215,421.552 { 80},Y_3710,ppm, .0307,.0000,.0183, .0307, .0307
Ti3349,334.904 {101},Y_3600,ppm, .0290,.0021,7.272, .0305, .0276
Tl1908,190.856 {477},In2306,ppm, .0303,.0012,4.009, .0312, .0295
U_3670,367.007 { 92},Y_3600,ppm, .1144,.0348,30.44, .1390, .0898
V_2924,292.402 {115},Y_3600,ppm, .0283,.0017,5.840, .0294, .0271
W_2397,239.709 {140},Y_2243,ppm, .2270,.0044,1.955, .2239, .2302
Zn2062,206.200 {463},In2306,ppm, .1855,.0004,.2355, .1858, .1852

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
```

```
In2306,230.606 {146},Cts/S, 256.68,2.6889,1.0476,254.77,258.58
In2306,230.606 {446},Cts/S, 16807.,10.482,.06237,16799.,16814.
Y_2243,224.306 {450},Cts/S, 23624.,39.941,.16907,23596.,23652.
Y_3600,360.073 { 94},Cts/S, 171870.,9141.1,5.3187,165400.,178330.
Y_3710,371.030 { 91},Cts/S, 13875.,54.530,.39300,13914.,13837.

[Sample Header]
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Mode=CONC
CorrFactor=1.000
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0001,.0004,561.3, .0004, -.0002
Al3082,308.215 {109},In2306,ppm, -.0142,.0148,103.7, -.0247, -.0038
As1890,189.042 {478},Y_2243,ppm, .0002,.0002,143.8, .0003, -.0000
B_2496,249.678 {135},Y_3710,ppm, .0015,.0002,14.52, .0013, .0016
Ba4554,455.403 { 74},Y_3710,ppm, -.0002,.0001,35.59, -.0003, -.0002
Be3130,313.042 {108},Y_3710,ppm, .0002,.0002,67.63, .0001, .0003
Ca3158,315.887 {107},In2306,ppm, -.0003,.0039,1450., -.0030, .0025
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0000,27.12, -.0001, -.0000
Co2286,228.616 {447},In2306,ppm, .0001,.0001,124.5, .0002, .0000
Cr2677,267.716 {126},Y_3600,ppm, .0001,.0001,135.1, .0002, .0000
Cu3247,324.754 {104},Y_3600,ppm, .0009,.0000,1.983, .0009, .0009
Fe2404,240.488 {140},In2306,ppm, -.0096,.0023,23.70, -.0112, -.0080
K_7664,766.490 { 44},Y_3710,ppm, -.0145,.0049,33.89, -.0179, -.0110
Li6707,670.784 { 50},Y_3710,ppm, -.0001,.0002,290.6, -.0002, .0001
Mg2790,279.079 {121},Y_3710,ppm, -.0032,.0167,521.3, -.0150, .0086
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,13.69, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, -.0001,.0001,107.9, -.0001, -.0000
Na5895,589.592 { 57},Y_3710,ppm, .0595,.0035,5.927, .0570, .0620
Ni2316,231.604 {445},In2306,ppm, .0001,.0003,418.4, -.0001, .0003
P_1782,178.284 {489},In2306,ppm, -.0014,.0003,20.82, -.0012, -.0016
Pb2203,220.353 {453},In2306,ppm, .0004,.0015,377.2, -.0007, .0015
S_1820,182.034 {485},Y_2243,ppm, -.0117,.0003,2.607, -.0115, -.0119
Sb2068,206.833 {463},Y_2243,ppm, .0015,.0001,6.353, .0016, .0014
Se1960,196.090 {472},Y_2243,ppm, .0002,.0002,137.5, .0003, .0000
Si2516,251.611 {134},Y_3710,ppm, -.0031,.0086,275.9, .0030, -.0092
Sn1899,189.989 {477},In2306,ppm, -.0003,.0000,2.288, -.0003, -.0003
Sr4215,421.552 { 80},Y_3710,ppm, .0000,.0000,45.99, .0001, .0000
Ti3349,334.904 {101},Y_3600,ppm, .0003,.0000,3.787, .0003, .0003
Tl1908,190.856 {477},In2306,ppm, .0058,.0020,34.94, .0072, .0044
U_3670,367.007 { 92},Y_3600,ppm, -.0677,.0306,45.25, -.0893, -.0460
V_2924,292.402 {115},Y_3600,ppm, -.0001,.0000,18.01, -.0001, -.0001
W_2397,239.709 {140},Y_2243,ppm, .0057,.0210,368.9, .0206, -.0092
Zn2062,206.200 {463},In2306,ppm, -.0012,.0001,5.461, -.0012, -.0011

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 260.96,2.3271,.89174,262.61,259.31
In2306,230.606 {446},Cts/S, 17044.,36.311,.21304,17018.,17070.
Y_2243,224.306 {450},Cts/S, 23668.,66.666,.28167,23621.,23715.
Y_3600,360.073 { 94},Cts/S, 164090.,799.81,.48743,164650.,163520.
Y_3710,371.030 { 91},Cts/S, 13753.,154.81,1.1257,13862.,13643.

[Sample Header]
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Username=admin
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Custom ID2=
Custom ID3=
Run Time=11/19/2019 11:12:55
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Mode=CONC
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0006,.0000,7.735, -.0005, -.0006
Al3082,308.215 {109},In2306,ppm, 166.3,1.680,1.010, 165.1, 167.5
As1890,189.042 {478},Y_2243,ppm, .3768,.0064,1.688, .3723, .3813
B_2496,249.678 {135},Y_3710,ppm, .4483,.0083,1.853, .4424, .4542
Ba4554,455.403 { 74},Y_3710,ppm, 7.812,.0677,.8662, 7.765, 7.860
Be3130,313.042 {108},Y_3710,ppm, .0061,.0000,.0427, .0061, .0061
Ca3158,315.887 {107},In2306,ppm, 229.7,1.505,.6554, 228.6, 230.8
Cd2288,228.802 {447},Y_2243,ppm, .0111,.0001,.6037, .0112, .0111
Co2286,228.616 {447},In2306,ppm, .1245,.0008,.6555, .1240, .1251
Cr2677,267.716 {126},Y_3600,ppm, .4085,.0009,.2299, .4079, .4092
Cu3247,324.754 {104},Y_3600,ppm, 3.359,.0222,.6596, 3.343, 3.375
Fe2404,240.488 {140},In2306,ppm, 242.4,1.311,.5410, 241.5, 243.4
K_7664,766.490 { 44},Y_3710,ppm, 6.775,.0656,.9689, 6.728, 6.821
Li6707,670.784 { 50},Y_3710,ppm, .0906,.0005,.5585, .0902, .0910
Mg2790,279.079 {121},Y_3710,ppm, 45.80,.1503,.3282, 45.69, 45.90
Mn2576,257.610 {131},Y_3600,ppm, 1.105,.0027,.2425, 1.103, 1.107
Mo2020,202.030 {467},Y_2243,ppm, .7952,.0049,.6100, .7918, .7986
Na5895,589.592 { 57},Y_3710,ppm, 14.30,.1155,.8075, 14.22, 14.39
Ni2316,231.604 {445},In2306,ppm, .1828,.0017,.9202, .1817, .1840
P_1782,178.284 {489},In2306,ppm, 5.843,.0414,.7094, 5.813, 5.872
Pb2203,220.353 {453},In2306,ppm, .4133,.0013,.3050, .4125, .4142
S_1820,182.034 {485},Y_2243,ppm, 4.873,.0412,.8447, 4.844, 4.903
Sb2068,206.833 {463},Y_2243,ppm, .0322,.0038,11.88, .0349, .0295
Se1960,196.090 {472},Y_2243,ppm, -.0007,.0005,62.30, -.0010, -.0004
Si2516,251.611 {134},Y_3710,ppm, .9943,.0112,1.130, .9863, 1.002
Sn1899,189.989 {477},In2306,ppm, .6407,.0033,.5176, .6384, .6430
Sr4215,421.552 { 80},Y_3710,ppm, 3.631,.0333,.9166, 3.607, 3.654
Ti3349,334.904 {101},Y_3600,ppm, 7.368,.0300,.4070, 7.347, 7.389
Tl1908,190.856 {477},In2306,ppm, -.0016,.0057,358.1, .0025, -.0057
U_3670,367.007 { 92},Y_3600,ppm, 1.322,.0051,.3858, 1.326, 1.318
V_2924,292.402 {115},Y_3600,ppm, .2815,.0017,.6080, .2803, .2828
W_2397,239.709 {140},Y_2243,ppm, .0256,.0248,96.88, .0081, .0431
Zn2062,206.200 {463},In2306,ppm, 5.145,.0234,.4558, 5.128, 5.161

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 239.87,.40422,.16852,239.58,240.15
In2306,230.606 {446},Cts/S, 13491.,14.348,.10635,13481.,13501.
Y_2243,224.306 {450},Cts/S, 22449.,37.886,.16876,22423.,22476.
Y_3600,360.073 { 94},Cts/S, 155490.,451.46,.29035,155810.,155170.
Y_3710,371.030 { 91},Cts/S, 13934.,3.9803,.02857,13931.,13937.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0005,.0003,65.97, -.0008, -.0003
Al3082,308.215 {109},In2306,ppm, 167.3,1.418,.8477, 166.3, 168.3
As1890,189.042 {478},Y_2243,ppm, .3834,.0047,1.237, .3868, .3801
B_2496,249.678 {135},Y_3710,ppm, .4593,.0002,.0387, .4592, .4594
Ba4554,455.403 { 74},Y_3710,ppm, 7.934,.0455,.5735, 7.902, 7.967
Be3130,313.042 {108},Y_3710,ppm, .0063,.0000,.1970, .0063, .0063
Ca3158,315.887 {107},In2306,ppm, 229.6,1.774,.7724, 228.3, 230.9
Cd2288,228.802 {447},Y_2243,ppm, .0115,.0002,1.349, .0116, .0114
Co2286,228.616 {447},In2306,ppm, .1278,.0008,.6115, .1283, .1272
Cr2677,267.716 {126},Y_3600,ppm, .4234,.0023,.5542, .4251, .4218
Cu3247,324.754 {104},Y_3600,ppm, 3.207,.0144,.4482, 3.217, 3.197
Fe2404,240.488 {140},In2306,ppm, 245.0,1.944,.7935, 243.6, 246.4
K_7664,766.490 { 44},Y_3710,ppm, 7.092,.0462,.6514, 7.059, 7.124
Li6707,670.784 { 50},Y_3710,ppm, .0914,.0007,.7178, .0910, .0919
Mg2790,279.079 {121},Y_3710,ppm, 45.96,.0012,.0025, 45.96, 45.96
Mn2576,257.610 {131},Y_3600,ppm, 1.104,.0036,.3273, 1.106, 1.101
Mo2020,202.030 {467},Y_2243,ppm, .8442,.0028,.3323, .8461, .8422
Na5895,589.592 { 57},Y_3710,ppm, 14.60,.0746,.5112, 14.55, 14.65
Ni2316,231.604 {445},In2306,ppm, .1702,.0010,.5874, .1710, .1695
P_1782,178.284 {489},In2306,ppm, 5.791,.0085,.1466, 5.797, 5.785
Pb2203,220.353 {453},In2306,ppm, .4187,.0034,.8169, .4211, .4163
S_1820,182.034 {485},Y_2243,ppm, 4.584,.0350,.7628, 4.609, 4.559
Sb2068,206.833 {463},Y_2243,ppm, .0415,.0036,8.587, .0390, .0440
Se1960,196.090 {472},Y_2243,ppm, .0008,.0016,203.8, -.0003, .0019
Si2516,251.611 {134},Y_3710,ppm, .8676,.0017,.1929, .8664, .8688
Sn1899,189.989 {477},In2306,ppm, .6658,.0050,.7530, .6693, .6622
Sr4215,421.552 { 80},Y_3710,ppm, 3.682,.0206,.5594, 3.668, 3.697
Ti3349,334.904 {101},Y_3600,ppm, 7.413,.0138,.1860, 7.423, 7.403
Tl1908,190.856 {477},In2306,ppm, .0000,.0053,18390., .0038, -.0037
U_3670,367.007 { 92},Y_3600,ppm, 1.319,.0312,2.368, 1.297, 1.341
V_2924,292.402 {115},Y_3600,ppm, .2836,.0012,.4187, .2845, .2828
W_2397,239.709 {140},Y_2243,ppm, .0400,.0011,2.785, .0408, .0392
Zn2062,206.200 {463},In2306,ppm, 5.346,.0261,.4883, 5.364, 5.327

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 241.66,1.1728,.48528,242.49,240.84
In2306,230.606 {446},Cts/S, 13513.,29.632,.21929,13534.,13492.
Y_2243,224.306 {450},Cts/S, 22445.,76.174,.33937,22499.,22392.
Y_3600,360.073 { 94},Cts/S, 155350.,692.19,.44558,154860.,155840.
Y_3710,371.030 { 91},Cts/S, 13903.,38.232,.27499,13930.,13876.

[Sample Header]
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Custom ID3=
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0248,.0000,.1561, .0248, .0248
Al3082,308.215 {109},In2306,ppm, 176.8,2.980,1.686, 174.7, 178.9
As1890,189.042 {478},Y_2243,ppm, .5383,.0046,.8634, .5350, .5416
B_2496,249.678 {135},Y_3710,ppm, .5428,.0083,1.527, .5370, .5487
Ba4554,455.403 { 74},Y_3710,ppm, 8.241,.0385,.4676, 8.214, 8.269
Be3130,313.042 {108},Y_3710,ppm, .1050,.0018,1.686, .1038, .1063
Ca3158,315.887 {107},In2306,ppm, 238.9,4.571,1.913, 235.7, 242.1
Cd2288,228.802 {447},Y_2243,ppm, .1196,.0006,.4804, .1192, .1200
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Co2286,228.616 {447},In2306,ppm, .2473,.0006,.2345, .2469, .2478
Cr2677,267.716 {126},Y_3600,ppm, .5421,.0022,.4100, .5405, .5437
Cu3247,324.754 {104},Y_3600,ppm, 3.746,.0333,.8876, 3.723, 3.770
Fe2404,240.488 {140},In2306,ppm, 265.3,5.346,2.015, 261.5, 269.0
K_7664,766.490 { 44},Y_3710,ppm, 8.671,.0553,.6380, 8.632, 8.710
Li6707,670.784 { 50},Y_3710,ppm, .1984,.0012,.6072, .1975, .1992
Mg2790,279.079 {121},Y_3710,ppm, 48.01,.7873,1.640, 47.46, 48.57
Mn2576,257.610 {131},Y_3600,ppm, 1.290,.0040,.3098, 1.287, 1.293
Mo2020,202.030 {467},Y_2243,ppm, 1.018,.0050,.4934, 1.015, 1.022
Na5895,589.592 { 57},Y_3710,ppm, 16.15,.1406,.8702, 16.05, 16.25
Ni2316,231.604 {445},In2306,ppm, .3021,.0019,.6307, .3007, .3034
P_1782,178.284 {489},In2306,ppm, 6.793,.0180,.2654, 6.780, 6.806
Pb2203,220.353 {453},In2306,ppm, .5817,.0022,.3814, .5801, .5832
S_1820,182.034 {485},Y_2243,ppm, 5.805,.0001,.0023, 5.805, 5.805
Sb2068,206.833 {463},Y_2243,ppm, .0664,.0063,9.504, .0708, .0619
Se1960,196.090 {472},Y_2243,ppm, .0964,.0004,.4351, .0961, .0967
Si2516,251.611 {134},Y_3710,ppm, 1.068,.0075,.7019, 1.062, 1.073
Sn1899,189.989 {477},In2306,ppm, .8194,.0033,.4062, .8171, .8218
Sr4215,421.552 { 80},Y_3710,ppm, 3.887,.0270,.6955, 3.868, 3.907
Ti3349,334.904 {101},Y_3600,ppm, 9.134,.0487,.5334, 9.100, 9.169
Tl1908,190.856 {477},In2306,ppm, .0766,.0015,1.949, .0755, .0776
U_3670,367.007 { 92},Y_3600,ppm, 1.549,.0325,2.101, 1.526, 1.572
V_2924,292.402 {115},Y_3600,ppm, .3953,.0021,.5396, .3937, .3968
W_2397,239.709 {140},Y_2243,ppm, .0068,.0631,928.7, -.0378, .0514
Zn2062,206.200 {463},In2306,ppm, 5.876,.0326,.5550, 5.852, 5.899

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 239.83,1.6069,.67003,240.96,238.69
In2306,230.606 {446},Cts/S, 13331.,62.695,.47028,13376.,13287.
Y_2243,224.306 {450},Cts/S, 22284.,91.932,.41255,22349.,22219.
Y_3600,360.073 { 94},Cts/S, 155200.,16.825,.01084,155190.,155210.
Y_3710,371.030 { 91},Cts/S, 13920.,17.884,.12847,13933.,13908.

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Custom ID2=
Custom ID3=
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Sample Type=Unk
Mode=CONC
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0002,.0001,78.66, -.0001, -.0003
Al3082,308.215 {109},In2306,ppm, .8233,.0091,1.103, .8297, .8169
As1890,189.042 {478},Y_2243,ppm, -.0187,.0013,7.137, -.0178, -.0196
B_2496,249.678 {135},Y_3710,ppm, .0051,.0067,131.4, .0004, .0098
Ba4554,455.403 { 74},Y_3710,ppm, .0237,.0001,.5416, .0236, .0238
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,102.4, .0001, .0000
Ca3158,315.887 {107},In2306,ppm, 1.848,.0354,1.914, 1.823, 1.873
Cd2288,228.802 {447},Y_2243,ppm, .0108,.0002,2.042, .0106, .0109
Co2286,228.616 {447},In2306,ppm, .0755,.0007,.8624, .0751, .0760
Cr2677,267.716 {126},Y_3600,ppm, .5870,.0061,1.044, .5826, .5913
Cu3247,324.754 {104},Y_3600,ppm, .8606,.0056,.6543, .8566, .8646
Fe2404,240.488 {140},In2306,ppm, 831.9,14.49,1.742, 821.6, 842.1
K_7664,766.490 { 44},Y_3710,ppm, .6946,.0161,2.323, .7060, .6832
Li6707,670.784 { 50},Y_3710,ppm, .0044,.0001,2.250, .0044, .0043
Mg2790,279.079 {121},Y_3710,ppm, .4146,.0139,3.340, .4049, .4244
Mn2576,257.610 {131},Y_3600,ppm, 7.402,.0248,.3356, 7.384, 7.419
Mo2020,202.030 {467},Y_2243,ppm, .0888,.0009,1.013, .0882, .0894
Na5895,589.592 { 57},Y_3710,ppm, .5015,.0045,.8981, .5047, .4983
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Ni2316,231.604 {445},In2306,ppm, .4669,.0042,.9035, .4639, .4698
P_1782,178.284 {489},In2306,ppm, .4688,.0028,.6073, .4668, .4709
Pb2203,220.353 {453},In2306,ppm, .0235,.0002,.9701, .0233, .0237
S_1820,182.034 {485},Y_2243,ppm, 830.0,5.337,.6430, 826.3, 833.8
Sb2068,206.833 {463},Y_2243,ppm, .0255,.0024,9.242, .0272, .0239
Se1960,196.090 {472},Y_2243,ppm, 8.313,.0751,.9037, 8.260, 8.366
Si2516,251.611 {134},Y_3710,ppm, .2396,.0081,3.379, .2339, .2453
Sn1899,189.989 {477},In2306,ppm, .0136,.0006,4.542, .0131, .0140
Sr4215,421.552 { 80},Y_3710,ppm, .0107,.0001,.6274, .0107, .0106
Ti3349,334.904 {101},Y_3600,ppm, .6367,.0050,.7903, .6331, .6402
Tl1908,190.856 {477},In2306,ppm, .0233,.0037,15.82, .0207, .0259
U_3670,367.007 { 92},Y_3600,ppm, 4.731,.0769,1.626, 4.676, 4.785
V_2924,292.402 {115},Y_3600,ppm, .0180,.0001,.3886, .0180, .0179
W_2397,239.709 {140},Y_2243,ppm, -.0645,.0165,25.61, -.0528, -.0762
Zn2062,206.200 {463},In2306,ppm, .1425,.0016,1.123, .1414, .1437

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 252.69,1.6353,.64716,253.84,251.53
In2306,230.606 {446},Cts/S, 14852.,9.8341,.06621,14859.,14845.
Y_2243,224.306 {450},Cts/S, 21588.,24.756,.11468,21605.,21570.
Y_3600,360.073 { 94},Cts/S, 152730.,314.92,.20619,152510.,152950.
Y_3710,371.030 { 91},Cts/S, 13608.,11.100,.08157,13600.,13616.

[Sample Header]
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CorrFactor=1.000
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0000,.0003,1921., -.0002, .0002
Al3082,308.215 {109},In2306,ppm, .1373,.0156,11.34, .1263, .1484
As1890,189.042 {478},Y_2243,ppm, -.0137,.0037,26.78, -.0163, -.0111
B_2496,249.678 {135},Y_3710,ppm, .0039,.0012,31.60, .0048, .0031
Ba4554,455.403 { 74},Y_3710,ppm, .0219,.0002,1.016, .0217, .0220
Be3130,313.042 {108},Y_3710,ppm, .0002,.0001,27.04, .0002, .0003
Ca3158,315.887 {107},In2306,ppm, 1.289,.0184,1.429, 1.302, 1.276
Cd2288,228.802 {447},Y_2243,ppm, .0124,.0003,2.725, .0126, .0122
Co2286,228.616 {447},In2306,ppm, .0884,.0000,.0492, .0884, .0883
Cr2677,267.716 {126},Y_3600,ppm, .6958,.0028,.3994, .6938, .6978
Cu3247,324.754 {104},Y_3600,ppm, .9893,.0021,.2154, .9878, .9909
Fe2404,240.488 {140},In2306,ppm, 955.2,2.595,.2717, 953.3, 957.0
K_7664,766.490 { 44},Y_3710,ppm, .0954,.0037,3.848, .0980, .0928
Li6707,670.784 { 50},Y_3710,ppm, .0002,.0001,29.88, .0003, .0002
Mg2790,279.079 {121},Y_3710,ppm, .4967,.0329,6.619, .4734, .5199
Mn2576,257.610 {131},Y_3600,ppm, 8.475,.0552,.6517, 8.436, 8.514
Mo2020,202.030 {467},Y_2243,ppm, .1103,.0002,.1390, .1101, .1104
Na5895,589.592 { 57},Y_3710,ppm, .2377,.0021,.8893, .2392, .2362
Ni2316,231.604 {445},In2306,ppm, .5692,.0018,.3198, .5705, .5679
P_1782,178.284 {489},In2306,ppm, .5887,.0007,.1223, .5892, .5882
Pb2203,220.353 {453},In2306,ppm, .0154,.0035,22.88, .0129, .0179
S_1820,182.034 {485},Y_2243,ppm, 895.3,1.765,.1971, 896.5, 894.0
Sb2068,206.833 {463},Y_2243,ppm, .0303,.0027,8.818, .0321, .0284
Se1960,196.090 {472},Y_2243,ppm, 10.80,.0266,.2465, 10.82, 10.78
Si2516,251.611 {134},Y_3710,ppm, .1940,.0069,3.575, .1891, .1989
Sn1899,189.989 {477},In2306,ppm, .0161,.0004,2.278, .0164, .0159
Sr4215,421.552 { 80},Y_3710,ppm, .0132,.0000,.1606, .0132, .0132
Ti3349,334.904 {101},Y_3600,ppm, .0558,.0003,.5081, .0560, .0556
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Tl1908,190.856 {477},In2306,ppm, .0266,.0035,12.98, .0242, .0290
U_3670,367.007 { 92},Y_3600,ppm, 5.435,.1080,1.988, 5.511, 5.358
V_2924,292.402 {115},Y_3600,ppm, .0217,.0001,.3075, .0218, .0217
W_2397,239.709 {140},Y_2243,ppm, -.1037,.0014,1.358, -.1047, -.1027
Zn2062,206.200 {463},In2306,ppm, .3037,.0015,.4829, .3048, .3027

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 250.61,.78676,.31394,251.16,250.05
In2306,230.606 {446},Cts/S, 14828.,32.770,.22101,14805.,14851.
Y_2243,224.306 {450},Cts/S, 21555.,28.107,.13040,21535.,21575.
Y_3600,360.073 { 94},Cts/S, 152290.,285.84,.18769,152490.,152090.
Y_3710,371.030 { 91},Cts/S, 13459.,148.50,1.1033,13564.,13354.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0270,.0002,.8059, .0269, .0272
Al3082,308.215 {109},In2306,ppm, 1.314,.0262,1.992, 1.295, 1.332
As1890,189.042 {478},Y_2243,ppm, .1032,.0061,5.929, .0988, .1075
B_2496,249.678 {135},Y_3710,ppm, .0531,.0090,16.93, .0594, .0467
Ba4554,455.403 { 74},Y_3710,ppm, .0542,.0002,.3357, .0540, .0543
Be3130,313.042 {108},Y_3710,ppm, .1079,.0017,1.571, .1067, .1091
Ca3158,315.887 {107},In2306,ppm, 2.629,.0565,2.148, 2.589, 2.669
Cd2288,228.802 {447},Y_2243,ppm, .1290,.0010,.7955, .1283, .1297
Co2286,228.616 {447},In2306,ppm, .1869,.0012,.6532, .1860, .1877
Cr2677,267.716 {126},Y_3600,ppm, .7226,.0013,.1782, .7217, .7235
Cu3247,324.754 {104},Y_3600,ppm, 1.034,.0093,.8983, 1.028, 1.041
Fe2404,240.488 {140},In2306,ppm, 900.6,21.54,2.391, 885.4, 915.9
K_7664,766.490 { 44},Y_3710,ppm, 1.289,.0255,1.981, 1.307, 1.270
Li6707,670.784 { 50},Y_3710,ppm, .1109,.0007,.6063, .1104, .1114
Mg2790,279.079 {121},Y_3710,ppm, 1.631,.0016,.1001, 1.632, 1.630
Mn2576,257.610 {131},Y_3600,ppm, 7.849,.0616,.7852, 7.893, 7.805
Mo2020,202.030 {467},Y_2243,ppm, .2184,.0020,.8985, .2170, .2198
Na5895,589.592 { 57},Y_3710,ppm, 1.379,.0153,1.110, 1.368, 1.390
Ni2316,231.604 {445},In2306,ppm, .6199,.0030,.4777, .6178, .6220
P_1782,178.284 {489},In2306,ppm, 1.161,.0033,.2874, 1.159, 1.163
Pb2203,220.353 {453},In2306,ppm, .1065,.0001,.0752, .1065, .1064
S_1820,182.034 {485},Y_2243,ppm, 875.2,3.215,.3674, 873.0, 877.5
Sb2068,206.833 {463},Y_2243,ppm, .2054,.0026,1.287, .2036, .2073
Se1960,196.090 {472},Y_2243,ppm, 9.978,.0940,.9416, 9.912, 10.04
Si2516,251.611 {134},Y_3710,ppm, .7828,.0168,2.143, .7710, .7947
Sn1899,189.989 {477},In2306,ppm, .1149,.0008,.6611, .1144, .1155
Sr4215,421.552 { 80},Y_3710,ppm, .1192,.0012,.9787, .1183, .1200
Ti3349,334.904 {101},Y_3600,ppm, .2122,.0009,.4416, .2116, .2129
Tl1908,190.856 {477},In2306,ppm, .0974,.0006,.5861, .0978, .0970
U_3670,367.007 { 92},Y_3600,ppm, 5.081,.0533,1.049, 5.043, 5.119
V_2924,292.402 {115},Y_3600,ppm, .1255,.0015,1.234, .1244, .1266
W_2397,239.709 {140},Y_2243,ppm, -.0025,.0006,23.54, -.0021, -.0030
Zn2062,206.200 {463},In2306,ppm, .4819,.0005,.1052, .4822, .4815

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 248.17,2.6345,1.0616,250.03,246.31
In2306,230.606 {446},Cts/S, 14742.,49.925,.33865,14778.,14707.
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Y_2243,224.306 {450},Cts/S, 21384.,115.41,.53971,21465.,21302.
Y_3600,360.073 { 94},Cts/S, 153230.,298.55,.19484,153020.,153440.
Y_3710,371.030 { 91},Cts/S, 13418.,15.800,.11775,13407.,13429.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0006,.0003,52.94, -.0008, -.0004
Al3082,308.215 {109},In2306,ppm, .0153,.0001,.7170, .0153, .0154
As1890,189.042 {478},Y_2243,ppm, -.0003,.0001,43.37, -.0004, -.0002
B_2496,249.678 {135},Y_3710,ppm, .0298,.0056,18.94, .0258, .0338
Ba4554,455.403 { 74},Y_3710,ppm, .0133,.0001,.6526, .0133, .0134
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,80.61, .0000, .0001
Ca3158,315.887 {107},In2306,ppm, .2585,.0033,1.277, .2562, .2608
Cd2288,228.802 {447},Y_2243,ppm, .0134,.0002,1.756, .0136, .0132
Co2286,228.616 {447},In2306,ppm, -.0001,.0001,218.1, .0000, -.0001
Cr2677,267.716 {126},Y_3600,ppm, .0014,.0001,9.936, .0015, .0013
Cu3247,324.754 {104},Y_3600,ppm, .2394,.0013,.5267, .2403, .2385
Fe2404,240.488 {140},In2306,ppm, .5752,.0333,5.794, .5988, .5516
K_7664,766.490 { 44},Y_3710,ppm, .0196,.0169,86.33, .0076, .0316
Li6707,670.784 { 50},Y_3710,ppm, .0156,.0000,.1337, .0156, .0157
Mg2790,279.079 {121},Y_3710,ppm, .0226,.0162,71.84, .0111, .0341
Mn2576,257.610 {131},Y_3600,ppm, .0058,.0001,1.206, .0058, .0057
Mo2020,202.030 {467},Y_2243,ppm, .0782,.0017,2.130, .0794, .0770
Na5895,589.592 { 57},Y_3710,ppm, .0971,.0004,.3761, .0969, .0974
Ni2316,231.604 {445},In2306,ppm, .0087,.0002,2.503, .0089, .0086
P_1782,178.284 {489},In2306,ppm, .2694,.0061,2.260, .2737, .2651
Pb2203,220.353 {453},In2306,ppm, .0115,.0003,2.710, .0117, .0112
S_1820,182.034 {485},Y_2243,ppm, 7.357,.1414,1.922, 7.457, 7.257
Sb2068,206.833 {463},Y_2243,ppm, .0056,.0004,7.328, .0053, .0059
Se1960,196.090 {472},Y_2243,ppm, .0092,.0009,9.874, .0098, .0085
Si2516,251.611 {134},Y_3710,ppm, 1.908,.0392,2.053, 1.881, 1.936
Sn1899,189.989 {477},In2306,ppm, .0042,.0000,.8558, .0042, .0042
Sr4215,421.552 { 80},Y_3710,ppm, .0008,.0000,.8618, .0008, .0008
Ti3349,334.904 {101},Y_3600,ppm, .0015,.0001,5.015, .0015, .0016
Tl1908,190.856 {477},In2306,ppm, .0096,.0032,33.09, .0118, .0074
U_3670,367.007 { 92},Y_3600,ppm, .0439,.0665,151.4, .0909, -.0031
V_2924,292.402 {115},Y_3600,ppm, -.0009,.0001,6.982, -.0009, -.0008
W_2397,239.709 {140},Y_2243,ppm, .0823,.0075,9.154, .0876, .0770
Zn2062,206.200 {463},In2306,ppm, .2591,.0037,1.434, .2617, .2564

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 264.76,.91463,.34545,264.12,265.41
In2306,230.606 {446},Cts/S, 17356.,209.88,1.2092,17208.,17505.
Y_2243,224.306 {450},Cts/S, 23716.,332.06,1.4001,23482.,23951.
Y_3600,360.073 { 94},Cts/S, 168660.,296.21,.17563,168450.,168870.
Y_3710,371.030 { 91},Cts/S, 14290.,28.965,.20269,14311.,14270.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2466,.0011,.4402, .2458, .2474
Al3082,308.215 {109},In2306,ppm, 9.976,.0987,.9894, 10.05, 9.906
As1890,189.042 {478},Y_2243,ppm, 1.022,.0054,.5328, 1.026, 1.018
B_2496,249.678 {135},Y_3710,ppm, .5203,.0054,1.042, .5165, .5242
Ba4554,455.403 { 74},Y_3710,ppm, 1.001,.0044,.4366, .9983, 1.004
Be3130,313.042 {108},Y_3710,ppm, .9966,.0033,.3338, .9943, .9990
Ca3158,315.887 {107},In2306,ppm, 10.08,.0726,.7205, 10.13, 10.03
Cd2288,228.802 {447},Y_2243,ppm, 1.049,.0044,.4181, 1.052, 1.046
Co2286,228.616 {447},In2306,ppm, .9585,.0047,.4896, .9618, .9552
Cr2677,267.716 {126},Y_3600,ppm, .9308,.0002,.0164, .9309, .9306
Cu3247,324.754 {104},Y_3600,ppm, 1.223,.0007,.0605, 1.222, 1.223
Fe2404,240.488 {140},In2306,ppm, 10.51,.0984,.9368, 10.58, 10.44
K_7664,766.490 { 44},Y_3710,ppm, 10.02,.0564,.5627, 10.06, 9.978
Li6707,670.784 { 50},Y_3710,ppm, 1.017,.0047,.4581, 1.014, 1.021
Mg2790,279.079 {121},Y_3710,ppm, 9.981,.0301,.3012, 9.960, 10.00
Mn2576,257.610 {131},Y_3600,ppm, .9673,.0016,.1636, .9662, .9684
Mo2020,202.030 {467},Y_2243,ppm, 1.123,.0030,.2647, 1.125, 1.121
Na5895,589.592 { 57},Y_3710,ppm, 10.24,.0394,.3844, 10.21, 10.27
Ni2316,231.604 {445},In2306,ppm, .9918,.0038,.3787, .9945, .9892
P_1782,178.284 {489},In2306,ppm, 5.343,.0292,.5470, 5.364, 5.322
Pb2203,220.353 {453},In2306,ppm, .9962,.0004,.0403, .9959, .9964
S_1820,182.034 {485},Y_2243,ppm, 13.19,.0607,.4604, 13.24, 13.15
Sb2068,206.833 {463},Y_2243,ppm, 1.599,.0053,.3315, 1.603, 1.596
Se1960,196.090 {472},Y_2243,ppm, 1.032,.0013,.1271, 1.033, 1.031
Si2516,251.611 {134},Y_3710,ppm, 9.349,.0731,.7823, 9.297, 9.401
Sn1899,189.989 {477},In2306,ppm, .9403,.0046,.4886, .9436, .9371
Sr4215,421.552 { 80},Y_3710,ppm, .9915,.0039,.3952, .9887, .9943
Ti3349,334.904 {101},Y_3600,ppm, .9770,.0004,.0371, .9767, .9772
Tl1908,190.856 {477},In2306,ppm, .8964,.0024,.2723, .8947, .8981
U_3670,367.007 { 92},Y_3600,ppm, .5010,.0071,1.419, .4960, .5060
V_2924,292.402 {115},Y_3600,ppm, .9575,.0003,.0264, .9573, .9576
W_2397,239.709 {140},Y_2243,ppm, .4330,.0396,9.135, .4610, .4051
Zn2062,206.200 {463},In2306,ppm, .7692,.0039,.5071, .7720, .7665

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 256.33,2.8932,1.1287,254.28,258.37
In2306,230.606 {446},Cts/S, 15738.,114.91,.73016,15657.,15819.
Y_2243,224.306 {450},Cts/S, 22837.,149.28,.65367,22732.,22943.
Y_3600,360.073 { 94},Cts/S, 163460.,210.75,.12893,163610.,163310.
Y_3710,371.030 { 91},Cts/S, 14054.,.81535,.00580,14055.,14054.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
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Al3082,308.215 {109},In2306,ppm, .0171,.0121,70.80, .0257, .0085
As1890,189.042 {478},Y_2243,ppm, .0008,.0008,95.16, .0003, .0013
B_2496,249.678 {135},Y_3710,ppm, .0092,.0050,54.21, .0057, .0128
Ba4554,455.403 { 74},Y_3710,ppm, .0027,.0000,1.490, .0027, .0026
Be3130,313.042 {108},Y_3710,ppm, .0003,.0000,5.704, .0003, .0003
Ca3158,315.887 {107},In2306,ppm, .0494,.0033,6.739, .0518, .0470
Cd2288,228.802 {447},Y_2243,ppm, .0030,.0001,2.578, .0030, .0029
Co2286,228.616 {447},In2306,ppm, .0001,.0001,165.9, -.0000, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0003,.0002,65.45, .0002, .0005
Cu3247,324.754 {104},Y_3600,ppm, .0494,.0005,1.051, .0491, .0498
Fe2404,240.488 {140},In2306,ppm, .1062,.0099,9.349, .1132, .0991
K_7664,766.490 { 44},Y_3710,ppm, -.0171,.0027,15.52, -.0153, -.0190
Li6707,670.784 { 50},Y_3710,ppm, .0036,.0009,24.13, .0030, .0042
Mg2790,279.079 {121},Y_3710,ppm, -.0125,.0335,267.9, -.0361, .0112
Mn2576,257.610 {131},Y_3600,ppm, .0012,.0000,1.983, .0012, .0012
Mo2020,202.030 {467},Y_2243,ppm, .0172,.0001,.3581, .0172, .0173
Na5895,589.592 { 57},Y_3710,ppm, .0295,.0015,5.207, .0306, .0284
Ni2316,231.604 {445},In2306,ppm, .0017,.0000,2.148, .0018, .0017
P_1782,178.284 {489},In2306,ppm, .0581,.0007,1.126, .0586, .0576
Pb2203,220.353 {453},In2306,ppm, .0029,.0004,13.84, .0026, .0032
S_1820,182.034 {485},Y_2243,ppm, 1.570,.0075,.4777, 1.576, 1.565
Sb2068,206.833 {463},Y_2243,ppm, .0016,.0006,41.60, .0020, .0011
Se1960,196.090 {472},Y_2243,ppm, .0028,.0010,35.04, .0035, .0021
Si2516,251.611 {134},Y_3710,ppm, .4217,.0040,.9393, .4189, .4245
Sn1899,189.989 {477},In2306,ppm, .0010,.0004,35.32, .0008, .0013
Sr4215,421.552 { 80},Y_3710,ppm, .0003,.0001,32.67, .0004, .0003
Ti3349,334.904 {101},Y_3600,ppm, .0004,.0000,8.040, .0004, .0004
Tl1908,190.856 {477},In2306,ppm, .0242,.0041,17.10, .0271, .0213
U_3670,367.007 { 92},Y_3600,ppm, .0106,.0292,276.1, .0312, -.0101
V_2924,292.402 {115},Y_3600,ppm, -.0003,.0000,4.366, -.0003, -.0003
W_2397,239.709 {140},Y_2243,ppm, .0254,.0184,72.39, .0124, .0384
Zn2062,206.200 {463},In2306,ppm, .0546,.0005,.9043, .0550, .0543

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 263.34,2.1075,.80031,261.85,264.83
In2306,230.606 {446},Cts/S, 17193.,30.367,.17662,17215.,17172.
Y_2243,224.306 {450},Cts/S, 23568.,61.065,.25910,23611.,23525.
Y_3600,360.073 { 94},Cts/S, 169090.,140.40,.08303,168990.,169190.
Y_3710,371.030 { 91},Cts/S, 14161.,23.552,.16631,14178.,14145.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0502,.0002,.3695, .0503, .0501
Al3082,308.215 {109},In2306,ppm, 2.059,.0098,.4772, 2.052, 2.066
As1890,189.042 {478},Y_2243,ppm, .2106,.0025,1.204, .2124, .2088
B_2496,249.678 {135},Y_3710,ppm, .1104,.0029,2.643, .1083, .1124
Ba4554,455.403 { 74},Y_3710,ppm, .2109,.0002,.0906, .2110, .2107
Be3130,313.042 {108},Y_3710,ppm, .2091,.0002,.1007, .2089, .2092
Ca3158,315.887 {107},In2306,ppm, 2.090,.0279,1.336, 2.070, 2.110
Cd2288,228.802 {447},Y_2243,ppm, .2194,.0005,.2080, .2198, .2191
Co2286,228.616 {447},In2306,ppm, .1978,.0004,.1832, .1975, .1981
Cr2677,267.716 {126},Y_3600,ppm, .1953,.0005,.2701, .1957, .1949
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Cu3247,324.754 {104},Y_3600,ppm, .2539,.0013,.5271, .2549, .2530
Fe2404,240.488 {140},In2306,ppm, 2.185,.0155,.7077, 2.174, 2.196
K_7664,766.490 { 44},Y_3710,ppm, 2.111,.0169,.7989, 2.123, 2.099
Li6707,670.784 { 50},Y_3710,ppm, .2154,.0004,.1987, .2151, .2157
Mg2790,279.079 {121},Y_3710,ppm, 2.085,.0081,.3874, 2.079, 2.090
Mn2576,257.610 {131},Y_3600,ppm, .2031,.0000,.0081, .2031, .2031
Mo2020,202.030 {467},Y_2243,ppm, .2343,.0001,.0396, .2342, .2344
Na5895,589.592 { 57},Y_3710,ppm, 2.169,.0025,.1140, 2.167, 2.170
Ni2316,231.604 {445},In2306,ppm, .2044,.0005,.2634, .2047, .2040
P_1782,178.284 {489},In2306,ppm, 1.066,.0014,.1294, 1.067, 1.065
Pb2203,220.353 {453},In2306,ppm, .2064,.0019,.9040, .2051, .2078
S_1820,182.034 {485},Y_2243,ppm, 2.729,.0010,.0373, 2.728, 2.730
Sb2068,206.833 {463},Y_2243,ppm, .3312,.0014,.4164, .3302, .3322
Se1960,196.090 {472},Y_2243,ppm, .2121,.0000,.0146, .2121, .2121
Si2516,251.611 {134},Y_3710,ppm, 1.895,.0025,.1301, 1.897, 1.893
Sn1899,189.989 {477},In2306,ppm, .1919,.0008,.3946, .1914, .1924
Sr4215,421.552 { 80},Y_3710,ppm, .2095,.0004,.1932, .2092, .2098
Ti3349,334.904 {101},Y_3600,ppm, .2030,.0003,.1587, .2028, .2033
Tl1908,190.856 {477},In2306,ppm, .1881,.0021,1.126, .1866, .1896
U_3670,367.007 { 92},Y_3600,ppm, .1003,.0011,1.120, .1011, .0995
V_2924,292.402 {115},Y_3600,ppm, .1989,.0004,.1780, .1992, .1987
W_2397,239.709 {140},Y_2243,ppm, .1414,.0004,.2794, .1416, .1411
Zn2062,206.200 {463},In2306,ppm, .1564,.0009,.5712, .1558, .1570

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 258.74,1.3590,.52522,259.70,257.78
In2306,230.606 {446},Cts/S, 16660.,7.8667,.04722,16654.,16665.
Y_2243,224.306 {450},Cts/S, 23359.,55.016,.23553,23320.,23398.
Y_3600,360.073 { 94},Cts/S, 167800.,52.917,.03154,167760.,167840.
Y_3710,371.030 { 91},Cts/S, 13971.,17.496,.12523,13984.,13959.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .4865,.0004,.0853, .4862, .4868
Al3082,308.215 {109},In2306,ppm, 19.25,.3646,1.894, 18.99, 19.51
As1890,189.042 {478},Y_2243,ppm, 1.003,.0013,.1310, 1.002, 1.004
B_2496,249.678 {135},Y_3710,ppm, .9774,.0025,.2591, .9756, .9792
Ba4554,455.403 { 74},Y_3710,ppm, .9788,.0008,.0841, .9782, .9793
Be3130,313.042 {108},Y_3710,ppm, 1.004,.0043,.4320, 1.001, 1.007
Ca3158,315.887 {107},In2306,ppm, 19.42,.4161,2.142, 19.13, 19.72
Cd2288,228.802 {447},Y_2243,ppm, 1.011,.0002,.0161, 1.011, 1.011
Co2286,228.616 {447},In2306,ppm, .9715,.0001,.0151, .9716, .9714
Cr2677,267.716 {126},Y_3600,ppm, .9296,.0051,.5444, .9261, .9332
Cu3247,324.754 {104},Y_3600,ppm, .9262,.0003,.0319, .9265, .9260
Fe2404,240.488 {140},In2306,ppm, 19.56,.4137,2.115, 19.27, 19.85
K_7664,766.490 { 44},Y_3710,ppm, 19.46,.0627,.3225, 19.41, 19.50
Li6707,670.784 { 50},Y_3710,ppm, .9764,.0044,.4511, .9795, .9732
Mg2790,279.079 {121},Y_3710,ppm, 19.68,.2671,1.358, 19.49, 19.87
Mn2576,257.610 {131},Y_3600,ppm, .9604,.0026,.2716, .9586, .9623
Mo2020,202.030 {467},Y_2243,ppm, 1.016,.0011,.1045, 1.016, 1.017
Na5895,589.592 { 57},Y_3710,ppm, 19.59,.0100,.0509, 19.60, 19.58
Ni2316,231.604 {445},In2306,ppm, .9963,.0026,.2584, .9981, .9945
P_1782,178.284 {489},In2306,ppm, 10.06,.0063,.0626, 10.06, 10.07
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Pb2203,220.353 {453},In2306,ppm, .9924,.0009,.0892, .9931, .9918
S_1820,182.034 {485},Y_2243,ppm, 10.26,.0068,.0665, 10.26, 10.25
Sb2068,206.833 {463},Y_2243,ppm, 2.080,.0002,.0100, 2.080, 2.081
Se1960,196.090 {472},Y_2243,ppm, 1.002,.0004,.0353, 1.003, 1.002
Si2516,251.611 {134},Y_3710,ppm, 9.391,.0583,.6204, 9.350, 9.432
Sn1899,189.989 {477},In2306,ppm, .9551,.0033,.3506, .9574, .9527
Sr4215,421.552 { 80},Y_3710,ppm, .9785,.0007,.0738, .9780, .9790
Ti3349,334.904 {101},Y_3600,ppm, .9726,.0011,.1081, .9718, .9733
Tl1908,190.856 {477},In2306,ppm, .9778,.0073,.7427, .9829, .9726
U_3670,367.007 { 92},Y_3600,ppm, .8190,.0148,1.808, .8085, .8295
V_2924,292.402 {115},Y_3600,ppm, .9620,.0021,.2192, .9605, .9635
W_2397,239.709 {140},Y_2243,ppm, 1.065,.0391,3.668, 1.093, 1.038
Zn2062,206.200 {463},In2306,ppm, .9760,.0003,.0318, .9762, .9757

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 249.73,5.4041,2.1640,253.55,245.91
In2306,230.606 {446},Cts/S, 15382.,10.420,.06774,15389.,15374.
Y_2243,224.306 {450},Cts/S, 23129.,41.742,.18047,23159.,23100.
Y_3600,360.073 { 94},Cts/S, 162520.,427.28,.26290,162220.,162830.
Y_3710,371.030 { 91},Cts/S, 13647.,102.05,.74777,13719.,13575.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0855,.0003,.3060, .0857, .0853
Al3082,308.215 {109},In2306,ppm, .9665,.0069,.7124, .9616, .9713
As1890,189.042 {478},Y_2243,ppm, .0304,.0001,.2003, .0304, .0303
B_2496,249.678 {135},Y_3710,ppm, .2037,.0043,2.089, .2007, .2067
Ba4554,455.403 { 74},Y_3710,ppm, .0301,.0002,.7826, .0299, .0302
Be3130,313.042 {108},Y_3710,ppm, .0309,.0000,.0815, .0309, .0309
Ca3158,315.887 {107},In2306,ppm, .9700,.0143,1.471, .9599, .9801
Cd2288,228.802 {447},Y_2243,ppm, .0312,.0002,.5452, .0310, .0313
Co2286,228.616 {447},In2306,ppm, .0287,.0001,.3289, .0287, .0288
Cr2677,267.716 {126},Y_3600,ppm, .0288,.0002,.7112, .0289, .0286
Cu3247,324.754 {104},Y_3600,ppm, .0291,.0002,.5362, .0292, .0290
Fe2404,240.488 {140},In2306,ppm, .9958,.0148,1.489, .9853, 1.006
K_7664,766.490 { 44},Y_3710,ppm, .9663,.0022,.2268, .9647, .9678
Li6707,670.784 { 50},Y_3710,ppm, .0294,.0000,.0251, .0294, .0294
Mg2790,279.079 {121},Y_3710,ppm, 1.010,.0008,.0815, 1.010, 1.011
Mn2576,257.610 {131},Y_3600,ppm, .0301,.0001,.3494, .0301, .0300
Mo2020,202.030 {467},Y_2243,ppm, .0316,.0002,.6940, .0317, .0314
Na5895,589.592 { 57},Y_3710,ppm, 1.029,.0020,.1975, 1.030, 1.028
Ni2316,231.604 {445},In2306,ppm, .0293,.0002,.7048, .0291, .0294
P_1782,178.284 {489},In2306,ppm, 1.886,.0092,.4900, 1.880, 1.893
Pb2203,220.353 {453},In2306,ppm, .0290,.0002,.8098, .0288, .0292
S_1820,182.034 {485},Y_2243,ppm, 2.005,.0005,.0234, 2.004, 2.005
Sb2068,206.833 {463},Y_2243,ppm, .2353,.0009,.3654, .2347, .2359
Se1960,196.090 {472},Y_2243,ppm, .0339,.0036,10.70, .0365, .0314
Si2516,251.611 {134},Y_3710,ppm, .2939,.0080,2.721, .2996, .2883
Sn1899,189.989 {477},In2306,ppm, .0278,.0002,.6346, .0279, .0277
Sr4215,421.552 { 80},Y_3710,ppm, .0304,.0001,.4748, .0305, .0303
Ti3349,334.904 {101},Y_3600,ppm, .0301,.0003,1.140, .0303, .0298
Tl1908,190.856 {477},In2306,ppm, .0348,.0003,.8797, .0346, .0350
U_3670,367.007 { 92},Y_3600,ppm, .0516,.0237,45.91, .0349, .0684
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V_2924,292.402 {115},Y_3600,ppm, .0291,.0001,.2365, .0291, .0292
W_2397,239.709 {140},Y_2243,ppm, .2127,.0427,20.10, .1825, .2429
Zn2062,206.200 {463},In2306,ppm, .1837,.0002,.1162, .1835, .1838

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 258.30,2.1656,.83842,259.83,256.77
In2306,230.606 {446},Cts/S, 17036.,84.231,.49443,17096.,16976.
Y_2243,224.306 {450},Cts/S, 23750.,91.525,.38537,23814.,23685.
Y_3600,360.073 { 94},Cts/S, 169880.,385.54,.22695,170150.,169610.
Y_3710,371.030 { 91},Cts/S, 13845.,18.949,.13686,13832.,13859.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0009,.0004,43.59, -.0006, -.0011
Al3082,308.215 {109},In2306,ppm, .0159,.0104,65.52, .0085, .0232
As1890,189.042 {478},Y_2243,ppm, -.0013,.0009,74.42, -.0019, -.0006
B_2496,249.678 {135},Y_3710,ppm, .0051,.0057,110.9, .0091, .0011
Ba4554,455.403 { 74},Y_3710,ppm, -.0001,.0001,147.2, -.0002, .0000
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,95.03, .0002, .0000
Ca3158,315.887 {107},In2306,ppm, -.0020,.0039,194.2, .0007, -.0047
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0000,317.9, -.0000, .0000
Co2286,228.616 {447},In2306,ppm, .0001,.0002,171.2, -.0000, .0002
Cr2677,267.716 {126},Y_3600,ppm, .0003,.0001,35.61, .0004, .0003
Cu3247,324.754 {104},Y_3600,ppm, -.0003,.0002,60.78, -.0005, -.0002
Fe2404,240.488 {140},In2306,ppm, -.0055,.0026,46.84, -.0073, -.0037
K_7664,766.490 { 44},Y_3710,ppm, -.0214,.0027,12.61, -.0233, -.0195
Li6707,670.784 { 50},Y_3710,ppm, -.0003,.0001,20.50, -.0003, -.0004
Mg2790,279.079 {121},Y_3710,ppm, -.0056,.0150,267.8, -.0162, .0050
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,158.0, .0000, -.0000
Mo2020,202.030 {467},Y_2243,ppm, .0003,.0001,49.19, .0004, .0002
Na5895,589.592 { 57},Y_3710,ppm, .0203,.0013,6.208, .0194, .0212
Ni2316,231.604 {445},In2306,ppm, -.0000,.0000,141.0, -.0000, -.0001
P_1782,178.284 {489},In2306,ppm, -.0007,.0010,136.4, -.0015, -.0000
Pb2203,220.353 {453},In2306,ppm, .0008,.0013,157.0, .0017, -.0001
S_1820,182.034 {485},Y_2243,ppm, .0275,.0026,9.336, .0293, .0257
Sb2068,206.833 {463},Y_2243,ppm, .0011,.0016,143.9, .0022, -.0000
Se1960,196.090 {472},Y_2243,ppm, .0018,.0010,56.67, .0025, .0011
Si2516,251.611 {134},Y_3710,ppm, -.0021,.0044,211.5, -.0052, .0010
Sn1899,189.989 {477},In2306,ppm, -.0000,.0005,2806., .0003, -.0004
Sr4215,421.552 { 80},Y_3710,ppm, .0000,.0000,111.1, .0001, .0000
Ti3349,334.904 {101},Y_3600,ppm, .0004,.0002,50.37, .0002, .0005
Tl1908,190.856 {477},In2306,ppm, .0032,.0036,112.9, .0058, .0007
U_3670,367.007 { 92},Y_3600,ppm, -.0332,.0096,28.87, -.0400, -.0264
V_2924,292.402 {115},Y_3600,ppm, .0000,.0002,806.7, .0001, -.0001
W_2397,239.709 {140},Y_2243,ppm, .0100,.0513,511.6, .0463, -.0263
Zn2062,206.200 {463},In2306,ppm, -.0011,.0000,1.933, -.0011, -.0011

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 257.98,1.8318,.71006,256.69,259.28
In2306,230.606 {446},Cts/S, 17229.,55.971,.32486,17189.,17268.
Y_2243,224.306 {450},Cts/S, 23583.,124.87,.52950,23495.,23672.
Y_3600,360.073 { 94},Cts/S, 169900.,217.86,.12823,169740.,170050.
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Y_3710,371.030 { 91},Cts/S, 13774.,21.638,.15709,13759.,13790.

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Ag3280,328.068 {103},Y_3600,ppm, .0002,.0004,197.7, -.0001, .0004
Al3082,308.215 {109},In2306,ppm, -.0007,.0109,1552., -.0084, .0070
As1890,189.042 {478},Y_2243,ppm, -.0017,.0009,56.01, -.0023, -.0010
B_2496,249.678 {135},Y_3710,ppm, .0004,.0006,134.9, .0008, .0000
Ba4554,455.403 { 74},Y_3710,ppm, -.0002,.0000,1.760, -.0002, -.0002
Be3130,313.042 {108},Y_3710,ppm, .0002,.0001,32.84, .0002, .0001
Ca3158,315.887 {107},In2306,ppm, .0025,.0040,158.6, .0053, -.0003
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0002,156.6, .0003, -.0000
Co2286,228.616 {447},In2306,ppm, -.0000,.0000,63.20, -.0001, -.0000
Cr2677,267.716 {126},Y_3600,ppm, .0002,.0002,120.5, .0003, .0000
Cu3247,324.754 {104},Y_3600,ppm, .0005,.0001,21.21, .0005, .0004
Fe2404,240.488 {140},In2306,ppm, -.0070,.0021,29.49, -.0056, -.0085
K_7664,766.490 { 44},Y_3710,ppm, -.0032,.0051,162.6, .0005, -.0068
Li6707,670.784 { 50},Y_3710,ppm, .0003,.0017,677.8, .0015, -.0010
Mg2790,279.079 {121},Y_3710,ppm, -.0145,.0161,111.5, -.0259, -.0031
Mn2576,257.610 {131},Y_3600,ppm, .0000,.0000,78.30, .0001, .0000
Mo2020,202.030 {467},Y_2243,ppm, -.0002,.0003,146.9, .0000, -.0004
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Ni2316,231.604 {445},In2306,ppm, .0002,.0002,125.2, .0003, .0000
P_1782,178.284 {489},In2306,ppm, -.0012,.0010,82.32, -.0019, -.0005
Pb2203,220.353 {453},In2306,ppm, -.0002,.0005,242.0, -.0006, .0001
S_1820,182.034 {485},Y_2243,ppm, .0270,.0005,1.980, .0274, .0266
Sb2068,206.833 {463},Y_2243,ppm, .0015,.0006,40.57, .0019, .0011
Se1960,196.090 {472},Y_2243,ppm, .0002,.0002,74.71, .0001, .0003
Si2516,251.611 {134},Y_3710,ppm, -.0034,.0013,37.43, -.0043, -.0025
Sn1899,189.989 {477},In2306,ppm, .0009,.0000,.9173, .0009, .0009
Sr4215,421.552 { 80},Y_3710,ppm, .0001,.0001,39.77, .0002, .0001
Ti3349,334.904 {101},Y_3600,ppm, .0001,.0003,235.0, .0003, -.0001
Tl1908,190.856 {477},In2306,ppm, .0019,.0011,55.28, .0012, .0027
U_3670,367.007 { 92},Y_3600,ppm, -.0091,.0233,255.1, .0073, -.0256
V_2924,292.402 {115},Y_3600,ppm, .0000,.0001,1804., -.0000, .0001
W_2397,239.709 {140},Y_2243,ppm, .0319,.0589,184.5, -.0097, .0736
Zn2062,206.200 {463},In2306,ppm, .0093,.0001,.7533, .0094, .0093

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 263.11,1.1116,.42250,263.89,262.32
In2306,230.606 {446},Cts/S, 17143.,7.0403,.04107,17148.,17138.
Y_2243,224.306 {450},Cts/S, 23515.,21.991,.09352,23531.,23500.
Y_3600,360.073 { 94},Cts/S, 171530.,791.76,.46159,172090.,170970.
Y_3710,371.030 { 91},Cts/S, 14010.,20.293,.14484,13996.,14025.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .2422,.0002,.0848, .2420, .2423
Al3082,308.215 {109},In2306,ppm, 9.946,.1994,2.004, 9.805, 10.09
As1890,189.042 {478},Y_2243,ppm, 1.025,.0003,.0330, 1.025, 1.025
B_2496,249.678 {135},Y_3710,ppm, .4864,.0057,1.179, .4824, .4905
Ba4554,455.403 { 74},Y_3710,ppm, .9957,.0028,.2857, .9937, .9977
Be3130,313.042 {108},Y_3710,ppm, .9951,.0032,.3251, .9928, .9973
Ca3158,315.887 {107},In2306,ppm, 10.06,.1546,1.537, 9.952, 10.17
Cd2288,228.802 {447},Y_2243,ppm, 1.037,.0030,.2893, 1.034, 1.039
Co2286,228.616 {447},In2306,ppm, .9644,.0013,.1331, .9635, .9653
Cr2677,267.716 {126},Y_3600,ppm, .9235,.0005,.0499, .9239, .9232
Cu3247,324.754 {104},Y_3600,ppm, .9350,.0007,.0781, .9355, .9345
Fe2404,240.488 {140},In2306,ppm, 10.17,.1622,1.595, 10.06, 10.29
K_7664,766.490 { 44},Y_3710,ppm, 9.977,.0212,.2127, 9.992, 9.962
Li6707,670.784 { 50},Y_3710,ppm, .9990,.0007,.0651, .9986, .9995
Mg2790,279.079 {121},Y_3710,ppm, 10.01,.0715,.7144, 9.959, 10.06
Mn2576,257.610 {131},Y_3600,ppm, .9559,.0005,.0478, .9556, .9562
Mo2020,202.030 {467},Y_2243,ppm, 1.043,.0010,.0972, 1.043, 1.044
Na5895,589.592 { 57},Y_3710,ppm, 10.19,.0269,.2641, 10.17, 10.20
Ni2316,231.604 {445},In2306,ppm, .9965,.0003,.0294, .9967, .9963
P_1782,178.284 {489},In2306,ppm, 5.105,.0219,.4299, 5.090, 5.121
Pb2203,220.353 {453},In2306,ppm, .9951,.0014,.1447, .9941, .9961
S_1820,182.034 {485},Y_2243,ppm, 5.309,.0189,.3558, 5.296, 5.323
Sb2068,206.833 {463},Y_2243,ppm, 1.609,.0063,.3890, 1.604, 1.613
Se1960,196.090 {472},Y_2243,ppm, 1.010,.0026,.2533, 1.008, 1.012
Si2516,251.611 {134},Y_3710,ppm, 8.240,.0225,.2725, 8.224, 8.256
Sn1899,189.989 {477},In2306,ppm, .9364,.0017,.1804, .9352, .9376
Sr4215,421.552 { 80},Y_3710,ppm, .9962,.0030,.3000, .9941, .9983
Ti3349,334.904 {101},Y_3600,ppm, .9766,.0011,.1077, .9773, .9758
Tl1908,190.856 {477},In2306,ppm, .8547,.0025,.2895, .8529, .8564
U_3670,367.007 { 92},Y_3600,ppm, .4696,.0446,9.499, .5011, .4381
V_2924,292.402 {115},Y_3600,ppm, .9612,.0005,.0521, .9608, .9615
W_2397,239.709 {140},Y_2243,ppm, .5100,.0212,4.151, .5250, .4950
Zn2062,206.200 {463},In2306,ppm, .4844,.0000,.0043, .4844, .4844

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 253.90,1.8954,.74653,255.24,252.56
In2306,230.606 {446},Cts/S, 15906.,38.259,.24053,15933.,15879.
Y_2243,224.306 {450},Cts/S, 22976.,56.374,.24536,23016.,22936.
Y_3600,360.073 { 94},Cts/S, 167720.,317.97,.18958,167950.,167500.
Y_3710,371.030 { 91},Cts/S, 13997.,75.145,.53687,13944.,14050.

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Custom ID3=
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Mode=CONC
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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0008,.0000,1.290, -.0008, -.0008
Al3082,308.215 {109},In2306,ppm, .1522,.0108,7.076, .1598, .1445
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As1890,189.042 {478},Y_2243,ppm, .0045,.0027,58.94, .0026, .0064
B_2496,249.678 {135},Y_3710,ppm, .2470,.0036,1.458, .2444, .2495
Ba4554,455.403 { 74},Y_3710,ppm, .1345,.0007,.5154, .1341, .1350
Be3130,313.042 {108},Y_3710,ppm, .0002,.0001,33.24, .0002, .0002
Ca3158,315.887 {107},In2306,ppm, 68.63,.8538,1.244, 68.03, 69.24
Cd2288,228.802 {447},Y_2243,ppm, .0004,.0002,63.99, .0002, .0005
Co2286,228.616 {447},In2306,ppm, .0005,.0001,24.30, .0005, .0004
Cr2677,267.716 {126},Y_3600,ppm, .0022,.0000,.9907, .0022, .0022
Cu3247,324.754 {104},Y_3600,ppm, .0649,.0001,.0792, .0649, .0649
Fe2404,240.488 {140},In2306,ppm, .4929,.0043,.8715, .4899, .4960
K_7664,766.490 { 44},Y_3710,ppm, 4.090,.0424,1.036, 4.060, 4.120
Li6707,670.784 { 50},Y_3710,ppm, .0235,.0004,1.724, .0238, .0232
Mg2790,279.079 {121},Y_3710,ppm, 7.268,.0580,.7980, 7.227, 7.309
Mn2576,257.610 {131},Y_3600,ppm, .1720,.0007,.3987, .1715, .1725
Mo2020,202.030 {467},Y_2243,ppm, .0943,.0005,.5719, .0947, .0939
Na5895,589.592 { 57},Y_3710,ppm, 299.6,6.131,2.046, 295.3, 303.9
Ni2316,231.604 {445},In2306,ppm, .0030,.0002,8.111, .0029, .0032
P_1782,178.284 {489},In2306,ppm, .5946,.0023,.3919, .5929, .5962
Pb2203,220.353 {453},In2306,ppm, -.0002,.0010,540.6, -.0009, .0005
S_1820,182.034 {485},Y_2243,ppm, 162.1,.0140,.0086, 162.1, 162.1
Sb2068,206.833 {463},Y_2243,ppm, .0029,.0015,53.14, .0040, .0018
Se1960,196.090 {472},Y_2243,ppm, .0115,.0015,13.16, .0105, .0126
Si2516,251.611 {134},Y_3710,ppm, 7.248,.1269,1.751, 7.158, 7.338
Sn1899,189.989 {477},In2306,ppm, .0009,.0002,23.63, .0010, .0007
Sr4215,421.552 { 80},Y_3710,ppm, .5224,.0009,.1729, .5218, .5230
Ti3349,334.904 {101},Y_3600,ppm, .0024,.0001,2.270, .0024, .0023
Tl1908,190.856 {477},In2306,ppm, .0257,.0003,1.199, .0260, .0255
U_3670,367.007 { 92},Y_3600,ppm, .1180,.0221,18.70, .1336, .1024
V_2924,292.402 {115},Y_3600,ppm, .0027,.0001,2.629, .0028, .0027
W_2397,239.709 {140},Y_2243,ppm, .0580,.0406,69.99, .0867, .0293
Zn2062,206.200 {463},In2306,ppm, .0874,.0006,.7360, .0870, .0879

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 245.17,2.9813,1.2160,247.28,243.06
In2306,230.606 {446},Cts/S, 13891.,3.7221,.02680,13888.,13893.
Y_2243,224.306 {450},Cts/S, 21373.,22.235,.10403,21357.,21389.
Y_3600,360.073 { 94},Cts/S, 153650.,28.125,.01830,153630.,153670.
Y_3710,371.030 { 91},Cts/S, 13670.,85.706,.62697,13731.,13609.


[Sample Header]
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Custom ID2=
Custom ID3=
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0004,.0002,48.10, -.0006, -.0003
Al3082,308.215 {109},In2306,ppm, .1602,.0268,16.70, .1792, .1413
As1890,189.042 {478},Y_2243,ppm, .0036,.0011,31.28, .0044, .0028
B_2496,249.678 {135},Y_3710,ppm, .2334,.0026,1.097, .2316, .2352
Ba4554,455.403 { 74},Y_3710,ppm, .1307,.0003,.2316, .1309, .1305
Be3130,313.042 {108},Y_3710,ppm, .0002,.0000,10.60, .0002, .0002
Ca3158,315.887 {107},In2306,ppm, 67.20,.2585,.3846, 67.39, 67.02
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,84.96, .0000, .0002
Co2286,228.616 {447},In2306,ppm, .0002,.0001,57.32, .0003, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0020,.0001,4.104, .0019, .0020
Cu3247,324.754 {104},Y_3600,ppm, .0644,.0001,.1088, .0645, .0644
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Fe2404,240.488 {140},In2306,ppm, .4779,.0058,1.214, .4820, .4738
K_7664,766.490 { 44},Y_3710,ppm, 4.020,.0239,.5937, 4.004, 4.037
Li6707,670.784 { 50},Y_3710,ppm, .0227,.0001,.3703, .0227, .0226
Mg2790,279.079 {121},Y_3710,ppm, 7.231,.0066,.0908, 7.235, 7.226
Mn2576,257.610 {131},Y_3600,ppm, .1715,.0005,.2912, .1718, .1711
Mo2020,202.030 {467},Y_2243,ppm, .0919,.0002,.2570, .0918, .0921
Na5895,589.592 { 57},Y_3710,ppm, 296.7,3.429,1.156, 299.1, 294.3
Ni2316,231.604 {445},In2306,ppm, .0031,.0001,4.465, .0030, .0032
P_1782,178.284 {489},In2306,ppm, .5864,.0040,.6821, .5892, .5835
Pb2203,220.353 {453},In2306,ppm, -.0012,.0010,78.49, -.0005, -.0019
S_1820,182.034 {485},Y_2243,ppm, 161.5,.3553,.2200, 161.8, 161.3
Sb2068,206.833 {463},Y_2243,ppm, .0009,.0018,192.3, .0021, -.0003
Se1960,196.090 {472},Y_2243,ppm, .0121,.0005,4.353, .0125, .0118
Si2516,251.611 {134},Y_3710,ppm, 5.930,.1319,2.225, 6.024, 5.837
Sn1899,189.989 {477},In2306,ppm, .0006,.0002,26.86, .0007, .0005
Sr4215,421.552 { 80},Y_3710,ppm, .5162,.0010,.1876, .5155, .5168
Ti3349,334.904 {101},Y_3600,ppm, .0022,.0005,24.56, .0018, .0026
Tl1908,190.856 {477},In2306,ppm, .0143,.0004,2.607, .0145, .0140
U_3670,367.007 { 92},Y_3600,ppm, -.0102,.0828,807.5, -.0688, .0483
V_2924,292.402 {115},Y_3600,ppm, .0027,.0002,7.946, .0028, .0025
W_2397,239.709 {140},Y_2243,ppm, .0530,.0231,43.62, .0693, .0366
Zn2062,206.200 {463},In2306,ppm, .0736,.0000,.0394, .0736, .0736

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 248.49,.56772,.22847,248.89,248.09
In2306,230.606 {446},Cts/S, 13924.,4.1539,.02983,13921.,13927.
Y_2243,224.306 {450},Cts/S, 21491.,8.8586,.04122,21485.,21497.
Y_3600,360.073 { 94},Cts/S, 154530.,195.21,.12633,154390.,154670.
Y_3710,371.030 { 91},Cts/S, 13852.,6.7477,.04871,13847.,13856.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2568,.0014,.5340, .2577, .2558
Al3082,308.215 {109},In2306,ppm, 10.40,.0087,.0832, 10.41, 10.39
As1890,189.042 {478},Y_2243,ppm, 1.091,.0011,.1054, 1.092, 1.090
B_2496,249.678 {135},Y_3710,ppm, .7230,.0116,1.605, .7148, .7312
Ba4554,455.403 { 74},Y_3710,ppm, 1.132,.0025,.2248, 1.130, 1.134
Be3130,313.042 {108},Y_3710,ppm, 1.005,.0019,.1858, 1.004, 1.007
Ca3158,315.887 {107},In2306,ppm, 77.01,.3394,.4407, 77.25, 76.77
Cd2288,228.802 {447},Y_2243,ppm, 1.073,.0006,.0515, 1.073, 1.072
Co2286,228.616 {447},In2306,ppm, 1.016,.0005,.0527, 1.016, 1.015
Cr2677,267.716 {126},Y_3600,ppm, .9156,.0044,.4833, .9187, .9124
Cu3247,324.754 {104},Y_3600,ppm, 1.011,.0030,.2999, 1.014, 1.009
Fe2404,240.488 {140},In2306,ppm, 10.64,.0336,.3156, 10.67, 10.62
K_7664,766.490 { 44},Y_3710,ppm, 14.11,.1135,.8047, 14.03, 14.19
Li6707,670.784 { 50},Y_3710,ppm, 1.025,.0039,.3758, 1.022, 1.028
Mg2790,279.079 {121},Y_3710,ppm, 17.11,.1992,1.164, 16.97, 17.25
Mn2576,257.610 {131},Y_3600,ppm, 1.126,.0039,.3497, 1.128, 1.123
Mo2020,202.030 {467},Y_2243,ppm, 1.134,.0017,.1518, 1.136, 1.133
Na5895,589.592 { 57},Y_3710,ppm, 306.5,1.156,.3771, 305.6, 307.3
Ni2316,231.604 {445},In2306,ppm, 1.051,.0016,.1530, 1.052, 1.050
P_1782,178.284 {489},In2306,ppm, 6.460,.0070,.1088, 6.465, 6.455
Pb2203,220.353 {453},In2306,ppm, 1.012,.0015,.1479, 1.011, 1.013
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S_1820,182.034 {485},Y_2243,ppm, 165.7,.1080,.0652, 165.6, 165.8
Sb2068,206.833 {463},Y_2243,ppm, 1.661,.0023,.1374, 1.663, 1.659
Se1960,196.090 {472},Y_2243,ppm, 1.097,.0024,.2150, 1.095, 1.099
Si2516,251.611 {134},Y_3710,ppm, 13.67,.1243,.9097, 13.58, 13.75
Sn1899,189.989 {477},In2306,ppm, .9864,.0012,.1167, .9856, .9872
Sr4215,421.552 { 80},Y_3710,ppm, 1.510,.0052,.3471, 1.506, 1.514
Ti3349,334.904 {101},Y_3600,ppm, .9908,.0020,.2044, .9922, .9893
Tl1908,190.856 {477},In2306,ppm, .8528,.0047,.5544, .8495, .8562
U_3670,367.007 { 92},Y_3600,ppm, .5561,.0074,1.339, .5614, .5509
V_2924,292.402 {115},Y_3600,ppm, .9748,.0036,.3665, .9773, .9723
W_2397,239.709 {140},Y_2243,ppm, .5625,.0442,7.863, .5312, .5937
Zn2062,206.200 {463},In2306,ppm, .5796,.0008,.1424, .5802, .5790

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 244.98,.91740,.37449,244.33,245.63
In2306,230.606 {446},Cts/S, 13647.,28.904,.21180,13627.,13668.
Y_2243,224.306 {450},Cts/S, 21286.,30.799,.14469,21265.,21308.
Y_3600,360.073 { 94},Cts/S, 152620.,684.39,.44843,152140.,153100.
Y_3710,371.030 { 91},Cts/S, 13740.,91.411,.66527,13805.,13676.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2539,.0015,.5776, .2550, .2529
Al3082,308.215 {109},In2306,ppm, 10.31,.0311,.3015, 10.33, 10.28
As1890,189.042 {478},Y_2243,ppm, 1.084,.0012,.1135, 1.085, 1.083
B_2496,249.678 {135},Y_3710,ppm, .7284,.0043,.5846, .7314, .7254
Ba4554,455.403 { 74},Y_3710,ppm, 1.123,.0014,.1211, 1.122, 1.124
Be3130,313.042 {108},Y_3710,ppm, 1.002,.0002,.0159, 1.002, 1.002
Ca3158,315.887 {107},In2306,ppm, 76.85,.1936,.2519, 76.72, 76.99
Cd2288,228.802 {447},Y_2243,ppm, 1.063,.0010,.0905, 1.063, 1.064
Co2286,228.616 {447},In2306,ppm, 1.007,.0001,.0104, 1.007, 1.007
Cr2677,267.716 {126},Y_3600,ppm, .9058,.0027,.2930, .9039, .9076
Cu3247,324.754 {104},Y_3600,ppm, .9999,.0045,.4520, 1.003, .9967
Fe2404,240.488 {140},In2306,ppm, 10.64,.0159,.1496, 10.65, 10.63
K_7664,766.490 { 44},Y_3710,ppm, 14.12,.0187,.1323, 14.13, 14.11
Li6707,670.784 { 50},Y_3710,ppm, 1.017,.0005,.0493, 1.016, 1.017
Mg2790,279.079 {121},Y_3710,ppm, 17.10,.0675,.3951, 17.14, 17.05
Mn2576,257.610 {131},Y_3600,ppm, 1.111,.0030,.2725, 1.109, 1.113
Mo2020,202.030 {467},Y_2243,ppm, 1.127,.0014,.1251, 1.126, 1.128
Na5895,589.592 { 57},Y_3710,ppm, 303.5,3.175,1.046, 301.3, 305.8
Ni2316,231.604 {445},In2306,ppm, 1.040,.0020,.1916, 1.042, 1.039
P_1782,178.284 {489},In2306,ppm, 6.433,.0107,.1657, 6.441, 6.426
Pb2203,220.353 {453},In2306,ppm, 1.005,.0007,.0694, 1.005, 1.006
S_1820,182.034 {485},Y_2243,ppm, 165.3,.0654,.0396, 165.2, 165.3
Sb2068,206.833 {463},Y_2243,ppm, 1.651,.0045,.2709, 1.648, 1.654
Se1960,196.090 {472},Y_2243,ppm, 1.093,.0003,.0247, 1.094, 1.093
Si2516,251.611 {134},Y_3710,ppm, 15.35,.0289,.1882, 15.37, 15.33
Sn1899,189.989 {477},In2306,ppm, .9801,.0019,.1918, .9788, .9814
Sr4215,421.552 { 80},Y_3710,ppm, 1.503,.0024,.1612, 1.502, 1.505
Ti3349,334.904 {101},Y_3600,ppm, .9788,.0022,.2248, .9772, .9804
Tl1908,190.856 {477},In2306,ppm, .8790,.0037,.4252, .8764, .8817
U_3670,367.007 { 92},Y_3600,ppm, .5817,.0054,.9276, .5855, .5778
V_2924,292.402 {115},Y_3600,ppm, .9628,.0021,.2170, .9613, .9643
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W_2397,239.709 {140},Y_2243,ppm, .5231,.0504,9.643, .4874, .5587
Zn2062,206.200 {463},In2306,ppm, .5719,.0027,.4709, .5738, .5700

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 246.02,.21754,.08842,246.17,245.87
In2306,230.606 {446},Cts/S, 13576.,51.173,.37695,13612.,13539.
Y_2243,224.306 {450},Cts/S, 21137.,86.431,.40891,21198.,21076.
Y_3600,360.073 { 94},Cts/S, 152650.,85.934,.05629,152590.,152710.
Y_3710,371.030 { 91},Cts/S, 13713.,27.703,.20202,13693.,13732.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0010,.0004,40.23, -.0007, -.0013
Al3082,308.215 {109},In2306,ppm, 8.829,.1580,1.790, 8.718, 8.941
As1890,189.042 {478},Y_2243,ppm, .0067,.0009,13.52, .0073, .0061
B_2496,249.678 {135},Y_3710,ppm, .0401,.0049,12.22, .0366, .0435
Ba4554,455.403 { 74},Y_3710,ppm, .0898,.0010,1.100, .0891, .0905
Be3130,313.042 {108},Y_3710,ppm, .0006,.0001,12.54, .0005, .0006
Ca3158,315.887 {107},In2306,ppm, 90.85,.9939,1.094, 90.15, 91.55
Cd2288,228.802 {447},Y_2243,ppm, .0005,.0001,15.77, .0006, .0005
Co2286,228.616 {447},In2306,ppm, .0024,.0003,13.03, .0027, .0022
Cr2677,267.716 {126},Y_3600,ppm, .0213,.0003,1.291, .0211, .0215
Cu3247,324.754 {104},Y_3600,ppm, .0220,.0000,.1917, .0220, .0220
Fe2404,240.488 {140},In2306,ppm, 6.384,.1138,1.783, 6.303, 6.464
K_7664,766.490 { 44},Y_3710,ppm, 1.766,.0101,.5706, 1.758, 1.773
Li6707,670.784 { 50},Y_3710,ppm, .0088,.0002,2.793, .0090, .0086
Mg2790,279.079 {121},Y_3710,ppm, 4.630,.0300,.6480, 4.609, 4.651
Mn2576,257.610 {131},Y_3600,ppm, .2263,.0001,.0377, .2263, .2264
Mo2020,202.030 {467},Y_2243,ppm, .0113,.0001,.8723, .0114, .0112
Na5895,589.592 { 57},Y_3710,ppm, 8.071,.0223,.2768, 8.056, 8.087
Ni2316,231.604 {445},In2306,ppm, .0091,.0003,3.242, .0089, .0093
P_1782,178.284 {489},In2306,ppm, .1649,.0002,.1464, .1650, .1647
Pb2203,220.353 {453},In2306,ppm, .0161,.0005,2.903, .0158, .0165
S_1820,182.034 {485},Y_2243,ppm, 10.56,.0030,.0287, 10.57, 10.56
Sb2068,206.833 {463},Y_2243,ppm, .0043,.0009,20.48, .0049, .0037
Se1960,196.090 {472},Y_2243,ppm, .0044,.0021,48.26, .0059, .0029
Si2516,251.611 {134},Y_3710,ppm, 17.19,.2333,1.357, 17.03, 17.36
Sn1899,189.989 {477},In2306,ppm, .0022,.0001,2.251, .0023, .0022
Sr4215,421.552 { 80},Y_3710,ppm, .1876,.0014,.7564, .1866, .1886
Ti3349,334.904 {101},Y_3600,ppm, .0842,.0001,.0851, .0841, .0842
Tl1908,190.856 {477},In2306,ppm, .0395,.0036,9.144, .0421, .0370
U_3670,367.007 { 92},Y_3600,ppm, .0179,.0260,145.6, -.0005, .0362
V_2924,292.402 {115},Y_3600,ppm, .0188,.0002,1.124, .0189, .0186
W_2397,239.709 {140},Y_2243,ppm, .0484,.0230,47.47, .0647, .0322
Zn2062,206.200 {463},In2306,ppm, .2852,.0007,.2425, .2857, .2847

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 254.84,1.5152,.59458,255.91,253.76
In2306,230.606 {446},Cts/S, 15320.,12.546,.08189,15311.,15329.
Y_2243,224.306 {450},Cts/S, 22721.,15.764,.06938,22710.,22733.
Y_3600,360.073 { 94},Cts/S, 165050.,508.08,.30782,165410.,164690.
Y_3710,371.030 { 91},Cts/S, 14093.,2.0591,.01461,14095.,14092.
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Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0000,.0003,1994., -.0002, .0002
Al3082,308.215 {109},In2306,ppm, .3010,.0286,9.507, .2808, .3212
As1890,189.042 {478},Y_2243,ppm, .0039,.0018,47.58, .0026, .0051
B_2496,249.678 {135},Y_3710,ppm, .2166,.0072,3.330, .2115, .2217
Ba4554,455.403 { 74},Y_3710,ppm, .1273,.0004,.3197, .1276, .1270
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,76.49, .0001, .0000
Ca3158,315.887 {107},In2306,ppm, 112.5,.8506,.7558, 111.9, 113.1
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,48.09, .0001, .0001
Co2286,228.616 {447},In2306,ppm, .0002,.0001,53.00, .0001, .0003
Cr2677,267.716 {126},Y_3600,ppm, .0020,.0002,9.892, .0022, .0019
Cu3247,324.754 {104},Y_3600,ppm, .0288,.0002,.5875, .0290, .0287
Fe2404,240.488 {140},In2306,ppm, .2038,.0095,4.675, .2105, .1971
K_7664,766.490 { 44},Y_3710,ppm, 2.130,.0103,.4844, 2.137, 2.123
Li6707,670.784 { 50},Y_3710,ppm, .0050,.0003,5.135, .0048, .0051
Mg2790,279.079 {121},Y_3710,ppm, 15.64,.0699,.4468, 15.69, 15.59
Mn2576,257.610 {131},Y_3600,ppm, .0326,.0001,.2269, .0325, .0326
Mo2020,202.030 {467},Y_2243,ppm, .0106,.0001,.6604, .0106, .0105
Na5895,589.592 { 57},Y_3710,ppm, 106.8,.2131,.1996, 106.9, 106.6
Ni2316,231.604 {445},In2306,ppm, .0014,.0001,6.435, .0014, .0015
P_1782,178.284 {489},In2306,ppm, .0523,.0006,1.161, .0519, .0527
Pb2203,220.353 {453},In2306,ppm, .0001,.0010,860.2, -.0006, .0008
S_1820,182.034 {485},Y_2243,ppm, 34.21,.0011,.0031, 34.21, 34.21
Sb2068,206.833 {463},Y_2243,ppm, .0013,.0001,8.646, .0013, .0014
Se1960,196.090 {472},Y_2243,ppm, .0029,.0027,92.71, .0010, .0048
Si2516,251.611 {134},Y_3710,ppm, 4.600,.0238,.5178, 4.617, 4.584
Sn1899,189.989 {477},In2306,ppm, .0012,.0002,14.64, .0014, .0011
Sr4215,421.552 { 80},Y_3710,ppm, .4215,.0003,.0644, .4213, .4217
Ti3349,334.904 {101},Y_3600,ppm, .0039,.0006,16.29, .0043, .0034
Tl1908,190.856 {477},In2306,ppm, .0166,.0043,25.74, .0196, .0136
U_3670,367.007 { 92},Y_3600,ppm, .0578,.0449,77.58, .0261, .0896
V_2924,292.402 {115},Y_3600,ppm, .0024,.0001,3.297, .0023, .0024
W_2397,239.709 {140},Y_2243,ppm, -.0060,.0230,385.1, -.0223, .0103
Zn2062,206.200 {463},In2306,ppm, .0405,.0000,.0100, .0405, .0405

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 248.05,1.2086,.48726,248.90,247.19
In2306,230.606 {446},Cts/S, 14405.,23.319,.16188,14422.,14389.
Y_2243,224.306 {450},Cts/S, 21610.,23.131,.10704,21626.,21594.
Y_3600,360.073 { 94},Cts/S, 156380.,654.26,.41838,156840.,155920.
Y_3710,371.030 { 91},Cts/S, 13793.,84.697,.61405,13733.,13853.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0012,.0002,17.62, -.0011, -.0014
Al3082,308.215 {109},In2306,ppm, 21.96,.1565,.7124, 22.07, 21.85
As1890,189.042 {478},Y_2243,ppm, .0032,.0004,12.58, .0034, .0029
B_2496,249.678 {135},Y_3710,ppm, .0501,.0055,11.05, .0461, .0540
Ba4554,455.403 { 74},Y_3710,ppm, .0284,.0002,.6179, .0285, .0283
Be3130,313.042 {108},Y_3710,ppm, .0002,.0001,35.58, .0002, .0003
Ca3158,315.887 {107},In2306,ppm, 13.62,.1192,.8752, 13.70, 13.53
Cd2288,228.802 {447},Y_2243,ppm, .0003,.0001,37.14, .0002, .0004
Co2286,228.616 {447},In2306,ppm, .0009,.0001,7.861, .0009, .0008
Cr2677,267.716 {126},Y_3600,ppm, .0055,.0001,2.365, .0056, .0054
Cu3247,324.754 {104},Y_3600,ppm, .1588,.0003,.1995, .1590, .1585
Fe2404,240.488 {140},In2306,ppm, 2.251,.0192,.8531, 2.265, 2.238
K_7664,766.490 { 44},Y_3710,ppm, 2.483,.0081,.3247, 2.489, 2.478
Li6707,670.784 { 50},Y_3710,ppm, .0079,.0002,2.073, .0078, .0080
Mg2790,279.079 {121},Y_3710,ppm, 4.322,.0076,.1768, 4.317, 4.327
Mn2576,257.610 {131},Y_3600,ppm, .0609,.0002,.3285, .0608, .0610
Mo2020,202.030 {467},Y_2243,ppm, .0019,.0000,2.443, .0019, .0020
Na5895,589.592 { 57},Y_3710,ppm, 271.8,4.358,1.604, 268.7, 274.8
Ni2316,231.604 {445},In2306,ppm, .4206,.0015,.3499, .4216, .4195
P_1782,178.284 {489},In2306,ppm, 17.82,.0696,.3905, 17.86, 17.77
Pb2203,220.353 {453},In2306,ppm, .0018,.0000,2.089, .0018, .0017
S_1820,182.034 {485},Y_2243,ppm, 97.31,.1520,.1562, 97.42, 97.20
Sb2068,206.833 {463},Y_2243,ppm, -.0012,.0013,111.6, -.0003, -.0022
Se1960,196.090 {472},Y_2243,ppm, .0031,.0030,96.40, .0052, .0010
Si2516,251.611 {134},Y_3710,ppm, 7.001,.0204,.2907, 6.987, 7.016
Sn1899,189.989 {477},In2306,ppm, .0020,.0002,11.09, .0021, .0018
Sr4215,421.552 { 80},Y_3710,ppm, .0706,.0005,.7440, .0709, .0702
Ti3349,334.904 {101},Y_3600,ppm, .0078,.0000,.2482, .0079, .0078
Tl1908,190.856 {477},In2306,ppm, .0061,.0013,20.56, .0052, .0070
U_3670,367.007 { 92},Y_3600,ppm, .1357,.0085,6.250, .1297, .1417
V_2924,292.402 {115},Y_3600,ppm, .0011,.0002,15.39, .0013, .0010
W_2397,239.709 {140},Y_2243,ppm, .0289,.0405,140.2, .0575, .0002
Zn2062,206.200 {463},In2306,ppm, .1892,.0014,.7366, .1901, .1882

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 251.53,2.2804,.90662,249.92,253.14
In2306,230.606 {446},Cts/S, 13956.,25.786,.18477,13974.,13937.
Y_2243,224.306 {450},Cts/S, 21626.,70.189,.32456,21676.,21577.
Y_3600,360.073 { 94},Cts/S, 153840.,456.95,.29703,153510.,154160.
Y_3710,371.030 { 91},Cts/S, 13885.,18.938,.13639,13872.,13898.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0002,.0003,171.6, .0000, -.0004
Al3082,308.215 {109},In2306,ppm, .1162,.0094,8.066, .1096, .1228
As1890,189.042 {478},Y_2243,ppm, .0021,.0011,51.24, .0014, .0029
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B_2496,249.678 {135},Y_3710,ppm, .0931,.0000,.0135, .0931, .0931
Ba4554,455.403 { 74},Y_3710,ppm, .0550,.0003,.4784, .0548, .0552
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,203.9, .0001, -.0000
Ca3158,315.887 {107},In2306,ppm, 26.22,.7368,2.810, 25.70, 26.75
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0001,71.39, .0003, .0001
Co2286,228.616 {447},In2306,ppm, .0004,.0000,5.824, .0004, .0004
Cr2677,267.716 {126},Y_3600,ppm, .0013,.0001,7.912, .0014, .0012
Cu3247,324.754 {104},Y_3600,ppm, .0041,.0001,2.006, .0040, .0041
Fe2404,240.488 {140},In2306,ppm, .4583,.0132,2.874, .4490, .4676
K_7664,766.490 { 44},Y_3710,ppm, 5.713,.0427,.7468, 5.683, 5.743
Li6707,670.784 { 50},Y_3710,ppm, .0307,.0005,1.688, .0311, .0304
Mg2790,279.079 {121},Y_3710,ppm, 17.49,.1286,.7349, 17.40, 17.58
Mn2576,257.610 {131},Y_3600,ppm, .0304,.0001,.2740, .0304, .0305
Mo2020,202.030 {467},Y_2243,ppm, .0020,.0001,7.230, .0021, .0019
Na5895,589.592 { 57},Y_3710,ppm, 41.76,.1329,.3182, 41.67, 41.86
Ni2316,231.604 {445},In2306,ppm, .4158,.0011,.2634, .4150, .4165
P_1782,178.284 {489},In2306,ppm, 2.375,.0100,.4215, 2.368, 2.382
Pb2203,220.353 {453},In2306,ppm, -.0011,.0003,30.95, -.0013, -.0008
S_1820,182.034 {485},Y_2243,ppm, 34.24,.0482,.1408, 34.21, 34.28
Sb2068,206.833 {463},Y_2243,ppm, .0011,.0005,47.09, .0015, .0008
Se1960,196.090 {472},Y_2243,ppm, .0037,.0019,49.56, .0024, .0050
Si2516,251.611 {134},Y_3710,ppm, 7.252,.0293,.4034, 7.231, 7.273
Sn1899,189.989 {477},In2306,ppm, .0019,.0001,4.617, .0018, .0020
Sr4215,421.552 { 80},Y_3710,ppm, .2087,.0011,.5118, .2080, .2095
Ti3349,334.904 {101},Y_3600,ppm, .0013,.0002,15.87, .0015, .0012
Tl1908,190.856 {477},In2306,ppm, .0008,.0014,192.8, .0018, -.0003
U_3670,367.007 { 92},Y_3600,ppm, .0521,.0201,38.56, .0663, .0379
V_2924,292.402 {115},Y_3600,ppm, .0002,.0000,6.440, .0002, .0002
W_2397,239.709 {140},Y_2243,ppm, .0102,.0170,166.8, .0222, -.0018
Zn2062,206.200 {463},In2306,ppm, .0574,.0001,.1680, .0574, .0573

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 252.98,6.8429,2.7050,257.82,248.14
In2306,230.606 {446},Cts/S, 15477.,5.6101,.03625,15481.,15473.
Y_2243,224.306 {450},Cts/S, 22445.,7.4886,.03336,22450.,22439.
Y_3600,360.073 { 94},Cts/S, 162400.,329.61,.20296,162630.,162170.
Y_3710,371.030 { 91},Cts/S, 13893.,60.956,.43874,13936.,13850.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .4818,.0016,.3323, .4807, .4829
Al3082,308.215 {109},In2306,ppm, 19.33,.2555,1.321, 19.15, 19.52
As1890,189.042 {478},Y_2243,ppm, 1.015,.0035,.3413, 1.017, 1.012
B_2496,249.678 {135},Y_3710,ppm, .9677,.0000,.0012, .9677, .9677
Ba4554,455.403 { 74},Y_3710,ppm, .9759,.0049,.4979, .9725, .9794
Be3130,313.042 {108},Y_3710,ppm, 1.002,.0043,.4297, .9987, 1.005
Ca3158,315.887 {107},In2306,ppm, 19.56,.2883,1.474, 19.36, 19.77
Cd2288,228.802 {447},Y_2243,ppm, 1.014,.0029,.2825, 1.016, 1.012
Co2286,228.616 {447},In2306,ppm, .9724,.0018,.1814, .9736, .9711
Cr2677,267.716 {126},Y_3600,ppm, .9225,.0042,.4503, .9196, .9255
Cu3247,324.754 {104},Y_3600,ppm, .9164,.0052,.5708, .9127, .9201
Fe2404,240.488 {140},In2306,ppm, 19.65,.2582,1.314, 19.46, 19.83
K_7664,766.490 { 44},Y_3710,ppm, 19.43,.1504,.7742, 19.32, 19.54
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Li6707,670.784 { 50},Y_3710,ppm, .9719,.0069,.7061, .9670, .9767
Mg2790,279.079 {121},Y_3710,ppm, 19.76,.0126,.0638, 19.75, 19.77
Mn2576,257.610 {131},Y_3600,ppm, .9526,.0022,.2340, .9510, .9541
Mo2020,202.030 {467},Y_2243,ppm, 1.021,.0075,.7344, 1.026, 1.016
Na5895,589.592 { 57},Y_3710,ppm, 19.61,.1195,.6090, 19.53, 19.70
Ni2316,231.604 {445},In2306,ppm, .9978,.0014,.1354, .9987, .9968
P_1782,178.284 {489},In2306,ppm, 10.13,.0403,.3981, 10.16, 10.11
Pb2203,220.353 {453},In2306,ppm, .9961,.0074,.7436, 1.001, .9909
S_1820,182.034 {485},Y_2243,ppm, 10.30,.0419,.4073, 10.33, 10.27
Sb2068,206.833 {463},Y_2243,ppm, 2.084,.0075,.3606, 2.089, 2.079
Se1960,196.090 {472},Y_2243,ppm, 1.004,.0045,.4461, 1.007, 1.001
Si2516,251.611 {134},Y_3710,ppm, 9.333,.0460,.4933, 9.300, 9.366
Sn1899,189.989 {477},In2306,ppm, .9526,.0026,.2695, .9544, .9508
Sr4215,421.552 { 80},Y_3710,ppm, .9756,.0064,.6569, .9711, .9802
Ti3349,334.904 {101},Y_3600,ppm, .9674,.0024,.2447, .9657, .9690
Tl1908,190.856 {477},In2306,ppm, .9601,.0026,.2760, .9620, .9583
U_3670,367.007 { 92},Y_3600,ppm, .8519,.0232,2.721, .8683, .8355
V_2924,292.402 {115},Y_3600,ppm, .9544,.0025,.2614, .9526, .9561
W_2397,239.709 {140},Y_2243,ppm, 1.073,.0212,1.977, 1.088, 1.058
Zn2062,206.200 {463},In2306,ppm, .9762,.0007,.0685, .9766, .9757

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 247.61,1.6910,.68293,248.80,246.41
In2306,230.606 {446},Cts/S, 15332.,32.313,.21075,15309.,15355.
Y_2243,224.306 {450},Cts/S, 22986.,51.819,.22543,22950.,23023.
Y_3600,360.073 { 94},Cts/S, 163080.,284.93,.17472,162880.,163280.
Y_3710,371.030 { 91},Cts/S, 13643.,11.541,.08459,13635.,13651.

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Al3082,308.215 {109},In2306,ppm, .9592,.0047,.4932, .9558, .9625
As1890,189.042 {478},Y_2243,ppm, .0316,.0004,1.421, .0319, .0313
B_2496,249.678 {135},Y_3710,ppm, .1980,.0101,5.083, .2052, .1909
Ba4554,455.403 { 74},Y_3710,ppm, .0301,.0001,.2478, .0301, .0300
Be3130,313.042 {108},Y_3710,ppm, .0303,.0000,.1645, .0303, .0302
Ca3158,315.887 {107},In2306,ppm, .9705,.0107,1.105, .9629, .9781
Cd2288,228.802 {447},Y_2243,ppm, .0311,.0001,.2749, .0311, .0312
Co2286,228.616 {447},In2306,ppm, .0287,.0003,.9495, .0289, .0285
Cr2677,267.716 {126},Y_3600,ppm, .0288,.0002,.7781, .0290, .0287
Cu3247,324.754 {104},Y_3600,ppm, .0281,.0001,.1947, .0280, .0281
Fe2404,240.488 {140},In2306,ppm, .9791,.0058,.5947, .9749, .9832
K_7664,766.490 { 44},Y_3710,ppm, .9780,.0057,.5815, .9740, .9821
Li6707,670.784 { 50},Y_3710,ppm, .0305,.0003,.9004, .0306, .0303
Mg2790,279.079 {121},Y_3710,ppm, .9936,.0189,1.905, .9802, 1.007
Mn2576,257.610 {131},Y_3600,ppm, .0295,.0000,.0735, .0295, .0295
Mo2020,202.030 {467},Y_2243,ppm, .0313,.0001,.4129, .0312, .0314
Na5895,589.592 { 57},Y_3710,ppm, 1.063,.0004,.0350, 1.063, 1.063
Ni2316,231.604 {445},In2306,ppm, .0292,.0000,.1298, .0291, .0292
P_1782,178.284 {489},In2306,ppm, 1.886,.0024,.1262, 1.884, 1.888
Pb2203,220.353 {453},In2306,ppm, .0294,.0010,3.529, .0287, .0301
S_1820,182.034 {485},Y_2243,ppm, 1.981,.0037,.1863, 1.979, 1.984
Sb2068,206.833 {463},Y_2243,ppm, .2360,.0005,.2153, .2364, .2357
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Se1960,196.090 {472},Y_2243,ppm, .0326,.0008,2.489, .0320, .0331
Si2516,251.611 {134},Y_3710,ppm, .2950,.0126,4.267, .3039, .2861
Sn1899,189.989 {477},In2306,ppm, .0281,.0003,1.127, .0279, .0283
Sr4215,421.552 { 80},Y_3710,ppm, .0303,.0001,.4837, .0304, .0302
Ti3349,334.904 {101},Y_3600,ppm, .0294,.0003,1.115, .0292, .0296
Tl1908,190.856 {477},In2306,ppm, .0275,.0030,11.01, .0296, .0253
U_3670,367.007 { 92},Y_3600,ppm, .1686,.0005,.3218, .1690, .1682
V_2924,292.402 {115},Y_3600,ppm, .0288,.0000,.0578, .0288, .0288
W_2397,239.709 {140},Y_2243,ppm, .2115,.0166,7.853, .2232, .1997
Zn2062,206.200 {463},In2306,ppm, .1832,.0001,.0433, .1833, .1832

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 257.86,.71939,.27899,258.36,257.35
In2306,230.606 {446},Cts/S, 17081.,65.265,.38209,17035.,17127.
Y_2243,224.306 {450},Cts/S, 23757.,79.103,.33296,23701.,23813.
Y_3600,360.073 { 94},Cts/S, 170910.,684.00,.40020,170430.,171400.
Y_3710,371.030 { 91},Cts/S, 13967.,45.225,.32381,13999.,13935.

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[Results]
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Al3082,308.215 {109},In2306,ppm, .0182,.0054,29.93, .0143, .0221
As1890,189.042 {478},Y_2243,ppm, -.0001,.0004,523.9, -.0003, .0002
B_2496,249.678 {135},Y_3710,ppm, .0035,.0015,43.59, .0024, .0045
Ba4554,455.403 { 74},Y_3710,ppm, -.0000,.0004,808.4, .0002, -.0003
Be3130,313.042 {108},Y_3710,ppm, .0002,.0000,10.38, .0002, .0002
Ca3158,315.887 {107},In2306,ppm, .0009,.0049,560.9, -.0026, .0043
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Cr2677,267.716 {126},Y_3600,ppm, .0001,.0000,5.254, .0002, .0001
Cu3247,324.754 {104},Y_3600,ppm, -.0009,.0002,17.88, -.0008, -.0010
Fe2404,240.488 {140},In2306,ppm, -.0088,.0062,70.35, -.0132, -.0044
K_7664,766.490 { 44},Y_3710,ppm, -.0233,.0195,83.86, -.0095, -.0371
Li6707,670.784 { 50},Y_3710,ppm, -.0005,.0001,18.33, -.0006, -.0004
Mg2790,279.079 {121},Y_3710,ppm, -.0018,.0330,1811., -.0251, .0215
Mn2576,257.610 {131},Y_3600,ppm, .0000,.0001,396.3, .0001, -.0000
Mo2020,202.030 {467},Y_2243,ppm, -.0003,.0000,6.620, -.0003, -.0003
Na5895,589.592 { 57},Y_3710,ppm, .0567,.0004,.6308, .0570, .0565
Ni2316,231.604 {445},In2306,ppm, .0002,.0002,129.1, .0000, .0003
P_1782,178.284 {489},In2306,ppm, -.0006,.0013,236.3, -.0015, .0004
Pb2203,220.353 {453},In2306,ppm, -.0006,.0011,187.1, -.0014, .0002
S_1820,182.034 {485},Y_2243,ppm, .0084,.0007,7.984, .0080, .0089
Sb2068,206.833 {463},Y_2243,ppm, .0024,.0006,23.58, .0028, .0020
Se1960,196.090 {472},Y_2243,ppm, -.0018,.0011,60.85, -.0026, -.0010
Si2516,251.611 {134},Y_3710,ppm, -.0003,.0085,2763., .0057, -.0063
Sn1899,189.989 {477},In2306,ppm, -.0003,.0001,39.98, -.0002, -.0004
Sr4215,421.552 { 80},Y_3710,ppm, .0000,.0000,164.0, -.0000, .0001
Ti3349,334.904 {101},Y_3600,ppm, .0001,.0004,384.3, .0003, -.0002
Tl1908,190.856 {477},In2306,ppm, .0014,.0019,138.1, .0000, .0027
U_3670,367.007 { 92},Y_3600,ppm, -.0090,.0265,293.4, -.0278, .0097
V_2924,292.402 {115},Y_3600,ppm, .0001,.0002,163.1, -.0000, .0003
W_2397,239.709 {140},Y_2243,ppm, .0212,.0138,65.08, .0114, .0310
Zn2062,206.200 {463},In2306,ppm, -.0009,.0001,8.399, -.0008, -.0009
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[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 261.25,.59712,.22856,261.67,260.83
In2306,230.606 {446},Cts/S, 17270.,24.486,.14178,17253.,17287.
Y_2243,224.306 {450},Cts/S, 23502.,77.844,.33122,23447.,23557.
Y_3600,360.073 { 94},Cts/S, 171850.,1.5450,.00090,171850.,171850.
Y_3710,371.030 { 91},Cts/S, 13862.,118.96,.85815,13778.,13947.

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Custom ID1=
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Custom ID3=
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Mode=CONC
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0008,.0000,.3076, -.0008, -.0008
Al3082,308.215 {109},In2306,ppm, .1168,.0097,8.297, .1236, .1099
As1890,189.042 {478},Y_2243,ppm, .0012,.0002,14.01, .0014, .0011
B_2496,249.678 {135},Y_3710,ppm, .0671,.0024,3.603, .0654, .0688
Ba4554,455.403 { 74},Y_3710,ppm, .0338,.0006,1.647, .0334, .0342
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,108.9, .0000, .0001
Ca3158,315.887 {107},In2306,ppm, 20.16,.1716,.8512, 20.04, 20.28
Cd2288,228.802 {447},Y_2243,ppm, .0003,.0000,8.101, .0003, .0003
Co2286,228.616 {447},In2306,ppm, .0005,.0000,9.520, .0004, .0005
Cr2677,267.716 {126},Y_3600,ppm, .0020,.0001,6.065, .0021, .0020
Cu3247,324.754 {104},Y_3600,ppm, .0193,.0003,1.451, .0195, .0191
Fe2404,240.488 {140},In2306,ppm, 1.836,.0041,.2206, 1.833, 1.839
K_7664,766.490 { 44},Y_3710,ppm, 11.43,.0531,.4643, 11.39, 11.47
Li6707,670.784 { 50},Y_3710,ppm, .0124,.0002,1.560, .0126, .0123
Mg2790,279.079 {121},Y_3710,ppm, 9.145,.1408,1.540, 9.046, 9.245
Mn2576,257.610 {131},Y_3600,ppm, .0567,.0001,.1545, .0566, .0567
Mo2020,202.030 {467},Y_2243,ppm, .0019,.0000,.1592, .0019, .0019
Na5895,589.592 { 57},Y_3710,ppm, 32.98,.1601,.4855, 32.87, 33.09
Ni2316,231.604 {445},In2306,ppm, .0044,.0001,2.604, .0043, .0045
P_1782,178.284 {489},In2306,ppm, 10.44,.0035,.0340, 10.44, 10.45
Pb2203,220.353 {453},In2306,ppm, .0003,.0001,34.40, .0004, .0002
S_1820,182.034 {485},Y_2243,ppm, 18.10,.0208,.1147, 18.11, 18.08
Sb2068,206.833 {463},Y_2243,ppm, .0024,.0011,45.39, .0032, .0016
Se1960,196.090 {472},Y_2243,ppm, .0022,.0010,46.58, .0015, .0030
Si2516,251.611 {134},Y_3710,ppm, 2.594,.0105,.4049, 2.586, 2.601
Sn1899,189.989 {477},In2306,ppm, .0010,.0005,51.28, .0014, .0006
Sr4215,421.552 { 80},Y_3710,ppm, .1250,.0010,.8363, .1242, .1257
Ti3349,334.904 {101},Y_3600,ppm, .0032,.0002,4.821, .0031, .0033
Tl1908,190.856 {477},In2306,ppm, .0049,.0012,23.86, .0041, .0057
U_3670,367.007 { 92},Y_3600,ppm, .1763,.0144,8.181, .1661, .1865
V_2924,292.402 {115},Y_3600,ppm, .0002,.0002,137.2, .0003, .0000
W_2397,239.709 {140},Y_2243,ppm, .0399,.0297,74.52, .0609, .0189
Zn2062,206.200 {463},In2306,ppm, .0652,.0003,.3984, .0650, .0653

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 255.53,1.2885,.50427,256.44,254.61
In2306,230.606 {446},Cts/S, 15584.,2.6709,.01714,15586.,15583.
Y_2243,224.306 {450},Cts/S, 22412.,30.899,.13787,22434.,22390.
Y_3600,360.073 { 94},Cts/S, 164200.,587.27,.35765,164620.,163790.
Y_3710,371.030 { 91},Cts/S, 14026.,103.88,.74058,14100.,13953.

[Sample Header]
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Custom ID3=
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0019,.0002,11.29, .0020, .0017
Al3082,308.215 {109},In2306,ppm, .1163,.0022,1.903, .1147, .1178
As1890,189.042 {478},Y_2243,ppm, .0033,.0016,47.37, .0022, .0044
B_2496,249.678 {135},Y_3710,ppm, .1757,.0084,4.765, .1698, .1816
Ba4554,455.403 { 74},Y_3710,ppm, .0524,.0001,.1901, .0525, .0523
Be3130,313.042 {108},Y_3710,ppm, .0003,.0001,22.10, .0003, .0002
Ca3158,315.887 {107},In2306,ppm, 35.52,.1876,.5280, 35.39, 35.66
Cd2288,228.802 {447},Y_2243,ppm, .0006,.0001,21.09, .0007, .0005
Co2286,228.616 {447},In2306,ppm, .0006,.0001,8.505, .0006, .0007
Cr2677,267.716 {126},Y_3600,ppm, .0026,.0000,1.015, .0026, .0027
Cu3247,324.754 {104},Y_3600,ppm, .1812,.0000,.0078, .1812, .1812
Fe2404,240.488 {140},In2306,ppm, .2166,.0042,1.945, .2136, .2196
K_7664,766.490 { 44},Y_3710,ppm, 55.92,.0593,.1061, 55.96, 55.88
Li6707,670.784 { 50},Y_3710,ppm, .0351,.0003,.7294, .0353, .0349
Mg2790,279.079 {121},Y_3710,ppm, 23.36,.1392,.5956, 23.27, 23.46
Mn2576,257.610 {131},Y_3600,ppm, .0243,.0001,.5309, .0242, .0244
Mo2020,202.030 {467},Y_2243,ppm, .0194,.0002,1.275, .0196, .0192
Na5895,589.592 { 57},Y_3710,ppm, 225.5,1.906,.8451, 224.2, 226.9
Ni2316,231.604 {445},In2306,ppm, .0059,.0002,2.885, .0060, .0057
P_1782,178.284 {489},In2306,ppm, 17.91,.0041,.0228, 17.91, 17.92
Pb2203,220.353 {453},In2306,ppm, .0007,.0001,13.99, .0008, .0007
S_1820,182.034 {485},Y_2243,ppm, 75.11,.0314,.0418, 75.09, 75.13
Sb2068,206.833 {463},Y_2243,ppm, .0022,.0007,33.10, .0017, .0027
Se1960,196.090 {472},Y_2243,ppm, .0041,.0006,15.17, .0046, .0037
Si2516,251.611 {134},Y_3710,ppm, 7.926,.0093,.1168, 7.919, 7.932
Sn1899,189.989 {477},In2306,ppm, .0022,.0000,1.792, .0022, .0022
Sr4215,421.552 { 80},Y_3710,ppm, .2514,.0001,.0317, .2513, .2514
Ti3349,334.904 {101},Y_3600,ppm, .0024,.0001,2.841, .0024, .0025
Tl1908,190.856 {477},In2306,ppm, -.0012,.0042,354.9, .0018, -.0042
U_3670,367.007 { 92},Y_3600,ppm, .1913,.0649,33.93, .2372, .1454
V_2924,292.402 {115},Y_3600,ppm, .0007,.0003,43.09, .0009, .0005
W_2397,239.709 {140},Y_2243,ppm, .0605,.0109,18.09, .0682, .0528
Zn2062,206.200 {463},In2306,ppm, .1317,.0001,.0538, .1317, .1318

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 247.31,1.9451,.78651,248.68,245.93
In2306,230.606 {446},Cts/S, 13965.,9.4798,.06788,13972.,13958.
Y_2243,224.306 {450},Cts/S, 21176.,24.425,.11534,21194.,21159.
Y_3600,360.073 { 94},Cts/S, 153600.,164.08,.10682,153720.,153490.
Y_3710,371.030 { 91},Cts/S, 13704.,16.950,.12368,13716.,13692.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0009,.0002,19.75, -.0008, -.0010
Al3082,308.215 {109},In2306,ppm, .4317,.0008,.1875, .4323, .4311
As1890,189.042 {478},Y_2243,ppm, .0019,.0007,38.04, .0014, .0025
B_2496,249.678 {135},Y_3710,ppm, .0158,.0024,14.99, .0141, .0174
Ba4554,455.403 { 74},Y_3710,ppm, .0182,.0001,.7717, .0181, .0183
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,33.29, .0001, .0002
Ca3158,315.887 {107},In2306,ppm, 24.75,.1777,.7182, 24.62, 24.87
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,62.28, .0001, .0001
Co2286,228.616 {447},In2306,ppm, .0003,.0002,70.63, .0001, .0004
Cr2677,267.716 {126},Y_3600,ppm, .0024,.0001,2.965, .0025, .0024
Cu3247,324.754 {104},Y_3600,ppm, .0030,.0001,2.912, .0029, .0031
Fe2404,240.488 {140},In2306,ppm, .3320,.0126,3.807, .3410, .3231
K_7664,766.490 { 44},Y_3710,ppm, 5.349,.0104,.1949, 5.356, 5.341
Li6707,670.784 { 50},Y_3710,ppm, .0020,.0002,9.192, .0021, .0018
Mg2790,279.079 {121},Y_3710,ppm, .6735,.0347,5.157, .6980, .6489
Mn2576,257.610 {131},Y_3600,ppm, .0167,.0000,.0817, .0167, .0167
Mo2020,202.030 {467},Y_2243,ppm, -.0001,.0001,179.1, -.0001, .0000
Na5895,589.592 { 57},Y_3710,ppm, 2.628,.0121,.4607, 2.637, 2.620
Ni2316,231.604 {445},In2306,ppm, .0005,.0001,10.07, .0006, .0005
P_1782,178.284 {489},In2306,ppm, .1727,.0007,.3778, .1732, .1723
Pb2203,220.353 {453},In2306,ppm, -.0004,.0012,322.8, .0005, -.0012
S_1820,182.034 {485},Y_2243,ppm, 1.570,.0069,.4371, 1.565, 1.575
Sb2068,206.833 {463},Y_2243,ppm, -.0002,.0000,9.717, -.0003, -.0002
Se1960,196.090 {472},Y_2243,ppm, .0006,.0002,28.60, .0007, .0005
Si2516,251.611 {134},Y_3710,ppm, 1.677,.0174,1.038, 1.665, 1.689
Sn1899,189.989 {477},In2306,ppm, .0014,.0004,25.11, .0017, .0012
Sr4215,421.552 { 80},Y_3710,ppm, .0620,.0001,.2326, .0621, .0619
Ti3349,334.904 {101},Y_3600,ppm, .0051,.0000,.3584, .0052, .0051
Tl1908,190.856 {477},In2306,ppm, -.0022,.0003,12.48, -.0024, -.0020
U_3670,367.007 { 92},Y_3600,ppm, .0748,.0157,21.02, .0637, .0859
V_2924,292.402 {115},Y_3600,ppm, .0023,.0001,5.598, .0024, .0022
W_2397,239.709 {140},Y_2243,ppm, .0041,.0025,60.80, .0059, .0024
Zn2062,206.200 {463},In2306,ppm, .0655,.0001,.1503, .0656, .0655

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 258.32,1.8333,.70970,259.61,257.02
In2306,230.606 {446},Cts/S, 16357.,27.387,.16743,16376.,16337.
Y_2243,224.306 {450},Cts/S, 23014.,72.319,.31424,23065.,22963.
Y_3600,360.073 { 94},Cts/S, 168190.,960.48,.57106,168870.,167510.
Y_3710,371.030 { 91},Cts/S, 13970.,11.138,.07973,13978.,13962.

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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0003,.0003,89.57, -.0001, -.0005
Al3082,308.215 {109},In2306,ppm, 1.565,.0092,.5892, 1.559, 1.572
As1890,189.042 {478},Y_2243,ppm, .0080,.0001,1.247, .0079, .0081
B_2496,249.678 {135},Y_3710,ppm, .1247,.0045,3.614, .1215, .1279
Ba4554,455.403 { 74},Y_3710,ppm, .0337,.0002,.5000, .0336, .0338
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Be3130,313.042 {108},Y_3710,ppm, .0002,.0000,7.153, .0002, .0002
Ca3158,315.887 {107},In2306,ppm, 23.82,.0993,.4169, 23.89, 23.75
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,9.665, .0001, .0001
Co2286,228.616 {447},In2306,ppm, .0028,.0001,3.028, .0027, .0028
Cr2677,267.716 {126},Y_3600,ppm, .0018,.0001,3.489, .0018, .0018
Cu3247,324.754 {104},Y_3600,ppm, .0052,.0001,1.149, .0052, .0053
Fe2404,240.488 {140},In2306,ppm, 1.031,.0030,.2925, 1.029, 1.033
K_7664,766.490 { 44},Y_3710,ppm, 12.52,.0208,.1658, 12.50, 12.53
Li6707,670.784 { 50},Y_3710,ppm, .0179,.0005,3.050, .0183, .0175
Mg2790,279.079 {121},Y_3710,ppm, 1.623,.0054,.3344, 1.619, 1.627
Mn2576,257.610 {131},Y_3600,ppm, .0758,.0000,.0539, .0758, .0757
Mo2020,202.030 {467},Y_2243,ppm, .0007,.0000,5.567, .0007, .0007
Na5895,589.592 { 57},Y_3710,ppm, 33.87,.1493,.4407, 33.76, 33.98
Ni2316,231.604 {445},In2306,ppm, .0043,.0002,4.654, .0045, .0042
P_1782,178.284 {489},In2306,ppm, .7885,.0010,.1318, .7877, .7892
Pb2203,220.353 {453},In2306,ppm, -.0011,.0008,73.97, -.0017, -.0005
S_1820,182.034 {485},Y_2243,ppm, 10.08,.0066,.0652, 10.09, 10.08
Sb2068,206.833 {463},Y_2243,ppm, -.0001,.0020,1696., -.0015, .0013
Se1960,196.090 {472},Y_2243,ppm, .0014,.0017,119.8, .0026, .0002
Si2516,251.611 {134},Y_3710,ppm, 5.003,.0584,1.168, 4.962, 5.044
Sn1899,189.989 {477},In2306,ppm, .0007,.0006,78.48, .0012, .0003
Sr4215,421.552 { 80},Y_3710,ppm, .2030,.0016,.7896, .2019, .2041
Ti3349,334.904 {101},Y_3600,ppm, .0124,.0000,.0016, .0124, .0124
Tl1908,190.856 {477},In2306,ppm, -.0035,.0021,58.57, -.0021, -.0050
U_3670,367.007 { 92},Y_3600,ppm, .0282,.0114,40.49, .0362, .0201
V_2924,292.402 {115},Y_3600,ppm, .0117,.0002,1.659, .0116, .0118
W_2397,239.709 {140},Y_2243,ppm, .0243,.0286,117.5, .0041, .0446
Zn2062,206.200 {463},In2306,ppm, .0556,.0003,.5279, .0554, .0558

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 252.09,1.3597,.53937,251.13,253.06
In2306,230.606 {446},Cts/S, 15645.,64.210,.41043,15690.,15599.
Y_2243,224.306 {450},Cts/S, 22682.,66.355,.29255,22729.,22635.
Y_3600,360.073 { 94},Cts/S, 165500.,141.07,.08524,165600.,165400.
Y_3710,371.030 { 91},Cts/S, 13841.,103.22,.74573,13914.,13768.

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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0010,.0004,42.80, -.0007, -.0012
Al3082,308.215 {109},In2306,ppm, 7.064,.0087,.1234, 7.057, 7.070
As1890,189.042 {478},Y_2243,ppm, .0105,.0016,15.59, .0094, .0117
B_2496,249.678 {135},Y_3710,ppm, .0940,.0013,1.382, .0949, .0931
Ba4554,455.403 { 74},Y_3710,ppm, .1013,.0001,.1336, .1014, .1012
Be3130,313.042 {108},Y_3710,ppm, .0004,.0001,22.74, .0005, .0003
Ca3158,315.887 {107},In2306,ppm, 49.54,.0607,.1226, 49.49, 49.58
Cd2288,228.802 {447},Y_2243,ppm, .0003,.0001,41.99, .0002, .0004
Co2286,228.616 {447},In2306,ppm, .0028,.0001,3.388, .0029, .0028
Cr2677,267.716 {126},Y_3600,ppm, .0080,.0001,.7628, .0079, .0080
Cu3247,324.754 {104},Y_3600,ppm, .0063,.0002,3.120, .0064, .0062
Fe2404,240.488 {140},In2306,ppm, 4.257,.0272,.6388, 4.238, 4.277
K_7664,766.490 { 44},Y_3710,ppm, 27.27,.1351,.4953, 27.37, 27.18
Li6707,670.784 { 50},Y_3710,ppm, .0137,.0005,3.323, .0133, .0140
Mg2790,279.079 {121},Y_3710,ppm, 5.455,.0306,.5605, 5.476, 5.433
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Mn2576,257.610 {131},Y_3600,ppm, .7008,.0025,.3561, .7026, .6990
Mo2020,202.030 {467},Y_2243,ppm, .0003,.0002,50.31, .0004, .0002
Na5895,589.592 { 57},Y_3710,ppm, 8.503,.0330,.3885, 8.527, 8.480
Ni2316,231.604 {445},In2306,ppm, .0056,.0001,2.161, .0055, .0057
P_1782,178.284 {489},In2306,ppm, 1.499,.0025,.1672, 1.497, 1.501
Pb2203,220.353 {453},In2306,ppm, .0011,.0004,32.75, .0014, .0009
S_1820,182.034 {485},Y_2243,ppm, 21.75,.0367,.1688, 21.73, 21.78
Sb2068,206.833 {463},Y_2243,ppm, .0017,.0036,215.4, .0042, -.0009
Se1960,196.090 {472},Y_2243,ppm, .0035,.0005,13.65, .0038, .0031
Si2516,251.611 {134},Y_3710,ppm, 14.91,.1396,.9363, 15.01, 14.82
Sn1899,189.989 {477},In2306,ppm, .0015,.0002,14.55, .0016, .0013
Sr4215,421.552 { 80},Y_3710,ppm, .1307,.0000,.0015, .1307, .1307
Ti3349,334.904 {101},Y_3600,ppm, .0409,.0004,.9627, .0412, .0407
Tl1908,190.856 {477},In2306,ppm, -.0004,.0010,251.7, .0003, -.0011
U_3670,367.007 { 92},Y_3600,ppm, .1426,.0458,32.10, .1750, .1102
V_2924,292.402 {115},Y_3600,ppm, .0238,.0000,.1242, .0238, .0238
W_2397,239.709 {140},Y_2243,ppm, .0423,.0394,93.09, .0702, .0145
Zn2062,206.200 {463},In2306,ppm, .4934,.0024,.4881, .4951, .4917

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 252.10,.78400,.31098,252.66,251.55
In2306,230.606 {446},Cts/S, 15547.,17.137,.11023,15535.,15559.
Y_2243,224.306 {450},Cts/S, 22747.,34.167,.15021,22771.,22722.
Y_3600,360.073 { 94},Cts/S, 166080.,155.18,.09344,166190.,165970.
Y_3710,371.030 { 91},Cts/S, 14012.,19.645,.14020,13998.,14026.

[Sample Header]
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Username=admin
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Custom ID2=
Custom ID3=
Run Time=11/19/2019 12:14:33
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0004,.0002,56.76, -.0003, -.0006
Al3082,308.215 {109},In2306,ppm, 3.238,.0161,.4968, 3.227, 3.250
As1890,189.042 {478},Y_2243,ppm, .0107,.0001,.7362, .0108, .0107
B_2496,249.678 {135},Y_3710,ppm, .0811,.0008,.9594, .0816, .0805
Ba4554,455.403 { 74},Y_3710,ppm, .0840,.0005,.6399, .0836, .0844
Be3130,313.042 {108},Y_3710,ppm, .0003,.0000,15.54, .0003, .0002
Ca3158,315.887 {107},In2306,ppm, 47.81,.2750,.5752, 48.01, 47.62
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0000,16.82, .0002, .0001
Co2286,228.616 {447},In2306,ppm, .0007,.0000,5.262, .0007, .0007
Cr2677,267.716 {126},Y_3600,ppm, .0027,.0001,4.291, .0027, .0026
Cu3247,324.754 {104},Y_3600,ppm, .0003,.0004,111.9, .0001, .0006
Fe2404,240.488 {140},In2306,ppm, 2.273,.0028,.1219, 2.275, 2.271
K_7664,766.490 { 44},Y_3710,ppm, 1.746,.0202,1.156, 1.732, 1.760
Li6707,670.784 { 50},Y_3710,ppm, .0041,.0004,9.536, .0043, .0038
Mg2790,279.079 {121},Y_3710,ppm, 2.179,.0020,.0919, 2.178, 2.181
Mn2576,257.610 {131},Y_3600,ppm, .1355,.0003,.2102, .1353, .1357
Mo2020,202.030 {467},Y_2243,ppm, -.0001,.0001,139.3, -.0002, -.0000
Na5895,589.592 { 57},Y_3710,ppm, 19.70,.0012,.0062, 19.69, 19.70
Ni2316,231.604 {445},In2306,ppm, .0015,.0002,11.27, .0014, .0016
P_1782,178.284 {489},In2306,ppm, .1315,.0016,1.206, .1304, .1326
Pb2203,220.353 {453},In2306,ppm, -.0006,.0002,29.66, -.0008, -.0005
S_1820,182.034 {485},Y_2243,ppm, 8.760,.0110,.1251, 8.767, 8.752
Sb2068,206.833 {463},Y_2243,ppm, -.0003,.0015,500.4, .0008, -.0014
Se1960,196.090 {472},Y_2243,ppm, .0023,.0014,60.56, .0032, .0013
Si2516,251.611 {134},Y_3710,ppm, 13.78,.0729,.5290, 13.73, 13.83
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Sn1899,189.989 {477},In2306,ppm, .0013,.0001,5.558, .0012, .0013
Sr4215,421.552 { 80},Y_3710,ppm, .1631,.0006,.3689, .1626, .1635
Ti3349,334.904 {101},Y_3600,ppm, .0166,.0001,.7649, .0165, .0167
Tl1908,190.856 {477},In2306,ppm, .0018,.0012,69.61, .0027, .0009
U_3670,367.007 { 92},Y_3600,ppm, .0298,.0091,30.63, .0233, .0362
V_2924,292.402 {115},Y_3600,ppm, .0092,.0000,.3249, .0091, .0092
W_2397,239.709 {140},Y_2243,ppm, -.0122,.0153,126.0, -.0230, -.0013
Zn2062,206.200 {463},In2306,ppm, .0174,.0001,.4339, .0175, .0174

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 252.28,.80212,.31795,251.71,252.85
In2306,230.606 {446},Cts/S, 15768.,15.938,.10108,15779.,15756.
Y_2243,224.306 {450},Cts/S, 22835.,22.888,.10023,22852.,22819.
Y_3600,360.073 { 94},Cts/S, 168150.,662.08,.39374,168620.,167680.
Y_3710,371.030 { 91},Cts/S, 13974.,53.562,.38331,13936.,14012.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0009,.0003,29.41, -.0007, -.0011
Al3082,308.215 {109},In2306,ppm, 1.093,.0192,1.754, 1.107, 1.080
As1890,189.042 {478},Y_2243,ppm, .0023,.0016,68.70, .0034, .0012
B_2496,249.678 {135},Y_3710,ppm, .0454,.0026,5.743, .0473, .0436
Ba4554,455.403 { 74},Y_3710,ppm, .0260,.0000,.0719, .0260, .0260
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,36.33, .0001, .0002
Ca3158,315.887 {107},In2306,ppm, 34.32,.3890,1.134, 34.60, 34.05
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0001,477.9, .0000, -.0001
Co2286,228.616 {447},In2306,ppm, .0007,.0000,6.702, .0008, .0007
Cr2677,267.716 {126},Y_3600,ppm, .0021,.0001,3.258, .0021, .0020
Cu3247,324.754 {104},Y_3600,ppm, .0008,.0004,54.46, .0005, .0010
Fe2404,240.488 {140},In2306,ppm, .6541,.0067,1.031, .6588, .6493
K_7664,766.490 { 44},Y_3710,ppm, 7.085,.0216,.3043, 7.070, 7.101
Li6707,670.784 { 50},Y_3710,ppm, .0029,.0006,19.51, .0025, .0032
Mg2790,279.079 {121},Y_3710,ppm, .9439,.0363,3.849, .9182, .9695
Mn2576,257.610 {131},Y_3600,ppm, .0581,.0001,.1181, .0581, .0582
Mo2020,202.030 {467},Y_2243,ppm, -.0002,.0002,93.49, -.0003, -.0001
Na5895,589.592 { 57},Y_3710,ppm, 6.049,.0322,.5326, 6.027, 6.072
Ni2316,231.604 {445},In2306,ppm, .0009,.0000,.1971, .0009, .0009
P_1782,178.284 {489},In2306,ppm, .4821,.0335,6.943, .5057, .4584
Pb2203,220.353 {453},In2306,ppm, .0001,.0001,123.9, .0000, .0002
S_1820,182.034 {485},Y_2243,ppm, 3.765,.2635,6.999, 3.951, 3.579
Sb2068,206.833 {463},Y_2243,ppm, .0004,.0002,44.01, .0003, .0006
Se1960,196.090 {472},Y_2243,ppm, .0004,.0029,680.6, -.0016, .0025
Si2516,251.611 {134},Y_3710,ppm, 3.915,.0058,.1478, 3.911, 3.919
Sn1899,189.989 {477},In2306,ppm, .0010,.0003,30.67, .0012, .0008
Sr4215,421.552 { 80},Y_3710,ppm, .0354,.0002,.5626, .0352, .0355
Ti3349,334.904 {101},Y_3600,ppm, .0091,.0002,1.650, .0090, .0093
Tl1908,190.856 {477},In2306,ppm, .0029,.0010,35.86, .0036, .0022
U_3670,367.007 { 92},Y_3600,ppm, .0587,.0127,21.61, .0676, .0497
V_2924,292.402 {115},Y_3600,ppm, .0074,.0001,1.392, .0074, .0075
W_2397,239.709 {140},Y_2243,ppm, -.0238,.0078,32.74, -.0183, -.0293
Zn2062,206.200 {463},In2306,ppm, .1253,.0089,7.129, .1316, .1189

[Internal Standards]
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Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 254.58,5.6687,2.2267,250.57,258.59
In2306,230.606 {446},Cts/S, 16817.,921.49,5.4795,16165.,17469.
Y_2243,224.306 {450},Cts/S, 23862.,1242.4,5.2068,22983.,24740.
Y_3600,360.073 { 94},Cts/S, 169170.,37.643,.02225,169200.,169140.
Y_3710,371.030 { 91},Cts/S, 13985.,139.97,1.0009,13886.,14084.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0002,.0001,70.43, -.0001, -.0003
Al3082,308.215 {109},In2306,ppm, 1.114,.0182,1.632, 1.101, 1.127
As1890,189.042 {478},Y_2243,ppm, .0094,.0003,3.538, .0096, .0092
B_2496,249.678 {135},Y_3710,ppm, .0517,.0017,3.381, .0529, .0504
Ba4554,455.403 { 74},Y_3710,ppm, .0252,.0004,1.607, .0250, .0255
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,17.09, .0001, .0002
Ca3158,315.887 {107},In2306,ppm, 22.44,.3047,1.358, 22.23, 22.66
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,7.094, .0001, .0001
Co2286,228.616 {447},In2306,ppm, .0013,.0001,7.081, .0014, .0012
Cr2677,267.716 {126},Y_3600,ppm, .0016,.0000,1.168, .0016, .0016
Cu3247,324.754 {104},Y_3600,ppm, .0022,.0003,13.31, .0024, .0020
Fe2404,240.488 {140},In2306,ppm, .7282,.0210,2.886, .7133, .7430
K_7664,766.490 { 44},Y_3710,ppm, 15.90,.0470,.2953, 15.87, 15.93
Li6707,670.784 { 50},Y_3710,ppm, .0012,.0005,36.65, .0009, .0016
Mg2790,279.079 {121},Y_3710,ppm, 1.828,.0010,.0533, 1.828, 1.827
Mn2576,257.610 {131},Y_3600,ppm, .0762,.0002,.2564, .0763, .0760
Mo2020,202.030 {467},Y_2243,ppm, -.0000,.0002,526.3, .0001, -.0002
Na5895,589.592 { 57},Y_3710,ppm, 1.055,.0028,.2667, 1.053, 1.057
Ni2316,231.604 {445},In2306,ppm, .0016,.0000,1.690, .0016, .0016
P_1782,178.284 {489},In2306,ppm, 1.100,.0029,.2658, 1.102, 1.098
Pb2203,220.353 {453},In2306,ppm, .0004,.0003,89.27, .0001, .0006
S_1820,182.034 {485},Y_2243,ppm, 3.959,.0045,.1138, 3.962, 3.956
Sb2068,206.833 {463},Y_2243,ppm, .0005,.0002,33.32, .0007, .0004
Se1960,196.090 {472},Y_2243,ppm, .0019,.0011,56.28, .0012, .0027
Si2516,251.611 {134},Y_3710,ppm, 3.435,.0266,.7743, 3.416, 3.453
Sn1899,189.989 {477},In2306,ppm, .0008,.0000,5.115, .0007, .0008
Sr4215,421.552 { 80},Y_3710,ppm, .0639,.0006,.9021, .0635, .0643
Ti3349,334.904 {101},Y_3600,ppm, .0101,.0004,4.403, .0104, .0098
Tl1908,190.856 {477},In2306,ppm, .0016,.0021,130.0, .0031, .0001
U_3670,367.007 { 92},Y_3600,ppm, .0391,.1041,266.2, .1127, -.0345
V_2924,292.402 {115},Y_3600,ppm, .0044,.0001,2.546, .0043, .0045
W_2397,239.709 {140},Y_2243,ppm, -.0030,.0199,660.2, .0110, -.0171
Zn2062,206.200 {463},In2306,ppm, .2274,.0008,.3677, .2279, .2268

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 255.78,1.4400,.56299,256.79,254.76
In2306,230.606 {446},Cts/S, 16307.,34.658,.21254,16331.,16282.
Y_2243,224.306 {450},Cts/S, 22949.,43.304,.18870,22980.,22918.
Y_3600,360.073 { 94},Cts/S, 170830.,18.285,.01070,170810.,170840.
Y_3710,371.030 { 91},Cts/S, 14146.,19.788,.13988,14160.,14132.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0009,.0001,6.694, -.0009, -.0010
Al3082,308.215 {109},In2306,ppm, 1.362,.0055,.4006, 1.358, 1.365
As1890,189.042 {478},Y_2243,ppm, .0036,.0008,22.19, .0030, .0041
B_2496,249.678 {135},Y_3710,ppm, .0360,.0006,1.660, .0356, .0365
Ba4554,455.403 { 74},Y_3710,ppm, .0720,.0006,.7654, .0716, .0724
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,8.172, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, 60.93,.1363,.2237, 60.84, 61.03
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,48.68, .0002, .0001
Co2286,228.616 {447},In2306,ppm, .0009,.0001,12.67, .0008, .0010
Cr2677,267.716 {126},Y_3600,ppm, .0017,.0002,12.46, .0018, .0015
Cu3247,324.754 {104},Y_3600,ppm, .0007,.0002,28.68, .0008, .0005
Fe2404,240.488 {140},In2306,ppm, .8944,.0047,.5265, .8911, .8978
K_7664,766.490 { 44},Y_3710,ppm, 4.826,.0296,.6133, 4.805, 4.847
Li6707,670.784 { 50},Y_3710,ppm, .0020,.0006,29.05, .0024, .0016
Mg2790,279.079 {121},Y_3710,ppm, 1.247,.0168,1.347, 1.235, 1.259
Mn2576,257.610 {131},Y_3600,ppm, .1093,.0003,.2681, .1091, .1095
Mo2020,202.030 {467},Y_2243,ppm, -.0000,.0001,332.9, .0000, -.0001
Na5895,589.592 { 57},Y_3710,ppm, 3.467,.0134,.3851, 3.458, 3.477
Ni2316,231.604 {445},In2306,ppm, .0006,.0002,29.02, .0005, .0007
P_1782,178.284 {489},In2306,ppm, .1546,.0011,.6993, .1554, .1538
Pb2203,220.353 {453},In2306,ppm, -.0003,.0009,290.0, .0003, -.0010
S_1820,182.034 {485},Y_2243,ppm, 2.875,.0017,.0587, 2.874, 2.876
Sb2068,206.833 {463},Y_2243,ppm, .0002,.0018,799.4, .0015, -.0010
Se1960,196.090 {472},Y_2243,ppm, -.0001,.0008,1150., -.0007, .0005
Si2516,251.611 {134},Y_3710,ppm, 6.893,.0498,.7222, 6.858, 6.928
Sn1899,189.989 {477},In2306,ppm, -.0002,.0008,496.7, -.0007, .0004
Sr4215,421.552 { 80},Y_3710,ppm, .0898,.0004,.4368, .0895, .0901
Ti3349,334.904 {101},Y_3600,ppm, .0103,.0005,4.435, .0100, .0107
Tl1908,190.856 {477},In2306,ppm, -.0022,.0037,169.1, .0004, -.0048
U_3670,367.007 { 92},Y_3600,ppm, .0919,.0294,32.02, .1127, .0711
V_2924,292.402 {115},Y_3600,ppm, .0124,.0001,.8529, .0124, .0125
W_2397,239.709 {140},Y_2243,ppm, .0054,.0104,191.3, .0128, -.0019
Zn2062,206.200 {463},In2306,ppm, .0185,.0001,.7404, .0184, .0186

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 255.01,.69553,.27275,254.52,255.50
In2306,230.606 {446},Cts/S, 15918.,44.894,.28203,15886.,15950.
Y_2243,224.306 {450},Cts/S, 22772.,106.96,.46973,22696.,22847.
Y_3600,360.073 { 94},Cts/S, 168610.,172.97,.10258,168490.,168740.
Y_3710,371.030 { 91},Cts/S, 13976.,23.104,.16531,13960.,13992.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0002,.0005,319.0, .0002, -.0006
Al3082,308.215 {109},In2306,ppm, 1.204,.0275,2.280, 1.223, 1.185
As1890,189.042 {478},Y_2243,ppm, .0039,.0015,37.71, .0029, .0050
B_2496,249.678 {135},Y_3710,ppm, .0411,.0017,4.025, .0400, .0423
Ba4554,455.403 { 74},Y_3710,ppm, .0424,.0002,.4140, .0425, .0422
Be3130,313.042 {108},Y_3710,ppm, .0002,.0001,36.94, .0001, .0002
Ca3158,315.887 {107},In2306,ppm, 49.81,.1217,.2443, 49.73, 49.90
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,11.71, .0001, .0001
Co2286,228.616 {447},In2306,ppm, .0008,.0001,8.196, .0007, .0008
Cr2677,267.716 {126},Y_3600,ppm, .0014,.0002,15.77, .0012, .0015
Cu3247,324.754 {104},Y_3600,ppm, .0008,.0001,11.97, .0007, .0008
Fe2404,240.488 {140},In2306,ppm, .7364,.0064,.8647, .7319, .7409
K_7664,766.490 { 44},Y_3710,ppm, 4.767,.0334,.6999, 4.791, 4.744
Li6707,670.784 { 50},Y_3710,ppm, .0024,.0004,15.00, .0021, .0026
Mg2790,279.079 {121},Y_3710,ppm, 1.263,.0204,1.615, 1.277, 1.248
Mn2576,257.610 {131},Y_3600,ppm, .0407,.0001,.2489, .0406, .0408
Mo2020,202.030 {467},Y_2243,ppm, .0002,.0002,84.69, .0003, .0001
Na5895,589.592 { 57},Y_3710,ppm, 3.722,.0034,.0924, 3.725, 3.720
Ni2316,231.604 {445},In2306,ppm, .0005,.0001,16.74, .0005, .0006
P_1782,178.284 {489},In2306,ppm, .3451,.0011,.3232, .3459, .3443
Pb2203,220.353 {453},In2306,ppm, -.0003,.0001,44.38, -.0002, -.0004
S_1820,182.034 {485},Y_2243,ppm, 2.829,.0021,.0730, 2.830, 2.827
Sb2068,206.833 {463},Y_2243,ppm, .0017,.0004,25.53, .0014, .0020
Se1960,196.090 {472},Y_2243,ppm, .0012,.0027,217.9, .0031, -.0007
Si2516,251.611 {134},Y_3710,ppm, 8.335,.0004,.0042, 8.335, 8.335
Sn1899,189.989 {477},In2306,ppm, -.0005,.0002,38.80, -.0006, -.0003
Sr4215,421.552 { 80},Y_3710,ppm, .0767,.0000,.0239, .0768, .0767
Ti3349,334.904 {101},Y_3600,ppm, .0109,.0003,2.942, .0107, .0111
Tl1908,190.856 {477},In2306,ppm, -.0016,.0010,61.89, -.0023, -.0009
U_3670,367.007 { 92},Y_3600,ppm, .0587,.0123,20.88, .0500, .0674
V_2924,292.402 {115},Y_3600,ppm, .0070,.0000,.6660, .0070, .0070
W_2397,239.709 {140},Y_2243,ppm, .0806,.0160,19.91, .0919, .0692
Zn2062,206.200 {463},In2306,ppm, .0239,.0000,.1391, .0239, .0239

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 255.22,.10641,.04169,255.15,255.30
In2306,230.606 {446},Cts/S, 16073.,58.046,.36113,16114.,16032.
Y_2243,224.306 {450},Cts/S, 22874.,102.59,.44848,22946.,22801.
Y_3600,360.073 { 94},Cts/S, 170130.,1290.9,.75875,169220.,171050.
Y_3710,371.030 { 91},Cts/S, 14040.,8.7184,.06210,14047.,14034.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .4668,.0002,.0420, .4667, .4670
Al3082,308.215 {109},In2306,ppm, 19.32,.1435,.7427, 19.22, 19.43
As1890,189.042 {478},Y_2243,ppm, 1.019,.0041,.4040, 1.022, 1.016
B_2496,249.678 {135},Y_3710,ppm, .9604,.0194,2.018, .9467, .9741
Ba4554,455.403 { 74},Y_3710,ppm, .9732,.0089,.9111, .9669, .9794
Be3130,313.042 {108},Y_3710,ppm, .9907,.0066,.6692, .9861, .9954
Ca3158,315.887 {107},In2306,ppm, 19.62,.1902,.9693, 19.48, 19.75
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Cd2288,228.802 {447},Y_2243,ppm, 1.023,.0011,.1096, 1.024, 1.022
Co2286,228.616 {447},In2306,ppm, .9635,.0021,.2186, .9650, .9621
Cr2677,267.716 {126},Y_3600,ppm, .8907,.0038,.4225, .8880, .8933
Cu3247,324.754 {104},Y_3600,ppm, .8968,.0012,.1308, .8959, .8976
Fe2404,240.488 {140},In2306,ppm, 19.72,.2345,1.189, 19.55, 19.88
K_7664,766.490 { 44},Y_3710,ppm, 19.50,.1313,.6735, 19.41, 19.59
Li6707,670.784 { 50},Y_3710,ppm, .9828,.0068,.6944, .9780, .9876
Mg2790,279.079 {121},Y_3710,ppm, 19.30,.2227,1.154, 19.15, 19.46
Mn2576,257.610 {131},Y_3600,ppm, .9119,.0027,.3001, .9099, .9138
Mo2020,202.030 {467},Y_2243,ppm, 1.019,.0018,.1813, 1.021, 1.018
Na5895,589.592 { 57},Y_3710,ppm, 19.56,.1376,.7037, 19.46, 19.65
Ni2316,231.604 {445},In2306,ppm, .9915,.0022,.2195, .9930, .9900
P_1782,178.284 {489},In2306,ppm, 10.15,.0338,.3333, 10.17, 10.12
Pb2203,220.353 {453},In2306,ppm, .9899,.0054,.5493, .9937, .9860
S_1820,182.034 {485},Y_2243,ppm, 10.29,.0581,.5647, 10.33, 10.25
Sb2068,206.833 {463},Y_2243,ppm, 2.074,.0030,.1425, 2.076, 2.072
Se1960,196.090 {472},Y_2243,ppm, 1.003,.0052,.5138, 1.007, .9995
Si2516,251.611 {134},Y_3710,ppm, 9.166,.0514,.5611, 9.130, 9.203
Sn1899,189.989 {477},In2306,ppm, .9196,.0042,.4592, .9226, .9167
Sr4215,421.552 { 80},Y_3710,ppm, .9777,.0072,.7407, .9725, .9828
Ti3349,334.904 {101},Y_3600,ppm, .9444,.0018,.1883, .9432, .9457
Tl1908,190.856 {477},In2306,ppm, .9118,.0081,.8915, .9176, .9061
U_3670,367.007 { 92},Y_3600,ppm, .9434,.0587,6.223, .9849, .9019
V_2924,292.402 {115},Y_3600,ppm, .9284,.0026,.2772, .9265, .9302
W_2397,239.709 {140},Y_2243,ppm, 1.117,.0665,5.952, 1.070, 1.164
Zn2062,206.200 {463},In2306,ppm, .9467,.0053,.5597, .9505, .9430

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 248.00,.93699,.37781,248.67,247.34
In2306,230.606 {446},Cts/S, 15419.,24.743,.16047,15436.,15401.
Y_2243,224.306 {450},Cts/S, 22745.,58.413,.25682,22786.,22704.
Y_3600,360.073 { 94},Cts/S, 168410.,357.11,.21205,168660.,168160.
Y_3710,371.030 { 91},Cts/S, 13832.,25.637,.18535,13850.,13813.

[Sample Header]
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Custom ID1=
Custom ID2=
Custom ID3=
Run Time=11/19/2019 12:26:30
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Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0821,.0002,.2138, .0823, .0820
Al3082,308.215 {109},In2306,ppm, .9596,.0157,1.636, .9707, .9485
As1890,189.042 {478},Y_2243,ppm, .0320,.0011,3.556, .0328, .0312
B_2496,249.678 {135},Y_3710,ppm, .1946,.0036,1.866, .1921, .1972
Ba4554,455.403 { 74},Y_3710,ppm, .0297,.0000,.0749, .0297, .0298
Be3130,313.042 {108},Y_3710,ppm, .0302,.0001,.4102, .0302, .0301
Ca3158,315.887 {107},In2306,ppm, .9520,.0045,.4767, .9553, .9488
Cd2288,228.802 {447},Y_2243,ppm, .0313,.0001,.1961, .0313, .0313
Co2286,228.616 {447},In2306,ppm, .0286,.0000,.0830, .0286, .0286
Cr2677,267.716 {126},Y_3600,ppm, .0277,.0001,.5402, .0278, .0276
Cu3247,324.754 {104},Y_3600,ppm, .0266,.0004,1.424, .0268, .0263
Fe2404,240.488 {140},In2306,ppm, .9833,.0058,.5853, .9874, .9793
K_7664,766.490 { 44},Y_3710,ppm, .9875,.0127,1.283, .9785, .9964
Li6707,670.784 { 50},Y_3710,ppm, .0308,.0004,1.376, .0305, .0311
Mg2790,279.079 {121},Y_3710,ppm, .9660,.0129,1.337, .9752, .9569
Mn2576,257.610 {131},Y_3600,ppm, .0284,.0000,.1054, .0284, .0283
Mo2020,202.030 {467},Y_2243,ppm, .0314,.0001,.4403, .0315, .0313
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Na5895,589.592 { 57},Y_3710,ppm, 1.021,.0075,.7347, 1.027, 1.016
Ni2316,231.604 {445},In2306,ppm, .0291,.0002,.7974, .0293, .0290
P_1782,178.284 {489},In2306,ppm, 1.907,.0104,.5430, 1.914, 1.900
Pb2203,220.353 {453},In2306,ppm, .0294,.0008,2.713, .0288, .0299
S_1820,182.034 {485},Y_2243,ppm, 1.978,.0058,.2921, 1.982, 1.973
Sb2068,206.833 {463},Y_2243,ppm, .2336,.0020,.8368, .2322, .2350
Se1960,196.090 {472},Y_2243,ppm, .0330,.0013,3.923, .0320, .0339
Si2516,251.611 {134},Y_3710,ppm, .2873,.0045,1.559, .2905, .2842
Sn1899,189.989 {477},In2306,ppm, .0270,.0002,.5674, .0271, .0269
Sr4215,421.552 { 80},Y_3710,ppm, .0302,.0000,.0653, .0302, .0302
Ti3349,334.904 {101},Y_3600,ppm, .0292,.0002,.5706, .0293, .0291
Tl1908,190.856 {477},In2306,ppm, .0249,.0002,.6798, .0247, .0250
U_3670,367.007 { 92},Y_3600,ppm, .1573,.0514,32.69, .1937, .1210
V_2924,292.402 {115},Y_3600,ppm, .0280,.0004,1.326, .0282, .0277
W_2397,239.709 {140},Y_2243,ppm, .2477,.0506,20.43, .2119, .2834
Zn2062,206.200 {463},In2306,ppm, .1803,.0018,1.012, .1815, .1790

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 259.69,.76852,.29594,260.23,259.14
In2306,230.606 {446},Cts/S, 17128.,45.363,.26484,17160.,17096.
Y_2243,224.306 {450},Cts/S, 23542.,124.04,.52688,23630.,23454.
Y_3600,360.073 { 94},Cts/S, 175450.,246.95,.14075,175280.,175630.
Y_3710,371.030 { 91},Cts/S, 13921.,55.709,.40017,13961.,13882.

[Sample Header]
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Custom ID2=
Custom ID3=
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Mode=CONC
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0000,.0001,551.1, .0001, -.0001
Al3082,308.215 {109},In2306,ppm, .0036,.0059,165.8, .0078, -.0006
As1890,189.042 {478},Y_2243,ppm, -.0002,.0013,576.6, .0007, -.0011
B_2496,249.678 {135},Y_3710,ppm, .0011,.0022,191.0, .0026, -.0004
Ba4554,455.403 { 74},Y_3710,ppm, .0000,.0000,130.5, .0000, .0000
Be3130,313.042 {108},Y_3710,ppm, .0002,.0001,52.06, .0002, .0001
Ca3158,315.887 {107},In2306,ppm, .0042,.0043,101.2, .0073, .0012
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0000,239.0, .0000, -.0000
Co2286,228.616 {447},In2306,ppm, -.0000,.0000,117.3, -.0000, -.0000
Cr2677,267.716 {126},Y_3600,ppm, .0001,.0002,229.8, -.0000, .0002
Cu3247,324.754 {104},Y_3600,ppm, -.0020,.0001,4.850, -.0019, -.0020
Fe2404,240.488 {140},In2306,ppm, -.0135,.0018,13.02, -.0148, -.0123
K_7664,766.490 { 44},Y_3710,ppm, -.0023,.0034,148.2, -.0048, .0001
Li6707,670.784 { 50},Y_3710,ppm, .0004,.0007,176.3, .0009, -.0001
Mg2790,279.079 {121},Y_3710,ppm, -.0231,.0301,130.0, -.0444, -.0019
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,64.36, -.0000, -.0000
Mo2020,202.030 {467},Y_2243,ppm, -.0003,.0001,34.79, -.0004, -.0002
Na5895,589.592 { 57},Y_3710,ppm, .0273,.0024,8.894, .0256, .0290
Ni2316,231.604 {445},In2306,ppm, -.0001,.0001,67.24, -.0001, -.0000
P_1782,178.284 {489},In2306,ppm, -.0015,.0007,45.47, -.0020, -.0010
Pb2203,220.353 {453},In2306,ppm, .0008,.0005,65.14, .0011, .0004
S_1820,182.034 {485},Y_2243,ppm, -.0060,.0001,1.941, -.0059, -.0061
Sb2068,206.833 {463},Y_2243,ppm, .0013,.0022,171.6, -.0003, .0029
Se1960,196.090 {472},Y_2243,ppm, .0002,.0003,164.4, -.0000, .0004
Si2516,251.611 {134},Y_3710,ppm, -.0064,.0024,37.43, -.0047, -.0081
Sn1899,189.989 {477},In2306,ppm, .0002,.0003,150.9, .0005, -.0000
Sr4215,421.552 { 80},Y_3710,ppm, .0001,.0000,27.39, .0001, .0002
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Ti3349,334.904 {101},Y_3600,ppm, .0002,.0002,85.58, .0001, .0004
Tl1908,190.856 {477},In2306,ppm, .0036,.0033,93.34, .0059, .0012
U_3670,367.007 { 92},Y_3600,ppm, .0669,.0158,23.64, .0781, .0557
V_2924,292.402 {115},Y_3600,ppm, .0001,.0001,96.04, .0000, .0002
W_2397,239.709 {140},Y_2243,ppm, -.0140,.0228,162.3, -.0302, .0021
Zn2062,206.200 {463},In2306,ppm, -.0009,.0000,3.049, -.0009, -.0010

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 259.49,2.0585,.79328,258.03,260.94
In2306,230.606 {446},Cts/S, 17447.,25.251,.14473,17465.,17429.
Y_2243,224.306 {450},Cts/S, 23517.,8.9589,.03810,23523.,23511.
Y_3600,360.073 { 94},Cts/S, 174270.,267.23,.15334,174090.,174460.
Y_3710,371.030 { 91},Cts/S, 13878.,129.05,.92987,13787.,13969.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0003,.0002,86.42, .0001, .0005
Al3082,308.215 {109},In2306,ppm, 453.8,1.918,.4226, 455.2, 452.5
As1890,189.042 {478},Y_2243,ppm, .0055,.0015,26.52, .0065, .0044
B_2496,249.678 {135},Y_3710,ppm, .0137,.0019,14.12, .0123, .0150
Ba4554,455.403 { 74},Y_3710,ppm, .0006,.0002,29.16, .0008, .0005
Be3130,313.042 {108},Y_3710,ppm, .0002,.0001,29.04, .0002, .0001
Ca3158,315.887 {107},In2306,ppm, .0198,.0038,19.11, .0171, .0225
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0000,43.81, -.0001, -.0000
Co2286,228.616 {447},In2306,ppm, .0004,.0001,14.89, .0004, .0004
Cr2677,267.716 {126},Y_3600,ppm, .0003,.0001,29.56, .0003, .0004
Cu3247,324.754 {104},Y_3600,ppm, -.0006,.0004,75.07, -.0009, -.0003
Fe2404,240.488 {140},In2306,ppm, .0180,.0029,16.09, .0200, .0159
K_7664,766.490 { 44},Y_3710,ppm, .9303,.0221,2.374, .9147, .9459
Li6707,670.784 { 50},Y_3710,ppm, .0006,.0004,66.24, .0003, .0009
Mg2790,279.079 {121},Y_3710,ppm, .0206,.0090,43.50, .0270, .0143
Mn2576,257.610 {131},Y_3600,ppm, .0001,.0000,3.470, .0001, .0001
Mo2020,202.030 {467},Y_2243,ppm, -.0000,.0004,1015., -.0003, .0002
Na5895,589.592 { 57},Y_3710,ppm, 1153.,1.766,.1532, 1154., 1151.
Ni2316,231.604 {445},In2306,ppm, .0031,.0004,13.46, .0034, .0028
P_1782,178.284 {489},In2306,ppm, .0187,.0010,5.209, .0194, .0180
Pb2203,220.353 {453},In2306,ppm, .0120,.0001,.7006, .0121, .0119
S_1820,182.034 {485},Y_2243,ppm, .1627,.0006,.3975, .1632, .1623
Sb2068,206.833 {463},Y_2243,ppm, -.0146,.0054,37.11, -.0107, -.0184
Se1960,196.090 {472},Y_2243,ppm, -.0068,.0007,9.568, -.0073, -.0064
Si2516,251.611 {134},Y_3710,ppm, .1354,.0031,2.322, .1376, .1331
Sn1899,189.989 {477},In2306,ppm, .0131,.0003,2.216, .0129, .0133
Sr4215,421.552 { 80},Y_3710,ppm, .0005,.0000,4.120, .0005, .0005
Ti3349,334.904 {101},Y_3600,ppm, .0001,.0001,207.2, .0001, -.0000
Tl1908,190.856 {477},In2306,ppm, -.0147,.0061,41.80, -.0103, -.0190
U_3670,367.007 { 92},Y_3600,ppm, .2325,.0229,9.832, .2487, .2163
V_2924,292.402 {115},Y_3600,ppm, -.0003,.0000,13.86, -.0003, -.0004
W_2397,239.709 {140},Y_2243,ppm, .0471,.0072,15.25, .0522, .0420
Zn2062,206.200 {463},In2306,ppm, .0182,.0000,.2286, .0182, .0181

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 233.49,1.2933,.55389,232.58,234.41
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In2306,230.606 {446},Cts/S, 12111.,19.055,.15733,12125.,12098.
Y_2243,224.306 {450},Cts/S, 21405.,11.944,.05580,21414.,21397.
Y_3600,360.073 { 94},Cts/S, 151010.,441.77,.29255,150690.,151320.
Y_3710,371.030 { 91},Cts/S, 13658.,95.427,.69870,13590.,13725.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0000,.0002,2822., .0001, -.0002
Al3082,308.215 {109},In2306,ppm, 9.253,.0354,.3821, 9.278, 9.228
As1890,189.042 {478},Y_2243,ppm, .0008,.0017,227.8, .0020, -.0005
B_2496,249.678 {135},Y_3710,ppm, .0041,.0034,81.98, .0017, .0065
Ba4554,455.403 { 74},Y_3710,ppm, -.0002,.0002,108.6, -.0003, -.0000
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,53.68, .0001, .0000
Ca3158,315.887 {107},In2306,ppm, .0040,.0072,180.3, .0091, -.0011
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0000,150.5, .0000, -.0001
Co2286,228.616 {447},In2306,ppm, .0003,.0000,9.116, .0003, .0002
Cr2677,267.716 {126},Y_3600,ppm, .0001,.0002,201.1, .0003, -.0000
Cu3247,324.754 {104},Y_3600,ppm, -.0005,.0001,16.89, -.0006, -.0005
Fe2404,240.488 {140},In2306,ppm, .0011,.0060,551.7, .0053, -.0031
K_7664,766.490 { 44},Y_3710,ppm, .0203,.0159,78.18, .0315, .0091
Li6707,670.784 { 50},Y_3710,ppm, -.0001,.0001,174.2, .0000, -.0001
Mg2790,279.079 {121},Y_3710,ppm, .0062,.0012,18.99, .0053, .0070
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,57.16, -.0000, -.0000
Mo2020,202.030 {467},Y_2243,ppm, -.0004,.0001,11.74, -.0005, -.0004
Na5895,589.592 { 57},Y_3710,ppm, 26.93,.1420,.5273, 26.83, 27.03
Ni2316,231.604 {445},In2306,ppm, -.0003,.0004,112.0, -.0006, -.0001
P_1782,178.284 {489},In2306,ppm, .0002,.0008,394.9, .0007, -.0003
Pb2203,220.353 {453},In2306,ppm, -.0004,.0010,251.8, -.0011, .0003
S_1820,182.034 {485},Y_2243,ppm, .0001,.0043,5490., .0031, -.0030
Sb2068,206.833 {463},Y_2243,ppm, -.0003,.0018,697.5, -.0015, .0010
Se1960,196.090 {472},Y_2243,ppm, .0024,.0024,100.9, .0007, .0041
Si2516,251.611 {134},Y_3710,ppm, .0023,.0004,16.81, .0020, .0026
Sn1899,189.989 {477},In2306,ppm, .0009,.0006,60.20, .0013, .0005
Sr4215,421.552 { 80},Y_3710,ppm, -.0000,.0001,3700., -.0001, .0001
Ti3349,334.904 {101},Y_3600,ppm, .0003,.0003,109.7, .0001, .0004
Tl1908,190.856 {477},In2306,ppm, .0008,.0025,333.9, -.0010, .0025
U_3670,367.007 { 92},Y_3600,ppm, -.0263,.0437,166.1, .0046, -.0573
V_2924,292.402 {115},Y_3600,ppm, .0002,.0001,24.36, .0002, .0003
W_2397,239.709 {140},Y_2243,ppm, .0355,.0371,104.6, .0092, .0617
Zn2062,206.200 {463},In2306,ppm, .0003,.0001,16.64, .0003, .0004

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 255.56,.71546,.27996,256.06,255.05
In2306,230.606 {446},Cts/S, 16248.,42.498,.26156,16218.,16278.
Y_2243,224.306 {450},Cts/S, 23300.,71.307,.30604,23249.,23350.
Y_3600,360.073 { 94},Cts/S, 171850.,676.78,.39383,171370.,172320.
Y_3710,371.030 { 91},Cts/S, 14059.,118.21,.84081,14142.,13975.

[Sample Header]
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Username=admin
Comment=
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Custom ID2=
Custom ID3=
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .4717,.0005,.1042, .4721, .4714
Al3082,308.215 {109},In2306,ppm, 19.24,.0818,.4253, 19.18, 19.30
As1890,189.042 {478},Y_2243,ppm, 1.027,.0058,.5648, 1.031, 1.023
B_2496,249.678 {135},Y_3710,ppm, .9386,.0024,.2526, .9403, .9369
Ba4554,455.403 { 74},Y_3710,ppm, .9652,.0015,.1522, .9641, .9662
Be3130,313.042 {108},Y_3710,ppm, .9875,.0015,.1481, .9865, .9886
Ca3158,315.887 {107},In2306,ppm, 19.32,.1734,.8976, 19.19, 19.44
Cd2288,228.802 {447},Y_2243,ppm, 1.025,.0036,.3545, 1.027, 1.022
Co2286,228.616 {447},In2306,ppm, .9593,.0007,.0749, .9598, .9588
Cr2677,267.716 {126},Y_3600,ppm, .8791,.0034,.3868, .8815, .8767
Cu3247,324.754 {104},Y_3600,ppm, .8917,.0018,.2053, .8904, .8930
Fe2404,240.488 {140},In2306,ppm, 19.56,.1442,.7374, 19.46, 19.66
K_7664,766.490 { 44},Y_3710,ppm, 18.90,.0164,.0868, 18.91, 18.89
Li6707,670.784 { 50},Y_3710,ppm, .9593,.0005,.0503, .9596, .9589
Mg2790,279.079 {121},Y_3710,ppm, 19.17,.2345,1.224, 19.00, 19.33
Mn2576,257.610 {131},Y_3600,ppm, .9181,.0040,.4325, .9209, .9153
Mo2020,202.030 {467},Y_2243,ppm, 1.019,.0022,.2130, 1.020, 1.017
Na5895,589.592 { 57},Y_3710,ppm, 19.50,.0179,.0916, 19.51, 19.48
Ni2316,231.604 {445},In2306,ppm, .9953,.0022,.2168, .9968, .9938
P_1782,178.284 {489},In2306,ppm, 10.17,.0165,.1619, 10.16, 10.18
Pb2203,220.353 {453},In2306,ppm, .9927,.0036,.3644, .9952, .9901
S_1820,182.034 {485},Y_2243,ppm, 10.29,.0603,.5865, 10.33, 10.25
Sb2068,206.833 {463},Y_2243,ppm, 2.082,.0144,.6930, 2.092, 2.072
Se1960,196.090 {472},Y_2243,ppm, 1.013,.0037,.3687, 1.015, 1.010
Si2516,251.611 {134},Y_3710,ppm, 8.987,.0036,.0396, 8.984, 8.990
Sn1899,189.989 {477},In2306,ppm, .9287,.0035,.3796, .9312, .9262
Sr4215,421.552 { 80},Y_3710,ppm, .9665,.0000,.0026, .9665, .9665
Ti3349,334.904 {101},Y_3600,ppm, .9512,.0037,.3890, .9538, .9486
Tl1908,190.856 {477},In2306,ppm, .9174,.0007,.0790, .9169, .9179
U_3670,367.007 { 92},Y_3600,ppm, .7950,.0078,.9791, .8005, .7895
V_2924,292.402 {115},Y_3600,ppm, .9276,.0028,.3038, .9296, .9256
W_2397,239.709 {140},Y_2243,ppm, 1.021,.0188,1.841, 1.034, 1.007
Zn2062,206.200 {463},In2306,ppm, .9489,.0001,.0149, .9490, .9488

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 249.08,1.8918,.75952,250.42,247.74
In2306,230.606 {446},Cts/S, 15416.,65.349,.42389,15370.,15463.
Y_2243,224.306 {450},Cts/S, 22738.,115.96,.50997,22656.,22820.
Y_3600,360.073 { 94},Cts/S, 167390.,814.88,.48682,166810.,167970.
Y_3710,371.030 { 91},Cts/S, 13999.,31.943,.22818,14022.,13977.

[Sample Header]
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Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=11/19/2019 12:40:22
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
```

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Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0824,.0002,.2968, .0825, .0822
Al3082,308.215 {109},In2306,ppm, .9762,.0041,.4222, .9791, .9733
As1890,189.042 {478},Y_2243,ppm, .0311,.0000,.0446, .0311, .0312
B_2496,249.678 {135},Y_3710,ppm, .1919,.0016,.8463, .1931, .1908
Ba4554,455.403 { 74},Y_3710,ppm, .0300,.0001,.3959, .0300, .0299
Be3130,313.042 {108},Y_3710,ppm, .0305,.0003,.9457, .0303, .0307
Ca3158,315.887 {107},In2306,ppm, .9643,.0082,.8474, .9585, .9701
Cd2288,228.802 {447},Y_2243,ppm, .0314,.0000,.1536, .0314, .0313
Co2286,228.616 {447},In2306,ppm, .0285,.0003,.9323, .0287, .0283
Cr2677,267.716 {126},Y_3600,ppm, .0271,.0002,.7864, .0270, .0273
Cu3247,324.754 {104},Y_3600,ppm, .0276,.0002,.7963, .0275, .0278
Fe2404,240.488 {140},In2306,ppm, .9910,.0056,.5661, .9950, .9871
K_7664,766.490 { 44},Y_3710,ppm, .9511,.0000,.0042, .9511, .9511
Li6707,670.784 { 50},Y_3710,ppm, .0301,.0003,.9862, .0303, .0299
Mg2790,279.079 {121},Y_3710,ppm, .9933,.0081,.8115, .9876, .9990
Mn2576,257.610 {131},Y_3600,ppm, .0284,.0000,.1605, .0284, .0284
Mo2020,202.030 {467},Y_2243,ppm, .0317,.0001,.2753, .0316, .0318
Na5895,589.592 { 57},Y_3710,ppm, 1.116,.0124,1.113, 1.125, 1.107
Ni2316,231.604 {445},In2306,ppm, .0292,.0003,.8894, .0290, .0294
P_1782,178.284 {489},In2306,ppm, 1.907,.0148,.7771, 1.917, 1.896
Pb2203,220.353 {453},In2306,ppm, .0296,.0001,.3832, .0296, .0295
S_1820,182.034 {485},Y_2243,ppm, 1.968,.0030,.1499, 1.970, 1.966
Sb2068,206.833 {463},Y_2243,ppm, .2364,.0015,.6436, .2375, .2354
Se1960,196.090 {472},Y_2243,ppm, .0336,.0010,3.040, .0344, .0329
Si2516,251.611 {134},Y_3710,ppm, .2794,.0058,2.071, .2753, .2835
Sn1899,189.989 {477},In2306,ppm, .0275,.0001,.2476, .0275, .0276
Sr4215,421.552 { 80},Y_3710,ppm, .0303,.0001,.3961, .0302, .0304
Ti3349,334.904 {101},Y_3600,ppm, .0290,.0001,.4597, .0289, .0291
Tl1908,190.856 {477},In2306,ppm, .0301,.0001,.2910, .0302, .0300
U_3670,367.007 { 92},Y_3600,ppm, .1149,.0077,6.735, .1204, .1095
V_2924,292.402 {115},Y_3600,ppm, .0281,.0002,.6893, .0282, .0280
W_2397,239.709 {140},Y_2243,ppm, .2925,.0061,2.101, .2881, .2968
Zn2062,206.200 {463},In2306,ppm, .1804,.0008,.4441, .1810, .1799

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 260.03,.02876,.01106,260.05,260.01
In2306,230.606 {446},Cts/S, 17096.,17.728,.10369,17109.,17084.
Y_2243,224.306 {450},Cts/S, 23491.,14.970,.06372,23501.,23480.
Y_3600,360.073 { 94},Cts/S, 175690.,147.63,.08403,175580.,175790.
Y_3710,371.030 { 91},Cts/S, 14206.,1.8923,.01332,14205.,14208.

[Sample Header]
Method=ICP6500Metals_TRY3(v5040)
SampleName=CCB
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=11/19/2019 12:42:21
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0002,.0001,50.15, -.0003, -.0001
Al3082,308.215 {109},In2306,ppm, -.0072,.0099,136.9, -.0142, -.0002
As1890,189.042 {478},Y_2243,ppm, .0010,.0012,113.3, .0018, .0002
B_2496,249.678 {135},Y_3710,ppm, .0024,.0005,20.42, .0020, .0027
Ba4554,455.403 { 74},Y_3710,ppm, -.0003,.0001,24.87, -.0003, -.0004
Be3130,313.042 {108},Y_3710,ppm, .0002,.0000,25.33, .0002, .0001
Ca3158,315.887 {107},In2306,ppm, -.0038,.0026,68.92, -.0056, -.0019
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,18.91, .0001, .0001
Co2286,228.616 {447},In2306,ppm, .0002,.0001,51.90, .0003, .0001
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Cr2677,267.716 {126},Y_3600,ppm, .0002,.0001,35.28, .0003, .0002
Cu3247,324.754 {104},Y_3600,ppm, -.0007,.0000,3.780, -.0007, -.0007
Fe2404,240.488 {140},In2306,ppm, -.0122,.0006,4.882, -.0118, -.0127
K_7664,766.490 { 44},Y_3710,ppm, -.0104,.0082,78.40, -.0162, -.0047
Li6707,670.784 { 50},Y_3710,ppm, -.0004,.0004,106.6, -.0006, -.0001
Mg2790,279.079 {121},Y_3710,ppm, -.0089,.0139,156.5, .0010, -.0188
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,6.470, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, -.0003,.0002,79.97, -.0001, -.0005
Na5895,589.592 { 57},Y_3710,ppm, .0902,.0033,3.655, .0879, .0925
Ni2316,231.604 {445},In2306,ppm, -.0001,.0001,121.1, -.0002, -.0000
P_1782,178.284 {489},In2306,ppm, -.0007,.0006,88.27, -.0011, -.0003
Pb2203,220.353 {453},In2306,ppm, -.0016,.0010,63.77, -.0023, -.0009
S_1820,182.034 {485},Y_2243,ppm, -.0054,.0036,67.71, -.0028, -.0080
Sb2068,206.833 {463},Y_2243,ppm, .0016,.0002,9.832, .0017, .0015
Se1960,196.090 {472},Y_2243,ppm, .0022,.0024,109.2, .0039, .0005
Si2516,251.611 {134},Y_3710,ppm, -.0120,.0009,7.540, -.0126, -.0113
Sn1899,189.989 {477},In2306,ppm, -.0003,.0003,106.0, -.0006, -.0001
Sr4215,421.552 { 80},Y_3710,ppm, -.0000,.0001,719.3, -.0001, .0000
Ti3349,334.904 {101},Y_3600,ppm, .0003,.0003,89.25, .0005, .0001
Tl1908,190.856 {477},In2306,ppm, .0018,.0021,116.9, .0033, .0003
U_3670,367.007 { 92},Y_3600,ppm, -.0143,.0634,443.9, -.0591, .0305
V_2924,292.402 {115},Y_3600,ppm, .0001,.0003,315.9, .0003, -.0001
W_2397,239.709 {140},Y_2243,ppm, .0074,.0184,248.3, .0204, -.0056
Zn2062,206.200 {463},In2306,ppm, -.0010,.0000,3.668, -.0010, -.0010

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 260.76,.70378,.26989,260.26,261.26
In2306,230.606 {446},Cts/S, 17390.,7.9496,.04571,17396.,17385.
Y_2243,224.306 {450},Cts/S, 23545.,45.477,.19315,23513.,23577.
Y_3600,360.073 { 94},Cts/S, 174740.,38.161,.02184,174710.,174770.
Y_3710,371.030 { 91},Cts/S, 14207.,57.919,.40769,14166.,14247.
```

Report Generated By Teledyne Leeman QuickTrace

Analyst: M8000

Worksheet file: C:\Users\Public\Documents\Teledyne CETAC\QuickTrace\1119\1104A19H8.wszf

Creation Date: 9/27/2019 9:17:54 AM

Comment:

Results

Sample Name	Type	Date/Time	Conc (ng/L)	hF U	Residual	% Recovery
Calibration Blank 1	STD	09/27/19 10:52:09 am	0.0000	633	0.00	N/A
Calibration Blank	STD	09/27/19 10:56:57 am	0.0000	520	-0.02	N/A
Calibration Blank	STD	09/27/19 11:01:46 am	0.0000	644	0.01	N/A
0.5 PPT	STD	09/27/19 11:06:35 am	0.5000	2363	0.00	N/A
1.0 PPT	STD	09/27/19 11:11:24 am	1.0000	4336	0.04	N/A
2.0 PPT	STD	09/27/19 11:16:14 am	2.0000	7827	0.00	N/A
5.0 PPT	STD	09/27/19 11:21:03 am	5.0000	18225	-0.10	N/A
10.0 PPT	STD	09/27/19 11:25:53 am	10.0000	36414	-0.05	N/A
25.0 PPT	STD	09/27/19 11:30:44 am	25.0000	90209	-0.10	N/A
100.0 PPT	STD	09/27/19 11:35:34 am	100.0000	362547	0.58	N/A

Calibration

Calibration Factor: 3598.636 CF %RSD: 1.987

R2: 0.99995

SEE: 964.9504

Flags:

Blank Avg: 0.166

Blank StdDev: 0.019

Low Std Recovery 98.055

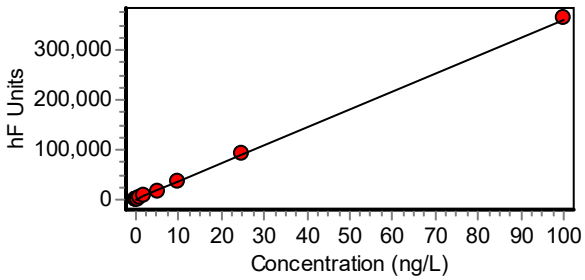

ICV	ICV	09/27/19 11:43:49 am	5.2071	19337		104.14
ICB	ICB	09/27/19 11:48:37 am	0.0518	785		N/A
CCV	CCV	11/04/19 11:09:26 am	4.7916	17842		95.83
CCB	CCB	11/04/19 11:14:15 am	0.0066	623		N/A
mb 240-408803/1-a	UNK	11/04/19 11:19:02 am	0.1220	1038		N/A
240-121441-b-1-a	UNK	11/04/19 11:23:50 am	4.3694	16323		N/A
240-121441-b-1-a	UNK	11/04/19 11:28:40 am	6.9495	25608		N/A
240-121441-b-1-d ms	UNK	11/04/19 11:33:30 am	10.9920	40153		N/A
240-121441-b-1-e msd	UNK	11/04/19 11:38:20 am	10.4250	38113		N/A
pb 240-408802/1-b	UNK	11/04/19 11:43:08 am	0.0896	921		N/A
240-121272-a-3-a@10	UNK	11/04/19 11:47:57 am	3.3291	12579		N/A
240-121272-a-4-a@5	UNK	11/04/19 11:52:45 am	6.8426	25223		N/A
mb 240-408777/1-a	UNK	11/04/19 11:57:34 am	0.0423	751		N/A
lcs 240-408777/2-a	UNK	11/04/19 12:02:23 pm	4.1642	15585		N/A
180-97917-a-1-a	UNK	11/04/19 12:07:11 pm	0.2612	1539		N/A
180-97917-a-2-a	UNK	11/04/19 12:12:01 pm	4.2684	15959		N/A
180-97917-a-2-b ms	UNK	11/04/19 12:16:51 pm	8.3418	30618		N/A
180-97917-a-2-c msd	UNK	11/04/19 12:21:41 pm	8.2315	30221		N/A

Sample Name	Type	Date/Time	Conc (ng/L)	hF U Residual	% Recovery
180-97917-a-3-a	UNK	11/04/19 12:26:29 pm	0.2030	1330	N/A
180-97917-a-4-a	UNK	11/04/19 12:31:17 pm	4.9048	18250	N/A
180-97917-a-5-a	UNK	11/04/19 12:36:06 pm	0.2949	1660	N/A
180-97917-a-6-a	UNK	11/04/19 12:40:54 pm	4.7944	17852	N/A
180-97917-a-7-a	UNK	11/04/19 12:45:43 pm	0.1736	1224	N/A
180-97917-a-8-a@10	UNK	11/04/19 12:50:32 pm	4.7875	17827	N/A
180-97917-a-9-a	UNK	11/04/19 12:55:20 pm	0.7023	3126	N/A
180-97917-a-10-a@10	UNK	11/04/19 01:00:09 pm	5.3073	19698	N/A
180-97917-a-11-a	UNK	11/04/19 01:04:57 pm	0.2828	1617	N/A
180-97917-a-9-a	UNK	11/04/19 01:09:45 pm	0.3815	1972	N/A
180-97917-a-12-a@10	UNK	11/04/19 01:14:33 pm	4.1752	15624	N/A
180-97917-a-13-a	UNK	11/04/19 01:19:22 pm	-0.1479	67	N/A
180-97917-a-14-a	UNK	11/04/19 01:24:11 pm	0.2963	1665	N/A
180-97935-a-2-a	UNK	11/04/19 01:29:00 pm	0.5451	2561	N/A
180-97935-b-3-a	UNK	11/04/19 01:33:48 pm	-0.0113	559	N/A
240-121422-a-1-a	UNK	11/04/19 01:38:37 pm	2.8143	10727	N/A
240-121422-a-2-a	UNK	11/04/19 01:43:25 pm	3.1777	12034	N/A
240-121412-a-1-a	UNK	11/04/19 01:48:15 pm	0.8095	3512	N/A
240-121412-a-1-b ms	UNK	11/04/19 01:53:05 pm	3.6302	13663	N/A
240-121412-a-1-c msd	UNK	11/04/19 01:57:55 pm	3.5925	13527	N/A
240-121412-a-2-a	UNK	11/04/19 02:02:44 pm	0.3421	1830	N/A
CCV	CCV	11/04/19 02:07:32 pm	4.2670	15955	85.34
CCB	CCB	11/04/19 02:12:21 pm	1.1906	4884	N/A
CCV	CCV	11/04/19 03:04:33 pm	3.8816	14567	77.63
CCB	CCB	11/04/19 03:09:22 pm	-0.0666	359	N/A
mb 240-408803/1-a	UNK	11/04/19 03:14:10 pm	-0.0013	594	N/A
lcs 240-408803/2-a	UNK	11/04/19 03:18:58 pm	4.2923	16046	N/A
CCV	CCV	11/04/19 03:23:46 pm	4.2731	15976	85.46
CCB	CCB	11/04/19 03:28:36 pm	0.0185	666	N/A
240-121441-b-1-a@2	UNK	11/04/19 03:33:26 pm	3.6937	13891	N/A
240-121441-b-1-d ms@2	UNK	11/04/19 03:38:16 pm	7.6124	27993	N/A
240-121441-b-1-e msd@2	UNK	11/04/19 03:43:06 pm	7.6817	28243	N/A
pb 240-408802/1-b	UNK	11/04/19 03:47:54 pm	0.0590	812	N/A
CCV	CCV	11/04/19 03:52:43 pm	4.4108	16472	88.22
CCB	CCB	11/04/19 03:57:32 pm	0.0513	784	N/A
240-121412-a-1-a	UNK	11/04/19 04:02:22 pm	1.3122	5321	N/A
240-121412-a-1-b ms	UNK	11/04/19 04:07:12 pm	4.3289	16177	N/A
240-121412-a-1-c msd	UNK	11/04/19 04:12:02 pm	4.1438	15511	N/A
mb 240-408778/1-a	UNK	11/04/19 04:16:51 pm	0.2104	1356	N/A
lcs 240-408778/2-a	UNK	11/04/19 04:21:40 pm	4.8806	18162	N/A
pb 240-408620/1-b	UNK	11/04/19 04:26:30 pm	0.0794	885	N/A
240-121452-a-1-a@2	UNK	11/04/19 04:31:21 pm	9.6747	35415	N/A
240-121452-a-2-a@2	UNK	11/04/19 04:36:11 pm	9.6610	35365	N/A

Sample Name	Type	Date/Time	Conc (ng/L)	hF U	Residual	% Recovery
240-121452-a-3-a	UNK	11/04/19 04:41:00 pm	0.2453	1482		N/A
600-194690-k-1-a	UNK	11/04/19 04:45:50 pm	8.5404	31333		N/A
600-194690-k-1-b ms	UNK	11/04/19 04:50:40 pm	15.5940	56716		N/A
600-194690-k-1-c msd	UNK	11/04/19 04:55:30 pm	16.8710	61313		N/A
600-194690-n-3-a	UNK	11/04/19 05:00:19 pm	2.4593	9449		N/A
600-194690-a-5-a	UNK	11/04/19 05:05:08 pm	6.2597	23125		N/A
600-194690-m-8-a	UNK	11/04/19 05:09:56 pm	28.3380	102576		N/A
600-194690-f-11-a	UNK	11/04/19 05:14:45 pm	22.1700	80381		N/A
190-21407-b-2-a	UNK	11/04/19 05:19:34 pm	0.5287	2501		N/A
190-21407-a-3-a	UNK	11/04/19 05:24:23 pm	0.3003	1680		N/A
190-21407-a-4-a	UNK	11/04/19 05:29:12 pm	0.4826	2336		N/A
180-97939-k-1-a	UNK	11/04/19 05:34:02 pm	0.4315	2152		N/A
180-97939-k-1-b ms	UNK	11/04/19 05:38:52 pm	5.1798	19239		N/A
180-97939-k-1-c msd	UNK	11/04/19 05:43:42 pm	5.1911	19280		N/A
240-121464-a-1-b	UNK	11/04/19 05:48:31 pm	1.4569	5842		N/A
240-121464-a-3-b	UNK	11/04/19 05:53:21 pm	1.3984	5631		N/A
240-121464-a-4-b	UNK	11/04/19 05:58:09 pm	0.2490	1495		N/A
240-121464-a-5-b	UNK	11/04/19 06:02:58 pm	2.0204	7870		N/A
240-121464-a-6-b	UNK	11/04/19 06:07:47 pm	1.7687	6964		N/A
240-121464-a-8-b	UNK	11/04/19 06:12:36 pm	0.1681	1204		N/A
CCV	CCV	11/04/19 06:17:25 pm	4.1372	15487		82.74
CCB	CCB	11/04/19 06:22:14 pm	0.0703	852		N/A
240-121272-a-3-a@10	UNK	11/04/19 06:27:02 pm	3.6860	13864		N/A
240-121272-a-4-a@5	UNK	11/04/19 06:31:51 pm	7.1440	26308		N/A
mb 240-408777/1-a	UNK	11/04/19 06:36:40 pm	0.2084	1349		N/A
lcs 240-408777/2-a	UNK	11/04/19 06:41:29 pm	4.3249	16163		N/A
180-97917-a-1-a	UNK	11/04/19 06:46:17 pm	0.2997	1678		N/A
180-97917-a-2-a@2	UNK	11/04/19 06:51:07 pm	2.6476	10127		N/A
180-97917-a-2-b ms@2	UNK	11/04/19 06:55:57 pm	6.2659	23148		N/A
180-97917-a-2-c msd@2	UNK	11/04/19 07:00:47 pm	6.3013	23275		N/A
180-97917-a-3-a	UNK	11/04/19 07:05:35 pm	0.1665	1198		N/A
180-97917-a-4-a	UNK	11/04/19 07:10:23 pm	4.9402	18377		N/A
180-97917-a-5-a	UNK	11/04/19 07:15:12 pm	0.1983	1313		N/A
180-97917-a-6-a	UNK	11/04/19 07:20:00 pm	5.0396	18735		N/A
180-97917-a-7-a	UNK	11/04/19 07:24:49 pm	0.0431	754		N/A
180-97917-a-8-a@10	UNK	11/04/19 07:29:38 pm	4.7510	17696		N/A
180-97917-a-9-a	UNK	11/04/19 07:34:27 pm	0.6263	2853		N/A
180-97917-a-10-a@10	UNK	11/04/19 07:39:15 pm	5.0365	18724		N/A
180-97917-a-11-a	UNK	11/04/19 07:44:03 pm	0.1373	1093		N/A
180-97917-a-12-a@10	UNK	11/04/19 07:48:51 pm	4.0764	15269		N/A
180-97917-a-13-a	UNK	11/04/19 07:53:40 pm	0.1580	1168		N/A
180-97917-a-14-a	UNK	11/04/19 07:58:29 pm	0.5147	2451		N/A
180-97935-a-2-a	UNK	11/04/19 08:03:18 pm	0.8463	3645		N/A

Sample Name	Type	Date/Time	Conc (ng/L)	hF U Residual	% Recovery
180-97935-b-3-a	UNK	11/04/19 08:08:06 pm	0.2064	1342	N/A
240-121422-a-1-a	UNK	11/04/19 08:12:55 pm	3.0740	11661	N/A
240-121422-a-2-a	UNK	11/04/19 08:17:43 pm	3.2336	12236	N/A
CCV	CCV	11/04/19 08:22:32 pm	4.2172	15775	84.34
CCB	CCV	11/04/19 08:27:22 pm	0.1905	1285	3.81

Eurofins TestAmerica Canton Low Level Mercury Method 1631E Data Review Checklist

CCB Reagent ID: C0014

Analysis Date: 11/4/19 Analyst: DSH Instrument: H8

ICAL Analysis Date: 9-27-19 ICAL Prep Batch: 405319 Analytical Batch: 409214

Review Items

A. Calibration/Instrument Run QC
1. Instrument calibrated per manufacturer's instructions and at SOP specified levels (including 3 initial calibration blanks).
2. ICV/CCV analyzed ≤ 12 hours and within acceptance criteria.
3. ICB/CCB analyzed ≤ 12 hours and within acceptance criteria.
B. Sample Results
1. Samples with concentrations > high calibration standard diluted and reanalyzed.
2. Sample analyses done within holding time.
C. Preparation/Matrix QC
1. Samples preserved within holding time.
2. LCS performed per prep batch and within acceptance criteria.
3. Method blank performed per prep batch and within acceptance criteria.
4. MS performed at required frequency and evaluated.
5. MSD or DU run at required frequency and evaluated.
D. Other
1. All nonconformances documented appropriately in the LIMS.
2. All client/ project specific requirements met.
3. Date of analysis verified as correct.
4. Calculations checked for error.
E. Re-analysis Indicators (If the following are not true, reanalysis is performed)
1. Laboratory duplicates demonstrate agreement and/or confirmed.
2. Field duplicates demonstrate agreement and/or confirmed (when identifiable).
3. Field-generated blanks confirmed if > RL.
4. Dilutions demonstrate agreement with the initial analysis.

Level I Reviewer: [signature] Date: 11-5-19 Time: 11:09 - 20:27

Level I Reviewer: _____ Date: _____ Time: _____

Level II Reviewer: Kanlayanee S. Date: 11/6/19 Time: 11.09 - 20.24

Level II Reviewer: _____ Date: _____ Time: _____

Comments: _____

WI-NC-086

Report Generated By Teledyne Leeman QuickTrace

Analyst: M8000

Worksheet file: C:\Users\Public\Documents\Teledyne CETAC\QuickTrace\1119\1105A19H8.wszf

Creation Date: 9/27/2019 9:17:54 AM

Comment:

Results

Sample Name	Type	Date/Time	Conc (ng/L)	hF U	Residual	% Recovery
Calibration Blank 1	STD	09/27/19 10:52:09 am	0.0000	633	0.00	N/A
Calibration Blank	STD	09/27/19 10:56:57 am	0.0000	520	-0.02	N/A
Calibration Blank	STD	09/27/19 11:01:46 am	0.0000	644	0.01	N/A
0.5 PPT	STD	09/27/19 11:06:35 am	0.5000	2363	0.00	N/A
1.0 PPT	STD	09/27/19 11:11:24 am	1.0000	4336	0.04	N/A
2.0 PPT	STD	09/27/19 11:16:14 am	2.0000	7827	0.00	N/A
5.0 PPT	STD	09/27/19 11:21:03 am	5.0000	18225	-0.10	N/A
10.0 PPT	STD	09/27/19 11:25:53 am	10.0000	36414	-0.05	N/A
25.0 PPT	STD	09/27/19 11:30:44 am	25.0000	90209	-0.10	N/A
100.0 PPT	STD	09/27/19 11:35:34 am	100.0000	362547	0.58	N/A

Calibration

Calibration Factor: 3598.636 CF %RSD: 1.987

R2: 0.99995

SEE: 964.9504

Flags:

Blank Avg: 0.166

Blank StdDev: 0.019

Low Std Recovery 98.055

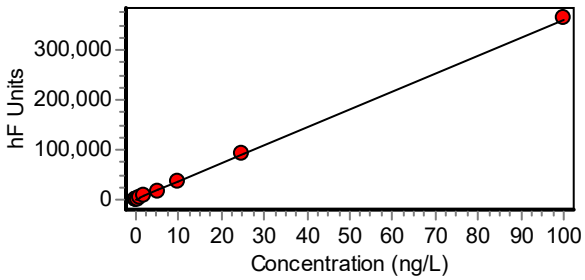

ICV	ICV	09/27/19 11:43:49 am	5.2071	19337		104.14
ICB	ICB	09/27/19 11:48:37 am	0.0518	785		N/A
CCV	CCV	11/05/19 11:19:32 am	1.5430	6152		30.86
CCB	CCB	11/05/19 11:33:16 am	0.0134	647		N/A
CCV	CCV	11/05/19 11:38:04 am	1.2442	5076		24.88
CCB	CCB	11/05/19 11:53:51 am	0.2133	1367		N/A
CCV	CCV	11/05/19 11:58:39 am	4.5443	16952		90.89
CCB	CCB	11/05/19 12:03:28 pm	0.2127	1365		N/A
600-194690-k-1-a@5	UNK	11/05/19 12:08:18 pm	3.5387	13334		N/A
600-194690-k-1-b ms@5	UNK	11/05/19 12:13:08 pm	6.9056	25450		N/A
600-194690-k-1-c msd@5	UNK	11/05/19 12:17:59 pm	6.9950	25772		N/A
mb 240-409151/1-a	UNK	11/05/19 12:22:46 pm	0.2680	1564		N/A
lcs 240-409151/2-a	UNK	11/05/19 12:27:34 pm	4.6310	17264		N/A
500-172284-b-6-a	UNK	11/05/19 12:32:25 pm	1.0045	4214		N/A
500-172284-b-6-b ms	UNK	11/05/19 12:37:15 pm	5.3438	19829		N/A
500-172284-b-6-c msd	UNK	11/05/19 12:42:05 pm	5.3784	19954		N/A
480-161824-o-1-a@5	UNK	11/05/19 12:46:54 pm	1.4103	5674		N/A
480-161824-o-2-a@5	UNK	11/05/19 12:51:42 pm	2.4906	9562		N/A

Sample Name	Type	Date/Time	Conc (ng/L)	hF U Residual	% Recovery
480-161824-o-3-a@5	UNK	11/05/19 12:56:31 pm	2.0485	7971	N/A
480-161824-o-4-a@10	UNK	11/05/19 01:01:20 pm	2.4445	9396	N/A
480-161824-o-5-a@10	UNK	11/05/19 01:06:09 pm	3.1759	12028	N/A
CCV	CCV	11/05/19 01:10:57 pm	4.7261	17606	94.52
CCB	CCB	11/05/19 01:15:46 pm	0.2395	1461	N/A
180-97810-a-1-a@10	UNK	11/05/19 01:20:33 pm	1.2210	4993	N/A
180-97810-a-2-a@10	UNK	11/05/19 01:25:21 pm	1.2118	4960	N/A
240-121464-a-2-b@10	UNK	11/05/19 01:30:09 pm	5.4957	20376	N/A
240-121464-a-7-b@10	UNK	11/05/19 01:34:58 pm	5.2824	19609	N/A
240-121593-a-1-b	UNK	11/05/19 01:39:46 pm	0.6142	2809	N/A
240-121593-a-2-b@10	UNK	11/05/19 01:44:35 pm	7.6463	28115	N/A
RSDB 0.4 ML	UNK	11/05/19 01:49:24 pm	0.3406	1825	N/A
CCV	CCV	11/05/19 01:54:12 pm	4.7976	17864	95.95
CCB	CCB	11/05/19 01:59:01 pm	0.1892	1280	N/A
mb 240-409135/1-a	UNK	11/05/19 02:03:49 pm	0.6104	2796	N/A
lcs 240-409135/2-a	UNK	11/05/19 02:08:37 pm	4.4868	16745	N/A
240-121544-a-1-a	UNK	11/05/19 02:13:25 pm	13.1780	48021	N/A
240-121544-a-2-a	UNK	11/05/19 02:18:14 pm	2.5126	9641	N/A
240-121544-a-3-a@20	UNK	11/05/19 02:23:04 pm	3.6280	13655	N/A
240-121544-a-3-d ms@20	UNK	11/05/19 02:27:54 pm	7.6849	28254	N/A
240-121544-a-3-e msd@20	UNK	11/05/19 02:32:45 pm	7.8961	29014	N/A
240-121544-a-4-a	UNK	11/05/19 02:37:33 pm	0.2957	1663	N/A
440-253575-d-1-a	UNK	11/05/19 02:42:22 pm	1.1648	4791	N/A
440-253575-c-5-a@10	UNK	11/05/19 02:47:12 pm	2.5244	9684	N/A
440-253575-c-4-a@10	UNK	11/05/19 02:52:00 pm	7.9636	29257	N/A
310-168942-b-2-a@2	UNK	11/05/19 02:56:51 pm	2.5091	9628	N/A
480-161897-i-1-a	UNK	11/05/19 03:01:39 pm	3.4118	12877	N/A
180-98047-i-1-a@40	UNK	11/05/19 03:06:28 pm	4.7445	17673	N/A
190-21427-a-1-a	UNK	11/05/19 03:11:18 pm	5.5239	20478	N/A
190-21427-a-1-d ms	UNK	11/05/19 03:16:08 pm	9.5171	34848	N/A
190-21427-a-1-e msd	UNK	11/05/19 03:20:58 pm	9.2809	33998	N/A
190-21427-a-2-a	UNK	11/05/19 03:25:47 pm	5.4829	20330	N/A
190-21427-a-3-a@40	UNK	11/05/19 03:30:36 pm	2.9482	11208	N/A
480-161598-i-1-a	UNK	11/05/19 03:35:25 pm	0.4390	2179	N/A
480-161613-e-3-a@10	UNK	11/05/19 03:40:14 pm	4.1847	15658	N/A
480-161699-k-1-a	UNK	11/05/19 03:45:03 pm	13.5550	49379	N/A
480-161699-k-2-a	UNK	11/05/19 03:49:51 pm	13.1310	47852	N/A
480-161699-k-3-a	UNK	11/05/19 03:54:40 pm	21.9850	79714	N/A
RSDB 0.6ML	UNK	11/05/19 03:59:29 pm	0.7046	3135	N/A
RSDB 1.0ML	UNK	11/05/19 04:04:17 pm	0.6546	2955	N/A
CCV	CCV	11/05/19 04:09:06 pm	4.8704	18126	97.41
CCB	CCB	11/05/19 04:13:55 pm	0.2066	1342	N/A
240-121412-a-2-a	UNK	11/05/19 04:18:44 pm	0.3611	1899	N/A

Sample Name	Type	Date/Time	Conc (ng/L)	hF U	Residual	% Recovery
600-194690-n-3-a	UNK	11/05/19 04:23:33 pm	3.8405	14419		N/A
600-194690-n-3-a	UNK	11/05/19 04:28:22 pm	8.7882	32224		N/A
CCV	CCV	11/05/19 04:33:10 pm	4.8230	17955		96.46
CCB	CCB	11/05/19 04:37:59 pm	0.2823	1615		N/A

Eurofins TestAmerica Canton Low Level Mercury Method 1631E Data Review Checklist

CCB Reagent ID: 00014

Analysis Date: 11/5/19 Analyst: DSH Instrument: H8

ICAL Analysis Date: 9-27-19 ICAL Prep Batch: 405319 Analytical Batch: 409411

Review Items

A. Calibration/Instrument Run QC
1. Instrument calibrated per manufacturer's instructions and at SOP specified levels (including 3 initial calibration blanks).
2. ICV/CCV analyzed ≤ 12 hours and within acceptance criteria.
3. ICB/CCB analyzed ≤ 12 hours and within acceptance criteria.
B. Sample Results
1. Samples with concentrations > high calibration standard diluted and reanalyzed.
2. Sample analyses done within holding time.
C. Preparation/Matrix QC
1. Samples preserved within holding time.
2. LCS performed per prep batch and within acceptance criteria.
3. Method blank performed per prep batch and within acceptance criteria.
4. MS performed at required frequency and evaluated.
5. MSD or DU run at required frequency and evaluated.
D. Other
1. All nonconformances documented appropriately in the LIMS.
2. All client/ project specific requirements met.
3. Date of analysis verified as correct.
4. Calculations checked for error.
E. Re-analysis indicators (If the following are not true, reanalysis is performed)
1. Laboratory duplicates demonstrate agreement and/or confirmed.
2. Field duplicates demonstrate agreement and/or confirmed (when identifiable).
3. Field-generated blanks confirmed if > RL.
4. Dilutions demonstrate agreement with the initial analysis.

Level I Reviewer: [signature] Date: 11/6/19 Time: 11:19 - 16:37

Level I Reviewer: _____ Date: _____ Time: _____

Level II Reviewer: [signature] Date: 11-6-19 Time: 11:19 - 16:37

Level II Reviewer: _____ Date: _____ Time: _____

Comments: _____

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-194690-1

SDG No.:

Project: San Jacinto River Waste Pits Superfund

Client Sample ID	Lab Sample ID
1. CEFF	600-194690-1
FEFF 1	600-194690-3
DUP	600-194690-4
CUI	600-194690-6
SS	600-194690-7
INF 3	600-194690-8
INF 4	600-194690-10

Comments:

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: 1. CEFF
Lab Sample ID: 600-194690-1
Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-194690-1
SDG ID.:
Matrix: Water
Date Sampled: 10/25/2019 19:25
Reporting Basis: WET
Date Received: 10/28/2019 14:52

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7664-41-7	Ammonia	ND	0.20	0.067	mg/L			1	350.1
18496-25-8	Sulfide	ND	0.010	0.0090	mg/L			1	4500 S2 D-2000
7723-14-0	Phosphorus as P	0.066	0.050	0.021	mg/L			1	SM4500 P E-1999
	Phosphorus as PO4	0.20	0.15	0.065	mg/L			1	SM4500 P E-1999
	Alkalinity	160	20	20	mg/L			1	2320B-1997
	Bicarbonate Alkalinity as CaCO3	160	20	20	mg/L			1	2320B-1997
	Carbonate Alkalinity as CaCO3	ND	20	20	mg/L			1	2320B-1997
	Total Dissolved Solids	1300	20	20	mg/L			1	2540 C-1997
	Total Suspended Solids	11	2.0	2.0	mg/L			1	2540 D-1997
	Chemical Oxygen Demand	27	10	2.5	mg/L			1	8000
	pH	7.7	0.01	0.01	SU		HF	1	9040B
7440-44-0	TOC	5.0	1.0	0.56	mg/L			1	9060

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: FEFF 1
Lab Sample ID: 600-194690-3
Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-194690-1
SDG ID.:
Matrix: Water
Date Sampled: 10/26/2019 12:45
Reporting Basis: WET
Date Received: 10/28/2019 14:52

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7664-41-7	Ammonia	ND	0.20	0.067	mg/L			1	350.1
18496-25-8	Sulfide	ND	0.010	0.0090	mg/L			1	4500 S2 D-2000
7723-14-0	Phosphorus as P	0.095	0.050	0.021	mg/L			1	SM4500 P E-1999
	Phosphorus as PO4	0.29	0.15	0.065	mg/L			1	SM4500 P E-1999
	Alkalinity	140	20	20	mg/L			1	2320B-1997
	Bicarbonate Alkalinity as CaCO3	140	20	20	mg/L			1	2320B-1997
	Carbonate Alkalinity as CaCO3	ND	20	20	mg/L			1	2320B-1997
	Total Dissolved Solids	1300	20	20	mg/L			1	2540 C-1997
	Total Suspended Solids	2.2	2.0	2.0	mg/L			1	2540 D-1997
	Chemical Oxygen Demand	16	10	2.5	mg/L			1	8000
	pH	7.8	0.01	0.01	SU		HF	1	9040B
7440-44-0	TOC	4.3	1.0	0.56	mg/L			1	9060

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: DUP
Lab Sample ID: 600-194690-4
Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-194690-1
SDG ID.:
Matrix: Water
Date Sampled: 10/25/2019 00:00
Reporting Basis: WET
Date Received: 10/28/2019 14:52

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
18496-25-8	Sulfide	0.19	0.050	0.045	mg/L			5	4500 S2 D-2000
	HEM	1.8	3.0	1.0	mg/L	J		1	1664B
	SGT-HEM	ND	3.0	1.0	mg/L			1	1664B
	pH	8.9	0.01	0.01	SU		HF	1	9040B

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: CUI
Lab Sample ID: 600-194690-6
Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-194690-1
SDG ID.:
Matrix: Water
Date Sampled: 10/26/2019 14:30
Reporting Basis: WET
Date Received: 10/28/2019 14:52

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Total Suspended Solids	16000	100	100	mg/L			1	2540 D-1997

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: SS
Lab Sample ID: 600-194690-7
Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-194690-1
SDG ID.:
Matrix: Water
Date Sampled: 10/26/2019 14:30
Reporting Basis: WET
Date Received: 10/28/2019 14:52

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Total Suspended Solids	110000	500	500	mg/L			1	2540 D-1997

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: INF 3
Lab Sample ID: 600-194690-8
Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-194690-1
SDG ID.:
Matrix: Water
Date Sampled: 10/25/2019 13:30
Reporting Basis: WET
Date Received: 10/28/2019 14:52

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7664-41-7	Ammonia	0.073	0.20	0.067	mg/L	J		1	350.1
18496-25-8	Sulfide	0.57	0.050	0.045	mg/L			5	4500 S2 D-2000
7723-14-0	Phosphorus as P	1.1	0.50	0.21	mg/L			10	SM4500 P E-1999
	Phosphorus as PO4	3.3	1.5	0.65	mg/L			10	SM4500 P E-1999
	HEM	2.0	3.0	1.0	mg/L	J		1	1664B
	SGT-HEM	ND	3.0	1.0	mg/L			1	1664B
	Alkalinity	190	20	20	mg/L			1	2320B-1997
	Bicarbonate Alkalinity as CaCO3	190	20	20	mg/L			1	2320B-1997
	Carbonate Alkalinity as CaCO3	ND	20	20	mg/L			1	2320B-1997
	Total Dissolved Solids	980	100	100	mg/L			1	2540 C-1997
	Total Suspended Solids	3500	100	100	mg/L			1	2540 D-1997
	Chemical Oxygen Demand	170	20	4.9	mg/L			2	8000
	pH	8.2	0.01	0.01	SU		HF	1	9040B
7440-44-0	TOC	17	4.0	2.2	mg/L			4	9060

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: INF 4
Lab Sample ID: 600-194690-10
Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-194690-1
SDG ID.:
Matrix: Water
Date Sampled: 10/25/2019 20:50
Reporting Basis: WET
Date Received: 10/28/2019 14:52

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7664-41-7	Ammonia	0.23	0.20	0.067	mg/L			1	350.1
18496-25-8	Sulfide	0.061	0.050	0.045	mg/L			5	4500 S2 D-2000
7723-14-0	Phosphorus as P	0.25	0.050	0.021	mg/L			1	SM4500 P E-1999
	Phosphorus as PO4	0.77	0.15	0.065	mg/L			1	SM4500 P E-1999
	HEM	2.1	3.0	1.0	mg/L	J		1	1664B
	SGT-HEM	ND	3.0	1.0	mg/L			1	1664B
	Alkalinity	170	20	20	mg/L		F1	1	2320B-1997
	Bicarbonate Alkalinity as CaCO3	170	20	20	mg/L			1	2320B-1997
	Carbonate Alkalinity as CaCO3	ND	20	20	mg/L			1	2320B-1997
	Total Dissolved Solids	1100	40	40	mg/L			1	2540 C-1997
	Total Suspended Solids	4600	100	100	mg/L			1	2540 D-1997
	Chemical Oxygen Demand	310	40	9.9	mg/L			4	8000
	Chemical Oxygen Demand	180	10	2.5	mg/L		F1 E	1	8000
	pH	7.9	0.01	0.01	SU		HF	1	9040B
7440-44-0	TOC	9.2	1.0	0.56	mg/L		F1	1	9060

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Analyst: SC1 Batch Start Date: 10/30/2019

Reporting Units: mg/L Analytical Batch No.: 278965

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
9	ICV	10:24	Ammonia	5.07	5.00	101	90-110		WETSNH3ICV_00028
10	ICB	10:25	Ammonia	ND					
21	CCV	10:37	Ammonia	5.22	5.00	104	90-110		WETSNH3ICV_00027
22	CCB	10:39	Ammonia	ND					
33	CCV	10:51	Ammonia	5.23	5.00	105	90-110		WETSNH3ICV_00027
34	CCB	10:52	Ammonia	ND					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Analyst: SC1 Batch Start Date: 11/06/2019

Reporting Units: mg/L Analytical Batch No.: 279607

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	ICV	12:00	Ammonia	5.17	5.00	103	90-110		WETSNH3ICV_00028
2	ICB	12:01	Ammonia	ND					
13	CCV	12:13	Ammonia	5.13	5.00	103	90-110		WETSNH3ICV_00027
14	CCB	12:14	Ammonia	ND					
25	CCV	12:27	Ammonia	5.11	5.00	102	90-110		WETSNH3ICV_00027
26	CCB	12:28	Ammonia	ND					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Analyst: DTN Batch Start Date: 10/30/2019

Reporting Units: mg/L Analytical Batch No.: 278947

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	CCV	09:50	Sulfide	0.309	0.300	103	90-110		WETSMETBSU_00023
2	ICB	09:50	Sulfide	ND					
17	CCV	09:50	Sulfide	0.291	0.300	97	90-110		WETSMETBSU_00023
18	CCB	09:50	Sulfide	ND					
23	CCV	09:54	Sulfide	0.302	0.300	101	90-110		WETSMETBSU_00023
24	CCB	09:54	Sulfide	ND					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Analyst: SC1 Batch Start Date: 10/30/2019

Reporting Units: mg/L Analytical Batch No.: 278917

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	ICV	06:09	Phosphorus as P	0.478	0.500	96	90-110		WETSPHOSIS_00028
			Phosphorus as PO4	1.47	1.53	96	90-110		WETSPHOSIS_00028
2	ICB	06:09	Phosphorus as P	ND					
			Phosphorus as PO4	ND					
13	CCV	06:09	Phosphorus as P	0.480	0.500	96	90-110		WETSPHOSCS_00031
			Phosphorus as PO4	1.47	1.53	96	90-110		WETSPHOSCS_00031
14	CCB	06:09	Phosphorus as P	ND					
			Phosphorus as PO4	ND					
19	CCV	06:09	Phosphorus as P	0.466	0.500	93	90-110		WETSPHOSCS_00031
			Phosphorus as PO4	1.43	1.53	93	90-110		WETSPHOSCS_00031
20	CCB	06:09	Phosphorus as P	ND					
			Phosphorus as PO4	ND					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Analyst: SC1 Batch Start Date: 11/06/2019

Reporting Units: mg/L Analytical Batch No.: 279534

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	ICV	06:27	Phosphorus as P	0.482	0.500	96	90-110		WETSPHOSIS_00028
			Phosphorus as PO4	1.48	1.53	96	90-110		WETSPHOSIS_00028
2	ICB	06:27	Phosphorus as P	ND					
			Phosphorus as PO4	ND					
13	CCV	06:27	Phosphorus as P	0.480	0.500	96	90-110		WETSPHOSCS_00031
			Phosphorus as PO4	1.47	1.53	96	90-110		WETSPHOSCS_00031
14	CCB	06:27	Phosphorus as P	ND					
			Phosphorus as PO4	ND					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Analyst: DTN Batch Start Date: 11/08/2019

Reporting Units: mg/L Analytical Batch No.: 279861

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
16	CCV	11:15	Alkalinity	94.2	100	94			WETSNACO3sp_00007
			Bicarbonate Alkalinity as CaCO3	ND					
			Carbonate Alkalinity as CaCO3	75.9					
17	CCB	11:19	Alkalinity	ND					
			Bicarbonate Alkalinity as CaCO3	ND					
			Carbonate Alkalinity as CaCO3	ND					
22	CCV	11:46	Alkalinity	90.8	100	91			WETSNACO3sp_00007
			Bicarbonate Alkalinity as CaCO3	ND					
			Carbonate Alkalinity as CaCO3	84.1					
23	CCB	11:50	Alkalinity	ND					
			Bicarbonate Alkalinity as CaCO3	ND					
			Carbonate Alkalinity as CaCO3	ND					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Analyst: TNL Batch Start Date: 10/30/2019

Reporting Units: mg/L Analytical Batch No.: 278988

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
3	CCV	09:08	Total Suspended Solids	608	600	101	90-110		TSSICCV_00973

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Analyst: DTN Batch Start Date: 11/06/2019

Reporting Units: mg/L Analytical Batch No.: 279560

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	CCV	08:51	Chemical Oxygen Demand	77.0	75.0	103	90-110		WETSCODCAL_00031
2	ICB	08:51	Chemical Oxygen Demand	ND					
17	CCV	08:51	Chemical Oxygen Demand	73.5	75.0	98	90-110		WETSCODCAL_00032
18	CCB	08:51	Chemical Oxygen Demand	ND					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Analyst: DTN Batch Start Date: 11/07/2019

Reporting Units: mg/L Analytical Batch No.: 279707

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
15	CCV	08:55	Chemical Oxygen Demand	75.3	75.0	100	90-110		WETSCODCAL_00032
16	CCB	08:55	Chemical Oxygen Demand	ND					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Analyst: KRD Batch Start Date: 10/31/2019

Reporting Units: SU Analytical Batch No.: 279135

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
13	CCV	12:49	pH	7.1	7.00	101	99-101		WETRPH7CAL_00022
38	CCV	14:15	pH	7.1	7.00	101	99-101		WETRPH7CAL_00022

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Analyst: KRD Batch Start Date: 11/05/2019

Reporting Units: SU Analytical Batch No.: 279464

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
13	CCV	11:30	pH	7.0	7.00	100	99-101		WETRPH7CAL_00021
25	CCV	12:12	pH	7.0	7.00	100	99-101		WETRPH7CAL_00021

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Analyst: ANP Batch Start Date: 11/07/2019

Reporting Units: mg/L Analytical Batch No.: 279795

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
3	ICV	08:21	TOC	10.1	10.0	101	85-115		TOCSLCS_00272
4	ICB	08:33	TOC	ND					
15	CCV	10:47	TOC	9.70	10.0	97	85-115		TOCISCAL_00451
16	CCB	10:59	TOC	ND					
27	CCV	13:13	TOC	9.65	10.0	97	85-115		TOCISCAL_00451
28	CCB	13:25	TOC	ND					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 279937 Date: 11/10/2019 11:33 Prep Batch: 279936 Date: 11/10/2019 11:32							
1664B	MB 600-279936/1-A	HEM	ND		mg/L	3.0	1
1664B	MB 600-279936/1-A	SGT-HEM	ND		mg/L	3.0	1
Batch ID: 280145 Date: 11/12/2019 13:44 Prep Batch: 280144 Date: 11/12/2019 13:43							
1664B	MB 600-280144/1-A	HEM	ND		mg/L	3.0	1
1664B	MB 600-280144/1-A	SGT-HEM	ND		mg/L	3.0	1
Batch ID: 279861 Date: 11/08/2019 10:06							
2320B-1997	MB 600-279861/2	Alkalinity	ND		mg/L	20	1
2320B-1997	MB 600-279861/2	Bicarbonate Alkalinity as CaCO3	ND		mg/L	20	1
2320B-1997	MB 600-279861/2	Carbonate Alkalinity as CaCO3	ND		mg/L	20	1
Batch ID: 278858 Date: 10/29/2019 13:14							
2540 C-1997	MB 600-278858/1	Total Dissolved Solids	ND		mg/L	10	1
Batch ID: 278999 Date: 10/30/2019 13:38							
2540 C-1997	MB 600-278999/1	Total Dissolved Solids	ND		mg/L	10	1
Batch ID: 278988 Date: 10/30/2019 09:08							
2540 D-1997	MB 600-278988/1	Total Suspended Solids	ND		mg/L	2.0	1
Batch ID: 278965 Date: 10/30/2019 10:26 Prep Batch: 278914 Date: 10/30/2019 05:22							
350.1	MB 600-278914/1-A	Ammonia	ND		mg/L	0.20	1
Batch ID: 279607 Date: 11/06/2019 12:02 Prep Batch: 279538 Date: 11/06/2019 07:01							
350.1	MB 600-279538/1-A	Ammonia	ND		mg/L	0.20	1
Batch ID: 278947 Date: 10/30/2019 09:50							
4500 S2 D-2000	MB 600-278947/3	Sulfide	ND		mg/L	0.010	1
Batch ID: 279560 Date: 11/06/2019 08:51							
8000	MB 600-279560/3	Chemical Oxygen Demand	ND		mg/L	10	1
Batch ID: 279707 Date: 11/07/2019 08:48							
8000	MB 600-279707/2	Chemical Oxygen Demand	ND		mg/L	10	1
Batch ID: 279795 Date: 11/07/2019 08:45							
9060	MB 600-279795/5	TOC	ND		mg/L	1.0	1
Batch ID: 278917 Date: 10/30/2019 06:09 Prep Batch: 278908 Date: 10/30/2019 01:35							
SM4500 P E-1999	MB 600-278908/3-A	Phosphorus as P	ND		mg/L	0.050	1
SM4500 P E-1999	MB 600-278908/3-A	Phosphorus as PO4	ND		mg/L	0.15	1
Batch ID: 279534 Date: 11/06/2019 06:27 Prep Batch: 279528 Date: 11/06/2019 03:20							
SM4500 P E-1999	MB 600-279528/3-A	Phosphorus as P	ND		mg/L	0.050	1
SM4500 P E-1999	MB 600-279528/3-A	Phosphorus as PO4	ND		mg/L	0.15	1

FORM III-IN

5-IN
MATRIX SPIKE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 279861 Date: 11/08/2019 10:23											
2320B-1997	600-194690-3	Alkalinity	140		mg/L						
2320B-1997	600-194690-3 MS	Alkalinity	340		mg/L	250	80	75-125			
Batch ID: 279861 Date: 11/08/2019 11:30											
2320B-1997	600-194690-10	Alkalinity	170		mg/L						F1
2320B-1997	600-194690-10 MS	Alkalinity	292		mg/L	250	48	75-125			F1
Batch ID: 279607 Date: 11/06/2019 12:21 Prep Batch: 279538 Date: 11/06/2019 07:01											
350.1	600-194690-10	Ammonia	0.23		mg/L						
350.1	600-194690-10 MS	Ammonia	5.37		mg/L	5.00	103	90-110			
Batch ID: 279707 Date: 11/07/2019 08:48											
8000	600-194690-10	Chemical Oxygen Demand	180		mg/L						F1 E
8000	600-194690-10 MS	Chemical Oxygen Demand	180		mg/L	75.0	4	75-125			F1
Batch ID: 279795 Date: 11/07/2019 12:12											
9060	600-194690-10	TOC	9.2		mg/L						F1
9060	600-194690-10 MS	TOC	22.7		mg/L	10.0	135	80-120			F1
Batch ID: 279534 Date: 11/06/2019 06:27 Prep Batch: 279528 Date: 11/06/2019 03:20											
SM4500 P E-1999	600-194690-10	Phosphorus as P	0.25		mg/L						
SM4500 P E-1999	600-194690-10 MS	Phosphorus as P	0.730		mg/L	0.500	96	75-125			
SM4500 P E-1999	600-194690-10	Phosphorus as PO4	0.77		mg/L						
SM4500 P E-1999	600-194690-10 MS	Phosphorus as PO4	2.24		mg/L	1.53	96	75-125			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM V-IN

5-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 279861 Date: 11/08/2019 10:29											
2320B-1997	600-194690-3 MSD	Alkalinity	341		mg/L	250	80	75-125	0	20	
Batch ID: 279861 Date: 11/08/2019 11:36											
2320B-1997	600-194690-10 MSD	Alkalinity	293		mg/L	250	49	75-125	0	20	F1
Batch ID: 279607 Date: 11/06/2019 12:22 Prep Batch: 279538 Date: 11/06/2019 07:01											
350.1	600-194690-10 MSD	Ammonia	5.22		mg/L	5.00	100	90-110	3	20	
Batch ID: 279707 Date: 11/07/2019 08:48											
8000	600-194690-10 MSD	Chemical Oxygen Demand	178		mg/L	75.0	1	75-125	1	20	F1
Batch ID: 279795 Date: 11/07/2019 12:24											
9060	600-194690-10 MSD	TOC	22.4		mg/L	10.0	132	80-120	1	20	F1
Batch ID: 279534 Date: 11/06/2019 06:27 Prep Batch: 279528 Date: 11/06/2019 03:20											
SM4500 P E-1999	600-194690-10 MSD	Phosphorus as P	0.725		mg/L	0.500	95	75-125	1	20	
SM4500 P E-1999	600-194690-10 MSD	Phosphorus as PO4	2.22		mg/L	1.53	95	75-125	1	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM V-IN

6-IN
DUPLICATE
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Matrix: Water

Method	Client Sample ID	Lab Sample ID	Analyte	Result	Unit	RPD	RPD Limit	Qual
Batch ID: 279861	Date: 11/08/2019 11:41							
2320B-1997	INF 4	600-194690-10	Alkalinity	170	mg/L			
2320B-1997	INF 4	600-194690-10 DU	Alkalinity	153	mg/L	11	20	
2320B-1997	INF 4	600-194690-10	Bicarbonate Alkalinity as CaCO3	170	mg/L			
2320B-1997	INF 4	600-194690-10 DU	Bicarbonate Alkalinity as CaCO3	153	mg/L	11	20	
2320B-1997	INF 4	600-194690-10	Carbonate Alkalinity as CaCO3	ND	mg/L			
2320B-1997	INF 4	600-194690-10 DU	Carbonate Alkalinity as CaCO3	ND	mg/L	NC	20	
Batch ID: 278858	Date: 10/29/2019 13:14							
2540 C-1997	1. CEFF	600-194690-1	Total Dissolved Solids	1300	mg/L			
2540 C-1997	1. CEFF	600-194690-1 DU	Total Dissolved Solids	1260	mg/L	0.5	10	
Batch ID: 278999	Date: 10/30/2019 13:38							
2540 C-1997	INF 4	600-194690-10	Total Dissolved Solids	1100	mg/L			
2540 C-1997	INF 4	600-194690-10 DU	Total Dissolved Solids	1190	mg/L	5	10	
Batch ID: 278988	Date: 10/30/2019 09:08							
2540 D-1997	INF 4	600-194690-10	Total Suspended Solids	4600	mg/L			
2540 D-1997	INF 4	600-194690-10 DU	Total Suspended Solids	4430	mg/L	3	10	
Batch ID: 279135	Date: 10/31/2019 13:40							
9040B	FEFF 1	600-194690-3	pH	7.8	SU			
9040B	FEFF 1	600-194690-3 DU	pH	7.9	SU	0.5	1	
Batch ID: 279464	Date: 11/05/2019 11:38							
9040B	INF 4	600-194690-10	pH	7.9	SU			
9040B	INF 4	600-194690-10 DU	pH	7.9	SU	0.1	1	HF

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VI-IN

7A-IN
LAB CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 279937	Date: 11/10/2019 11:33		Prep Batch: 279936			Date: 11/10/2019 11:32					
						LCS Source: EX-O&G Spk_00034					
1664B	LCS 600-279936/2-A	HEM	35.70		mg/L	40.0	89	78-114	1	11	
1664B	LCS 600-279936/2-A	SGT-HEM	17.50		mg/L	20.0	88	64-132	1	34	
Batch ID: 280145	Date: 11/12/2019 13:44		Prep Batch: 280144			Date: 11/12/2019 13:43					
						LCS Source: EX-O&G Spk_00034					
1664B	LCS 600-280144/2-A	HEM	35.60		mg/L	40.0	89	78-114	1	11	
1664B	LCS 600-280144/2-A	SGT-HEM	17.50		mg/L	20.0	88	64-132	0	34	
Batch ID: 279861	Date: 11/08/2019 10:12										
						LCS Source: WETSNACO3sp_00007					
2320B-1997	LCS 600-279861/3	Alkalinity	95.6		mg/L	100	96	90-110			
Batch ID: 278858	Date: 10/29/2019 13:14										
						LCS Source: TDSILCS_00139					
2540 C-1997	LCS 600-278858/2	Total Dissolved Solids	1790		mg/L	1800	99	90-110			
Batch ID: 278999	Date: 10/30/2019 13:38										
						LCS Source: TDSILCS_00140					
2540 C-1997	LCS 600-278999/2	Total Dissolved Solids	1770		mg/L	1800	98	90-110			
Batch ID: 278988	Date: 10/30/2019 09:08										
						LCS Source: TSSILCS_01023					
2540 D-1997	LCS 600-278988/2	Total Suspended Solids	1200		mg/L	1200	100	90-110			
Batch ID: 278965	Date: 10/30/2019 10:27		Prep Batch: 278914			Date: 10/30/2019 05:22					
						LCS Source: WETSNH3ICV_00028					
350.1	LCS 600-278914/2-A	Ammonia	5.15		mg/L	5.00	103	90-110			
Batch ID: 279607	Date: 11/06/2019 12:03		Prep Batch: 279538			Date: 11/06/2019 07:01					
						LCS Source: WETSNH3ICV_00028					
350.1	LCS 600-279538/2-A	Ammonia	5.16		mg/L	5.00	103	90-110			
Batch ID: 278947	Date: 10/30/2019 09:50										
						LCS Source: WETSMETBSU_00024					
4500 S2 D-2000	LCS 600-278947/4	Sulfide	0.313		mg/L	0.300	104	90-110			
Batch ID: 279560	Date: 11/06/2019 08:51										
						LCS Source: WETSCODCAL_00031					
8000	LCS 600-279560/4	Chemical Oxygen Demand	77.3		mg/L	75.0	103	90-110			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

7A-IN
LAB CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 279707	Date: 11/07/2019 08:48										
						LCS Source: WETSCODCAL_00031					
8000	LCS 600-279707/1	Chemical Oxygen Demand	78.3		mg/L	75.0	104	90-110			
Batch ID: 279135	Date: 10/31/2019 12:09										
						LCS Source: WETRPH7BUF_00039					
9040B	LCS 600-279135/1	pH	7.1		SU	7.00	101	99-101			
Batch ID: 279135	Date: 10/31/2019 13:33										
						LCS Source: WETRPH7BUF_00039					
9040B	LCS 600-279135/26	pH	7.1		SU	7.00	101	99-101			
Batch ID: 279464	Date: 11/05/2019 10:50										
						LCS Source: WETRPH7BUF_00039					
9040B	LCS 600-279464/1	pH	7.0		SU	7.00	100	99-101			
Batch ID: 279795	Date: 11/07/2019 08:57										
						LCS Source: TOCSLCS_00272					
9060	LCS 600-279795/6	TOC	9.79		mg/L	10.0	98	85-115			
Batch ID: 278917	Date: 10/30/2019 06:09	Prep Batch: 278908	Date: 10/30/2019 01:35								
						LCS Source: WETSPHOSIS_00028					
SM4500 P E-1999	LCS 600-278908/4-A	Phosphorus as P	0.482		mg/L	0.500	96	90-110			
SM4500 P E-1999	LCS 600-278908/4-A	Phosphorus as PO4	1.48		mg/L	1.53	96	90-110			
Batch ID: 279534	Date: 11/06/2019 06:27	Prep Batch: 279528	Date: 11/06/2019 03:20								
						LCS Source: WETSPHOSIS_00028					
SM4500 P E-1999	LCS 600-279528/4-A	Phosphorus as P	0.466		mg/L	0.500	93	90-110			
SM4500 P E-1999	LCS 600-279528/4-A	Phosphorus as PO4	1.43		mg/L	1.53	93	90-110			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

7A-IN
LAB CONTROL SAMPLE DUPLICATE
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 279937	Date: 11/10/2019 11:33		Prep Batch: 279936			Date: 11/10/2019 11:32					
						LCSD Source: EX-O&G Spk_00034					
1664B	LCSD 600-279936/3-A	HEM	35.90		mg/L	40.0	90	78-114	1	11	
1664B	LCSD 600-279936/3-A	SGT-HEM	17.70		mg/L	20.0	88	64-132	1	34	
Batch ID: 280145	Date: 11/12/2019 13:45		Prep Batch: 280144			Date: 11/12/2019 13:44					
						LCSD Source: EX-O&G Spk_00034					
1664B	LCSD 600-280144/3-A	HEM	35.30		mg/L	40.0	88	78-114	1	11	
1664B	LCSD 600-280144/3-A	SGT-HEM	17.50		mg/L	20.0	88	64-132	0	34	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-194690-1

SDG Number:

Matrix: Water Instrument ID: WC07

Method: 350.1 MDL Date: 04/30/2014 10:41

Prep Method: 350.1

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Ammonia		0.2	0.067487

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-194690-1

SDG Number:

Matrix: Water Instrument ID: WC07

Method: 350.1 XMDL Date: 04/30/2014 10:42

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Ammonia		0.2	0.067487

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-194690-1

SDG Number:

Matrix: Water Instrument ID: WC24-Spec

Method: 4500 S2 D-2000 MDL Date: 07/10/2012 13:27

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Sulfide		0.01	0.009

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-194690-1

SDG Number:

Matrix: Water Instrument ID: WC24-Spec

Method: 4500 S2 D-2000 XMDL Date: 07/10/2012 13:27

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Sulfide		0.01	0.009

FORM IX - IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-194690-1

SDG Number:

Matrix: Water Instrument ID: WC24-Spec

Method: SM4500 P E-1999 MDL Date: 07/10/2012 11:38

Prep Method: SM 4500 P B

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Phosphorus as P		0.05	0.021
Phosphorus as PO4		0.154	0.0646

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-194690-1

SDG Number:

Matrix: Water Instrument ID: WC24-Spec

Method: SM4500 P E-1999 XMDL Date: 03/05/2008 15:17

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Phosphorus as P		0.05	0.007226
Phosphorus as PO4		0.05	0.02214769

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-194690-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: 1664B MDL Date: 12/09/2013 08:04

Prep Method: 1664B

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
HEM		3	1
SGT-HEM		3	1

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-194690-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: 1664B XMDL Date: 12/09/2013 08:05

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
HEM		3	1
SGT-HEM		3	1

FORM IX - IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-194690-1

SDG Number:

Matrix: Water Instrument ID: WC23

Method: 2320B-1997 MDL Date: 01/12/2017 11:12

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Alkalinity		20	20
Bicarbonate Alkalinity as CaCO3		20	20
Carbonate Alkalinity as CaCO3		20	20

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-194690-1

SDG Number:

Matrix: Water Instrument ID: WC23

Method: 2320B-1997 XMDL Date: 04/30/2014 10:35

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Alkalinity		20	2
Bicarbonate Alkalinity as CaCO3		20	2
Carbonate Alkalinity as CaCO3		20	2

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-194690-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: 2540 C-1997 MDL Date: 07/10/2012 13:36

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Total Dissolved Solids		10	3.564

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-194690-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: 2540 C-1997 XMDL Date: 07/10/2012 13:37

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Total Dissolved Solids		10	3.564

FORM IX - IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-194690-1

SDG Number:

Matrix: Water Instrument ID: B1

Method: 2540 D-1997 MDL Date: 07/24/2012 15:15

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Total Suspended Solids		2	0.613

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-194690-1

SDG Number:

Matrix: Water Instrument ID: B1

Method: 2540 D-1997 XMDL Date: 07/24/2012 15:15

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Total Suspended Solids		2	0.613

FORM IX - IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-194690-1

SDG Number:

Matrix: Water Instrument ID: WC15

Method: 8000 MDL Date: 04/30/2014 17:19

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Chemical Oxygen Demand		10	2.464582

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-194690-1

SDG Number:

Matrix: Water Instrument ID: WC15

Method: 8000 XMDL Date: 04/30/2014 17:19

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Chemical Oxygen Demand		10	2.464582

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-194690-1

SDG Number:

Matrix: Water Instrument ID: WC23

Method: 9040B XRL Date: 07/03/2008 13:54

Analyte	Wavelength/ Mass	XRL (SU)	
pH		0.01	

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-194690-1

SDG Number:

Matrix: Water Instrument ID: WC23

Method: 9040B MDL Date: 08/01/2019 13:57

Analyte	Wavelength/ Mass	RL (SU)	MDL (S.U.)
pH		0.01	0.01

FORM IX - IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-194690-1

SDG Number:

Matrix: Water Instrument ID: WC01

Method: 9060 MDL Date: 01/18/2018 09:39

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
TOC		1	0.559

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-194690-1

SDG Number:

Matrix: Water Instrument ID: WC01

Method: 9060 XMDL Date: 01/18/2018 09:39

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
TOC		1	0.559

FORM IX - IN

12-IN
PREPARATION LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Prep Method: 350.1

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 600-278914/1-A	10/30/2019 05:22	278914		100	100
LCS 600-278914/2-A	10/30/2019 05:22	278914		100	100
600-194690-1	10/30/2019 05:22	278914		100	100
600-194690-3	10/30/2019 05:22	278914		100	100
600-194690-8	10/30/2019 05:22	278914		100	100

FORM XII-IN

12-IN
PREPARATION LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Prep Method: 350.1

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 600-279538/1-A	11/06/2019 07:01	279538		100	100
LCS 600-279538/2-A	11/06/2019 07:01	279538		100	100
600-194690-10	11/06/2019 07:01	279538		100	100
600-194690-10 MS	11/06/2019 07:01	279538		100	100
600-194690-10 MSD	11/06/2019 07:01	279538		100	100

FORM XII-IN

12-IN
PREPARATION LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Prep Method: SM 4500 P B

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 600-278908/3-A	10/30/2019 01:35	278908		50	50
LCS 600-278908/4-A	10/30/2019 01:35	278908		50	50
600-194690-1	10/30/2019 01:35	278908		50	50
600-194690-3	10/30/2019 01:35	278908		50	50

FORM XII-IN

12-IN
PREPARATION LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Prep Method: SM 4500 P B

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 600-279528/3-A	11/06/2019 03:20	279528		50	50
LCS 600-279528/4-A	11/06/2019 03:20	279528		50	50
600-194690-10	11/06/2019 03:20	279528		50	50
600-194690-10 MS	11/06/2019 03:20	279528		50	50
600-194690-10 MSD	11/06/2019 03:20	279528		50	50
600-194690-8	11/06/2019 03:20	279528		50	50

FORM XII-IN

12-IN
PREPARATION LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Prep Method: 1664B

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 600-279936/1-A	11/10/2019 11:32	279936		1000	1000
LCS 600-279936/2-A	11/10/2019 11:32	279936		1000	1000
LCSD 600-279936/3-A	11/10/2019 11:32	279936		1000	1000
600-194690-4	11/10/2019 11:32	279936		1000	1000

FORM XII-IN

12-IN
PREPARATION LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Prep Method: 1664B

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 600-280144/1-A	11/12/2019 13:43	280144		1000	1000
LCS 600-280144/2-A	11/12/2019 13:43	280144		1000	1000
LCSD 600-280144/3-A	11/12/2019 13:44	280144		1000	1000
600-194690-8	11/12/2019 13:44	280144		1000	1000
600-194690-10	11/12/2019 13:44	280144		1000	1000

FORM XII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: WC07 Analysis Method: 350.1

Start Date: 10/30/2019 10:15 End Date: 10/30/2019 11:02

Lab Sample Id	D/F	Type	Time	Analytes																							
				NH3																							
ZZZZZZ			10:15																								
ZZZZZZ			10:16																								
ZZZZZZ			10:17																								
ZZZZZZ			10:18																								
ZZZZZZ			10:19																								
ZZZZZZ			10:20																								
ZZZZZZ			10:22																								
ZZZZZZ			10:23																								
ICV 600-278965/9	1		10:24	X																							
ICB 600-278965/10	1		10:25	X																							
MB 600-278914/1-A	1	T	10:26	X																							
LCS 600-278914/2-A	1	T	10:27	X																							
ZZZZZZ			10:28																								
ZZZZZZ			10:30																								
ZZZZZZ			10:31																								
ZZZZZZ			10:32																								
ZZZZZZ			10:33																								
ZZZZZZ			10:34																								
ZZZZZZ			10:35																								
ZZZZZZ			10:36																								
CCV 600-278965/21	1		10:37	X																							
CCB 600-278965/22	1		10:39	X																							
600-194690-1	1	T	10:40	X																							
600-194690-3	1	T	10:41	X																							
600-194690-8	1	T	10:42	X																							
ZZZZZZ			10:43																								
ZZZZZZ			10:44																								
ZZZZZZ			10:45																								
ZZZZZZ			10:47																								
ZZZZZZ			10:48																								
ZZZZZZ			10:49																								
ZZZZZZ			10:50																								
CCV 600-278965/33	1		10:51	X																							
CCB 600-278965/34	1		10:52	X																							
ZZZZZZ			10:53																								
ZZZZZZ			10:54																								
ZZZZZZ			10:55																								
ZZZZZZ			10:57																								
ZZZZZZ			10:58																								
ZZZZZZ			10:59																								
ZZZZZZ			11:00																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: WC07 Analysis Method: 350.1

Start Date: 10/30/2019 10:15 End Date: 10/30/2019 11:02

Lab Sample Id	D/F	Type	Time	Analytes																							
				NH3																							
CCV 600-278965/42			11:01																								
CCB 600-278965/43			11:02																								

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: WC07 Analysis Method: 350.1

Start Date: 11/06/2019 12:00 End Date: 11/06/2019 12:38

Lab Sample Id	D/F	Type	Time	Analytes																							
				NH3																							
ICV 600-279607/1	1		12:00	X																							
ICB 600-279607/2	1		12:01	X																							
MB 600-279538/1-A	1	T	12:02	X																							
LCS 600-279538/2-A	1	T	12:03	X																							
ZZZZZZ			12:04																								
ZZZZZZ			12:05																								
ZZZZZZ			12:06																								
ZZZZZZ			12:08																								
ZZZZZZ			12:09																								
ZZZZZZ			12:10																								
ZZZZZZ			12:11																								
ZZZZZZ			12:12																								
CCV 600-279607/13	1		12:13	X																							
CCB 600-279607/14	1		12:14	X																							
ZZZZZZ			12:15																								
ZZZZZZ			12:17																								
ZZZZZZ			12:18																								
ZZZZZZ			12:19																								
600-194690-10	1	T	12:20	X																							
600-194690-10 MS	1	T	12:21	X																							
600-194690-10 MSD	1	T	12:22	X																							
ZZZZZZ			12:23																								
ZZZZZZ			12:25																								
ZZZZZZ			12:26																								
CCV 600-279607/25	1		12:27	X																							
CCB 600-279607/26	1		12:28	X																							
ZZZZZZ			12:29																								
ZZZZZZ			12:30																								
ZZZZZZ			12:31																								
ZZZZZZ			12:32																								
ZZZZZZ			12:34																								
ZZZZZZ			12:35																								
ZZZZZZ			12:36																								
CCV 600-279607/34			12:37																								
CCB 600-279607/35			12:38																								

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: WC24-Spec Analysis Method: 4500 S2 D-2000

Start Date: 10/30/2019 09:50 End Date: 10/30/2019 09:54

Lab Sample Id	D/F	Type	Time	Analytes																							
				S2																							
CCV 600-278947/1	1		09:50	X																							
ICB 600-278947/2	1		09:50	X																							
MB 600-278947/3	1	T	09:50	X																							
LCS 600-278947/4	1	T	09:50	X																							
ZZZZZZ			09:50																								
ZZZZZZ			09:50																								
ZZZZZZ			09:50																								
ZZZZZZ			09:50																								
ZZZZZZ			09:50																								
ZZZZZZ			09:50																								
ZZZZZZ			09:50																								
ZZZZZZ			09:50																								
600-194690-1	1	T	09:50	X																							
600-194690-3	1	T	09:50	X																							
600-194690-4	5	T	09:50	X																							
600-194690-8	5	T	09:50	X																							
CCV 600-278947/17	1		09:50	X																							
CCB 600-278947/18	1		09:50	X																							
ZZZZZZ			09:50																								
ZZZZZZ			09:50																								
ZZZZZZ			09:54																								
600-194690-10	5	T	09:54	X																							
CCV 600-278947/23	1		09:54	X																							
CCB 600-278947/24	1		09:54	X																							

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: WC24-Spec Analysis Method: SM4500 P E-1999

Start Date: 10/30/2019 06:09 End Date: 10/30/2019 06:09

Lab Sample Id	D/F	Type	Time	Analytes																							
				P	P-PO4																						
ICV 600-278908/1-A	1		06:09	X	X																						
ICB 600-278908/2-A	1		06:09	X	X																						
MB 600-278908/3-A	1	T	06:09	X	X																						
LCS 600-278908/4-A	1	T	06:09	X	X																						
ZZZZZZ			06:09																								
ZZZZZZ			06:09																								
ZZZZZZ			06:09																								
ZZZZZZ			06:09																								
ZZZZZZ			06:09																								
ZZZZZZ			06:09																								
600-194690-1	1	T	06:09	X	X																						
ZZZZZZ			06:09																								
CCV 600-278908/13-A	1		06:09	X	X																						
CCB 600-278908/14-A	1		06:09	X	X																						
ZZZZZZ			06:09																								
ZZZZZZ			06:09																								
ZZZZZZ			06:09																								
600-194690-3	1	T	06:09	X	X																						
CCV 600-278908/19-A	1		06:09	X	X																						
CCB 600-278908/20-A	1		06:09	X	X																						

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: WC24-Spec Analysis Method: SM4500 P E-1999

Start Date: 11/06/2019 06:27 End Date: 11/06/2019 06:27

Lab Sample Id	D/F	Type	Time	Analytes																							
				P	P-PO4																						
ICV 600-279528/1-A	1		06:27	X	X																						
ICB 600-279528/2-A	1		06:27	X	X																						
MB 600-279528/3-A	1	T	06:27	X	X																						
LCS 600-279528/4-A	1	T	06:27	X	X																						
600-194690-10	1	T	06:27	X	X																						
600-194690-10 MS	1	T	06:27	X	X																						
600-194690-10 MSD	1	T	06:27	X	X																						
600-194690-8	10	T	06:27	X	X																						
ZZZZZZ			06:27																								
ZZZZZZ			06:27																								
ZZZZZZ			06:27																								
ZZZZZZ			06:27																								
CCV 600-279528/13-A	1		06:27	X	X																						
CCB 600-279528/14-A	1		06:27	X	X																						
ZZZZZZ			06:27																								
ZZZZZZ			06:27																								
ZZZZZZ			06:27																								
CCV 600-279528/18-A			06:27																								
CCB 600-279528/19-A			06:27																								

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: 1664B

Start Date: 11/10/2019 11:33 End Date: 11/10/2019 11:33

Lab Sample Id	D/F	Type	Time	Analytes																							
				HEM	SGTHEM																						
MB 600-279936/1-A	1	T	11:33	X	X																						
LCS 600-279936/2-A	1	T	11:33	X	X																						
LCSD 600-279936/3-A	1	T	11:33	X	X																						
600-194690-4	1	T	11:33	X	X																						
ZZZZZZ			11:33																								
ZZZZZZ			11:33																								
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Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: 1664B

Start Date: 11/12/2019 13:44 End Date: 11/12/2019 13:45

Lab Sample Id	D/F	Type	Time	Analytes																							
				HEM	SGTHEM																						
MB 600-280144/1-A	1	T	13:44	X	X																						
LCS 600-280144/2-A	1	T	13:44	X	X																						
LCSD 600-280144/3-A	1	T	13:45	X	X																						
600-194690-8	1	T	13:45	X	X																						
600-194690-10	1	T	13:45	X	X																						
ZZZZZZ			13:45																								
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Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: WC23 Analysis Method: 2320B-1997

Start Date: 11/08/2019 10:02 End Date: 11/08/2019 11:50

Lab Sample Id	D/F	Type	Time	Analytes																							
				Alk	BALKCC	CarAlk																					
RINSE 600-279861/1			10:02																								
MB 600-279861/2	1	T	10:06	X	X	X																					
LCS 600-279861/3	1	T	10:12	X	X	X																					
600-194690-3	1	T	10:17	X	X	X																					
600-194690-3 MS	1	T	10:23	X	X	X																					
600-194690-3 MSD	1	T	10:29	X	X	X																					
ZZZZZZ			10:34																								
ZZZZZZ			10:40																								
ZZZZZZ			10:44																								
ZZZZZZ			10:47																								
ZZZZZZ			10:52																								
ZZZZZZ			10:56																								
ZZZZZZ			11:00																								
600-194690-8	1	T	11:05	X	X	X																					
600-194690-1	1	T	11:10	X	X	X																					
CCV 600-279861/16	1		11:15	X	X	X																					
CCB 600-279861/17	1		11:19	X	X	X																					
600-194690-10	1	T	11:25	X	X	X																					
600-194690-10 MS	1	T	11:30	X	X	X																					
600-194690-10 MSD	1	T	11:36	X	X	X																					
600-194690-10 DU	1	T	11:41	X	X	X																					
CCV 600-279861/22	1		11:46	X	X	X																					
CCB 600-279861/23	1		11:50	X	X	X																					

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: 2540 C-1997

Start Date: 10/29/2019 13:14 End Date: 10/29/2019 13:14

Lab Sample Id	D/F	Type	Time	Analytes																							
				TDS																							
MB 600-278858/1	1	T	13:14	X																							
LCS 600-278858/2	1	T	13:14	X																							
ZZZZZZ			13:14																								
ZZZZZZ			13:14																								
ZZZZZZ			13:14																								
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ZZZZZZ			13:14																								
ZZZZZZ			13:14																								
600-194690-1	1	T	13:14	X																							
600-194690-1 DU	1	T	13:14	X																							
600-194690-3	1	T	13:14	X																							
600-194690-8	1	T	13:14	X																							
ZZZZZZ			13:14																								
ZZZZZZ			13:14																								
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ZZZZZZ			13:14																								

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: 2540 C-1997

Start Date: 10/30/2019 13:38 End Date: 10/30/2019 13:38

Lab Sample Id	D/F	Type	Time	Analytes																							
				TDS																							
MB 600-278999/1	1	T	13:38	X																							
LCS 600-278999/2	1	T	13:38	X																							
600-194690-10	1	T	13:38	X																							
600-194690-10 DU	1	T	13:38	X																							
ZZZZZZ			13:38																								
ZZZZZZ			13:38																								
ZZZZZZ			13:38																								
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ZZZZZZ			13:38																								

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: B1 Analysis Method: 2540 D-1997

Start Date: 10/30/2019 09:08 End Date: 10/30/2019 09:10

Lab Sample Id	D/F	Type	Time	Analytes																							
				TSS																							
MB 600-278988/1	1	T	09:08	X																							
LCS 600-278988/2	1	T	09:08	X																							
CCV 600-278988/3	1		09:08	X																							
600-194690-10	1	T	09:08	X																							
600-194690-10 DU	1	T	09:08	X																							
600-194690-1	1	T	09:08	X																							
600-194690-3	1	T	09:08	X																							
600-194690-6	1	T	09:08	X																							
600-194690-8	1	T	09:09	X																							
600-194690-7	1	T	09:09	X																							
ZZZZZZ			09:09																								
ZZZZZZ			09:09																								
ZZZZZZ			09:09																								
ZZZZZZ			09:09																								
ZZZZZZ			09:09																								
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ZZZZZZ			09:10																								
ZZZZZZ			09:10																								

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: WC15 Analysis Method: 8000

Start Date: 11/06/2019 08:51 End Date: 11/06/2019 08:51

Lab Sample Id	D/F	Type	Time	Analytes																							
				COD																							
CCV 600-279560/1	1		08:51	X																							
ICB 600-279560/2	1		08:51	X																							
MB 600-279560/3	1	T	08:51	X																							
LCS 600-279560/4	1	T	08:51	X																							
ZZZZZZ			08:51																								
ZZZZZZ			08:51																								
ZZZZZZ			08:51																								
ZZZZZZ			08:51																								
600-194690-10	4	T	08:51	X																							
ZZZZZZ			08:51																								
ZZZZZZ			08:51																								
ZZZZZZ			08:51																								
ZZZZZZ			08:51																								
600-194690-8	2	T	08:51	X																							
600-194690-1	1	T	08:51	X																							
600-194690-3	1	T	08:51	X																							
CCV 600-279560/17	1		08:51	X																							
CCB 600-279560/18	1		08:51	X																							
ZZZZZZ			08:51																								
ZZZZZZ			08:51																								
ZZZZZZ			08:51																								
ZZZZZZ			08:51																								
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ZZZZZZ			08:51																								
ZZZZZZ			08:51																								
ZZZZZZ			08:51																								
ZZZZZZ			08:51																								
CCV 600-279560/29			08:51																								
CCB 600-279560/30			08:51																								
ZZZZZZ			08:51																								
ZZZZZZ			08:51																								
ZZZZZZ			08:51																								
ZZZZZZ			08:51																								

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: WC15 Analysis Method: 8000

Start Date: 11/07/2019 08:48 End Date: 11/07/2019 08:55

Lab Sample Id	D/F	Type	Time	Analytes																							
				COD																							
LCS 600-279707/1	1	T	08:48	X																							
MB 600-279707/2	1	T	08:48	X																							
ZZZZZZ			08:48																								
ZZZZZZ			08:48																								
600-194690-10	1	T	08:48	X																							
600-194690-10 MS	1	T	08:48	X																							
600-194690-10 MSD	1		08:48	X																							
ZZZZZZ			08:48																								
ZZZZZZ			08:48																								
ZZZZZZ			08:48																								
ZZZZZZ			08:55																								
ZZZZZZ			08:55																								
ZZZZZZ			08:55																								
ZZZZZZ			08:55																								
CCV 600-279707/15	1		08:55	X																							
CCB 600-279707/16	1		08:55	X																							

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: WC23 Analysis Method: 9040B

Start Date: 10/31/2019 12:09 End Date: 10/31/2019 14:28

Lab Sample Id	D/F	Type	Time	Analytes																							
				pH																							
LCS 600-279135/1	1	T	12:09	X																							
ZZZZZZ			12:12																								
ZZZZZZ			12:16																								
ZZZZZZ			12:19																								
ZZZZZZ			12:23																								
ZZZZZZ			12:27																								
ZZZZZZ			12:30																								
ZZZZZZ			12:33																								
600-194690-8	1	T	12:36	X																							
ZZZZZZ			12:40																								
ZZZZZZ			12:42																								
ZZZZZZ			12:46																								
CCV 600-279135/13	1		12:49	X																							
ZZZZZZ			12:53																								
ZZZZZZ			12:56																								
ZZZZZZ			12:59																								
ZZZZZZ			13:03																								
ZZZZZZ			13:06																								
ZZZZZZ			13:10																								
ZZZZZZ			13:13																								
ZZZZZZ			13:17																								
ZZZZZZ			13:20																								
ZZZZZZ			13:23																								
ZZZZZZ			13:26																								
ZZZZZZ			13:30																								
LCS 600-279135/26	1	T	13:33	X																							
600-194690-3	1	T	13:36	X																							
600-194690-3 DU	1	T	13:40	X																							
ZZZZZZ			13:43																								
ZZZZZZ			13:46																								
ZZZZZZ			13:50																								
ZZZZZZ			13:53																								
ZZZZZZ			13:57																								
ZZZZZZ			14:01																								
ZZZZZZ			14:04																								
ZZZZZZ			14:08																								
ZZZZZZ			14:12																								
CCV 600-279135/38	1		14:15	X																							
ZZZZZZ			14:18																								
ZZZZZZ			14:21																								
ZZZZZZ			14:24																								
CCV 600-279135/42			14:28																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: WC23 Analysis Method: 9040B

Start Date: 10/31/2019 12:09 End Date: 10/31/2019 14:28

Lab Sample Id	D/F	Type	Time	Analytes																							
				pH																							

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: WC23 Analysis Method: 9040B

Start Date: 11/05/2019 10:50 End Date: 11/05/2019 12:47

Lab Sample Id	D/F	Type	Time	Analytes																							
				pH																							
LCS 600-279464/1	1	T	10:50	X																							
ZZZZZZ			10:53																								
ZZZZZZ			10:56																								
ZZZZZZ			11:00																								
ZZZZZZ			11:03																								
ZZZZZZ			11:07																								
ZZZZZZ			11:10																								
ZZZZZZ			11:13																								
ZZZZZZ			11:16																								
ZZZZZZ			11:20																								
ZZZZZZ			11:24																								
600-194690-4	1	T	11:27	X																							
CCV 600-279464/13	1		11:30	X																							
600-194690-10	1	T	11:34	X																							
600-194690-10 DU	1	T	11:38	X																							
600-194690-1	1	T	11:41	X																							
ZZZZZZ			11:45																								
ZZZZZZ			11:48																								
ZZZZZZ			11:51																								
ZZZZZZ			11:55																								
ZZZZZZ			11:58																								
ZZZZZZ			12:02																								
ZZZZZZ			12:05																								
ZZZZZZ			12:09																								
CCV 600-279464/25	1		12:12	X																							
ZZZZZZ			12:15																								
ZZZZZZ			12:18																								
ZZZZZZ			12:22																								
ZZZZZZ			12:26																								
ZZZZZZ			12:29																								
ZZZZZZ			12:32																								
ZZZZZZ			12:36																								
ZZZZZZ			12:40																								
ZZZZZZ			12:43																								
CCV 600-279464/35			12:47																								

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Instrument ID: WC01 Analysis Method: 9060

Start Date: 11/07/2019 07:56 End Date: 11/07/2019 15:26

Lab Sample Id	D/F	Type	Time	Analytes																							
				TOC																							
RINSE 600-279795/1			07:56																								
RINSE 600-279795/2			08:08																								
ICV 600-279795/3	1		08:21	X																							
ICB 600-279795/4	1		08:33	X																							
MB 600-279795/5	1	T	08:45	X																							
LCS 600-279795/6	1	T	08:57	X																							
ZZZZZZ			09:09																								
ZZZZZZ			09:22																								
ZZZZZZ			09:34																								
ZZZZZZ			09:46																								
ZZZZZZ			09:58																								
600-194690-8	4	T	10:10	X																							
ZZZZZZ			10:22																								
ZZZZZZ			10:35																								
CCV 600-279795/15	1		10:47	X																							
CCB 600-279795/16	1		10:59	X																							
600-194690-1	1	T	11:11	X																							
ZZZZZZ			11:23																								
ZZZZZZ			11:36																								
ZZZZZZ			11:48																								
600-194690-10	1	T	12:00	X																							
600-194690-10 MS	1	T	12:12	X																							
600-194690-10 MSD	1	T	12:24	X																							
ZZZZZZ			12:36																								
ZZZZZZ			12:48																								
600-194690-3	1	T	13:01	X																							
CCV 600-279795/27	1		13:13	X																							
CCB 600-279795/28	1		13:25	X																							
ZZZZZZ			13:37																								
ZZZZZZ			13:49																								
ZZZZZZ			14:01																								
ZZZZZZ			14:14																								
ZZZZZZ			14:26																								
CCV 600-279795/34			14:38																								
CCB 600-279795/35			14:50																								
ZZZZZZ			15:02																								
CCV 600-279795/37			15:14																								
CCB 600-279795/38			15:26																								

Prep Types:
T = Total/NA

FORM XIII-IN

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 278914 Batch Start Date: 10/30/19 05:22 Batch Analyst: Cemer, Sejfudin

Batch Method: 350.1 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	WETSNH3ICV 00028		
MB 600-278914/1		350.1, 350.1		100 mL	100 mL	<2 SU			
LCS 600-278914/2		350.1, 350.1		100 mL	100 mL	<2 SU	0.5 mL		
600-194690-G-1	1. CEFF	350.1, 350.1	T	100 mL	100 mL	<2 SU			
600-194690-J-3	FEFF 1	350.1, 350.1	T	100 mL	100 mL	<2 SU			
600-194690-J-8	INF 3	350.1, 350.1	T	100 mL	100 mL	<2 SU			
600-194690-I-10	INF 4	350.1, 350.1	T	100 mL	100 mL	<2 SU			

Batch Notes	
Buffer Reagent ID	3111563

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 278965 Batch Start Date: 10/30/19 10:15 Batch Analyst: Cemer, Sejfudin

Batch Method: 350.1 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	WETSNH3ICV 00027	WETSNH3ICV 00028		
ICV 600-278965/9		350.1		5 mL	5 mL		0.025 mL		
ICB 600-278965/10		350.1		5 mL	5 mL				
MB 600-278914/1-A		350.1		5 mL	5 mL				
LCS 600-278914/2-A		350.1		5 mL	5 mL				
CCV 600-278965/21		350.1		5 mL	5 mL	0.025 mL			
CCB 600-278965/22		350.1		5 mL	5 mL				
600-194690-G-1-B	1. CEFF	350.1	T	5 mL	5 mL				
600-194690-J-3-B	FEFF 1	350.1	T	5 mL	5 mL				
600-194690-J-8-A	INF 3	350.1	T	5 mL	5 mL				
600-194690-I-10-A	INF 4	350.1	T	5 mL	5 mL				
CCV 600-278965/33		350.1		5 mL	5 mL	0.025 mL			
CCB 600-278965/34		350.1		5 mL	5 mL				

Batch Notes	
Carrier Identification	3111563
EDTA Buffer ID	3111563
Hypochlorite ID	3320051
Sodium Nitroprusside ID	3283608
Sodium Phenolate ID	3235863

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 279538 Batch Start Date: 11/06/19 07:01 Batch Analyst: Cemer, Sejfudin

Batch Method: 350.1 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	WETSNH3ICV 00028		
MB 600-279538/1		350.1, 350.1		100 mL	100 mL	<2 SU			
LCS 600-279538/2		350.1, 350.1		100 mL	100 mL	<2 SU	0.5 mL		
600-194690-H-10	INF 4	350.1, 350.1	T	100 mL	100 mL	<2 SU			
600-194690-H-10 MS	INF 4	350.1, 350.1	T	100 mL	100 mL	<2 SU	0.5 mL		
600-194690-H-10 MSD	INF 4	350.1, 350.1	T	100 mL	100 mL	<2 SU	0.5 mL		

Batch Notes	
Buffer Reagent ID	3111563

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 279607 Batch Start Date: 11/06/19 12:00 Batch Analyst: Cemer, Sejfudin

Batch Method: 350.1 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	WETSNH3ICV 00027	WETSNH3ICV 00028		
ICV 600-279607/1		350.1		5 mL	5 mL		0.025 mL		
ICB 600-279607/2		350.1		5 mL	5 mL				
MB 600-279538/1-A		350.1		5 mL	5 mL				
LCS 600-279538/2-A		350.1		5 mL	5 mL				
CCV 600-279607/13		350.1		5 mL	5 mL	0.025 mL			
CCB 600-279607/14		350.1		5 mL	5 mL				
600-194690-H-10 -A	INF 4	350.1	T	5 mL	5 mL				
600-194690-H-10 -B MS	INF 4	350.1	T	5 mL	5 mL				
600-194690-H-10 -C MSD	INF 4	350.1	T	5 mL	5 mL				
CCV 600-279607/25		350.1		5 mL	5 mL	0.025 mL			
CCB 600-279607/26		350.1		5 mL	5 mL				

Batch Notes	
Carrier Identification	3111563
EDTA Buffer ID	3111563
Hypochlorite ID	3338632
Sodium Nitroprusside ID	3338631
Sodium Phenolate ID	3235863

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 267101 Batch Start Date: 06/12/19 18:43 Batch Analyst: Daniel, Kevin R

Batch Method: 4500 S2 D-2000 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	WETSMETBSU 00024			
IC 600-267101/54		4500 S2 D-2000		7.5 mL	7.5 mL				
IC 600-267101/55		4500 S2 D-2000		7.5 mL	7.5 mL	5 uL			
IC 600-267101/56		4500 S2 D-2000		7.5 mL	7.5 mL	25 uL			
IC 600-267101/57		4500 S2 D-2000		7.5 mL	7.5 mL	50 uL			
IC 600-267101/58		4500 S2 D-2000		7.5 mL	7.5 mL	150 uL			
IC 600-267101/59		4500 S2 D-2000		7.5 mL	7.5 mL	250 uL			
IC 600-267101/60		4500 S2 D-2000		7.5 mL	7.5 mL	375 uL			

Batch Notes	
1:1 Sulfuric + Water Lot ID	3007268
Amine Sulfuric Acid ID	3089888
Ammonium Phosphate ID	2922258
Ferric Chloride ID	2979633
Pipette ID	wc62wc45a

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 278947 Batch Start Date: 10/30/19 09:50 Batch Analyst: Nguyen, Davis T

Batch Method: 4500 S2 D-2000 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	UnCorResp	ColorBlk	WETSMETBSU 00023	WETSMETBSU 00024
CCV 600-278947/1		4500 S2 D-2000		7.5 mL	7.5 mL	0.341 Absorbance	0.000 Absorbance	150 uL	
ICB 600-278947/2		4500 S2 D-2000		7.5 mL	7.5 mL	0.000 Absorbance	0.000 Absorbance		
MB 600-278947/3		4500 S2 D-2000		7.5 mL	7.5 mL	0.000 Absorbance	0.000 Absorbance		
LCS 600-278947/4		4500 S2 D-2000		7.5 mL	7.5 mL	0.345 Absorbance	0.000 Absorbance		150 uL
600-194690-I-1	1. CEFF	4500 S2 D-2000	T	7.5 mL	7.5 mL	0.024 Absorbance	0.002 Absorbance		
600-194690-K-3	FEFF 1	4500 S2 D-2000	T	7.5 mL	7.5 mL	0.005 Absorbance	0.000 Absorbance		
600-194690-I-4 ^5	DUP	4500 S2 D-2000	T	7.5 mL	7.5 mL	0.146 Absorbance	0.092 Absorbance		
600-194690-K-8 ^5	INF 3	4500 S2 D-2000	T	7.5 mL	7.5 mL	0.884 Absorbance	0.750 Absorbance		
CCV 600-278947/17		4500 S2 D-2000		7.5 mL	7.5 mL	0.322 Absorbance	0.000 Absorbance	150 uL	
CCB 600-278947/18		4500 S2 D-2000		7.5 mL	7.5 mL	0.000 Absorbance	0.000 Absorbance		
600-194690-J-10 ^5	INF 4	4500 S2 D-2000	T	7.5 mL	7.5 mL	0.121 Absorbance	0.094 Absorbance		
CCV 600-278947/23		4500 S2 D-2000		7.5 mL	7.5 mL	0.333 Absorbance	0.000 Absorbance	150 uL	
CCB 600-278947/24		4500 S2 D-2000		7.5 mL	7.5 mL	0.000 Absorbance	0.000 Absorbance		

Batch Notes	
1:1 Sulfuric + Water Lot ID	3007268
Amine Sulfuric Acid ID	2955108
Ammonium Phosphate ID	2922260
Ferric Chloride ID	3270488
Pipette ID	wc62, wc45

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 256660 Batch Start Date: 01/22/19 04:47 Batch Analyst: Cemer, Sejfudin

Batch Method: SM 4500 P B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	ReceivedpH	InitialAmount	FinalAmount			
IC 600-256660/1		SM 4500 P B, SM4500 P E-1999		<2 S.U.	50 mL	50 mL			
IC 600-256660/2		SM 4500 P B, SM4500 P E-1999		<2 S.U.	50 mL	50 mL			
IC 600-256660/3		SM 4500 P B, SM4500 P E-1999		<2 S.U.	50 mL	50 mL			
IC 600-256660/4		SM 4500 P B, SM4500 P E-1999		<2 S.U.	50 mL	50 mL			
IC 600-256660/5		SM 4500 P B, SM4500 P E-1999		<2 S.U.	50 mL	50 mL			
IC 600-256660/6		SM 4500 P B, SM4500 P E-1999		<2 S.U.	50 mL	50 mL			
IC 600-256660/7		SM 4500 P B, SM4500 P E-1999		<2 S.U.	50 mL	50 mL			

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 256661 Batch Start Date: 01/22/19 05:06 Batch Analyst: Cemer, Sejfudin

Batch Method: SM4500 P E-1999 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	WETSPHOSCS 00030			
IC 600-256660/1-A		SM4500 P E-1999		5 mL	5 mL				
IC 600-256660/2-A		SM4500 P E-1999		5 mL	5 mL	1 uL			
IC 600-256660/3-A		SM4500 P E-1999		5 mL	5 mL	5 uL			
IC 600-256660/4-A		SM4500 P E-1999		5 mL	5 mL	10 uL			
IC 600-256660/5-A		SM4500 P E-1999		5 mL	5 mL	25 uL			
IC 600-256660/6-A		SM4500 P E-1999		5 mL	5 mL	50 uL			
IC 600-256660/7-A		SM4500 P E-1999		5 mL	5 mL	100 uL			

Batch Notes	
Ascorbic Acid ID	3048135
Color Reagent ID	3048136

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 278908 Batch Start Date: 10/30/19 01:35 Batch Analyst: Cemer, Sejfudin

Batch Method: SM 4500 P B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	ReceivedpH	InitialAmount	FinalAmount	WETSPHOSCS 00031	WETSPHOSIS 00028	
ICV 600-278908/1		SM 4500 P B, SM4500 P E-1999		<2 S.U.	50 mL	50 mL		500 uL	
ICB 600-278908/2		SM 4500 P B, SM4500 P E-1999		<2 S.U.	50 mL	50 mL			
MB 600-278908/3		SM 4500 P B, SM4500 P E-1999		<2 S.U.	50 mL	50 mL			
LCS 600-278908/4		SM 4500 P B, SM4500 P E-1999		<2 S.U.	50 mL	50 mL		500 uL	
600-194690-G-1	1. CEFF	SM 4500 P B, SM4500 P E-1999	T	<2 S.U.	50 mL	50 mL			
CCV 600-278908/13		SM 4500 P B, SM4500 P E-1999		<2 S.U.	50 mL	50 mL	500 uL		
CCB 600-278908/14		SM 4500 P B, SM4500 P E-1999		<2 S.U.	50 mL	50 mL			
600-194690-J-3	FEFF 1	SM 4500 P B, SM4500 P E-1999	T	<2 S.U.	50 mL	50 mL			
CCV 600-278908/19		SM 4500 P B, SM4500 P E-1999		<2 S.U.	50 mL	50 mL	500 uL		
CCB 600-278908/20		SM 4500 P B, SM4500 P E-1999		<2 S.U.	50 mL	50 mL			

Batch Notes	

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 278917 Batch Start Date: 10/30/19 06:09 Batch Analyst: Cemer, Sejfudin

Batch Method: SM4500 P E-1999 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount				
ICV 600-278908/1-A		SM4500 P E-1999		5 mL	5 mL				
ICB 600-278908/2-A		SM4500 P E-1999		5 mL	5 mL				
MB 600-278908/3-A		SM4500 P E-1999		5 mL	5 mL				
LCS 600-278908/4-A		SM4500 P E-1999		5 mL	5 mL				
600-194690-G-1-A	1. CEFF	SM4500 P E-1999	T	5 mL	5 mL				
CCV 600-278908/13-A		SM4500 P E-1999		5 mL	5 mL				
CCB 600-278908/14-A		SM4500 P E-1999		5 mL	5 mL				
600-194690-J-3-A	FEFF 1	SM4500 P E-1999	T	5 mL	5 mL				
CCV 600-278908/19-A		SM4500 P E-1999		5 mL	5 mL				
CCB 600-278908/20-A		SM4500 P E-1999		5 mL	5 mL				

Batch Notes	
Ascorbic Acid ID	3330501
Color Reagent ID	3330521

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 279528 Batch Start Date: 11/06/19 03:20 Batch Analyst: Cemer, Sejfudin

Batch Method: SM 4500 P B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	ReceivedpH	InitialAmount	FinalAmount	WETSPHOSCS 00031	WETSPHOSIS 00028	
ICV 600-279528/1		SM 4500 P B, SM4500 P E-1999		<2 S.U.	50 mL	50 mL		500 uL	
ICB 600-279528/2		SM 4500 P B, SM4500 P E-1999		<2 S.U.	50 mL	50 mL			
MB 600-279528/3		SM 4500 P B, SM4500 P E-1999		<2 S.U.	50 mL	50 mL			
LCS 600-279528/4		SM 4500 P B, SM4500 P E-1999		<2 S.U.	50 mL	50 mL		500 uL	
600-194690-I-10	INF 4	SM 4500 P B, SM4500 P E-1999	T	<2 S.U.	50 mL	50 mL			
600-194690-I-10 MS	INF 4	SM 4500 P B, SM4500 P E-1999	T	<2 S.U.	50 mL	50 mL		500 uL	
600-194690-I-10 MSD	INF 4	SM 4500 P B, SM4500 P E-1999	T	<2 S.U.	50 mL	50 mL		500 uL	
600-194690-J-8	INF 3	SM 4500 P B, SM4500 P E-1999	T	<2 S.U.	50 mL	50 mL			
CCV 600-279528/13		SM 4500 P B, SM4500 P E-1999		<2 S.U.	50 mL	50 mL	500 uL		
CCB 600-279528/14		SM 4500 P B, SM4500 P E-1999		<2 S.U.	50 mL	50 mL			

Batch Notes	

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 279534 Batch Start Date: 11/06/19 06:27 Batch Analyst: Cemer, Sejfudin

Batch Method: SM4500 P E-1999 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount				
ICV 600-279528/1-A		SM4500 P E-1999		5 mL	5 mL				
ICB 600-279528/2-A		SM4500 P E-1999		5 mL	5 mL				
MB 600-279528/3-A		SM4500 P E-1999		5 mL	5 mL				
LCS 600-279528/4-A		SM4500 P E-1999		5 mL	5 mL				
600-194690-I-10 -B	INF 4	SM4500 P E-1999	T	5 mL	5 mL				
600-194690-I-10 -C MS	INF 4	SM4500 P E-1999	T	5 mL	5 mL				
600-194690-I-10 -D MSD	INF 4	SM4500 P E-1999	T	5 mL	5 mL				
600-194690-J-8- B	INF 3	SM4500 P E-1999	T	5 mL	5 mL				
CCV 600-279528/13-A		SM4500 P E-1999		5 mL	5 mL				
CCB 600-279528/14-A		SM4500 P E-1999		5 mL	5 mL				

Batch Notes	
Ascorbic Acid ID	3340007
Color Reagent ID	3340012

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 279936 Batch Start Date: 11/10/19 11:32 Batch Analyst: Contreras, Francisca N

Batch Method: 1664B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	Final pH	TareWeight	InitialAmount	FinalAmount	EX-O&G Spk 00034
MB 600-279936/1		1664B, 1664B		6 SU	<2 SU	5.4009 g	1000 mL	1000 mL	
LCS 600-279936/2		1664B, 1664B		6 SU	<2 SU	5.3743 g	1000 mL	1000 mL	10 mL
LCSD 600-279936/3		1664B, 1664B		6 SU	<2 SU	5.3334 g	1000 mL	1000 mL	10 mL
600-194690-B-4	DUP	1664B, 1664B	T	<2 SU	<2 SU	5.3570 g	1000 mL	1000 mL	

Batch Notes	
Acid ID	EX-HYDROCHLORIC_00016
Balance ID	B-19
Concentration End Time	10:40
Concentrator ID	SPEED-VAP
Concentration Start Time	08:40
Corrected Concentration Temperature	39 Degrees C
Analyst ID - HEM Extraction	FNC
Analyst ID - SGT Extraction	FNC
Filter Material ID	16939090
Hexane ID	EX_HEXANE_00046
Methanol ID	EX-METHANOL_00051
Na2SO4 ID	EX-BAKSODSULF_00037
Nominal Amount Used	1000 mL
pH Paper ID	HC991818
Prep Solvent Volume Used	35 mL
SPE Cartridge Lot ID	043165-HN
Sufficient Volume for Batch QC	yes
Uncorrected Concentration Temperature	39 Degrees C
Weight Set ID	658443

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 279937 Batch Start Date: 11/10/19 11:33 Batch Analyst: Contreras, Francisca N

Batch Method: 1664B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ReceiverTube	RecTubeWExtract 1	RecTubeWExtract 2	WeightOne%Diff
MB 600-279936/1-A		1664B		1000 mL	1000 mL	5.4009 g	5.4016 g	5.4012 g	Pass_0.0005g
LCS 600-279936/2-A		1664B		1000 mL	1000 mL	5.3743 g	5.4103 g	5.4100 g	Pass_0.0005g
LCSD 600-279936/3-A		1664B		1000 mL	1000 mL	5.3334 g	5.3695 g	5.3693 g	Pass_0.0005g
600-194690-B-4-A	DUP	1664B	T	1000 mL	1000 mL	5.3570 g	5.3590 g	5.3588 g	Pass_0.0005g

Lab Sample ID	Client Sample ID	Method Chain	Basis	SGTRecTube	SGTRecTubeWExt1	SGTRecTubeWExt2	SGTWeightOne%Diff	Residue	Residue2
MB 600-279936/1-A		1664B		5.3354 g	5.3358 g	5.3356 g	Pass_0.0005g	0.000700000000000145 g	0.000300000000000189 g
LCS 600-279936/2-A		1664B		5.3822 g	5.4000 g	5.3997 g	Pass_0.0005g	0.036000000000000005 g	0.035700000000000003 g
LCSD 600-279936/3-A		1664B		5.2583 g	5.2763 g	5.2760 g	Pass_0.0005g	0.036100000000000002 g	0.035899999999999998 g
600-194690-B-4-A	DUP	1664B	T	5.3188 g	5.3200 g	5.3197 g	Pass_0.0005g	0.001999999999999978 g	0.001799999999999936 g

Lab Sample ID	Client Sample ID	Method Chain	Basis	SGTResidue1	SGTResidue2				
MB 600-279936/1-A		1664B		0.000399999999999956 g	0.000200000000000422 g				
LCS 600-279936/2-A		1664B		0.017800000000000003 g	0.017500000000000001 g				
LCSD 600-279936/3-A		1664B		0.017999999999999998 g	0.017699999999999996 g				
600-194690-B-4-A	DUP	1664B	T	0.001199999999999987 g	0.000899999999999999679 g				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 279937 Batch Start Date: 11/10/19 11:33 Batch Analyst: Contreras, Francisca N

Batch Method: 1664B Batch End Date:

Batch Notes	
Aluminum Pan Lot ID	0181102
Balance ID	B-19
Cal check after 1st Weighing - 1g	1.0000 g
Cal check after 1st Weighing - 2 mg	0.0020 g
Cal check after 2nd Weighing - 1g	1.0000 g
Cal check after 2nd Weighing - 2 mg	0.0020 g
Calibration Check After 1st Weighing	0.0020 g
Calibration Check After 2nd Weighing	0.0020 g
Calibration Check Before 1st Weighing	1.0000 g
Calibration Check Before 2nd Weighing	1.0000 g
Cal check before 1st Weighing - 1g	1.0000 g
Cal check before 1st Weighing - 2 mg	0.0020 g
Cal check before 2nd Weighing - 1g	1.0000 g
Cal check before 2nd Weighing - 2 mg	0.0020 g
Desiccator In Time - 1st Weight	15:03
Desiccator In Time - 2nd Weight	15:51
Desiccator In Time - 3rd Weight	16:06
Desiccator Out Time - 1st Weight	15:34
Desiccator Out Time - 2nd Weight	16:06
Desiccator Out Time - 3rd Weight	16:06
Weight Set ID	04J36198-1

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 280144 Batch Start Date: 11/12/19 13:43 Batch Analyst: Contreras, Francisca N

Batch Method: 1664B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	Final pH	TareWeight	InitialAmount	FinalAmount	EX-O&G Spk 00034
MB 600-280144/1		1664B, 1664B		6 SU	<2 SU	5.4014 g	1000 mL	1000 mL	
LCS 600-280144/2		1664B, 1664B		6 SU	<2 SU	5.4162 g	1000 mL	1000 mL	10 mL
LCSD 600-280144/3		1664B, 1664B		6 SU	<2 SU	5.2647 g	1000 mL	1000 mL	10 mL
600-194690-E-8	INF 3	1664B, 1664B	T	<2 SU	<2 SU	5.3560 g	1000 mL	1000 mL	
600-194690-D-10	INF 4	1664B, 1664B	T	<2 SU	<2 SU	5.3741 g	1000 mL	1000 mL	

Batch Notes	
Acid ID	EX-HYDROCHLORICACID_00015
Balance ID	B20
Concentration End Time	15:16
Concentrator ID	Speed-vap
Concentration Start Time	13:16
Corrected Concentration Temperature	35 Degrees C
Analyst ID - HEM Extraction	FNC
Analyst ID - SGT Extraction	FNC
Filter Material ID	16928835
Hexane ID	EX-HEXANE_00047
Methanol ID	EX-METHANOL_00050
Na2SO4 ID	EX-SODSULF_00029
Nominal Amount Used	1000 mL
pH Paper ID	HC987808
Prep Solvent Volume Used	35 mL
SPE Cartridge Lot ID	043558-HN
SPE Cartridge Type	ECUNIOG-XF
Sufficient Volume for Batch QC	yes
Uncorrected Concentration Temperature	39 Degrees C
Weight Set ID	658443

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 280144 Batch Start Date: 11/12/19 13:43 Batch Analyst: Contreras, Francisca N

Batch Method: 1664B Batch End Date:

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 280145 Batch Start Date: 11/12/19 13:44 Batch Analyst: Contreras, Francisca N

Batch Method: 1664B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ReceiverTube	RecTubeWExtract 1	RecTubeWExtract 2	WeightOne%Diff
MB 600-280144/1-A		1664B		1000 mL	1000 mL	5.4014 g	5.4022 g	5.4018 g	Pass_0.0005g
LCS 600-280144/2-A		1664B		1000 mL	1000 mL	5.4162 g	5.4521 g	5.4518 g	Pass_0.0005g
LCSD 600-280144/3-A		1664B		1000 mL	1000 mL	5.2647 g	5.3003 g	5.3000 g	Pass_0.0005g
600-194690-E-8-A	INF 3	1664B	T	1000 mL	1000 mL	5.3560 g	5.3581 g	5.3580 g	Pass_0.0005g
600-194690-D-10-A	INF 4	1664B	T	1000 mL	1000 mL	5.3741 g	5.3766 g	5.3762 g	Pass_0.0005g

Lab Sample ID	Client Sample ID	Method Chain	Basis	SGTRecTube	SGTRecTubeWExt1	SGTRecTubeWExt2	SGTWeightOne%Diff	Residue	Residue2
MB 600-280144/1-A		1664B		5.5078 g	5.5082 g	5.5080 g	Pass_0.0005g	0.000799999999999912 g	0.000399999999999956 g
LCS 600-280144/2-A		1664B		5.3812 g	5.3990 g	5.3987 g	Pass_0.0005g	0.035899999999998 g	0.035600000000005 g
LCSD 600-280144/3-A		1664B		5.2573 g	5.2750 g	5.2748 g	Pass_0.0005g	0.035599999999996 g	0.035299999999994 g
600-194690-E-8-A	INF 3	1664B	T	5.3035 g	5.3045 g	5.3043 g	Pass_0.0005g	0.002100000000000043 g	0.001999999999999978 g
600-194690-D-10-A	INF 4	1664B	T	5.3333 g	5.3343 g	5.3340 g	Pass_0.0005g	0.002499999999995 g	0.002099999999999955 g

Lab Sample ID	Client Sample ID	Method Chain	Basis	SGTResidue1	SGTResidue2	AnalysisComment			
MB 600-280144/1-A		1664B		0.000400000000000844 g	0.000200000000000422 g				
LCS 600-280144/2-A		1664B		0.017800000000003 g	0.017500000000001 g				
LCSD 600-280144/3-A		1664B		0.017700000000005 g	0.017500000000001 g				
600-194690-E-8-A	INF 3	1664B	T	0.001000000000000033 g	0.000799999999999912 g				
600-194690-D-10-A	INF 4	1664B	T	0.000999999999999446 g	0.000699999999999257 g	Aluminum pan has oil rfesidue.			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 280145 Batch Start Date: 11/12/19 13:44 Batch Analyst: Contreras, Francisca N

Batch Method: 1664B Batch End Date:

Batch Notes	
Aluminum Pan Lot ID	0181102
Balance ID	B-19
Cal check after 1st Weighing - 1g	1.0000 g
Cal check after 1st Weighing - 2 mg	0.0020 g
Cal check after 2nd Weighing - 1g	1.0000 g
Cal check after 2nd Weighing - 2 mg	0.0020 g
Calibration Check After 1st Weighing	0.0020 g
Calibration Check After 2nd Weighing	0.0020 g
Calibration Check Before 1st Weighing	1.0000 g
Calibration Check Before 2nd Weighing	1.0000 g
Cal check before 1st Weighing - 1g	1.0000 g
Cal check before 1st Weighing - 2 mg	0.0020 g
Cal check before 2nd Weighing - 1g	1.0000 g
Cal check before 2nd Weighing - 2 mg	0.0020 g
Desiccator In Time - 1st Weight	15:03
Desiccator In Time - 2nd Weight	15:51
Desiccator In Time - 3rd Weight	16:06
Desiccator Out Time - 1st Weight	15:34
Desiccator Out Time - 2nd Weight	16:06
Desiccator Out Time - 3rd Weight	16:06
Weight Set ID	04J36198-1

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 279861 Batch Start Date: 11/08/19 10:02 Batch Analyst: Nguyen, Davis T

Batch Method: 2320B-1997 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	CalcMsg	FinalAmount	WETDSODCAR 00009	WETSNACO3sp 00007	
MB 600-279861/2		2320B-1997		50 mL	Titrant1Normality is blank	50 mL			
LCS 600-279861/3		2320B-1997		50 mL	Titrant1Normality is blank	50 mL		5 mL	
600-194690-H-3	FEFF 1	2320B-1997	T	50 mL	Titrant1Normality is blank	50 mL			
600-194690-H-3 MS	FEFF 1	2320B-1997	T	50 mL	Titrant1Normality is blank	50 mL	5 mL		
600-194690-H-3 MSD	FEFF 1	2320B-1997	T	50 mL	Titrant1Normality is blank	50 mL	5 mL		
600-194690-G-8	INF 3	2320B-1997	T	50 mL	Titrant1Normality is blank	50 mL			
600-194690-F-1	1. CEFF	2320B-1997	T	50 mL	Titrant1Normality is blank	50 mL			
CCV 600-279861/16		2320B-1997		50 mL	Titrant1Normality is blank	50 mL		5 mL	
CCB 600-279861/17		2320B-1997		50 mL	Titrant1Normality is blank	50 mL			
600-194690-G-10	INF 4	2320B-1997	T	50 mL	Titrant1Normality is blank	50 mL			
600-194690-G-10 MS	INF 4	2320B-1997	T	50 mL	Titrant1Normality is blank	50 mL	5 mL		
600-194690-G-10 MSD	INF 4	2320B-1997	T	50 mL	Titrant1Normality is blank	50 mL	5 mL		
600-194690-G-10 DU	INF 4	2320B-1997	T	50 mL	Titrant1Normality is blank	50 mL			
CCV 600-279861/22		2320B-1997		50 mL	Titrant1Normality is blank	50 mL		5 mL	
CCB 600-279861/23		2320B-1997		50 mL	Titrant1Normality is blank	50 mL			

Batch Notes	

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 278858 Batch Start Date: 10/29/19 13:14 Batch Analyst: Le, Tony N

Batch Method: 2540 C-1997 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	Conductivity	TareWeight	InitialAmount	Weight1	Weight2	WeightOne%Diff
MB 600-278858/1		2540 C-1997			129.8418 g	100 mL	129.8426 g	129.84266 g	Pass No Unit
LCS 600-278858/2		2540 C-1997			127.5663 g	100 mL	127.7448 g	127.7449 g	Pass No Unit
600-194690-E-1	1. CEFF	2540 C-1997	T	2421 umhos/cm	128.3344 g	50 mL	128.3972 g	128.3972 g	Pass No Unit
600-194690-E-1 DU	1. CEFF	2540 C-1997	T	2423 umhos/cm	128.2550 g	50 mL	128.3181 g	128.3181 g	Pass No Unit
600-194690-G-3	FEFF 1	2540 C-1997	T	2550 umhos/cm	135.3134 g	50 mL	135.3771 g	135.3771 g	Pass No Unit
600-194690-H-8	INF 3	2540 C-1997	T	2187 umhos/cm	126.8006 g	10 mL	126.8104 g	126.8104 g	Pass No Unit
600-194690-G-10	INF 4	2540 C-1997	T	2351 umhos/cm	129.0411 g	25 mL	129.0714 g	129.0714 g	Pass No Unit

Lab Sample ID	Client Sample ID	Method Chain	Basis	WeightTwo%Diff	Weight4OK	Residue	Residue2	Residue3	Residue4
MB 600-278858/1		2540 C-1997		N/A No Unit	N/A	0.0008 g	0.00086 g	N/A g	N/A g
LCS 600-278858/2		2540 C-1997		N/A No Unit	N/A	0.1785 g	0.1786 g	N/A g	N/A g
600-194690-E-1	1. CEFF	2540 C-1997	T	N/A No Unit	N/A	0.0628 g	0.0628 g	N/A g	N/A g
600-194690-E-1 DU	1. CEFF	2540 C-1997	T	N/A No Unit	N/A	0.0631 g	0.0631 g	N/A g	N/A g
600-194690-G-3	FEFF 1	2540 C-1997	T	N/A No Unit	N/A	0.0637 g	0.0637 g	N/A g	N/A g
600-194690-H-8	INF 3	2540 C-1997	T	N/A No Unit	N/A	0.0098 g	0.0098 g	N/A g	N/A g
600-194690-G-10	INF 4	2540 C-1997	T	N/A No Unit	N/A	0.0303 g	0.0303 g	N/A g	N/A g

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	CalcMsg	TDSILCS 00139			
MB 600-278858/1		2540 C-1997		100 mL	OK				
LCS 600-278858/2		2540 C-1997		100 mL	OK	100 mL			
600-194690-E-1	1. CEFF	2540 C-1997	T	100 mL	OK				
600-194690-E-1 DU	1. CEFF	2540 C-1997	T	100 mL	OK				
600-194690-G-3	FEFF 1	2540 C-1997	T	100 mL	OK				
600-194690-H-8	INF 3	2540 C-1997	T	100 mL	OK				
600-194690-G-10	INF 4	2540 C-1997	T	100 mL	OK				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 278858 Batch Start Date: 10/29/19 13:14 Batch Analyst: Le, Tony N

Batch Method: 2540 C-1997 Batch End Date:

Batch Notes	
Balance ID	b31
Date/Time - In - CW (WT2)	10/30/2019 09:00
Date/Time - Out - CW (WT2)	10/30/2019 10:00
Temperature - Start - CW (WT2) - Correct	180.4 Celsius
Temperature - End - CW (WT2) - Correct	180.4 Celsius
Temperature - Start-CW(WT2) -Uncorrected	180 Celsius
Temperature - End-CW(WT2) -Uncorrected	180 Celsius
Filter ID	600022-9119-R2
Nominal Amount Used	100 mL
Oven ID	o-8
Pipette/Syringe/Dispenser ID	wc73
Thermometer ID	391
Weight(WT1) Start Date/Time	10/29/2019 14:23 No Unit
Weight(WT1) Date/Time Out	10/30/2019 08:00
Weight(WT1) Start Temp	180.4 Celsius
Weight(WT1) Temp Out	180.4 Celsius
Uncorrected Weight(WT1) Start Temp	180 Celsius
Uncorrected Weight(WT1) Temp Out	180 Celsius

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 278999 Batch Start Date: 10/30/19 13:38 Batch Analyst: Le, Tony N

Batch Method: 2540 C-1997 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	Conductivity	TareWeight	InitialAmount	Weight1	Weight2	WeightOne%Diff
MB 600-278999/1		2540 C-1997			132.3754 g	100 mL	132.3756 g	132.3757 g	Pass No Unit
LCS 600-278999/2		2540 C-1997			127.9255 g	100 mL	128.1025 g	128.1025 g	Pass No Unit
600-194690-G-10	INF 4	2540 C-1997	T	2351 umhos/cm	129.0189 g	25 mL	129.0473 g	129.0473 g	Pass No Unit
600-194690-G-10 DU	INF 4	2540 C-1997	T	2353 umhos/cm	121.4686 g	25 mL	121.4984 g	121.4984 g	Pass No Unit

Lab Sample ID	Client Sample ID	Method Chain	Basis	WeightTwo%Diff	Weight4OK	Residue	Residue2	Residue3	Residue4
MB 600-278999/1		2540 C-1997		N/A No Unit	N/A	0.0002 g	0.0003 g	N/A g	N/A g
LCS 600-278999/2		2540 C-1997		N/A No Unit	N/A	0.177 g	0.177 g	N/A g	N/A g
600-194690-G-10	INF 4	2540 C-1997	T	N/A No Unit	N/A	0.0284 g	0.0284 g	N/A g	N/A g
600-194690-G-10 DU	INF 4	2540 C-1997	T	N/A No Unit	N/A	0.0298 g	0.0298 g	N/A g	N/A g

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	CalcMsg	TDSILCS 00140			
MB 600-278999/1		2540 C-1997		100 mL	OK				
LCS 600-278999/2		2540 C-1997		100 mL	OK	100 mL			
600-194690-G-10	INF 4	2540 C-1997	T	100 mL	OK				
600-194690-G-10 DU	INF 4	2540 C-1997	T	100 mL	OK				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 278999 Batch Start Date: 10/30/19 13:38 Batch Analyst: Le, Tony N

Batch Method: 2540 C-1997 Batch End Date:

Batch Notes	
Balance ID	b31
Date/Time - In - CW (WT2)	10/31/2019 09:30
Date/Time - Out - CW (WT2)	10/31/2019 10:30
Temperature - Start - CW (WT2) - Correct	180.4 Celsius
Temperature - End - CW (WT2) - Correct	180.4 Celsius
Temperature - Start-CW(WT2) -Uncorrected	180 Celsius
Temperature - End-CW(WT2) -Uncorrected	180 Celsius
Filter ID	600018-882-R1
Nominal Amount Used	100 mL
Oven ID	o-8
Pipette/Syringe/Dispenser ID	wc73
Thermometer ID	391
Weight(WT1) Start Date/Time	10/30/2019 15:06 No Unit
Weight(WT1) Date/Time Out	10/31/2019 08:30
Weight(WT1) Start Temp	180.4 Celsius
Weight(WT1) Temp Out	180.4 Celsius
Uncorrected Weight(WT1) Start Temp	180 Celsius
Uncorrected Weight(WT1) Temp Out	180 Celsius

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 278988 Batch Start Date: 10/30/19 09:08 Batch Analyst: Le, Tony N

Batch Method: 2540 D-1997 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	CrucibleID	TareWeight	InitialAmount	Weight1	Weight2	Weight3
MB 600-278988/1		2540 D-1997		1	0.1206 g	500 g	0.1208 g	0.1206 g	0 g
LCS 600-278988/2		2540 D-1997		2	0.1235 g	100 g	0.2432 g	0.2431 g	0 g
CCV 600-278988/3		2540 D-1997		3	0.1186 g	100 g	0.1795 g	0.1794 g	0 g
600-194690-G-10	INF 4	2540 D-1997	T	4	0.1239 g	10 g	0.1696 g	0.1695 g	0 g
600-194690-G-10 DU	INF 4	2540 D-1997	T	5	0.12 g	10 g	0.1644 g	0.1643 g	0 g
600-194690-F-1	1. CEFF	2540 D-1997	T	6	0.1173 g	500 g	0.1231 g	0.123 g	0 g
600-194690-G-3	FEFF 1	2540 D-1997	T	7	0.1235 g	500 g	0.1246 g	0.1246 g	0 g
600-194690-A-6	CUI	2540 D-1997	T	8	0.1241 g	10 g	0.2821 g	0.282 g	0 g
600-194690-H-8	INF 3	2540 D-1997	T	9	0.1237 g	10 g	0.1584 g	0.1582 g	0 g
600-194690-A-7	SS	2540 D-1997	T	10	0.118 g	2 g	0.3382 g	0.3381 g	0 g

Lab Sample ID	Client Sample ID	Method Chain	Basis	WeightOne%Diff	Residue	Residue2	FinalAmount	ResDishWt	DishWeight
MB 600-278988/1		2540 D-1997		PASS <0.5mg	0.0002 g	0 g	500 mL	0.1206 g	0.1206 g
LCS 600-278988/2		2540 D-1997		PASS <0.5mg	0.1197 g	0.1196 g	500 mL	0.2431 g	0.1235 g
CCV 600-278988/3		2540 D-1997		PASS <0.5mg	0.0609 g	0.0608 g	500 mL	0.1794 g	0.1186 g
600-194690-G-10	INF 4	2540 D-1997	T	PASS <0.5mg	0.0457 g	0.0456 g	500 mL	0.1695 g	0.1239 g
600-194690-G-10 DU	INF 4	2540 D-1997	T	PASS <0.5mg	0.0444 g	0.0443 g	500 mL	0.1643 g	0.12 g
600-194690-F-1	1. CEFF	2540 D-1997	T	PASS <0.5mg	0.0058 g	0.0057 g	500 mL	0.123 g	0.1173 g
600-194690-G-3	FEFF 1	2540 D-1997	T	PASS <0.5mg	0.0011 g	0.0011 g	500 mL	0.1246 g	0.1235 g
600-194690-A-6	CUI	2540 D-1997	T	PASS <0.5mg	0.158 g	0.1579 g	500 mL	0.282 g	0.1241 g
600-194690-H-8	INF 3	2540 D-1997	T	PASS <0.5mg	0.0347 g	0.0345 g	500 mL	0.1582 g	0.1237 g
600-194690-A-7	SS	2540 D-1997	T	PASS <0.5mg	0.2202 g	0.2201 g	500 mL	0.3381 g	0.118 g

Lab Sample ID	Client Sample ID	Method Chain	Basis	TSSICCV 00973	TSSILCS 01023				
MB 600-278988/1		2540 D-1997							
LCS 600-278988/2		2540 D-1997			100 mL				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 278988 Batch Start Date: 10/30/19 09:08 Batch Analyst: Le, Tony N

Batch Method: 2540 D-1997 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	TSSICCV 00973	TSSILCS 01023				
CCV 600-278988/3		2540 D-1997		100 mL					
600-194690-G-10	INF 4	2540 D-1997	T						
600-194690-G-10 DU	INF 4	2540 D-1997	T						
600-194690-F-1	1. CEFF	2540 D-1997	T						
600-194690-G-3	FEFF 1	2540 D-1997	T						
600-194690-A-6	CUI	2540 D-1997	T						
600-194690-H-8	INF 3	2540 D-1997	T						
600-194690-A-7	SS	2540 D-1997	T						

Batch Notes	
Balance ID	b31
Date/Time - In - CW (WT2)	10/30/2019 11:10
Date/Time - Out - CW (WT2)	10/30/2019 12:10
Temperature - Start - CW (WT2) - Correct	104.4 Celsius
Temperature - End - CW (WT2) - Correct	104.4 Celsius
Temperature - Start-CW(WT2) -Uncorrected	104 Celsius
Temperature - End-CW(WT2) -Uncorrected	104 Celsius
Temperature - Start - Corrected	104.4 Celsius
Temperature - End - Corrected	104.4 Celsius
Date/Time - In	10/30/2019 09:50
Date/Time - Out	10/30/2019 10:50
Filter ID	600018-882-R1
Nominal Amount Used	500 mL
Oven ID	o-10
Pipette/Syringe/Dispenser ID	wc73
Perform Calculation (0=No, 1=Yes)	1
Thermometer ID	367
Temperature - Start - Uncorrected	104 Celsius
Temperature - End - Uncorrected	104 Celsius

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 278988 Batch Start Date: 10/30/19 09:08 Batch Analyst: Le, Tony N

Batch Method: 2540 D-1997 Batch End Date:

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 261746 Batch Start Date: 04/01/19 11:44 Batch Analyst: Daniel, Kevin R

Batch Method: 8000 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ChlorideScrn	WETSCODCAL 00032		
IC 600-261746/1		8000		2 mL	2 mL	N			
IC 600-261746/2		8000		2 mL	2 mL	N	0.02 mL		
IC 600-261746/3		8000		2 mL	2 mL	N	0.05 mL		
IC 600-261746/4		8000		2 mL	2 mL	N	0.1 mL		
IC 600-261746/5		8000		2 mL	2 mL	N	0.2 mL		
IC 600-261746/6		8000		2 mL	2 mL	N	0.3 mL		

Batch Notes	
Temperature - Corrected - End	150 Degrees C
Temperature - Corrected - Start	150 Degrees C
Digestion End Time	04/02/2019 13:44
Digestion Start Time	04/02/2019 11:44
Temperature - Uncorrected - End	150 Degrees C
Temperature - Uncorrected - Start	150 Degrees C

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 279560 Batch Start Date: 11/06/19 08:51 Batch Analyst: Nguyen, Davis T

Batch Method: 8000 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ChlorideScrn	WETSCODCAL 00031	WETSCODCAL 00032	
CCV 600-279560/1		8000		2 mL	2 mL	n	0.5 mL		
ICB 600-279560/2		8000		2 mL	2 mL	n			
MB 600-279560/3		8000		2 mL	2 mL	n			
LCS 600-279560/4		8000		2 mL	2 mL	n	0.5 mL		
600-194690-I-10 ^4	INF 4	8000	T	2 mL	2 mL	y			
600-194690-E-10 ^2	INF 4	8000	T	2 mL	2 mL	y			
600-194690-J-8 ^2	INF 3	8000	T	2 mL	2 mL	y			
600-194690-G-1	1. CEFF	8000	T	2 mL	2 mL	y			
600-194690-J-3	FEFF 1	8000	T	2 mL	2 mL	y			
CCV 600-279560/17		8000		2 mL	2 mL	n		0.15 mL	
CCB 600-279560/18		8000		2 mL	2 mL	n			

Batch Notes	
Batch Comment	mercury sulfate 3243127
Block Digestor ID	1
Temperature - Corrected - End	150 Degrees C
Temperature - Corrected - Start	150 Degrees C
Digestion End Time	11/06/2019 10:51
Digestion Start Time	11/06/2019 08:51
Pipette/Syringe/Dispenser ID	wc32, wc49
Thermometer ID	454
Temperature - Uncorrected - End	150 Degrees C
Temperature - Uncorrected - Start	150 Degrees C
Vial Lot Number	12990

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 279560 Batch Start Date: 11/06/19 08:51 Batch Analyst: Nguyen, Davis T

Batch Method: 8000 Batch End Date:

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 279707 Batch Start Date: 11/07/19 08:48 Batch Analyst: Nguyen, Davis T

Batch Method: 8000 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ChlorideScrn	WETSCODCAL 00031	WETSCODCAL 00032	
LCS 600-279707/1		8000		2 mL	2 mL	n	0.5 mL		
MB 600-279707/2		8000		2 mL	2 mL	n			
600-194690-B-10	INF 4	8000	T	2 mL	2 mL	y			
600-194690-B-10 MS	INF 4	8000	T	2 mL	2 mL	y	0.5 mL		
600-194690-B-10 MSD	INF 4	8000	T	2 mL	2 mL	y	0.5 mL		
600-194690-B-10 MS	INF 4	8000	T	2 mL	2 mL	y	0.5 mL		
600-194690-B-10 MSD	INF 4	8000	T	2 mL	2 mL	y	0.5 mL		
CCV 600-279707/15		8000		2 mL	2 mL	n		0.15 mL	
CCB 600-279707/16		8000		2 mL	2 mL	n			

Batch Notes	
Batch Comment	mercury sulfate 3243127
Block Digestor ID	1
Temperature - Corrected - End	150 Degrees C
Temperature - Corrected - Start	150 Degrees C
Digestion End Time	11/07/2019 10:48
Digestion Start Time	11/07/2019 08:48
Pipette/Syringe/Dispenser ID	wc32, wc49
Thermometer ID	454
Temperature - Uncorrected - End	150 Degrees C
Temperature - Uncorrected - Start	150 Degrees C
Vial Lot Number	12990

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 279135 Batch Start Date: 10/31/19 12:09 Batch Analyst: Daniel, Kevin R

Batch Method: 9040B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	WETRPH7BUF 00039	WETRPH7CAL 00022			
LCS 600-279135/1		9040B		50 mL	50 mL				
600-194690-G-10	INF 4	9040B	T	50 mL					
600-194690-H-8	INF 3	9040B	T	50 mL					
CCV 600-279135/13		9040B		50 mL		50 mL			
LCS 600-279135/26		9040B		50 mL	50 mL				
600-194690-G-3	FEFF 1	9040B	T	50 mL					
600-194690-G-3 DU	FEFF 1	9040B	T	50 mL					
CCV 600-279135/38		9040B		50 mL		50 mL			

Batch Notes	
pH Meter ID	wc23

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 279464 Batch Start Date: 11/05/19 10:50 Batch Analyst: Daniel, Kevin R

Batch Method: 9040B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	WETRPH7BUF 00039	WETRPH7CAL 00021			
LCS 600-279464/1		9040B		50 mL	50 mL				
600-194690-D-4	DUP	9040B	T	50 mL					
CCV 600-279464/13		9040B		50 mL		50 mL			
600-194690-F-10	INF 4	9040B	T	50 mL					
600-194690-F-10 DU	INF 4	9040B	T	50 mL					
600-194690-E-1	1. CEFF	9040B	T	50 mL					
CCV 600-279464/25		9040B		50 mL		50 mL			

Batch Notes	
pH Meter ID	wc23

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-194690-1

SDG No.:

Batch Number: 279795 Batch Start Date: 11/07/19 07:56 Batch Analyst: Paige, Ambrose N

Batch Method: 9060 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	TOCISCAL 00451	TOCSLCS 00272	WETSTOCICV 00037	
ICV 600-279795/3		9060		12 mL	12 mL		12 mL		
ICB 600-279795/4		9060		12 mL	12 mL				
MB 600-279795/5		9060		12 mL	12 mL				
LCS 600-279795/6		9060		12 mL	12 mL		12 mL		
600-194690-F-8 ^4	INF 3	9060	T	12 mL	12 mL				
CCV 600-279795/15		9060		12 mL	12 mL	12 mL			
CCB 600-279795/16		9060		12 mL	12 mL				
600-194690-D-1	1. CEFF	9060	T	12 mL	12 mL				
600-194690-E-10	INF 4	9060	T	12 mL	12 mL				
600-194690-C-10 MS	INF 4	9060	T	12 mL	12 mL			0.12 mL	
600-194690-C-10 MSD	INF 4	9060	T	12 mL	12 mL			0.12 mL	
600-194690-F-3	FEFF 1	9060	T	12 mL	12 mL				
CCV 600-279795/27		9060		12 mL	12 mL	12 mL			
CCB 600-279795/28		9060		12 mL	12 mL				

Batch Notes	
Pipette/Syringe/Dispenser ID	wc32wc49wc60

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

B. # 278914 / 278965

Author: Houston_WetChem_Inst

Date : 10/30/2019

Original Run Filename: OM_10-30-2019_10-14-29AM.OMN created 10/30/2019 10:14:29 AM
Original Run Author's Signature: [Houston_WetChem_Inst]
Current Run Filename: OM_10-30-2019_10-14-29AM.OMN last modified 10/30/2019 11:04:54 AM
Current Run Author's Signature: [Houston_WetChem_Inst]
Description: AMMONIA 350.1

Sample	Rep.	Cup No.	Channel 1 AMMONIA Conc. (mg/L)	Area (Vs)	Height (V)
CAL STD 20	1	S1	20.0000	137.2563	7.1686
CAL STD 10	1	S2	10.0000	68.8085	4.1335
CAL STD 5	1	S3	5.0000	31.2505	1.9272
CAL STD 2	1	S4	2.0000	12.7962	0.7938
CAL STD 1	1	S5	1.0000	6.8137	0.4223
CAL STD 0.5	1	S6	0.5000	4.1419	0.2609
CAL STD 0.1	1	S7	0.1000	1.8513	0.1151
CAL STD 0	1	S8	0.0000	1.5200	0.0933
icv	1	1	5.0709	34.7344	2.1244
		Calibration:	Table/Fig. 1		
icb	1	2	-0.0347	-0.1460	-0.0059
mb 600-278914/1-a	1	3	-0.0642	-0.3474	-0.0127
lcs 600-278914/2-a	1	4	5.1466	35.2522	2.1552
600-194379-b-1-a	1	5	0.7647	5.3152	0.3347
600-194379-b-1-b ms	1	6	5.5579	38.0618	2.3317
600-194379-b-1-c msd	1	7	5.4919	37.6111	2.3088
600-194738-d-1-a	1	8	0.3112	2.2175	0.1396
500-171879-c-2-a	1	9	22.9266	156.7219	7.5621
600-194694-a-1-a@1000	1	10	1.0536	7.2891	0.4519
600-194437-b-1-a	1	11	0.3349	2.3794	0.1489
600-194438-b-2-a	1	12	0.6331	4.4162	0.2738
ccv	1	13	5.2179	35.7387	2.1701
ccb	1	14	-0.0312	-0.1223	-0.0060
600-194690-g-1-b	1	15	0.0349	0.3297	0.0204
600-194690-j-3-b	1	16	0.0119	0.1722	0.0116
600-194690-j-8-a	1	17	0.0729	0.5892	0.0330
600-194690-i-10-a	1	18	0.0644	0.5313	0.0294
600-194667-d-2-a	1	19	0.8234	5.7163	0.3474
600-194667-d-2-b ms	1	20	5.4219	37.1326	2.2839
600-194667-d-2-c msd	1	21	5.5536	38.0326	2.3286
600-194637-a-6-a	1	22	0.0785	0.6274	0.0411
600-194710-c-2-a@5	1	23	4.0407	27.6969	1.6791
600-194651-c-1-a	1	24	0.2541	1.8269	0.1151
ccv	1	25	5.2252	35.7892	2.1643
ccb	1	26	0.0370	0.3440	0.0063
600-194499-d-1-a	1	27	0.2582	1.8554	0.1172
600-194500-d-1-a	1	28	0.3200	2.2773	0.1418
600-194514-a-1-a	1	29	0.2970	2.1202	0.1317
600-194634-c-1-a	1	30	0.0795	0.6344	0.0418
600-194760-d-1-a	1	31	0.1309	0.9856	0.0652
600-194390-k-7-a	1	32	0.5961	4.1635	0.2600
500-171879-C-2-A@10	1	33	3.4756	23.8361	1.4177
ccv	1	34	5.2118	35.6976	2.1468
ccb	1	35	-0.0337	-0.1393	-0.0058

10/30/19

Author: Houston_WetChem_Inst

Date : 10/30/2019

Channel 1 (Detector 1) : Set 1 of 5

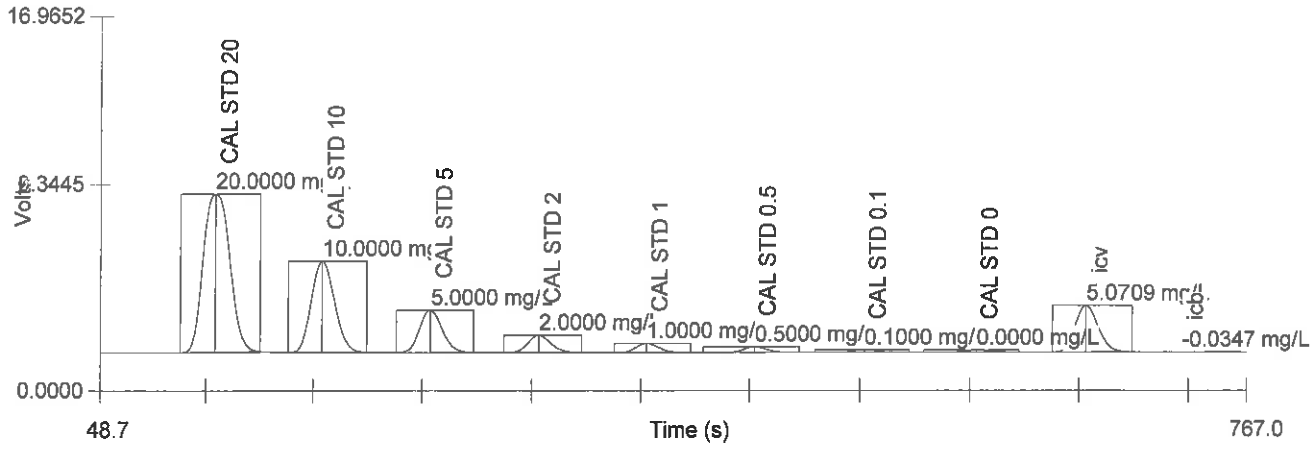

Channel 1 (Detector 1) : Set 2 of 5

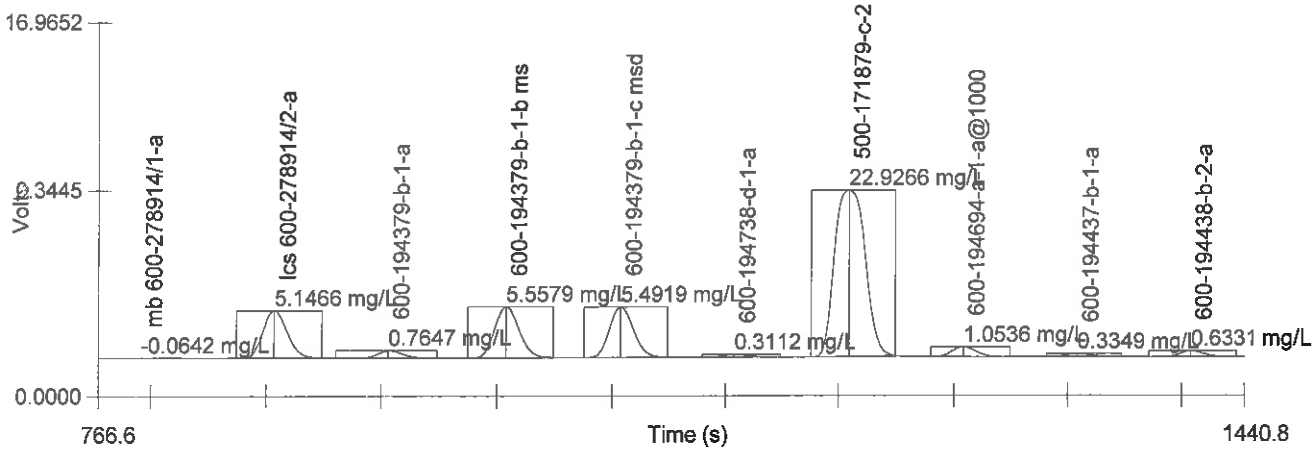

Channel 1 (Detector 1) : Set 3 of 5

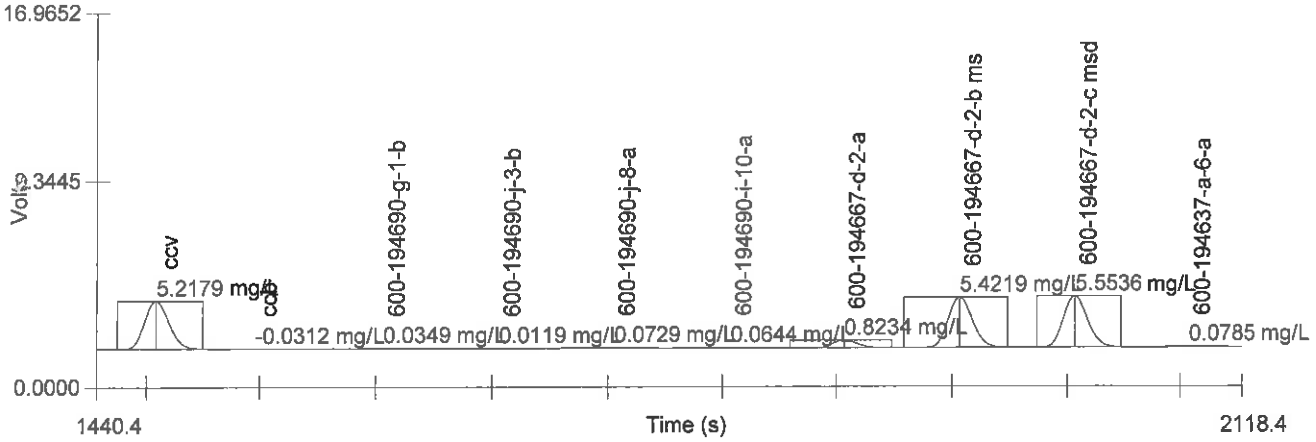

Author: Houston_WetChem_Inst

Date : 10/30/2019

Channel 1 (Detector 1) : Set 4 of 5

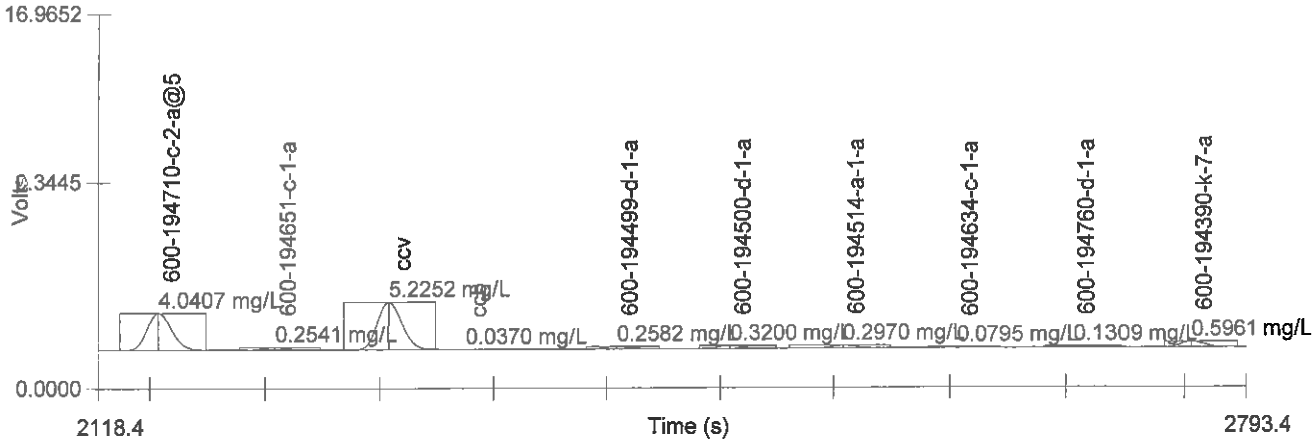

Channel 1 (Detector 1) : Set 5 of 5

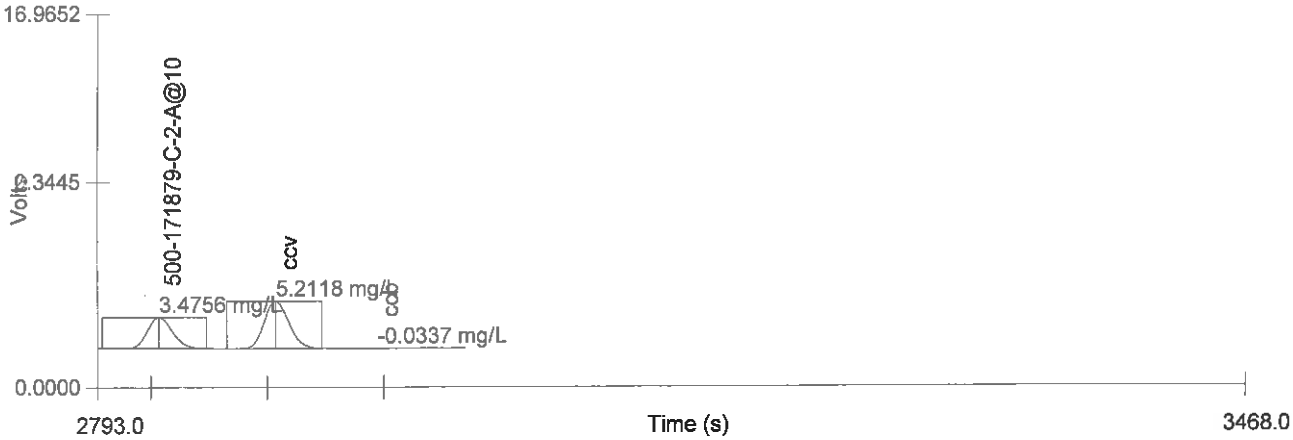

Table 1: AMMONIA

	Conc. (mg/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	20.0000	1	137.2563	7.1686	-0.5	10/30/2019	10:17:04 AM
2	10.0000	1	68.8085	4.1335	-0.6	10/30/2019	10:18:11 AM
3	5.0000	1	31.2505	1.9272	8.8	10/30/2019	10:19:18 AM
4	2.0000	1	12.7962	0.7938	7.1	10/30/2019	10:20:26 AM
5	1.0000	1	6.8137	0.4223	1.9	10/30/2019	10:21:34 AM
6	0.5000	1	4.1419	0.2609	-17.2	10/30/2019	10:22:43 AM
7	0.1000	1	1.8513	0.1151	-130.7	10/30/2019	10:23:52 AM
8	0.0000	1	1.5200	0.0933		10/30/2019	10:25:01 AM

Author: Houston_WetChem_Inst

Date : 10/30/2019

Figure 1: AMMONIA

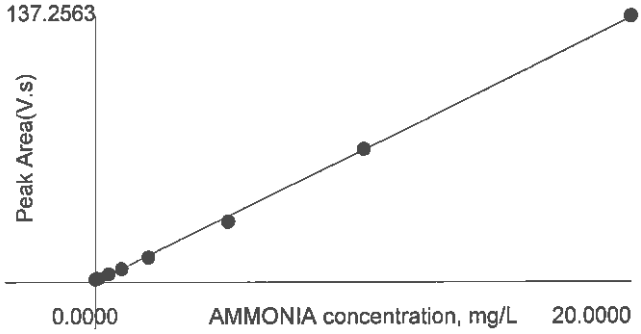

Area = 6.8259 * Conc + 0.1198
Conc = 0.1464 * Area - 0.0133
Correlation Coefficient (r) = 0.99956

No Weighting

B. # 279538/279607

Author: Houston_WetChem_Inst

Date : 11/6/2019

Original Run Filename: OM_11-6-2019_11-59-18AM.OMN created 11/6/2019 11:59:18 AM
Original Run Author's Signature: [Houston_WetChem_Inst]
Current Run Filename: OM_11-6-2019_11-59-18AM.OMN last modified 11/6/2019 12:40:31 PM
Current Run Author's Signature: [Houston_WetChem_Inst]
Description: AMMONIA 350.1

Sample	Rep.	Cup No.	Channel 1 AMMONIA Conc. (mg/L)	Area (Vs)	Height (V)
icv	1	1	5.1702	35.6297	2.1911
Calibration:			Table/Fig. 1		
icb	1	2	-0.1407	-0.0892	-0.0042
mb 600-279538/1-a	1	3	-0.1140	0.0903	0.0048
lcs 600-279538/2-a	1	4	5.1644	35.5908	2.2021
600-194877-b-1-a	1	5	0.2382	2.4592	0.1542
600-194877-b-1-b ms	1	6	5.4029	37.1943	2.3318
600-194877-b-1-c msd	1	7	5.2162	35.9388	2.2279
600-195213-d-1-a	1	8	0.7713	6.0444	0.3828
600-194280-b-1-a	1	9	-0.0224	0.7065	0.0437
600-194280-b-2-a	1	10	-0.0351	0.6207	0.0372
600-194280-b-3-a	1	11	-0.0272	0.6740	0.0424
600-194566-c-2-a	1	12	0.5763	4.7331	0.2985
ccv	1	13	5.1266	35.3361	2.1782
ccb	1	14	-0.1415	-0.0945	-0.0042
600-194568-c-2-a	1	15	0.0204	0.9944	0.0610
600-194852-a-4-b	1	16	0.1791	2.0612	0.1242
600-195237-c-1-a	1	17	14.3463	97.3443	5.6601
600-195237-c-2-a	1	18	14.1544	96.0538	5.6167
600-194690-h-10-a	1	19	0.2331	2.4245	0.1569
600-194690-h-10-b ms	1	20	5.3685	36.9635	2.2866
600-194690-h-10-c msd	1	21	5.2213	35.9736	2.2135
600-195035-c-1-a	1	22	0.0288	1.0503	0.0673
600-195046-a-4-a	1	23	0.2842	2.7680	0.1742
600-194560-c-2-a	1	24	12.0425	81.8498	4.8527
ccv	1	25	5.1069	35.2038	2.1639
ccb	1	26	-0.1425	-0.1013	-0.0029
600-194603-c-2-a	1	27	32.1504	217.0875	7.9388
600-194781-c-1-a	1	28	0.4627	3.9689	0.2552
600-195118-e-5-a	1	29	0.6021	4.9066	0.3072
600-195173-b-6-a	1	30	-0.0237	0.6974	0.0476
600-195104-a-6-b	1	31	0.1313	1.7402	0.1075
600-194983-c-1-a	1	32	-0.0450	0.5542	0.0374
600-194603-C-2-A@10	1	33	9.2882	63.3258	3.8108
ccv	1	34	5.1312	35.3675	2.1694
ccb	1	35	-0.1385	-0.0746	-0.0037

11/6/19

Author: Houston_WetChem_Inst

Date : 11/6/2019

Channel 1 (Detector 1) : Set 1 of 4

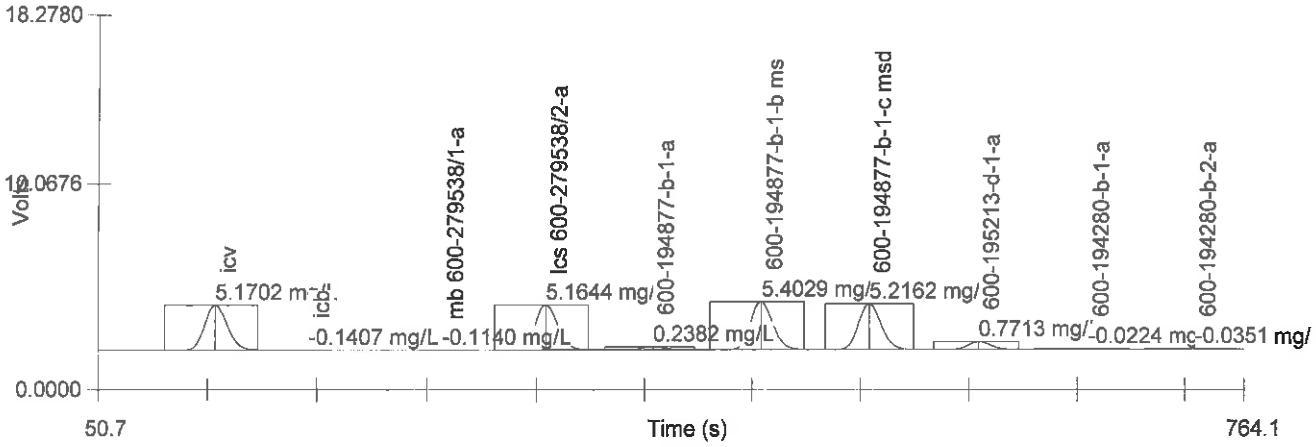

Channel 1 (Detector 1) : Set 2 of 4

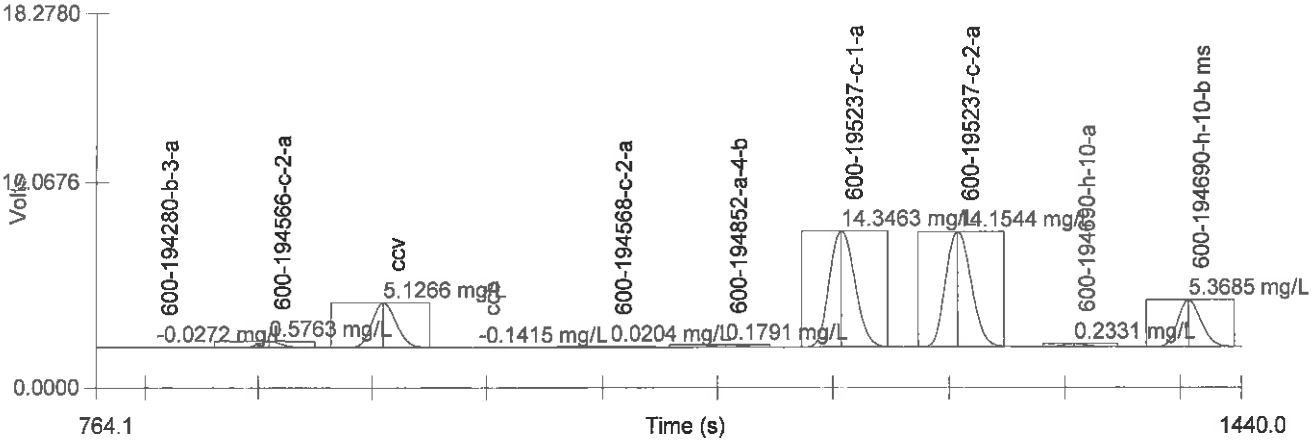

Channel 1 (Detector 1) : Set 3 of 4

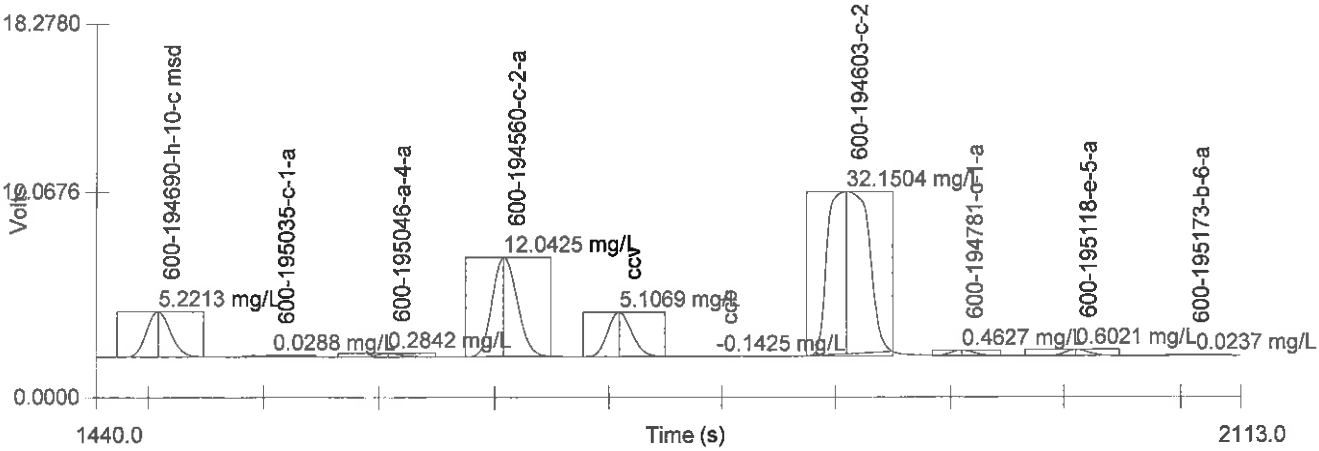

Author: Houston_WetChem_Inst

Date : 11/6/2019

Channel 1 (Detector 1) : Set 4 of 4

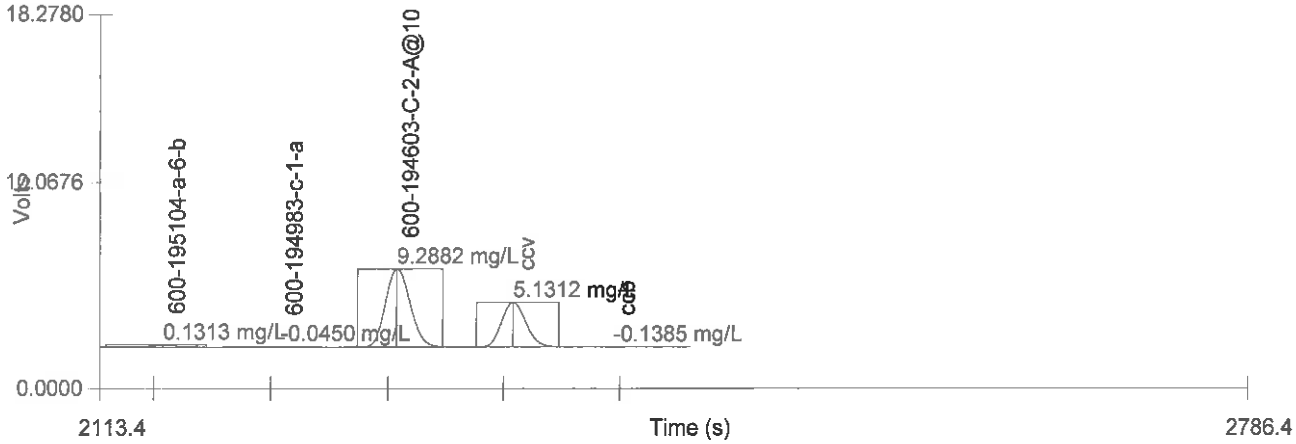

Table 1: AMMONIA

	Conc. (mg/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	20.0000	1	134.8091	7.1592	0.3	11/6/2019	10:54:44 AM
2	10.0000	1	70.3870	4.2383	-3.4	11/6/2019	10:55:46 AM
3	5.0000	1	32.0736	1.9937	7.0	11/6/2019	10:56:53 AM
4	2.0000	1	13.3068	0.8290	7.1	11/6/2019	10:58:01 AM
5	1.0000	1	8.0388	0.5025	-5.7	11/6/2019	10:59:10 AM
6	0.5000	1	4.3146	0.2701	-1.7	11/6/2019	11:00:18 AM
7	0.1000	1	1.9098	0.1171	-22.7	11/6/2019	11:01:27 AM
8	0.0000	1	1.6235	0.0977		11/6/2019	11:02:37 AM

Figure 1: AMMONIA

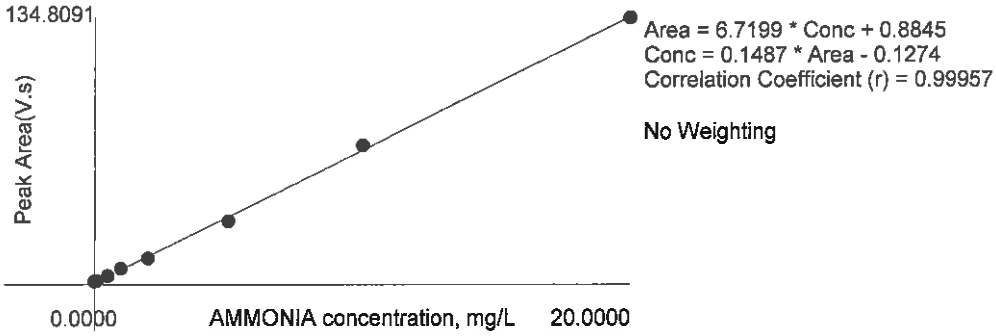

Curve Type:	Linear
Weighting:	None
Origin:	None
Dependency:	Concentration
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	-0.01536
Slope:	0.9889

Error Coefficients

Standard Error:	0.0213
Relative Standard Error:	68.0
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.995 (0.995)

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	Calib 600-250191/1	0.0	0.0			NaN	Y
2	Calib 600-250191/2	0.01	0.012			1.2	Y
3	Calib 600-250191/3	0.05	0.065			1.3	Y
4	Calib 600-250191/4	0.1	0.129			1.29	Y
5	Calib 600-250191/5	0.3	0.348			1.16	Y
6	Calib 600-250191/6	0.5	0.536			1.072	Y
7	Calib 600-250191/7	0.75	0.748			0.997333	Y

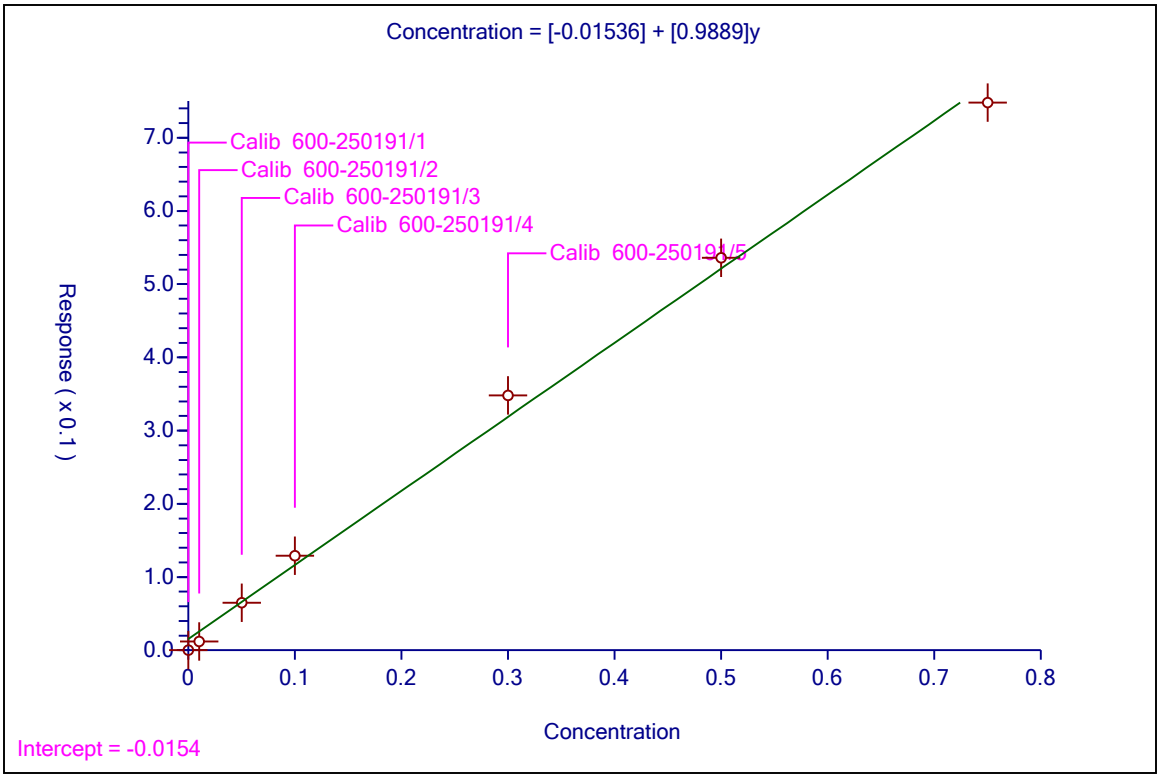

Curve Type:	Linear
Weighting:	None
Origin:	None
Dependency:	Concentration
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0.0002423
Slope:	1.61

Error Coefficients

Standard Error:	0.000316
Relative Standard Error:	0.5
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	1.000 (1.000)

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 600-256660/1-A	0.0	0.0			NaN	Y
2	IC 600-256660/2-A	0.01	0.006			0.6	Y
3	IC 600-256660/3-A	0.05	0.031			0.62	Y
4	IC 600-256660/4-A	0.1	0.062			0.62	Y
5	IC 600-256660/5-A	0.25	0.155			0.62	Y
6	IC 600-256660/6-A	0.5	0.31			0.62	Y
7	IC 600-256660/7-A	1.0	0.621			0.621	Y

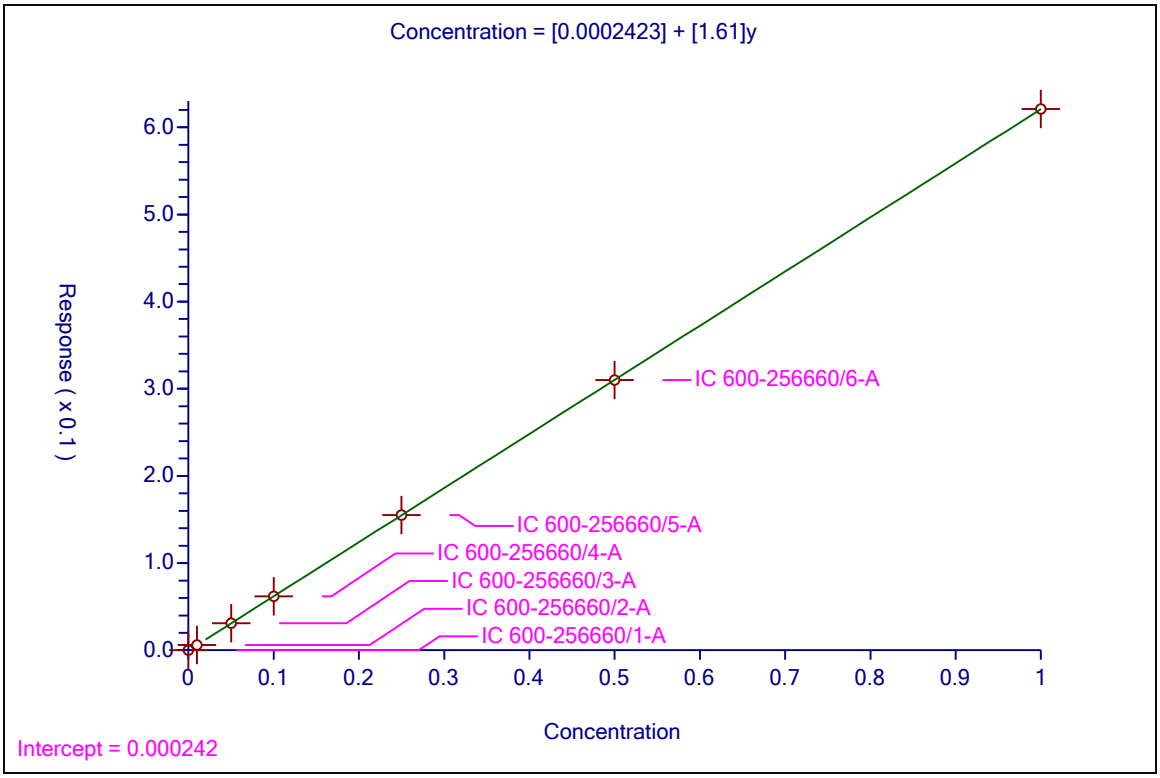

DN
11/8/19

279861

TESTAMERICA-HOUSTON Results Report

Run Number 9574 **Order Number** 20191108-1 Report Date: 11/08/2019 : 11:52 AM

SampleID	RunDate	RunTime	Temp	pH	palk-mg/L	talk-mg/L	bcarb-mg/L	carb-mg/L	hydr-mg/L
rinse	11/08/2019	10:02 AM		5.20	.00	23.45	23.45	.00	.00
mb	11/08/2019	10:06 AM		3.77	.00	.00	.00	.00	.00
lcs	11/08/2019	10:12 AM		10.13	45.13	95.59	5.33	90.26	.00
600-194690-H-3	11/08/2019	10:17 AM		7.57	.00	140.55	140.55	.00	.00
600-194690-H-3 ms	11/08/2019	10:23 AM		9.65	125.18	339.61	89.25	250.36	.00
600-194690-H-3	11/08/2019	10:29 AM		9.66	119.22	340.92	102.49	238.43	.00
600-194699-A-1	11/08/2019	10:34 AM		7.05	.00	297.76	297.76	.00	.00
600-194702-A-1	11/08/2019	10:40 AM		7.02	.00	256.22	256.22	.00	.00
600-194700-B-1	11/08/2019	10:44 AM		7.67	.00	153.24	153.24	.00	.00
600-194704-B-1	11/08/2019	10:47 AM		7.64	.00	127.33	127.33	.00	.00
600-194701-A-1	11/08/2019	10:52 AM		7.61	.00	148.16	148.16	.00	.00
600-194705-A-1	11/08/2019	10:56 AM		7.50	.00	125.16	125.16	.00	.00
600-194631-A-6	11/08/2019	11:00 AM		6.32	.00	43.13	43.13	.00	.00
600-194690-G-8	11/08/2019	11:05 AM		7.89	.00	188.70	188.70	.00	.00
600-194690-F-1	11/08/2019	11:10 AM		7.69	.00	164.19	164.19	.00	.00
ccv	11/08/2019	11:15 AM		10.24	56.28	94.24	.00	75.93	18.31
ccb	11/08/2019	11:19 AM		4.05	.00	.00	.00	.00	.00
600-194690-G-10	11/08/2019	11:25 AM		7.84	.00	171.23	171.23	.00	.00
600-194690-G-10	11/08/2019	11:30 AM		9.53	91.46	291.62	108.70	182.91	.00
600-194690-G-10	11/08/2019	11:36 AM		9.53	91.94	292.72	108.83	183.89	.00
600-194690-G-10 du	11/08/2019	11:41 AM		7.77	.00	153.12	153.12	.00	.00
ccv	11/08/2019	11:46 AM		10.21	42.06	90.82	6.71	84.12	.00
ccb	11/08/2019	11:50 AM		4.01	.00	.00	.00	.00	.00

11/8/19

PC-TitratION PLUS by Man-Tech Associates, Inc.

GENERAL RESULTS REPORT.SRW

Copyright Hinterland Software Ltd.

Curve Type:	Linear
Weighting:	None
Origin:	None
Dependency:	Concentration
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients	
Intercept:	-1.895
Slope:	-342.9

Error Coefficients	
Standard Error:	1.28
Relative Standard Error:	6.9
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	1.000 (1.000)

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 600-261746/1	0.0	0.0			NaN	Y
2	IC 600-261746/2	10.0	-0.038			-0.0038	Y
3	IC 600-261746/3	25.0	-0.081			-0.00324	Y
4	IC 600-261746/4	50.0	-0.153			-0.00306	Y
5	IC 600-261746/5	100.0	-0.295			-0.00295	Y
6	IC 600-261746/6	150.0	-0.443			-0.002953	Y

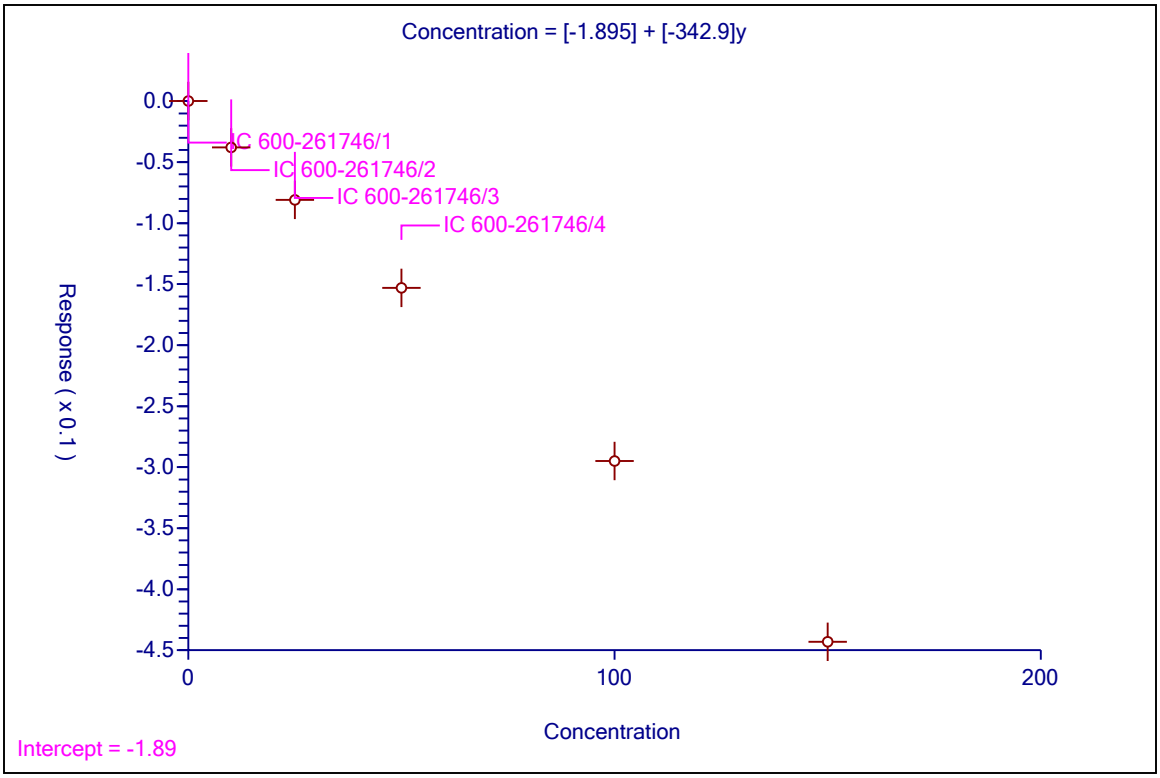

TALS Raw Data Report

Job Number: 600-182468-1
LIMS Batch: 261746
Equipment: WC15

Laboratory: Eurofins TestAmerica, Houstor

RS# 7 Lab ID: **ICV 600-261746/7** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.243	81.42970 mg/L	mg/L	109	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 8 Lab ID: **ICB 600-261746/8** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.015	3.248500 mg/L	3.249 J mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 9 Lab ID: **MB 600-261746/9** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.011	1.876900 mg/L	2.46 U mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 10 Lab ID: **LCS 600-261746/10** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.236	79.02940 mg/L	mg/L	105	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 19 Lab ID: **CCV 600-261746/19** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.214	71.48560 mg/L	mg/L	95	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 20 Lab ID: **CCB 600-261746/20** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.003	0.8663000 mg/L	2.46 U mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 28 Lab ID: **600-182469-D-1** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.023	5.991700 mg/L	5.99 J mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 29 Lab ID: **600-182469-D-1 MS** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.246	82.45840 mg/L	mg/L	102	75 125		
Chemical Oxygen De		mg/L	mg/L				

RS# 30 Lab ID: **600-182469-D-1 MSD** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.246	82.45840 mg/L	mg/L	102	75 125	0	20
Chemical Oxygen De		mg/L	mg/L				

RS# 31 Lab ID: **CCV 600-261746/31** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.227	75.94330 mg/L	mg/L	101	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

TALS Raw Data Report

RS# 32 Lab ID: **CCB 600-261746/32** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.004	0.5234000 mg/L	2.46 U mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 37 Lab ID: **600-182468-D-1** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.053	16.27870 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 38 Lab ID: **CCV 600-261746/38** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.230	76.97200 mg/L	mg/L	103	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 39 Lab ID: **CCB 600-261746/39** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.004	0.5234000 mg/L	2.46 U mg/L				
Chemical Oxygen De		mg/L	mg/L				

TALS Raw Data Report

Job Number: 600-182469-1
LIMS Batch: 261746
Equipment: WC15

Laboratory: Eurofins TestAmerica, Houstor

RS# 7 Lab ID: **ICV 600-261746/7** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.243	81.42970 mg/L	mg/L	109	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 8 Lab ID: **ICB 600-261746/8** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.015	3.248500 mg/L	3.249 J mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 9 Lab ID: **MB 600-261746/9** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.011	1.876900 mg/L	2.46 U mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 10 Lab ID: **LCS 600-261746/10** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.236	79.02940 mg/L	mg/L	105	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 16 Lab ID: **600-182757-A-1** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.154	50.91160 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 17 Lab ID: **600-182757-A-1 MS** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.319	107.4901 mg/L	mg/L	75	75 125		
Chemical Oxygen De		mg/L	mg/L				

RS# 18 Lab ID: **600-182757-A-1 MSD** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.319	107.4901 mg/L	mg/L	75	75 125	0	20
Chemical Oxygen De		mg/L	mg/L				

RS# 19 Lab ID: **CCV 600-261746/19** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.214	71.48560 mg/L	mg/L	95	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 20 Lab ID: **CCB 600-261746/20** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.003	0.8663000 mg/L	2.46 U mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 28 Lab ID: **600-182469-D-1** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.023	5.991700 mg/L	5.99 J mg/L				
Chemical Oxygen De		mg/L	mg/L				

TALS Raw Data Report

RS# 29 Lab ID: **600-182469-D-1 MS** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.246	82.45840 mg/L	mg/L	102	75	125		
Chemical Oxygen De		mg/L	mg/L					

RS# 30 Lab ID: **600-182469-D-1 MSD** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.246	82.45840 mg/L	mg/L	102	75	125	0	20
Chemical Oxygen De		mg/L	mg/L					

RS# 31 Lab ID: **CCV 600-261746/31** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.227	75.94330 mg/L	mg/L	101	90	110		
Chemical Oxygen De		mg/L	mg/L	NaN	90	110		

RS# 32 Lab ID: **CCB 600-261746/32** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.004	0.5234000 mg/L	2.46 U mg/L					
Chemical Oxygen De		mg/L	mg/L					

TALS Raw Data Report

Job Number: 600-182562-4
LIMS Batch: 261746
Equipment: WC15

Laboratory: Eurofins TestAmerica, Houstor

RS# 7 Lab ID: **ICV 600-261746/7** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.243	81.42970 mg/L	mg/L	109	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 8 Lab ID: **ICB 600-261746/8** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.015	3.248500 mg/L	3.25 J mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 9 Lab ID: **MB 600-261746/9** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.011	1.876900 mg/L	2.5 U mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 10 Lab ID: **LCS 600-261746/10** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.236	79.02940 mg/L	mg/L	105	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 16 Lab ID: **600-182757-A-1** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.154	50.91160 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 17 Lab ID: **600-182757-A-1 MS** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.319	107.4901 mg/L	mg/L	75	75 125		
Chemical Oxygen De		mg/L	mg/L				

RS# 18 Lab ID: **600-182757-A-1 MSD** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.319	107.4901 mg/L	mg/L	75	75 125	0	20
Chemical Oxygen De		mg/L	mg/L				

RS# 19 Lab ID: **CCV 600-261746/19** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.214	71.48560 mg/L	mg/L	95	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 20 Lab ID: **CCB 600-261746/20** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.003	0.8663000 mg/L	2.5 U mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 27 Lab ID: **600-182562-E-1 ^2** Inj Date: 4/1/2019 11:44:00AM Dil: 2 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.143	47.13970 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

TALS Raw Data Report

RS# 31 Lab ID: **CCV 600-261746/31** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.227	75.94330 mg/L	mg/L	101	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 32 Lab ID: **CCB 600-261746/32** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.004	0.5234000 mg/L	2.5 U mg/L				
Chemical Oxygen De		mg/L	mg/L				

TALS Raw Data Report

Job Number: 600-182566-1
LIMS Batch: 261746
Equipment: WC15

Laboratory: Eurofins TestAmerica, Houstor

RS# 7 Lab ID: **ICV 600-261746/7** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.243	81.42970 mg/L	mg/L	109	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 8 Lab ID: **ICB 600-261746/8** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.015	3.248500 mg/L	3.25 J mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 9 Lab ID: **MB 600-261746/9** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.011	1.876900 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 10 Lab ID: **LCS 600-261746/10** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.236	79.02940 mg/L	mg/L	105	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 19 Lab ID: **CCV 600-261746/19** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.214	71.48560 mg/L	mg/L	95	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 20 Lab ID: **CCB 600-261746/20** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.003	0.8663000 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 28 Lab ID: **600-182469-D-1** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.023	5.991700 mg/L	6.0 J mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 29 Lab ID: **600-182469-D-1 MS** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.246	82.45840 mg/L	mg/L	102	75 125		
Chemical Oxygen De		mg/L	mg/L				

RS# 30 Lab ID: **600-182469-D-1 MSD** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.246	82.45840 mg/L	mg/L	102	75 125	0	20
Chemical Oxygen De		mg/L	mg/L				

RS# 31 Lab ID: **CCV 600-261746/31** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.227	75.94330 mg/L	mg/L	101	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

TALS Raw Data Report

RS# 32 Lab ID: **CCB 600-261746/32** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.004	0.5234000 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 33 Lab ID: **600-182566-J-1** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De		189.7861 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

TALS Raw Data Report

Job Number: 600-182756-1
LIMS Batch: 261746
Equipment: WC15

Laboratory: Eurofins TestAmerica, Houstor

RS# 7 Lab ID: **ICV 600-261746/7** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.243	81.42970 mg/L	mg/L	109	90	110		
Chemical Oxygen De		mg/L	mg/L	NaN	90	110		

RS# 8 Lab ID: **ICB 600-261746/8** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.015	3.248500 mg/L	mg/L					
Chemical Oxygen De		mg/L	mg/L					

RS# 9 Lab ID: **MB 600-261746/9** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.011	1.876900 mg/L	mg/L					
Chemical Oxygen De		mg/L	mg/L					

RS# 10 Lab ID: **LCS 600-261746/10** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.236	79.02940 mg/L	mg/L	105	90	110		
Chemical Oxygen De		mg/L	mg/L	NaN	90	110		

RS# 19 Lab ID: **CCV 600-261746/19** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.214	71.48560 mg/L	mg/L	95	90	110		
Chemical Oxygen De		mg/L	mg/L	NaN	90	110		

RS# 20 Lab ID: **CCB 600-261746/20** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.003	0.8663000 mg/L	mg/L					
Chemical Oxygen De		mg/L	mg/L					

RS# 28 Lab ID: **600-182469-D-1** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.023	5.991700 mg/L	mg/L					
Chemical Oxygen De		mg/L	mg/L					

RS# 29 Lab ID: **600-182469-D-1 MS** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.246	82.45840 mg/L	mg/L	102	75	125		
Chemical Oxygen De		mg/L	mg/L					

RS# 30 Lab ID: **600-182469-D-1 MSD** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.246	82.45840 mg/L	mg/L	102	75	125	0	20
Chemical Oxygen De		mg/L	mg/L					

RS# 31 Lab ID: **CCV 600-261746/31** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.227	75.94330 mg/L	mg/L	101	90	110		
Chemical Oxygen De		mg/L	mg/L	NaN	90	110		

TALS Raw Data Report

RS# 32 Lab ID: **CCB 600-261746/32** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.004	0.5234000 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 35 Lab ID: **600-182756-E-1** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.199	66.34210 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 36 Lab ID: **600-182756-A-2** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.206	68.74240 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 38 Lab ID: **CCV 600-261746/38** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.230	76.97200 mg/L	mg/L	103	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 39 Lab ID: **CCB 600-261746/39** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.004	0.5234000 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

TALS Raw Data Report

Job Number: 600-182757-1
LIMS Batch: 261746
Equipment: WC15

Laboratory: Eurofins TestAmerica, Houstor

RS# 7 Lab ID: **ICV 600-261746/7** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.243	81.42970 mg/L	mg/L	109	90	110		
Chemical Oxygen De		mg/L	mg/L	NaN	90	110		

RS# 8 Lab ID: **ICB 600-261746/8** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.015	3.248500 mg/L	mg/L					
Chemical Oxygen De		mg/L	mg/L					

RS# 9 Lab ID: **MB 600-261746/9** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.011	1.876900 mg/L	mg/L					
Chemical Oxygen De		mg/L	mg/L					

RS# 10 Lab ID: **LCS 600-261746/10** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.236	79.02940 mg/L	mg/L	105	90	110		
Chemical Oxygen De		mg/L	mg/L	NaN	90	110		

RS# 16 Lab ID: **600-182757-A-1** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.154	50.91160 mg/L	mg/L					
Chemical Oxygen De		mg/L	mg/L					

RS# 17 Lab ID: **600-182757-A-1 MS** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.319	107.4901 mg/L	mg/L	75	75	125		
Chemical Oxygen De		mg/L	mg/L					

RS# 18 Lab ID: **600-182757-A-1 MSD** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.319	107.4901 mg/L	mg/L	75	75	125	0	20
Chemical Oxygen De		mg/L	mg/L					

RS# 19 Lab ID: **CCV 600-261746/19** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.214	71.48560 mg/L	mg/L	95	90	110		
Chemical Oxygen De		mg/L	mg/L	NaN	90	110		

RS# 20 Lab ID: **CCB 600-261746/20** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.003	0.8663000 mg/L	mg/L					
Chemical Oxygen De		mg/L	mg/L					

RS# 31 Lab ID: **CCV 600-261746/31** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.227	75.94330 mg/L	mg/L	101	90	110		
Chemical Oxygen De		mg/L	mg/L	NaN	90	110		

TALS Raw Data Report

RS# 32 Lab ID: **CCB 600-261746/32** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.004	0.5234000 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 34 Lab ID: **600-182757-A-2** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.155	51.25450 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 38 Lab ID: **CCV 600-261746/38** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.230	76.97200 mg/L	mg/L	103	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 39 Lab ID: **CCB 600-261746/39** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.004	0.5234000 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

TALS Raw Data Report

Job Number: 600-182779-1
LIMS Batch: 261746
Equipment: WC15

Laboratory: Eurofins TestAmerica, Houstor

RS# 7 Lab ID: **ICV 600-261746/7** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.243	81.42970 mg/L	mg/L	109	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 8 Lab ID: **ICB 600-261746/8** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.015	3.248500 mg/L	3.249 J mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 9 Lab ID: **MB 600-261746/9** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.011	1.876900 mg/L	2.46 U mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 10 Lab ID: **LCS 600-261746/10** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.236	79.02940 mg/L	mg/L	105	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 11 Lab ID: **600-182779-C-1** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.286	96.17440 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 12 Lab ID: **600-182779-C-2** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.235	78.68650 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 16 Lab ID: **600-182757-A-1** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.154	50.91160 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 17 Lab ID: **600-182757-A-1 MS** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.319	107.4901 mg/L	mg/L	75	75 125		
Chemical Oxygen De		mg/L	mg/L				

RS# 18 Lab ID: **600-182757-A-1 MSD** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.319	107.4901 mg/L	mg/L	75	75 125	0	20
Chemical Oxygen De		mg/L	mg/L				

RS# 19 Lab ID: **CCV 600-261746/19** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.214	71.48560 mg/L	mg/L	95	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

TALS Raw Data Report

RS# 20 Lab ID: **CCB 600-261746/20** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units		Final Res/Qual/Units		% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.003	0.8663000	mg/L	2.46 U	mg/L				
Chemical Oxygen De			mg/L		mg/L				

TALS Raw Data Report

Job Number: 600-182780-1
LIMS Batch: 261746
Equipment: WC15

Laboratory: Eurofins TestAmerica, Houstor

RS# 7 Lab ID: **ICV 600-261746/7** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.243	81.42970 mg/L	mg/L	109	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 8 Lab ID: **ICB 600-261746/8** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.015	3.248500 mg/L	3.249 J mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 9 Lab ID: **MB 600-261746/9** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.011	1.876900 mg/L	2.46 U mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 10 Lab ID: **LCS 600-261746/10** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.236	79.02940 mg/L	mg/L	105	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 13 Lab ID: **600-182780-C-1** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.191	63.59890 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 14 Lab ID: **600-182780-C-2** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.142	46.79680 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 16 Lab ID: **600-182757-A-1** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.154	50.91160 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 17 Lab ID: **600-182757-A-1 MS** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.319	107.4901 mg/L	mg/L	75	75 125		
Chemical Oxygen De		mg/L	mg/L				

RS# 18 Lab ID: **600-182757-A-1 MSD** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.319	107.4901 mg/L	mg/L	75	75 125	0	20
Chemical Oxygen De		mg/L	mg/L				

RS# 19 Lab ID: **CCV 600-261746/19** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.214	71.48560 mg/L	mg/L	95	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

TALS Raw Data Report

RS# 20 Lab ID: **CCB 600-261746/20** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.003	0.8663000 mg/L	2.46 U mg/L				
Chemical Oxygen De		mg/L	mg/L				

TALS Raw Data Report

Job Number: 600-182782-1
LIMS Batch: 261746
Equipment: WC15

Laboratory: Eurofins TestAmerica, Houstor

RS# 7 Lab ID: **ICV 600-261746/7** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.243	81.42970 mg/L	mg/L	109	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 8 Lab ID: **ICB 600-261746/8** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.015	3.248500 mg/L	3.249 J mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 9 Lab ID: **MB 600-261746/9** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.011	1.876900 mg/L	2.46 U mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 10 Lab ID: **LCS 600-261746/10** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.236	79.02940 mg/L	mg/L	105	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 15 Lab ID: **600-182782-C-1** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.266	89.31640 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 16 Lab ID: **600-182757-A-1** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.154	50.91160 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 17 Lab ID: **600-182757-A-1 MS** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.319	107.4901 mg/L	mg/L	75	75 125		
Chemical Oxygen De		mg/L	mg/L				

RS# 18 Lab ID: **600-182757-A-1 MSD** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.319	107.4901 mg/L	mg/L	75	75 125	0	20
Chemical Oxygen De		mg/L	mg/L				

RS# 19 Lab ID: **CCV 600-261746/19** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.214	71.48560 mg/L	mg/L	95	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 20 Lab ID: **CCB 600-261746/20** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.003	0.8663000 mg/L	2.46 U mg/L				
Chemical Oxygen De		mg/L	mg/L				

TALS Raw Data Report

Job Number: 600-182783-1
LIMS Batch: 261746
Equipment: WC15

Laboratory: Eurofins TestAmerica, Houstor

RS# 7 Lab ID: **ICV 600-261746/7** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.243	81.42970 mg/L	mg/L	109	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 8 Lab ID: **ICB 600-261746/8** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.015	3.248500 mg/L	3.249 J mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 9 Lab ID: **MB 600-261746/9** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.011	1.876900 mg/L	2.46 U mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 10 Lab ID: **LCS 600-261746/10** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.236	79.02940 mg/L	mg/L	105	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 16 Lab ID: **600-182757-A-1** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.154	50.91160 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 17 Lab ID: **600-182757-A-1 MS** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.319	107.4901 mg/L	mg/L	75	75 125		
Chemical Oxygen De		mg/L	mg/L				

RS# 18 Lab ID: **600-182757-A-1 MSD** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.319	107.4901 mg/L	mg/L	75	75 125	0	20
Chemical Oxygen De		mg/L	mg/L				

RS# 19 Lab ID: **CCV 600-261746/19** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.214	71.48560 mg/L	mg/L	95	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 20 Lab ID: **CCB 600-261746/20** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.003	0.8663000 mg/L	2.46 U mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 22 Lab ID: **600-182783-C-1** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.206	68.74240 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

TALS Raw Data Report

RS# 23 Lab ID: **600-182783-C-2** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.193	64.28470 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 24 Lab ID: **600-182783-C-3** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.244	81.77260 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 31 Lab ID: **CCV 600-261746/31** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.227	75.94330 mg/L	mg/L	101	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 32 Lab ID: **CCB 600-261746/32** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.004	0.5234000 mg/L	2.46 U mg/L				
Chemical Oxygen De		mg/L	mg/L				

TALS Raw Data Report

Job Number: 600-182784-1
LIMS Batch: 261746
Equipment: WC15

Laboratory: Eurofins TestAmerica, Houstor

RS# 7 Lab ID: **ICV 600-261746/7** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.243	81.42970 mg/L	mg/L	109	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 8 Lab ID: **ICB 600-261746/8** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.015	3.248500 mg/L	3.249 J mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 9 Lab ID: **MB 600-261746/9** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.011	1.876900 mg/L	2.46 U mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 10 Lab ID: **LCS 600-261746/10** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.236	79.02940 mg/L	mg/L	105	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 16 Lab ID: **600-182757-A-1** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.154	50.91160 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 17 Lab ID: **600-182757-A-1 MS** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.319	107.4901 mg/L	mg/L	75	75 125		
Chemical Oxygen De		mg/L	mg/L				

RS# 18 Lab ID: **600-182757-A-1 MSD** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.319	107.4901 mg/L	mg/L	75	75 125	0	20
Chemical Oxygen De		mg/L	mg/L				

RS# 19 Lab ID: **CCV 600-261746/19** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.214	71.48560 mg/L	mg/L	95	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 20 Lab ID: **CCB 600-261746/20** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.003	0.8663000 mg/L	2.46 U mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 25 Lab ID: **600-182784-C-4** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.289	97.20310 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

TALS Raw Data Report

RS# 26 Lab ID: **600-182784-C-5** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.255	85.54450 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 31 Lab ID: **CCV 600-261746/31** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.227	75.94330 mg/L	mg/L	101	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 32 Lab ID: **CCB 600-261746/32** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.004	0.5234000 mg/L	2.46 U mg/L				
Chemical Oxygen De		mg/L	mg/L				

KD 10/31/19 #279135

TESTAMERICA-HOUSTON Results Report

Run Number 9546 **Order Number** 20191031-2 Report Date: 10/31/2019 : 2:30 PM

SampleID	RunDate	RunTime	Temp	pH	palk-mg/L	talk-mg/L	bcarb-mg/L	carb-mg/L	hydr-mg/L
lcs	10/31/2019	12:09 PM		7.05	-1.00	-1.00	-1.00	-1.00	-1.00
600-194525-B-1	10/31/2019	12:12 PM		8.53	-1.00	-1.00	-1.00	-1.00	-1.00
du 600-194525-B-1	10/31/2019	12:16 PM		8.57	-1.00	-1.00	-1.00	-1.00	-1.00
600-194434-B-1	10/31/2019	12:19 PM		7.94	-1.00	-1.00	-1.00	-1.00	-1.00
600-194690-G-10	10/31/2019	12:23 PM		7.90	-1.00	-1.00	-1.00	-1.00	-1.00
600-194194-B-2	10/31/2019	12:27 PM		7.17	-1.00	-1.00	-1.00	-1.00	-1.00
600-194194-B-3	10/31/2019	12:30 PM		7.17	-1.00	-1.00	-1.00	-1.00	-1.00
600-194328-A-1	10/31/2019	12:33 PM		8.13	-1.00	-1.00	-1.00	-1.00	-1.00
600-194690-H-8	10/31/2019	12:36 PM		8.18	-1.00	-1.00	-1.00	-1.00	-1.00
600-194835-B-1	10/31/2019	12:40 PM		8.04	-1.00	-1.00	-1.00	-1.00	-1.00
600-194405-F-1	10/31/2019	12:42 PM		7.92	-1.00	-1.00	-1.00	-1.00	-1.00
600-194327-A-1	10/31/2019	12:46 PM		8.01	-1.00	-1.00	-1.00	-1.00	-1.00
ccv	10/31/2019	12:49 PM		7.09	-1.00	-1.00	-1.00	-1.00	-1.00
X 600-194340-C-1	10/31/2019	12:53 PM		7.90	-1.00	-1.00	-1.00	-1.00	-1.00
X du 600-194340-C-1	10/31/2019	12:56 PM		8.00	-1.00	-1.00	-1.00	-1.00	-1.00
X 600-194342-C-1	10/31/2019	12:59 PM		8.01	-1.00	-1.00	-1.00	-1.00	-1.00
X 600-194292-B-1	10/31/2019	1:03 PM		7.31	-1.00	-1.00	-1.00	-1.00	-1.00
X 600-194194-C-1	10/31/2019	1:06 PM		7.29	-1.00	-1.00	-1.00	-1.00	-1.00
X 600-194690-D-4	10/31/2019	1:10 PM		8.08	-1.00	-1.00	-1.00	-1.00	-1.00
X 600-194834-A-1	10/31/2019	1:13 PM		8.04	-1.00	-1.00	-1.00	-1.00	-1.00
X 600-194690-F-1	10/31/2019	1:17 PM		7.90	-1.00	-1.00	-1.00	-1.00	-1.00
X 600-194818-A-1	10/31/2019	1:20 PM		7.79	-1.00	-1.00	-1.00	-1.00	-1.00
X 600-193575-A-3	10/31/2019	1:23 PM		7.36	-1.00	-1.00	-1.00	-1.00	-1.00
X 600-193575-C-4	10/31/2019	1:26 PM		7.88	-1.00	-1.00	-1.00	-1.00	-1.00
X ccv	10/31/2019	1:30 PM		7.11	-1.00	-1.00	-1.00	-1.00	-1.00
lcs	10/31/2019	1:33 PM		7.10	-1.00	-1.00	-1.00	-1.00	-1.00
600-194690-G-3	10/31/2019	1:36 PM		7.84	-1.00	-1.00	-1.00	-1.00	-1.00
du 600-194690-G-3	10/31/2019	1:40 PM		7.88	-1.00	-1.00	-1.00	-1.00	-1.00
600-194694-A-1	10/31/2019	1:43 PM		8.79	-1.00	-1.00	-1.00	-1.00	-1.00
600-194430-C-1	10/31/2019	1:46 PM		6.87	-1.00	-1.00	-1.00	-1.00	-1.00
600-194257-A-1	10/31/2019	1:50 PM		6.62	-1.00	-1.00	-1.00	-1.00	-1.00
600-194444-A-1	10/31/2019	1:53 PM		5.37	-1.00	-1.00	-1.00	-1.00	-1.00
600-193658-A-2	10/31/2019	1:57 PM		6.96	-1.00	-1.00	-1.00	-1.00	-1.00
600-194549-C-1	10/31/2019	2:01 PM		8.61	-1.00	-1.00	-1.00	-1.00	-1.00
600-194861-C-1	10/31/2019	2:04 PM		7.33	-1.00	-1.00	-1.00	-1.00	-1.00
600-194383-B-1	10/31/2019	2:08 PM		7.40	-1.00	-1.00	-1.00	-1.00	-1.00
600-194605-F-1	10/31/2019	2:12 PM		6.76	-1.00	-1.00	-1.00	-1.00	-1.00
ccv	10/31/2019	2:15 PM		7.10	-1.00	-1.00	-1.00	-1.00	-1.00

10/31/19

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Run Number 9546 **Order Number** 20191031-2

Report Date: 10/31/2019 : 2:56 PM

SampleID	RunDate	RunTime	Temp	pH	palk-mg/L	talk-mg/L	bcarb-mg/L	carb-mg/L	hydr-mg/L
600-194842-E-1	10/31/2019	2:18 PM		8.87	-1.00	-1.00	-1.00	-1.00	-1.00
du 600-194842-E-1	10/31/2019	2:21 PM		8.88	-1.00	-1.00	-1.00	-1.00	-1.00
600-194842-E-2	10/31/2019	2:24 PM		7.67	-1.00	-1.00	-1.00	-1.00	-1.00
ccv	10/31/2019	2:28 PM		7.09	-1.00	-1.00	-1.00	-1.00	-1.00

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KD 11/5/19
#279464

TESTAMERICA-HOUSTON Results Report

Run Number 9558 **Order Number** 20191105-4 Report Date: 11/05/2019 : 12:49 PM

SampleID	RunDate	RunTime	Temp	pH	palk-mg/L	talk-mg/L	bcarb-mg/L	carb-mg/L	hydr-mg/L
lcs	11/05/2019	10:50 AM		7.03	-1.00	-1.00	-1.00	-1.00	-1.00
600-194818-A-1	11/05/2019	10:53 AM		7.54	-1.00	-1.00	-1.00	-1.00	-1.00
du 600-194818-A-1	11/05/2019	10:56 AM		7.98	-1.00	-1.00	-1.00	-1.00	-1.00
600-194935-A-1	11/05/2019	11:00 AM		7.87	-1.00	-1.00	-1.00	-1.00	-1.00
600-194834-A-1	11/05/2019	11:03 AM		7.83	-1.00	-1.00	-1.00	-1.00	-1.00
600-194912-B-1	11/05/2019	11:07 AM		7.45	-1.00	-1.00	-1.00	-1.00	-1.00
600-195066-D-1	11/05/2019	11:10 AM		8.05	-1.00	-1.00	-1.00	-1.00	-1.00
600-195020-A-1	11/05/2019	11:13 AM		7.75	-1.00	-1.00	-1.00	-1.00	-1.00
600-194921-B-2	11/05/2019	11:16 AM		8.26	-1.00	-1.00	-1.00	-1.00	-1.00
600-194921-B-1	11/05/2019	11:20 AM		8.90	-1.00	-1.00	-1.00	-1.00	-1.00
600-194695-A-1	11/05/2019	11:24 AM		11.12	-1.00	-1.00	-1.00	-1.00	-1.00
600-194690-D-4	11/05/2019	11:27 AM		8.92	-1.00	-1.00	-1.00	-1.00	-1.00
ccv	11/05/2019	11:30 AM		7.02	-1.00	-1.00	-1.00	-1.00	-1.00
600-194690-F-10	11/05/2019	11:34 AM		7.89	-1.00	-1.00	-1.00	-1.00	-1.00
du 600-194690-F-10	11/05/2019	11:38 AM		7.88	-1.00	-1.00	-1.00	-1.00	-1.00
600-194690-E-1	11/05/2019	11:41 AM		7.69	-1.00	-1.00	-1.00	-1.00	-1.00
600-194194-C-1	11/05/2019	11:45 AM		7.26	-1.00	-1.00	-1.00	-1.00	-1.00
600-194340-C-1	11/05/2019	11:48 AM		8.09	-1.00	-1.00	-1.00	-1.00	-1.00
600-194342-C-1	11/05/2019	11:51 AM		7.99	-1.00	-1.00	-1.00	-1.00	-1.00
600-195051-C-5	11/05/2019	11:55 AM		7.76	-1.00	-1.00	-1.00	-1.00	-1.00
600-195051-A-6	11/05/2019	11:58 AM		7.62	-1.00	-1.00	-1.00	-1.00	-1.00
600-195051-A-2	11/05/2019	12:02 PM		7.62	-1.00	-1.00	-1.00	-1.00	-1.00
600-195004-B-1	11/05/2019	12:05 PM		5.47	-1.00	-1.00	-1.00	-1.00	-1.00
600-194884-B-1	11/05/2019	12:09 PM		7.68	-1.00	-1.00	-1.00	-1.00	-1.00
ccv	11/05/2019	12:12 PM		7.03	-1.00	-1.00	-1.00	-1.00	-1.00
lcs	11/05/2019	12:15 PM		7.03	-1.00	-1.00	-1.00	-1.00	-1.00
600-195051-A-4	11/05/2019	12:18 PM		7.59	-1.00	-1.00	-1.00	-1.00	-1.00
du 600-195051-A-4	11/05/2019	12:22 PM		7.62	-1.00	-1.00	-1.00	-1.00	-1.00
600-195051-A-3	11/05/2019	12:26 PM		7.66	-1.00	-1.00	-1.00	-1.00	-1.00
600-195051-A-1	11/05/2019	12:29 PM		7.82	-1.00	-1.00	-1.00	-1.00	-1.00
600-195153-C-1	11/05/2019	12:32 PM		8.21	-1.00	-1.00	-1.00	-1.00	-1.00
600-195152-C-1	11/05/2019	12:36 PM		7.58	-1.00	-1.00	-1.00	-1.00	-1.00
600-195122-G-1	11/05/2019	12:40 PM		7.97	-1.00	-1.00	-1.00	-1.00	-1.00
600-195122-G-2	11/05/2019	12:43 PM		7.05	-1.00	-1.00	-1.00	-1.00	-1.00
ccv	11/05/2019	12:47 PM		7.03	-1.00	-1.00	-1.00	-1.00	-1.00

11/5/19
KB

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****
** SEQUENCE **
****

AMP
11/7/19
279795

TOC Unit: toc
110719 Thu Nov 07 07:24:24 2019

Pos/ Vial	Sample Name	Method	Run Type	# Rep	Vol (mL)	# Blk	Dil Fact	Ovr Rng	Remarks
1	RINSE	TOC	Sample	1	5.000	0	1.00	No	
2	RINSE	TOC	Sample	1	5.000	0	1.00	No	
3	ICV	TOC	Sample	1	5.000	0	1.00	No	
4	ICB	TOC	Sample	1	5.000	0	1.00	No	
5	MB	TOC	Sample	1	5.000	0	1.00	No	
6	LCS	TOC	Sample	1	5.000	0	1.00	No	
7	600-195104-A-4	TOC	Sample	1	5.000	0	1.00	No	
8	ms 195104-A-4	TOC	Sample	1	5.000	0	1.00	No	
9	msd 195104-A-4	TOC	Sample	1	5.000	0	1.00	No	
10	195115-D-1@2	TOC	Sample	1	5.000	0	1.00	No	
11	195104-A-9@4	TOC	Sample	1	5.000	0	1.00	No	
12	194690-F-8@4	TOC	Sample	1	5.000	0	1.00	No	
13	195118-B-5@4	TOC	Sample	1	5.000	0	1.00	No	
14	600-195121-C-1	TOC	Sample	1	5.000	0	1.00	No	
15	CCV	TOC	Sample	1	5.000	0	1.00	No	
16	CCB	TOC	Sample	1	5.000	0	1.00	No	
17	600-194690-D-1	TOC	Sample	1	5.000	0	1.00	No	
18	600-195307-A-3	TOC	Sample	1	5.000	0	1.00	No	
19	600-195153-B-1	TOC	Sample	1	5.000	0	1.00	No	
20	600-195152-B-1	TOC	Sample	1	5.000	0	1.00	No	
21	600-194690-E-10	TOC	Sample	1	5.000	0	1.00	No	
22	ms 194690-C-10	TOC	Sample	1	5.000	0	1.00	No	] MI
23	msd194690-C-10	TOC	Sample	1	5.000	0	1.00	No	] MI
24	600-195080-A-2	TOC	Sample	1	5.000	0	1.00	No	
25	600-194779-C-1	TOC	Sample	1	5.000	0	1.00	No	
26	600-194690-F-3	TOC	Sample	1	5.000	0	1.00	No	
27	ccv	TOC	Sample	1	5.000	0	1.00	No	
28	ccb	TOC	Sample	1	5.000	0	1.00	No	
29	600-195307-A-6	TOC	Sample	1	5.000	0	1.00	No	
30	600-194742-E-9	TOC	Sample	1	5.000	0	1.00	No	
31	600-195104-A-2	TOC	Sample	1	5.000	0	1.00	No	
32	600-195104-A-12	TOC	Sample	1	5.000	0	1.00	No	
33	600-194998-C-1	TOC	Sample	1	5.000	0	1.00	No	
34	ccv	TOC	Sample	1	5.000	0	1.00	No	
35	ccb	TOC	Sample	1	5.000	0	1.00	No	
36	195089-A-1@10	TOC	Sample	1	5.000	0	1.00	No	
37	ccv	TOC	Sample	1	5.000	0	1.00	No	
38	ccb	TOC	Sample	1	5.000	0	1.00	No	

KD 11/7/19

```
*******************************************************************
**                  OI Analytical Model 1010 TOC                 **
**                          RUN SETUP                            **
*******************************************************************

TOC Unit: toc
Operator:   Unknown
Data Path:  C:\PROGRA~1\OIANAL~1\TOCREP~1\DATA10\110719
WinTOC Version:  5.2                        Firmware Version:   5.2
WinTOC Revision:  rev 242                      Firmware Revision:  rev 365

Report To File:  Enabled                    Naming Mode:  Automatic
Prefix:  KR    Index:    1

*******************************************************************
**                        CONFIGURATION                          **
*******************************************************************

TOC Unit: toc
Analysis Mode:  TIC/TOC     Spl Intro:  Autosampler 88
Remote Start :  OFF

Loop Size:  5 mL        Actual Volume  1mL   5mL   10mL   25mL
                        -------------  ----  ----  -----  -----
                         Loop A (uL):  1009  4970  10000  25000
                         Loop B (uL):  1008  4980  10000  25000

Tray Type:              88 Vial  Vial Option:        Preacidification
Needle Depth:           98 %     Preacid Volume (uL):             500
Wash Needle Depth:      94 %     Preacid Purge Time (min:sec):   1:30

            TIC    TOC    TC
Blank      ----   ----   ----            Linearization Coeff:  60000
 Average:    58    523      0

                          Sample Transfer Times (sec)
          Initial Fill          |        Loop Fill          | Sample Inject
     Non-AS    AS  AS w/Sep | Non-AS    AS  AS w/Sep |    (all)
     ------  ----- -------- | ------  ----- -------- | -------------
1mL:    0.0    0.0      0.0 |    0.0    0.0      0.0 |       0.0
5mL:   10.0   10.0      6.8 |    6.0    6.0      4.2 |       9.3
10mL:   0.0    0.0      0.0 |    0.0    0.0      0.0 |       0.0
25mL:   0.0    0.0      0.0 |    n/a    n/a      n/a |       0.0

Analog Concentration Signal indicates TIC
Analog Conc. Signal Timer is ON, Timer duration (h:m:s): 30350:26:59
Min Signal Range:   0.000 ppmC,  Max Signal Range:   0.000 ppmC

Alarms DISABLED
Alarm Relay Timer is OFF, Timer duration (h:m:s): 00:00:00
       Conc. Alarm Setpoints (ppm C)
          Low       |    High
      -----------   | -----------
TIC:     0.000          0.000
TOC:     0.000          0.000
TC:      0.000          0.000

*******************************************************************
**                         CALIBRATION                           **
*******************************************************************

TOC Unit: toc
CAL100919  Wed Oct 09 11:39:36 2019

Std. #  Used  Conc. (ppm)  Volume (mL)
------  ----  -----------  -----------      RF (ugC/k-cts):     1.372
   1    Yes        0.000        5.000       R-Squared:         0.9998
   2    Yes        1.000        5.000       Offset (cts):         1308
   3    Yes       10.000        5.000       Offset (ugC):       -1.795
   4    Yes       25.000        5.000       Calibration Mode:     TOC
   5    No         0.000        5.000       Allow Editing:      No
```

Rep	Std. 1	Std. 2	Std. 3	Std. 4	Std. 5
1	1530	5245	36712	92260	-
2	-	-	-	-	-
3	-	-	-	-	-
4	-	-	-	-	-
5	-	-	-	-	-
6	-	-	-	-	-
7	-	-	-	-	-
8	-	-	-	-	-
9	-	-	-	-	-
10	-	-	-	-	-

(* = unused)

****
** METHODS **
****

TOC Unit: toc
TOC Tue Mar 08 14:06:13 2016

Acid Volume: 200 uL
Oxidant Volume: 1000 uL
Auto-Repeat Time: 00:00:00 (hr:min:sec)

Rinse Volume (mL): 25
Rinses Per Rep: 0
Rinses Per Sample: 1

	TIC	TOC	TC
React: (min:sec):	02:00	02:30	02:30
Detect: (min:sec):	01:00	01:30	01:30

****
** SEQUENCE **
****

TOC Unit: toc
110719 Thu Nov 07 07:24:24 2019

Start Pos/Vial #: 1, Stop Pos/Vial #: 38

Pos/ Vial	Sample Name	Method	Run Type	# Rep	Vol (mL)	# Blk	Dil Fact	Ovr Rng	Remarks
1	RINSE	toc	Sample	1	5.000	0	1.00	No	
2	RINSE	toc	Sample	1	5.000	0	1.00	No	
3	ICV	toc	Sample	1	5.000	0	1.00	No	
4	ICB	toc	Sample	1	5.000	0	1.00	No	
5	MB	toc	Sample	1	5.000	0	1.00	No	
6	LCS	toc	Sample	1	5.000	0	1.00	No	
7	600-195104-A-4	toc	Sample	1	5.000	0	1.00	No	
8	ms 195104-A-4	toc	Sample	1	5.000	0	1.00	No	
9	msd 195104-A-4	toc	Sample	1	5.000	0	1.00	No	
10	195115-D-1@2	toc	Sample	1	5.000	0	1.00	No	
11	195104-A-9@4	toc	Sample	1	5.000	0	1.00	No	
12	194690-F-8@4	toc	Sample	1	5.000	0	1.00	No	
13	195118-B-5@4	toc	Sample	1	5.000	0	1.00	No	
14	600-195121-C-1	toc	Sample	1	5.000	0	1.00	No	
15	CCV	toc	Sample	1	5.000	0	1.00	No	
16	CCB	toc	Sample	1	5.000	0	1.00	No	
17	600-194690-D-1	toc	Sample	1	5.000	0	1.00	No	
18	600-195307-A-3	toc	Sample	1	5.000	0	1.00	No	
19	600-195153-B-1	toc	Sample	1	5.000	0	1.00	No	
20	600-195152-B-1	toc	Sample	1	5.000	0	1.00	No	
21	600-194690-E-10	toc	Sample	1	5.000	0	1.00	No	
22	ms 194690-C-10	toc	Sample	1	5.000	0	1.00	No	
23	msd194690-C-10	toc	Sample	1	5.000	0	1.00	No	
24	600-195080-A-2	toc	Sample	1	5.000	0	1.00	No	
25	600-194779-C-1	toc	Sample	1	5.000	0	1.00	No	
26	600-194690-F-3	toc	Sample	1	5.000	0	1.00	No	
27	ccv	toc	Sample	1	5.000	0	1.00	No	
28	ccb	toc	Sample	1	5.000	0	1.00	No	
29	600-195307-A-6	toc	Sample	1	5.000	0	1.00	No	
30	600-194742-E-9	toc	Sample	1	5.000	0	1.00	No	
31	600-195104-A-2	toc	Sample	1	5.000	0	1.00	No	
32	600-195104-A-12	toc	Sample	1	5.000	0	1.00	No	
33	600-194998-C-1	toc	Sample	1	5.000	0	1.00	No	

34	ccv	toc	Sample	1	5.000	0	1.00	No
35	ccb	toc	Sample	1	5.000	0	1.00	No
36	195089-A-1@10	toc	Sample	1	5.000	0	1.00	No
37	ccv	toc	Sample	1	5.000	0	1.00	No
38	ccb	toc	Sample	1	5.000	0	1.00	No

```
*****************************************************************
**                    RESULTS - 110719                         **
*****************************************************************
```

TOC Unit: toc

Pos/Vial: 1 Name: RINSE Analyzed: 07Nov2019 07:56
Run ID: 2 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR001	07Nov2019	07:56	752	0.952	0.191	2821	3.153	0.634	-	-

Pos/Vial: 2 Name: RINSE Analyzed: 07Nov2019 08:08
Run ID: 1 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR002	07Nov2019	08:08	163	0.144	0.029	2158	2.244	0.451	-	-

Pos/Vial: 3 Name: ICV Analyzed: 07Nov2019 08:21
Run ID: 2 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR003	07Nov2019	08:21	150	0.126	0.025	37288	50.451	10.141	-	-

Pos/Vial: 4 Name: ICB Analyzed: 07Nov2019 08:33
Run ID: 3 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR004	07Nov2019	08:33	155	0.133	0.027	1474	1.305	0.262	-	-

Pos/Vial: 5 Name: MB Analyzed: 07Nov2019 08:45
Run ID: 4 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR005	07Nov2019	08:45	158	0.137	0.028	1214	0.948	0.191	-	-

Pos/Vial: 6 Name: LCS Analyzed: 07Nov2019 08:57
Run ID: 5 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES	TIC Area	TIC Mass	TIC Conc	TOC Area	TOC Mass	TOC Conc	TC Area	TC Mass

Rep	Datafile	Date	Time	(cts)	(ugC)	(ppm)	(cts)	(ugC)	(ppm)	(cts)	(ugC)
1	KR006	07Nov2019	08:57	138	0.110	0.022	36011	48.699	9.789	-	-

Pos/Vial: 7 Name: 600-195104-A-4 Analyzed: 07Nov2019 09:09
Run ID: 6 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES				TIC Area	TIC Mass	TIC Conc	TOC Area	TOC Mass	TOC Conc	TC Area	TC Mass
Rep	Datafile	Date	Time	(cts)	(ugC)	(ppm)	(cts)	(ugC)	(ppm)	(cts)	(ugC)
1	KR007	07Nov2019	09:09	2050	2.734	0.549	22607	30.305	6.091	-	-

Pos/Vial: 8 Name: ms 195104-A-4 Analyzed: 07Nov2019 09:22
Run ID: 7 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES				TIC Area	TIC Mass	TIC Conc	TOC Area	TOC Mass	TOC Conc	TC Area	TC Mass
Rep	Datafile	Date	Time	(cts)	(ugC)	(ppm)	(cts)	(ugC)	(ppm)	(cts)	(ugC)
1	KR008	07Nov2019	09:22	2019	2.691	0.541	60784	82.694	16.622	-	-

Pos/Vial: 9 Name: msd 195104-A-4 Analyzed: 07Nov2019 09:34
Run ID: 8 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES				TIC Area	TIC Mass	TIC Conc	TOC Area	TOC Mass	TOC Conc	TC Area	TC Mass
Rep	Datafile	Date	Time	(cts)	(ugC)	(ppm)	(cts)	(ugC)	(ppm)	(cts)	(ugC)
1	KR009	07Nov2019	09:34	1775	2.356	0.474	60842	82.774	16.638	-	-

Pos/Vial: 10 Name: 195115-D-1@2 Analyzed: 07Nov2019 09:46
Run ID: 9 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES				TIC Area	TIC Mass	TIC Conc	TOC Area	TOC Mass	TOC Conc	TC Area	TC Mass
Rep	Datafile	Date	Time	(cts)	(ugC)	(ppm)	(cts)	(ugC)	(ppm)	(cts)	(ugC)
1	KR010	07Nov2019	09:46	5612	7.622	1.532	32661	44.102	8.865	-	-

Pos/Vial: 11 Name: 195104-A-9@4 Analyzed: 07Nov2019 09:58
Run ID: 10 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES				TIC Area	TIC Mass	TIC Conc	TOC Area	TOC Mass	TOC Conc	TC Area	TC Mass
Rep	Datafile	Date	Time	(cts)	(ugC)	(ppm)	(cts)	(ugC)	(ppm)	(cts)	(ugC)
1	KR011	07Nov2019	09:58	3526	4.759	0.957	18375	24.498	4.924	-	-

Pos/Vial: 12 Name: 194690-F-8@4 Analyzed: 07Nov2019 10:10
Run ID: 11 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES				TIC Area	TIC Mass	TIC Conc	TOC Area	TOC Mass	TOC Conc	TC Area	TC Mass
Rep	Datafile	Date	Time	(cts)	(ugC)	(ppm)	(cts)	(ugC)	(ppm)	(cts)	(ugC)
1	KR012	07Nov2019	10:10	2323	3.108	0.625	16208	21.524	4.326	-	-

Pos/Vial: 13 Name: 195118-B-5@4 Analyzed: 07Nov2019 10:23
Run ID: 12 Meth: toc Vol (mL): 4.975

Remarks: <none>

SAMPLES Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR013	07Nov2019	10:22	1366	1.795	0.361	16312	21.667	4.355	-	-

Pos/Vial: 14 Name: 600-195121-C-1 Analyzed: 07Nov2019 10:35
Run ID: 13 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR014	07Nov2019	10:35	5897	8.013	1.611	49397	67.068	13.481	-	-

Pos/Vial: 15 Name: CCV Analyzed: 07Nov2019 10:47
Run ID: 14 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR015	07Nov2019	10:47	142	0.115	0.023	35694	48.264	9.701	-	-

Pos/Vial: 16 Name: CCB Analyzed: 07Nov2019 10:59
Run ID: 15 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR016	07Nov2019	10:59	159	0.139	0.028	1092	0.781	0.157	-	-

Pos/Vial: 17 Name: 600-194690-D-1 Analyzed: 07Nov2019 11:11
Run ID: 16 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR017	07Nov2019	11:11	6810	9.266	1.862	18790	25.067	5.039	-	-

Pos/Vial: 18 Name: 600-195307-A-3 Analyzed: 07Nov2019 11:23
Run ID: 17 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR018	07Nov2019	11:23	17169	23.481	4.720	26099	35.097	7.055	-	-

Pos/Vial: 19 Name: 600-195153-B-1 Analyzed: 07Nov2019 11:36
Run ID: 18 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)

1	KR019	07Nov2019	11:36	2400	3.214	0.646	11242	14.709	2.957	-	-

Pos/Vial: 20 Name: 600-195152-B-1 Analyzed: 07Nov2019 11:48
Run ID: 19 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES				TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
Rep	Datafile	Date	Time								
1	KR020	07Nov2019	11:48	2459	3.295	0.662	10844	14.163	2.847	-	-

Pos/Vial: 21 Name: 600-194690-E-10 Analyzed: 07Nov2019 12:00
Run ID: 20 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES				TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
Rep	Datafile	Date	Time								
1	KR021	07Nov2019	12:00	4432	6.002	1.207	33882	45.777	9.201	-	-

Pos/Vial: 22 Name: ms 194690-C-10 Analyzed: 07Nov2019 12:12
Run ID: 21 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES				TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
Rep	Datafile	Date	Time								
1	KR022	07Nov2019	12:12	5927	8.054	1.619	82731	112.811	22.676	-	-

Pos/Vial: 23 Name: msd194690-C-10 Analyzed: 07Nov2019 12:24
Run ID: 22 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES				TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
Rep	Datafile	Date	Time								
1	KR023	07Nov2019	12:24	6297	8.562	1.721	81628	111.297	22.371	-	-

Pos/Vial: 24 Name: 600-195080-A-2 Analyzed: 07Nov2019 12:36
Run ID: 23 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES				TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
Rep	Datafile	Date	Time								
1	KR024	07Nov2019	12:36	6078	8.261	1.661	28865	38.893	7.818	-	-

Pos/Vial: 25 Name: 600-194779-C-1 Analyzed: 07Nov2019 12:48
Run ID: 24 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES				TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
Rep	Datafile	Date	Time								
1	KR025	07Nov2019	12:48	1227	1.604	0.322	22780	30.542	6.139	-	-

Pos/Vial: 26 Name: 600-194690-F-3 Analyzed: 07Nov2019 13:01
Run ID: 25 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES	TIC	TIC	TIC	TOC	TOC	TOC	TC	TC

Rep	Datafile	Date	Time	Area (cts)	Mass (ugC)	Conc (ppm)	Area (cts)	Mass (ugC)	Conc (ppm)	Area (cts)	Mass (ugC)
1	KR026	07Nov2019	13:01	5031	6.824	1.372	15992	21.228	4.267	-	-

Pos/Vial: 27 Name: ccv Analyzed: 07Nov2019 13:13
Run ID: 26 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES

Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR027	07Nov2019	13:13	154	0.132	0.026	35516	48.020	9.652	-	-

Pos/Vial: 28 Name: ccb Analyzed: 07Nov2019 13:25
Run ID: 27 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES

Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR028	07Nov2019	13:25	180	0.167	0.034	1084	0.770	0.155	-	-

Pos/Vial: 29 Name: 600-195307-A-6 Analyzed: 07Nov2019 13:37
Run ID: 28 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES

Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR029	07Nov2019	13:37	22834	31.255	6.282	26987	36.316	7.300	-	-

Pos/Vial: 30 Name: 600-194742-E-9 Analyzed: 07Nov2019 13:49
Run ID: 29 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES

Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR030	07Nov2019	13:49	242	0.252	0.051	1895	1.883	0.378	-	-

Pos/Vial: 31 Name: 600-195104-A-2 Analyzed: 07Nov2019 14:01
Run ID: 30 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES

Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR031	07Nov2019	14:01	811	1.033	0.208	23281	31.230	6.277	-	-

Pos/Vial: 32 Name: 600-195104-A-12 Analyzed: 07Nov2019 14:14
Run ID: 31 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES

Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR032	07Nov2019	14:14	886	1.136	0.228	25736	34.599	6.955	-	-

Pos/Vial: 33 Name: 600-194998-C-1 Analyzed: 07Nov2019 14:26

Run ID: 32 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR033	07Nov2019	14:26	6188	8.412	1.691	56588	76.936	15.465	-	-

Pos/Vial: 34 Name: ccv Analyzed: 07Nov2019 14:38
Run ID: 33 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR034	07Nov2019	14:38	122	0.088	0.018	35824	48.442	9.737	-	-

Pos/Vial: 35 Name: ccb Analyzed: 07Nov2019 14:50
Run ID: 34 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR035	07Nov2019	14:50	176	0.162	0.032	1112	0.808	0.162	-	-

Pos/Vial: 36 Name: 195089-A-1@10 Analyzed: 07Nov2019 15:02
Run ID: 35 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR036	07Nov2019	15:02	138	0.110	0.022	9944	12.928	2.599	-	-

Pos/Vial: 37 Name: ccv Analyzed: 07Nov2019 15:14
Run ID: 36 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR037	07Nov2019	15:14	119	0.084	0.017	36412	49.249	9.899	-	-

Pos/Vial: 38 Name: ccb Analyzed: 07Nov2019 15:26
Run ID: 37 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR038	07Nov2019	15:26	167	0.150	0.030	1041	0.711	0.143	-	-

Subcontract Data

Shipping and Receiving Documents

Eurofins TestAmerica, ~~Pittsburgh~~ Houston

301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: ~~412-963-7058 Fax: 412-963-2468~~

6310 Rothway St.
Houston TX 77040

Chain of Custody Record

eurofins Environment Testing TestAmerica

Client Information	Sampler: KISHOR NAYAR	Lab PM: Garnber, Carrie L	Carrier Tracking No(s):	COC No: 180-55704-11342.3
Client Contact: Janie Smith	Phone: 617-320-6826	E-Mail: carrie.gamber@testamericainc.com		Page: Page 3 of 3
Company: GHD Services Inc.				Job #:
Address: 5551 Corporate Boulevard Suite 200	Due Date Requested:			
City: Baton Rouge	TAT Requested (days): NORMAL			
State, Zip: LA, 70808				
Phone: 225-292-9007(Tel)	PO #: diox 34040129			
Email: janie.smith@ghd.com	WO #: 11187072-2019-001			
Project Name: San Jacinto River Waste Pits Superfund S	Project #: 18020662			
Site: NORTH IMPOUNDMENT	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Alk; TDS; TSS; TC	pH	Ammonia; Phos; COD	TOC	Sulfide	Metals (Total + Dissolved Field Filt)	Metals (Total + Dissolved Field Filt)	Oil and Grease	Low Level Hg	Trip Blank	Spare 1L Amber of last water			Total Number of containers	Special Instructions/Note:
			Preservation Code:																		
1. CEFF	10-25-19	19:25	G	W	N	N	2	1	2	1	1	0	0	2	1	4	1			15	VOAS MARKED AS 1
2. CEFF (FOR TOTAL METALS, Hg)	10-26-19	16:10	G	W	~~N~~ N	N	KAW					1	2							~~3~~ 3	SAMPLE TAKEN NEXT DAY FOR TOTAL METALS & Hg
																					SEE SSOW BUILDING ORDER # 11342

600-194690 Chain of Custody

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
KISHOR NAYAR	10/26 19:17	GHD	Eric Tompkins	10-26 19:17	GHD
Eric Tompkins	10-28 1452	GHD	[illegible]	10/28/19 1452	TA

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Eurofins TestAmerica, ~~Pittsburgh~~ Houston
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468
6310 Rothway St.
Houston TX 77040

Chain of Custody Record

eurofins Environment Testing TestAmerica

Client Information	Sampler: KISHOR NAYAR	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-55704-11342.1
Client Contact: Janie Smith	Phone: 617-320-6826	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 3
Company: GHD Services Inc.				Job #:
Address: 5551 Corporate Boulevard Suite 200	Due Date Requested:			
City: Baton Rouge	TAT Requested (days): NORMAL			
State, Zip: LA, 70808				
Phone: 225-292-9007(Tel)	PO #: diox 34040129			
Email: janie.smith@ghd.com	WO #: 11187072-2019-001			
Project Name: San Jacinto River Waste Pits Superfund S	Project #: 18020662			
Site: NORTH IMPOUNDMENT	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Alk; TDS; TSS; TC	pH	Ammonia, phos; COD	TOC	Sulfide	Metals (Total + Dissolved Field Filt)	Dissolved Metals Field Filt	Oil and Grease	Low level Hg	Tox Block	Store 1L Amber at 1st water			Total Number of containers	Special Instructions/Note:
			Preservation Code:																		
FEFF 1	10/26/19	12:45PM	G	W	N	N	2	1	2	1	1	1	2	2	1	4 x3	1			15	ONLY UNFILTERED
					~~Y~~							~~1~~	~~2~~	KRN						~~6~~	KRN
																					SEE SSOW
																					BOTTLE ORDER
																					#18342

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
KISHOR NAYAR	10/26/19 19:17	GHD	E Tompkins	10-26 19:17	GHD
E Tompkins	10-28 1452	GHD	[illegible]	10/28 1452	TA

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Eurofins TestAmerica, ~~Pittsburgh~~ Houston
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468
630 Bothung St.
Houston TX 77040

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler: KISHOR NAYAR	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-55752-11584.1
Client Contact: Stephanie Castracane	Phone: 617-320-4826	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 1
Company: GHD Services Inc.				Job #:
Address: 5551 Corporate Boulevard Suite 200	Due Date Requested:			
City: Baton Rouge	TAT Requested (days): NORMAL			
State, Zip: LA, 70808				
Phone: 225-292-9007(Tel)	PO #: diox 34040129, pilot 34040708			
Email: Stefanie.Castracane@ghd.com	WO #: 11187072-2019-001			
Project Name: San Jacinto River Waste Pits Superfund	Project #: 18020662			
Site: NORTH IMPOUNDMENT	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SULFIDE	pH	OIL & GREASE	LOW-LEVEL HG	TRIP BLANK	SPARE 1L AMBER	TSS							Total Number of containers	Special Instructions/Note:
			Preservation Code:																		
DUP	10/25/19		G	W			1	1	2	2	4	1								9	
DUP	10/26/19		G	W						2										2	
LVI	10/26/19	14:30	G	W	N	N							1							1	
SS	10/26/19	14:30	C	W	N	N							1							1	SEE SSOW BOTTLE ORDER # 11342

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
KISHOR NAYAR	10/26 19:17	GHD	E. Tompkins	10-26-19 19:17	GHD
E. Tompkins	10-28 1452	GHD	[illegible]	10/28/19 1452	TA

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Houston
6310 Rothung St.
Houston TX 77040

Chain of Custody Record

eurofins
Environment Testing TestAmerica

Client Information	Sampler: Eric Torpkins; Kishor Nayar	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-55704-11342.1
Client Contact: Janie Smith	Phone: 617 320-4826	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 3
Company: GHD Services Inc.				Job #:
Address: 5551 Corporate Boulevard Suite 200	Due Date Requested:			
City: Baton Rouge	TAT Requested (days): NORMAL			
State, Zip: LA, 70808				
Phone: 225-292-9007(Tel)	PO #: diox 34040129			
Email: janie.smith@ghd.com	WO #: 11187072-2019-001			
Project Name: San Jacinto River Waste Pits Superfund S	Project #: 18020662			
Site: NORTH IMPOUNDMENT	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Alk; TDS; TSS; IC	pH	Ammonia; Phos; COD	TOC	Sulfide	metals (Total & Dissolved Field Filtered)	Dioxins (Total, Dissolved-Field Filt)	Oil and Grease	Low level Hg	Trip Blank	Spare 1L Amber of test water			Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X														X	
INF 3	10-25-19	13:30	G	W	N	N	2	1	2	1	1			2	2	4	1			16	
INF 3 - Filtered	10-25-19	13:30	G	W	X	N						2	4							6	FIELD FILTERED
																					See SSOW
																					BOTTLE ORDER #11342

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Kishor G. Nayar	10/26/19 19:17	GHD	E.J. Tompkins	10-26 19:17	GHD
E.Tompkins	10-28 1452	GHD	[illegible]	10/28/19 1452	TA

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Eurofins TestAmerica, [redacted] Houston
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468
6310 Rothway St.
Houston TX 77040

Chain of Custody Record

eurofins Environment Testing TestAmerica

Client Information	Sampler: KISHOR NAMAR	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-55704-11342.4
Client Contact: Janie Smith	Phone: 617-320-4826	E-Mail: carrie.gamber@testamericainc.com		Page: Page 4 of 3
Company: GHD Services Inc.				Job #:
Address: 5551 Corporate Boulevard Suite 200	Due Date Requested:			
City: Baton Rouge	TAT Requested (days): NORMAL			
State, Zip: LA, 70808				
Phone: 225-292-9007(Tel)	PO #: diox 34040129			
Email: janie.smith@ghd.com	WO #: 11187072-2019-001			
Project Name: San Jacinto River Waste Pits Superfund S	Project #: 18020662			
Site: NORTEL IMPOUNDMENT	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	[redacted]	ALK, TDS, TSS, TC	pH	AMMONIA, PHOS, COD	TOC	SULFIDE	METALS (TOTAL & DISSOLVED)	DOCKINS (TOTAL & DISSOLVED FE)	OIL & GREASE	LOW LEVEL HG	TRIP BLANK	SPARE 1L AMBER	Total Number of containers	Special Instructions/Note:
			Preservation Code:																	
INF 4	10/25/19	20:50	G	W	N	Y		2	1	1	1	1	1	2	2		4	1	16	MS/MSD in separate coolers as separate sample
INF4 (FILTERED INFIELD)	10/26/19	22:10	G	W	Y	Y							1	2		2			5	
																				SEE SSOW
																				BOTTLE ORDER
																				# 11342

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
KISHOR G. NAMAR	10/26/19 19:17	GHD	E. Tumpkins	10-26 19:17	GHD
E. Tumpkins	10-26 1452	GHD	[signature]	10/28/19 1452	TA

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Eurofins TestAmerica, ~~Pittsburgh~~ Houston
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468
6310 Rothway St.
Houston TX 77040

Chain of Custody Record

eurofins Environment Testing TestAmerica

Client Information	Sampler: KISHOR NOVAIR	Lab PM: Gamber, Carrier L	Carrier Tracking No(s):	COC No: 180-55704-11342.2
Client Contact: Janie Smith	Phone: 67 320 6826	E-Mail: carrie.gamber@testamericainc.com		Page: Page 2 of 3
Company: GHD Services Inc.				Job #:
Address: 5551 Corporate Boulevard Suite 200	Due Date Requested:			
City: Baton Rouge	TAT Requested (days): normal			
State, Zip: LA, 70808				
Phone: 225-292-9007(Tel)	PO #: diox 34040129			
Email: janie.smith@ghd.com	WO #: 11187072-2019-001			
Project Name: San Jacinto River Waste Pits Superfund S	Project #: 18020662			
Site: North Impoundment	SSOW#:			

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Alk, TDS, TSS, TC	pH	Ammonia, Phos, COD	TOC	Sulfide	Acetic/SC total+dissolved Field Filt	Dechlorinated, dissolved Field Filt	Oil and Grease	low level Hg	Trip Blank	Spec. 1L Amber at test color			Total Number of containers	Special Instructions/Note:
			Preservation Code:																		
MS/MSD -Filtered	10/25/19	2050	G	W	Y	Y				1		1	2							4	
MS/MSD	10/25/19	2050	G	W	N	Y	2		2	1		1	2							8	SEE SSOW BOTTLE ORDER # 11342

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
KISHOR NAVAR	10/26 19:17	GHD	E Tompkins	10-26 19:17	GHD
E Tompkins	10-28-19 1452	GHD	[illegible]	10/28/19 1452	AA

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Loc: 600
194690

eurofins | Environment Testing TestAmerica

Eurofins TestAmerica Houston

Sample Receipt Checklist

Date/Time Received: '19 OCT 28 14:52

JOB NUMBER: 6090

CLIENT: GHD

UNPACKED BY:

CARRIER/DRIVER: Client

Custody Seal Present: ☑YES ☐NO

Number of Coolers Received: 1

Cooler ID	Temp Blank	Trip Blank	Observed Temp (°C)	Therm ID	Therm CF	Corrected Temp (°C)
BN	Y / N	Y / N	2.4	L078	-0.3	2.1
BN	Y / N	Y / N	2.3			2.0
BN	Y / N	Y / N	1.6			1.3
BN	Y / N	Y / N	1.6			1.3
BN	Y / N	Y / N	1.6			1.3
BN	Y / N	Y / N	2.9			2.6

CF = correction factor

Samples received on ice? ☑YES ☐NO

LABORATORY PRESERVATION OF SAMPLES REQUIRED: ☑NO ☐YES

Base samples are>pH 12: ☑YES ☐NO

Acid preserved are<pH 2: ☑YES ☐NO

TX1005 samples frozen upon receipt: ☐ YES

DATE & TIME PUT IN FREEZER:

pH paper Lot # HC9911818

VOA headspace acceptable (5-6mm): ☑YES ☐NO ☐NA

Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	☑YES	☐NO

COMMENTS:

No TBs received, No volume for VOCs (sent 4 empty vials). verify analysis

Nitrate ~~may be~~ out of hold if client proceeds w/ analysis

HS-SA-WI-013

Rev. 4A; 08/26/2019

eurofins | Environment Testing TestAmerica

Sacramento
Sample Receiving Notes

600-194690 Field Sheet

Job: _____

Tracking # : 4840 2907 9853

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSO / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.
File in the job folder with the COC.

Notes: _____

Therm. ID: TR/stem Corr. Factor: (+ / -) 0 °C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal: 622803

Cooler ID: —

Temp Observed: 1.8 °C Corrected: 1.8 °C
From: Temp Blank ☐ Sample ☑

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
CoC is complete w/o discrepancies?	☑	☐	☐
Samples received within holding time?	☑	☐	☐

Initials: PK Date: 10/31/19

Unpacking/Labeling The Samples	Yes	No	NA
Samples compromised/tampered with?	☐	☑	☐
Sample containers have legible labels?	☑	☐	☐
Sample custody seal?	☐	☑	☐
Containers are not broken or leaking?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

Non-conformance	Yes	No	NA
NCM Filed?	☐	☐	☑

Initials: JG Date: 10/31/19

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

W20-A

\\TACORP\CORP\QA\QA_FACILITIES\SACRAMENTO CA\DOCUMENT ...

Eurofins TestAmerica, Houston
6310 Rothway Street
Houston, TX 77040
Phone: 713-690-4444 Fax: 713-690-5646

3.9/4.6

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 600-42407.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com	State of Origin: Texas	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Texas		Job #: 600-194690-1
Address: 4101 Shuffel Street NW, ,	Due Date Requested: 11/8/2019			
City: North Canton	TAT Requested (days):			
State, Zip: OH, 44720				
Phone: 330-497-9396(Tel) 330-497-0772(Fax)	PO #:			
Email:	WO #:			
Project Name: San Jacinto River Waste Pits Superfund	Project #: 18020662			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=wasteoil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1631E/1631E_Prep	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
1. CEFF (600-194690-1)	10/25/19	19:25 Central		Water			X	2	
FEFF 1 (600-194690-3)	10/26/19	12:45 Central		Water			X	2	
DUP (600-194690-5)	10/26/19	Central		Water			X	2	
INF 3 (600-194690-8)	10/25/19	13:30 Central		Water			X	2	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 4	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 10/30/19 16:00	Company: TAH	Received by:	Date/Time: 10-31-19 930	Company: ETA
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Eurofins TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login # : 600-194690

Client ETA Site Name _____ Cooler unpacked by: Ryan Crilley

Cooler Received on 10-31-19 Opened on 10-31-19 930

FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # TA Foam Box Client Cooler Box Other _____

Packing material used: Bubble Wrap Foam Plastic Bag None Other _____

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form
   IR GUN# IR-10 (CF +0.7 °C) Observed Cooler Temp. 3.9 °C Corrected Cooler Temp. 4.6 °C
   IR GUN #IR-11 (CF +0.9°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
   -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
   -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
   -Were tamper/custody seals intact and uncompromised? Yes No NA
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels be reconciled with the COC? ~~Yes~~ No RJC 10-31-19
9. Were correct bottle(s) used for the test(s) indicated? Yes No
10. Sufficient quantity received to perform indicated analyses? Yes No
11. Are these work share samples? ~~Yes~~ No RJC 10-31-19
    If yes, Questions 12-16 have been checked at the originating laboratory.
12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# **HC991818**
13. Were VOAs on the COC? Yes No
14. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this. Yes No NA
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____ Yes No
16. Was a LL Hg or Me Hg trip blank present? _____ Yes No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM Carrie Gamber Date 10/31/19 by AM via Verbal Voice Mail Other Email

Concerning #17

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: AM

Received one extra sample not on CoC: 600-194690-11 (2) will log last pull in.

18. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
Sample(s) _____ were received in a broken container.
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

Eurofins TestAmerica, Houston
6310 Rothway Street
Houston, TX 77040
Phone: 713-690-4444 Fax: 713-690-5646

2.7/3.4

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrier L	Carrier Tracking No(s):	COC No: 600-42431.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com	State of Origin: Texas	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Texas		Job #: 600-194690-1
Address: 4101 Shuffel Street NW, ,	Due Date Requested: 11/8/2019			
City: North Canton	TAT Requested (days):			
State, Zip: OH, 44720				
Phone: 330-497-9396(Tel) 330-497-0772(Fax)	PO #:			
Email:	WO #:			
Project Name: San Jacinto River Waste Pits Superfund	Project #: 18020662			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

C125 W83

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1631E/1631E_Prep	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
INF 4 (600-194690-10)	10/25/19	20:50 Central		Water			X	1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 4

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Sandra Jones	10/31/19 17:00	TAH		11-1-19 1000	ETAC

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Eurofins TestAmerica Canton Sample Receipt Form/Narrative **Login # :**
Canton Facility

Client ETA Houston Site Name
Cooler Received on 11-1-19 Opened on 11-2-19
Cooler unpacked by:
FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time Storage Location

TestAmerica Cooler # 74 Foam Box Client Cooler Box Other
Packing material used: Bubble Wrap Foam Plastic Bag None Other
COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form
   IR GUN# IR-10 (CF +0.7 °C) Observed Cooler Temp. 2.7 °C Corrected Cooler Temp. 3.4 °C
   IR GUN #IR-11 (CF +0.9°C) Observed Cooler Temp. °C Corrected Cooler Temp. °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
   -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
   -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
   -Were tamper/custody seals intact and uncompromised? Yes No NA
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels be reconciled with the COC? Yes No
9. Were correct bottle(s) used for the test(s) indicated? Yes No
10. Sufficient quantity received to perform indicated analyses? Yes No
11. Are these work share samples? Yes No
    If yes, Questions 12-16 have been checked at the originating laboratory.
12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# **HC991818**
13. Were VOAs on the COC? Yes No
14. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this. Yes No NA
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # Yes No
16. Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM Date by via Verbal Voice Mail Other

Concerning

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:

18. SAMPLE CONDITION

Sample(s) were received after the recommended holding time had expired.
Sample(s) were received in a broken container.
Sample(s) were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) were further preserved in the laboratory.
Time preserved: Preservative(s) added/Lot number(s):

VOA Sample Preservation - Date/Time VOAs Frozen:

Eurofins TestAmerica, Houston
6310 Rothway Street
Houston, TX 77040
Phone: 713-690-4444 Fax: 713-690-5646

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrier L	Carrier Tracking No(s):	COC No: 600-42412.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com	State of Origin: Texas	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Texas		Job #: 600-194690-1
Address: 880 Riverside Parkway, ,	Due Date Requested: 11/7/2019			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: San Jacinto River Waste Pits Superfund	Project #: 18020662			
Site:	SSOW#:			

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Full List w/ Totals	Total_TEQ/ Total TEQ Calculation	Total_TEQ	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
1. CEFF (600-194690-1)	10/25/19	19:25 Central		Water			X	X		1	no E flags
FEFF 1 (600-194690-3)	10/26/19	12:45 Central		Water			X	X		2	no E flags
INF 3 (600-194690-8)	10/25/19	13:30 Central		Water			X	X		2	no E flags
INF 3 - DISSOLVED (600-194690-9)	10/25/19	13:30 Central		Water			X		X	2	no E flags
INF 4 (600-194690-10)	10/25/19	20:50 Central		Water			X	X		2	no E flags
INF 4 - DISSOLVED (600-194690-11)	10/26/19	22:10 Central		Water			X		X	2	no E flags
INF 4 - DISSOLVED (600-194690-11MS)	10/26/19	22:10 Central	MS	Water			X			1	no E flags
INF 4 - DISSOLVED (600-194690-11MSD)	10/26/19	22:10 Central	MSD	Water			X			1	no E flags

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 4

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Sandra Jones	10/30/19 16:00	TAH	[illegible]	10/31/19 920	ETA - SOAC
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: 622803 | Cooler Temperature(s) °C and Other Remarks: 1.8°C

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 600-194690-1

Login Number: 194690
List Number: 1
Creator: Taylor, Jacquelyn R

List Source: Eurofins TestAmerica, Houston

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.1, 2.0, 1.3, 1.3, 1.3, 2.6
COC is present.	True	
COC is filled out in ink and legible.	False	Refer to Job Narrative for details.
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Did not receive Trip Blank(s) listed on COC.
Samples are received within Holding Time (excluding tests with immediate HTs)	False	Refer to Job Narrative for details.
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	Refer to Job Narrative for details.
Sample Preservation Verified.	True	pH approx. 2 for acids and 12 for bases
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	Check done at department level as required.

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 600-194690-1

Login Number: 194690
List Number: 3
Creator: Thompson, Sarah W

List Source: Eurofins TestAmerica, Sacramento
List Creation: 10/31/19 04:48 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	622803
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.8c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Environment Testing
TestAmerica

ANALYTICAL REPORT

Job Number: 320-58545-1

Job Description: San Jacinto River Waste Pits Superfund

For:
GHD Services Inc.
5551 Corporate Boulevard
Suite 200
Baton Rouge, LA 70808

Attention: Janie Smith

Approved for release.
Carrie L Gamber
Senior Project Manager
2/25/2020 12:33 PM

Carrie L Gamber, Senior Project Manager
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2428
carrie.gamber@testamericainc.com
02/25/2020

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of TestAmerica and its client. All questions regarding this report should be directed to the TestAmerica Project Manager or designee who has signed this report.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins TestAmerica Project Manager.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Eurofins TestAmerica, Sacramento
880 Riverside Parkway, West Sacramento, CA 95605
Tel (916) 373-5600 Fax (916) 372-1059 www.testamericainc.com

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Definitions/Glossary

Client: GHD Services Inc. Job ID: 320-58545-1
Project/Site: San Jacinto River Waste Pits Superfund

Qualifiers

Dioxin

Qualifier	Qualifier Description
*	Isotope Dilution analyte is outside acceptance limits.
B	Compound was found in the blank and sample.
G	The reported quantitation limit has been raised due to an exhibited elevated noise or matrix interference
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE

Client: GHD Services Inc.

Project: San Jacinto River Waste Pits Superfund

Report Number: 320-58545-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 02/12/2020; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 1.1 C.

NOTE: Results for non-detect PCDD/PCDF analytes are reported using the Estimated Detection Limit (EDL) convention, which provides the lowest possible detection limits for each analyte in each sample based on the magnitude of chromatographic and detector 'noise' at the expected retention time of each analyte. EDL values are typically well below 1 pg/g, and the TEQ-weighted sum of EDL values is below the targeted action limit of 30 pg/g in each reported sample.

DIOXINS
Several analytes were detected in method blank MB 320-357123/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

PERCENT SOLIDS
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 320-58545-1

Client Sample ID: 11187072-Berm-Rock — Lab Sample ID: 320-58545-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDF	0.11	J	1.0	0.042	pg/g	1	☼	1613B	Total/NA
1,2,3,7,8-PeCDD	0.093	J q	5.0	0.061	pg/g	1	☼	1613B	Total/NA
1,2,3,7,8-PeCDF	0.17	J q	5.0	0.047	pg/g	1	☼	1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.24	J B	5.0	0.047	pg/g	1	☼	1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.27	J B	5.0	0.041	pg/g	1	☼	1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.084	J q	5.0	0.044	pg/g	1	☼	1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.59	J	5.0	0.032	pg/g	1	☼	1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.19	J q B	5.0	0.024	pg/g	1	☼	1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.18	J	5.0	0.031	pg/g	1	☼	1613B	Total/NA
OCDD	9.6	J B	10	0.065	pg/g	1	☼	1613B	Total/NA
OCDF	0.57	J B	10	0.045	pg/g	1	☼	1613B	Total/NA
Total TCDF	0.23	J	1.0	0.042	pg/g	1	☼	1613B	Total/NA
Total PeCDD	0.093	J q	5.0	0.061	pg/g	1	☼	1613B	Total/NA
Total PeCDF	0.17	J q	5.0	0.048	pg/g	1	☼	1613B	Total/NA
Total HxCDD	0.24	J B	5.0	0.045	pg/g	1	☼	1613B	Total/NA
Total HxCDF	0.35	J q B	5.0	0.062	pg/g	1	☼	1613B	Total/NA
Total HpCDD	1.3	J B	5.0	0.032	pg/g	1	☼	1613B	Total/NA
Total HpCDF	0.46	J q B	5.0	0.027	pg/g	1	☼	1613B	Total/NA

Client Sample ID: 11187072-Eastern Rock — Lab Sample ID: 320-58545-2

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	0.14	J q	1.0	0.059	pg/g	1	☼	1613B	Total/NA
2,3,7,8-TCDF	0.15	J q	1.0	0.039	pg/g	1	☼	1613B	Total/NA
1,2,3,7,8-PeCDD	0.11	J q	5.2	0.066	pg/g	1	☼	1613B	Total/NA
1,2,3,7,8-PeCDF	0.16	J	5.2	0.056	pg/g	1	☼	1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.27	J B	5.2	0.064	pg/g	1	☼	1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.26	J B	5.2	0.060	pg/g	1	☼	1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.13	J q	5.2	0.056	pg/g	1	☼	1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.18	J q B	5.2	0.051	pg/g	1	☼	1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	4.4	J	5.2	0.099	pg/g	1	☼	1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.27	J B	5.2	0.021	pg/g	1	☼	1613B	Total/NA
OCDD	61	B	10	0.17	pg/g	1	☼	1613B	Total/NA
OCDF	0.58	J B	10	0.053	pg/g	1	☼	1613B	Total/NA
Total TCDD	0.14	J q	1.0	0.059	pg/g	1	☼	1613B	Total/NA
Total TCDF	0.15	J q	1.0	0.039	pg/g	1	☼	1613B	Total/NA
Total PeCDD	0.11	J q	5.2	0.066	pg/g	1	☼	1613B	Total/NA
Total PeCDF	0.16	J	5.2	0.058	pg/g	1	☼	1613B	Total/NA
Total HxCDD	1.1	J q B	5.2	0.060	pg/g	1	☼	1613B	Total/NA
Total HxCDF	0.18	J q B	5.2	0.074	pg/g	1	☼	1613B	Total/NA
Total HpCDD	12	B	5.2	0.099	pg/g	1	☼	1613B	Total/NA
Total HpCDF	0.38	J B	5.2	0.024	pg/g	1	☼	1613B	Total/NA

Client Sample ID: 11187072-Western-Rock — Lab Sample ID: 320-58545-3

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	0.15	J q	1.1	0.054	pg/g	1	☼	1613B	Total/NA
2,3,7,8-TCDF	0.18	J	1.1	0.044	pg/g	1	☼	1613B	Total/NA
1,2,3,7,8-PeCDF	0.13	J q	5.5	0.052	pg/g	1	☼	1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.30	J B	5.5	0.063	pg/g	1	☼	1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.33	J B	5.5	0.058	pg/g	1	☼	1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.26	J	5.5	0.055	pg/g	1	☼	1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: GHD Services Inc.
Job ID: 320-58545-1
Project/Site: San Jacinto River Waste Pits Superfund

Client Sample ID: 11187072-Western-Rock (Continued) — Lab Sample ID: 320-58545-3

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8,9-HxCDF	0.20	J q B	5.5	0.063	pg/g	1	☼	1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	12		5.5	0.18	pg/g	1	☼	1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	1.2	J B	5.5	0.044	pg/g	1	☼	1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.14	J q	5.5	0.055	pg/g	1	☼	1613B	Total/NA
OCDD	160	B	11	0.33	pg/g	1	☼	1613B	Total/NA
OCDF	3.4	J B	11	0.049	pg/g	1	☼	1613B	Total/NA
Total TCDD	0.15	J q	1.1	0.054	pg/g	1	☼	1613B	Total/NA
Total TCDF	0.18	J	1.1	0.044	pg/g	1	☼	1613B	Total/NA
Total PeCDD	0.24	J q	5.5	0.058	pg/g	1	☼	1613B	Total/NA
Total PeCDF	0.13	J q	5.5	0.054	pg/g	1	☼	1613B	Total/NA
Total HxCDD	2.1	J B	5.5	0.059	pg/g	1	☼	1613B	Total/NA
Total HxCDF	0.98	J q B	5.5	0.092	pg/g	1	☼	1613B	Total/NA
Total HpCDD	26	B	5.5	0.18	pg/g	1	☼	1613B	Total/NA
Total HpCDF	3.7	J q B	5.5	0.049	pg/g	1	☼	1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 320-58545-1

Client Sample ID: 11187072-Berm-Rock

Date Collected: 02/11/20 11:00
Date Received: 02/12/20 09:20

Lab Sample ID: 320-58545-1

Matrix: Sediment
Percent Solids: 99.7

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		1.0	0.059	pg/g	☼	02/13/20 08:36	02/20/20 05:29	1
2,3,7,8-TCDF	**0.11**	**J**	1.0	0.042	pg/g	☼	02/13/20 08:36	02/20/20 05:29	1
1,2,3,7,8-PeCDD	**0.093**	**J q**	5.0	0.061	pg/g	☼	02/13/20 08:36	02/20/20 05:29	1
1,2,3,7,8-PeCDF	**0.17**	**J q**	5.0	0.047	pg/g	☼	02/13/20 08:36	02/20/20 05:29	1
2,3,4,7,8-PeCDF	ND		5.0	0.050	pg/g	☼	02/13/20 08:36	02/20/20 05:29	1
1,2,3,4,7,8-HxCDD	**0.24**	**J B**	5.0	0.047	pg/g	☼	02/13/20 08:36	02/20/20 05:29	1
1,2,3,6,7,8-HxCDD	ND		5.0	0.046	pg/g	☼	02/13/20 08:36	02/20/20 05:29	1
1,2,3,7,8,9-HxCDD	ND		5.0	0.042	pg/g	☼	02/13/20 08:36	02/20/20 05:29	1
1,2,3,4,7,8-HxCDF	ND		5.0	0.085	pg/g	☼	02/13/20 08:36	02/20/20 05:29	1
1,2,3,6,7,8-HxCDF	ND		5.0	0.076	pg/g	☼	02/13/20 08:36	02/20/20 05:29	1
1,2,3,7,8,9-HxCDF	**0.27**	**J B**	5.0	0.041	pg/g	☼	02/13/20 08:36	02/20/20 05:29	1
2,3,4,6,7,8-HxCDF	**0.084**	**J q**	5.0	0.044	pg/g	☼	02/13/20 08:36	02/20/20 05:29	1
1,2,3,4,6,7,8-HpCDD	**0.59**	**J**	5.0	0.032	pg/g	☼	02/13/20 08:36	02/20/20 05:29	1
1,2,3,4,6,7,8-HpCDF	**0.19**	**J q B**	5.0	0.024	pg/g	☼	02/13/20 08:36	02/20/20 05:29	1
1,2,3,4,7,8,9-HpCDF	**0.18**	**J**	5.0	0.031	pg/g	☼	02/13/20 08:36	02/20/20 05:29	1
OCDD	**9.6**	**J B**	10	0.065	pg/g	☼	02/13/20 08:36	02/20/20 05:29	1
OCDF	**0.57**	**J B**	10	0.045	pg/g	☼	02/13/20 08:36	02/20/20 05:29	1
Total TCDD	ND		1.0	0.059	pg/g	☼	02/13/20 08:36	02/20/20 05:29	1
Total TCDF	**0.23**	**J**	1.0	0.042	pg/g	☼	02/13/20 08:36	02/20/20 05:29	1
Total PeCDD	**0.093**	**J q**	5.0	0.061	pg/g	☼	02/13/20 08:36	02/20/20 05:29	1
Total PeCDF	**0.17**	**J q**	5.0	0.048	pg/g	☼	02/13/20 08:36	02/20/20 05:29	1
Total HxCDD	**0.24**	**J B**	5.0	0.045	pg/g	☼	02/13/20 08:36	02/20/20 05:29	1
Total HxCDF	**0.35**	**J q B**	5.0	0.062	pg/g	☼	02/13/20 08:36	02/20/20 05:29	1
Total HpCDD	**1.3**	**J B**	5.0	0.032	pg/g	☼	02/13/20 08:36	02/20/20 05:29	1
Total HpCDF	**0.46**	**J q B**	5.0	0.027	pg/g	☼	02/13/20 08:36	02/20/20 05:29	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*66*		*25 - 164*	*02/13/20 08:36*	*02/20/20 05:29*	*1*
13C-2,3,7,8-TCDF	*64*		*24 - 169*	*02/13/20 08:36*	*02/20/20 05:29*	*1*
13C-1,2,3,7,8-PeCDD	*70*		*25 - 181*	*02/13/20 08:36*	*02/20/20 05:29*	*1*
13C-1,2,3,7,8-PeCDF	*70*		*24 - 185*	*02/13/20 08:36*	*02/20/20 05:29*	*1*
13C-2,3,4,7,8-PeCDF	*72*		*21 - 178*	*02/13/20 08:36*	*02/20/20 05:29*	*1*
13C-1,2,3,4,7,8-HxCDD	*64*		*32 - 141*	*02/13/20 08:36*	*02/20/20 05:29*	*1*
13C-1,2,3,6,7,8-HxCDD	*71*		*28 - 130*	*02/13/20 08:36*	*02/20/20 05:29*	*1*
13C-1,2,3,4,7,8-HxCDF	*63*		*26 - 152*	*02/13/20 08:36*	*02/20/20 05:29*	*1*
13C-1,2,3,6,7,8-HxCDF	*66*		*26 - 123*	*02/13/20 08:36*	*02/20/20 05:29*	*1*
13C-1,2,3,7,8,9-HxCDF	*72*		*29 - 147*	*02/13/20 08:36*	*02/20/20 05:29*	*1*
13C-2,3,4,6,7,8-HxCDF	*69*		*28 - 136*	*02/13/20 08:36*	*02/20/20 05:29*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*71*		*23 - 140*	*02/13/20 08:36*	*02/20/20 05:29*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*73*		*28 - 143*	*02/13/20 08:36*	*02/20/20 05:29*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*74*		*26 - 138*	*02/13/20 08:36*	*02/20/20 05:29*	*1*
13C-OCDD	*71*		*17 - 157*	*02/13/20 08:36*	*02/20/20 05:29*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*97*		*35 - 197*	*02/13/20 08:36*	*02/20/20 05:29*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 320-58545-1

Client Sample ID: 11187072-Eastern Rock

Date Collected: 02/11/20 11:00
Date Received: 02/12/20 09:20

Lab Sample ID: 320-58545-2

Matrix: Sediment
Percent Solids: 94.4

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	**0.14**	**J q**	1.0	0.059	pg/g	☼	02/13/20 08:36	02/20/20 06:15	1
2,3,7,8-TCDF	**0.15**	**J q**	1.0	0.039	pg/g	☼	02/13/20 08:36	02/20/20 06:15	1
1,2,3,7,8-PeCDD	**0.11**	**J q**	5.2	0.066	pg/g	☼	02/13/20 08:36	02/20/20 06:15	1
1,2,3,7,8-PeCDF	**0.16**	**J**	5.2	0.056	pg/g	☼	02/13/20 08:36	02/20/20 06:15	1
2,3,4,7,8-PeCDF	ND		5.2	0.060	pg/g	☼	02/13/20 08:36	02/20/20 06:15	1
1,2,3,4,7,8-HxCDD	**0.27**	**J B**	5.2	0.064	pg/g	☼	02/13/20 08:36	02/20/20 06:15	1
1,2,3,6,7,8-HxCDD	**0.26**	**J B**	5.2	0.060	pg/g	☼	02/13/20 08:36	02/20/20 06:15	1
1,2,3,7,8,9-HxCDD	**0.13**	**J q**	5.2	0.056	pg/g	☼	02/13/20 08:36	02/20/20 06:15	1
1,2,3,4,7,8-HxCDF	ND		5.2	0.098	pg/g	☼	02/13/20 08:36	02/20/20 06:15	1
1,2,3,6,7,8-HxCDF	ND		5.2	0.090	pg/g	☼	02/13/20 08:36	02/20/20 06:15	1
1,2,3,7,8,9-HxCDF	**0.18**	**J q B**	5.2	0.051	pg/g	☼	02/13/20 08:36	02/20/20 06:15	1
2,3,4,6,7,8-HxCDF	ND		5.2	0.059	pg/g	☼	02/13/20 08:36	02/20/20 06:15	1
1,2,3,4,6,7,8-HpCDD	**4.4**	**J**	5.2	0.099	pg/g	☼	02/13/20 08:36	02/20/20 06:15	1
1,2,3,4,6,7,8-HpCDF	**0.27**	**J B**	5.2	0.021	pg/g	☼	02/13/20 08:36	02/20/20 06:15	1
1,2,3,4,7,8,9-HpCDF	ND		5.2	0.027	pg/g	☼	02/13/20 08:36	02/20/20 06:15	1
OCDD	**61**	**B**	10	0.17	pg/g	☼	02/13/20 08:36	02/20/20 06:15	1
OCDF	**0.58**	**J B**	10	0.053	pg/g	☼	02/13/20 08:36	02/20/20 06:15	1
Total TCDD	**0.14**	**J q**	1.0	0.059	pg/g	☼	02/13/20 08:36	02/20/20 06:15	1
Total TCDF	**0.15**	**J q**	1.0	0.039	pg/g	☼	02/13/20 08:36	02/20/20 06:15	1
Total PeCDD	**0.11**	**J q**	5.2	0.066	pg/g	☼	02/13/20 08:36	02/20/20 06:15	1
Total PeCDF	**0.16**	**J**	5.2	0.058	pg/g	☼	02/13/20 08:36	02/20/20 06:15	1
Total HxCDD	**1.1**	**J q B**	5.2	0.060	pg/g	☼	02/13/20 08:36	02/20/20 06:15	1
Total HxCDF	**0.18**	**J q B**	5.2	0.074	pg/g	☼	02/13/20 08:36	02/20/20 06:15	1
Total HpCDD	**12**	**B**	5.2	0.099	pg/g	☼	02/13/20 08:36	02/20/20 06:15	1
Total HpCDF	**0.38**	**J B**	5.2	0.024	pg/g	☼	02/13/20 08:36	02/20/20 06:15	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*63*		*25 - 164*	*02/13/20 08:36*	*02/20/20 06:15*	*1*
13C-2,3,7,8-TCDF	*63*		*24 - 169*	*02/13/20 08:36*	*02/20/20 06:15*	*1*
13C-1,2,3,7,8-PeCDD	*65*		*25 - 181*	*02/13/20 08:36*	*02/20/20 06:15*	*1*
13C-1,2,3,7,8-PeCDF	*65*		*24 - 185*	*02/13/20 08:36*	*02/20/20 06:15*	*1*
13C-2,3,4,7,8-PeCDF	*67*		*21 - 178*	*02/13/20 08:36*	*02/20/20 06:15*	*1*
13C-1,2,3,4,7,8-HxCDD	*61*		*32 - 141*	*02/13/20 08:36*	*02/20/20 06:15*	*1*
13C-1,2,3,6,7,8-HxCDD	*65*		*28 - 130*	*02/13/20 08:36*	*02/20/20 06:15*	*1*
13C-1,2,3,4,7,8-HxCDF	*63*		*26 - 152*	*02/13/20 08:36*	*02/20/20 06:15*	*1*
13C-1,2,3,6,7,8-HxCDF	*64*		*26 - 123*	*02/13/20 08:36*	*02/20/20 06:15*	*1*
13C-1,2,3,7,8,9-HxCDF	*68*		*29 - 147*	*02/13/20 08:36*	*02/20/20 06:15*	*1*
13C-2,3,4,6,7,8-HxCDF	*61*		*28 - 136*	*02/13/20 08:36*	*02/20/20 06:15*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*66*		*23 - 140*	*02/13/20 08:36*	*02/20/20 06:15*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*66*		*28 - 143*	*02/13/20 08:36*	*02/20/20 06:15*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*69*		*26 - 138*	*02/13/20 08:36*	*02/20/20 06:15*	*1*
13C-OCDD	*66*		*17 - 157*	*02/13/20 08:36*	*02/20/20 06:15*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*95*		*35 - 197*	*02/13/20 08:36*	*02/20/20 06:15*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 320-58545-1

Client Sample ID: 11187072-Western-Rock

Date Collected: 02/11/20 11:00
Date Received: 02/12/20 09:20

Lab Sample ID: 320-58545-3

Matrix: Sediment
Percent Solids: 94.2

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	**0.15**	**J q**	1.1	0.054	pg/g	☼	02/13/20 08:36	02/20/20 07:01	1
2,3,7,8-TCDF	**0.18**	**J**	1.1	0.044	pg/g	☼	02/13/20 08:36	02/20/20 07:01	1
1,2,3,7,8-PeCDD	ND		5.5	0.058	pg/g	☼	02/13/20 08:36	02/20/20 07:01	1
1,2,3,7,8-PeCDF	**0.13**	**J q**	5.5	0.052	pg/g	☼	02/13/20 08:36	02/20/20 07:01	1
2,3,4,7,8-PeCDF	ND		5.5	0.057	pg/g	☼	02/13/20 08:36	02/20/20 07:01	1
1,2,3,4,7,8-HxCDD	**0.30**	**J B**	5.5	0.063	pg/g	☼	02/13/20 08:36	02/20/20 07:01	1
1,2,3,6,7,8-HxCDD	**0.33**	**J B**	5.5	0.058	pg/g	☼	02/13/20 08:36	02/20/20 07:01	1
1,2,3,7,8,9-HxCDD	**0.26**	**J**	5.5	0.055	pg/g	☼	02/13/20 08:36	02/20/20 07:01	1
1,2,3,4,7,8-HxCDF	ND		5.5	0.13	pg/g	☼	02/13/20 08:36	02/20/20 07:01	1
1,2,3,6,7,8-HxCDF	ND		5.5	0.11	pg/g	☼	02/13/20 08:36	02/20/20 07:01	1
1,2,3,7,8,9-HxCDF	**0.20**	**J q B**	5.5	0.063	pg/g	☼	02/13/20 08:36	02/20/20 07:01	1
2,3,4,6,7,8-HxCDF	ND		5.5	0.068	pg/g	☼	02/13/20 08:36	02/20/20 07:01	1
1,2,3,4,6,7,8-HpCDD	**12**		5.5	0.18	pg/g	☼	02/13/20 08:36	02/20/20 07:01	1
1,2,3,4,6,7,8-HpCDF	**1.2**	**J B**	5.5	0.044	pg/g	☼	02/13/20 08:36	02/20/20 07:01	1
1,2,3,4,7,8,9-HpCDF	**0.14**	**J q**	5.5	0.055	pg/g	☼	02/13/20 08:36	02/20/20 07:01	1
OCDD	**160**	**B**	11	0.33	pg/g	☼	02/13/20 08:36	02/20/20 07:01	1
OCDF	**3.4**	**J B**	11	0.049	pg/g	☼	02/13/20 08:36	02/20/20 07:01	1
Total TCDD	**0.15**	**J q**	1.1	0.054	pg/g	☼	02/13/20 08:36	02/20/20 07:01	1
Total TCDF	**0.18**	**J**	1.1	0.044	pg/g	☼	02/13/20 08:36	02/20/20 07:01	1
Total PeCDD	**0.24**	**J q**	5.5	0.058	pg/g	☼	02/13/20 08:36	02/20/20 07:01	1
Total PeCDF	**0.13**	**J q**	5.5	0.054	pg/g	☼	02/13/20 08:36	02/20/20 07:01	1
Total HxCDD	**2.1**	**J B**	5.5	0.059	pg/g	☼	02/13/20 08:36	02/20/20 07:01	1
Total HxCDF	**0.98**	**J q B**	5.5	0.092	pg/g	☼	02/13/20 08:36	02/20/20 07:01	1
Total HpCDD	**26**	**B**	5.5	0.18	pg/g	☼	02/13/20 08:36	02/20/20 07:01	1
Total HpCDF	**3.7**	**J q B**	5.5	0.049	pg/g	☼	02/13/20 08:36	02/20/20 07:01	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*67*		*25 - 164*	*02/13/20 08:36*	*02/20/20 07:01*	*1*
13C-2,3,7,8-TCDF	*64*		*24 - 169*	*02/13/20 08:36*	*02/20/20 07:01*	*1*
13C-1,2,3,7,8-PeCDD	*69*		*25 - 181*	*02/13/20 08:36*	*02/20/20 07:01*	*1*
13C-1,2,3,7,8-PeCDF	*72*		*24 - 185*	*02/13/20 08:36*	*02/20/20 07:01*	*1*
13C-2,3,4,7,8-PeCDF	*72*		*21 - 178*	*02/13/20 08:36*	*02/20/20 07:01*	*1*
13C-1,2,3,4,7,8-HxCDD	*69*		*32 - 141*	*02/13/20 08:36*	*02/20/20 07:01*	*1*
13C-1,2,3,6,7,8-HxCDD	*72*		*28 - 130*	*02/13/20 08:36*	*02/20/20 07:01*	*1*
13C-1,2,3,4,7,8-HxCDF	*66*		*26 - 152*	*02/13/20 08:36*	*02/20/20 07:01*	*1*
13C-1,2,3,6,7,8-HxCDF	*67*		*26 - 123*	*02/13/20 08:36*	*02/20/20 07:01*	*1*
13C-1,2,3,7,8,9-HxCDF	*73*		*29 - 147*	*02/13/20 08:36*	*02/20/20 07:01*	*1*
13C-2,3,4,6,7,8-HxCDF	*69*		*28 - 136*	*02/13/20 08:36*	*02/20/20 07:01*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*74*		*23 - 140*	*02/13/20 08:36*	*02/20/20 07:01*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*71*		*28 - 143*	*02/13/20 08:36*	*02/20/20 07:01*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*75*		*26 - 138*	*02/13/20 08:36*	*02/20/20 07:01*	*1*
13C-OCDD	*69*		*17 - 157*	*02/13/20 08:36*	*02/20/20 07:01*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*99*		*35 - 197*	*02/13/20 08:36*	*02/20/20 07:01*	*1*

Toxicity Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 320-58545-1

Client Sample ID: 11187072-Berm-Rock — Lab Sample ID: 320-58545-1

Analyte	Result	Qualifier	RL	EDL	Unit	WHO 2005 ND = ½ EDL TEF	TEQ	Method
2,3,7,8-TCDD	ND		1.0	0.059	pg/g	1	0.030	1613B
2,3,7,8-TCDF	**0.11**	**J**	1.0	0.042	pg/g	0.1	**0.011**	1613B
1,2,3,7,8-PeCDD	**0.093**	**J q**	5.0	0.061	pg/g	1	**0.093**	1613B
1,2,3,7,8-PeCDF	**0.17**	**J q**	5.0	0.047	pg/g	0.03	**0.0051**	1613B
2,3,4,7,8-PeCDF	ND		5.0	0.050	pg/g	0.3	0.0075	1613B
1,2,3,4,7,8-HxCDD	**0.24**	**J B**	5.0	0.047	pg/g	0.1	**0.024**	1613B
1,2,3,6,7,8-HxCDD	ND		5.0	0.046	pg/g	0.1	0.0023	1613B
1,2,3,7,8,9-HxCDD	ND		5.0	0.042	pg/g	0.1	0.0021	1613B
1,2,3,4,7,8-HxCDF	ND		5.0	0.085	pg/g	0.1	0.0043	1613B
1,2,3,6,7,8-HxCDF	ND		5.0	0.076	pg/g	0.1	0.0038	1613B
1,2,3,7,8,9-HxCDF	**0.27**	**J B**	5.0	0.041	pg/g	0.1	**0.027**	1613B
2,3,4,6,7,8-HxCDF	**0.084**	**J q**	5.0	0.044	pg/g	0.1	**0.0084**	1613B
1,2,3,4,6,7,8-HpCDD	**0.59**	**J**	5.0	0.032	pg/g	0.01	**0.0059**	1613B
1,2,3,4,6,7,8-HpCDF	**0.19**	**J q B**	5.0	0.024	pg/g	0.01	**0.0019**	1613B
1,2,3,4,7,8,9-HpCDF	**0.18**	**J**	5.0	0.031	pg/g	0.01	**0.0018**	1613B
OCDD	**9.6**	**J B**	10	0.065	pg/g	0.0003	**0.0029**	1613B
OCDF	**0.57**	**J B**	10	0.045	pg/g	0.0003	**0.00017**	1613B

Analyte	Result	Qualifier	NONE	NONE	Unit	WHO 2005 ND = ½ EDL TEF	TEQ	Method
Total Dioxin/Furan TEQ					pg/g		0.23	TEQ

Client Sample ID: 11187072-Eastern Rock — Lab Sample ID: 320-58545-2

Analyte	Result	Qualifier	RL	EDL	Unit	WHO 2005 ND = ½ EDL TEF	TEQ	Method
2,3,7,8-TCDD	**0.14**	**J q**	1.0	0.059	pg/g	1	**0.14**	1613B
2,3,7,8-TCDF	**0.15**	**J q**	1.0	0.039	pg/g	0.1	**0.015**	1613B
1,2,3,7,8-PeCDD	**0.11**	**J q**	5.2	0.066	pg/g	1	**0.11**	1613B
1,2,3,7,8-PeCDF	**0.16**	**J**	5.2	0.056	pg/g	0.03	**0.0048**	1613B
2,3,4,7,8-PeCDF	ND		5.2	0.060	pg/g	0.3	0.0090	1613B
1,2,3,4,7,8-HxCDD	**0.27**	**J B**	5.2	0.064	pg/g	0.1	**0.027**	1613B
1,2,3,6,7,8-HxCDD	**0.26**	**J B**	5.2	0.060	pg/g	0.1	**0.026**	1613B
1,2,3,7,8,9-HxCDD	**0.13**	**J q**	5.2	0.056	pg/g	0.1	**0.013**	1613B
1,2,3,4,7,8-HxCDF	ND		5.2	0.098	pg/g	0.1	0.0049	1613B
1,2,3,6,7,8-HxCDF	ND		5.2	0.090	pg/g	0.1	0.0045	1613B
1,2,3,7,8,9-HxCDF	**0.18**	**J q B**	5.2	0.051	pg/g	0.1	**0.018**	1613B
2,3,4,6,7,8-HxCDF	ND		5.2	0.059	pg/g	0.1	0.0030	1613B
1,2,3,4,6,7,8-HpCDD	**4.4**	**J**	5.2	0.099	pg/g	0.01	**0.044**	1613B
1,2,3,4,6,7,8-HpCDF	**0.27**	**J B**	5.2	0.021	pg/g	0.01	**0.0027**	1613B
1,2,3,4,7,8,9-HpCDF	ND		5.2	0.027	pg/g	0.01	0.00014	1613B
OCDD	**61**	**B**	10	0.17	pg/g	0.0003	**0.018**	1613B
OCDF	**0.58**	**J B**	10	0.053	pg/g	0.0003	**0.00017**	1613B

TEF Reference:

WHO 2005 = World Health Organization (WHO) 2005 TEF, Dioxins, Furans and PCB Congeners

Note: The analytes PCB-156 and PCB-157 coelute as a single peak.

Toxicity Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 320-58545-1

Client Sample ID: 11187072-Eastern Rock (Continued) — Lab Sample ID: 320-58545-2

Analyte	Result	Qualifier	NONE	NONE	Unit	WHO 2005 ND = ½ EDL TEF	TEQ	Method
Total Dioxin/Furan TEQ					pg/g		0.44	TEQ

Client Sample ID: 11187072-Western-Rock — Lab Sample ID: 320-58545-3

Analyte	Result	Qualifier	RL	EDL	Unit	WHO 2005 ND = ½ EDL TEF	TEQ	Method
2,3,7,8-TCDD	**0.15**	**J q**	1.1	0.054	pg/g	1	**0.15**	1613B
2,3,7,8-TCDF	**0.18**	**J**	1.1	0.044	pg/g	0.1	**0.018**	1613B
1,2,3,7,8-PeCDD	ND		5.5	0.058	pg/g	1	0.029	1613B
1,2,3,7,8-PeCDF	**0.13**	**J q**	5.5	0.052	pg/g	0.03	**0.0039**	1613B
2,3,4,7,8-PeCDF	ND		5.5	0.057	pg/g	0.3	0.0086	1613B
1,2,3,4,7,8-HxCDD	**0.30**	**J B**	5.5	0.063	pg/g	0.1	**0.030**	1613B
1,2,3,6,7,8-HxCDD	**0.33**	**J B**	5.5	0.058	pg/g	0.1	**0.033**	1613B
1,2,3,7,8,9-HxCDD	**0.26**	**J**	5.5	0.055	pg/g	0.1	**0.026**	1613B
1,2,3,4,7,8-HxCDF	ND		5.5	0.13	pg/g	0.1	0.0065	1613B
1,2,3,6,7,8-HxCDF	ND		5.5	0.11	pg/g	0.1	0.0055	1613B
1,2,3,7,8,9-HxCDF	**0.20**	**J q B**	5.5	0.063	pg/g	0.1	**0.020**	1613B
2,3,4,6,7,8-HxCDF	ND		5.5	0.068	pg/g	0.1	0.0034	1613B
1,2,3,4,6,7,8-HpCDD	**12**		5.5	0.18	pg/g	0.01	**0.12**	1613B
1,2,3,4,6,7,8-HpCDF	**1.2**	**J B**	5.5	0.044	pg/g	0.01	**0.012**	1613B
1,2,3,4,7,8,9-HpCDF	**0.14**	**J q**	5.5	0.055	pg/g	0.01	**0.0014**	1613B
OCDD	**160**	**B**	11	0.33	pg/g	0.0003	**0.048**	1613B
OCDF	**3.4**	**J B**	11	0.049	pg/g	0.0003	**0.0010**	1613B

Analyte	Result	Qualifier	NONE	NONE	Unit	WHO 2005 ND = ½ EDL TEF	TEQ	Method
Total Dioxin/Furan TEQ					pg/g		0.52	TEQ

TEF Reference:

WHO 2005 = World Health Organization (WHO) 2005 TEF, Dioxins, Furans and PCB Congeners

Note: The analytes PCB-156 and PCB-157 coelute as a single peak.

Default Detection Limits

Client: GHD Services Inc.
Job ID: 320-58545-1
Project/Site: San Jacinto River Waste Pits Superfund

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Prep: HRMS-Sox

Analyte	RL		Units
1,2,3,4,6,7,8-HpCDD	5.0		pg/g
1,2,3,4,6,7,8-HpCDF	5.0		pg/g
1,2,3,4,7,8,9-HpCDF	5.0		pg/g
1,2,3,4,7,8-HxCDD	5.0		pg/g
1,2,3,4,7,8-HxCDF	5.0		pg/g
1,2,3,6,7,8-HxCDD	5.0		pg/g
1,2,3,6,7,8-HxCDF	5.0		pg/g
1,2,3,7,8,9-HxCDD	5.0		pg/g
1,2,3,7,8,9-HxCDF	5.0		pg/g
1,2,3,7,8-PeCDD	5.0		pg/g
1,2,3,7,8-PeCDF	5.0		pg/g
2,3,4,6,7,8-HxCDF	5.0		pg/g
2,3,4,7,8-PeCDF	5.0		pg/g
2,3,7,8-TCDD	1.0		pg/g
2,3,7,8-TCDF	1.0		pg/g
OCDD	10		pg/g
OCDF	10		pg/g
Total HpCDD	5.0		pg/g
Total HpCDF	5.0		pg/g
Total HxCDD	5.0		pg/g
Total HxCDF	5.0		pg/g
Total PeCDD	5.0		pg/g
Total PeCDF	5.0		pg/g
Total TCDD	1.0		pg/g
Total TCDF	1.0		pg/g

Surrogate Summary

Client: GHD Services Inc.
Job ID: 320-58545-1
Project/Site: San Jacinto River Waste Pits Superfund

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Sediment **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	**Client Sample ID**	**37TCDD (35-197)**							
320-58545-1	11187072-Berm-Rock	97							
320-58545-2	11187072-Eastern Rock	95							
320-58545-3	11187072-Western-Rock	99							
MB 320-357123/1-A	Method Blank	97							

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Sediment **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	**Client Sample ID**	**37TCDD (31-191)**							
LCS 320-357123/2-A	Lab Control Sample	96							

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 320-58545-1

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Sediment **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		TCDD	TCDF	PeCDD	PeCDF	PeCF	HxCDD	HxDD	HxCDF
Lab Sample ID	Client Sample ID	(25-164)	(24-169)	(25-181)	(24-185)	(21-178)	(32-141)	(28-130)	(26-152)
320-58545-1	11187072-Berm-Rock	66	64	70	70	72	64	71	63
320-58545-2	11187072-Eastern Rock	63	63	65	65	67	61	65	63
320-58545-3	11187072-Western-Rock	67	64	69	72	72	69	72	66
MB 320-357123/1-A	Method Blank	67	64	61	64	68	64	73	66

		Percent Isotope Dilution Recovery (Acceptance Limits)						
		HxDF	HxCF	13CHxCF	HpCDD	HpCDF	HpCDF2	OCDD
Lab Sample ID	Client Sample ID	(26-123)	(29-147)	(28-136)	(23-140)	(28-143)	(26-138)	(17-157)
320-58545-1	11187072-Berm-Rock	66	72	69	71	73	74	71
320-58545-2	11187072-Eastern Rock	64	68	61	66	66	69	66
320-58545-3	11187072-Western-Rock	67	73	69	74	71	75	69
MB 320-357123/1-A	Method Blank	67	70	68	73	72	75	74

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Sediment **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		TCDD	TCDF	PeCDD	PeCDF	PeCF	HxCDD	HxDD	HxCDF
Lab Sample ID	Client Sample ID	(20-175)	(22-152)	(21-227)	(21-192)	(13-328)	(21-193)	(25-163)	(19-202)
LCS 320-357123/2-A	Lab Control Sample	59	57	60	60	61	61	67	61

		Percent Isotope Dilution Recovery (Acceptance Limits)						
		HxDF	HxCF	13CHxCF	HpCDD	HpCDF	HpCDF2	OCDD
Lab Sample ID	Client Sample ID	(21-159)	(17-205)	(22-176)	(26-166)	(21-158)	(20-186)	(13-199)
LCS 320-357123/2-A	Lab Control Sample	60	63	65	66	65	66	65

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF

Isotope Dilution Summary

Client: GHD Services Inc. Job ID: 320-58545-1

Project/Site: San Jacinto River Waste Pits Superfund

HxDF = 13C-1,2,3,6,7,8-HxCDF

HxCF = 13C-1,2,3,7,8,9-HxCDF

13CHxCF = 13C-2,3,4,6,7,8-HxCDF

HpCDD = 13C-1,2,3,4,6,7,8-HpCDD

HpCDF = 13C-1,2,3,4,6,7,8-HpCDF

HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF

OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-357123/1-A
Matrix: Sediment
Analysis Batch: 358703

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 357123

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		1.0	0.071	pg/g		02/13/20 08:36	02/20/20 00:07	1
2,3,7,8-TCDF	ND		1.0	0.040	pg/g		02/13/20 08:36	02/20/20 00:07	1
1,2,3,7,8-PeCDD	ND		5.0	0.089	pg/g		02/13/20 08:36	02/20/20 00:07	1
1,2,3,7,8-PeCDF	ND		5.0	0.058	pg/g		02/13/20 08:36	02/20/20 00:07	1
2,3,4,7,8-PeCDF	ND		5.0	0.061	pg/g		02/13/20 08:36	02/20/20 00:07	1
1,2,3,4,7,8-HxCDD	0.222	J	5.0	0.046	pg/g		02/13/20 08:36	02/20/20 00:07	1
1,2,3,6,7,8-HxCDD	0.110	J	5.0	0.044	pg/g		02/13/20 08:36	02/20/20 00:07	1
1,2,3,7,8,9-HxCDD	ND		5.0	0.041	pg/g		02/13/20 08:36	02/20/20 00:07	1
1,2,3,4,7,8-HxCDF	ND		5.0	0.10	pg/g		02/13/20 08:36	02/20/20 00:07	1
1,2,3,6,7,8-HxCDF	ND		5.0	0.091	pg/g		02/13/20 08:36	02/20/20 00:07	1
1,2,3,7,8,9-HxCDF	0.0929	J q	5.0	0.050	pg/g		02/13/20 08:36	02/20/20 00:07	1
2,3,4,6,7,8-HxCDF	ND		5.0	0.055	pg/g		02/13/20 08:36	02/20/20 00:07	1
1,2,3,4,6,7,8-HpCDD	ND		5.0	0.035	pg/g		02/13/20 08:36	02/20/20 00:07	1
1,2,3,4,6,7,8-HpCDF	0.229	J	5.0	0.024	pg/g		02/13/20 08:36	02/20/20 00:07	1
1,2,3,4,7,8,9-HpCDF	ND		5.0	0.031	pg/g		02/13/20 08:36	02/20/20 00:07	1
OCDD	0.564	J	10	0.039	pg/g		02/13/20 08:36	02/20/20 00:07	1
OCDF	0.431	J	10	0.055	pg/g		02/13/20 08:36	02/20/20 00:07	1
Total TCDD	ND		1.0	0.071	pg/g		02/13/20 08:36	02/20/20 00:07	1
Total TCDF	ND		1.0	0.040	pg/g		02/13/20 08:36	02/20/20 00:07	1
Total PeCDD	ND		5.0	0.089	pg/g		02/13/20 08:36	02/20/20 00:07	1
Total PeCDF	ND		5.0	0.061	pg/g		02/13/20 08:36	02/20/20 00:07	1
Total HxCDD	0.331	J	5.0	0.044	pg/g		02/13/20 08:36	02/20/20 00:07	1
Total HxCDF	0.0929	J q	5.0	0.074	pg/g		02/13/20 08:36	02/20/20 00:07	1
Total HpCDD	0.137	J	5.0	0.035	pg/g		02/13/20 08:36	02/20/20 00:07	1
Total HpCDF	0.229	J	5.0	0.027	pg/g		02/13/20 08:36	02/20/20 00:07	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*67*		*25 - 164*	*02/13/20 08:36*	*02/20/20 00:07*	*1*
13C-2,3,7,8-TCDF	*64*		*24 - 169*	*02/13/20 08:36*	*02/20/20 00:07*	*1*
13C-1,2,3,7,8-PeCDD	*61*		*25 - 181*	*02/13/20 08:36*	*02/20/20 00:07*	*1*
13C-1,2,3,7,8-PeCDF	*64*		*24 - 185*	*02/13/20 08:36*	*02/20/20 00:07*	*1*
13C-2,3,4,7,8-PeCDF	*68*		*21 - 178*	*02/13/20 08:36*	*02/20/20 00:07*	*1*
13C-1,2,3,4,7,8-HxCDD	*64*		*32 - 141*	*02/13/20 08:36*	*02/20/20 00:07*	*1*
13C-1,2,3,6,7,8-HxCDD	*73*		*28 - 130*	*02/13/20 08:36*	*02/20/20 00:07*	*1*
13C-1,2,3,4,7,8-HxCDF	*66*		*26 - 152*	*02/13/20 08:36*	*02/20/20 00:07*	*1*
13C-1,2,3,6,7,8-HxCDF	*67*		*26 - 123*	*02/13/20 08:36*	*02/20/20 00:07*	*1*
13C-1,2,3,7,8,9-HxCDF	*70*		*29 - 147*	*02/13/20 08:36*	*02/20/20 00:07*	*1*
13C-2,3,4,6,7,8-HxCDF	*68*		*28 - 136*	*02/13/20 08:36*	*02/20/20 00:07*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*73*		*23 - 140*	*02/13/20 08:36*	*02/20/20 00:07*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*72*		*28 - 143*	*02/13/20 08:36*	*02/20/20 00:07*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*75*		*26 - 138*	*02/13/20 08:36*	*02/20/20 00:07*	*1*
13C-OCDD	*74*		*17 - 157*	*02/13/20 08:36*	*02/20/20 00:07*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*97*		*35 - 197*	*02/13/20 08:36*	*02/20/20 00:07*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-357123/2-A **Client Sample ID: Lab Control Sample**
Matrix: Sediment **Prep Type: Total/NA**
Analysis Batch: 358703 **Prep Batch: 357123**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	20.0	19.4		pg/g		97	67 - 158
2,3,7,8-TCDF	20.0	19.3		pg/g		96	75 - 158
1,2,3,7,8-PeCDD	100	105		pg/g		105	70 - 142
1,2,3,7,8-PeCDF	100	100		pg/g		100	80 - 134
2,3,4,7,8-PeCDF	100	102		pg/g		102	68 - 160
1,2,3,4,7,8-HxCDD	100	98.6		pg/g		99	70 - 164
1,2,3,6,7,8-HxCDD	100	102		pg/g		102	76 - 134
1,2,3,7,8,9-HxCDD	100	99.3		pg/g		99	64 - 162
1,2,3,4,7,8-HxCDF	100	95.7		pg/g		96	72 - 134
1,2,3,6,7,8-HxCDF	100	98.9		pg/g		99	84 - 130
1,2,3,7,8,9-HxCDF	100	98.9		pg/g		99	78 - 130
2,3,4,6,7,8-HxCDF	100	97.4		pg/g		97	70 - 156
1,2,3,4,6,7,8-HpCDD	100	101		pg/g		101	70 - 140
1,2,3,4,6,7,8-HpCDF	100	103		pg/g		103	82 - 122
1,2,3,4,7,8,9-HpCDF	100	103		pg/g		103	78 - 138
OCDD	200	211		pg/g		106	78 - 144
OCDF	200	209		pg/g		105	63 - 170

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*59*		*20 - 175*
13C-2,3,7,8-TCDF	*57*		*22 - 152*
13C-1,2,3,7,8-PeCDD	*60*		*21 - 227*
13C-1,2,3,7,8-PeCDF	*60*		*21 - 192*
13C-2,3,4,7,8-PeCDF	*61*		*13 - 328*
13C-1,2,3,4,7,8-HxCDD	*61*		*21 - 193*
13C-1,2,3,6,7,8-HxCDD	*67*		*25 - 163*
13C-1,2,3,4,7,8-HxCDF	*61*		*19 - 202*
13C-1,2,3,6,7,8-HxCDF	*60*		*21 - 159*
13C-1,2,3,7,8,9-HxCDF	*63*		*17 - 205*
13C-2,3,4,6,7,8-HxCDF	*65*		*22 - 176*
13C-1,2,3,4,6,7,8-HpCDD	*66*		*26 - 166*
13C-1,2,3,4,6,7,8-HpCDF	*65*		*21 - 158*
13C-1,2,3,4,7,8,9-HpCDF	*66*		*20 - 186*
13C-OCDD	*65*		*13 - 199*

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
37Cl4-2,3,7,8-TCDD	*96*		*31 - 191*

QC Association Summary

Client: GHD Services Inc.
Job ID: 320-58545-1
Project/Site: San Jacinto River Waste Pits Superfund

Specialty Organics

Prep Batch: 357123

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-58545-1	11187072-Berm-Rock	Total/NA	Sediment	HRMS-Sox	
320-58545-2	11187072-Eastern Rock	Total/NA	Sediment	HRMS-Sox	
320-58545-3	11187072-Western-Rock	Total/NA	Sediment	HRMS-Sox	
MB 320-357123/1-A	Method Blank	Total/NA	Sediment	HRMS-Sox	
LCS 320-357123/2-A	Lab Control Sample	Total/NA	Sediment	HRMS-Sox	

Analysis Batch: 358703

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-58545-1	11187072-Berm-Rock	Total/NA	Sediment	1613B	357123
320-58545-2	11187072-Eastern Rock	Total/NA	Sediment	1613B	357123
320-58545-3	11187072-Western-Rock	Total/NA	Sediment	1613B	357123
MB 320-357123/1-A	Method Blank	Total/NA	Sediment	1613B	357123
LCS 320-357123/2-A	Lab Control Sample	Total/NA	Sediment	1613B	357123

General Chemistry

Analysis Batch: 357523

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-58545-1	11187072-Berm-Rock	Total/NA	Sediment	D 2216	
320-58545-2	11187072-Eastern Rock	Total/NA	Sediment	D 2216	
320-58545-3	11187072-Western-Rock	Total/NA	Sediment	D 2216	
320-58545-1 DU	11187072-Berm-Rock	Total/NA	Sediment	D 2216	

Lab Chronicle

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 320-58545-1

Client Sample ID: 11187072-Berm-Rock — Lab Sample ID: 320-58545-1

Date Collected: 02/11/20 11:00 — **Matrix: Sediment**
Date Received: 02/12/20 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	357523	02/14/20 13:45	CFR	TAL SAC

Client Sample ID: 11187072-Berm-Rock — Lab Sample ID: 320-58545-1

Date Collected: 02/11/20 11:00 — **Matrix: Sediment**
Date Received: 02/12/20 09:20 — **Percent Solids: 99.7**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	HRMS-Sox			357123	02/13/20 08:36	FC	TAL SAC
Total/NA	Analysis	1613B		1	358703	02/20/20 05:29	AS	TAL SAC

Client Sample ID: 11187072-Eastern Rock — Lab Sample ID: 320-58545-2

Date Collected: 02/11/20 11:00 — **Matrix: Sediment**
Date Received: 02/12/20 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	357523	02/14/20 13:45	CFR	TAL SAC

Client Sample ID: 11187072-Eastern Rock — Lab Sample ID: 320-58545-2

Date Collected: 02/11/20 11:00 — **Matrix: Sediment**
Date Received: 02/12/20 09:20 — **Percent Solids: 94.4**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	HRMS-Sox			357123	02/13/20 08:36	FC	TAL SAC
Total/NA	Analysis	1613B		1	358703	02/20/20 06:15	AS	TAL SAC

Client Sample ID: 11187072-Western-Rock — Lab Sample ID: 320-58545-3

Date Collected: 02/11/20 11:00 — **Matrix: Sediment**
Date Received: 02/12/20 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	357523	02/14/20 13:45	CFR	TAL SAC

Client Sample ID: 11187072-Western-Rock — Lab Sample ID: 320-58545-3

Date Collected: 02/11/20 11:00 — **Matrix: Sediment**
Date Received: 02/12/20 09:20 — **Percent Solids: 94.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	HRMS-Sox			357123	02/13/20 08:36	FC	TAL SAC
Total/NA	Analysis	1613B		1	358703	02/20/20 07:01	AS	TAL SAC

Laboratory References:

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GHD Services Inc. Job ID: 320-58545-1
Project/Site: San Jacinto River Waste Pits Superfund

Laboratory: Eurofins TestAmerica, Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704399-19-13	05-31-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1613B	HRMS-Sox	Sediment	1,2,3,4,6,7,8-HpCDD
1613B	HRMS-Sox	Sediment	1,2,3,4,6,7,8-HpCDF
1613B	HRMS-Sox	Sediment	1,2,3,4,7,8,9-HpCDF
1613B	HRMS-Sox	Sediment	1,2,3,4,7,8-HxCDD
1613B	HRMS-Sox	Sediment	1,2,3,4,7,8-HxCDF
1613B	HRMS-Sox	Sediment	1,2,3,6,7,8-HxCDD
1613B	HRMS-Sox	Sediment	1,2,3,6,7,8-HxCDF
1613B	HRMS-Sox	Sediment	1,2,3,7,8,9-HxCDD
1613B	HRMS-Sox	Sediment	1,2,3,7,8,9-HxCDF
1613B	HRMS-Sox	Sediment	1,2,3,7,8-PeCDD
1613B	HRMS-Sox	Sediment	1,2,3,7,8-PeCDF
1613B	HRMS-Sox	Sediment	2,3,4,6,7,8-HxCDF
1613B	HRMS-Sox	Sediment	2,3,4,7,8-PeCDF
1613B	HRMS-Sox	Sediment	2,3,7,8-TCDD
1613B	HRMS-Sox	Sediment	2,3,7,8-TCDF
1613B	HRMS-Sox	Sediment	OCDD
1613B	HRMS-Sox	Sediment	OCDF
1613B	HRMS-Sox	Sediment	Total HpCDD
1613B	HRMS-Sox	Sediment	Total HpCDF
1613B	HRMS-Sox	Sediment	Total HxCDD
1613B	HRMS-Sox	Sediment	Total HxCDF
1613B	HRMS-Sox	Sediment	Total PeCDD
1613B	HRMS-Sox	Sediment	Total PeCDF
1613B	HRMS-Sox	Sediment	Total TCDD
1613B	HRMS-Sox	Sediment	Total TCDF
D 2216		Sediment	Percent Moisture
D 2216		Sediment	Percent Solids
TEQ		Sediment	Total Dioxin/Furan TEQ

Laboratory: Eurofins TestAmerica, Pittsburgh

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704528	03-31-20

Method Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 320-58545-1

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	40CFR136A	TAL SAC
TEQ	Total TEQ Calculation	TAL SOP	TAL SAC
D 2216	Percent Moisture	ASTM	TAL SAC
HRMS-Sox	Soxhlet Extraction	EPA	TAL SAC

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
ASTM = ASTM International

EPA = US Environmental Protection Agency

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GHD Services Inc.
Job ID: 320-58545-1
Project/Site: San Jacinto River Waste Pits Superfund

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
320-58545-1	11187072-Berm-Rock	Sediment	02/11/20 11:00	02/12/20 09:20	
320-58545-2	11187072-Eastern Rock	Sediment	02/11/20 11:00	02/12/20 09:20	
320-58545-3	11187072-Western-Rock	Sediment	02/11/20 11:00	02/12/20 09:20	

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Sacram Job No.: 320-58545-1

SDG No.:

Instrument ID: 10D5 Analysis Batch Number: 353986

Lab Sample ID: IC 320-353986/5 Client Sample ID:

Date Analyzed: 01/30/20 02:35 Lab File ID: 29JA20B10D5_5.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
13C-2,3,4,7,8-PeCDF	23.04	Peak assignment corrected	arghestanis	01/30/20 08:35
13C-1,2,3,4,7,8-HxCDD	31.32	Peak assignment corrected	arghestanis	01/30/20 08:36
13C-1,2,3,4,7,8,9-HpCDF	34.57	Peak assignment corrected	arghestanis	01/30/20 08:36

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Sacram Job No.: 320-58545-1

SDG No.:

Instrument ID: 10D5 Analysis Batch Number: 358703

Lab Sample ID: MB 320-357123/1-A Client Sample ID:

Date Analyzed: 02/20/20 00:07 Lab File ID: 18FE2010D5_44.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,4,7,8-HxCDD	31.10	Split Peak	dadunj	02/21/20 09:45
1,2,3,6,7,8-HxCDD	31.20	Invalid Compound ID	dadunj	02/21/20 09:45
1,2,3,7,8,9-HxCDF	31.82	Baseline	dadunj	02/21/20 09:45
1,2,3,4,6,7,8-HpCDF	33.39	Split Peak	dadunj	02/21/20 09:47
OCDF	36.52	Split Peak	dadunj	02/21/20 09:48

Lab Sample ID: 320-58545-1 Client Sample ID: 11187072-Berm-Rock

Date Analyzed: 02/20/20 05:29 Lab File ID: 18FE2010D5_51.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,6,7,8-HxCDD		Invalid Compound ID	dadunj	02/21/20 10:19
1,2,3,7,8-PeCDD	23.40	Split Peak	dadunj	02/21/20 10:19
1,2,3,4,7,8-HxCDD	31.10	Split Peak	dadunj	02/21/20 10:19
1,2,3,7,8,9-HxCDF	31.82	Split Peak	dadunj	02/21/20 10:19
1,2,3,4,6,7,8-HpCDD	34.17	Split Peak	dadunj	02/21/20 10:20
1,2,3,4,7,8,9-HpCDF	34.43	Split Peak	dadunj	02/21/20 10:20
OCDF	36.52	Split Peak	dadunj	02/21/20 10:20

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Sacram Job No.: 320-58545-1

SDG No.:

Instrument ID: 10D5 Analysis Batch Number: 358703

Lab Sample ID: 320-58545-2 Client Sample ID: 11187072-Eastern Rock

Date Analyzed: 02/20/20 06:15 Lab File ID: 18FE2010D5_52.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,3,7,8-TCDF	16.72	Split Peak	dadunj	02/21/20 10:21
2,3,7,8-TCDD	17.40	Split Peak	dadunj	02/21/20 10:21
1,2,3,7,8-PeCDF	21.46	Split Peak	dadunj	02/21/20 10:22
1,2,3,7,8-PeCDD	23.38	Split Peak	dadunj	02/21/20 10:22
1,2,3,4,7,8-HxCDD	31.07	Split Peak	dadunj	02/21/20 10:22
1,2,3,6,7,8-HxCDD	31.20	Invalid Compound ID	dadunj	02/21/20 10:22
1,2,3,7,8,9-HxCDD	31.59	Split Peak	dadunj	02/21/20 10:22
1,2,3,7,8,9-HxCDF	31.80	Split Peak	dadunj	02/21/20 10:22
1,2,3,4,6,7,8-HpCDF	33.38	Split Peak	dadunj	02/21/20 10:23
1,2,3,4,6,7,8-HpCDD	34.15	Split Peak	dadunj	02/21/20 10:23
OCDF	36.51	Split Peak	dadunj	02/21/20 10:23

Lab Sample ID: 320-58545-3 Client Sample ID: 11187072-Western-Rock

Date Analyzed: 02/20/20 07:01 Lab File ID: 18FE2010D5_53.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,7,8-PeCDD		Invalid Compound ID	dadunj	02/21/20 10:25
2,3,7,8-TCDF	16.73	Baseline	dadunj	02/21/20 10:24
2,3,7,8-TCDD	17.40	Baseline	dadunj	02/21/20 10:24
1,2,3,4,7,8-HxCDD	31.07	Invalid Compound ID	dadunj	02/21/20 10:26
1,2,3,6,7,8-HxCDD	31.22	Invalid Compound ID	dadunj	02/21/20 10:26
1,2,3,7,8,9-HxCDD	31.59	Split Peak	dadunj	02/21/20 10:26

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58545-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
HRDXNCP_00040	08/30/20	08/30/19	C14, Lot STBH7678	6 mL	HRDXNCP_00039	1.2 mL	1,2,3,4,6,7,9-HpCDD	40 pg/uL
							1,2,3,4,6,7-HxCDD	40 pg/uL
							1,2,3,4,6,8-HxCDF	40 pg/uL
							1,2,3,4,8,9-HxCDF	40 pg/uL
							1,2,3,7-TCDD	40 pg/uL
							1,2,3,8,9-PeCDD	40 pg/uL
							1,2,3,8,9-PeCDF	40 pg/uL
							1,2,3,9-TCDD	40 pg/uL
							1,2,3,9-TCDF	40 pg/uL
							1,2,4,6,7,9-HxCDD	40 pg/uL
							1,2,4,7,9-PeCDD	40 pg/uL
							1,2,8,9-TCDD	40 pg/uL
							1,2,8,9-TCDF	40 pg/uL
							1,3,4,6,8-PeCDF	40 pg/uL
							1,3,6,8-TCDD	40 pg/uL
							1,3,6,8-TCDF	40 pg/uL
							13C-2,3,7,8-TCDD	40 pg/uL
							13C-2,3,7,8-TCDF	40 pg/uL
							2,3,4,7-TCDF	40 pg/uL
							2,3,7,8-TCDD	40 pg/uL
							2,3,7,8-TCDF	40 pg/uL
.HRDXNCP_00039	03/31/25		CIL, Lot ER03111502		(Purchased Reagent)		1,2,3,4,6,7,9-HpCDD	200 ng/mL
							1,2,3,4,6,7-HxCDD	200 ng/mL
							1,2,3,4,6,8-HxCDF	200 ng/mL
							1,2,3,4,8,9-HxCDF	200 ng/mL
							1,2,3,7-TCDD	200 ng/mL
							1,2,3,8,9-PeCDD	200 ng/mL
							1,2,3,8,9-PeCDF	200 ng/mL
							1,2,3,9-TCDD	200 ng/mL
							1,2,3,9-TCDF	200 ng/mL
							1,2,4,6,7,9-HxCDD	200 ng/mL
							1,2,4,7,9-PeCDD	200 ng/mL
							1,2,8,9-TCDD	200 ng/mL
							1,2,8,9-TCDF	200 ng/mL
							1,3,4,6,8-PeCDF	200 ng/mL
							1,3,6,8-TCDD	200 ng/mL
							1,3,6,8-TCDF	200 ng/mL
							13C-2,3,7,8-TCDD	200 ng/mL
							13C-2,3,7,8-TCDF	200 ng/mL
							2,3,4,7-TCDF	200 ng/mL
							2,3,7,8-TCDD	200 ng/mL
							2,3,7,8-TCDF	200 ng/mL
HRDXNIC_00043	07/31/20	01/22/20	C14, Lot STBJ0716	0.5 mL	HRDXNIDA_00303	0.125 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.25 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58545-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNSU_00229	0.05 mL	37Cl4-2,3,7,8-TCDD	40 ng/mL
					HRDXNTA_00103	0.5 mL	1,2,3,4,6,7,8-HpCDD	200 ng/mL
							1,2,3,4,6,7,8-HpCDF	200 ng/mL
							1,2,3,4,7,8,9-HpCDF	200 ng/mL
							1,2,3,4,7,8-HxCDD	200 ng/mL
							1,2,3,4,7,8-HxCDF	200 ng/mL
							1,2,3,6,7,8-HxCDD	200 ng/mL
							1,2,3,6,7,8-HxCDF	200 ng/mL
							1,2,3,7,8,9-HxCDD	200 ng/mL
							1,2,3,7,8,9-HxCDF	200 ng/mL
							1,2,3,7,8-PeCDD	200 ng/mL
							1,2,3,7,8-PeCDF	200 ng/mL
							2,3,4,6,7,8-HxCDF	200 ng/mL
							2,3,4,7,8-PeCDF	200 ng/mL
							2,3,7,8-TCDD	40 ng/mL
							2,3,7,8-TCDF	40 ng/mL
							OCDD	400 ng/mL
							OCDF	400 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58545-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNSU_00229	07/31/25	01/08/20	Isooctane, Lot 0000221197	25 mL	HRDXNSU_00228	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00228	07/31/25	01/08/20	Isooctane, Lot 0000221197	10 mL	HRDXNSU_00211	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00211	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00103	03/01/25	Wellington Labs, Lot 13PAR0418			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	200 ng/mL
							1,2,3,4,6,7,8-HpCDF	200 ng/mL
							1,2,3,4,7,8,9-HpCDF	200 ng/mL
							1,2,3,4,7,8-HxCDD	200 ng/mL
							1,2,3,4,7,8-HxCDF	200 ng/mL
							1,2,3,6,7,8-HxCDD	200 ng/mL
							1,2,3,6,7,8-HxCDF	200 ng/mL
							1,2,3,7,8,9-HxCDD	200 ng/mL
							1,2,3,7,8,9-HxCDF	200 ng/mL
							1,2,3,7,8-PeCDD	200 ng/mL
							1,2,3,7,8-PeCDF	200 ng/mL
							2,3,4,6,7,8-HxCDF	200 ng/mL
							2,3,4,7,8-PeCDF	200 ng/mL
							2,3,7,8-TCDD	40 ng/mL
							2,3,7,8-TCDF	40 ng/mL
							OCDD	400 ng/mL
							OCDF	400 ng/mL
HRDXNIDA_00412	11/30/20	01/21/20	Acetone, Lot 0000236884	500 mL	HRDXNIDA_00364	5 mL	13C-1,2,3,4,6,7,8-HpCDD	2 pg/uL
							13C-1,2,3,4,6,7,8-HpCDF	2 pg/uL
							13C-2,3,7,8-TCDF	2 pg/uL
							13C-2,3,7,8-TCDD	2 pg/uL
							13C-1,2,3,6,7,8-HxCDF	2 pg/uL
							13C-1,2,3,7,8,9-HxCDF	2 pg/uL
							13C-2,3,4,6,7,8-HxCDF	2 pg/uL
							13C-1,2,3,7,8-PeCDD	2 pg/uL
							13C-1,2,3,7,8-PeCDF	2 pg/uL
							13C-1,2,3,6,7,8-HxCDD	2 pg/uL
							13C-OCDD	4 pg/uL
					HRDXNIDA_00379	2.5 mL	13C-1,2,3,4,7,8,9-HpCDF	2 pg/uL
							13C-2,3,4,7,8-PeCDF	2 pg/uL
							13C-1,2,3,4,7,8-HxCDD	2 pg/uL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58545-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-1,2,3,4,7,8-HxCDF	2 pg/uL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIDA_00379	04/11/26	04/11/19	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00375	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00376	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00377	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00378	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00375	05/31/26	CIL, Lot ER04251601			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00376	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00377	06/30/26	CIL, Lot ER04211601			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00378	07/31/27	CIL, Lot ER04211701			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
HRDXNIS_00121	10/09/20	10/09/19	C14, Lot STBJ0716	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
.HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
..HRDXNIS_00110	09/30/26	CIL, Lot ER08221601			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
..HRDXNIS_00111	01/31/27	CIL, Lot ER11081602			(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
HRDXNL2_00028	07/31/20	01/22/20	C14, Lot STBJ0716	1 mL	HRDXNIDA_00303	0.25 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.5 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58545-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIS_00121	1 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00232	0.625 mL	37Cl4-2,3,7,8-TCDD	0.5 ng/mL
					HRDXNTA_00118	0.125 mL	1,2,3,4,6,7,8-HpCDD	2.5 ng/mL
							1,2,3,4,6,7,8-HpCDF	2.5 ng/mL
							1,2,3,4,7,8,9-HpCDF	2.5 ng/mL
							1,2,3,4,7,8-HxCDD	2.5 ng/mL
							1,2,3,4,7,8-HxCDF	2.5 ng/mL
							1,2,3,6,7,8-HxCDD	2.5 ng/mL
							1,2,3,6,7,8-HxCDF	2.5 ng/mL
							1,2,3,7,8,9-HxCDD	2.5 ng/mL
							1,2,3,7,8,9-HxCDF	2.5 ng/mL
							1,2,3,7,8-PeCDD	2.5 ng/mL
							1,2,3,7,8-PeCDF	2.5 ng/mL
							2,3,4,6,7,8-HxCDF	2.5 ng/mL
							2,3,4,7,8-PeCDF	2.5 ng/mL
							2,3,7,8-TCDD	0.5 ng/mL
							2,3,7,8-TCDF	0.5 ng/mL
							OCDD	5 ng/mL
							OCDF	5 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58545-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00121	10/09/20	10/09/19	C14, Lot STBJ0716	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26	CIL, Lot ER08221601			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27	CIL, Lot ER11081602			(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00232	01/18/21	01/18/20	Isooctane, Lot 0000221197	500 mL	HRDXNSU_00229	1 mL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
..HRDXNSU_00229	07/31/25	01/08/20	Isooctane, Lot 0000221197	25 mL	HRDXNSU_00228	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
...HRDXNSU_00228	07/31/25	01/08/20	Isooctane, Lot 0000221197	10 mL	HRDXNSU_00211	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
....HRDXNSU_00211	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00118	01/03/21	01/03/20	Acetone, Lot 00000236884	25 mL	HRDXNTA_00110	0.25 mL	1,2,3,4,6,7,8-HpCDD	20 ng/mL
							1,2,3,4,6,7,8-HpCDF	20 ng/mL
							1,2,3,4,7,8,9-HpCDF	20 ng/mL
							1,2,3,4,7,8-HxCDD	20 ng/mL
							1,2,3,4,7,8-HxCDF	20 ng/mL
							1,2,3,6,7,8-HxCDD	20 ng/mL
							1,2,3,6,7,8-HxCDF	20 ng/mL
							1,2,3,7,8,9-HxCDD	20 ng/mL
							1,2,3,7,8,9-HxCDF	20 ng/mL
							1,2,3,7,8-PeCDD	20 ng/mL
							1,2,3,7,8-PeCDF	20 ng/mL
							2,3,4,6,7,8-HxCDF	20 ng/mL
							2,3,4,7,8-PeCDF	20 ng/mL
							2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL
							OCDD	40 ng/mL
							OCDF	40 ng/mL
..HRDXNTA_00110	04/30/26	CIL, Lot ER02241602			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58545-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL3_00026	07/31/20	01/22/20	C14, Lot STBJ0716	0.5 mL	HRDXNIDA_00303	0.125 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.25 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIS_00121	0.5 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00232	1.25 mL	37Cl4-2,3,7,8-TCDD	2 ng/mL
					HRDXNTA_00118	0.25 mL	1,2,3,4,6,7,8-HpCDD	10 ng/mL
							1,2,3,4,6,7,8-HpCDF	10 ng/mL
							1,2,3,4,7,8,9-HpCDF	10 ng/mL
							1,2,3,4,7,8-HxCDD	10 ng/mL
							1,2,3,4,7,8-HxCDF	10 ng/mL
							1,2,3,6,7,8-HxCDD	10 ng/mL
							1,2,3,6,7,8-HxCDF	10 ng/mL
							1,2,3,7,8,9-HxCDD	10 ng/mL
							1,2,3,7,8,9-HxCDF	10 ng/mL
							1,2,3,7,8-PeCDD	10 ng/mL
							1,2,3,7,8-PeCDF	10 ng/mL
							2,3,4,6,7,8-HxCDF	10 ng/mL
							2,3,4,7,8-PeCDF	10 ng/mL
							2,3,7,8-TCDD	2 ng/mL
							2,3,7,8-TCDF	2 ng/mL
							OCDD	20 ng/mL

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58545-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							OCDF	20 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00121	10/09/20	10/09/19	C14, Lot STBJ0716	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26	CIL, Lot ER08221601			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27	CIL, Lot ER11081602			(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00232	01/18/21	01/18/20	Isooctane, Lot 0000221197	500 mL	HRDXNSU_00229	1 mL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
..HRDXNSU_00229	07/31/25	01/08/20	Isooctane, Lot 0000221197	25 mL	HRDXNSU_00228	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
...HRDXNSU_00228	07/31/25	01/08/20	Isooctane, Lot 0000221197	10 mL	HRDXNSU_00211	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
....HRDXNSU_00211	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00118	01/03/21	01/03/20	Acetone, Lot 00000236884	25 mL	HRDXNTA_00110	0.25 mL	1,2,3,4,6,7,8-HpCDD	20 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58545-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,4,6,7,8-HpCDF	20 ng/mL
							1,2,3,4,7,8,9-HpCDF	20 ng/mL
							1,2,3,4,7,8-HxCDD	20 ng/mL
							1,2,3,4,7,8-HxCDF	20 ng/mL
							1,2,3,6,7,8-HxCDD	20 ng/mL
							1,2,3,6,7,8-HxCDF	20 ng/mL
							1,2,3,7,8,9-HxCDD	20 ng/mL
							1,2,3,7,8,9-HxCDF	20 ng/mL
							1,2,3,7,8-PeCDD	20 ng/mL
							1,2,3,7,8-PeCDF	20 ng/mL
							2,3,4,6,7,8-HxCDF	20 ng/mL
							2,3,4,7,8-PeCDF	20 ng/mL
							2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL
							OCDD	40 ng/mL
							OCDF	40 ng/mL
..HRDXNTA_00110	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL4_00091	10/09/20	01/22/20	C14, Lot STBJ0716	1 mL	HRDXNIDA_00364	0.5 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIDA_00379	0.25 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58545-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIS_00121	1 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00226	0.025 mL	37Cl4-2,3,7,8-TCDD	10 ng/mL
					HRDXNTA_00110	0.025 mL	1,2,3,4,6,7,8-HpCDD	50 ng/mL
							1,2,3,4,6,7,8-HpCDF	50 ng/mL
							1,2,3,4,7,8,9-HpCDF	50 ng/mL
							1,2,3,4,7,8-HxCDD	50 ng/mL
							1,2,3,4,7,8-HxCDF	50 ng/mL
							1,2,3,6,7,8-HxCDD	50 ng/mL
							1,2,3,6,7,8-HxCDF	50 ng/mL
							1,2,3,7,8,9-HxCDD	50 ng/mL
							1,2,3,7,8,9-HxCDF	50 ng/mL
							1,2,3,7,8-PeCDD	50 ng/mL
							1,2,3,7,8-PeCDF	50 ng/mL
							2,3,4,6,7,8-HxCDF	50 ng/mL
							2,3,4,7,8-PeCDF	50 ng/mL
							2,3,7,8-TCDD	10 ng/mL
							2,3,7,8-TCDF	10 ng/mL
							OCDD	100 ng/mL
							OCDF	100 ng/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIDA_00379	04/11/26	04/11/19	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00375	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00376	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00377	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58545-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					HRDXNIDA_00378	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00375	05/31/26		CIL, Lot ER04251601		(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00376	01/31/27		CIL, Lot ER01061701		(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00377	06/30/26		CIL, Lot ER04211601		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00378	07/31/27		CIL, Lot ER04211701		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIS_00121	10/09/20	10/09/19	C14, Lot STBJ0716	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26		CIL, Lot ER08221601		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27		CIL, Lot ER11081602		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00226	01/07/21	01/07/20	Isooctane, Lot 0000221197	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00110	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL5_00029	07/31/20	01/22/20	C14, Lot STBH7678	0.2 mL	HRDXNIDA_00303	0.05 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.1 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58545-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-OCDD	200 ng/mL
					HRDXNIS_00121	0.2 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00229	0.02 mL	37Cl4-2,3,7,8-TCDD	40 ng/mL
					HRDXNTA_00110	0.02 mL	1,2,3,4,6,7,8-HpCDD	200 ng/mL
							1,2,3,4,6,7,8-HpCDF	200 ng/mL
							1,2,3,4,7,8,9-HpCDF	200 ng/mL
							1,2,3,4,7,8-HxCDD	200 ng/mL
							1,2,3,4,7,8-HxCDF	200 ng/mL
							1,2,3,6,7,8-HxCDD	200 ng/mL
							1,2,3,6,7,8-HxCDF	200 ng/mL
							1,2,3,7,8,9-HxCDD	200 ng/mL
							1,2,3,7,8,9-HxCDF	200 ng/mL
							1,2,3,7,8-PeCDD	200 ng/mL
							1,2,3,7,8-PeCDF	200 ng/mL
							2,3,4,6,7,8-HxCDF	200 ng/mL
							2,3,4,7,8-PeCDF	200 ng/mL
							2,3,7,8-TCDD	40 ng/mL
							2,3,7,8-TCDF	40 ng/mL
							OCDD	400 ng/mL
							OCDF	400 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58545-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNIDA_00359	12/31/20		CIL, Lot ER100610-02		(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21		CIL, Lot ER012111-01		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28		CIL, Lot ER03151801		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27		CIL, Lot ER04051701		(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00121	10/09/20	10/09/19	C14, Lot STBJ0716	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26		CIL, Lot ER08221601		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27		CIL, Lot ER11081602		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00229	07/31/25	01/08/20	Isooctane, Lot 0000221197	25 mL	HRDXNSU_00228	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00228	07/31/25	01/08/20	Isooctane, Lot 0000221197	10 mL	HRDXNSU_00211	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00211	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00110	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL6_00025	07/31/20	01/22/20	C14, Lot STBJ0716	0.2 mL	HRDXNIDA_00303	0.05 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.1 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58545-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-OCDD	200 ng/mL
					HRDXNIS_00121	0.2 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00229	0.1 mL	37Cl4-2,3,7,8-TCDD	200 ng/mL
					HRDXNTA_00110	0.1 mL	1,2,3,4,6,7,8-HpCDD	1000 ng/mL
							1,2,3,4,6,7,8-HpCDF	1000 ng/mL
							1,2,3,4,7,8,9-HpCDF	1000 ng/mL
							1,2,3,4,7,8-HxCDD	1000 ng/mL
							1,2,3,4,7,8-HxCDF	1000 ng/mL
							1,2,3,6,7,8-HxCDD	1000 ng/mL
							1,2,3,6,7,8-HxCDF	1000 ng/mL
							1,2,3,7,8,9-HxCDD	1000 ng/mL
							1,2,3,7,8,9-HxCDF	1000 ng/mL
							1,2,3,7,8-PeCDD	1000 ng/mL
							1,2,3,7,8-PeCDF	1000 ng/mL
							2,3,4,6,7,8-HxCDF	1000 ng/mL
							2,3,4,7,8-PeCDF	1000 ng/mL
							2,3,7,8-TCDD	200 ng/mL
							2,3,7,8-TCDF	200 ng/mL
							OCDD	2000 ng/mL
							OCDF	2000 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58545-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNIDA_00359	12/31/20		CIL, Lot ER100610-02		(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21		CIL, Lot ER012111-01		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28		CIL, Lot ER03151801		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27		CIL, Lot ER04051701		(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00121	10/09/20	10/09/19	C14, Lot STBJ0716	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26		CIL, Lot ER08221601		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27		CIL, Lot ER11081602		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00229	07/31/25	01/08/20	Isooctane, Lot 0000221197	25 mL	HRDXNSU_00228	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00228	07/31/25	01/08/20	Isooctane, Lot 0000221197	10 mL	HRDXNSU_00211	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00211	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00110	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNSU_00231	01/09/21	01/09/20	Isooctane, Lot 0000221197	500 mL	HRDXNSU_00229	1 mL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
.HRDXNSU_00229	07/31/25	01/08/20	Isooctane, Lot 0000221197	25 mL	HRDXNSU_00228	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00228	07/31/25	01/08/20	Isooctane, Lot 0000221197	10 mL	HRDXNSU_00211	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00211	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
HRDXNTA_00118	01/03/21	01/03/20	Acetone, Lot 00000236884	25 mL	HRDXNTA_00110	0.25 mL	1,2,3,4,6,7,8-HpCDD	20 ng/mL
							1,2,3,4,6,7,8-HpCDF	20 ng/mL
							1,2,3,4,7,8,9-HpCDF	20 ng/mL
							1,2,3,4,7,8-HxCDD	20 ng/mL
							1,2,3,4,7,8-HxCDF	20 ng/mL
							1,2,3,6,7,8-HxCDD	20 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58545-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,6,7,8-HxCDF	20 ng/mL
							1,2,3,7,8,9-HxCDD	20 ng/mL
							1,2,3,7,8,9-HxCDF	20 ng/mL
							1,2,3,7,8-PeCDD	20 ng/mL
							1,2,3,7,8-PeCDF	20 ng/mL
							2,3,4,6,7,8-HxCDF	20 ng/mL
							2,3,4,7,8-PeCDF	20 ng/mL
							2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL
							OCDD	40 ng/mL
							OCDF	40 ng/mL
.HRDXNTA_00110	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL

Reagent

HRDXNCP_00039

received 8/30/19 KSS

(pg 1/6)

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

PCDD/PCDF Window Defining and Isomer Specificity Mix (DB-5)

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number:	EDF-4147
Solution Lot:	ER03111502
Expiration Date:	March 2025
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/ analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies.
- Ampules are overfilled to ensure a minimum 1 2 mL volume We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

March 24, 2015
Date

Component	Chromatographic Purity	Concentration
1,3,6,8-Tetrachlorodibenzo-p-dioxin	99.9%	200.3 ± 2.0 ng/mL
1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin	99.8%	200.6 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzo-p-dioxin	99.2%	200.3 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	98.9%	200.1 ± 2.0 ng/mL
1,2,3,9-Tetrachlorodibenzo-p-dioxin	99.6%	199.9 ± 2.0 ng/mL
1,2,8,9-Tetrachlorodibenzo-p-dioxin	99.2%	200.2 ± 2.0 ng/mL
1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin	98.9%	200.6 ± 2.0 ng/mL
1,2,3,8,9-Pentachlorodibenzo-p-dioxin	99.0%	200.1 ± 2.0 ng/mL
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin	98.7%	200.2 ± 2.0 ng/mL
1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin	99.0%	200.5 ± 2.0 ng/mL
1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin	98.9%	200.1 ± 2.0 ng/mL
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	99.8%	200.3 ± 2.0 ng/mL
1,3,6,8-Tetrachlorodibenzofuran	98.5%	200.1 ± 2.0 ng/mL
1,2,3,9-Tetrachlorodibenzofuran	98.2%	200.4 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzofuran	99.4%	200.0 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	99.2%	200.5 ± 2.0 ng/mL
2,3,4,7-Tetrachlorodibenzofuran	98.7%	200.2 ± 2.0 ng/mL
1,2,8,9-Tetrachlorodibenzofuran	99.3%	199.9 ± 2.0 ng/mL
1,3,4,6,8-Pentachlorodibenzofuran	99.5%	200.6 ± 2.0 ng/mL
1,2,3,8,9-Pentachlorodibenzofuran	99.0%	200.5 ± 2.0 ng/mL
1,2,3,4,6,8-Hexachlorodibenzofuran	98.6%	200.5 ± 2.0 ng/mL
1,2,3,4,8,9-Hexachlorodibenzofuran	99.7%	200.5 ± 2.0 ng/mL
1,2,3,4,6,7,8-Heptachlorodibenzofuran	98.9%	200.6 ± 2.0 ng/mL
1,2,3,4,7,8,9-Heptachlorodibenzofuran	99.1%	200.1 ± 2.0 ng/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Stock solution concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.

Standard Solution Assay Parameters

Analysis Method:	GC/MS
Column:	DB-5ms 30 m x 0.25 mm ID, 0.25 µm film thickness
Temp Program:	140°C to 200°C at 40°C/min 200°C to 300°C at 4°C/min
Injector Temp:	Cool-on-Column
Detector Temp:	280°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	1

Solution Standard Verification and Homogeneity

Compound	Verified Concentration ng/mL	Acceptance Criteria	%RSD - Homogeneity %	Acceptance Criteria
1,3,6,8-Tetrachlorodibenzo-p-dioxin	200.4	± 10%	1.6	≤ 5%
1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin/ 2,3,7,8-Tetrachlorodibenzo-p-dioxin/ 1,2,3,9-Tetrachlorodibenzo-p-dioxin [1]	591.2	± 10%	1.6	≤ 5%
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	196.8	± 10%	2.7	≤ 5%
1,2,8,9-Tetrachlorodibenzo-p-dioxin	197.2	± 10%	2.8	≤ 5%
1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin	194.6	± 10%	2.8	≤ 5%
1,2,3,8,9-Pentachlorodibenzo-p-dioxin	194.7	± 10%	2.3	≤ 5%
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin	195.3	± 10%	1.7	≤ 5%
1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin	192.6	± 10%	2.3	≤ 5%
1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin	191.2	± 10%	2.5	≤ 5%
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	196.7	± 10%	2.1	≤ 5%
1,3,6,8-Tetrachlorodibenzofuran	202.3	± 10%	2.1	≤ 5%
1,2,3,9-Tetrachlorodibenzofuran	194.4	± 10%	2.4	≤ 5%
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	198.0	± 10%	3.3	≤ 5%
2,3,4,7-Tetrachlorodibenzofuran/ 2,3,7,8-Tetrachlorodibenzofuran [1]	399.3	± 10%	2.4	≤ 5%
1,2,8,9-Tetrachlorodibenzofuran	198.9	± 10%	2.9	≤ 5%
1,3,4,6,8-Pentachlorodibenzofuran	195.0	± 10%	2.1	≤ 5%
1,2,3,8,9-Pentachlorodibenzofuran	199.6	± 10%	2.1	≤ 5%
1,2,3,4,6,8-Hexachlorodibenzofuran	195.5	± 10%	2.4	≤ 5%
1,2,3,4,8,9-Hexachlorodibenzofuran	196.4	± 10%	1.8	≤ 5%
1,2,3,4,6,7,8-Heptachlorodibenzofuran	197.4	± 10%	2.9	≤ 5%
1,2,3,4,7,8,9-Heptachlorodibenzofuran	195.3	± 10%	2.1	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The %RSD of samples pulled from across the lot demonstrate homogeneity.
- Product is compared to prior lot and meets acceptance criteria of ± 10%.

[1] Compounds co-elute. Concentration is the sum of both or all analytes.

Neat Material Data

Compound	Lot Number	CAS Number	Chemical Formula	Molecular Weight	Chromatographic Purity
1,3,6,8-Tetrachlorodibenzo-p-dioxin	ER040811-02	33423-92-6	$C_{12}H_4Cl_4O_2$	321.97	99.9%
1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin	ER021510-01	NA	$C_{12}H_4Cl_4O_2$	321.97	99.8%
2,3,7,8-Tetrachlorodibenzo-p-dioxin	ER061009-02	1746-01-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	ER01031401	76523-40-5	$^{13}C_{12}H_4Cl_4O_2$	333.84	98.9%
1,2,3,9-Tetrachlorodibenzo-p-dioxin	ER0529401	71669-26-6	$C_{12}H_4Cl_4O_2$	321.97	99.6%
1,2,8,9-Tetrachlorodibenzo-p-dioxin	ER11201301	62470-54-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%
1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin	ER11051302	NA	$C_{12}H_3Cl_5O_2$	356.42	98.9%
1,2,3,8,9-Pentachlorodibenzo-p-dioxin	ER05161401	NA	$C_{12}H_3Cl_5O_2$	356.42	99.0%
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin	ER08101402	NA	$C_{12}H_2Cl_6O_2$	390.86	98.7%
1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin	ER030107-01	NA	$C_{12}H_2Cl_6O_2$	390.86	99.0%
1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin	ER01201502	58200-70-7	$C_{12}HCl_7O_2$	425.31	98.9%
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	ER100207-02	35822-46-9	$C_{12}HCl_7O_2$	425.31	99.8%
1,3,6,8-Tetrachlorodibenzofuran	ER021808-01	71998-72-6	$C_{12}H_4Cl_4O$	305.98	98.5%
1,2,3,9-Tetrachlorodibenzofuran	ER071107-01	NA	$C_{12}H_4Cl_4O$	305.98	98.2%
2,3,7,8-Tetrachlorodibenzofuran	ER101211-02	51207-31-9	$C_{12}H_4Cl_4O$	305.98	99.4%
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	ER12101304	89059-46-1	$^{13}C_{12}H_4Cl_4O$	317.88	99.2%
2,3,4,7-Tetrachlorodibenzofuran	ER052307-01	NA	$C_{12}H_4Cl_4O$	305.98	98.7%
1,2,8,9-Tetrachlorodibenzofuran	ER041508-03	NA	$C_{12}H_4Cl_4O$	305.98	99.3%
1,3,4,6,8-Pentachlorodibenzofuran	ER04231401	NA	$C_{12}H_3Cl_5O$	340.42	99.5%
1,2,3,8,9-Pentachlorodibenzofuran	ER12101303	NA	$C_{12}H_3Cl_5O$	340.42	99.0%
1,2,3,4,6,8-Hexachlorodibenzofuran	ER04231402	NA	$C_{12}H_2Cl_6O$	374.86	98.6%
1,2,3,4,8,9-Hexachlorodibenzofuran	ER12091401	92341-07-6	$C_{12}H_2Cl_6O$	374.86	99.7%
1,2,3,4,6,7,8-Heptachlorodibenzofuran	ER02281403	67562-39-4	$C_{12}HCl_7O$	409.31	98.9%
1,2,3,4,7,8,9-Heptachlorodibenzofuran	ER01121503	55673-89-7	$C_{12}HCl_7O$	409.31	99.1%

Product Analysis

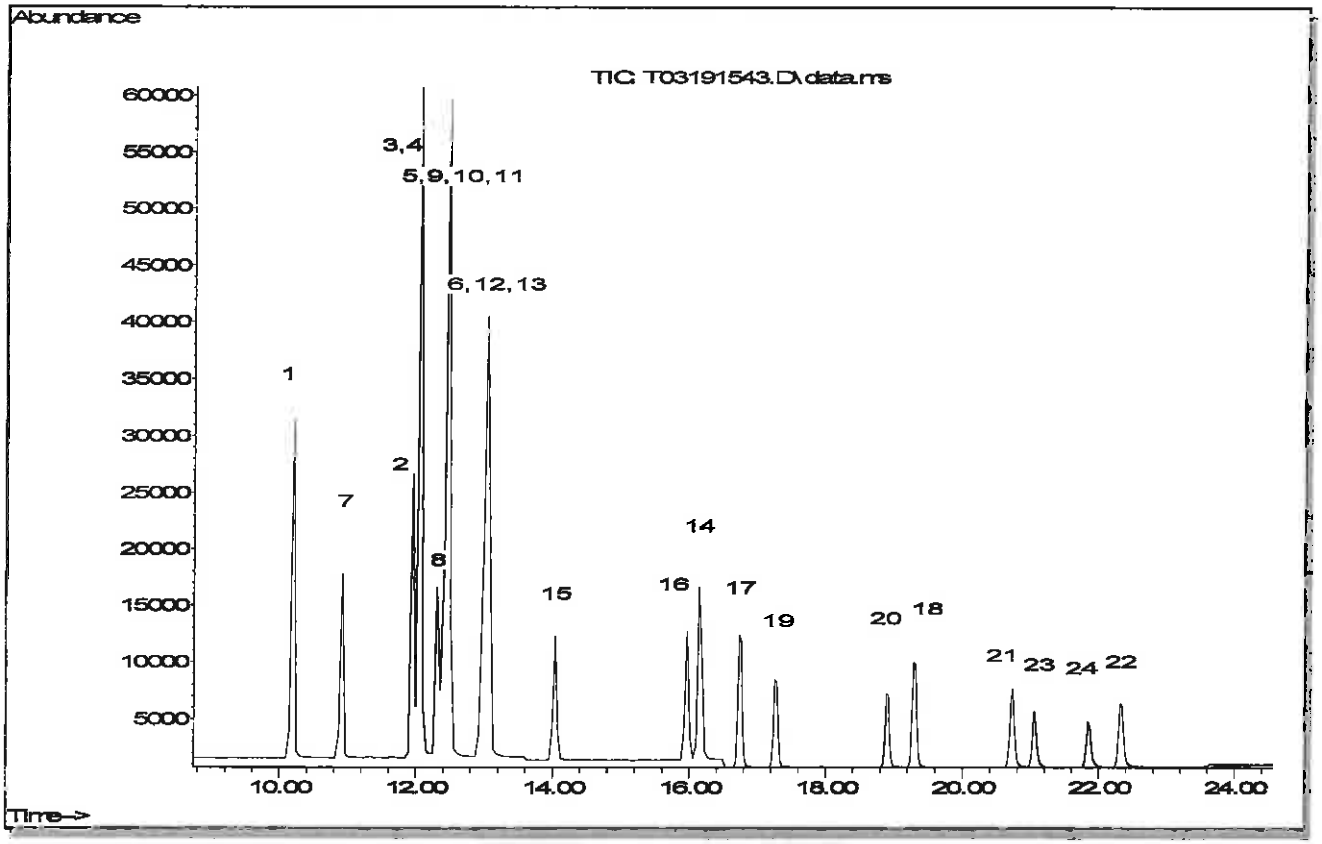

1 1,3,6,8-Tetrachlorodibenzofuran
2 2,3,4,7-Tetrachlorodibenzofuran
3 2,3,7,8-Tetrachlorodibenzofuran
4 2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$
5 1,2,3,9-Tetrachlorodibenzofuran
6 1,2,8,9-Tetrachlorodibenzofuran
7 1,3,6,8-Tetrachlorodibenzo-p-dioxin
8 1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin
9 1,2,3,9-Tetrachlorodibenzo-p-dioxin
10 2,3,7,8-Tetrachlorodibenzo-p-dioxin
11 2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$
12 1,2,8,9-Tetrachlorodibenzo-p-dioxin
13 1,3,4,6,8-Pentachlorodibenzofuran
14 1,2,3,8,9-Pentachlorodibenzofuran
15 1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin
16 1,2,3,8,9-Pentachlorodibenzo-p-dioxin
17 1,2,3,4,6,8-Hexachlorodibenzofuran
18 1,2,3,4,8,9-Hexachlorodibenzofuran
19 1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin
20 1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin
21 1,2,3,4,6,7,8-Heptachlorodibenzofuran
22 1,2,3,4,7,8,9-Heptachlorodibenzofuran
23 1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin
24 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin

COA Revision History

Revision No.	Date	Reason for Revision
00	March 24, 2015	Initial version

Reagent

HRDXNIDA_00075

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-$^{13}C_{12}$

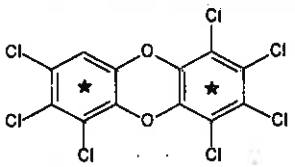

Catalog Number: ED-972
Solution Lot: ER111010-01
Expiration Date: November 2020
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For laboratory use only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration.

Component	Chromatographic Purity	Certified Concentration
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-$^{13}C_{12}$	98.9%	50.03 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER111010-01	50.5	± 5%	0.5	≤ 3%
Previous Lot	ER011807-01	47.4	± 5%	1.8	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

January 15, 2016
Date

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}HO_2Cl_7$
Compound Lot:	ER100110-01	**CAS Number:**	NA
		Molecular Weight:	437.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.9%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.10% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		98.91%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

Spectral and Physical Data

GC/FID

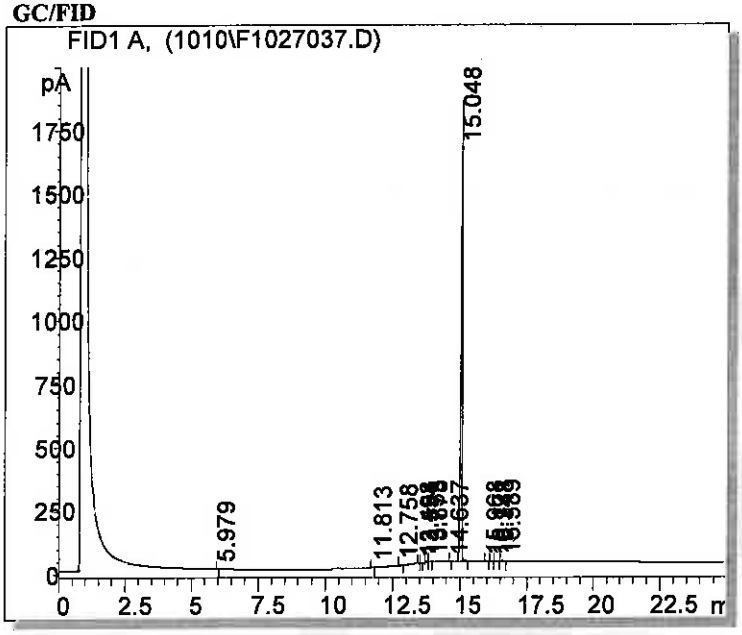

Column:	DB-5ms, 30m x 0.53mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-column
Detector Temp:	325°C
Data File Name:	S:\GC\GC6\2010\1010\F1027037.D
Instrument:	GC#6
Sample Name:	ER100110-01
Acquired:	October 28, 2010

Peak #	Ret Time	Area	Height	Area %
1	5.98	0.34	0.18	0.00
2	11.81	1.00	0.08	0.01
3	12.76	10.96	2.89	0.16
4	13.50	1.19	0.32	0.02
5	13.55	2.63	0.80	0.04
6	13.75	13.39	3.28	0.19
7	13.88	7.04	1.81	0.10
8	14.64	0.86	0.28	0.01
9	15.05	6900.70	1812.09	98.81
10	15.97	3.15	0.73	0.05
11	16.17	2.25	0.55	0.03
12	16.35	5.12	1.10	0.07
13	16.59	18.93	4.26	0.27
14	26.99	15.17	0.35	0.22
15	35.58	0.06	0.21	0.00
16	41.80	0.77	0.13	0.01

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

Spectral and Physical Data (cont.)

GC/MS

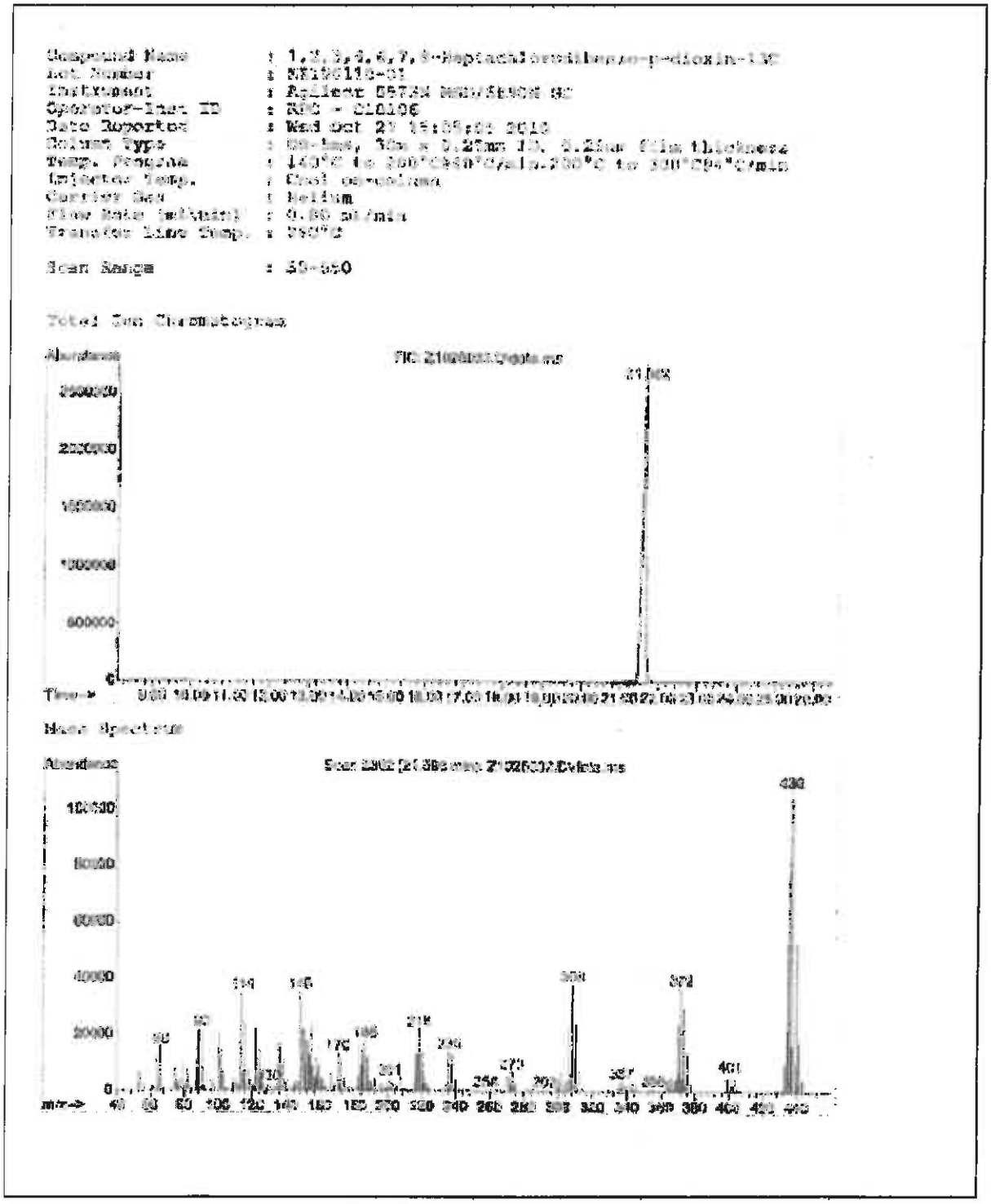

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

COA Revision History

Revision No.	Date	Reason for Revision
00	November 24, 2010	Initial version
01	January 15, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

Reagent

HRDXNIDA_00247

Recd 8-17-16

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$

HpCDF

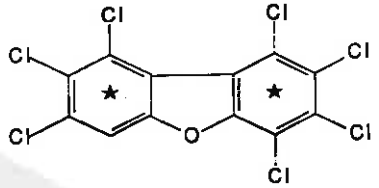

Catalog Number: EF-988
Solution Lot: ER04251601
Expiration Date: March 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	99.1%	49.99 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Acceptance Criteria	%RSD - Homogeneity Actual Results	Acceptance Criteria
New Lot	ER04251601	49.11	± 5%	0.2	≤ 3%
Previous Lot	ER053107-02	50.58	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

June 21, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}HCl_7O$
Compound Lot:	ER04041602	**CAS Number:**	109719-94-0
		Molecular Weight:	421.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.1%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS SIM	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.16% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.10%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data (cont.)

GC/FID

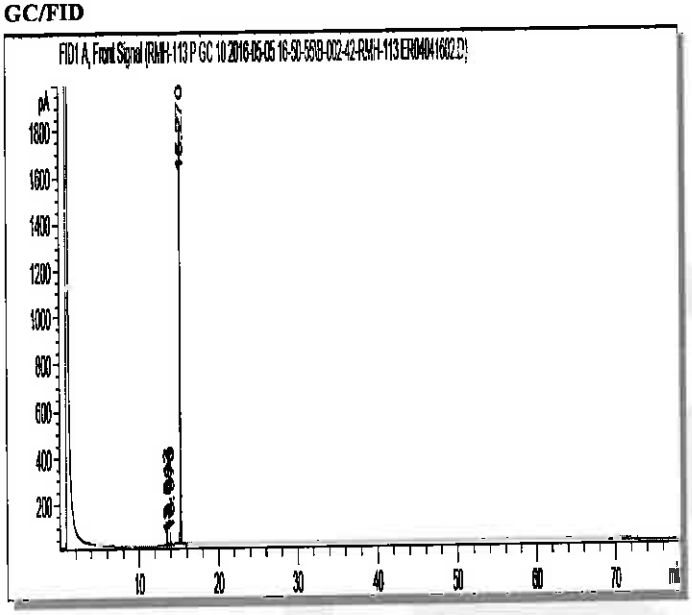

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Data File Name:	RMH-113 P GC 10 2016-05-05 16-50-55\B-002-42.D
Instrument:	GC#10
Sample Name:	ER04041602
Acquired:	May 05, 2016

Peak #	Ret Time	Area	Height	Area %
1	13.51	8.76	2.52	0.12
2	13.68	17.42	7.45	0.24
3	13.97	39.65	15.48	0.54
4	15.27	7226.95	1798.33	99.10

Spectral and Physical Data (cont.)

GC/MS

```
Compound Name          : 1,2,3,4,7,8,9-Heptachlorodibenzofuran-13C12
Lot Number             : ER04041602
Instrument             : Agilent GCMS
Operator               : ECM(SGIUFFRE)
Date Reported          : Wed May 04 15:34:28 2016
Column Type            : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program          : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.         : Cool on-column
Carrier Gas            : Helium
Flow Rate (mL\min)     : 0.80 mL/min
Transfer Line Temp.    : 280°C
Scan Range             : 50-550
```

Total Ion Chromatogram

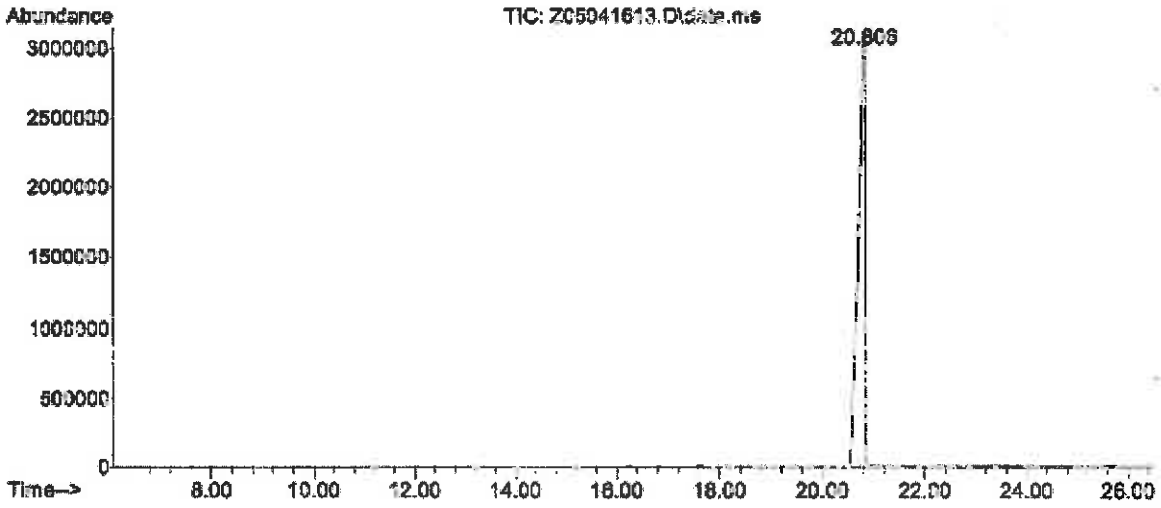

Mass Spectrum

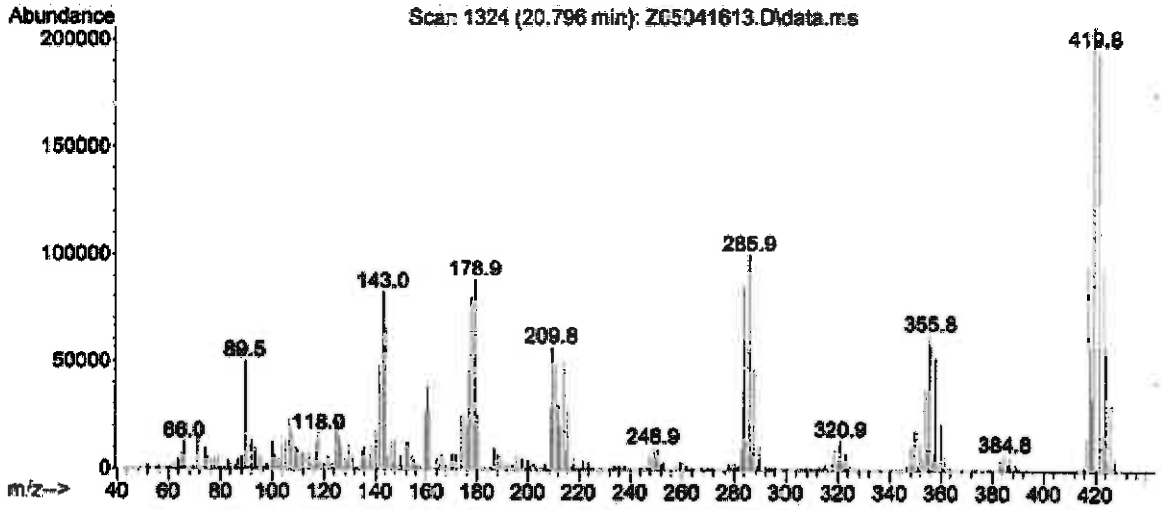

COA Revision History

Revision No.	Date	Reason for Revision
00	June 21, 2016	Initial version

Reagent

HRDXNIDA_00297

r: 9/28/17 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

1042065
ID: HRDXN:DA_00297
Exp: 01/31/27 Prpd: SKV
13C-2,3,4,7,8-PeCDF [50ug

CIL

Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$

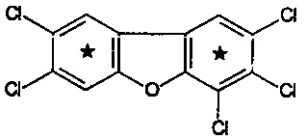

Catalog Number: EF-958
Solution Lot: ER01061701
Expiration Date: January 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	97.9%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s); measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER01061701	50.51	± 5%	0.1	≤ 3%
Previous Lot	ER11041601	49.56	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

January 27, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3Cl_5O$
Compound Lot:	ER11101601	**CAS Number:**	116843-02-8
		Molecular Weight:	352.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0102	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.02% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 0.5%
Mass Balance Purity Factor		98.33%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

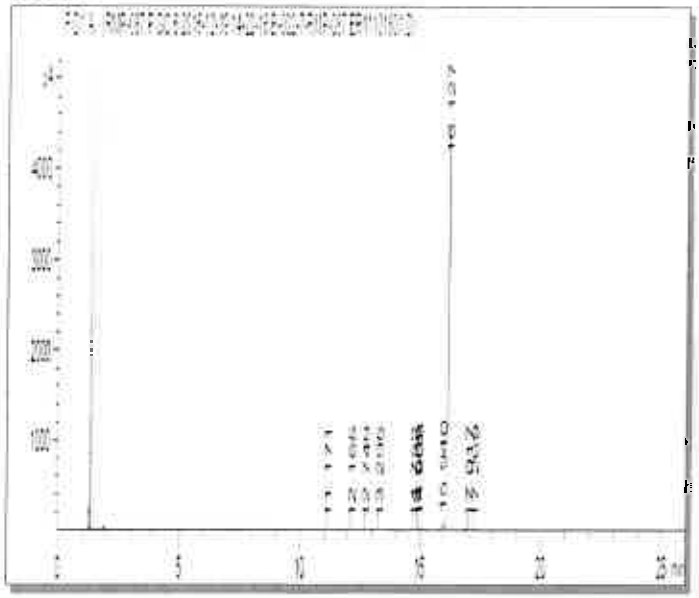

Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 100°C to 300°C at 15°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: RMP-087 P GC 6 2016-12-19 14-22-16\B-002-7.D
Instrument: GC#6
Sample Name: ER11101601
Acquired: December 19, 2016

Peak #	Ret Time	Area	Height	Area %
1	11.17	0.94	0.40	0.01
2	12.17	1.30	0.39	0.01
3	12.75	0.47	0.20	0.00
4	13.30	0.90	0.35	0.01
5	14.75	1.70	0.87	0.02
6	14.91	1.09	0.56	0.01
7	14.97	32.24	17.54	0.29
8	15.94	124.38	64.36	1.13
9	16.13	10866.60	4688.80	98.41
10	17.02	6.31	2.46	0.06
11	17.27	6.76	2.34	0.06

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 2,3,4,7,8-Pentachlorodibenzofuran-13C12
Lot Number	: ER11101601
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRS)
Date Reported	: Tue Dec 20 12:19:55 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.50 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

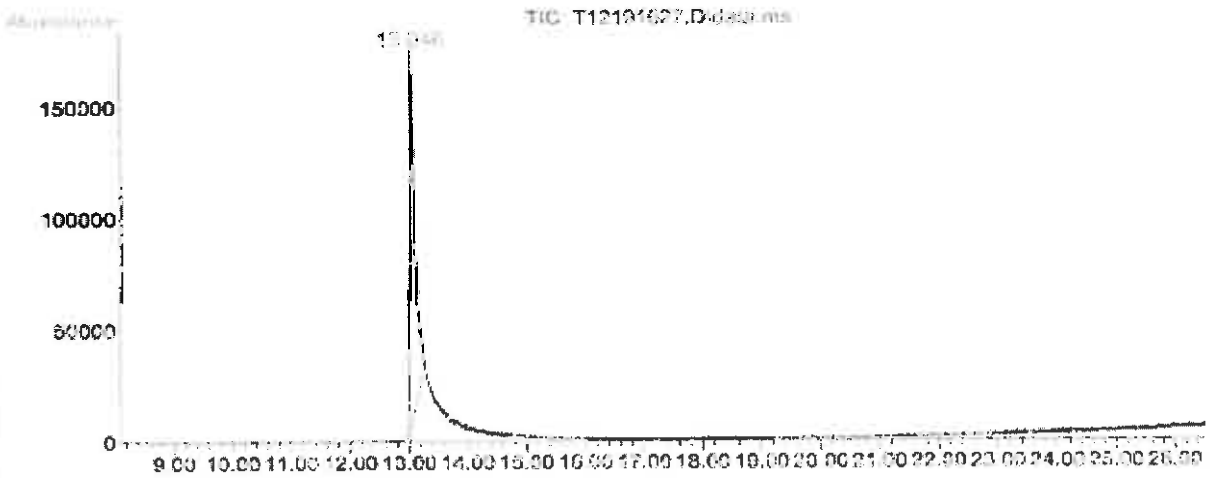

Mass Spectrum

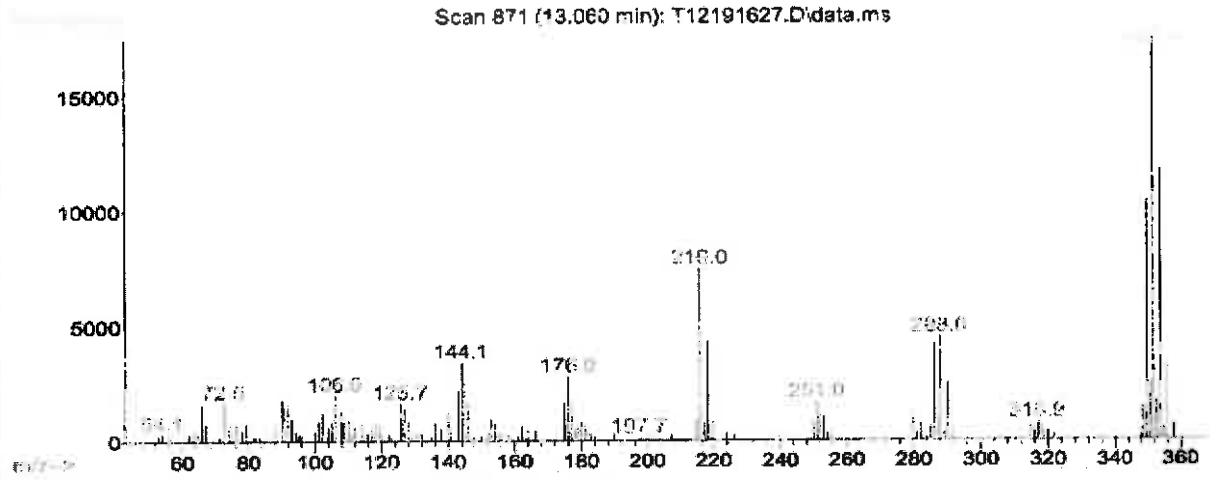

Reagent

HRDXNIDA_00301

n: 9/20/17 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

1042073
ID: HRDXNIDA_00301
Exp: 10/31/21 Prpd: SKV
13C-1,2,3,4,7,8-HxCDD [50

CIL

Certificate of Analysis

Certificate Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 9001
GMP/GLP

1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

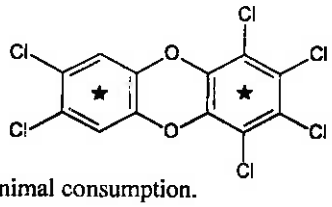

Catalog Number: ED-946
Solution Lot: ER102711-01
Expiration Date: October 2021
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.0%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER102711-01	48.2	± 5%	0.2	≤ 3%
Previous Lot	ER012208-01	49.6	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS ACCREDITED
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

September 17, 2015
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O_2$
Compound Lot:	ER011008-01	**CAS Number:**	109719-80-4
		Molecular Weight:	402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.2%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.08% $^{13}C_0$ vs $^{13}C_{12}$
		0.19% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.19%

- Chromatographic purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

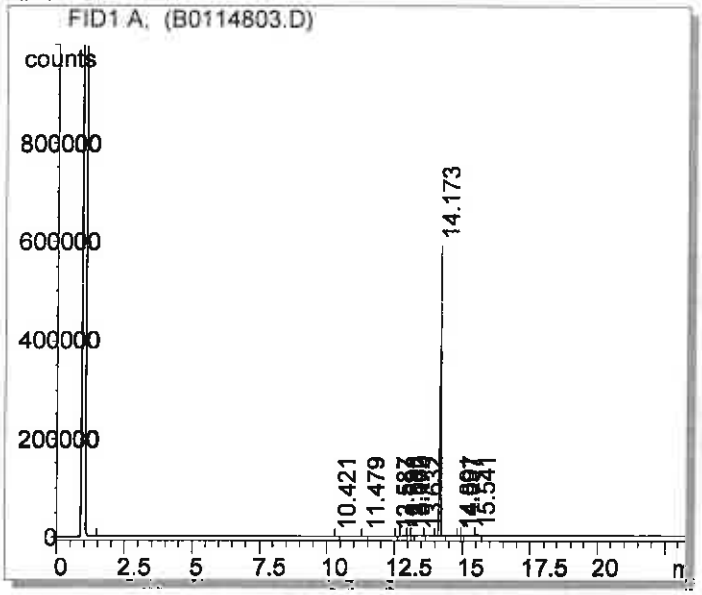

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0114803.D
Instrument:	GC#2
Sample Name:	ER011008-01
Acquired:	January 14, 2008

Peak #	Ret Time	Area	Height	Area %
1	10.42	287.44	132.33	0.02
2	11.48	242.24	92.03	0.01
3	12.59	389.12	196.33	0.02
4	12.90	3015.36	1199.07	0.17
5	13.06	2243.36	788.13	0.13
6	13.17	2243.90	754.45	0.13
7	13.63	2349.03	134.07	0.02
8	14.17	427.02	588610.00	99.20
9	14.89	1731980.00	110.79	0.03
10	15.00	512.26	86.41	0.02
11	15.54	4077.63	1008.44	0.23

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

Compound Name : 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-13C12
Lot Number : [illegible]-01
Instrument : Agilent 5973N MSD/6890N GC
Operator-Inst ID : REC - C1010E
Date Reported : Wed Jan 16 11:15:58 2008
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 300°C@6°C/min (5 min)
Injection Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 280°C

Scan Range : 50-550

Total Ion Chromatogram

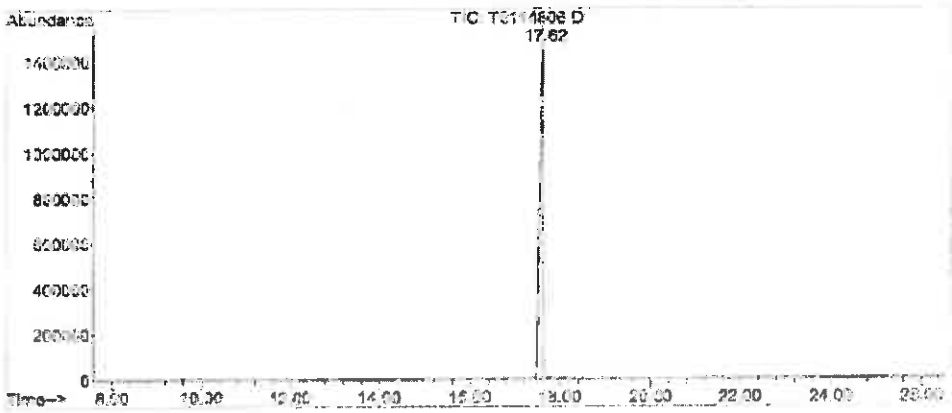

Mass Spectrum

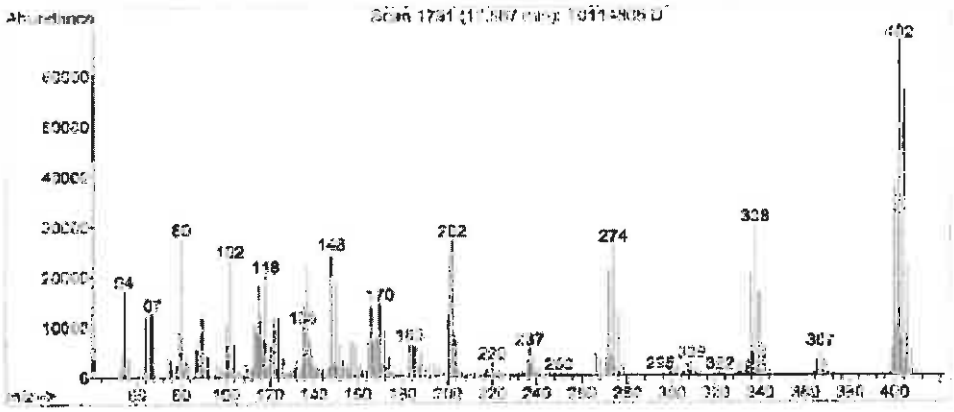

COA Revision History

Revision No.	Date	Reason for Revision
00	November 12, 2011	Initial version
01	September 17, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet"

Reagent

HRDXNIDA_00302

r: 9/20/17 SKV

1042074
ID: HRDXNIDA_00302
Exp: 07/31/20 Prpd: SKV
13C-1,2,3,4,7,8-HxCDF [50

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

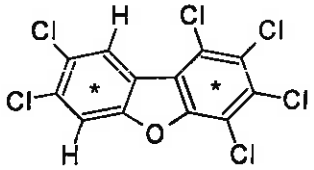

Catalog Number:	EF-963
Solution Lot:	ER072810-02
Expiration Date:	July 2020
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Protect from air and light, store at room temperature. Do not store cold.
Intended Use:	For laboratory use only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration.

Component	Chromatographic Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.6%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Acceptance Criteria	%RSD - Homogeneity Actual Results	Acceptance Criteria
New Lot	ER072810-02	47.4	± 5%	0.3	≤ 3%
Previous Lot	LR011907-01	46.6	—	1.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

November 15, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$
Compound Lot:	35135-45

Chemical Formula:	$^{13}C_{12}H_2OCl_6$
CAS Number:	114423-98-2
Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.6%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% C_0 vs C_{12}
		0.13% C_6 vs C_{12}
Purity Factor		99.57%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

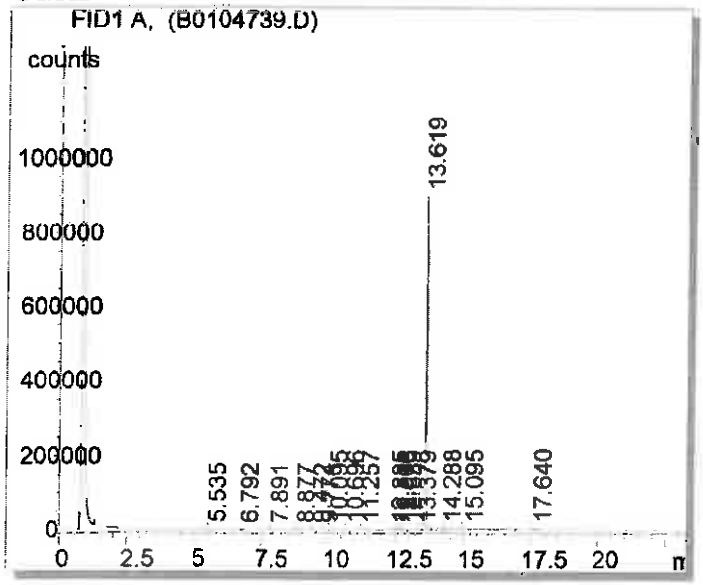

Column:	DB-5ms, 30m x 0.53mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0104739.D
Instrument:	GC#2
Sample Name:	35135-45
Acquired:	January 05, 2007

Peak #	Ret Time	Area	Height	Area %
1	4.21	615.24	161.26	0.02
2	5.21	1024.94	292.85	0.04
3	6.09	326.05	83.67	0.01
4	7.10	301.83	31.69	0.01
5	7.75	169.71	40.31	0.01
6	8.38	136.91	47.17	0.01
7	8.97	123.76	38.29	0.00
8	12.30	2684.80	1153.73	0.10
9	12.48	1162.83	467.42	0.04
10	12.56	1893.94	719.41	0.07
11	12.68	466.69	180.24	0.02
12	12.86	690.32	301.63	0.03
13	13.62	2651450.00	979725.00	99.58
14	14.34	274.11	82.01	0.01
15	15.17	1208.09	320.67	0.05
16	19.00	166.44	32.66	0.01

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

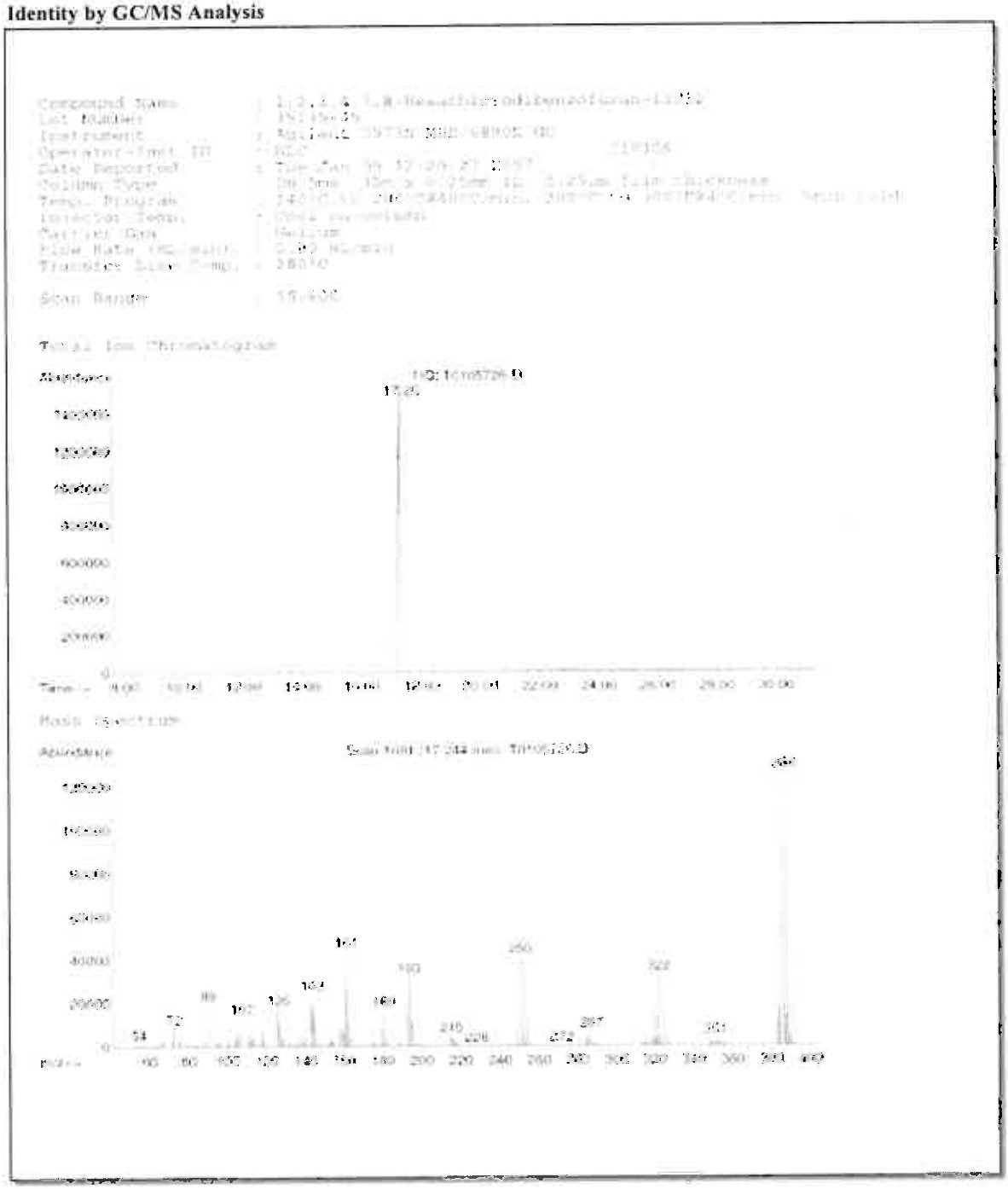

COA Revision History

Revision No.	Date	Reason for Revision
00	September 22, 2010	Initial version
01	September 22, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet"
02	November 15, 2016	Corrected Molecular Weight from 368.77 to 386.77

Reagent

HRDXNIDA_00353

r: 11/28/18 SKV

Cerilliant Analytical Reference Standards
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CIL

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Certificate of Analysis

1,2,3,4,6,7,8-Heptachlorodibenzofuran-$^{13}C_{12}$

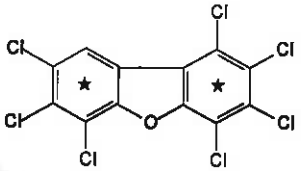

Catalog Number: EF-974
Solution Lot: ER08101404
Expiration Date: November 2024
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,6,7,8-Heptachlorodibenzofuran-$^{13}C_{12}$	98.3%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER08101404	48.75	± 5%	0.3	≤ 3%
Previous Lot	ER102711-02	51.49	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

December 03, 2015
Date

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 60°C to 300°C at 40°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 4
Linearity (r): 1.000

Neat Material Data

Compound Name: 1,2,3,4,6,7,8-Heptachlorodibenzofuran-$^{13}C_{12}$
Compound Lot: ER020507-02

Chemical Formula: $^{13}C_{12}HCl_7O$
CAS Number: 109719-84-8
Molecular Weight: 421.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	98.7%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.16% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS	SP10-0105	Pass
		no single DD/DF impurity ≥1.0%
Purity Factor		98.69%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

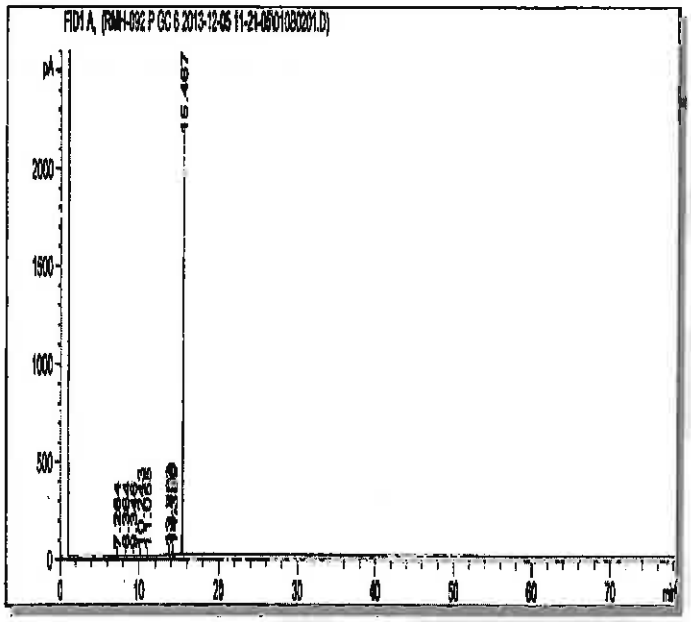

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-092 P GC 6 2013-12-05 11-21-05\010B0201.D
Instrument:	GC#6
Sample Name:	ER020507-02
Acquired:	December 05, 2013

Peak #	Ret Time	Area	Height	Area %
1	7.26	4.41	2.08	0.05
2	8.36	11 76	5.45	0.12
3	9 35	5 20	2.32	0.05
4	10 24	1 47	0.62	0.02
5	11 06	0 34	0.17	0.00
6	13 75	8 81	4.38	0.09
7	13.80	23 67	9.98	0.25
8	14.13	43 07	16.42	0.45
9	14.20	21 73	8.77	0.23
10	14.39	4 79	1.81	0.05
11	15.47	9349 36	2200.33	98.68

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 1,2,3,4,6,7,8-Heptachlorodibenzofuran-13C12
Lot Number : ER020507-02
Instrument : Agilent GCMS
Operator : ECM(BRYAN_DOCKERY)
Date Reported : Tue Dec 17 09:08:58 2013
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL\min) : 0.80 mL/min
Transfer Line Temp. : 280°C
Scan Range : 50-550

Total Ion Chromatogram

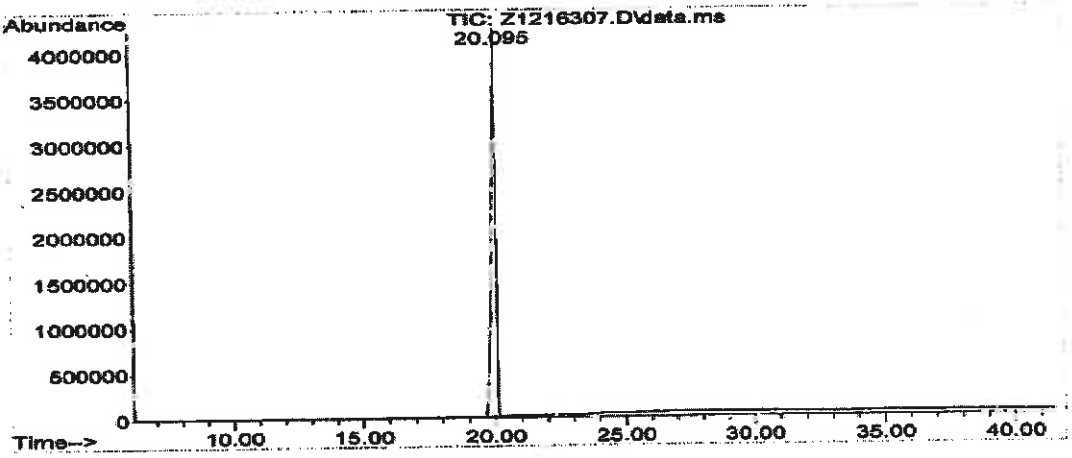

Mass Spectrum

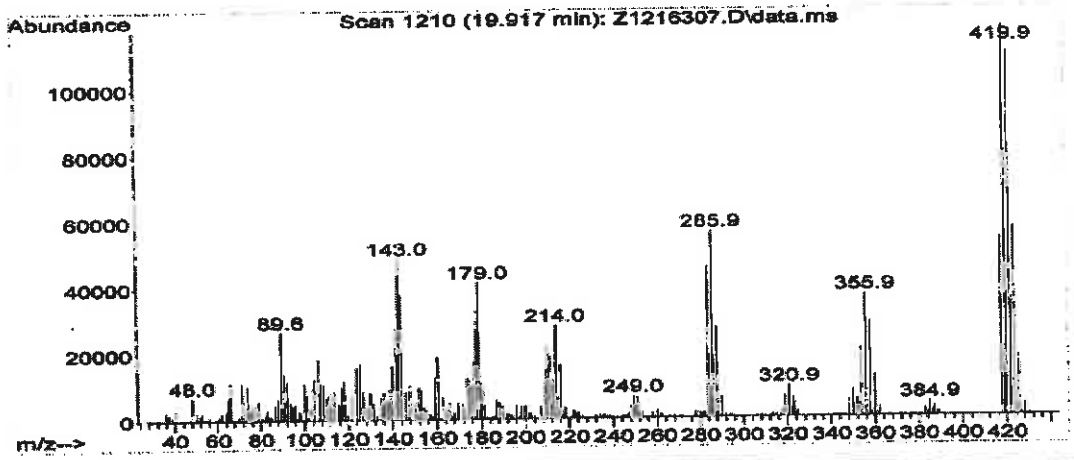

COA Revision History

Revision No.	Date	Reason for Revision
00	January 19, 2015	Initial version
01	December 04, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet"

Reagent

HRDXNIDA_00354

Rec: 11/28/18 SKV

Cerilliant Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$

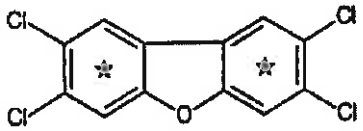

Catalog Number: EF-904
Solution Lot: ER09131601
Expiration Date: September 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	99.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER09131601	49.91	± 5%	0.2	≤ 3%
Previous Lot	ER12101304	51.13	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

November 02, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_4Cl_4O$
Compound Lot:	ER01161401	**CAS Number:**	89059-46-1
		Molecular Weight:	317.88

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.2%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS SIM	SP10-0105	No single DD/DF ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.00% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.24%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

GC/FID

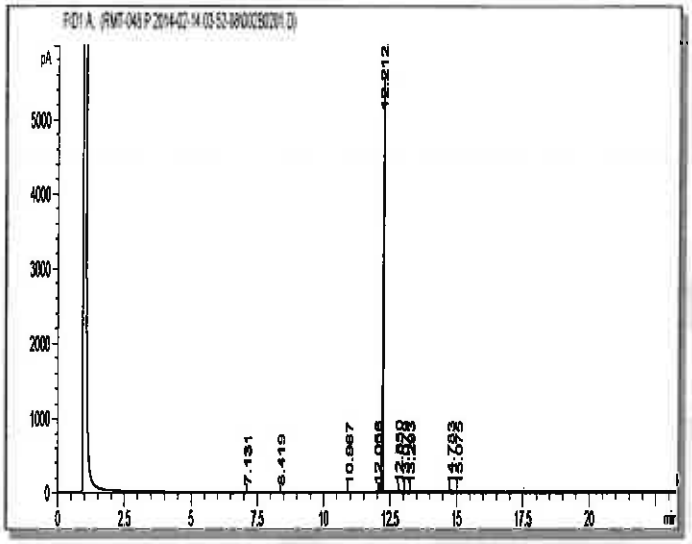

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMT-048 P 2014-02-14 03-52-08\002B0201.D
Instrument:	GC#10
Sample Name:	ER01161401
Acquired:	February 14, 2014

Peak #	Ret Time	Area	Height	Area %
1	7.13	1.19	0.61	0.01
2	8.42	3.23	1.42	0.03
3	10.97	3.57	1.04	0.03
4	12.06	20.86	12.47	0.18
5	12.21	11764.70	5466.96	99.29
6	12.85	30.72	15.48	0.26
7	13.08	7.62	4.03	0.06
8	13.29	5.47	2.91	0.05
9	14.78	7.62	2.76	0.06
10	15.08	3.87	1.33	0.03

GC/MS

Compound Name	: 2,3,7,8-Tetrachlorodibenzofuran-13C12
Lot Number	: ER01161401
Instrument	: Agilent GCMS
Operator	: ECM(SAMUEL_GIUFFRE)
Date Reported	: Thu Feb 13 11:57:07 2014
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

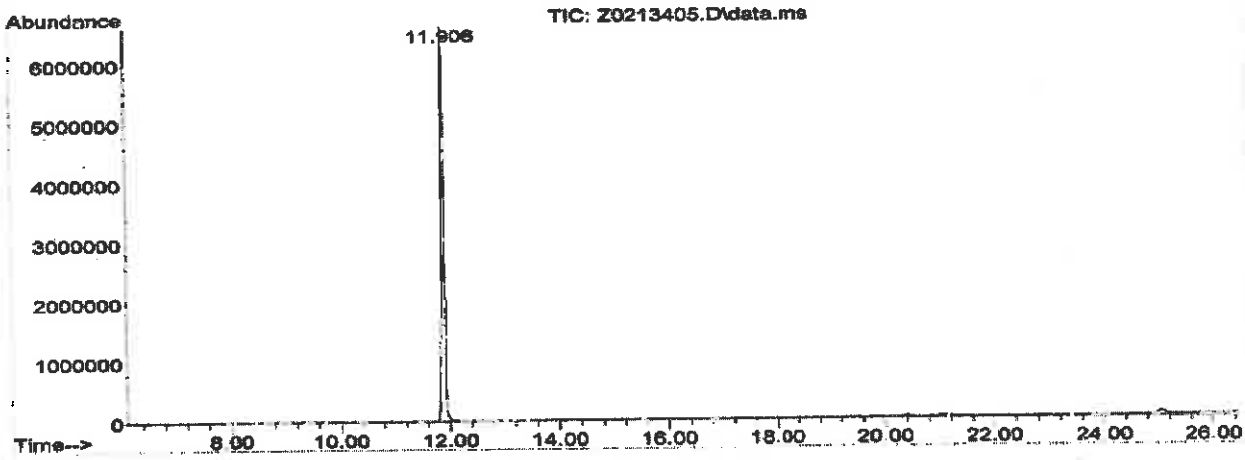

Mass Spectrum

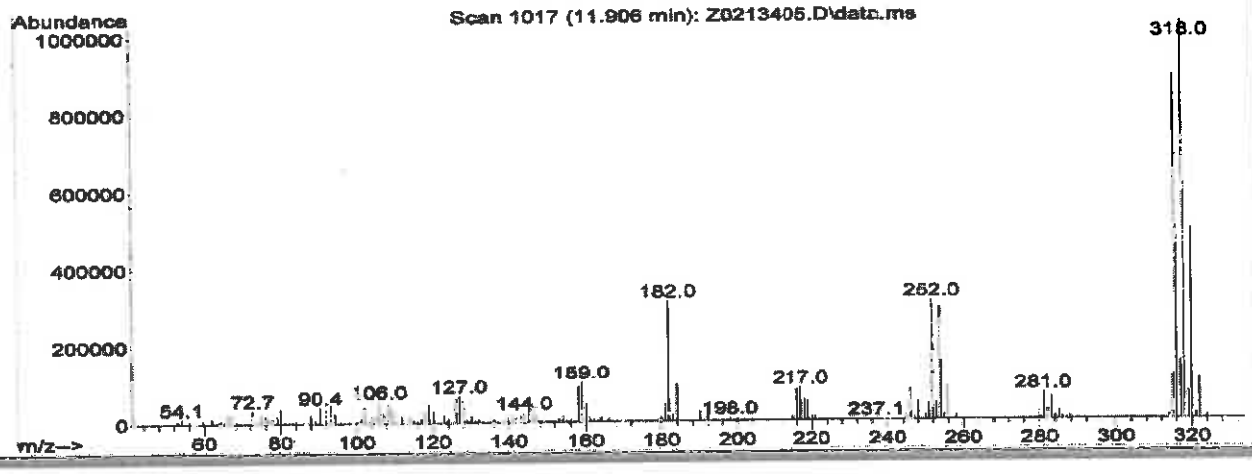

COA Revision History

Revision No.	Date	Reason for Revision
00	November 02, 2016	Initial version

Reagent

HRDXNIDA_00355

Rec: 11/28/18 SJV

Cerilliant Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$

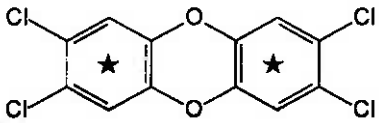

Catalog Number:	ED-900
Solution Lot:	ER03031601
Expiration Date:	March 2026
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.4%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution, and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER03031601	52.66	± 5%	0.3	≤ 3%
Previous Lot	ER01031401	49.83	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

March 24, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-35ms 30 m x 0.53 mm ID, 1.0 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_4Cl_4O_2$
Compound Lot:	ER01201405	**CAS Number:**	76523-40-5
		Molecular Weight:	333.88

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity and Distribution by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.05% $^{13}C_6$ vs $^{13}C_{12}$
Impurities by GC/MS SIM Analysis	SP10-0105	no single DD/DF impurity $\geq$0.5%
Mass Balance Purity Factor		99.34%

- The primary chromatographic purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Mass Balance Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

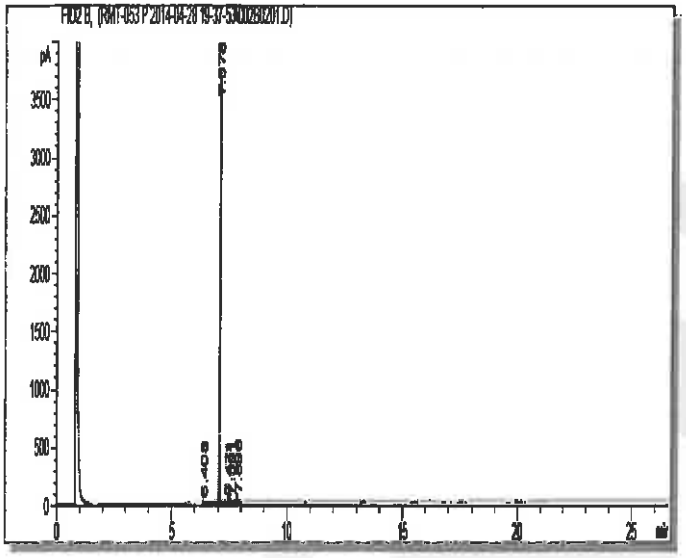

Column:	DB-35ms, 30 m x 0.53 mm ID, 1.0 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMT-053 P 2014-04-28 19-37-53\002B0201.D
Instrument:	GC#6
Sample Name:	ER01201405
Acquired:	April 28, 2014

Peak #	Ret Time	Area	Height	Area %
1	6.41	4 36	2.80	0.08
2	7 08	5225 21	3678.99	99.32
3	7 47	5 29	3.00	0.10
4	7 59	9 11	4.81	0.17
5	7.90	17 05	9.22	0.32

GC/MS

Compound Name	: 2,3,7,8-Tetrachlorodibenzo-p-dioxin-13C12
Lot Number	: ERS1201405
Instrument	: Agilent GCMS
Operator	: ECM(SAMUEL_GIUITRE)
Date Reported	: Tue May 06 09:30:26 2014
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 220°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

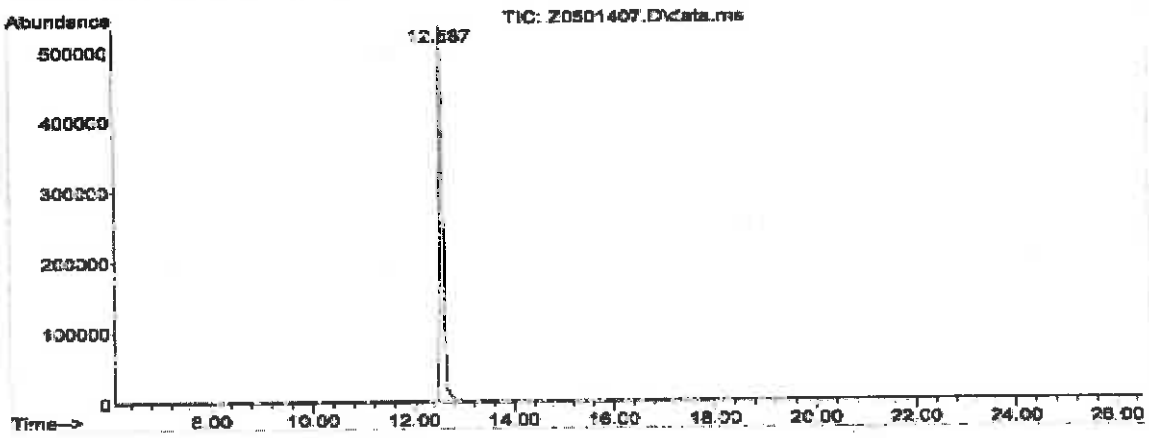

Mass Spectrum

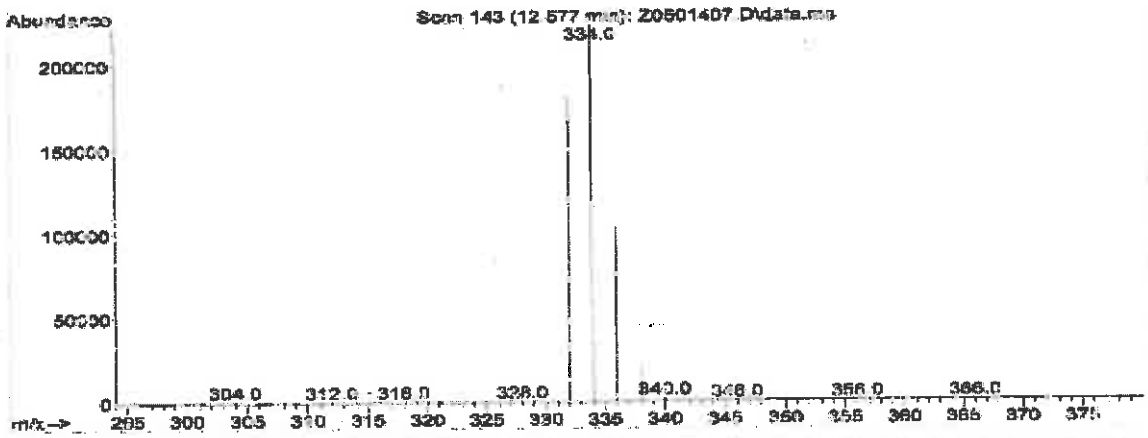

Reagent

HRDXNIDA_00357

r: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Certificate of Analysis

1,2,3,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

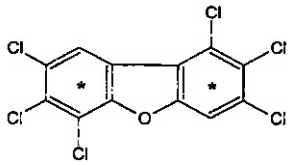

Catalog Number: EF-985
Solution Lot: ER02241603
Expiration Date: April 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.6%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER02241603	50.09	± 5%	0.4	≤ 3%
Previous Lot	ER053107-03	50.81	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

May 04, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O$
Compound Lot:	ER051607-01	**CAS Number:**	116843-03-9
		Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.06% $^{13}C_6$ vs $^{13}C_{12}$
Impurities by GC/MS SIM Analysis	SP10-0105	no single DD/DF impurity ≥ 0.5%
Mass Balance Purity Factor		99.01%

- The chromatographic purity is calculated as the average of two independently performed analyses utilizing two different methods Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Mass Balance Purity Factor
- Mass Balance Purity Factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

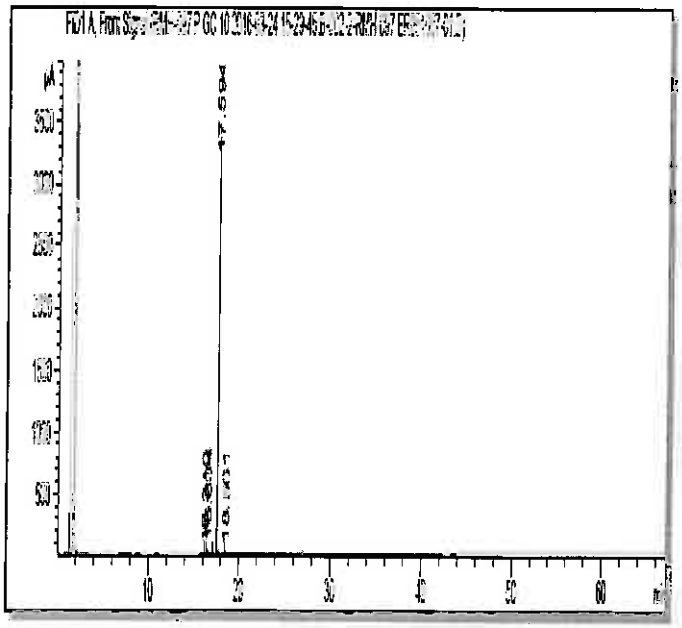

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	40°C to 300°C at 15°C/min hold 50 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-097 P GC 10 2016-03-24 15-29-45\B-002-2.D
Instrument:	GC#10
Sample Name:	ER051607-01
Acquired:	March 24, 2016

Peak #	Ret Time	Area	Height	Area %
1	16.31	6.97	3.21	0.08
2	16.60	77.08	33.51	0.83
3	17.59	9156.82	3458.38	99.00
4	18.56	8.48	2.69	0.09

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 1,2,3,6,7,8-Hexachlorodibenzofuran-13C12
Lot Number	: ER051607-01
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Fri Mar 18 07:08:54 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

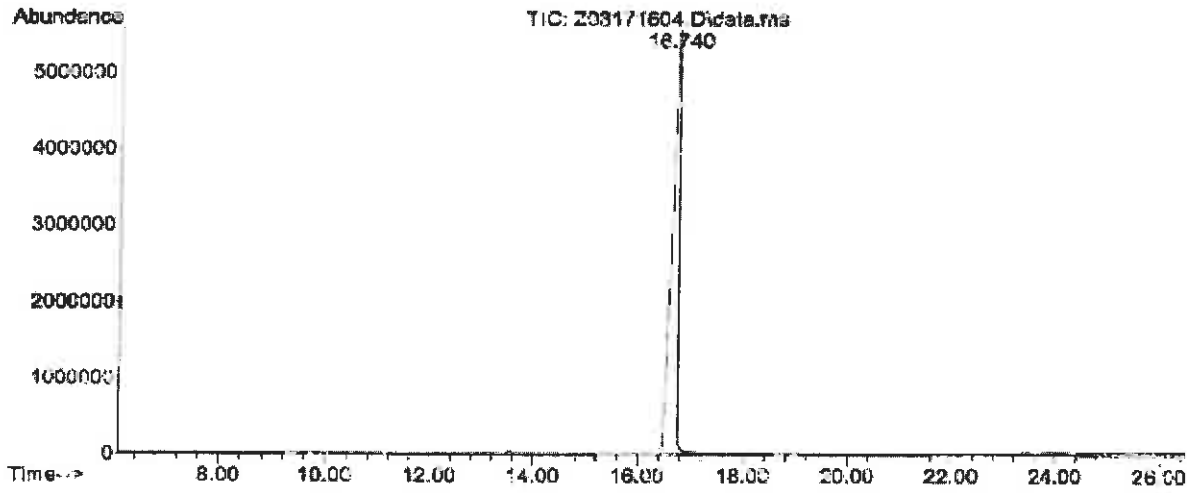

Mass Spectrum

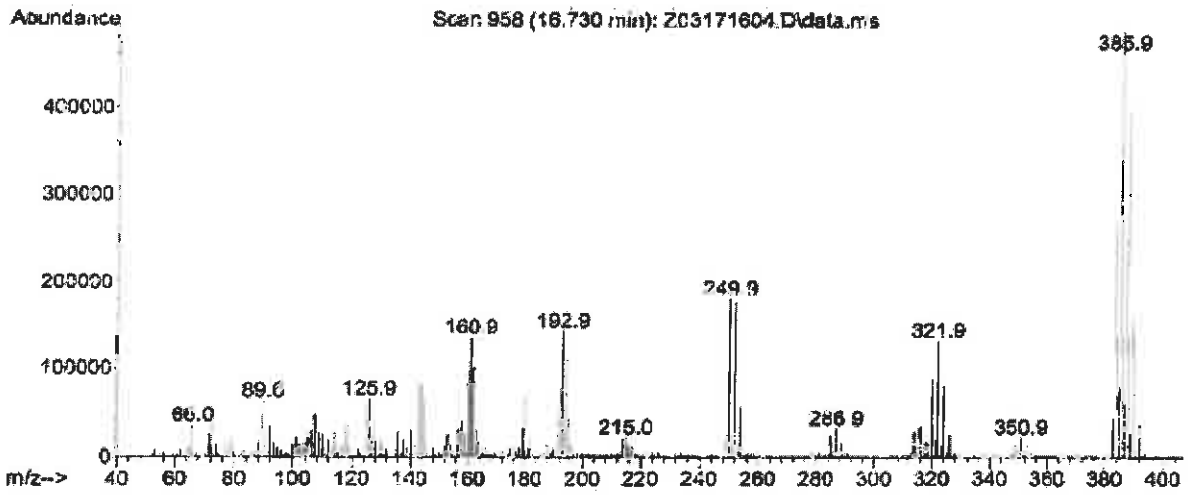

COA Revision History

Revision No.	Date	Reason for Revision
00	May 04, 2016	Initial version

Reagent

HRDXNIDA_00358

r: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
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CIL

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,7,8,9-Hexachlorodibenzofuran-$^{13}C_{12}$

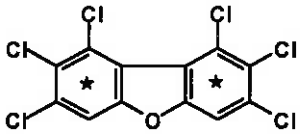

Catalog Number: EF-986
Solution Lot: ER100610-01
Expiration Date: December 2020
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For laboratory use only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
1,2,3,7,8,9-Hexachlorodibenzofuran-$^{13}C_{12}$	99.5%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER100610-01	51.2	± 5%	0.4	≤ 3%
Previous Lot	ER100107-01	49.9	± 5%	1.4	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

February 14, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2OCl_6$
Compound Lot:	ER080108-03	**CAS Number:**	116843-04-0
		Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.5%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.03% $^{13}C_0$ vs $^{13}C_{12}$
		0.09% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.49%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

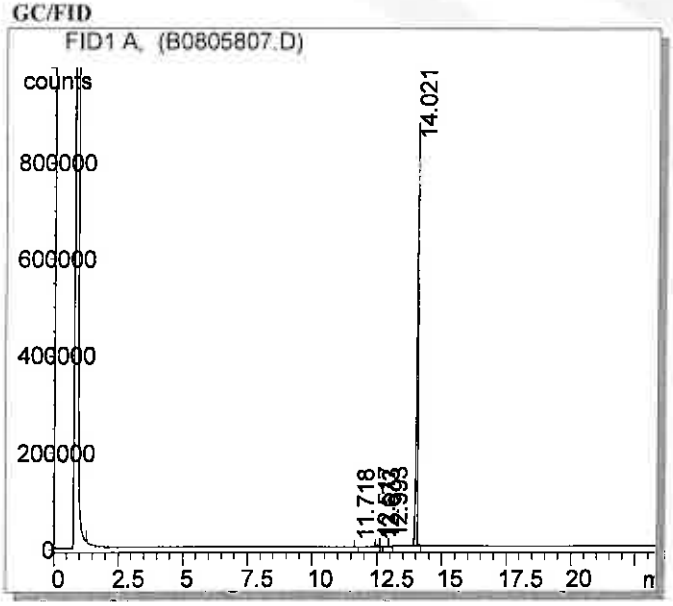

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0805807.D
Instrument:	GC#2
Sample Name:	ER080108-03
Acquired:	August 05, 2008

Peak #	Ret Time	Area	Height	Area %
1	11.72	318.47	152.10	0.01
2	12.52	8294.54	2994.64	0.30
3	12.67	155.17	67.29	0.01
4	12.99	4248.66	1646.53	0.16
5	14.02	2708910.00	880320.00	99.52

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

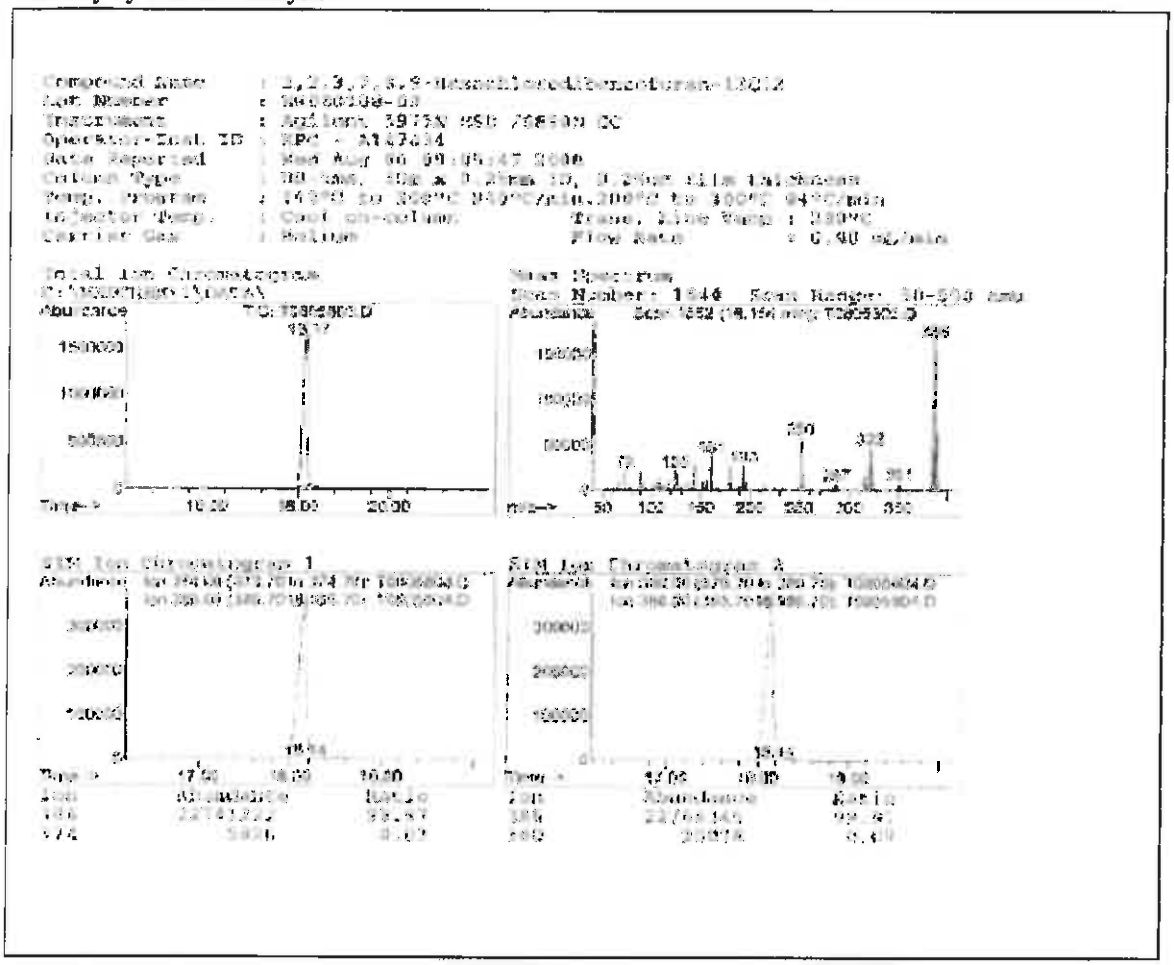

COA Revision History

Revision No.	Date	Reason for Revision
00	January 12, 2011	Initial version
01	November 05, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".
02	February 14, 2017	Corrected Isotopic Purity by GC/MS SIM from C to ^{13}C.

Reagent

HRDXNIDA_00359

r: 1/15/19 SKV

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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

2,3,4,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

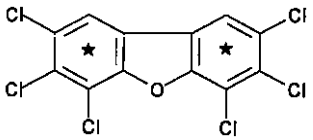

Catalog Number: EF-987
Solution Lot: ER100610-02
Expiration Date: December 2020
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For laboratory use only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
2,3,4,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.4%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER100610-02	50.9	± 5%	0.6	≤ 3%
Previous Lot	ER031507-03	50.3	± 5%	1.8	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

January 15, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,4,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O$
Compound Lot:	ER061906-02	**CAS Number:**	116843-05-1
		Molecular Weight:	386.73

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.4%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.04% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.40%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

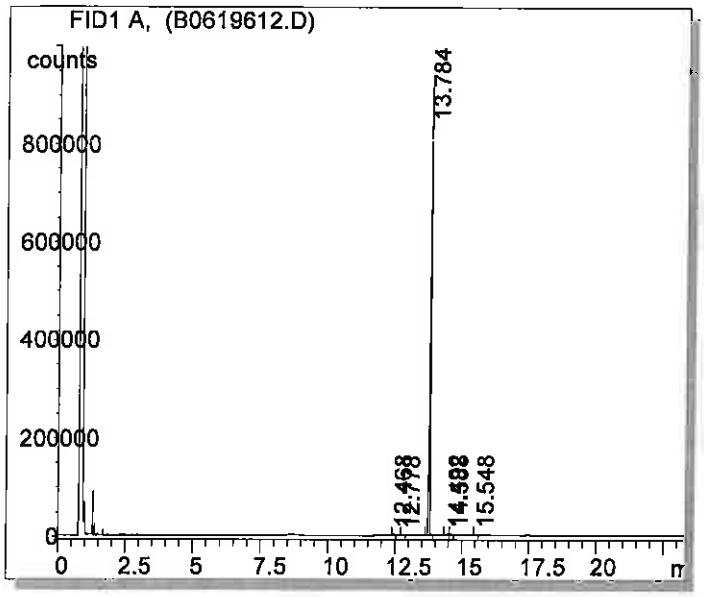

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0619612.D
Instrument:	GC#2
Sample Name:	ER061906-02
Acquired:	June 19, 2006

Peak #	Ret Time	Area	Height	Area %
1	12.47	4458	1822	0.18
2	12.78	3496	1304	0.14
3	13.78	2443150	925399	99.39
4	14.49	1528	387	0.06
5	14.59	4236	1332	0.17
6	15.55	1361	348	0.06

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 2,3,4,6,7,8-Hexachlorodibenzofuran-13C12
Lab Number : ZR061906-02
Instrument : Agilent 5975N MSD /6890N GC
Operator Inst ID : RPC - A147434
Date Reported : Tue Jun 20 08:44:12 2006
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C 8.0°C/min,200°C to 320°C @4°C/min
Injector Temp. : Cool on-column Trans. Line Temp : 280°C
Carrier Gas : Helium Flow Rate : 0.80 mL/min

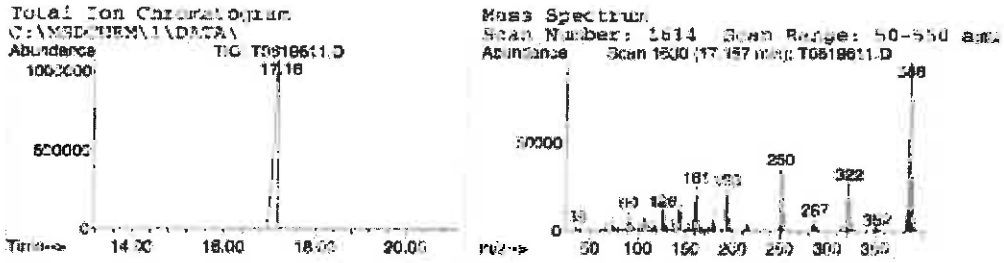

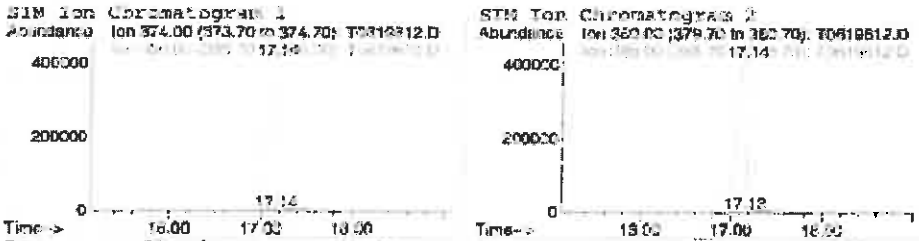

COA Revision History

Revision No.	Date	Reason for Revision
00	January 04, 2011	Initial version
01	January 15, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Reagent

HRDXNIDA_00360

r: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
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Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,7,8-Pentachlorodibenzo-p-dioxin-$^{13}C_{12}$

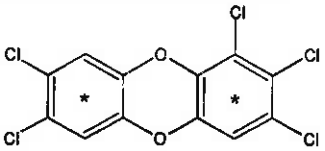

Catalog Number: ED-955
Solution Lot: ER08041401
Expiration Date: August 2024
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,7,8-Pentachlorodibenzo-p-dioxin-$^{13}C_{12}$	98.2%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER08041401	48.80	± 5%	0.3	≤ 3%
Previous Lot	ER030907-02	49.84	± 5%	0.4	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

February 10, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,7,8-Pentachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3Cl_5O_2$
Compound Lot:	ER06241403	**CAS Number:**	109719-79-1
		Molecular Weight:	368.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.9%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS-SIM Analysis	SP10-0105	0.07% $^{13}C_0$ vs $^{13}C_{12}$
		0.14% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS	SP10-0105	No single DD/DF $\geq$ 0.5%
Mass Balance Purity Factor		98.90%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

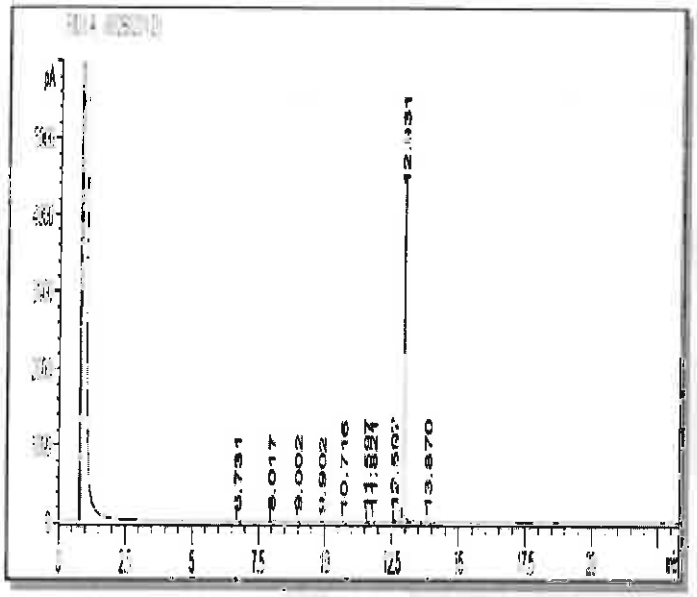

Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 100°C to 300°C at 15°C/min, hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: RMP-085 P GC 6 2014-07-30 18-11-11\002B0201.D
Instrument: GC#6
Sample Name: ER06241403
Acquired: July 30, 2014

Peak #	Ret Time	Area	Height	Area %
1	6.73	7.32	3.42	0.07
2	8.02	3.79	1.60	0.04
3	9.00	8.74	3.64	0.08
4	9.90	3.38	1.35	0.03
5	10.72	1.31	0.45	0.01
6	11.60	14.46	6.69	0.14
7	11.82	2.21	1.11	0.02
8	12.60	68.05	28.10	0.64
9	12.93	10594.10	4235.85	98.91
10	13.87	7.09	2.57	0.07

Spectral and Physical Data (cont.)

GC/MS

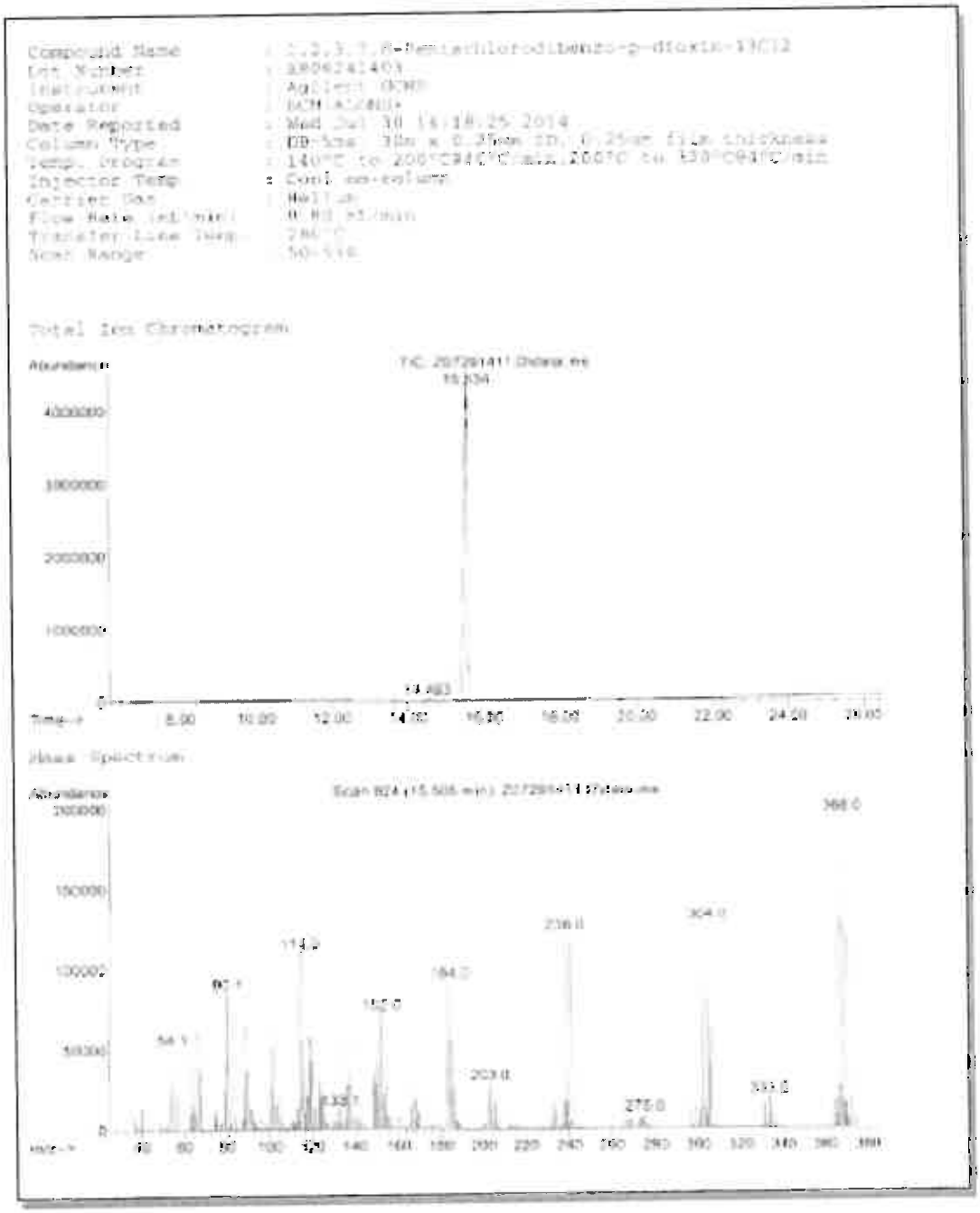

COA Revision History

Revision No.	Date	Reason for Revision
00	September 24, 2014	Initial version
01	February 10, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Reagent

HRDXNIDA_00361

r: 1/15/19 SKV

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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$

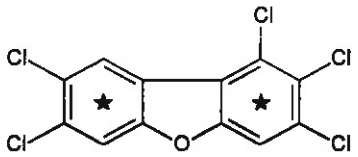

Catalog Number: EF-952
Solution Lot: ER012111-01
Expiration Date: January 2021
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For laboratory use only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
1,2,3,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	99.2%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER012111-01	50.7	± 5%	0.4	≤ 3%
Previous Lot	ER0100407-02	51.0	± 5%	0.5	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

February 15, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3OCl_5$
Compound Lot:	ER090110-01	**CAS Number:**	109719-77-9
		Molecular Weight:	352.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.2%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.03% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.17%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

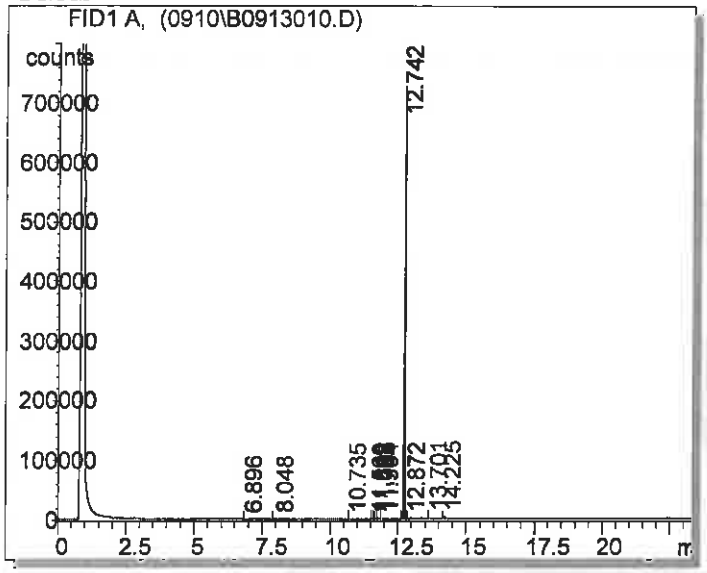

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	S:\GC\GC2\2010\0910\B0913010.D
Instrument:	GC#2
Sample Name:	ER090110-01
Acquired:	September 13, 2010

Peak #	Ret Time	Area	Height	Area %
1	6.90	618.64	296.84	0.04
2	8.05	254 50	102.70	0.01
3	10.74	162 25	70.86	0.01
4	11 57	145 03	82.11	0.01
5	11 62	468 46	216.27	0.03
6	11 69	1863 76	870.51	0.11
7	11.79	1631 76	576.35	0.10
8	11.90	421 31	184.81	0.02
9	12.74	1702290 00	729831.00	99.20
10	12.87	308 15	147.54	0.02
11	13.70	3743 55	1299.40	0.22
12	14.23	4032 24	1491.01	0.23

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

Compound Name : 1,2,3,7,8-Pentachlorodibenzofuran-13C12
Lot Number : EX090110-01
Instrument : Agilent 5973N MSD/6890N GC
Operator-Inst ID : RPC - C10106
Date Reported : Tue Sep 14 11:05:33 2010
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 325°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 280°C

Scan Range : 50-550

Total Ion Chromatogram

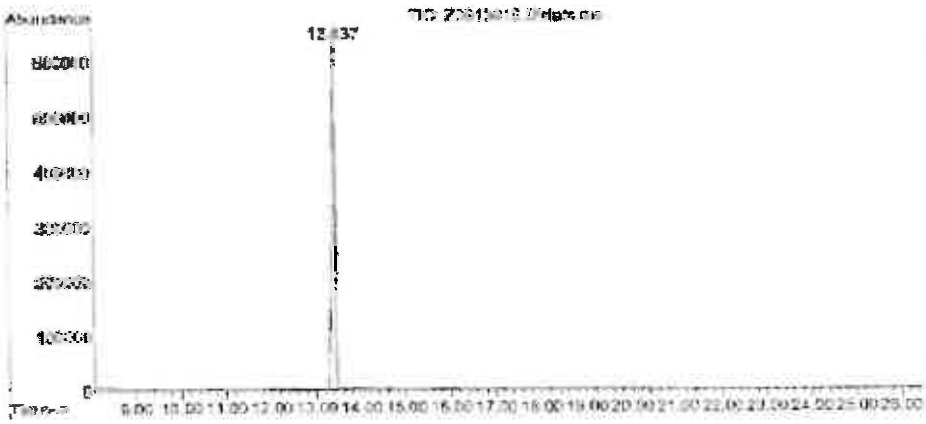

Mass Spectrum

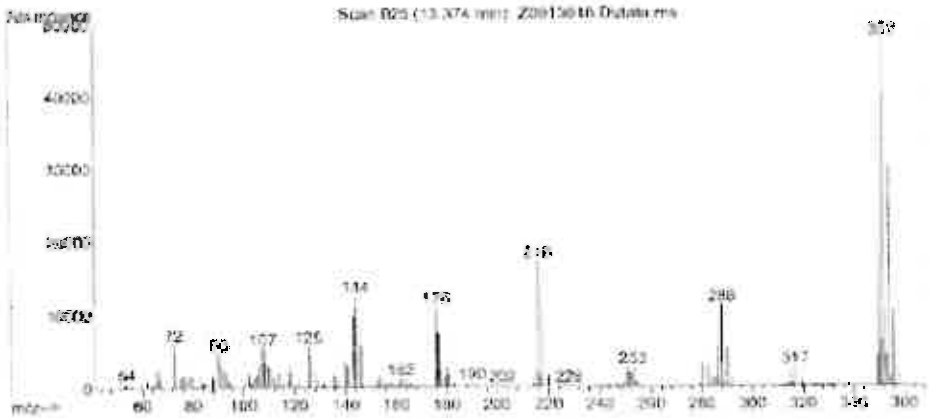

COA Revision History

Revision No.	Date	Reason for Revision
00	February 11, 2011	Initial version
01	March 01, 2011	Corrected typographical error: Chemical Structure
02	February 15, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Reagent

HRDXNIDA_00362

P: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
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CIL

Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

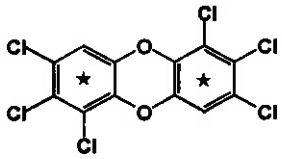

Catalog Number:	ED-966
Solution Lot:	ER03151801
Expiration Date:	March 2028
Solvent:	n-Nonane:Toluene (80:20) (v/v)
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	> 99.9%	50.03 ± 0.28 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER03151801	52.29	± 5%	0.2	≤ 3%
Previous Lot	ER010209-01	48.05	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using balances that have been qualified and calibrated to ISO 17025 requirements. All calibrations utilize NIST traceable weights which are calibrated externally by a qualified ISO 17025 accredited calibration laboratory to NIST standards. Qualification of each balance includes the assignment of a minimum weighing by a qualified and ISO 17025 accredited calibration vendor taking into consideration the balance and installed environmental conditions to ensure compliance with USP tolerances of NMT 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

April 19, 2018
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O_2$
Compound Lot:	FN01151802	**CAS Number:**	109719-81-5
		Molecular Weight:	402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.04% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 1.0%
Mass Balance Purity Factor		98.96%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

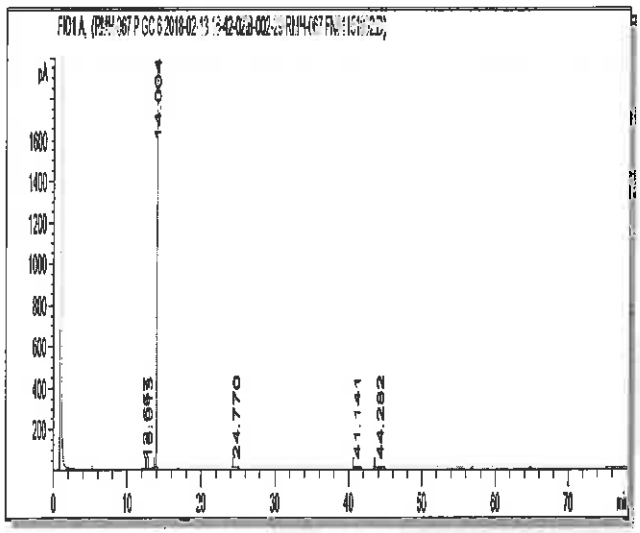

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-067 P GC 6 2018-02-13 16-42-02\B-002-29.D
Instrument:	GC#6
Sample Name:	FN01151802
Acquired:	February 13, 2018

Peak #	Ret Time	Area	Height	Area %
1	12.66	1 69	0.62	0.03
2	13.01	1 96	0.53	0.03
3	14 00	5617 62	1952.76	98.87
4	24 77	5.26	0.34	0.09
5	41 14	10.58	0.38	0.19
6	44 28	44.69	1.49	0.79

Spectral and Physical Data (cont.)

GC/MS

```
Compound Name          : 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-13C12
Lot Number             : FN01151802
Instrument             : Agilent GCMS
Operator               : FCM(SGIUFTRE)
Date Reported          : Mon Mar 05 10:17:32 2018
Column Type            : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program          : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.         : Cool on-column
Carrier Gas            : Helium
Flow Rate (mL\min)     : 0.80 mL/min
Transfer Line Temp.    : 280°C
Scan Range             : 50-550
```

Total Ion Chromatogram

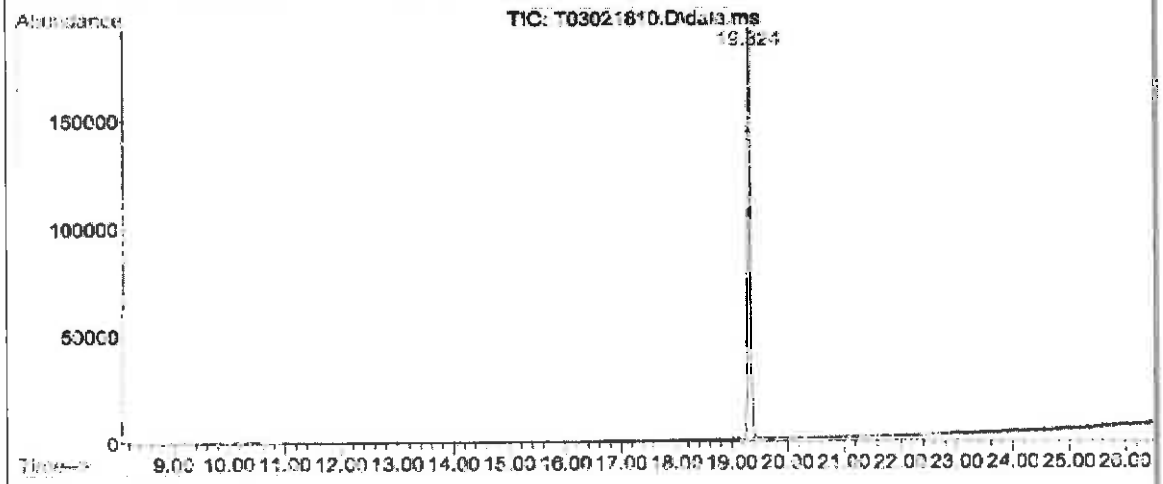

Mass Spectrum

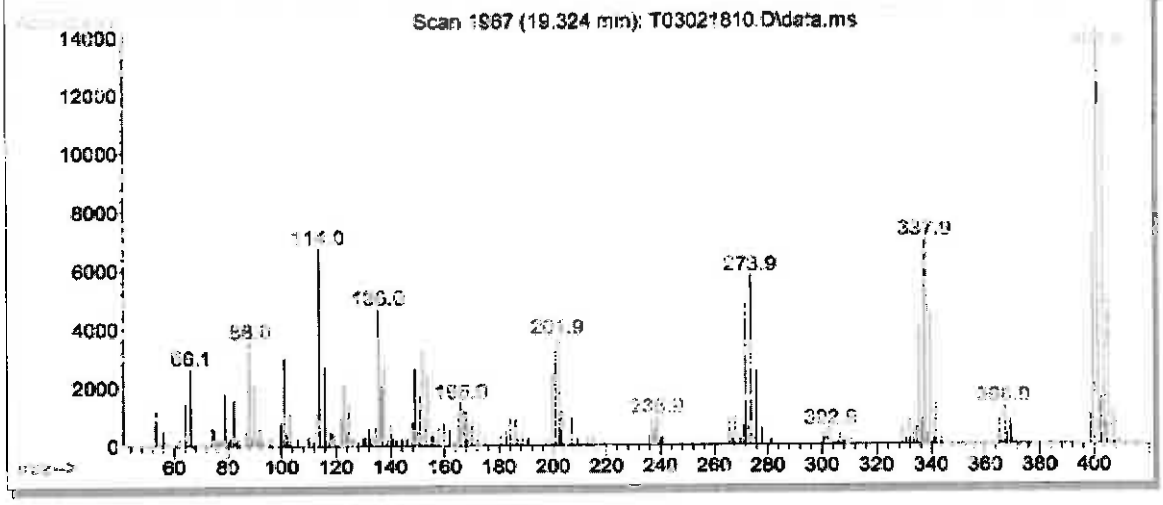

Reagent

HRDXNIDA_00365

Rec 11/28/18 SKV

1450145
ID: HRDXNIDA_00347
Exp: 04/30/27 Prpd: SKV
13C-OCDD [10 ug/mL]

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Octachlorodibenzo-p-dioxin-$^{13}C_{12}$

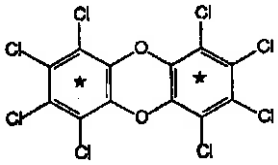

Catalog Number: ED-981-1.2
Solution Lot: ER04051701
Expiration Date: April 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
Octachlorodibenzo-p-dioxin-$^{13}C_{12}$	> 99.9%	10.00 ± 0.05 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04057101	10.22	± 5%	1.1	≤ 5%
Previous Lot	ER06061601	10.17	± 5%	0 8	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

May 19, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.25 mm ID, 0.25 µm film thickness
Temp Program:	70°C to 200°C at 40°C/min 200°C to 280°C at 10°C/min hold 15 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	3
Linearity (r):	0.997

Neat Material Data

Compound Name:	Octachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}Cl_8O_2$
Compound Lot:	ER04041601	**CAS Number:**	114423-97-1
		Molecular Weight:	471.66

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.1%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.07% $^{13}C_0$ vs $^{13}C_{12}$
		0.96% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.15%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

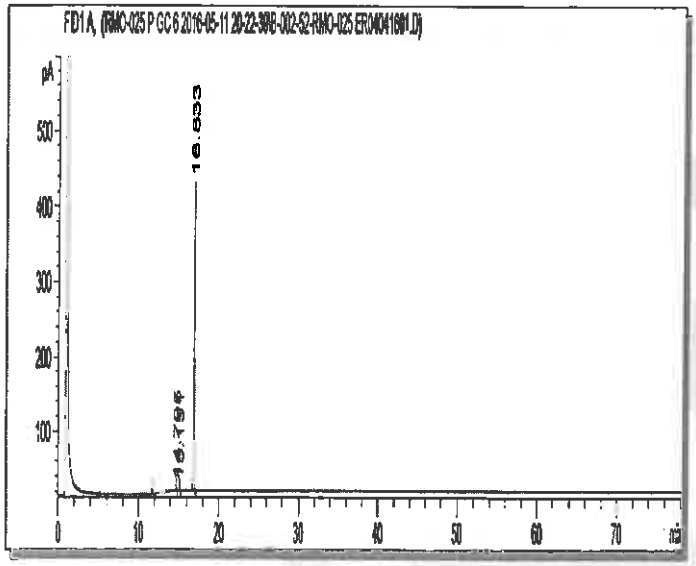

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMO-025 P GC 6 2016-05-11 20-22-39\B-002-52.D
Instrument:	GC#6
Sample Name:	ER04041601
Acquired:	May 11, 2016

Peak #	Ret Time	Area	Height	Area %
1	14.80	12.12	3.62	0.61
2	15.15	4.72	1.32	0.24
3	16.83	1980.56	409.54	99.16

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: Octachlorodibenzo-p-dioxin-13C12
Lot Number	: ERC4041601
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Wed May 04 13:45:40 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

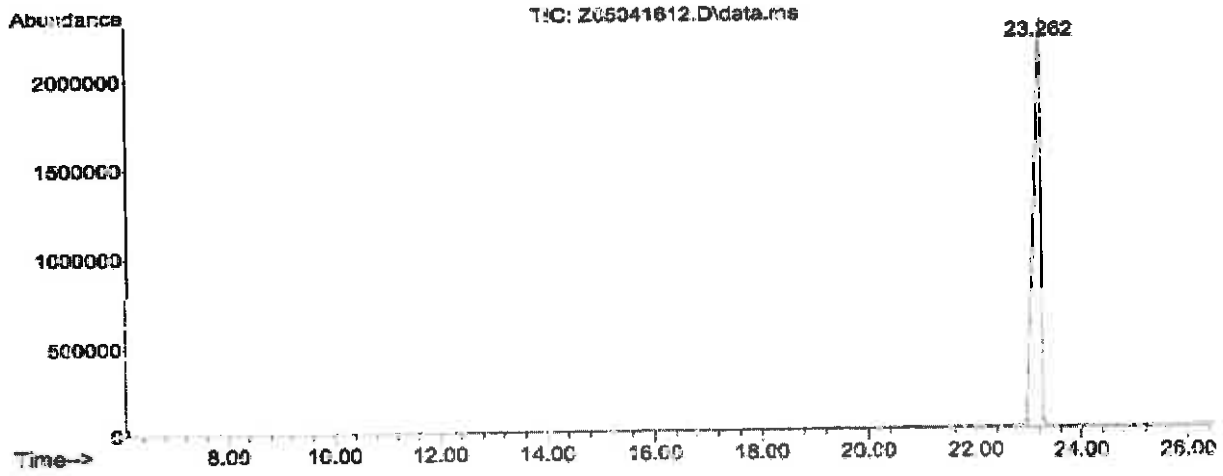

Mass Spectrum

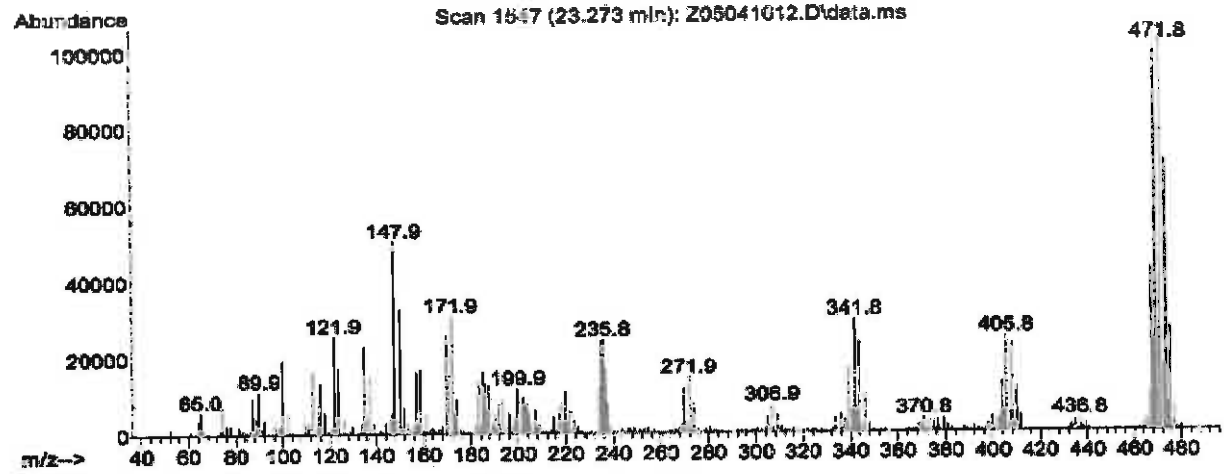

Reagent

HRDXNIDA_00375

nr: 4/8/19 BW

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$

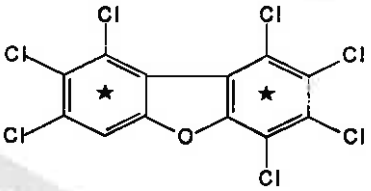

Catalog Number: EF-988
Solution Lot: ER04251601
Expiration Date: May 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	99.1%	49.99 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass, Purity Factor of the analyte(s), measured mass of the solution, and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04251601	49.11	± 5%	0.2	≤ 3%
Previous Lot	ER053107-02	50.58	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

November 09, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}HCl_7O$
Compound Lot:	ER04041602	**CAS Number:**	109719-94-0
		Molecular Weight:	421.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.1%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS SIM	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.16% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.10%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data (cont.)

GC/FID

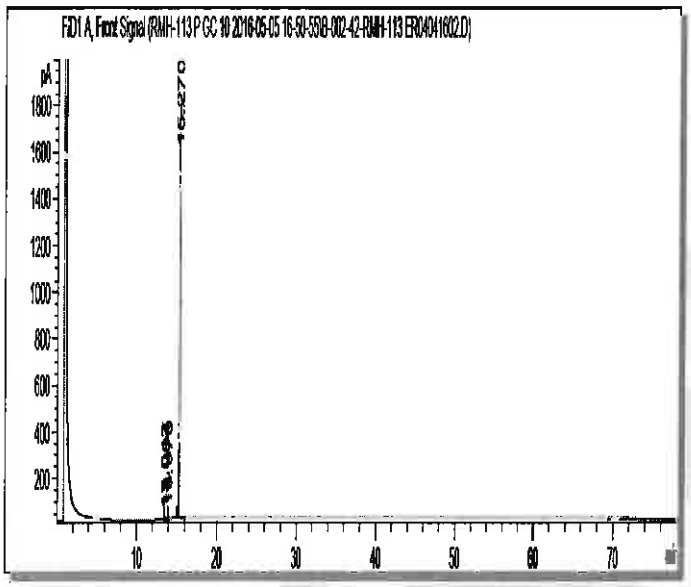

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-113 P GC 10 2016-05-05 16-50-55\B-002-42.D
Instrument:	GC#10
Sample Name:	ER04041602
Acquired:	May 05, 2016

Peak #	Ret Time	Area	Height	Area %
1	13.51	8.76	2.52	0.12
2	13.68	17.42	7.45	0.24
3	13.97	39.65	15.48	0.54
4	15.27	7226.95	1798.33	99.10

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 1,2,3,4,7,8,9-Heptachlorodibenzofuran-13C12
Lot Number	: ER04041602
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Wed May 04 15:34:28 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

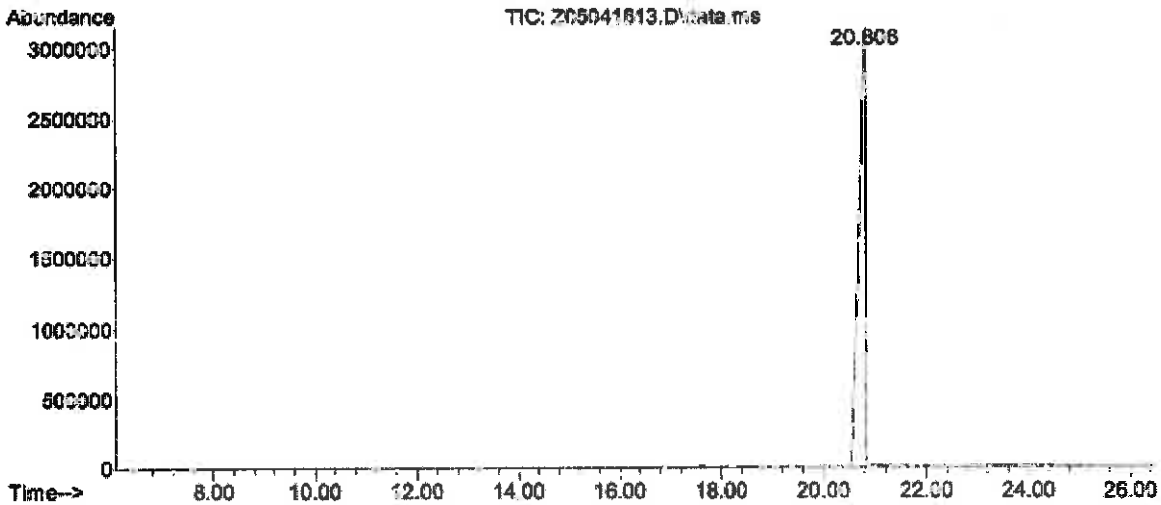

Mass Spectrum

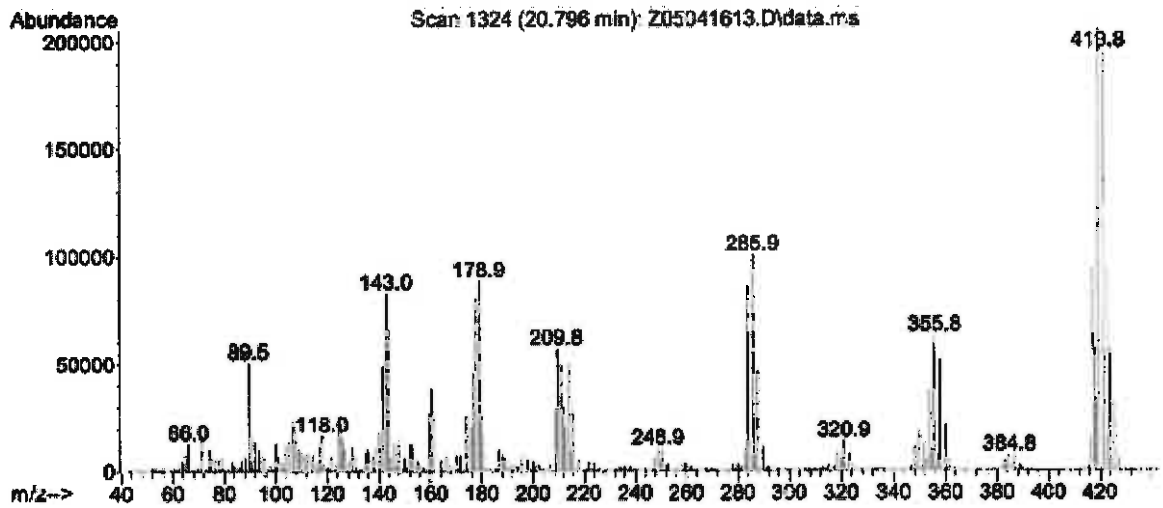

COA Revision History

Revision No.	Date	Reason for Revision
00	June 21, 2016	Initial version
01	November 09, 2016	Corrected Expiration Date from March 2026 to May 2026.

Reagent

HRDXNIDA_00376

N: 4/8/19 SW

Cerilliant
Analytical Reference Standards
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CIL

Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$

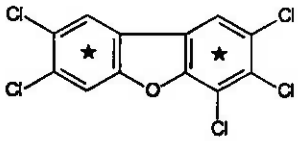

Catalog Number:	EF-958
Solution Lot:	ER01061701
Expiration Date:	January 2027
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	97.9%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass, Purity Factor of the analyte(s), measured mass of the solution, and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Acceptance Criteria	%RSD - Homogeneity Actual Results	Acceptance Criteria
New Lot	ER01061701	50.51	± 5%	0.1	≤ 3%
Previous Lot	ER11041601	49.56	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

January 27, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3Cl_5O$
Compound Lot:	ER11101601	**CAS Number:**	116843-02-8
		Molecular Weight:	352.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0102	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.02% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 0.5%
Mass Balance Purity Factor		**98.33%**

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

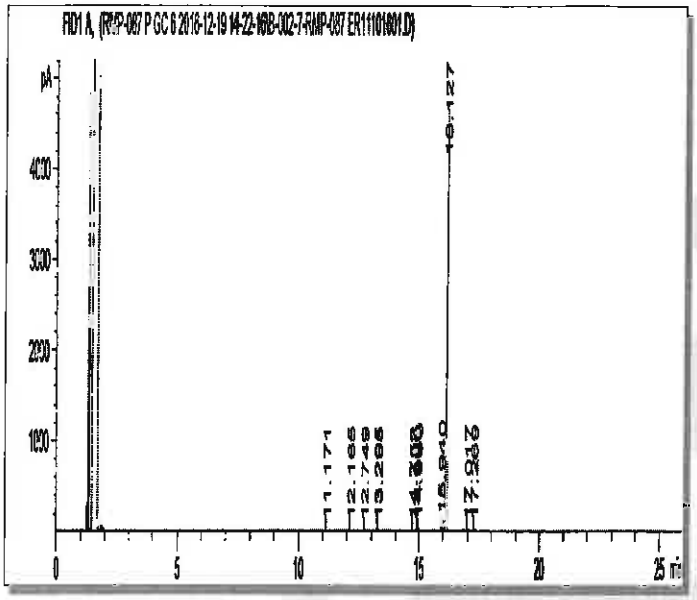

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMP-087 P GC 6 2016-12-19 14-22-16\B-002-7.D
Instrument:	GC#6
Sample Name:	ER11101601
Acquired:	December 19, 2016

Peak #	Ret Time	Area	Height	Area %
1	11.17	0.94	0.40	0.01
2	12.17	1.30	0.39	0.01
3	12.75	0.47	0.20	0.00
4	13.30	0.90	0.35	0.01
5	14.75	1.70	0.87	0.02
6	14.91	1.09	0.56	0.01
7	14.97	32.24	17.54	0.29
8	15.94	124.38	64.36	1.13
9	16.13	10866.60	4688.80	98.41
10	17.02	6.31	2.46	0.06
11	17.27	6.76	2.34	0.06

Spectral and Physical Data (cont.)

GC/MS

```
Compound Name          : 2,3,4,7,8-Pentachlorodibenzofuran-13C12
Lot Number             : ER11101601
Instrument             : Agilent GCMS
Operator               : ECM(SGIUFFRE)
Date Reported          : Tue Dec 20 12:19:55 2016
Column Type            : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program          : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.         : Cool on-column
Carrier Gas            : Helium
Flow Rate (mL\min)     : 0.80 mL/min
Transfer Line Temp.    : 280°C
Scan Range             : 50-550
```

Total Ion Chromatogram

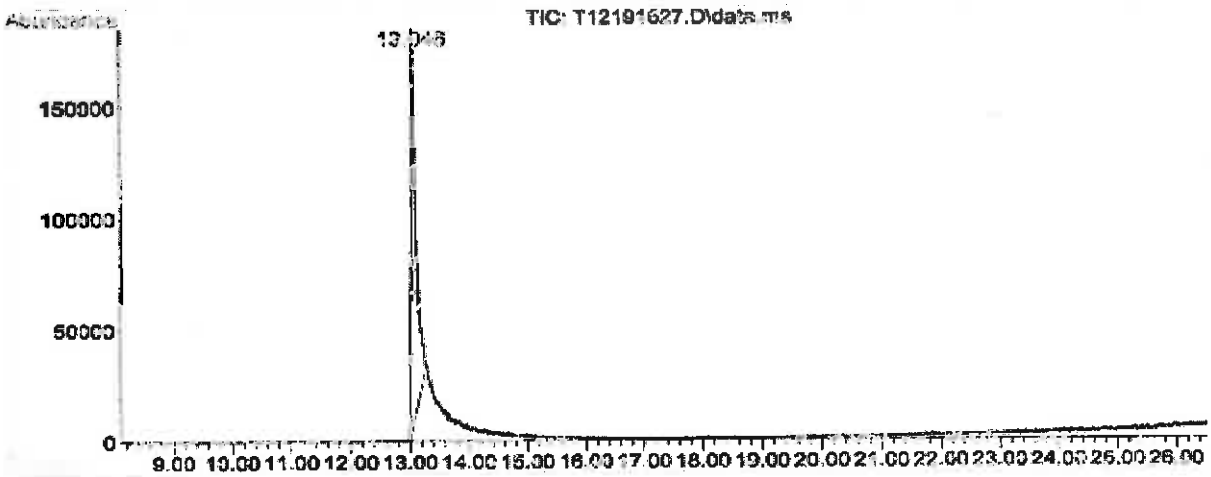

Mass Spectrum

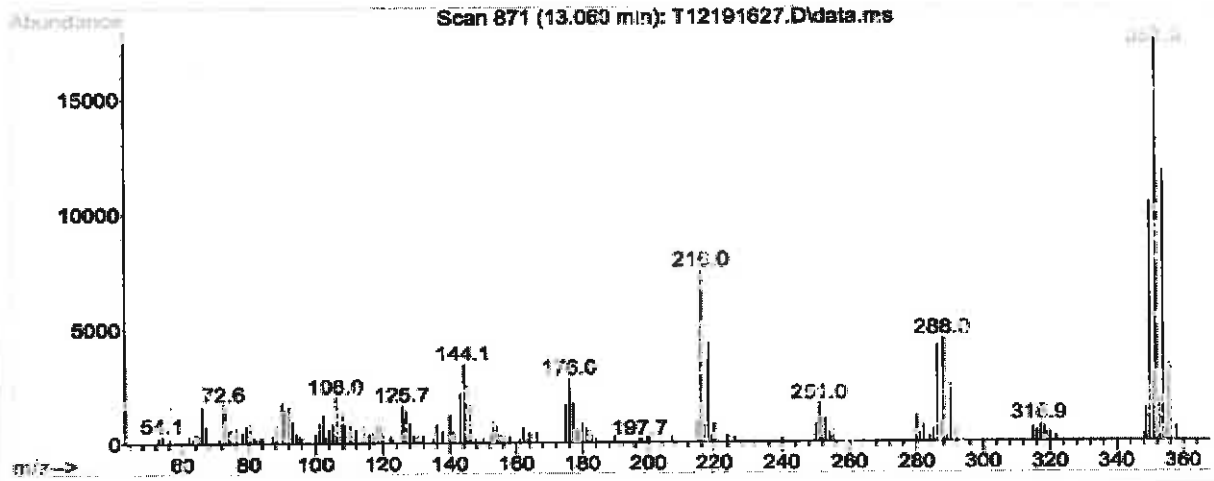

Reagent

HRDXNIDA_00377

r: 4/8/16 SKJ

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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

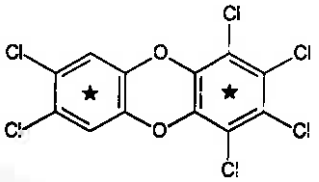

Catalog Number:	ED-946
Solution Lot:	ER04211601
Expiration Date:	June 2026
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.3%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04211601	49.24	± 5%	0.4	≤ 3%
Previous Lot	ER102711-01	49.69	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

August 11, 2016
Date

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 60°C to 300°C at 40°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 4
Linearity (r): 1.000

Neat Material Data

Compound Name: 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$
Compound Lot: ER011008-01

Chemical Formula: $^{13}C_{12}H_2Cl_6O_2$
CAS Number: 109719-80-4
Molecular Weight: 402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.08% $^{13}C_0$ vs $^{13}C_{12}$
		0.21% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.26%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

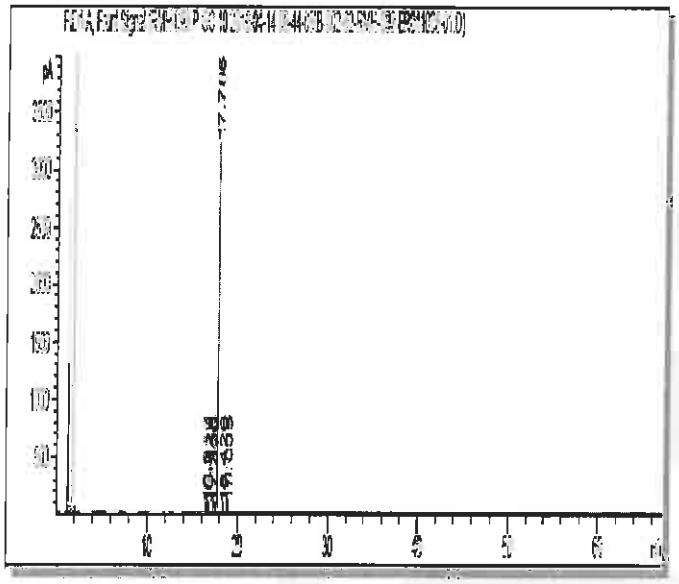

Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 40°C to 300°C at 15°C/min hold 50 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: RMH-098 P GC 10 2016-04-14 08-44-08\B-002-62.D
Instrument: GC#10
Sample Name: ER011008-01
Acquired: April 14, 2016

Peak #	Ret Time	Area	Height	Area %
1	16.56	16.58	7.74	0.19
2	16.72	11.25	5.08	0.13
3	16.83	8.45	4.05	0.10
4	17.30	1.81	0.71	0.02
5	17.48	1.07	0.50	0.01
6	17.79	8682.22	3203.58	99.29
7	18.43	1.99	0.68	0.02
8	19.01	20.62	6.08	0.24

Spectral and Physical Data (cont.)

GC/MS

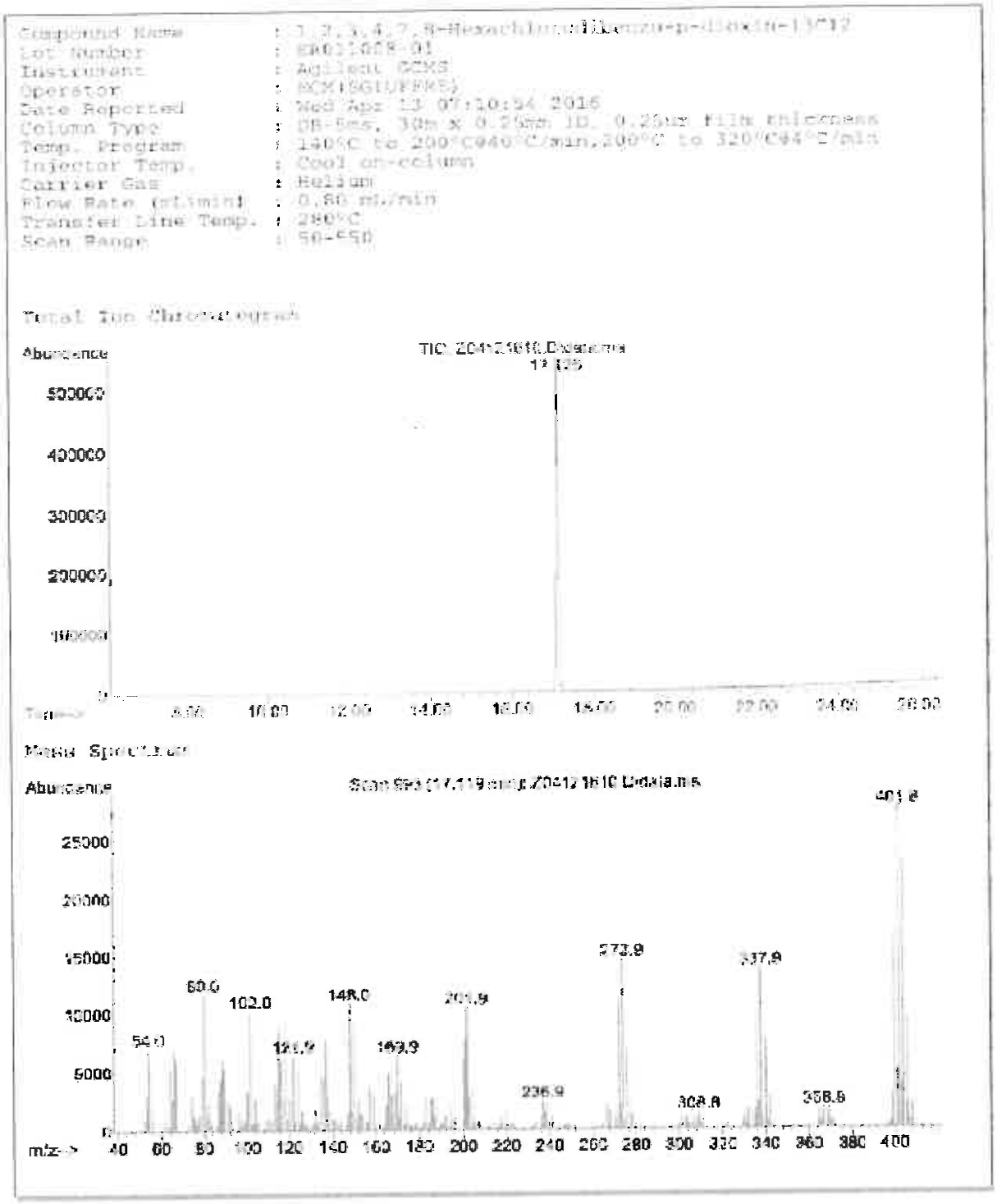

Reagent

HRDXNIDA_00378

r: 4/8/19 SKJ

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Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

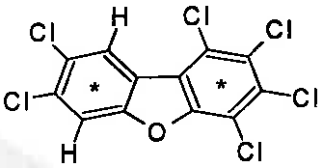

Catalog Number:	EF-963
Solution Lot:	ER04211701
Expiration Date:	July 2027
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.4%	50.00 ± 0.28 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04211701	49.47	± 5%	0.2	≤ 3%
Previous Lot	ER072810-02	45.87	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release

Traceability

- Gravemetrically prepared using balances that have been qualified and calibrated to ISO 17025 requirements. All calibrations utilize NIST traceable weights which are calibrated externally by a qualified ISO 17025 accredited calibration laboratory to NIST standards. Qualification of each balance includes the assignment of a minimum weighing by a qualified and ISO 17025 accredited calibration vendor taking into consideration the balance and installed environmental conditions to ensure compliance with USP tolerances of NMT 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

September 11, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}Cl_6H_2O$
Compound Lot:	ER11281601	**CAS Number:**	114423-98-2
		Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0102	99.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.06% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 0.5%
Mass Balance Purity Factor		99.31%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

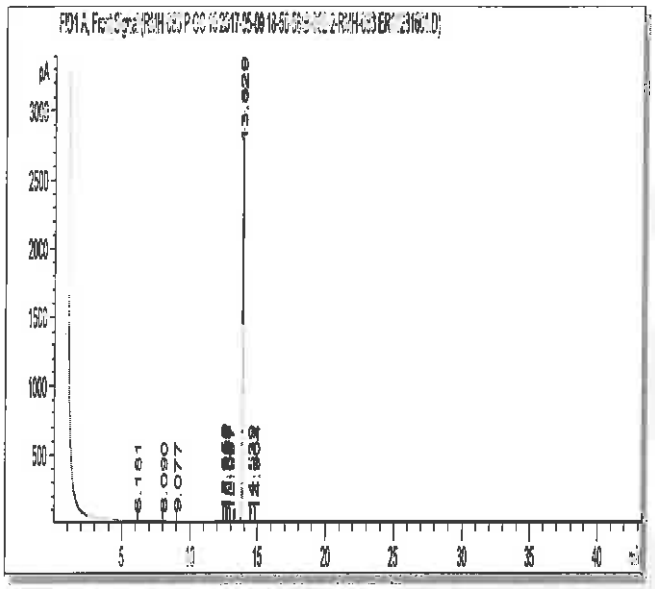

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 30 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-083 P GC 10 2017-05-09 18-50-58\B-002-2.D
Instrument:	GC#10
Sample Name:	ER11281601
Acquired:	May 09, 2017

Peak #	Ret Time	Area	Height	Area %
1	6.18	1.10	0.64	0.01
2	8.09	2.00	0.70	0.02
3	9.08	1.17	0.48	0.01
4	12.55	14.76	7.25	0.16
5	12.73	32.67	11.32	0.36
6	12.84	5.45	2.50	0.06
7	13.00	2.51	1.30	0.03
8	13.83	8993.56	3122.16	99.30
9	14.54	1.11	0.20	0.01
10	14.90	2.71	0.86	0.03

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 1,2,3,4,7,8-hexachlorodibenzofuran-13C12
Lot Number : SRI128160[illegible]
Instrument : Agilent GCMS
Operator : ECM(SGIDEFKE)
Date Reported : Mon May 08 09:30:09 2017
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@60°C/min,200°C to 320°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL\min) : 0.80 mL/min
Transfer Line Temp. : 280°C
Scan Range : 50-550

Total Ion Chromatogram

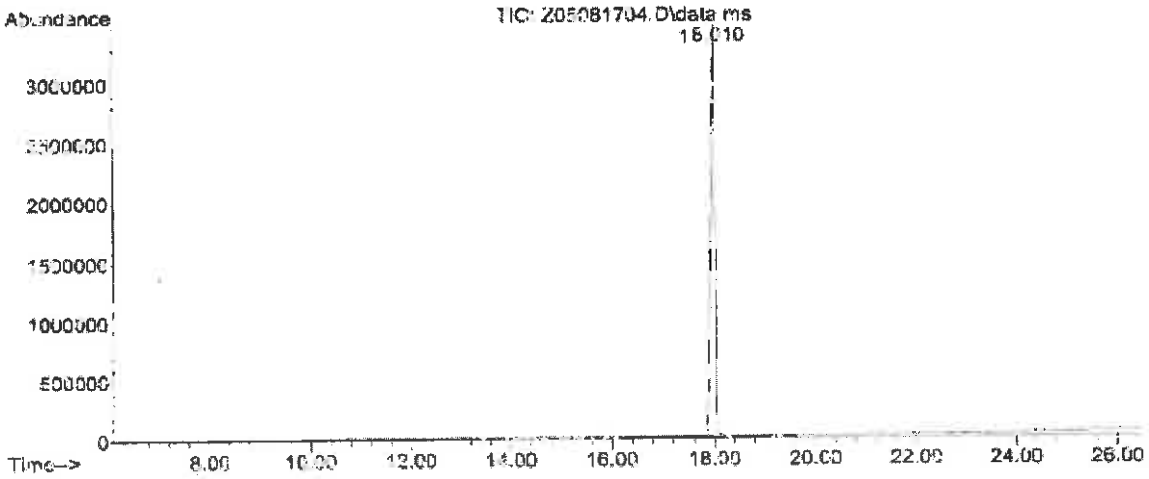

Mass Spectrum

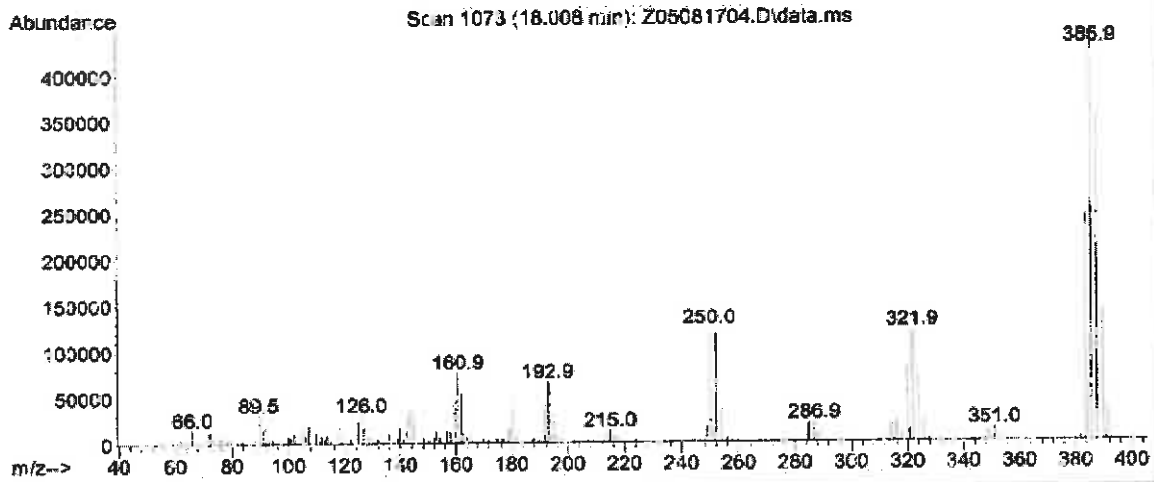

Reagent

HRDXNIS_00110

r: 9/4/18 SKV

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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

Catalog Number: ED-996
Solution Lot: ER08221601
Expiration Date: September 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER08221601	49.20	± 5%	0.3	≤ 3%
Previous Lot	ER021313-01	49.56	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

September 28, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O_2$
Compound Lot:	ER110510-01	**CAS Number:**	109719-82-6
		Molecular Weight:	402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.04% $^{13}C_0$ vs $^{13}C_{12}$
		0.27% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.02%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

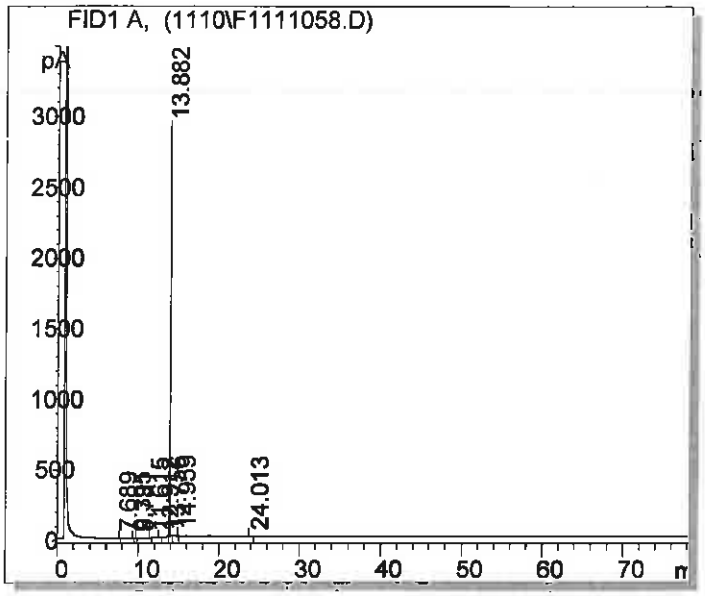

Column:	DB-5ms 30m x 0.53mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-column
Detector Temp:	325°C
Data File Name:	S:\GC\GC6\2010\1110\F1111058.D
Instrument:	GC#6
Sample Name:	ER110510-01
Acquired:	November 12, 2010

Peak #	Ret Time	Area	Height	Area %
1	4 69	0.45	0.10	0.01
2	9.40	0 72	0.14	0.01
3	9.78	0 80	0.13	0.01
4	11 62	7.34	2.54	0.09
5	12 91	2.59	0.23	0.03
6	13 76	1.91	1.00	0.02
7	13 88	8026.07	2938.74	99.11
8	14.96	36.82	11.38	0.45
9	24.01	21.08	1.62	0.26

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-13C12
Lot Number : ER110510-01
Instrument : Agilent 5973N MSD /6890N GC
Operator-Inst ID : RPC - A147434
Date Reported : Fri Nov 12 16:41:14 2010
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C @40°C/min,200°C to 320°C @4°C/min
Injector Temp. : Cool on-column Trans. Line Temp : 280°C
Carrier Gas : Helium Flow Rate : 0.80 mL/min

Total Ion Chromatogram
S:\GCMS\GCMS2\2010\1110\

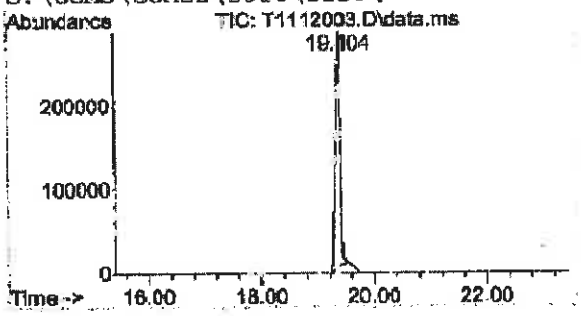

Mass Spectrum
Scan Number: 1976 Scan Range: 50-550 amu

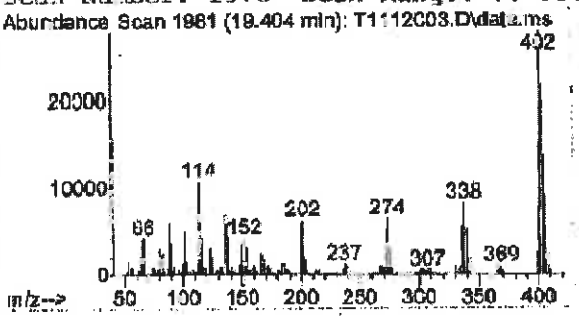

SIM Ion Chromatogram 1

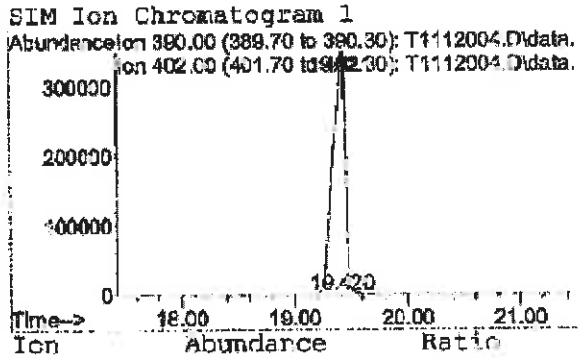

Ion	Abundance	Ratio
402	26368380	99.96
390	9776	0.04

SIM Ion Chromatogram 2

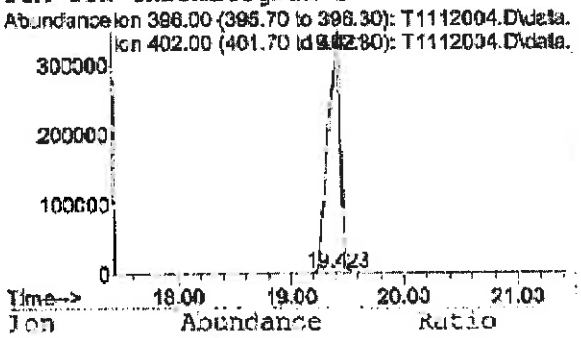

Ion	Abundance	Ratio
402	26368380	99.73
396	71626	0.27

Reagent

HRDXNIS_00111

Rec: 9/4/18 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$

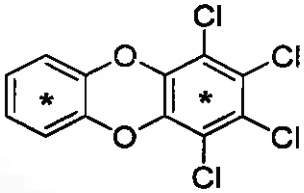

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number: ED-911
Solution Lot: ER11081602
Expiration Date: January 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.7%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER11081602	51.01	± 10%	0.1	≤ 3%
Previous Lot	ER060710-01	50.59	± 10%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

January 23, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$
Compound Lot:	ER02021602

Chemical Formula:	$^{13}C_{12}H_4Cl_4O_2$
CAS Number:	114423-99-3
Molecular Weight:	333.88

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS	SP10-0105	no single DD/DF impurity ≥ 1.0%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.03% $^{13}C_0$ vs $^{13}C_{12}$
		0.01% $^{13}C_6$ vs $^{13}C_{12}$
Identity by ^{1}H-NMR Analysis	USP <761>, SP10-0116	Consistent with Structure
Residual Solvent by ^{1}H-NMR Analysis	USP <761>, SP10-0116	0.31% Dichloromethane
Mass Balance Purity Factor		98.71%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

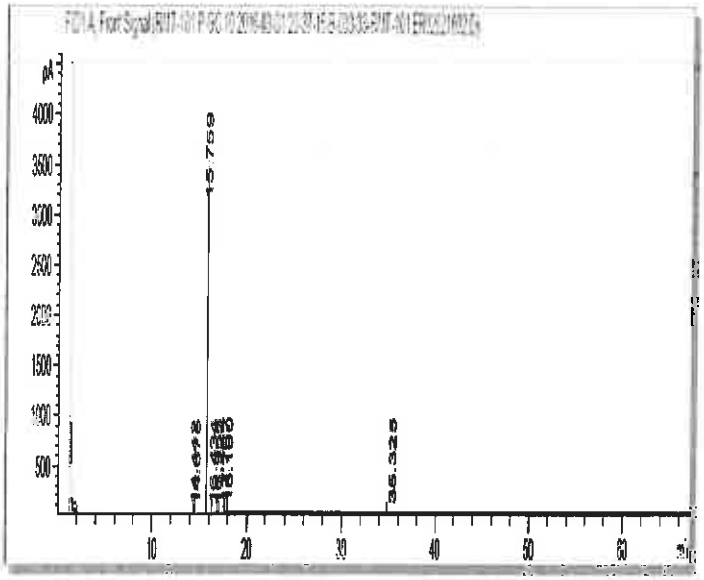

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	40°C to 300°C at 15°C/min hold 50 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMT-101 P GC 10 2016-03-01 20-37-15\B-003-33.D
Instrument:	GC#10
Sample Name:	ER02021602
Acquired:	March 01, 2016

Peak #	Ret Time	Area	Height	Area %
1	14.44	1.34	0.53	0.02
2	14.68	3 60	0.58	0.05
3	15.76	7522 29	3054.11	99.22
4	16 43	3 51	0.80	0.05
5	16 96	2 38	1.09	0.03
6	17 13	4 79	2.26	0.06
7	17.77	8 72	3.38	0.11
8	18.10	1 68	0.54	0.02
9	35.33	32 94	1.28	0.43

^{1}H NMR

Instrument:	JEOL ECS 400
Solvent:	Chloroform-D

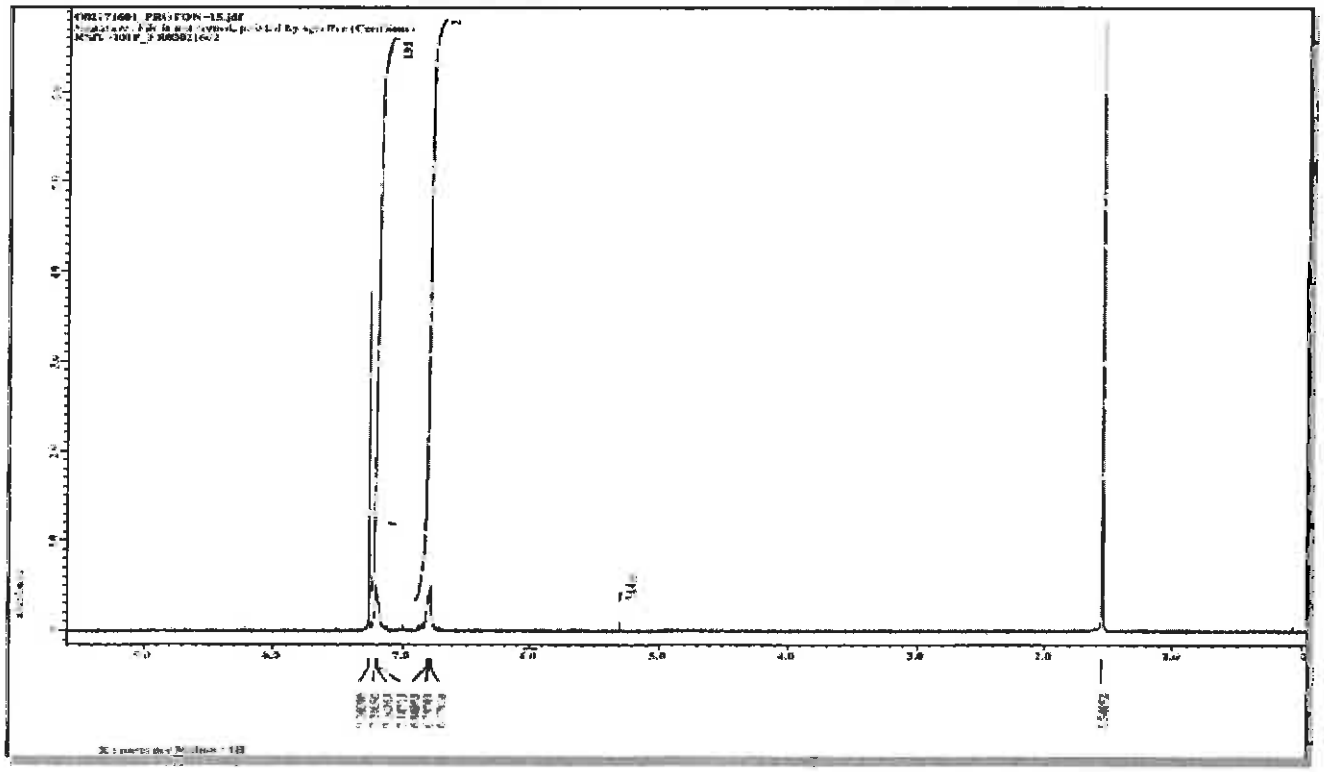

Spectral and Physical Data (cont.)

GC/MS

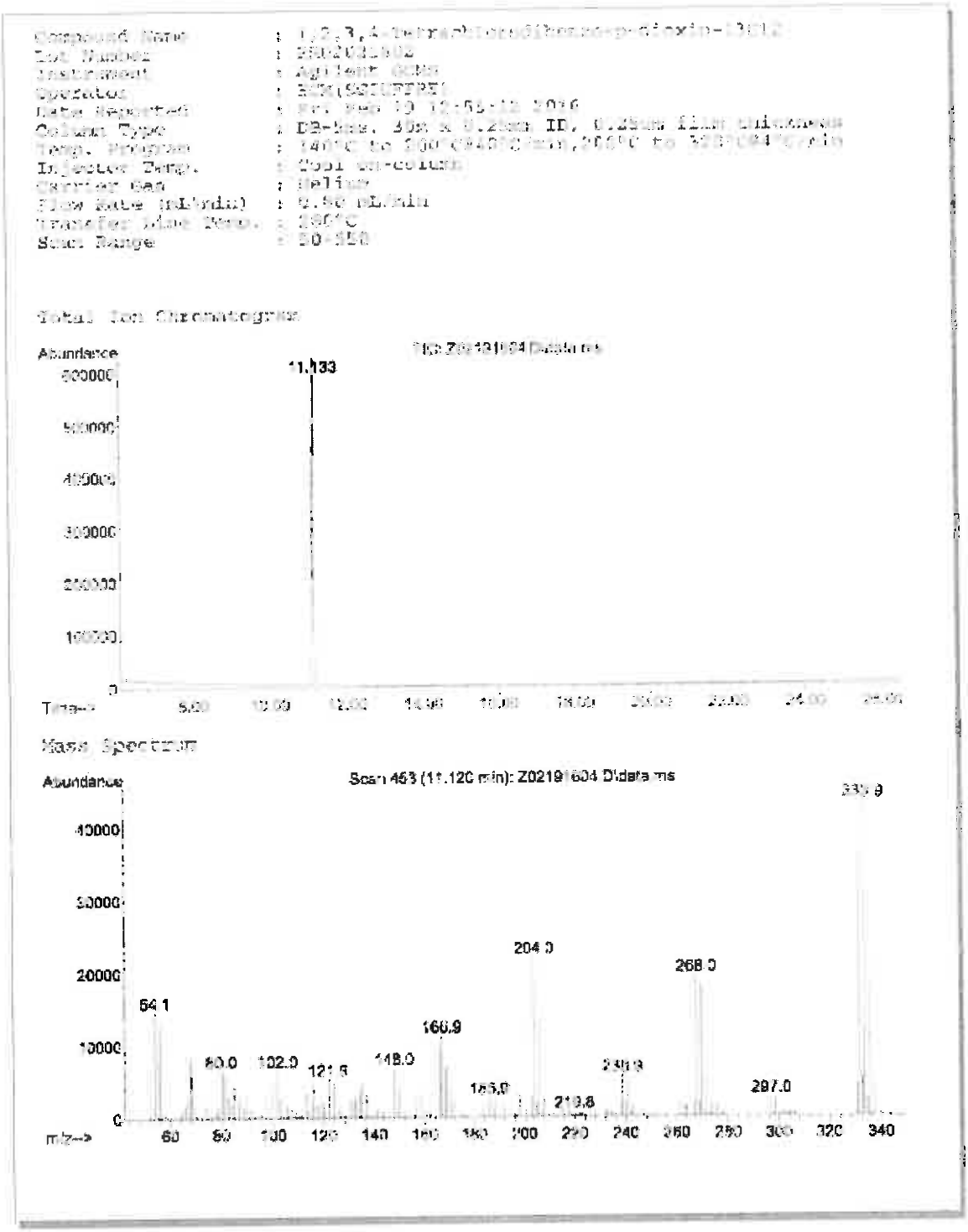

Reagent

HRDXNSU_00187

r: 7/30/18 SKN

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$

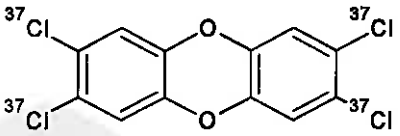

Catalog Number: ED-907
Solution Lot: ER05211501
Expiration Date: July 2025
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold
Shipping: Ambient.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Instructions for Use: Sonicate before use.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration
- For MS Applications, we advise laboratories not to mix lots during a single sequence.

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$	98.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Acceptance Criteria	%RSD - Homogeneity Actual Results	Acceptance Criteria
New Lot	ER05211501	50.60	± 10%	0.2	≤ 5%
Previous Lot	ER052010-02	49.73	± 10%	0.5	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after

ACLASS ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

August 03, 2015
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$	**Chemical Formula:**	$C_{12}H_4O_2{}^{37}Cl_4$
Compound Lot:	ER040510-01	**CAS Number**	85508-50-5
		Molecular Weight	328.02

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{37}Cl_0$ vs $^{37}Cl_4$
Identity by ^{1}H-NMR Analysis	USP <761>, SP10-0116	Consistent with Structure
Residual Solvent Analysis by ^{1}H-NMR	USP <761>, SP10-0116	1.2% Chloroform
Purity Factor		97.14%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

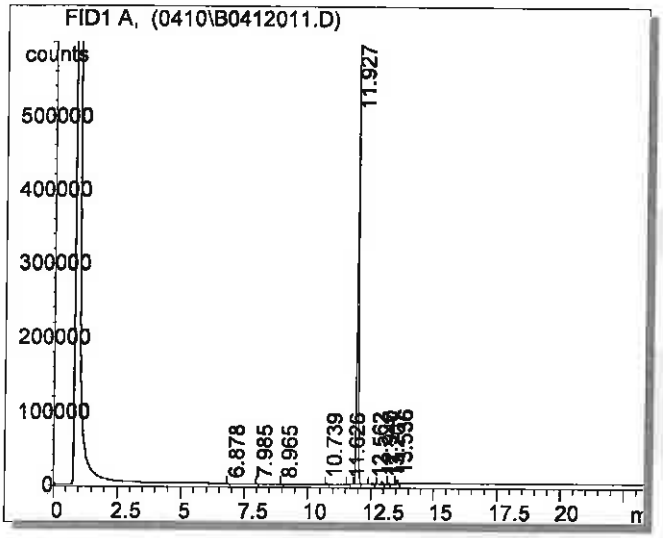

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	S:\GC\GC2\2010\0410\B0412011.D
Instrument:	GC#2
Sample Name:	ER040510-01
Acquired:	April 13, 2010

Peak #	Ret Time	Area	Height	Area %
1	6.88	245.58	89.37	0.01
2	7.99	304.03	131.27	0.01
3	8.97	233.91	72.32	0.01
4	10.74	931.14	265.29	0.04
5	11.63	127.86	46.74	0.01
6	11.93	2261830.00	580792.00	98.34
7	12.56	6435.54	1838.17	0.28
8	12.94	13336.80	4373.86	0.58
9	13.20	2178.30	729.98	0.09
10	13.54	14483.80	5038.43	0.63

^{1}H NMR

Instrument:	JEOL ECS 400
Solvent:	Toluene-D_8

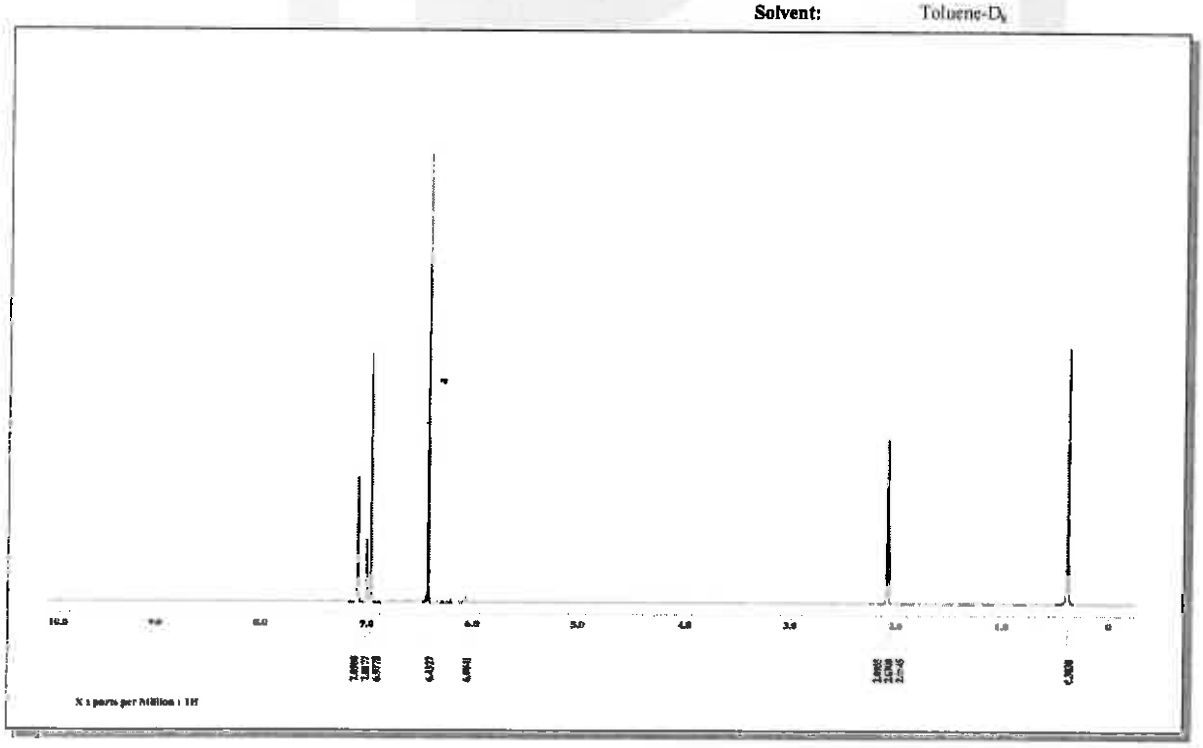

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

Compound Name : 2,3,7,8-Tetrachlorodibenzo-p-dioxin-37C14
Lot Number : [illegible]
Instrument : Agilent 5973N MSD/6890N GC
Operator-Inst ID : RPC - C10106
Date Acquired : Mon Apr 19 [illegible] 2010
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : [illegible]
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 280°C

Scan Range : 50-550

Total Ion Chromatogram

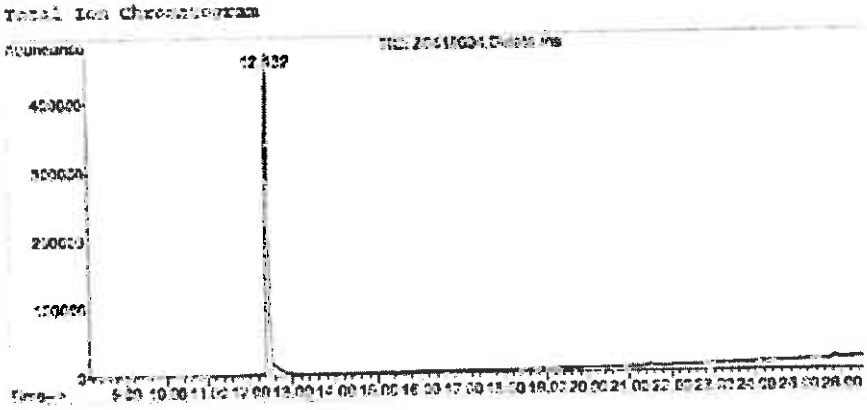

Mass Spectrum

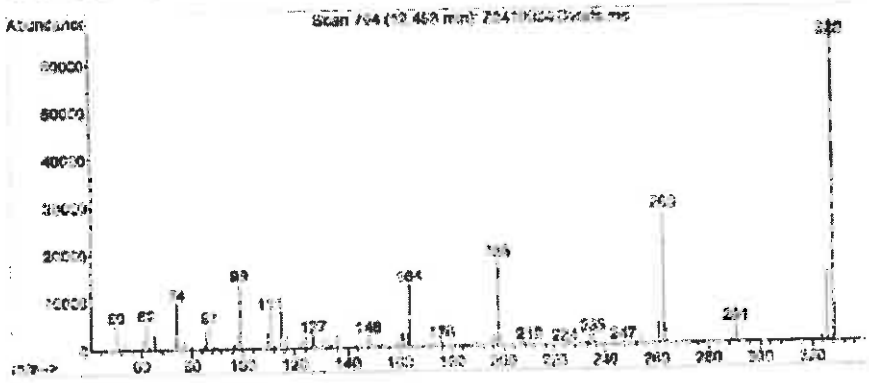

Reagent

HRDXNSU_00211

Rec 4/30/19 SW

(8)

Cerilliant Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$

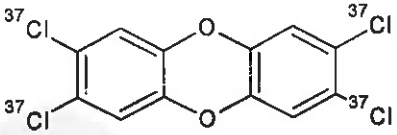

Catalog Number: ED-907
Solution Lot: ER05211501
Expiration Date: July 2025
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold
Shipping: Ambient.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Instructions for Use: Sonicate before use.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration
- For MS Applications, we advise laboratories not to mix lots during a single sequence.

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$	98.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER05211501	50.60	± 10%	0.2	≤ 5%
Previous Lot	ER052010-02	49.73	± 10%	0.5	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after

ACLASS

Darron Ellsworth, Quality Assurance Manager

August 03, 2015
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$
Compound Lot:	ER040510-01
Chemical Formula:	$C_{12}H_4O_2{}^{37}Cl_4$
CAS Number:	85508-50-5
Molecular Weight:	328.02

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{37}Cl_0$ vs $^{37}Cl_4$
Identity by ^{1}H-NMR Analysis	USP <761>, SP10-0116	Consistent with Structure
Residual Solvent Analysis by ^{1}H-NMR	USP <761>, SP10-0116	1.2% Chloroform
Purity Factor		97.14%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

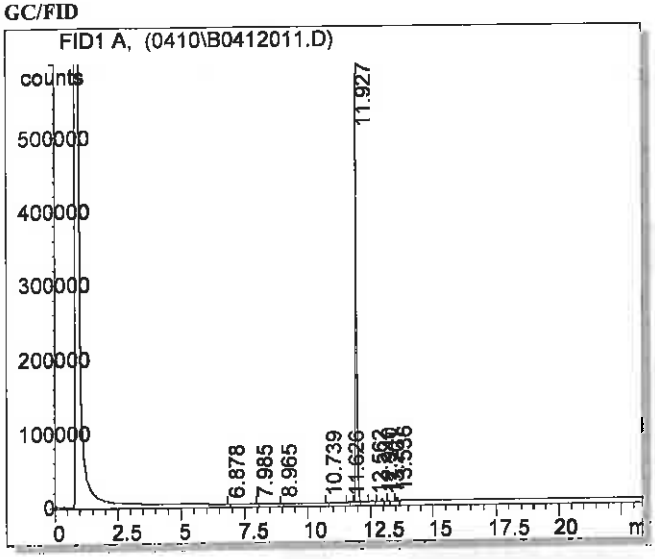

Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 100°C to 300°C at 15°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: S:\GC\GC2\2010\0410\B0412011.D
Instrument: GC#2
Sample Name: ER040510-01
Acquired: April 13, 2010

Peak #	Ret Time	Area	Height	Area %
1	6.88	245.58	89.37	0.01
2	7.99	304.03	131.27	0.01
3	8.97	233.91	72.32	0.01
4	10.74	931.14	265.29	0.04
5	11.63	127.86	46.74	0.01
6	11.93	2261830.00	580792.00	98.34
7	12.56	6435.54	1838.17	0.28
8	12.94	13336.80	4373.86	0.58
9	13.20	2178.30	729.98	0.09
10	13.54	14483.80	5038.43	0.63

^{1}H NMR

Instrument: JEOL ECS 400
Solvent: Toluene-D_8

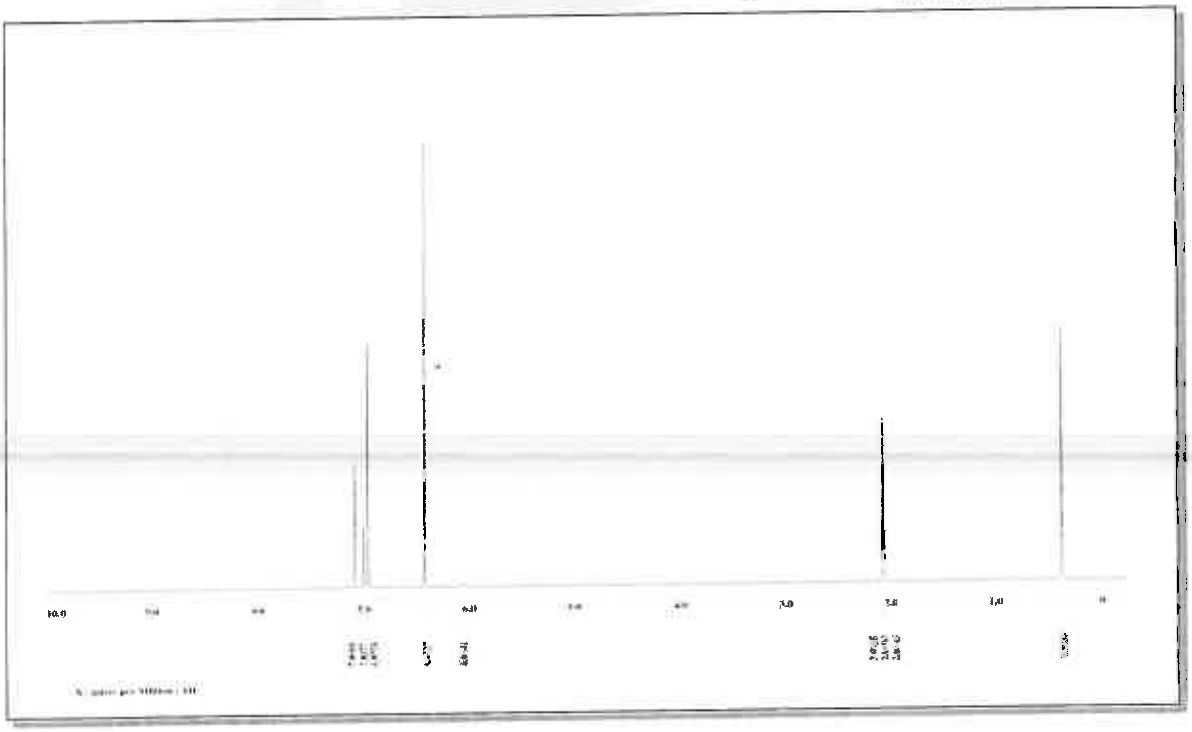

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

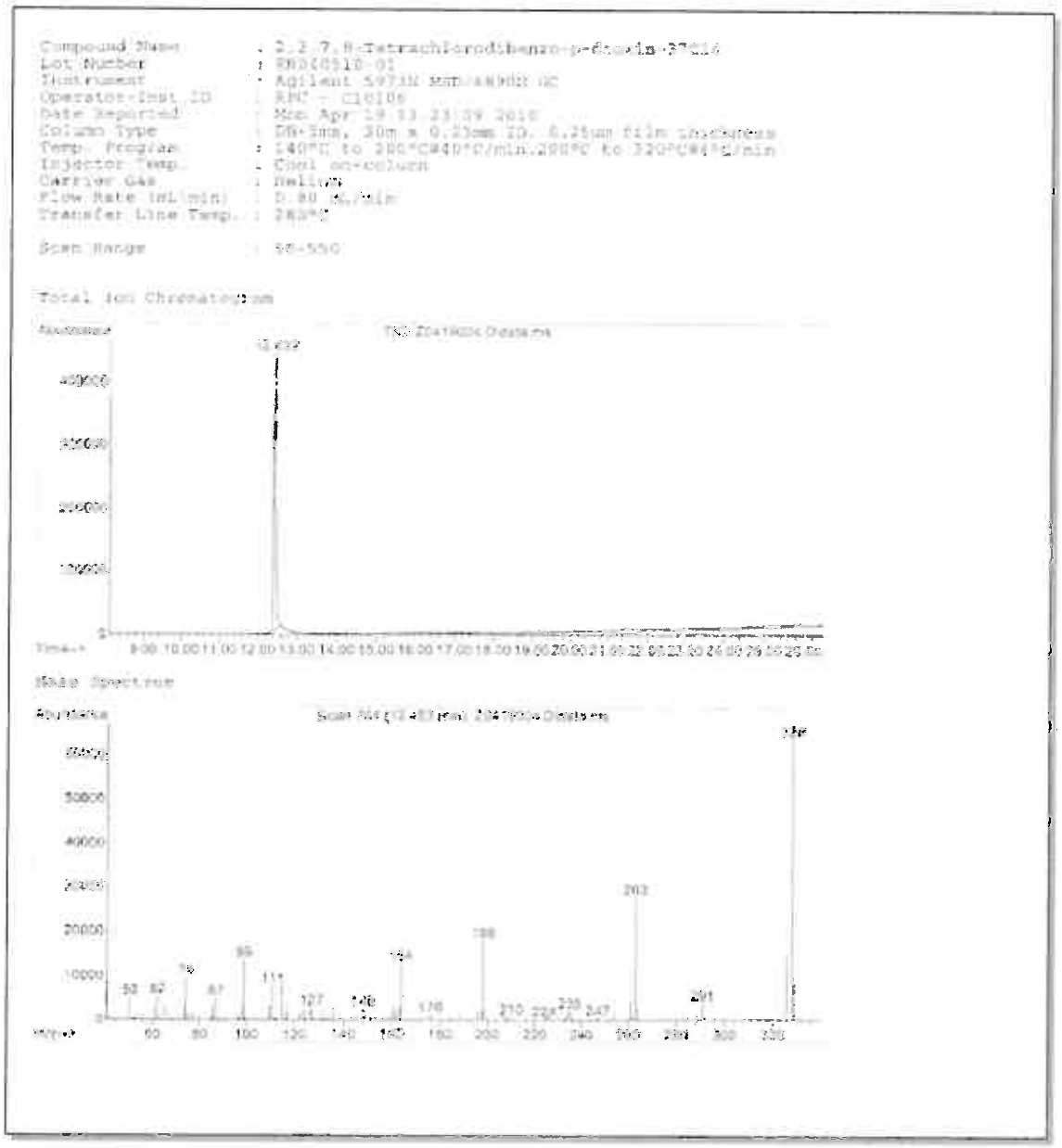

Reagent

HRDXNTA_00110

(3)

P: 4/30/16 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Method 1613 PAR Stock Solution

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number:	EDF-7999-10X
Solution Lot:	ER02241602
Expiration Date:	April 2026
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/ analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 volume We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration.

Component	Lot Number	CAS Number	Chemical Formula	Molecular Weight	Chromatographic Purity	Concentration
2,3,7,8-TeCDD	ER04271502	1746-01-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%	399.9 ± 4.0 ng/mL
2,3,7,8-TeCDF	ER101211-02	51207-31-9	$C_{12}H_4Cl_4O$	305.97	99.4%	399.9 ± 4.0 ng/mL
1,2,3,7,8-PeCDD	ER110909-02	40321-76-4	$C_{12}H_3Cl_5O_2$	356.42	99.2%	2000 ± 20 ng/mL
1,2,3,7,8-PeCDF	ER03121401	57117-41-6	$C_{12}H_3Cl_5O$	340.42	99.5%	1999 ± 20 ng/mL
2,3,4,7,8-PeCDF	ER070710-01	57117-31-4	$C_{12}H_3Cl_5O$	340.42	99.4%	1999 ± 20 ng/mL
1,2,3,4,7,8-HxCDD	ER080108-02	39227-28-6	$C_{12}H_2Cl_6O_2$	390.86	98.6%	2000 ± 20 ng/mL
1,2,3,6,7,8-HxCDD	ER03231501	57653-85-7	$C_{12}H_2Cl_6O_2$	390.86	99.6%	2000 ± 20 ng/mL
1,2,3,7,8,9-HxCDD	ER02041601	19408-74-3	$C_{12}H_2Cl_6O_2$	390.86	99.2%	2000 ± 20 ng/mL
1,2,3,4,7,8-HxCDF	ER021110-01	70648-26-9	$C_{12}H_2Cl_6O$	374.86	99.0%	2000 ± 20 ng/mL
1,2,3,6,7,8-HxCDF	ER04161501	57117-44-9	$C_{12}H_2Cl_6O$	374.86	99.8%	2000 ± 20 ng/mL
1,2,3,7,8,9-HxCDF	ER060107-01	72918-21-9	$C_{12}H_2Cl_6O$	374.86	97.5%	1999 ± 20 ng/mL
2,3,4,6,7,8-HxCDF	ER02041602	60851-34-5	$C_{12}H_2Cl_6O$	374.86	99.1%	2001 ± 20 ng/mL
1,2,3,4,6,7,8-HpCDD	ER01201504	35822-46-9	$C_{12}HCl_7O_2$	425.31	98.5%	1999 ± 20 ng/mL
1,2,3,4,6,7,8-HpCDF	ER02281403	67562-39-4	$C_{12}HCl_7O$	409.31	98.9%	1999 ± 20 ng/mL
1,2,3,4,7,8,9-HpCDF	ER01121503	55673-89-7	$C_{12}HCl_7O$	409.31	99.1%	1999 ± 20 ng/mL
OCDD	ER05221301	3268-87-9	$C_{12}Cl_8O_2$	459.75	99.9%	3999 ± 40 ng/mL
OCDF	ER040811-01	39001-02-0	$C_{12}Cl_8O$	443.75	98.9%	4000 ± 40 ng/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Stock solution concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

April 28, 2016
Date

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.

Standard Solution Assay Parameters

Analysis Method: GC/ECD
Column: DB-5ms, 30 m x 0.25 mm ID, 0 25 µm film thickness
Temp Program: 140°C to 200°C at 40°C/min 200°C to 300°C at 4°C/min hold 3 min
Injector Temp: Cool on-column
Detector Temp: 280°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 1

Solution Standard Verification and Homogeneity

Compound	Verified Concentration ng/mL	Acceptance Criteria	%RSD - Homogeneity %	Acceptance Criteria
2,3,7,8-TeCDD	397 1	± 10%	0.7	≤ 5%
2,3,7,8-TeCDF	386 6	± 10%	0.7	≤ 5%
1,2,3,7,8-PeCDD	1937	± 10%	0.8	≤ 5%
1,2,3,7,8-PeCDF	1919	± 10%	0.8	≤ 5%
2,3,4,7,8-PeCDF	1941	± 10%	0.8	≤ 5%
1,2,3,4,7,8-HxCDD	1932	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDD	1987	± 10%	0 8	≤ 5%
1,2,3,7,8,9-HxCDD	1943	± 10%	0 7	≤ 5%
1,2,3,4,7,8-HxCDF	1933	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDF	1909	± 10%	0.9	≤ 5%
1,2,3,7,8,9-HxCDF	1942	± 10%	0.7	≤ 5%
2,3,4,6,7,8-HxCDF	1950	± 10%	0.8	≤ 5%
1,2,3,4,6,7,8-HpCDD	1930	± 10%	0.9	≤ 5%
1,2,3,4,6,7,8-HpCDF	1919	± 10%	0.9	≤ 5%
1,2,3,4,7,8,9-HpCDF	1943	± 10%	1.0	≤ 5%
OCDD	3844	± 10%	1.0	≤ 5%
OCDF	3906	± 10%	0.9	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The %RSD of samples pulled from across the lot demonstrate homogeneity.
- Product is compared to prior lot and meets acceptance criteria of ± 10%.

Product Analysis

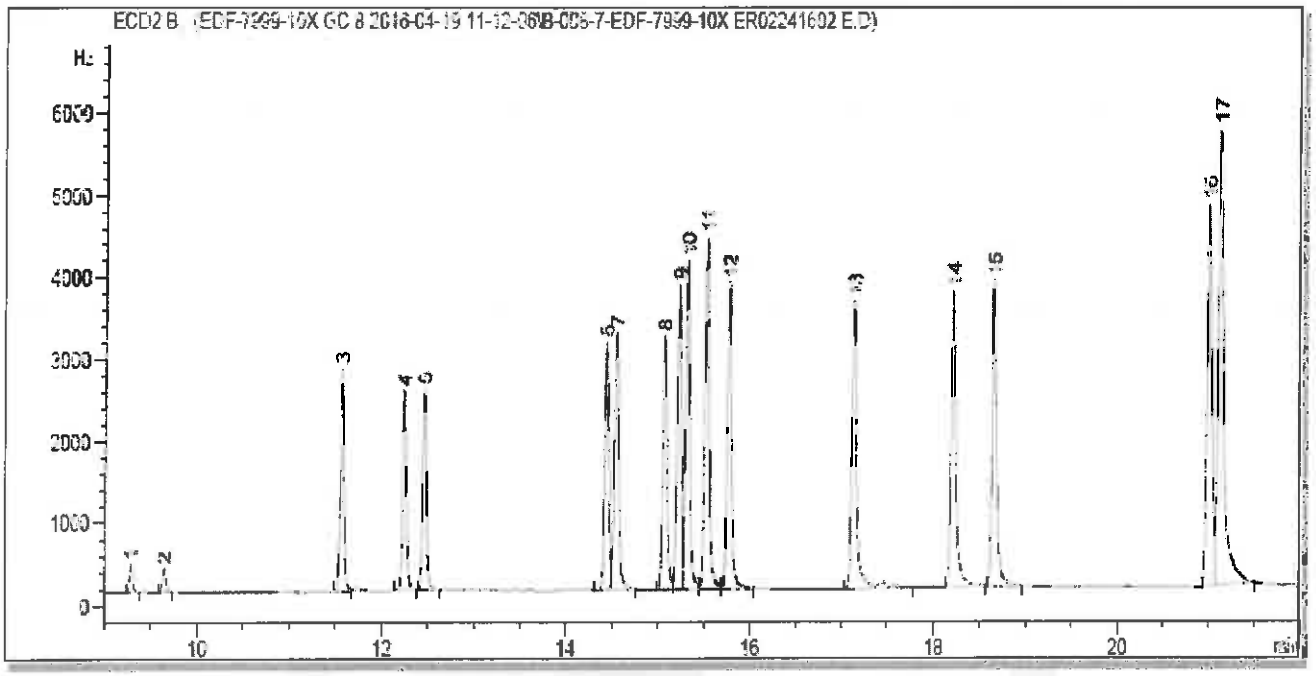

Peak:	Analyte:
1	2,3,7,8-Tetrachlorodibenzofuran
2	2,3,7,8-Tetrachloro-p-dioxin
3	1,2,3,7,8-Pentachlorodibenzofuran
4	2,3,4,7,8-Pentachlorodibenzofuran
5	1,2,3,7,8-Pentachlorodibenzo-p-dioxin
6	1,2,3,4,7,8-Hexachlorodibenzofuran
7	1,2,3,6,7,8-Hexachlorodibenzofuran
8	2,3,4,6,7,8-Hexachlorodibenzofuran
9	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin
10	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin
11	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin
12	1,2,3,7,8,9-Hexachlorodibenzofuran
13	1,2,3,4,6,7,8-Heptachlorodibenzofuran
14	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin
15	1,2,3,4,7,8,9-Heptachlorodibenzofuran
16	Octachlorodibenzo-p-dioxin
17	Octachlorodibenzofuran

COA Revision History

Revision No.	Date	Reason for Revision
00	April 28, 2016	Initial version

Method 1613B

Dioxins and Furans (HRGC/HRMS) by Method 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58545-1

SDG No.:

Matrix: Sediment Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCDF #	TCDD #	37TCDD #	PeCDF #	PeCF #	PeCDD #	HxCDF #	HxDF #
	LCS 320-357123/2-A	57	59	96	60	61	60	61	60

	QC LIMITS
TCDF = 13C-2,3,7,8-TCDF	22-152
TCDD = 13C-2,3,7,8-TCDD	20-175
37TCDD = 37Cl4-2,3,7,8-TCDD	31-191
PeCDF = 13C-1,2,3,7,8-PeCDF	21-192
PeCF = 13C-2,3,4,7,8-PeCDF	13-328
PeCDD = 13C-1,2,3,7,8-PeCDD	21-227
HxCDF = 13C-1,2,3,4,7,8-HxCDF	19-202
HxDF = 13C-1,2,3,6,7,8-HxCDF	21-159

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58545-1

SDG No.:

Matrix: Sediment Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	13CHxCF #	HxCDD #	HxDD #	HxCF #	HpCDF #	HpCDD #	HpCDF2 #	OCDD #
	LCS 320-357123/2-A	65	61	67	63	65	66	66	65

	QC LIMITS
13CHxCF = 13C-2,3,4,6,7,8-HxCDF	22-176
HxCDD = 13C-1,2,3,4,7,8-HxCDD	21-193
HxDD = 13C-1,2,3,6,7,8-HxCDD	25-163
HxCF = 13C-1,2,3,7,8,9-HxCDF	17-205
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF	21-158
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD	26-166
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF	20-186
OCDD = 13C-OCDD	13-199

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58545-1

SDG No.:

Matrix: Sediment Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCDF #	TCDD #	37TCDD #	PeCDF #	PeCF #	PeCDD #	HxCDF #	HxDF #
11187072-Berm-Rock	320-58545-1	64	66	97	70	72	70	63	66
11187072-Eastern Rock	320-58545-2	63	63	95	65	67	65	63	64
11187072-Western-Rock	320-58545-3	64	67	99	72	72	69	66	67
	MB 320-357123/1-A	64	67	97	64	68	61	66	67

	QC LIMITS
TCDF = 13C-2,3,7,8-TCDF	24-169
TCDD = 13C-2,3,7,8-TCDD	25-164
37TCDD = 37Cl4-2,3,7,8-TCDD	35-197
PeCDF = 13C-1,2,3,7,8-PeCDF	24-185
PeCF = 13C-2,3,4,7,8-PeCDF	21-178
PeCDD = 13C-1,2,3,7,8-PeCDD	25-181
HxCDF = 13C-1,2,3,4,7,8-HxCDF	26-152
HxDF = 13C-1,2,3,6,7,8-HxCDF	26-123

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58545-1

SDG No.:

Matrix: Sediment Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	13CHxCF #	HxCDD #	HxDD #	HxCF #	HpCDF #	HpCDD #	HpCDF2 #	OCDD #
11187072-Berm-Rock	320-58545-1	69	64	71	72	73	71	74	71
11187072-Eastern Rock	320-58545-2	61	61	65	68	66	66	69	66
11187072-Western-Rock	320-58545-3	69	69	72	73	71	74	75	69
	MB 320-357123/1-A	68	64	73	70	72	73	75	74

	QC LIMITS
13CHxCF = 13C-2,3,4,6,7,8-HxCDF	28-136
HxCDD = 13C-1,2,3,4,7,8-HxCDD	32-141
HxDD = 13C-1,2,3,6,7,8-HxCDD	28-130
HxCF = 13C-1,2,3,7,8,9-HxCDF	29-147
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF	28-143
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD	23-140
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF	26-138
OCDD = 13C-OCDD	17-157

Column to be used to flag recovery values

FORM II 1613B

FORM III
DIOXIN LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58545-1

SDG No.:

Matrix: Sediment Level: Low Lab File ID: 18FE2010D5_45.d

Lab ID: LCS 320-357123/2-A Client ID:

COMPOUND	SPIKE ADDED (pg/g)	LCS CONCENTRATION (pg/g)	LCS % REC	QC LIMITS REC	#
2,3,7,8-TCDD	20.0	19.4	97	67-158	
2,3,7,8-TCDF	20.0	19.3	96	75-158	
1,2,3,7,8-PeCDD	100	105	105	70-142	
1,2,3,7,8-PeCDF	100	100	100	80-134	
2,3,4,7,8-PeCDF	100	102	102	68-160	
1,2,3,4,7,8-HxCDD	100	98.6	99	70-164	
1,2,3,6,7,8-HxCDD	100	102	102	76-134	
1,2,3,7,8,9-HxCDD	100	99.3	99	64-162	
1,2,3,4,7,8-HxCDF	100	95.7	96	72-134	
1,2,3,6,7,8-HxCDF	100	98.9	99	84-130	
1,2,3,7,8,9-HxCDF	100	98.9	99	78-130	
2,3,4,6,7,8-HxCDF	100	97.4	97	70-156	
1,2,3,4,6,7,8-HpCDD	100	101	101	70-140	
1,2,3,4,6,7,8-HpCDF	100	103	103	82-122	
1,2,3,4,7,8,9-HpCDF	100	103	103	78-138	
OCDD	200	211	106	78-144	
OCDF	200	209	105	63-170	
13C-2,3,7,8-TCDD	200	119	59	20-175	
13C-2,3,7,8-TCDF	200	115	57	22-152	
13C-1,2,3,7,8-PeCDD	200	119	60	21-227	
13C-1,2,3,7,8-PeCDF	200	121	60	21-192	
13C-2,3,4,7,8-PeCDF	200	121	61	13-328	
13C-1,2,3,4,7,8-HxCDD	200	122	61	21-193	
13C-1,2,3,6,7,8-HxCDD	200	134	67	25-163	
13C-1,2,3,4,7,8-HxCDF	200	121	61	19-202	
13C-1,2,3,6,7,8-HxCDF	200	120	60	21-159	
13C-1,2,3,7,8,9-HxCDF	200	126	63	17-205	
13C-2,3,4,6,7,8-HxCDF	200	130	65	22-176	
13C-1,2,3,4,6,7,8-HpCDD	200	132	66	26-166	
13C-1,2,3,4,6,7,8-HpCDF	200	129	65	21-158	
13C-1,2,3,4,7,8,9-HpCDF	200	132	66	20-186	
13C-OCDD	400	258	65	13-199	

Column to be used to flag recovery and RPD values

FORM III 1613B

FORM IV
DIOXIN METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58545-1

SDG No.:

Lab File ID: 18FE2010D5_44.d Lab Sample ID: MB 320-357123/1-A

Matrix: Sediment Date Extracted: 02/13/2020 08:36

Instrument ID: 10D5 Date Analyzed: 02/20/2020 00:07

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 320-357123/2-A	18FE2010D5_45.d	02/20/2020 00:53
11187072-Berm-Rock	320-58545-1	18FE2010D5_51.d	02/20/2020 05:29
11187072-Eastern Rock	320-58545-2	18FE2010D5_52.d	02/20/2020 06:15
11187072-Western-Rock	320-58545-3	18FE2010D5_53.d	02/20/2020 07:01

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 320-58545-1
SDG No.:
Client Sample ID: 11187072-Berm-Rock
Lab Sample ID: 320-58545-1
Matrix: Sediment
Lab File ID: 18FE2010D5_51.d
Analysis Method: 1613B
Date Collected: 02/11/2020 11:00
Extract. Method: HRMS-Sox
Date Extracted: 02/13/2020 08:36
Sample wt/vol: 10.05(g)
Date Analyzed: 02/20/2020 05:29
Con. Extract Vol.: 20.0(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture: 0.3
GPC Cleanup:(Y/N) N
Analysis Batch No.: 358703
Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		1.0	0.059
51207-31-9	2,3,7,8-TCDF	0.11	J	1.0	0.042
40321-76-4	1,2,3,7,8-PeCDD	0.093	J q	5.0	0.061
57117-41-6	1,2,3,7,8-PeCDF	0.17	J q	5.0	0.047
57117-31-4	2,3,4,7,8-PeCDF	ND		5.0	0.050
39227-28-6	1,2,3,4,7,8-HxCDD	0.24	J B	5.0	0.047
57653-85-7	1,2,3,6,7,8-HxCDD	ND		5.0	0.046
19408-74-3	1,2,3,7,8,9-HxCDD	ND		5.0	0.042
70648-26-9	1,2,3,4,7,8-HxCDF	ND		5.0	0.085
57117-44-9	1,2,3,6,7,8-HxCDF	ND		5.0	0.076
72918-21-9	1,2,3,7,8,9-HxCDF	0.27	J B	5.0	0.041
60851-34-5	2,3,4,6,7,8-HxCDF	0.084	J q	5.0	0.044
35822-46-9	1,2,3,4,6,7,8-HpCDD	0.59	J	5.0	0.032
67562-39-4	1,2,3,4,6,7,8-HpCDF	0.19	J q B	5.0	0.024
55673-89-7	1,2,3,4,7,8,9-HpCDF	0.18	J	5.0	0.031
3268-87-9	OCDD	9.6	J B	10	0.065
39001-02-0	OCDF	0.57	J B	10	0.045
41903-57-5	Total TCDD	ND		1.0	0.059
30402-14-3	Total TCDF	0.23	J	1.0	0.042
36088-22-9	Total PeCDD	0.093	J q	5.0	0.061
30402-15-4	Total PeCDF	0.17	J q	5.0	0.048
34465-46-8	Total HxCDD	0.24	J B	5.0	0.045
55684-94-1	Total HxCDF	0.35	J q B	5.0	0.062
37871-00-4	Total HpCDD	1.3	J B	5.0	0.032
38998-75-3	Total HpCDF	0.46	J q B	5.0	0.027

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58545-1

SDG No.:

Client Sample ID: 11187072-Berm-Rock Lab Sample ID: 320-58545-1

Matrix: Sediment Lab File ID: 18FE2010D5_51.d

Analysis Method: 1613B Date Collected: 02/11/2020 11:00

Extract. Method: HRMS-Sox Date Extracted: 02/13/2020 08:36

Sample wt/vol: 10.05(g) Date Analyzed: 02/20/2020 05:29

Con. Extract Vol.: 20.0(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: 0.3 GPC Cleanup:(Y/N) N

Analysis Batch No.: 358703 Units: pg/g

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	66		25-164
89059-46-1	13C-2,3,7,8-TCDF	64		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	70		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	70		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	72		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	64		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	71		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	63		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	66		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	72		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	69		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	71		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	73		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	74		26-138
114423-97-1	13C-OCDD	71		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	97		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_51.d
Lims ID: 320-58545-A-1-A
Client ID: 11187072-Berm-Rock
Sample Type: Client
Inject. Date: 20-Feb-2020 05:29:50 ALS Bottle#: 50 Worklist Smp#: 51
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-58545-A-1-A 320-58545-A-1-A
Misc. Info.: 18FE2010D5
Operator ID: AJS, ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 21-Feb-2020 10:21:18 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: dadunj Date: 21-Feb-2020 10:21:18

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.202	41790672	0.80	5.4E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.719	30213721	0.76	1.1275	64.1	64.1	0.3373	0.3373	64.12	
2,3,7,8-TCDF	16.733	12481	0.82	0.7675	0.0538	0.0538	0.0212	0.0212		
A Non-2,3,7,8-sub-TCDF	16.446	14596	0.75	0.7675	0.0629	0.0629	0.0212	0.0629		
S Total TCDF					0.1168	0.1168	0.0212	0.0212		
D 13C-2,3,7,8-TCDD	17.384	25087099	0.77	0.9032	66.5	66.5	0.3574	0.3574	66.47	
2,3,7,8-TCDD	17.414						0.0298	0.0298		
$ 37Cl4-2,3,7,8-TCDD	17.399	15727020		0.9673	38.9	38.9	0.2969	0.2969	97.26	
A Non-2,3,7,8-sub-TCDD	16.877						0.0298	0.0298		
S Total TCDD							0.0298	0.0298		
D 13C-1,2,3,7,8-PeCDF	21.447	28226856	1.56	0.9615	70.2	70.2	0.2695	0.2695	70.25	
1,2,3,7,8-PeCDF	21.488	22054	1.55	0.8982	0.0979	0.0870	0.0234	0.0234		RQ
D 13C-2,3,4,7,8-PeCDF	22.702	31066720	1.58	1.0393	71.5	71.5	0.2494	0.2494	71.53	
2,3,4,7,8-PeCDF	22.715						0.0251	0.0251		
A F1 PeCDFs	19.145						0.0205	0.0205		
A Non-2,3,7,8-sub-PeCDF	22.103						0.0242	0.0242		
S Total PeCDF					0.0979	0.0870	0.0243	0.0243		RQ
D 13C-1,2,3,7,8-PeCDD	23.383	20239554	1.63	0.6938	69.8	69.8	0.1195	0.1195	69.81	
1,2,3,7,8-PeCDD	23.397	9404	1.55	0.9961	0.0539	0.0466	0.0307	0.0307		RQM
A Non-2,3,7,8-sub-PeCDD	22.361						0.0307	0.0307		
S Total PeCDD					0.0539	0.0466	0.0307	0.0307		RQ
D 13C-1,2,3,4,7,8-HxCDF	29.381	20608415	0.49	0.8543	63.1	63.1	0.3454	0.3454	63.07	
1,2,3,4,7,8-HxCDF	29.407						0.0428	0.0428		
D 13C-1,2,3,6,7,8-HxCDF	29.673	21093767	0.49	0.8361	66.0	66.0	0.3529	0.3529	65.96	
1,2,3,6,7,8-HxCDF	29.713						0.0382	0.0382		
D 13C-2,3,4,6,7,8-HxCDF	30.831	20628862	0.49	0.7773	69.4	69.4	0.3795	0.3795	69.38	
2,3,4,6,7,8-HxCDF	30.898	7847	1.24	0.9010	0.0658	0.0422	0.0222	0.0222		RQ
D 13C-1,2,3,7,8,9-HxCDF	31.790	19688386	0.49	0.7167	71.8	71.8	0.4116	0.4116	71.82	
1,2,3,7,8,9-HxCDF	31.816	24257	1.24	0.9127	0.1350	0.1350	0.0203	0.0203		M
A Non-2,3,7,8-sub-HxCDF	29.287						0.0282	0.0282		
S Total HxCDF					0.2008	0.1772	0.0309	0.0309		RQ

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.590	38250187	1.23	4.4E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.071	19787799	1.24	0.8050	64.3	64.3	0.2724	0.2724	64.26	
1,2,3,4,7,8-HxCDD	31.097	20241	1.26	0.8392	0.1219	0.1219	0.0235	0.0235		M
D 13C-1,2,3,6,7,8-HxCDD	31.204	22410617	1.23	0.8269	70.9	70.9	0.2652	0.2652	70.85	
1,2,3,6,7,8-HxCDD	31.097						0.0230	0.0230		QMU
1,2,3,7,8,9-HxCDD	31.590						0.0209	0.0209		
A Non-2,3,7,8-sub-HxCDD	29.846						0.0224	0.0224		U
S Total HxCDD					0.1219	0.1219	0.0225	0.0225		
D 13C-1,2,3,4,6,7,8-HpCDF	33.376	19686180	0.43	0.7080	72.7	72.7	1.278	1.278	72.69	
1,2,3,4,6,7,8-HpCDF	33.376	25110	1.04	1.3375	0.1073	0.0954	0.0119	0.0119		RQ
D 13C-1,2,3,4,7,8,9-HpCDF	34.421	21165898	0.44	0.7451	74.3	74.3	1.214	1.214	74.27	
1,2,3,4,7,8,9-HpCDF	34.433	20267	1.03	1.0744	0.0891	0.0891	0.0154	0.0154		M
A Non-2,3,7,8-sub-HpCDF	33.905	11807	0.92	1.2059	0.0479	0.0479	0.0135	0.0479		M
S Total HpCDF					0.2444	0.2324	0.0136	0.0136		RQ
D 13C-1,2,3,4,6,7,8-HpCDD	34.154	20312353	1.05	0.7473	71.1	71.1	0.4967	0.4967	71.06	
1,2,3,4,6,7,8-HpCDD	34.166	58842	1.05	0.9811	0.2953	0.2953	0.0160	0.0160		M
A Non-2,3,7,8-sub-HpCDD	33.893	69310	1.02	0.9811	0.3478	0.3478	0.0160	0.3478		M
S Total HpCDD					0.6431	0.6431	0.0160	0.0160		
D 13C-OCDD	36.421	35763537	0.91	0.6622	141.2	141.2	0.3106	0.3106	70.60	
OCDF	36.517	54267	0.79	1.0659	0.2847	0.2847	0.0225	0.0225		M
OCDD	36.433	855481	0.87	0.9937	4.814	4.814	0.0326	0.0326		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_51.d
Lims ID: 320-58545-A-1-A
Client ID: 11187072-Berm-Rock
Sample Type: Client
Inject. Date: 20-Feb-2020 05:29:50 ALS Bottle#: 50 Worklist Smp#: 51
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-58545-A-1-A 320-58545-A-1-A
Misc. Info.: 18FE2010D5
Operator ID: AJS, ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 21-Feb-2020 10:21:18 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: dadunj Date: 21-Feb-2020 10:21:18

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.202	17.202	0		18526491	4764104	5320	13300	896		
333.9339	17.202	17.202	0		23264181	5976120	8546	21365	699	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.719	16.719	0	0.972	13089848	3312897	5656	14140	586		
317.9389	16.719	16.719	0	0.972	17123873	4363294	10683	26707	408	0.76(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.733	16.749	-1	1.001	5613	1204	207	517	6		
305.8987	16.733	16.749	-1	1.001	6868	1874	293	732	6	0.82(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	14.934	16.446	-91	0.893	6265	1371	207	517	7		
305.8987	14.934	16.446	-91	0.893	8331	1948	293	732	7	0.75(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.384	17.384	0	1.011	10921680	2606298	5320	13300	490		
333.9339	17.384	17.384	0	1.011	14165419	3361152	8546	21365	393	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.414						461	1152			
321.8936	17.414						222	555			
37Cl4-2,3,7,8-TCDD											
327.8847	17.399	17.414	-1	1.011	15727020	3504091	12340	30850	284		
A Non-2,3,7,8-sub-TCDD											
319.8965	16.877						461	1152			
321.8936	16.877						222	555			
13C-1,2,3,7,8-PeCDF											
351.9000	21.447	21.447	0	1.247	17199550	3090037	6799	16997	454		
353.8970	21.447	21.447	0	1.247	11027306	1956803	4335	10837	451	1.56(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											RQ
339.8597	21.488	21.475	1	1.002	16174	2796	175	437	16		
	Empc Correction				13405	1990	175	437	11		
341.8567	21.461	21.475	-1	1.001	8649	1284	250	625	5	1.87(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	22.702	22.702	0	1.320	19025639	3183436	6799	16997	468		
353.8970	22.702	22.702	0	1.320	12041081	2040380	4335	10837	471	1.58(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.729						175	437			
341.8567	22.729						250	625			
A F1 PeCDFs											
339.8597	19.145						141	352			
341.8567	19.145						219	547			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.103						175	437			
341.8567	22.103						250	625			
13C-1,2,3,7,8-PeCDD											
367.8949	23.383	23.383	0	1.359	12542741	1983206	1889	4722	1050		
369.8919	23.383	23.383	0	1.359	7696813	1216306	1673	4182	727	1.63(1.32-1.78)	
1,2,3,7,8-PeCDD											RQM
355.8546	23.397	23.411	-1	1.001	7178	1135	234	585	5		M
	Empc Correction				5716	1348	234	585	6		
357.8516	23.397	23.411	-1	1.001	3688	870	157	392	6	1.95(1.32-1.78)	M
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.361						234	585			
357.8516	22.361						157	392			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.381	29.380	0	0.930	6745894	824001	3209	8022	257		
385.8610	29.367	29.380	-1	0.930	13862521	1678612	7087	17717	237	0.49(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.407						183	457			
375.8178	29.407						156	390			
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.673	29.687	-1	0.939	6923187	838163	3209	8022	261		
385.8610	29.673	29.687	-1	0.939	14170580	1727471	7087	17717	244	0.49(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	29.713						183	457			
375.8178	29.713						156	390			
13C-2,3,4,6,7,8-HxCDF											
383.8639	30.831	30.831	0	0.976	6761515	1387512	3209	8022	432		
385.8610	30.831	30.831	0	0.976	13867347	2848195	7087	17717	402	0.49(0.43-0.59)	
2,3,4,6,7,8-HxCDF											RQ
373.8208	30.898	30.858	2	1.002	4344	527	183	457	3		
375.8178	30.858	30.858	0	1.001	7889	1332	156	390	9	0.55(1.05-1.43)	
	Empc Correction				3503	424	156	390	3		

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.790	31.790	0	1.006	6432234	1492671	3209	8022	465		
385.8610	31.790	31.790	0	1.006	13256152	3076845	7087	17717	434	0.49(0.43-0.59)	
1,2,3,7,8,9-HxCDF											M
373.8208	31.816	31.803	1	1.001	13439	3132	183	457	17		M
375.8178	31.803	31.803	0	1.000	10818	2175	156	390	14	1.24(1.05-1.43)	M
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.287						183	457			
375.8178	29.287						156	390			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.590	31.590	0		21115657	4832181	4334	10835	1115		
403.8529	31.590	31.590	0		17134530	3892597	3319	8297	1173	1.23(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.071	31.071	0	0.984	10971793	2634712	4334	10835	608		
403.8529	31.071	31.071	0	0.984	8816006	2123804	3319	8297	640	1.24(1.05-1.43)	
1,2,3,4,7,8-HxCDD											M
389.8157	31.097	31.098	0	1.001	11280	2590	155	387	17		M
391.8127	31.097	31.098	0	1.001	8961	2206	220	550	10	1.26(1.05-1.43)	M
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.204	31.204	0	0.988	12349287	2513271	4334	10835	580		
403.8529	31.204	31.204	0	0.988	10061330	2079198	3319	8297	626	1.23(1.05-1.43)	
1,2,3,6,7,8-HxCDD											QMU
389.8157	31.217						155	387			
391.8127	31.217						220	550			
1,2,3,7,8,9-HxCDD											
389.8157	31.603						155	387			
391.8127	31.603						220	550			
A Non-2,3,7,8-sub-HxCDD											U
389.8157	29.846						155	387			
391.8127	29.846						220	550			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.376	33.376	0	1.057	5872579	1947442	9924	24810	196		
419.8220	33.376	33.376	0	1.057	13813601	4361941	21657	54142	201	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											RQ
407.7818	33.376	33.376	0	1.000	15955	3781	232	580	16		
	Empc Correction				12801	3771	232	580	16		
409.7789	33.389	33.376	1	1.000	12309	3626	170	425	21	1.30(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.421	34.433	-1	1.090	6436810	1850659	9924	24810	186		
419.8220	34.421	34.433	-1	1.090	14729088	4227874	21657	54142	195	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											M
407.7818	34.433	34.433	0	1.000	10305	3275	232	580	14		M
409.7789	34.433	34.433	0	1.000	9962	3324	170	425	20	1.03(0.88-1.20)	M
A Non-2,3,7,8-sub-HpCDF											M
407.7818	33.680	33.905	-13	1.009	5670	1622	232	580	7		
409.7789	33.680	33.905	-13	1.009	6137	1601	170	425	9	0.92(0.88-1.20)	M

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.154	34.154	0	1.081	10415850	3101954	7212	18030	430		
437.8140	34.154	34.154	0	1.081	9896503	2931146	5744	14360	510	1.05(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											M
423.7766	34.166	34.166	0	1.000	30159	8274	190	475	44		M
425.7737	34.154	34.166	-1	1.000	28683	8853	189	472	47	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											M
423.7766	33.632	33.893	-16	0.985	35048	10274	190	475	54		M
425.7737	33.619	33.893	-16	0.984	34262	10519	189	472	56	1.02(0.88-1.20)	
13C-OCDD											
469.7779	36.421	36.422	0	1.153	17048750	4225222	4131	10327	1023		
471.7750	36.421	36.422	0	1.153	18714787	4572860	3048	7620	1500	0.91(0.76-1.02)	
OCDF											M
441.7428	36.517	36.517	0	1.003	23907	5726	198	495	29		
443.7399	36.517	36.517	0	1.003	30360	7290	225	562	32	0.79(0.76-1.02)	M
OCDD											
457.7377	36.433	36.433	0	1.000	397365	97244	353	882	275		
459.7348	36.433	36.433	0	1.000	458116	110287	218	545	506	0.87(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

U - Marked Undetected

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_51.d
Lims ID: 320-58545-A-1-A
Client ID: 11187072-Berm-Rock
Inject. Date: 20-Feb-2020 05:29:50 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS, ALM
Lims Batch ID: 358703 Lims Sample ID: 51

Non-2,3,7,8-sub-TCDF, RT: 16.446

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	0.768	D 13C-2,3,7,8-TCDF	100.000	30213721	7676191

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.768		100.000	30213721	7676191

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
14.934	6265	1371	8331	1948	0.0629	0.75	
Signal Totals:							
	6265	1371	8331	1948			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	14596	3319				0.75	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0629 = (14596 * 100.000) / (30213721 * 0.768)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_51.d
Lims ID: 320-58545-A-1-A
Client ID: 11187072-Berm-Rock
Inject. Date: 20-Feb-2020 05:29:50 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS, ALM
Lims Batch ID: 358703 Lims Sample ID: 51

Non-2,3,7,8-sub-HxCDD, RT: 29.846

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.839	D 13C-1,2,3,4,7,8-HxCDD	100.000	19787799	4758516
1,2,3,6,7,8-HxCDD	0.888	D 13C-1,2,3,6,7,8-HxCDD	100.000	22410617	4592469
1,2,3,7,8,9-HxCDD	0.957				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.894		100.000	21099208	4675492

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags

Compound is Marked ND

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_51.d
Lims ID: 320-58545-A-1-A
Client ID: 11187072-Berm-Rock
Inject. Date: 20-Feb-2020 05:29:50 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS, ALM
Lims Batch ID: 358703 Lims Sample ID: 51

Non-2,3,7,8-sub-HpCDF, RT: 33.905

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.337	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	19686180	6309383
1,2,3,4,7,8,9-HpCDF	1.074	D 13C-1,2,3,4,7,8,9-HpCDF	100.000	21165898	6078533

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.206		100.000	20426039	6193958

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
33.680	5670	1622	6137	1601	0.0479	0.92	M
Signal Totals:							
	5670	1622	6137	1601			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	11807	3223				0.92	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0479 = (11807 * 100.000) / (20426039 * 1.206)

QC Flag Legend

Review Flags
M - Manually Integrated

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_51.d
Lims ID: 320-58545-A-1-A
Client ID: 11187072-Berm-Rock
Inject. Date: 20-Feb-2020 05:29:50 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS, ALM
Lims Batch ID: 358703 Lims Sample ID: 51

Non-2,3,7,8-sub-HpCDD, RT: 33.893

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.981	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	20312353	6033100

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.981		100.000	20312353	6033100

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
33.632	35048	10274	34262	10519	0.3478	1.02	M
Signal Totals:							
	35048	10274	34262	10519			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	69310	20793				1.02	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.3478 = (69310 * 100.000) / (20312353 * 0.981)

QC Flag Legend

Review Flags
M - Manually Integrated

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_51.d				
Injection Date:	20-Feb-2020 05:29:50	Instrument ID:	10D5		
Lims ID:	320-58545-A-1-A	Lab Sample ID:	320-58545-1		
Client ID:	11187072-Berm-Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	50	Worklist Smp#:	51
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

1,2,3,7,8-PeCDD, CAS: 40321-76-4

Signal: 1

Processing Integration Results

RT: 23.40
Area: 9568
Amount: 0.070019
Amount Units: pg/ul

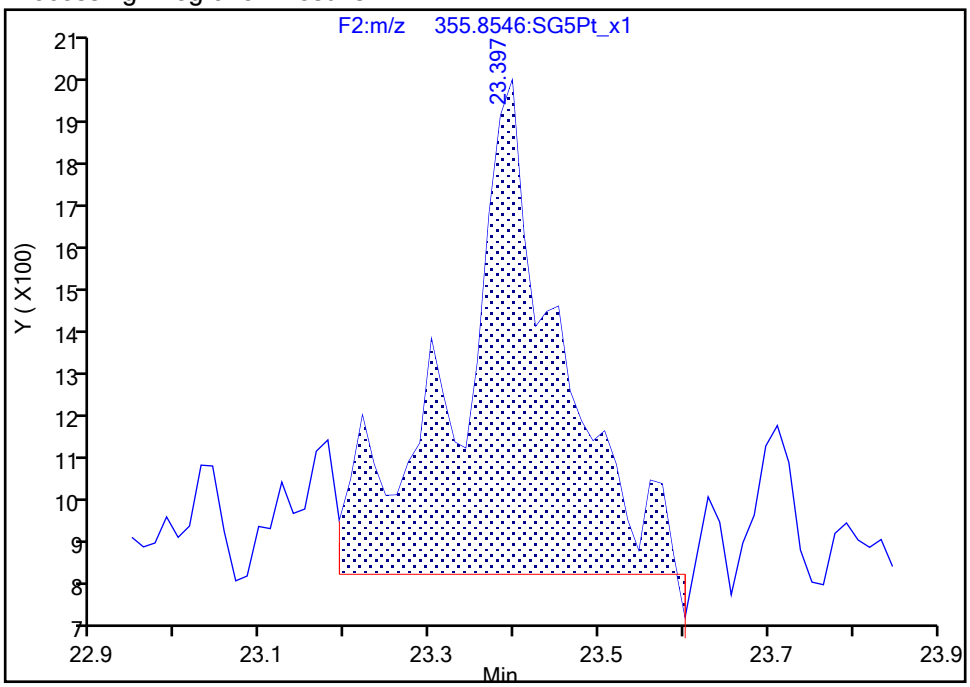

Manual Integration Results

RT: 23.40
Area: 7178
Amount: 0.053899
Amount Units: pg/ul

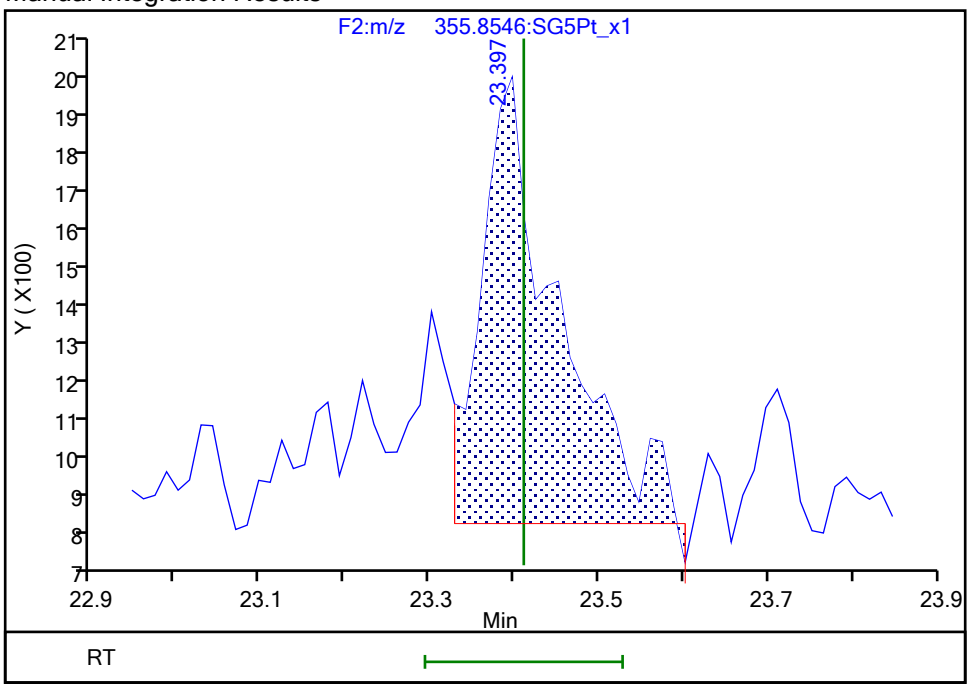

Reviewer: dadunj, 21-Feb-2020 10:19:12

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_51.d				
Injection Date:	20-Feb-2020 05:29:50	Instrument ID:	10D5		
Lims ID:	320-58545-A-1-A	Lab Sample ID:	320-58545-1		
Client ID:	11187072-Berm-Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	50	Worklist Smp#:	51
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

1,2,3,7,8-PeCDD, CAS: 40321-76-4

Signal: 2

Processing Integration Results

RT: 23.40
Area: 4548
Amount: 0.070019
Amount Units: pg/ul

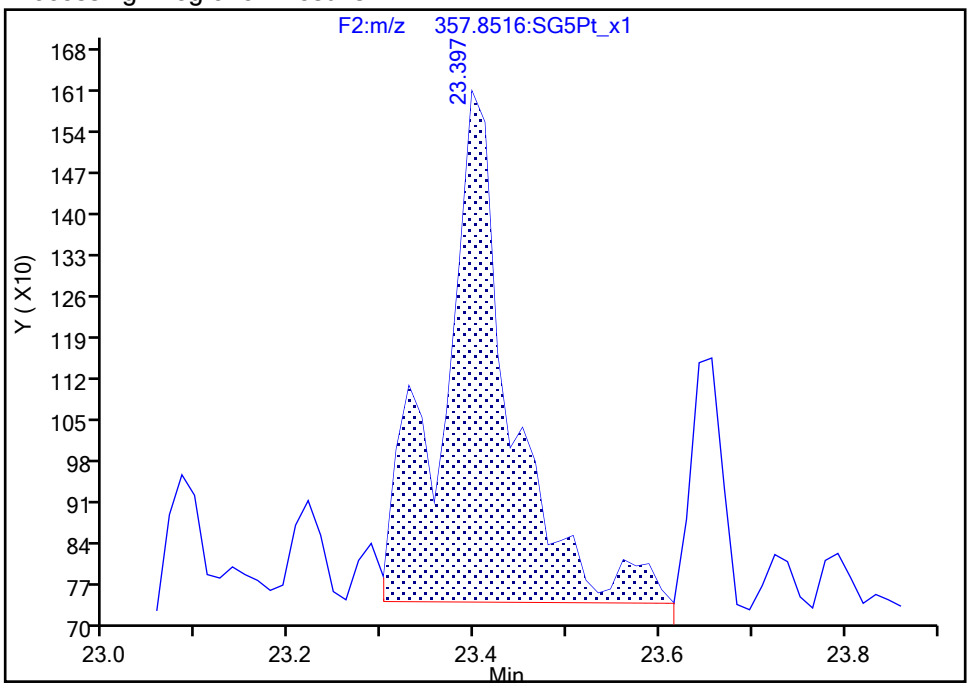

Manual Integration Results

RT: 23.40
Area: 3688
Amount: 0.053899
Amount Units: pg/ul

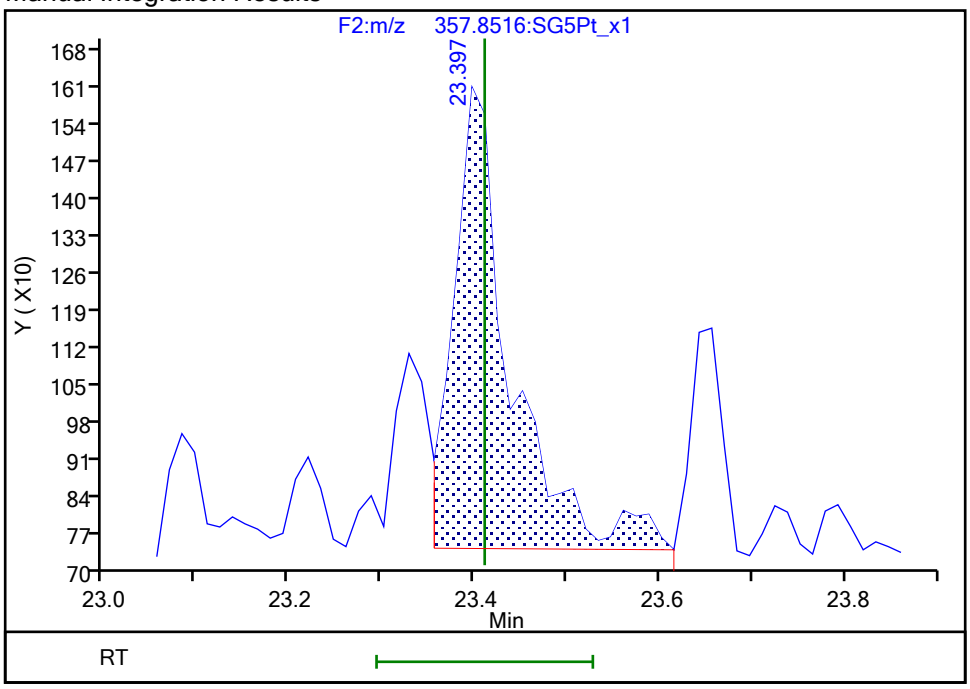

Reviewer: dadunj, 21-Feb-2020 10:19:15

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_51.d				
Injection Date:	20-Feb-2020 05:29:50	Instrument ID:	10D5		
Lims ID:	320-58545-A-1-A	Lab Sample ID:	320-58545-1		
Client ID:	11187072-Berm-Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	50	Worklist Smp#:	51
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 1

Processing Integration Results

RT: 31.82
Area: 13764
Amount: 0.145529
Amount Units: pg/ul

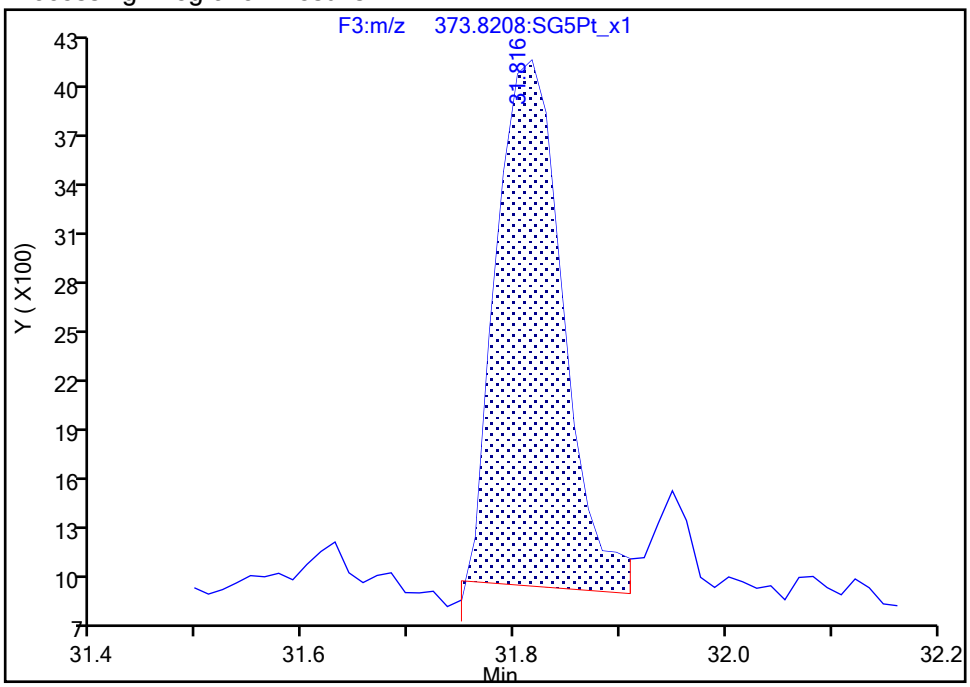

Manual Integration Results

RT: 31.82
Area: 13439
Amount: 0.134994
Amount Units: pg/ul

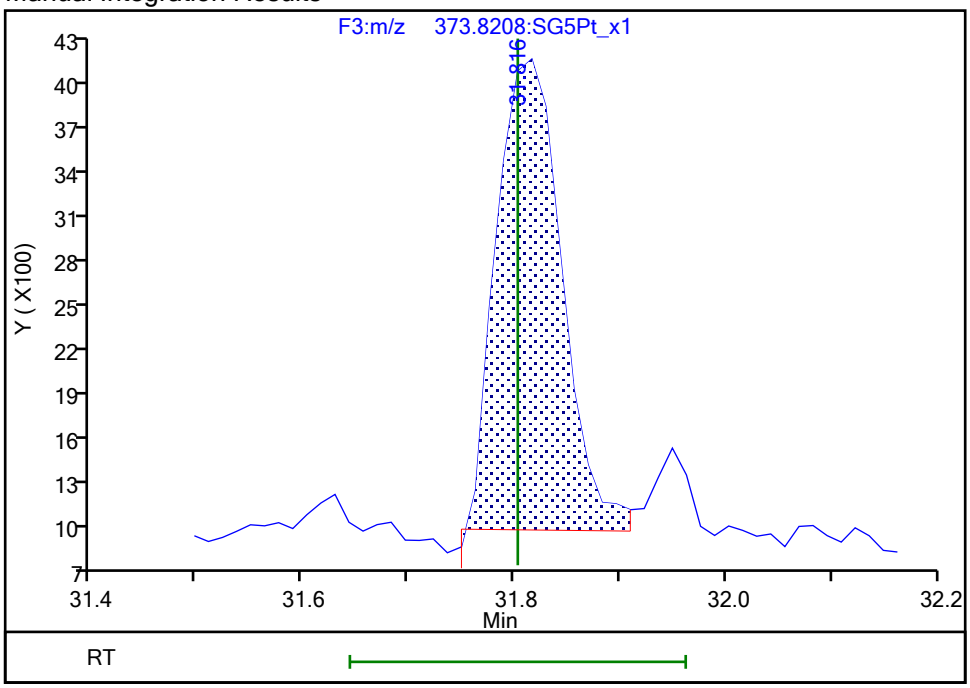

Reviewer: dadunj, 21-Feb-2020 10:19:35

Audit Action: Manually Integrated Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_51.d				
Injection Date:	20-Feb-2020 05:29:50	Instrument ID:	10D5		
Lims ID:	320-58545-A-1-A	Lab Sample ID:	320-58545-1		
Client ID:	11187072-Berm-Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	50	Worklist Smp#:	51
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 2

Processing Integration Results

RT: 31.80
Area: 12386
Amount: 0.145529
Amount Units: pg/ul

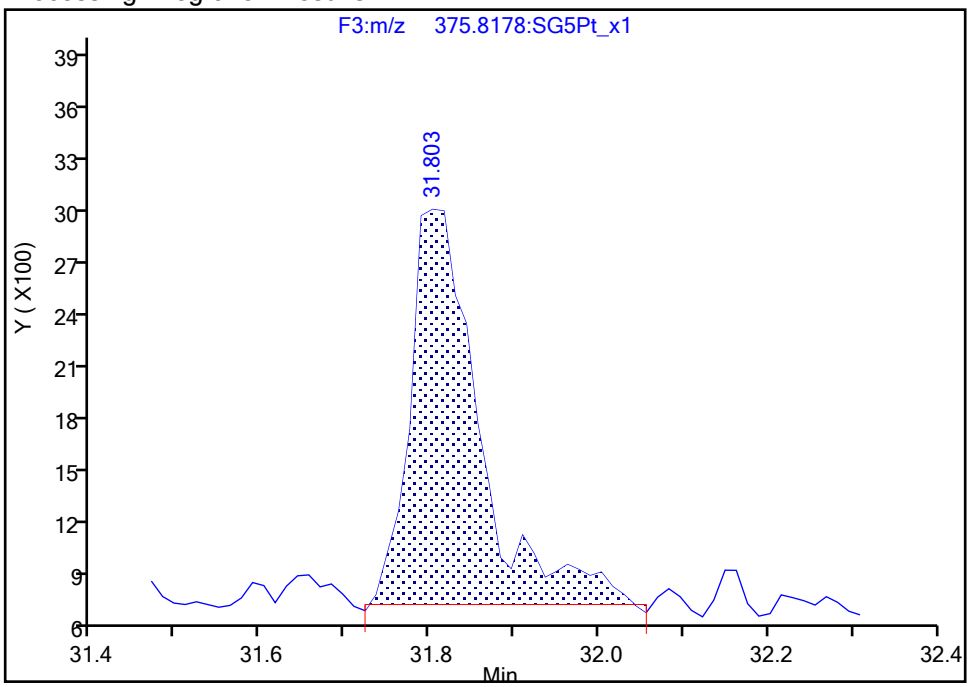

Manual Integration Results

RT: 31.80
Area: 10818
Amount: 0.134994
Amount Units: pg/ul

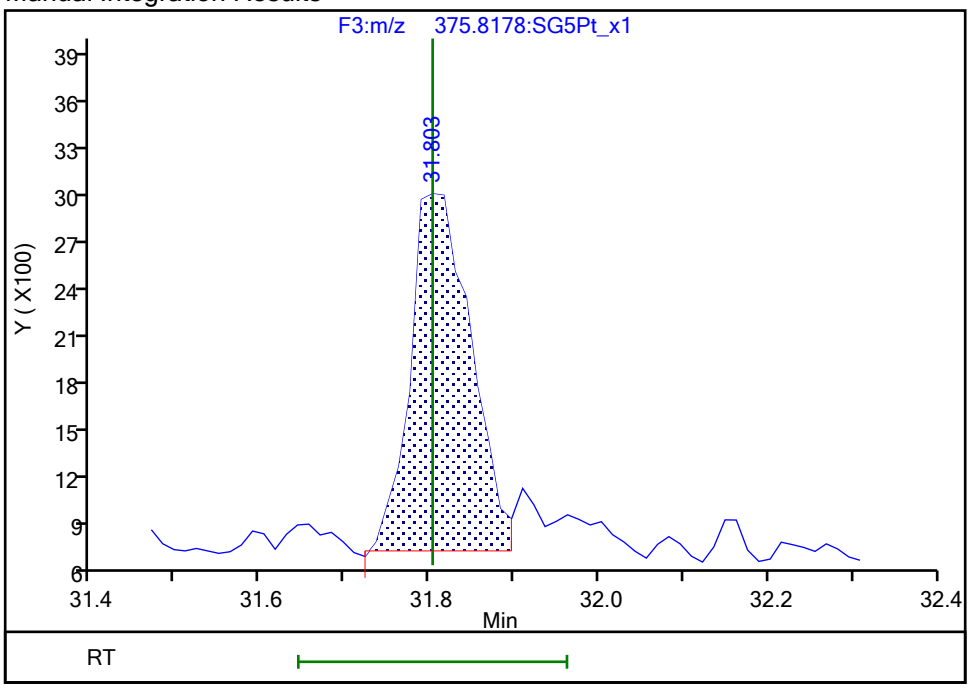

Reviewer: dadunj, 21-Feb-2020 10:19:39

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_51.d				
Injection Date:	20-Feb-2020 05:29:50	Instrument ID:	10D5		
Lims ID:	320-58545-A-1-A	Lab Sample ID:	320-58545-1		
Client ID:	11187072-Berm-Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	50	Worklist Smp#:	51
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 1

Processing Integration Results

RT: 31.10
Area: 21416
Amount: 0.224149
Amount Units: pg/ul

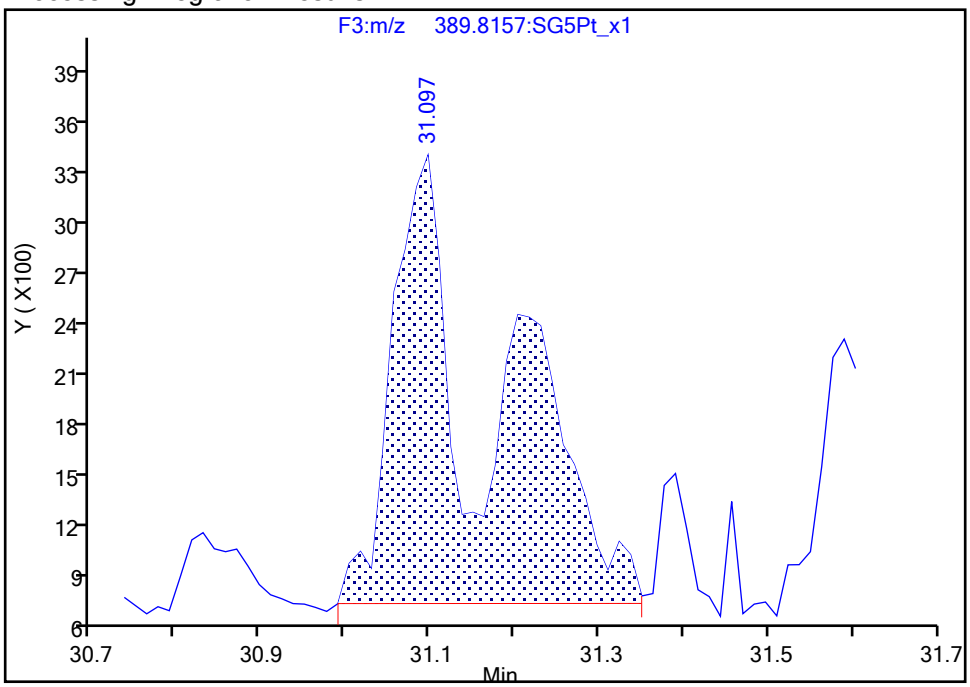

Manual Integration Results

RT: 31.10
Area: 11280
Amount: 0.121894
Amount Units: pg/ul

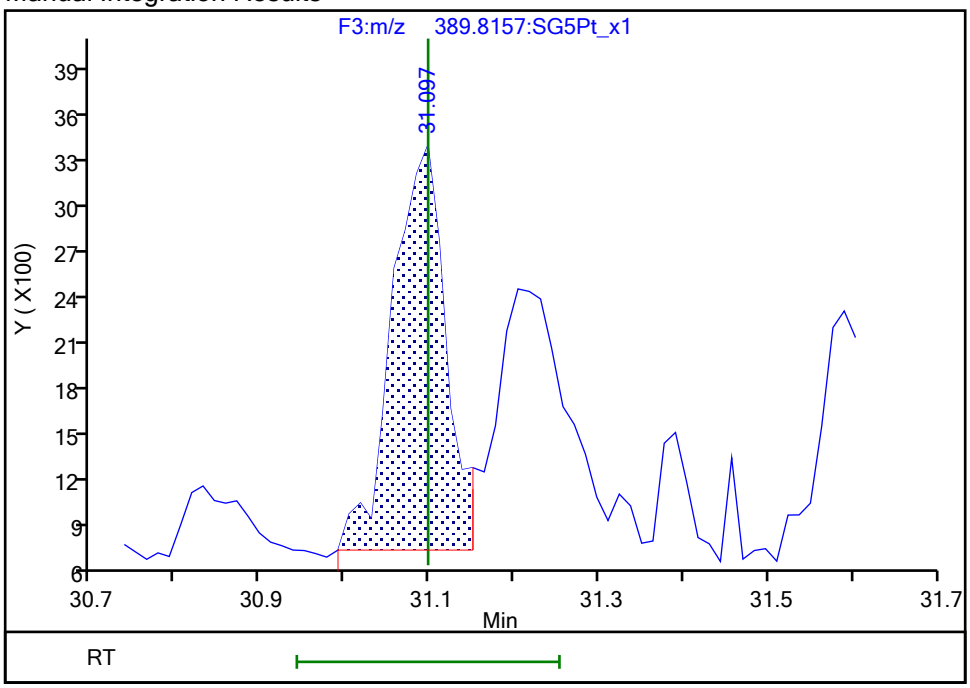

Reviewer: dadunj, 21-Feb-2020 10:19:47

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_51.d				
Injection Date:	20-Feb-2020 05:29:50	Instrument ID:	10D5		
Lims ID:	320-58545-A-1-A	Lab Sample ID:	320-58545-1		
Client ID:	11187072-Berm-Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	50	Worklist Smp#:	51
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 2

Processing Integration Results

RT: 31.10
Area: 15805
Amount: 0.224149
Amount Units: pg/ul

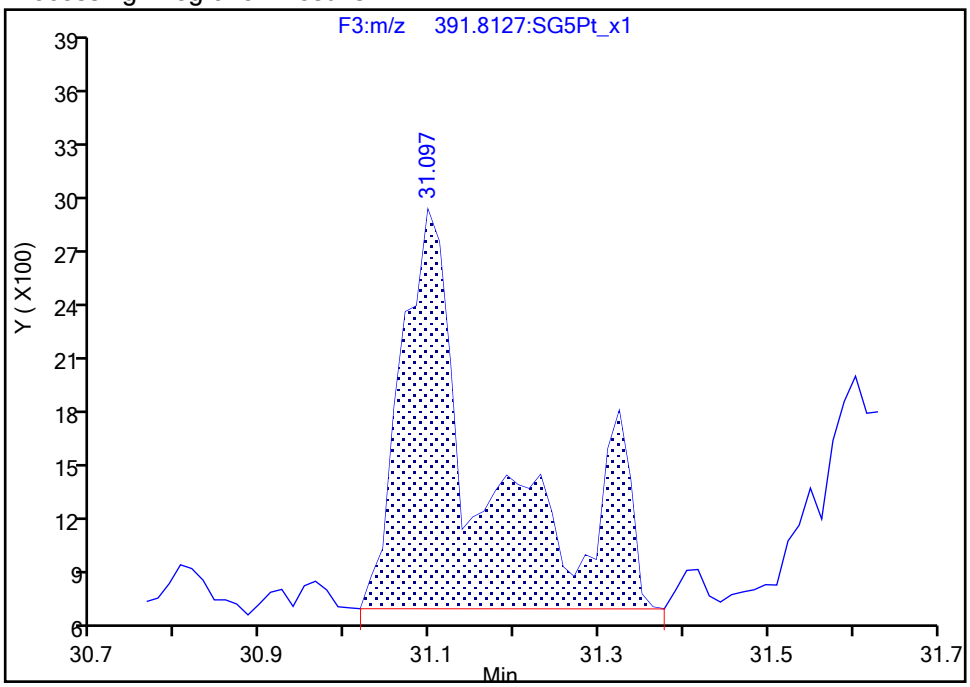

Manual Integration Results

RT: 31.10
Area: 8961
Amount: 0.121894
Amount Units: pg/ul

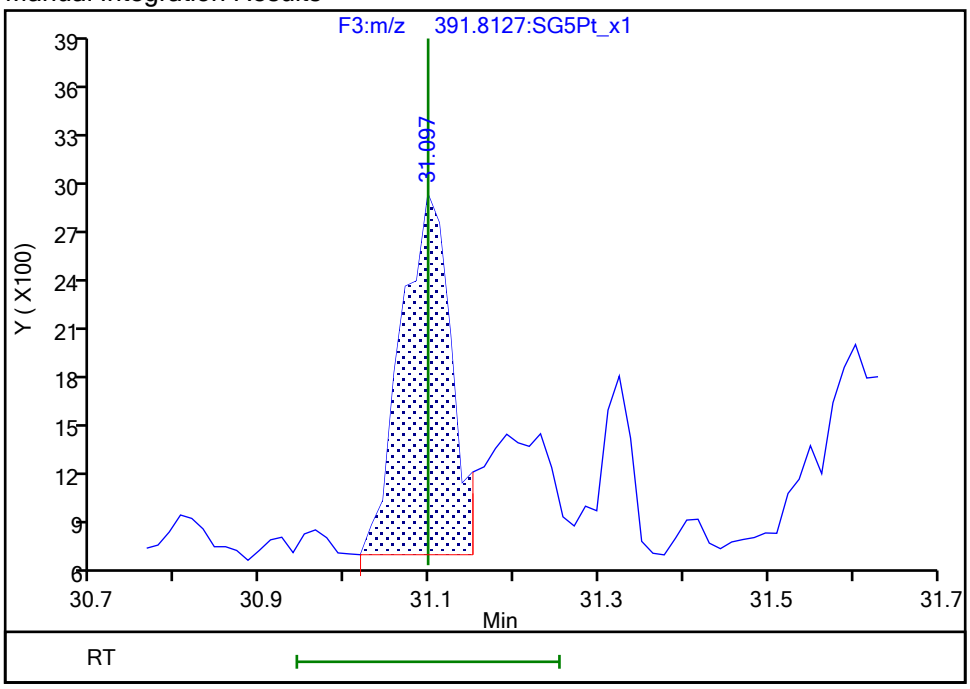

Reviewer: dadunj, 21-Feb-2020 10:19:51

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_51.d				
Injection Date:	20-Feb-2020 05:29:50	Instrument ID:	10D5		
Lims ID:	320-58545-A-1-A	Lab Sample ID:	320-58545-1		
Client ID:	11187072-Berm-Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	50	Worklist Smp#:	51
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,7,8,9-HpCDF, CAS: 55673-89-7

Signal: 2

Processing Integration Results

RT: 34.43
Area: 10652
Amount: 0.095073
Amount Units: pg/ul

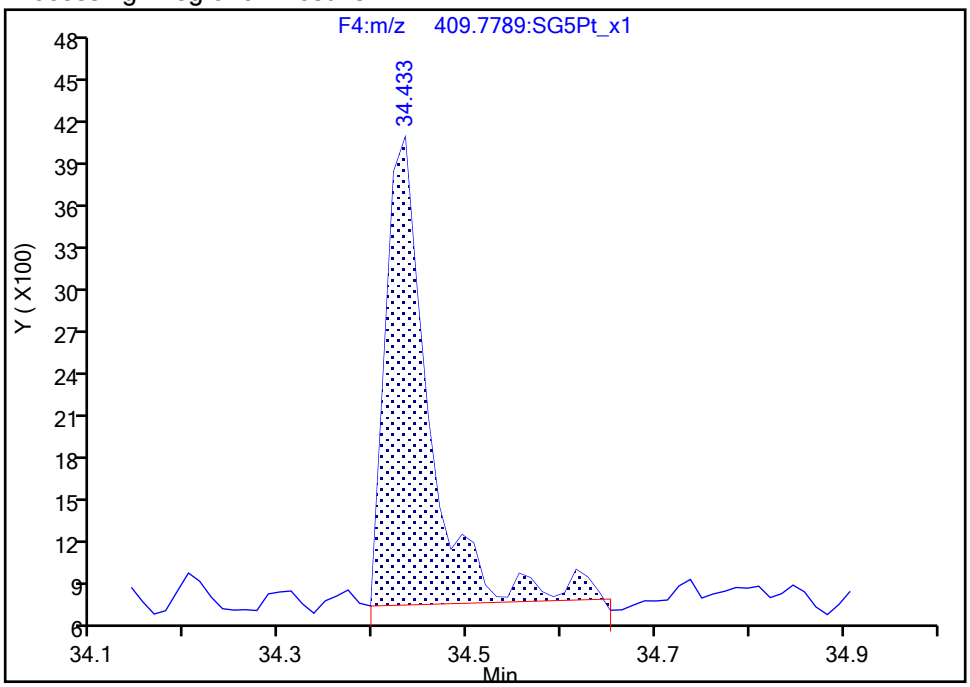

Manual Integration Results

RT: 34.43
Area: 9962
Amount: 0.089119
Amount Units: pg/ul

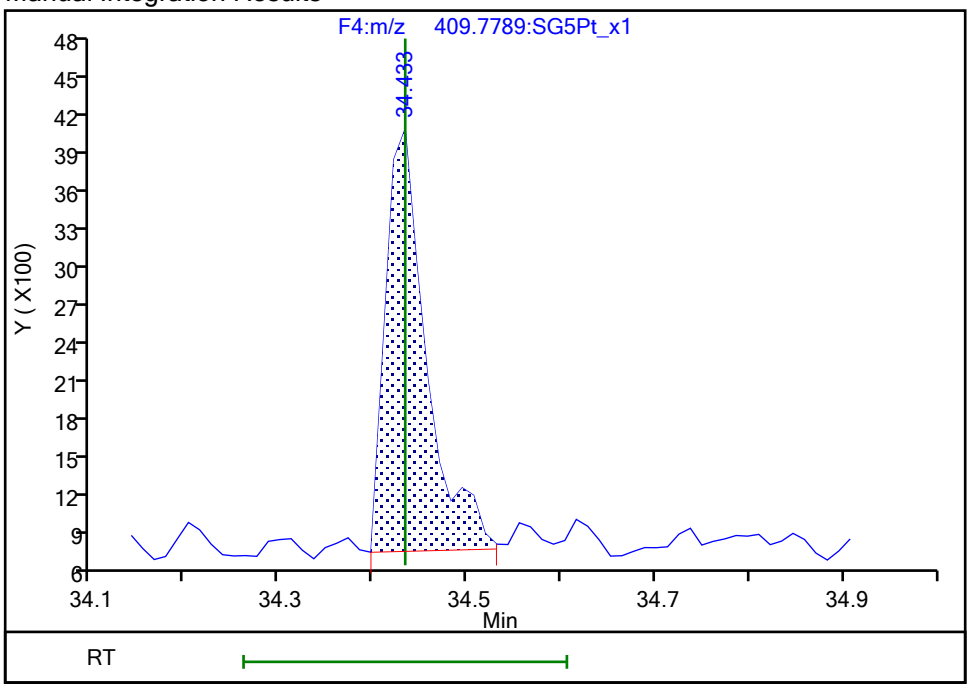

Reviewer: dadunj, 21-Feb-2020 10:20:04

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_51.d				
Injection Date:	20-Feb-2020 05:29:50	Instrument ID:	10D5		
Lims ID:	320-58545-A-1-A	Lab Sample ID:	320-58545-1		
Client ID:	11187072-Berm-Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	50	Worklist Smp#:	51
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,7,8,9-HpCDF, CAS: 55673-89-7

Signal: 1

Processing Integration Results

RT: 34.43
Area: 10969
Amount: 0.095073
Amount Units: pg/ul

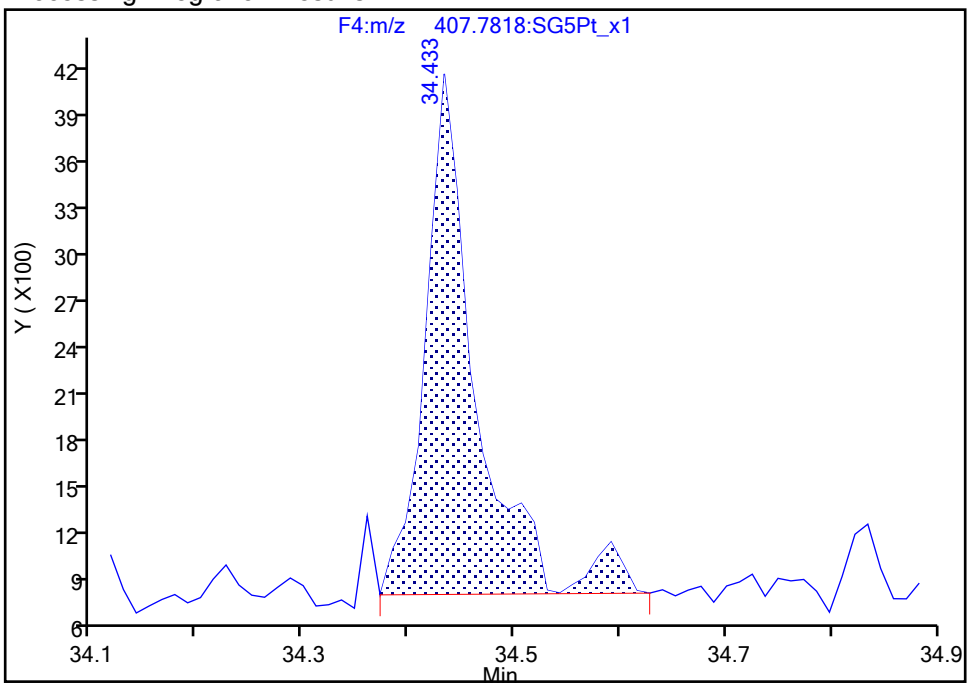

Manual Integration Results

RT: 34.43
Area: 10305
Amount: 0.089119
Amount Units: pg/ul

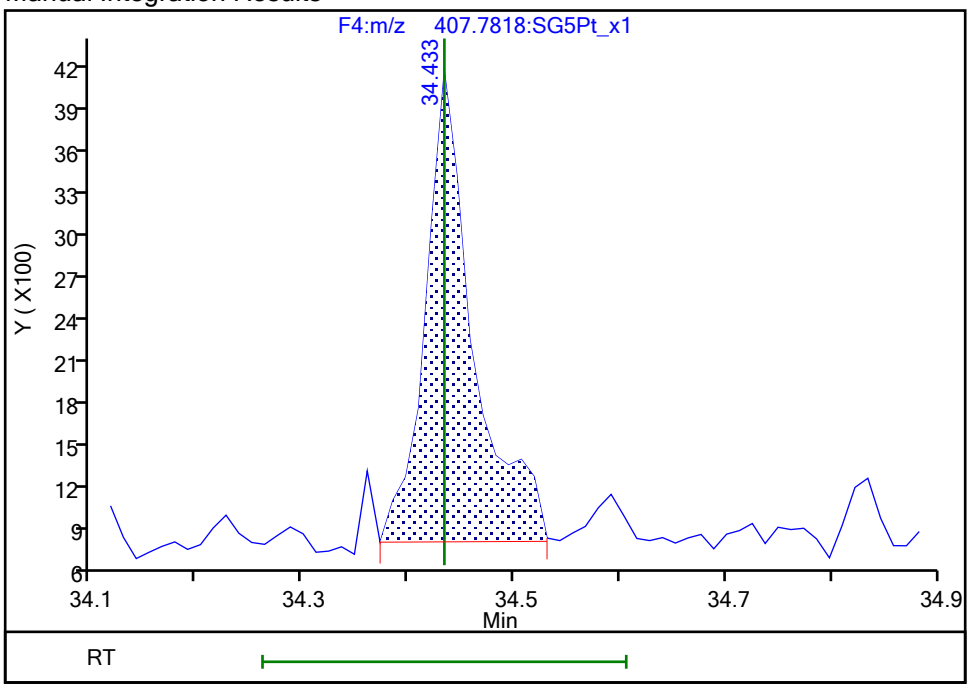

Reviewer: dadunj, 21-Feb-2020 10:20:06

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_51.d				
Injection Date:	20-Feb-2020 05:29:50	Instrument ID:	10D5		
Lims ID:	320-58545-A-1-A	Lab Sample ID:	320-58545-1		
Client ID:	11187072-Berm-Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	50	Worklist Smp#:	51
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

Non-2,3,7,8-sub-HpCDF, Signal: 2, m/z: 409.7789, RT: (33.35- 34.46)

Signal: 2

Processing Integration Results

RT = 33.680 Area = 6924

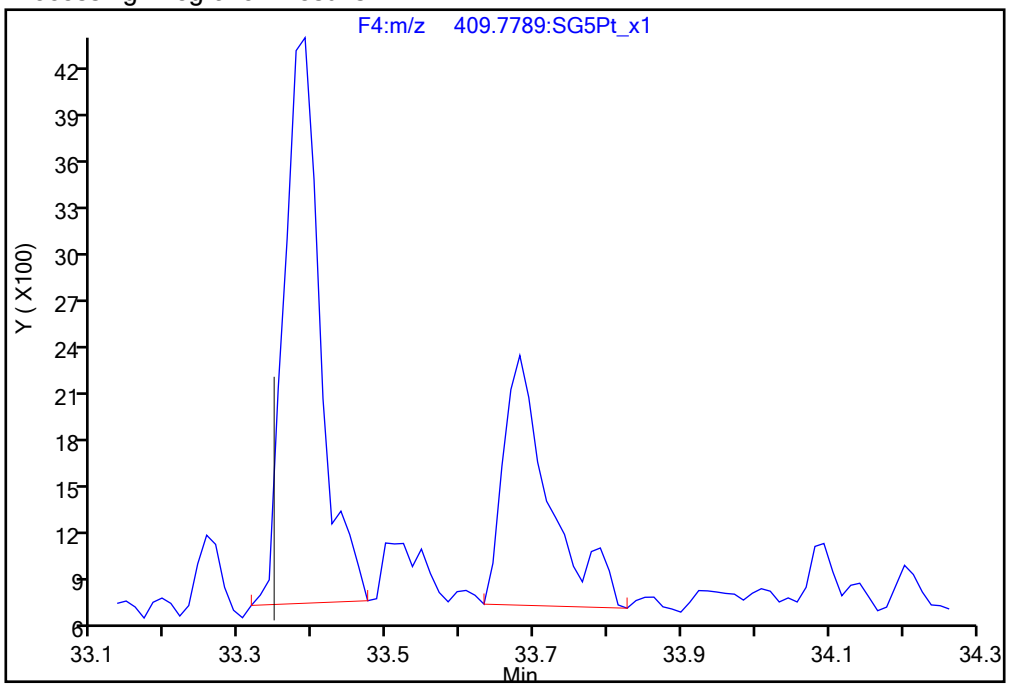

Manual Integration Results

RT = 33.680 Area = 6137 M

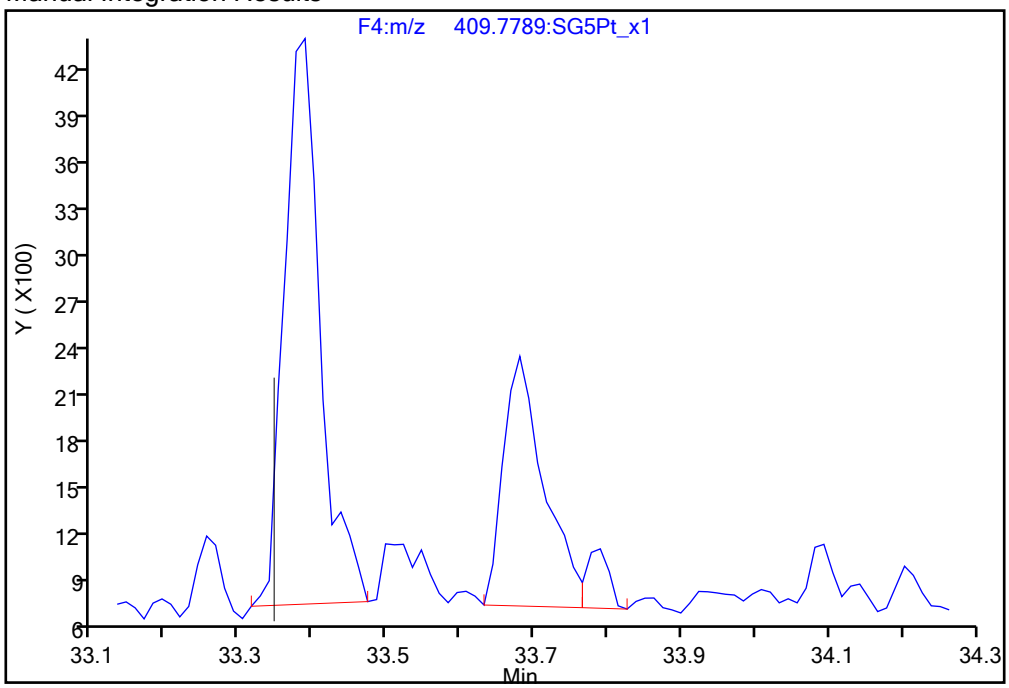

Reviewer: dadunj, 21-Feb-2020 10:20:10

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_51.d				
Injection Date:	20-Feb-2020 05:29:50	Instrument ID:	10D5		
Lims ID:	320-58545-A-1-A	Lab Sample ID:	320-58545-1		
Client ID:	11187072-Berm-Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	50	Worklist Smp#:	51
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 1

Processing Integration Results

RT: 34.17
Area: 33493
Amount: 0.311991
Amount Units: pg/ul

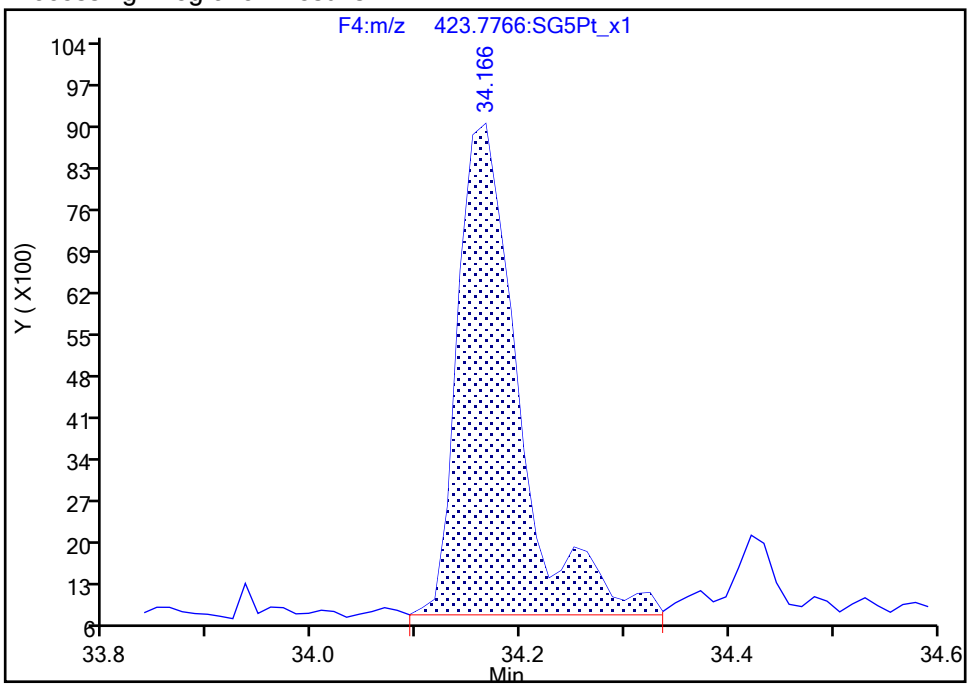

Manual Integration Results

RT: 34.17
Area: 30159
Amount: 0.295262
Amount Units: pg/ul

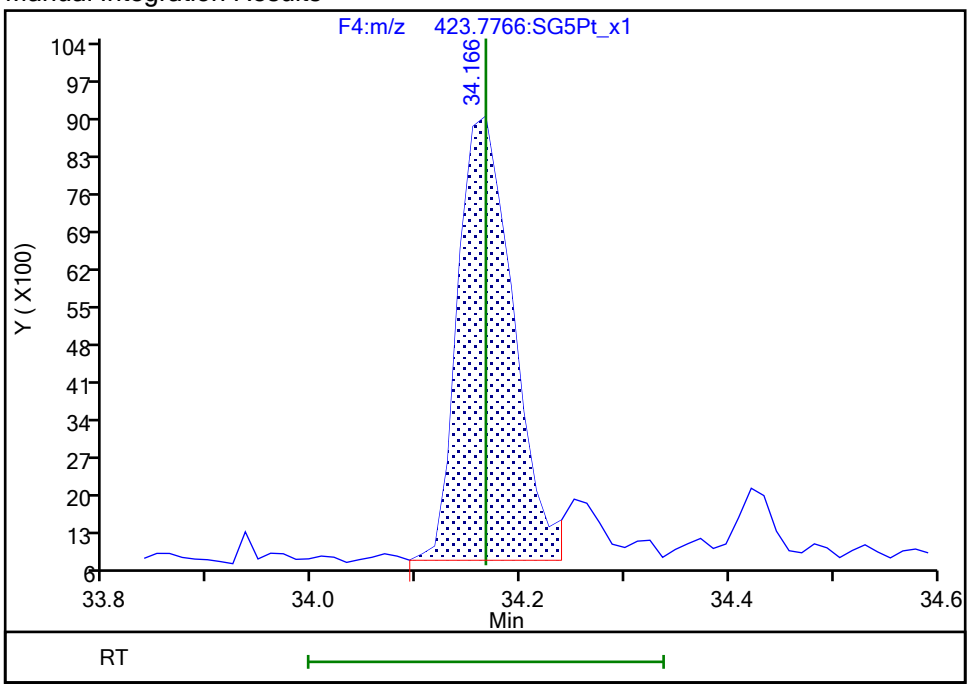

Reviewer: dadunj, 21-Feb-2020 10:20:15

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_51.d				
Injection Date:	20-Feb-2020 05:29:50	Instrument ID:	10D5		
Lims ID:	320-58545-A-1-A	Lab Sample ID:	320-58545-1		
Client ID:	11187072-Berm-Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	50	Worklist Smp#:	51
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

Non-2,3,7,8-sub-HpCDD, Signal: 1, m/z: 423.7766, RT: (33.59- 34.20)

Signal: 1

Processing Integration Results

RT = 33.632 Area = 35553

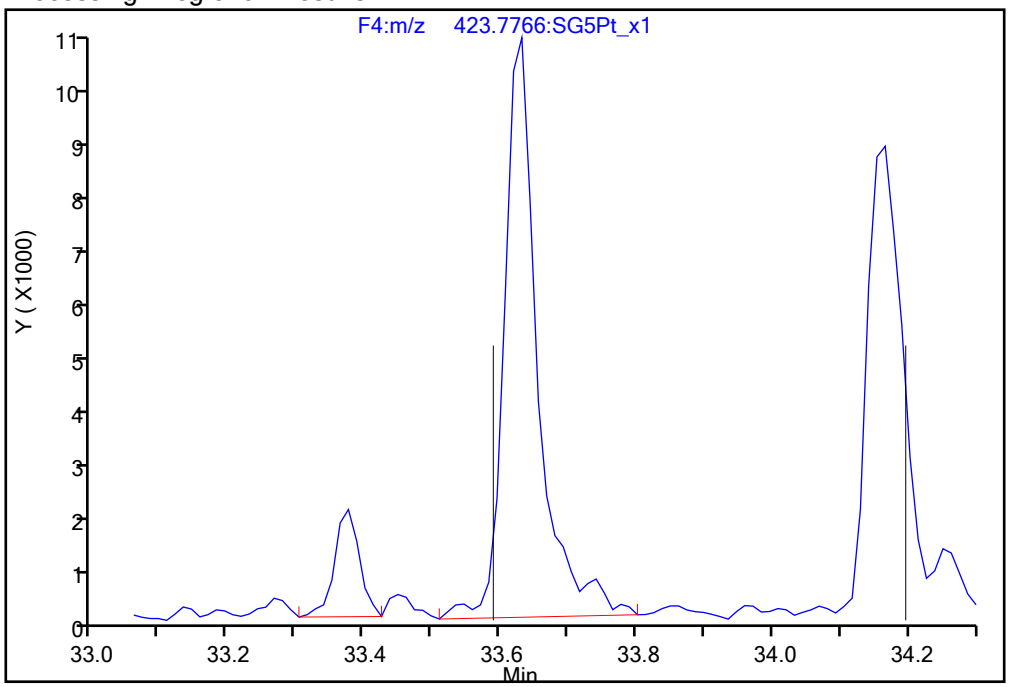

Manual Integration Results

RT = 33.632 Area = 35048 M

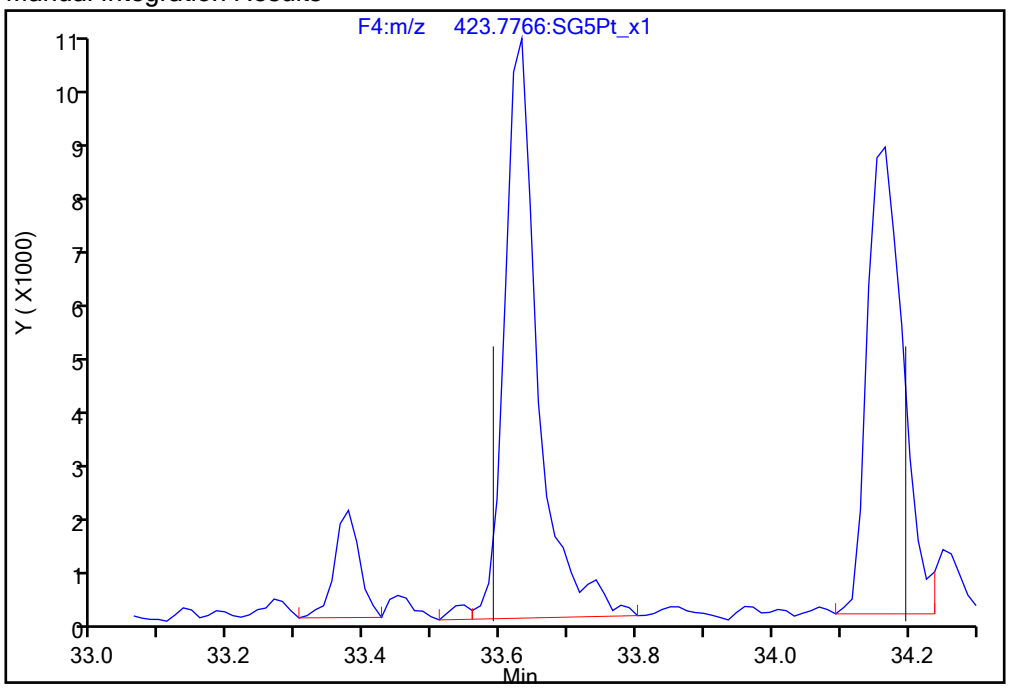

Reviewer: dadunj, 21-Feb-2020 10:20:19

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_51.d				
Injection Date:	20-Feb-2020 05:29:50	Instrument ID:	10D5		
Lims ID:	320-58545-A-1-A	Lab Sample ID:	320-58545-1		
Client ID:	11187072-Berm-Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	50	Worklist Smp#:	51
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5:HRSIR		

OCDF, CAS: 39001-02-0

Signal: 2

Processing Integration Results

RT: 36.52
Area: 32991
Amount: 0.298511
Amount Units: pg/ul

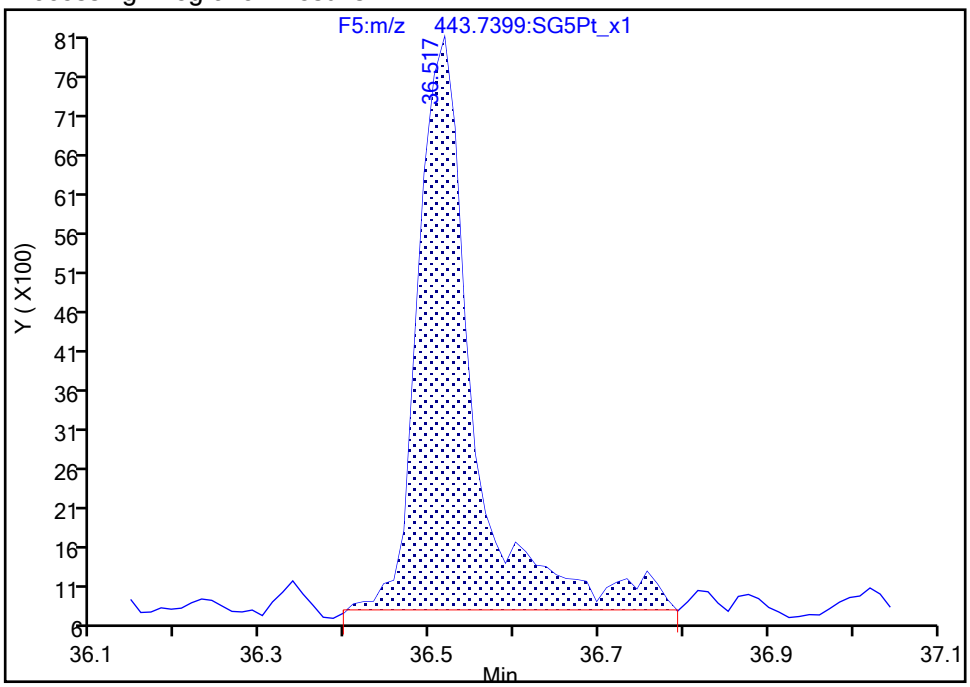

Manual Integration Results

RT: 36.52
Area: 30360
Amount: 0.284708
Amount Units: pg/ul

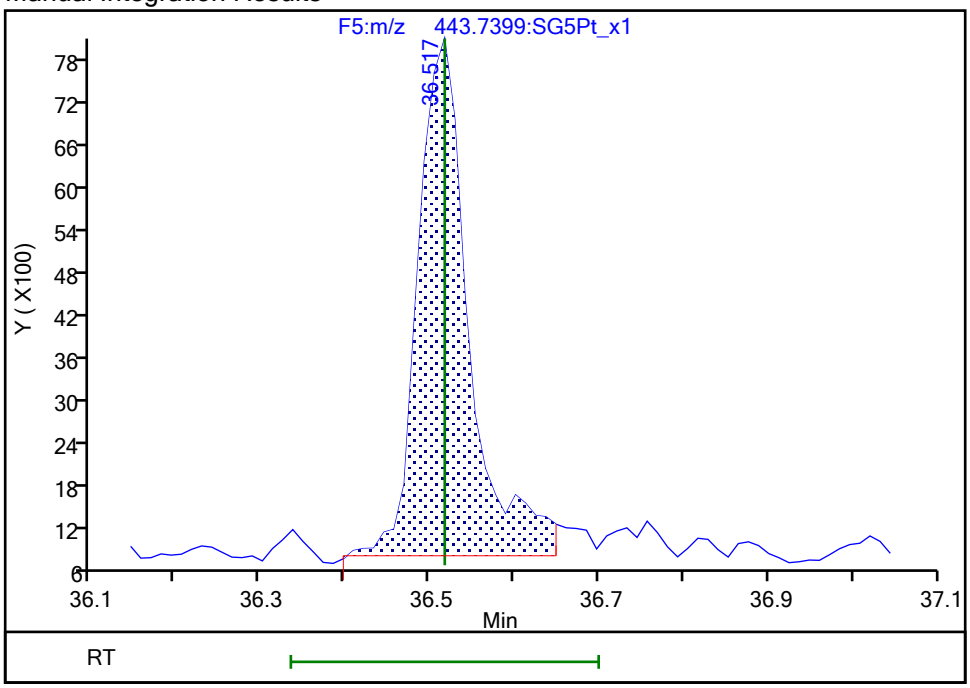

Reviewer: dadunj, 21-Feb-2020 10:20:26

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 21-Feb-2020 10:21:23 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_51.d		
Injection Date:	20-Feb-2020 05:29:50	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Berm-Rock		
Worklist#:	358703	Sample Line#:	51
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

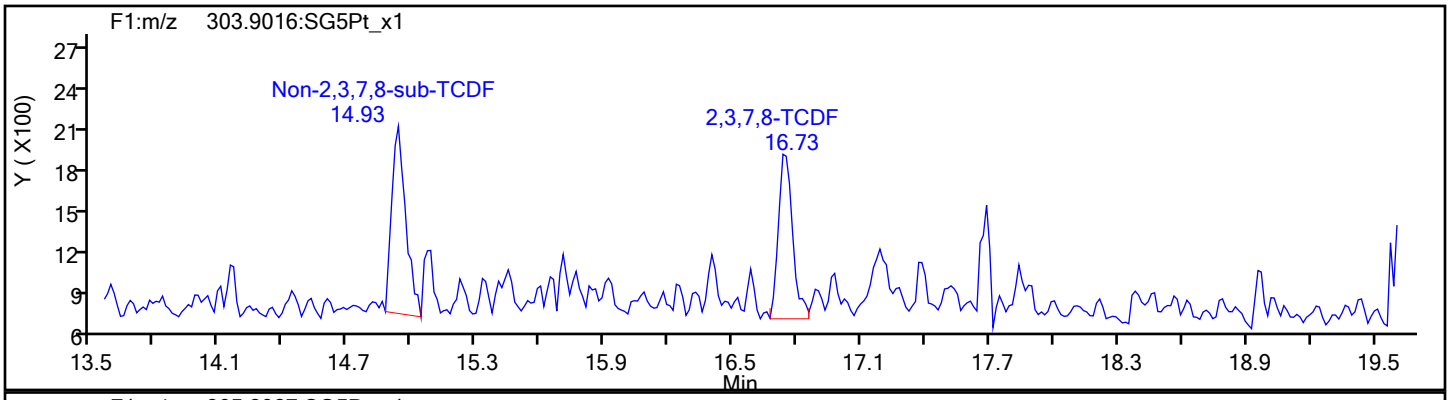

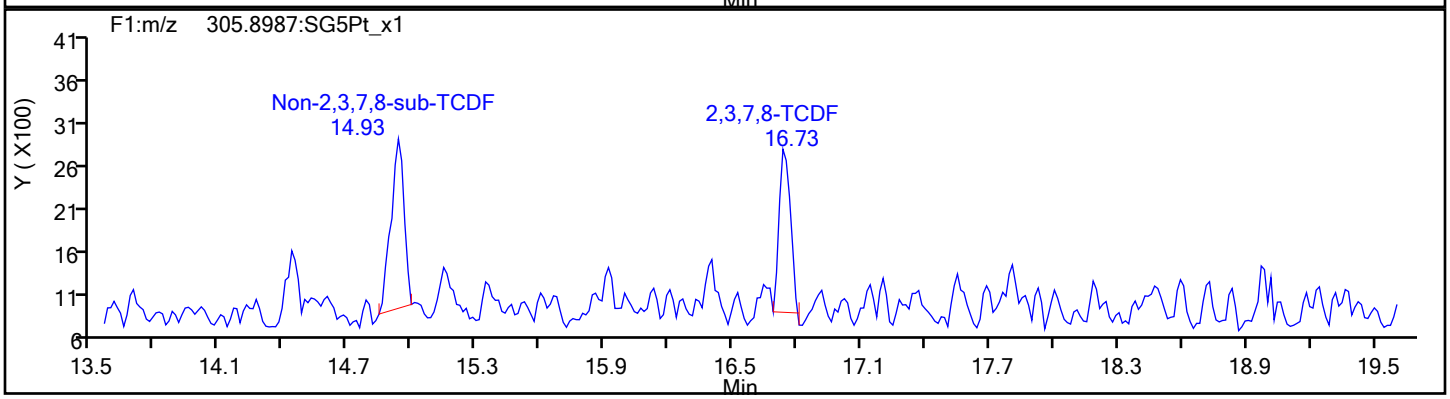

TCDF Standards

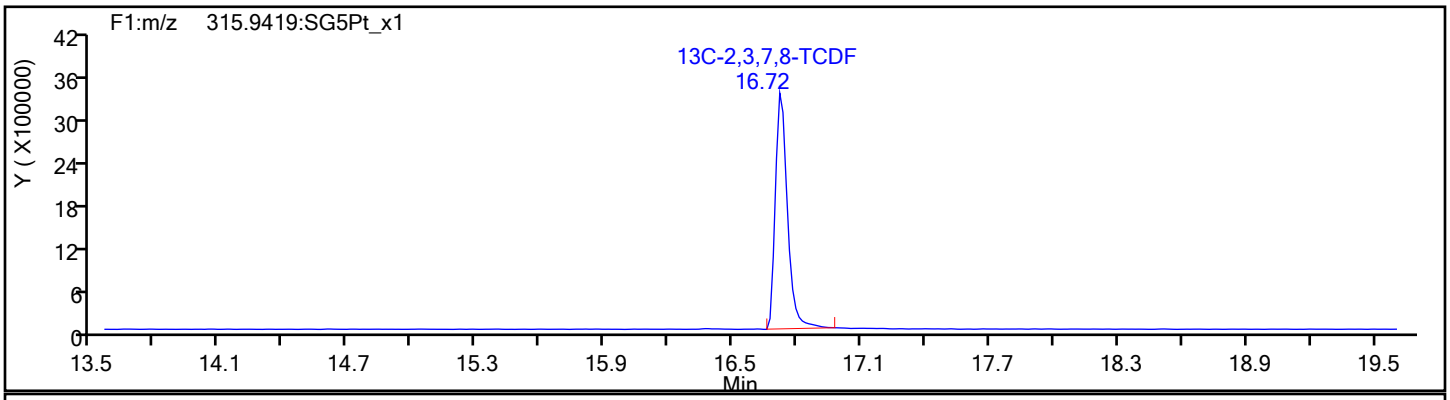

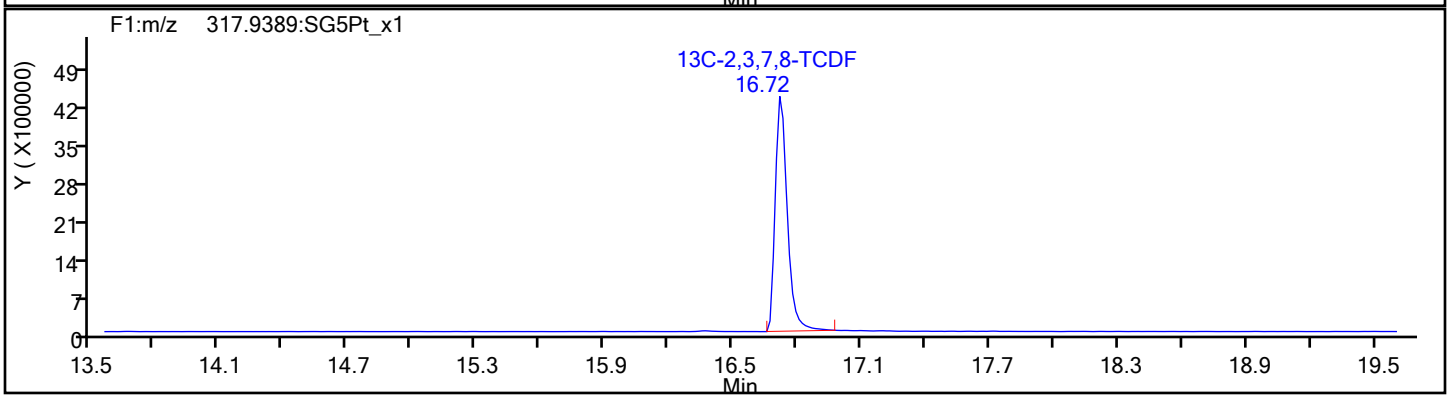

Report Date: 21-Feb-2020 10:21:23 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_51.d		
Injection Date:	20-Feb-2020 05:29:50	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Berm-Rock		
Worklist#:	358703	Sample Line#:	51
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

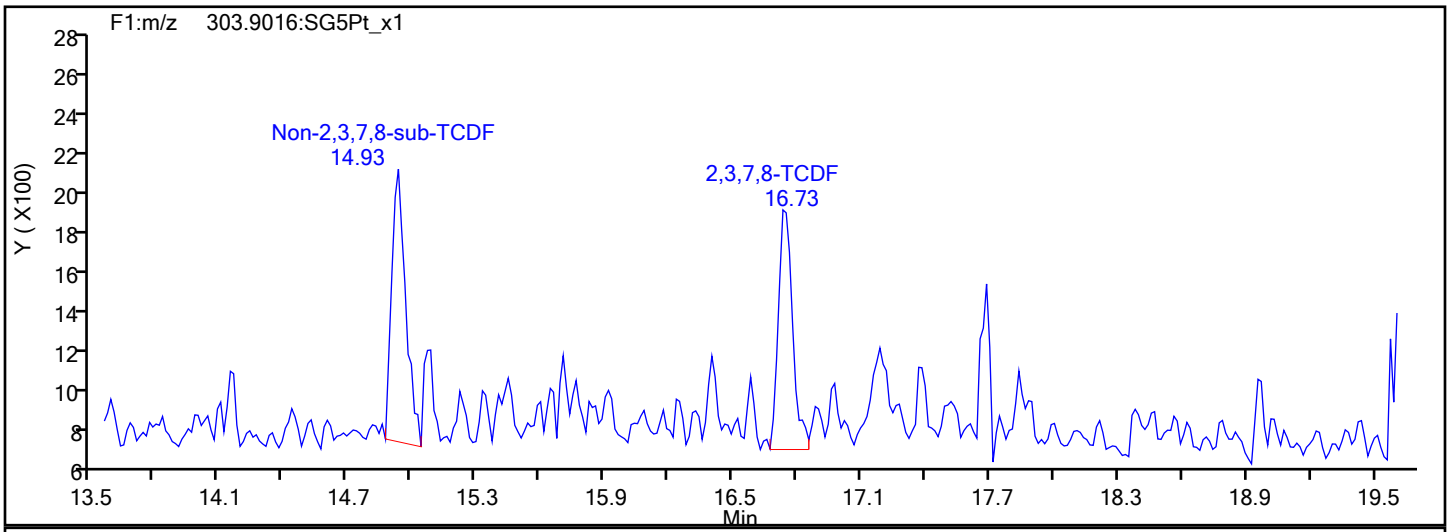

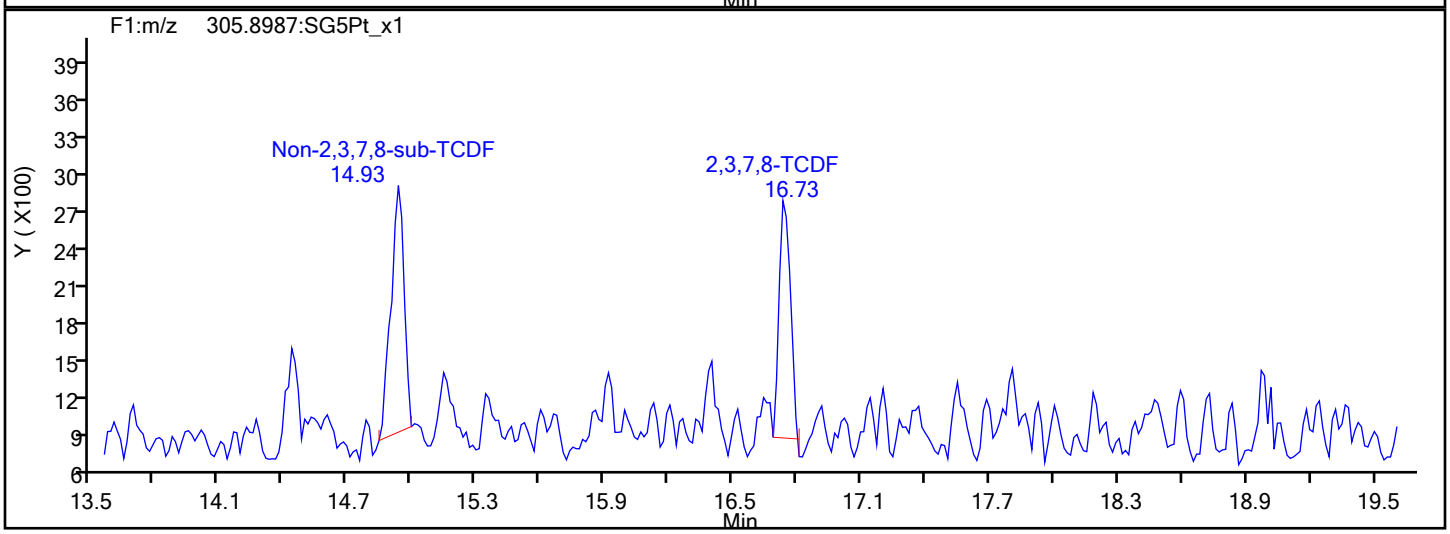

TCDF Interference Mass

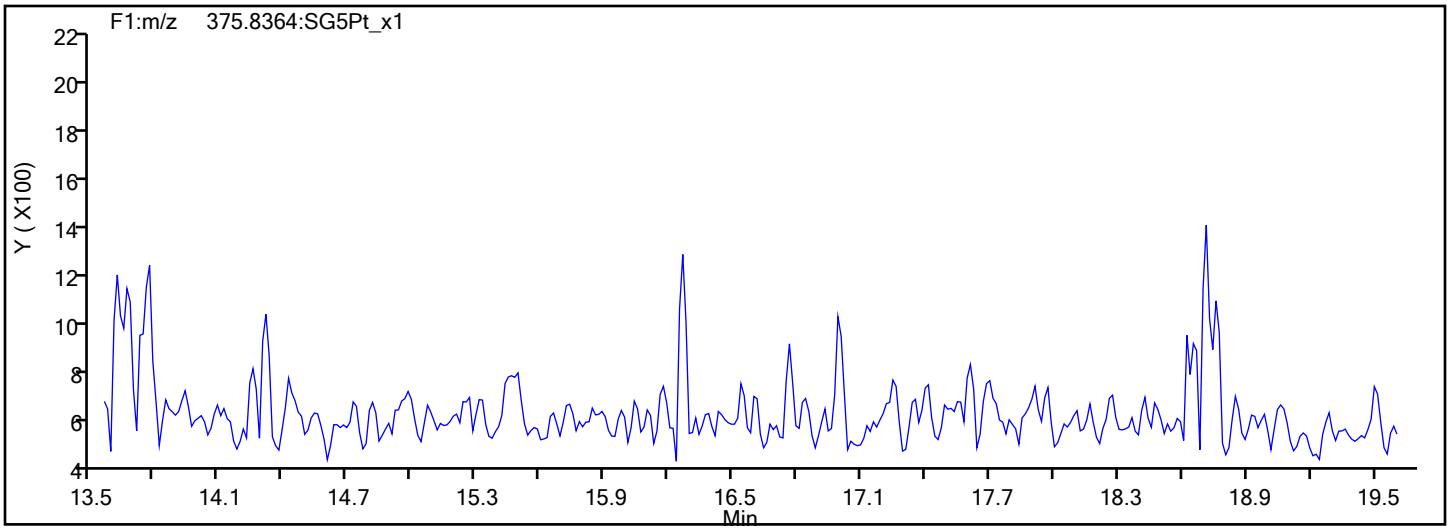

Report Date: 21-Feb-2020 10:21:23 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_51.d		
Injection Date:	20-Feb-2020 05:29:50	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Berm-Rock		
Worklist#:	358703	Sample Line#:	51
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

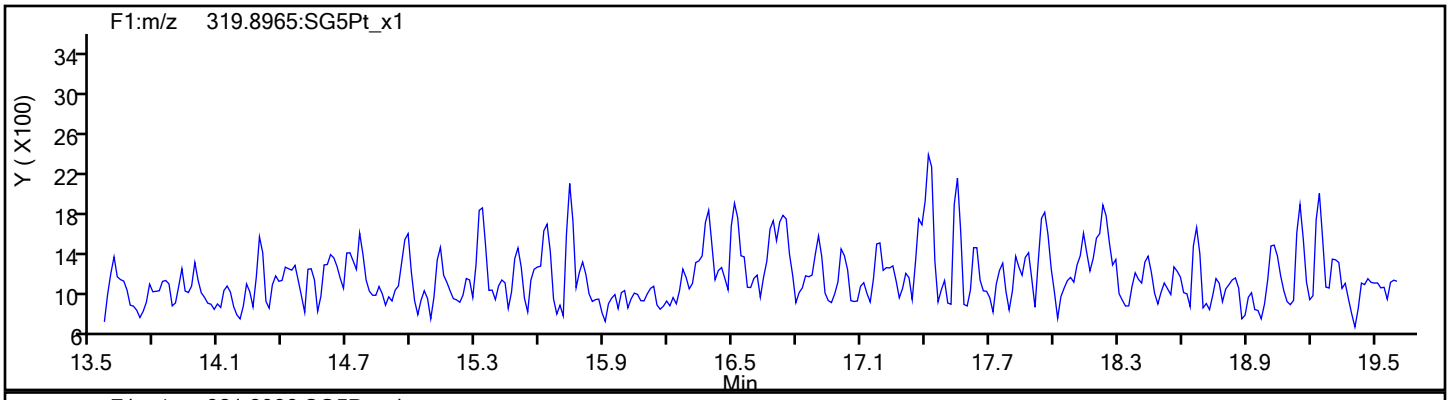

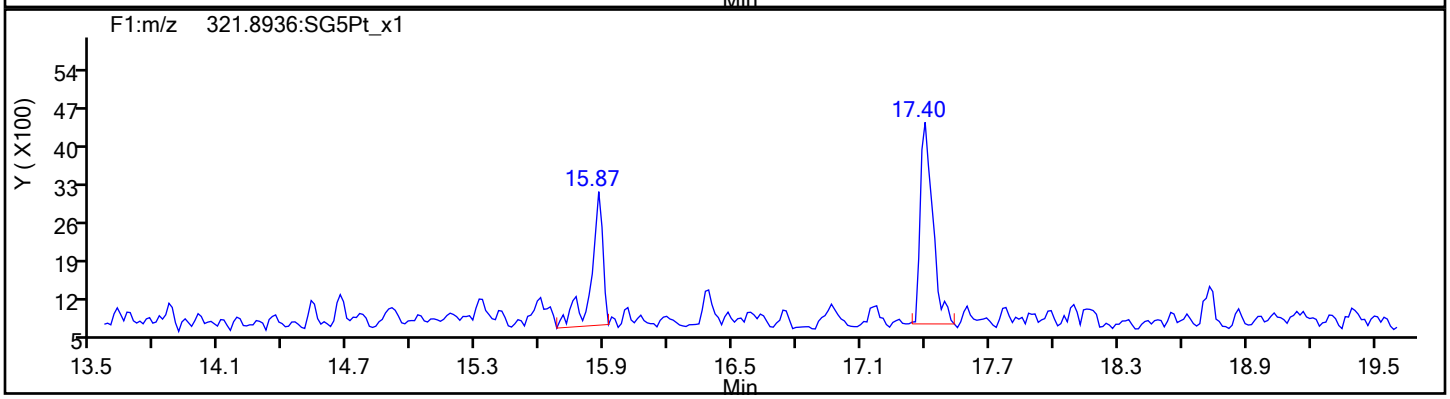

TCDD Standards

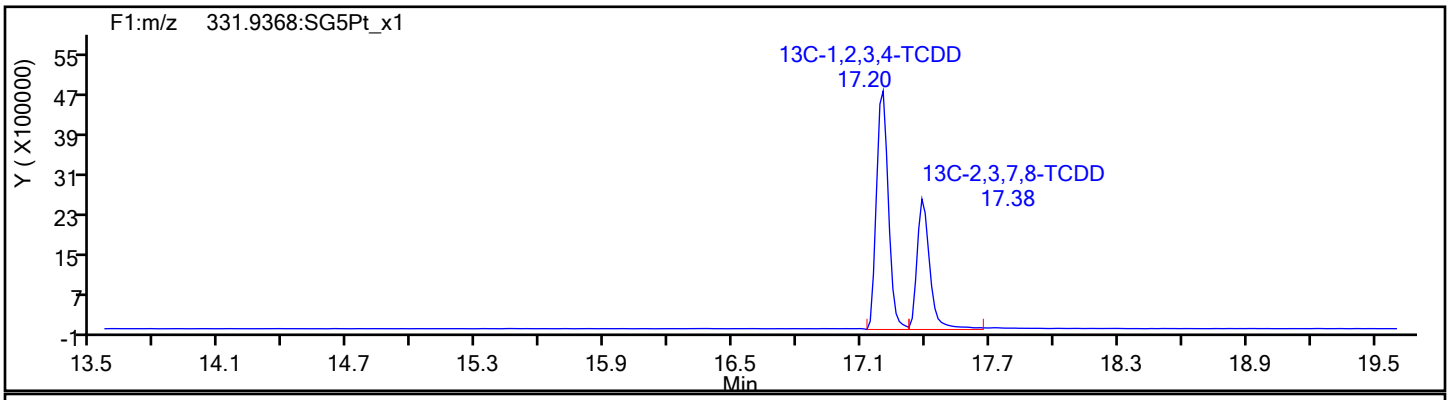

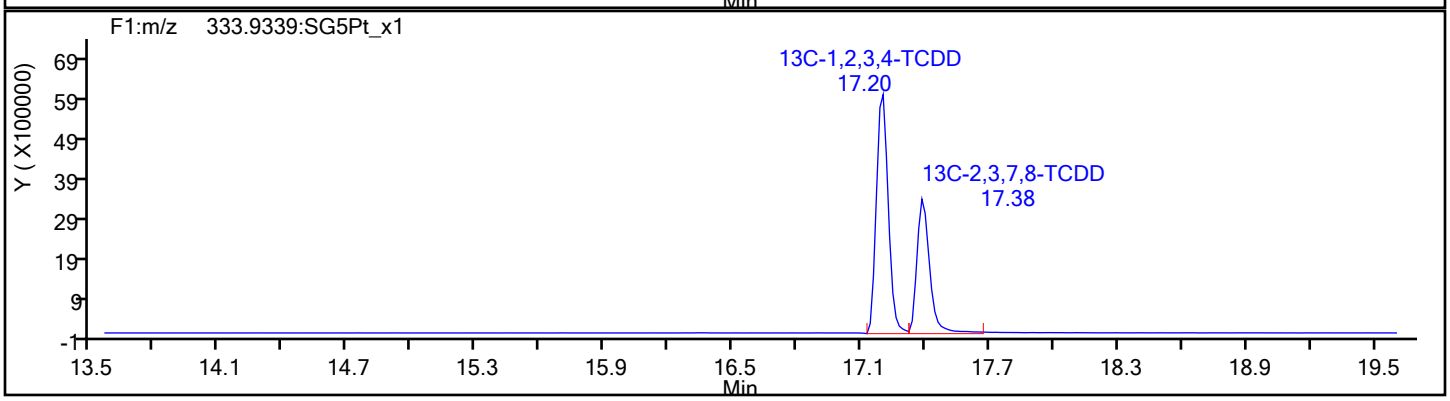

Report Date: 21-Feb-2020 10:21:23 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_51.d		
Injection Date:	20-Feb-2020 05:29:50	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Berm-Rock		
Worklist#:	358703	Sample Line#:	51
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

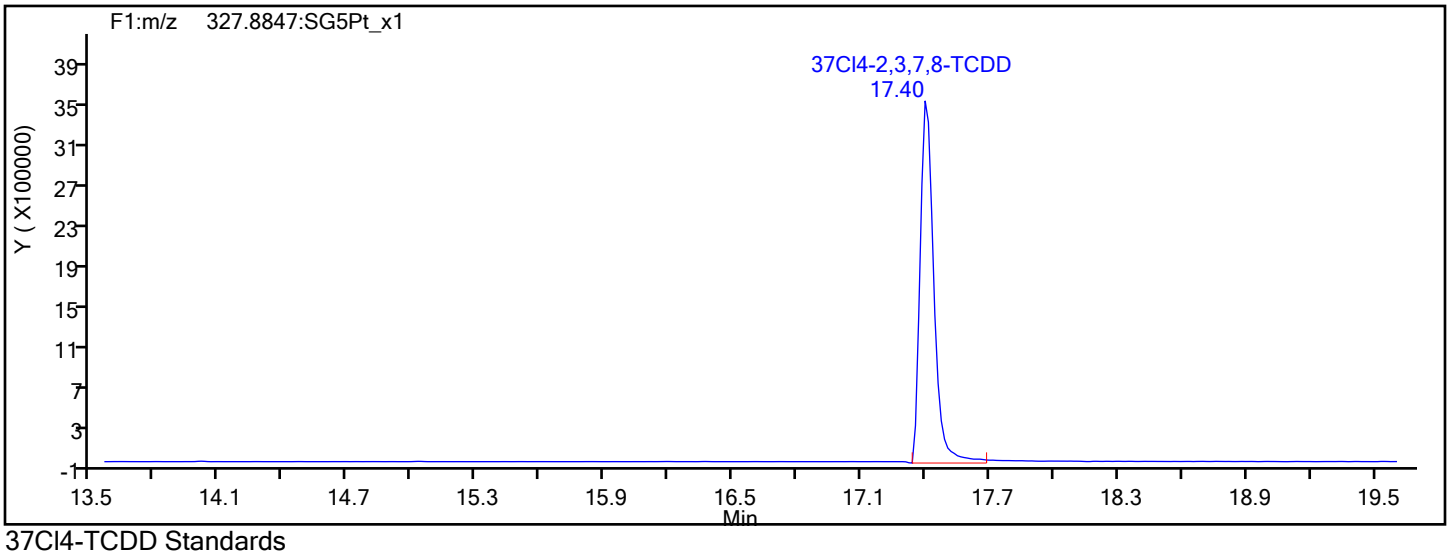

37Cl4-TCDD Standards

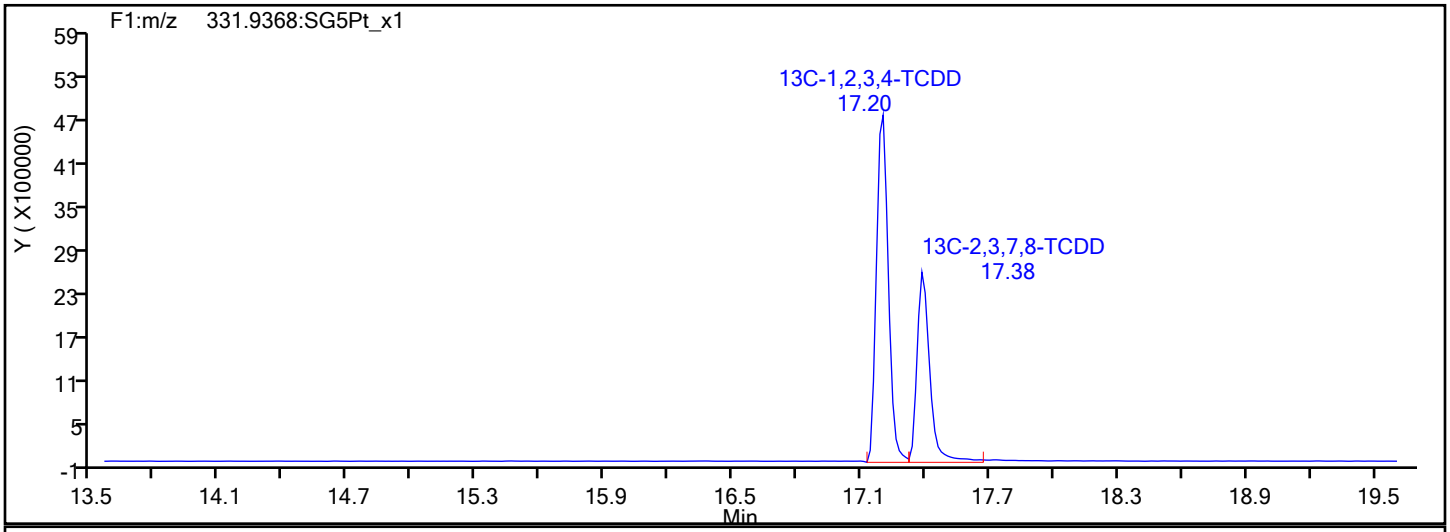

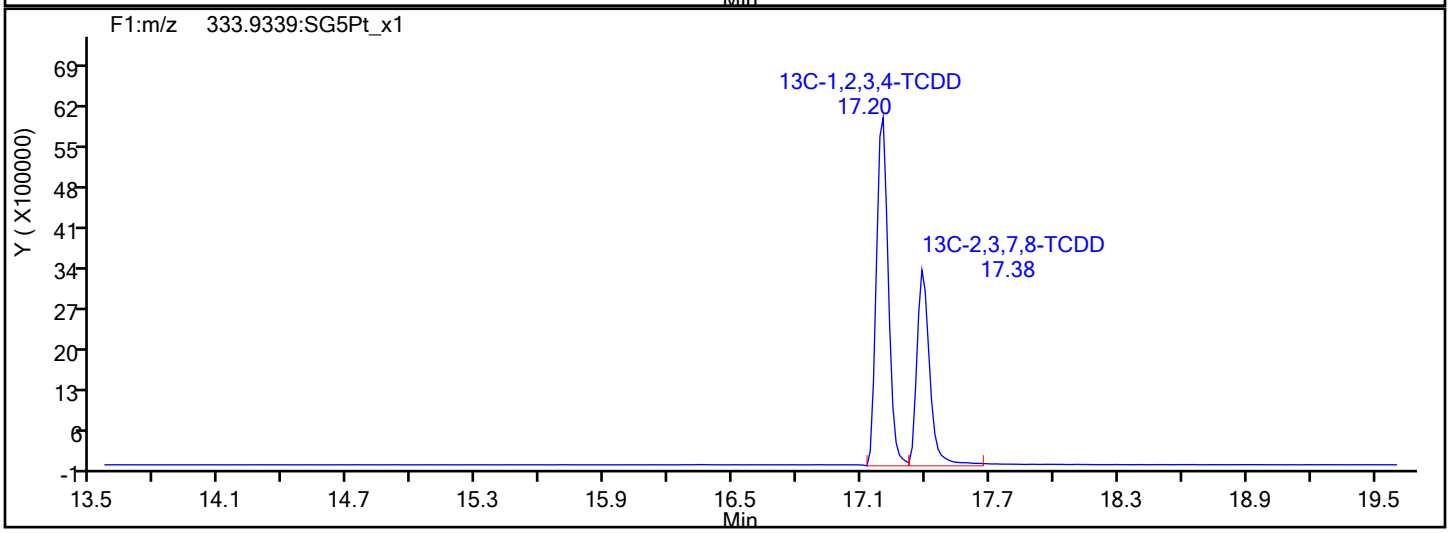

Report Date: 21-Feb-2020 10:21:23 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_51.d		
Injection Date:	20-Feb-2020 05:29:50	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Berm-Rock		
Worklist#:	358703	Sample Line#:	51
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

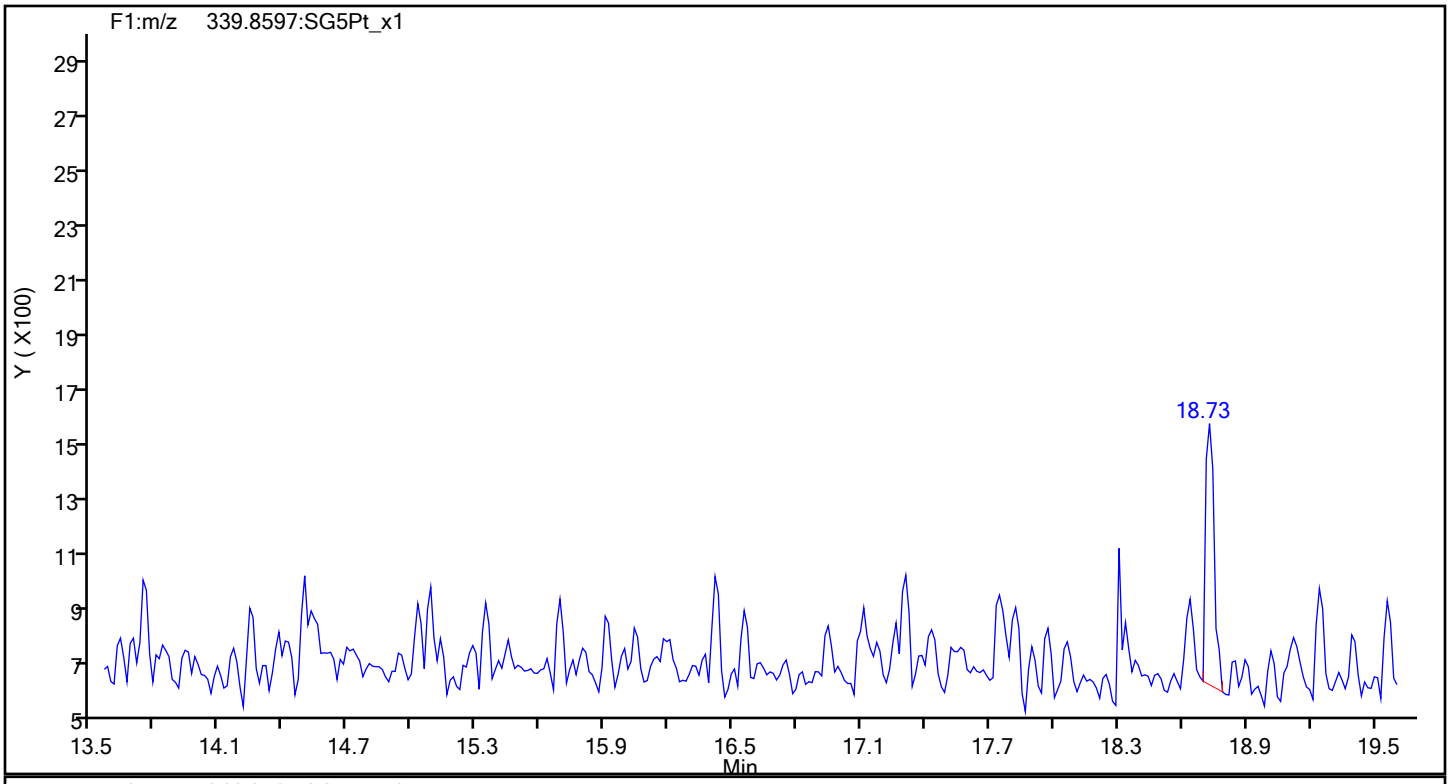

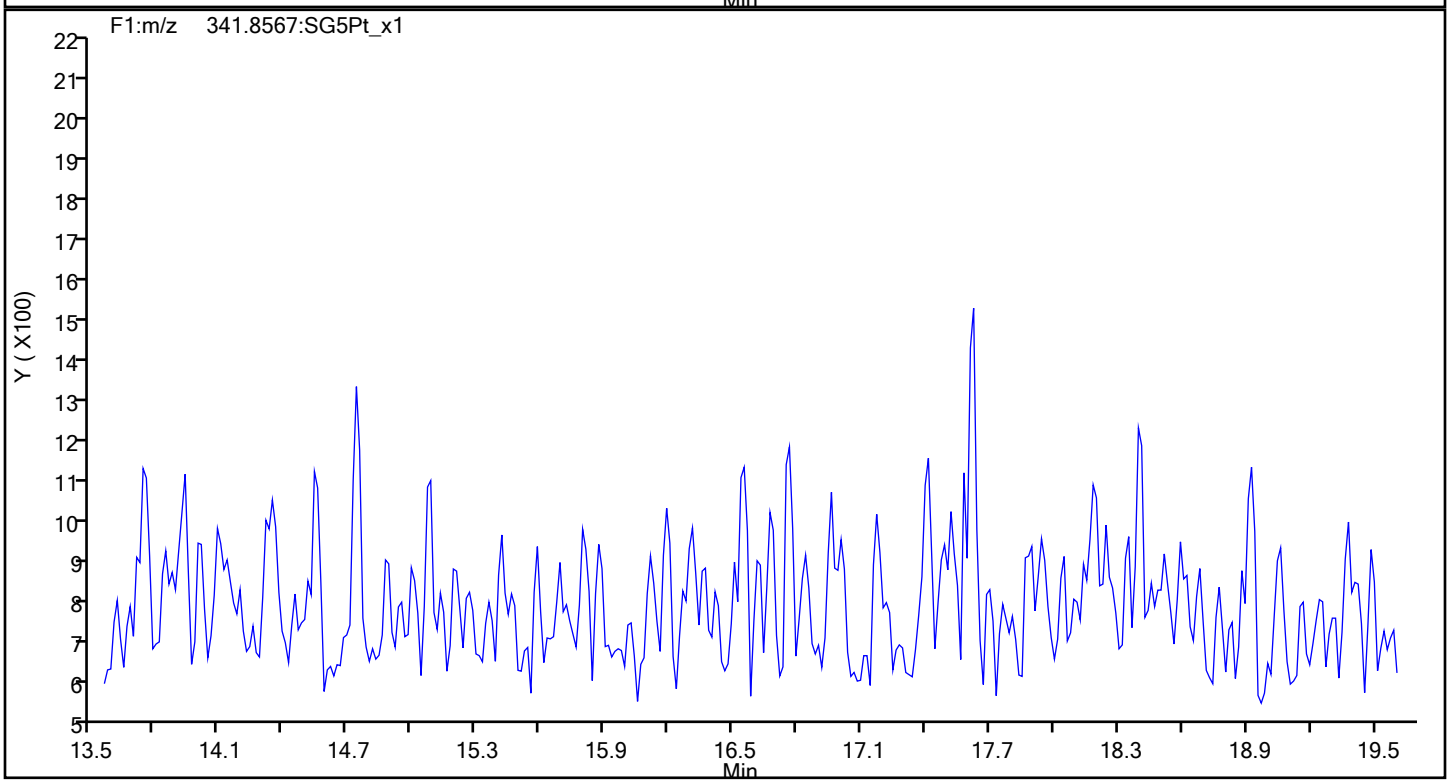

Report Date: 21-Feb-2020 10:21:23 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_51.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Berm-Rock		
Worklist#:	358703	Sample Line#:	51
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

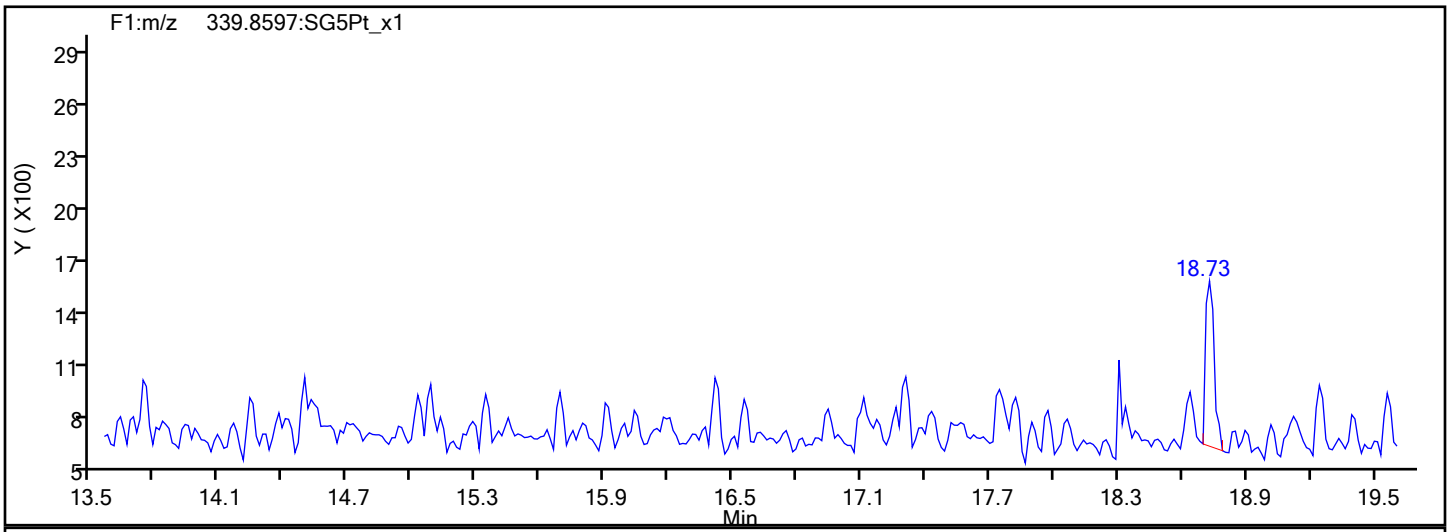

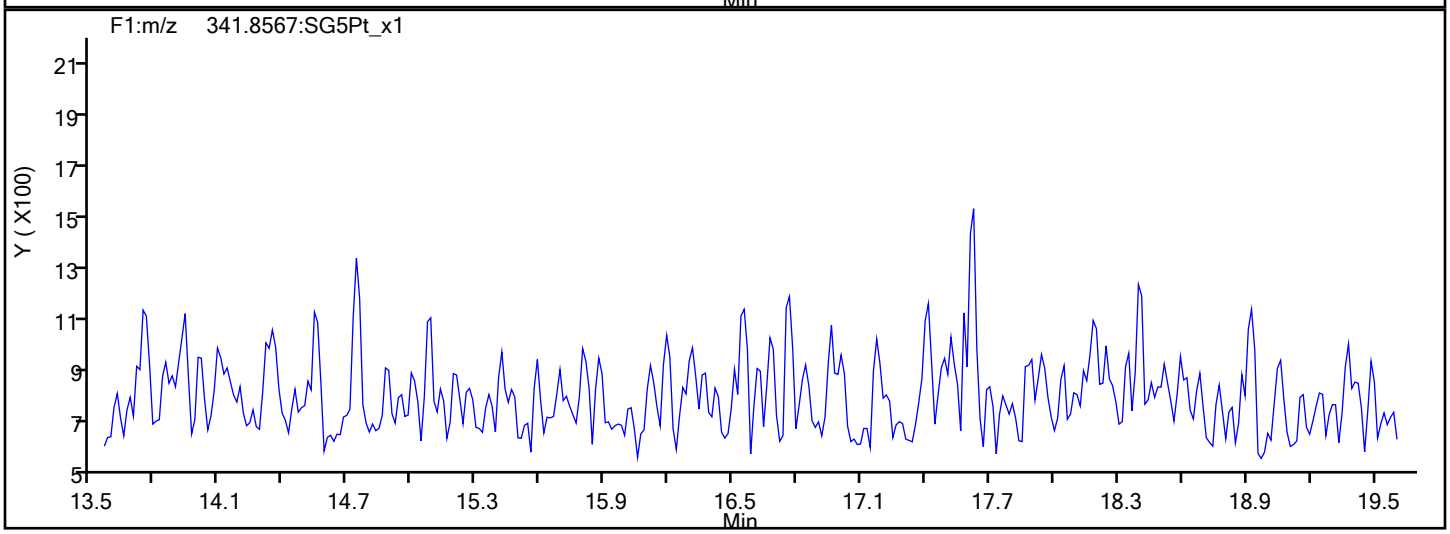

F1 PeCDFs Interference Mass

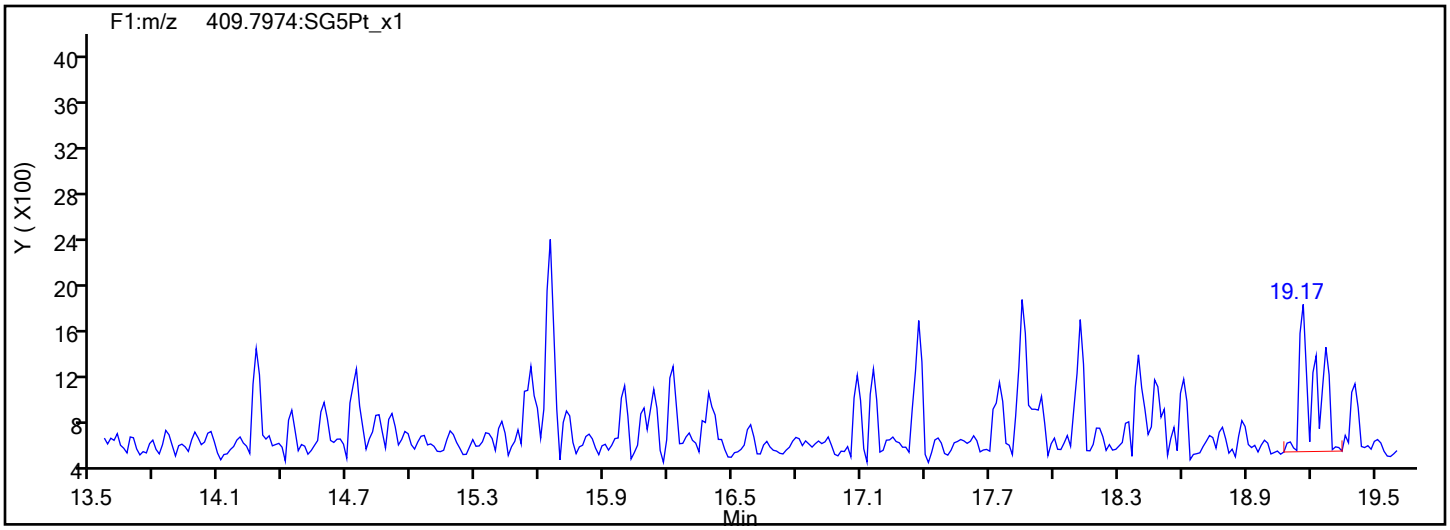

Report Date: 21-Feb-2020 10:21:23 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_51.d		
Injection Date:	20-Feb-2020 05:29:50	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Worklist#:	358703	Sample Line#:	51
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

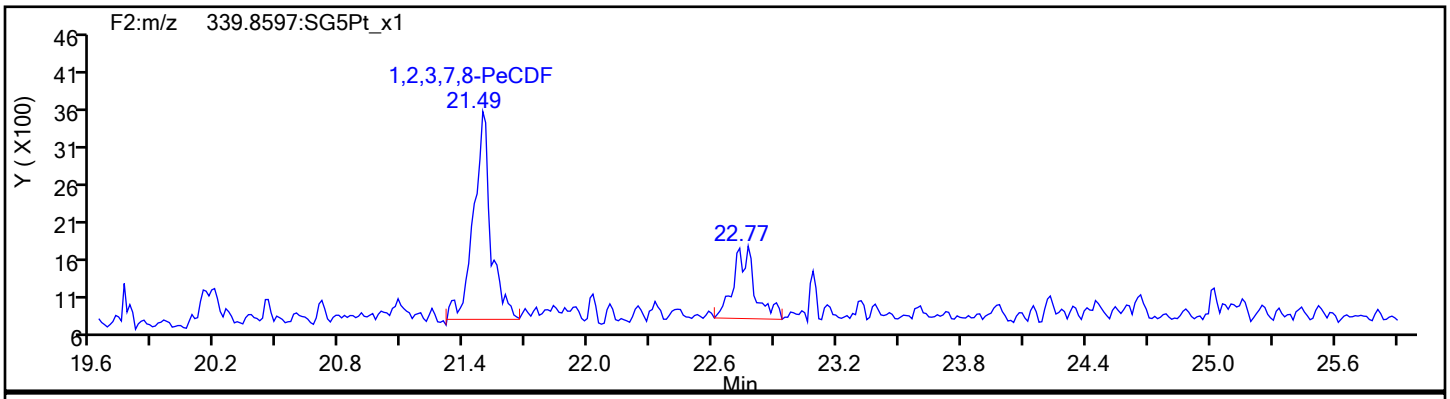

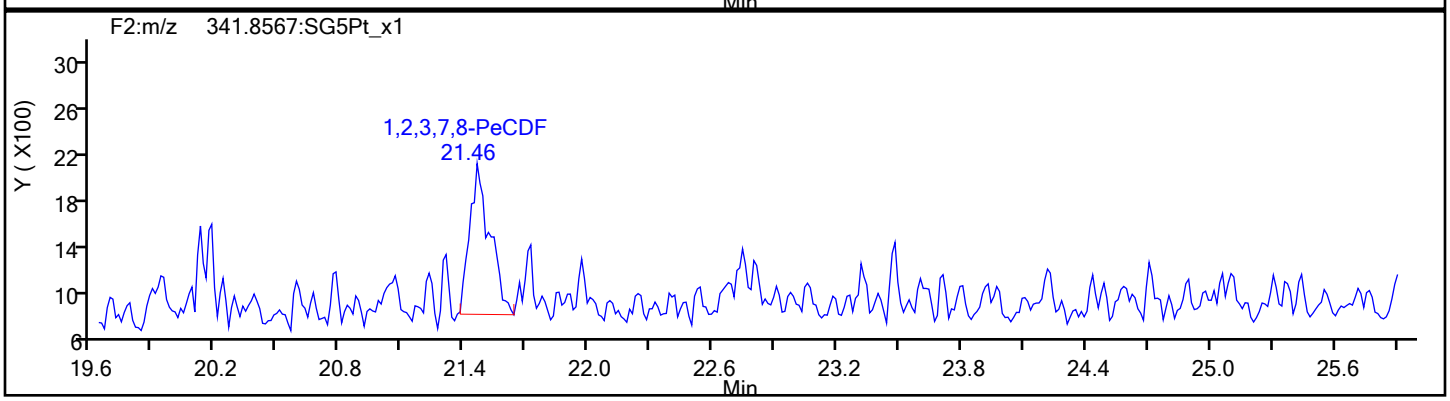

PeCDF Standards

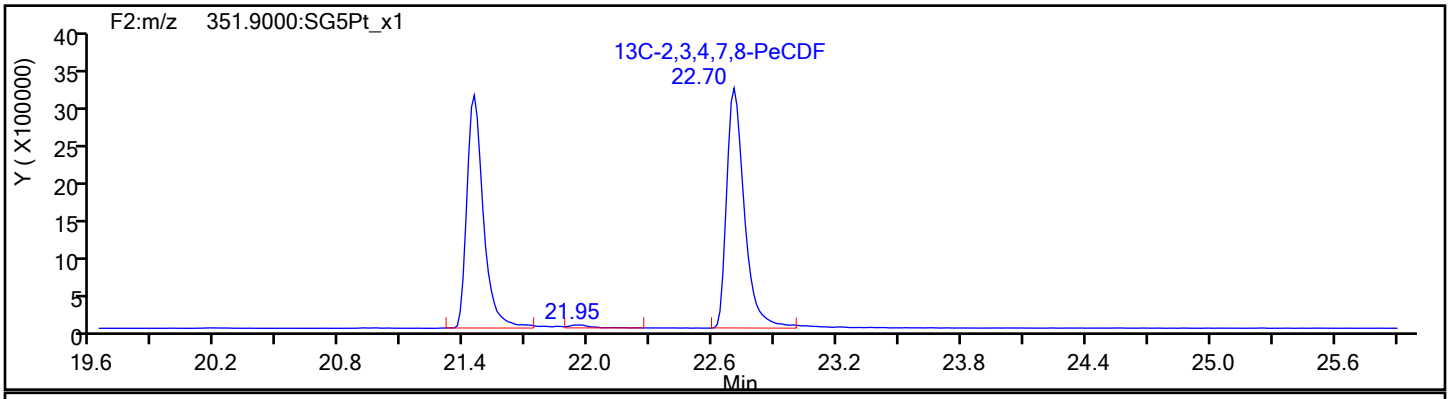

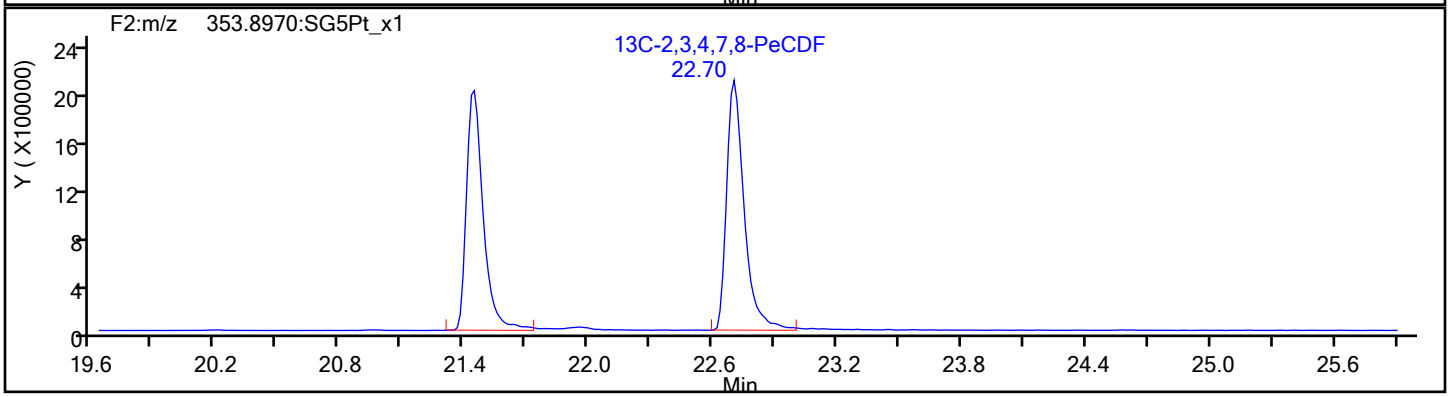

Report Date: 21-Feb-2020 10:21:23 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_51.d		
Injection Date:	20-Feb-2020 05:29:50	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

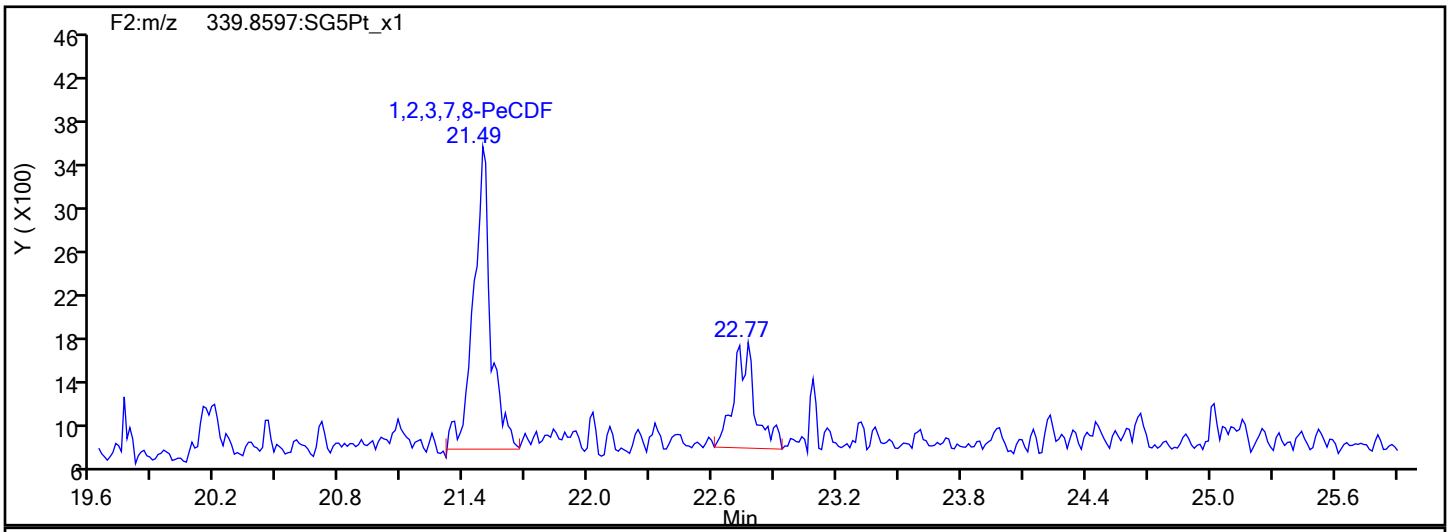

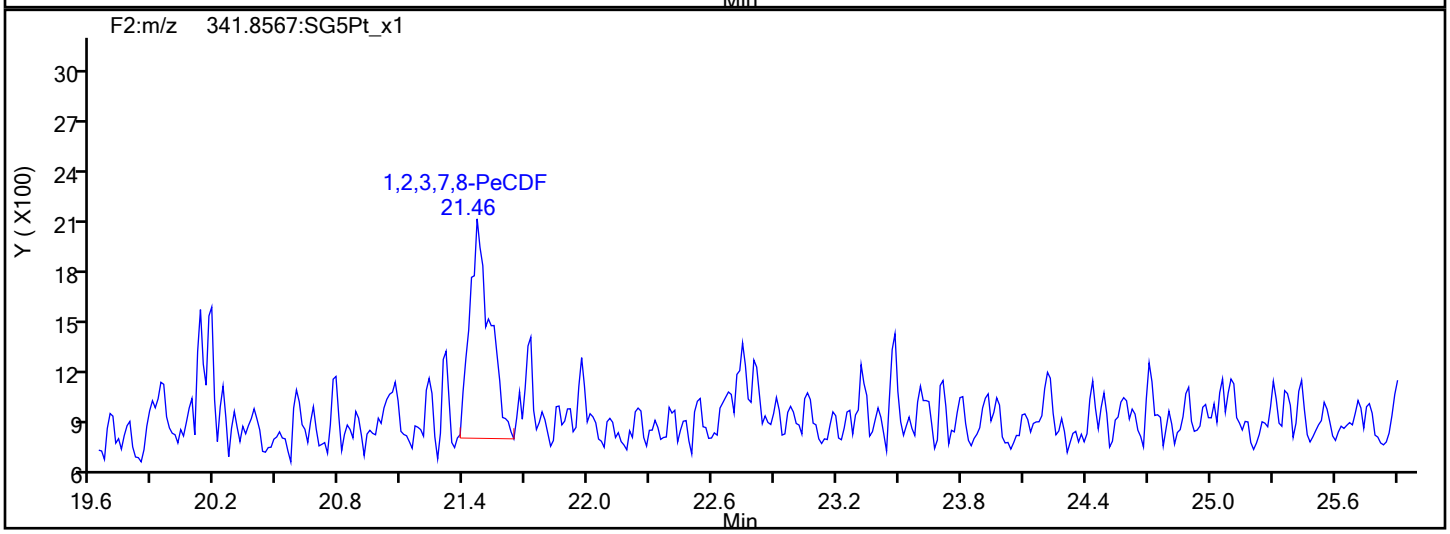

PeCDF Interference Mass

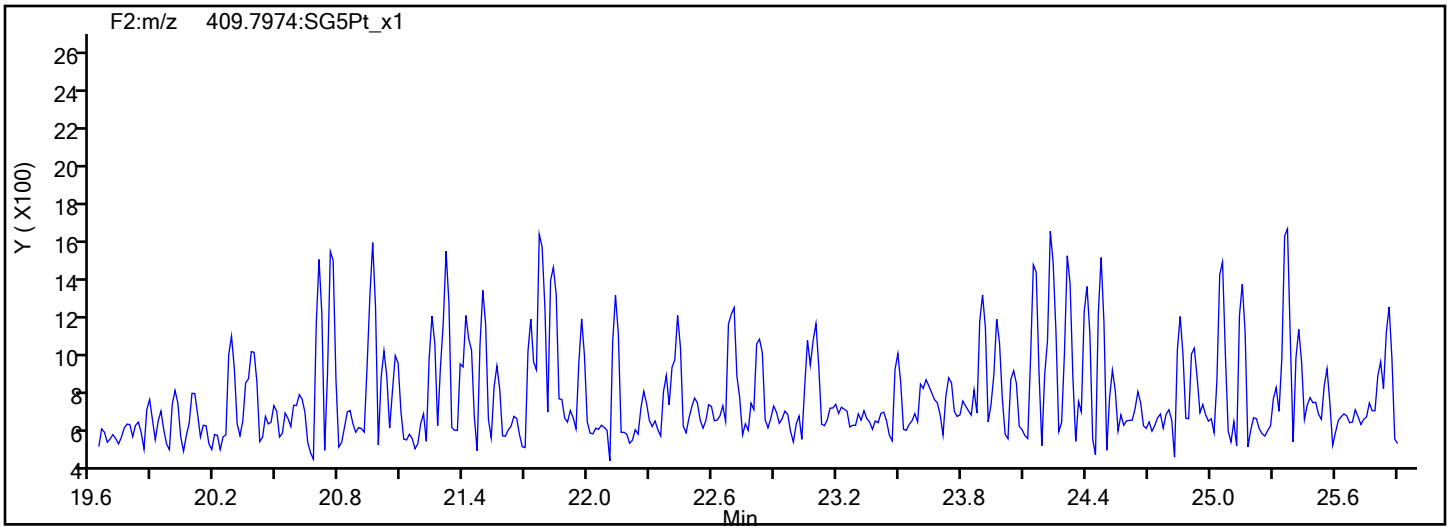

Report Date: 21-Feb-2020 10:21:23 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_51.d		
Injection Date:	20-Feb-2020 05:29:50	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Berm-Rock		
Worklist#:	358703	Sample Line#:	51
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

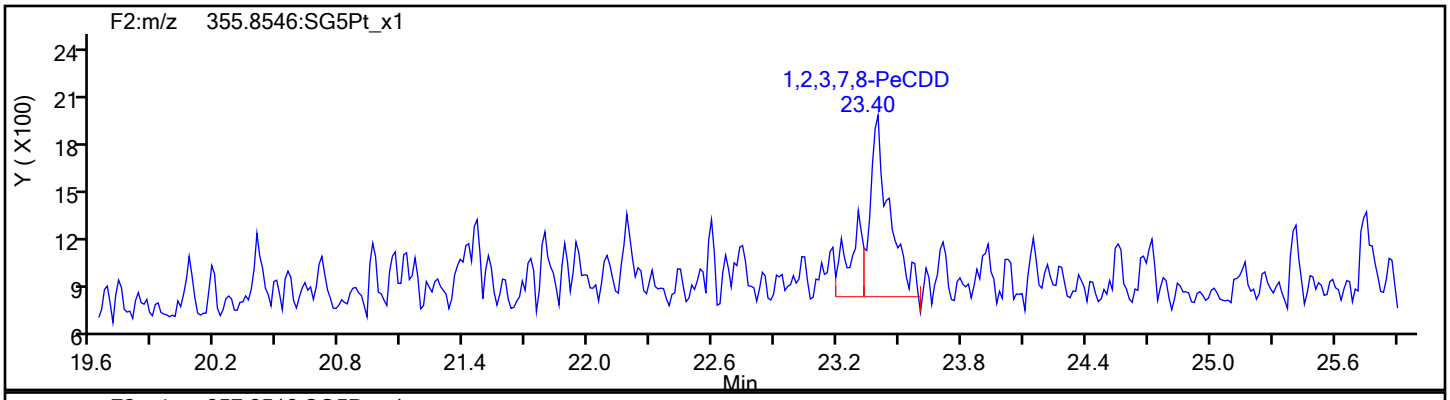

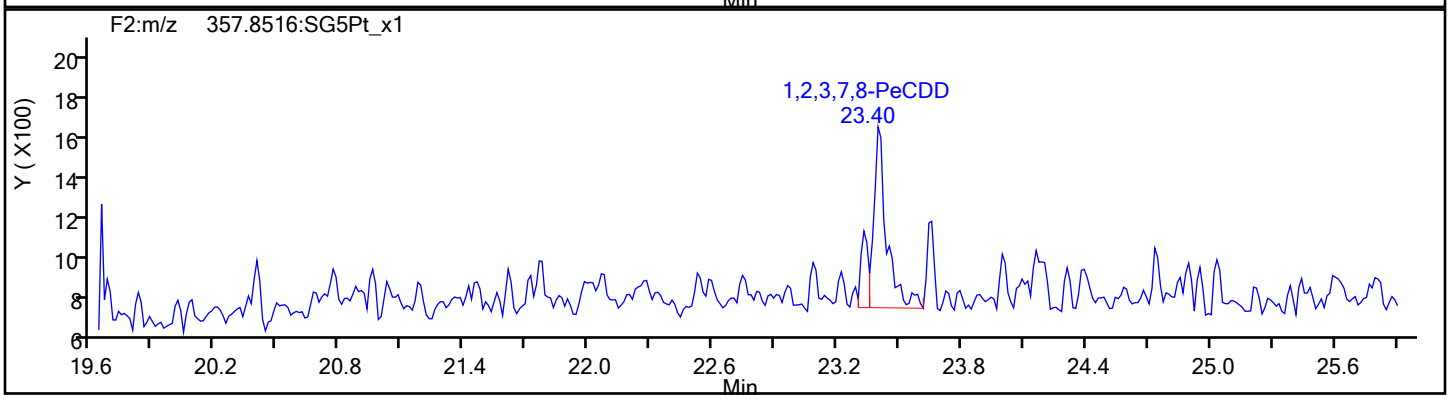

PeCDD Standards

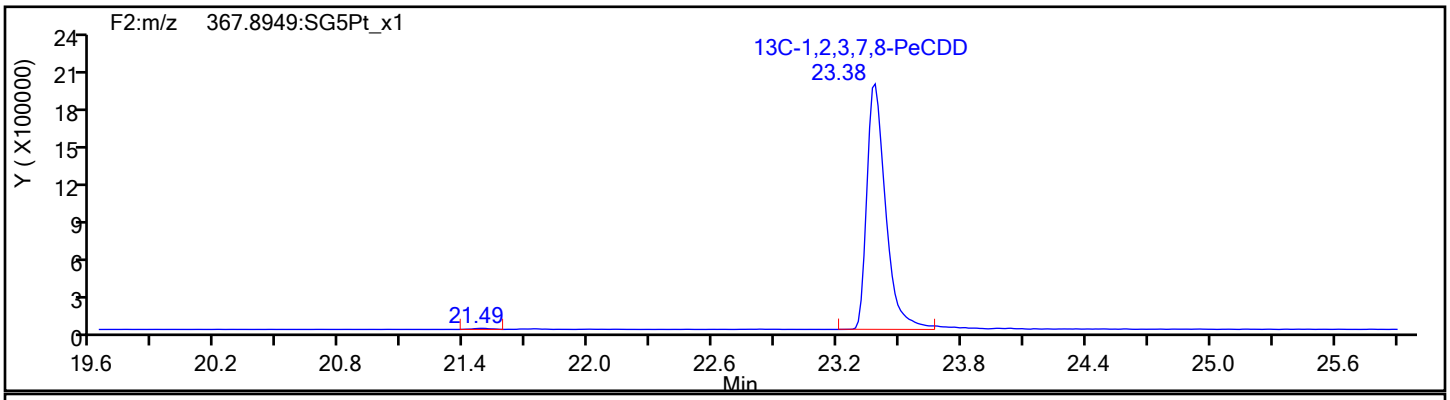

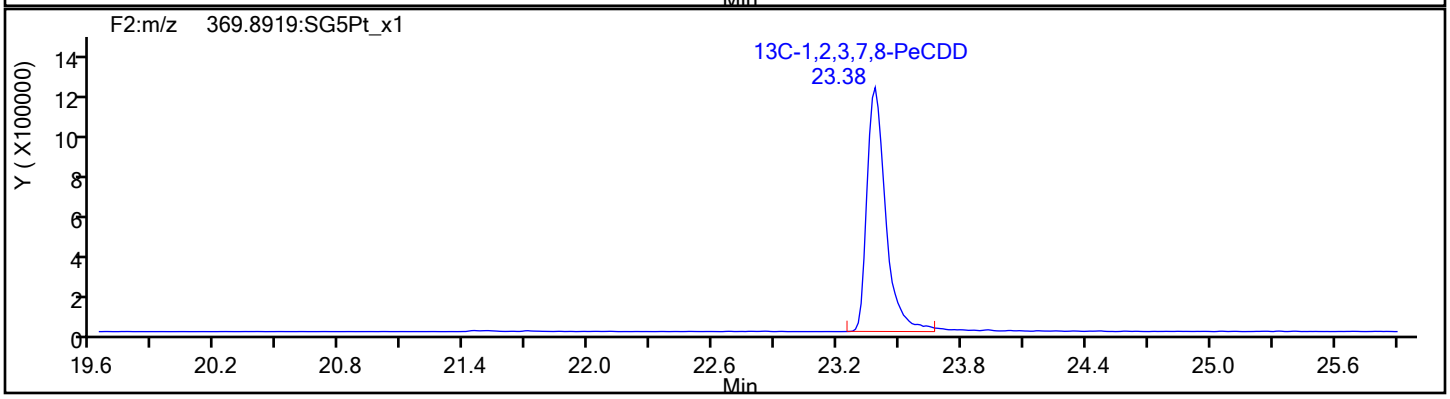

Report Date: 21-Feb-2020 10:21:23 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_51.d		
Injection Date:	20-Feb-2020 05:29:50	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Berm-Rock		
Worklist#:	358703	Sample Line#:	51
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

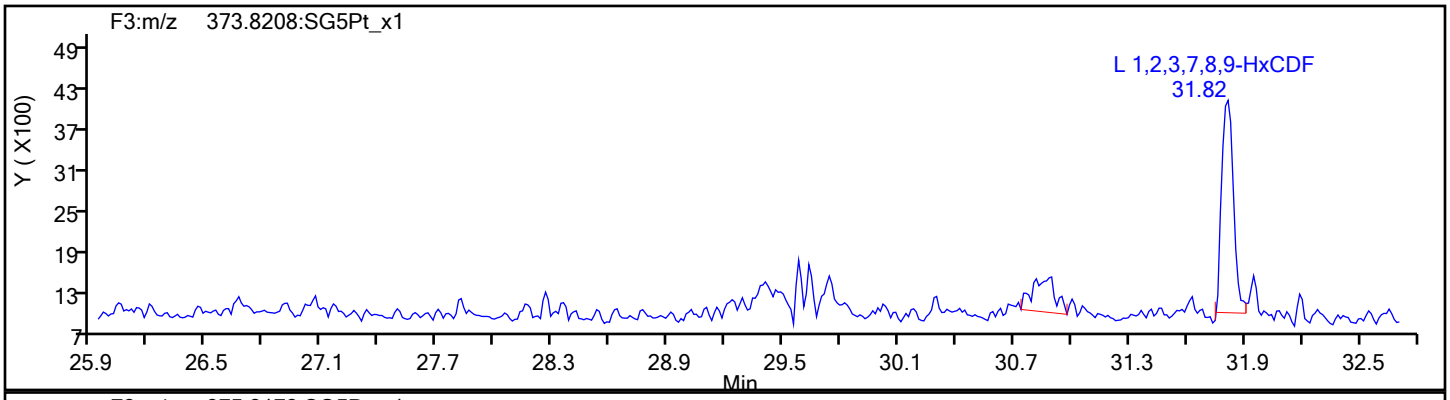

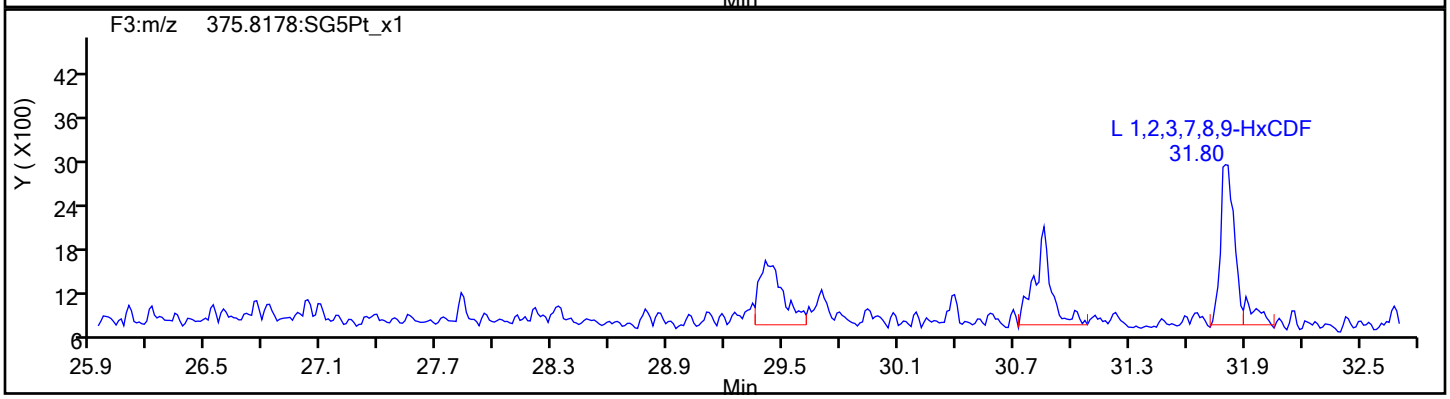

HxCDF Standards

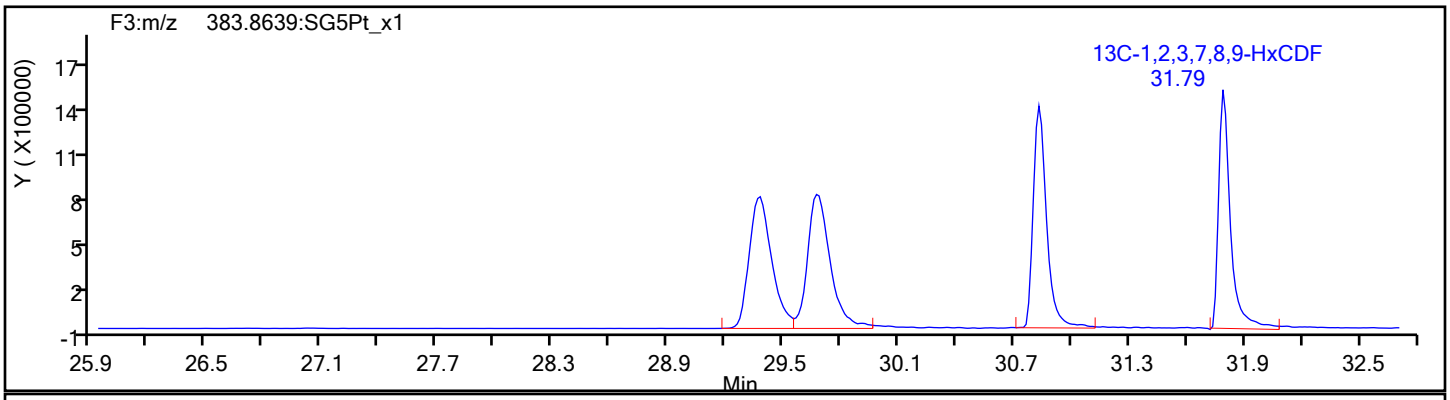

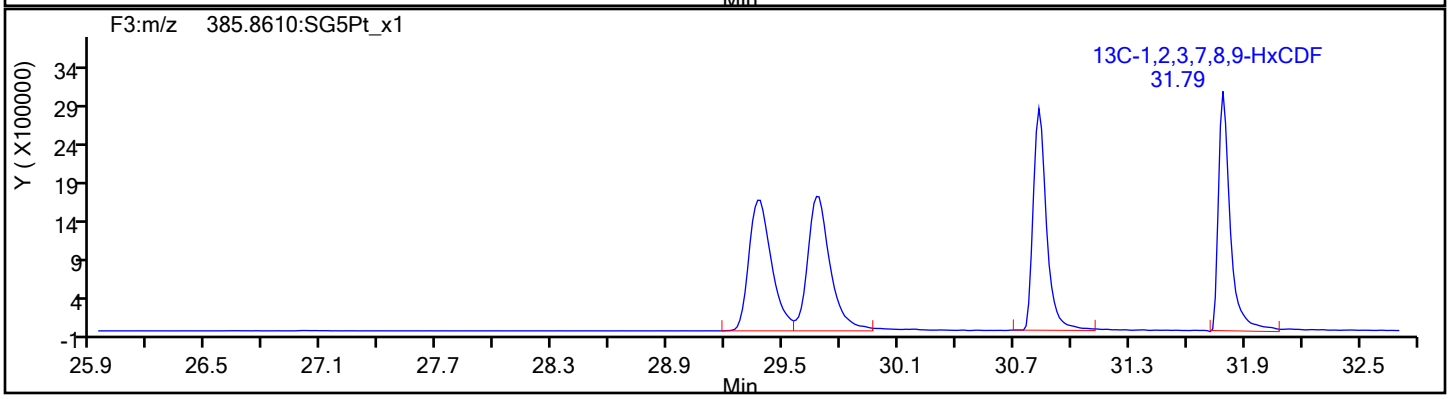

Report Date: 21-Feb-2020 10:21:23 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Berm-Rock		
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Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

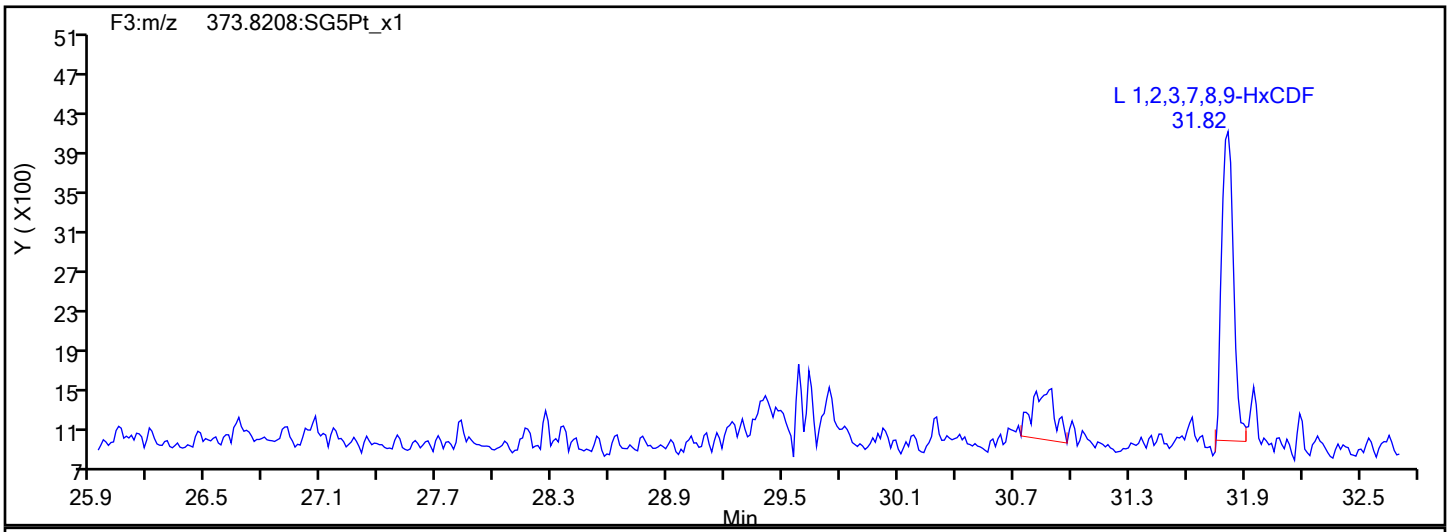

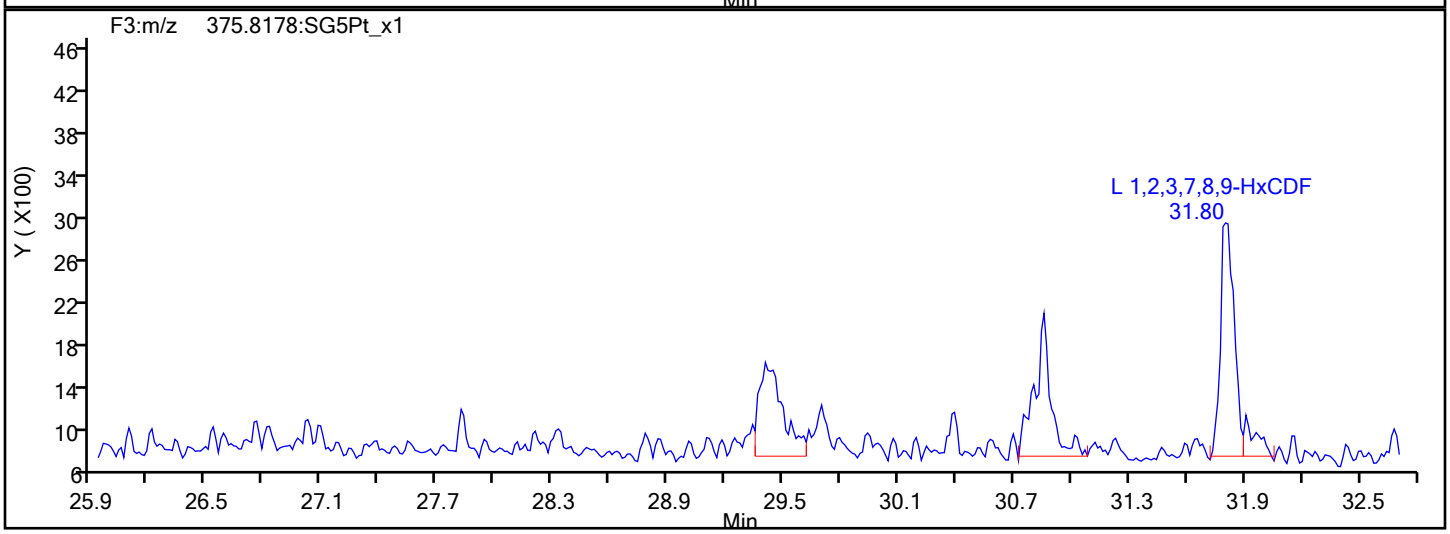

HxCDF Interference Mass

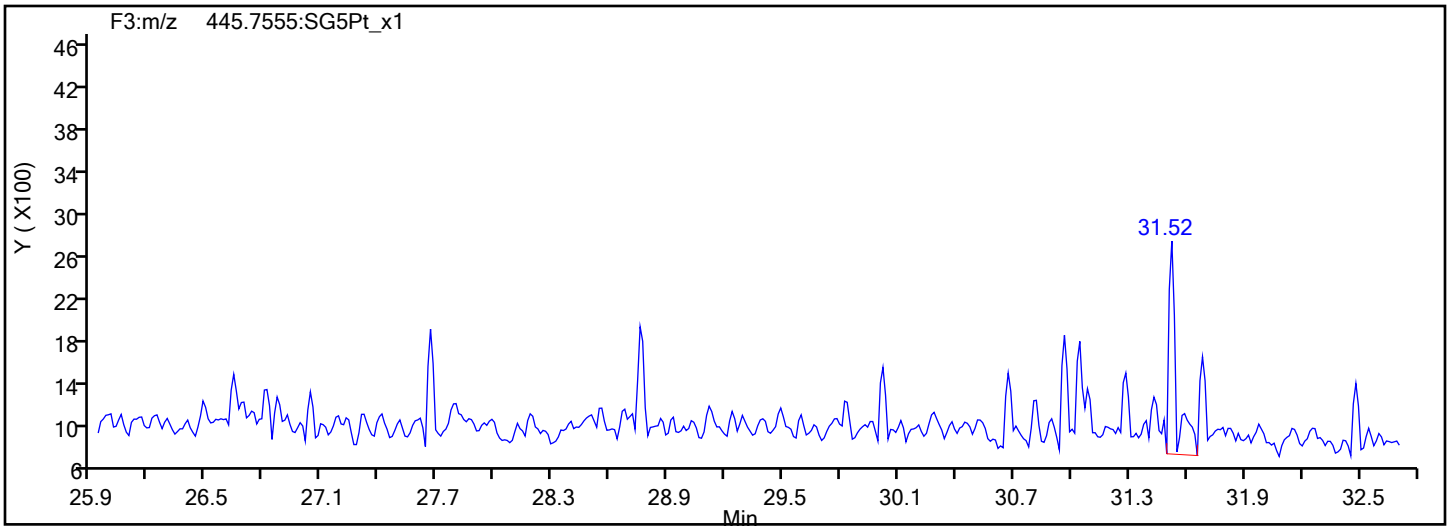

Report Date: 21-Feb-2020 10:21:23 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

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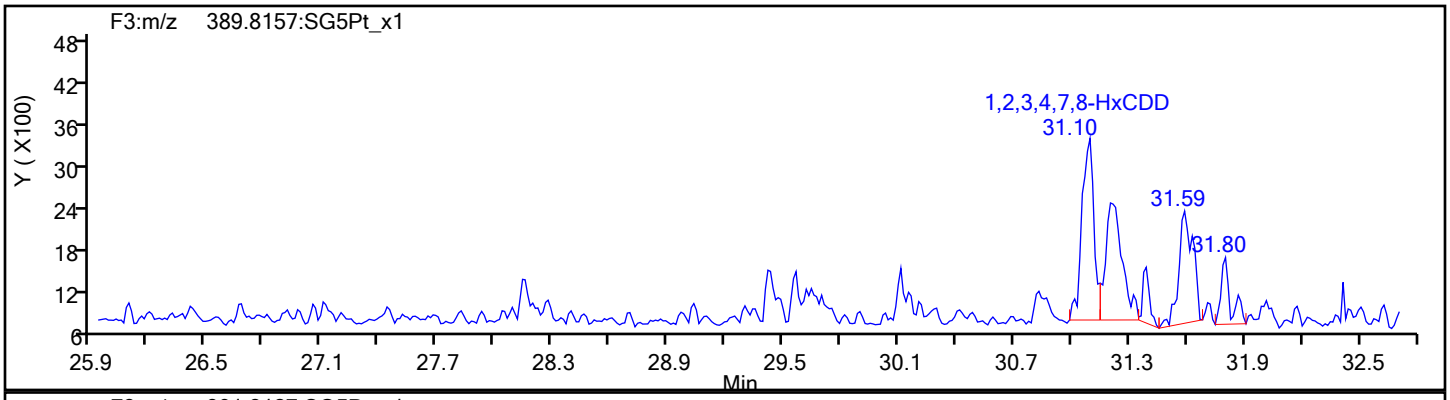

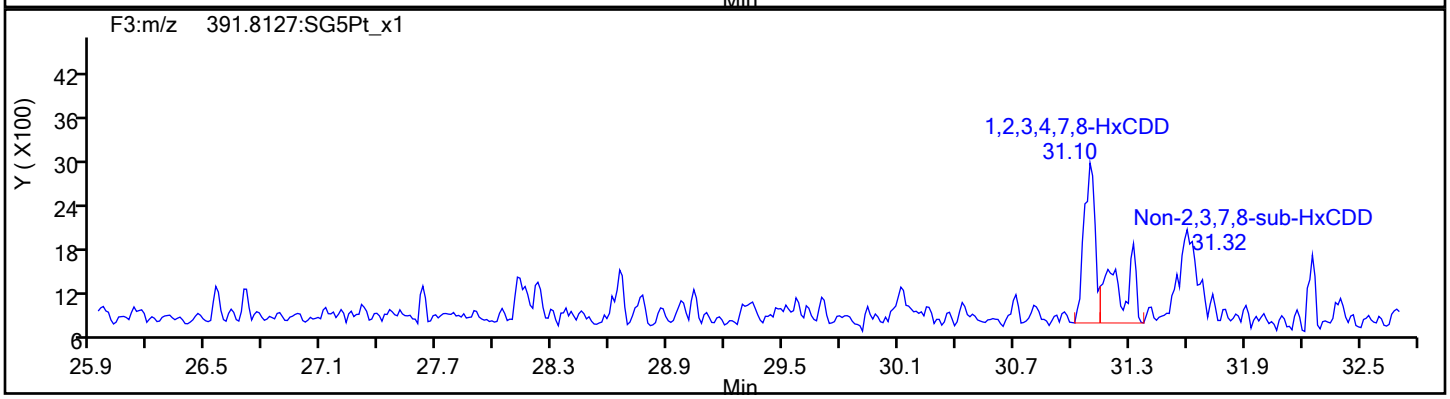

HxCDD Standards

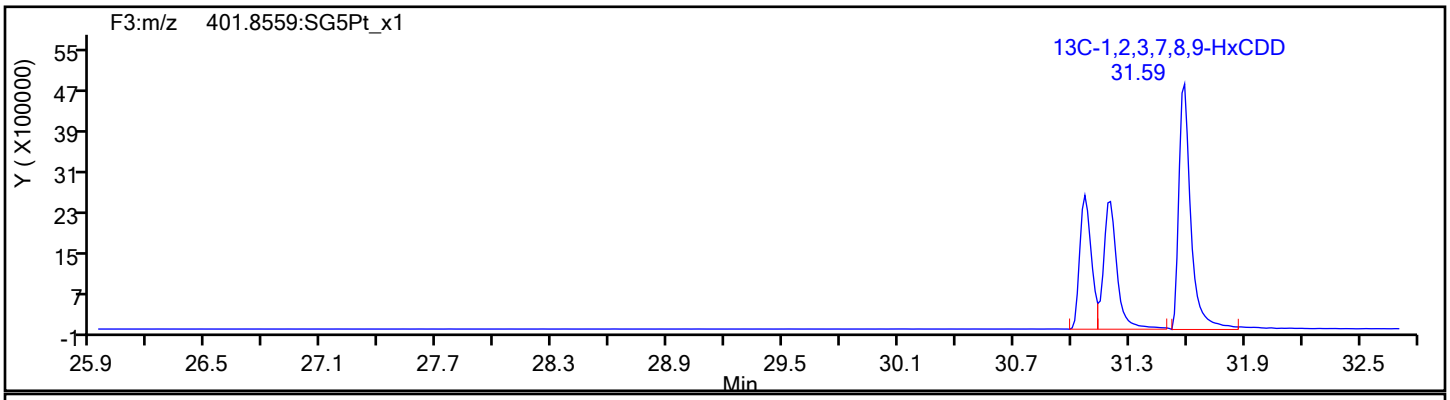

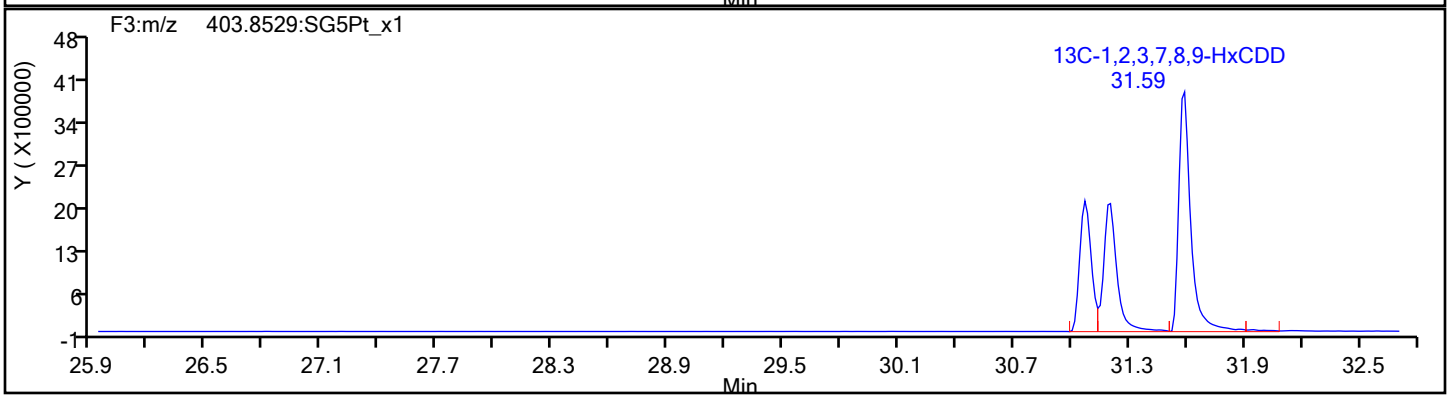

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Eurofins TestAmerica, Sacramento

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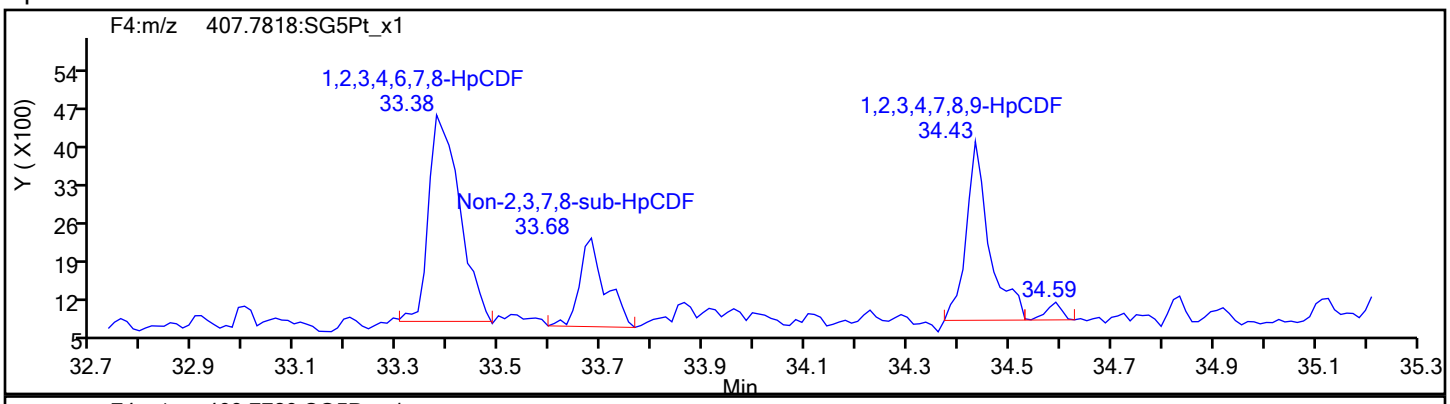

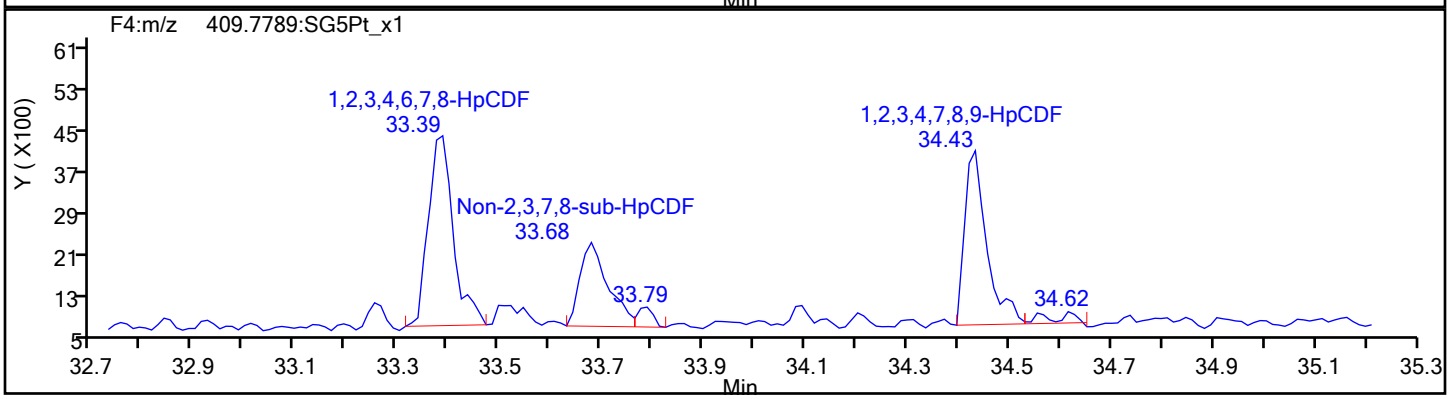

HpCDF Standards

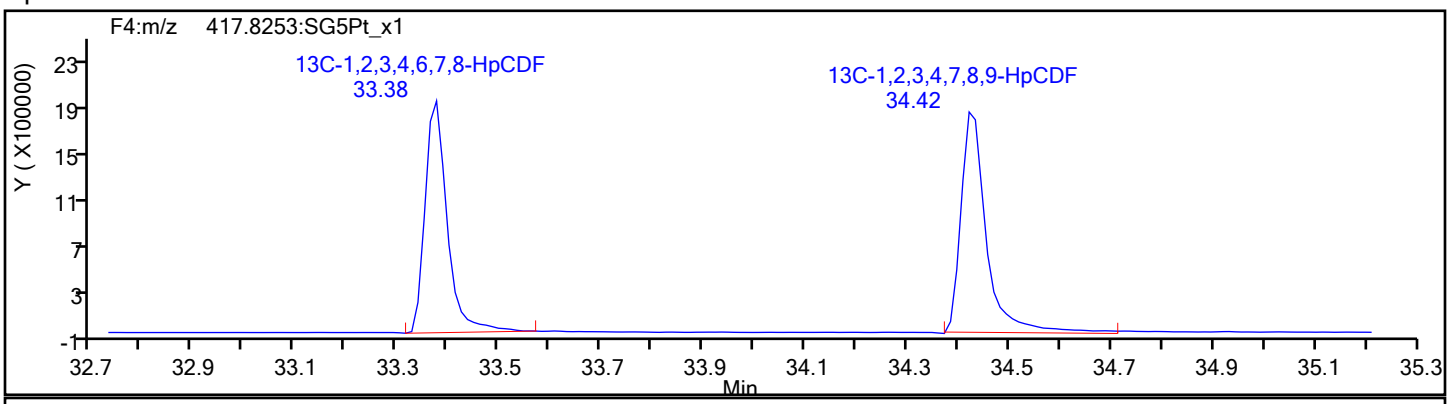

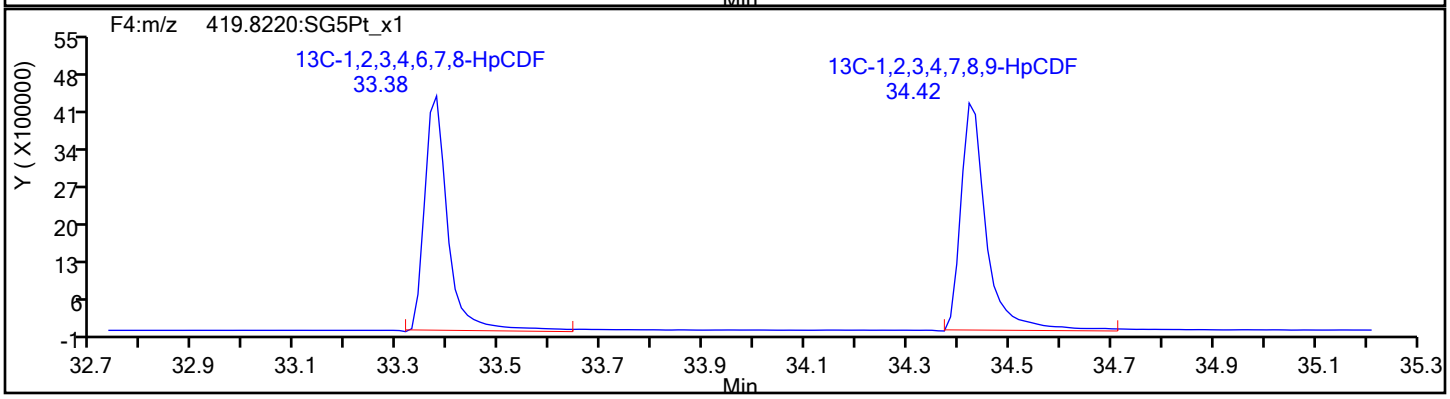

Report Date: 21-Feb-2020 10:21:24 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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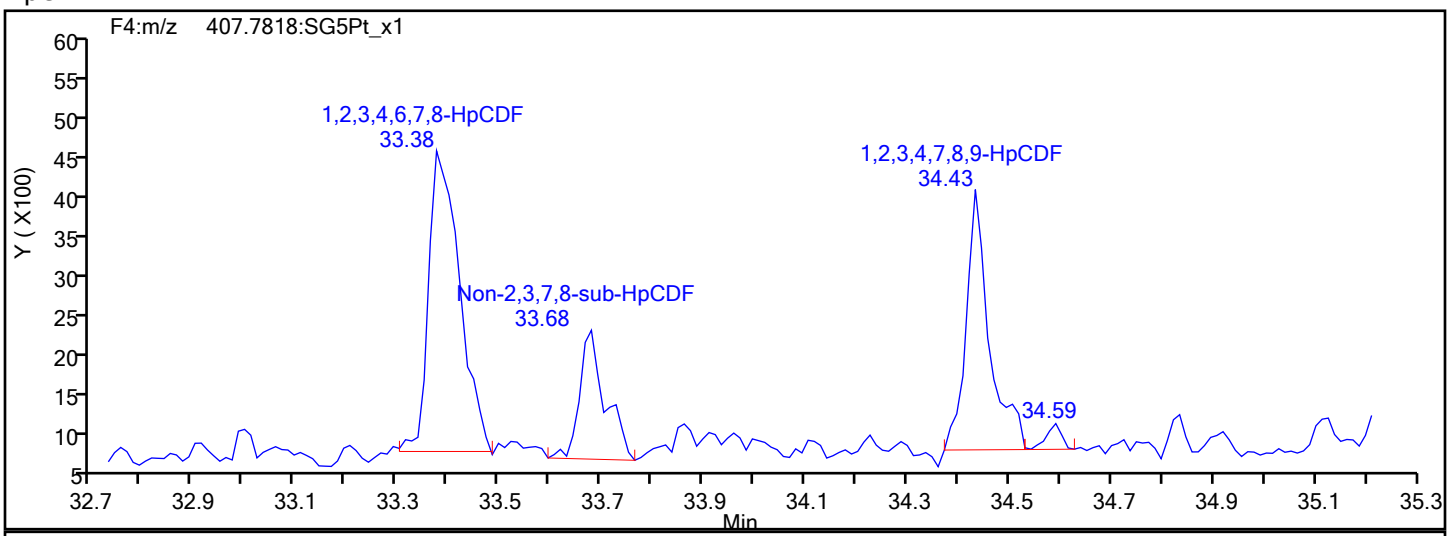

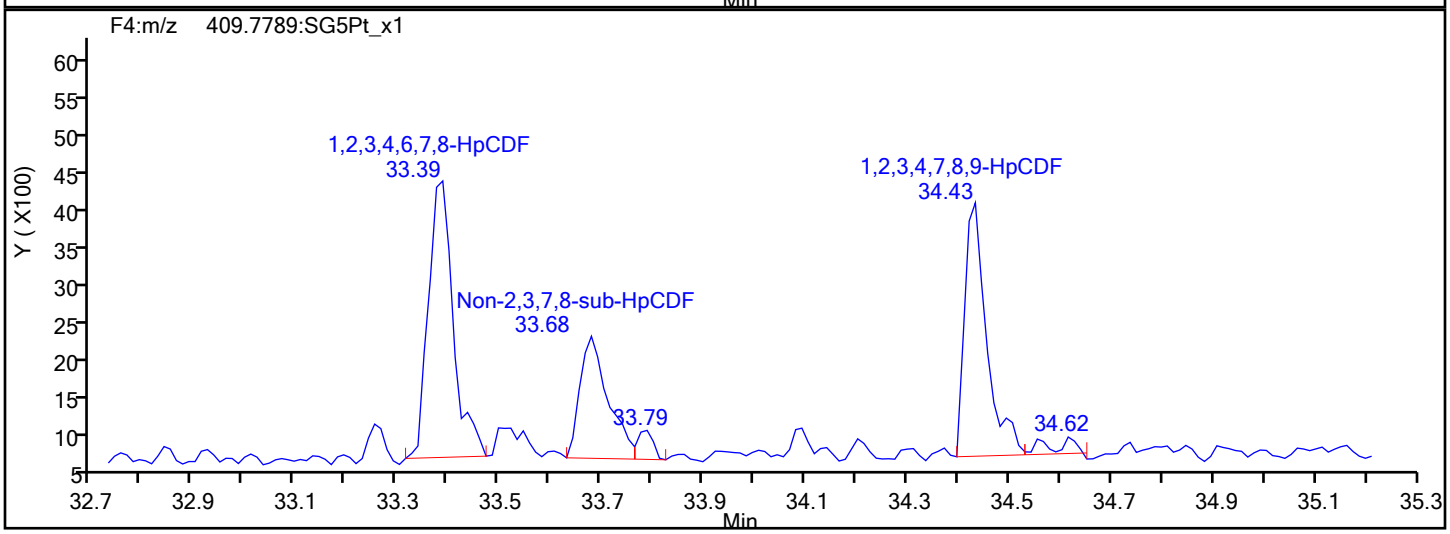

HpCDF Interference Mass

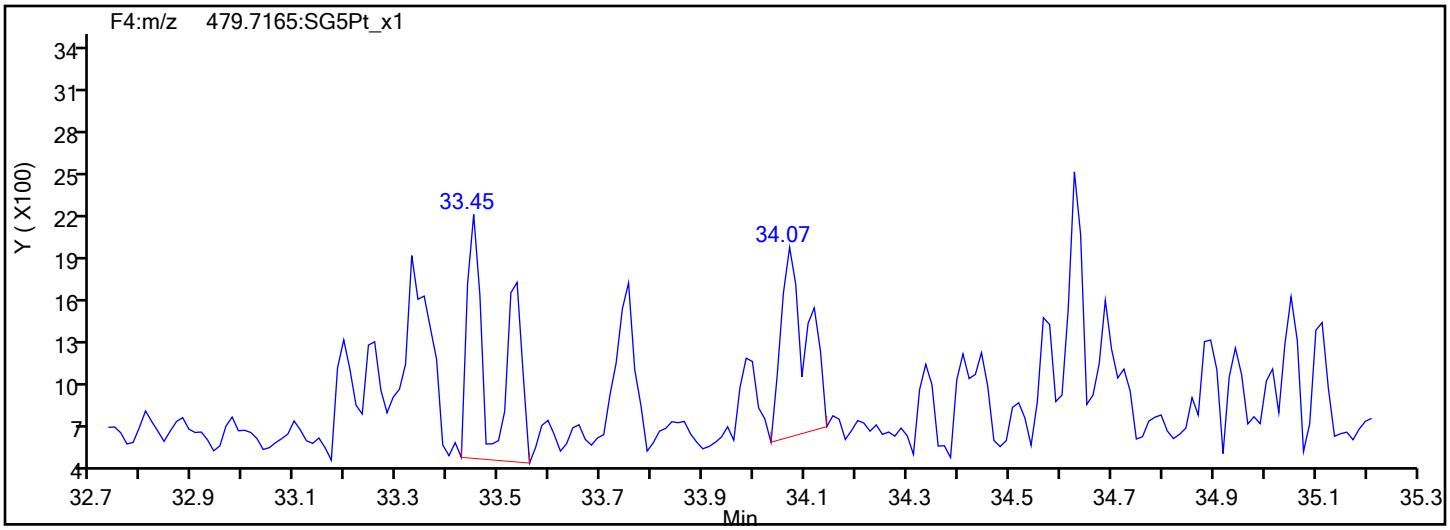

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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HpCDD

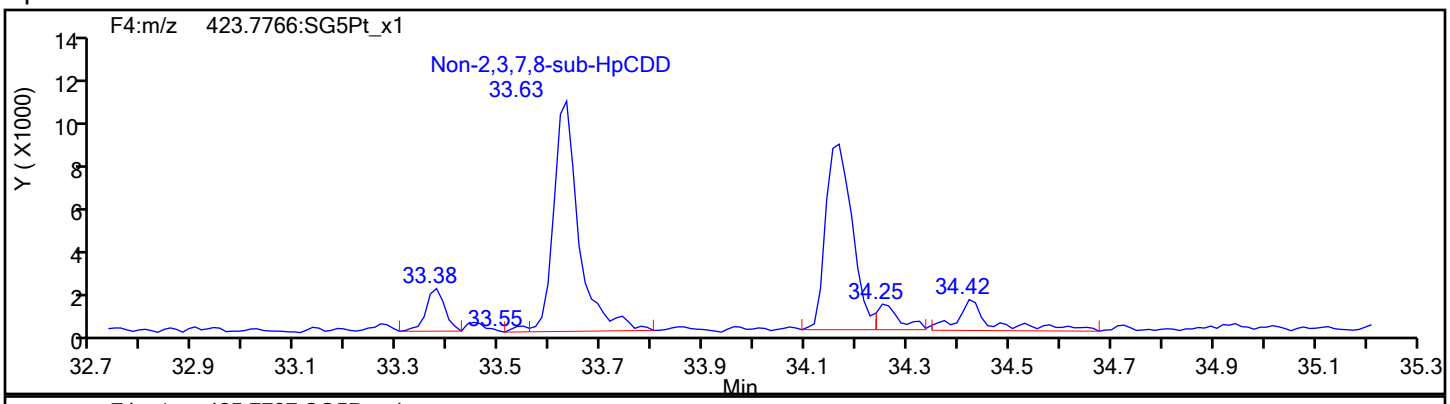

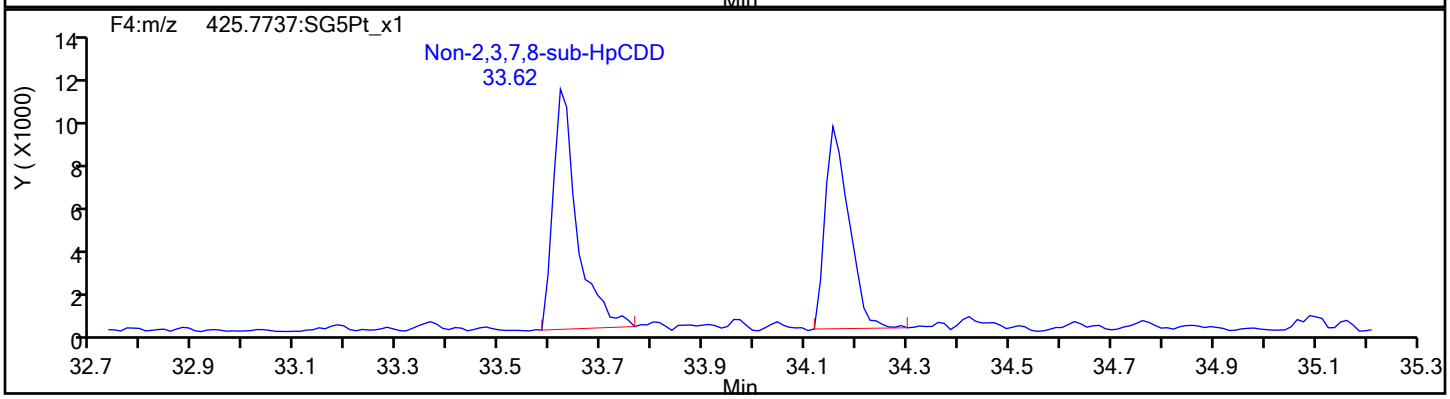

HpCDD Standards

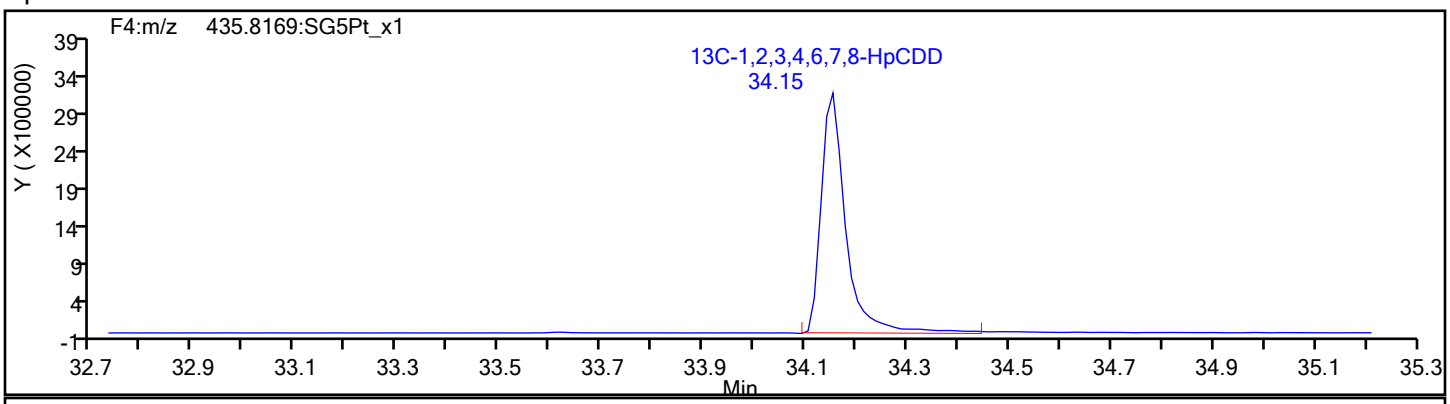

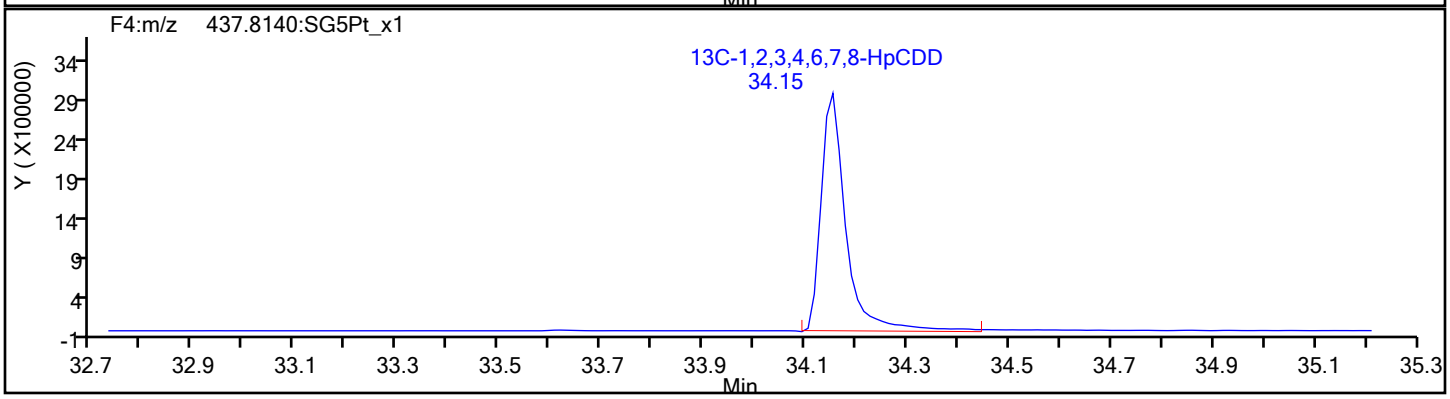

Report Date: 21-Feb-2020 10:21:24 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

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OCDF

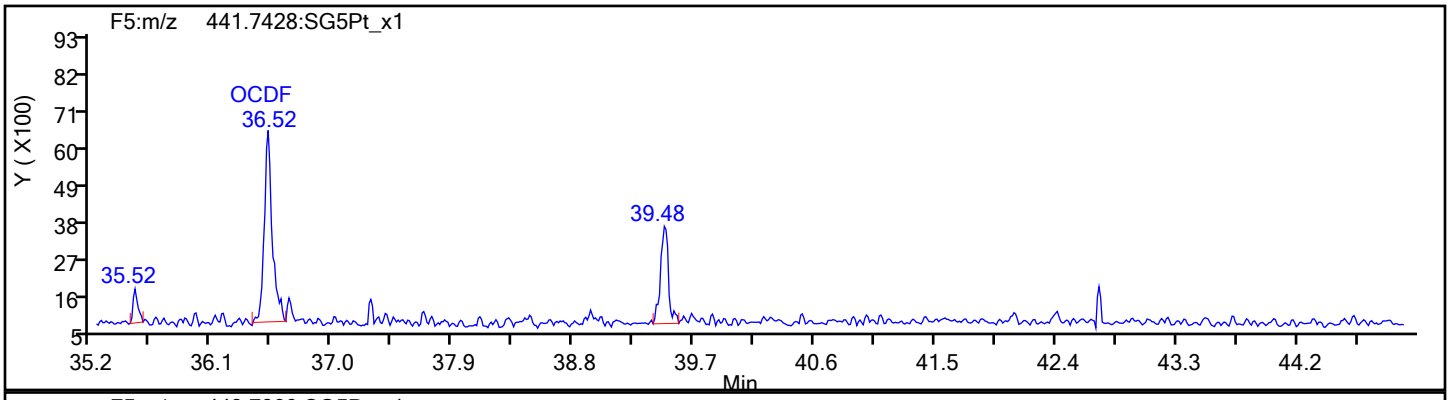

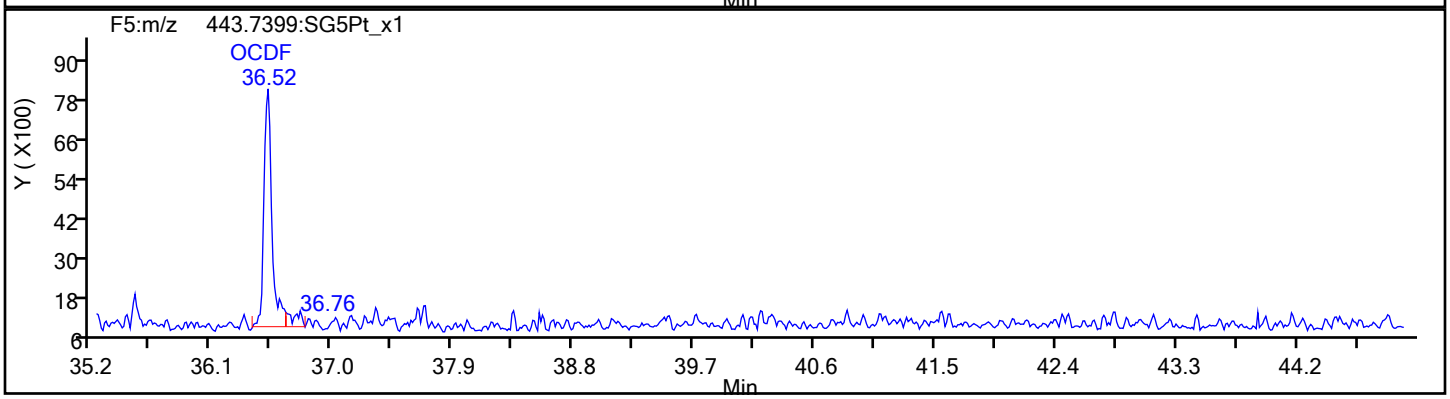

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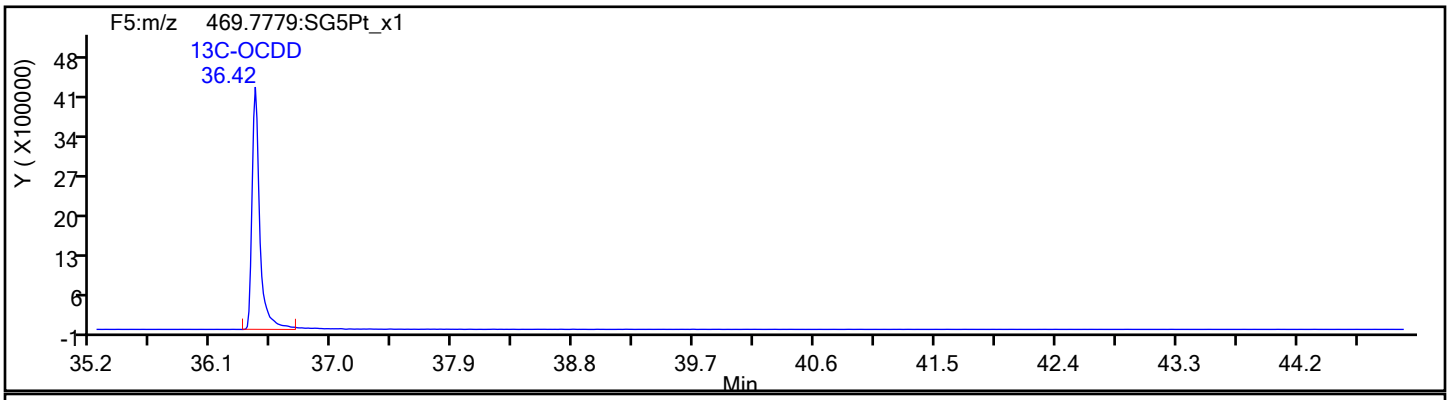

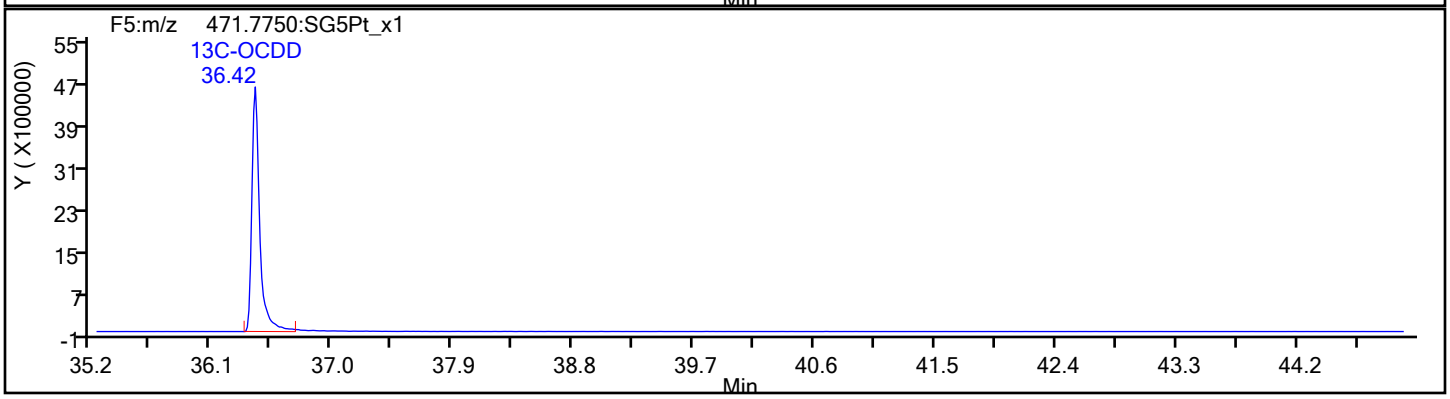

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Eurofins TestAmerica, Sacramento

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OCDF

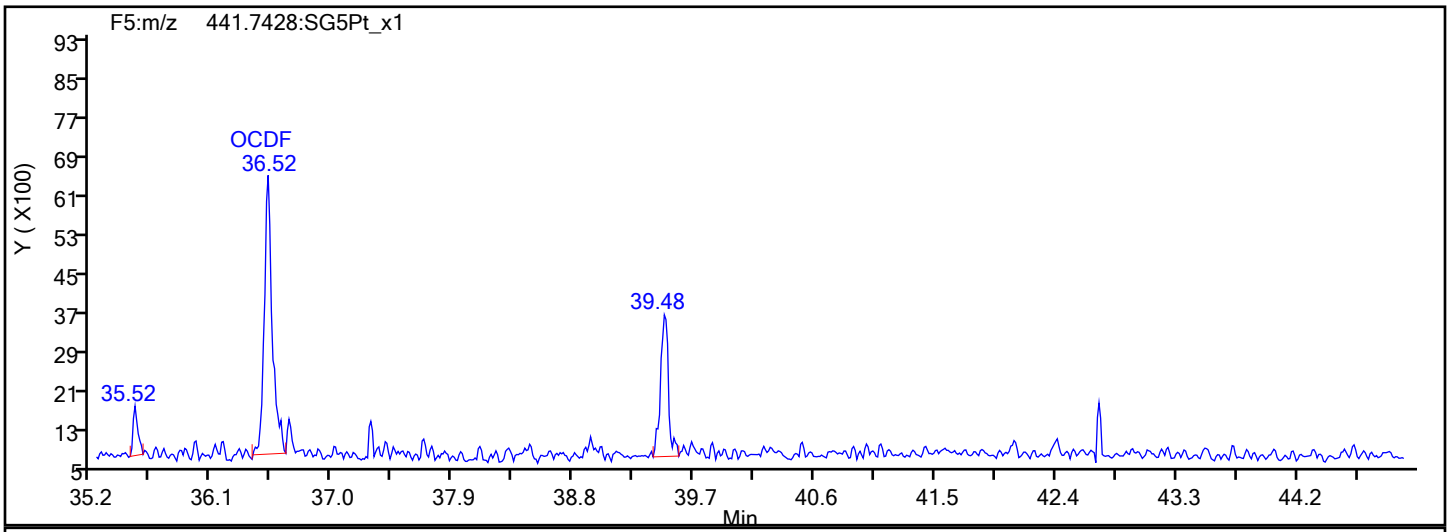

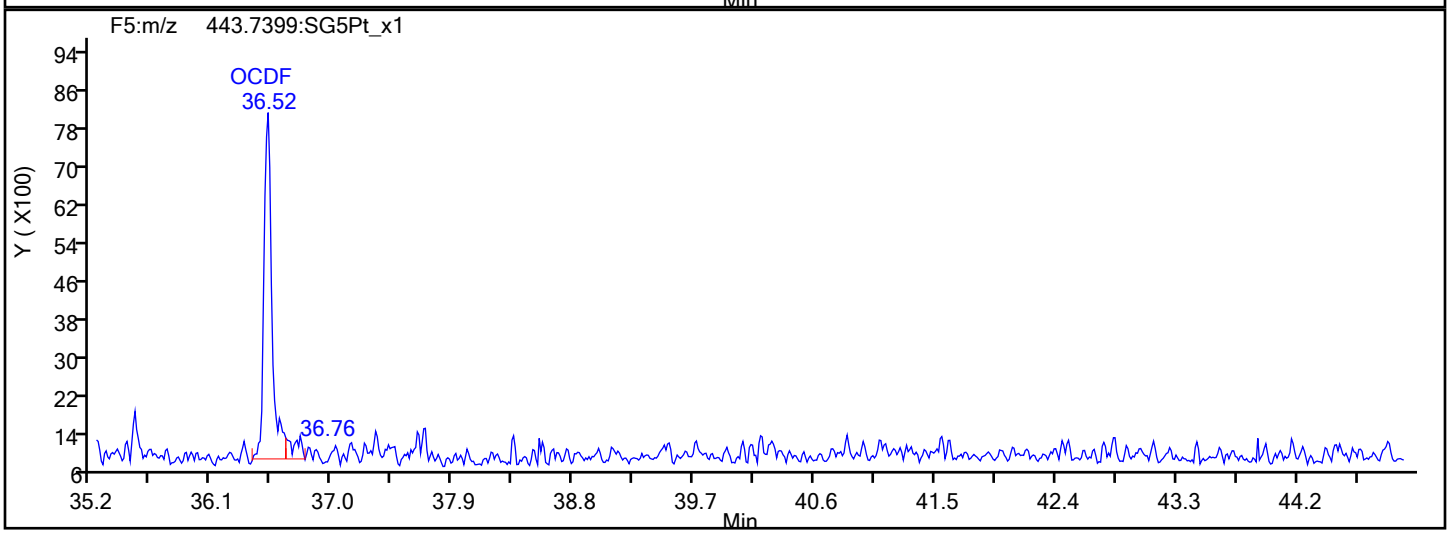

OCDF Interference Mass

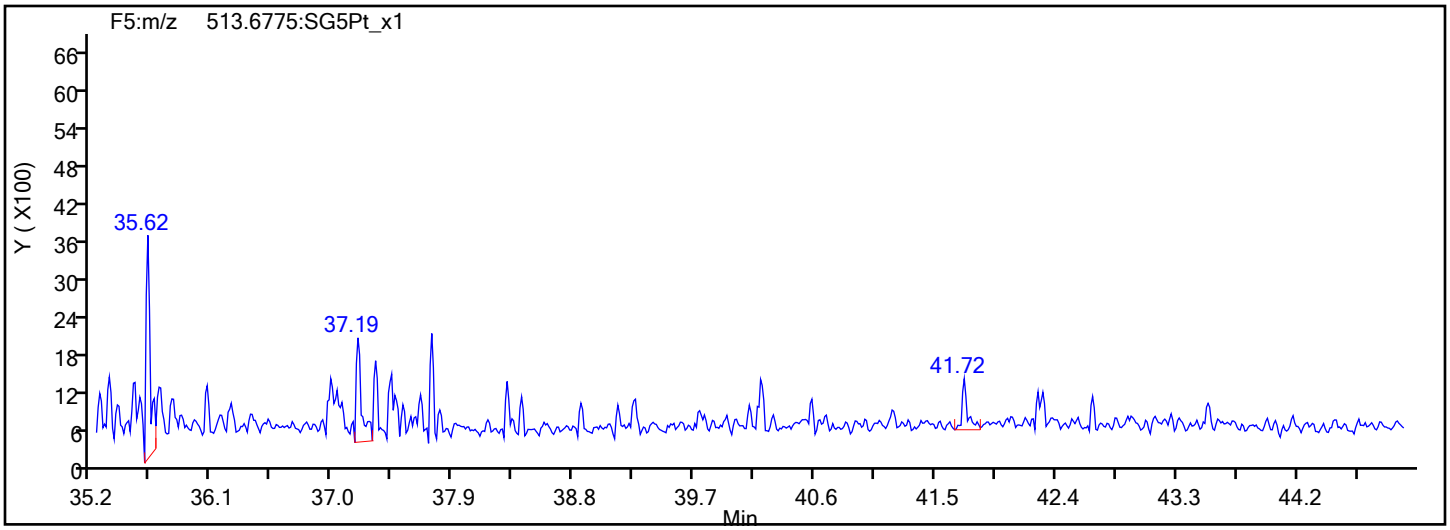

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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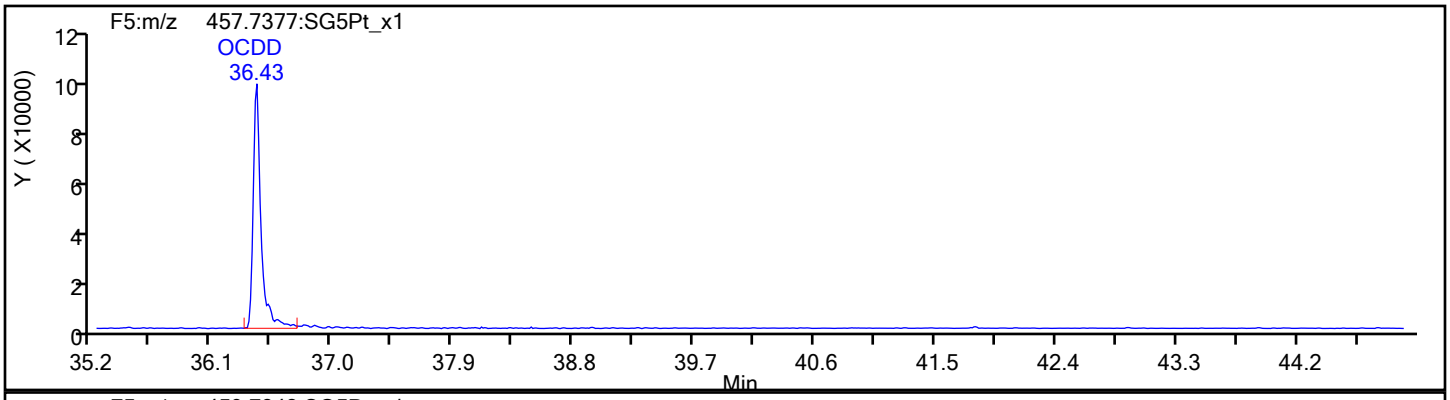

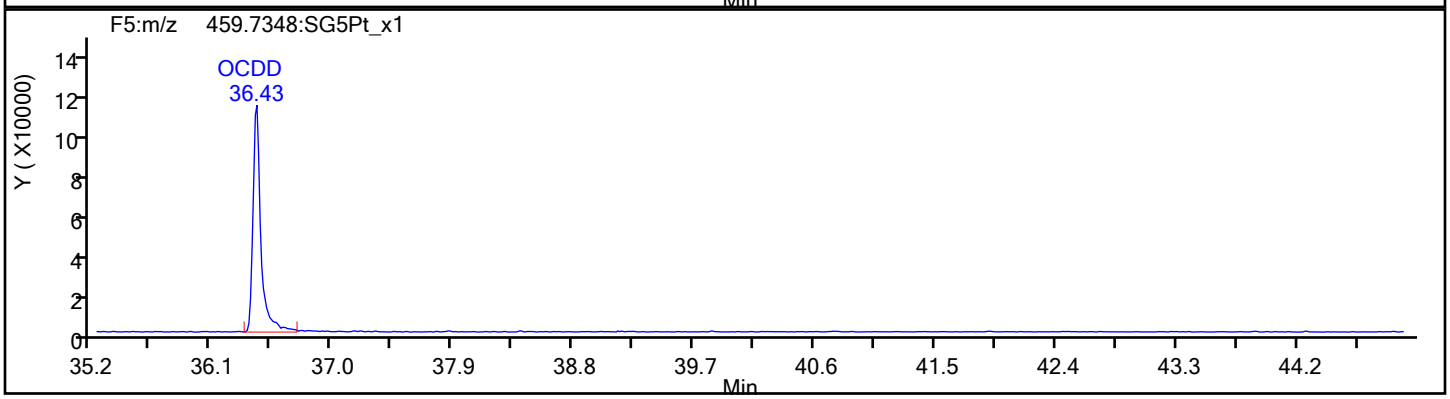

OCDD Standards

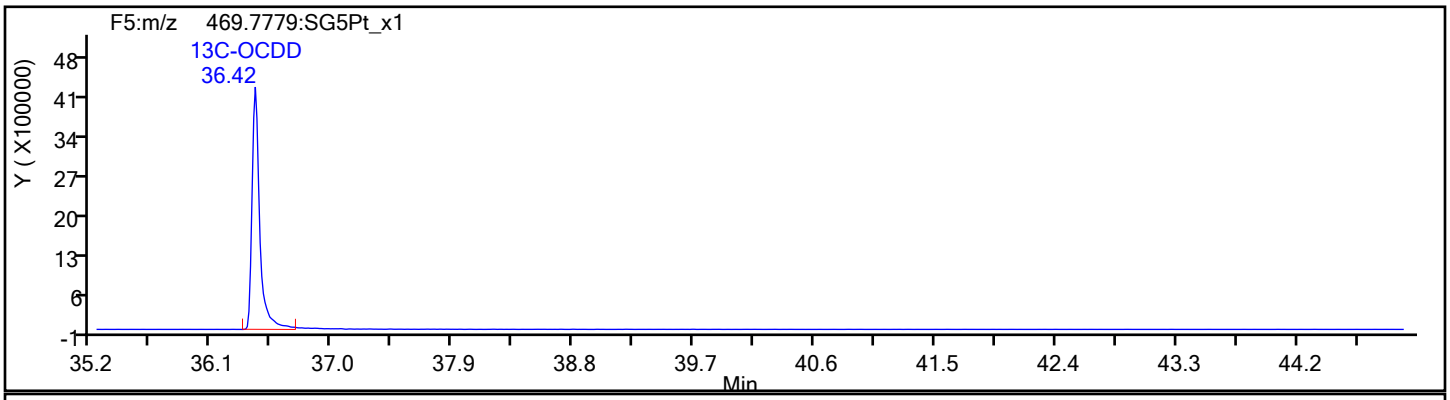

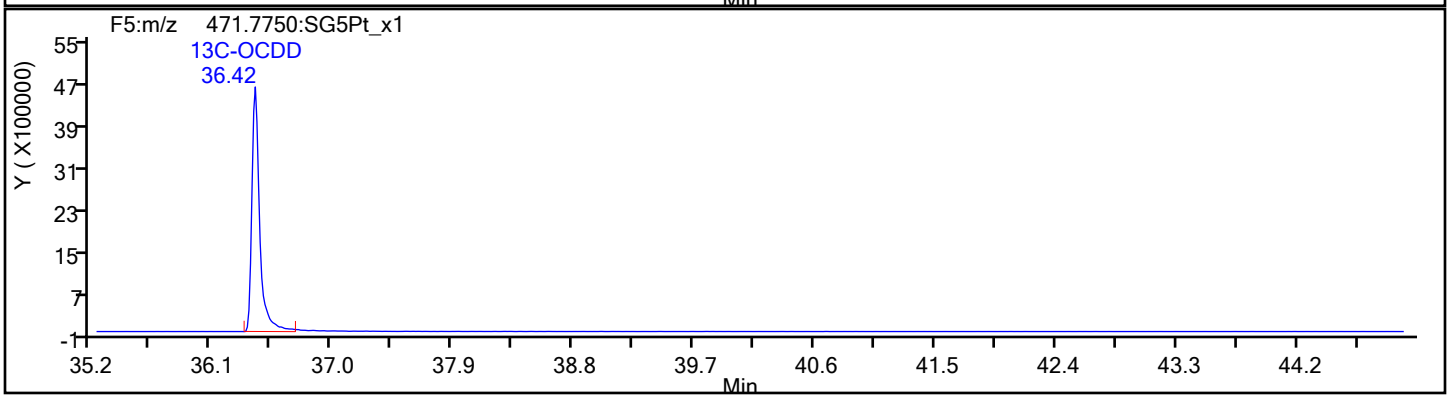

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Eurofins TestAmerica, Sacramento

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Injection Date:	20-Feb-2020 05:29:50	Injection Vol:	2.0 ul
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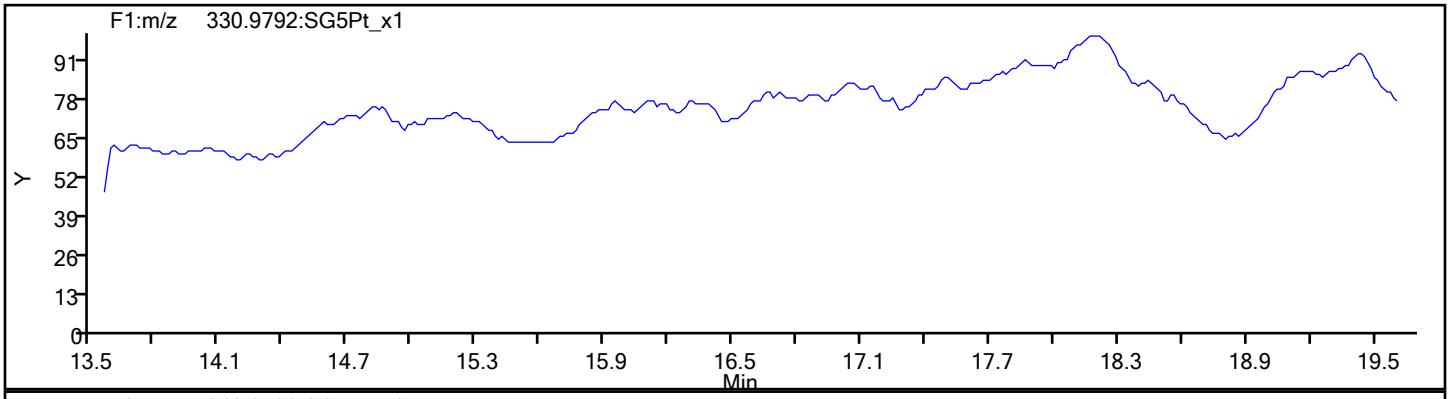

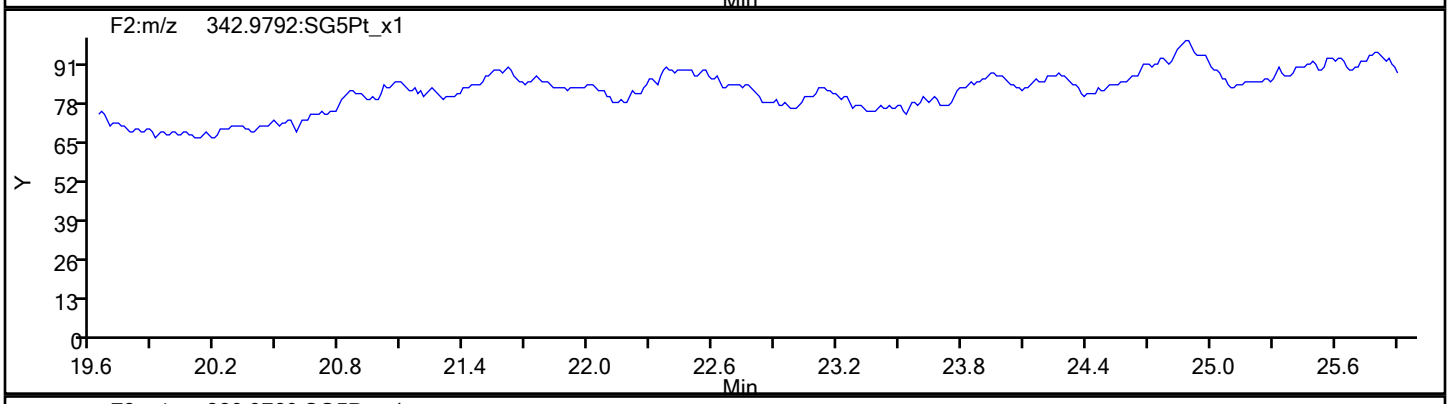

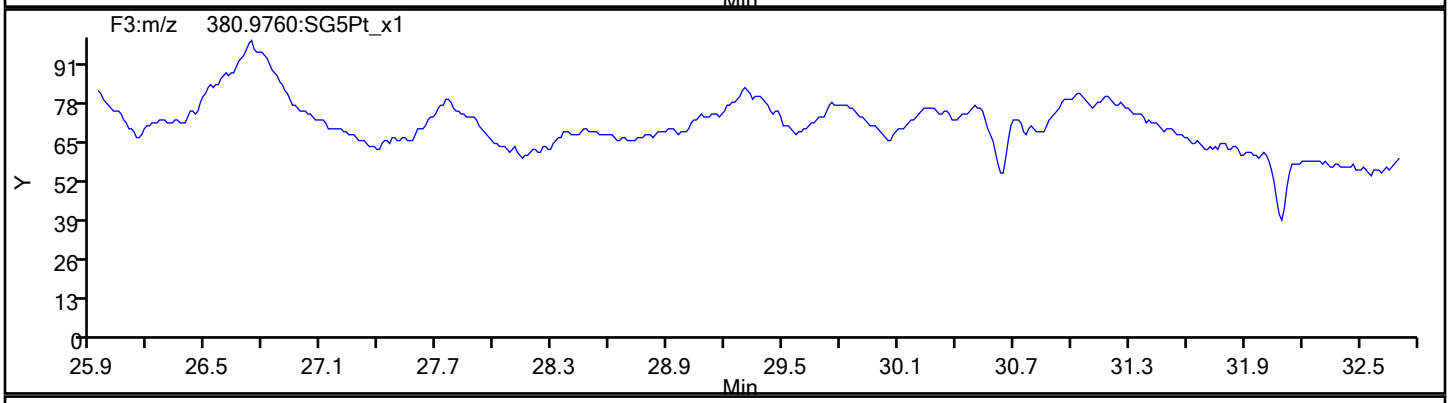

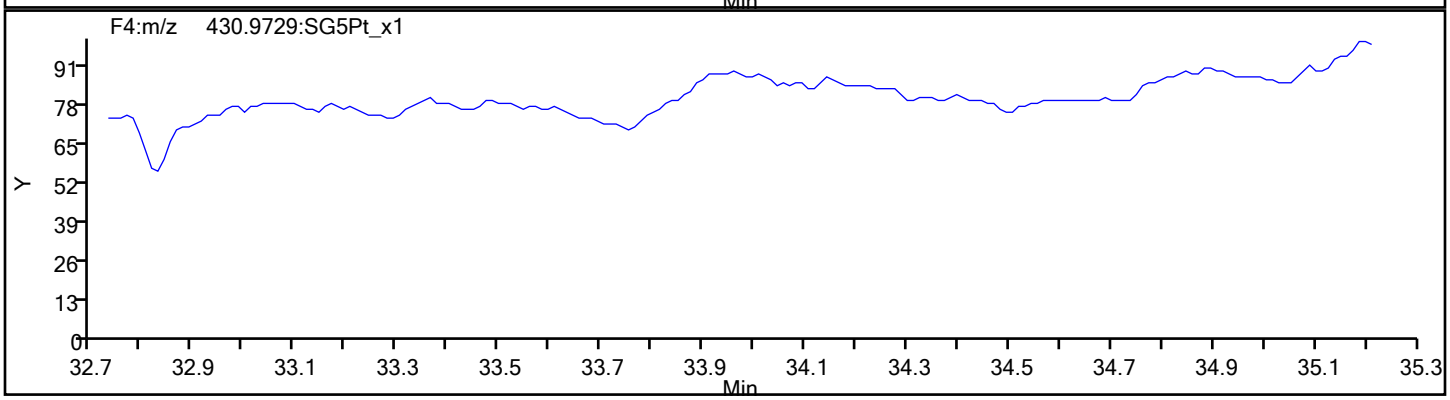

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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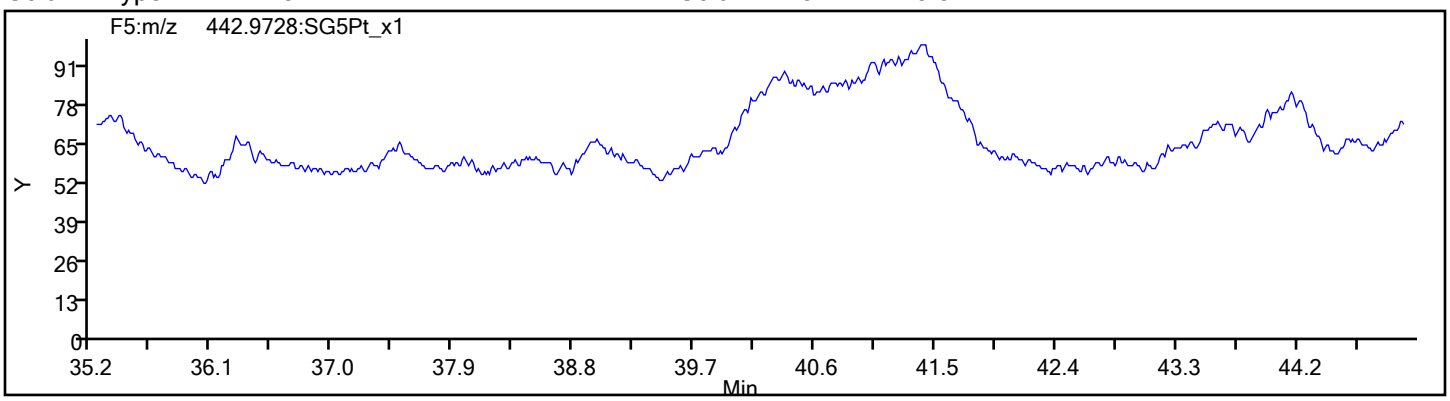

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 320-58545-1
SDG No.:
Client Sample ID: 11187072-Eastern Rock
Lab Sample ID: 320-58545-2
Matrix: Sediment
Lab File ID: 18FE2010D5_52.d
Analysis Method: 1613B
Date Collected: 02/11/2020 11:00
Extract. Method: HRMS-Sox
Date Extracted: 02/13/2020 08:36
Sample wt/vol: 10.26(g)
Date Analyzed: 02/20/2020 06:15
Con. Extract Vol.: 20.0(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture: 5.6
GPC Cleanup:(Y/N) N
Analysis Batch No.: 358703
Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	0.14	J q	1.0	0.059
51207-31-9	2,3,7,8-TCDF	0.15	J q	1.0	0.039
40321-76-4	1,2,3,7,8-PeCDD	0.11	J q	5.2	0.066
57117-41-6	1,2,3,7,8-PeCDF	0.16	J	5.2	0.056
57117-31-4	2,3,4,7,8-PeCDF	ND		5.2	0.060
39227-28-6	1,2,3,4,7,8-HxCDD	0.27	J B	5.2	0.064
57653-85-7	1,2,3,6,7,8-HxCDD	0.26	J B	5.2	0.060
19408-74-3	1,2,3,7,8,9-HxCDD	0.13	J q	5.2	0.056
70648-26-9	1,2,3,4,7,8-HxCDF	ND		5.2	0.098
57117-44-9	1,2,3,6,7,8-HxCDF	ND		5.2	0.090
72918-21-9	1,2,3,7,8,9-HxCDF	0.18	J q B	5.2	0.051
60851-34-5	2,3,4,6,7,8-HxCDF	ND		5.2	0.059
35822-46-9	1,2,3,4,6,7,8-HpCDD	4.4	J	5.2	0.099
67562-39-4	1,2,3,4,6,7,8-HpCDF	0.27	J B	5.2	0.021
55673-89-7	1,2,3,4,7,8,9-HpCDF	ND		5.2	0.027
3268-87-9	OCDD	61	B	10	0.17
39001-02-0	OCDF	0.58	J B	10	0.053
41903-57-5	Total TCDD	0.14	J q	1.0	0.059
30402-14-3	Total TCDF	0.15	J q	1.0	0.039
36088-22-9	Total PeCDD	0.11	J q	5.2	0.066
30402-15-4	Total PeCDF	0.16	J	5.2	0.058
34465-46-8	Total HxCDD	1.1	J q B	5.2	0.060
55684-94-1	Total HxCDF	0.18	J q B	5.2	0.074
37871-00-4	Total HpCDD	12	B	5.2	0.099
38998-75-3	Total HpCDF	0.38	J B	5.2	0.024

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58545-1

SDG No.:

Client Sample ID: 11187072-Eastern Rock Lab Sample ID: 320-58545-2

Matrix: Sediment Lab File ID: 18FE2010D5_52.d

Analysis Method: 1613B Date Collected: 02/11/2020 11:00

Extract. Method: HRMS-Sox Date Extracted: 02/13/2020 08:36

Sample wt/vol: 10.26(g) Date Analyzed: 02/20/2020 06:15

Con. Extract Vol.: 20.0(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: 5.6 GPC Cleanup:(Y/N) N

Analysis Batch No.: 358703 Units: pg/g

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	63		25-164
89059-46-1	13C-2,3,7,8-TCDF	63		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	65		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	65		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	67		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	61		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	65		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	63		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	64		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	68		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	61		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	66		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	66		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	69		26-138
114423-97-1	13C-OCDD	66		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	95		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_52.d
Lims ID: 320-58545-A-2-A
Client ID: 11187072-Eastern Rock
Sample Type: Client
Inject. Date: 20-Feb-2020 06:15:51 ALS Bottle#: 51 Worklist Smp#: 52
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-58545-A-2-A 320-58545-A-2-A
Misc. Info.: 18FE2010D5
Operator ID: AJS, ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 21-Feb-2020 10:24:01 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: dadunj Date: 21-Feb-2020 10:24:01

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.187	40570044	0.79	5.4E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.719	28864660	0.77	1.1275	63.1	63.1	0.2422	0.2422	63.10	
2,3,7,8-TCDF	16.719	16205	0.77	0.7675	0.0869	0.0731	0.0188	0.0188		RQM
A Non-2,3,7,8-sub-TCDF	16.446						0.0188	0.0188		
S Total TCDF					0.0869	0.0731	0.0188	0.0188		RQ
D 13C-2,3,7,8-TCDD	17.384	23017270	0.79	0.9032	62.8	62.8	0.2978	0.2978	62.82	
2,3,7,8-TCDD	17.399	15325	0.77	0.9599	0.1030	0.0694	0.0285	0.0285		RQM
$ 37Cl4-2,3,7,8-TCDD	17.399	14945607		0.9673	38.1	38.1	0.1626	0.1626	95.21	
A Non-2,3,7,8-sub-TCDD	16.877						0.0285	0.0285		
S Total TCDD					0.1030	0.0694	0.0285	0.0285		RQ
D 13C-1,2,3,7,8-PeCDF	21.434	25187236	1.59	0.9615	64.6	64.6	0.2550	0.2550	64.57	
1,2,3,7,8-PeCDF	21.461	17460	1.34	0.8982	0.0772	0.0772	0.0272	0.0272		M
D 13C-2,3,4,7,8-PeCDF	22.688	28452976	1.58	1.0393	67.5	67.5	0.2359	0.2359	67.48	
2,3,4,7,8-PeCDF	22.729						0.0290	0.0290		
A F1 PeCDFs	19.145						0.0208	0.0208		
A Non-2,3,7,8-sub-PeCDF	22.103						0.0280	0.0280		
S Total PeCDF					0.0772	0.0772	0.0281	0.0281		
D 13C-1,2,3,7,8-PeCDD	23.370	18406886	1.65	0.6938	65.4	65.4	0.1034	0.1034	65.39	
1,2,3,7,8-PeCDD	23.384	9853	1.55	0.9961	0.0632	0.0537	0.0318	0.0318		RQM
A Non-2,3,7,8-sub-PeCDD	22.361						0.0318	0.0318		
S Total PeCDD					0.0632	0.0537	0.0318	0.0318		RQ
D 13C-1,2,3,4,7,8-HxCDF	29.367	19281046	0.49	0.8543	63.2	63.2	0.3485	0.3485	63.19	
1,2,3,4,7,8-HxCDF	29.407						0.0473	0.0473		
D 13C-1,2,3,6,7,8-HxCDF	29.660	19146234	0.48	0.8361	64.1	64.1	0.3561	0.3561	64.11	
1,2,3,6,7,8-HxCDF	29.713						0.0435	0.0435		
D 13C-2,3,4,6,7,8-HxCDF	30.818	17000443	0.50	0.7773	61.2	61.2	0.3830	0.3830	61.22	
2,3,4,6,7,8-HxCDF	30.858						0.0286	0.0286		
D 13C-1,2,3,7,8,9-HxCDF	31.789	17366469	0.49	0.7167	67.8	67.8	0.4154	0.4154	67.84	
1,2,3,7,8,9-HxCDF	31.803	14156	1.24	0.9127	0.1131	0.0893	0.0248	0.0248		RQM
A Non-2,3,7,8-sub-HxCDF	29.287						0.0338	0.0338		
S Total HxCDF					0.1131	0.0893	0.0360	0.0360		RQ

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.576	35721003	1.26	4.4E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.058	17574375	1.24	0.8050	61.1	61.1	0.2702	0.2702	61.12	
1,2,3,4,7,8-HxCDD	31.071	19424	1.11	0.8392	0.1317	0.1317	0.0312	0.0312		M
D 13C-1,2,3,6,7,8-HxCDD	31.191	19282635	1.26	0.8269	65.3	65.3	0.2630	0.2630	65.28	
1,2,3,6,7,8-HxCDD	31.204	21887	1.15	0.8876	0.1279	0.1279	0.0291	0.0291		Ma
1,2,3,7,8,9-HxCDD	31.590	10679	1.24	0.9567	0.0686	0.0606	0.0272	0.0272		RQM
A Non-2,3,7,8-sub-HxCDD	29.846	32022	1.28	0.8945	0.1943	0.1943	0.0291	0.1943		
S Total HxCDD					0.5224	0.5144	0.0291	0.0291		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	33.364	16783152	0.46	0.7080	66.4	66.4	1.181	1.181	66.36	
1,2,3,4,6,7,8-HpCDF	33.376	28841	0.97	1.3375	0.1285	0.1285	0.0103	0.0103		M
D 13C-1,2,3,4,7,8,9-HpCDF	34.421	18417098	0.42	0.7451	69.2	69.2	1.123	1.123	69.20	
1,2,3,4,7,8,9-HpCDF	34.433						0.0131	0.0131		
A Non-2,3,7,8-sub-HpCDF	33.905	11525	0.96	1.2059	0.0543	0.0543	0.0115	0.0543		M
S Total HpCDF					0.1828	0.1828	0.0117	0.0117		
D 13C-1,2,3,4,6,7,8-HpCDD	34.142	17728135	1.06	0.7473	66.4	66.4	0.7175	0.7175	66.41	
1,2,3,4,6,7,8-HpCDD	34.154	371859	1.04	0.9811	2.138	2.138	0.0478	0.0478		M
A Non-2,3,7,8-sub-HpCDD	33.893	643704	1.01	0.9811	3.701	3.701	0.0478	3.701		
S Total HpCDD					5.839	5.839	0.0478	0.0478		
D 13C-OCDD	36.409	31426570	0.91	0.6622	132.9	132.9	0.2835	0.2835	66.43	
OCDF	36.505	47311	0.84	1.0659	0.2825	0.2825	0.0255	0.0255		M
OCDD	36.421	4583461	0.89	0.9937	29.4	29.4	0.0809	0.0809		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_52.d
Lims ID: 320-58545-A-2-A
Client ID: 11187072-Eastern Rock
Sample Type: Client
Inject. Date: 20-Feb-2020 06:15:51 ALS Bottle#: 51 Worklist Smp#: 52
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-58545-A-2-A 320-58545-A-2-A
Misc. Info.: 18FE2010D5
Operator ID: AJS, ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 21-Feb-2020 10:24:01 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: dadunj Date: 21-Feb-2020 10:24:01

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.187	17.202	-1		17852833	4680308	5290	13225	885		
333.9339	17.187	17.202	-1		22717211	5912900	6107	15267	968	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.719	16.719	0	0.973	12551096	3074874	4766	11915	645		
317.9389	16.719	16.719	0	0.973	16313564	4012066	6804	17010	590	0.77(0.65-0.89)	
2,3,7,8-TCDF											RQM
303.9016	16.719	16.749	-2	1.000	7050	1643	146	365	11		M
305.8987	16.734	16.749	-1	1.001	12192	2683	263	657	10	0.58(0.65-0.89)	M
	Empc Correction				9155	2133	263	657	8		
A Non-2,3,7,8-sub-TCDF											
303.9016	16.446						146	365			
305.8987	16.446						263	657			
13C-2,3,7,8-TCDD											
331.9368	17.384	17.384	0	1.011	10154527	2422322	5290	13225	458		
333.9339	17.384	17.384	0	1.011	12862743	3063040	6107	15267	502	0.79(0.65-0.89)	
2,3,7,8-TCDD											RQM
319.8965	17.399	17.414	-1	1.001	6667	1622	356	890	5		M
321.8936	17.414	17.414	0	1.002	16088	4067	245	612	17	0.41(0.65-0.89)	
	Empc Correction				8658	2106	245	612	9		
37Cl4-2,3,7,8-TCDD											
327.8847	17.399	17.414	-1	1.012	14945607	3461814	6666	16665	519		
A Non-2,3,7,8-sub-TCDD											
319.8965	16.877						356	890			
321.8936	16.877						245	612			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	21.434	21.447	-1	1.247	15467273	2786692	6082	15205	458		
353.8970	21.434	21.447	-1	1.247	9719963	1746881	4307	10767	406	1.59(1.32-1.78)	
1,2,3,7,8-PeCDF											M
339.8597	21.461	21.475	-1	1.001	10009	2306	190	475	12		M
341.8567	21.502	21.475	2	1.003	7451	1127	253	632	4	1.34(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	22.688	22.702	-1	1.320	17437640	2896271	6082	15205	476		
353.8970	22.688	22.702	-1	1.320	11015336	1820181	4307	10767	423	1.58(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.729						190	475			
341.8567	22.729						253	632			
A F1 PeCDFs											
339.8597	19.145						110	275			
341.8567	19.145						219	547			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.103						190	475			
341.8567	22.103						253	632			
13C-1,2,3,7,8-PeCDD											
367.8949	23.370	23.383	-1	1.360	11462663	1811074	1575	3937	1150		
369.8919	23.370	23.383	-1	1.360	6944223	1075923	1466	3665	734	1.65(1.32-1.78)	
1,2,3,7,8-PeCDD											RQM
355.8546	23.384	23.411	-2	1.001	7720	1604	225	562	7		M
	Empc Correction				5989	858	225	562	4		
357.8516	23.370	23.411	-2	1.000	3864	554	141	352	4	2.00(1.32-1.78)	M
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.361						225	562			
357.8516	22.361						141	352			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.367	29.380	-1	0.930	6333392	782747	3373	8432	232		
385.8610	29.367	29.380	-1	0.930	12947654	1583159	6633	16582	239	0.49(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.407						188	470			
375.8178	29.407						166	415			
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.660	29.687	-2	0.939	6247441	764425	3373	8432	227		
385.8610	29.660	29.687	-2	0.939	12898793	1590001	6633	16582	240	0.48(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	29.713						188	470			
375.8178	29.713						166	415			
13C-2,3,4,6,7,8-HxCDF											
383.8639	30.818	30.831	-1	0.976	5663763	1142444	3373	8432	339		
385.8610	30.818	30.831	-1	0.976	11336680	2294468	6633	16582	346	0.50(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	30.858						188	470			
375.8178	30.858						166	415			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.789	31.790	0	1.007	5691432	1298611	3373	8432	385		
385.8610	31.789	31.790	0	1.007	11675037	2616919	6633	16582	395	0.49(0.43-0.59)	
1,2,3,7,8,9-HxCDF											RQM
373.8208	31.803	31.803	0	1.000	11600	2309	188	470	12		
	Empc Correction				7836	1748	188	470	9		
375.8178	31.803	31.803	0	1.000	6320	1410	166	415	8	1.84(1.05-1.43)	M
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.287						188	470			
375.8178	29.287						166	415			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.576	31.590	-1		19943419	4694036	4103	10257	1144		
403.8529	31.576	31.590	-1		15777584	3708275	3207	8017	1156	1.26(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.058	31.071	-1	0.984	9724622	2230668	4103	10257	544		
403.8529	31.058	31.071	-1	0.984	7849753	1817441	3207	8017	567	1.24(1.05-1.43)	
1,2,3,4,7,8-HxCDD											M
389.8157	31.071	31.098	-2	1.000	10219	2186	236	590	9		M
391.8127	31.071	31.098	-2	1.000	9205	1815	188	470	10	1.11(1.05-1.43)	M
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.191	31.204	-1	0.988	10762815	2259608	4103	10257	551		
403.8529	31.191	31.204	-1	0.988	8519820	1847815	3207	8017	576	1.26(1.05-1.43)	
1,2,3,6,7,8-HxCDD											Ma
389.8157	31.204	31.217	-1	1.000	11692	1859	236	590	8		M
391.8127	31.204	31.217	-1	1.000	10195	2071	188	470	11	1.15(1.05-1.43)	
1,2,3,7,8,9-HxCDD											RQM
389.8157	31.590	31.603	-1	1.017	5912	1202	236	590	5		M
391.8127	31.617	31.603	1	1.018	6181	1441	188	470	8	0.96(1.05-1.43)	M
	Empc Correction				4767	969	188	470	5		
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.112	29.846	16	0.965	17986	2099	236	590	9		
391.8127	30.126	29.846	17	0.966	14036	1669	188	470	9	1.28(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.364	33.376	-1	1.057	5273912	1679376	9520	23800	176		
419.8220	33.364	33.376	-1	1.057	11509240	3827066	18593	46482	206	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											M
407.7818	33.376	33.376	0	1.000	14181	4570	189	472	24		
409.7789	33.376	33.376	0	1.000	14660	4029	115	287	35	0.97(0.88-1.20)	M
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.421	34.433	-1	1.090	5482018	1602974	9520	23800	168		
419.8220	34.421	34.433	-1	1.090	12935080	3813226	18593	46482	205	0.42(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.433						189	472			
409.7789	34.433						115	287			
A Non-2,3,7,8-sub-HpCDF											M

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
407.7818	33.680	33.905	-13	1.009	5638	2355	189	472	12		M
409.7789	33.668	33.905	-14	1.009	5887	1521	115	287	13	0.96(0.88-1.20)	M
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.142	34.154	-1	1.081	9142124	2738019	9790	24475	280		
437.8140	34.142	34.154	-1	1.081	8586011	2554873	8231	20577	310	1.06(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											M
423.7766	34.154	34.166	-1	1.000	189415	53706	560	1400	96		M
425.7737	34.154	34.166	-1	1.000	182444	49961	432	1080	116	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.619	33.893	-16	0.985	323105	98080	560	1400	175		
425.7737	33.619	33.893	-16	0.985	320599	95758	432	1080	222	1.01(0.88-1.20)	
13C-OCDD											
469.7779	36.409	36.422	-1	1.153	14998099	3688327	2722	6805	1355		
471.7750	36.409	36.422	-1	1.153	16428471	4104434	3587	8967	1144	0.91(0.76-1.02)	
OCDF											M
441.7428	36.505	36.517	-1	1.003	21639	5456	158	395	35		M
443.7399	36.517	36.517	0	1.003	25672	7011	266	665	26	0.84(0.76-1.02)	M
OCDD											
457.7377	36.421	36.433	-1	1.000	2158735	535461	657	1642	815		
459.7348	36.421	36.433	-1	1.000	2424726	594107	596	1490	997	0.89(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_52.d
Lims ID: 320-58545-A-2-A
Client ID: 11187072-Eastern Rock
Inject. Date: 20-Feb-2020 06:15:51 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS, ALM
Lims Batch ID: 358703 Lims Sample ID: 52

Non-2,3,7,8-sub-HxCDD, RT: 29.846

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.839	D 13C-1,2,3,4,7,8-HxCDD	100.000	17574375	4048109
1,2,3,6,7,8-HxCDD	0.888	D 13C-1,2,3,6,7,8-HxCDD	100.000	19282635	4107423
1,2,3,7,8,9-HxCDD	0.957				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.894		100.000	18428505	4077766

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
30.112	17986	2099	14036	1669	0.1943	1.28	
Signal Totals:							
	17986	2099	14036	1669			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	32022	3768				1.28	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.1943 = (32022 * 100.000) / (18428505 * 0.894)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_52.d
Lims ID: 320-58545-A-2-A
Client ID: 11187072-Eastern Rock
Inject. Date: 20-Feb-2020 06:15:51 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS, ALM
Lims Batch ID: 358703 Lims Sample ID: 52

Non-2,3,7,8-sub-HpCDF, RT: 33.905

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.337	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	16783152	5506442
1,2,3,4,7,8,9-HpCDF	1.074	D 13C-1,2,3,4,7,8,9-HpCDF	100.000	18417098	5416200

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.206		100.000	17600125	5461321

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
33.680	5638	2355	5887	1521	0.0543	0.96	M
Signal Totals:							
	5638	2355	5887	1521			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	11525	3876				0.96	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0543 = (11525 * 100.000) / (17600125 * 1.206)

QC Flag Legend

Review Flags
M - Manually Integrated

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_52.d
Lims ID: 320-58545-A-2-A
Client ID: 11187072-Eastern Rock
Inject. Date: 20-Feb-2020 06:15:51 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS, ALM
Lims Batch ID: 358703 Lims Sample ID: 52

Non-2,3,7,8-sub-HpCDD, RT: 33.893

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.981	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	17728135	5292892

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.981		100.000	17728135	5292892

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
33.619	323105	98080	320599	95758	3.70	1.01	
Signal Totals:							
	323105	98080	320599	95758			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	643704	193838				1.01	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 3.701 = (643704 * 100.000) / (17728135 * 0.981)

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_52.d				
Injection Date:	20-Feb-2020 06:15:51	Instrument ID:	10D5		
Lims ID:	320-58545-A-2-A	Lab Sample ID:	320-58545-2		
Client ID:	11187072-Eastern Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	51	Worklist Smp#:	52
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDF, CAS: 51207-31-9

Signal: 1

Processing Integration Results

RT: 16.72
Area: 7658
Amount: 0.091073
Amount Units: pg/ul

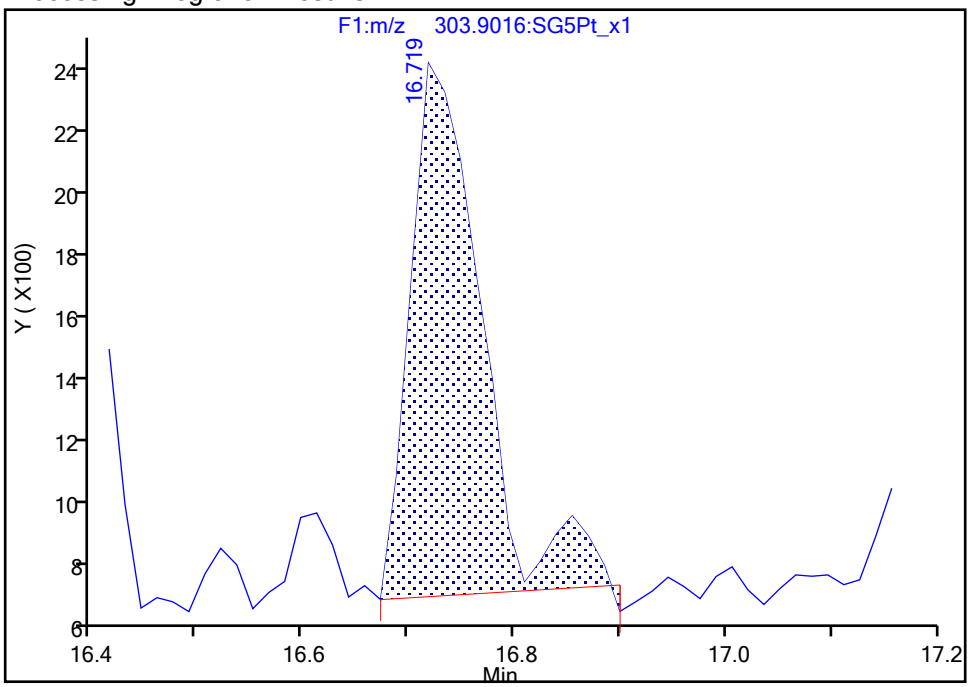

Manual Integration Results

RT: 16.72
Area: 7050
Amount: 0.086853
Amount Units: pg/ul

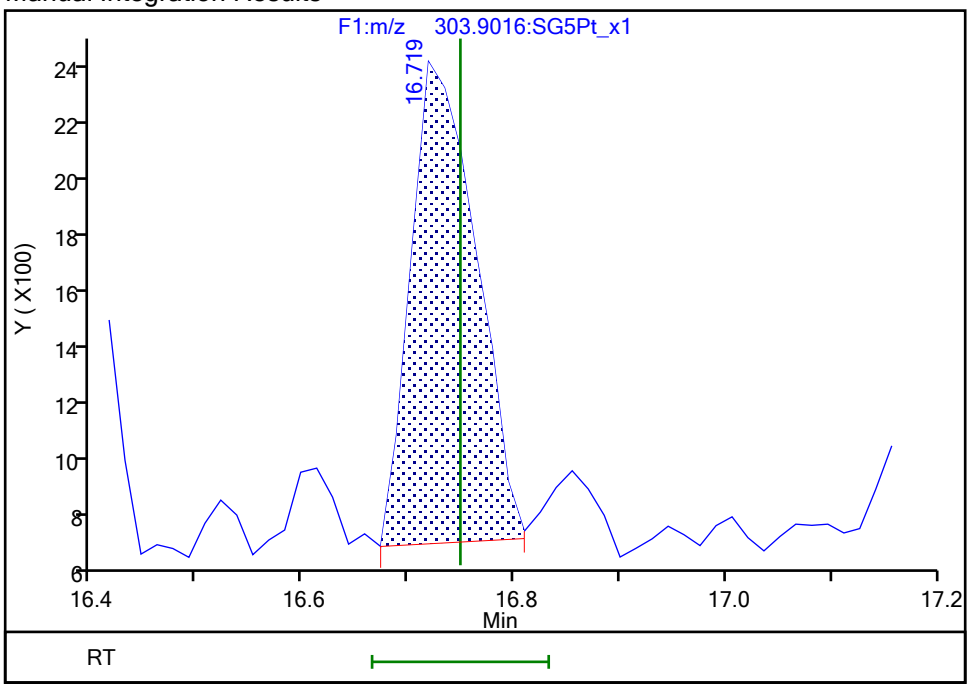

Reviewer: dadunj, 21-Feb-2020 10:21:43

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_52.d				
Injection Date:	20-Feb-2020 06:15:51	Instrument ID:	10D5		
Lims ID:	320-58545-A-2-A	Lab Sample ID:	320-58545-2		
Client ID:	11187072-Eastern Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	51	Worklist Smp#:	52
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDF, CAS: 51207-31-9

Signal: 2

Processing Integration Results

RT: 16.73
Area: 12519
Amount: 0.091073
Amount Units: pg/ul

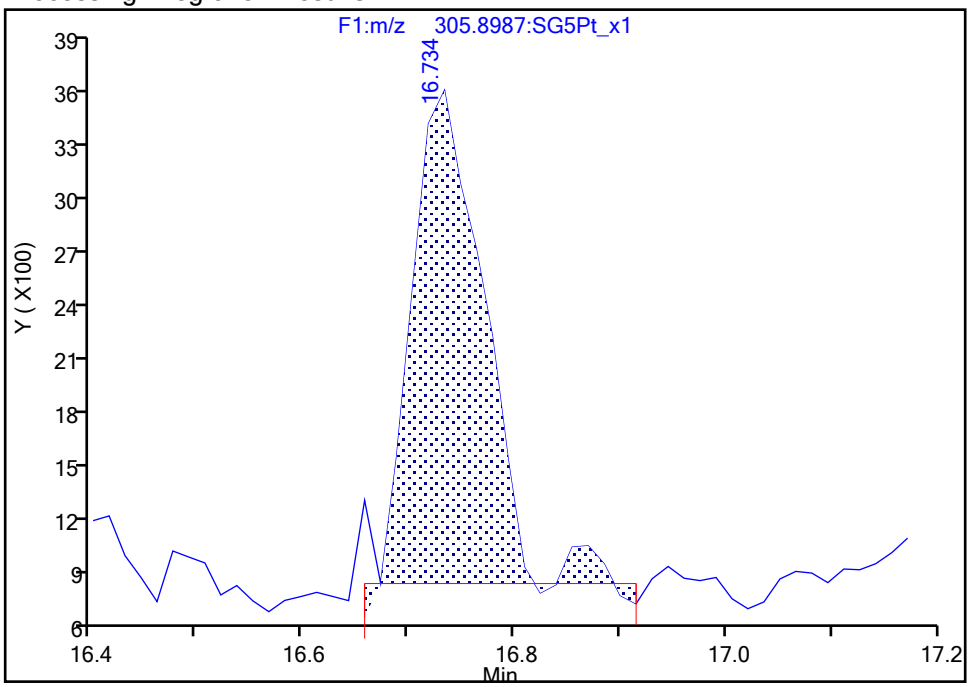

Manual Integration Results

RT: 16.73
Area: 12192
Amount: 0.086853
Amount Units: pg/ul

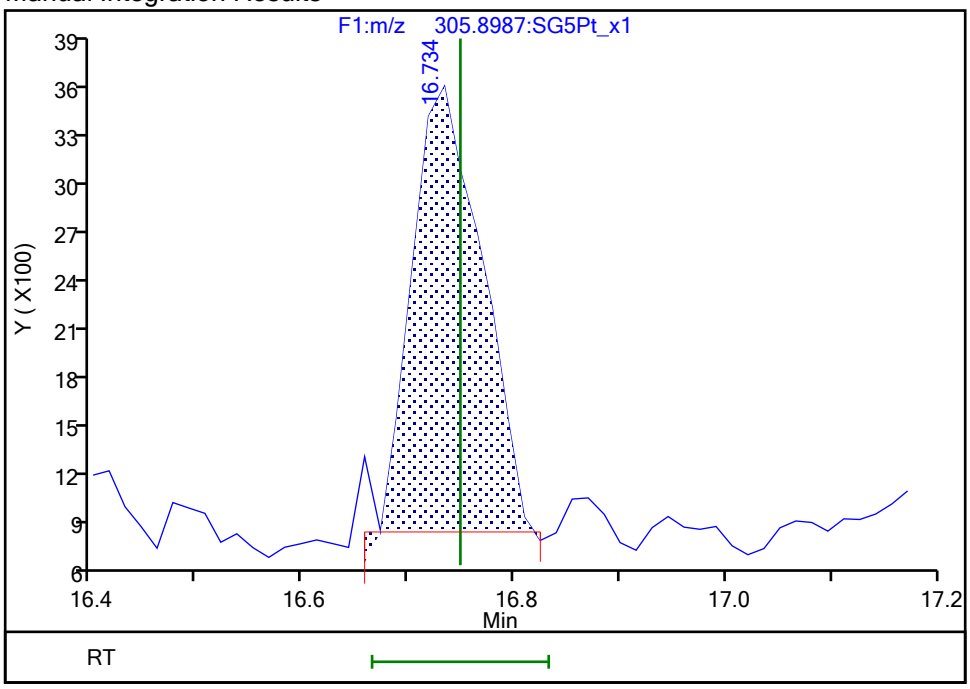

Reviewer: dadunj, 21-Feb-2020 10:21:46

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_52.d				
Injection Date:	20-Feb-2020 06:15:51	Instrument ID:	10D5		
Lims ID:	320-58545-A-2-A	Lab Sample ID:	320-58545-2		
Client ID:	11187072-Eastern Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	51	Worklist Smp#:	52
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDD, CAS: 1746-01-6

Signal: 1

Processing Integration Results

RT: 17.40
Area: 8332
Amount: 0.110529
Amount Units: pg/ul

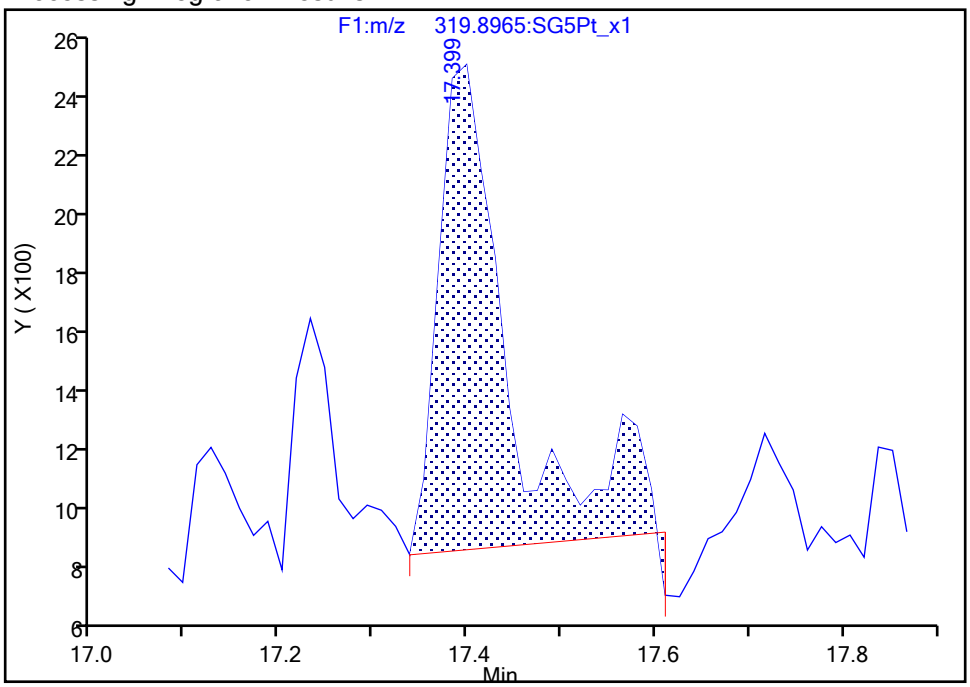

Manual Integration Results

RT: 17.40
Area: 6667
Amount: 0.102993
Amount Units: pg/ul

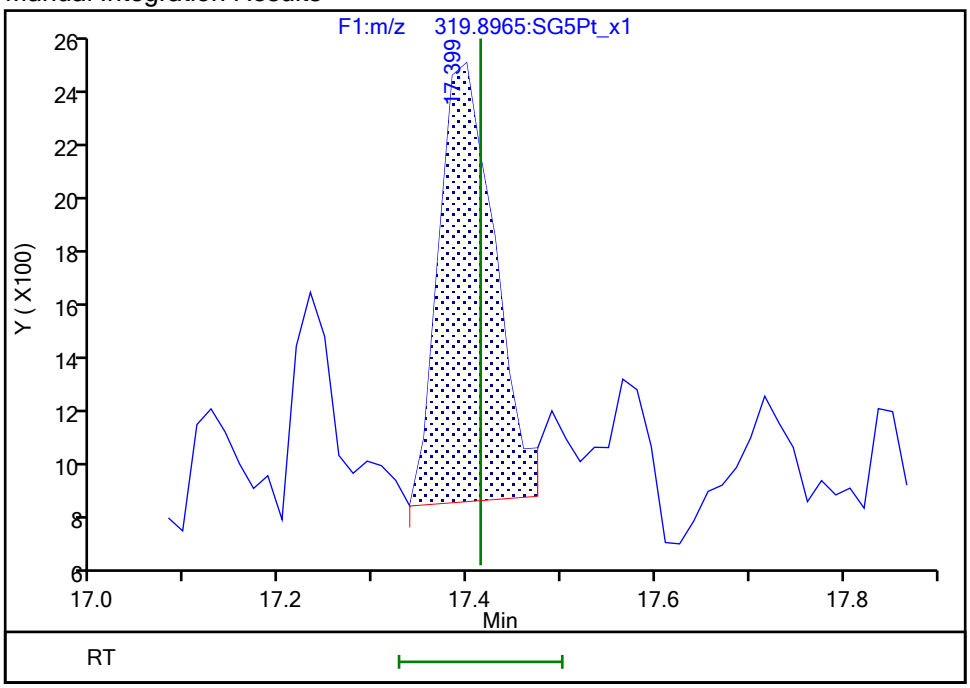

Reviewer: dadunj, 21-Feb-2020 10:21:52

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_52.d				
Injection Date:	20-Feb-2020 06:15:51	Instrument ID:	10D5		
Lims ID:	320-58545-A-2-A	Lab Sample ID:	320-58545-2		
Client ID:	11187072-Eastern Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	51	Worklist Smp#:	52
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

1,2,3,7,8-PeCDF, CAS: 57117-41-6

Signal: 1

Processing Integration Results

RT: 21.46
Area: 12330
Amount: 0.087442
Amount Units: pg/ul

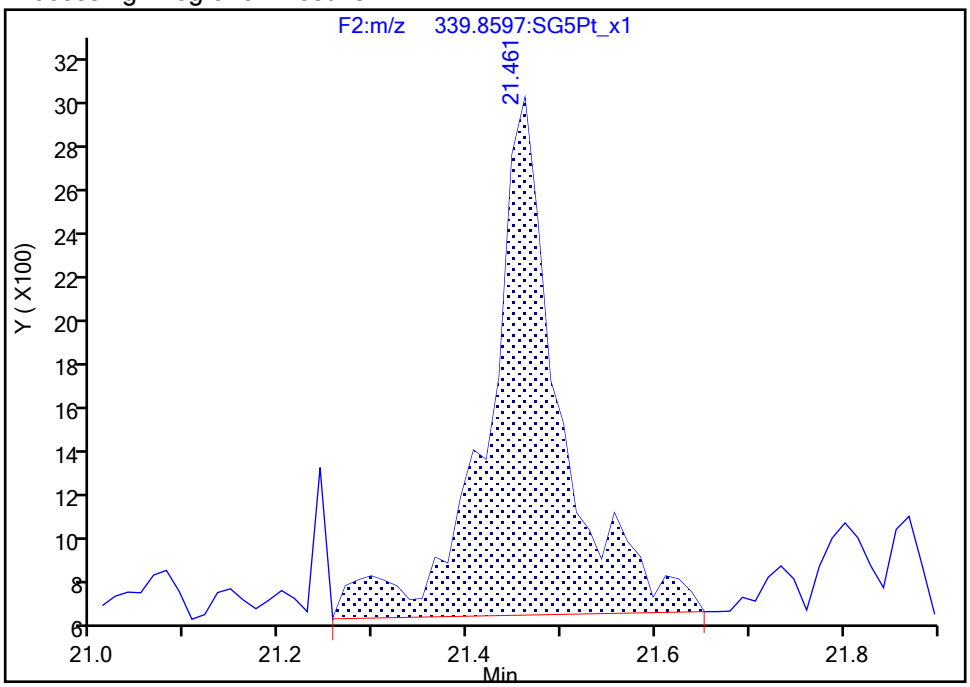

Manual Integration Results

RT: 21.46
Area: 10009
Amount: 0.077182
Amount Units: pg/ul

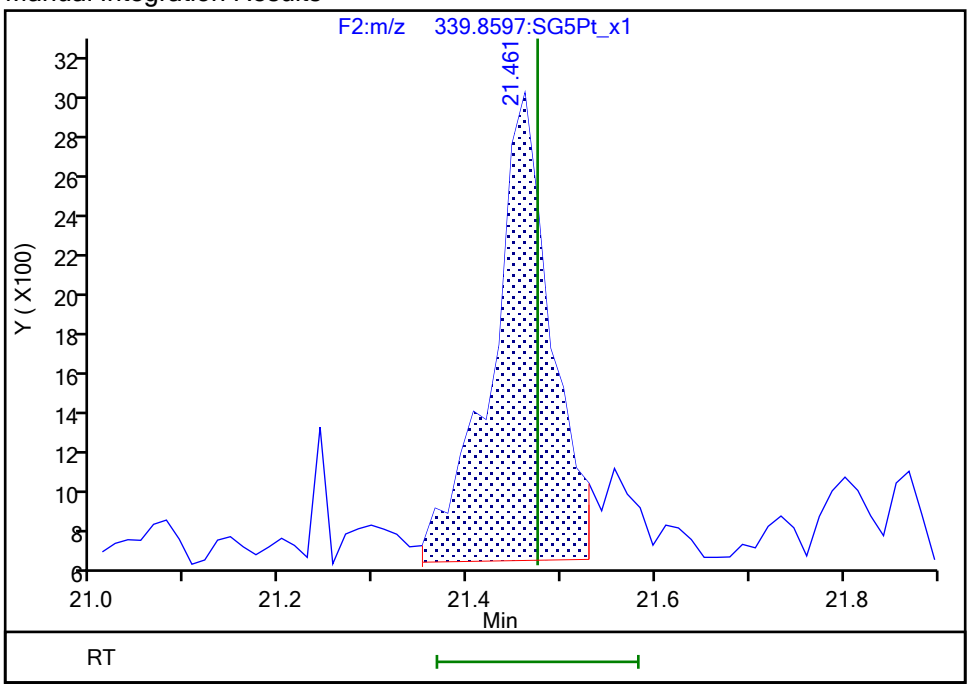

Reviewer: dadunj, 21-Feb-2020 10:22:01

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_52.d				
Injection Date:	20-Feb-2020 06:15:51	Instrument ID:	10D5		
Lims ID:	320-58545-A-2-A	Lab Sample ID:	320-58545-2		
Client ID:	11187072-Eastern Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	51	Worklist Smp#:	52
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

1,2,3,7,8-PeCDD, CAS: 40321-76-4

Signal: 1

Processing Integration Results

RT: 23.38
Area: 8002
Amount: 0.065968
Amount Units: pg/ul

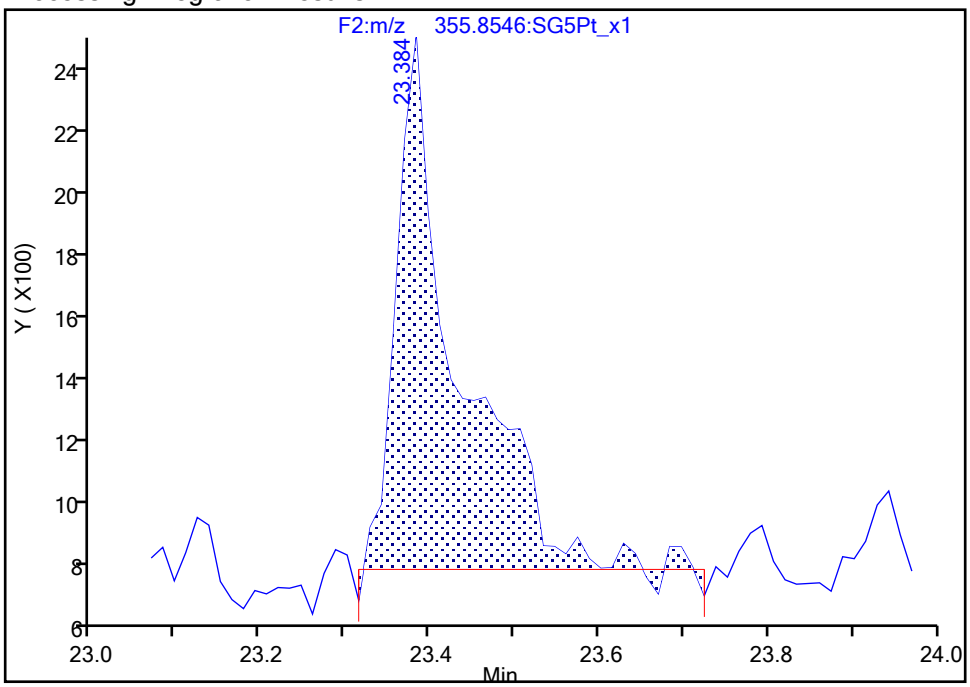

Manual Integration Results

RT: 23.38
Area: 7720
Amount: 0.063181
Amount Units: pg/ul

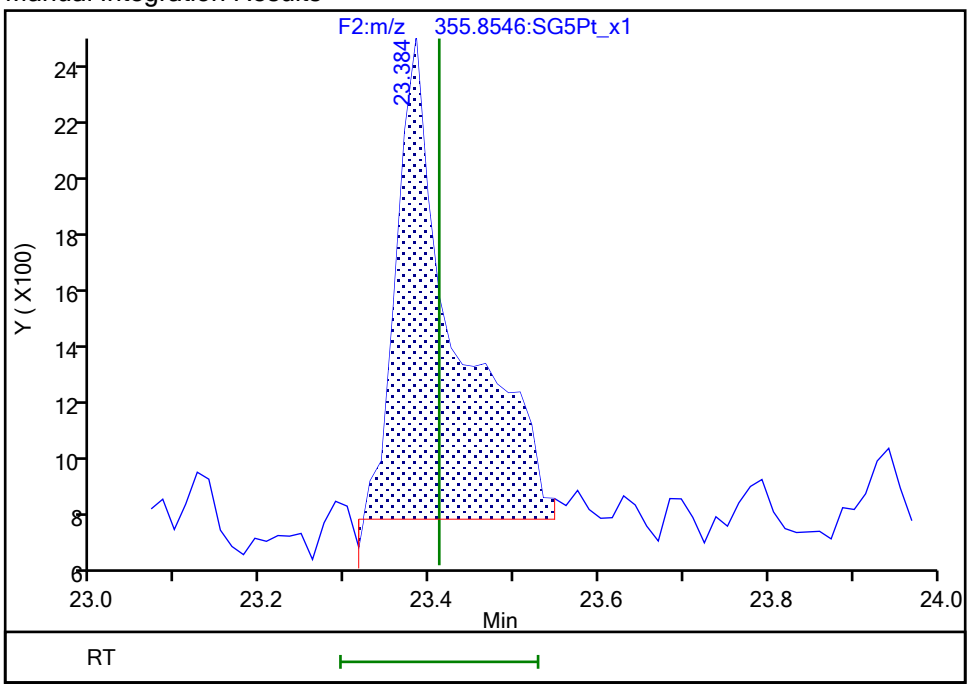

Reviewer: dadunj, 21-Feb-2020 10:22:09

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_52.d				
Injection Date:	20-Feb-2020 06:15:51	Instrument ID:	10D5		
Lims ID:	320-58545-A-2-A	Lab Sample ID:	320-58545-2		
Client ID:	11187072-Eastern Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	51	Worklist Smp#:	52
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

1,2,3,7,8-PeCDD, CAS: 40321-76-4

Signal: 2

Processing Integration Results

RT: 23.37
Area: 4093
Amount: 0.065968
Amount Units: pg/ul

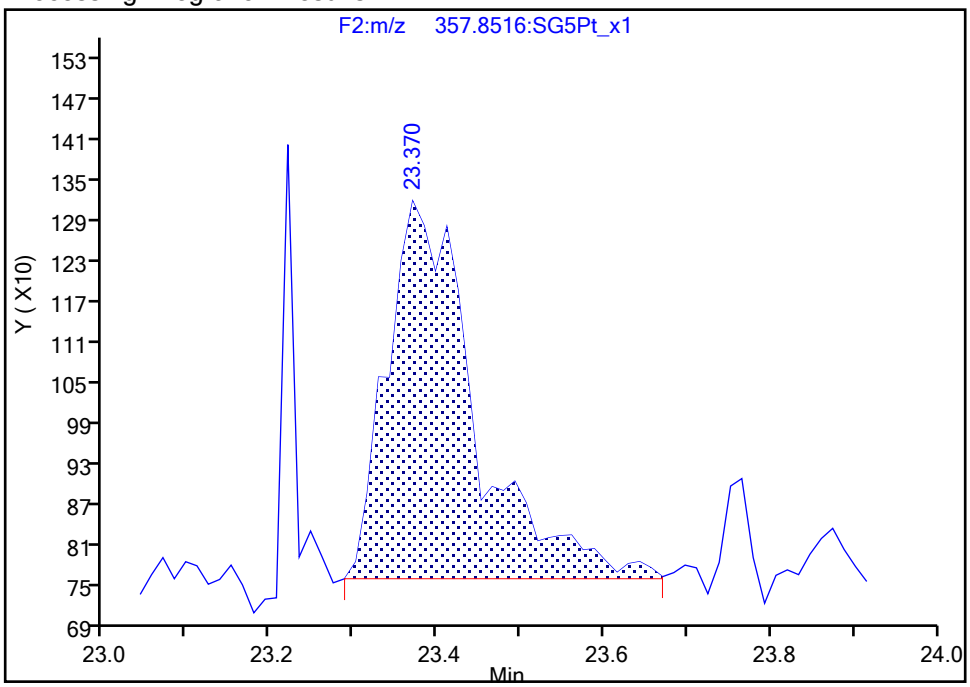

Manual Integration Results

RT: 23.37
Area: 3864
Amount: 0.063181
Amount Units: pg/ul

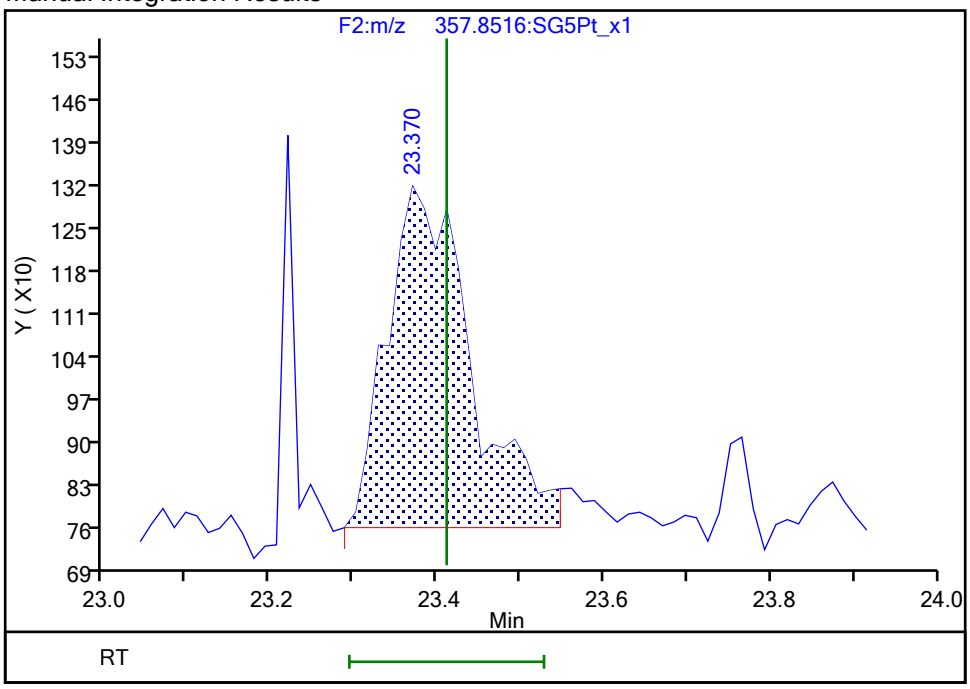

Reviewer: dadunj, 21-Feb-2020 10:22:11

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_52.d				
Injection Date:	20-Feb-2020 06:15:51	Instrument ID:	10D5		
Lims ID:	320-58545-A-2-A	Lab Sample ID:	320-58545-2		
Client ID:	11187072-Eastern Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	51	Worklist Smp#:	52
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 2

Processing Integration Results

RT: 31.80
Area: 7890
Amount: 0.122967
Amount Units: pg/ul

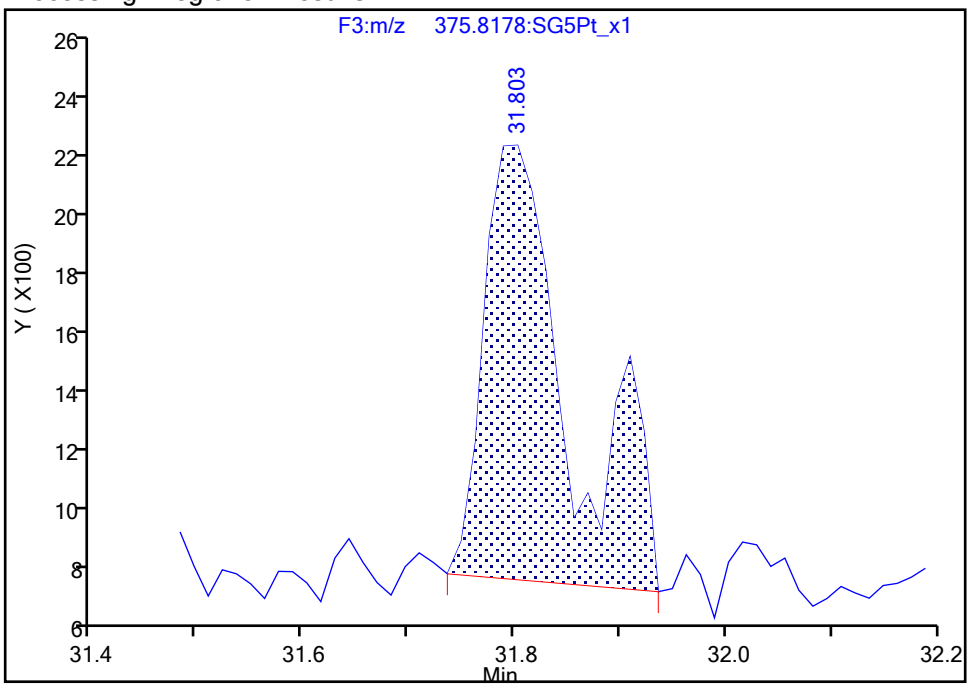

Manual Integration Results

RT: 31.80
Area: 6320
Amount: 0.113061
Amount Units: pg/ul

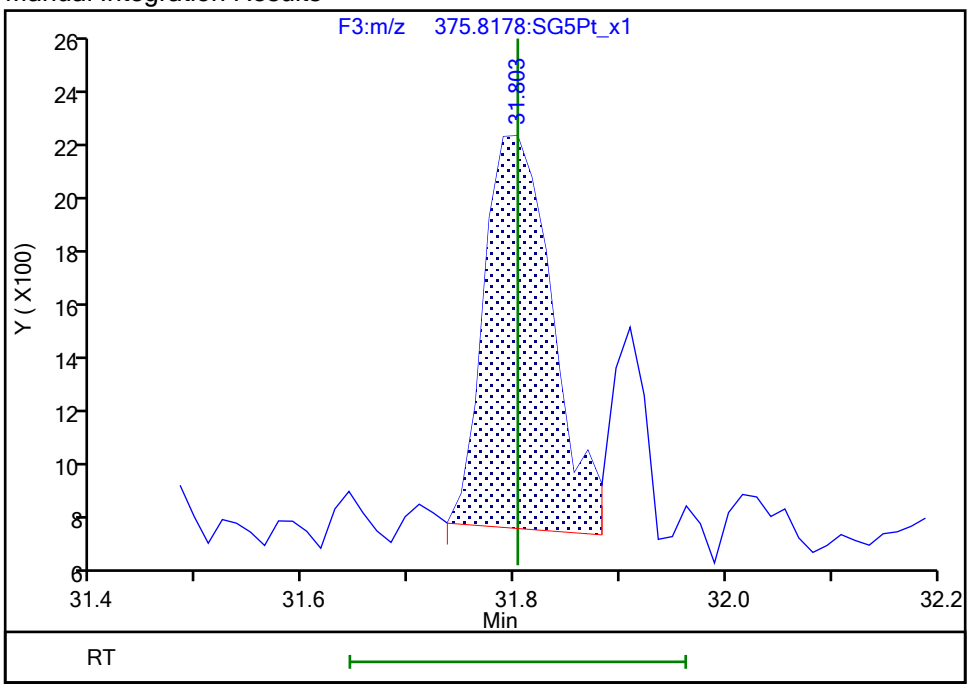

Reviewer: dadunj, 21-Feb-2020 10:22:19

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_52.d				
Injection Date:	20-Feb-2020 06:15:51	Instrument ID:	10D5		
Lims ID:	320-58545-A-2-A	Lab Sample ID:	320-58545-2		
Client ID:	11187072-Eastern Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	51	Worklist Smp#:	52
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 1

Processing Integration Results

RT: 31.07
Area: 21920
Amount: 0.280174
Amount Units: pg/ul

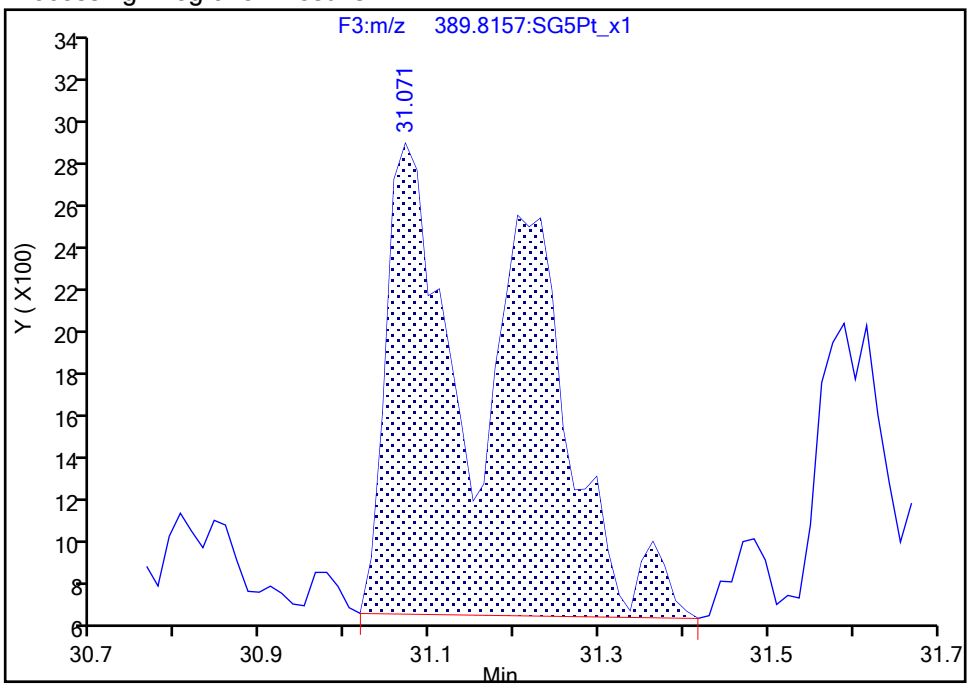

Manual Integration Results

RT: 31.07
Area: 10219
Amount: 0.131706
Amount Units: pg/ul

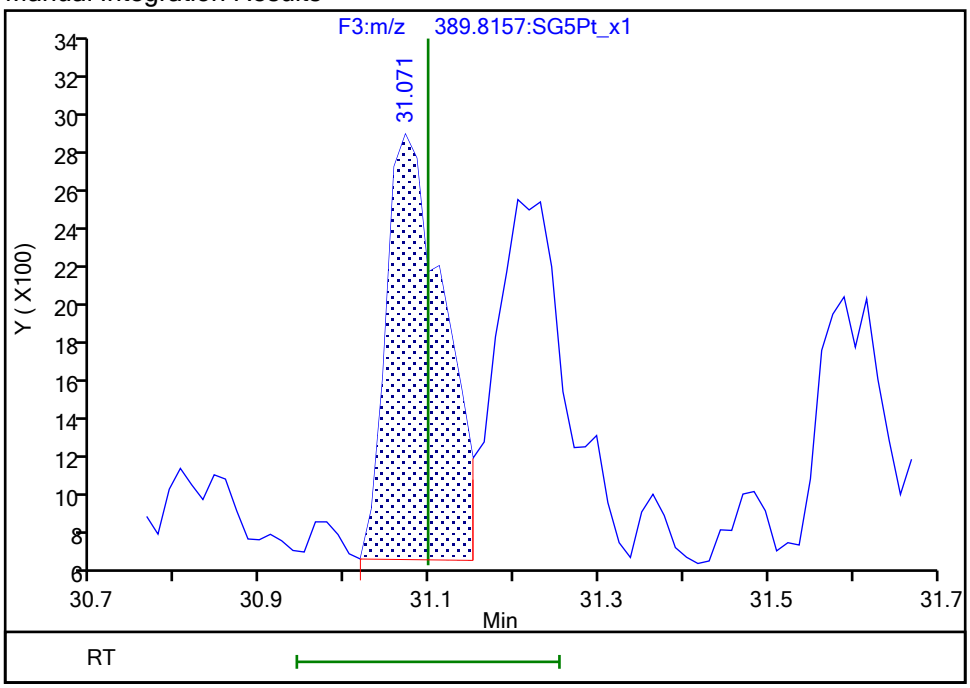

Reviewer: dadunj, 21-Feb-2020 10:22:26

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_52.d				
Injection Date:	20-Feb-2020 06:15:51	Instrument ID:	10D5		
Lims ID:	320-58545-A-2-A	Lab Sample ID:	320-58545-2		
Client ID:	11187072-Eastern Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	51	Worklist Smp#:	52
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 2

Processing Integration Results

RT: 31.20
Area: 19400
Amount: 0.280174
Amount Units: pg/ul

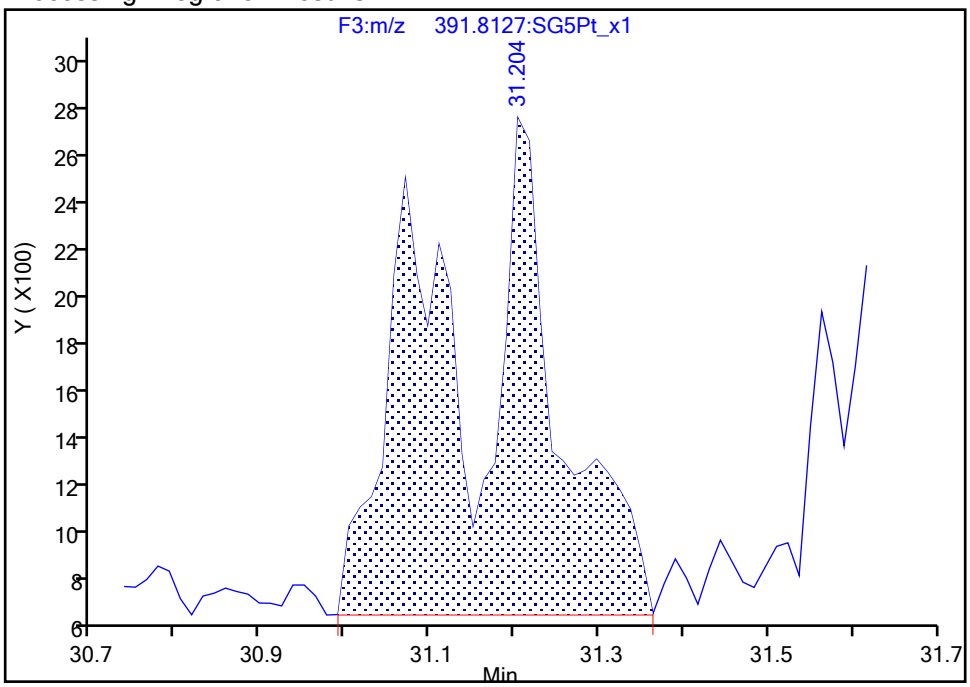

Manual Integration Results

RT: 31.07
Area: 9205
Amount: 0.131706
Amount Units: pg/ul

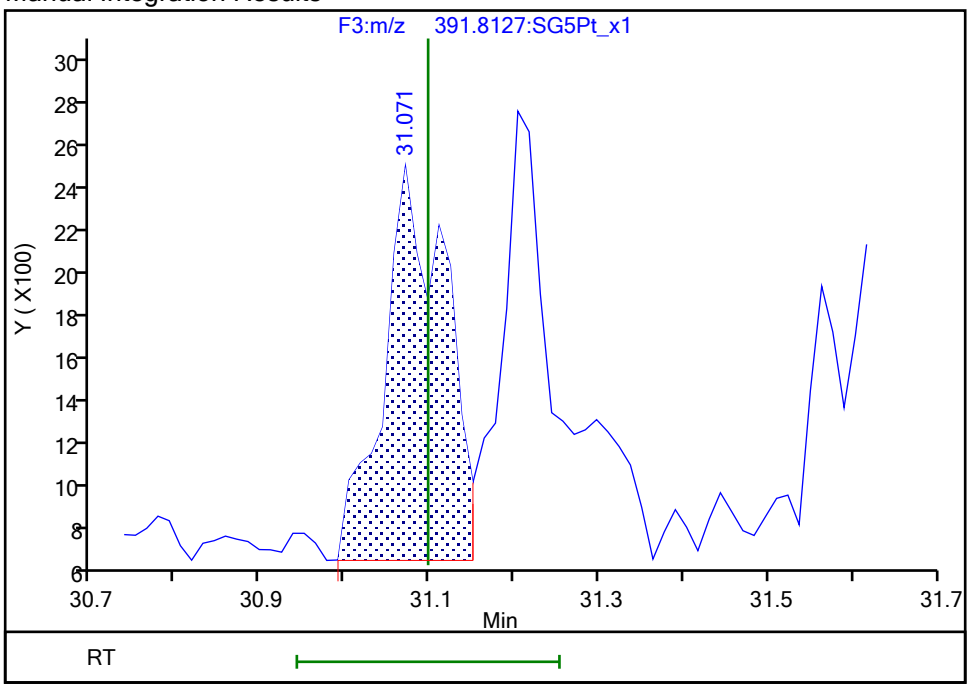

Reviewer: dadunj, 21-Feb-2020 10:22:30

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_52.d				
Injection Date:	20-Feb-2020 06:15:51	Instrument ID:	10D5		
Lims ID:	320-58545-A-2-A	Lab Sample ID:	320-58545-2		
Client ID:	11187072-Eastern Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	51	Worklist Smp#:	52
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 2

Processing Integration Results

RT: 31.20
Area: 19400
Amount: 0.241420
Amount Units: pg/ul

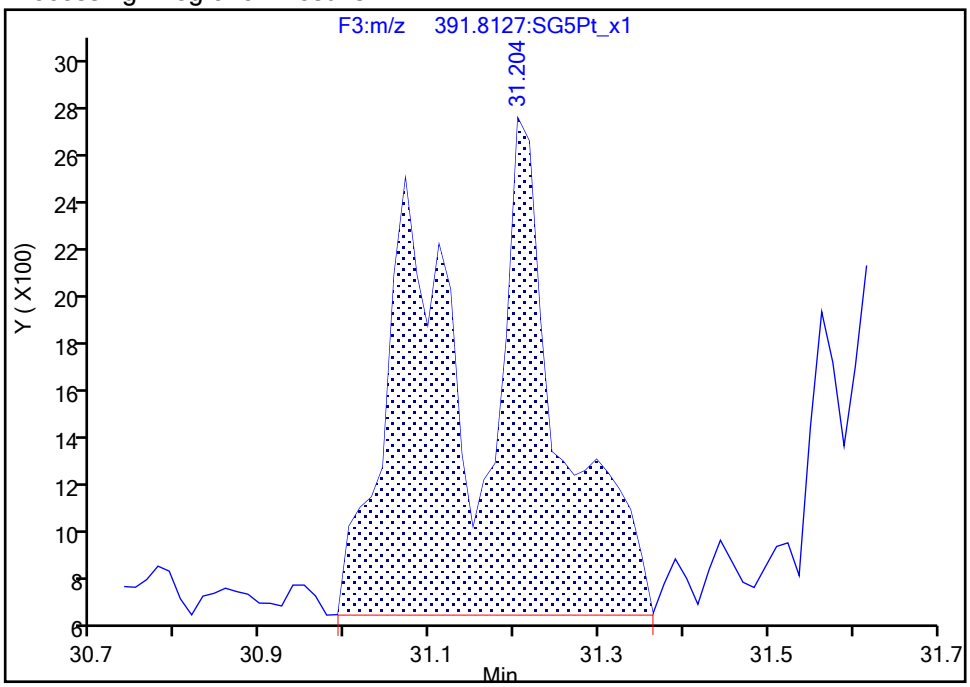

Manual Integration Results

RT: 31.20
Area: 10195
Amount: 0.127879
Amount Units: pg/ul

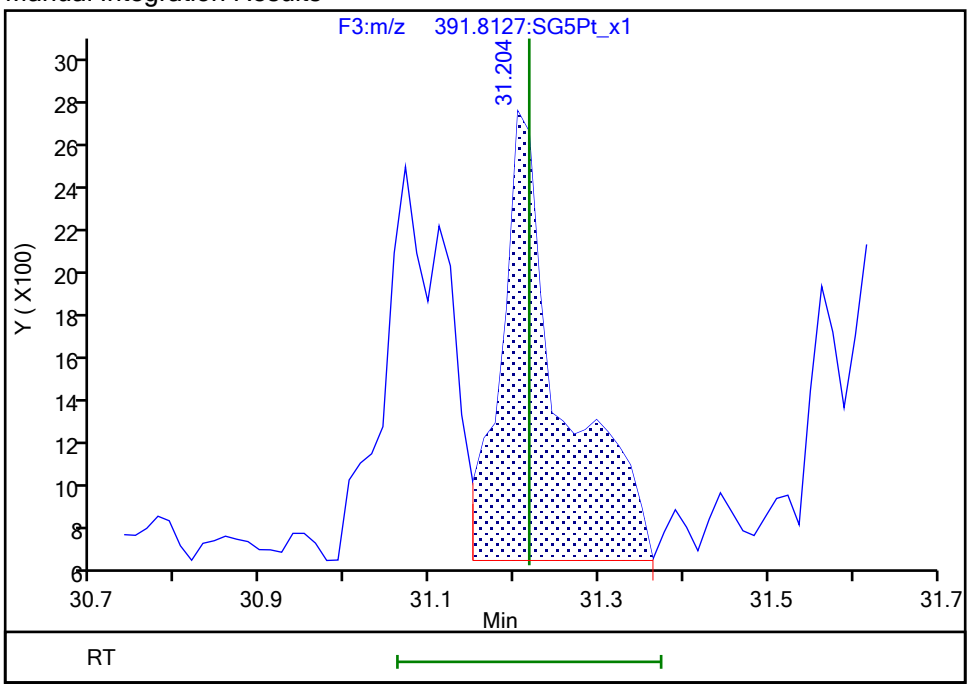

Reviewer: dadunj, 21-Feb-2020 10:22:33

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_52.d				
Injection Date:	20-Feb-2020 06:15:51	Instrument ID:	10D5		
Lims ID:	320-58545-A-2-A	Lab Sample ID:	320-58545-2		
Client ID:	11187072-Eastern Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	51	Worklist Smp#:	52
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 3

Processing Integration Results

RT: 31.07
Area: 41320
Amount: 0.241420
Amount Units: pg/ul

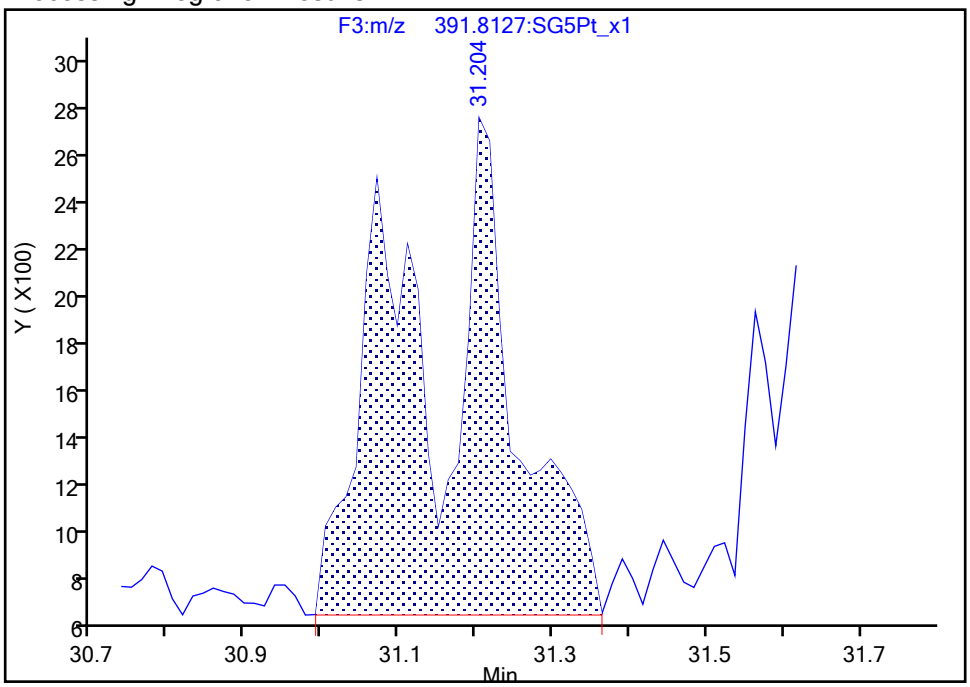

Manual Integration Results

RT: 31.20
Area: 21887
Amount: 0.127879
Amount Units: pg/ul
Reviewer: dadunj, 21-Feb-2020 10:22:33
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_52.d				
Injection Date:	20-Feb-2020 06:15:51	Instrument ID:	10D5		
Lims ID:	320-58545-A-2-A	Lab Sample ID:	320-58545-2		
Client ID:	11187072-Eastern Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	51	Worklist Smp#:	52
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 1

Processing Integration Results

RT: 31.07
Area: 21920
Amount: 0.241420
Amount Units: pg/ul

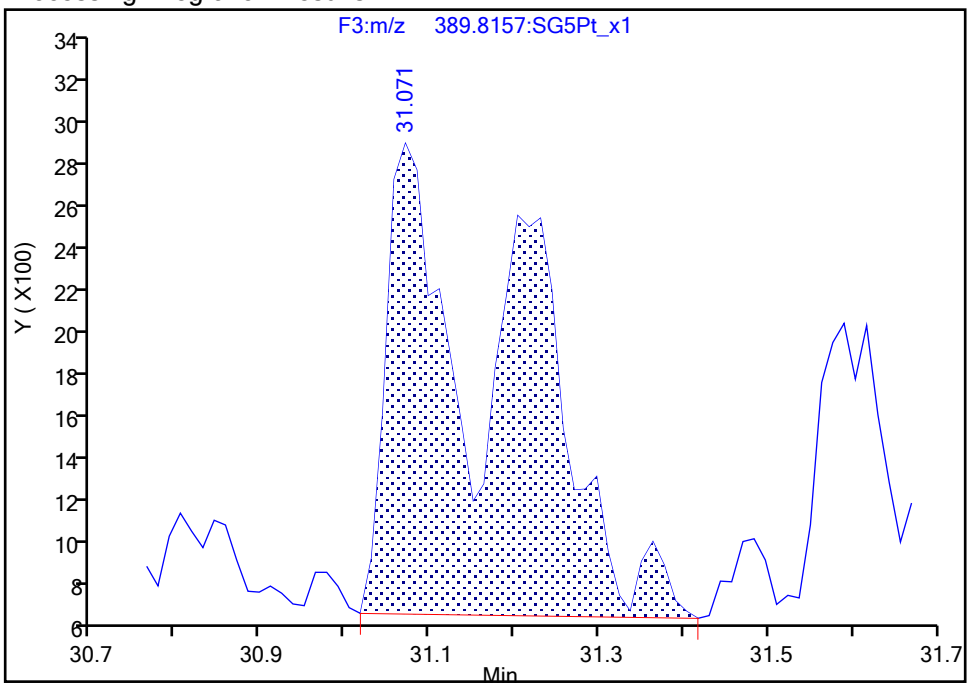

Manual Integration Results

RT: 31.20
Area: 11692
Amount: 0.127879
Amount Units: pg/ul

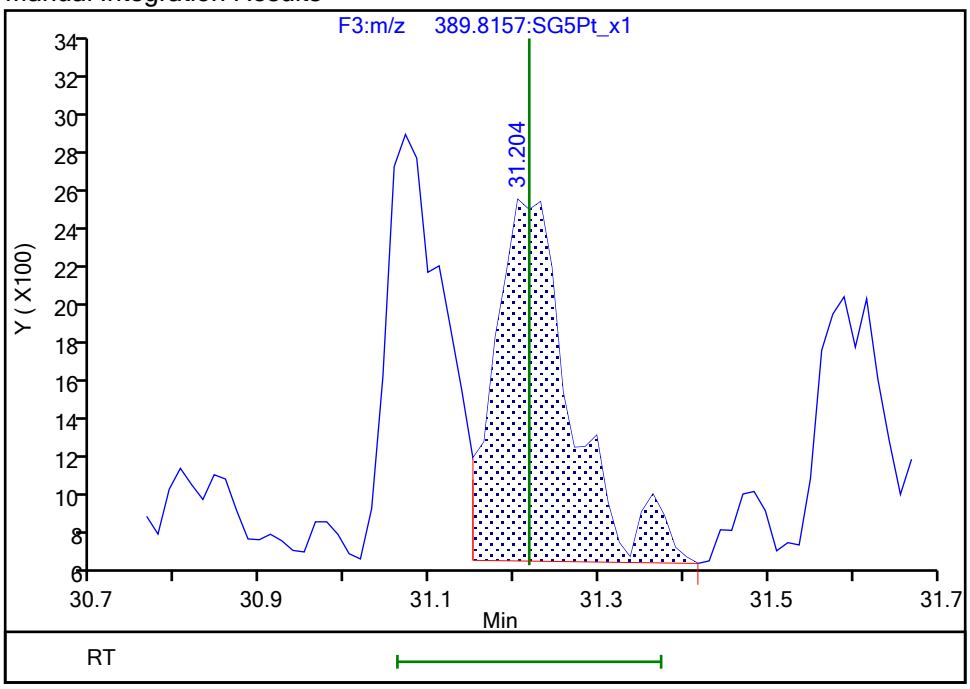

Reviewer: dadunj, 21-Feb-2020 10:22:41

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_52.d				
Injection Date:	20-Feb-2020 06:15:51	Instrument ID:	10D5		
Lims ID:	320-58545-A-2-A	Lab Sample ID:	320-58545-2		
Client ID:	11187072-Eastern Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	51	Worklist Smp#:	52
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 2

Processing Integration Results

RT: 31.62
Area: 8869
Amount: 0.083317
Amount Units: pg/ul

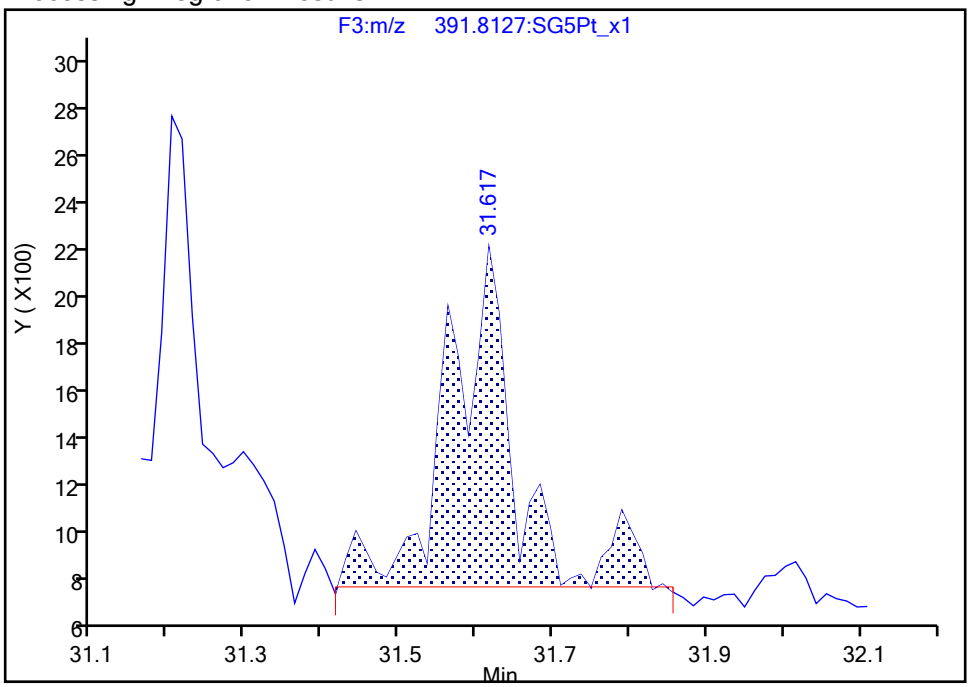

Manual Integration Results

RT: 31.62
Area: 6181
Amount: 0.068593
Amount Units: pg/ul

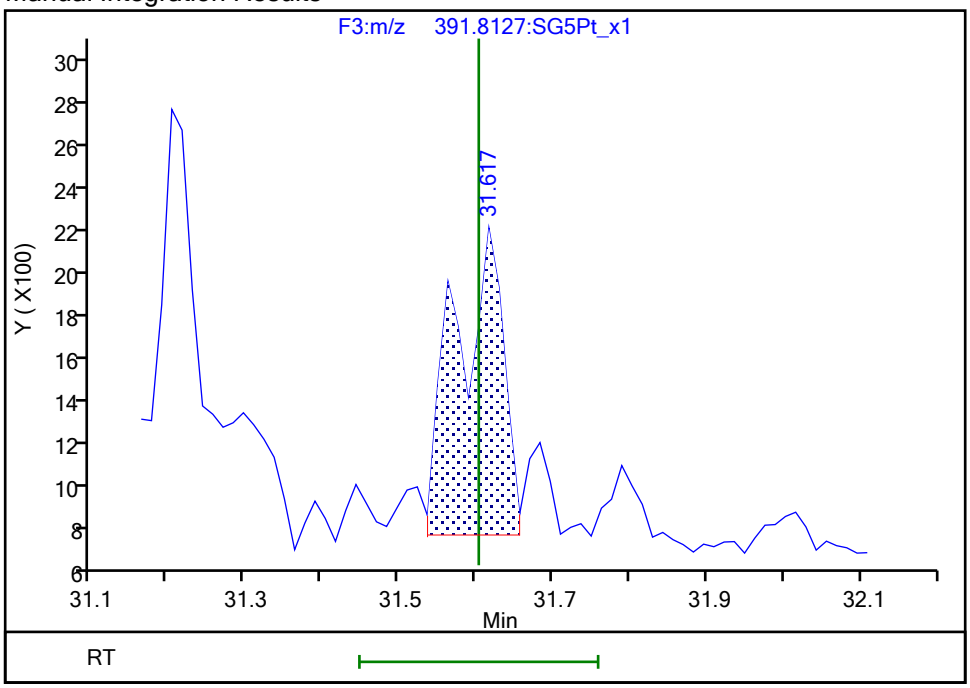

Reviewer: dadunj, 21-Feb-2020 10:22:49

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_52.d				
Injection Date:	20-Feb-2020 06:15:51	Instrument ID:	10D5		
Lims ID:	320-58545-A-2-A	Lab Sample ID:	320-58545-2		
Client ID:	11187072-Eastern Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	51	Worklist Smp#:	52
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 1

Processing Integration Results

RT: 31.59
Area: 5820
Amount: 0.083317
Amount Units: pg/ul

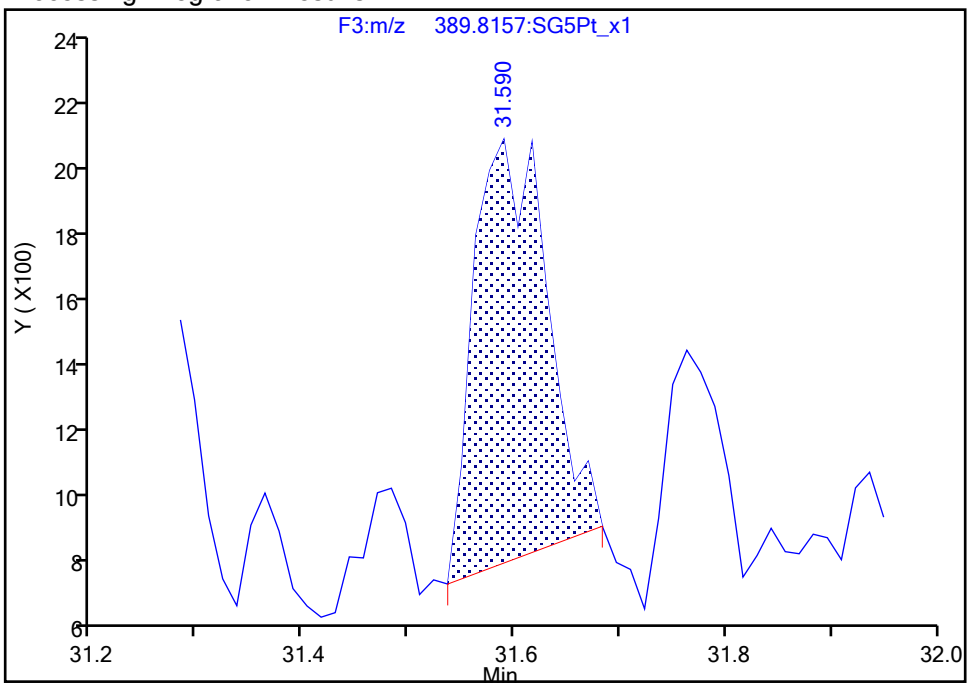

Manual Integration Results

RT: 31.59
Area: 5912
Amount: 0.068593
Amount Units: pg/ul

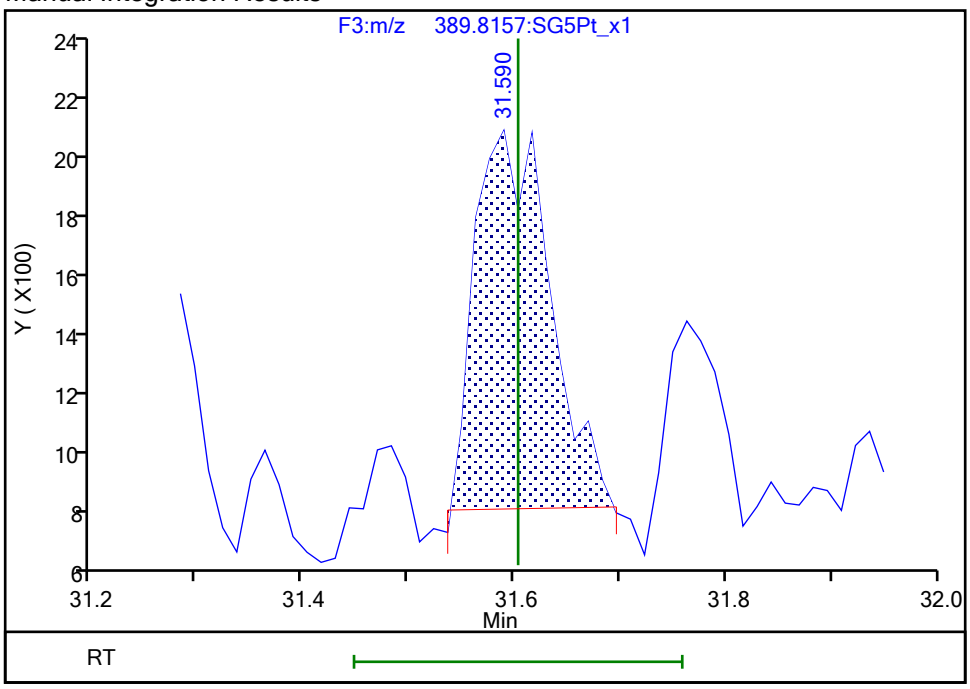

Reviewer: dadunj, 21-Feb-2020 10:22:57

Audit Action: Manually Integrated Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_52.d				
Injection Date:	20-Feb-2020 06:15:51	Instrument ID:	10D5		
Lims ID:	320-58545-A-2-A	Lab Sample ID:	320-58545-2		
Client ID:	11187072-Eastern Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	51	Worklist Smp#:	52
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 2

Processing Integration Results

RT: 33.38
Area: 15571
Amount: 0.132545
Amount Units: pg/ul

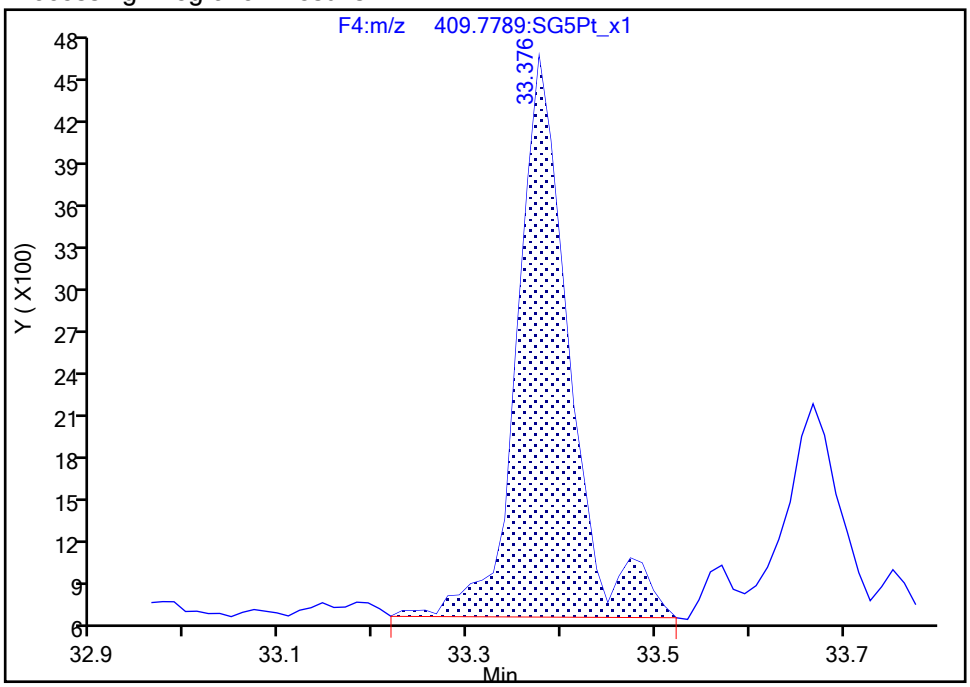

Manual Integration Results

RT: 33.38
Area: 14660
Amount: 0.128487
Amount Units: pg/ul

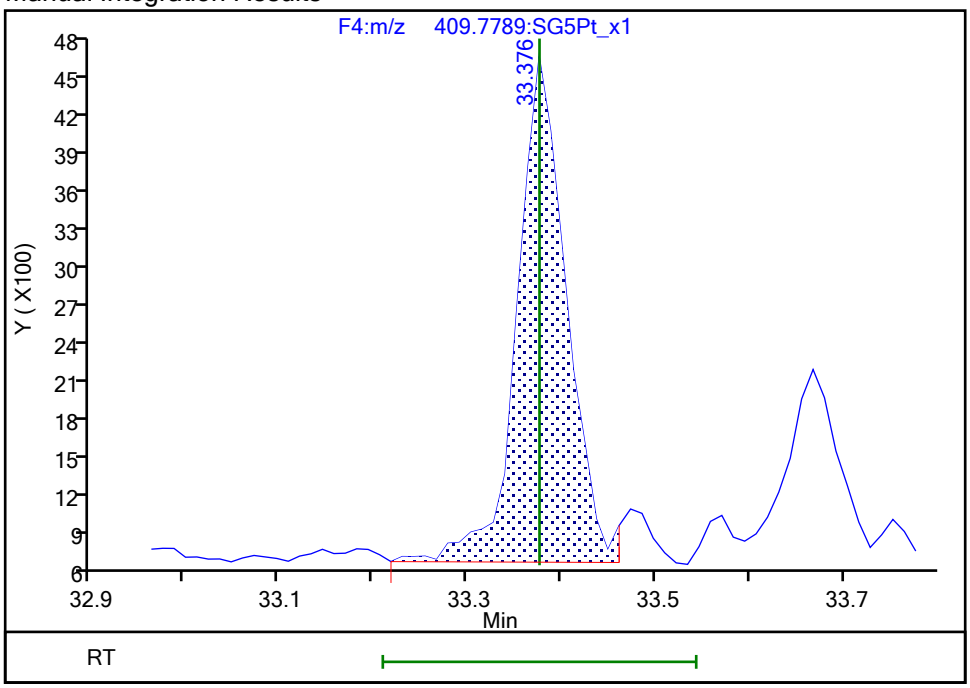

Reviewer: dadunj, 21-Feb-2020 10:23:09

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_52.d				
Injection Date:	20-Feb-2020 06:15:51	Instrument ID:	10D5		
Lims ID:	320-58545-A-2-A	Lab Sample ID:	320-58545-2		
Client ID:	11187072-Eastern Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	51	Worklist Smp#:	52
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

Non-2,3,7,8-sub-HpCDF, Signal: 1, m/z: 407.7818, RT: (33.35- 34.46)

Signal: 1

Processing Integration Results

RT = 33.680 Area = 6398

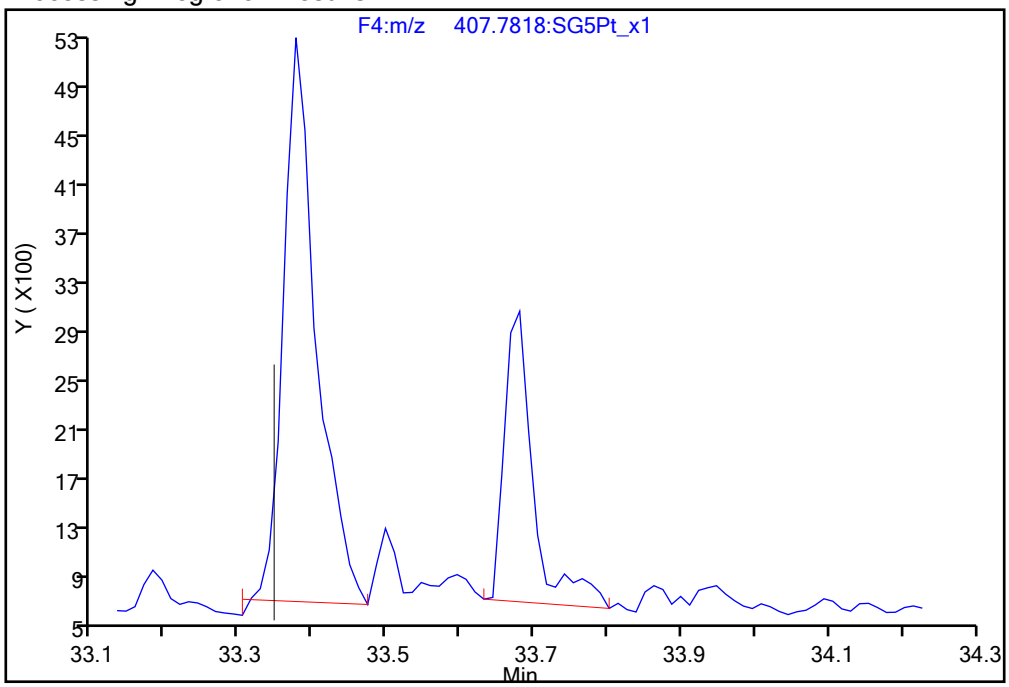

Manual Integration Results

RT = 33.680 Area = 5638 M

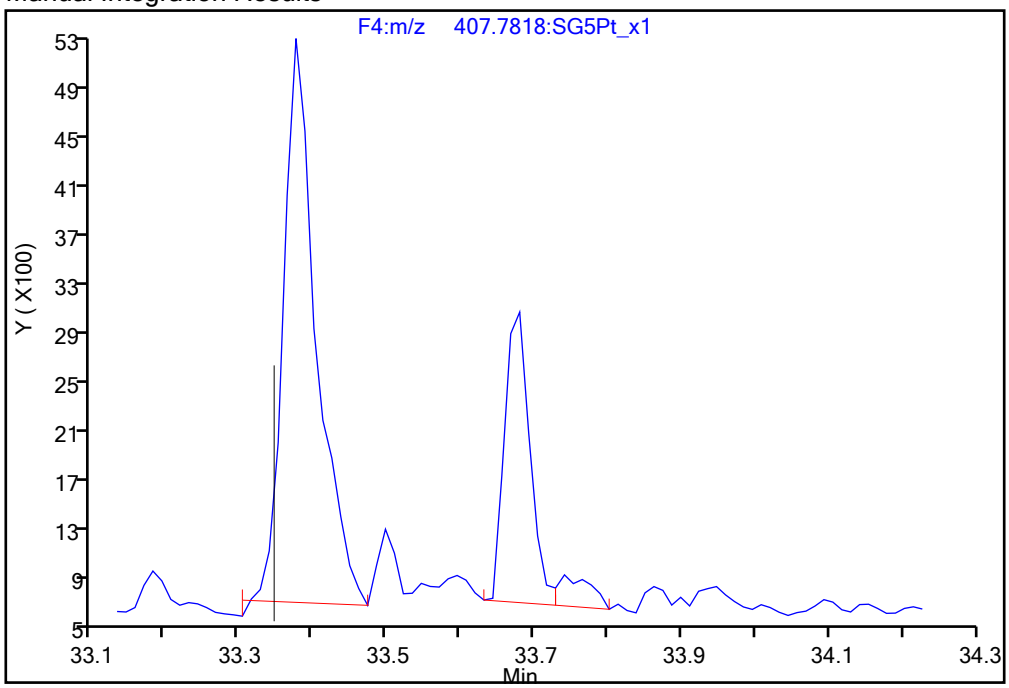

Reviewer: dadunj, 21-Feb-2020 10:23:16

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_52.d				
Injection Date:	20-Feb-2020 06:15:51	Instrument ID:	10D5		
Lims ID:	320-58545-A-2-A	Lab Sample ID:	320-58545-2		
Client ID:	11187072-Eastern Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	51	Worklist Smp#:	52
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

Non-2,3,7,8-sub-HpCDF, Signal: 2, m/z: 409.7789, RT: (33.35- 34.46)

Signal: 2

Processing Integration Results

RT = 33.668 Area = 7195

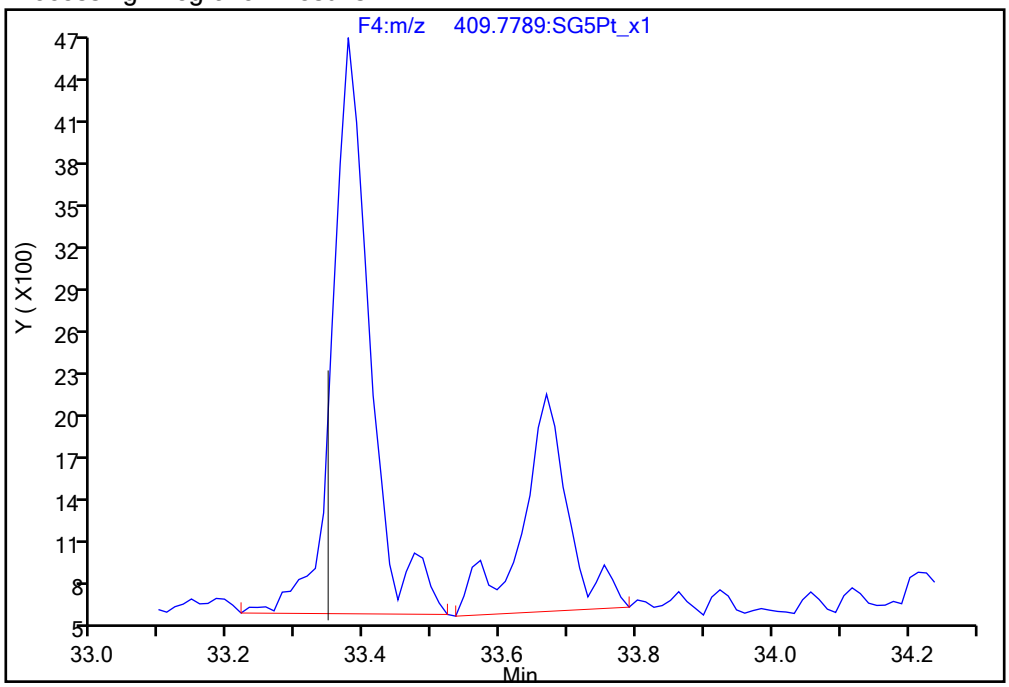

Manual Integration Results

RT = 33.668 Area = 5887 M

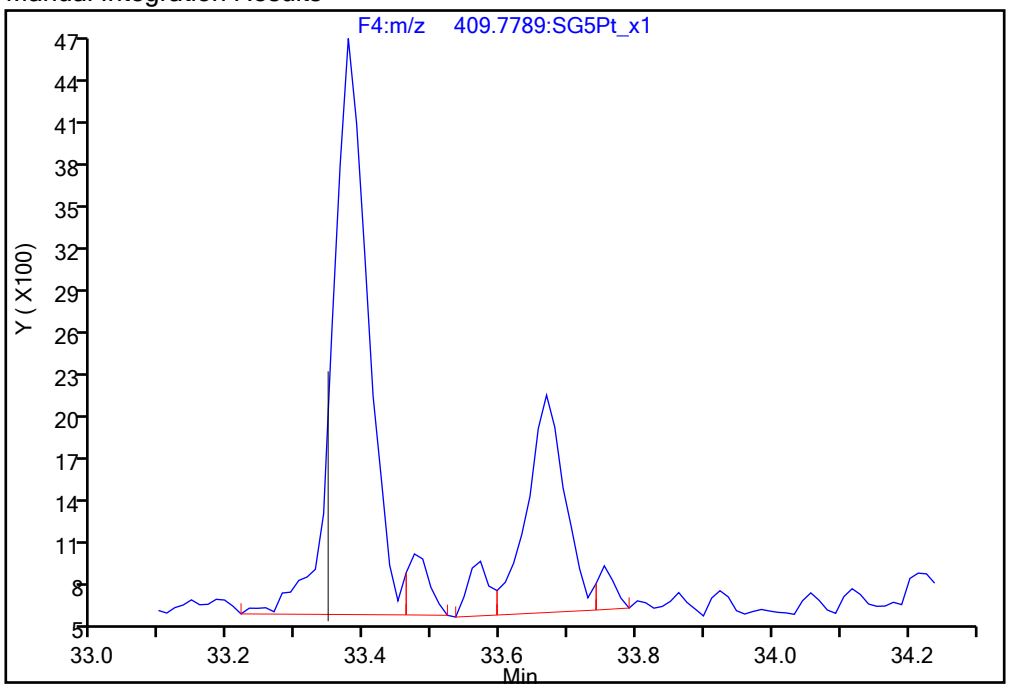

Reviewer: dadunj, 21-Feb-2020 10:23:17

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_52.d				
Injection Date:	20-Feb-2020 06:15:51	Instrument ID:	10D5		
Lims ID:	320-58545-A-2-A	Lab Sample ID:	320-58545-2		
Client ID:	11187072-Eastern Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	51	Worklist Smp#:	52
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 1

Processing Integration Results

RT: 34.15
Area: 194319
Amount: 2.166132
Amount Units: pg/ul

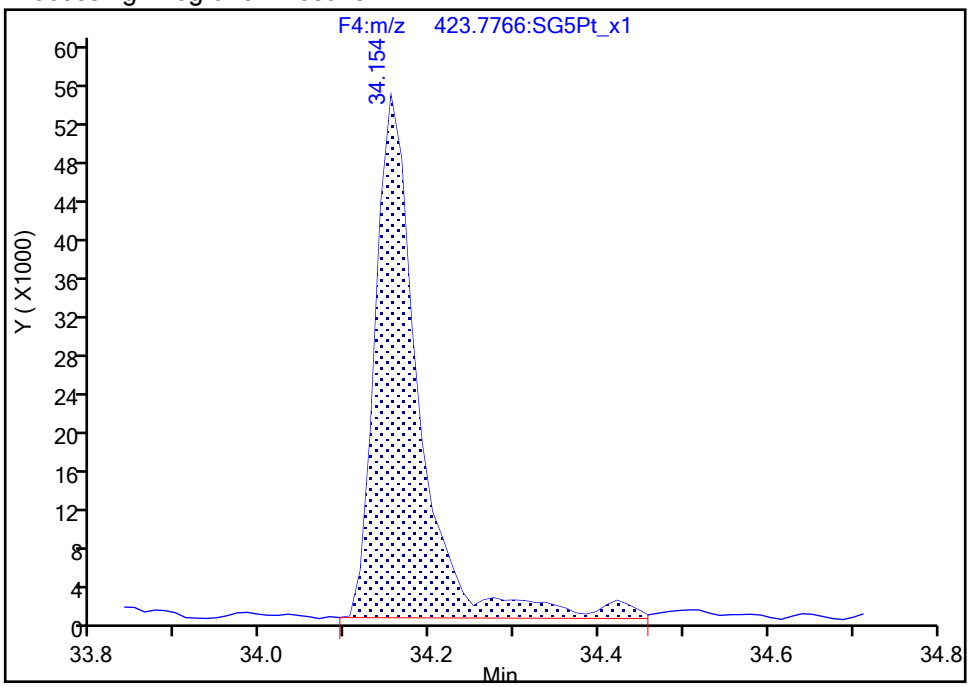

Manual Integration Results

RT: 34.15
Area: 189415
Amount: 2.137937
Amount Units: pg/ul

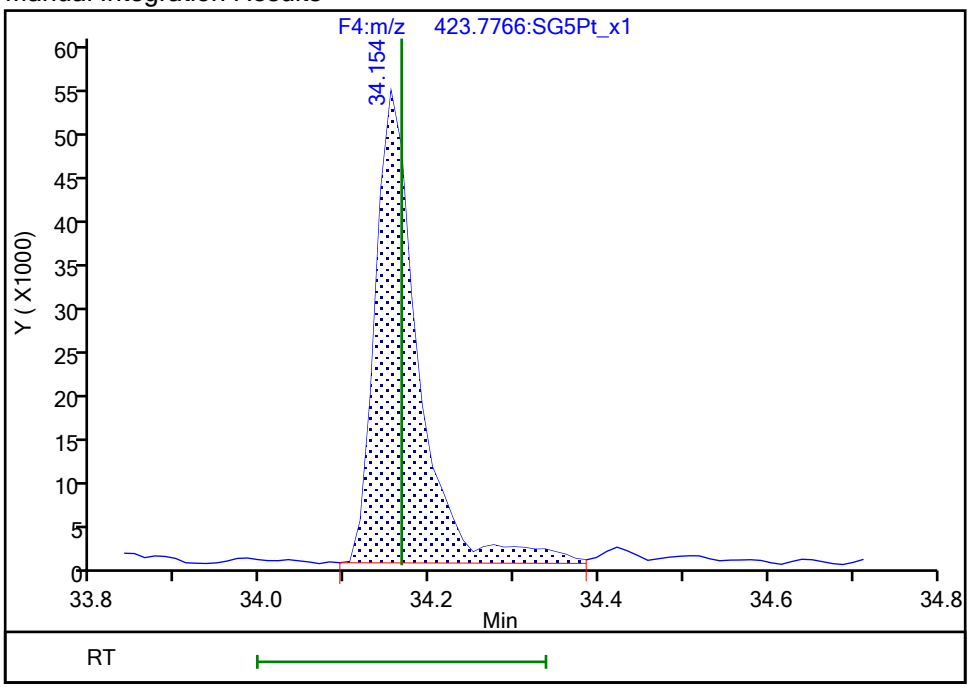

Reviewer: dadunj, 21-Feb-2020 10:23:21

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_52.d				
Injection Date:	20-Feb-2020 06:15:51	Instrument ID:	10D5		
Lims ID:	320-58545-A-2-A	Lab Sample ID:	320-58545-2		
Client ID:	11187072-Eastern Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	51	Worklist Smp#:	52
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5:HRSIR		

OCDF, CAS: 39001-02-0

Signal: 1

Processing Integration Results

RT: 36.51
Area: 24273
Amount: 0.314661
Amount Units: pg/ul

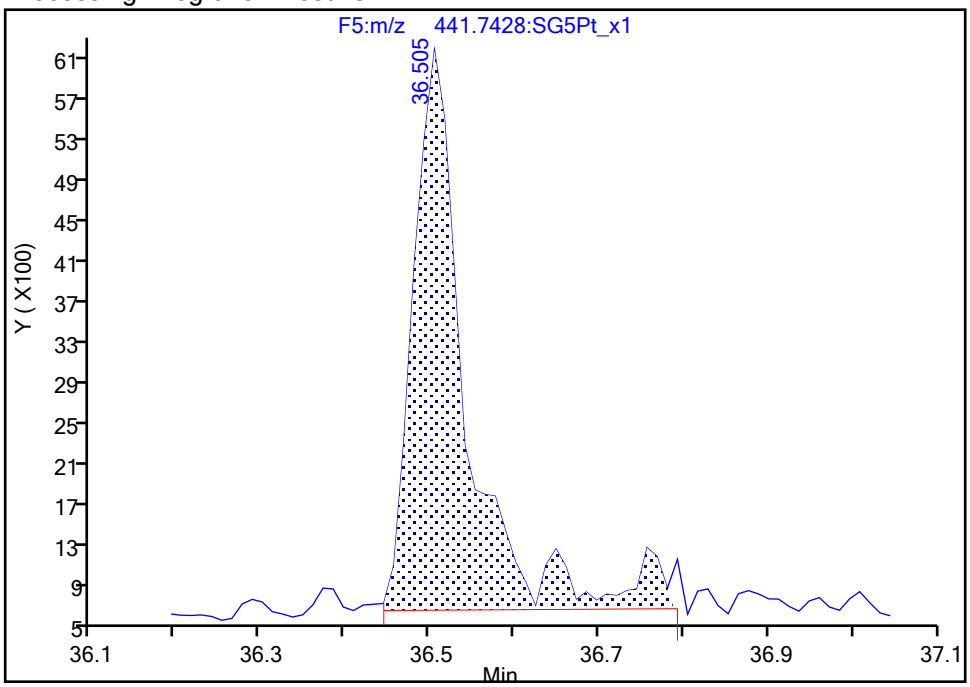

Manual Integration Results

RT: 36.51
Area: 21639
Amount: 0.282468
Amount Units: pg/ul

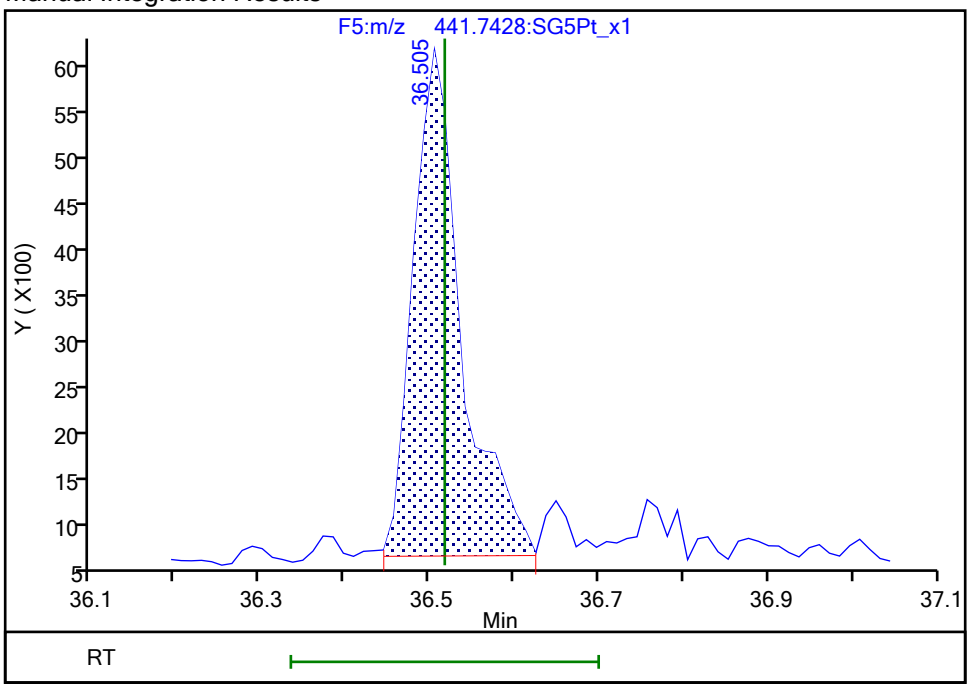

Reviewer: dadunj, 21-Feb-2020 10:23:27

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_52.d				
Injection Date:	20-Feb-2020 06:15:51	Instrument ID:	10D5		
Lims ID:	320-58545-A-2-A	Lab Sample ID:	320-58545-2		
Client ID:	11187072-Eastern Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	51	Worklist Smp#:	52
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5:HRSIR		

OCDF, CAS: 39001-02-0

Signal: 2

Processing Integration Results

RT: 36.52
Area: 28430
Amount: 0.314661
Amount Units: pg/ul

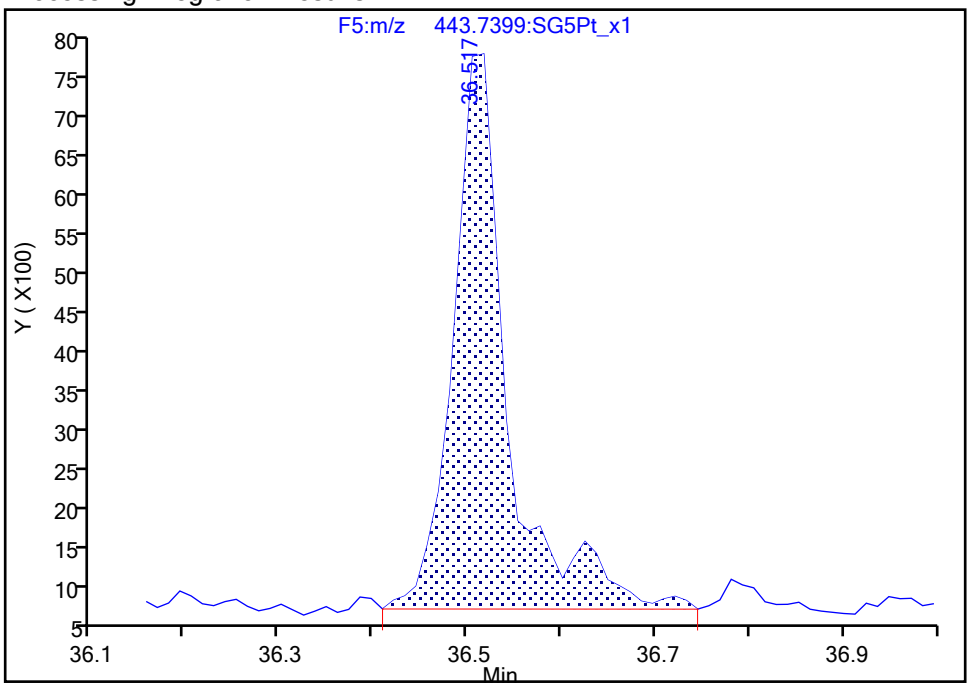

Manual Integration Results

RT: 36.52
Area: 25672
Amount: 0.282468
Amount Units: pg/ul

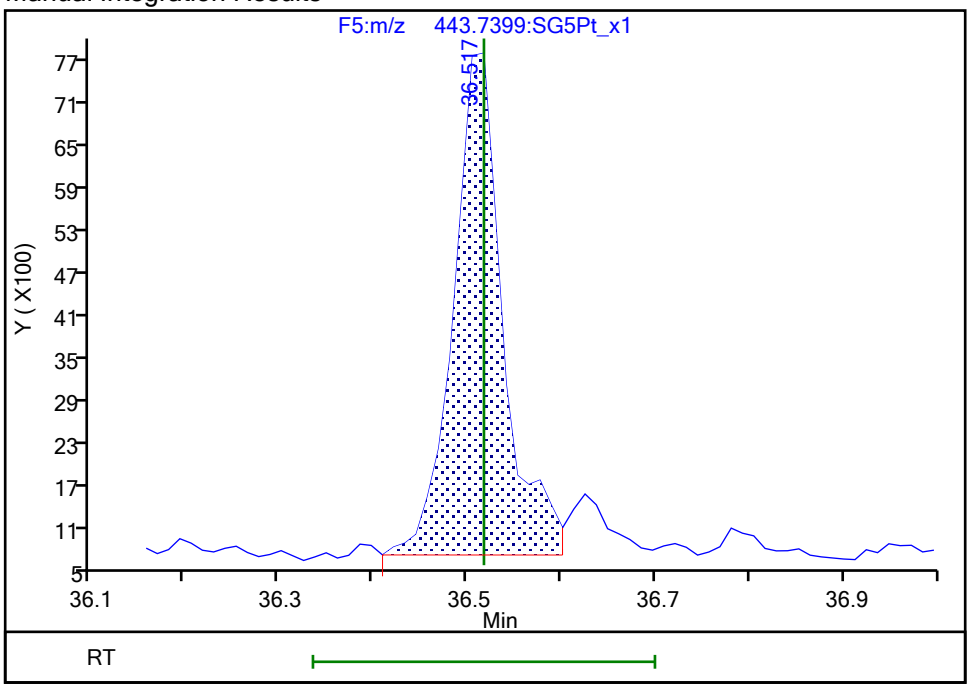

Reviewer: dadunj, 21-Feb-2020 10:23:31

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 21-Feb-2020 10:24:04 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_52.d		
Injection Date:	20-Feb-2020 06:15:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Eastern Rock		
Worklist#:	358703	Sample Line#:	52
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

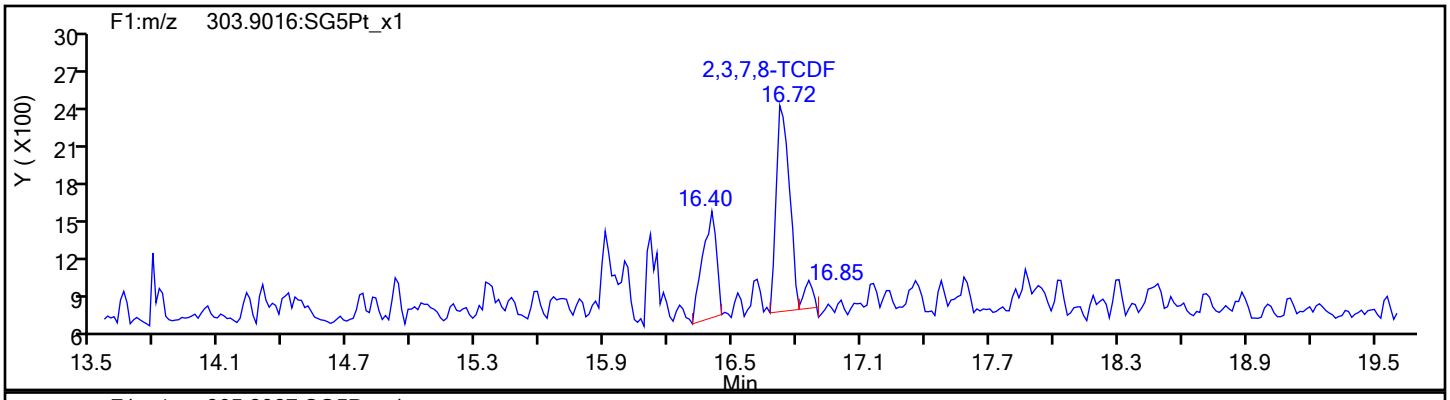

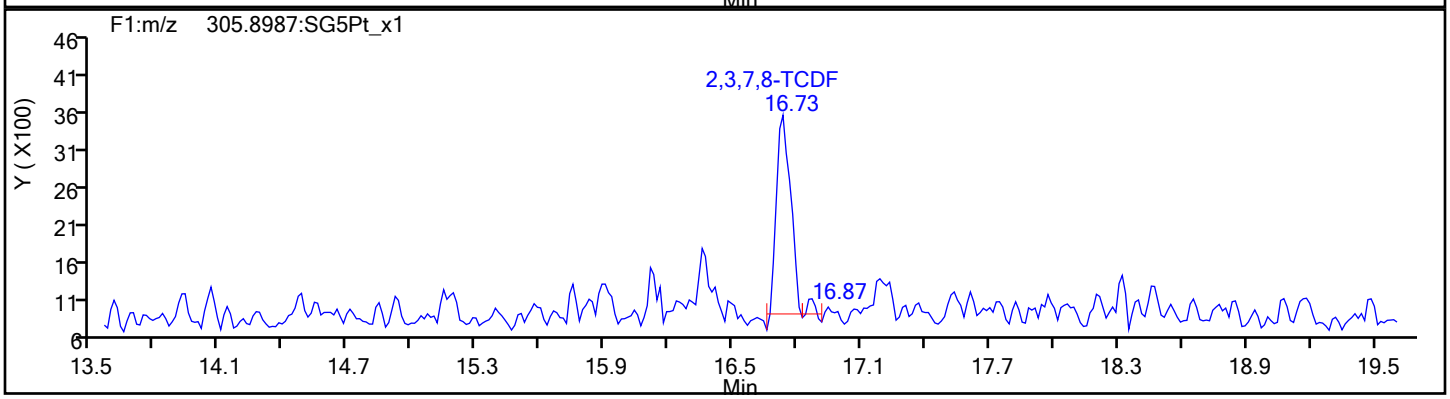

TCDF Standards

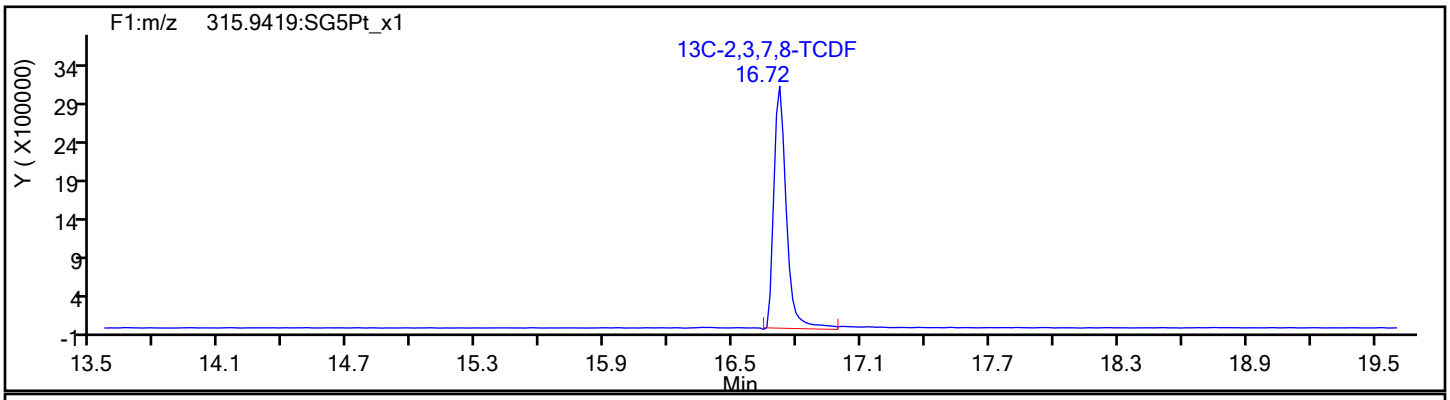

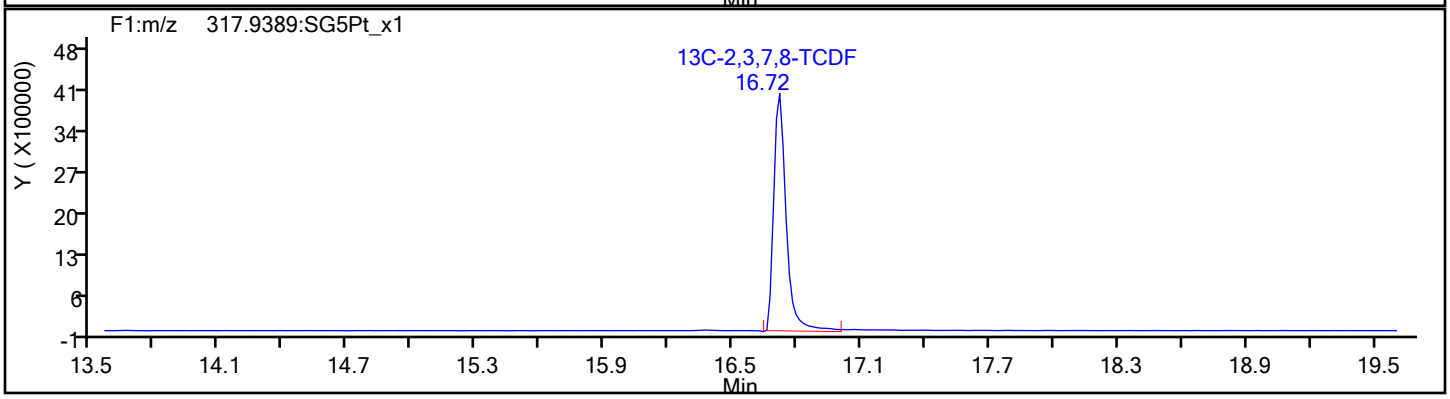

Report Date: 21-Feb-2020 10:24:04 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_52.d		
Injection Date:	20-Feb-2020 06:15:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Eastern Rock		
Worklist#:	358703	Sample Line#:	52
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

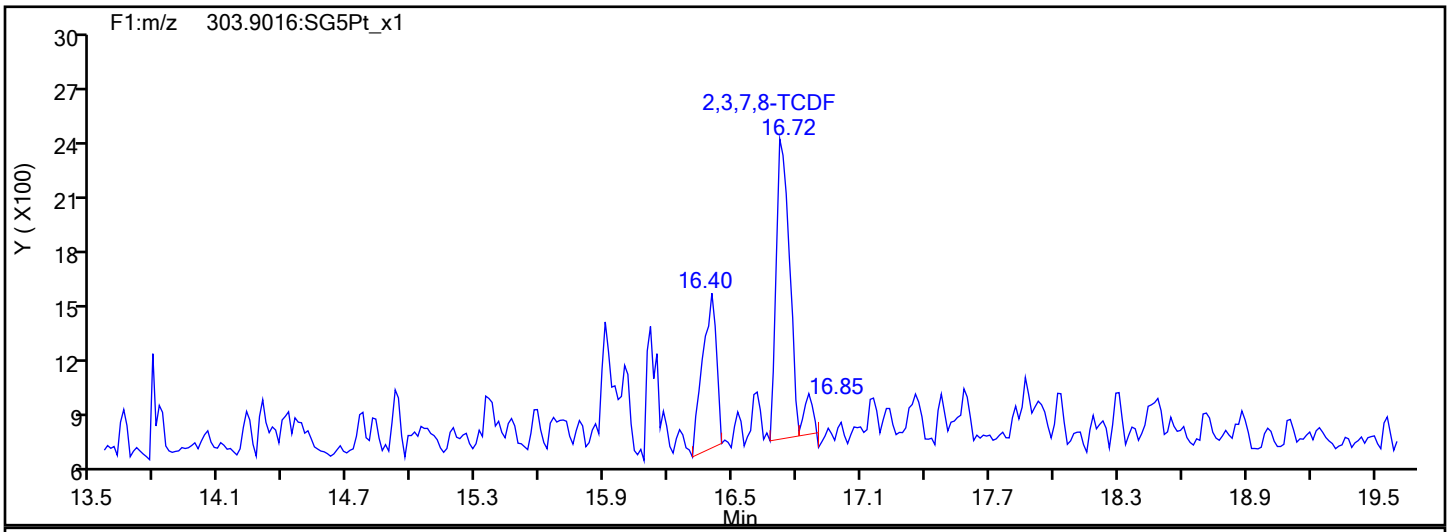

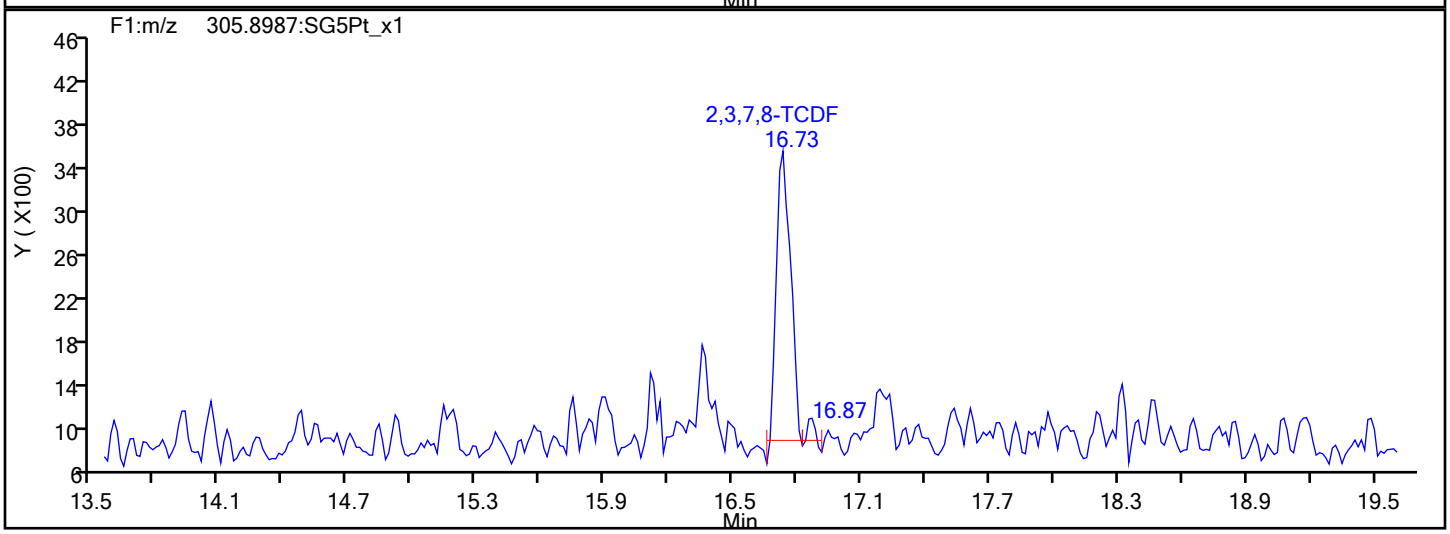

TCDF Interference Mass

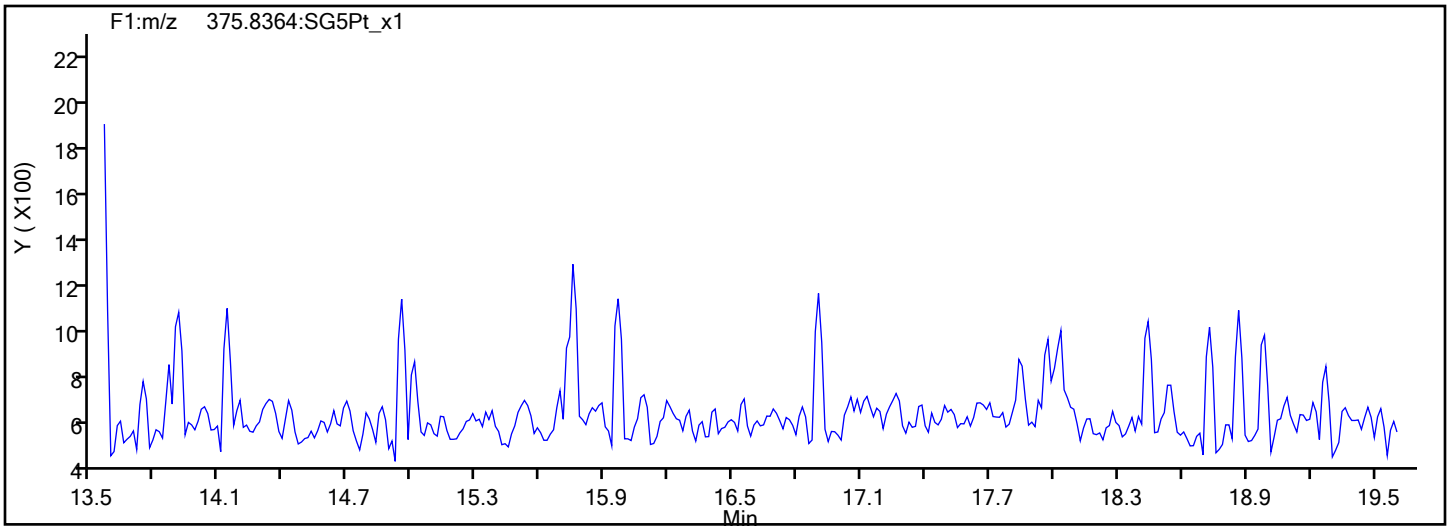

Report Date: 21-Feb-2020 10:24:05 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

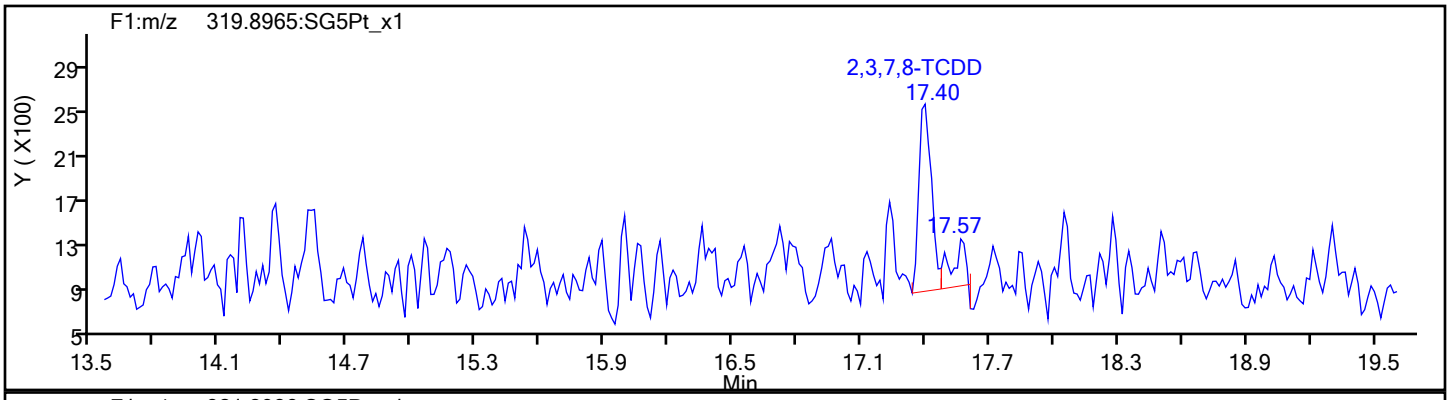

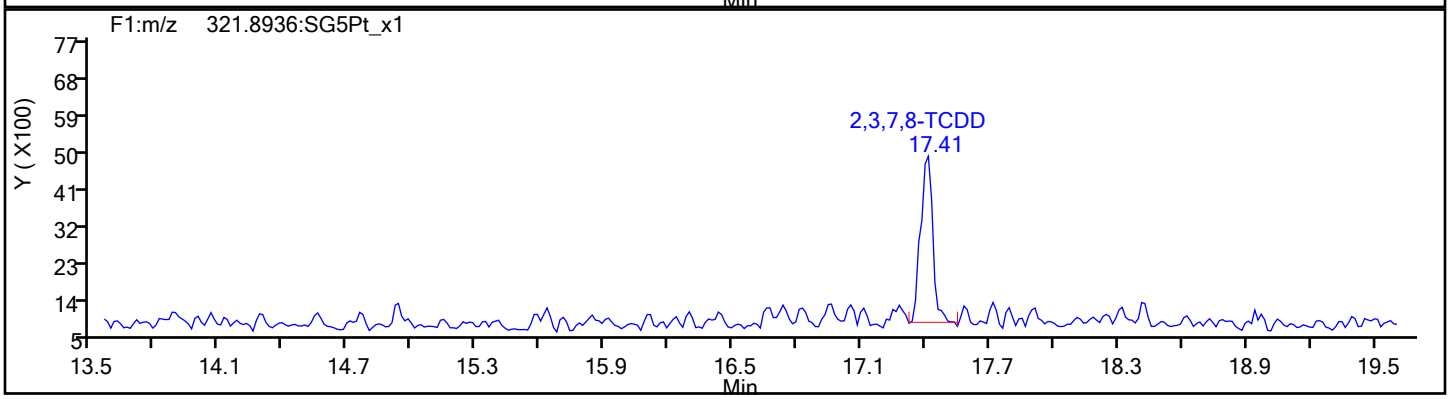

TCDD Standards

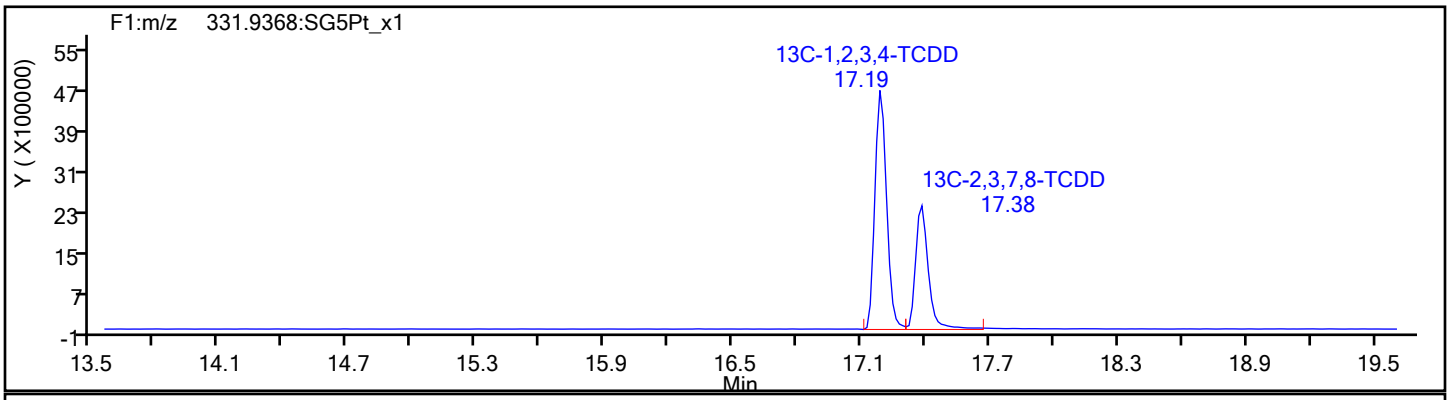

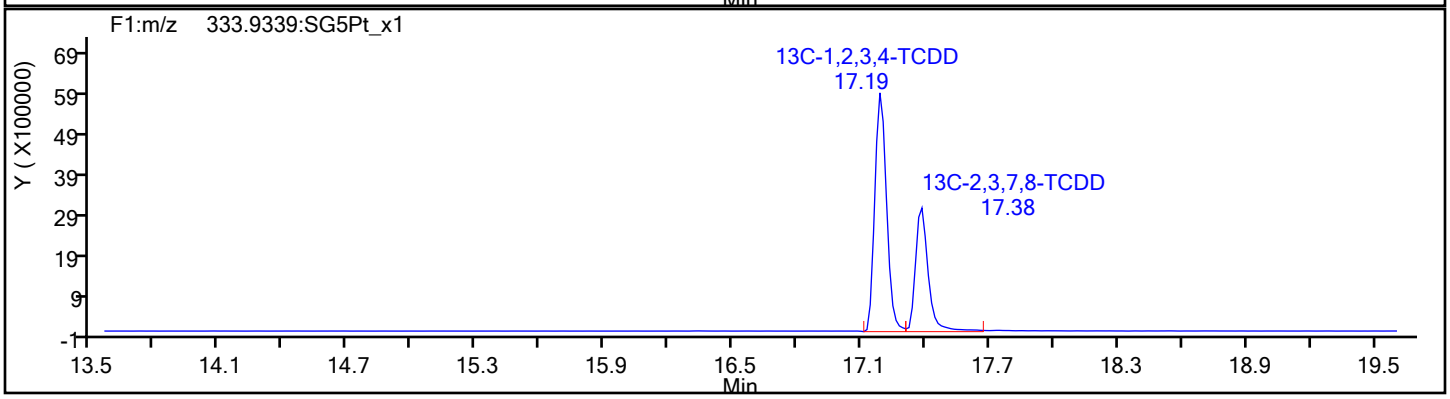

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Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

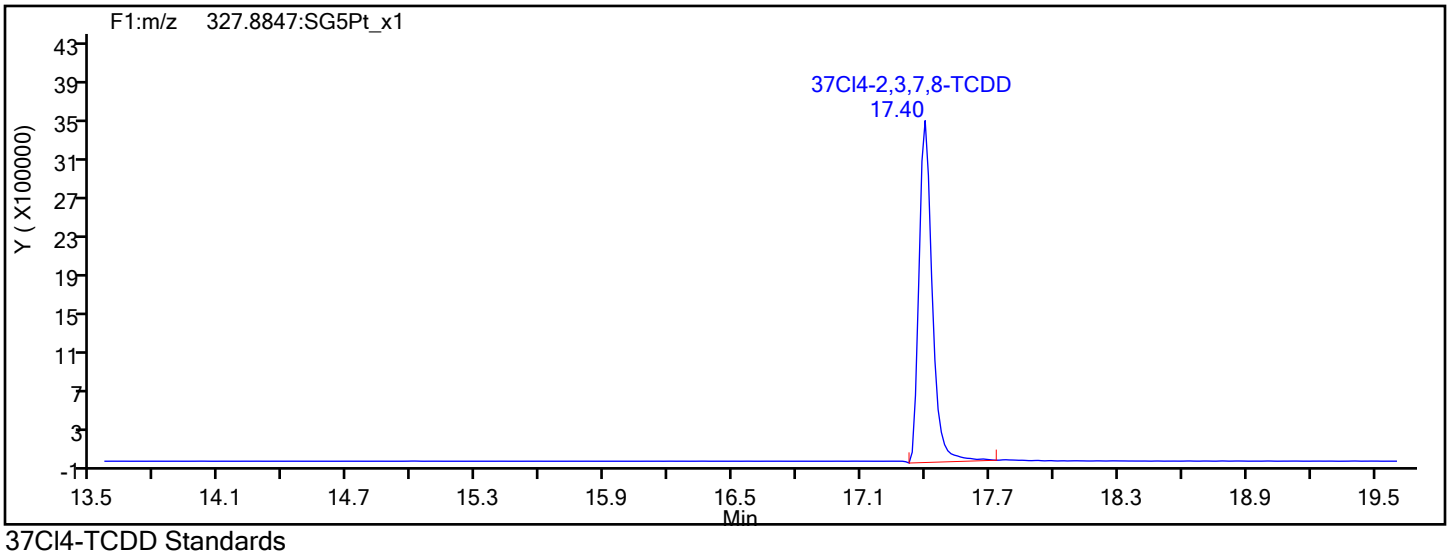

37Cl4-TCDD Standards

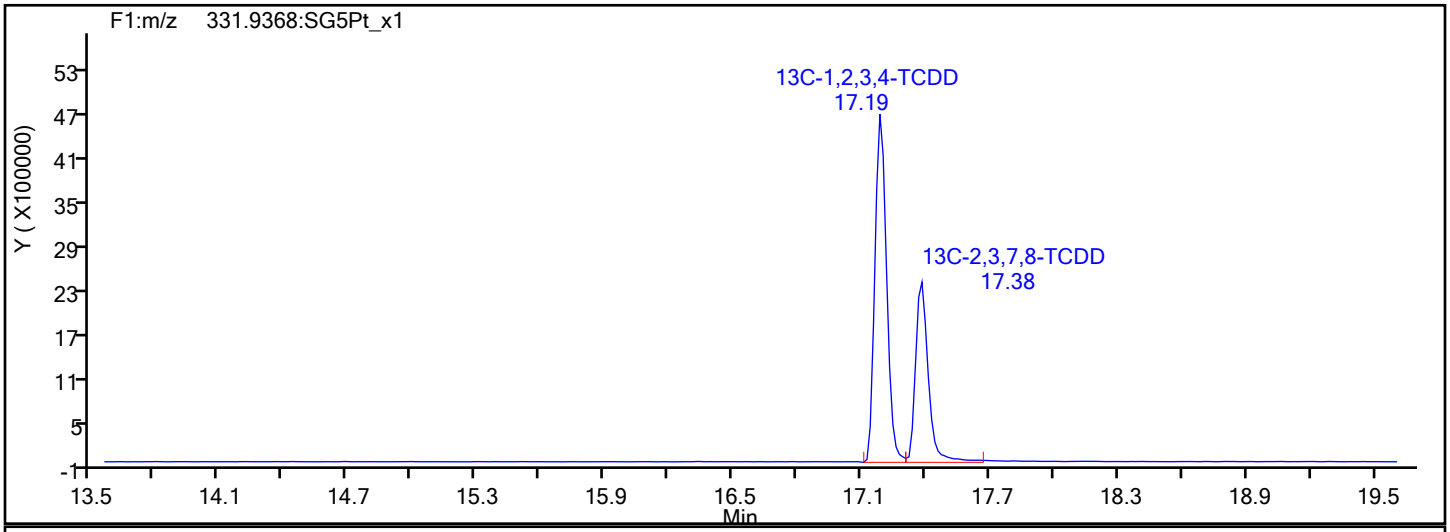

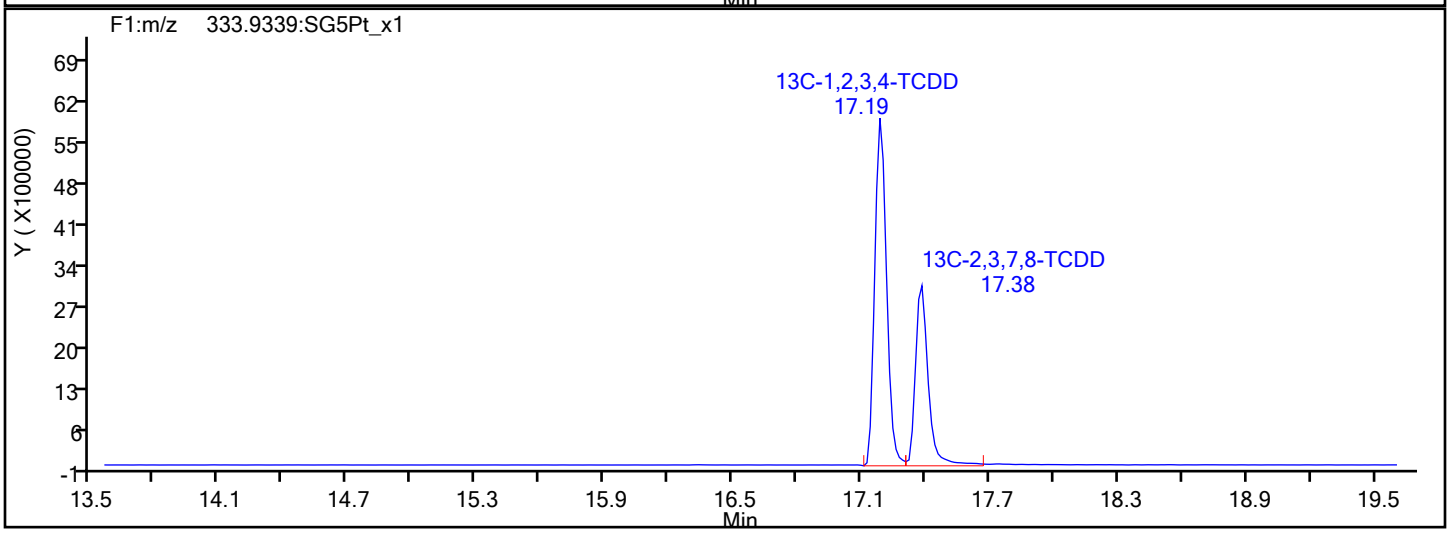

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

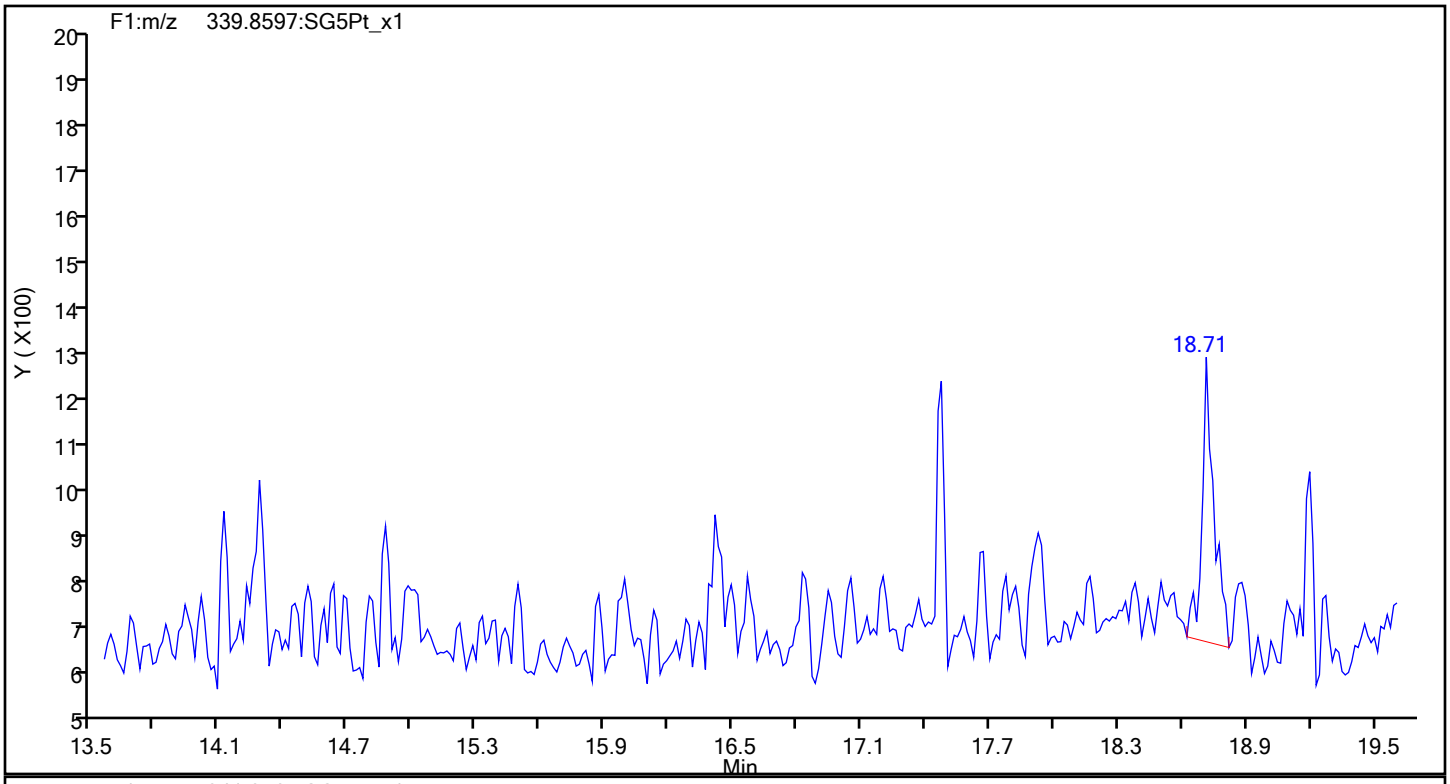

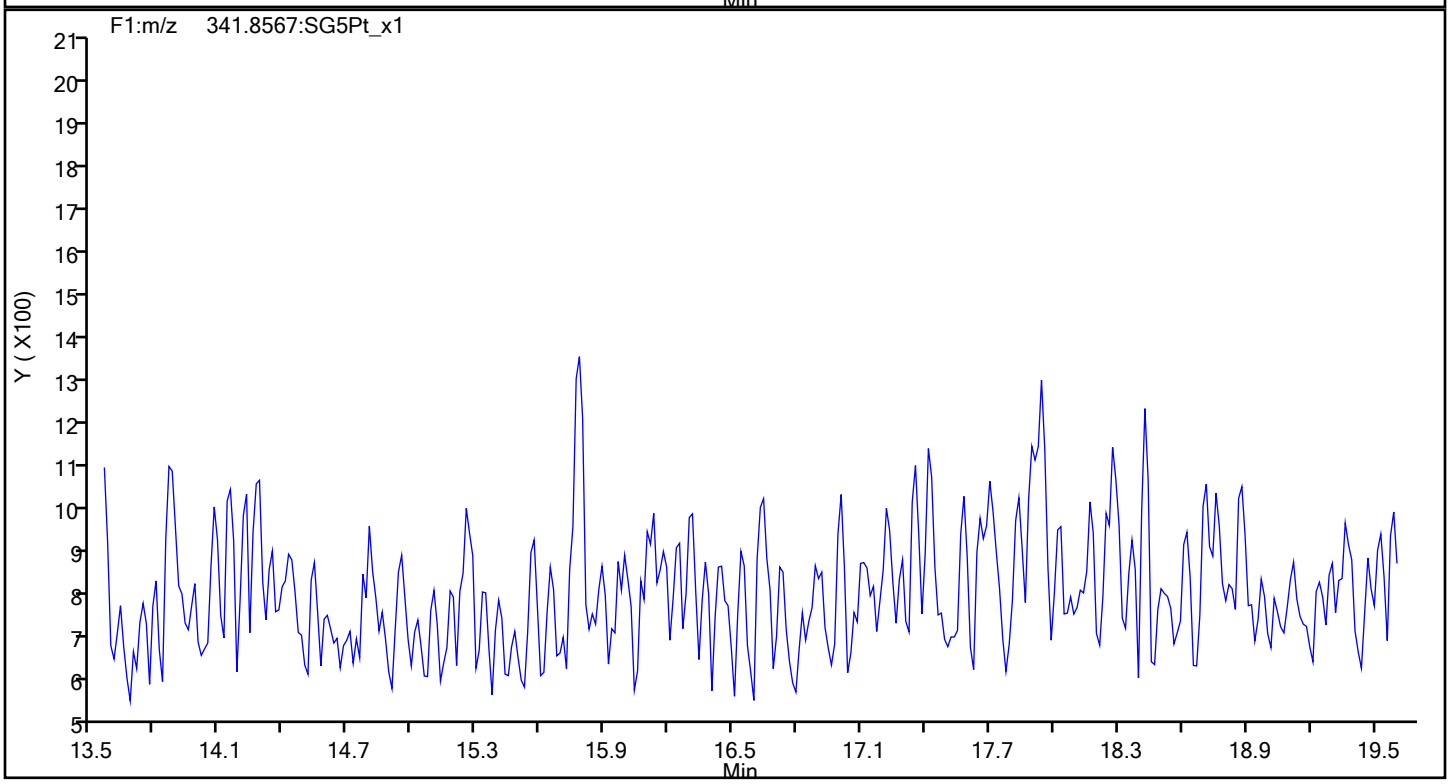

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

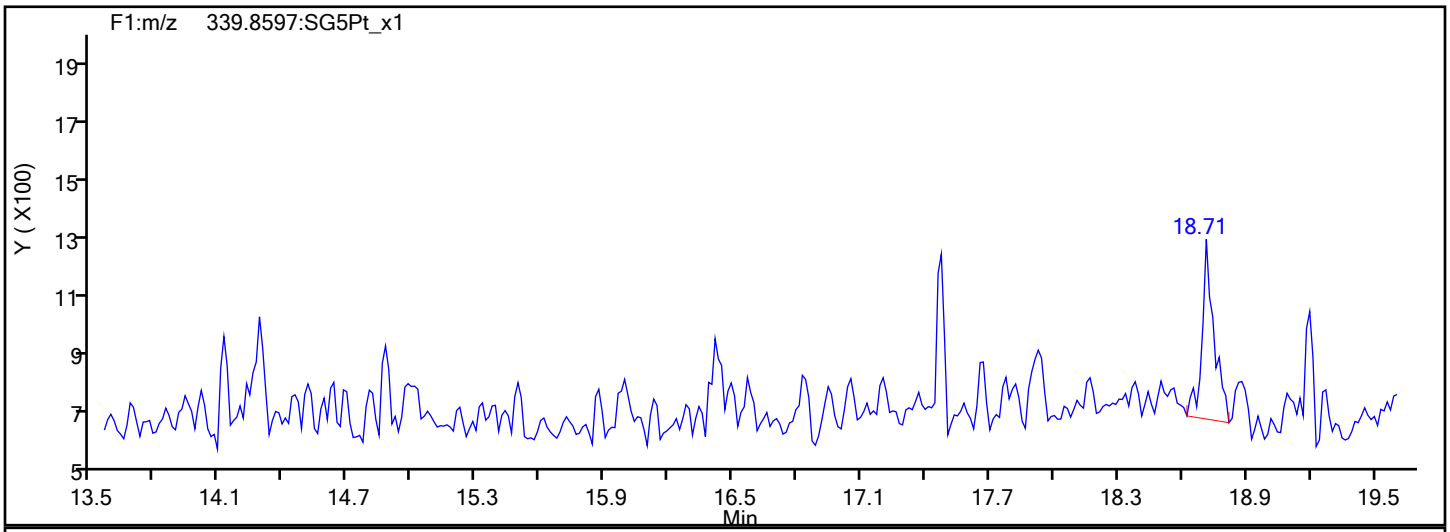

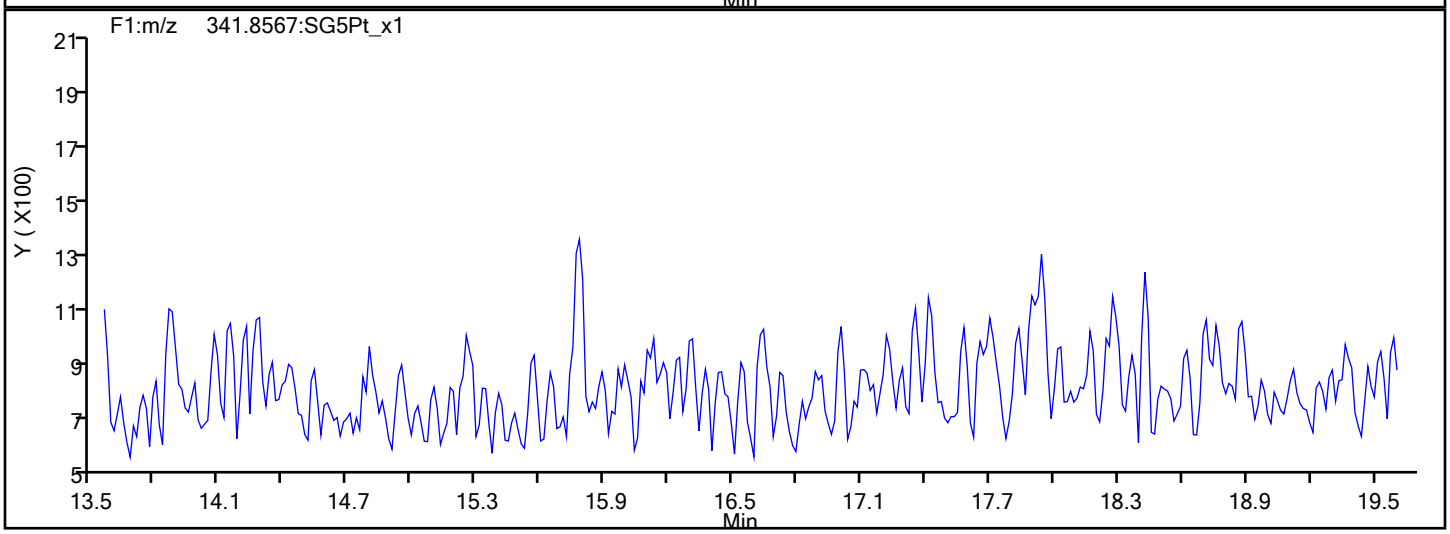

F1 PeCDFs Interference Mass

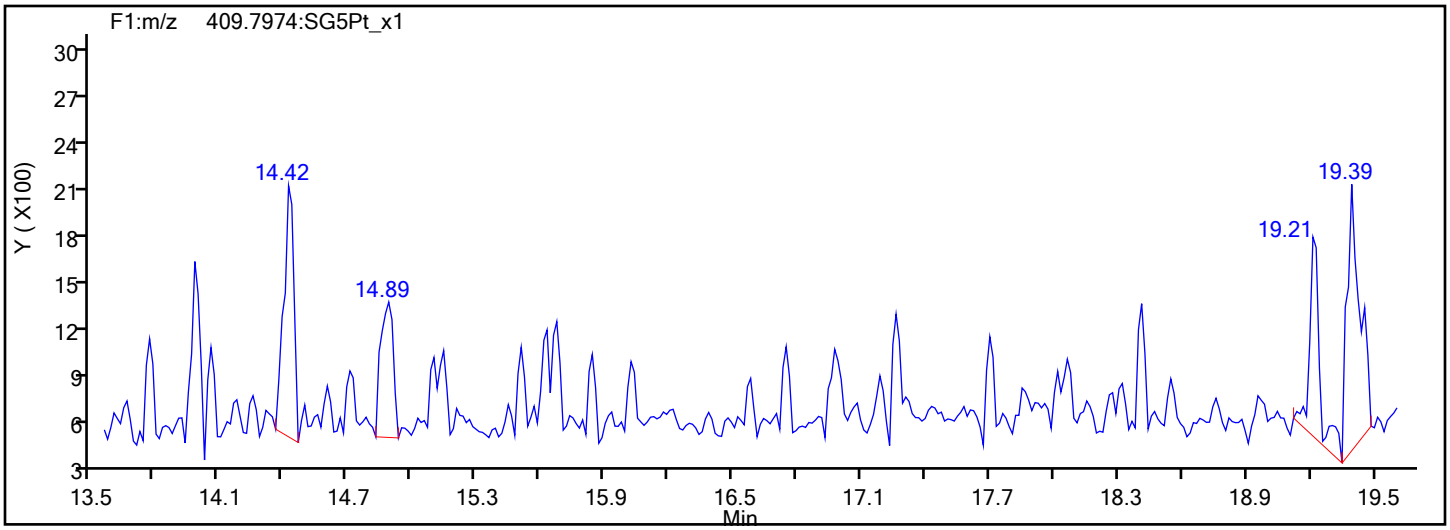

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Eurofins TestAmerica, Sacramento

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PeCDF

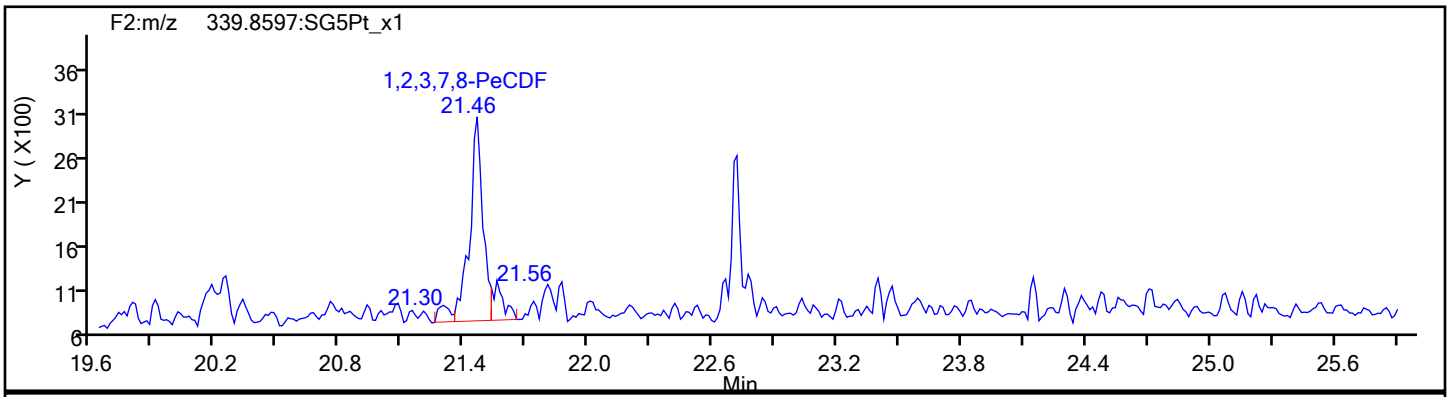

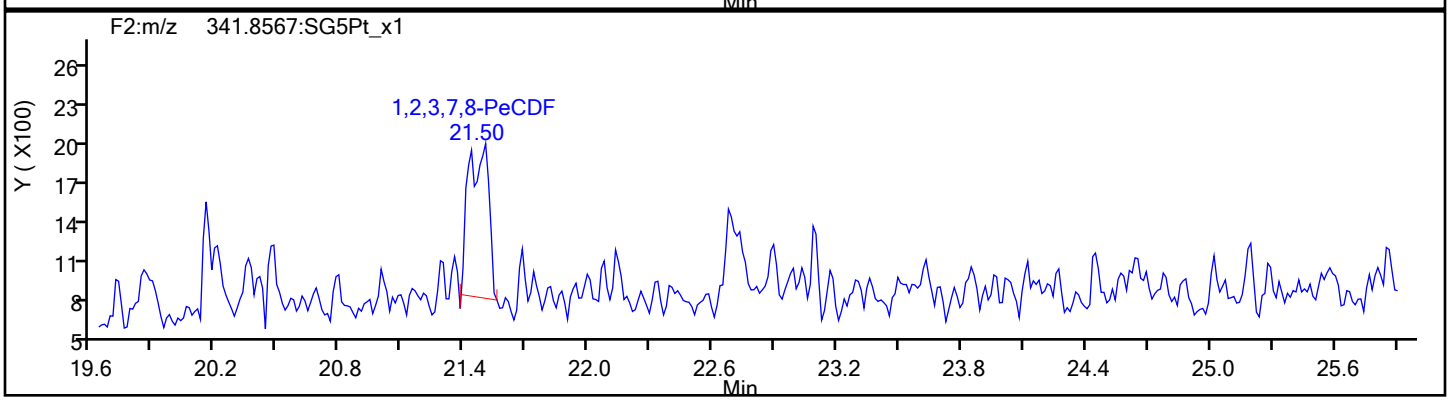

PeCDF Standards

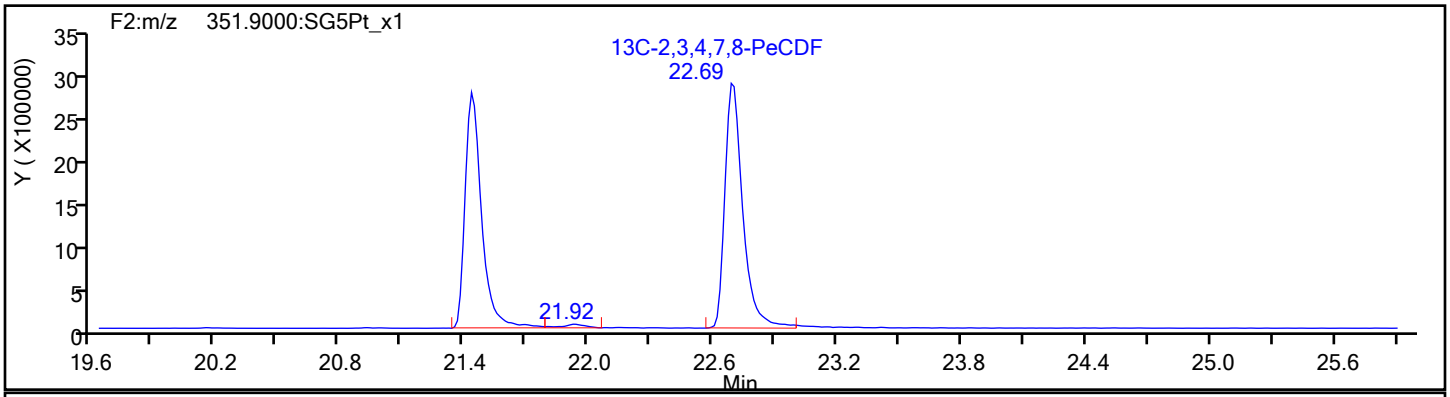

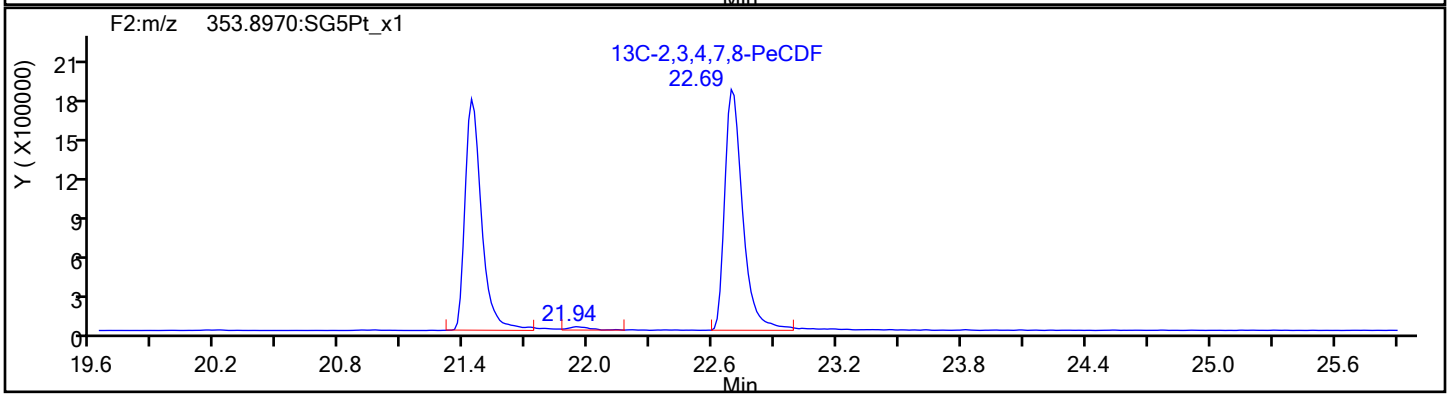

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Eurofins TestAmerica, Sacramento

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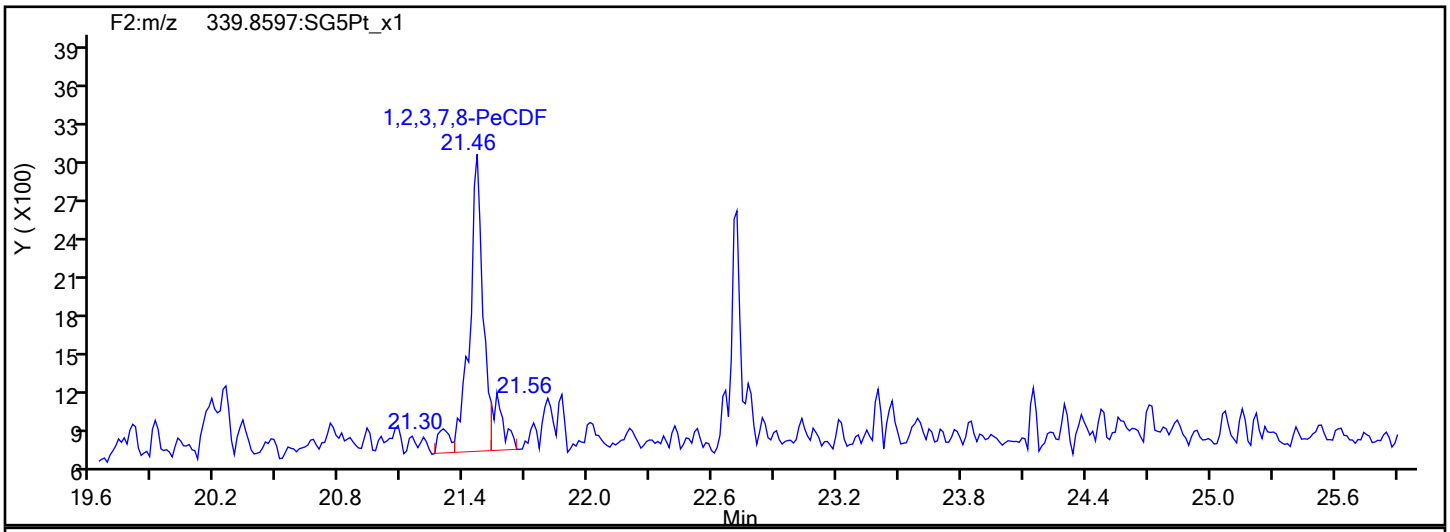

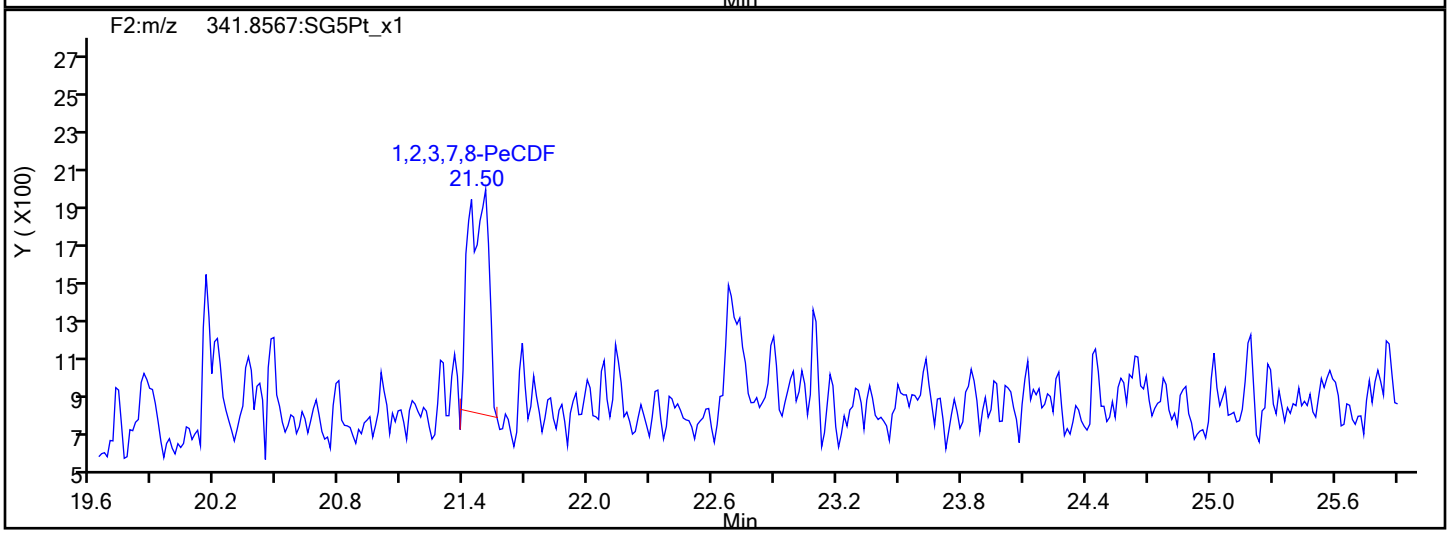

PeCDF Interference Mass

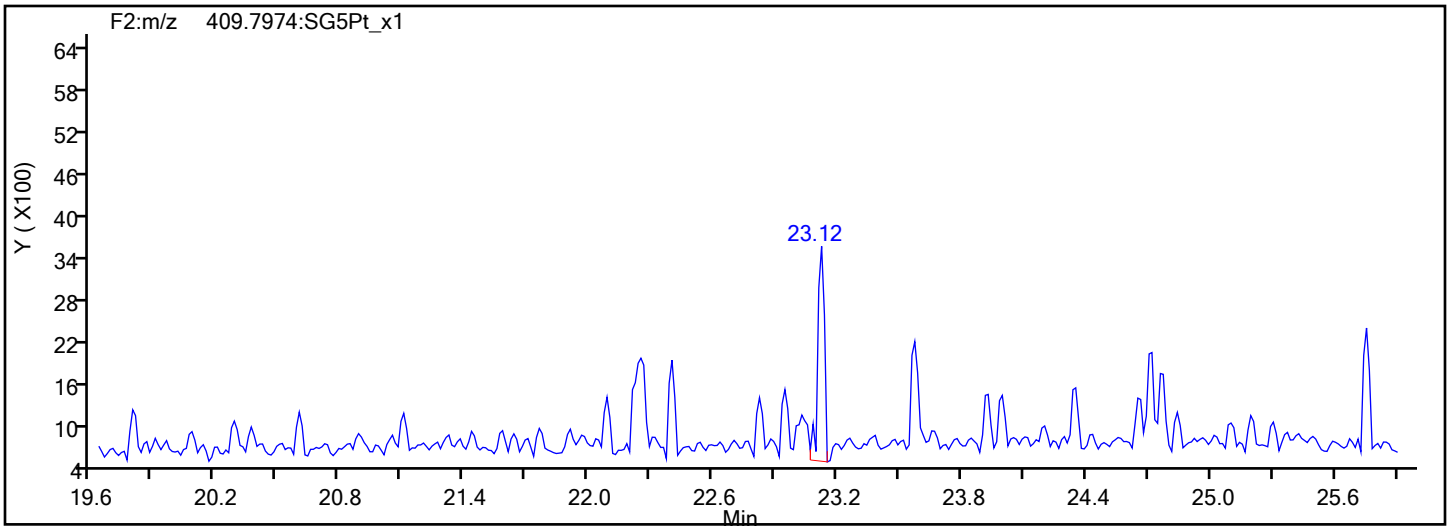

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Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

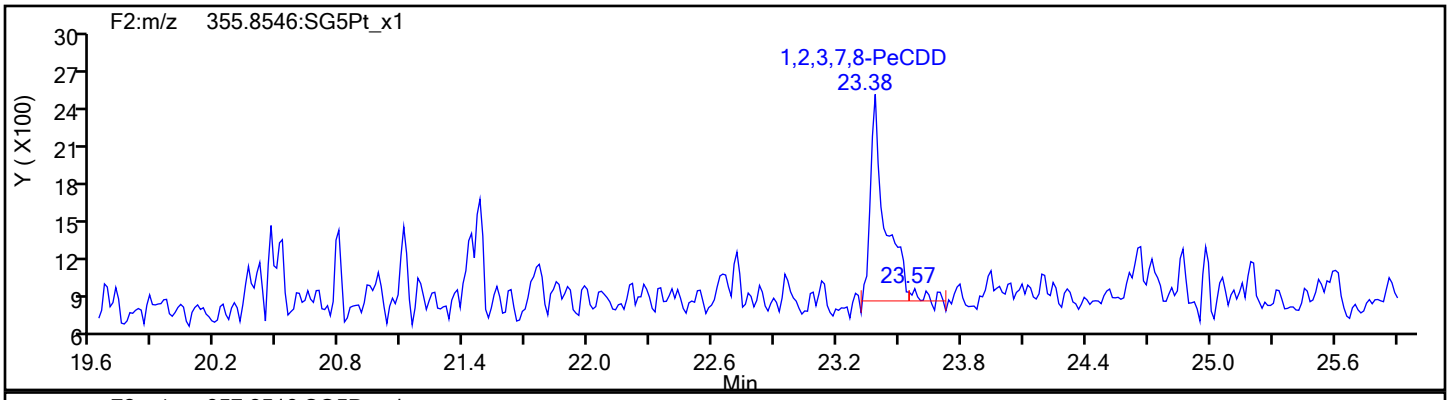

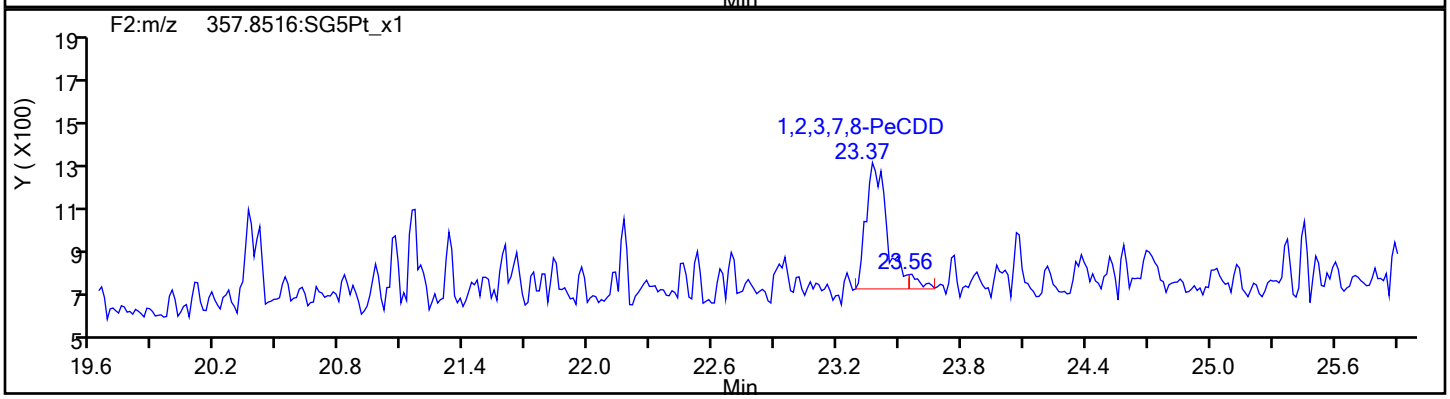

PeCDD Standards

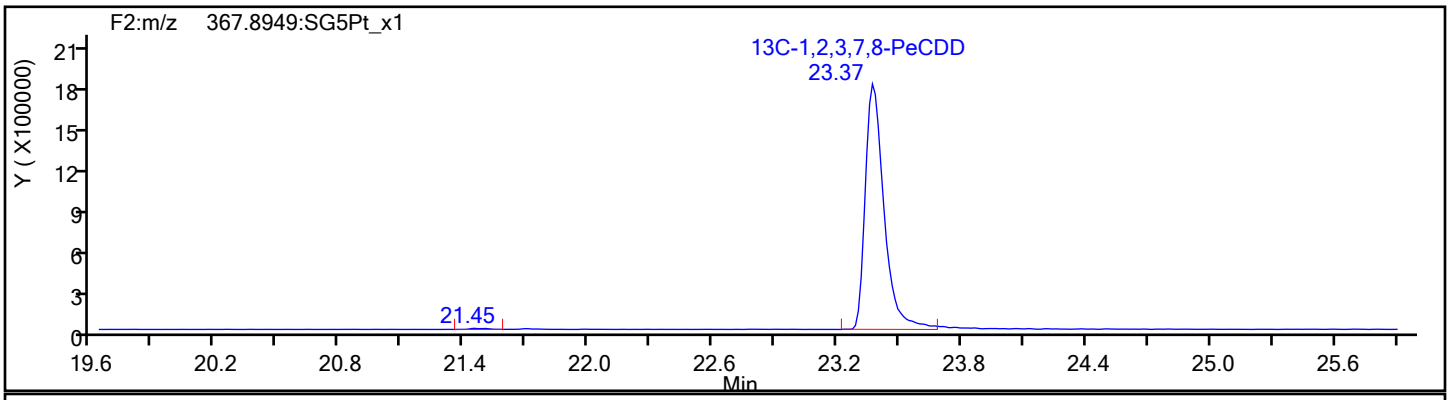

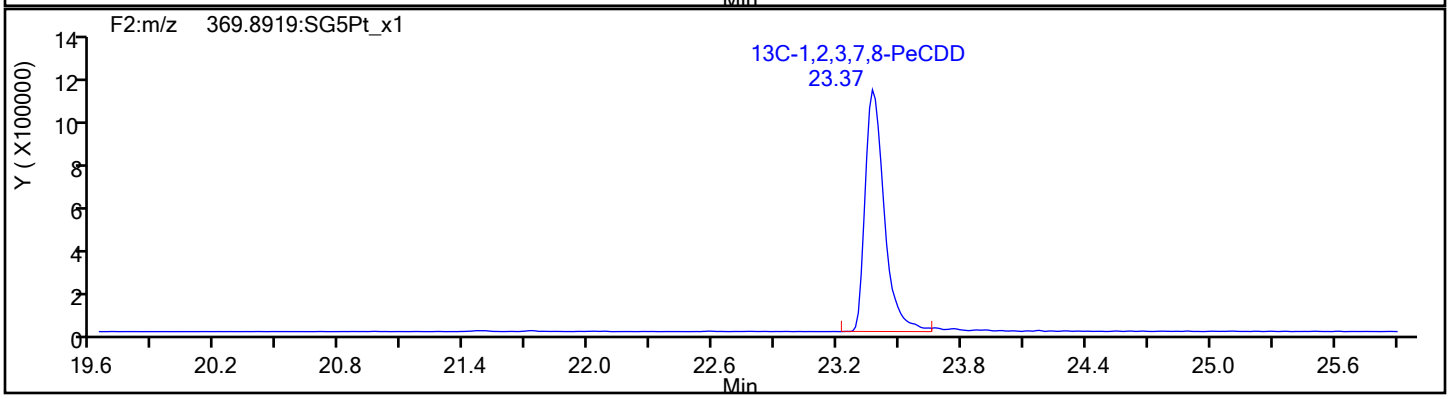

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HxCDF

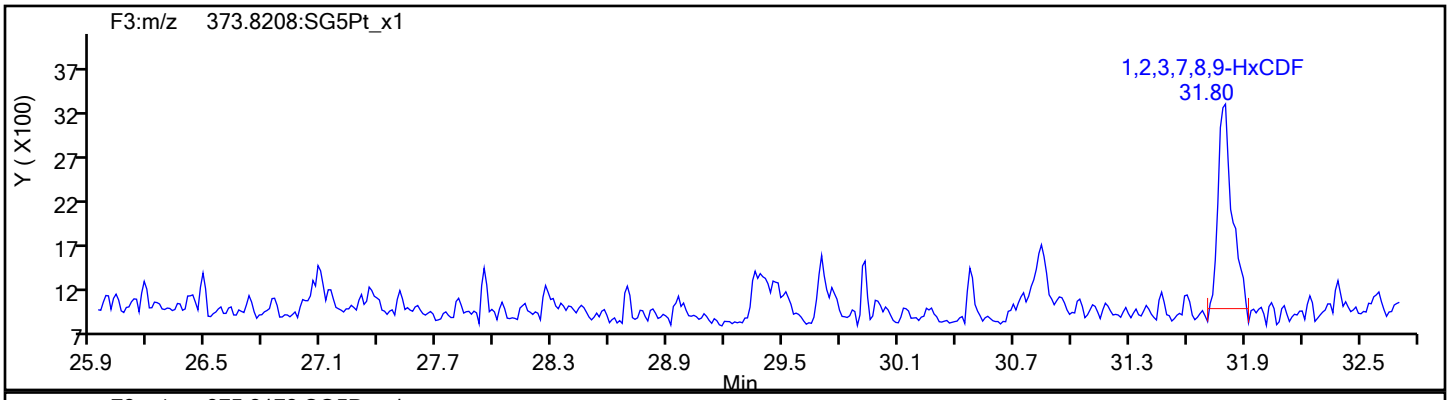

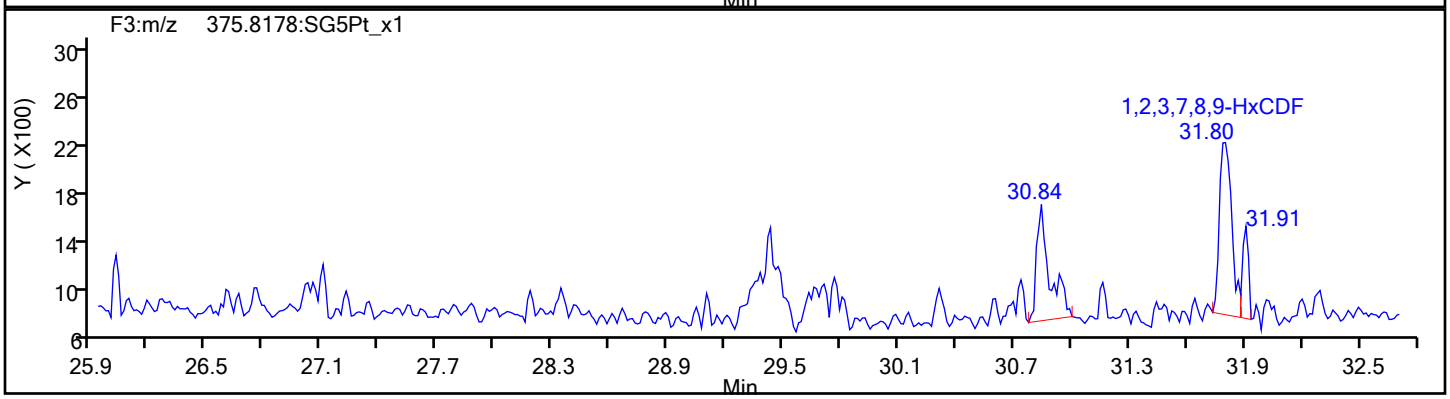

HxCDF Standards

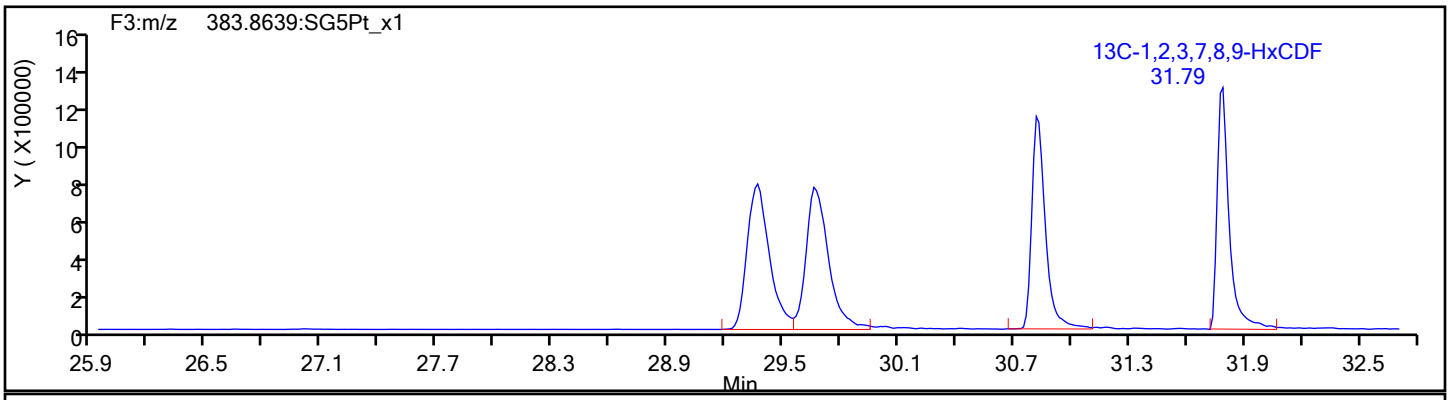

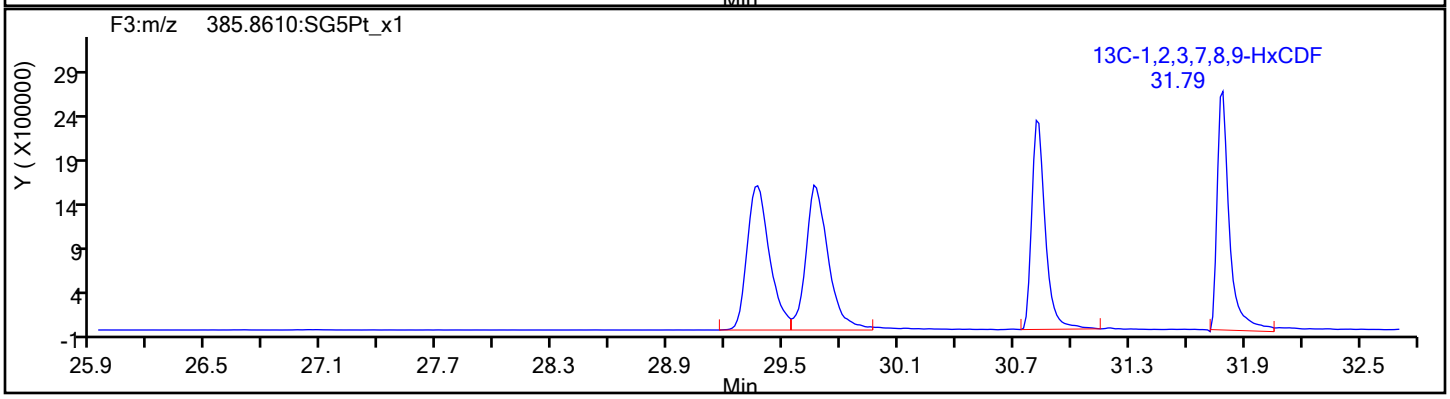

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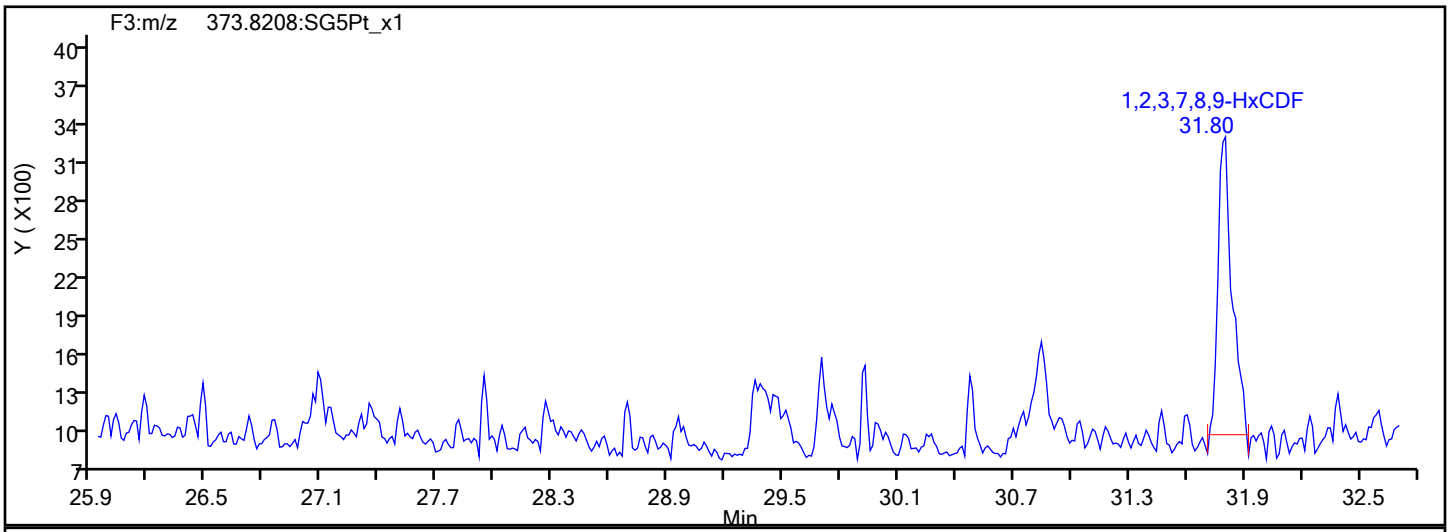

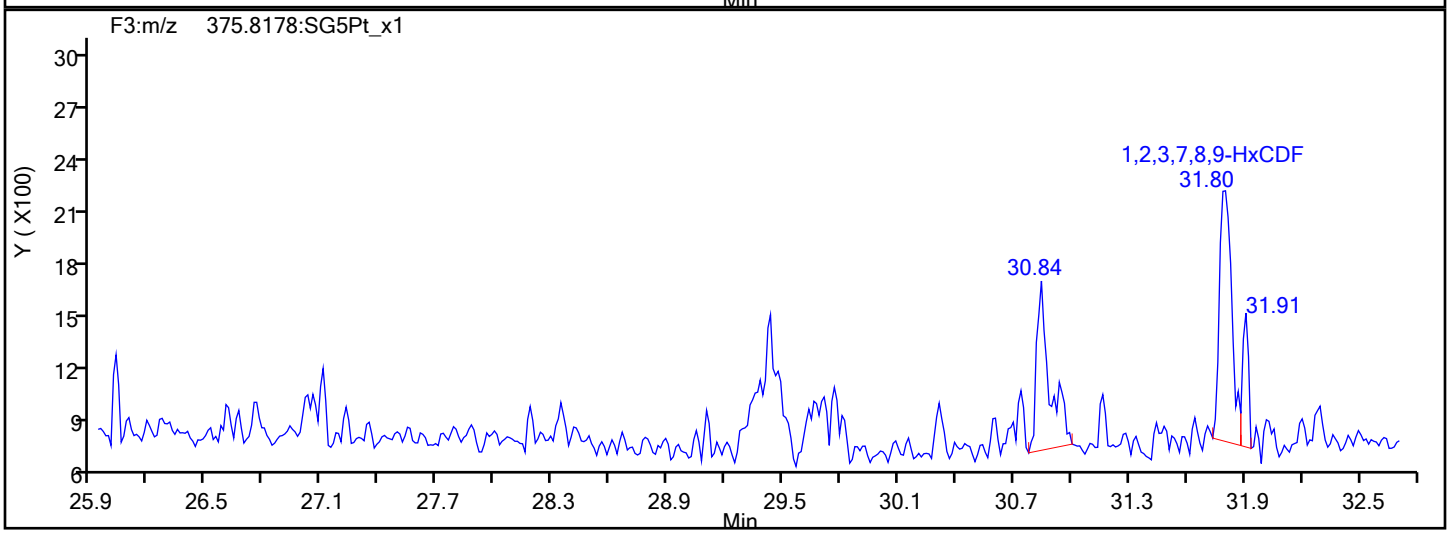

HxCDF Interference Mass

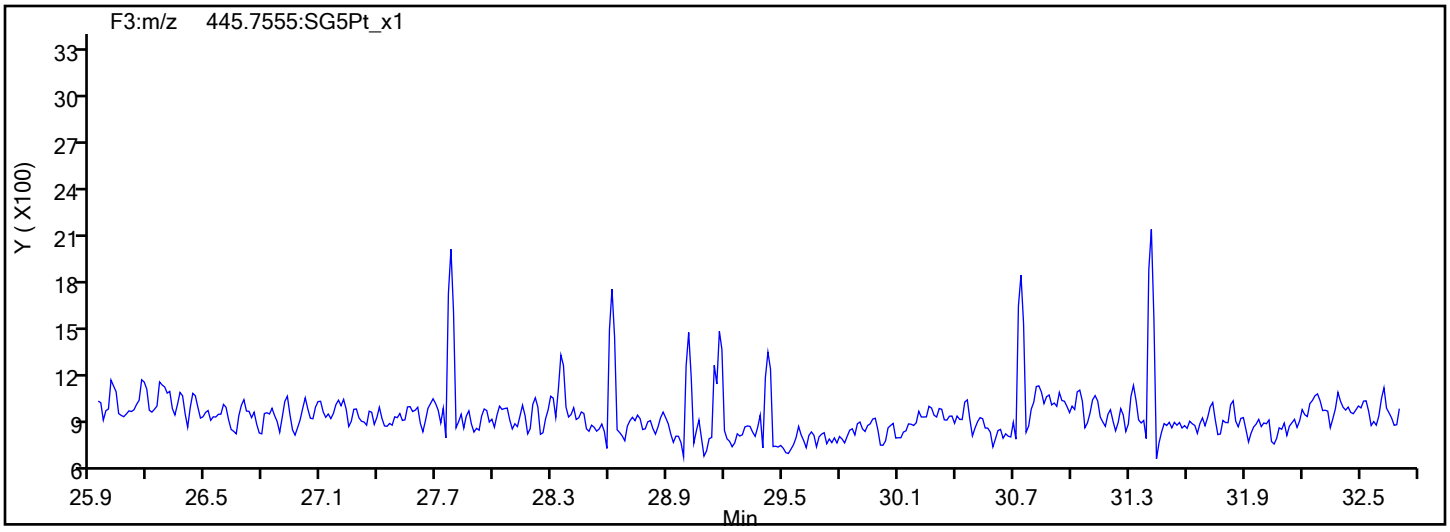

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HxCDD

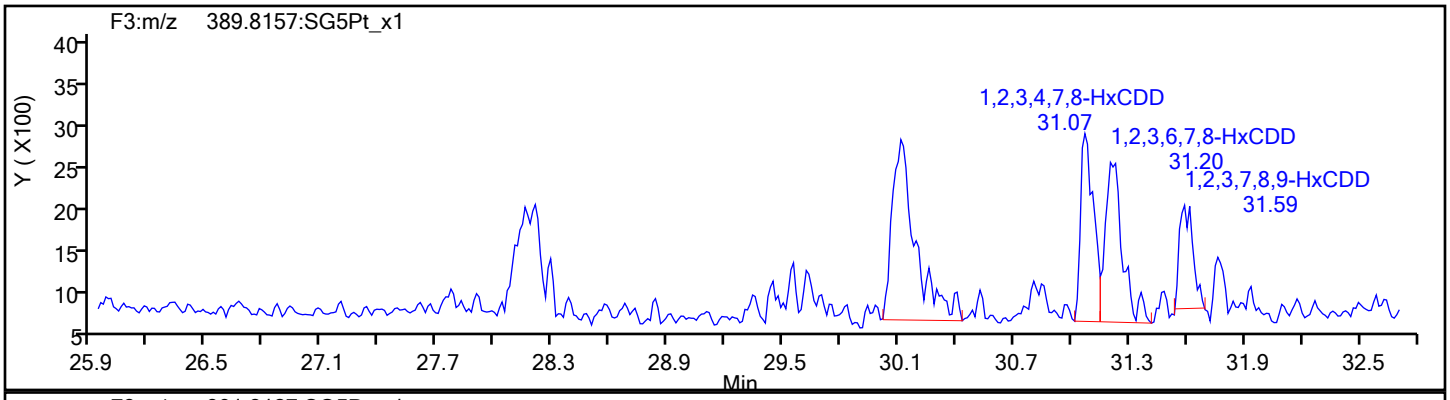

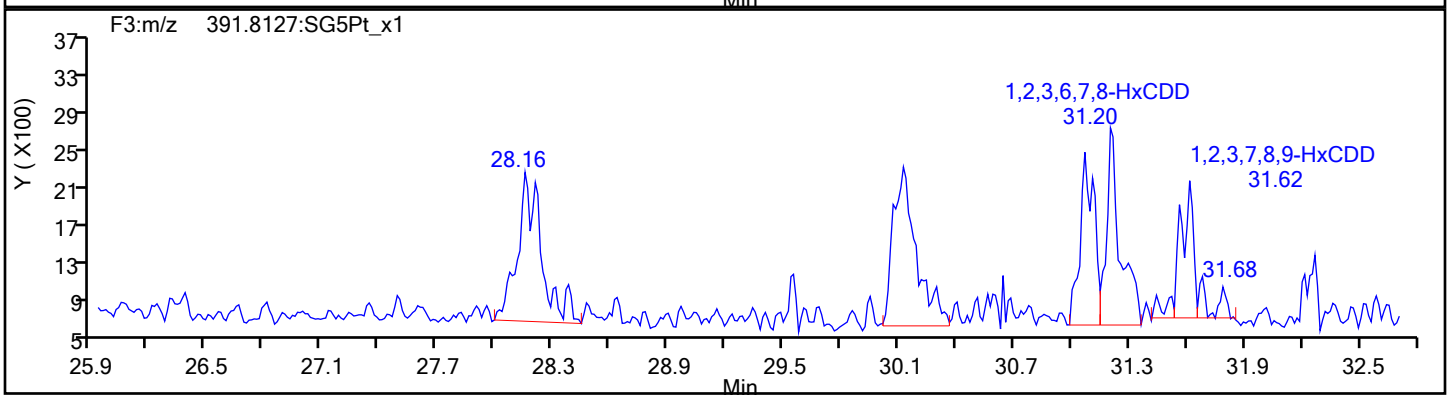

HxCDD Standards

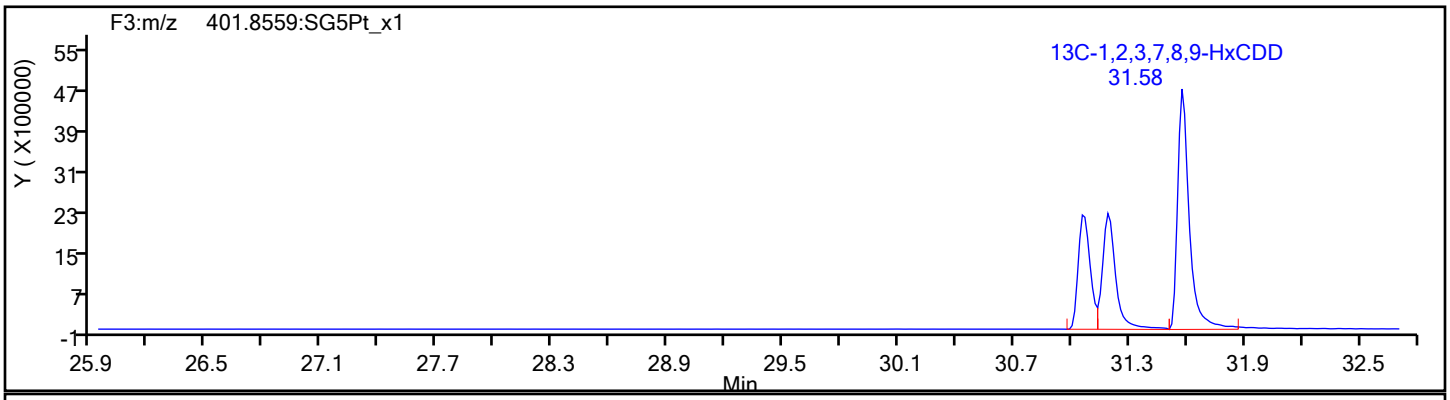

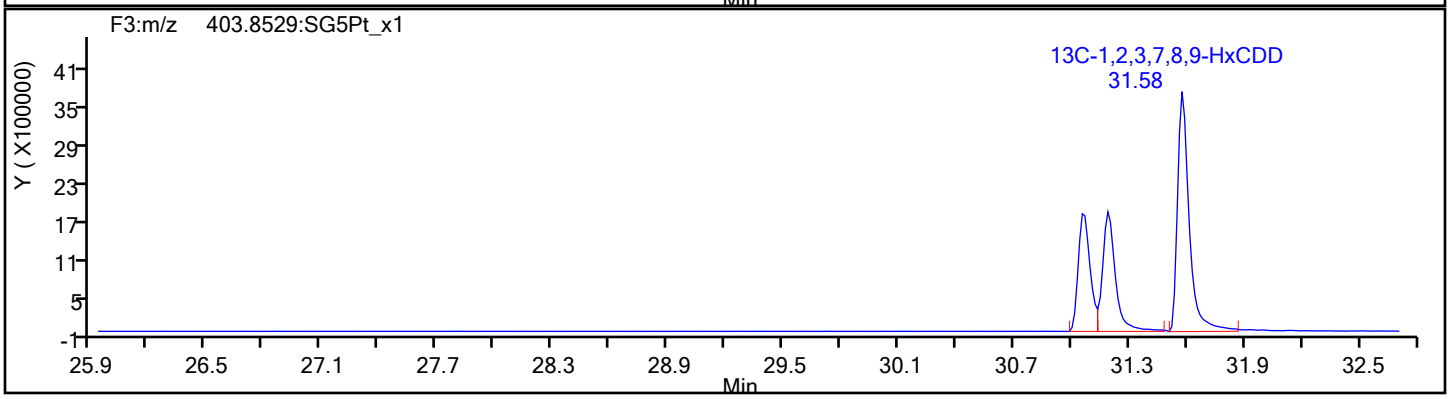

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HpCDF

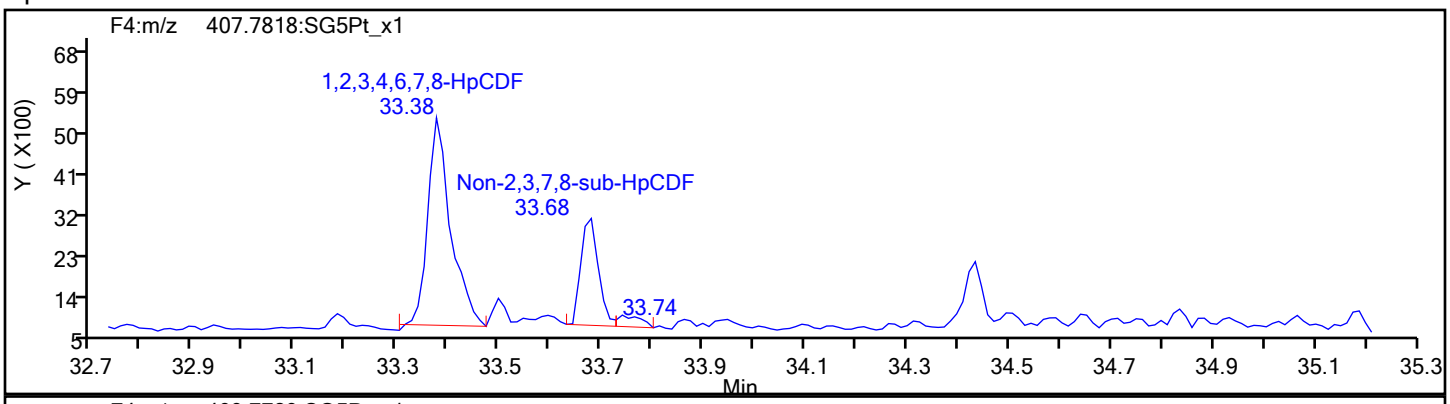

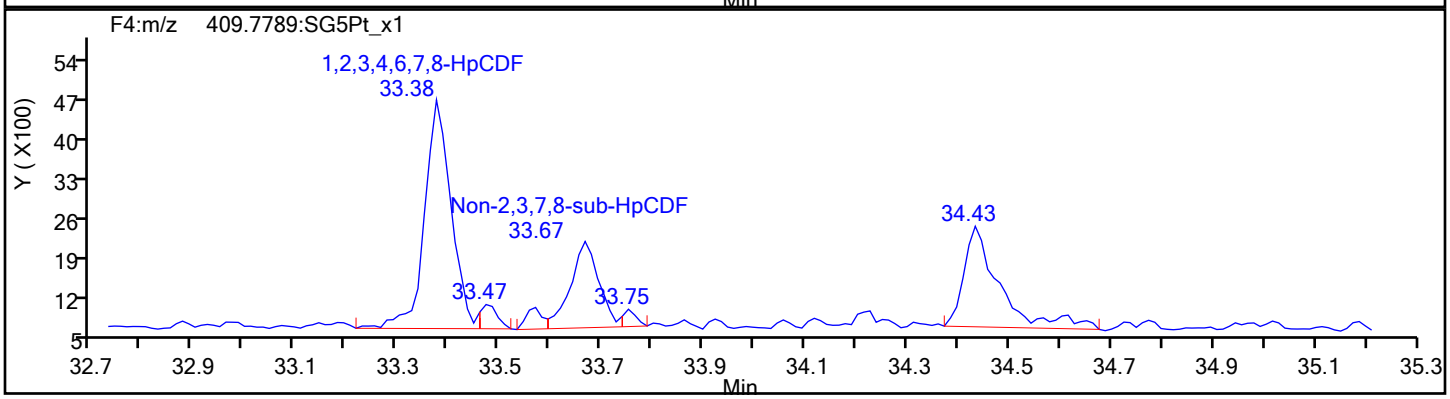

HpCDF Standards

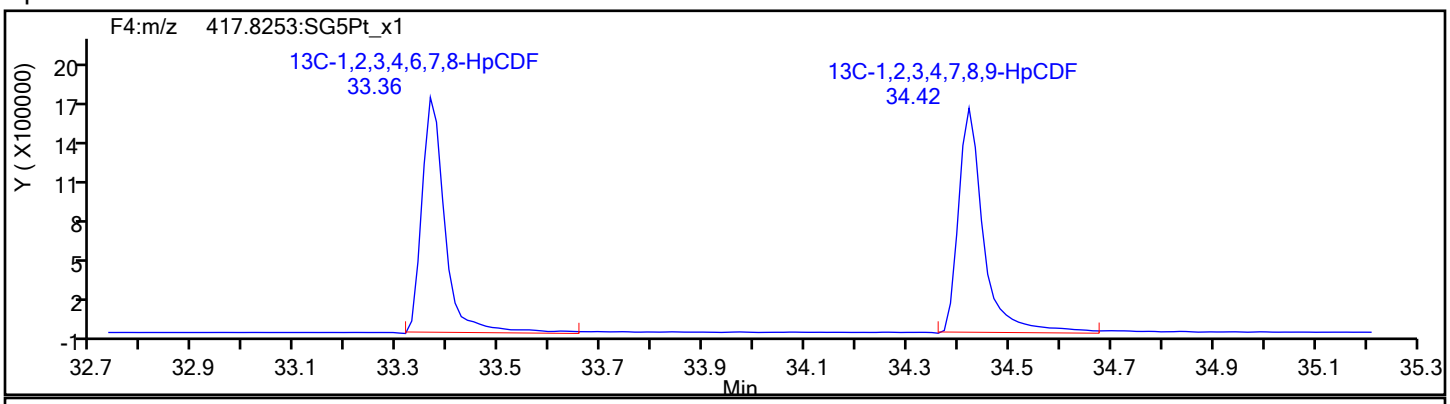

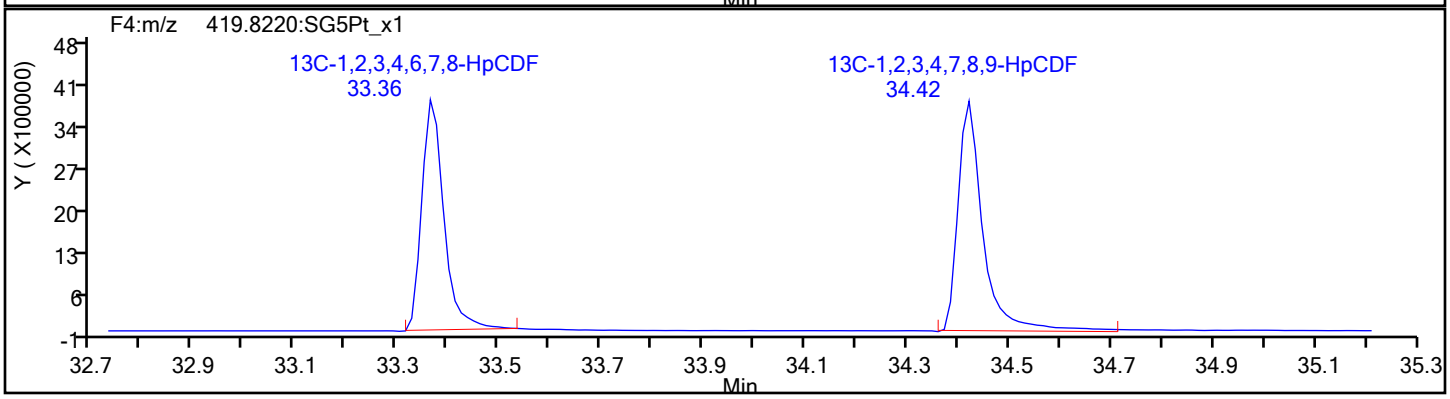

Report Date: 21-Feb-2020 10:24:05 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_52.d		
Injection Date:	20-Feb-2020 06:15:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Eastern Rock		
Worklist#:	358703	Sample Line#:	52
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

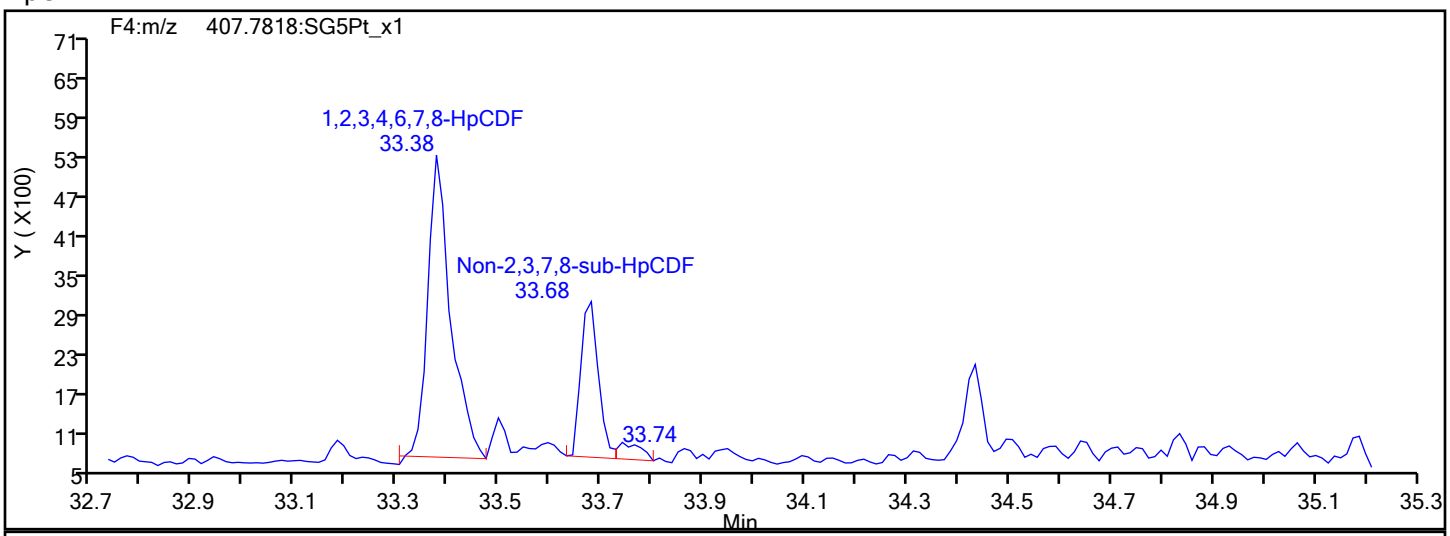

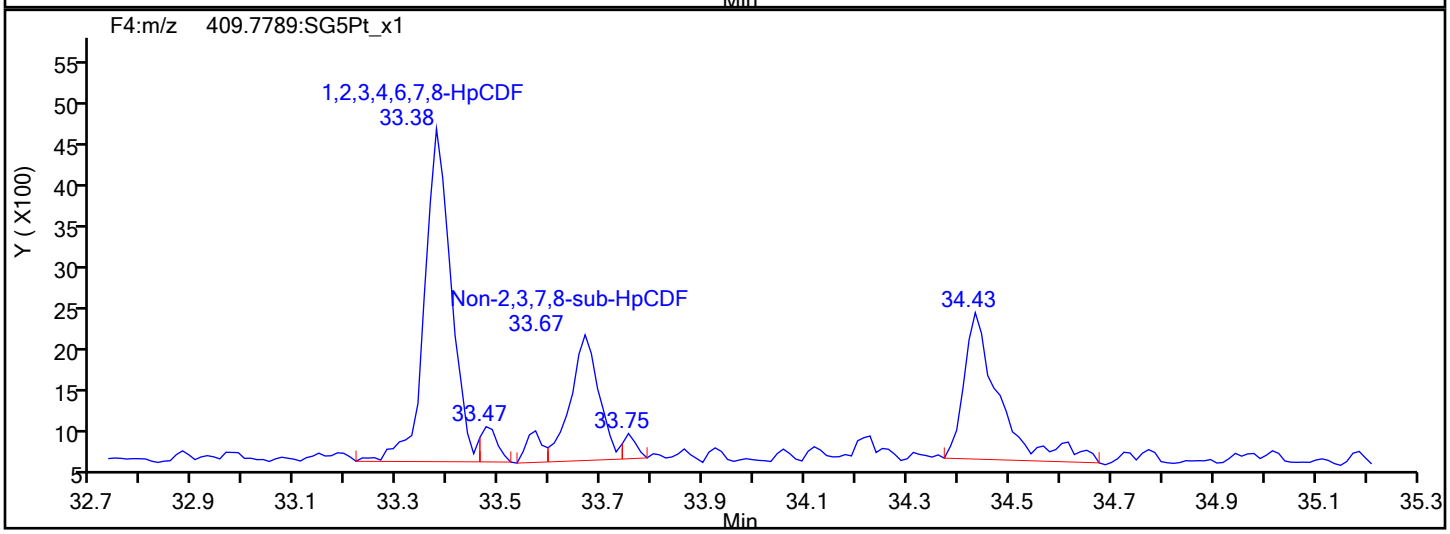

HpCDF Interference Mass

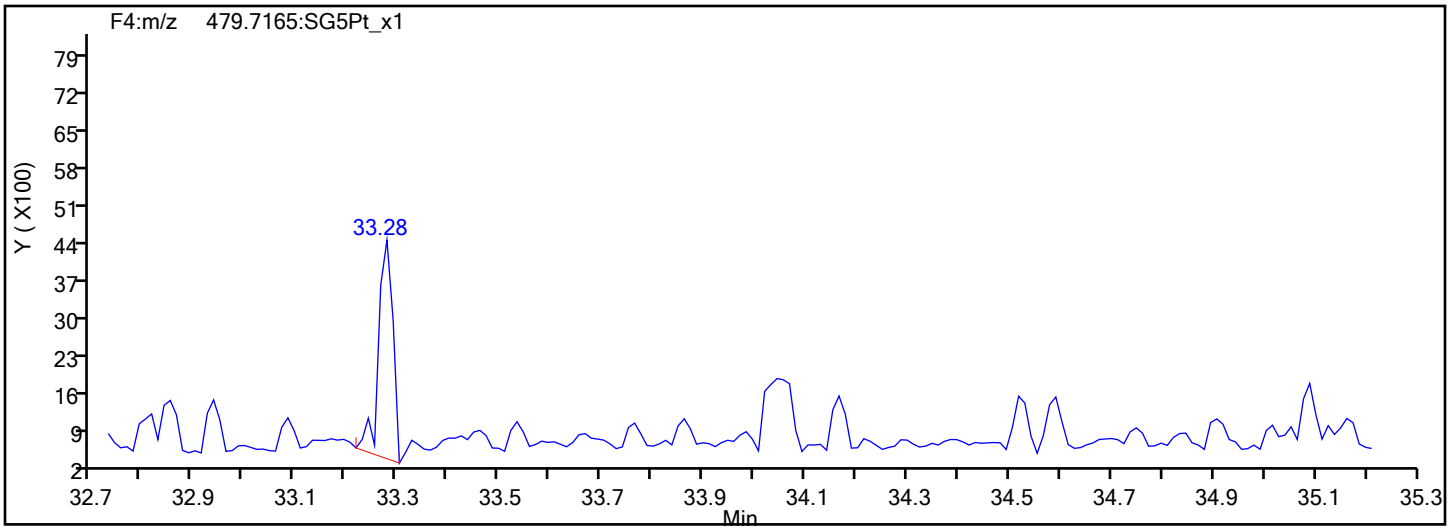

Report Date: 21-Feb-2020 10:24:05 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_52.d		
Injection Date:	20-Feb-2020 06:15:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Eastern Rock		
Worklist#:	358703	Sample Line#:	52
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

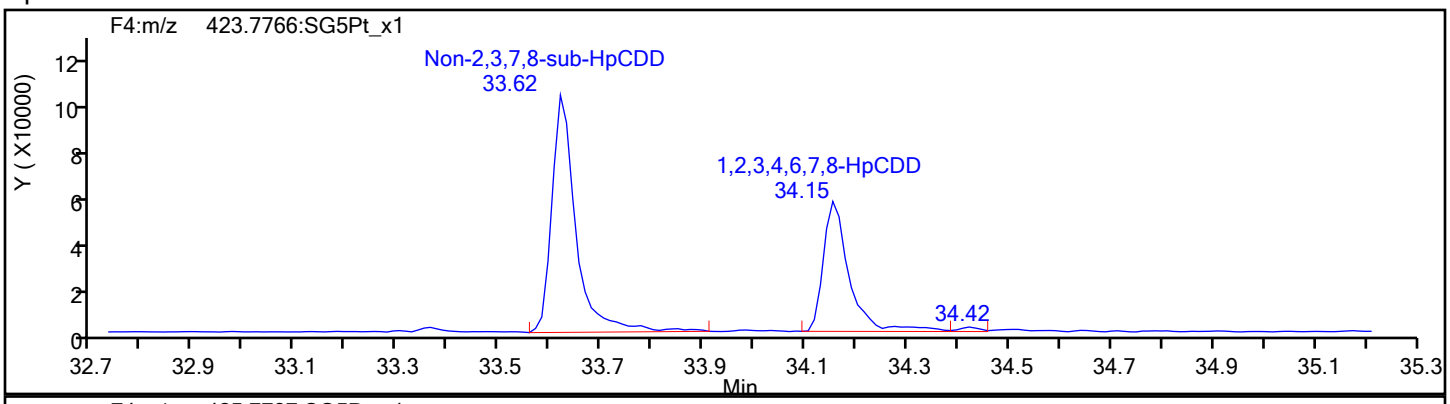

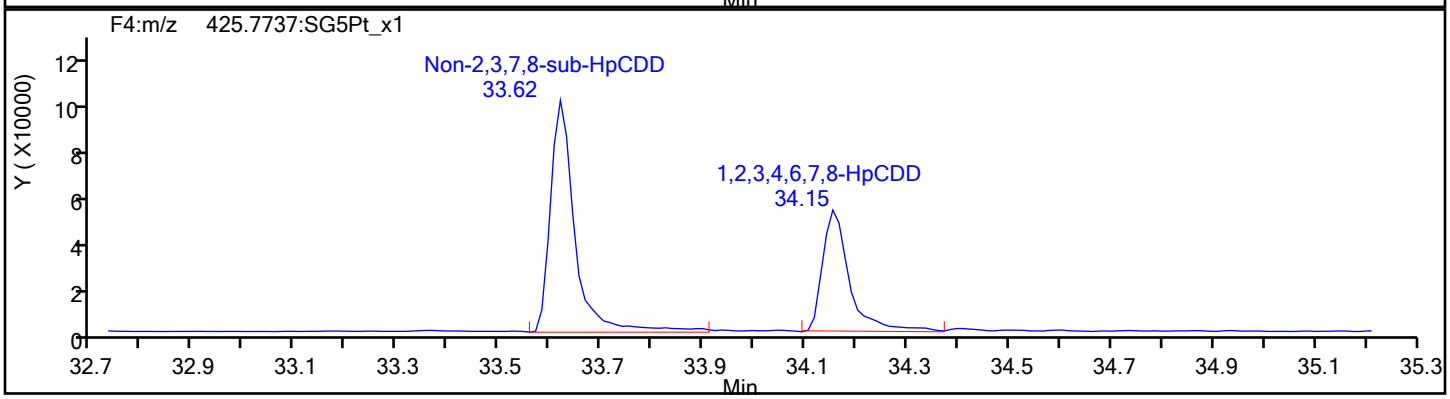

HpCDD Standards

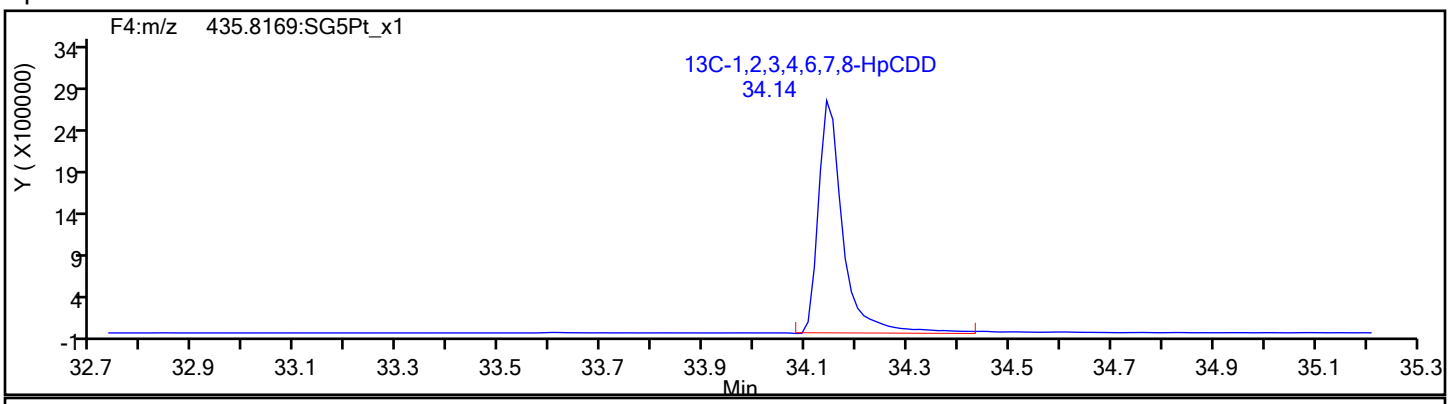

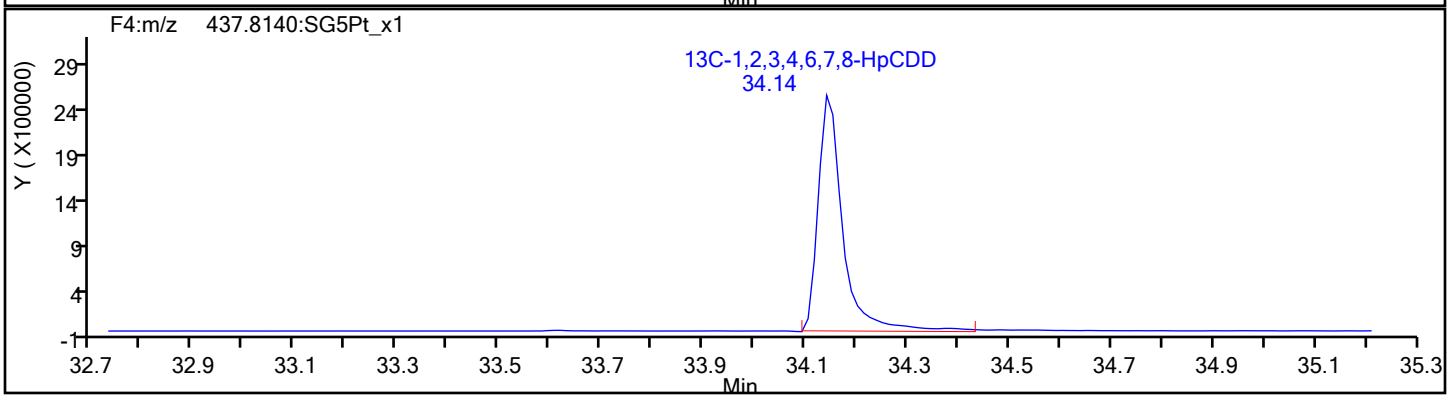

Report Date: 21-Feb-2020 10:24:05 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_52.d		
Injection Date:	20-Feb-2020 06:15:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Eastern Rock		
Worklist#:	358703	Sample Line#:	52
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

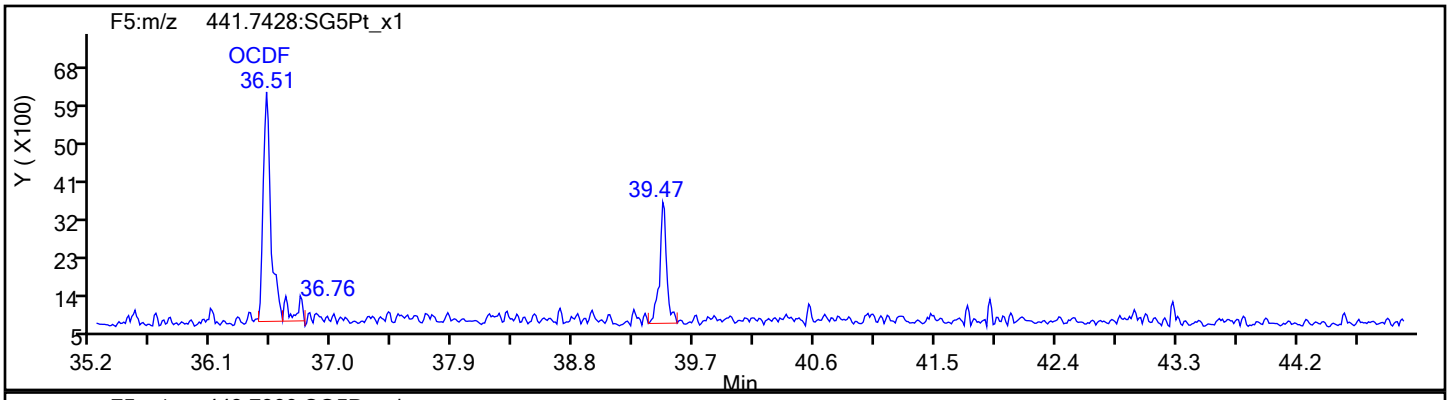

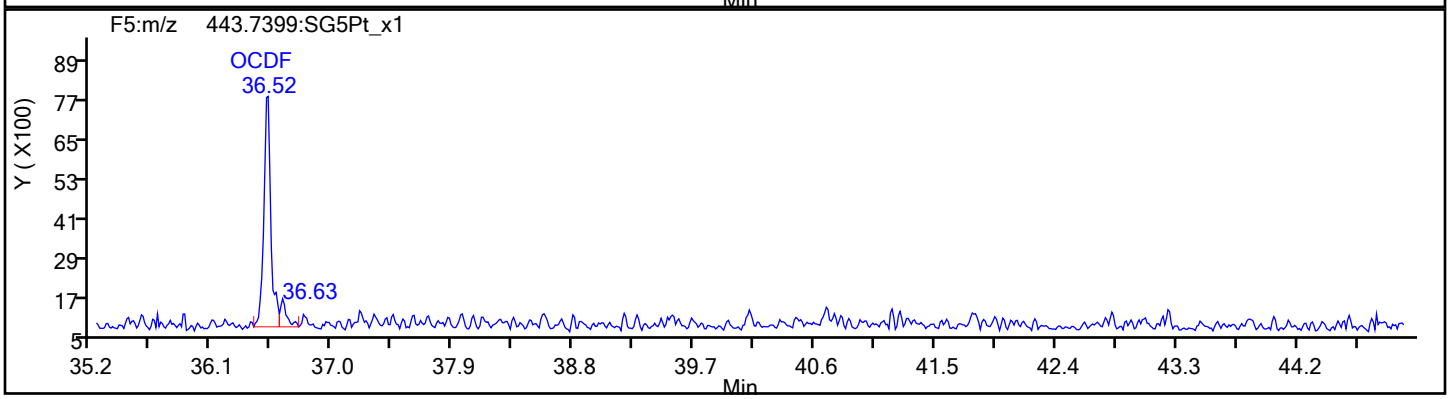

OCDF Standards

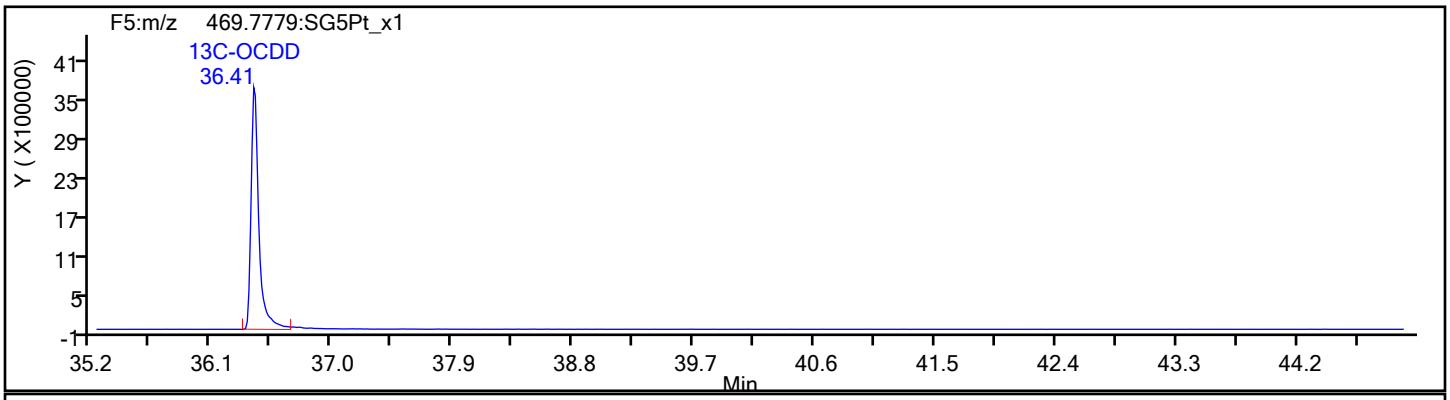

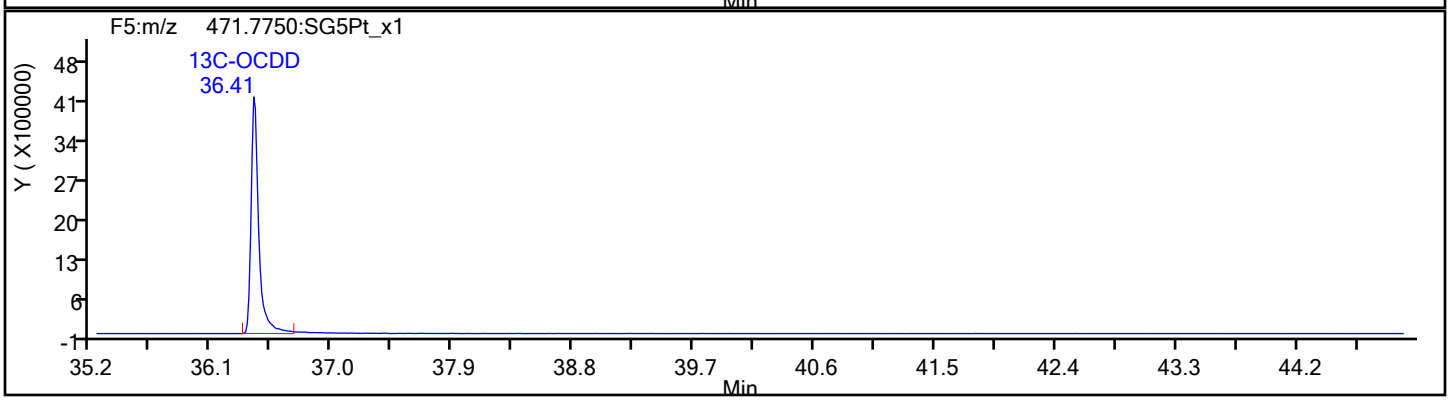

Report Date: 21-Feb-2020 10:24:05 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_52.d		
Injection Date:	20-Feb-2020 06:15:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Eastern Rock		
Worklist#:	358703	Sample Line#:	52
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

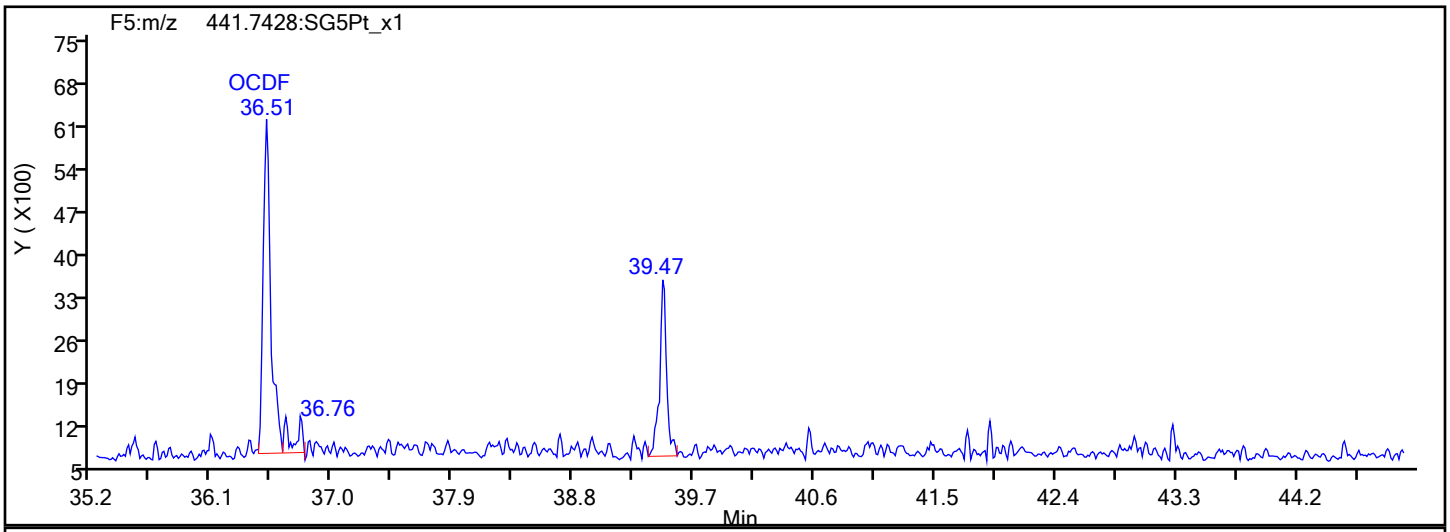

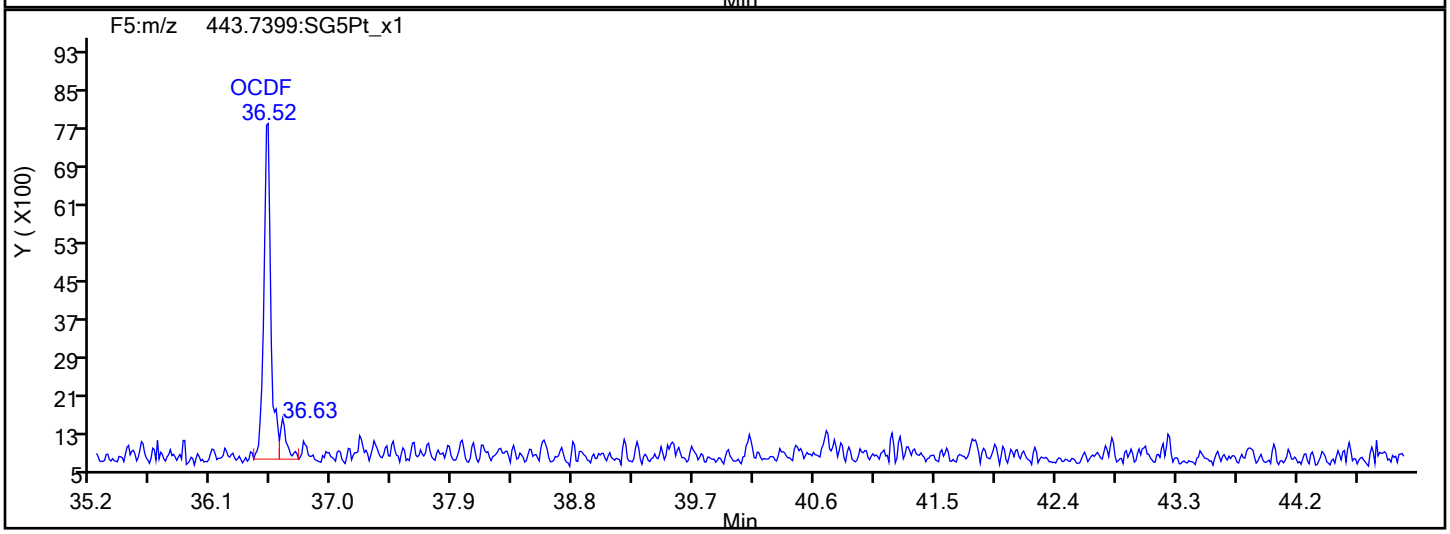

OCDF Interference Mass

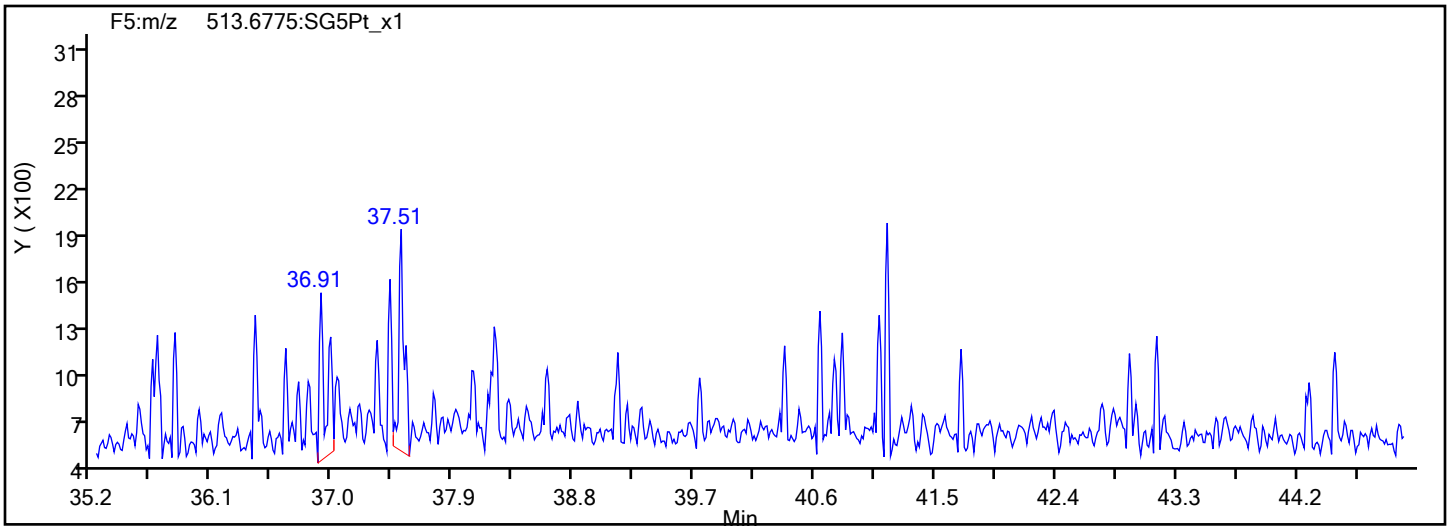

Report Date: 21-Feb-2020 10:24:05 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_52.d		
Injection Date:	20-Feb-2020 06:15:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Eastern Rock		
Worklist#:	358703	Sample Line#:	52
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

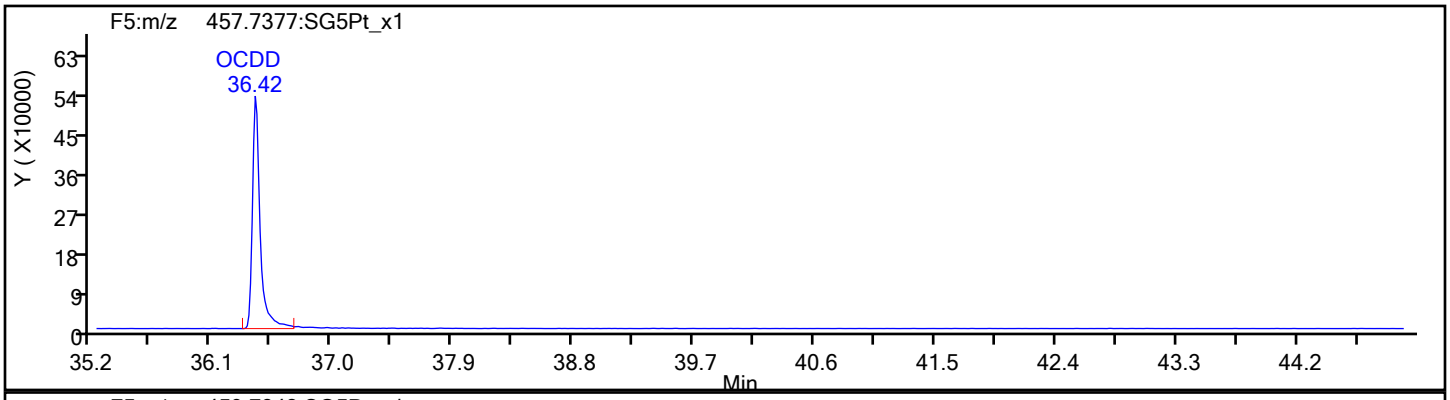

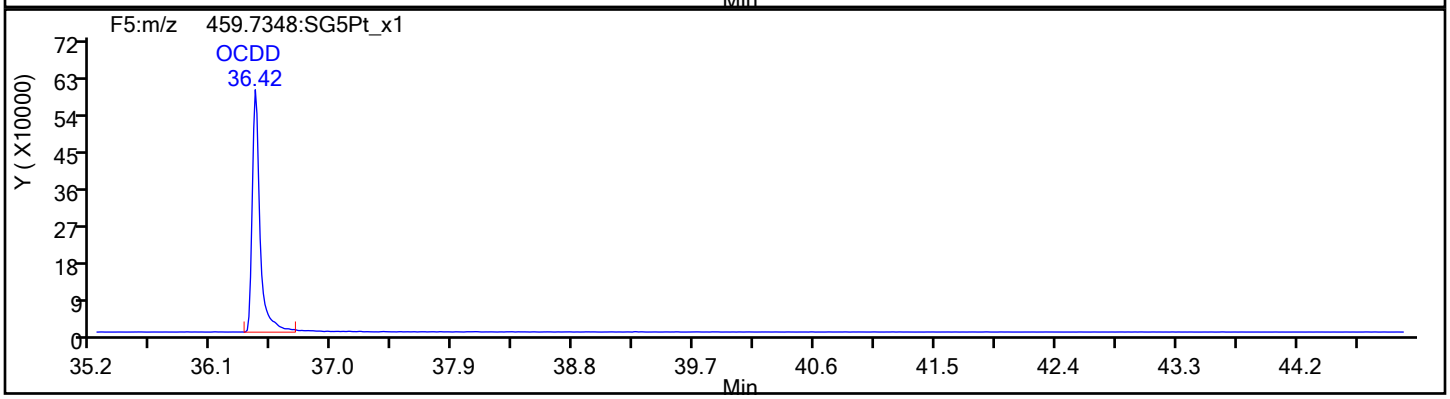

OCDD Standards

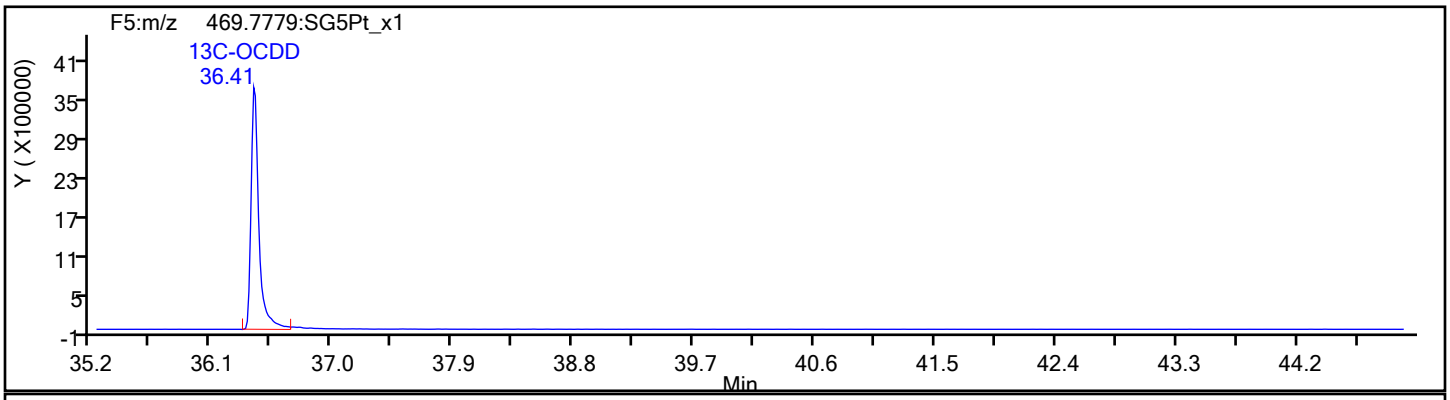

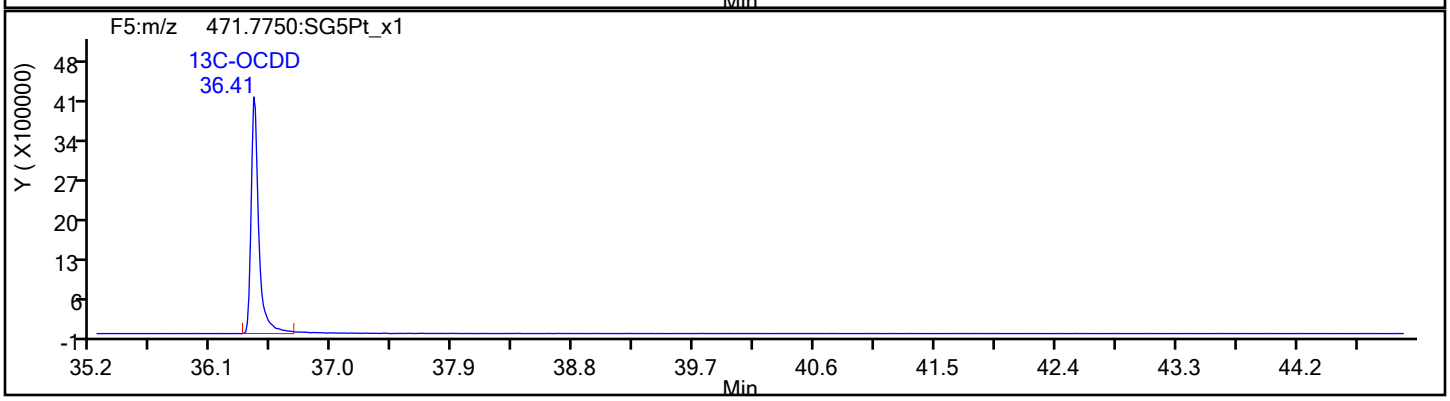

Report Date: 21-Feb-2020 10:24:06 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_52.d		
Injection Date:	20-Feb-2020 06:15:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Eastern Rock		
Worklist#:	358703	Sample Line#:	52
Column Type:	DB-5	Column Dia:	0.32 mm

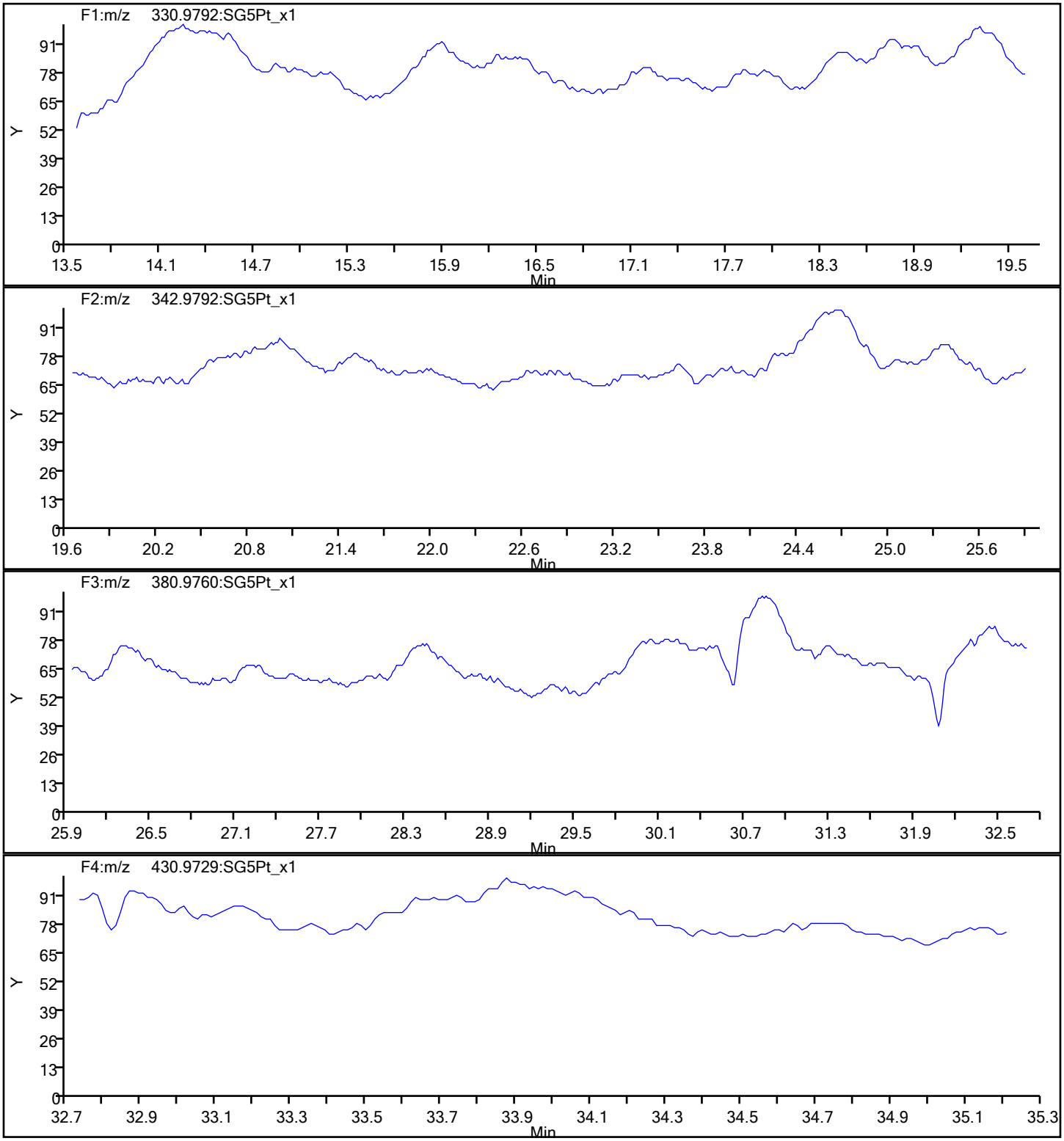

Report Date: 21-Feb-2020 10:24:06 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_52.d		
Injection Date:	20-Feb-2020 06:15:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Eastern Rock		
Worklist#:	358703	Sample Line#:	52
Column Type:	DB-5	Column Dia:	0.32 mm

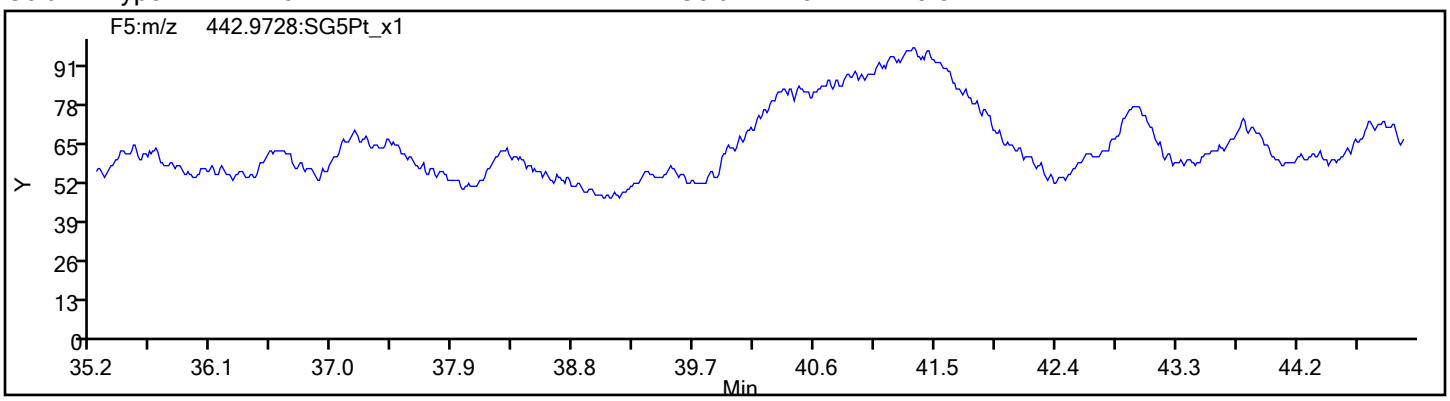

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 320-58545-1
SDG No.:
Client Sample ID: 11187072-Western-Rock
Lab Sample ID: 320-58545-3
Matrix: Sediment
Lab File ID: 18FE2010D5_53.d
Analysis Method: 1613B
Date Collected: 02/11/2020 11:00
Extract. Method: HRMS-Sox
Date Extracted: 02/13/2020 08:36
Sample wt/vol: 9.73(g)
Date Analyzed: 02/20/2020 07:01
Con. Extract Vol.: 20.0(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture: 5.8
GPC Cleanup:(Y/N) N
Analysis Batch No.: 358703
Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	0.15	J q	1.1	0.054
51207-31-9	2,3,7,8-TCDF	0.18	J	1.1	0.044
40321-76-4	1,2,3,7,8-PeCDD	ND		5.5	0.058
57117-41-6	1,2,3,7,8-PeCDF	0.13	J q	5.5	0.052
57117-31-4	2,3,4,7,8-PeCDF	ND		5.5	0.057
39227-28-6	1,2,3,4,7,8-HxCDD	0.30	J B	5.5	0.063
57653-85-7	1,2,3,6,7,8-HxCDD	0.33	J B	5.5	0.058
19408-74-3	1,2,3,7,8,9-HxCDD	0.26	J	5.5	0.055
70648-26-9	1,2,3,4,7,8-HxCDF	ND		5.5	0.13
57117-44-9	1,2,3,6,7,8-HxCDF	ND		5.5	0.11
72918-21-9	1,2,3,7,8,9-HxCDF	0.20	J q B	5.5	0.063
60851-34-5	2,3,4,6,7,8-HxCDF	ND		5.5	0.068
35822-46-9	1,2,3,4,6,7,8-HpCDD	12		5.5	0.18
67562-39-4	1,2,3,4,6,7,8-HpCDF	1.2	J B	5.5	0.044
55673-89-7	1,2,3,4,7,8,9-HpCDF	0.14	J q	5.5	0.055
3268-87-9	OCDD	160	B	11	0.33
39001-02-0	OCDF	3.4	J B	11	0.049
41903-57-5	Total TCDD	0.15	J q	1.1	0.054
30402-14-3	Total TCDF	0.18	J	1.1	0.044
36088-22-9	Total PeCDD	0.24	J q	5.5	0.058
30402-15-4	Total PeCDF	0.13	J q	5.5	0.054
34465-46-8	Total HxCDD	2.1	J B	5.5	0.059
55684-94-1	Total HxCDF	0.98	J q B	5.5	0.092
37871-00-4	Total HpCDD	26	B	5.5	0.18
38998-75-3	Total HpCDF	3.7	J q B	5.5	0.049

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58545-1

SDG No.:

Client Sample ID: 11187072-Western-Rock Lab Sample ID: 320-58545-3

Matrix: Sediment Lab File ID: 18FE2010D5_53.d

Analysis Method: 1613B Date Collected: 02/11/2020 11:00

Extract. Method: HRMS-Sox Date Extracted: 02/13/2020 08:36

Sample wt/vol: 9.73(g) Date Analyzed: 02/20/2020 07:01

Con. Extract Vol.: 20.0(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: 5.8 GPC Cleanup:(Y/N) N

Analysis Batch No.: 358703 Units: pg/g

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	67		25-164
89059-46-1	13C-2,3,7,8-TCDF	64		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	69		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	72		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	72		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	69		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	72		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	66		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	67		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	73		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	69		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	74		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	71		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	75		26-138
114423-97-1	13C-OCDD	69		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	99		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_53.d
Lims ID: 320-58545-A-3-A
Client ID: 11187072-Western-Rock
Sample Type: Client
Inject. Date: 20-Feb-2020 07:01:49 ALS Bottle#: 52 Worklist Smp#: 53
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-58545-A-3-A 320-58545-A-3-A
Misc. Info.: 18FE2010D5
Operator ID: AJS, ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 21-Feb-2020 10:27:21 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: dadunj Date: 21-Feb-2020 10:27:21

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.187	41376006	0.79	5.4E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.718	29920205	0.77	1.1275	64.1	64.1	0.2036	0.2036	64.13	
2,3,7,8-TCDF	16.733	19399	0.86	0.7675	0.0845	0.0845	0.0201	0.0201		M
A Non-2,3,7,8-sub-TCDF	16.446						0.0201	0.0201		
S Total TCDF					0.0845	0.0845	0.0201	0.0201		
D 13C-2,3,7,8-TCDD	17.384	24870310	0.83	0.9032	66.6	66.6	0.3410	0.3410	66.55	
2,3,7,8-TCDD	17.399	16506	0.77	0.9599	0.0789	0.0691	0.0246	0.0246		RQM
$ 37Cl4-2,3,7,8-TCDD	17.399	15922176		0.9673	39.8	39.8	0.1868	0.1868	99.45	
A Non-2,3,7,8-sub-TCDD	16.877						0.0246	0.0246		U
S Total TCDD					0.0789	0.0691	0.0246	0.0246		RQ
D 13C-1,2,3,7,8-PeCDF	21.434	28683237	1.58	0.9615	72.1	72.1	0.2565	0.2565	72.10	
1,2,3,7,8-PeCDF	21.447	15004	1.55	0.8982	0.0646	0.0582	0.0236	0.0236		RQ
D 13C-2,3,4,7,8-PeCDF	22.688	30752799	1.57	1.0393	71.5	71.5	0.2373	0.2373	71.51	
2,3,4,7,8-PeCDF	22.729						0.0262	0.0262		
A F1 PeCDFs	19.145						0.0208	0.0208		
A Non-2,3,7,8-sub-PeCDF	22.103						0.0249	0.0249		
S Total PeCDF					0.0646	0.0582	0.0249	0.0249		RQ
D 13C-1,2,3,7,8-PeCDD	23.370	19937303	1.63	0.6938	69.5	69.5	0.1141	0.1141	69.45	
1,2,3,7,8-PeCDD	23.383						0.0264	0.0264		U
A Non-2,3,7,8-sub-PeCDD	22.361	22206	1.55	0.9961	0.1296	0.1118	0.0264	0.1118		RQ
S Total PeCDD					0.1296	0.1118	0.0264	0.0264		RQ
D 13C-1,2,3,4,7,8-HxCDF	29.354	19905148	0.50	0.8543	66.4	66.4	0.4201	0.4201	66.38	
1,2,3,4,7,8-HxCDF	29.407						0.0578	0.0578		
D 13C-1,2,3,6,7,8-HxCDF	29.673	19772528	0.48	0.8361	67.4	67.4	0.4292	0.4292	67.37	
1,2,3,6,7,8-HxCDF	29.713						0.0508	0.0508		
D 13C-2,3,4,6,7,8-HxCDF	30.818	18857581	0.49	0.7773	69.1	69.1	0.4616	0.4616	69.11	
2,3,4,6,7,8-HxCDF	30.845						0.0314	0.0314		
D 13C-1,2,3,7,8,9-HxCDF	31.776	18288246	0.48	0.7167	72.7	72.7	0.5007	0.5007	72.69	
1,2,3,7,8,9-HxCDF	31.803	15011	1.24	0.9127	0.1019	0.0899	0.0287	0.0287		RQ
A Non-2,3,7,8-sub-HxCDF	29.287	59800	1.24	0.8673	0.4109	0.3590	0.0390	0.2351		RQ
S Total HxCDF					0.5128	0.4489	0.0422	0.0422		RQ

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.577	35104059	1.23	4.4E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.058	19435505	1.23	0.8050	68.8	68.8	0.2688	0.2688	68.78	
1,2,3,4,7,8-HxCDD	31.071	22384	1.15	0.8392	0.1372	0.1372	0.0288	0.0288		Ma
D 13C-1,2,3,6,7,8-HxCDD	31.191	20987069	1.23	0.8269	72.3	72.3	0.2617	0.2617	72.30	
1,2,3,6,7,8-HxCDD	31.217	27855	1.25	0.8876	0.1495	0.1495	0.0268	0.0268		Ma
1,2,3,7,8,9-HxCDD	31.590	22942	1.38	0.9567	0.1187	0.1187	0.0250	0.0250		M
A Non-2,3,7,8-sub-HxCDD	29.846	99176	1.34	0.8945	0.5486	0.5486	0.0268	0.3107		M
S Total HxCDD					0.9540	0.9540	0.0269	0.0269		
D 13C-1,2,3,4,6,7,8-HpCDF	33.364	17673525	0.41	0.7080	71.1	71.1	1.366	1.366	71.11	
1,2,3,4,6,7,8-HpCDF	33.376	129437	1.11	1.3375	0.5476	0.5476	0.0200	0.0200		
D 13C-1,2,3,4,7,8,9-HpCDF	34.421	19573383	0.42	0.7451	74.8	74.8	1.298	1.298	74.83	
1,2,3,4,7,8,9-HpCDF	34.421	13448	1.04	1.0744	0.0802	0.0639	0.0251	0.0251		RQ
A Non-2,3,7,8-sub-HpCDF	33.905	248687	0.97	1.2059	1.107	1.107	0.0223	1.107		M
S Total HpCDF					1.735	1.719	0.0226	0.0226		RQ
D 13C-1,2,3,4,6,7,8-HpCDD	34.142	19445842	1.05	0.7473	74.1	74.1	0.9315	0.9315	74.12	
1,2,3,4,6,7,8-HpCDD	34.154	1067986	1.05	0.9811	5.598	5.598	0.0821	0.0821		
A Non-2,3,7,8-sub-HpCDD	33.893	1202802	1.01	0.9811	6.304	6.304	0.0821	6.304		
S Total HpCDD					11.9	11.9	0.0821	0.0821		
D 13C-OCDD	36.410	32191351	0.90	0.6622	138.5	138.5	0.2958	0.2958	69.24	
OCDF	36.505	268886	0.90	1.0659	1.567	1.567	0.0226	0.0226		
OCDD	36.421	11527022	0.87	0.9937	72.1	72.1	0.1516	0.1516		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_53.d
Lims ID: 320-58545-A-3-A
Client ID: 11187072-Western-Rock
Sample Type: Client
Inject. Date: 20-Feb-2020 07:01:49 ALS Bottle#: 52 Worklist Smp#: 53
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 320-58545-A-3-A 320-58545-A-3-A
Misc. Info.: 18FE2010D5
Operator ID: AJS, ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 21-Feb-2020 10:27:21 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: dadunj Date: 21-Feb-2020 10:27:21

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.187	17.202	-1		18284543	4826234	7096	17740	680		
333.9339	17.187	17.202	-1		23091463	5999886	6241	15602	961	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.718	16.719	0	0.973	13059695	3264936	3868	9670	844		
317.9389	16.718	16.719	0	0.973	16860510	4198192	6073	15182	691	0.77(0.65-0.89)	
2,3,7,8-TCDF											M
303.9016	16.733	16.749	-1	1.001	8965	1713	149	372	11		M
305.8987	16.749	16.749	0	1.002	10434	1719	311	777	6	0.86(0.65-0.89)	M
A Non-2,3,7,8-sub-TCDF											
303.9016	16.446						149	372			
305.8987	16.446						311	777			
13C-2,3,7,8-TCDD											
331.9368	17.384	17.384	0	1.011	11243940	2664389	7096	17740	375		
333.9339	17.384	17.384	0	1.011	13626370	3315444	6241	15602	531	0.83(0.65-0.89)	
2,3,7,8-TCDD											RQM
319.8965	17.399	17.414	-1	1.001	7181	1715	399	997	4		M
321.8936	17.399	17.414	-1	1.001	11658	2354	166	415	14	0.62(0.65-0.89)	M
	Empc Correction				9325	2227	166	415	13		
37Cl4-2,3,7,8-TCDD											
327.8847	17.399	17.414	-1	1.012	15922176	3574083	7827	19567	457		
A Non-2,3,7,8-sub-TCDD											U
319.8965	16.877						399	997			
321.8936	16.877						166	415			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	21.434	21.447	-1	1.247	17583813	3197016	6338	15845	504		
353.8970	21.434	21.447	-1	1.247	11099424	2040145	4343	10857	470	1.58(1.32-1.78)	
1,2,3,7,8-PeCDF											RQ
339.8597	21.447	21.475	-2	1.001	10766	2649	207	517	13		
	Empc Correction				9120	1849	207	517	9		
341.8567	21.447	21.475	-2	1.001	5884	1193	238	595	5	1.83(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	22.688	22.702	-1	1.320	18801081	3224475	6338	15845	509		
353.8970	22.688	22.702	-1	1.320	11951718	2011665	4343	10857	463	1.57(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.729						207	517			
341.8567	22.729						238	595			
A F1 PeCDFs											
339.8597	19.145						140	350			
341.8567	19.145						232	580			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.103						207	517			
341.8567	22.103						238	595			
13C-1,2,3,7,8-PeCDD											
367.8949	23.370	23.383	-1	1.360	12349756	1946115	2334	5835	834		
369.8919	23.370	23.383	-1	1.360	7587547	1235828	1093	2732	1131	1.63(1.32-1.78)	
1,2,3,7,8-PeCDD											U
355.8546	23.411						177	442			
357.8516	23.411						158	395			
A Non-2,3,7,8-sub-PeCDD											RQ
355.8546	22.824	22.361	28	0.977	13498	2027	177	442	11		
357.8516	22.838	22.361	29	0.977	12234	2134	158	395	14	1.10(1.32-1.78)	
	Empc Correction				8708	1307	158	395	8		
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.354	29.380	-2	0.930	6601994	804445	5278	13195	152		
385.8610	29.354	29.380	-2	0.930	13303154	1576425	6589	16472	239	0.50(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.407						252	630			
375.8178	29.407						184	460			
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.673	29.687	-1	0.940	6446485	803727	5278	13195	152		
385.8610	29.660	29.687	-2	0.939	13326043	1678821	6589	16472	255	0.48(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	29.713						252	630			
375.8178	29.713						184	460			
13C-2,3,4,6,7,8-HxCDF											
383.8639	30.818	30.831	-1	0.976	6205470	1255234	5278	13195	238		
385.8610	30.818	30.831	-1	0.976	12652111	2601124	6589	16472	395	0.49(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	30.858						252	630			
375.8178	30.858						184	460			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.776	31.790	-1	1.006	5953639	1337093	5278	13195	253		
385.8610	31.776	31.790	-1	1.006	12334607	2818750	6589	16472	428	0.48(0.43-0.59)	
1,2,3,7,8,9-HxCDF											RQ
373.8208	31.803	31.803	0	1.001	8310	1892	252	630	8		
375.8178	31.803	31.803	0	1.001	8695	2056	184	460	11	0.96(1.05-1.43)	
	Empc Correction				6701	1525	184	460	8		
A Non-2,3,7,8-sub-HxCDF											RQ
373.8208	27.078	29.287	-132	0.922	11428	1840	252	630	7		
375.8178	27.065	29.287	-133	0.922	12297	1397	184	460	8	0.93(1.05-1.43)	
	Empc Correction				9216	1483	184	460	8		
373.8208	28.276	29.287	-61	0.963	21676	2673	252	630	11		
375.8178	28.329	29.287	-57	0.965	23037	2713	184	460	15	0.94(1.05-1.43)	
	Empc Correction				17480	2155	184	460	12		
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.577	31.590	-1		19379581	4556029	3996	9990	1140		
403.8529	31.577	31.590	-1		15724478	3711231	3161	7902	1174	1.23(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.058	31.071	-1	0.984	10733419	2476538	3996	9990	620		
403.8529	31.058	31.071	-1	0.984	8702086	1997462	3161	7902	632	1.23(1.05-1.43)	
1,2,3,4,7,8-HxCDD											Ma
389.8157	31.071	31.098	-2	1.000	11955	2495	191	477	13		M
391.8127	31.097	31.098	0	1.001	10429	2137	241	602	9	1.15(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.191	31.204	-1	0.988	11591684	2480031	3996	9990	621		
403.8529	31.191	31.204	-1	0.988	9395385	2060058	3161	7902	652	1.23(1.05-1.43)	
1,2,3,6,7,8-HxCDD											Ma
389.8157	31.217	31.217	0	1.001	15490	4083	191	477	21		M
391.8127	31.204	31.217	-1	1.000	12365	3177	241	602	13	1.25(1.05-1.43)	
1,2,3,7,8,9-HxCDD											M
389.8157	31.590	31.603	-1	1.017	13305	3021	191	477	16		
391.8127	31.590	31.603	-1	1.017	9637	1779	241	602	7	1.38(1.05-1.43)	M
A Non-2,3,7,8-sub-HxCDD											M
389.8157	28.129	29.846	-103	0.902	24304	2912	191	477	15		M
391.8127	28.169	29.846	-100	0.903	18700	2693	241	602	11	1.30(1.05-1.43)	M
389.8157	30.139	29.846	18	0.966	32464	4301	191	477	23		M
391.8127	30.113	29.846	16	0.965	23708	3563	241	602	15	1.37(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.364	33.376	-1	1.057	5143831	1762899	8157	20392	216		
419.8220	33.364	33.376	-1	1.057	12529694	4034222	23822	59555	169	0.41(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.376	33.376	0	1.000	68084	21264	376	940	57		
409.7789	33.376	33.376	0	1.000	61353	17706	245	612	72	1.11(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.421	34.433	-1	1.090	5809354	1700091	8157	20392	208		
419.8220	34.421	34.433	-1	1.090	13764029	4049104	23822	59555	170	0.42(0.37-0.51)	

Report Date: 21-Feb-2020 10:27:23 Chrom Revision: 2.3 19-Feb-2020 16:45:46
Data File: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_53.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,7,8,9-HpCDF											RQ
407.7818	34.421	34.433	-1	1.000	6856	2191	376	940	6		
409.7789	34.433	34.433	0	1.000	10016	2668	245	612	11	0.68(0.88-1.20)	
	Empc Correction				6592	2106	245	612	9		
A Non-2,3,7,8-sub-HpCDF											M
407.7818	33.668	33.905	-14	1.009	122461	38603	376	940	103		M
409.7789	33.668	33.905	-14	1.009	126226	40284	245	612	164	0.97(0.88-1.20)	M
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.142	34.154	-1	1.081	9957978	3015081	12386	30965	243		
437.8140	34.142	34.154	-1	1.081	9487864	2847687	10636	26590	268	1.05(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.154	34.166	-1	1.000	546320	162404	1081	2702	150		
425.7737	34.154	34.166	-1	1.000	521666	155104	808	2020	192	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.619	33.893	-16	0.985	603376	187657	1081	2702	174		
425.7737	33.619	33.893	-16	0.985	599426	191293	808	2020	237	1.01(0.88-1.20)	
13C-OCDD											
469.7779	36.410	36.422	-1	1.153	15236381	3767885	4048	10120	931		
471.7750	36.410	36.422	-1	1.153	16954970	4231323	2430	6075	1741	0.90(0.76-1.02)	
OCDF											
441.7428	36.505	36.517	-1	1.003	127724	27448	195	487	141		
443.7399	36.505	36.517	-1	1.003	141162	30631	190	475	161	0.90(0.76-1.02)	
OCDD											
457.7377	36.421	36.433	-1	1.000	5362878	1345062	1094	2735	1229		
459.7348	36.421	36.433	-1	1.000	6164144	1525311	1316	3290	1159	0.87(0.76-1.02)	

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_53.d
Lims ID: 320-58545-A-3-A
Client ID: 11187072-Western-Rock
Inject. Date: 20-Feb-2020 07:01:49 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS, ALM
Lims Batch ID: 358703 Lims Sample ID: 53

Non-2,3,7,8-sub-TCDD, RT: 16.877

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	0.960	D 13C-2,3,7,8-TCDD	100.000	24870310	5979833

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.960		100.000	24870310	5979833

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags

Compound is Marked ND

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_53.d
Lims ID: 320-58545-A-3-A
Client ID: 11187072-Western-Rock
Inject. Date: 20-Feb-2020 07:01:49 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS, ALM
Lims Batch ID: 358703 Lims Sample ID: 53

Non-2,3,7,8-sub-PeCDD, RT: 22.361

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDD	0.996	D 13C-1,2,3,7,8-PeCDD	100.000	19937303	3181943

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.996		100.000	19937303	3181943

Sum the Uncalibrated Results

RT	355.8546 Area	355.8546 Height	357.8516 Area	357.8516 Height	Amount	Ratio	Flags
22.824	13498	2027	12234	2134	0.1296	1.10	RQ
22.824	13498	2027	8708	1307	0.1118		Empc Correction
Signal Totals:							
	13498	2027	8708	1307			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	25732	4161				1.10	RQ
	22206	3334					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.1296 = (25732 * 100.000) / (19937303 * 0.996)
Empc Amount: 0.1118 = (22206 * 100.000) / (19937303 * 0.996)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_53.d
Lims ID: 320-58545-A-3-A
Client ID: 11187072-Western-Rock
Inject. Date: 20-Feb-2020 07:01:49 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS, ALM
Lims Batch ID: 358703 Lims Sample ID: 53

Non-2,3,7,8-sub-HxCDF, RT: 29.287

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	0.792	D 13C-1,2,3,4,7,8-HxCDF	100.000	19905148	2380870
1,2,3,6,7,8-HxCDF	0.864	D 13C-1,2,3,6,7,8-HxCDF	100.000	19772528	2482548
2,3,4,6,7,8-HxCDF	0.901	D 13C-2,3,4,6,7,8-HxCDF	100.000	18857581	3856358
1,2,3,7,8,9-HxCDF	0.913	D 13C-1,2,3,7,8,9-HxCDF	100.000	18288246	4155843

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.867		100.000	19205875	3218904

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
27.078	11428	1840	12297	1397	0.1424	0.93	RQ
27.078	11428	1840	9216	1483	0.1239		Empc Correction
28.276	21676	2673	23037	2713	0.2684	0.94	RQ
28.276	21676	2673	17480	2155	0.2351		Empc Correction
Signal Totals:							
	33104	4513	26696	3638			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	68438	8623				0.94	RQ
	59800	8151					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.4109 = (68438 * 100.000) / (19205875 * 0.867)
Empc Amount: 0.3590 = (59800 * 100.000) / (19205875 * 0.867)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_53.d
Lims ID: 320-58545-A-3-A
Client ID: 11187072-Western-Rock
Inject. Date: 20-Feb-2020 07:01:49 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS, ALM
Lims Batch ID: 358703 Lims Sample ID: 53

Non-2,3,7,8-sub-HxCDD, RT: 29.846

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.839	D 13C-1,2,3,4,7,8-HxCDD	100.000	19435505	4474000
1,2,3,6,7,8-HxCDD	0.888	D 13C-1,2,3,6,7,8-HxCDD	100.000	20987069	4540089
1,2,3,7,8,9-HxCDD	0.957				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.894		100.000	20211287	4507044

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
28.129	24304	2912	18700	2693	0.2379	1.30	M
30.139	32464	4301	23708	3563	0.3107	1.37	M
Signal Totals:							
	56768	7213	42408	6256			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	99176	13469				1.34	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.5486 = (99176 * 100.000) / (20211287 * 0.894)

QC Flag Legend

Review Flags
M - Manually Integrated

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_53.d
Lims ID: 320-58545-A-3-A
Client ID: 11187072-Western-Rock
Inject. Date: 20-Feb-2020 07:01:49 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS, ALM
Lims Batch ID: 358703 Lims Sample ID: 53

Non-2,3,7,8-sub-HpCDF, RT: 33.905

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.337	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	17673525	5797121
1,2,3,4,7,8,9-HpCDF	1.074	D 13C-1,2,3,4,7,8,9-HpCDF	100.000	19573383	5749195

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.206		100.000	18623454	5773158

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
33.668	122461	38603	126226	40284	1.11	0.97	M
Signal Totals:							
	122461	38603	126226	40284			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	248687	78887				0.97	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.107 = (248687 * 100.000) / (18623454 * 1.206)

QC Flag Legend

Review Flags
M - Manually Integrated

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_53.d
Lims ID: 320-58545-A-3-A
Client ID: 11187072-Western-Rock
Inject. Date: 20-Feb-2020 07:01:49 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS, ALM
Lims Batch ID: 358703 Lims Sample ID: 53

Non-2,3,7,8-sub-HpCDD, RT: 33.893

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.981	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	19445842	5862768

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.981		100.000	19445842	5862768

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
33.619	603376	187657	599426	191293	6.30	1.01	
Signal Totals:							
	603376	187657	599426	191293			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1202802	378950				1.01	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 6.304 = (1202802 * 100.000) / (19445842 * 0.981)

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_53.d				
Injection Date:	20-Feb-2020 07:01:49	Instrument ID:	10D5		
Lims ID:	320-58545-A-3-A	Lab Sample ID:	320-58545-3		
Client ID:	11187072-Western-Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	52	Worklist Smp#:	53
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDF, CAS: 51207-31-9

Signal: 2

Processing Integration Results

RT: 16.75
Area: 11693
Amount: 0.092372
Amount Units: pg/ul

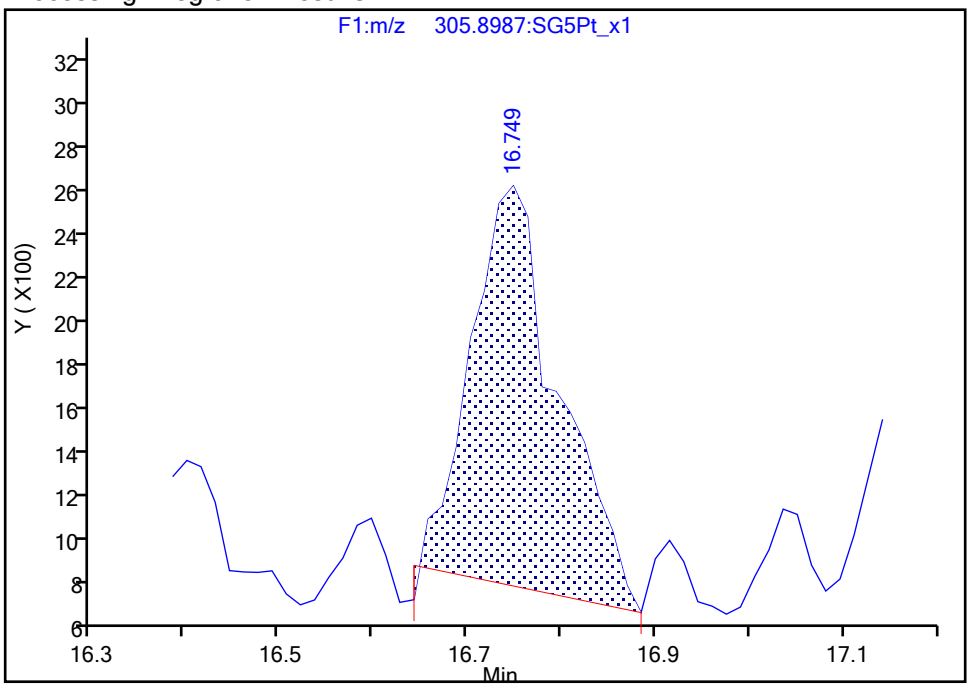

Manual Integration Results

RT: 16.75
Area: 10434
Amount: 0.084473
Amount Units: pg/ul

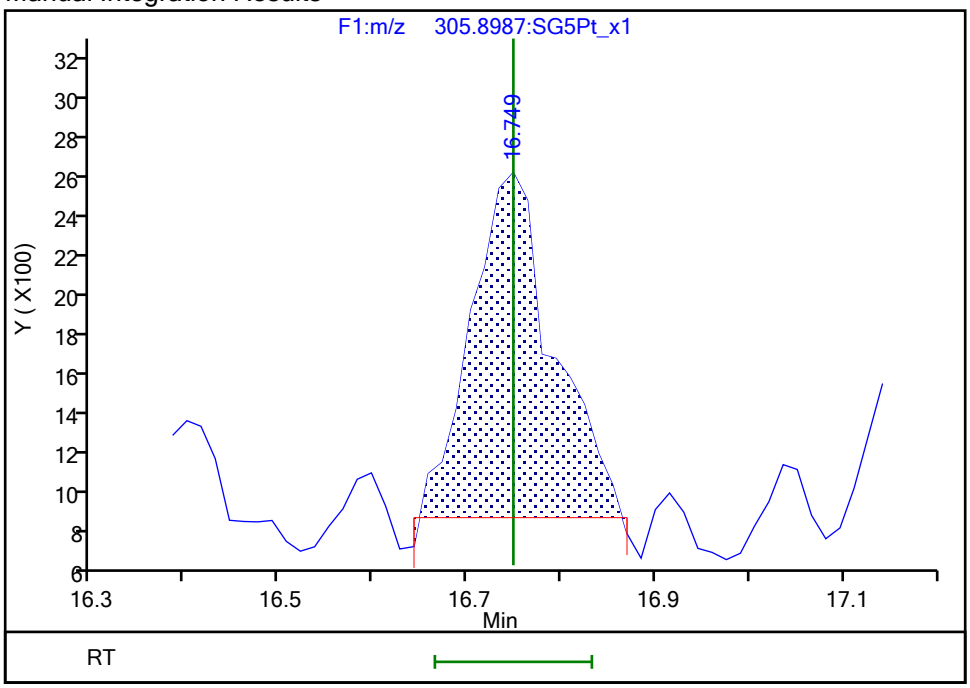

Reviewer: dadunj, 21-Feb-2020 10:24:27

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_53.d				
Injection Date:	20-Feb-2020 07:01:49	Instrument ID:	10D5		
Lims ID:	320-58545-A-3-A	Lab Sample ID:	320-58545-3		
Client ID:	11187072-Western-Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	52	Worklist Smp#:	53
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDF, CAS: 51207-31-9

Signal: 1

Processing Integration Results

RT: 16.73
Area: 9520
Amount: 0.092372
Amount Units: pg/ul

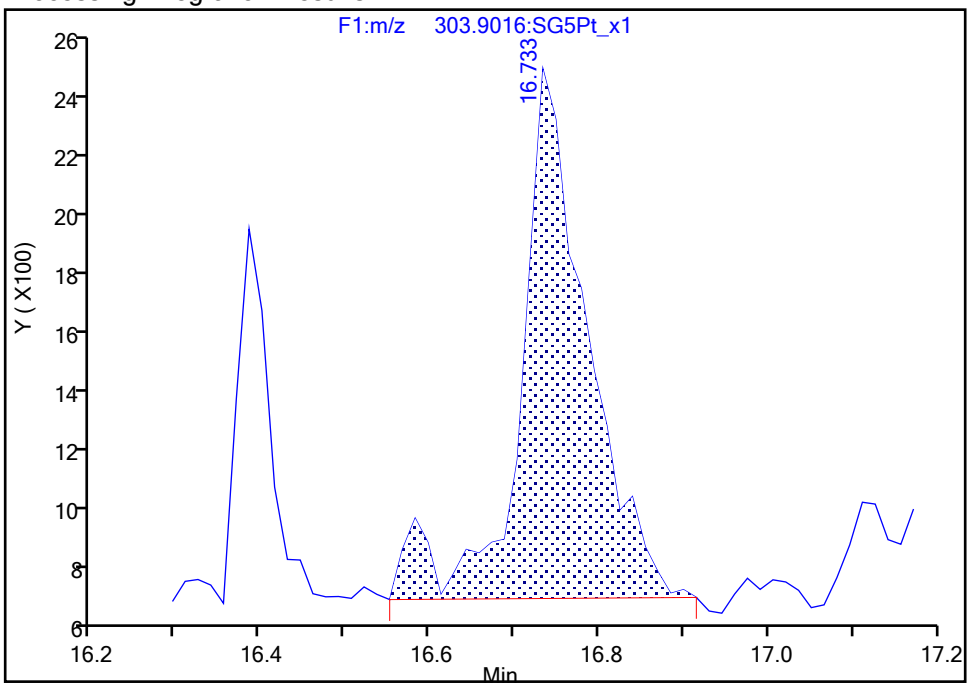

Manual Integration Results

RT: 16.73
Area: 8965
Amount: 0.084473
Amount Units: pg/ul

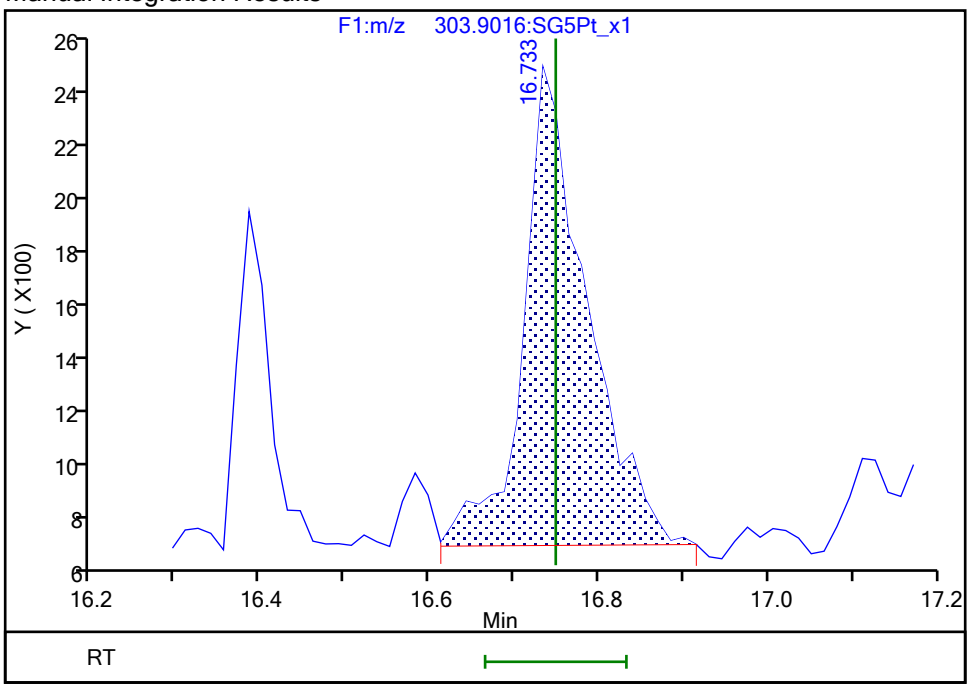

Reviewer: dadunj, 21-Feb-2020 10:24:32

Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_53.d				
Injection Date:	20-Feb-2020 07:01:49	Instrument ID:	10D5		
Lims ID:	320-58545-A-3-A	Lab Sample ID:	320-58545-3		
Client ID:	11187072-Western-Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	52	Worklist Smp#:	53
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDD, CAS: 1746-01-6

Signal: 2

Processing Integration Results

RT: 17.40
Area: 12606
Amount: 0.090037
Amount Units: pg/ul

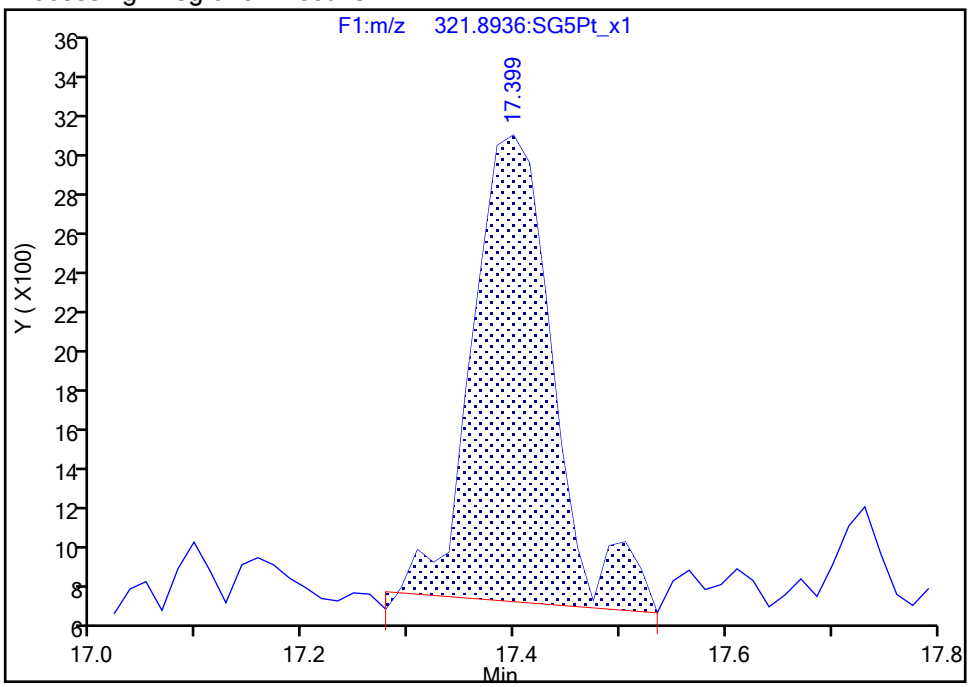

Manual Integration Results

RT: 17.40
Area: 11658
Amount: 0.078915
Amount Units: pg/ul

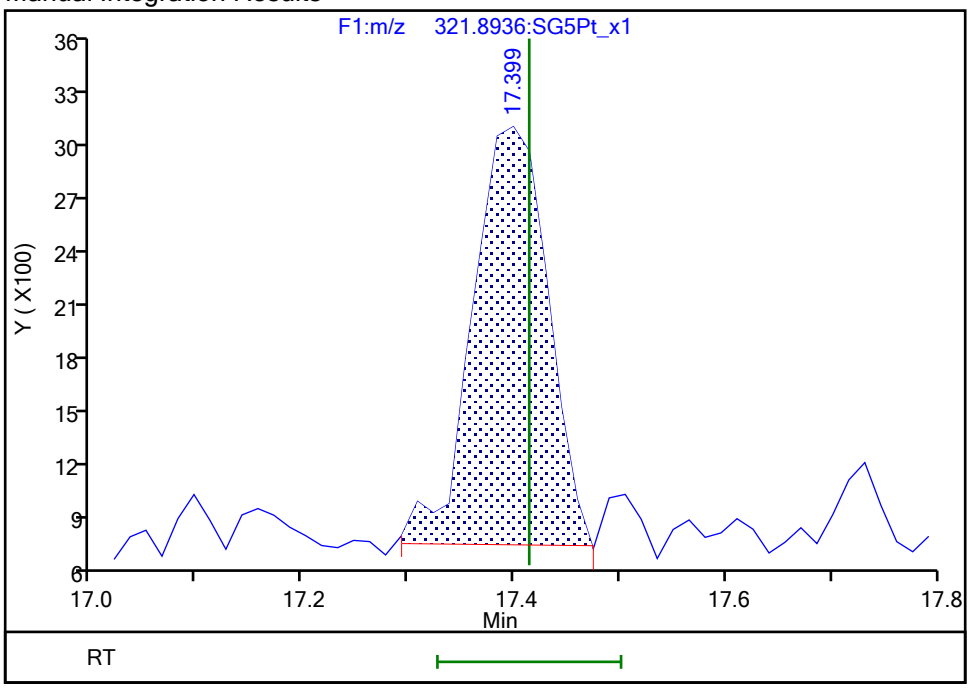

Reviewer: dadunj, 21-Feb-2020 10:24:56

Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_53.d				
Injection Date:	20-Feb-2020 07:01:49	Instrument ID:	10D5		
Lims ID:	320-58545-A-3-A	Lab Sample ID:	320-58545-3		
Client ID:	11187072-Western-Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	52	Worklist Smp#:	53
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDD, CAS: 1746-01-6

Signal: 1

Processing Integration Results

RT: 17.40
Area: 8888
Amount: 0.090037
Amount Units: pg/ul

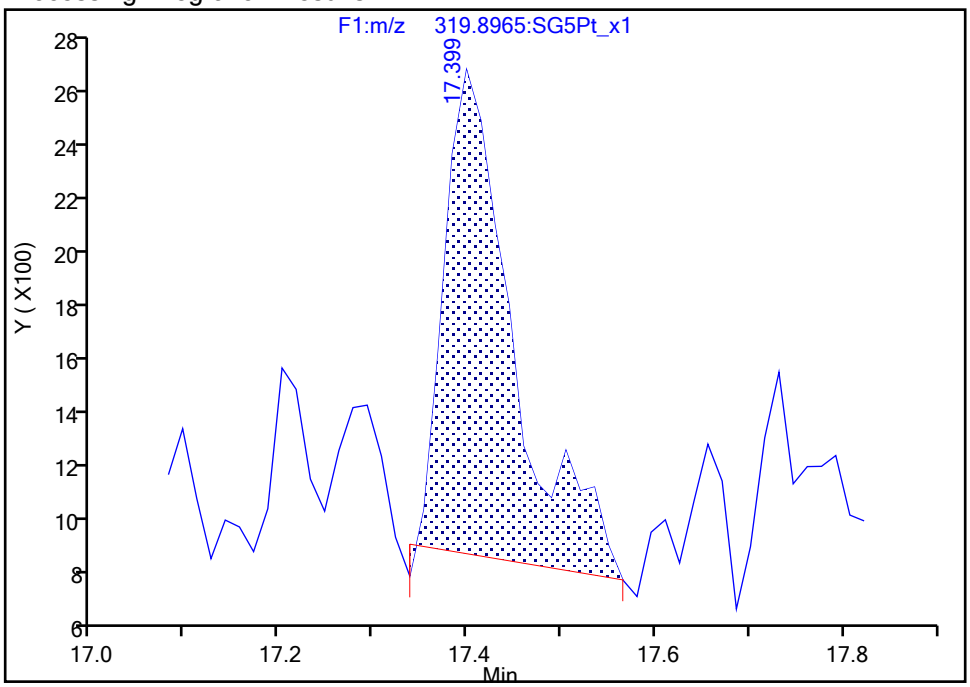

Manual Integration Results

RT: 17.40
Area: 7181
Amount: 0.078915
Amount Units: pg/ul

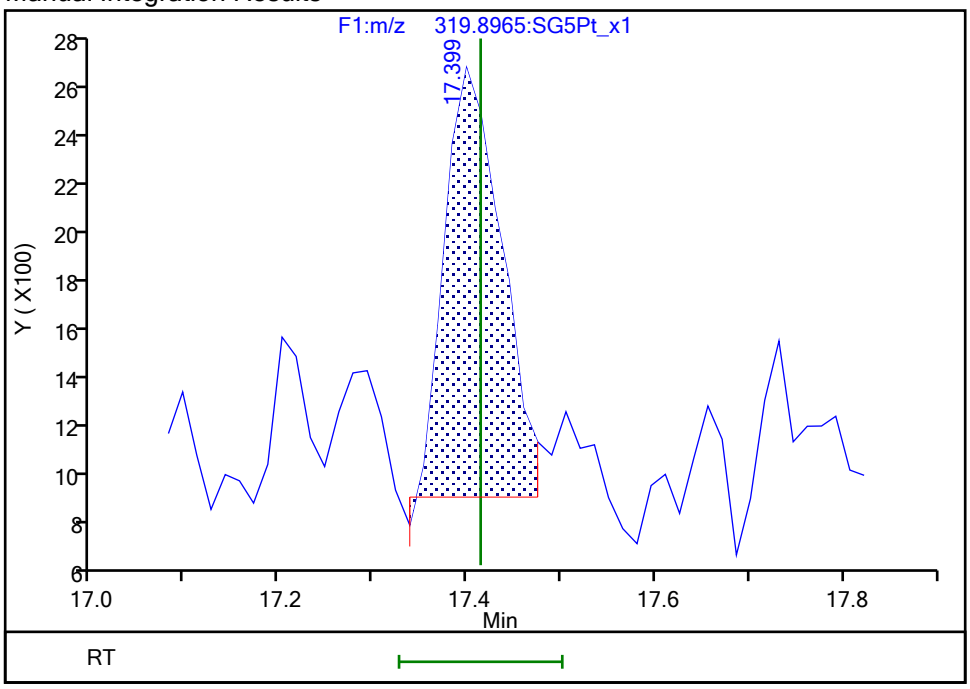

Reviewer: dadunj, 21-Feb-2020 10:24:57

Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_53.d				
Injection Date:	20-Feb-2020 07:01:49	Instrument ID:	10D5		
Lims ID:	320-58545-A-3-A	Lab Sample ID:	320-58545-3		
Client ID:	11187072-Western-Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	52	Worklist Smp#:	53
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 2

Processing Integration Results

RT: 31.20
Area: 12365
Amount: 0.242216
Amount Units: pg/ul

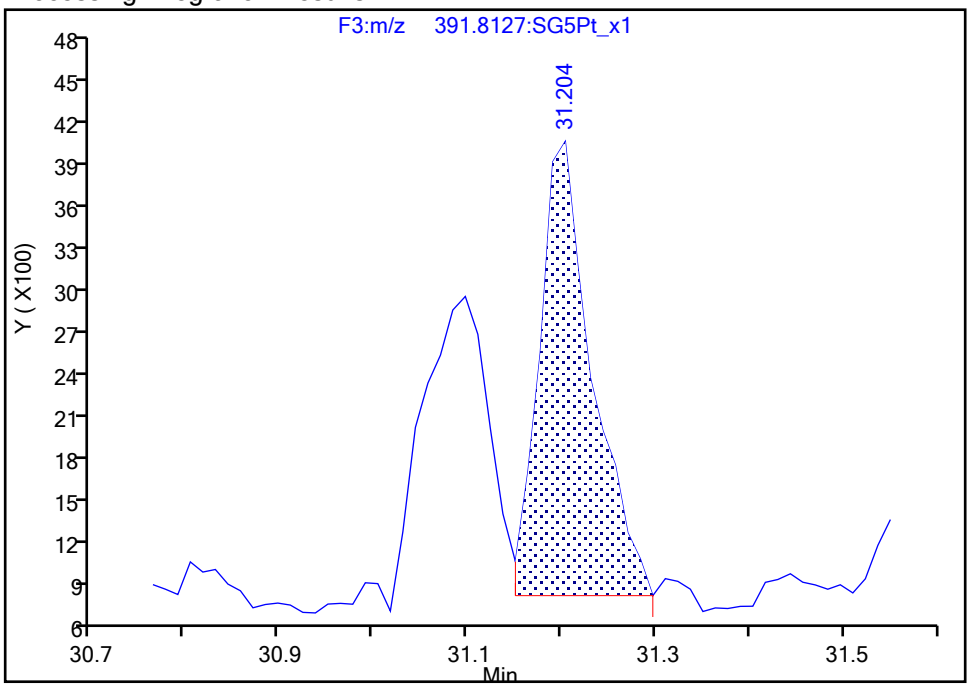

Manual Integration Results

RT: 31.10
Area: 10429
Amount: 0.137243
Amount Units: pg/ul

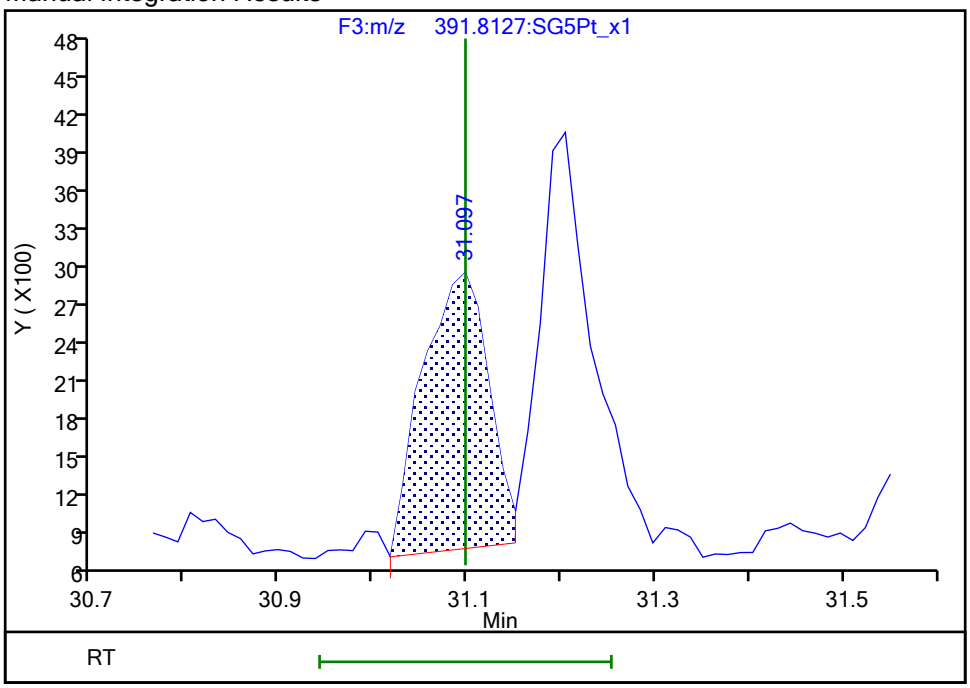

Reviewer: dadunj, 21-Feb-2020 10:26:00

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_53.d				
Injection Date:	20-Feb-2020 07:01:49	Instrument ID:	10D5		
Lims ID:	320-58545-A-3-A	Lab Sample ID:	320-58545-3		
Client ID:	11187072-Western-Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	52	Worklist Smp#:	53
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 3

Processing Integration Results

RT: 31.22
Area: 39505
Amount: 0.242216
Amount Units: pg/ul

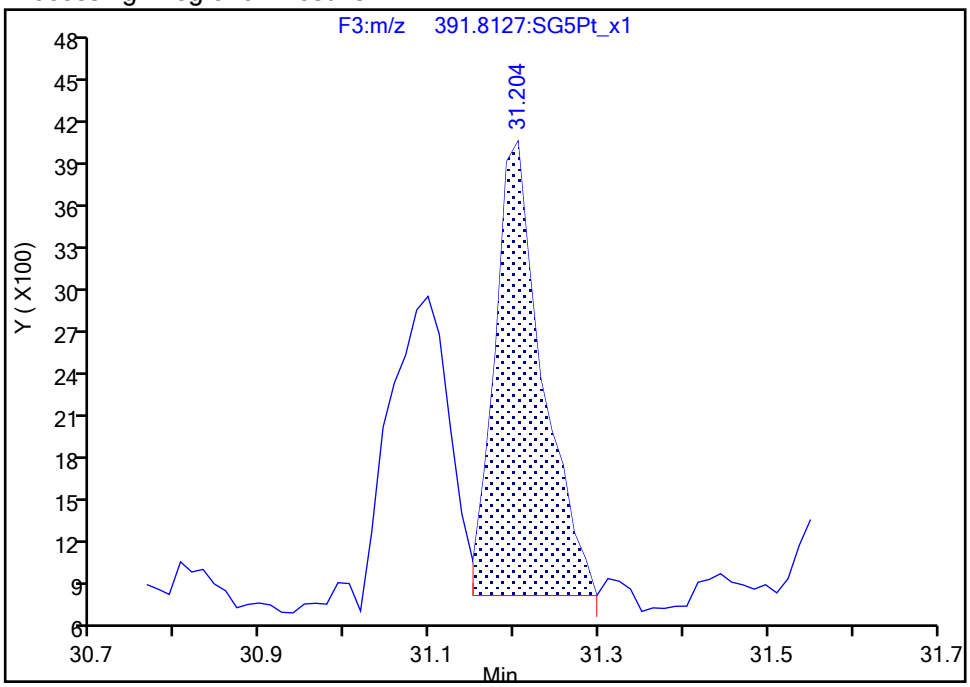

Manual Integration Results

RT: 31.07
Area: 22384
Amount: 0.137243
Amount Units: pg/ul
Reviewer: dadunj, 21-Feb-2020 10:26:00
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_53.d				
Injection Date:	20-Feb-2020 07:01:49	Instrument ID:	10D5		
Lims ID:	320-58545-A-3-A	Lab Sample ID:	320-58545-3		
Client ID:	11187072-Western-Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	52	Worklist Smp#:	53
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 1

Processing Integration Results

RT: 31.22
Area: 27140
Amount: 0.242216
Amount Units: pg/ul

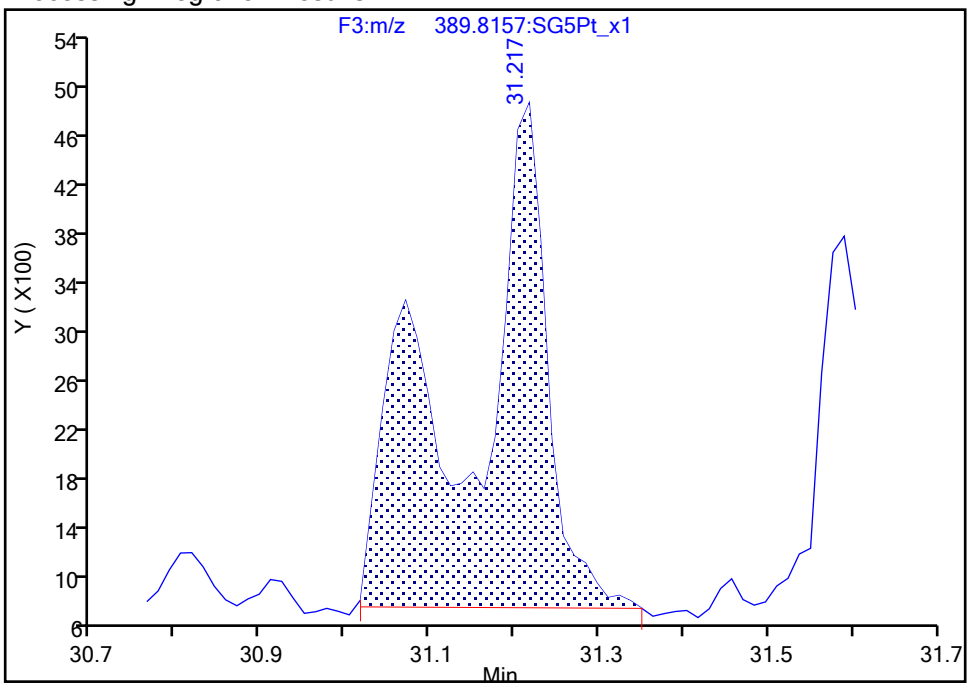

Manual Integration Results

RT: 31.07
Area: 11955
Amount: 0.137243
Amount Units: pg/ul

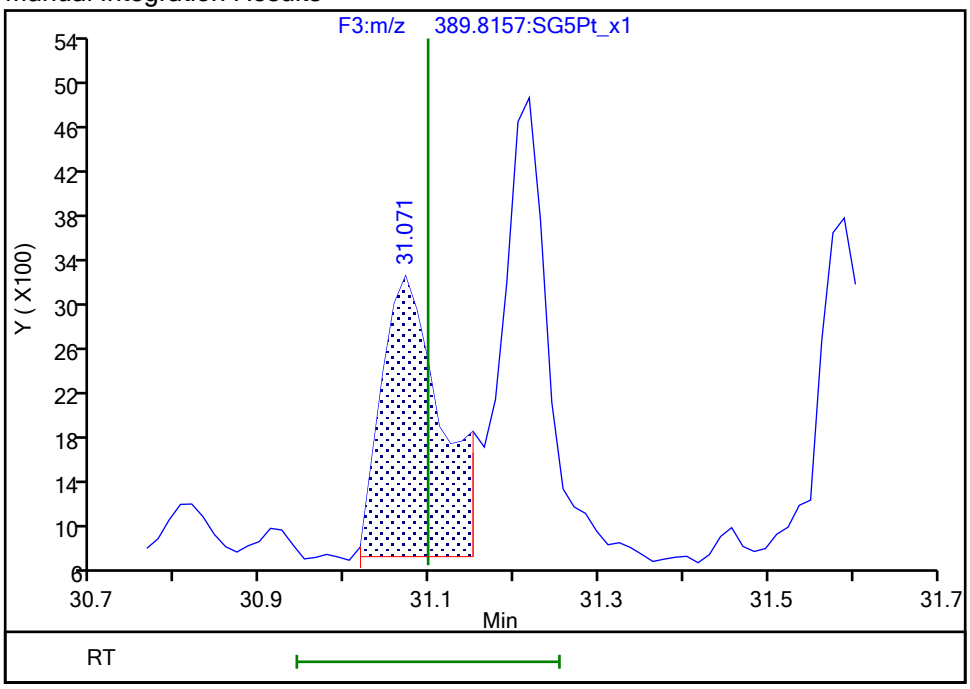

Reviewer: dadunj, 21-Feb-2020 10:26:01

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_53.d				
Injection Date:	20-Feb-2020 07:01:49	Instrument ID:	10D5		
Lims ID:	320-58545-A-3-A	Lab Sample ID:	320-58545-3		
Client ID:	11187072-Western-Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	52	Worklist Smp#:	53
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 2

Processing Integration Results

RT: 31.20
Area: 12365
Amount: 0.212070
Amount Units: pg/ul

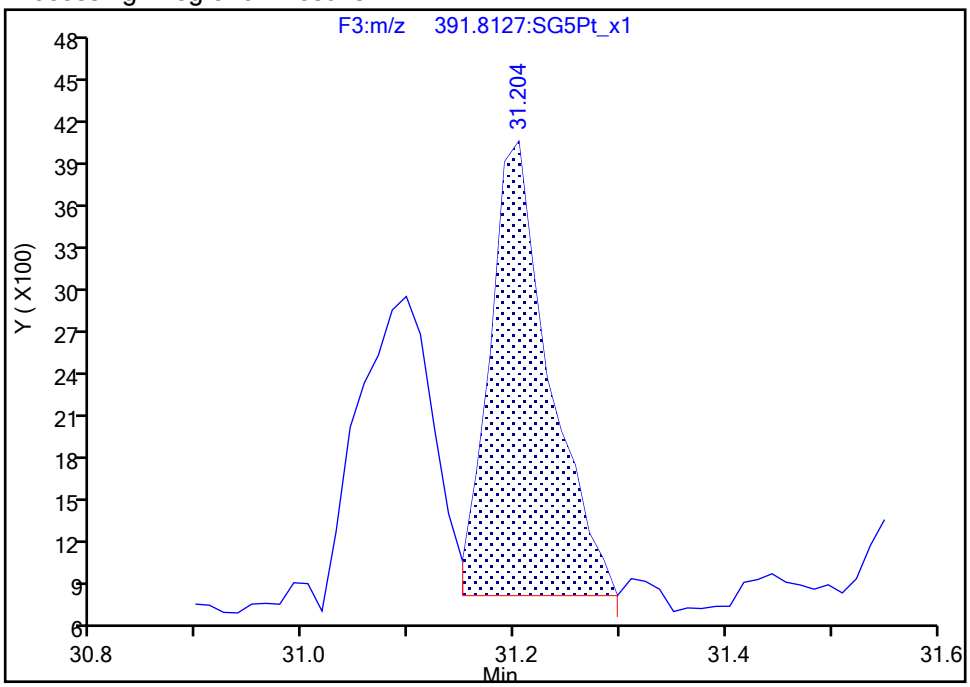

Manual Integration Results

RT: 31.20
Area: 12365
Amount: 0.149531
Amount Units: pg/ul

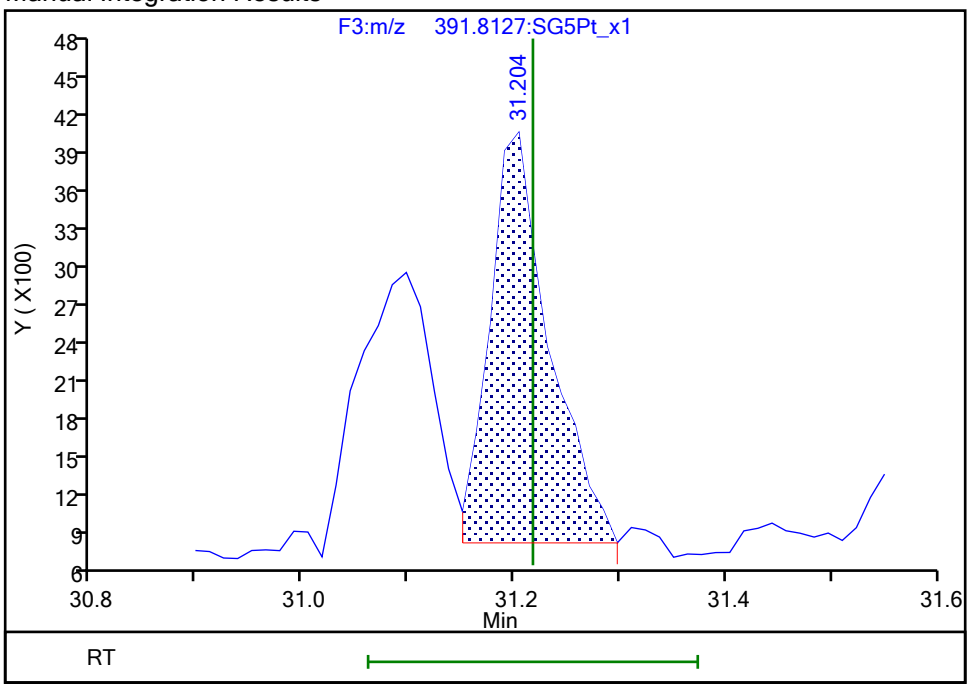

Reviewer: dadunj, 21-Feb-2020 10:26:07

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_53.d				
Injection Date:	20-Feb-2020 07:01:49	Instrument ID:	10D5		
Lims ID:	320-58545-A-3-A	Lab Sample ID:	320-58545-3		
Client ID:	11187072-Western-Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	52	Worklist Smp#:	53
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 3

Processing Integration Results

RT: 31.22
Area: 39505
Amount: 0.212070
Amount Units: pg/ul

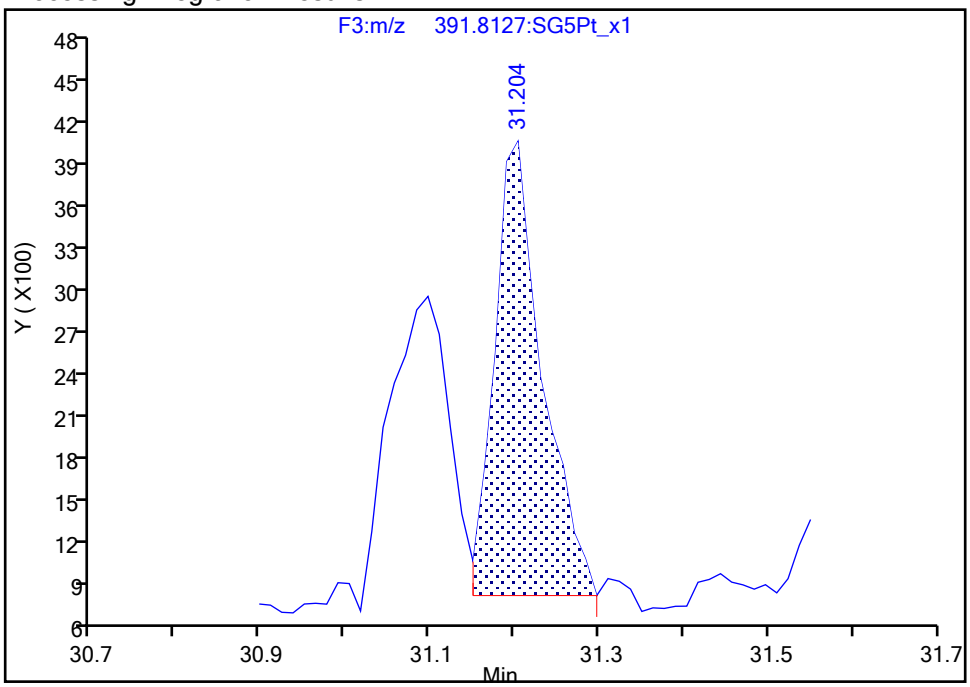

Manual Integration Results

RT: 31.22
Area: 27855
Amount: 0.149531
Amount Units: pg/ul
Reviewer: dadunj, 21-Feb-2020 10:26:07
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_53.d				
Injection Date:	20-Feb-2020 07:01:49	Instrument ID:	10D5		
Lims ID:	320-58545-A-3-A	Lab Sample ID:	320-58545-3		
Client ID:	11187072-Western-Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	52	Worklist Smp#:	53
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 1

Processing Integration Results

RT: 31.22
Area: 27140
Amount: 0.212070
Amount Units: pg/ul

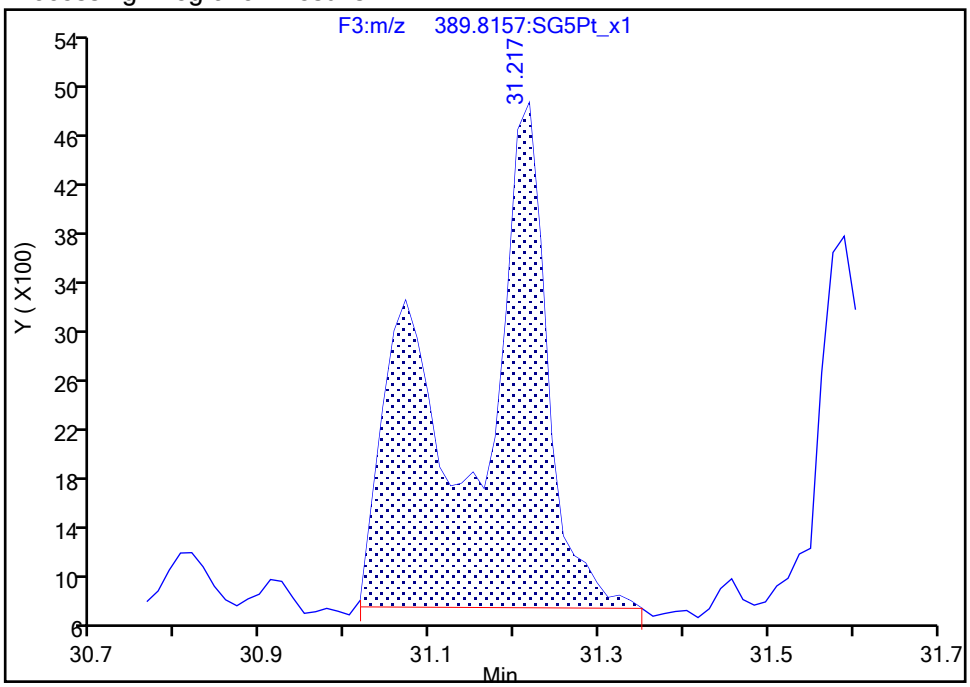

Manual Integration Results

RT: 31.22
Area: 15490
Amount: 0.149531
Amount Units: pg/ul

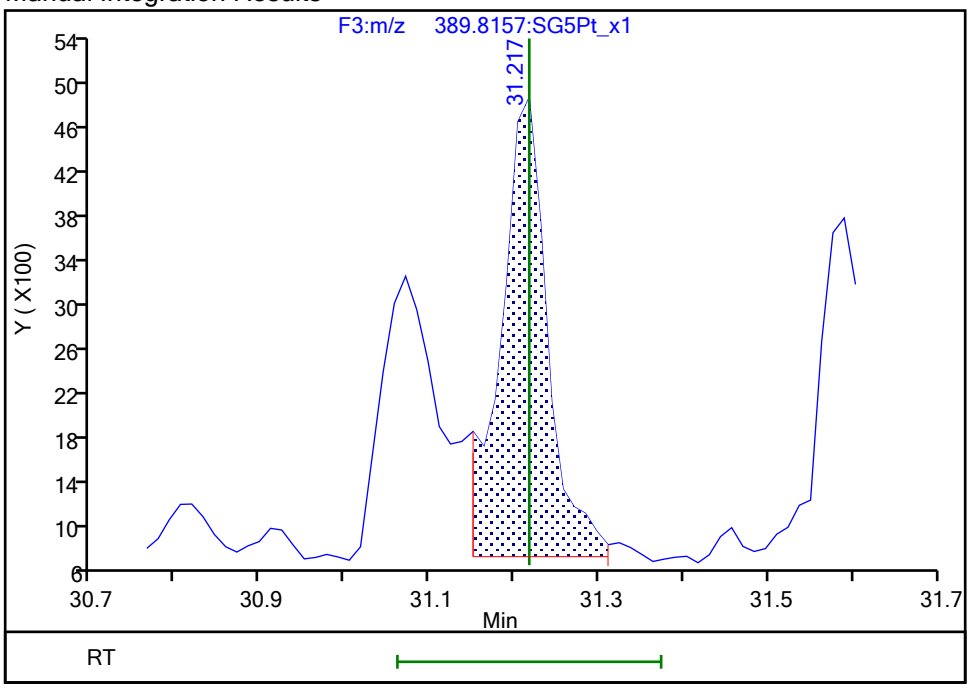

Reviewer: dadunj, 21-Feb-2020 10:26:08

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_53.d				
Injection Date:	20-Feb-2020 07:01:49	Instrument ID:	10D5		
Lims ID:	320-58545-A-3-A	Lab Sample ID:	320-58545-3		
Client ID:	11187072-Western-Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	52	Worklist Smp#:	53
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 2

Processing Integration Results

RT: 31.59
Area: 10616
Amount: 0.123714
Amount Units: pg/ul

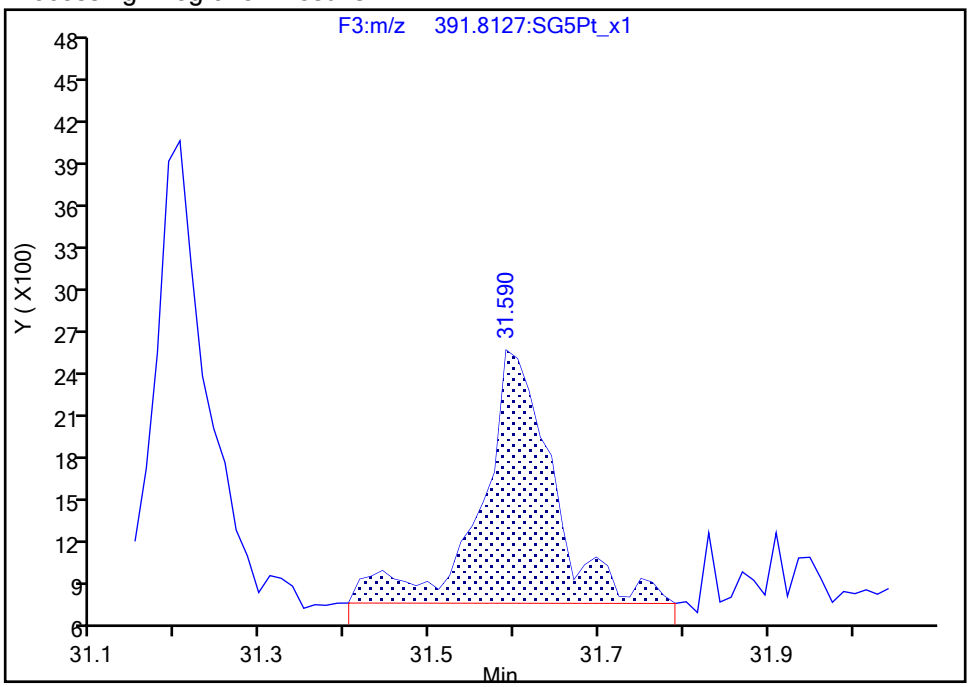

Manual Integration Results

RT: 31.59
Area: 9637
Amount: 0.118651
Amount Units: pg/ul

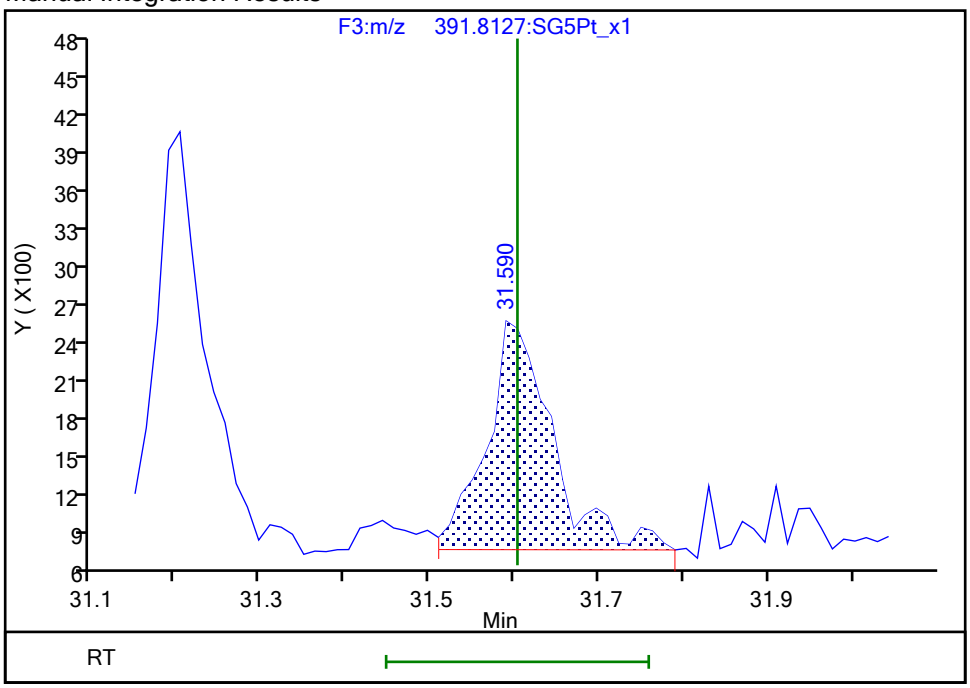

Reviewer: dadunj, 21-Feb-2020 10:26:13

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_53.d				
Injection Date:	20-Feb-2020 07:01:49	Instrument ID:	10D5		
Lims ID:	320-58545-A-3-A	Lab Sample ID:	320-58545-3		
Client ID:	11187072-Western-Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	52	Worklist Smp#:	53
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

Non-2,3,7,8-sub-HxCDD, Signal: 1, m/z: 389.8157, RT: (28.11- 31.58)

Signal: 1

Processing Integration Results

RT = 28.129 Area = 25738

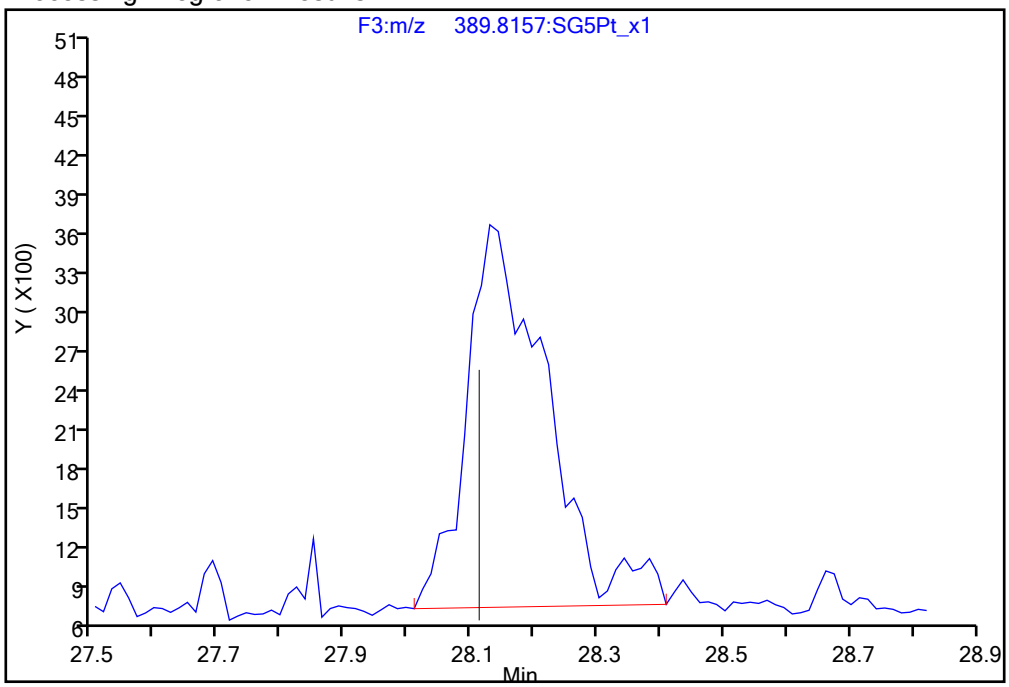

Manual Integration Results

RT = 28.129 Area = 24304 M

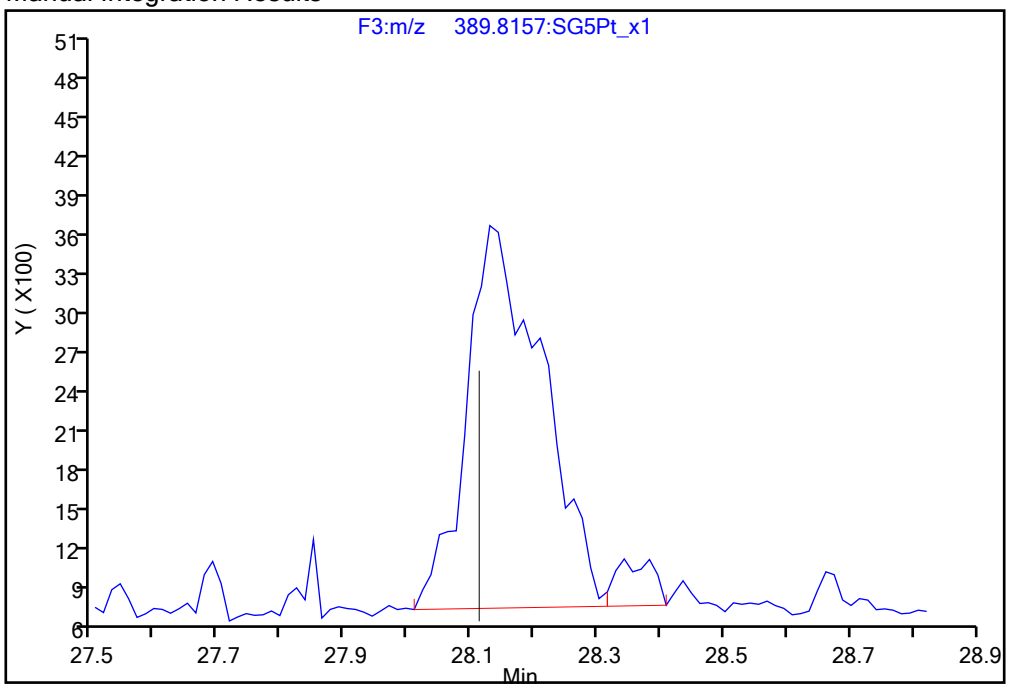

Reviewer: dadunj, 21-Feb-2020 10:26:23

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_53.d				
Injection Date:	20-Feb-2020 07:01:49	Instrument ID:	10D5		
Lims ID:	320-58545-A-3-A	Lab Sample ID:	320-58545-3		
Client ID:	11187072-Western-Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	52	Worklist Smp#:	53
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

Non-2,3,7,8-sub-HxCDD, Signal: 2, m/z: 391.8127, RT: (28.11- 31.58)

Signal: 2

Processing Integration Results

RT = 28.169 Area = 20494

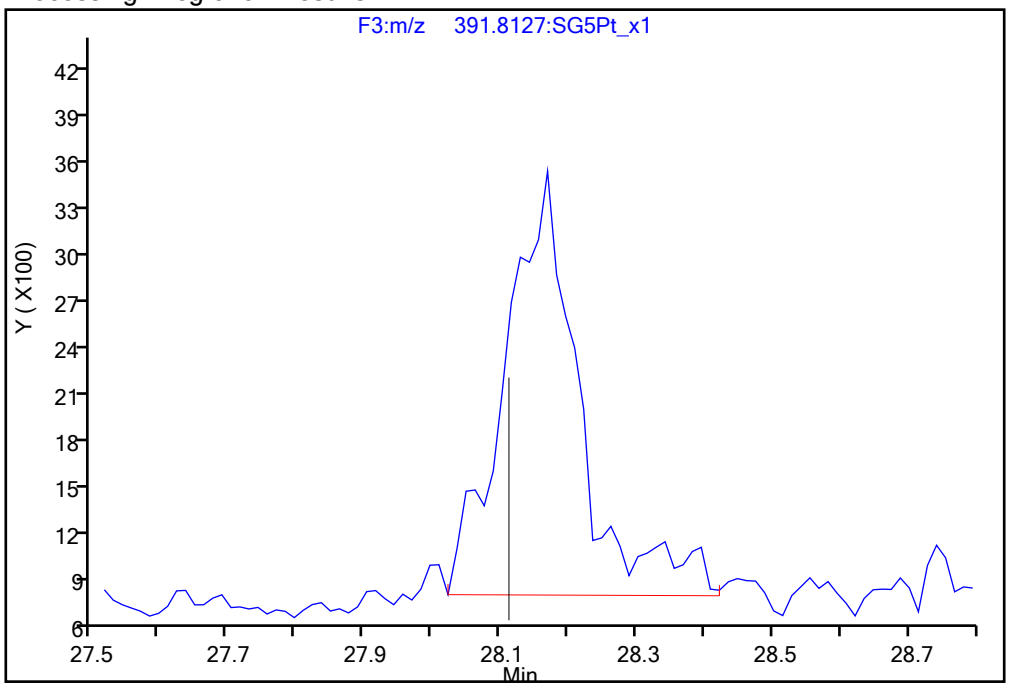

Manual Integration Results

RT = 28.169 Area = 18700 M

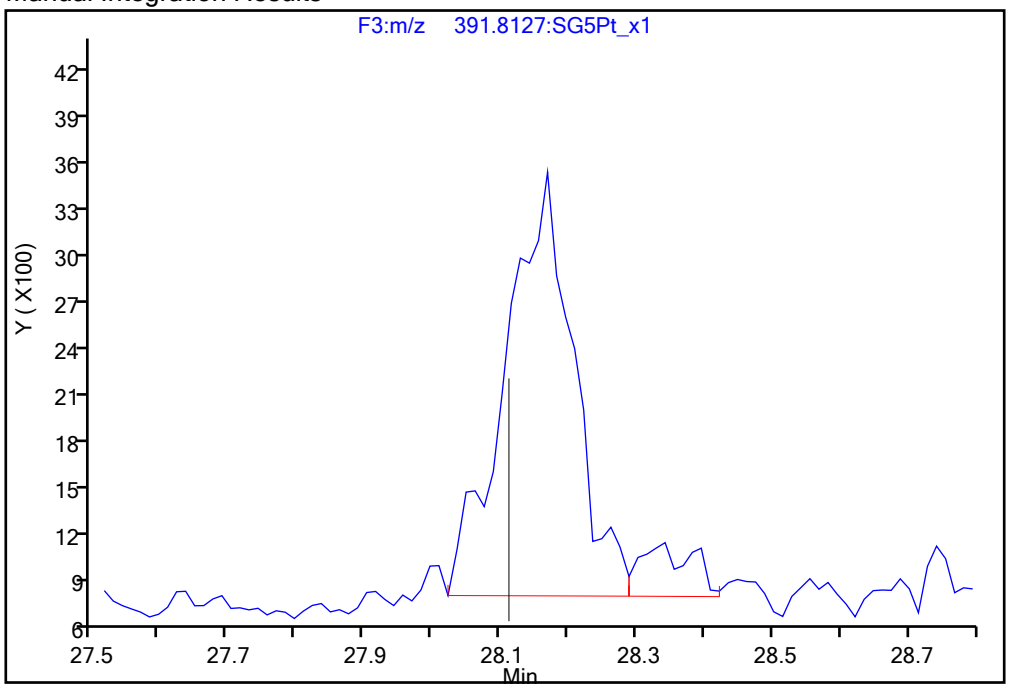

Reviewer: dadunj, 21-Feb-2020 10:26:20

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_53.d				
Injection Date:	20-Feb-2020 07:01:49	Instrument ID:	10D5		
Lims ID:	320-58545-A-3-A	Lab Sample ID:	320-58545-3		
Client ID:	11187072-Western-Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	52	Worklist Smp#:	53
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

Non-2,3,7,8-sub-HxCDD, Signal: 1, m/z: 389.8157, RT: (28.11- 31.58)

Signal: 1

Processing Integration Results

RT = 30.139 Area = 35491

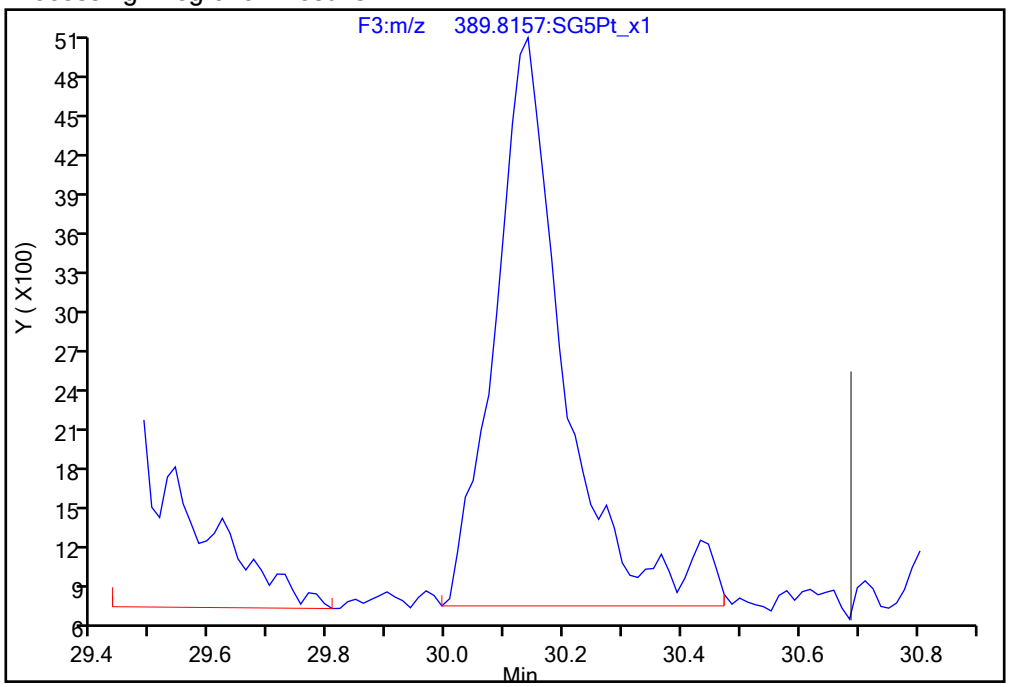

Manual Integration Results

RT = 30.139 Area = 32464 M

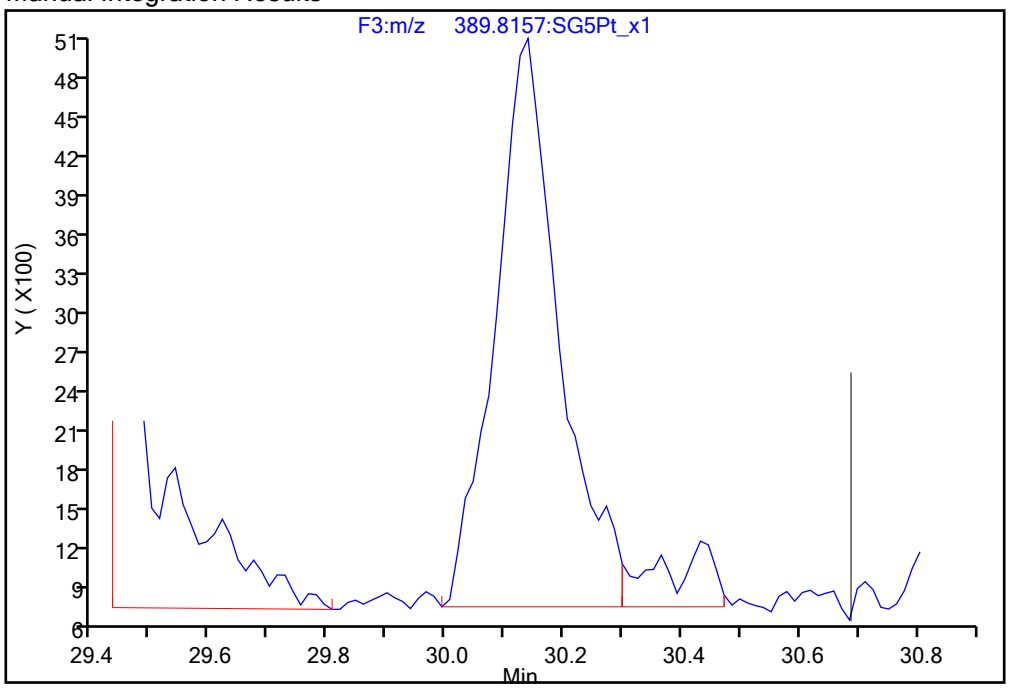

Reviewer: dadunj, 21-Feb-2020 10:26:23

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_53.d				
Injection Date:	20-Feb-2020 07:01:49	Instrument ID:	10D5		
Lims ID:	320-58545-A-3-A	Lab Sample ID:	320-58545-3		
Client ID:	11187072-Western-Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	52	Worklist Smp#:	53
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

Non-2,3,7,8-sub-HpCDF, Signal: 1, m/z: 407.7818, RT: (33.35- 34.46)

Signal: 1

Processing Integration Results

RT = 33.668 Area = 127021

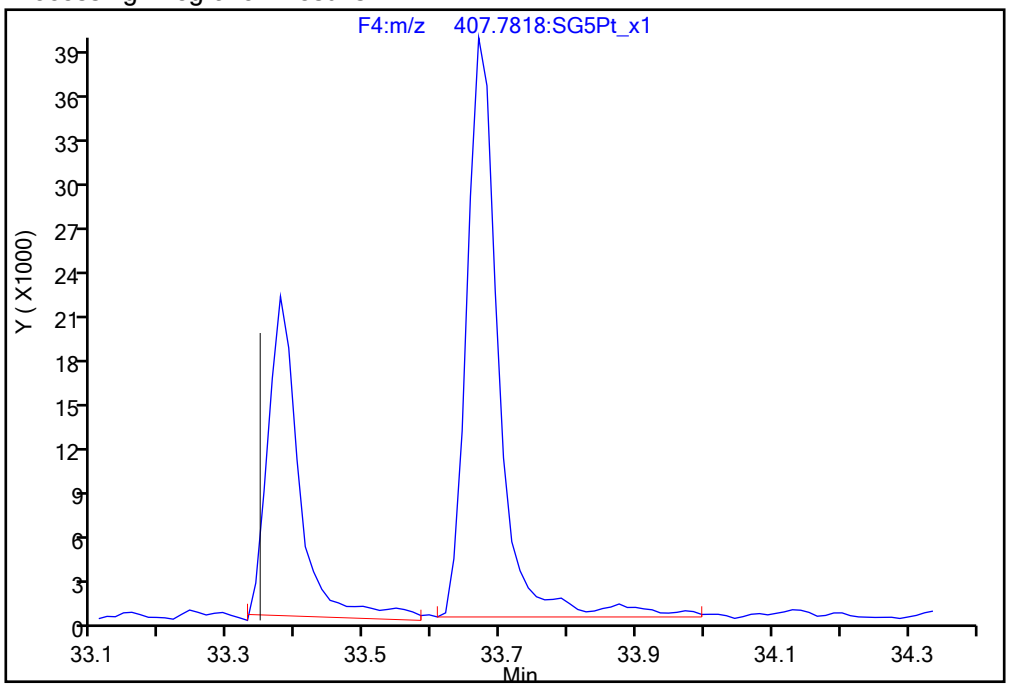

Manual Integration Results

RT = 33.668 Area = 122461 M

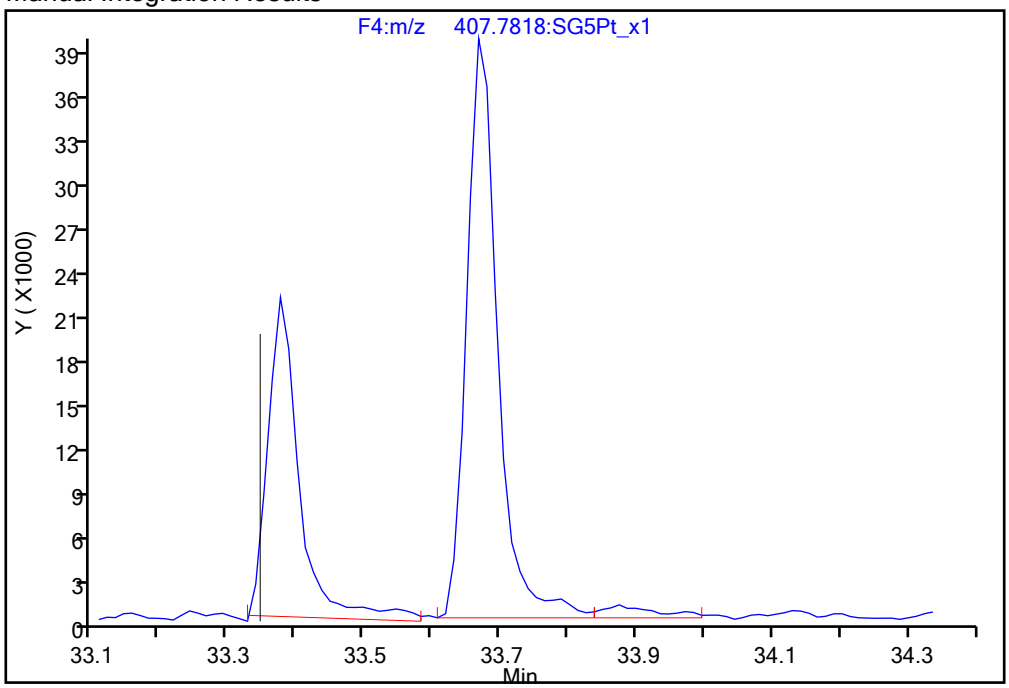

Reviewer: dadunj, 21-Feb-2020 10:26:36

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_53.d				
Injection Date:	20-Feb-2020 07:01:49	Instrument ID:	10D5		
Lims ID:	320-58545-A-3-A	Lab Sample ID:	320-58545-3		
Client ID:	11187072-Western-Rock				
Operator ID:	AJS, ALM	ALS Bottle#:	52	Worklist Smp#:	53
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

Non-2,3,7,8-sub-HpCDF, Signal: 2, m/z: 409.7789, RT: (33.35- 34.46)

Signal: 2

Processing Integration Results

RT = 33.668 Area = 129270

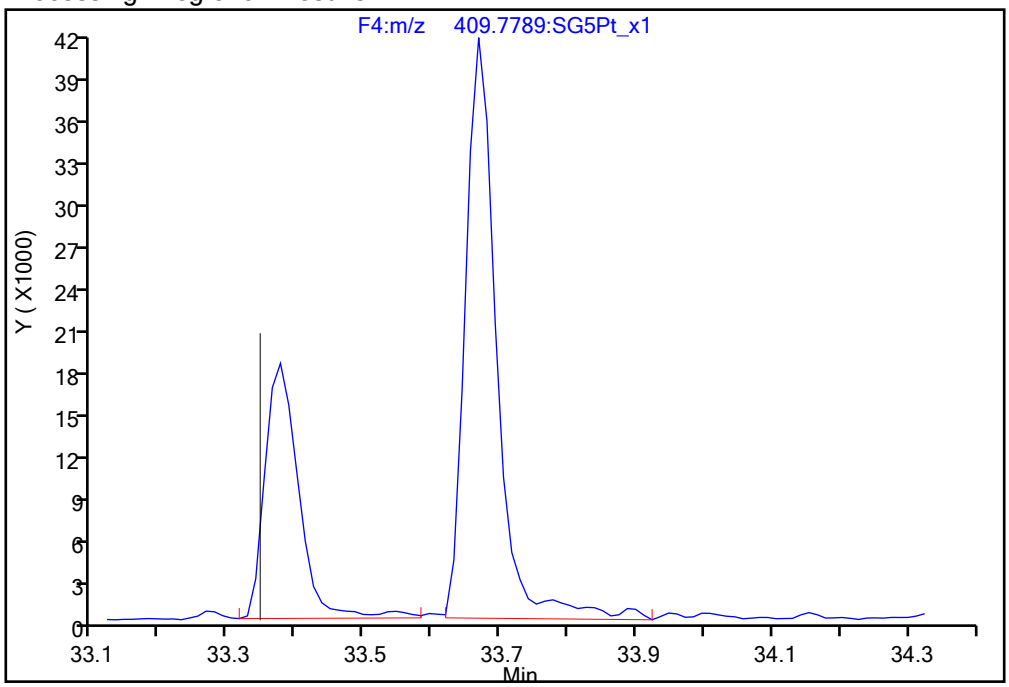

Manual Integration Results

RT = 33.668 Area = 126226 M

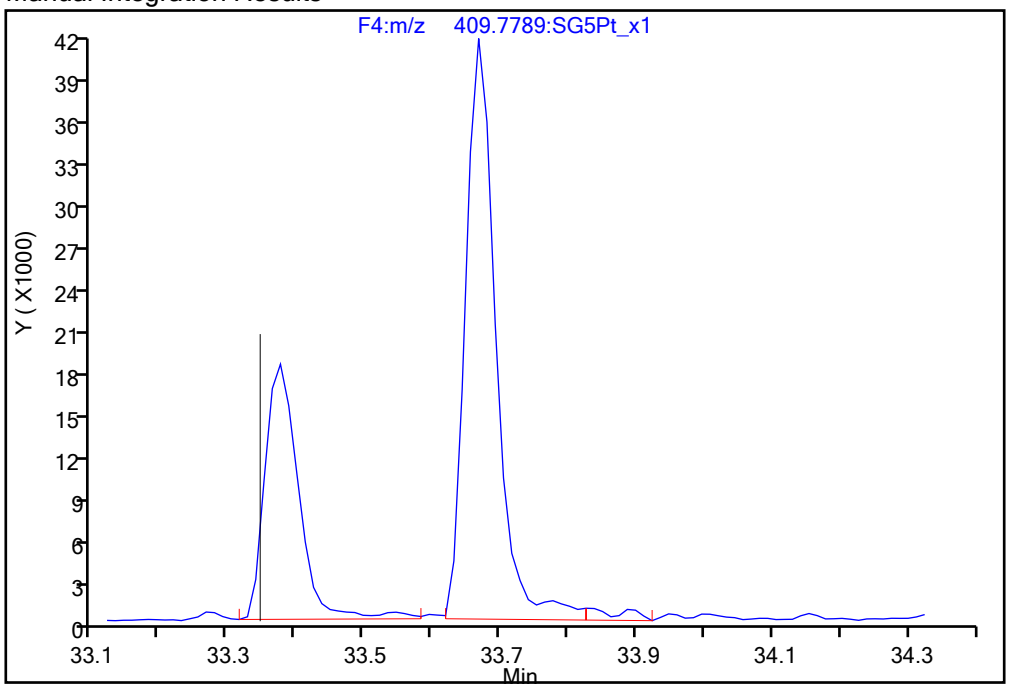

Reviewer: dadunj, 21-Feb-2020 10:26:32

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 21-Feb-2020 10:27:24 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_53.d		
Injection Date:	20-Feb-2020 07:01:49	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Western-Rock		
Worklist#:	358703	Sample Line#:	53
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

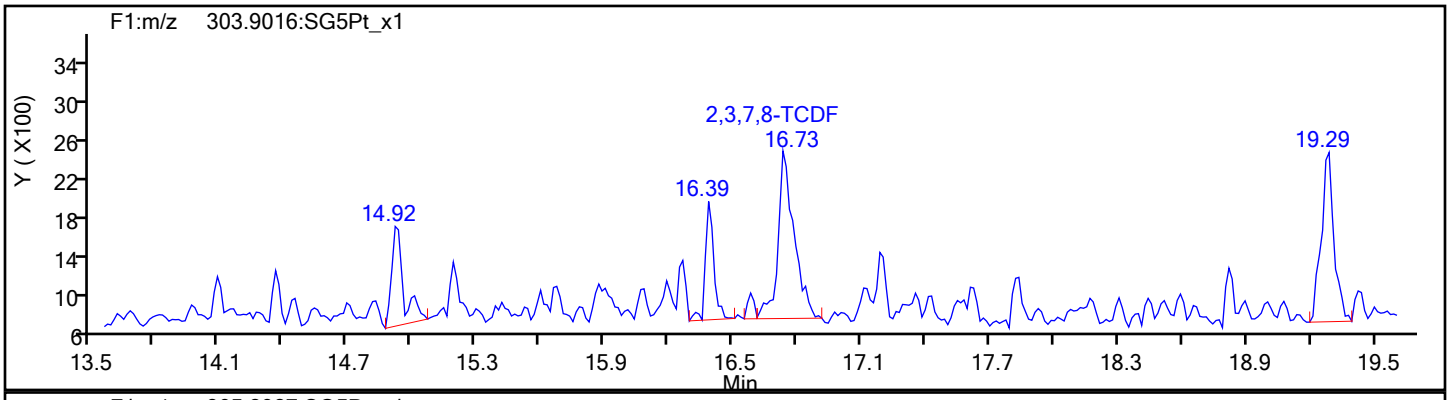

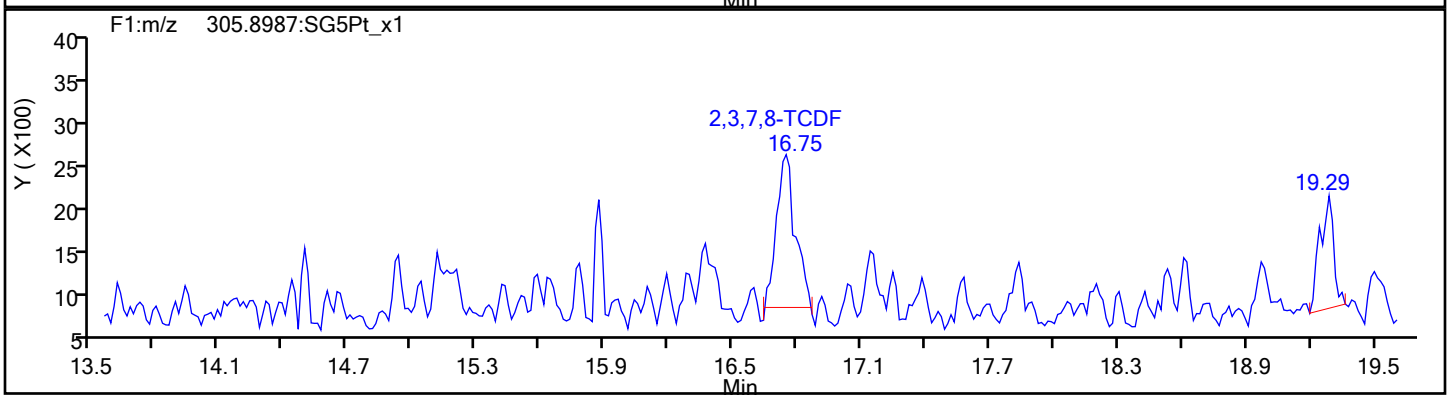

TCDF Standards

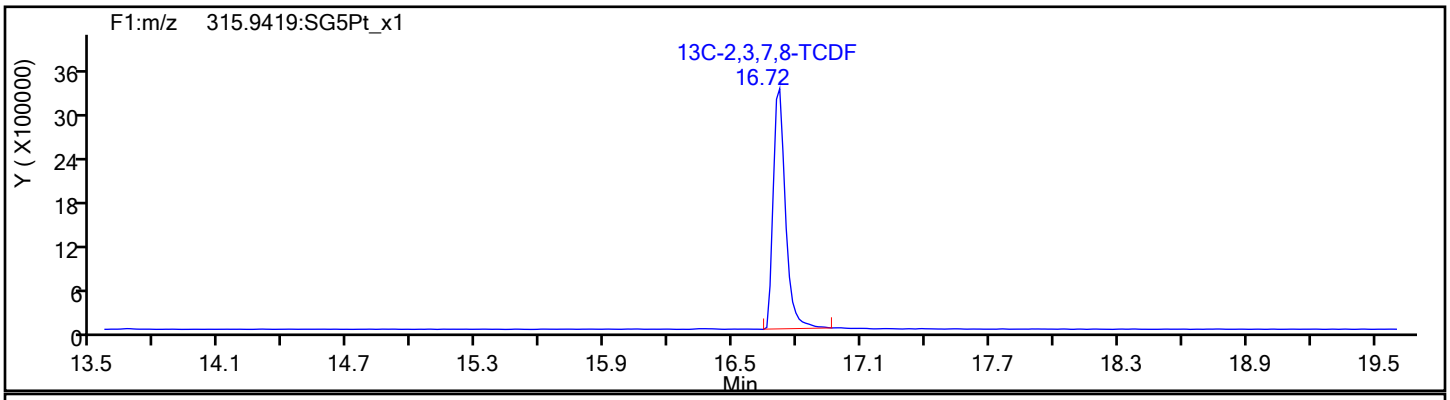

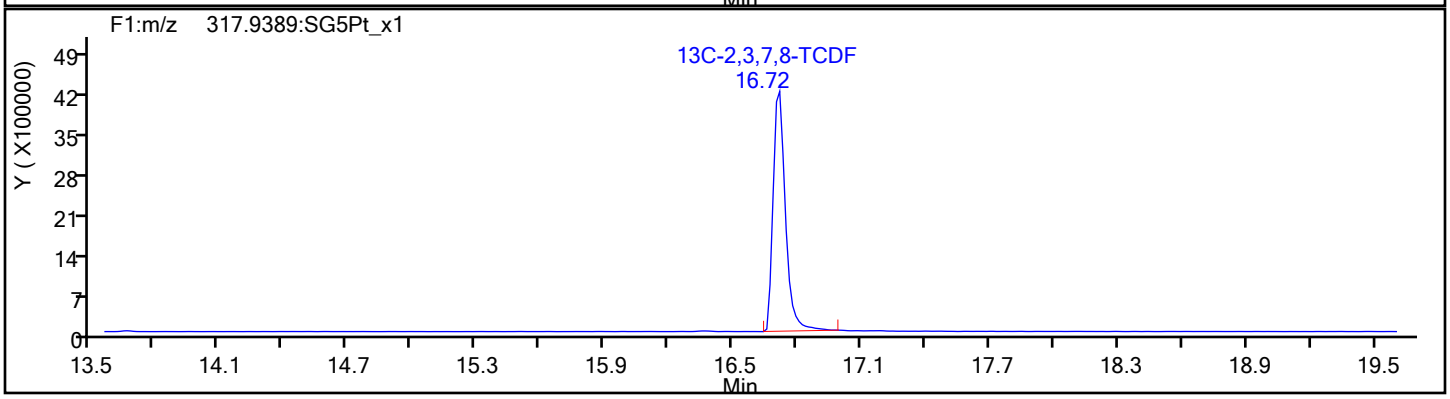

Report Date: 21-Feb-2020 10:27:24 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_53.d		
Injection Date:	20-Feb-2020 07:01:49	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Western-Rock		
Worklist#:	358703	Sample Line#:	53
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

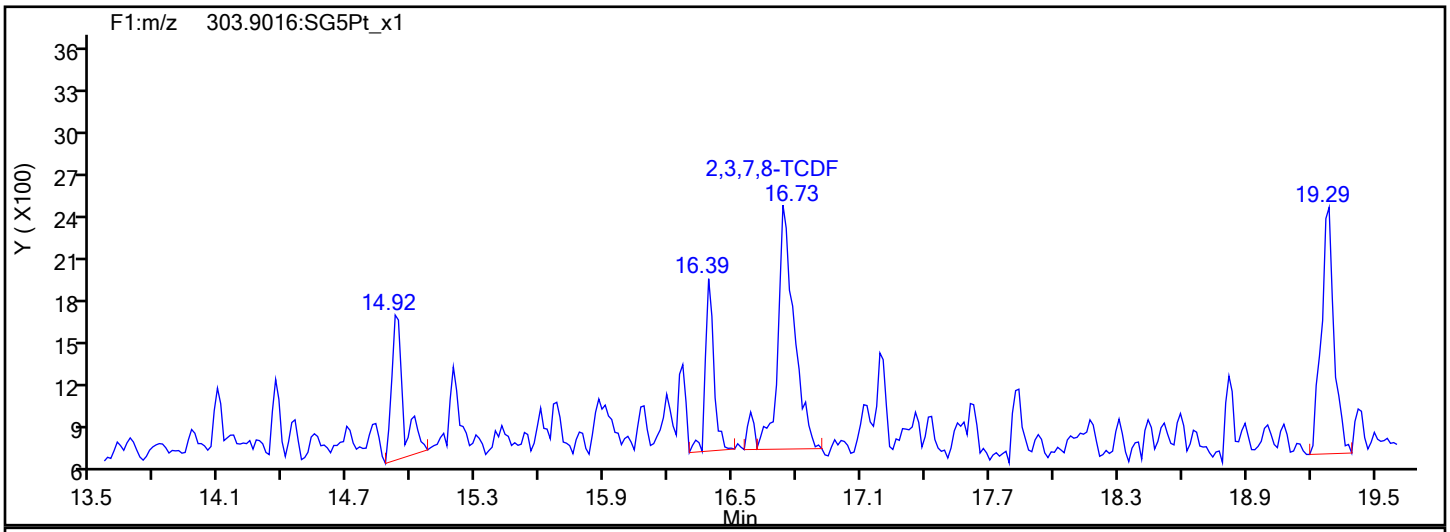

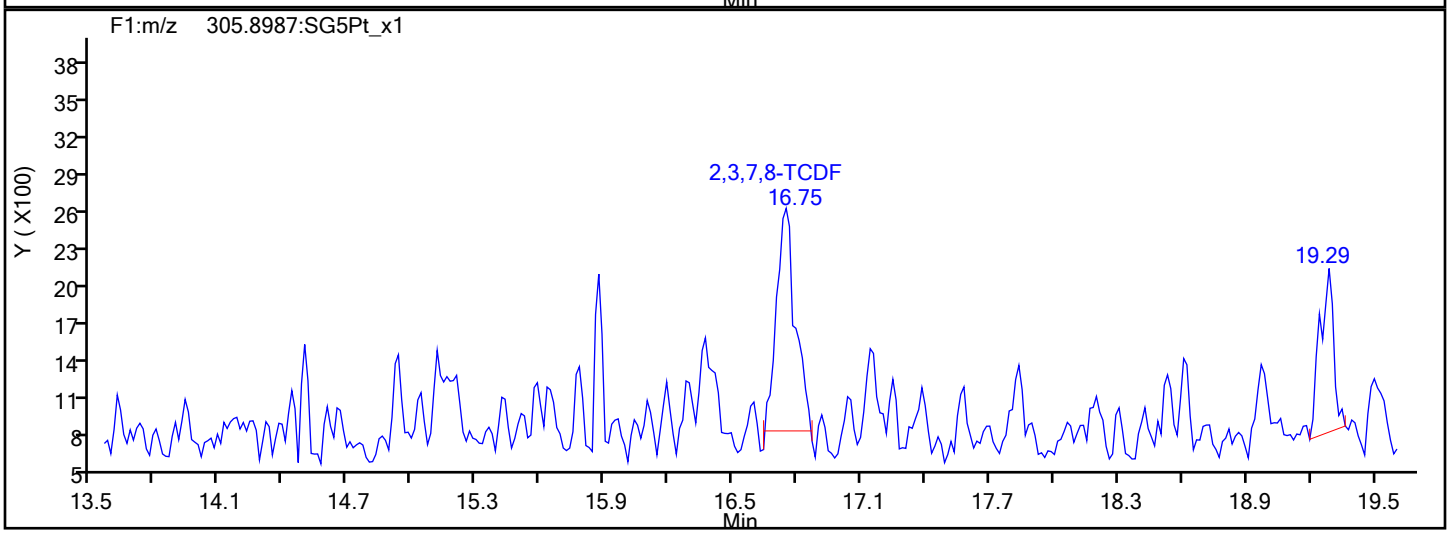

TCDF Interference Mass

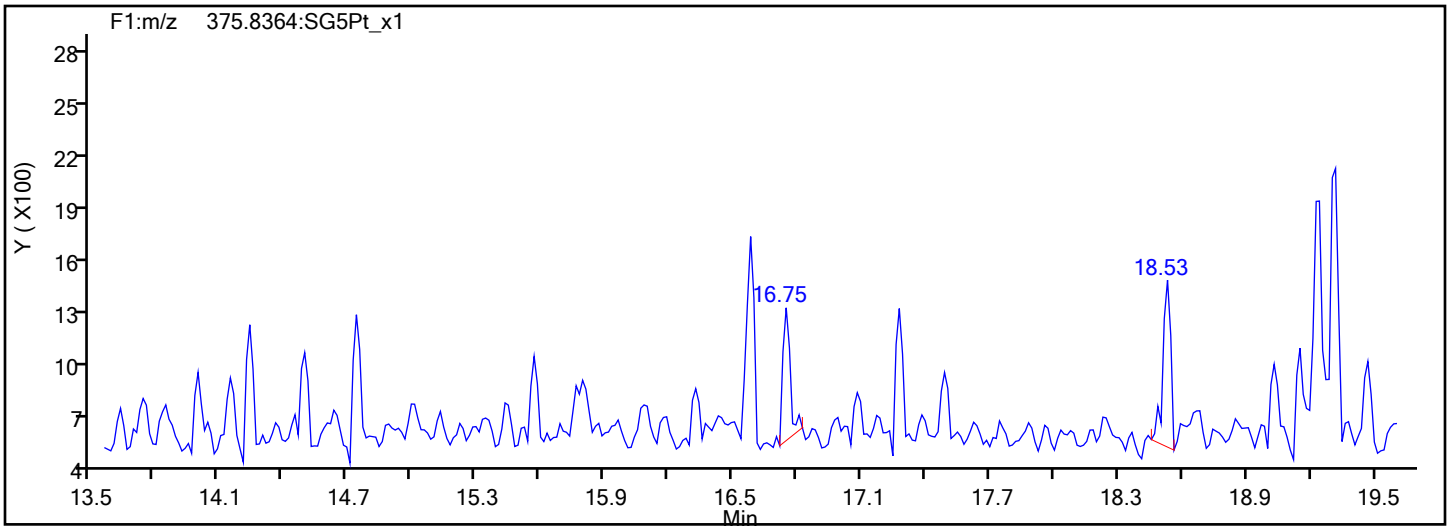

Report Date: 21-Feb-2020 10:27:24 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_53.d		
Injection Date:	20-Feb-2020 07:01:49	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Western-Rock		
Worklist#:	358703	Sample Line#:	53
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

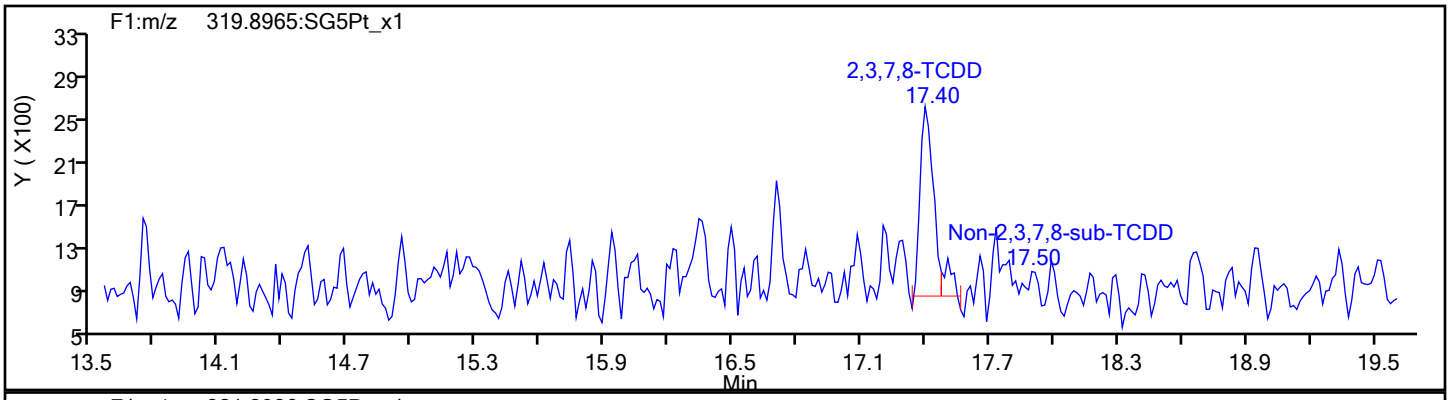

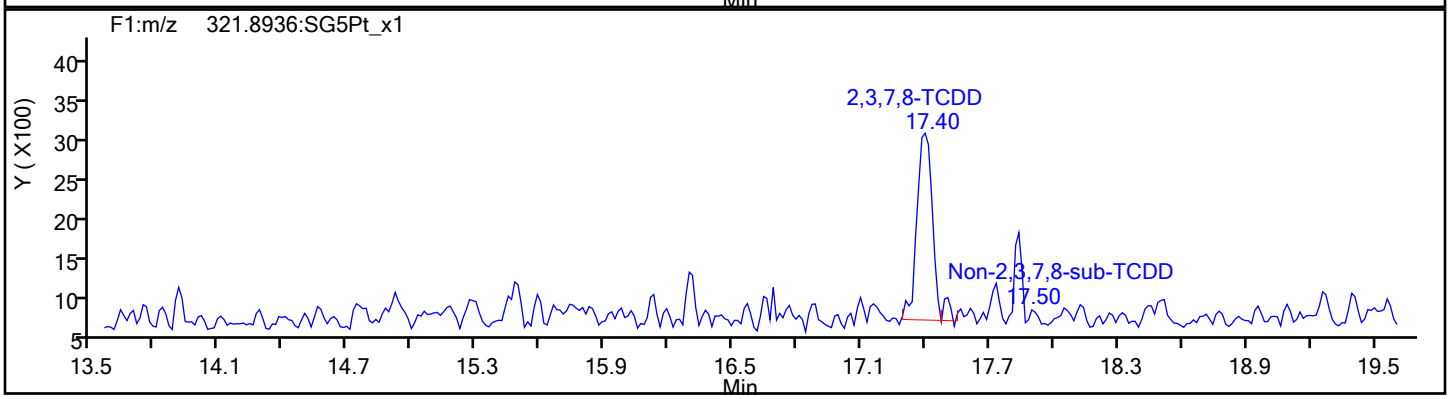

TCDD Standards

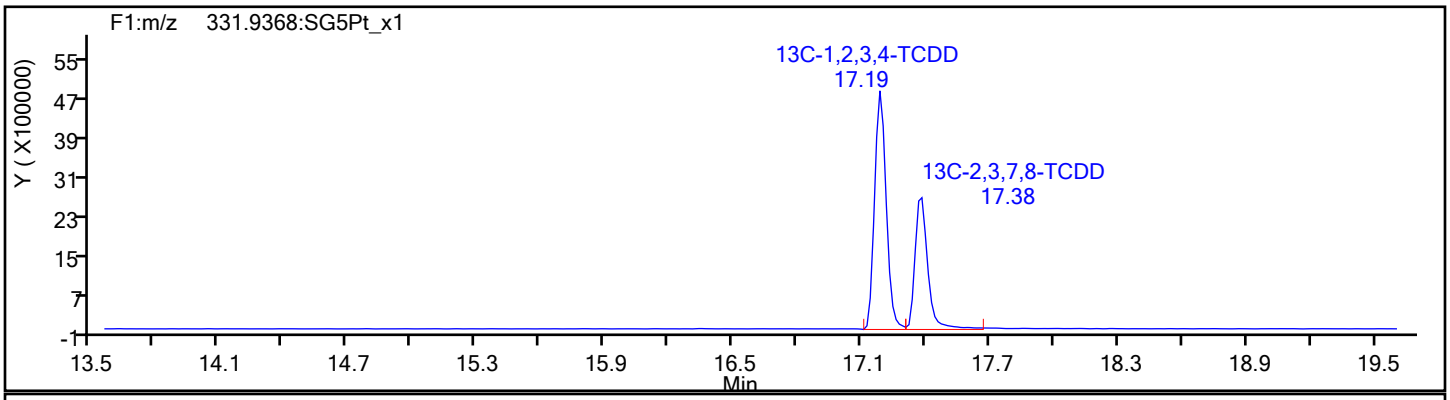

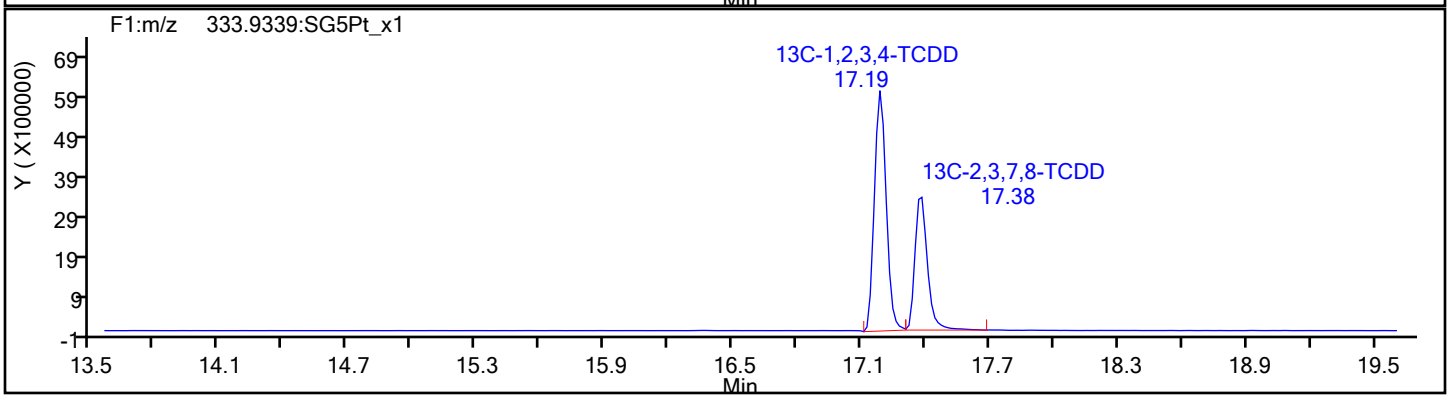

Report Date: 21-Feb-2020 10:27:24 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_53.d		
Injection Date:	20-Feb-2020 07:01:49	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Western-Rock		
Worklist#:	358703	Sample Line#:	53
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

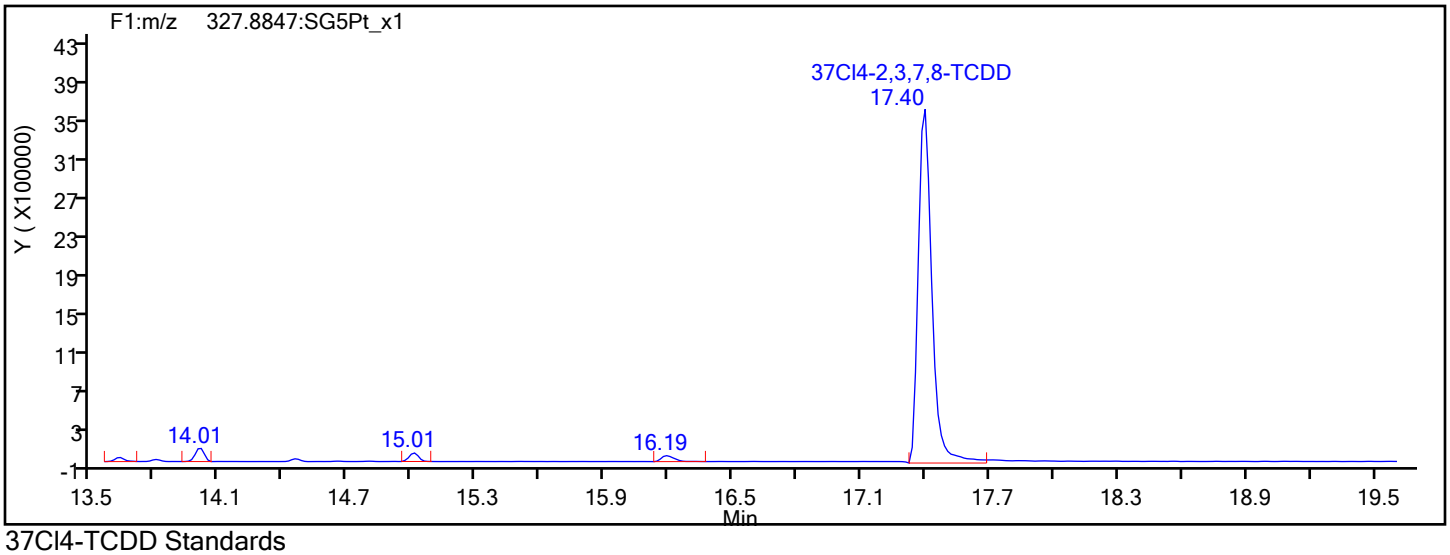

37Cl4-TCDD Standards

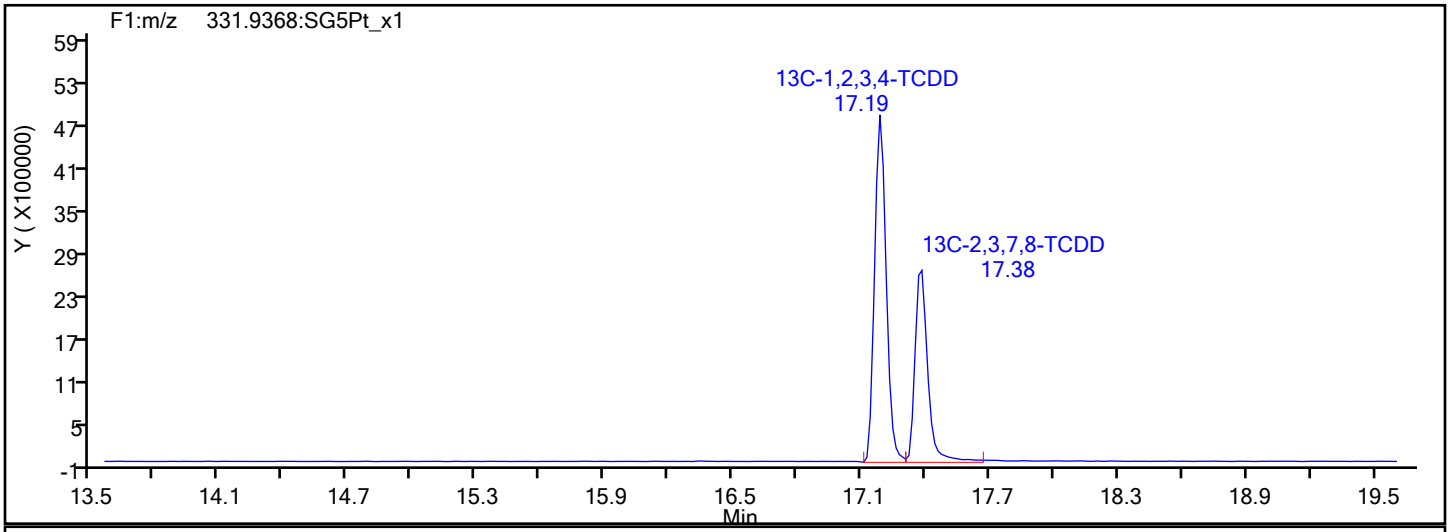

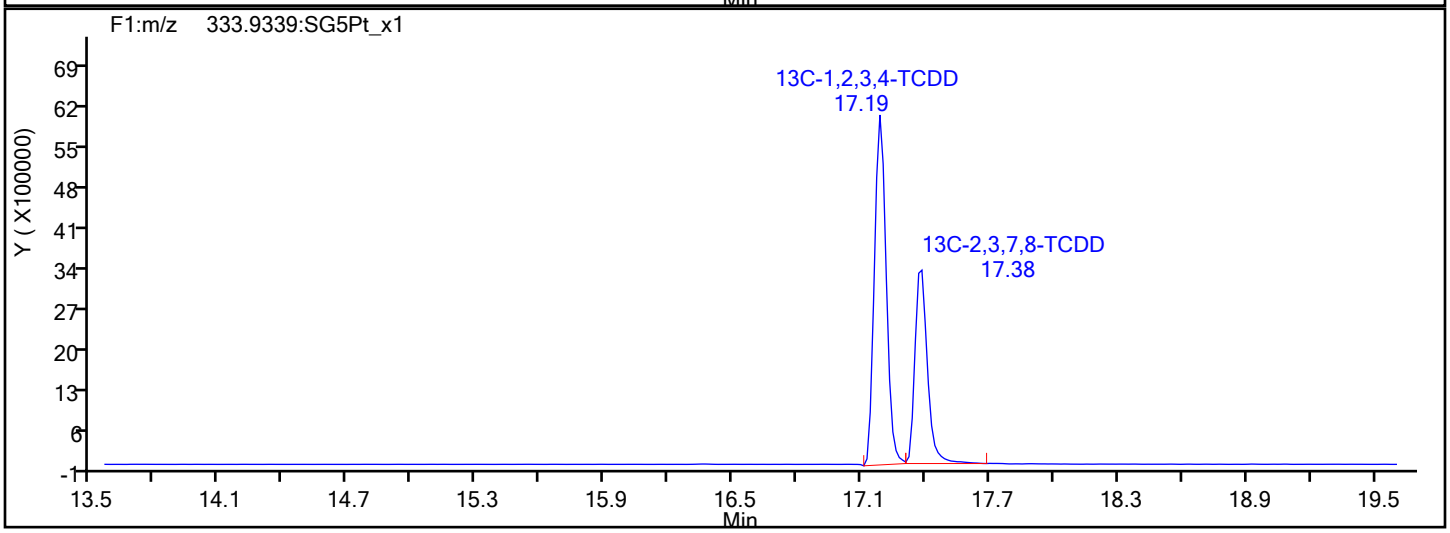

Report Date: 21-Feb-2020 10:27:24 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_53.d		
Injection Date:	20-Feb-2020 07:01:49	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Western-Rock		
Worklist#:	358703	Sample Line#:	53
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

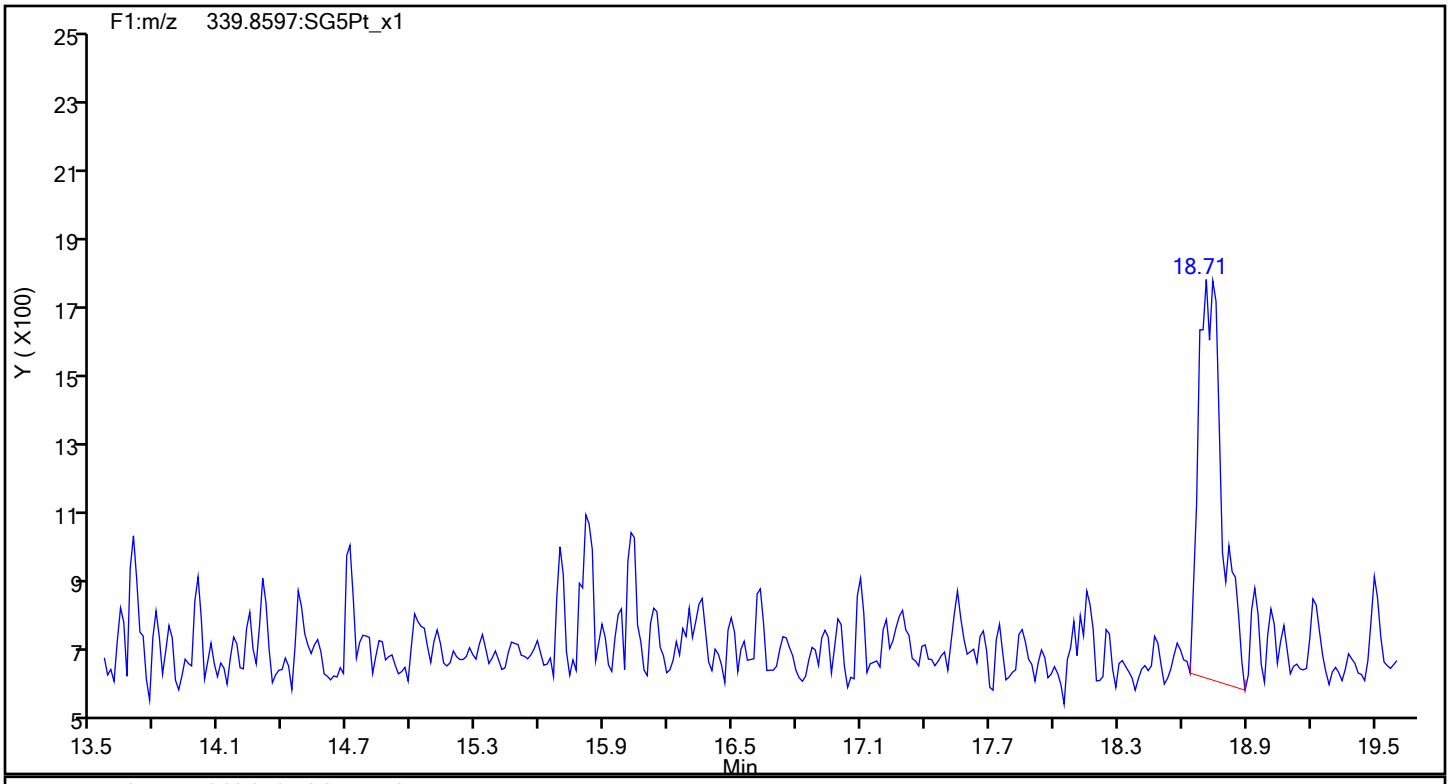

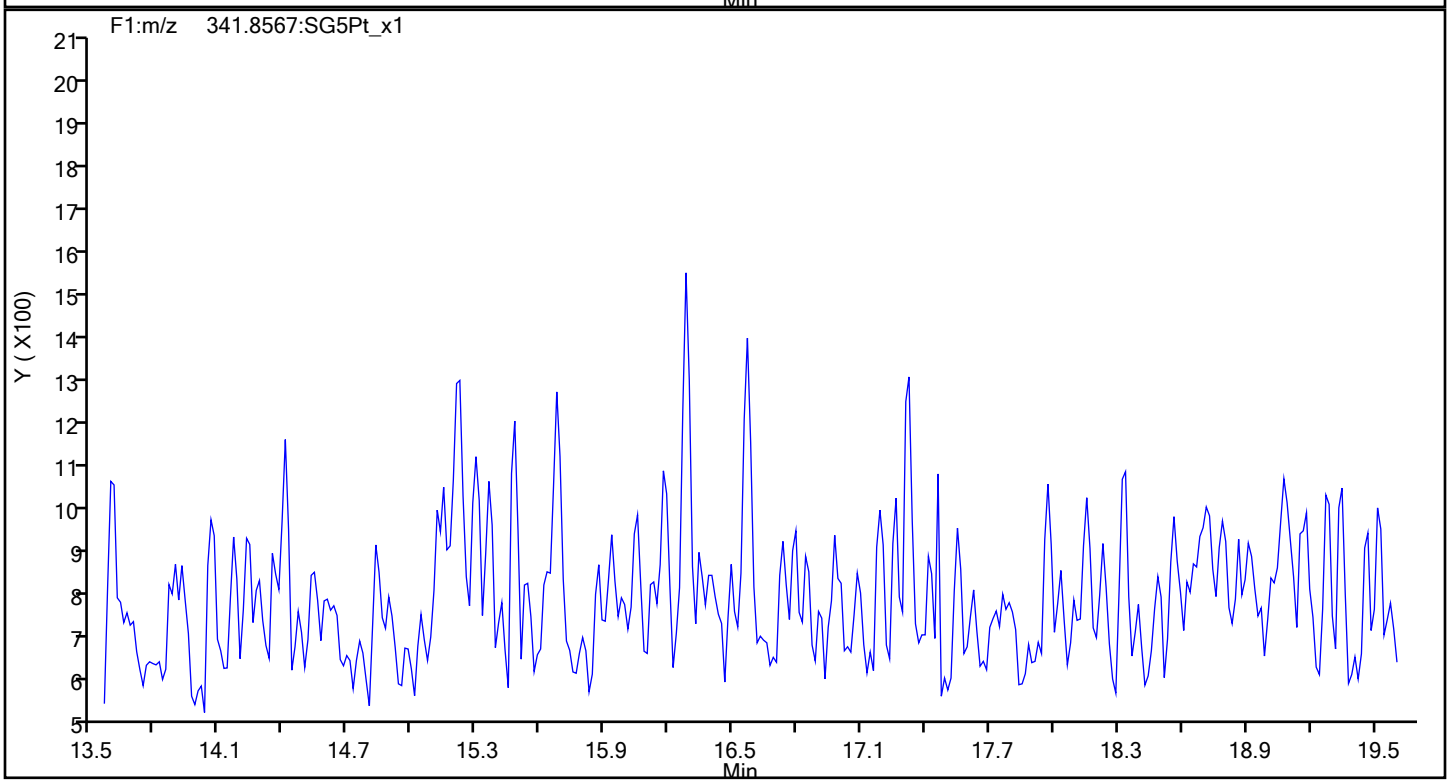

Report Date: 21-Feb-2020 10:27:24 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_53.d		
Injection Date:	20-Feb-2020 07:01:49	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Western-Rock		
Worklist#:	358703	Sample Line#:	53
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

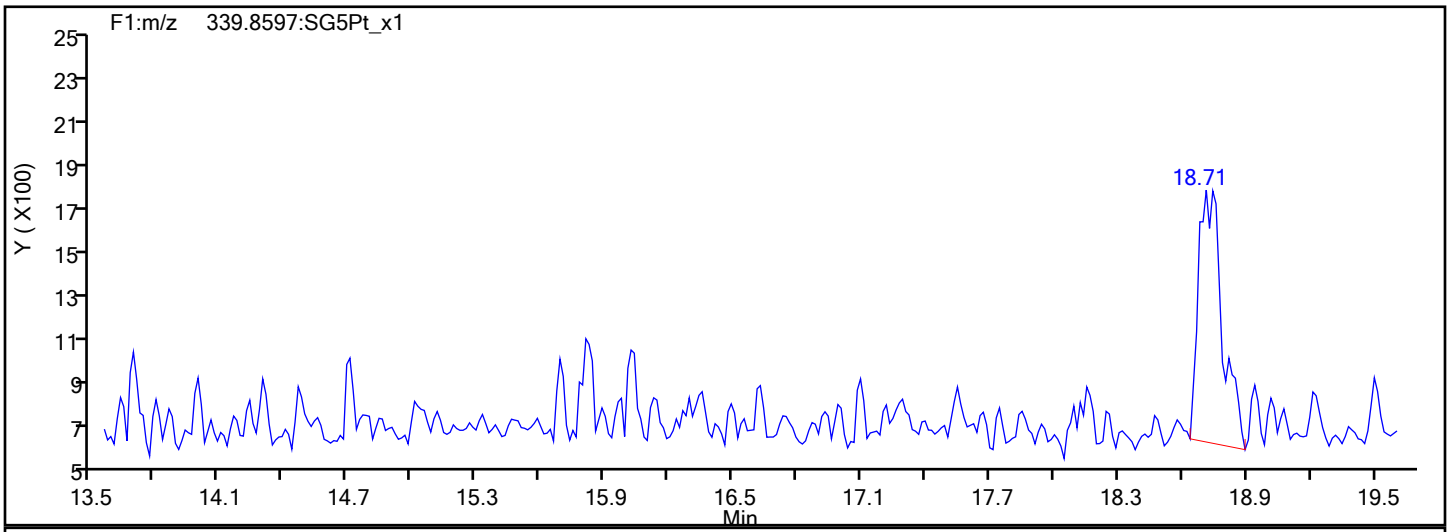

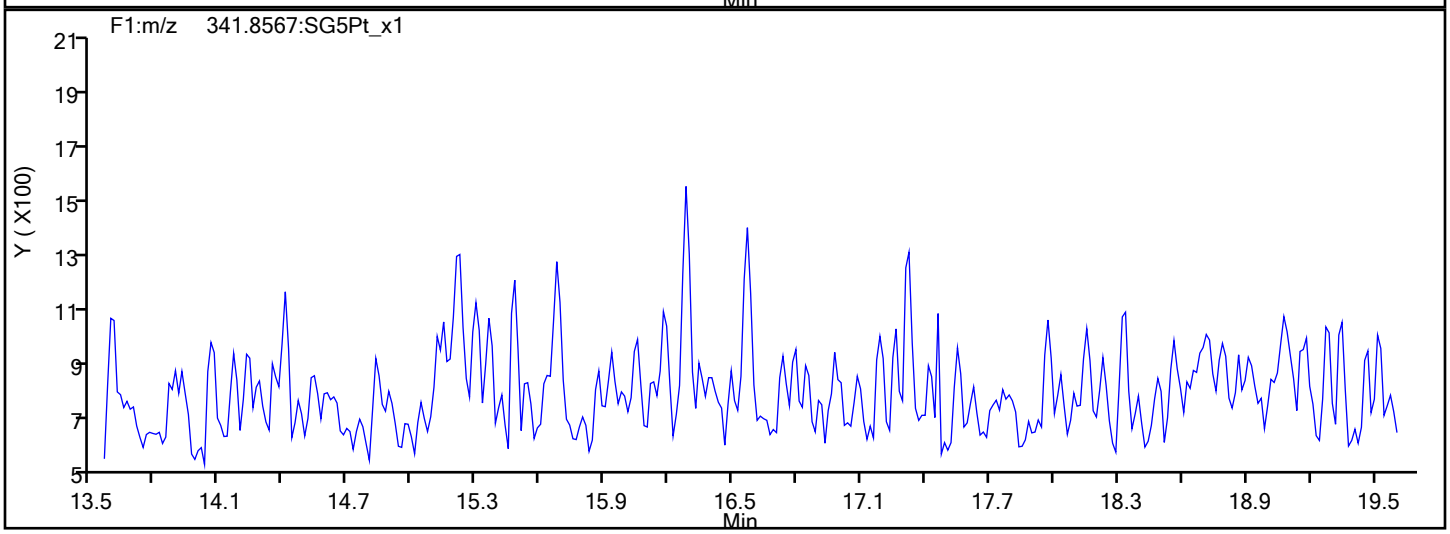

F1 PeCDFs Interference Mass

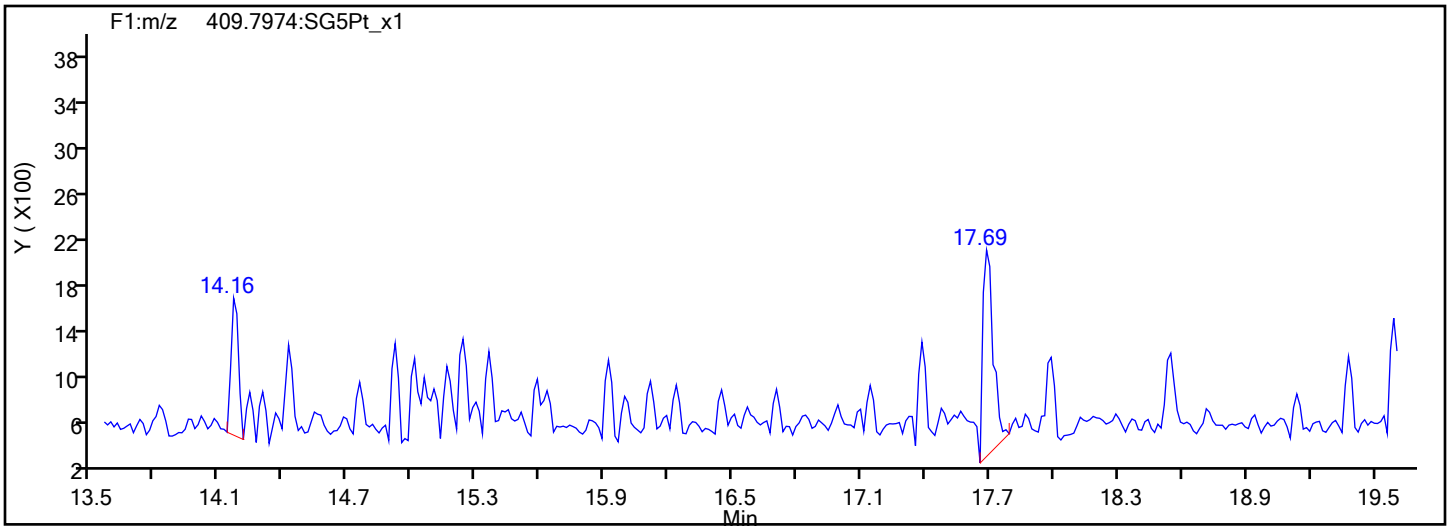

Report Date: 21-Feb-2020 10:27:24 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_53.d		
Injection Date:	20-Feb-2020 07:01:49	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Western-Rock		
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Column Type:	DB-5	Column Dia:	0.32 mm

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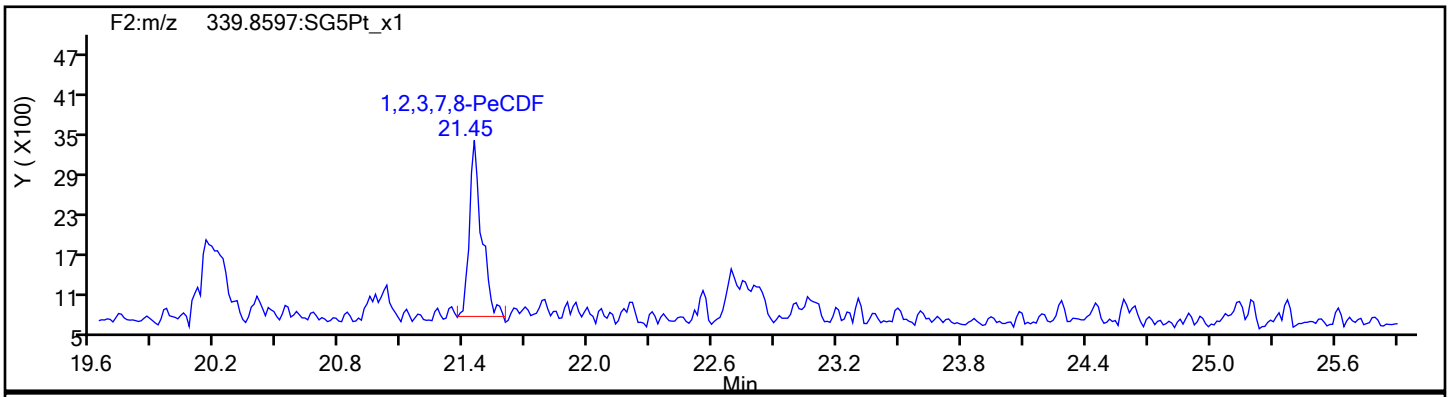

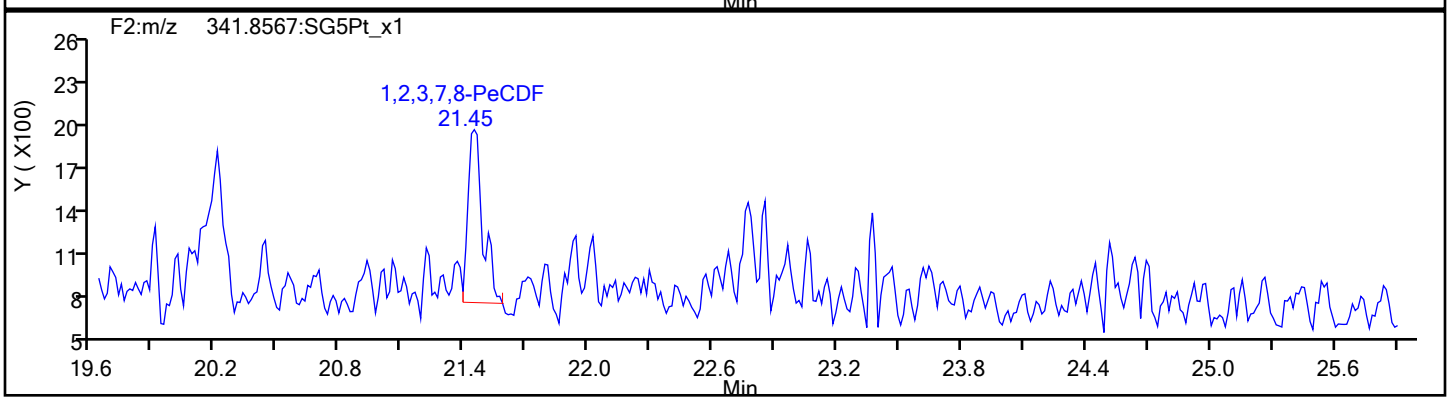

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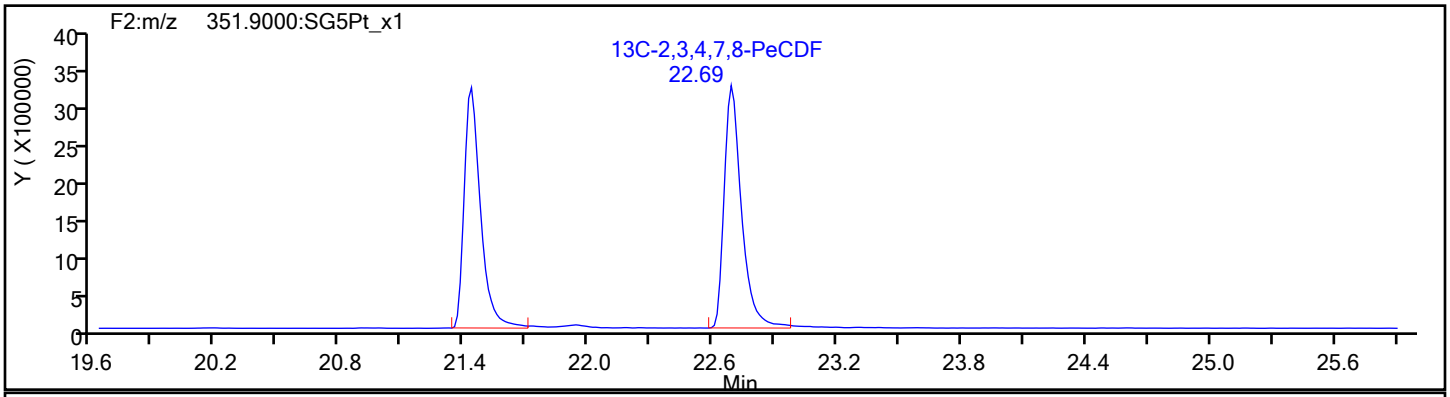

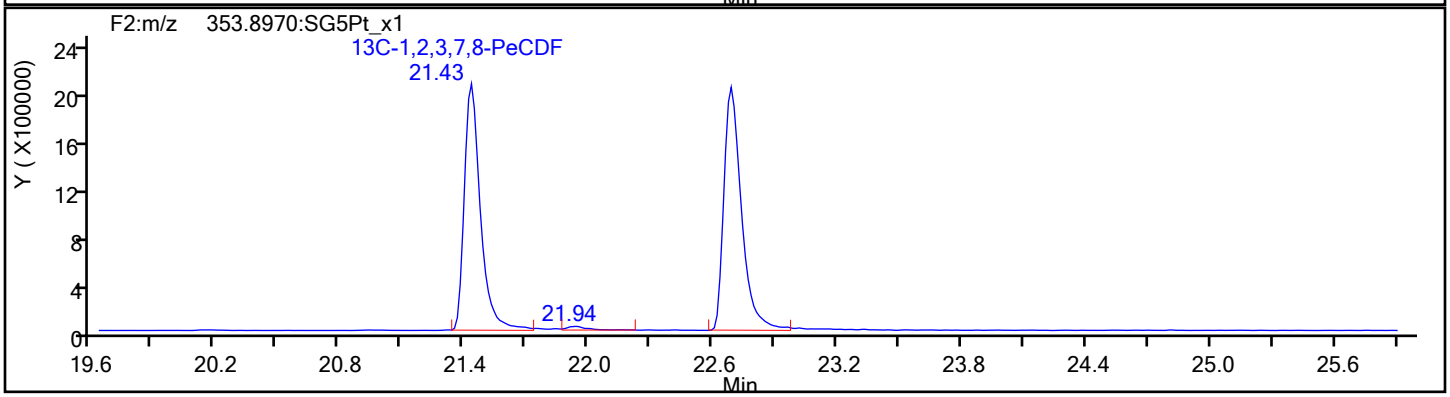

Report Date: 21-Feb-2020 10:27:24 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

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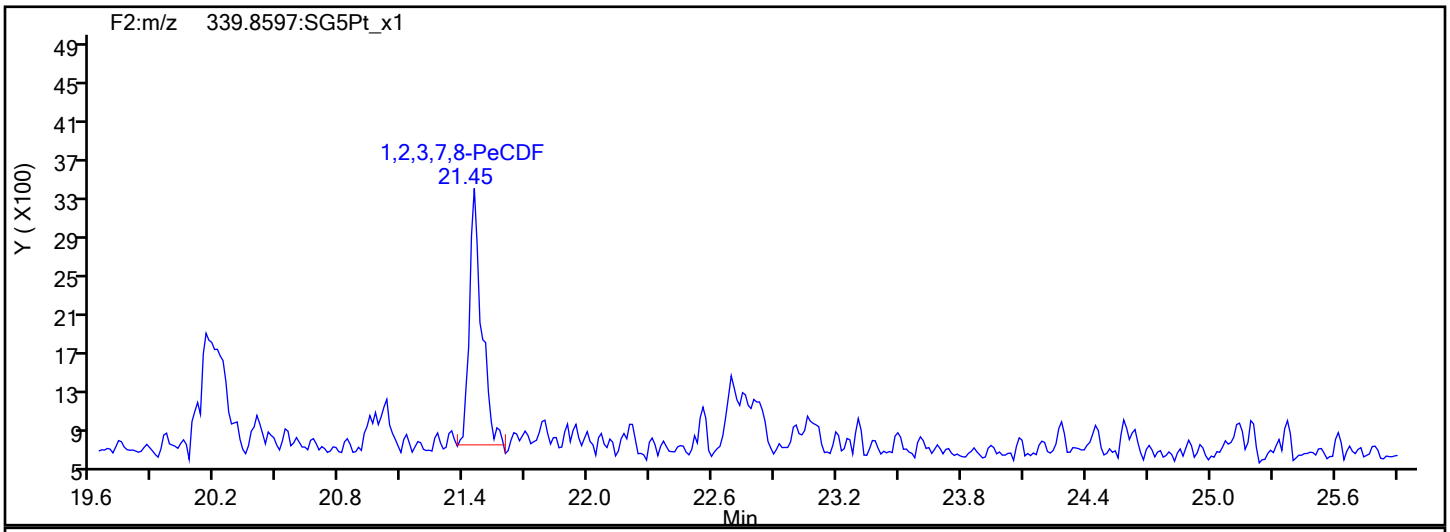

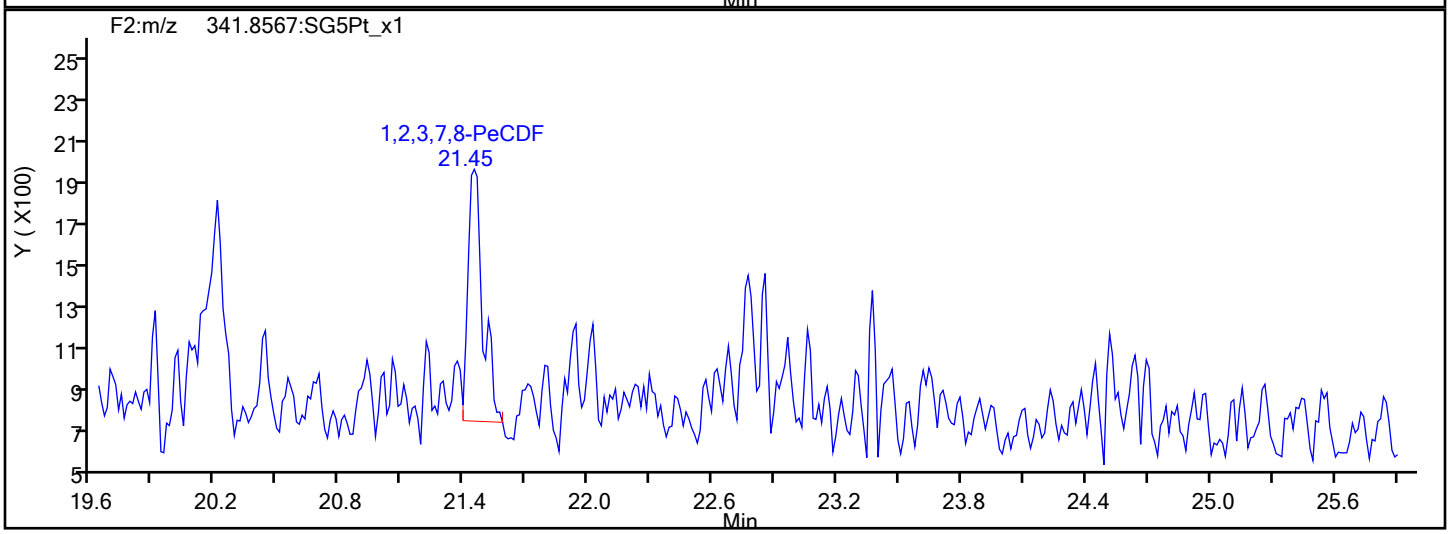

PeCDF Interference Mass

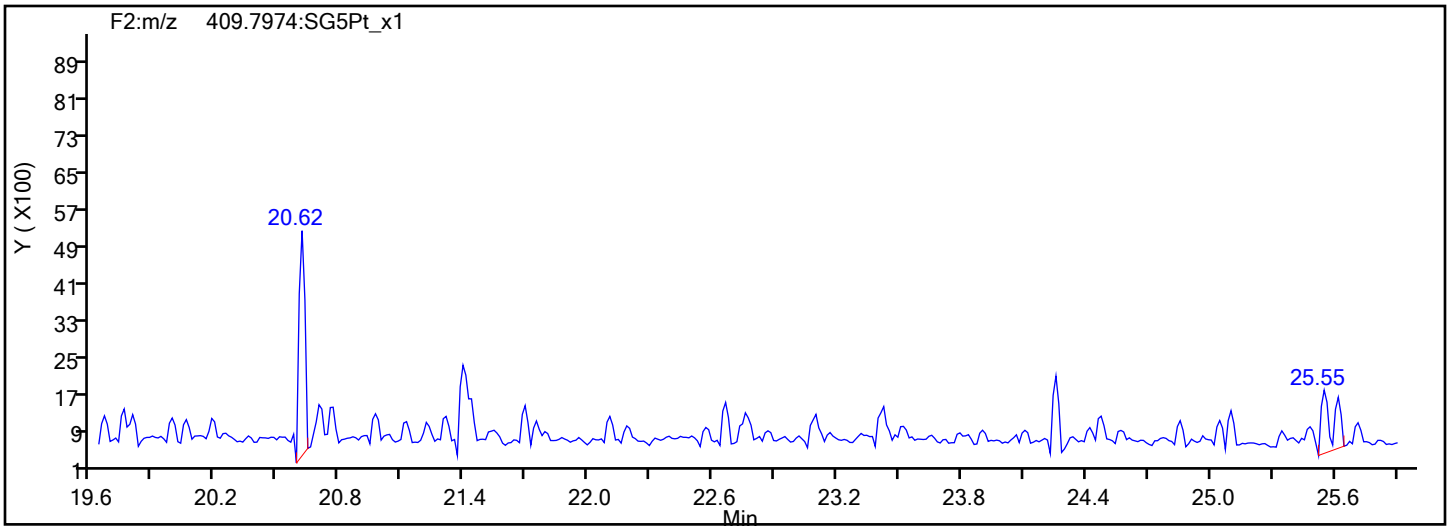

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Eurofins TestAmerica, Sacramento

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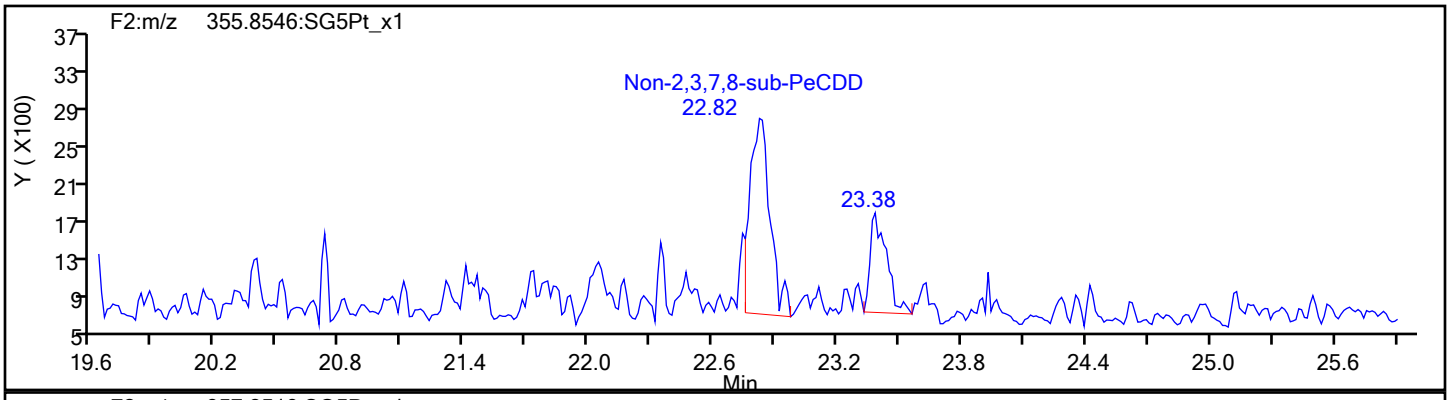

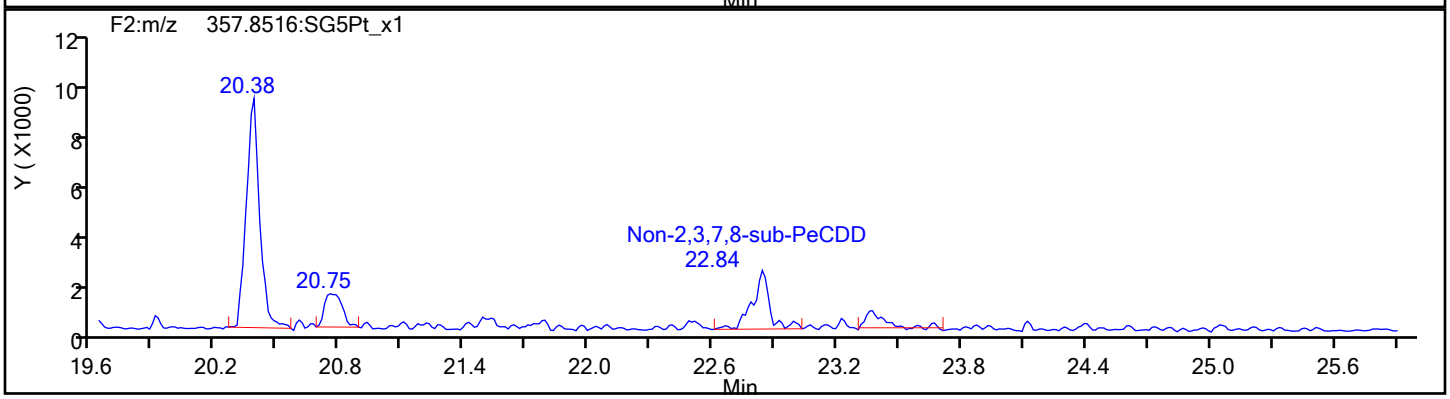

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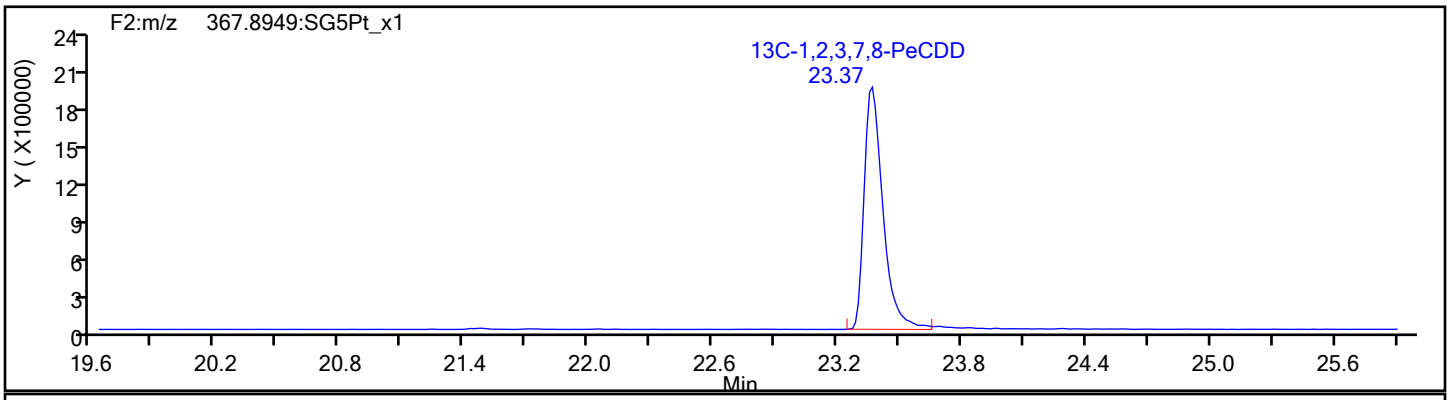

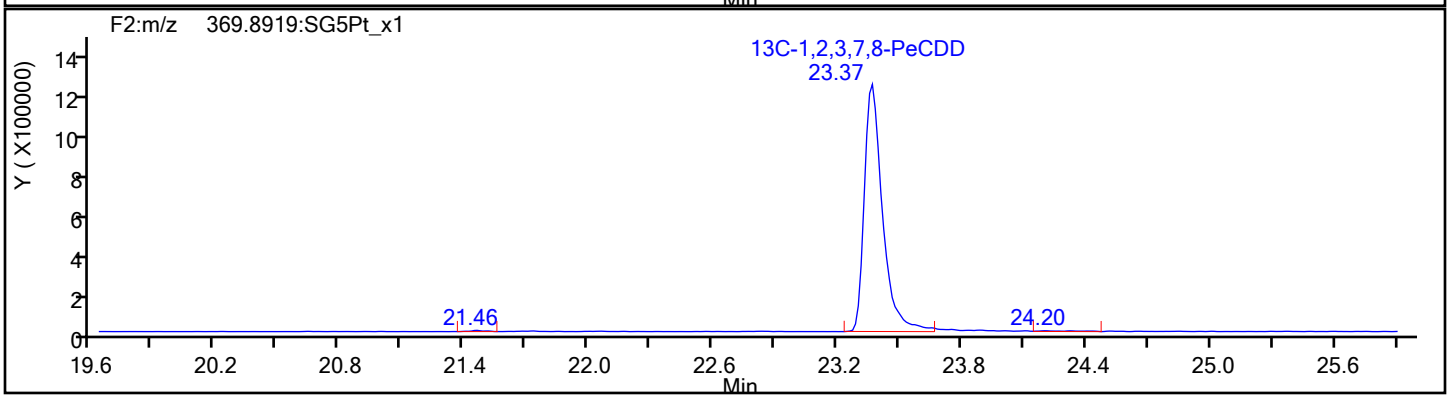

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Eurofins TestAmerica, Sacramento

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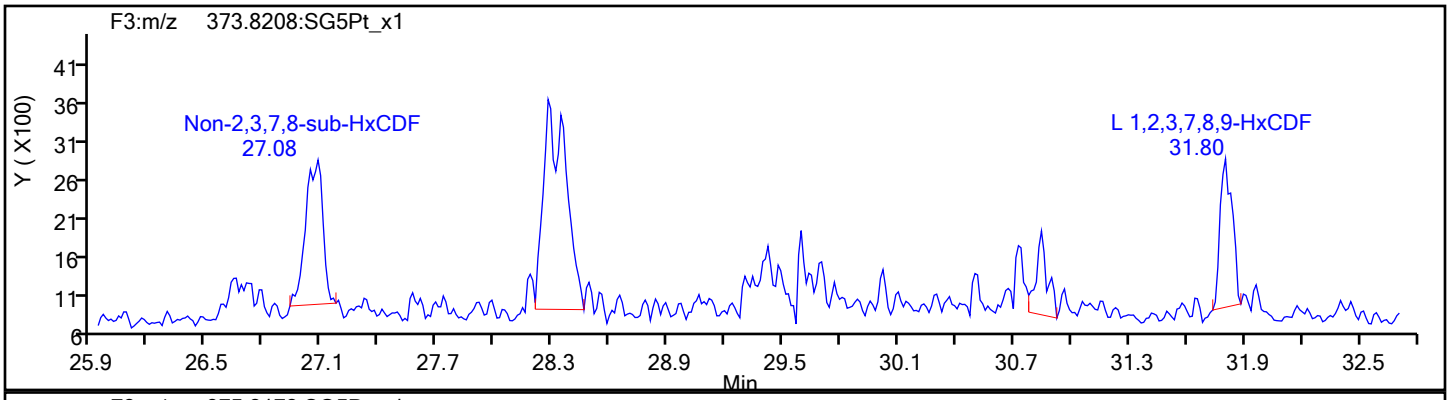

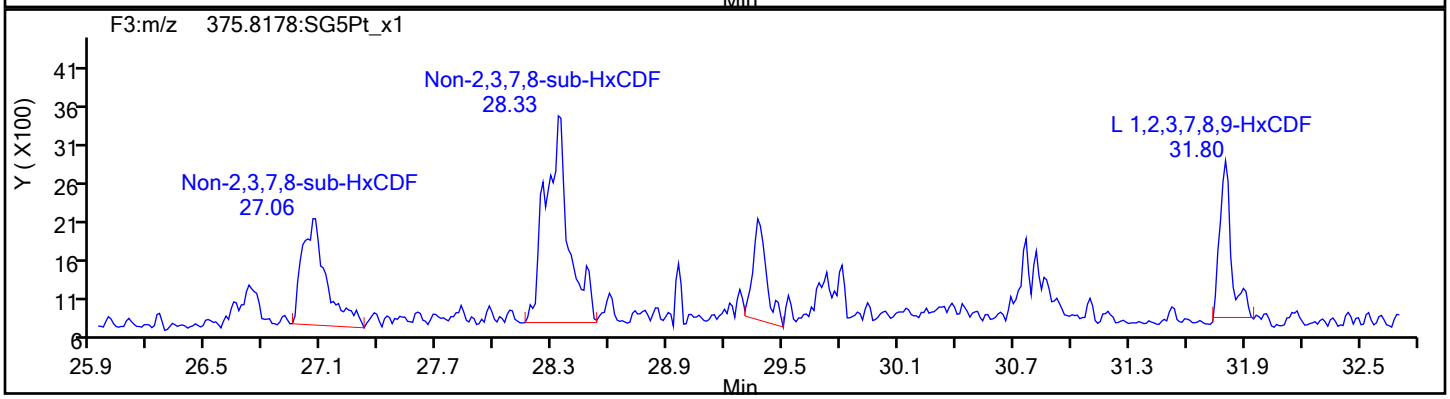

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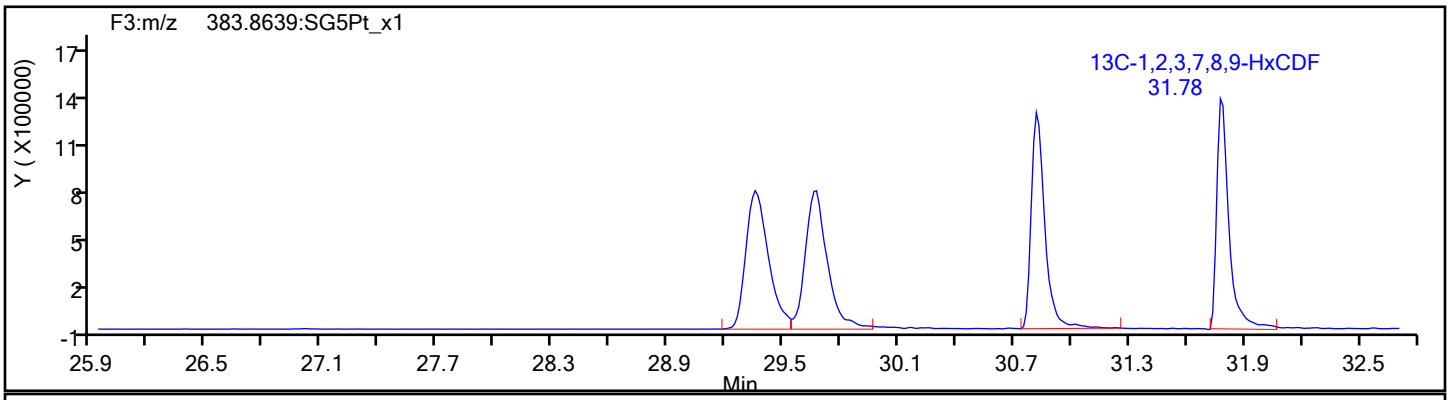

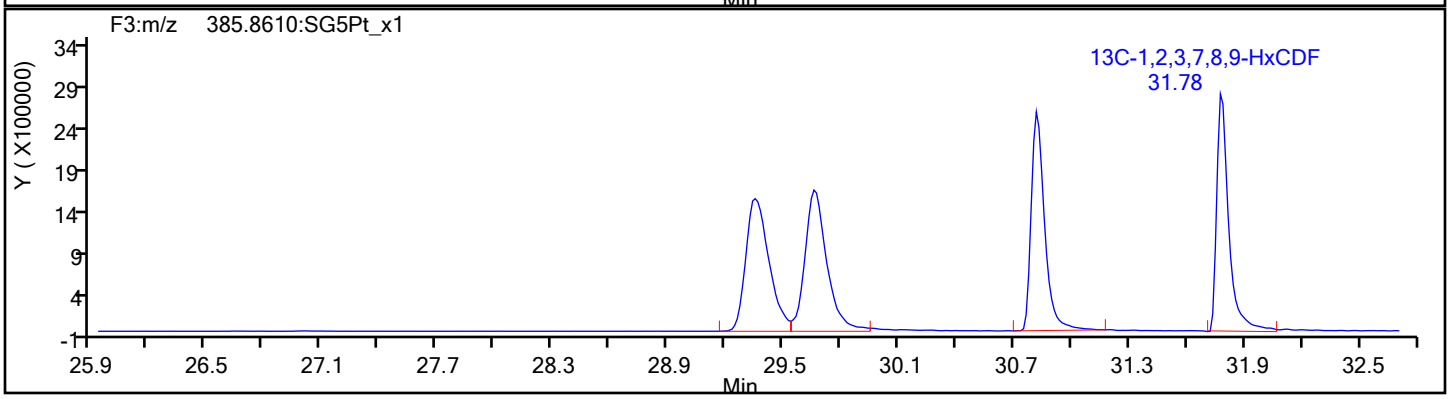

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Eurofins TestAmerica, Sacramento

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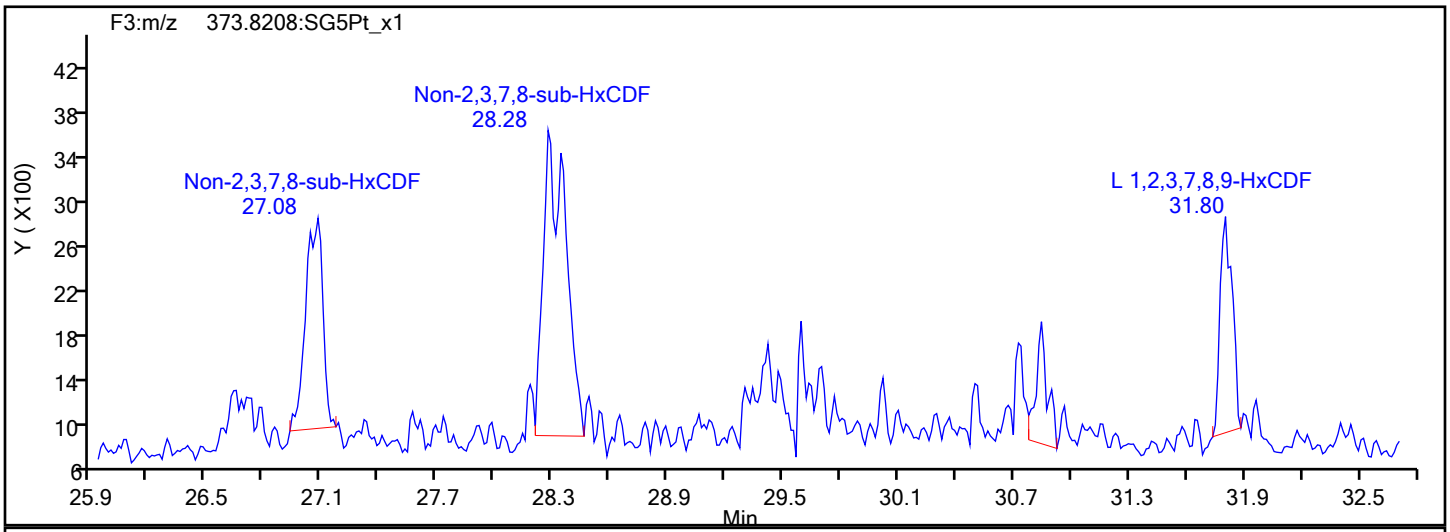

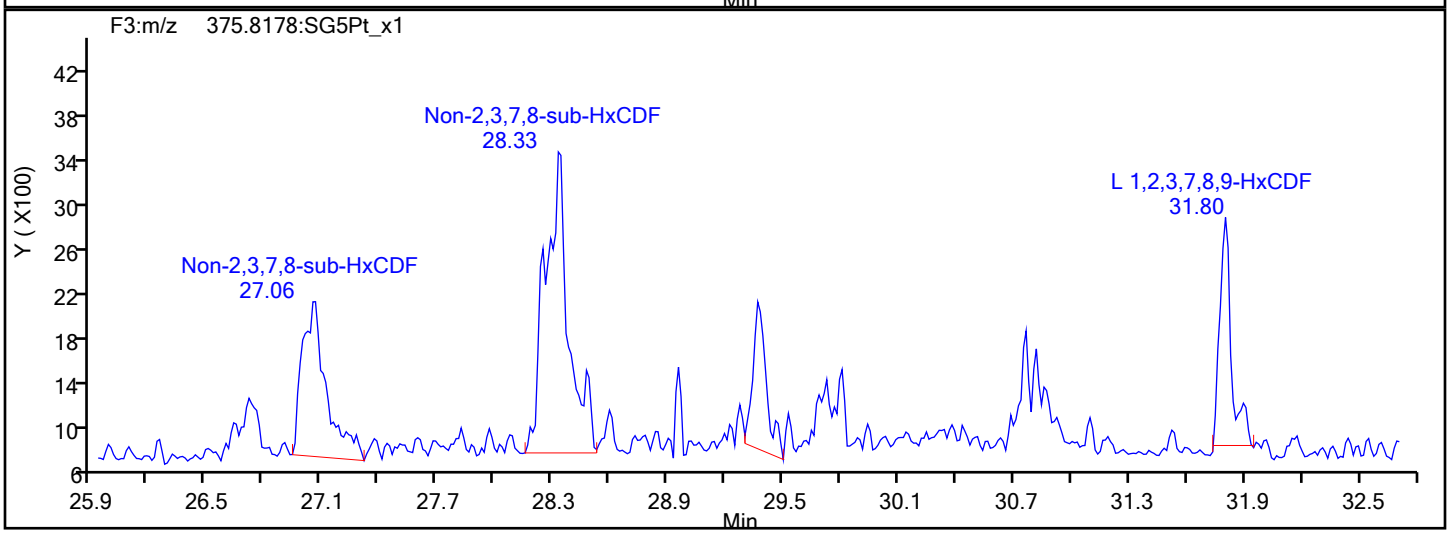

HxCDF Interference Mass

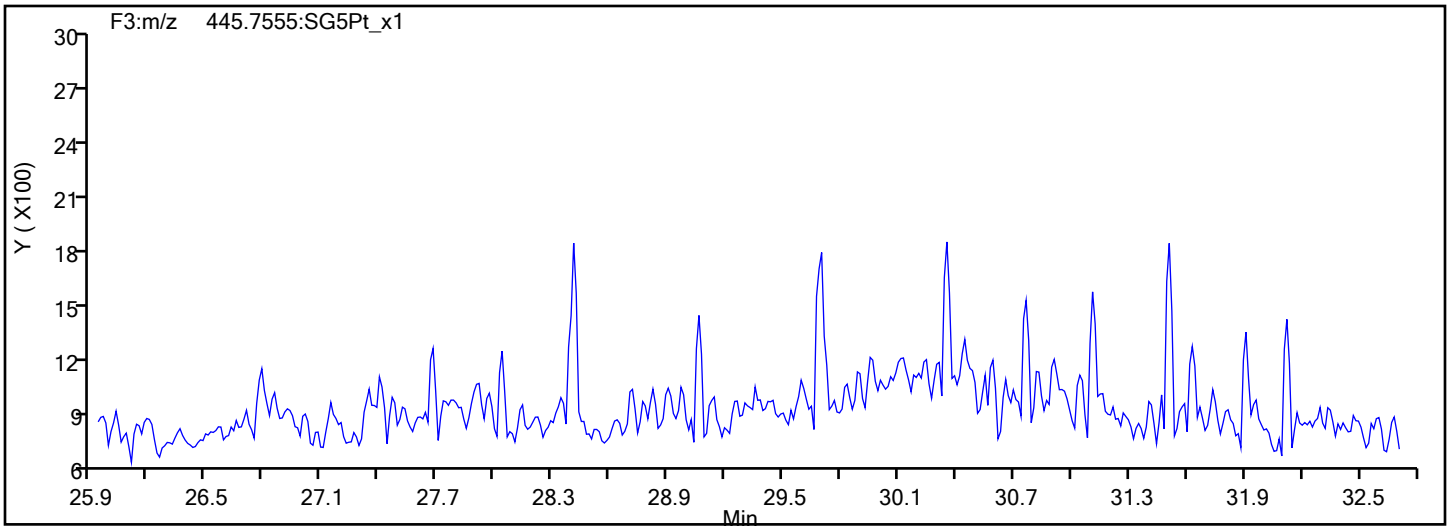

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Eurofins TestAmerica, Sacramento

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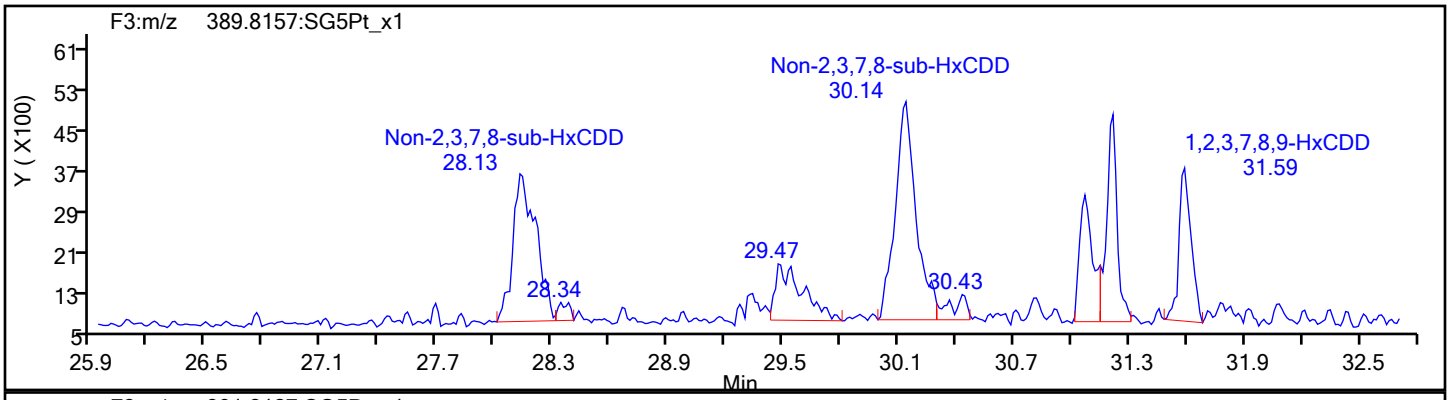

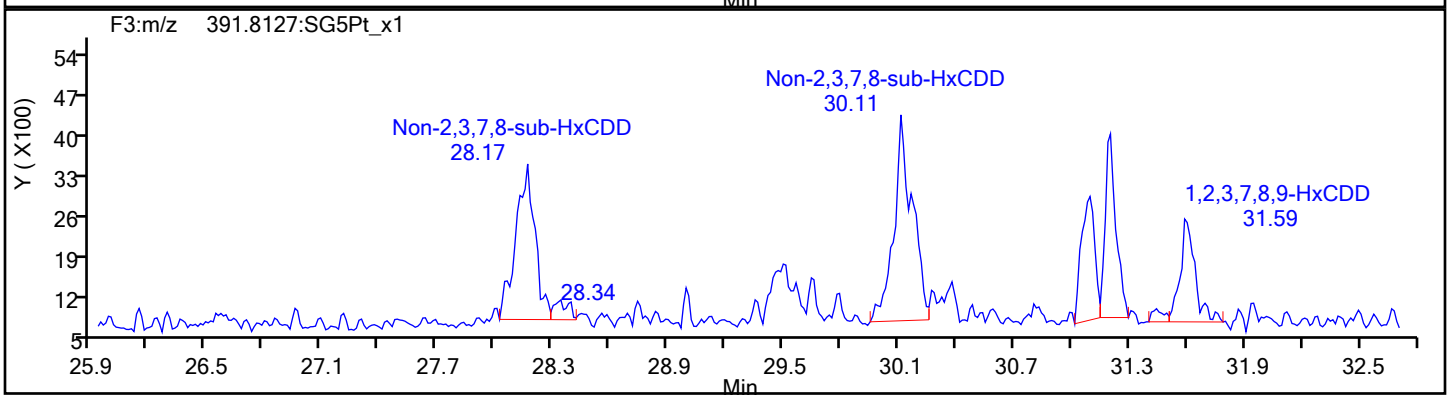

HxCDD Standards

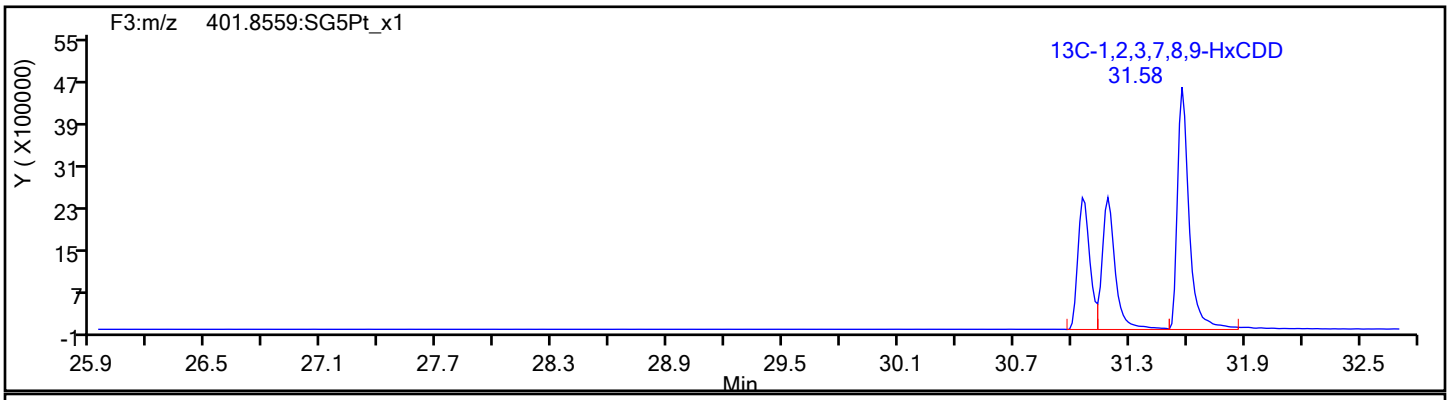

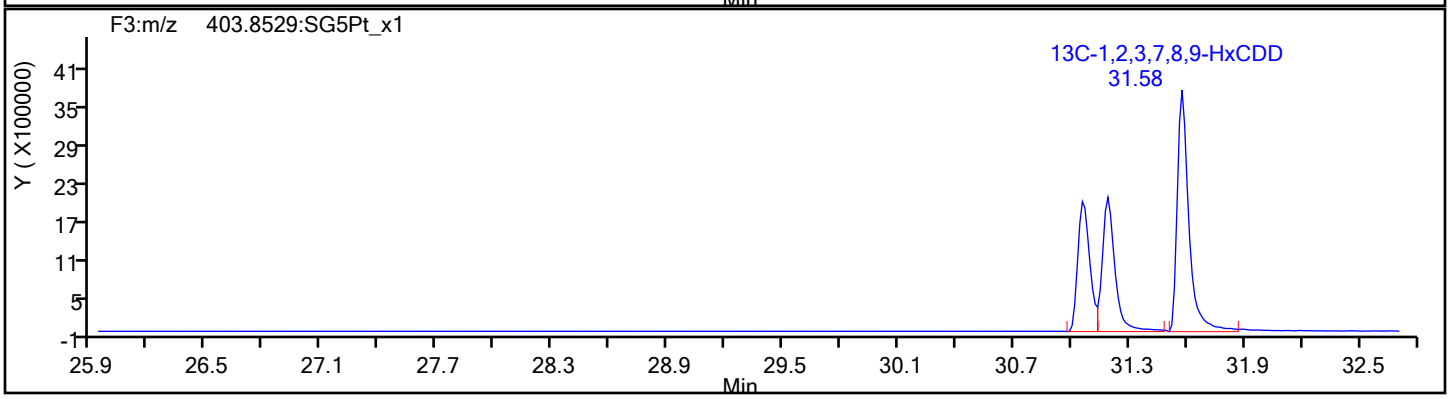

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Eurofins TestAmerica, Sacramento

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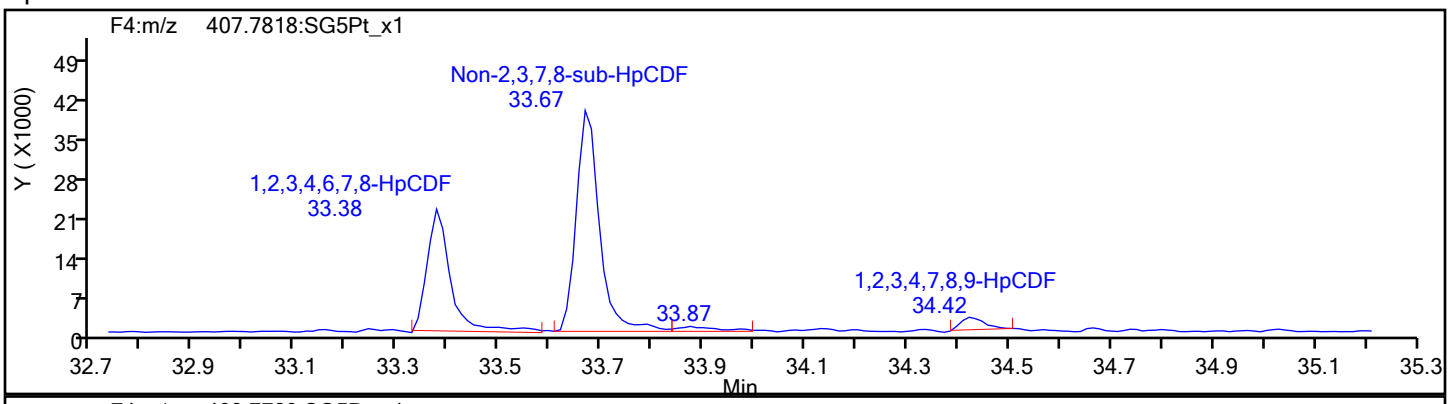

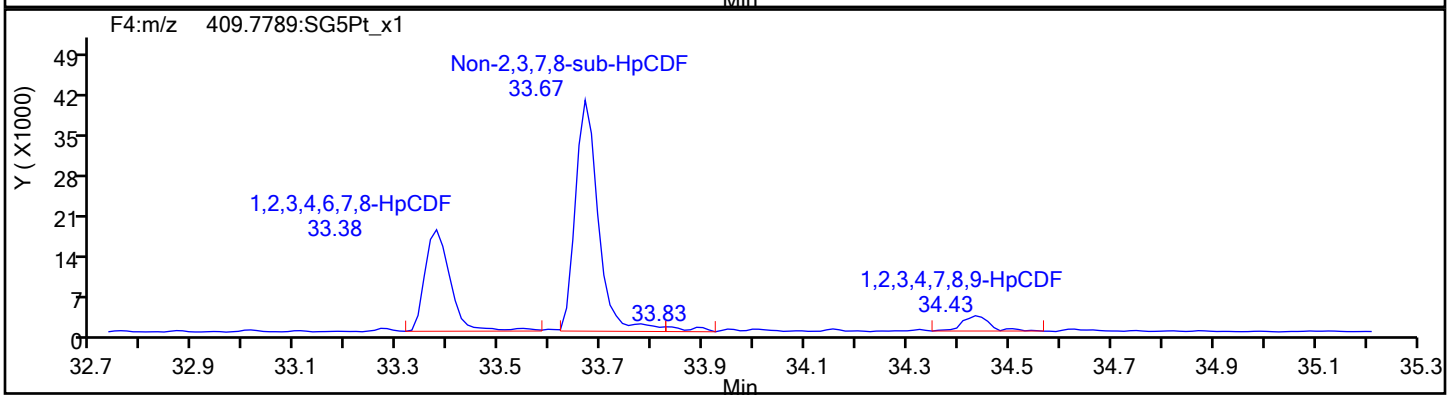

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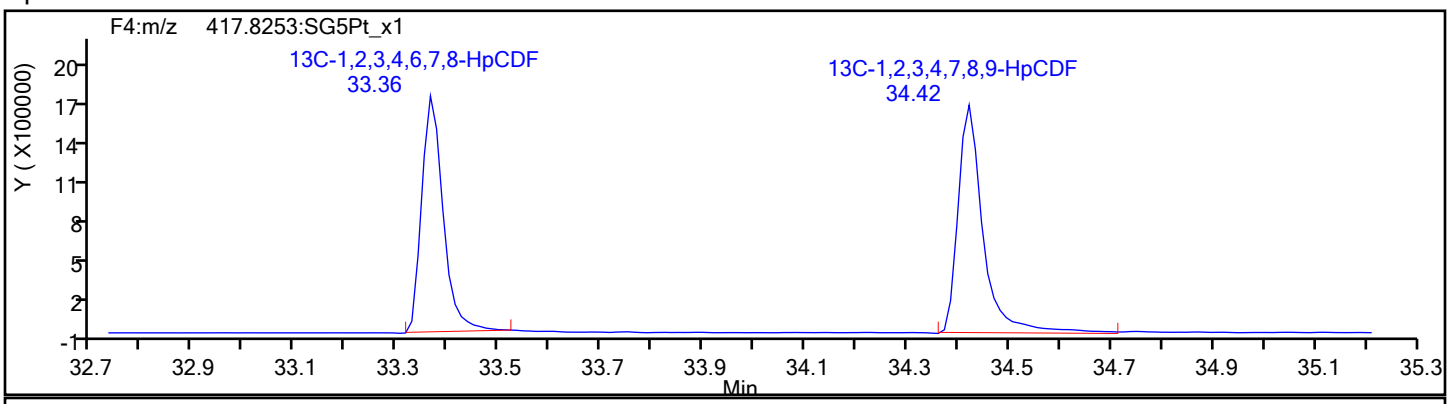

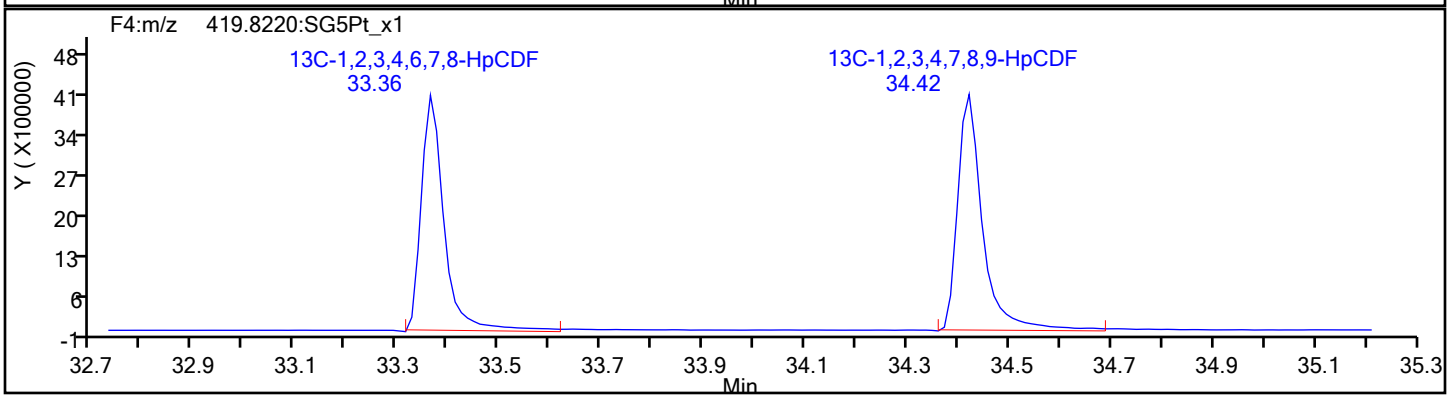

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Eurofins TestAmerica, Sacramento

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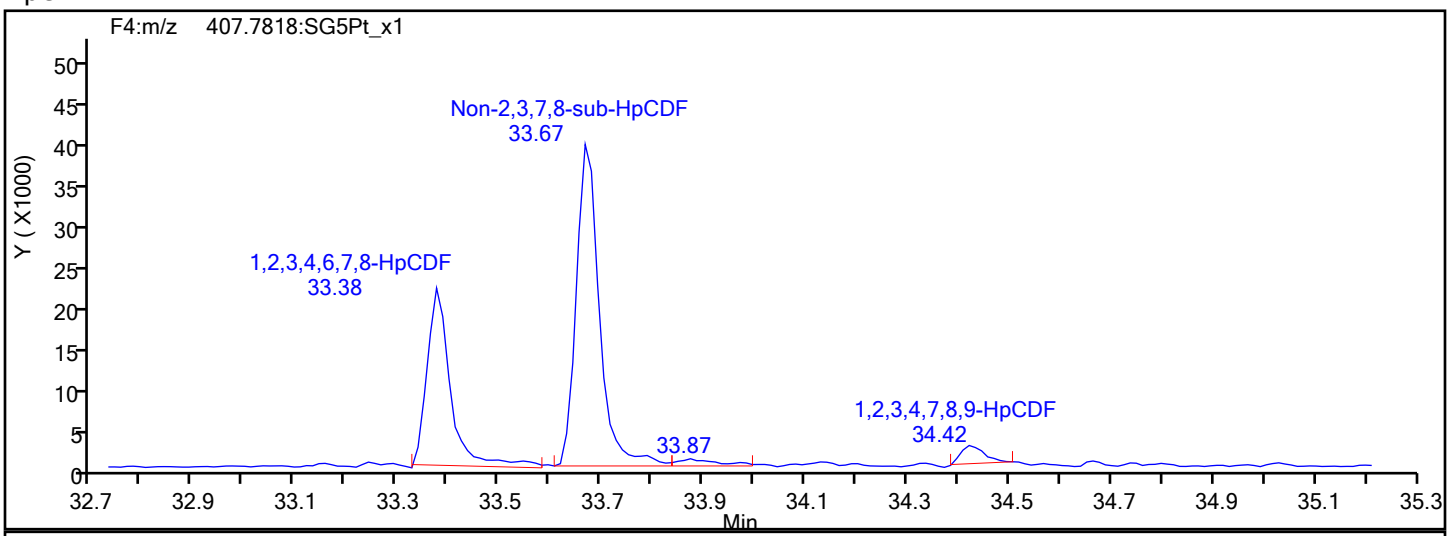

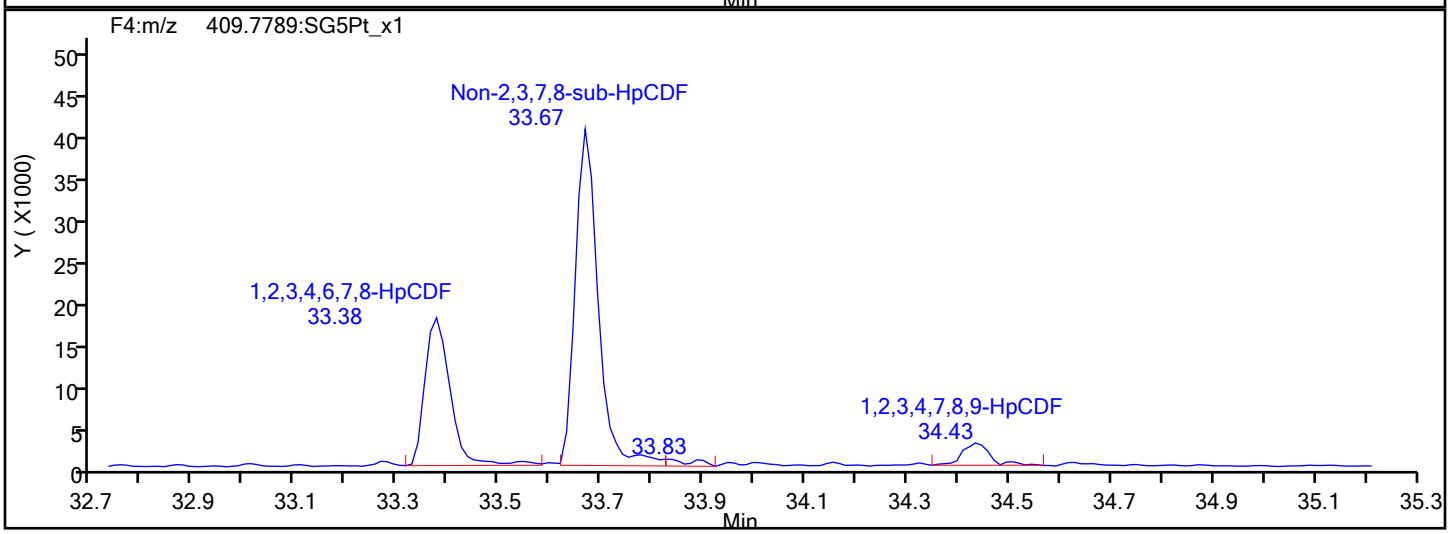

HpCDF Interference Mass

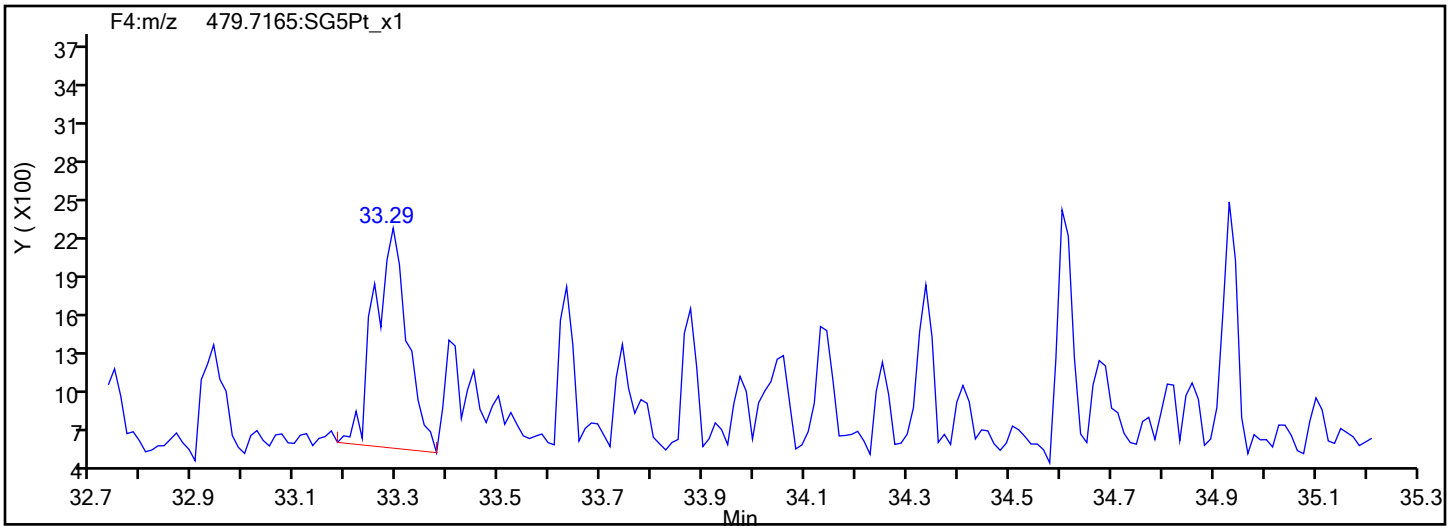

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Eurofins TestAmerica, Sacramento

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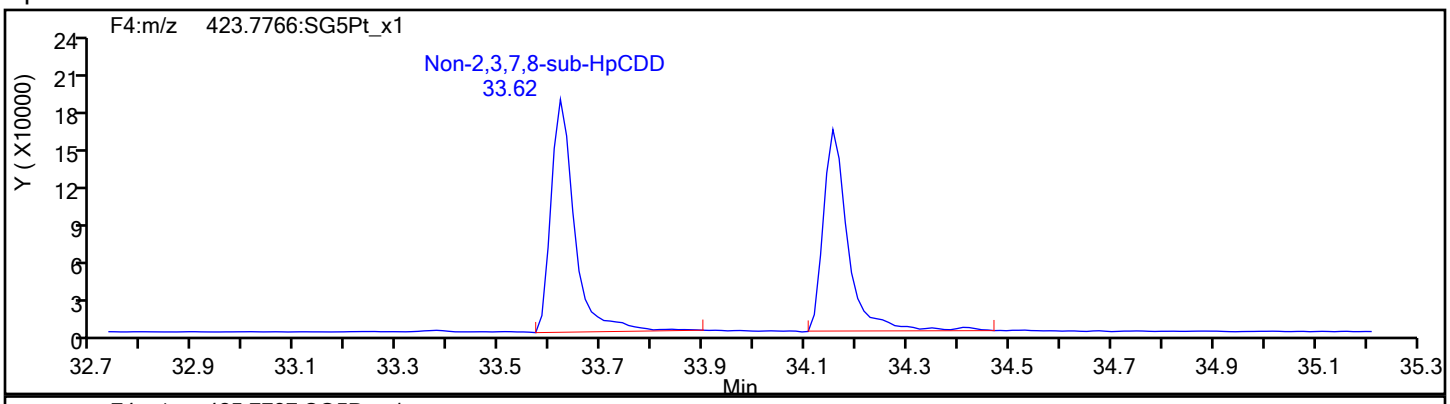

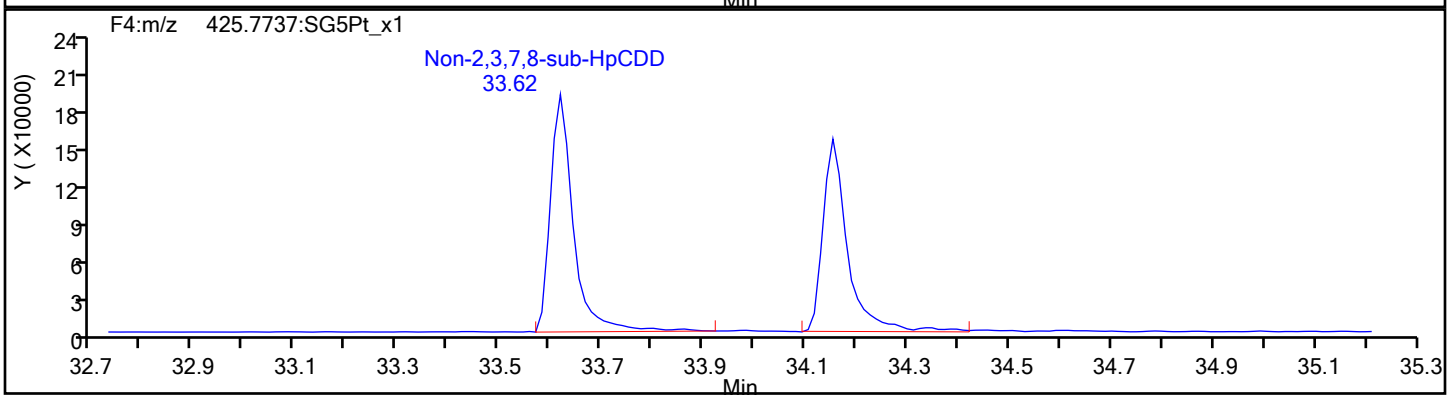

HpCDD Standards

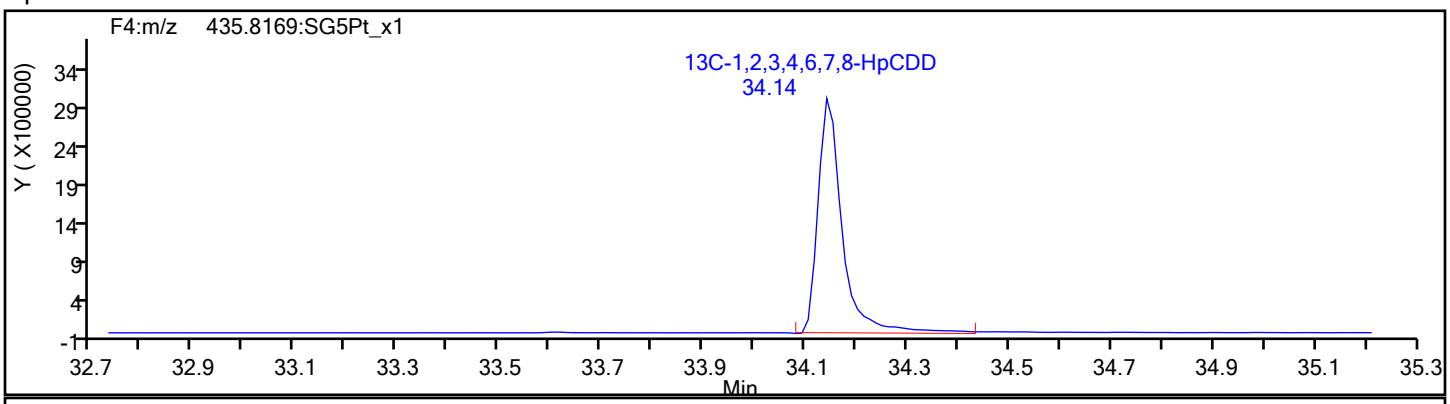

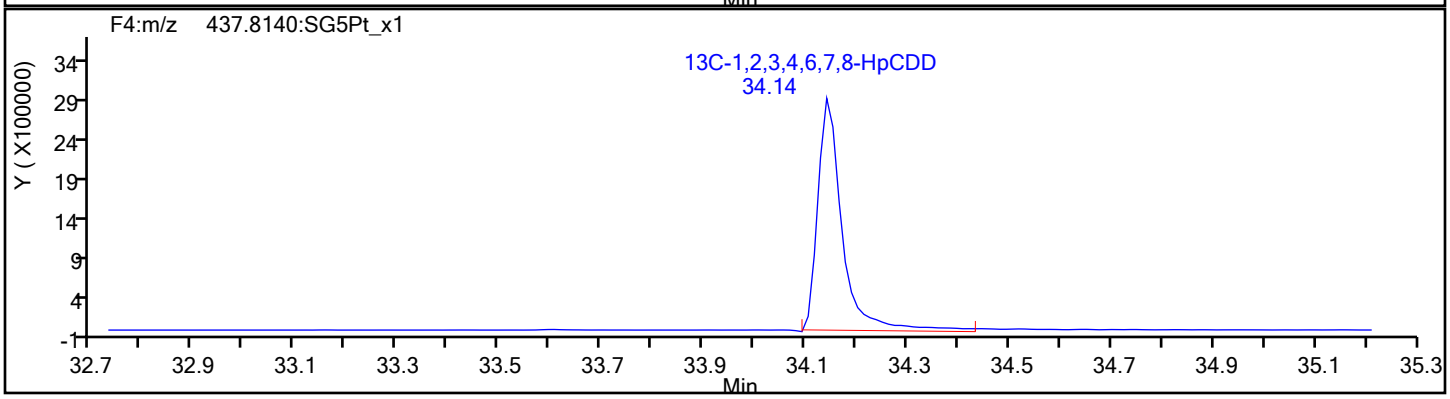

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OCDF

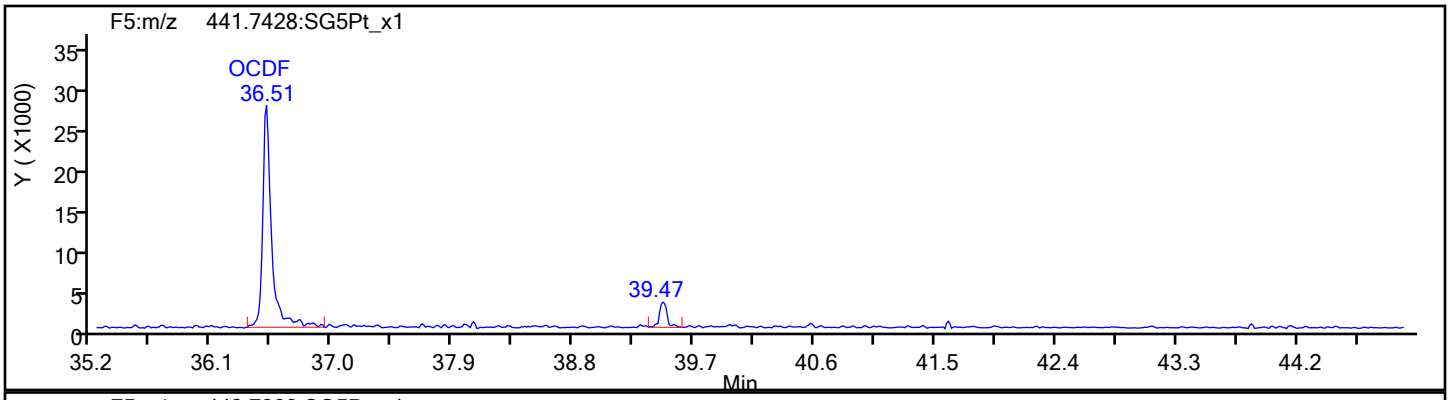

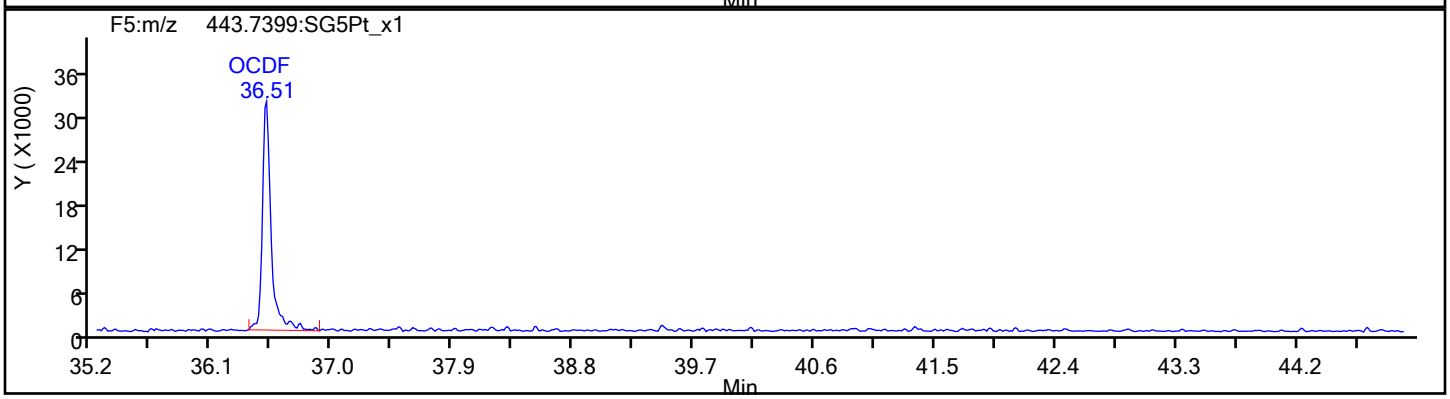

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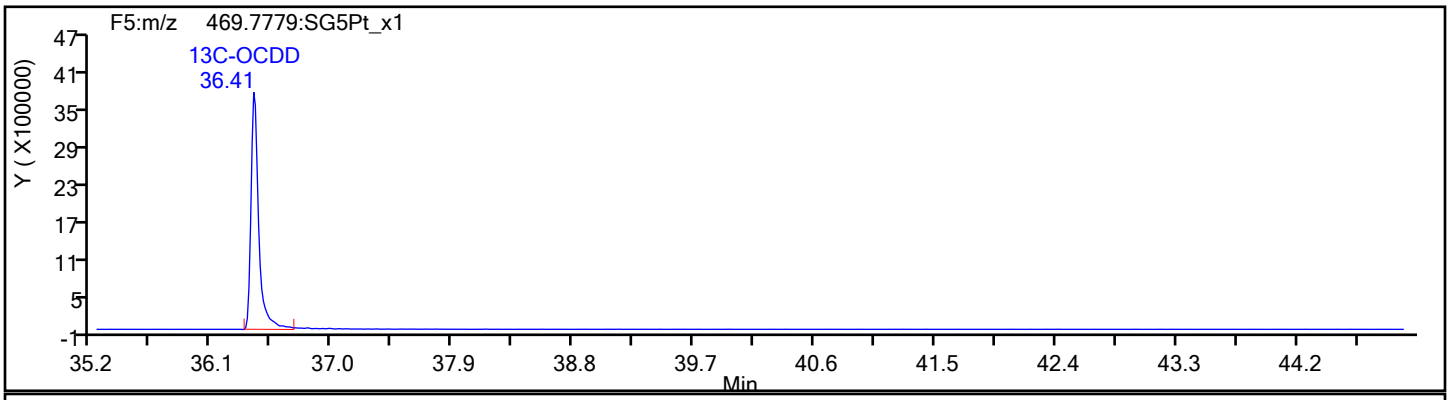

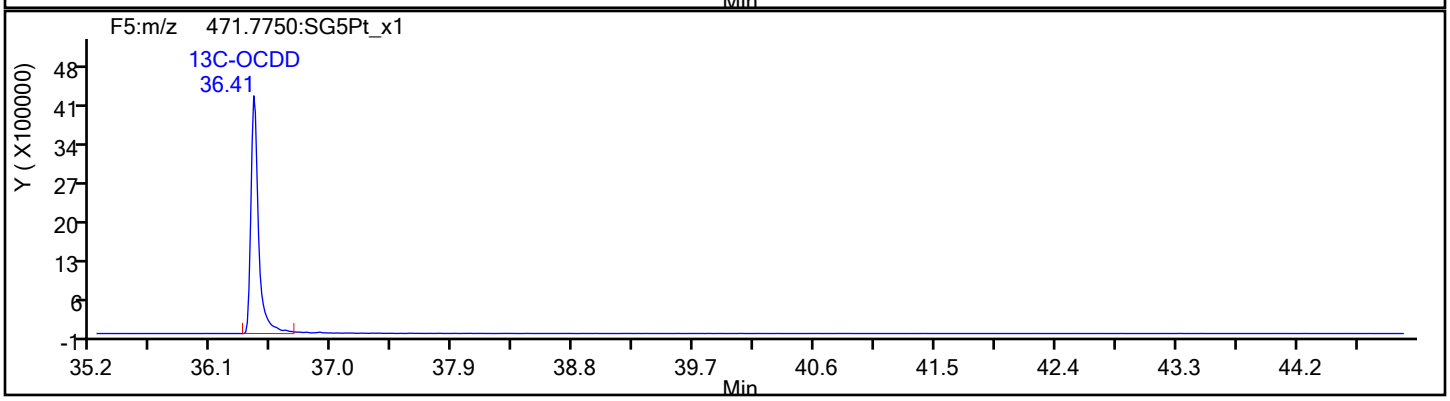

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Eurofins TestAmerica, Sacramento

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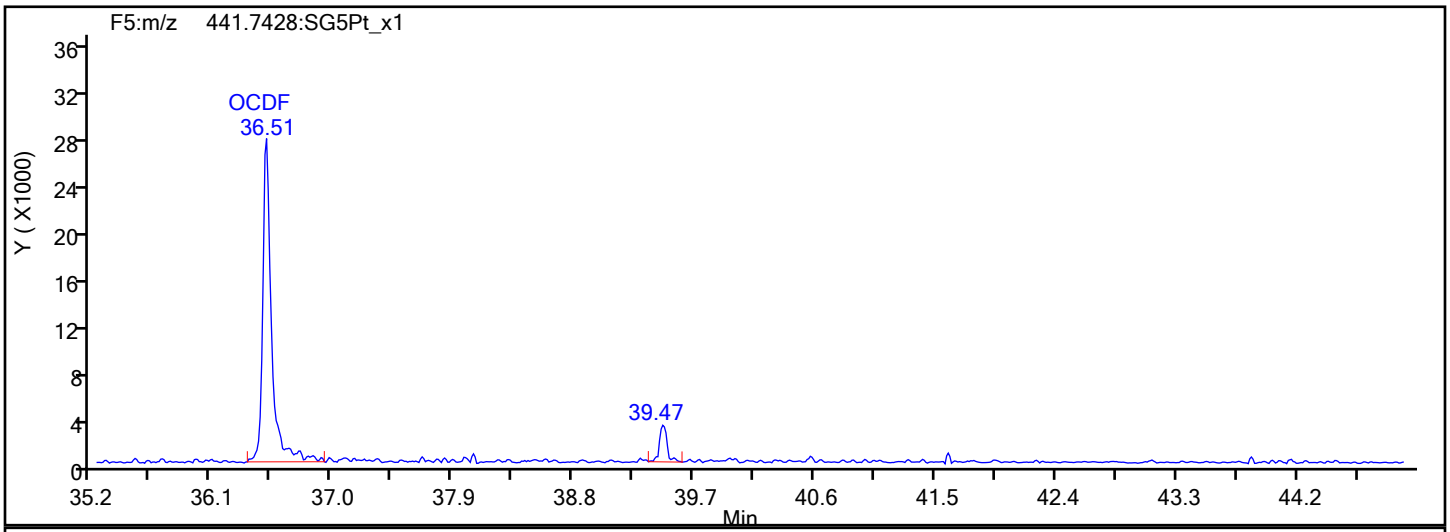

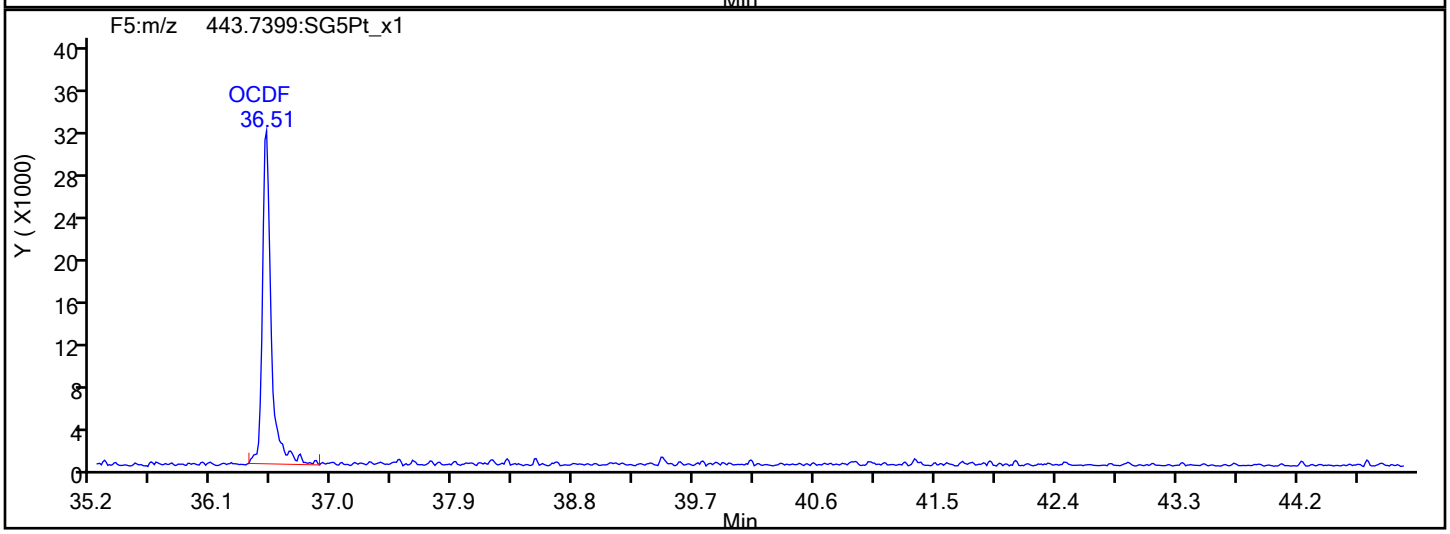

OCDF Interference Mass

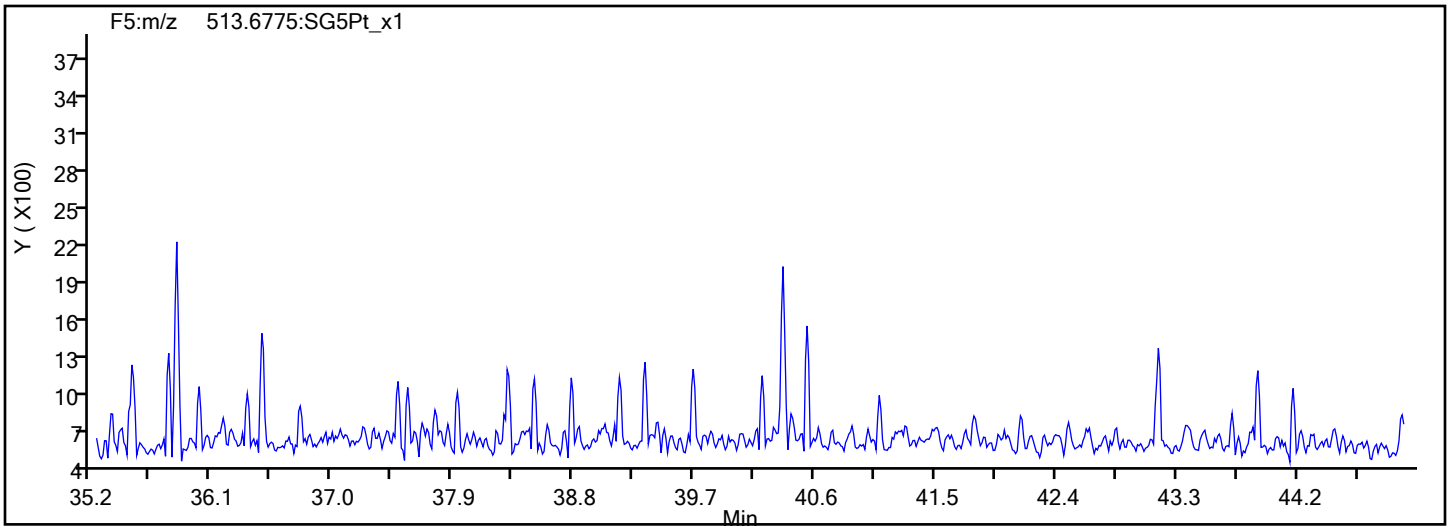

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Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Western-Rock		
Worklist#:	358703	Sample Line#:	53
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

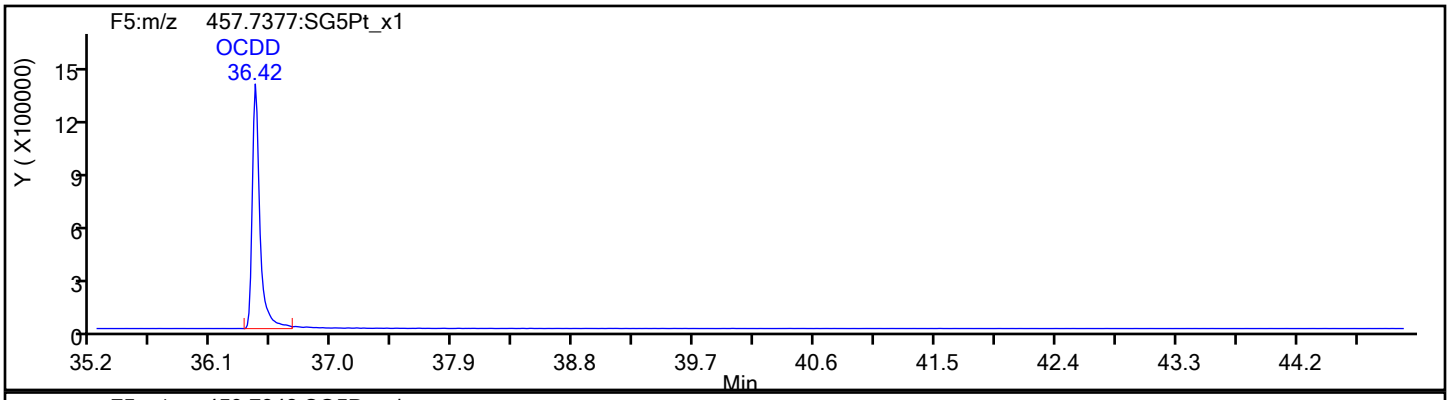

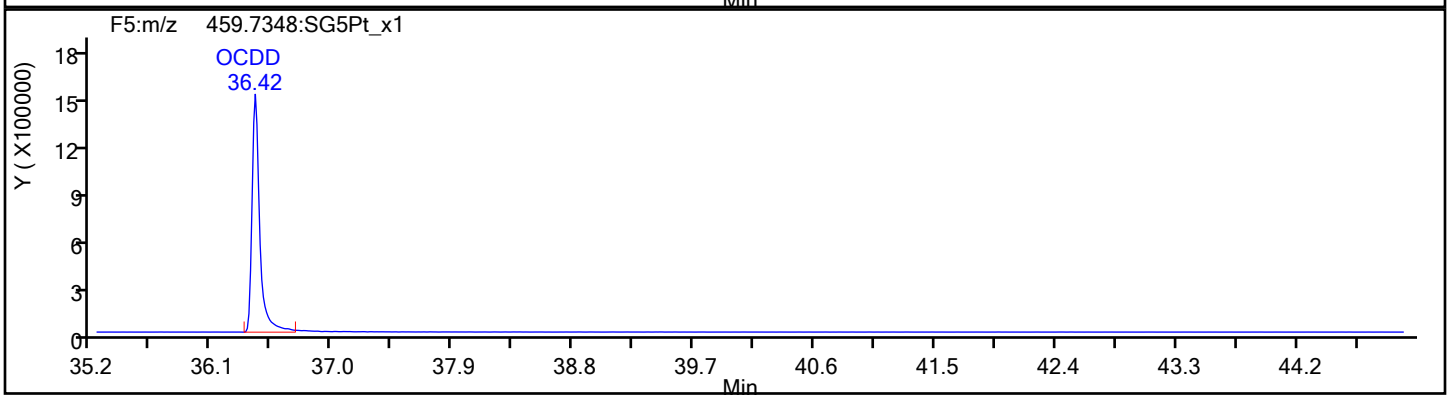

OCDD Standards

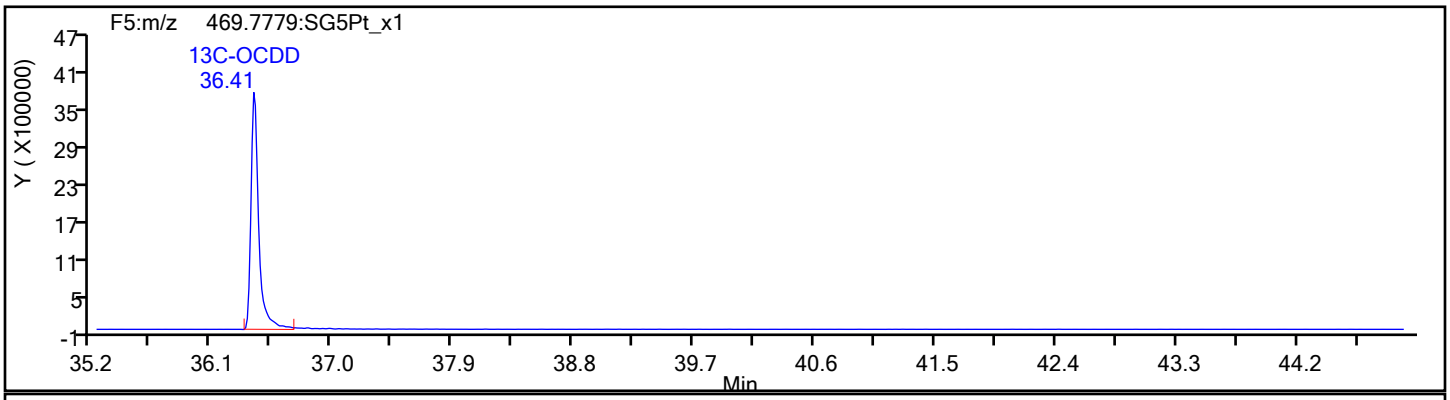

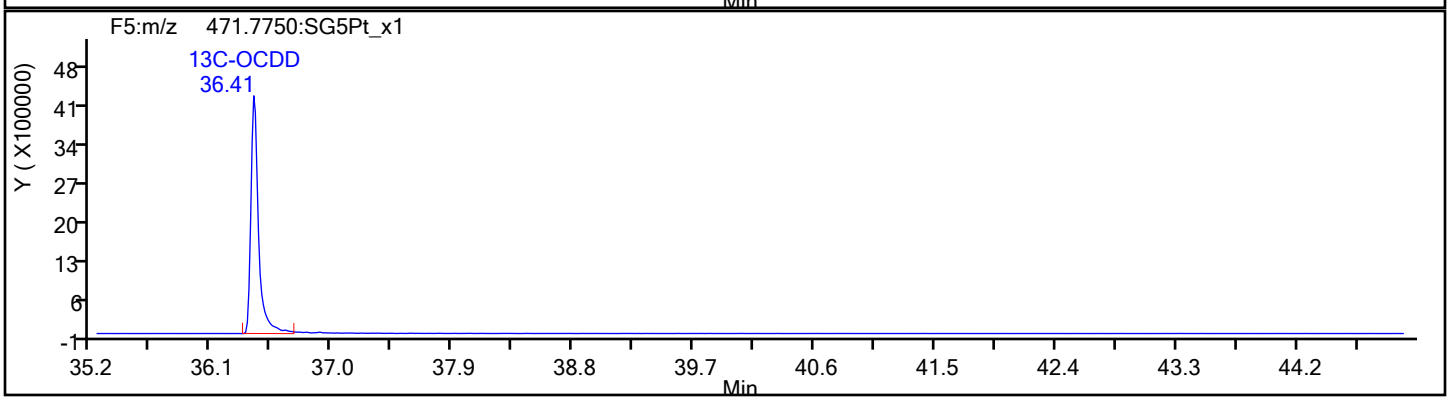

Report Date: 21-Feb-2020 10:27:25 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_53.d		
Injection Date:	20-Feb-2020 07:01:49	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Western-Rock		
Worklist#:	358703	Sample Line#:	53
Column Type:	DB-5	Column Dia:	0.32 mm

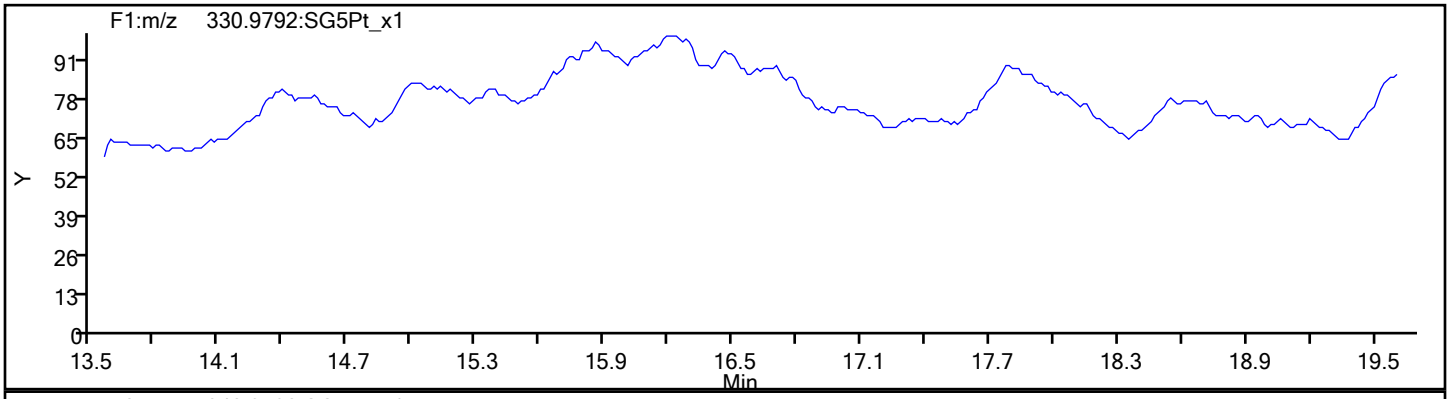

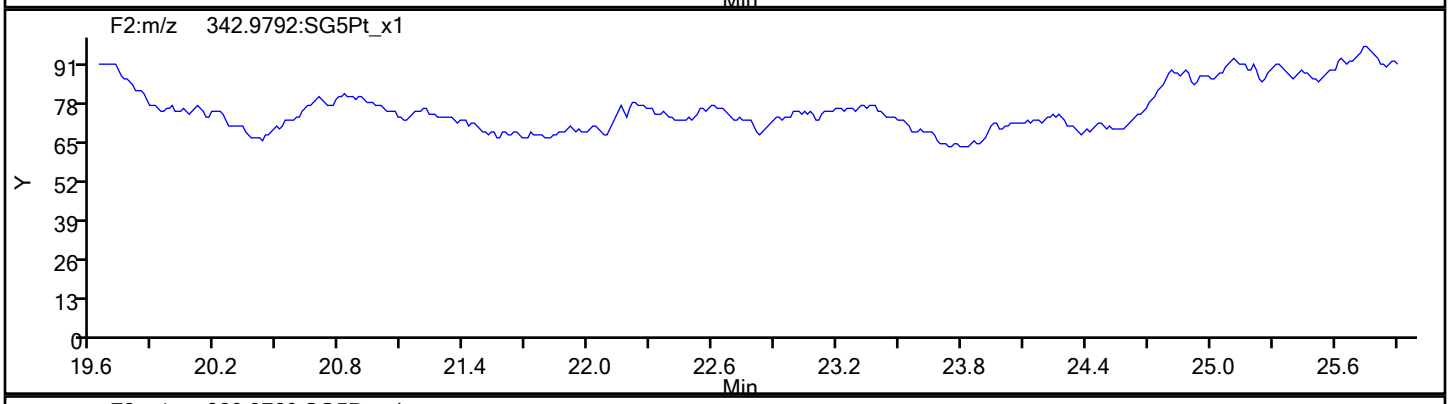

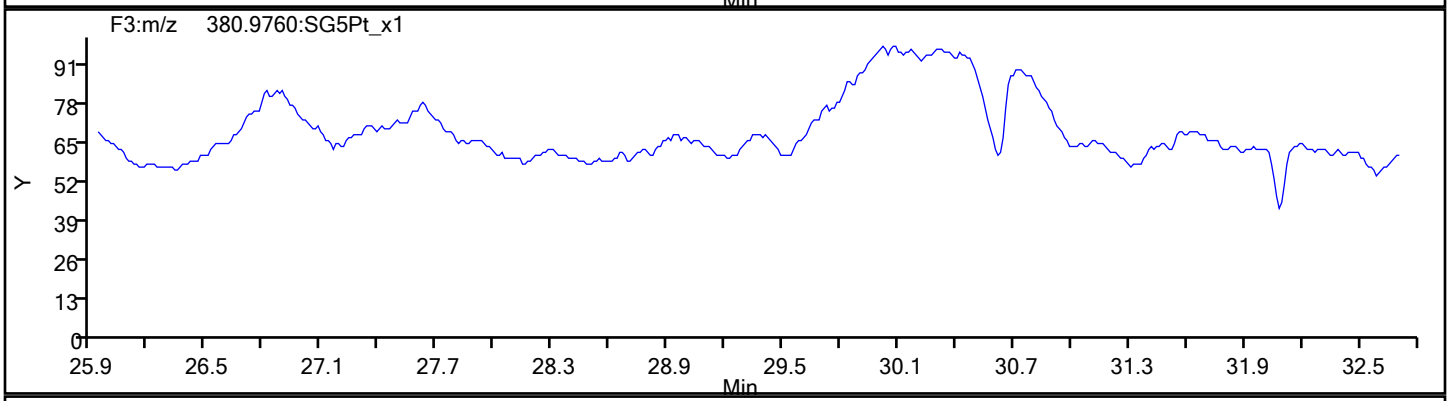

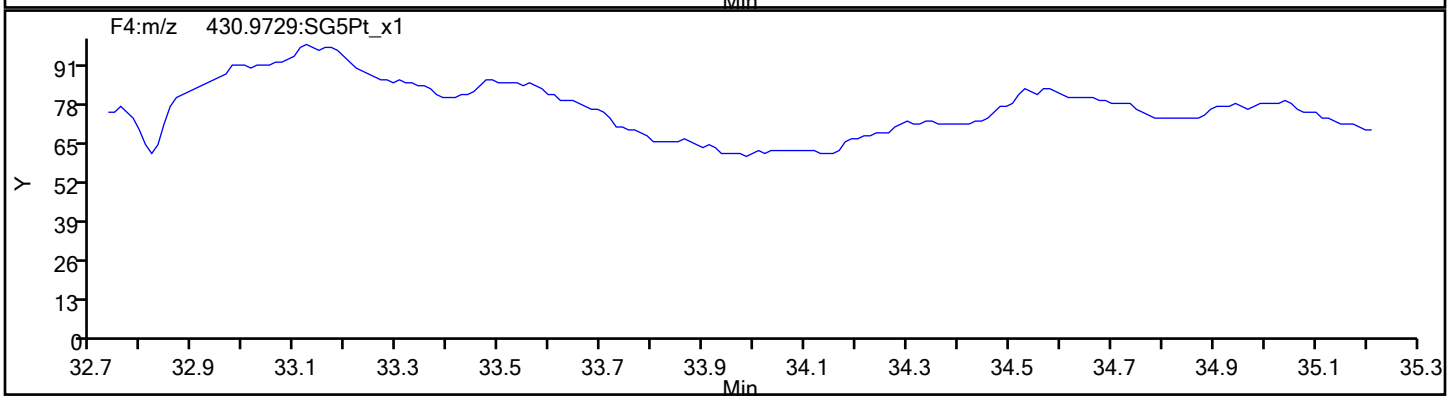

Report Date: 21-Feb-2020 10:27:25 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_53.d		
Injection Date:	20-Feb-2020 07:01:49	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-Western-Rock		
Worklist#:	358703	Sample Line#:	53
Column Type:	DB-5	Column Dia:	0.32 mm

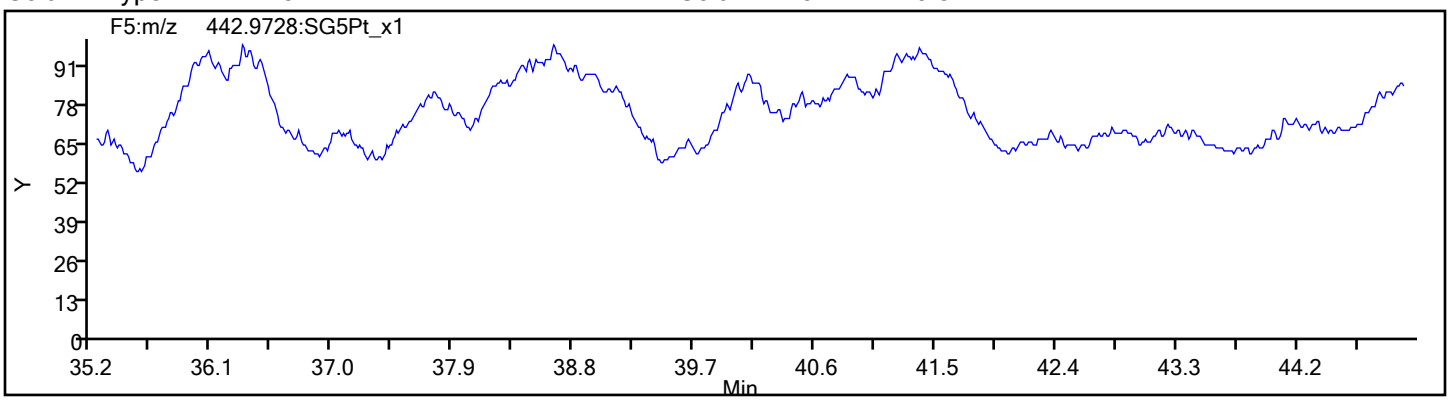

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58545-1 Analy Batch No.: 353986

SDG No.:

Instrument ID: 10D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/30/2020 01:49 Calibration End Date: 01/30/2020 04:53 Calibration ID: 48923

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-353986/4	29JA20B10D5_4.d
Level 2	IC 320-353986/5	29JA20B10D5_5.d
Level 3	IC 320-353986/6	29JA20B10D5_6.d
Level 4	IC 320-353986/7	29JA20B10D5_7.d
Level 5	IC 320-353986/8	29JA20B10D5_8.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
2,3,7,8-TCDF	0.7352	0.7325	0.7409	0.7985	0.8305	AveID		0.7675				5.8		20.0			
2,3,7,8-TCDD	0.9720	0.9426	0.8920	0.9822	1.0106	AveID		0.9599				4.7		20.0			
1,2,3,7,8-PeCDF	0.8708	0.8546	0.8888	0.9342	0.9424	AveID		0.8982				4.3		20.0			
2,3,4,7,8-PeCDF	0.7429	0.8034	0.8126	0.8454	0.8462	AveID		0.8101				5.2		20.0			
1,2,3,7,8-PeCDD	0.9839	0.9482	0.9774	1.0357	1.0351	AveID		0.9961				3.8		20.0			
1,2,3,4,7,8-HxCDF	0.7369	0.7455	0.7898	0.8349	0.8508	AveID		0.7916				6.5		20.0			
1,2,3,6,7,8-HxCDF	0.7909	0.8203	0.8655	0.9148	0.9275	AveID		0.8638				6.8		20.0			
2,3,4,6,7,8-HxCDF	0.8562	0.8368	0.9154	0.9466	0.9501	AveID		0.9010				5.8		20.0			
1,2,3,4,7,8-HxCDD	0.8272	0.8169	0.8477	0.8510	0.8531	AveID		0.8392				1.9		20.0			
1,2,3,6,7,8-HxCDD	0.8213	0.8743	0.8619	0.9374	0.9431	AveID		0.8876				5.8		20.0			
1,2,3,7,8,9-HxCDD	0.9072	0.9601	0.9461	0.9780	0.9921	AveID		0.9567				3.4		20.0			
1,2,3,7,8,9-HxCDF	0.8436	0.8732	0.9121	0.9616	0.9728	AveID		0.9127				6.1		20.0			
1,2,3,4,6,7,8-HpCDF	1.2837	1.3047	1.3387	1.3784	1.3819	AveID		1.3375				3.3		20.0			
1,2,3,4,6,7,8-HpCDD	0.9476	0.9680	0.9658	1.0076	1.0166	AveID		0.9811				3.0		20.0			
1,2,3,4,7,8,9-HpCDF	1.0143	1.0627	1.0685	1.1097	1.1169	AveID		1.0744				3.8		20.0			
OCDD	0.9844	0.9916	0.9761	1.0129	1.0037	AveID		0.9937				1.5		20.0			
OCDF	1.0113	1.0322	1.0479	1.1179	1.1203	AveID		1.0659				4.7		20.0			
13C-2,3,7,8-TCDF	1.1168	1.1418	1.1163	1.1353	1.1274	Ave		1.1275				1.0		35.0			
13C-2,3,7,8-TCDD	0.8906	0.8986	0.9083	0.9077	0.9107	Ave		0.9032				0.9		35.0			
13C-1,2,3,7,8-PeCDF	0.9188	0.9461	0.9761	0.9533	1.0132	Ave		0.9615				3.7		35.0			
13C-2,3,4,7,8-PeCDF	1.0128	0.9791	1.0438	1.0447	1.1162	Ave		1.0393				4.9		35.0			
13C-1,2,3,7,8-PeCDD	0.6826	0.6783	0.6855	0.6876	0.7349	Ave		0.6938				3.4		35.0			
13C-1,2,3,4,7,8-HxCDF	0.8285	0.8283	0.8786	0.8847	0.8512	Ave		0.8543				3.1		35.0			
13C-1,2,3,6,7,8-HxCDF	0.8345	0.8188	0.8561	0.8529	0.8181	Ave		0.8361				2.2		35.0			
13C-2,3,4,6,7,8-HxCDF	0.7624	0.7678	0.7863	0.7900	0.7801	Ave		0.7773				1.5		35.0			
13C-1,2,3,4,7,8-HxCDD	0.7702	0.7684	0.7979	0.8534	0.8352	Ave		0.8050				4.8		35.0			
13C-1,2,3,6,7,8-HxCDD	0.8282	0.8202	0.8633	0.8151	0.8079	Ave		0.8269				2.6		35.0			
13C-1,2,3,7,8,9-HxCDF	0.6995	0.7107	0.7205	0.7199	0.7328	Ave		0.7167				1.7		35.0			
13C-1,2,3,4,6,7,8-HpCDF	0.6955	0.7057	0.7174	0.7244	0.6972	Ave		0.7080				1.8		35.0			
13C-1,2,3,4,6,7,8-HpCDD	0.7230	0.7161	0.7651	0.7713	0.7612	Ave		0.7473				3.4		35.0			
13C-1,2,3,4,7,8,9-HpCDF	0.7143	0.7033	0.7491	0.7790	0.7798	Ave		0.7451				4.8		35.0			
13C-OCDD	0.6184	0.6296	0.6687	0.6865	0.7079	Ave		0.6622				5.7		35.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58545-1 Analy Batch No.: 353986

SDG No.:

Instrument ID: 10D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/30/2020 01:49 Calibration End Date: 01/30/2020 04:53 Calibration ID: 48923

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
37Cl4-2,3,7,8-TCDD	0.8798	0.8879	0.9749	1.0364	1.0576	Ave		0.9673				8.5					

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58545-1 Analy Batch No.: 353986

SDG No.:

Instrument ID: 10D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/30/2020 01:49 Calibration End Date: 01/30/2020 04:53 Calibration ID: 48923

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-353986/4	29JA20B10D5_4.d
Level 2	IC 320-353986/5	29JA20B10D5_5.d
Level 3	IC 320-353986/6	29JA20B10D5_6.d
Level 4	IC 320-353986/7	29JA20B10D5_7.d
Level 5	IC 320-353986/8	29JA20B10D5_8.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (PG/UL)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
2,3,7,8-TCDF		AveID	219558	888805	4412445	20431926	96105391	0.500	2.00	10.0	40.0	200
2,3,7,8-TCDD		AveID	231458	900188	4322280	20094350	94468546	0.500	2.00	10.0	40.0	200
1,2,3,7,8-PeCDF		AveID	1069618	4296187	23142756	100354025	490023644	2.50	10.0	50.0	200	1000
2,3,4,7,8-PeCDF		AveID	1005906	4180023	22625132	99521759	484741081	2.50	10.0	50.0	200	1000
1,2,3,7,8-PeCDD		AveID	897948	3417776	17873504	80246961	390429195	2.50	10.0	50.0	200	1000
1,2,3,4,7,8-HxCDF		AveID	671274	2676952	14859982	66495631	318854007	2.50	10.0	50.0	200	1000
1,2,3,6,7,8-HxCDF		AveID	725683	2911436	15865629	70250838	334084350	2.50	10.0	50.0	200	1000
2,3,4,6,7,8-HxCDF		AveID	717749	2785285	15413461	67331592	326355344	2.50	10.0	50.0	200	1000
1,2,3,4,7,8-HxCDD		AveID	700430	2720931	14484522	65382847	313711466	2.50	10.0	50.0	200	1000
1,2,3,6,7,8-HxCDD		AveID	747945	3108758	15933295	68785725	335470802	2.50	10.0	50.0	200	1000
1,2,3,7,8,9-HxCDD		AveID	797129	3305951	16827816	73450360	358844536	2.50	10.0	50.0	200	1000
1,2,3,7,8,9-HxCDF		AveID	648863	2690293	14071460	62323134	313903764	2.50	10.0	50.0	200	1000
1,2,3,4,6,7,8-HpCDF		AveID	981605	3991295	20564477	89887019	424195277	2.50	10.0	50.0	200	1000
1,2,3,4,6,7,8-HpCDD		AveID	753253	3005109	15823457	69966787	340721421	2.50	10.0	50.0	200	1000
1,2,3,4,7,8,9-HpCDF		AveID	796576	3240232	17140374	77825210	383499474	2.50	10.0	50.0	200	1000
OCDD		AveID	1338518	5412172	27951151	125200375	625662105	5.00	20.0	100	400	2000
OCDF		AveID	1375101	5634081	30007451	138188549	698349608	5.00	20.0	100	400	2000
13C-2,3,7,8-TCDF	13CTC	Ave	59724134	60669870	59557613	63967417	57856976	100	100	100	100	100
13C-2,3,7,8-TCDD	13CTC	Ave	47625866	47750377	48457404	51144205	46738785	100	100	100	100	100
13C-1,2,3,7,8-PeCDF	13CTC	Ave	49135392	50271745	52074542	53714045	51996022	100	100	100	100	100
13C-2,3,4,7,8-PeCDF	13CTC	Ave	54159362	52028379	55687826	58863166	57282367	100	100	100	100	100
13C-1,2,3,7,8-PeCDD	13CTC	Ave	36505473	36044037	36572632	38740832	37717891	100	100	100	100	100
13C-1,2,3,4,7,8-HxCDF	13CHx	Ave	36437504	35906017	37628448	39824520	37478371	100	100	100	100	100
13C-1,2,3,6,7,8-HxCDF	13CHx	Ave	36702281	35494068	36663775	38395283	36019385	100	100	100	100	100
13C-2,3,4,6,7,8-HxCDF	13CHx	Ave	33531834	33284581	33675050	35563872	34348713	100	100	100	100	100
13C-1,2,3,4,7,8-HxCDD	13CHx	Ave	33871376	33308651	34173011	38415840	36771940	100	100	100	100	100
13C-1,2,3,6,7,8-HxCDD	13CHx	Ave	36425321	35558088	36971045	36689566	35572032	100	100	100	100	100
13C-1,2,3,7,8,9-HxCDF	13CHx	Ave	30765834	30809360	30855181	32406883	32266559	100	100	100	100	100
13C-1,2,3,4,6,7,8-HpCDF	13CHx	Ave	30587884	30592525	30722755	32606646	30697152	100	100	100	100	100
13C-1,2,3,4,6,7,8-HpCDD	13CHx	Ave	31797466	31043218	32767179	34719607	33516886	100	100	100	100	100
13C-1,2,3,4,7,8,9-HpCDF	13CHx	Ave	31413014	30489328	32082286	35066339	34335333	100	100	100	100	100
13C-OCDD	13CHx	Ave	54390196	54582619	57273958	61805942	62333978	200	200	200	200	200
37Cl4-2,3,7,8-TCDD	13CTC	Ave	235238	943575	5201454	23359364	108553063	0.500	2.00	10.0	40.0	200

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58545-1 Analy Batch No.: 353986

SDG No.:

Instrument ID: 10D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/30/2020 01:49 Calibration End Date: 01/30/2020 04:53 Calibration ID: 48923

Curve Type Legend:

Ave = Average ISTD
AveID = Average isotope dilution

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #	User
1	29JA20B10D5_1	CS-4 HRDXNL4_00091	CCV 012920C	Tray01:2	Dioxin		ALM
2	29JA20B10D5_2	WDM HRDXNCP_00040	WDM 012920B	Tray01:1	Dioxin		ALM
3	29JA20B10D5_3	Solvent Blank C-14	SB 012920	Tray01:3	---		ALM
4	29JA20B10D5_4	CS-2 HRDXNL2_00028	IC 012920	Tray01:4	Dioxin		ALM
5	29JA20B10D5_5	CS-3 HRDXNL3_00026	IC 012920A	Tray01:5	Dioxin		ALM
6	29JA20B10D5_6	CS-4 HRDXNL4_00091	IC 012920B	Tray01:2	Dioxin		ALM
7	29JA20B10D5_7	CS-5 HRDXNL5_00029	IC 012920C	Tray01:6	Dioxin		ALM
8	29JA20B10D5_8	CS-6 HRDXNL6_00025	IC 012920D	Tray01:7	Dioxin		ALM
9	29JA20B10D5_9	Solvent Blank C-14	SB 012920A	Tray01:3	---		ALM
10	29JA20B10D5_10	ICV HRDXNIC_00043	ICV 012920	Tray01:8	Dioxin		ALM
11	29JA20B10D5_11	WDM HRDXNCP_00040	WDM 012920C	Tray01:1	Dioxin		ALM
12	29JA20B10D5_12	CS-4 HRDXNL4_00091	CCV 012920D	Tray01:2	Dioxin		ALM
13	29JA20B10D5_13	Solvent Blank C-14	SB 012920B	Tray01:3	---		ALM
14	29JA20B10D5_14	MB 320-351768/1-A	MB 320-351768/1-A	Tray01:15	1613B/Water	D126	ALM
15	29JA20B10D5_15	LCS 320-351768/2-A	LCS 320-351768/2-A	Tray01:16	1613B/Water		ALM
16	29JA20B10D5_16	LCSD 320-351768/3-A	LCSD 320-351768/3-A	Tray01:17	1613B/Water	---	ALM
17	29JA20B10D5_17	320-57793-C-1-A	320-57793-C-1-A	Tray01:18	1613B/Water	---	ALM
18	29JA20B10D5_18	320-57795-B-1-A	320-57795-B-1-A	Tray01:19	1613B/Water		ALM
19	29JA20B10D5_19	320-57795-C-2-A	320-57795-C-2-A	Tray01:20	1613B/Water		ALM
20	29JA20B10D5_20	320-57834-A-1-A	320-57834-A-1-A	Tray01:21	1613B/Water		ALM
21	29JA20B10D5_21	320-57834-A-2-A	320-57834-A-2-A	Tray01:22	1613B/Water		ALM
22	29JA20B10D5_22	480-164848--C-1-A RI	480-164848--C-1-A RI	Tray01:23	1613B_T/Water	D124	ALM
23	29JA20B10D5_23	550-136286-H-1-A	550-136286-H-1-A	Tray01:24	1613B_T/Water	D126	ALM
24	29JA20B10D5_24	Solvent Blank C-14	SB 012920C	Tray01:3	---		ALM
25	29JA20B10D5_25	CS-4 HRDXNL4_00091	CCV 012920E	Tray01:2	Dioxin		ALM
26	29JA20B10D5_26	WDM HRDXNCP_00040	WDM 012920D	Tray01:1	Dioxin		ALM
27	29JA20B10D5_27	Solvent Blank C-14	SB 012920D	Tray01:3	---		ALM

Log file checked
01/30/20 SMA

Sample Size	Units	MS File	Inlet File	Inject Volume	Process
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover

Process Options	Action On Error	s5
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
C:\Masslynx\Autospec\dioxinrescheck.dat	Ignore Error	---
---	---	C:\CHROM
C:\Masslynx\Autospec\dioxinrescheck.dat	Ignore Error	---
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	---
---	---	C:\CHROM
C:\Masslynx\Autospec\dioxinrescheck.dat	Ignore Error	---
C:\Masslynx\Autospec\dioxinrescheck.dat	Ignore Error	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, January 29, 2020 23:08:06 Pacific Standard Time

M 292.9824 R 11851

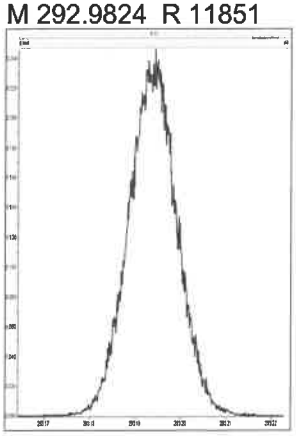

M 304.9824 R 12563

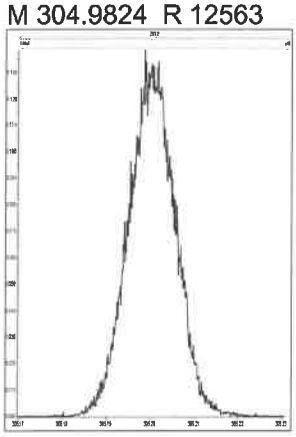

M 318.9792 R 12820

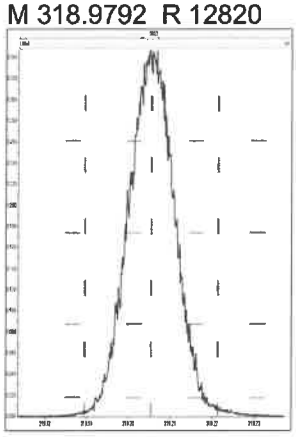

M 330.9792 R 13024

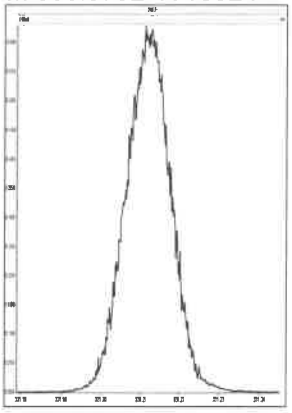

M 342.9792 R 12439

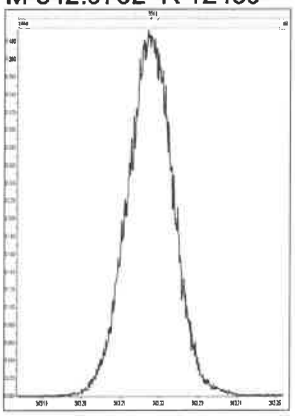

M 354.9792 R 12254

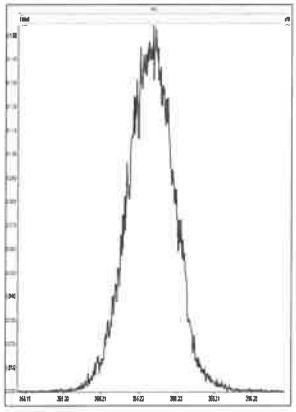

M 366.9792 R 11572

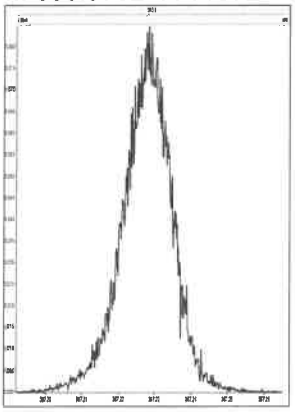

M 380.9760 R 11845

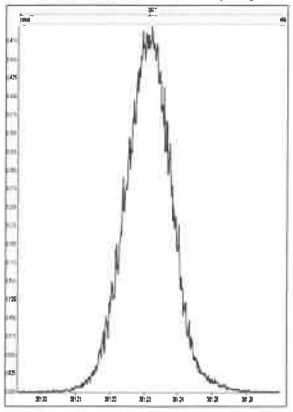

M 392.9760 R 11468

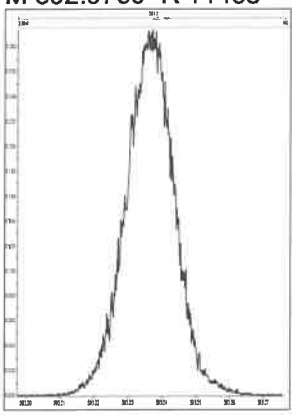

M 404.9760 R 11681

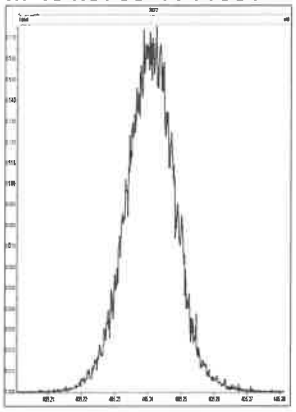

M 416.9760 R 11790

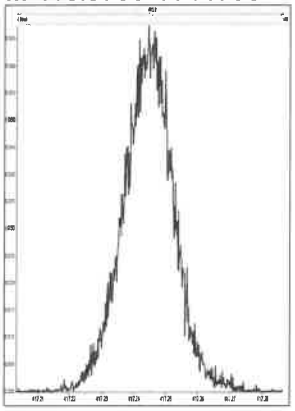

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, January 29, 2020 23:10:50 Pacific Standard Time

M 318.9792 R 11683

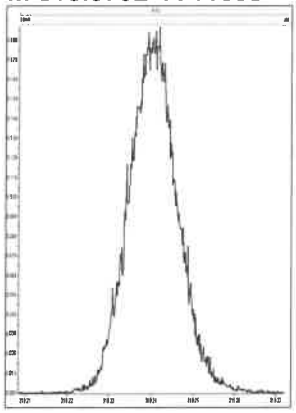

M 330.9792 R 12135

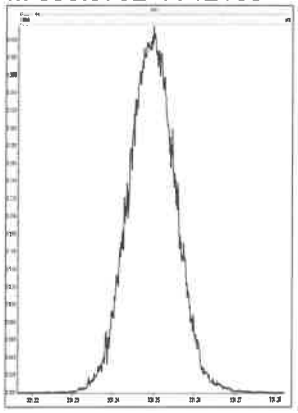

M 342.9792 R 12623

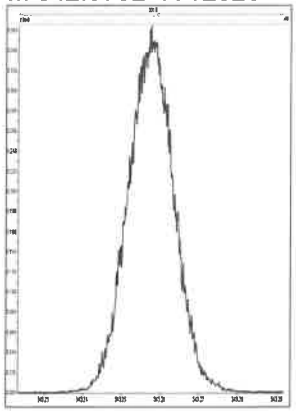

M 354.9792 R 13229

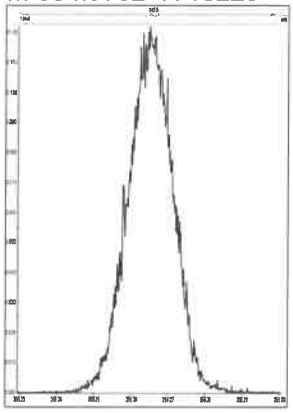

M 366.9792 R 12375

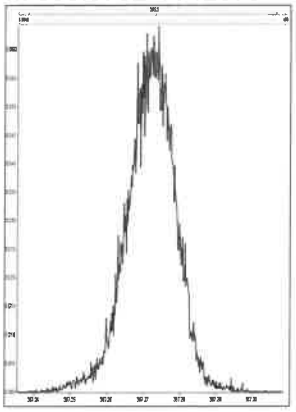

M 380.9760 R 12624

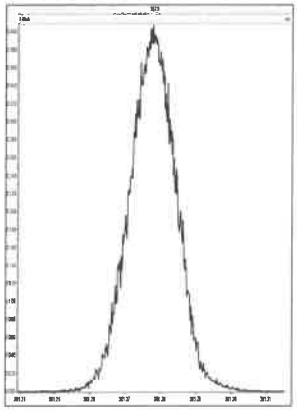

M 392.9760 R 12623

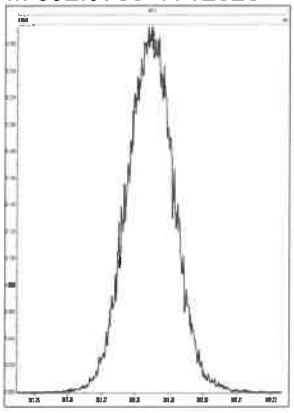

M 404.9760 R 11962

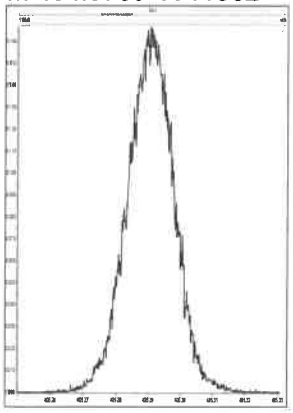

M 416.9760 R 12198

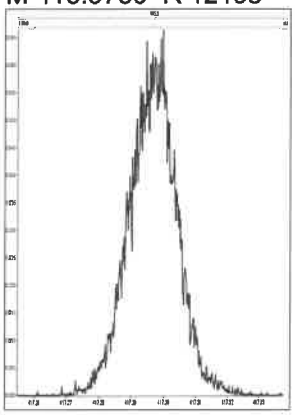

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, January 29, 2020 23:13:01 Pacific Standard Time

M 366.9792 R 11792

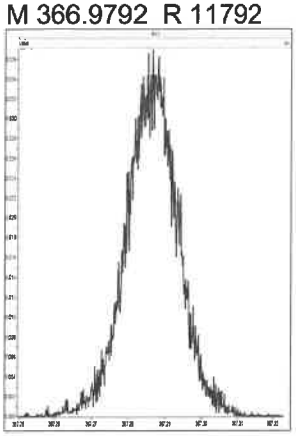

M 380.9760 R 12499

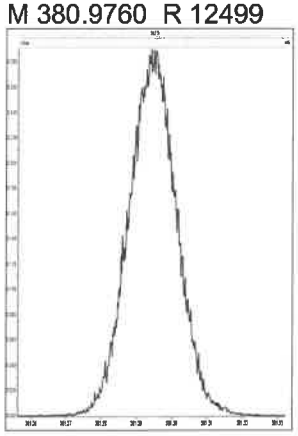

M 392.9760 R 12628

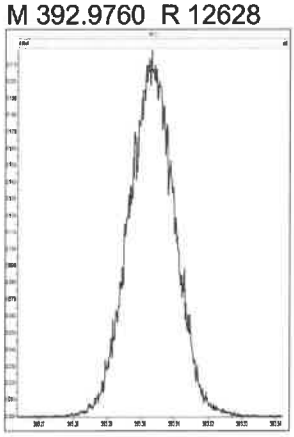

M 404.9760 R 12496

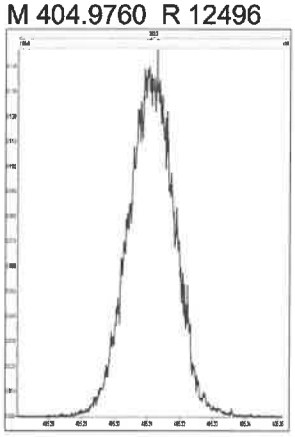

M 416.9760 R 12820

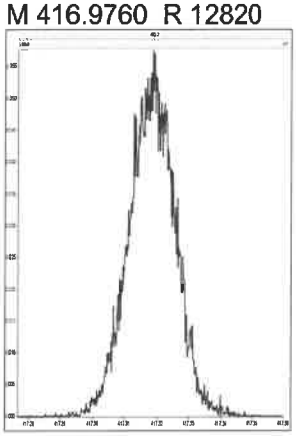

M 430.9728 R 12566

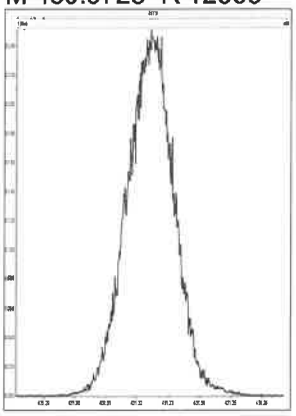

M 442.9728 R 12439

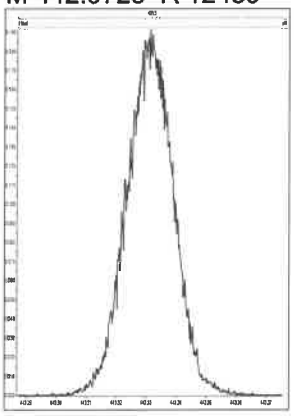

M 454.9728 R 12077

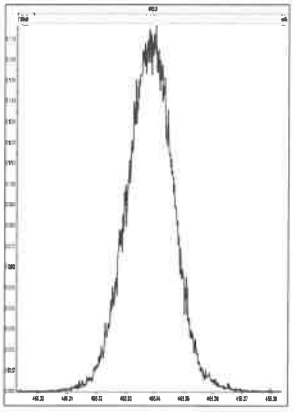

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, January 29, 2020 23:14:49 Pacific Standard Time

M 380.9760 R 11468

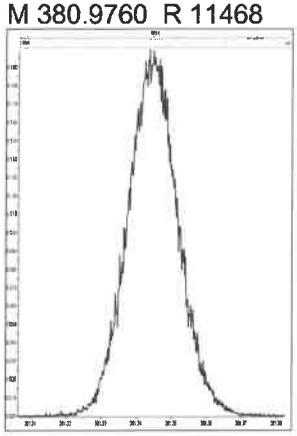

M 392.9760 R 12562

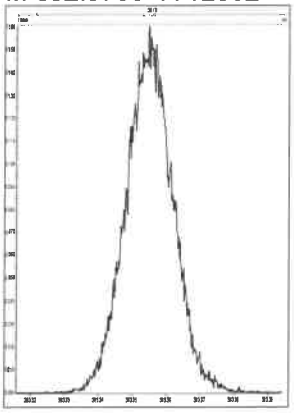

M 404.9760 R 12138

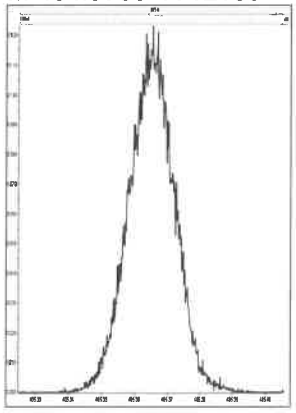

M 416.9760 R 12501

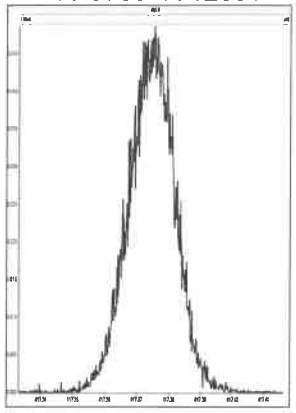

M 430.9728 R 12251

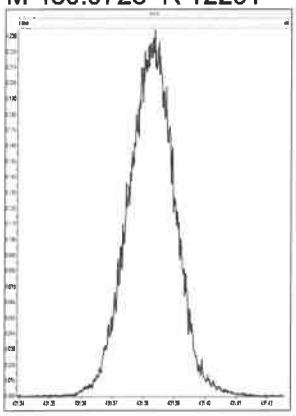

M 442.9728 R 12375

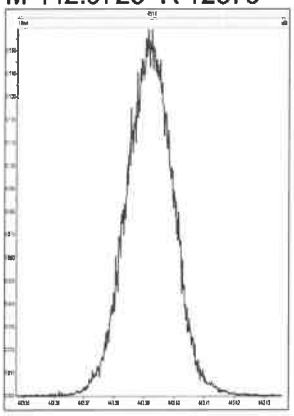

M 454.9728 R 12256

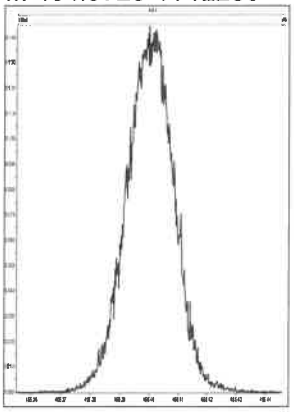

M 466.9728 R 12755

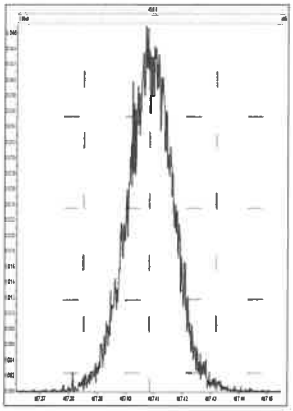

M 480.9696 R 11904

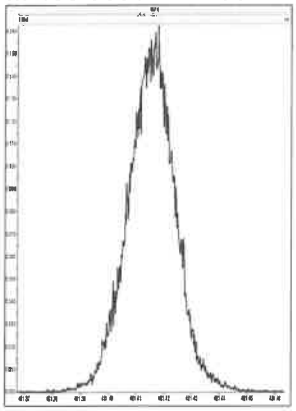

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, January 29, 2020 23:16:38 Pacific Standard Time

M 380.9760 R 12020

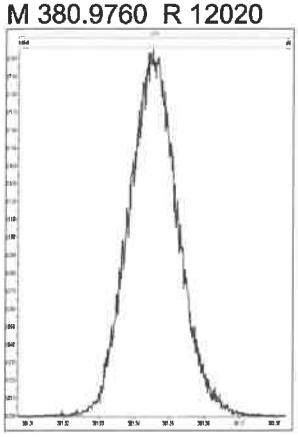

M 392.9760 R 12076

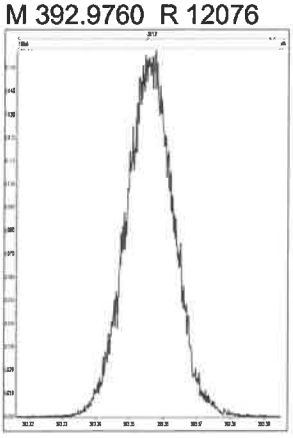

M 404.9760 R 12688

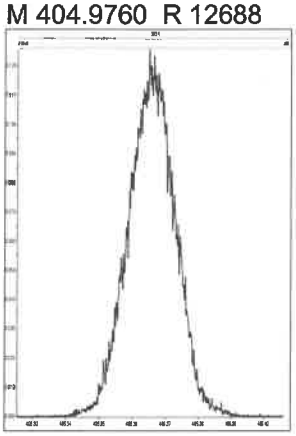

M 416.9760 R 13365

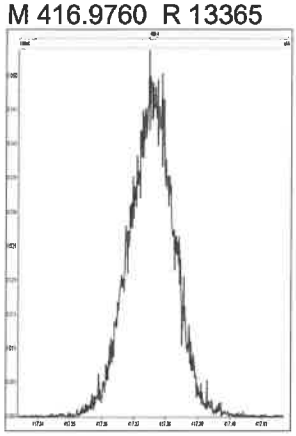

M 430.9728 R 13021

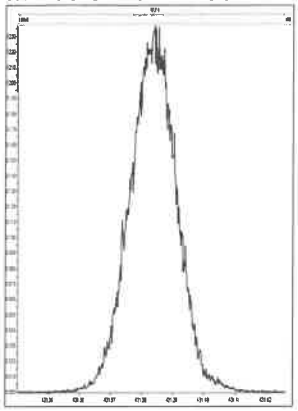

M 442.9728 R 12956

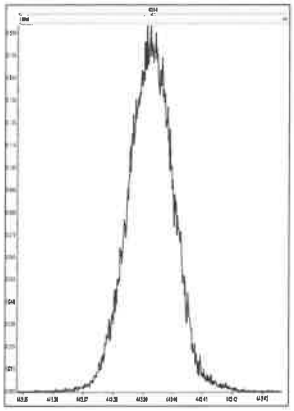

M 454.9728 R 12197

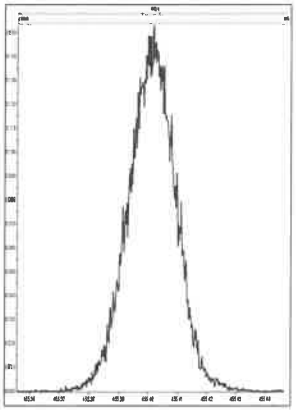

M 466.9728 R 12255

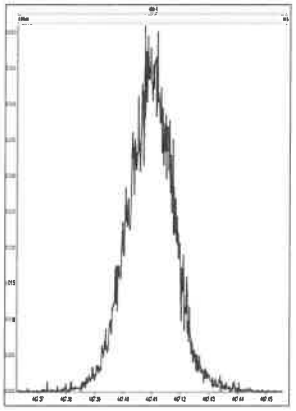

M 480.9696 R 11737

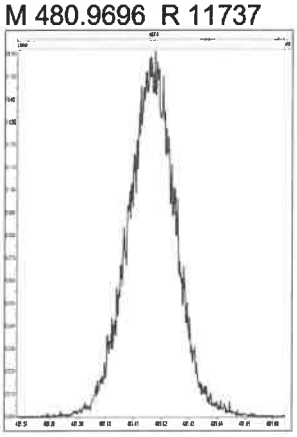

M 492.9696 R 12018

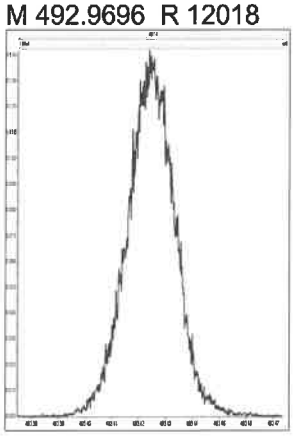

M 504.9696 R 11734

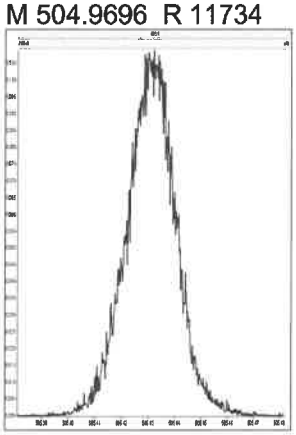

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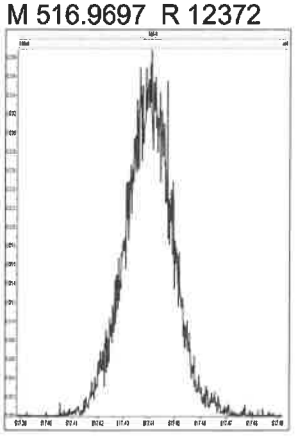

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M 292.9824 R 12170

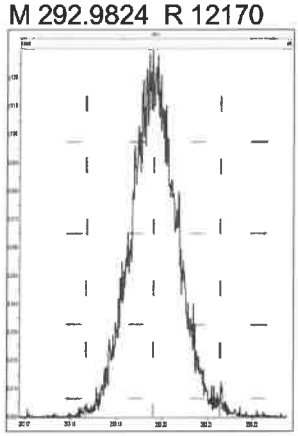

M 304.9824 R 13061

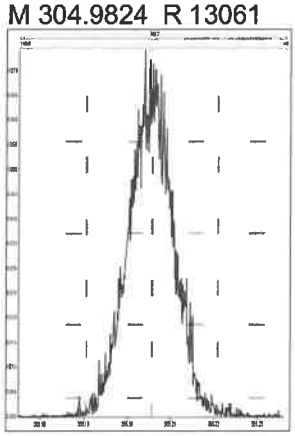

M 318.9792 R 13297

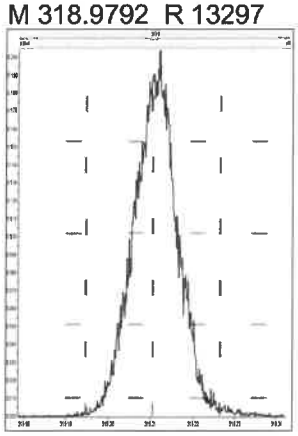

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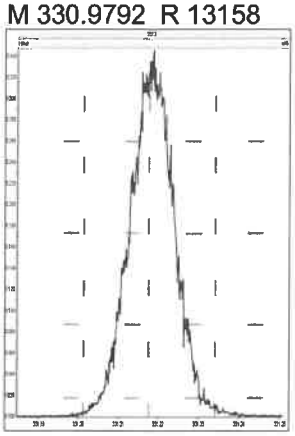

M 342.9792 R 13021

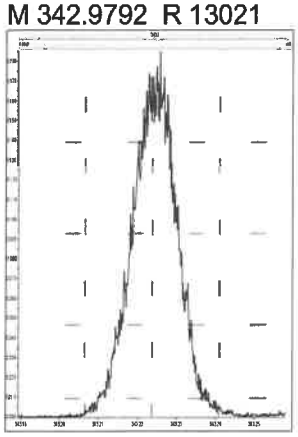

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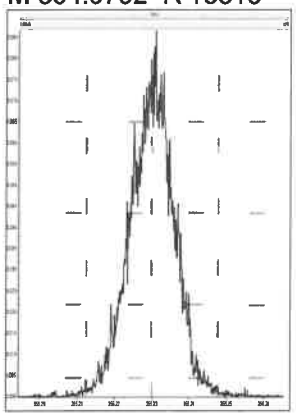

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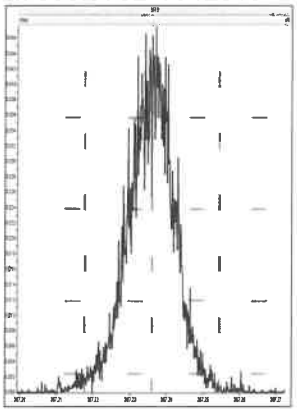

M 380.9760 R 11963

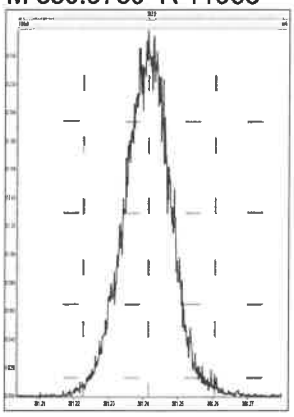

M 392.9760 R 12380

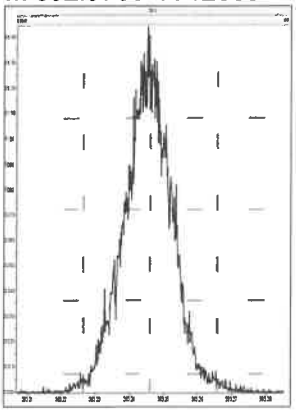

M 404.9760 R 12199

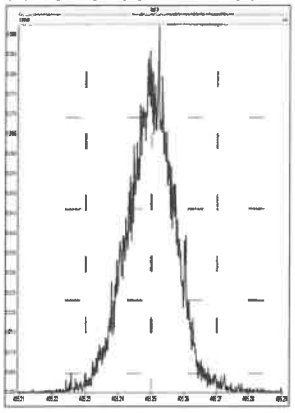

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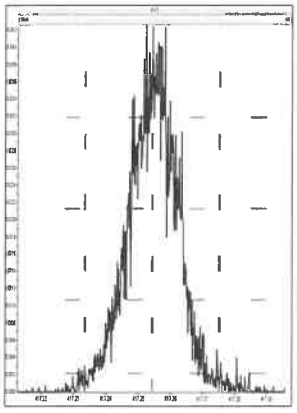

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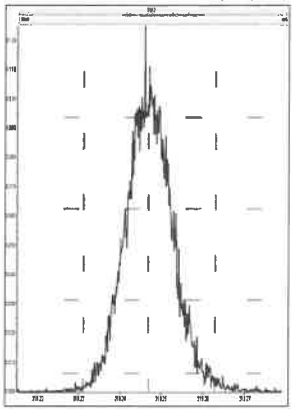

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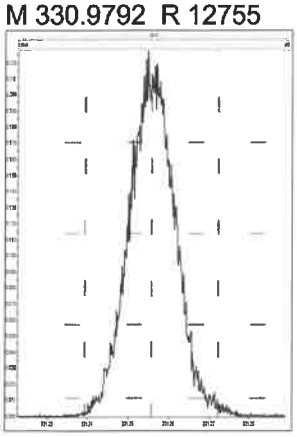

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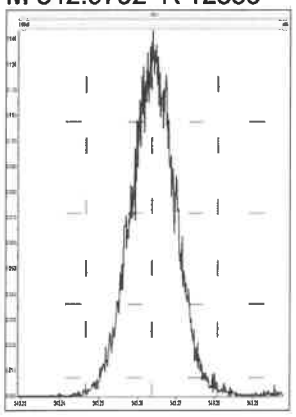

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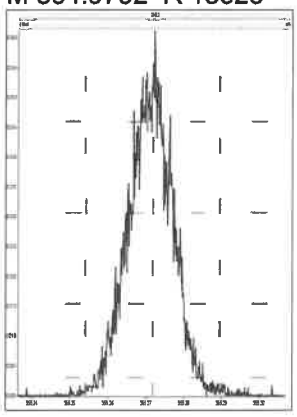

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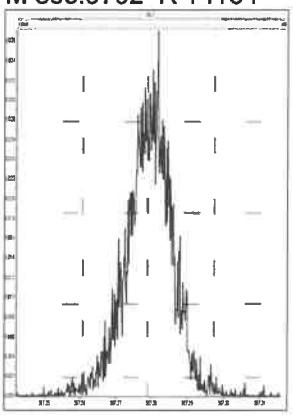

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M 380.9760 R 12531

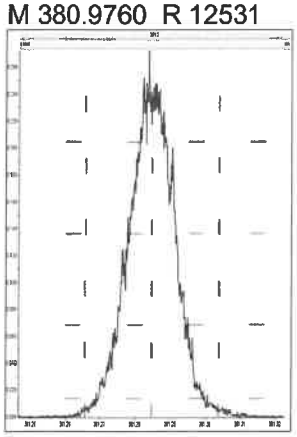

M 392.9760 R 12530

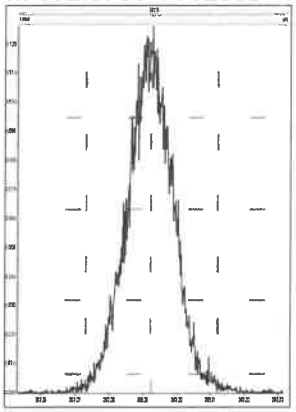

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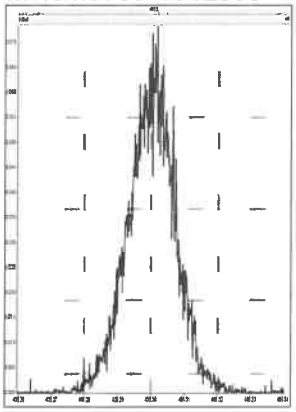

M 416.9760 R 13661

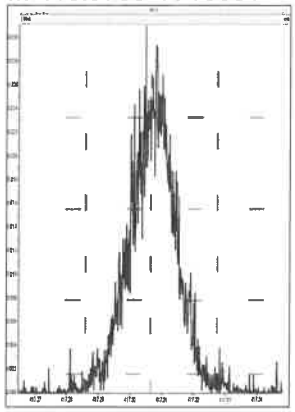

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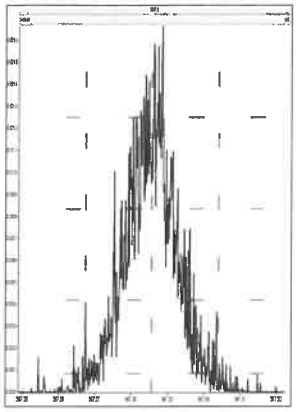

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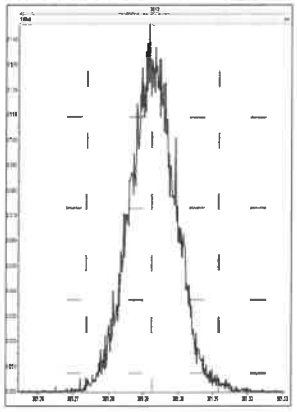

M 392.9760 R 13021

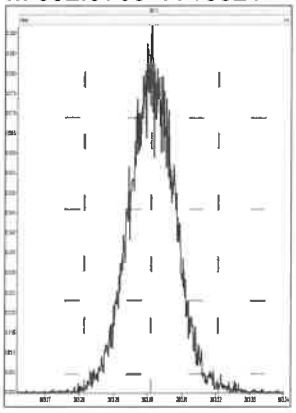

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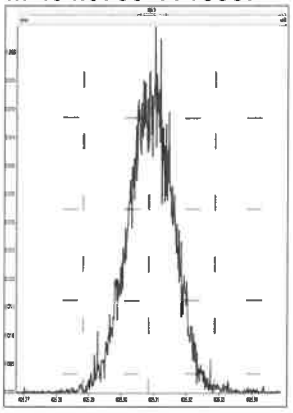

M 416.9760 R 13850

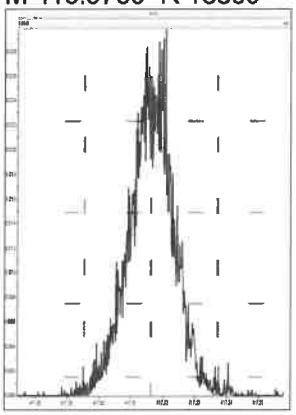

M 430.9728 R 12475

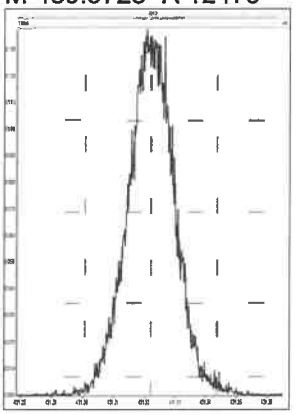

M 442.9728 R 12981

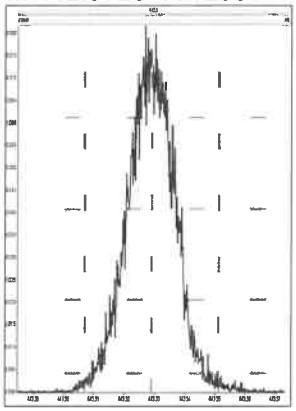

M 454.9728 R 12801

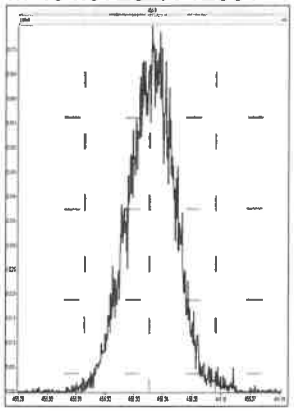

M 380.9760 R 12048

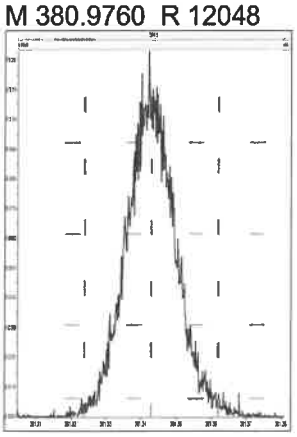

M 392.9760 R 12894

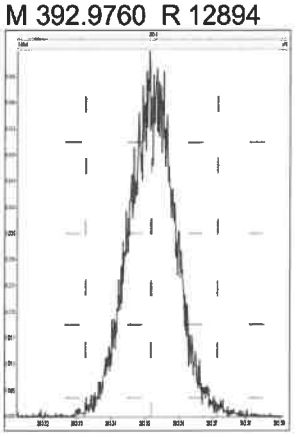

M 404.9760 R 12954

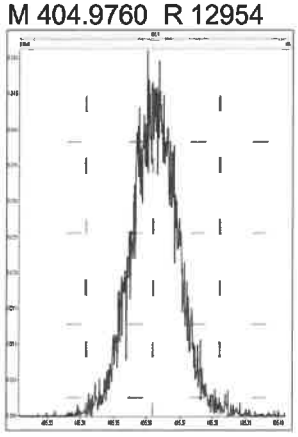

M 416.9760 R 14748

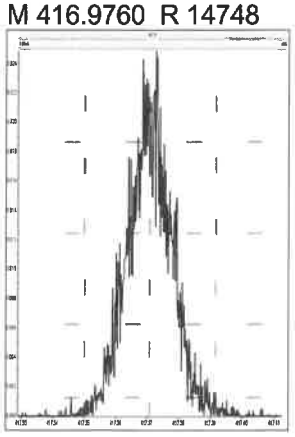

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M 430.9728 R 12958

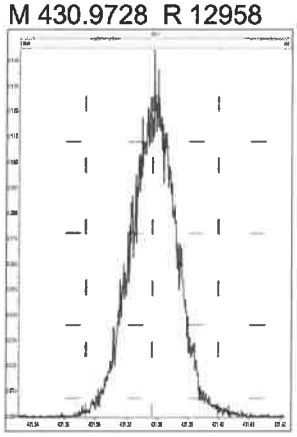

M 442.9728 R 13130

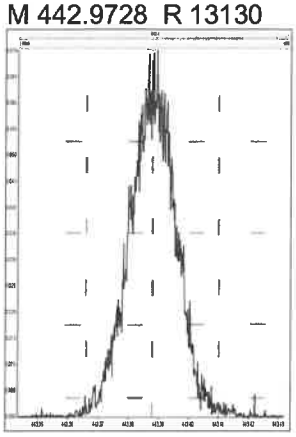

M 454.9728 R 13257

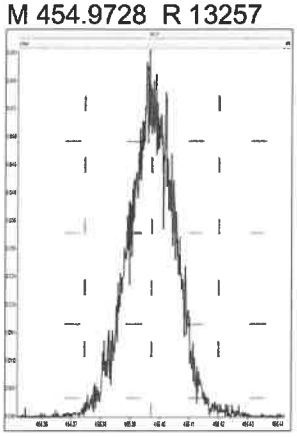

M 466.9728 R 14643

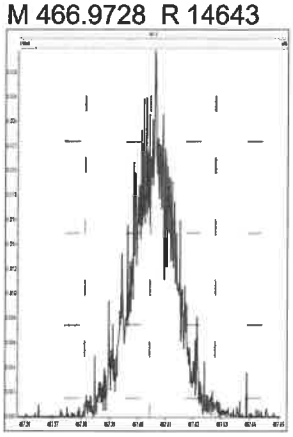

M 480.9696 R 12535

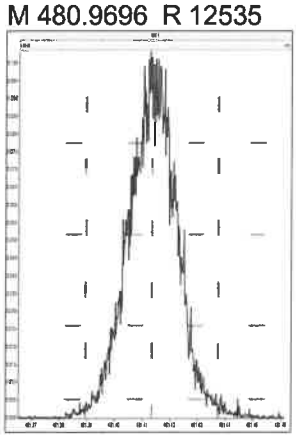

M 380.9760 R 11415

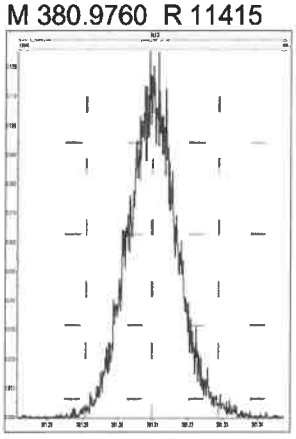

M 392.9760 R 12724

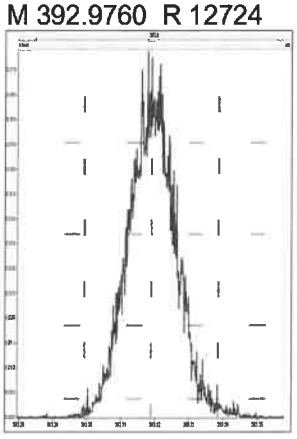

M 404.9760 R 12991

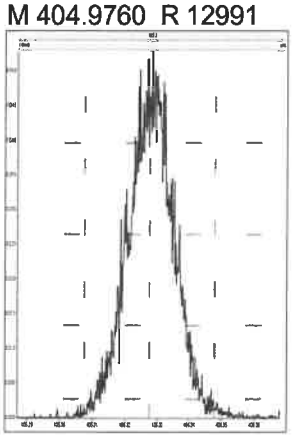

M 416.9760 R 14692

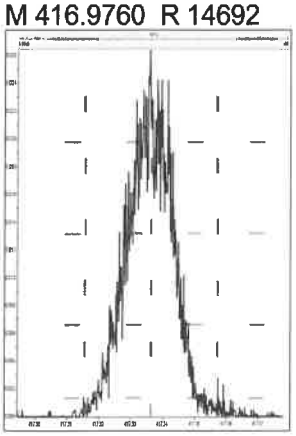

M 430.9728 R 12793

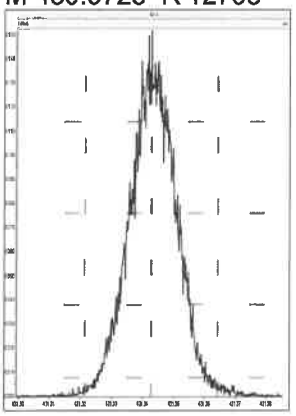

M 442.9728 R 12853

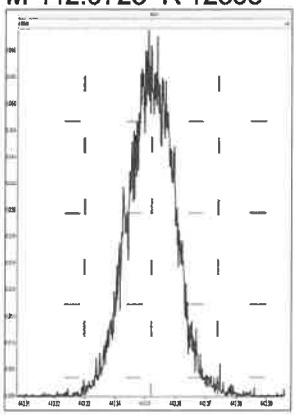

M 454.9728 R 13527

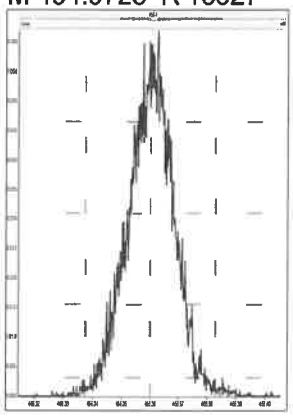

M 466.9728 R 13782

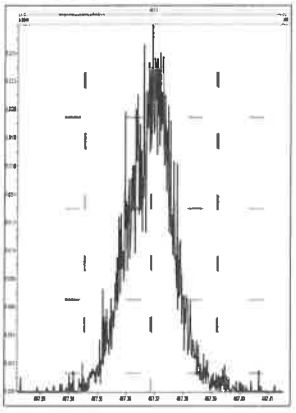

M 480.9696 R 11957

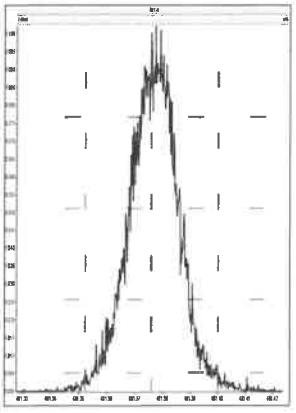

M 492.9696 R 12953

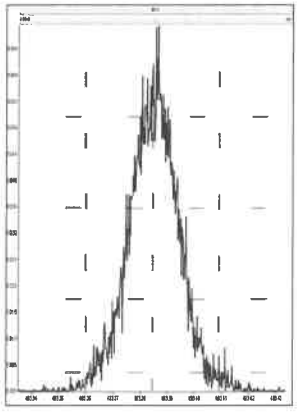

M 504.9696 R 13026

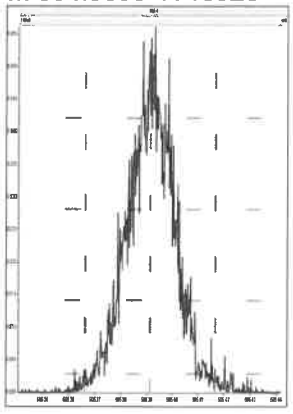

Printed: Thursday, January 30, 2020 07:31:06 Pacific Standard Time

M 516.9697 R 13280

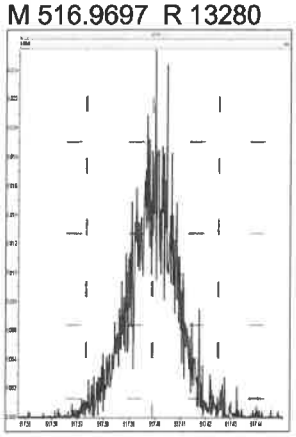

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_4.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 30-Jan-2020 01:49:10 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 012920 CS-2 HRDXNL2_00028
Misc. Info.: 29JA20B10D5
Operator ID: ALM Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 30-Jan-2020 09:31:26 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0321

First Level Reviewer: arghestanis Date: 30-Jan-2020 08:30:25

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.408	53476232	0.81	5.4E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.924	59724134	0.75	1.1275	99.1	99.1	0.2237	0.2237	99.05	
2,3,7,8-TCDF	16.939	219558	0.73	0.7675	0.4790	0.4790	0.0164	0.0164	95.79	
S Total TCDF					0.4790	0.4790	0.0164	0.0164		
D 13C-2,3,7,8-TCDD	17.604	47625866	0.79	0.9032	98.6	98.6	0.2244	0.2244	98.61	
2,3,7,8-TCDD	17.620	231458	0.88	0.9599	0.5063	0.5063	0.0249	0.0249	101	
$ 37Cl4-2,3,7,8-TCDD	17.620	235238		0.9673	0.4548	0.4548	0.007705	0.007705	90.95	
S Total TCDD					0.5063	0.5063	0.0249	0.0249		
D 13C-1,2,3,7,8-PeCDF	21.746	49135392	1.54	0.9615	95.6	95.6	0.2996	0.2996	95.56	
1,2,3,7,8-PeCDF	21.773	1069618	1.49	0.8982	2.424	2.424	0.0257	0.0257	96.95	
D 13C-2,3,4,7,8-PeCDF	23.041	54159362	1.55	1.0393	97.4	97.4	0.2771	0.2771	97.45	
2,3,4,7,8-PeCDF	23.055	1005906	1.49	0.8101	2.293	2.293	0.0270	0.0270	91.71	
S Total PeCDF					4.716	4.716	0.0263	0.0263		
D 13C-1,2,3,7,8-PeCDD	23.737	36505473	1.64	0.6938	98.4	98.4	0.1249	0.1249	98.39	
1,2,3,7,8-PeCDD	23.750	897948	1.52	0.9961	2.469	2.469	0.0273	0.0273	98.78	
S Total PeCDD					2.469	2.469	0.0273	0.0273		
D 13C-1,2,3,4,7,8-HxCDF	29.873	36437504	0.49	0.8543	97.0	97.0	0.4269	0.4269	96.98	
1,2,3,4,7,8-HxCDF	29.899	671274	1.21	0.7916	2.327	2.327	0.0441	0.0441	93.09	
D 13C-1,2,3,6,7,8-HxCDF	30.112	36702281	0.50	0.8361	99.8	99.8	0.4362	0.4362	99.81	
1,2,3,6,7,8-HxCDF	30.139	725683	1.18	0.8638	2.289	2.289	0.0393	0.0393	91.56	
D 13C-2,3,4,6,7,8-HxCDF	31.111	33531834	0.49	0.7773	98.1	98.1	0.4691	0.4691	98.08	
2,3,4,6,7,8-HxCDF	31.124	717749	1.17	0.9010	2.376	2.376	0.0285	0.0285	95.02	
D 13C-1,2,3,7,8,9-HxCDF	31.989	30765834	0.49	0.7167	97.6	97.6	0.5088	0.5088	97.61	
1,2,3,7,8,9-HxCDF	32.002	648863	1.27	0.9127	2.311	2.311	0.0287	0.0287	92.43	
S Total HxCDF					9.303	9.303	0.0351	0.0351		
* 13C-1,2,3,7,8,9-HxCDD	31.803	43980096	1.23	4.4E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.324	33871376	1.22	0.8050	95.7	95.7	0.3041	0.3041	95.67	
1,2,3,4,7,8-HxCDD	31.337	700430	1.36	0.8392	2.464	2.464	0.0207	0.0207	98.57	
D 13C-1,2,3,6,7,8-HxCDD	31.444	36425321	1.22	0.8269	100.2	100.2	0.2960	0.2960	100	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.457	747945	1.13	0.8876	2.313	2.313	0.0204	0.0204	92.53	
1,2,3,7,8,9-HxCDD	31.816	797129	1.20	0.9567	2.371	2.371	0.0185	0.0185	94.82	
S Total HxCDD					7.148	7.148	0.0199	0.0199		
D 13C-1,2,3,4,6,7,8-HpCDF	33.496	30587884	0.41	0.7080	98.2	98.2	1.150	1.150	98.23	
1,2,3,4,6,7,8-HpCDF	33.508	981605	1.00	1.3375	2.399	2.399	0.0298	0.0298	95.98	
D 13C-1,2,3,4,7,8,9-HpCDF	34.565	31413014	0.42	0.7451	95.9	95.9	1.093	1.093	95.86	
1,2,3,4,7,8,9-HpCDF	34.565	796576	1.03	1.0744	2.360	2.360	0.0454	0.0454	94.41	
S Total HpCDF					4.760	4.760	0.0376	0.0376		
D 13C-1,2,3,4,6,7,8-HpCDD	34.274	31797466	1.07	0.7473	96.7	96.7	0.5196	0.5196	96.74	
1,2,3,4,6,7,8-HpCDD	34.286	753253	1.06	0.9811	2.415	2.415	0.0315	0.0315	96.58	
S Total HpCDD					2.415	2.415	0.0315	0.0315		
D 13C-OCDD	36.578	54390196	0.88	0.6622	186.8	186.8	0.1251	0.1251	93.38	
OCDF	36.674	1375101	0.90	1.0659	4.744	4.744	0.0333	0.0333	94.87	
OCDD	36.590	1338518	0.89	0.9937	4.953	4.953	0.0227	0.0227	99.06	

Reagents:

HRDXNL2_00028 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_4.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 30-Jan-2020 01:49:10 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 012920 CS-2 HRDXNL2_00028
Misc. Info.: 29JA20B10D5
Operator ID: ALM Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 30-Jan-2020 09:31:26 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0321

First Level Reviewer: arghestanis Date: 30-Jan-2020 08:30:25

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.408	17.411	0		23905141	6156127	4848	12120	1270		
333.9339	17.408	17.411	0		29571091	7622583	6320	15800	1206	0.81(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.924	16.924	0	0.972	25612724	6223050	8687	21717	716		
317.9389	16.924	16.924	0	0.972	34111410	8168667	5213	13032	1567	0.75(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.939	16.939	0	1.001	92675	20327	225	562	90		
305.8987	16.924	16.939	-1	1.000	126883	30676	500	1250	61	0.73(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.604	17.605	0	1.011	21064766	4807939	4848	12120	992		
333.9339	17.604	17.605	0	1.011	26561100	6173359	6320	15800	977	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.620	17.623	0	1.001	108607	22734	681	1702	33		
321.8936	17.604	17.623	-1	1.000	122851	25793	368	920	70	0.88(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.620	17.623	0	1.012	235238	57501	411	1027	140		
13C-1,2,3,7,8-PeCDF											
351.9000	21.746	21.749	0	1.249	29757623	5244012	9464	23660	554		
353.8970	21.746	21.749	0	1.249	19377769	3384685	6410	16025	528	1.54(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.773	21.773	0	1.001	640056	110728	337	842	329		
341.8567	21.773	21.773	0	1.001	429562	73520	459	1147	160	1.49(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	23.041	23.042	0	1.324	32931911	5529176	9464	23660	584		
353.8970	23.041	23.042	0	1.324	21227451	3565169	6410	16025	556	1.55(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.055	23.066	-1	1.001	601457	94175	337	842	279		
341.8567	23.069	23.066	0	1.001	404449	65430	459	1147	143	1.49(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.737	23.737	0	1.364	22674278	3481441	2768	6920	1258		
369.8919	23.737	23.737	0	1.364	13831195	2191952	2009	5022	1091	1.64(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.750	23.761	-1	1.001	541678	78980	348	870	227		
357.8516	23.764	23.761	0	1.001	356270	53137	270	675	197	1.52(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.873	29.878	0	0.939	11946532	1644115	4849	12122	339		
385.8610	29.873	29.878	0	0.939	24490972	3342342	9300	23250	359	0.49(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.899	29.905	0	1.001	367030	48351	406	1015	119		
375.8178	29.899	29.905	0	1.001	304244	40246	291	727	138	1.21(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.112	30.118	0	0.947	12166823	1709379	4849	12122	353		
385.8610	30.112	30.118	0	0.947	24535458	3426532	9300	23250	368	0.50(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.139	30.142	0	1.001	392622	54919	406	1015	135		
375.8178	30.139	30.142	0	1.001	333061	47085	291	727	162	1.18(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.111	31.108	0	0.978	11027467	2256231	4849	12122	465		
385.8610	31.111	31.108	0	0.978	22504367	4527167	9300	23250	487	0.49(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.124	31.124	0	1.000	386734	76368	406	1015	188		
375.8178	31.124	31.124	0	1.000	331015	71138	291	727	244	1.17(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.989	31.992	0	1.006	10049343	2185361	4849	12122	451		
385.8610	31.989	31.992	0	1.006	20716491	4470913	9300	23250	481	0.49(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.002	32.008	0	1.000	363283	77343	406	1015	191		
375.8178	32.016	32.008	0	1.001	285580	61935	291	727	213	1.27(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.803	31.803	0		24292234	5370583	4815	12037	1115		
403.8529	31.803	31.803	0		19687862	4329208	4683	11707	924	1.23(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.324	31.324	0	0.985	18628883	4367675	4815	12037	907		
403.8529	31.324	31.324	0	0.985	15242493	3525940	4683	11707	753	1.22(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.337	31.337	0	1.000	403511	90997	306	765	297		
391.8127	31.337	31.337	0	1.000	296919	65608	242	605	271	1.36(1.05-1.43)	

Report Date: 30-Jan-2020 09:31:50 Chrom Revision: 2.3 14-Jan-2020 22:23:42
Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_4.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.444	31.441	0	0.989	20030018	4171191	4815	12037	866		
403.8529	31.444	31.441	0	0.989	16395303	3401917	4683	11707	726	1.22(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.457	31.457	0	1.000	396754	87728	306	765	287		
391.8127	31.457	31.457	0	1.000	351191	69622	242	605	288	1.13(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.816	31.816	0	1.016	435492	92820	306	765	303		
391.8127	31.816	31.816	0	1.016	361637	78142	242	605	323	1.20(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.496	33.499	0	1.053	8961405	2633609	10409	26022	253		
419.8220	33.496	33.499	0	1.053	21626479	6371060	21177	52942	301	0.41(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.508	33.511	0	1.000	489745	138754	718	1795	193		
409.7789	33.508	33.511	0	1.000	491860	148967	717	1792	208	1.00(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.565	34.563	0	1.087	9240436	2161533	10409	26022	208		
419.8220	34.565	34.563	0	1.087	22172578	5198188	21177	52942	245	0.42(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.565	34.570	0	1.000	404418	92745	718	1795	129		
409.7789	34.565	34.570	0	1.000	392158	85886	717	1792	120	1.03(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.274	34.279	0	1.078	16465685	4265340	8470	21175	504		
437.8140	34.274	34.279	0	1.078	15331781	3977548	6597	16492	603	1.07(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.286	34.288	0	1.000	387937	99769	554	1385	180		
425.7737	34.286	34.288	0	1.000	365316	91348	465	1162	196	1.06(0.88-1.20)	
13C-OCDD											
469.7779	36.578	36.578	0	1.150	25487113	5493119	1713	4282	3207		
471.7750	36.578	36.578	0	1.150	28903083	6218346	1501	3752	4143	0.88(0.76-1.02)	
OCDF											
441.7428	36.674	36.674	0	1.003	651124	132250	323	807	409		
443.7399	36.674	36.674	0	1.003	723977	151095	508	1270	297	0.90(0.76-1.02)	
OCDD											
457.7377	36.590	36.590	0	1.000	628807	135645	275	687	493		
459.7348	36.590	36.590	0	1.000	709711	149567	253	632	591	0.89(0.76-1.02)	

Reagents:

HRDXNL2_00028 Amount Added: 2.00 Units: uL

Report Date: 30-Jan-2020 09:31:50 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_4.d		
Injection Date:	30-Jan-2020 01:49:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

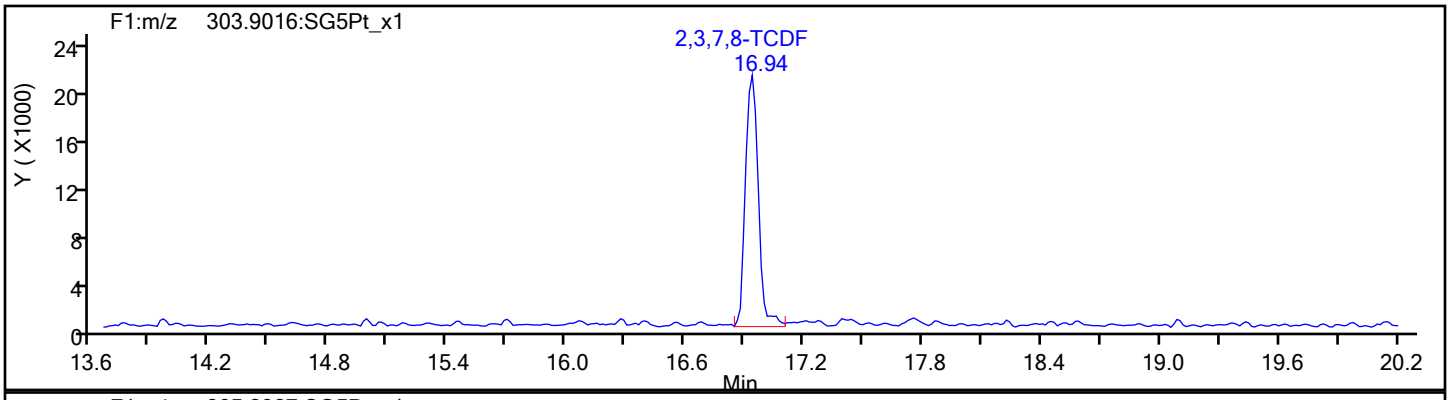

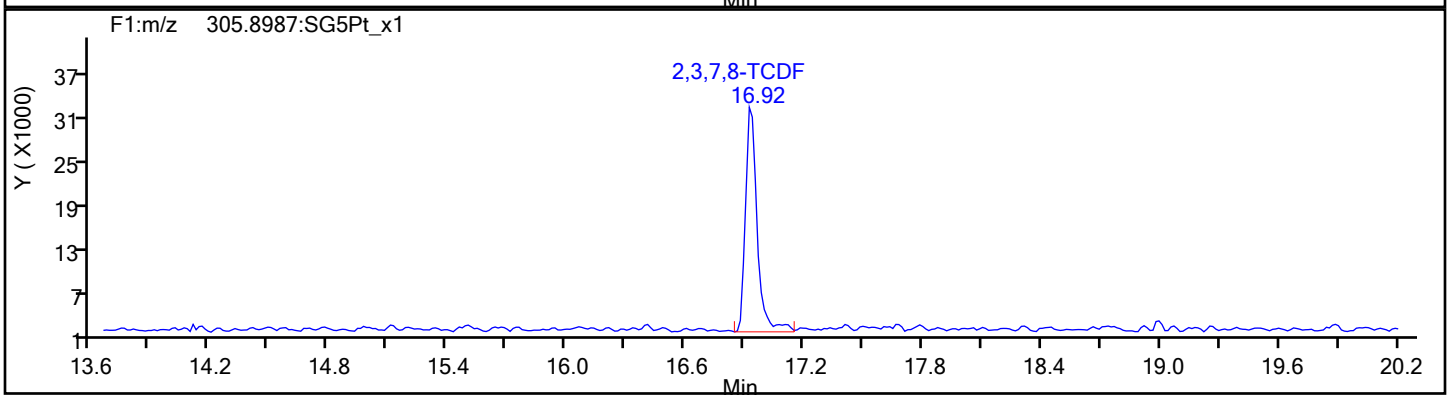

TCDF Standards

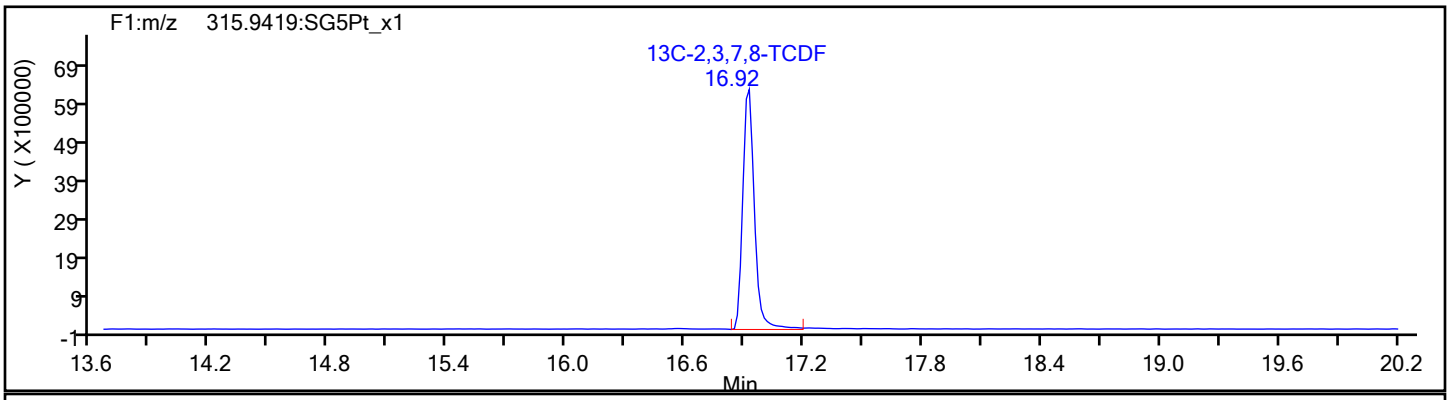

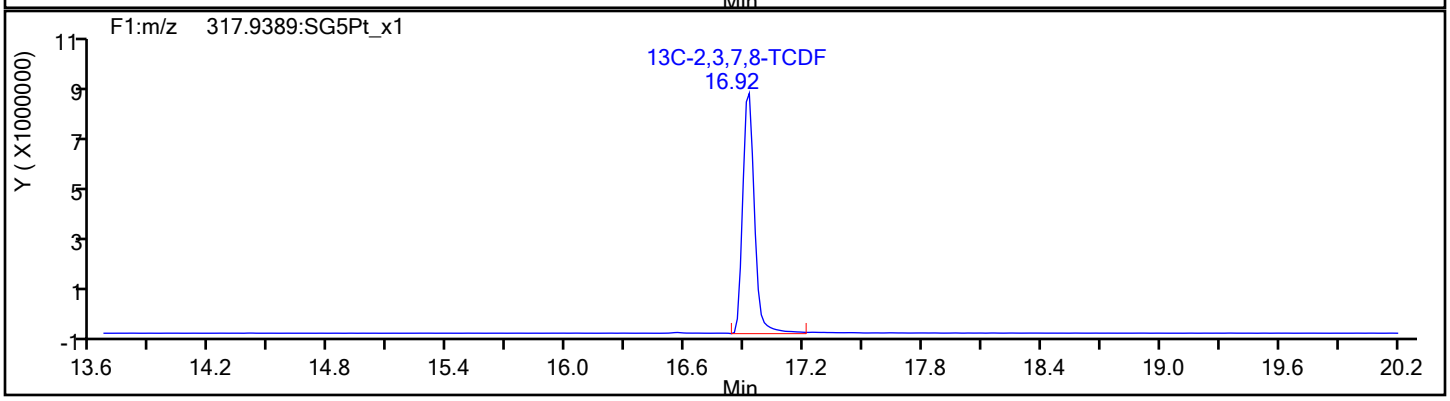

Report Date: 30-Jan-2020 09:31:50 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

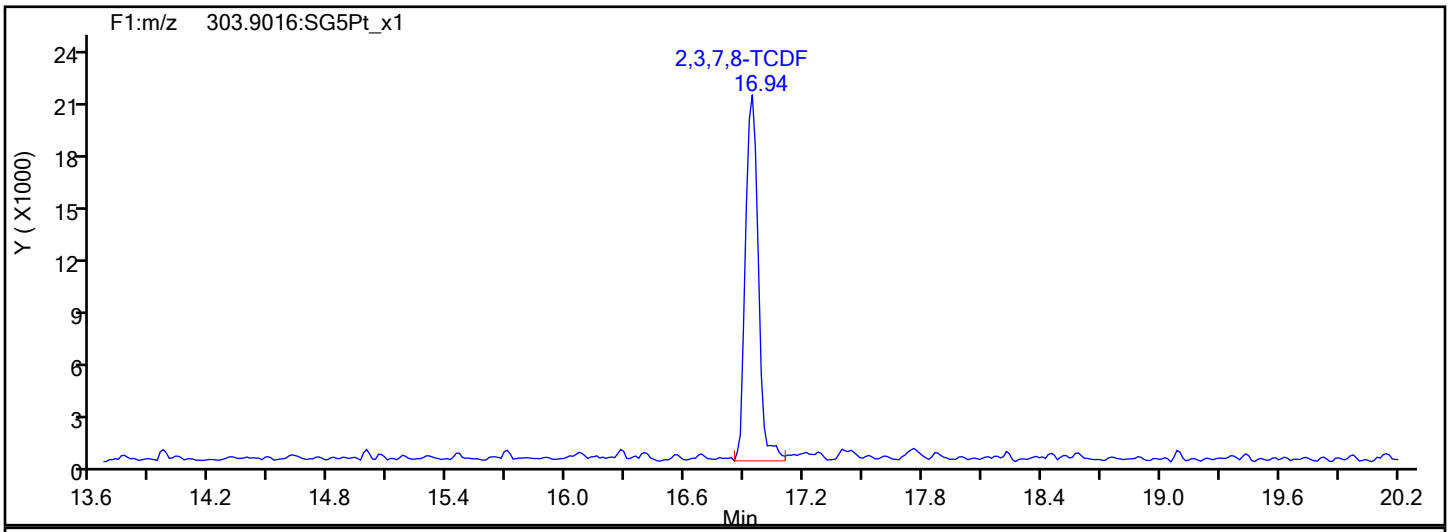

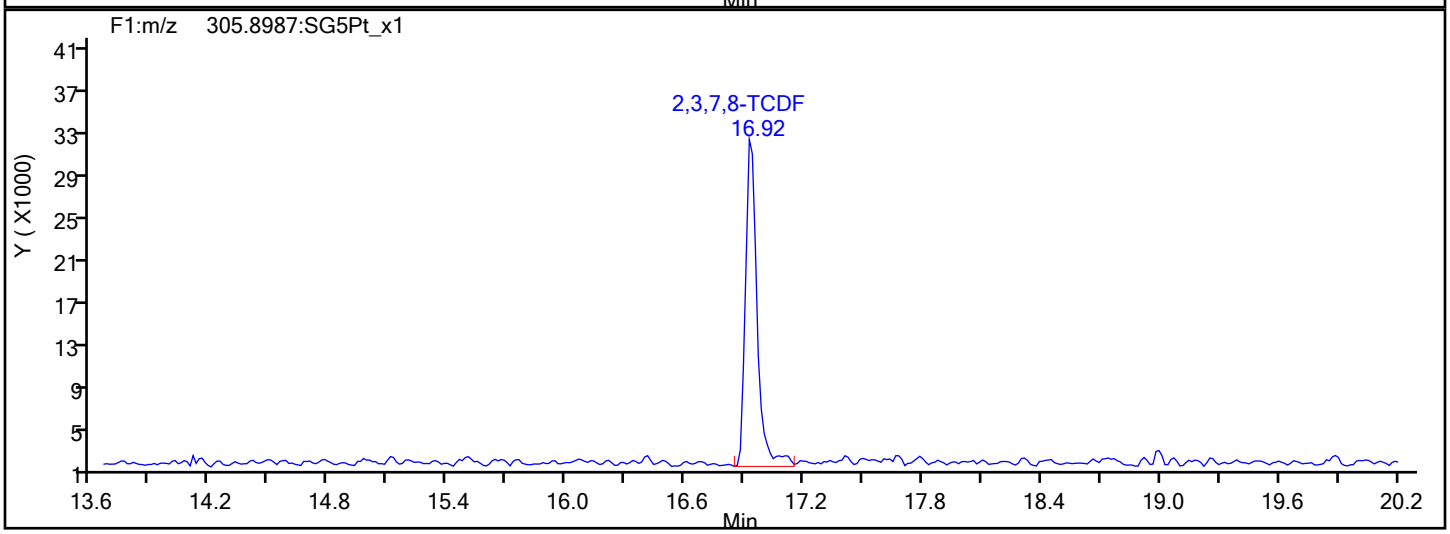

TCDF Interference Mass

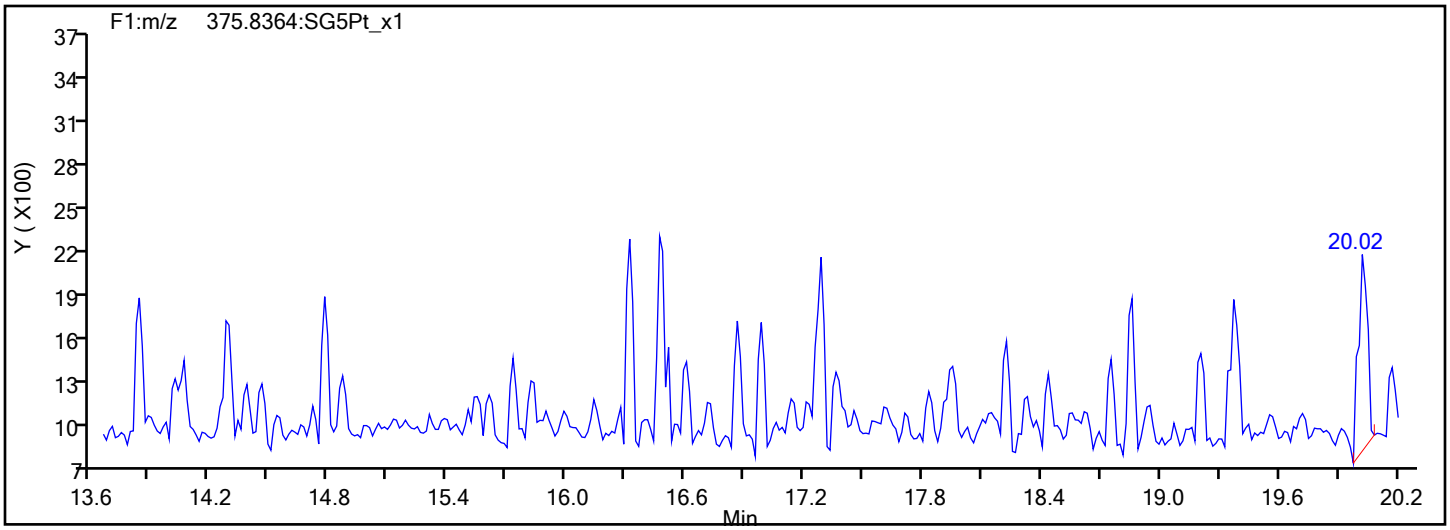

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Eurofins TestAmerica, Sacramento

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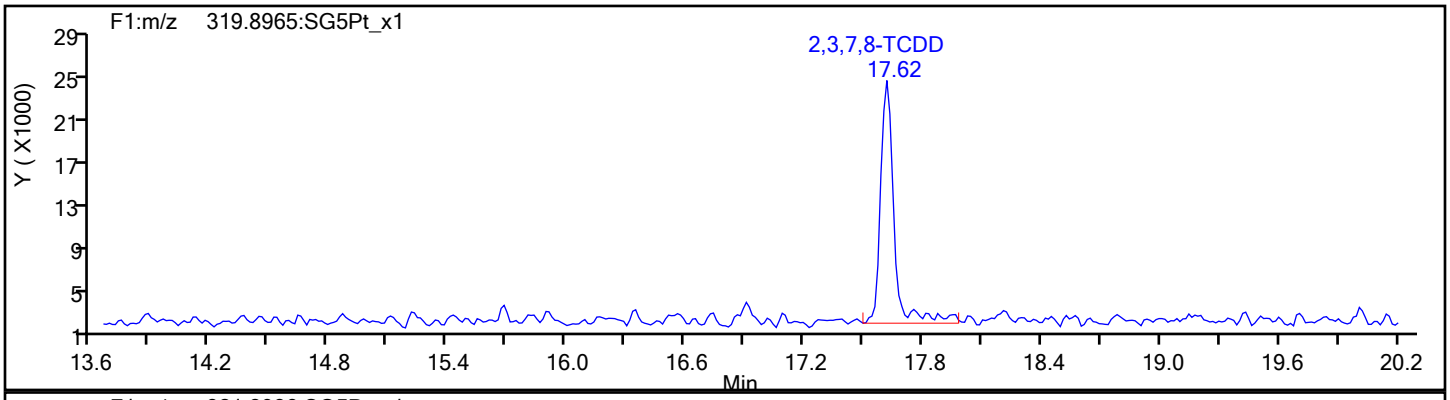

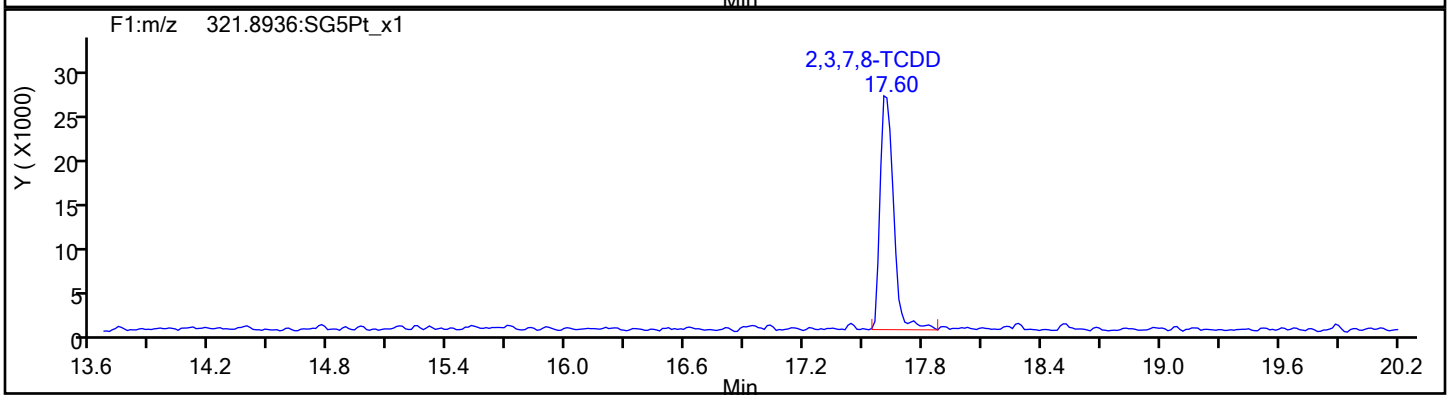

TCDD Standards

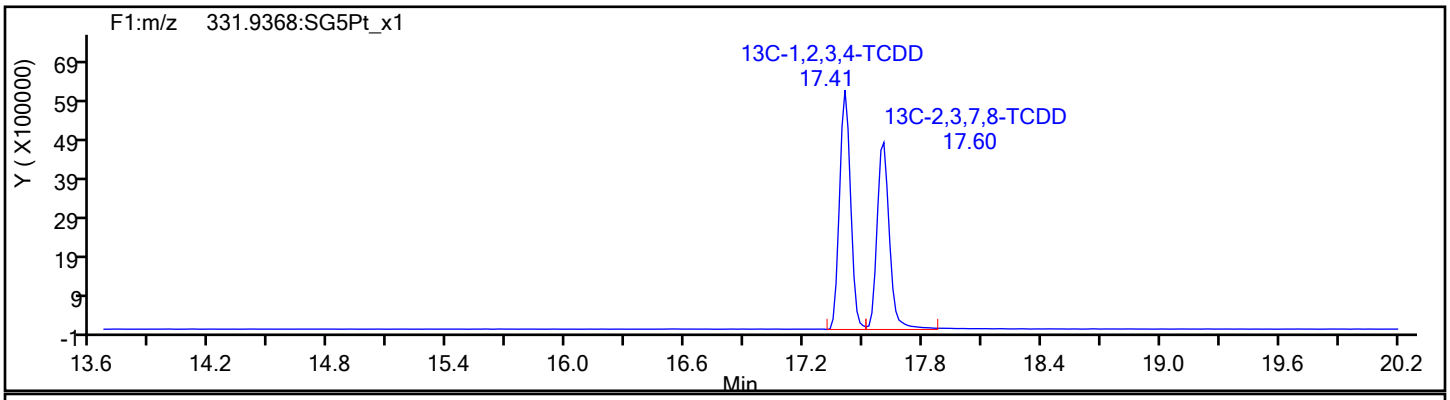

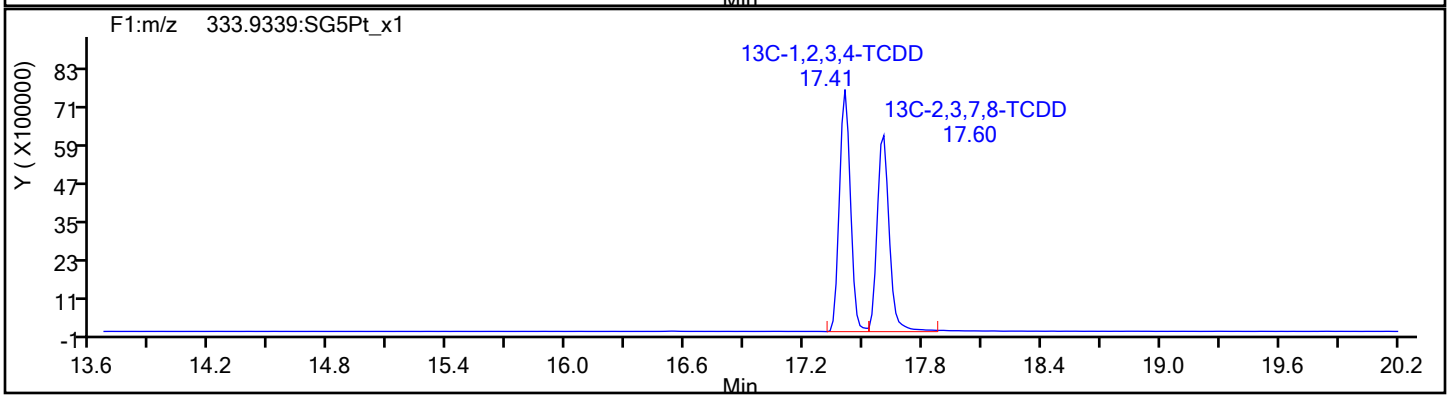

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Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

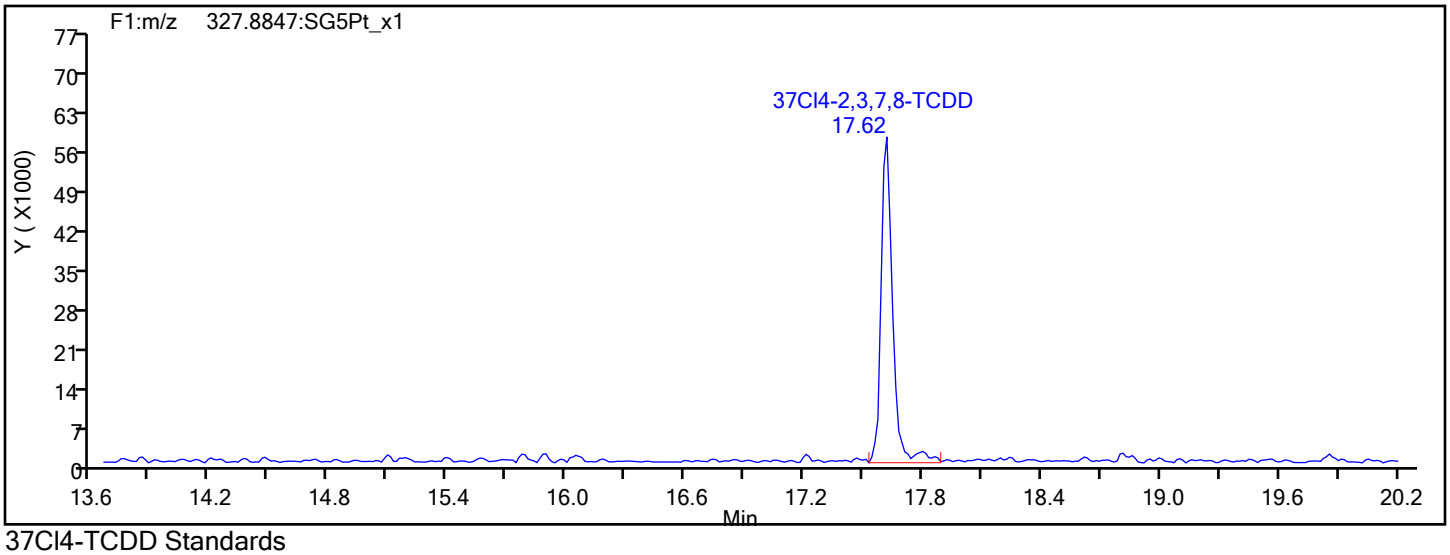

37Cl4-TCDD Standards

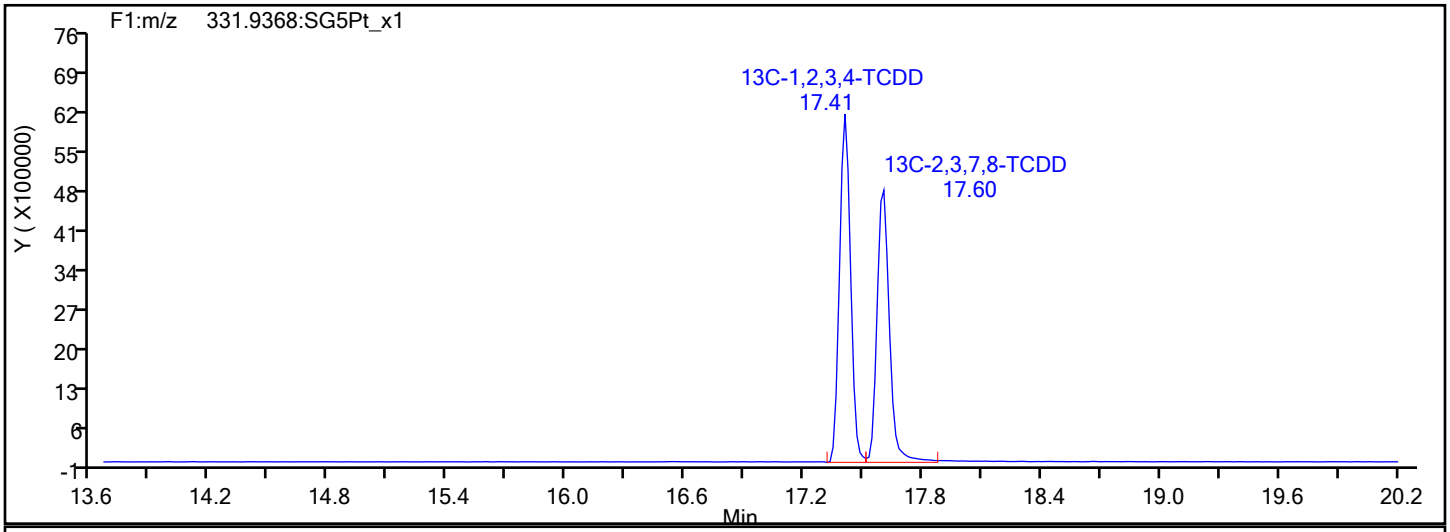

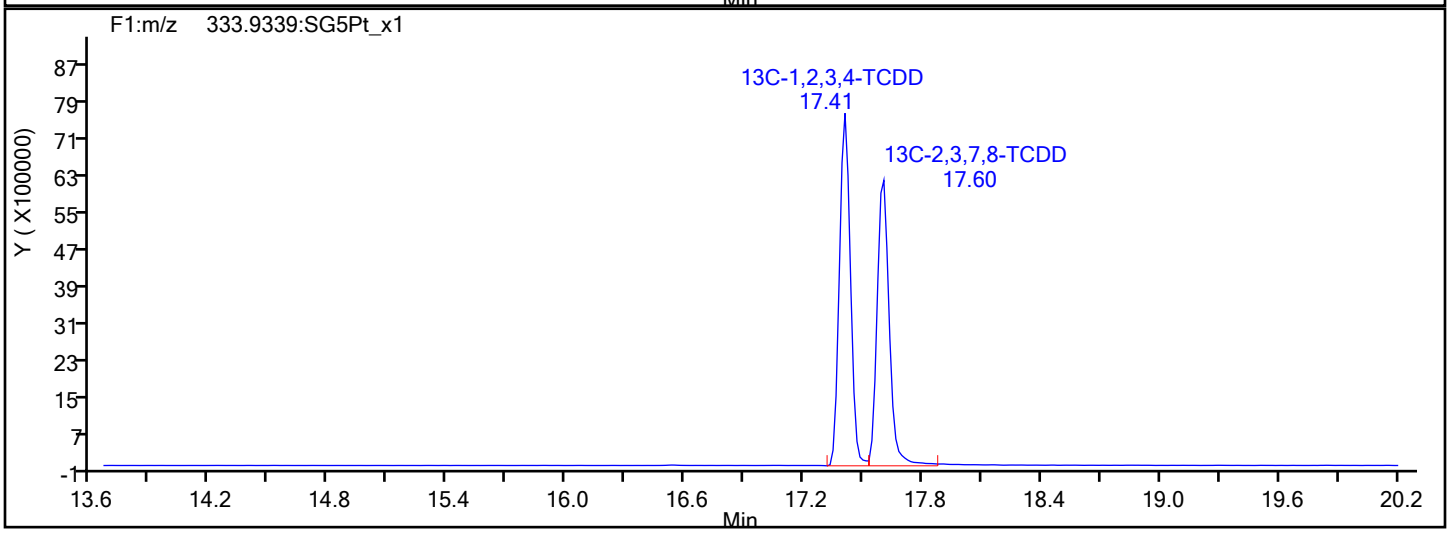

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

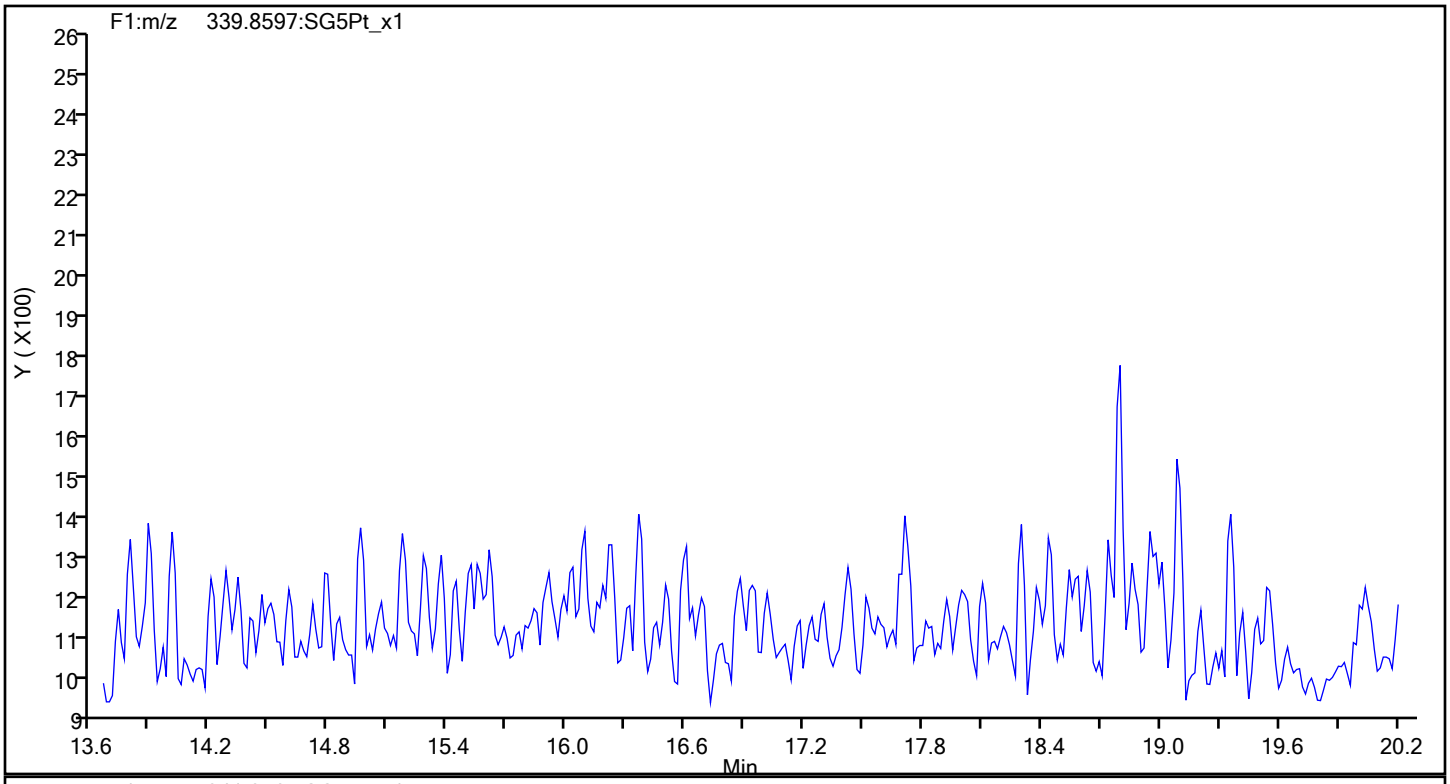

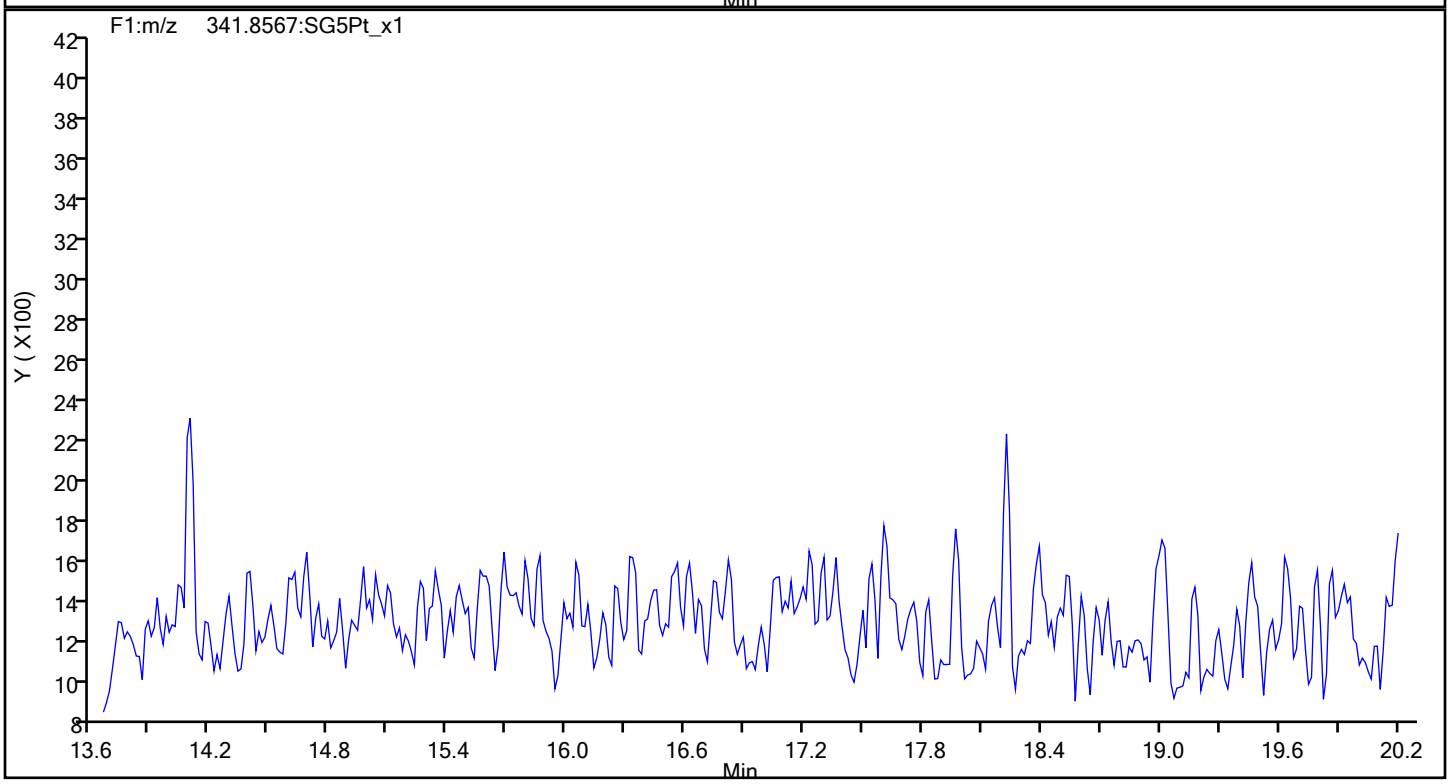

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

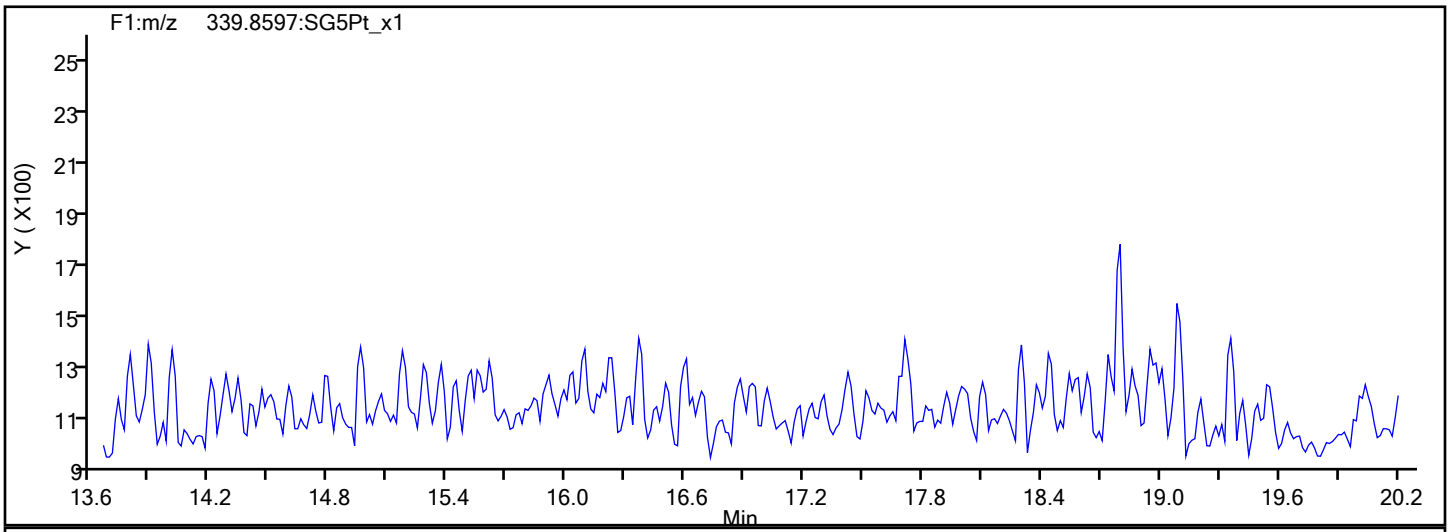

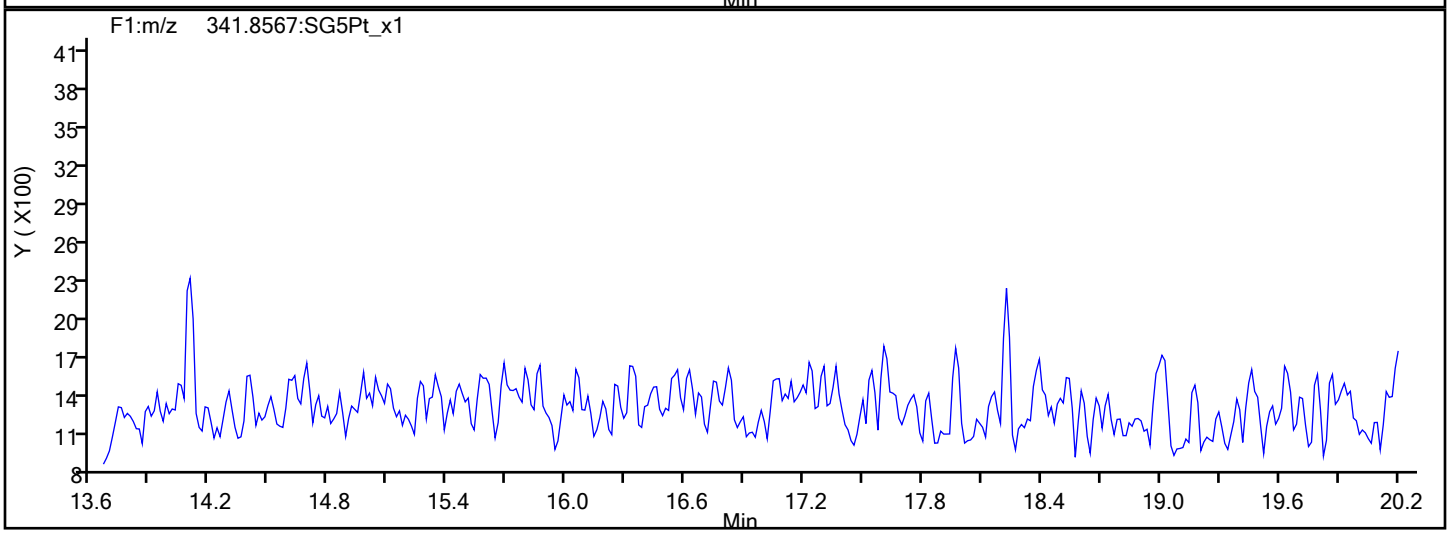

F1 PeCDFs Interference Mass

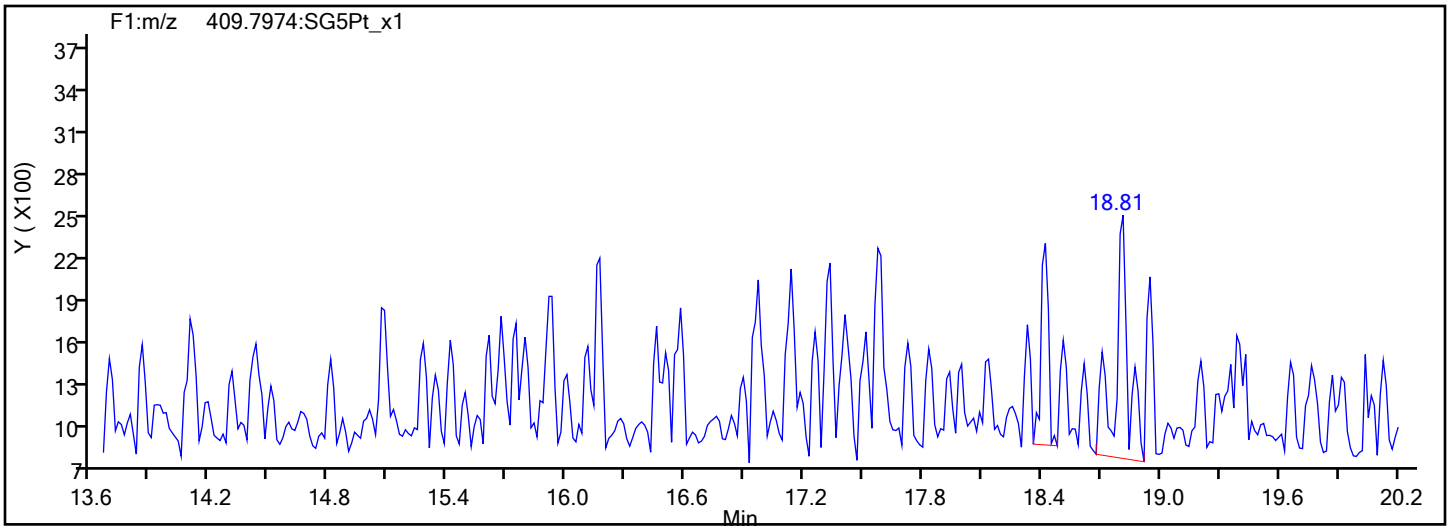

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Eurofins TestAmerica, Sacramento

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PeCDF

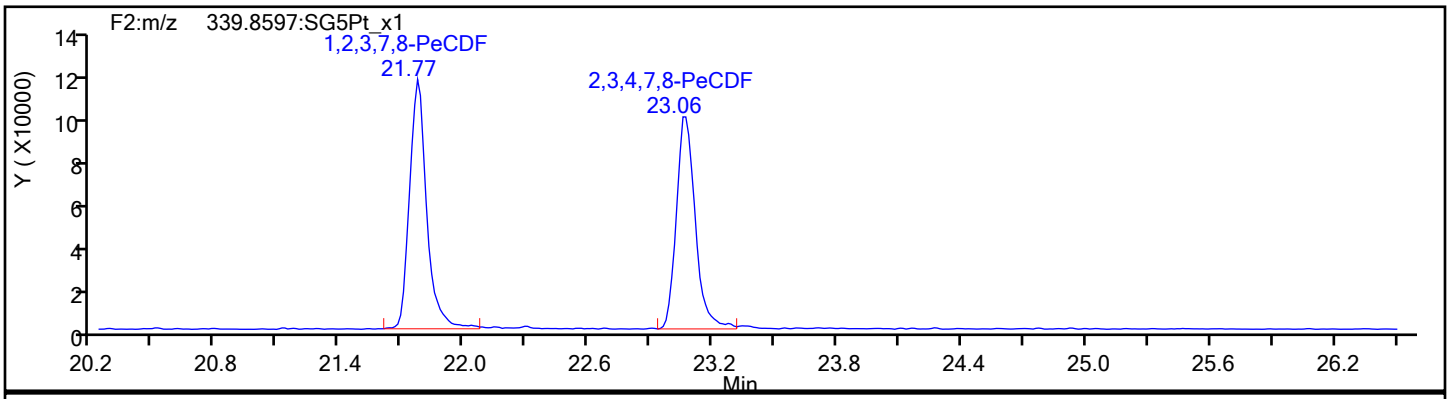

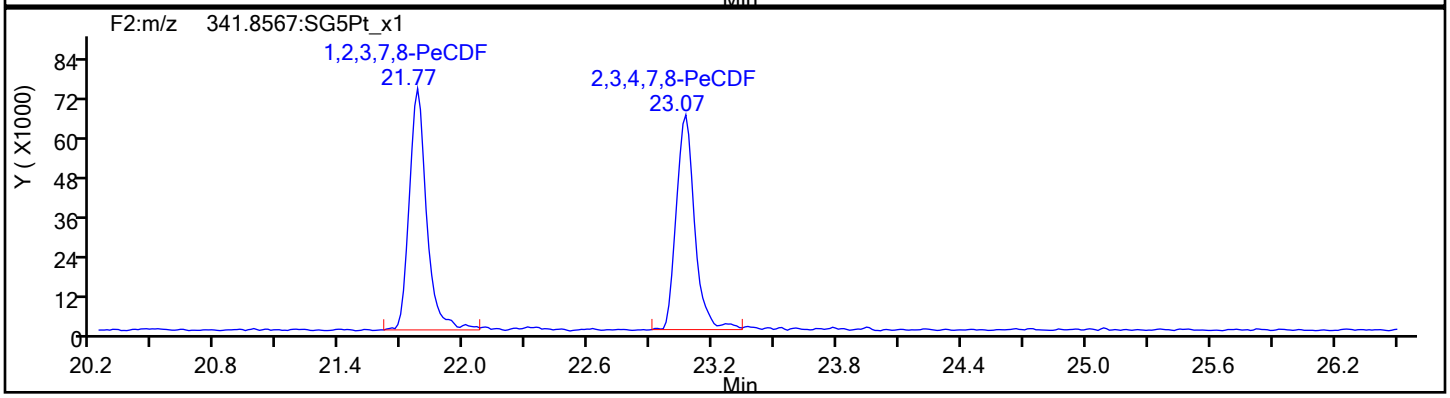

PeCDF Standards

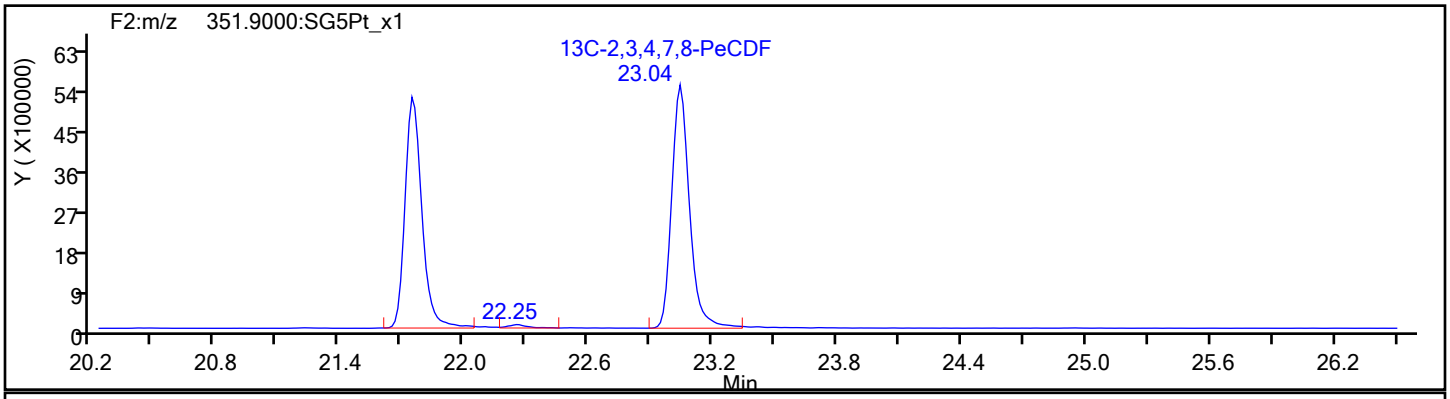

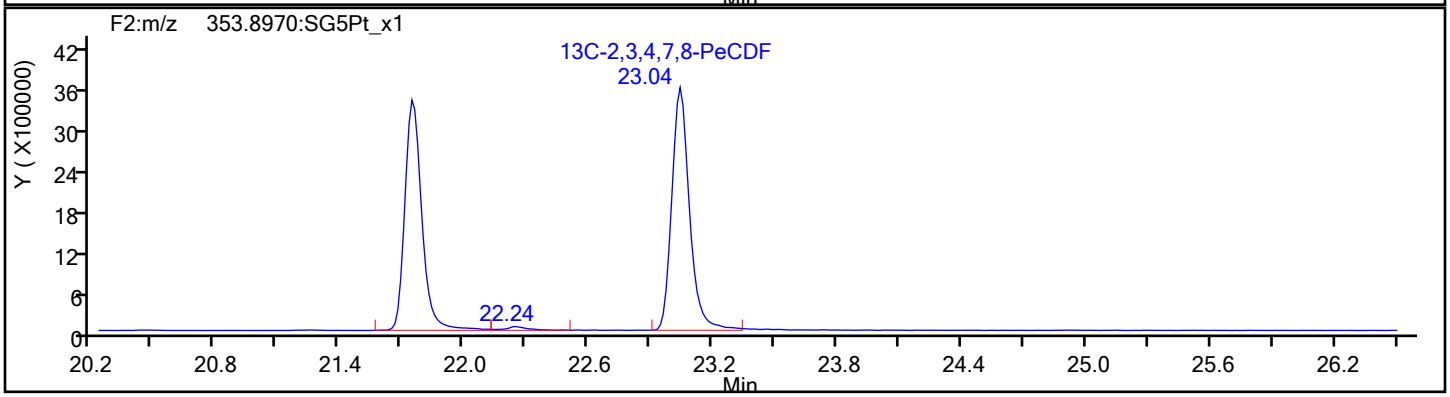

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Eurofins TestAmerica, Sacramento

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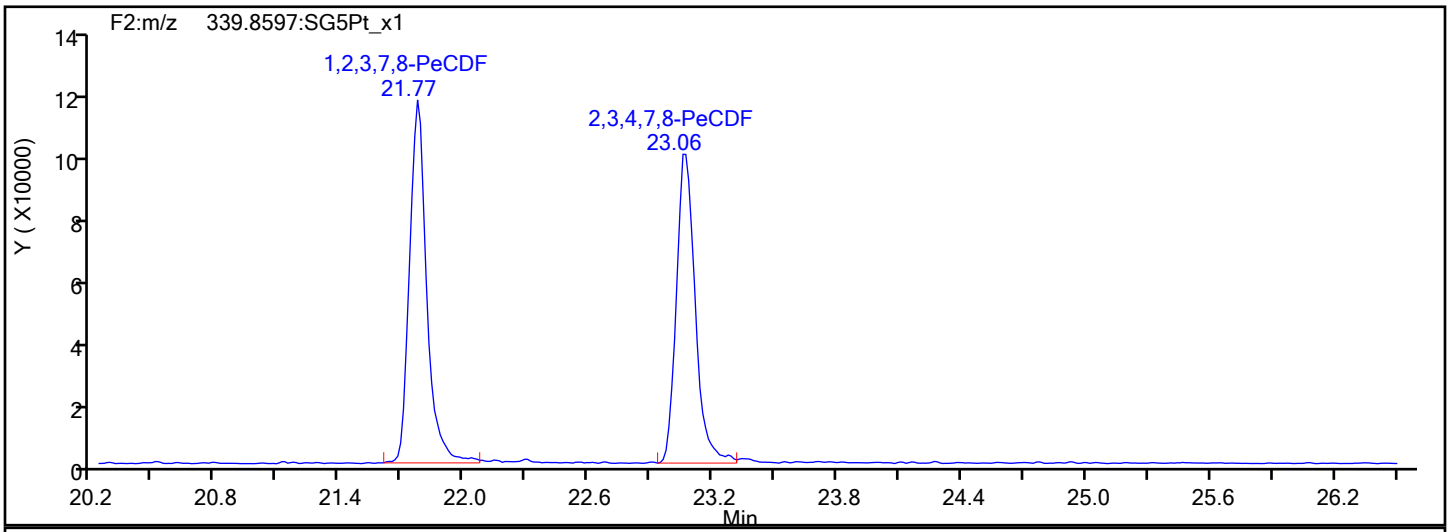

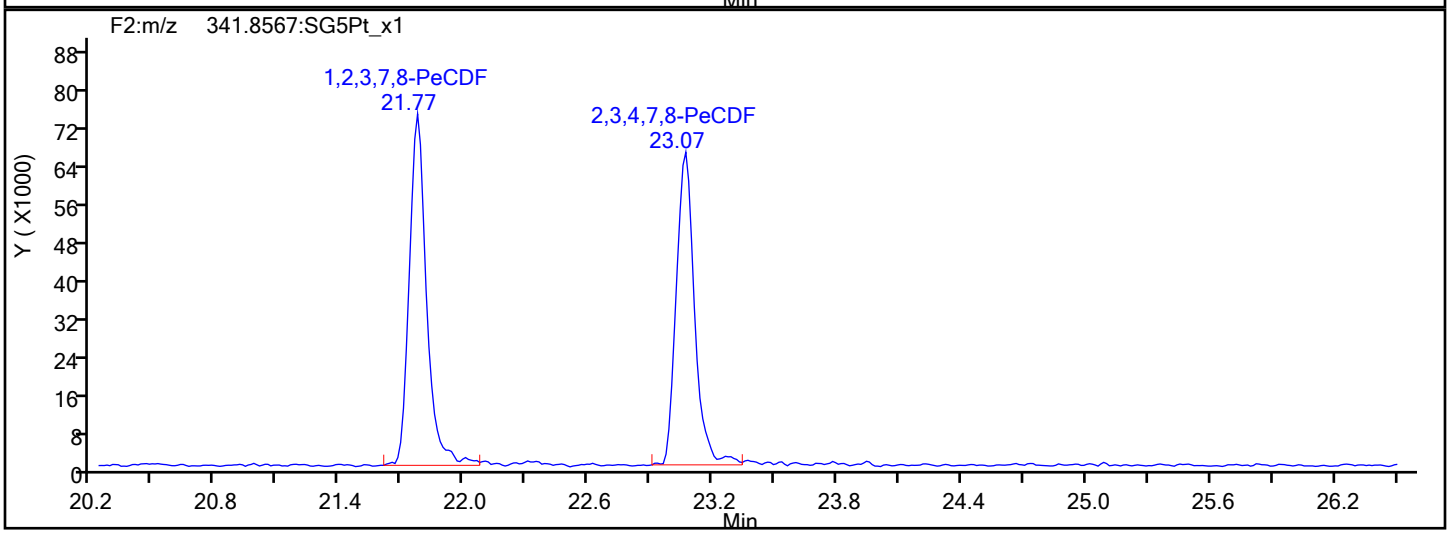

PeCDF Interference Mass

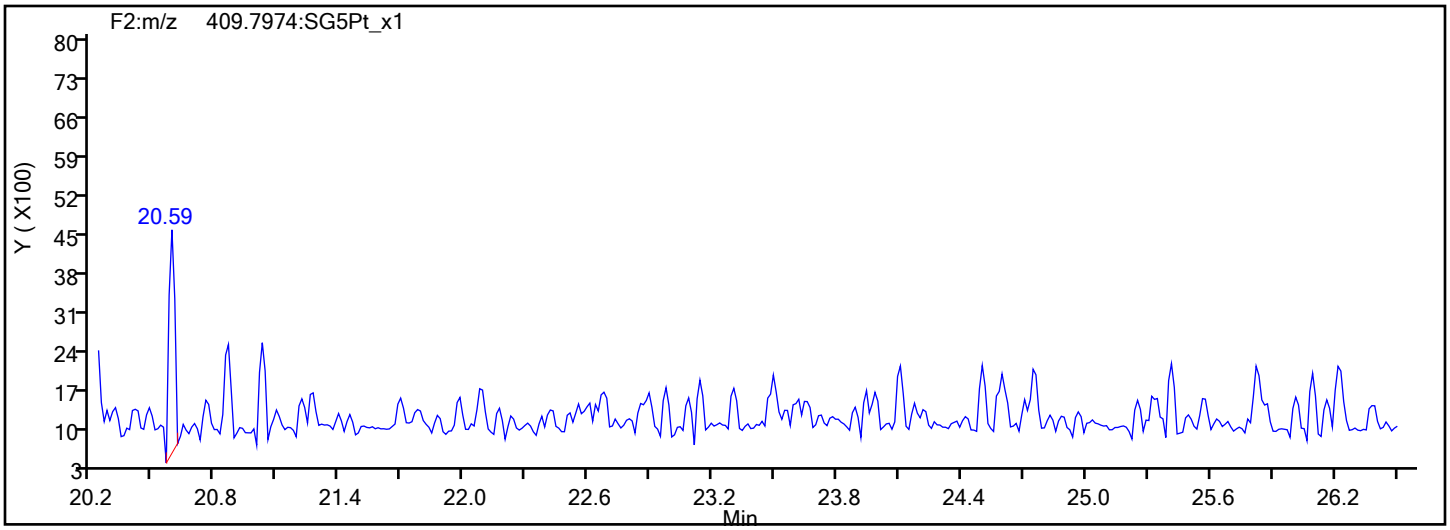

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Eurofins TestAmerica, Sacramento

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PeCDD

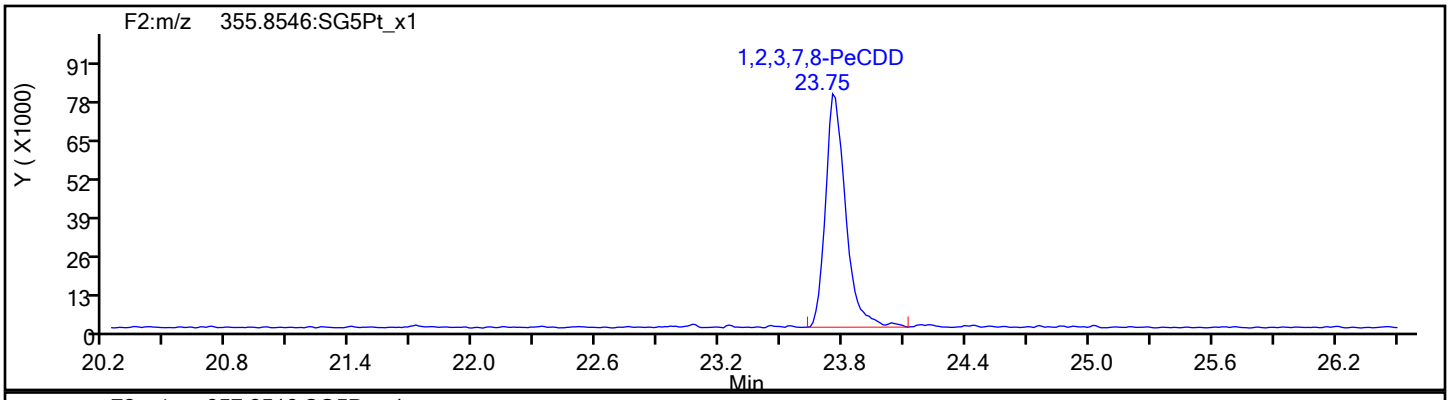

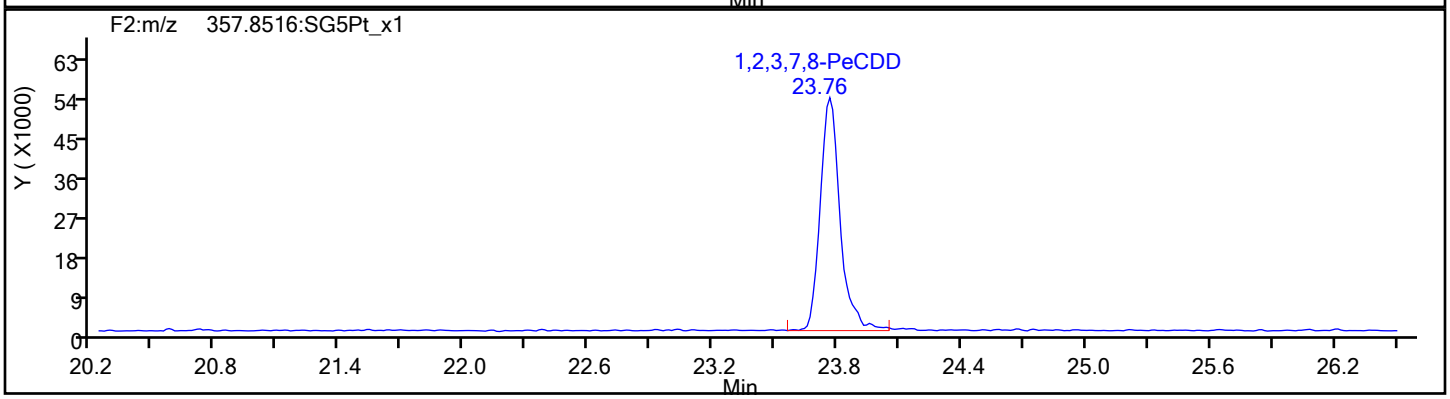

PeCDD Standards

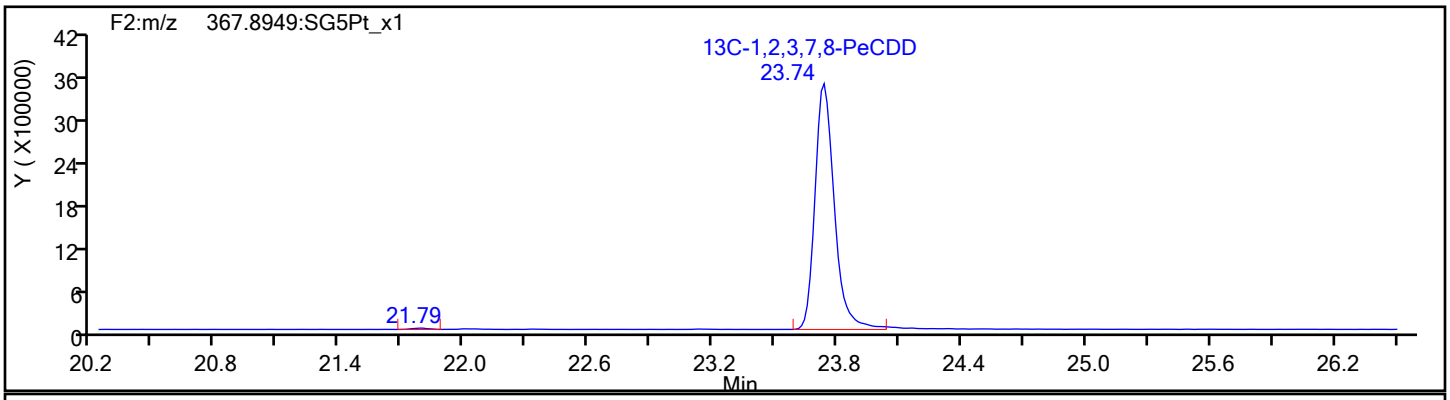

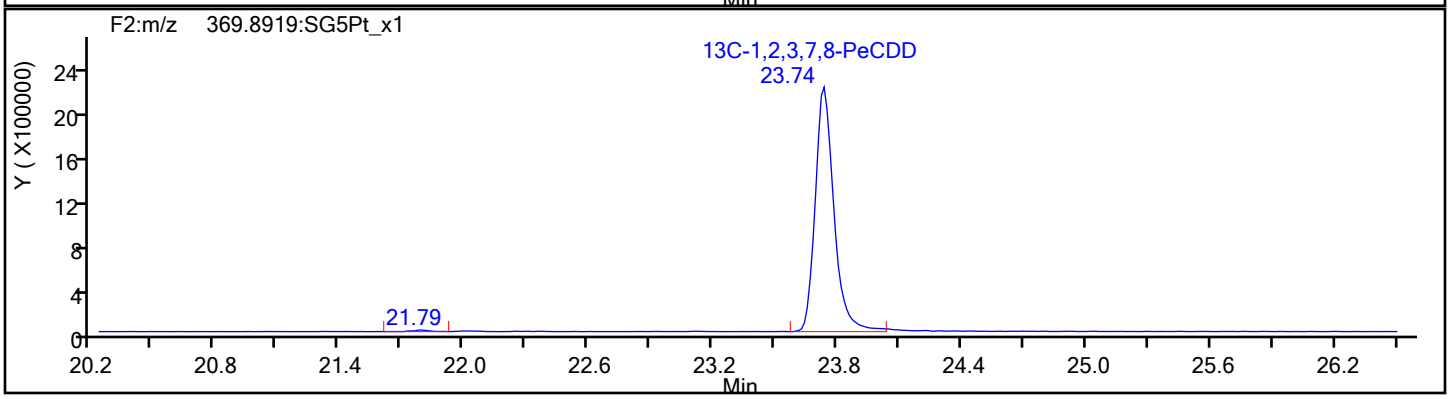

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Eurofins TestAmerica, Sacramento

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HxCDF

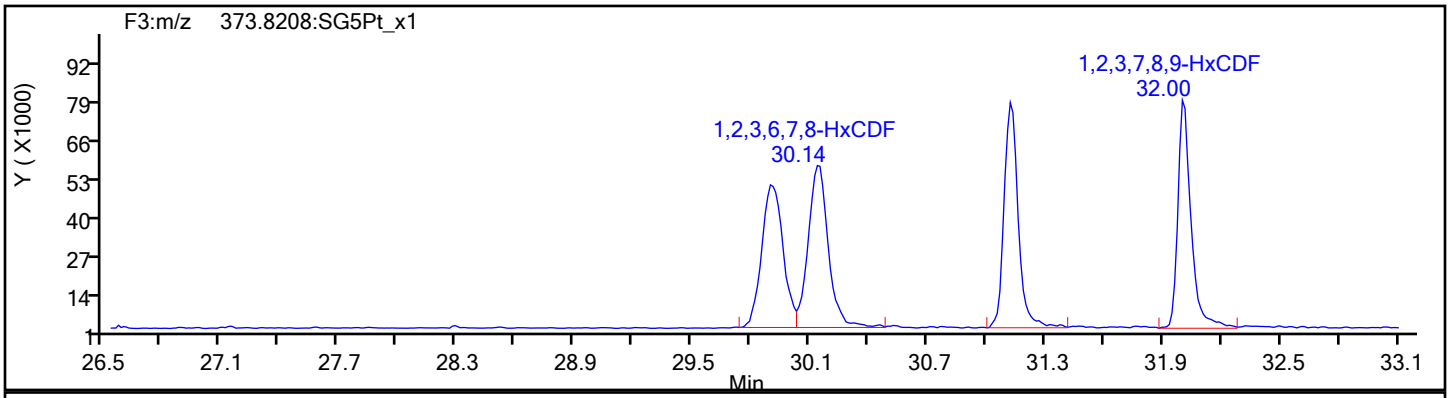

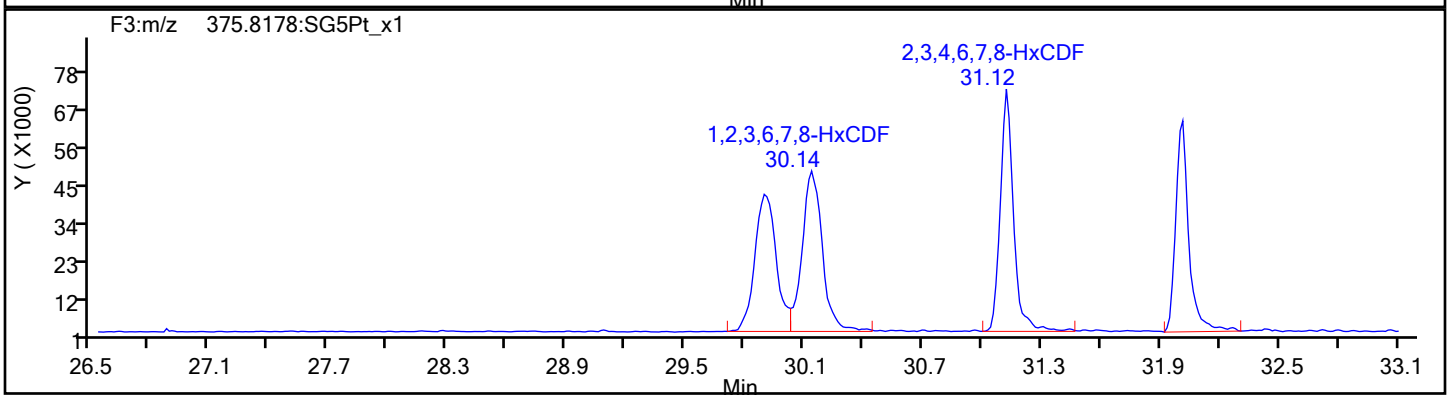

HxCDF Standards

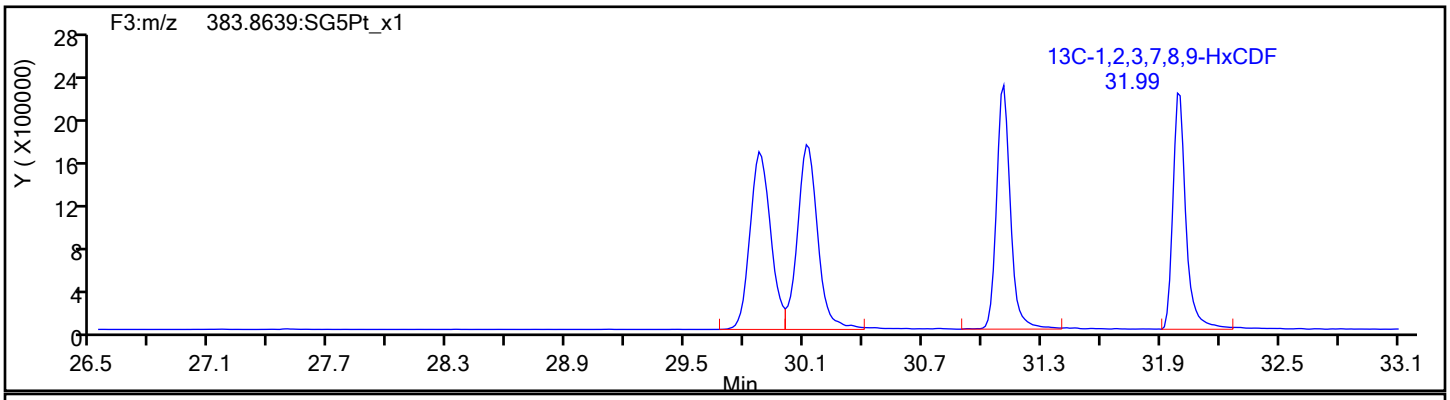

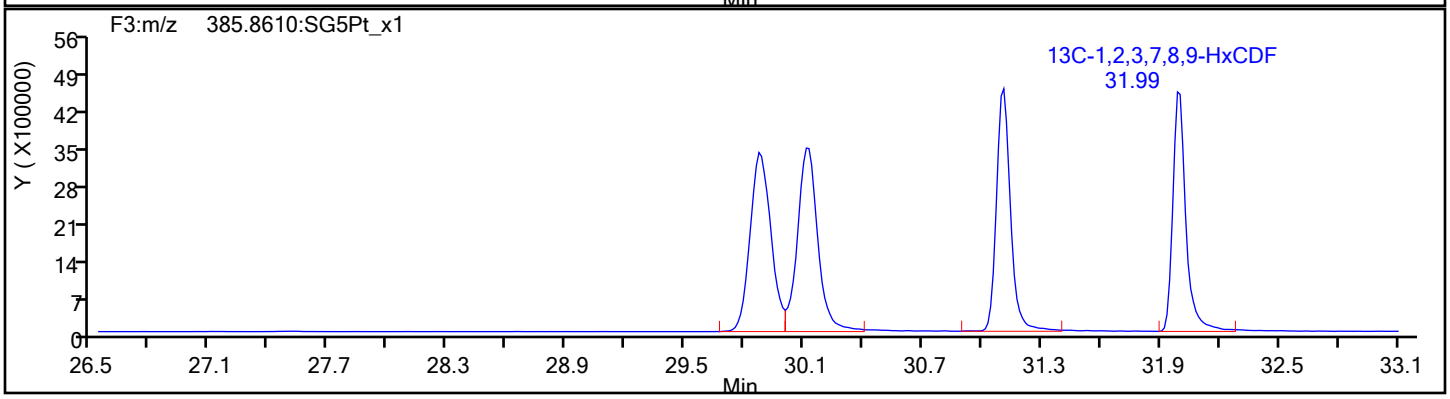

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Eurofins TestAmerica, Sacramento

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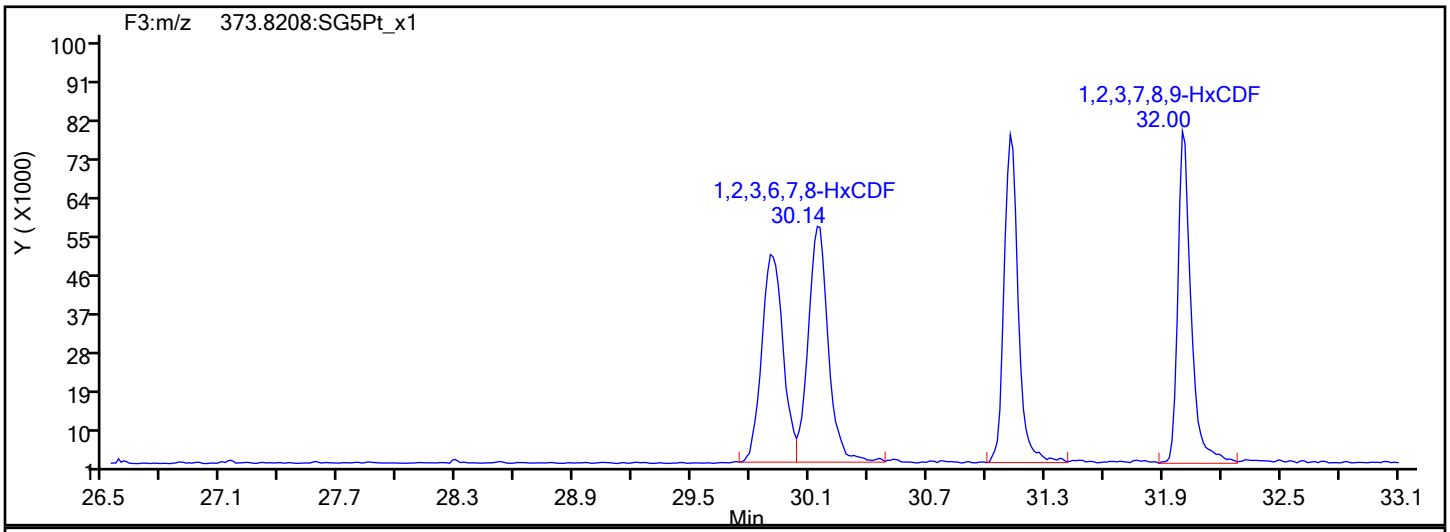

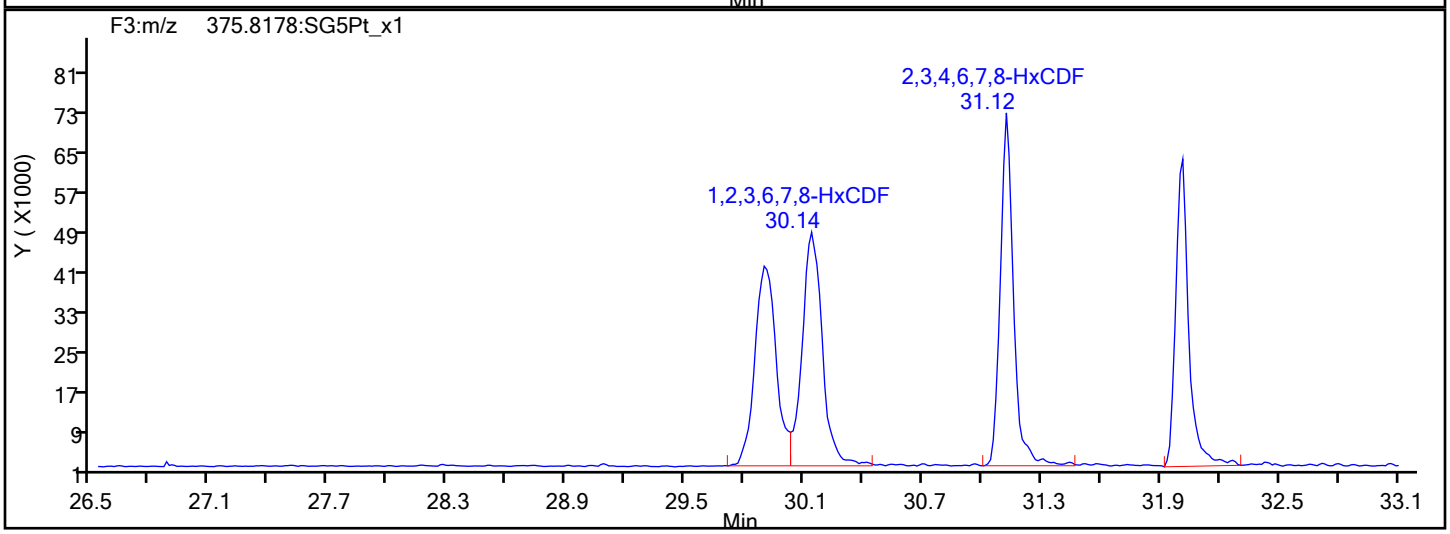

HxCDF Interference Mass

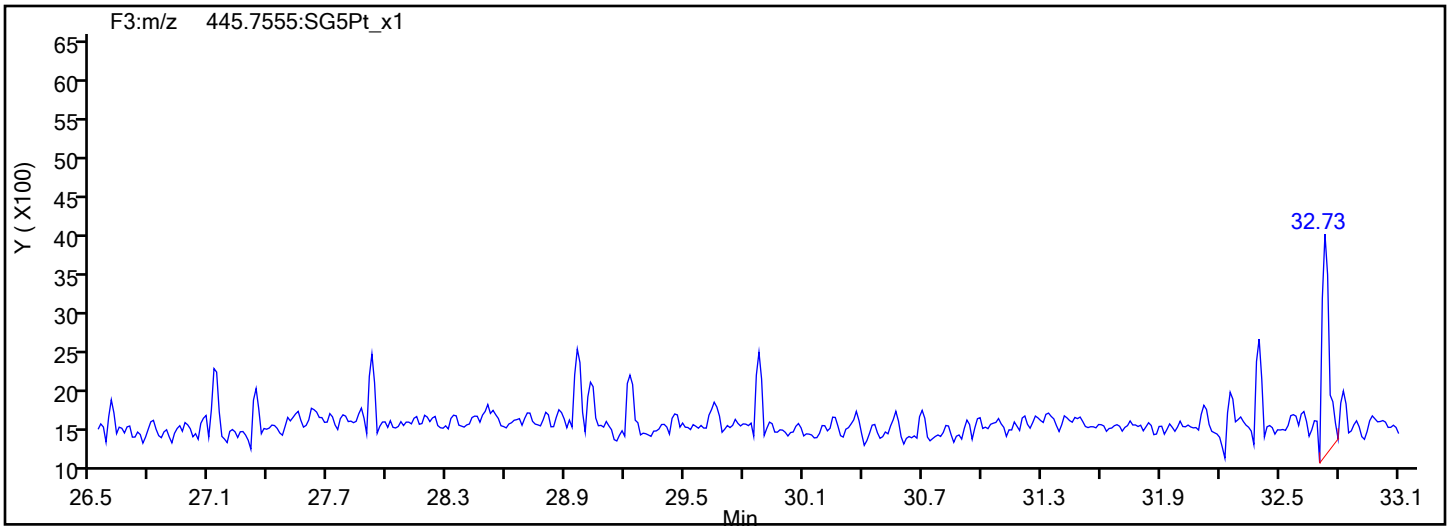

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Eurofins TestAmerica, Sacramento

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HxCDD

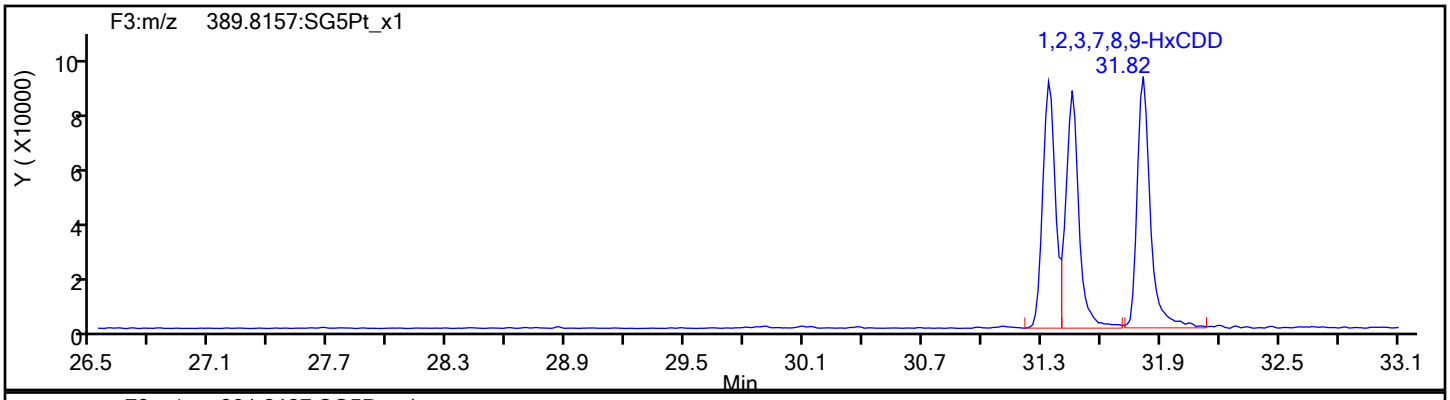

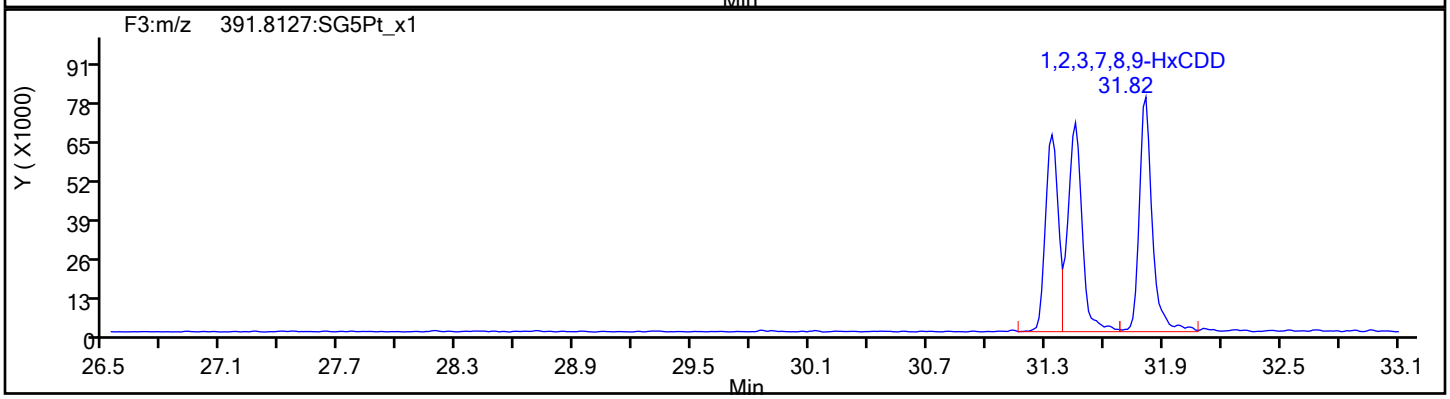

HxCDD Standards

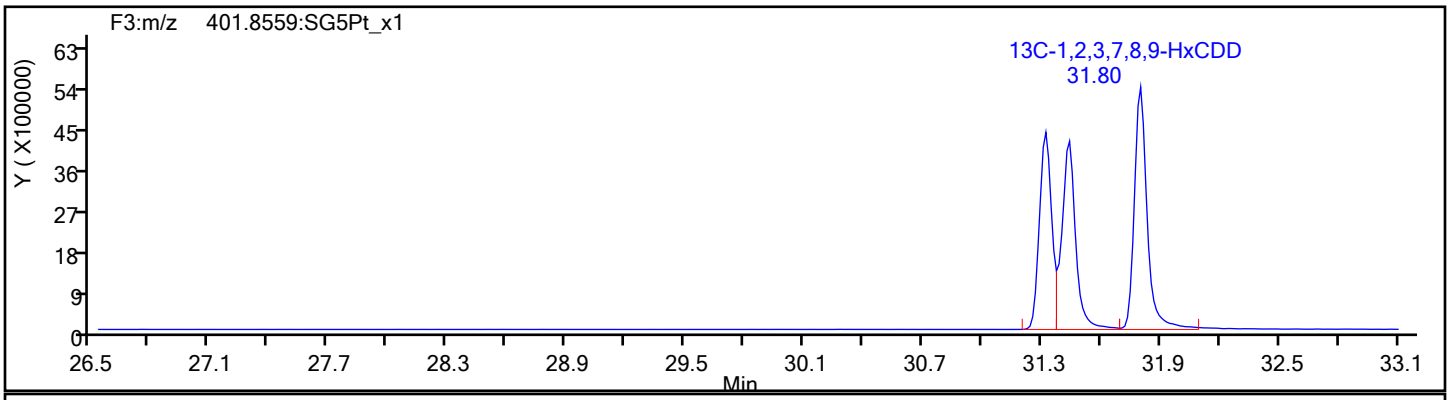

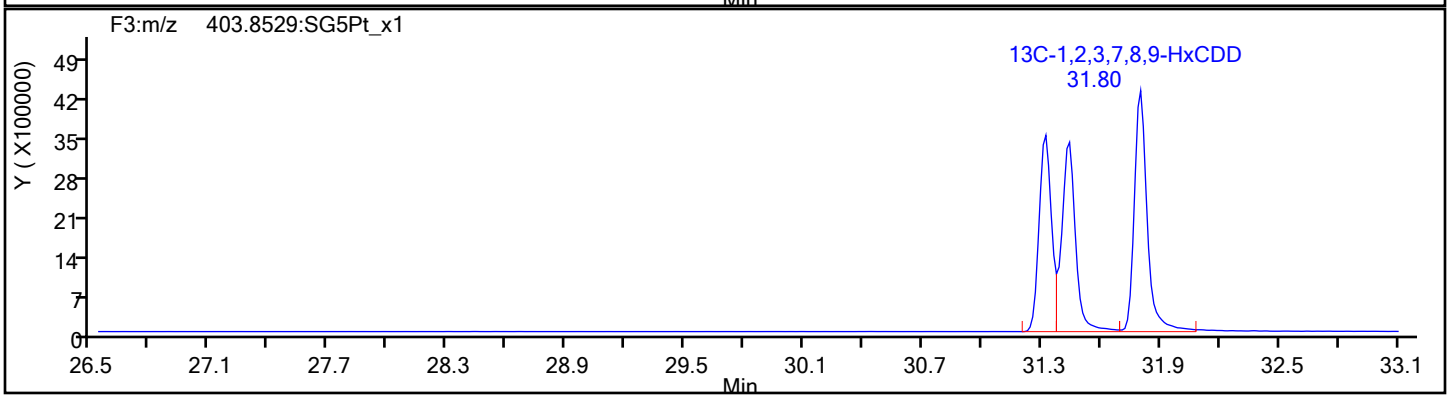

Report Date: 30-Jan-2020 09:31:51 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_4.d		
Injection Date:	30-Jan-2020 01:49:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

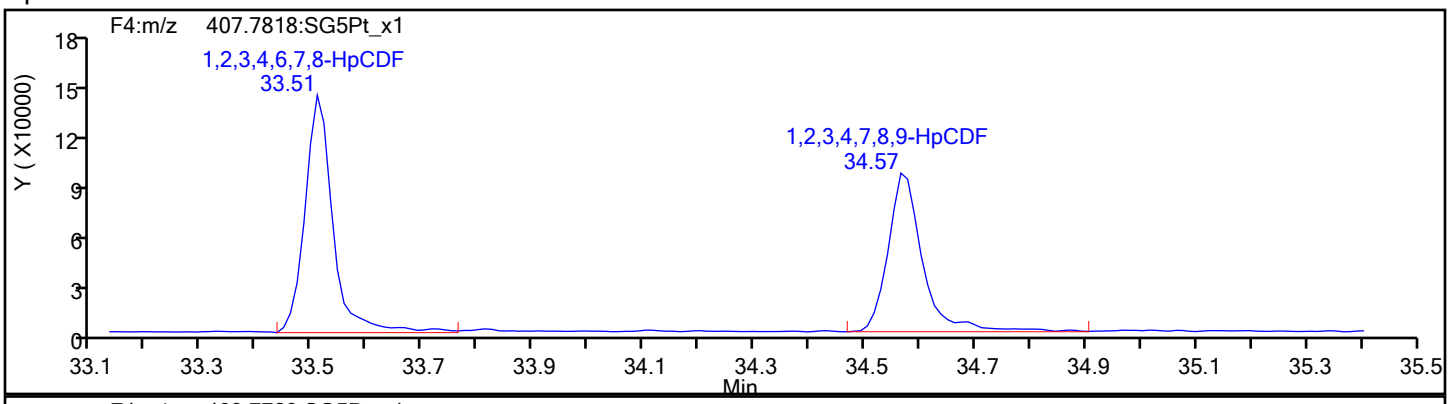

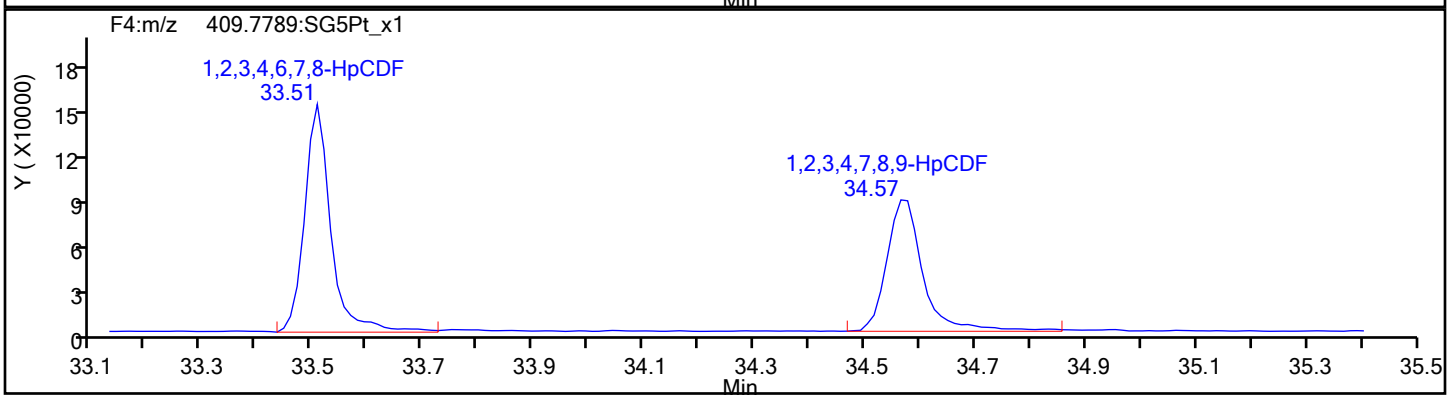

HpCDF Standards

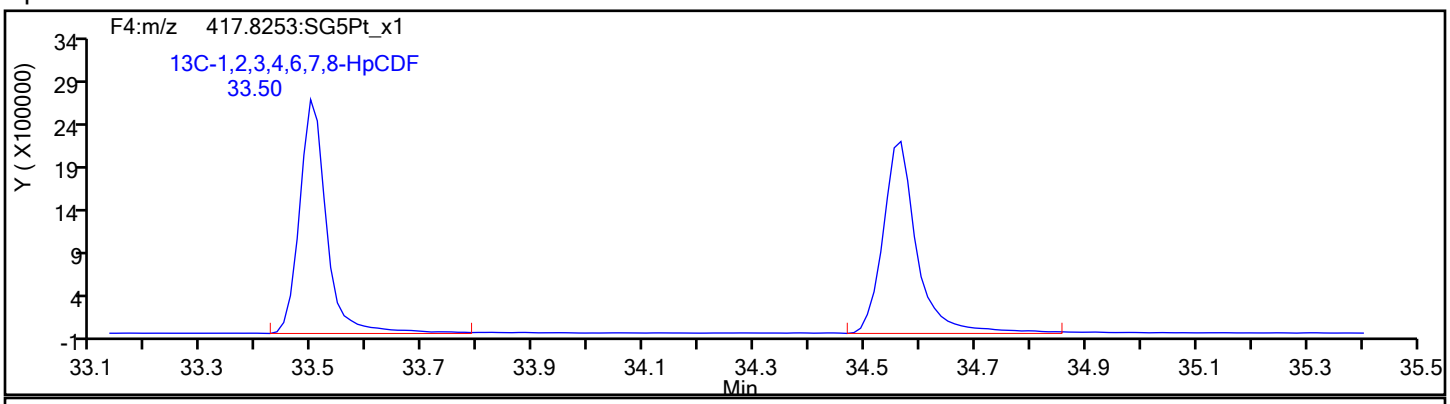

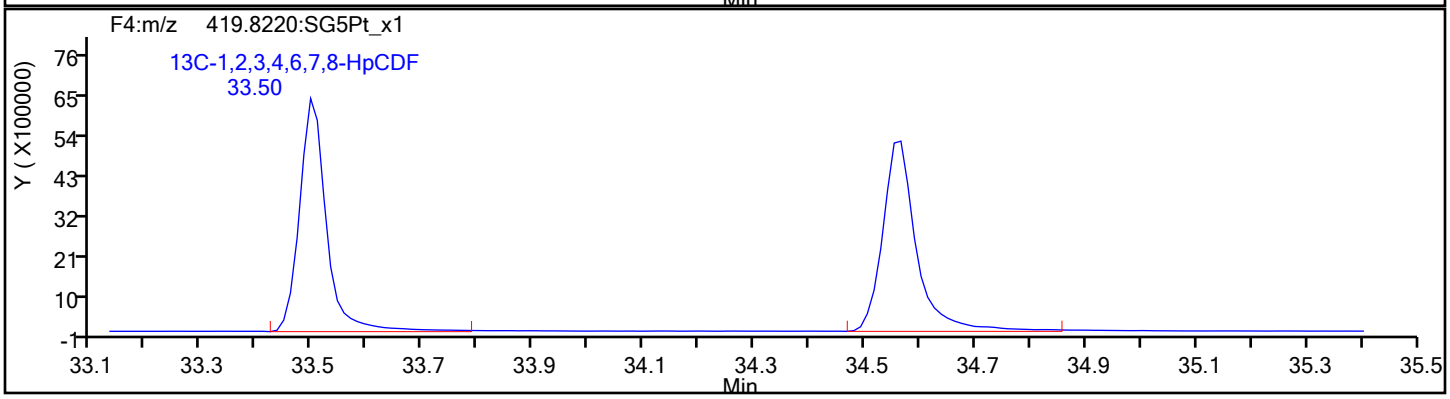

Report Date: 30-Jan-2020 09:31:51 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_4.d		
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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

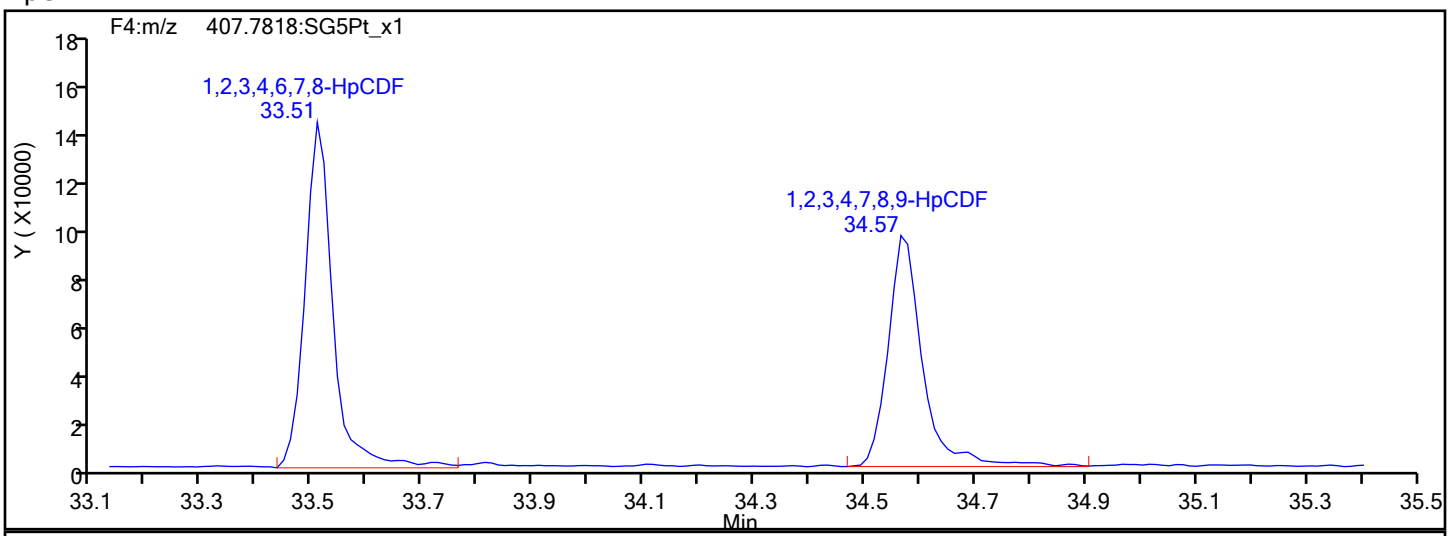

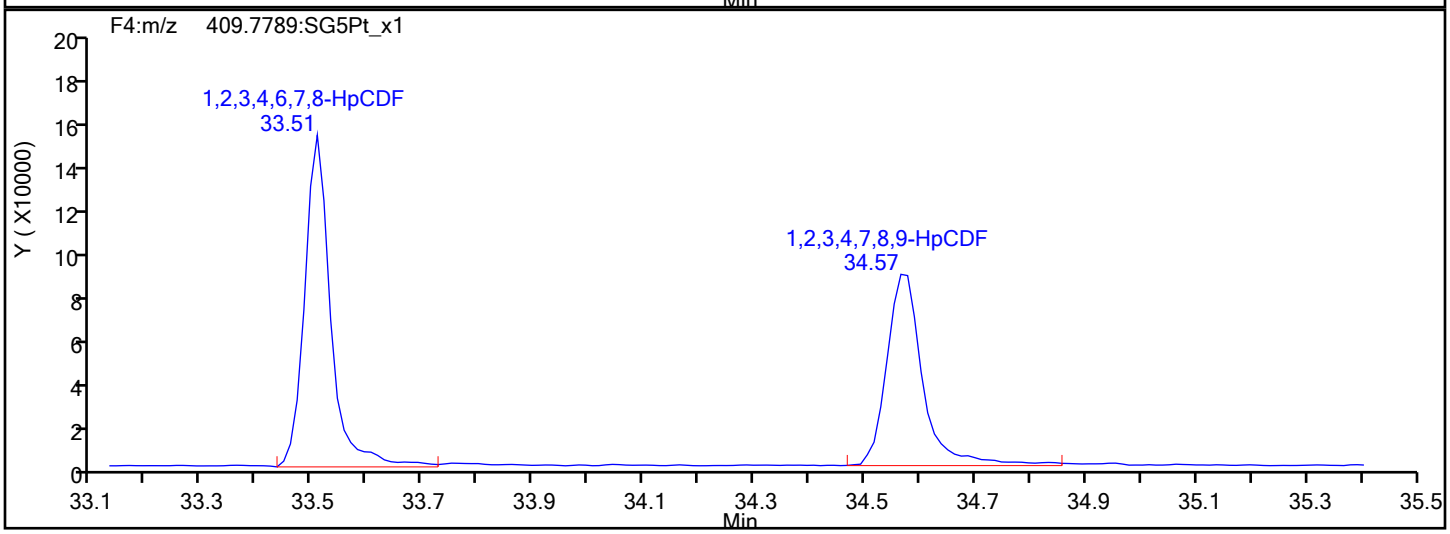

HpCDF Interference Mass

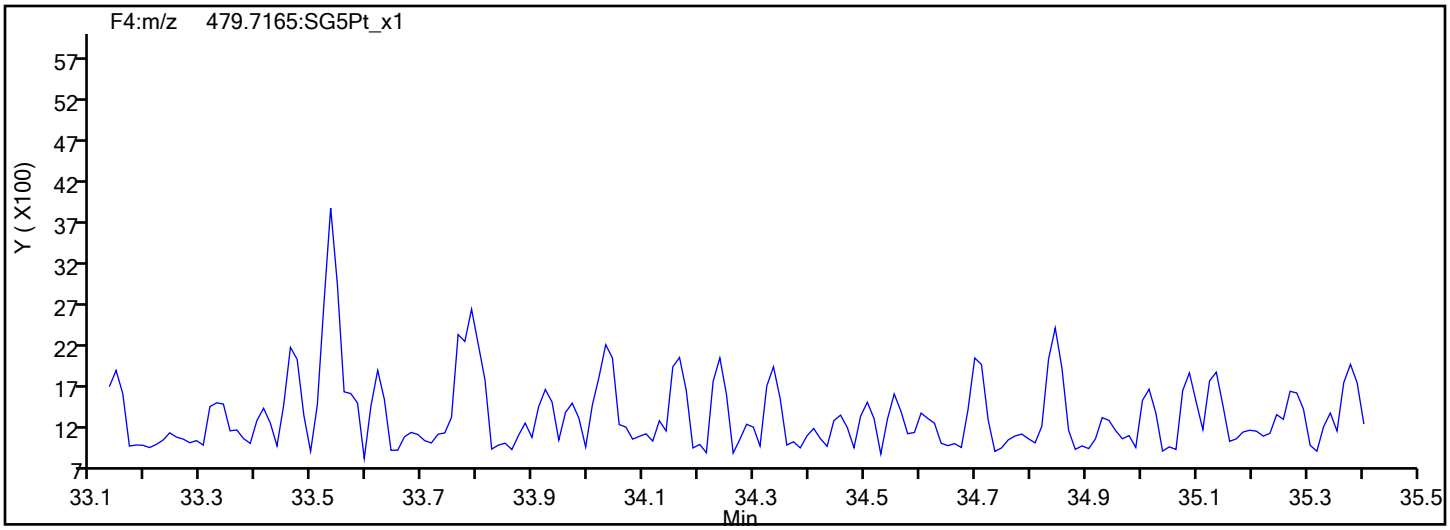

Report Date: 30-Jan-2020 09:31:51 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_4.d		
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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

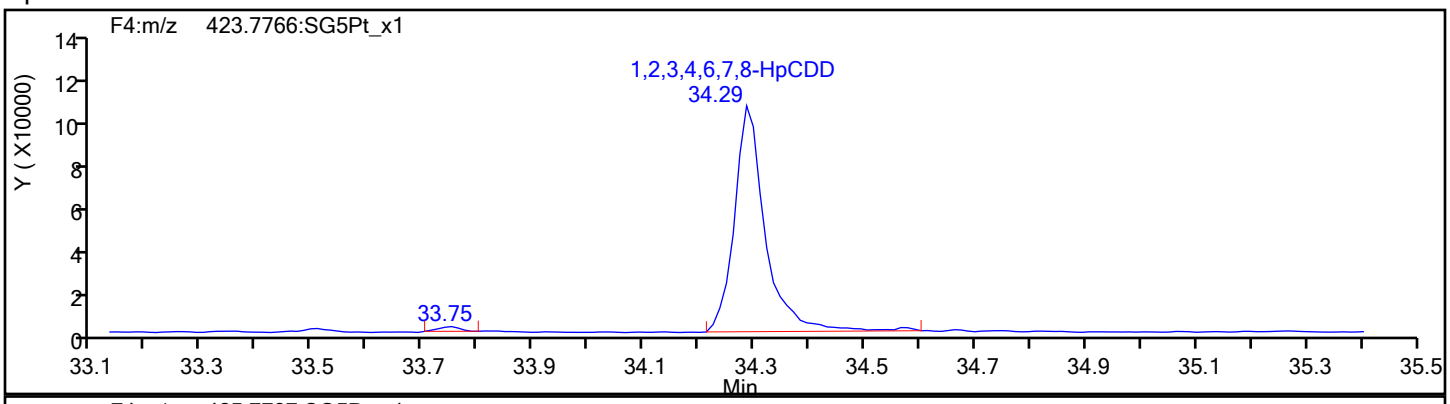

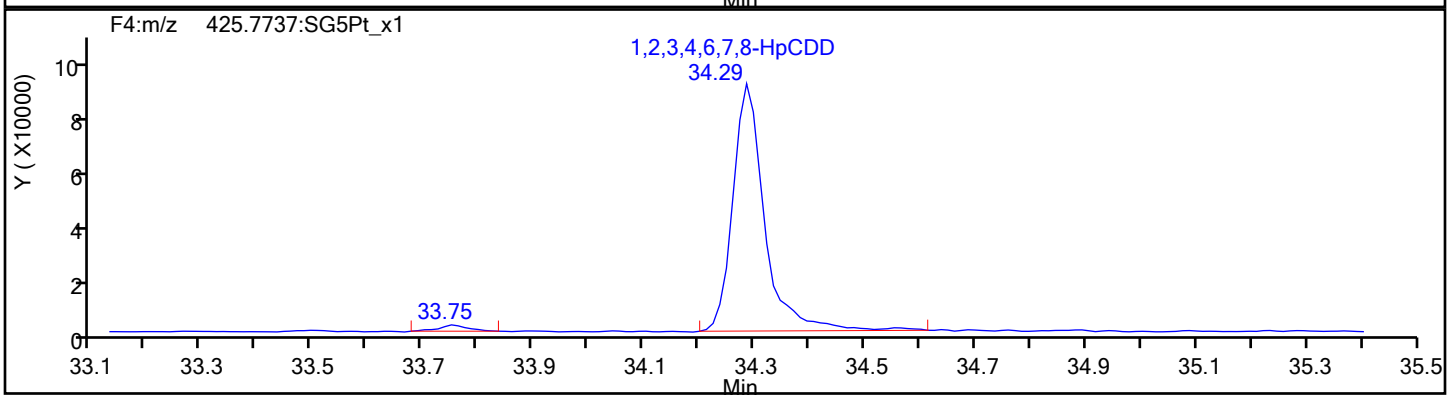

HpCDD Standards

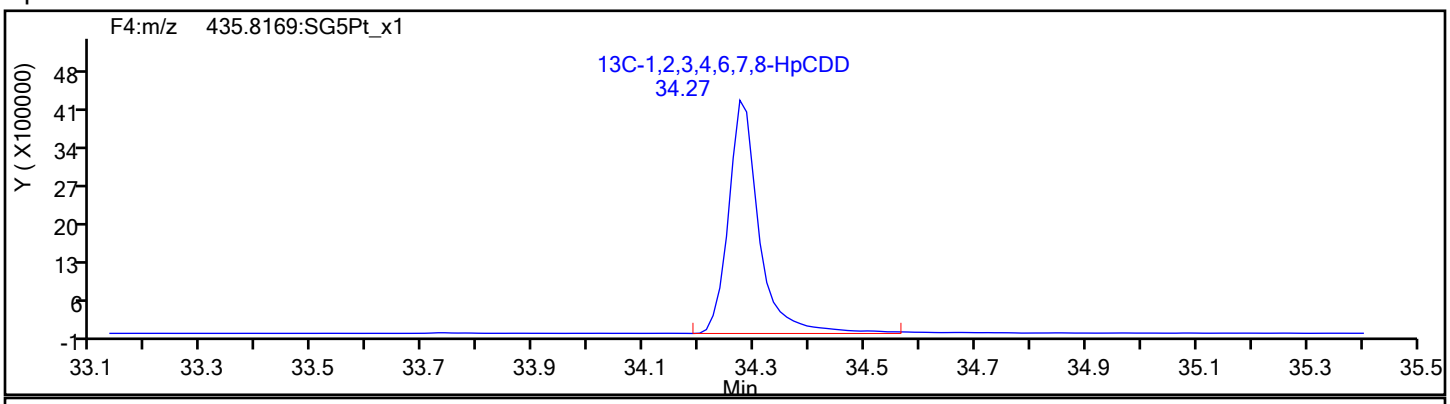

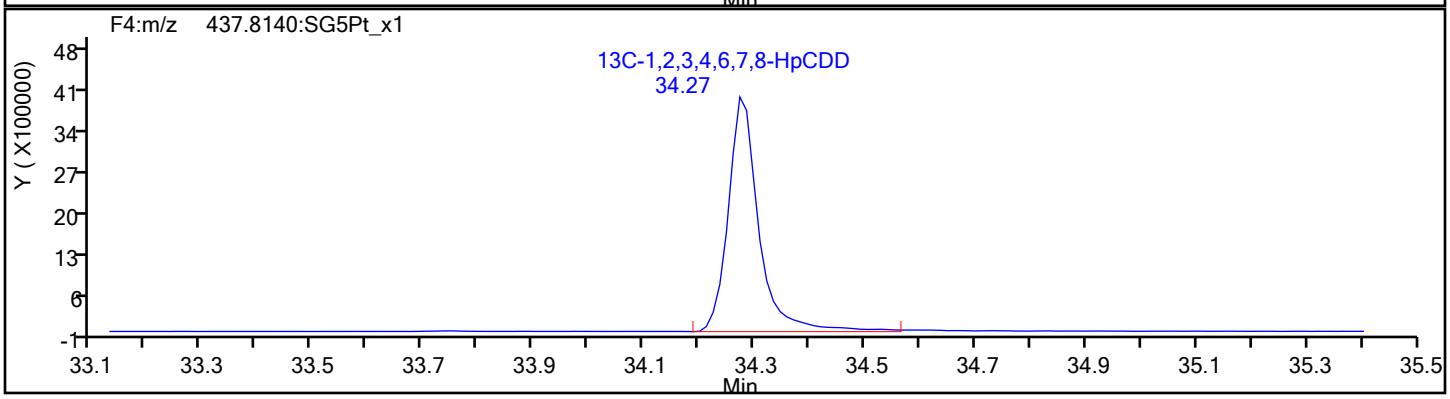

Report Date: 30-Jan-2020 09:31:51 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_4.d		
Injection Date:	30-Jan-2020 01:49:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

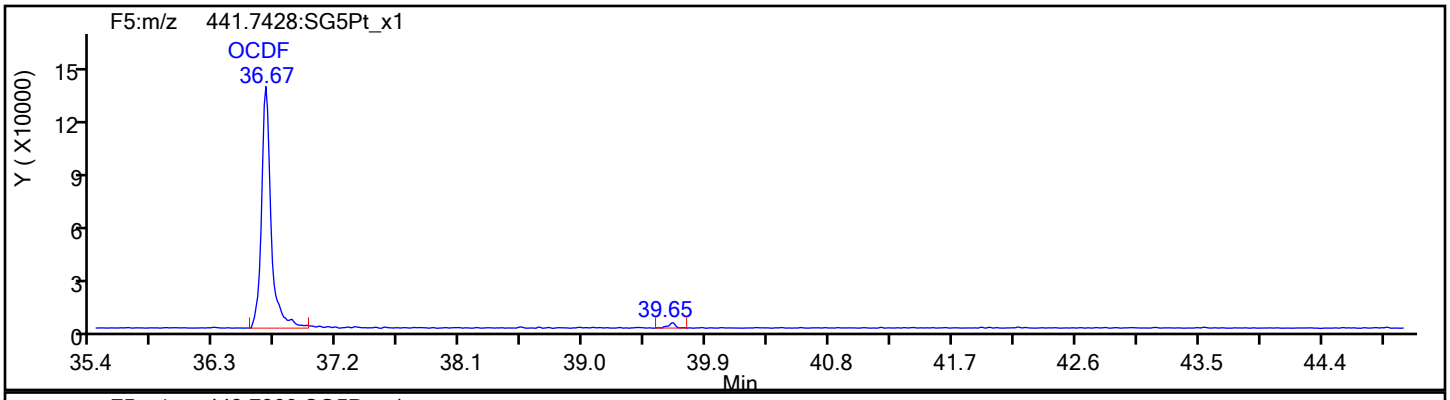

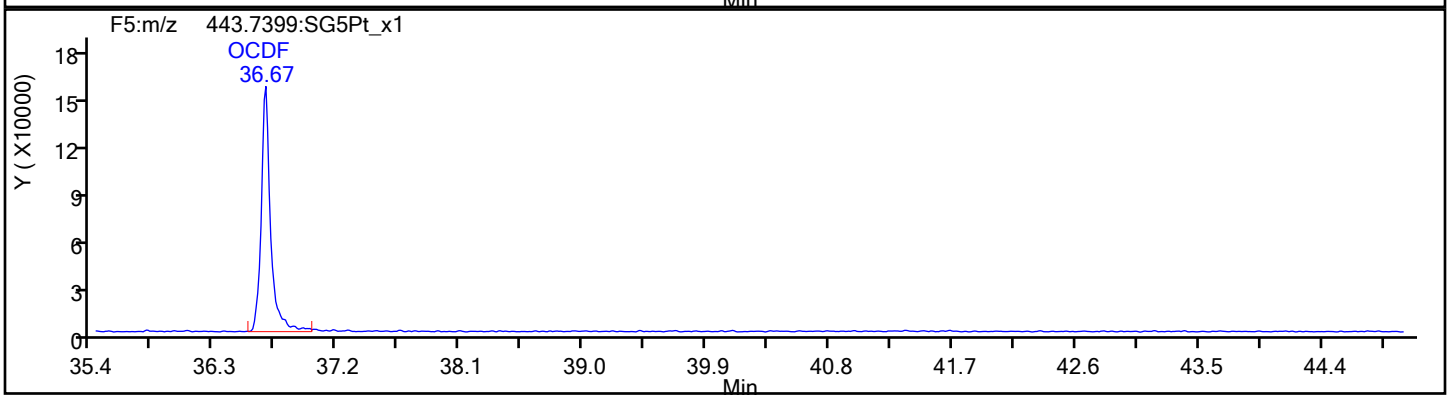

OCDF Standards

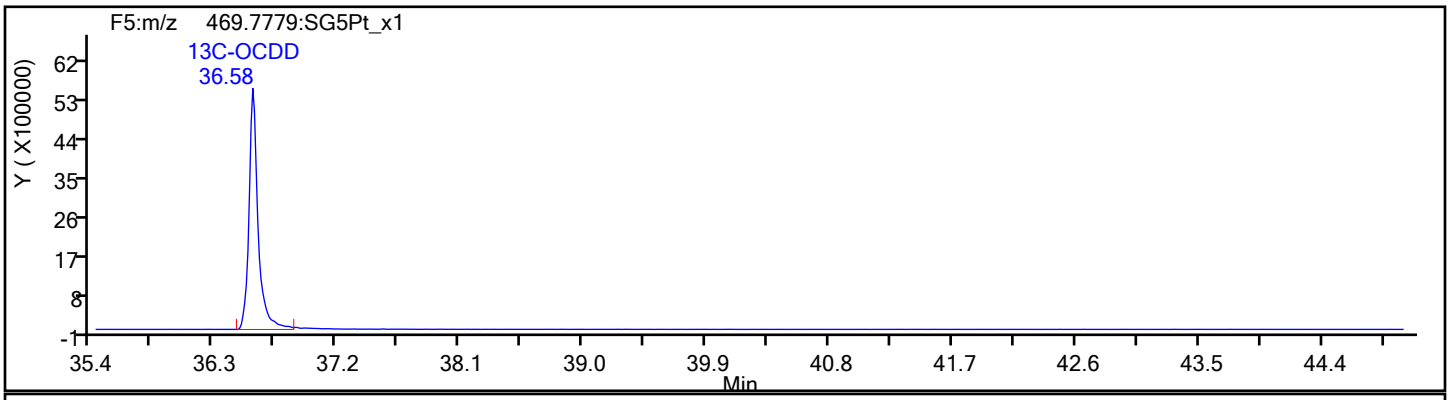

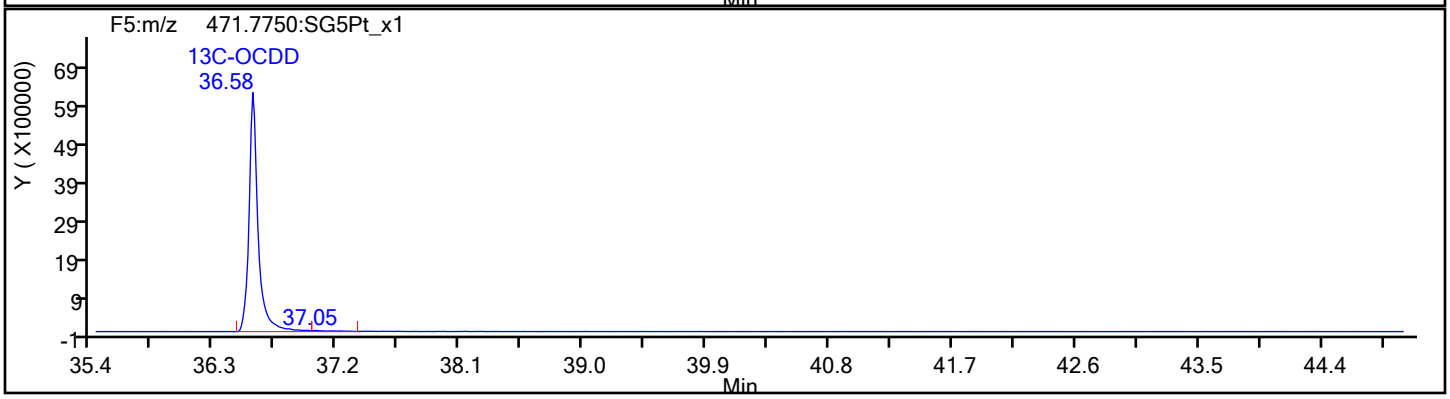

Report Date: 30-Jan-2020 09:31:52 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_4.d		
Injection Date:	30-Jan-2020 01:49:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

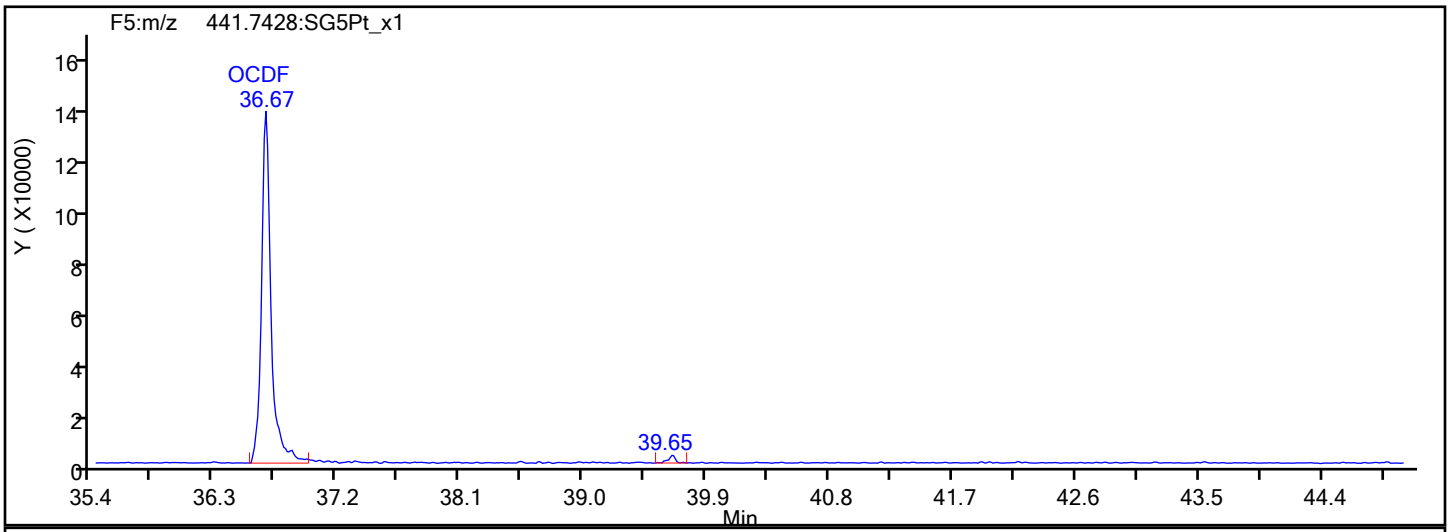

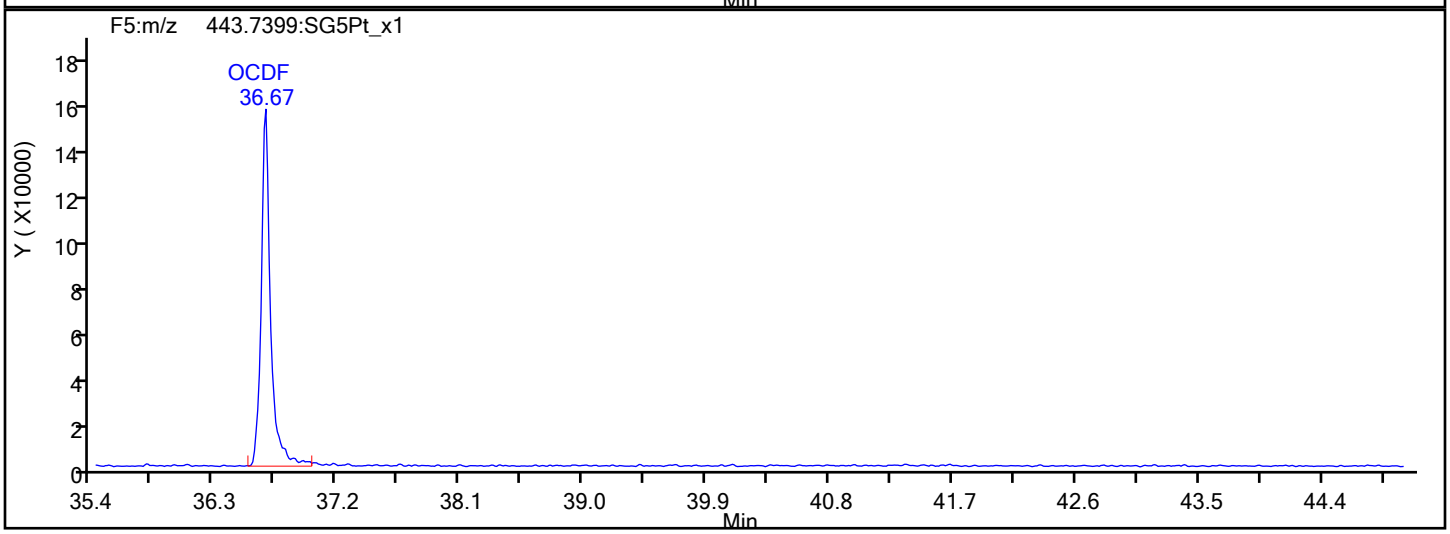

OCDF Interference Mass

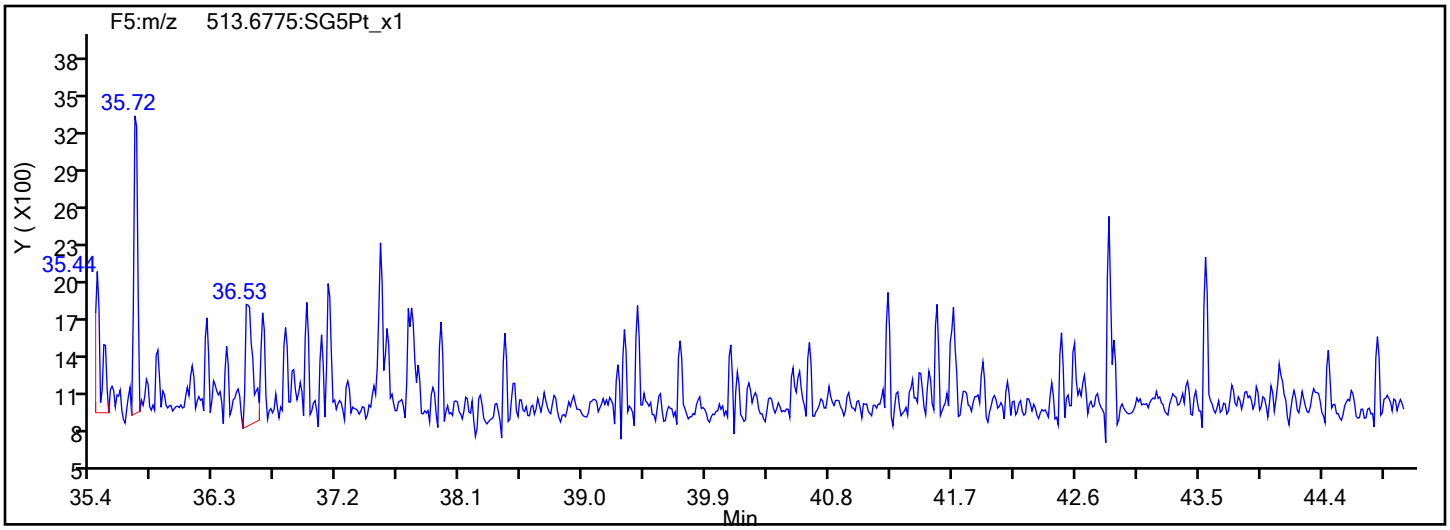

Report Date: 30-Jan-2020 09:31:52 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_4.d		
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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

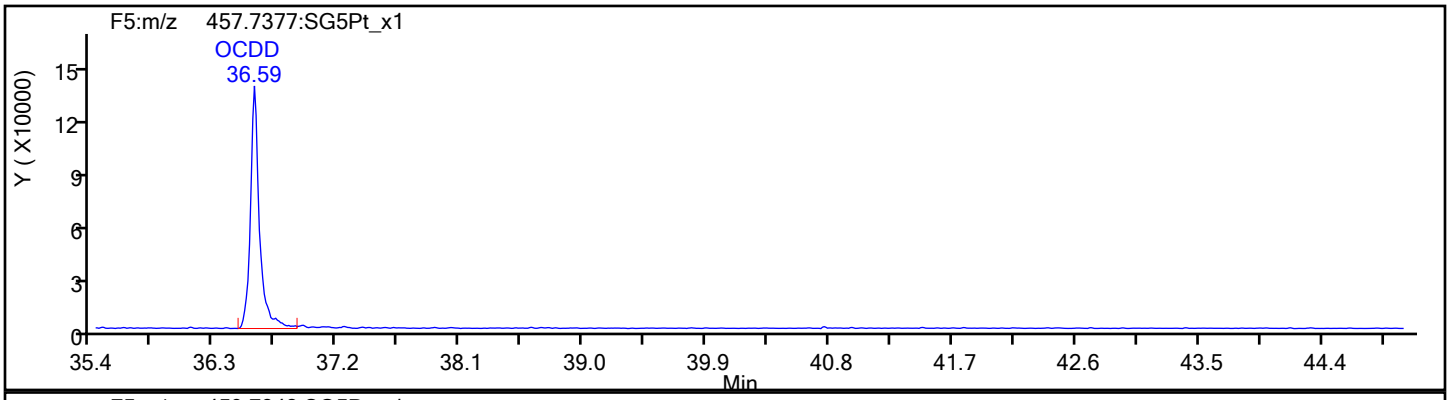

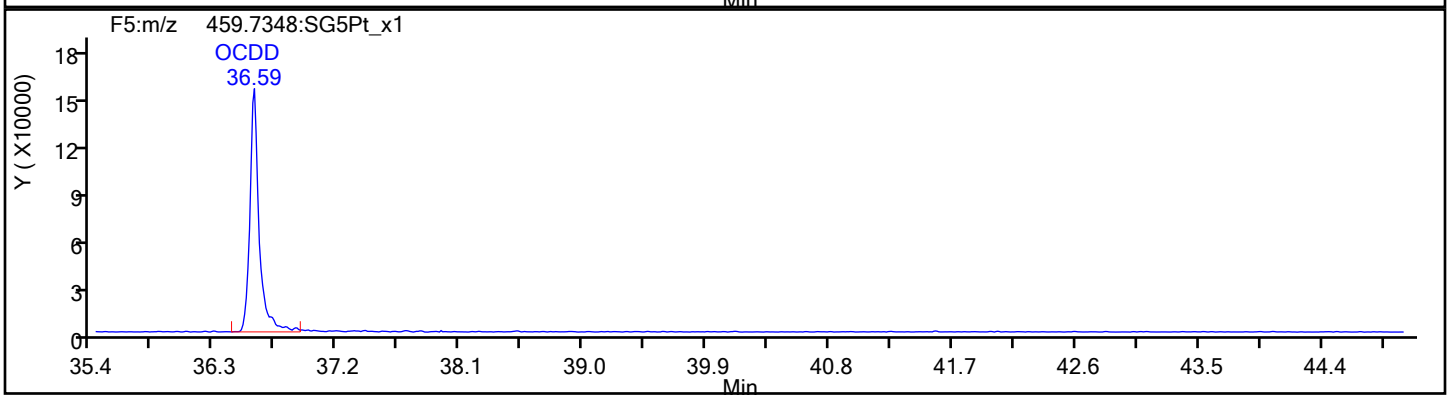

OCDD Standards

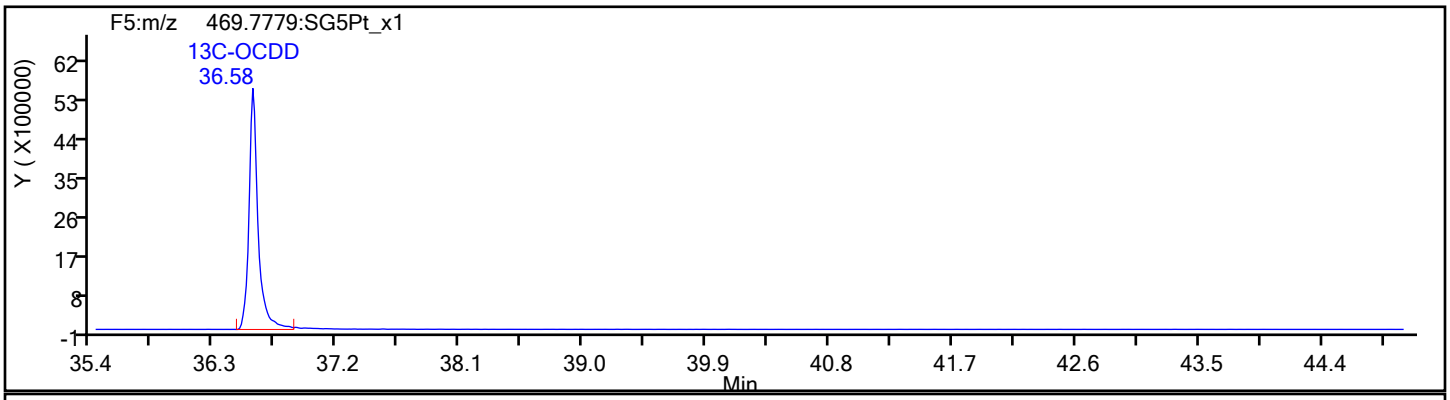

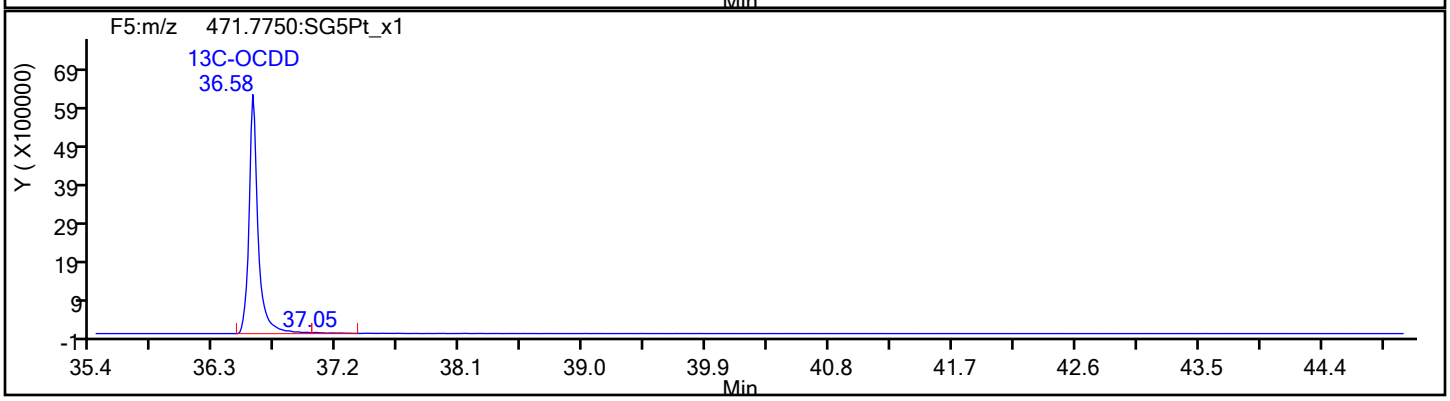

Report Date: 30-Jan-2020 09:31:52 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_4.d		
Injection Date:	30-Jan-2020 01:49:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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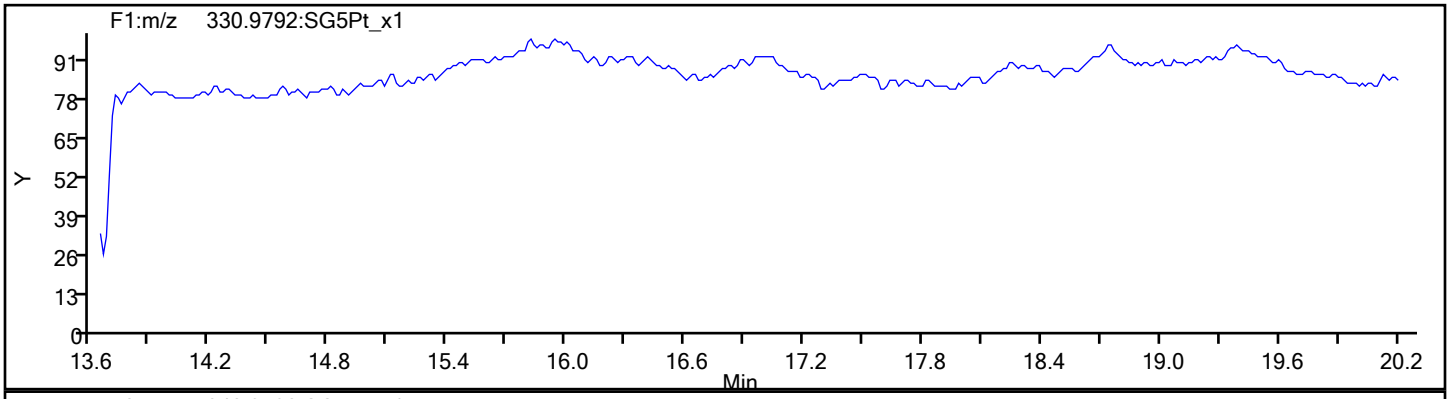

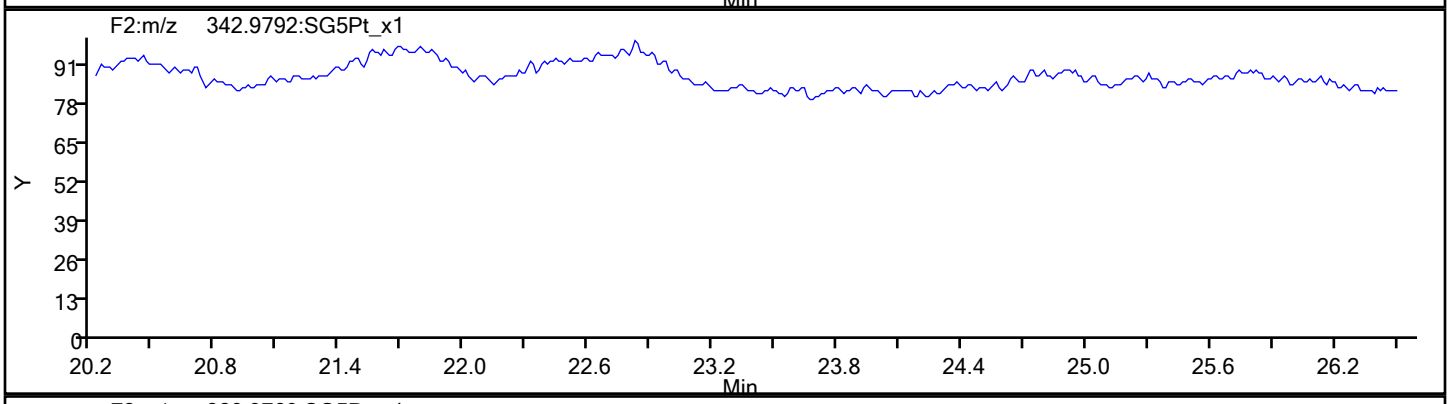

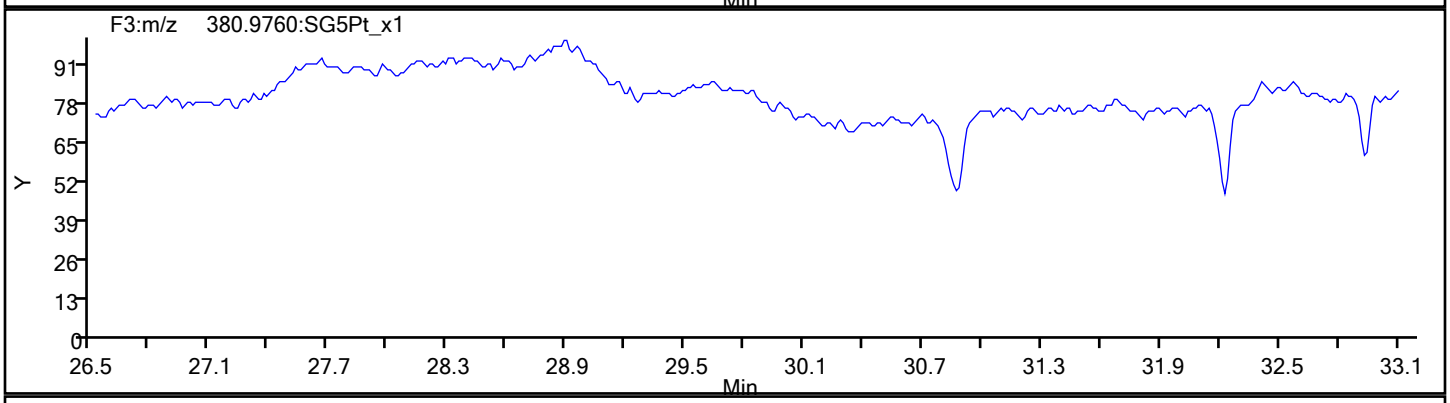

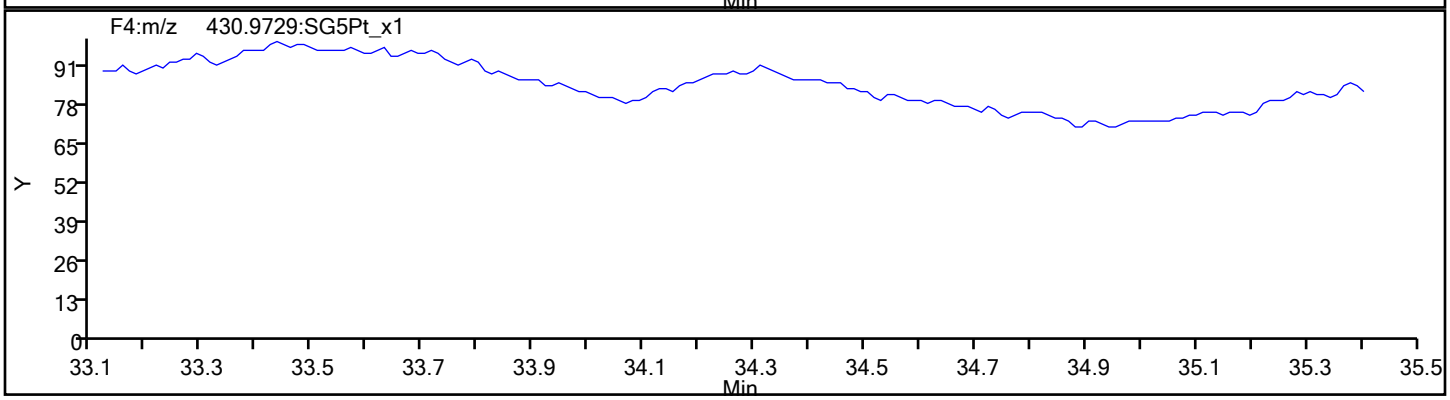

Report Date: 30-Jan-2020 09:31:52 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_4.d		
Injection Date:	30-Jan-2020 01:49:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

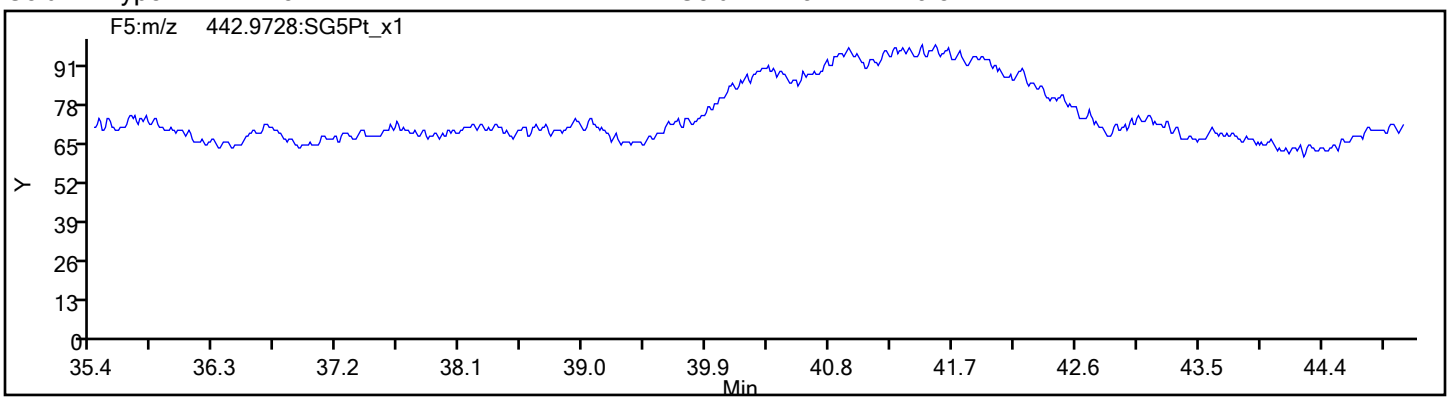

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_5.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 30-Jan-2020 02:35:10 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 012920A CS-3 HRDXNL3_00026
Misc. Info.: 29JA20B10D5
Operator ID: ALM Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 30-Jan-2020 09:32:29 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0321

First Level Reviewer: arghestanis Date: 30-Jan-2020 08:36:28

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.408	53137406	0.80	5.4E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.924	60669870	0.76	1.1275	101.3	101.3	0.2218	0.2218	101	
2,3,7,8-TCDF	16.939	888805	0.70	0.7675	1.909	1.909	0.0145	0.0145	95.43	
S Total TCDF					1.909	1.909	0.0145	0.0145		
D 13C-2,3,7,8-TCDD	17.605	47750377	0.78	0.9032	99.5	99.5	0.2168	0.2168	99.50	
2,3,7,8-TCDD	17.620	900188	0.81	0.9599	1.964	1.964	0.0287	0.0287	98.20	
$ 37Cl4-2,3,7,8-TCDD	17.620	943575		0.9673	1.836	1.836	0.008946	0.008946	91.79	
S Total TCDD					1.964	1.964	0.0287	0.0287		
D 13C-1,2,3,7,8-PeCDF	21.746	50271745	1.56	0.9615	98.4	98.4	0.2934	0.2934	98.40	
1,2,3,7,8-PeCDF	21.773	4296187	1.53	0.8982	9.515	9.515	0.0530	0.0530	95.15	
D 13C-2,3,4,7,8-PeCDF	23.042	52028379	1.53	1.0393	94.2	94.2	0.2714	0.2714	94.21	a
2,3,4,7,8-PeCDF	23.069	4180023	1.56	0.8101	9.917	9.917	0.0606	0.0606	99.17	
S Total PeCDF					19.4	19.4	0.0568	0.0568		
D 13C-1,2,3,7,8-PeCDD	23.737	36044037	1.62	0.6938	97.8	97.8	0.1309	0.1309	97.77	
1,2,3,7,8-PeCDD	23.764	3417776	1.56	0.9961	9.520	9.520	0.0370	0.0370	95.20	
S Total PeCDD					9.520	9.520	0.0370	0.0370		
D 13C-1,2,3,4,7,8-HxCDF	29.873	35906017	0.49	0.8543	97.0	97.0	0.4087	0.4087	96.96	
1,2,3,4,7,8-HxCDF	29.899	2676952	1.24	0.7916	9.418	9.418	0.1013	0.1013	94.18	
D 13C-1,2,3,6,7,8-HxCDF	30.112	35494068	0.49	0.8361	97.9	97.9	0.4175	0.4175	97.93	
1,2,3,6,7,8-HxCDF	30.139	2911436	1.21	0.8638	9.496	9.496	0.0908	0.0908	94.96	
D 13C-2,3,4,6,7,8-HxCDF	31.111	33284581	0.49	0.7773	98.8	98.8	0.4491	0.4491	98.77	
2,3,4,6,7,8-HxCDF	31.124	2785285	1.23	0.9010	9.287	9.287	0.0652	0.0652	92.87	
D 13C-1,2,3,7,8,9-HxCDF	31.989	30809360	0.49	0.7167	99.2	99.2	0.4871	0.4871	99.16	
1,2,3,7,8,9-HxCDF	32.002	2690293	1.21	0.9127	9.568	9.568	0.0644	0.0644	95.68	
S Total HxCDF					37.8	37.8	0.0804	0.0804		
* 13C-1,2,3,7,8,9-HxCDD	31.803	43350314	1.22	4.4E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.324	33308651	1.23	0.8050	95.4	95.4	0.2646	0.2646	95.45	a
1,2,3,4,7,8-HxCDD	31.337	2720931	1.22	0.8392	9.734	9.734	0.0448	0.0448	97.34	
D 13C-1,2,3,6,7,8-HxCDD	31.430	35558088	1.22	0.8269	99.2	99.2	0.2576	0.2576	99.19	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.457	3108758	1.22	0.8876	9.850	9.850	0.0459	0.0459	98.50	
1,2,3,7,8,9-HxCDD	31.816	3305951	1.22	0.9567	10.0	10.0	0.0409	0.0409	100	
S Total HxCDD					29.6	29.6	0.0439	0.0439		
D 13C-1,2,3,4,6,7,8-HpCDF	33.496	30592525	0.42	0.7080	99.7	99.7	1.142	1.142	99.67	
1,2,3,4,6,7,8-HpCDF	33.508	3991295	1.00	1.3375	9.755	9.755	0.0967	0.0967	97.55	
D 13C-1,2,3,4,7,8,9-HpCDF	34.565	30489328	0.42	0.7451	94.4	94.4	1.085	1.085	94.39	a
1,2,3,4,7,8,9-HpCDF	34.565	3240232	1.01	1.0744	9.891	9.891	0.1567	0.1567	98.91	
S Total HpCDF					19.6	19.6	0.1267	0.1267		
D 13C-1,2,3,4,6,7,8-HpCDD	34.274	31043218	1.05	0.7473	95.8	95.8	0.4757	0.4757	95.82	
1,2,3,4,6,7,8-HpCDD	34.286	3005109	1.03	0.9811	9.867	9.867	0.0544	0.0544	98.67	
S Total HpCDD					9.867	9.867	0.0544	0.0544		
D 13C-OCDD	36.578	54582619	0.89	0.6622	190.1	190.1	0.1612	0.1612	95.07	
OCDF	36.674	5634081	0.87	1.0659	19.4	19.4	0.0469	0.0469	96.84	
OCDD	36.590	5412172	0.87	0.9937	20.0	20.0	0.0288	0.0288	99.78	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

HRDXNL3_00026 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_5.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 30-Jan-2020 02:35:10 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 012920A CS-3 HRDXNL3_00026
Misc. Info.: 29JA20B10D5
Operator ID: ALM Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 30-Jan-2020 09:32:29 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0321

First Level Reviewer: arghestanis Date: 30-Jan-2020 08:36:28

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.408	17.411	0		23671607	6119246	5480	13700	1117		
333.9339	17.408	17.411	0		29465799	7574391	5245	13112	1444	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.924	16.924	0	0.972	26151477	6326112	6961	17402	909		
317.9389	16.924	16.924	0	0.972	34518393	8235984	6737	16842	1223	0.76(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.939	16.939	0	1.001	365354	90065	236	590	382		
305.8987	16.939	16.939	0	1.001	523451	124522	412	1030	302	0.70(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.605	17.605	0	1.011	20918606	4921628	5480	13700	898		
333.9339	17.605	17.605	0	1.011	26831771	6232839	5245	13112	1188	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.620	17.623	0	1.001	402421	91484	863	2157	106		
321.8936	17.620	17.623	0	1.001	497767	115296	366	915	315	0.81(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.620	17.623	0	1.012	943575	222938	474	1185	470		
13C-1,2,3,7,8-PeCDF											
351.9000	21.746	21.749	0	1.249	30599897	5476886	9316	23290	588		
353.8970	21.746	21.749	0	1.249	19671848	3488958	6137	15342	569	1.56(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.773	21.773	0	1.001	2599800	470731	880	2200	535		
341.8567	21.773	21.773	0	1.001	1696387	288161	826	2065	349	1.53(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											a
351.9000	23.042	23.042	0	1.324	31448606	5257220	9316	23290	564		a
353.8970	23.042	23.042	0	1.324	20579773	3436721	6137	15342	560	1.53(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.069	23.066	0	1.001	2549086	428309	880	2200	487		
341.8567	23.055	23.066	-1	1.001	1630937	262743	826	2065	318	1.56(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.737	23.737	0	1.364	22277847	3510581	3265	8162	1075		
369.8919	23.737	23.737	0	1.364	13766190	2164428	1711	4277	1265	1.62(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.764	23.761	0	1.001	2083701	317002	495	1237	640		
357.8516	23.764	23.761	0	1.001	1334075	197118	342	855	576	1.56(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.873	29.878	0	0.939	11864741	1631853	4166	10415	392		
385.8610	29.873	29.878	0	0.939	24041276	3313324	9000	22500	368	0.49(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.899	29.905	0	1.001	1484207	201319	881	2202	229		
375.8178	29.899	29.905	0	1.001	1192745	169860	705	1762	241	1.24(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.112	30.118	0	0.947	11615191	1652891	4166	10415	397		
385.8610	30.112	30.118	0	0.947	23878877	3399915	9000	22500	378	0.49(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.139	30.142	0	1.001	1592245	227802	881	2202	259		
375.8178	30.139	30.142	0	1.001	1319191	186088	705	1762	264	1.21(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.111	31.108	0	0.978	10938523	2222933	4166	10415	534		
385.8610	31.111	31.108	0	0.978	22346058	4528212	9000	22500	503	0.49(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.124	31.124	0	1.000	1536582	314663	881	2202	357		
375.8178	31.124	31.124	0	1.000	1248703	253835	705	1762	360	1.23(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.989	31.992	0	1.006	10132503	2202779	4166	10415	529		
385.8610	31.989	31.992	0	1.006	20676857	4543484	9000	22500	505	0.49(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.002	32.008	0	1.000	1472330	325653	881	2202	370		
375.8178	32.002	32.008	0	1.000	1217963	265979	705	1762	377	1.21(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.803	31.803	0		23852838	5195112	4454	11135	1166		
403.8529	31.803	31.803	0		19497476	4233453	3579	8947	1183	1.22(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											a
401.8559	31.324	31.324	0	0.985	18398781	4344196	4454	11135	975		a
403.8529	31.324	31.324	0	0.985	14909870	3475623	3579	8947	971	1.23(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.337	31.337	0	1.000	1493351	349801	598	1495	585		
391.8127	31.337	31.337	0	1.000	1227580	290068	578	1445	502	1.22(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.430	31.441	-1	0.988	19546955	3960741	4454	11135	889		
403.8529	31.444	31.441	0	0.989	16011133	3256019	3579	8947	910	1.22(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.457	31.457	0	1.001	1710933	352620	598	1495	590		
391.8127	31.457	31.457	0	1.001	1397825	297232	578	1445	514	1.22(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.816	31.816	0	1.016	1814701	395701	598	1495	662		
391.8127	31.816	31.816	0	1.016	1491250	326591	578	1445	565	1.22(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.496	33.499	0	1.053	9069003	2778353	9169	22922	303		
419.8220	33.496	33.499	0	1.053	21523522	6417386	21321	53302	301	0.42(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.508	33.511	0	1.000	1998461	604192	2484	6210	243		
409.7789	33.508	33.511	0	1.000	1992834	604074	2272	5680	266	1.00(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											a
417.8253	34.565	34.563	0	1.087	8992703	2126472	9169	22922	232		a
419.8220	34.553	34.563	-1	1.086	21496625	4935849	21321	53302	232	0.42(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.565	34.570	0	1.000	1628735	376223	2484	6210	151		
409.7789	34.565	34.570	0	1.000	1611497	378517	2272	5680	167	1.01(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.274	34.279	0	1.078	15933217	4018890	7231	18077	556		
437.8140	34.274	34.279	0	1.078	15110001	3829515	6177	15442	620	1.05(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.286	34.288	0	1.000	1524844	391120	988	2470	396		
425.7737	34.286	34.288	0	1.000	1480265	370216	687	1717	539	1.03(0.88-1.20)	
13C-OCDD											
469.7779	36.578	36.578	0	1.150	25757630	5530737	2038	5095	2714		
471.7750	36.578	36.578	0	1.150	28824989	6094111	1989	4972	3064	0.89(0.76-1.02)	
OCDF											
441.7428	36.674	36.674	0	1.003	2616321	544571	536	1340	1016		
443.7399	36.674	36.674	0	1.003	3017760	633234	626	1565	1012	0.87(0.76-1.02)	
OCDD											
457.7377	36.590	36.590	0	1.000	2513412	531017	293	732	1812		
459.7348	36.590	36.590	0	1.000	2898760	604354	372	930	1625	0.87(0.76-1.02)	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

HRDXNL3_00026 Amount Added: 2.00 Units: uL

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_5.d				
Injection Date:	30-Jan-2020 02:35:10	Instrument ID:	10D5		
Lims ID:	IC				
Client ID:					
Operator ID:	ALM	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

13C-2,3,4,7,8-PeCDF, CAS: 116843-02-8

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 23.04

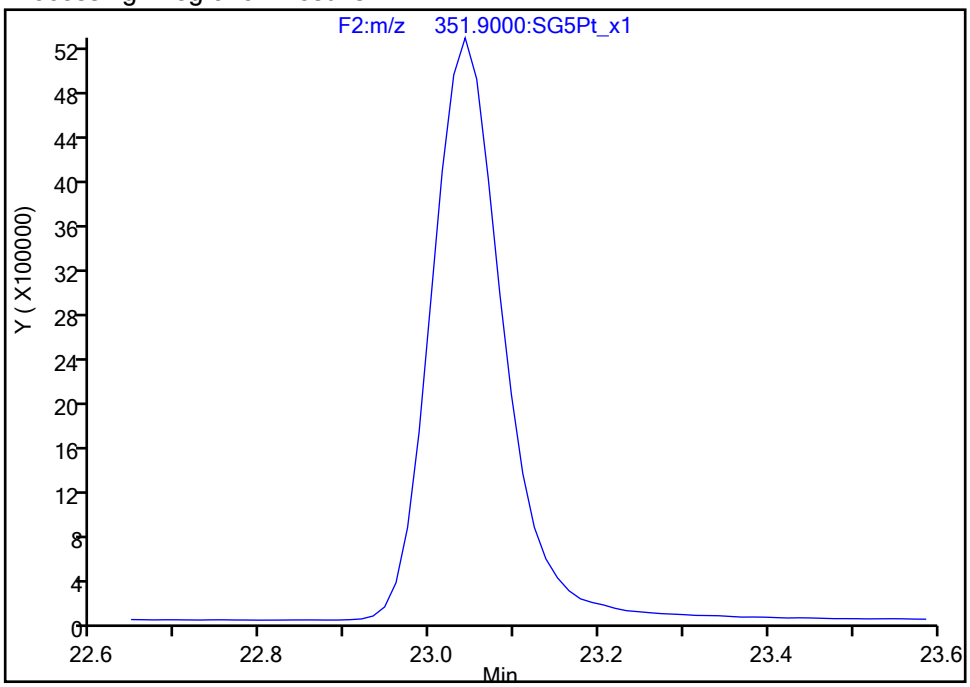

Manual Integration Results

RT:	23.04
Area:	31448606
Amount:	94.209415
Amount Units:	pg/ul

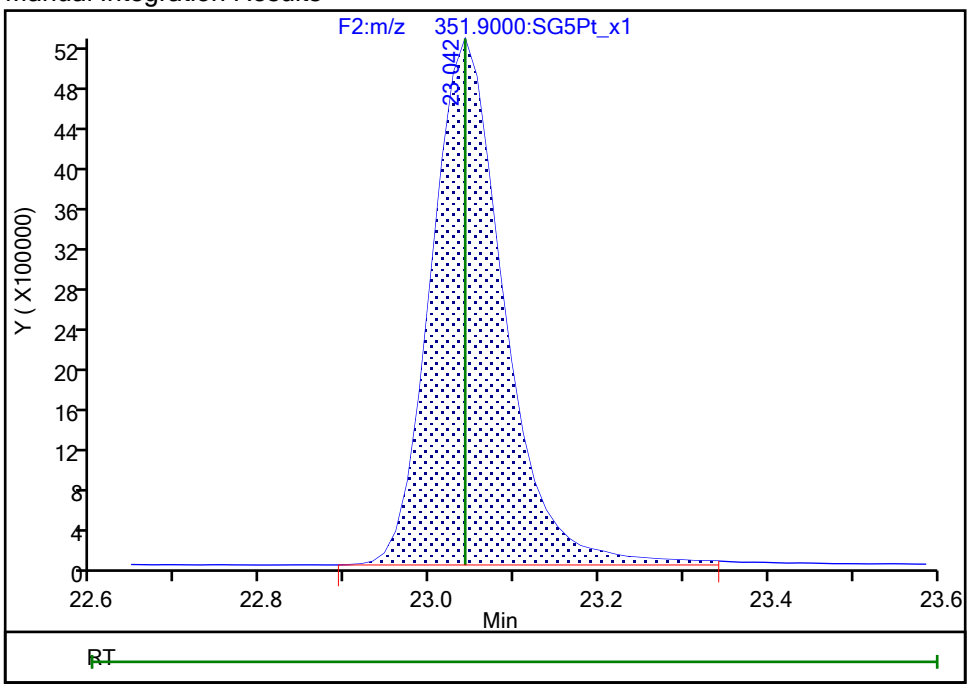

Reviewer: arghestanis, 30-Jan-2020 08:35:47
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_5.d				
Injection Date:	30-Jan-2020 02:35:10	Instrument ID:	10D5		
Lims ID:	IC				
Client ID:					
Operator ID:	ALM	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

13C-1,2,3,4,7,8-HxCDD, CAS: 109719-80-4

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 31.32

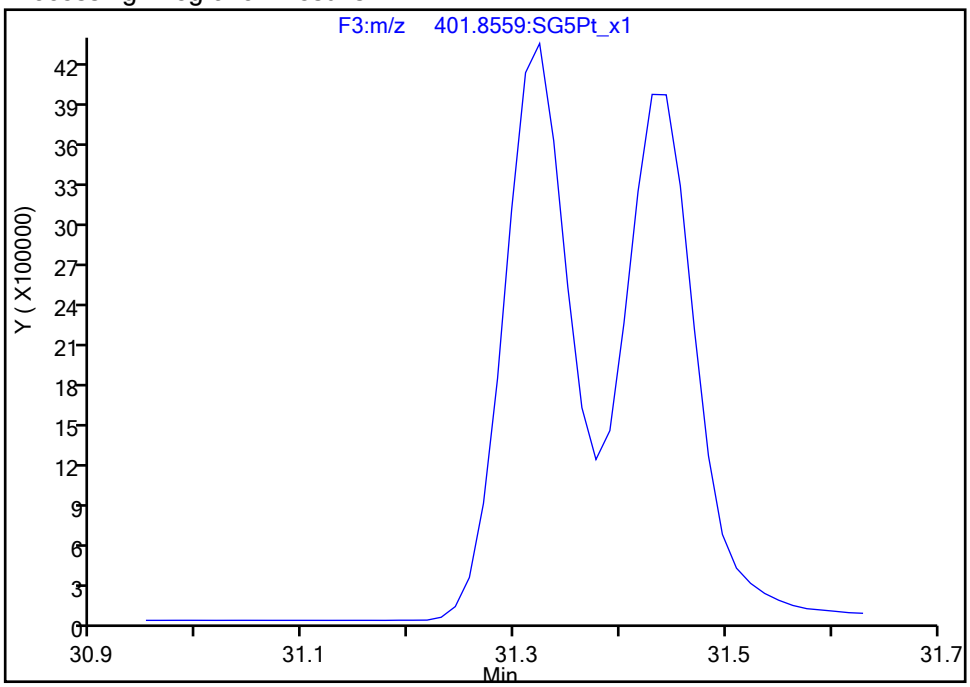

Manual Integration Results

RT: 31.32
Area: 18398781
Amount: 95.447935
Amount Units: pg/ul

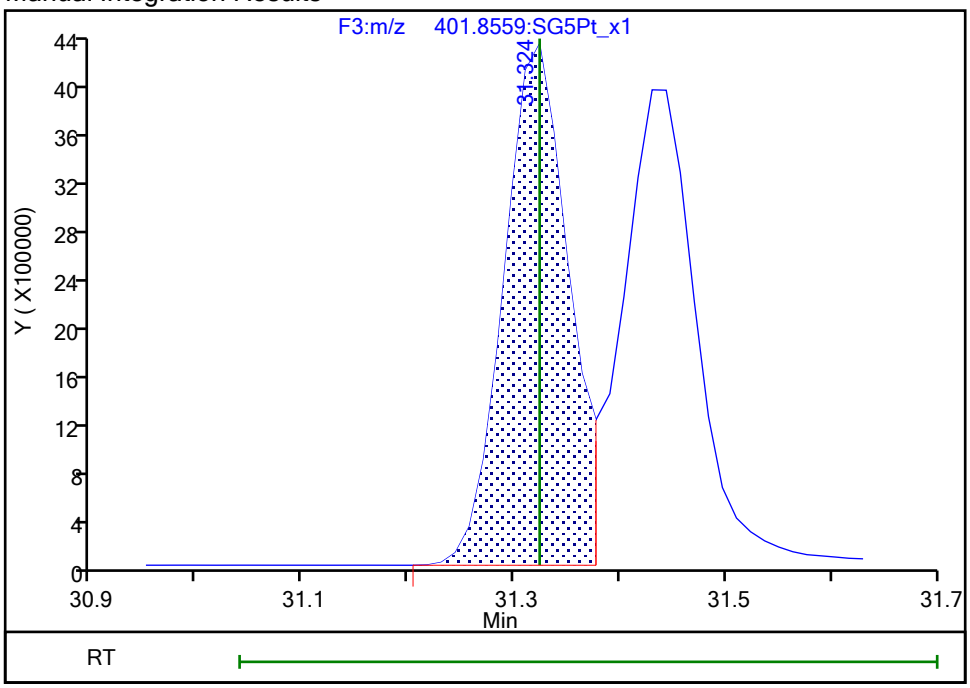

Reviewer: arghestanis, 30-Jan-2020 08:36:02
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_5.d				
Injection Date:	30-Jan-2020 02:35:10	Instrument ID:	10D5		
Lims ID:	IC				
Client ID:					
Operator ID:	ALM	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

13C-1,2,3,4,7,8,9-HpCDF, CAS: 109719-94-0

Signal: 1

Not Detected
Expected RT: 34.56

Processing Integration Results

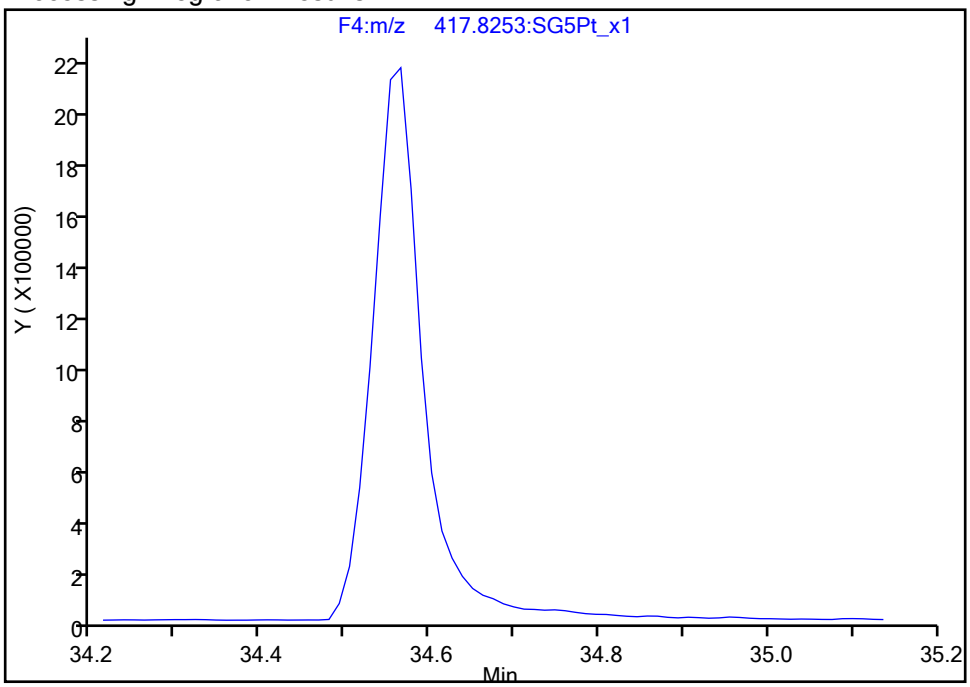

Manual Integration Results

RT: 34.57
Area: 8992703
Amount: 94.392726
Amount Units: pg/ul

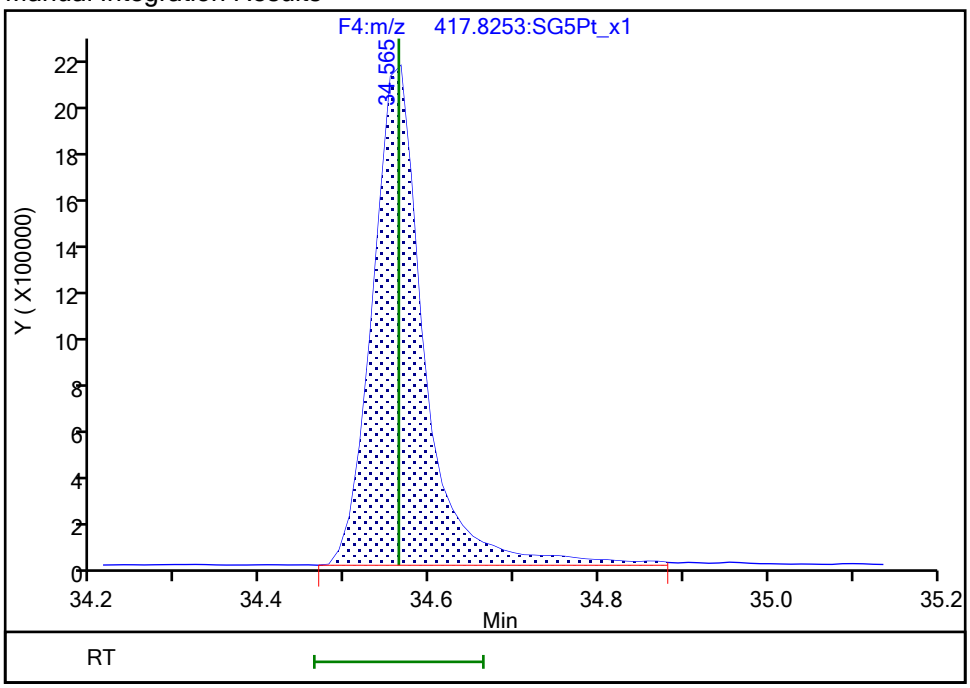

Reviewer: arghestanis, 30-Jan-2020 08:36:13
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Report Date: 30-Jan-2020 09:32:51 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_5.d		
Injection Date:	30-Jan-2020 02:35:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

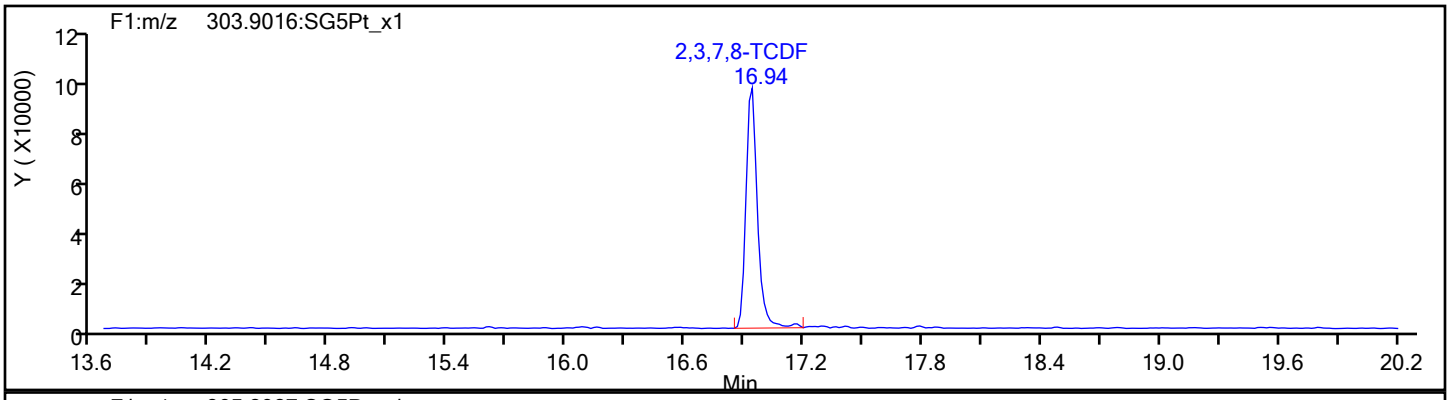

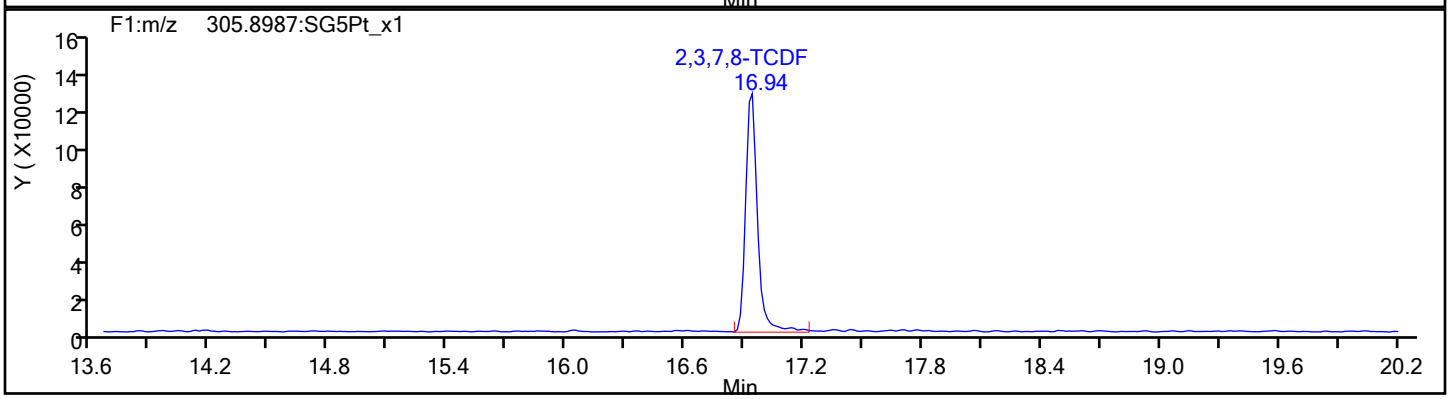

TCDF Standards

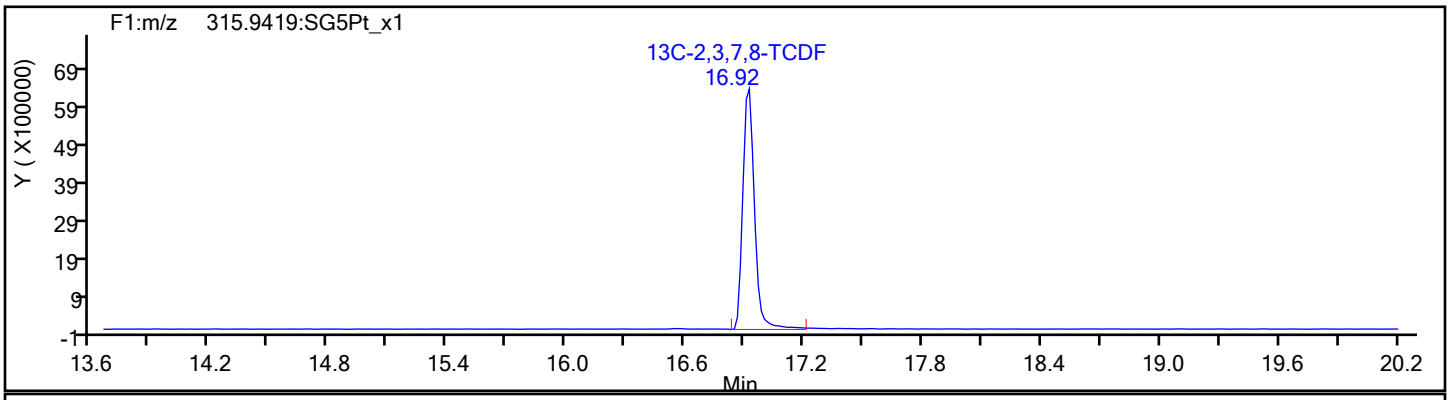

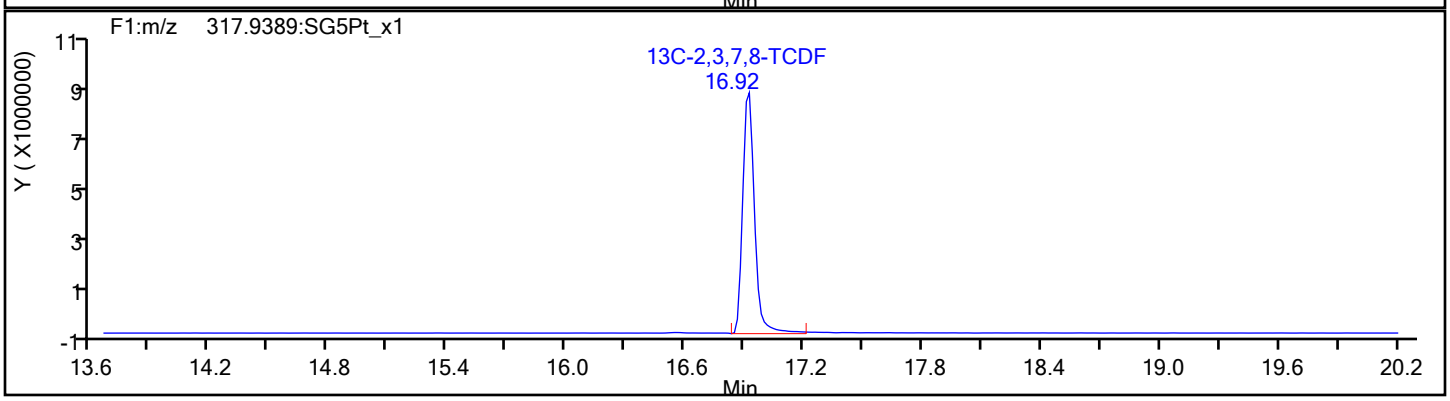

Report Date: 30-Jan-2020 09:32:51 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_5.d		
Injection Date:	30-Jan-2020 02:35:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

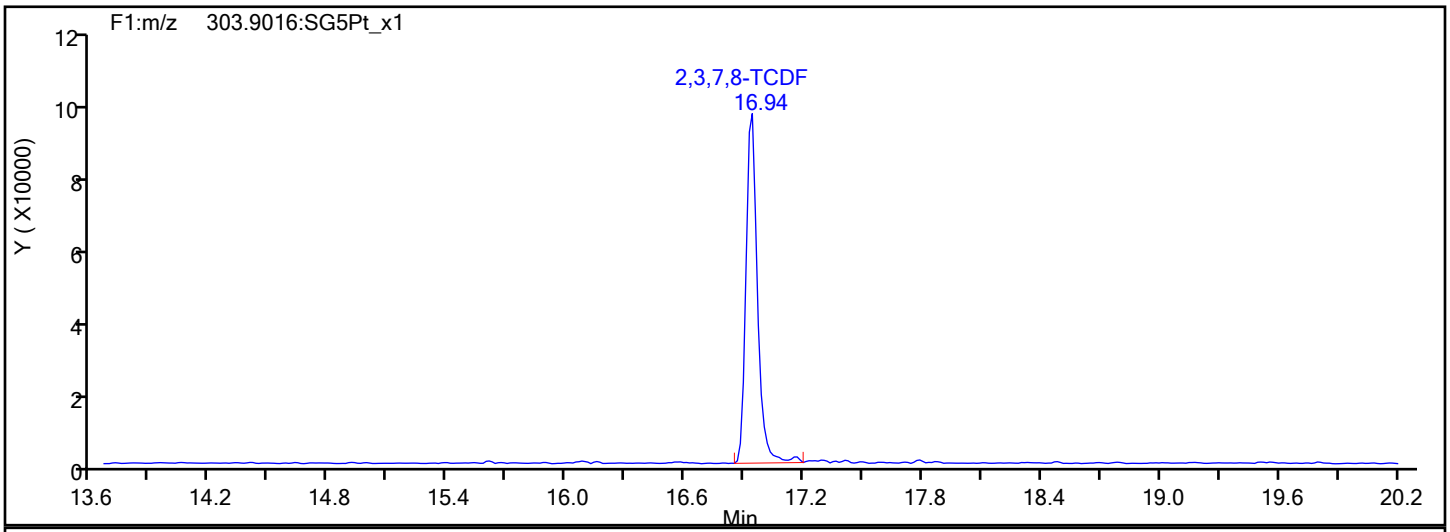

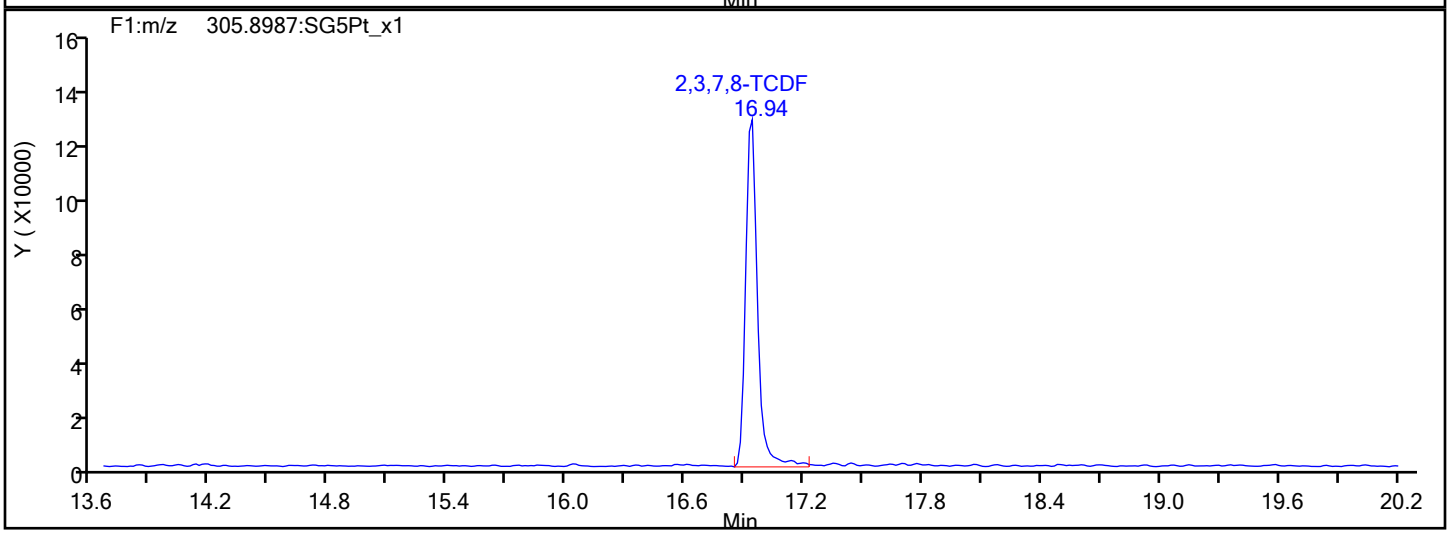

TCDF Interference Mass

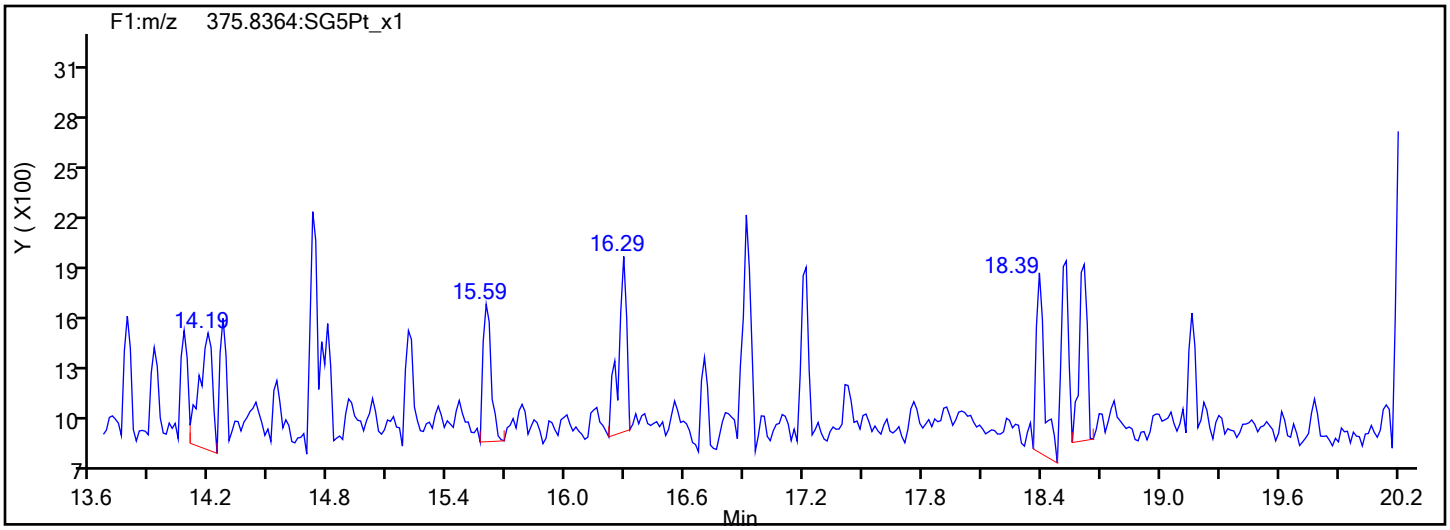

Report Date: 30-Jan-2020 09:32:51 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_5.d		
Injection Date:	30-Jan-2020 02:35:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

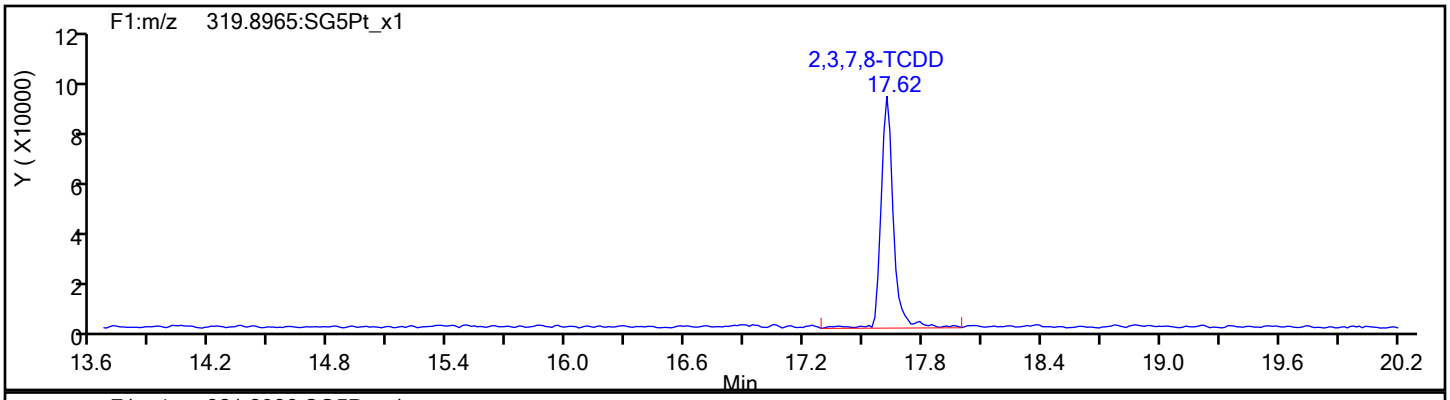

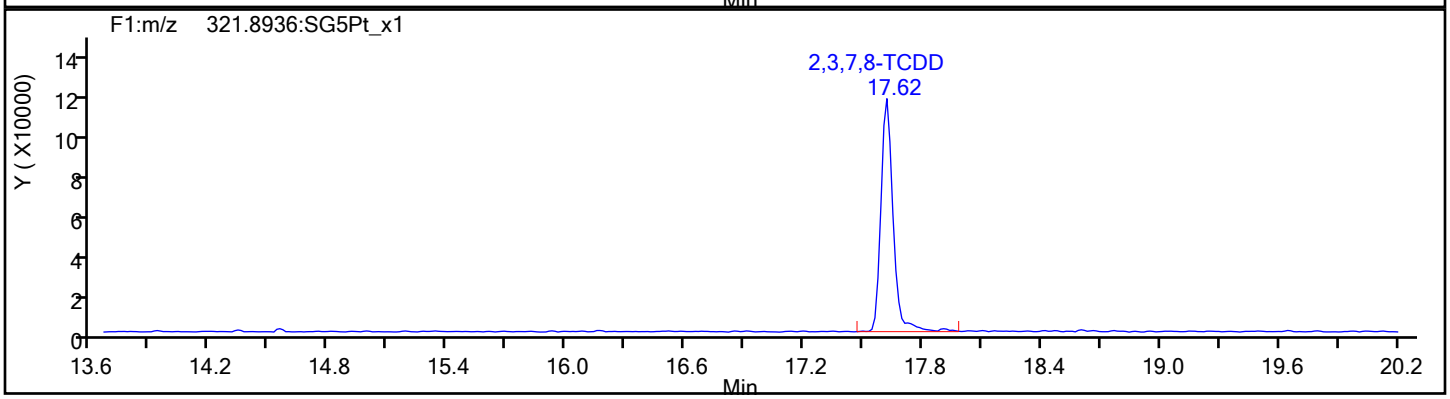

TCDD Standards

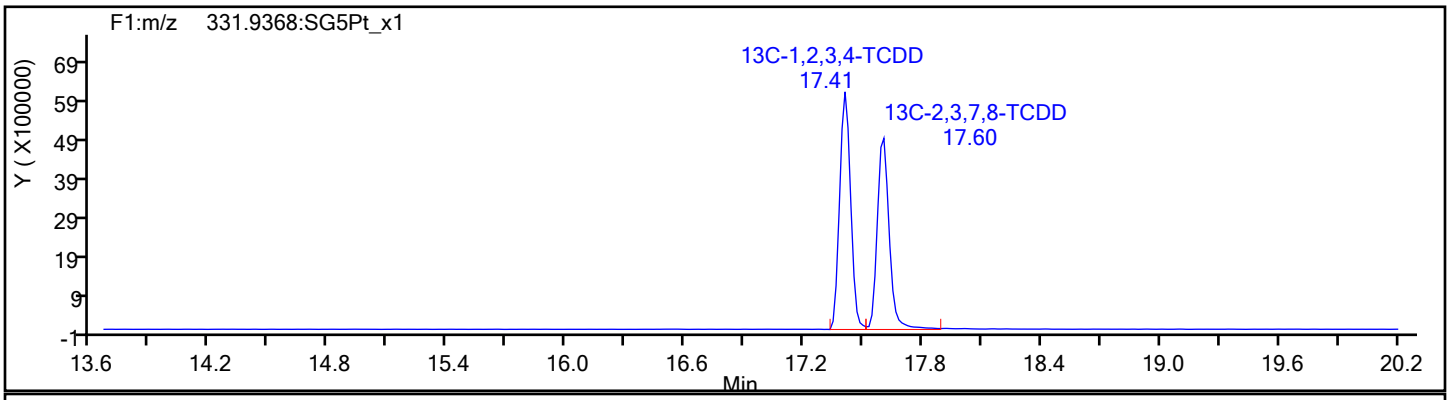

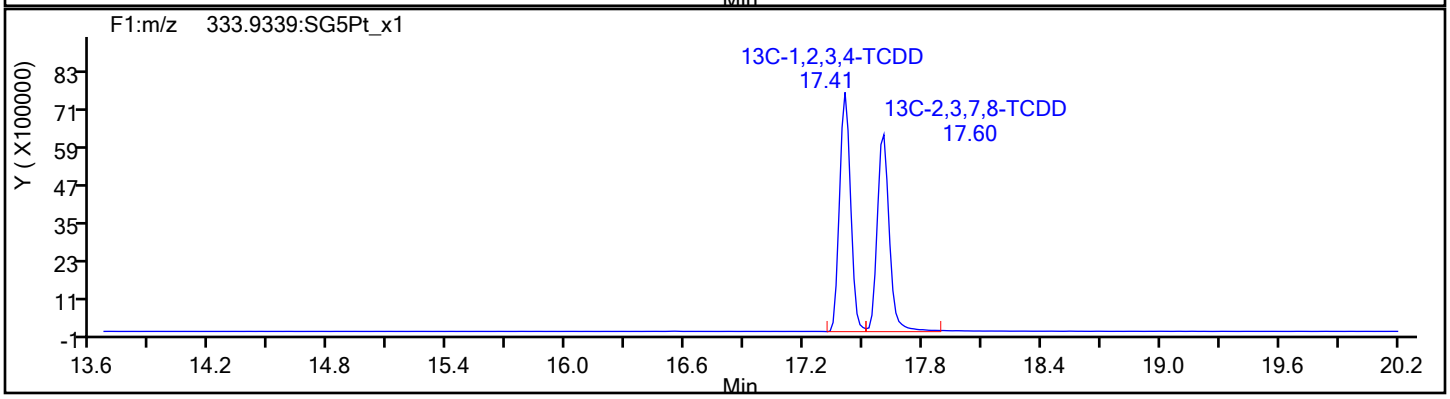

Report Date: 30-Jan-2020 09:32:52 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

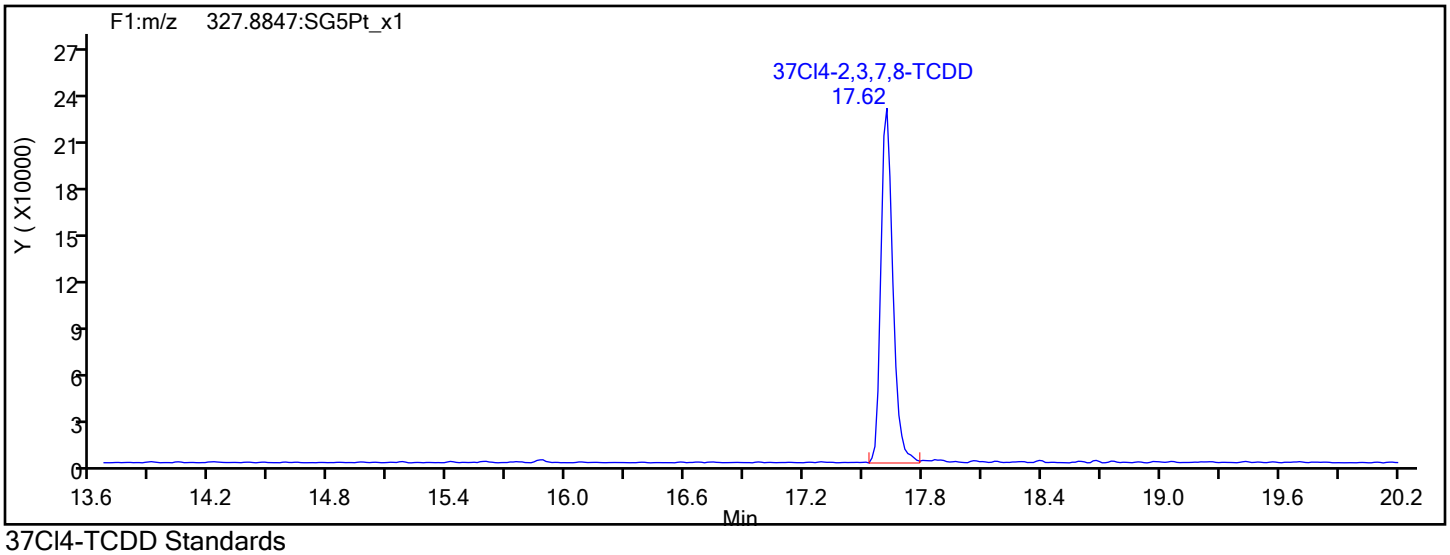

37Cl4-TCDD Standards

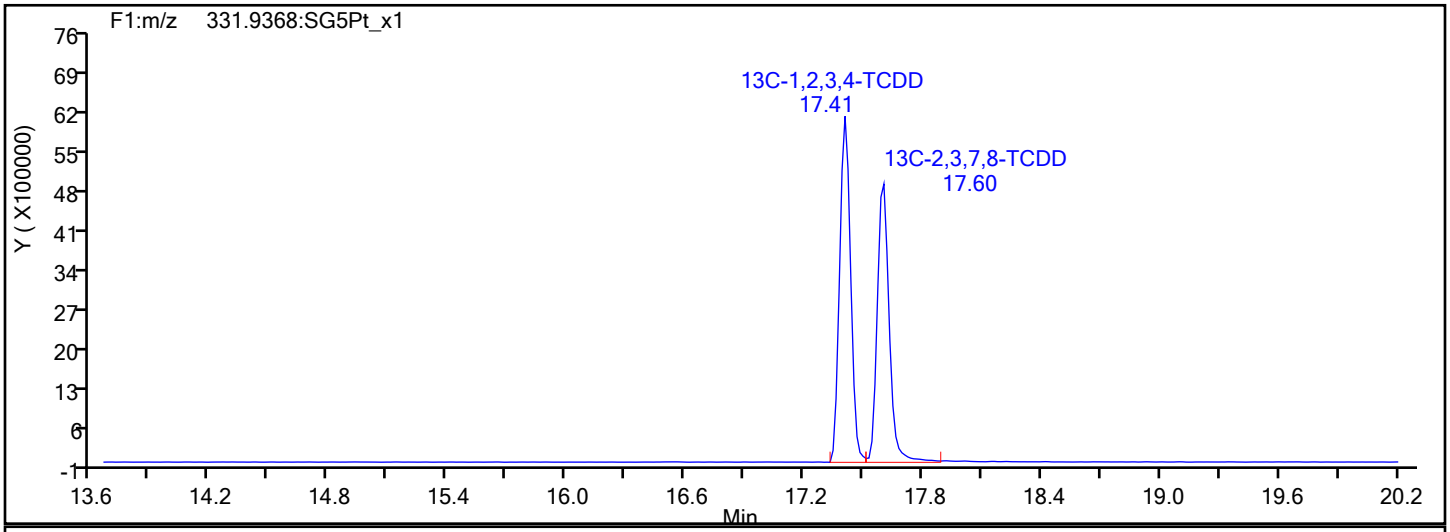

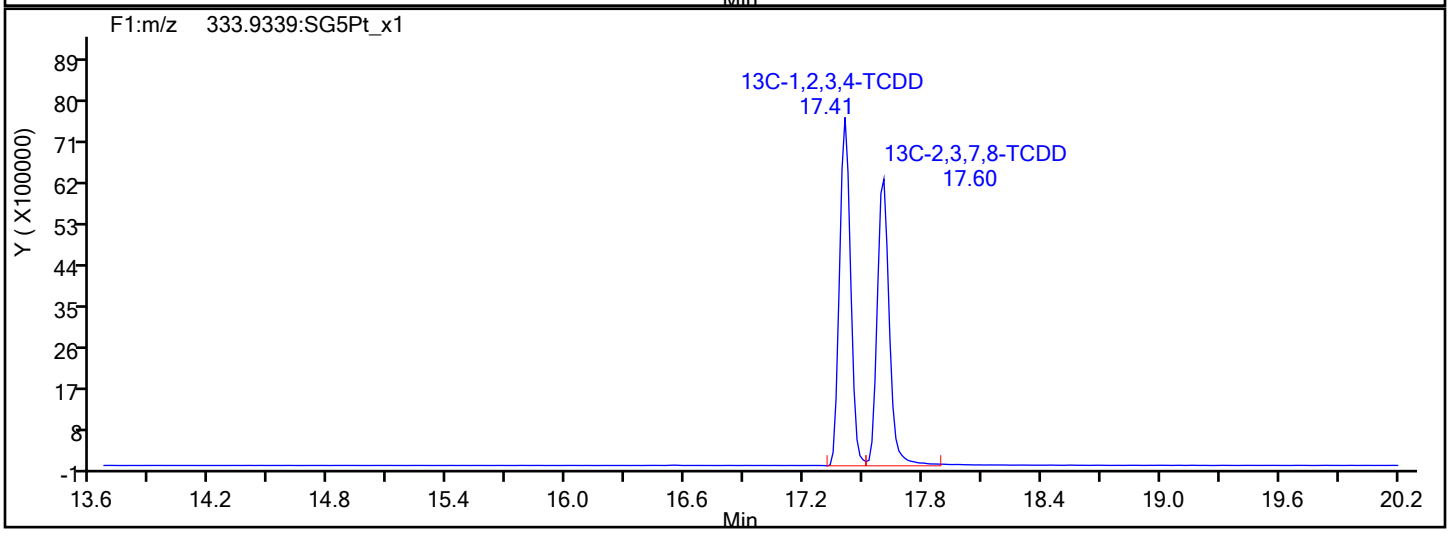

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

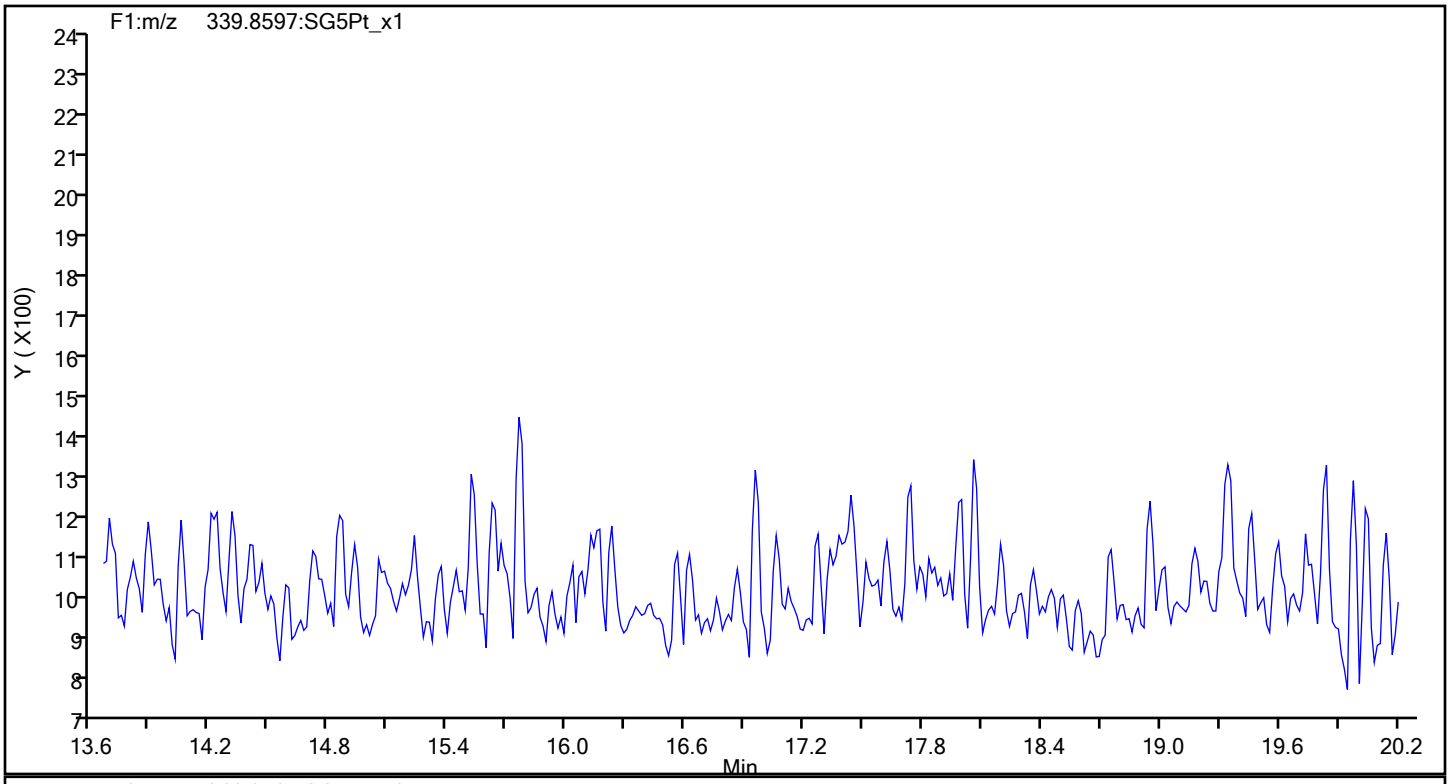

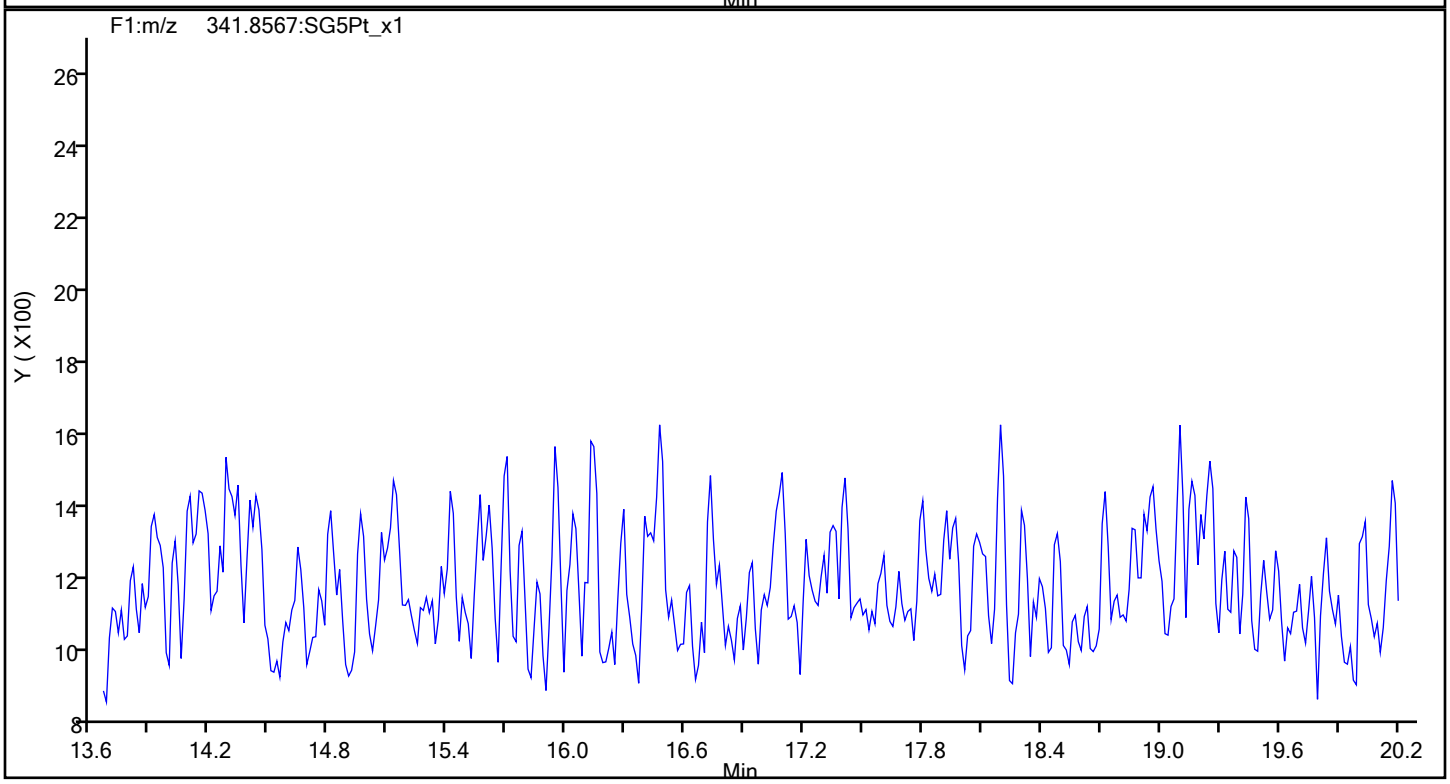

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

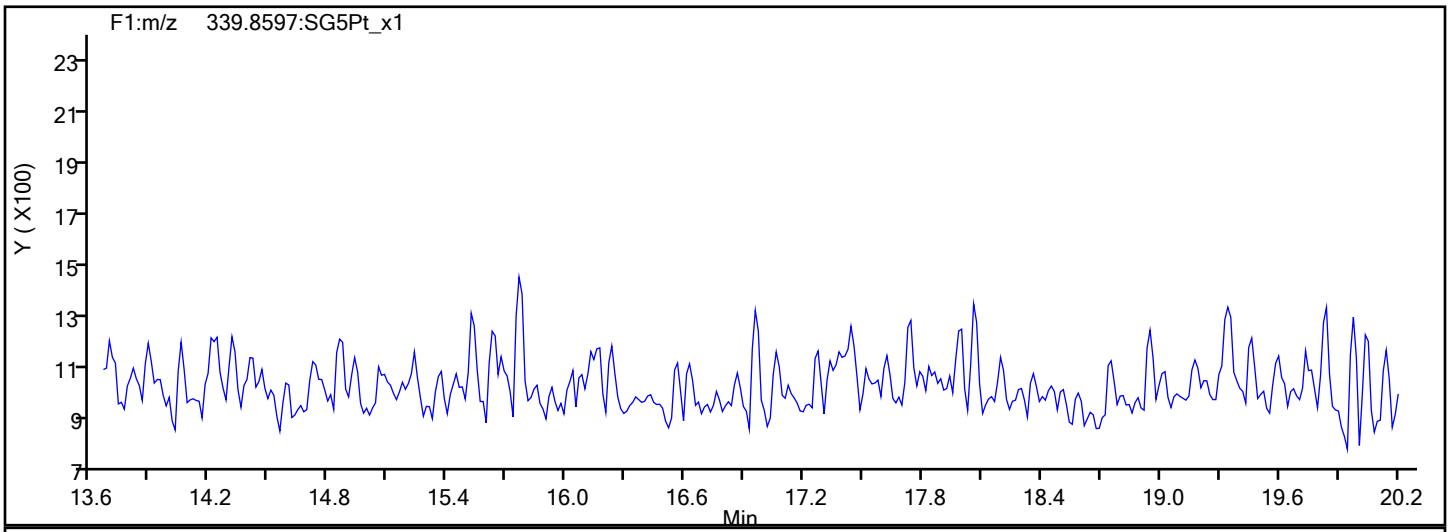

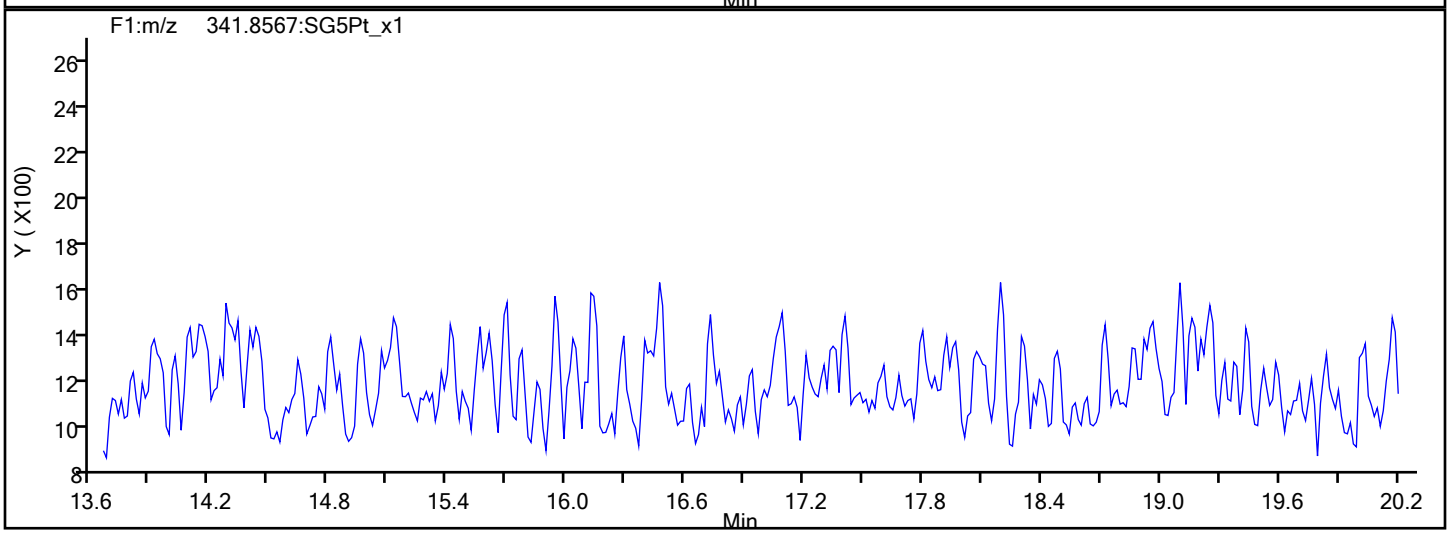

F1 PeCDFs Interference Mass

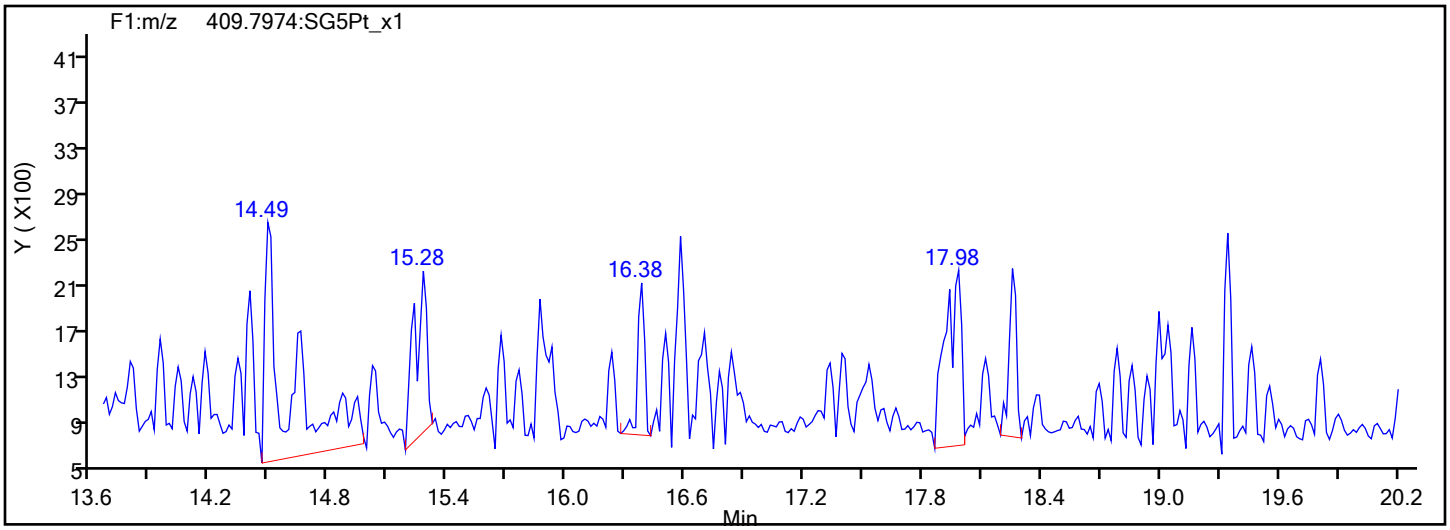

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Eurofins TestAmerica, Sacramento

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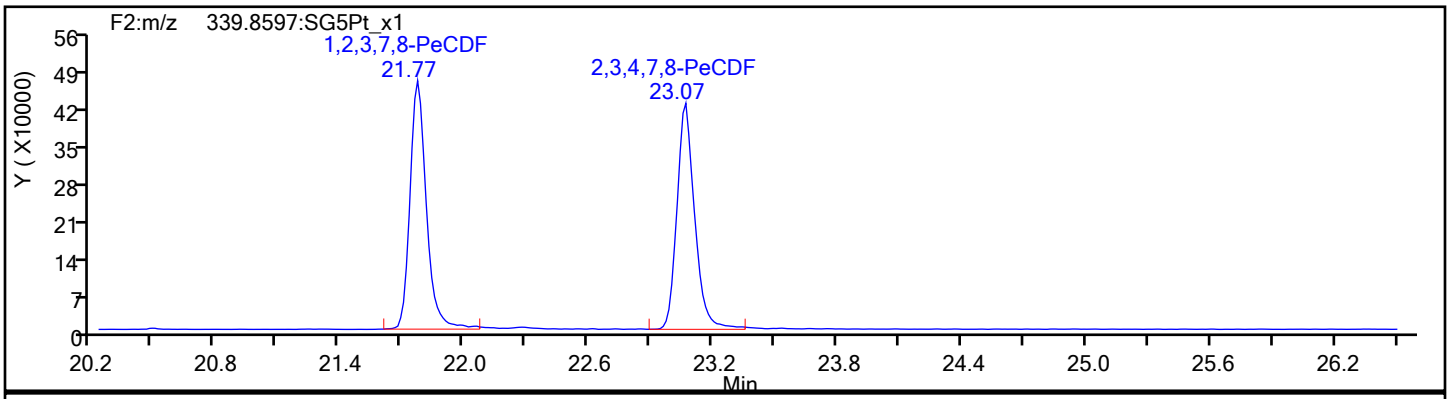

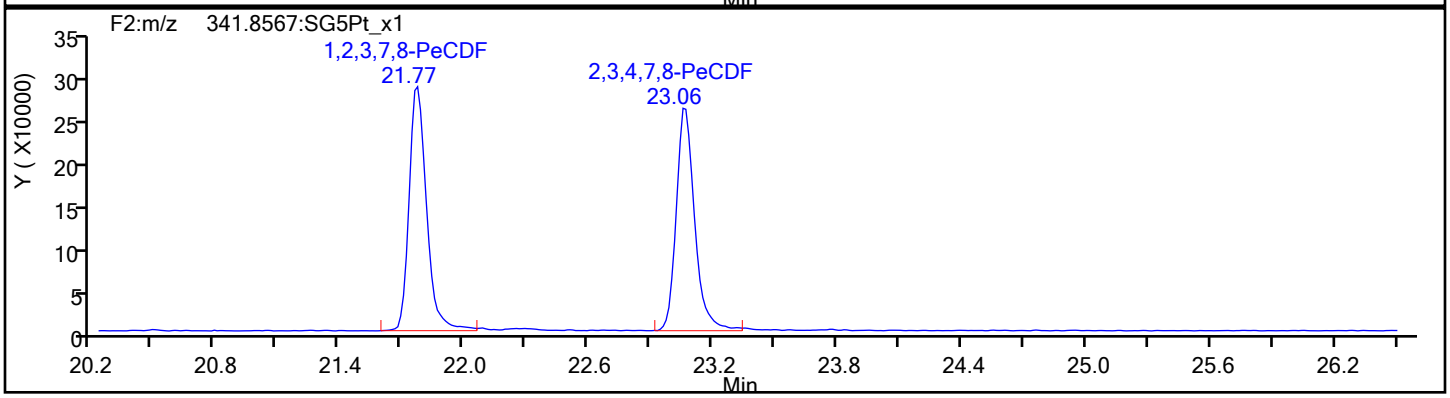

PeCDF Standards

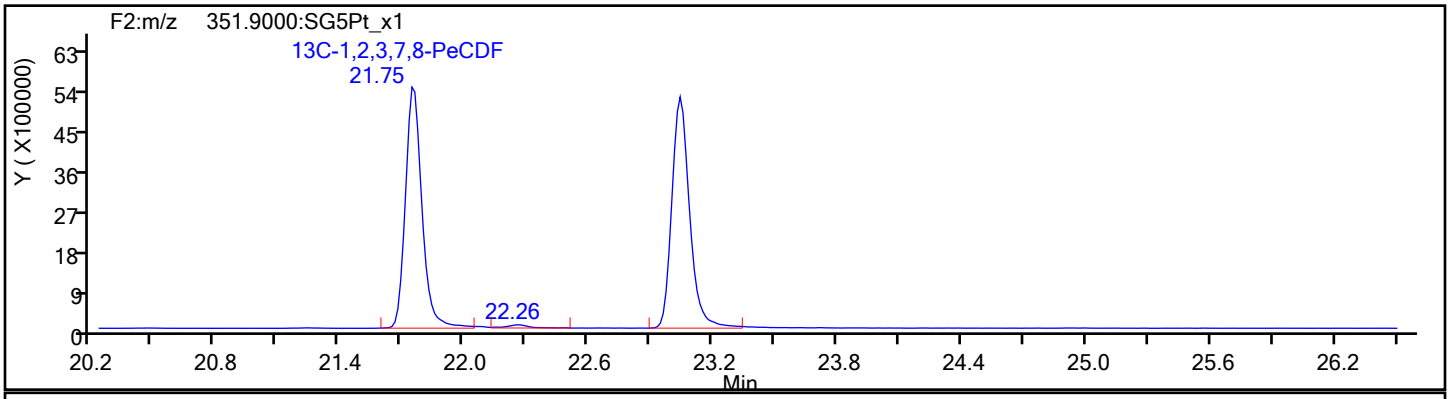

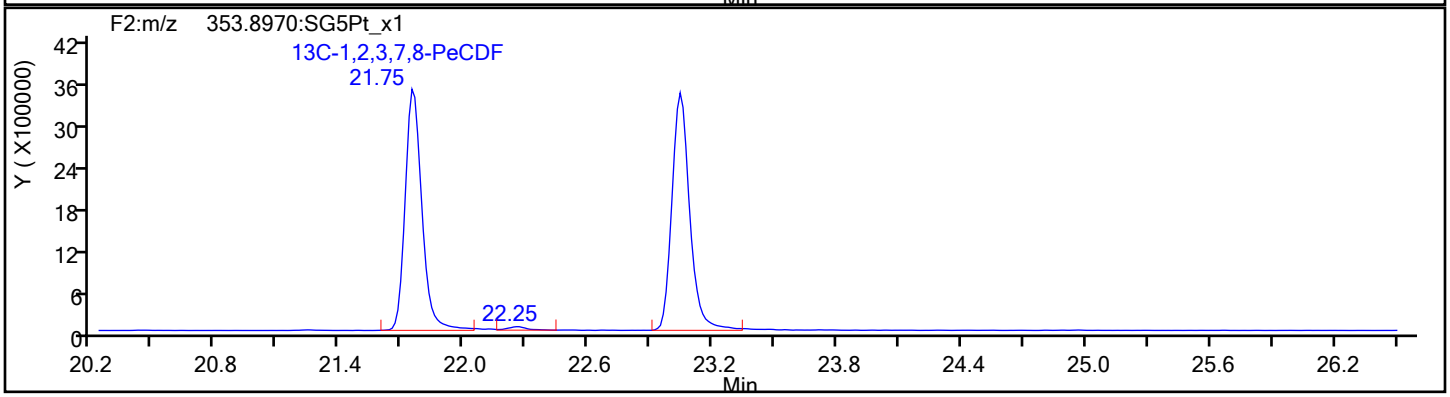

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Eurofins TestAmerica, Sacramento

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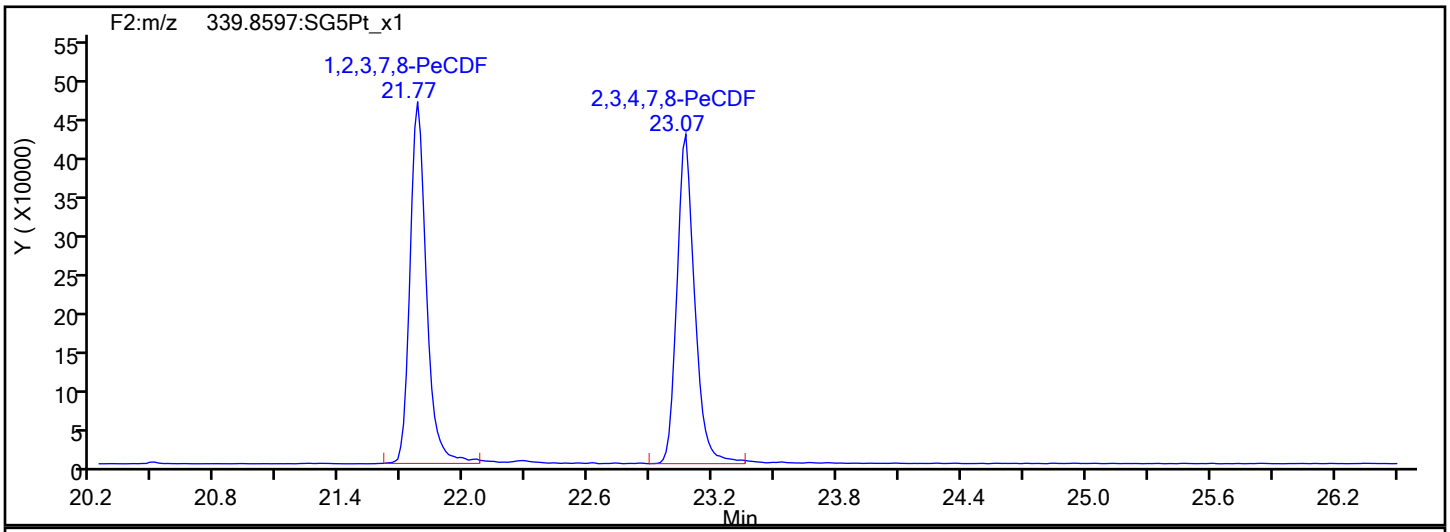

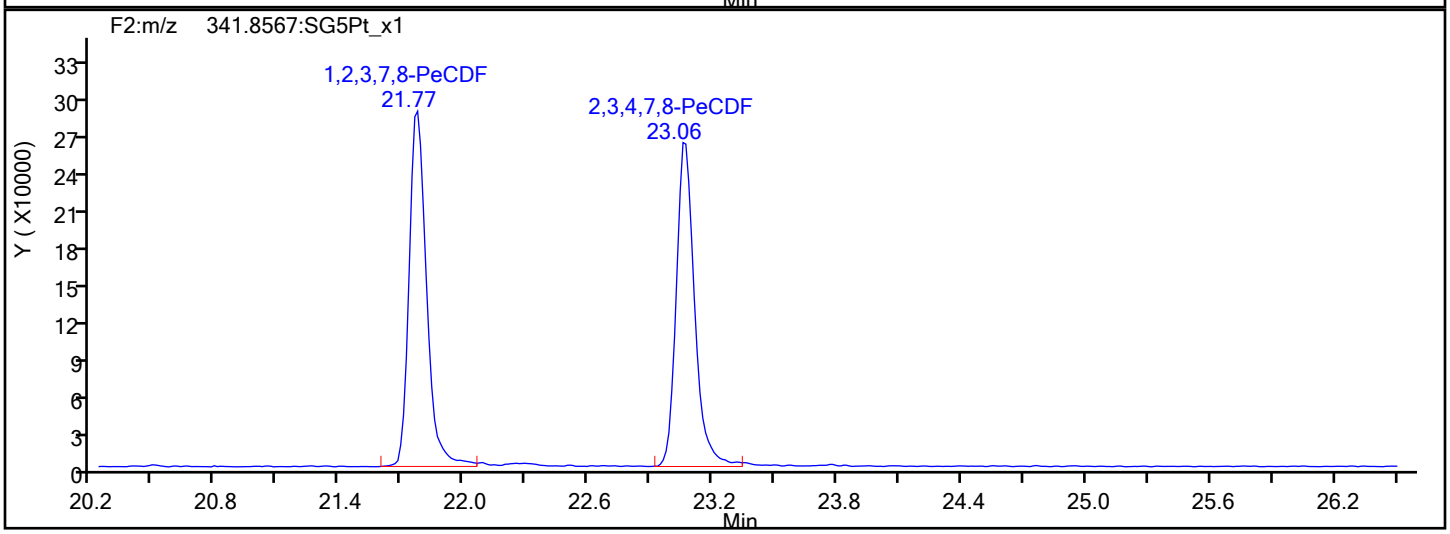

PeCDF Interference Mass

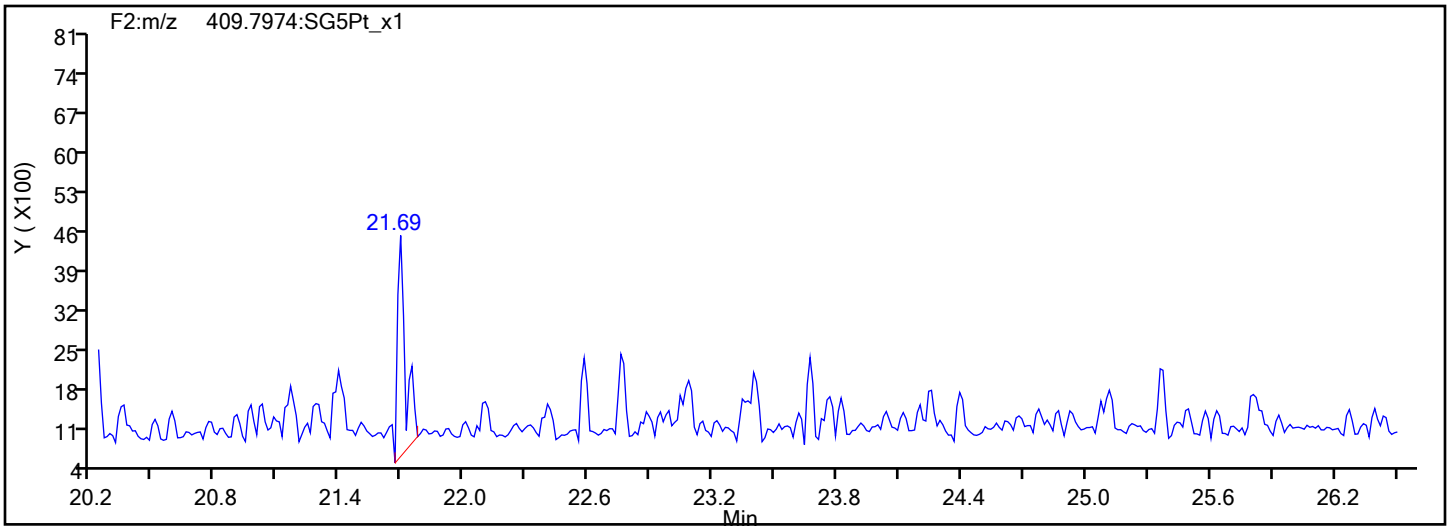

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Eurofins TestAmerica, Sacramento

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PeCDD

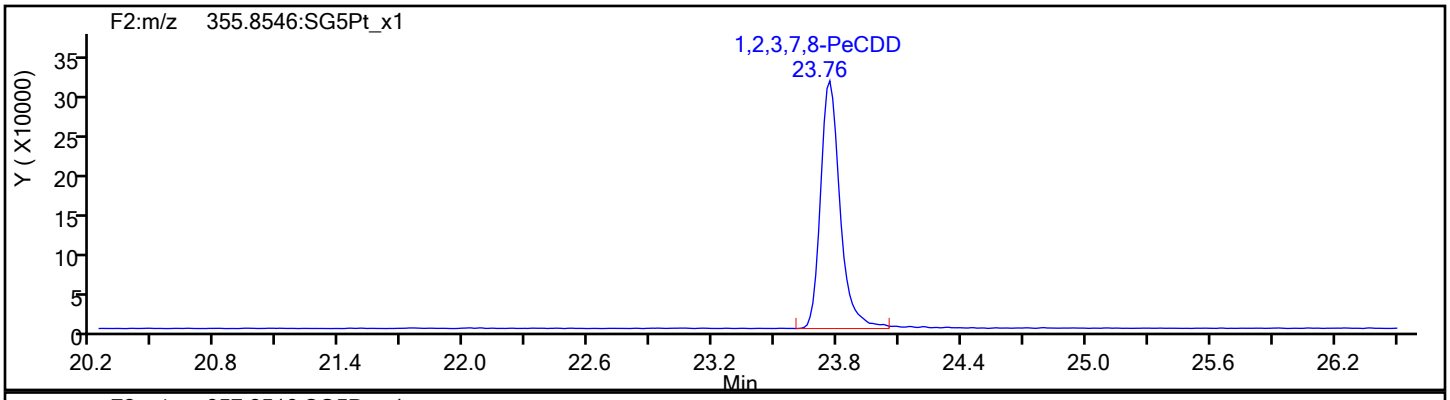

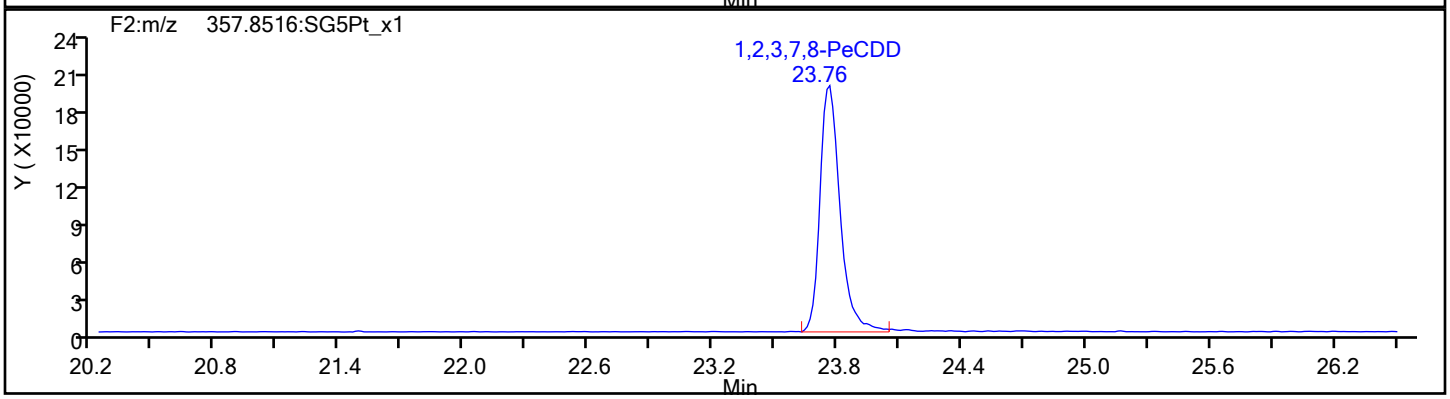

PeCDD Standards

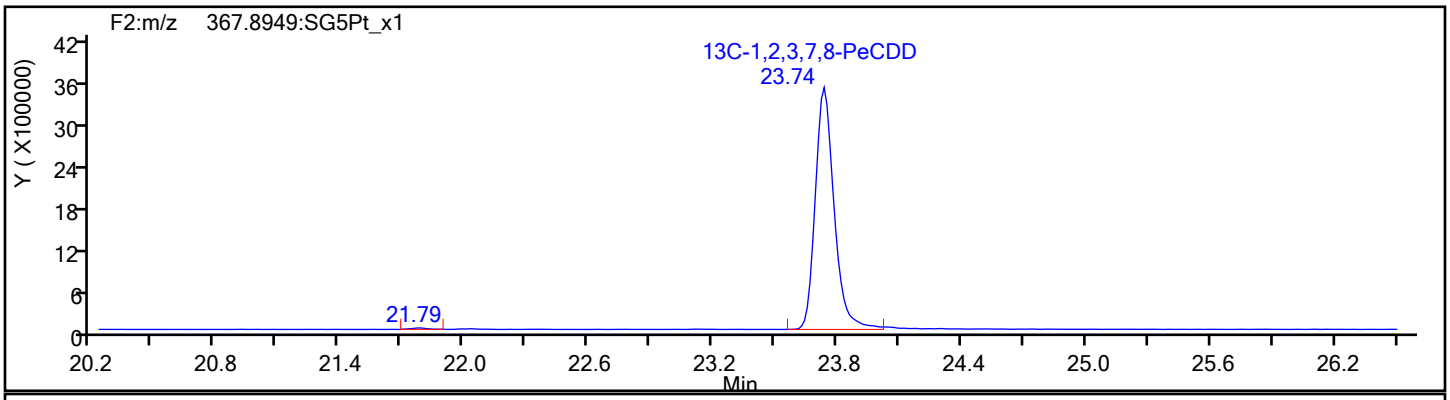

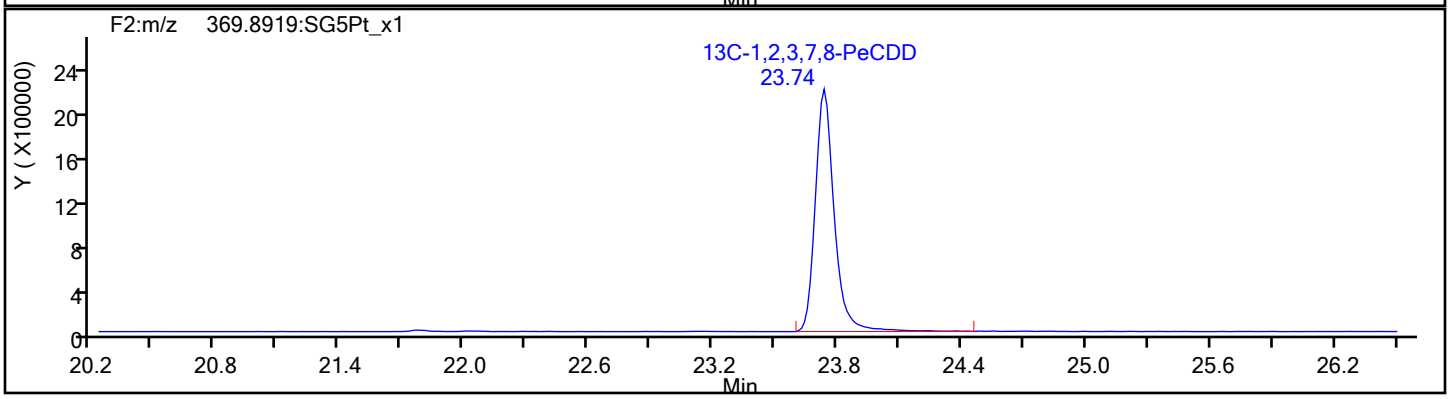

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Eurofins TestAmerica, Sacramento

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HxCDF

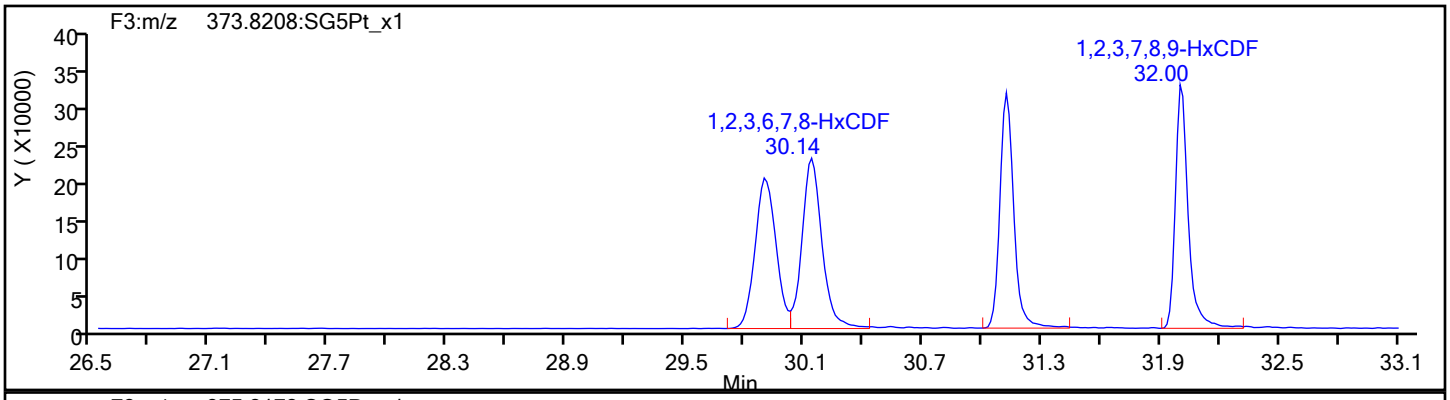

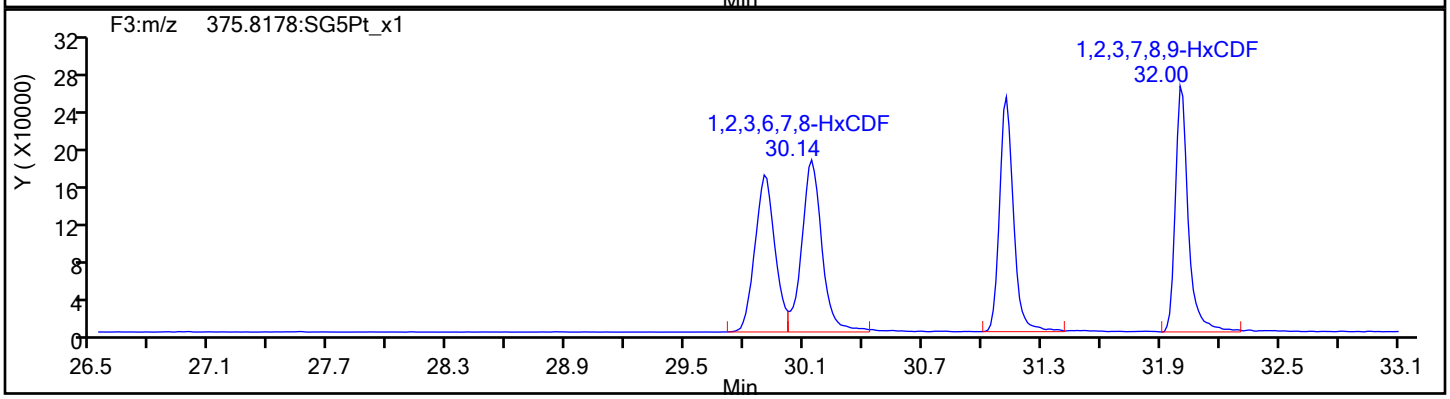

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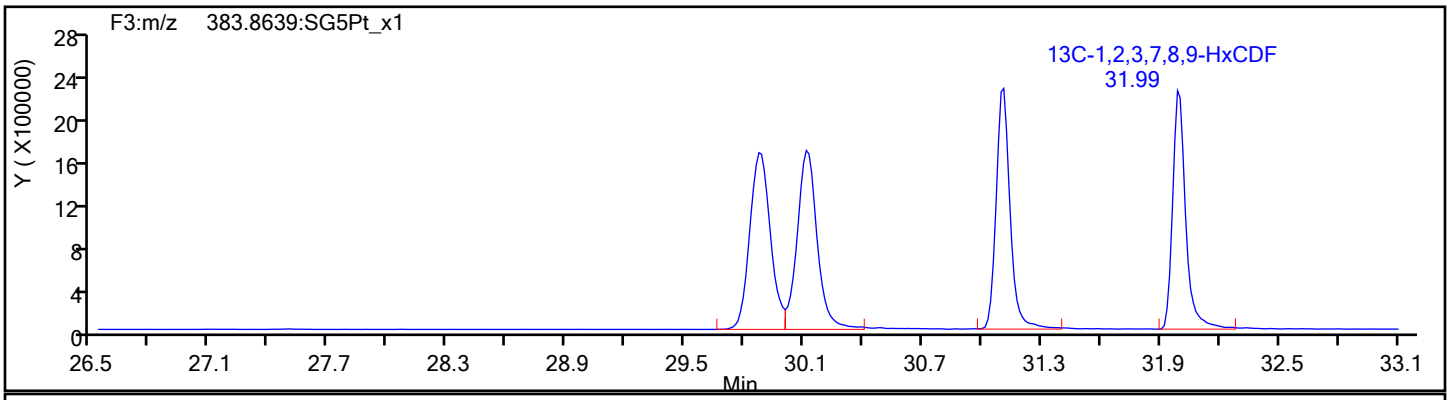

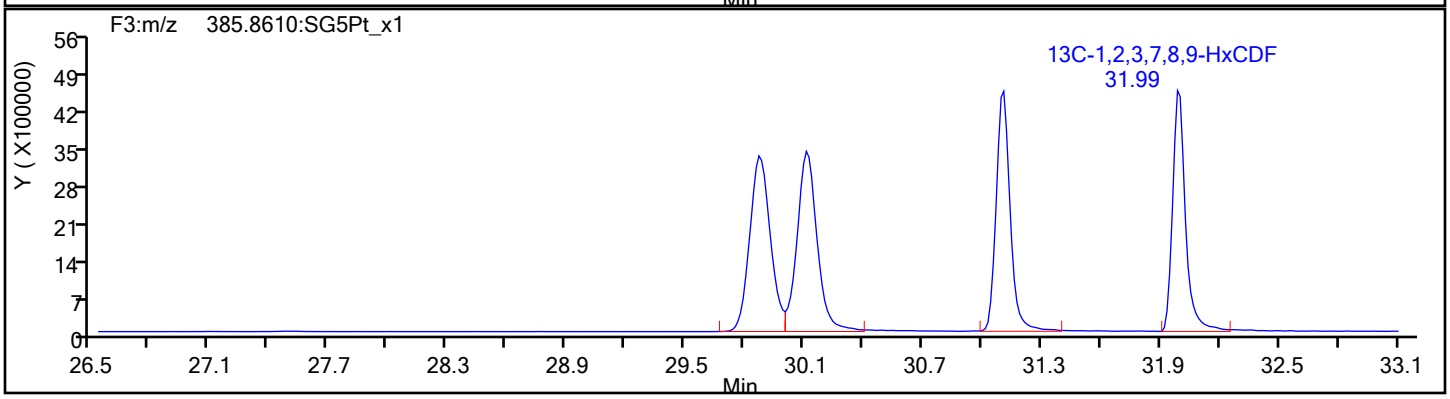

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Eurofins TestAmerica, Sacramento

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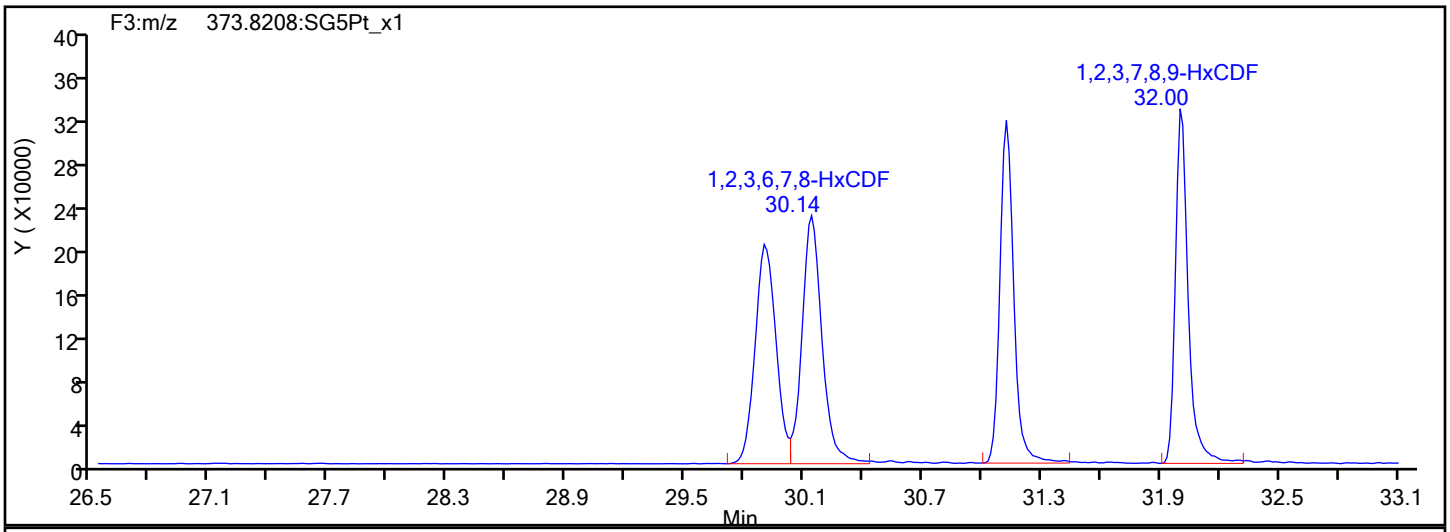

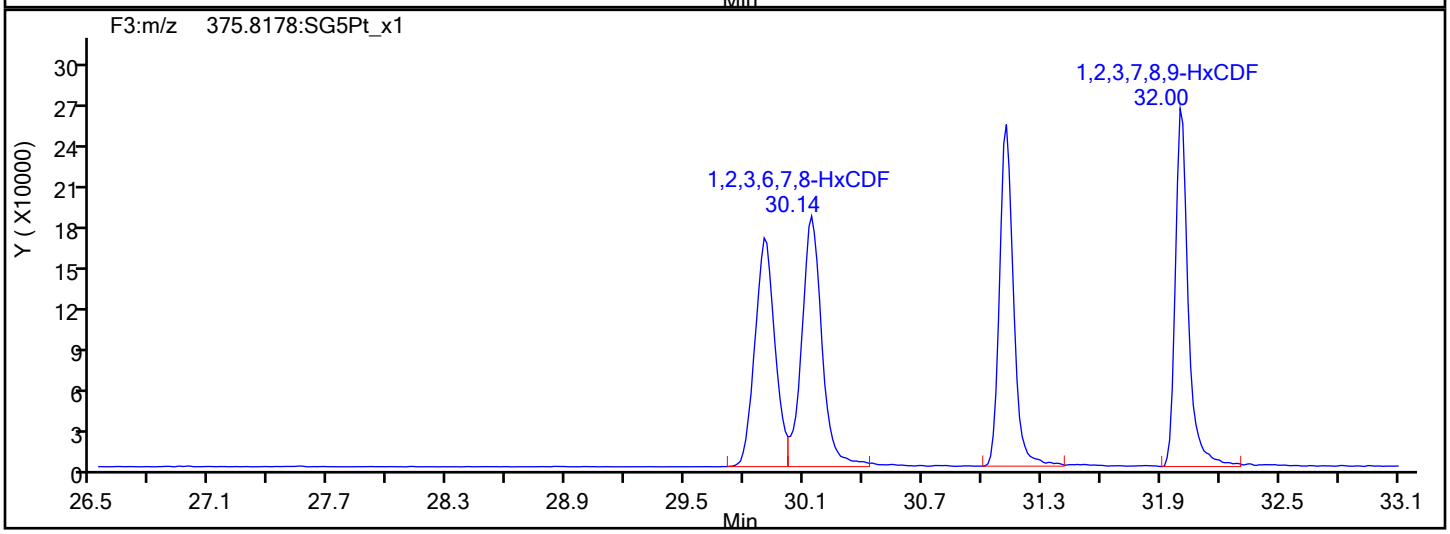

HxCDF Interference Mass

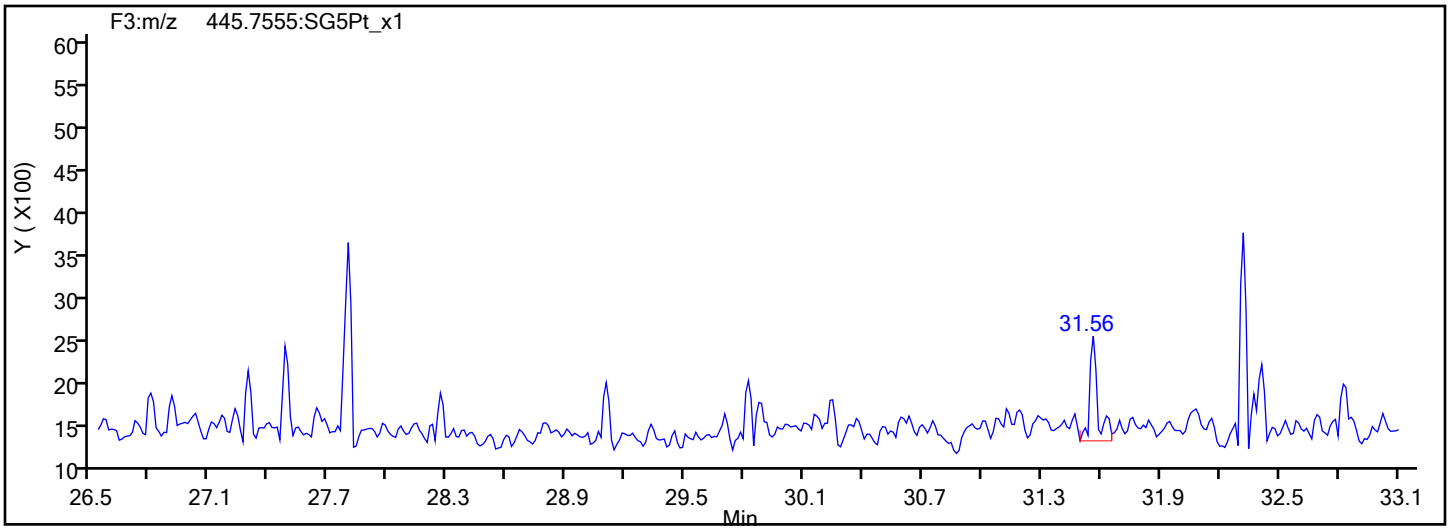

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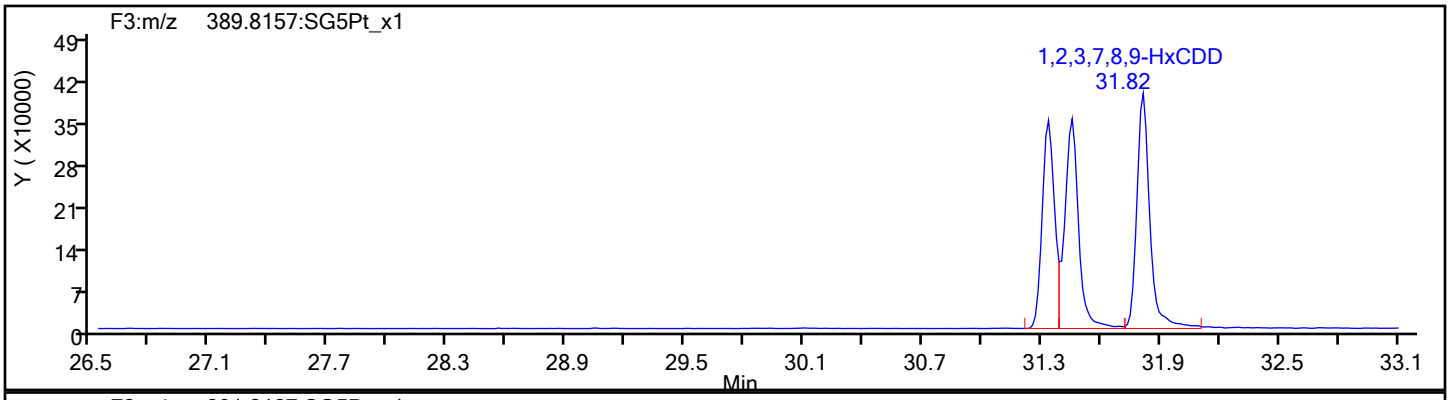

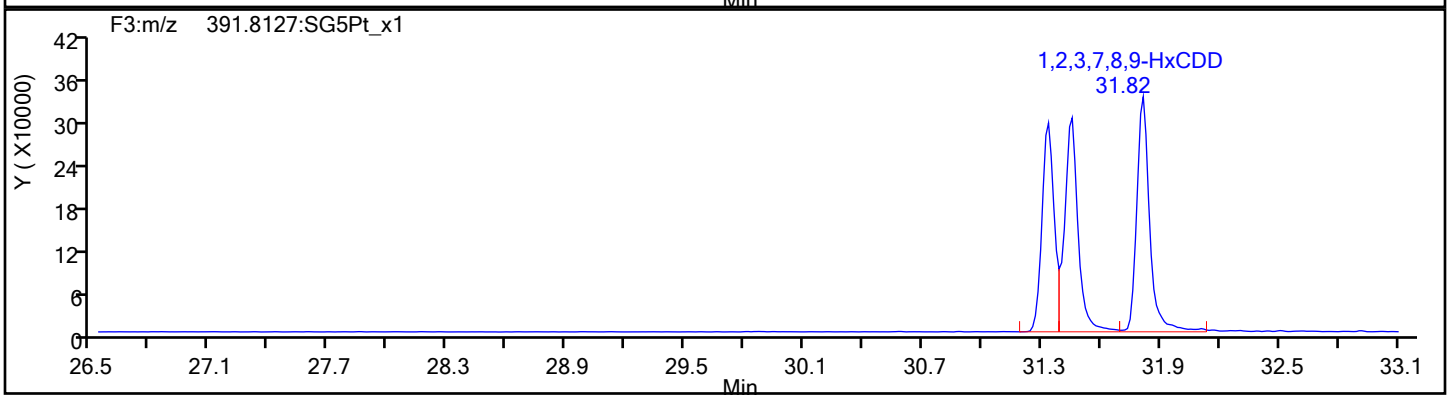

HxCDD Standards

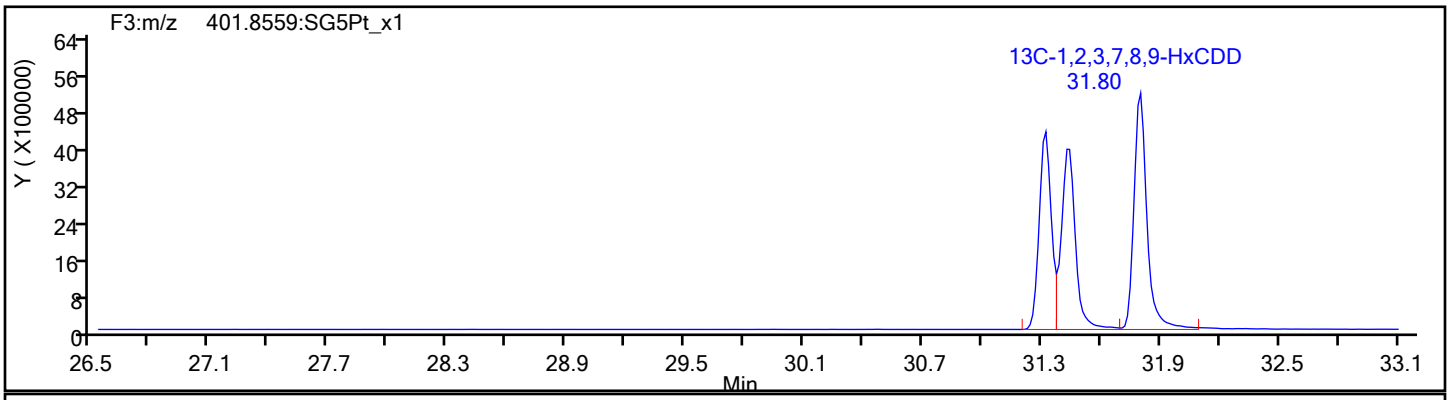

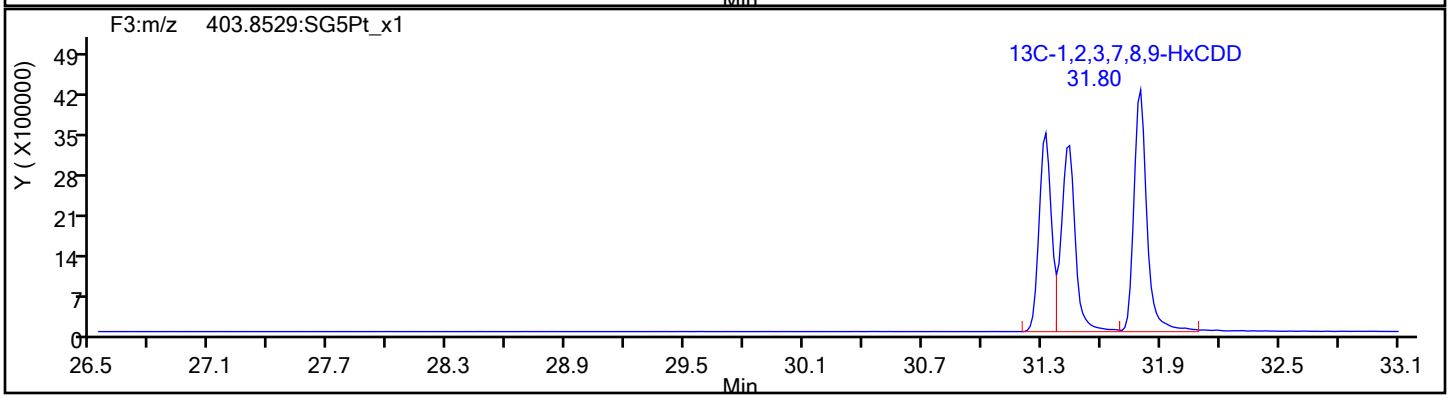

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Eurofins TestAmerica, Sacramento

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HpCDF

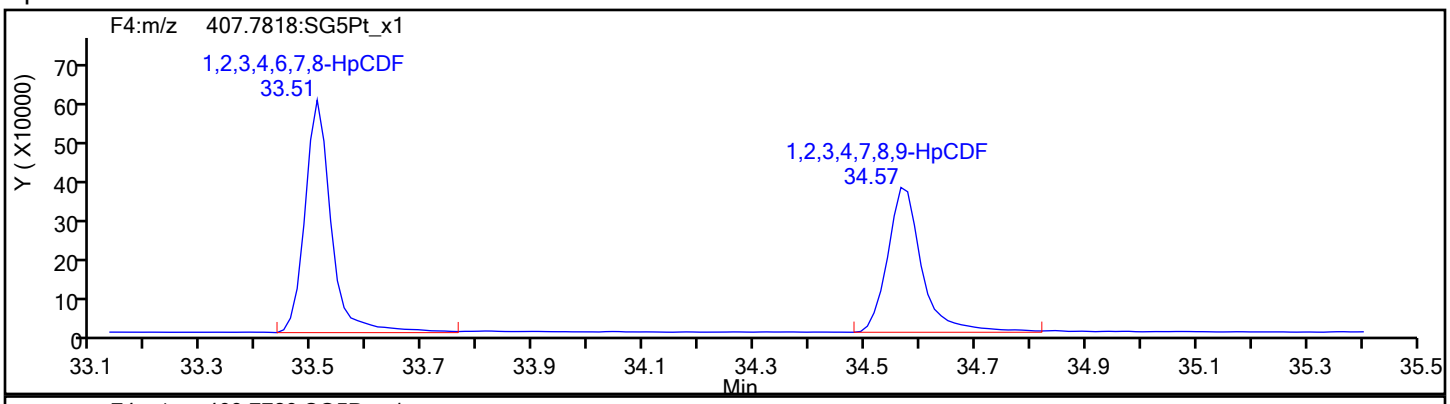

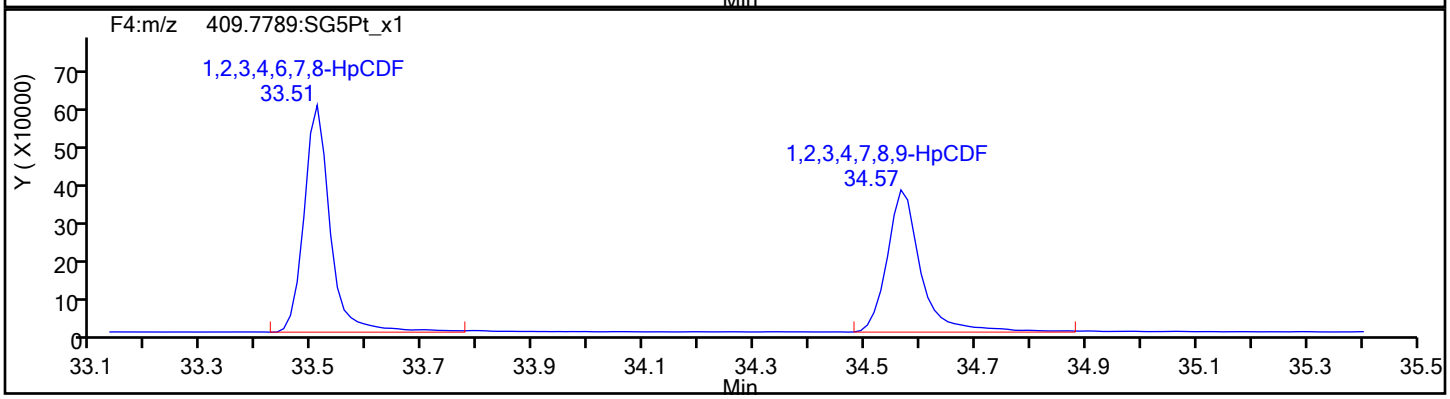

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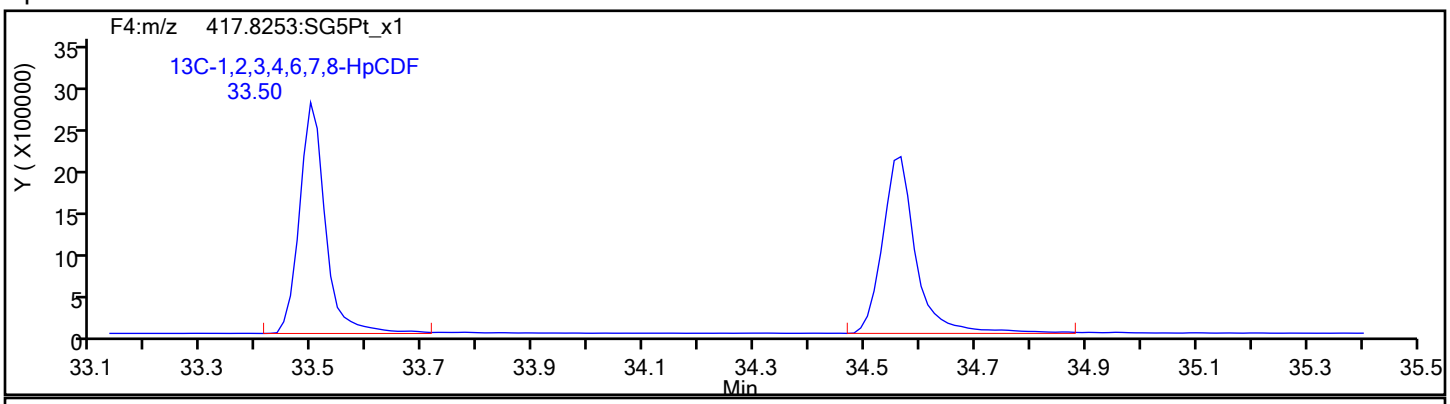

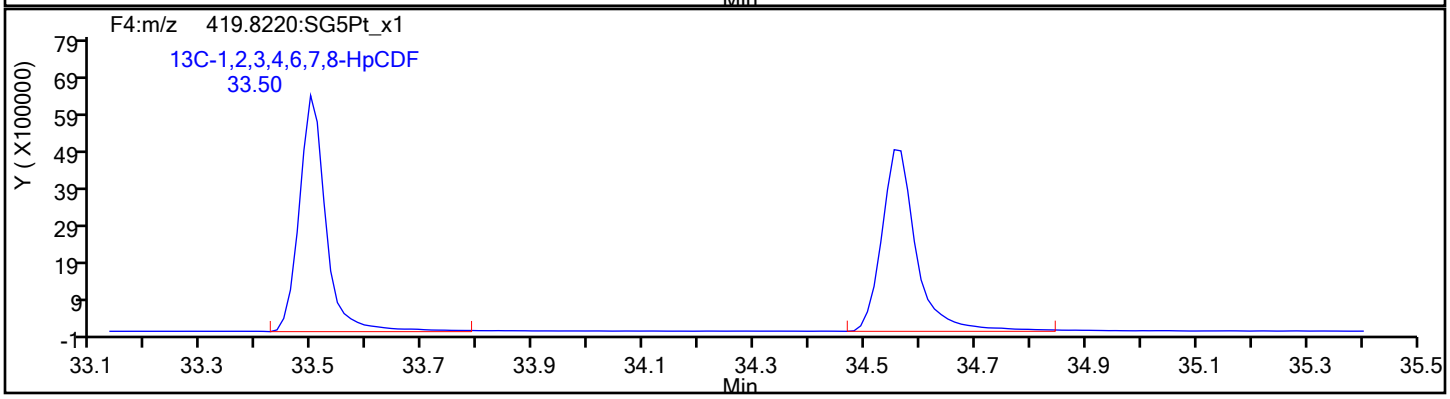

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Eurofins TestAmerica, Sacramento

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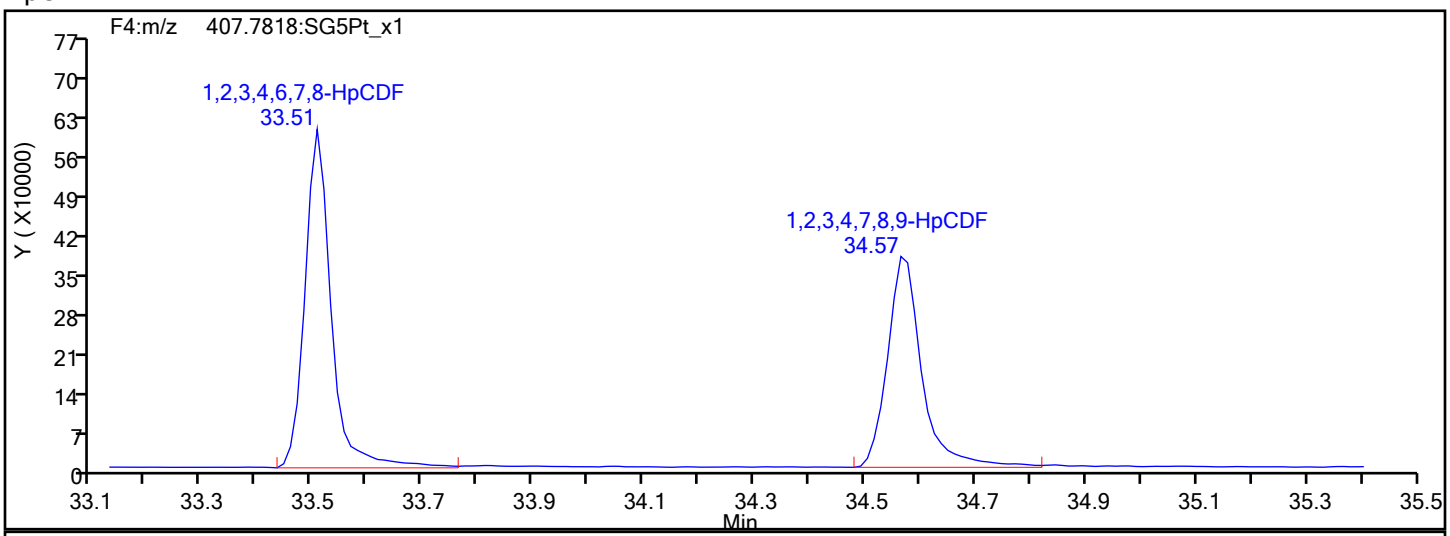

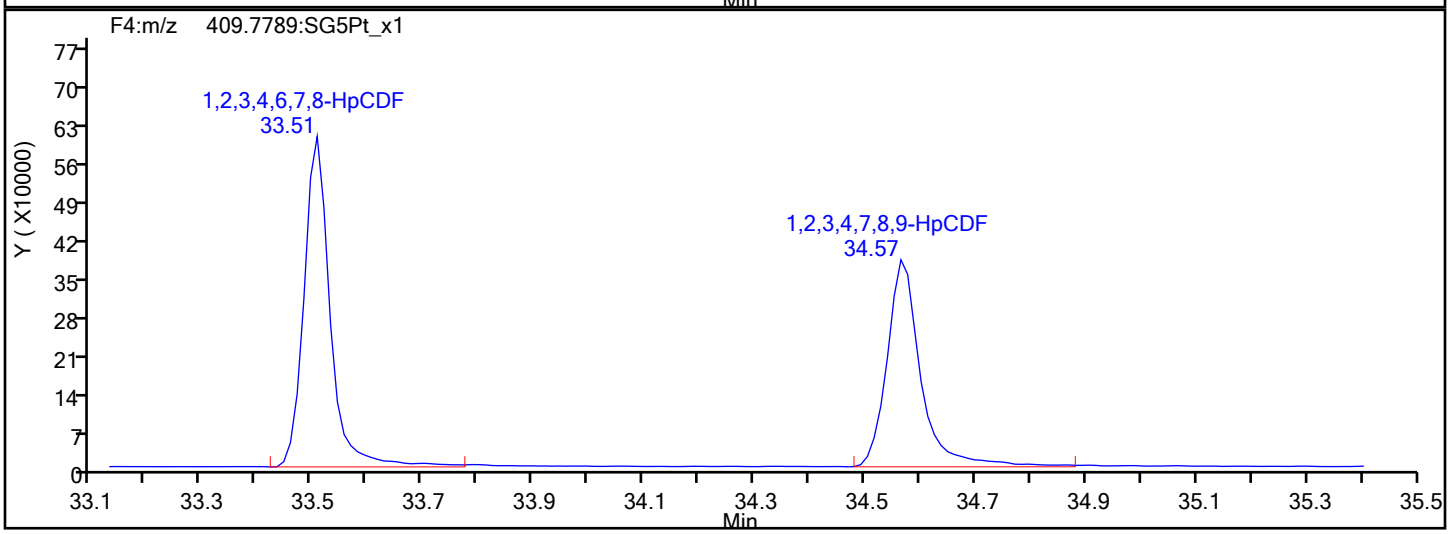

HpCDF Interference Mass

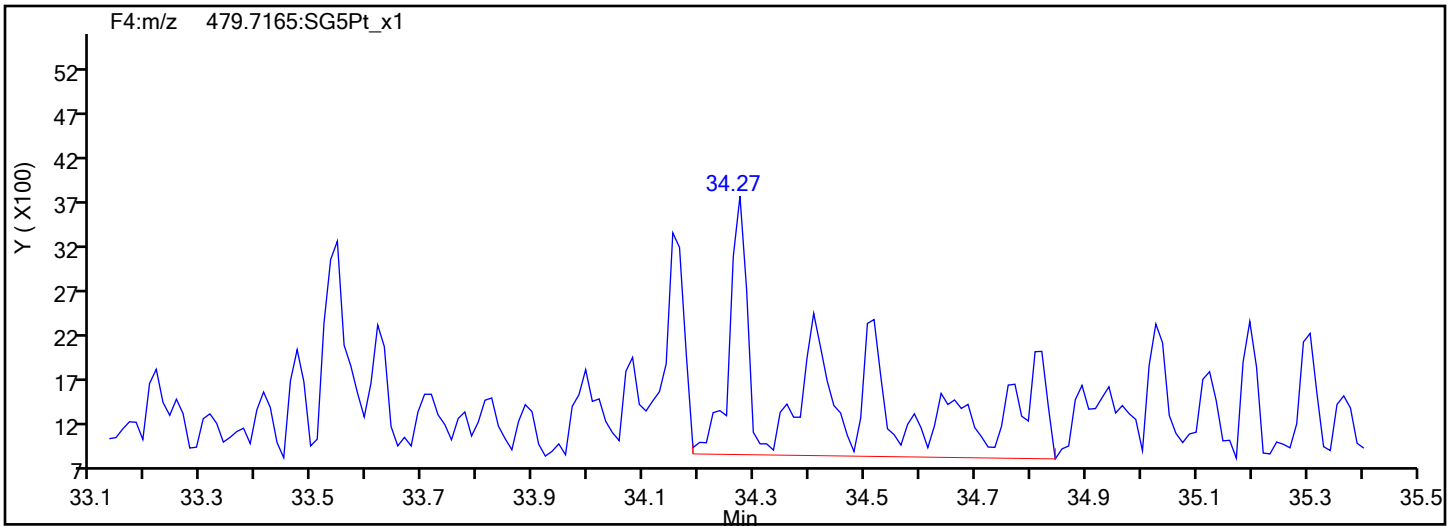

Report Date: 30-Jan-2020 09:32:52 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_5.d		
Injection Date:	30-Jan-2020 02:35:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

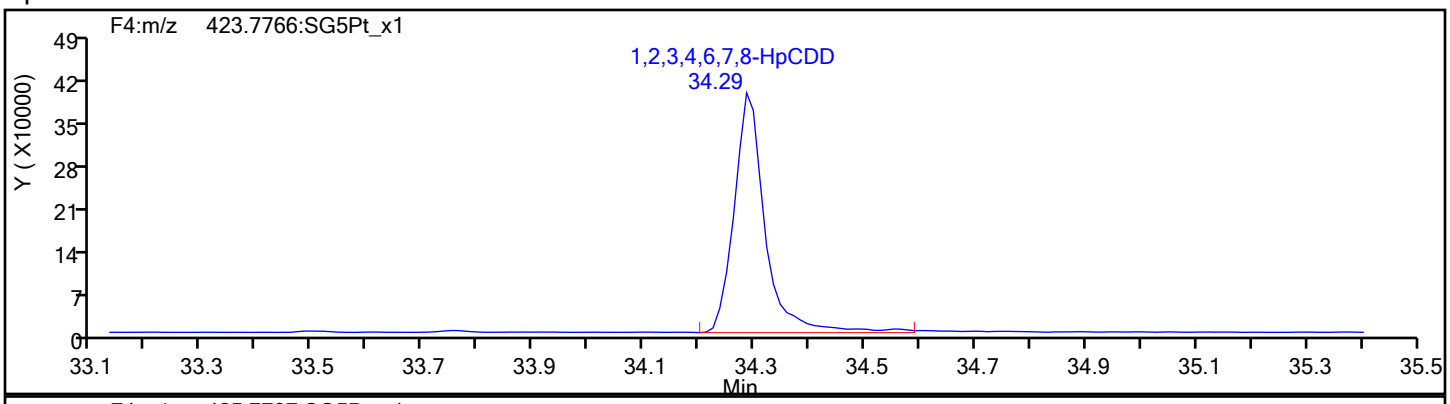

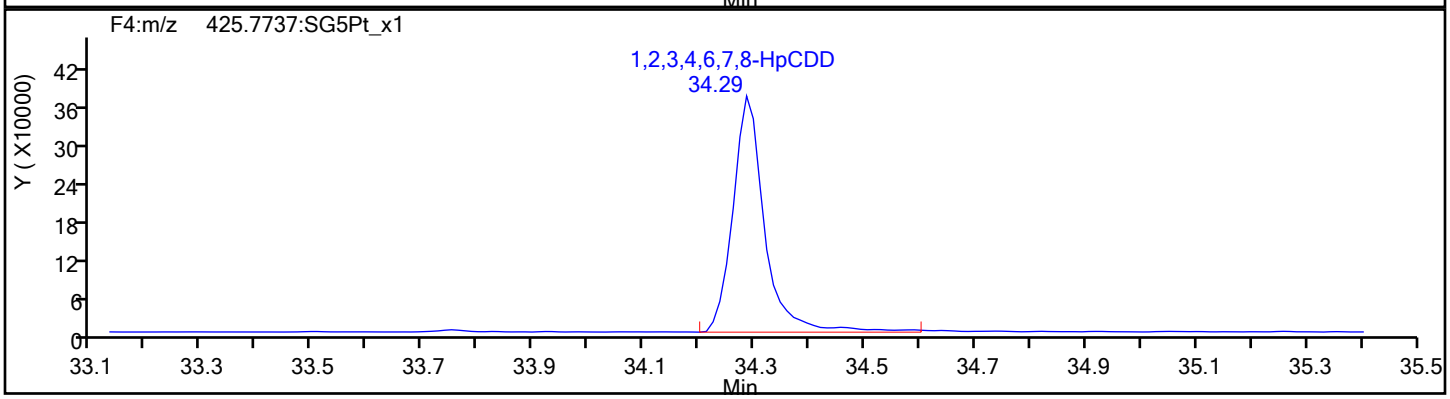

HpCDD Standards

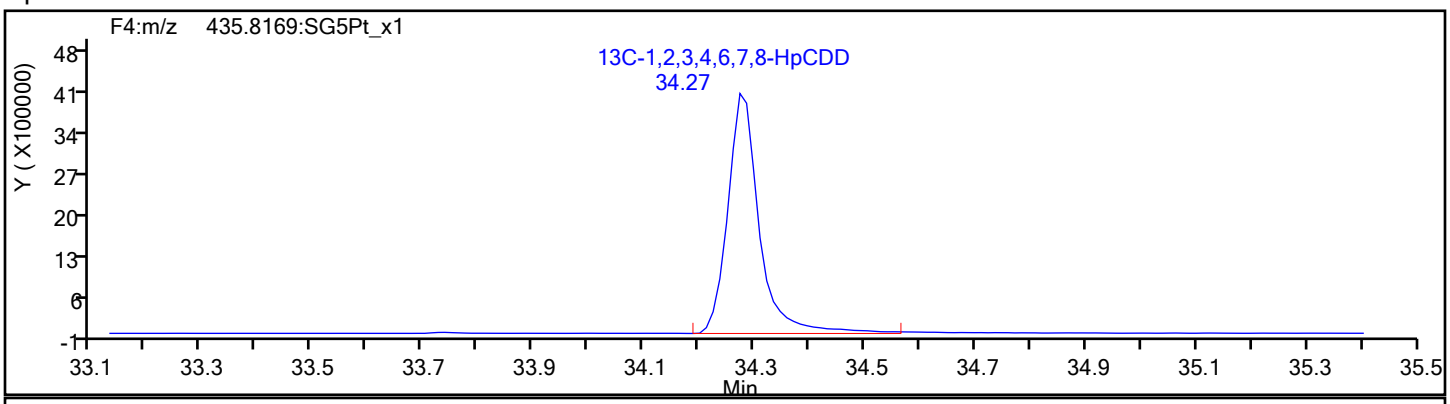

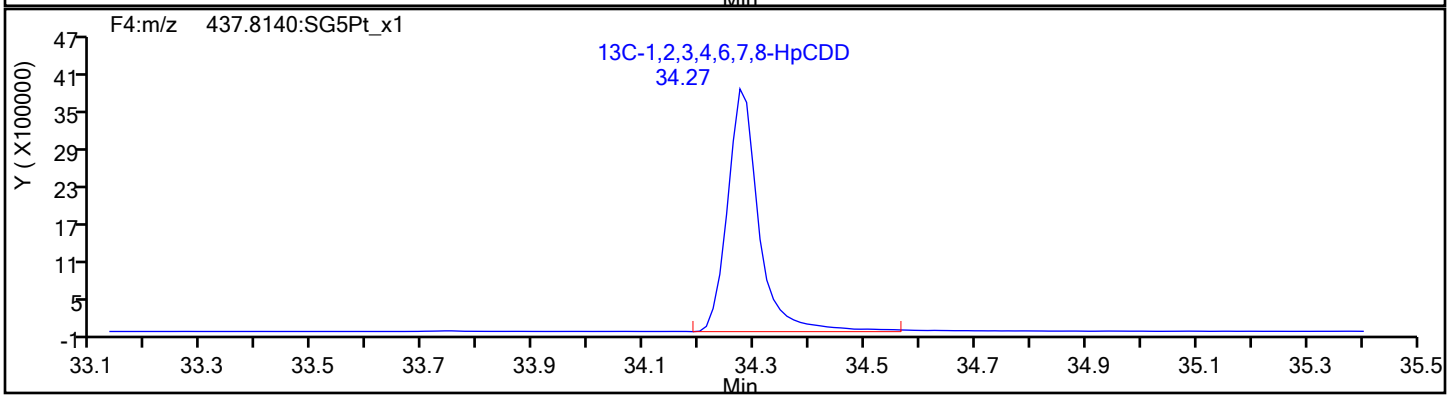

Report Date: 30-Jan-2020 09:32:52 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_5.d		
Injection Date:	30-Jan-2020 02:35:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

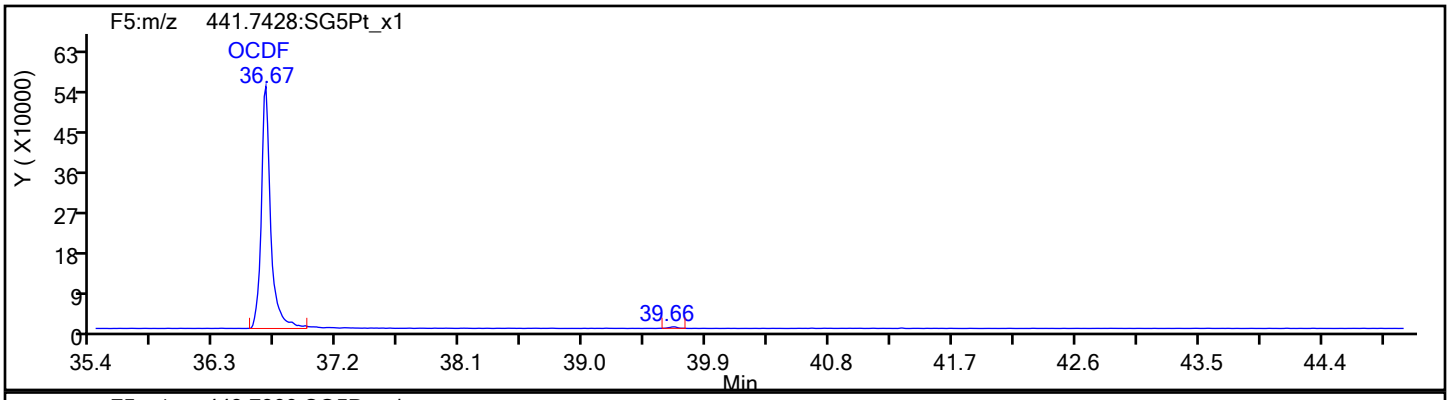

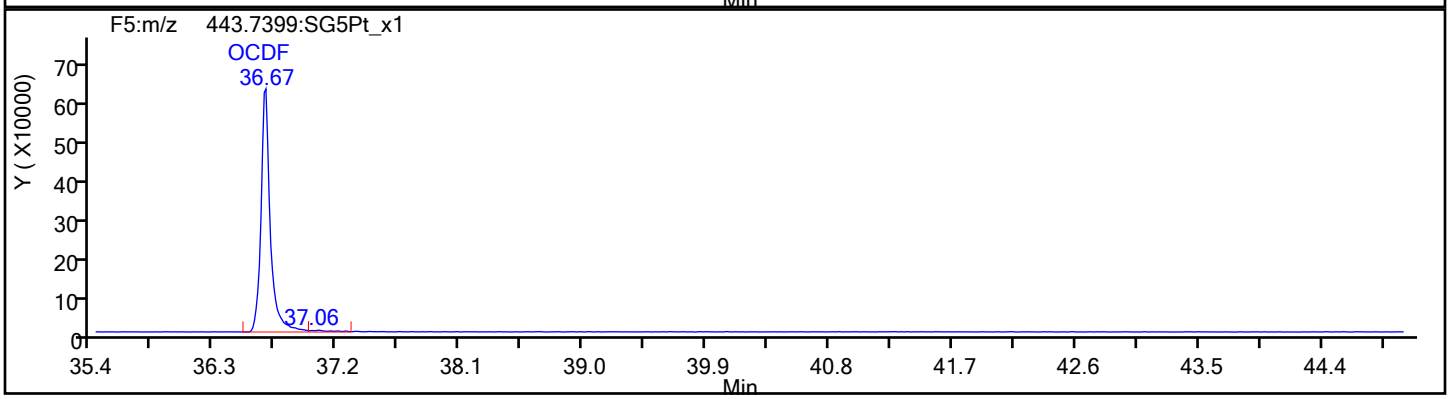

OCDF Standards

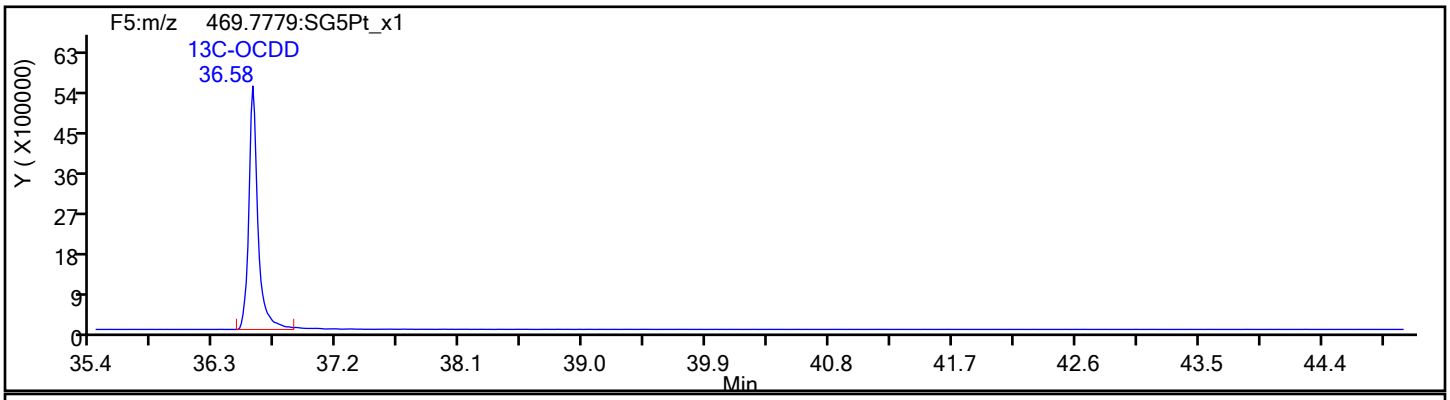

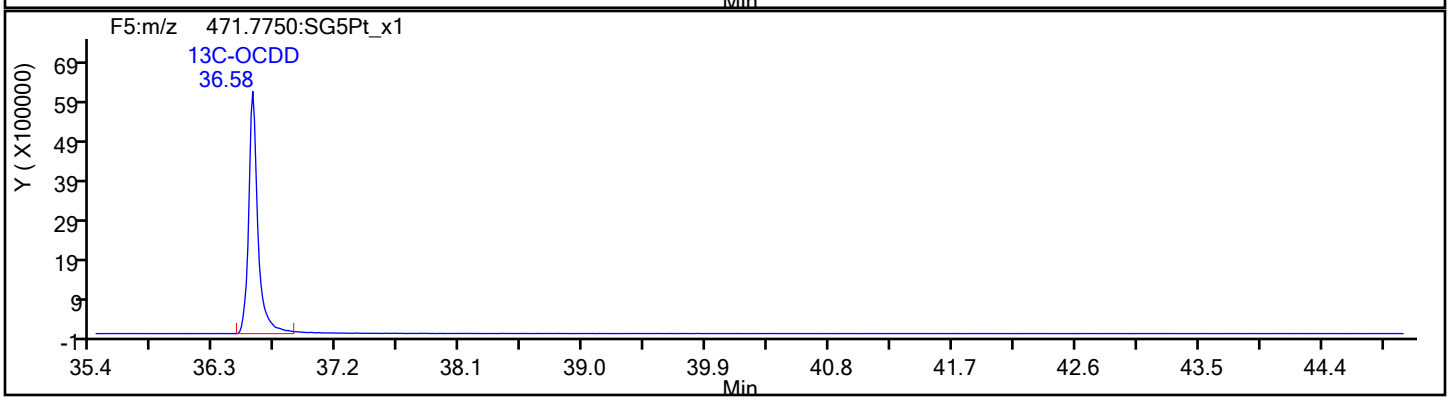

Report Date: 30-Jan-2020 09:32:52 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_5.d		
Injection Date:	30-Jan-2020 02:35:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

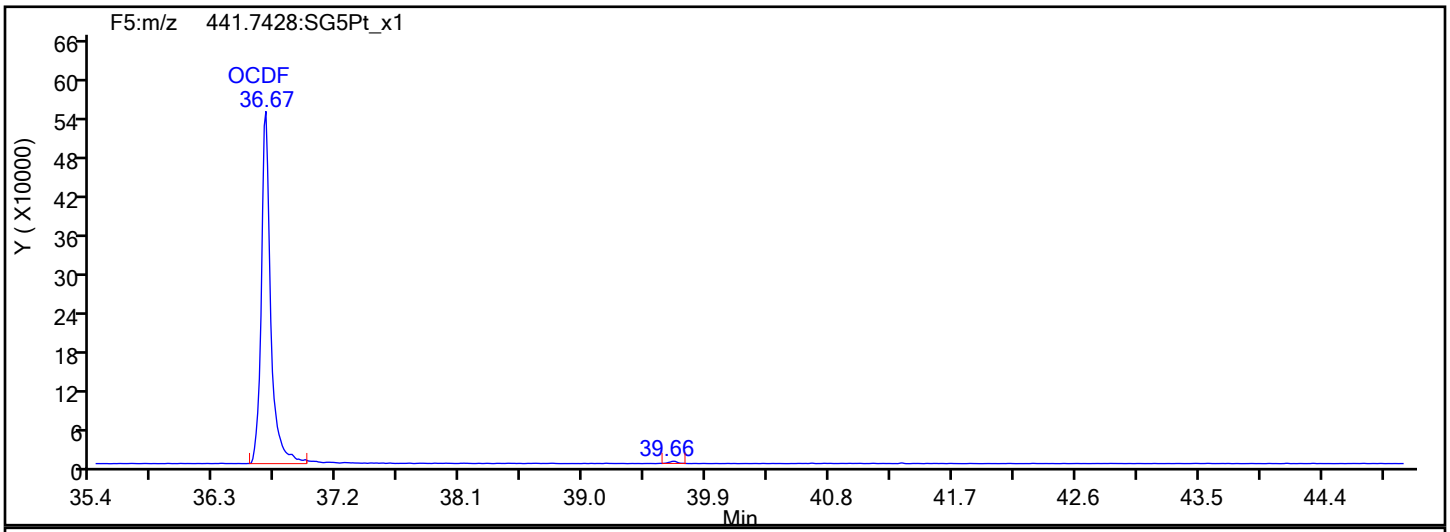

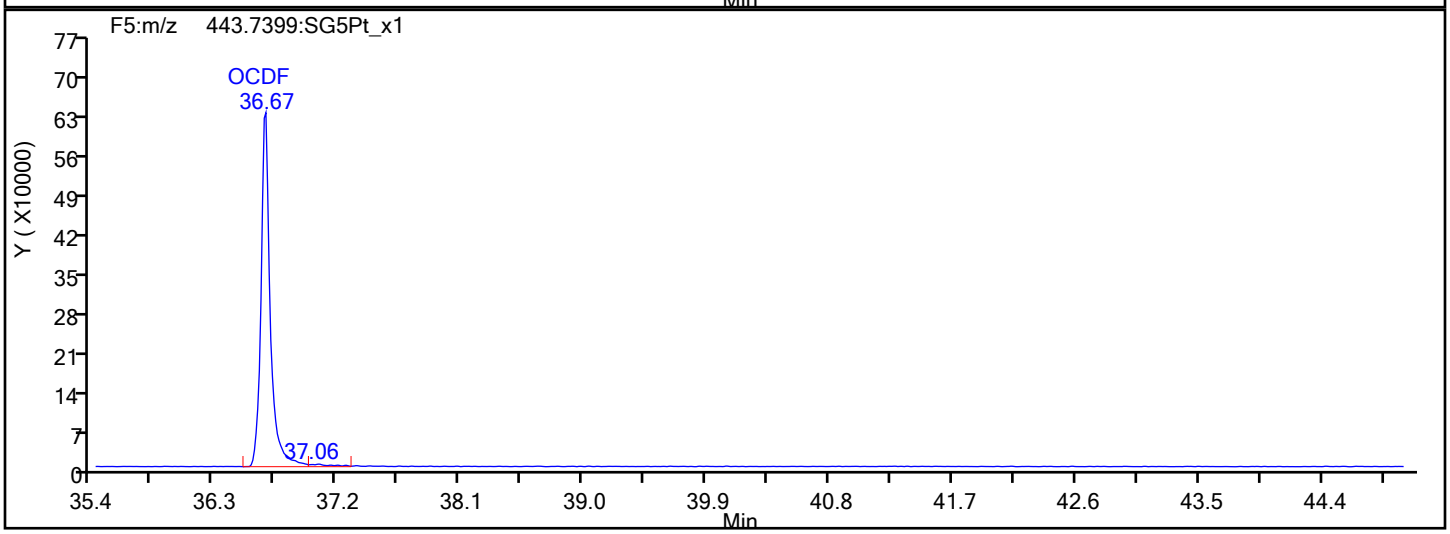

OCDF Interference Mass

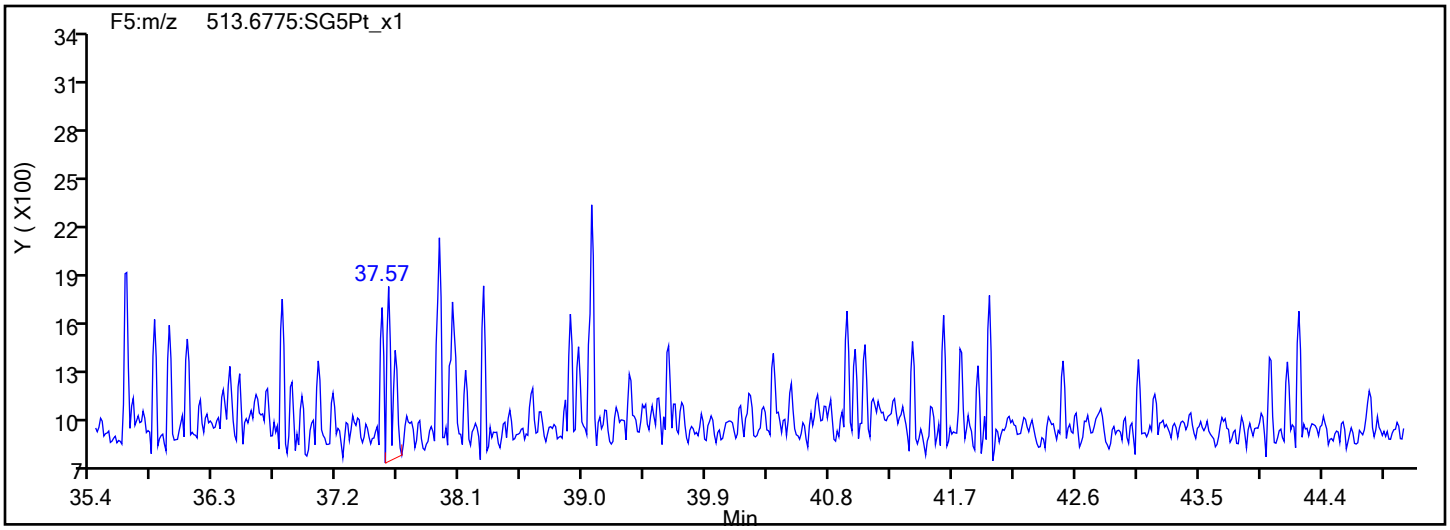

Report Date: 30-Jan-2020 09:32:52 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_5.d		
Injection Date:	30-Jan-2020 02:35:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

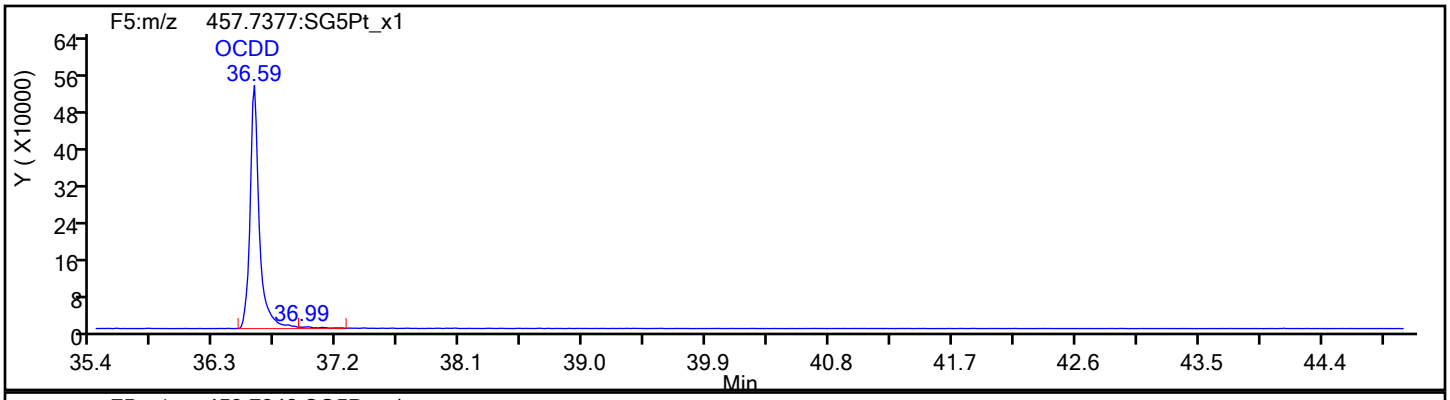

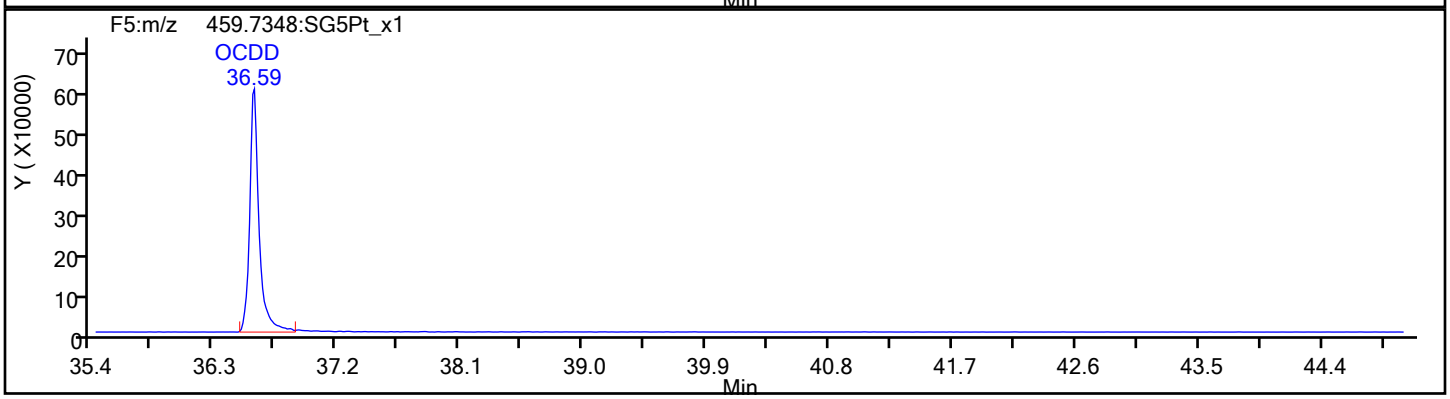

OCDD Standards

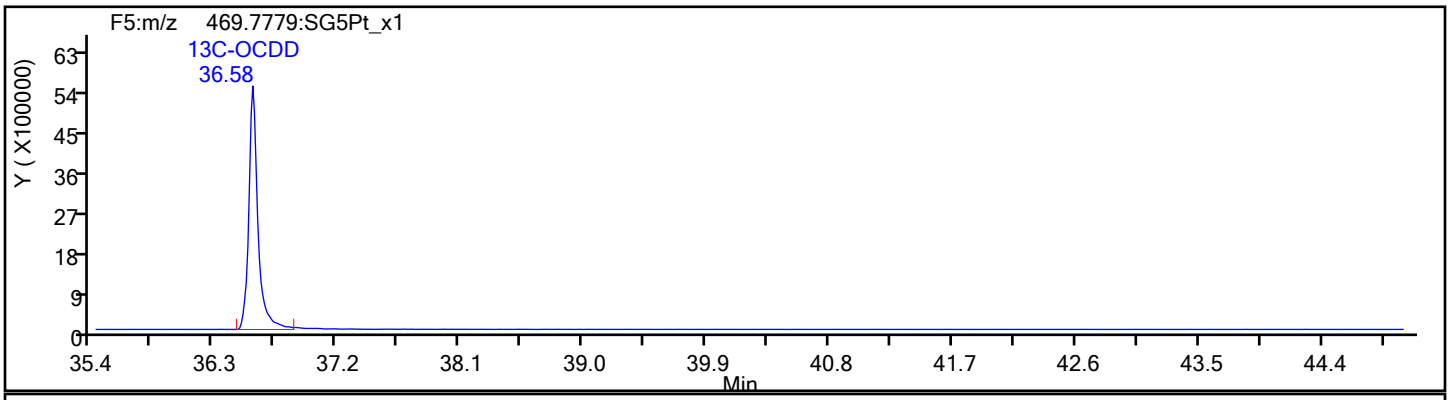

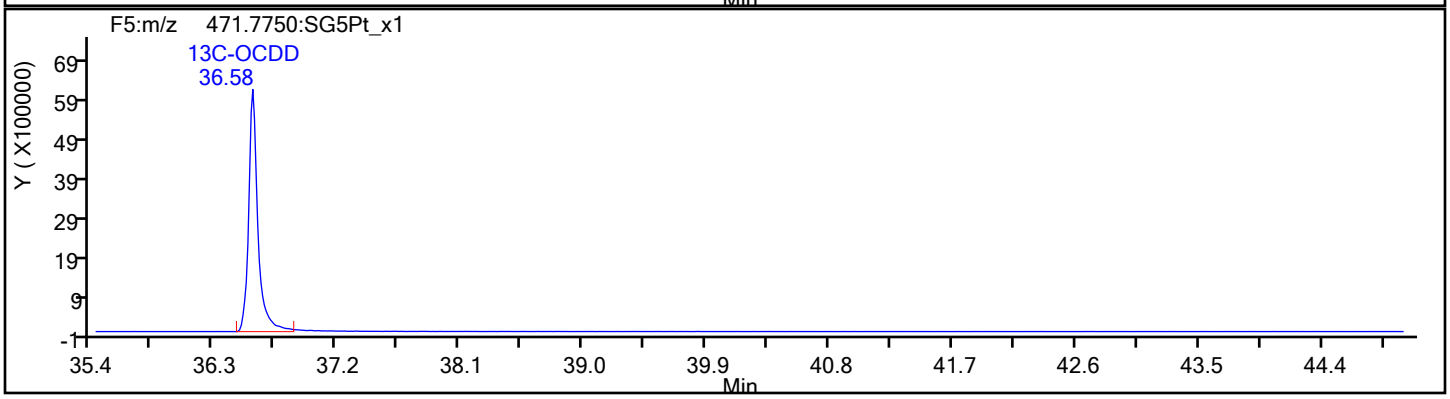

Report Date: 30-Jan-2020 09:32:52 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_5.d		
Injection Date:	30-Jan-2020 02:35:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

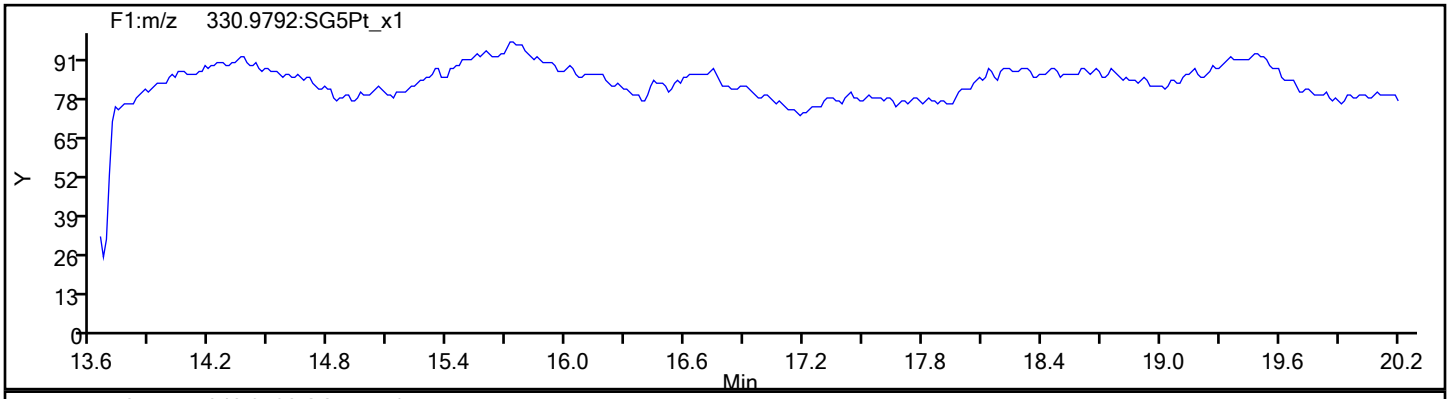

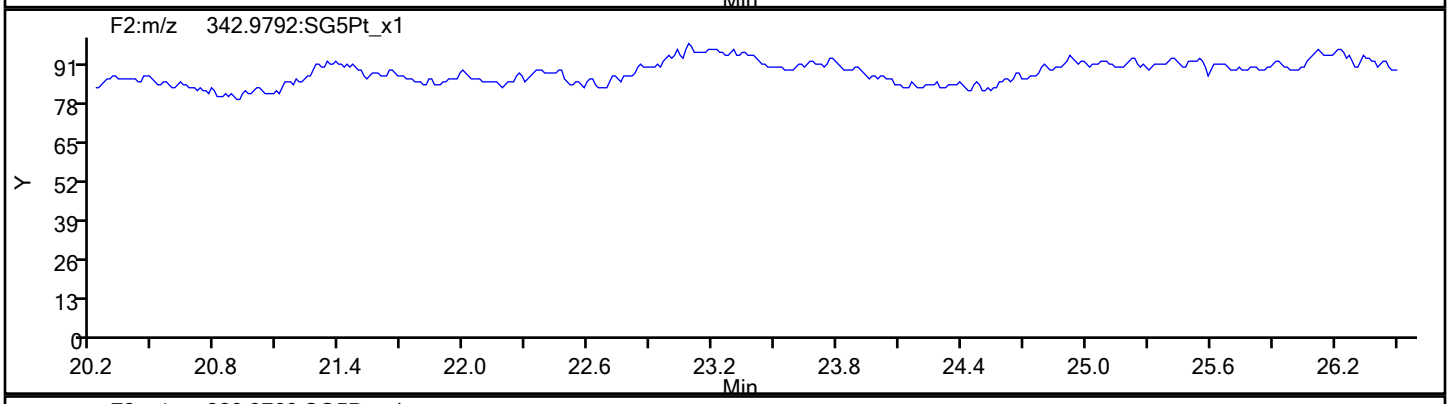

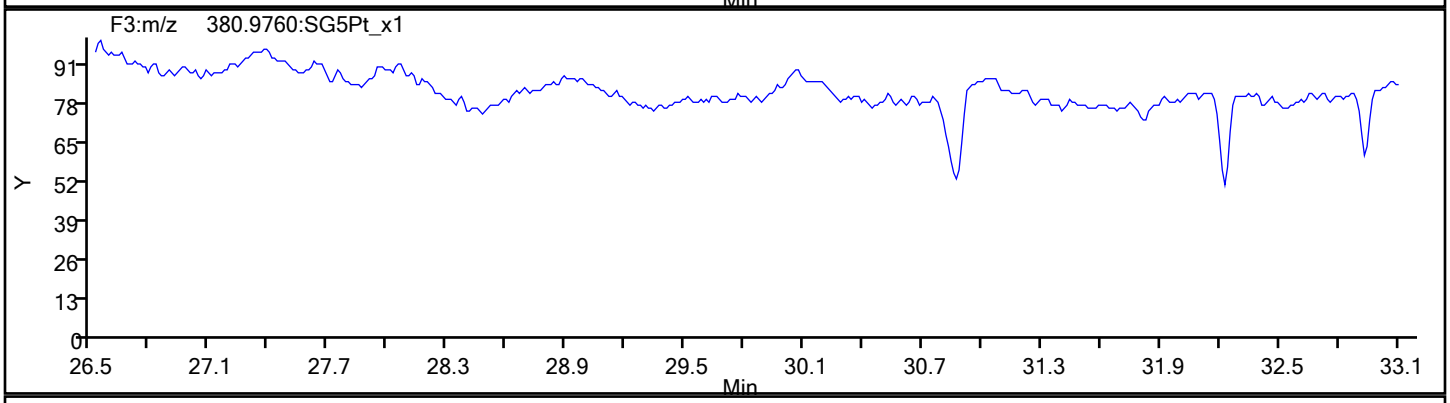

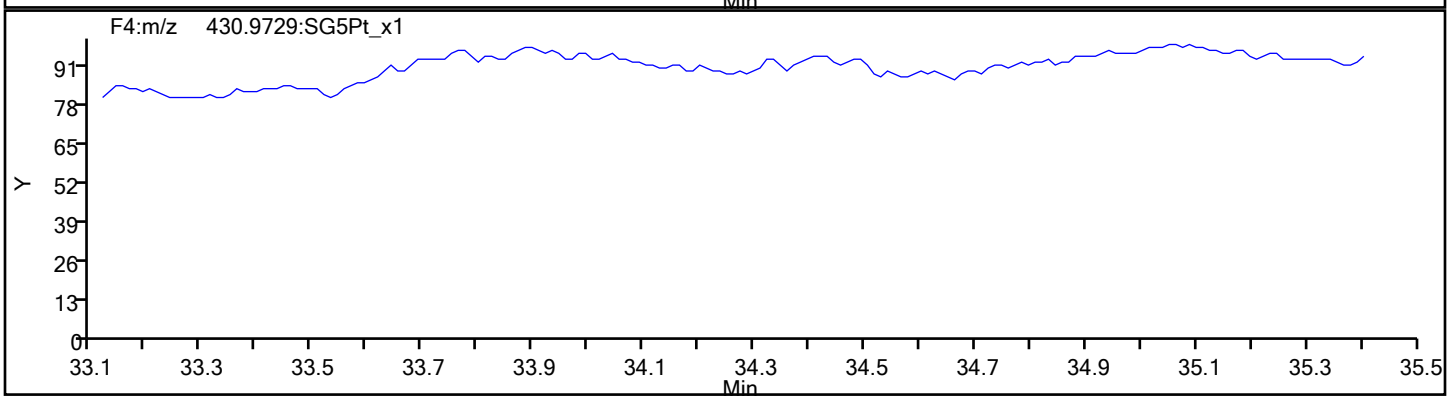

Report Date: 30-Jan-2020 09:32:52 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_5.d		
Injection Date:	30-Jan-2020 02:35:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

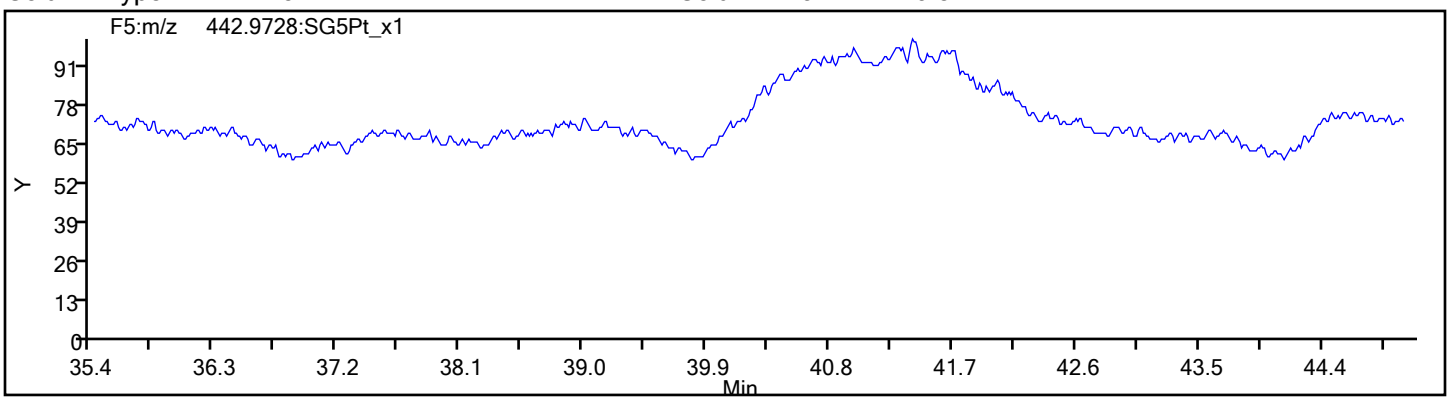

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_6.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 30-Jan-2020 03:21:09 ALS Bottle#: 2 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 012920B CS-4 HRDXNL4_00091
Misc. Info.: 29JA20B10D5
Operator ID: ALM Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 30-Jan-2020 09:33:22 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0321

First Level Reviewer: arghestanis Date: 30-Jan-2020 08:34:55

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.408	53351234	0.79	5.4E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.924	59557613	0.75	1.1275	99.0	99.0	0.2103	0.2103	99.01	
2,3,7,8-TCDF	16.939	4412445	0.74	0.7675	9.653	9.653	0.0236	0.0236	96.53	
S Total TCDF					9.653	9.653	0.0236	0.0236		
D 13C-2,3,7,8-TCDD	17.605	48457404	0.80	0.9032	100.6	100.6	0.1869	0.1869	101	
2,3,7,8-TCDD	17.620	4322280	0.75	0.9599	9.293	9.293	0.0293	0.0293	92.93	
$ 37Cl4-2,3,7,8-TCDD	17.620	5201454		0.9673	10.1	10.1	0.0177	0.0177	101	
S Total TCDD					9.293	9.293	0.0293	0.0293		
D 13C-1,2,3,7,8-PeCDF	21.746	52074542	1.54	0.9615	101.5	101.5	0.2797	0.2797	102	
1,2,3,7,8-PeCDF	21.773	23142756	1.57	0.8982	49.5	49.5	0.1852	0.1852	98.96	
D 13C-2,3,4,7,8-PeCDF	23.042	55687826	1.55	1.0393	100.4	100.4	0.2588	0.2588	100	
2,3,4,7,8-PeCDF	23.069	22625132	1.54	0.8101	50.2	50.2	0.2066	0.2066	100	
S Total PeCDF					99.6	99.6	0.1959	0.1959		
D 13C-1,2,3,7,8-PeCDD	23.737	36572632	1.63	0.6938	98.8	98.8	0.1189	0.1189	98.81	
1,2,3,7,8-PeCDD	23.764	17873504	1.58	0.9961	49.1	49.1	0.0612	0.0612	98.13	
S Total PeCDD					49.1	49.1	0.0612	0.0612		
D 13C-1,2,3,4,7,8-HxCDF	29.886	37628448	0.49	0.8543	102.9	102.9	0.3994	0.3994	103	
1,2,3,4,7,8-HxCDF	29.913	14859982	1.23	0.7916	49.9	49.9	0.3310	0.3310	99.78	
D 13C-1,2,3,6,7,8-HxCDF	30.126	36663775	0.49	0.8361	102.4	102.4	0.4081	0.4081	102	
1,2,3,6,7,8-HxCDF	30.139	15865629	1.22	0.8638	50.1	50.1	0.3102	0.3102	100	
D 13C-2,3,4,6,7,8-HxCDF	31.111	33675050	0.50	0.7773	101.2	101.2	0.4389	0.4389	101	
2,3,4,6,7,8-HxCDF	31.124	15413461	1.21	0.9010	50.8	50.8	0.2202	0.2202	102	
D 13C-1,2,3,7,8,9-HxCDF	31.989	30855181	0.49	0.7167	100.5	100.5	0.4760	0.4760	101	
1,2,3,7,8,9-HxCDF	32.016	14071460	1.23	0.9127	50.0	50.0	0.2195	0.2195	99.94	
S Total HxCDF					200.8	200.8	0.2702	0.2702		
* 13C-1,2,3,7,8,9-HxCDD	31.803	42826940	1.23	4.4E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.323	34173011	1.23	0.8050	99.1	99.1	0.2518	0.2518	99.12	
1,2,3,4,7,8-HxCDD	31.337	14484522	1.30	0.8392	50.5	50.5	0.1238	0.1238	101	
D 13C-1,2,3,6,7,8-HxCDD	31.443	36971045	1.23	0.8269	104.4	104.4	0.2451	0.2451	104	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.457	15933295	1.16	0.8876	48.6	48.6	0.1236	0.1236	97.11	
1,2,3,7,8,9-HxCDD	31.816	16827816	1.23	0.9567	49.4	49.4	0.1115	0.1115	98.90	
S Total HxCDD					148.5	148.5	0.1196	0.1196		
D 13C-1,2,3,4,6,7,8-HpCDF	33.496	30722755	0.41	0.7080	101.3	101.3	1.073	1.073	101	
1,2,3,4,6,7,8-HpCDF	33.508	20564477	1.02	1.3375	50.0	50.0	0.3849	0.3849	100	
D 13C-1,2,3,4,7,8,9-HpCDF	34.565	32082286	0.42	0.7451	100.5	100.5	1.019	1.019	101	
1,2,3,4,7,8,9-HpCDF	34.577	17140374	1.01	1.0744	49.7	49.7	0.5511	0.5511	99.45	
S Total HpCDF					99.8	99.8	0.4680	0.4680		
D 13C-1,2,3,4,6,7,8-HpCDD	34.286	32767179	1.04	0.7473	102.4	102.4	0.5519	0.5519	102	
1,2,3,4,6,7,8-HpCDD	34.286	15823457	1.05	0.9811	49.2	49.2	0.1978	0.1978	98.44	
S Total HpCDD					49.2	49.2	0.1978	0.1978		
D 13C-OCDD	36.578	57273958	0.90	0.6622	202.0	202.0	0.1386	0.1386	101	
OCDF	36.674	30007451	0.91	1.0659	98.3	98.3	0.0653	0.0653	98.31	
OCDD	36.590	27951151	0.87	0.9937	98.2	98.2	0.0660	0.0660	98.22	

Reagents:

HRDXNL4_00091 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_6.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 30-Jan-2020 03:21:09 ALS Bottle#: 2 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 012920B CS-4 HRDXNL4_00091
Misc. Info.: 29JA20B10D5
Operator ID: ALM Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 30-Jan-2020 09:33:22 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0321

First Level Reviewer: arghestanis Date: 30-Jan-2020 08:34:55

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.408	17.411	0		23599069	6122390	4806	12015	1274		
333.9339	17.408	17.411	0		29752165	7689677	4522	11305	1701	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.924	16.924	0	0.972	25571283	6324987	7769	19422	814		
317.9389	16.924	16.924	0	0.972	33986330	8351786	5334	13335	1566	0.75(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.939	16.939	0	1.001	1877075	462049	427	1067	1082		
305.8987	16.939	16.939	0	1.001	2535370	633100	637	1592	994	0.74(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.605	17.605	0	1.011	21480126	5116000	4806	12015	1065		
333.9339	17.605	17.605	0	1.011	26977278	6408114	4522	11305	1417	0.80(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.620	17.623	0	1.001	1859069	444264	795	1987	559		
321.8936	17.620	17.623	0	1.001	2463211	595779	502	1255	1187	0.75(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.620	17.623	0	1.012	5201454	1274725	947	2367	1346		
13C-1,2,3,7,8-PeCDF											
351.9000	21.746	21.749	0	1.249	31537475	5677588	8884	22210	639		
353.8970	21.746	21.749	0	1.249	20537067	3631933	5976	14940	608	1.54(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.773	21.773	0	1.001	14128784	2546210	3664	9160	695		
341.8567	21.773	21.773	0	1.001	9013972	1632968	2529	6322	646	1.57(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	23.042	23.042	0	1.324	33838704	5678255	8884	22210	639		
353.8970	23.042	23.042	0	1.324	21849122	3571610	5976	14940	598	1.55(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.069	23.066	0	1.001	13708955	2273470	3664	9160	620		
341.8567	23.069	23.066	0	1.001	8916177	1482970	2529	6322	586	1.54(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.737	23.737	0	1.364	22654391	3585856	2439	6097	1470		
369.8919	23.737	23.737	0	1.364	13918241	2179104	2119	5297	1028	1.63(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.764	23.761	0	1.001	10957619	1707867	855	2137	1998		
357.8516	23.764	23.761	0	1.001	6915885	1091327	552	1380	1977	1.58(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.886	29.878	0	0.940	12398537	1747914	4365	10912	400		
385.8610	29.886	29.878	0	0.940	25229911	3590998	8979	22447	400	0.49(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.913	29.905	0	1.001	8186127	1166750	3042	7605	384		
375.8178	29.899	29.905	0	1.000	6673855	947407	2553	6382	371	1.23(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.126	30.118	0	0.947	12129406	1733164	4365	10912	397		
385.8610	30.112	30.118	0	0.947	24534369	3486443	8979	22447	388	0.49(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.139	30.142	0	1.000	8708420	1261383	3042	7605	415		
375.8178	30.139	30.142	0	1.000	7157209	1061549	2553	6382	416	1.22(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.111	31.108	0	0.978	11167338	2335692	4365	10912	535		
385.8610	31.111	31.108	0	0.978	22507712	4713102	8979	22447	525	0.50(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.124	31.124	0	1.000	8449652	1799415	3042	7605	592		
375.8178	31.124	31.124	0	1.000	6963809	1479143	2553	6382	579	1.21(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.989	31.992	0	1.006	10099908	2315583	4365	10912	530		
385.8610	31.989	31.992	0	1.006	20755273	4666258	8979	22447	520	0.49(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.016	32.008	0	1.001	7752780	1759788	3042	7605	578		
375.8178	32.016	32.008	0	1.001	6318680	1431477	2553	6382	561	1.23(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.803	31.803	0		23597519	5387630	4148	10370	1299		
403.8529	31.803	31.803	0		19229421	4390432	3779	9447	1162	1.23(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.323	31.324	0	0.985	18845567	4572137	4148	10370	1102		
403.8529	31.323	31.324	0	0.985	15327444	3704938	3779	9447	980	1.23(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.337	31.337	0	1.000	8180505	1843343	1769	4422	1042		
391.8127	31.337	31.337	0	1.000	6304017	1519960	1670	4175	910	1.30(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.443	31.441	0	0.989	20421208	4338217	4148	10370	1046		
403.8529	31.443	31.441	0	0.989	16549837	3498619	3779	9447	926	1.23(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.457	31.457	0	1.000	8559564	1906237	1769	4422	1078		
391.8127	31.457	31.457	0	1.000	7373731	1566300	1670	4175	938	1.16(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.816	31.816	0	1.016	9269945	2124161	1769	4422	1201		
391.8127	31.816	31.816	0	1.016	7557871	1734061	1670	4175	1038	1.23(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.496	33.499	0	1.053	8989535	2753088	8364	20910	329		
419.8220	33.496	33.499	0	1.053	21733220	6537495	21342	53355	306	0.41(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.508	33.511	0	1.000	10407210	3147831	9353	23382	337		
409.7789	33.508	33.511	0	1.000	10157267	3108108	9779	24447	318	1.02(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.565	34.563	0	1.087	9504578	2429323	8364	20910	290		
419.8220	34.565	34.563	0	1.087	22577708	5648629	21342	53355	265	0.42(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.577	34.570	0	1.000	8619804	2130515	9353	23382	228		
409.7789	34.565	34.570	0	1.000	8520570	2126779	9779	24447	217	1.01(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.286	34.279	0	1.078	16715196	4383034	7981	19952	549		
437.8140	34.274	34.279	0	1.078	16051983	4186723	8152	20380	514	1.04(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.286	34.288	0	1.000	8116406	2152424	3896	9740	552		
425.7737	34.286	34.288	0	1.000	7707051	2091728	2757	6892	759	1.05(0.88-1.20)	
13C-OCDD											
469.7779	36.578	36.578	0	1.150	27092275	6064466	2106	5265	2880		
471.7750	36.578	36.578	0	1.150	30181683	6783939	1485	3712	4568	0.90(0.76-1.02)	
OCDF											
441.7428	36.674	36.674	0	1.003	14280892	3278788	860	2150	3813		
443.7399	36.674	36.674	0	1.003	15726559	3569375	928	2320	3846	0.91(0.76-1.02)	
OCDD											
457.7377	36.590	36.590	0	1.000	13022455	2936296	800	2000	3670		
459.7348	36.590	36.590	0	1.000	14928696	3334403	886	2215	3763	0.87(0.76-1.02)	

Reagents:

HRDXNL4_00091 Amount Added: 2.00 Units: uL

Report Date: 30-Jan-2020 09:33:45 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_6.d		
Injection Date:	30-Jan-2020 03:21:09	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

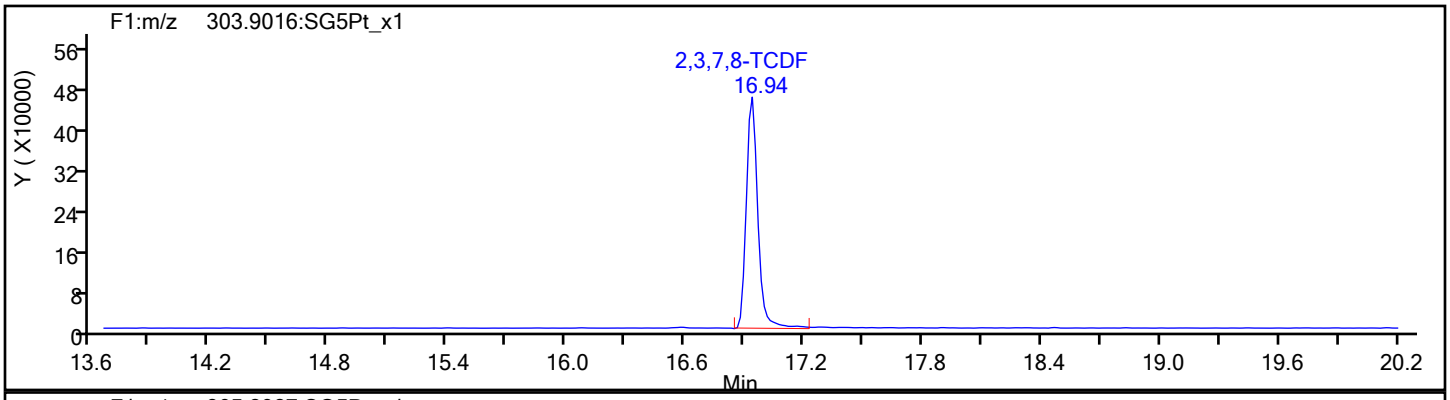

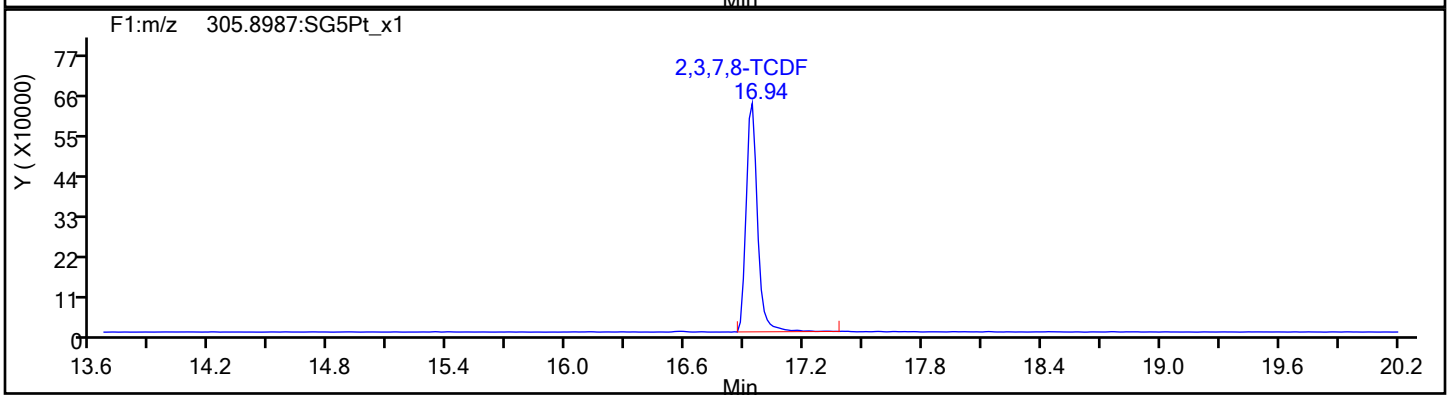

TCDF Standards

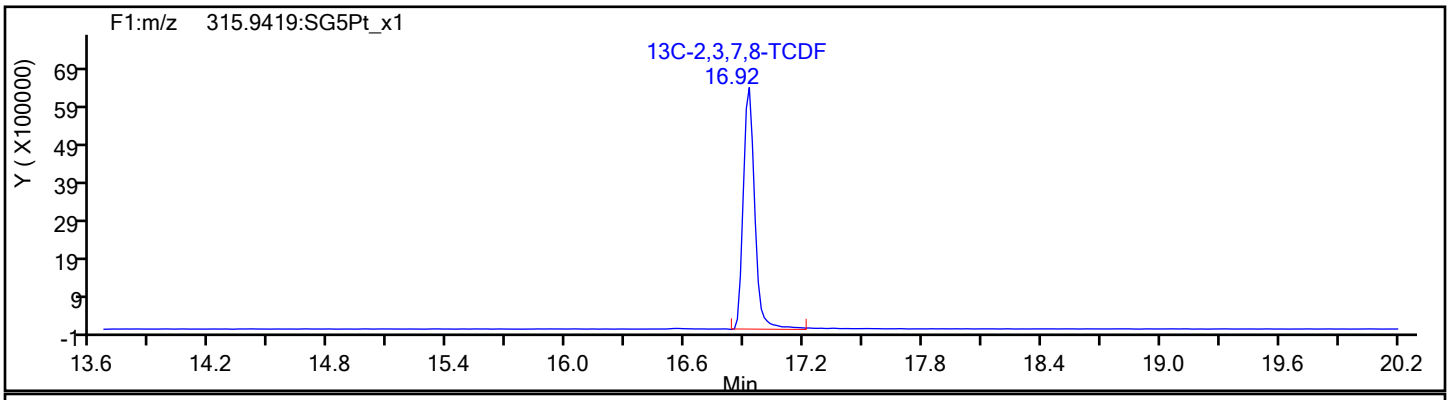

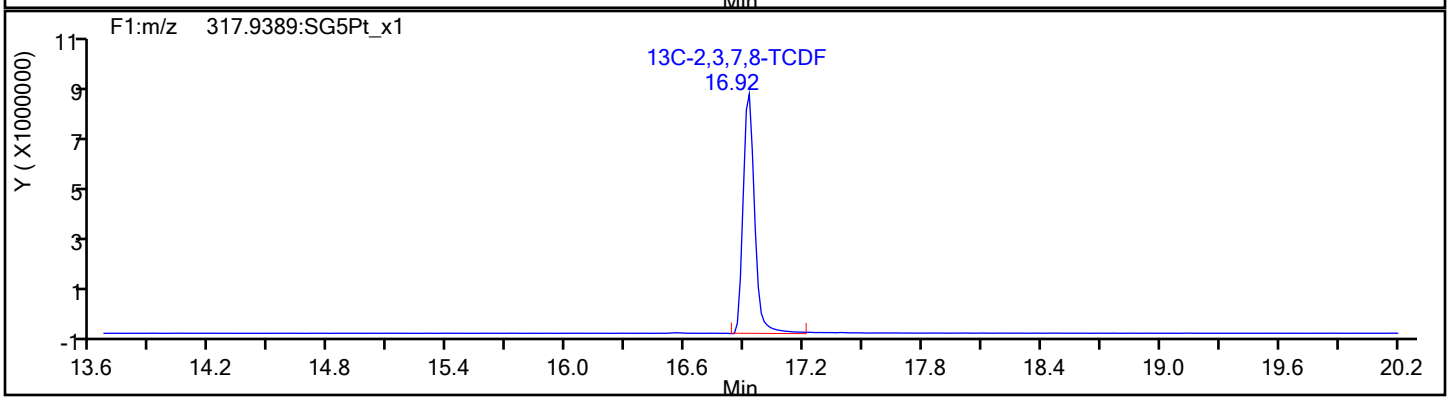

Report Date: 30-Jan-2020 09:33:45 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

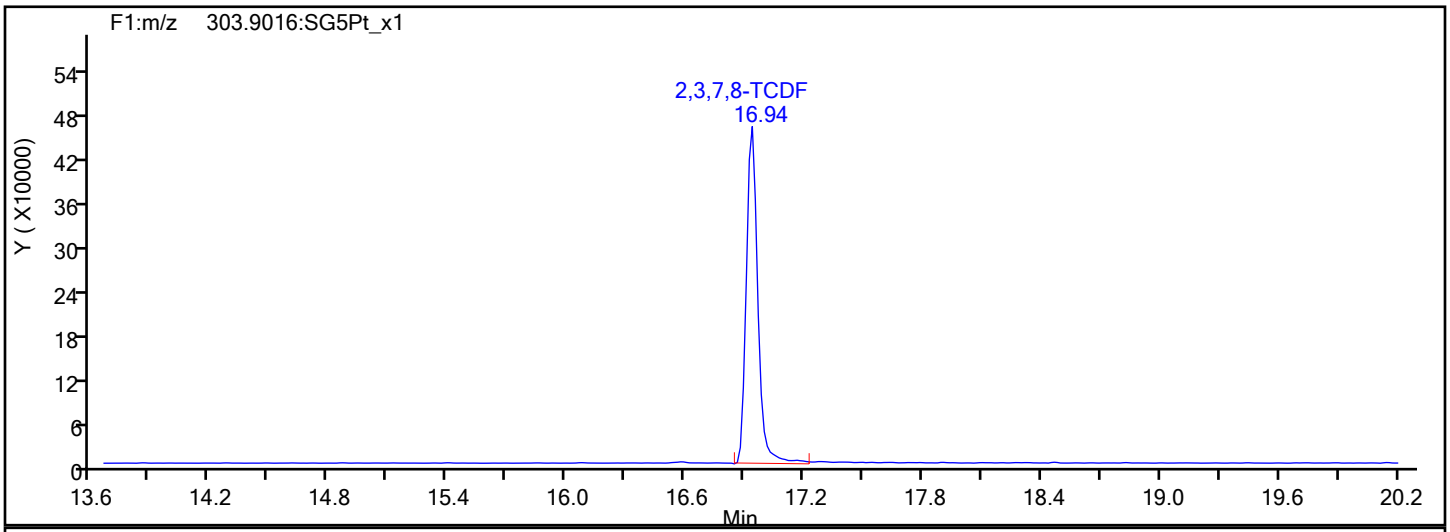

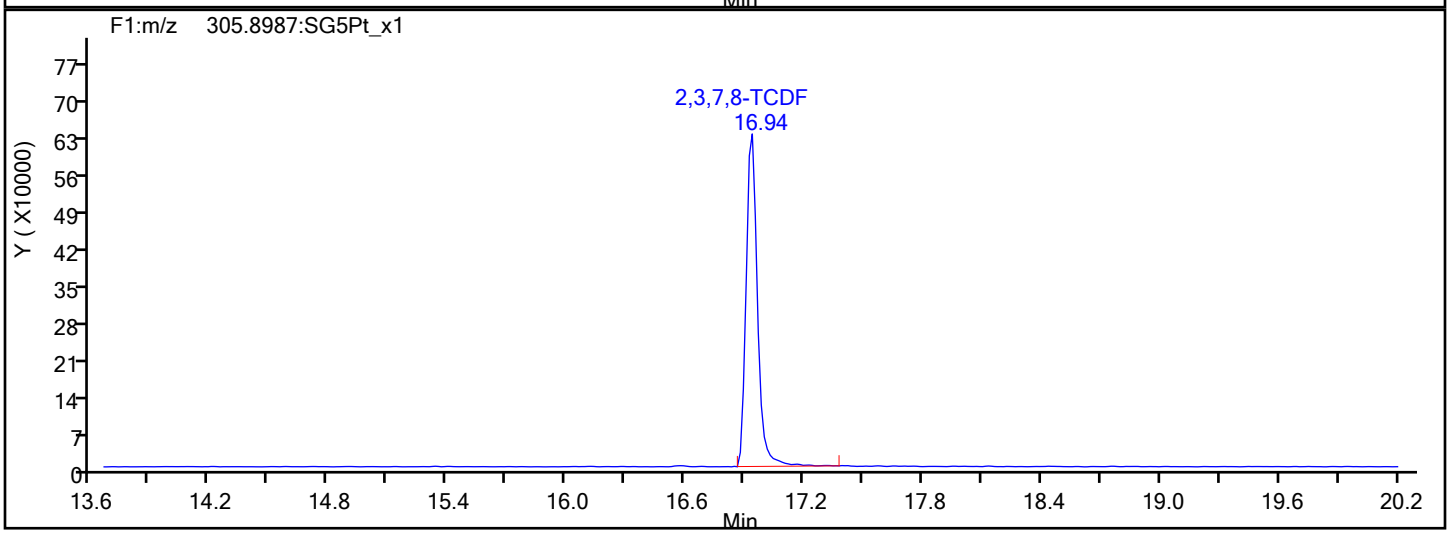

TCDF Interference Mass

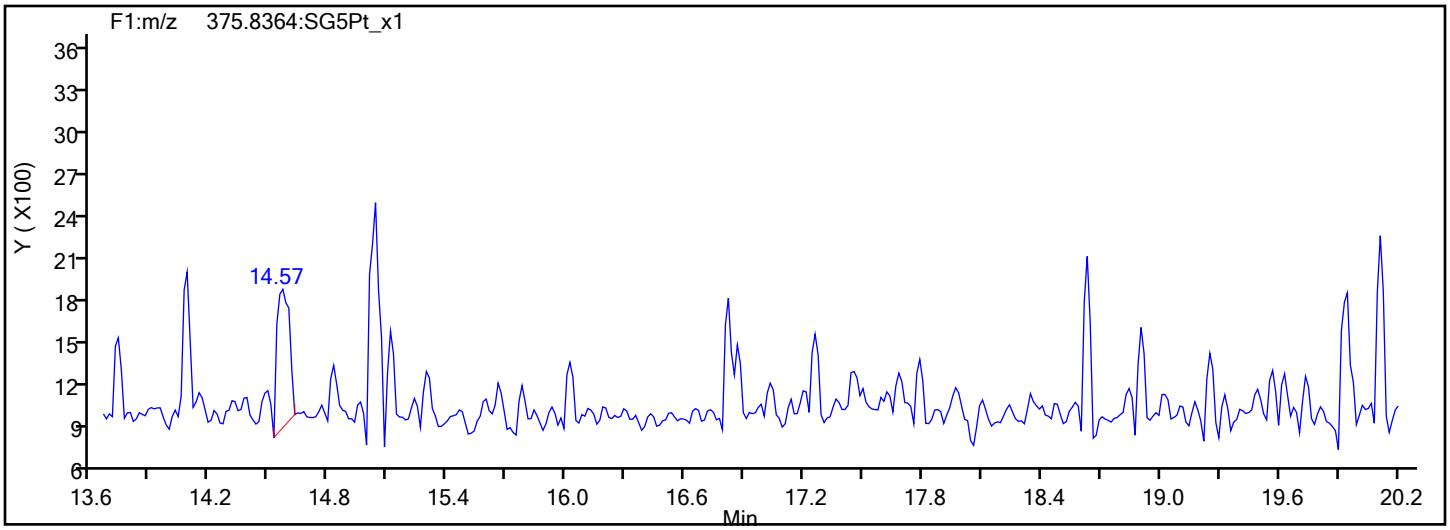

Report Date: 30-Jan-2020 09:33:45 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

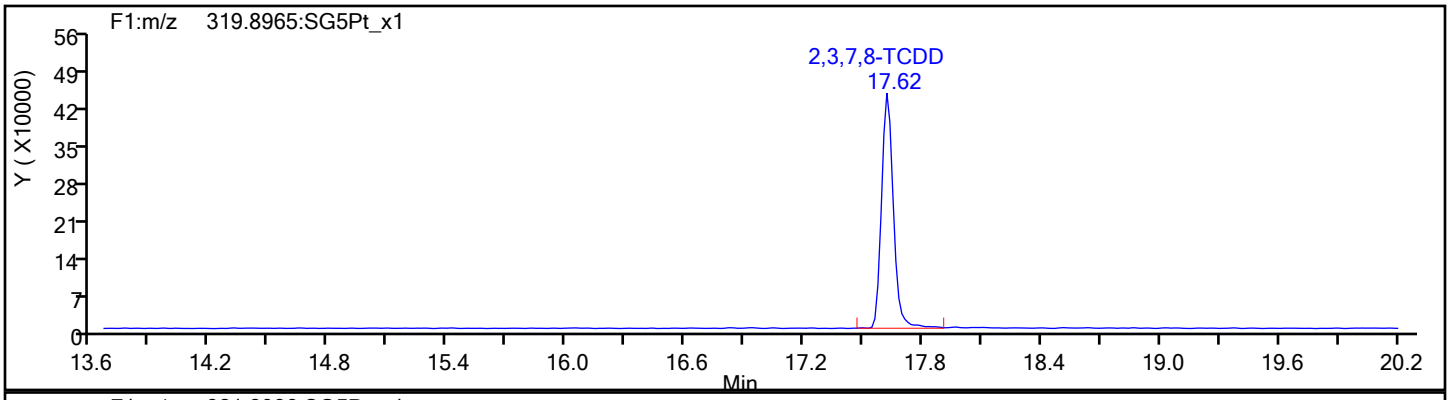

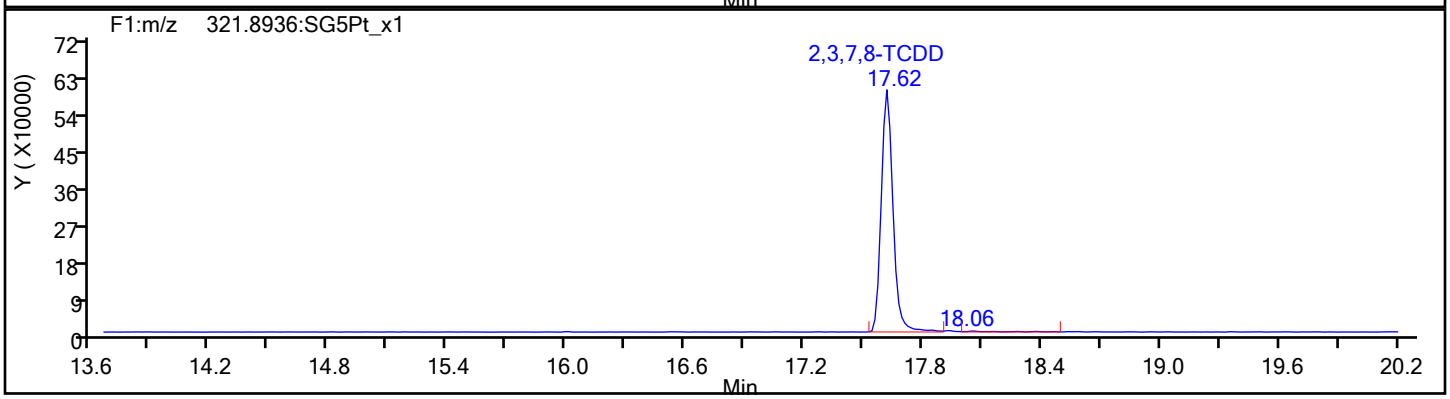

TCDD Standards

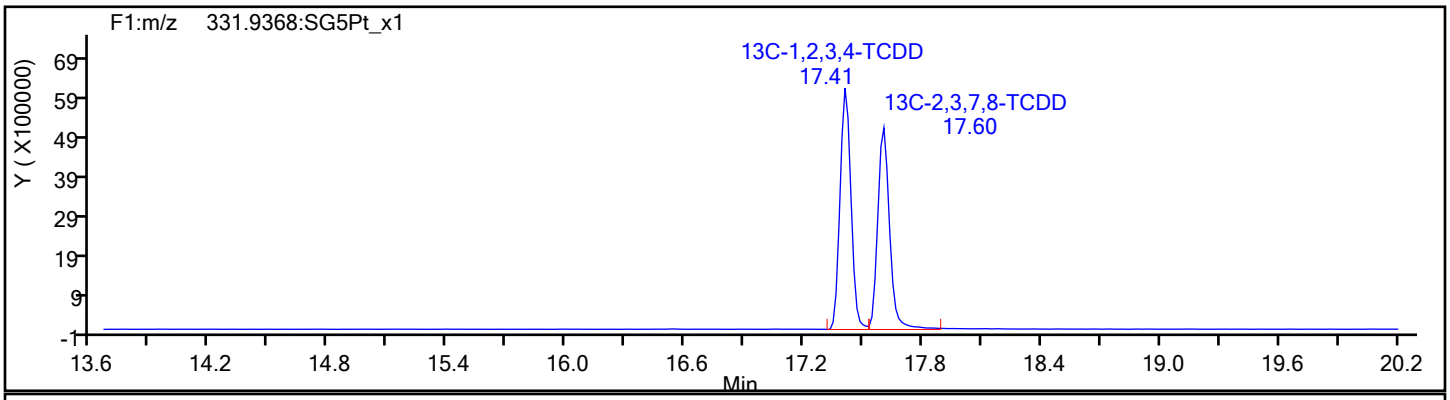

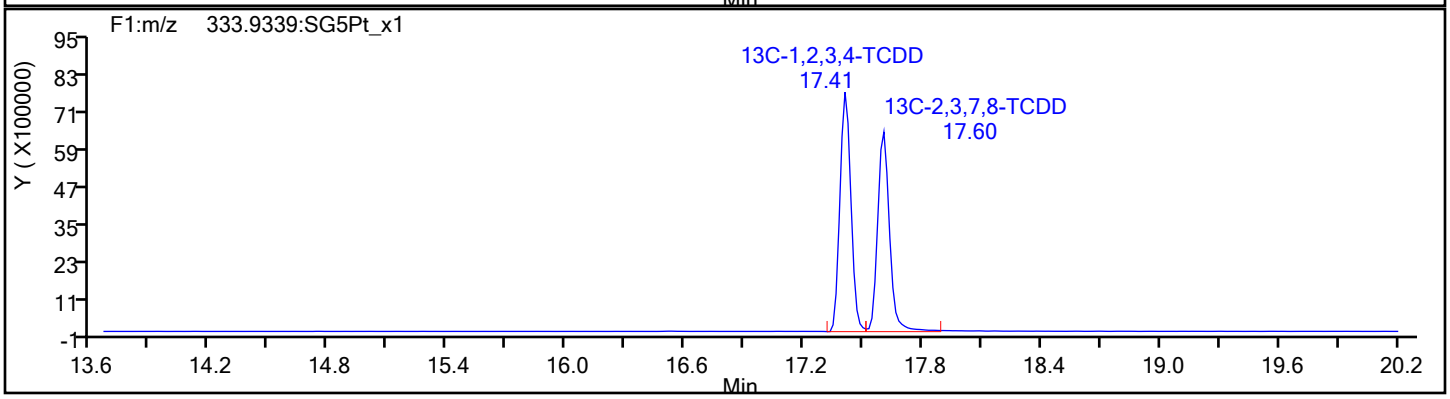

Report Date: 30-Jan-2020 09:33:45 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

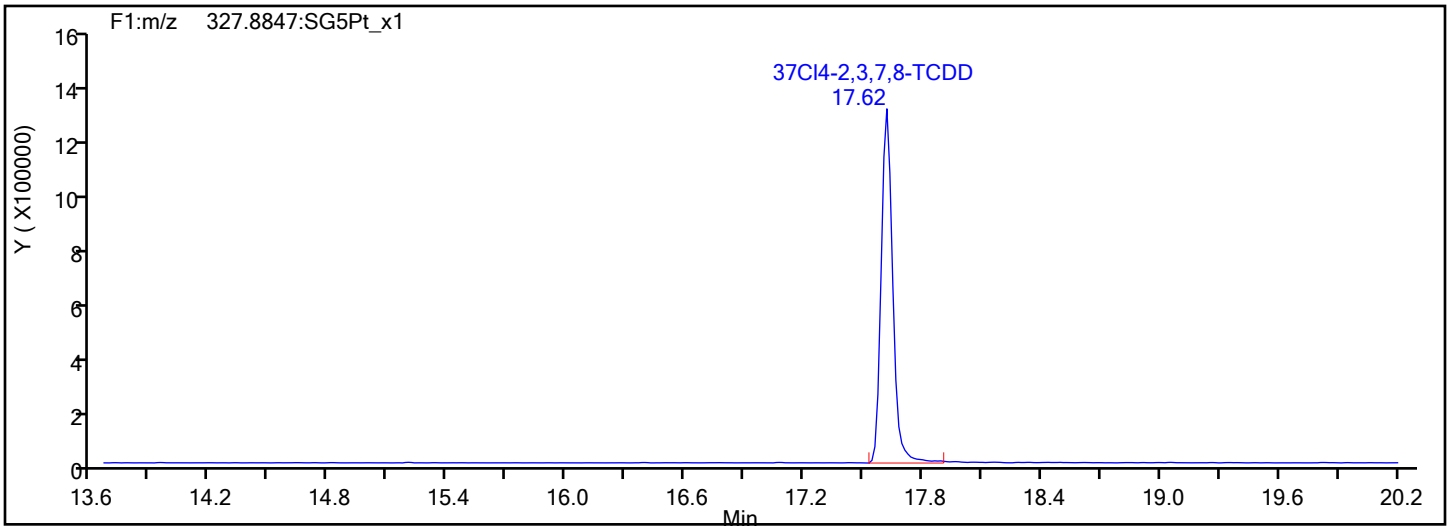

37Cl4-TCDD Standards

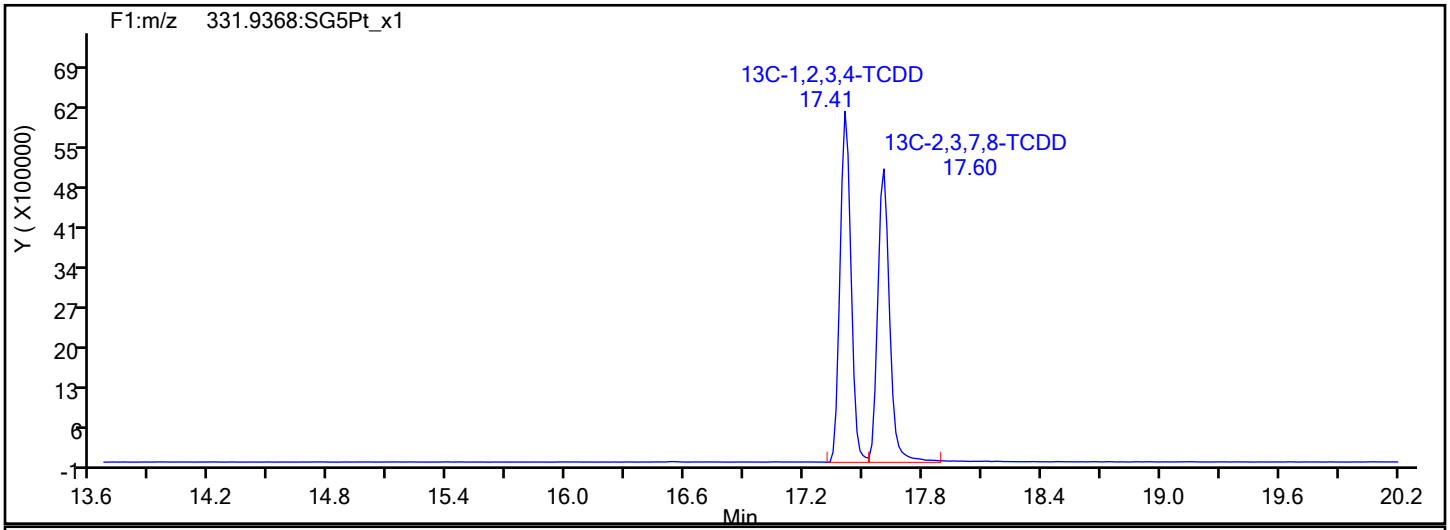

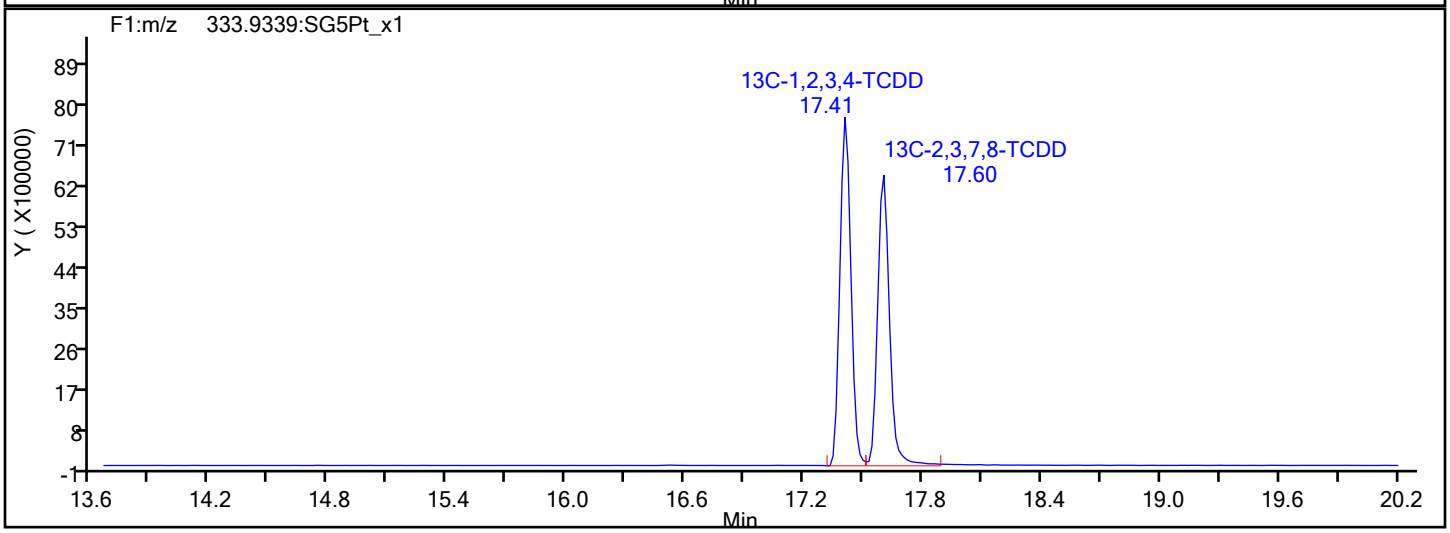

Report Date: 30-Jan-2020 09:33:46 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

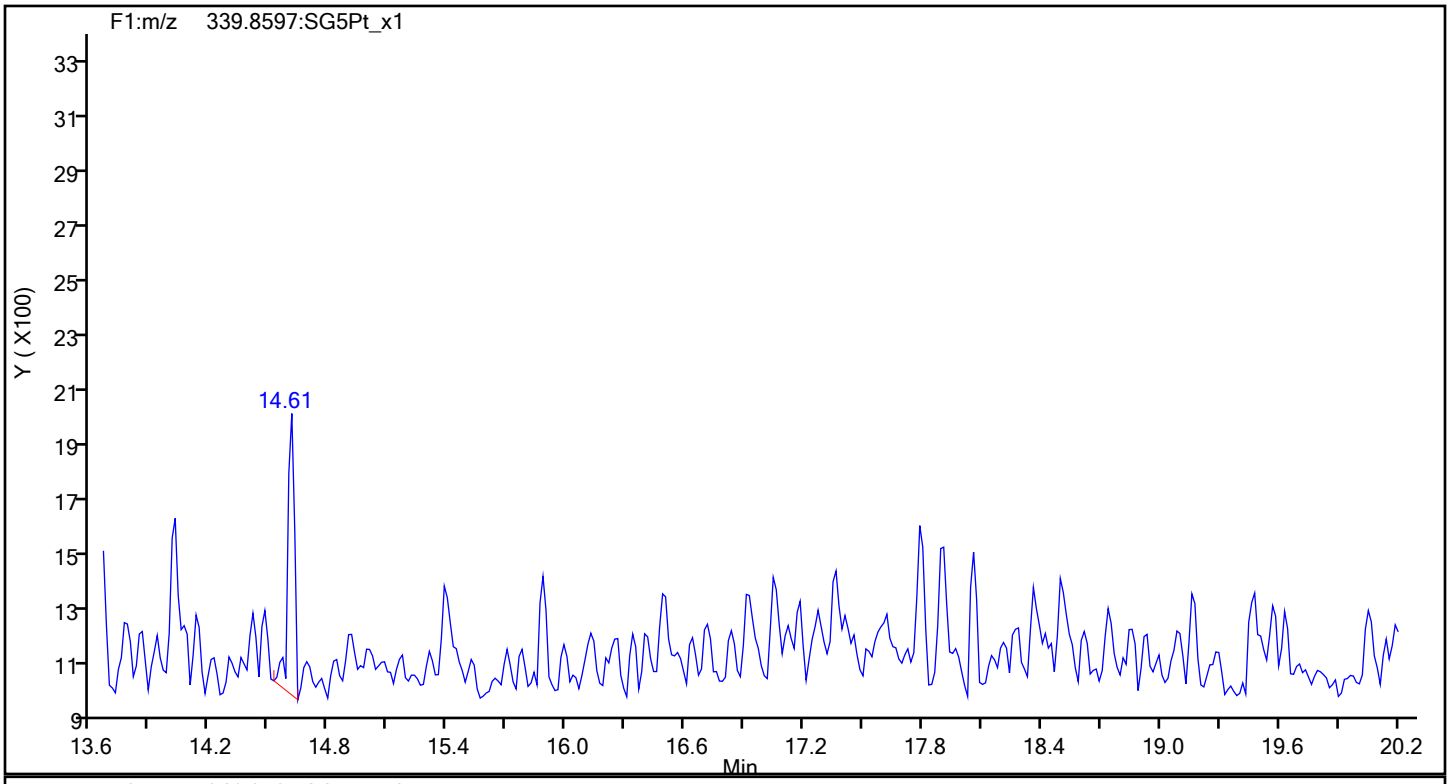

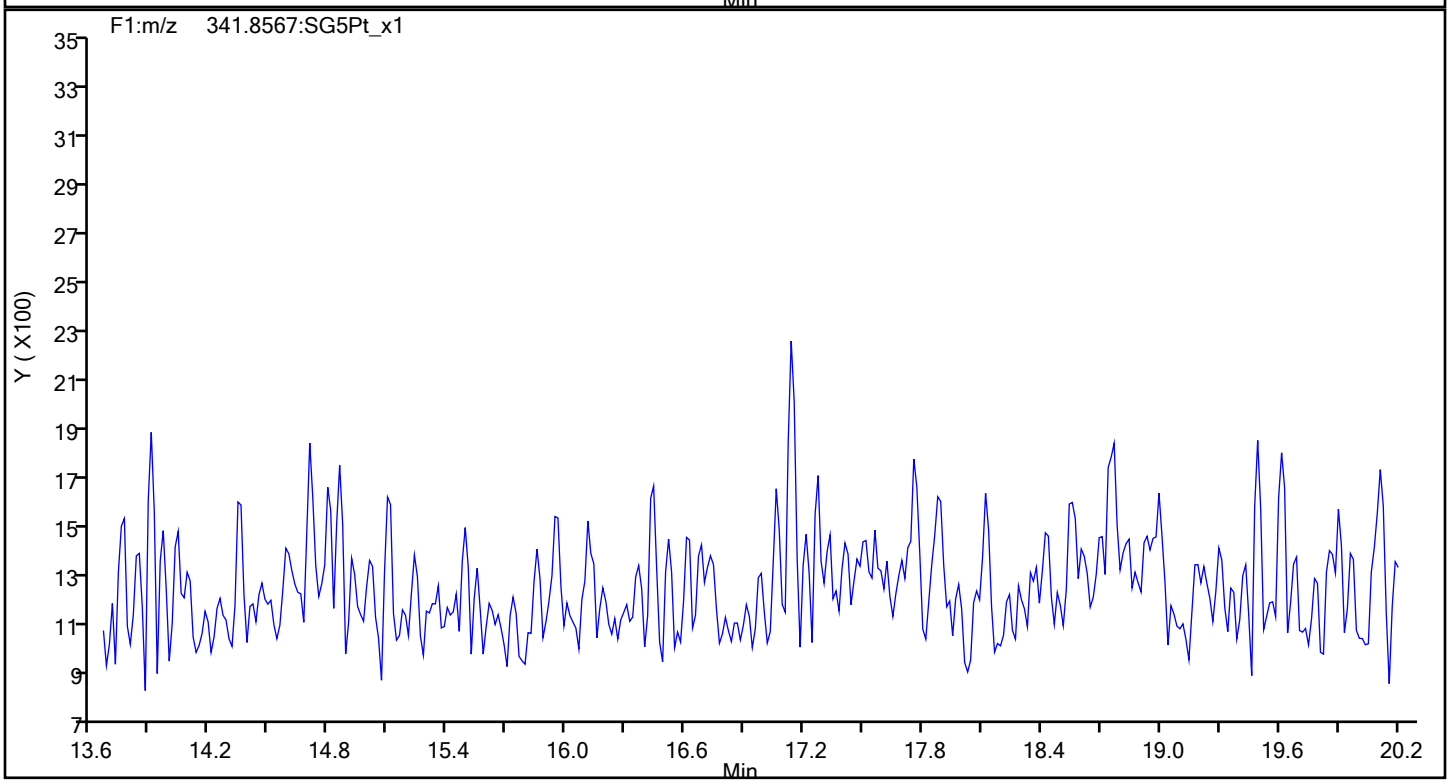

Report Date: 30-Jan-2020 09:33:46 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

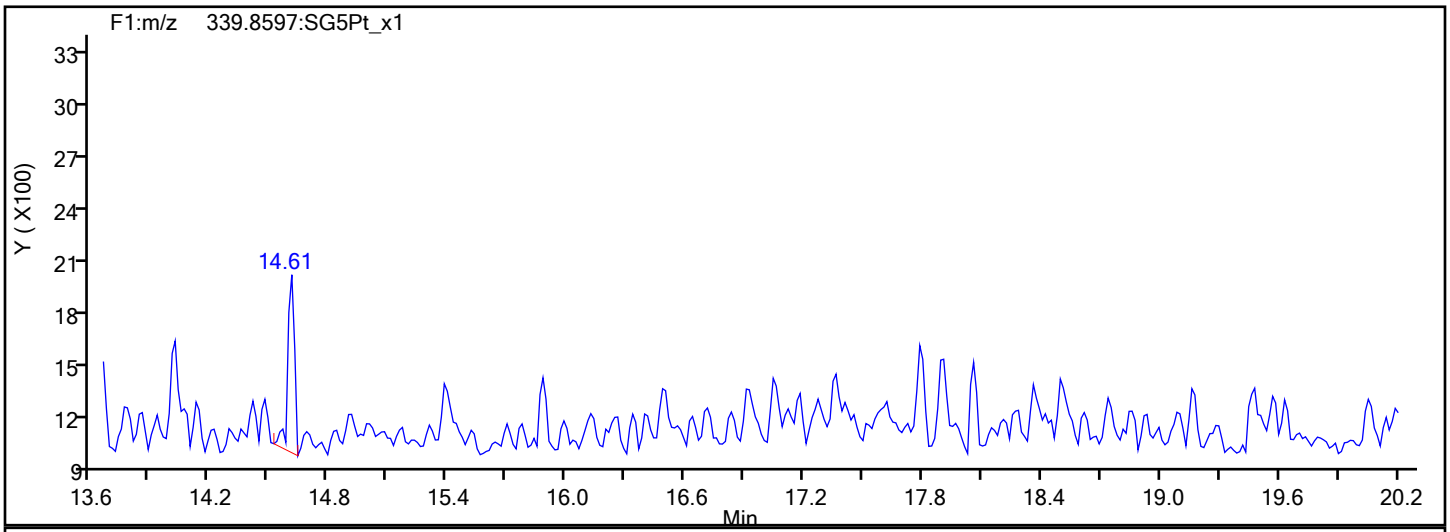

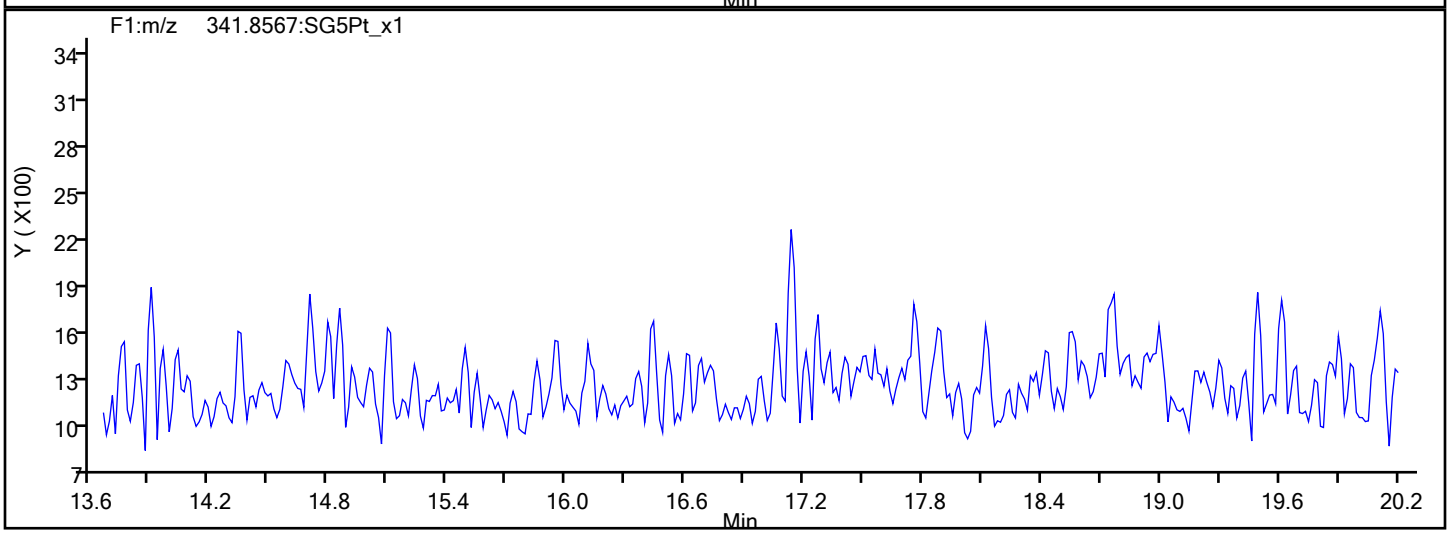

F1 PeCDFs Interference Mass

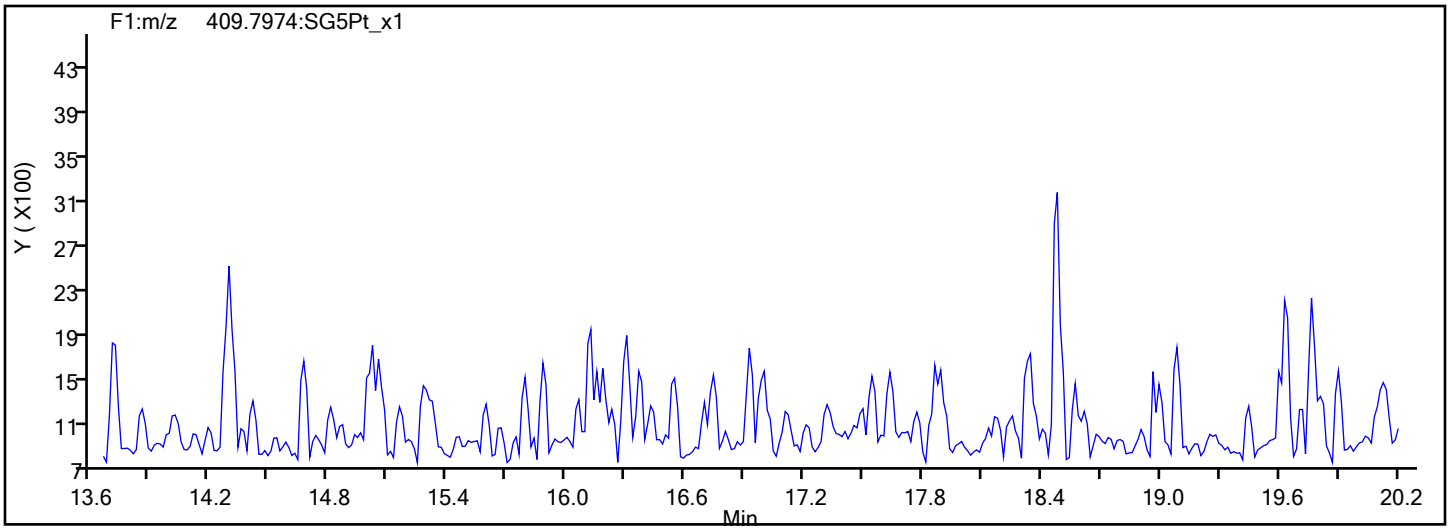

Report Date: 30-Jan-2020 09:33:46 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

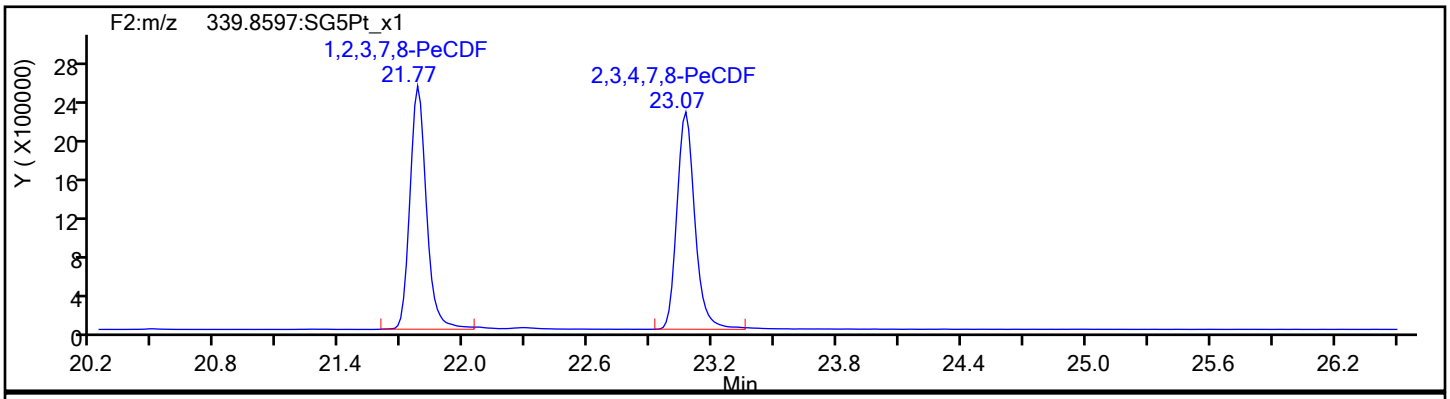

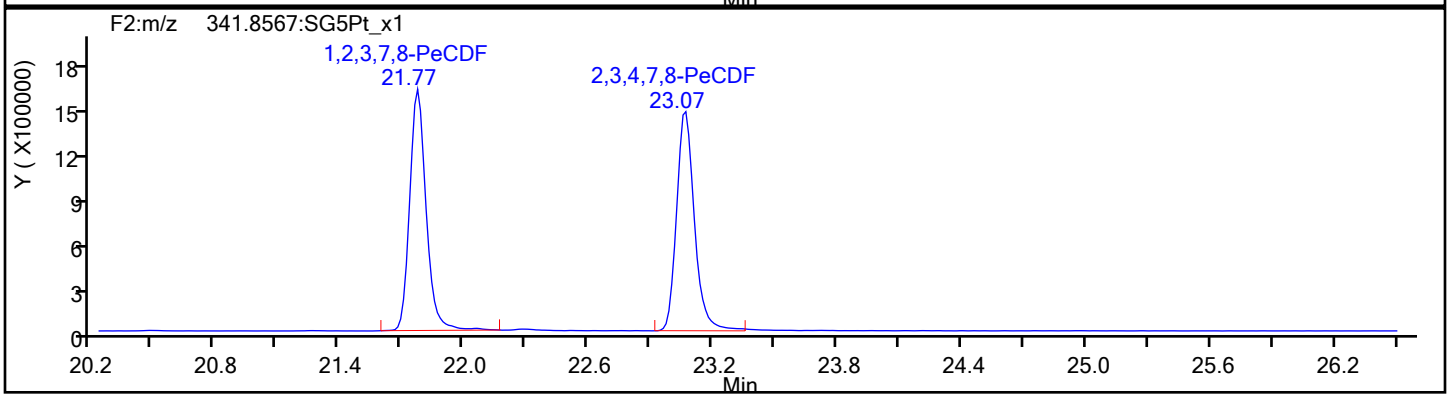

PeCDF Standards

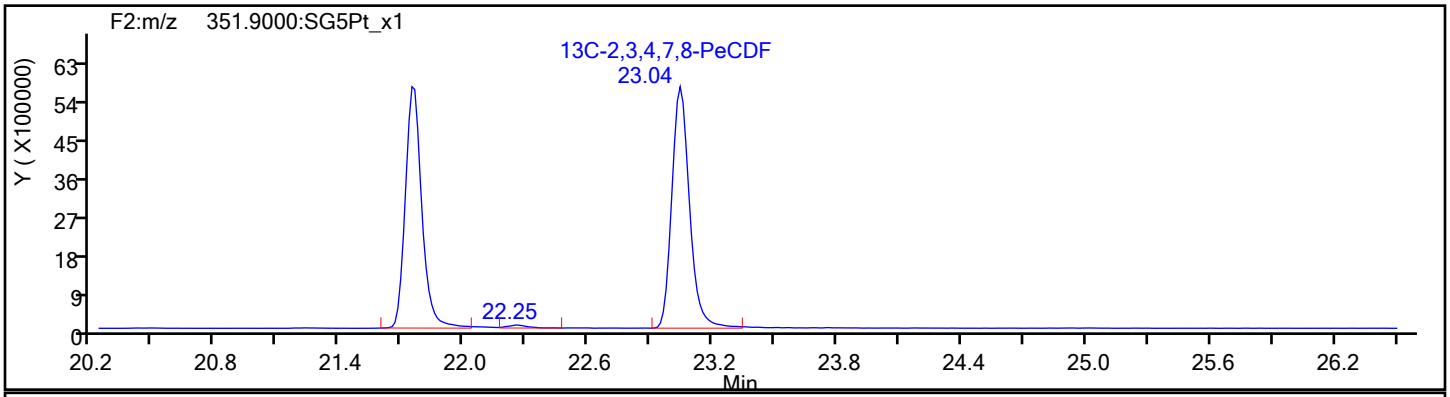

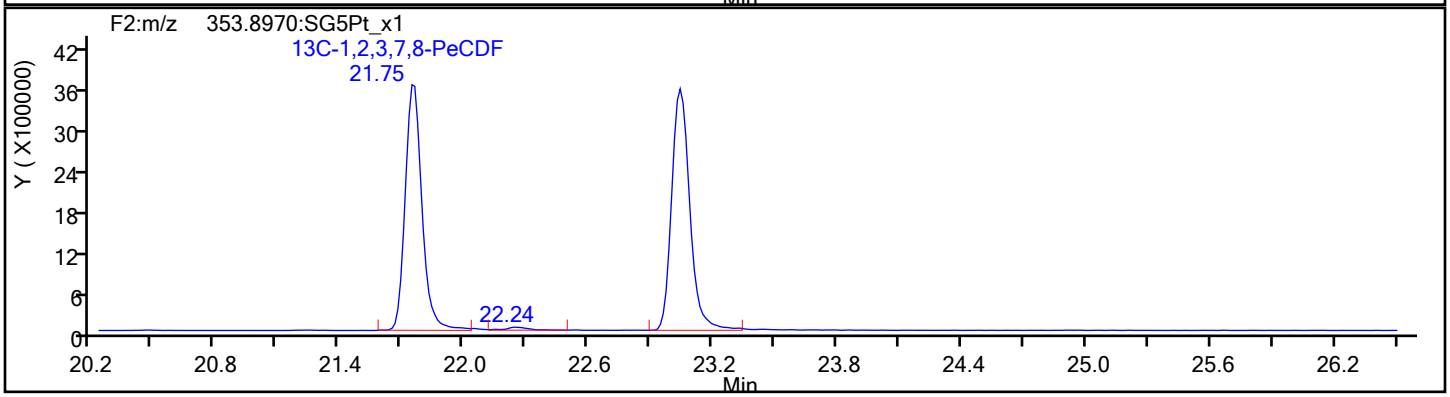

Report Date: 30-Jan-2020 09:33:46 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

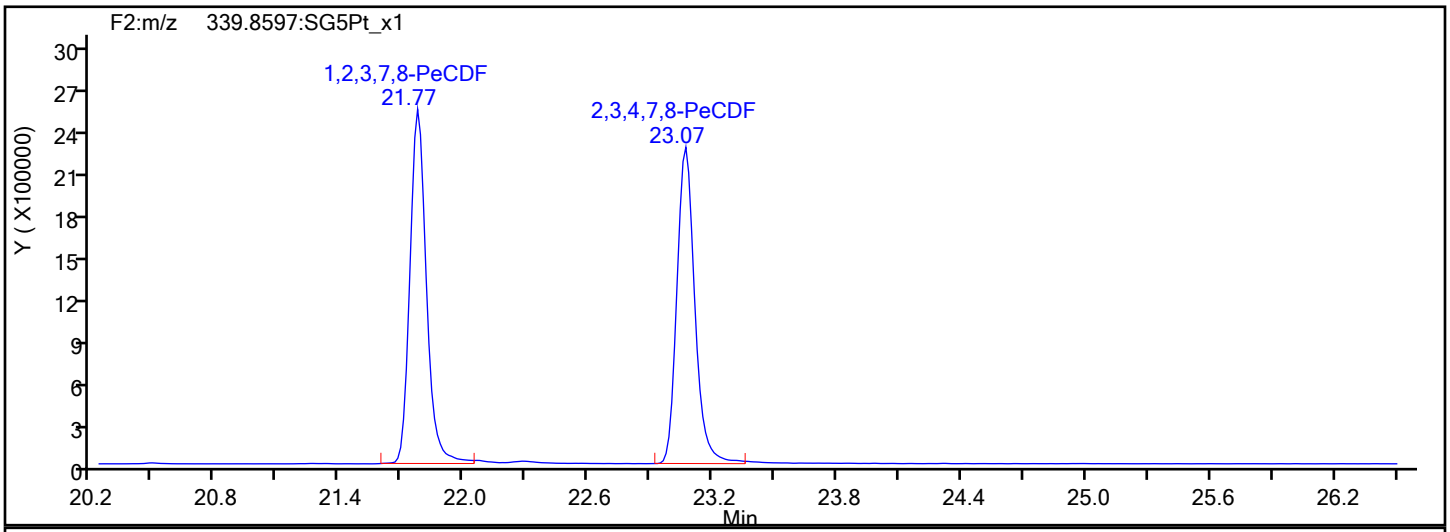

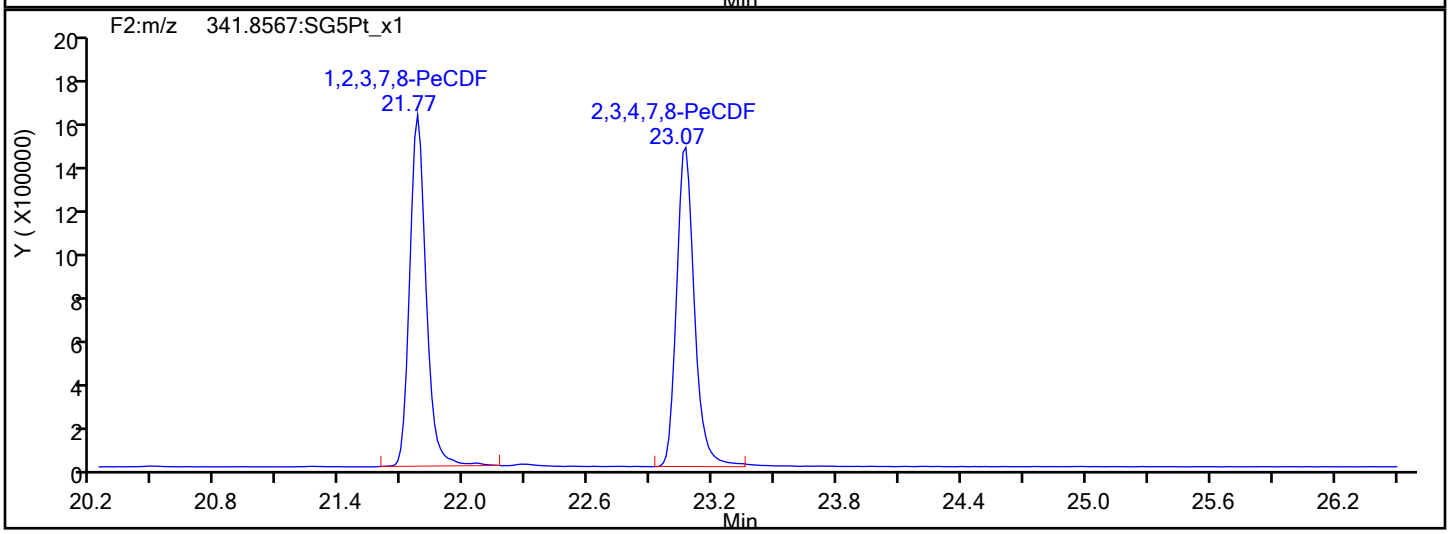

PeCDF Interference Mass

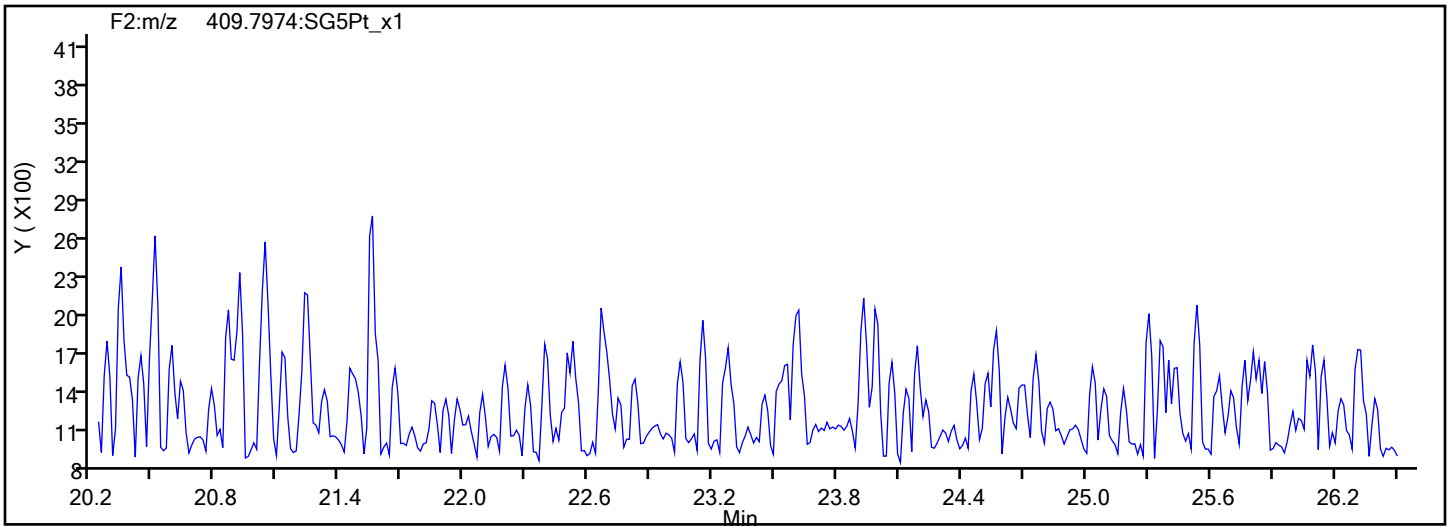

Report Date: 30-Jan-2020 09:33:46 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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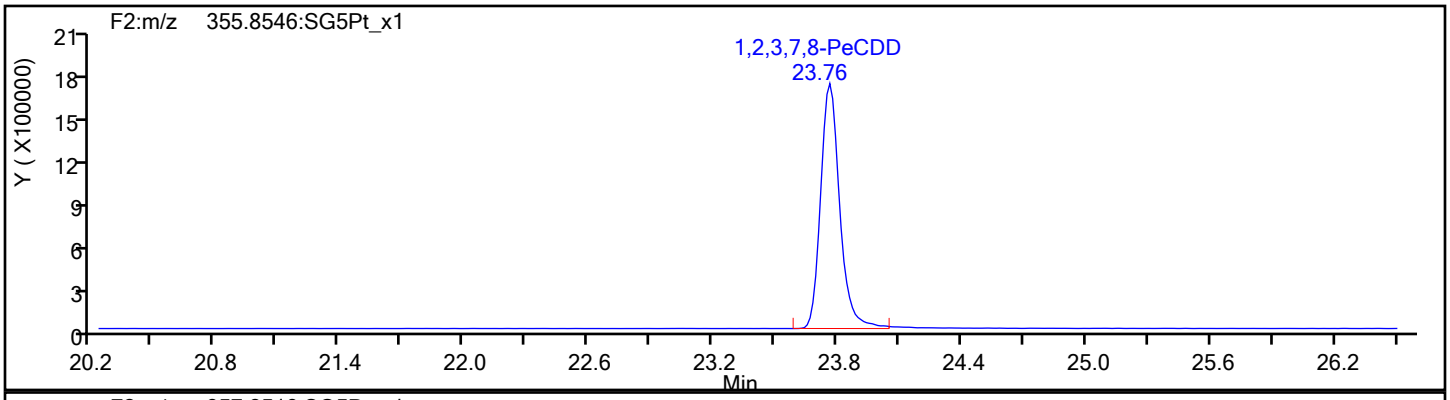

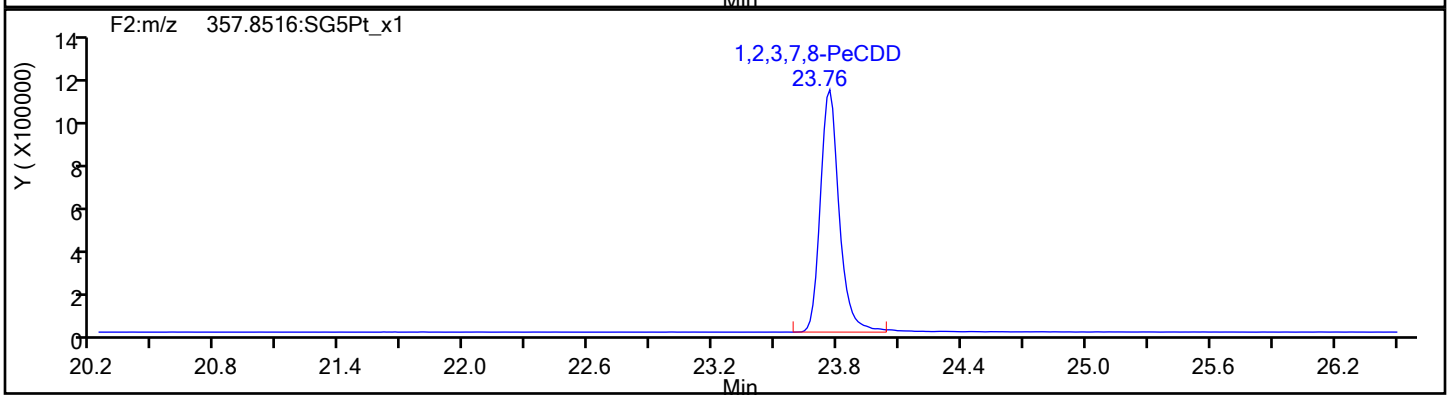

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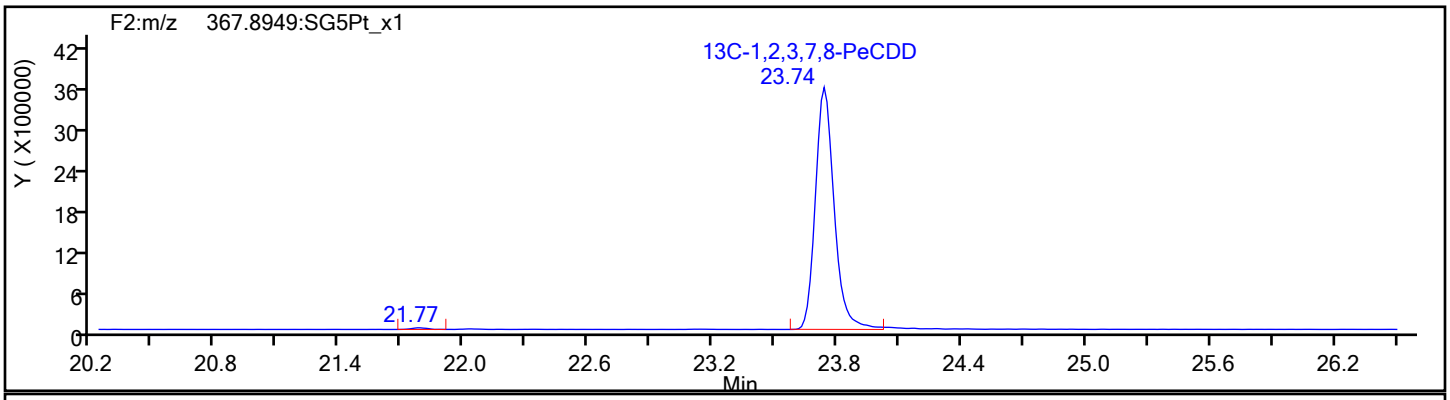

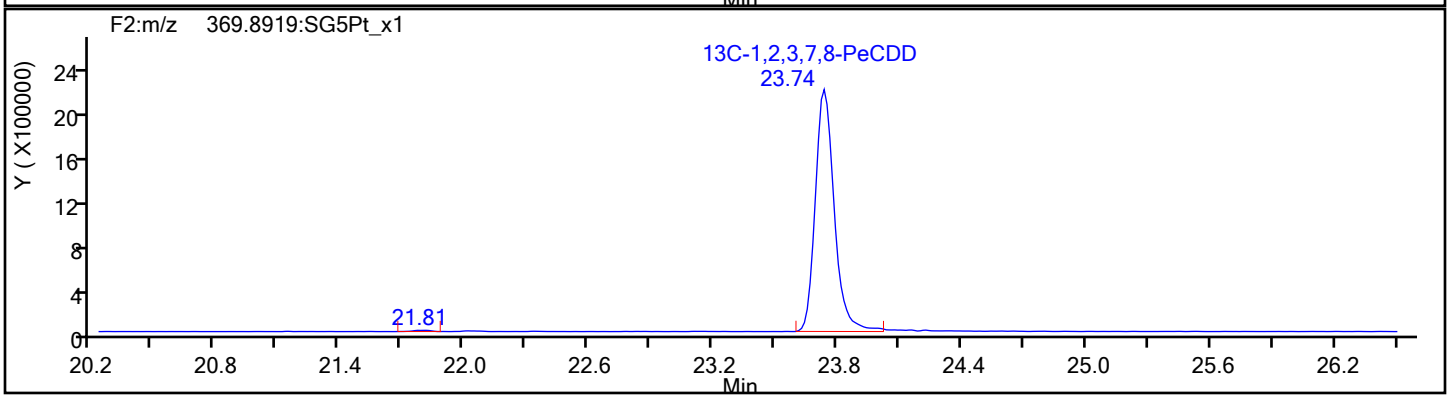

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Eurofins TestAmerica, Sacramento

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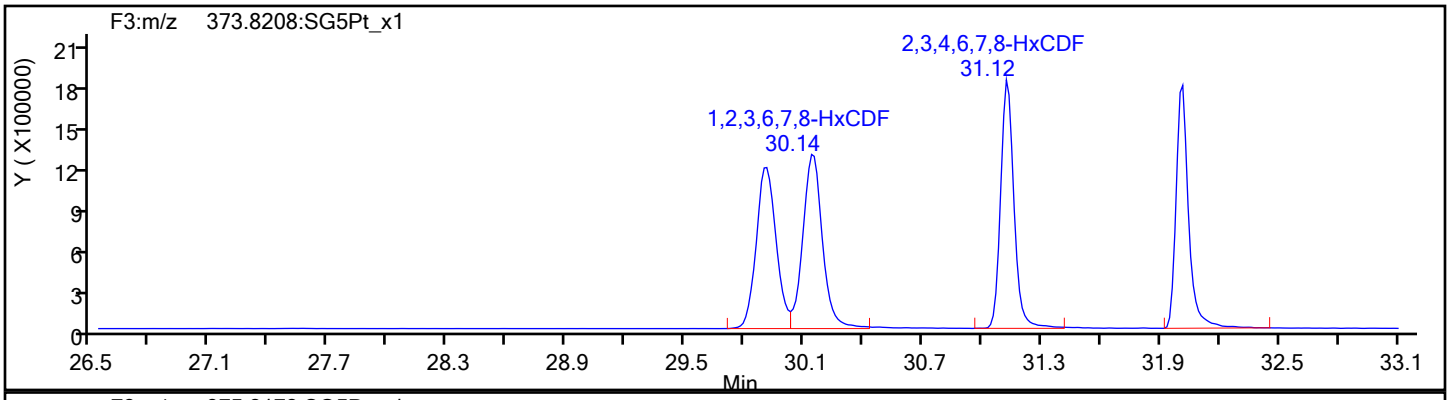

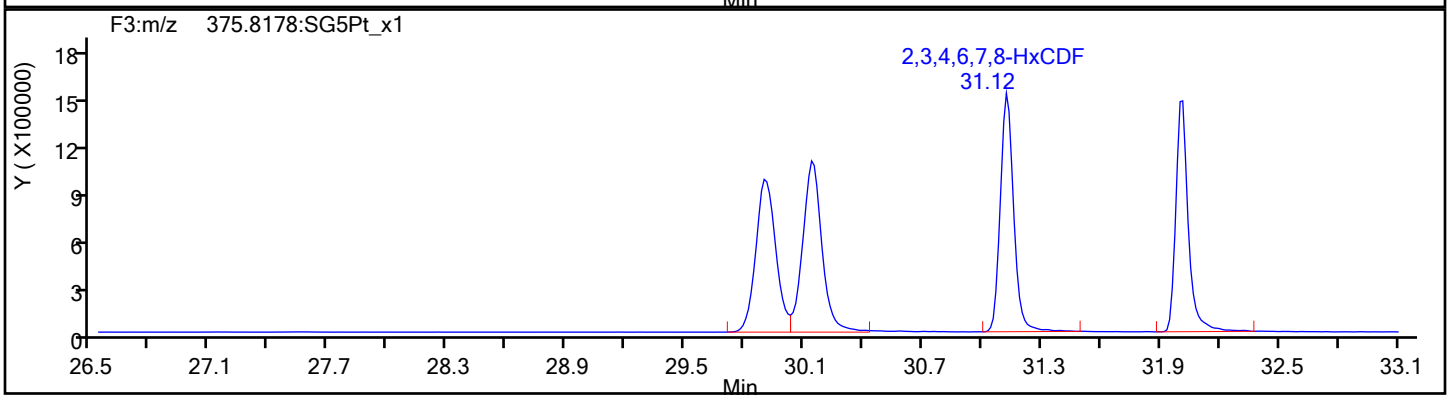

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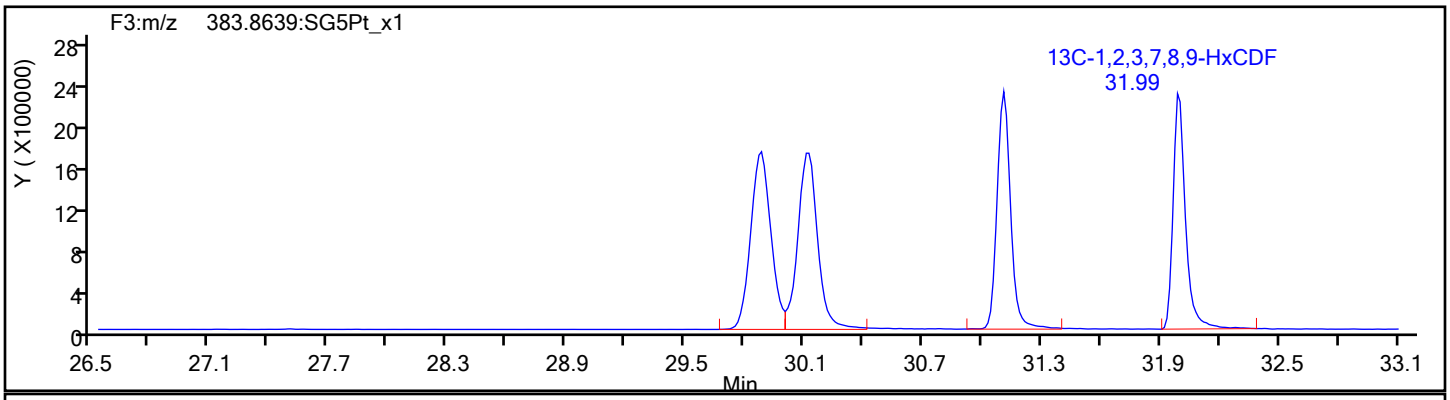

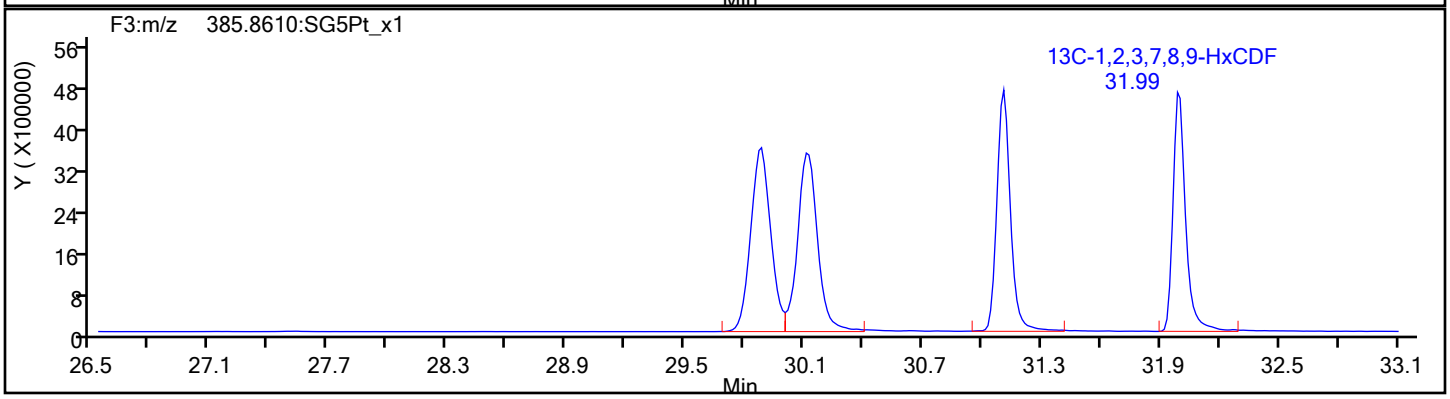

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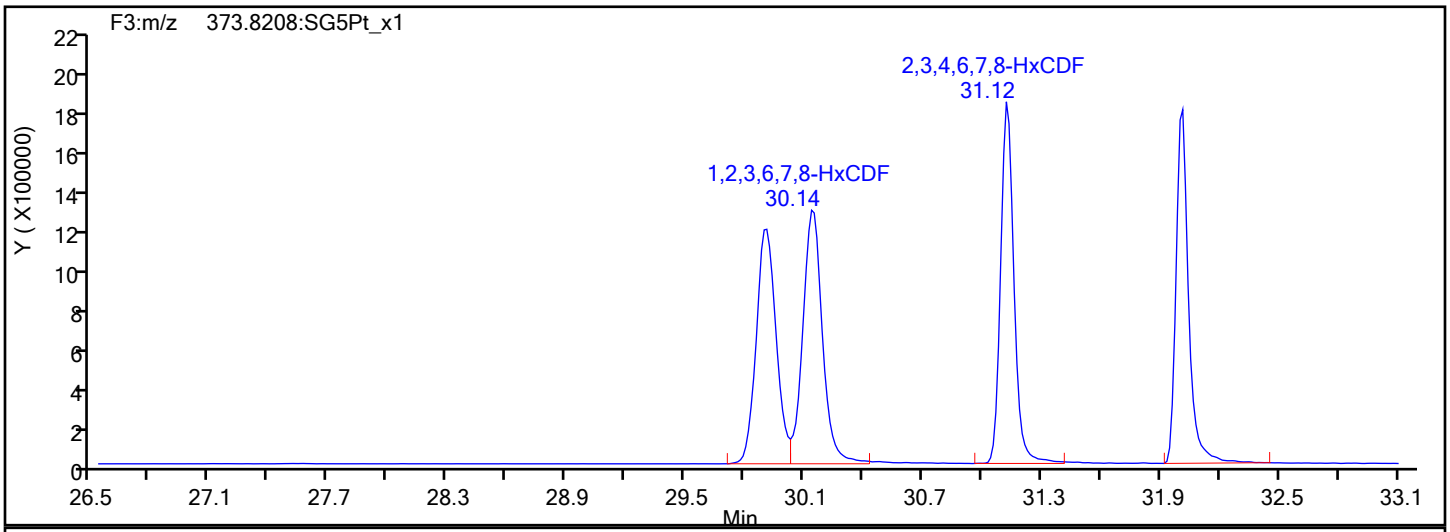

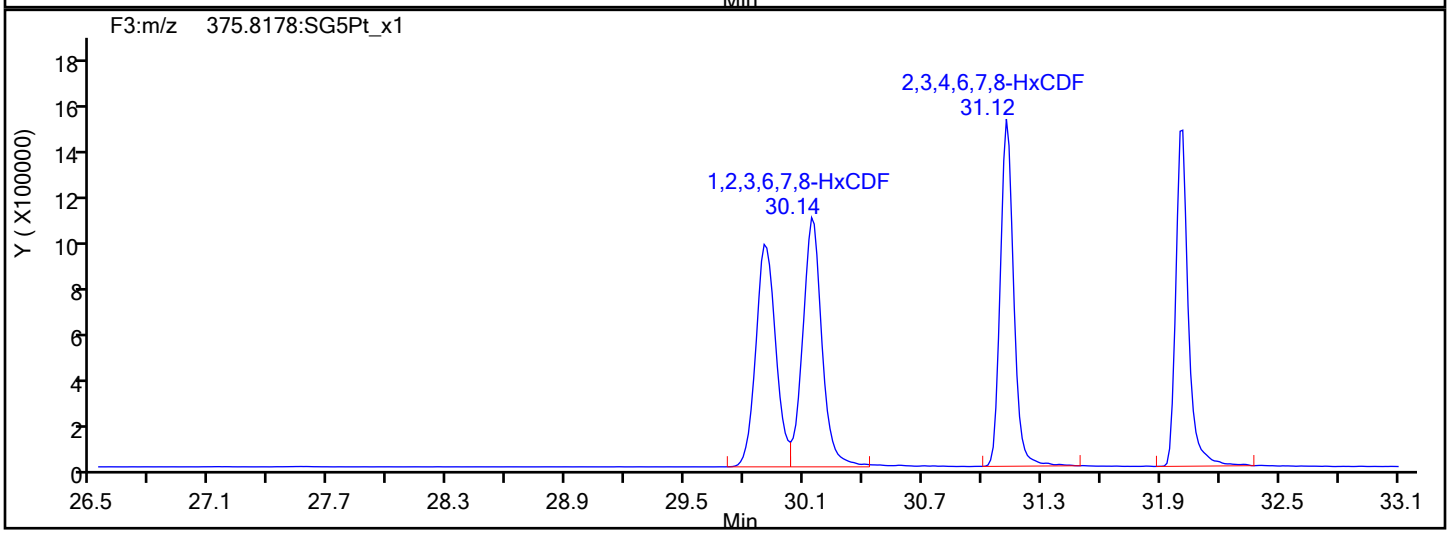

HxCDF Interference Mass

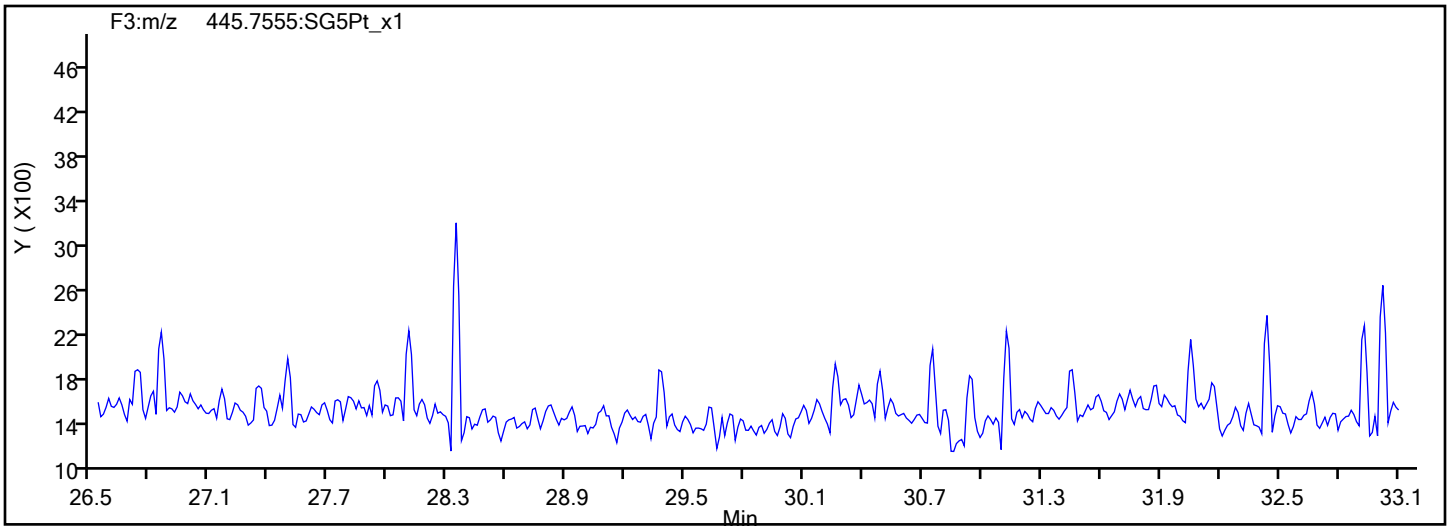

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Eurofins TestAmerica, Sacramento

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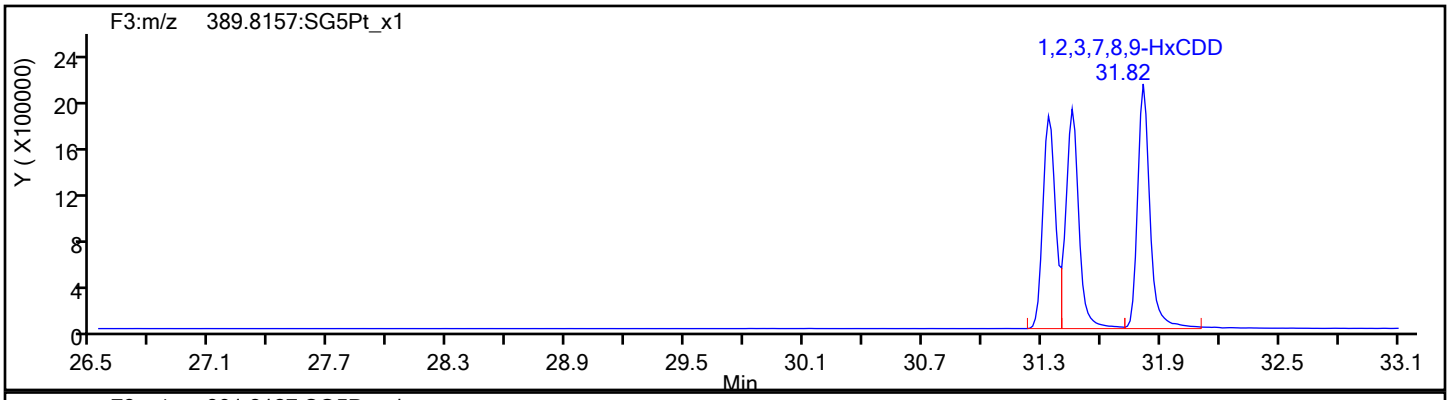

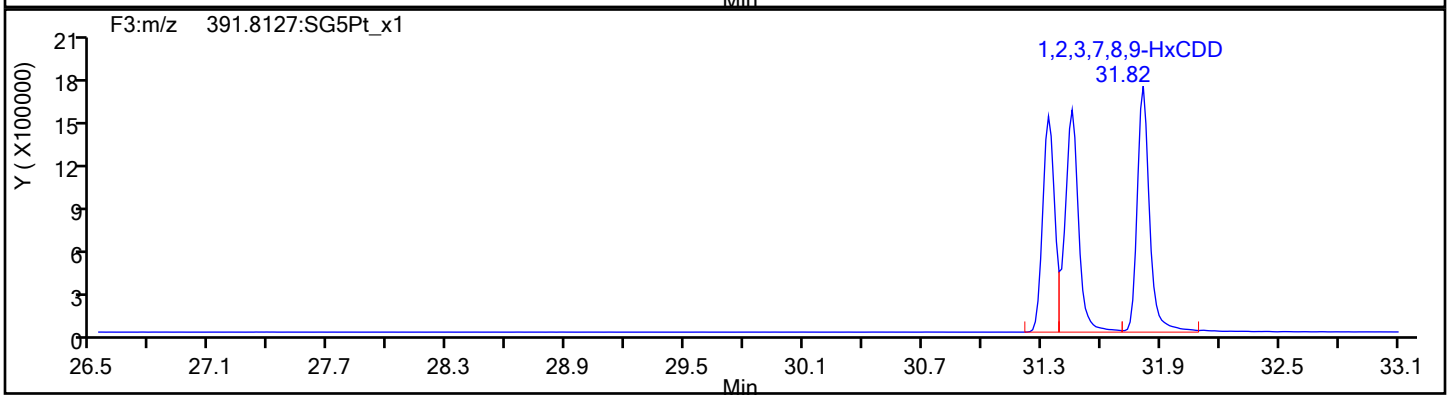

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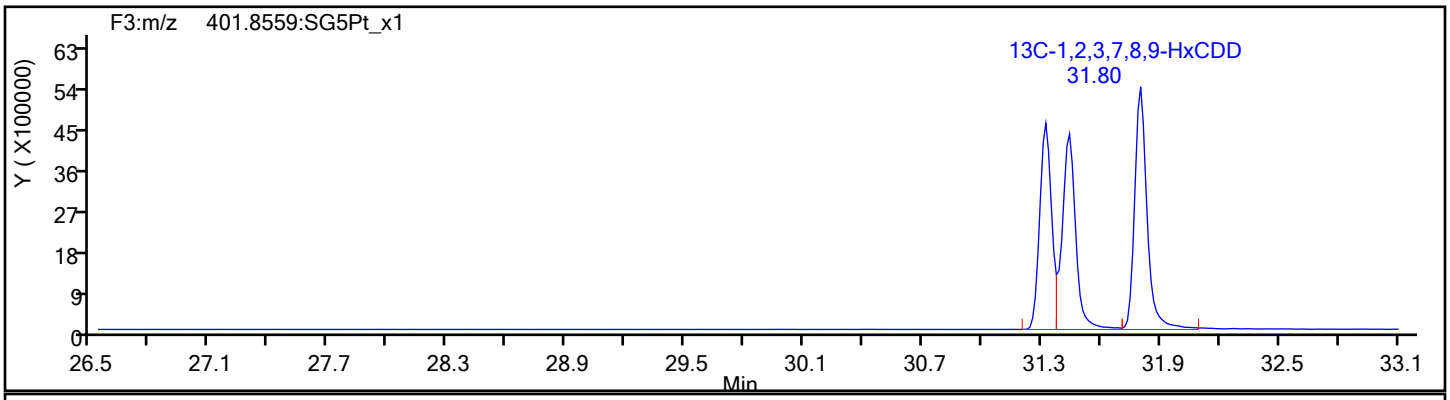

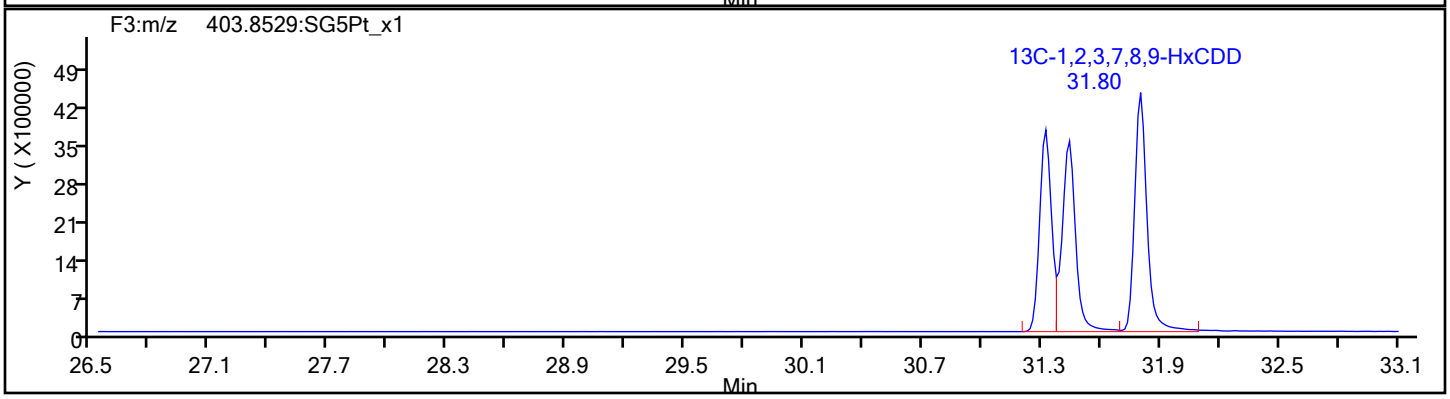

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Eurofins TestAmerica, Sacramento

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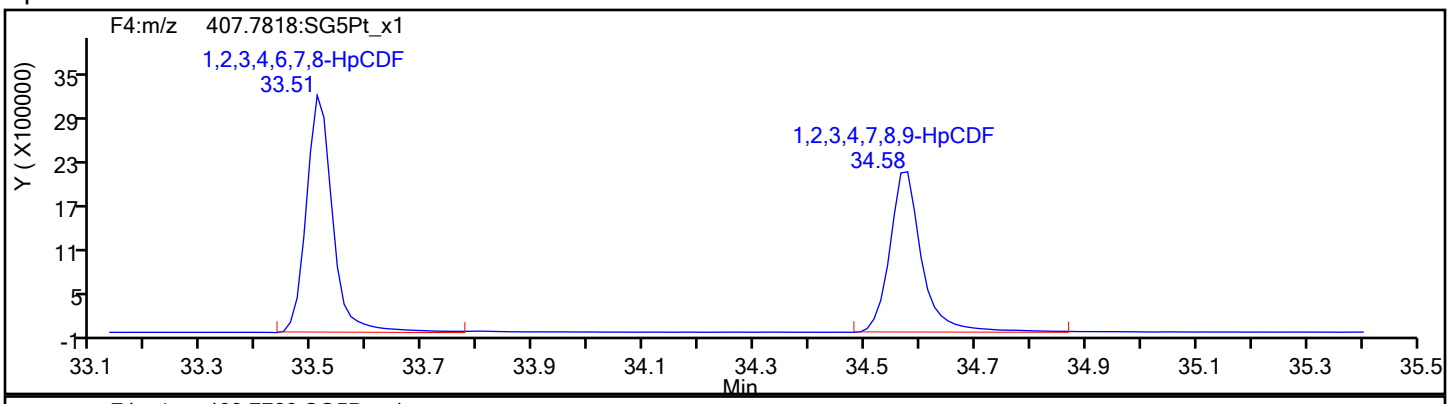

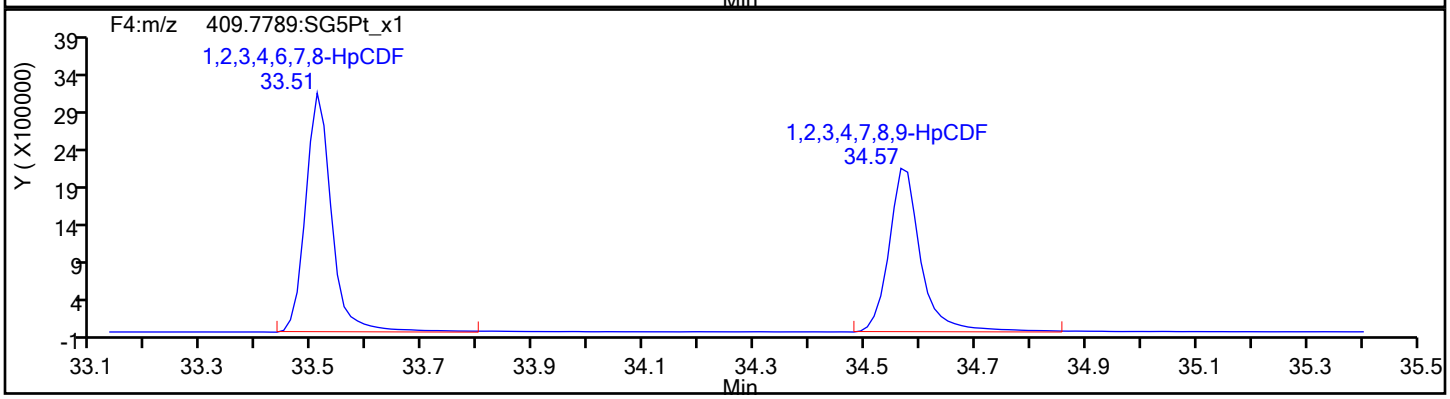

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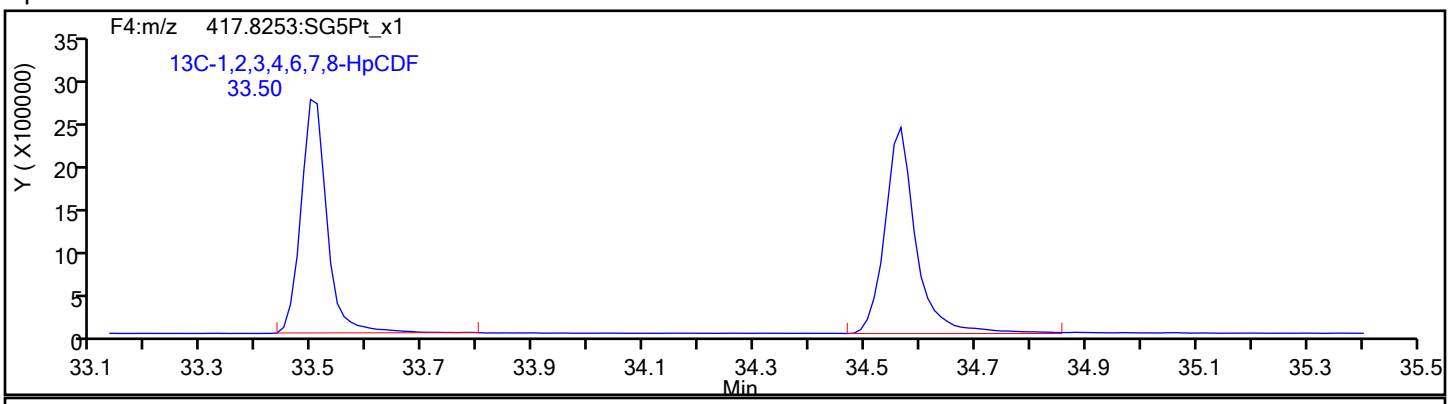

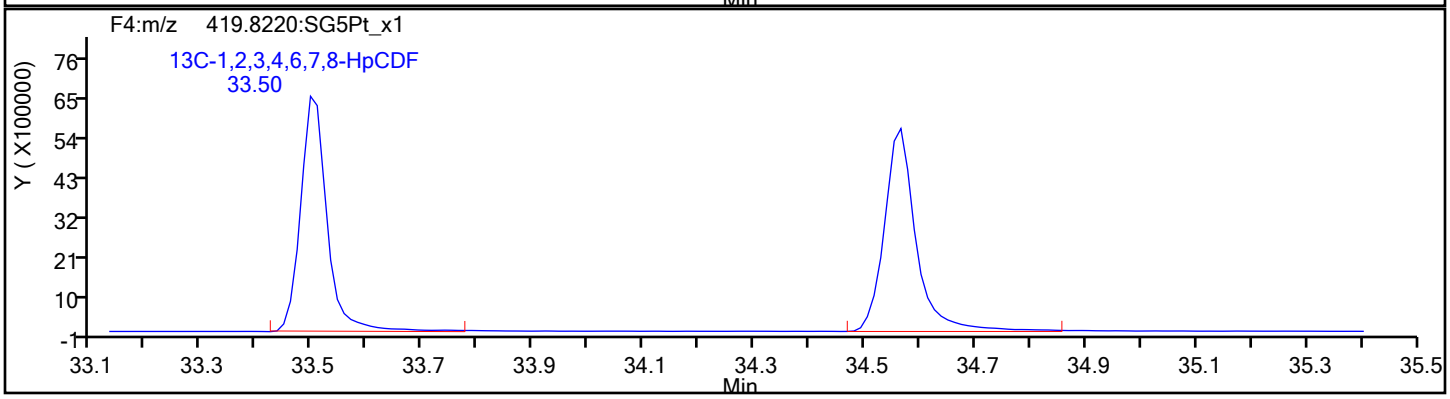

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Eurofins TestAmerica, Sacramento

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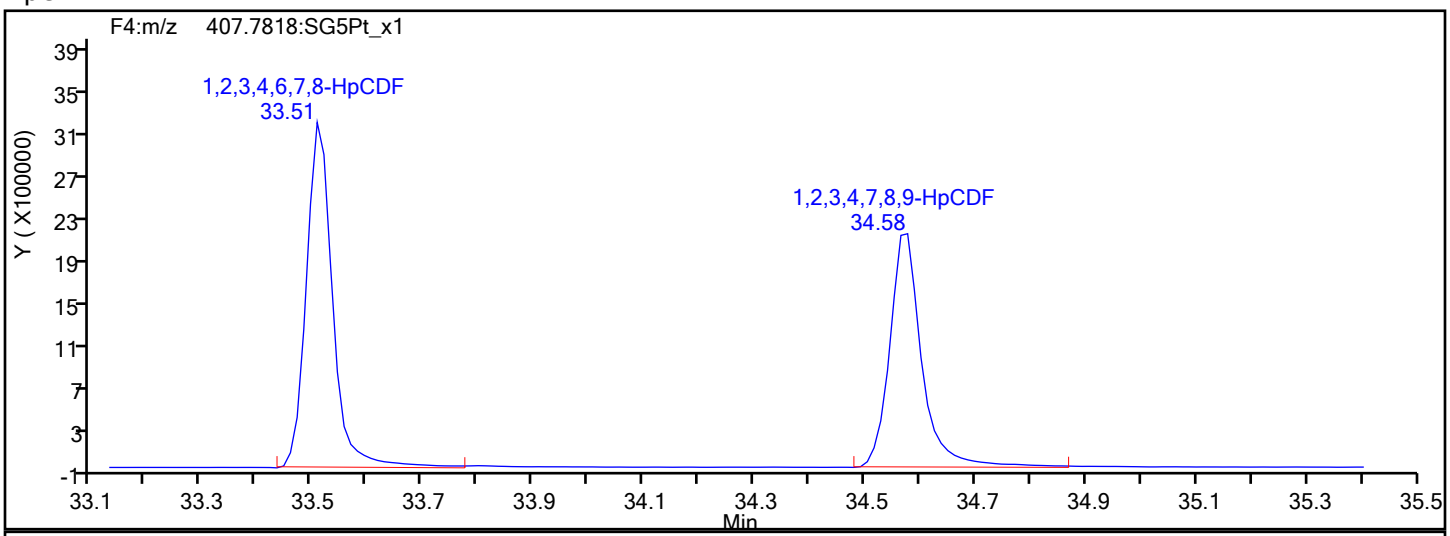

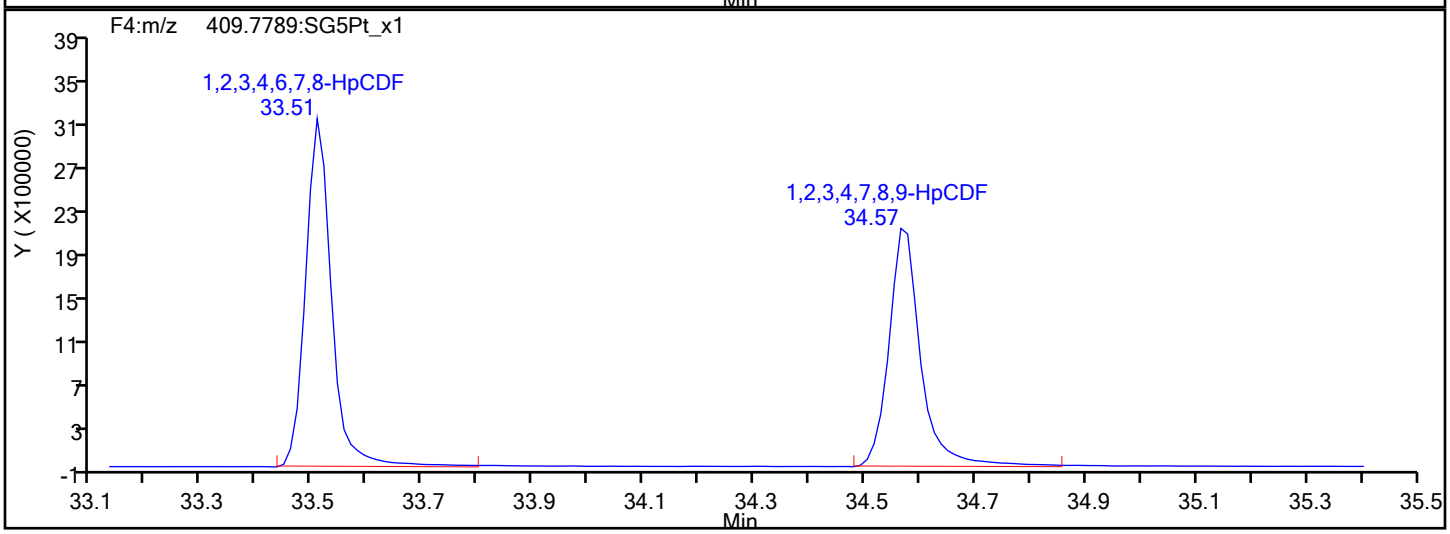

HpCDF Interference Mass

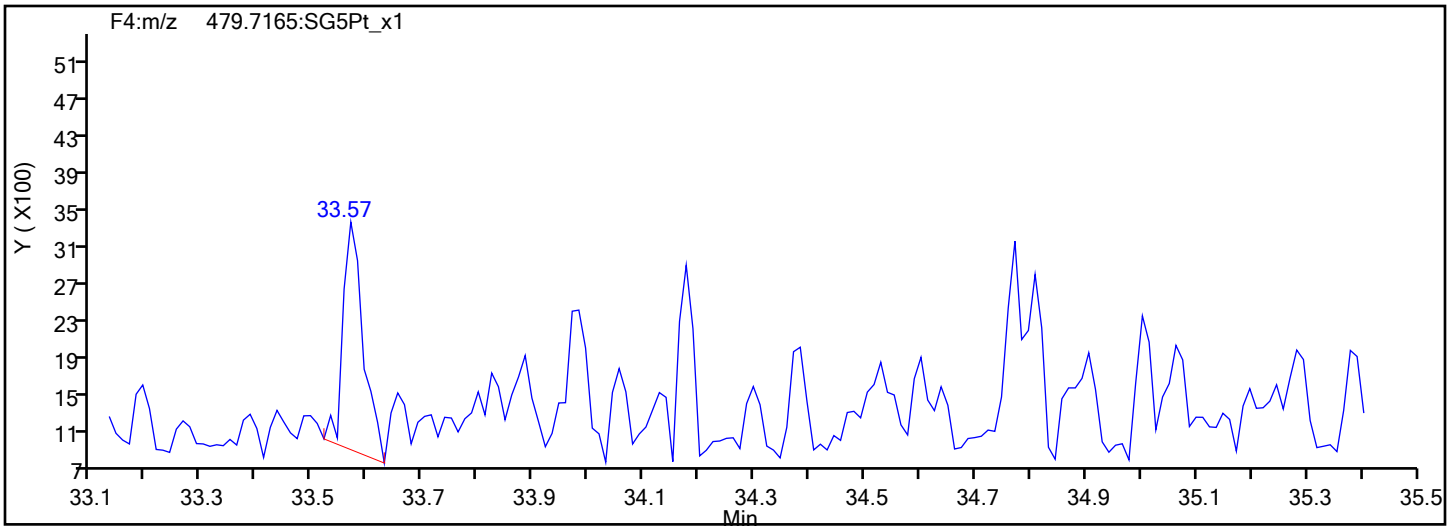

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Eurofins TestAmerica, Sacramento

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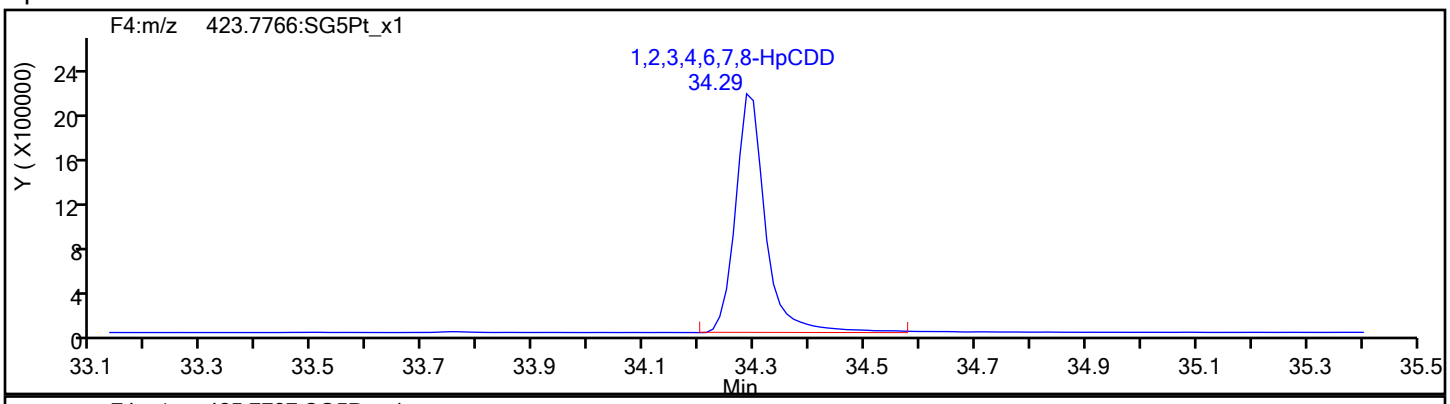

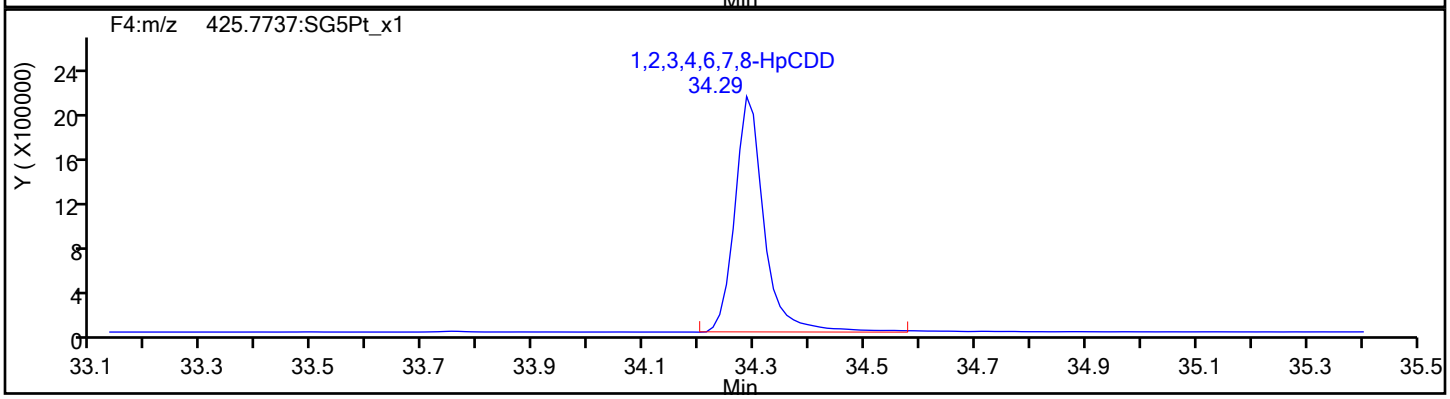

HpCDD Standards

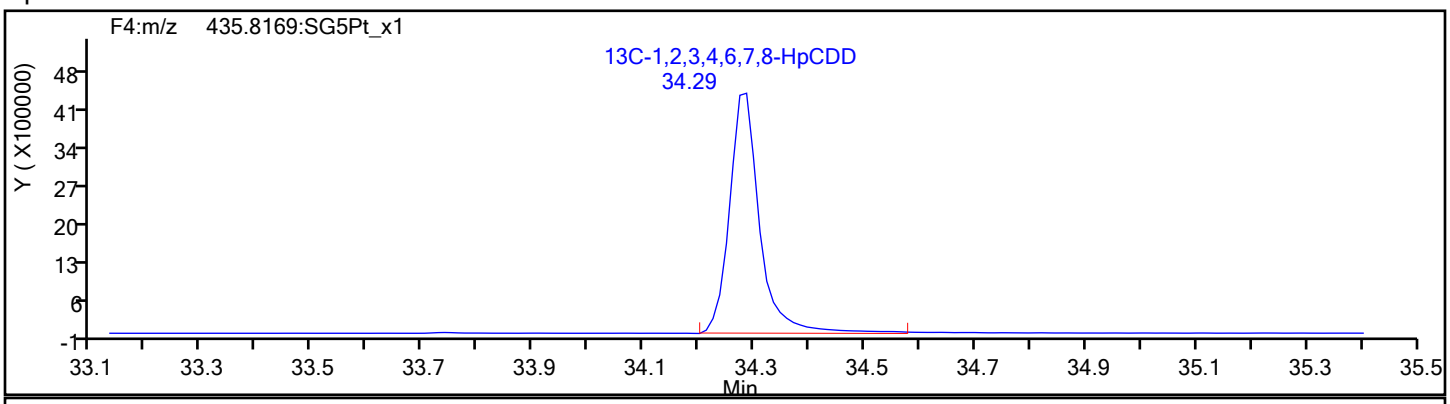

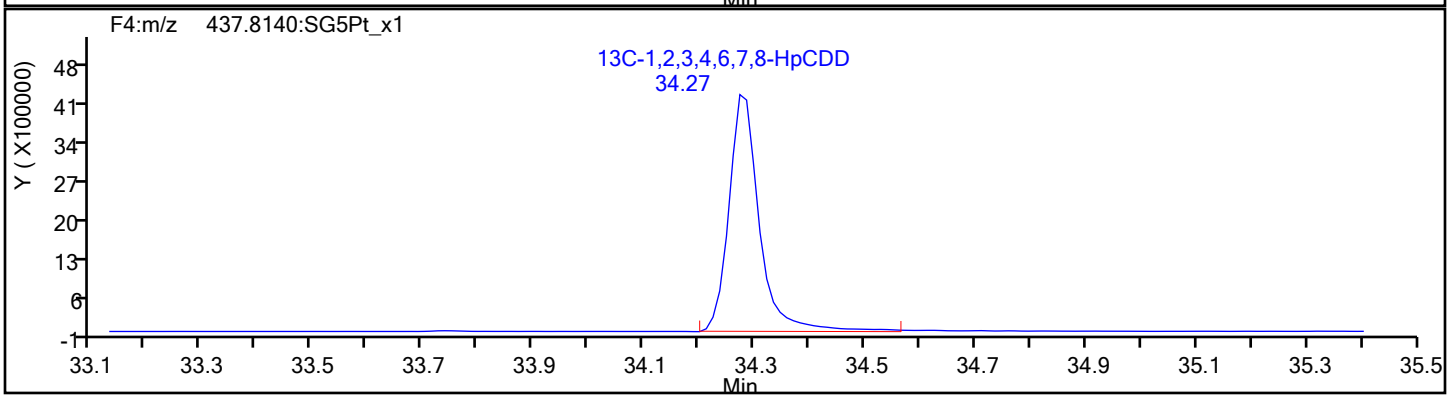

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Eurofins TestAmerica, Sacramento

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OCDF

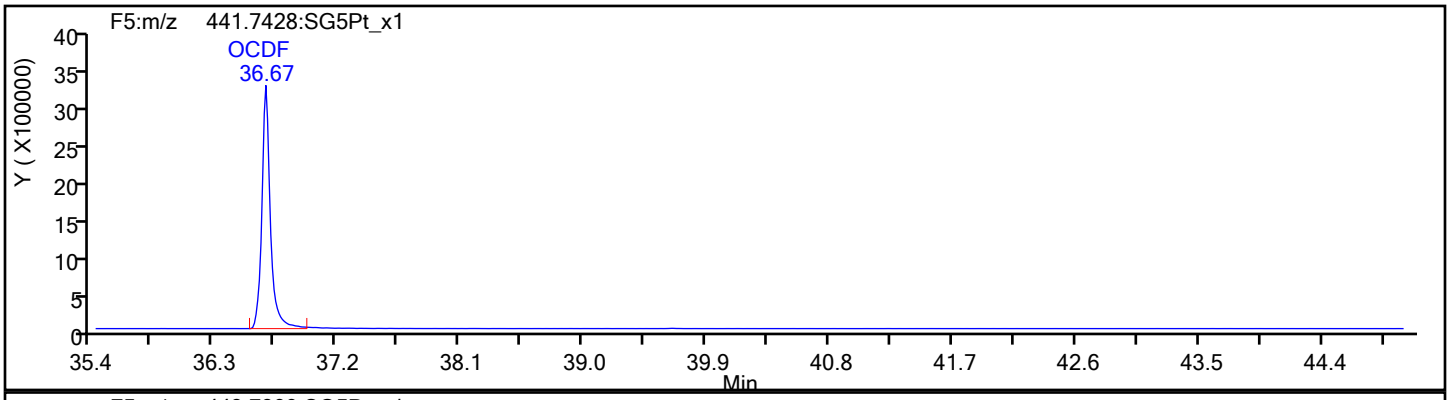

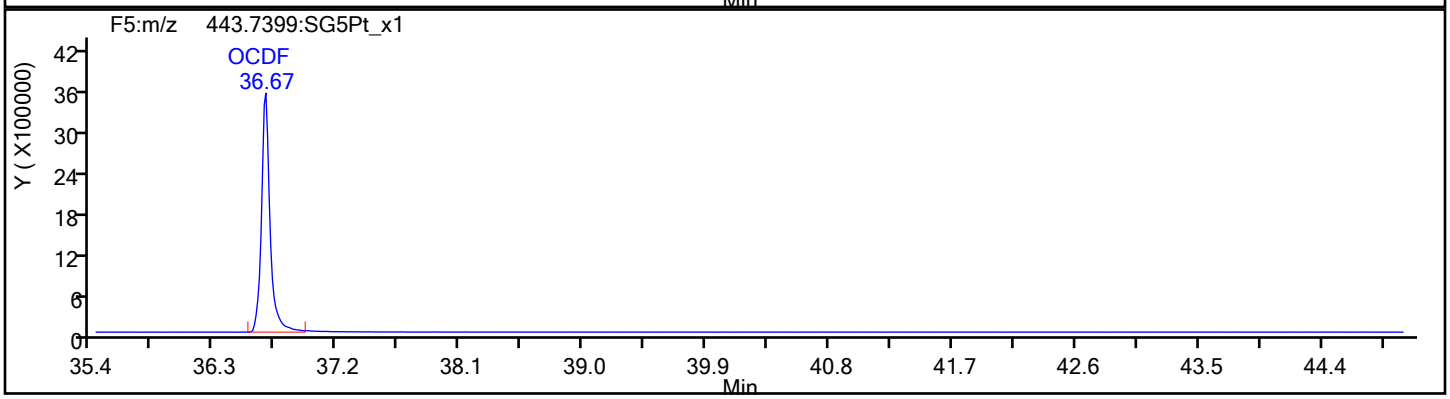

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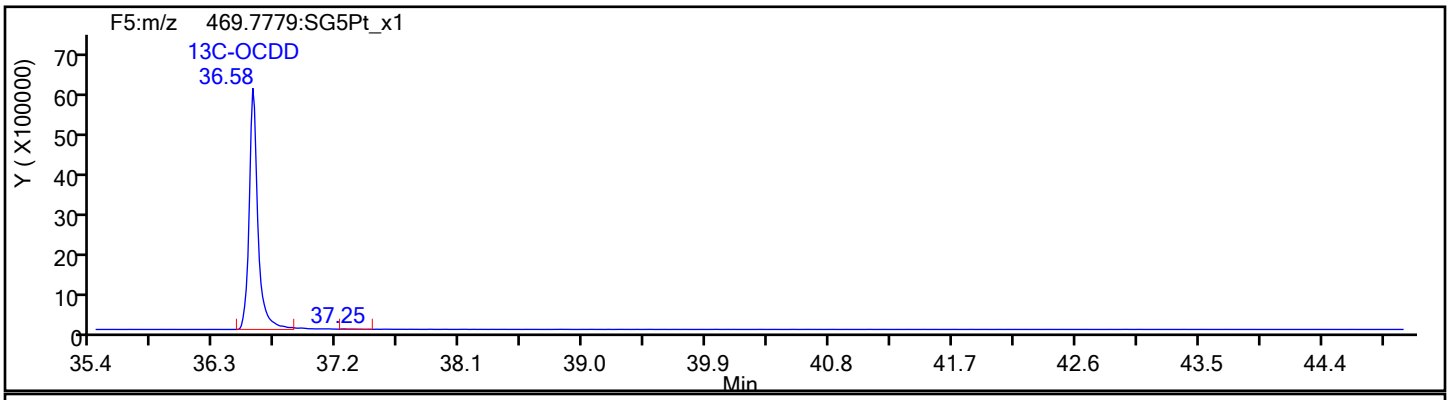

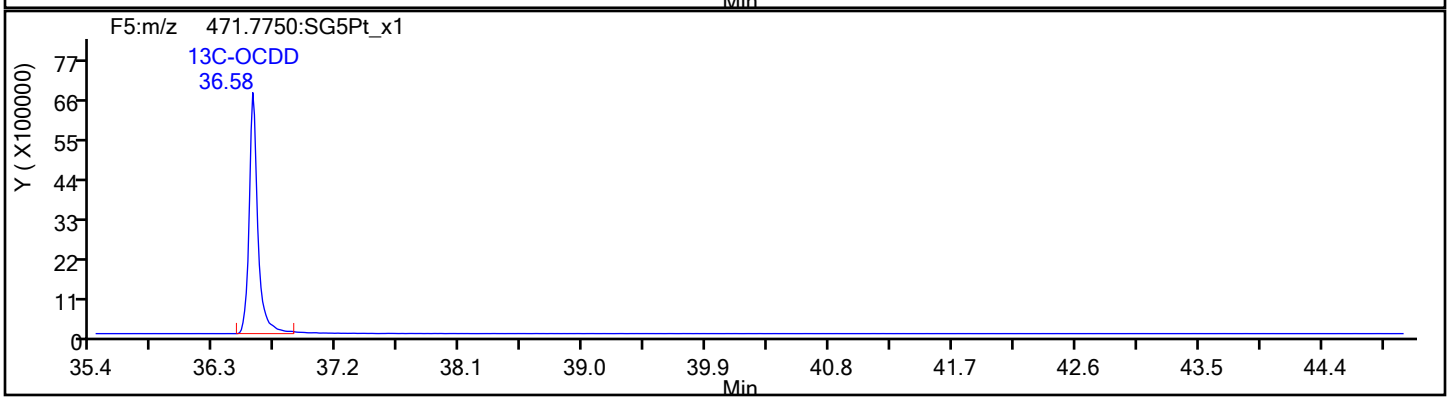

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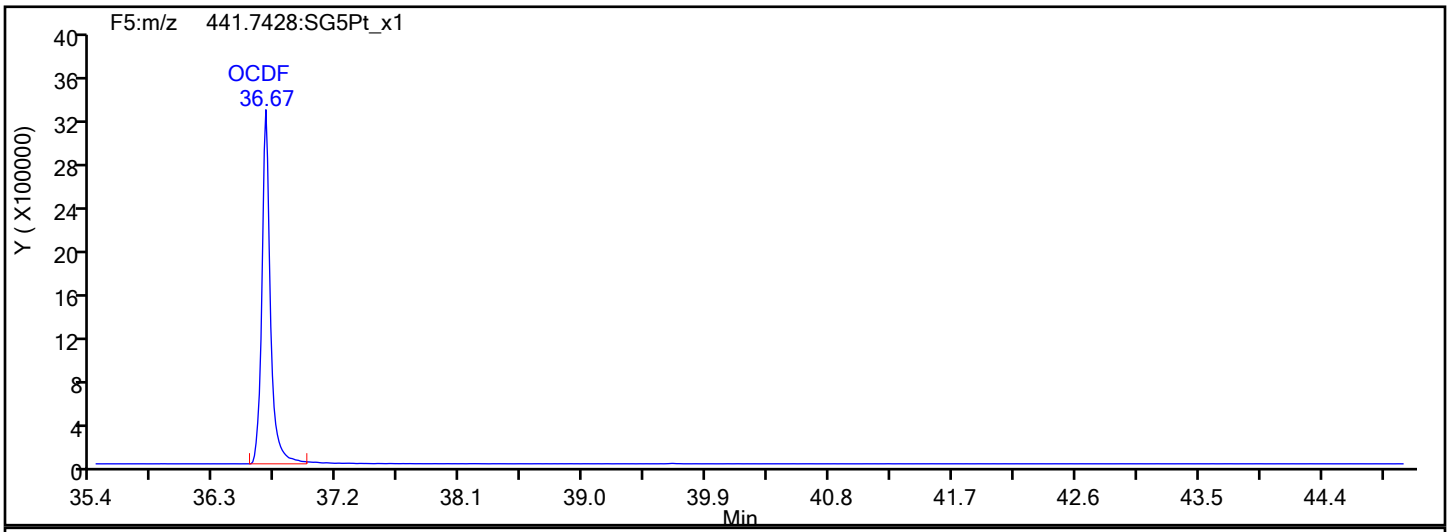

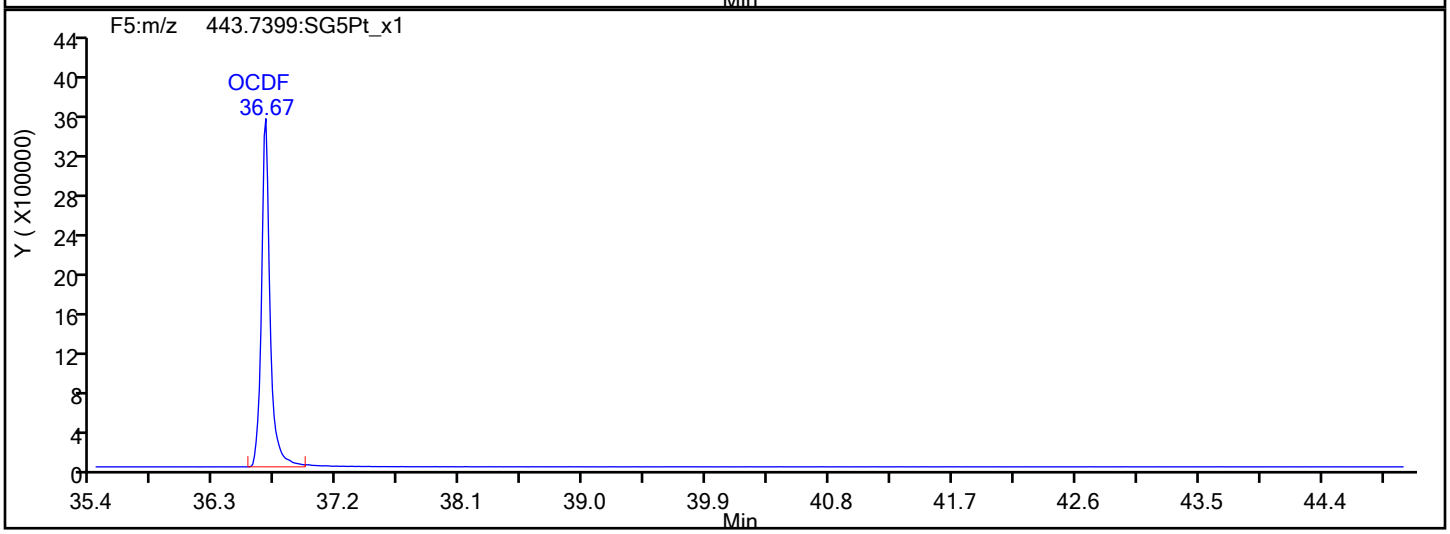

OCDF Interference Mass

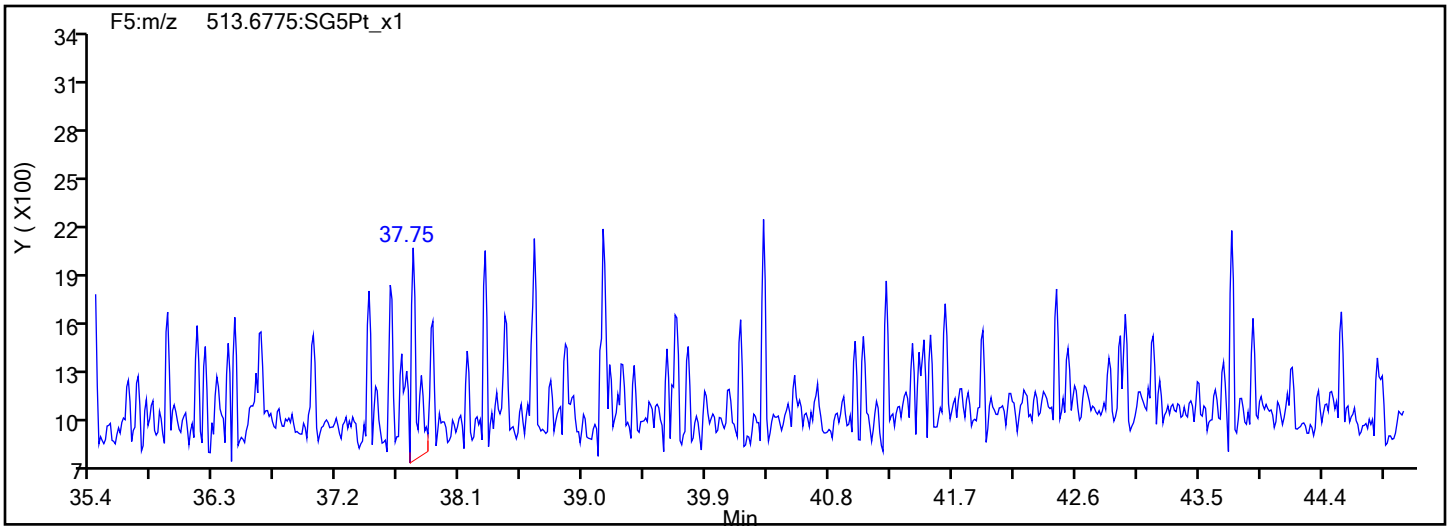

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Eurofins TestAmerica, Sacramento

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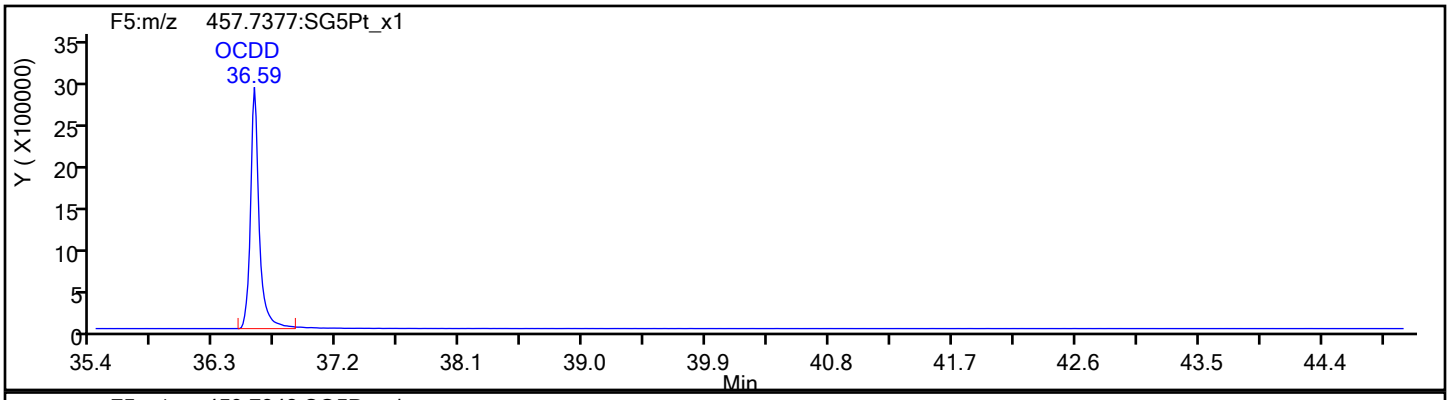

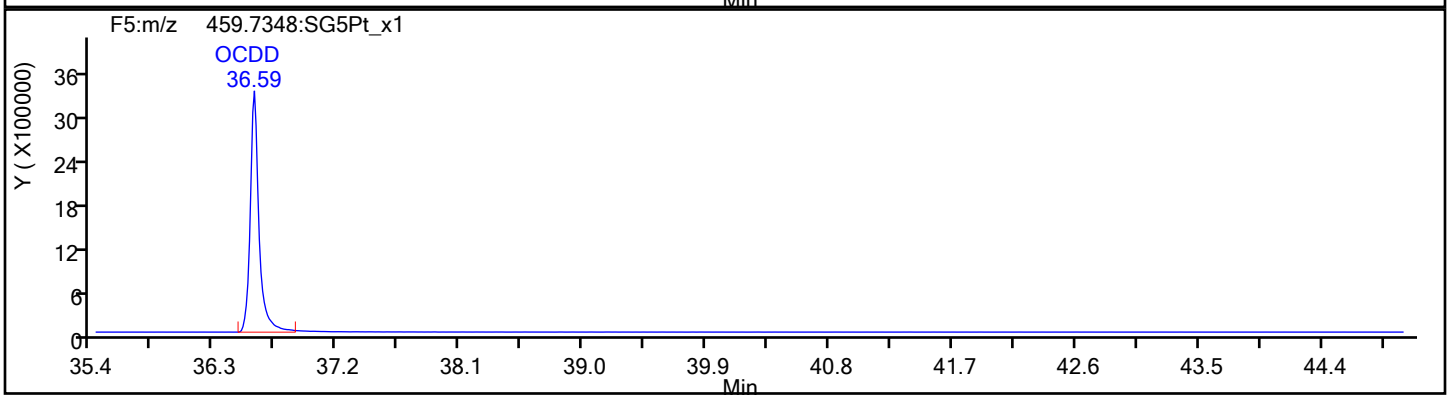

OCDD Standards

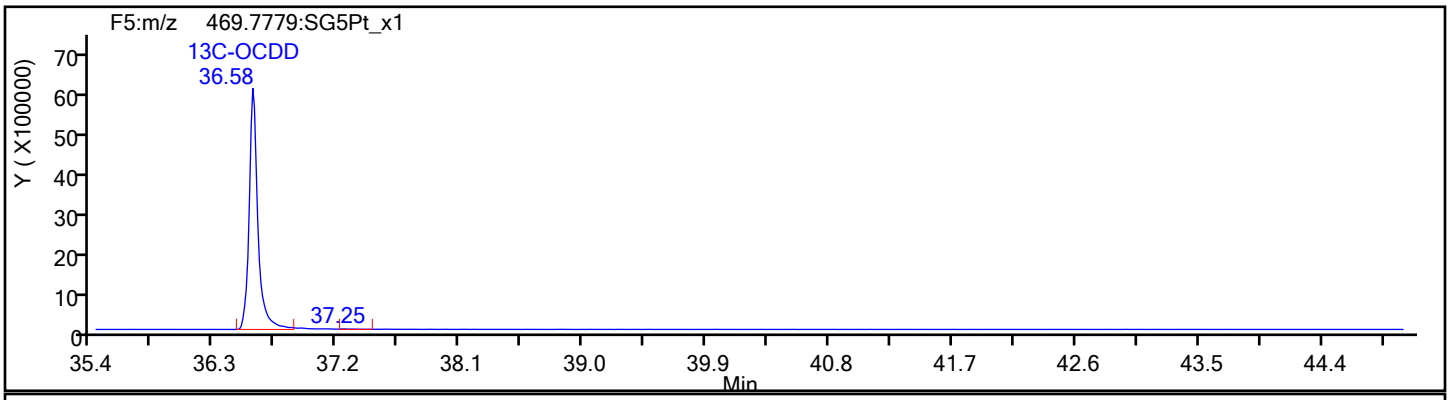

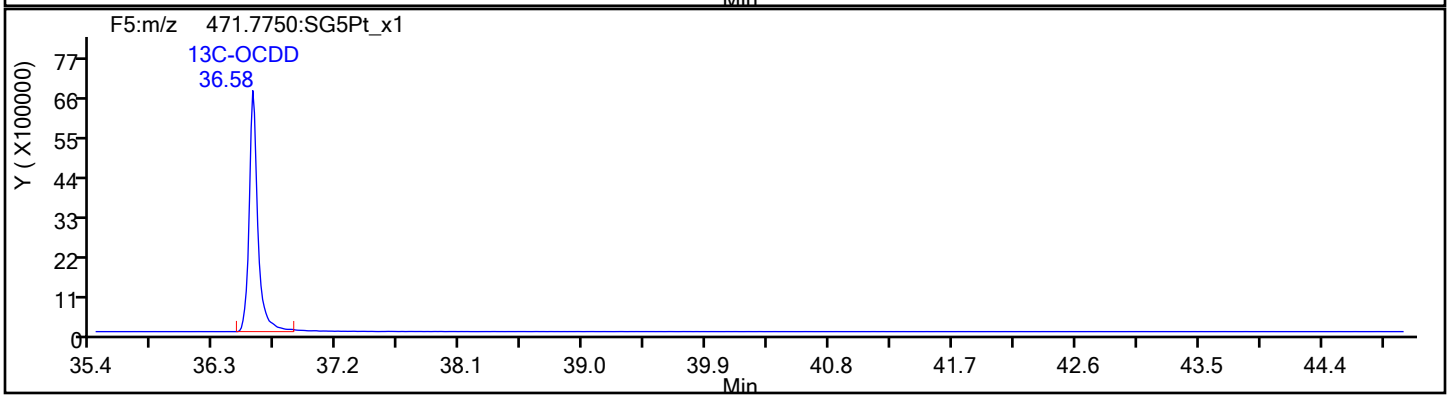

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Eurofins TestAmerica, Sacramento

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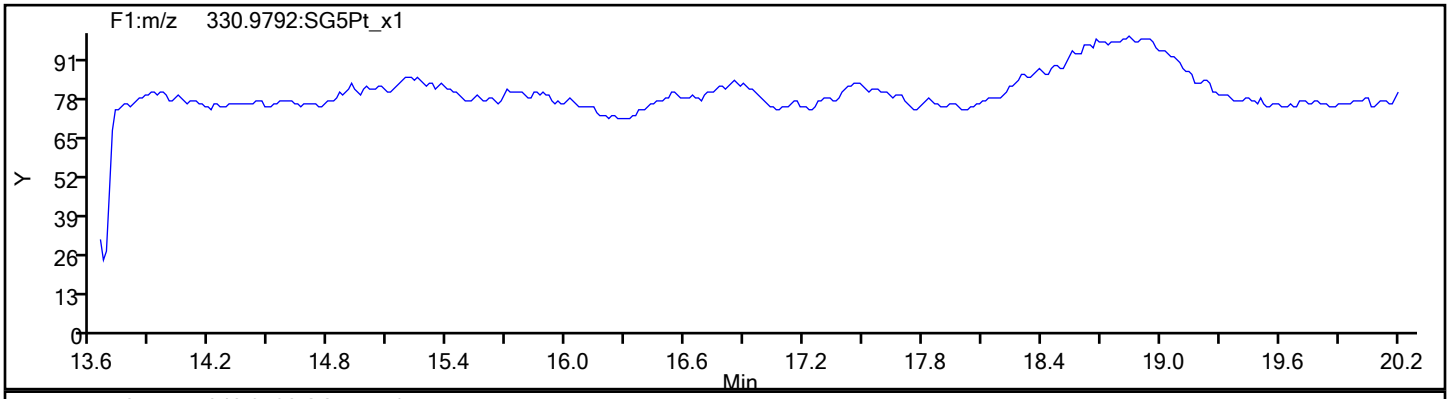

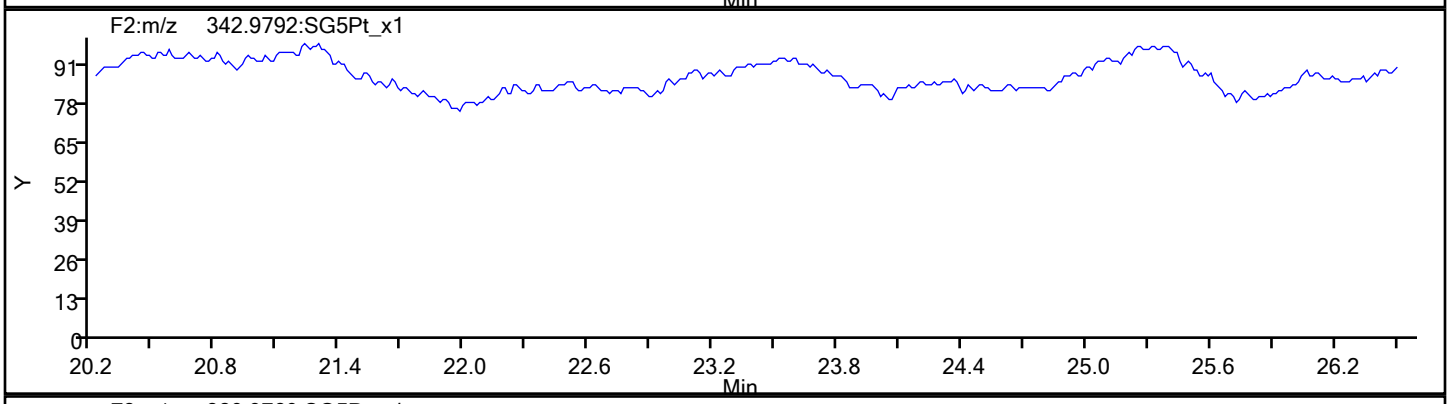

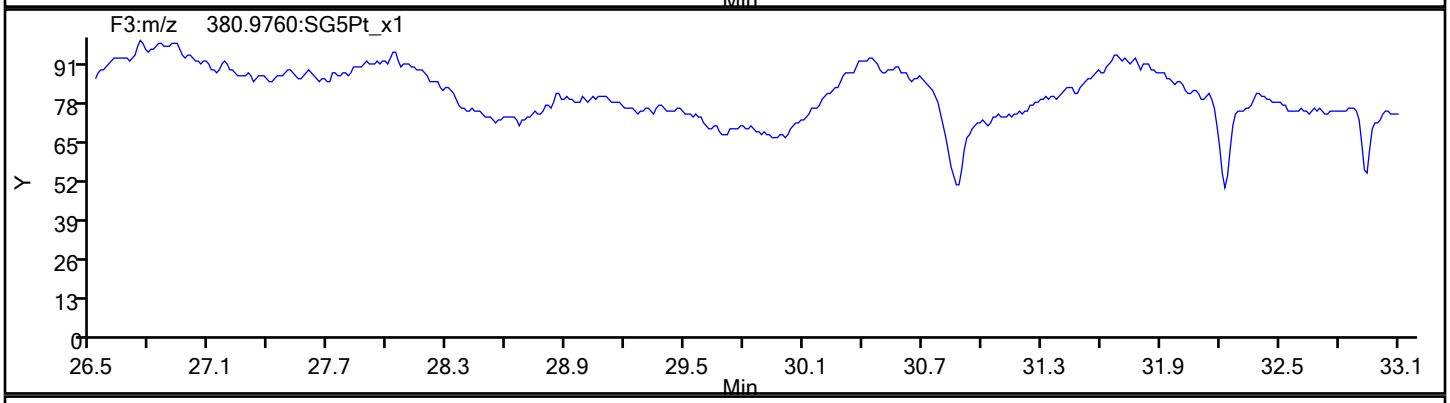

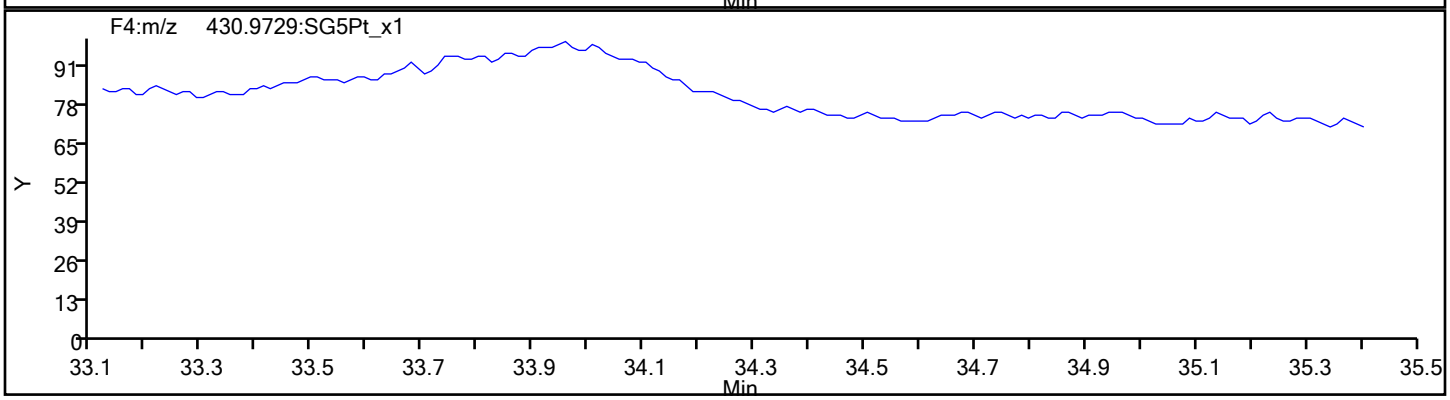

Report Date: 30-Jan-2020 09:33:46 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_6.d		
Injection Date:	30-Jan-2020 03:21:09	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

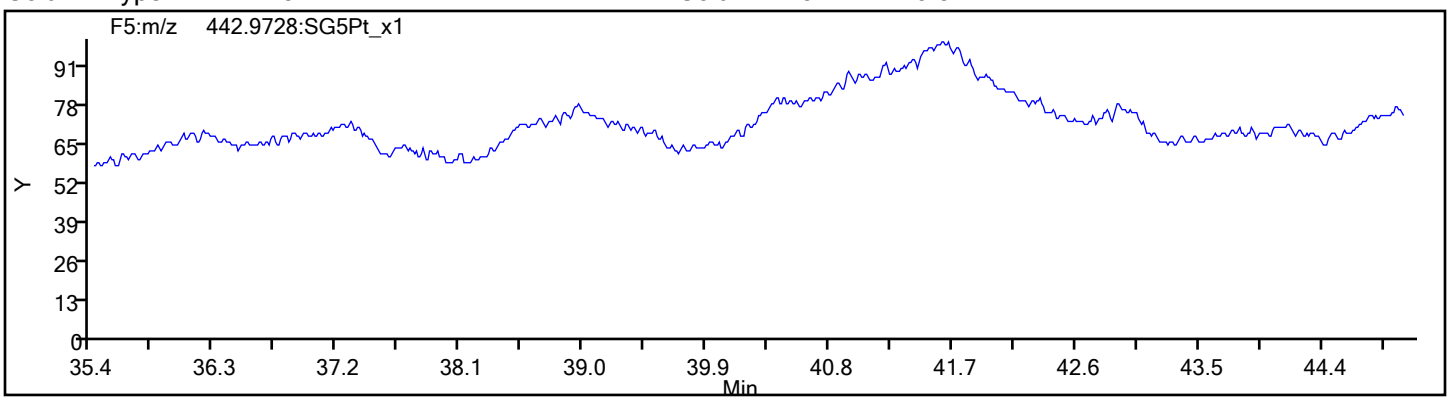

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_7.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 30-Jan-2020 04:07:08 ALS Bottle#: 6 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 012920C CS-5 HRDXNL5_00029
Misc. Info.: 29JA20B10D5
Operator ID: ALM Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 30-Jan-2020 09:34:13 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0321

First Level Reviewer: arghestanis Date: 30-Jan-2020 08:37:49

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.423	56344688	0.79	5.4E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.924	63967417	0.74	1.1275	100.7	100.7	0.2726	0.2726	101	
2,3,7,8-TCDF	16.939	20431926	0.73	0.7675	41.6	41.6	0.1036	0.1036	104	
S Total TCDF					41.6	41.6	0.1036	0.1036		
D 13C-2,3,7,8-TCDD	17.605	51144205	0.79	0.9032	100.5	100.5	0.1831	0.1831	101	
2,3,7,8-TCDD	17.635	20094350	0.76	0.9599	40.9	40.9	0.0570	0.0570	102	
$ 37Cl4-2,3,7,8-TCDD	17.635	23359364		0.9673	42.9	42.9	0.0821	0.0821	107	
S Total TCDD					40.9	40.9	0.0570	0.0570		
D 13C-1,2,3,7,8-PeCDF	21.760	53714045	1.54	0.9615	99.1	99.1	0.2392	0.2392	99.15	
1,2,3,7,8-PeCDF	21.774	100354025	1.53	0.8982	208.0	208.0	0.5914	0.5914	104	
D 13C-2,3,4,7,8-PeCDF	23.042	58863166	1.56	1.0393	100.5	100.5	0.2213	0.2213	101	
2,3,4,7,8-PeCDF	23.069	99521759	1.52	0.8101	208.7	208.7	0.6469	0.6469	104	
S Total PeCDF					416.7	416.7	0.6192	0.6192		
D 13C-1,2,3,7,8-PeCDD	23.737	38740832	1.62	0.6938	99.1	99.1	0.1198	0.1198	99.10	
1,2,3,7,8-PeCDD	23.764	80246961	1.56	0.9961	208.0	208.0	0.2208	0.2208	104	
S Total PeCDD					208.0	208.0	0.2208	0.2208		
D 13C-1,2,3,4,7,8-HxCDF	29.886	39824520	0.49	0.8543	103.6	103.6	0.3161	0.3161	104	
1,2,3,4,7,8-HxCDF	29.913	66495631	1.20	0.7916	210.9	210.9	1.011	1.011	105	
D 13C-1,2,3,6,7,8-HxCDF	30.126	38395283	0.49	0.8361	102.0	102.0	0.3230	0.3230	102	
1,2,3,6,7,8-HxCDF	30.152	70250838	1.21	0.8638	211.8	211.8	0.9255	0.9255	106	
D 13C-2,3,4,6,7,8-HxCDF	31.111	35563872	0.49	0.7773	101.6	101.6	0.3474	0.3474	102	
2,3,4,6,7,8-HxCDF	31.124	67331592	1.19	0.9010	210.1	210.1	0.6417	0.6417	105	
D 13C-1,2,3,7,8,9-HxCDF	32.003	32406883	0.50	0.7167	100.4	100.4	0.3768	0.3768	100	
1,2,3,7,8,9-HxCDF	32.016	62323134	1.21	0.9127	210.7	210.7	0.6418	0.6418	105	
S Total HxCDF					843.6	843.6	0.8049	0.8049		
* 13C-1,2,3,7,8,9-HxCDD	31.803	45014984	1.23	4.4E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.324	38415840	1.22	0.8050	106.0	106.0	0.2144	0.2144	106	
1,2,3,4,7,8-HxCDD	31.337	65382847	1.22	0.8392	202.8	202.8	0.4242	0.4242	101	
D 13C-1,2,3,6,7,8-HxCDD	31.444	36689566	1.22	0.8269	98.6	98.6	0.2087	0.2087	98.56	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.457	68785725	1.23	0.8876	211.2	211.2	0.4274	0.4274	106	
1,2,3,7,8,9-HxCDD	31.817	73450360	1.22	0.9567	204.4	204.4	0.3839	0.3839	102	
S Total HxCDD					618.5	618.5	0.4118	0.4118		
D 13C-1,2,3,4,6,7,8-HpCDF	33.509	32606646	0.42	0.7080	102.3	102.3	1.111	1.111	102	
1,2,3,4,6,7,8-HpCDF	33.521	89887019	1.02	1.3375	206.1	206.1	1.416	1.416	103	
D 13C-1,2,3,4,7,8,9-HpCDF	34.566	35066339	0.42	0.7451	104.5	104.5	1.056	1.056	105	
1,2,3,4,7,8,9-HpCDF	34.578	77825210	1.02	1.0744	206.6	206.6	1.948	1.948	103	
S Total HpCDF					412.7	412.7	1.682	1.682		
D 13C-1,2,3,4,6,7,8-HpCDD	34.286	34719607	1.05	0.7473	103.2	103.2	0.4051	0.4051	103	
1,2,3,4,6,7,8-HpCDD	34.299	69966787	1.03	0.9811	205.4	205.4	0.7472	0.7472	103	
S Total HpCDD					205.4	205.4	0.7472	0.7472		
D 13C-OCDD	36.578	61805942	0.90	0.6622	207.3	207.3	0.0999	0.0999	104	
OCDF	36.674	138188549	0.91	1.0659	419.5	419.5	0.1625	0.1625	105	
OCDD	36.590	125200375	0.87	0.9937	407.7	407.7	0.1948	0.1948	102	

Reagents:

HRDXNL5_00029 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_7.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 30-Jan-2020 04:07:08 ALS Bottle#: 6 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 012920C CS-5 HRDXNL5_00029
Misc. Info.: 29JA20B10D5
Operator ID: ALM Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 30-Jan-2020 09:34:13 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0321

First Level Reviewer: arghestanis Date: 30-Jan-2020 08:37:49

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.423	17.411	1		24918895	6413165	5319	13297	1206		
333.9339	17.423	17.411	1		31425793	8083203	4268	10670	1894	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.924	16.924	0	0.971	27263402	6775254	6447	16117	1051		
317.9389	16.924	16.924	0	0.971	36704015	9026637	11378	28445	793	0.74(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.939	16.939	0	1.001	8611489	2112775	2168	5420	975		
305.8987	16.939	16.939	0	1.001	11820437	2935795	2856	7140	1028	0.73(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.605	17.605	0	1.010	22629417	5403614	5319	13297	1016		
333.9339	17.605	17.605	0	1.010	28514788	6811236	4268	10670	1596	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.635	17.623	1	1.002	8683678	2076733	1645	4112	1262		
321.8936	17.635	17.623	1	1.002	11410672	2699534	1029	2572	2623	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.635	17.623	1	1.012	23359364	5439606	4606	11515	1181		
13C-1,2,3,7,8-PeCDF											
351.9000	21.760	21.749	1	1.249	32602148	6023144	7875	19687	765		
353.8970	21.760	21.749	1	1.249	21111897	3901668	5459	13647	715	1.54(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.774	21.773	0	1.001	60664487	10898088	12725	31812	856		
341.8567	21.774	21.773	0	1.001	39689538	7217860	8362	20905	863	1.53(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	23.042	23.042	0	1.322	35889193	6093734	7875	19687	774		
353.8970	23.042	23.042	0	1.322	22973973	3965669	5459	13647	726	1.56(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.069	23.066	0	1.001	59996164	10201913	12725	31812	802		
341.8567	23.069	23.066	0	1.001	39525595	6752605	8362	20905	808	1.52(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.737	23.737	0	1.362	23942832	3982779	2717	6792	1466		
369.8919	23.737	23.737	0	1.362	14798000	2431501	2101	5252	1157	1.62(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.764	23.761	0	1.001	48865636	7729681	3471	8677	2227		
357.8516	23.764	23.761	0	1.001	31381325	5028052	2171	5427	2316	1.56(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.886	29.878	0	0.940	13053823	1848733	3940	9850	469		
385.8610	29.886	29.878	0	0.940	26770697	3796485	7582	18955	501	0.49(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.913	29.905	0	1.001	36317735	5169258	9859	24647	524		
375.8178	29.913	29.905	0	1.001	30177896	4295382	8206	20515	523	1.20(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.126	30.118	0	0.947	12615779	1867897	3940	9850	474		
385.8610	30.126	30.118	0	0.947	25779504	3781007	7582	18955	499	0.49(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.152	30.142	1	1.001	38440373	5585107	9859	24647	566		
375.8178	30.139	30.142	0	1.000	31810465	4655149	8206	20515	567	1.21(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.111	31.108	0	0.978	11658043	2581420	3940	9850	655		
385.8610	31.111	31.108	0	0.978	23905829	5229343	7582	18955	690	0.49(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.124	31.124	0	1.000	36627754	7795490	9859	24647	791		
375.8178	31.124	31.124	0	1.000	30703838	6624620	8206	20515	807	1.19(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.003	31.992	1	1.006	10815262	2569798	3940	9850	652		
385.8610	32.003	31.992	1	1.006	21591621	5140179	7582	18955	678	0.50(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.016	32.008	1	1.000	34091638	8022160	9859	24647	814		
375.8178	32.016	32.008	1	1.000	28231496	6621511	8206	20515	807	1.21(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.803	31.803	0		24849989	5909668	4012	10030	1473		
403.8529	31.803	31.803	0		20164995	4757026	3351	8377	1420	1.23(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.324	31.324	0	0.985	21127959	4897526	4012	10030	1221		
403.8529	31.324	31.324	0	0.985	17287881	4043040	3351	8377	1207	1.22(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.337	31.337	0	1.000	35925775	8301817	7193	17982	1154		
391.8127	31.337	31.337	0	1.000	29457072	6813746	5537	13842	1231	1.22(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.444	31.441	0	0.989	20195378	4604820	4012	10030	1148		
403.8529	31.444	31.441	0	0.989	16494188	3783906	3351	8377	1129	1.22(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.457	31.457	0	1.000	37874484	8431654	7193	17982	1172		
391.8127	31.457	31.457	0	1.000	30911241	6995578	5537	13842	1263	1.23(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.817	31.816	0	1.016	40428679	9548794	7193	17982	1328		
391.8127	31.817	31.816	0	1.016	33021681	7860633	5537	13842	1420	1.22(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.509	33.499	1	1.054	9717611	3128467	10512	26280	298		
419.8220	33.509	33.499	1	1.054	22889035	7189827	23056	57640	312	0.42(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.521	33.511	1	1.000	45385713	13954433	45607	114017	306		
409.7789	33.509	33.511	0	1.000	44501306	13711212	32566	81415	421	1.02(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.566	34.563	0	1.087	10385879	2793020	10512	26280	266		
419.8220	34.566	34.563	0	1.087	24680460	6542143	23056	57640	284	0.42(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.578	34.570	0	1.000	39321691	10252695	45607	114017	225		
409.7789	34.578	34.570	0	1.000	38503519	9874404	32566	81415	303	1.02(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.286	34.279	0	1.078	17764191	4998249	5856	14640	854		
437.8140	34.286	34.279	0	1.078	16955416	4736589	7061	17652	671	1.05(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.299	34.288	1	1.000	35555988	9644694	13910	34775	693		
425.7737	34.286	34.288	0	1.000	34410799	9229955	14636	36590	631	1.03(0.88-1.20)	
13C-OCDD											
469.7779	36.578	36.578	0	1.150	29252794	6867044	1371	3427	5009		
471.7750	36.578	36.578	0	1.150	32553148	7810240	1451	3627	5383	0.90(0.76-1.02)	
OCDF											
441.7428	36.674	36.674	0	1.003	65700450	16019534	2770	6925	5783		
443.7399	36.674	36.674	0	1.003	72488099	17584795	2315	5787	7596	0.91(0.76-1.02)	
OCDD											
457.7377	36.590	36.590	0	1.000	58268003	13871924	2665	6662	5205		
459.7348	36.590	36.590	0	1.000	66932372	15818464	3018	7545	5241	0.87(0.76-1.02)	

Reagents:

HRDXNL5_00029 Amount Added: 2.00 Units: uL

Report Date: 30-Jan-2020 09:34:39 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_7.d		
Injection Date:	30-Jan-2020 04:07:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

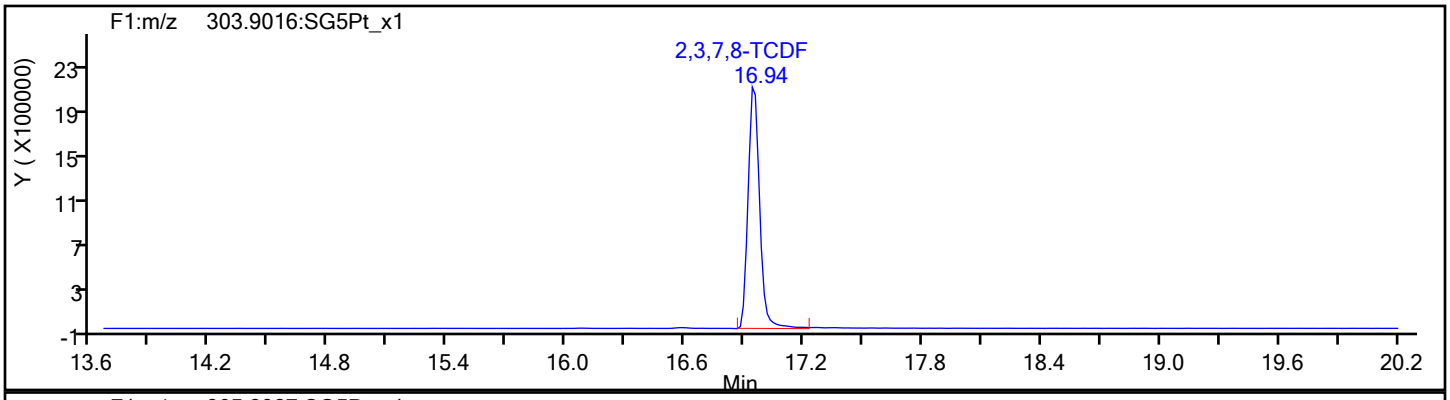

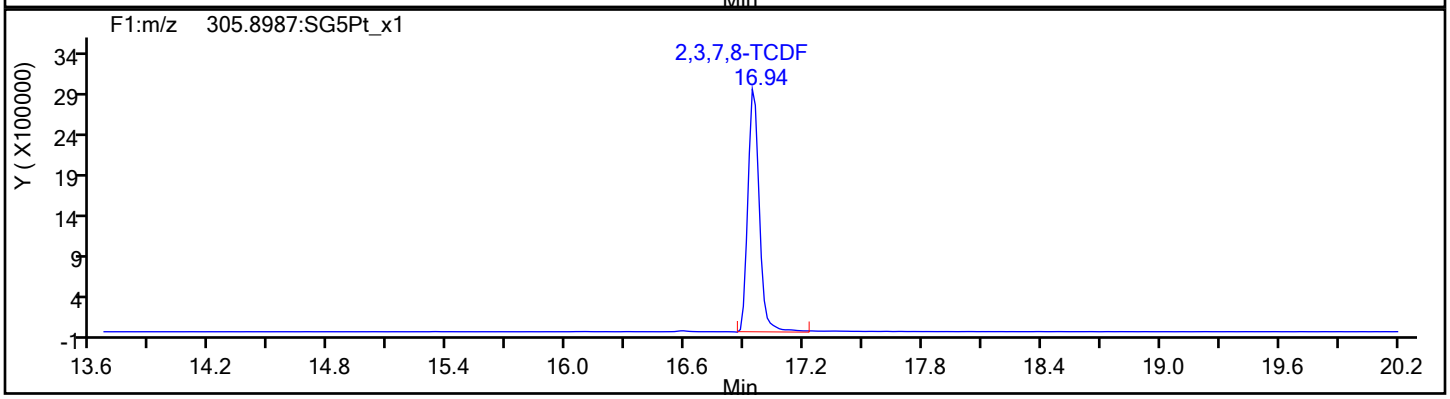

TCDF Standards

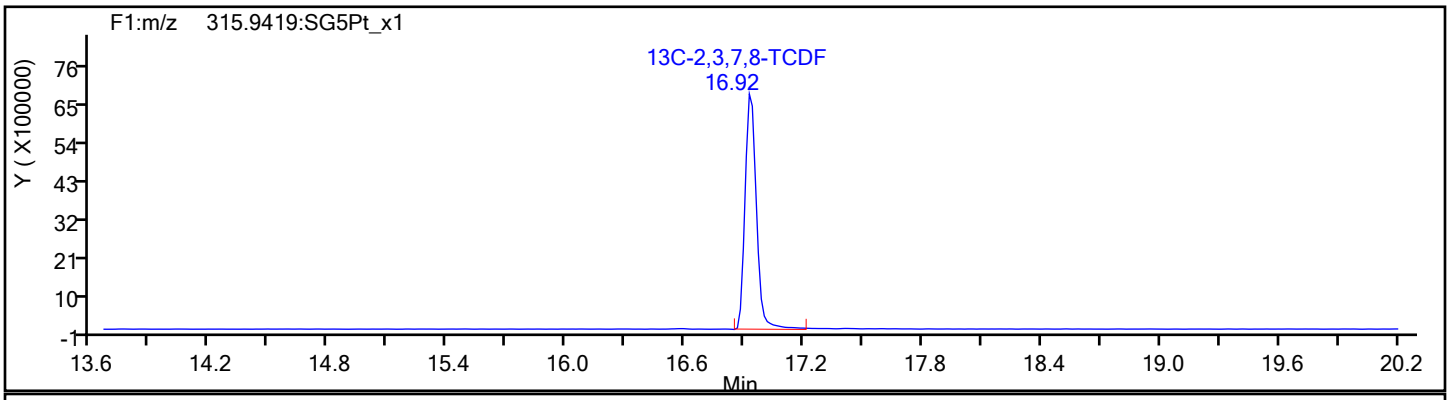

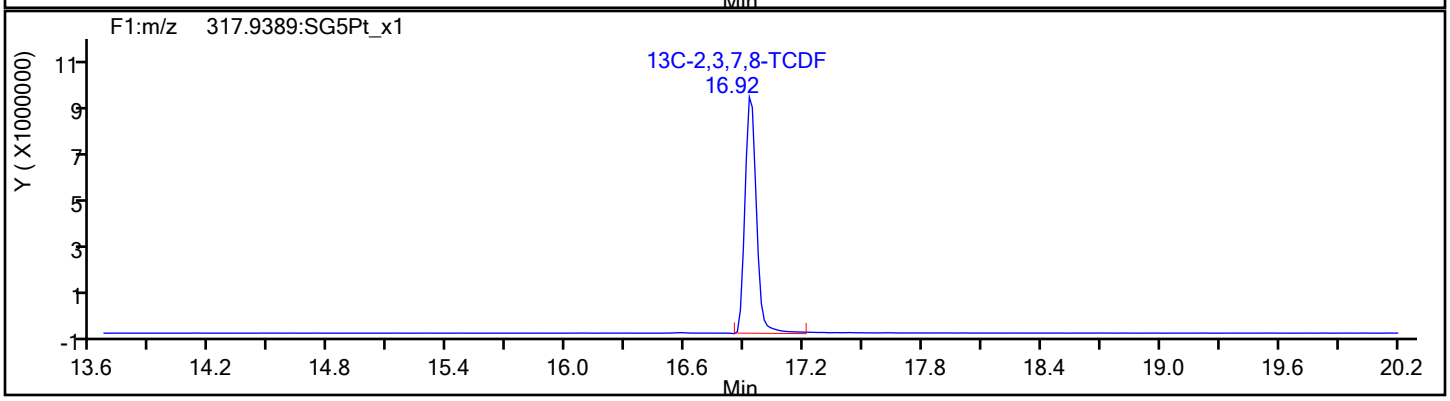

Report Date: 30-Jan-2020 09:34:39 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

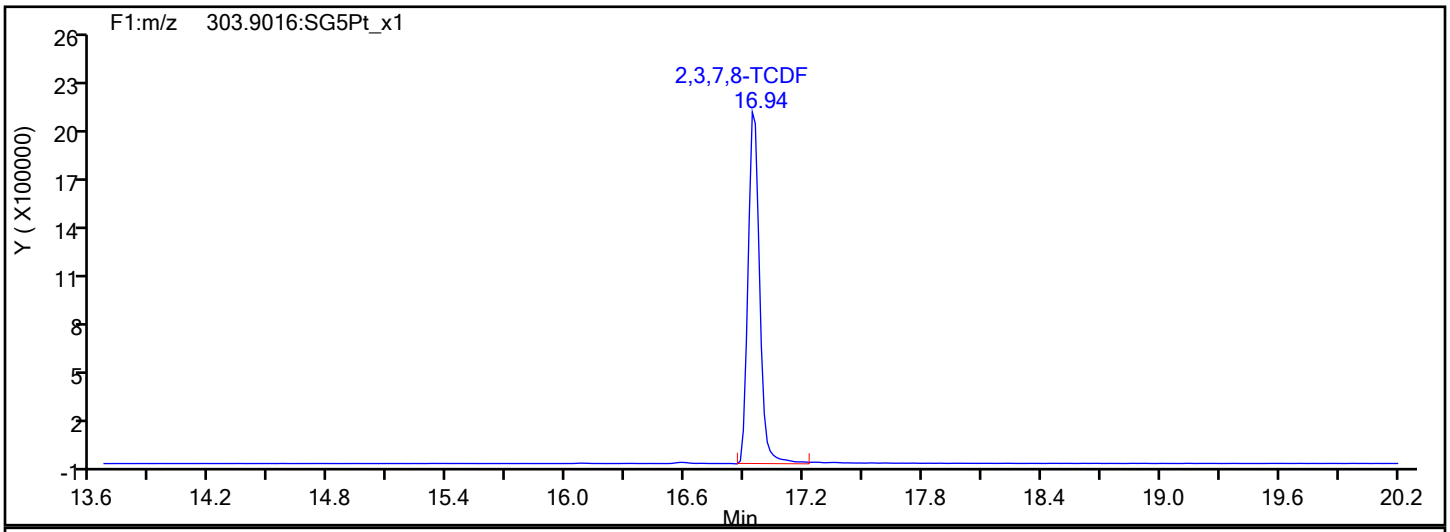

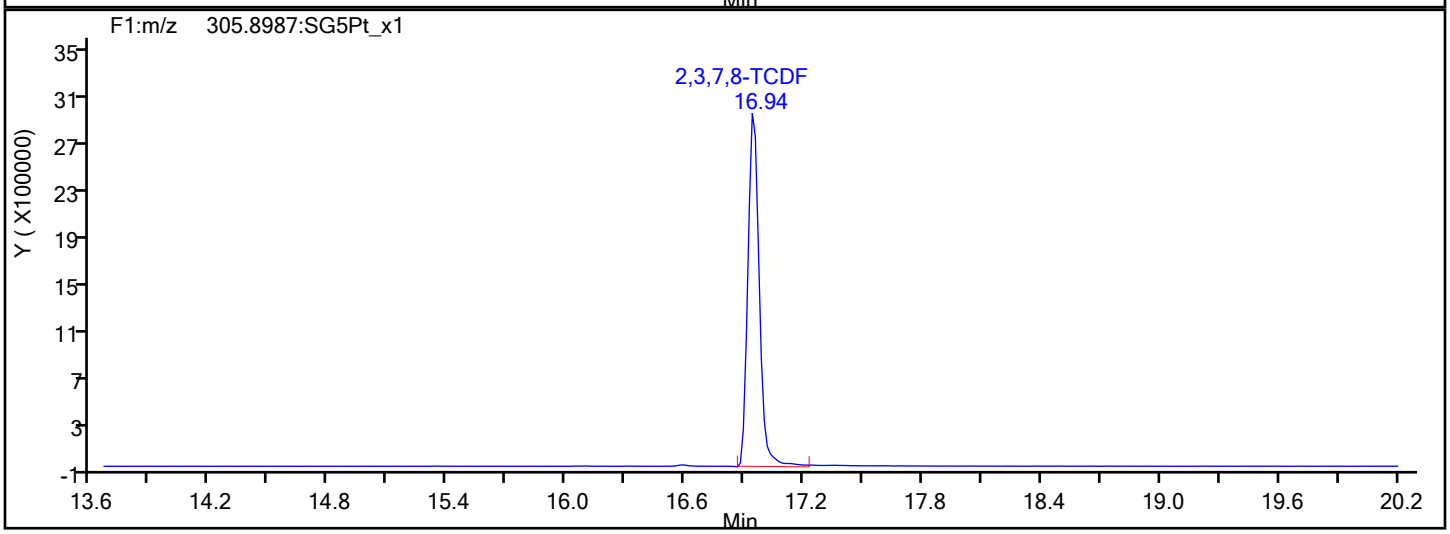

TCDF Interference Mass

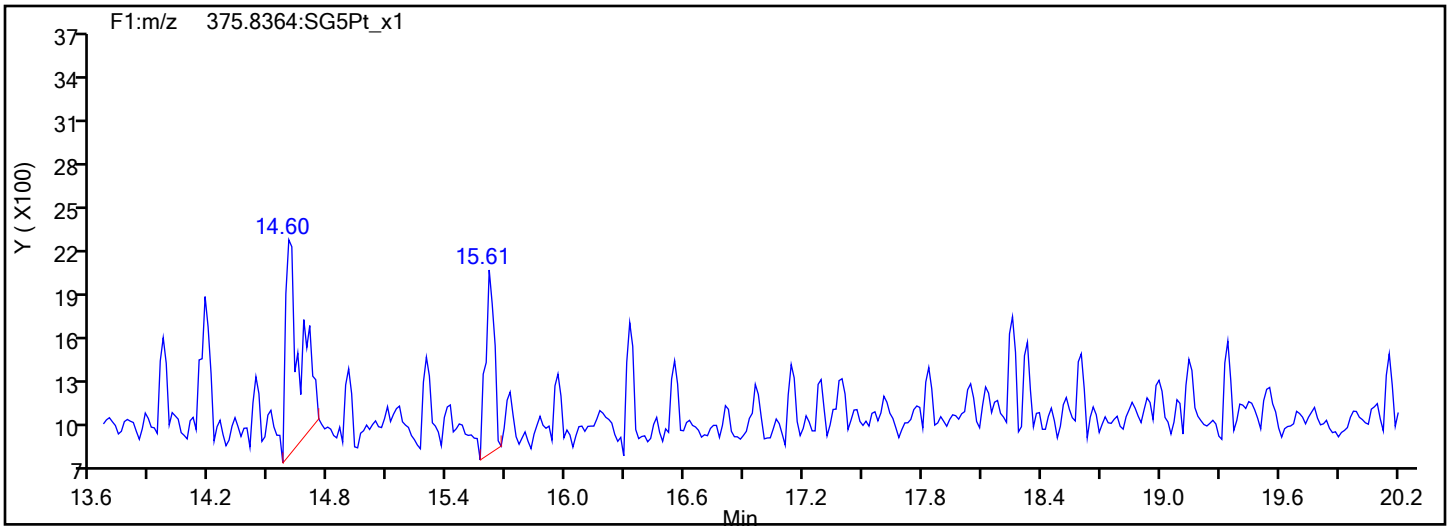

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Eurofins TestAmerica, Sacramento

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TCDD

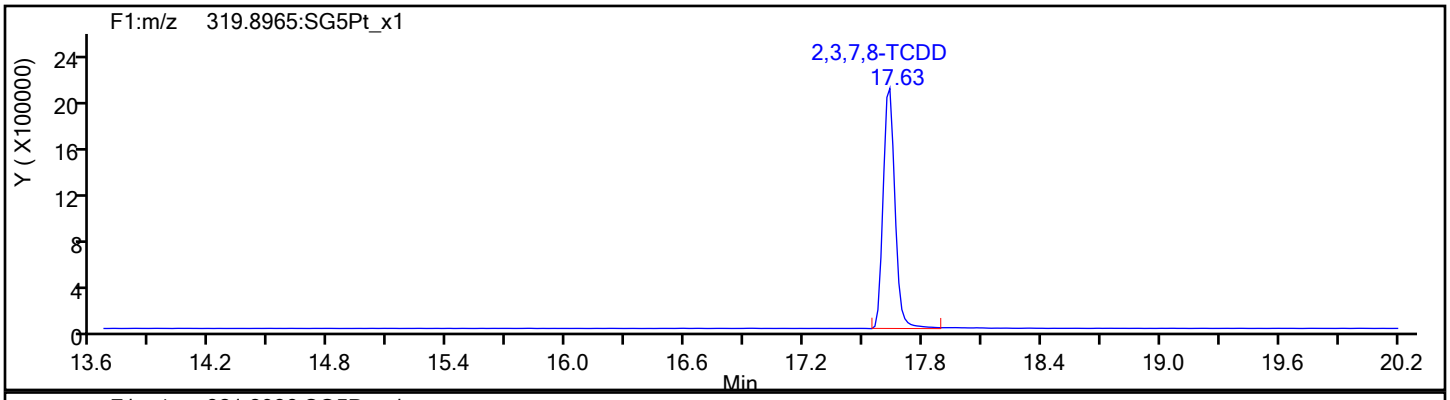

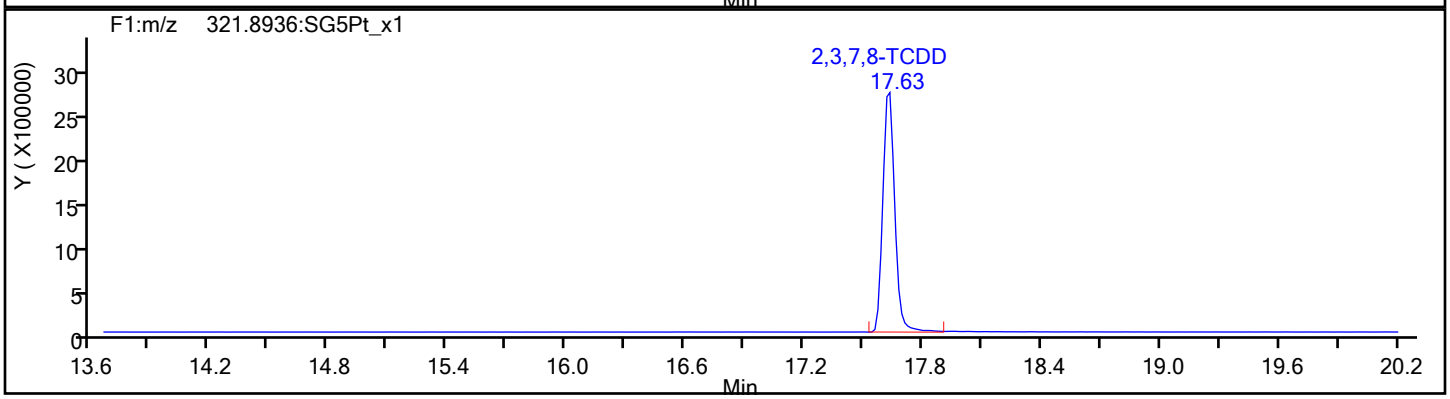

TCDD Standards

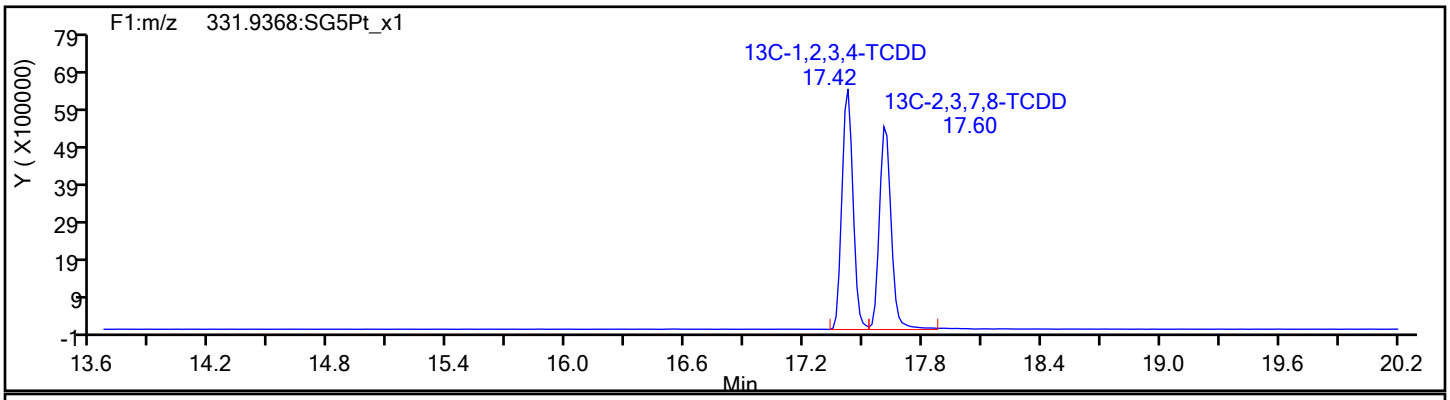

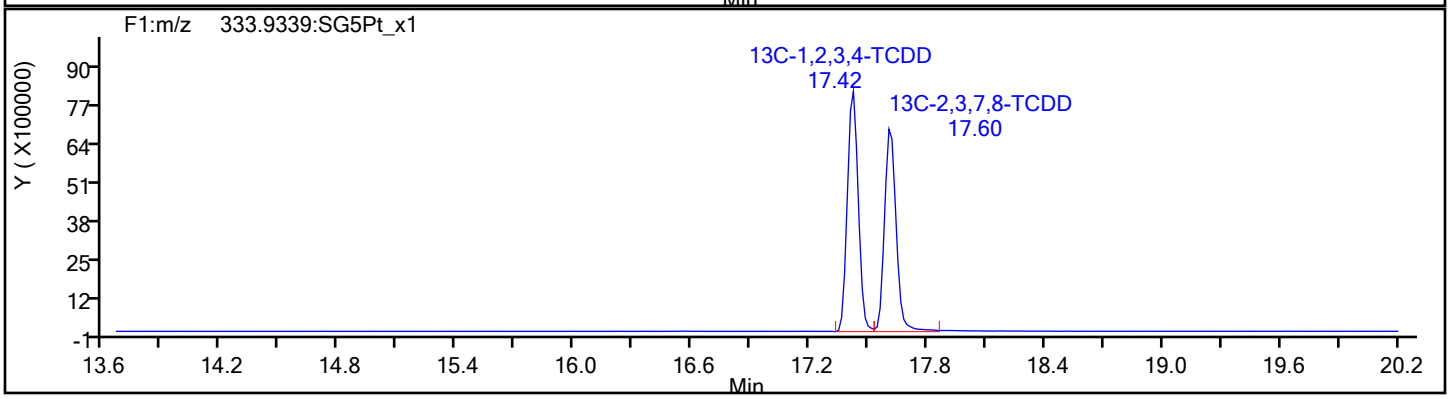

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Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

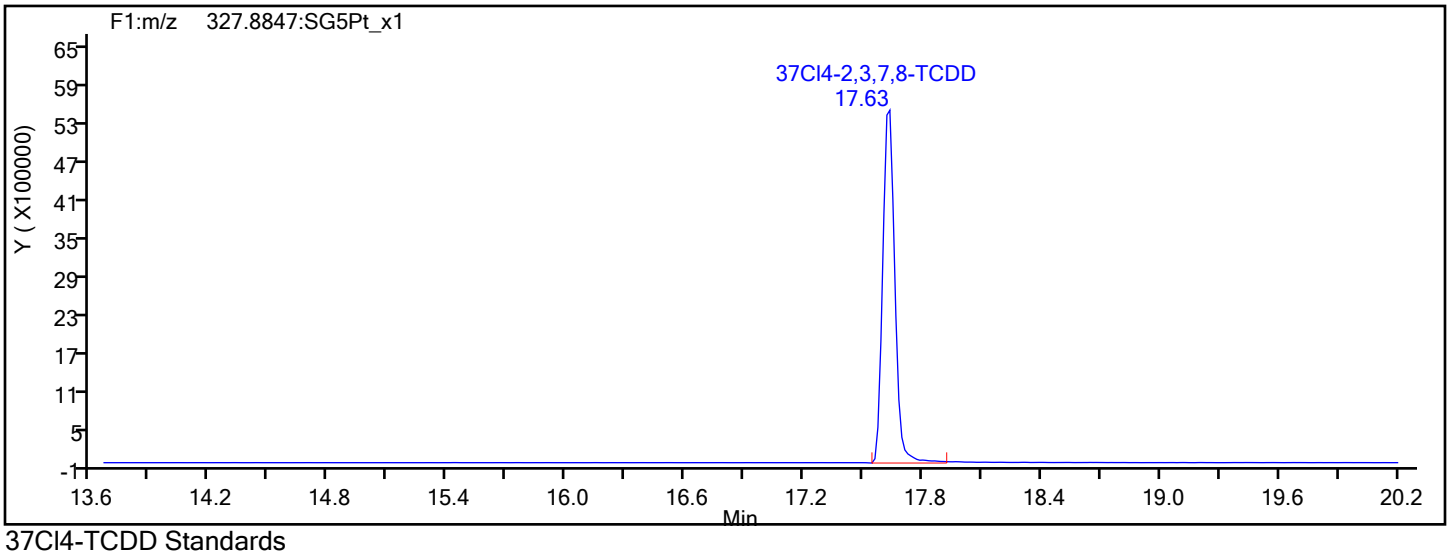

37Cl4-TCDD Standards

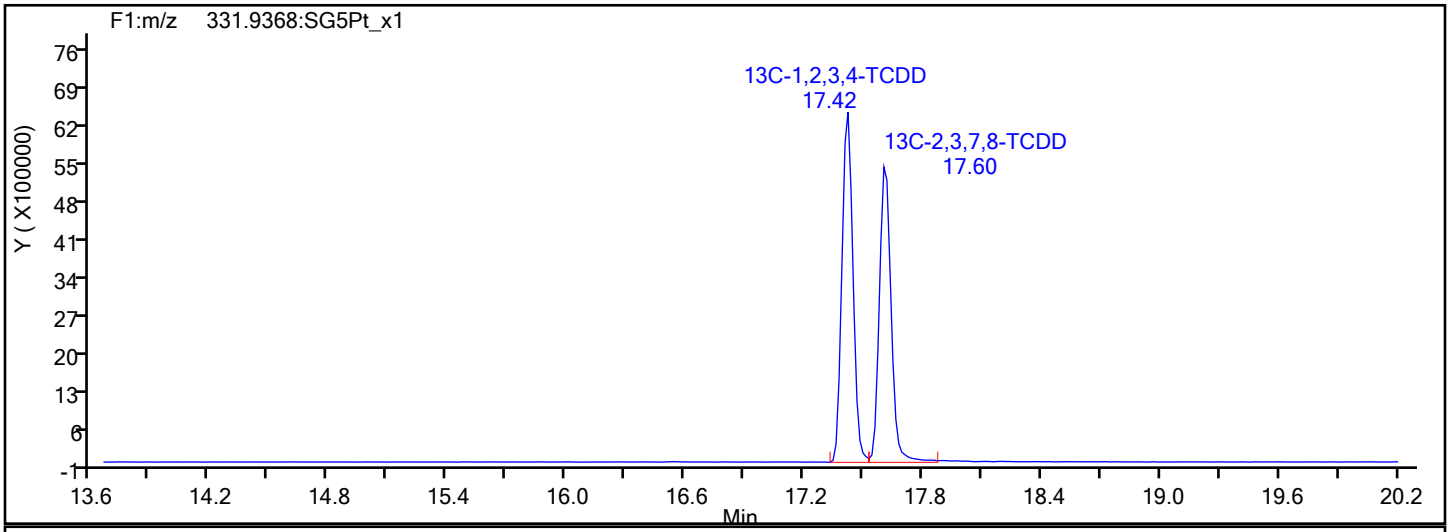

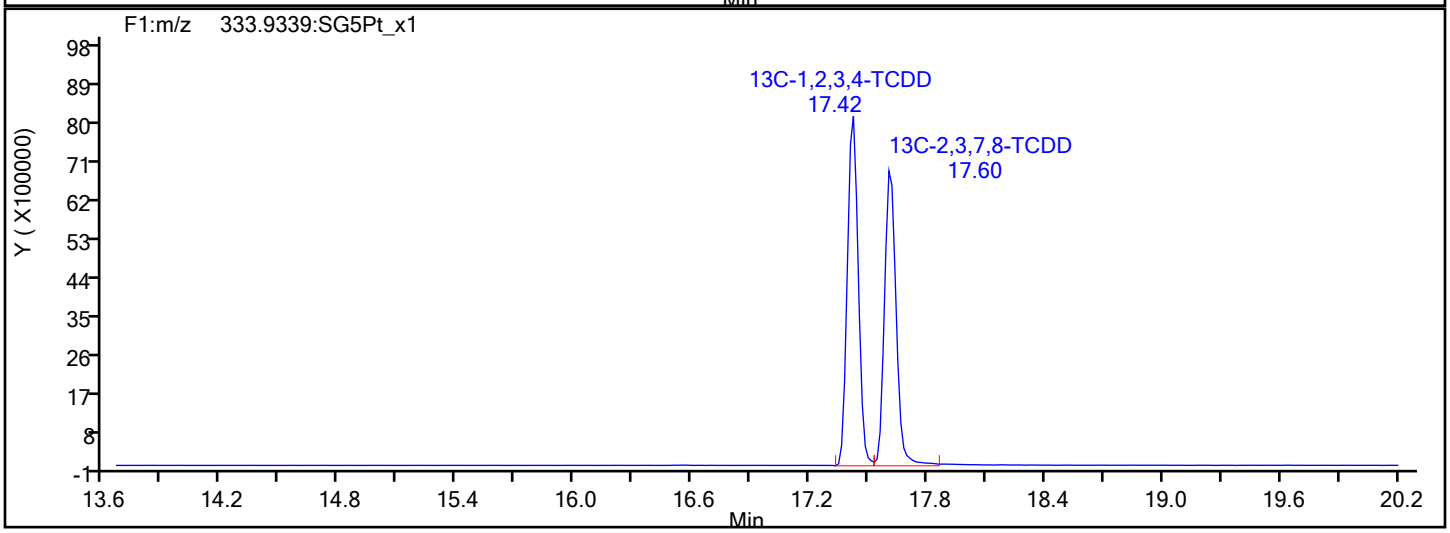

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

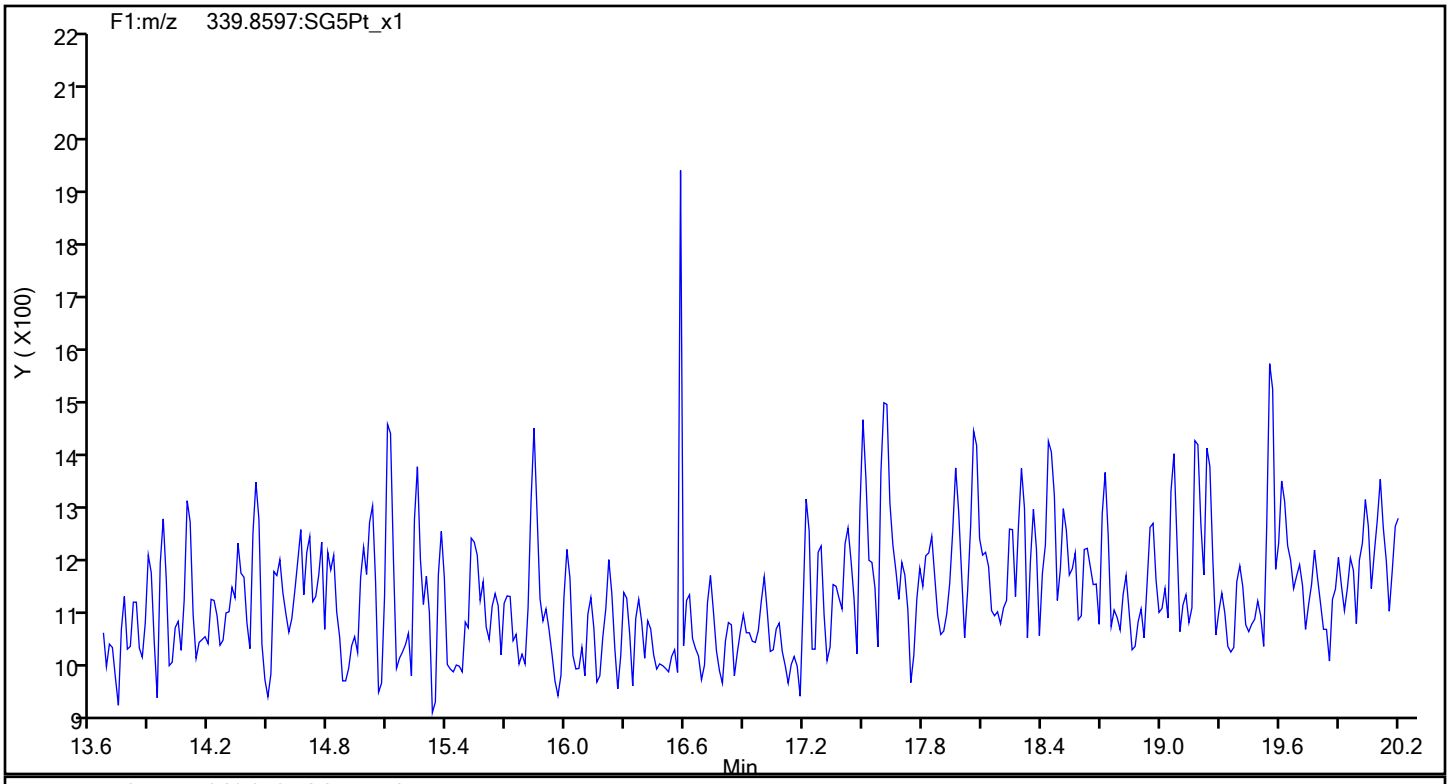

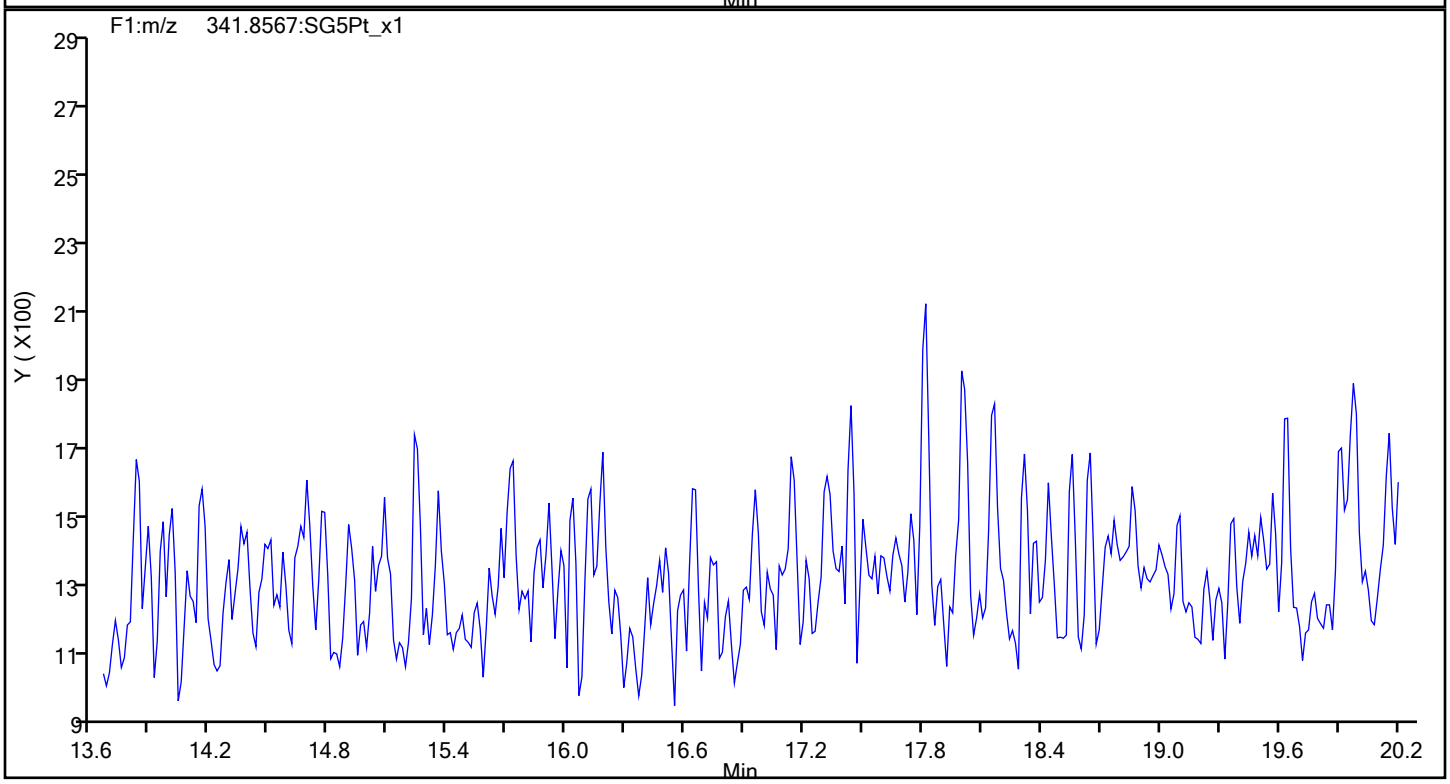

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

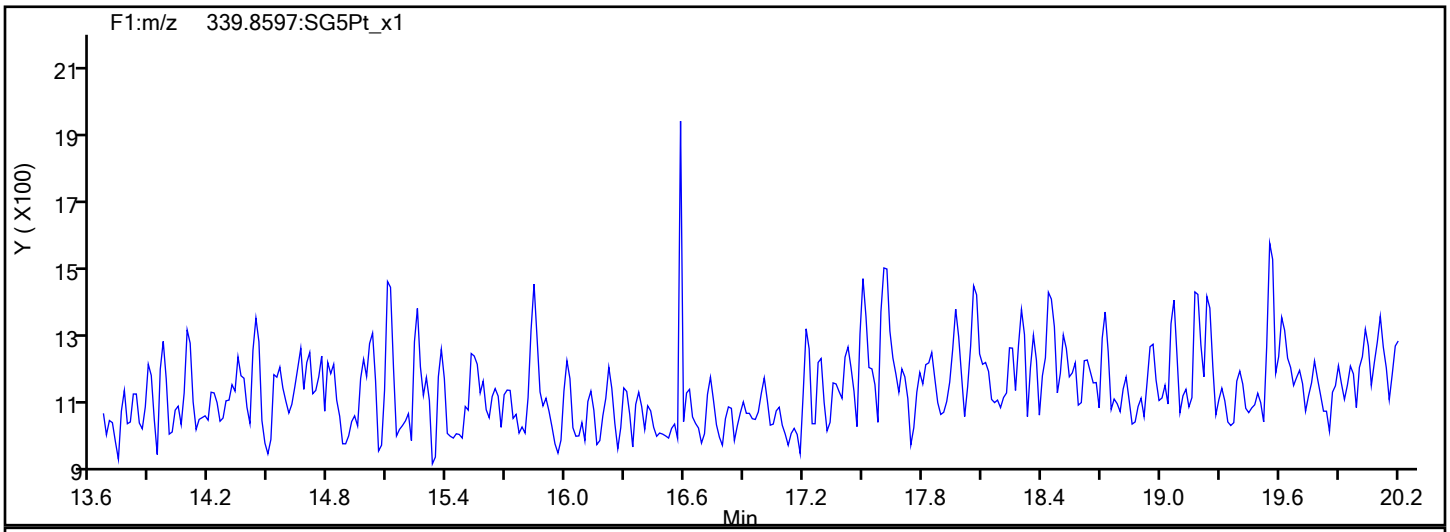

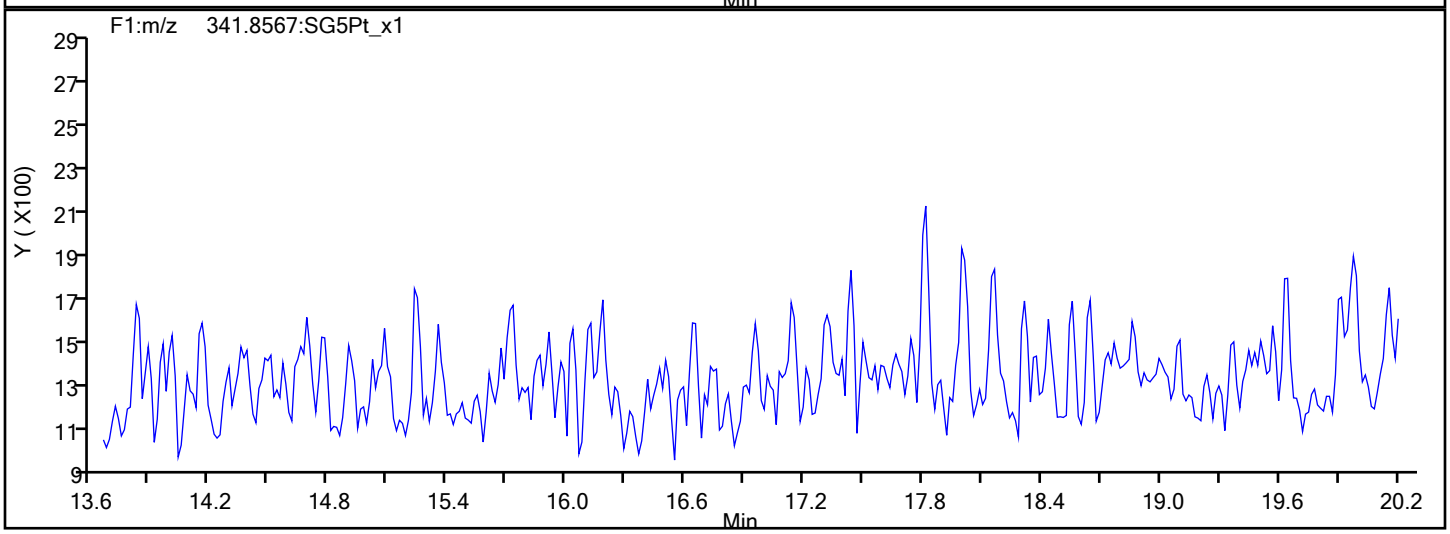

F1 PeCDFs Interference Mass

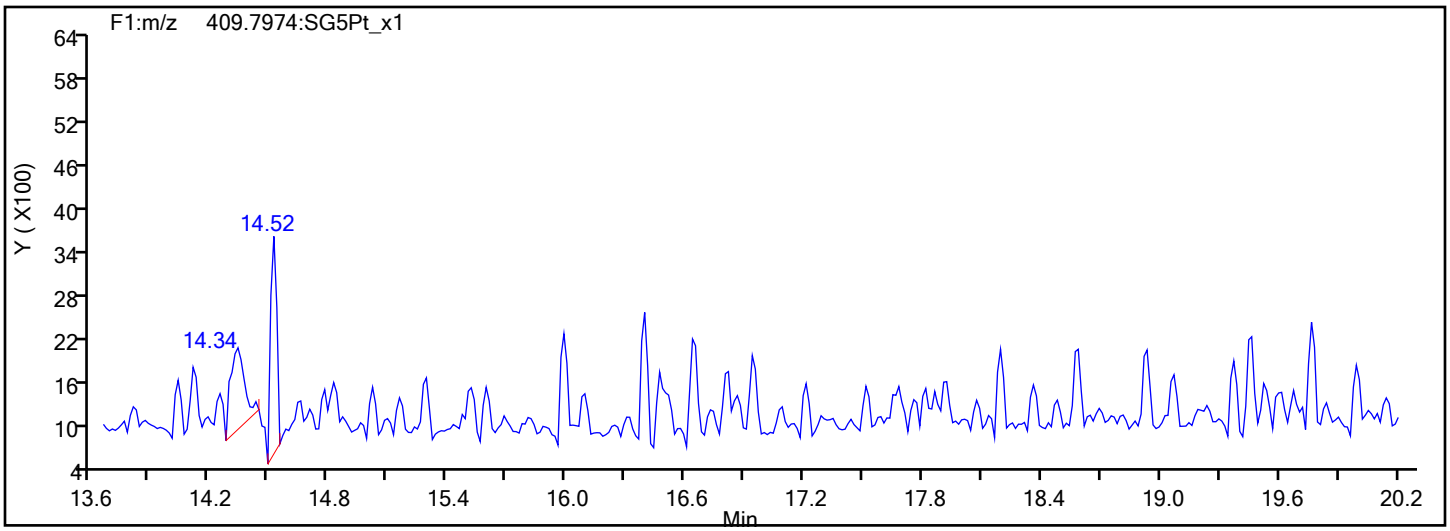

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Eurofins TestAmerica, Sacramento

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PeCDF

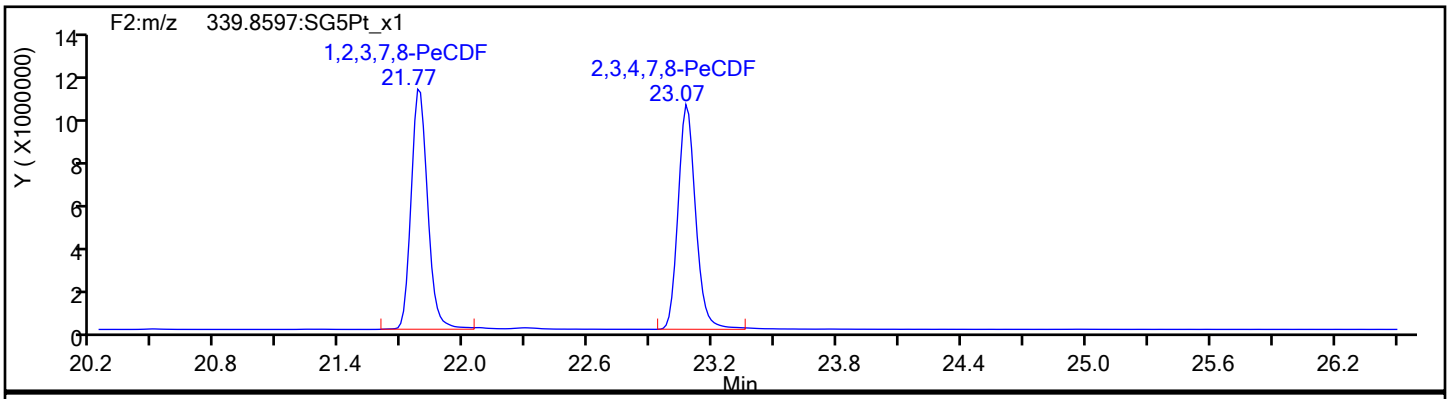

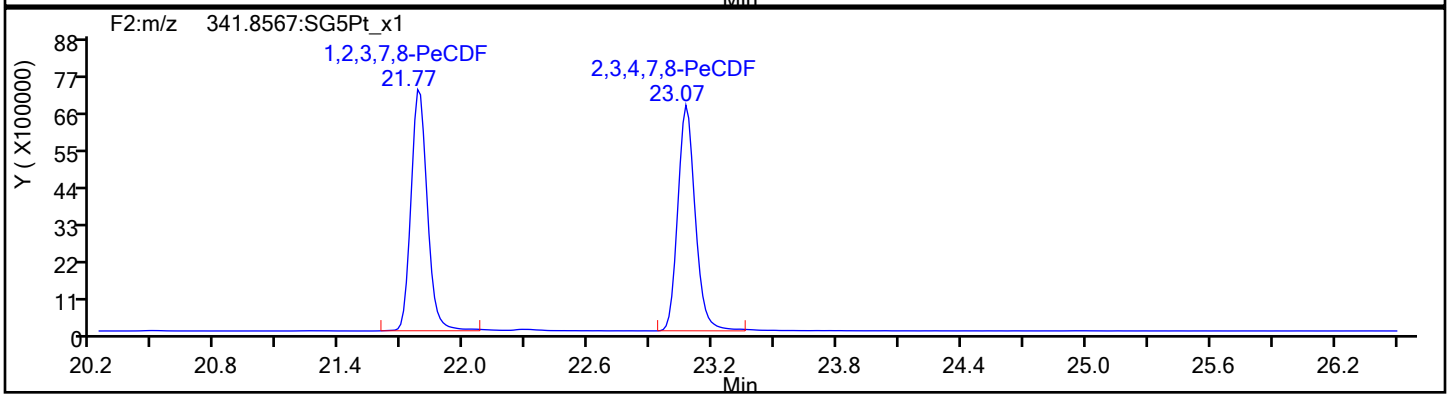

PeCDF Standards

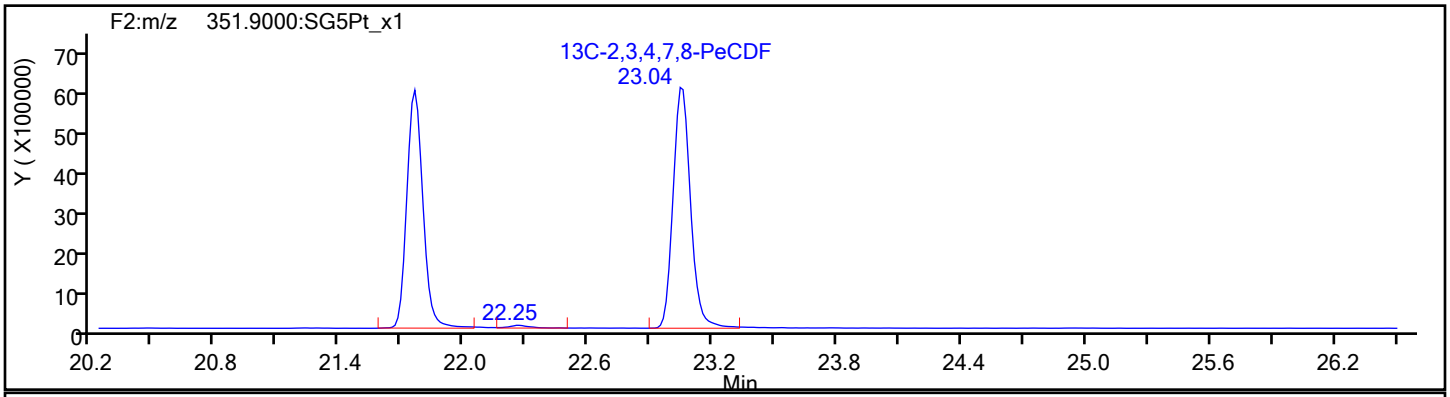

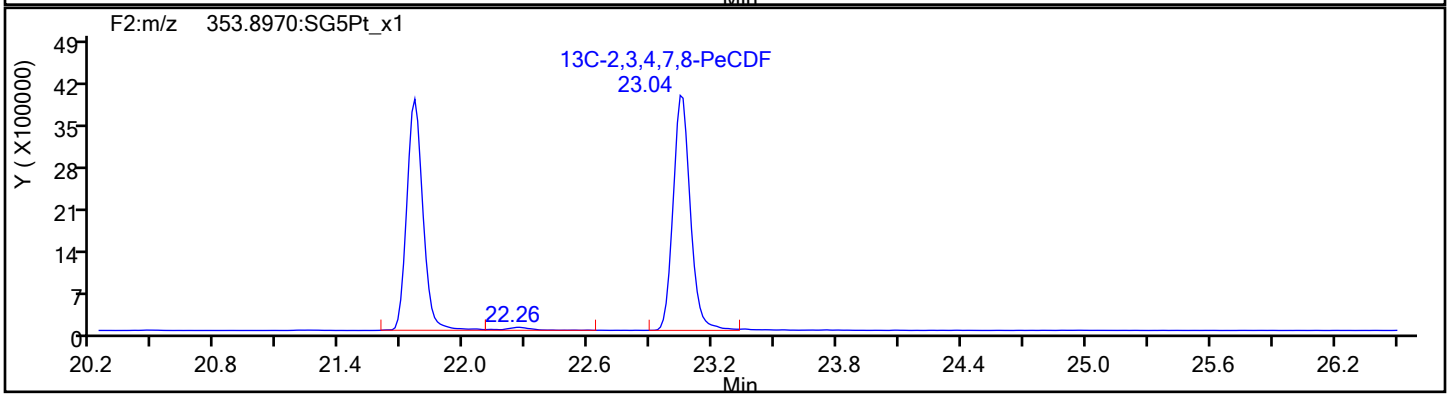

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Eurofins TestAmerica, Sacramento

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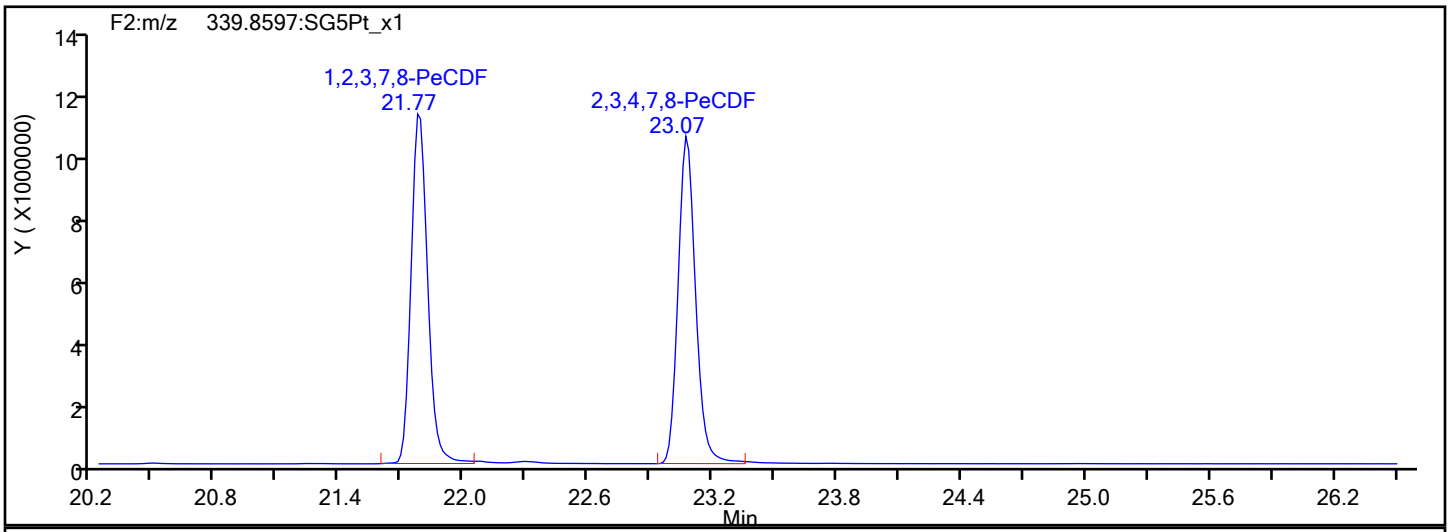

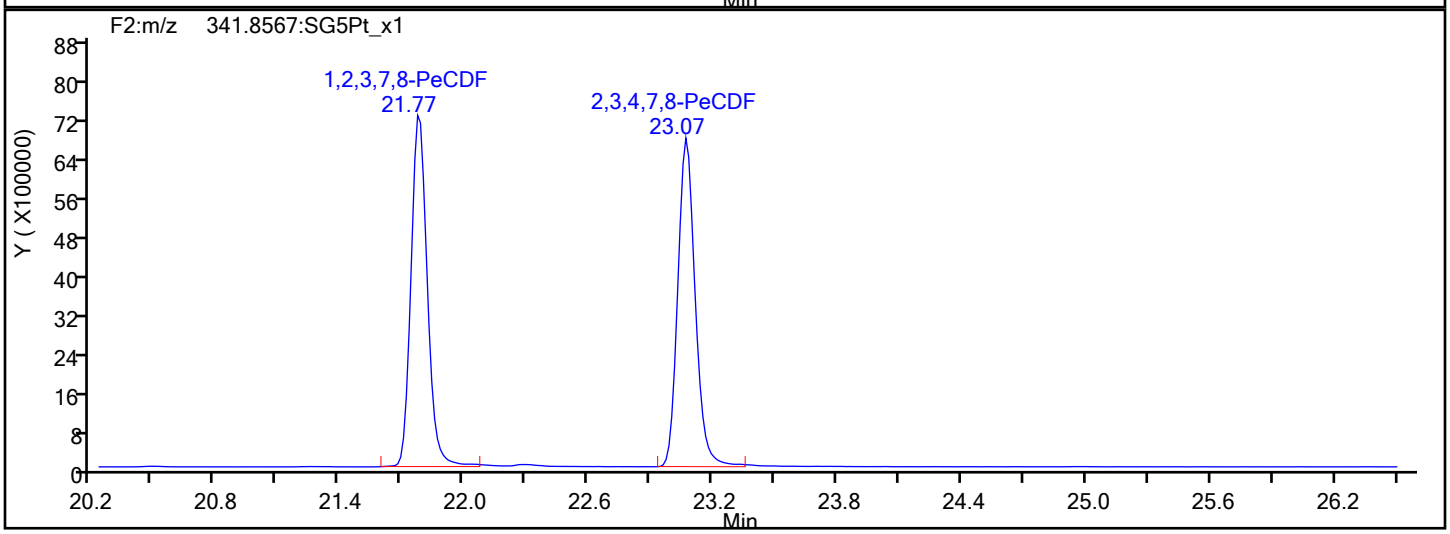

PeCDF Interference Mass

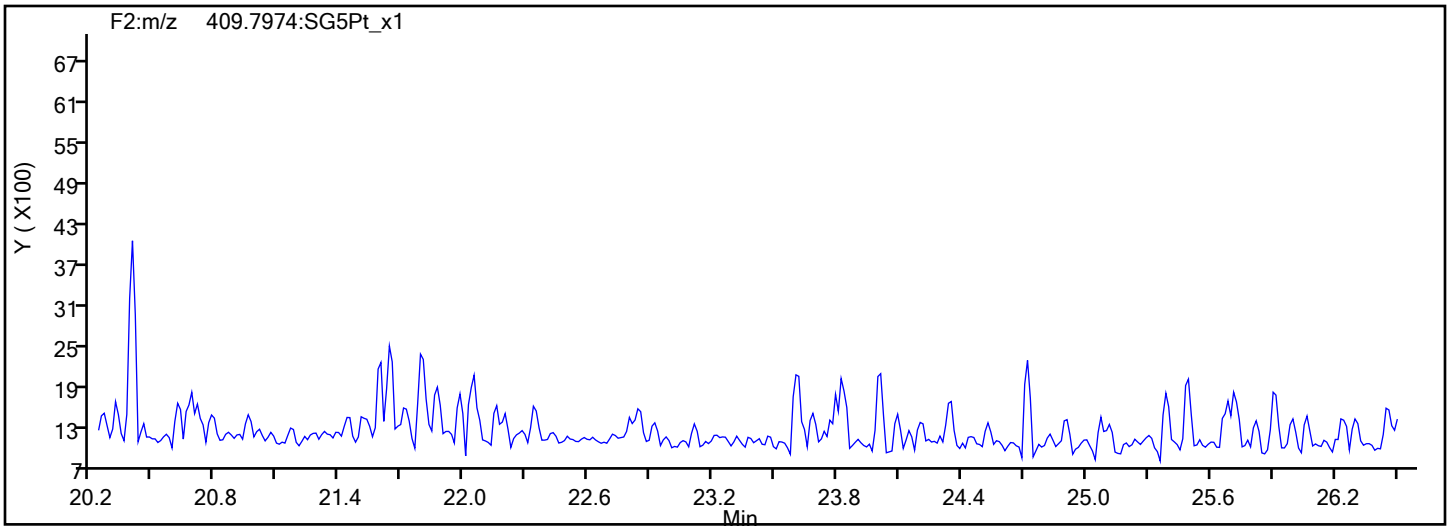

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Eurofins TestAmerica, Sacramento

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PeCDD

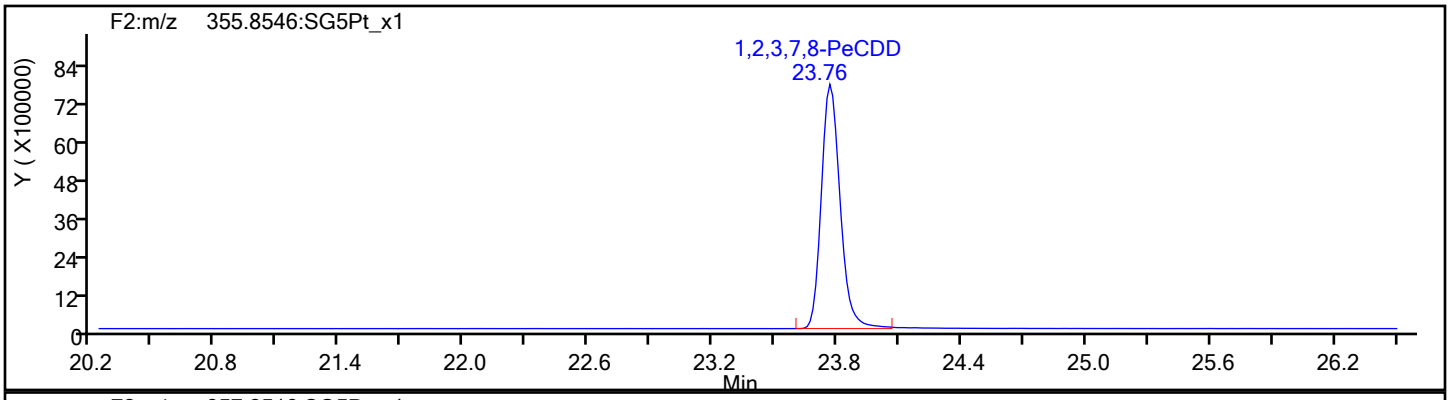

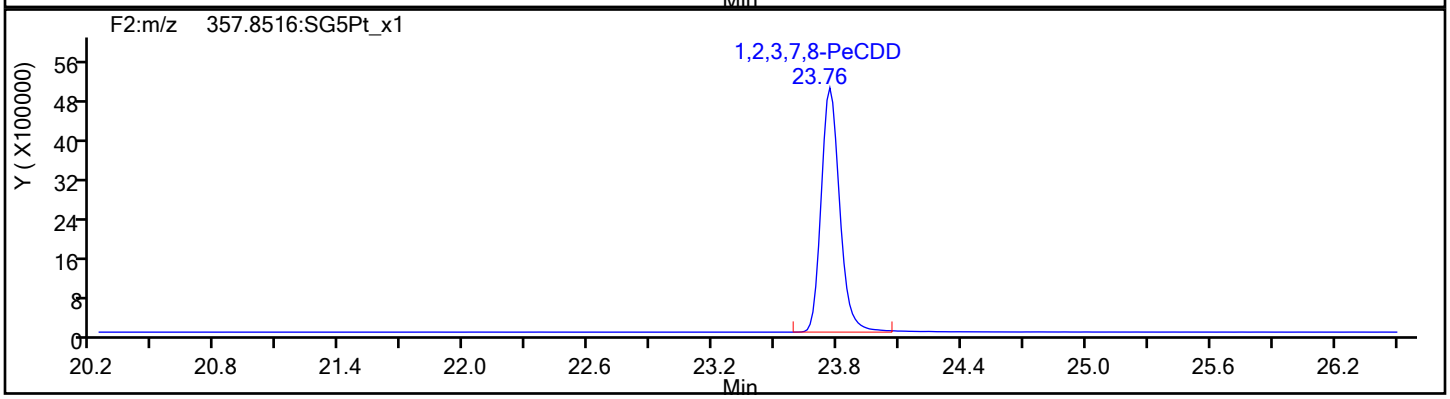

PeCDD Standards

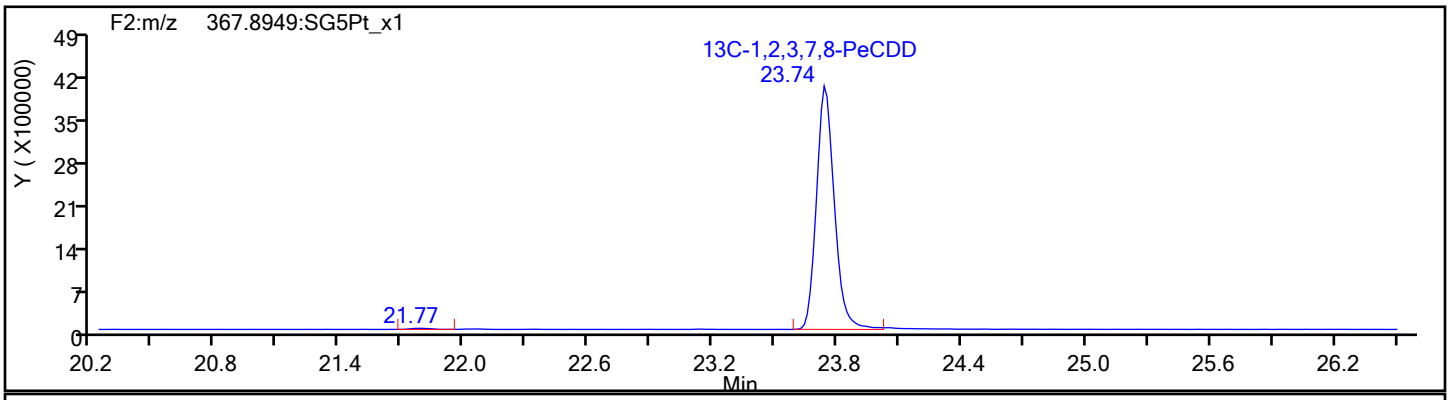

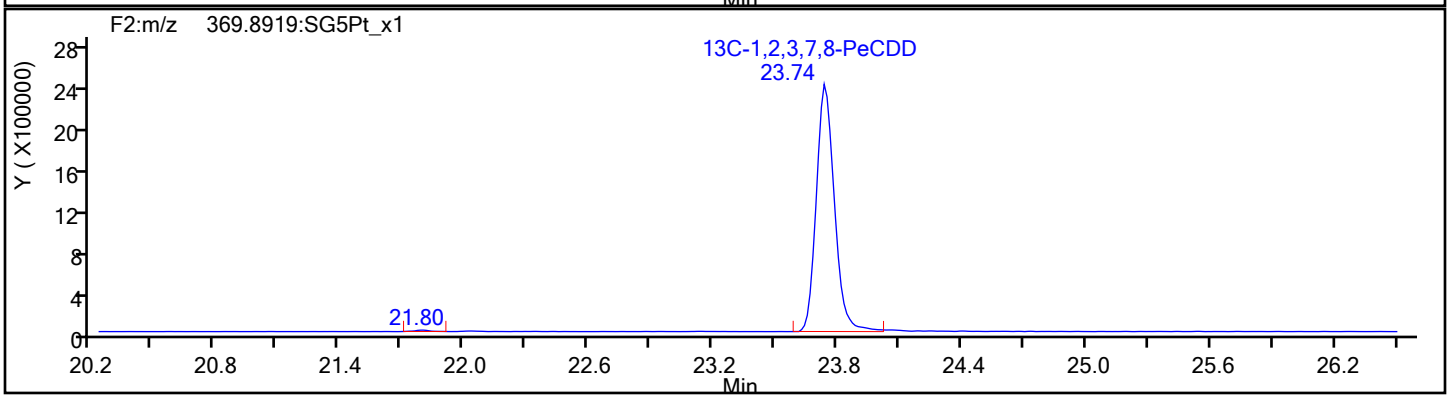

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Eurofins TestAmerica, Sacramento

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HxCDF

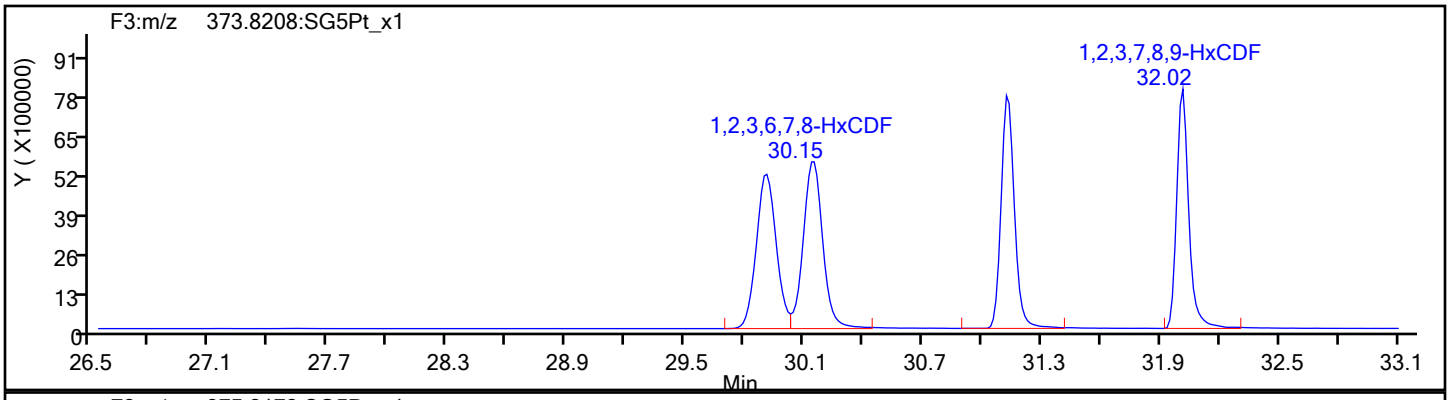

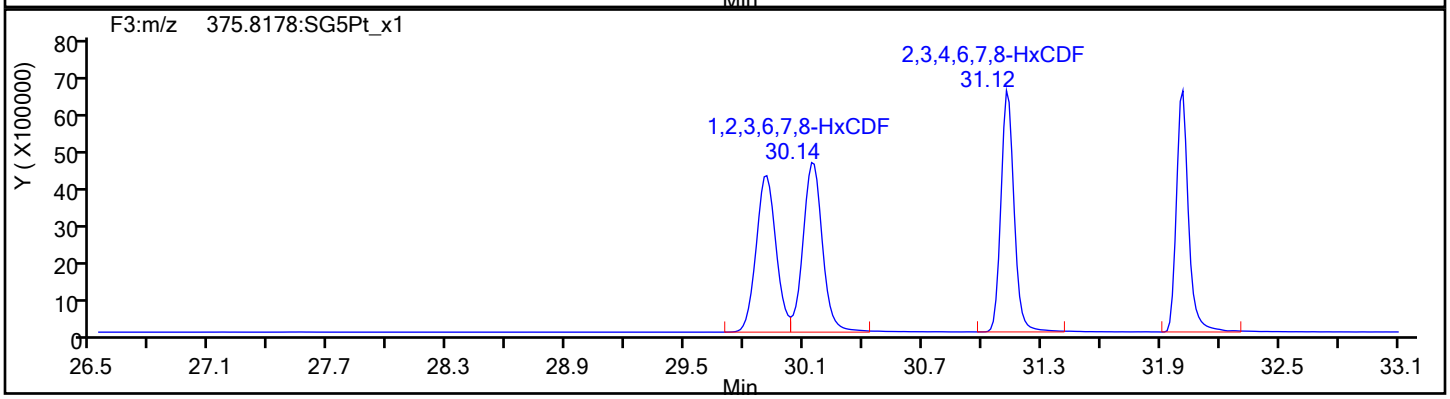

HxCDF Standards

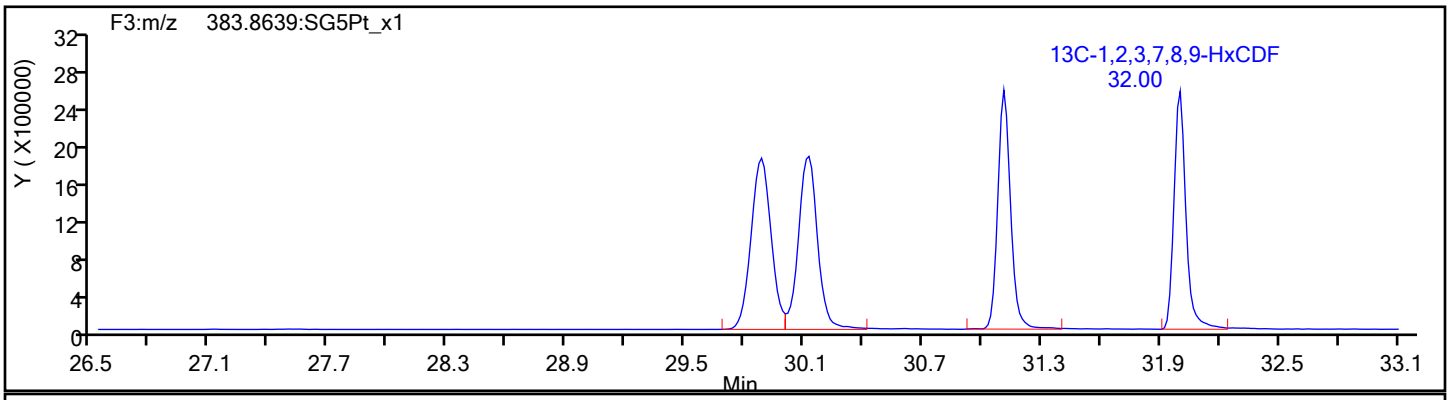

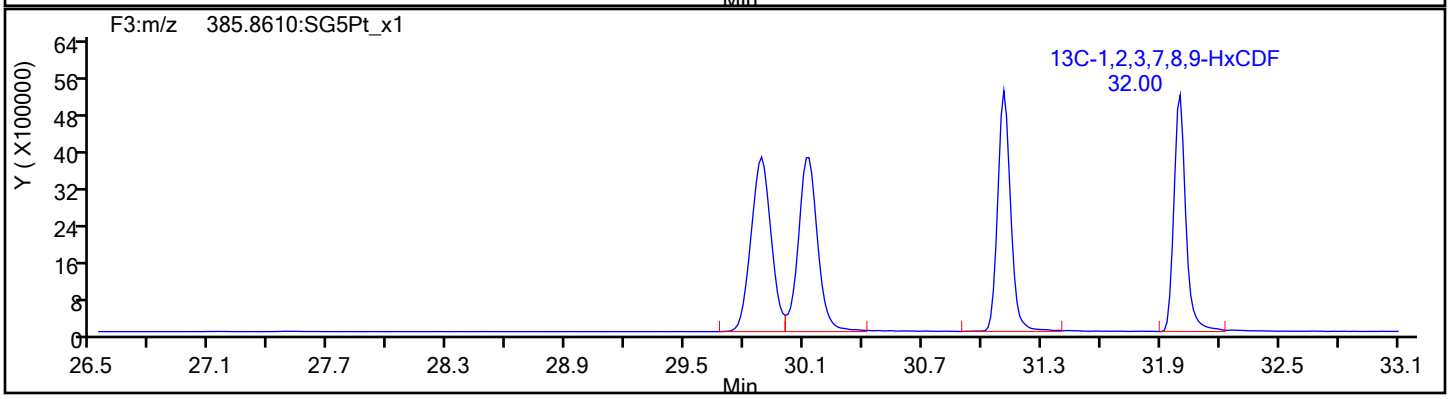

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Eurofins TestAmerica, Sacramento

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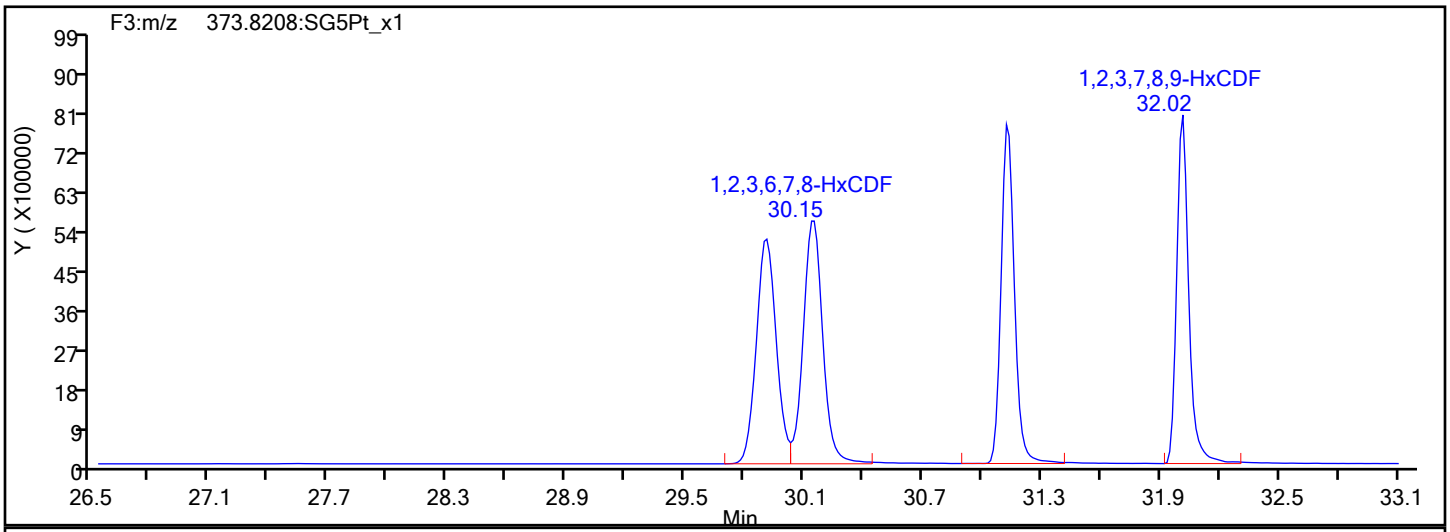

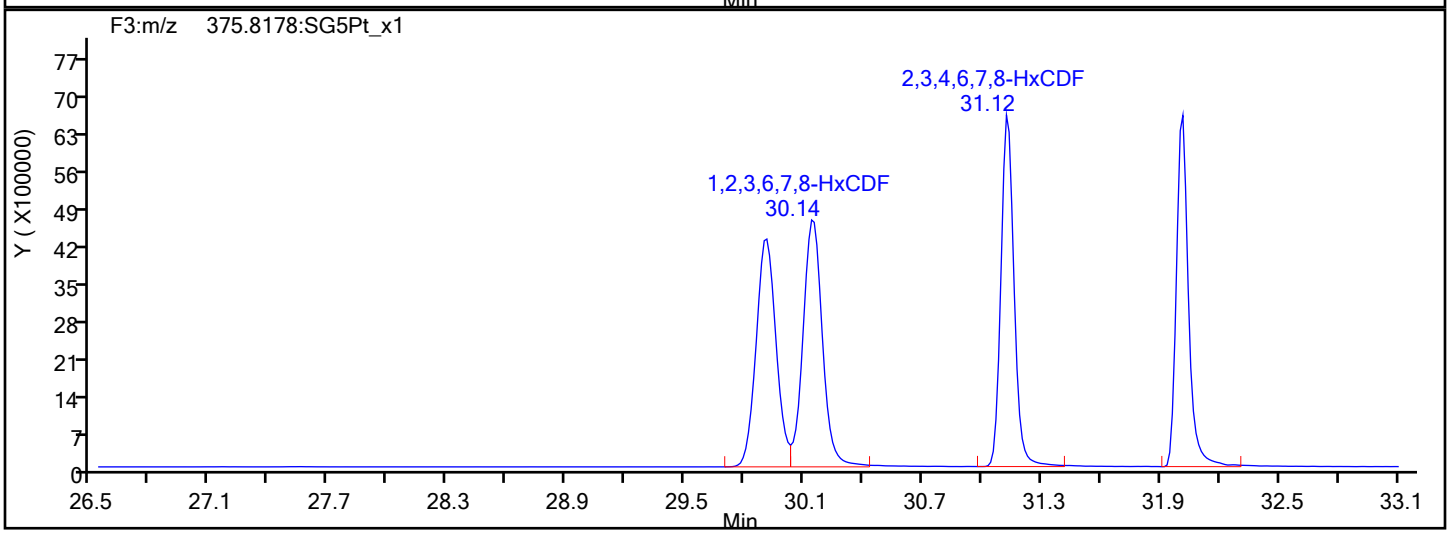

HxCDF Interference Mass

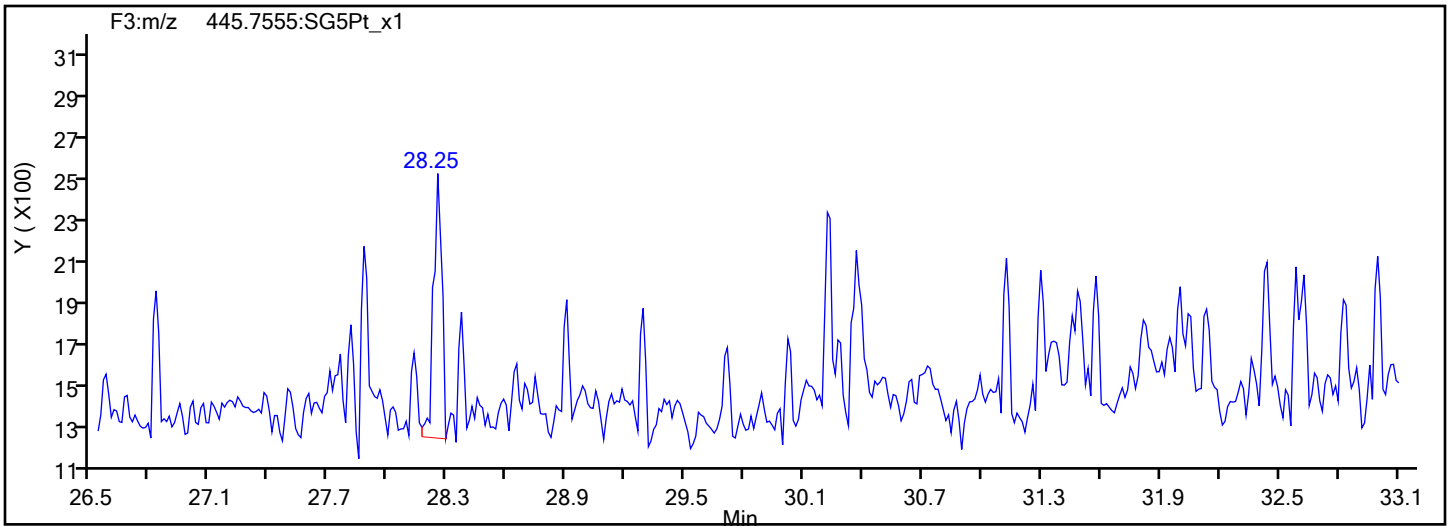

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Eurofins TestAmerica, Sacramento

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HxCDD

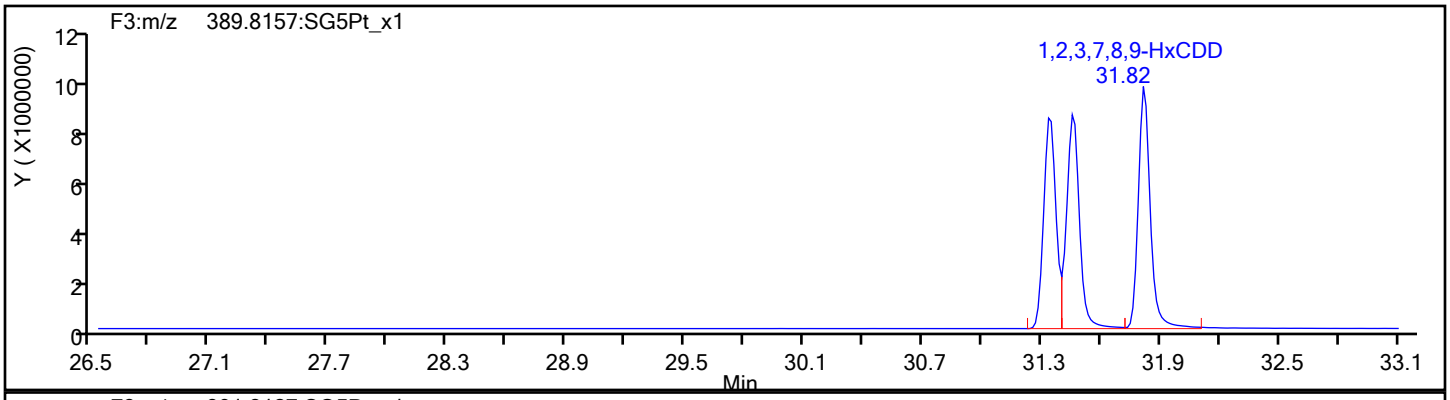

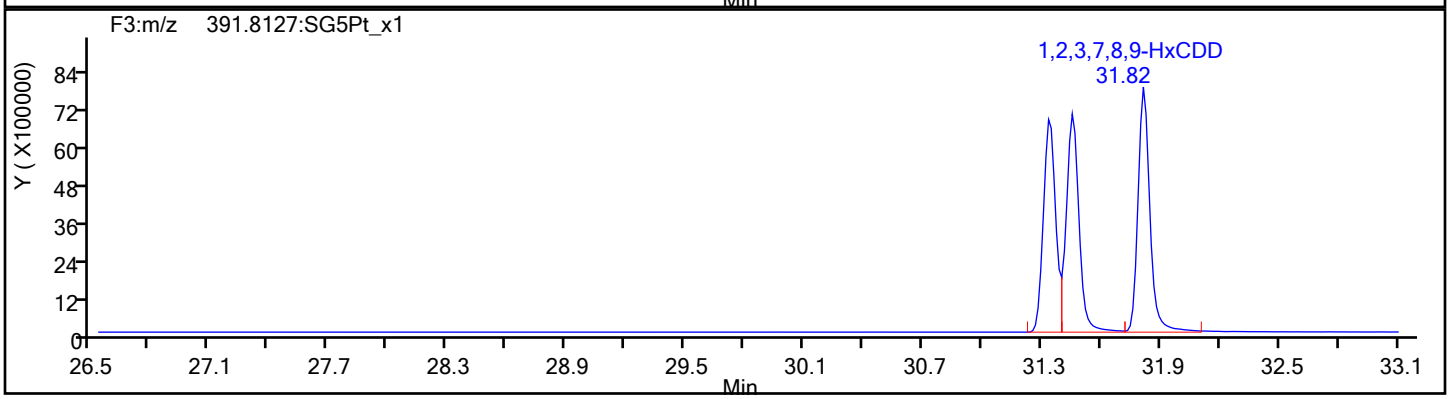

HxCDD Standards

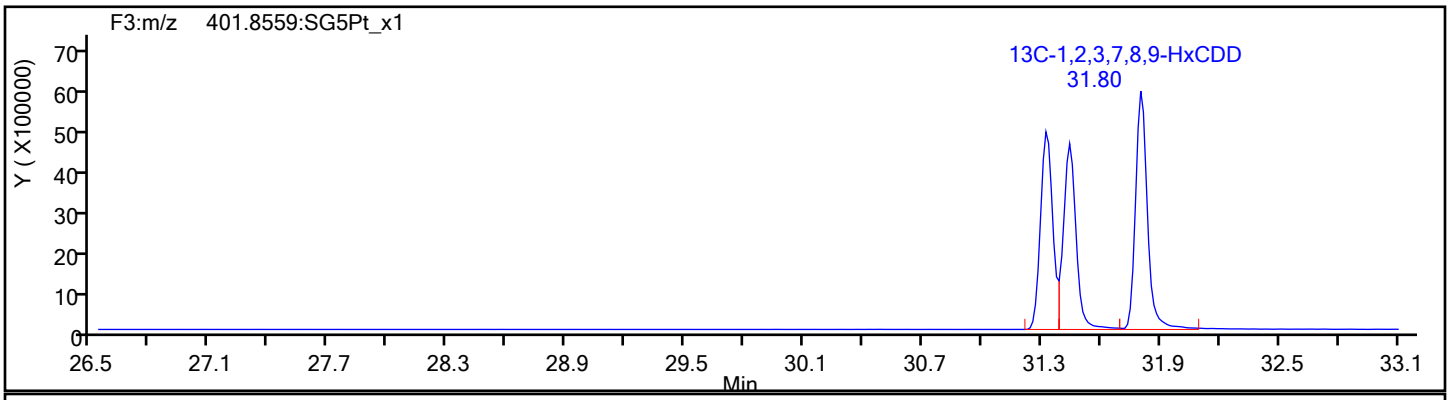

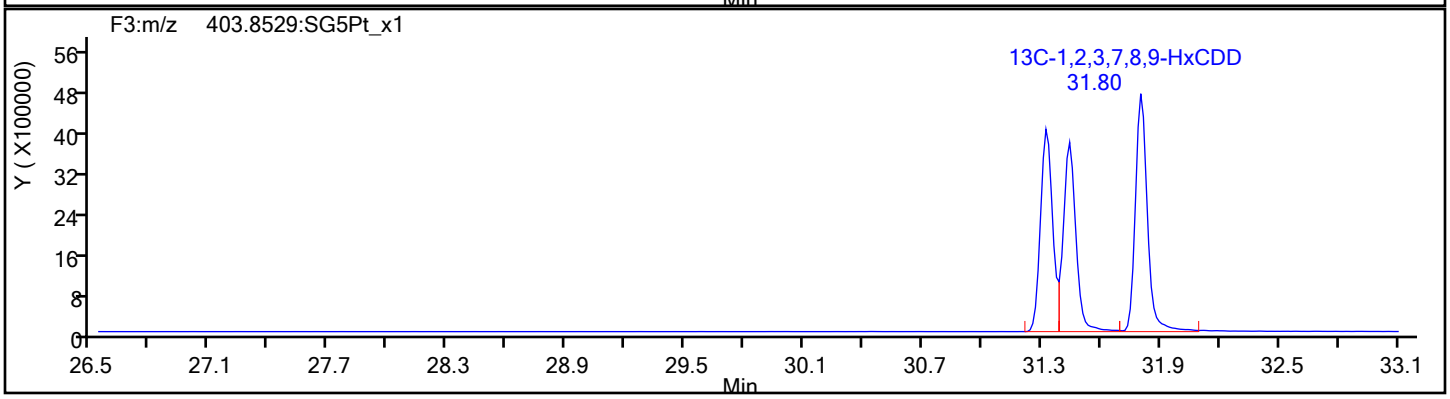

Report Date: 30-Jan-2020 09:34:40 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_7.d		
Injection Date:	30-Jan-2020 04:07:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

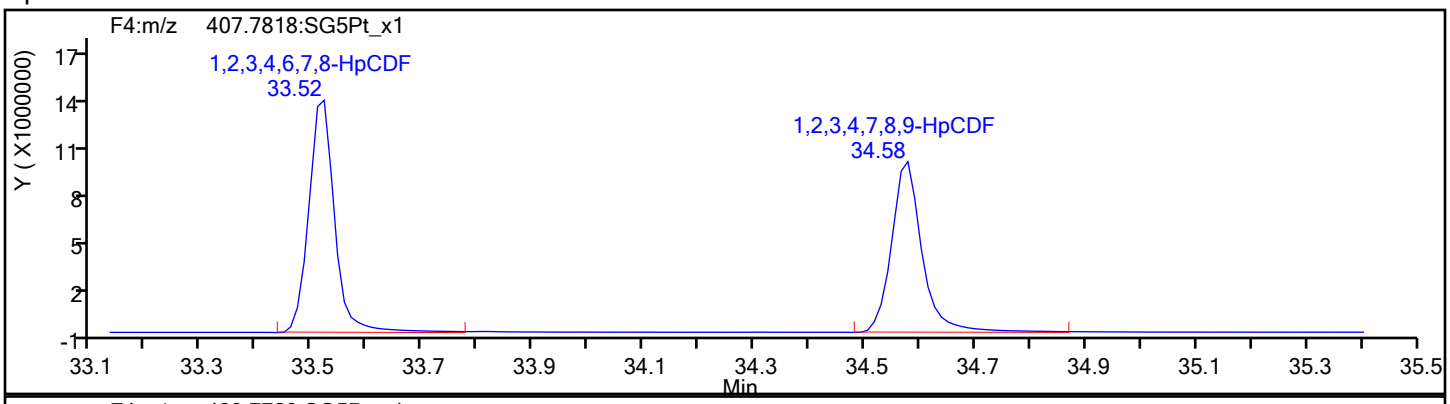

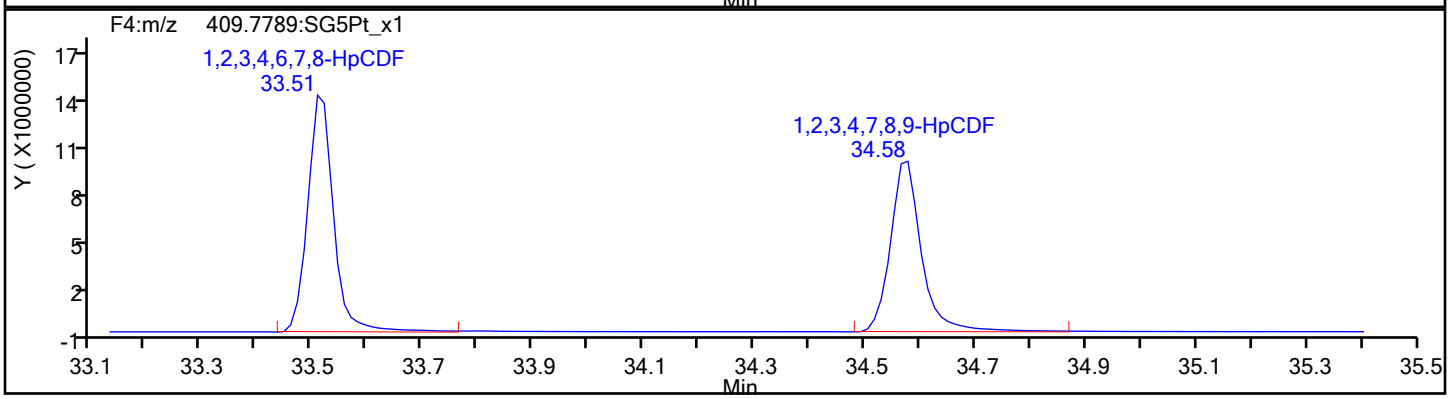

HpCDF Standards

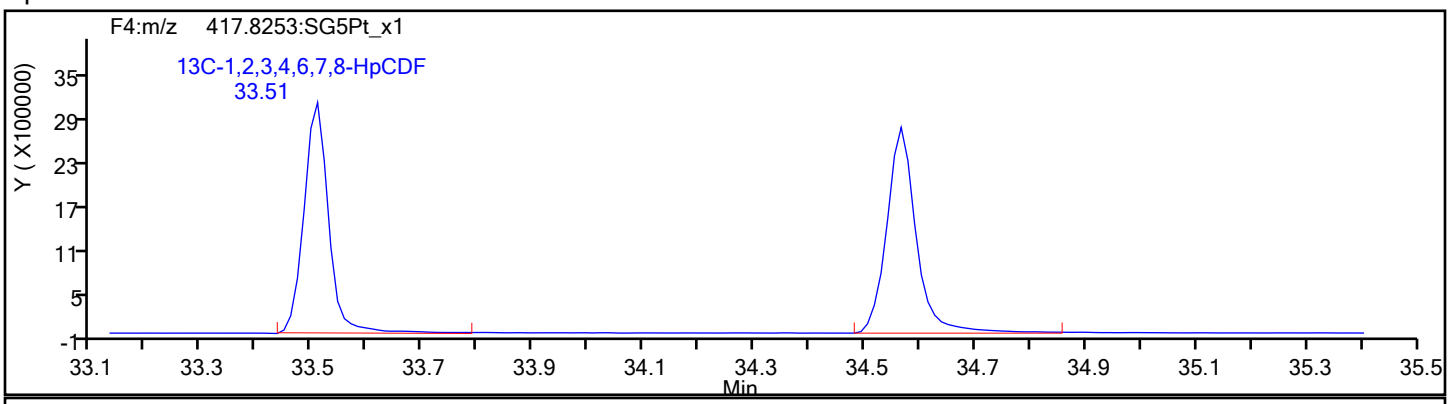

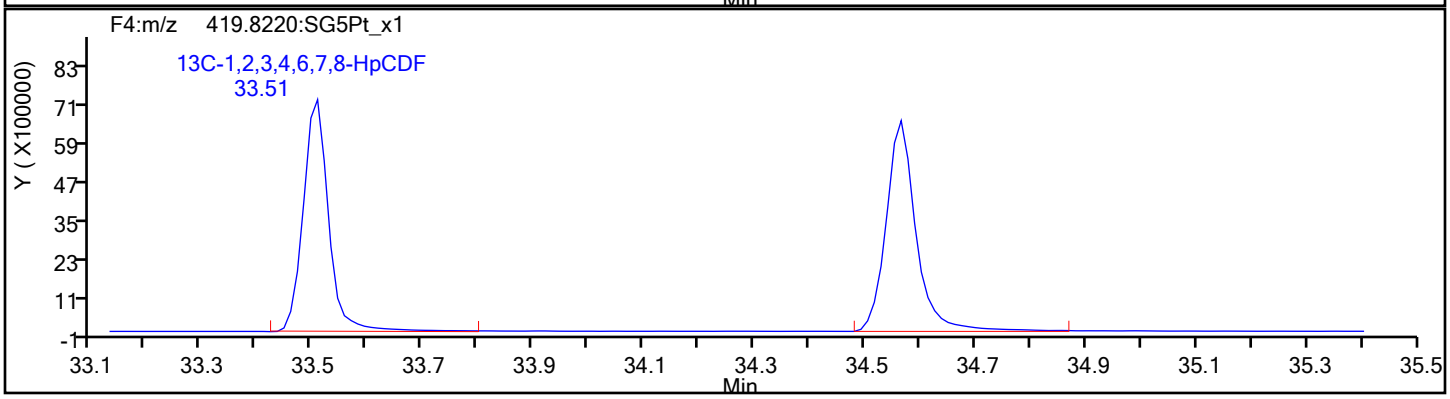

Report Date: 30-Jan-2020 09:34:40 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_7.d		
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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

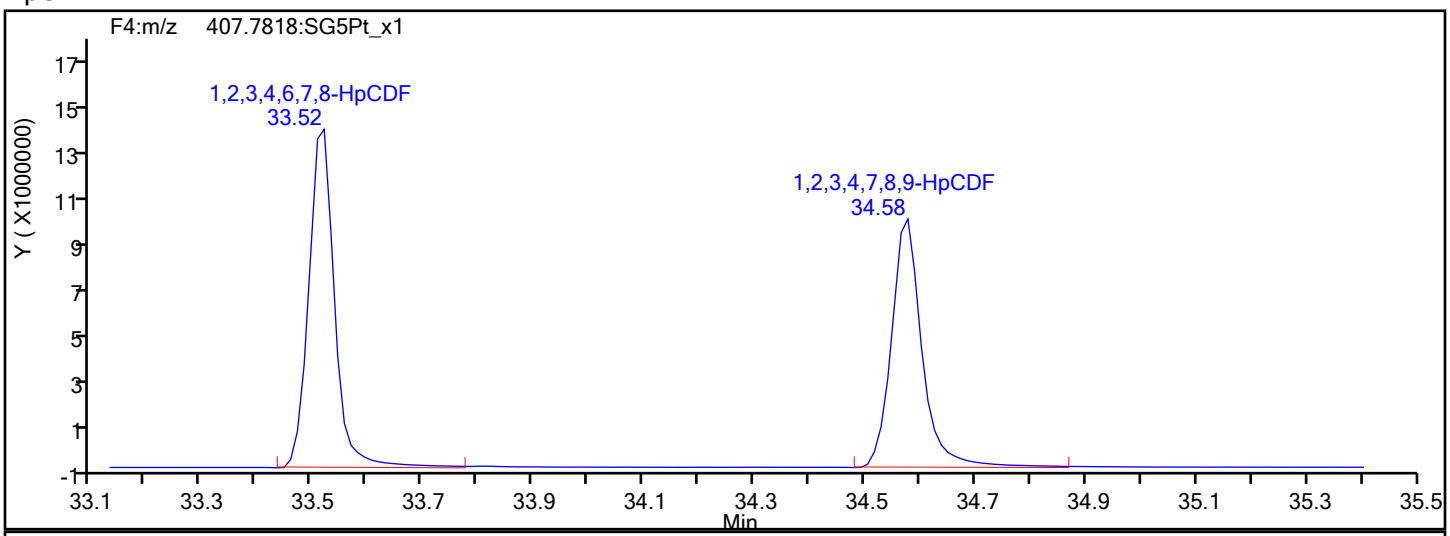

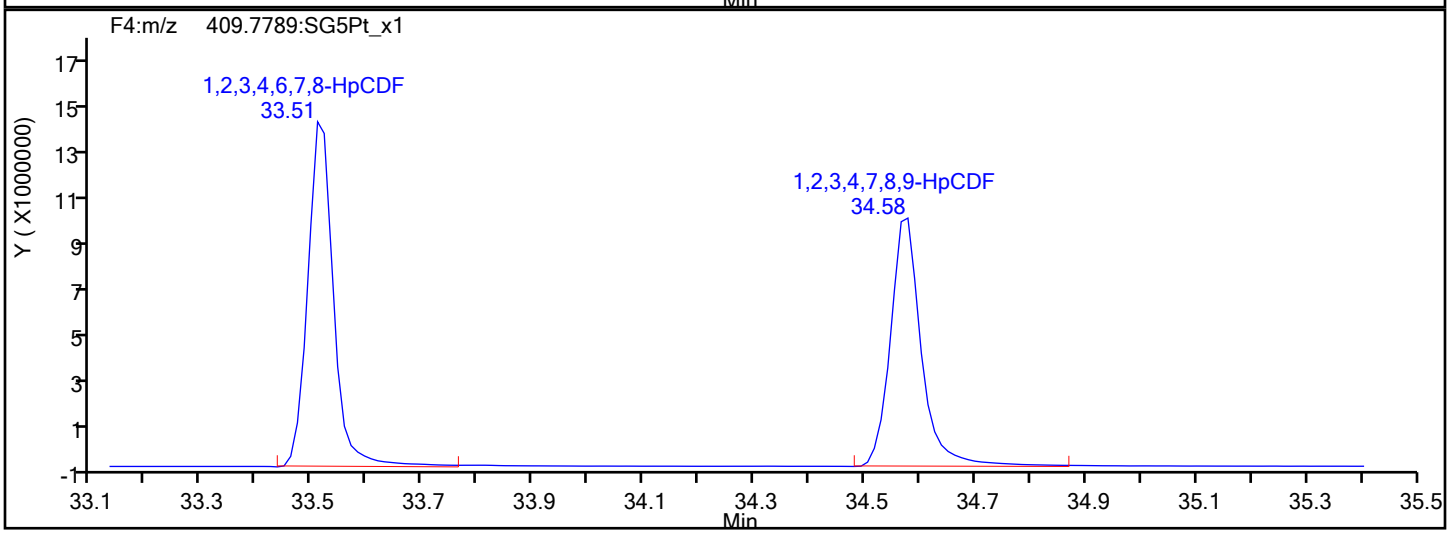

HpCDF Interference Mass

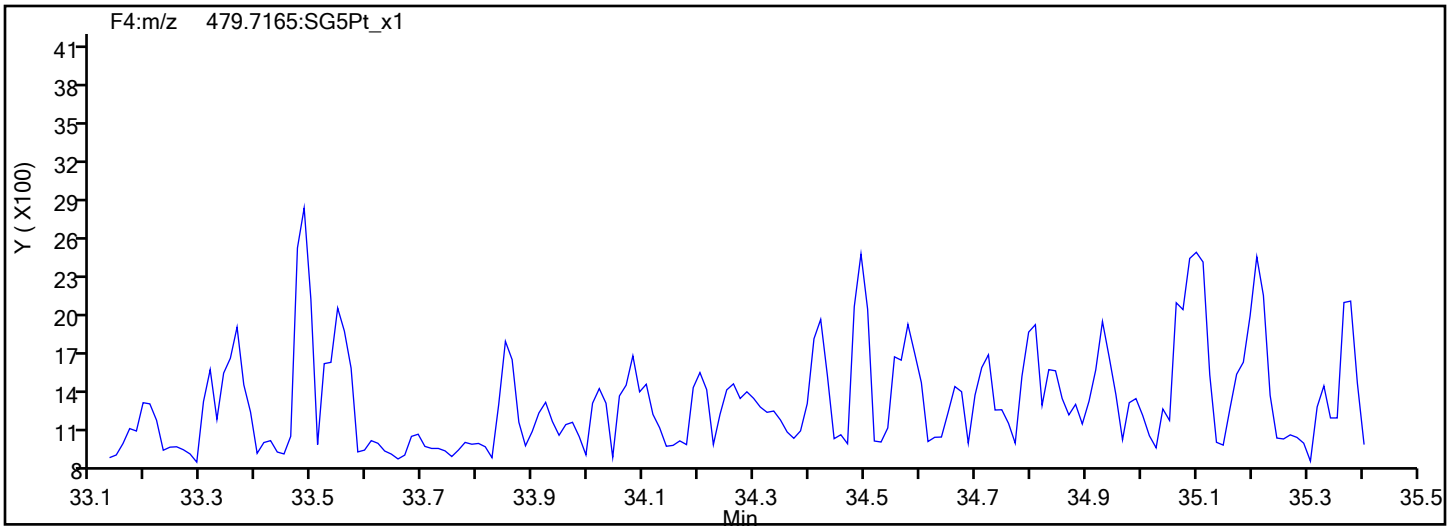

Report Date: 30-Jan-2020 09:34:40 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_7.d		
Injection Date:	30-Jan-2020 04:07:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

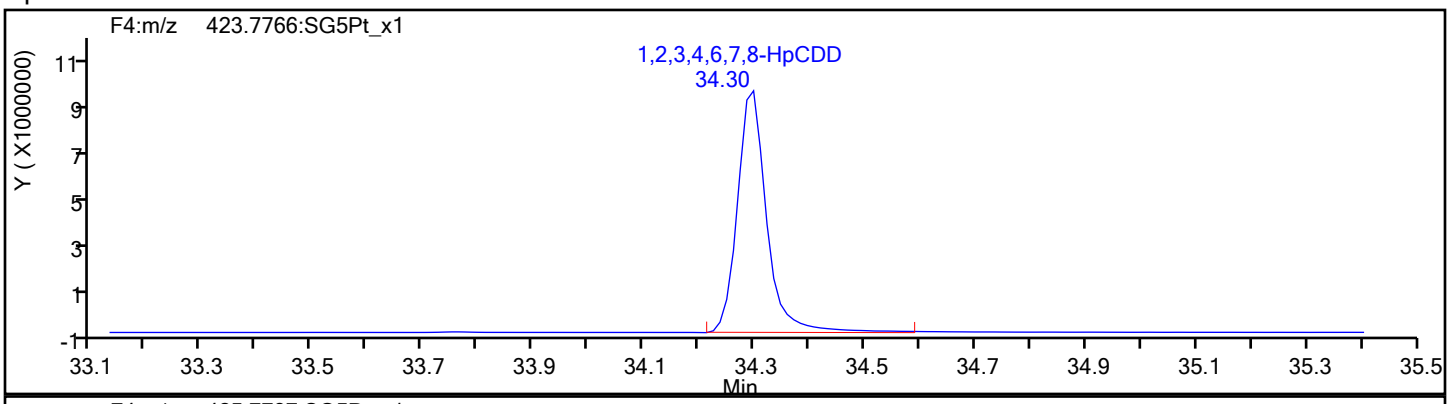

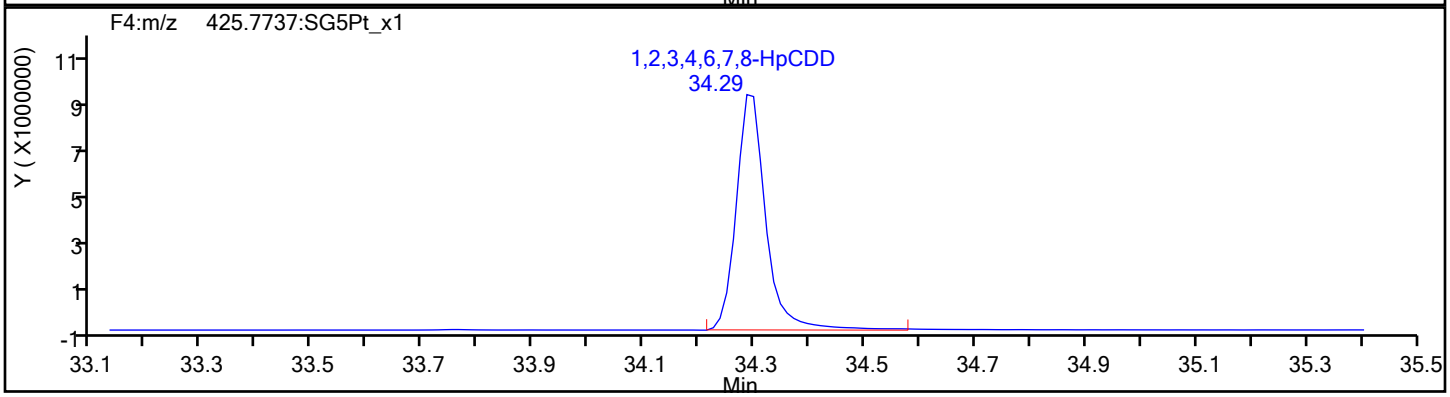

HpCDD Standards

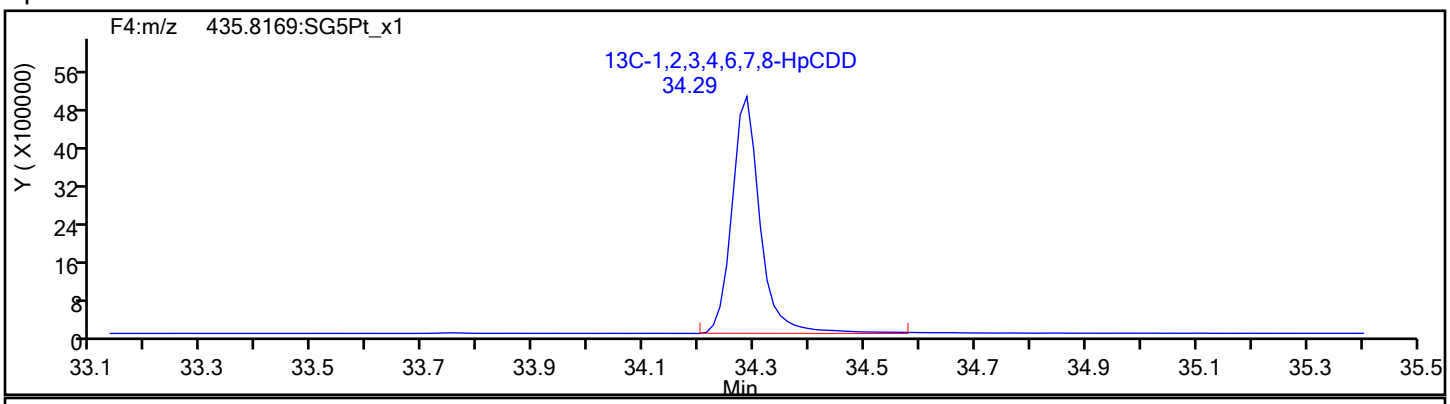

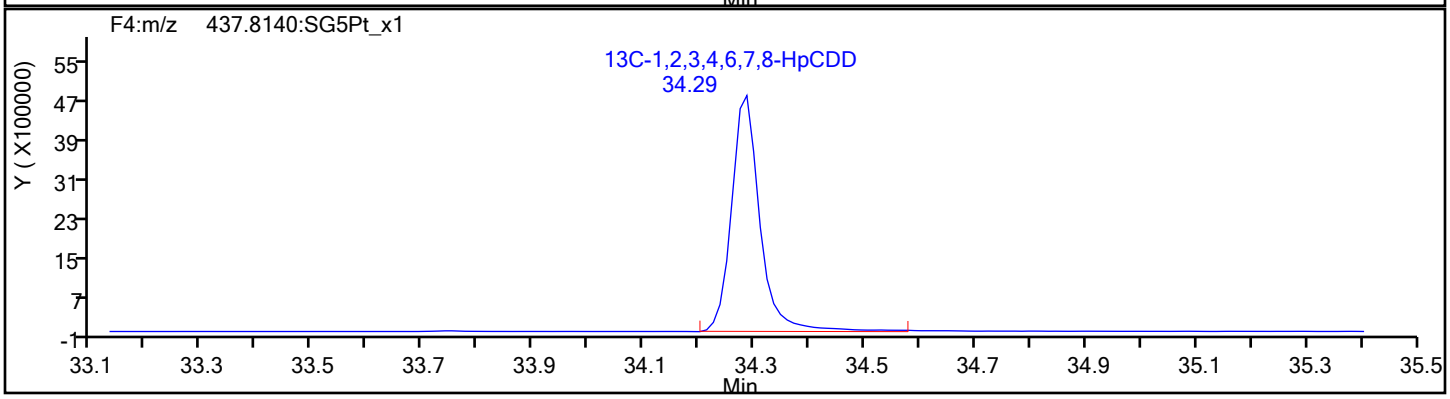

Report Date: 30-Jan-2020 09:34:40 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_7.d		
Injection Date:	30-Jan-2020 04:07:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

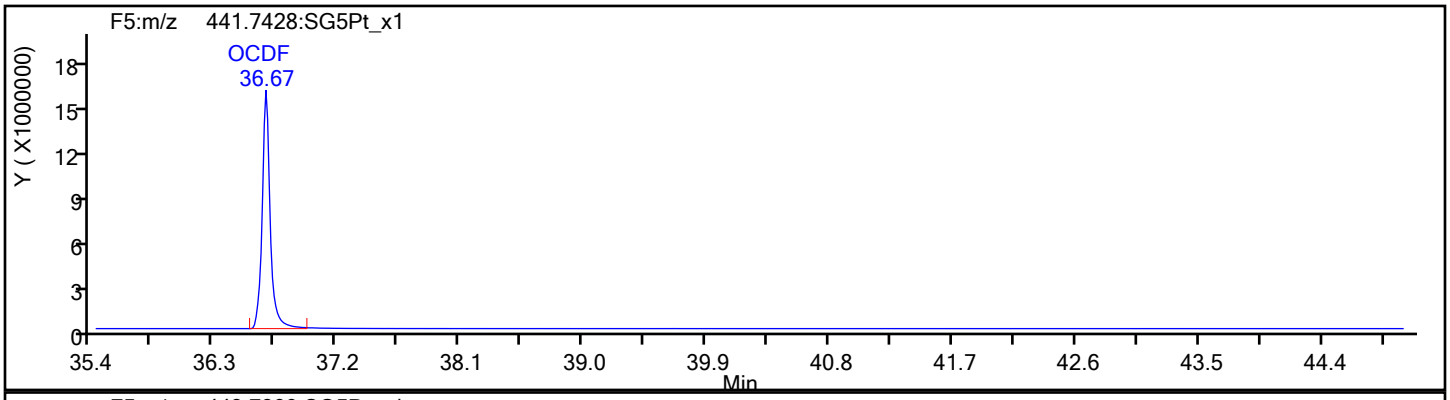

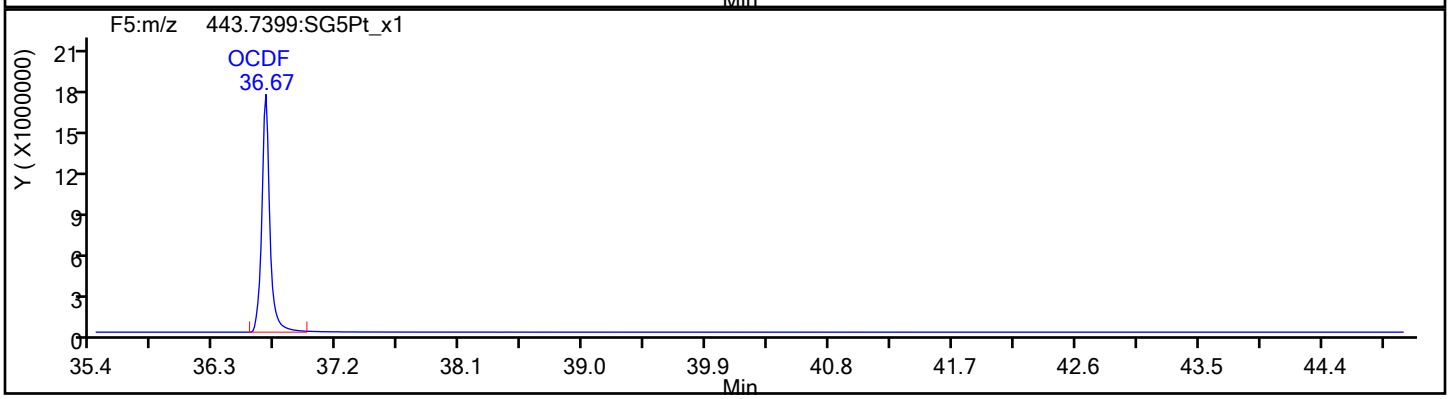

OCDF Standards

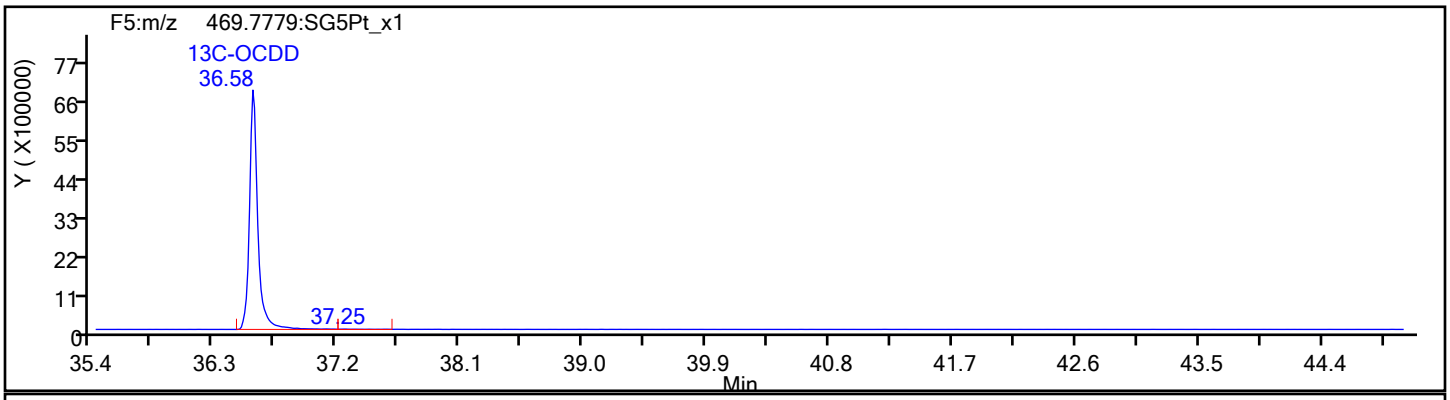

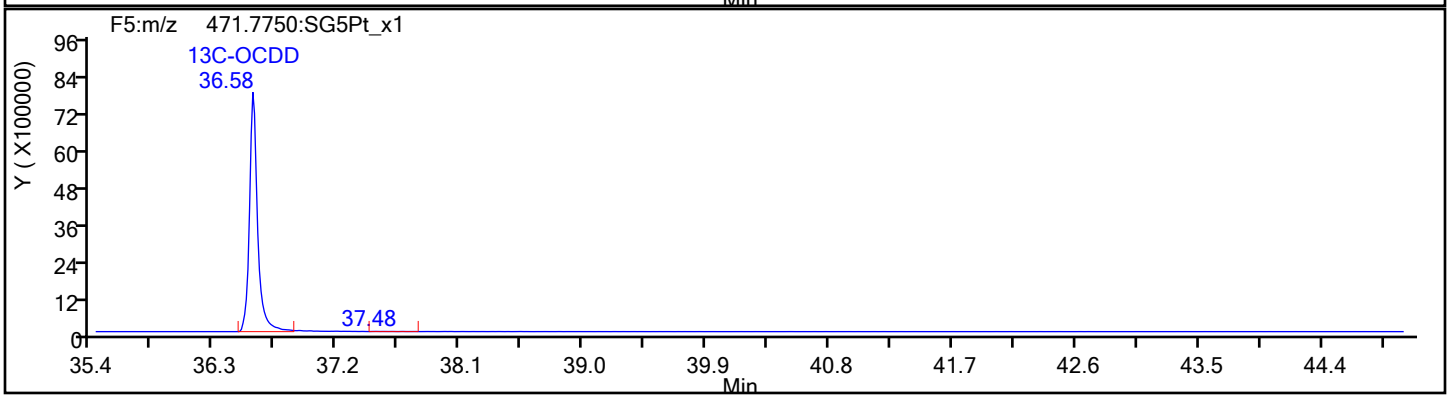

Report Date: 30-Jan-2020 09:34:40 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_7.d		
Injection Date:	30-Jan-2020 04:07:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

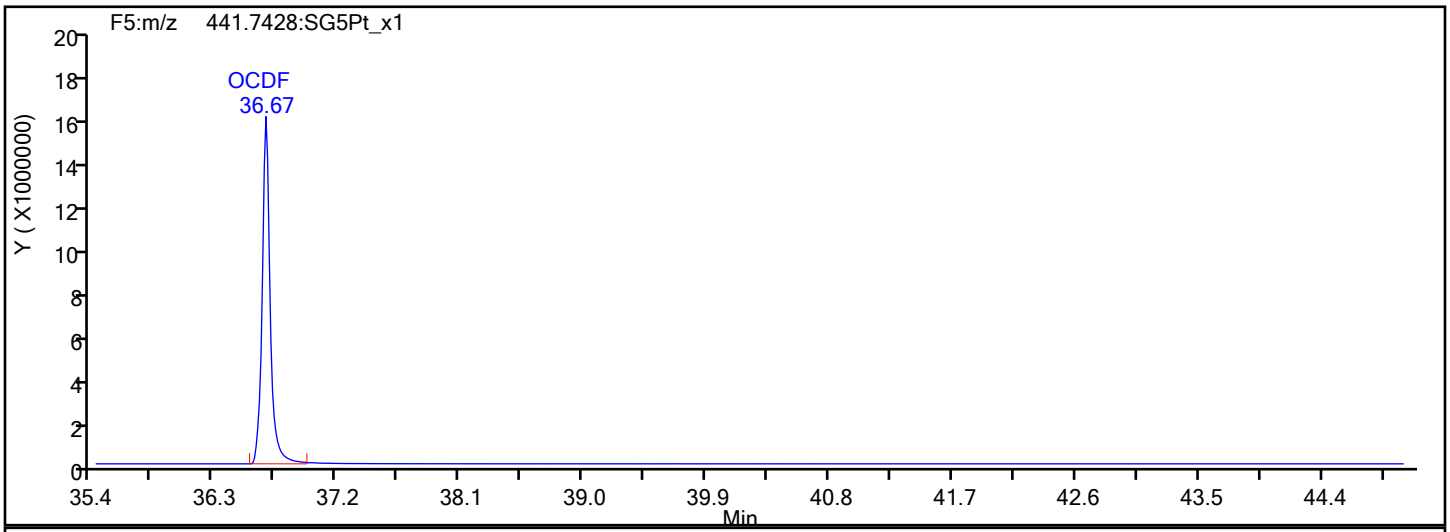

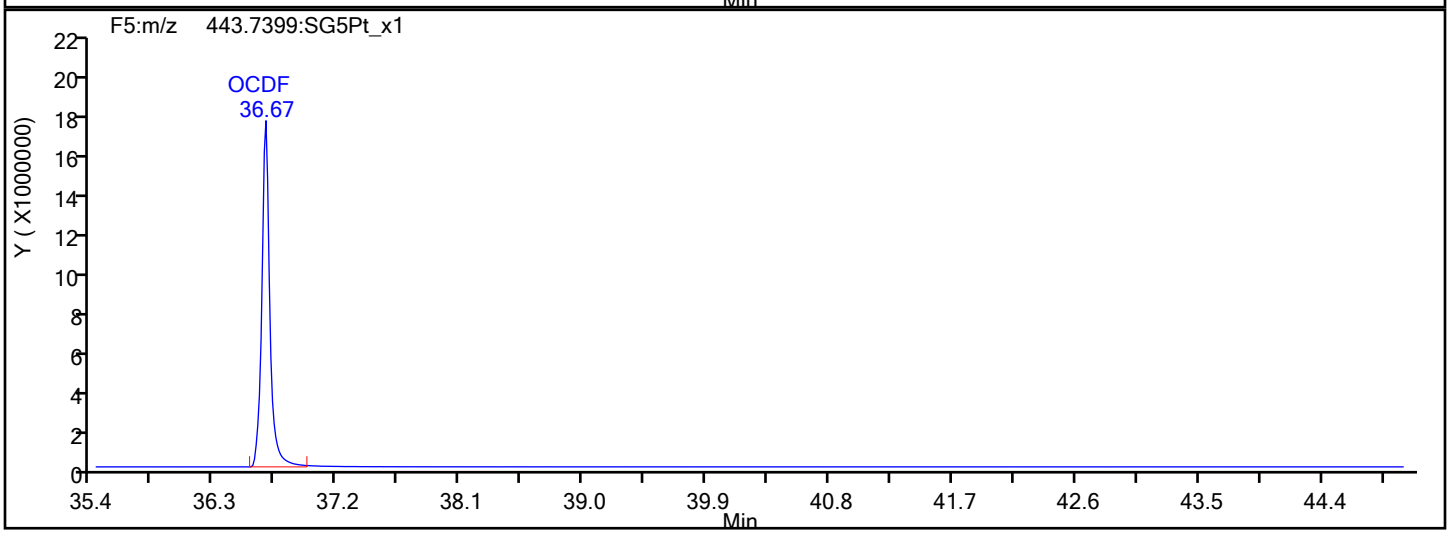

OCDF Interference Mass

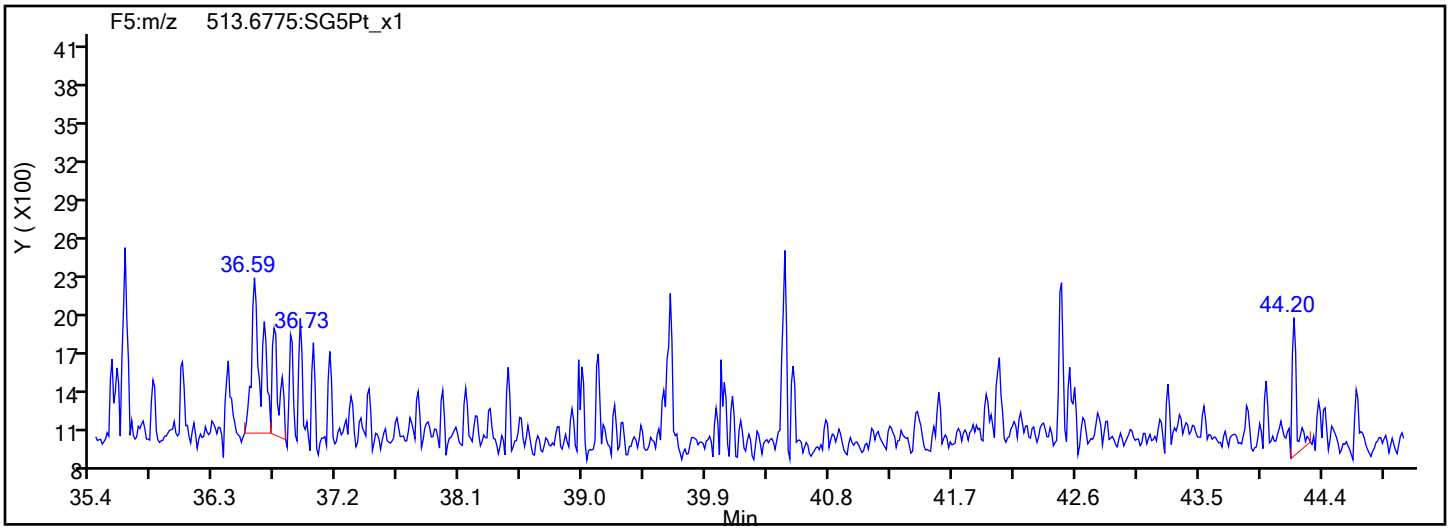

Report Date: 30-Jan-2020 09:34:40 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_7.d		
Injection Date:	30-Jan-2020 04:07:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

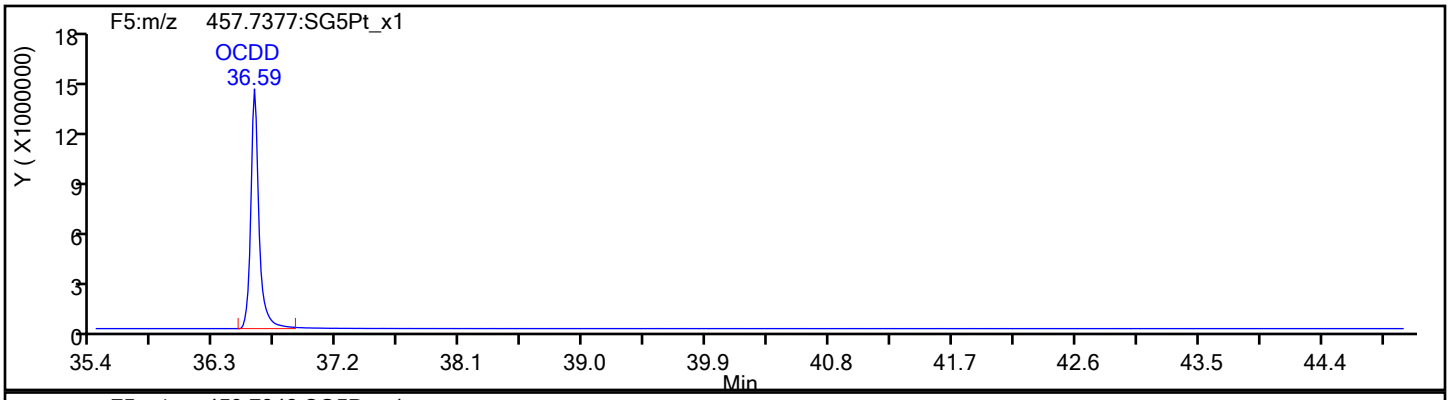

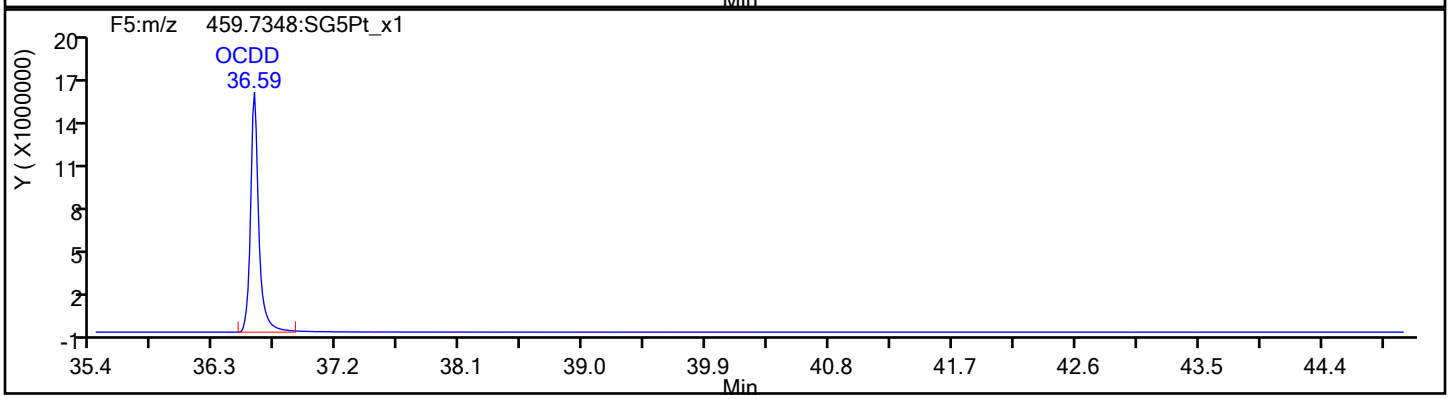

OCDD Standards

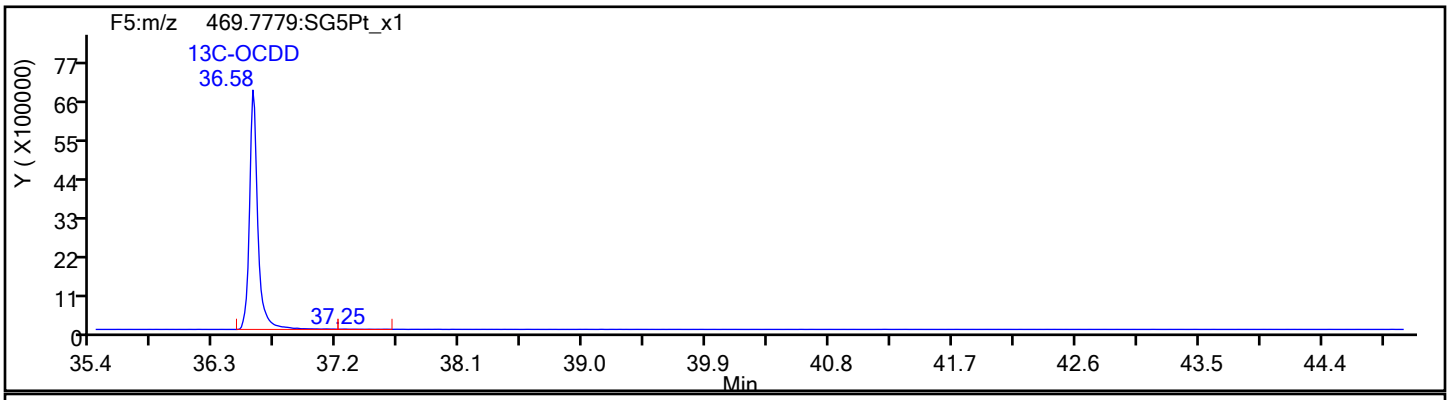

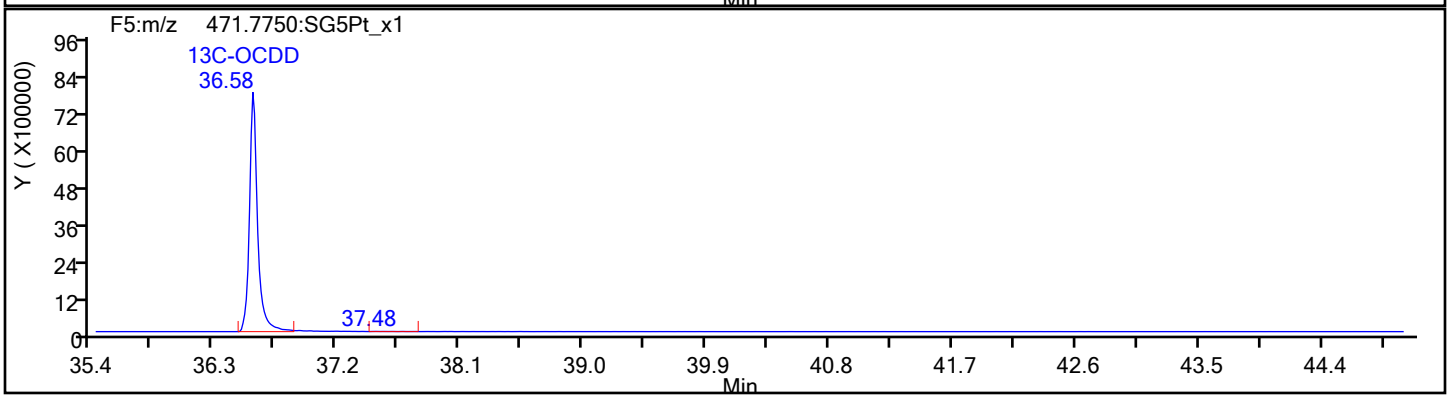

Report Date: 30-Jan-2020 09:34:40 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_7.d		
Injection Date:	30-Jan-2020 04:07:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

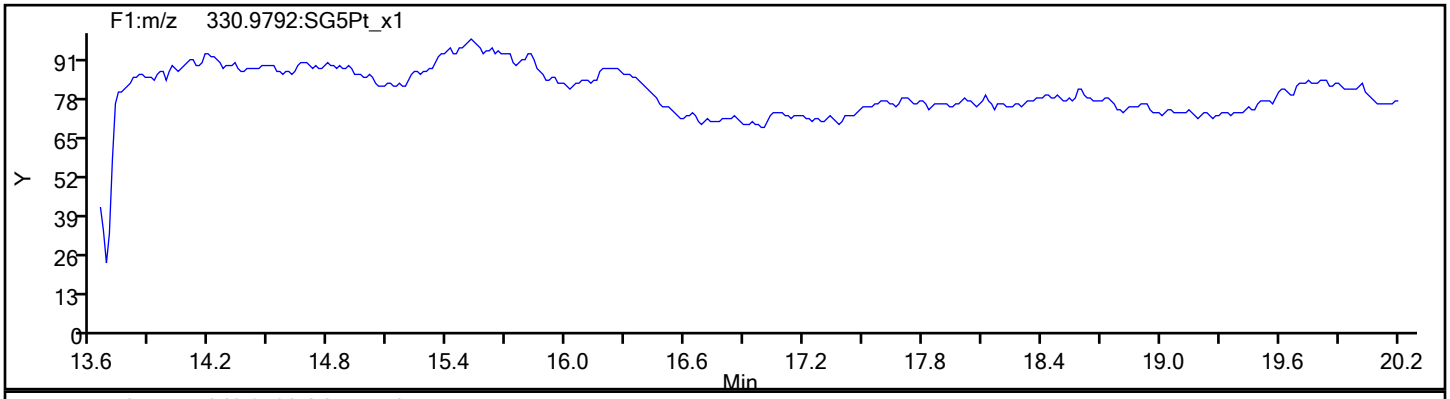

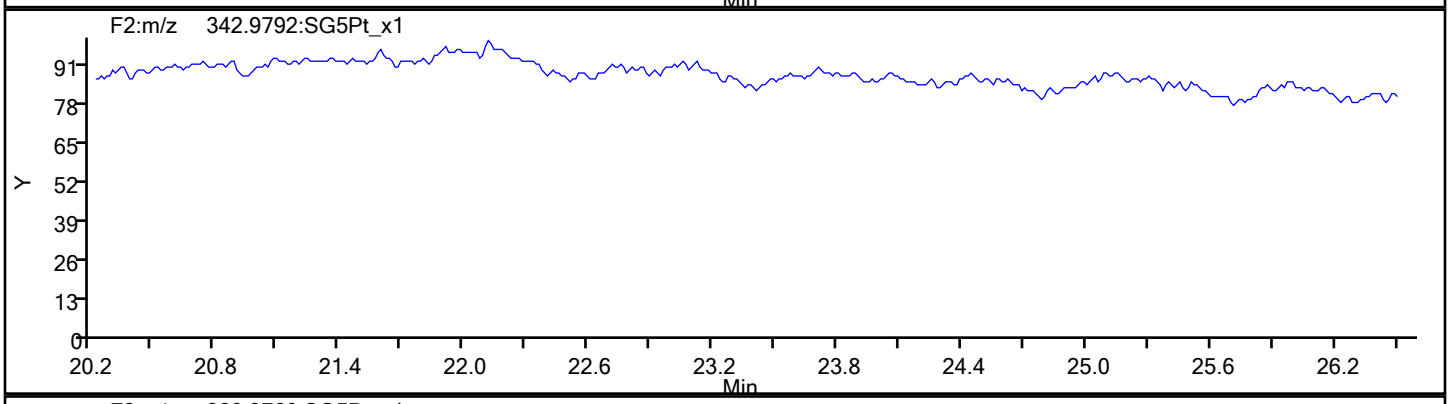

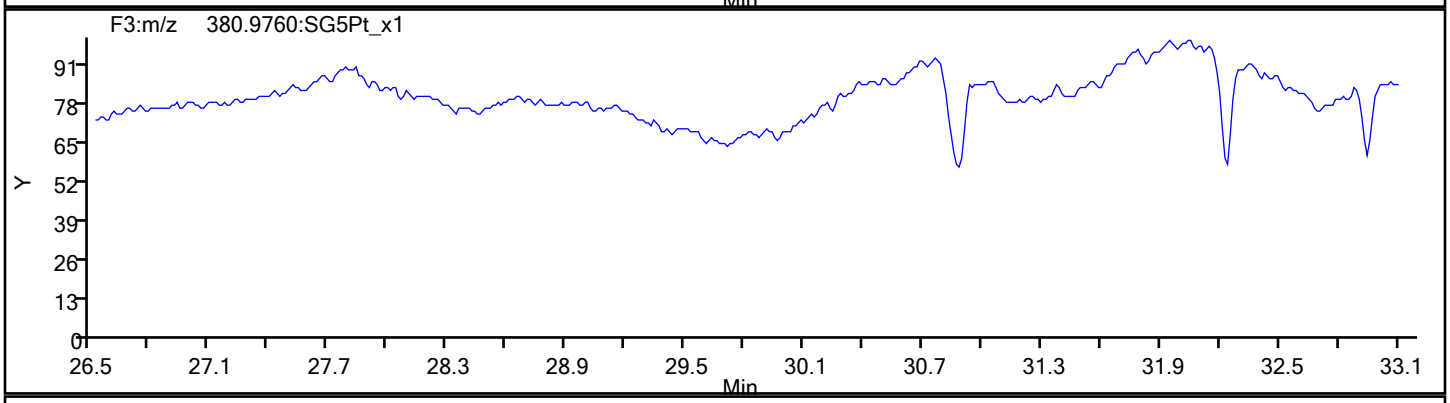

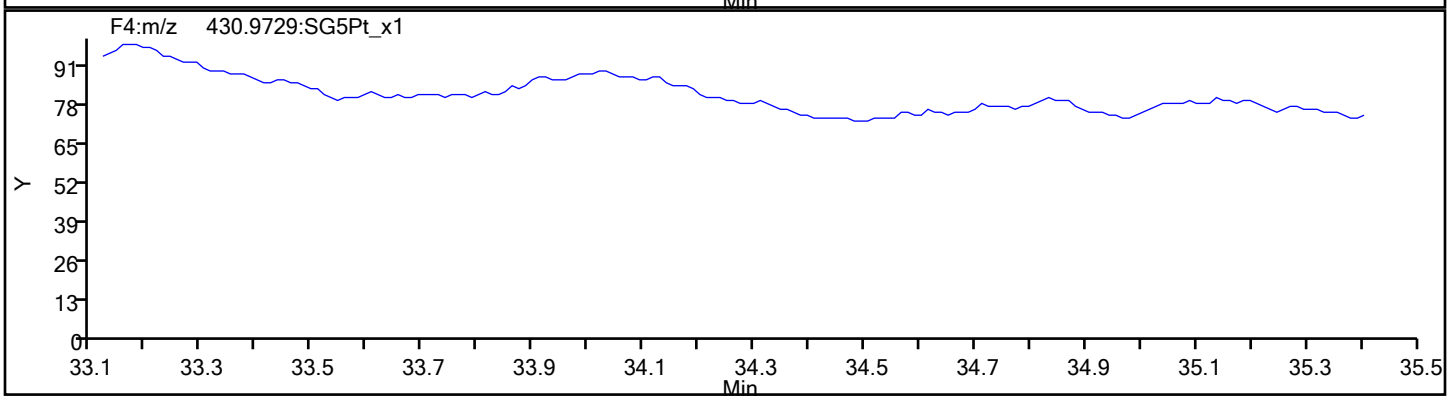

Report Date: 30-Jan-2020 09:34:40 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_7.d		
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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

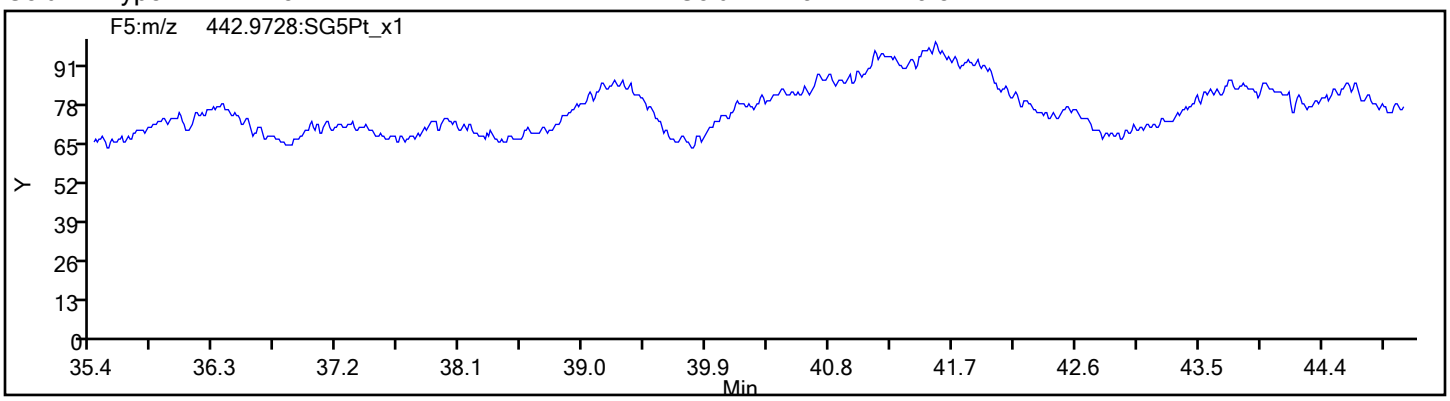

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 30-Jan-2020 04:53:08 ALS Bottle#: 7 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 012920D CS-6 HRDXNL6_00025
Misc. Info.: 29JA20B10D5
Operator ID: ALM Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 30-Jan-2020 09:35:11 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0321

First Level Reviewer: arghestanis Date: 30-Jan-2020 08:42:07

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.408	51320987	0.80	5.4E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.924	57856976	0.73	1.1275	100.0	100.0	0.3677	0.3677	99.99	
2,3,7,8-TCDF	16.939	96105391	0.74	0.7675	216.4	216.4	0.9277	0.9277	108	
S Total TCDF					216.4	216.4	0.9277	0.9277		
D 13C-2,3,7,8-TCDD	17.605	46738785	0.81	0.9032	100.8	100.8	0.2053	0.2053	101	
2,3,7,8-TCDD	17.620	94468546	0.77	0.9599	210.6	210.6	0.3213	0.3213	105	
$ 37Cl4-2,3,7,8-TCDD	17.620	108553063		0.9673	218.7	218.7	0.2010	0.2010	109	
S Total TCDD					210.6	210.6	0.3213	0.3213		
D 13C-1,2,3,7,8-PeCDF	21.746	51996022	1.56	0.9615	105.4	105.4	0.1985	0.1985	105	
1,2,3,7,8-PeCDF	21.774	490023644	1.53	0.8982	1049.3	1049.3	2.117	2.117	105	
D 13C-2,3,4,7,8-PeCDF	23.042	57282367	1.56	1.0393	107.4	107.4	0.1836	0.1836	107	
2,3,4,7,8-PeCDF	23.069	484741081	1.52	0.8101	1044.6	1044.6	2.295	2.295	104	
S Total PeCDF					2093.9	2093.9	2.206	2.206		
D 13C-1,2,3,7,8-PeCDD	23.737	37717891	1.63	0.6938	105.9	105.9	0.1028	0.1028	106	
1,2,3,7,8-PeCDD	23.764	390429195	1.55	0.9961	1039.2	1039.2	0.6615	0.6615	104	
S Total PeCDD					1039.2	1039.2	0.6615	0.6615		
D 13C-1,2,3,4,7,8-HxCDF	29.873	37478371	0.49	0.8543	99.6	99.6	0.2233	0.2233	99.64	
1,2,3,4,7,8-HxCDF	29.899	318854007	1.20	0.7916	1074.8	1074.8	3.726	3.726	107	
D 13C-1,2,3,6,7,8-HxCDF	30.112	36019385	0.48	0.8361	97.8	97.8	0.2282	0.2282	97.85	
1,2,3,6,7,8-HxCDF	30.139	334084350	1.20	0.8638	1073.8	1073.8	3.320	3.320	107	
D 13C-2,3,4,6,7,8-HxCDF	31.097	34348713	0.50	0.7773	100.4	100.4	0.2454	0.2454	100	
2,3,4,6,7,8-HxCDF	31.124	326355344	1.19	0.9010	1054.5	1054.5	2.331	2.331	105	
D 13C-1,2,3,7,8,9-HxCDF	31.989	32266559	0.48	0.7167	102.3	102.3	0.2662	0.2662	102	
1,2,3,7,8,9-HxCDF	32.002	313903764	1.20	0.9127	1065.9	1065.9	2.101	2.101	107	
S Total HxCDF					4269.0	4269.0	2.869	2.869		
* 13C-1,2,3,7,8,9-HxCDD	31.803	44028980	1.23	4.4E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.324	36771940	1.25	0.8050	103.7	103.7	0.1654	0.1654	104	
1,2,3,4,7,8-HxCDD	31.337	313711466	1.21	0.8392	1016.6	1016.6	1.498	1.498	102	
D 13C-1,2,3,6,7,8-HxCDD	31.444	35572032	1.25	0.8269	97.7	97.7	0.1610	0.1610	97.70	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.457	335470802	1.22	0.8876	1062.5	1062.5	1.549	1.549	106	
1,2,3,7,8,9-HxCDD	31.816	358844536	1.23	0.9567	1037.0	1037.0	1.373	1.373	104	
S Total HxCDD					3116.1	3116.1	1.473	1.473		
D 13C-1,2,3,4,6,7,8-HpCDF	33.496	30697152	0.42	0.7080	98.5	98.5	0.6246	0.6246	98.47	
1,2,3,4,6,7,8-HpCDF	33.508	424195277	1.03	1.3375	1033.2	1033.2	5.086	5.086	103	
D 13C-1,2,3,4,7,8,9-HpCDF	34.553	34335333	0.42	0.7451	104.7	104.7	0.5935	0.5935	105	
1,2,3,4,7,8,9-HpCDF	34.565	383499474	1.02	1.0744	1039.5	1039.5	6.426	6.426	104	
S Total HpCDF					2072.8	2072.8	5.756	5.756		
D 13C-1,2,3,4,6,7,8-HpCDD	34.274	33516886	1.04	0.7473	101.9	101.9	0.3610	0.3610	102	
1,2,3,4,6,7,8-HpCDD	34.286	340721421	1.04	0.9811	1036.1	1036.1	3.042	3.042	104	
S Total HpCDD					1036.1	1036.1	3.042	3.042		
D 13C-OCDD	36.578	62333978	0.88	0.6622	213.8	213.8	0.1058	0.1058	107	
OCDF	36.674	698349608	0.90	1.0659	2102.1	2102.1	0.7207	0.7207	105	
OCDD	36.590	625662105	0.87	0.9937	2020.2	2020.2	0.8363	0.8363	101	

Reagents:

HRDXNL6_00025 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 30-Jan-2020 04:53:08 ALS Bottle#: 7 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 012920D CS-6 HRDXNL6_00025
Misc. Info.: 29JA20B10D5
Operator ID: ALM Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 30-Jan-2020 09:35:11 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0321

First Level Reviewer: arghestanis Date: 30-Jan-2020 08:42:07

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.408	17.411	0		22834110	5713769	3984	9960	1434		
333.9339	17.408	17.411	0		28486877	7219723	5611	14027	1287	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.924	16.924	0	0.972	24366651	6490434	9644	24110	673		
317.9389	16.924	16.924	0	0.972	33490325	8690919	11803	29507	736	0.73(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.939	16.939	0	1.001	40773034	10432488	14658	36645	712		
305.8987	16.939	16.939	0	1.001	55332357	14170541	28582	71455	496	0.74(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.605	17.605	0	1.011	20855838	5269644	3984	9960	1323		
333.9339	17.605	17.605	0	1.011	25882947	6576631	5611	14027	1172	0.81(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.620	17.623	0	1.001	41101570	10325651	9921	24802	1041		
321.8936	17.620	17.623	0	1.001	53366976	13301231	4694	11735	2834	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.620	17.623	0	1.012	108553063	27428537	10059	25147	2727		
13C-1,2,3,7,8-PeCDF											
351.9000	21.746	21.749	0	1.249	31692426	6002618	5785	14462	1038		
353.8970	21.746	21.749	0	1.249	20303596	3863655	4088	10220	945	1.56(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.774	21.773	0	1.001	296040812	55912952	45645	114112	1225		
341.8567	21.774	21.773	0	1.001	193982832	36648403	29387	73467	1247	1.53(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	23.042	23.042	0	1.324	34896712	6119475	5785	14462	1058		
353.8970	23.042	23.042	0	1.324	22385655	3972030	4088	10220	972	1.56(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.069	23.066	0	1.001	292493649	51013132	45645	114112	1118		
341.8567	23.069	23.066	0	1.001	192247432	33528658	29387	73467	1141	1.52(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.737	23.737	0	1.364	23371482	3863035	2058	5145	1877		
369.8919	23.737	23.737	0	1.364	14346409	2403086	1630	4075	1474	1.63(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.764	23.761	0	1.001	237431357	38830857	10052	25130	3863		
357.8516	23.764	23.761	0	1.001	152997838	25005194	6463	16157	3869	1.55(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.873	29.878	0	0.939	12403506	1795878	2891	7227	621		
385.8610	29.873	29.878	0	0.939	25074865	3627189	5472	13680	663	0.49(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.899	29.905	0	1.001	173747931	25005453	34621	86552	722		
375.8178	29.899	29.905	0	1.001	145106076	20936289	29351	73377	713	1.20(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.112	30.118	0	0.947	11760169	1798733	2891	7227	622		
385.8610	30.112	30.118	0	0.947	24259216	3777504	5472	13680	690	0.48(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.139	30.142	0	1.001	182304438	28346994	34621	86552	819		
375.8178	30.139	30.142	0	1.001	151779912	23647633	29351	73377	806	1.20(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.097	31.108	-1	0.978	11480406	2557310	2891	7227	885		
385.8610	31.097	31.108	-1	0.978	22868307	5058525	5472	13680	924	0.50(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.124	31.124	0	1.001	177318633	38467618	34621	86552	1111		
375.8178	31.124	31.124	0	1.001	149036711	32292802	29351	73377	1100	1.19(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.989	31.992	0	1.006	10531704	2706390	2891	7227	936		
385.8610	31.989	31.992	0	1.006	21734855	5633633	5472	13680	1030	0.48(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.002	32.008	0	1.000	171328861	43332873	34621	86552	1252		
375.8178	32.002	32.008	0	1.000	142574903	36468389	29351	73377	1242	1.20(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.803	31.803	0		24243548	6037019	2890	7225	2089		
403.8529	31.803	31.803	0		19785432	4921830	2946	7365	1671	1.23(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.324	31.324	0	0.985	20425612	5043811	2890	7225	1745		
403.8529	31.324	31.324	0	0.985	16346328	3926023	2946	7365	1333	1.25(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.337	31.337	0	1.000	171565910	42077459	25236	63090	1667		
391.8127	31.337	31.337	0	1.000	142145556	34682699	19868	49670	1746	1.21(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.444	31.441	0	0.989	19781298	4570494	2890	7225	1581		
403.8529	31.444	31.441	0	0.989	15790734	3631501	2946	7365	1233	1.25(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.457	31.457	0	1.000	184396009	43013088	25236	63090	1704		
391.8127	31.457	31.457	0	1.000	151074793	35105800	19868	49670	1767	1.22(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.816	31.816	0	1.016	197663195	48210938	25236	63090	1910		
391.8127	31.816	31.816	0	1.016	161181341	38988834	19868	49670	1962	1.23(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.496	33.499	0	1.053	9116173	3024430	5919	14797	511		
419.8220	33.496	33.499	0	1.053	21580979	7072161	13466	33665	525	0.42(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.508	33.511	0	1.000	215055497	71413249	136061	340152	525		
409.7789	33.508	33.511	0	1.000	209139780	69718132	138669	346672	503	1.03(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.553	34.563	-1	1.086	10076247	2939042	5919	14797	497		
419.8220	34.553	34.563	-1	1.086	24259086	7008054	13466	33665	520	0.42(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.565	34.570	0	1.000	193827280	55492478	136061	340152	408		
409.7789	34.565	34.570	0	1.000	189672194	54168574	138669	346672	391	1.02(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.274	34.279	0	1.078	17114846	5253670	6008	15020	874		
437.8140	34.274	34.279	0	1.078	16402040	5087936	5819	14547	874	1.04(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.286	34.288	0	1.000	173402269	53443503	77828	194570	687		
425.7737	34.286	34.288	0	1.000	167319152	51405685	45652	114130	1126	1.04(0.88-1.20)	
13C-OCDD											
469.7779	36.578	36.578	0	1.150	29179334	7606610	1443	3607	5271		
471.7750	36.578	36.578	0	1.150	33154644	8664968	1627	4067	5326	0.88(0.76-1.02)	
OCDF											
441.7428	36.674	36.674	0	1.003	330505991	83589425	10569	26422	7909		
443.7399	36.662	36.674	-1	1.002	367843617	95596274	14431	36077	6624	0.90(0.76-1.02)	
OCDD											
457.7377	36.590	36.590	0	1.000	291390681	74721193	12248	30620	6101		
459.7348	36.578	36.590	-1	1.000	334271424	84071757	14797	36992	5682	0.87(0.76-1.02)	

Reagents:

HRDXNL6_00025 Amount Added: 2.00 Units: uL

Report Date: 30-Jan-2020 09:35:39 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d		
Injection Date:	30-Jan-2020 04:53:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

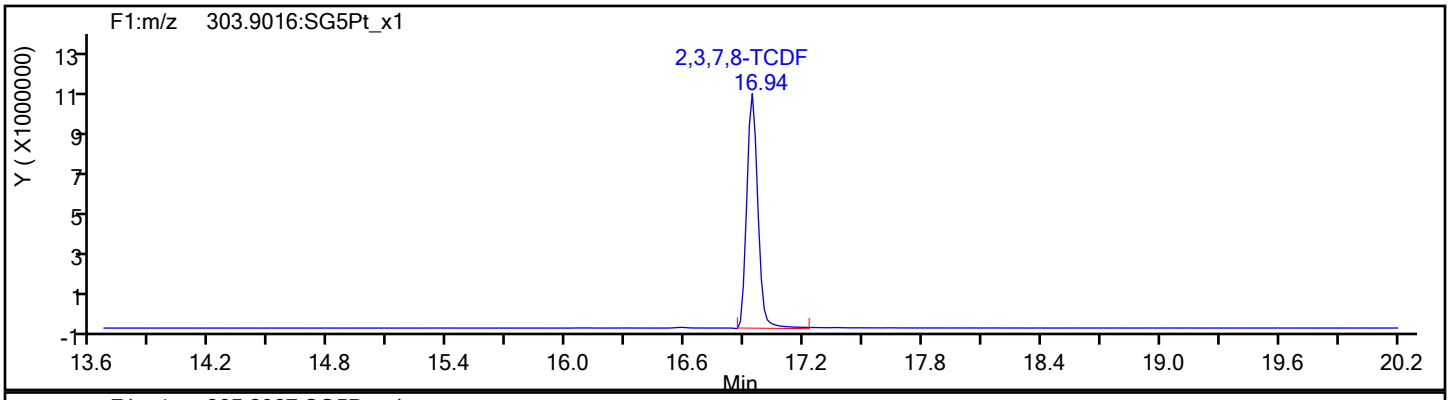

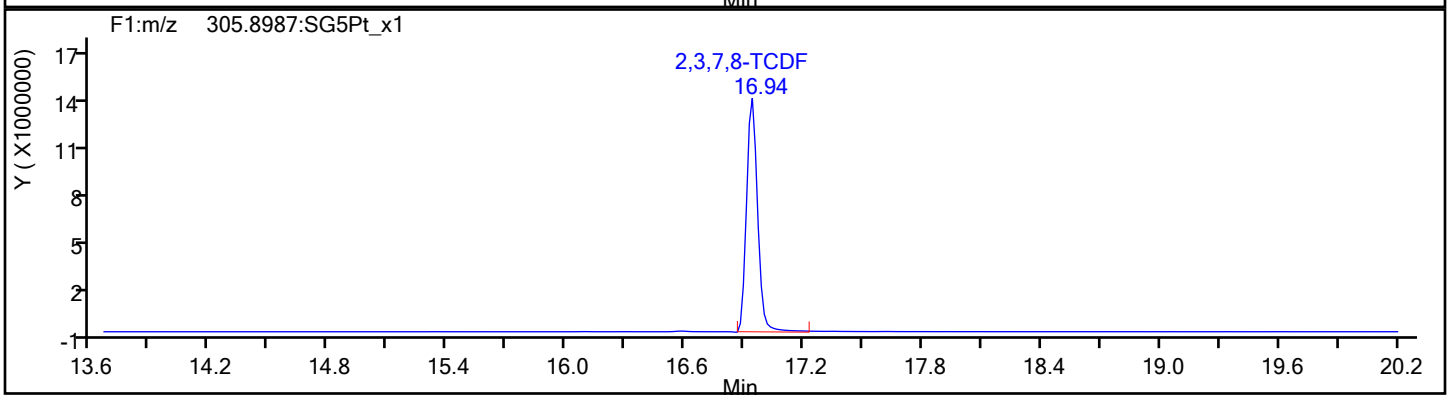

TCDF Standards

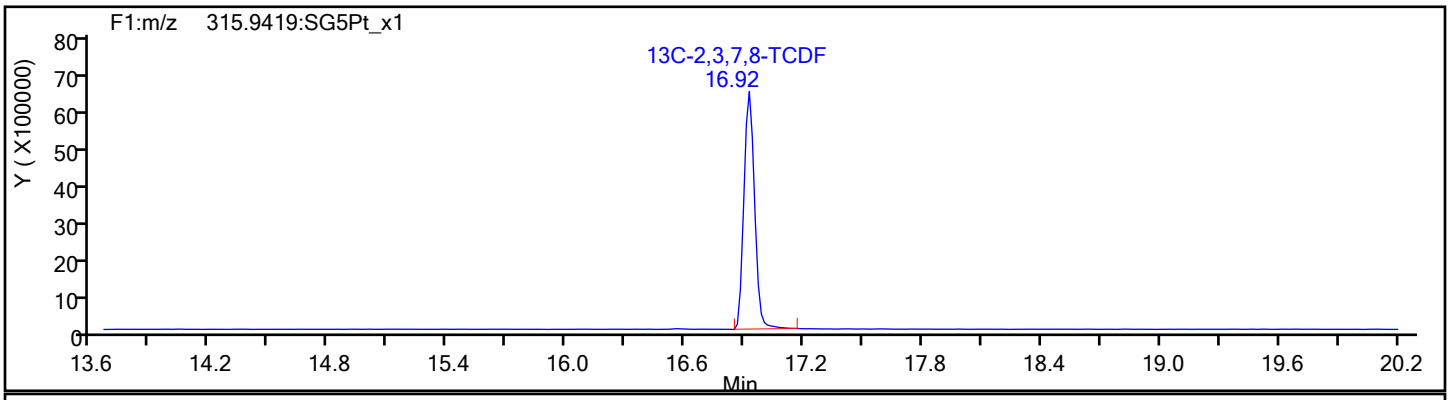

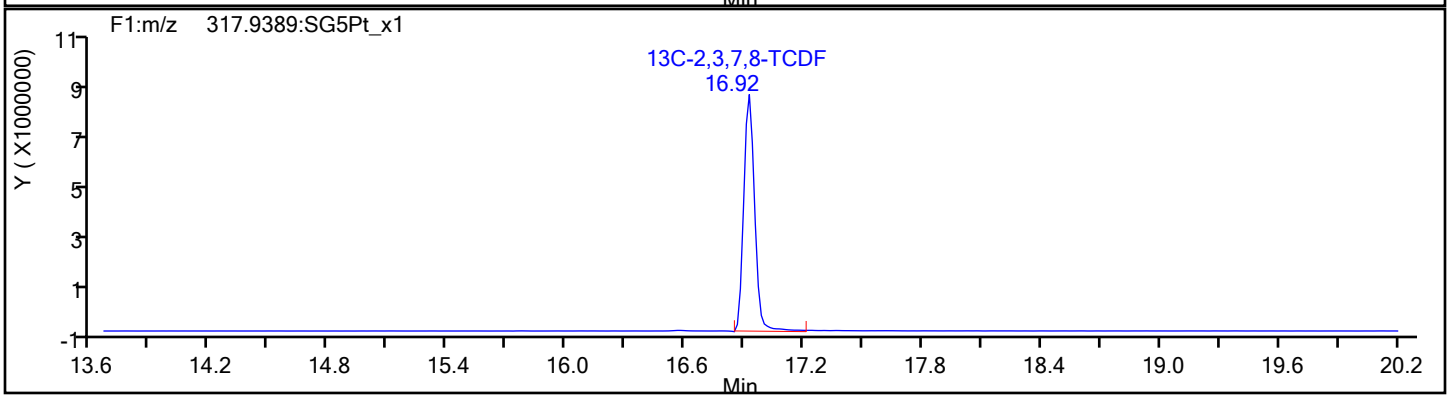

Report Date: 30-Jan-2020 09:35:39 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

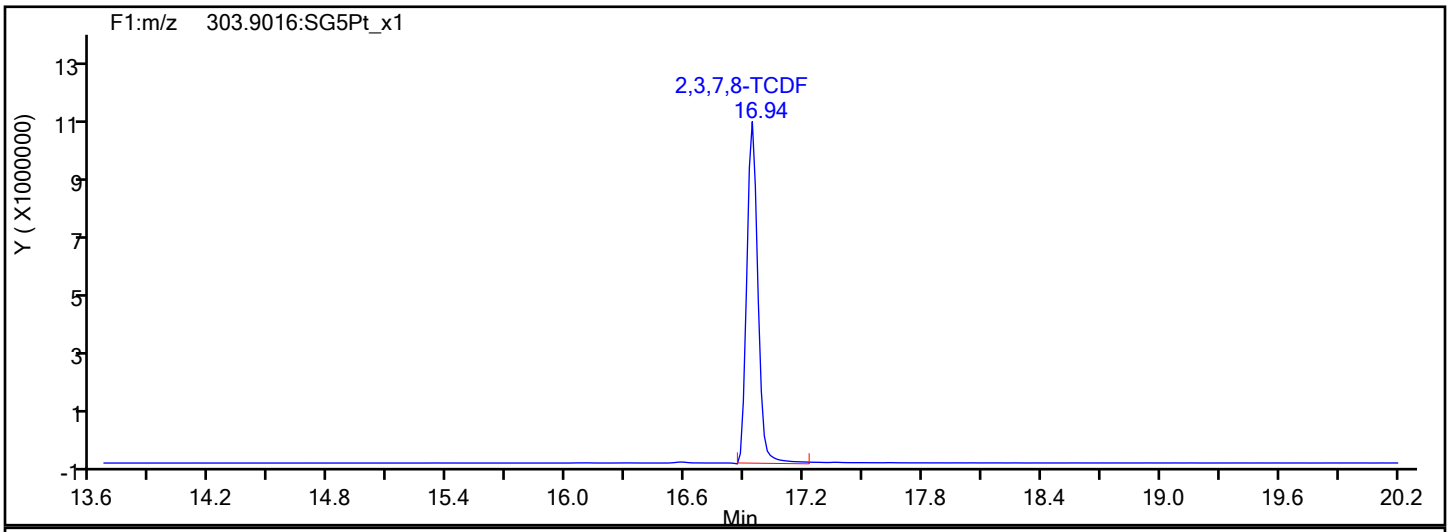

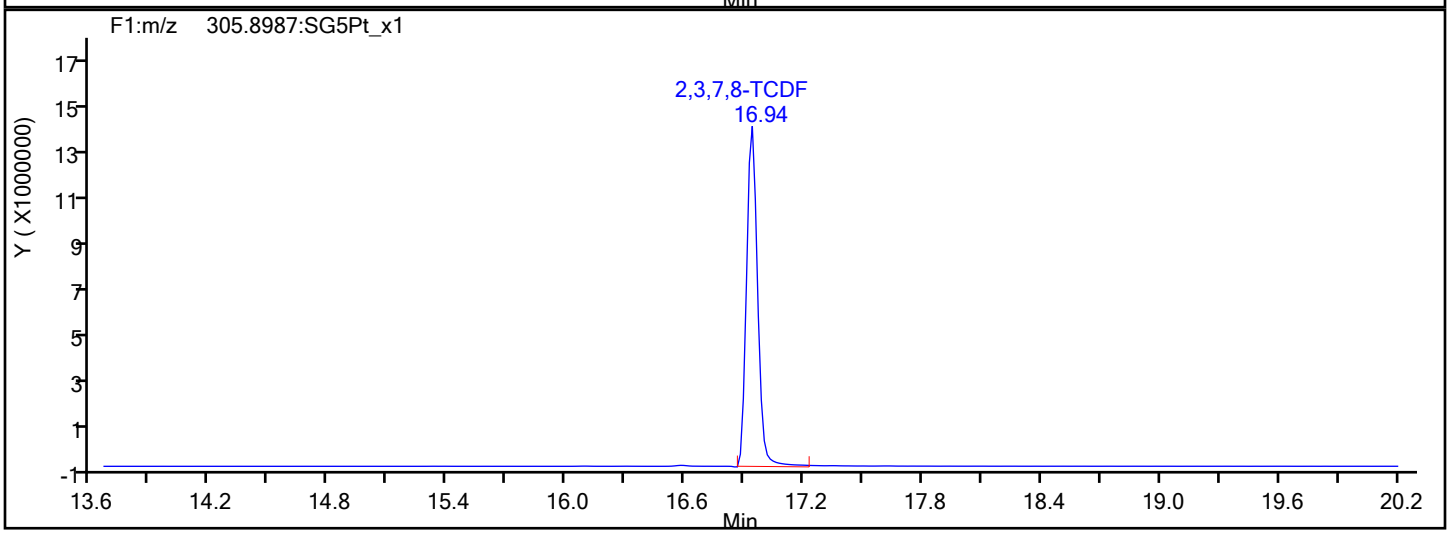

TCDF Interference Mass

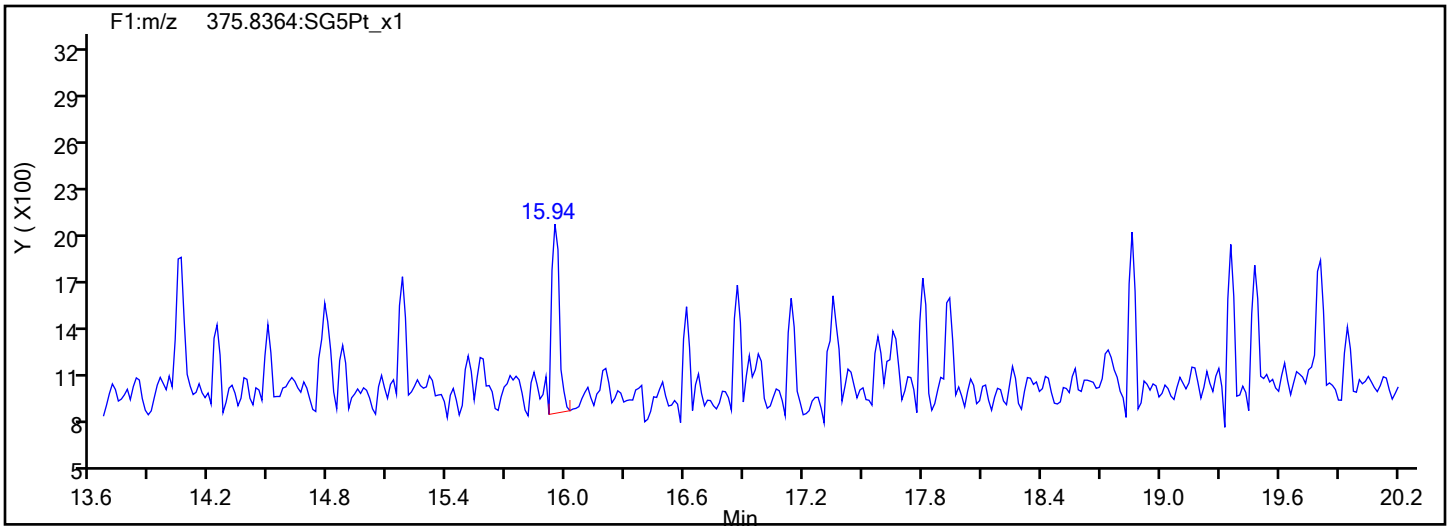

Report Date: 30-Jan-2020 09:35:39 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d		
Injection Date:	30-Jan-2020 04:53:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

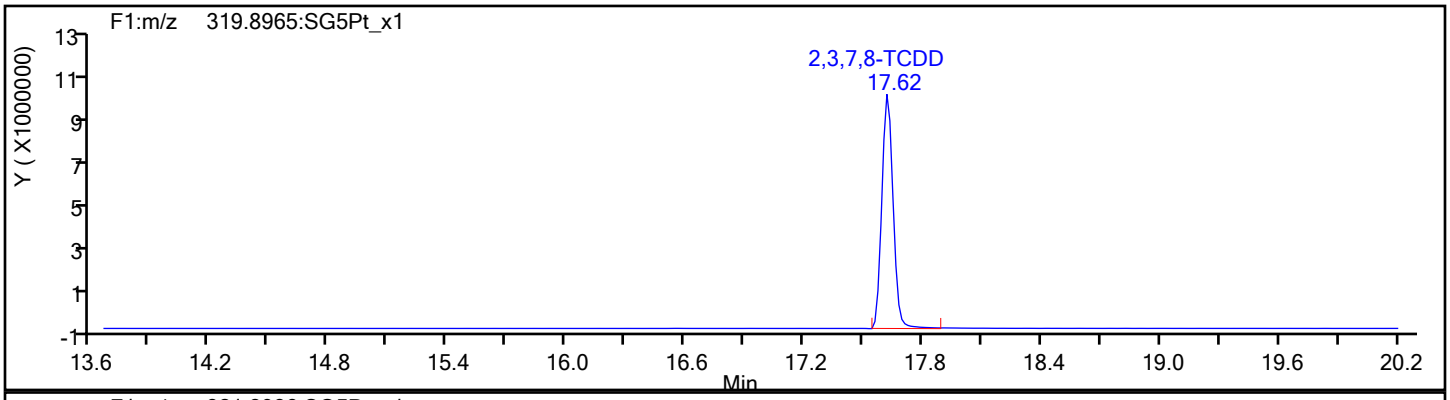

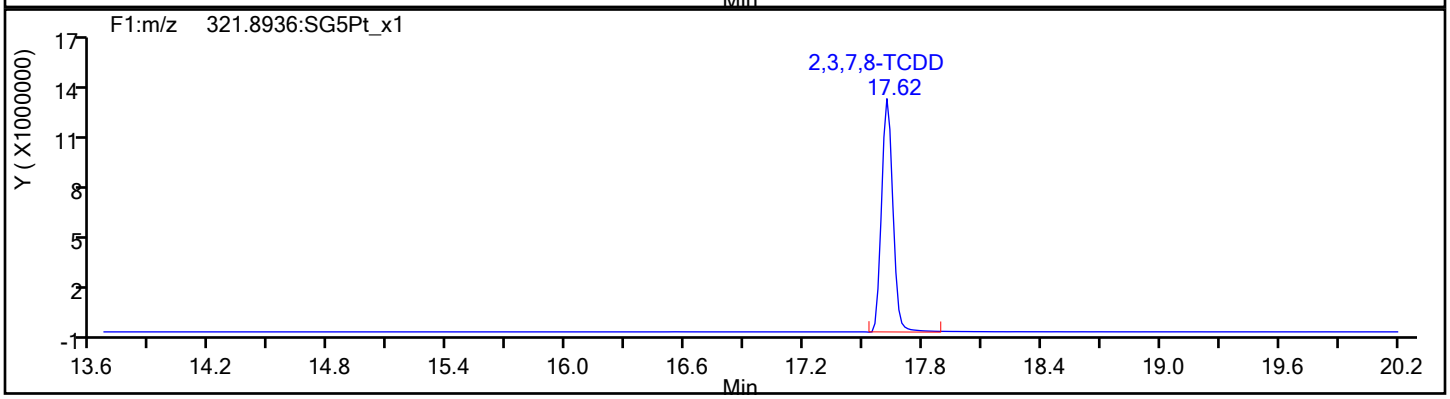

TCDD Standards

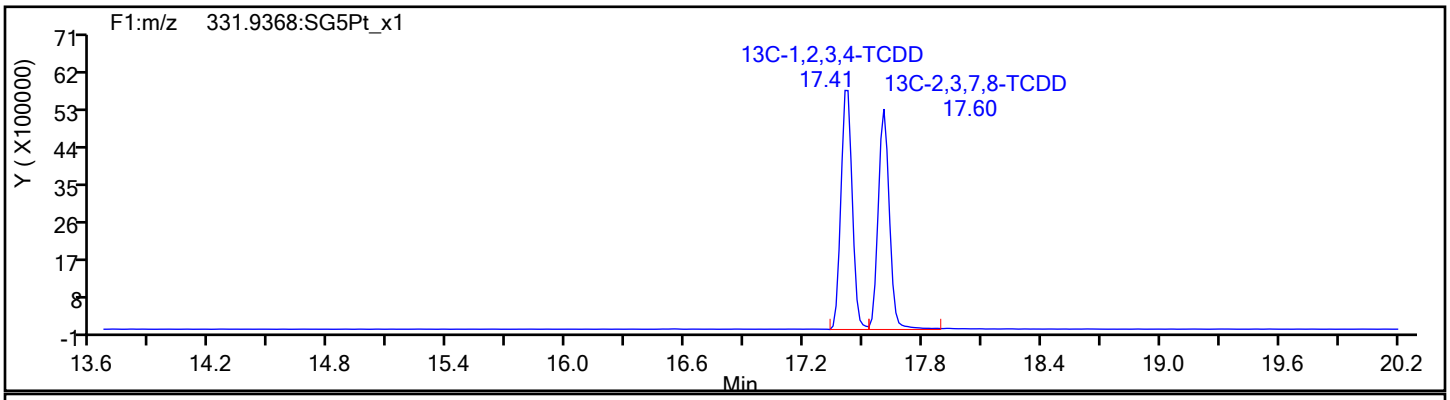

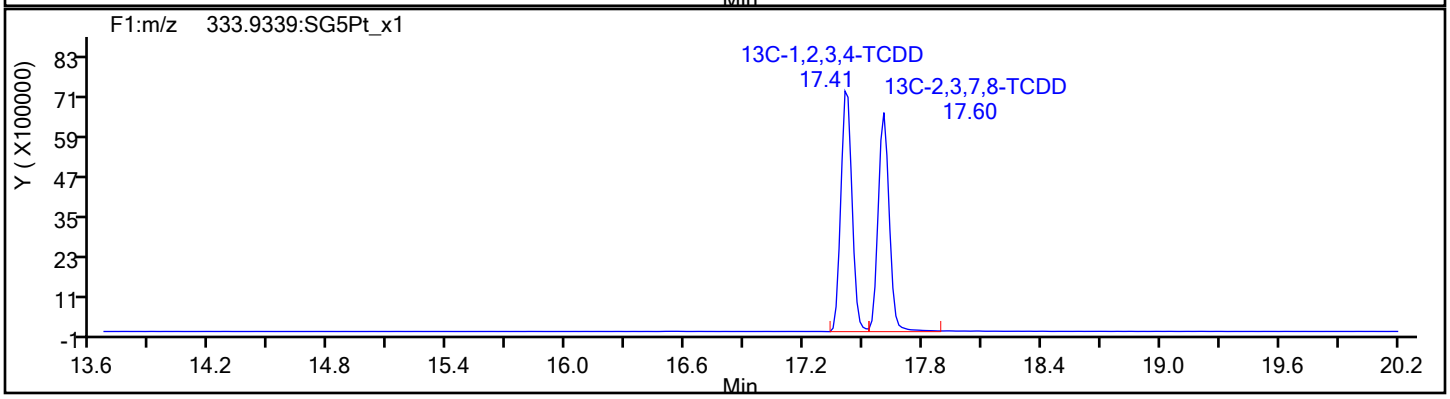

Report Date: 30-Jan-2020 09:35:39 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d		
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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

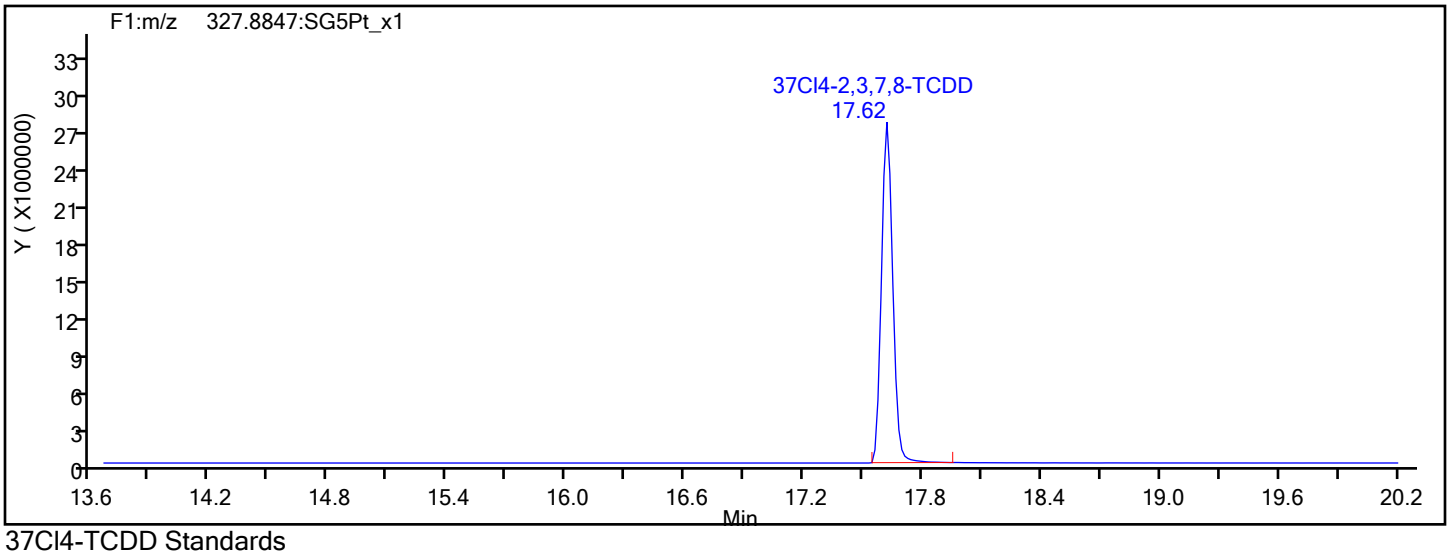

37Cl4-TCDD Standards

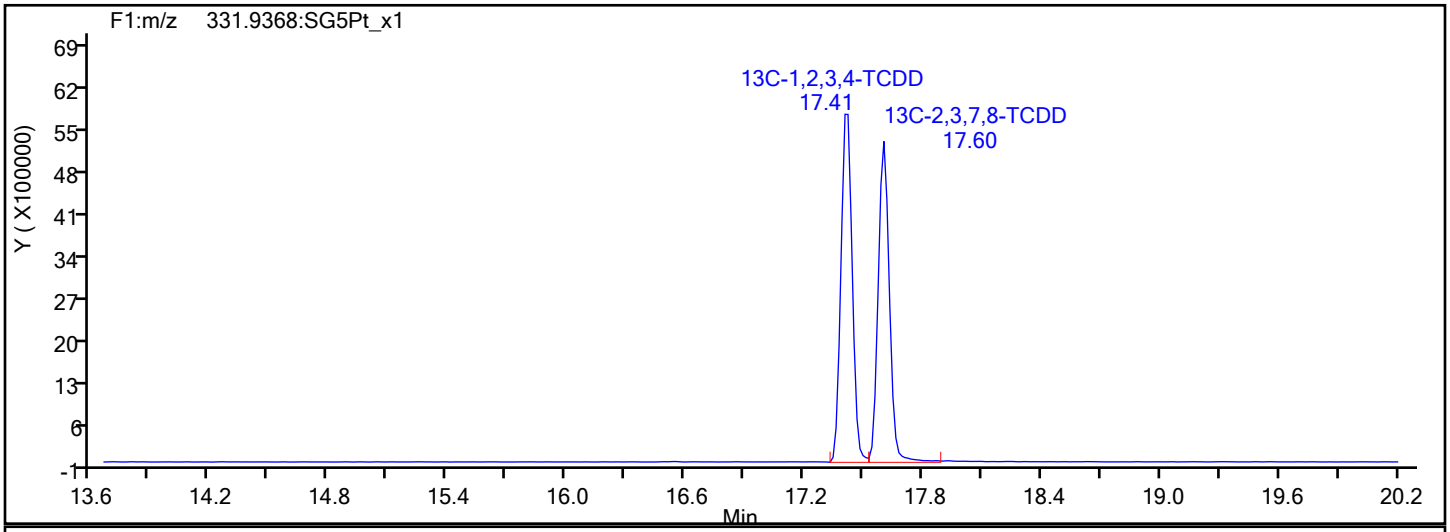

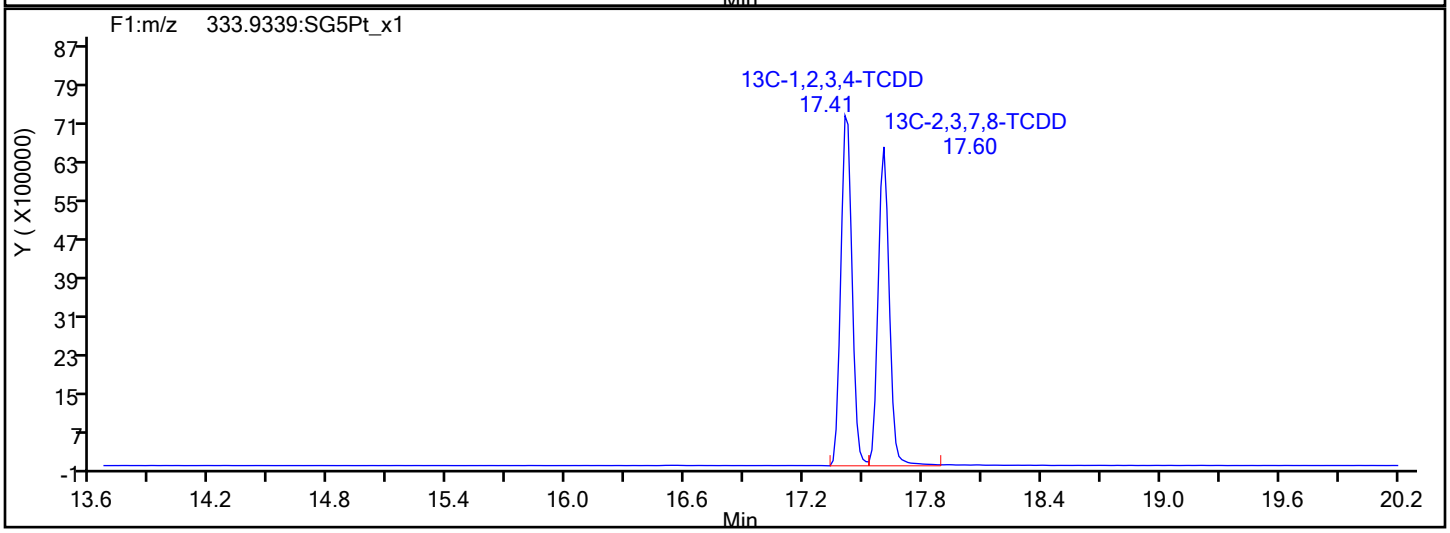

Report Date: 30-Jan-2020 09:35:39 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d		
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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

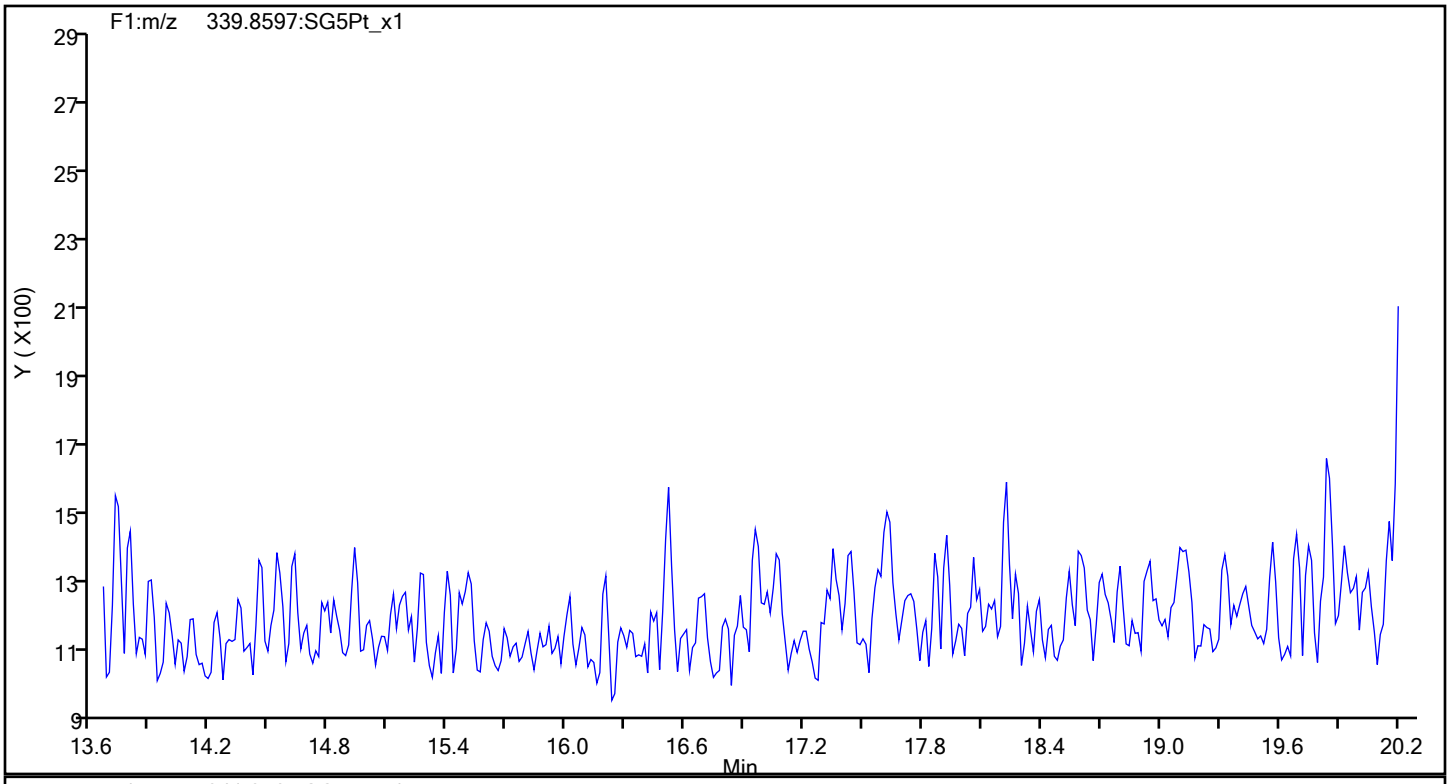

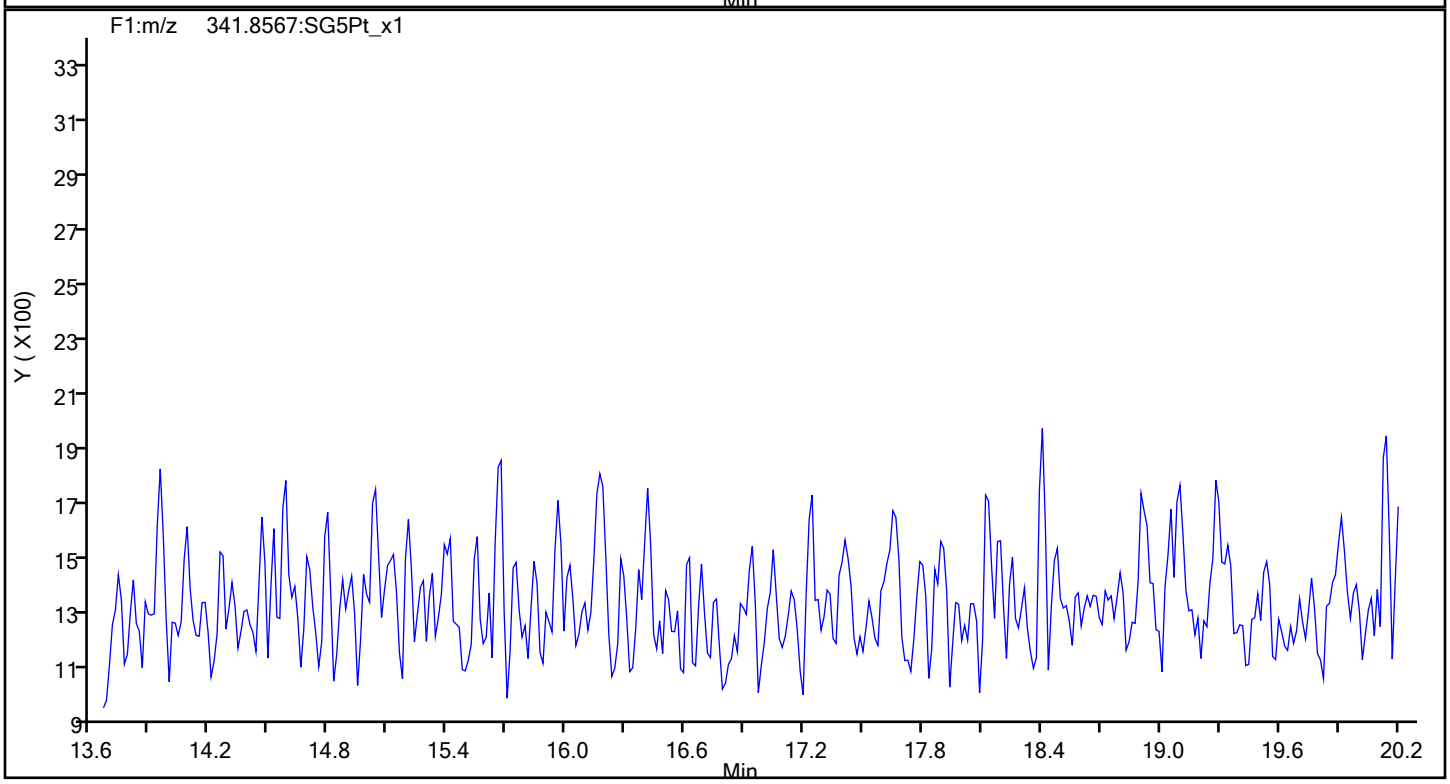

Report Date: 30-Jan-2020 09:35:39 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d		
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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

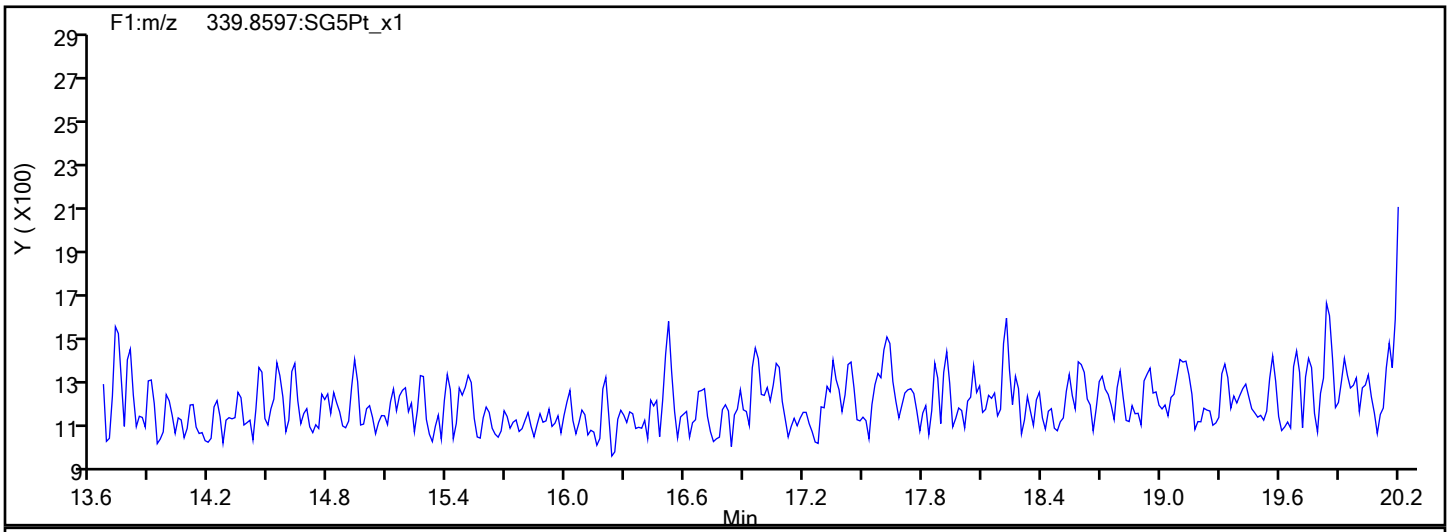

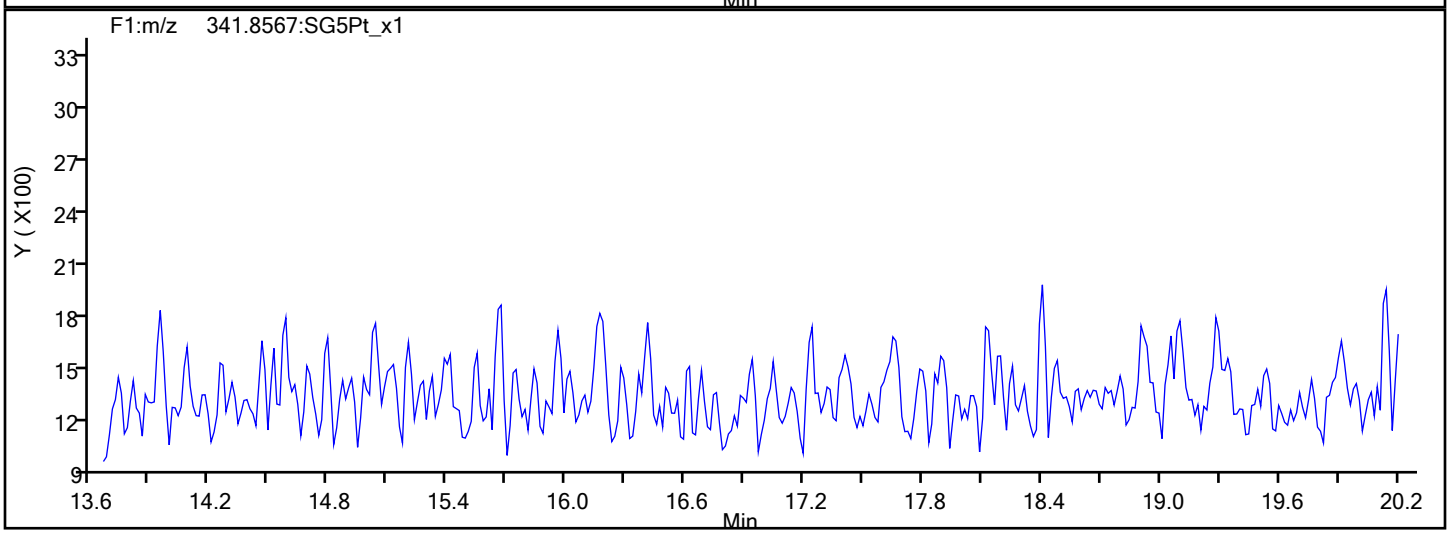

F1 PeCDFs Interference Mass

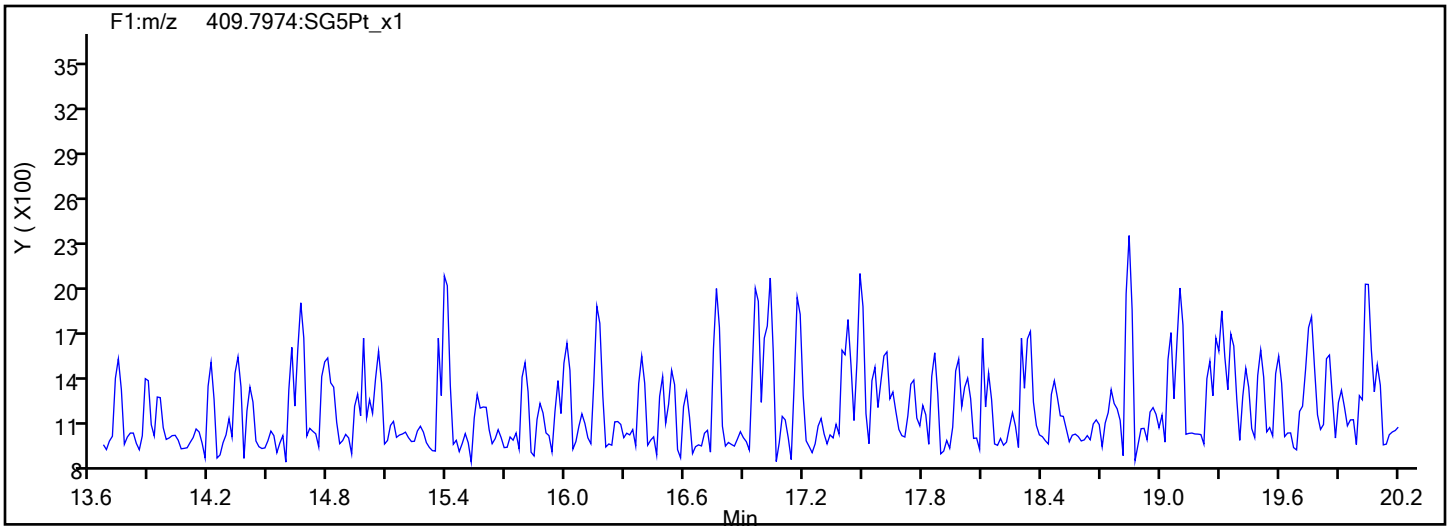

Report Date: 30-Jan-2020 09:35:39 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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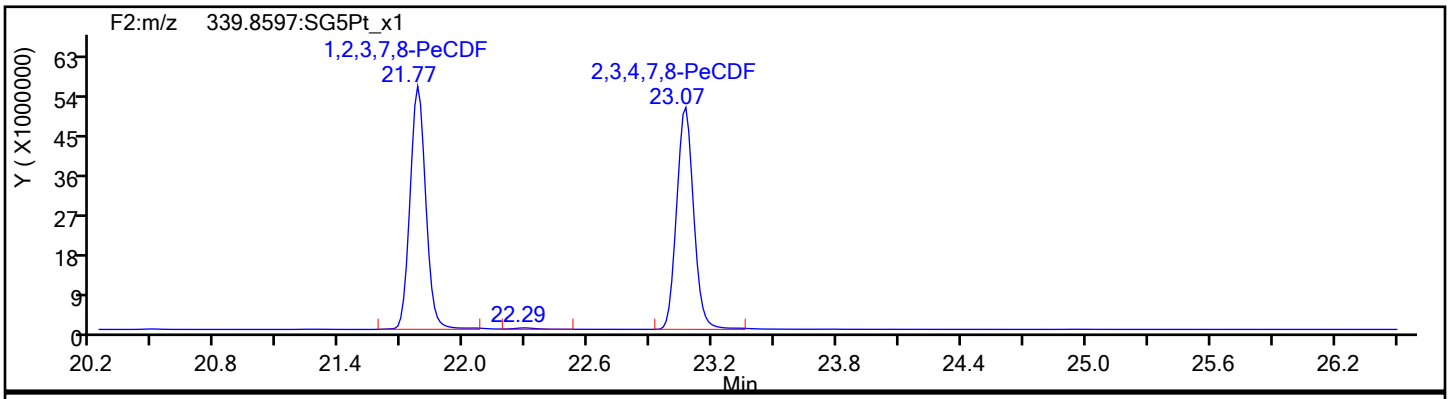

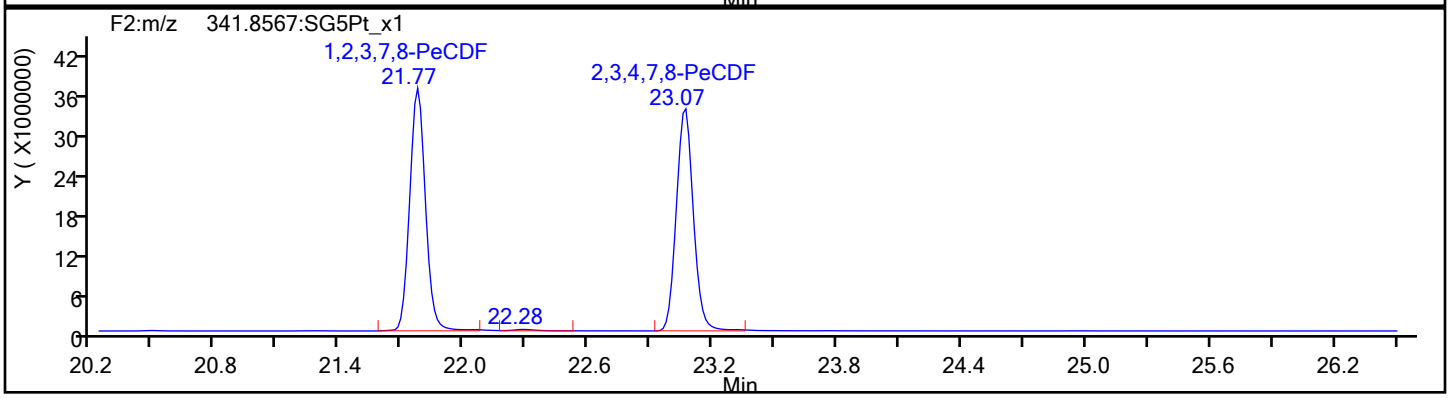

PeCDF Standards

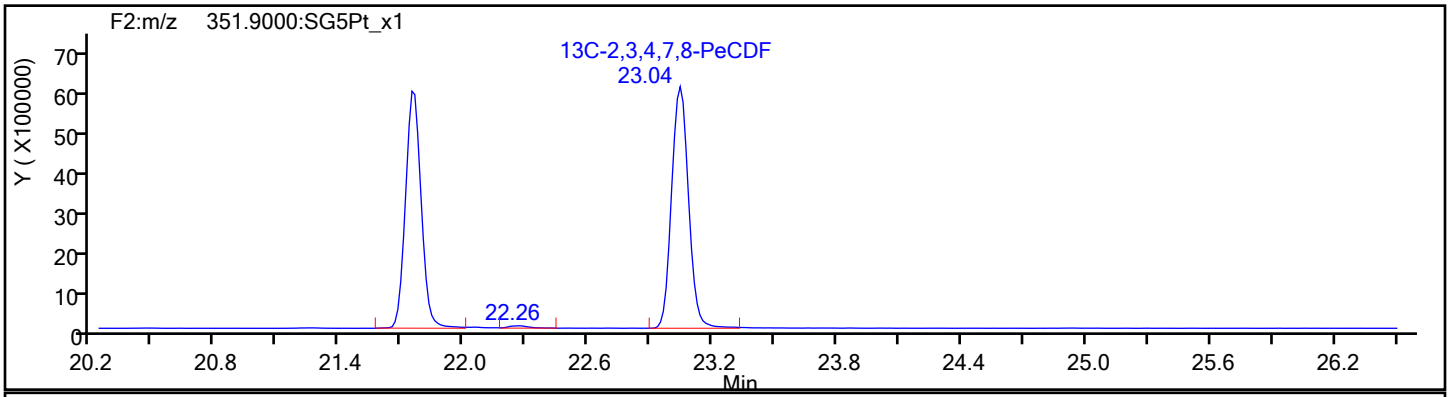

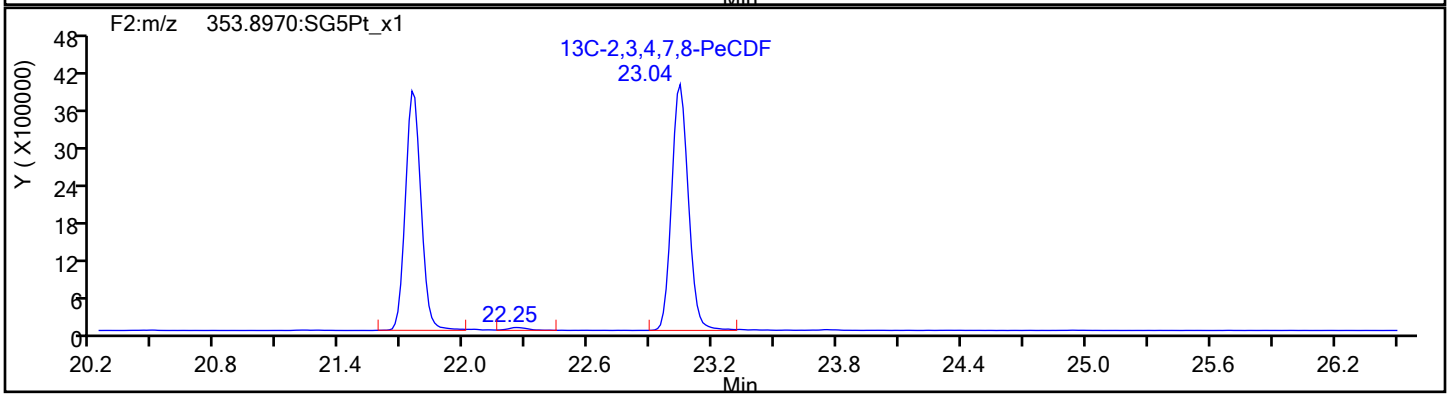

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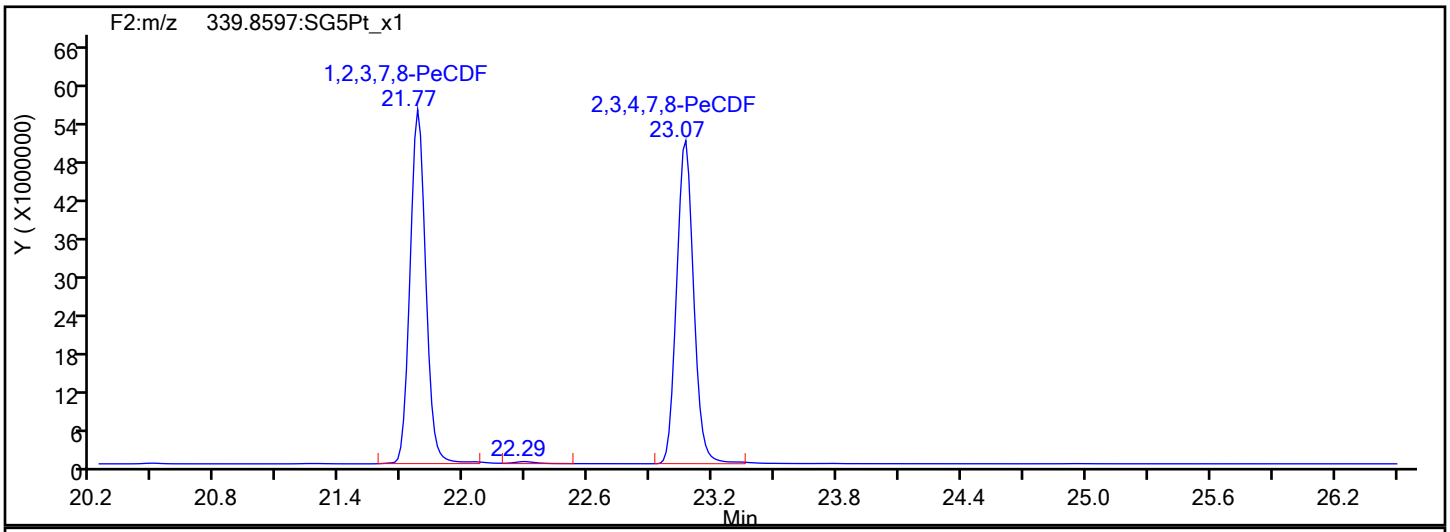

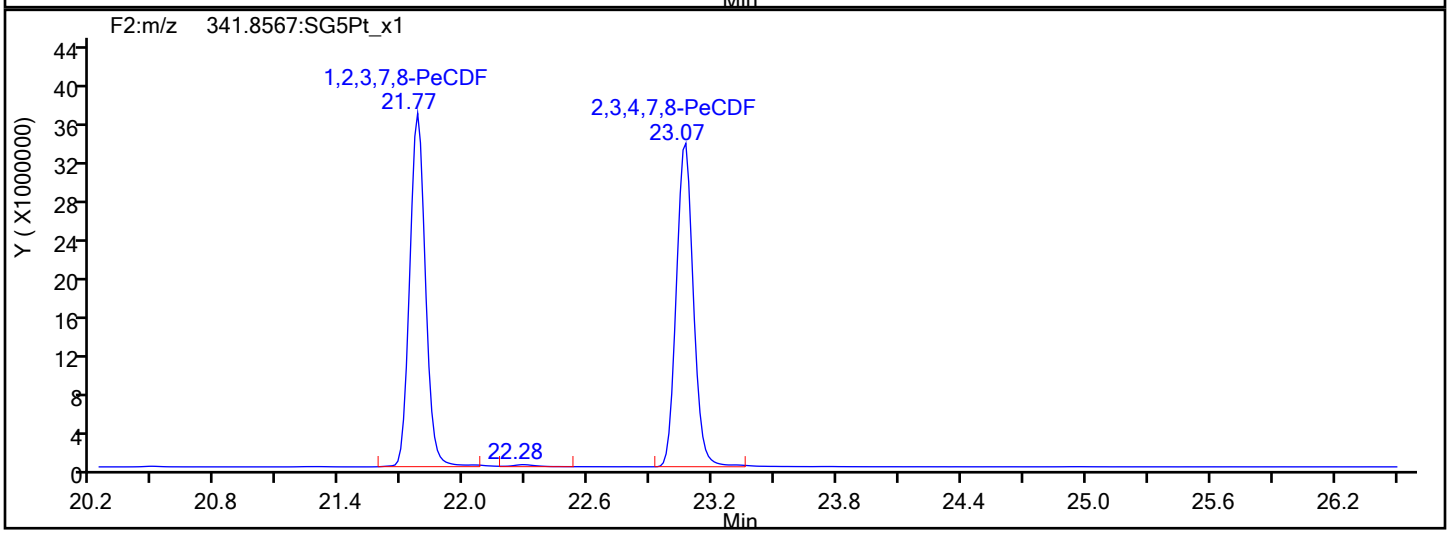

PeCDF Interference Mass

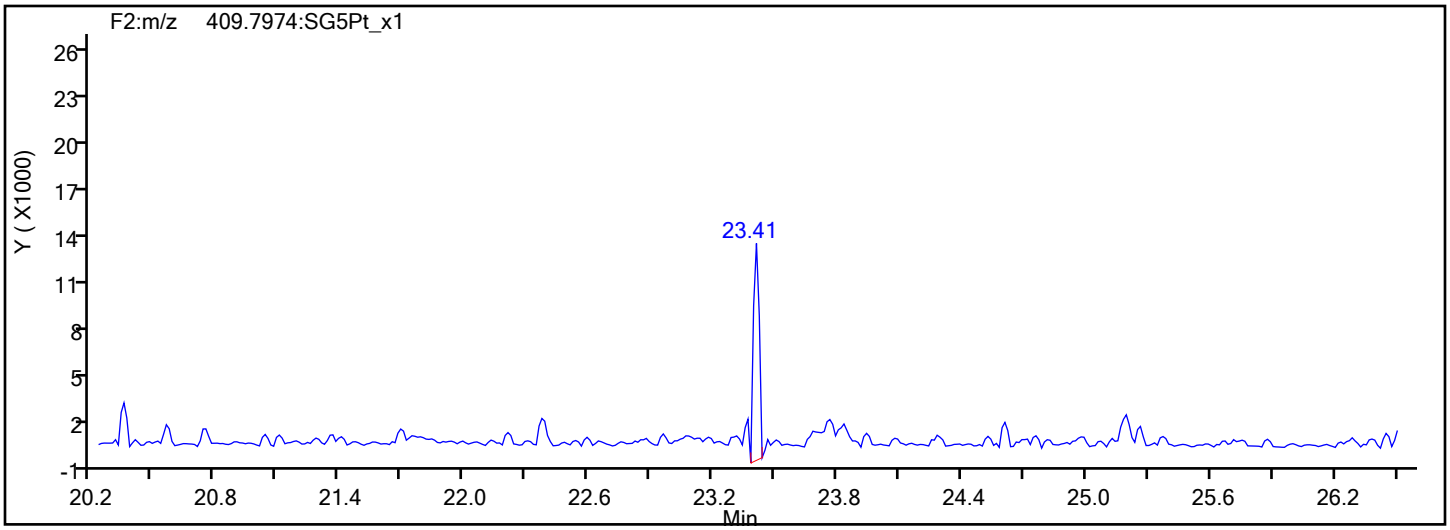

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Eurofins TestAmerica, Sacramento

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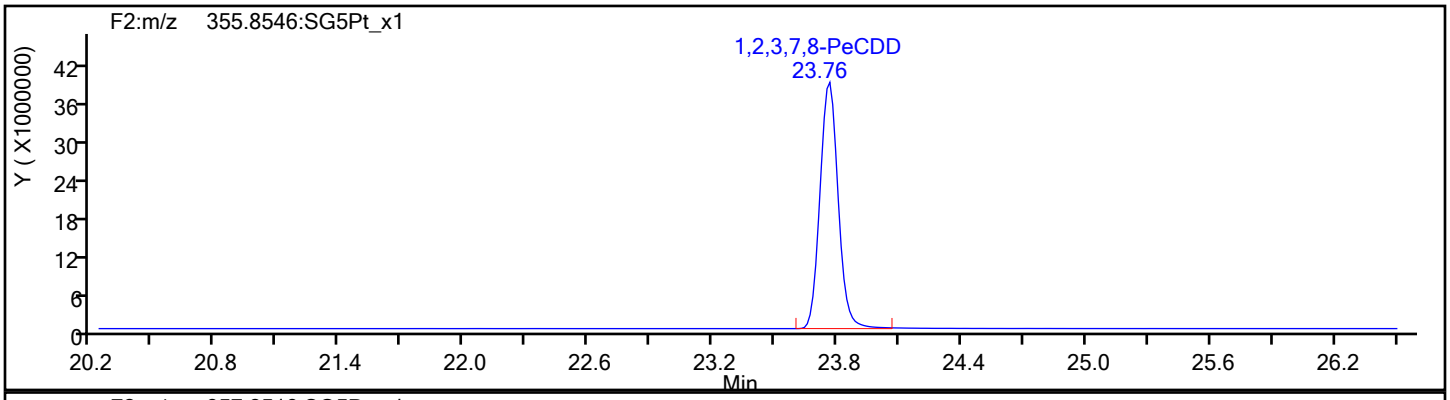

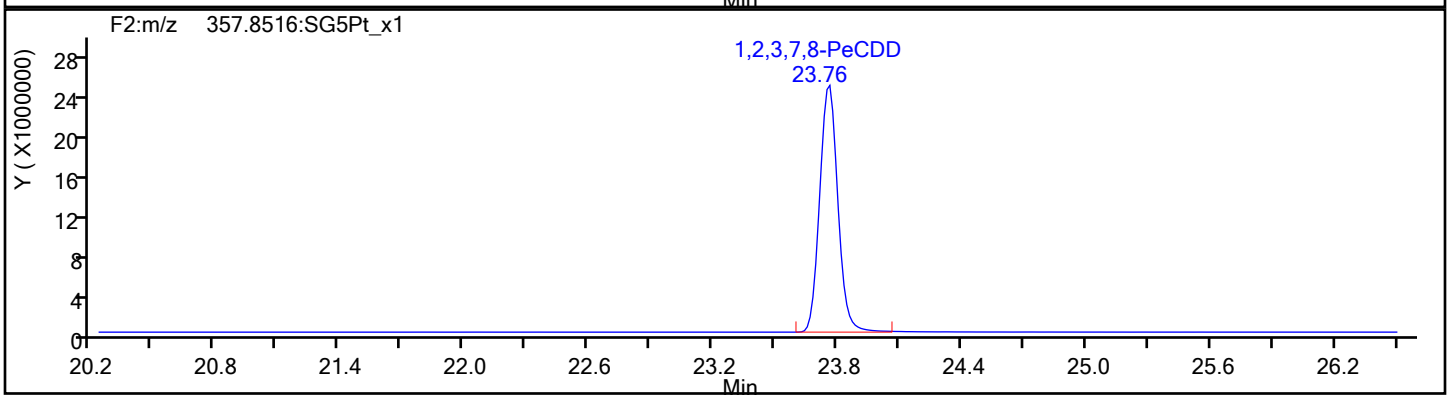

PeCDD Standards

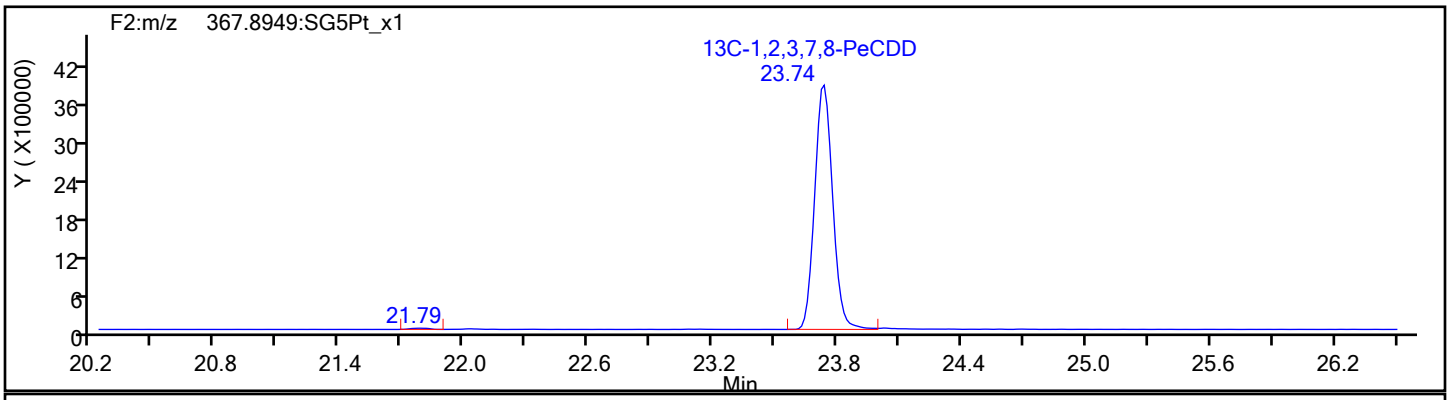

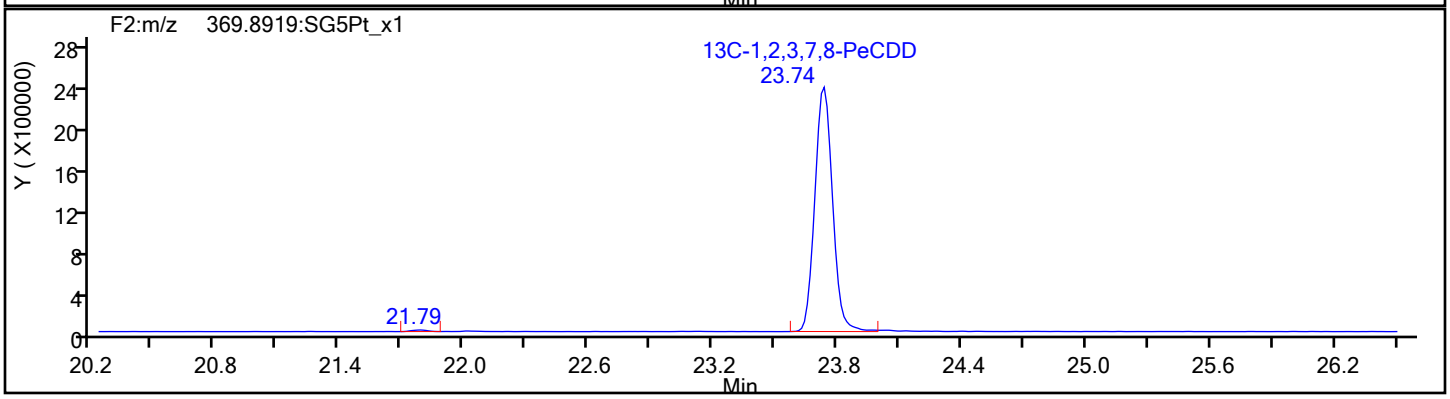

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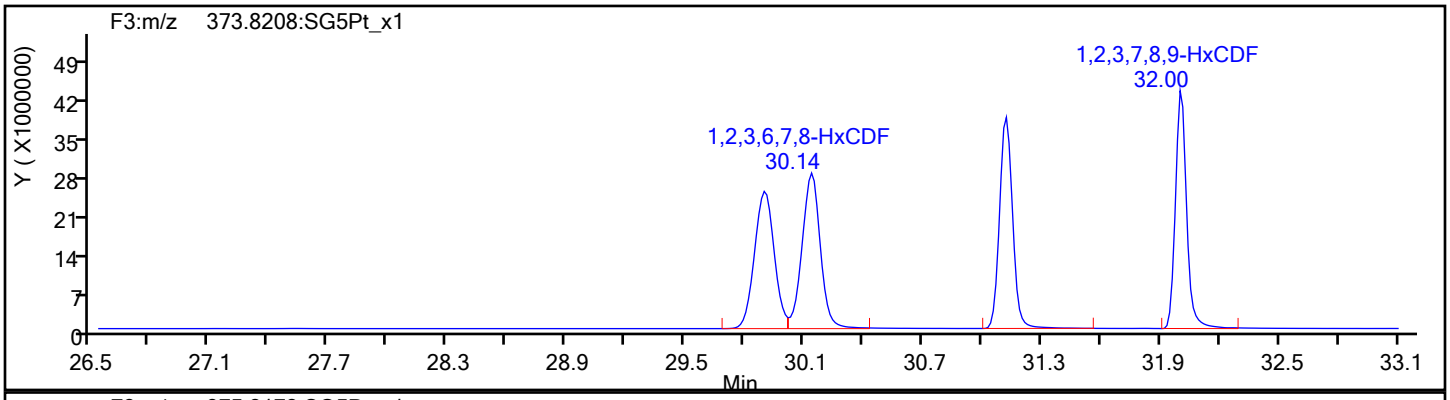

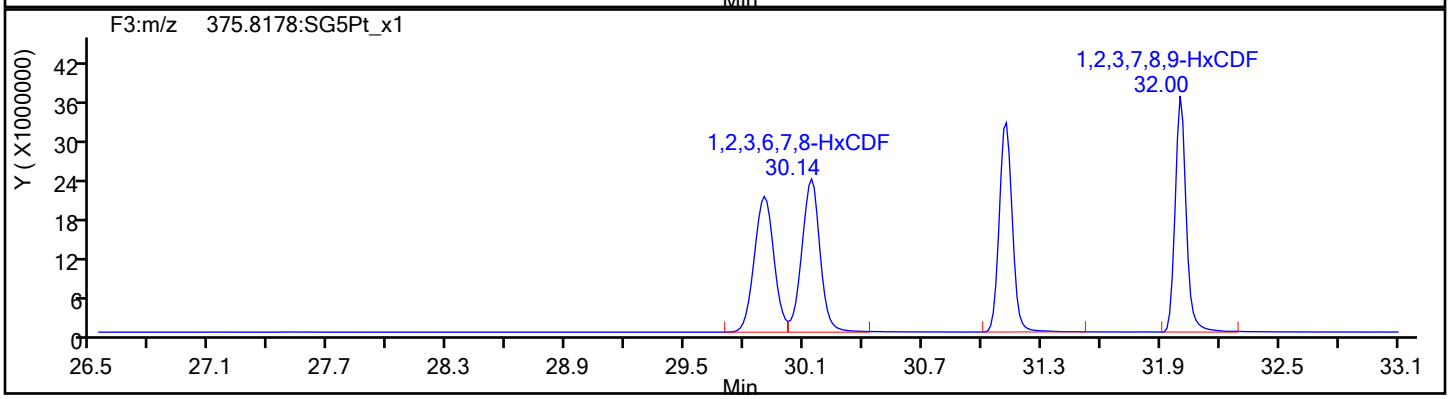

HxCDF Standards

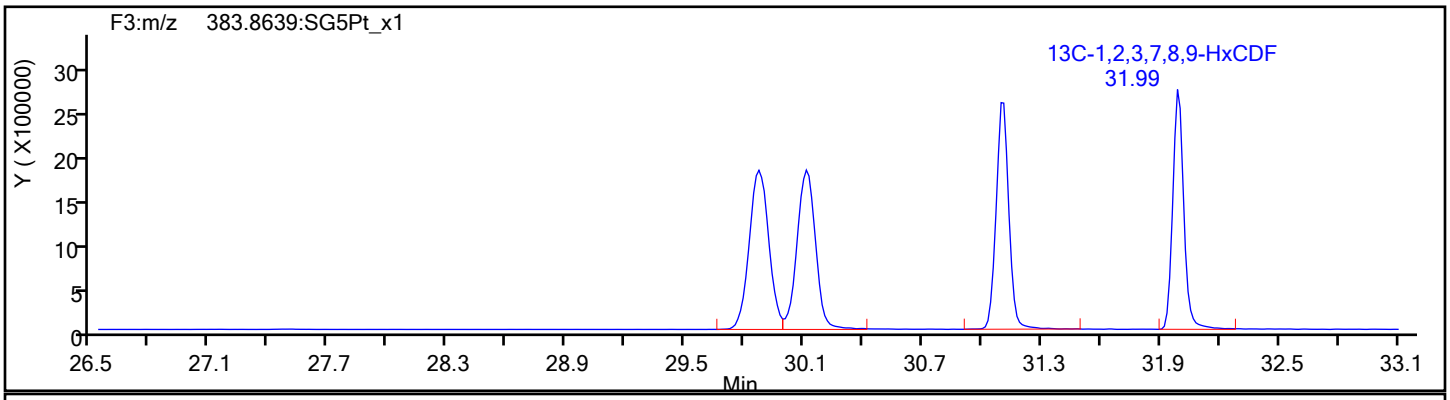

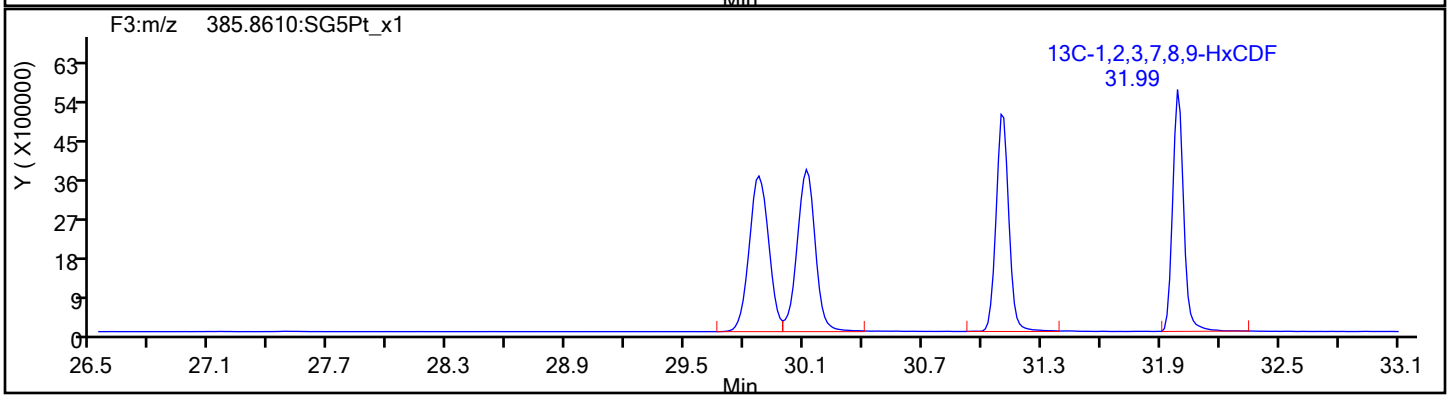

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Eurofins TestAmerica, Sacramento

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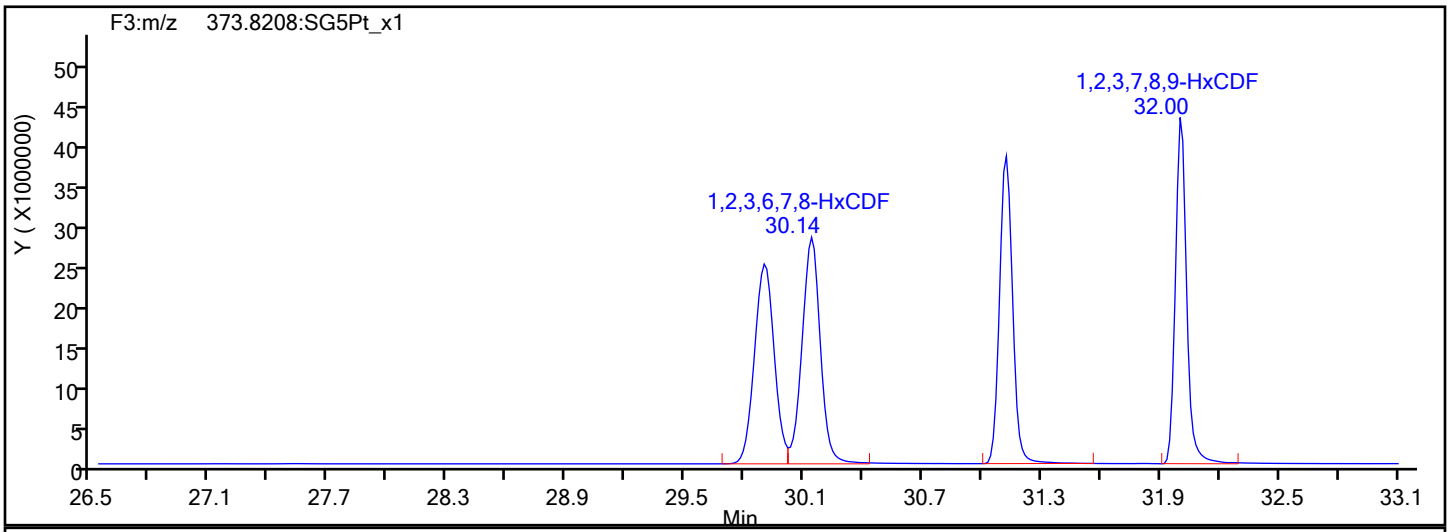

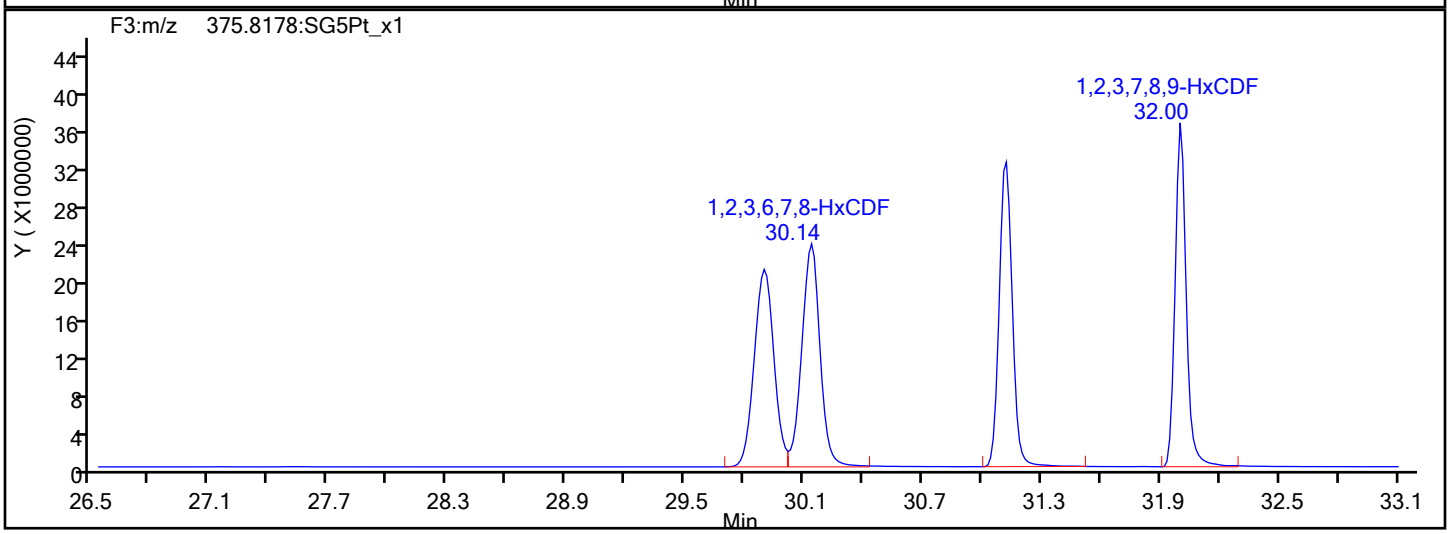

HxCDF Interference Mass

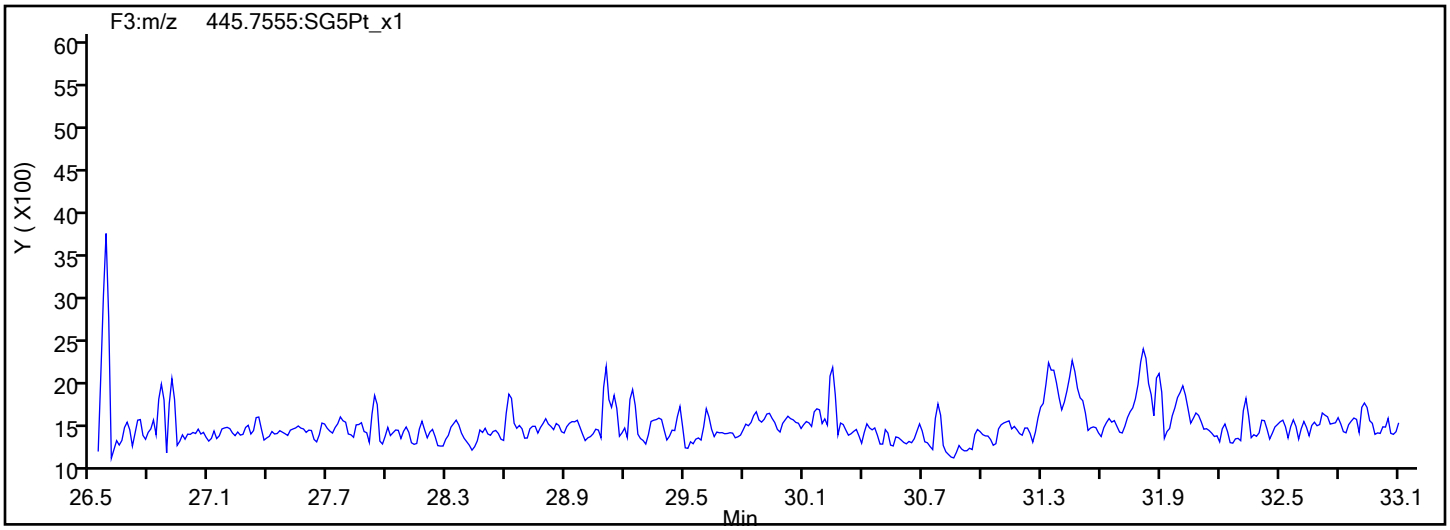

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Eurofins TestAmerica, Sacramento

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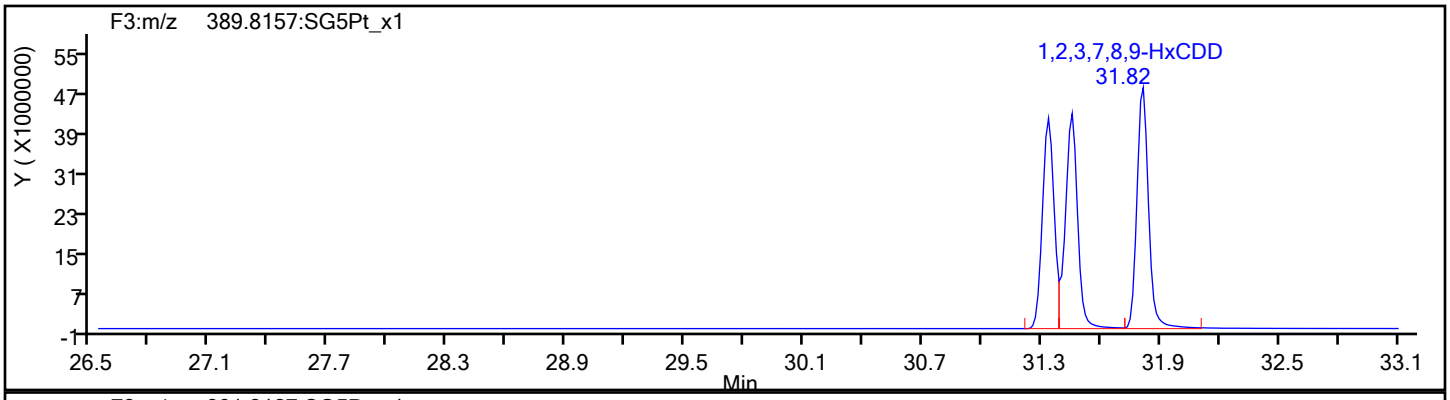

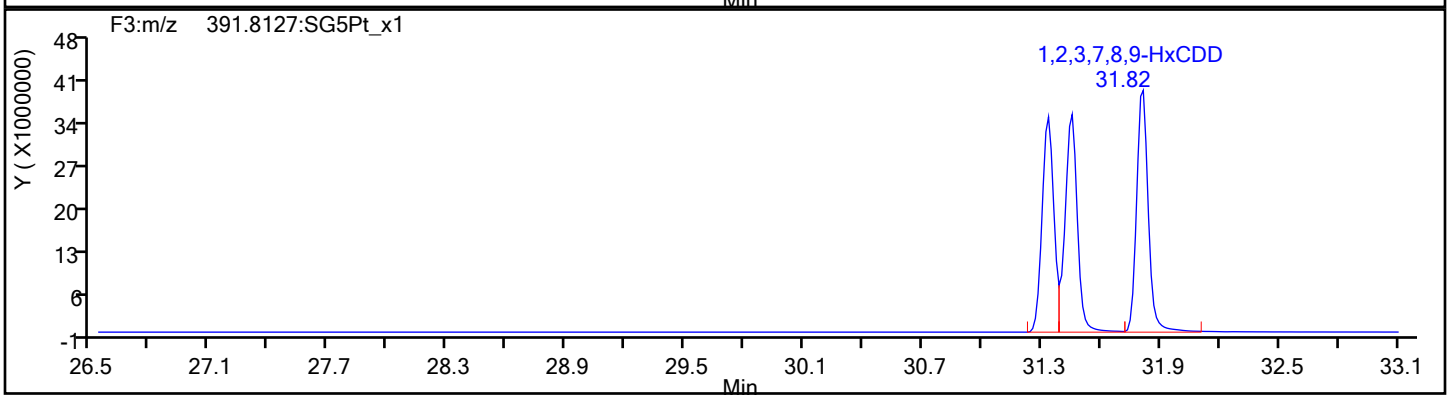

HxCDD Standards

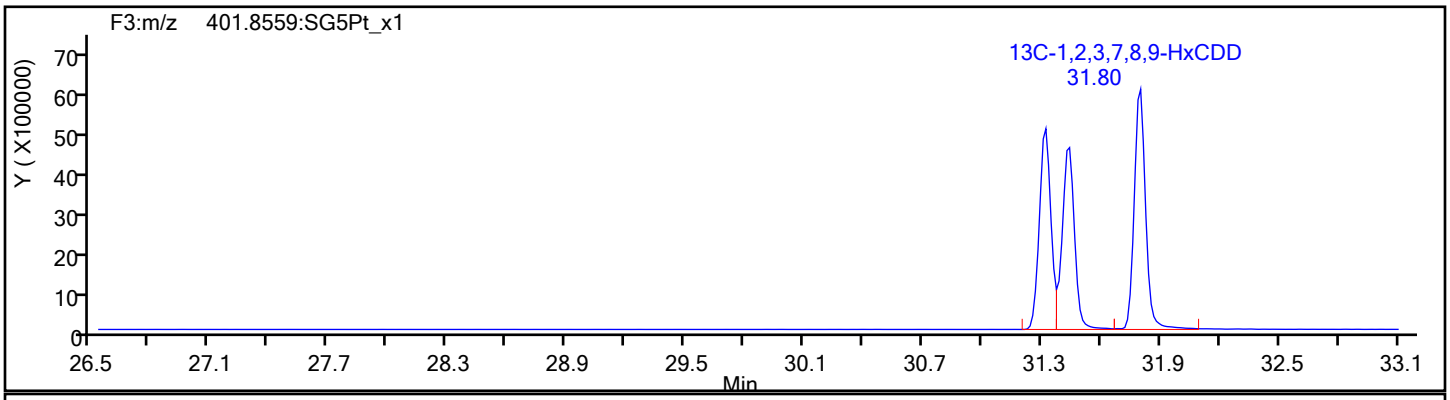

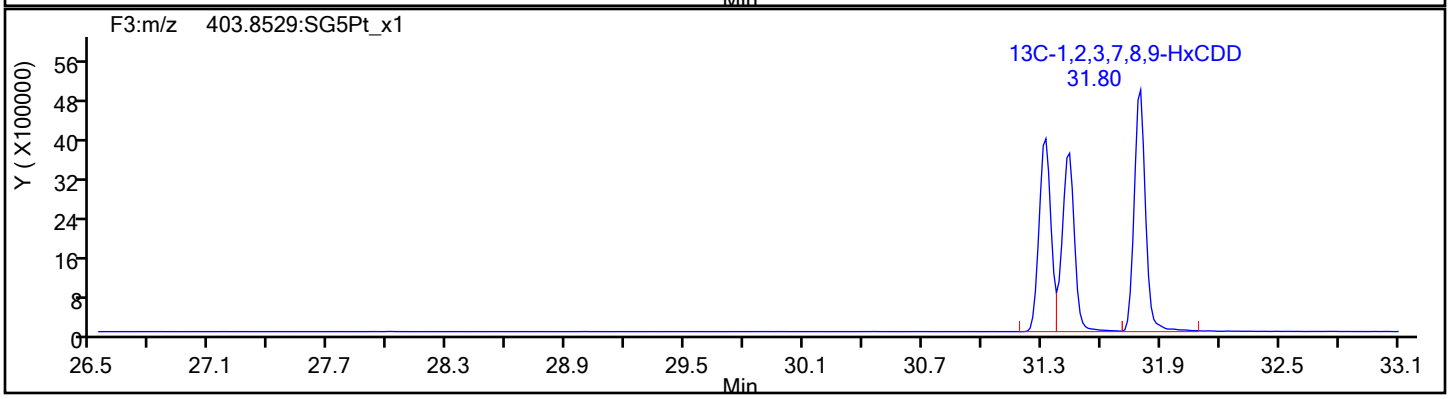

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Eurofins TestAmerica, Sacramento

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HpCDF

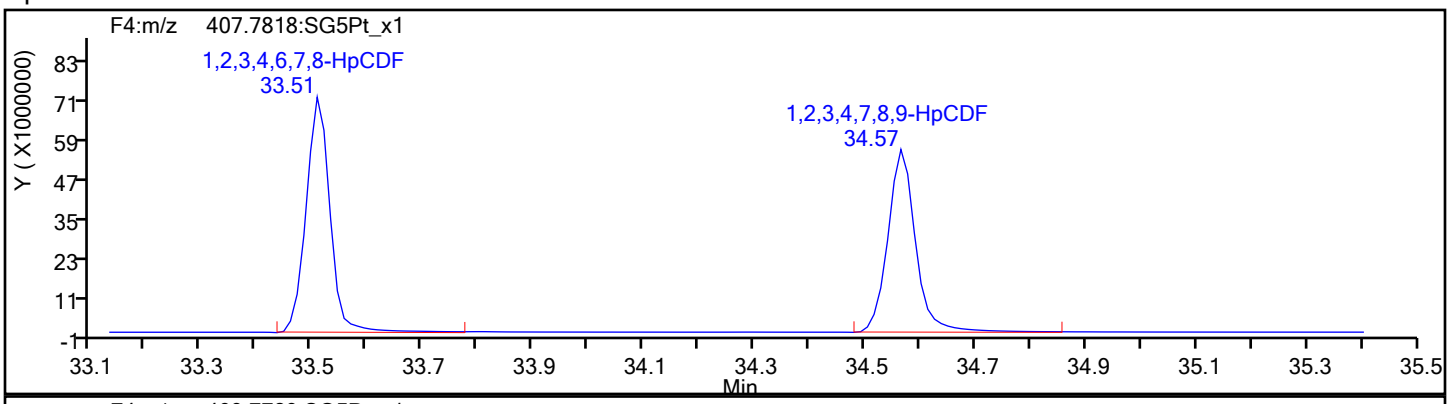

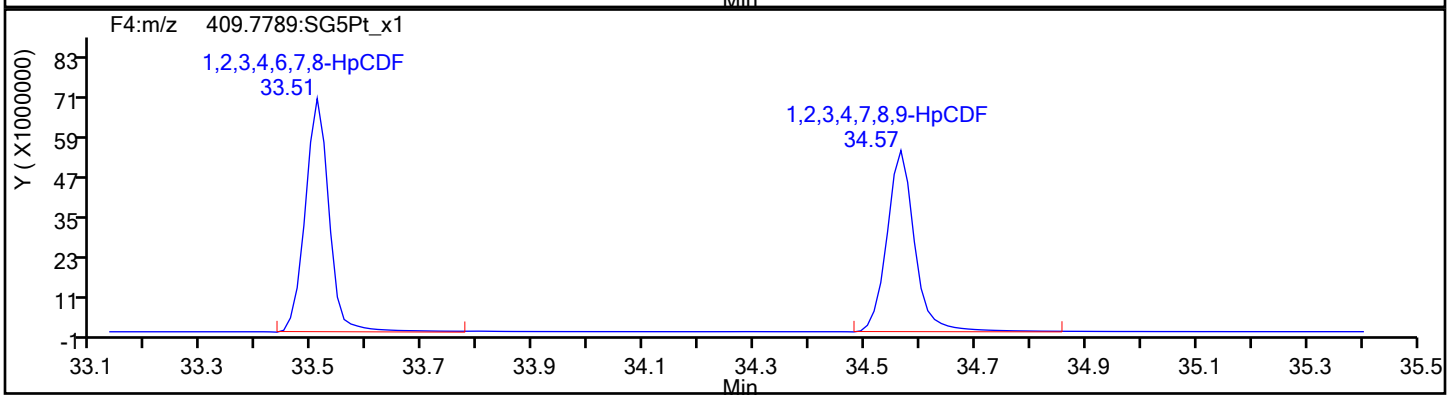

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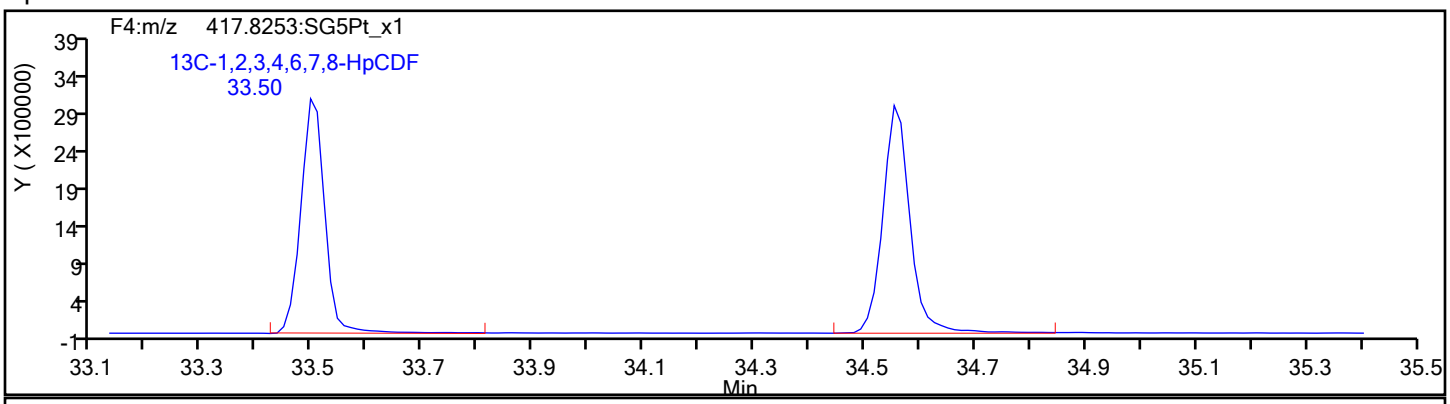

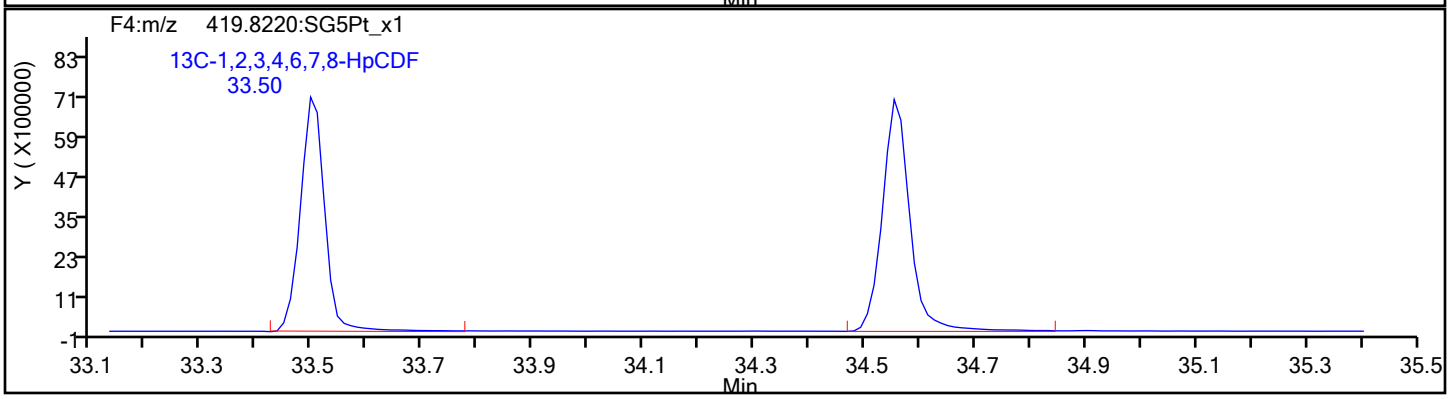

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Eurofins TestAmerica, Sacramento

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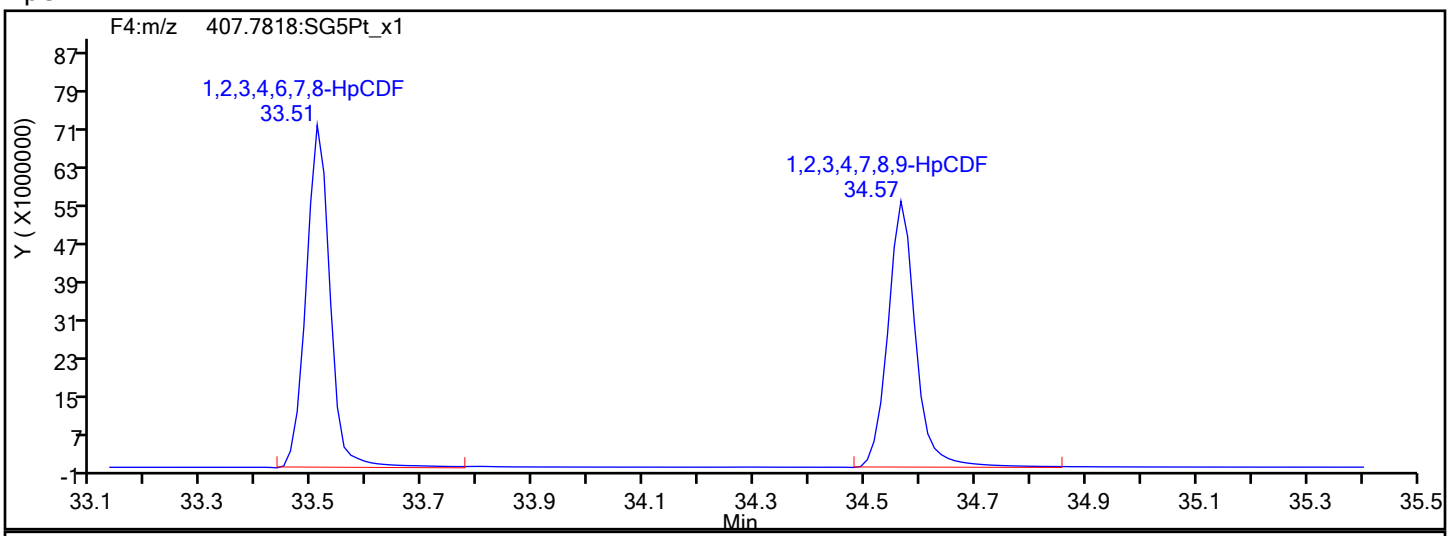

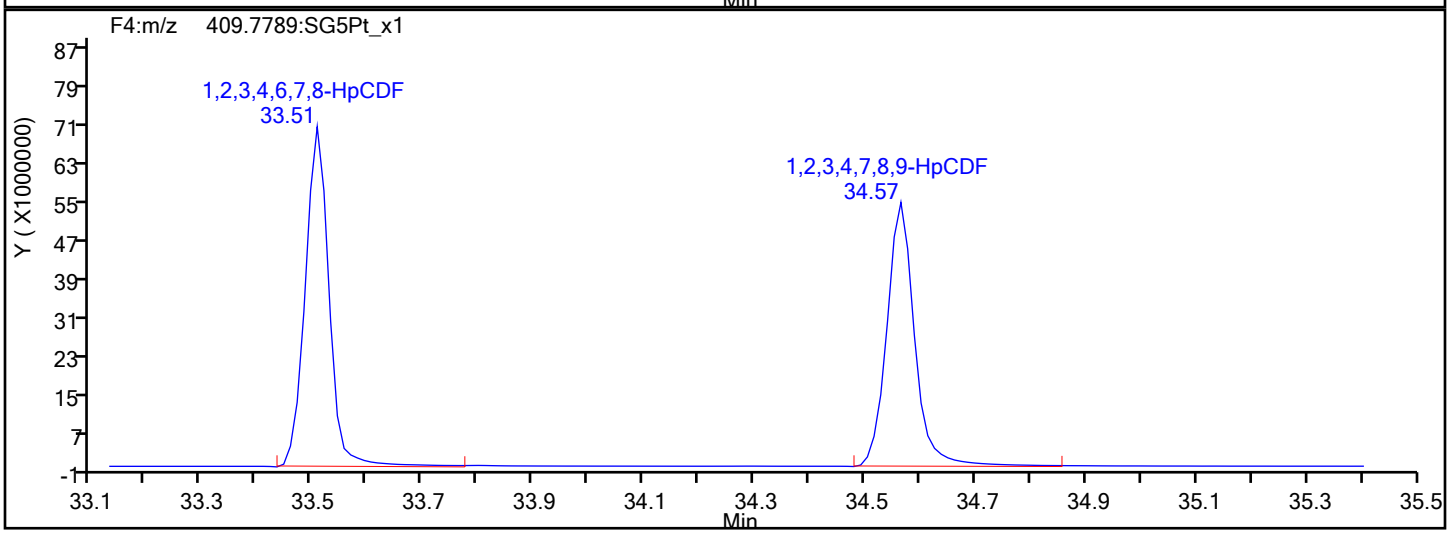

HpCDF Interference Mass

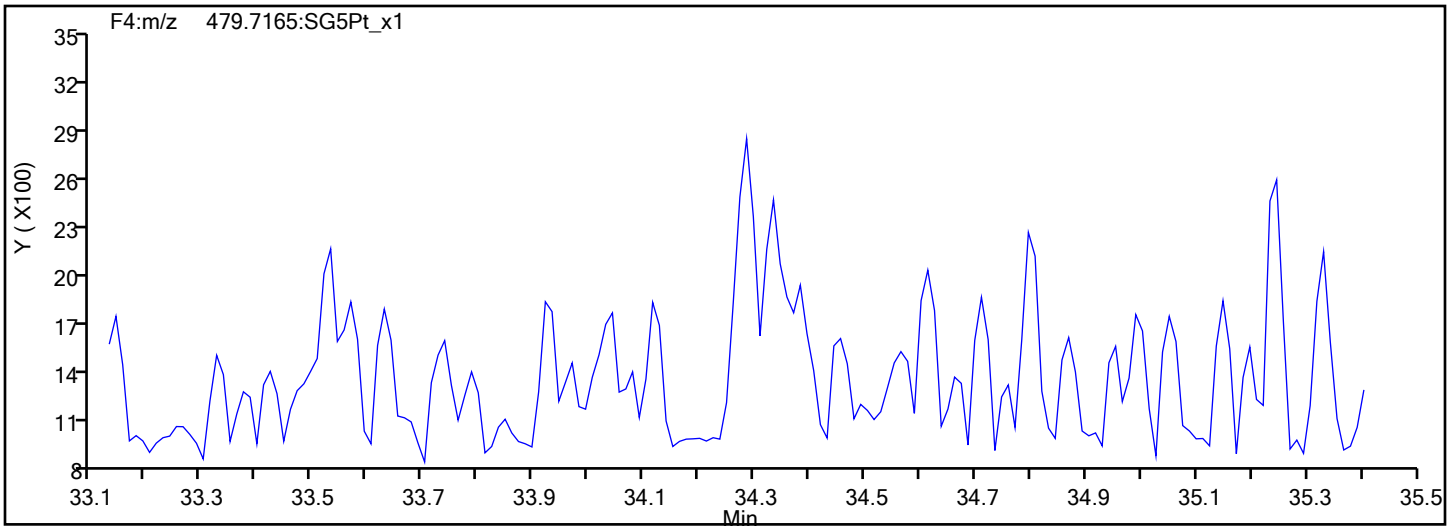

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Eurofins TestAmerica, Sacramento

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HpCDD

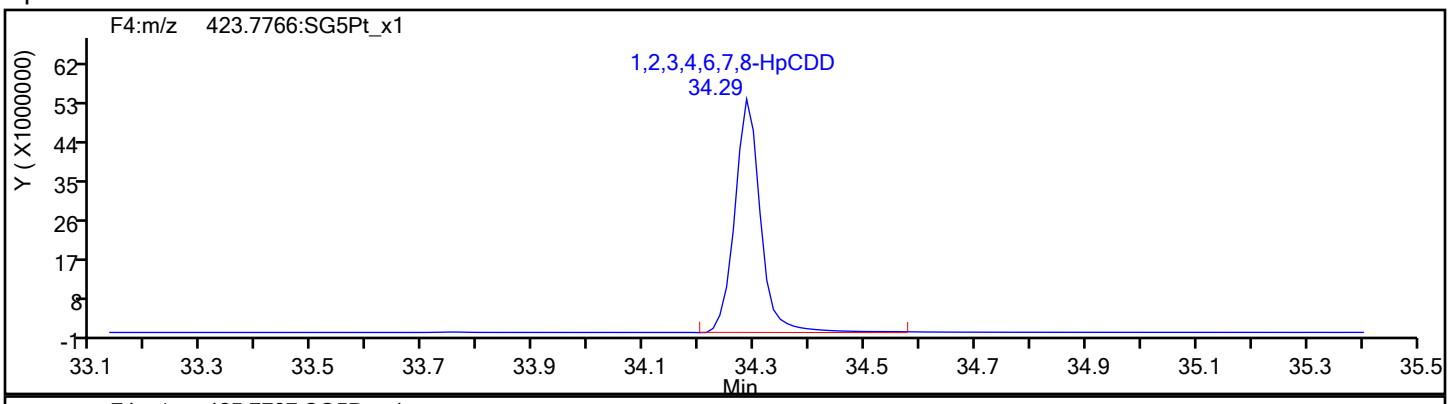

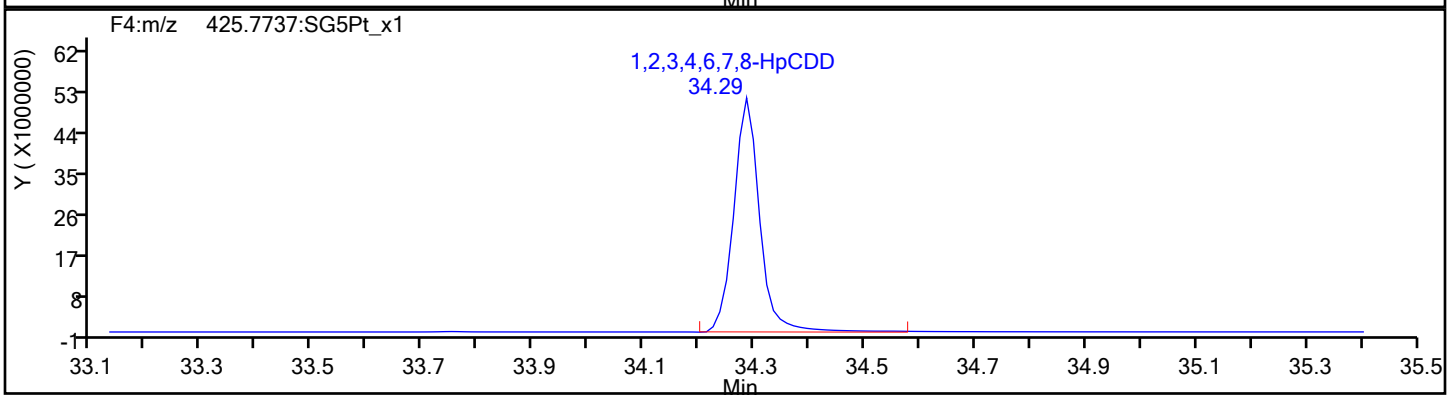

HpCDD Standards

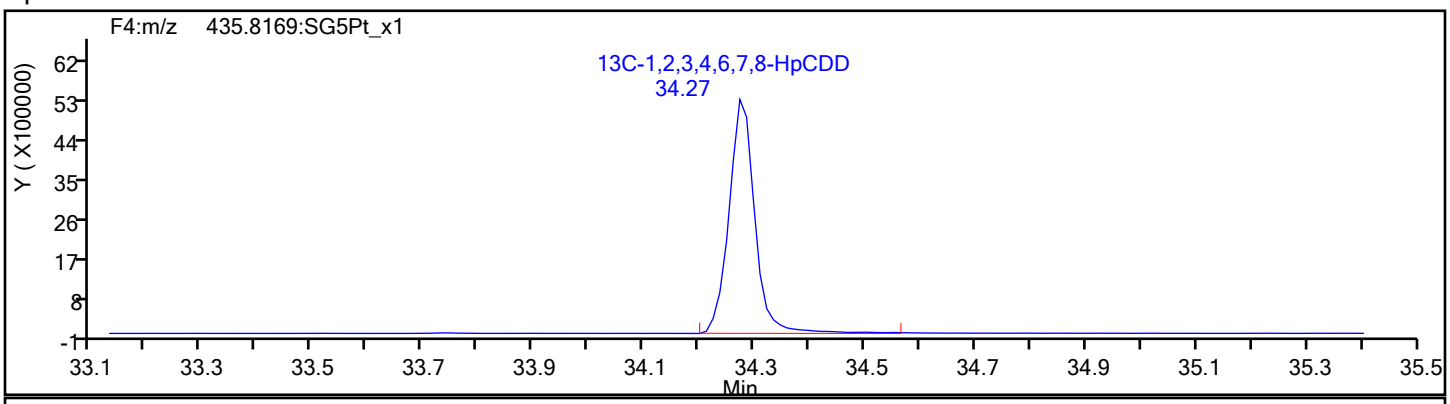

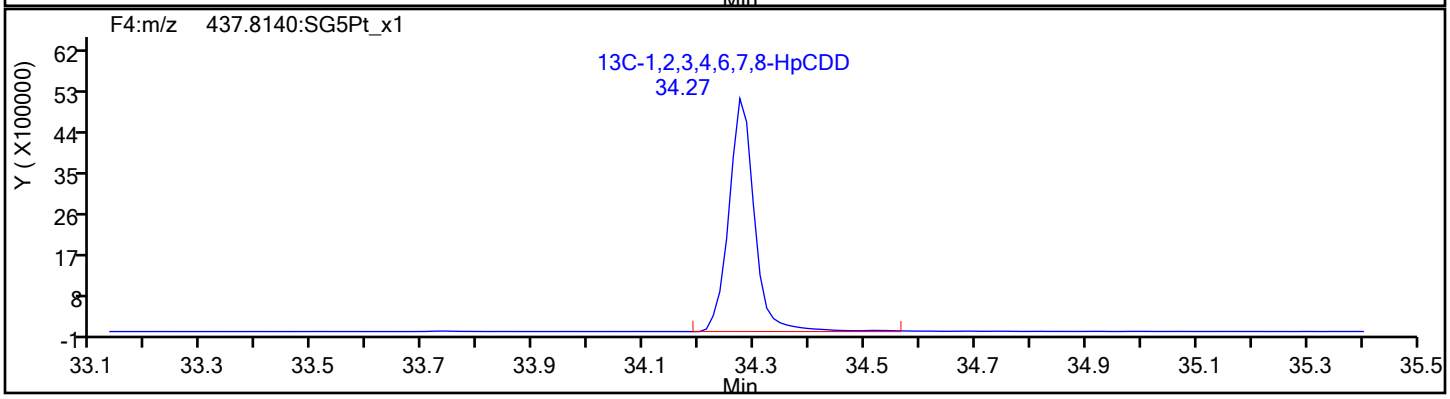

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Eurofins TestAmerica, Sacramento

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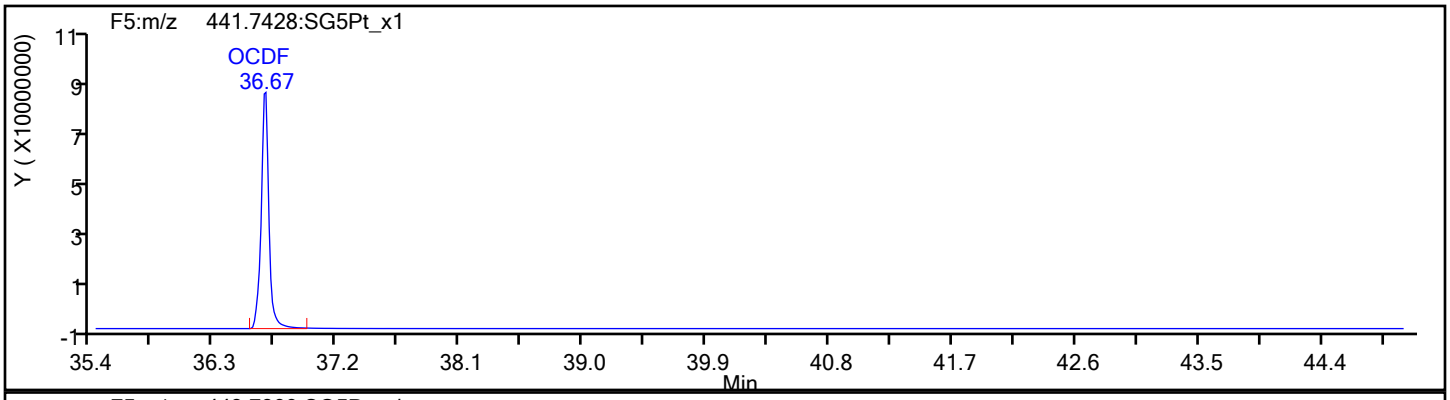

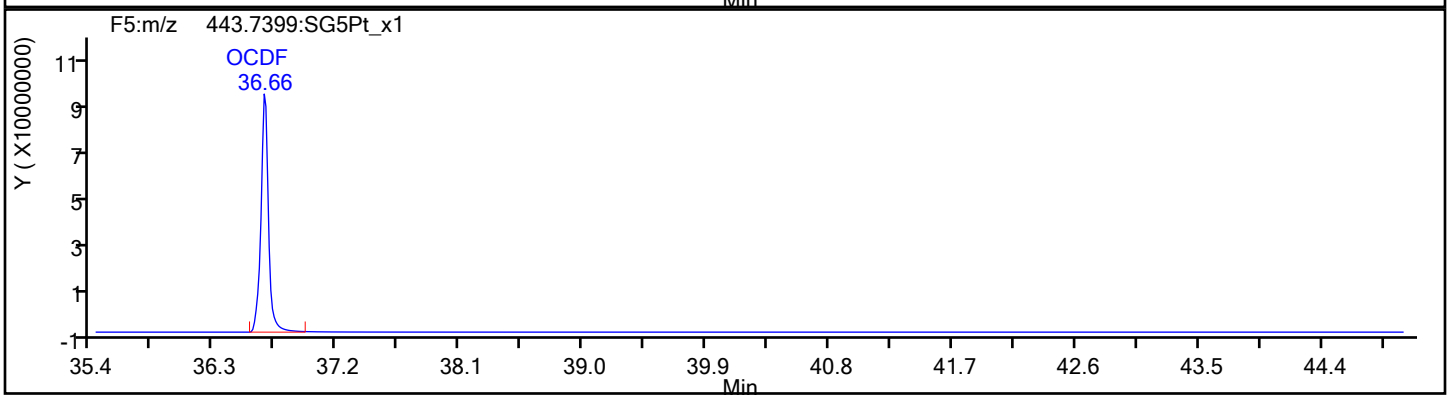

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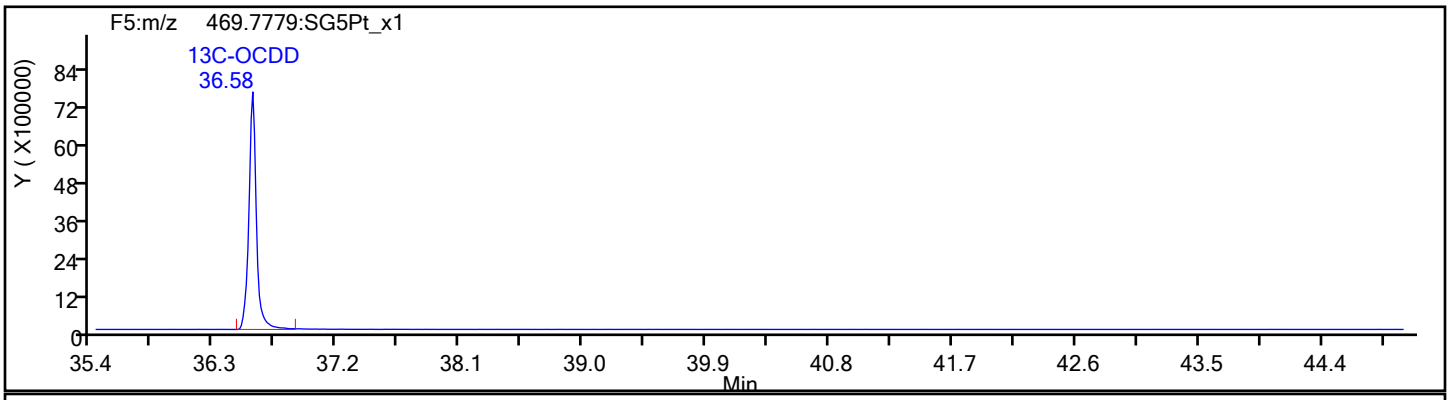

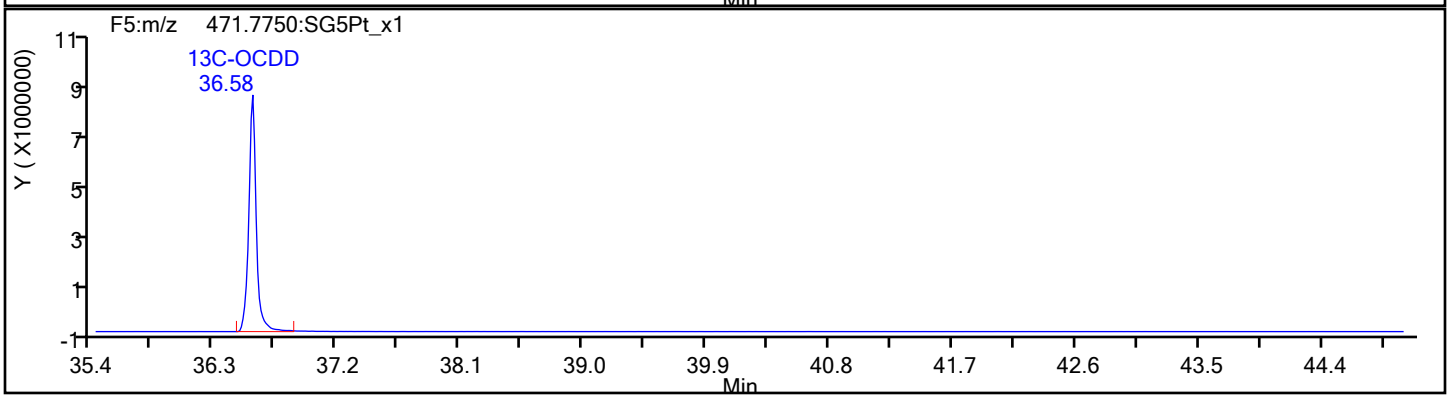

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OCDF

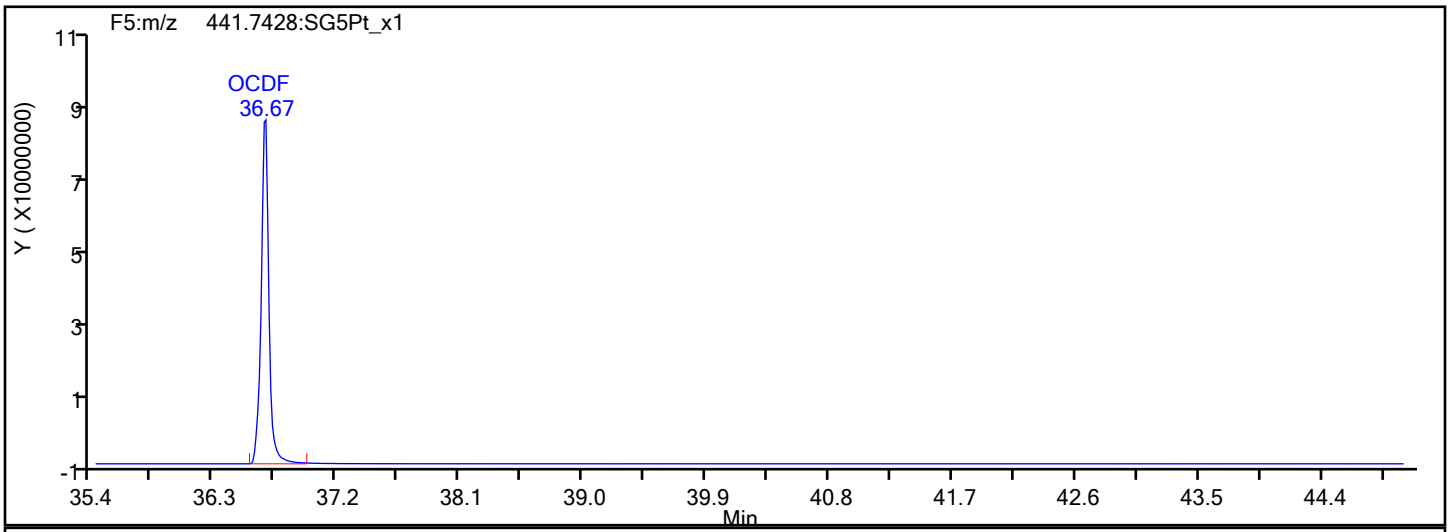

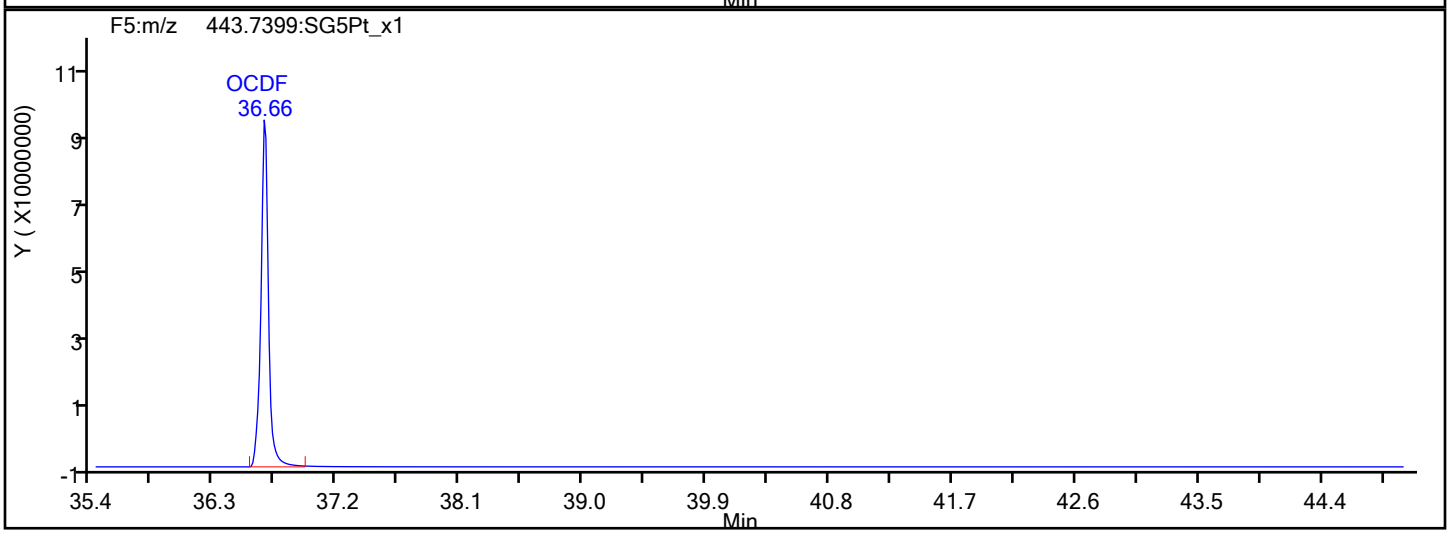

OCDF Interference Mass

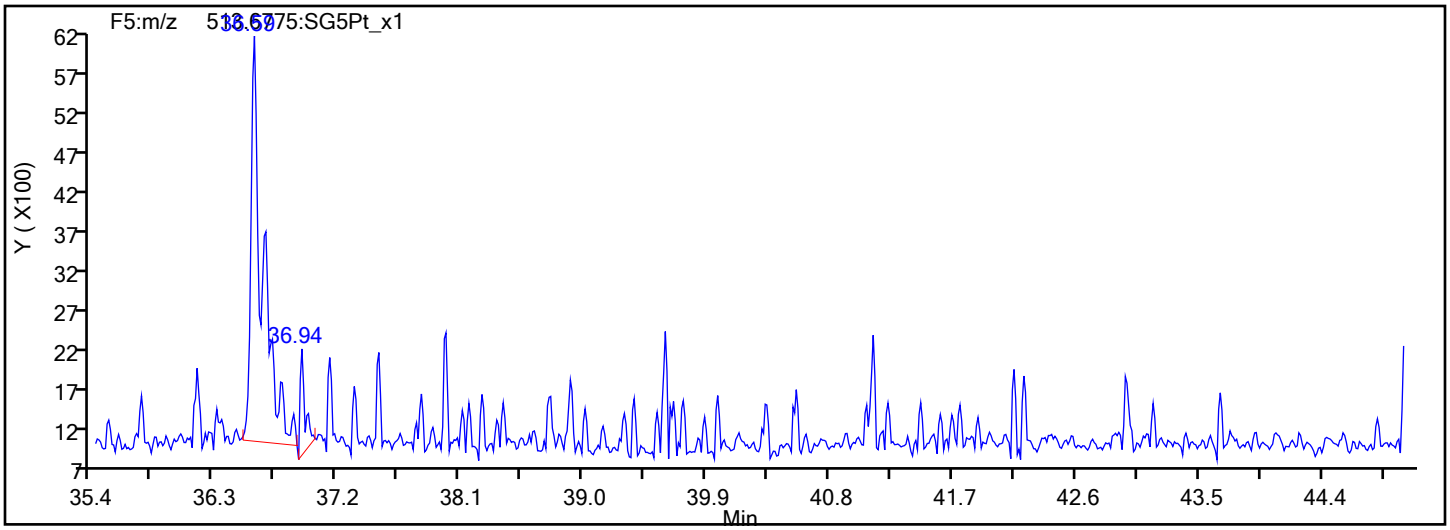

Report Date: 30-Jan-2020 09:35:40 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d		
Injection Date:	30-Jan-2020 04:53:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

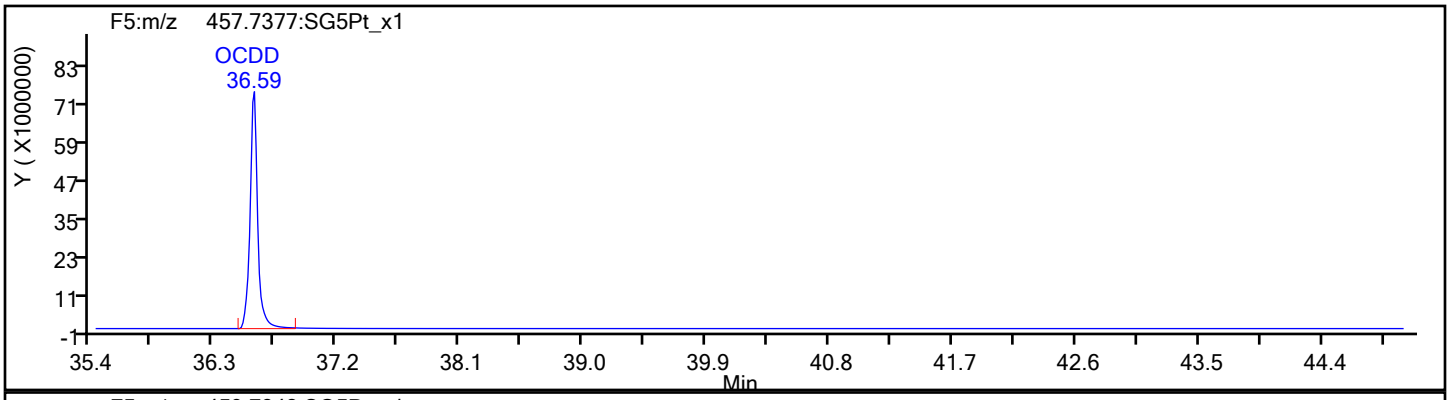

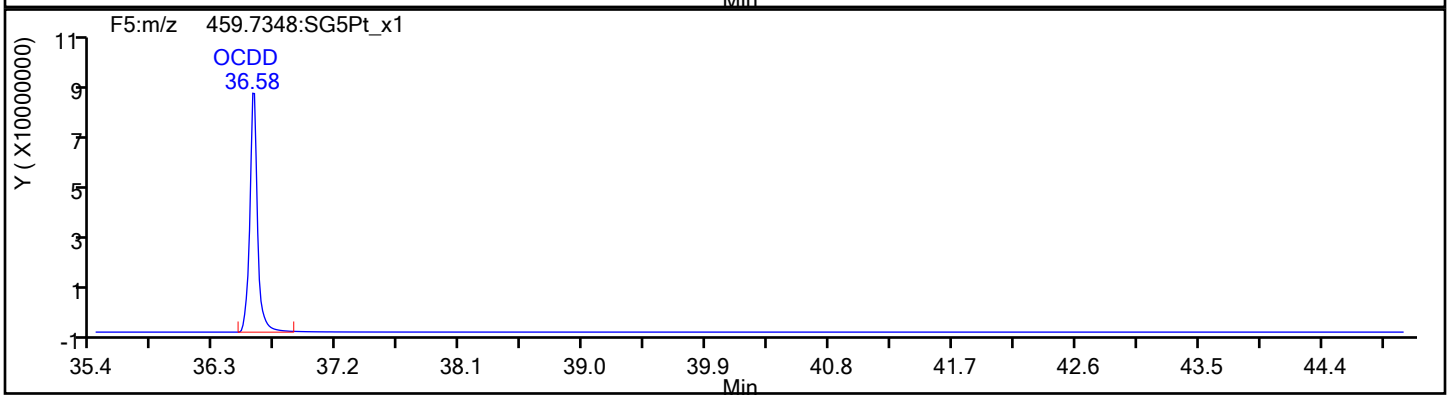

OCDD Standards

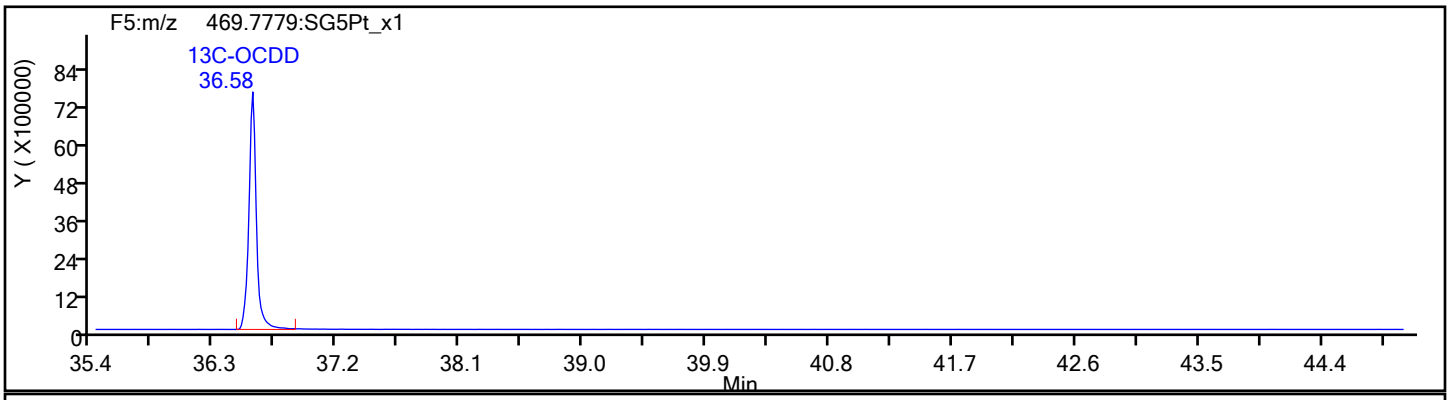

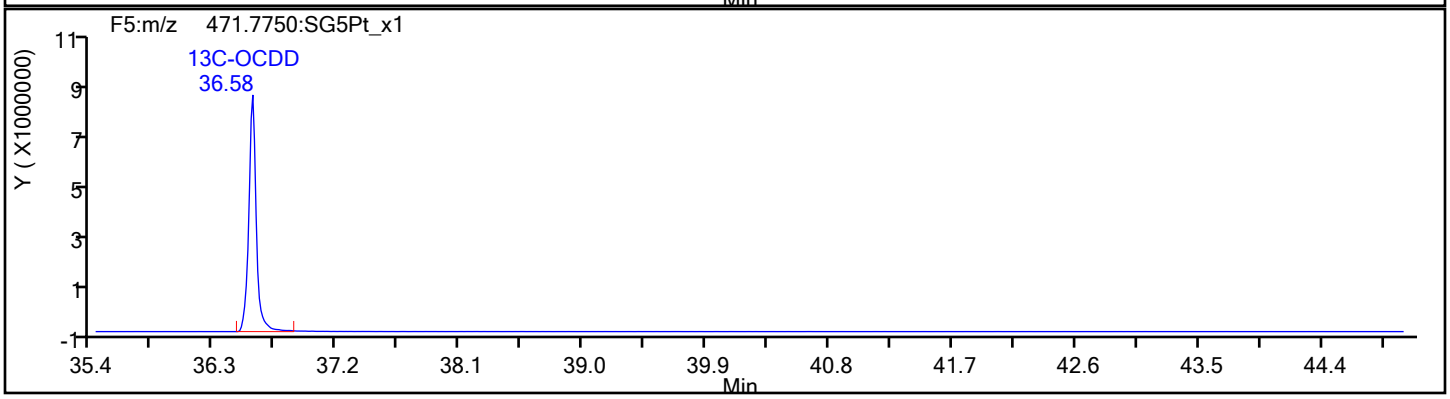

Report Date: 30-Jan-2020 09:35:40 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d		
Injection Date:	30-Jan-2020 04:53:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

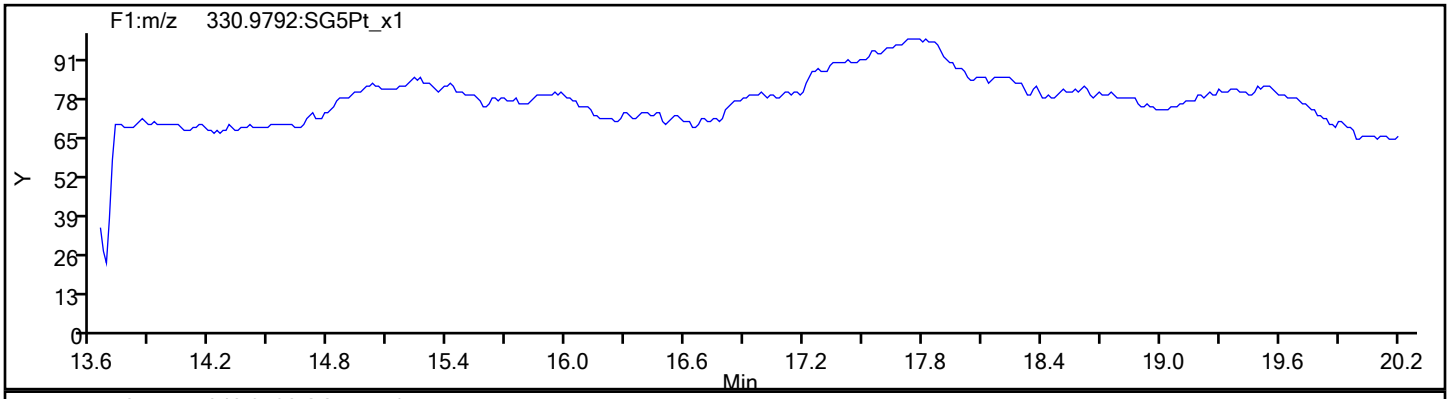

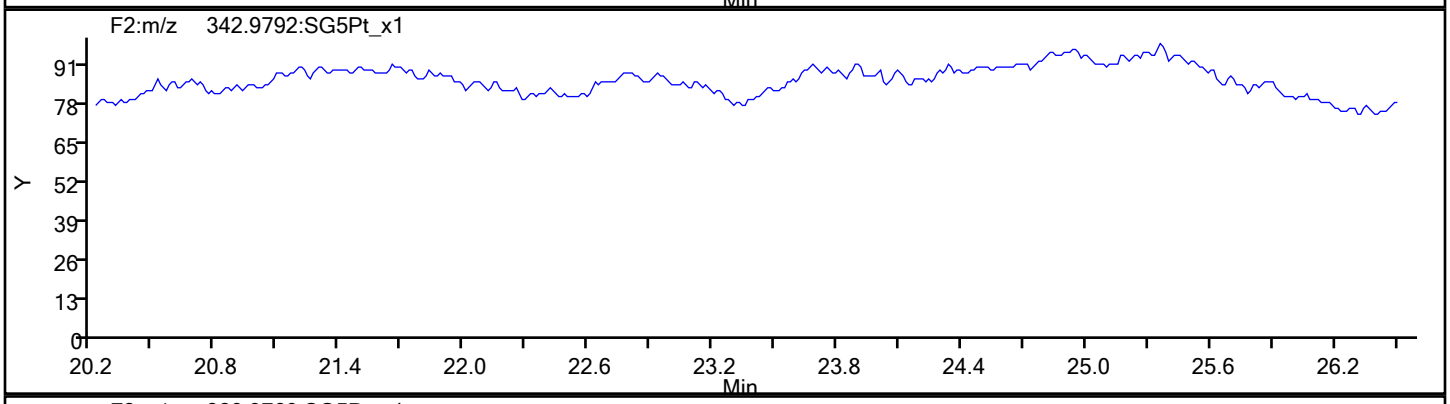

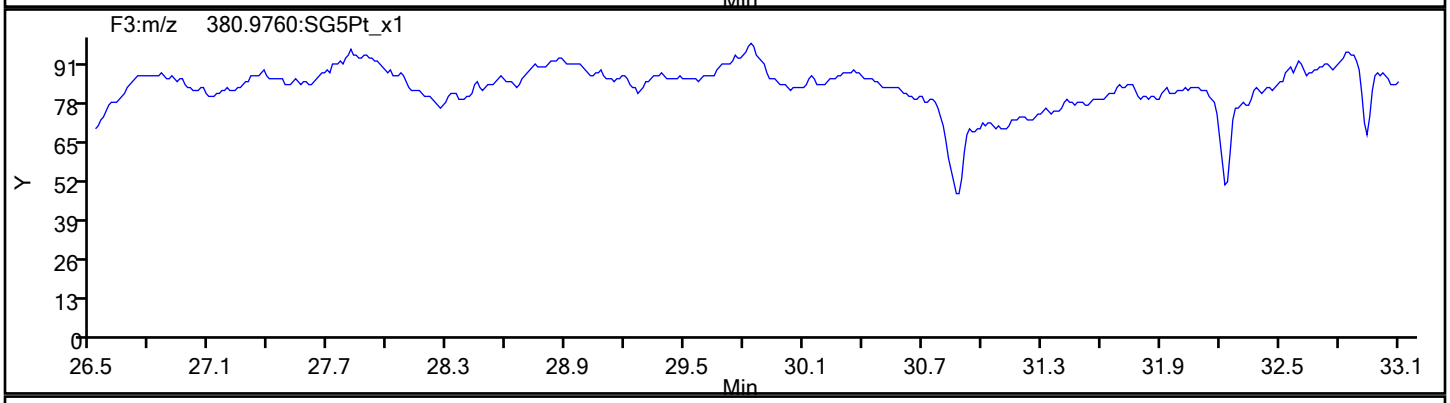

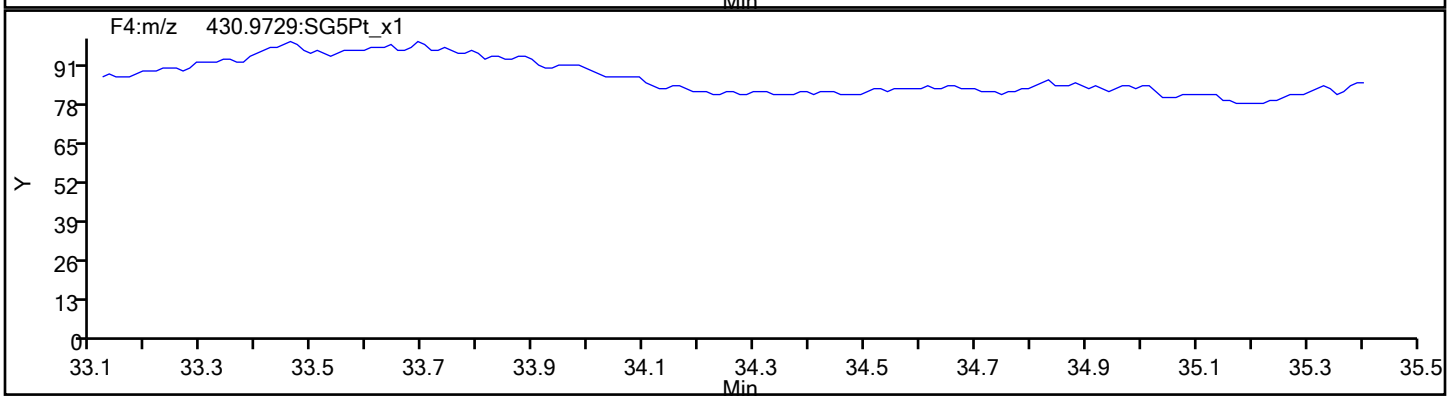

Report Date: 30-Jan-2020 09:35:40 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d		
Injection Date:	30-Jan-2020 04:53:08	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

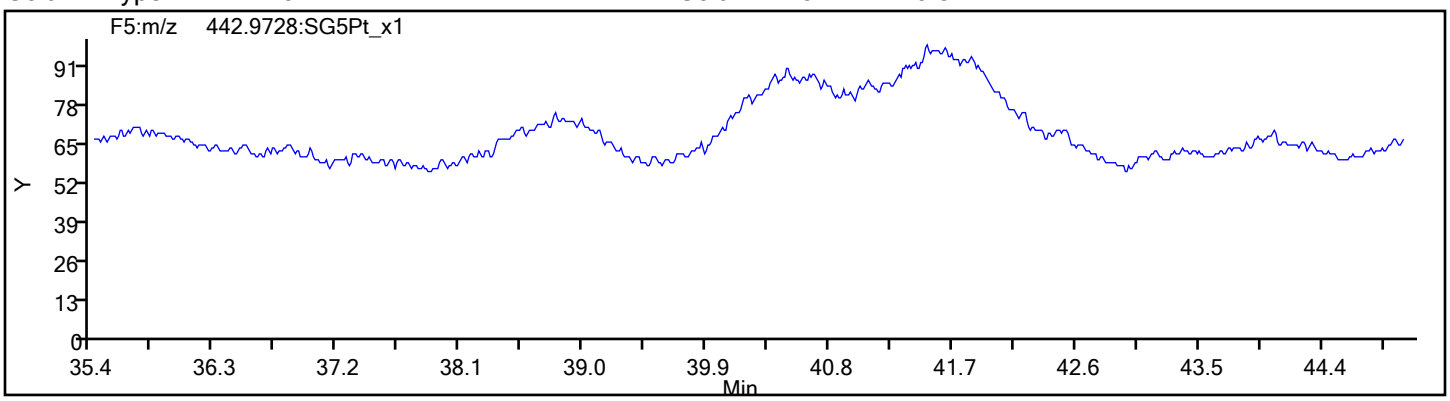

Calibration / 1,2,3,4,6,7,8-HpCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.9811

Error Coefficients

Standard Error:	174000000
Relative Standard Error:	3.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-353986/4	2.5	2.368909	100.0	31797466.0	0.947564	Y
2	IC 320-353986/5	10.0	9.680404	100.0	31043218.0	0.96804	Y
3	IC 320-353986/6	50.0	48.290568	100.0	32767179.0	0.965811	Y
4	IC 320-353986/7	200.0	201.519525	100.0	34719607.0	1.007598	Y
5	IC 320-353986/8	1000.0	1016.566458	100.0	33516886.0	1.016566	Y

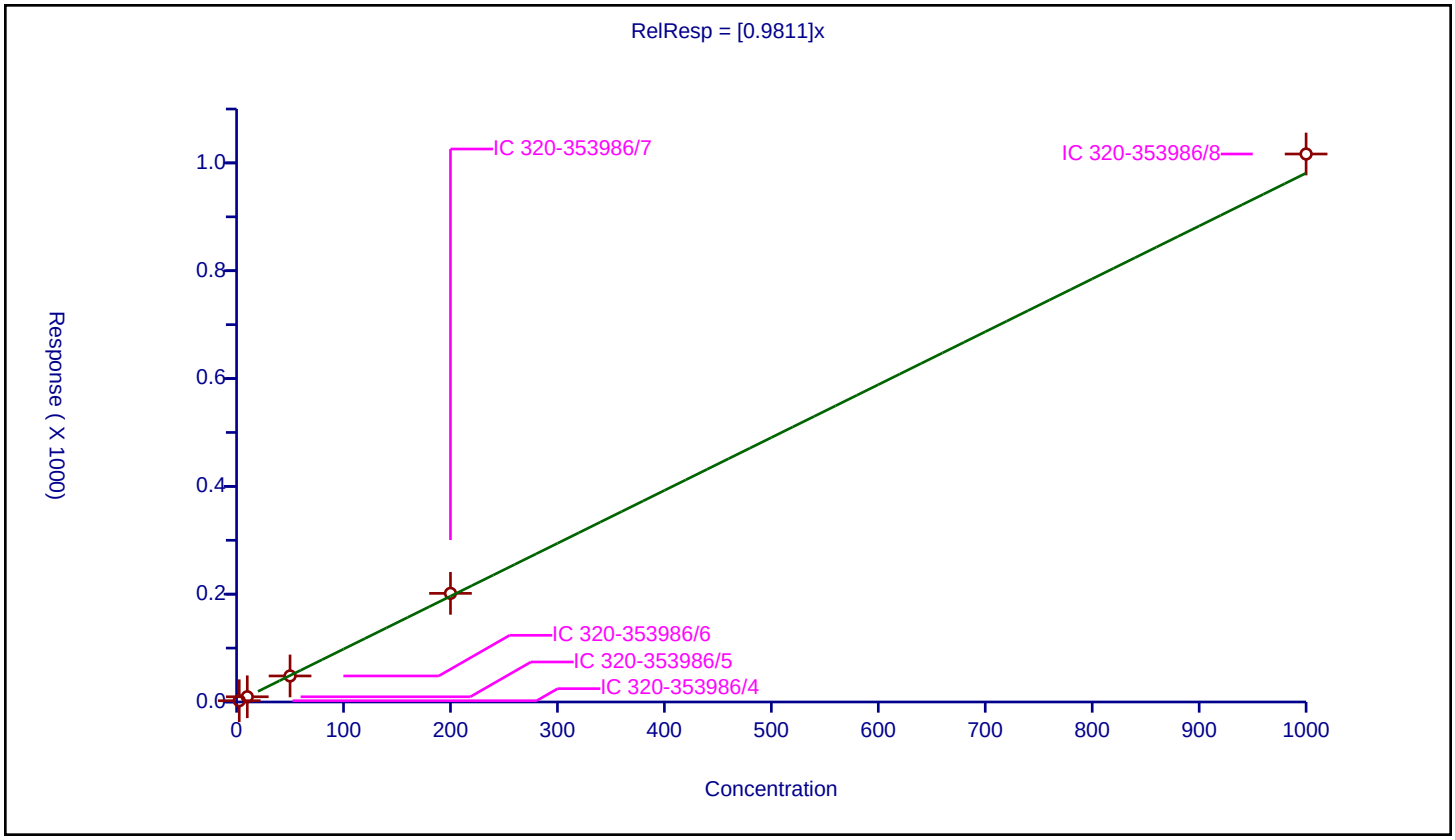

Calibration / 1,2,3,4,6,7,8-HpCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.337

Error Coefficients

Standard Error:	217000000
Relative Standard Error:	3.3
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-353986/4	2.5	3.20913	100.0	30587884.0	1.283652	Y
2	IC 320-353986/5	10.0	13.046635	100.0	30592525.0	1.304663	Y
3	IC 320-353986/6	50.0	66.935654	100.0	30722755.0	1.338713	Y
4	IC 320-353986/7	200.0	275.670853	100.0	32606646.0	1.378354	Y
5	IC 320-353986/8	1000.0	1381.871768	100.0	30697152.0	1.381872	Y

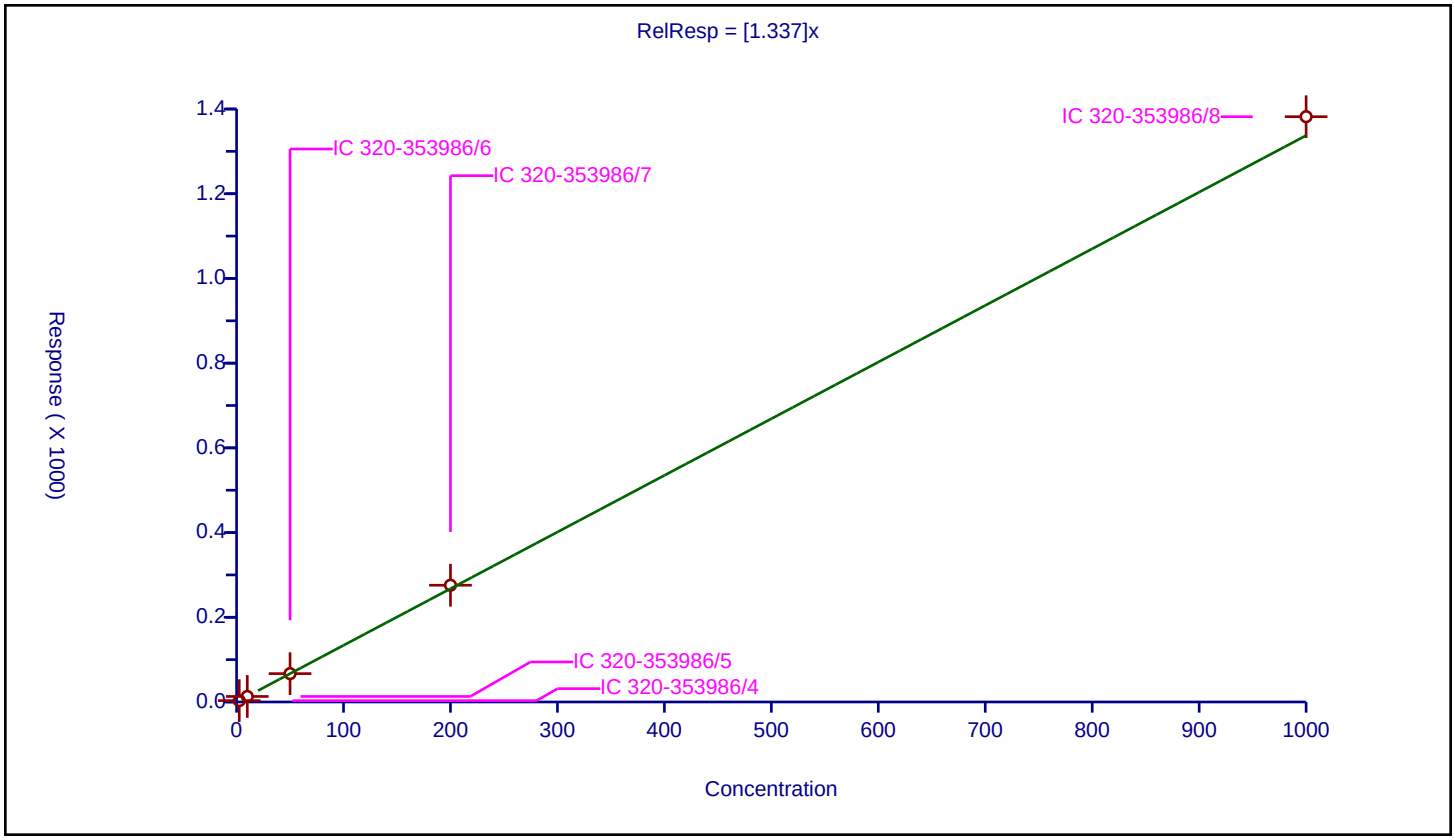

Calibration / 1,2,3,4,7,8,9-HpCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.074

Error Coefficients

Standard Error:	196000000
Relative Standard Error:	3.8
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-353986/4	2.5	2.535815	100.0	31413014.0	1.014326	Y
2	IC 320-353986/5	10.0	10.62743	100.0	30489328.0	1.062743	Y
3	IC 320-353986/6	50.0	53.426286	100.0	32082286.0	1.068526	Y
4	IC 320-353986/7	200.0	221.937083	100.0	35066339.0	1.109685	Y
5	IC 320-353986/8	1000.0	1116.923707	100.0	34335333.0	1.116924	Y

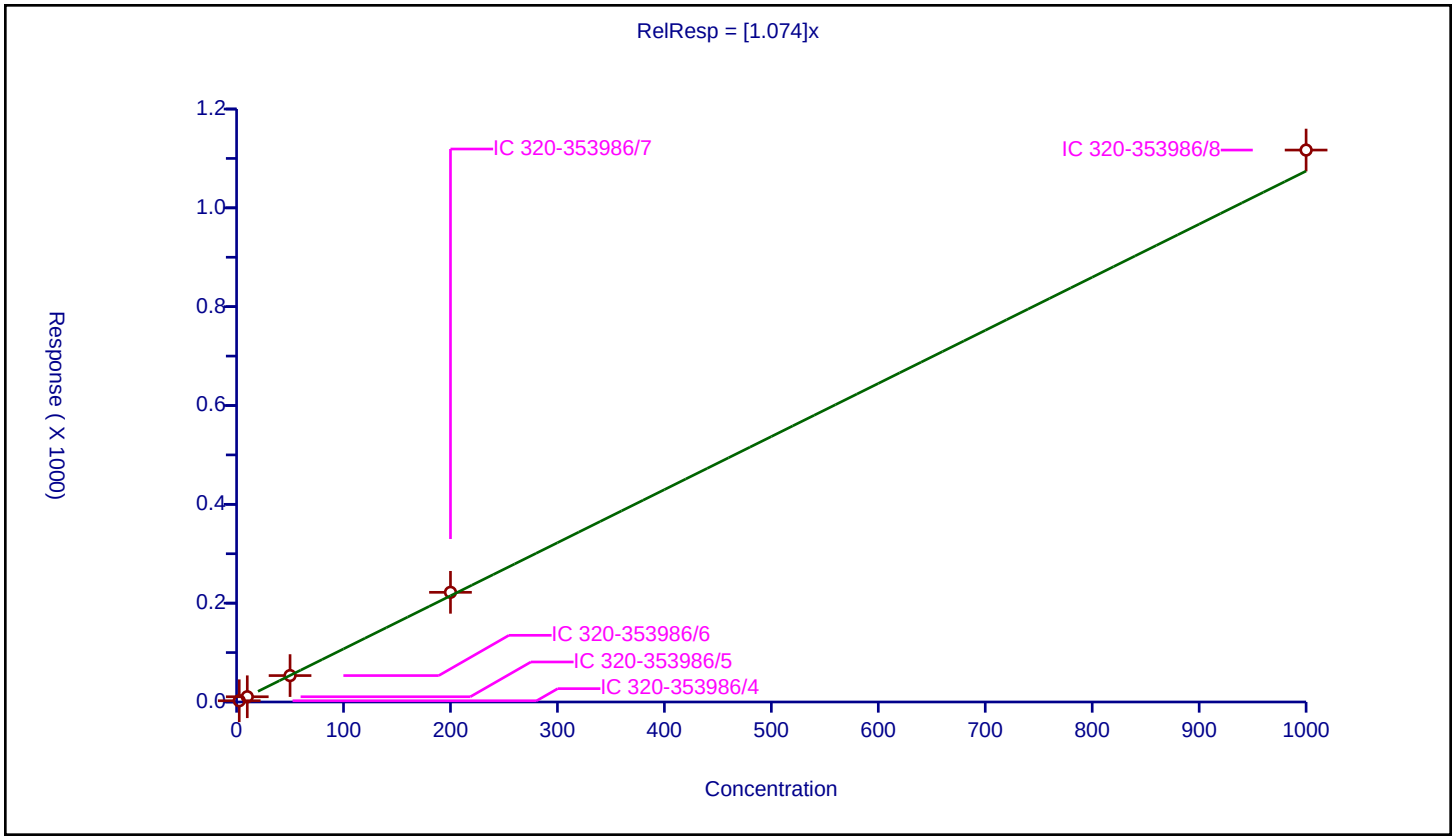

Calibration / 1,2,3,4,7,8-HxCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.8392

Error Coefficients

Standard Error:	160000000
Relative Standard Error:	1.9
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	1.000

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-353986/4	2.5	2.067911	100.0	33871376.0	0.827165	Y
2	IC 320-353986/5	10.0	8.168842	100.0	33308651.0	0.816884	Y
3	IC 320-353986/6	50.0	42.385852	100.0	34173011.0	0.847717	Y
4	IC 320-353986/7	200.0	170.197624	100.0	38415840.0	0.850988	Y
5	IC 320-353986/8	1000.0	853.127319	100.0	36771940.0	0.853127	Y

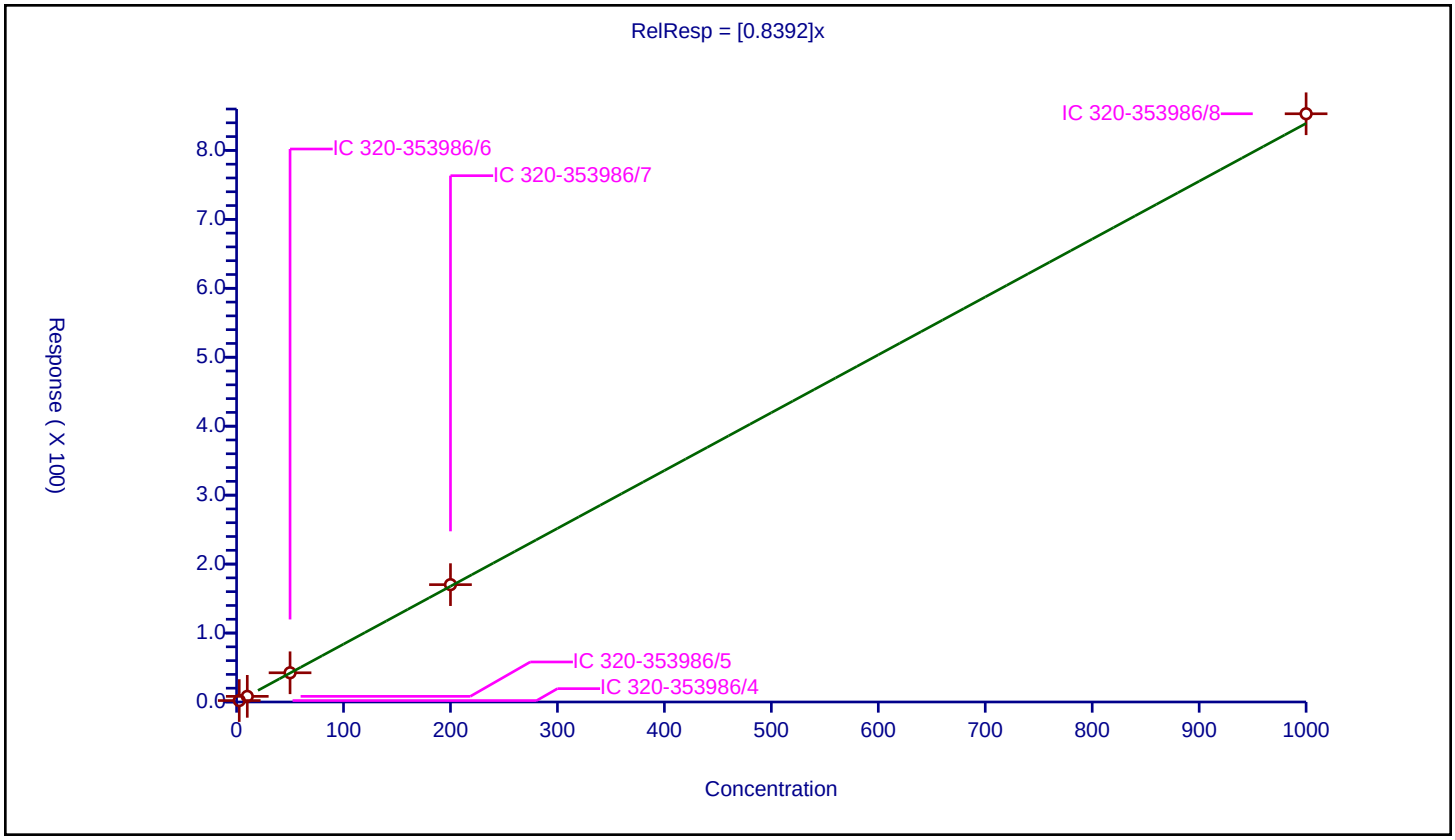

Calibration / 1,2,3,4,7,8-HxCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.7916

Error Coefficients

Standard Error:	163000000
Relative Standard Error:	6.5
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-353986/4	2.5	1.842261	100.0	36437504.0	0.736904	Y
2	IC 320-353986/5	10.0	7.455441	100.0	35906017.0	0.745544	Y
3	IC 320-353986/6	50.0	39.49135	100.0	37628448.0	0.789827	Y
4	IC 320-353986/7	200.0	166.971582	100.0	39824520.0	0.834858	Y
5	IC 320-353986/8	1000.0	850.768052	100.0	37478371.0	0.850768	Y

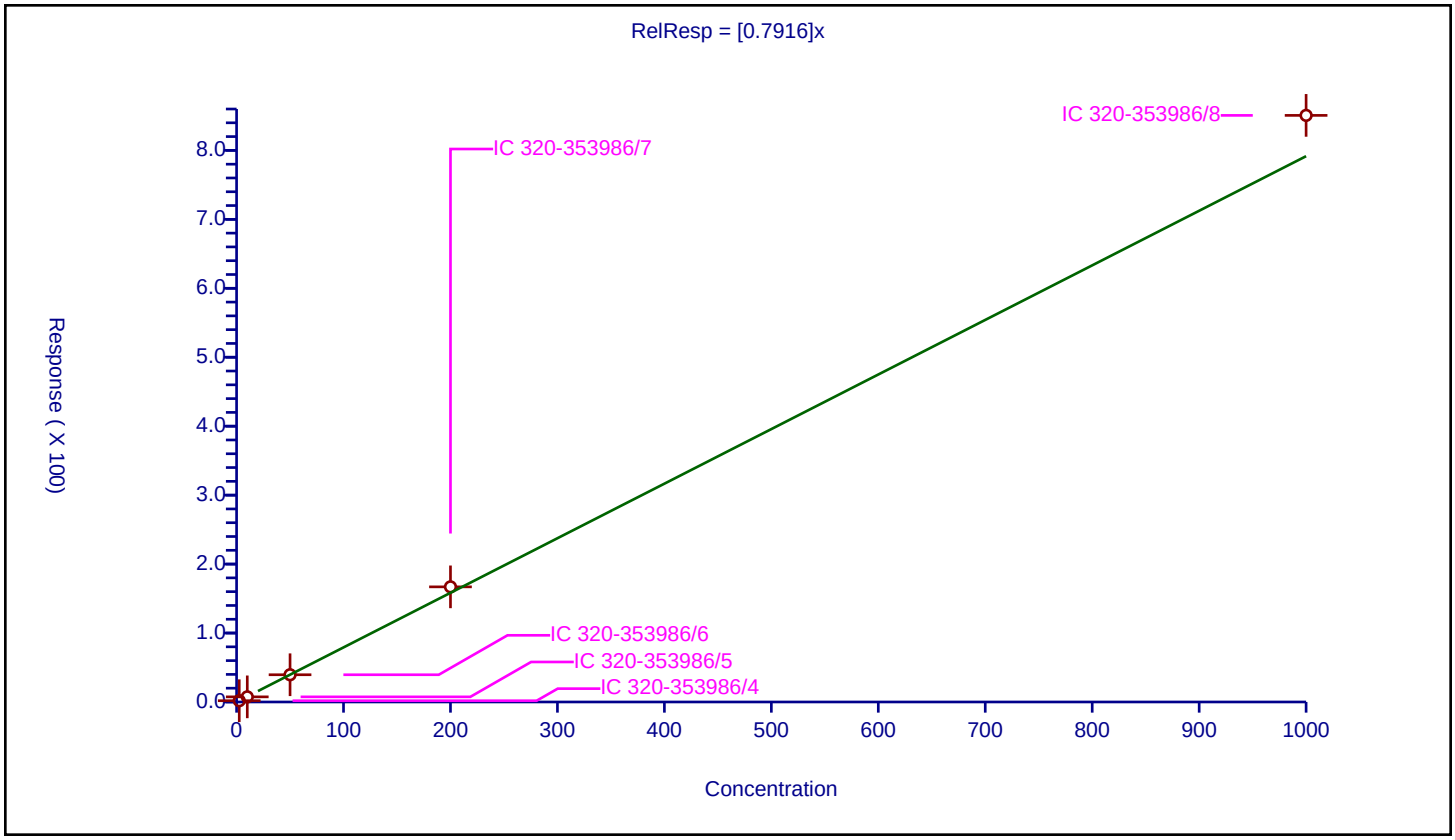

Calibration / 1,2,3,6,7,8-HxCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.8876

Error Coefficients

Standard Error:	171000000
Relative Standard Error:	5.8
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-353986/4	2.5	2.053366	100.0	36425321.0	0.821346	Y
2	IC 320-353986/5	10.0	8.742759	100.0	35558088.0	0.874276	Y
3	IC 320-353986/6	50.0	43.096686	100.0	36971045.0	0.861934	Y
4	IC 320-353986/7	200.0	187.480345	100.0	36689566.0	0.937402	Y
5	IC 320-353986/8	1000.0	943.07461	100.0	35572032.0	0.943075	Y

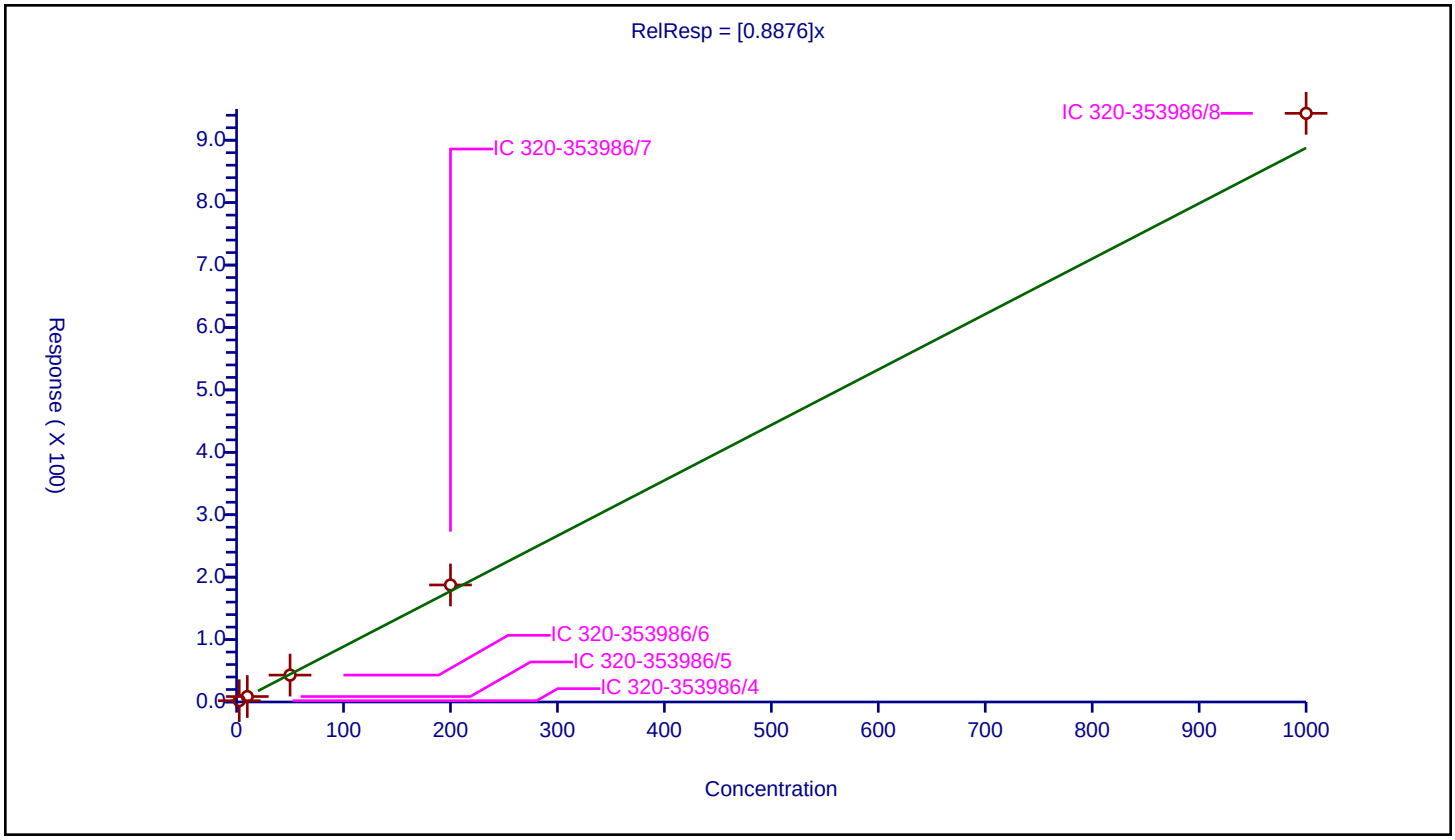

Calibration / 1,2,3,6,7,8-HxCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.8638

Error Coefficients

Standard Error:	171000000
Relative Standard Error:	6.8
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-353986/4	2.5	1.977215	100.0	36702281.0	0.790886	Y
2	IC 320-353986/5	10.0	8.202599	100.0	35494068.0	0.82026	Y
3	IC 320-353986/6	50.0	43.27331	100.0	36663775.0	0.865466	Y
4	IC 320-353986/7	200.0	182.967366	100.0	38395283.0	0.914837	Y
5	IC 320-353986/8	1000.0	927.512644	100.0	36019385.0	0.927513	Y

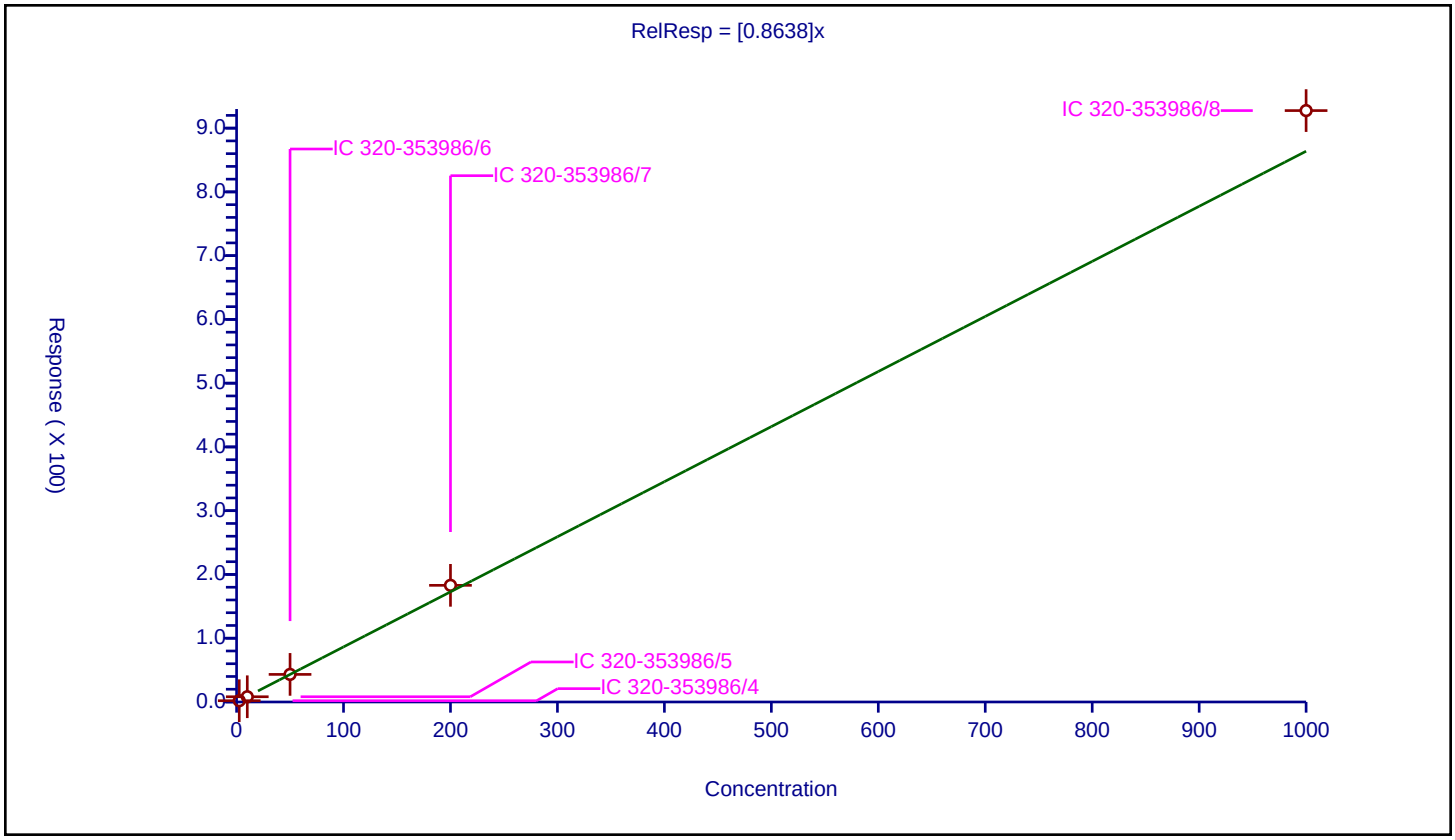

Calibration / 1,2,3,7,8,9-HxCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.9701

Error Coefficients

Standard Error:	183000000
Relative Standard Error:	2.2
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-353986/4	2.5	2.3534	100.0	33871376.0	0.94136	Y
2	IC 320-353986/5	10.0	9.925202	100.0	33308651.0	0.99252	Y
3	IC 320-353986/6	50.0	49.243001	100.0	34173011.0	0.98486	Y
4	IC 320-353986/7	200.0	191.19811	100.0	38415840.0	0.955991	Y
5	IC 320-353986/8	1000.0	975.865119	100.0	36771940.0	0.975865	Y

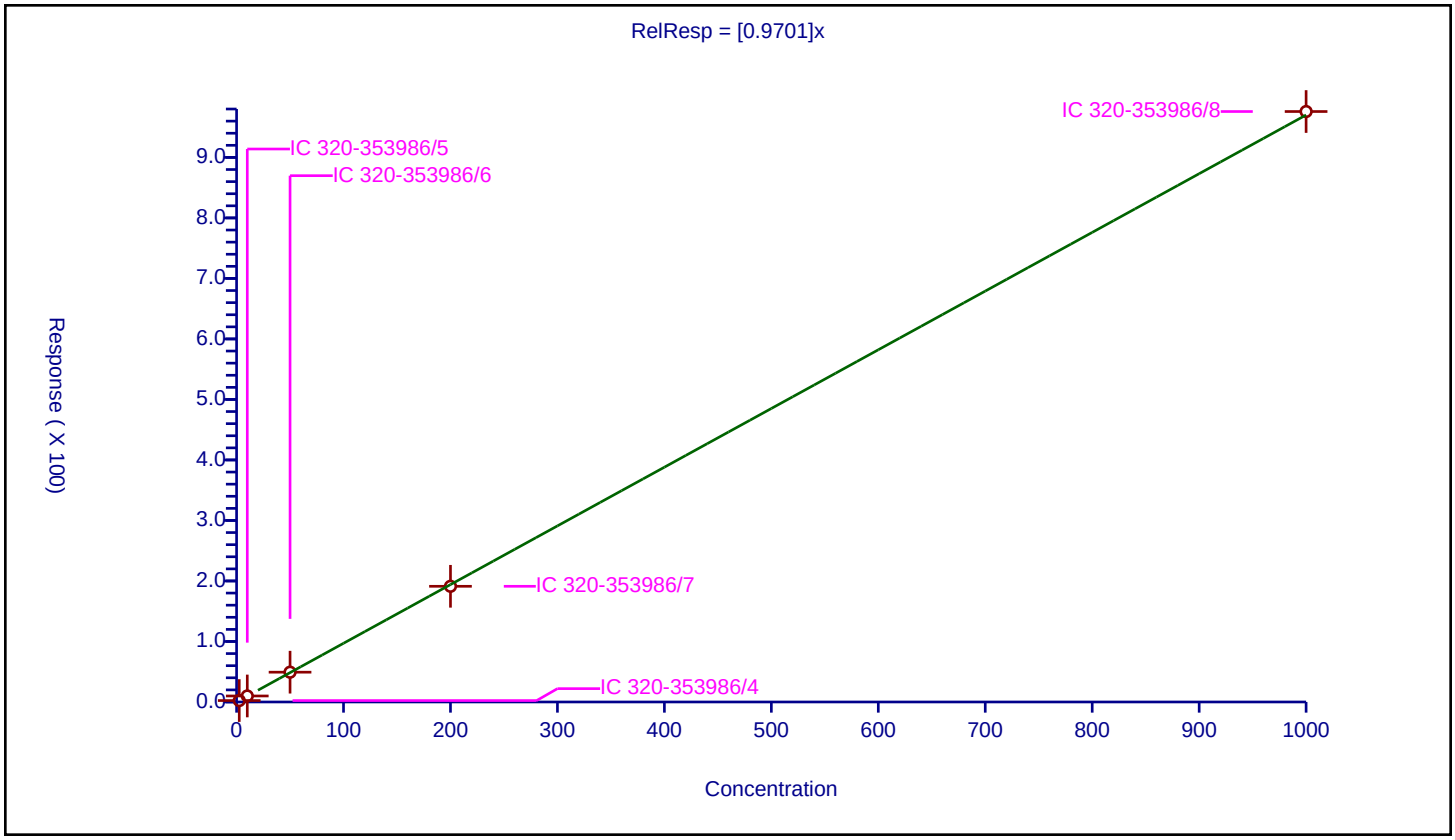

Calibration / 1,2,3,7,8,9-HxCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.9127

Error Coefficients

Standard Error:	160000000
Relative Standard Error:	6.1
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-353986/4	2.5	2.109038	100.0	30765834.0	0.843615	Y
2	IC 320-353986/5	10.0	8.732064	100.0	30809360.0	0.873206	Y
3	IC 320-353986/6	50.0	45.604853	100.0	30855181.0	0.912097	Y
4	IC 320-353986/7	200.0	192.314497	100.0	32406883.0	0.961572	Y
5	IC 320-353986/8	1000.0	972.84549	100.0	32266559.0	0.972845	Y

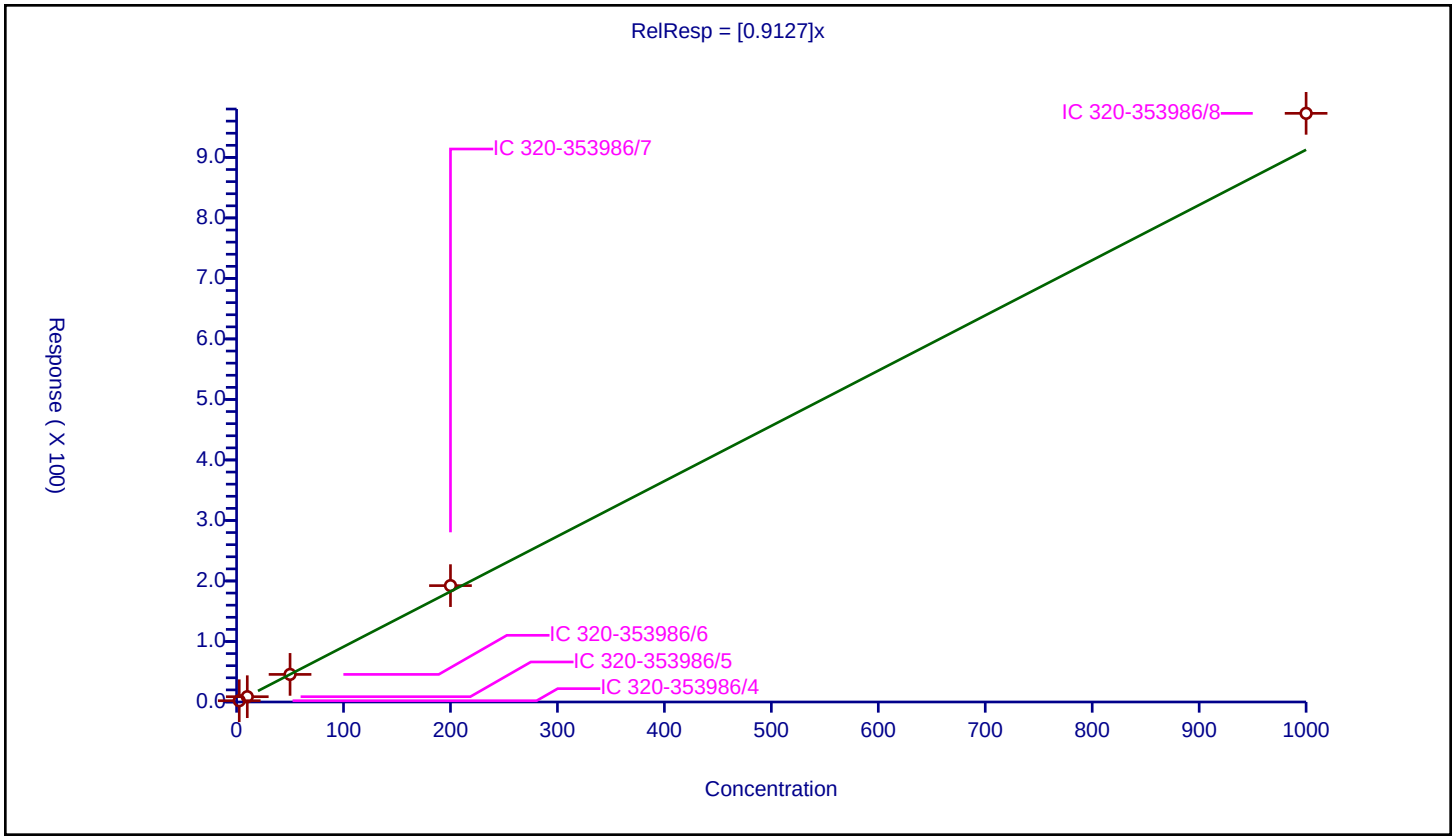

Calibration / 1,2,3,7,8-PeCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.9961

Error Coefficients

Standard Error:	200000000
Relative Standard Error:	3.8
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-353986/4	2.5	2.459763	100.0	36505473.0	0.983905	Y
2	IC 320-353986/5	10.0	9.482223	100.0	36044037.0	0.948222	Y
3	IC 320-353986/6	50.0	48.871254	100.0	36572632.0	0.977425	Y
4	IC 320-353986/7	200.0	207.137939	100.0	38740832.0	1.03569	Y
5	IC 320-353986/8	1000.0	1035.129973	100.0	37717891.0	1.03513	Y

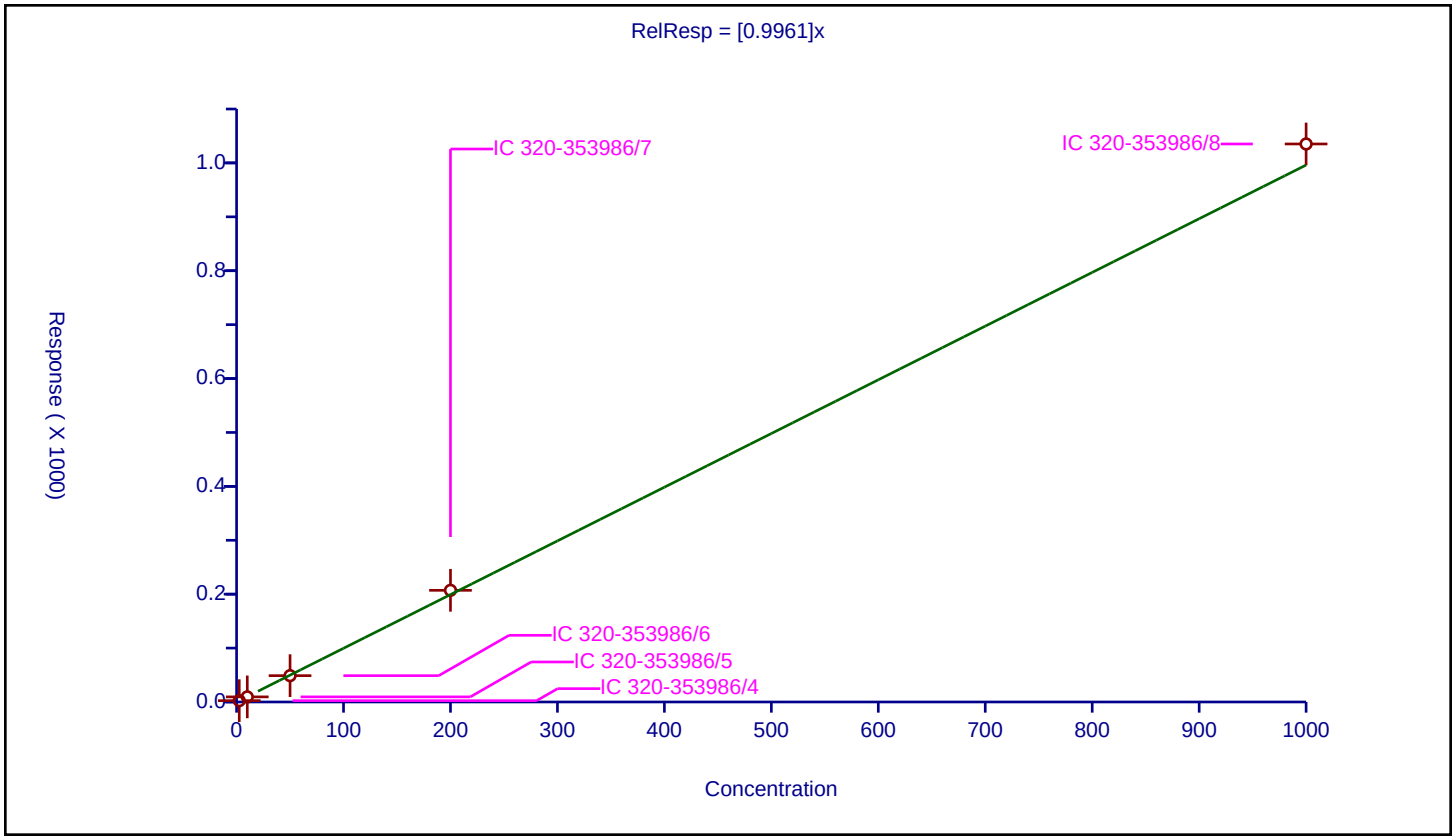

Calibration / 1,2,3,7,8-PeCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.8982

Error Coefficients

Standard Error:	250000000
Relative Standard Error:	4.3
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-353986/4	2.5	2.176879	100.0	49135392.0	0.870752	Y
2	IC 320-353986/5	10.0	8.545928	100.0	50271745.0	0.854593	Y
3	IC 320-353986/6	50.0	44.441593	100.0	52074542.0	0.888832	Y
4	IC 320-353986/7	200.0	186.830139	100.0	53714045.0	0.934151	Y
5	IC 320-353986/8	1000.0	942.425257	100.0	51996022.0	0.942425	Y

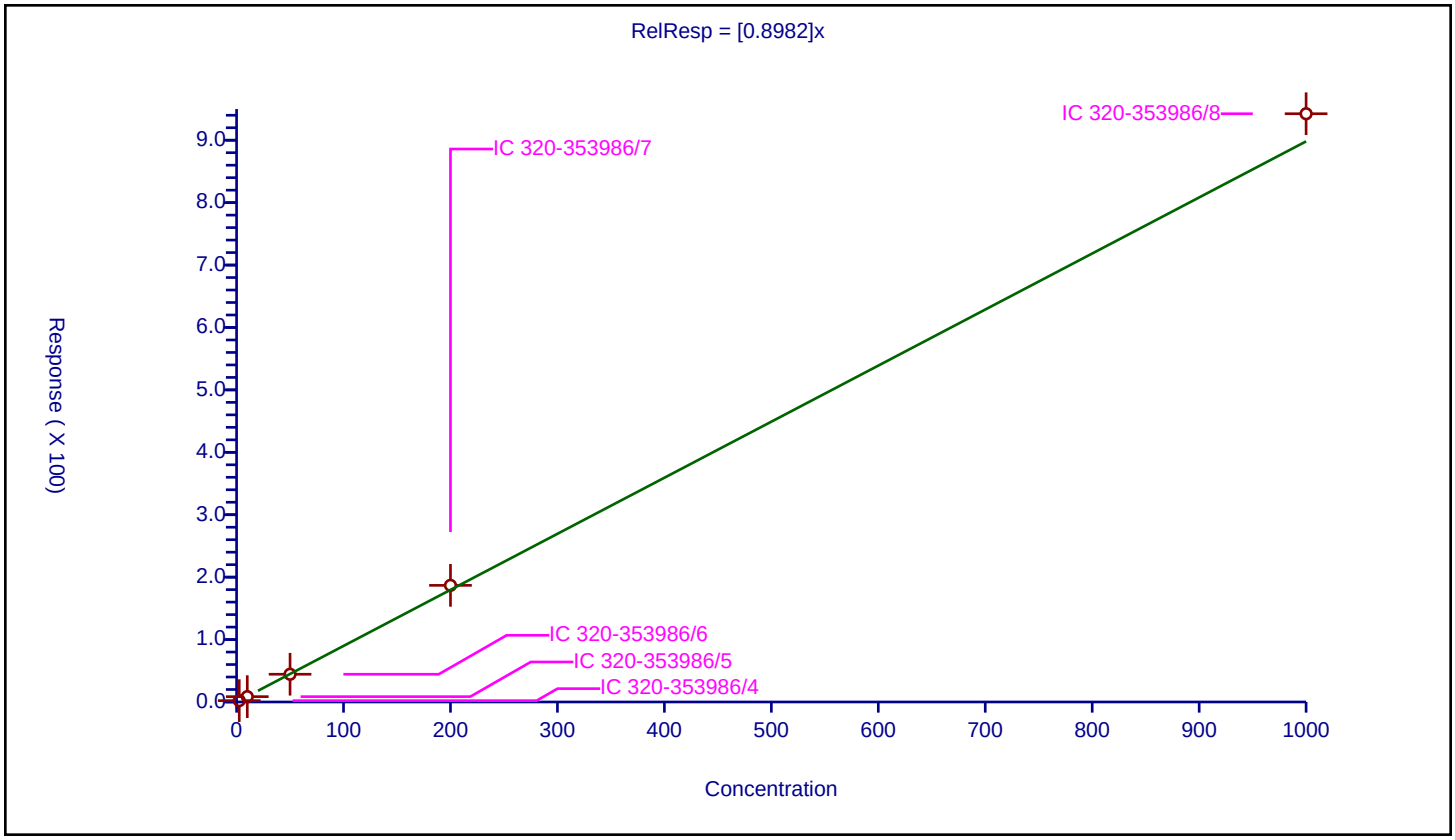

Calibration / 2,3,4,6,7,8-HxCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.901

Error Coefficients

Standard Error:	167000000
Relative Standard Error:	5.8
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-353986/4	2.5	2.1405	100.0	33531834.0	0.8562	Y
2	IC 320-353986/5	10.0	8.368094	100.0	33284581.0	0.836809	Y
3	IC 320-353986/6	50.0	45.77116	100.0	33675050.0	0.915423	Y
4	IC 320-353986/7	200.0	189.325819	100.0	35563872.0	0.946629	Y
5	IC 320-353986/8	1000.0	950.123936	100.0	34348713.0	0.950124	Y

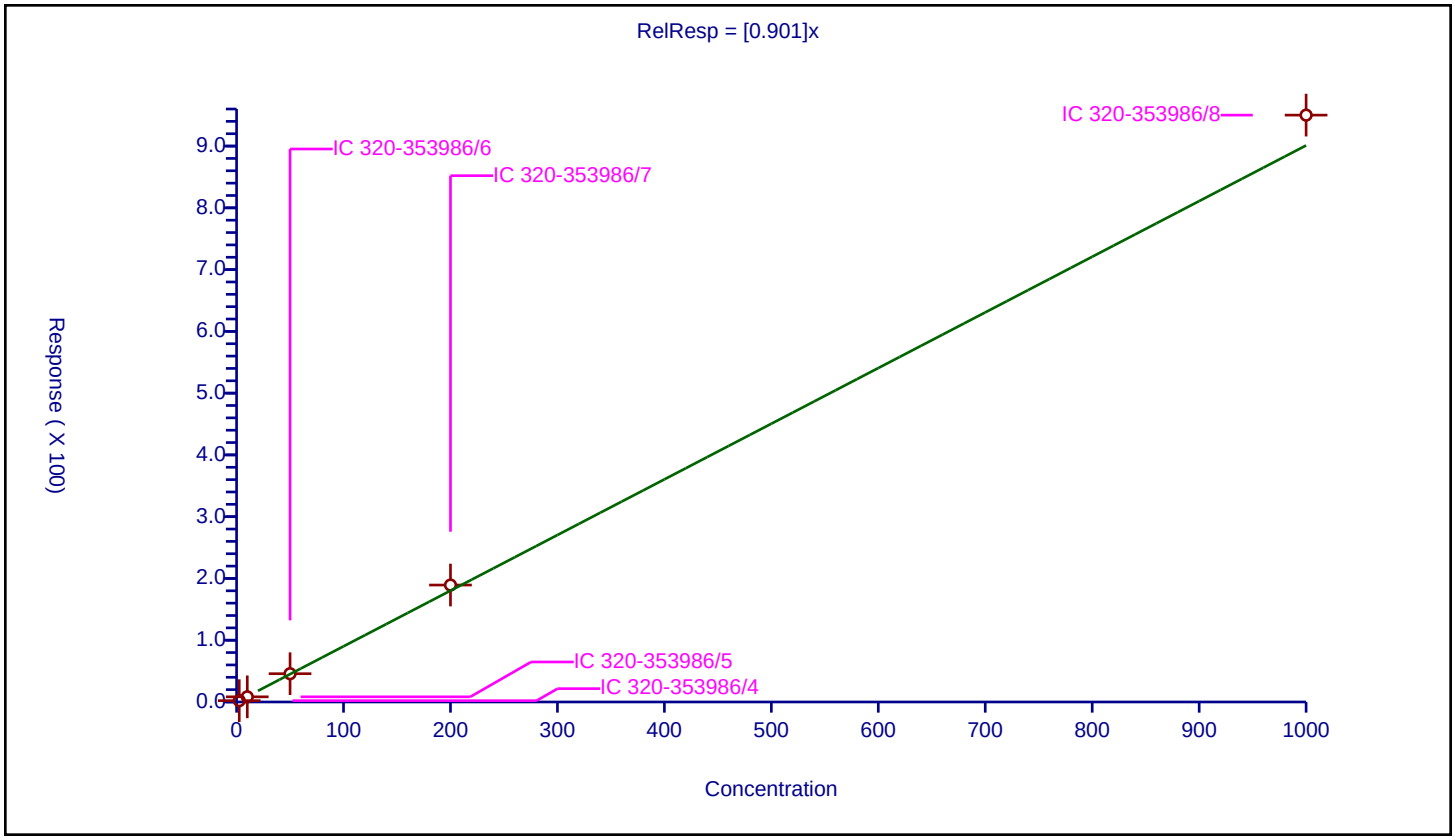

Calibration / 2,3,4,7,8-PeCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.8101

Error Coefficients

Standard Error:	248000000
Relative Standard Error:	5.2
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-353986/4	2.5	1.857308	100.0	54159362.0	0.742923	Y
2	IC 320-353986/5	10.0	8.034121	100.0	52028379.0	0.803412	Y
3	IC 320-353986/6	50.0	40.628506	100.0	55687826.0	0.81257	Y
4	IC 320-353986/7	200.0	169.073065	100.0	58863166.0	0.845365	Y
5	IC 320-353986/8	1000.0	846.230885	100.0	57282367.0	0.846231	Y

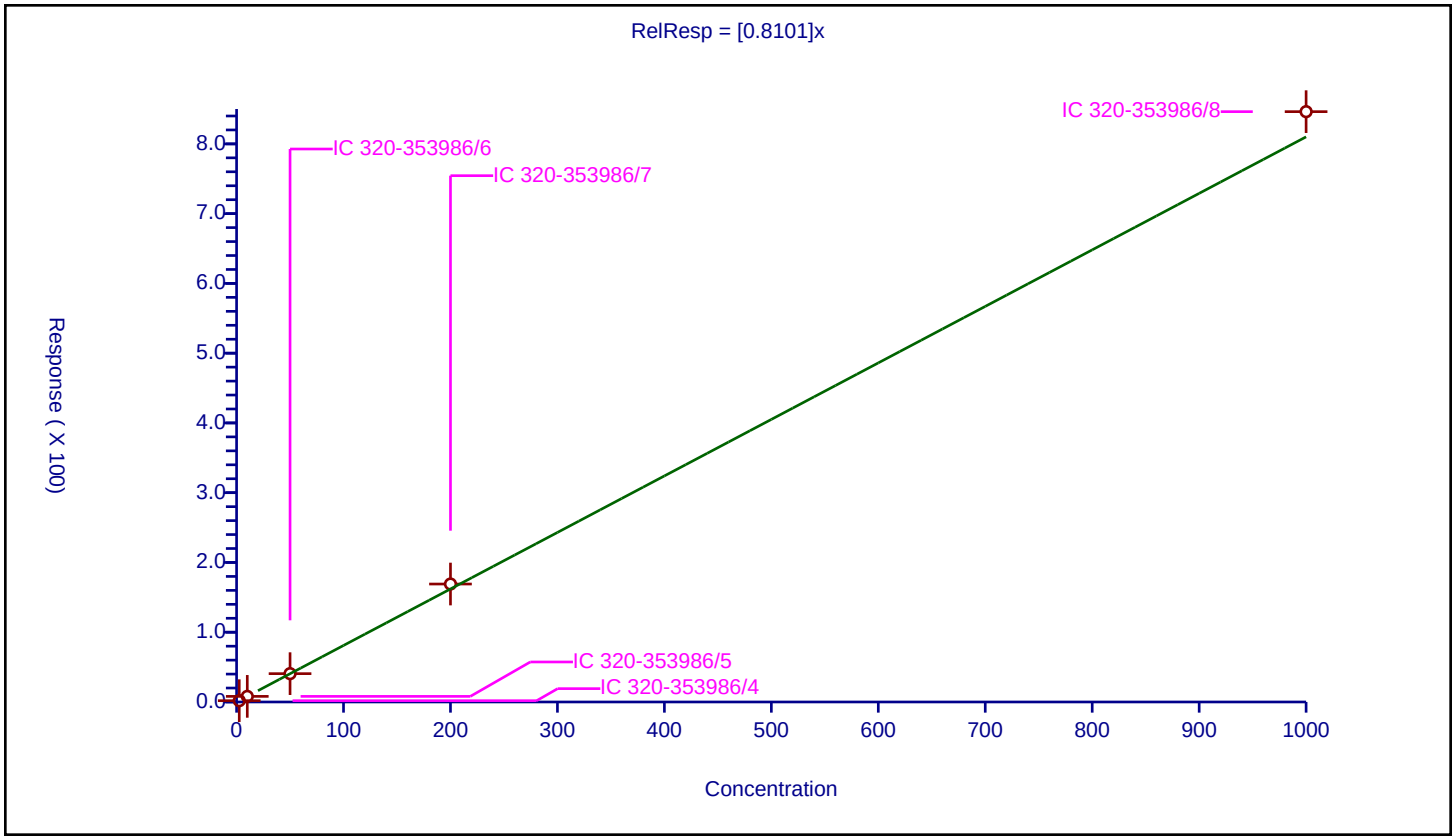

Calibration / 2,3,7,8-TCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.9599

Error Coefficients

Standard Error:	48300000
Relative Standard Error:	4.7
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-353986/4	0.5	0.485992	100.0	47625866.0	0.971984	Y
2	IC 320-353986/5	2.0	1.885196	100.0	47750377.0	0.942598	Y
3	IC 320-353986/6	10.0	8.919751	100.0	48457404.0	0.891975	Y
4	IC 320-353986/7	40.0	39.289593	100.0	51144205.0	0.98224	Y
5	IC 320-353986/8	200.0	202.120243	100.0	46738785.0	1.010601	Y

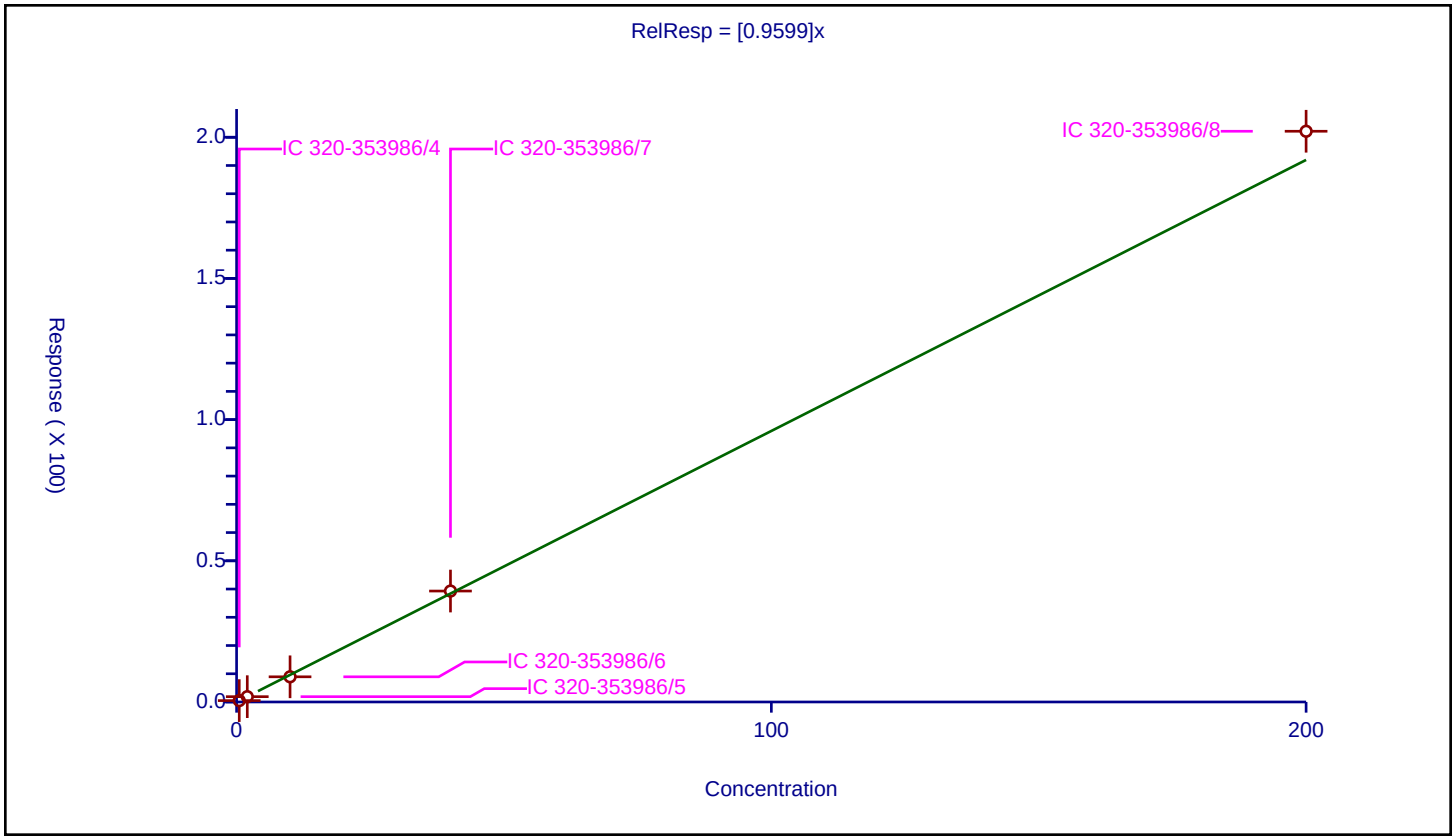

Calibration / 2,3,7,8-TCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.7675

Error Coefficients

Standard Error:	49200000
Relative Standard Error:	5.8
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-353986/4	0.5	0.36762	100.0	59724134.0	0.73524	Y
2	IC 320-353986/5	2.0	1.464986	100.0	60669870.0	0.732493	Y
3	IC 320-353986/6	10.0	7.4087	100.0	59557613.0	0.74087	Y
4	IC 320-353986/7	40.0	31.941146	100.0	63967417.0	0.798529	Y
5	IC 320-353986/8	200.0	166.108562	100.0	57856976.0	0.830543	Y

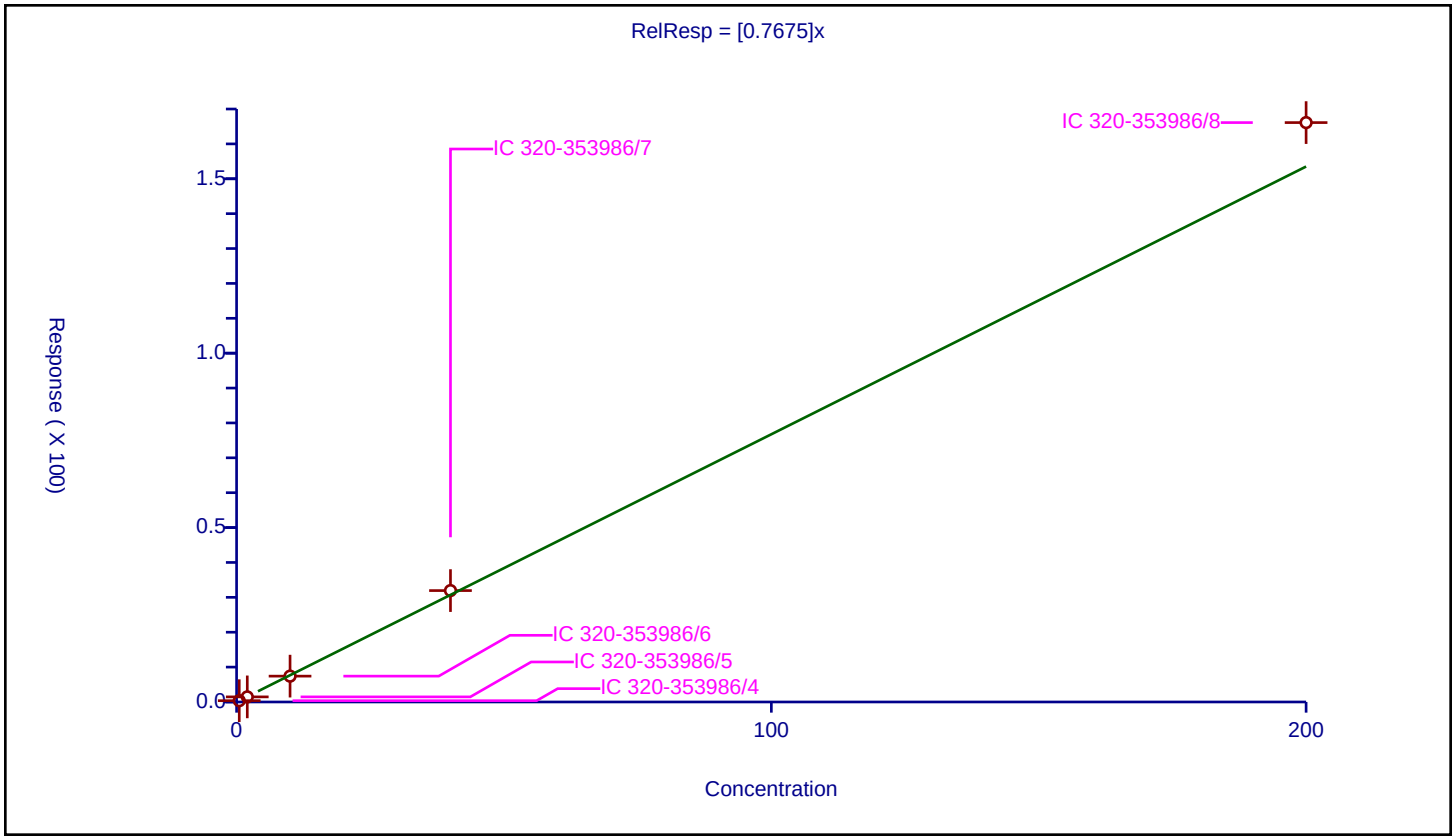

Calibration / 37Cl4-2,3,7,8-TCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.9673

Error Coefficients

Standard Error:	55600000
Relative Standard Error:	8.5
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.992

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-353986/4	0.5	0.439893	100.0	53476232.0	0.879785	Y
2	IC 320-353986/5	2.0	1.775727	100.0	53137406.0	0.887863	Y
3	IC 320-353986/6	10.0	9.749454	100.0	53351234.0	0.974945	Y
4	IC 320-353986/7	40.0	41.45797	100.0	56344688.0	1.036449	Y
5	IC 320-353986/8	200.0	211.517879	100.0	51320987.0	1.057589	Y

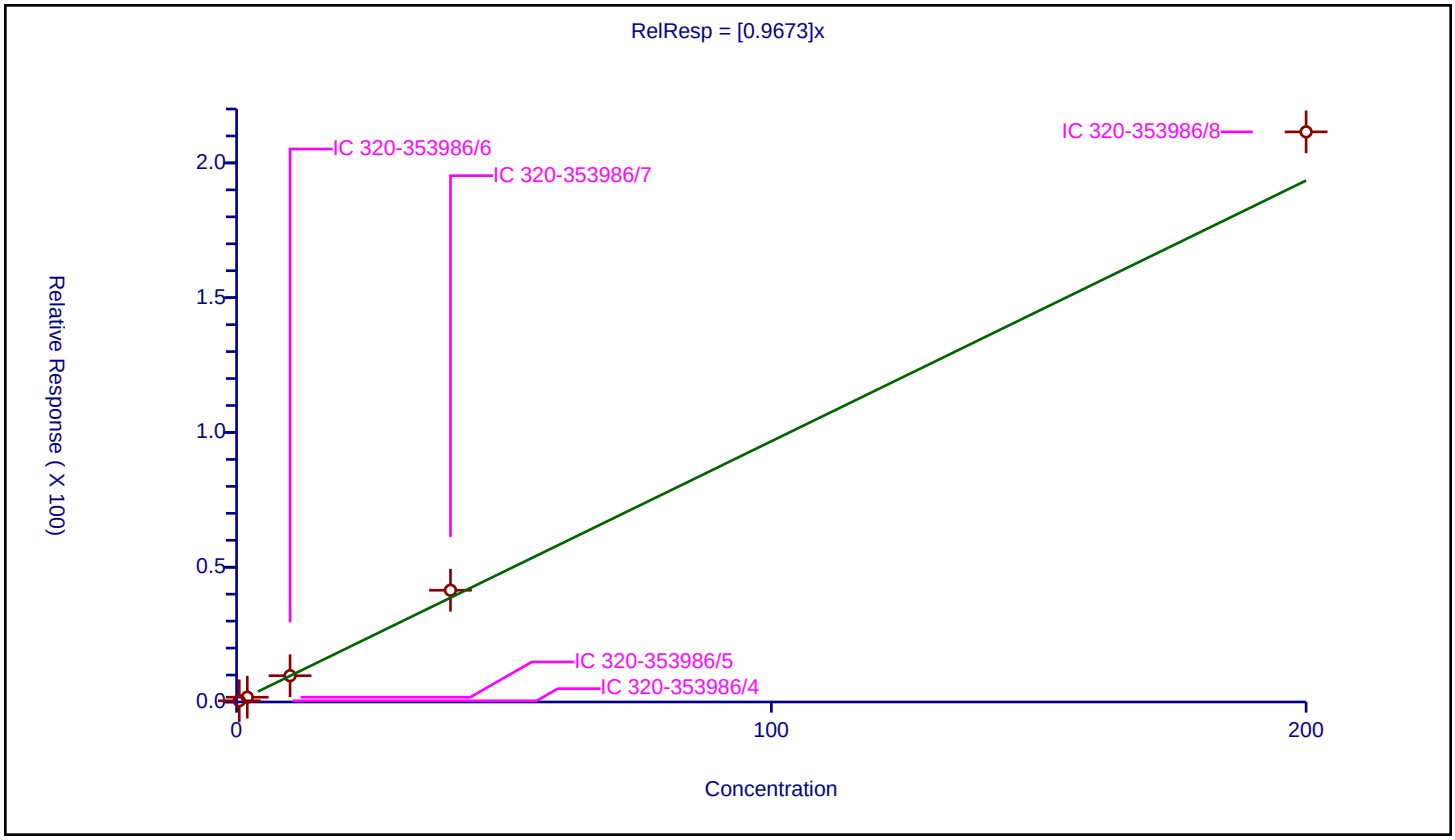

Calibration / OCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.9937

Error Coefficients

Standard Error:	319000000
Relative Standard Error:	1.5
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	1.000

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-353986/4	5.0	4.921909	200.0	54390196.0	0.984382	Y
2	IC 320-353986/5	20.0	19.831119	200.0	54582619.0	0.991556	Y
3	IC 320-353986/6	100.0	97.605097	200.0	57273958.0	0.976051	Y
4	IC 320-353986/7	400.0	405.140253	200.0	61805942.0	1.012851	Y
5	IC 320-353986/8	2000.0	2007.451233	200.0	62333978.0	1.003726	Y

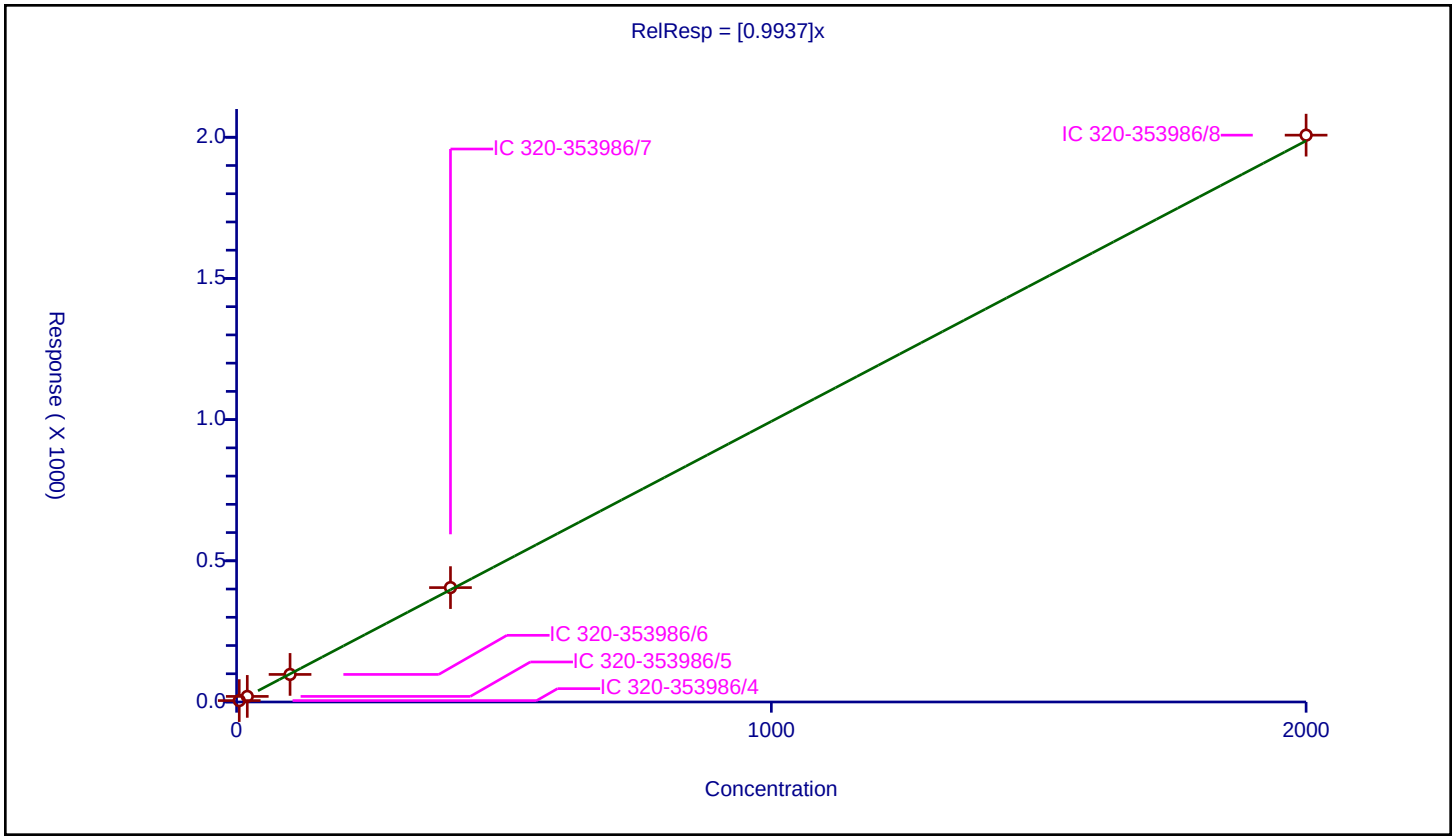

Calibration / OCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.066

Error Coefficients

Standard Error:	356000000
Relative Standard Error:	4.7
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-353986/4	5.0	5.05643	200.0	54390196.0	1.011286	Y
2	IC 320-353986/5	20.0	20.644231	200.0	54582619.0	1.032212	Y
3	IC 320-353986/6	100.0	104.785672	200.0	57273958.0	1.047857	Y
4	IC 320-353986/7	400.0	447.169138	200.0	61805942.0	1.117923	Y
5	IC 320-353986/8	2000.0	2240.670756	200.0	62333978.0	1.120335	Y

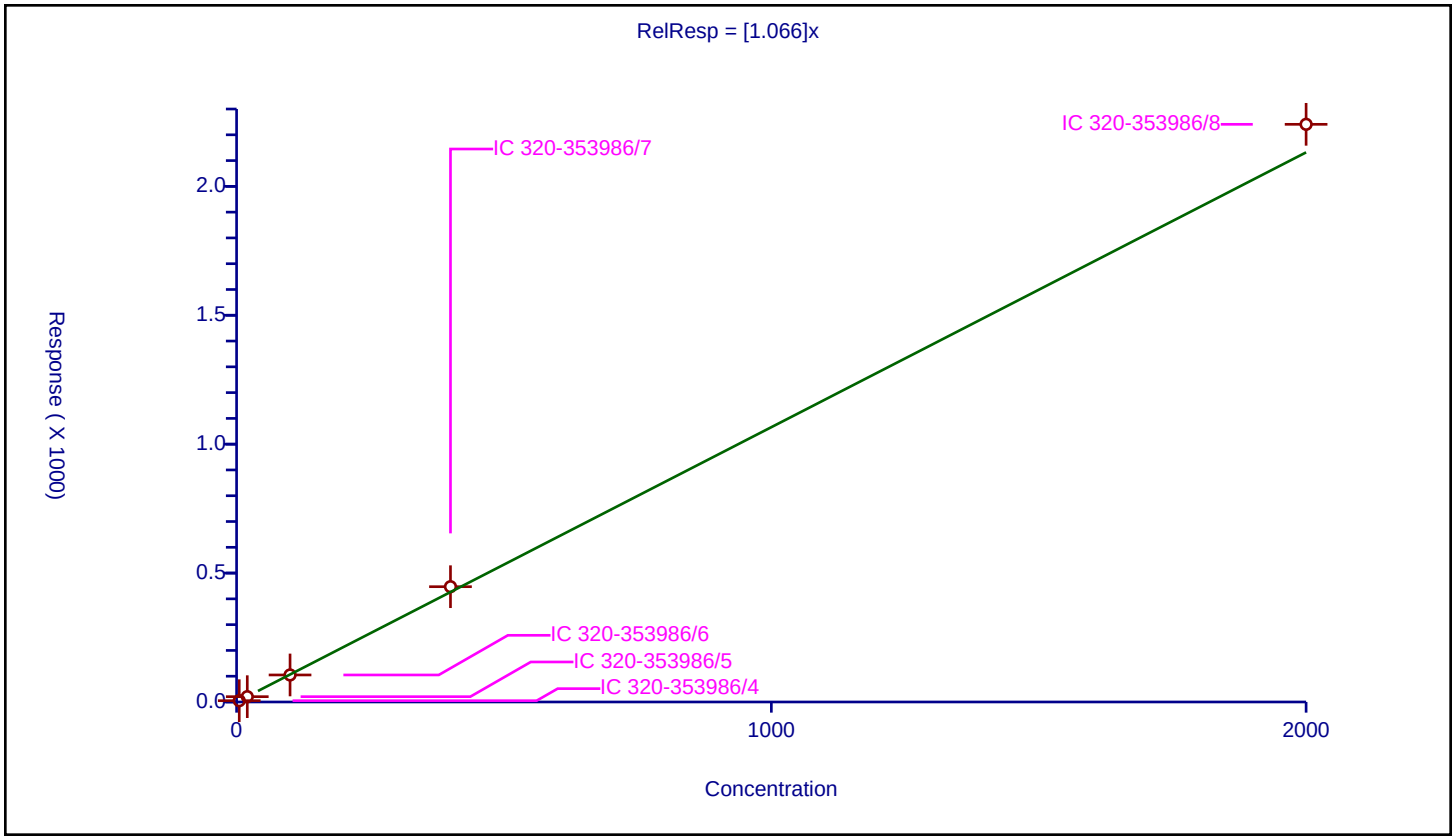

FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58545-1

SDG No.:

Lab Sample ID (1): WDM 320-353986/2 Instrument ID (1): 10D5

GC Column (1): DB-5 ID: 0.32(mm) Date Analyzed (1): 01/30/2020 00:17

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDD	17.62	24

Resolution Report

Eurofins TestAmerica, Sacramento

Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d
Injection Date: 30-Jan-2020 00:17:03 Instrument ID: 10D5
Lims ID: WDM
Client ID:
Operator ID: ALM, SMA ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 2.0 ul Column: DB-5 (0.32 mm)
Method: Dioxin_10D5 Limit Group: HR - 1613B - ICAL

2,3,7,8-TCDD

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 689016
H (Peak Height) = 2922802

%R = 24 <= 25
Passed

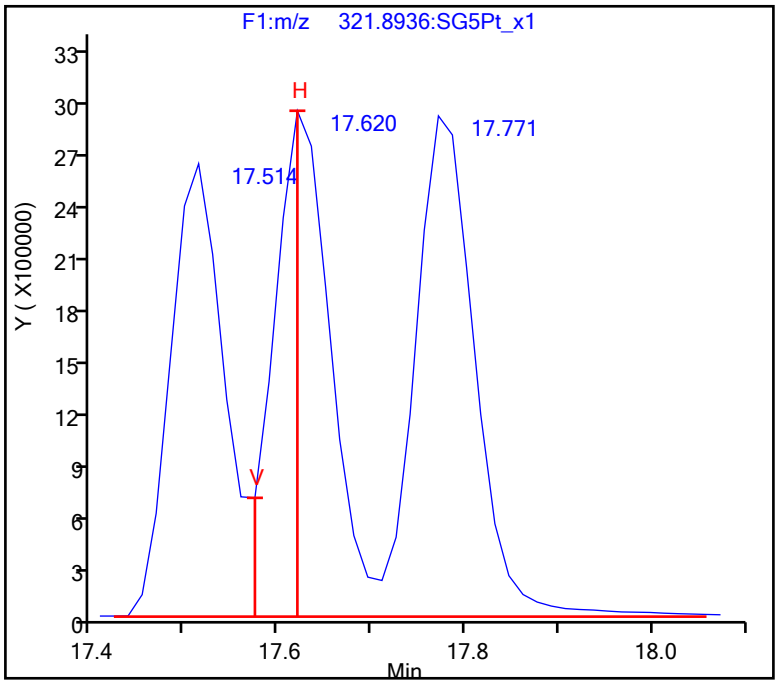

FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58545-1

SDG No.:

Lab Sample ID (1): WDM 320-358703/42 Instrument ID (1): 10D5

GC Column (1): DB-5 ID: 0.32(mm) Date Analyzed (1): 02/19/2020 22:27

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDD	17.41	25

Resolution Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_42.d				
Injection Date:	19-Feb-2020 22:27:56	Instrument ID:	10D5		
Lims ID:	WDM				
Client ID:					
Operator ID:	AJS, ALM	ALS Bottle#:	1	Worklist Smp#:	42
Injection Vol:	2.0 ul	Column:	DB-5 (0.32 mm)		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		

2,3,7,8-TCDD

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 489267
H (Peak Height) = 1936728

%R = 25 <= 25
Passed

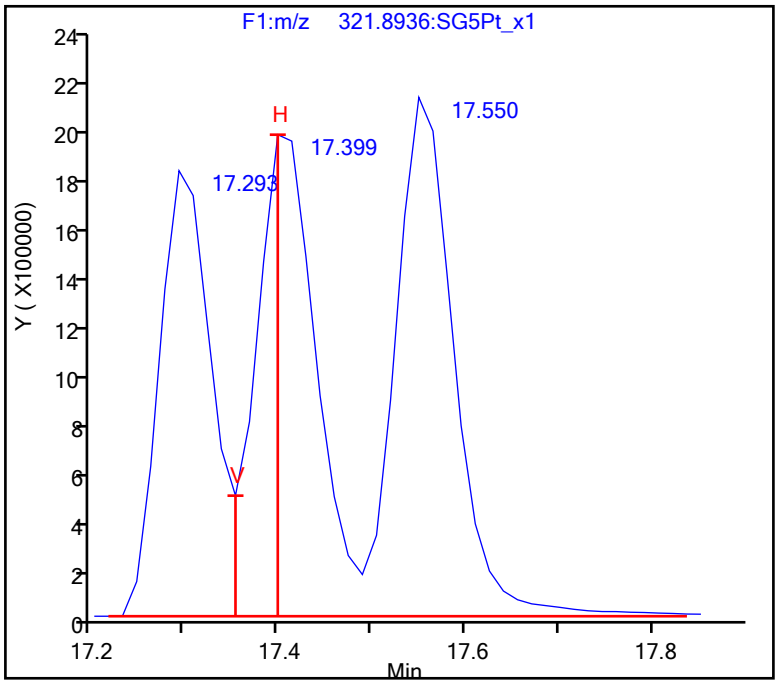

FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58545-1

SDG No.:

Lab Sample ID: ICV 320-353986/10 Calibration Date: 01/30/2020 06:35

Instrument ID: 10D5 Calib Start Date: 01/30/2020 01:49

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 01/30/2020 04:53

Lab File ID: 29JA20B10D5_10.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
2,3,7,8-TCDF	AveID	0.7675	0.8315		43.3	40.0	108	70-130
2,3,7,8-TCDD	AveID	0.9599	1.054		43.9	40.0	110	70-130
1,2,3,7,8-PeCDF	AveID	0.8982	0.9502		212	200	106	70-130
2,3,4,7,8-PeCDF	AveID	0.8101	0.9873		244	200	122	70-130
1,2,3,7,8-PeCDD	AveID	0.996	1.026		206	200	103	70-130
1,2,3,4,7,8-HxCDF	AveID	0.7916	0.9066		229	200	115	70-130
1,2,3,6,7,8-HxCDF	AveID	0.8638	0.9763		226	200	113	70-130
2,3,4,6,7,8-HxCDF	AveID	0.9010	1.028		228	200	114	70-130
1,2,3,4,7,8-HxCDD	AveID	0.8392	0.9517		227	200	113	70-130
1,2,3,6,7,8-HxCDD	AveID	0.8876	0.997		225	200	112	70-130
1,2,3,7,8,9-HxCDD	AveID	0.9567	1.017		213	200	106	70-130
1,2,3,7,8,9-HxCDF	AveID	0.9127	0.9800		215	200	107	70-130
1,2,3,4,6,7,8-HpCDF	AveID	1.337	1.488		223	200	111	70-130
1,2,3,4,6,7,8-HpCDD	AveID	0.9811	1.081		220	200	110	70-130
1,2,3,4,7,8,9-HpCDF	AveID	1.074	1.177		219	200	110	70-130
OCDD	AveID	0.9937	1.100		443	400	111	70-130
OCDF	AveID	1.066	1.185		445	400	111	70-130
13C-2,3,7,8-TCDF	Ave	1.128	1.135		101	100	101	71-140
13C-2,3,7,8-TCDD	Ave	0.9032	0.9078		101	100	101	82-121
13C-1,2,3,7,8-PeCDF	Ave	0.9615	0.9762		102	100	102	76-130
13C-2,3,4,7,8-PeCDF	Ave	1.039	1.053		101	100	101	77-130
13C-1,2,3,7,8-PeCDD	Ave	0.6938	0.6906		99.5	100	100	62-160
13C-1,2,3,4,7,8-HxCDF	Ave	0.8543	0.8779		103	100	103	76-131
13C-1,2,3,6,7,8-HxCDF	Ave	0.8361	0.8532		102	100	102	70-143
13C-2,3,4,6,7,8-HxCDF	Ave	0.7773	0.7935		102	100	102	73-137
13C-1,2,3,4,7,8-HxCDD	Ave	0.8050	0.8196		102	100	102	85-117
13C-1,2,3,6,7,8-HxCDD	Ave	0.8269	0.8553		103	100	103	85-118
13C-1,2,3,7,8,9-HxCDF	Ave	0.7167	0.7395		103	100	103	74-135
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.7080	0.7267		103	100	103	78-129
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.7473	0.7688		103	100	103	72-138
13C-1,2,3,4,7,8,9-HpCDF	Ave	0.7451	0.7669		103	100	103	77-129
13C-OCDD	Ave	0.6622	0.6920		209	200	105	48-208
37Cl4-2,3,7,8-TCDD	Ave	0.9673	1.025		42.4	40.0	106	79-127

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_10.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 30-Jan-2020 06:35:07 ALS Bottle#: 8 Worklist Smp#: 10
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ICV 012920 ICV HRDXNIC_00043
Misc. Info.: 29JA20B10D5
Operator ID: ALM Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 30-Jan-2020 09:11:50 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0321

First Level Reviewer: arghestanis Date: 30-Jan-2020 08:46:57

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.393	42287418	0.81	5.4E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.894	47990424	0.73	1.1275	100.7	100.7	0.3046	0.3046	101	
2,3,7,8-TCDF	16.909	15962240	0.72	0.7675	43.3	43.3	0.1442	0.1442	108	
A Non-2,3,7,8-sub-TCDF	16.645						0.1442	0.1442		
S Total TCDF					43.3	43.3	0.1442	0.1442		
D 13C-2,3,7,8-TCDD	17.574	38386495	0.78	0.9032	100.5	100.5	0.2350	0.2350	101	
2,3,7,8-TCDD	17.590	16190766	0.75	0.9599	43.9	43.9	0.0590	0.0590	110	
$ 37Cl4-2,3,7,8-TCDD	17.590	17331670		0.9673	42.4	42.4	0.0614	0.0614	106	
A Non-2,3,7,8-sub-TCDD	17.091	227296	0.80	0.9599	0.6169	0.6169	0.0590	0.6169		
S Total TCDD					44.6	44.6	0.0590	0.0590		
D 13C-1,2,3,7,8-PeCDF	21.733	41279665	1.56	0.9615	101.5	101.5	0.2750	0.2750	102	
1,2,3,7,8-PeCDF	21.760	78446332	1.53	0.8982	211.6	211.6	0.8428	0.8428	106	
D 13C-2,3,4,7,8-PeCDF	23.028	44528560	1.53	1.0393	101.3	101.3	0.2544	0.2544	101	
2,3,4,7,8-PeCDF	23.055	87929165	1.53	0.8101	243.8	243.8	0.9324	0.9324	122	
A F1 PeCDFs	19.570						0.0224	0.0224		
A Non-2,3,7,8-sub-PeCDF	22.600	1819762	1.59	0.8541	4.966	4.966	0.8853	4.966		
S Total PeCDF					460.3	460.3	0.8876	0.8876		
D 13C-1,2,3,7,8-PeCDD	23.723	29202955	1.64	0.6938	99.5	99.5	0.1241	0.1241	99.54	
1,2,3,7,8-PeCDD	23.751	59937102	1.56	0.9961	206.1	206.1	0.2163	0.2163	103	
A Non-2,3,7,8-sub-PeCDD	22.701						0.2163	0.2163		
S Total PeCDD					206.1	206.1	0.2163	0.2163		
D 13C-1,2,3,4,7,8-HxCDF	29.860	29828457	0.48	0.8543	102.8	102.8	0.3306	0.3306	103	
1,2,3,4,7,8-HxCDF	29.886	54083055	1.21	0.7916	229.1	229.1	1.097	1.097	115	
D 13C-1,2,3,6,7,8-HxCDF	30.099	28988925	0.48	0.8361	102.1	102.1	0.3378	0.3378	102	
1,2,3,6,7,8-HxCDF	30.126	56604725	1.21	0.8638	226.1	226.1	0.990	0.990	113	
D 13C-2,3,4,6,7,8-HxCDF	31.097	26958151	0.48	0.7773	102.1	102.1	0.3633	0.3633	102	
2,3,4,6,7,8-HxCDF	31.111	55408144	1.20	0.9010	228.1	228.1	0.7075	0.7075	114	
D 13C-1,2,3,7,8,9-HxCDF	31.989	25126172	0.49	0.7167	103.2	103.2	0.3941	0.3941	103	
1,2,3,7,8,9-HxCDF	32.002	49246589	1.20	0.9127	214.8	214.8	0.6930	0.6930	107	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
A Non-2,3,7,8-sub-HxCDF	29.627						0.8431	0.8431		
S Total HxCDF					898.0	898.0	0.8720	0.8720		
* 13C-1,2,3,7,8,9-HxCDD	31.789	33975698	1.21	4.4E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.310	27847674	1.19	0.8050	101.8	101.8	0.2162	0.2162	102	
1,2,3,4,7,8-HxCDD	31.324	53003759	1.21	0.8392	226.8	226.8	0.4538	0.4538	113	
D 13C-1,2,3,6,7,8-HxCDD	31.430	29060014	1.29	0.8269	103.4	103.4	0.2104	0.2104	103	
1,2,3,6,7,8-HxCDD	31.444	57917479	1.21	0.8876	224.5	224.5	0.4512	0.4512	112	
1,2,3,7,8,9-HxCDD	31.803	57885713	1.20	0.9567	212.6	212.6	0.4081	0.4081	106	
A Non-2,3,7,8-sub-HxCDD	30.226						0.4365	0.4365		
S Total HxCDD					664.0	664.0	0.4377	0.4377		
D 13C-1,2,3,4,6,7,8-HpCDF	33.496	24690137	0.42	0.7080	102.6	102.6	1.005	1.005	103	
1,2,3,4,6,7,8-HpCDF	33.508	73491304	1.02	1.3375	222.6	222.6	1.590	1.590	111	
D 13C-1,2,3,4,7,8,9-HpCDF	34.553	26056039	0.42	0.7451	102.9	102.9	0.9550	0.9550	103	
1,2,3,4,7,8,9-HpCDF	34.565	61339475	1.02	1.0744	219.1	219.1	2.238	2.238	110	
A Non-2,3,7,8-sub-HpCDF	34.049						1.872	1.872		
S Total HpCDF					441.7	441.7	1.914	1.914		
D 13C-1,2,3,4,6,7,8-HpCDD	34.274	26120904	1.06	0.7473	102.9	102.9	0.4997	0.4997	103	
1,2,3,4,6,7,8-HpCDD	34.286	56487254	1.03	0.9811	220.4	220.4	0.8096	0.8096	110	
A Non-2,3,7,8-sub-HpCDD	34.024						0.8096	0.8096		
S Total HpCDD					220.4	220.4	0.8096	0.8096		
D 13C-OCDD	36.566	47022254	0.90	0.6622	209.0	209.0	0.1054	0.1054	105	
OCDF	36.662	111456199	0.90	1.0659	444.7	444.7	0.2137	0.2137	111	
OCDD	36.578	103472490	0.88	0.9937	442.9	442.9	0.2539	0.2539	111	

Reagents:

HRDXNIC_00043 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_10.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 30-Jan-2020 06:35:07 ALS Bottle#: 8 Worklist Smp#: 10
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ICV 012920 ICV HRDXNIC_00043
Misc. Info.: 29JA20B10D5
Operator ID: ALM Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 30-Jan-2020 09:11:50 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0321

First Level Reviewer: arghestanis Date: 30-Jan-2020 08:46:57

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.393	17.408	-1		18877630	4728925	3559	8897	1329		
333.9339	17.378	17.408	-2		23409788	5723035	5316	13290	1077	0.81(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.894	16.924	-2	0.971	20183855	5110176	6813	17032	750		
317.9389	16.894	16.924	-2	0.971	27806569	6928820	7546	18865	918	0.73(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.909	16.939	-2	1.001	6681295	1665732	1529	3822	1089		
305.8987	16.909	16.939	-2	1.001	9280945	2292780	3802	9505	603	0.72(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.645						1529	3822			
305.8987	16.645						3802	9505			
13C-2,3,7,8-TCDD											
331.9368	17.574	17.605	-2	1.010	16856030	3933620	3559	8897	1105		
333.9339	17.574	17.605	-2	1.010	21530465	5061780	5316	13290	952	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.590	17.620	-2	1.001	6949898	1590005	1063	2657	1496		
321.8936	17.590	17.620	-2	1.001	9240868	2122754	975	2437	2177	0.75(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.590	17.620	-2	1.011	17331670	4028699	2482	6205	1623		
A Non-2,3,7,8-sub-TCDD											
319.8965	17.499	17.091	24	0.996	101330	33656	1063	2657	32		
321.8936	17.484	17.091	24	0.995	125966	37843	975	2437	39	0.80(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	21.733	21.746	-1	1.249	25128810	4567031	6518	16295	701		
353.8970	21.733	21.746	-1	1.249	16150855	2965483	4538	11345	653	1.56(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.760	21.774	-1	1.001	47488200	8481117	13409	33522	632		
341.8567	21.760	21.774	-1	1.001	30958132	5552844	9399	23497	591	1.53(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	23.028	23.042	-1	1.324	26897573	4571876	6518	16295	701		
353.8970	23.028	23.042	-1	1.324	17630987	2977396	4538	11345	656	1.53(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.055	23.069	-1	1.001	53242171	8735330	13409	33522	651		
341.8567	23.042	23.069	-2	1.001	34686994	5766252	9399	23497	613	1.53(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.570						228	570			
341.8567	19.570						349	872			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.264	22.600	-20	1.024	1116874	178716	13409	33522	13		
341.8567	22.251	22.600	-21	1.024	702888	113612	9399	23497	12	1.59(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.723	23.737	-1	1.364	18136939	2840376	1947	4867	1459		
369.8919	23.723	23.737	-1	1.364	11066016	1748743	1653	4132	1058	1.64(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.751	23.764	-1	1.001	36560579	5796805	2398	5995	2417		
357.8516	23.751	23.764	-1	1.001	23376523	3706036	1557	3892	2380	1.56(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.701						2398	5995			
357.8516	22.701						1557	3892			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.860	29.873	-1	0.939	9690734	1422237	2920	7300	487		
385.8610	29.860	29.873	-1	0.939	20137723	2942553	6362	15905	463	0.48(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.886	29.899	-1	1.001	29591168	4171495	8188	20470	509		
375.8178	29.886	29.899	-1	1.001	24491887	3483312	6979	17447	499	1.21(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.099	30.112	-1	0.947	9461843	1459841	2920	7300	500		
385.8610	30.099	30.112	-1	0.947	19527082	2973896	6362	15905	467	0.48(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.126	30.139	-1	1.001	31043929	4656509	8188	20470	569		
375.8178	30.126	30.139	-1	1.001	25560796	3830016	6979	17447	549	1.21(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.097	31.097	0	0.978	8798828	1998575	2920	7300	684		
385.8610	31.097	31.097	0	0.978	18159323	3949354	6362	15905	621	0.48(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.111	31.124	-1	1.000	30265059	6534031	8188	20470	798		
375.8178	31.111	31.124	-1	1.000	25143085	5452132	6979	17447	781	1.20(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.989	31.989	0	1.006	8287041	1960027	2920	7300	671		
385.8610	31.989	31.989	0	1.006	16839131	4034853	6362	15905	634	0.49(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.002	32.002	0	1.000	26883020	6391882	8188	20470	781		
375.8178	32.002	32.002	0	1.000	22363569	5314921	6979	17447	762	1.20(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.627						8188	20470			
375.8178	29.627						6979	17447			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.789	31.803	-1		18636371	4497803	3191	7977	1410		
403.8529	31.789	31.803	-1		15339327	3718324	2528	6320	1471	1.21(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.310	31.324	-1	0.985	15110885	3858341	3191	7977	1209		
403.8529	31.310	31.324	-1	0.985	12736789	3036289	2528	6320	1201	1.19(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.324	31.337	-1	1.000	29006773	6898256	5584	13960	1235		
391.8127	31.324	31.337	-1	1.000	23996986	5719192	4918	12295	1163	1.21(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.430	31.444	-1	0.989	16349775	3620630	3191	7977	1135		
403.8529	31.430	31.444	-1	0.989	12710239	2934428	2528	6320	1161	1.29(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.444	31.457	-1	1.000	31749222	7207436	5584	13960	1291		
391.8127	31.444	31.457	-1	1.000	26168257	5995492	4918	12295	1219	1.21(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.803	31.816	-1	1.016	31548082	7505465	5584	13960	1344		
391.8127	31.803	31.816	-1	1.016	26337631	6316618	4918	12295	1284	1.20(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.226						5584	13960			
391.8127	30.226						4918	12295			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.496	33.496	0	1.054	7320059	2399824	7335	18337	327		
419.8220	33.496	33.496	0	1.054	17370078	5605059	16051	40127	349	0.42(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.508	33.508	0	1.000	37105019	11664370	33411	83527	349		
409.7789	33.496	33.508	-1	1.000	36386285	11350820	34697	86742	327	1.02(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.553	34.553	0	1.087	7698567	2134238	7335	18337	291		
419.8220	34.553	34.553	0	1.087	18357472	4947057	16051	40127	308	0.42(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.565	34.565	0	1.000	30936604	8148994	33411	83527	244		
409.7789	34.565	34.565	0	1.000	30402871	7971909	34697	86742	230	1.02(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.049						33411	83527			
409.7789	34.049						34697	86742			

Report Date: 30-Jan-2020 09:11:56 Chrom Revision: 2.3 14-Jan-2020 22:23:42
Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_10.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.274	34.274	0	1.078	13421916	3828255	5975	14937	641		
437.8140	34.274	34.274	0	1.078	12698988	3630038	6299	15747	576	1.06(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.286	34.286	0	1.000	28684458	8008672	13027	32567	615		
425.7737	34.274	34.286	-1	1.000	27802796	7669811	10669	26672	719	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.024						13027	32567			
425.7737	34.024						10669	26672			
13C-OCDD											
469.7779	36.566	36.578	-1	1.150	22245987	5366165	1408	3520	3811		
471.7750	36.566	36.578	-1	1.150	24776267	5905639	887	2217	6658	0.90(0.76-1.02)	
OCDF											
441.7428	36.662	36.674	-1	1.003	52738366	12856847	2433	6082	5284		
443.7399	36.662	36.674	-1	1.003	58717833	14246400	2701	6752	5274	0.90(0.76-1.02)	
OCDD											
457.7377	36.578	36.590	-1	1.000	48421075	11568774	3054	7635	3788		
459.7348	36.578	36.590	-1	1.000	55051415	13131832	2635	6587	4984	0.88(0.76-1.02)	

Reagents:

HRDXNIC_00043 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_10.d
Lims ID: ICV
Client ID:
Inject. Date: 30-Jan-2020 06:35:07 Dil. Factor: 1.0000
Sample Type: ICV, ICal Verification
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 353986 Lims Sample ID: 10
Sublist: chrom-Dioxin_10D5*sub1

Non-2,3,7,8-sub-TCDD, RT: 17.091

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	0.960	D 13C-2,3,7,8-TCDD	100.000	38386495	8995400

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.960		100.000	38386495	8995400

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
17.499	101330	33656	125966	37843	0.6169	0.80	
Signal Totals:							
	101330	33656	125966	37843			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	227296	71499				0.80	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.6169 = (227296 * 100.000) / (38386495 * 0.960)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_10.d
Lims ID: ICV
Client ID:
Inject. Date: 30-Jan-2020 06:35:07 Dil. Factor: 1.0000
Sample Type: ICV, ICal Verification
Instrument ID: 10D5 Operator: ALM
Lims Batch ID: 353986 Lims Sample ID: 10
Sublist: chrom-Dioxin_10D5*sub1

Non-2,3,7,8-sub-PeCDF, RT: 22.600

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	0.898	D 13C-1,2,3,7,8-PeCDF	100.000	41279665	7532514
2,3,4,7,8-PeCDF	0.810	D 13C-2,3,4,7,8-PeCDF	100.000	44528560	7549272

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.854		100.000	42904112	7540893

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
22.264	1116874	178716	702888	113612	4.97	1.59	
Signal Totals:							
	1116874	178716	702888	113612			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1819762	292328				1.59	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 4.966 = (1819762 * 100.000) / (42904112 * 0.854)

Report Date: 30-Jan-2020 09:11:56 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_10.d		
Injection Date:	30-Jan-2020 06:35:07	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

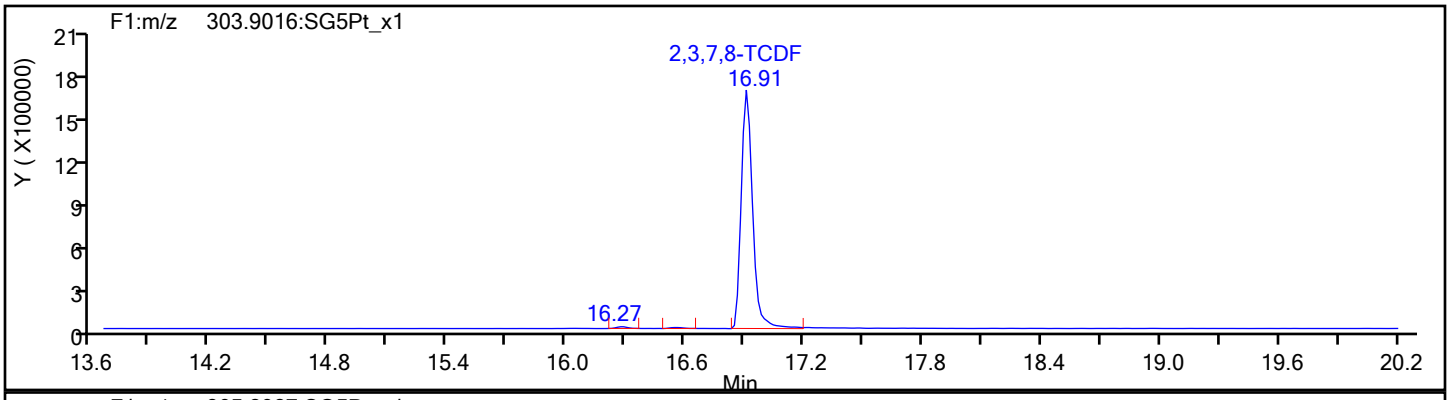

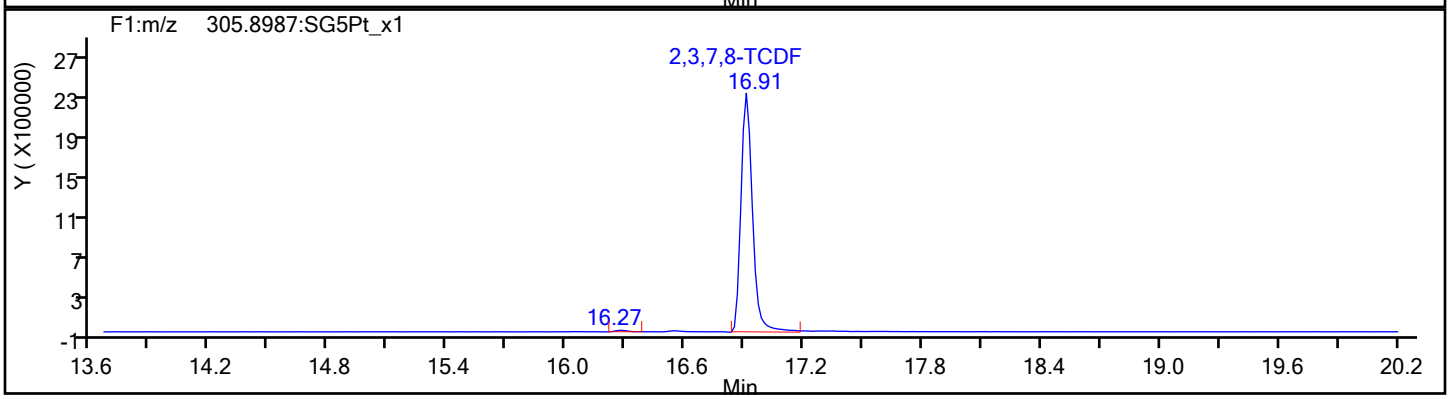

TCDF Standards

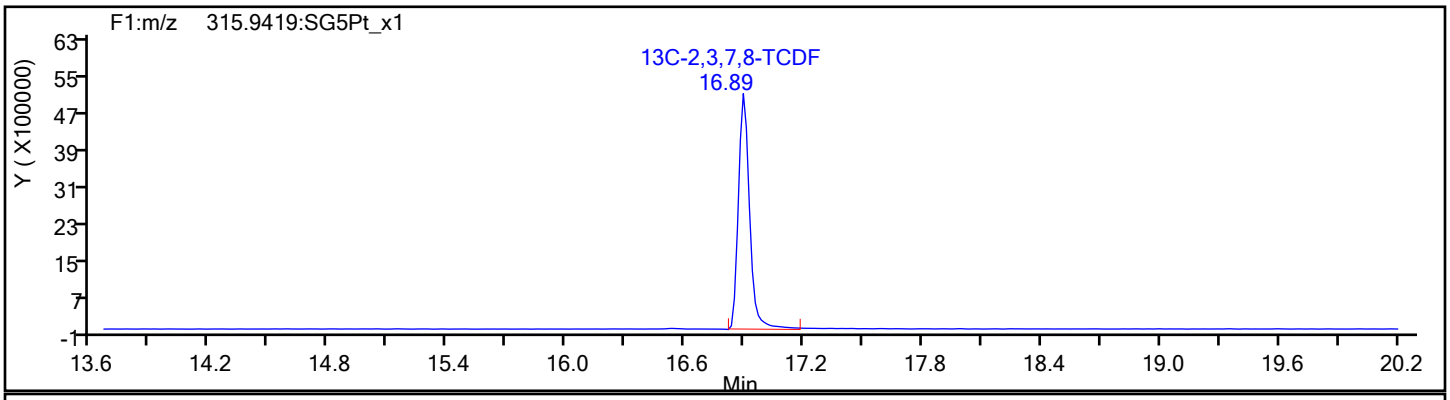

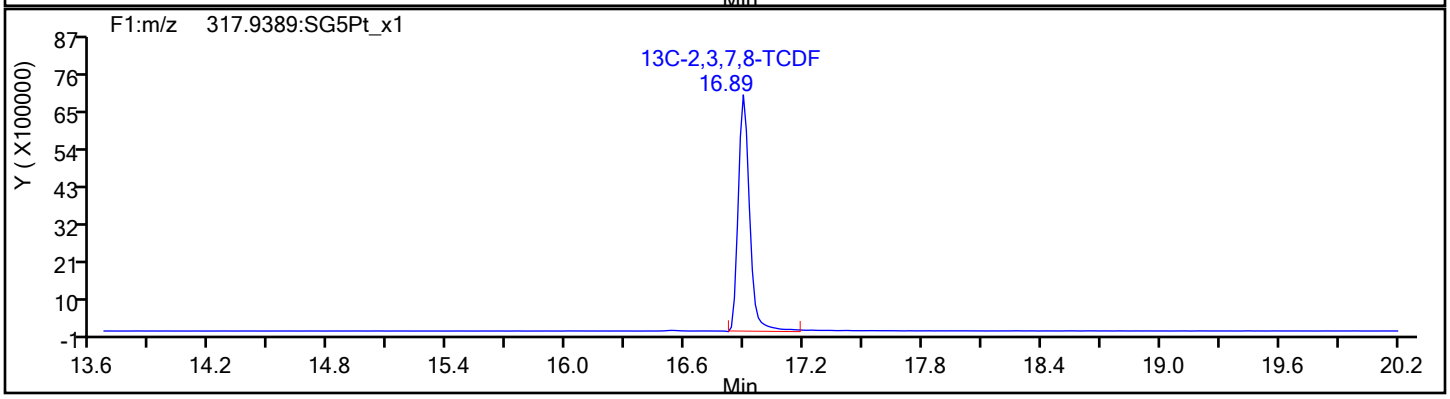

Report Date: 30-Jan-2020 09:11:56 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_10.d		
Injection Date:	30-Jan-2020 06:35:07	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

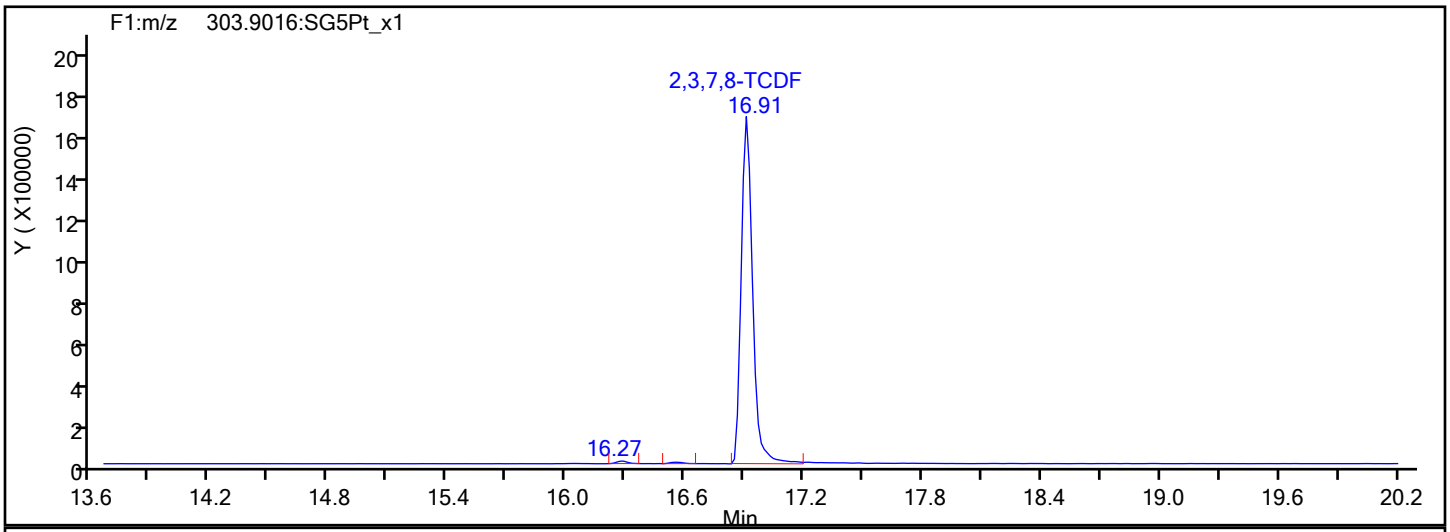

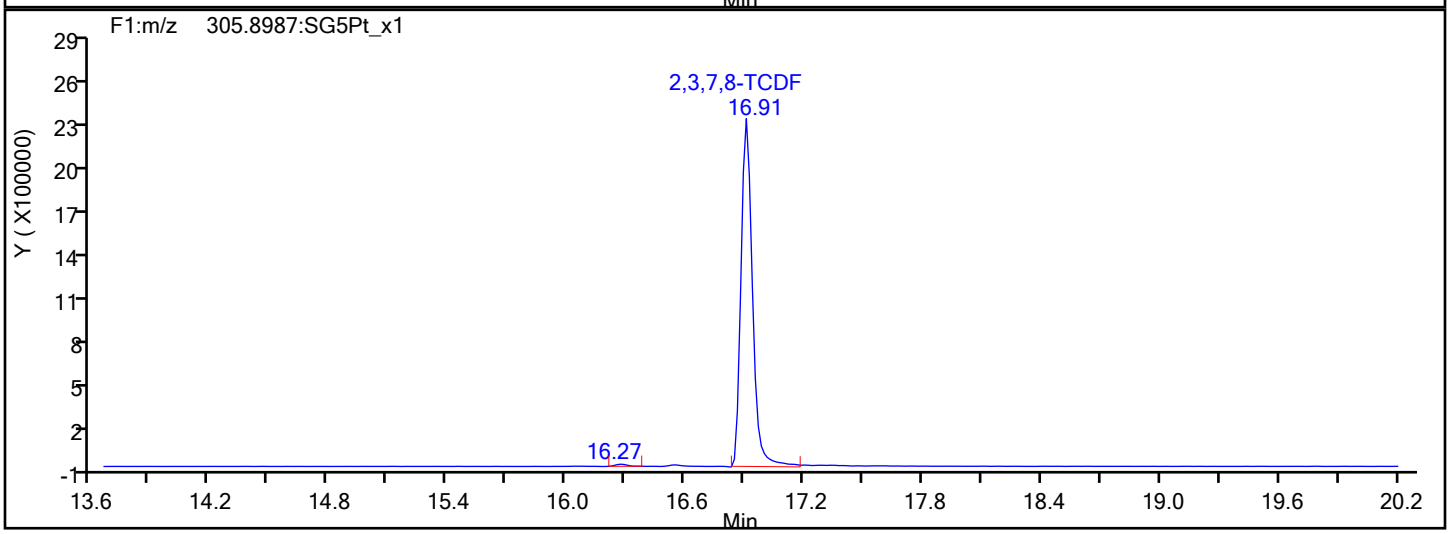

TCDF Interference Mass

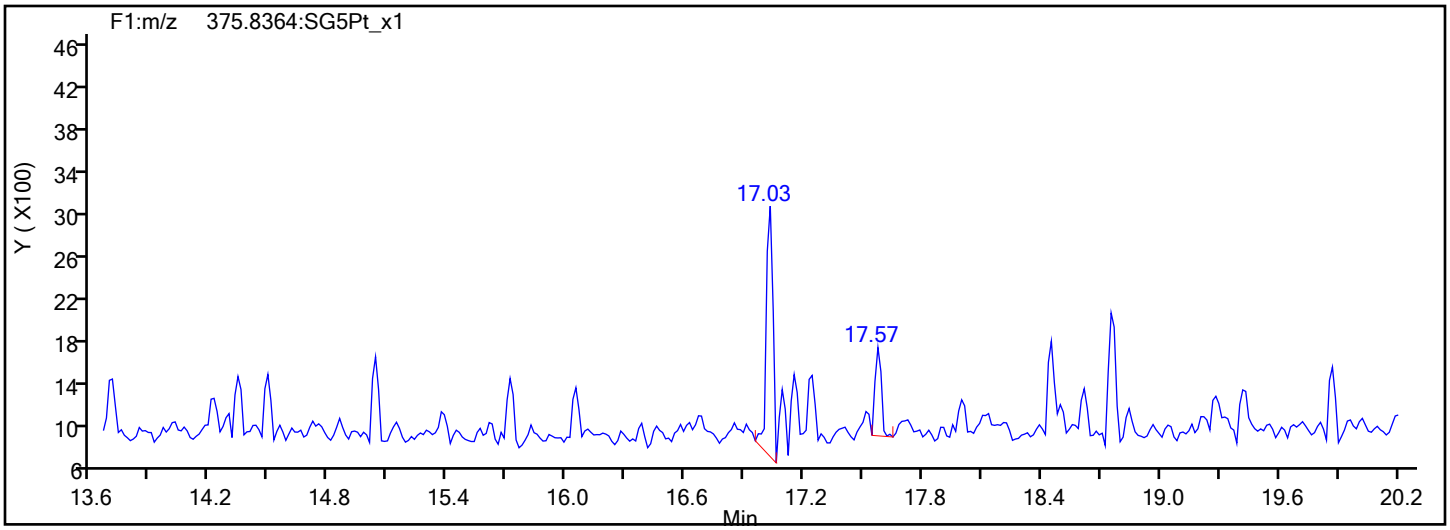

Report Date: 30-Jan-2020 09:11:56 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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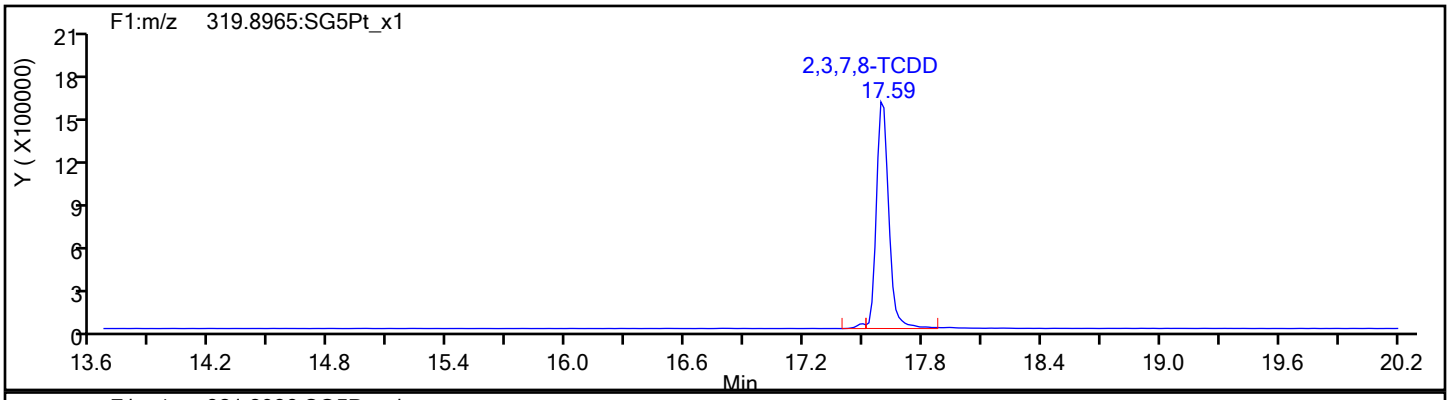

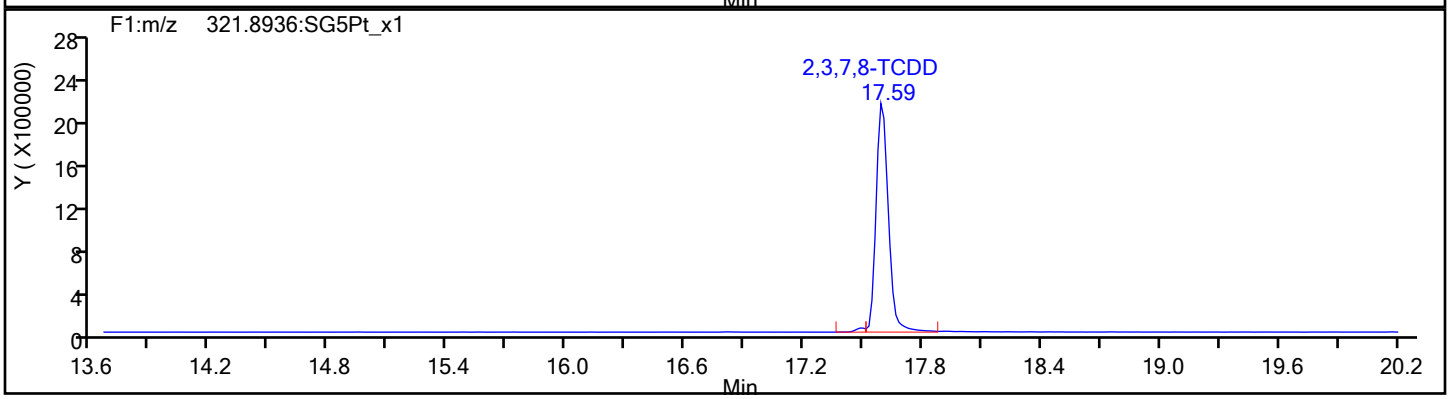

TCDD Standards

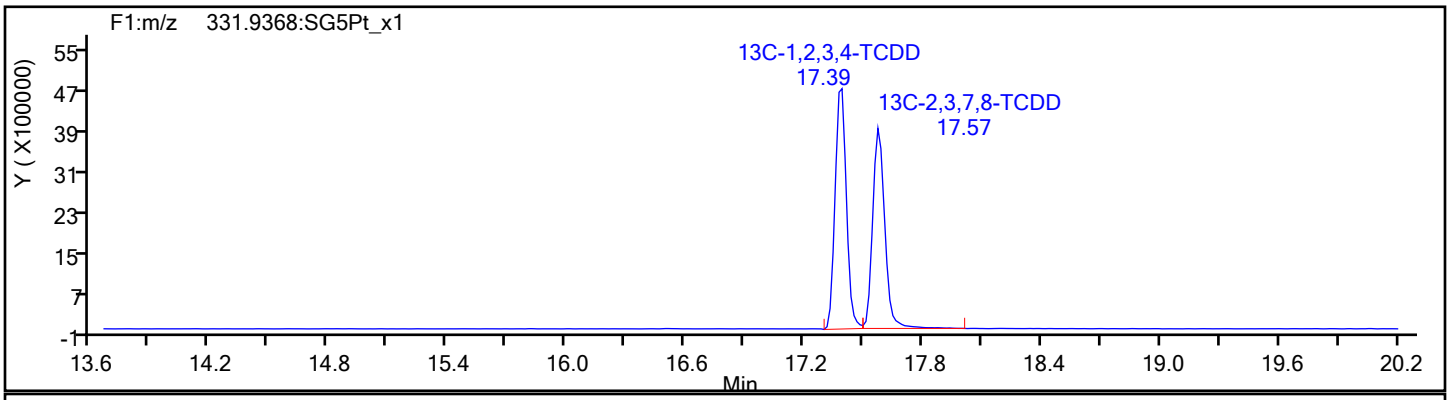

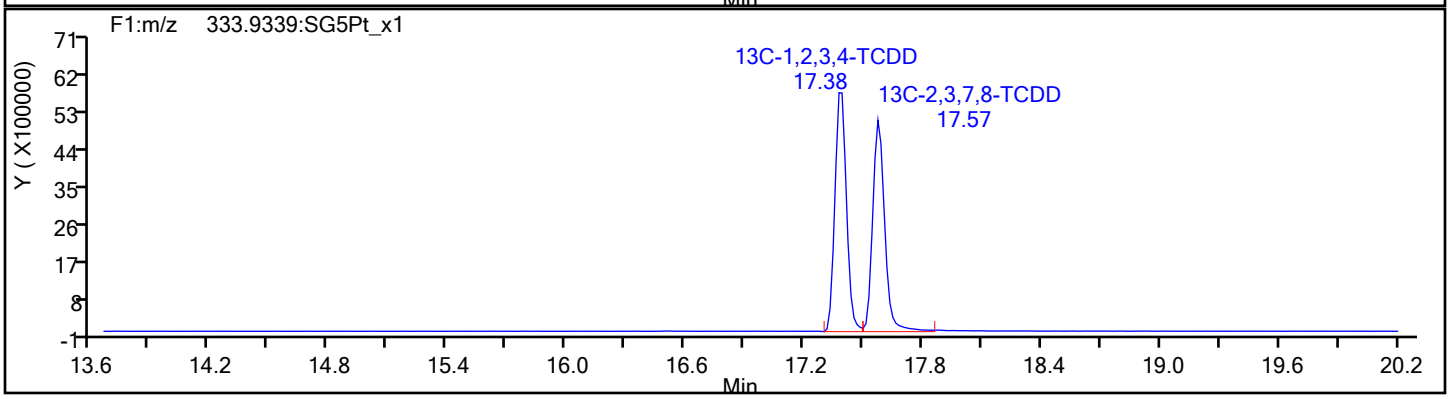

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Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

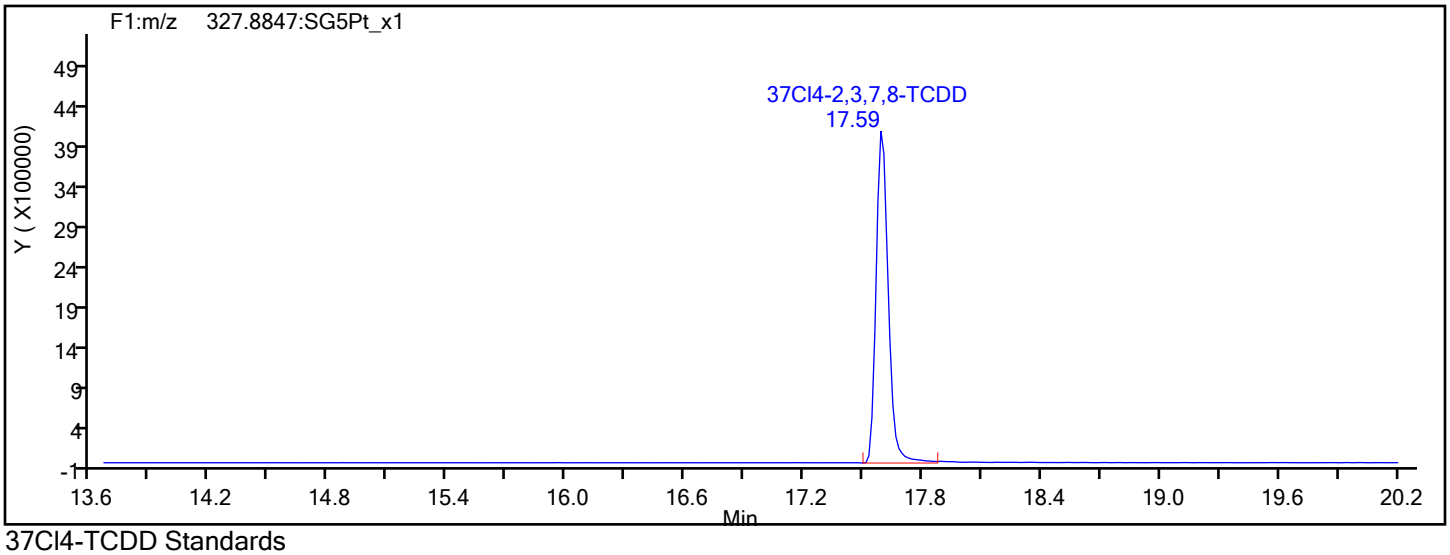

37Cl4-TCDD Standards

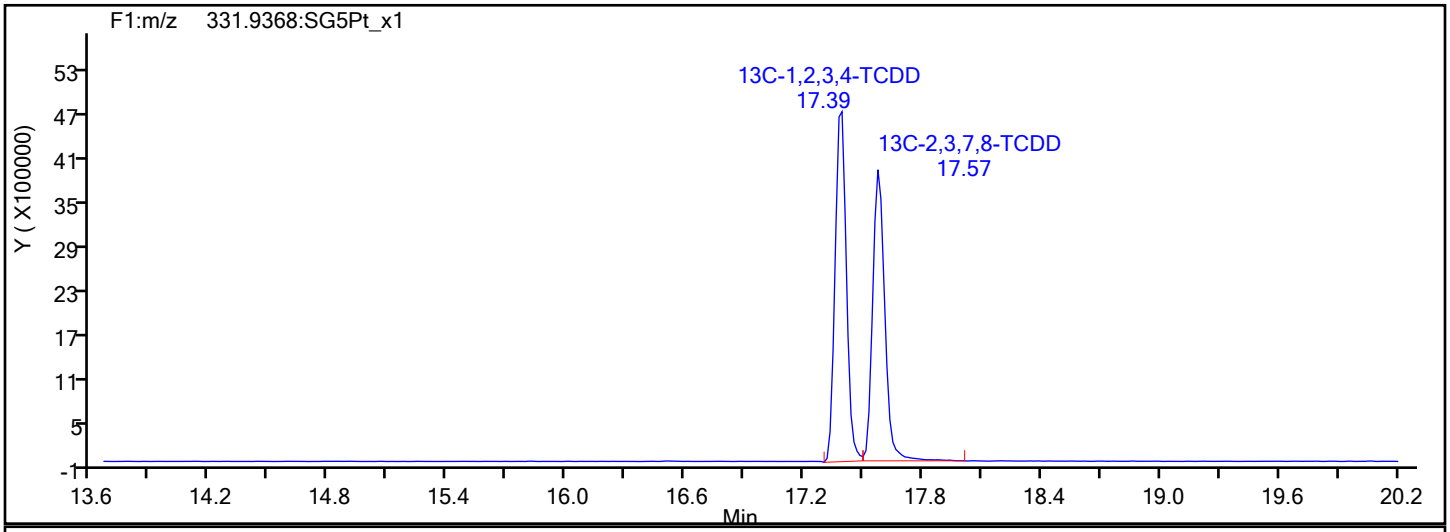

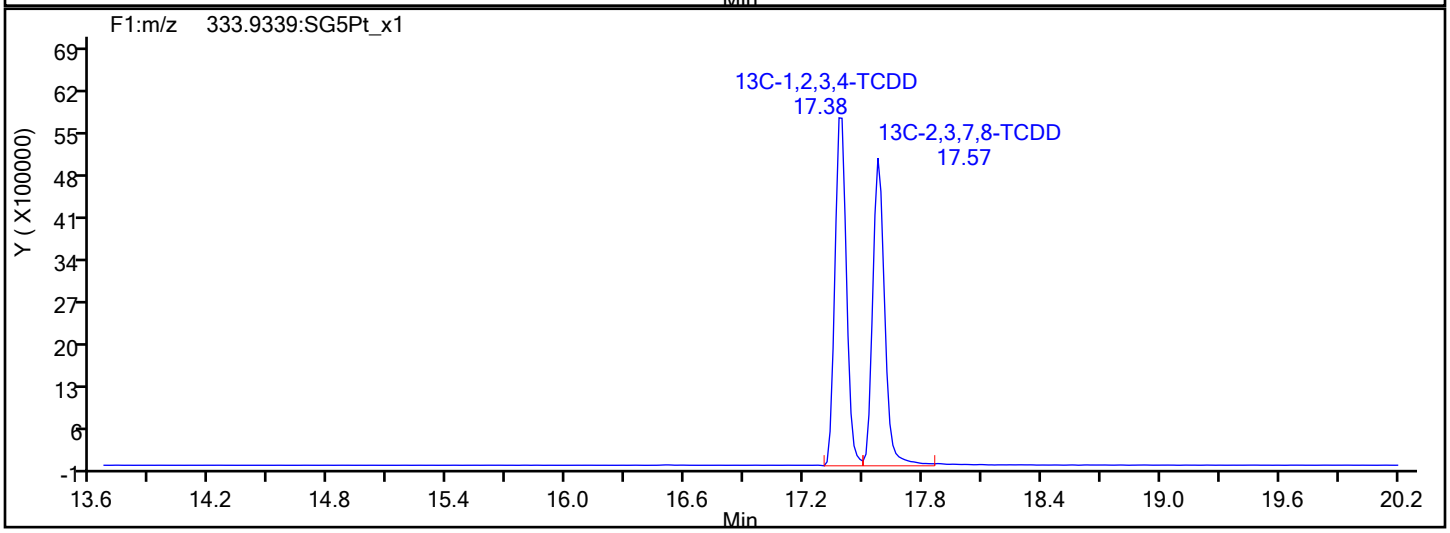

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

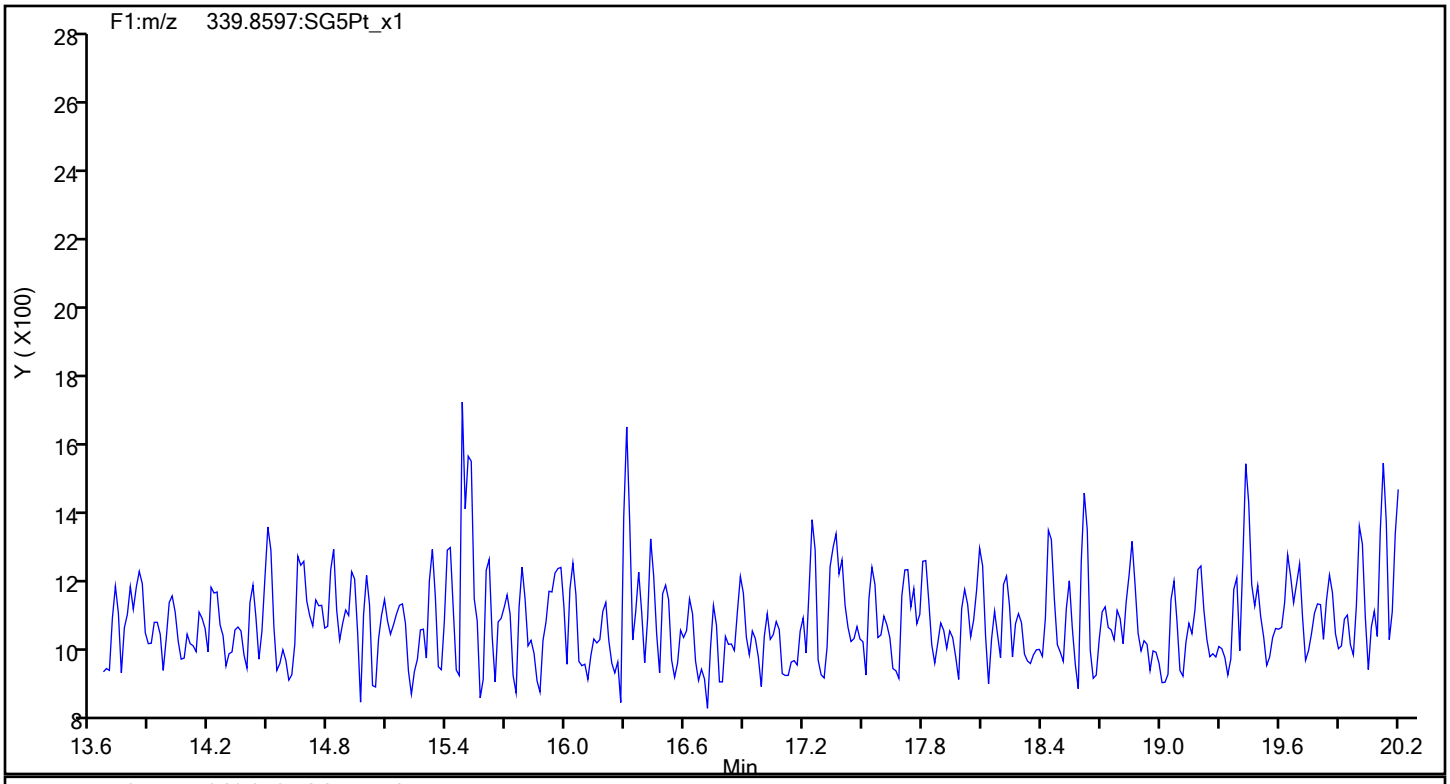

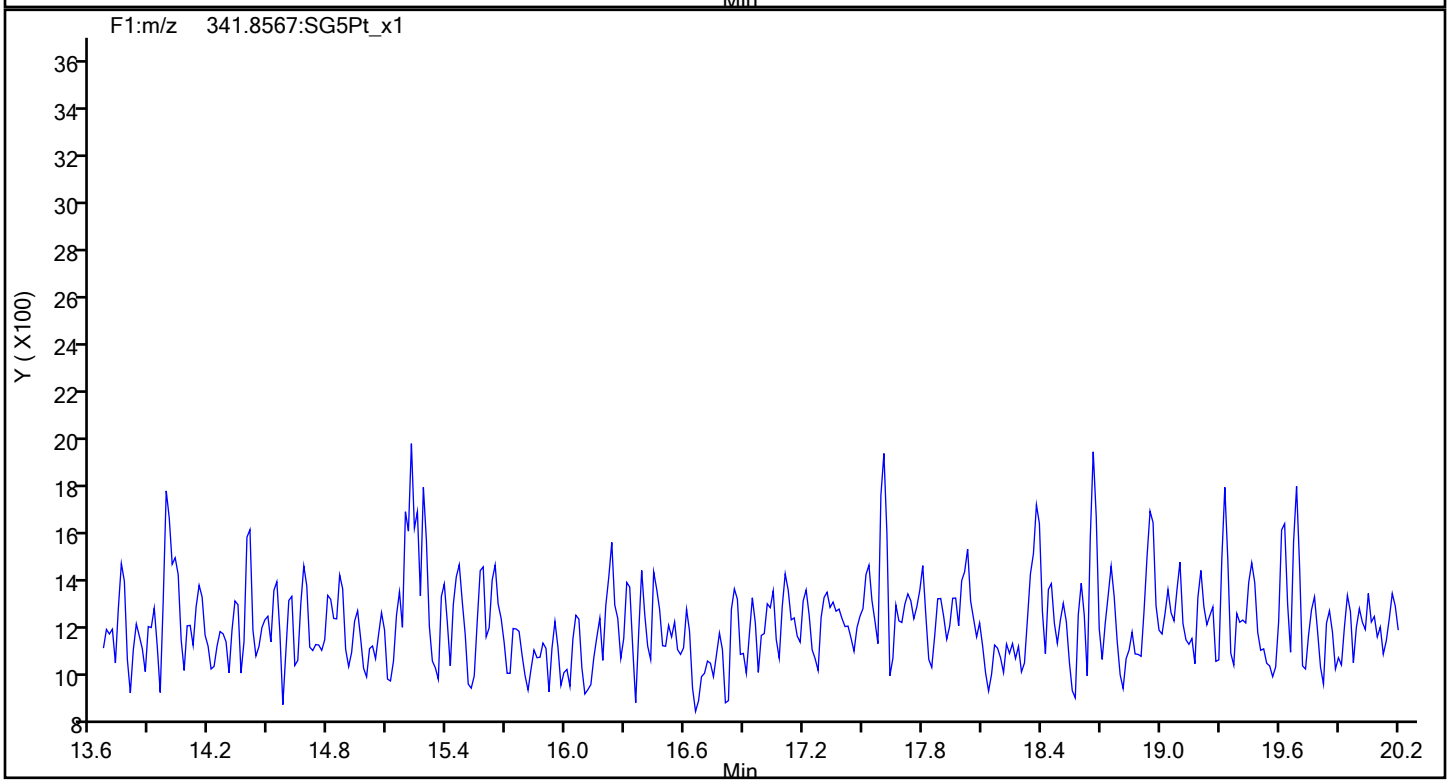

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

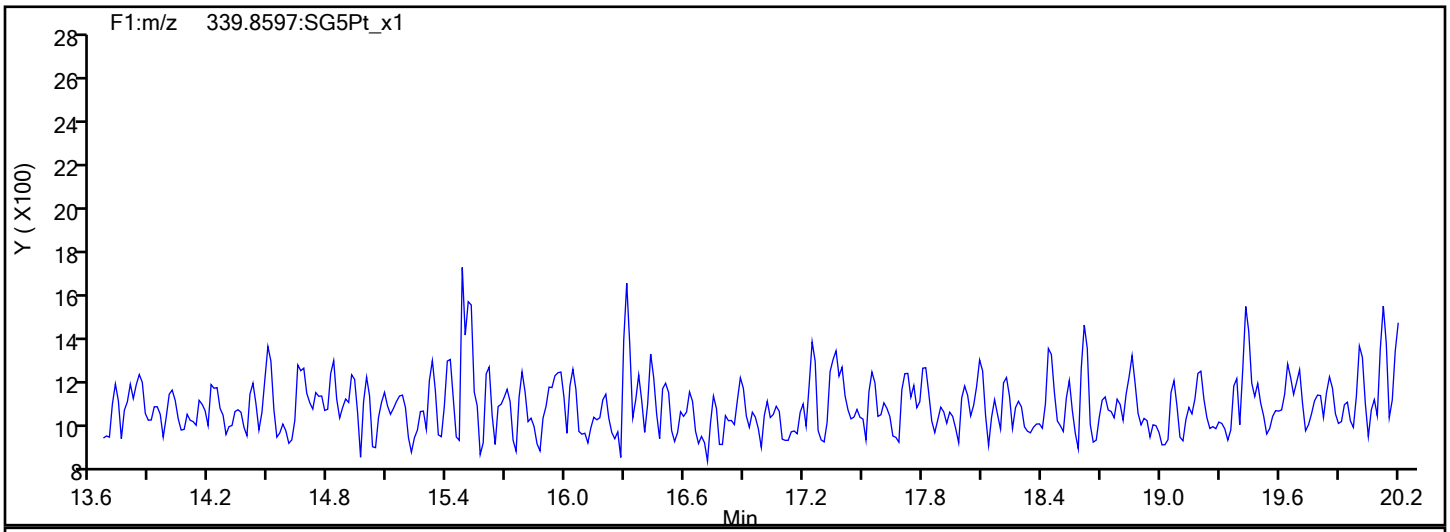

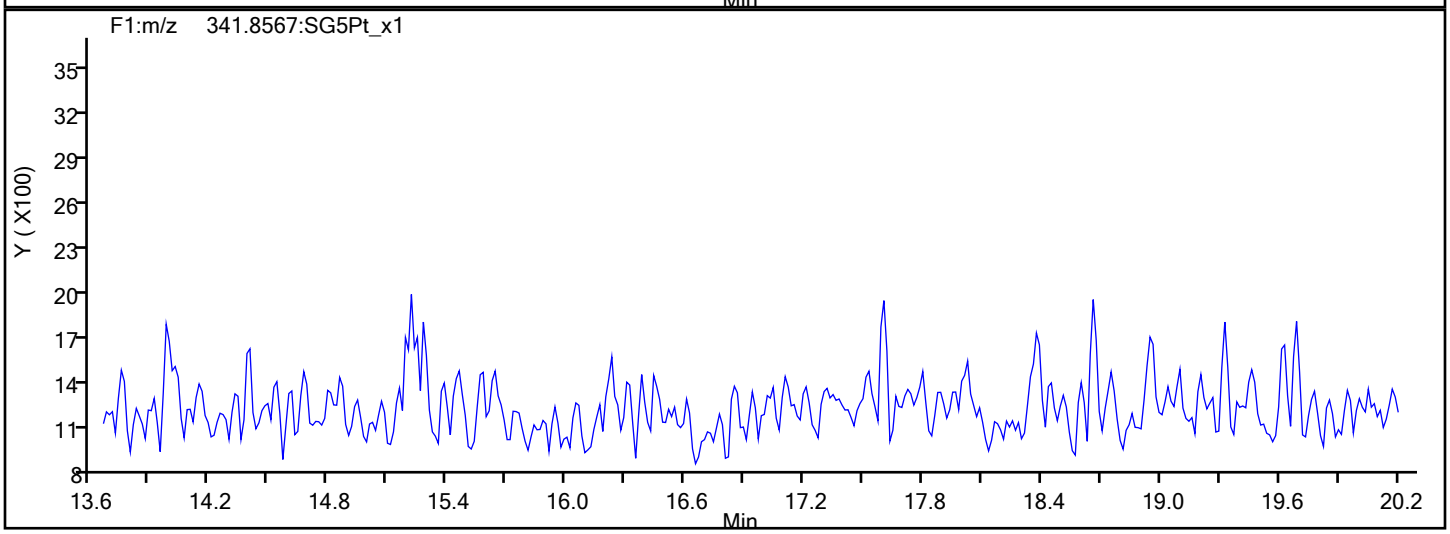

F1 PeCDFs Interference Mass

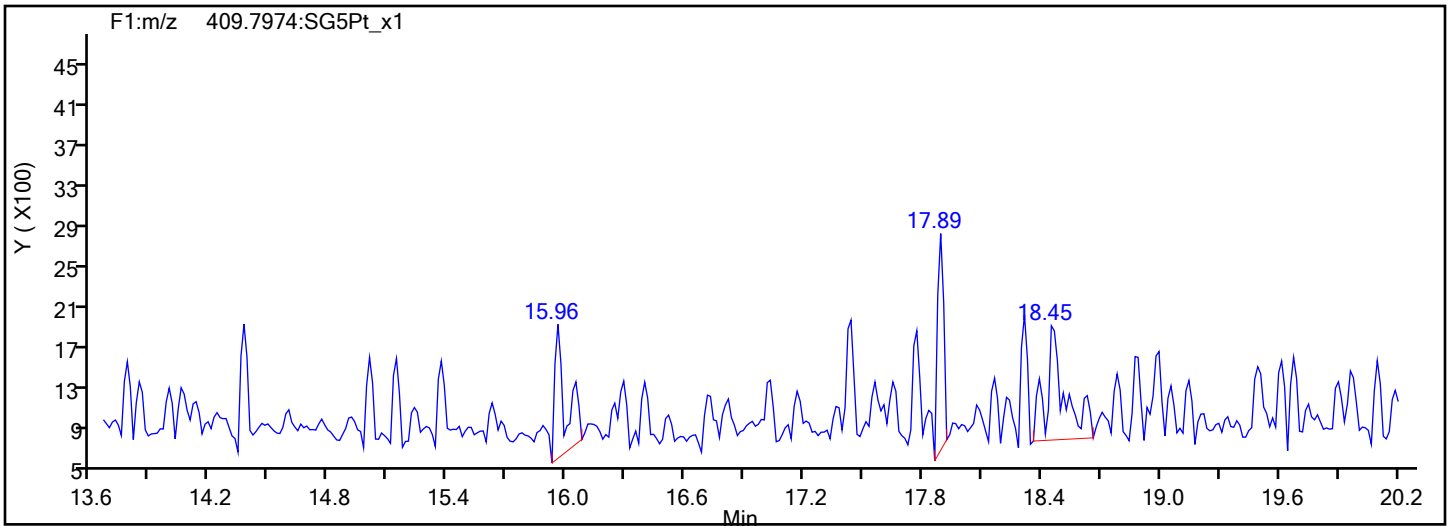

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Eurofins TestAmerica, Sacramento

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PeCDF

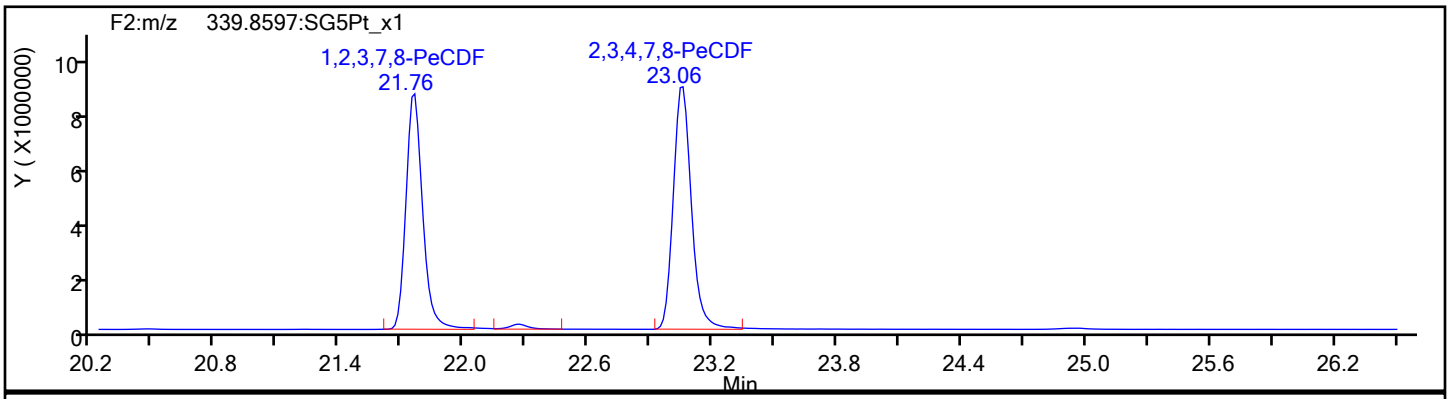

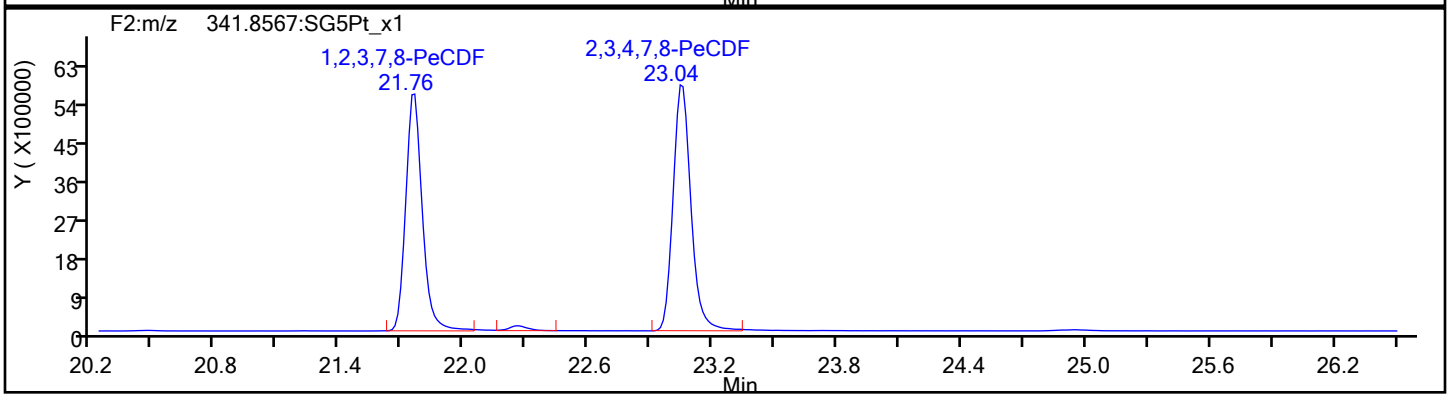

PeCDF Standards

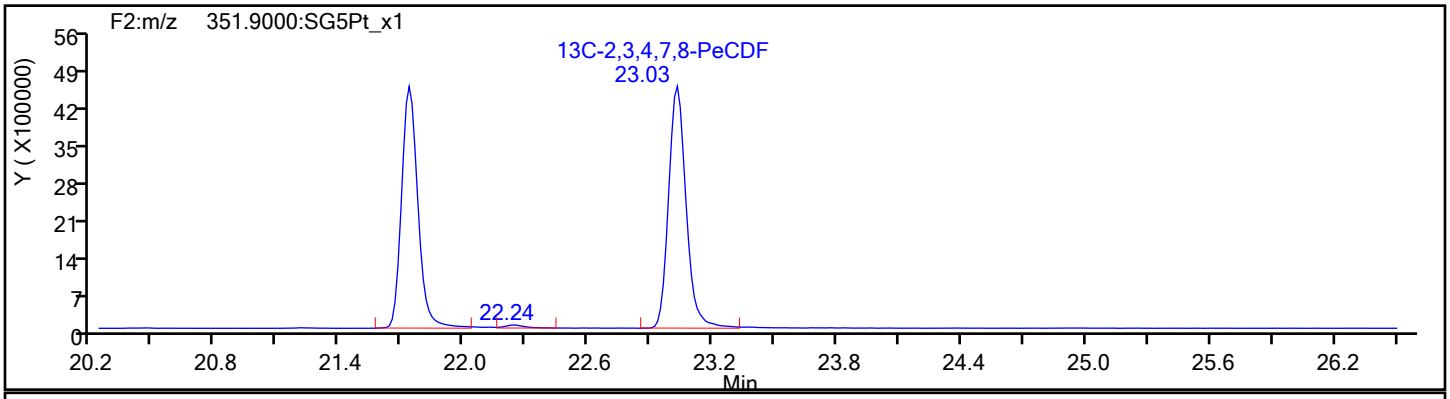

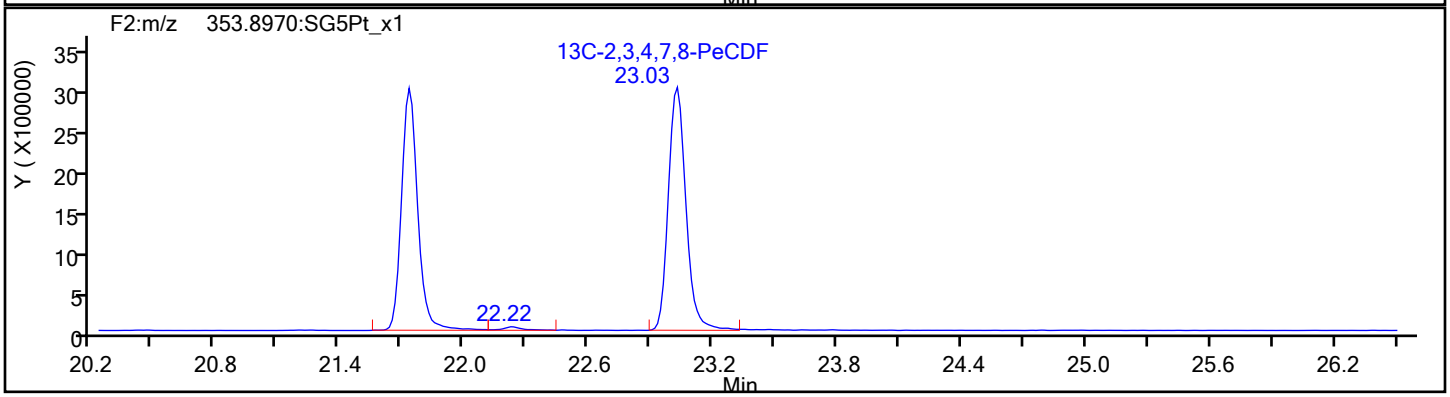

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Eurofins TestAmerica, Sacramento

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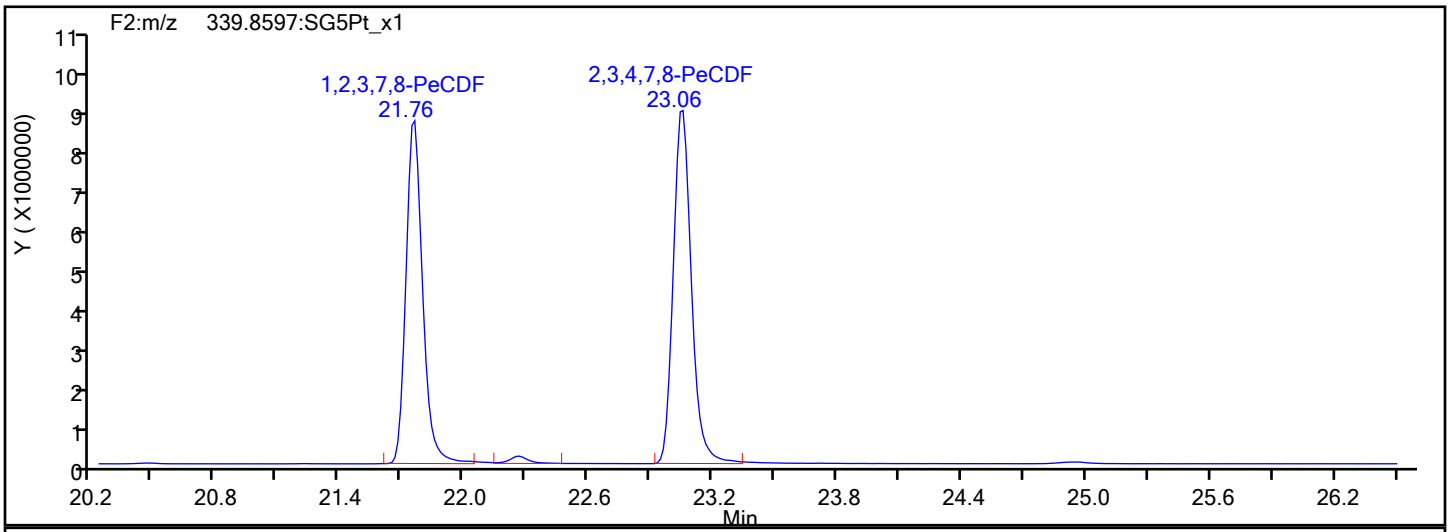

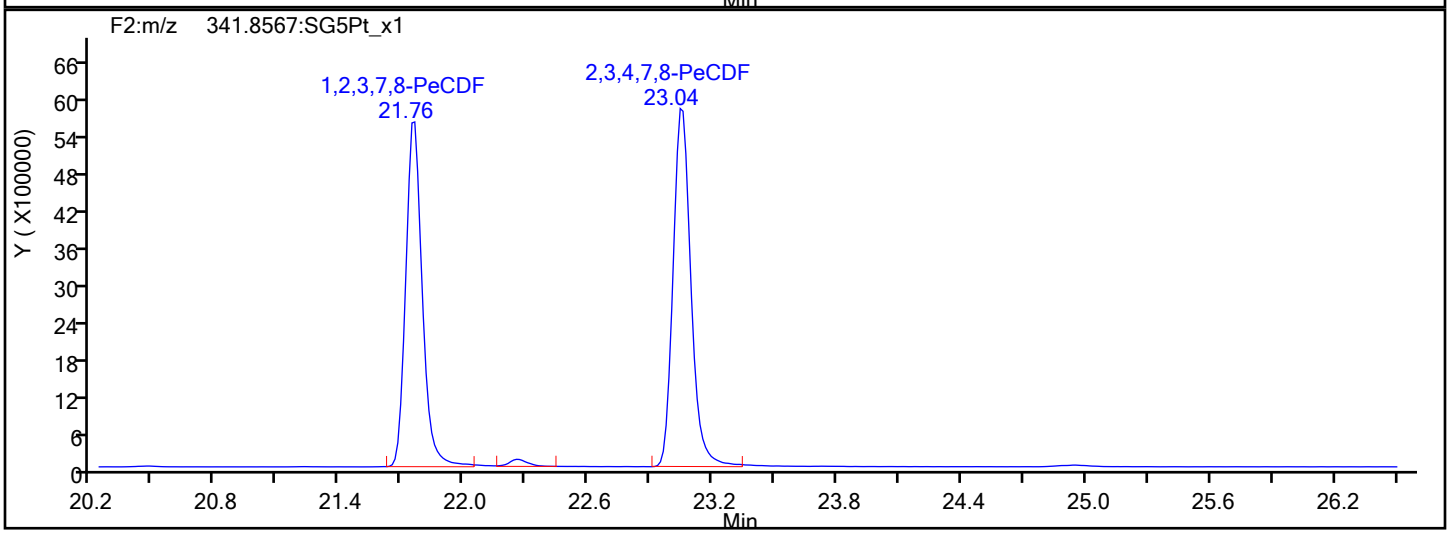

PeCDF Interference Mass

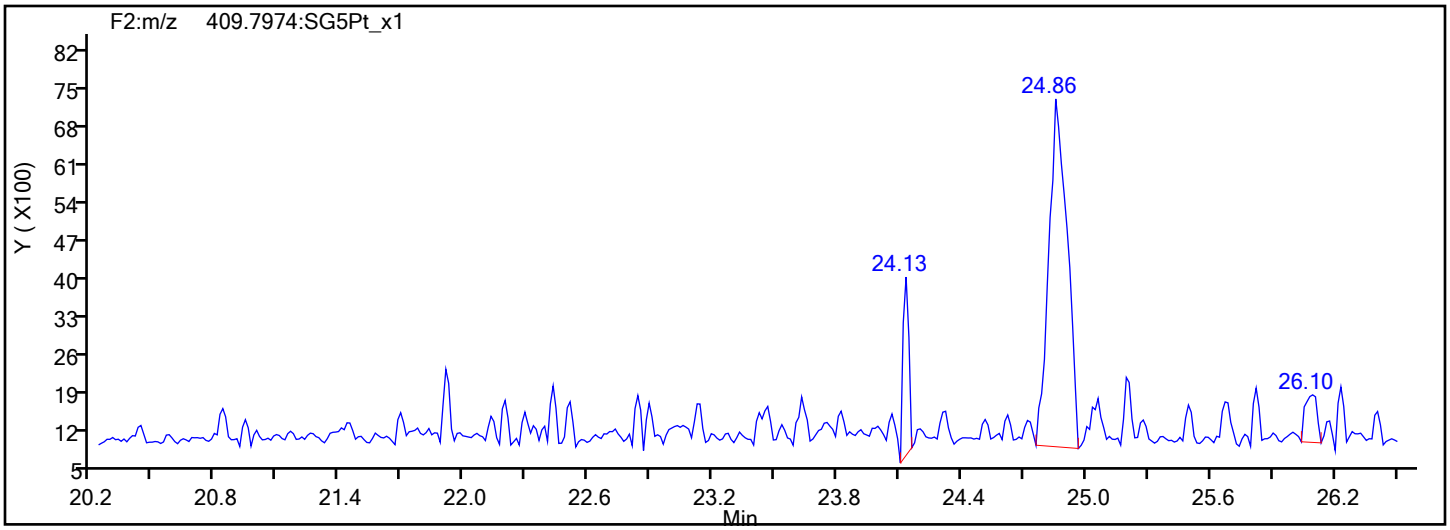

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Eurofins TestAmerica, Sacramento

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PeCDD

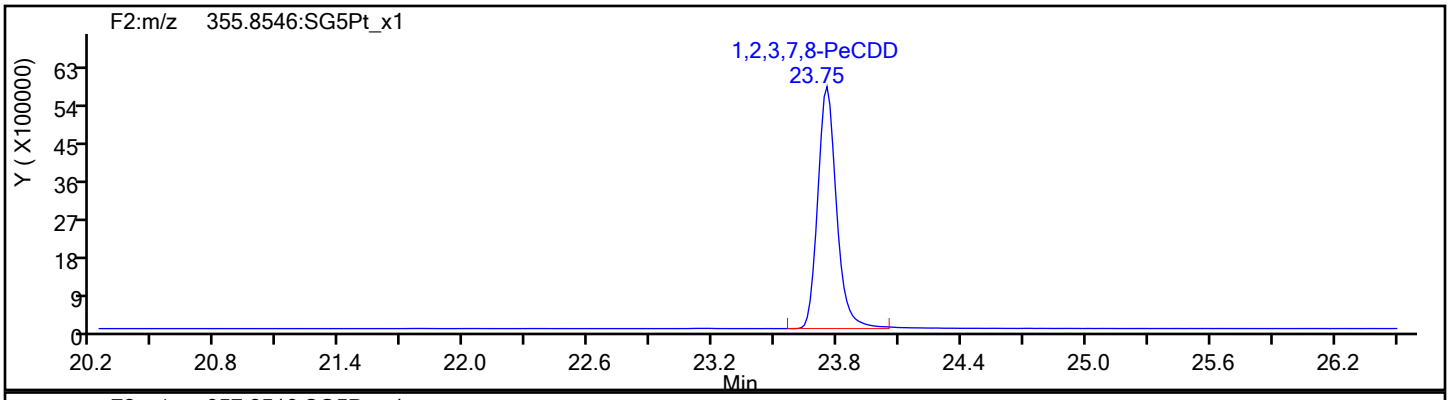

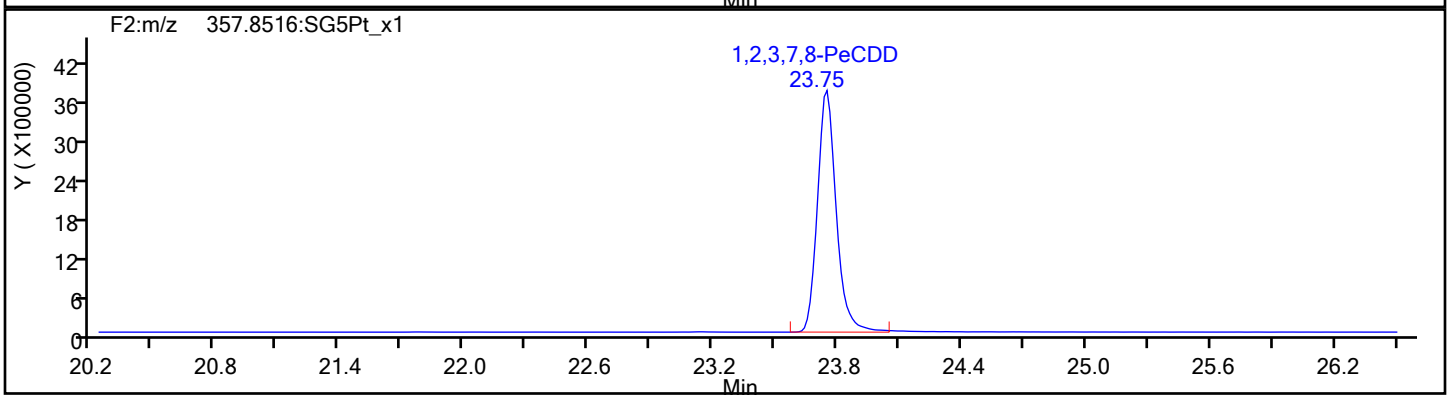

PeCDD Standards

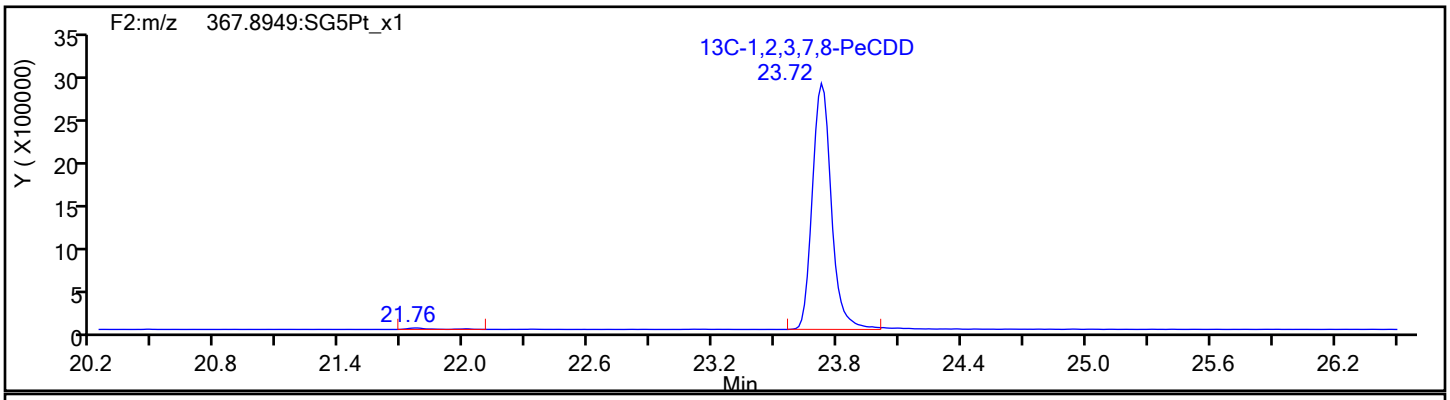

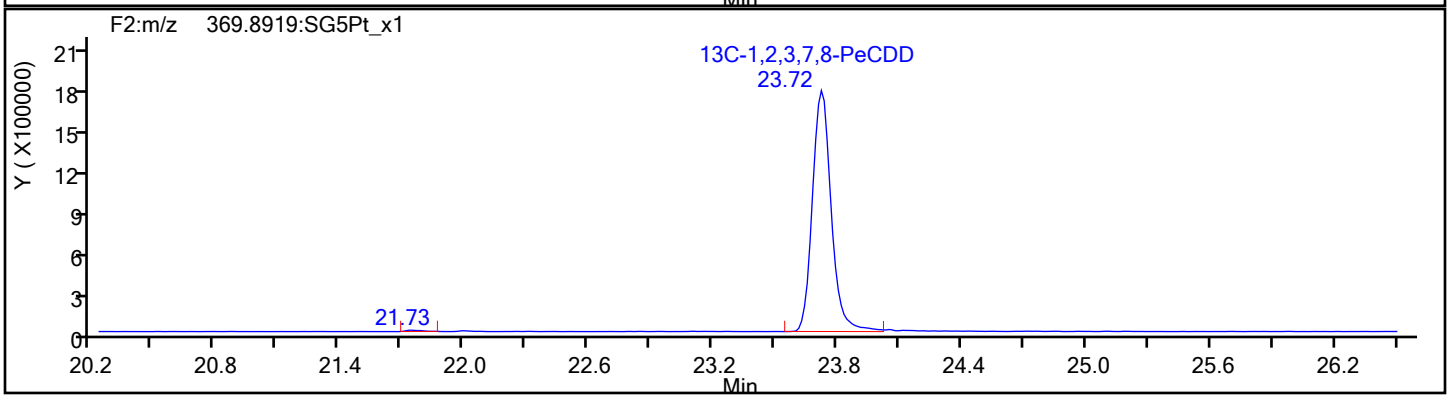

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HxCDF

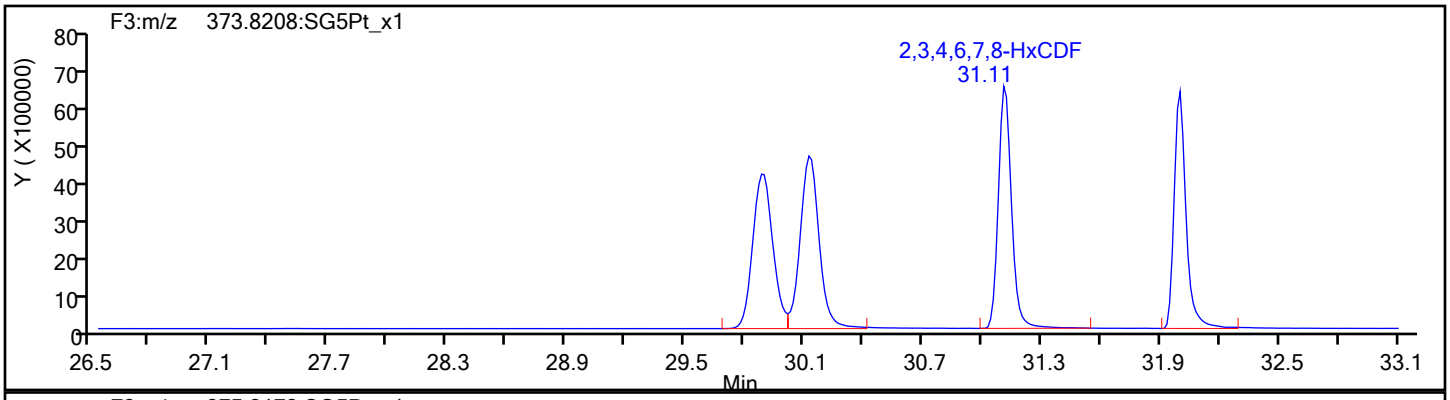

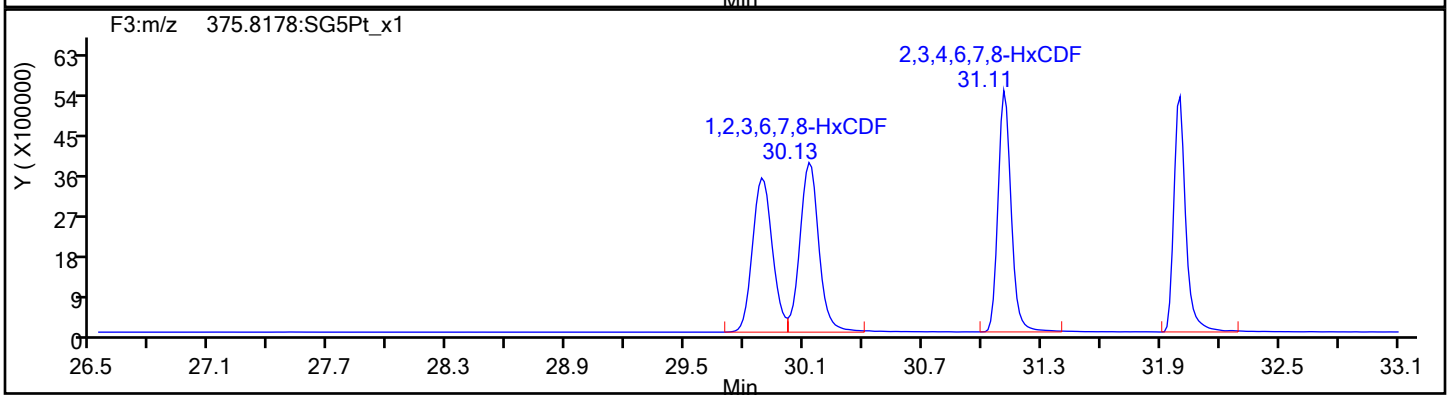

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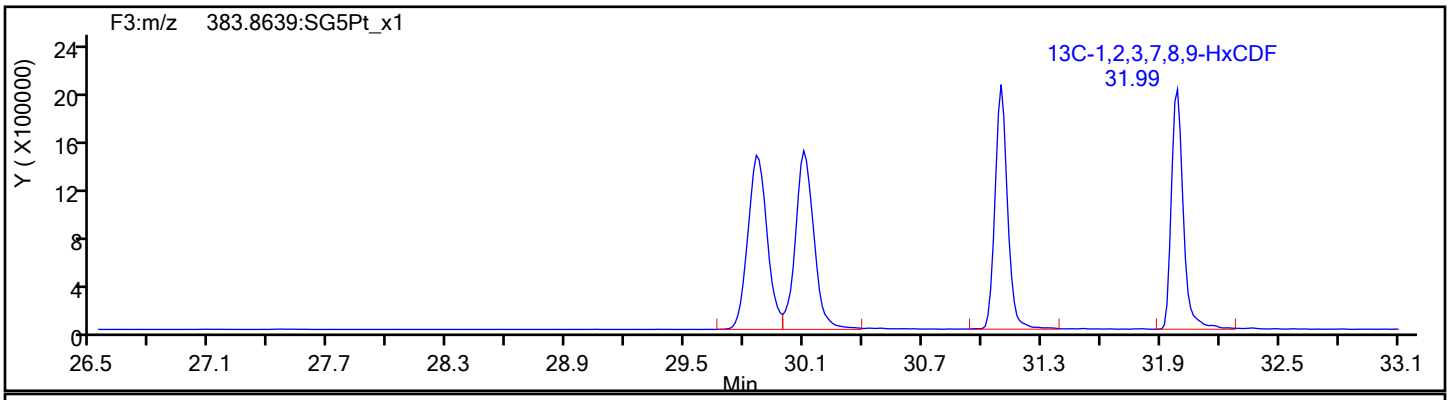

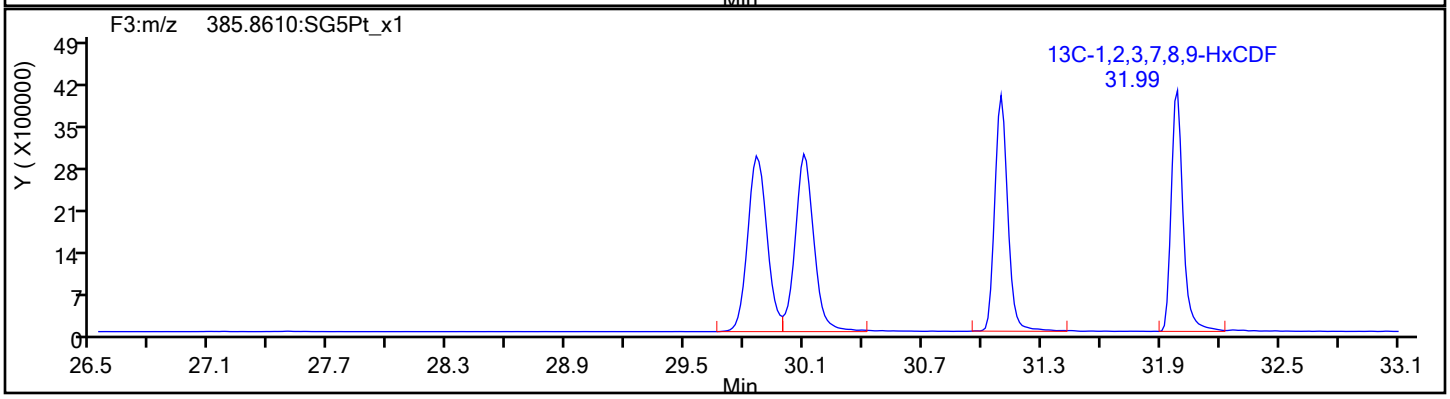

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Eurofins TestAmerica, Sacramento

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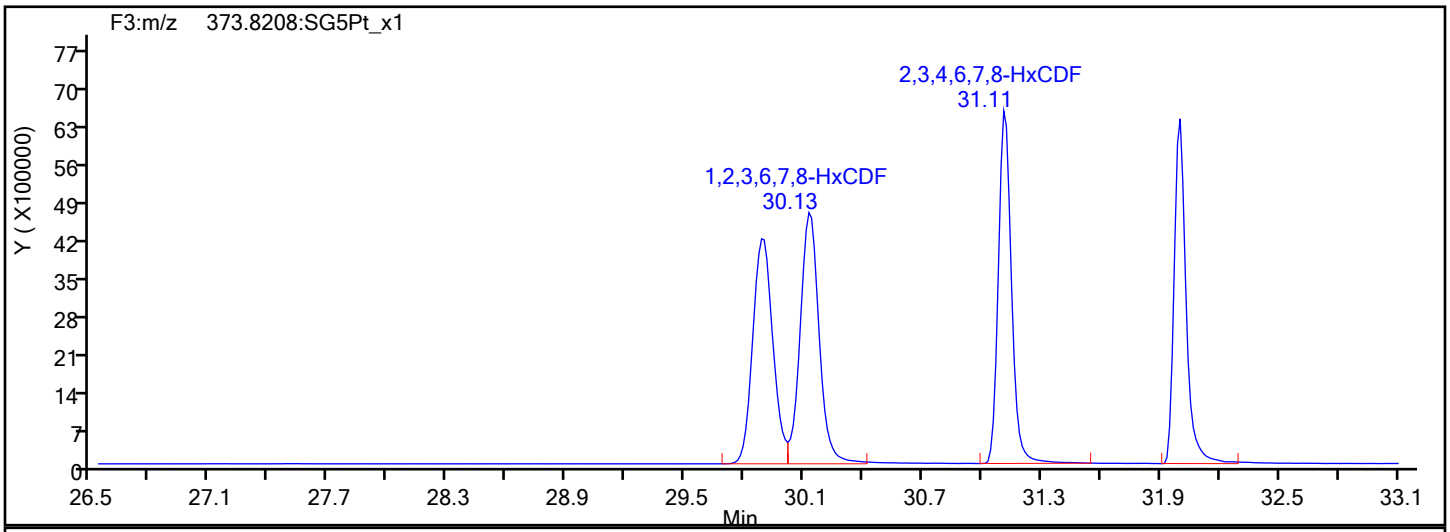

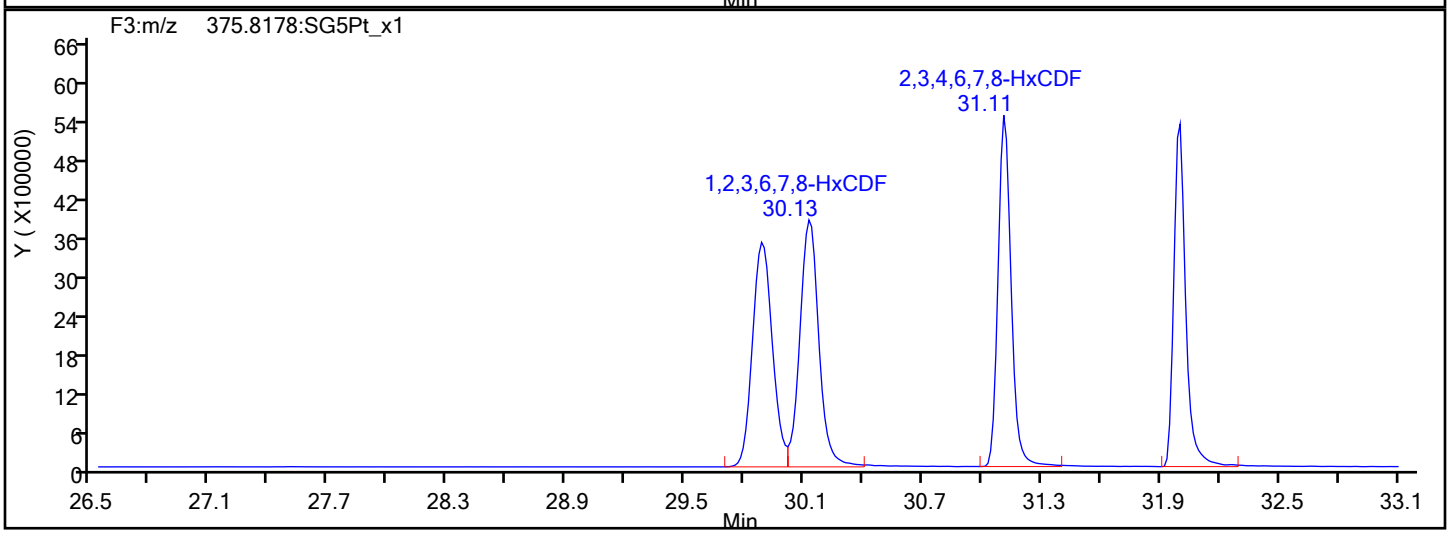

HxCDF Interference Mass

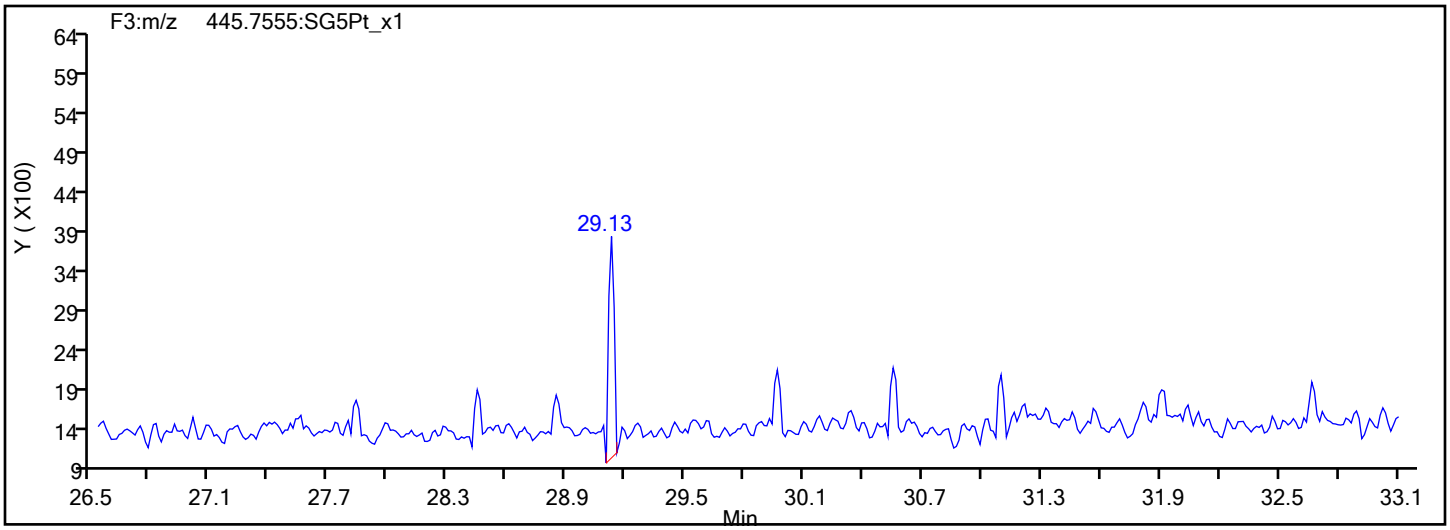

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Eurofins TestAmerica, Sacramento

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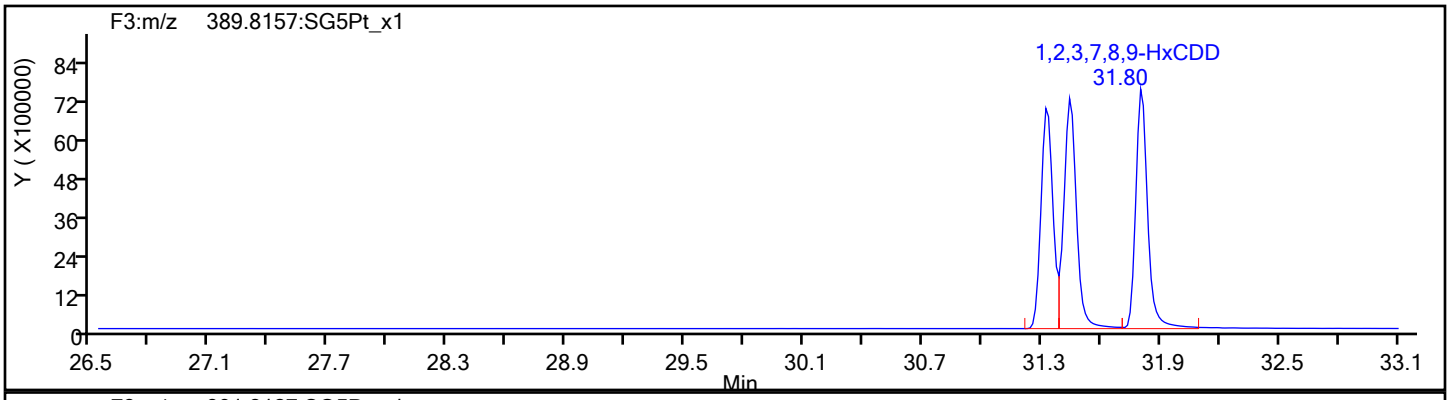

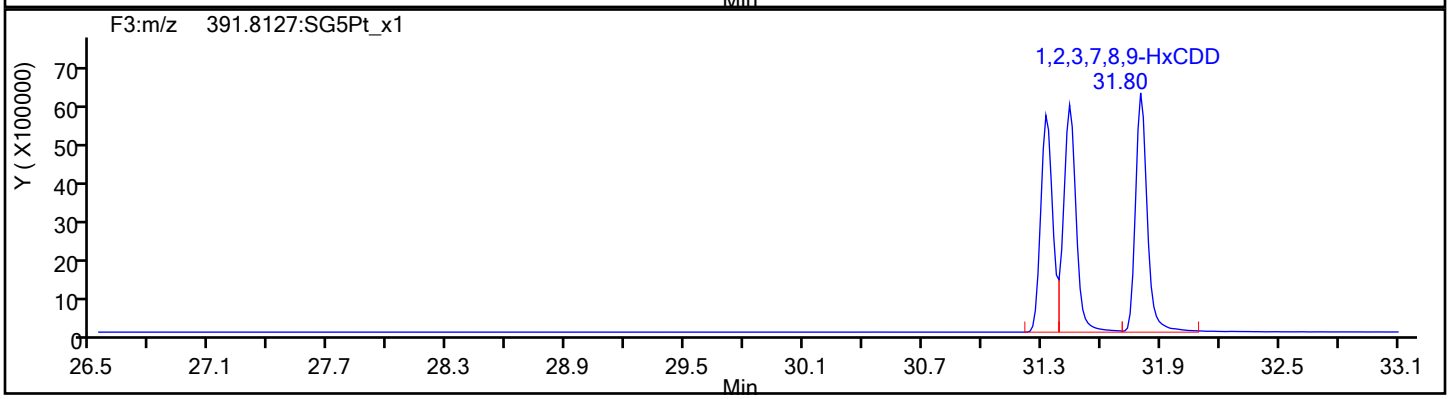

HxCDD Standards

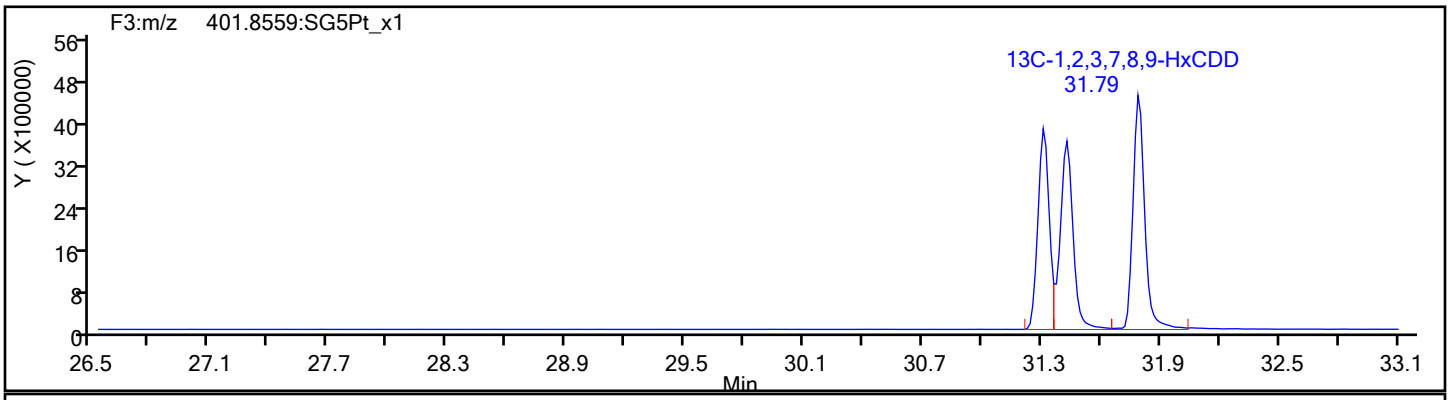

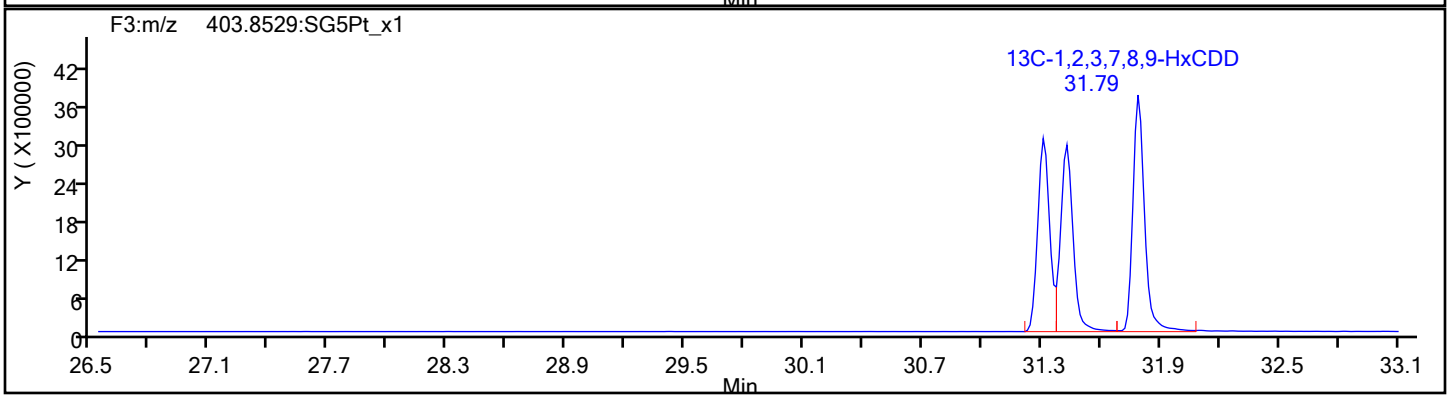

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Eurofins TestAmerica, Sacramento

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HpCDF

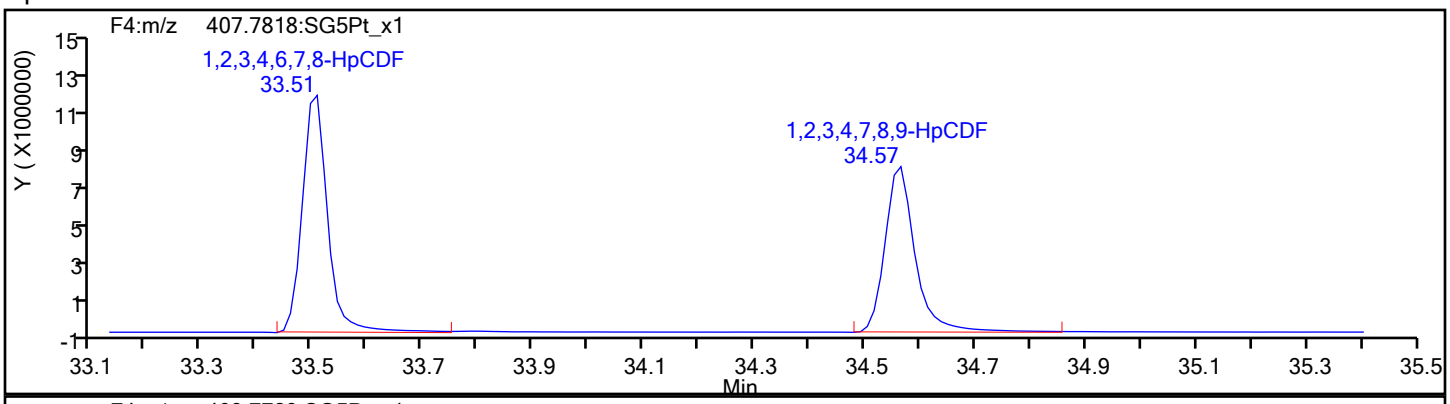

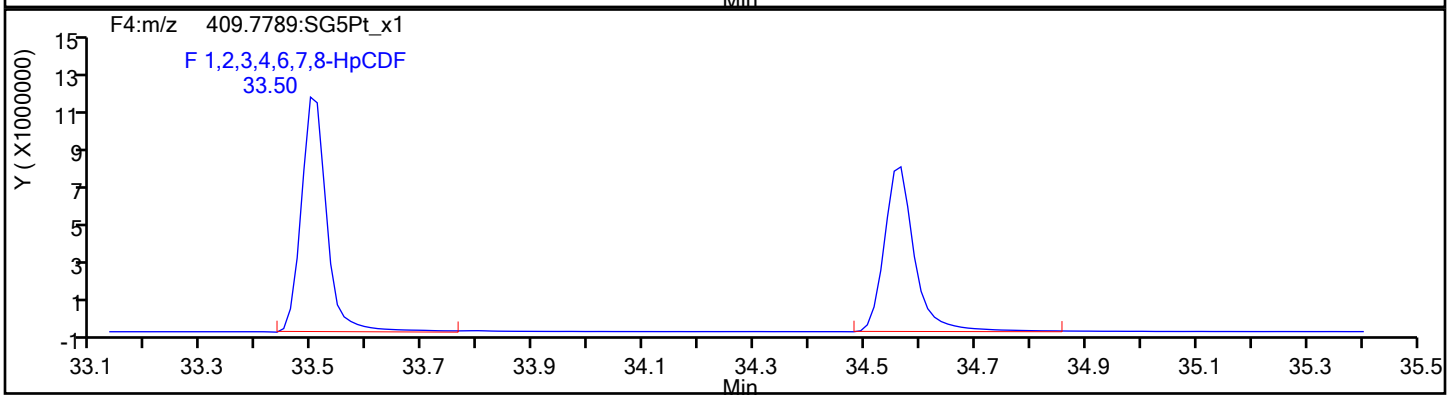

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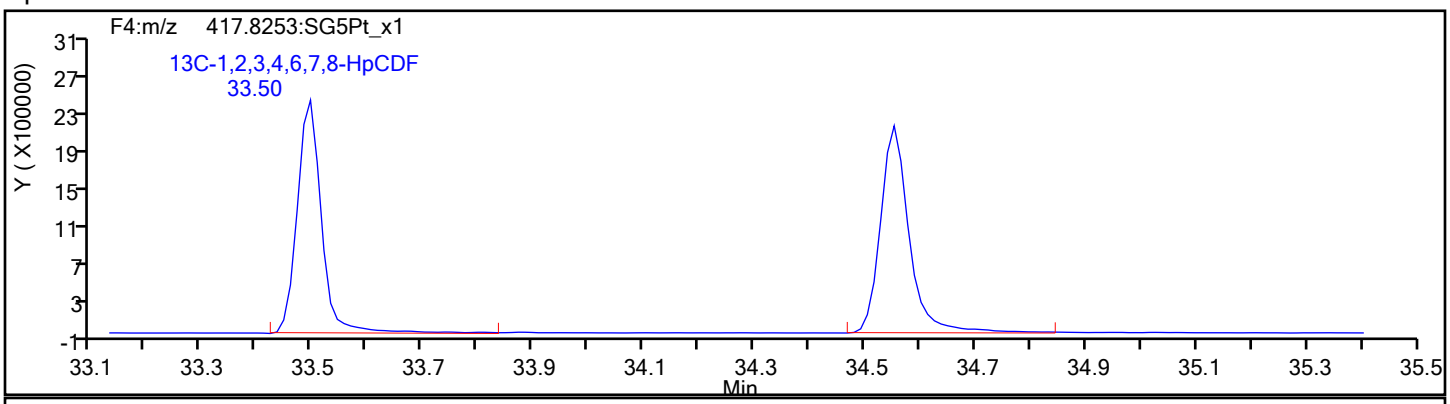

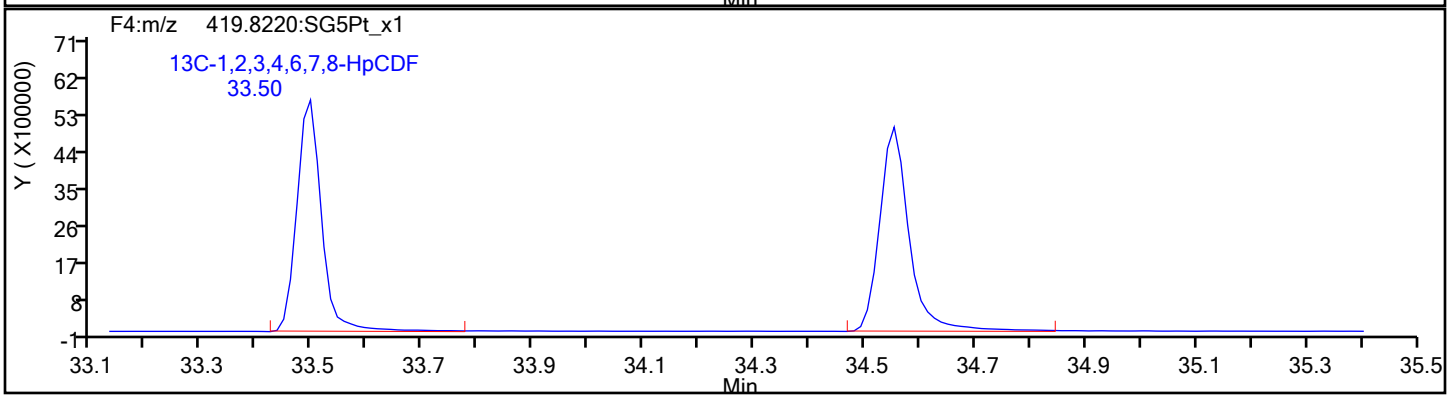

Report Date: 30-Jan-2020 09:11:56 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_10.d		
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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

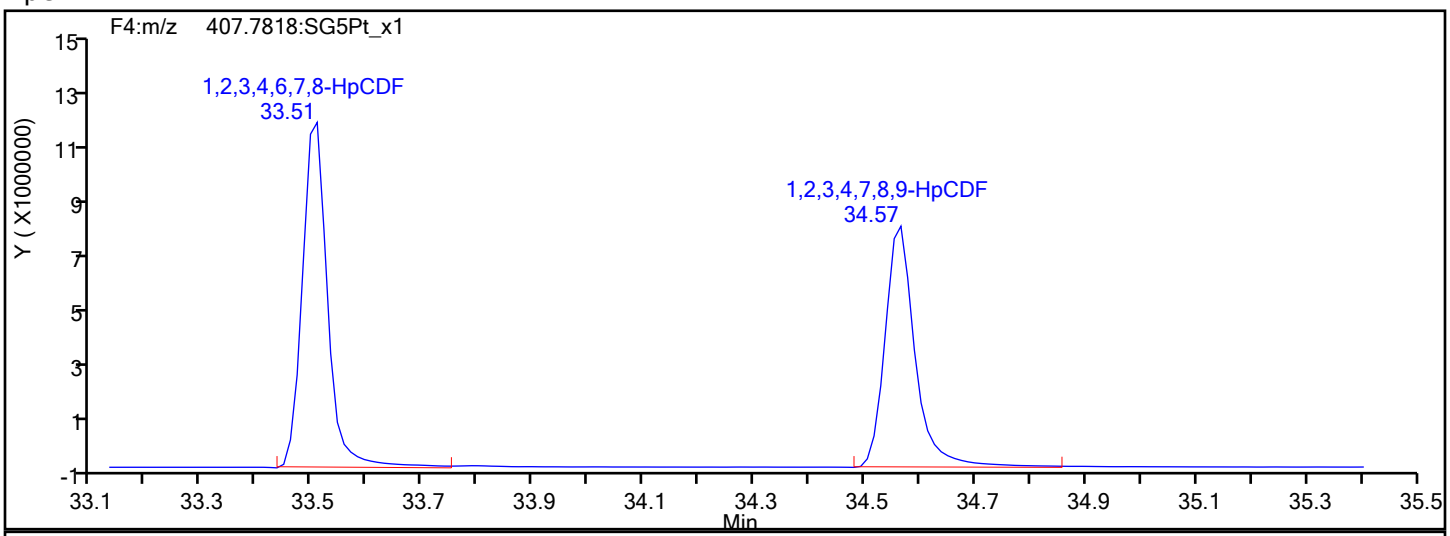

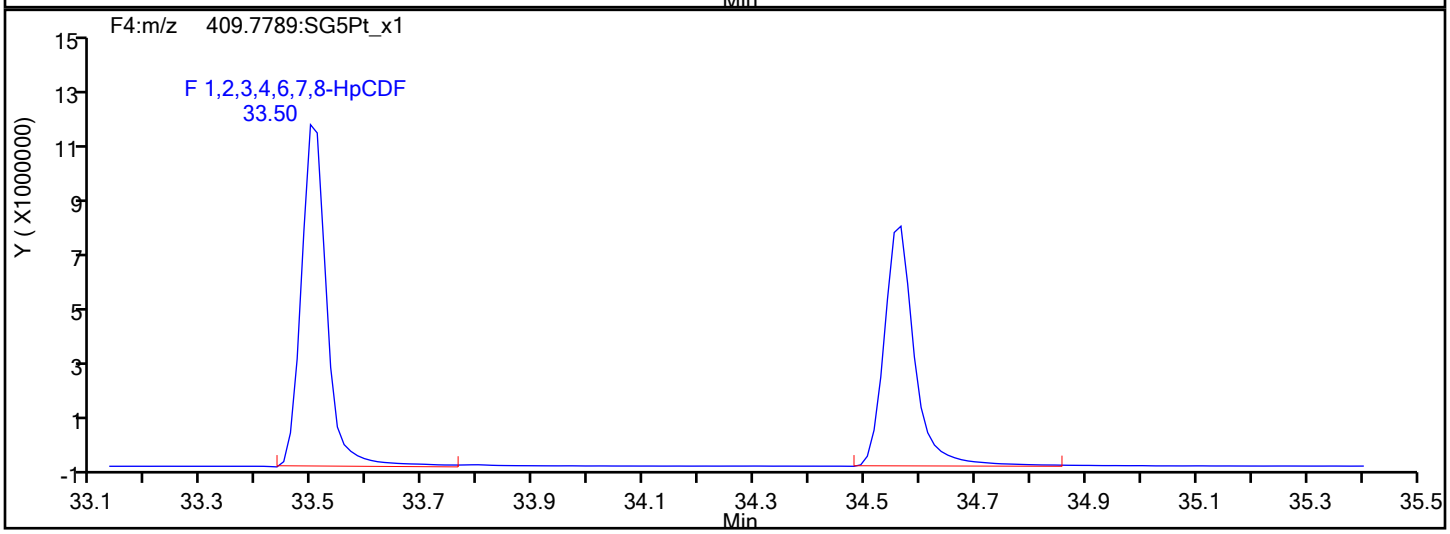

HpCDF Interference Mass

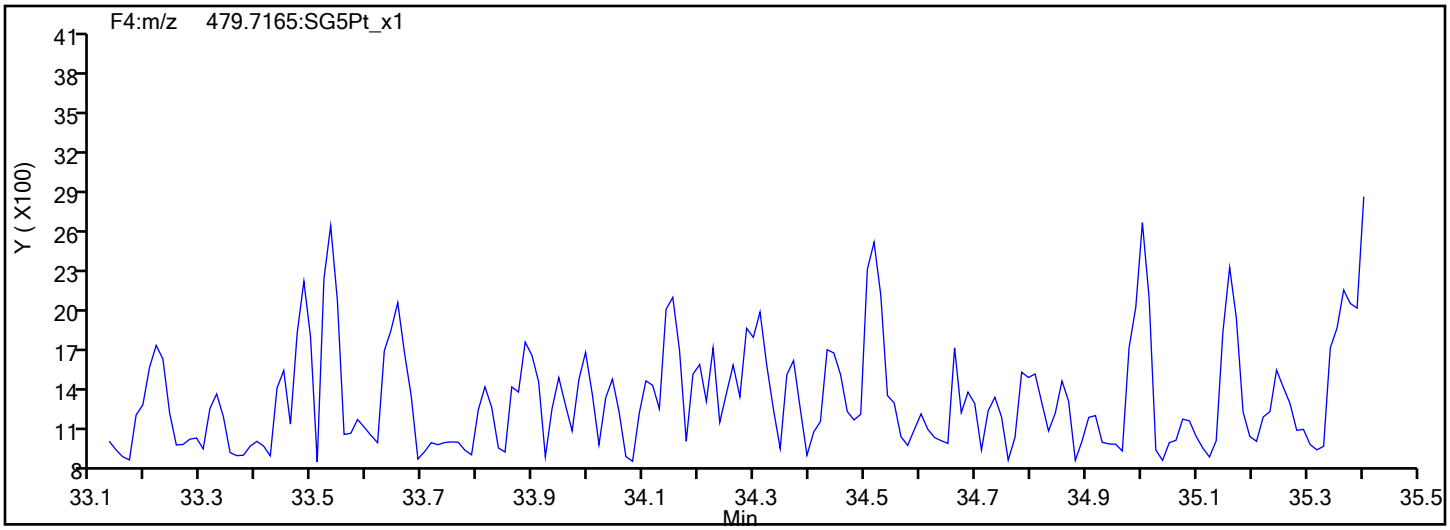

Report Date: 30-Jan-2020 09:11:56 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_10.d		
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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

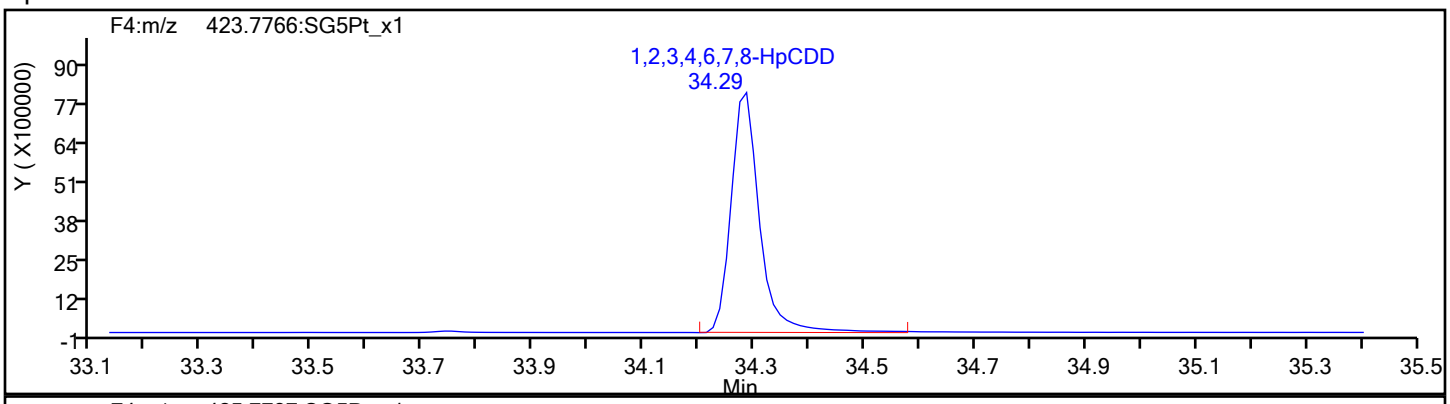

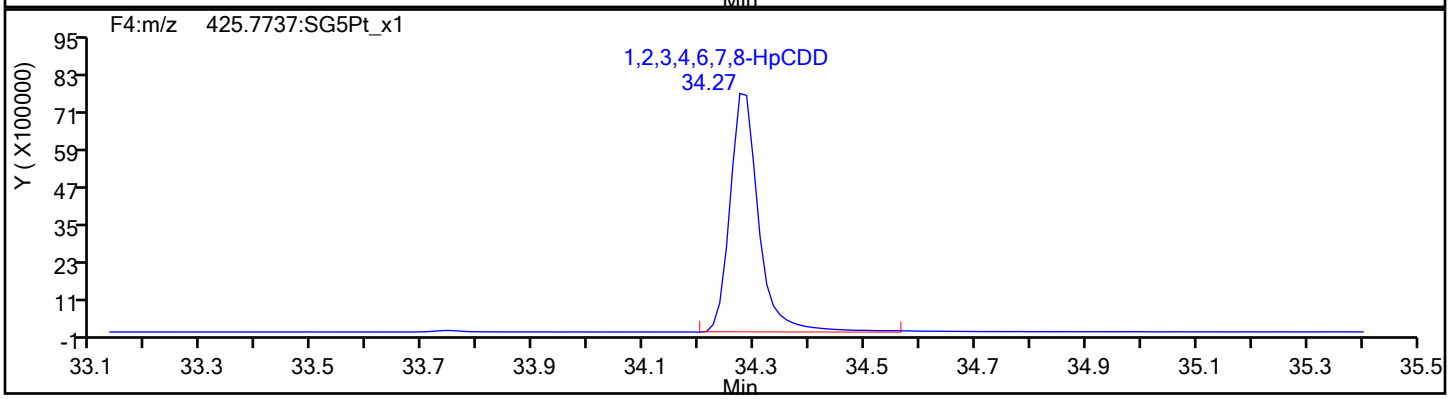

HpCDD Standards

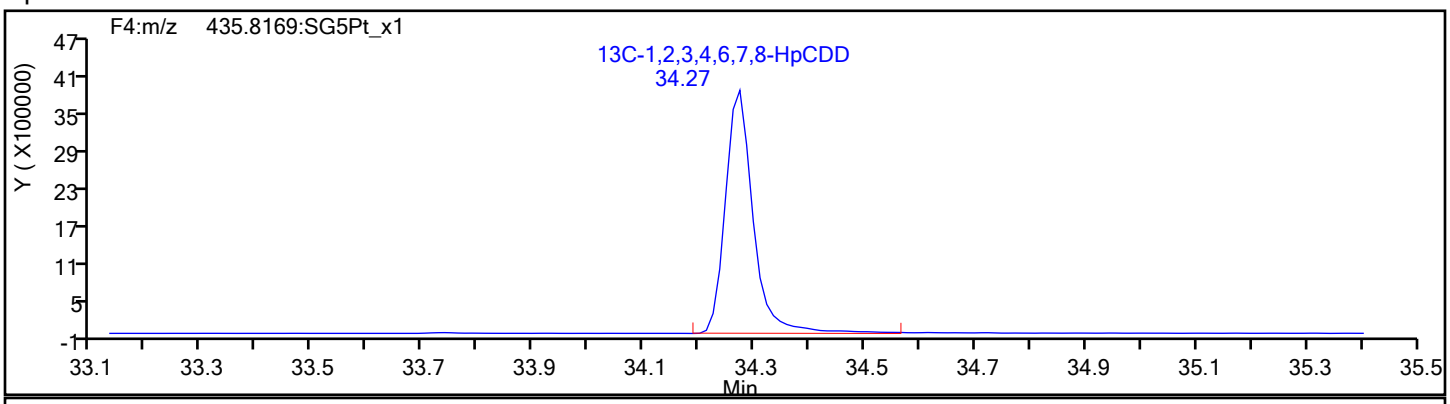

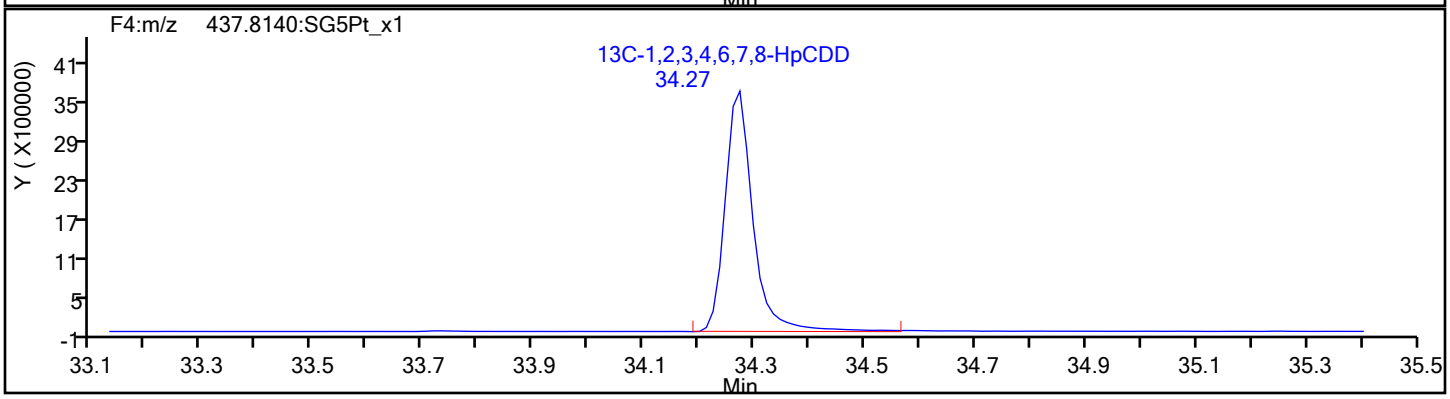

Report Date: 30-Jan-2020 09:11:56 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

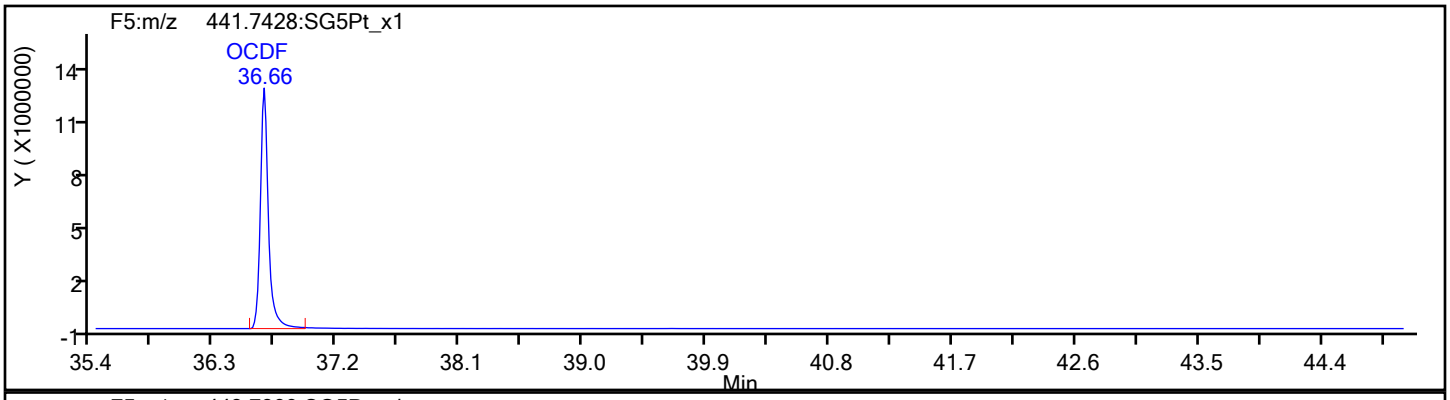

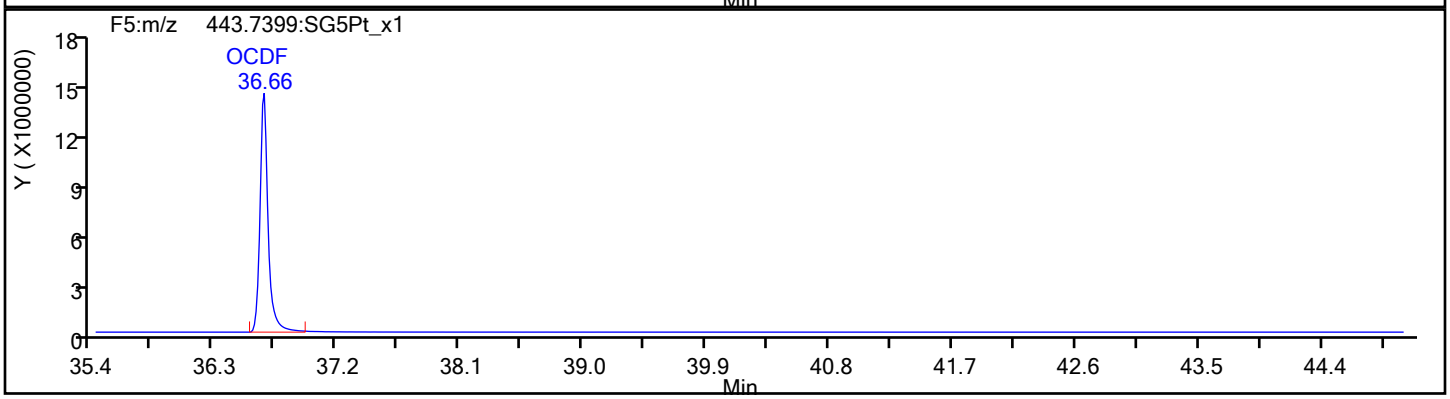

OCDF Standards

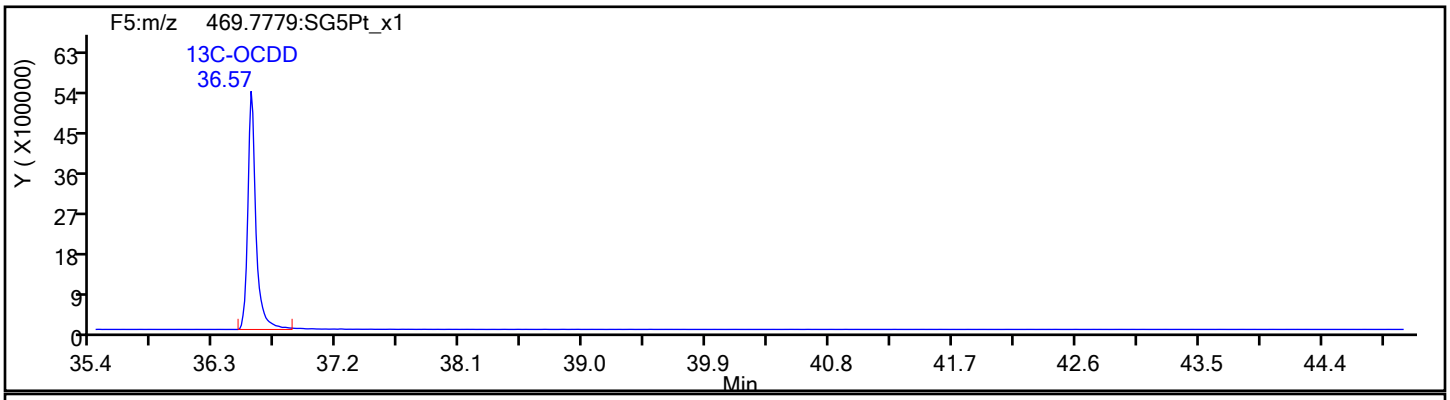

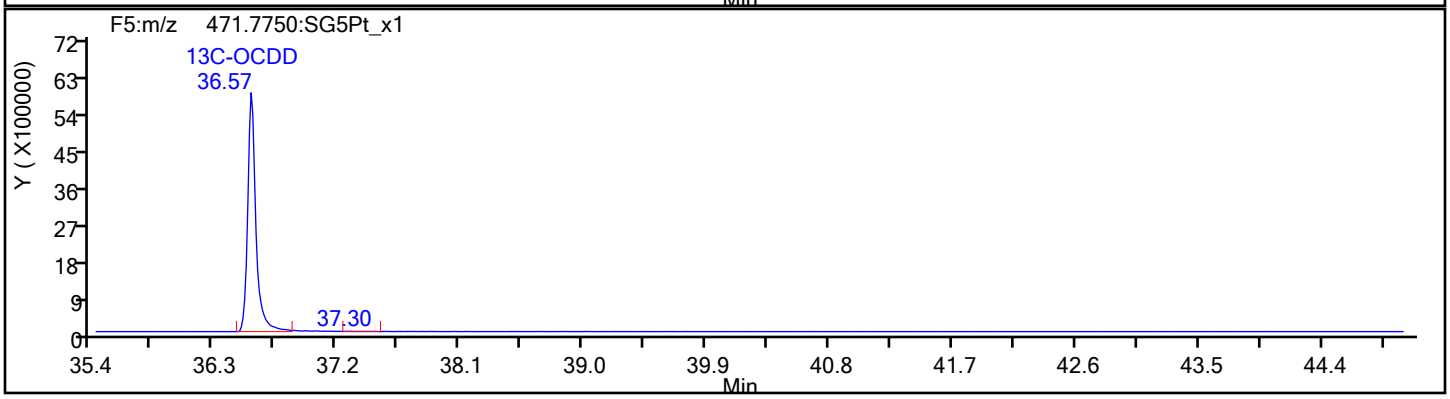

Report Date: 30-Jan-2020 09:11:56 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

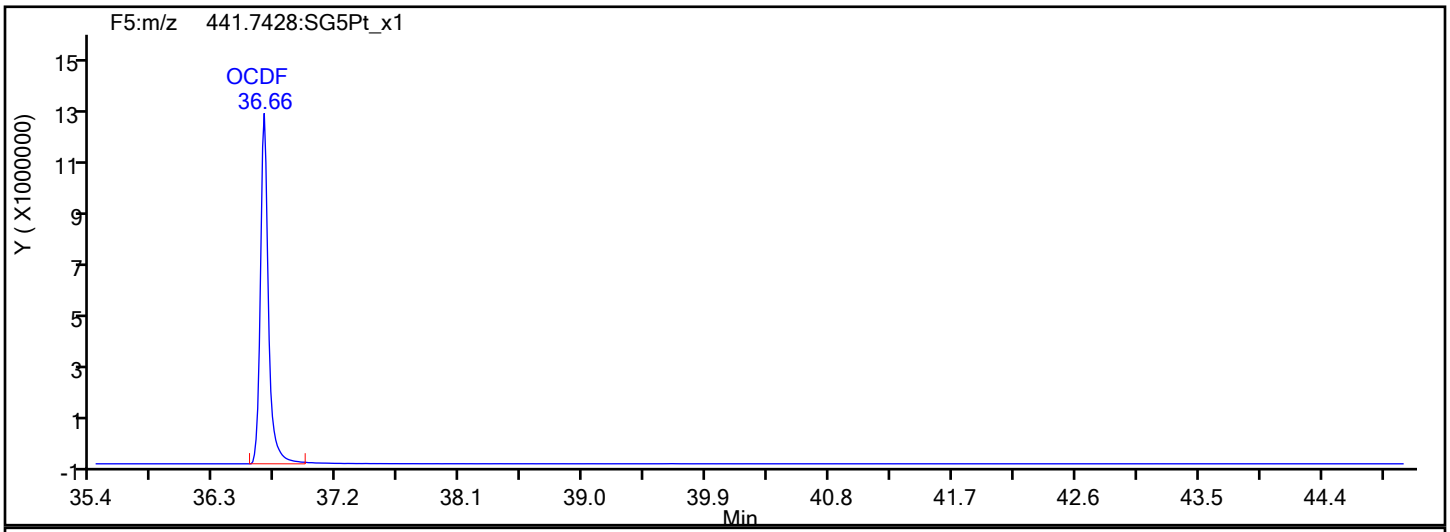

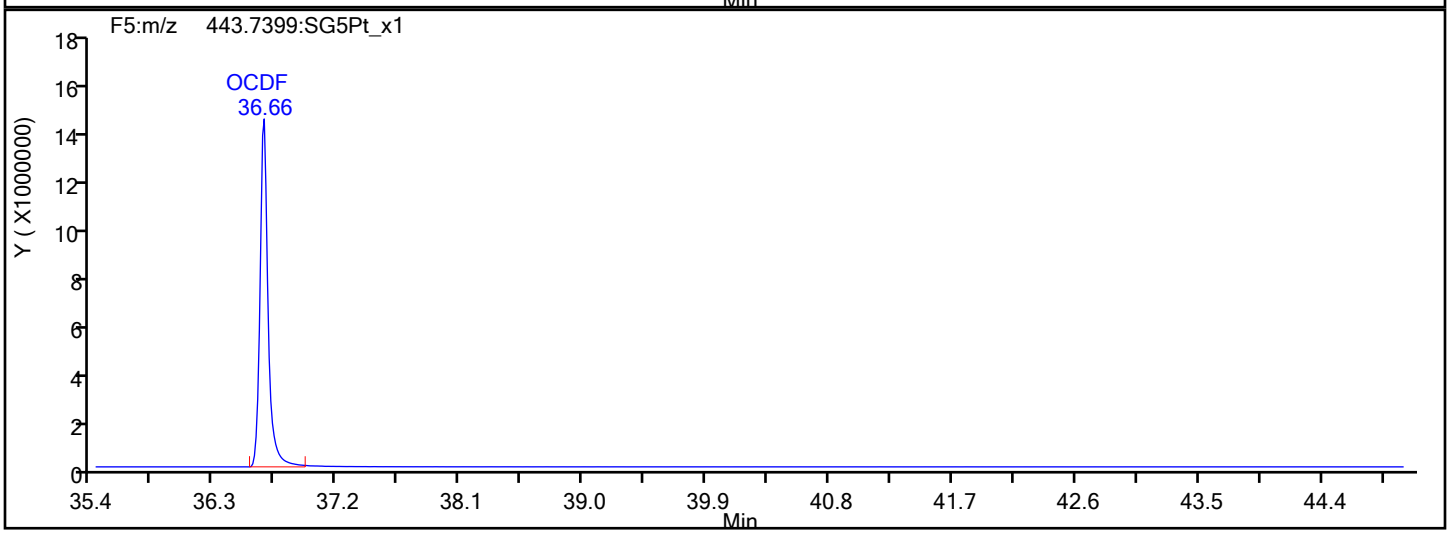

OCDF Interference Mass

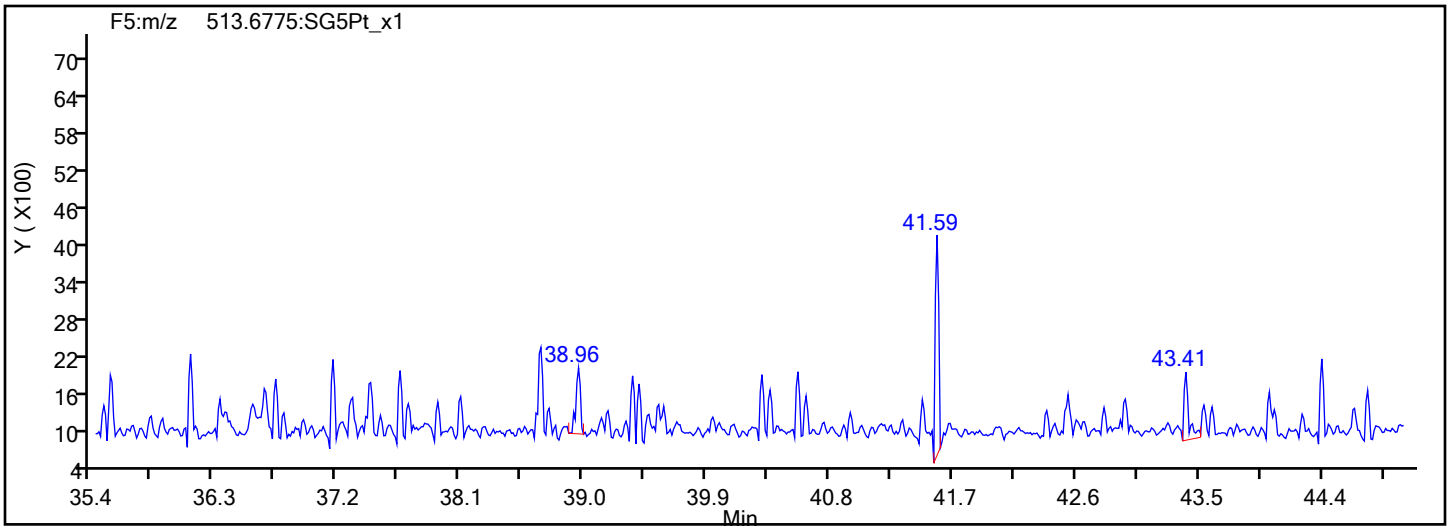

Report Date: 30-Jan-2020 09:11:56 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

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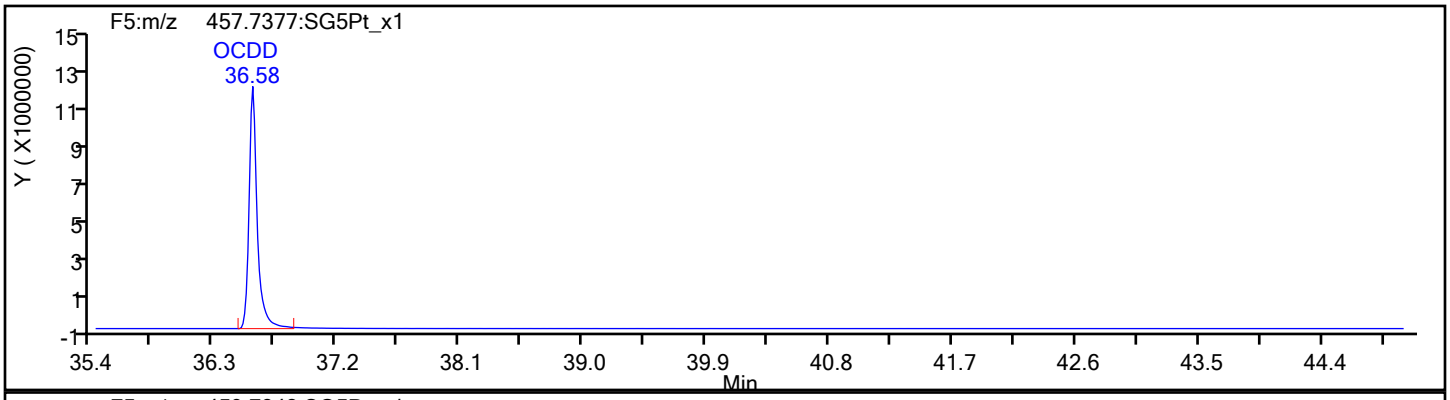

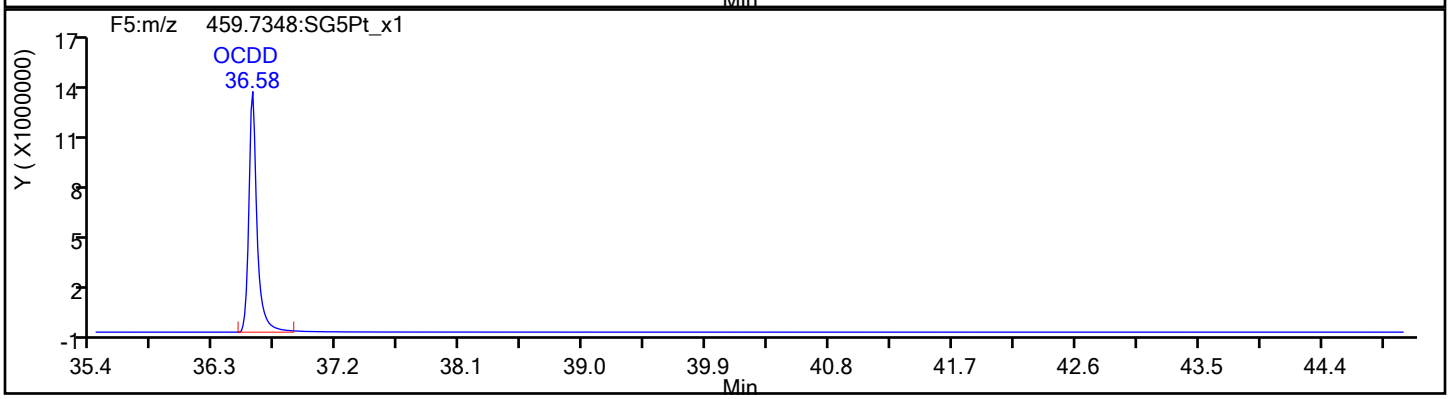

OCDD Standards

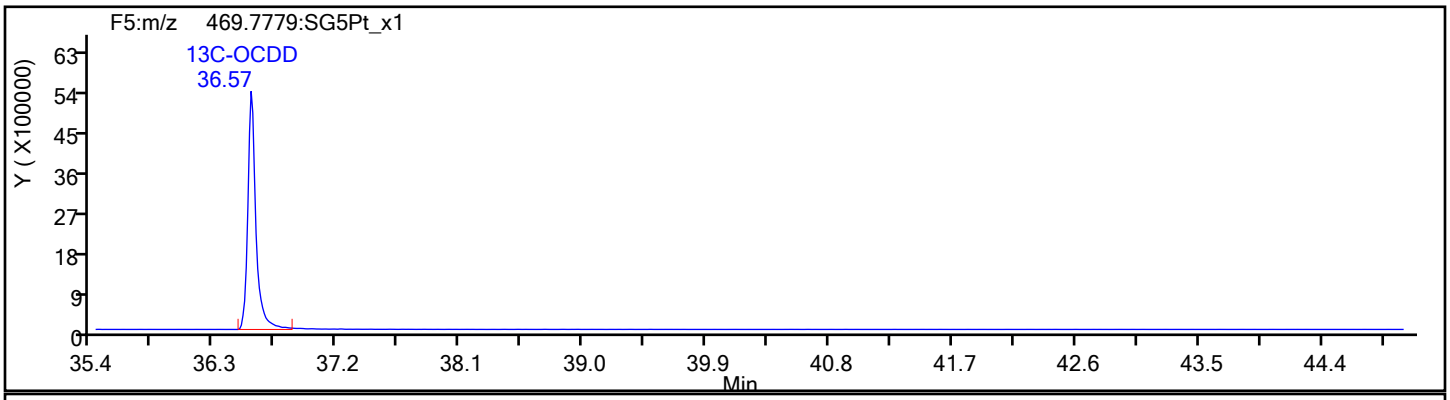

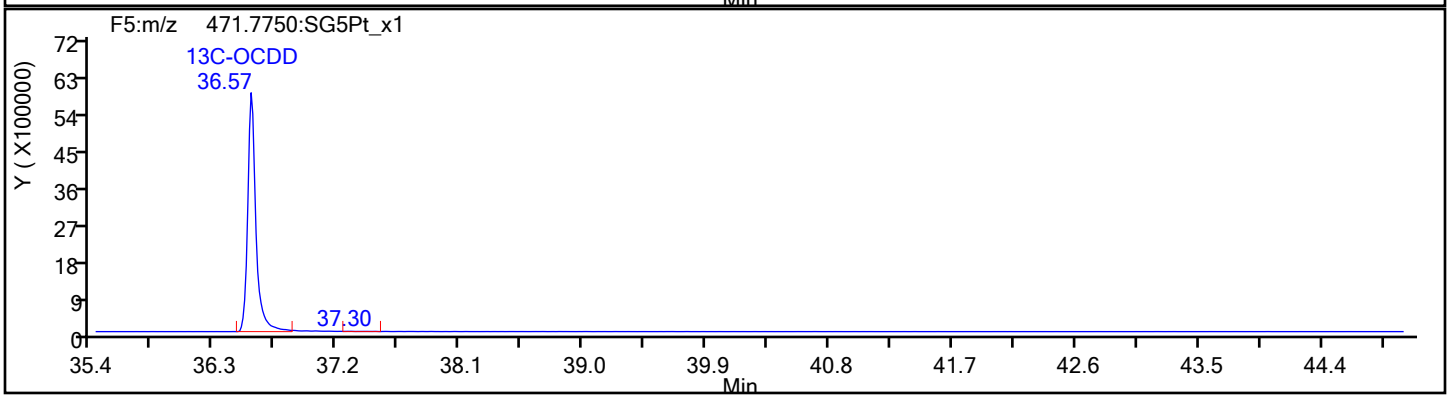

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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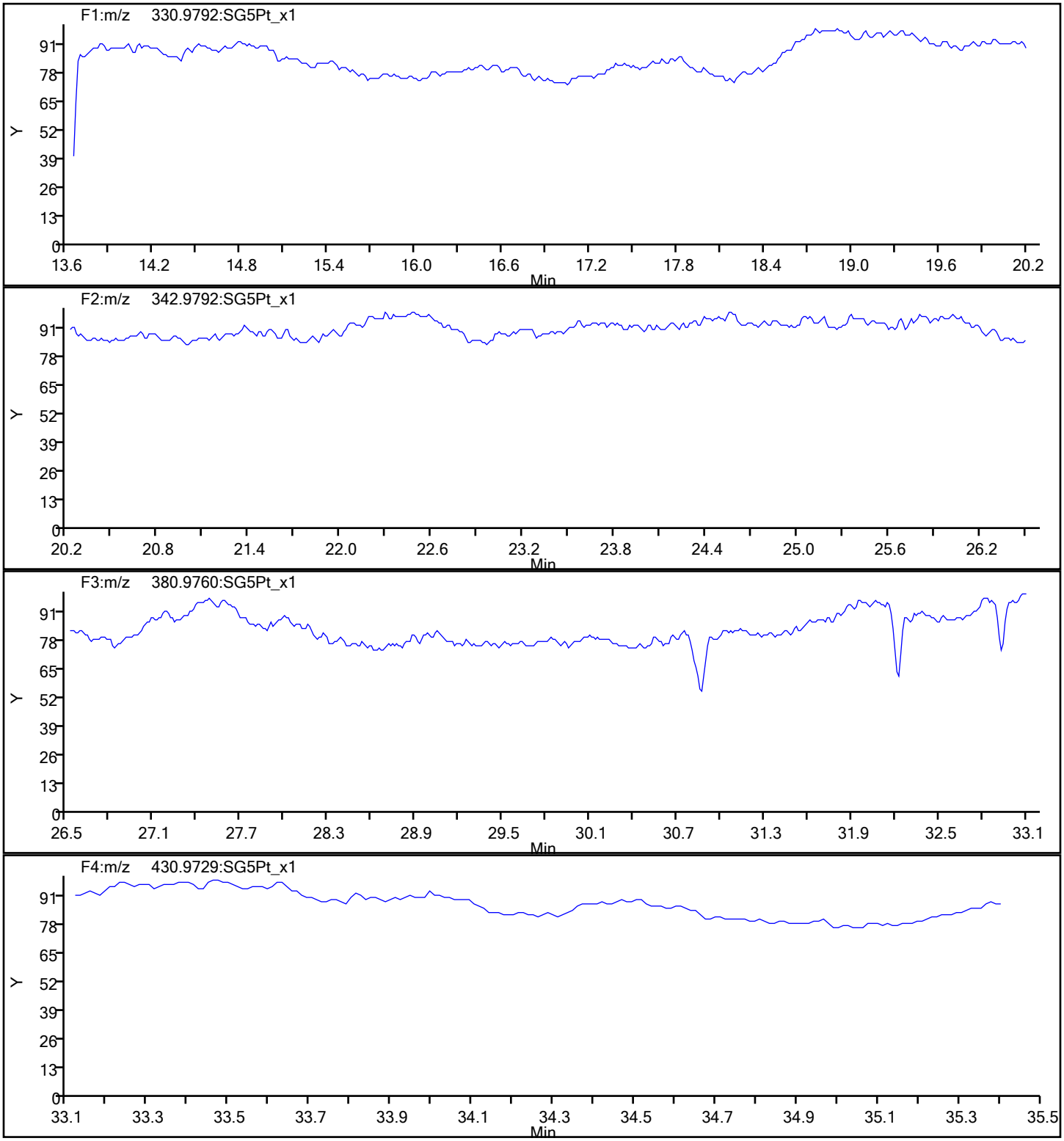

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Eurofins TestAmerica, Sacramento

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Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

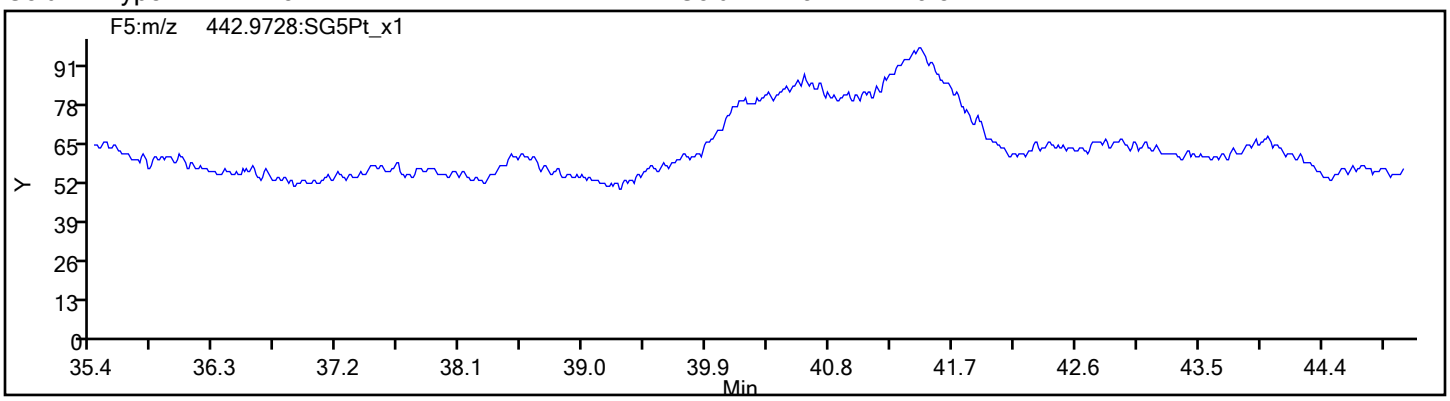

FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58545-1

SDG No.:

Lab Sample ID: CCV 320-358703/41 Calibration Date: 02/19/2020 21:16

Instrument ID: 10D5 Calib Start Date: 01/30/2020 01:49

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 01/30/2020 04:53

Lab File ID: 18FE2010D5_41.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
2,3,7,8-TCDF	AveID	0.7675	0.7359		9.59	10.0	96	84-120
2,3,7,8-TCDD	AveID	0.9599	0.9273		9.66	10.0	97	78-129
1,2,3,7,8-PeCDF	AveID	0.8982	0.8786		48.9	50.0	98	82-120
2,3,4,7,8-PeCDF	AveID	0.8101	0.7998		49.4	50.0	99	82-122
1,2,3,7,8-PeCDD	AveID	0.996	1.003		50.4	50.0	101	78-130
1,2,3,4,7,8-HxCDF	AveID	0.7916	0.7653		48.3	50.0	97	90-112
1,2,3,6,7,8-HxCDF	AveID	0.8638	0.8266		47.8	50.0	96	88-114
2,3,4,6,7,8-HxCDF	AveID	0.9010	0.8707		48.3	50.0	97	88-114
1,2,3,4,7,8-HxCDD	AveID	0.8392	0.8231		49.0	50.0	98	78-128
1,2,3,6,7,8-HxCDD	AveID	0.8876	0.9021		50.8	50.0	102	78-128
1,2,3,7,8,9-HxCDD	AveID	0.9567	0.9271		48.5	50.0	97	82-122
1,2,3,7,8,9-HxCDF	AveID	0.9127	0.8752		47.9	50.0	96	90-112
1,2,3,4,6,7,8-HpCDF	AveID	1.337	1.320		49.3	50.0	99	90-110
1,2,3,4,6,7,8-HpCDD	AveID	0.9811	0.9833		50.1	50.0	100	86-116
1,2,3,4,7,8,9-HpCDF	AveID	1.074	1.076		50.1	50.0	100	86-116
OCDD	AveID	0.9937	1.015		102	100	102	79-126
OCDF	AveID	1.066	1.068		100	100	100	63-159
13C-2,3,7,8-TCDF	Ave	1.128	1.147		102	100	102	71-140
13C-2,3,7,8-TCDD	Ave	0.9032	0.9125		101	100	101	82-121
13C-1,2,3,7,8-PeCDF	Ave	0.9615	0.999		104	100	104	76-130
13C-2,3,4,7,8-PeCDF	Ave	1.039	1.086		105	100	105	77-130
13C-1,2,3,7,8-PeCDD	Ave	0.6938	0.7069		102	100	102	62-160
13C-1,2,3,4,7,8-HxCDF	Ave	0.8543	0.8732		102	100	102	76-131
13C-1,2,3,6,7,8-HxCDF	Ave	0.8361	0.8724		104	100	104	70-143
13C-2,3,4,6,7,8-HxCDF	Ave	0.7773	0.8197		105	100	105	73-137
13C-1,2,3,4,7,8-HxCDD	Ave	0.8050	0.8216		102	100	102	85-117
13C-1,2,3,6,7,8-HxCDD	Ave	0.8269	0.8733		106	100	106	85-118
13C-1,2,3,7,8,9-HxCDF	Ave	0.7167	0.7672		107	100	107	74-135
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.7080	0.7495		106	100	106	78-129
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.7473	0.8001		107	100	107	72-138
13C-1,2,3,4,7,8,9-HpCDF	Ave	0.7451	0.8211		110	100	110	77-129
13C-OCDD	Ave	0.6622	0.7473		226	200	113	48-208
37Cl4-2,3,7,8-TCDD	Ave	0.9673	0.9893		10.2	10.0	102	79-127

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #	User
1	18FE2010D5_1	WDM HRDXNCP_00040	WDM 021820	Tray01:1	Dioxin		AJS
2	18FE2010D5_2	CS-4 HRDXNL4_00091	CCV 021820	Tray01:2	Dioxin		AJS
3	18FE2010D5_3	Solvent Blank C-14	SB 021820	Tray01:3	---		AJS
4	18FE2010D5_4	500-177373-J-2-A	500-177373-J-2-A	Tray01:4	8290A/Water	68	AJS
5	18FE2010D5_5	500-177373-J-3-A	500-177373-J-3-A	Tray01:5	8290A/Water		AJS
6	18FE2010D5_6	500-177373-I-4-A	500-177373-I-4-A	Tray01:6	8290A/Water		AJS
7	18FE2010D5_7	500-177373-J-7-A	500-177373-J-7-A	Tray01:7	8290A/Water		AJS
8	18FE2010D5_8	500-177373-J-8-A	500-177373-J-8-A	Tray01:8	8290A/Water		AJS
9	18FE2010D5_9	500-177447-J-1-A	500-177447-J-1-A	Tray01:9	8290A/Water		AJS
10	18FE2010D5_10	500-177447-I-2-A	500-177447-I-2-A	Tray01:10	8290A/Water		AJS
11	18FE2010D5_11	500-177447-I-3-A	500-177447-I-3-A	Tray01:11	8290A/Water		AJS
12	18FE2010D5_12	Solvent Blank C-14	SB 021820A	Tray01:3	---		AJS
13	18FE2010D5_13	CS-4 HRDXNL4_00091	CCV 021820A	Tray01:2	Dioxin		AJS
14	18FE2010D5_14	WDM HRDXNCP_00040	WDM 021820A	Tray01:1	Dioxin		AJS
15	18FE2010D5_15	Solvent Blank C-14	SB 021820B	Tray01:3	---		AJS
16	18FE2010D5_16	MB 320-357121/1-A	MB 320-357121/1-A	Tray01:15	1613B(T)/Water	D132	AJS, ALM
17	18FE2010D5_17	LCS 320-357121/2-A	LCS 320-357121/2-A	Tray01:16	1613B(T)/Water		AJS, ALM
18	18FE2010D5_18	LCSD 320-357121/3-A	LCSD 320-357121/3-A	Tray01:17	1613B(T)/Water		AJS, ALM
19	18FE2010D5_19	320-58542-A-5-A	320-58542-A-5-A	Tray01:18	1613B_T/Water		AJS, ALM
20	18FE2010D5_20	320-58542-A-6-A	320-58542-A-6-A	Tray01:19	1613B/Water		AJS, ALM
21	18FE2010D5_21	580-92666-C-1-D	580-92666-C-1-D	Tray01:20	1613B/Water		AJS, ALM
22	18FE2010D5_22	320-58542-A-1-A	320-58542-A-1-A	Tray01:21	1613B/Water		AJS, ALM
23	18FE2010D5_23	320-58542-A-2-A	320-58542-A-2-A	Tray01:22	1613B/Water		AJS, ALM
24	18FE2010D5_24	320-58542-A-3-A	320-58542-A-3-A	Tray01:23	1613B_T/Water		AJS, ALM
25	18FE2010D5_25	320-58542-A-4-A	320-58542-A-4-A	Tray01:24	1613B_T/Water		AJS, ALM
26	18FE2010D5_26	Solvent Blank C-14	SB 021820C	Tray01:3	---		AJS, ALM
27	18FE2010D5_27	CS-4 HRDXNL4_00091	CCV 021820B	Tray01:2	Dioxin		AJS, ALM
28	18FE2010D5_28	WDM HRDXNCP_00040	WDM 021820B	Tray01:1	Dioxin		AJS, ALM
29	18FE2010D5_29	WDM HRDXNCP_00040	WDM 021820C	Tray01:1	Dioxin		AJS, ALM
30	18FE2010D5_30	Solvent Blank C-14	SB 021820D	Tray01:3	---		AJS, ALM
31	18FE2010D5_31	320-58456-A-1-A	320-58456-A-1-A	Tray01:29	1613B/Water	D133	AJS, ALM
32	18FE2010D5_32	320-58456-B-1-A MS	320-58456-B-1-A MS	Tray01:30	1613B/Water		AJS, ALM
33	18FE2010D5_33	320-58456-B-1-B MSD	320-58456-B-1-B MSD	Tray01:31	1613B/Water		AJS, ALM
34	18FE2010D5_34	320-58456-A-2-A	320-58456-A-2-A	Tray01:32	1613B/Water		AJS, ALM
35	18FE2010D5_35	320-58541-A-1-A	320-58541-A-1-A	Tray01:33	1613B/Water		AJS, ALM
36	18FE2010D5_36	320-58541-A-3-A	320-58541-A-3-A	Tray01:34	1613B/Water		AJS, ALM
37	18FE2010D5_37	320-58541-A-4-A	320-58541-A-4-A	Tray01:35	1613B/Water		AJS, ALM
38	18FE2010D5_38	320-58541-A-5-A	320-58541-A-5-A	Tray01:36	1613B/Water		AJS, ALM
39	18FE2010D5_39	320-58541-B-6-A	320-58541-B-6-A	Tray01:37	1613B/Water		AJS, ALM
40	18FE2010D5_40	Solvent Blank C-14	SB 021820E	Tray01:3	---		AJS, ALM
41	18FE2010D5_41	CS-4 HRDXNL4_00091	CCV 021820C	Tray01:2	Dioxin		AJS, ALM
42	18FE2010D5_42	WDM HRDXNCP_00040	WDM 021820D	Tray01:1	Dioxin		AJS, ALM
43	18FE2010D5_43	Solvent Blank C-14	SB 021820F	Tray01:3	---		AJS, ALM
44	18FE2010D5_44	MB 320-357123/1-A	MB 320-357123/1-A	Tray01:43	1613B/Solid	D132	AJS, ALM
45	18FE2010D5_45	LCS 320-357123/2-A	LCS 320-357123/2-A	Tray01:44	1613B/Solid		AJS, ALM
46	18FE2010D5_46	580-92665-J-1-A	580-92665-J-1-A	Tray01:45	1613B/Solid		AJS, ALM
47	18FE2010D5_47	580-92665-J-2-A	580-92665-J-2-A	Tray01:46	1613B/Solid		AJS, ALM
48	18FE2010D5_48	580-92665-J-3-A	580-92665-J-3-A	Tray01:47	1613B/Solid		AJS, ALM
49	18FE2010D5_49	580-92665-J-3-B MS	580-92665-J-3-B MS	Tray01:48	1613B/Solid		AJS, ALM
50	18FE2010D5_50	580-92665-J-3-C MSD	580-92665-J-3-C MSD	Tray01:49	1613B/Solid		AJS, ALM
51	18FE2010D5_51	320-58545-A-1-A	320-58545-A-1-A	Tray01:50	1613B/Solid		AJS, ALM
52	18FE2010D5_52	320-58545-A-2-A	320-58545-A-2-A	Tray01:51	1613B/Solid		AJS, ALM
53	18FE2010D5_53	320-58545-A-3-A	320-58545-A-3-A	Tray01:52	1613B/Solid		AJS, ALM
54	18FE2010D5_54	Solvent Blank C-14	SB 021820G	Tray01:3	---		AJS, ALM
55	18FE2010D5_55	CS-4 HRDXNL4_00091	CCV 021820D	Tray01:2	Dioxin		AJS, ALM
56	18FE2010D5_56	WDM HRDXNCP_00040	WDM 021820E	Tray01:1	Dioxin		AJS, ALM
57	18FE2010D5_57	Solvent Blank C-14	SB 021820H	Tray01:3	---		AJS, ALM

logfile checked
2-19-20 ALM

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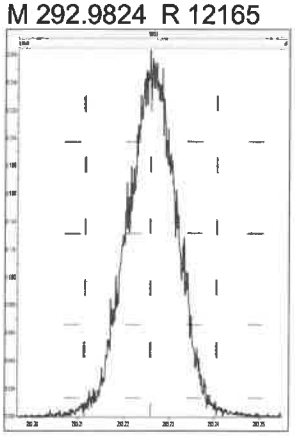

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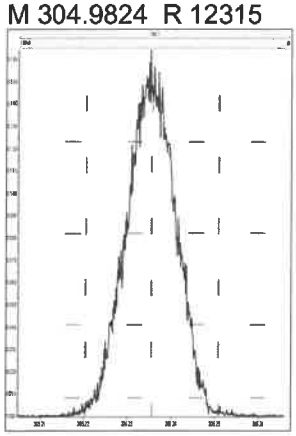

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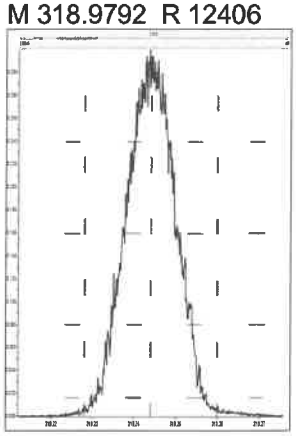

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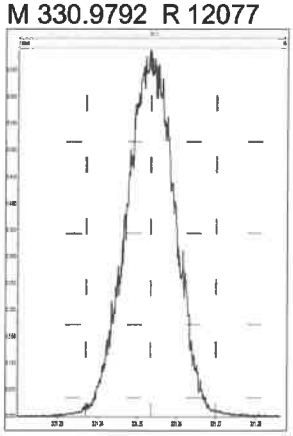

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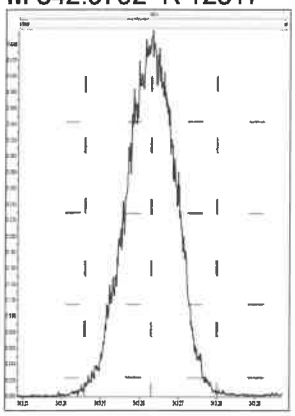

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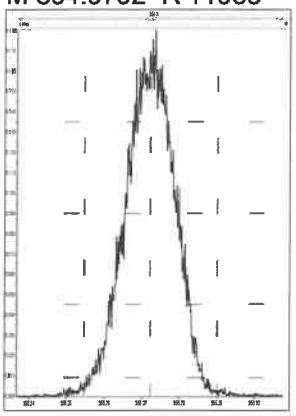

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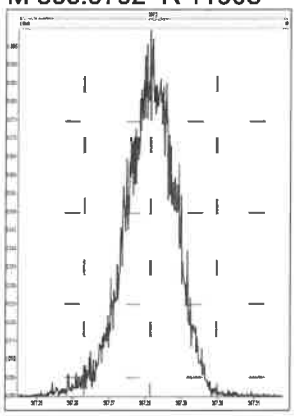

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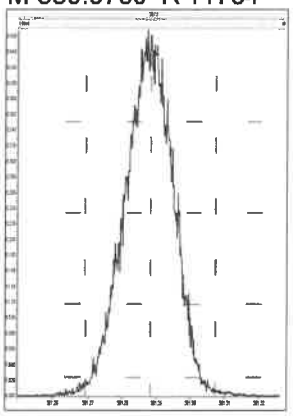

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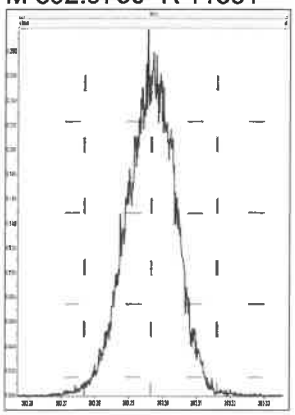

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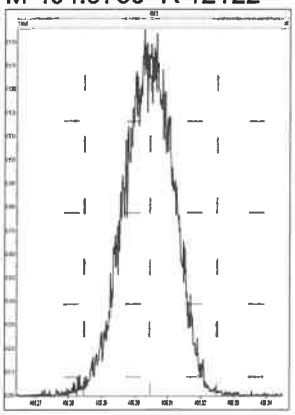

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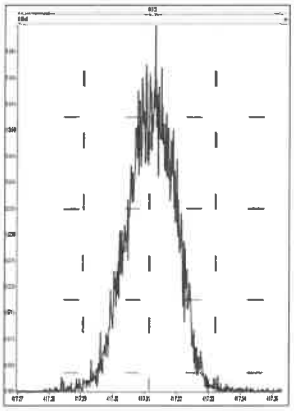

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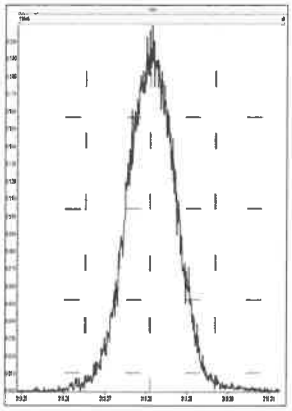

M 330.9792 R 12079

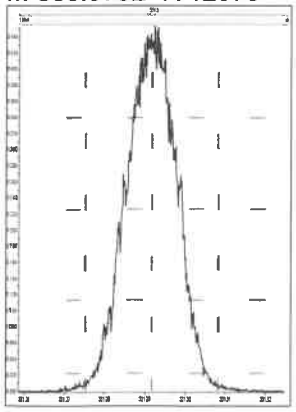

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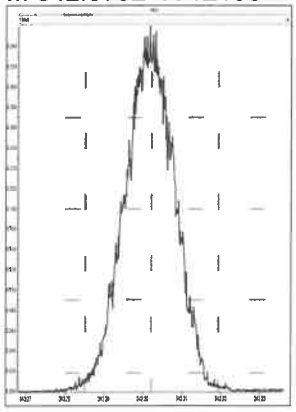

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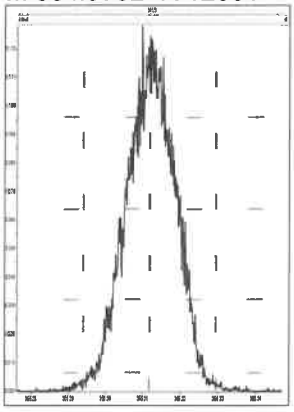

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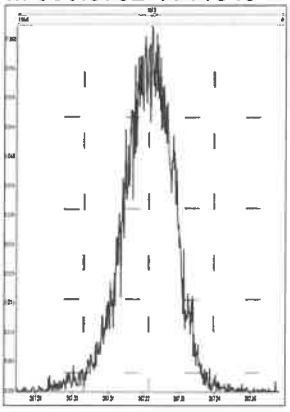

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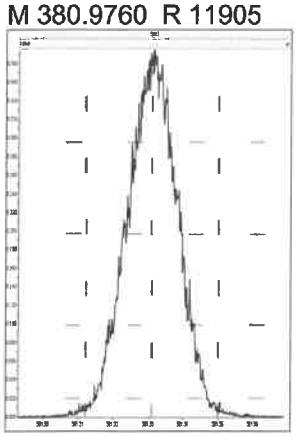

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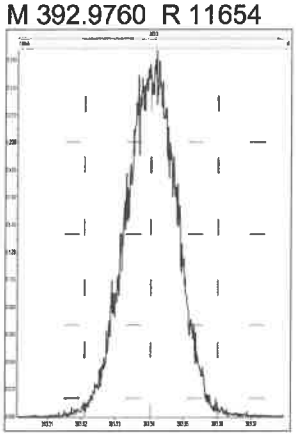

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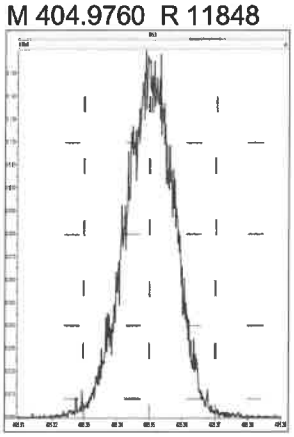

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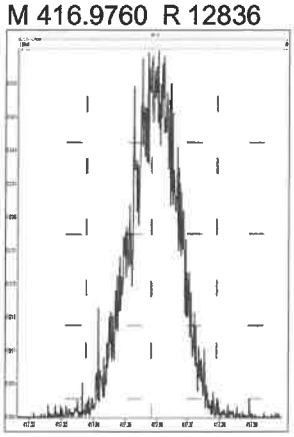

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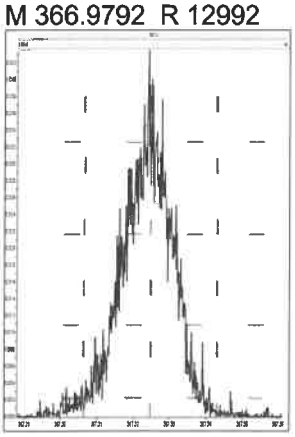

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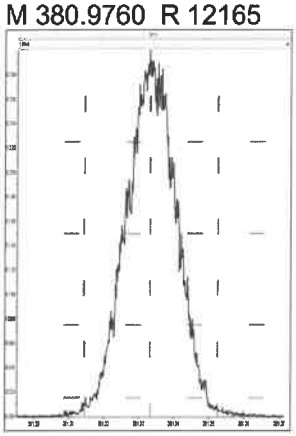

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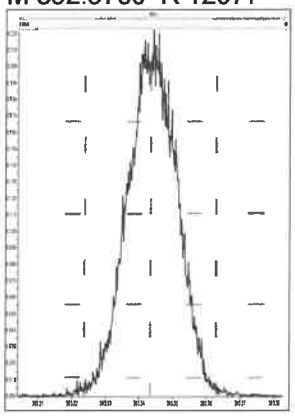

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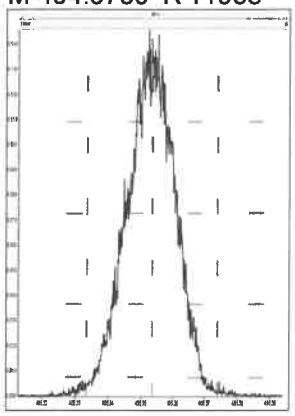

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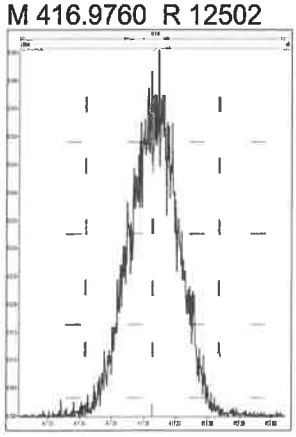

M 430.9728 R 11682

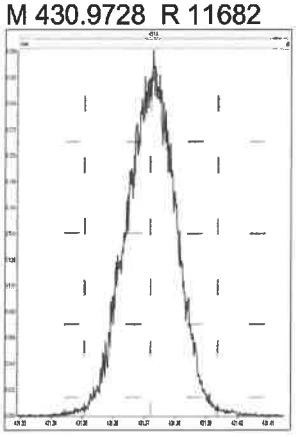

M 442.9728 R 11879

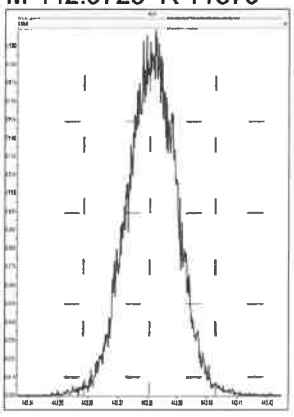

M 454.9728 R 12085

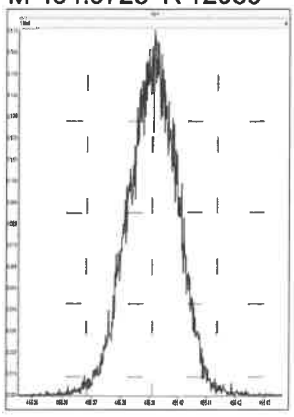

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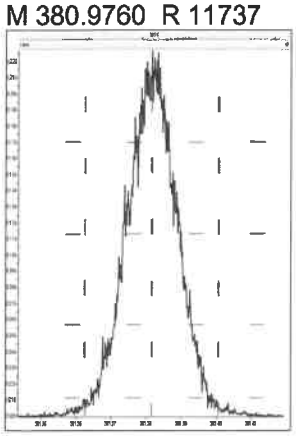

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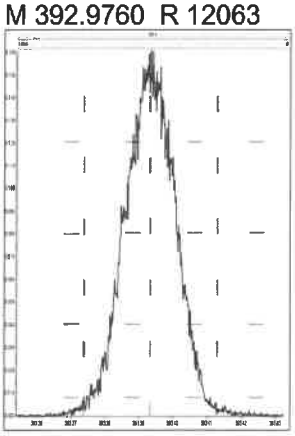

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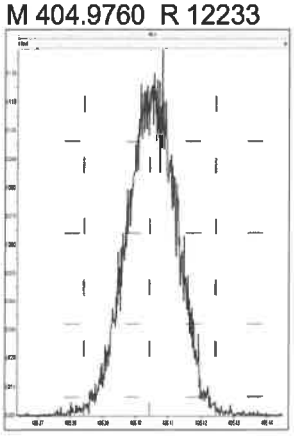

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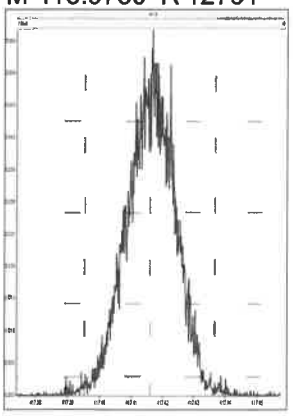

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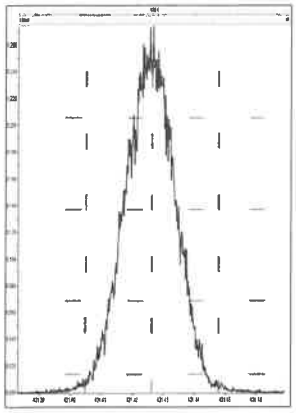

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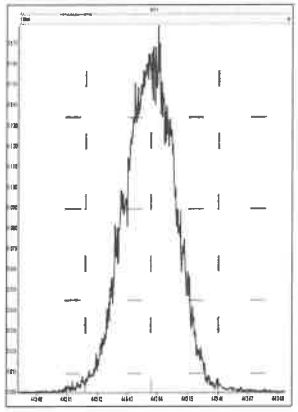

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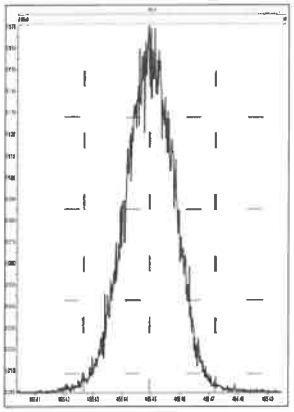

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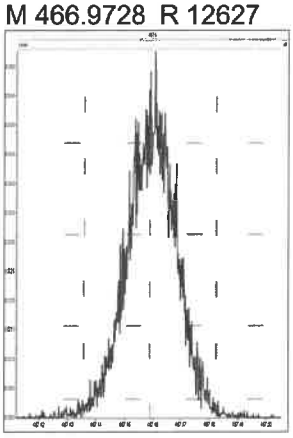

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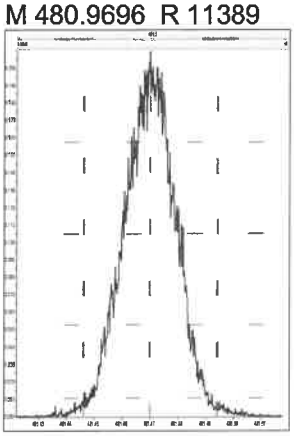

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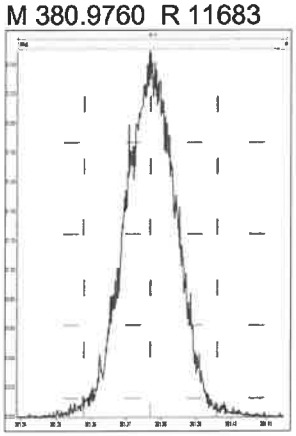

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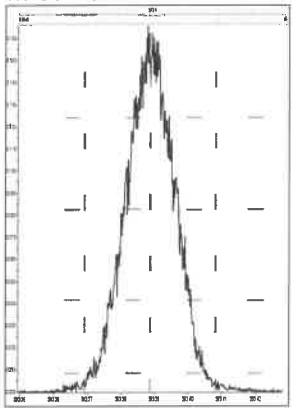

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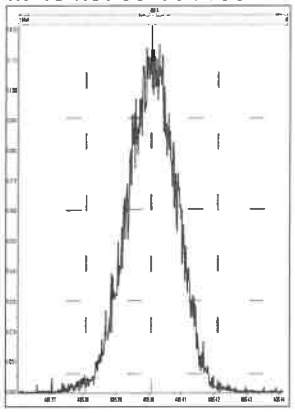

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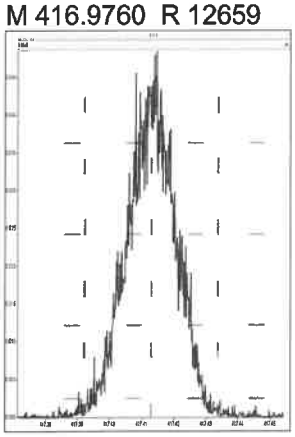

M 430.9728 R 12078

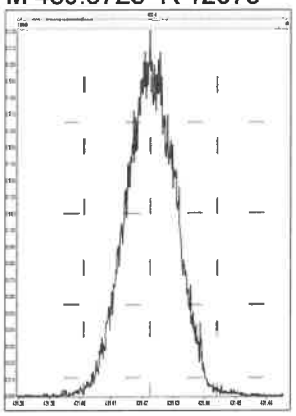

M 442.9728 R 12107

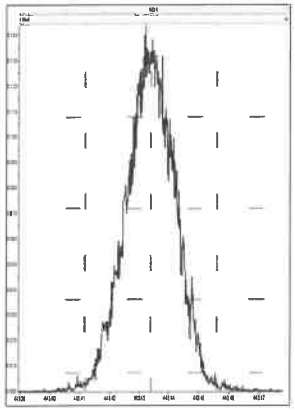

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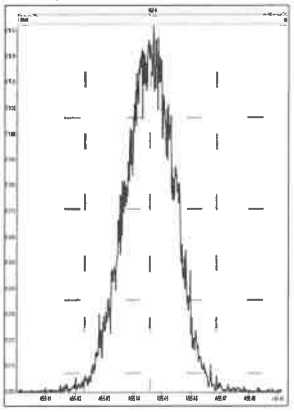

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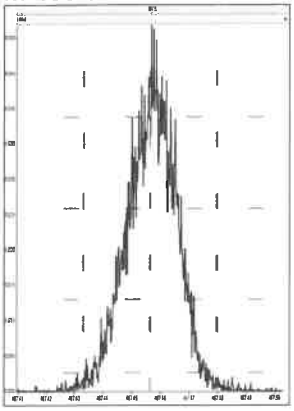

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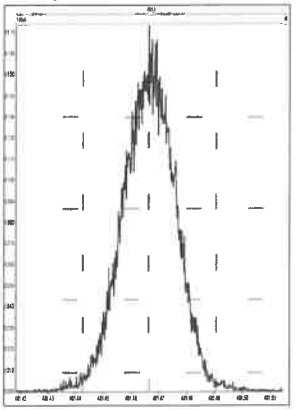

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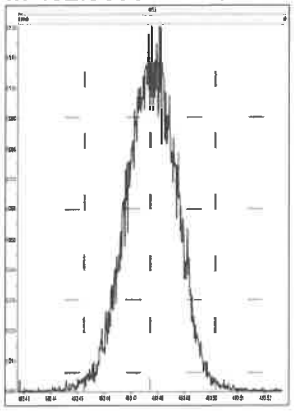

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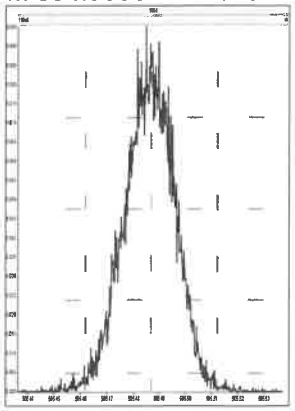

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M 516.9697 R 12757

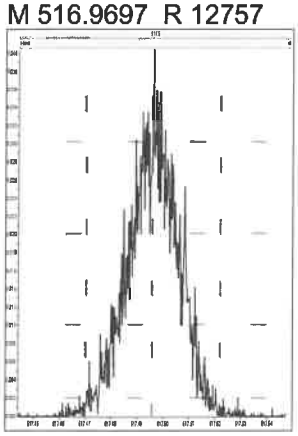

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M 292.9824 R 11961

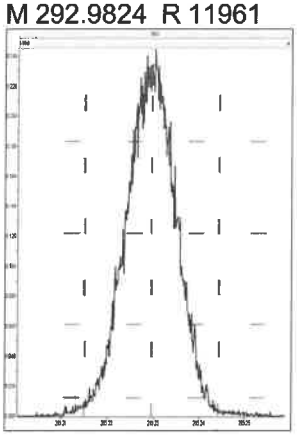

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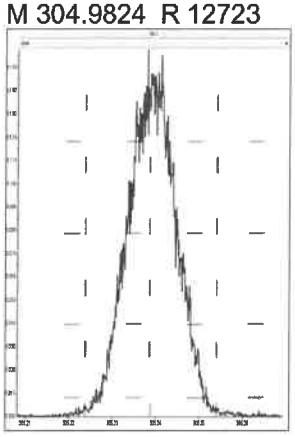

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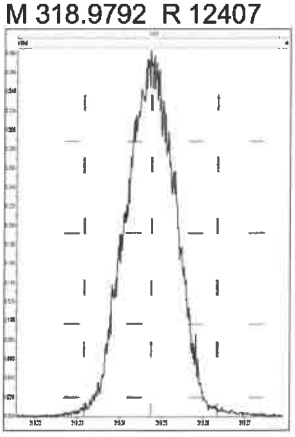

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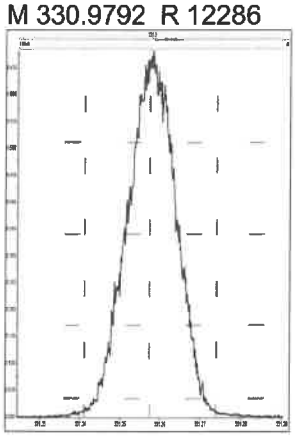

M 342.9792 R 11961

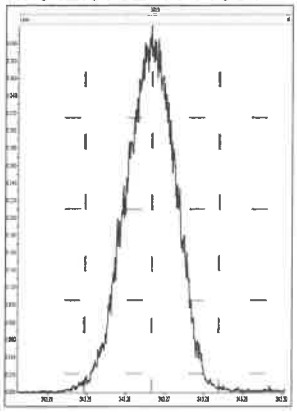

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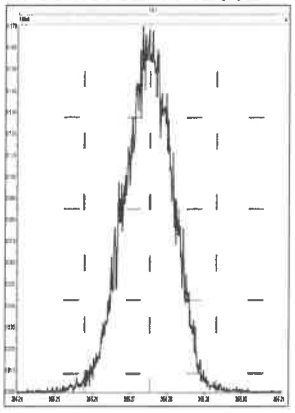

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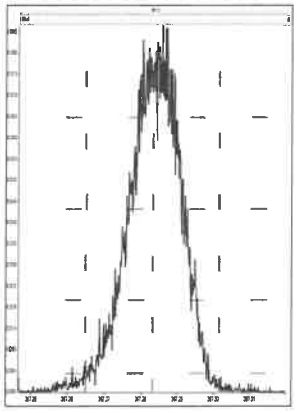

M 380.9760 R 11600

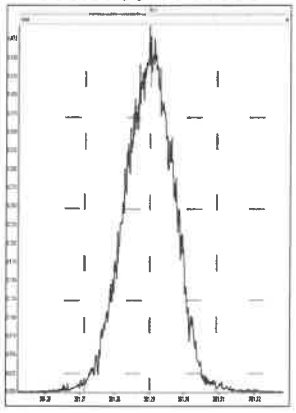

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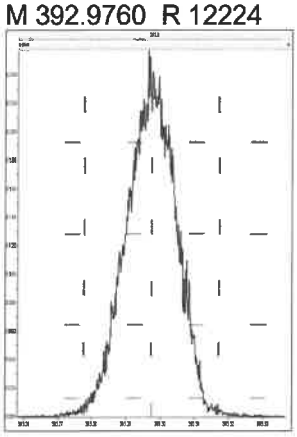

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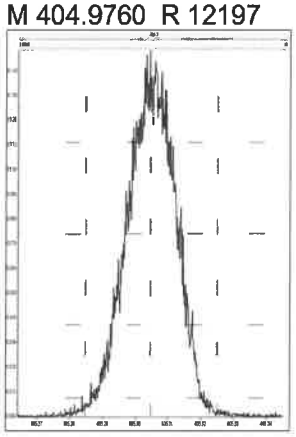

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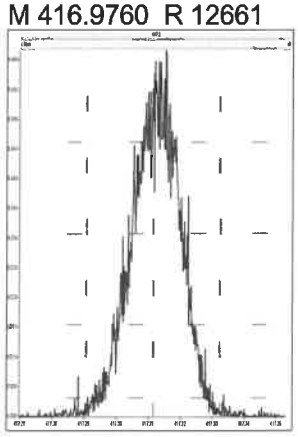

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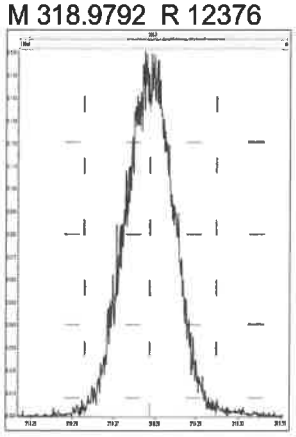

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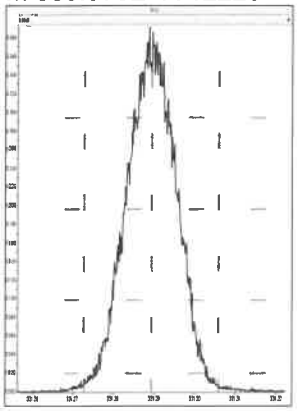

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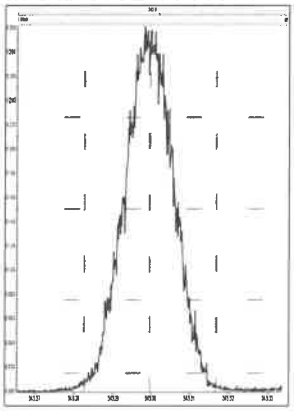

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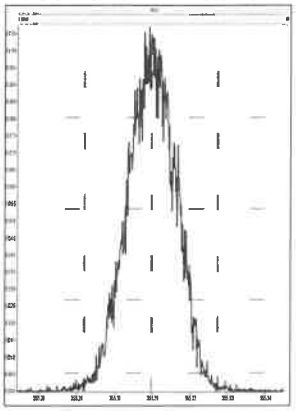

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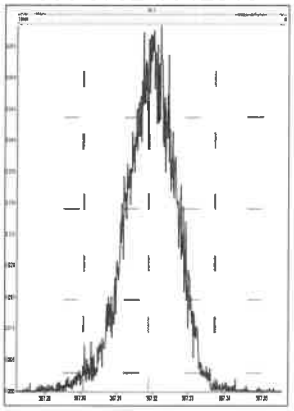

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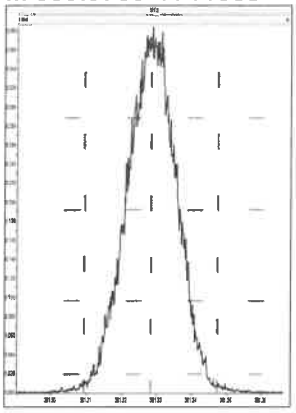

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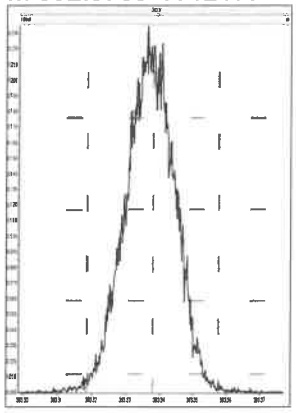

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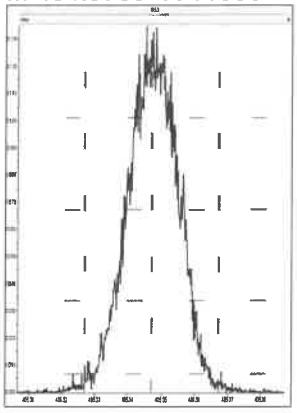

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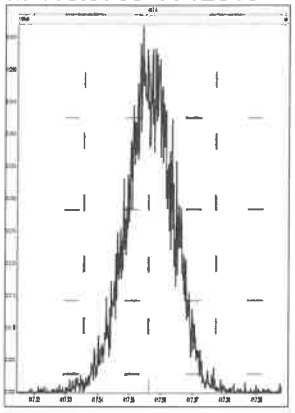

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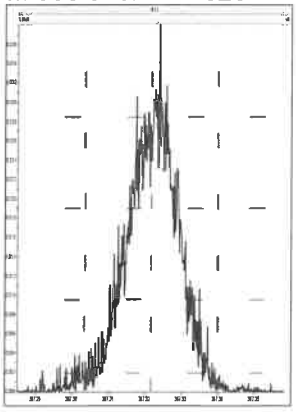

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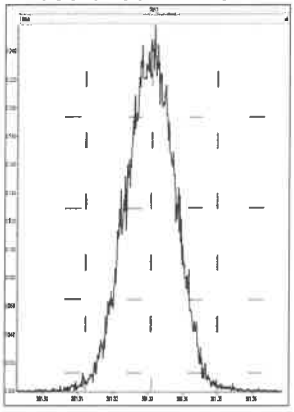

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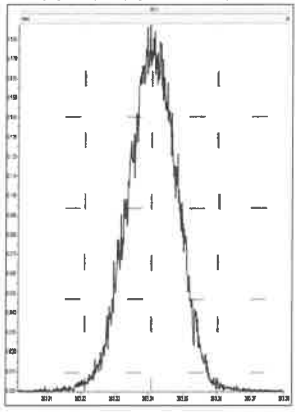

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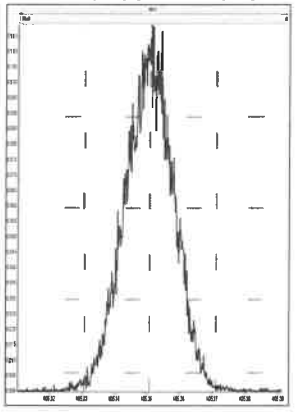

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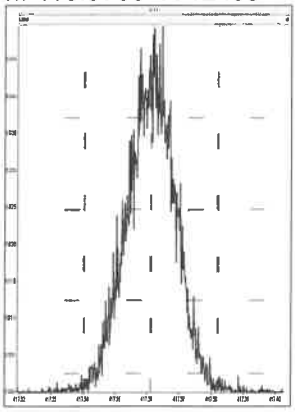

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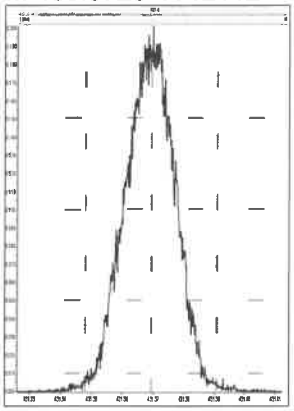

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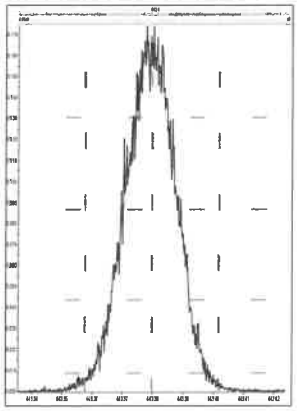

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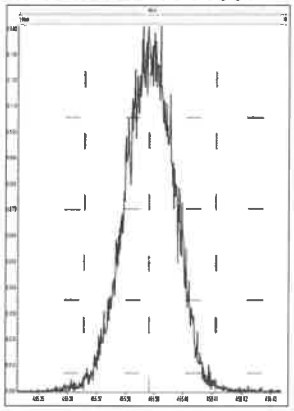

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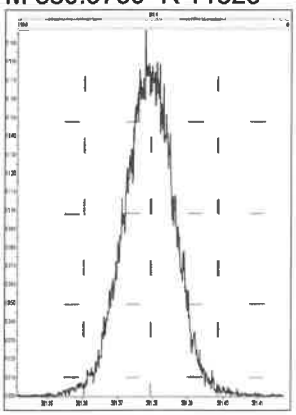

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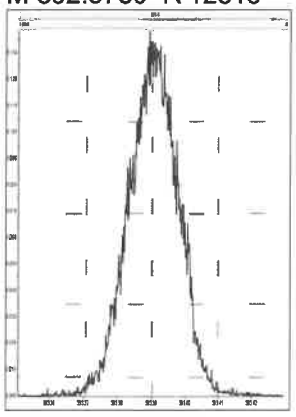

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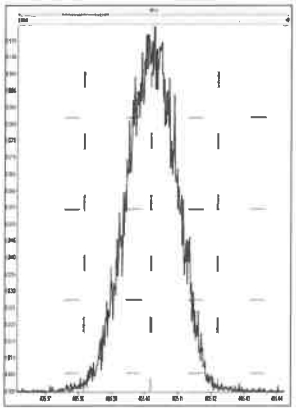

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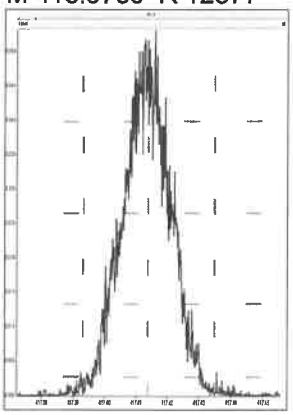

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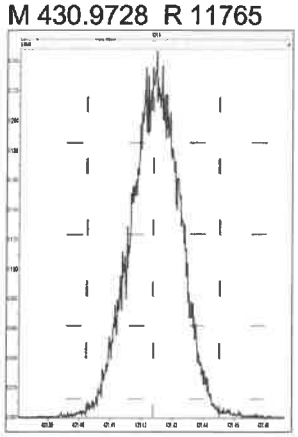

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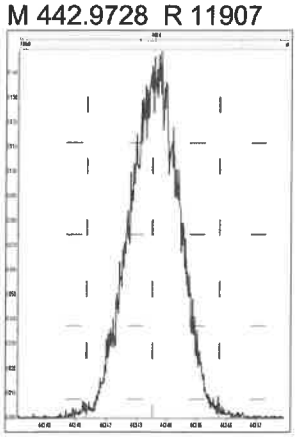

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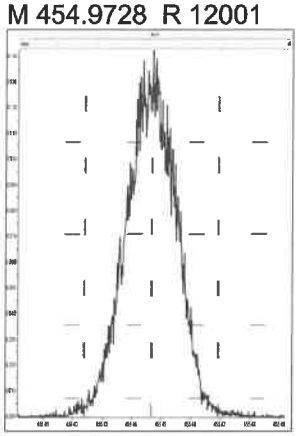

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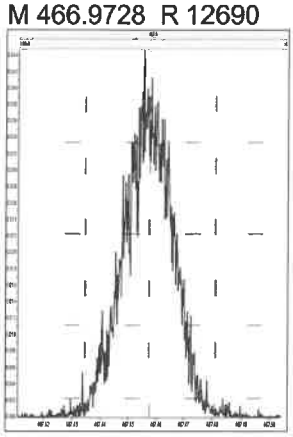

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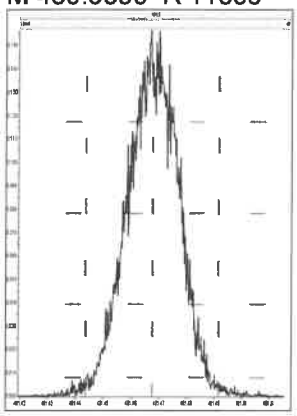

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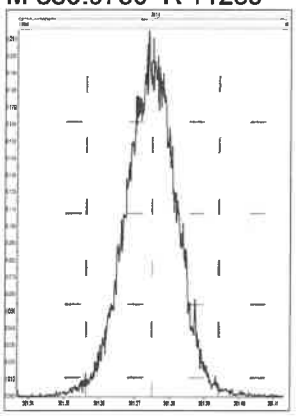

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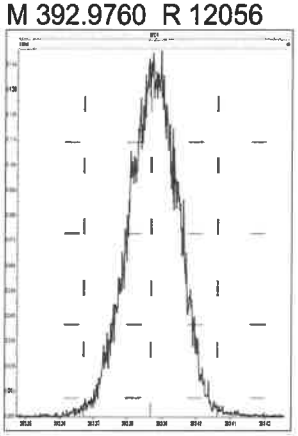

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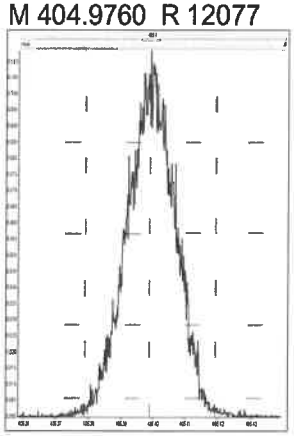

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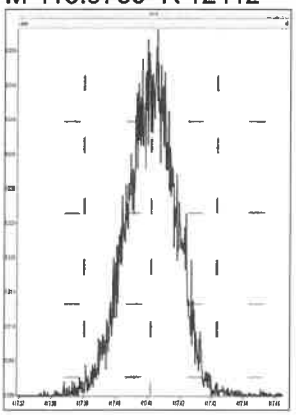

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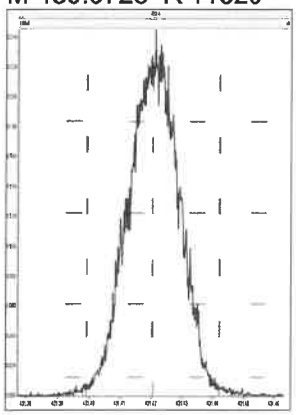

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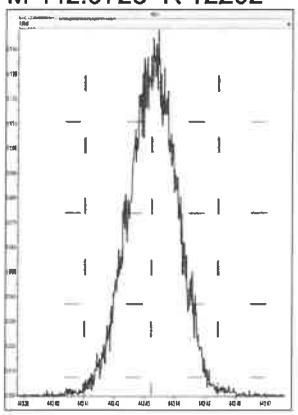

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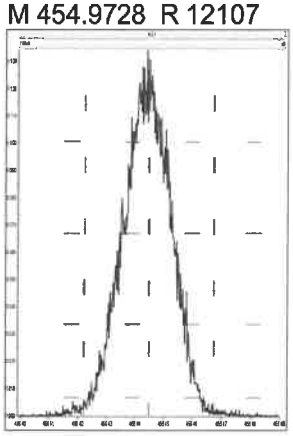

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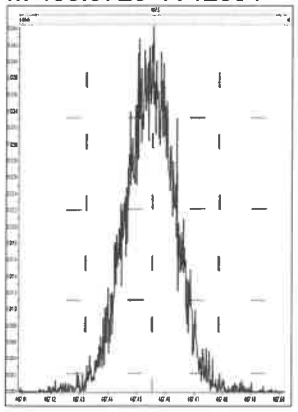

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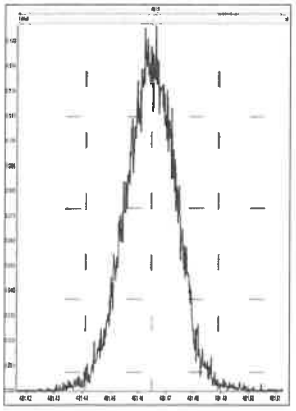

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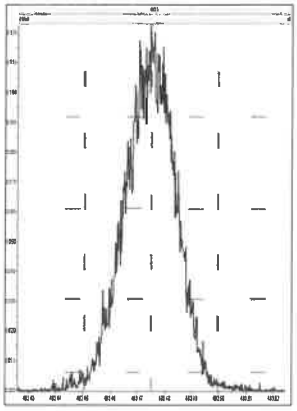

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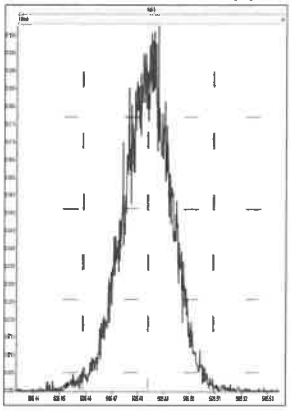

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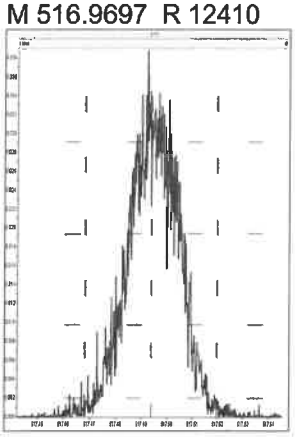

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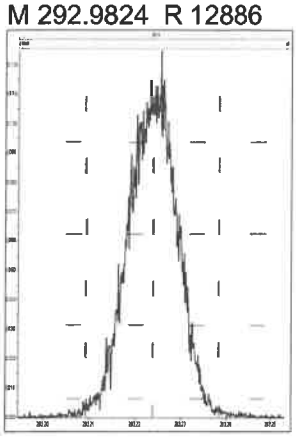

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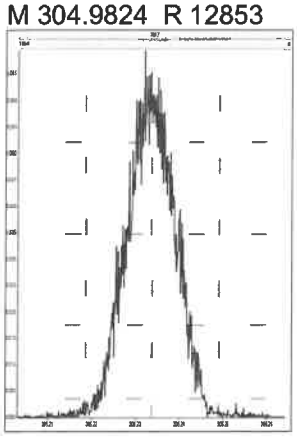

M 318.9792 R 12659

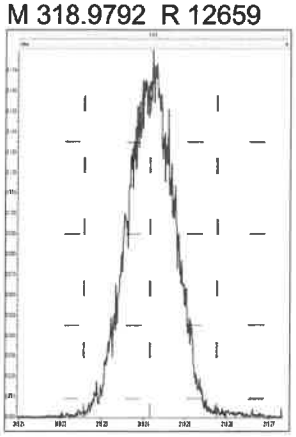

M 330.9792 R 12499

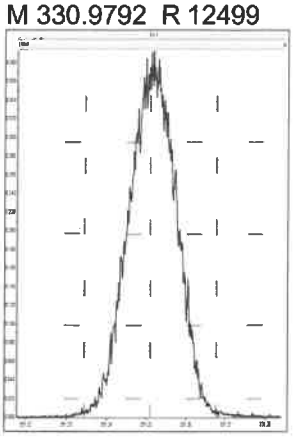

M 342.9792 R 12562

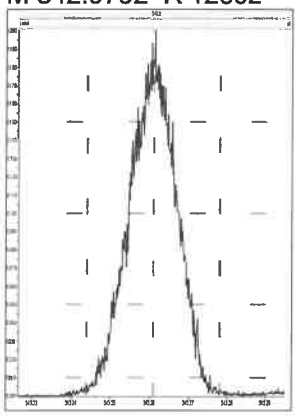

M 354.9792 R 13192

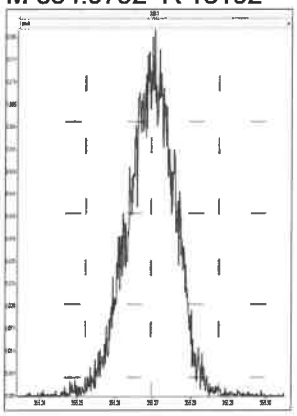

M 366.9792 R 13706

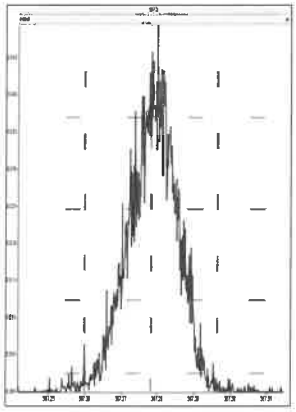

M 380.9760 R 12537

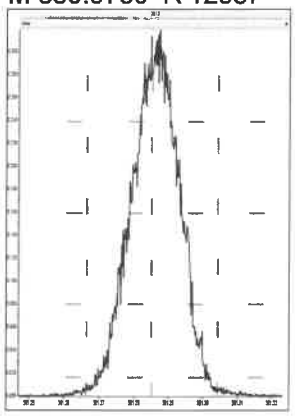

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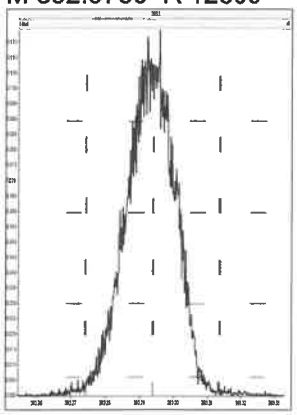

M 404.9760 R 13025

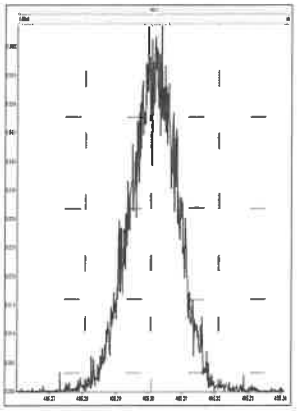

M 416.9760 R 14205

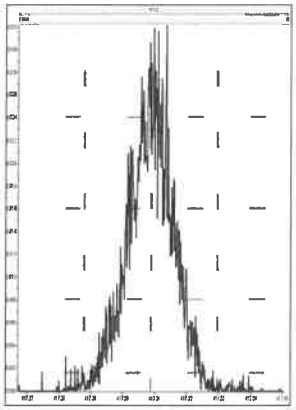

M 318.9792 R 12626

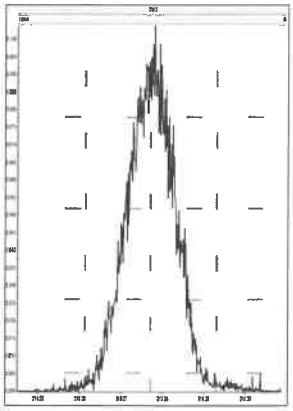

M 330.9792 R 12136

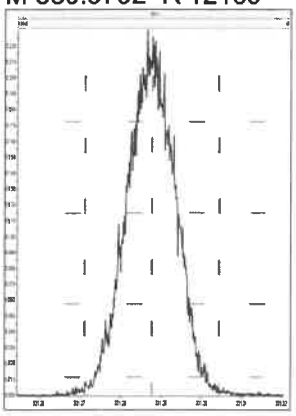

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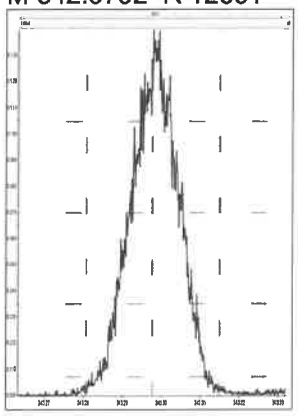

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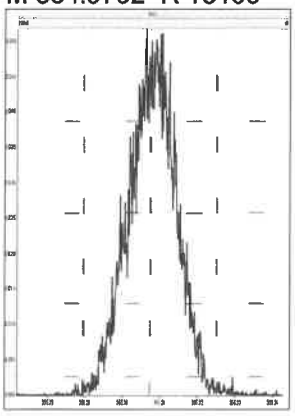

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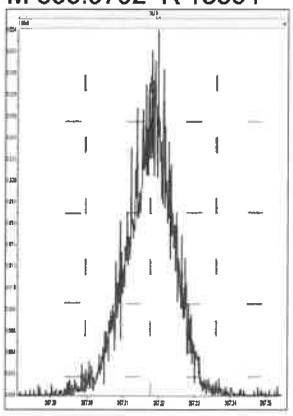

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M 380.9760 R 12140

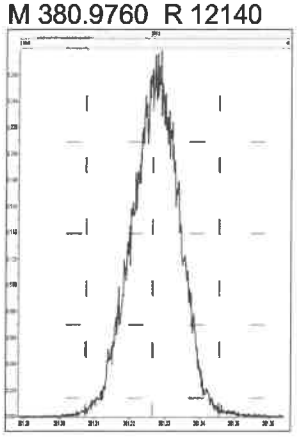

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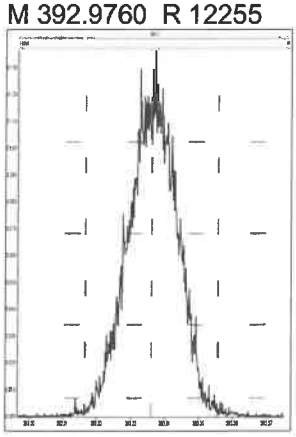

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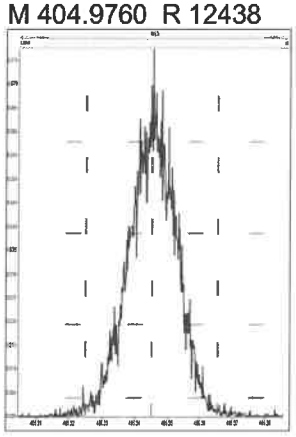

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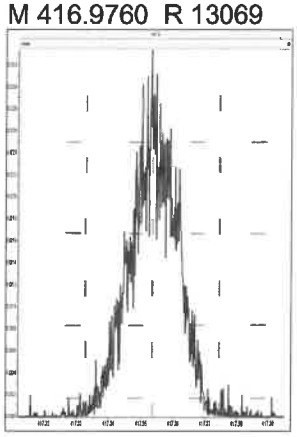

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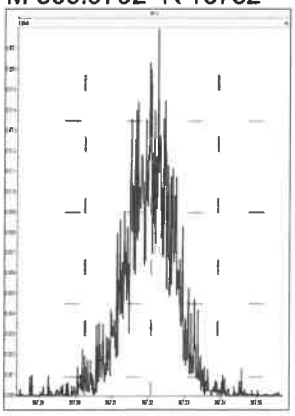

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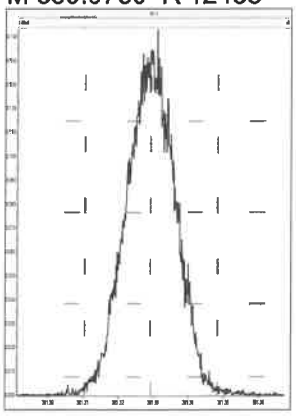

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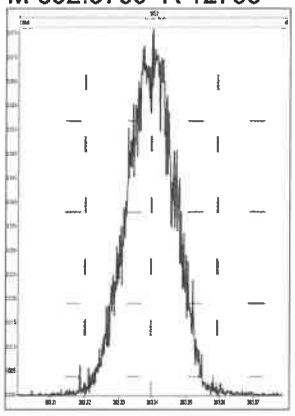

M 404.9760 R 13450

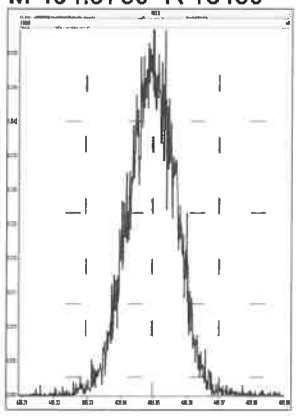

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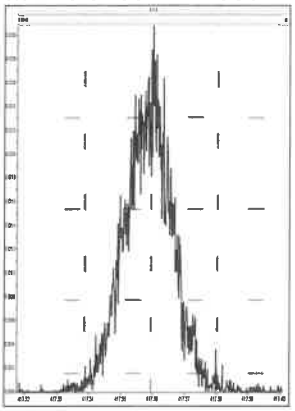

M 430.9728 R 12284

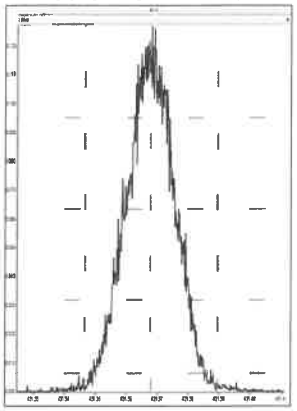

M 442.9728 R 12722

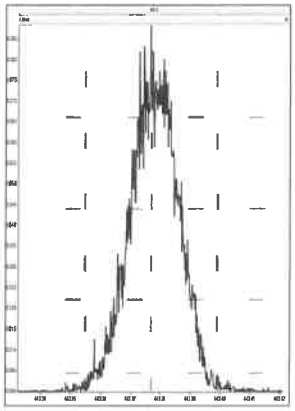

M 454.9728 R 12908

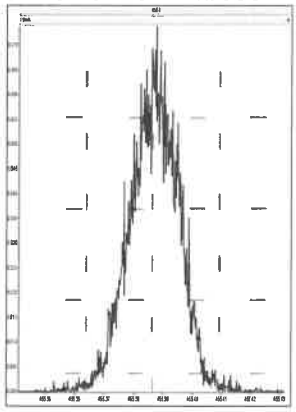

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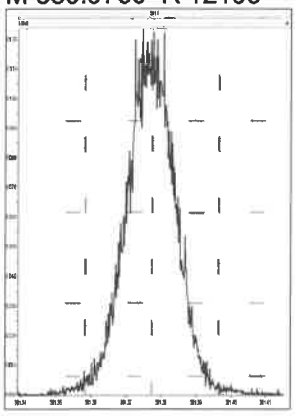

M 392.9760 R 12136

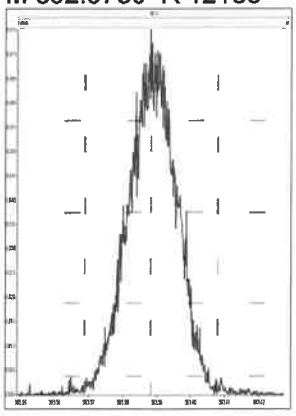

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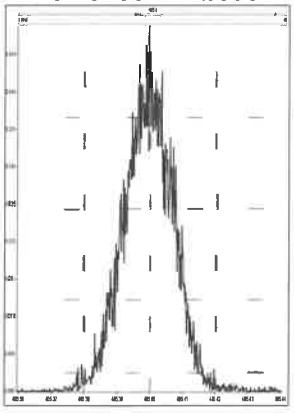

M 416.9760 R 13056

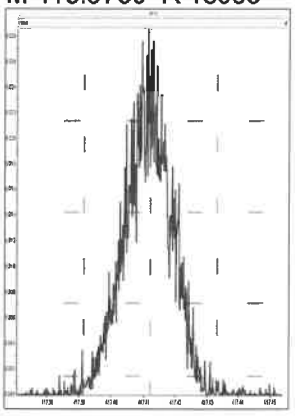

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M 430.9728 R 12138

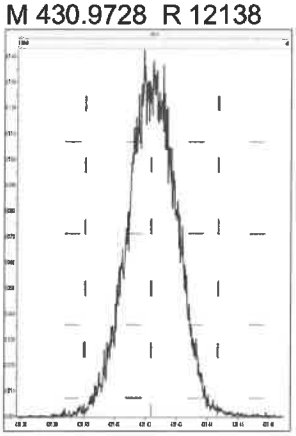

M 442.9728 R 12988

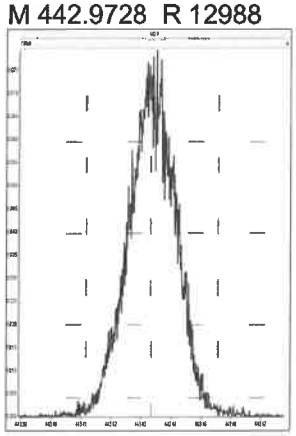

M 454.9728 R 12510

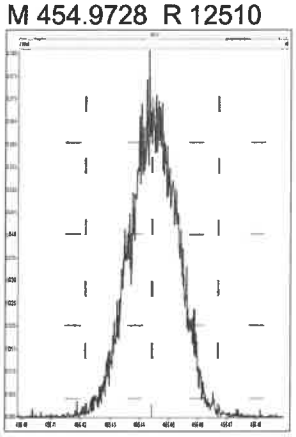

M 466.9728 R 12437

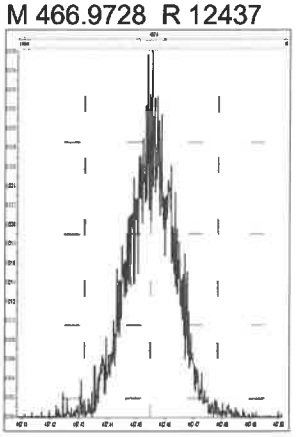

M 480.9696 R 11895

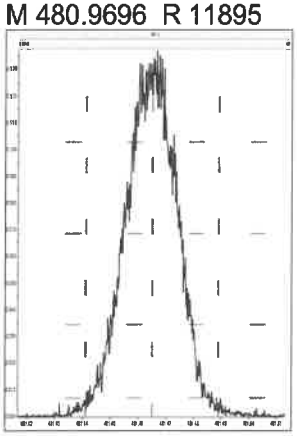

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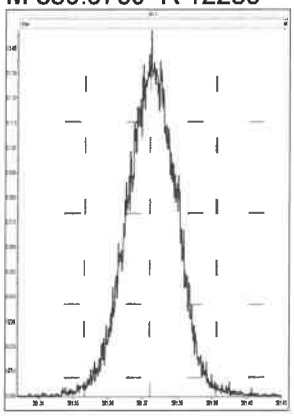

M 392.9760 R 12923

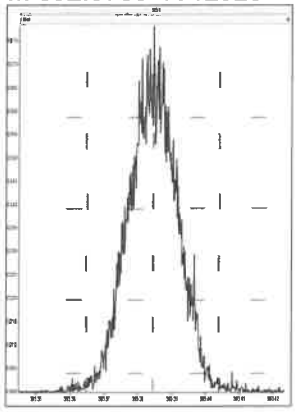

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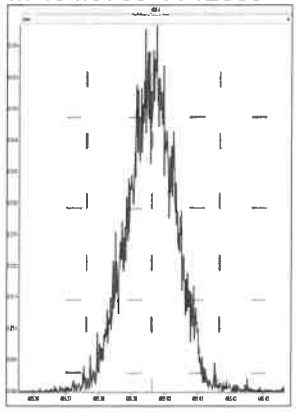

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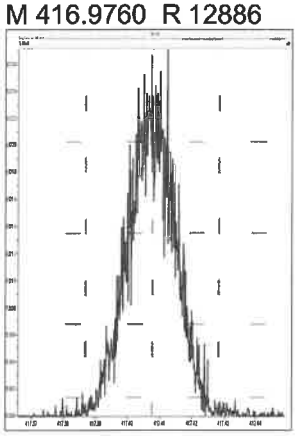

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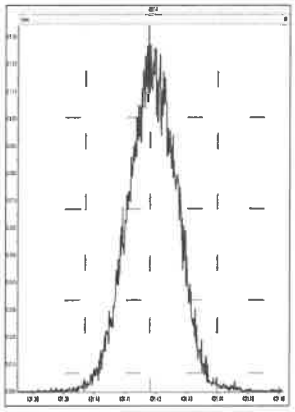

M 442.9728 R 12138

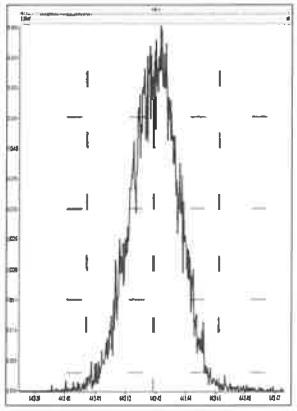

M 454.9728 R 13127

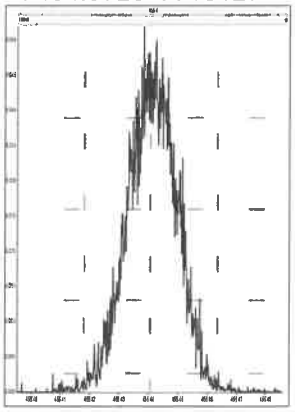

M 466.9728 R 13505

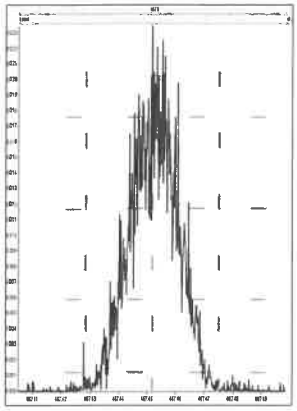

M 480.9696 R 12021

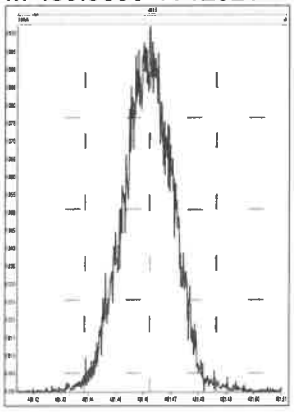

M 492.9696 R 12241

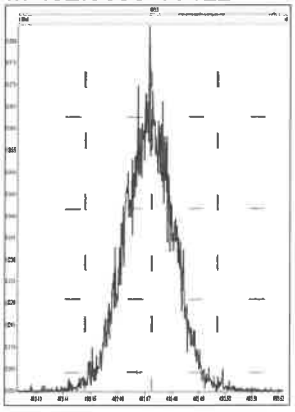

M 504.9696 R 12339

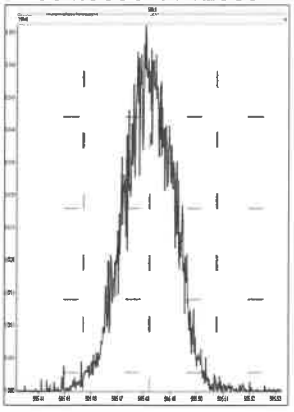

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M 516.9697 R 14220

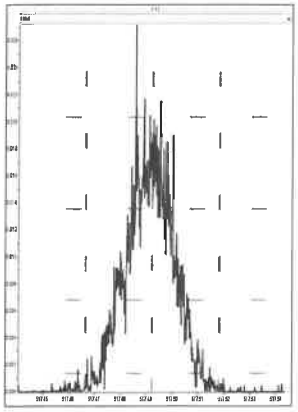

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_41.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 19-Feb-2020 21:16:57 ALS Bottle#: 2 Worklist Smp#: 41
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 021820B CS-4 HRDXNL4_00091
Misc. Info.: 18FE2010D5
Operator ID: AJS, ALM Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 20-Feb-2020 13:42:19 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0312

First Level Reviewer: shardaa Date: 20-Feb-2020 13:38:33

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.202	43052659	0.80	5.4E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.734	49393335	0.76	1.1275	101.8	101.8	0.4178	0.4178	102	
2,3,7,8-TCDF	16.749	3635044	0.70	0.7675	9.588	9.588	0.0633	0.0633	95.88	
A Non-2,3,7,8-sub-TCDF	16.446						0.0633	0.0633		
S Total TCDF					9.588	9.588	0.0633	0.0633		
D 13C-2,3,7,8-TCDD	17.399	39286781	0.79	0.9032	101.0	101.0	0.3374	0.3374	101	
2,3,7,8-TCDD	17.414	3643174	0.76	0.9599	9.661	9.661	0.0500	0.0500	96.61	
$ 37Cl4-2,3,7,8-TCDD	17.414	4259071		0.9673	10.2	10.2	0.0615	0.0615	102	
A Non-2,3,7,8-sub-TCDD	16.877						0.0500	0.0500		
S Total TCDD					9.661	9.661	0.0500	0.0500		
D 13C-1,2,3,7,8-PeCDF	21.447	43007750	1.55	0.9615	103.9	103.9	0.3388	0.3388	104	
1,2,3,7,8-PeCDF	21.475	18894194	1.56	0.8982	48.9	48.9	0.2086	0.2086	97.83	
D 13C-2,3,4,7,8-PeCDF	22.702	46764153	1.56	1.0393	104.5	104.5	0.3134	0.3134	105	
2,3,4,7,8-PeCDF	22.729	18701680	1.57	0.8101	49.4	49.4	0.2256	0.2256	98.73	
A F1 PeCDFs	19.145						0.0155	0.0155		
A Non-2,3,7,8-sub-PeCDF	22.103						0.2167	0.2167		
S Total PeCDF					98.3	98.3	0.2171	0.2171		
D 13C-1,2,3,7,8-PeCDD	23.383	30434602	1.61	0.6938	101.9	101.9	0.1549	0.1549	102	
1,2,3,7,8-PeCDD	23.411	15263960	1.58	0.9961	50.4	50.4	0.0856	0.0856	101	
A Non-2,3,7,8-sub-PeCDD	22.361						0.0856	0.0856		
S Total PeCDD					50.4	50.4	0.0856	0.0856		
D 13C-1,2,3,4,7,8-HxCDF	29.380	33512833	0.49	0.8543	102.2	102.2	0.5043	0.5043	102	
1,2,3,4,7,8-HxCDF	29.407	12823720	1.18	0.7916	48.3	48.3	0.4643	0.4643	96.68	
D 13C-1,2,3,6,7,8-HxCDF	29.687	33484304	0.49	0.8361	104.3	104.3	0.5153	0.5153	104	
1,2,3,6,7,8-HxCDF	29.713	13839807	1.18	0.8638	47.8	47.8	0.4108	0.4108	95.70	
D 13C-2,3,4,6,7,8-HxCDF	30.831	31461364	0.50	0.7773	105.5	105.5	0.5542	0.5542	105	
2,3,4,6,7,8-HxCDF	30.858	13696973	1.18	0.9010	48.3	48.3	0.2608	0.2608	96.63	
D 13C-1,2,3,7,8,9-HxCDF	31.790	29444104	0.49	0.7167	107.0	107.0	0.6011	0.6011	107	
1,2,3,7,8,9-HxCDF	31.803	12884349	1.22	0.9127	47.9	47.9	0.2372	0.2372	95.89	
A Non-2,3,7,8-sub-HxCDF	29.287						0.3200	0.3200		

Report Date: 20-Feb-2020 13:42:19 Chrom Revision: 2.3 19-Feb-2020 16:45:46
Data File: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_41.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					192.5	192.5	0.3433	0.3433		
* 13C-1,2,3,7,8,9-HxCDD	31.590	38380795	1.23	4.4E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.071	31531743	1.23	0.8050	102.1	102.1	0.4780	0.4780	102	
1,2,3,4,7,8-HxCDD	31.098	12977558	1.23	0.8392	49.0	49.0	0.2252	0.2252	98.09	
D 13C-1,2,3,6,7,8-HxCDD	31.204	33516566	1.25	0.8269	105.6	105.6	0.4653	0.4653	106	
1,2,3,6,7,8-HxCDD	31.217	15117604	1.24	0.8876	50.8	50.8	0.2137	0.2137	102	
1,2,3,7,8,9-HxCDD	31.603	15076161	1.23	0.9567	48.5	48.5	0.1979	0.1979	96.91	
A Non-2,3,7,8-sub-HxCDD	29.846						0.2117	0.2117		
S Total HxCDD					148.3	148.3	0.2123	0.2123		
D 13C-1,2,3,4,6,7,8-HpCDF	33.376	28766357	0.44	0.7080	105.9	105.9	2.128	2.128	106	
1,2,3,4,6,7,8-HpCDF	33.389	18984887	1.02	1.3375	49.3	49.3	0.4318	0.4318	98.69	
D 13C-1,2,3,4,7,8,9-HpCDF	34.433	31514851	0.42	0.7451	110.2	110.2	2.022	2.022	110	
1,2,3,4,7,8,9-HpCDF	34.433	16955244	1.01	1.0744	50.1	50.1	0.5567	0.5567	100	
A Non-2,3,7,8-sub-HpCDF	33.905						0.4873	0.4873		
S Total HpCDF					99.4	99.4	0.4943	0.4943		
D 13C-1,2,3,4,6,7,8-HpCDD	34.154	30709176	1.09	0.7473	107.1	107.1	0.5368	0.5368	107	
1,2,3,4,6,7,8-HpCDD	34.166	15098856	1.05	0.9811	50.1	50.1	0.2936	0.2936	100	
A Non-2,3,7,8-sub-HpCDD	33.893						0.2936	0.2936		
S Total HpCDD					50.1	50.1	0.2936	0.2936		
D 13C-OCDD	36.422	57362317	0.90	0.6622	225.7	225.7	0.3426	0.3426	113	
OCDF	36.517	30617873	0.90	1.0659	100.2	100.2	0.0880	0.0880	100	
OCDD	36.433	29113385	0.87	0.9937	102.1	102.1	0.1117	0.1117	102	

Reagents:

HRDXNL4_00091 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_41.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 19-Feb-2020 21:16:57 ALS Bottle#: 2 Worklist Smp#: 41
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 021820B CS-4 HRDXNL4_00091
Misc. Info.: 18FE2010D5
Operator ID: AJS, ALM Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 20-Feb-2020 13:42:19 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0312

First Level Reviewer: shardaa Date: 20-Feb-2020 13:38:33

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.202	17.202	0		19074906	5024347	7896	19740	636		
333.9339	17.202	17.202	0		23977753	6302991	5910	14775	1066	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.734	16.734	0	0.973	21371460	5370688	9170	22925	586		
317.9389	16.734	16.734	0	0.973	28021875	7049828	12175	30437	579	0.76(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.749	16.749	0	1.001	1493526	358130	1077	2692	333		
305.8987	16.734	16.749	-1	1.000	2141518	505011	1335	3337	378	0.70(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.446						1077	2692			
305.8987	16.446						1335	3337			
13C-2,3,7,8-TCDD											
331.9368	17.399	17.399	0	1.011	17379927	4196855	7896	19740	532		
333.9339	17.399	17.399	0	1.011	21906854	5270520	5910	14775	892	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.414	17.414	0	1.001	1569217	362816	976	2440	372		
321.8936	17.414	17.414	0	1.001	2073957	470587	843	2107	558	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.414	17.414	0	1.012	4259071	957166	2695	6737	355		
A Non-2,3,7,8-sub-TCDD											
319.8965	16.877						976	2440			
321.8936	16.877						843	2107			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	21.447	21.447	0	1.247	26169780	4922056	8890	22225	554		
353.8970	21.447	21.447	0	1.247	16837970	3145365	5870	14675	536	1.55(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.475	21.475	0	1.001	11525770	2031684	3505	8762	580		
341.8567	21.461	21.475	-1	1.001	7368424	1283172	2542	6355	505	1.56(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	22.702	22.702	0	1.320	28471251	5047958	8890	22225	568		
353.8970	22.702	22.702	0	1.320	18292902	3222923	5870	14675	549	1.56(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.729	22.729	0	1.001	11413404	1871285	3505	8762	534		
341.8567	22.729	22.729	0	1.001	7288276	1191973	2542	6355	469	1.57(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.145						121	302			
341.8567	19.145						312	780			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.103						3505	8762			
341.8567	22.103						2542	6355			
13C-1,2,3,7,8-PeCDD											
367.8949	23.383	23.383	0	1.359	18765232	3135561	2938	7345	1067		
369.8919	23.383	23.383	0	1.359	11669370	1939242	1931	4827	1004	1.61(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.411	23.411	0	1.001	9355292	1445593	1120	2800	1291		
357.8516	23.411	23.411	0	1.001	5908668	913827	610	1525	1498	1.58(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.361						1120	2800			
357.8516	22.361						610	1525			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.380	29.380	0	0.930	10972958	1354174	5493	13732	247		
385.8610	29.380	29.380	0	0.930	22539875	2788989	9997	24992	279	0.49(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.407	29.407	0	1.001	6947356	803100	3313	8282	242		
375.8178	29.407	29.407	0	1.001	5876364	681206	2778	6945	245	1.18(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.687	29.687	0	0.940	10996996	1446078	5493	13732	263		
385.8610	29.687	29.687	0	0.940	22487308	2844827	9997	24992	285	0.49(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	29.713	29.713	0	1.001	7485471	908637	3313	8282	274		
375.8178	29.713	29.713	0	1.001	6354336	769324	2778	6945	277	1.18(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	30.831	30.831	0	0.976	10425353	2148548	5493	13732	391		
385.8610	30.831	30.831	0	0.976	21036011	4332180	9997	24992	433	0.50(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	30.858	30.858	0	1.001	7418621	1481542	3313	8282	447		
375.8178	30.858	30.858	0	1.001	6278352	1253168	2778	6945	451	1.18(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.790	31.790	0	1.006	9686177	2338333	5493	13732	426		
385.8610	31.790	31.790	0	1.006	19757927	4694385	9997	24992	470	0.49(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.803	31.803	0	1.000	7069544	1612087	3313	8282	487		
375.8178	31.803	31.803	0	1.000	5814805	1362450	2778	6945	490	1.22(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.287						3313	8282			
375.8178	29.287						2778	6945			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.590	31.590	0		21206122	4974347	7330	18325	679		
403.8529	31.590	31.590	0		17174673	4014696	6505	16262	617	1.23(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.071	31.071	0	0.984	17372131	4085502	7330	18325	557		
403.8529	31.071	31.071	0	0.984	14159612	3340338	6505	16262	514	1.23(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.098	31.098	0	1.001	7168521	1670874	3690	9225	453		
391.8127	31.098	31.098	0	1.001	5809037	1338299	1924	4810	696	1.23(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.204	31.204	0	0.988	18587636	4095372	7330	18325	559		
403.8529	31.204	31.204	0	0.988	14928930	3305396	6505	16262	508	1.25(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.217	31.217	0	1.000	8378555	1707518	3690	9225	463		
391.8127	31.217	31.217	0	1.000	6739049	1398677	1924	4810	727	1.24(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.603	31.603	0	1.017	8300883	1869299	3690	9225	507		
391.8127	31.603	31.603	0	1.017	6775278	1540956	1924	4810	801	1.23(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	29.846						3690	9225			
391.8127	29.846						1924	4810			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.376	33.376	0	1.057	8752586	2903037	14774	36935	196		
419.8220	33.376	33.376	0	1.057	20013771	6625259	39408	98520	168	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.389	33.389	0	1.000	9576436	3145787	10683	26707	294		
409.7789	33.389	33.389	0	1.000	9408451	3014381	11328	28320	266	1.02(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.433	34.433	0	1.090	9371562	2768095	14774	36935	187		
419.8220	34.433	34.433	0	1.090	22143289	6431445	39408	98520	163	0.42(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.433	34.433	0	1.000	8500025	2419688	10683	26707	226		
409.7789	34.433	34.433	0	1.000	8455219	2434255	11328	28320	215	1.01(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.905						10683	26707			
409.7789	33.905						11328	28320			

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Data File: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_41.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.154	34.154	0	1.081	16037005	4870042	7528	18820	647		
437.8140	34.154	34.154	0	1.081	14672171	4554407	6896	17240	660	1.09(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.166	34.166	0	1.000	7728605	2365595	5291	13227	447		
425.7737	34.166	34.166	0	1.000	7370251	2209239	5567	13917	397	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.893						5291	13227			
425.7737	33.893						5567	13917			
13C-OCDD											
469.7779	36.422	36.422	0	1.153	27140833	6864134	2362	5905	2906		
471.7750	36.422	36.422	0	1.153	30221484	7614825	5795	14487	1314	0.90(0.76-1.02)	
OCDF											
441.7428	36.517	36.517	0	1.003	14476427	3623862	1353	3382	2678		
443.7399	36.517	36.517	0	1.003	16141446	4013542	1362	3405	2947	0.90(0.76-1.02)	
OCDD											
457.7377	36.433	36.433	0	1.000	13531942	3409302	1140	2850	2991		
459.7348	36.433	36.433	0	1.000	15581443	3966276	2075	5187	1911	0.87(0.76-1.02)	

Reagents:

HRDXNL4_00091 Amount Added: 1.00 Units: mL

Report Date: 20-Feb-2020 13:42:19 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_41.d		
Injection Date:	19-Feb-2020 21:16:57	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	358703	Sample Line#:	41
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

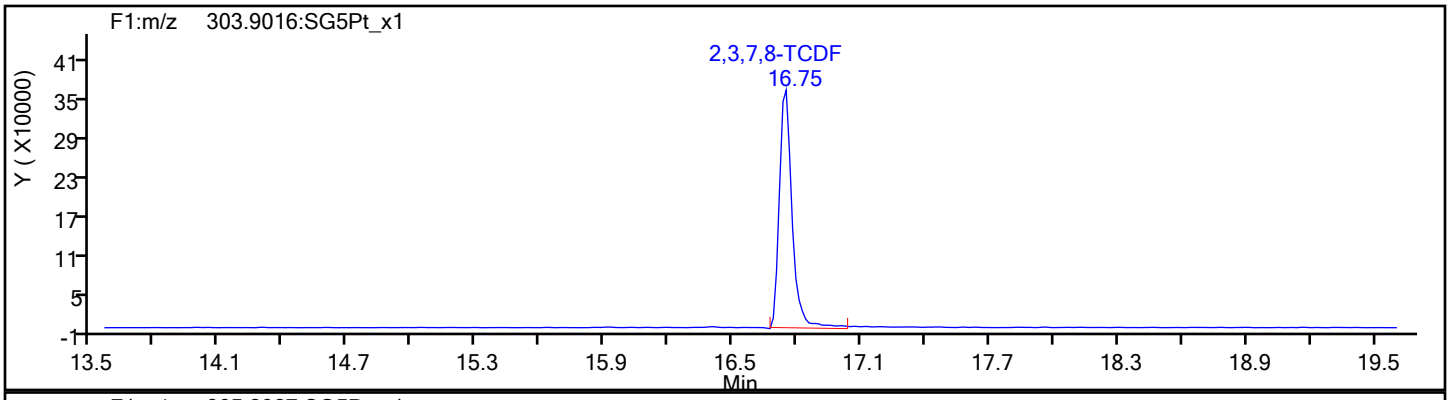

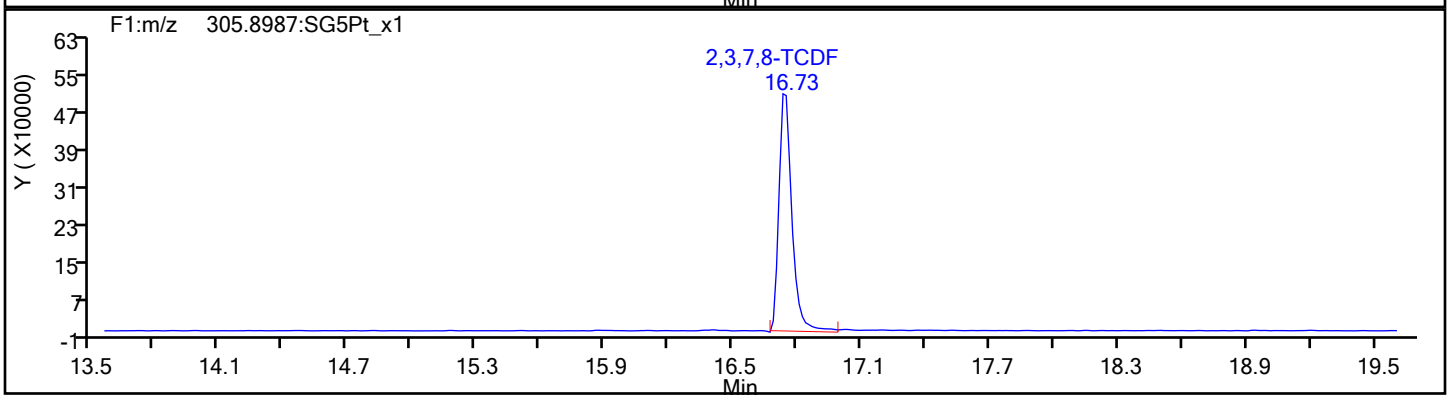

TCDF Standards

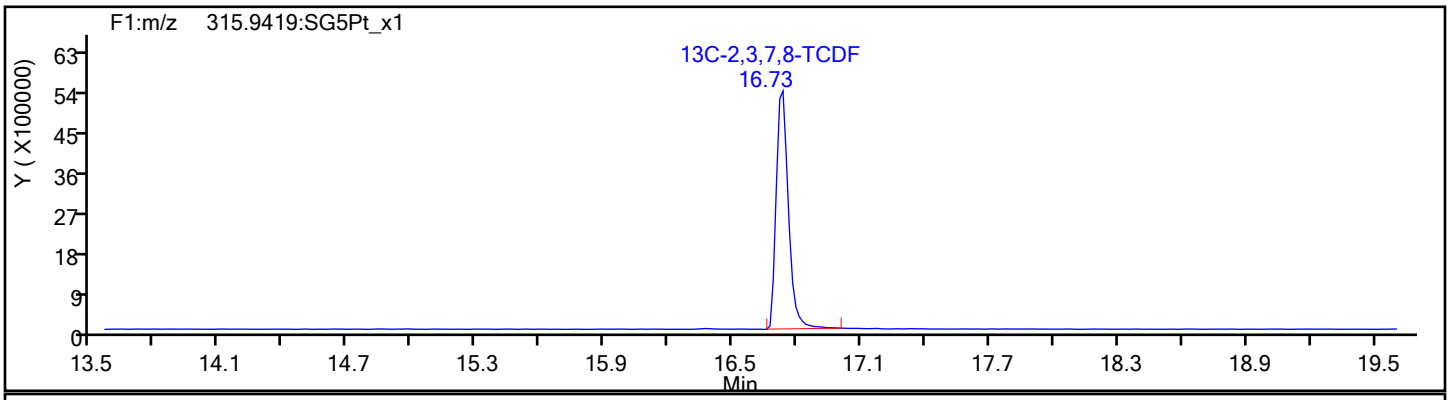

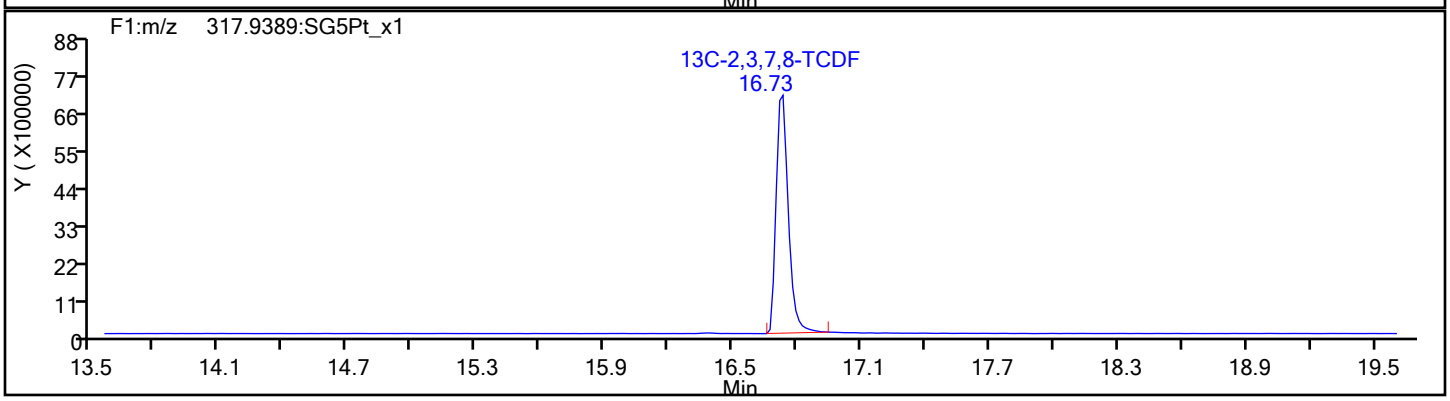

Report Date: 20-Feb-2020 13:42:19 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_41.d		
Injection Date:	19-Feb-2020 21:16:57	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	358703	Sample Line#:	41
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

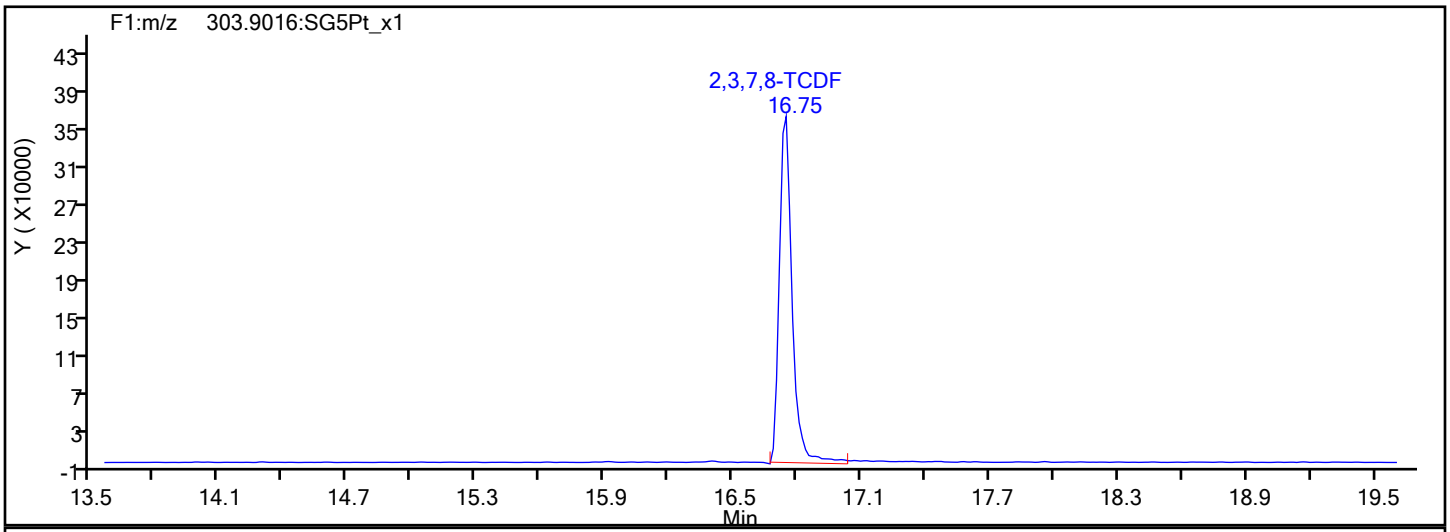

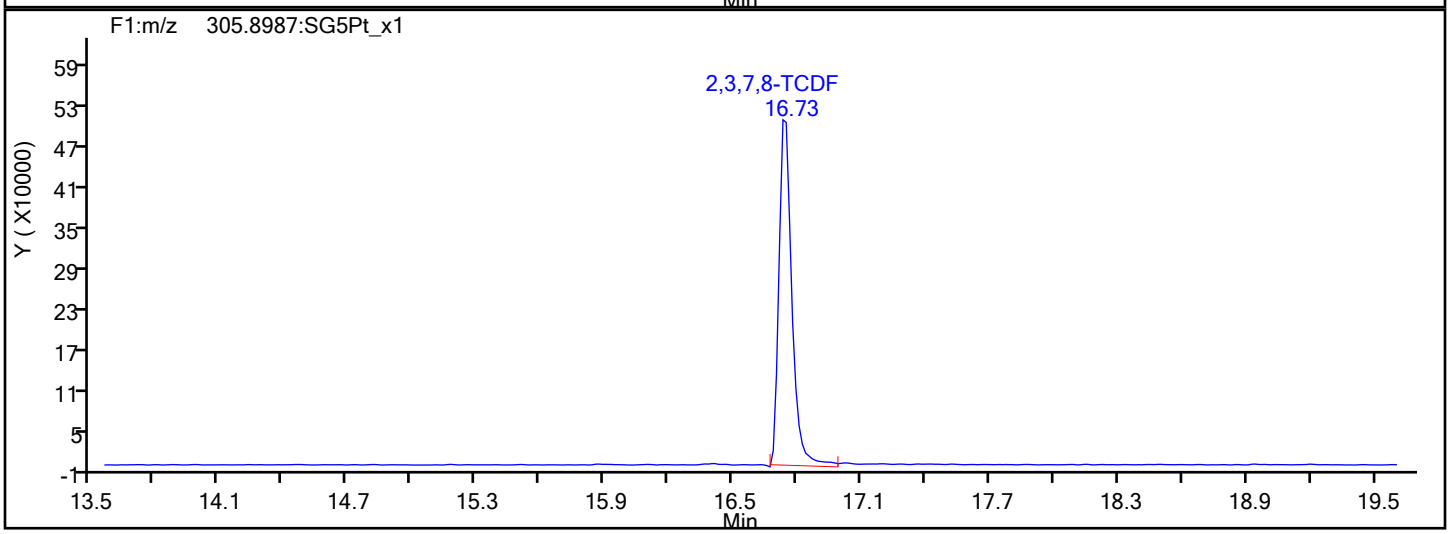

TCDF Interference Mass

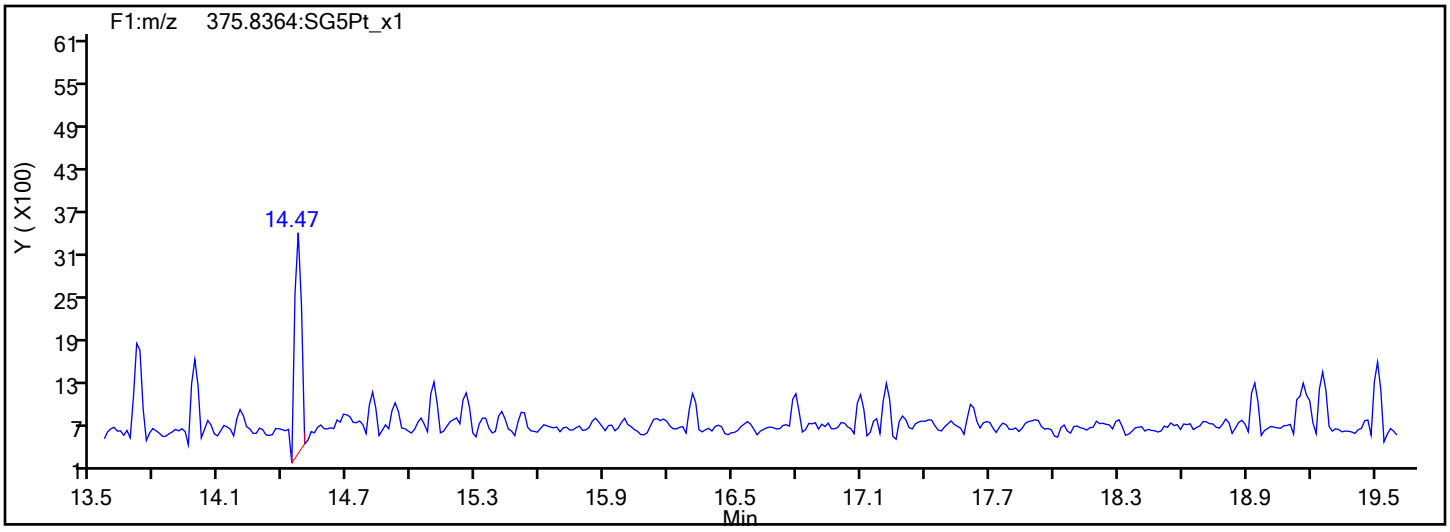

Report Date: 20-Feb-2020 13:42:19 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

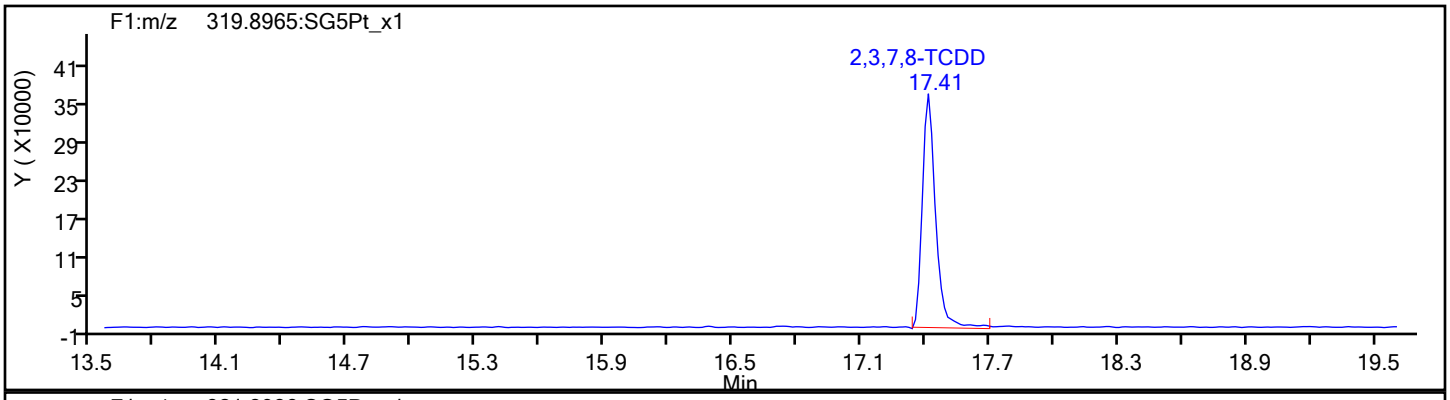

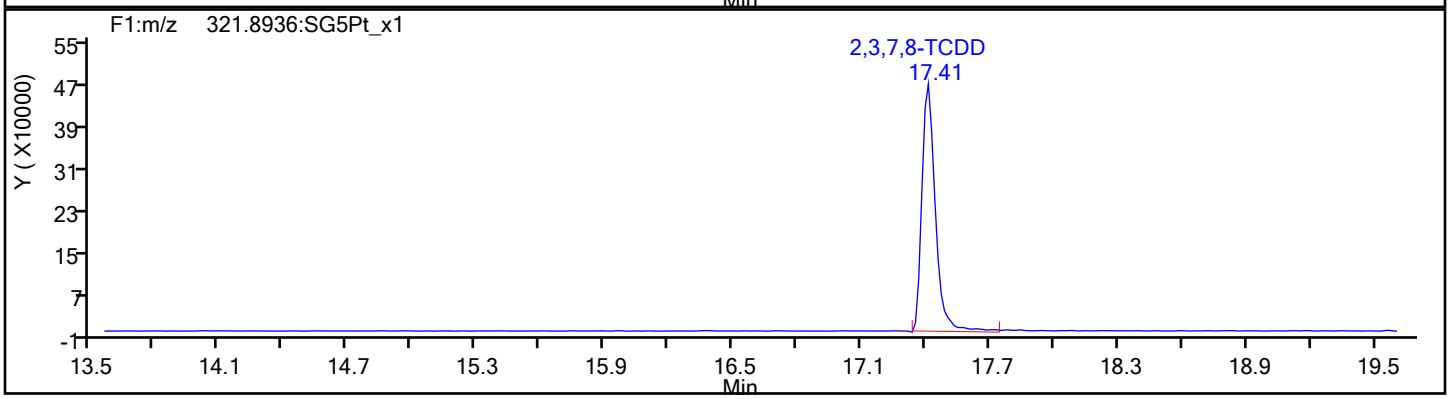

TCDD Standards

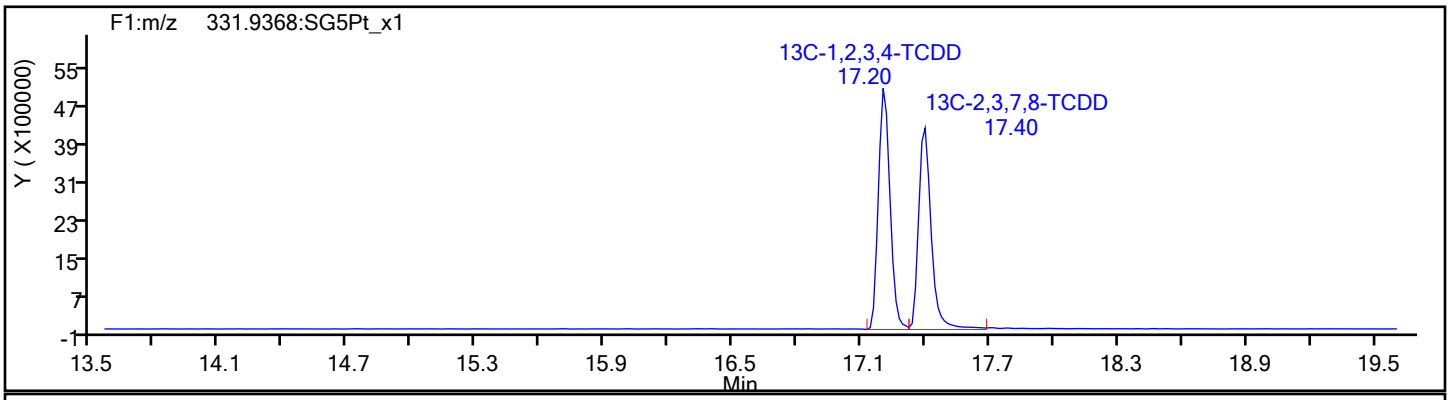

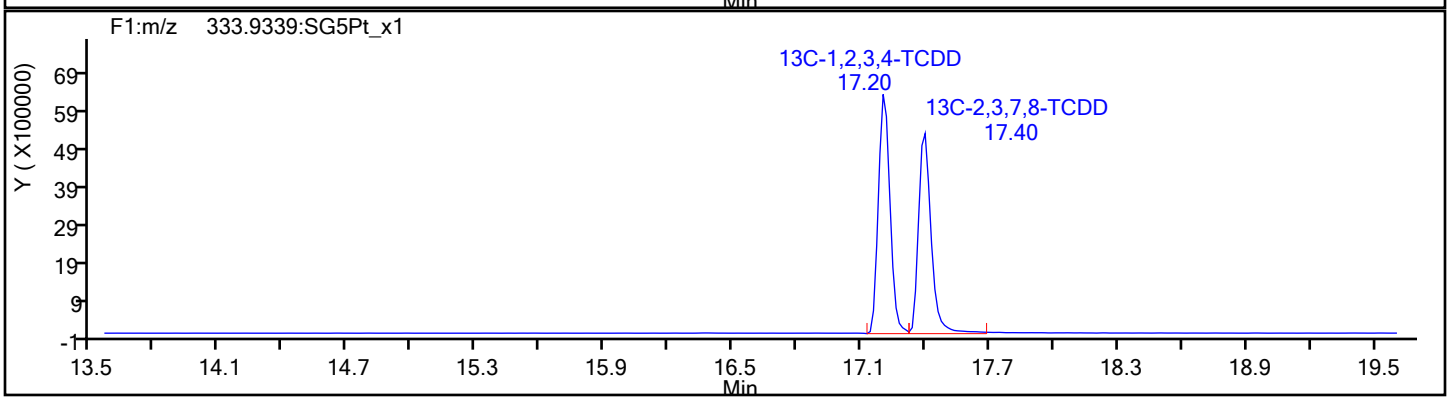

Report Date: 20-Feb-2020 13:42:19 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

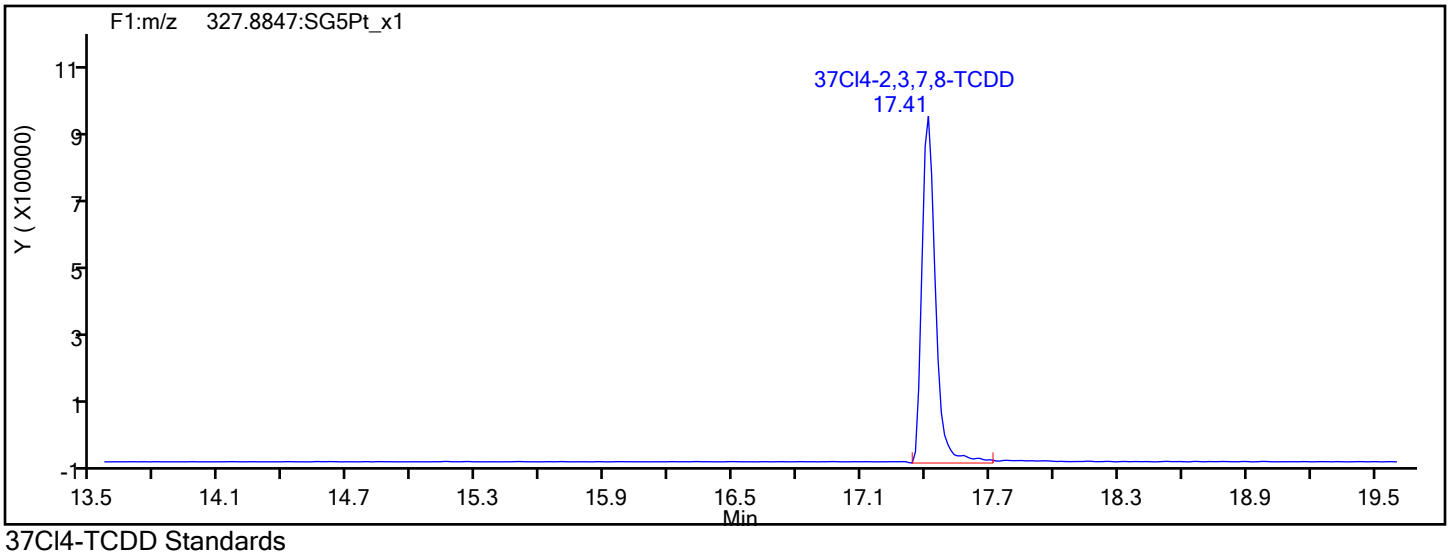

37Cl4-TCDD Standards

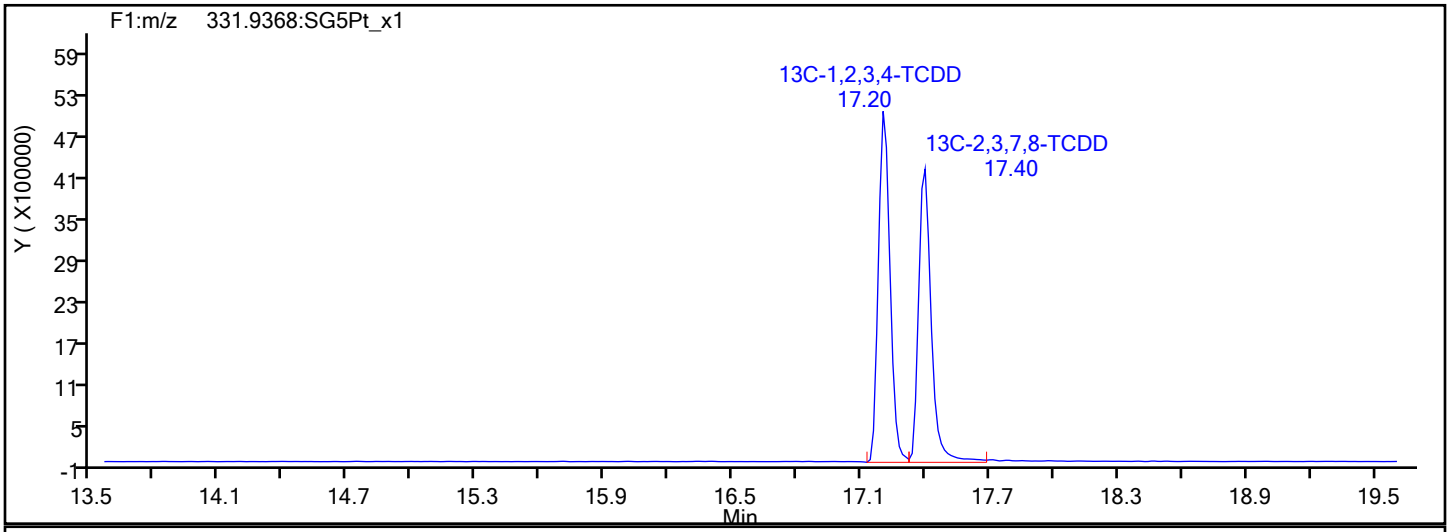

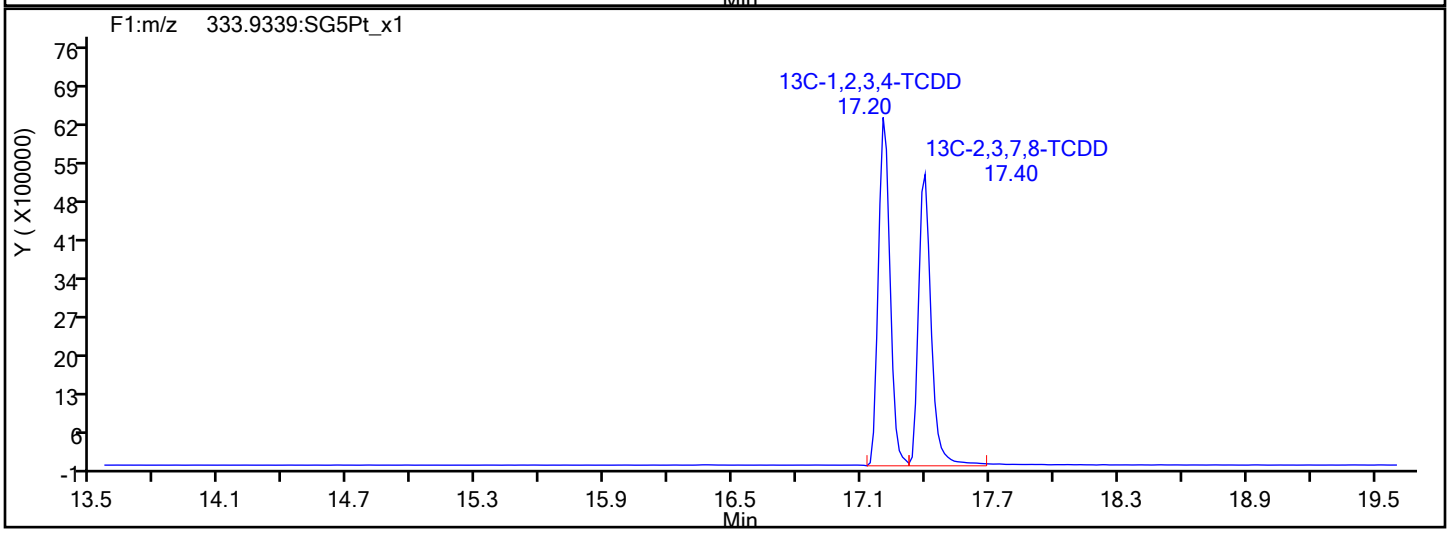

Report Date: 20-Feb-2020 13:42:19 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

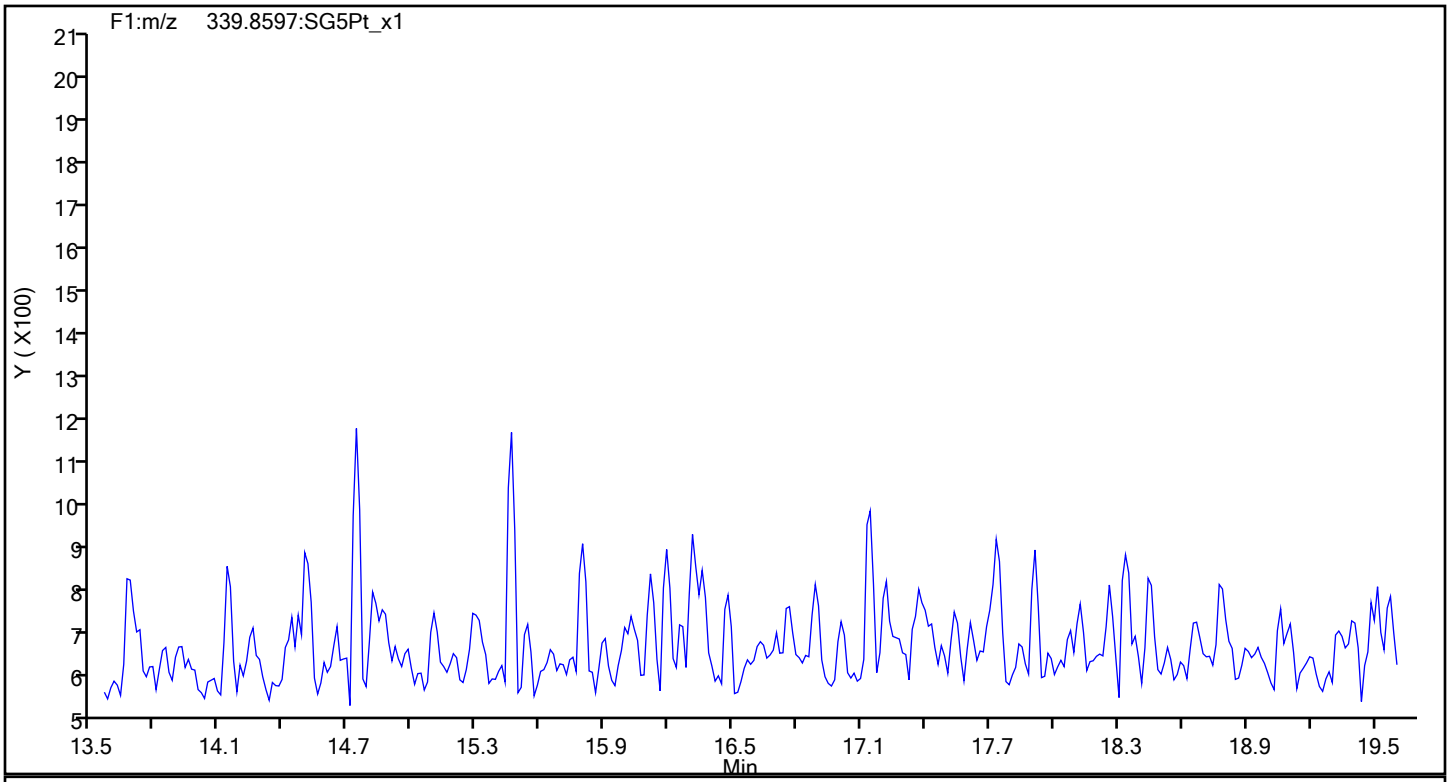

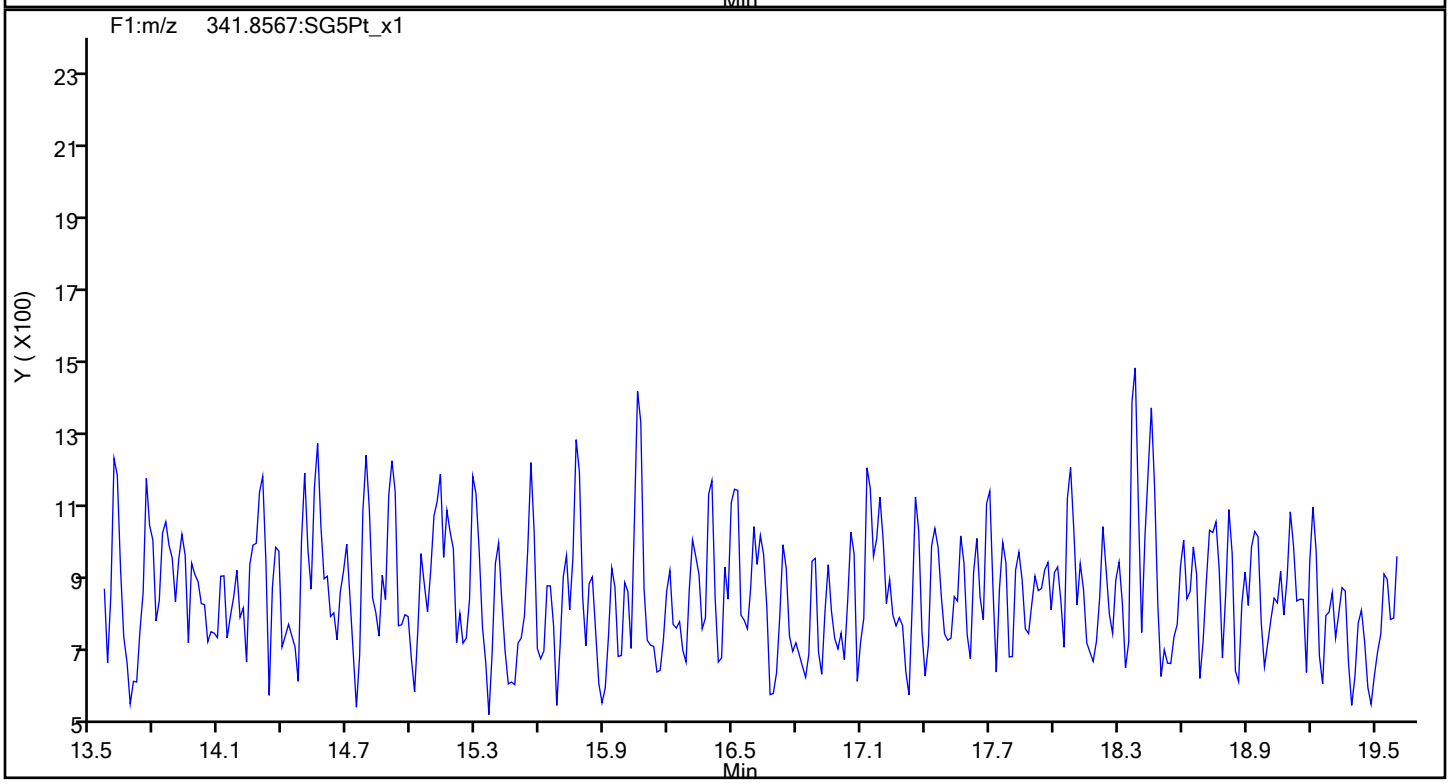

Report Date: 20-Feb-2020 13:42:19 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

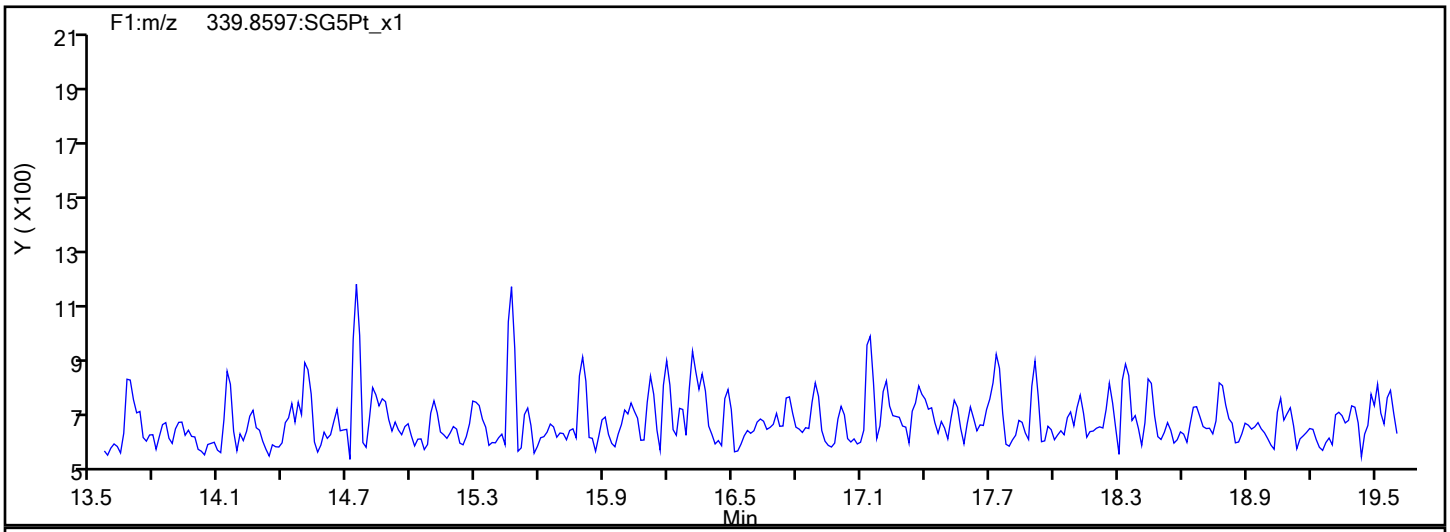

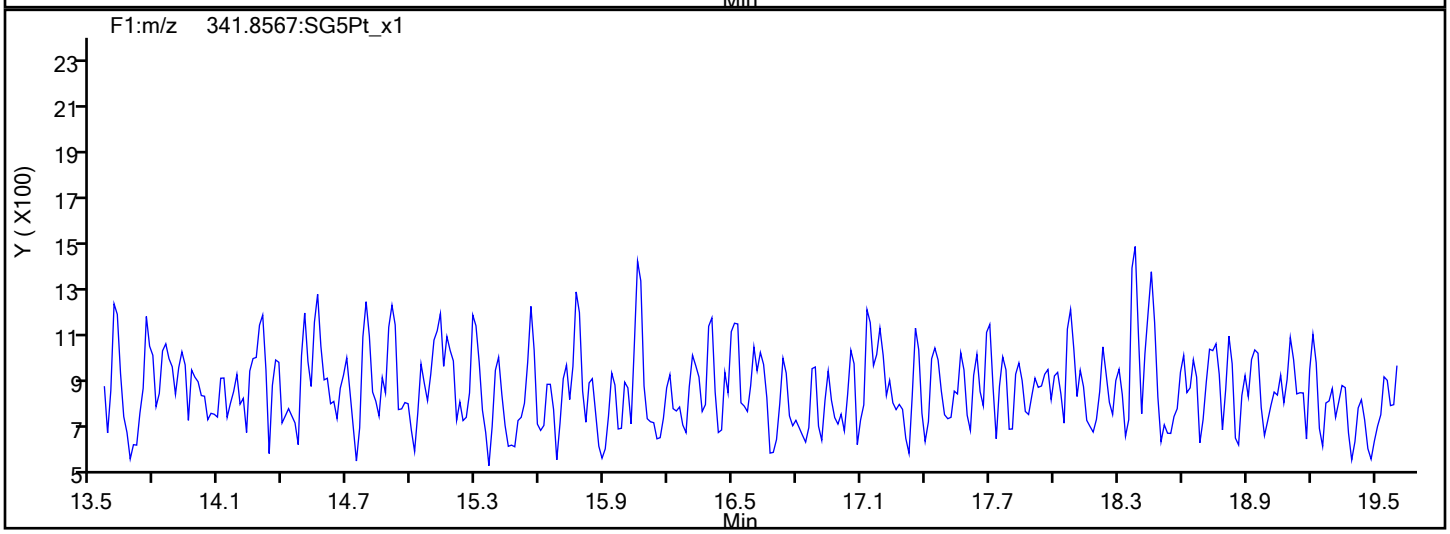

F1 PeCDFs Interference Mass

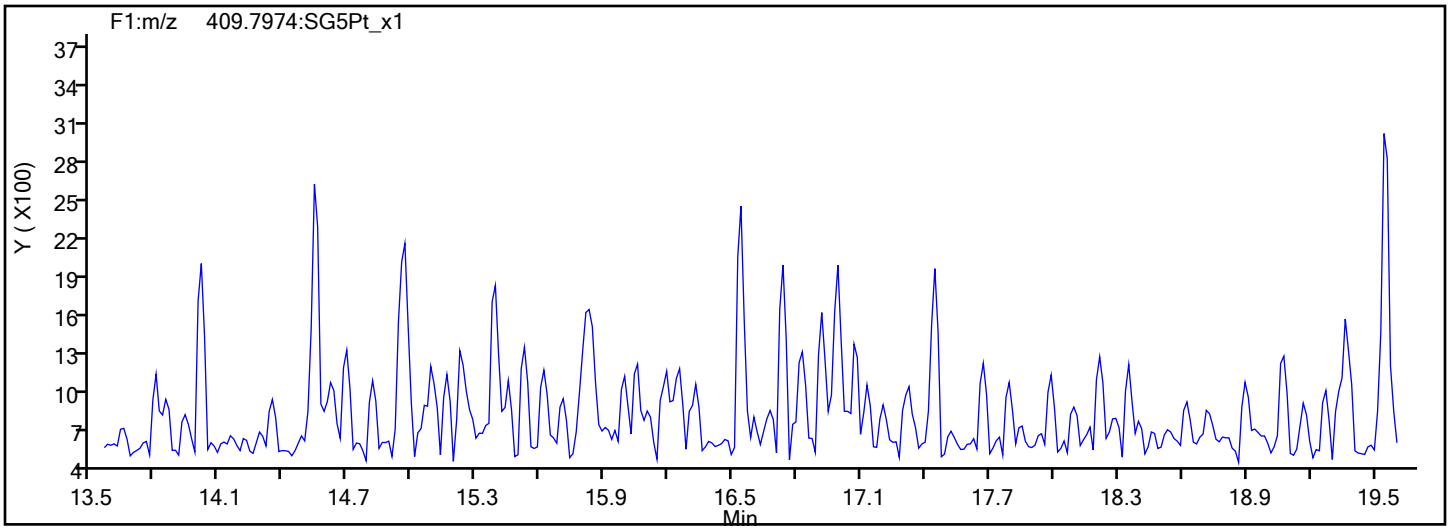

Report Date: 20-Feb-2020 13:42:19 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

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PeCDF

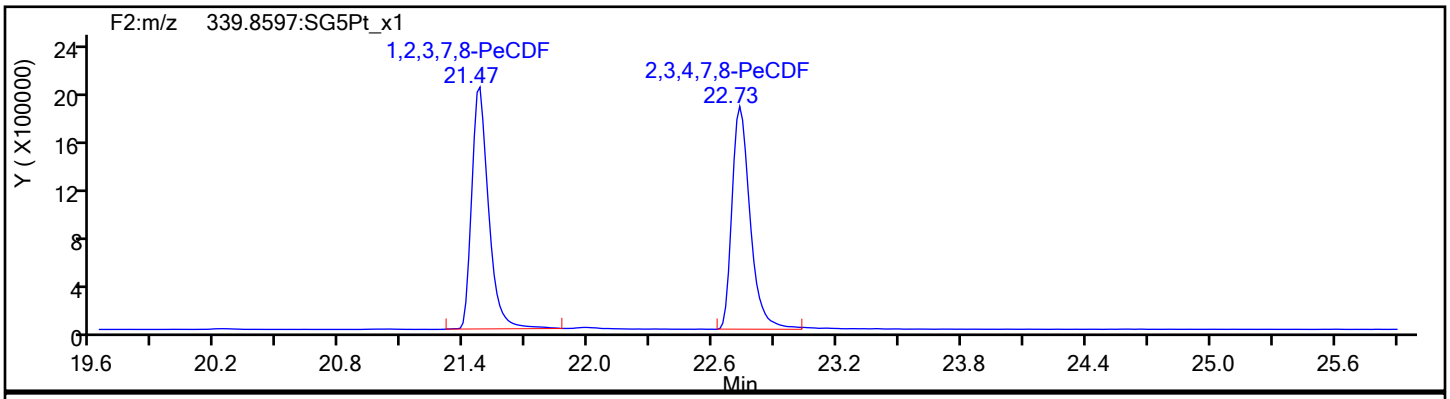

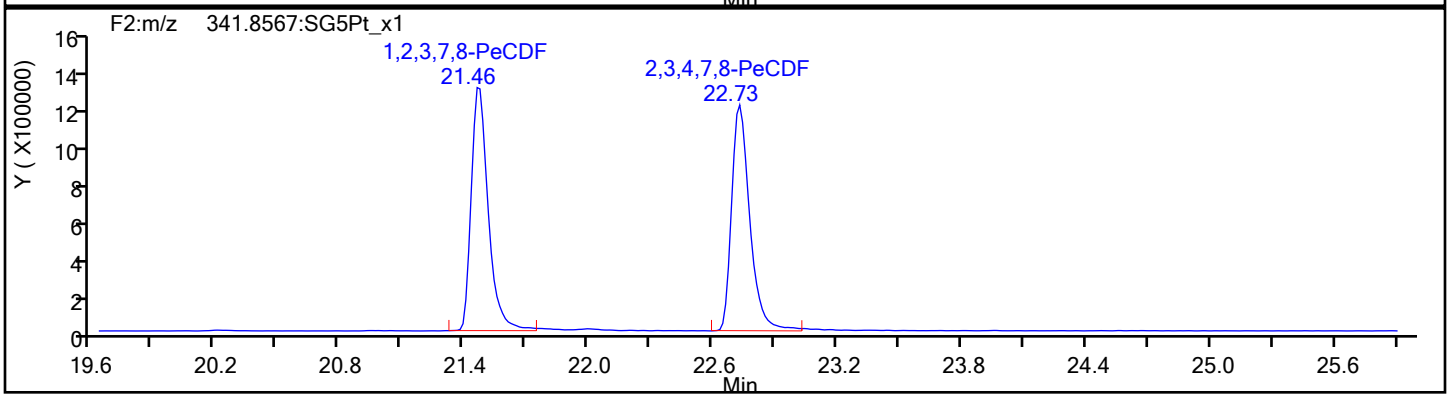

PeCDF Standards

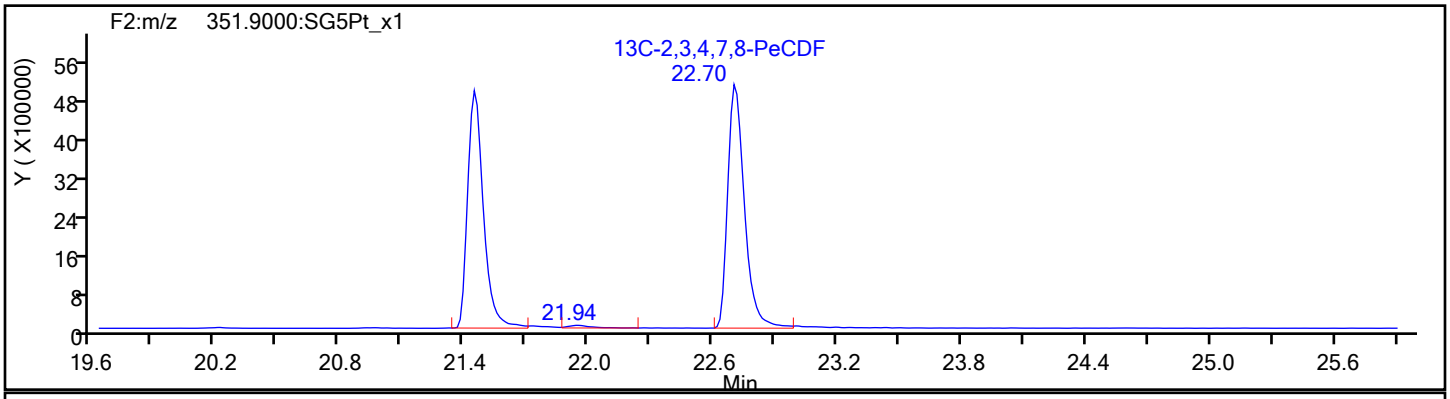

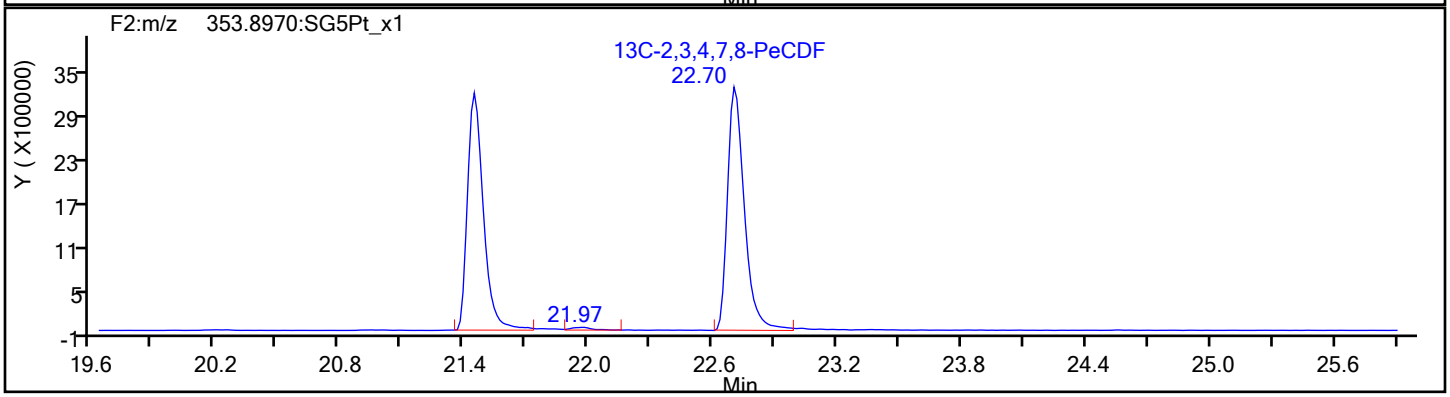

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Eurofins TestAmerica, Sacramento

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PeCDF

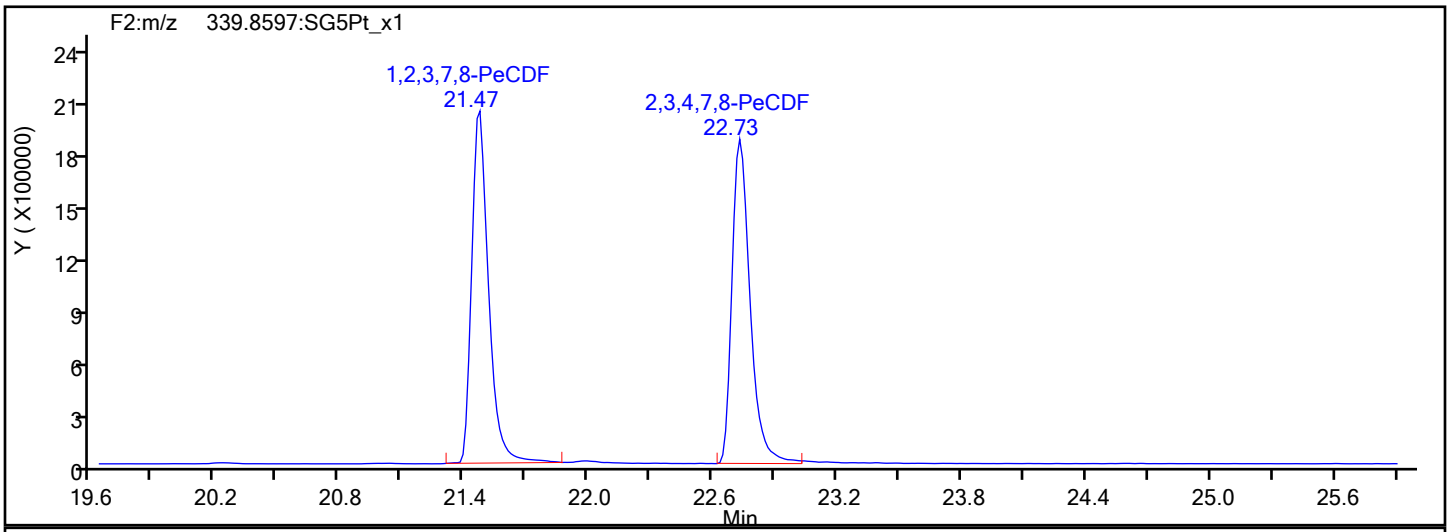

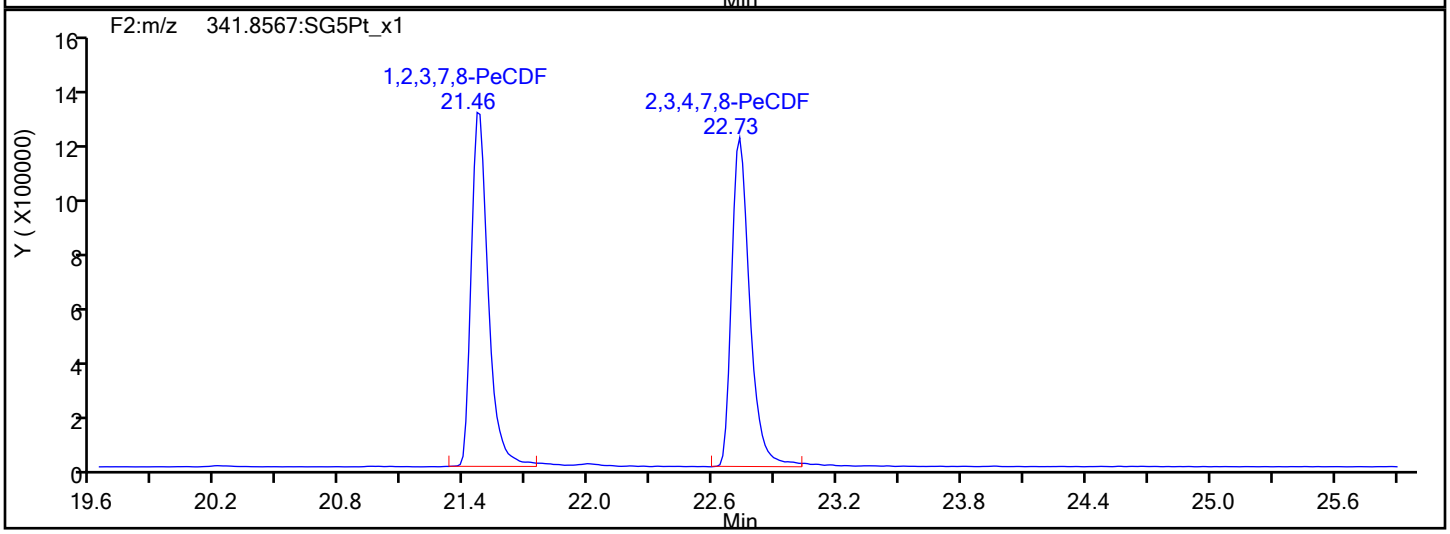

PeCDF Interference Mass

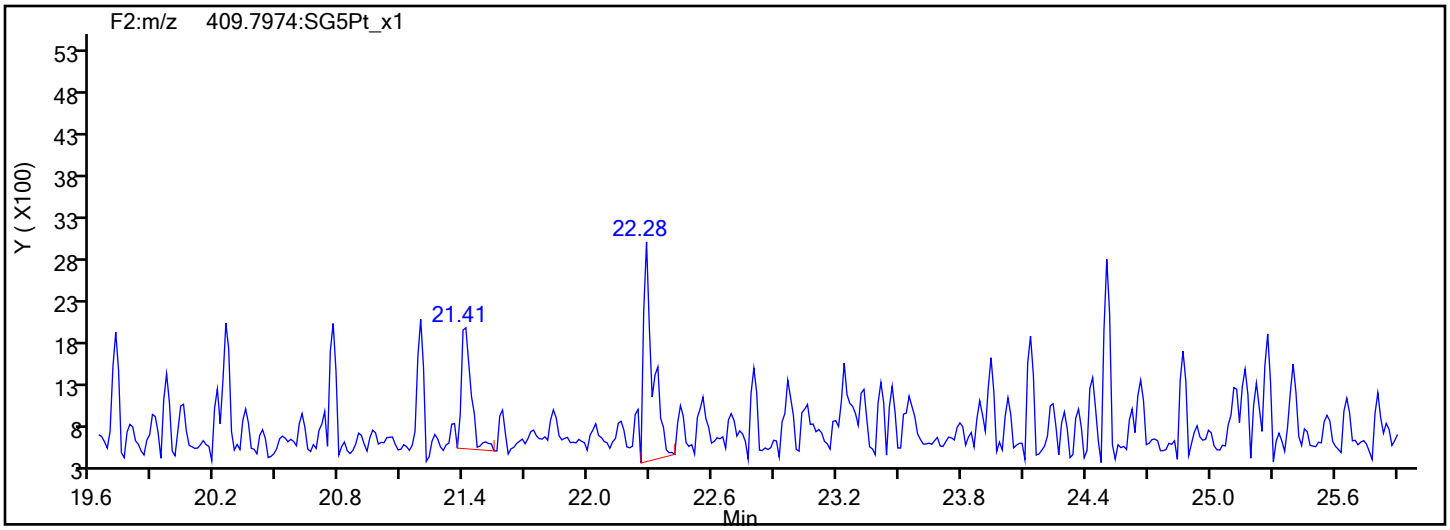

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Eurofins TestAmerica, Sacramento

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PeCDD

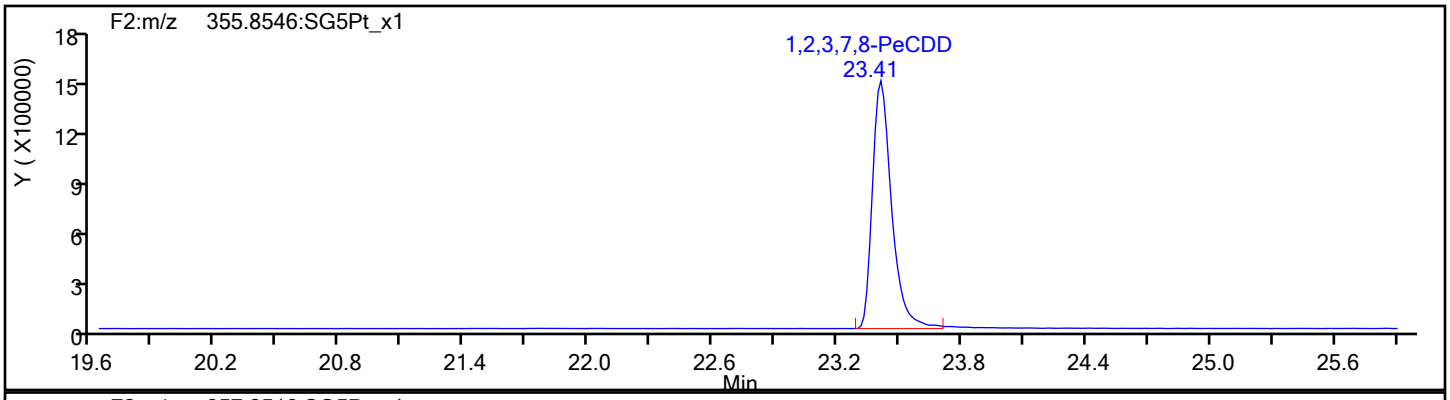

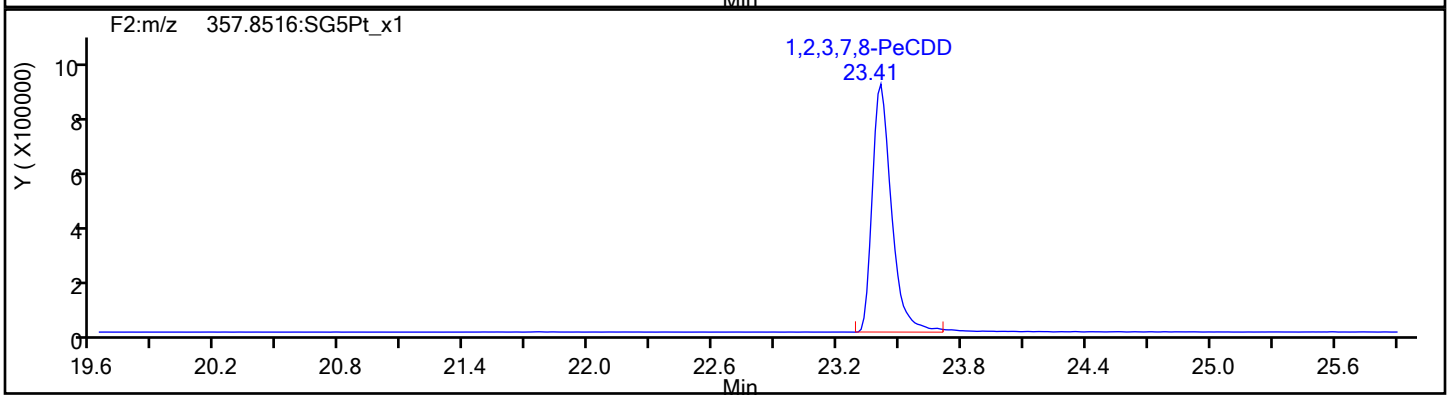

PeCDD Standards

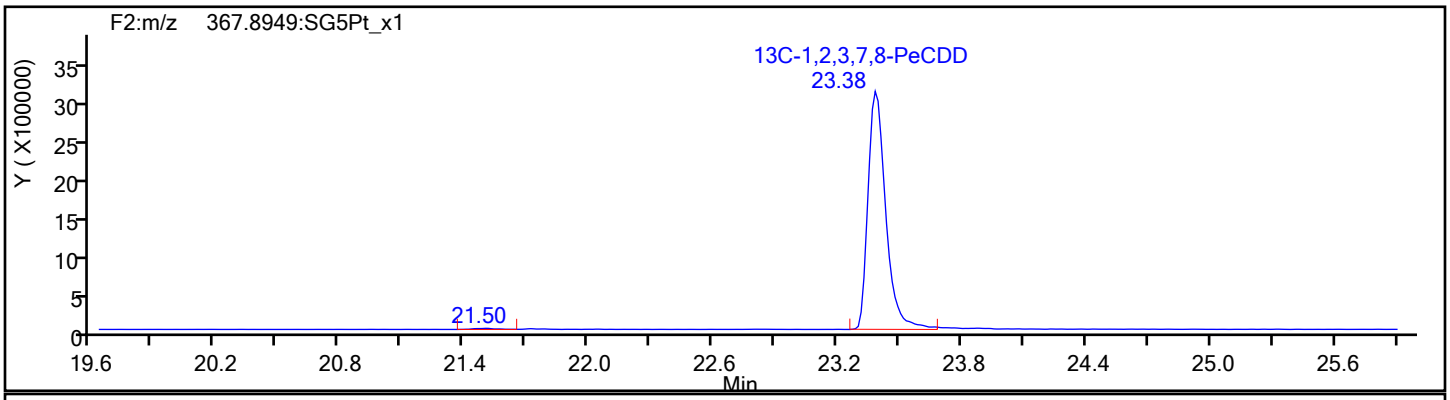

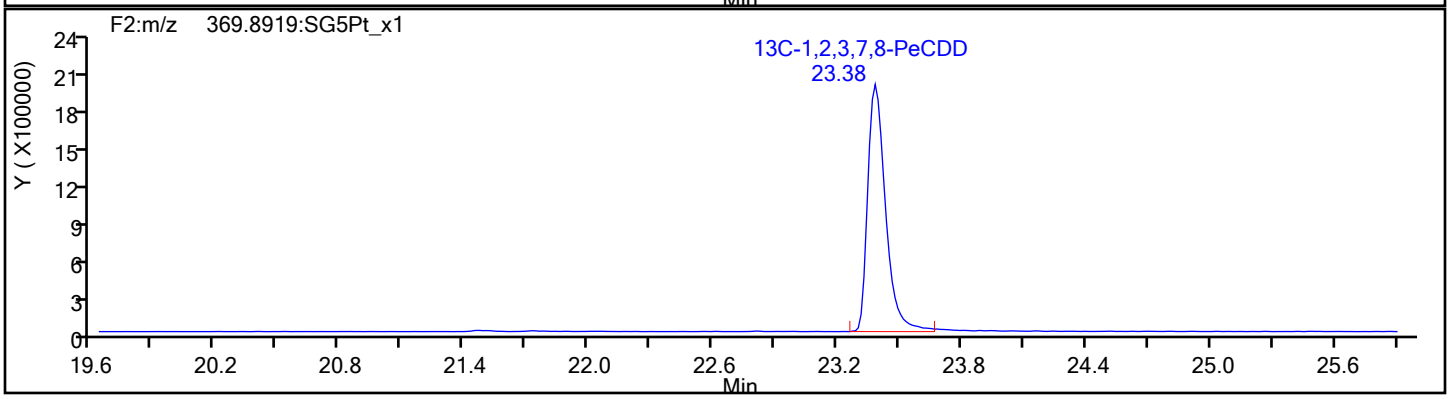

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Eurofins TestAmerica, Sacramento

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HxCDF

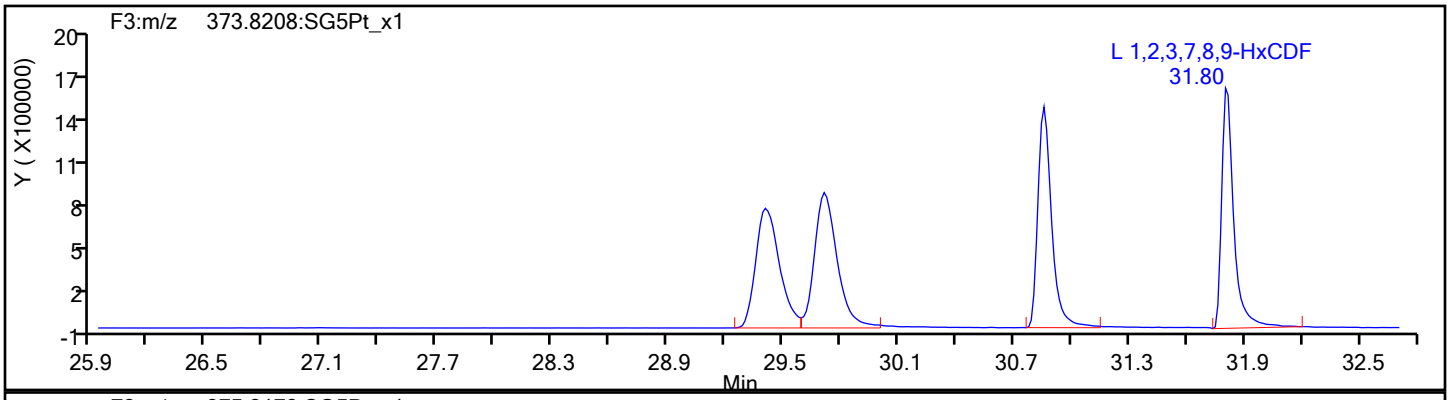

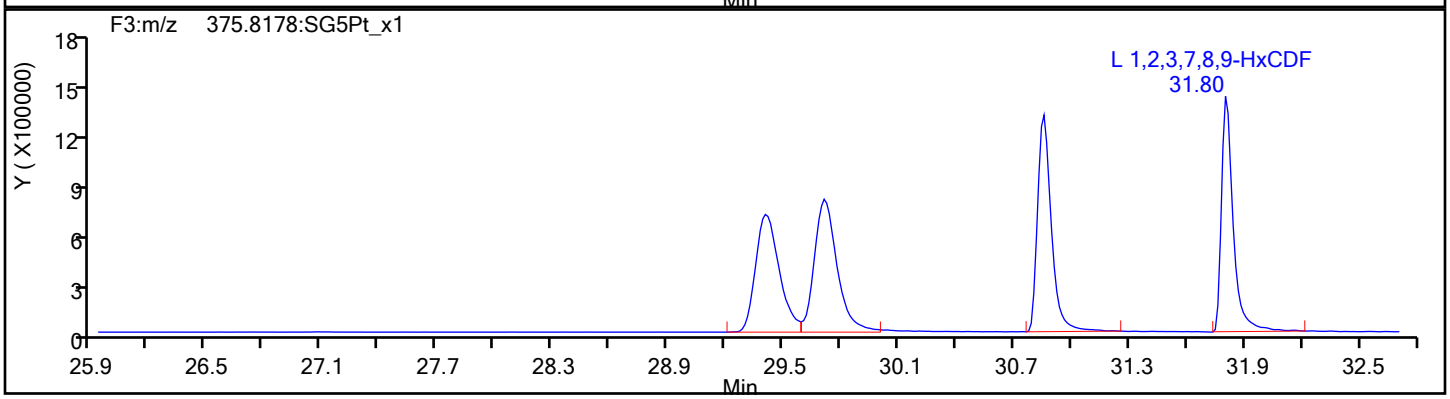

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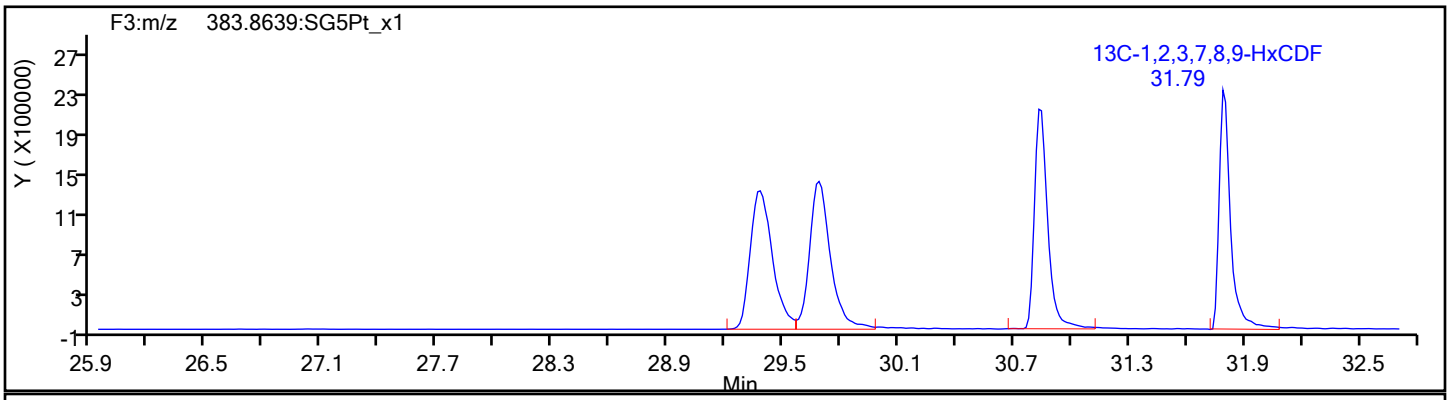

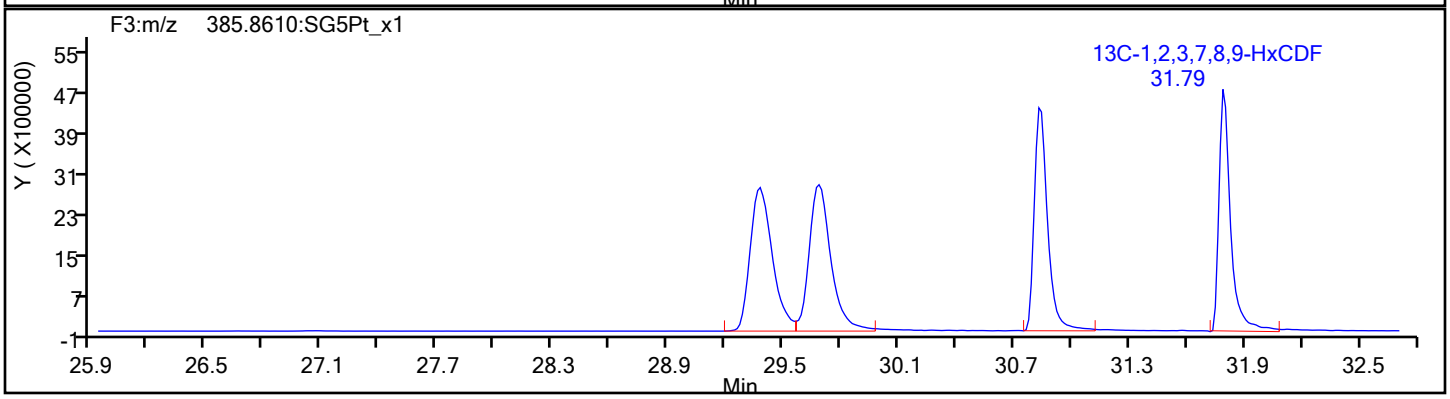

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Eurofins TestAmerica, Sacramento

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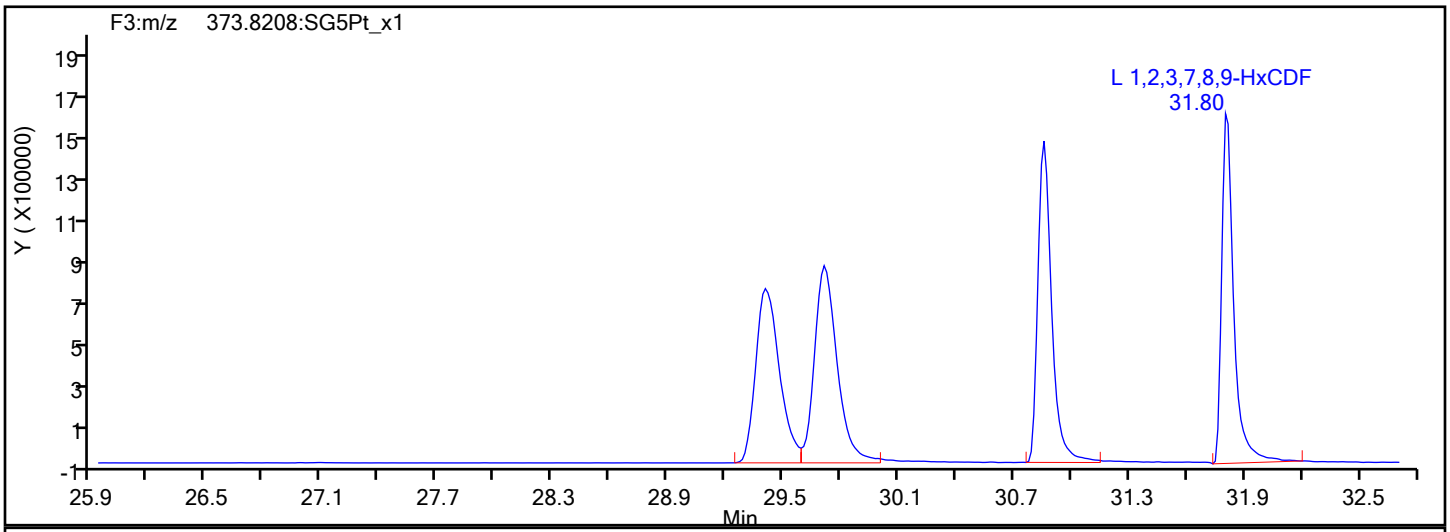

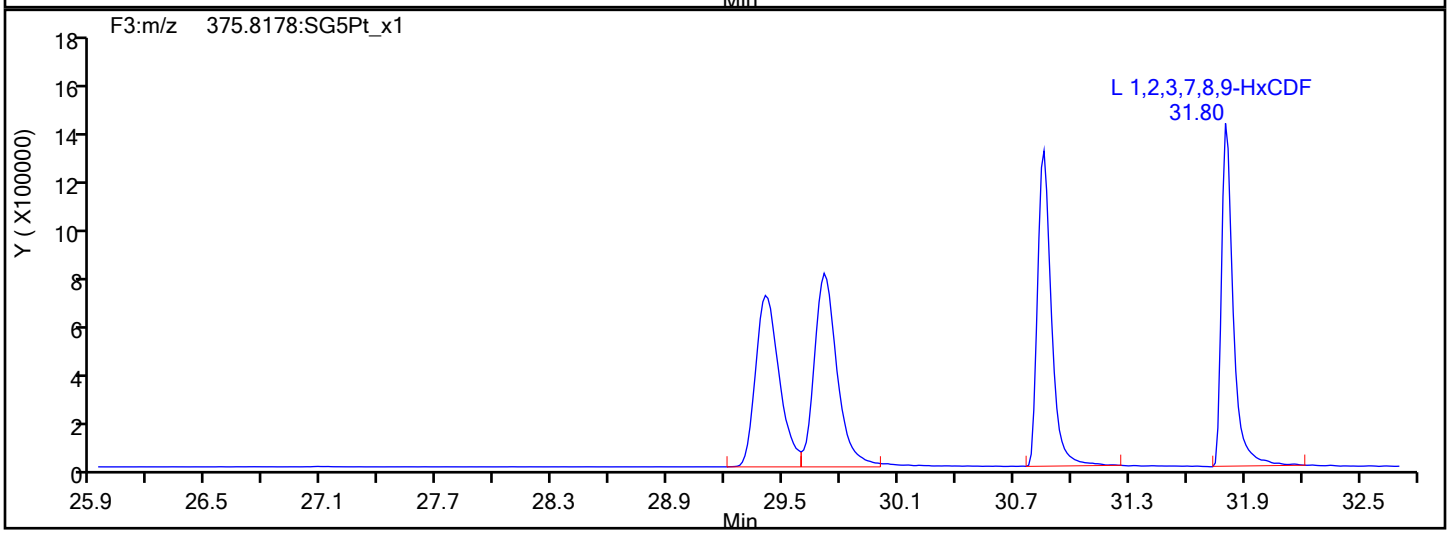

HxCDF Interference Mass

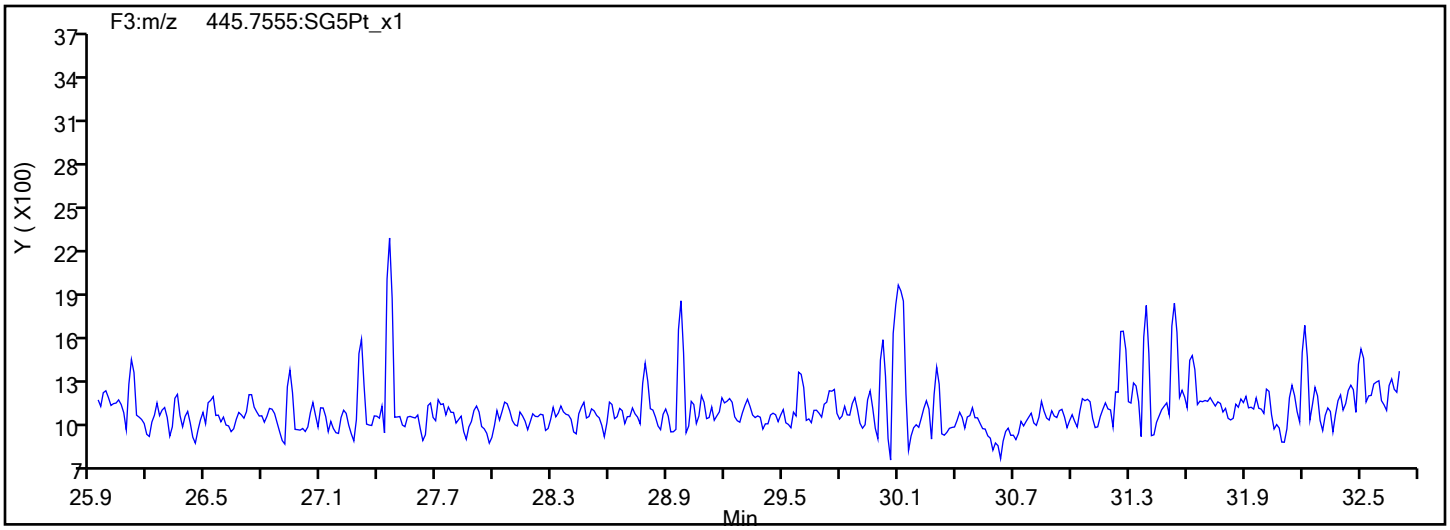

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Eurofins TestAmerica, Sacramento

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HxCDD

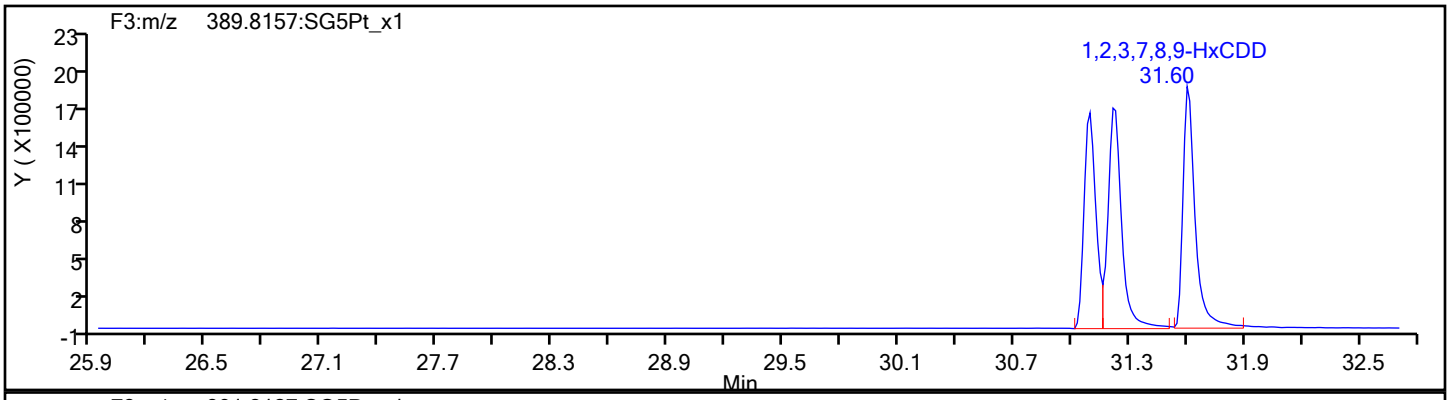

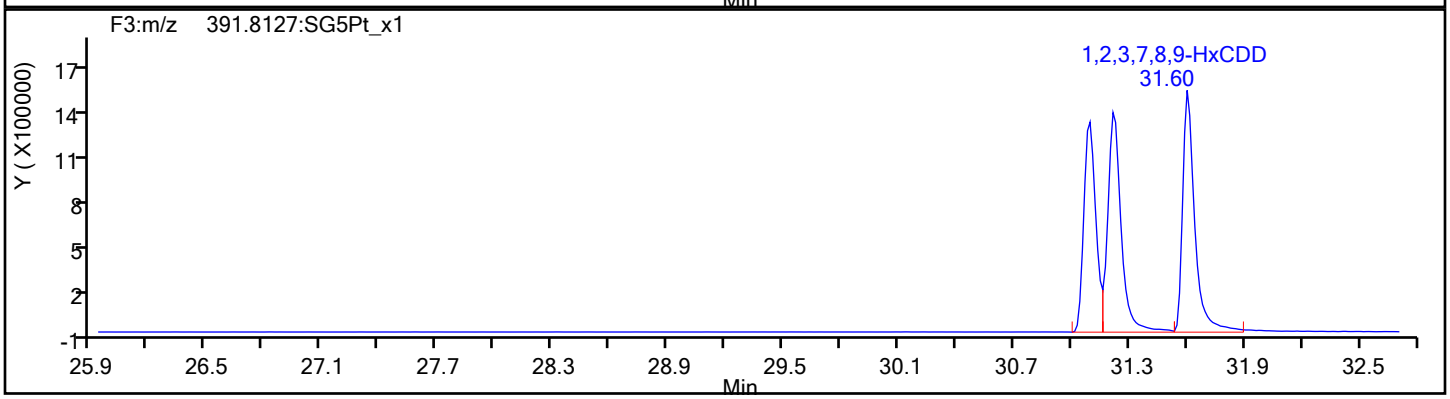

HxCDD Standards

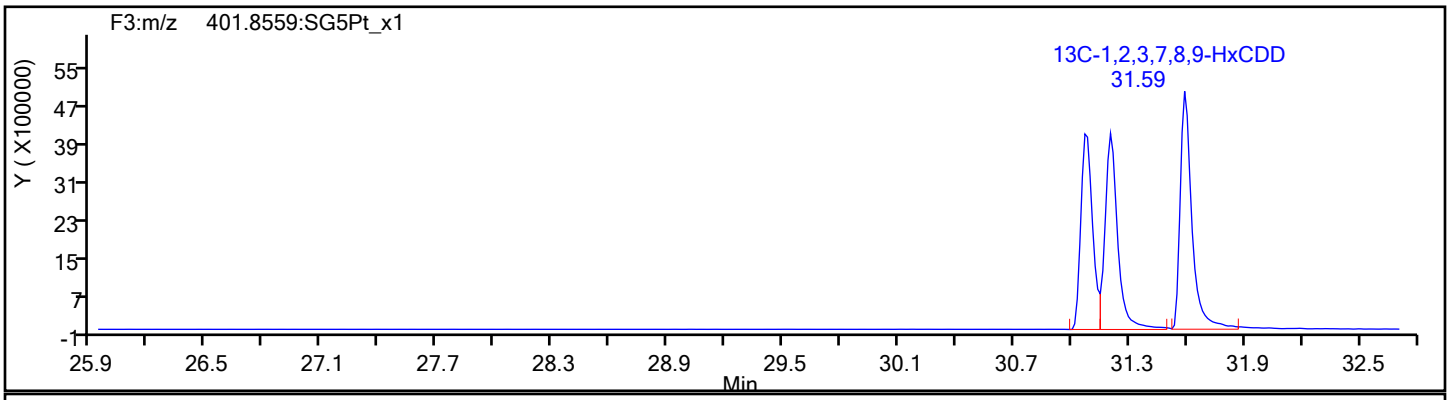

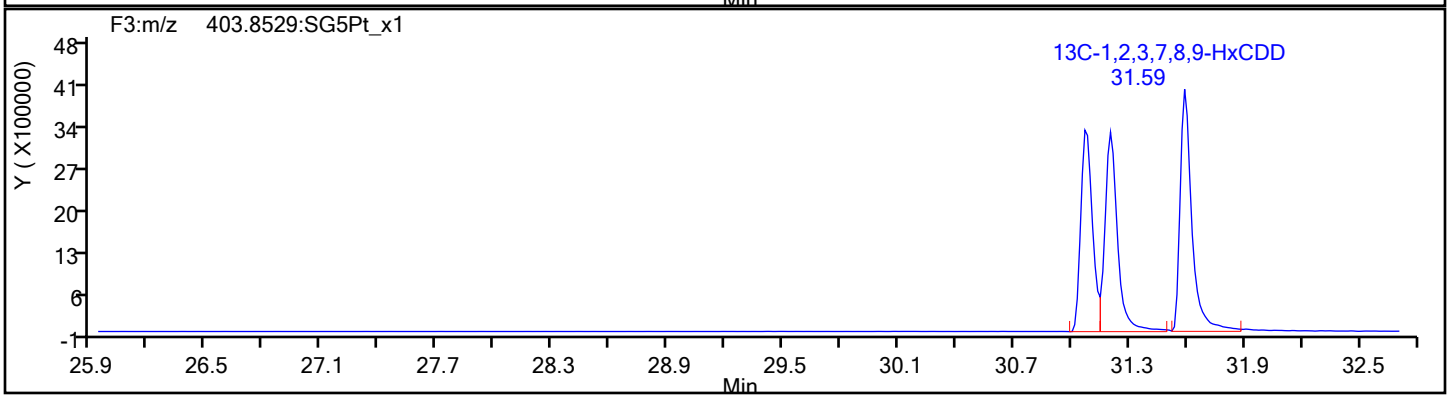

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Eurofins TestAmerica, Sacramento

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HpCDF

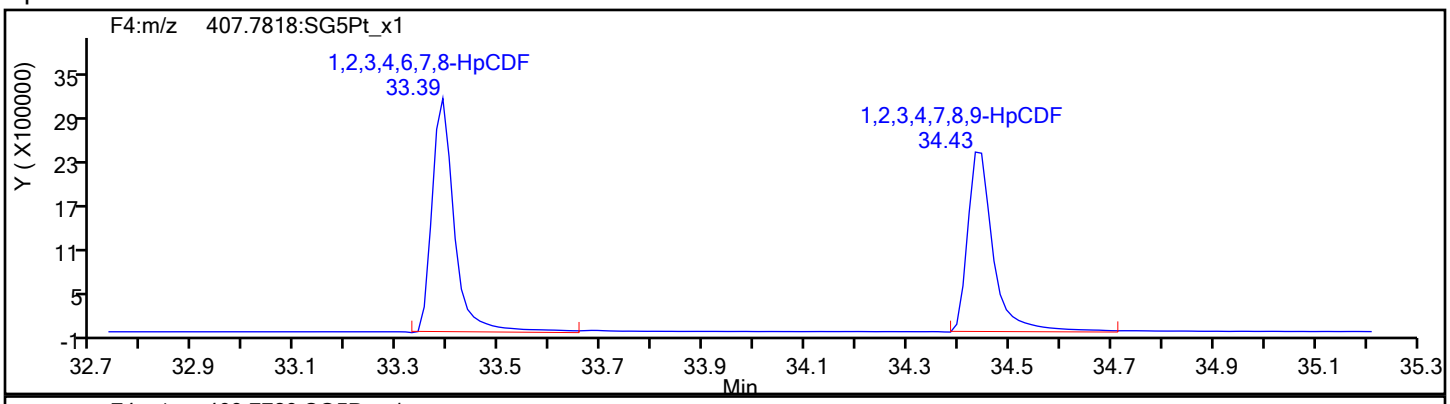

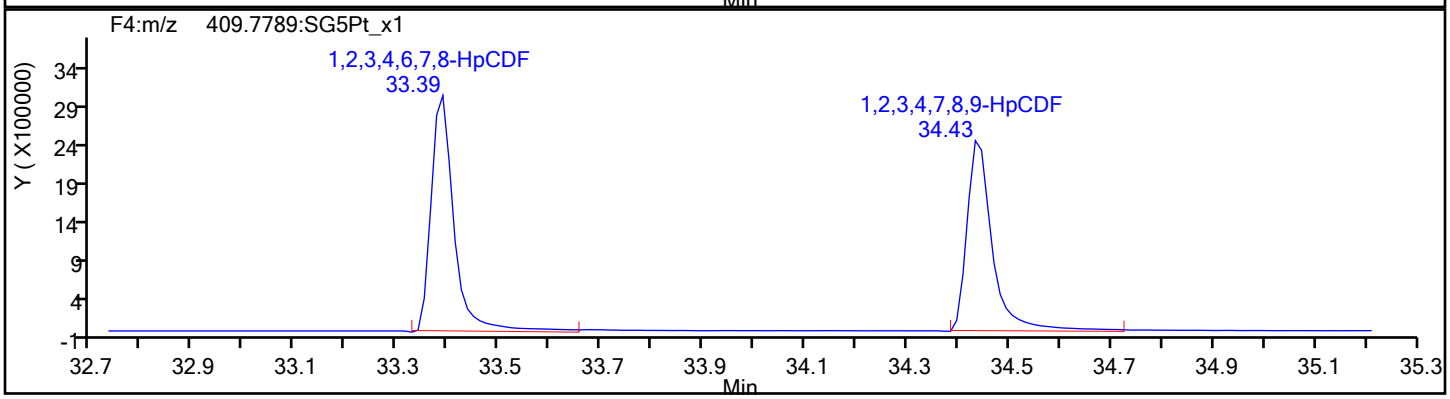

HpCDF Standards

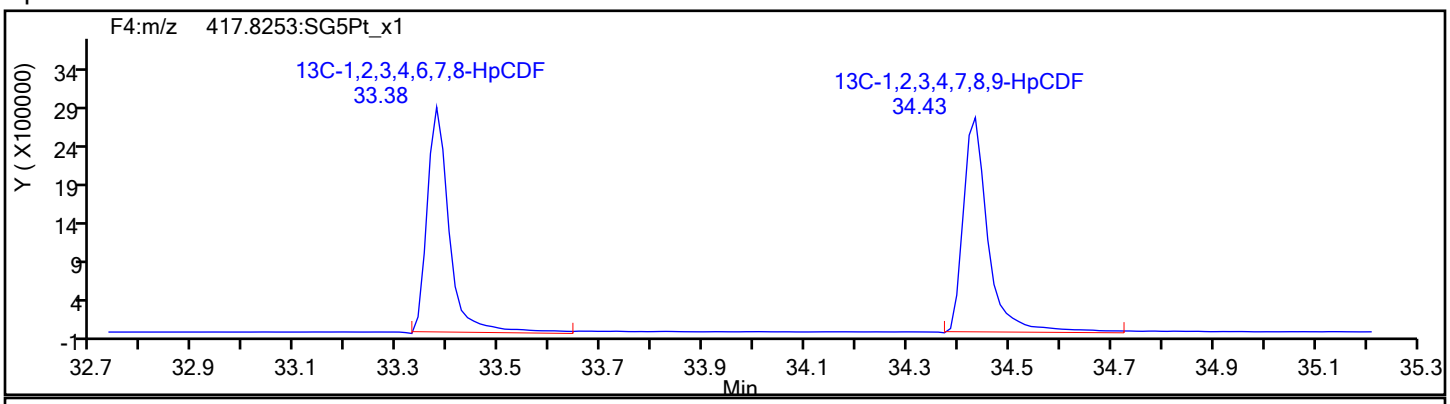

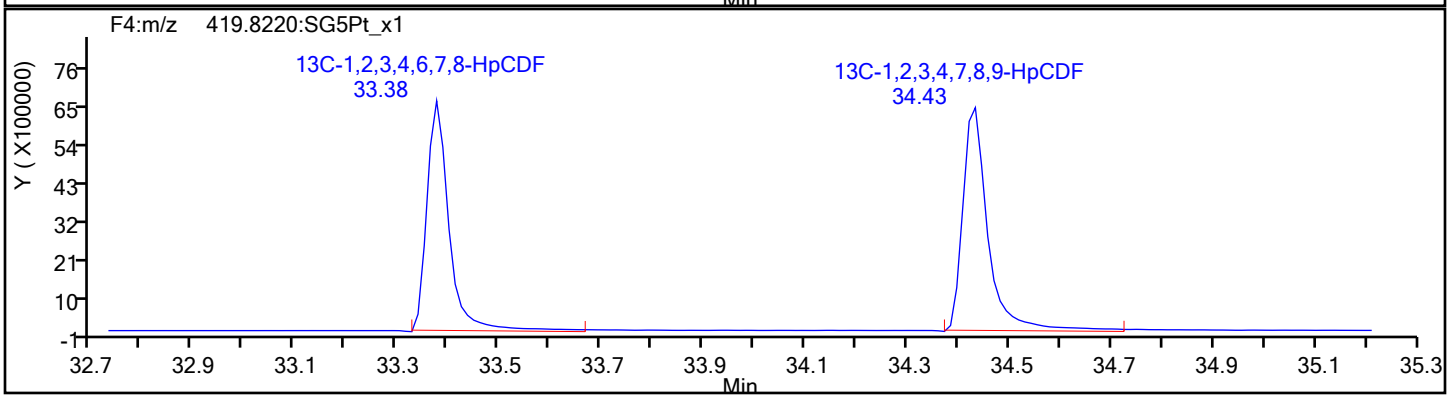

Report Date: 20-Feb-2020 13:42:20 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_41.d		
Injection Date:	19-Feb-2020 21:16:57	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	358703	Sample Line#:	41
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

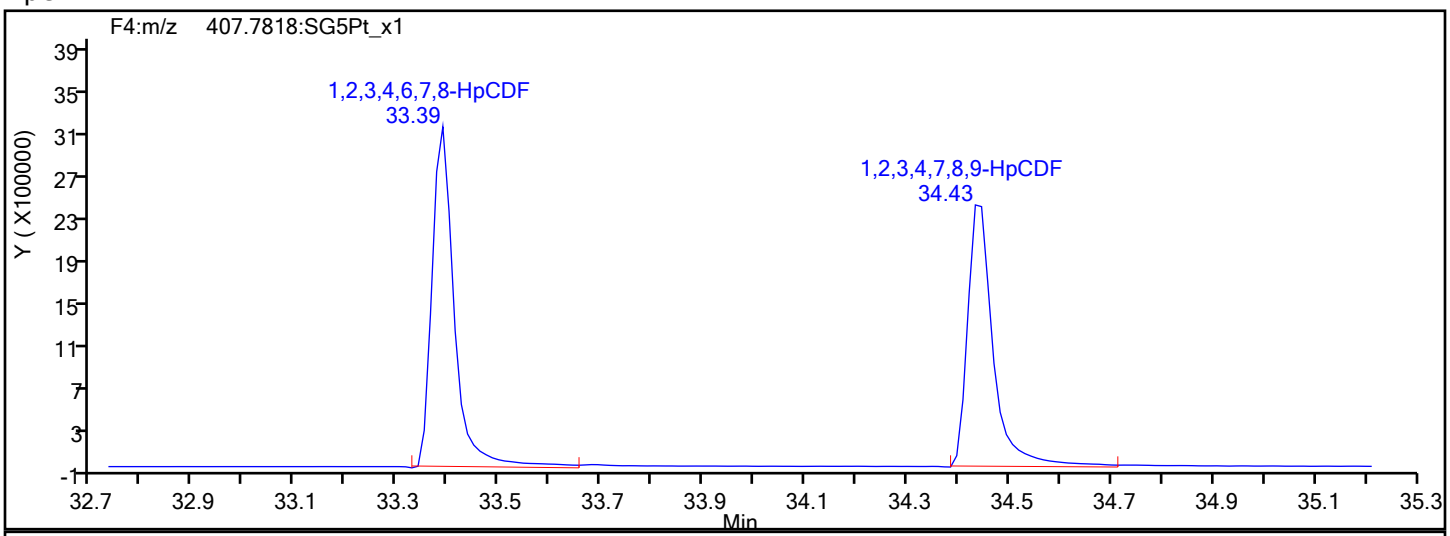

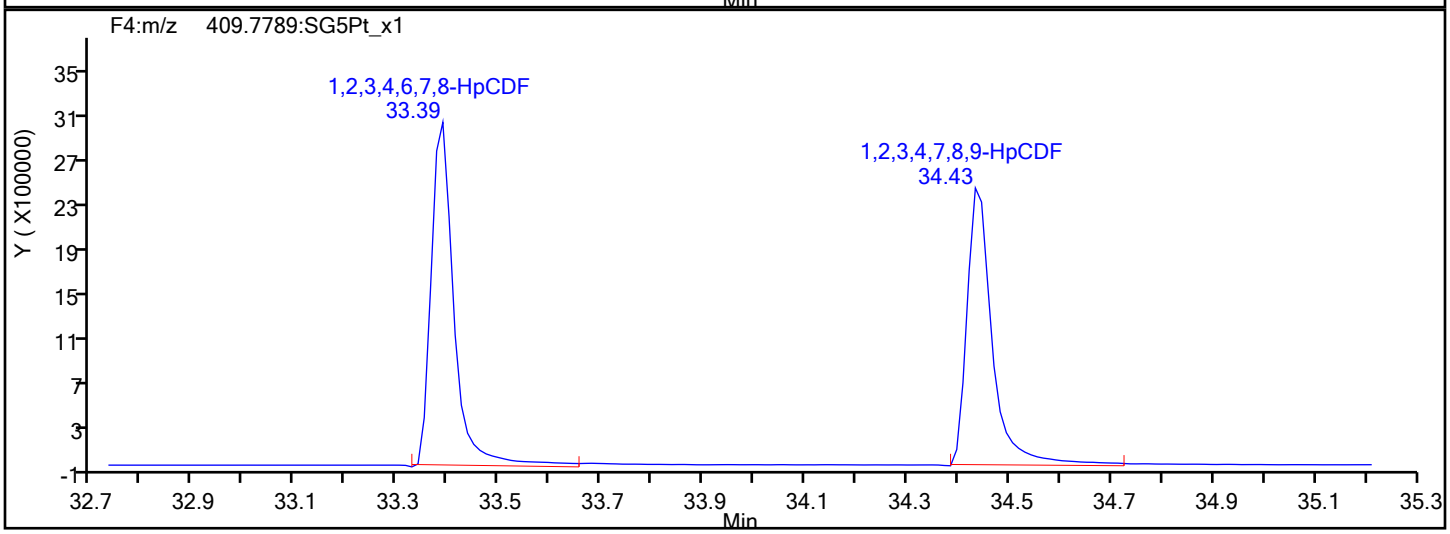

HpCDF Interference Mass

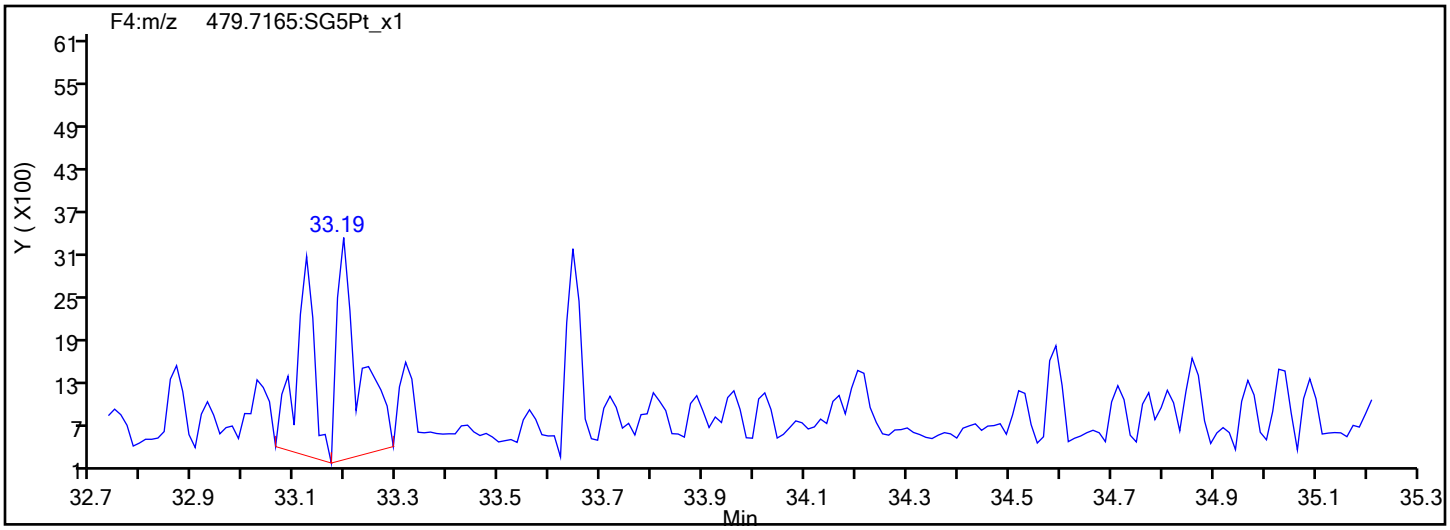

Report Date: 20-Feb-2020 13:42:20 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_41.d		
Injection Date:	19-Feb-2020 21:16:57	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	358703	Sample Line#:	41
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

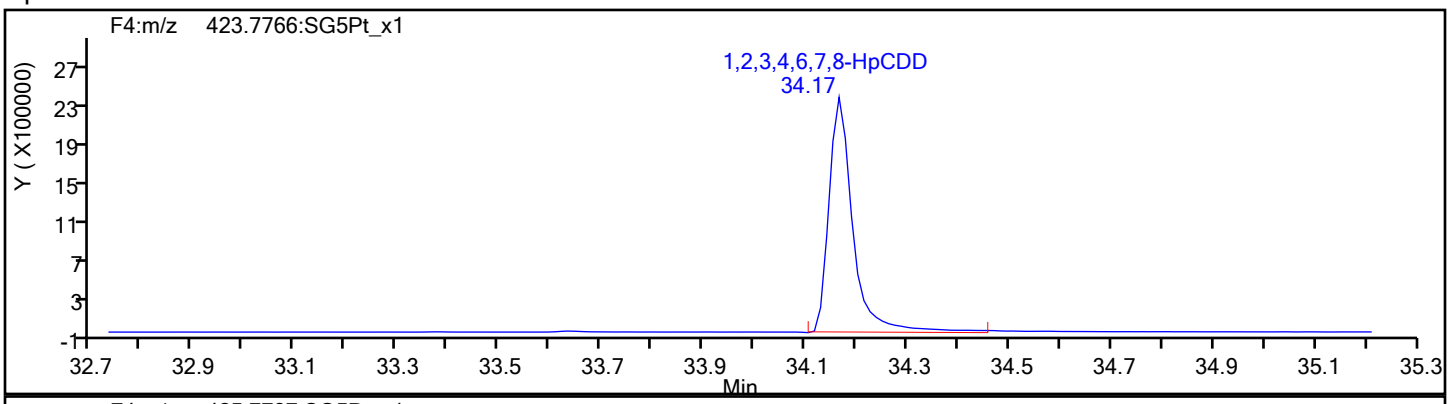

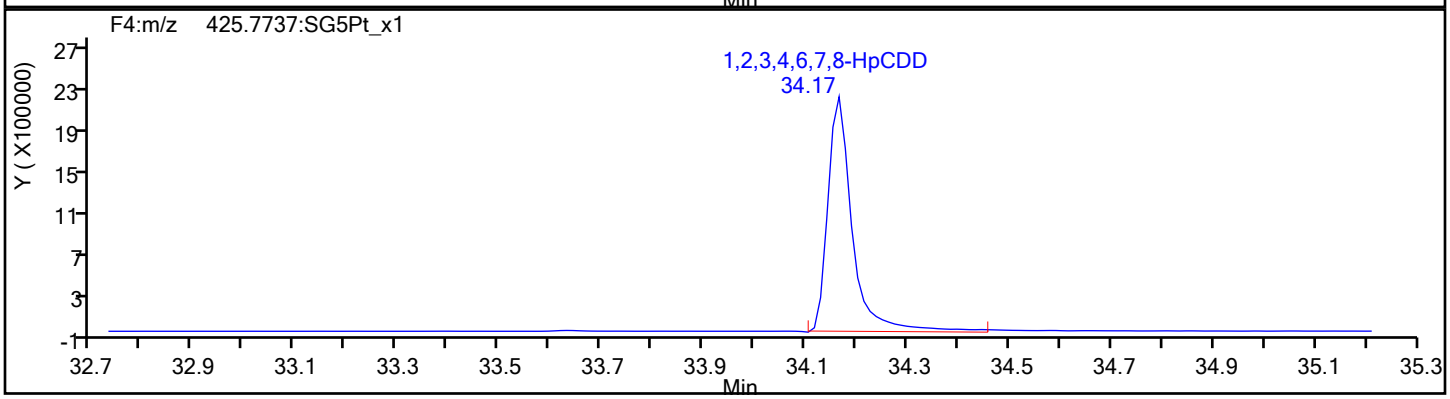

HpCDD Standards

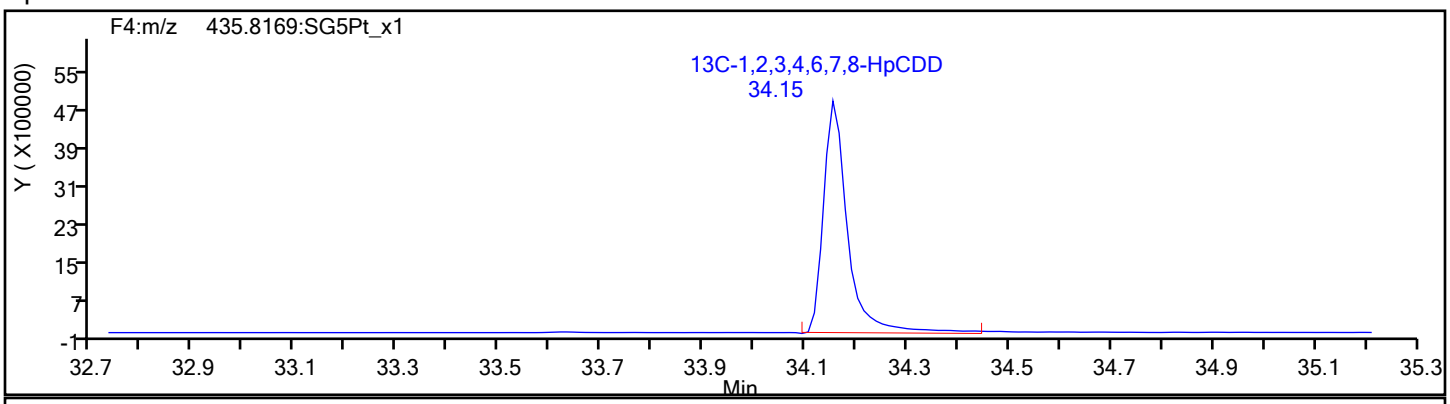

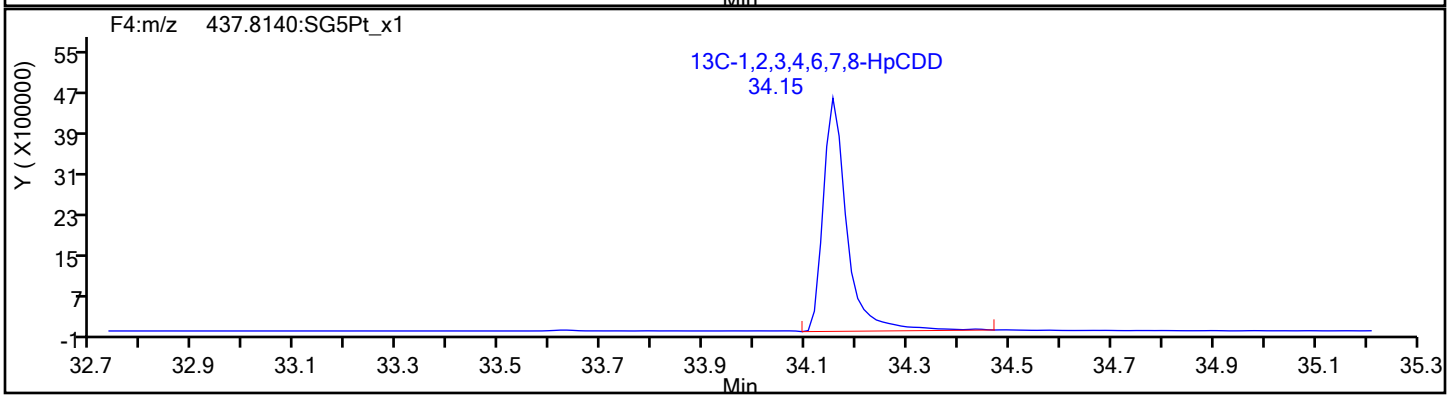

Report Date: 20-Feb-2020 13:42:20 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_41.d		
Injection Date:	19-Feb-2020 21:16:57	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	358703	Sample Line#:	41
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

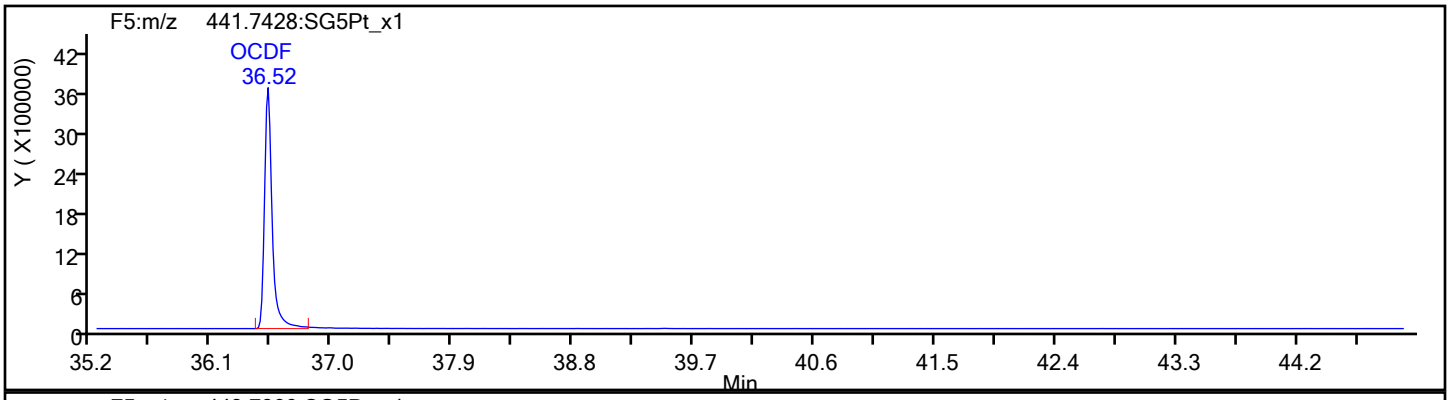

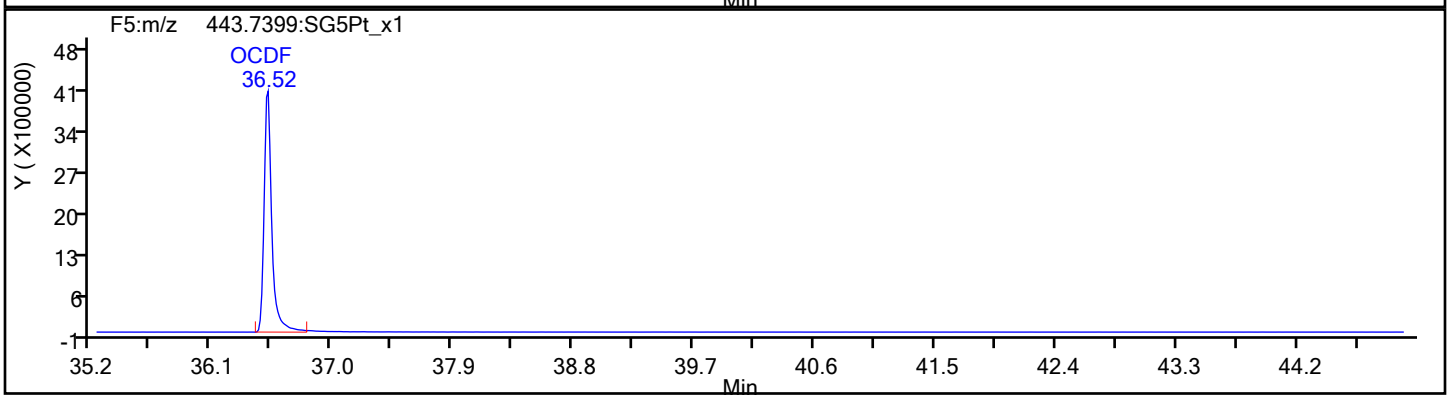

OCDF Standards

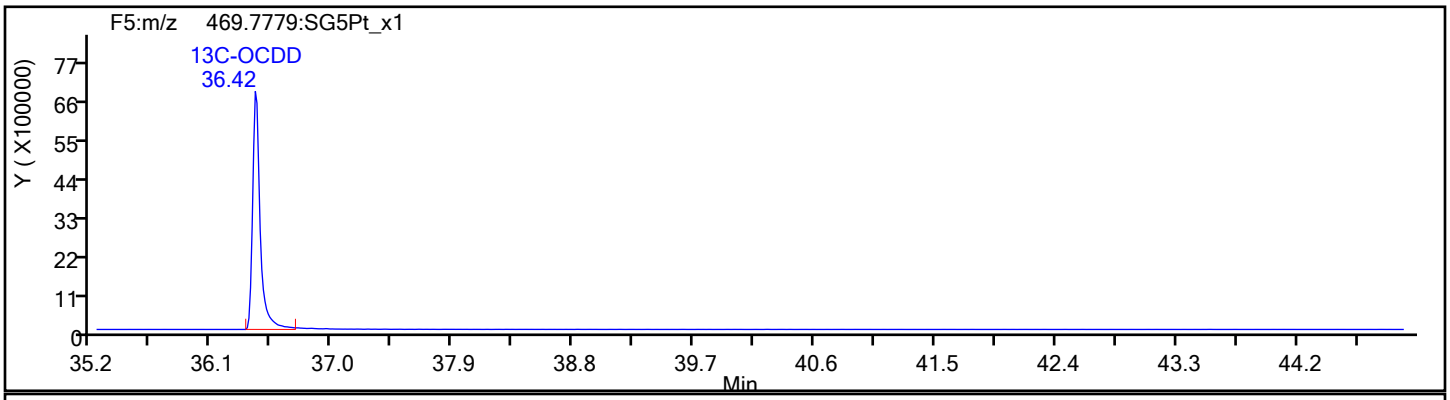

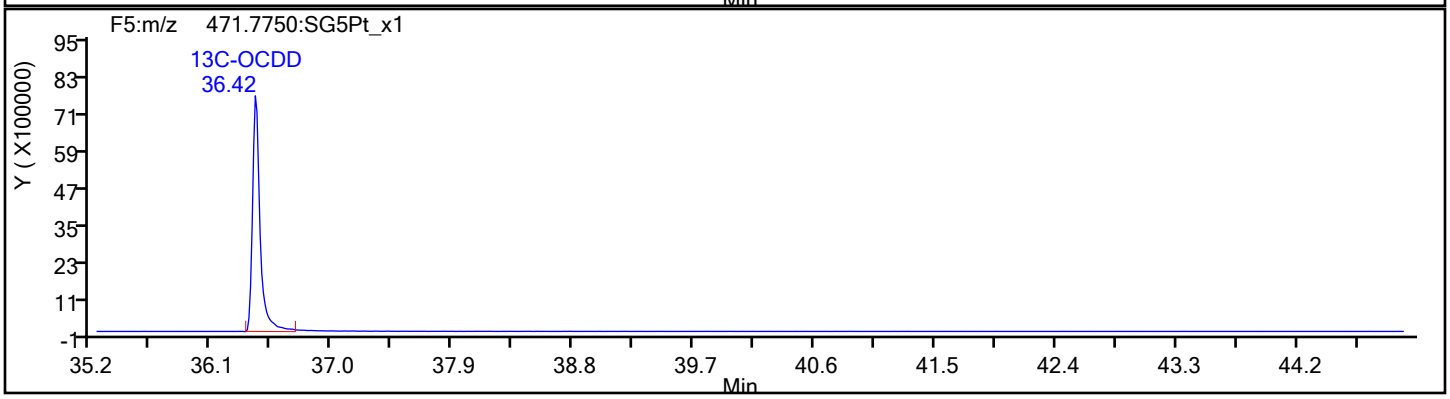

Report Date: 20-Feb-2020 13:42:20 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_41.d		
Injection Date:	19-Feb-2020 21:16:57	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	358703	Sample Line#:	41
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

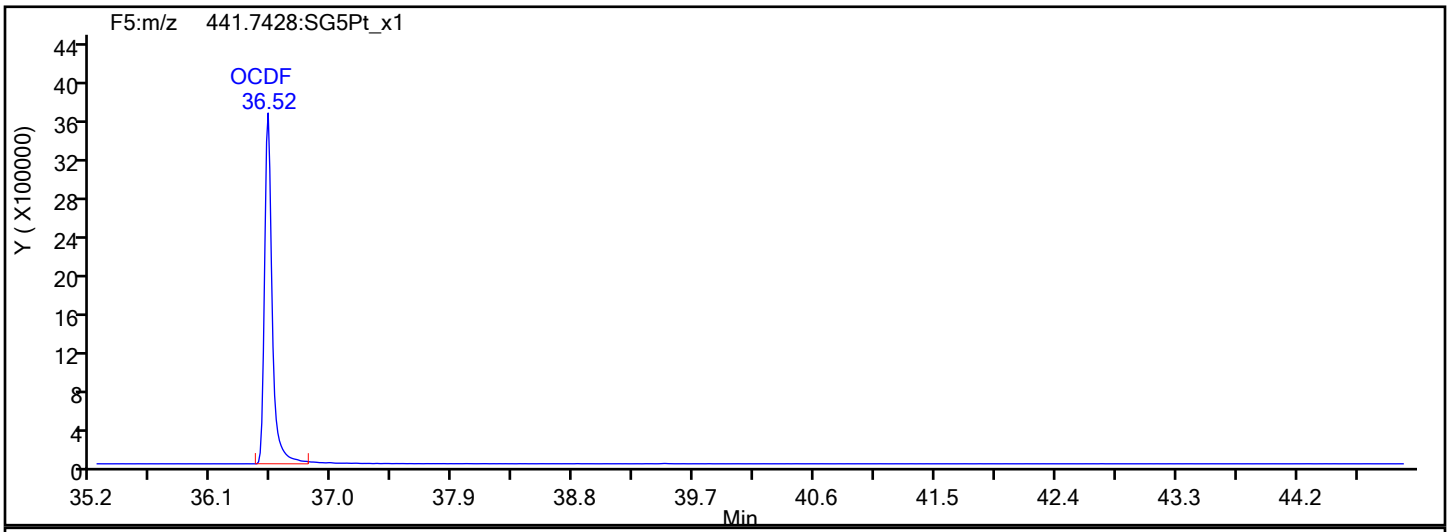

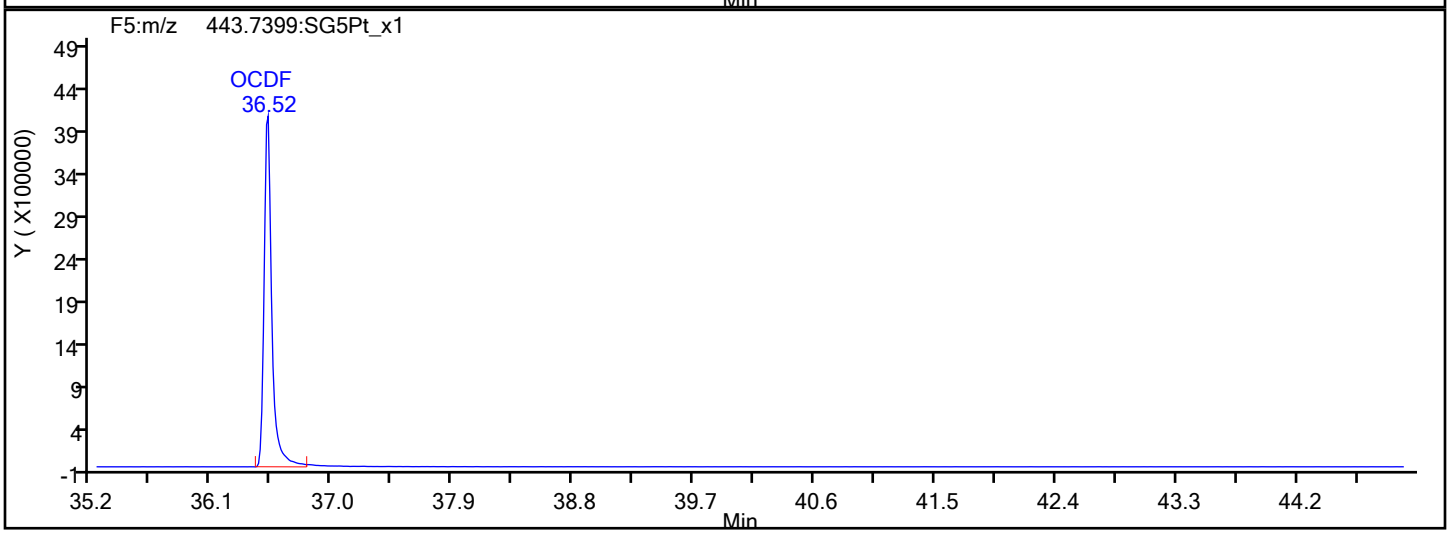

OCDF Interference Mass

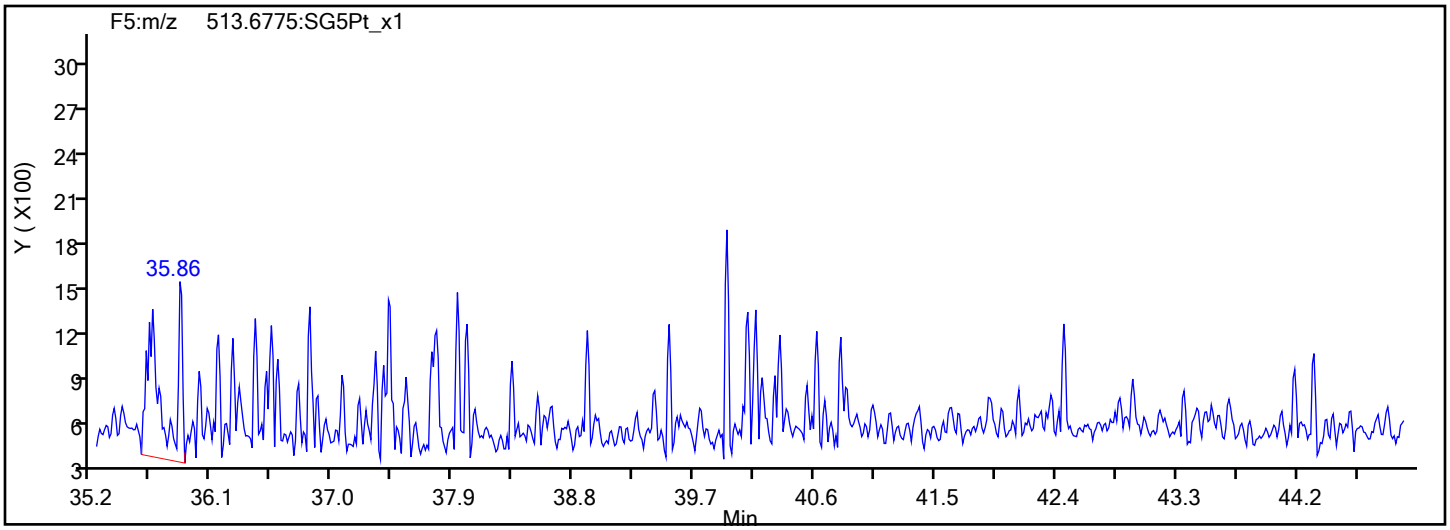

Report Date: 20-Feb-2020 13:42:20 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_41.d		
Injection Date:	19-Feb-2020 21:16:57	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	358703	Sample Line#:	41
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

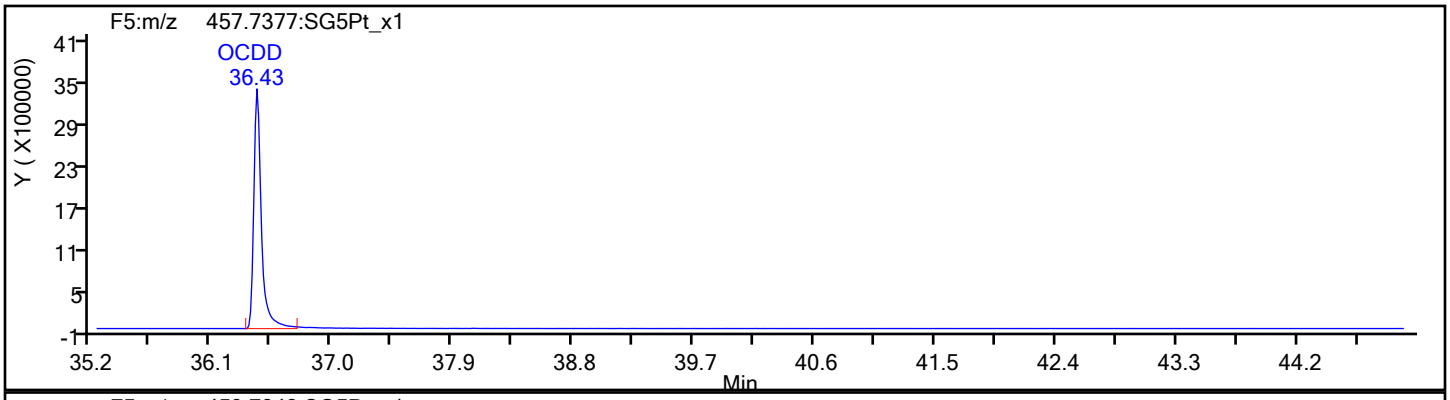

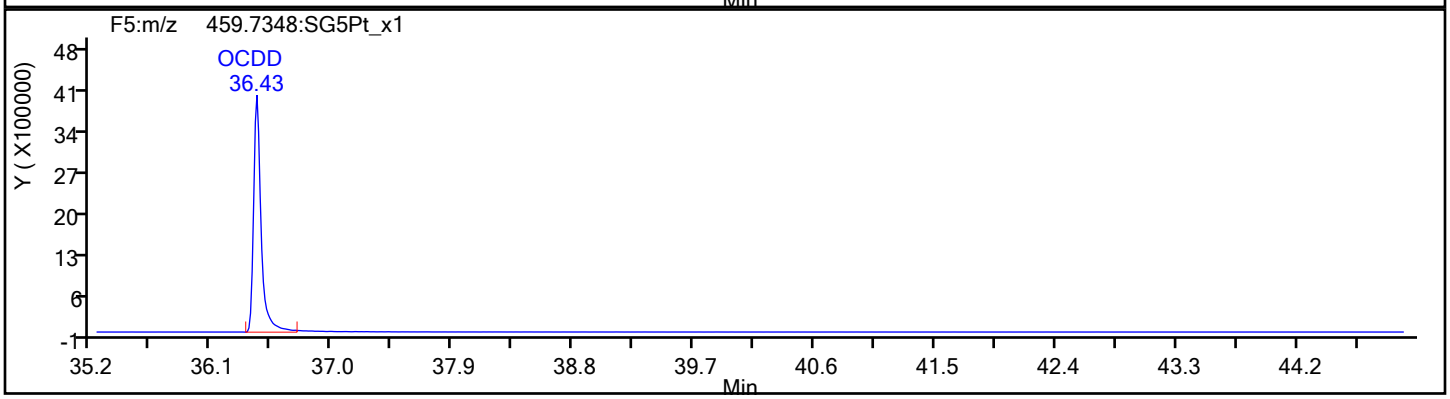

OCDD Standards

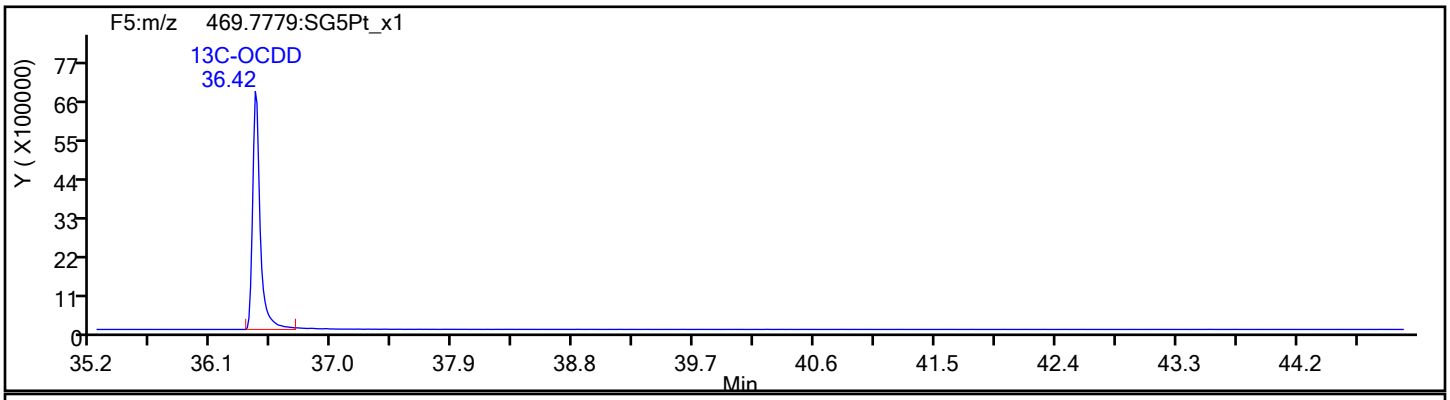

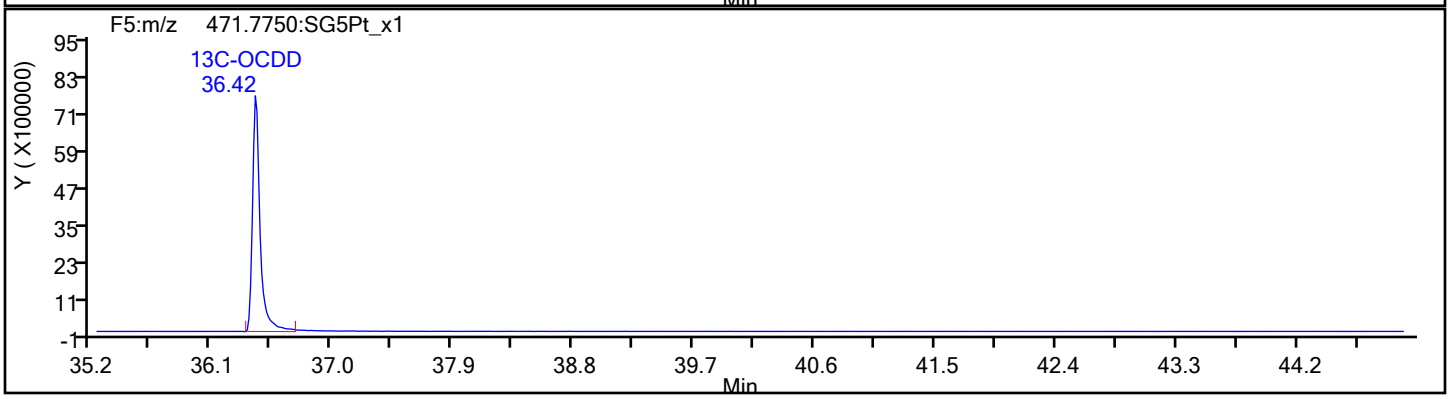

Report Date: 20-Feb-2020 13:42:20 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_41.d		
Injection Date:	19-Feb-2020 21:16:57	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	358703	Sample Line#:	41
Column Type:	DB-5	Column Dia:	0.32 mm

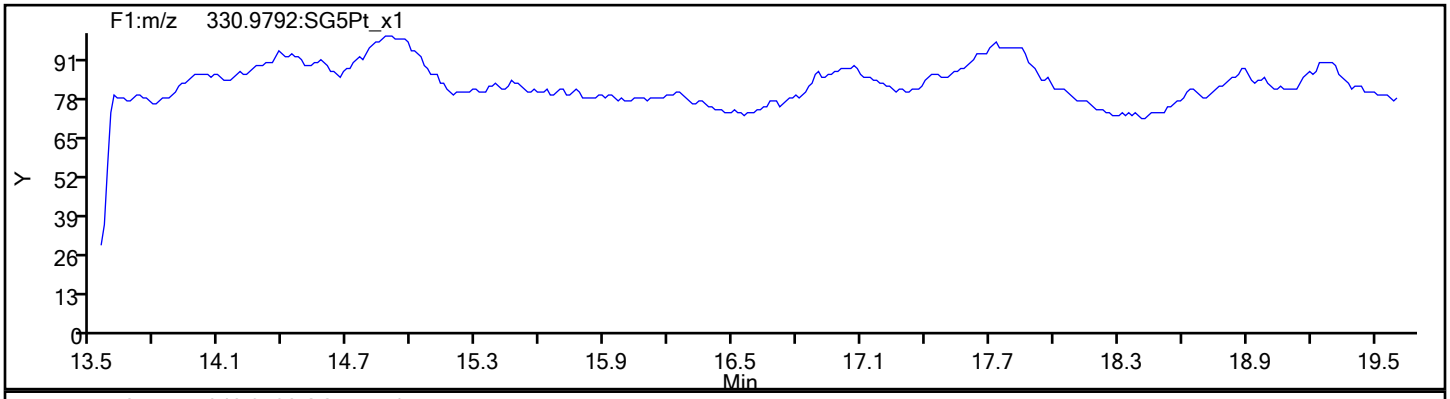

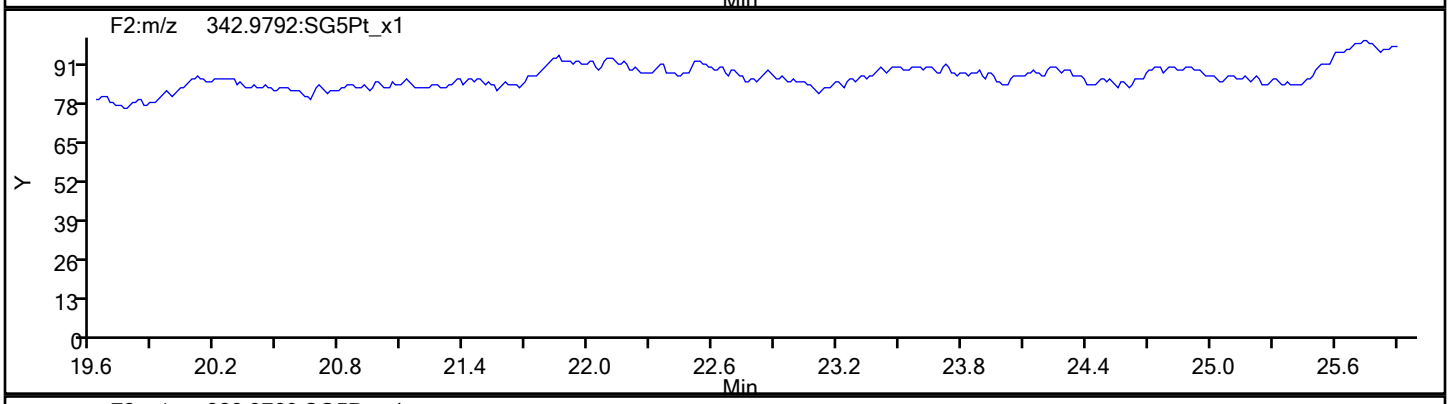

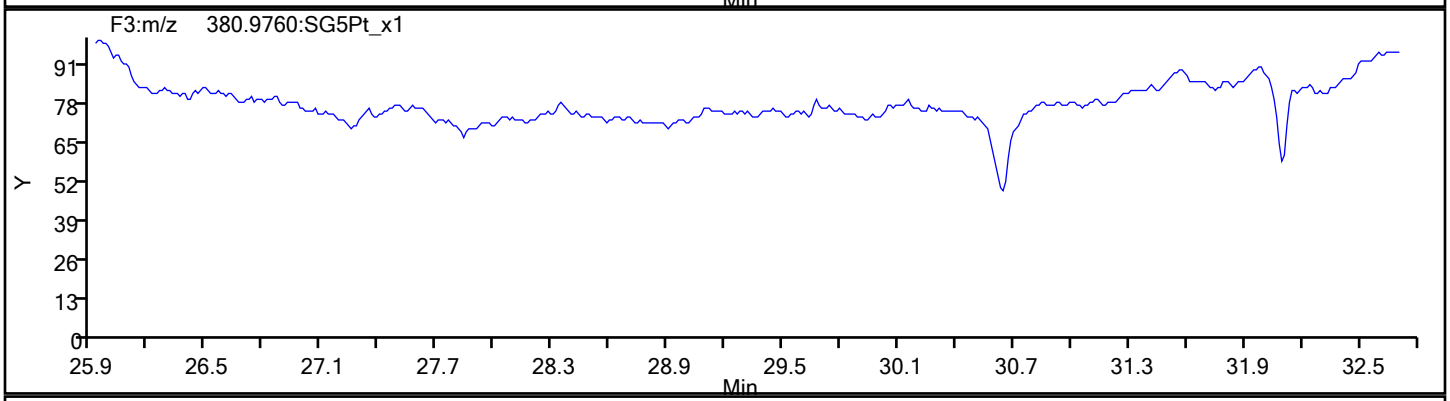

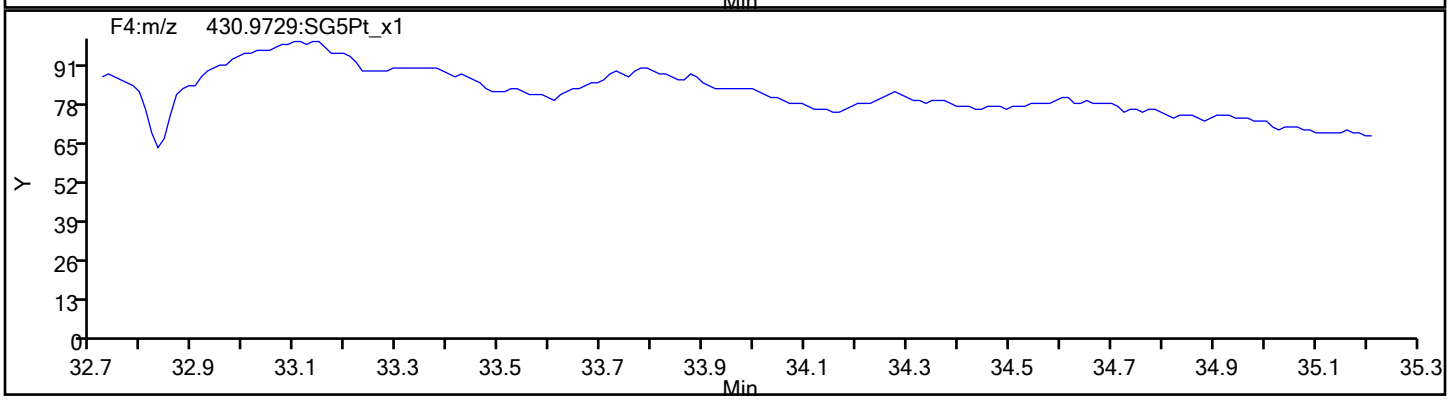

Report Date: 20-Feb-2020 13:42:20 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_41.d		
Injection Date:	19-Feb-2020 21:16:57	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	358703	Sample Line#:	41
Column Type:	DB-5	Column Dia:	0.32 mm

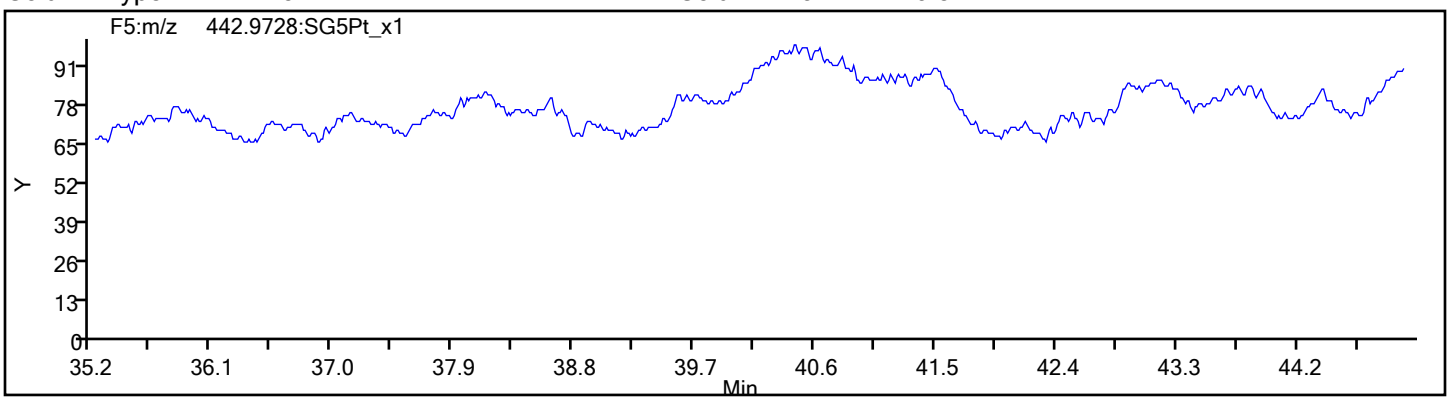

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 30-Jan-2020 00:17:03 ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 012920B WDM HRDXNCP_00040
Misc. Info.: 29JA20B10D5
Operator ID: ALM, SMA Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 30-Jan-2020 09:10:38 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0321

First Level Reviewer: arghestanis Date: 30-Jan-2020 08:31:54

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	16.924	27589833	0.76	1.1275					0.00	
2,3,7,8-TCDF	16.955	47722350	0.73	0.7675	90.1	90.1	0.5090	0.5090		
A Non-2,3,7,8-sub-TCDF	16.645						0.5090	0.5090		
S Total TCDF					90.1	90.1	0.5090	0.5090		
D 13C-2,3,7,8-TCDD	17.605	21048435	0.80	0.9032					0.00	
2,3,7,8-TCDD	17.620	21525746	0.77	0.9599	42.6	42.6	0.3530	0.3530		
A Non-2,3,7,8-sub-TCDD	17.091						0.3530	0.3530		
S Total TCDD					42.6	42.6	0.3530	0.3530		
A F1 PeCDFs	19.570						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	22.600	76717	1.55	0.0000						RQ
S Total PeCDF										RQ
A Non-2,3,7,8-sub-PeCDD	22.701						0.0	0.0		
S Total PeCDD										
A Non-2,3,7,8-sub-HxCDF	29.627						0.0	0.0		
S Total HxCDF										
A Non-2,3,7,8-sub-HxCDD	30.226						0.0	0.0		
S Total HxCDD										
1,2,3,4,6,7,8-HpCDF	33.520	18376377	1.01	1.3375						
1,2,3,4,7,8,9-HpCDF	34.577	14570085	1.04	1.0744						
A Non-2,3,7,8-sub-HpCDF	34.049						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	34.298	13694938	1.03	0.9811						
A Non-2,3,7,8-sub-HpCDD	34.024						0.0	0.0		
S Total HpCDD										
1,3,6,8-TCDF	14.596	25961980	0.73							
1,3,6,8-TCDD	15.488	21137414	0.77							
2,3,4,7-TCDF	16.955	47722350	0.73							
1,2,3,7-TCDD	17.514	18390417	0.75							
1,2,3,9-TCDD	17.771	22805456	0.77							
1,2,3,9-TCDF	17.771	19868191	0.73							

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,8,9-TCDD	18.693	8818386								
1,2,8,9-TCDF	18.693	20888007	0.74							
1,3,4,6,8-PeCDF	18.965	27892500	1.57							
1,2,4,7,9-PeCDD	20.669	18017189	1.55							
1,2,3,8,9-PeCDD	24.733	16776487	1.57							
1,2,3,8,9-PeCDF	24.951	18007046	1.56							
1,2,3,4,6,8-HxCDF	27.144	13366882	1.22							
1,2,4,6,7,9-HxCDD	28.675	13878175	1.22							
1,2,3,4,6,7-HxCDD	31.776	13912392	1.21							
1,2,3,4,8,9-HxCDF	32.109	12590706	1.21							
1,2,3,4,6,7,9-HpCDD	33.751	15752459	1.03							

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNCP_00040 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 30-Jan-2020 00:17:03 ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 012920B WDM HRDXNCP_00040
Misc. Info.: 29JA20B10D5
Operator ID: ALM, SMA Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 30-Jan-2020 09:10:38 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0321

First Level Reviewer: arghestanis Date: 30-Jan-2020 08:31:54

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	16.924	16.924	0	1.000	11881259	2942858	6847	17117	430		
317.9389	16.924	16.924	0	1.000	15708574	3905611	4216	10540	926	0.76(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.955	16.939	1	1.002	20203901	4631927	10424	26060	444		
305.8987	16.955	16.939	1	1.002	27518449	6271405	16330	40825	384	0.73(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.645						10424	26060			
305.8987	16.645						16330	40825			
13C-2,3,7,8-TCDD											
331.9368	17.605	17.605	0	1.000	9341943	2239265	3101	7752	722		
333.9339	17.605	17.605	0	1.000	11706492	2808402	1927	4817	1457	0.80(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.620	17.623	0	1.001	9370908	2214074	7219	18047	307		
321.8936	17.620	17.623	0	1.001	12154838	2922263	9883	24707	296	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.091						7219	18047			
321.8936	17.091						9883	24707			
A F1 PeCDFs											
339.8597	19.570						998	2495			
341.8567	19.570						1018	2545			
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	21.801	22.600	-48	1.000	46632	8590	1778	4445	5		
341.8567	21.801	22.600	-48	1.000	50391	6955	1353	3382	5	0.93(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.701						3448	8620			
357.8516	22.701						2075	5187			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.627						2357	5892			
375.8178	29.627						1840	4600			
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.226						2498	6245			
391.8127	30.226						2192	5480			
1,2,3,4,6,7,8-HpCDF											
407.7818	33.520	33.511	1	1.000	9256175	2581409	10648	26620	242		
409.7789	33.520	33.511	1	1.000	9120202	2494129	11558	28895	216	1.01(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.577	34.570	0	1.000	7416128	1604148	10648	26620	151		
409.7789	34.577	34.570	0	1.000	7153957	1553173	11558	28895	134	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.049						10648	26620			
409.7789	34.049						11558	28895			
1,2,3,4,6,7,8-HpCDD											
423.7766	34.298	34.288	1	1.000	6948564	1643840	10085	25212	163		
425.7737	34.298	34.288	1	1.000	6746374	1592409	10203	25507	156	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.024						10085	25212			
425.7737	34.024						10203	25507			
1,3,6,8-TCDF											
303.9016	14.596	14.596	0		10995444	3375012	10424	26060	324		
305.8987	14.596	14.596	0		14966536	4602804	16330	40825	282	0.73(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	15.488	15.488	0		9214109	2567683	7219	18047	356		
321.8936	15.473	15.488	-1		11923305	3357656	9883	24707	340	0.77(0.65-0.89)	
2,3,4,7-TCDF											
303.9016	16.955	16.955	0		20203901	4631927	10424	26060	444		
305.8987	16.955	16.955	0		27518449	6271405	16330	40825	384	0.73(0.65-0.89)	
1,2,3,7-TCDD											
319.8965	17.514	17.514	0		7858817	1983117	7219	18047	275		
321.8936	17.514	17.514	0		10531600	2617150	9883	24707	265	0.75(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	17.771	17.771	0		9893666	2200898	7219	18047	305		
321.8936	17.771	17.771	0		12911790	2893254	9883	24707	293	0.77(0.65-0.89)	
1,2,3,9-TCDF											
303.9016	17.771	17.771	0		8382825	2001296	10424	26060	192		
305.8987	17.771	17.771	0		11485366	2713268	16330	40825	166	0.73(0.65-0.89)	
1,2,8,9-TCDD											
319.8965	18.693	18.693	0		8818386	1862202	7219	18047	258		
1,2,8,9-TCDF											
303.9016	18.693	18.693	0		8851999	1975035	10424	26060	189		
305.8987	18.693	18.693	0		12036008	2683472	16330	40825	164	0.74(0.65-0.89)	
1,3,4,6,8-PeCDF											
339.8597	18.965	18.965	0		17045679	3739602	998	2495	3747		
341.8567	18.965	18.965	0		10846821	2383778	1018	2545	2342	1.57(1.32-1.78)	

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Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,4,7,9-PeCDD											
355.8546	20.669	20.669	0		10962960	1924287	3448	8620	558		
357.8516	20.669	20.669	0		7054229	1269883	2075	5187	612	1.55(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	24.733	24.733	0		10256774	1431932	3448	8620	415		
357.8516	24.733	24.733	0		6519713	887536	2075	5187	428	1.57(1.32-1.78)	
1,2,3,8,9-PeCDF											
339.8597	24.951	24.951	0		10975791	1455911	1778	4445	819		
341.8567	24.951	24.951	0		7031255	943583	1353	3382	697	1.56(1.32-1.78)	
1,2,3,4,6,8-HxCDF											
373.8208	27.144	27.144	0		7340461	891289	2357	5892	378		
375.8178	27.157	27.144	1		6026421	737627	1840	4600	401	1.22(1.05-1.43)	
1,2,4,6,7,9-HxCDD											
389.8157	28.675	28.675	0		7629489	856187	2498	6245	343		
391.8127	28.675	28.675	0		6248686	699400	2192	5480	319	1.22(1.05-1.43)	
1,2,3,4,6,7-HxCDD											
389.8157	31.776	31.776	0		7630429	1693667	2498	6245	678		
391.8127	31.776	31.776	0		6281963	1367756	2192	5480	624	1.21(1.05-1.43)	
1,2,3,4,8,9-HxCDF											
373.8208	32.109	32.109	0		6891496	1569799	2357	5892	666		
375.8178	32.109	32.109	0		5699210	1294830	1840	4600	704	1.21(1.05-1.43)	
1,2,3,4,6,7,9-HpCDD											
423.7766	33.751	33.751	0		7989498	2146390	10085	25212	213		
425.7737	33.751	33.751	0		7762961	2084823	10203	25507	204	1.03(0.88-1.20)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Reagents:

HRDXNCP_00040 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d
Lims ID: WDM
Client ID:
Inject. Date: 30-Jan-2020 00:17:03 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 10D5 Operator: ALM, SMA
Lims Batch ID: 353986 Lims Sample ID: 2

Non-2,3,7,8-sub-PeCDF, RT: 22.600

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	0.898				
2,3,4,7,8-PeCDF	0.810				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
21.801	46632	8590	50391	6955		0.93	R
Signal Totals:							
	46632	8590	50391	6955			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	97023	15545				0.93	RQ
	76717	14131					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (97023 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (76717 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Report Date: 30-Jan-2020 09:10:44 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d		
Injection Date:	30-Jan-2020 00:17:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

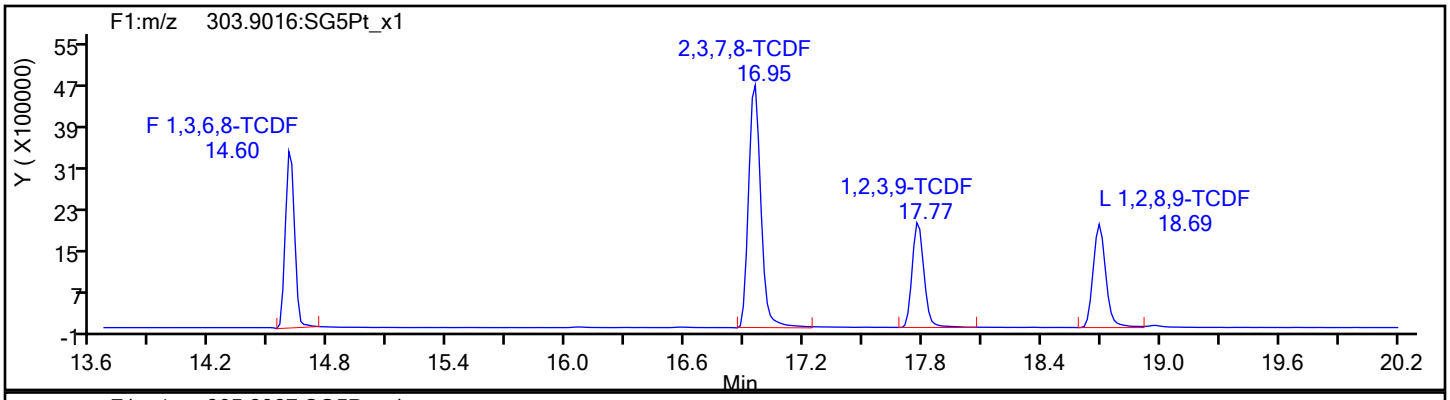

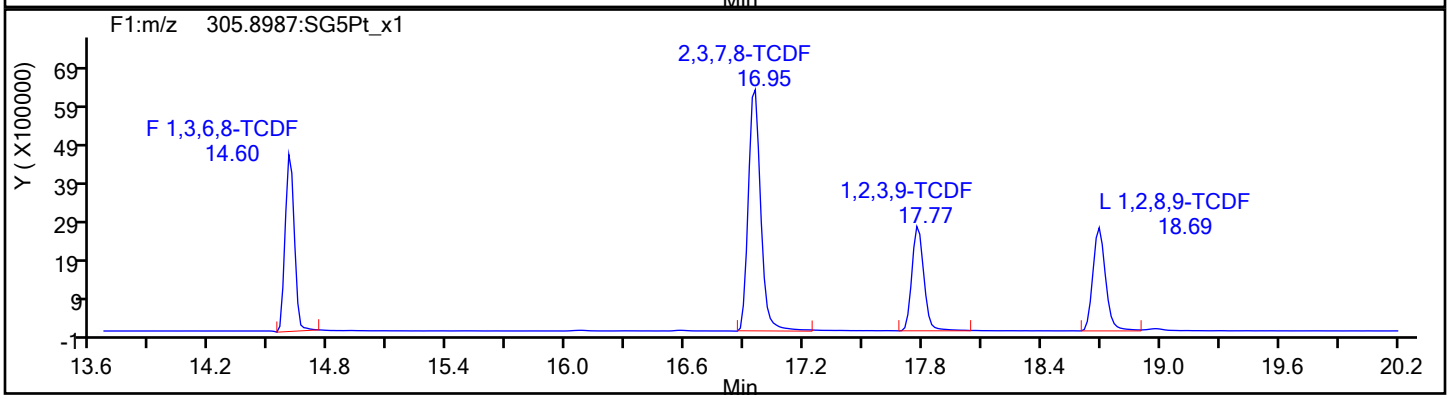

TCDF Standards

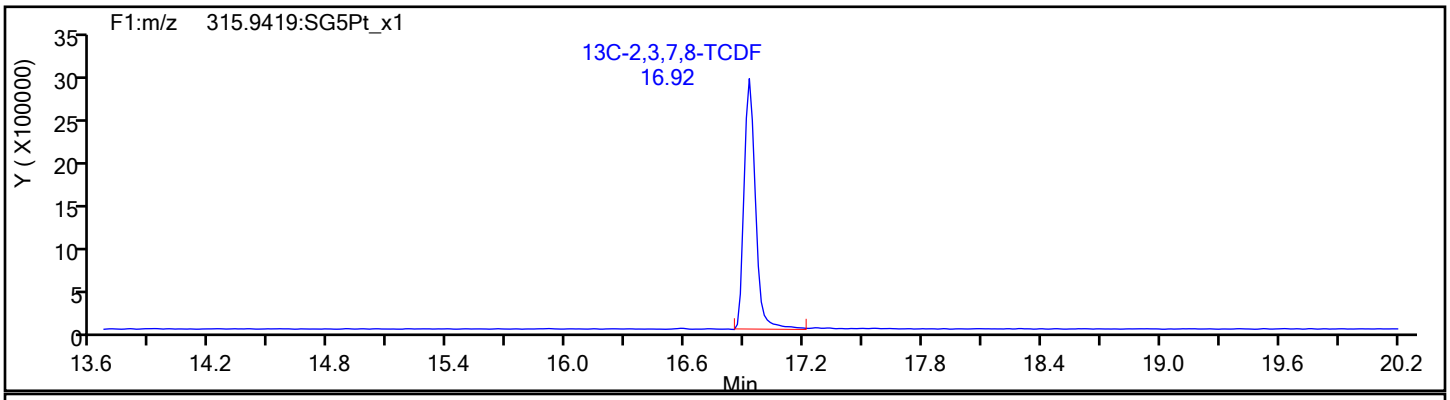

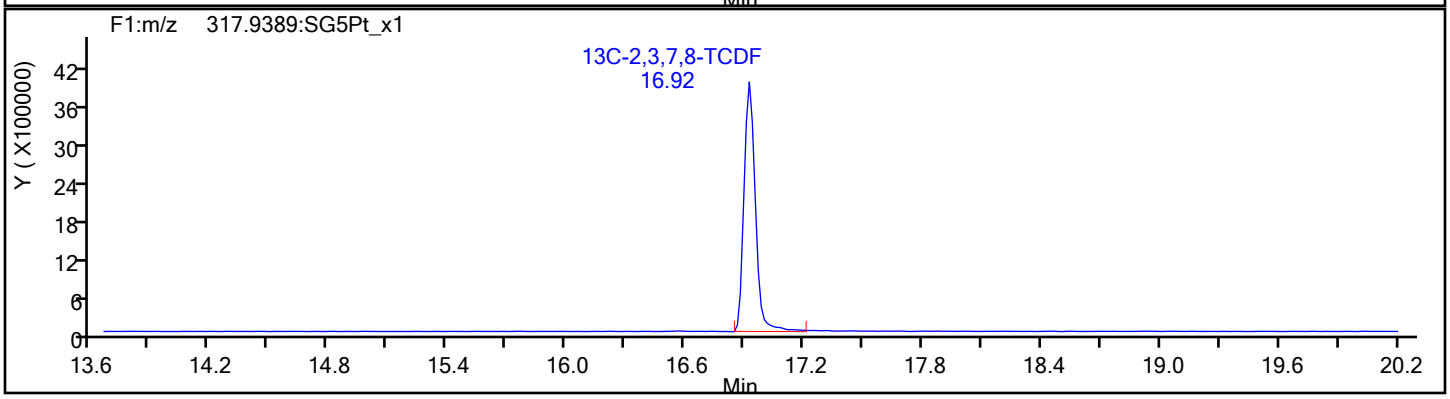

Report Date: 30-Jan-2020 09:10:44 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d		
Injection Date:	30-Jan-2020 00:17:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

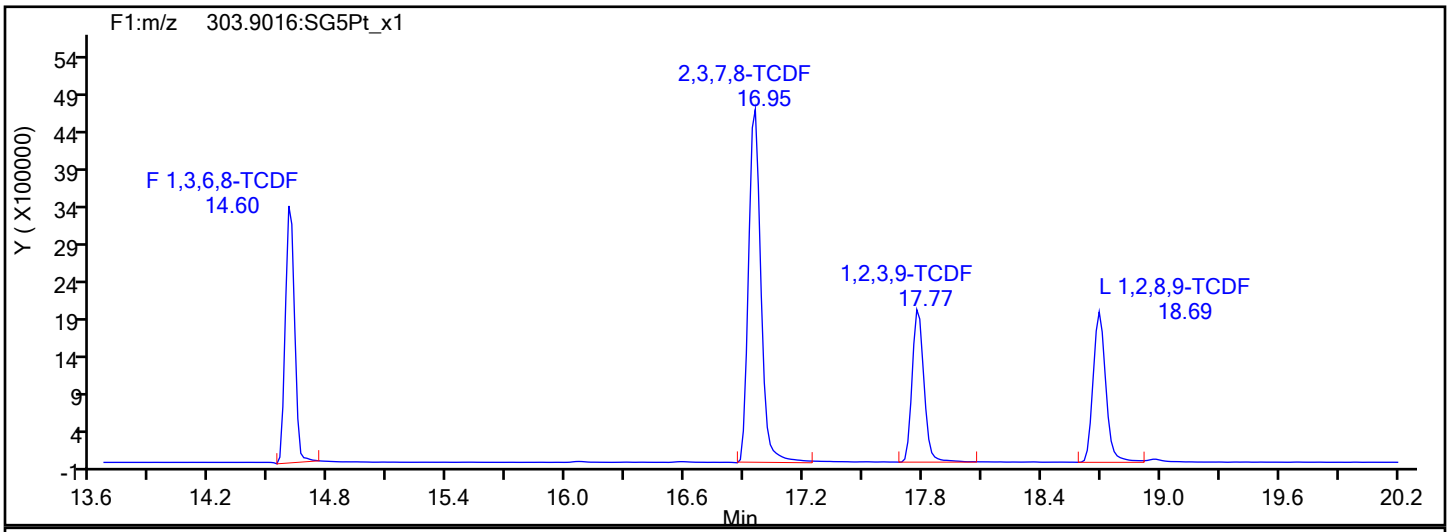

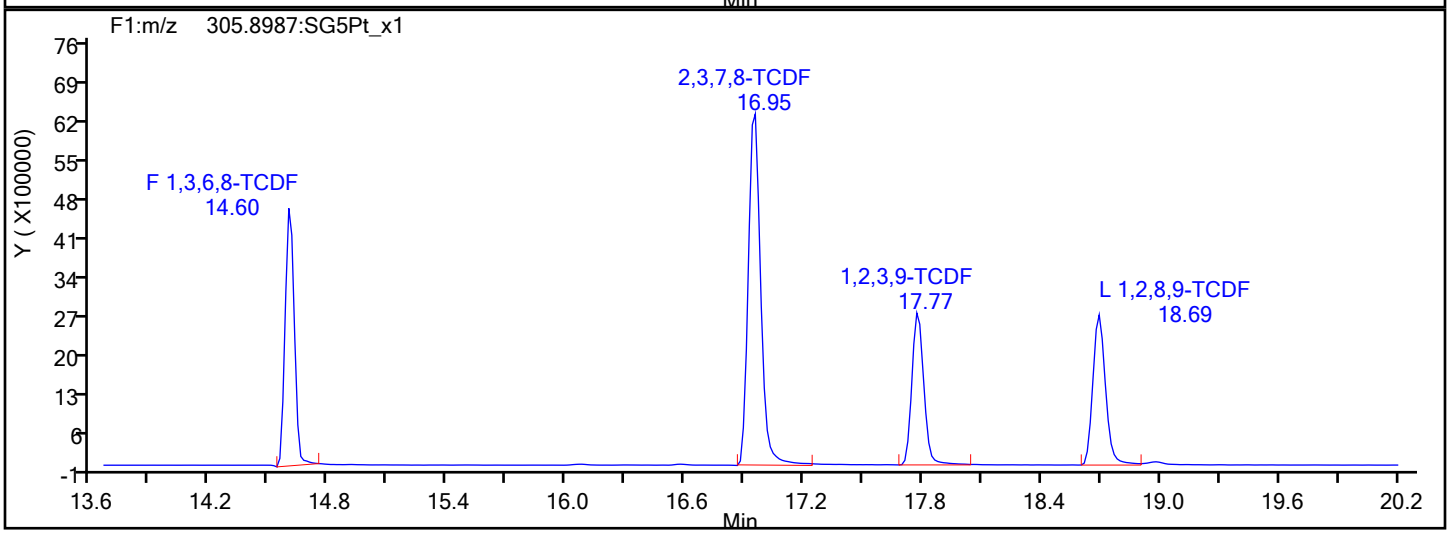

TCDF Interference Mass

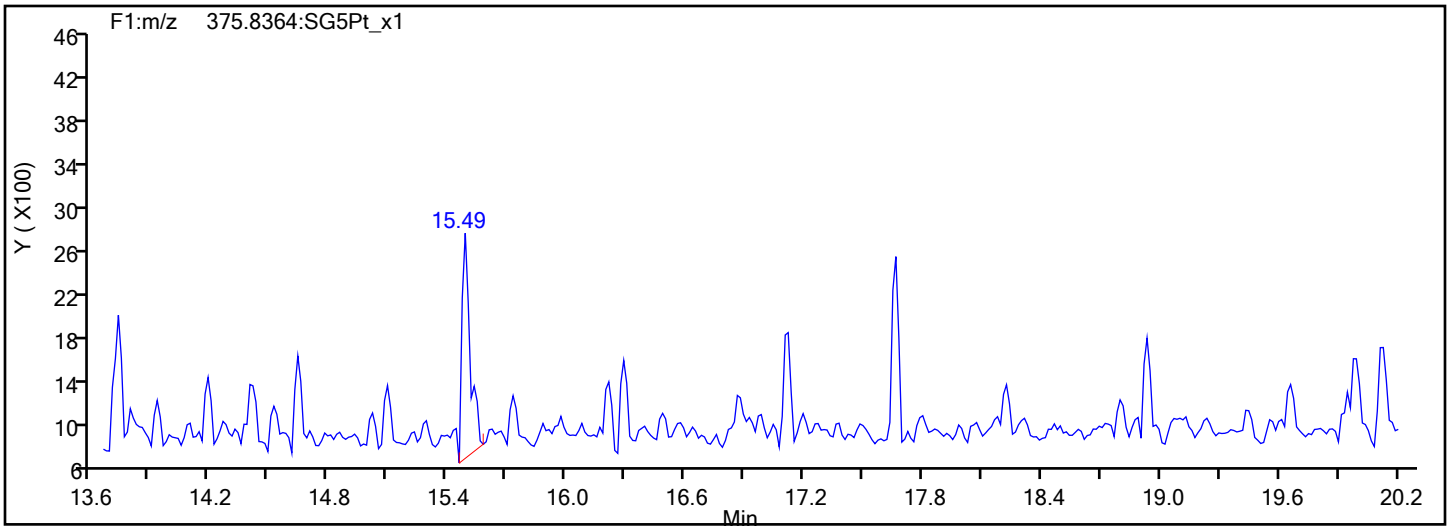

Report Date: 30-Jan-2020 09:10:44 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d		
Injection Date:	30-Jan-2020 00:17:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

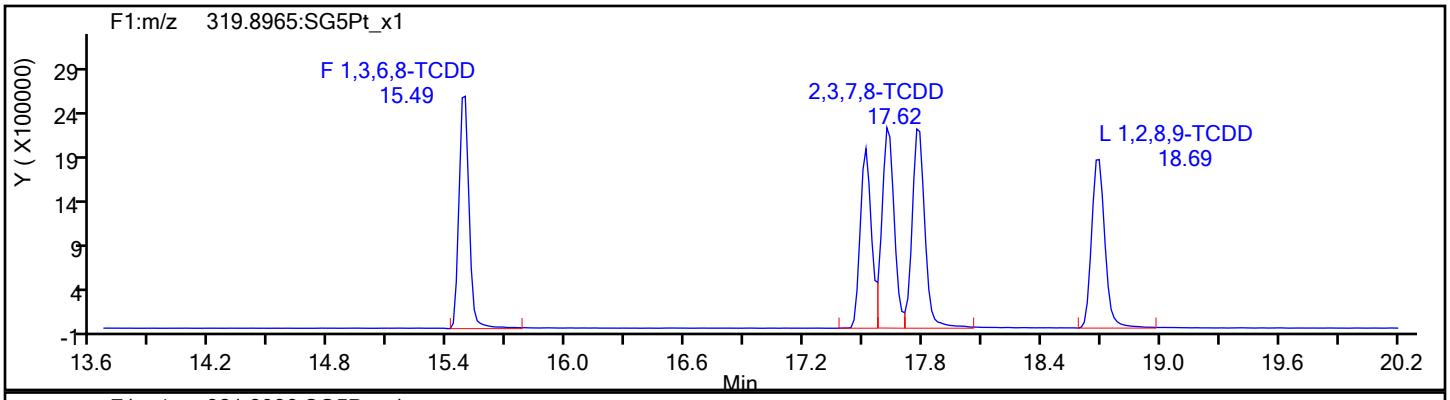

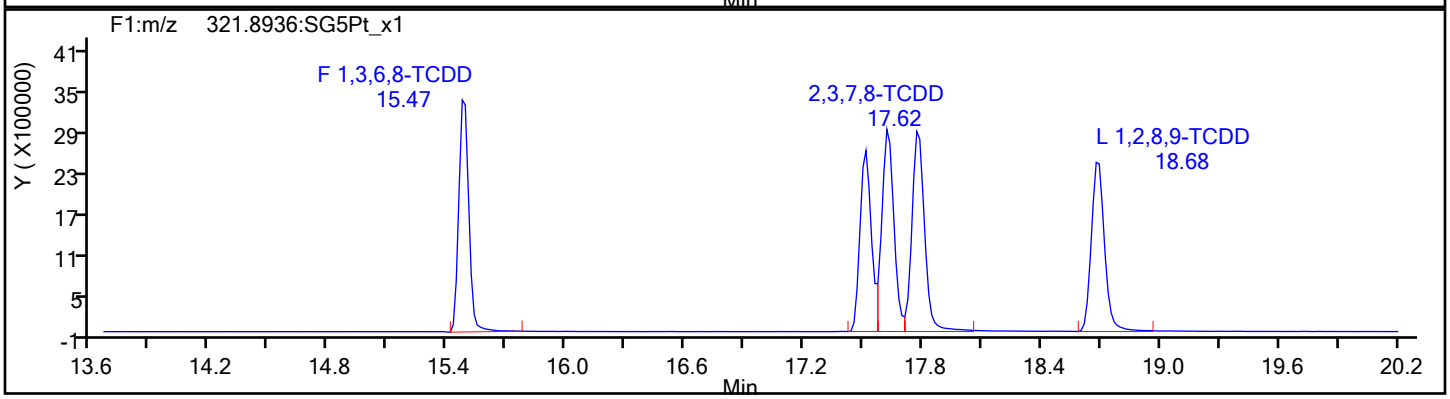

TCDD Standards

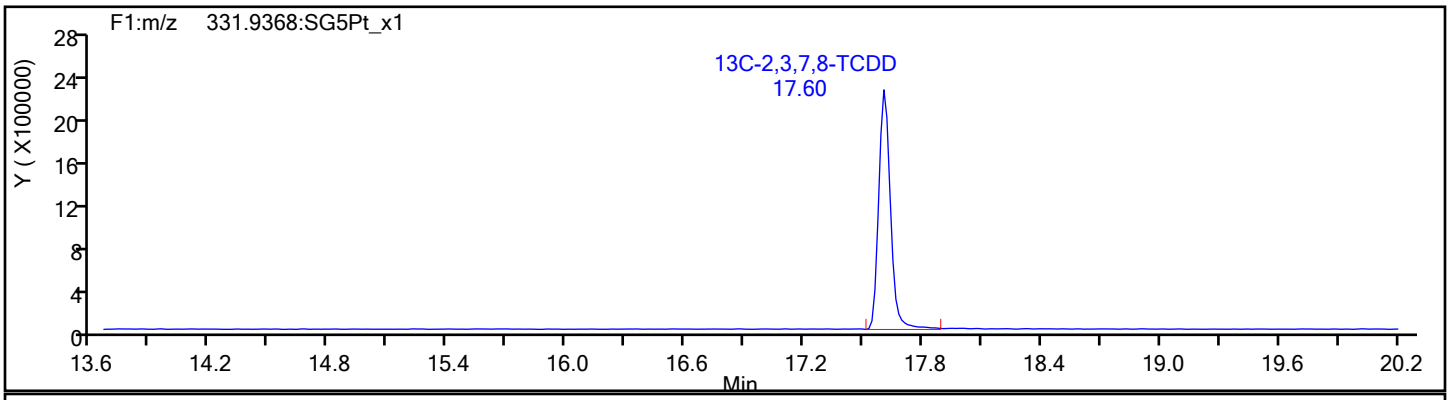

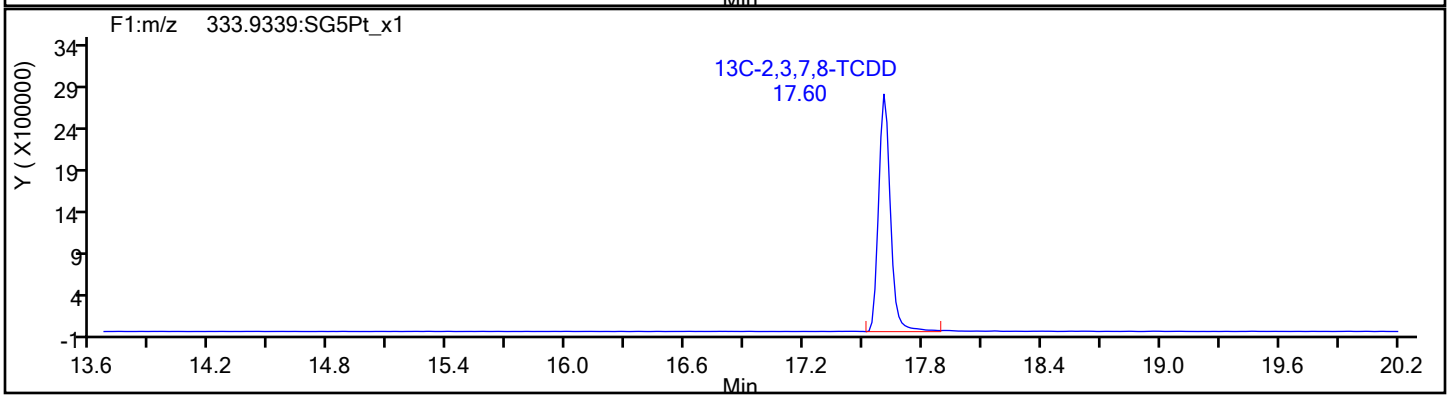

Report Date: 30-Jan-2020 09:10:44 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d		
Injection Date:	30-Jan-2020 00:17:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

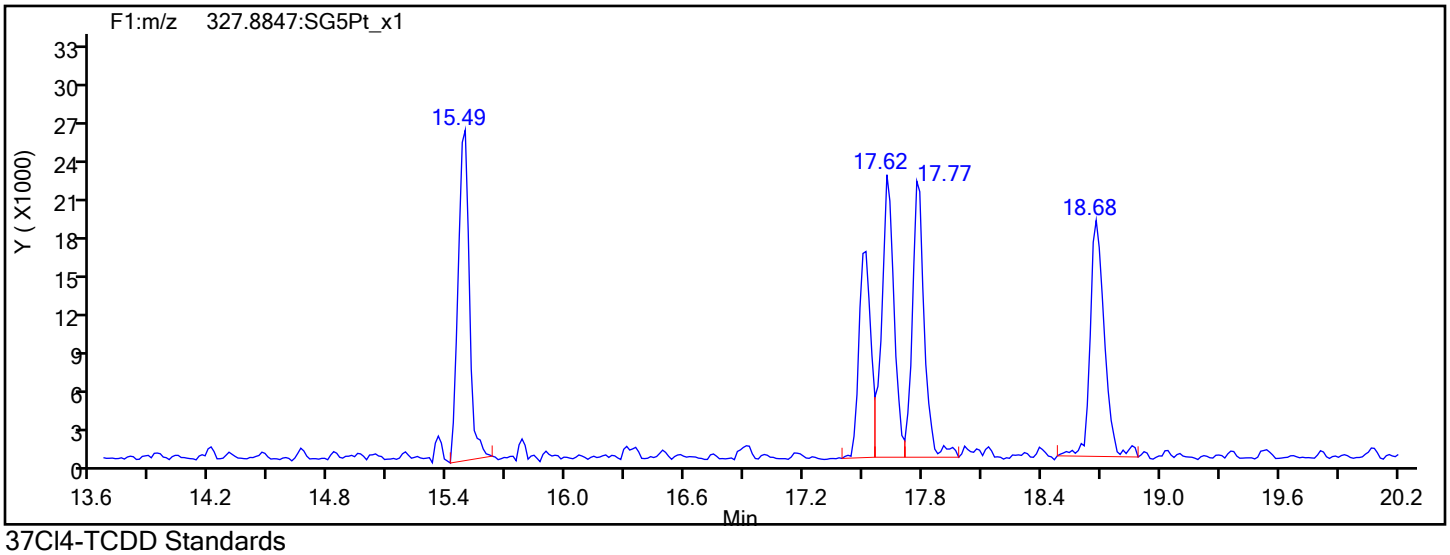

37Cl4-TCDD Standards

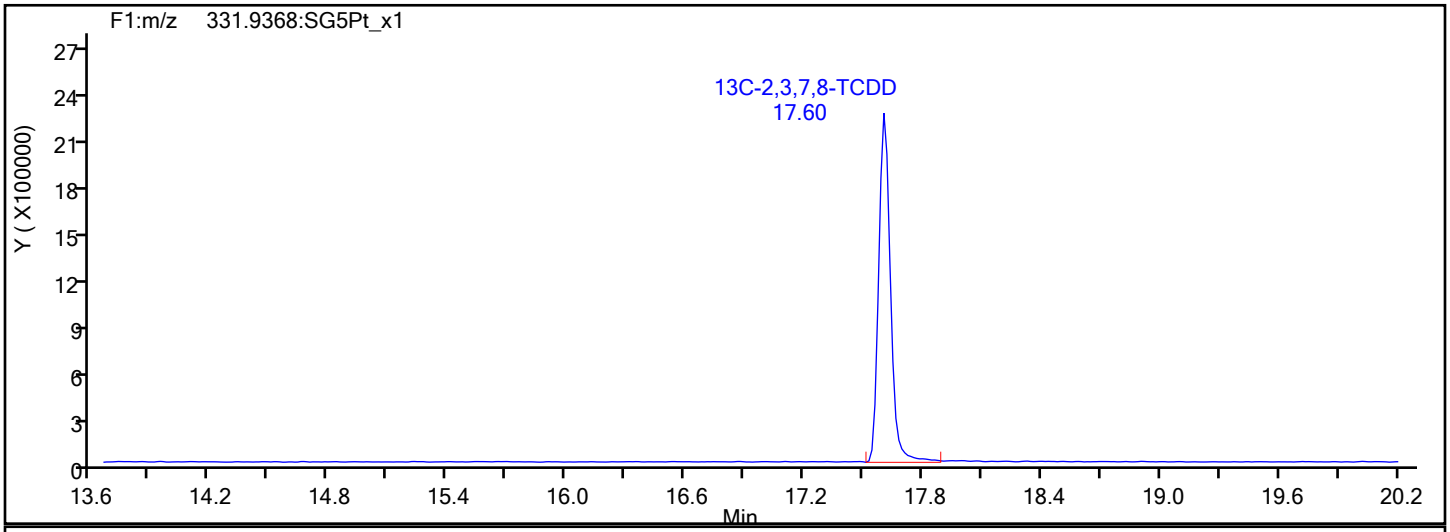

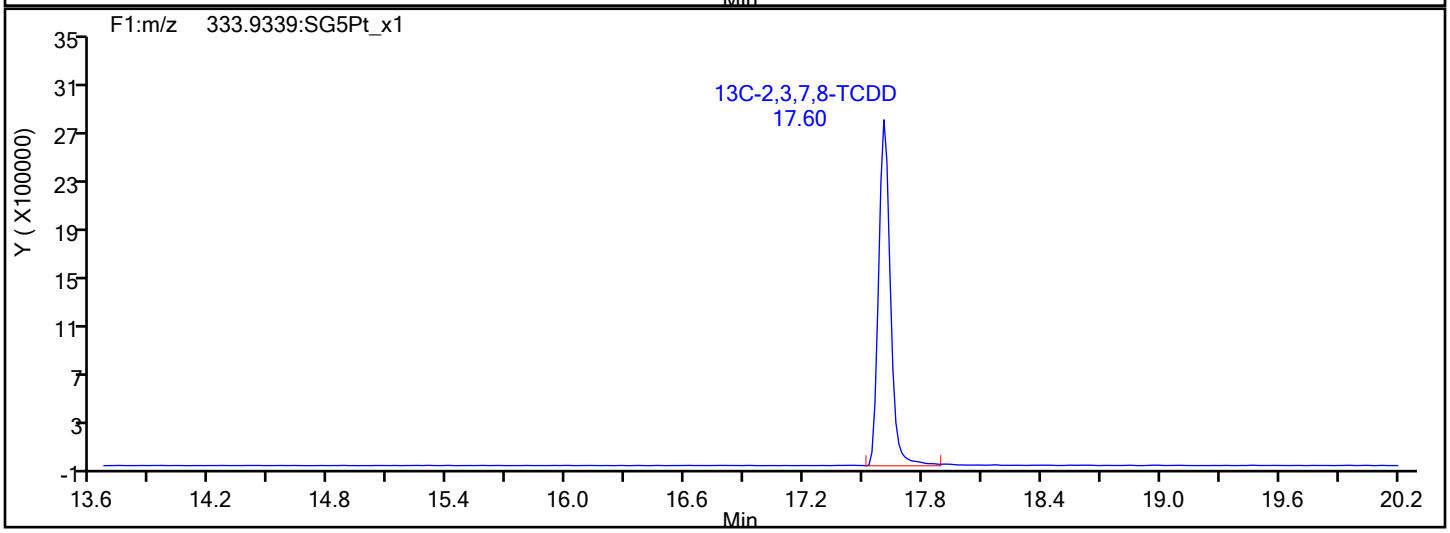

Report Date: 30-Jan-2020 09:10:44 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d		
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Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

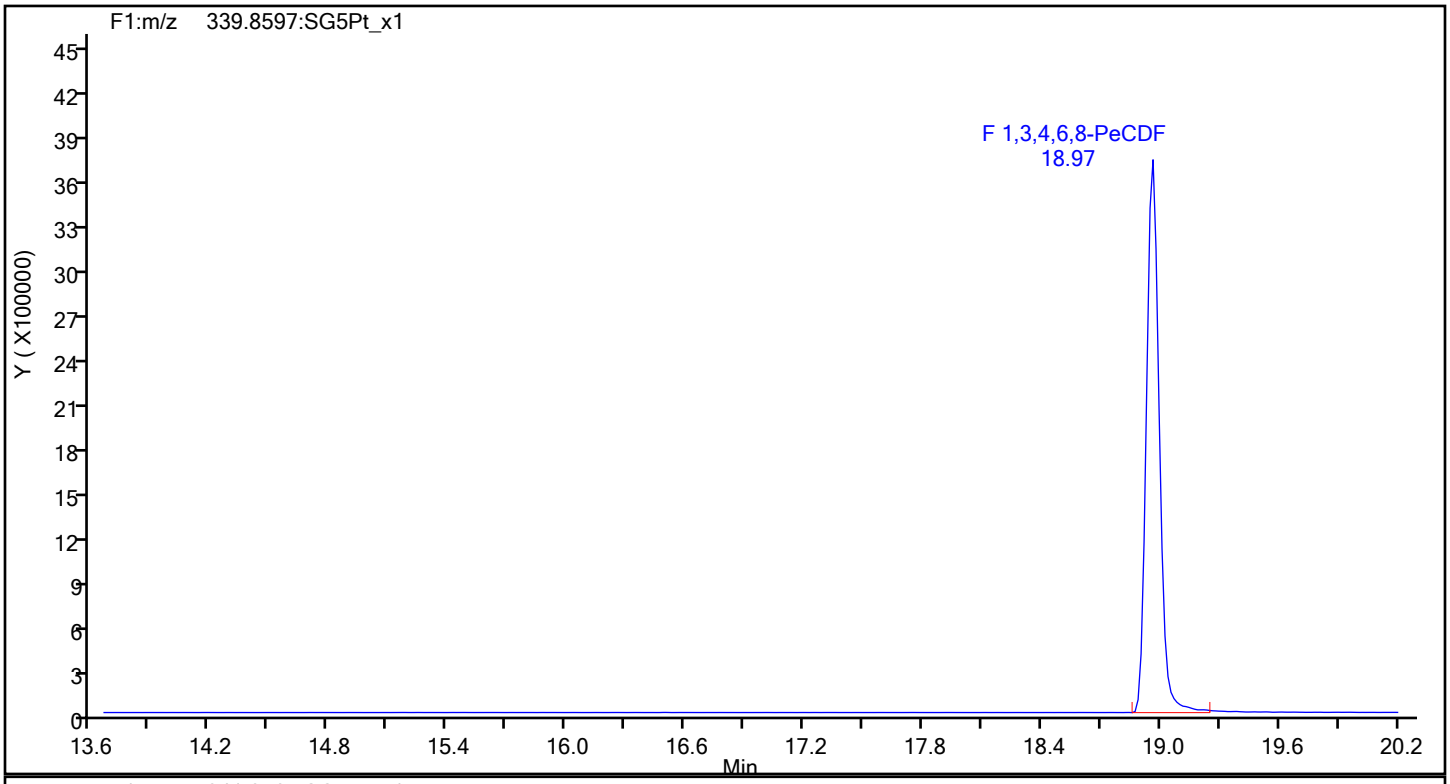

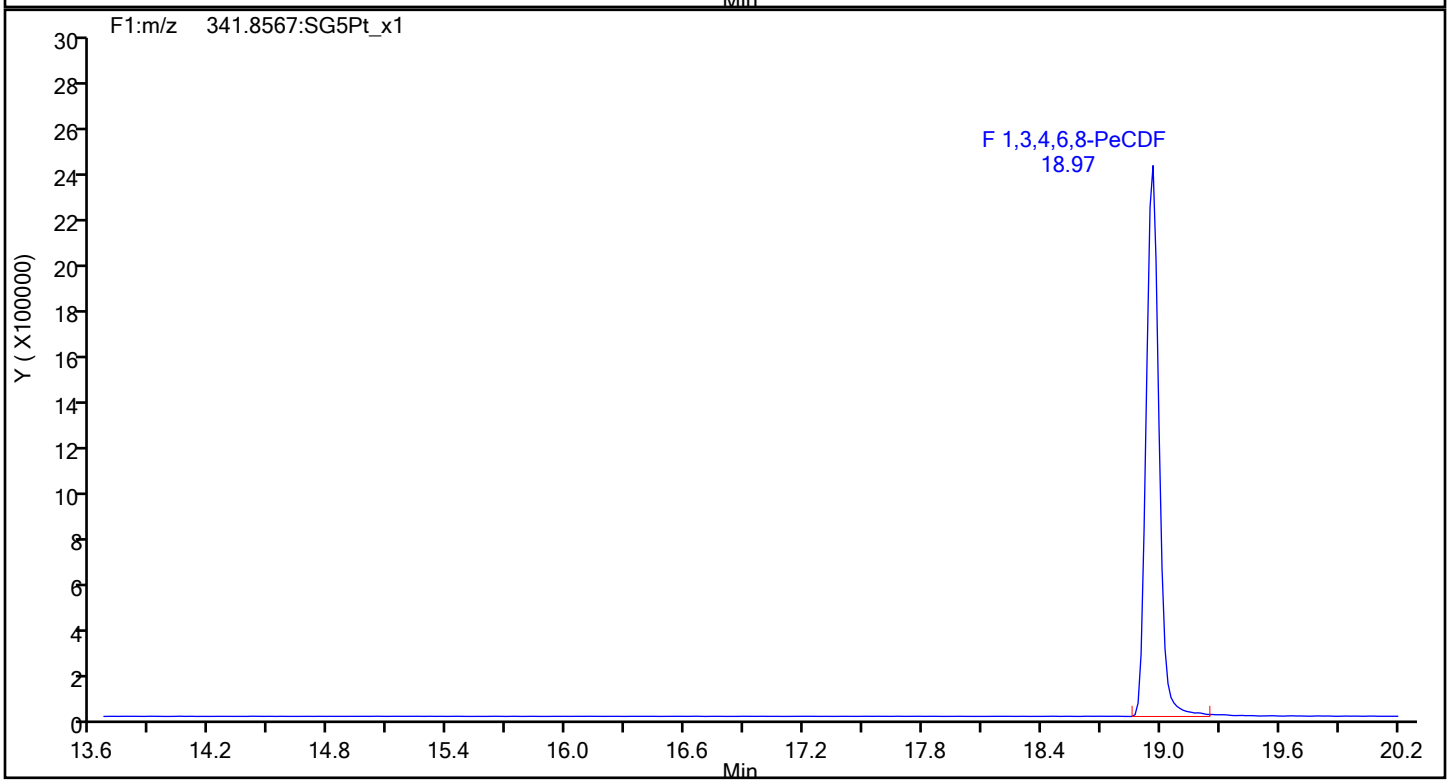

Report Date: 30-Jan-2020 09:10:44 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d		
Injection Date:	30-Jan-2020 00:17:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

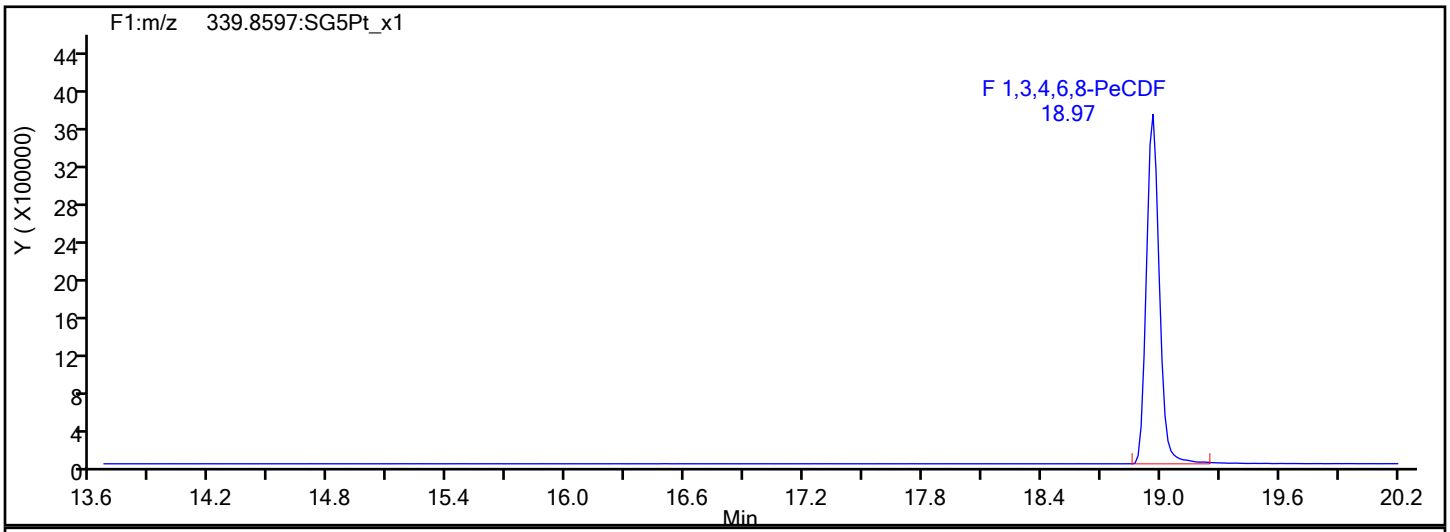

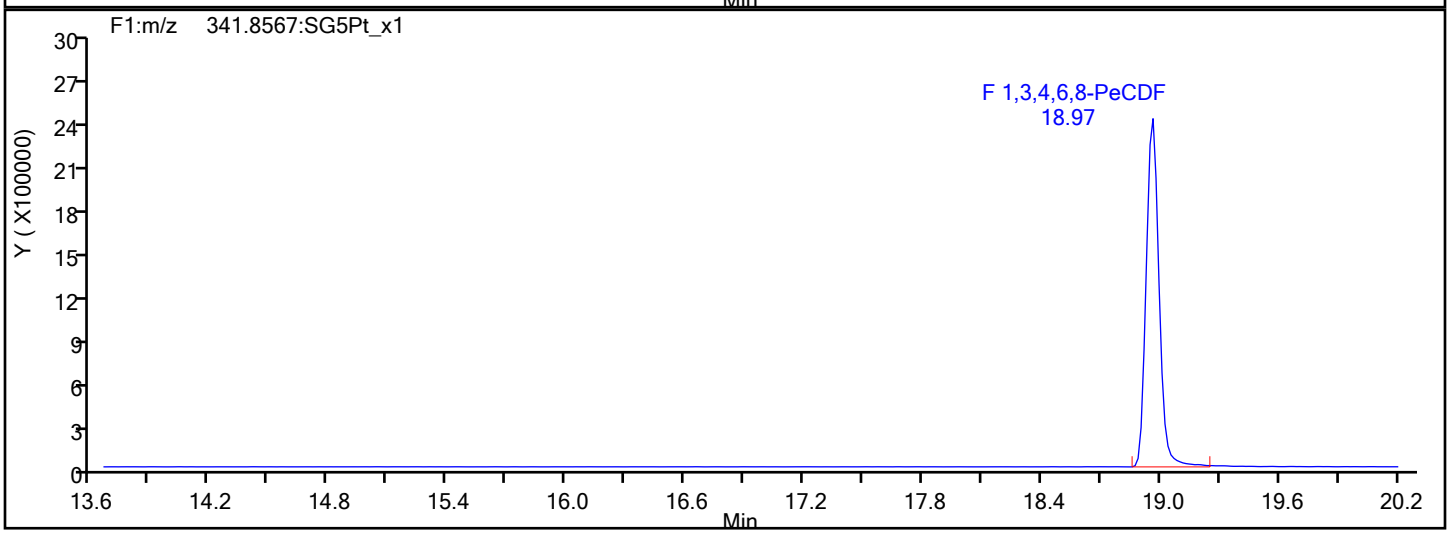

F1 PeCDFs Interference Mass

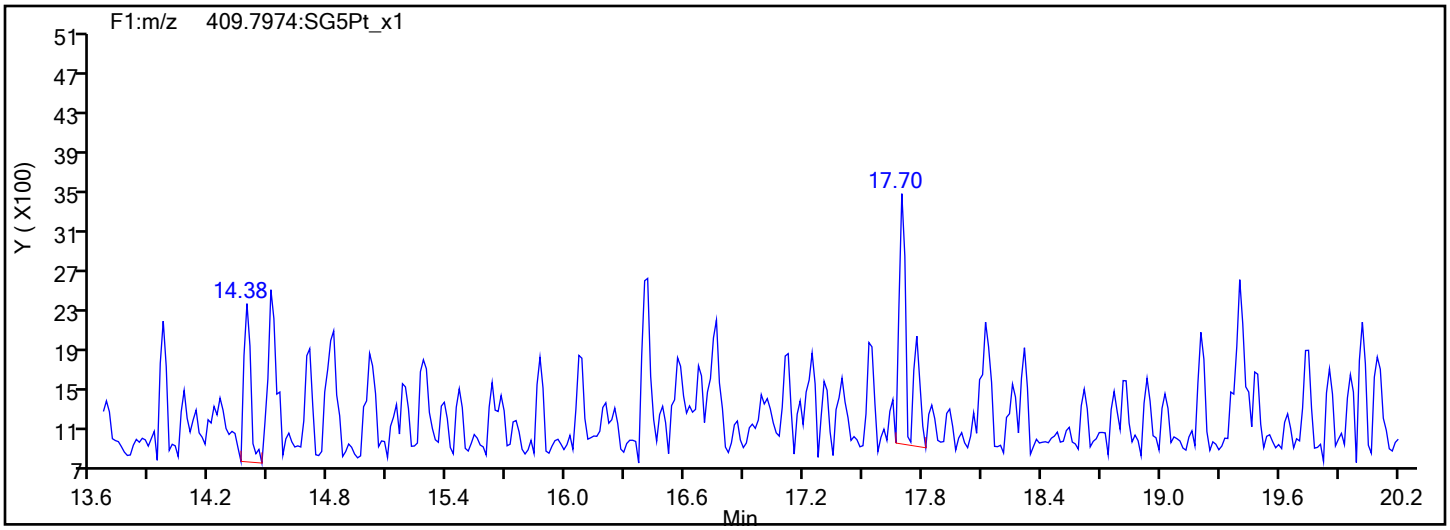

Report Date: 30-Jan-2020 09:10:44 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d		
Injection Date:	30-Jan-2020 00:17:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

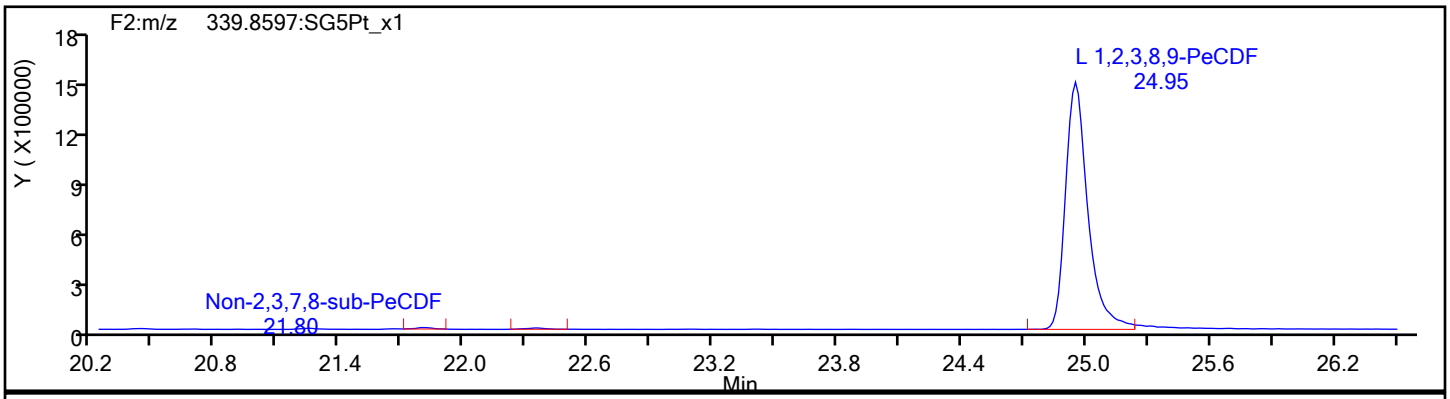

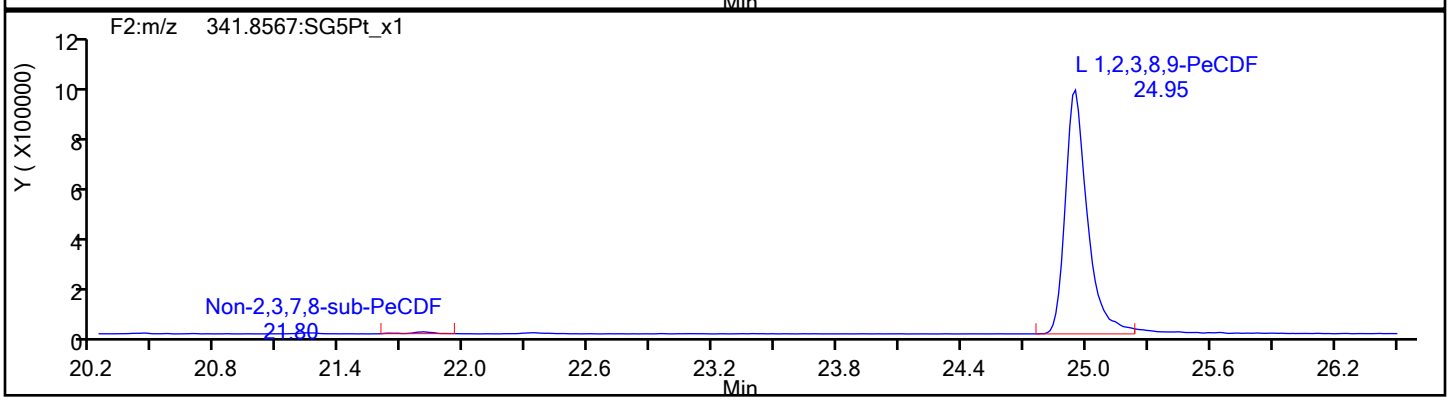

PeCDF Standards

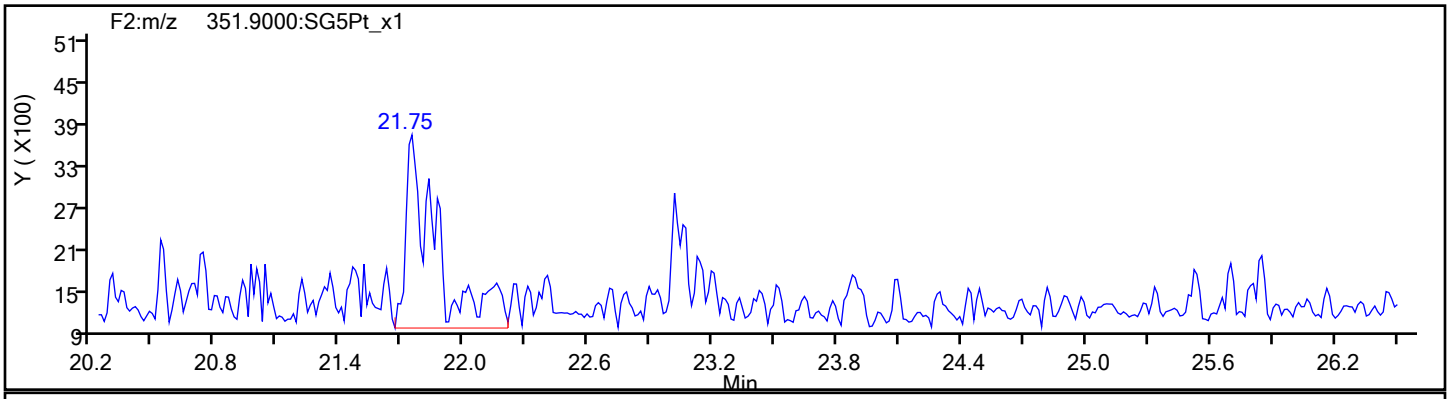

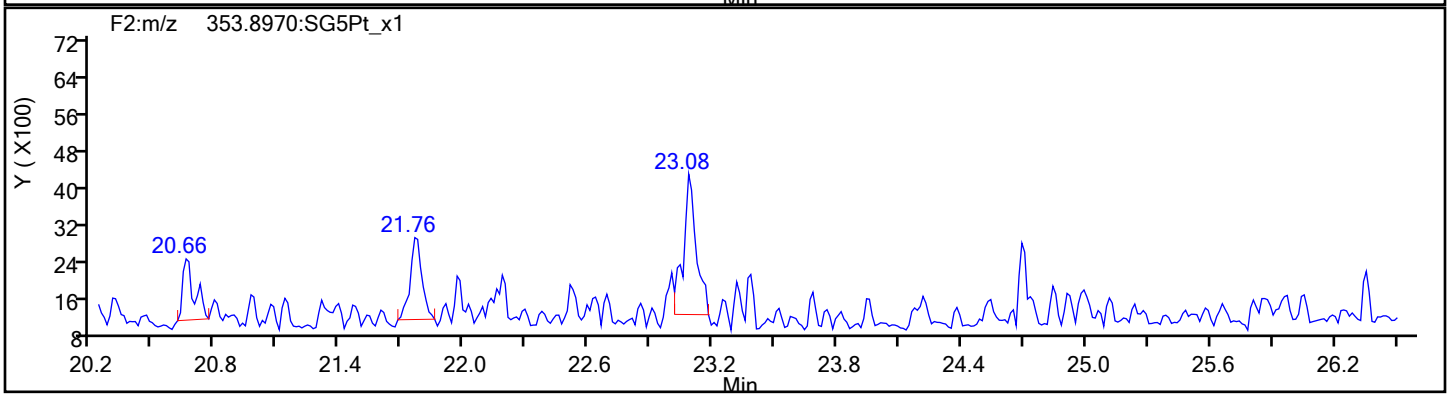

Report Date: 30-Jan-2020 09:10:44 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d		
Injection Date:	30-Jan-2020 00:17:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

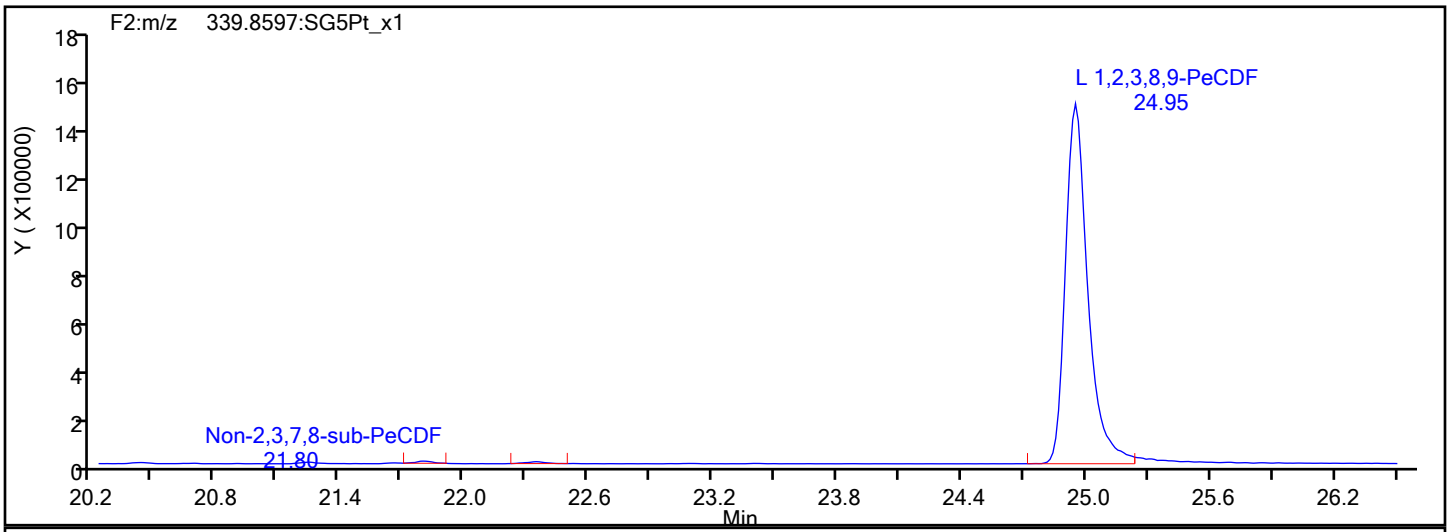

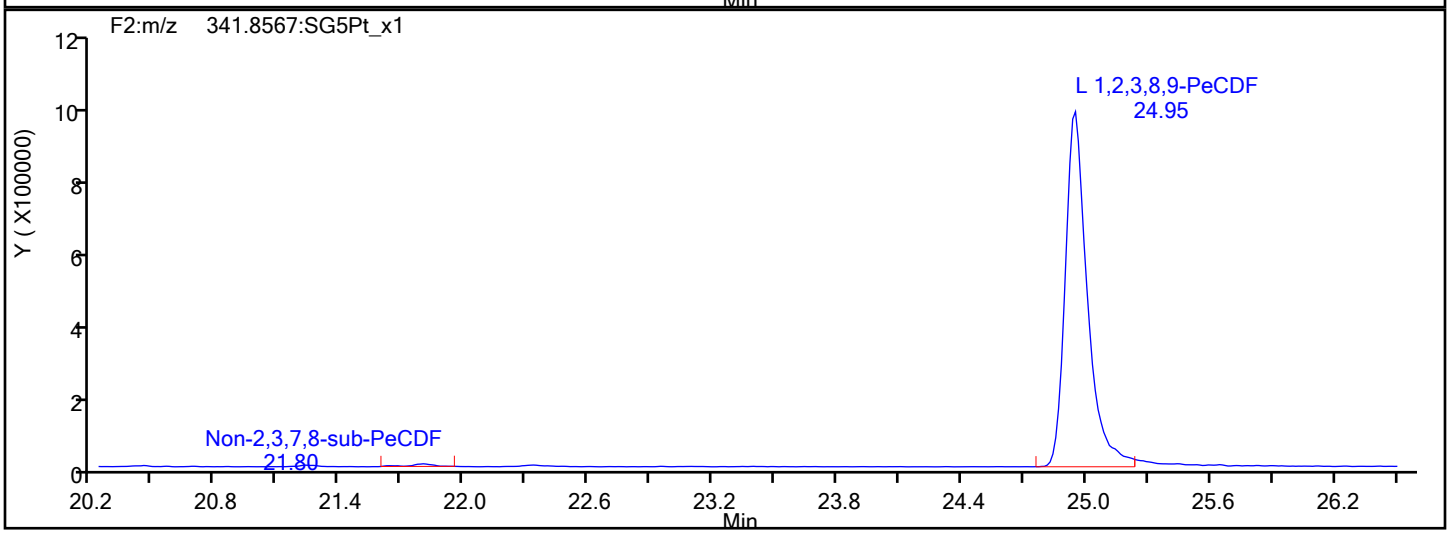

PeCDF Interference Mass

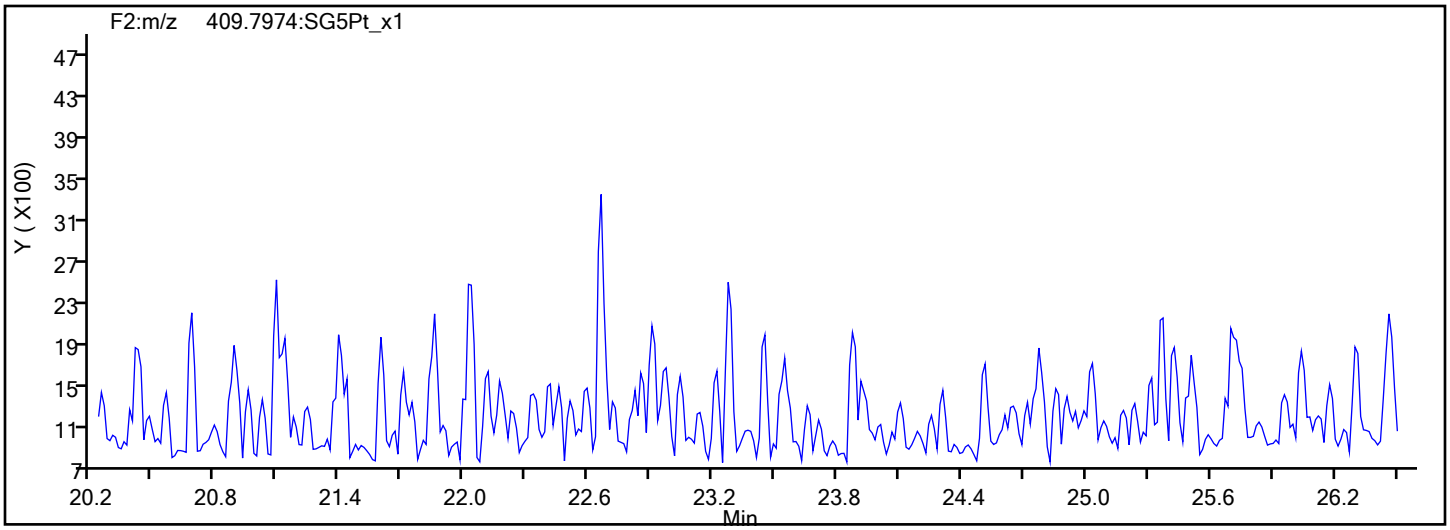

Report Date: 30-Jan-2020 09:10:44 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d		
Injection Date:	30-Jan-2020 00:17:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

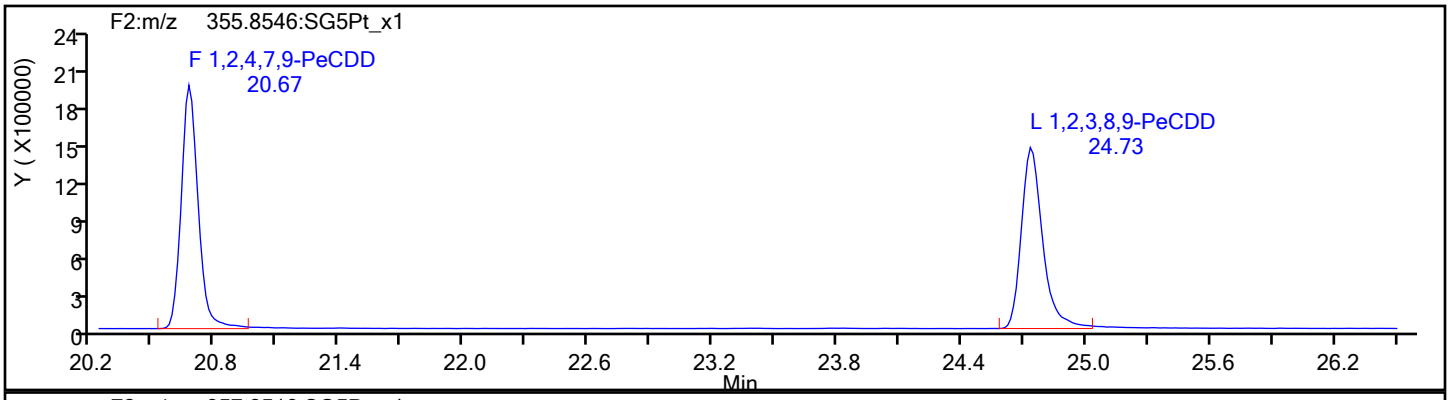

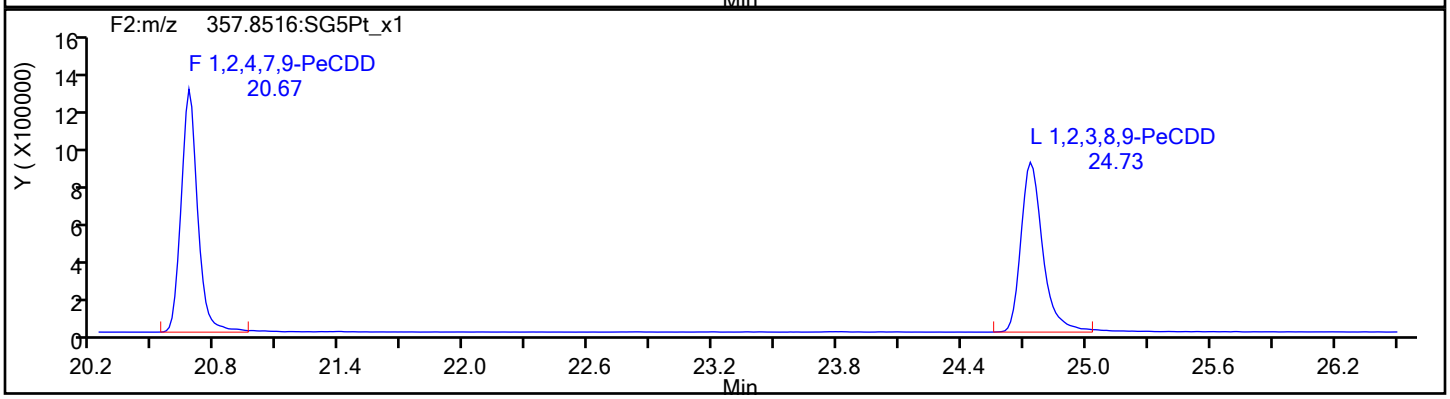

PeCDD Standards

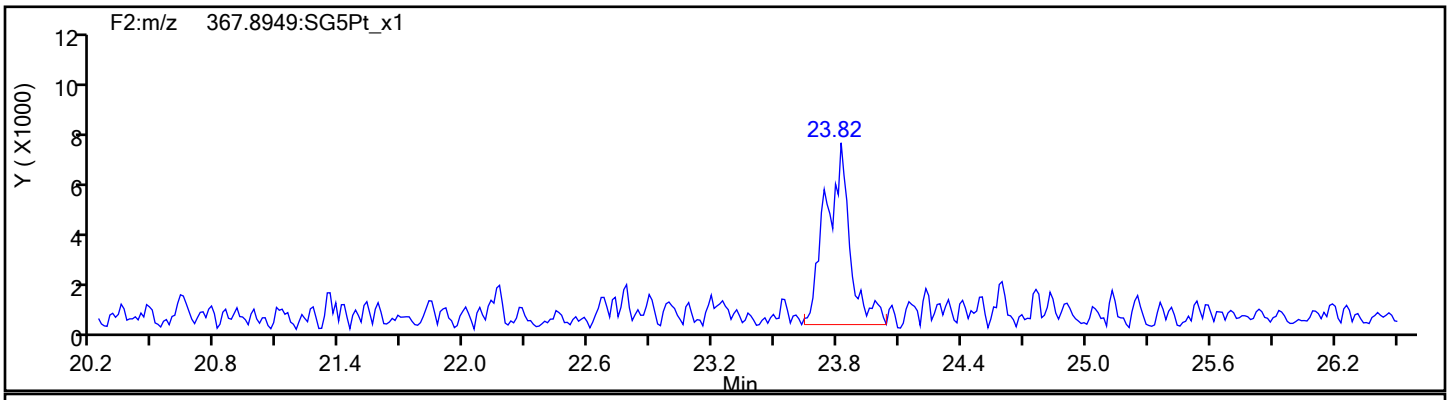

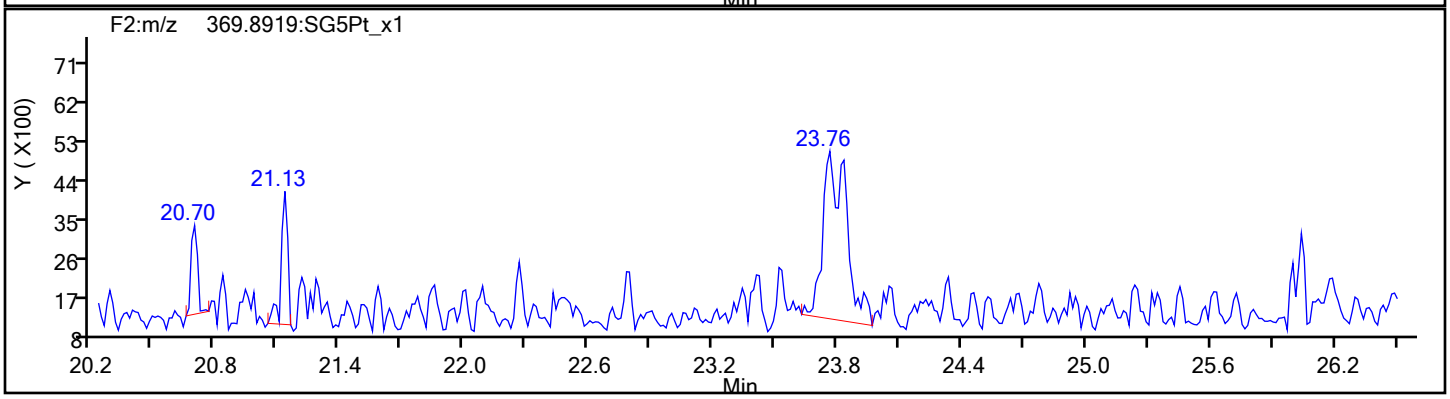

Report Date: 30-Jan-2020 09:10:44 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d		
Injection Date:	30-Jan-2020 00:17:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

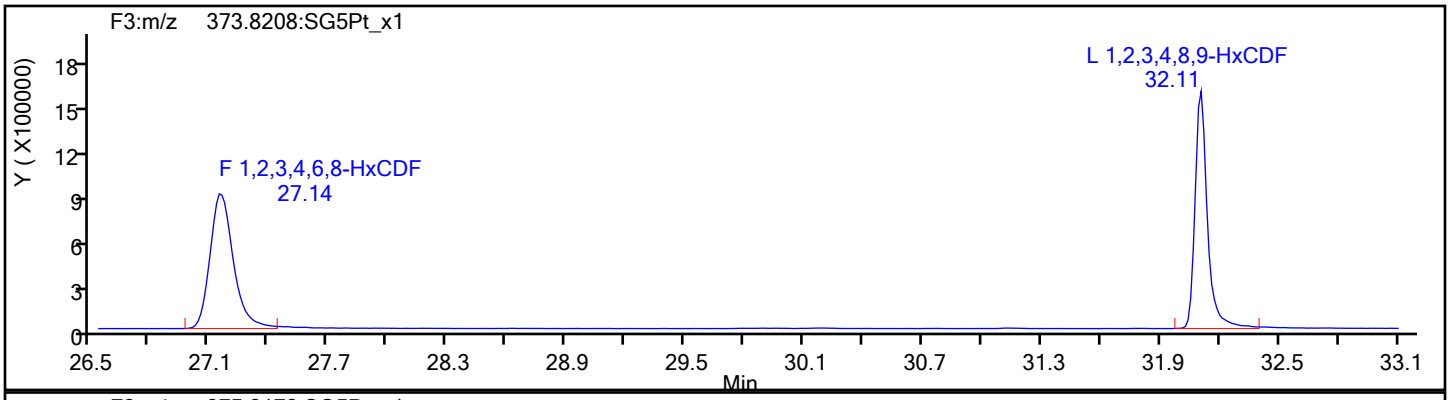

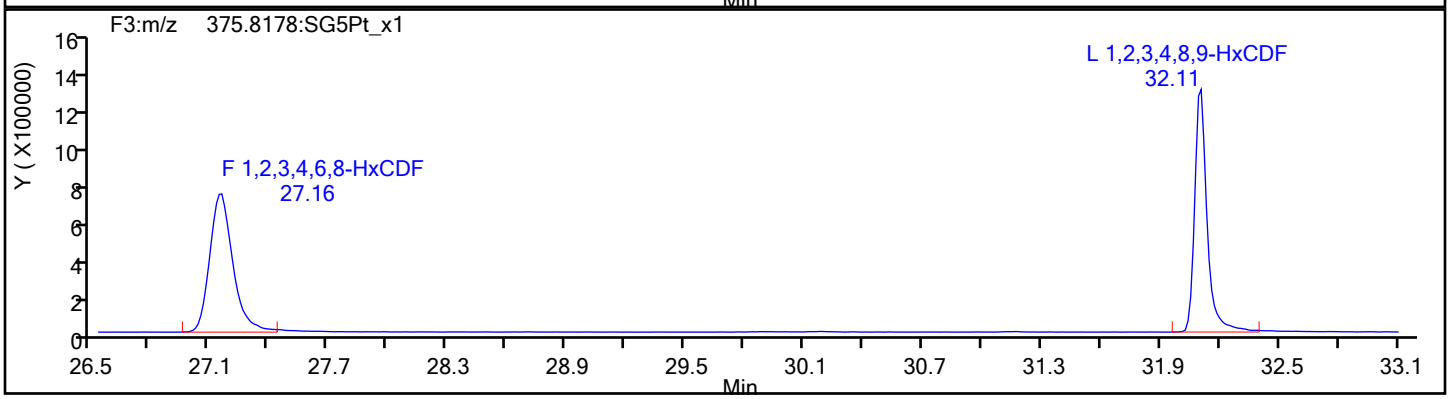

HxCDF Standards

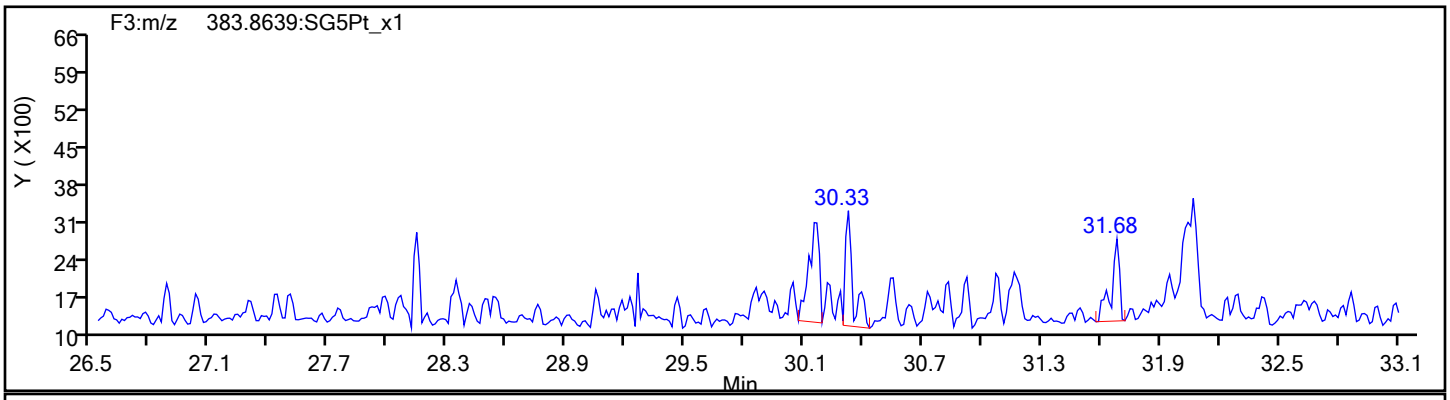

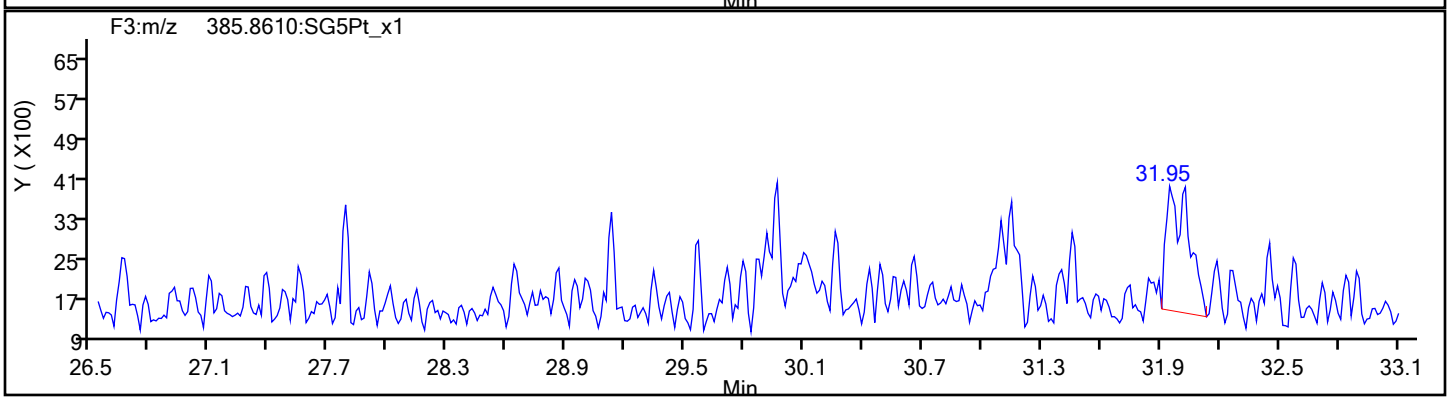

Report Date: 30-Jan-2020 09:10:44 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d		
Injection Date:	30-Jan-2020 00:17:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

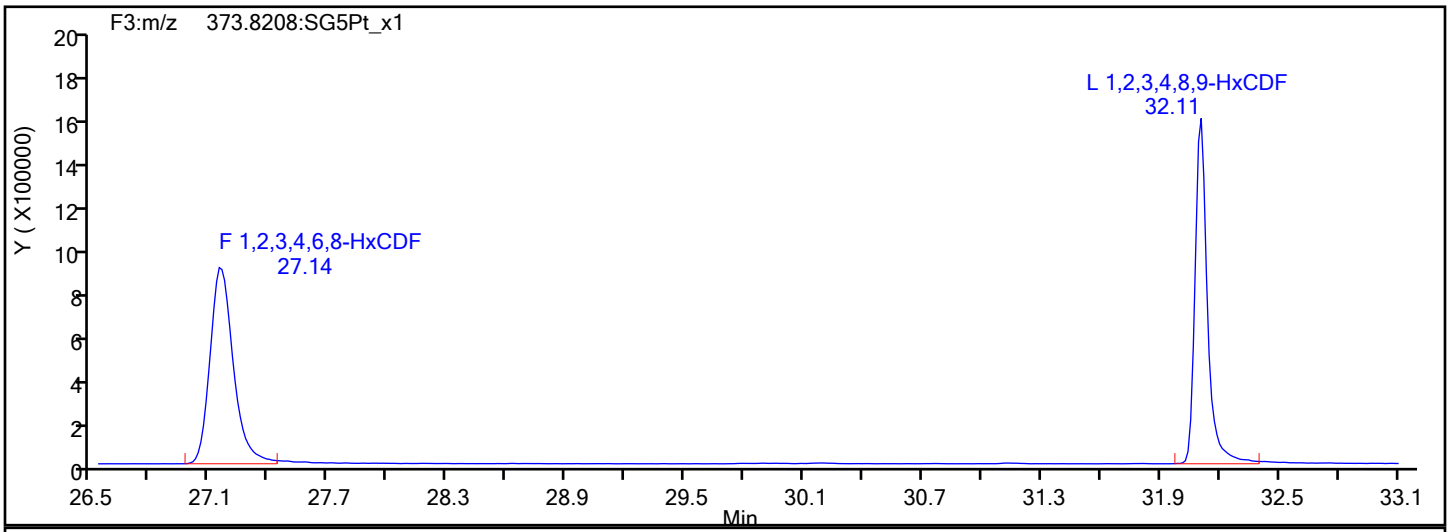

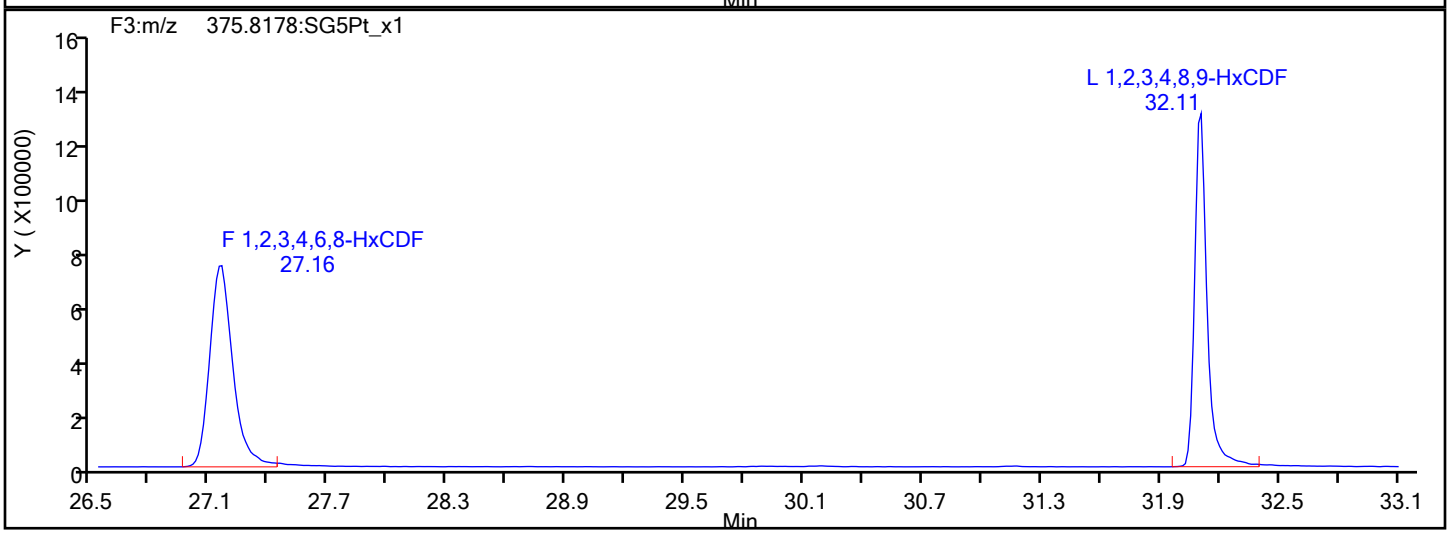

HxCDF Interference Mass

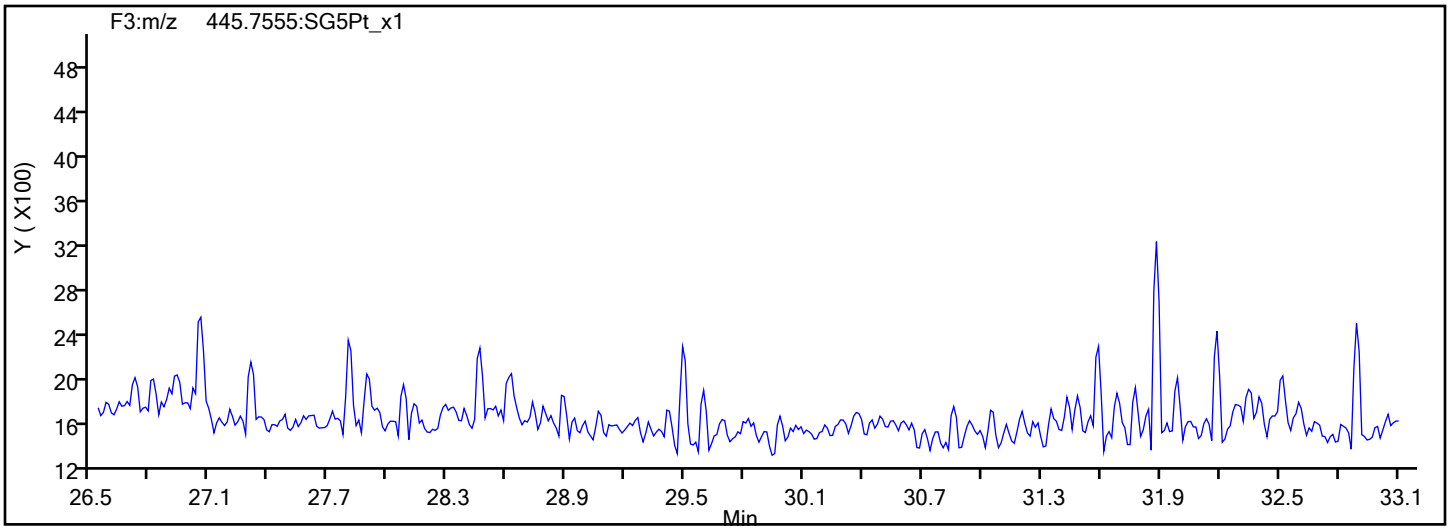

Report Date: 30-Jan-2020 09:10:44 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d		
Injection Date:	30-Jan-2020 00:17:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDD

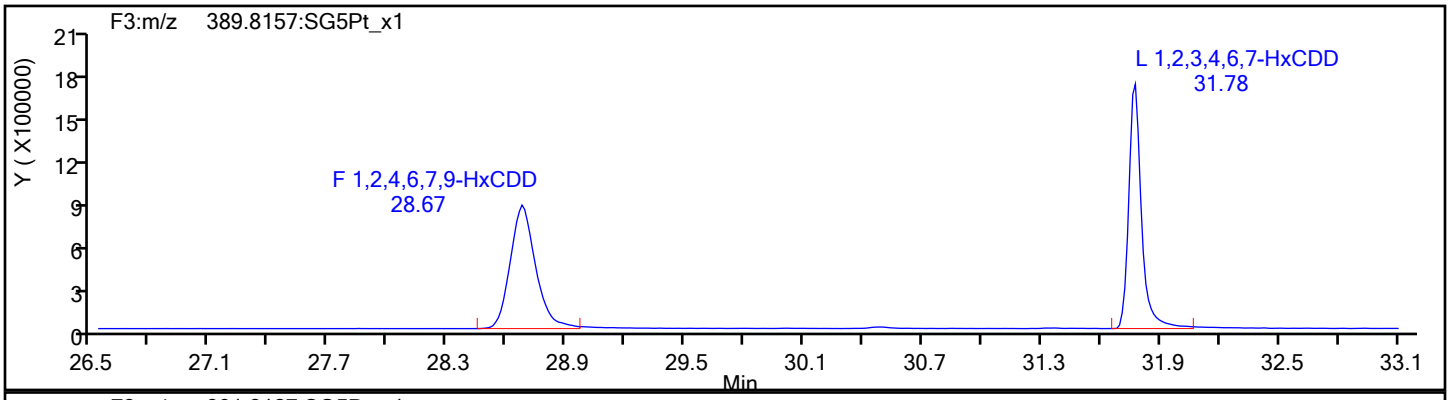

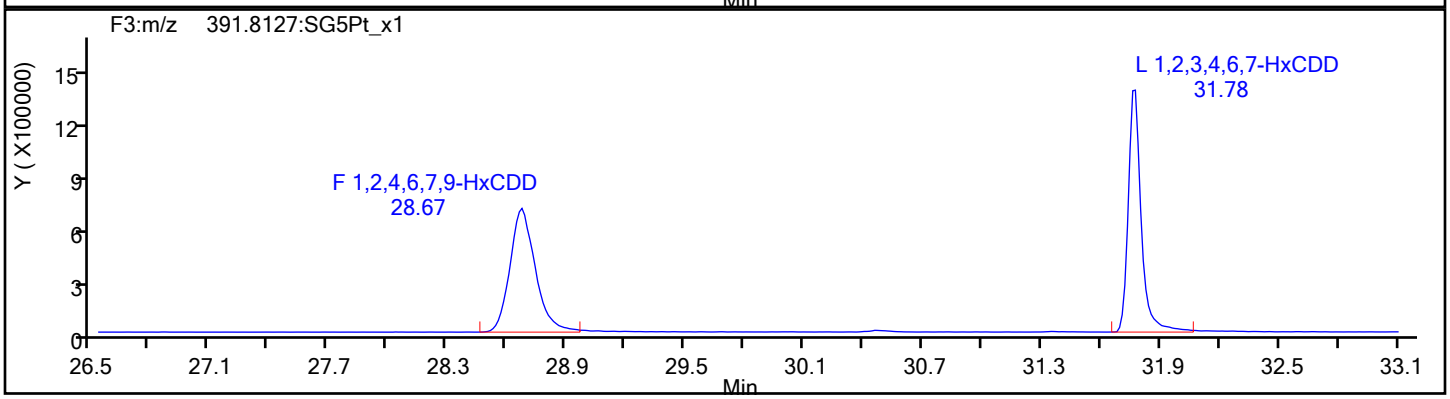

HxCDD Standards

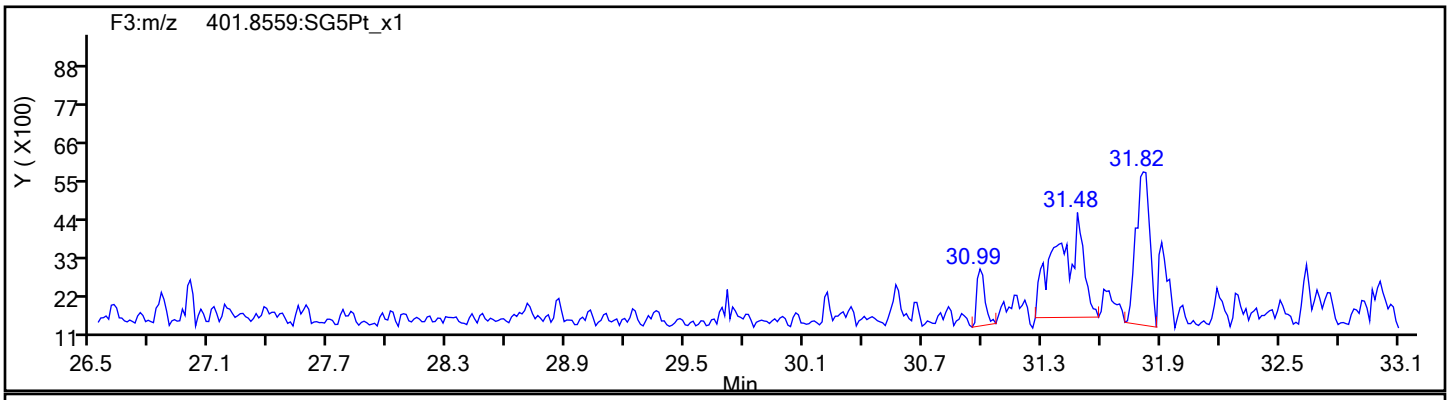

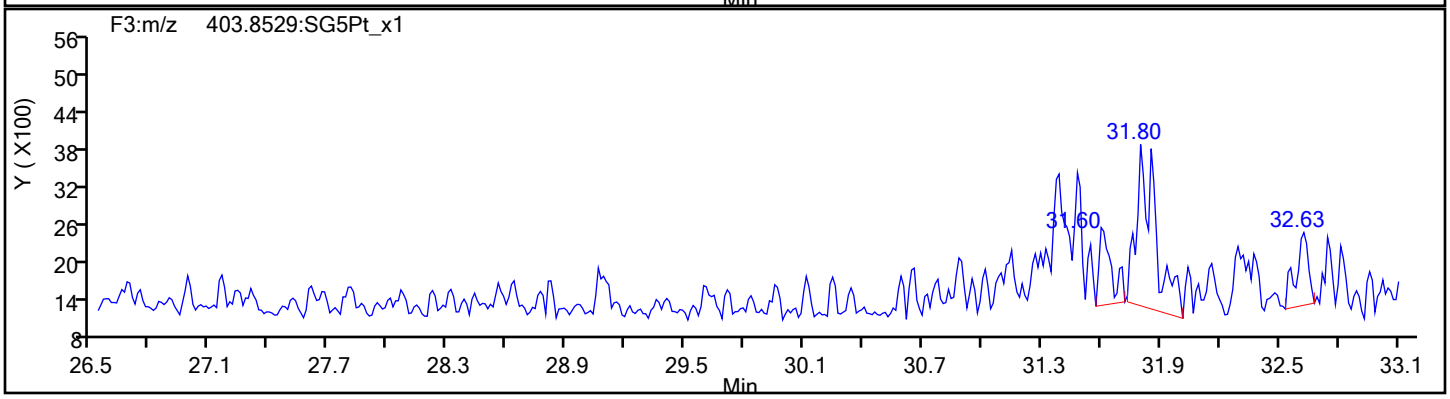

Report Date: 30-Jan-2020 09:10:44 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d		
Injection Date:	30-Jan-2020 00:17:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

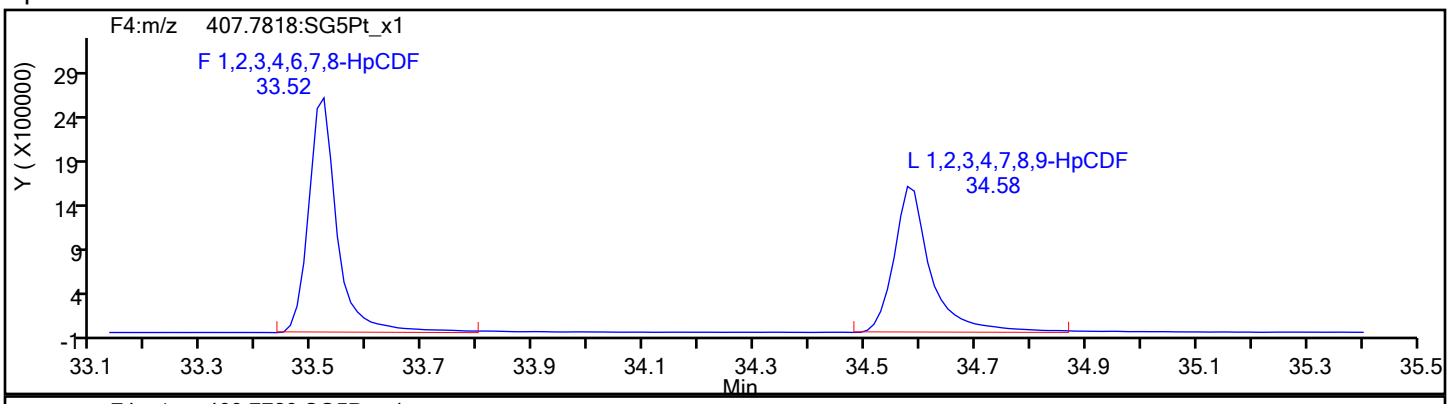

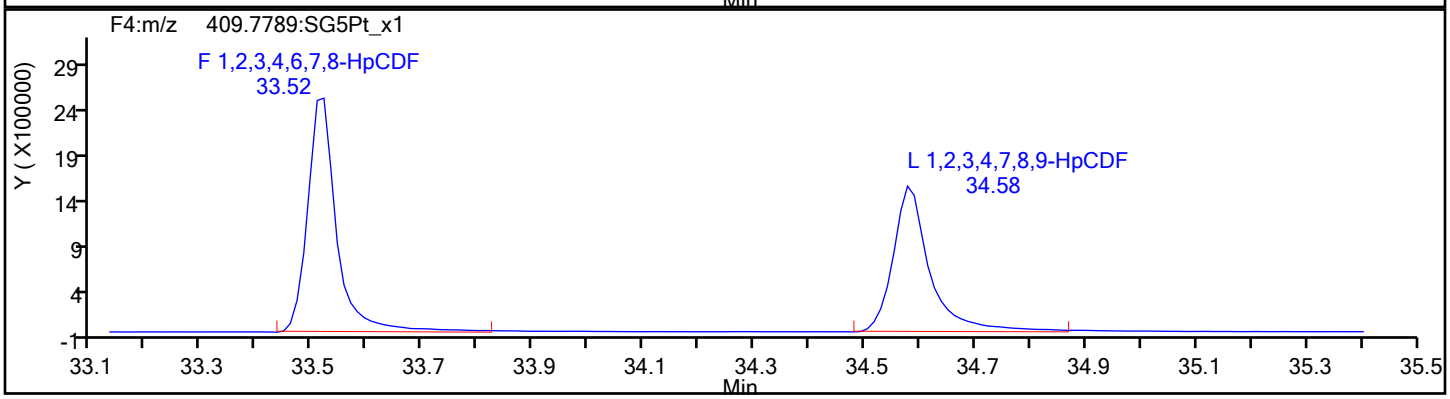

HpCDF Standards

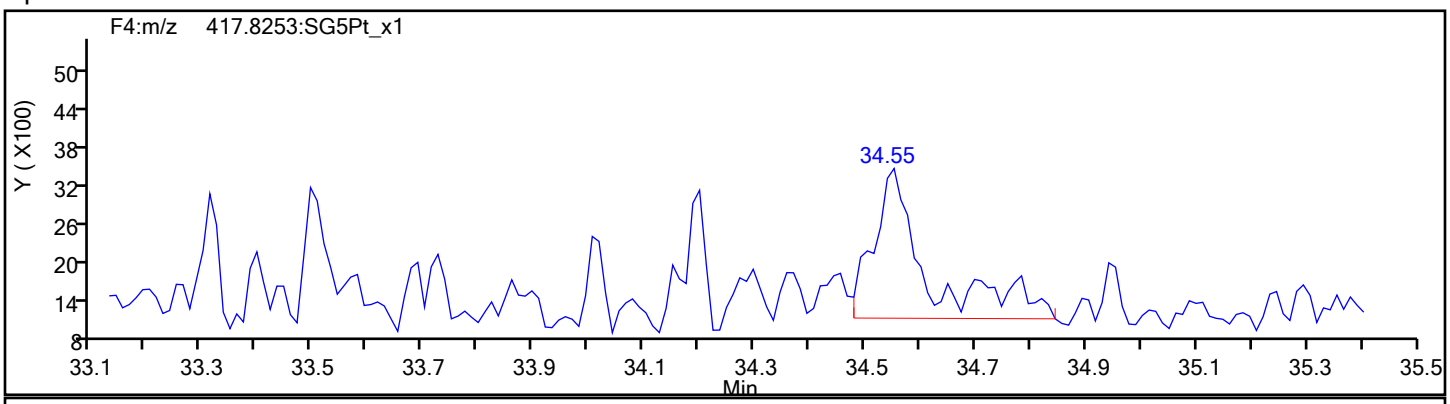

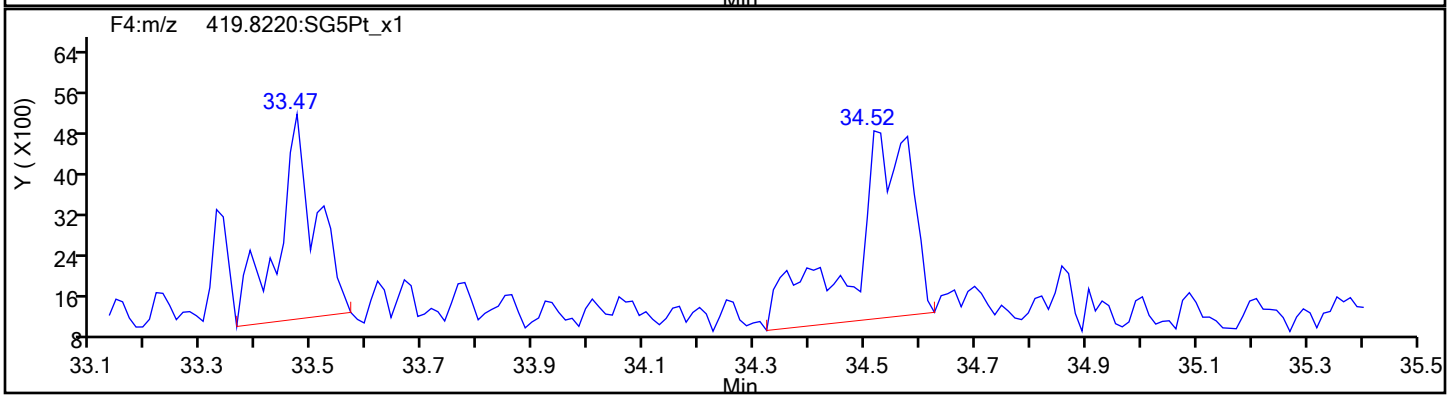

Report Date: 30-Jan-2020 09:10:44 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d		
Injection Date:	30-Jan-2020 00:17:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

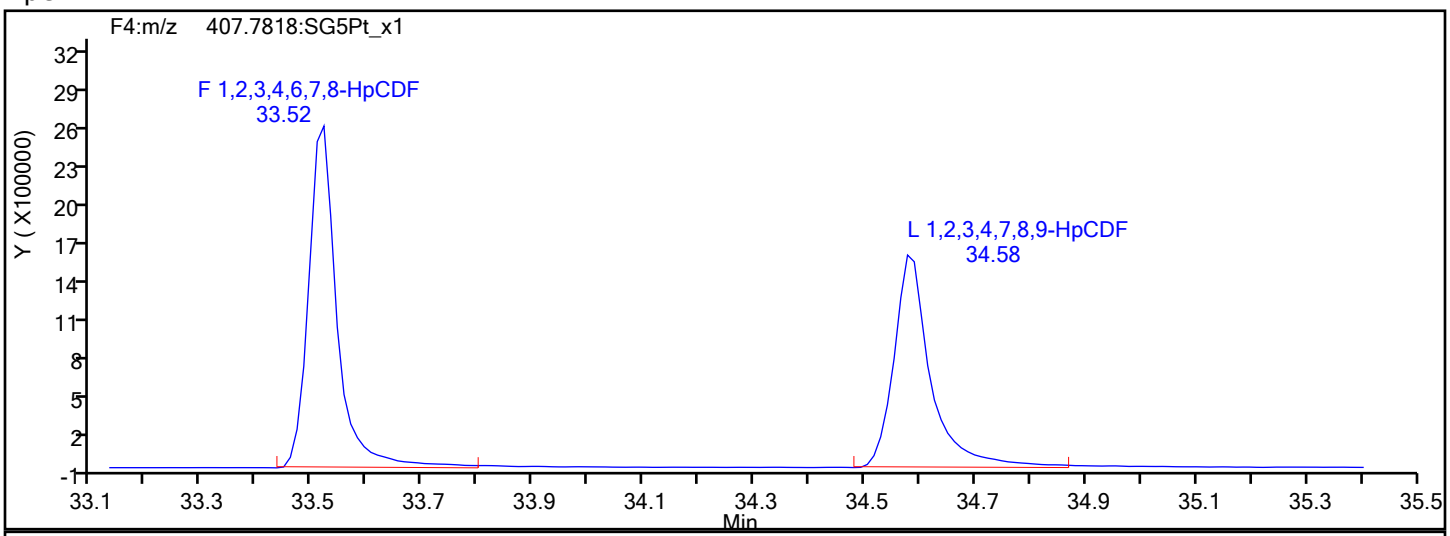

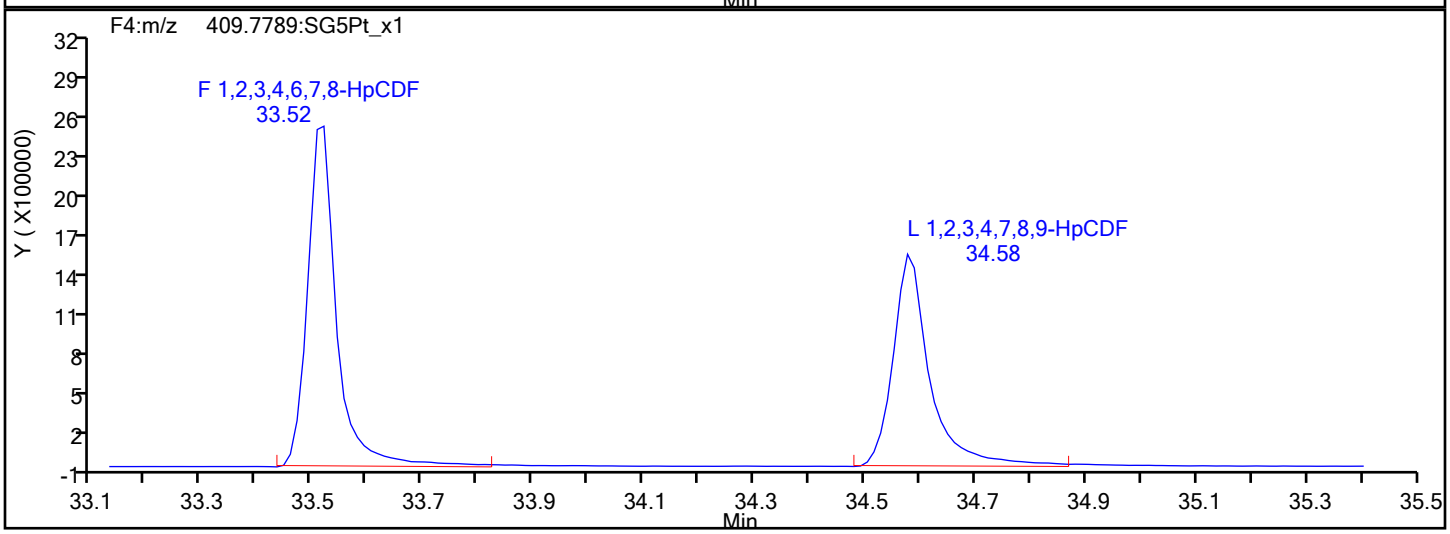

HpCDF Interference Mass

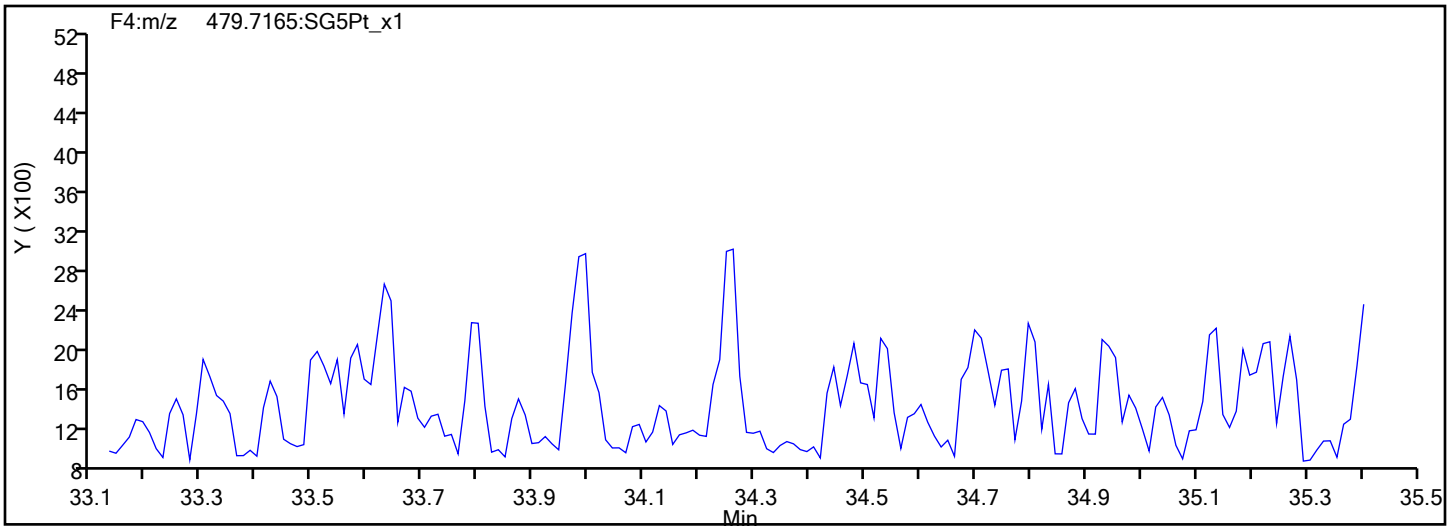

Report Date: 30-Jan-2020 09:10:44 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d		
Injection Date:	30-Jan-2020 00:17:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

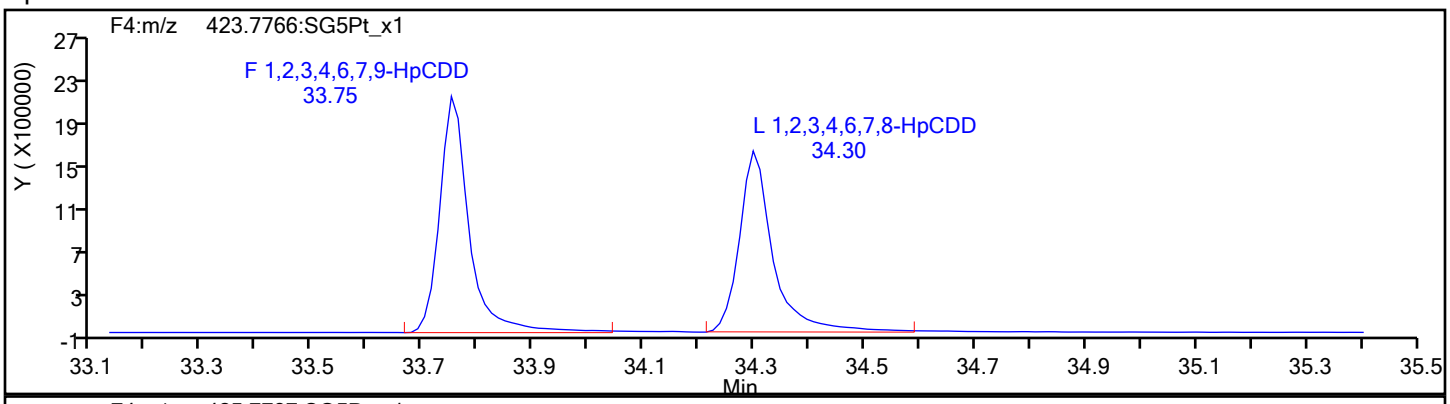

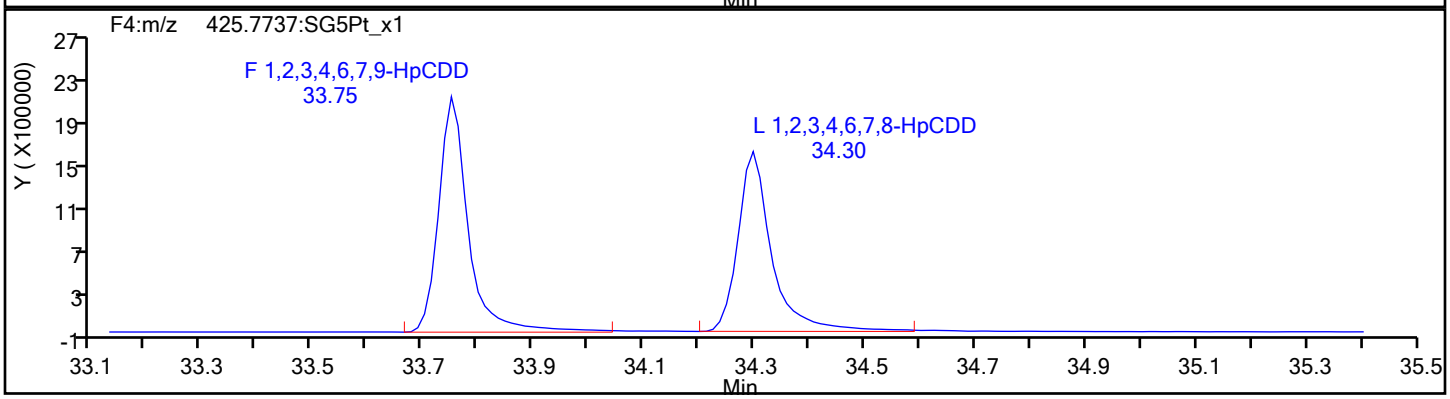

HpCDD Standards

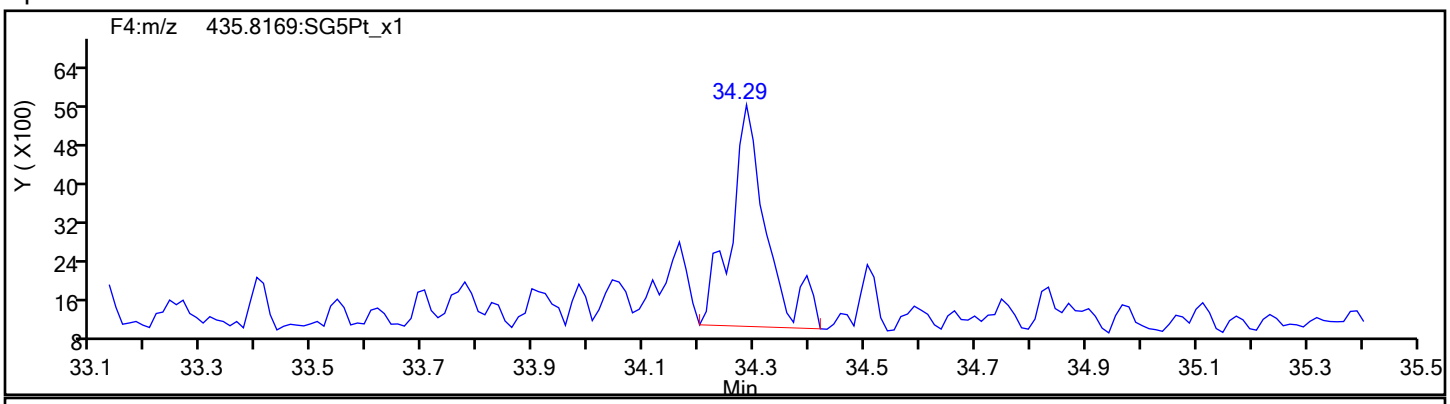

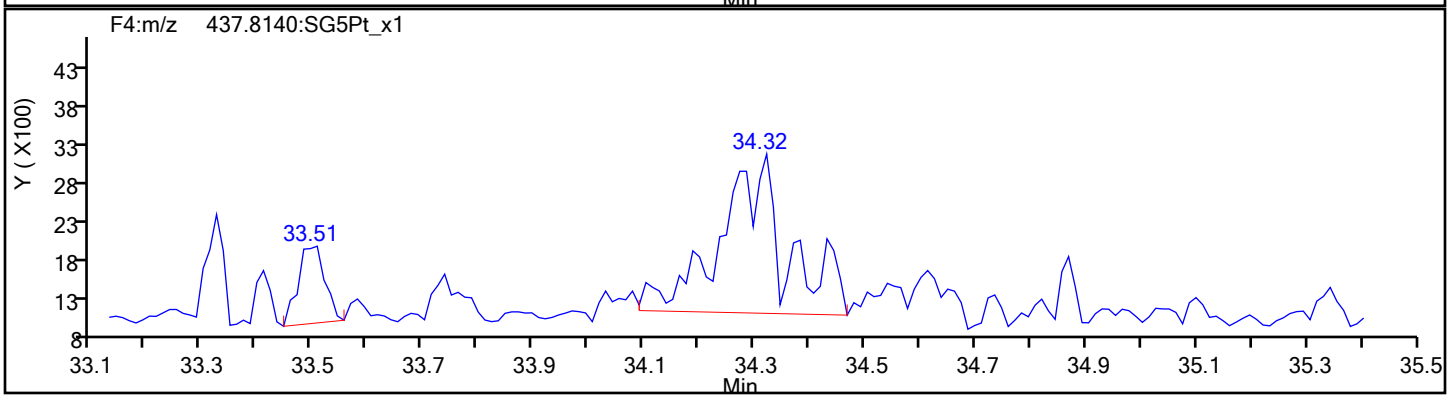

Report Date: 30-Jan-2020 09:10:44 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d		
Injection Date:	30-Jan-2020 00:17:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

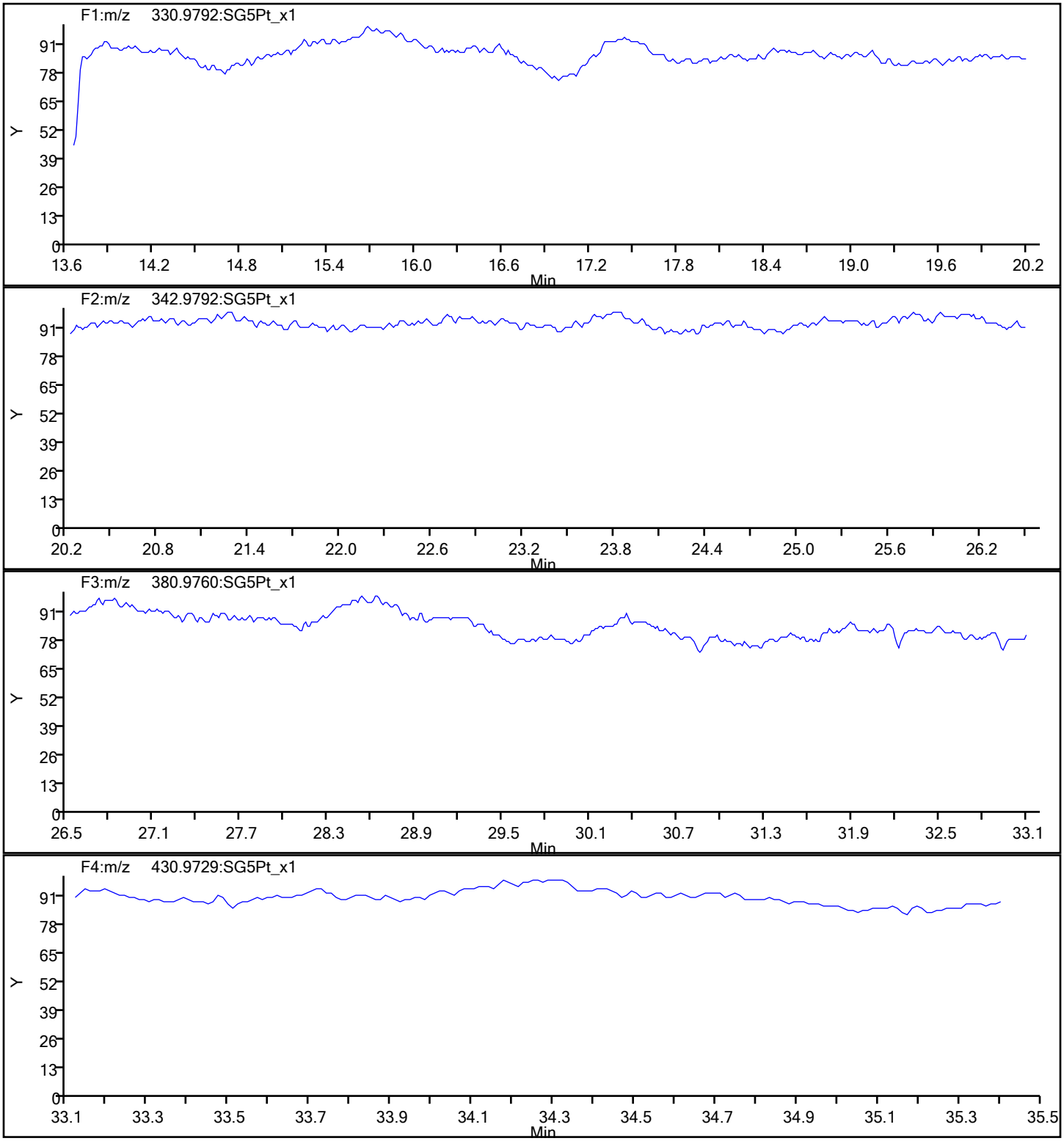

Report Date: 30-Jan-2020 09:10:44 Chrom Revision: 2.3 14-Jan-2020 22:23:42

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_2.d		
Injection Date:	30-Jan-2020 00:17:03	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	ALM, SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	353986	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

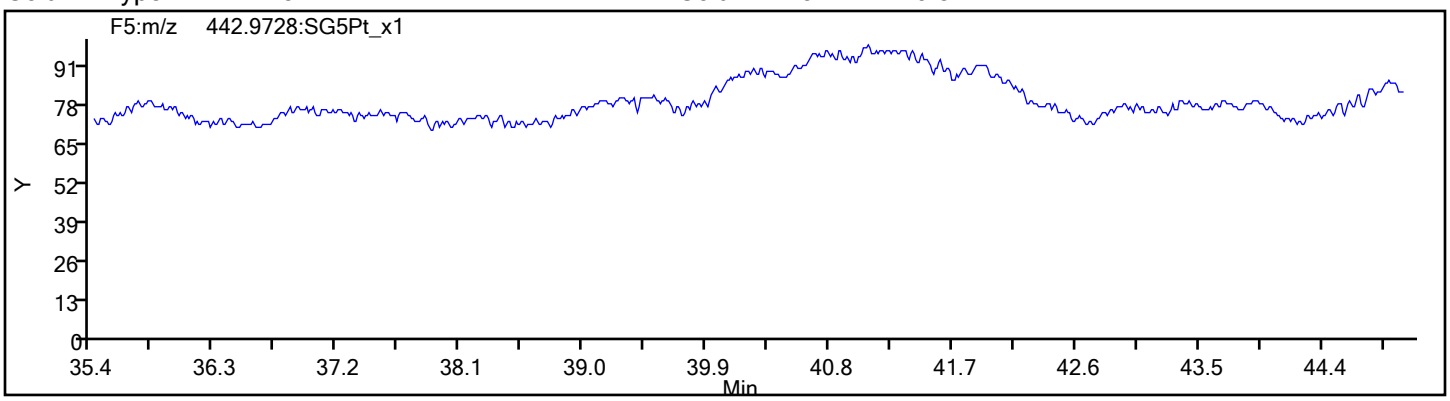

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_42.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 19-Feb-2020 22:27:56 ALS Bottle#: 1 Worklist Smp#: 42
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 021820C WDM HRDXNCP_00040
Misc. Info.: 18FE2010D5
Operator ID: AJS, ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 20-Feb-2020 13:42:22 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0312

First Level Reviewer: shardaa Date: 20-Feb-2020 13:39:12

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	16.719	18149173	0.74	1.1275					0.00	
2,3,7,8-TCDF	16.749	31968577	0.72	0.7675	91.8	91.8	0.8488	0.8488		
A Non-2,3,7,8-sub-TCDF	16.446						0.8488	0.8488		
S Total TCDF					91.8	91.8	0.8488	0.8488		
D 13C-2,3,7,8-TCDD	17.384	14219639	0.76	0.9032					0.00	
2,3,7,8-TCDD	17.414	15128973	0.76	0.9599	44.3	44.3	0.2515	0.2515		
A Non-2,3,7,8-sub-TCDD	16.877						0.2515	0.2515		
S Total TCDD					44.3	44.3	0.2515	0.2515		
A F1 PeCDFs	19.145						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	22.103						0.0	0.0		
S Total PeCDF										
A Non-2,3,7,8-sub-PeCDD	22.361						0.0	0.0		
S Total PeCDD										
A Non-2,3,7,8-sub-HxCDF	29.287						0.0	0.0		
S Total HxCDF										
A Non-2,3,7,8-sub-HxCDD	29.846						0.0	0.0		
S Total HxCDD										
1,2,3,4,6,7,8-HpCDF	33.376	14081827	1.01	1.3375						
1,2,3,4,7,8,9-HpCDF	34.433	11614968	1.02	1.0744						
A Non-2,3,7,8-sub-HpCDF	33.905						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	34.166	10638776	1.04	0.9811						
A Non-2,3,7,8-sub-HpCDD	33.893						0.0	0.0		
S Total HpCDD										
1,3,6,8-TCDF	14.450	17090792	0.73							
1,3,6,8-TCDD	15.312	13947715	0.77							
2,3,4,7-TCDF	16.749	31968577	0.72							
1,2,3,7-TCDD	17.293	12188508	0.75							
1,2,3,9-TCDF	17.550	13894258	0.73							
1,2,3,9-TCDD	17.550	16207215	0.76							

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,8,9-TCDD	18.442	5850861								
1,2,8,9-TCDF	18.442	13944688	0.71							
1,3,4,6,8-PeCDF	18.714	18475298	1.58							
1,2,4,7,9-PeCDD	20.383	12349959	1.58							
1,2,3,8,9-PeCDD	24.338	12081797	1.57							
1,2,3,8,9-PeCDF	24.556	13080592	1.55							
1,2,3,4,6,8-HxCDF	26.678	9629756	1.18							
1,2,4,6,7,9-HxCDD	28.142	10030049	1.21							
1,2,3,4,6,7-HxCDD	31.550	10578051	1.23							
1,2,3,4,8,9-HxCDF	31.896	9125899	1.15							
1,2,3,4,6,7,9-HpCDD	33.619	12171330	1.04							

Reagents:

HRDXNCP_00040 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_42.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 19-Feb-2020 22:27:56 ALS Bottle#: 1 Worklist Smp#: 42
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 021820C WDM HRDXNCP_00040
Misc. Info.: 18FE2010D5
Operator ID: AJS, ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 20-Feb-2020 13:42:22 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0312

First Level Reviewer: shardaa Date: 20-Feb-2020 13:39:12

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	16.719	16.719	0	1.000	7696689	2108985	6902	17255	306		
317.9389	16.719	16.719	0	1.000	10452484	2816470	5075	12687	555	0.74(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.749	16.749	0	1.002	13368531	3068659	12259	30647	250		
305.8987	16.749	16.749	0	1.002	18600046	4194711	19830	49575	212	0.72(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.446						12259	30647			
305.8987	16.446						19830	49575			
13C-2,3,7,8-TCDD											
331.9368	17.384	17.384	0	1.000	6162355	1480646	2398	5995	617		
333.9339	17.384	17.384	0	1.000	8057284	1919509	1577	3942	1217	0.76(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.414	17.414	0	1.002	6555605	1469213	3780	9450	389		
321.8936	17.399	17.414	-1	1.001	8573368	1934613	4427	11067	437	0.76(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	16.877						3780	9450			
321.8936	16.877						4427	11067			
A F1 PeCDFs											
339.8597	19.145						737	1842			
341.8567	19.145						679	1697			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.103						1457	3642			
341.8567	22.103						1323	3307			
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.361						2411	6027			
357.8516	22.361						1430	3575			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.287						1617	4042			
375.8178	29.287						1490	3725			
A Non-2,3,7,8-sub-HxCDD											
389.8157	29.846						1924	4810			
391.8127	29.846						1854	4635			
1,2,3,4,6,7,8-HpCDF											
407.7818	33.376	33.376	0	1.000	7069933	2118284	10260	25650	206		
409.7789	33.376	33.376	0	1.000	7011894	2158308	12398	30995	174	1.01(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.433	34.433	0	1.000	5862672	1650105	10260	25650	161		
409.7789	34.433	34.433	0	1.000	5752296	1628664	12398	30995	131	1.02(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.905						10260	25650			
409.7789	33.905						12398	30995			
1,2,3,4,6,7,8-HpCDD											
423.7766	34.166	34.166	0	1.000	5431315	1489976	9927	24817	150		
425.7737	34.154	34.166	-1	1.000	5207461	1433271	11348	28370	126	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.893						9927	24817			
425.7737	33.893						11348	28370			
1,3,6,8-TCDF											
303.9016	14.450	14.450	0		7193054	2258920	12259	30647	184		
305.8987	14.450	14.450	0		9897738	3067975	19830	49575	155	0.73(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	15.312	15.312	0		6085662	1786772	3780	9450	473		
321.8936	15.312	15.312	0		7862053	2302940	4427	11067	520	0.77(0.65-0.89)	
2,3,4,7-TCDF											
303.9016	16.749	16.749	0		13368531	3068659	12259	30647	250		
305.8987	16.749	16.749	0		18600046	4194711	19830	49575	212	0.72(0.65-0.89)	
1,2,3,7-TCDD											
319.8965	17.293	17.293	0		5233118	1337811	3780	9450	354		
321.8936	17.293	17.293	0		6955390	1792245	4427	11067	405	0.75(0.65-0.89)	
1,2,3,9-TCDF											
303.9016	17.550	17.550	0		5841256	1446390	12259	30647	118		
305.8987	17.550	17.550	0		8053002	1980755	19830	49575	100	0.73(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	17.550	17.550	0		6980655	1568438	3780	9450	415		
321.8936	17.550	17.550	0		9226560	2086321	4427	11067	471	0.76(0.65-0.89)	
1,2,8,9-TCDD											
319.8965	18.442	18.442	0		5850861	1306898	3780	9450	346		
1,2,8,9-TCDF											
303.9016	18.442	18.442	0		5785720	1316600	12259	30647	107		
305.8987	18.442	18.442	0		8158968	1847487	19830	49575	93	0.71(0.65-0.89)	
1,3,4,6,8-PeCDF											
339.8597	18.714	18.714	0		11320215	2579314	737	1842	3500		
341.8567	18.714	18.714	0		7155083	1652065	679	1697	2433	1.58(1.32-1.78)	

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Data File: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_42.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,4,7,9-PeCDD											
355.8546	20.383	20.383	0		7557643	1342649	2411	6027	557		
357.8516	20.383	20.383	0		4792316	876463	1430	3575	613	1.58(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	24.338	24.338	0		7380424	1086601	2411	6027	451		
357.8516	24.338	24.338	0		4701373	687795	1430	3575	481	1.57(1.32-1.78)	
1,2,3,8,9-PeCDF											
339.8597	24.556	24.556	0		7944198	1132789	1457	3642	777		
341.8567	24.556	24.556	0		5136394	730444	1323	3307	552	1.55(1.32-1.78)	
1,2,3,4,6,8-HxCDF											
373.8208	26.678	26.678	0		5217884	722465	1617	4042	447		
375.8178	26.665	26.678	-1		4411872	604620	1490	3725	406	1.18(1.05-1.43)	
1,2,4,6,7,9-HxCDD											
389.8157	28.142	28.142	0		5498289	688283	1924	4810	358		
391.8127	28.142	28.142	0		4531760	572192	1854	4635	309	1.21(1.05-1.43)	
1,2,3,4,6,7-HxCDD											
389.8157	31.550	31.550	0		5827120	1387768	1924	4810	721		
391.8127	31.550	31.550	0		4750931	1105362	1854	4635	596	1.23(1.05-1.43)	
1,2,3,4,8,9-HxCDF											
373.8208	31.896	31.896	0		4890921	1191913	1617	4042	737		
375.8178	31.896	31.896	0		4234978	1036333	1490	3725	696	1.15(1.05-1.43)	
1,2,3,4,6,7,9-HpCDD											
423.7766	33.619	33.619	0		6219570	1879031	9927	24817	189		
425.7737	33.619	33.619	0		5951760	1851756	11348	28370	163	1.04(0.88-1.20)	

Reagents:

HRDXNCP_00040 Amount Added: 1.00 Units: mL

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Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_42.d		
Injection Date:	19-Feb-2020 22:27:56	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	358703	Sample Line#:	42
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

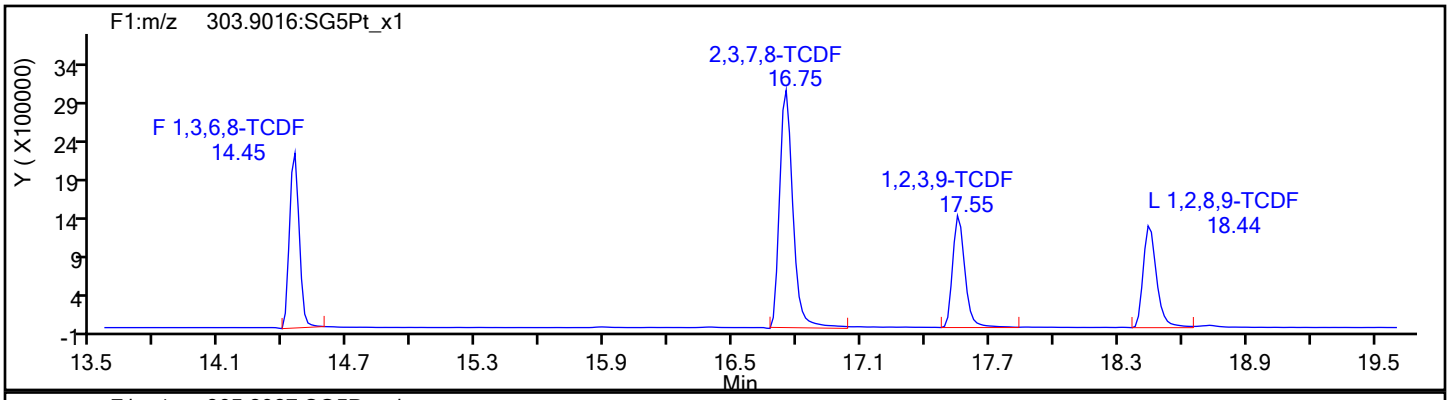

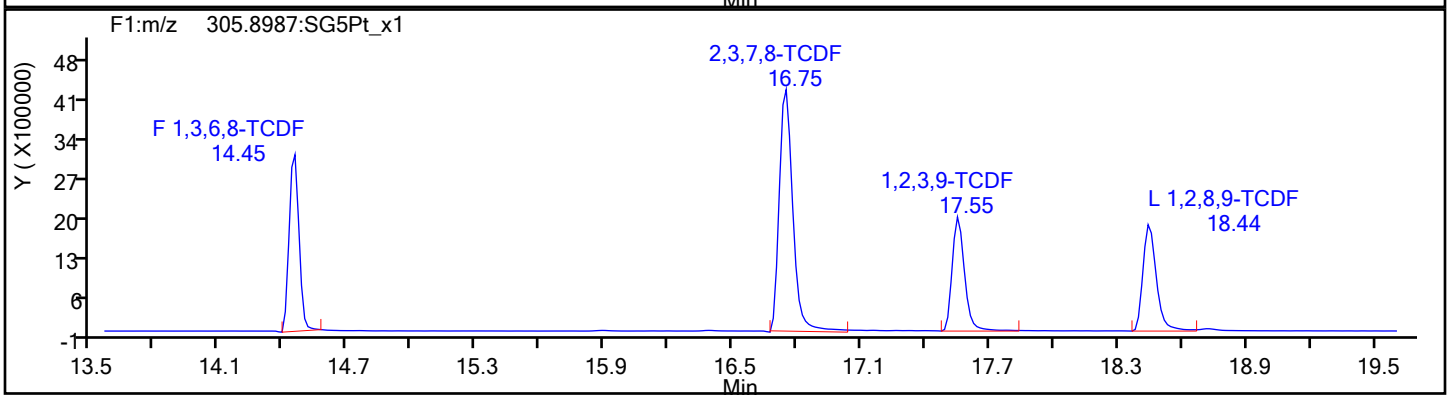

TCDF Standards

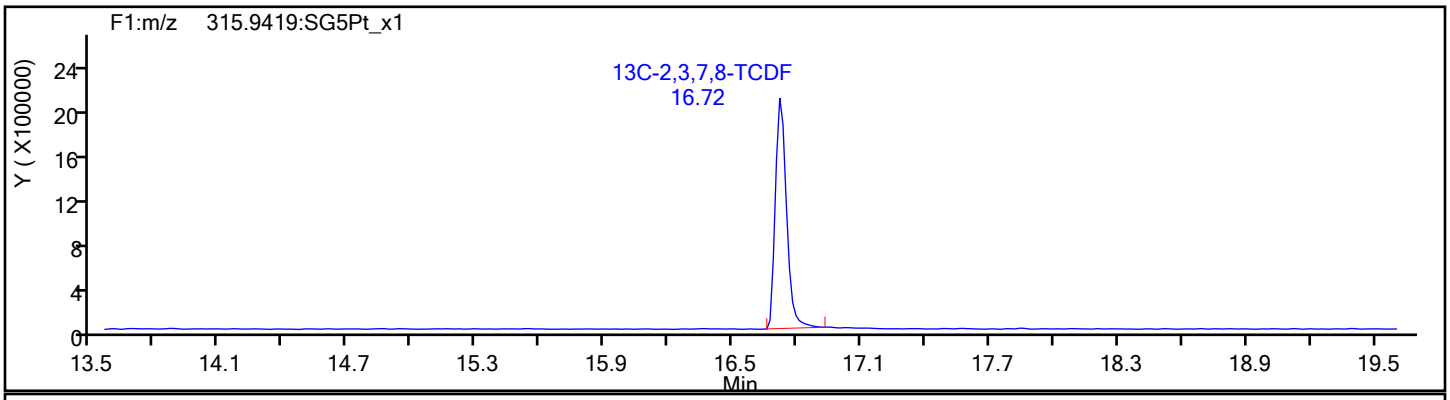

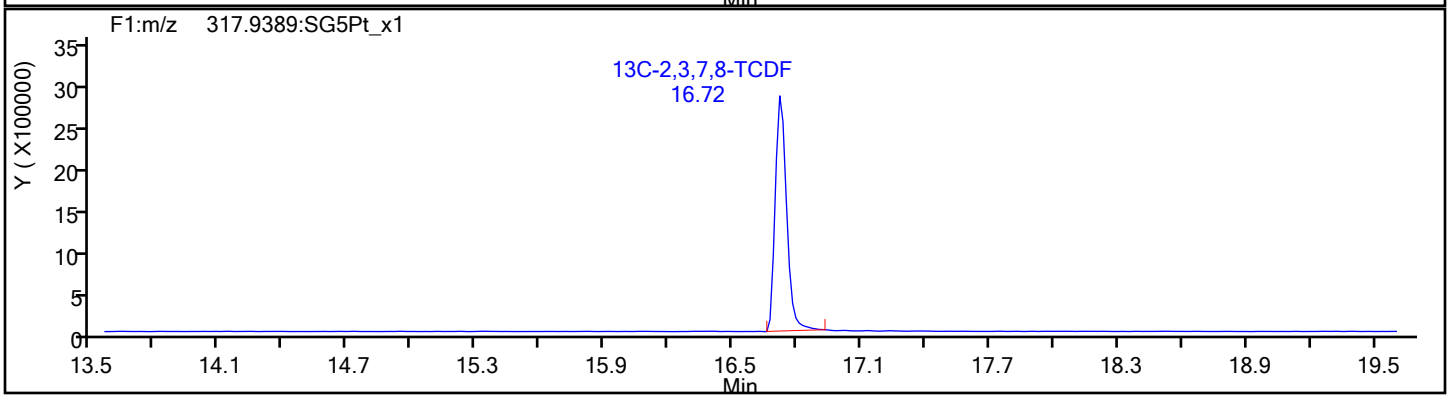

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

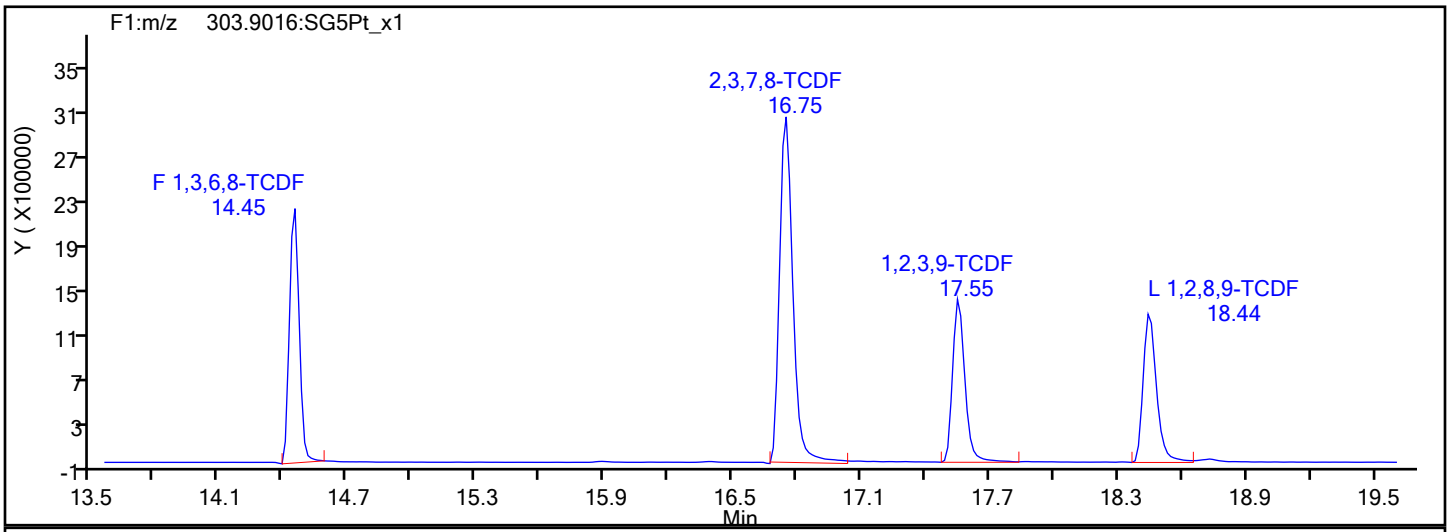

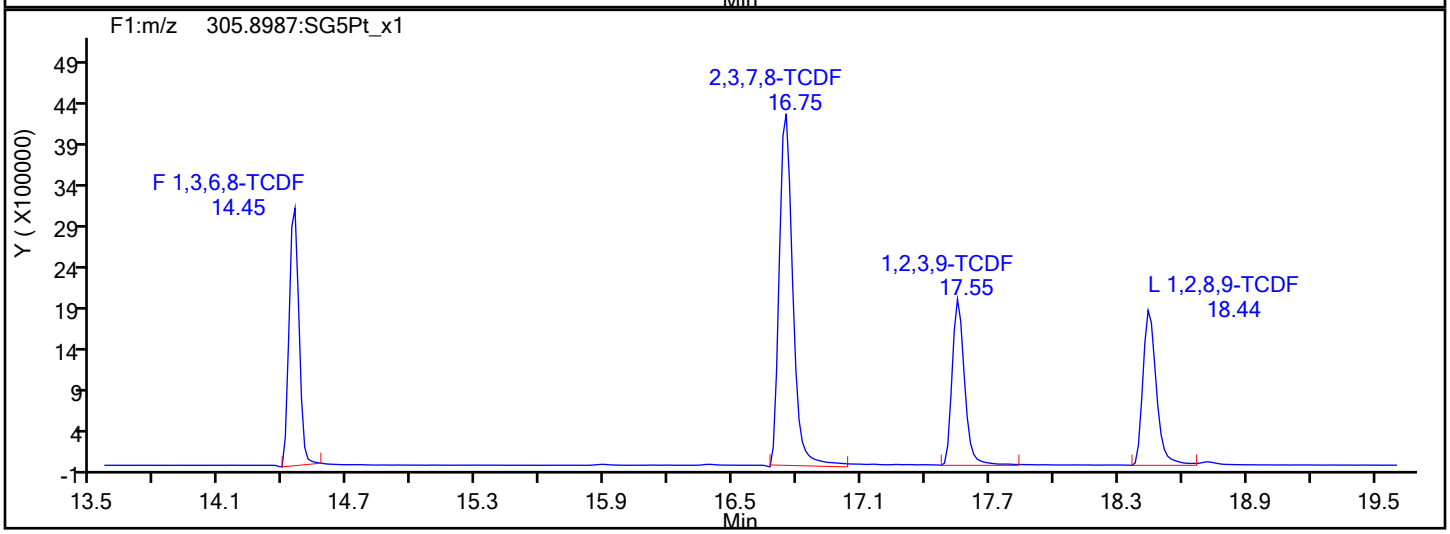

TCDF Interference Mass

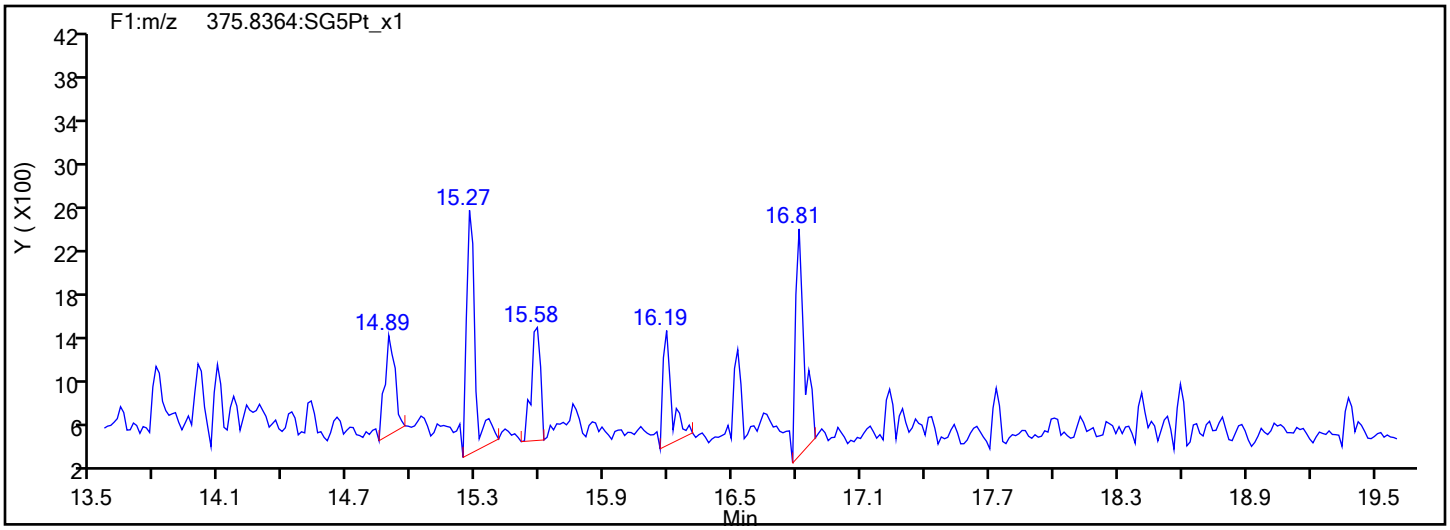

Report Date: 20-Feb-2020 13:42:22 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

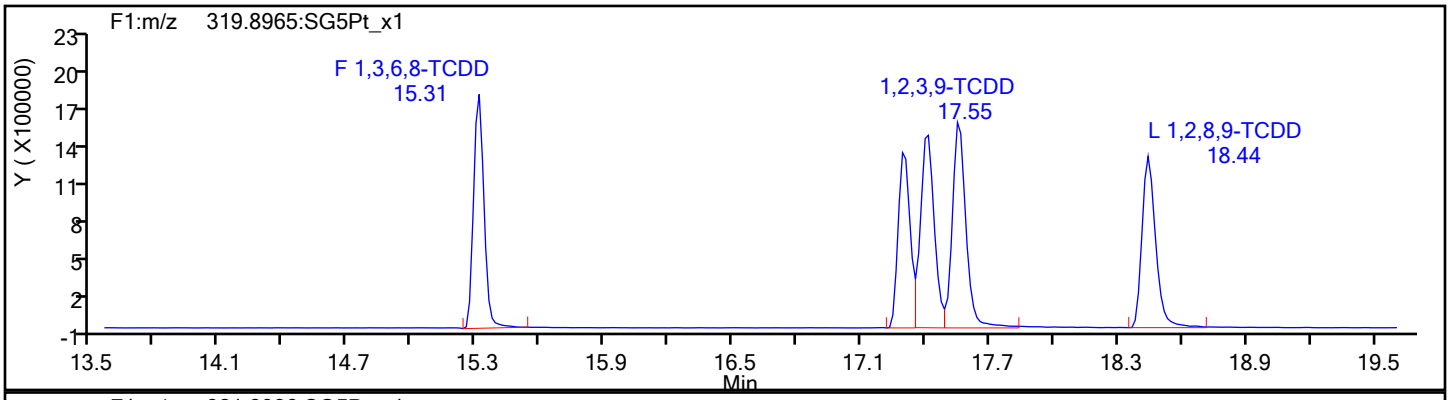

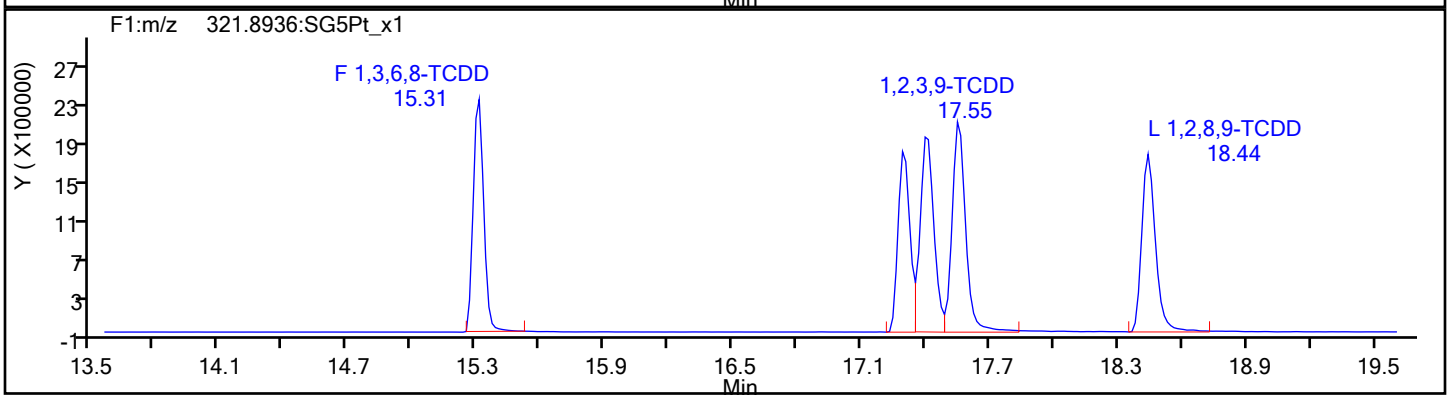

TCDD Standards

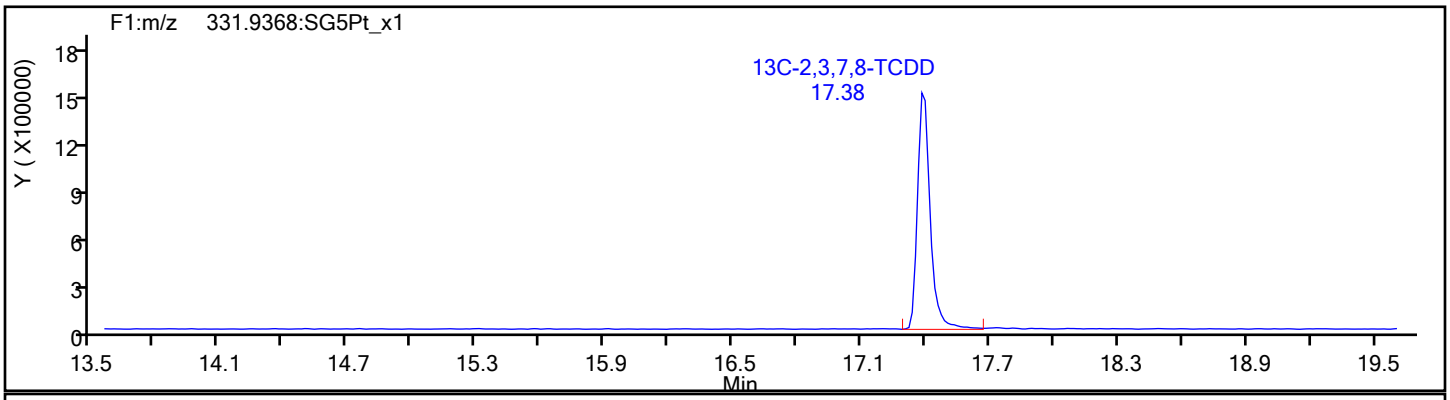

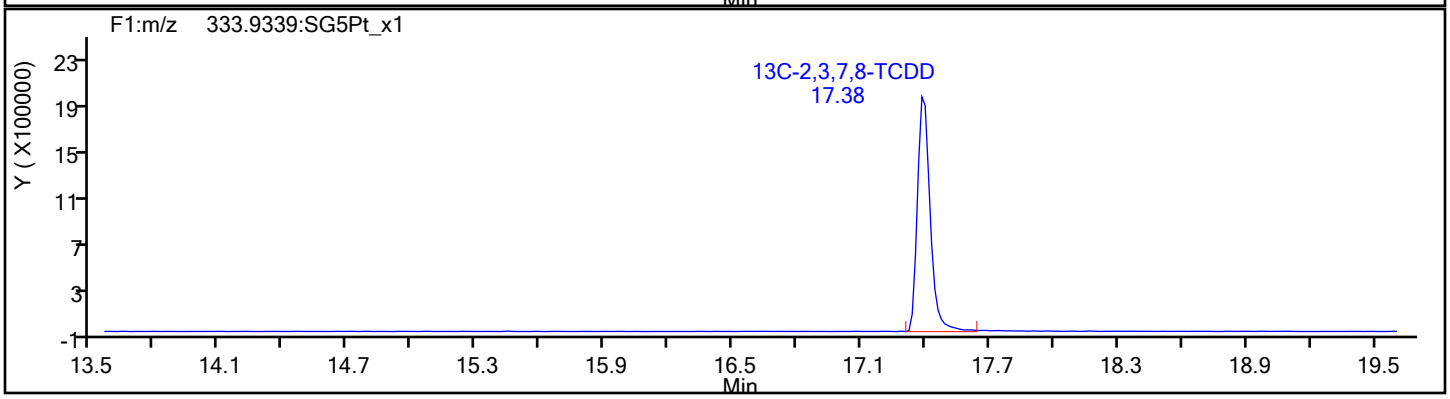

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Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

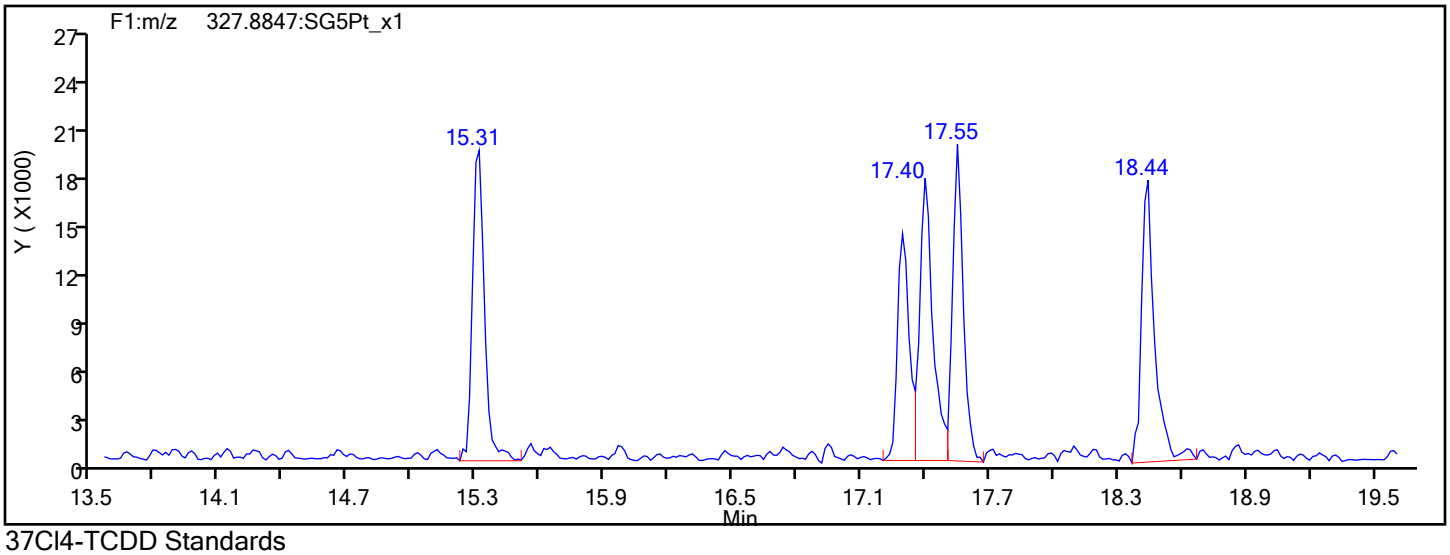

37Cl4-TCDD Standards

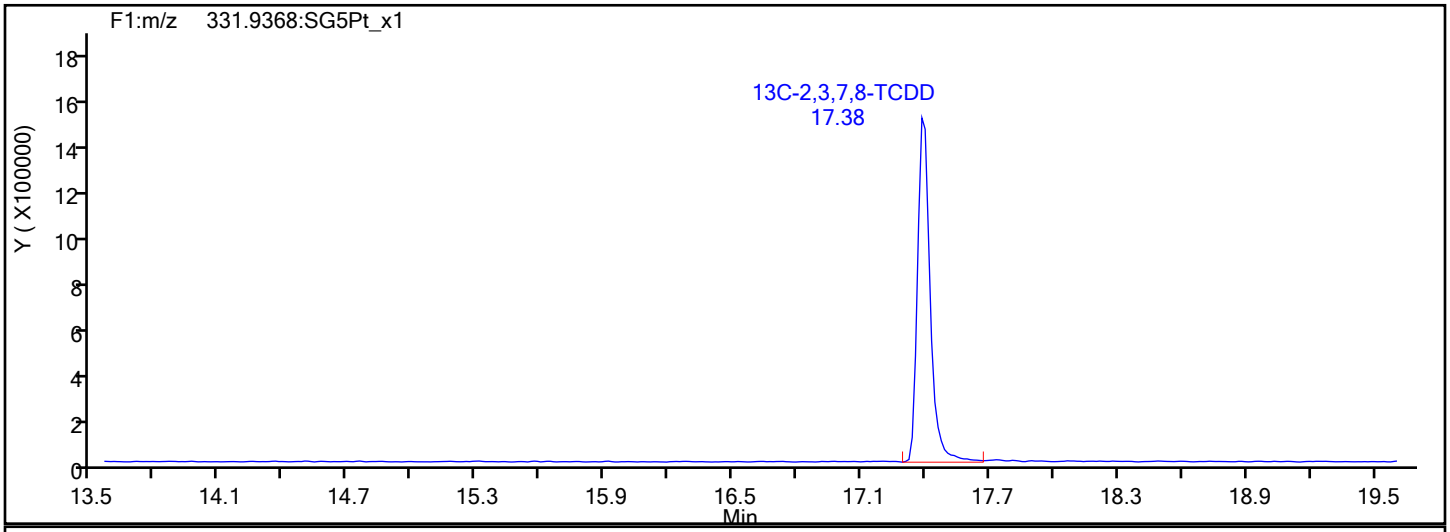

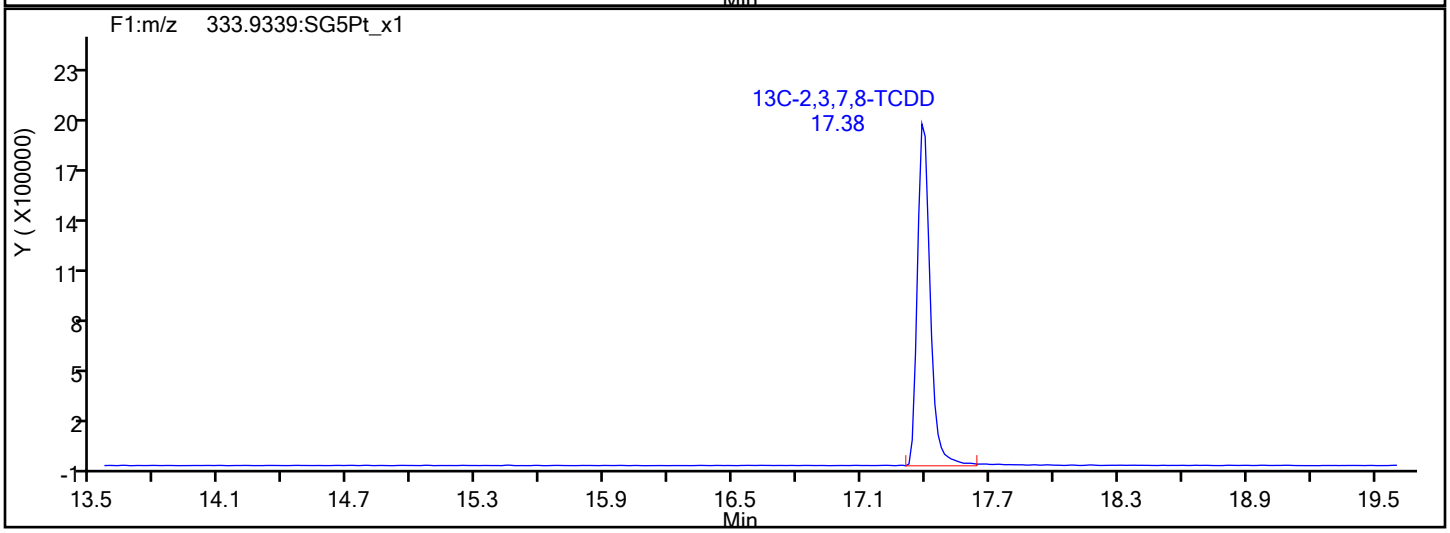

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	358703	Sample Line#:	42
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

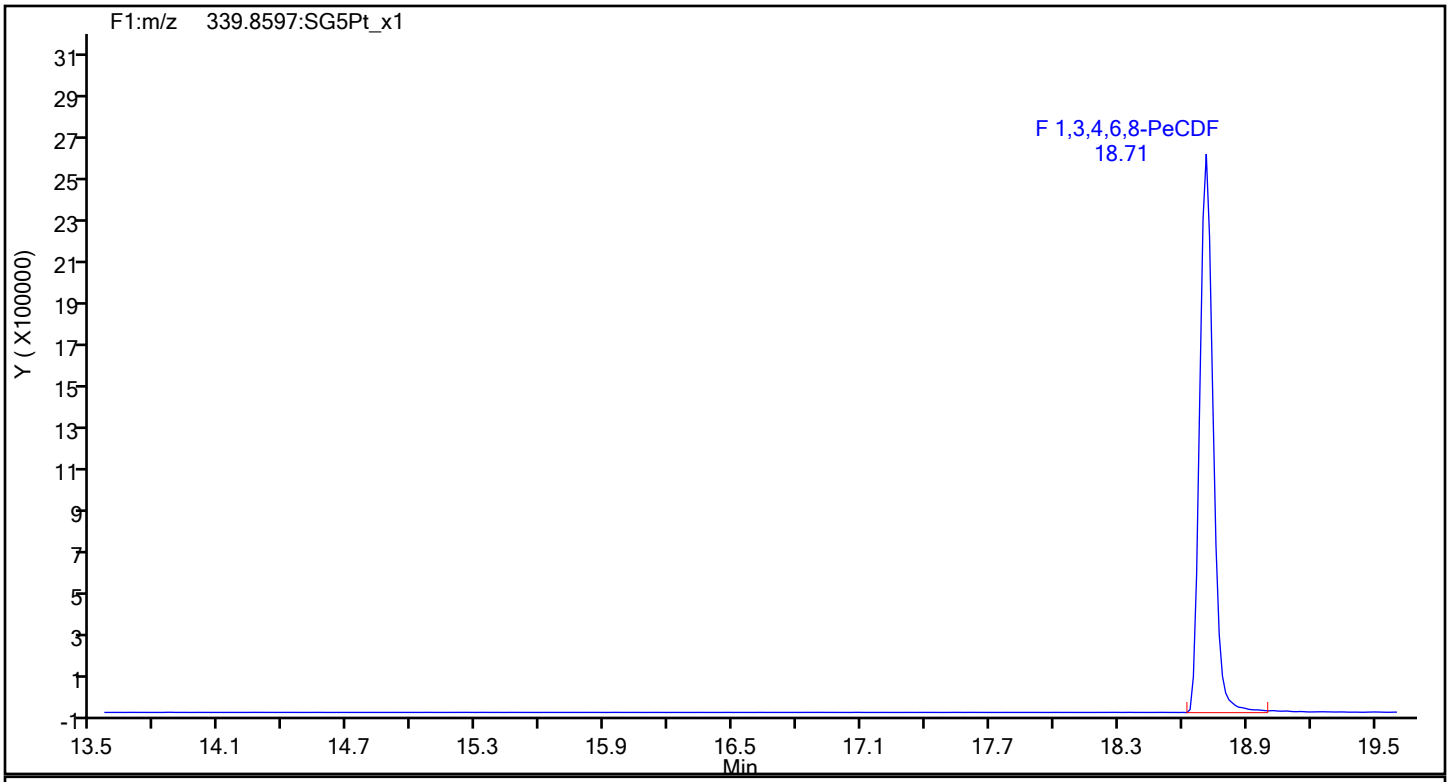

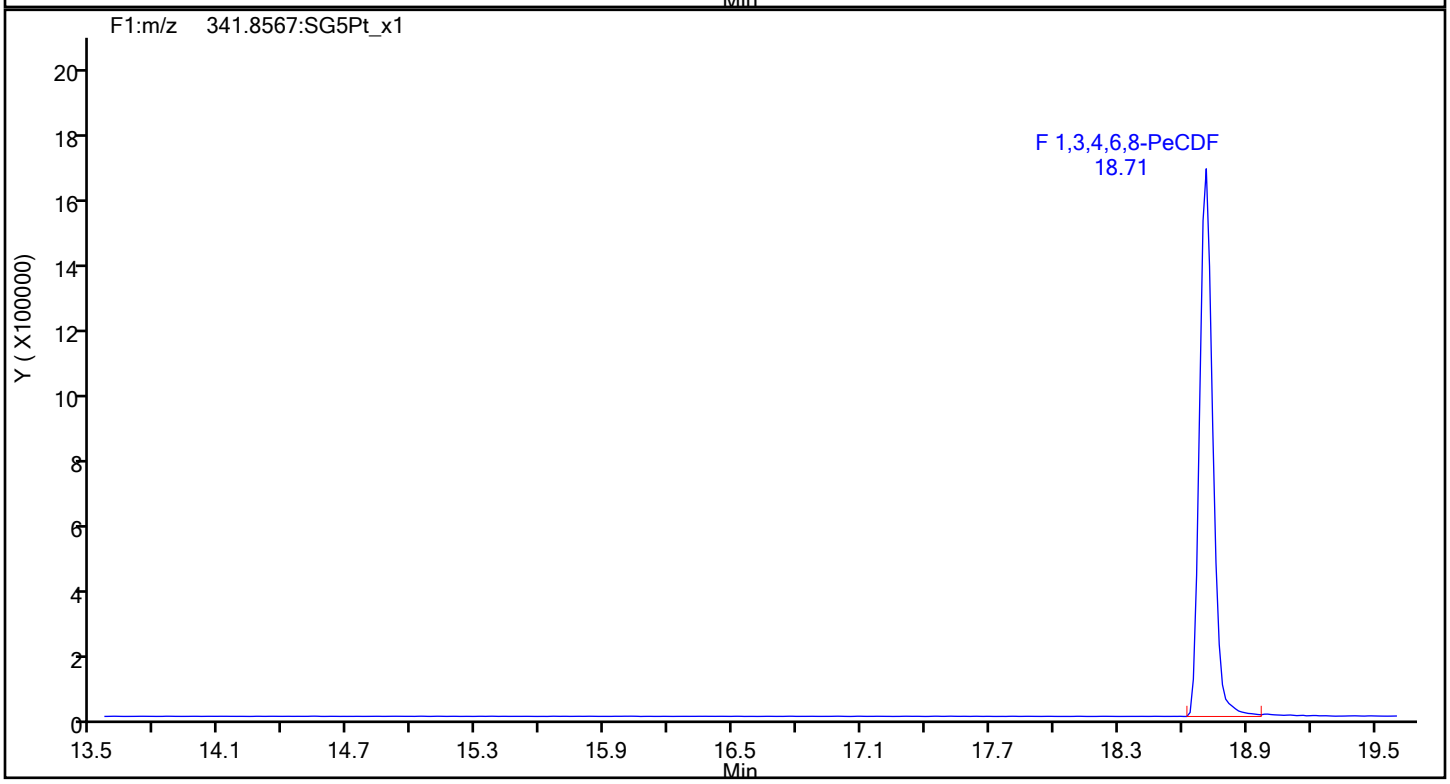

Report Date: 20-Feb-2020 13:42:23 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	358703	Sample Line#:	42
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

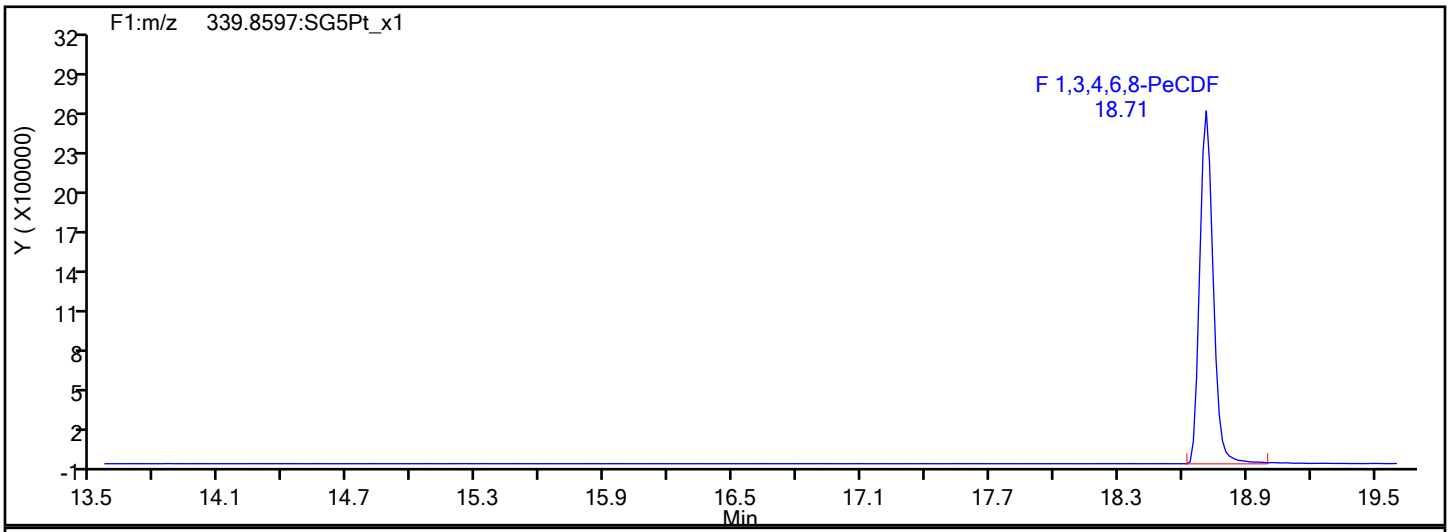

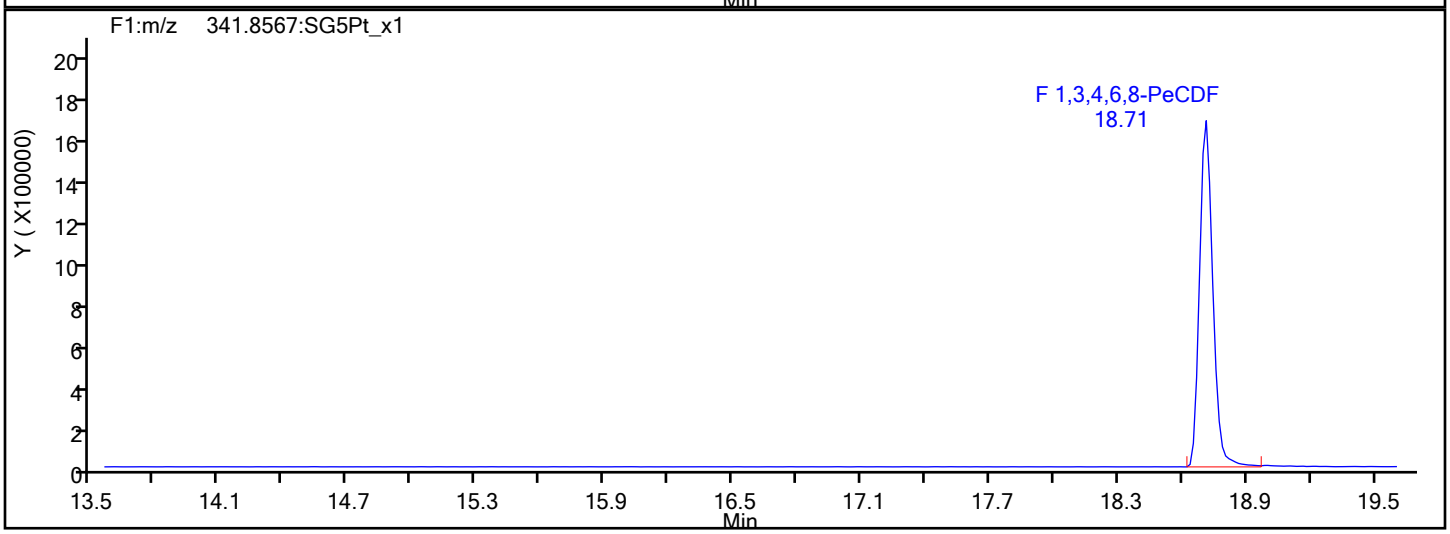

F1 PeCDFs Interference Mass

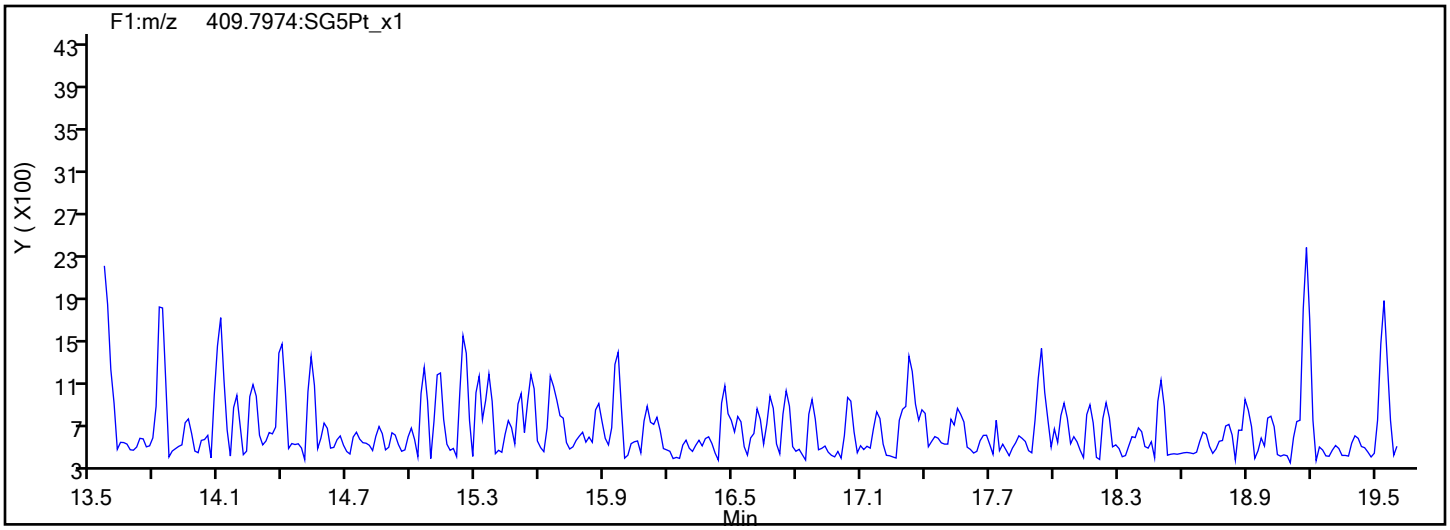

Report Date: 20-Feb-2020 13:42:23 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

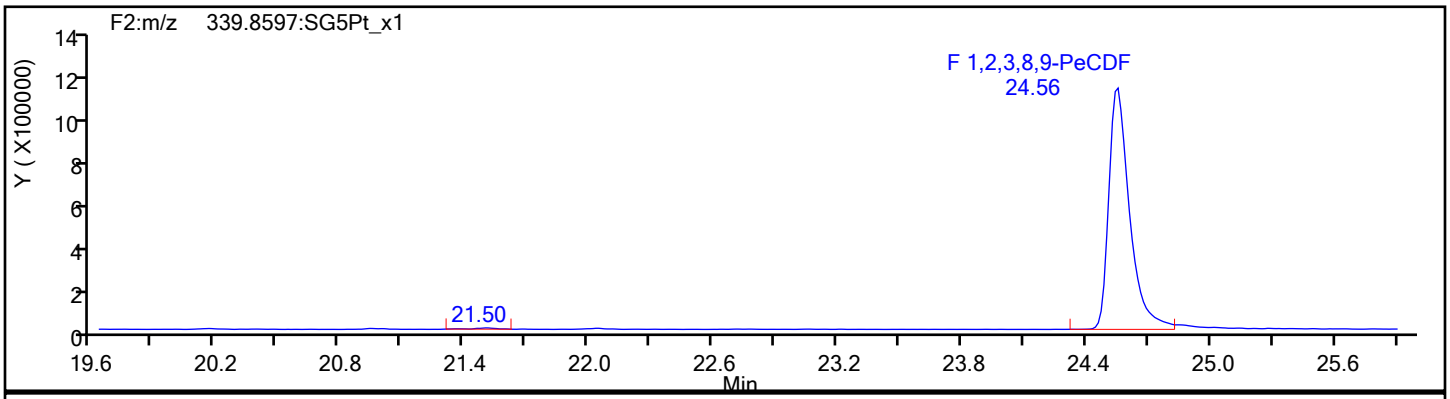

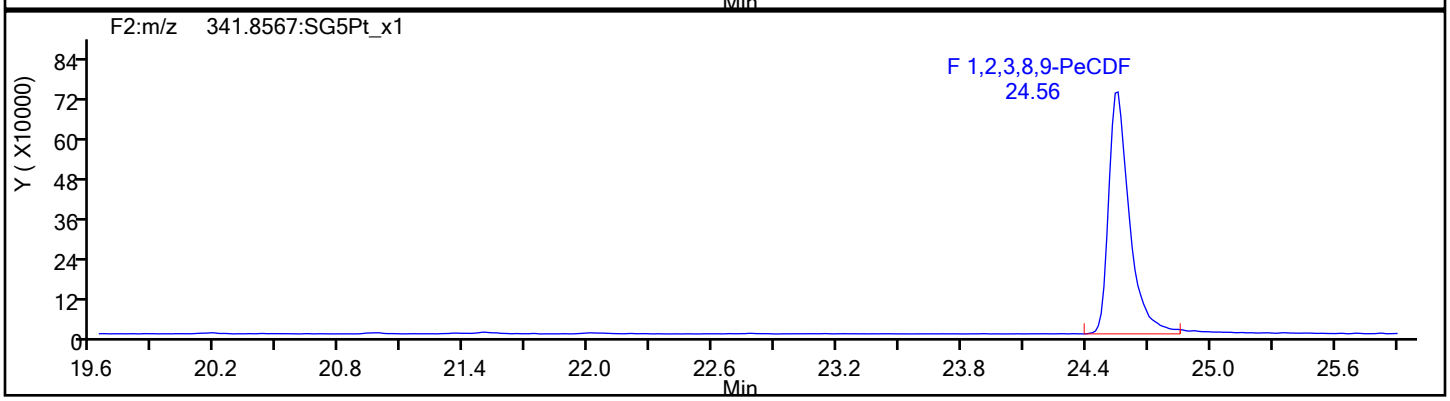

PeCDF Standards

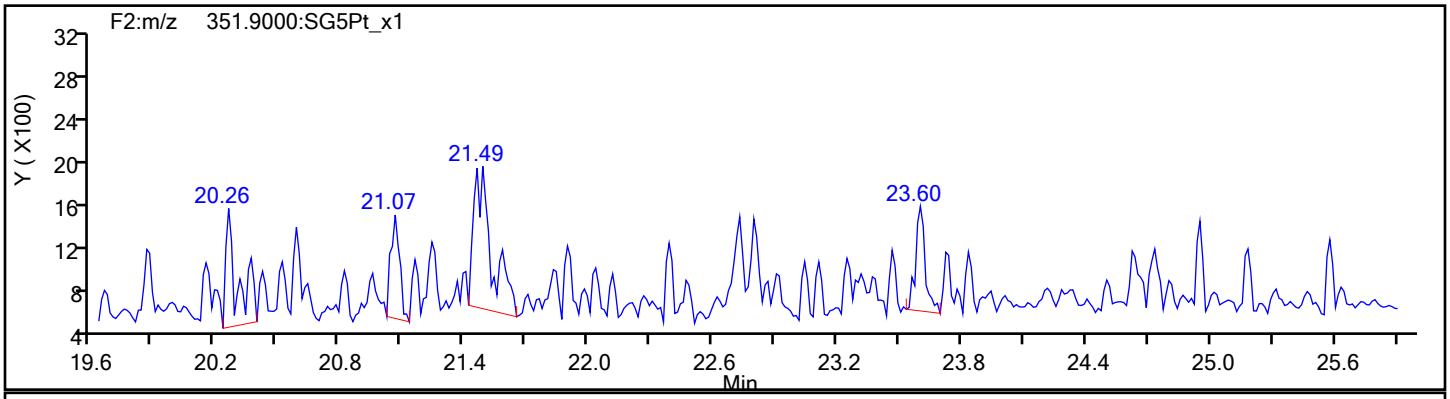

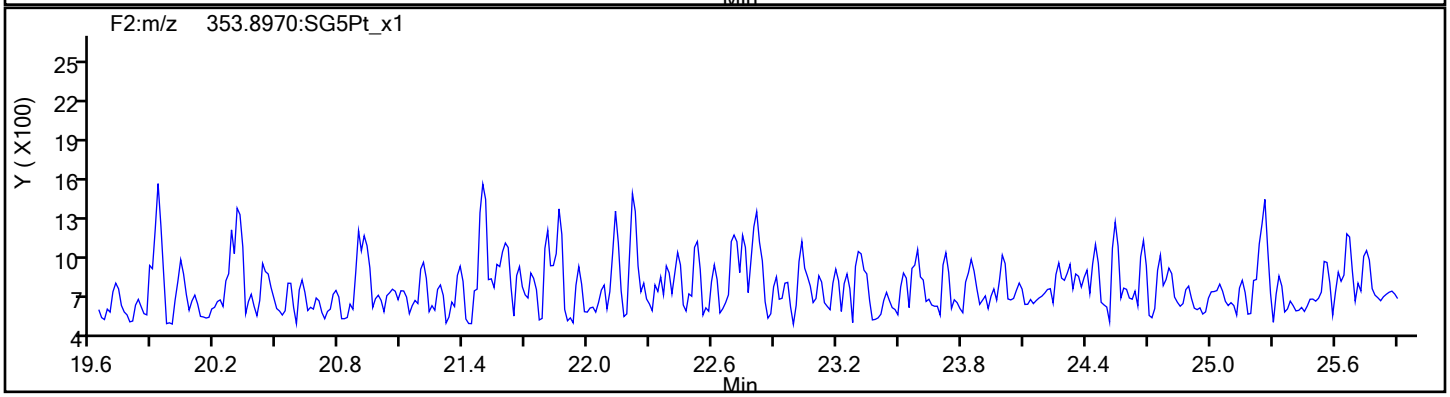

Report Date: 20-Feb-2020 13:42:23 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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PeCDF

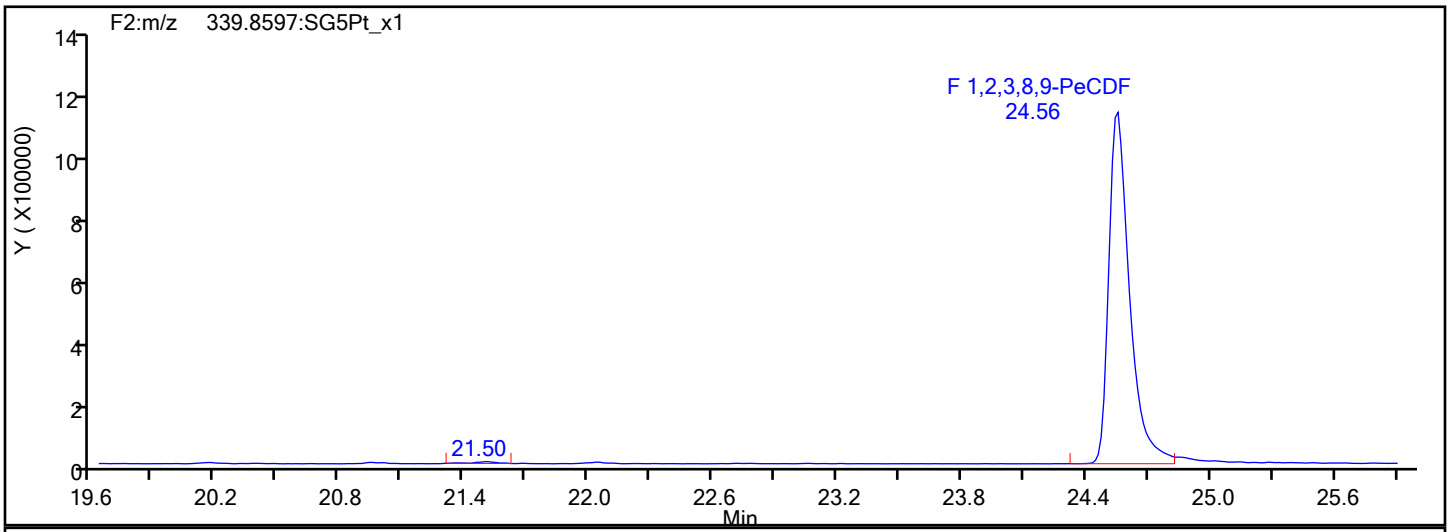

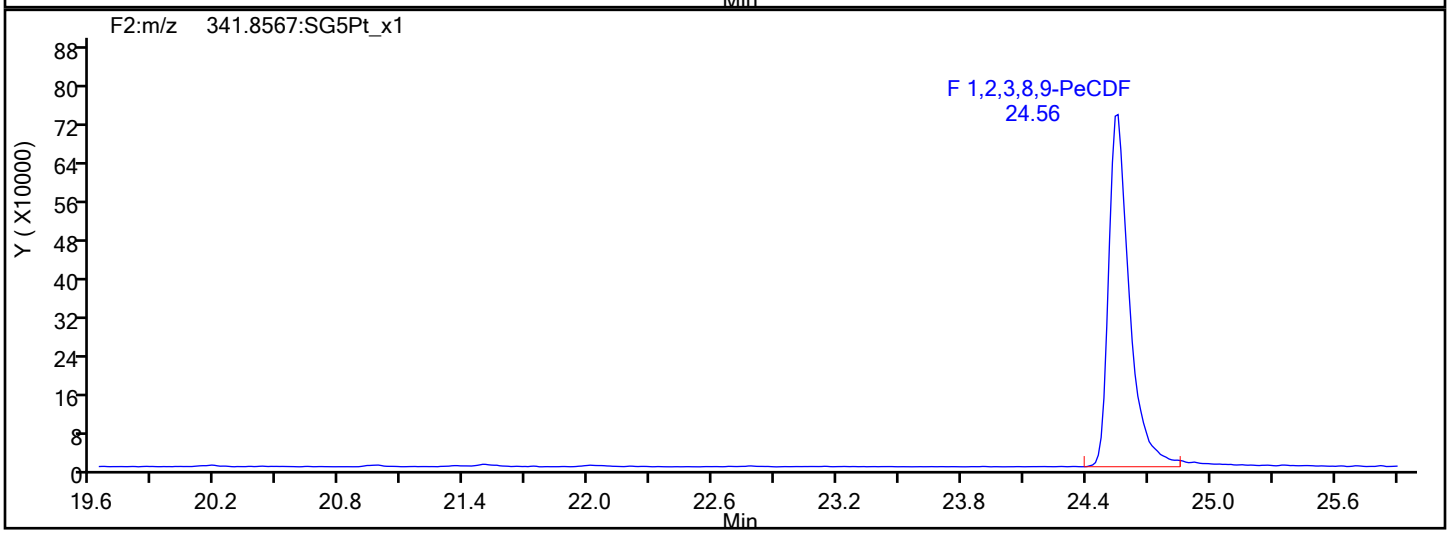

PeCDF Interference Mass

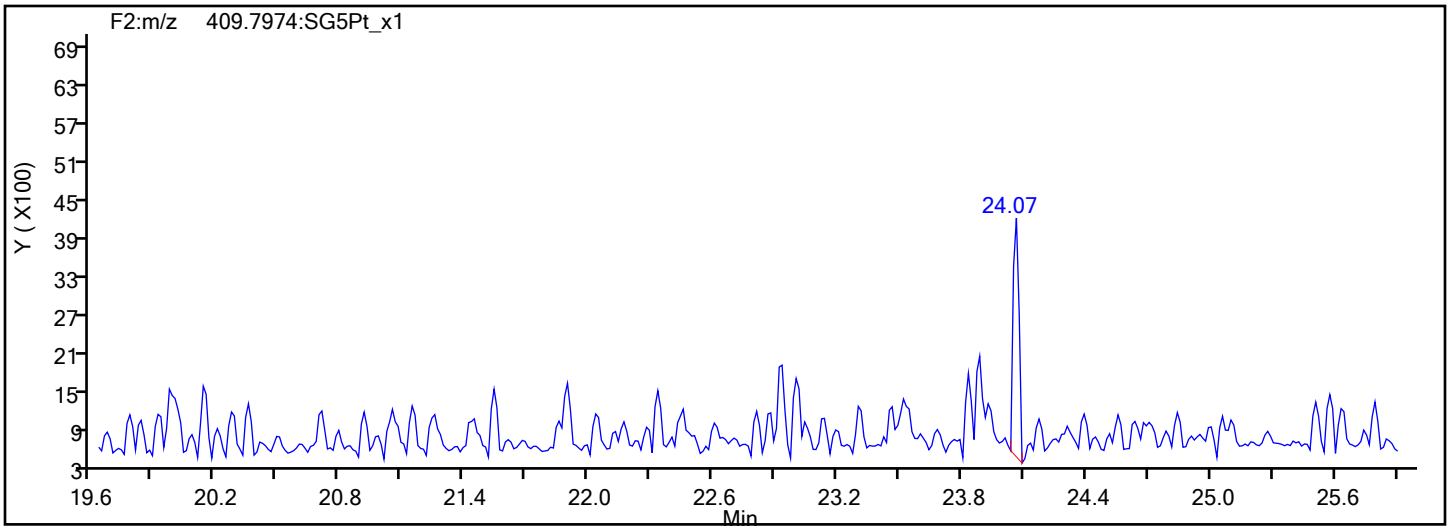

Report Date: 20-Feb-2020 13:42:23 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_42.d		
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Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	358703	Sample Line#:	42
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

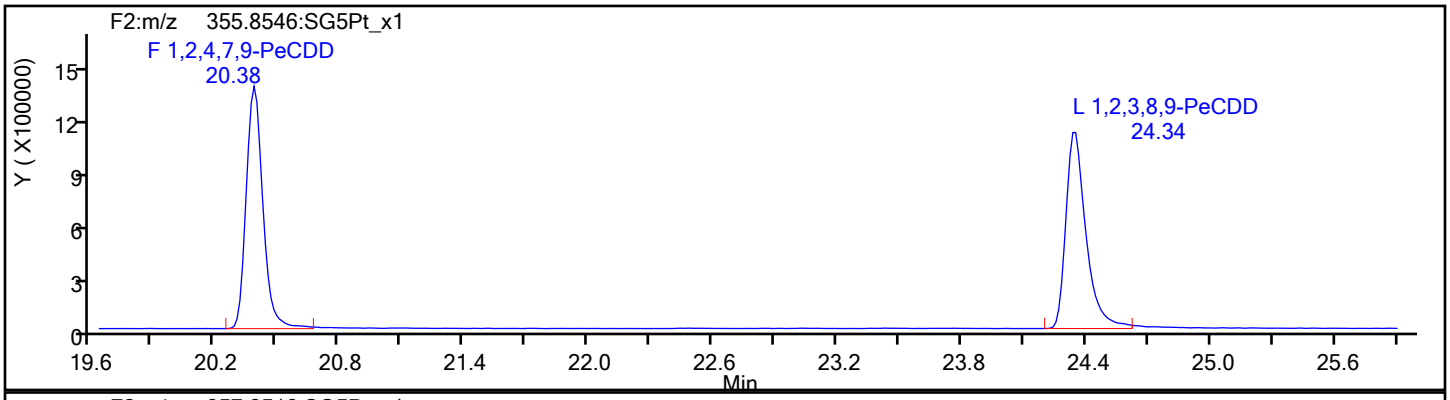

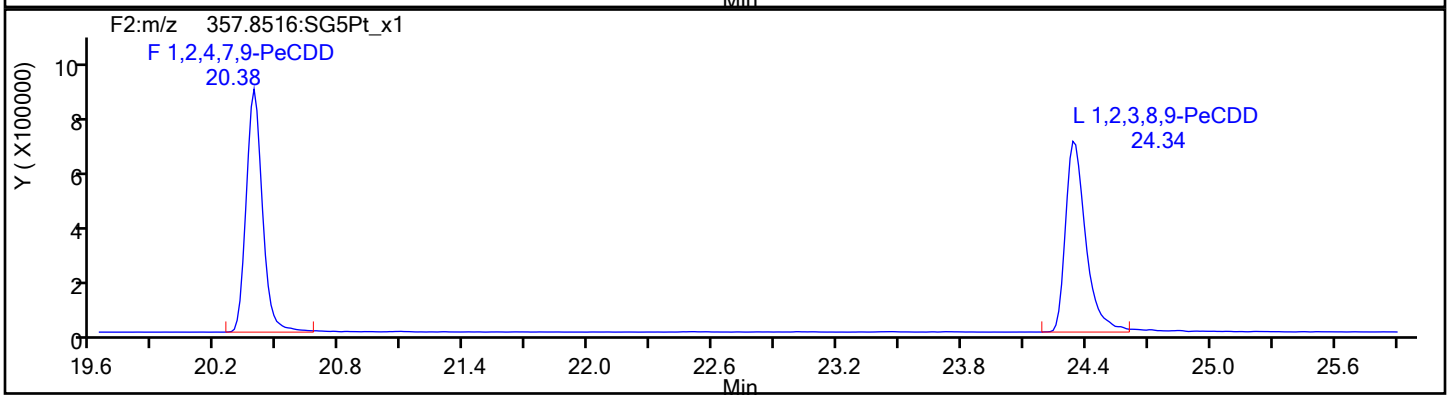

PeCDD Standards

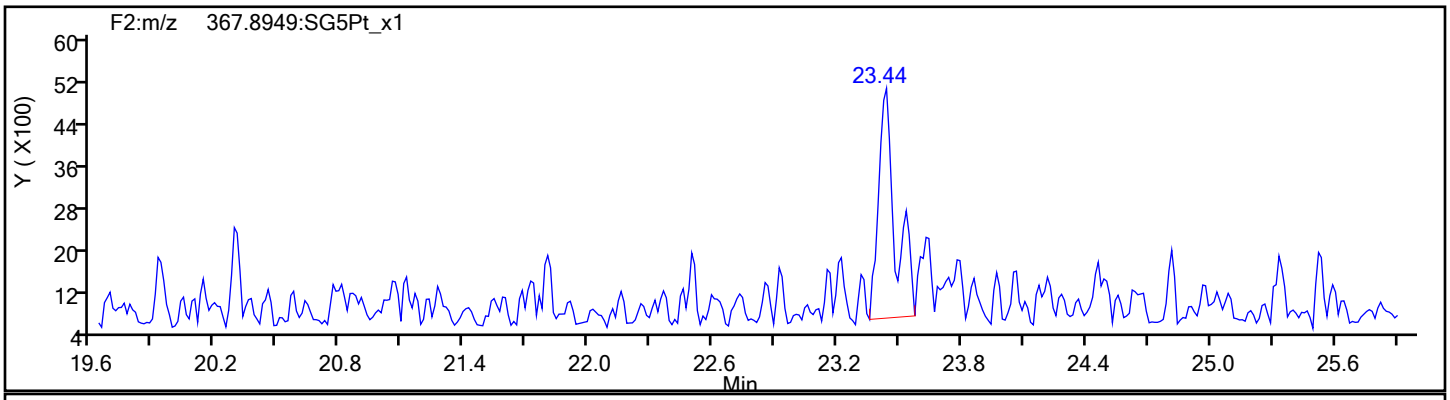

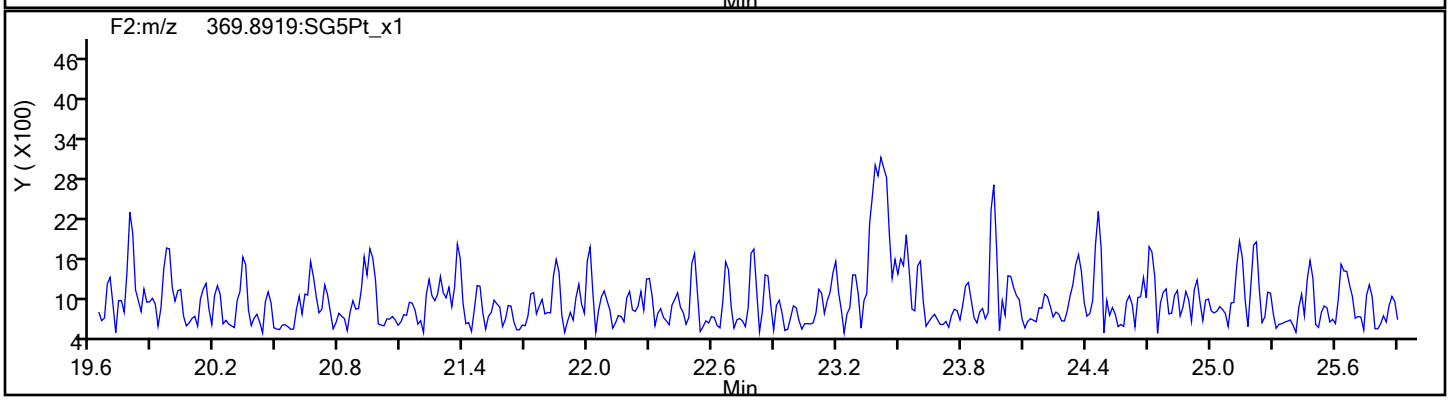

Report Date: 20-Feb-2020 13:42:23 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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HxCDF

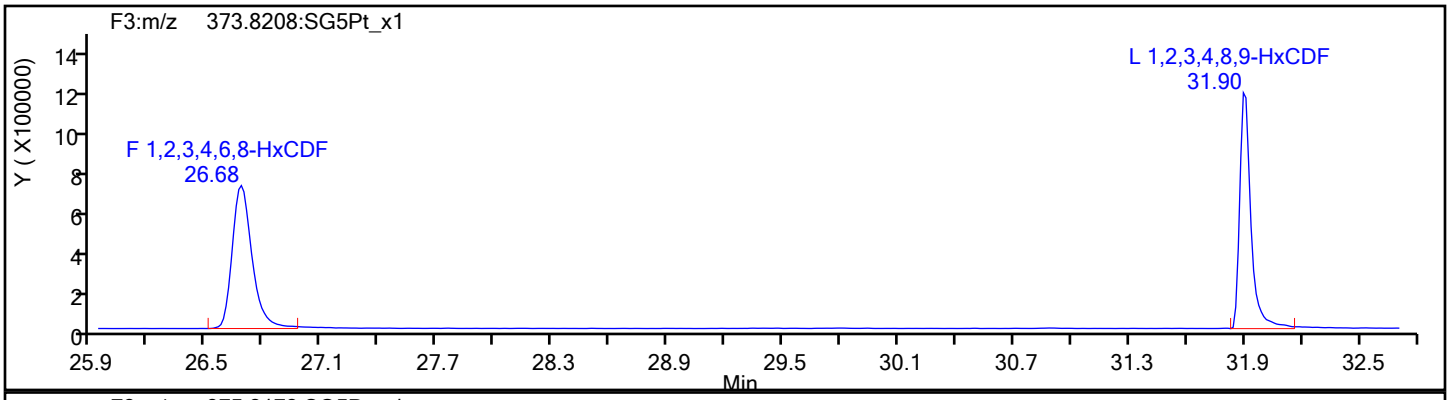

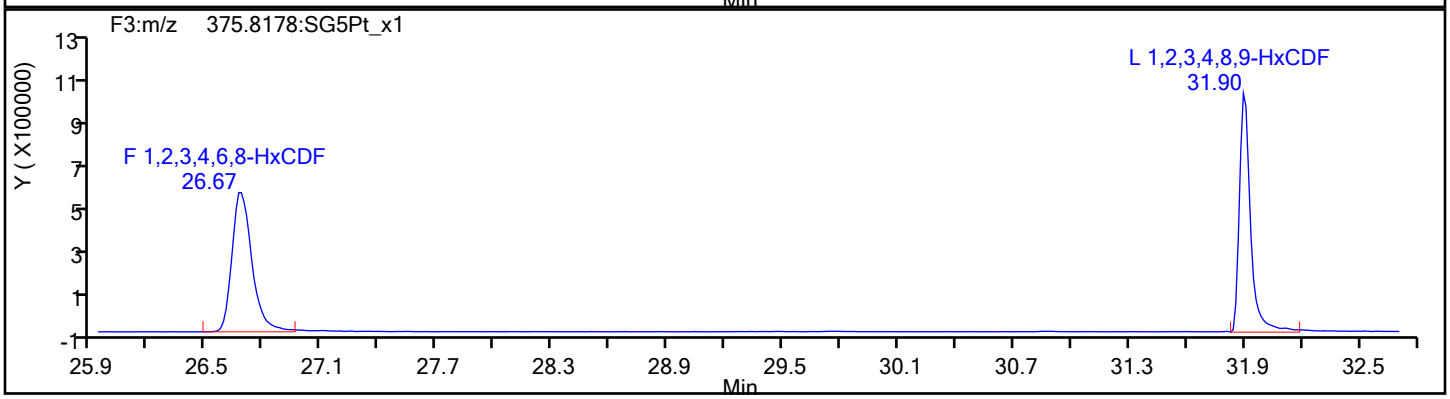

HxCDF Standards

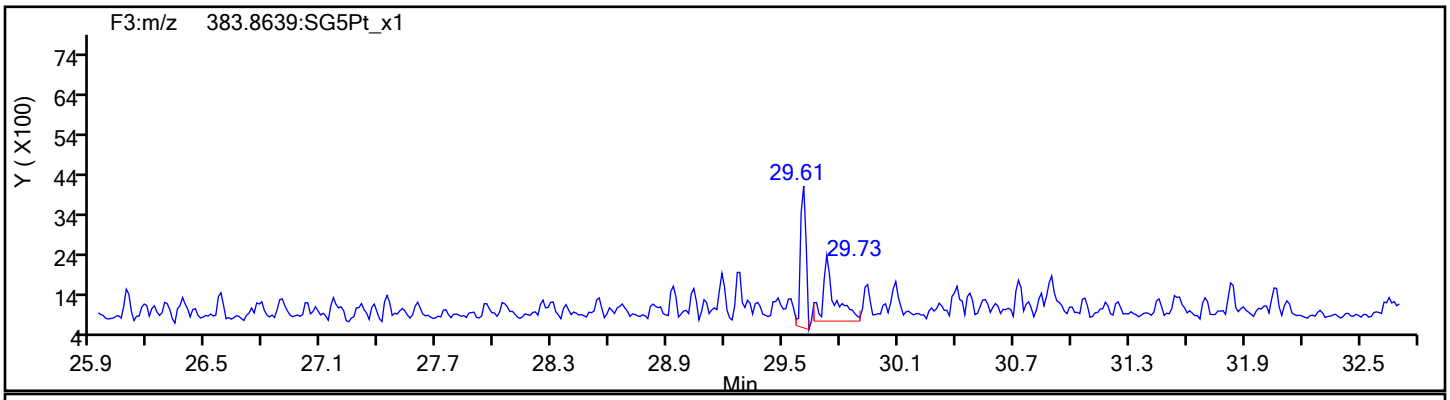

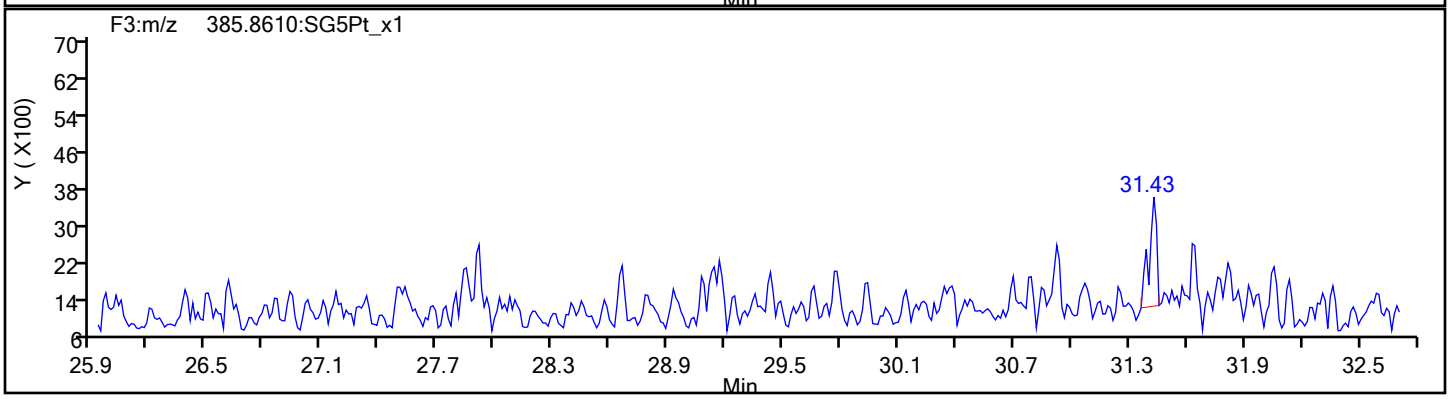

Report Date: 20-Feb-2020 13:42:23 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_42.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

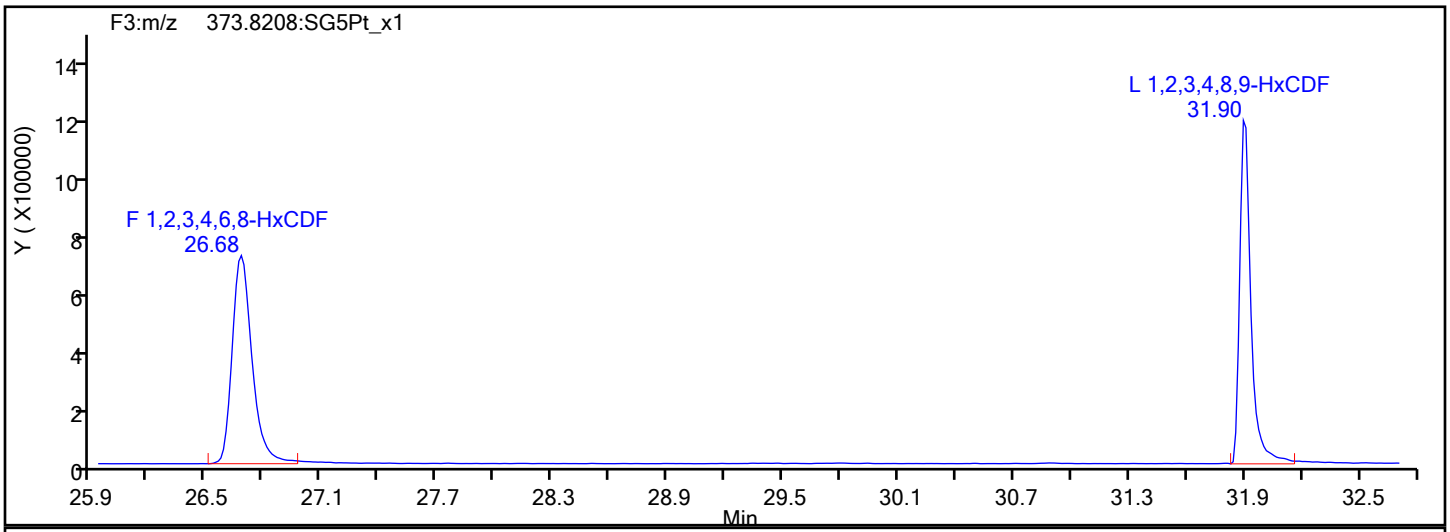

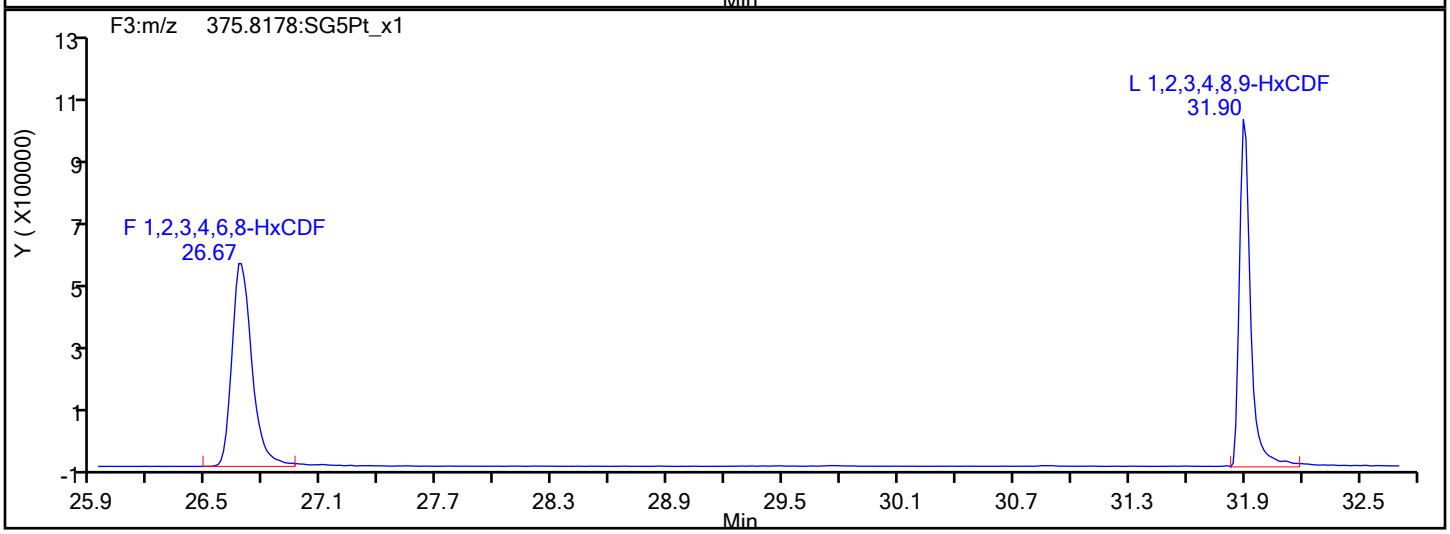

HxCDF Interference Mass

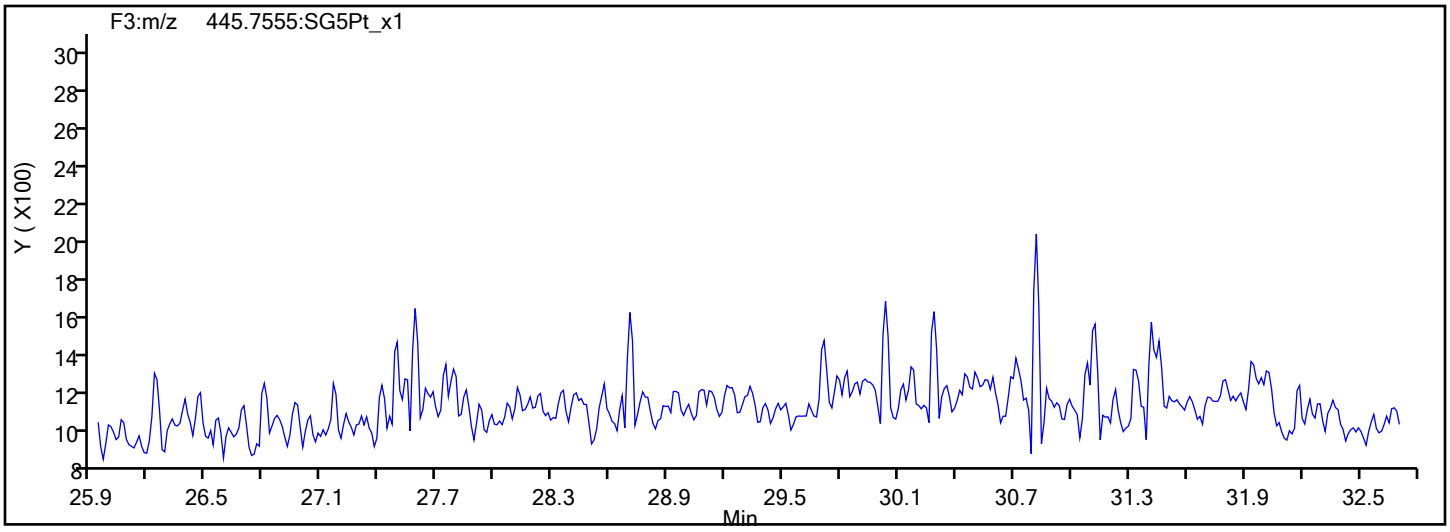

Report Date: 20-Feb-2020 13:42:23 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_42.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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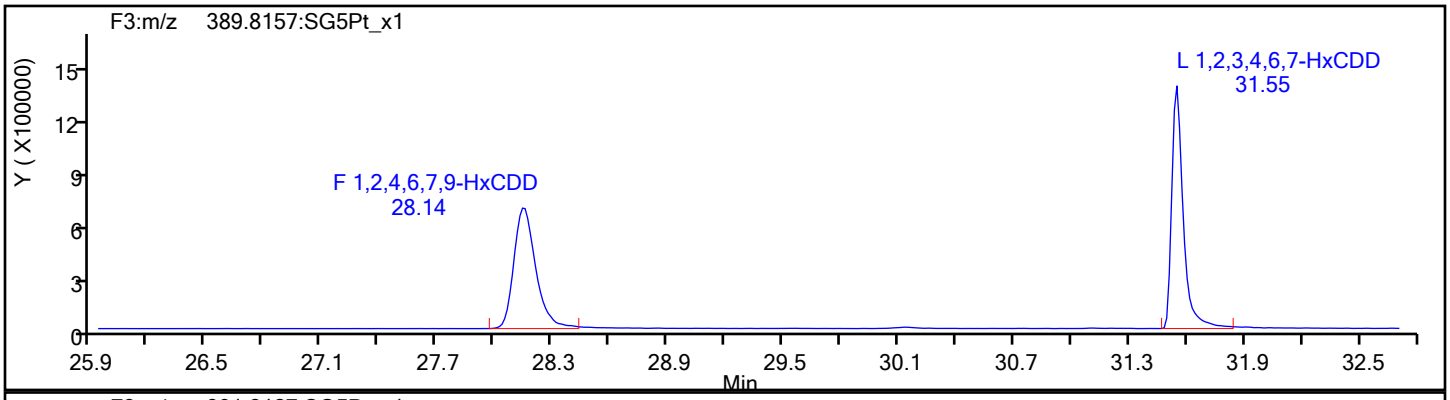

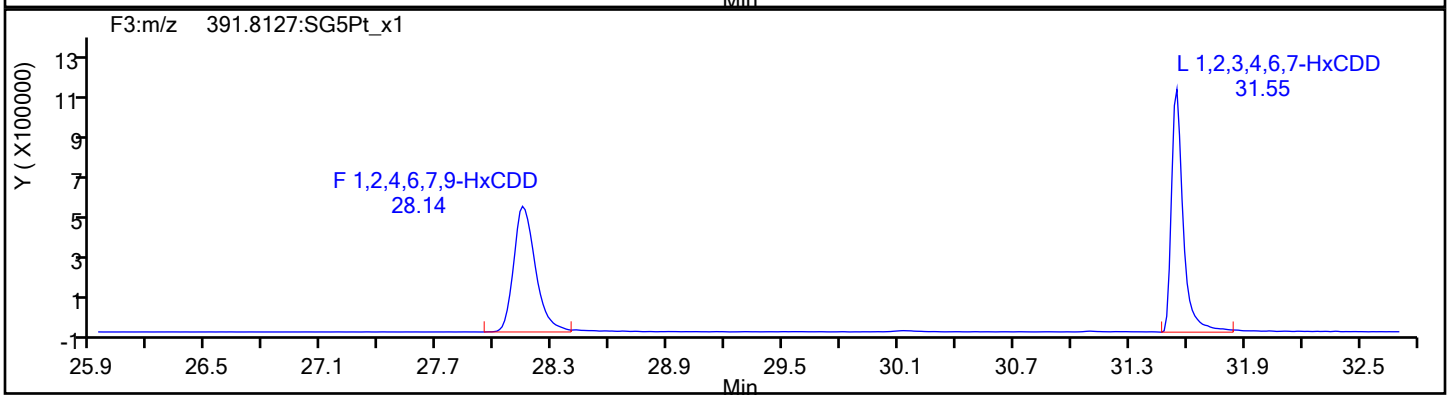

HxCDD Standards

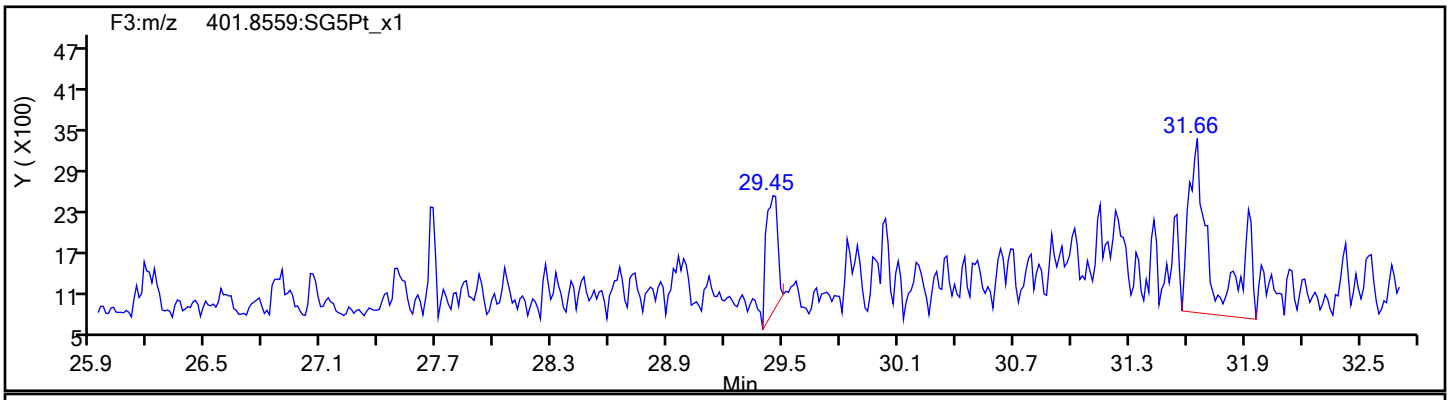

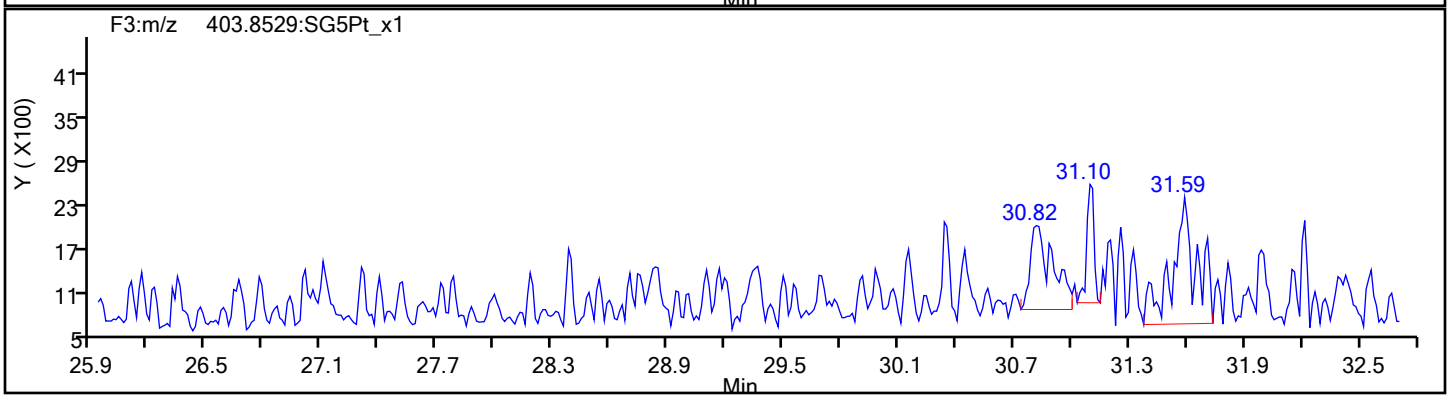

Report Date: 20-Feb-2020 13:42:23 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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HpCDF

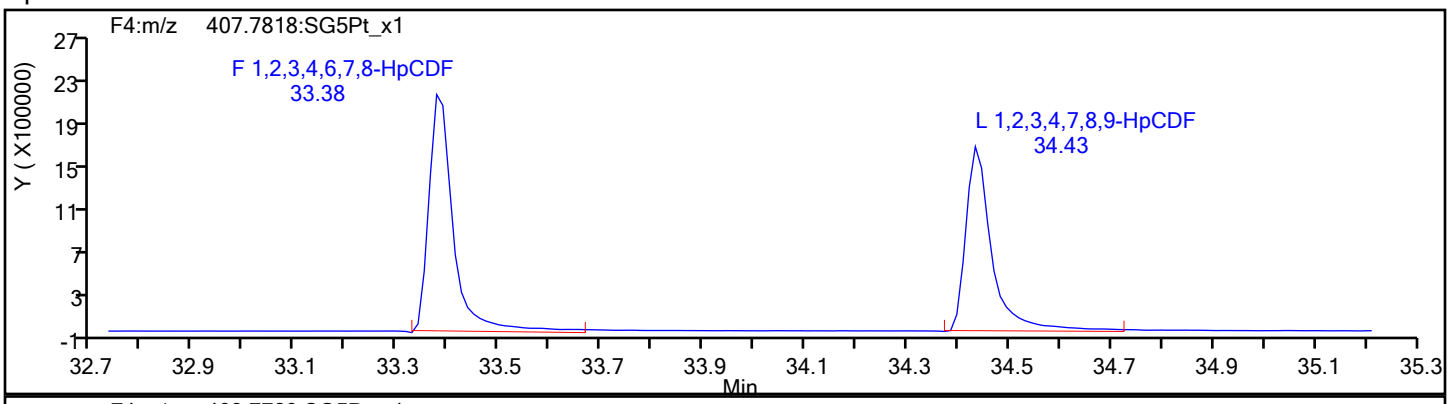

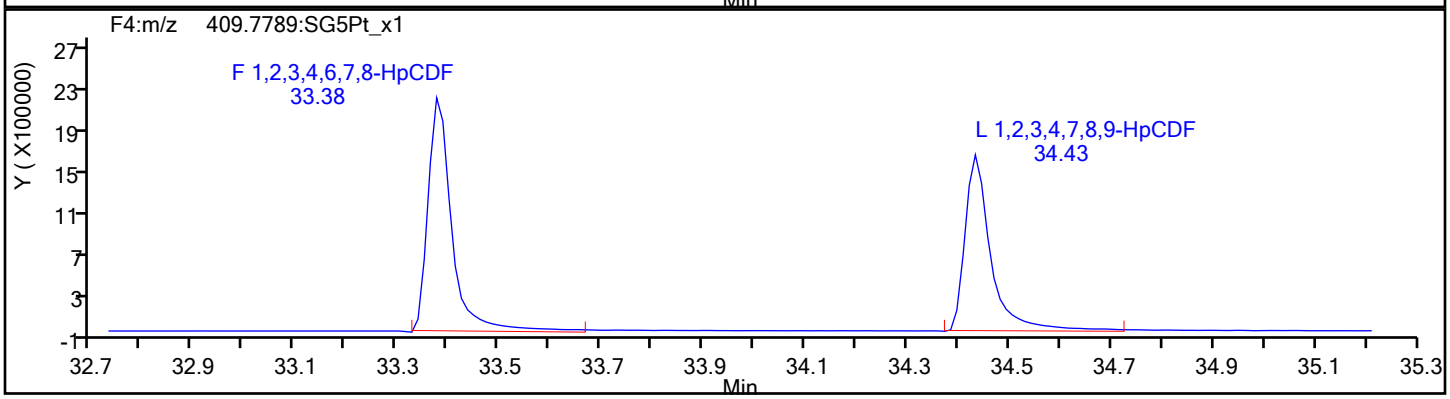

HpCDF Standards

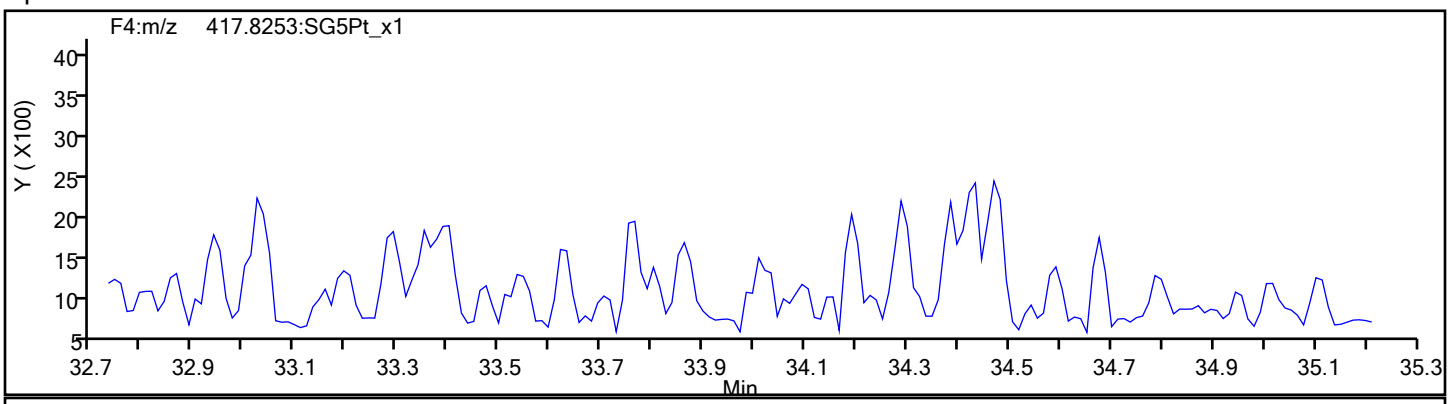

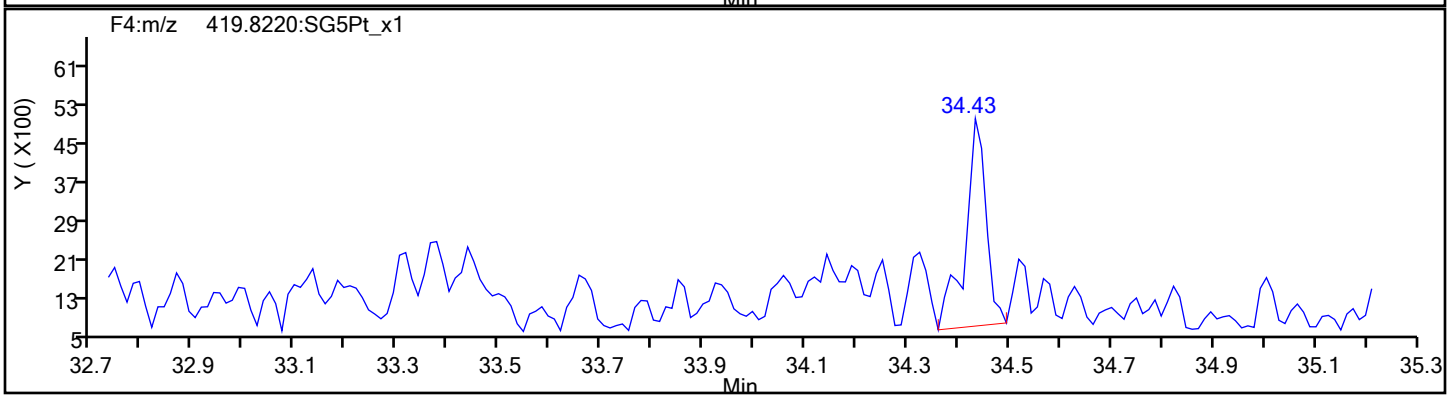

Report Date: 20-Feb-2020 13:42:23 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_42.d		
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Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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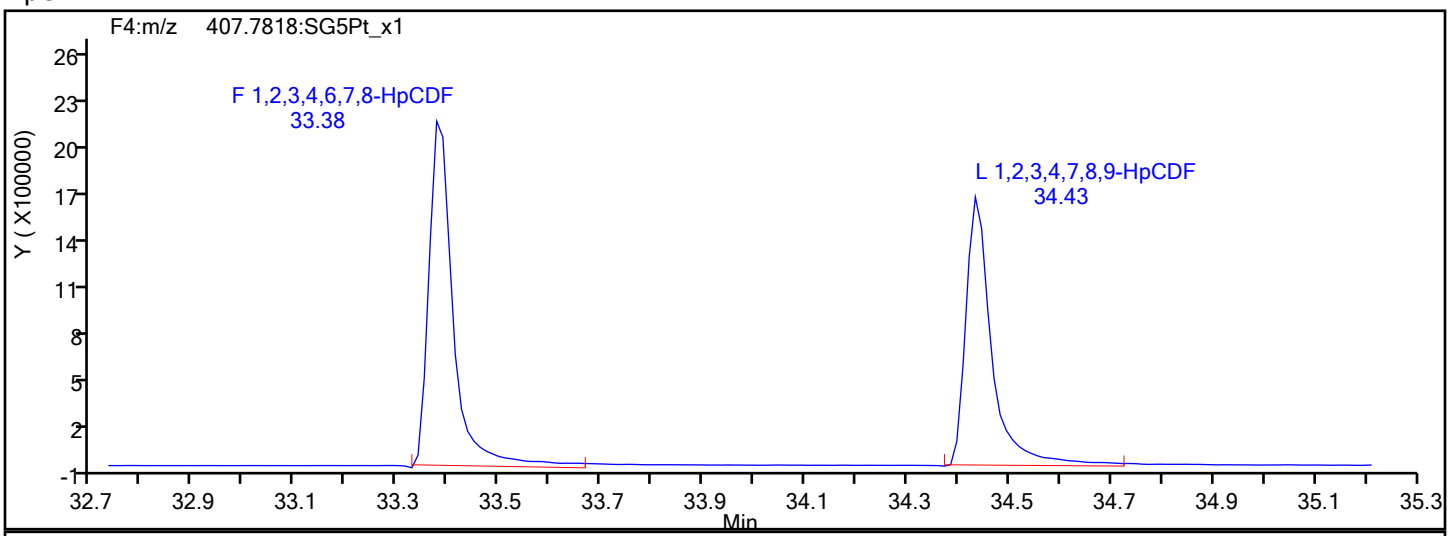

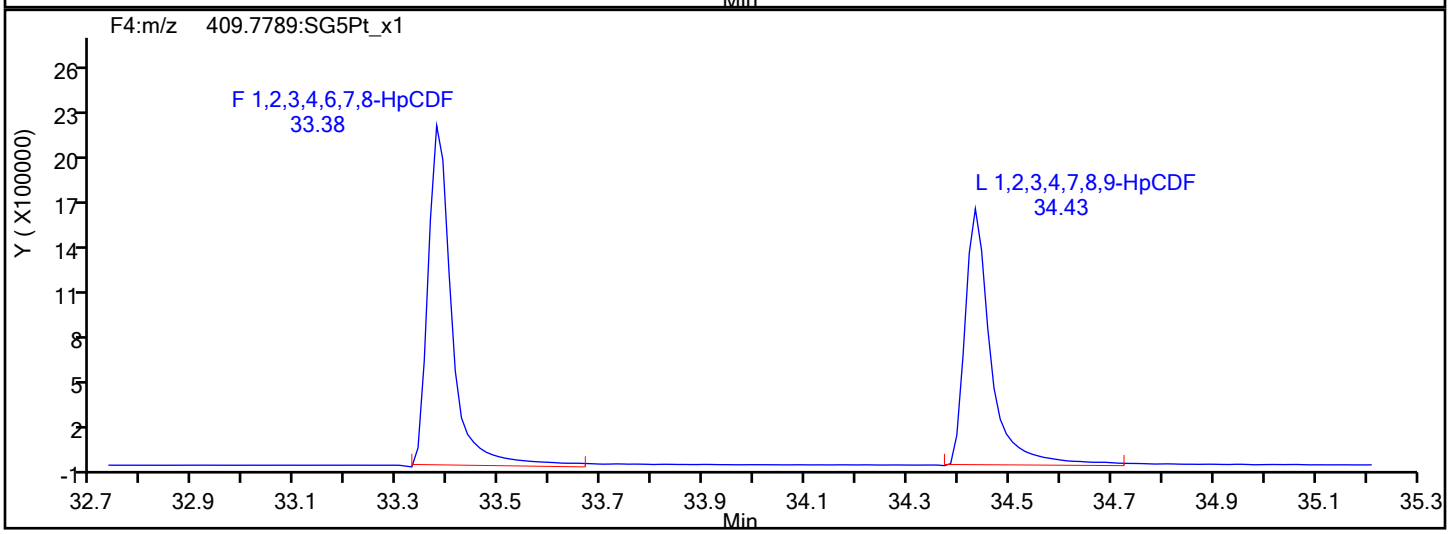

HpCDF Interference Mass

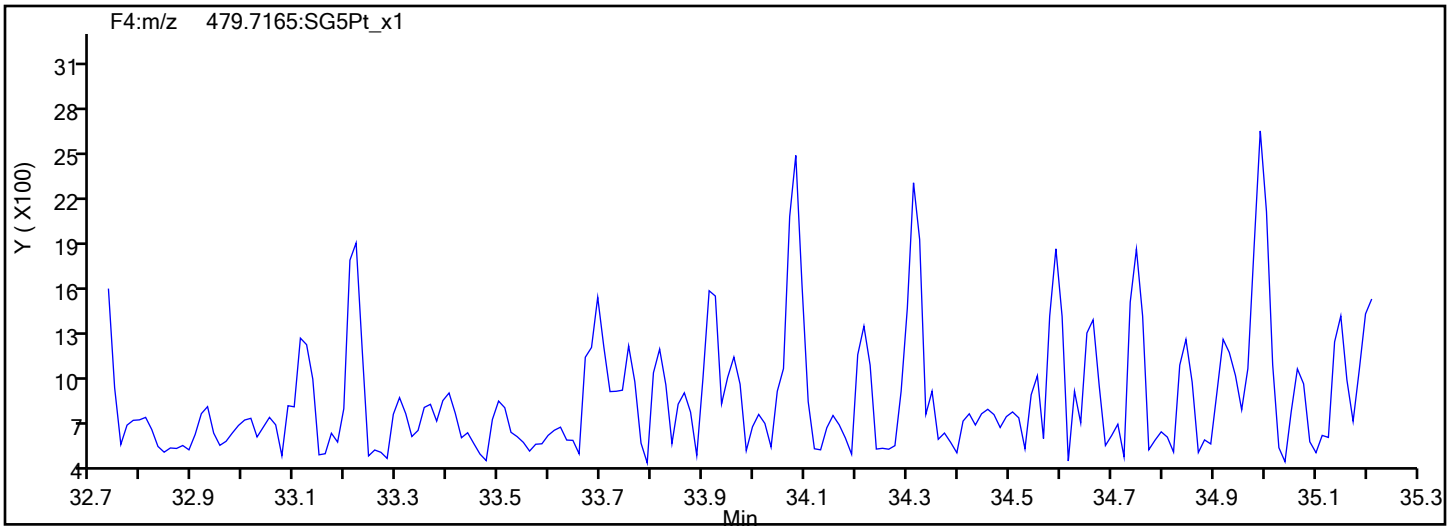

Report Date: 20-Feb-2020 13:42:23 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	358703	Sample Line#:	42
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

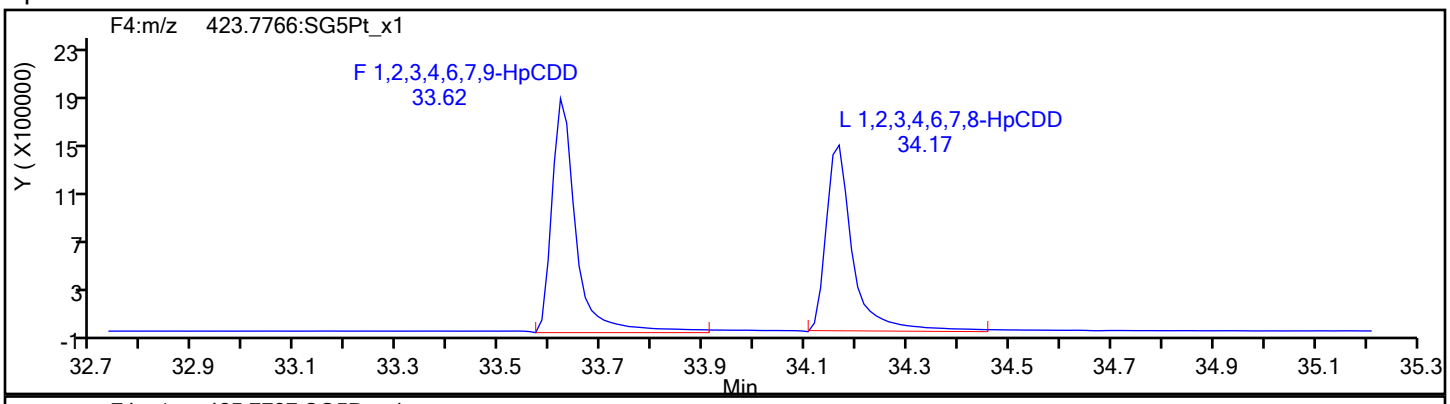

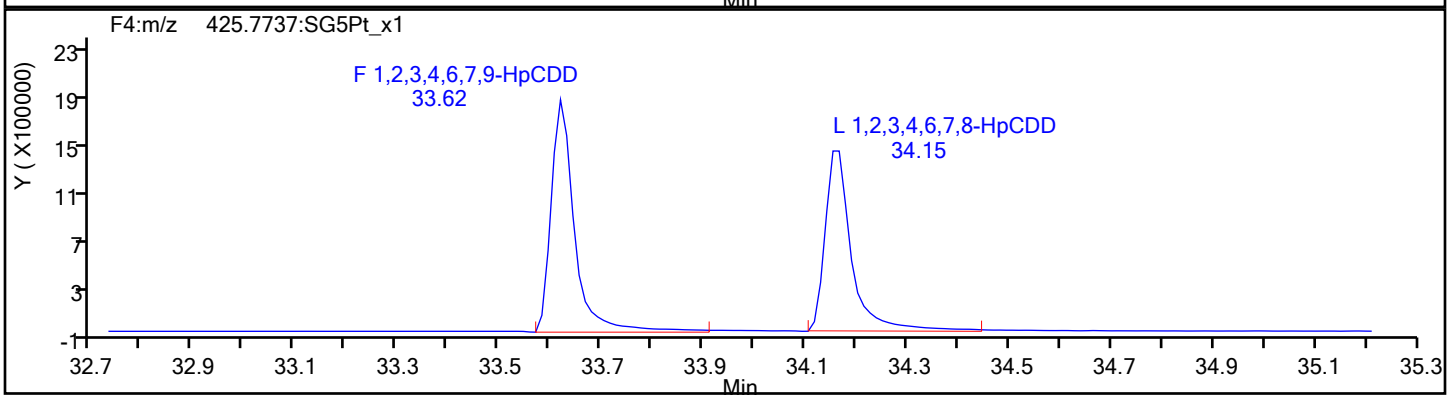

HpCDD Standards

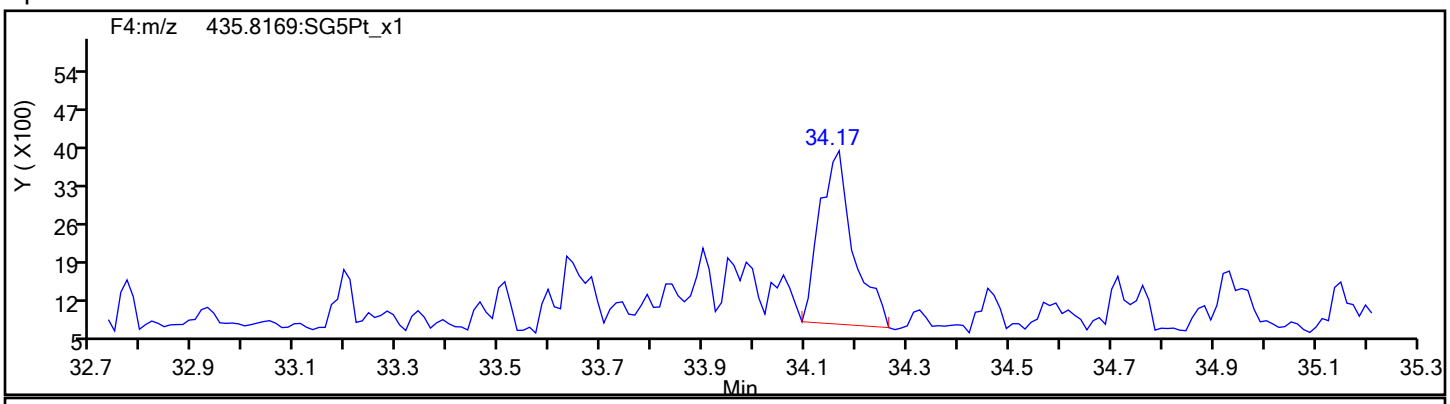

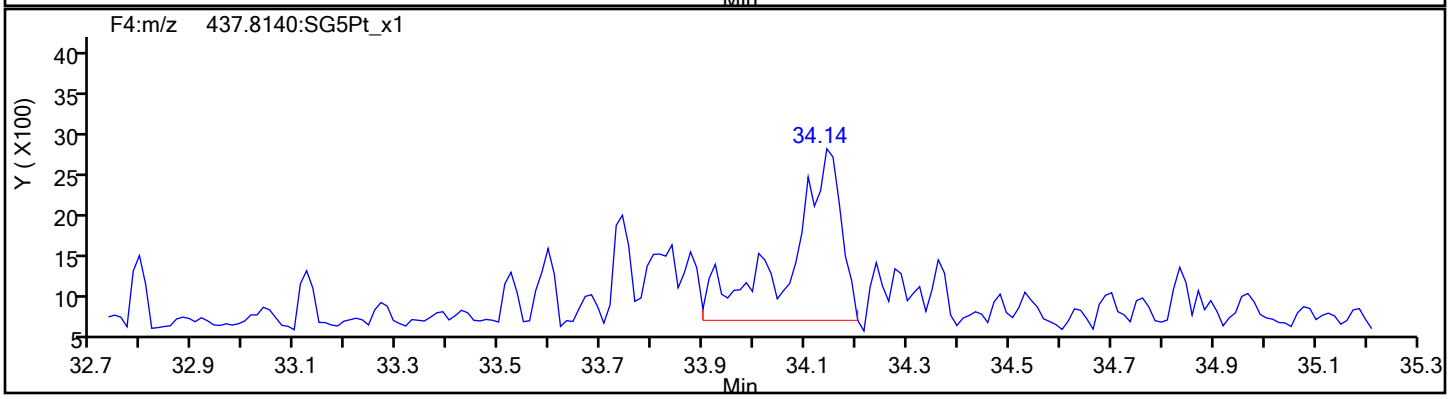

Report Date: 20-Feb-2020 13:42:23 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

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Injection Date:	19-Feb-2020 22:27:56	Injection Vol:	2.0 ul
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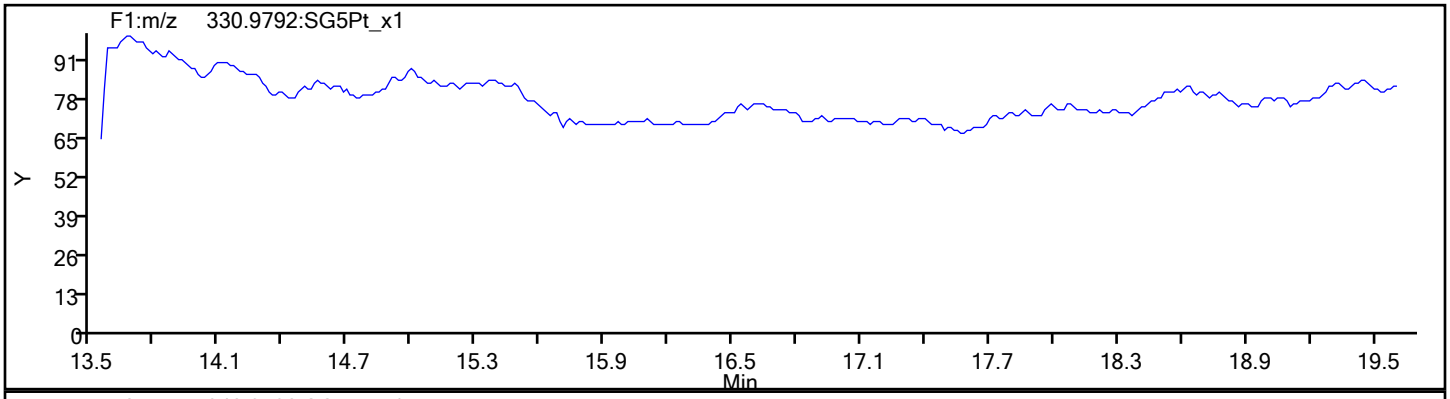

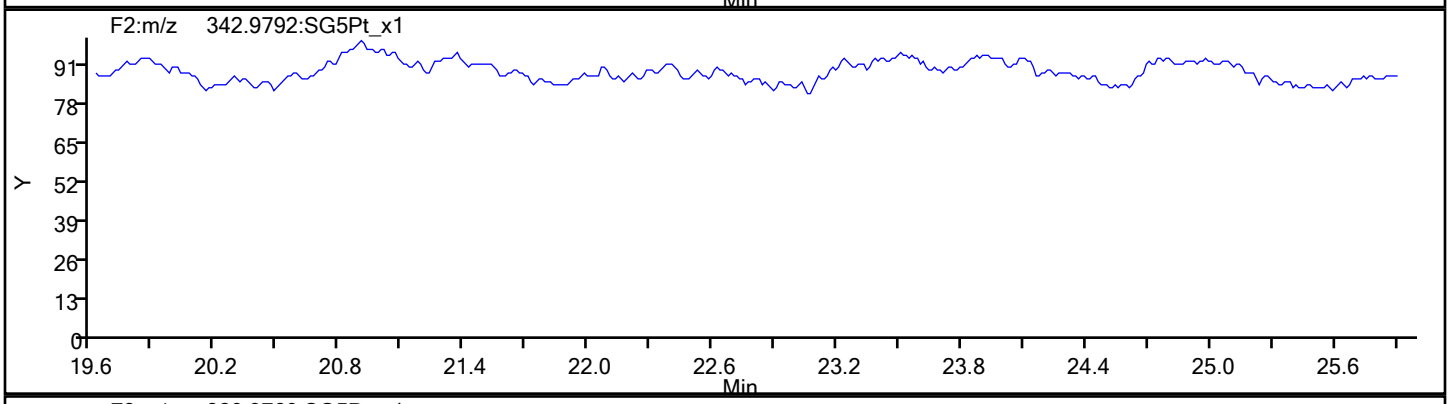

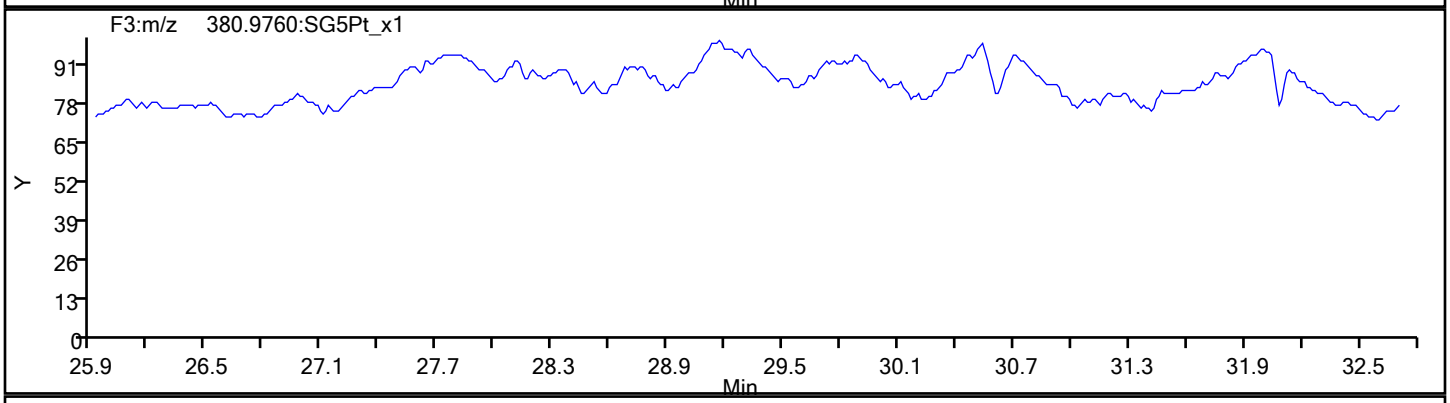

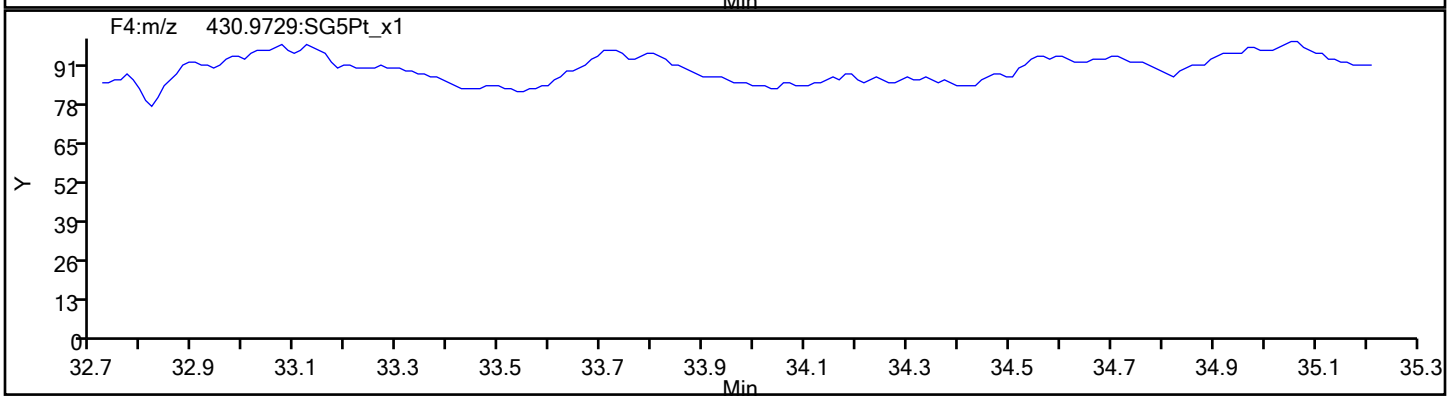

Report Date: 20-Feb-2020 13:42:23 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_42.d		
Injection Date:	19-Feb-2020 22:27:56	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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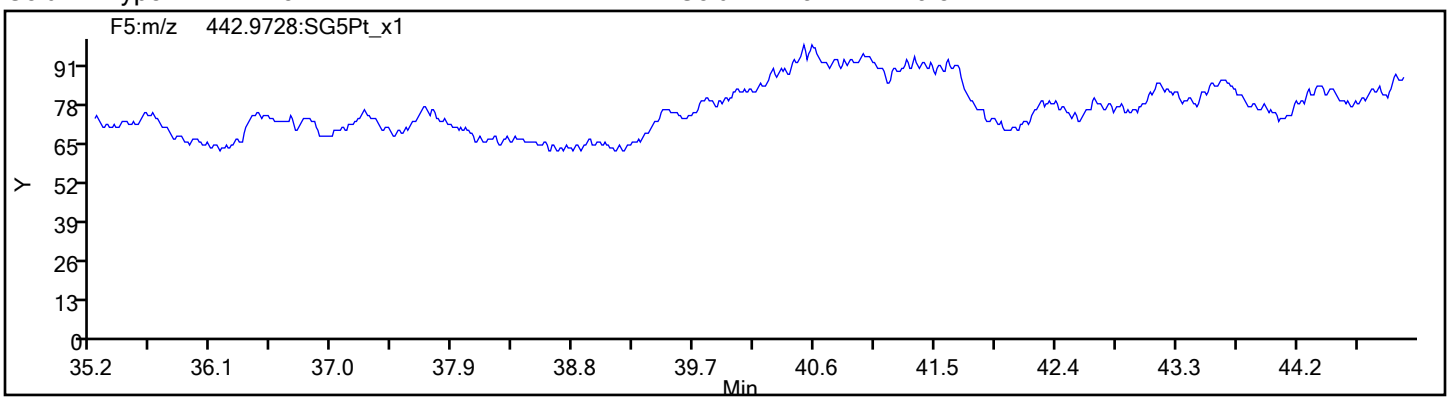

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 320-58545-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 320-357123/1-A
Matrix: Sediment
Lab File ID: 18FE2010D5_44.d
Analysis Method: 1613B
Date Collected:
Extract. Method: HRMS-Sox
Date Extracted: 02/13/2020 08:36
Sample wt/vol: 10.0(g)
Date Analyzed: 02/20/2020 00:07
Con. Extract Vol.: 20.0(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 358703
Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		1.0	0.071
51207-31-9	2,3,7,8-TCDF	ND		1.0	0.040
40321-76-4	1,2,3,7,8-PeCDD	ND		5.0	0.089
57117-41-6	1,2,3,7,8-PeCDF	ND		5.0	0.058
57117-31-4	2,3,4,7,8-PeCDF	ND		5.0	0.061
39227-28-6	1,2,3,4,7,8-HxCDD	0.222	J	5.0	0.046
57653-85-7	1,2,3,6,7,8-HxCDD	0.110	J	5.0	0.044
19408-74-3	1,2,3,7,8,9-HxCDD	ND		5.0	0.041
70648-26-9	1,2,3,4,7,8-HxCDF	ND		5.0	0.10
57117-44-9	1,2,3,6,7,8-HxCDF	ND		5.0	0.091
72918-21-9	1,2,3,7,8,9-HxCDF	0.0929	J	5.0	0.050
60851-34-5	2,3,4,6,7,8-HxCDF	ND		5.0	0.055
35822-46-9	1,2,3,4,6,7,8-HpCDD	ND		5.0	0.035
67562-39-4	1,2,3,4,6,7,8-HpCDF	0.229	J	5.0	0.024
55673-89-7	1,2,3,4,7,8,9-HpCDF	ND		5.0	0.031
3268-87-9	OCDD	0.564	J	10	0.039
39001-02-0	OCDF	0.431	J	10	0.055
41903-57-5	Total TCDD	ND		1.0	0.071
30402-14-3	Total TCDF	ND		1.0	0.040
36088-22-9	Total PeCDD	ND		5.0	0.089
30402-15-4	Total PeCDF	ND		5.0	0.061
34465-46-8	Total HxCDD	0.331	J	5.0	0.044
55684-94-1	Total HxCDF	0.0929	J	5.0	0.074
37871-00-4	Total HpCDD	0.137	J	5.0	0.035
38998-75-3	Total HpCDF	0.229	J	5.0	0.027

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58545-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 320-357123/1-A

Matrix: Sediment Lab File ID: 18FE2010D5_44.d

Analysis Method: 1613B Date Collected:

Extract. Method: HRMS-Sox Date Extracted: 02/13/2020 08:36

Sample wt/vol: 10.0(g) Date Analyzed: 02/20/2020 00:07

Con. Extract Vol.: 20.0(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 358703 Units: pg/g

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	67		25-164
89059-46-1	13C-2,3,7,8-TCDF	64		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	61		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	64		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	68		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	64		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	73		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	66		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	67		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	70		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	68		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	73		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	72		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	75		26-138
114423-97-1	13C-OCDD	74		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	97		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_44.d
Lims ID: MB 320-357123/1-A
Client ID:
Sample Type: MB
Inject. Date: 20-Feb-2020 00:07:56 ALS Bottle#: 43 Worklist Smp#: 44
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: MB 320-357123/1-A MB 320-357123/1-A
Misc. Info.: 18FE2010D5
Operator ID: AJS, ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 21-Feb-2020 09:49:21 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: dadunj Date: 21-Feb-2020 09:49:21

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.202	40477289	0.79	5.4E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.719	29318541	0.77	1.1275	64.2	64.2	0.4186	0.4186	64.24	
2,3,7,8-TCDF	16.749						0.0200	0.0200		
A Non-2,3,7,8-sub-TCDF	16.446						0.0200	0.0200		
S Total TCDF							0.0200	0.0200		
D 13C-2,3,7,8-TCDD	17.384	24321673	0.79	0.9032	66.5	66.5	0.3538	0.3538	66.53	
2,3,7,8-TCDD	17.414						0.0356	0.0356		
$ 37Cl4-2,3,7,8-TCDD	17.399	15198437		0.9673	38.8	38.8	0.0432	0.0432	97.04	
A Non-2,3,7,8-sub-TCDD	16.877						0.0356	0.0356		
S Total TCDD							0.0356	0.0356		
D 13C-1,2,3,7,8-PeCDF	21.447	24964695	1.60	0.9615	64.1	64.1	0.2551	0.2551	64.15	
1,2,3,7,8-PeCDF	21.475						0.0289	0.0289		
D 13C-2,3,4,7,8-PeCDF	22.702	28584373	1.60	1.0393	67.9	67.9	0.2360	0.2360	67.95	
2,3,4,7,8-PeCDF	22.729						0.0303	0.0303		
A F1 PeCDFs	19.145						0.0281	0.0281		
A Non-2,3,7,8-sub-PeCDF	22.103						0.0296	0.0296		
S Total PeCDF							0.0303	0.0303		
D 13C-1,2,3,7,8-PeCDD	23.384	17114332	1.60	0.6938	60.9	60.9	0.1286	0.1286	60.94	
1,2,3,7,8-PeCDD	23.411						0.0443	0.0443		
A Non-2,3,7,8-sub-PeCDD	22.361						0.0443	0.0443		
S Total PeCDD							0.0443	0.0443		
D 13C-1,2,3,4,7,8-HxCDF	29.381	19305495	0.49	0.8543	66.0	66.0	0.3919	0.3919	66.01	
1,2,3,4,7,8-HxCDF	29.407						0.0498	0.0498		
D 13C-1,2,3,6,7,8-HxCDF	29.674	19292996	0.50	0.8361	67.4	67.4	0.4004	0.4004	67.40	
1,2,3,6,7,8-HxCDF	29.713						0.0455	0.0455		
D 13C-2,3,4,6,7,8-HxCDF	30.831	17977780	0.49	0.7773	67.6	67.6	0.4306	0.4306	67.55	
2,3,4,6,7,8-HxCDF	30.858						0.0274	0.0274		
D 13C-1,2,3,7,8,9-HxCDF	31.790	17206004	0.49	0.7167	70.1	70.1	0.4671	0.4671	70.12	
1,2,3,7,8,9-HxCDF	31.817	7296	1.24	0.9127	0.0579	0.0465	0.0252	0.0252		RQM
A Non-2,3,7,8-sub-HxCDF	29.287						0.0342	0.0342		
S Total HxCDF					0.0579	0.0465	0.0370	0.0370		RQ

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.590	34235841	1.25	4.4E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.071	17750356	1.26	0.8050	64.4	64.4	0.3105	0.3105	64.41	
1,2,3,4,7,8-HxCDD	31.098	16507	1.13	0.8392	0.1108	0.1108	0.0230	0.0230		M
D 13C-1,2,3,6,7,8-HxCDD	31.204	20717992	1.26	0.8269	73.2	73.2	0.3023	0.3023	73.18	
1,2,3,6,7,8-HxCDD	31.204	10096	1.28	0.8876	0.0549	0.0549	0.0220	0.0220		Ma
1,2,3,7,8,9-HxCDD	31.603						0.0203	0.0203		
A Non-2,3,7,8-sub-HxCDD	29.846						0.0217	0.0217		U
S Total HxCDD					0.1657	0.1657	0.0218	0.0218		
D 13C-1,2,3,4,6,7,8-HpCDF	33.377	17540222	0.42	0.7080	72.4	72.4	1.331	1.331	72.36	
1,2,3,4,6,7,8-HpCDF	33.389	26814	0.88	1.3375	0.1143	0.1143	0.0121	0.0121		M
D 13C-1,2,3,4,7,8,9-HpCDF	34.422	19103509	0.42	0.7451	74.9	74.9	1.265	1.265	74.89	
1,2,3,4,7,8,9-HpCDF	34.433						0.0153	0.0153		
A Non-2,3,7,8-sub-HpCDF	33.905						0.0135	0.0135		U
S Total HpCDF					0.1143	0.1143	0.0137	0.0137		
D 13C-1,2,3,4,6,7,8-HpCDD	34.154	18569688	1.11	0.7473	72.6	72.6	0.4710	0.4710	72.58	
1,2,3,4,6,7,8-HpCDD	34.166						0.0174	0.0174		
A Non-2,3,7,8-sub-HpCDD	33.893	12507	1.17	0.9811	0.0686	0.0686	0.0174	0.0686		M
S Total HpCDD					0.0686	0.0686	0.0174	0.0174		
D 13C-OCDD	36.422	33714333	0.92	0.6622	148.7	148.7	0.1821	0.1821	74.36	
OCDF	36.518	38722	0.78	1.0659	0.2155	0.2155	0.0273	0.0273		M
OCDD	36.434	47205	0.78	0.9937	0.2818	0.2818	0.0194	0.0194		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_44.d
Lims ID: MB 320-357123/1-A
Client ID:
Sample Type: MB
Inject. Date: 20-Feb-2020 00:07:56 ALS Bottle#: 43 Worklist Smp#: 44
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: MB 320-357123/1-A MB 320-357123/1-A
Misc. Info.: 18FE2010D5
Operator ID: AJS, ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 21-Feb-2020 09:49:21 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: dadunj Date: 21-Feb-2020 09:49:21

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.202	17.202	0		17894715	4587593	3742	9355	1226		
333.9339	17.202	17.202	0		22582574	5796225	9529	23822	608	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.719	16.719	0	0.972	12759734	3223631	7865	19662	410		
317.9389	16.719	16.719	0	0.972	16558807	4205912	11737	29342	358	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.749						153	382			
305.8987	16.749						304	760			
A Non-2,3,7,8-sub-TCDF											
303.9016	16.446						153	382			
305.8987	16.446						304	760			
13C-2,3,7,8-TCDD											
331.9368	17.384	17.384	0	1.011	10737766	2592419	3742	9355	693		
333.9339	17.384	17.384	0	1.011	13583907	3216131	9529	23822	338	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.414						554	1385			
321.8936	17.414						241	602			
37Cl4-2,3,7,8-TCDD											
327.8847	17.399	17.414	-1	1.011	15198437	3472417	1737	4342	1999		
A Non-2,3,7,8-sub-TCDD											
319.8965	16.877						554	1385			
321.8936	16.877						241	602			
13C-1,2,3,7,8-PeCDF											
351.9000	21.447	21.447	0	1.247	15350064	2771838	6082	15205	456		
353.8970	21.447	21.447	0	1.247	9614631	1780754	4107	10267	434	1.60(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	21.475						198	495			
341.8567	21.475						275	687			
13C-2,3,4,7,8-PeCDF											
351.9000	22.702	22.702	0	1.320	17600950	2986816	6082	15205	491		
353.8970	22.702	22.702	0	1.320	10983423	1820855	4107	10267	443	1.60(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.729						198	495			
341.8567	22.729						275	687			
A F1 PeCDFs											
339.8597	19.145						138	345			
341.8567	19.145						312	780			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.103						198	495			
341.8567	22.103						275	687			
13C-1,2,3,7,8-PeCDD											
367.8949	23.384	23.383	0	1.359	10534438	1668739	2175	5437	767		
369.8919	23.384	23.383	0	1.359	6579894	1081654	1530	3825	707	1.60(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.411						325	812			
357.8516	23.411						161	402			
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.361						325	812			
357.8516	22.361						161	402			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.381	29.380	0	0.930	6378132	766362	3531	8827	217		
385.8610	29.367	29.380	-1	0.930	12927363	1529825	6787	16967	225	0.49(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.407						183	457			
375.8178	29.407						179	447			
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.674	29.687	-1	0.939	6427770	760414	3531	8827	215		
385.8610	29.687	29.687	0	0.940	12865226	1540756	6787	16967	227	0.50(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	29.713						183	457			
375.8178	29.713						179	447			
13C-2,3,4,6,7,8-HxCDF											
383.8639	30.831	30.831	0	0.976	5925556	1204667	3531	8827	341		
385.8610	30.831	30.831	0	0.976	12052224	2463486	6787	16967	363	0.49(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	30.858						183	457			
375.8178	30.858						179	447			
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.790	31.790	0	1.006	5662552	1280051	3531	8827	363		
385.8610	31.790	31.790	0	1.006	11543452	2660367	6787	16967	392	0.49(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											RQM
373.8208	31.817	31.803	1	1.001	4039	856	183	457	5		M
375.8178	31.803	31.803	0	1.000	5046	1073	179	447	6	0.80(1.05-1.43)	M
	Empc Correction				3257	690	179	447	4		
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.287						183	457			
375.8178	29.287						179	447			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.590	31.590	0		19044695	4258770	4157	10392	1024		
403.8529	31.590	31.590	0		15191146	3446667	3548	8870	971	1.25(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.071	31.071	0	0.984	9891655	2386255	4157	10392	574		
403.8529	31.071	31.071	0	0.984	7858701	1916254	3548	8870	540	1.26(1.05-1.43)	
1,2,3,4,7,8-HxCDD											M
389.8157	31.098	31.098	0	1.001	8774	2503	152	380	16		
391.8127	31.084	31.098	-1	1.000	7733	1979	180	450	11	1.13(1.05-1.43)	M
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.204	31.204	0	0.988	11549632	2381443	4157	10392	573		
403.8529	31.204	31.204	0	0.988	9168360	1870298	3548	8870	527	1.26(1.05-1.43)	
1,2,3,6,7,8-HxCDD											Ma
389.8157	31.204	31.217	-1	1.000	5670	1207	152	380	8		M
391.8127	31.218	31.217	0	1.000	4426	841	180	450	5	1.28(1.05-1.43)	M
1,2,3,7,8,9-HxCDD											
389.8157	31.603						152	380			
391.8127	31.603						180	450			
A Non-2,3,7,8-sub-HxCDD											U
389.8157	29.846						152	380			
391.8127	29.846						180	450			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.377	33.376	0	1.057	5176856	1656638	9074	22685	183		
419.8220	33.377	33.376	0	1.057	12363366	3838936	19968	49920	192	0.42(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											M
407.7818	33.389	33.376	1	1.000	12550	3884	182	455	21		M
409.7789	33.389	33.376	1	1.000	14264	5048	174	435	29	0.88(0.88-1.20)	M
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.422	34.433	-1	1.090	5666442	1625665	9074	22685	179		
419.8220	34.422	34.433	-1	1.090	13437067	3783269	19968	49920	189	0.42(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.433						182	455			
409.7789	34.433						174	435			
A Non-2,3,7,8-sub-HpCDF											U
407.7818	33.905						182	455			
409.7789	33.905						174	435			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.154	34.154	0	1.081	9785950	2846482	6417	16042	444		
437.8140	34.154	34.154	0	1.081	8783738	2636905	4432	11080	595	1.11(0.88-1.20)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.166						218	545			
425.7737	34.166						156	390			
A Non-2,3,7,8-sub-HpCDD											M
423.7766	33.632	33.893	-16	0.985	6746	1976	218	545	9		M
425.7737	33.620	33.893	-16	0.984	5761	1276	156	390	8	1.17(0.88-1.20)	M
13C-OCDD											
469.7779	36.422	36.422	0	1.153	16132755	4043559	2226	5565	1817		
471.7750	36.422	36.422	0	1.153	17581578	4374141	1491	3727	2934	0.92(0.76-1.02)	
OCDF											M
441.7428	36.518	36.517	0	1.003	17014	3981	177	442	22		M
443.7399	36.506	36.517	-1	1.002	21708	5124	314	785	16	0.78(0.76-1.02)	
OCDD											
457.7377	36.434	36.433	0	1.000	20675	5332	146	365	37		
459.7348	36.434	36.433	0	1.000	26530	5778	179	447	32	0.78(0.76-1.02)	

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_44.d
Lims ID: MB 320-357123/1-A
Client ID:
Inject. Date: 20-Feb-2020 00:07:56 Dil. Factor: 1.0000
Sample Type: MB, Method Blank
Instrument ID: 10D5 Operator: AJS, ALM
Lims Batch ID: 358703 Lims Sample ID: 44

Non-2,3,7,8-sub-HxCDD, RT: 29.846

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	0.839	D 13C-1,2,3,4,7,8-HxCDD	100.000	17750356	4302509
1,2,3,6,7,8-HxCDD	0.888	D 13C-1,2,3,6,7,8-HxCDD	100.000	20717992	4251741
1,2,3,7,8,9-HxCDD	0.957				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.894		100.000	19234174	4277125

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags

Compound is Marked ND

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_44.d
Lims ID: MB 320-357123/1-A
Client ID:
Inject. Date: 20-Feb-2020 00:07:56 Dil. Factor: 1.0000
Sample Type: MB, Method Blank
Instrument ID: 10D5 Operator: AJS, ALM
Lims Batch ID: 358703 Lims Sample ID: 44

Non-2,3,7,8-sub-HpCDF, RT: 33.905

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.337	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	17540222	5495574
1,2,3,4,7,8,9-HpCDF	1.074	D 13C-1,2,3,4,7,8,9-HpCDF	100.000	19103509	5408934

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.206		100.000	18321865	5452254

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags

Compound is Marked ND

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_44.d
Lims ID: MB 320-357123/1-A
Client ID:
Inject. Date: 20-Feb-2020 00:07:56 Dil. Factor: 1.0000
Sample Type: MB, Method Blank
Instrument ID: 10D5 Operator: AJS, ALM
Lims Batch ID: 358703 Lims Sample ID: 44

Non-2,3,7,8-sub-HpCDD, RT: 33.893

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.981	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	18569688	5483387

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.981		100.000	18569688	5483387

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
33.632	6746	1976	5761	1276	0.0686	1.17	M
Signal Totals:							
	6746	1976	5761	1276			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	12507	3252				1.17	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0686 = (12507 * 100.000) / (18569688 * 0.981)

QC Flag Legend

Review Flags
M - Manually Integrated

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_44.d				
Injection Date:	20-Feb-2020 00:07:56	Instrument ID:	10D5		
Lims ID:	MB 320-357123/1-A				
Client ID:					
Operator ID:	AJS, ALM	ALS Bottle#:	43	Worklist Smp#:	44
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 1

Processing Integration Results

RT: 31.82
Area: 6241
Amount: 0.081594
Amount Units: pg/ul

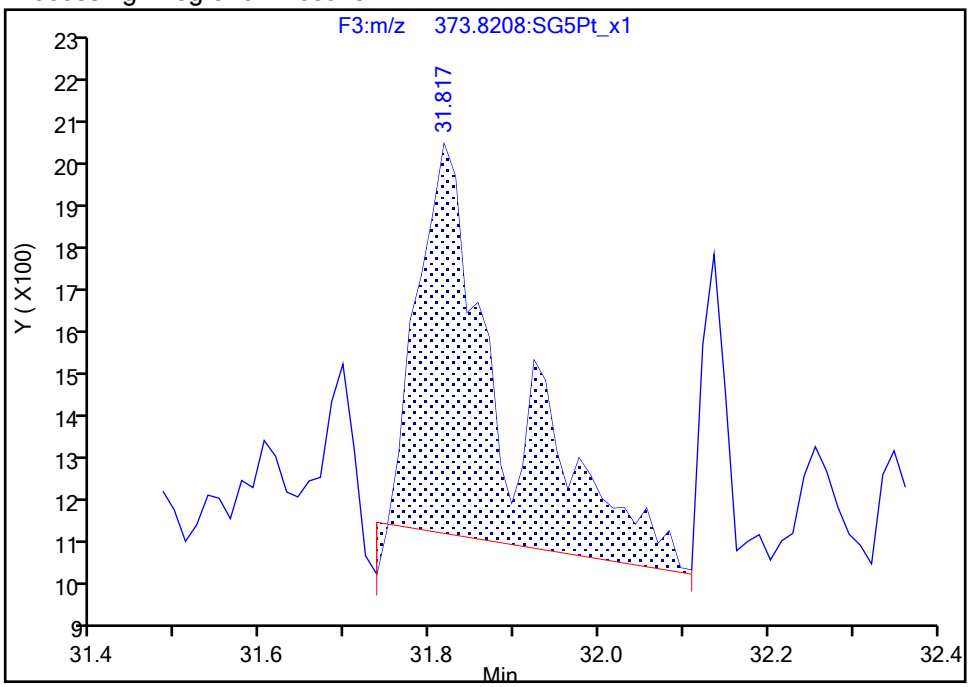

Manual Integration Results

RT: 31.82
Area: 4039
Amount: 0.057854
Amount Units: pg/ul

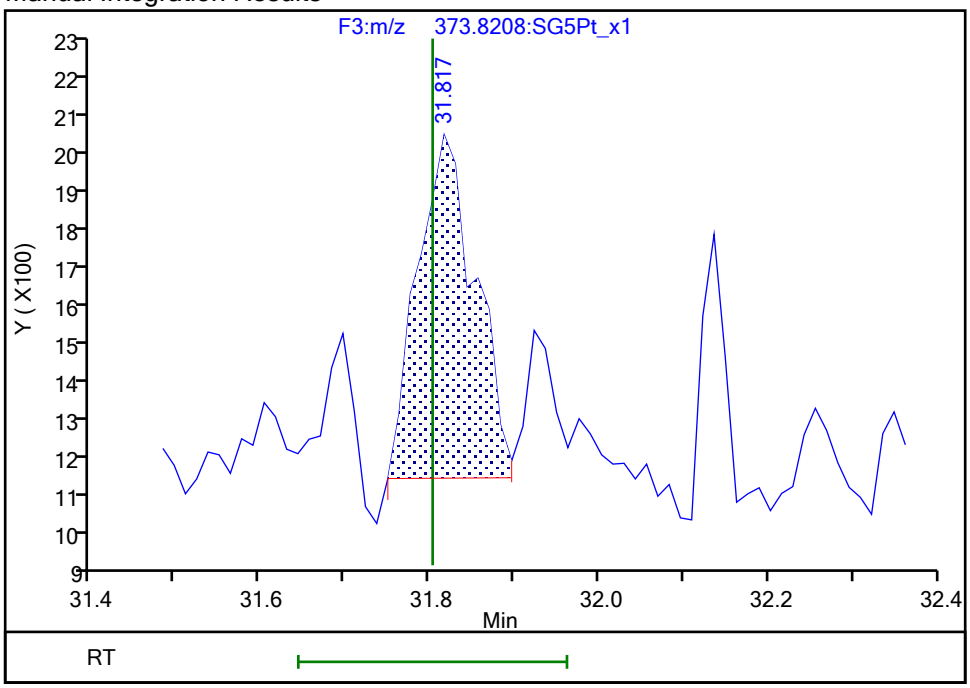

Reviewer: dadunj, 21-Feb-2020 09:45:16

Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_44.d				
Injection Date:	20-Feb-2020 00:07:56	Instrument ID:	10D5		
Lims ID:	MB 320-357123/1-A				
Client ID:					
Operator ID:	AJS, ALM	ALS Bottle#:	43	Worklist Smp#:	44
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 2

Processing Integration Results

RT: 31.80
Area: 6572
Amount: 0.081594
Amount Units: pg/ul

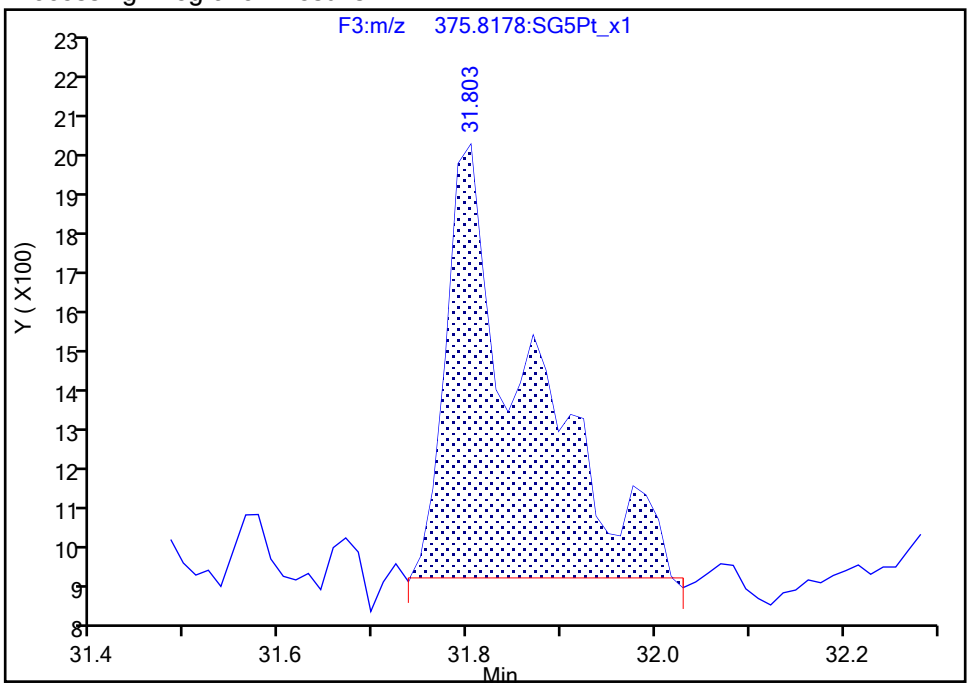

Manual Integration Results

RT: 31.80
Area: 5046
Amount: 0.057854
Amount Units: pg/ul

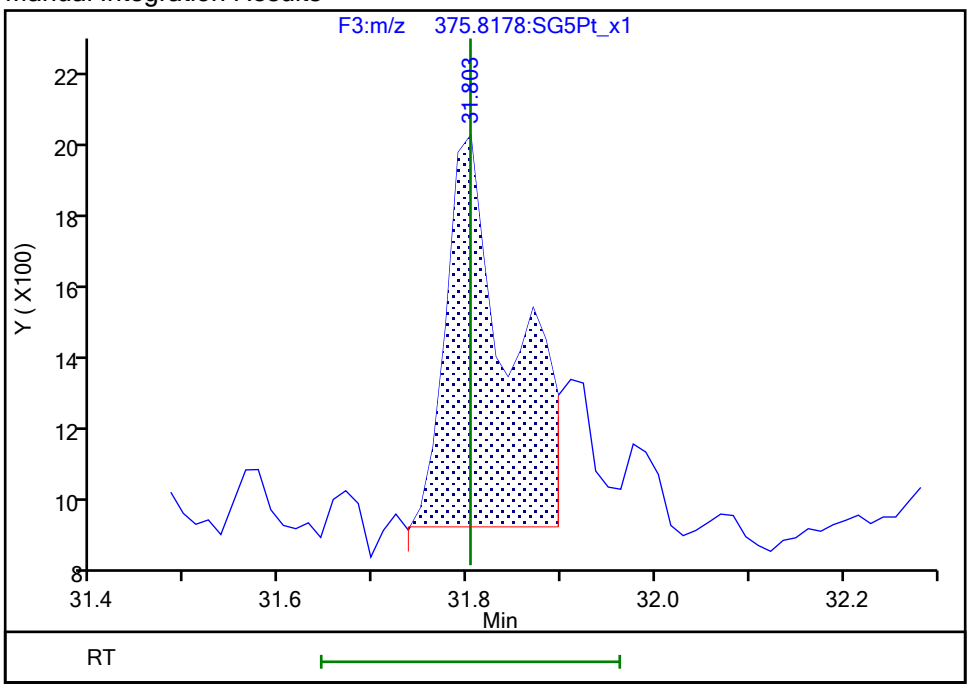

Reviewer: dadunj, 21-Feb-2020 09:45:17

Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_44.d				
Injection Date:	20-Feb-2020 00:07:56	Instrument ID:	10D5		
Lims ID:	MB 320-357123/1-A				
Client ID:					
Operator ID:	AJS, ALM	ALS Bottle#:	43	Worklist Smp#:	44
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 2

Processing Integration Results

RT: 31.08
Area: 12807
Amount: 0.144881
Amount Units: pg/ul

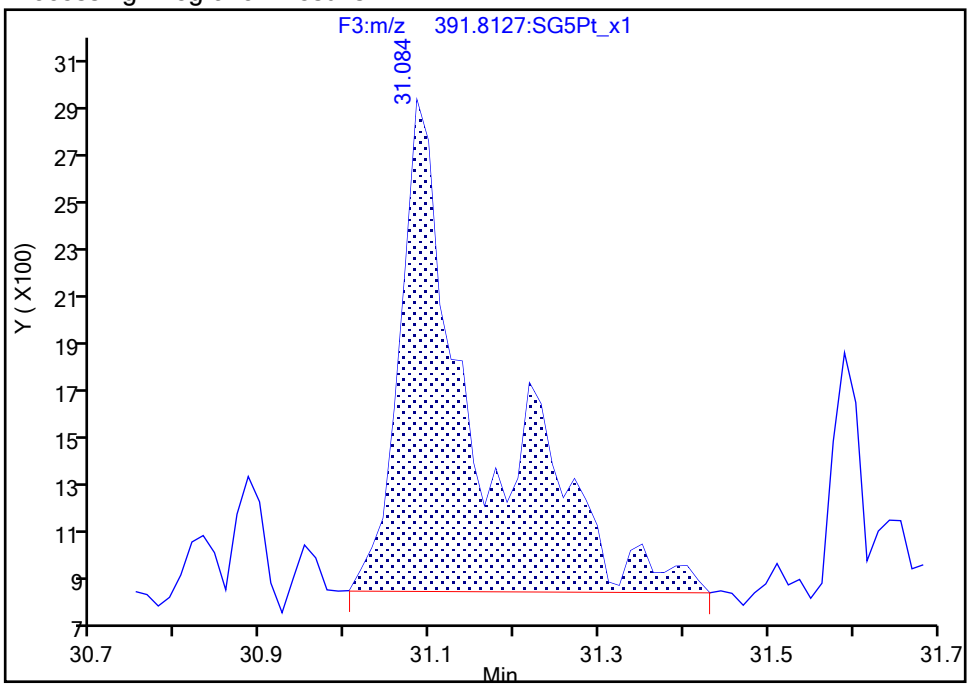

Manual Integration Results

RT: 31.08
Area: 7733
Amount: 0.110817
Amount Units: pg/ul

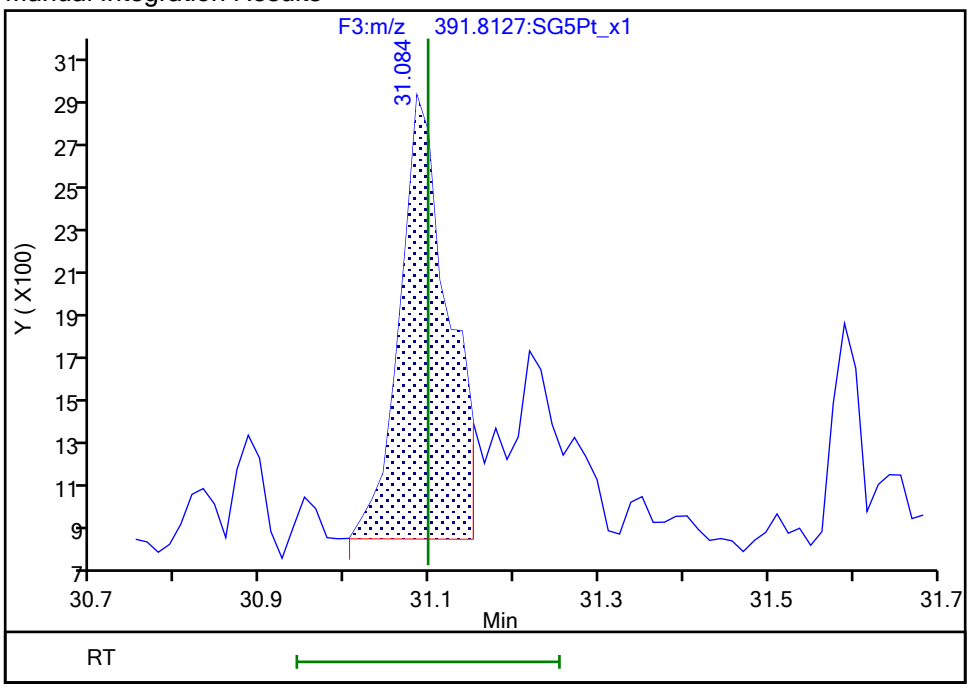

Reviewer: dadunj, 21-Feb-2020 09:45:30

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_44.d				
Injection Date:	20-Feb-2020 00:07:56	Instrument ID:	10D5		
Lims ID:	MB 320-357123/1-A				
Client ID:					
Operator ID:	AJS, ALM	ALS Bottle#:	43	Worklist Smp#:	44
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 3

Processing Integration Results

RT:	31.10
Area:	21581
Amount:	0.117356
Amount Units:	pg/ul

Manual Integration Results

RT:	31.20
Area:	10096
Amount:	0.054901
Amount Units:	pg/ul

Reviewer: dadunj, 21-Feb-2020 09:45:33

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_44.d				
Injection Date:	20-Feb-2020 00:07:56	Instrument ID:	10D5		
Lims ID:	MB 320-357123/1-A				
Client ID:					
Operator ID:	AJS, ALM	ALS Bottle#:	43	Worklist Smp#:	44
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 1

Processing Integration Results

RT: 31.10
Area: 8774
Amount: 0.117356
Amount Units: pg/ul

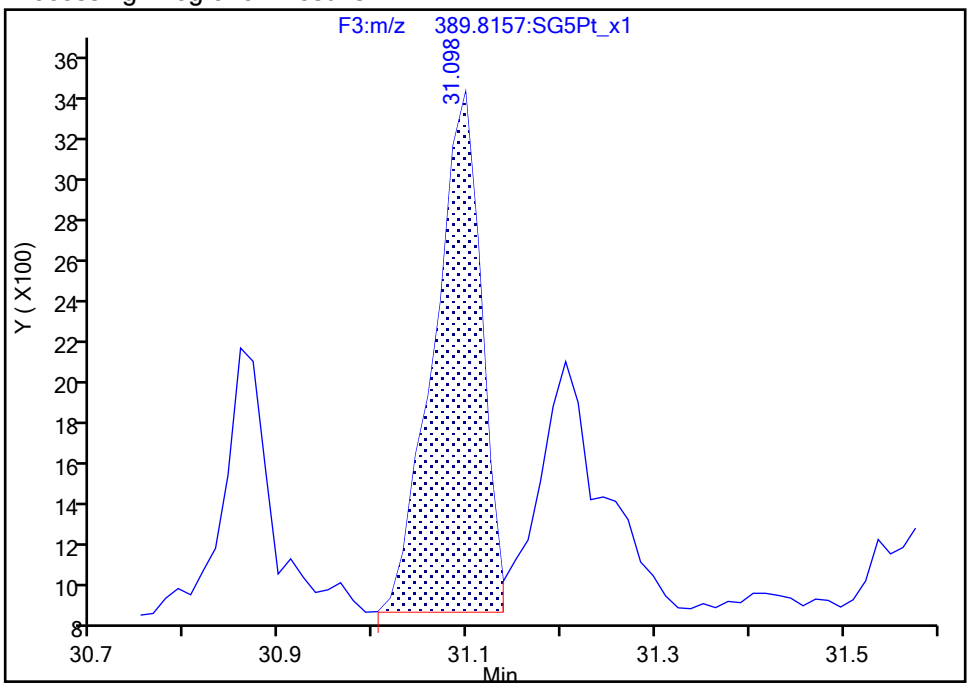

Manual Integration Results

RT: 31.20
Area: 5670
Amount: 0.054901
Amount Units: pg/ul

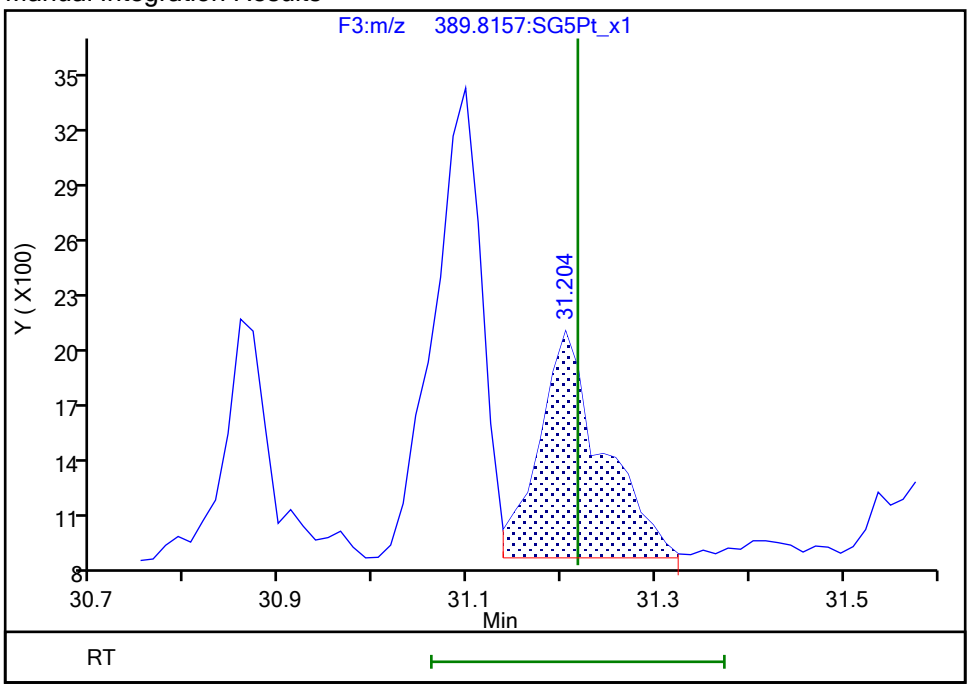

Reviewer: dadunj, 21-Feb-2020 09:46:43

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_44.d				
Injection Date:	20-Feb-2020 00:07:56	Instrument ID:	10D5		
Lims ID:	MB 320-357123/1-A				
Client ID:					
Operator ID:	AJS, ALM	ALS Bottle#:	43	Worklist Smp#:	44
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 2

Processing Integration Results

RT: 31.08
Area: 12807
Amount: 0.117356
Amount Units: pg/ul

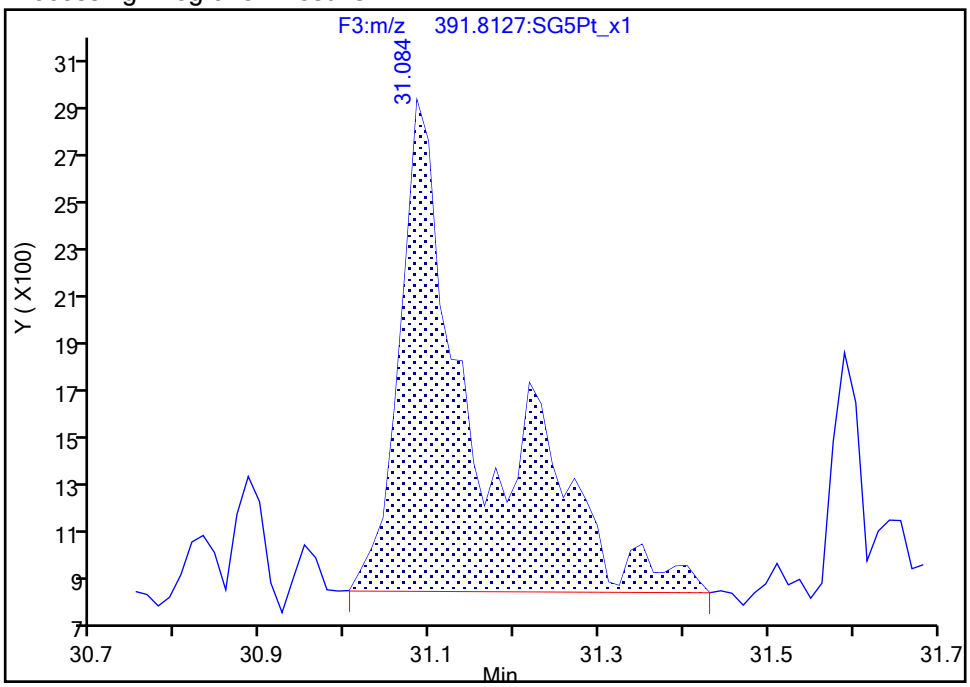

Manual Integration Results

RT: 31.22
Area: 4426
Amount: 0.054901
Amount Units: pg/ul

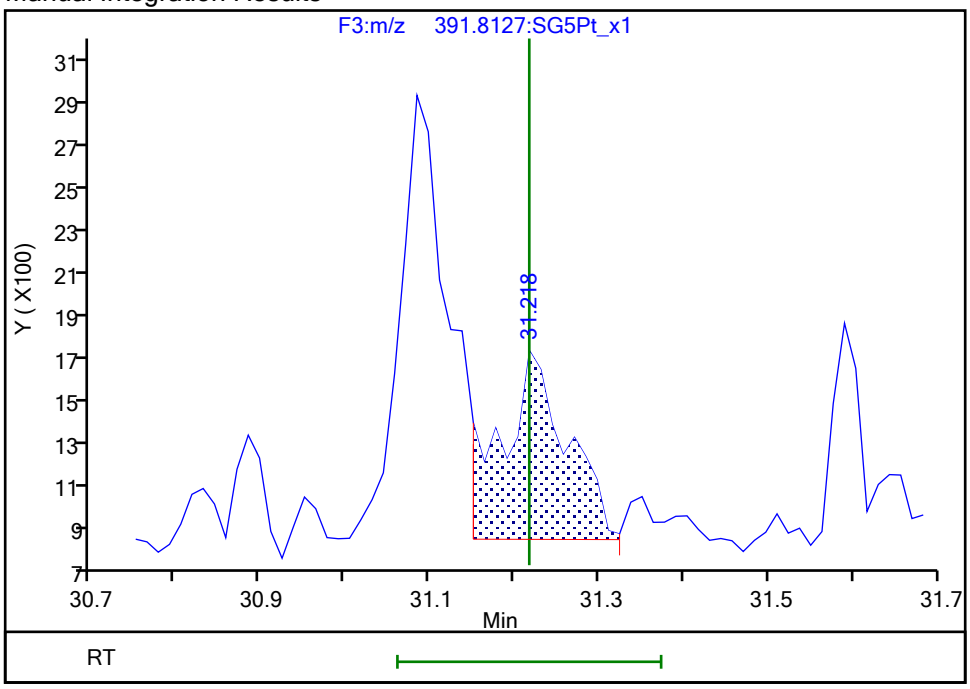

Reviewer: dadunj, 21-Feb-2020 09:46:48

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_44.d				
Injection Date:	20-Feb-2020 00:07:56	Instrument ID:	10D5		
Lims ID:	MB 320-357123/1-A				
Client ID:					
Operator ID:	AJS, ALM	ALS Bottle#:	43	Worklist Smp#:	44
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 2

Processing Integration Results

RT: 33.39
Area: 17237
Amount: 0.129135
Amount Units: pg/ul

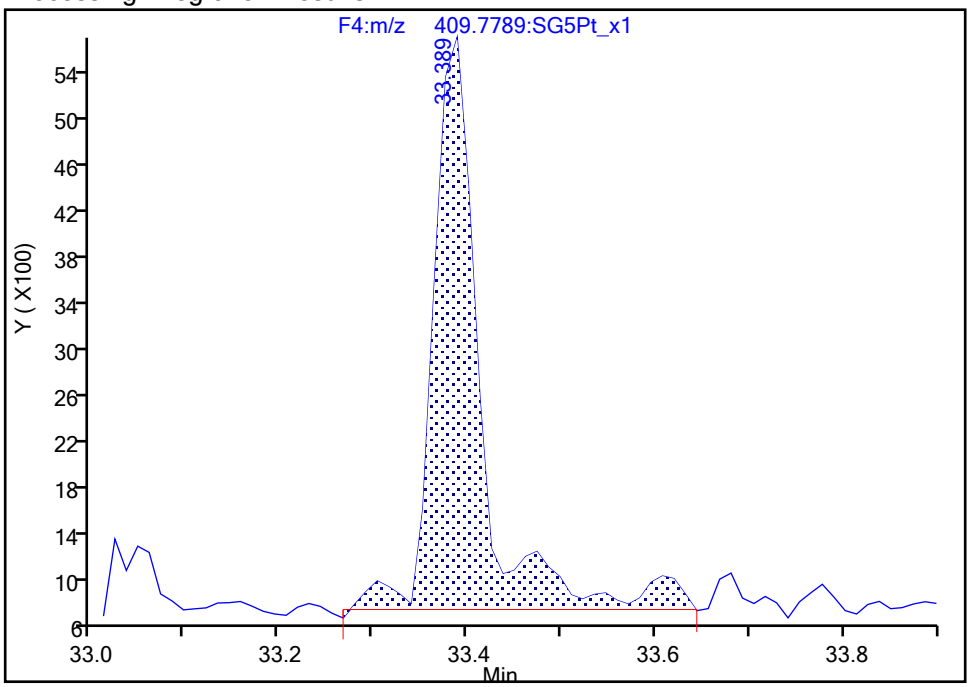

Manual Integration Results

RT: 33.39
Area: 14264
Amount: 0.114301
Amount Units: pg/ul

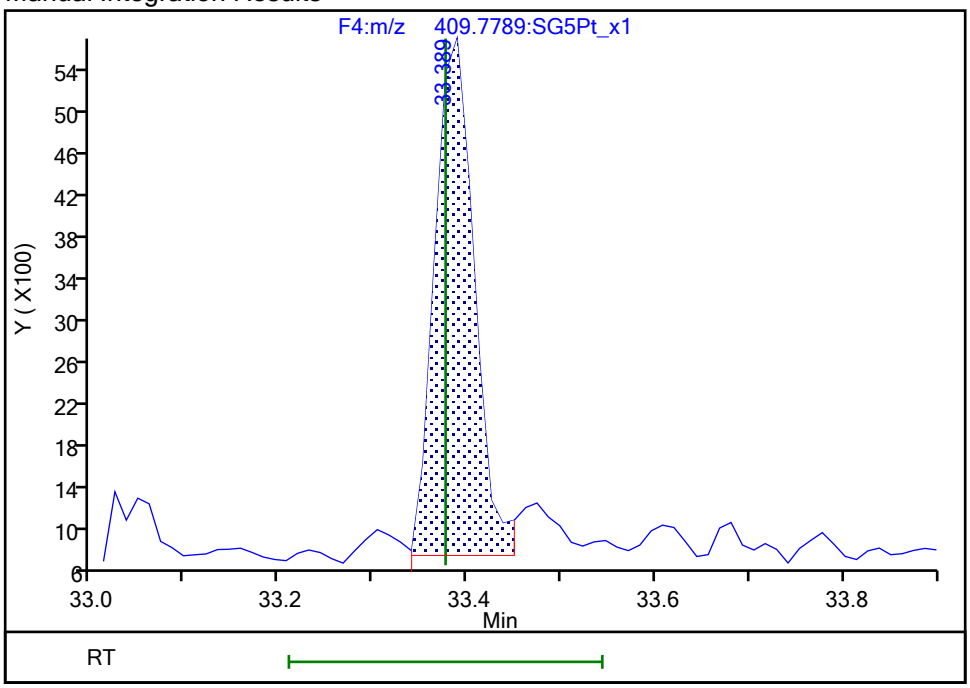

Reviewer: dadunj, 21-Feb-2020 09:47:33

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_44.d				
Injection Date:	20-Feb-2020 00:07:56	Instrument ID:	10D5		
Lims ID:	MB 320-357123/1-A				
Client ID:					
Operator ID:	AJS, ALM	ALS Bottle#:	43	Worklist Smp#:	44
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 1

Processing Integration Results

RT: 33.39
Area: 13057
Amount: 0.129135
Amount Units: pg/ul

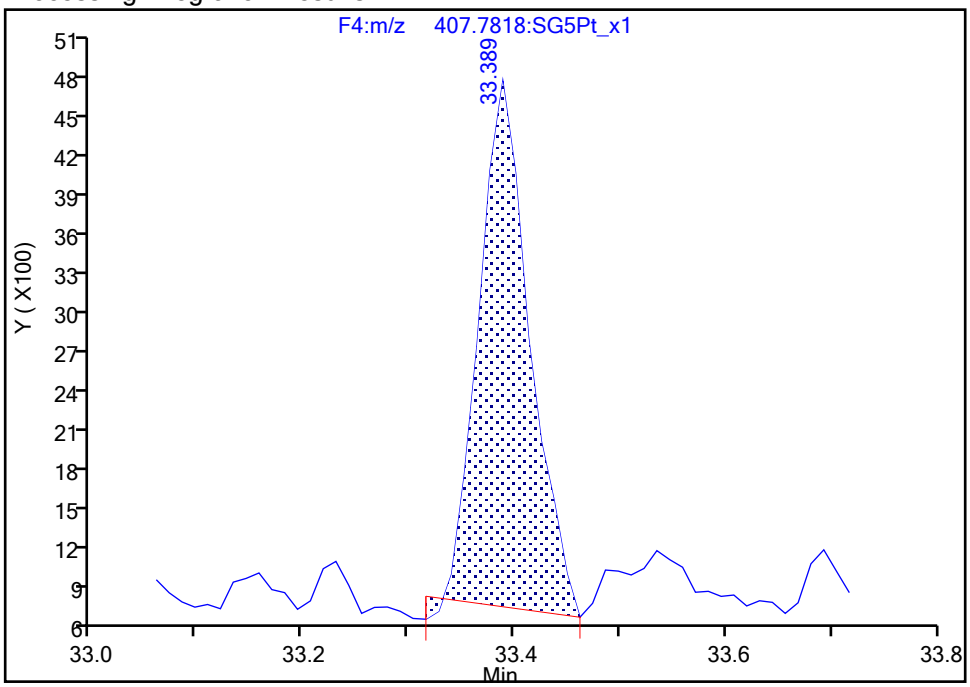

Manual Integration Results

RT: 33.39
Area: 12550
Amount: 0.114301
Amount Units: pg/ul

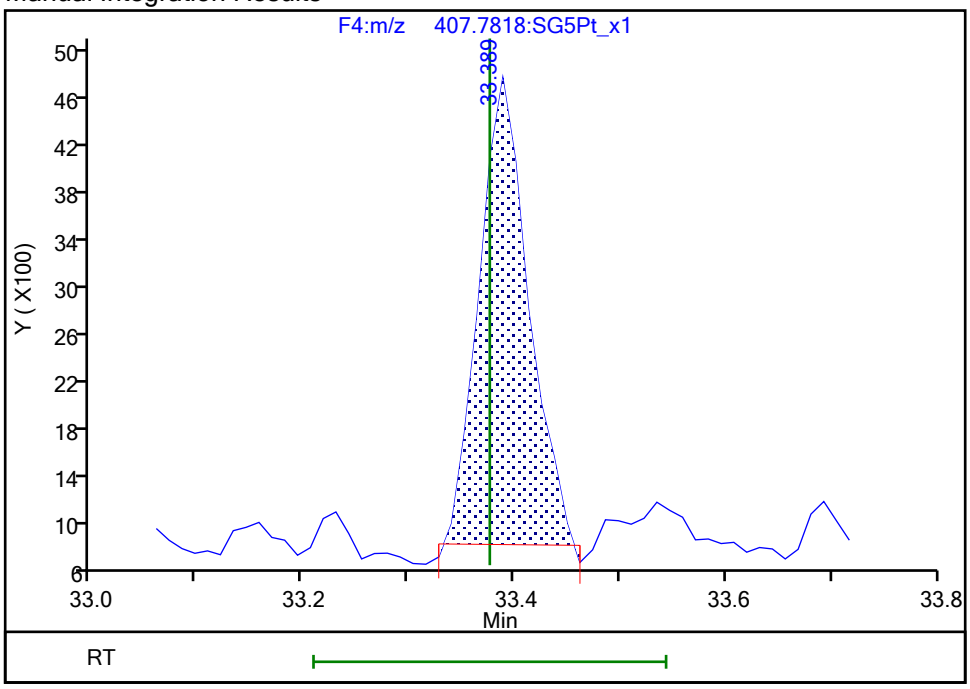

Reviewer: dadunj, 21-Feb-2020 09:47:34

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_44.d				
Injection Date:	20-Feb-2020 00:07:56	Instrument ID:	10D5		
Lims ID:	MB 320-357123/1-A				
Client ID:					
Operator ID:	AJS, ALM	ALS Bottle#:	43	Worklist Smp#:	44
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

Non-2,3,7,8-sub-HpCDD, Signal: 1, m/z: 423.7766, RT: (33.59- 34.20)

Signal: 1

Processing Integration Results

RT = 33.632 Area = 6869

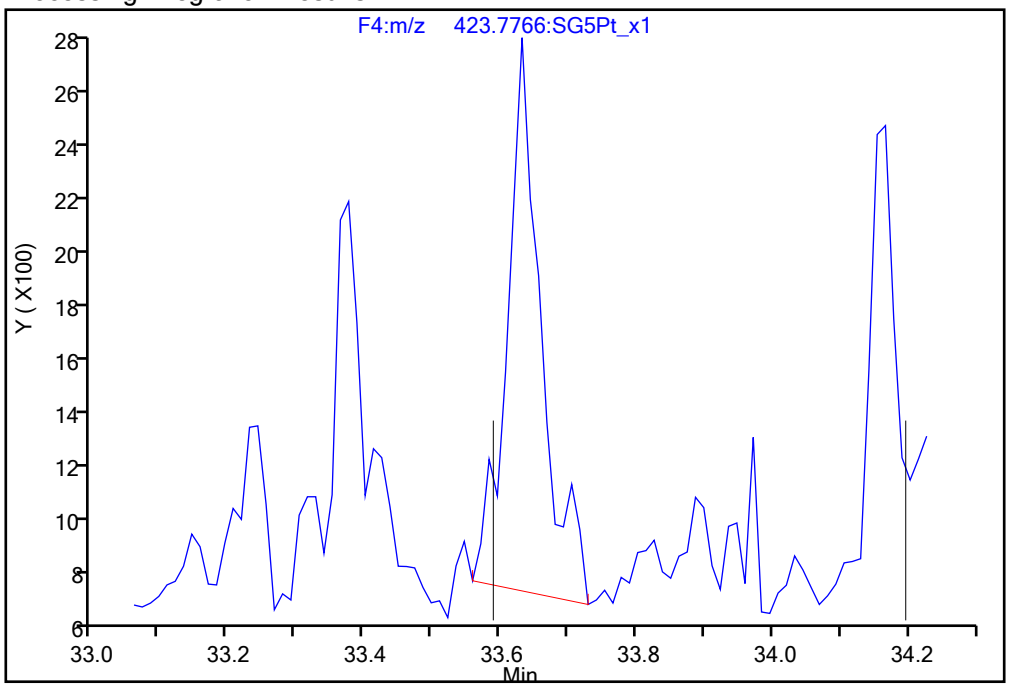

Manual Integration Results

RT = 33.632 Area = 6746 M

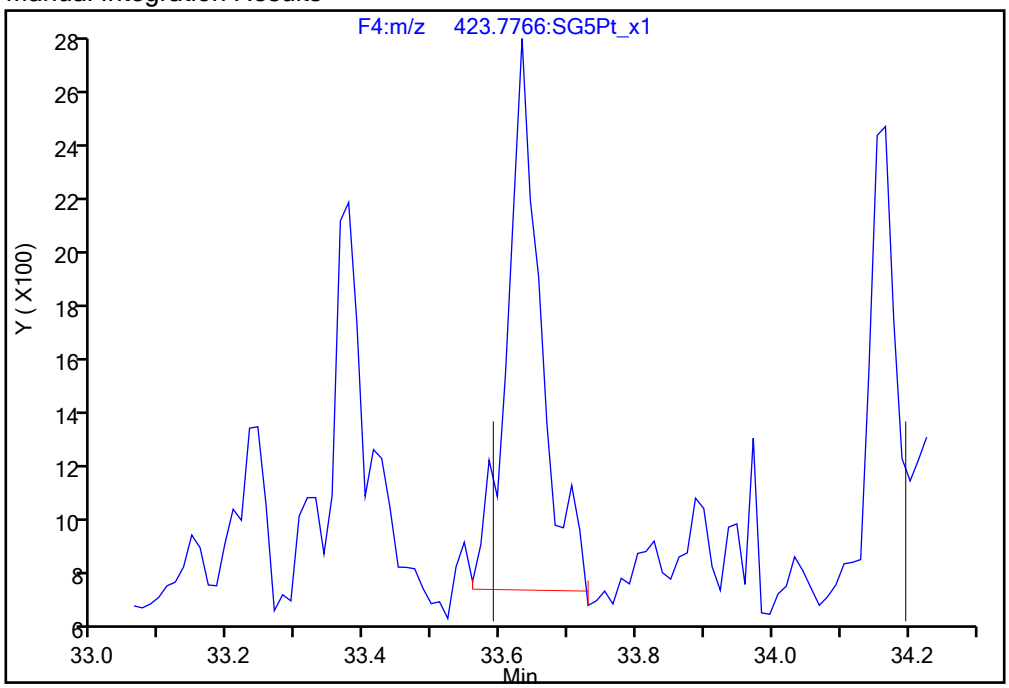

Reviewer: dadunj, 21-Feb-2020 09:48:03

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_44.d				
Injection Date:	20-Feb-2020 00:07:56	Instrument ID:	10D5		
Lims ID:	MB 320-357123/1-A				
Client ID:					
Operator ID:	AJS, ALM	ALS Bottle#:	43	Worklist Smp#:	44
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

Non-2,3,7,8-sub-HpCDD, Signal: 2, m/z: 425.7737, RT: (33.59- 34.20)

Signal: 2

Processing Integration Results

RT = 33.620 Area = 5843

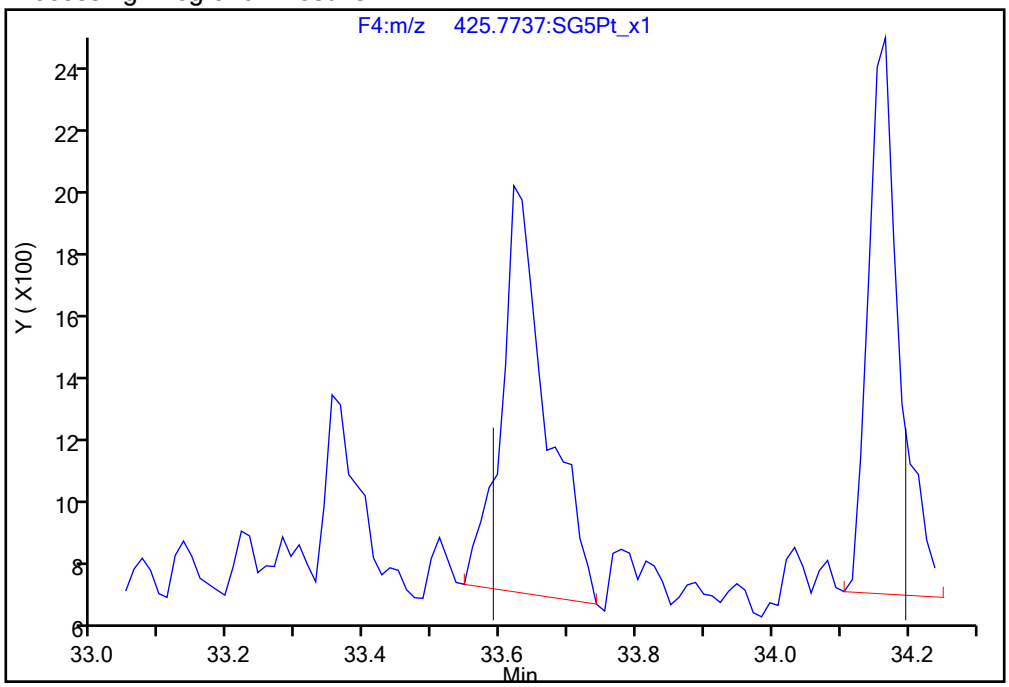

Manual Integration Results

RT = 33.620 Area = 5761 M

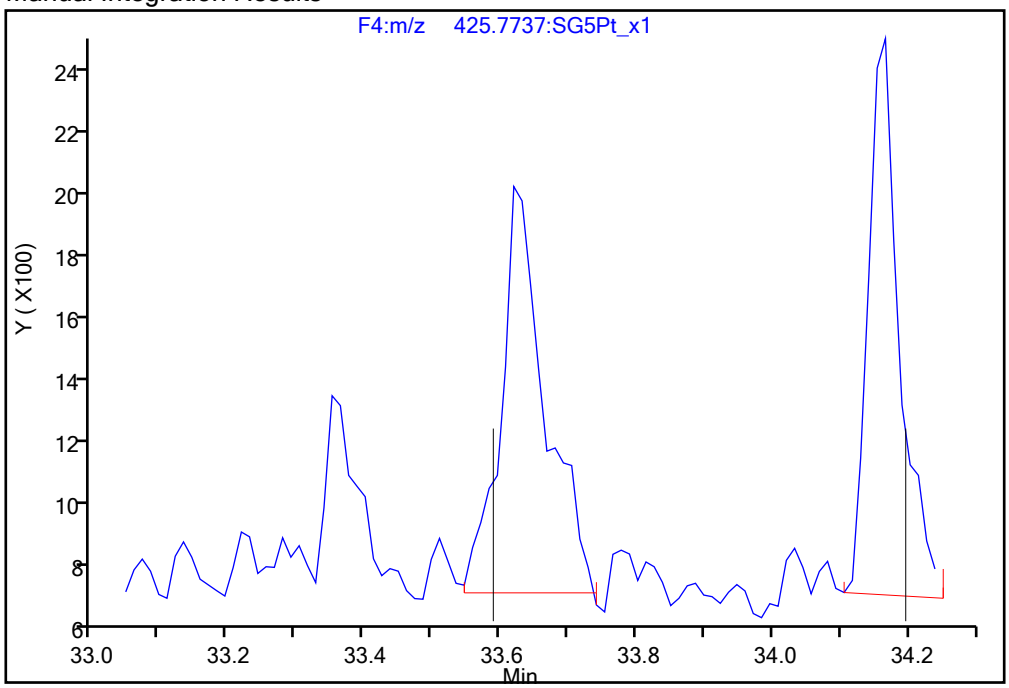

Reviewer: dadunj, 21-Feb-2020 09:48:11

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_44.d				
Injection Date:	20-Feb-2020 00:07:56	Instrument ID:	10D5		
Lims ID:	MB 320-357123/1-A				
Client ID:					
Operator ID:	AJS, ALM	ALS Bottle#:	43	Worklist Smp#:	44
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5:HRSIR		

OCDF, CAS: 39001-02-0

Signal: 1

Processing Integration Results

RT: 36.52
Area: 19857
Amount: 0.231322
Amount Units: pg/ul

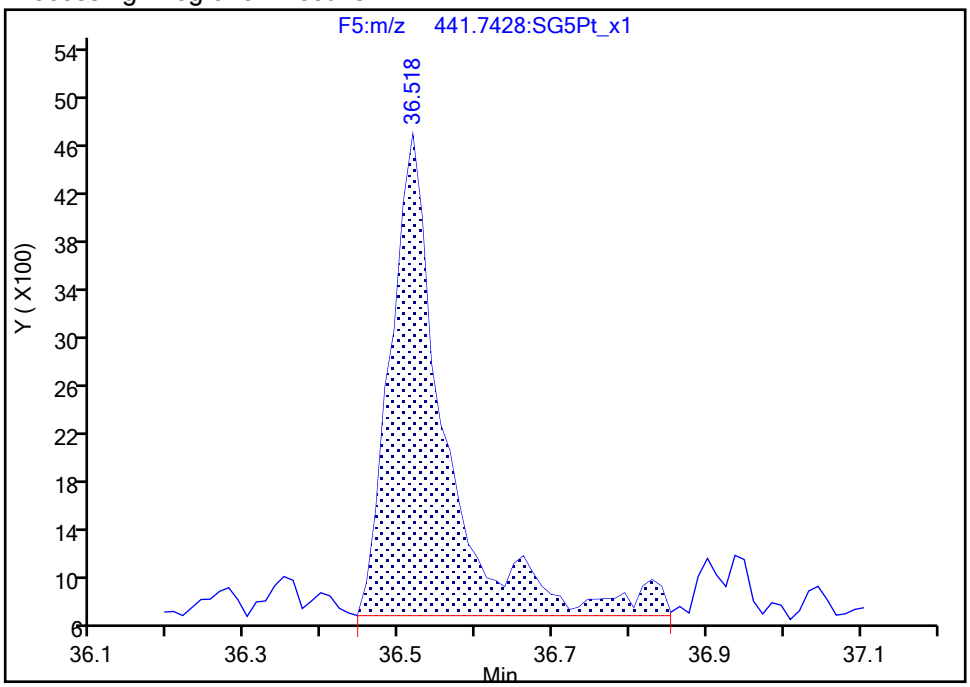

Manual Integration Results

RT: 36.52
Area: 17014
Amount: 0.215500
Amount Units: pg/ul

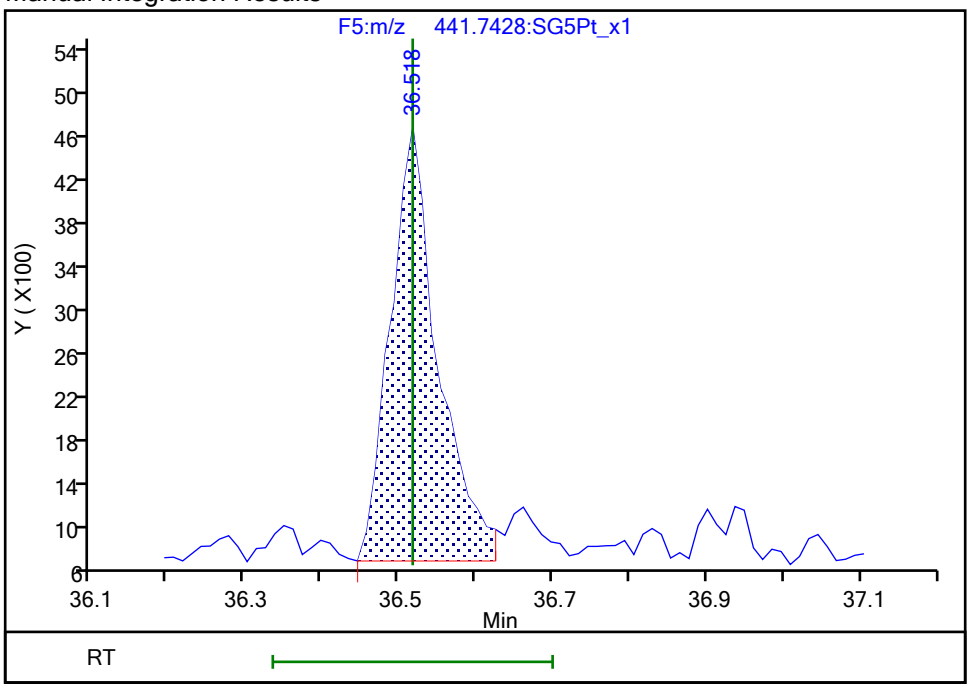

Reviewer: dadunj, 21-Feb-2020 09:48:22

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 21-Feb-2020 09:49:27 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_44.d		
Injection Date:	20-Feb-2020 00:07:56	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	358703	Sample Line#:	44
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

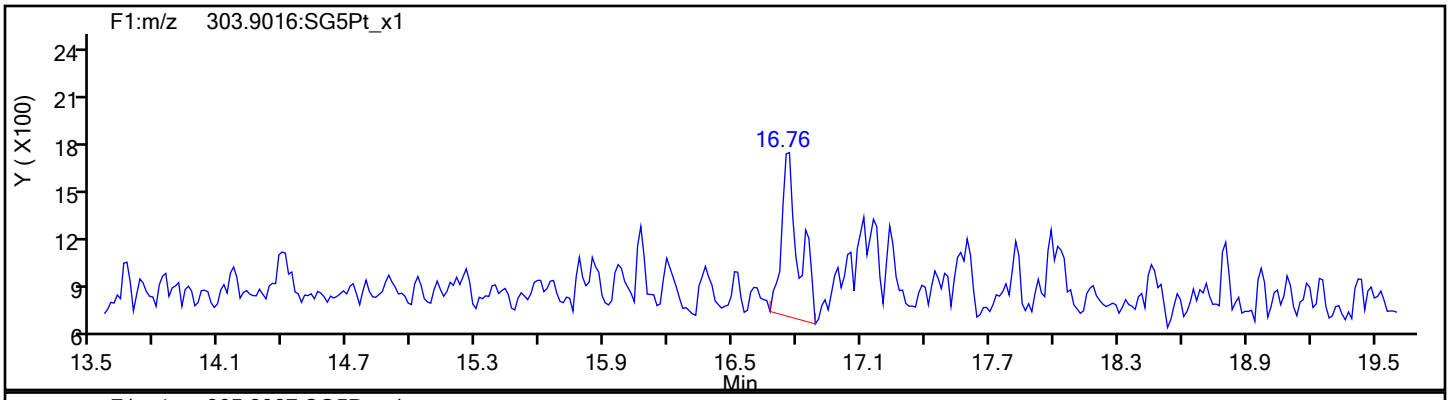

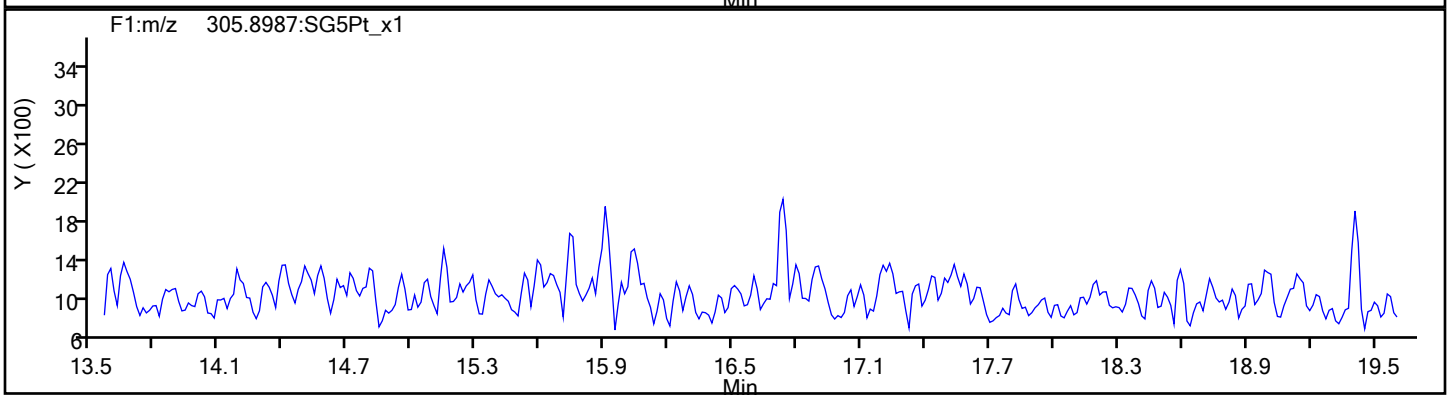

TCDF Standards

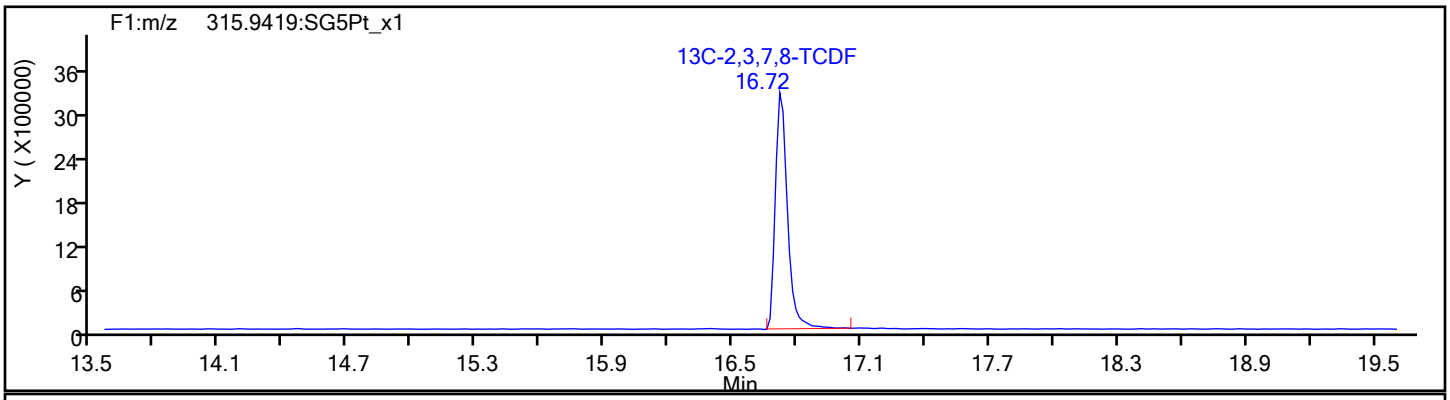

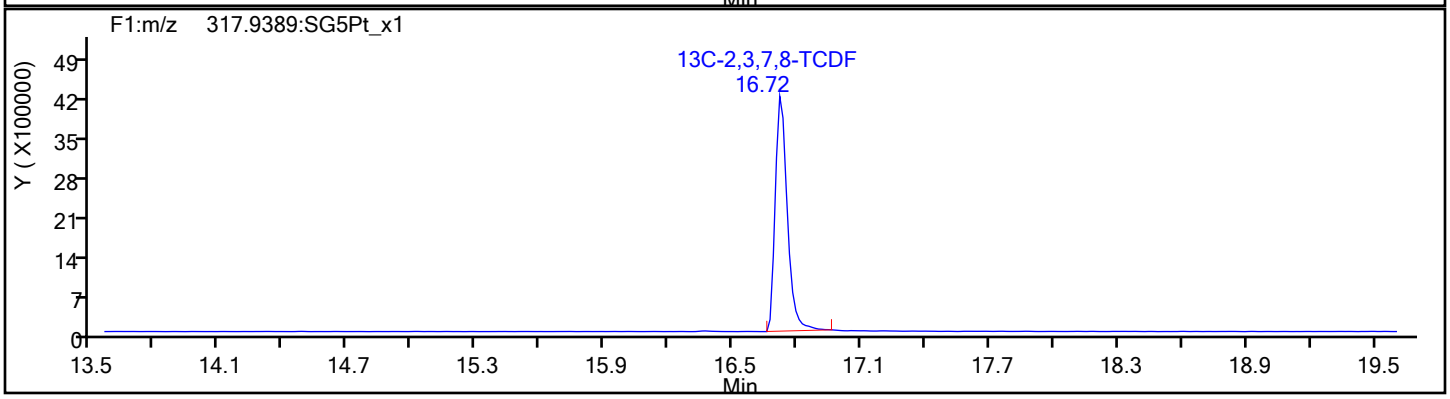

Report Date: 21-Feb-2020 09:49:27 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_44.d		
Injection Date:	20-Feb-2020 00:07:56	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	358703	Sample Line#:	44
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

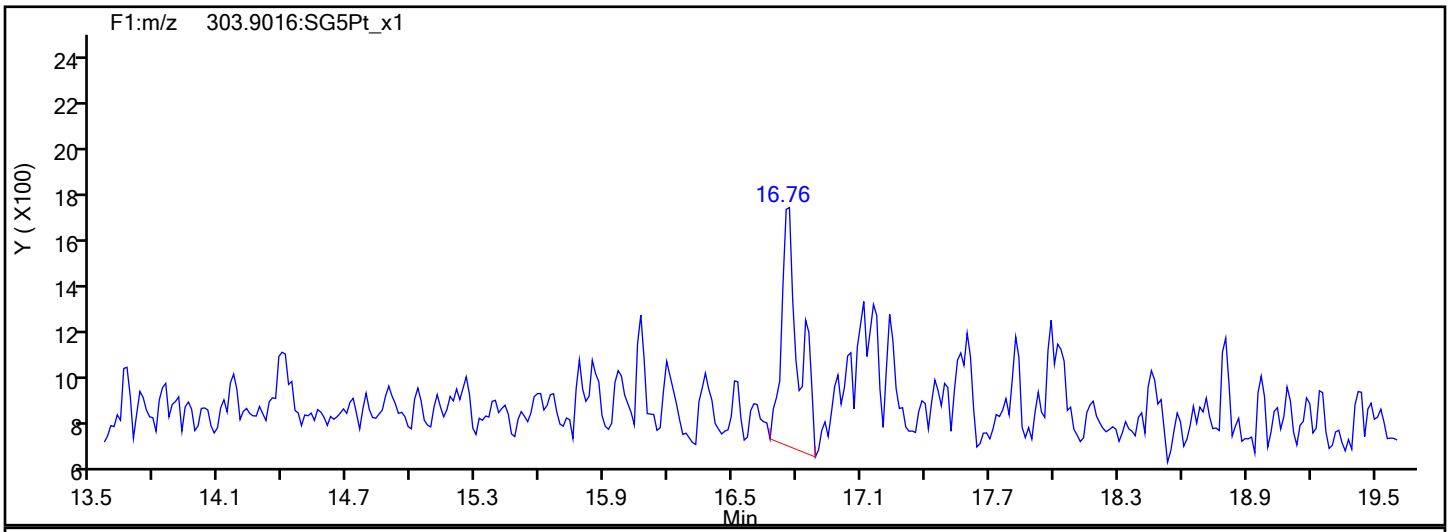

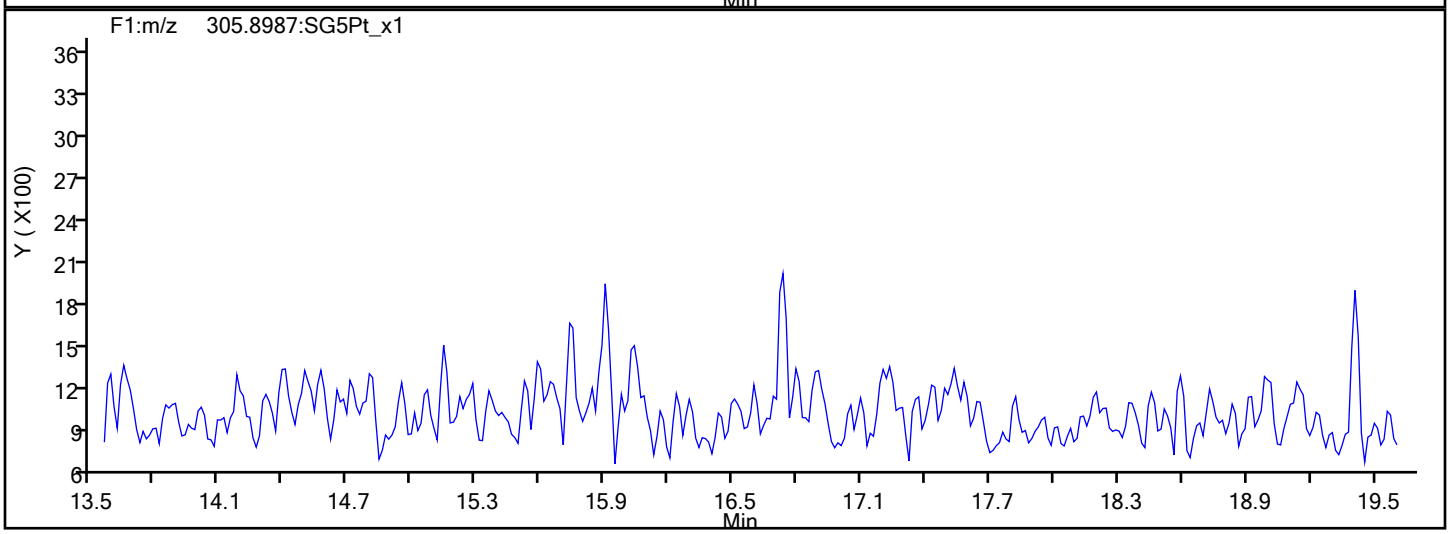

TCDF Interference Mass

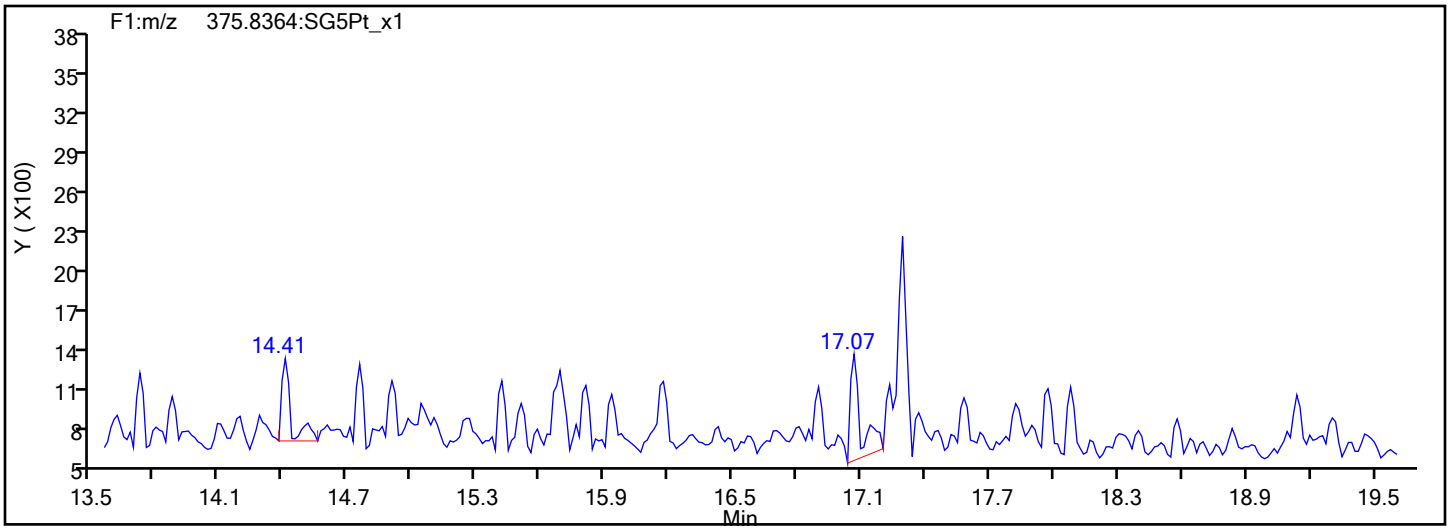

Report Date: 21-Feb-2020 09:49:28 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

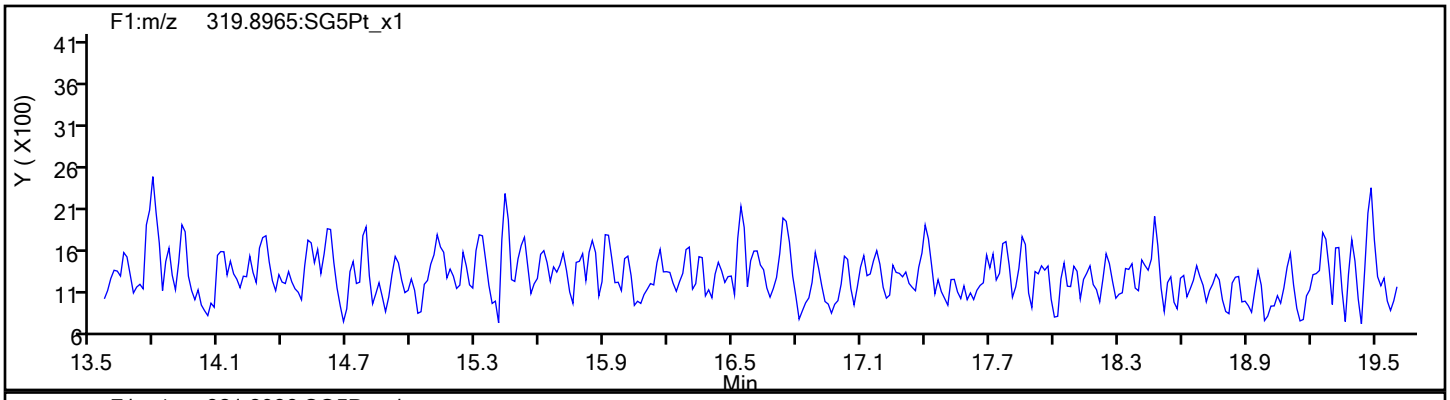

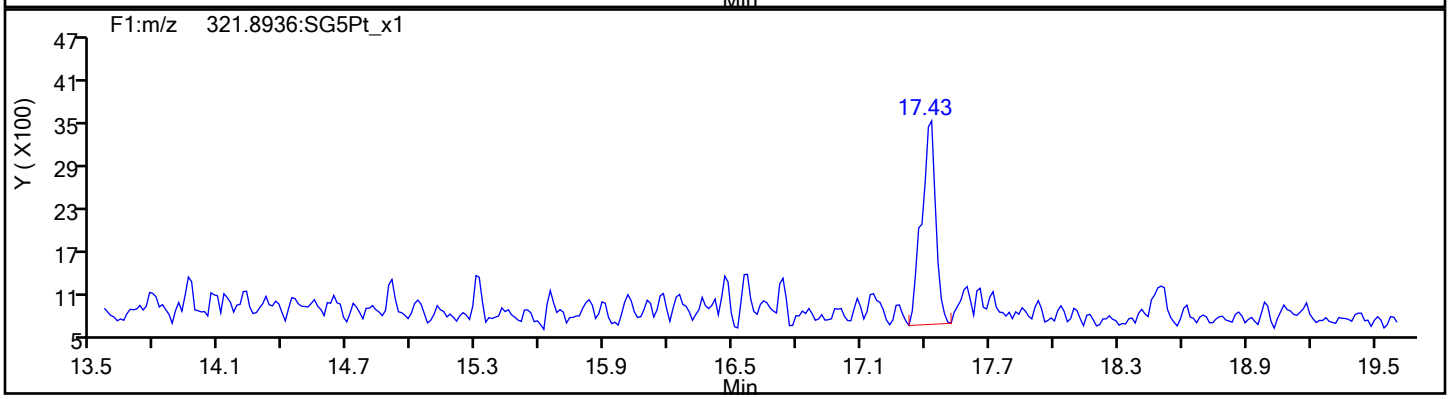

TCDD Standards

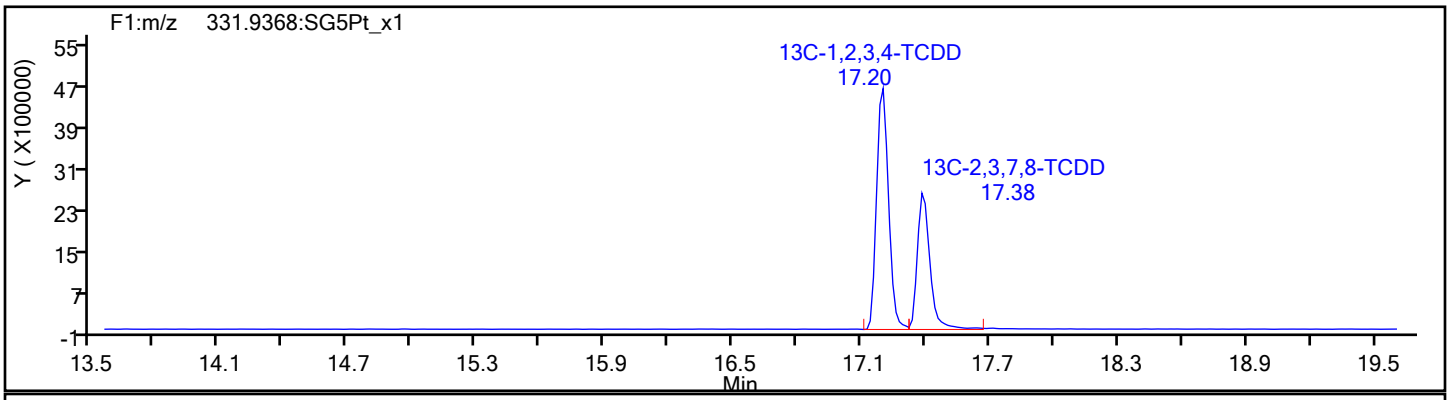

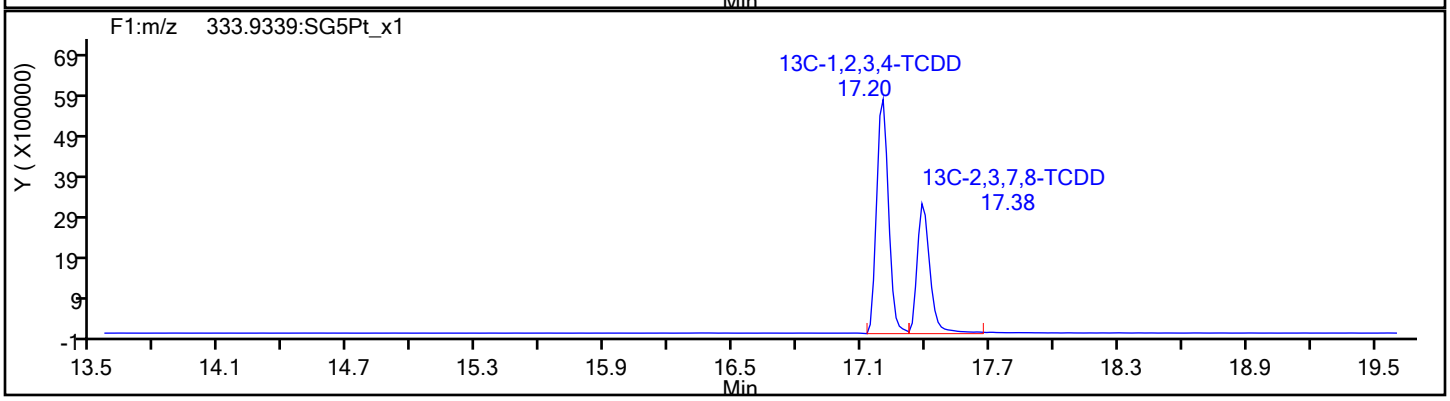

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Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

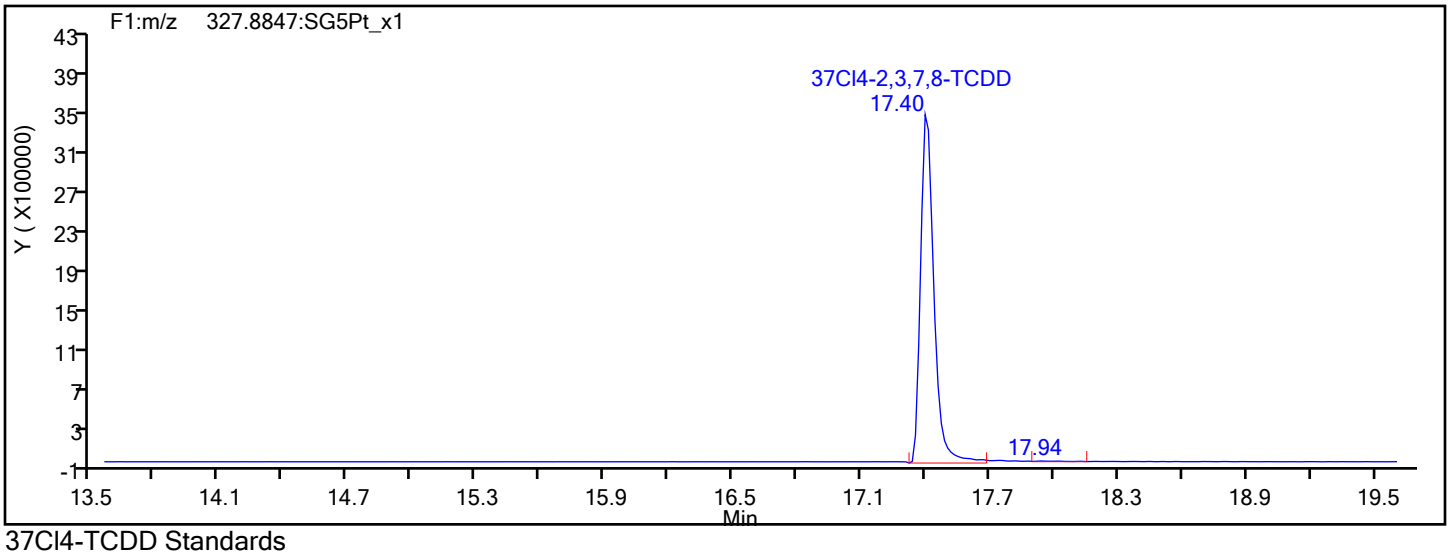

37Cl4-TCDD Standards

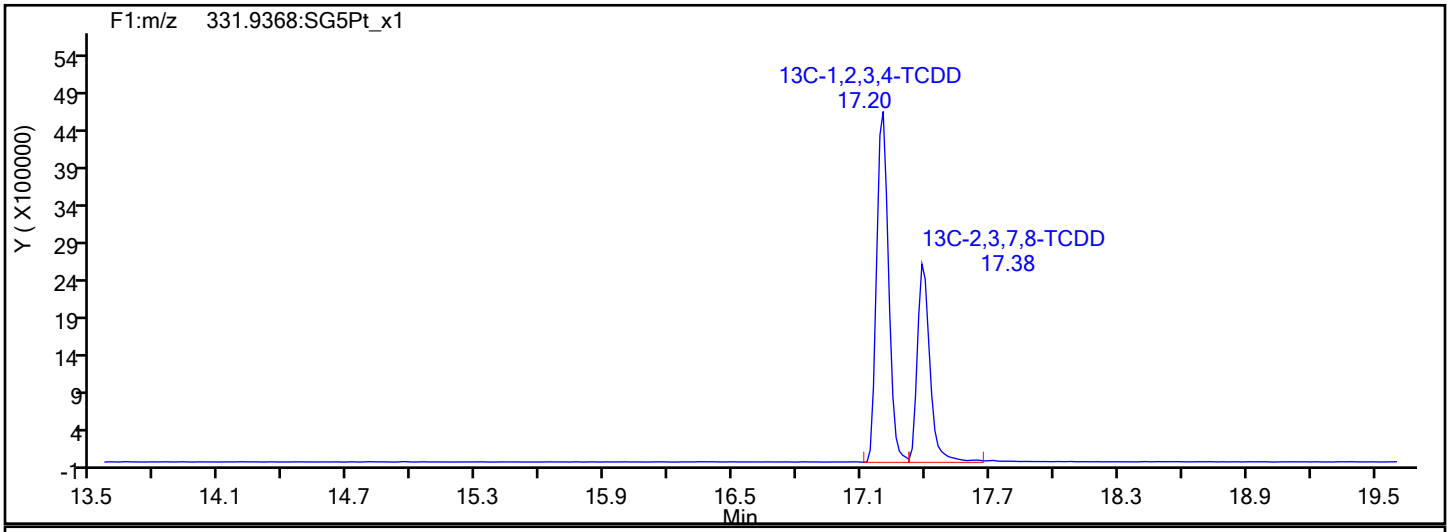

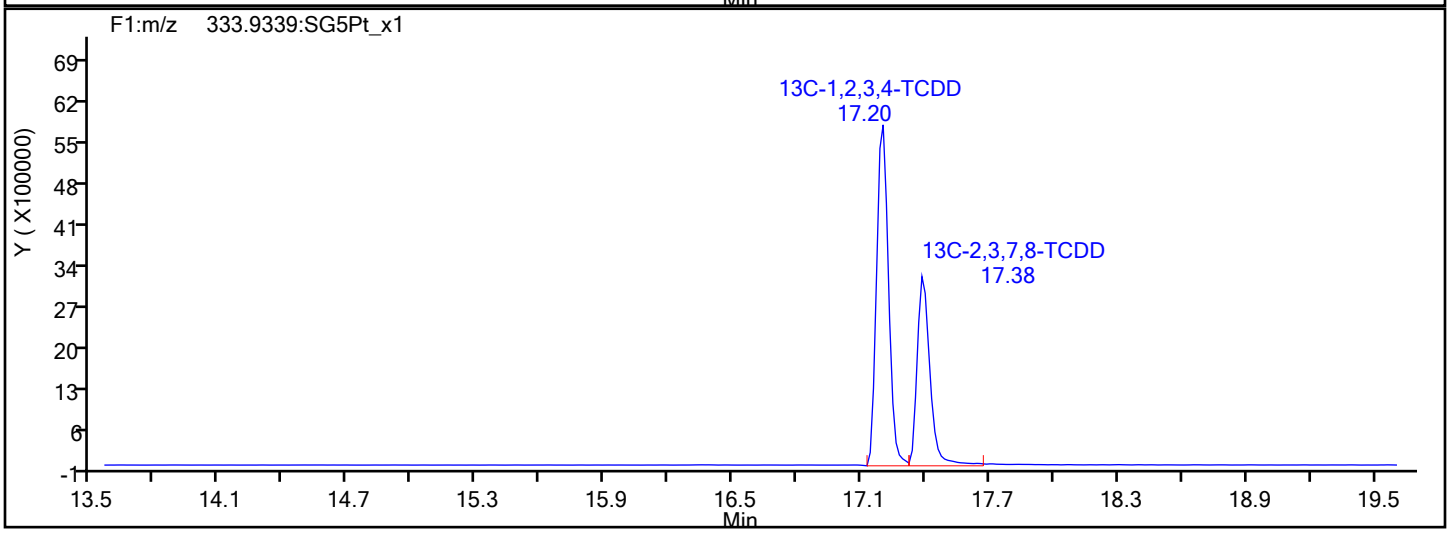

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

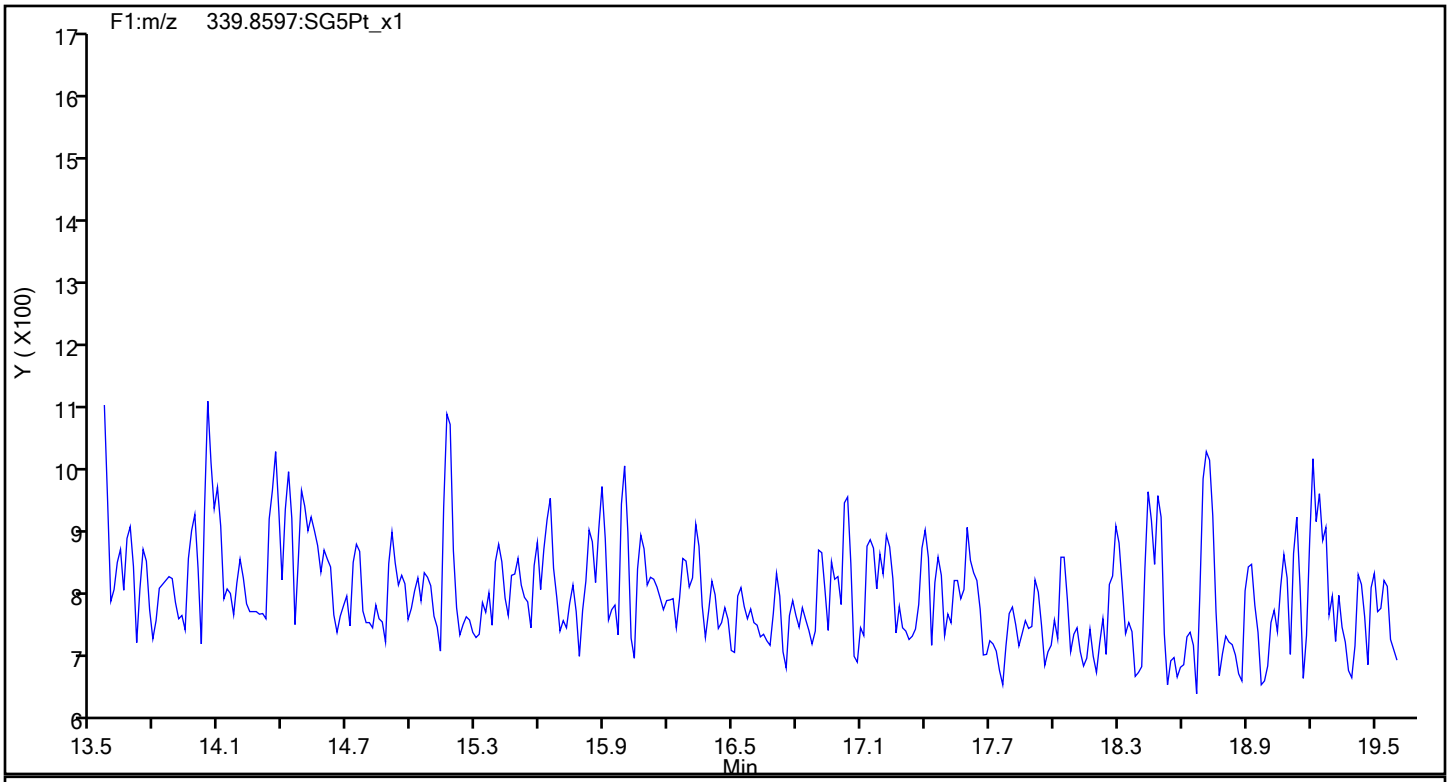

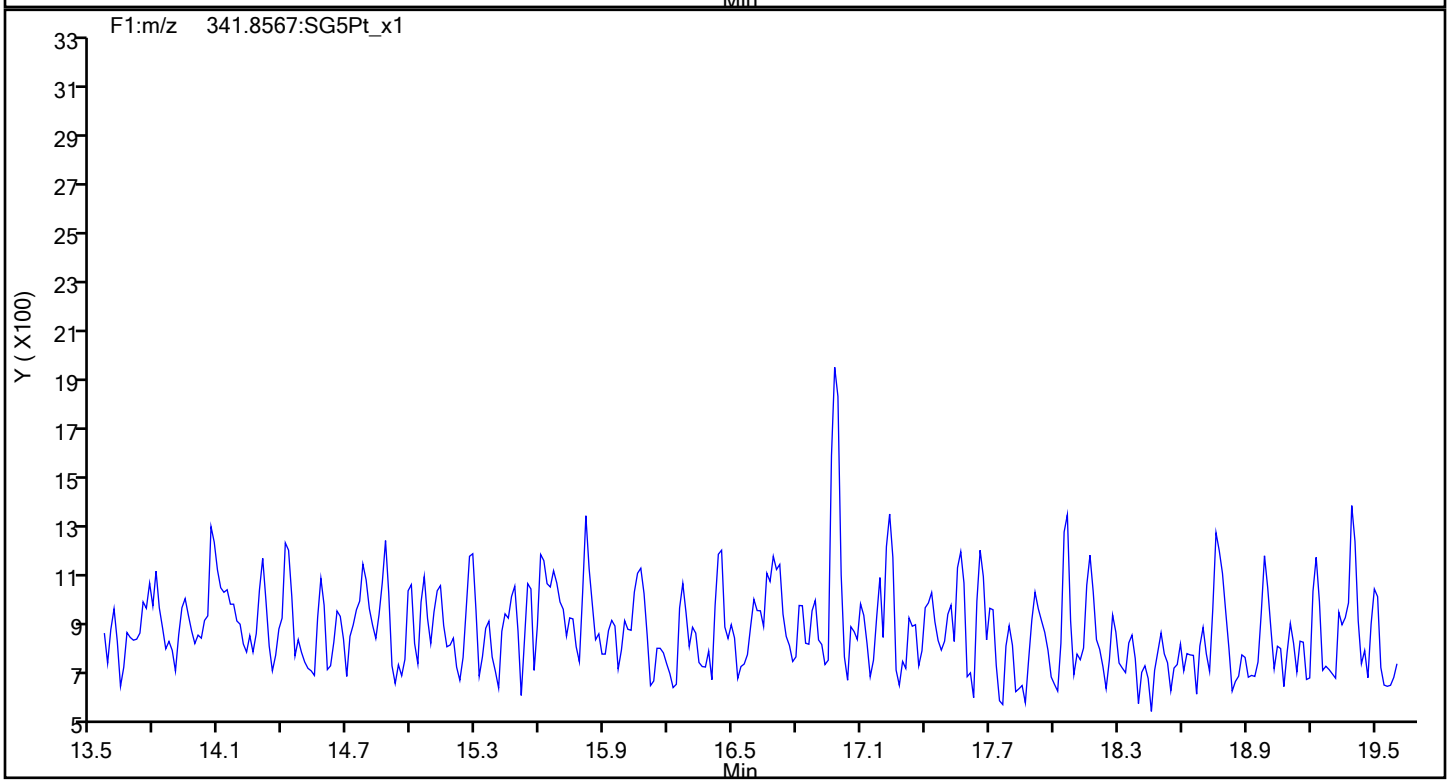

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

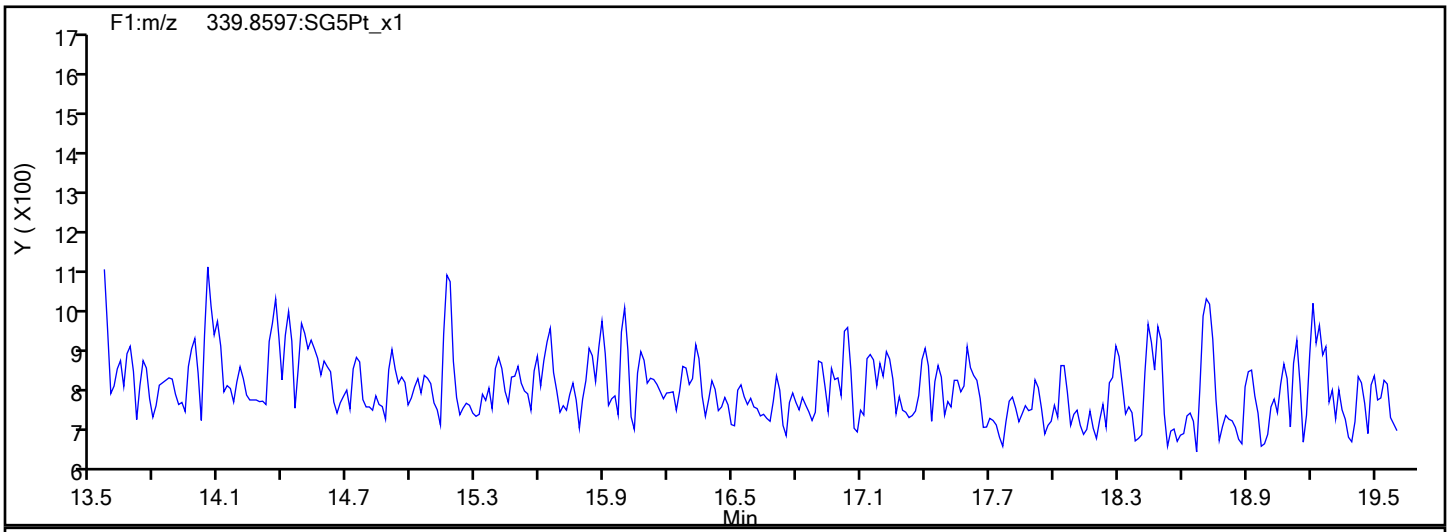

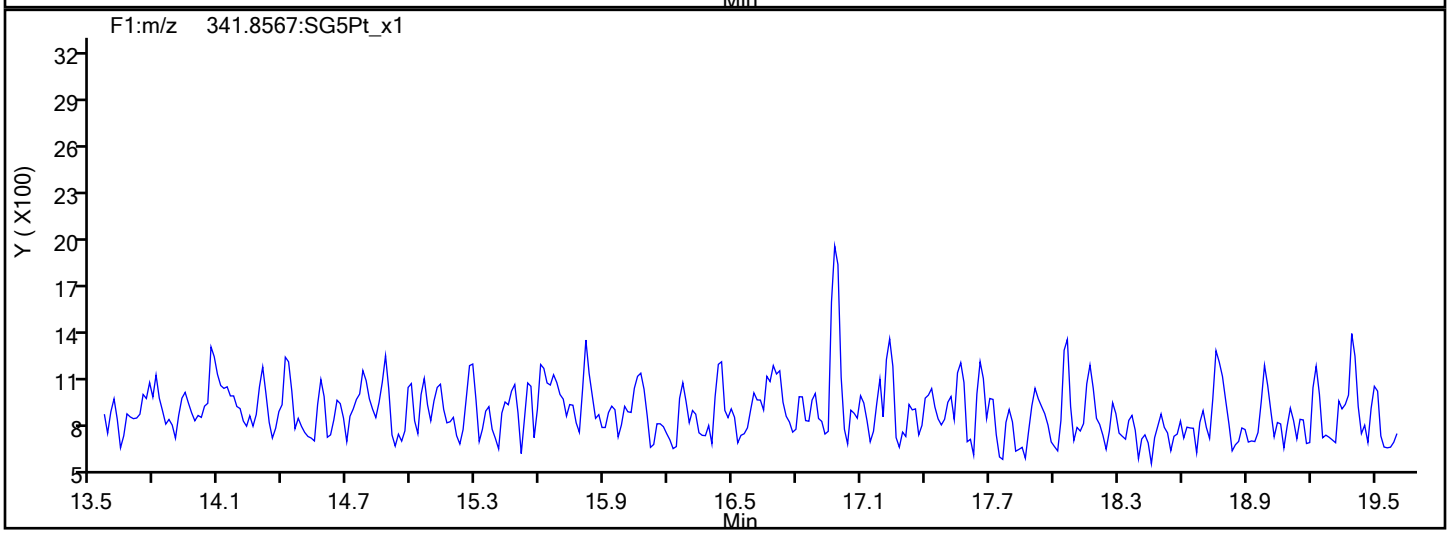

F1 PeCDFs Interference Mass

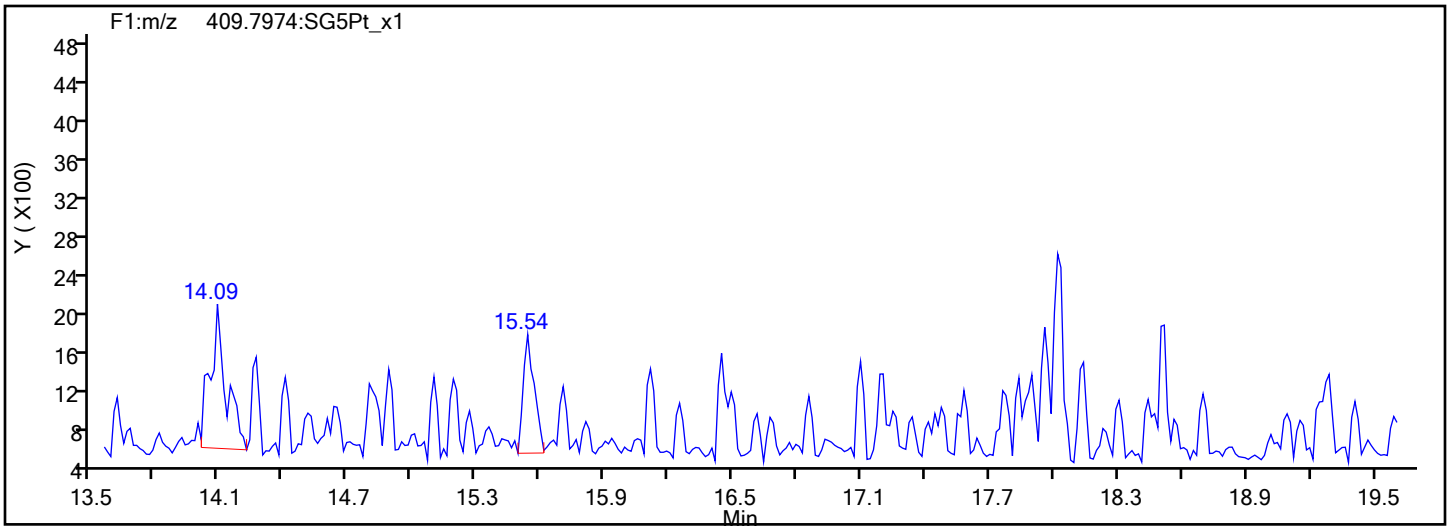

Report Date: 21-Feb-2020 09:49:28 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

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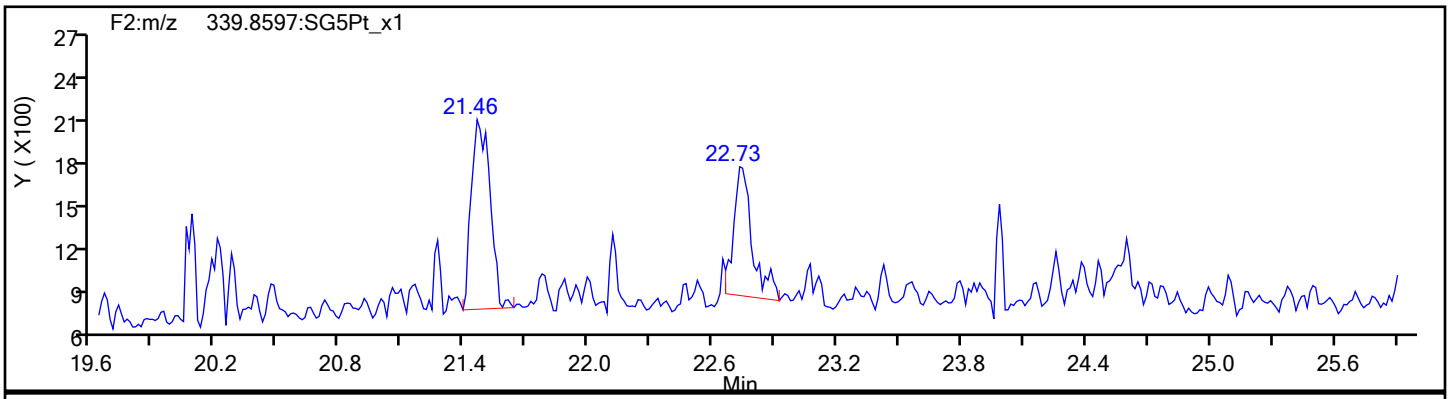

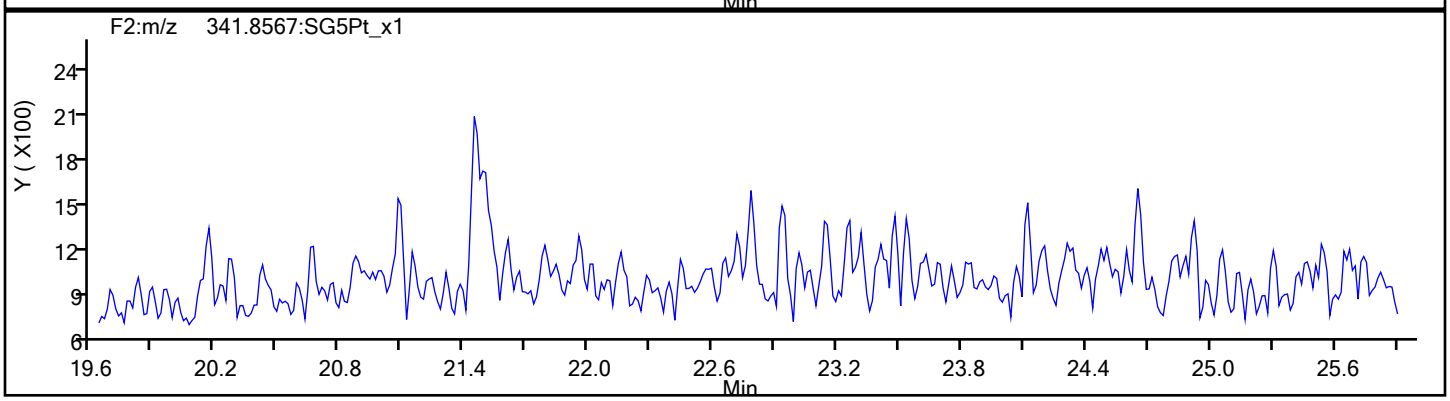

PeCDF Standards

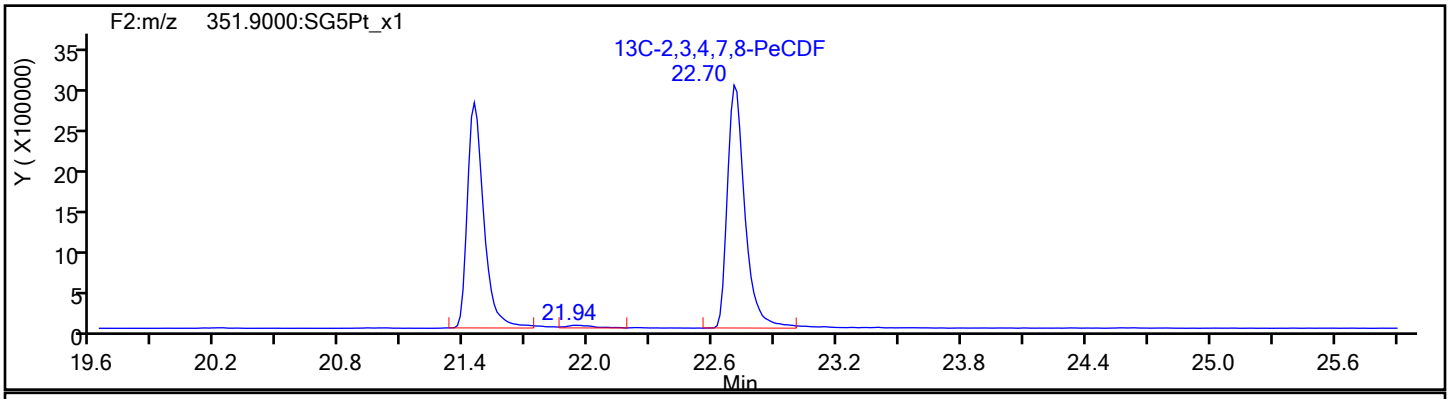

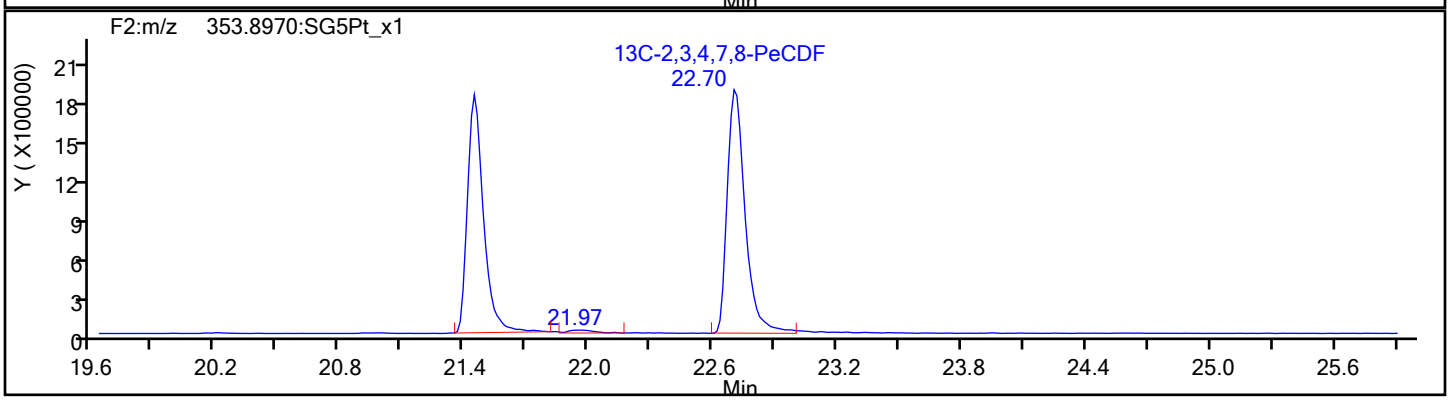

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Eurofins TestAmerica, Sacramento

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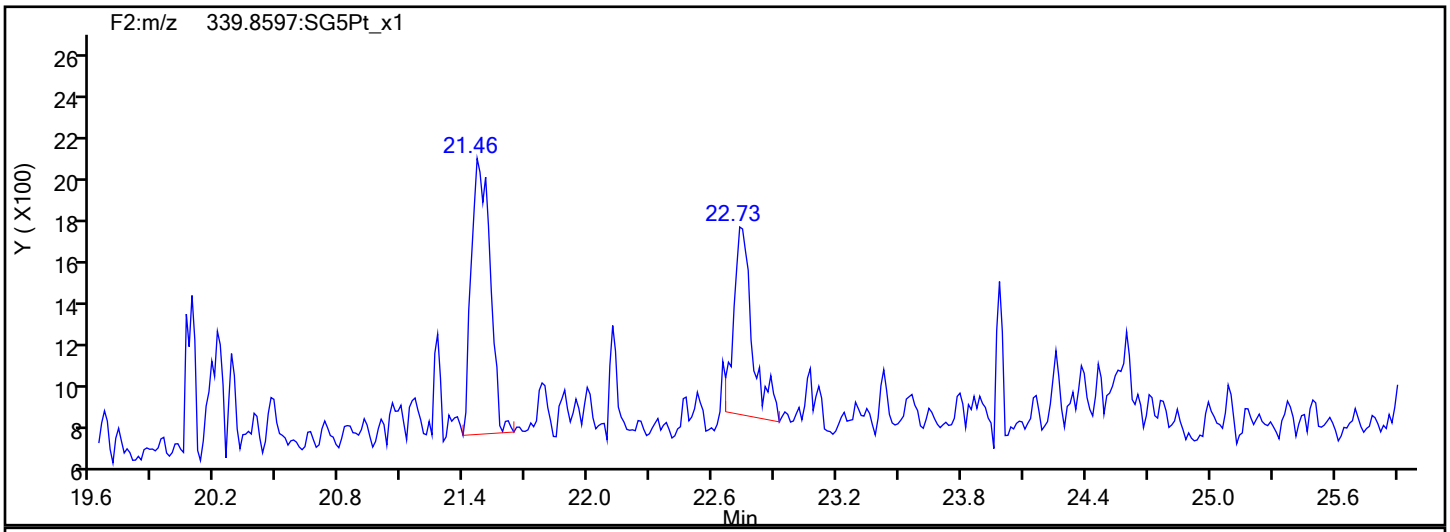

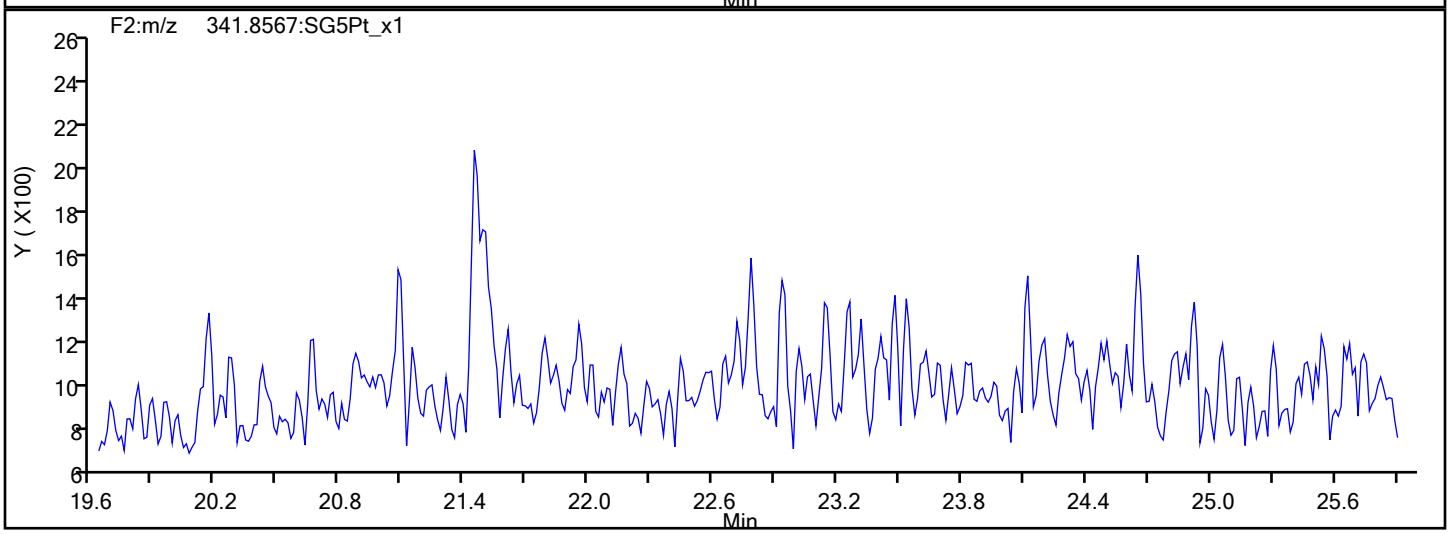

PeCDF Interference Mass

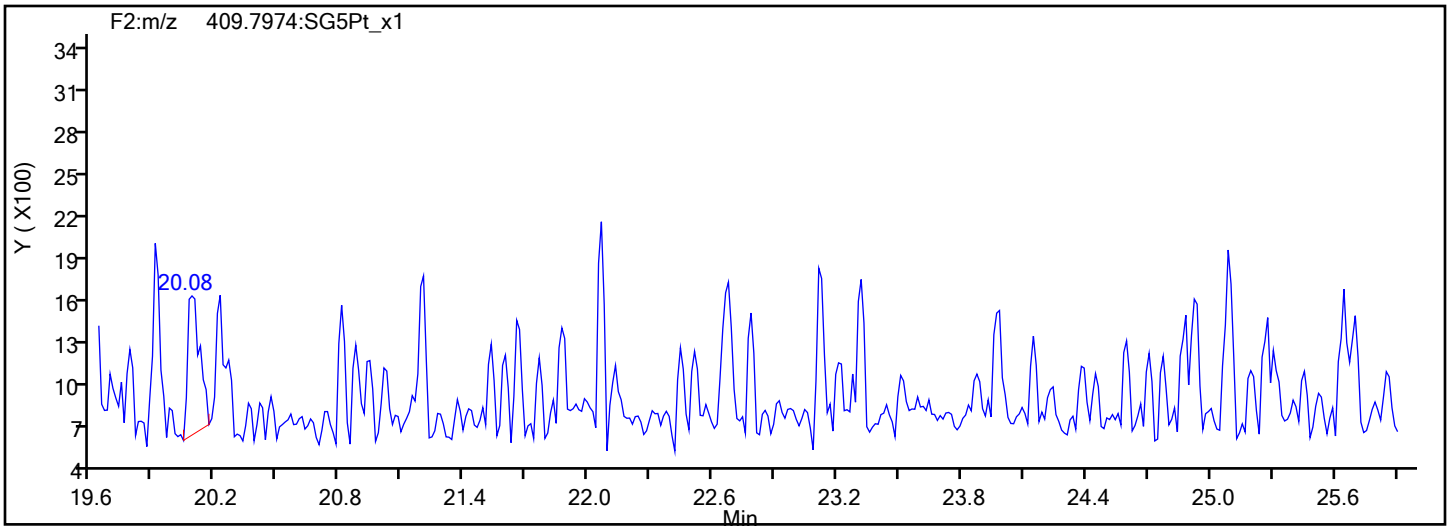

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Eurofins TestAmerica, Sacramento

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PeCDD

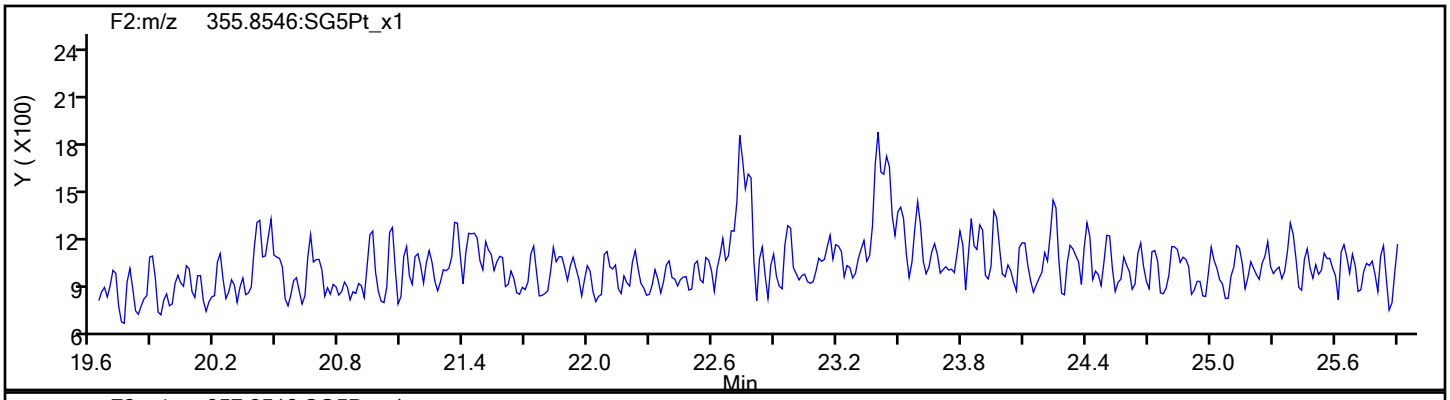

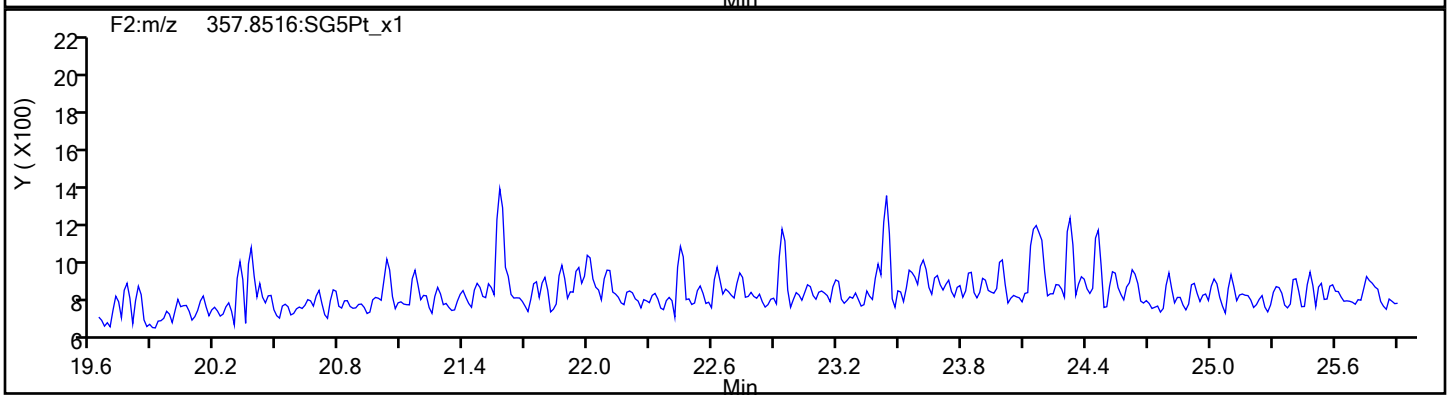

PeCDD Standards

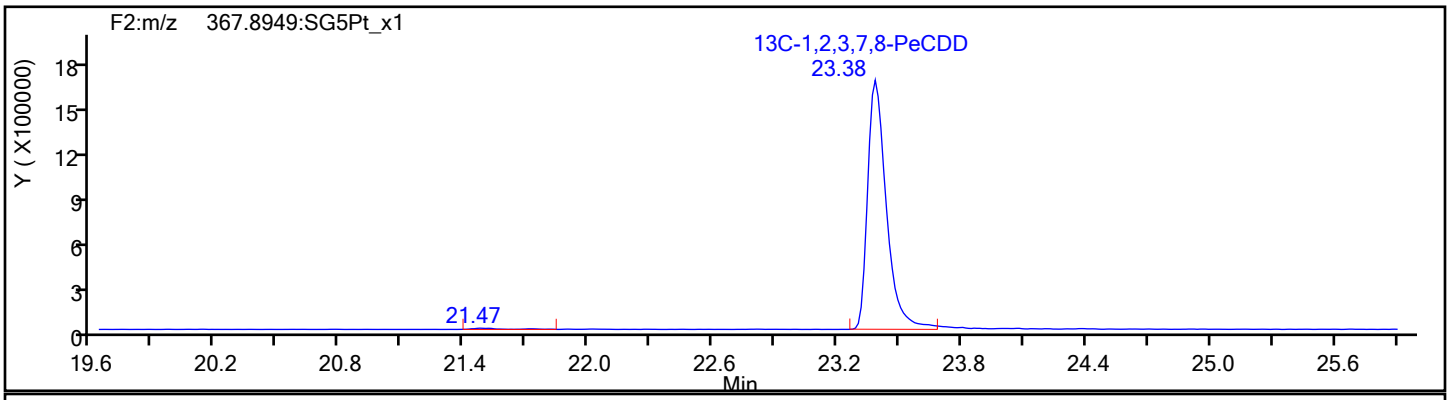

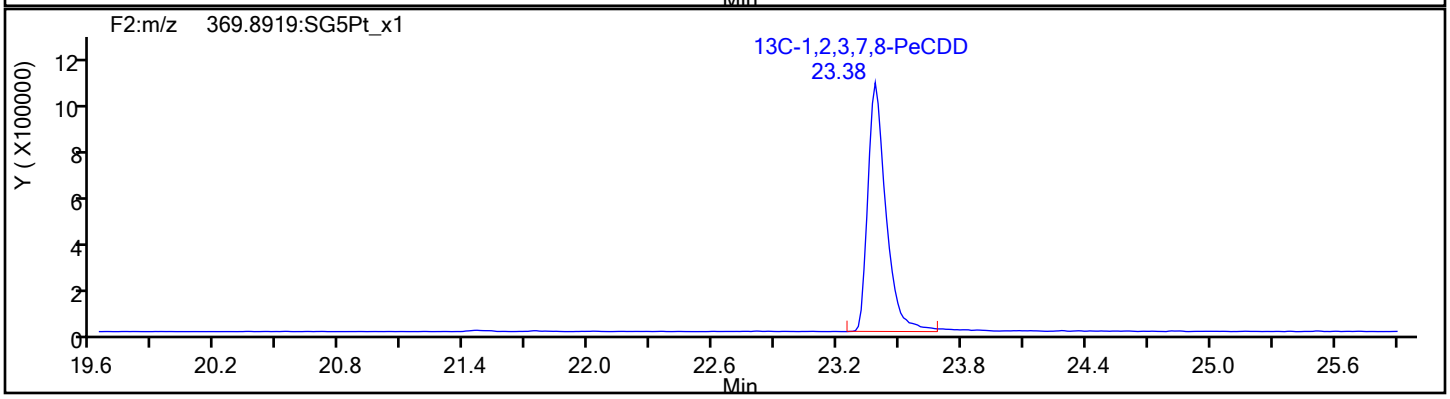

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HxCDF

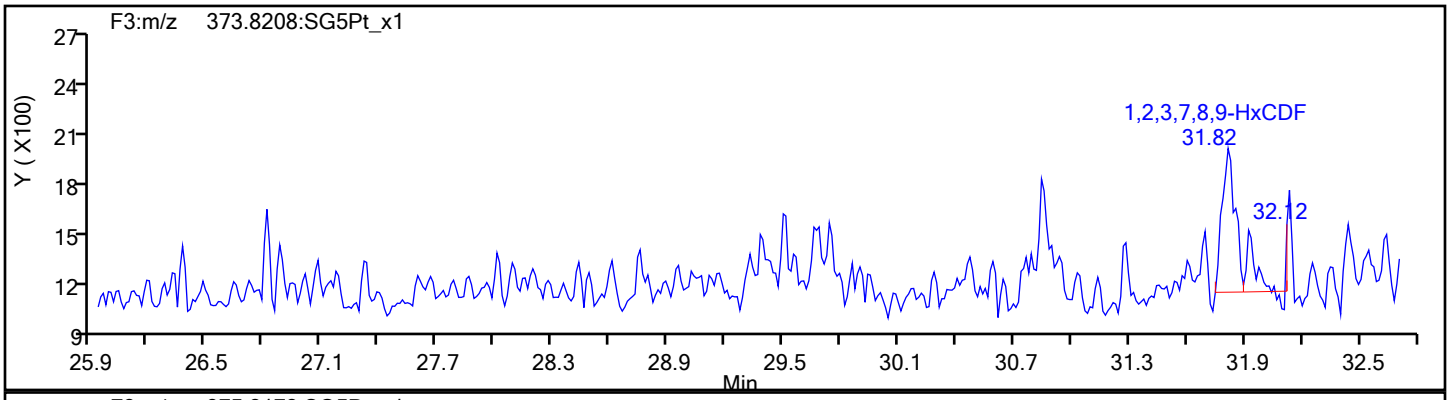

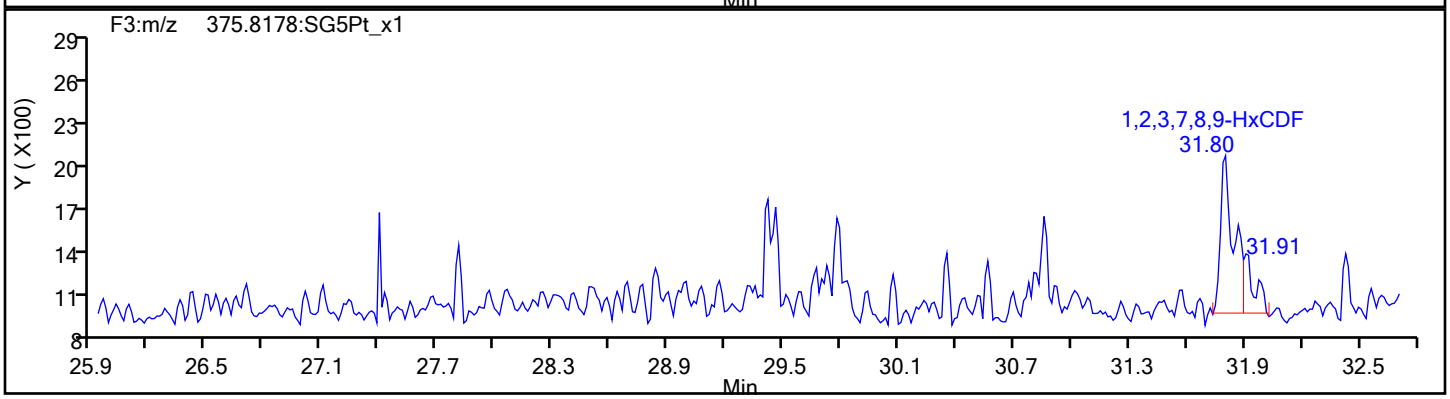

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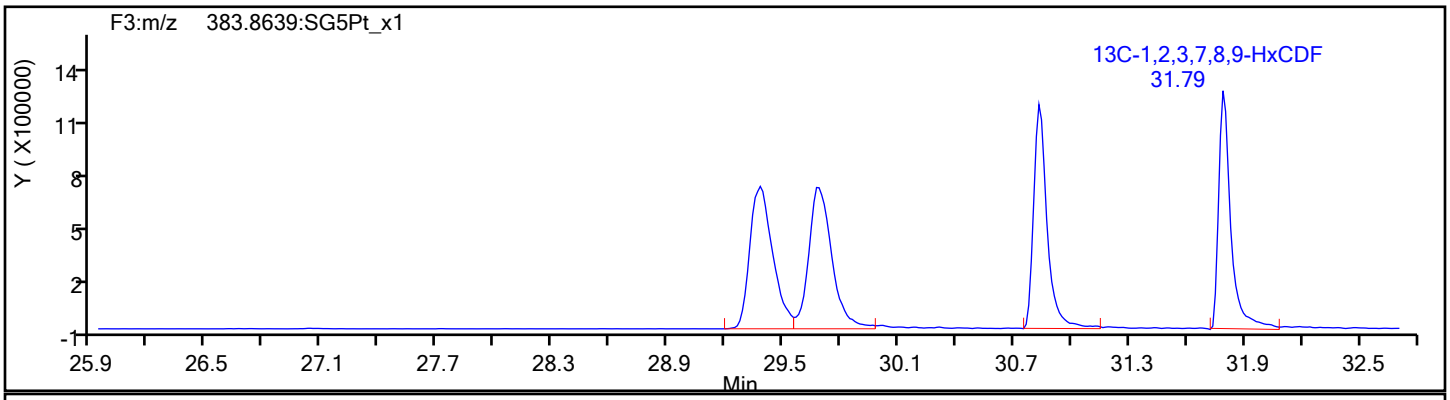

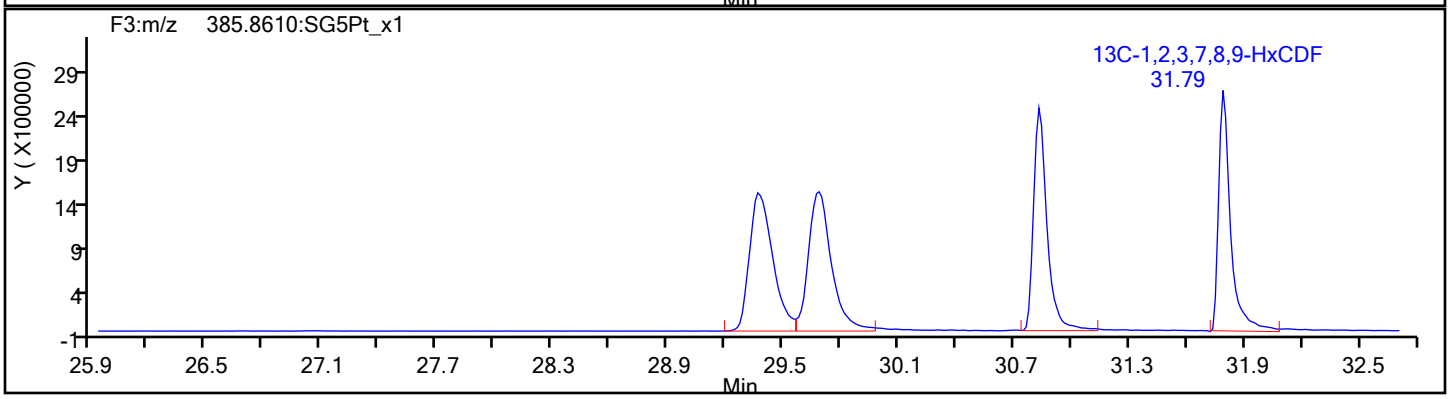

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Eurofins TestAmerica, Sacramento

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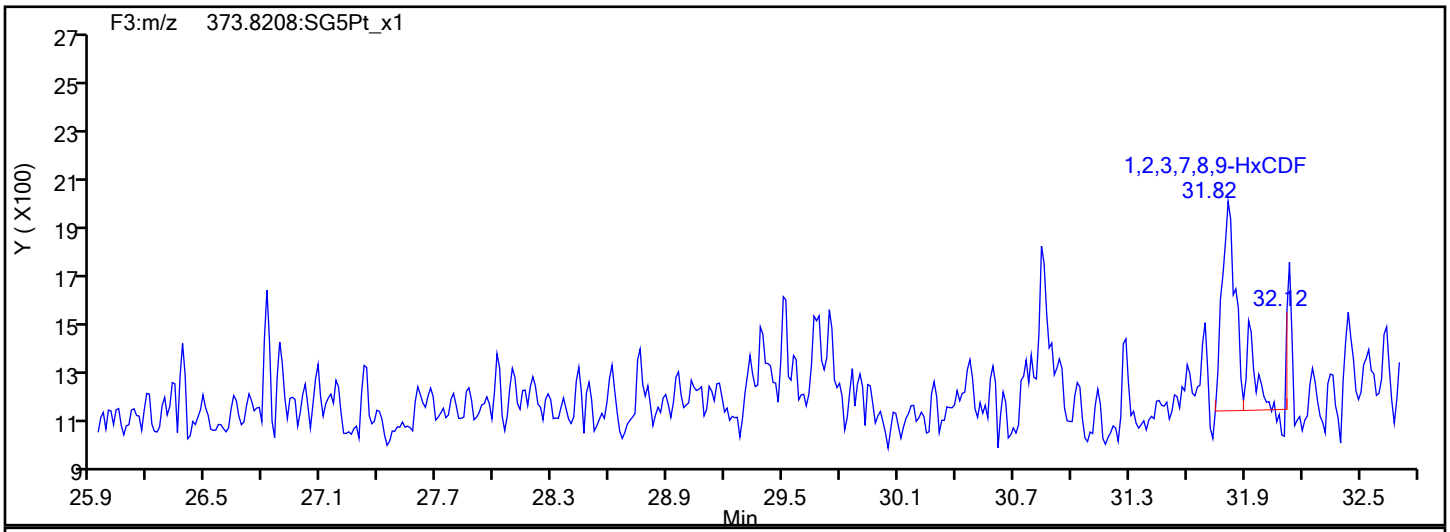

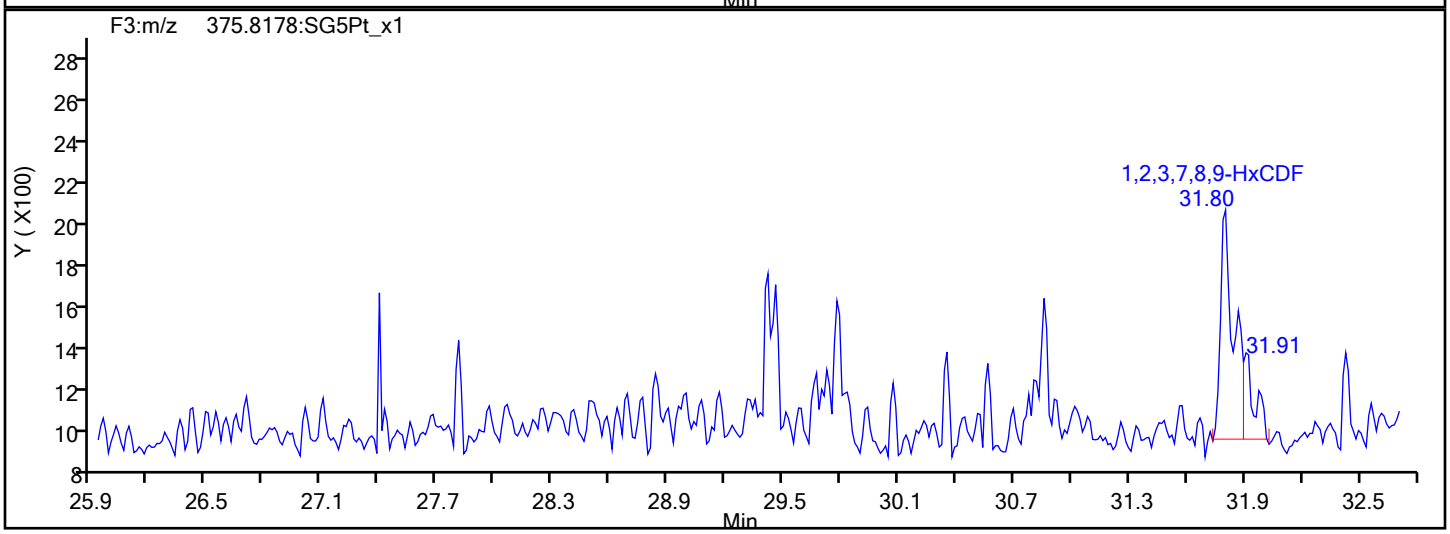

HxCDF Interference Mass

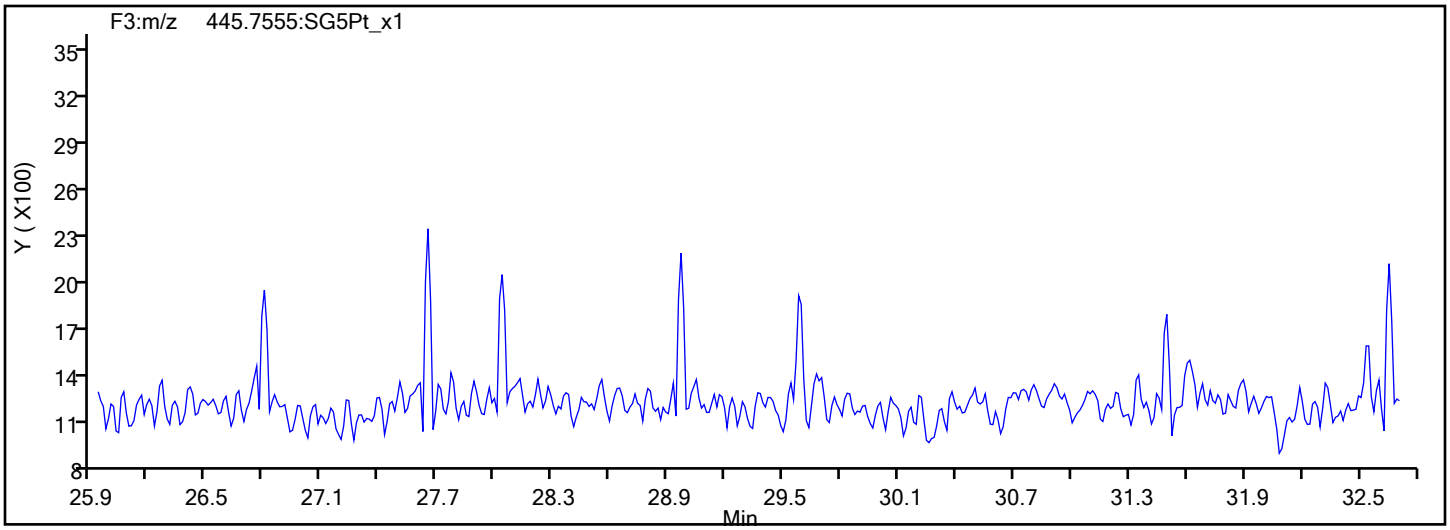

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HxCDD

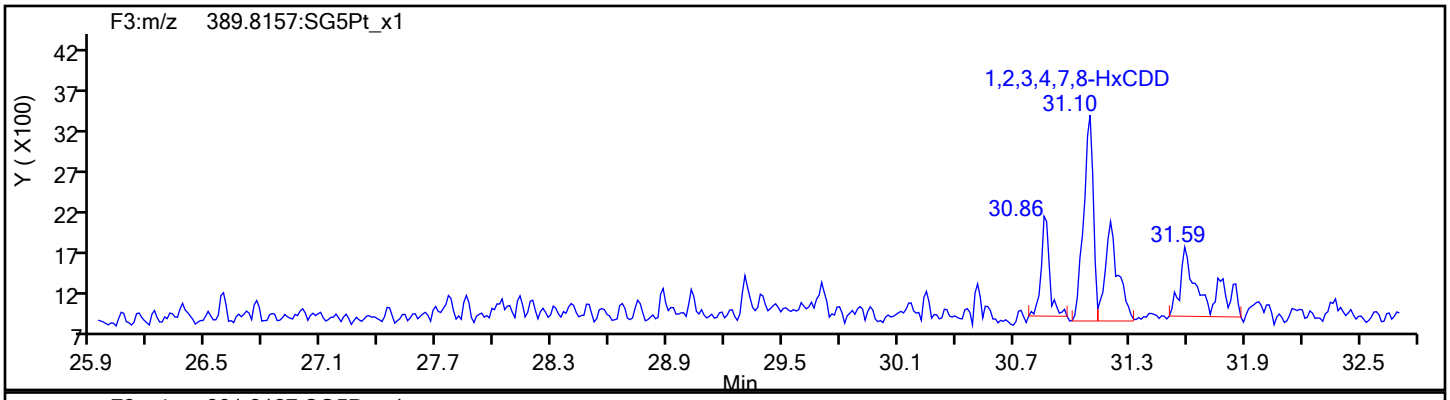

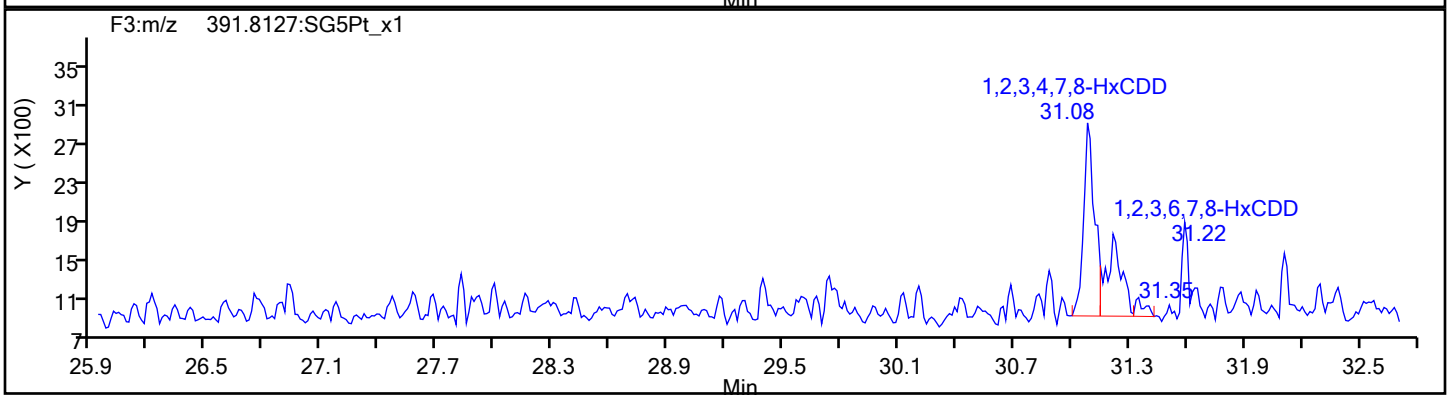

HxCDD Standards

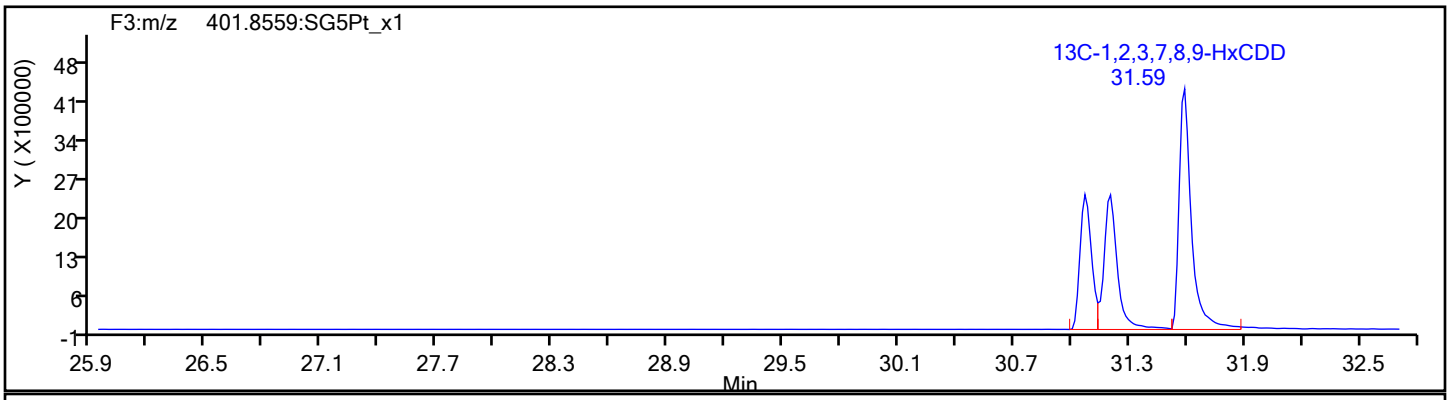

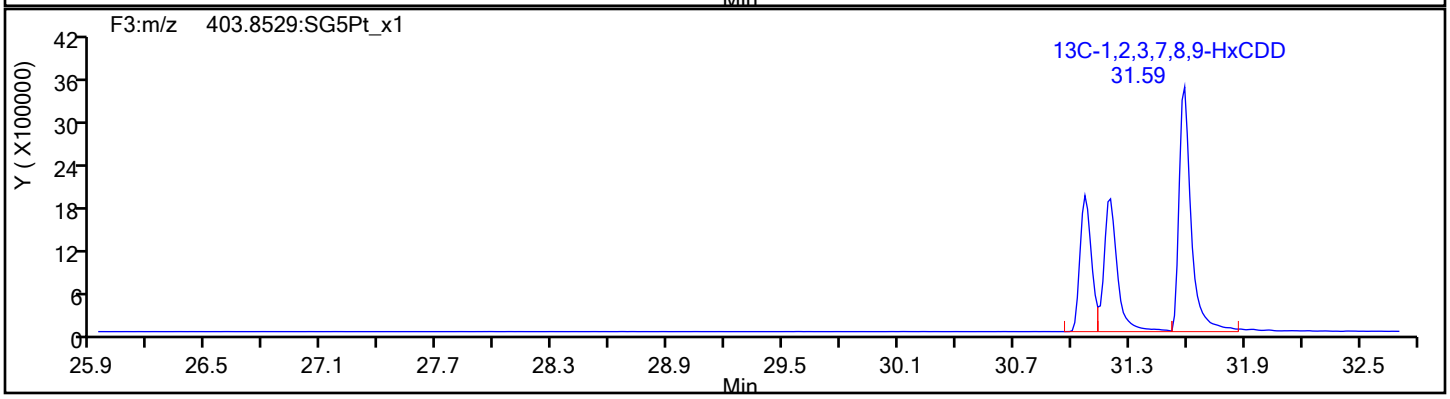

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HpCDF

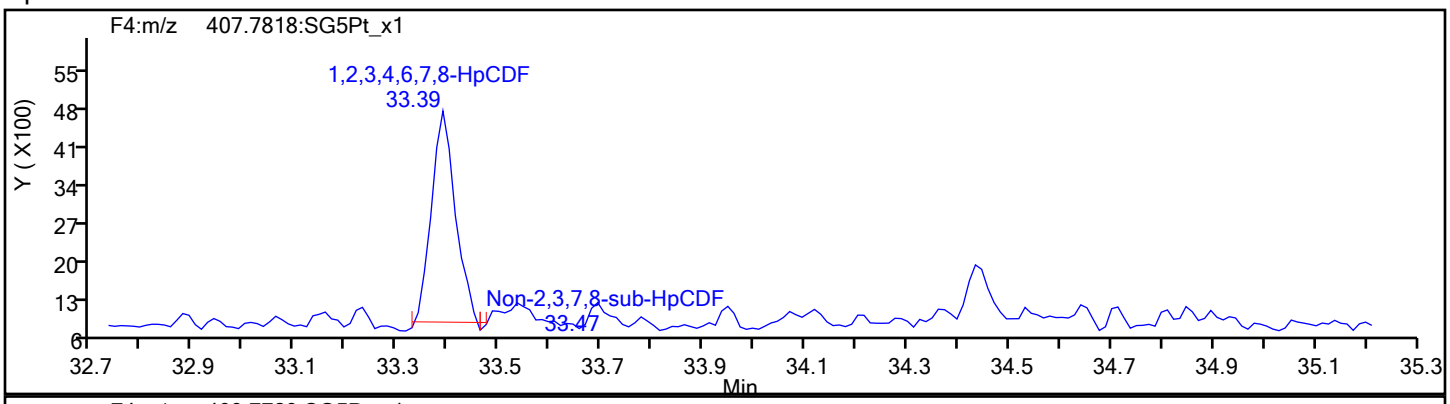

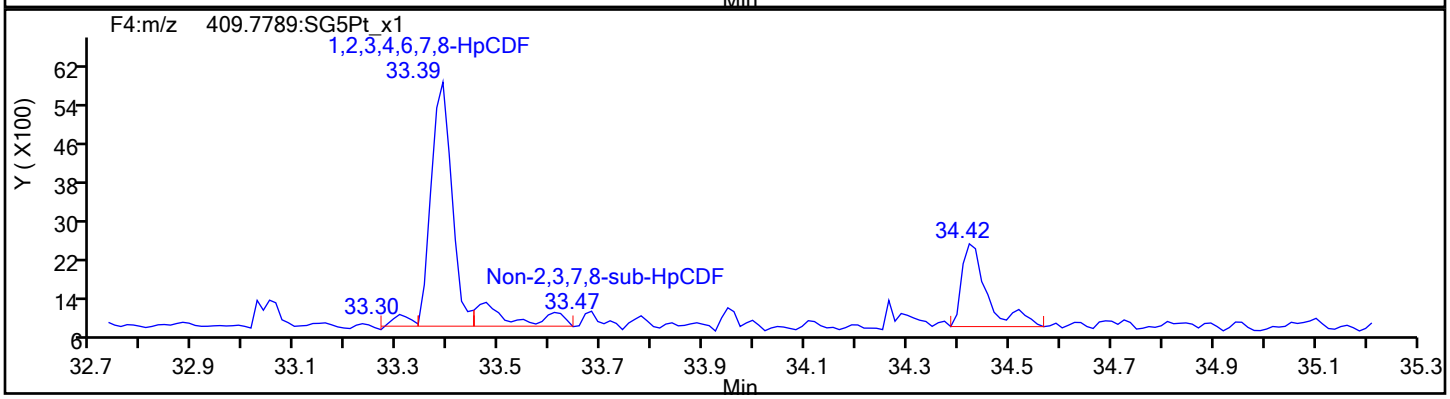

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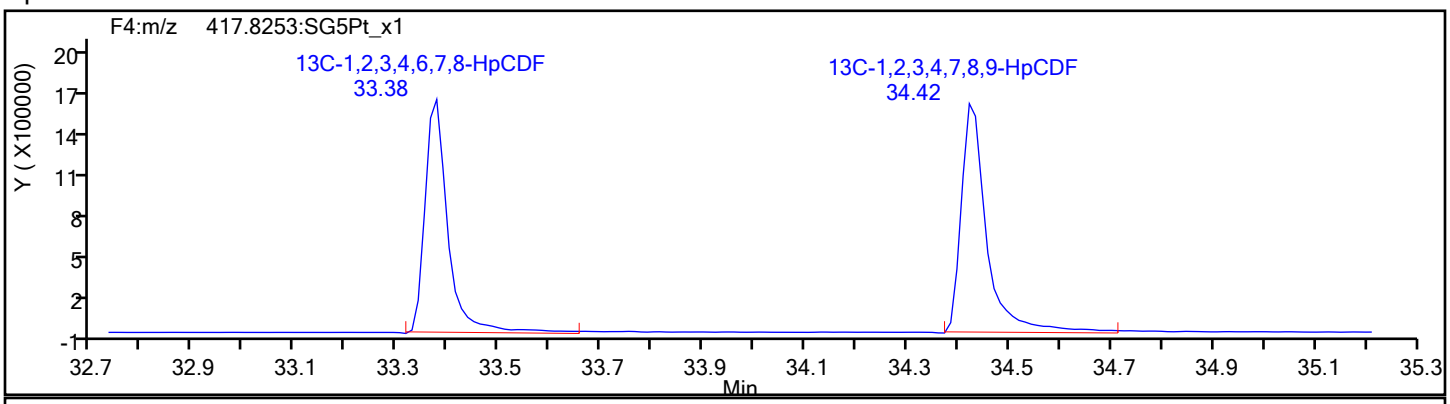

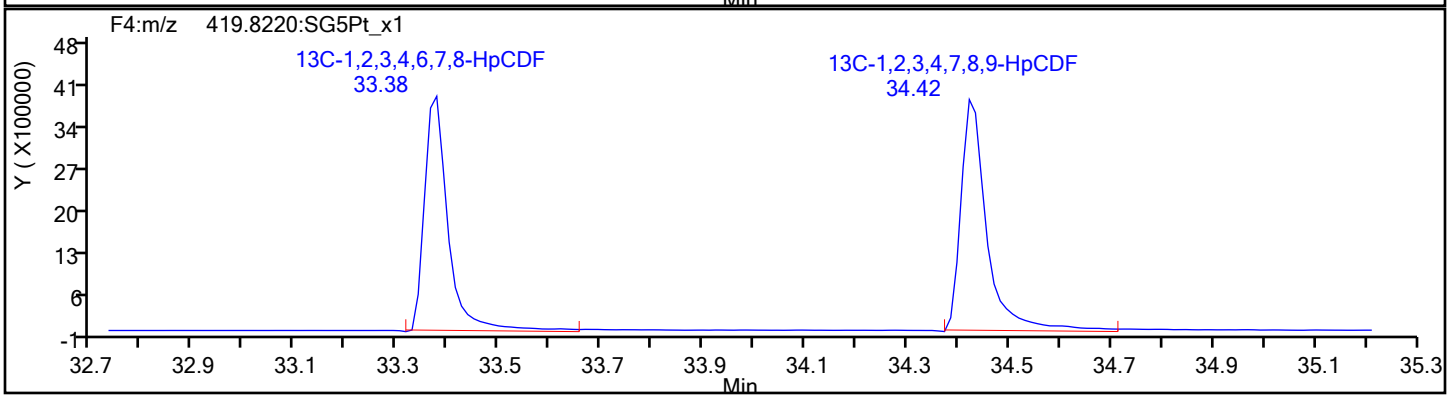

Report Date: 21-Feb-2020 09:49:28 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_44.d		
Injection Date:	20-Feb-2020 00:07:56	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	358703	Sample Line#:	44
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

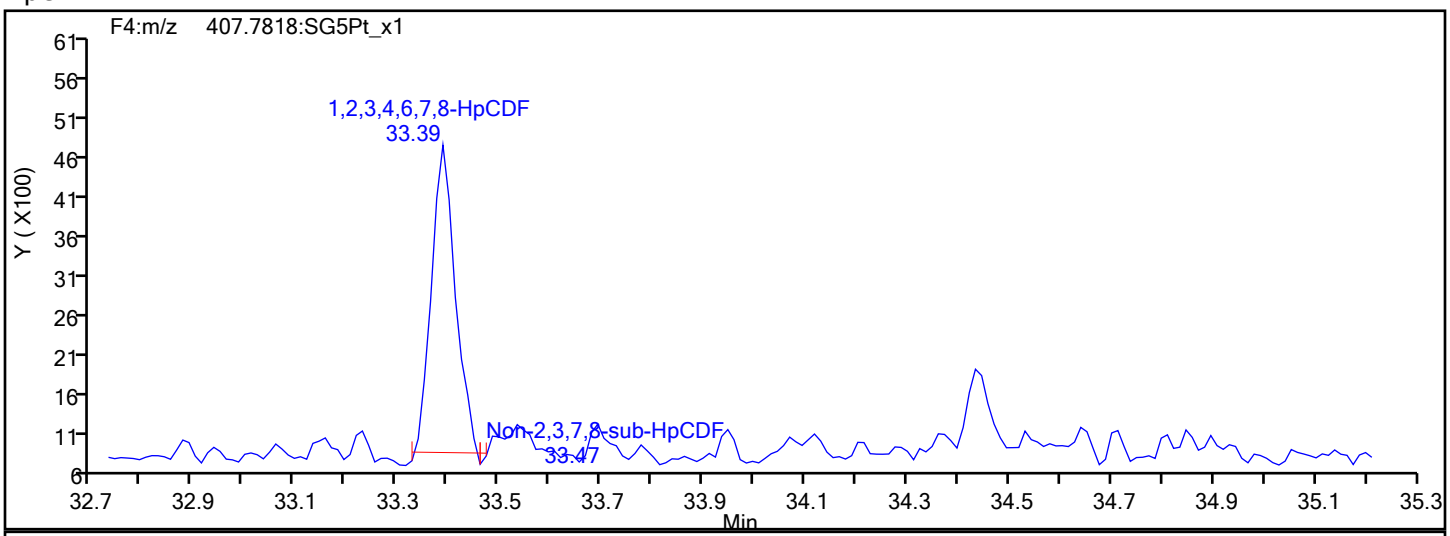

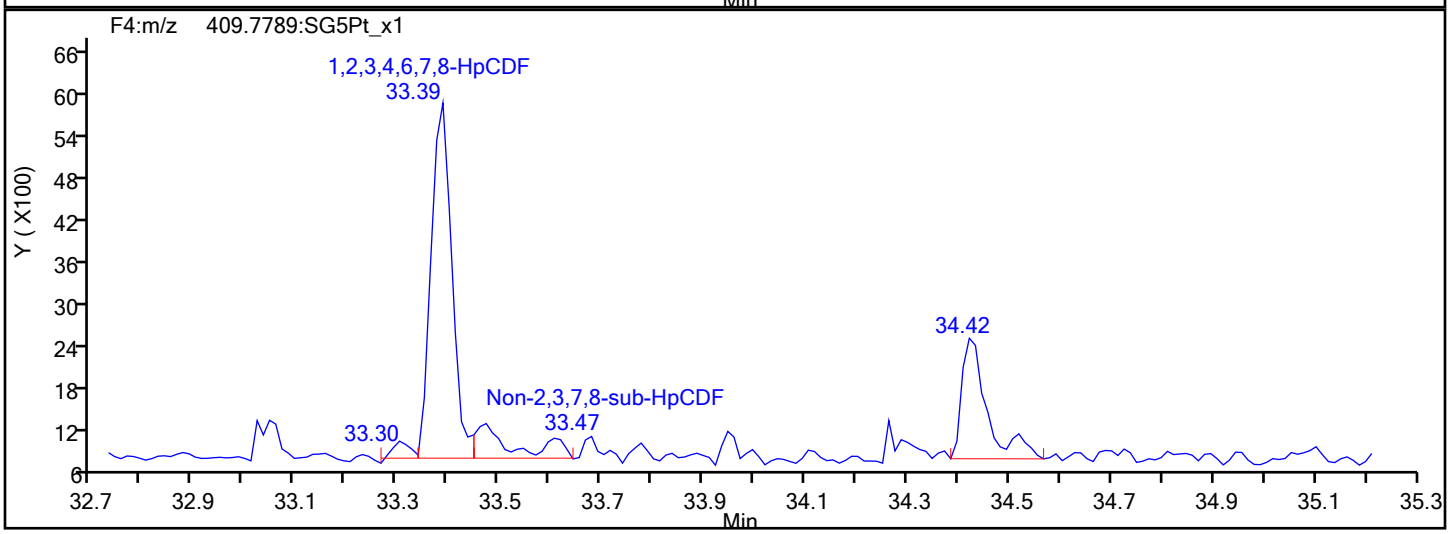

HpCDF Interference Mass

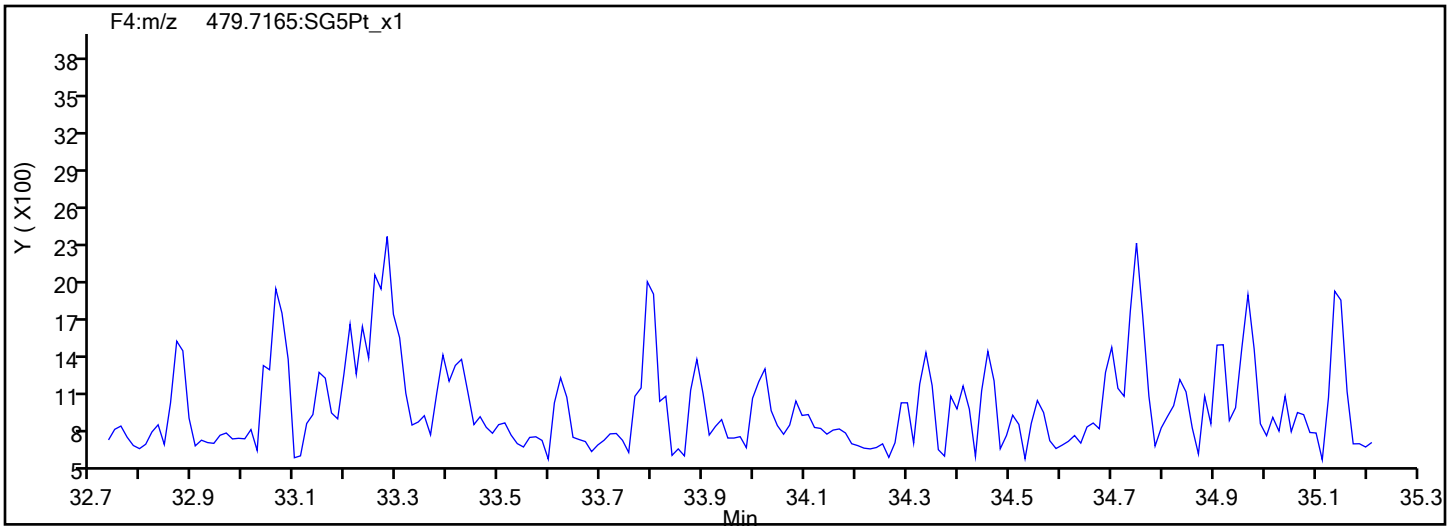

Report Date: 21-Feb-2020 09:49:28 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_44.d		
Injection Date:	20-Feb-2020 00:07:56	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	358703	Sample Line#:	44
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

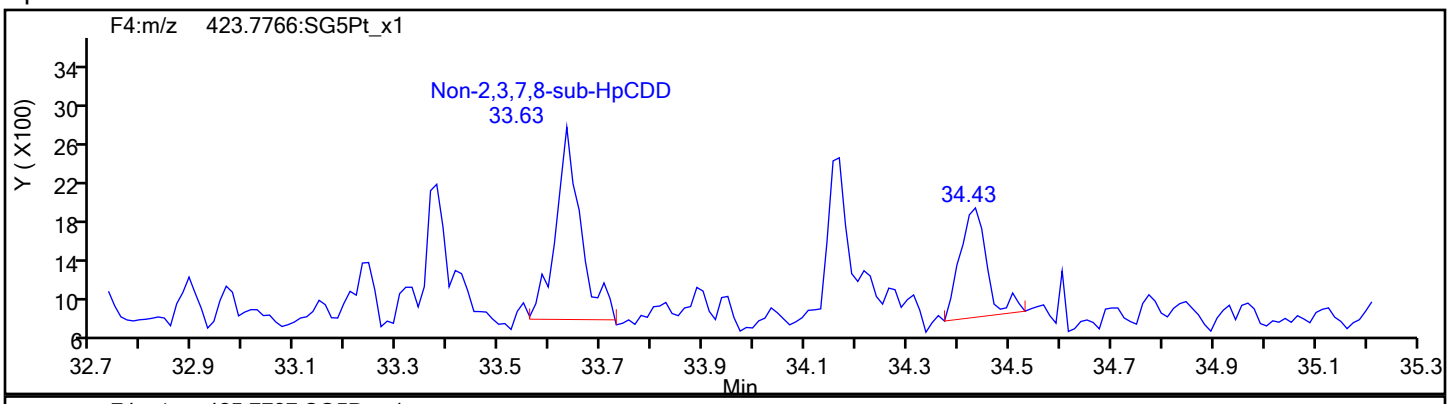

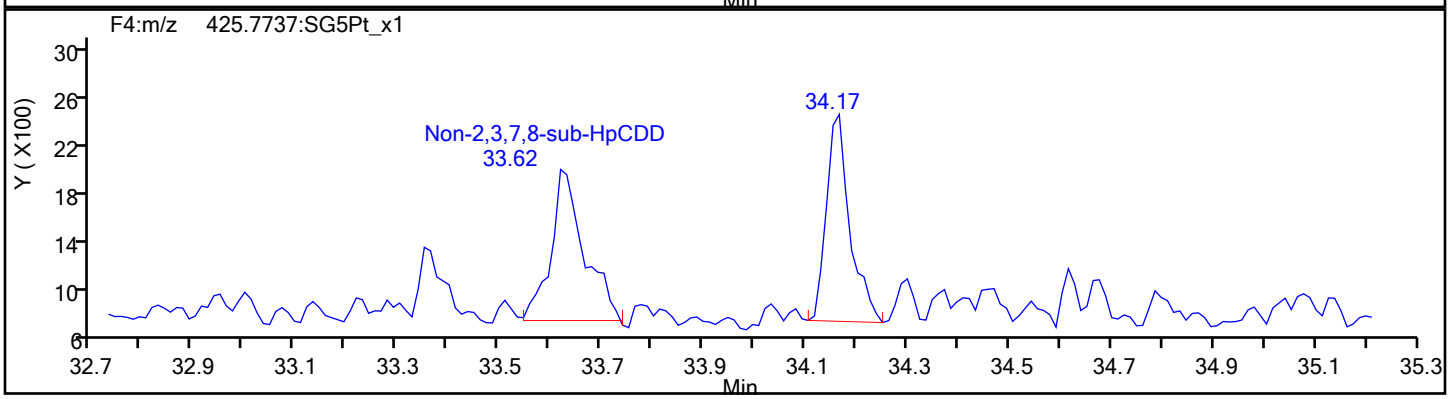

HpCDD Standards

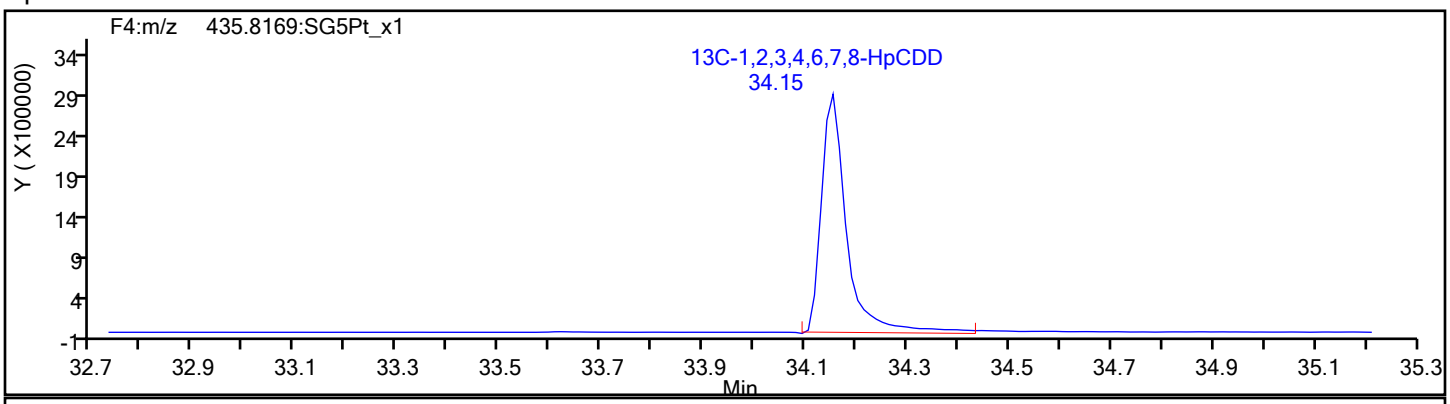

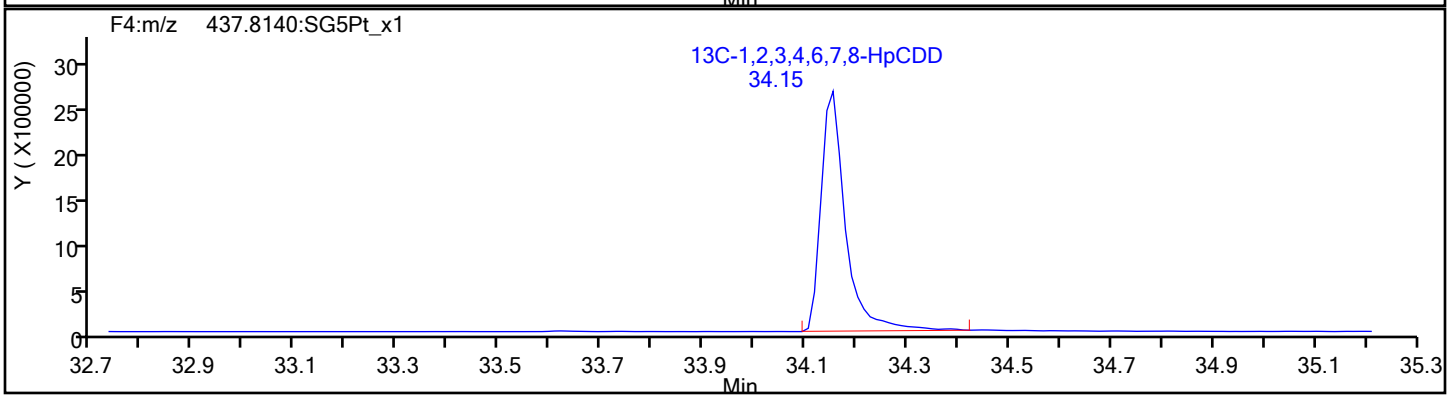

Report Date: 21-Feb-2020 09:49:28 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_44.d		
Injection Date:	20-Feb-2020 00:07:56	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	358703	Sample Line#:	44
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

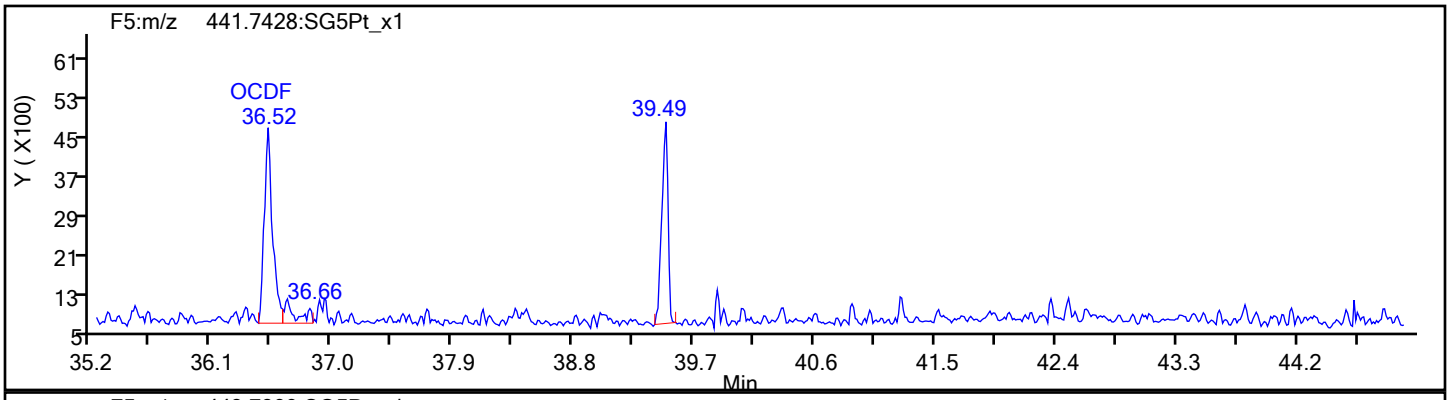

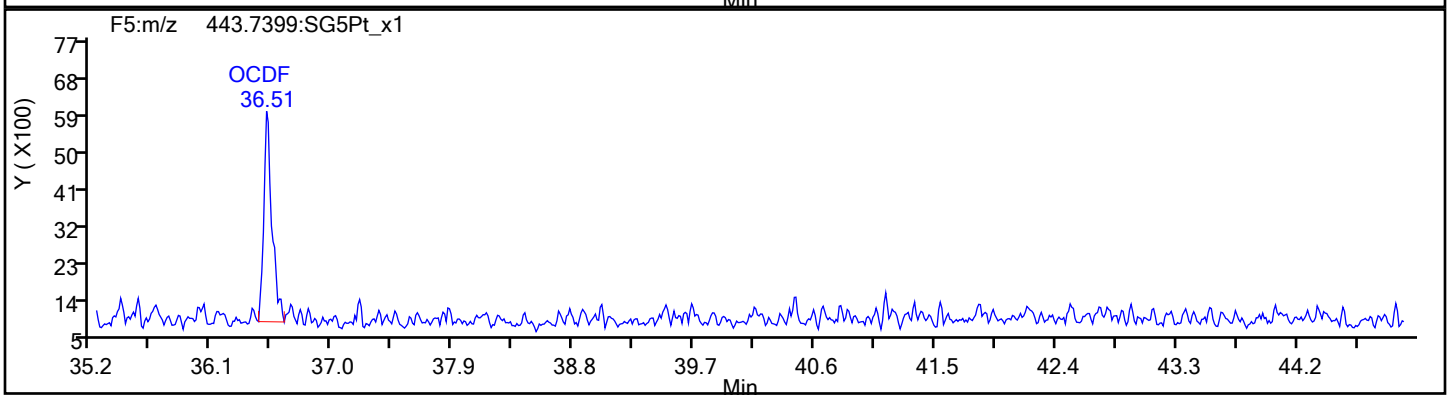

OCDF Standards

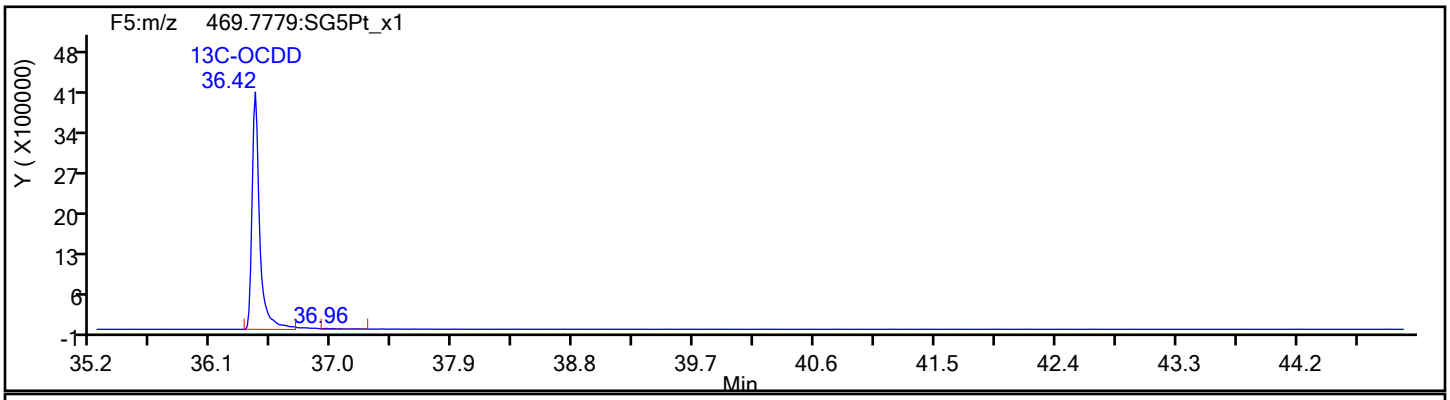

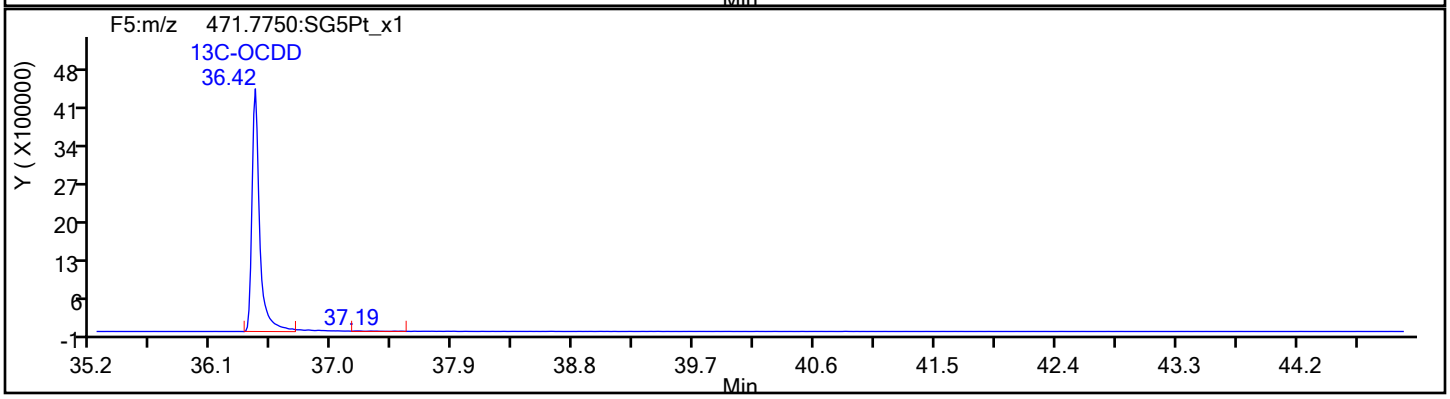

Report Date: 21-Feb-2020 09:49:28 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_44.d		
Injection Date:	20-Feb-2020 00:07:56	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	358703	Sample Line#:	44
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

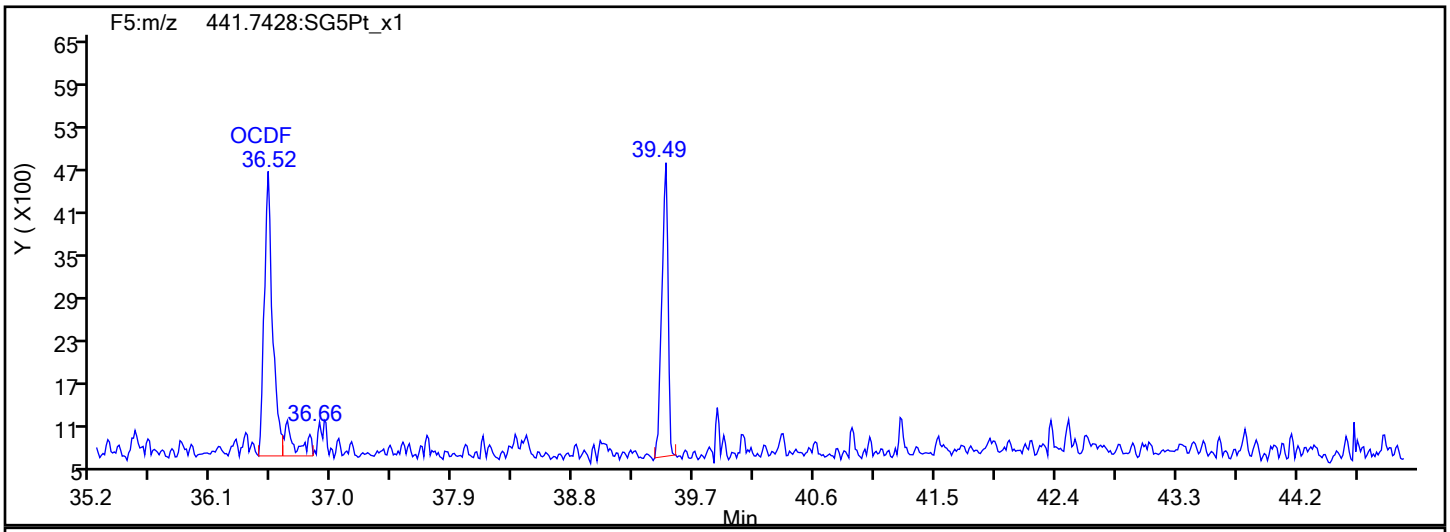

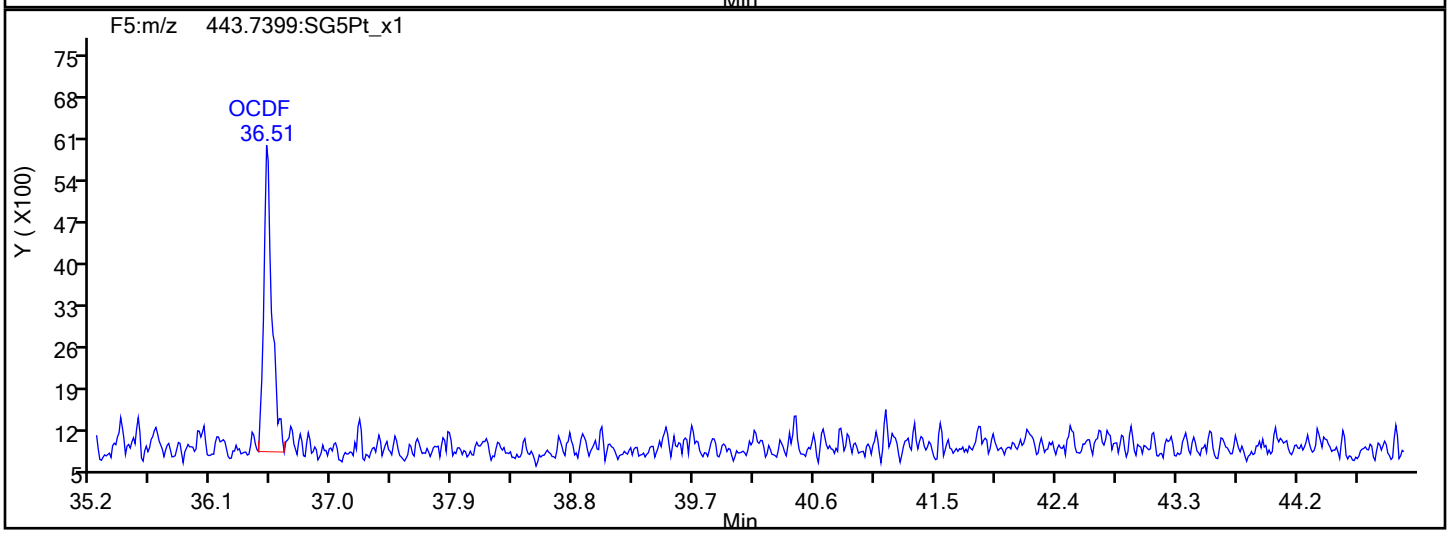

OCDF Interference Mass

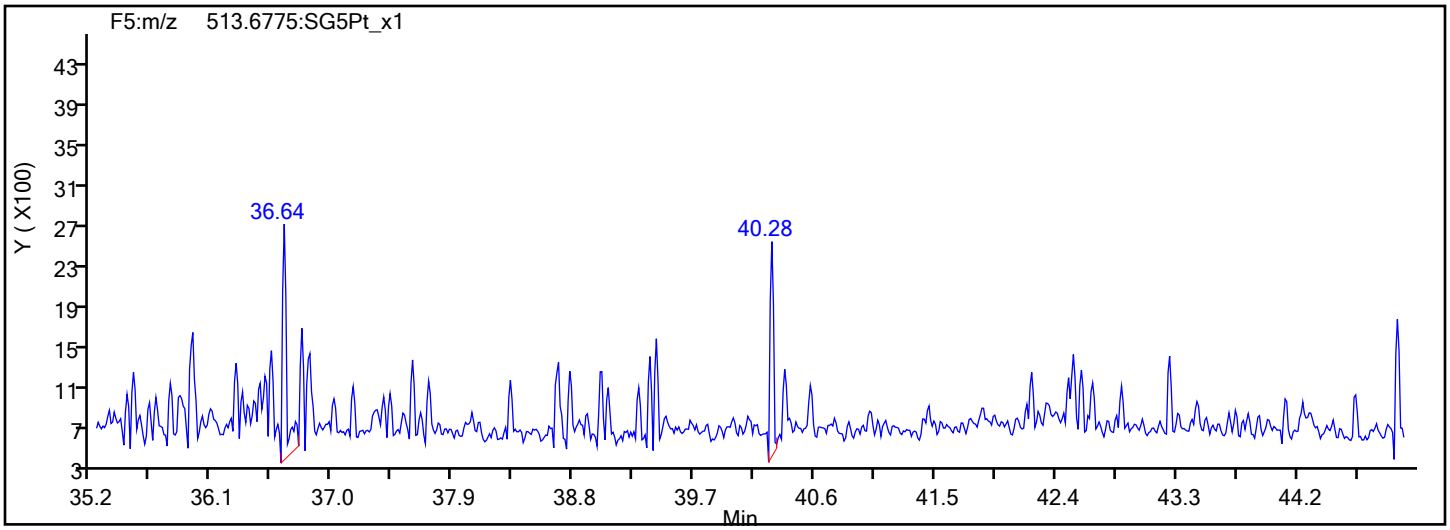

Report Date: 21-Feb-2020 09:49:28 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_44.d		
Injection Date:	20-Feb-2020 00:07:56	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	358703	Sample Line#:	44
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

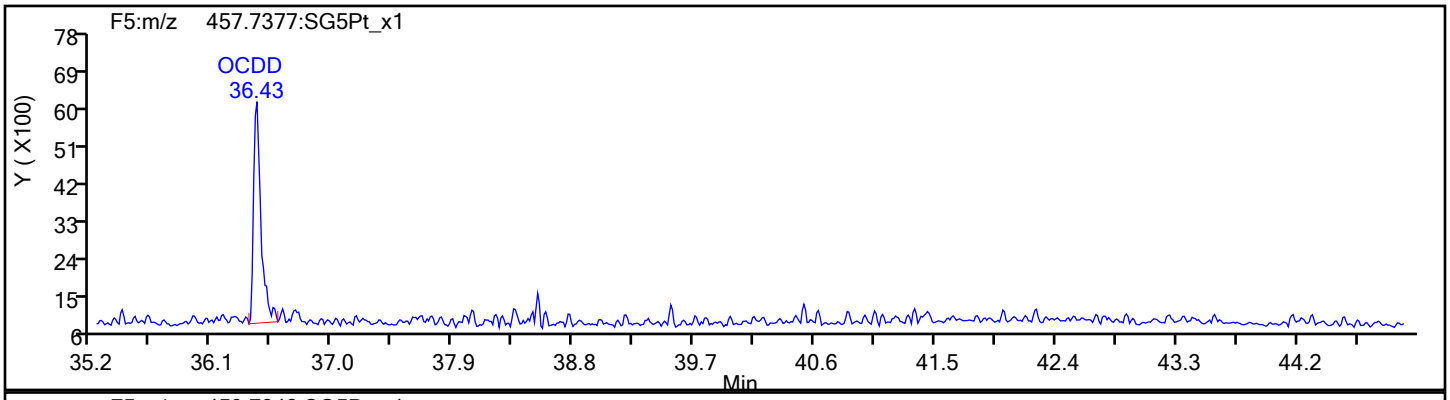

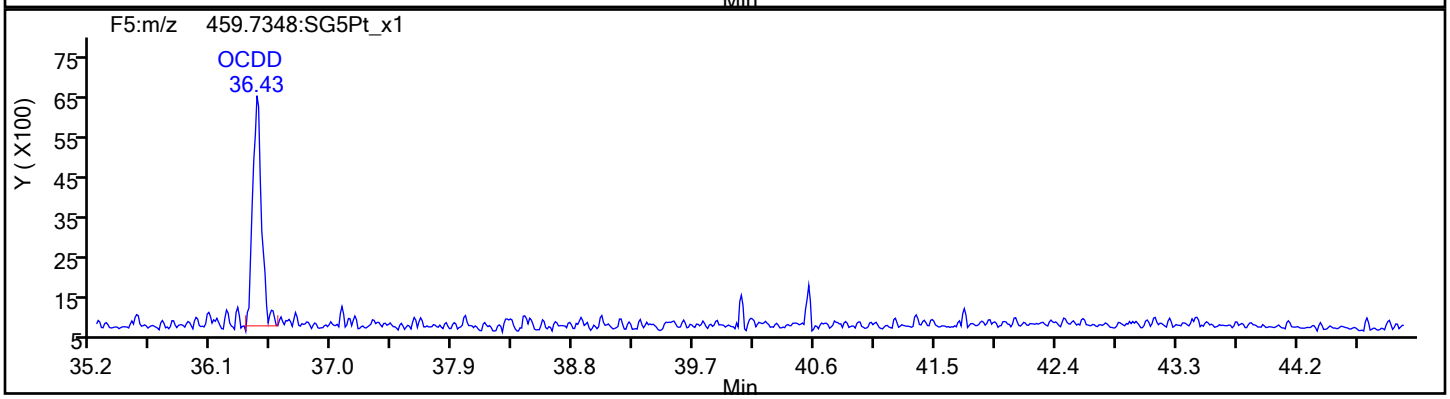

OCDD Standards

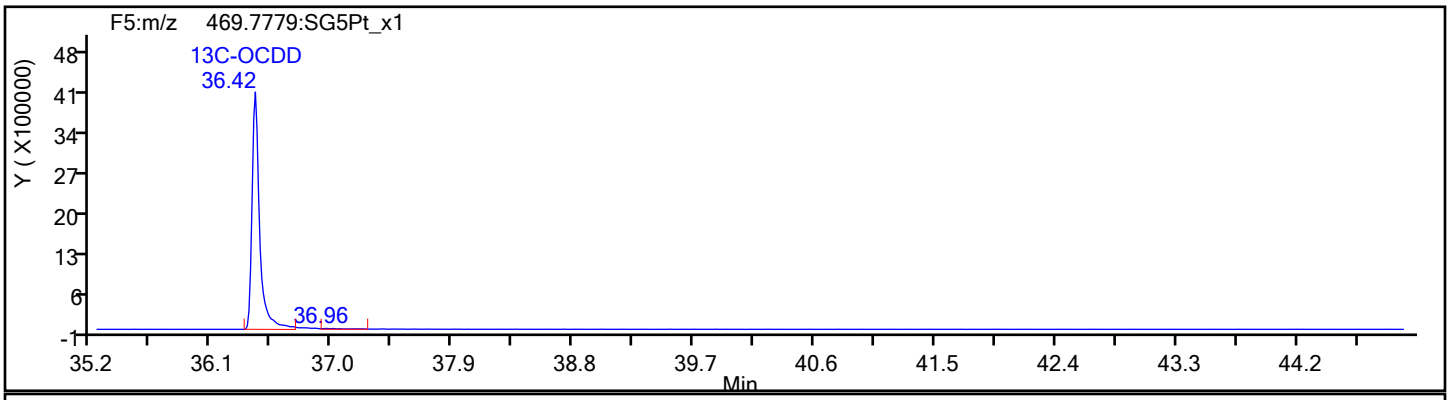

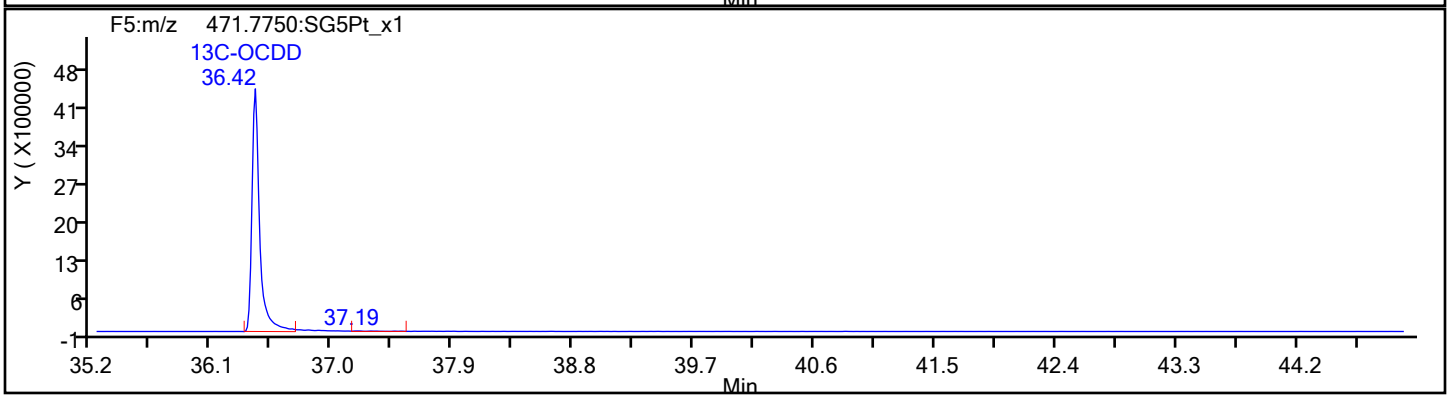

Report Date: 21-Feb-2020 09:49:28 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_44.d		
Injection Date:	20-Feb-2020 00:07:56	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	358703	Sample Line#:	44
Column Type:	DB-5	Column Dia:	0.32 mm

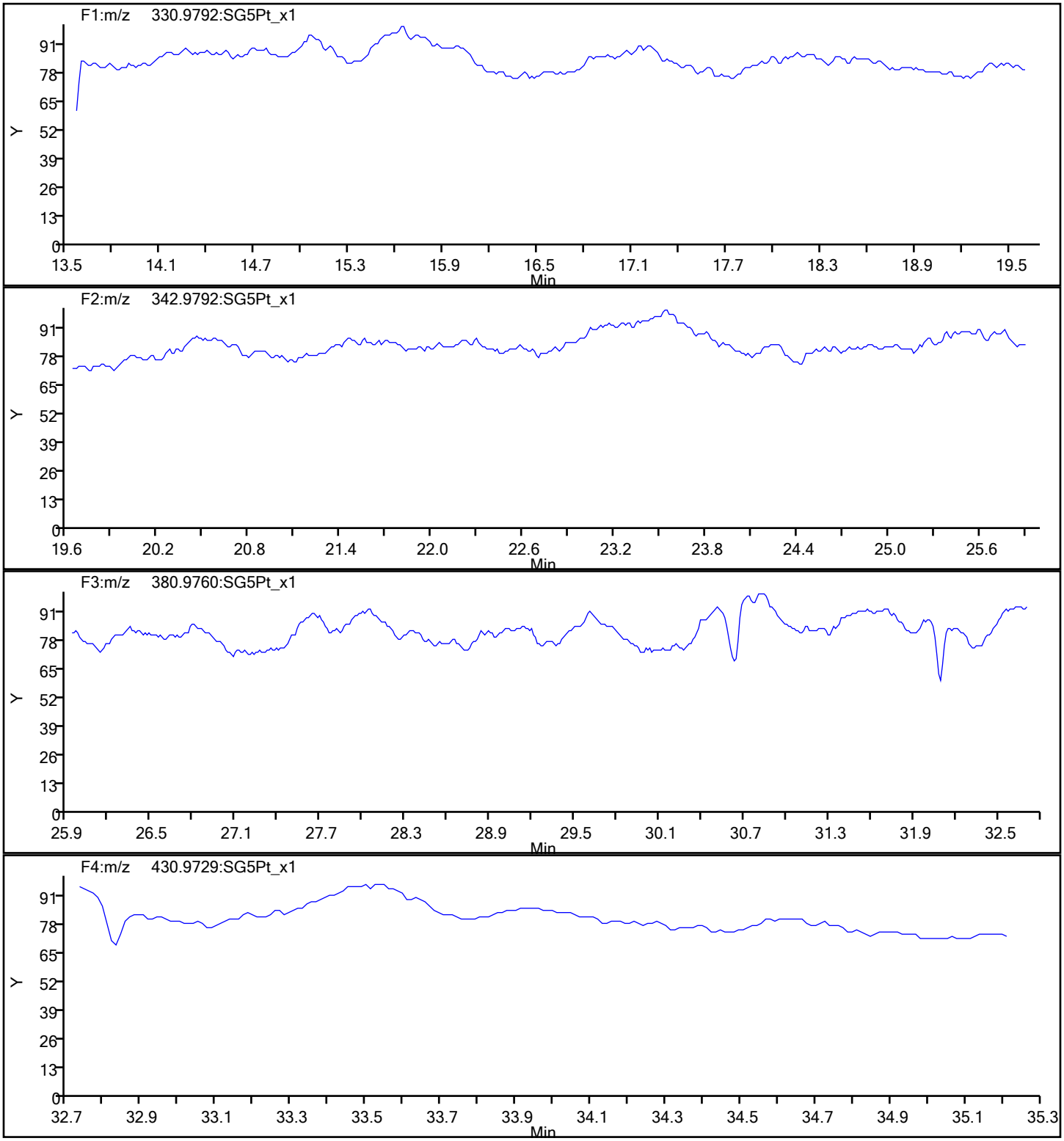

Report Date: 21-Feb-2020 09:49:28 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_44.d		
Injection Date:	20-Feb-2020 00:07:56	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	358703	Sample Line#:	44
Column Type:	DB-5	Column Dia:	0.32 mm

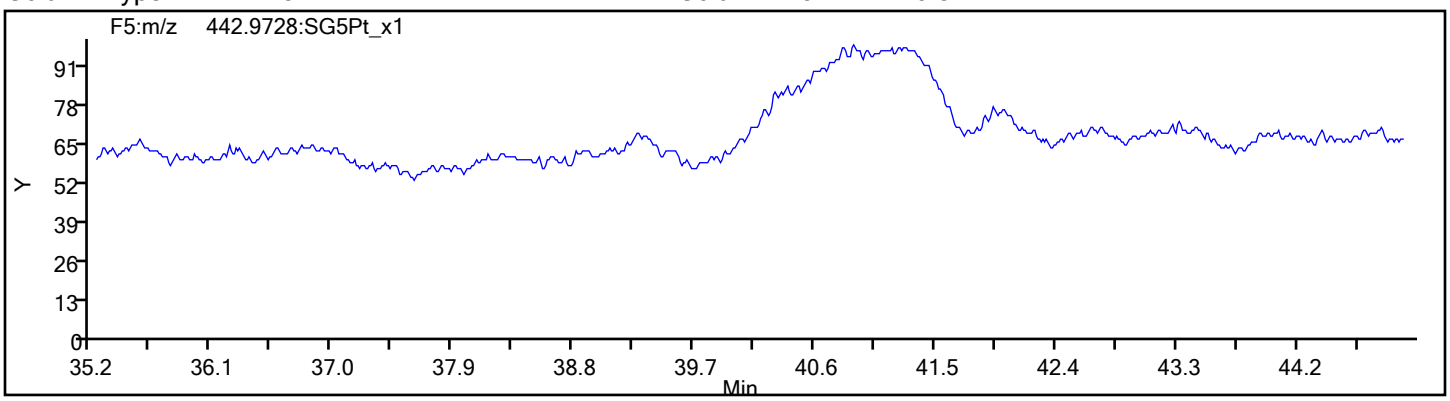

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 320-58545-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 320-357123/2-A
Matrix: Sediment
Lab File ID: 18FE2010D5_45.d
Analysis Method: 1613B
Date Collected:
Extract. Method: HRMS-Sox
Date Extracted: 02/13/2020 08:36
Sample wt/vol: 10.0(g)
Date Analyzed: 02/20/2020 00:53
Con. Extract Vol.: 20.0(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 358703
Units: pg/g

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	19.4		1.0	0.095
51207-31-9	2,3,7,8-TCDF	19.3		1.0	0.088
40321-76-4	1,2,3,7,8-PeCDD	105		5.0	0.23
57117-41-6	1,2,3,7,8-PeCDF	100		5.0	0.51
57117-31-4	2,3,4,7,8-PeCDF	102		5.0	0.56
39227-28-6	1,2,3,4,7,8-HxCDD	98.6		5.0	0.41
57653-85-7	1,2,3,6,7,8-HxCDD	102		5.0	0.40
19408-74-3	1,2,3,7,8,9-HxCDD	99.3		5.0	0.36
70648-26-9	1,2,3,4,7,8-HxCDF	95.7		5.0	1.2
57117-44-9	1,2,3,6,7,8-HxCDF	98.9		5.0	1.2
72918-21-9	1,2,3,7,8,9-HxCDF	98.9		5.0	0.65
60851-34-5	2,3,4,6,7,8-HxCDF	97.4		5.0	0.65
35822-46-9	1,2,3,4,6,7,8-HpCDD	101		5.0	0.91
67562-39-4	1,2,3,4,6,7,8-HpCDF	103		5.0	1.2
55673-89-7	1,2,3,4,7,8,9-HpCDF	103		5.0	1.6
3268-87-9	OCDD	211		10	0.43
39001-02-0	OCDF	209		10	0.41
41903-57-5	Total TCDD	19.4		1.0	0.095
30402-14-3	Total TCDF	19.3		1.0	0.088
36088-22-9	Total PeCDD	105		5.0	0.23
30402-15-4	Total PeCDF	202		5.0	0.53
34465-46-8	Total HxCDD	300		5.0	0.39
55684-94-1	Total HxCDF	391		5.0	0.93
37871-00-4	Total HpCDD	101		5.0	0.91
38998-75-3	Total HpCDF	206		5.0	1.4

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58545-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 320-357123/2-A

Matrix: Sediment Lab File ID: 18FE2010D5_45.d

Analysis Method: 1613B Date Collected:

Extract. Method: HRMS-Sox Date Extracted: 02/13/2020 08:36

Sample wt/vol: 10.0(g) Date Analyzed: 02/20/2020 00:53

Con. Extract Vol.: 20.0(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 358703 Units: pg/g

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	59		20-175
89059-46-1	13C-2,3,7,8-TCDF	57		22-152
109719-79-1	13C-1,2,3,7,8-PeCDD	60		21-227
109719-77-9	13C-1,2,3,7,8-PeCDF	60		21-192
116843-02-8	13C-2,3,4,7,8-PeCDF	61		13-328
109719-80-4	13C-1,2,3,4,7,8-HxCDD	61		21-193
109719-81-5	13C-1,2,3,6,7,8-HxCDD	67		25-163
114423-98-2	13C-1,2,3,4,7,8-HxCDF	61		19-202
116843-03-9	13C-1,2,3,6,7,8-HxCDF	60		21-159
116843-04-0	13C-1,2,3,7,8,9-HxCDF	63		17-205
116843-05-1	13C-2,3,4,6,7,8-HxCDF	65		22-176
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	66		26-166
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	65		21-158
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	66		20-186
114423-97-1	13C-OCDD	65		13-199

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	96		31-191

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_45.d
Lims ID: LCS 320-357123/2-A
Client ID:
Sample Type: LCS
Inject. Date: 20-Feb-2020 00:53:55 ALS Bottle#: 44 Worklist Smp#: 45
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCS 320-357123/2-A LCS 320-357123/2-A
Misc. Info.: 18FE2010D5
Operator ID: AJS, ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 21-Feb-2020 09:49:21 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: dadunj Date: 21-Feb-2020 09:50:11

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.202	41787444	0.79	5.4E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.718	27005123	0.75	1.1275	57.3	57.3	0.4598	0.4598	57.32	
2,3,7,8-TCDF	16.733	1997406	0.73	0.7675	9.637	9.637	0.0441	0.0441	96.37	
A Non-2,3,7,8-sub-TCDF	16.446						0.0441	0.0441		
S Total TCDF					9.637	9.637	0.0441	0.0441		
D 13C-2,3,7,8-TCDD	17.384	22408221	0.82	0.9032	59.4	59.4	0.3224	0.3224	59.37	
2,3,7,8-TCDD	17.399	2088992	0.75	0.9599	9.712	9.712	0.0475	0.0475	97.12	
$ 37Cl4-2,3,7,8-TCDD	17.399	15560041		0.9673	38.5	38.5	0.0953	0.0953	96.23	
A Non-2,3,7,8-sub-TCDD	16.877						0.0475	0.0475		
S Total TCDD					9.712	9.712	0.0475	0.0475		
D 13C-1,2,3,7,8-PeCDF	21.433	24290633	1.54	0.9615	60.5	60.5	0.2233	0.2233	60.46	
1,2,3,7,8-PeCDF	21.461	10913277	1.55	0.8982	50.0	50.0	0.2565	0.2565	100	
D 13C-2,3,4,7,8-PeCDF	22.702	26300427	1.61	1.0393	60.6	60.6	0.2066	0.2066	60.56	
2,3,4,7,8-PeCDF	22.715	10894558	1.55	0.8101	51.1	51.1	0.2777	0.2777	102	
A F1 PeCDFs	19.145						0.0300	0.0300		
A Non-2,3,7,8-sub-PeCDF	22.103						0.2665	0.2665		
S Total PeCDF					101.2	101.2	0.2671	0.2671		
D 13C-1,2,3,7,8-PeCDD	23.383	17282181	1.61	0.6938	59.6	59.6	0.1101	0.1101	59.61	
1,2,3,7,8-PeCDD	23.397	9003479	1.59	0.9961	52.3	52.3	0.1164	0.1164	105	
A Non-2,3,7,8-sub-PeCDD	22.361						0.1164	0.1164		
S Total PeCDD					52.3	52.3	0.1164	0.1164		
D 13C-1,2,3,4,7,8-HxCDF	29.367	18376306	0.49	0.8543	60.7	60.7	0.3526	0.3526	60.72	
1,2,3,4,7,8-HxCDF	29.407	6959605	1.17	0.7916	47.8	47.8	0.6232	0.6232	95.69	
D 13C-1,2,3,6,7,8-HxCDF	29.687	17844572	0.49	0.8361	60.2	60.2	0.3603	0.3603	60.24	
1,2,3,6,7,8-HxCDF	29.713	7621306	1.19	0.8638	49.4	49.4	0.5846	0.5846	98.89	
D 13C-2,3,4,6,7,8-HxCDF	30.831	17938182	0.49	0.7773	65.1	65.1	0.3875	0.3875	65.14	
2,3,4,6,7,8-HxCDF	30.845	7875345	1.19	0.9010	48.7	48.7	0.3264	0.3264	97.45	
D 13C-1,2,3,7,8,9-HxCDF	31.790	15984299	0.46	0.7167	63.0	63.0	0.4203	0.4203	62.95	
1,2,3,7,8,9-HxCDF	31.803	7211559	1.14	0.9127	49.4	49.4	0.3233	0.3233	98.87	
A Non-2,3,7,8-sub-HxCDF	29.287						0.4272	0.4272		
S Total HxCDF					195.4	195.4	0.4644	0.4644		

Report Date: 21-Feb-2020 09:50:14 Chrom Revision: 2.3 19-Feb-2020 16:45:46
Data File: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_45.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.590	35427195	1.23	4.4E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.071	17393435	1.25	0.8050	61.0	61.0	0.3524	0.3524	60.99	
1,2,3,4,7,8-HxCDD	31.084	7197095	1.23	0.8392	49.3	49.3	0.2056	0.2056	98.62	
D 13C-1,2,3,6,7,8-HxCDD	31.204	19567714	1.23	0.8269	66.8	66.8	0.3430	0.3430	66.79	
1,2,3,6,7,8-HxCDD	31.217	8824406	1.24	0.8876	50.8	50.8	0.1976	0.1976	102	
1,2,3,7,8,9-HxCDD	31.603	8780501	1.22	0.9567	49.7	49.7	0.1818	0.1818	99.33	
A Non-2,3,7,8-sub-HxCDD	29.846						0.1944	0.1944		
S Total HxCDD					149.8	149.8	0.1950	0.1950		
D 13C-1,2,3,4,6,7,8-HpCDF	33.376	16229368	0.45	0.7080	64.7	64.7	1.138	1.138	64.70	
1,2,3,4,6,7,8-HpCDF	33.376	11209220	1.01	1.3375	51.6	51.6	0.6242	0.6242	103	
D 13C-1,2,3,4,7,8,9-HpCDF	34.421	17413318	0.43	0.7451	66.0	66.0	1.081	1.081	65.97	
1,2,3,4,7,8,9-HpCDF	34.433	9634474	1.03	1.0744	51.5	51.5	0.7999	0.7999	103	
A Non-2,3,7,8-sub-HpCDF	33.905						0.7023	0.7023		
S Total HpCDF					103.1	103.1	0.7121	0.7121		
D 13C-1,2,3,4,6,7,8-HpCDD	34.154	17492519	1.08	0.7473	66.1	66.1	0.5320	0.5320	66.07	
1,2,3,4,6,7,8-HpCDD	34.166	8688872	1.05	0.9811	50.6	50.6	0.4546	0.4546	101	
A Non-2,3,7,8-sub-HpCDD	33.893						0.4546	0.4546		
S Total HpCDD					50.6	50.6	0.4546	0.4546		
D 13C-OCDD	36.422	30289350	0.91	0.6622	129.1	129.1	0.2574	0.2574	64.56	
OCDF	36.505	16892438	0.91	1.0659	104.6	104.6	0.2050	0.2050	105	
OCDD	36.433	15883049	0.89	0.9937	105.5	105.5	0.2155	0.2155	106	

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_45.d
Lims ID: LCS 320-357123/2-A
Client ID:
Sample Type: LCS
Inject. Date: 20-Feb-2020 00:53:55 ALS Bottle#: 44 Worklist Smp#: 45
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCS 320-357123/2-A LCS 320-357123/2-A
Misc. Info.: 18FE2010D5
Operator ID: AJS, ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 21-Feb-2020 09:49:21 Calib Date: 30-Jan-2020 04:53:08
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20200130-90298.b\29JA20B10D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: dadunj Date: 21-Feb-2020 09:50:11

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.202	17.202	0		18480646	4751972	8575	21437	554		
333.9339	17.202	17.202	0		23306798	5992057	3938	9845	1522	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.718	16.719	0	0.972	11533771	2848649	8839	22097	322		
317.9389	16.718	16.719	0	0.972	15471352	3841891	13439	33597	286	0.75(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.733	16.749	-1	1.001	845827	193063	338	845	571		
305.8987	16.733	16.749	-1	1.001	1151579	266825	569	1422	469	0.73(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.446						338	845			
305.8987	16.446						569	1422			
13C-2,3,7,8-TCDD											
331.9368	17.384	17.384	0	1.011	10093603	2447715	8575	21437	285		
333.9339	17.384	17.384	0	1.011	12314618	2932078	3938	9845	745	0.82(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.399	17.414	-1	1.001	898179	201512	597	1492	338		
321.8936	17.399	17.414	-1	1.001	1190813	269634	384	960	702	0.75(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.399	17.414	-1	1.011	15560041	3542780	3963	9907	894		
A Non-2,3,7,8-sub-TCDD											
319.8965	16.877						597	1492			
321.8936	16.877						384	960			
13C-1,2,3,7,8-PeCDF											
351.9000	21.433	21.447	-1	1.246	14712121	2698894	5588	13970	483		
353.8970	21.447	21.447	0	1.247	9578512	1768319	3639	9097	486	1.54(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	21.461	21.475	-1	1.001	6634859	1146162	2385	5962	481		
341.8567	21.461	21.475	-1	1.001	4278418	726993	1732	4330	420	1.55(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	22.702	22.702	0	1.320	16212524	2797922	5588	13970	501		
353.8970	22.702	22.702	0	1.320	10087903	1777449	3639	9097	488	1.61(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.715	22.729	-1	1.001	6617737	1039539	2385	5962	436		
341.8567	22.715	22.729	-1	1.001	4276821	674884	1732	4330	390	1.55(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.145						156	390			
341.8567	19.145						308	770			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.103						2385	5962			
341.8567	22.103						1732	4330			
13C-1,2,3,7,8-PeCDD											
367.8949	23.383	23.383	0	1.359	10664599	1751884	2058	5145	851		
369.8919	23.383	23.383	0	1.359	6617582	1115403	1225	3062	911	1.61(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.397	23.411	-1	1.001	5530761	839438	889	2222	944		
357.8516	23.397	23.411	-1	1.001	3472718	542036	441	1102	1229	1.59(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.361						889	2222			
357.8516	22.361						441	1102			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.367	29.380	-1	0.930	6062471	740330	3320	8300	223		
385.8610	29.367	29.380	-1	0.930	12313835	1501181	6422	16055	234	0.49(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.407	29.407	0	1.001	3753308	440571	2241	5602	197		
375.8178	29.407	29.407	0	1.001	3206297	358267	2182	5455	164	1.17(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.687	29.687	0	0.940	5903914	722383	3320	8300	218		
385.8610	29.673	29.687	-1	0.939	11940658	1467226	6422	16055	228	0.49(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	29.713	29.713	0	1.001	4142791	490601	2241	5602	219		
375.8178	29.713	29.713	0	1.001	3478515	412038	2182	5455	189	1.19(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	30.831	30.831	0	0.976	5921122	1258032	3320	8300	379		
385.8610	30.831	30.831	0	0.976	12017060	2502039	6422	16055	390	0.49(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	30.845	30.858	-1	1.000	4282468	841340	2241	5602	375		
375.8178	30.845	30.858	-1	1.000	3592877	697261	2182	5455	320	1.19(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.790	31.790	0	1.006	5062839	1232818	3320	8300	371		
385.8610	31.790	31.790	0	1.006	10921460	2514063	6422	16055	391	0.46(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	31.803	31.803	0	1.000	3845223	883565	2241	5602	394		
375.8178	31.803	31.803	0	1.000	3366336	736002	2182	5455	337	1.14(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.287						2241	5602			
375.8178	29.287						2182	5455			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.590	31.590	0		19558588	4441907	4702	11755	945		
403.8529	31.590	31.590	0		15868607	3642982	4472	11180	815	1.23(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.071	31.071	0	0.984	9653336	2317399	4702	11755	493		
403.8529	31.071	31.071	0	0.984	7740099	1837085	4472	11180	411	1.25(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.084	31.098	-1	1.000	3962963	925268	1737	4342	533		
391.8127	31.084	31.098	-1	1.000	3234132	742517	1130	2825	657	1.23(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.204	31.204	0	0.988	10791927	2231480	4702	11755	475		
403.8529	31.204	31.204	0	0.988	8775787	1855242	4472	11180	415	1.23(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.217	31.217	0	1.000	4888557	999841	1737	4342	576		
391.8127	31.217	31.217	0	1.000	3935849	799224	1130	2825	707	1.24(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.603	31.603	0	1.017	4822336	1060547	1737	4342	611		
391.8127	31.603	31.603	0	1.017	3958165	869845	1130	2825	770	1.22(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	29.846						1737	4342			
391.8127	29.846						1130	2825			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.376	33.376	0	1.057	5058842	1570095	9878	24695	159		
419.8220	33.376	33.376	0	1.057	11170526	3611648	16170	40425	223	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.376	33.376	0	1.000	5620255	1747064	9166	22915	191		
409.7789	33.376	33.376	0	1.000	5588965	1754635	8139	20347	216	1.01(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.421	34.433	-1	1.090	5228022	1504210	9878	24695	152		
419.8220	34.421	34.433	-1	1.090	12185296	3529583	16170	40425	218	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.433	34.433	0	1.000	4897692	1404109	9166	22915	153		
409.7789	34.433	34.433	0	1.000	4736782	1354894	8139	20347	166	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.905						9166	22915			
409.7789	33.905						8139	20347			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.154	34.154	0	1.081	9101857	2630979	7006	17515	376		
437.8140	34.154	34.154	0	1.081	8390662	2420143	5853	14632	413	1.08(0.88-1.20)	

Report Date: 21-Feb-2020 09:50:14 Chrom Revision: 2.3 19-Feb-2020 16:45:46
Data File: \\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_45.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.166	34.166	0	1.000	4449091	1268373	4766	11915	266		
425.7737	34.154	34.166	-1	1.000	4239781	1218566	4245	10612	287	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.893						4766	11915			
425.7737	33.893						4245	10612			
13C-OCDD											
469.7779	36.422	36.422	0	1.153	14415693	3560785	1878	4695	1896		
471.7750	36.422	36.422	0	1.153	15873657	3886814	3634	9085	1070	0.91(0.76-1.02)	
OCDF											
441.7428	36.505	36.517	-1	1.002	8053394	2010088	1678	4195	1198		
443.7399	36.505	36.517	-1	1.002	8839044	2207078	1577	3942	1400	0.91(0.76-1.02)	
OCDD											
457.7377	36.433	36.433	0	1.000	7495861	1835893	1517	3792	1210		
459.7348	36.433	36.433	0	1.000	8387188	2018230	1673	4182	1206	0.89(0.76-1.02)	

Report Date: 21-Feb-2020 09:50:15 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_45.d		
Injection Date:	20-Feb-2020 00:53:55	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	358703	Sample Line#:	45
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

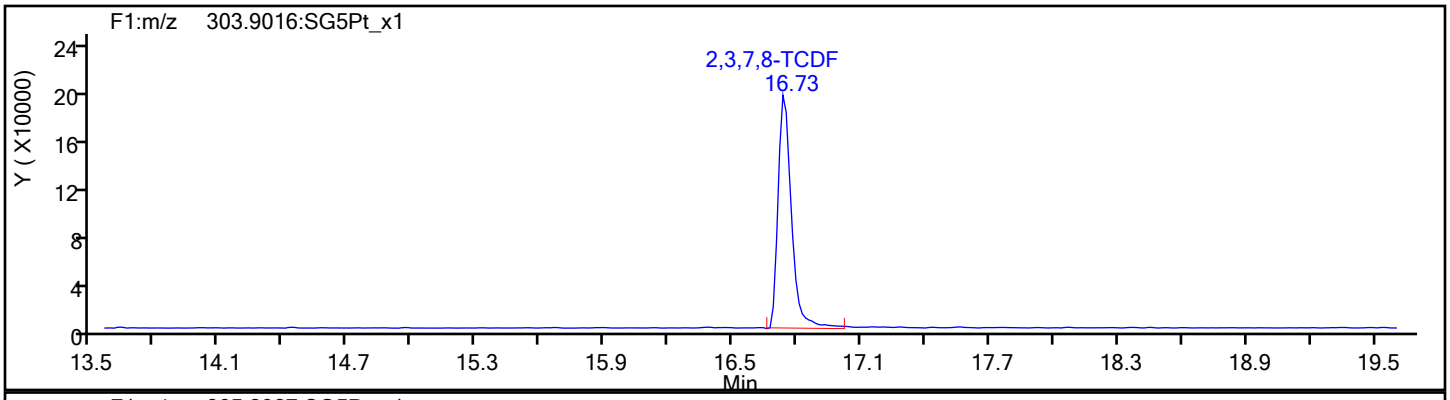

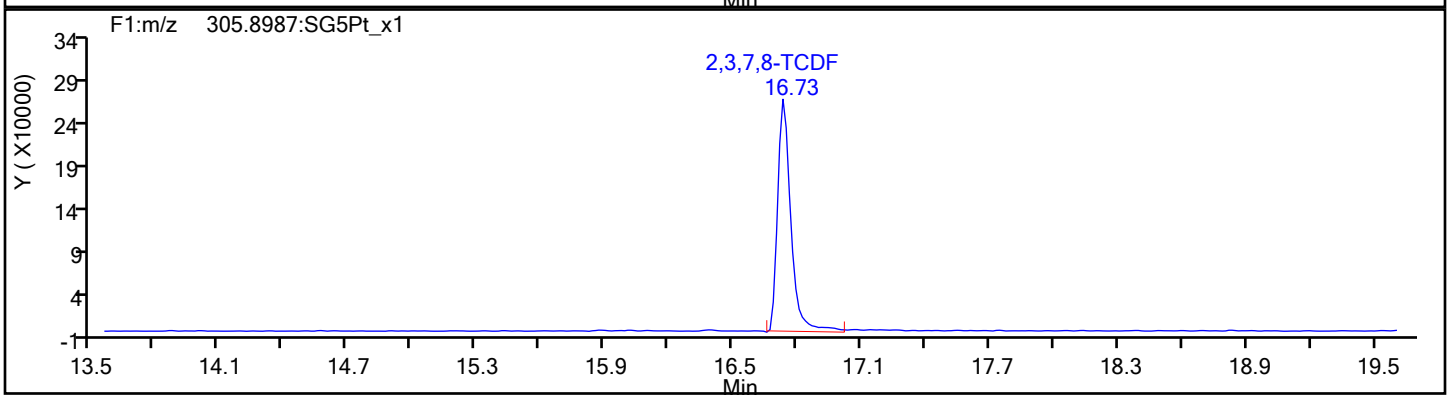

TCDF Standards

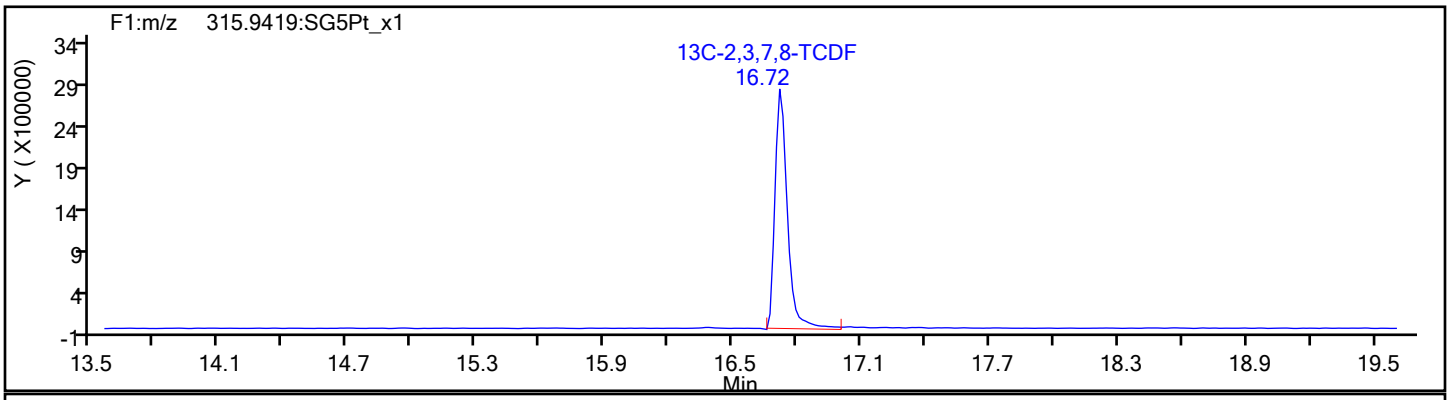

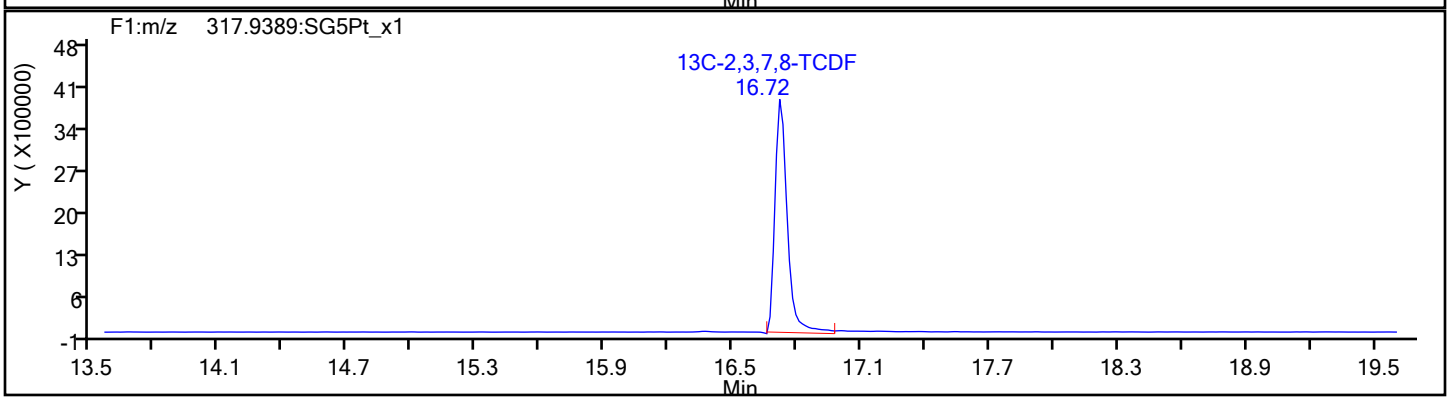

Report Date: 21-Feb-2020 09:50:15 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_45.d		
Injection Date:	20-Feb-2020 00:53:55	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	358703	Sample Line#:	45
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

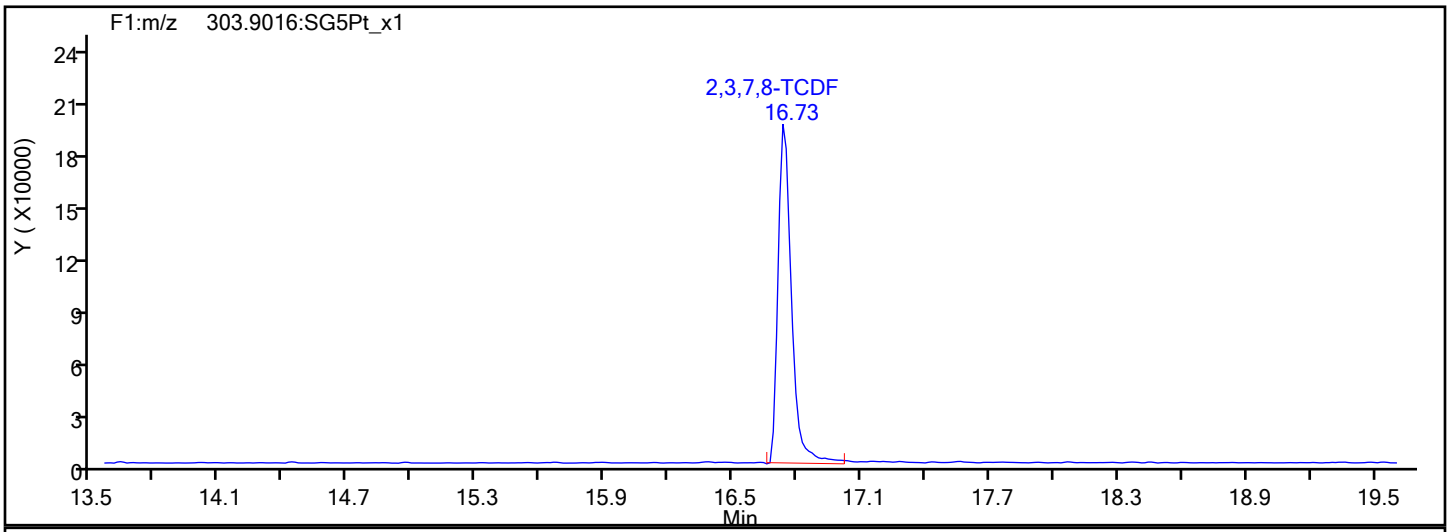

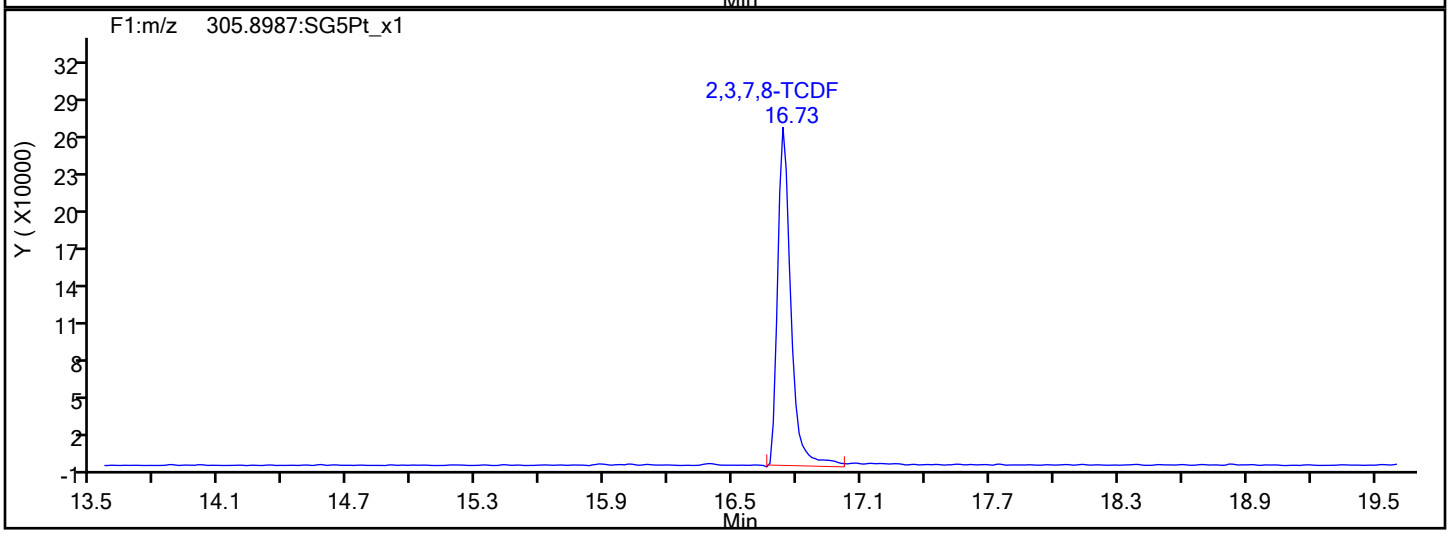

TCDF Interference Mass

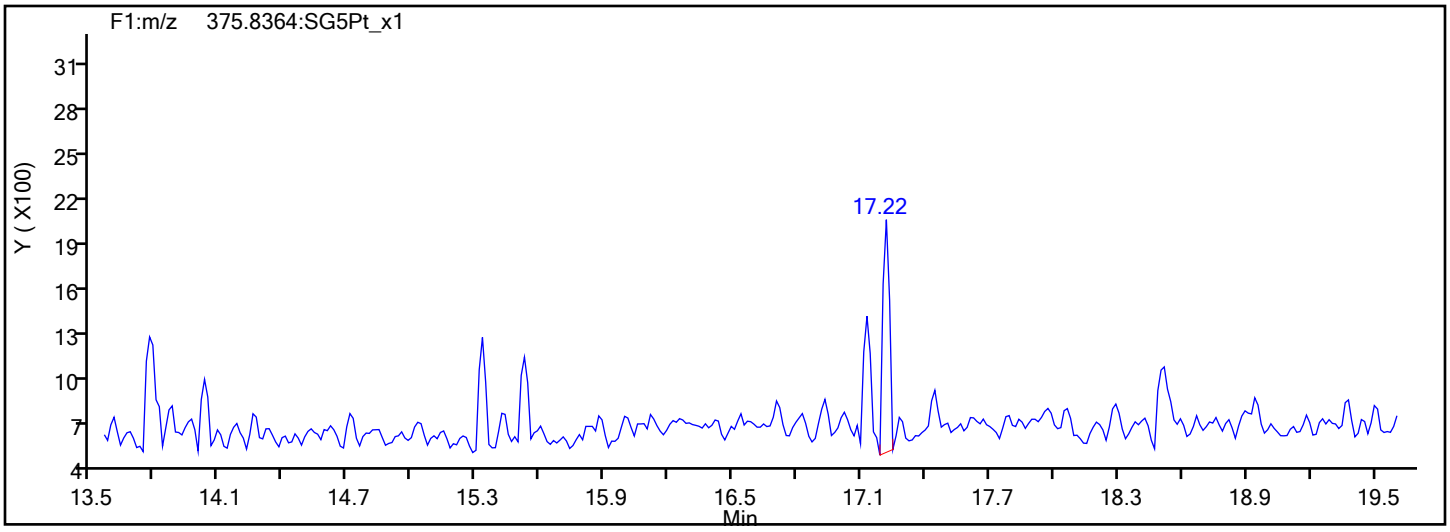

Report Date: 21-Feb-2020 09:50:15 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_45.d		
Injection Date:	20-Feb-2020 00:53:55	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	358703	Sample Line#:	45
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

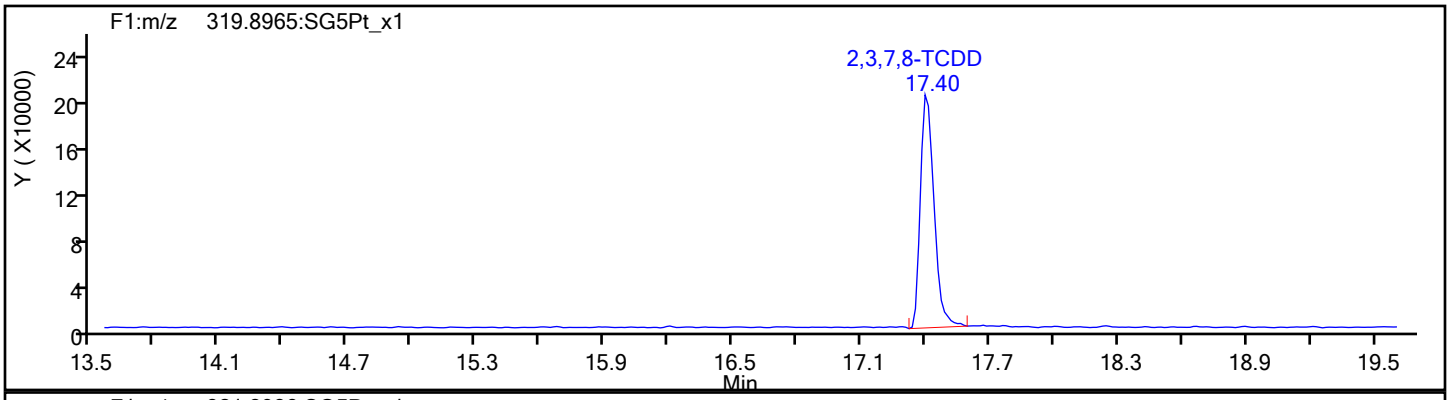

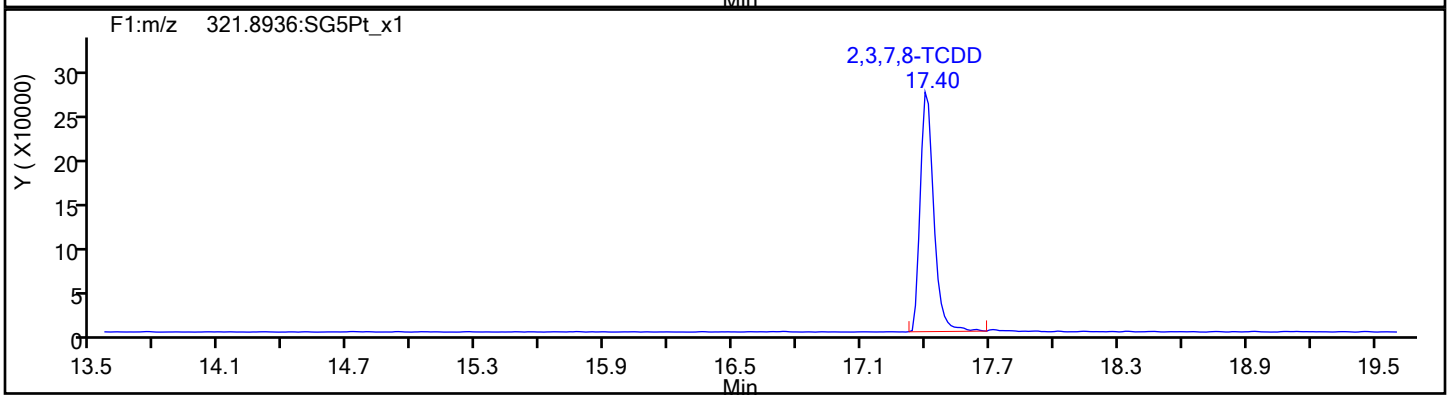

TCDD Standards

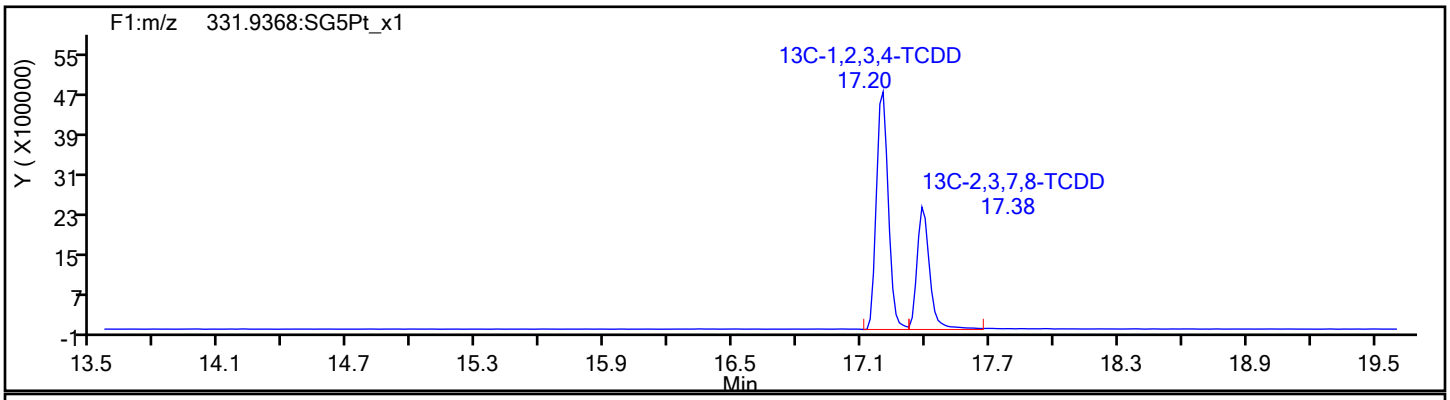

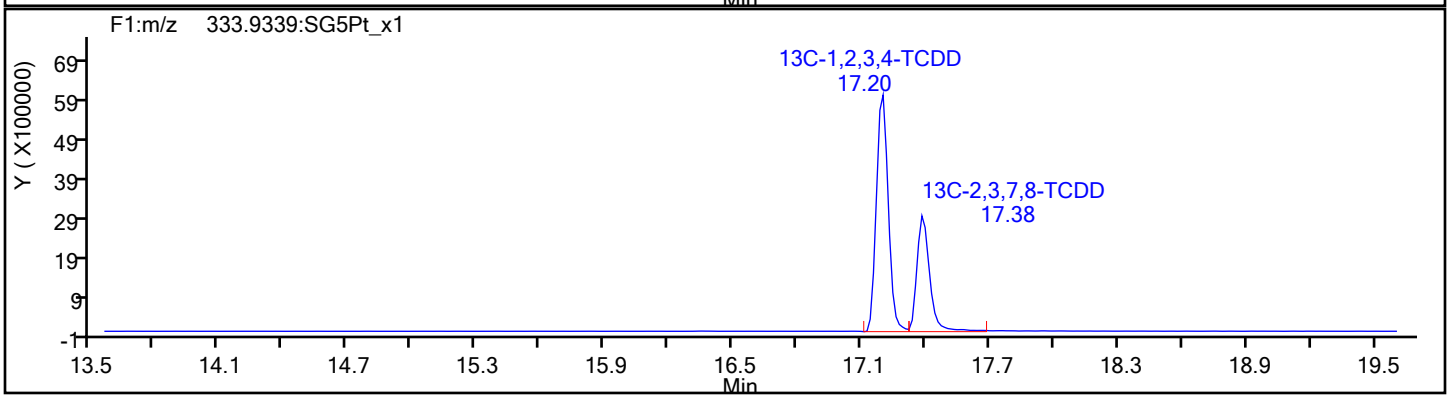

Report Date: 21-Feb-2020 09:50:15 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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37Cl4-TCDD

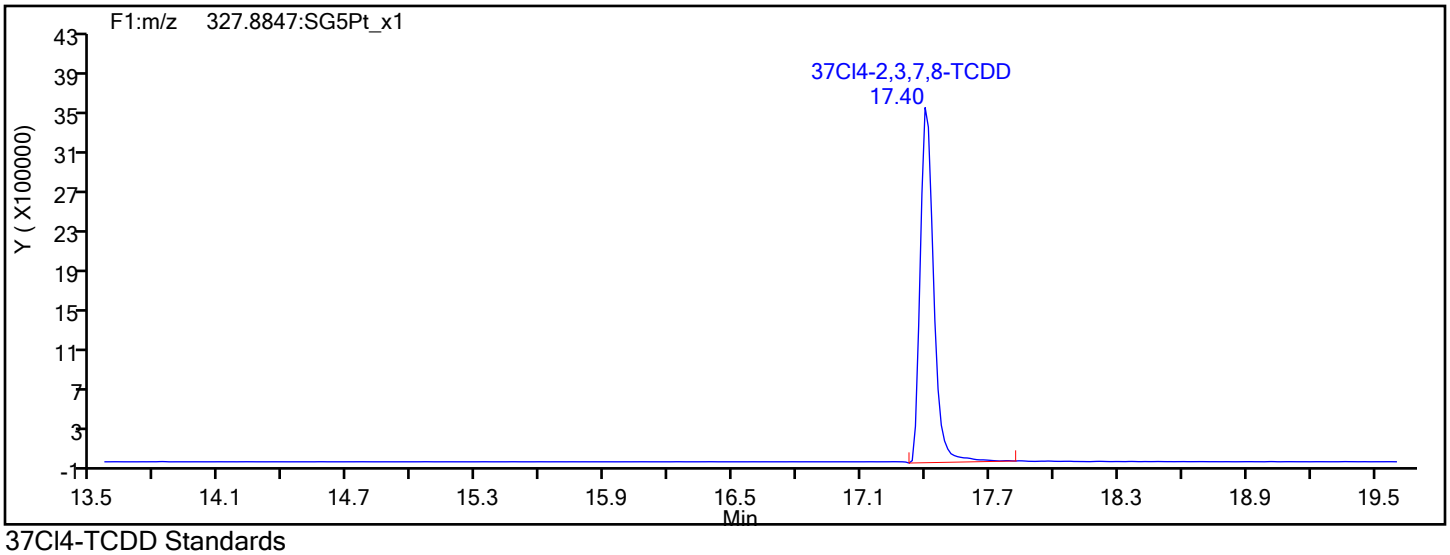

37Cl4-TCDD Standards

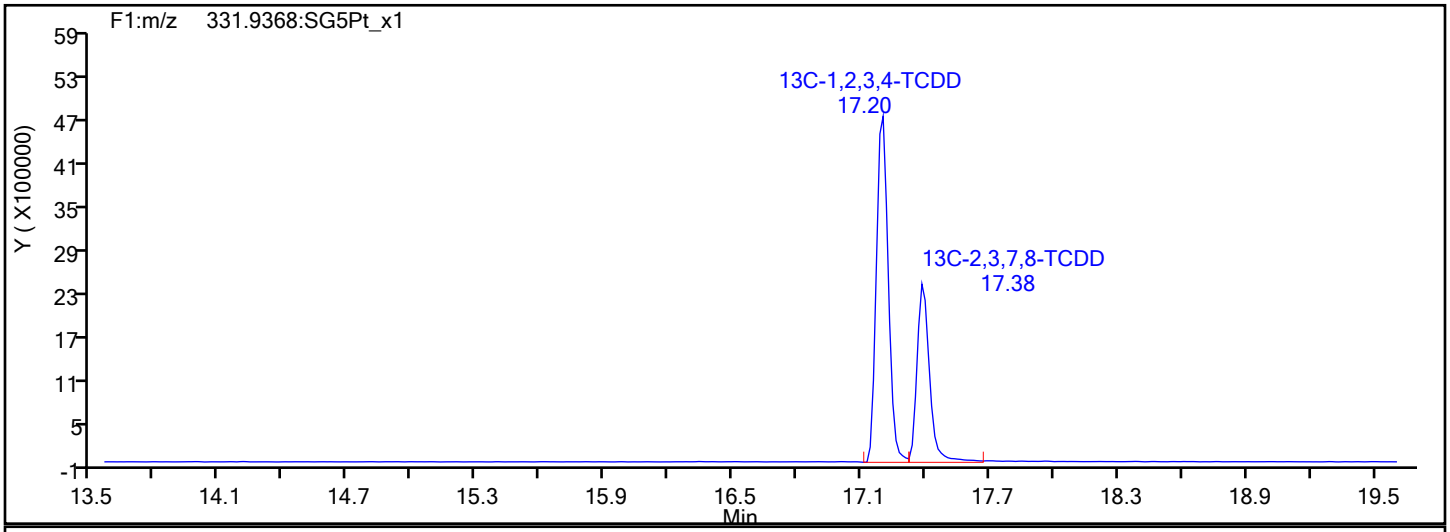

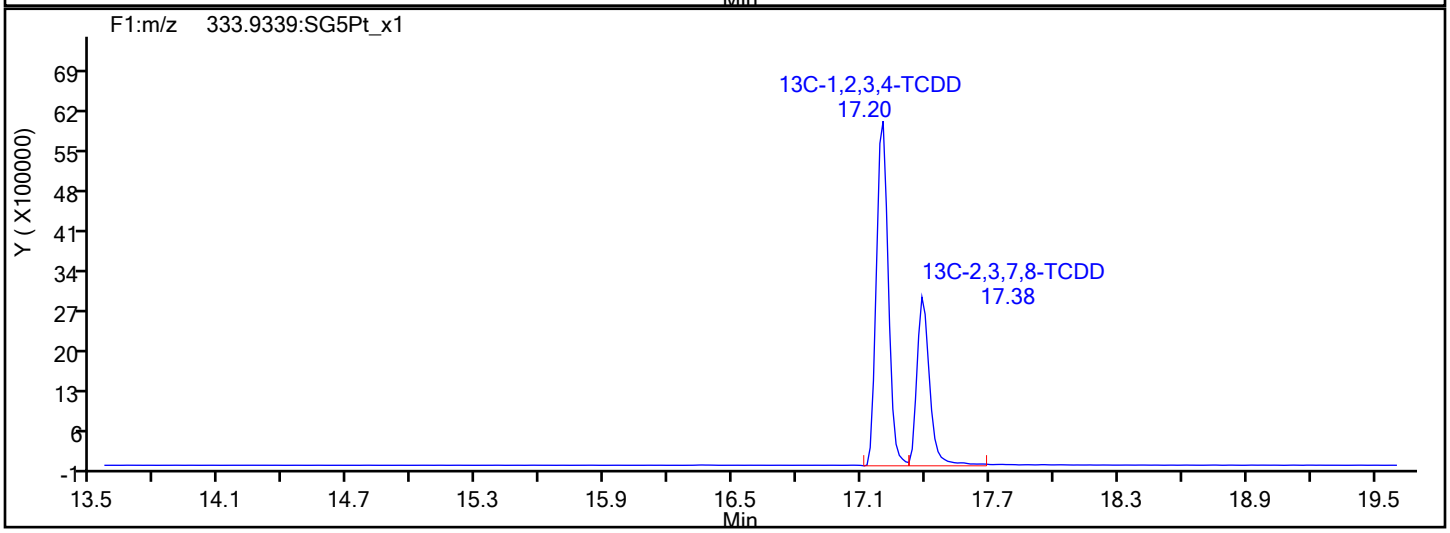

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

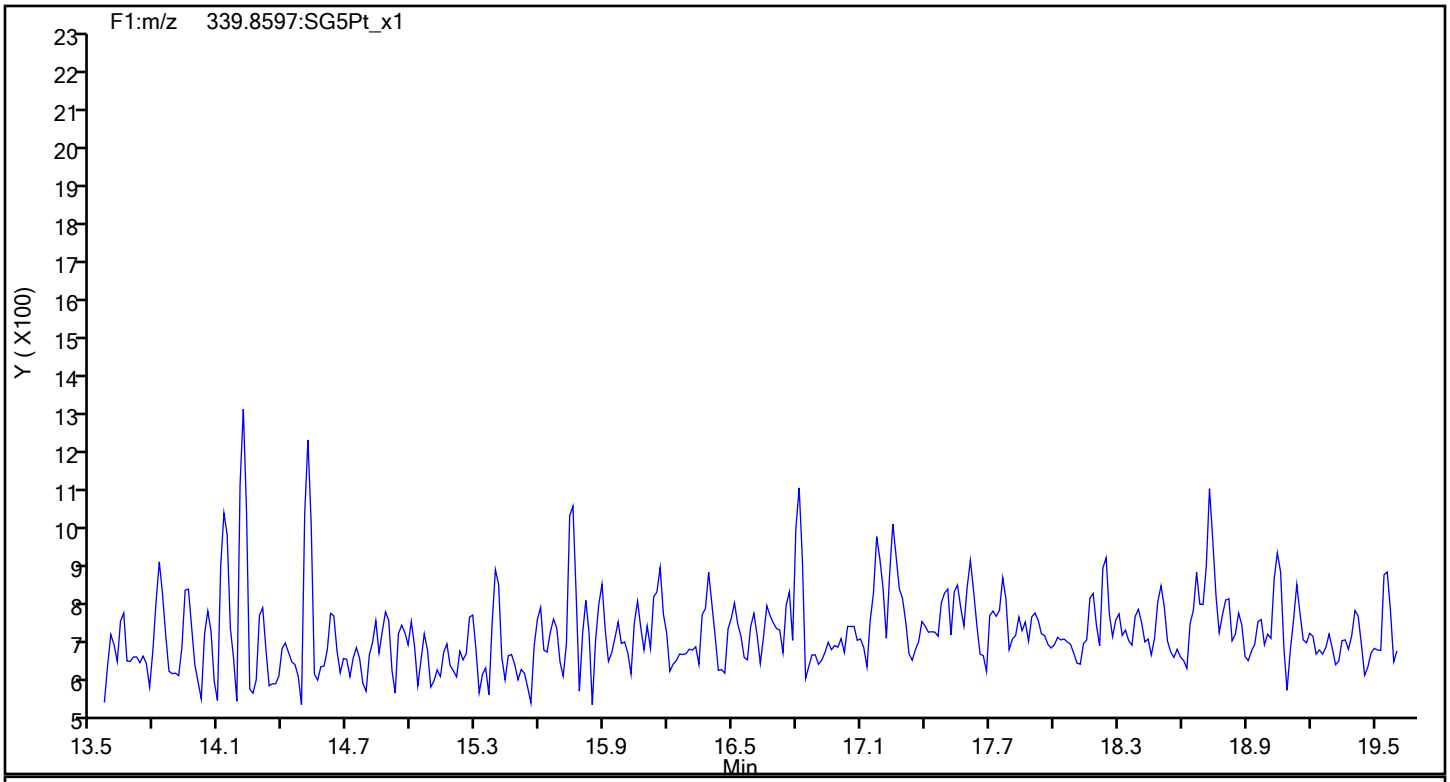

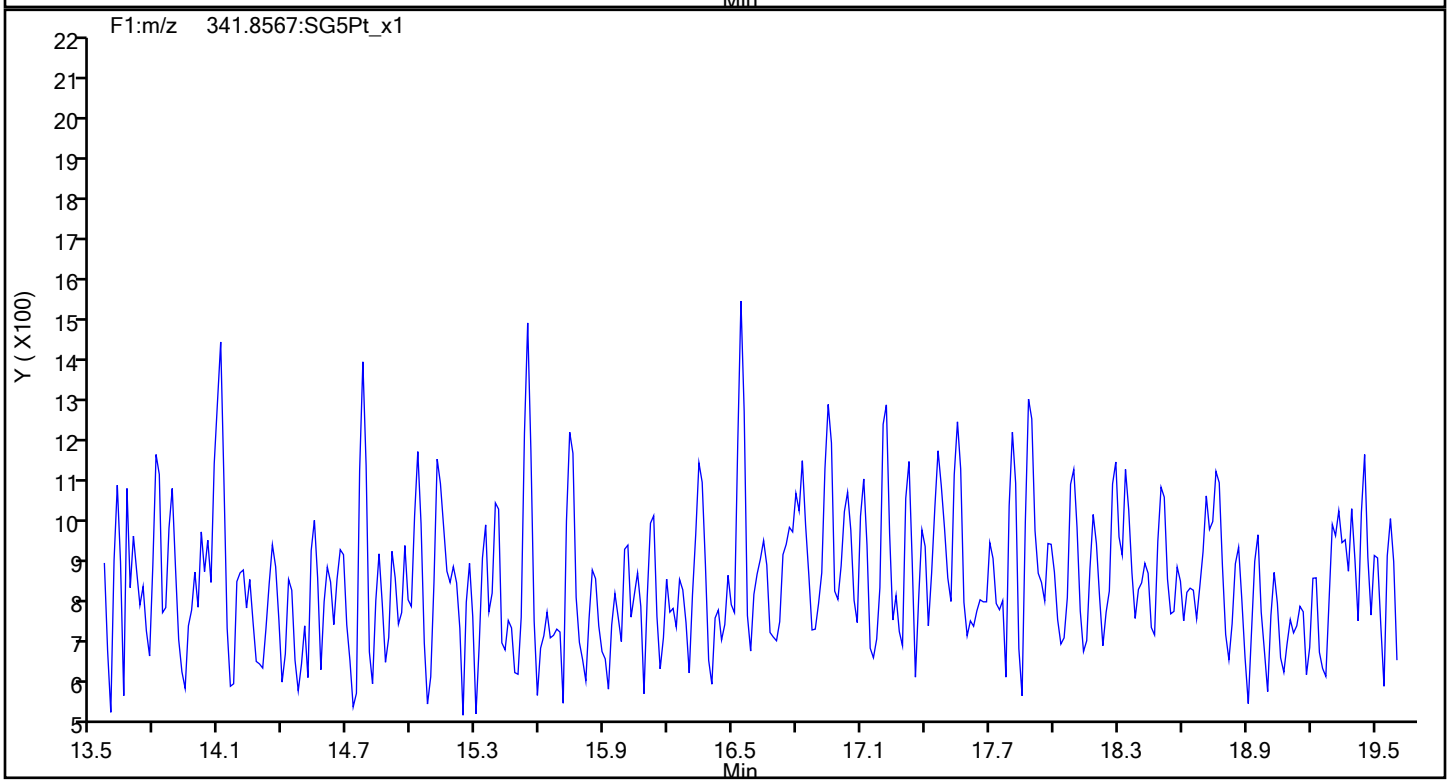

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

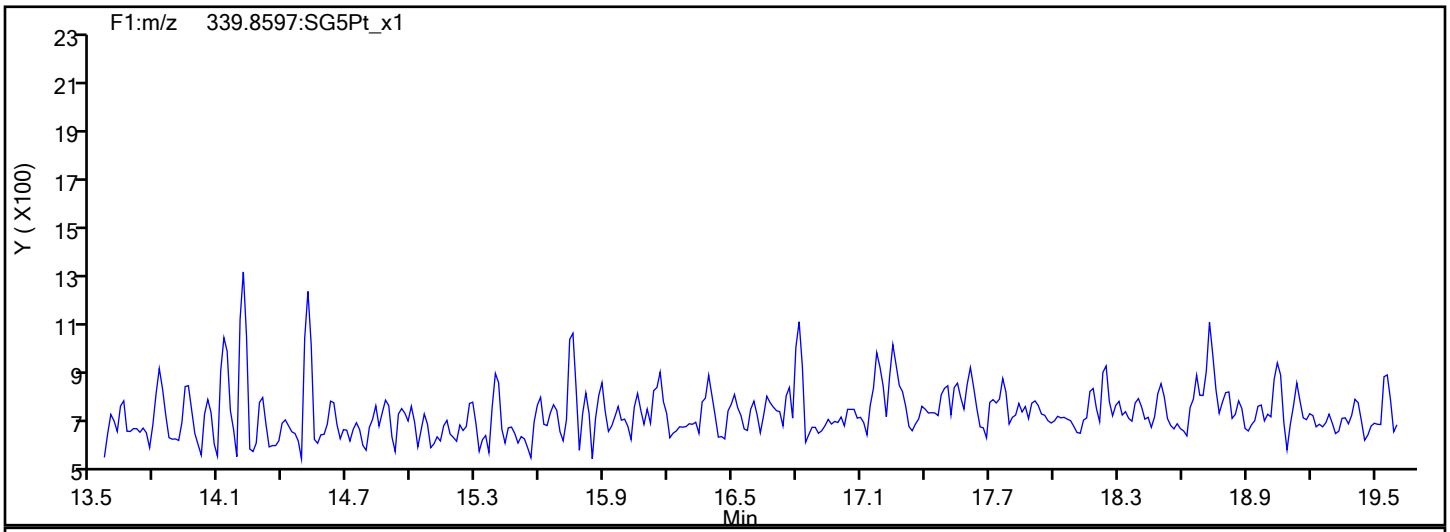

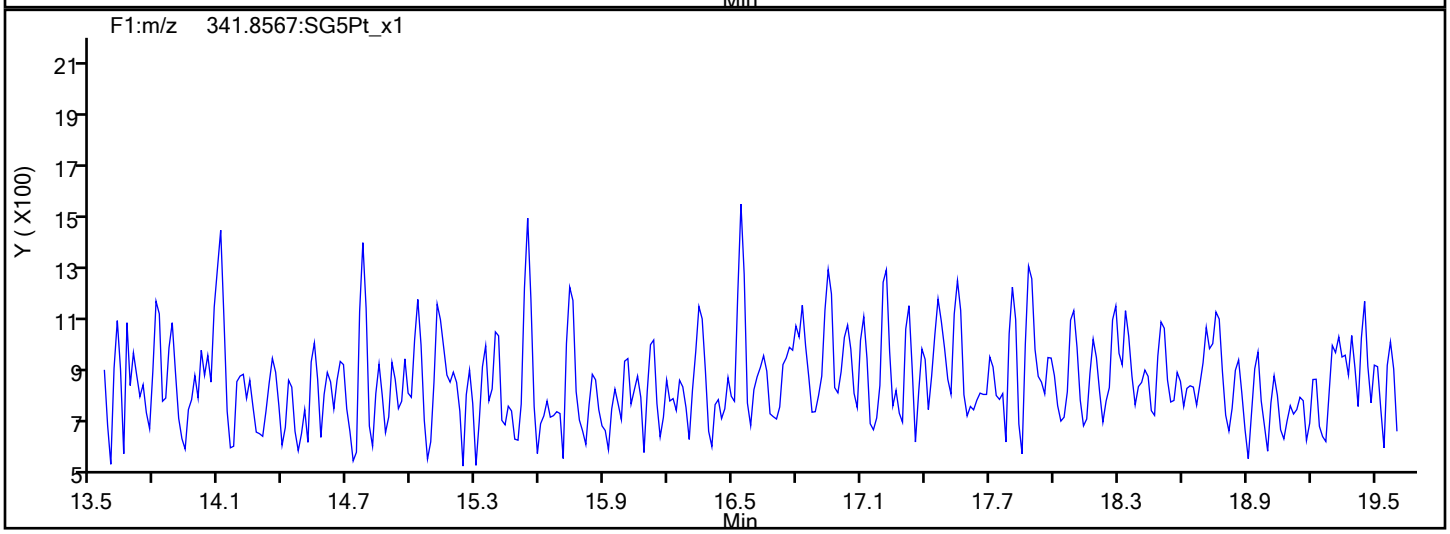

F1 PeCDFs Interference Mass

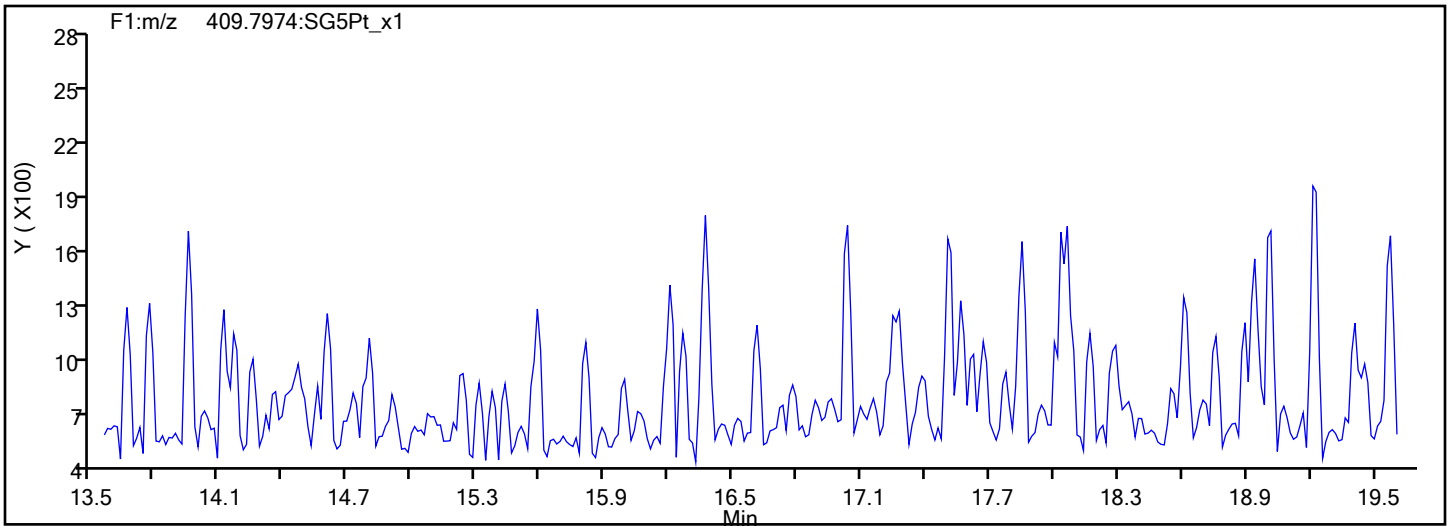

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Eurofins TestAmerica, Sacramento

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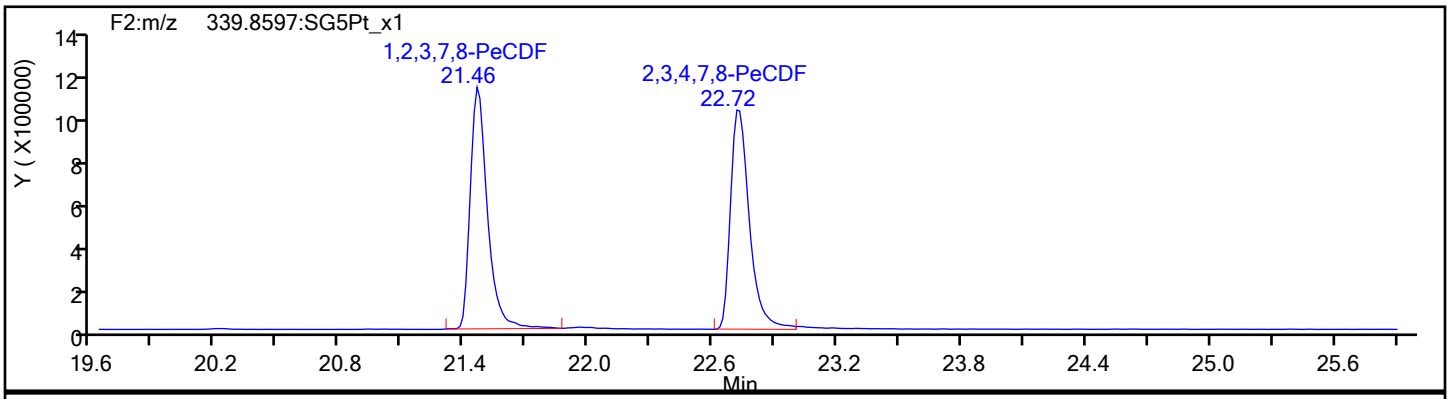

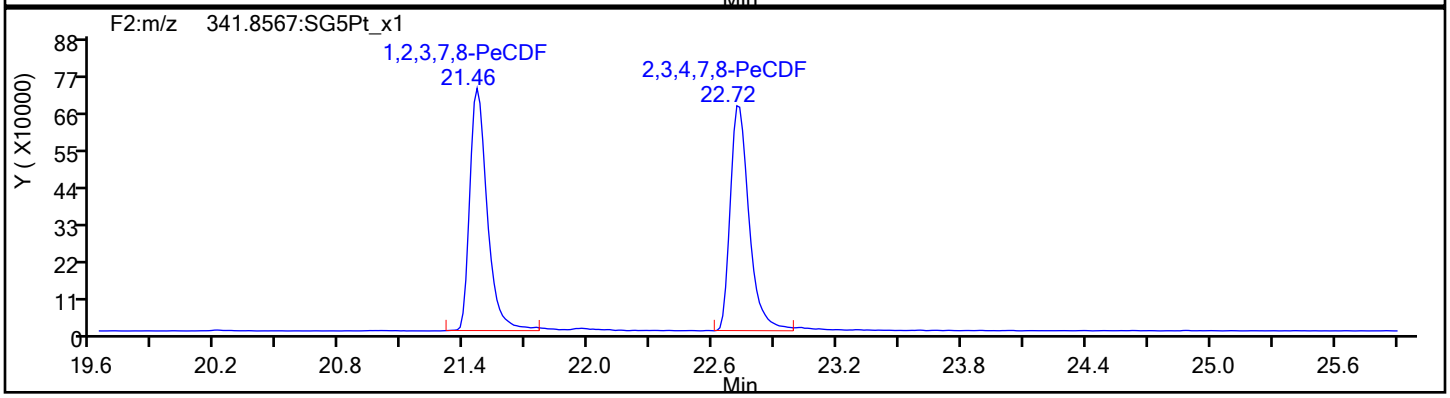

PeCDF Standards

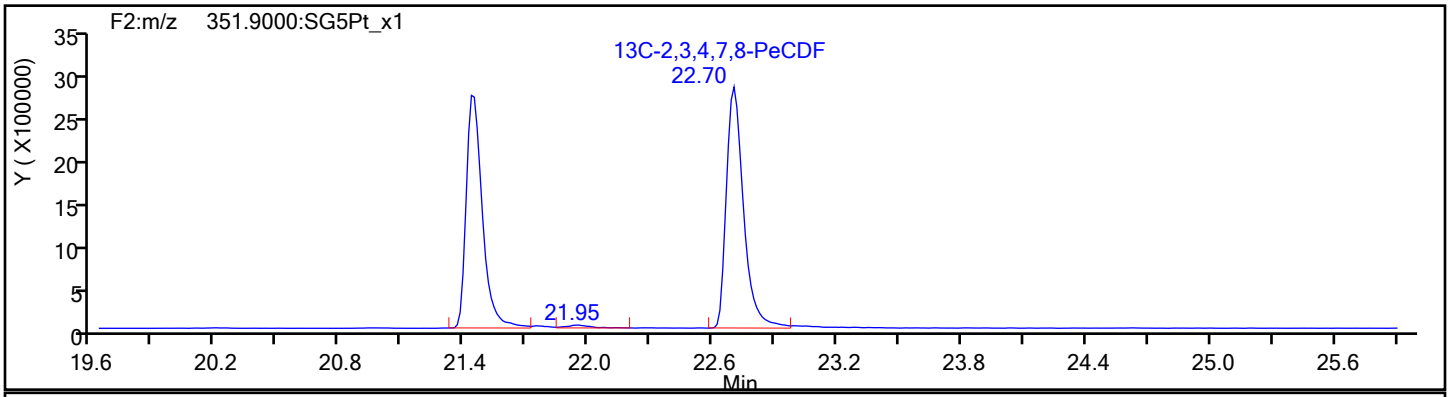

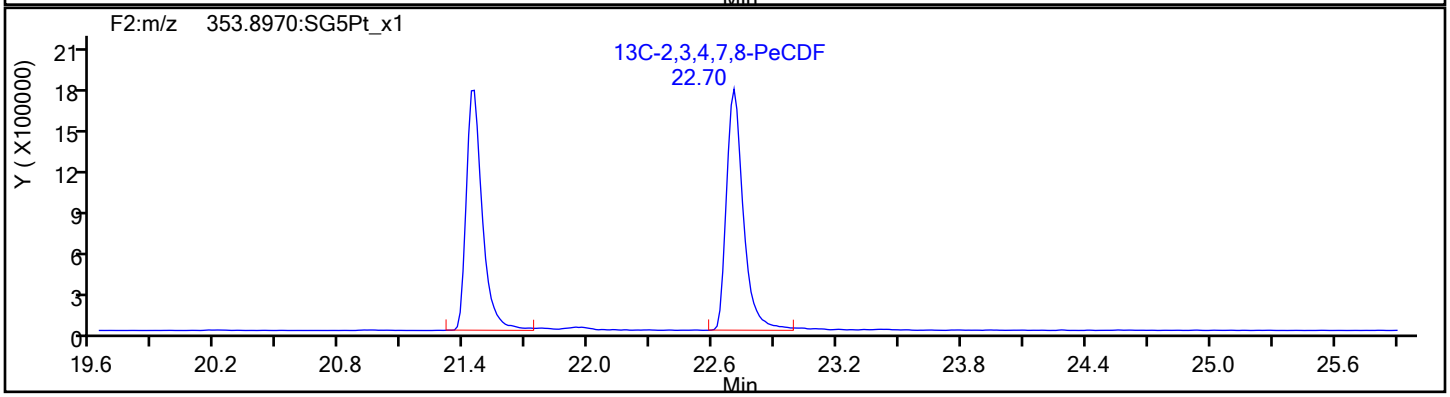

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Eurofins TestAmerica, Sacramento

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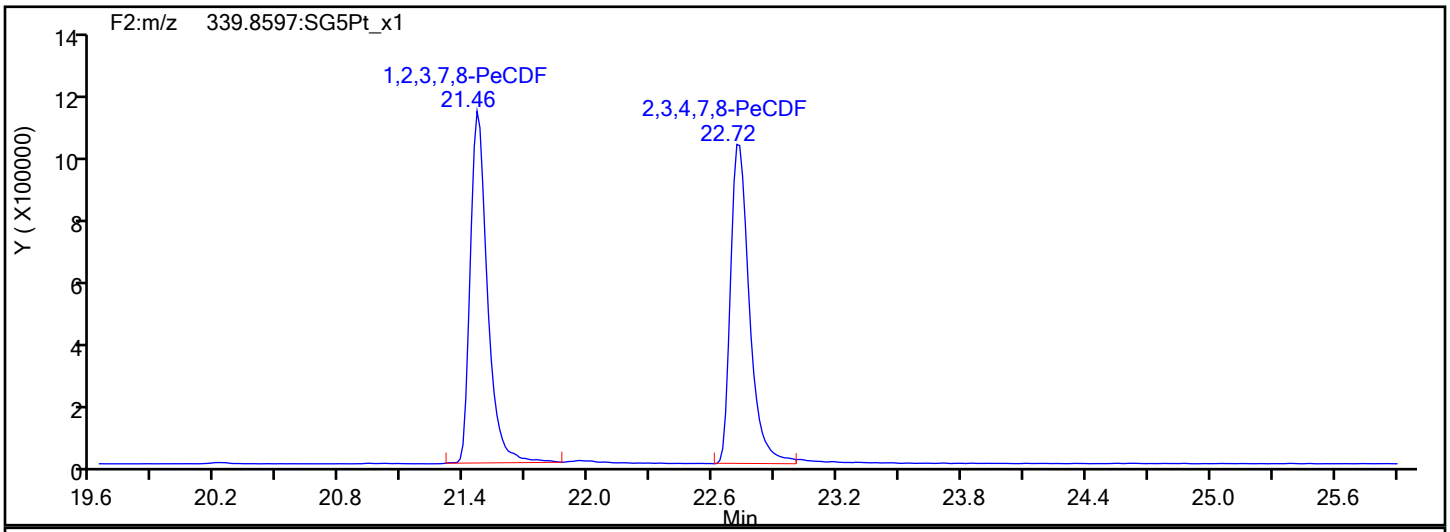

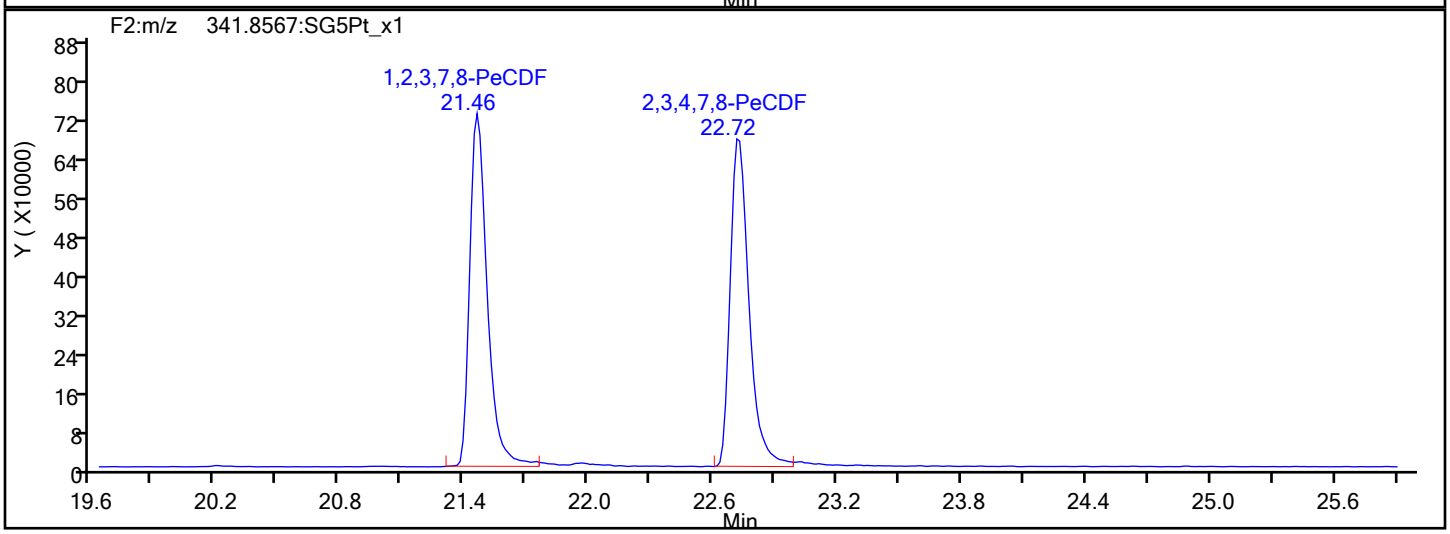

PeCDF Interference Mass

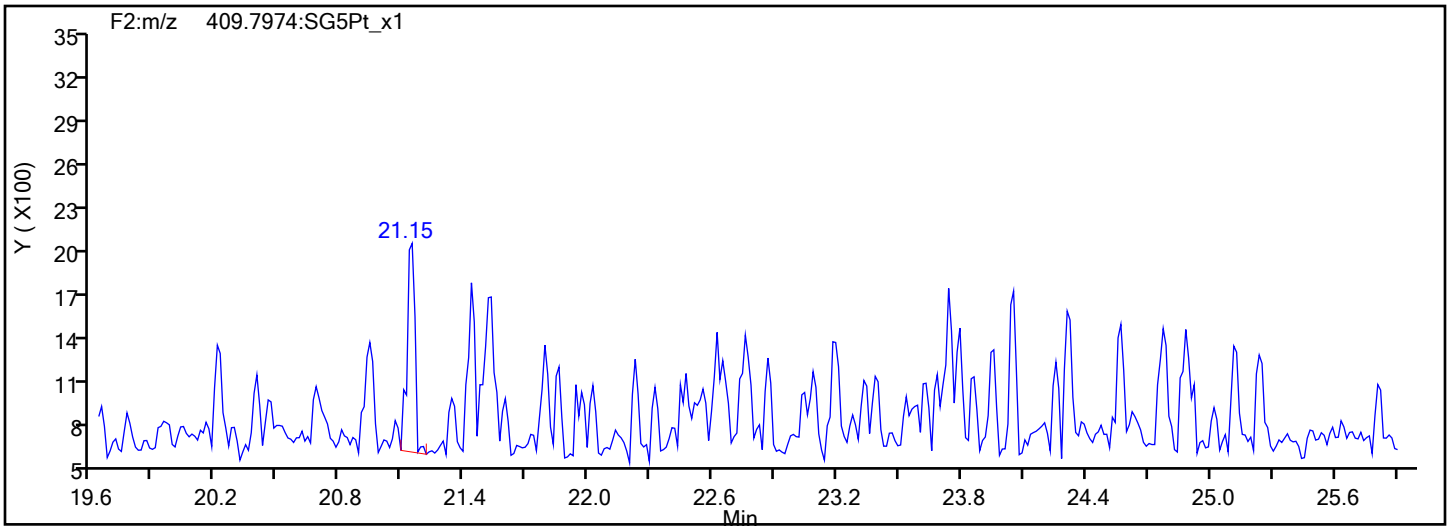

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Eurofins TestAmerica, Sacramento

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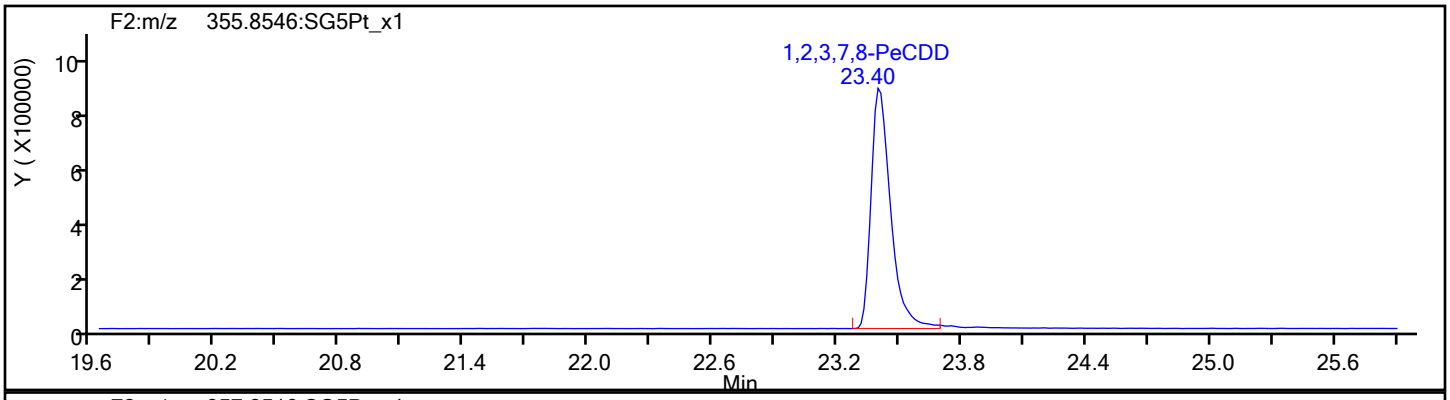

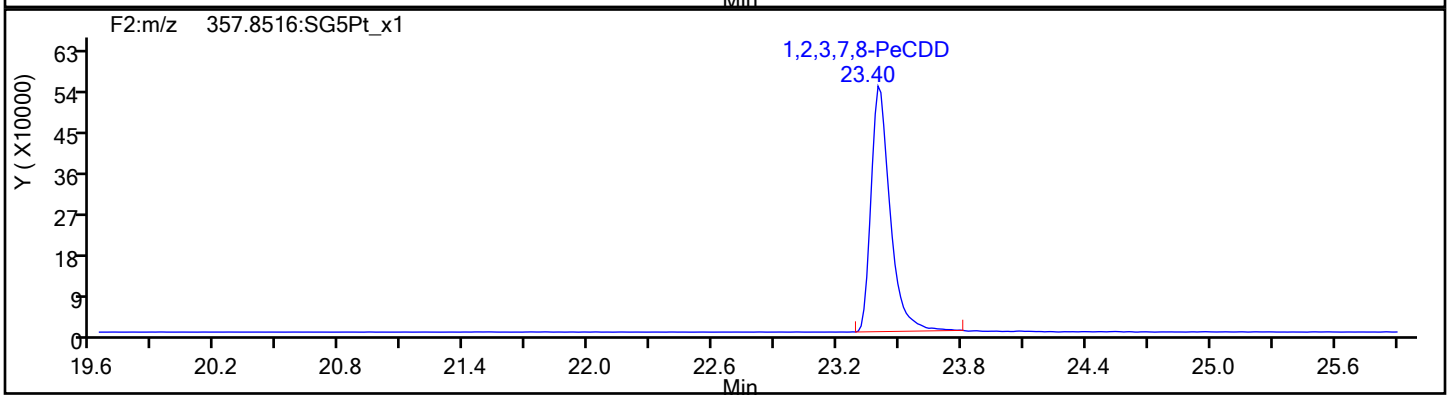

PeCDD Standards

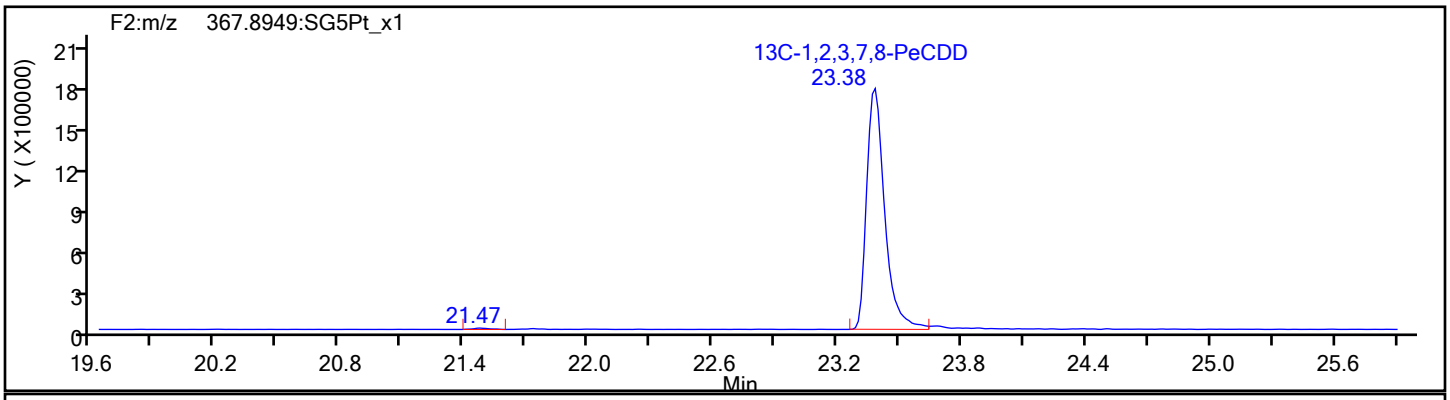

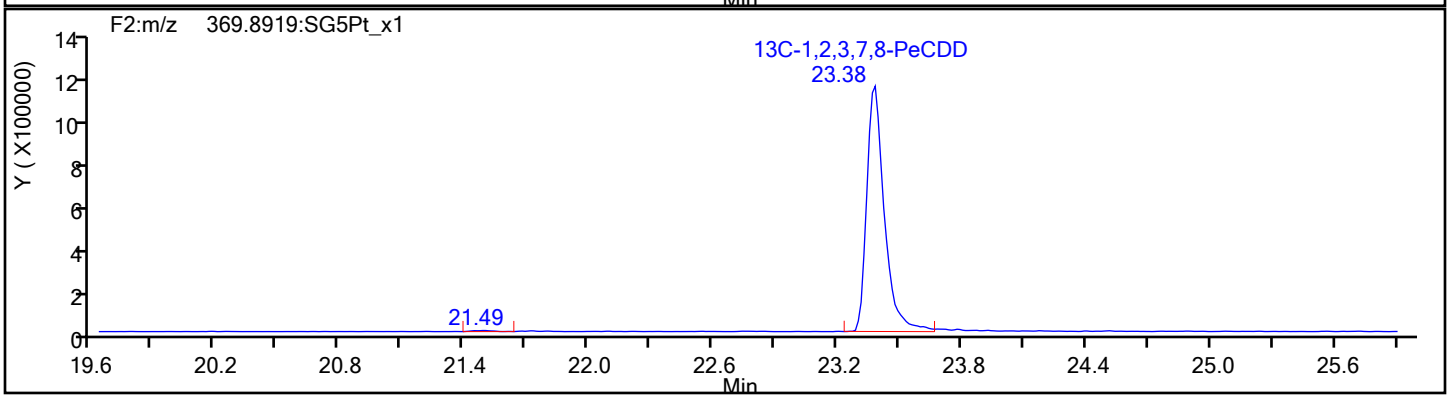

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Eurofins TestAmerica, Sacramento

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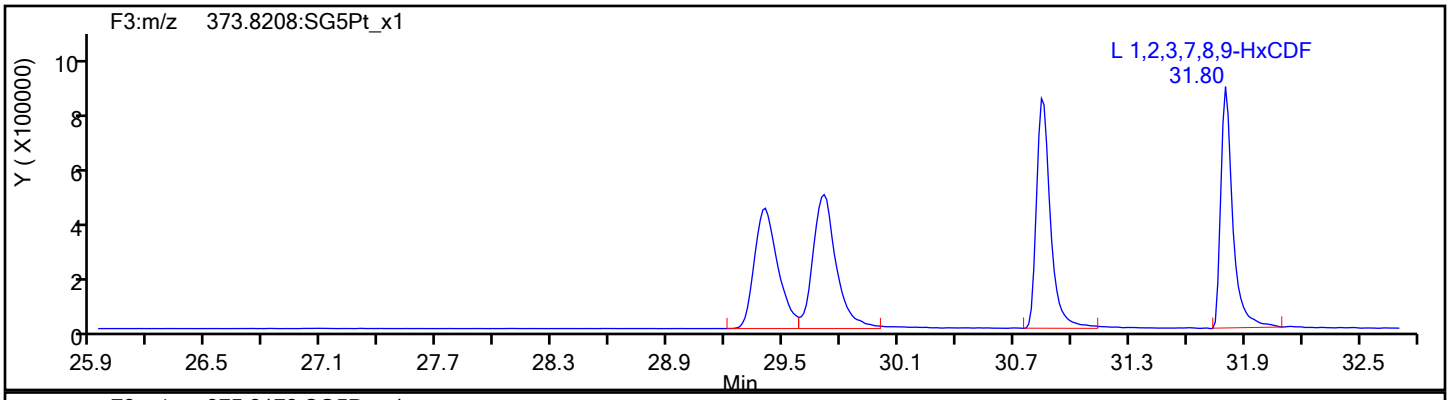

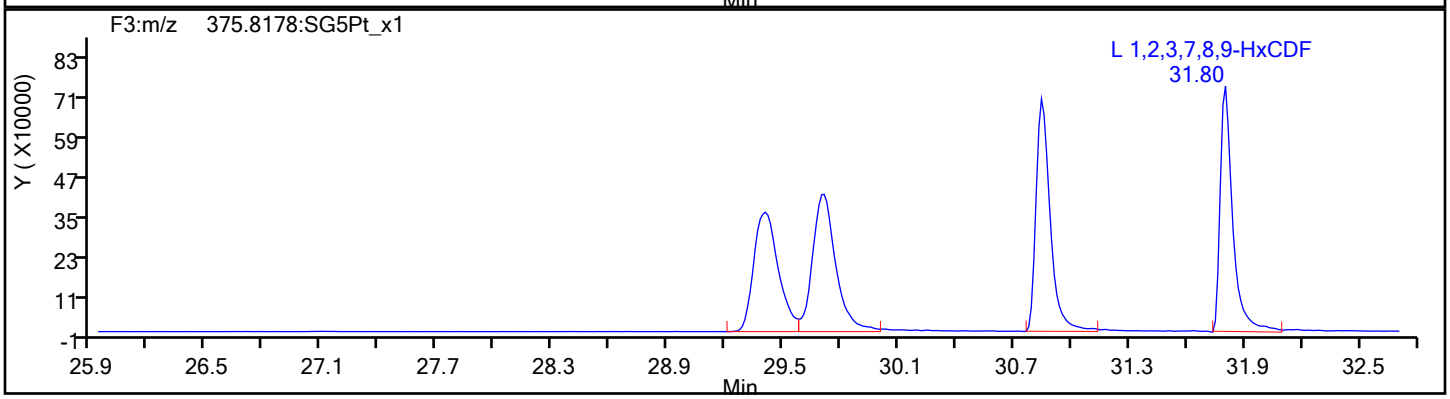

HxCDF Standards

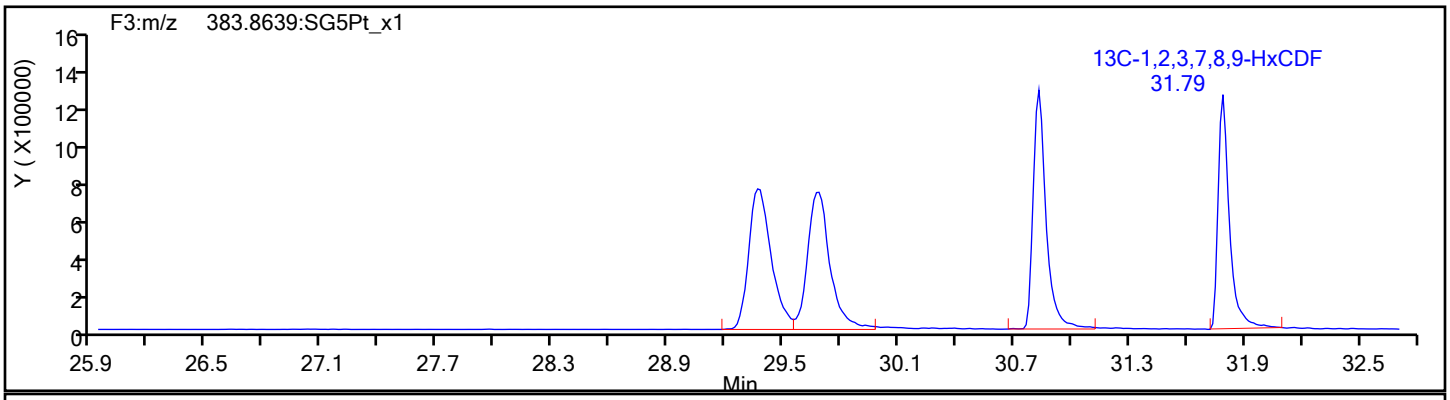

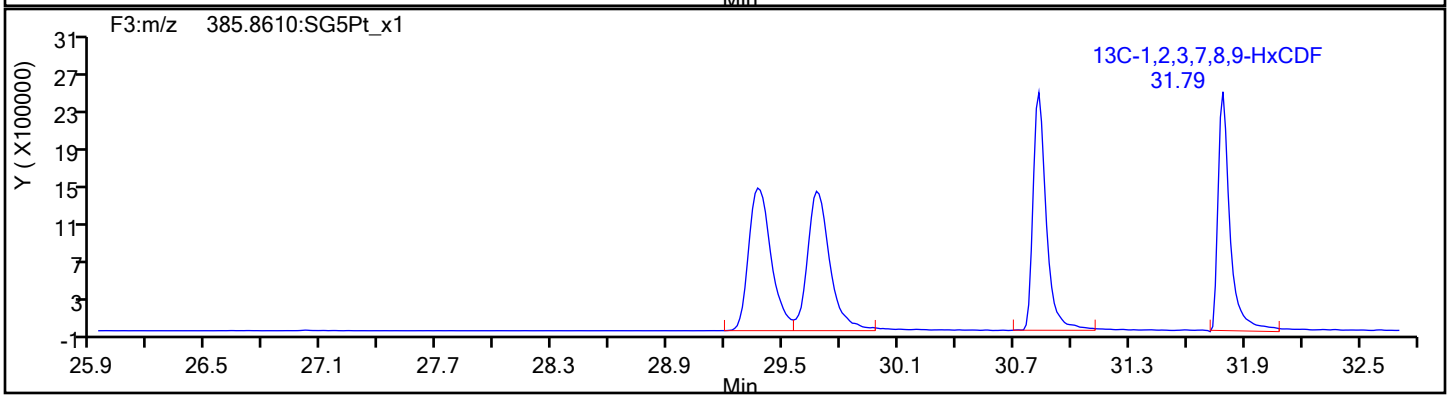

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Eurofins TestAmerica, Sacramento

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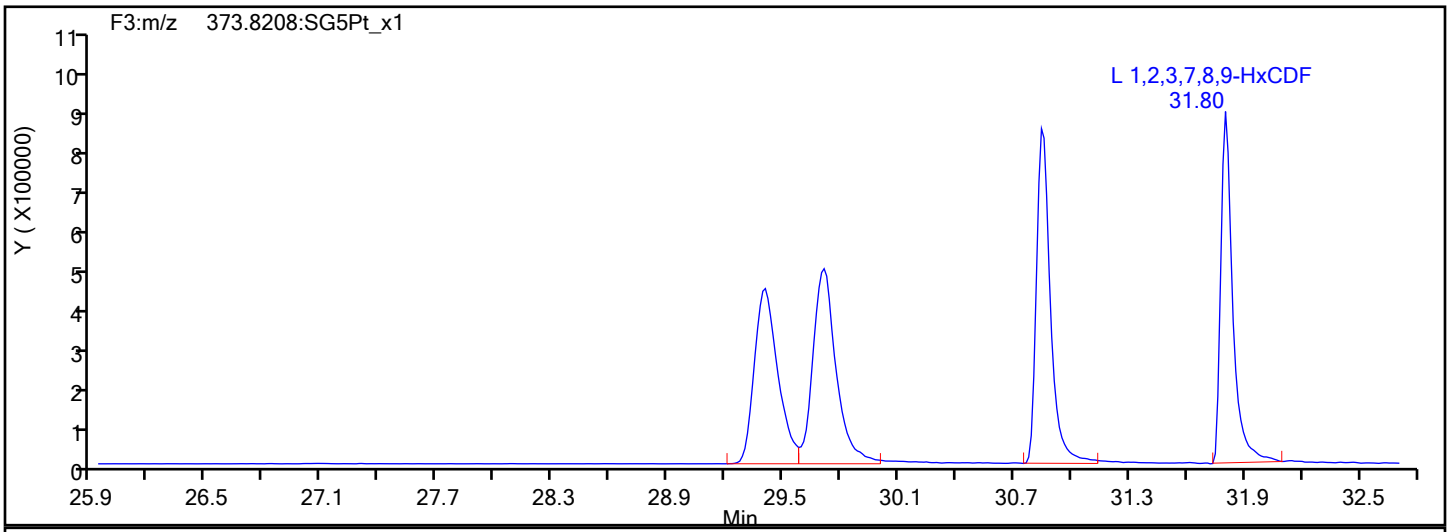

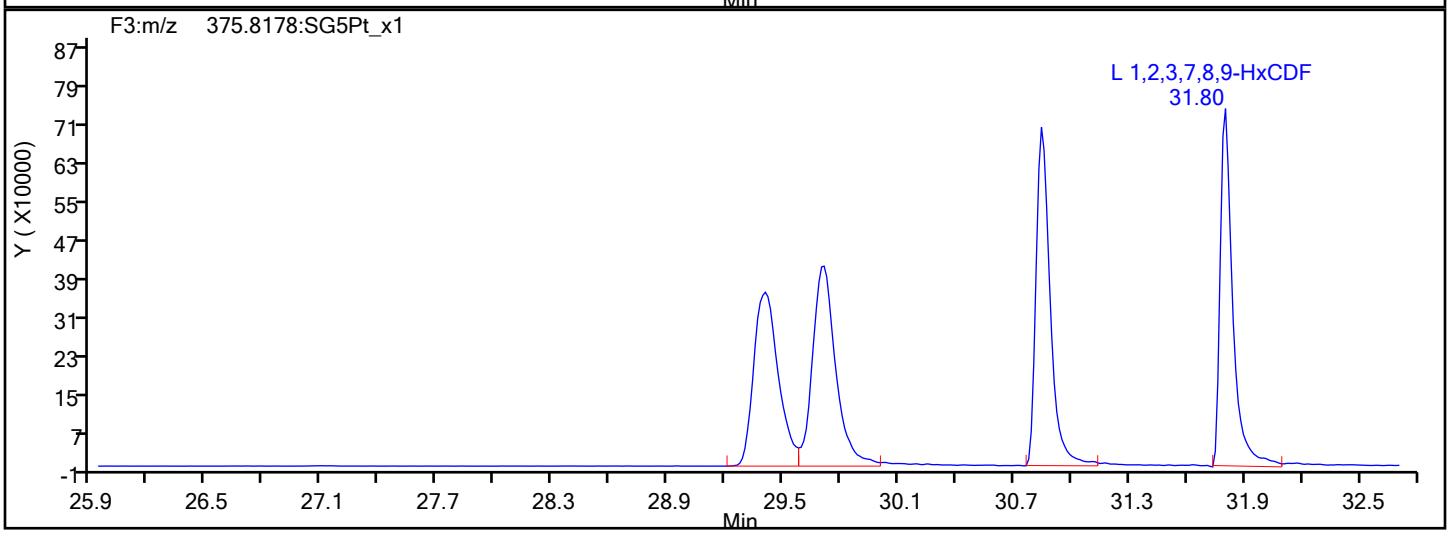

HxCDF Interference Mass

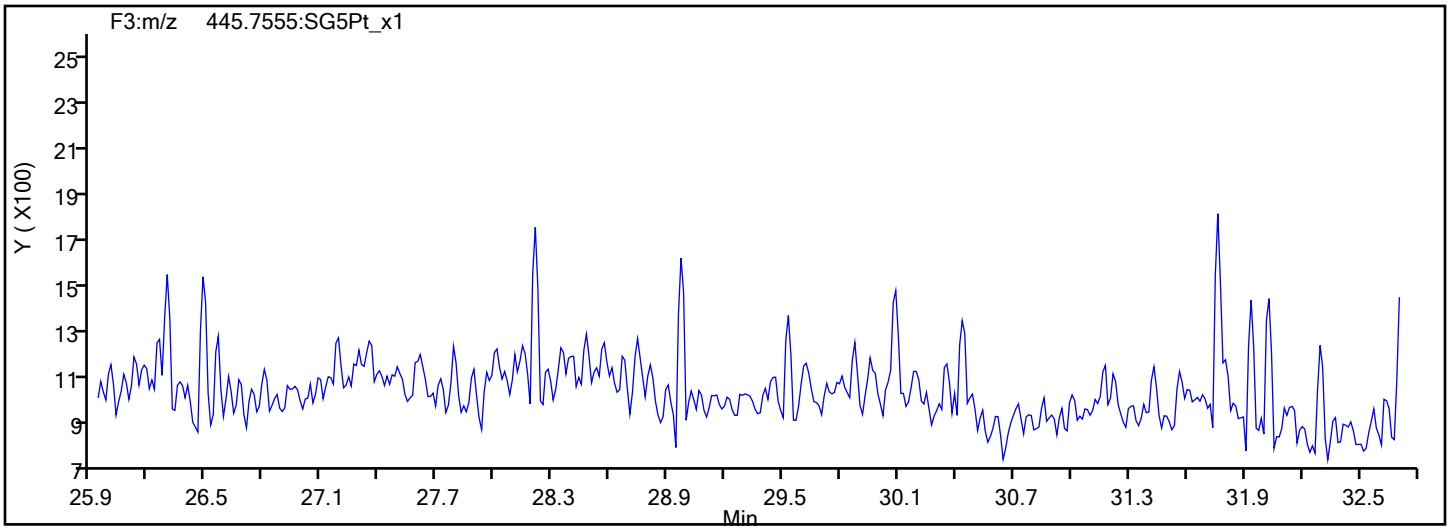

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Eurofins TestAmerica, Sacramento

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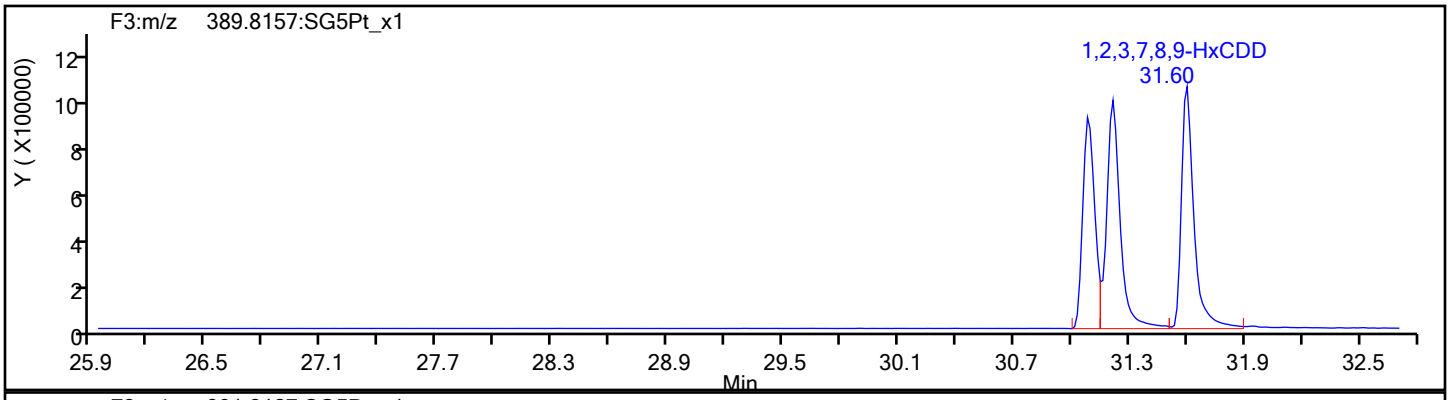

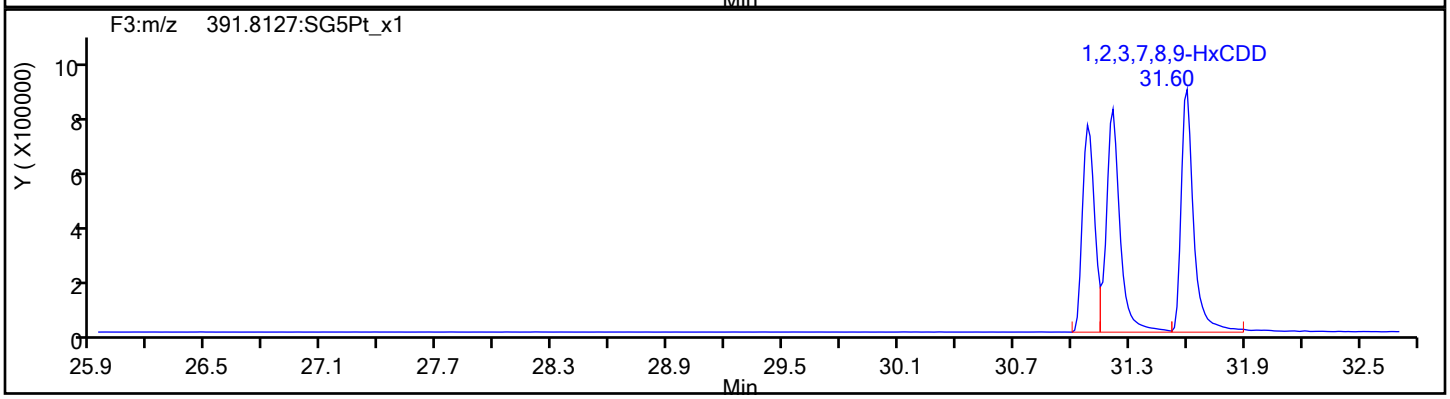

HxCDD Standards

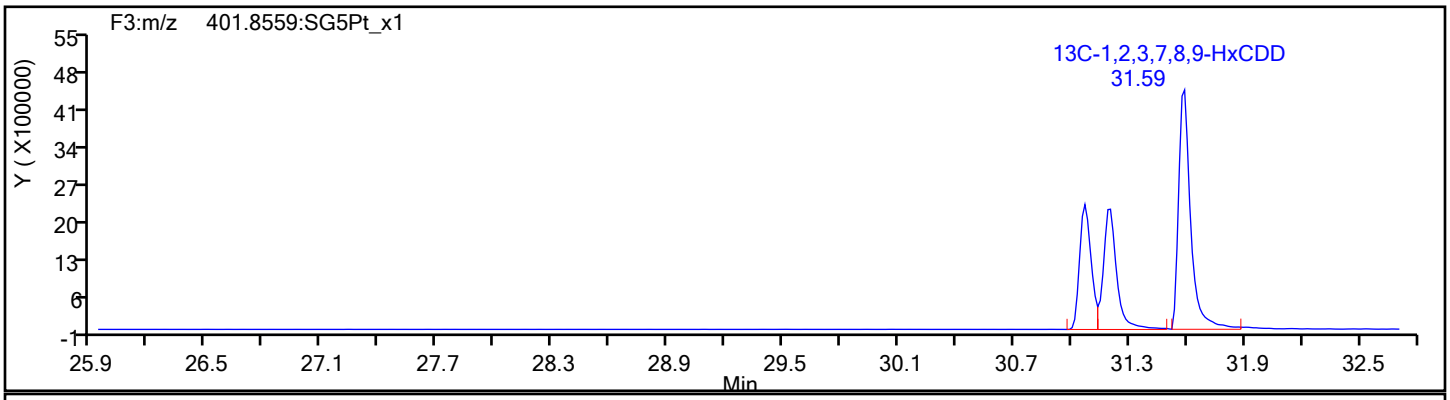

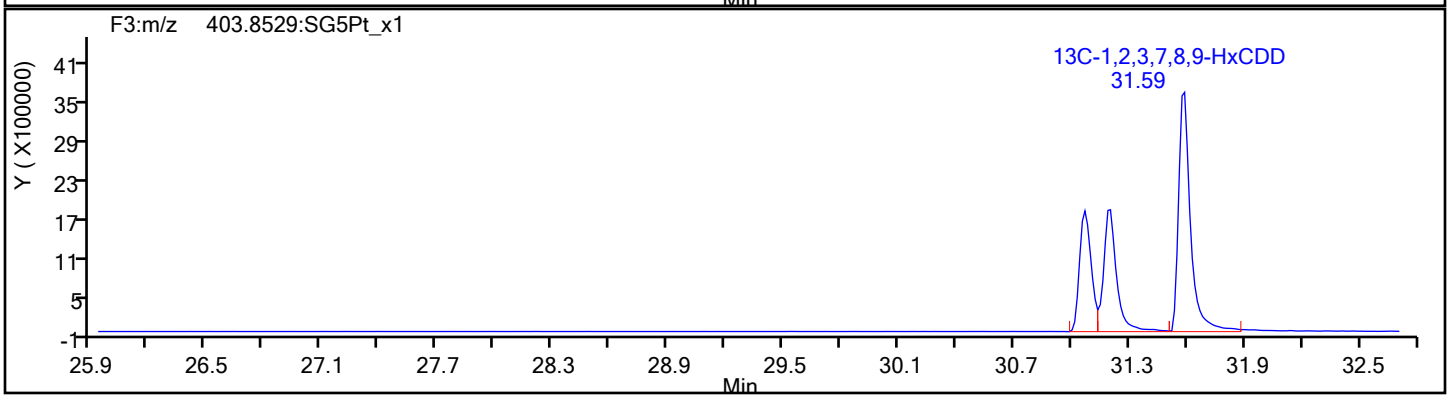

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Eurofins TestAmerica, Sacramento

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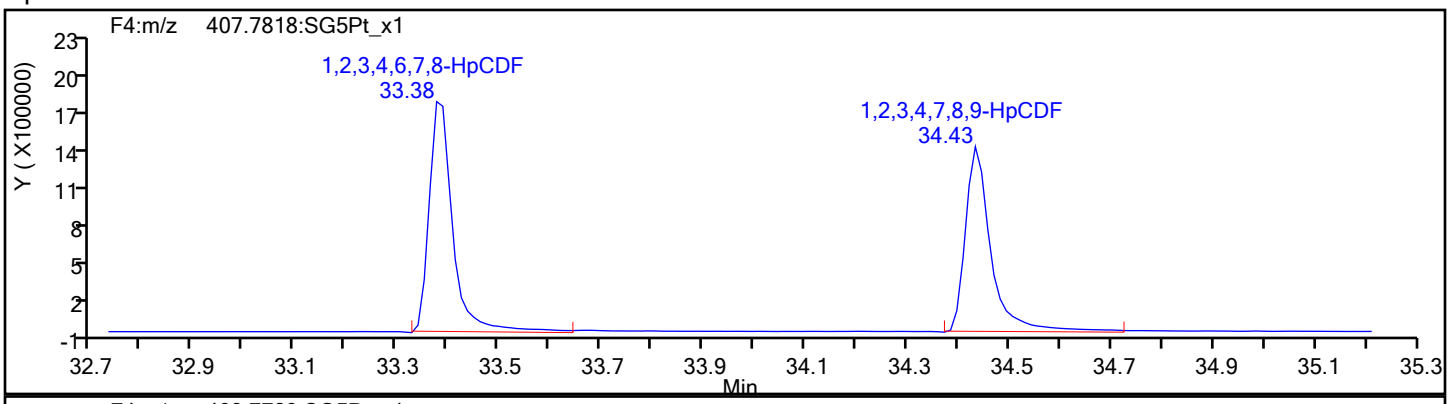

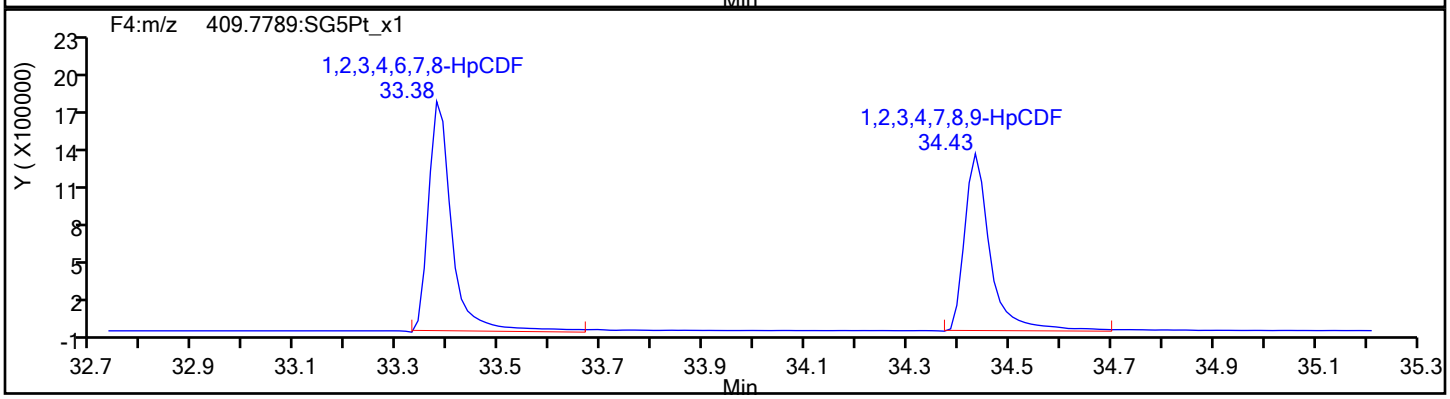

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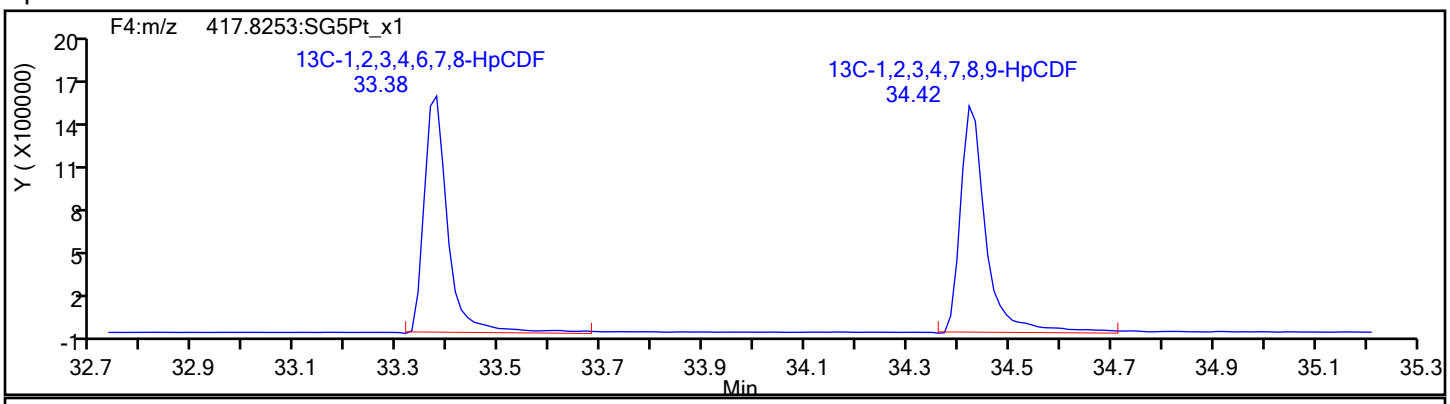

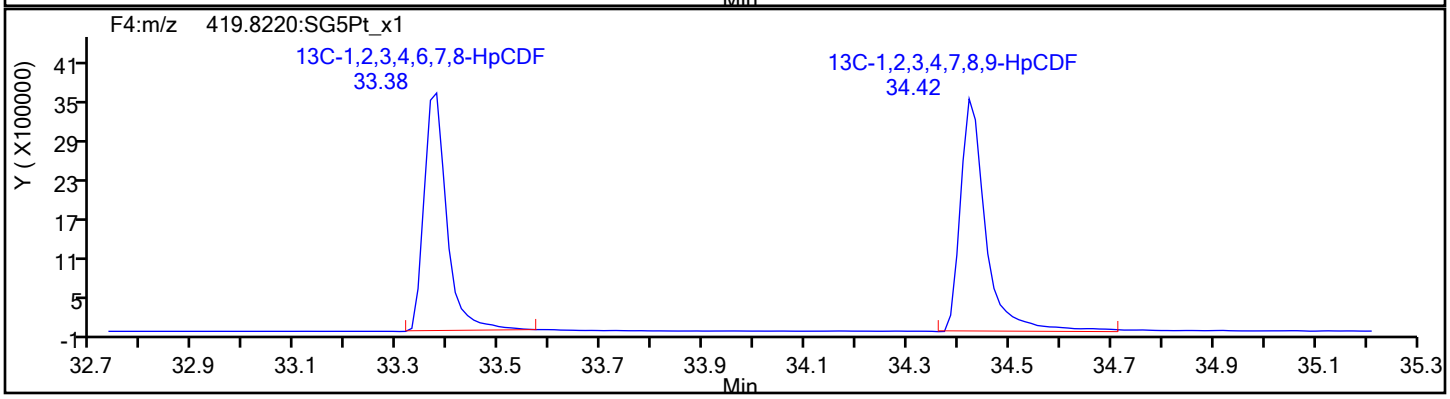

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Eurofins TestAmerica, Sacramento

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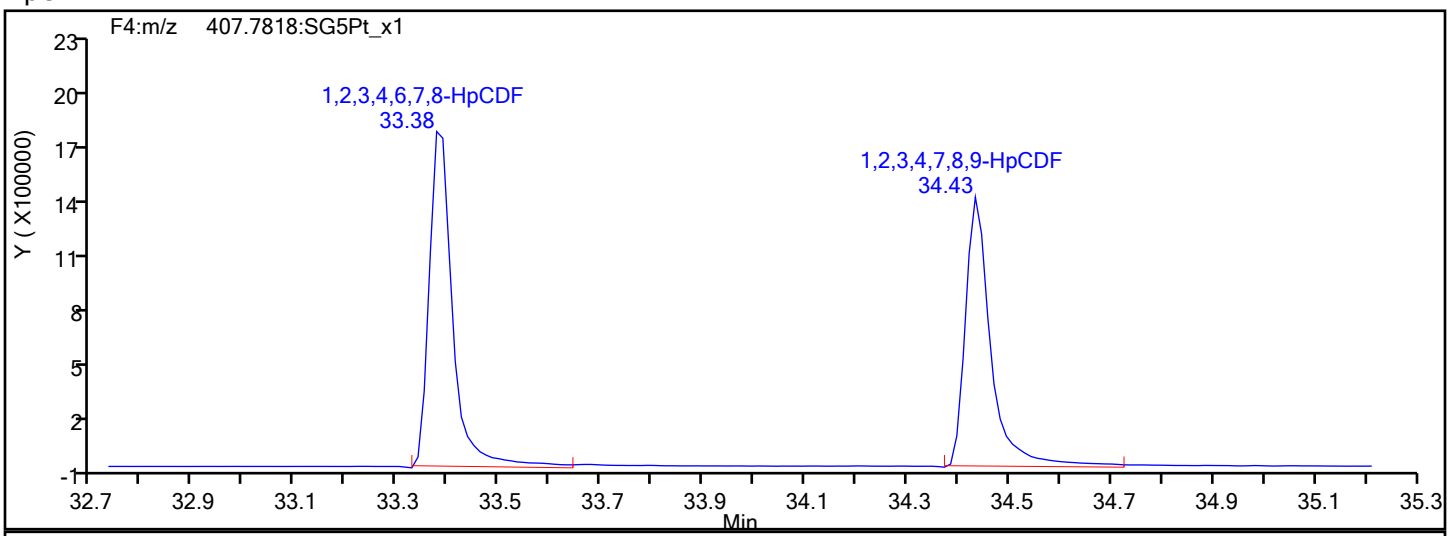

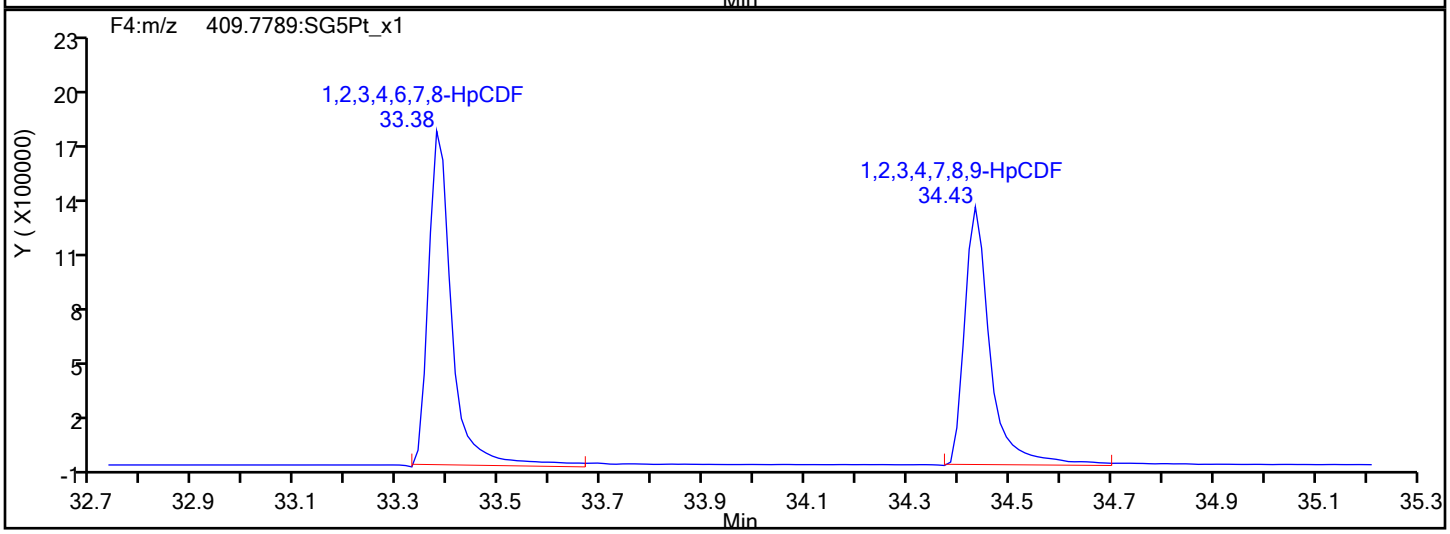

HpCDF Interference Mass

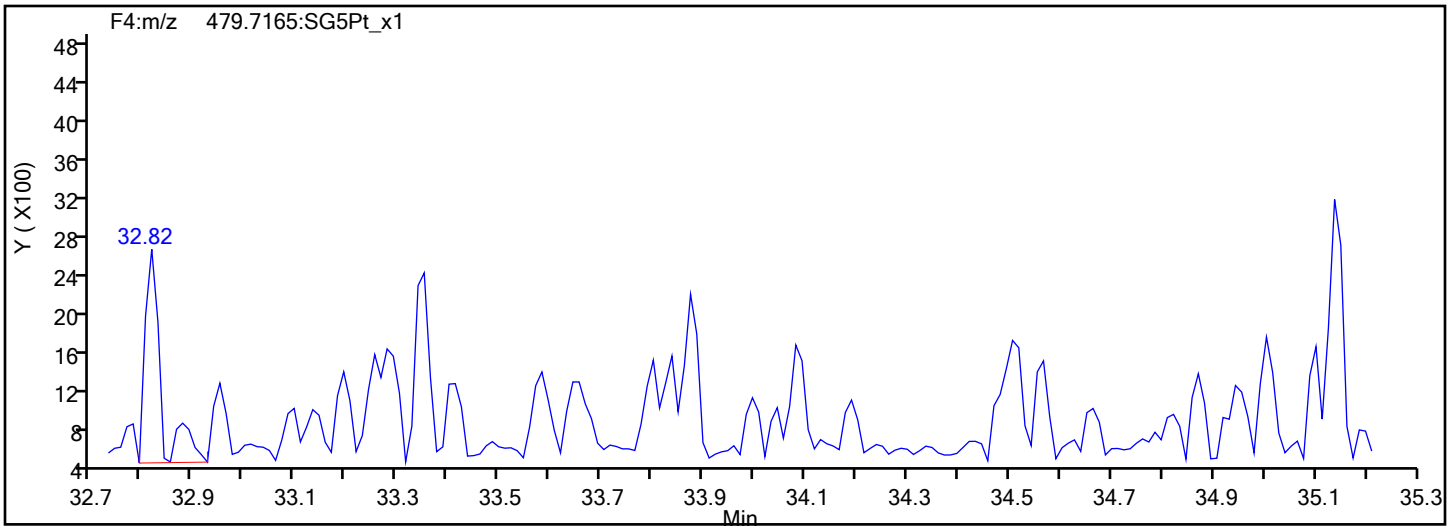

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Eurofins TestAmerica, Sacramento

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Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

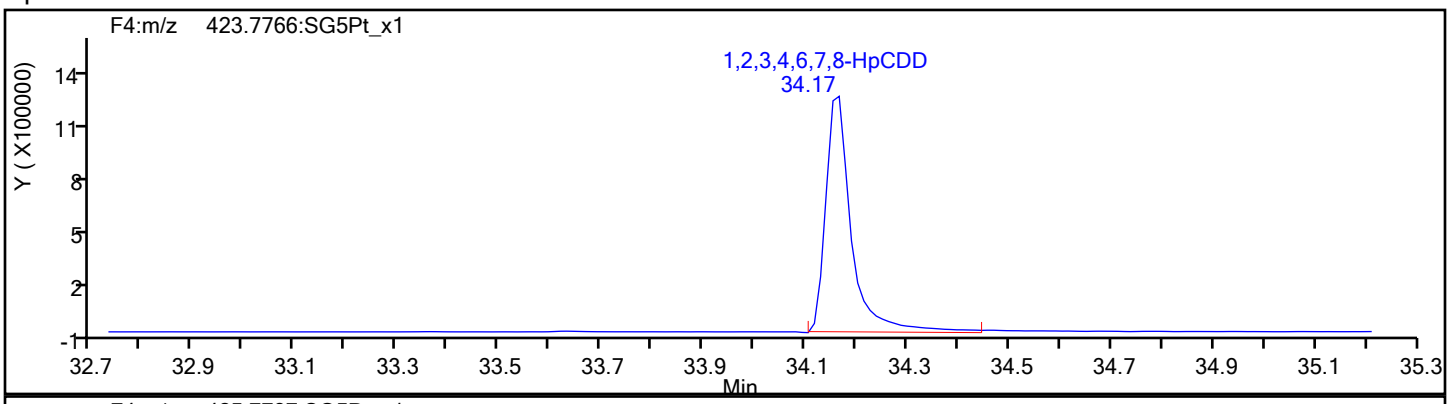

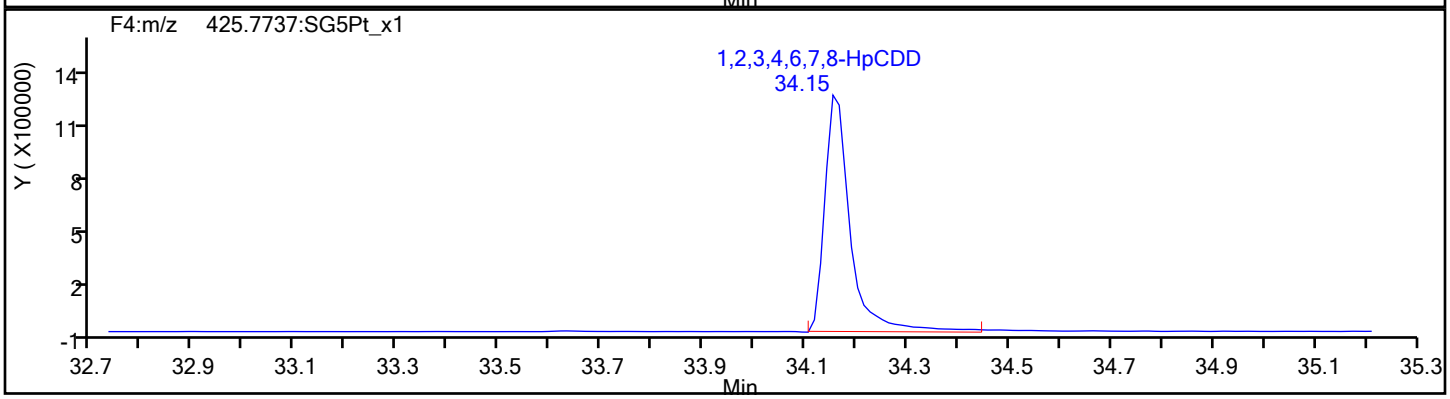

HpCDD Standards

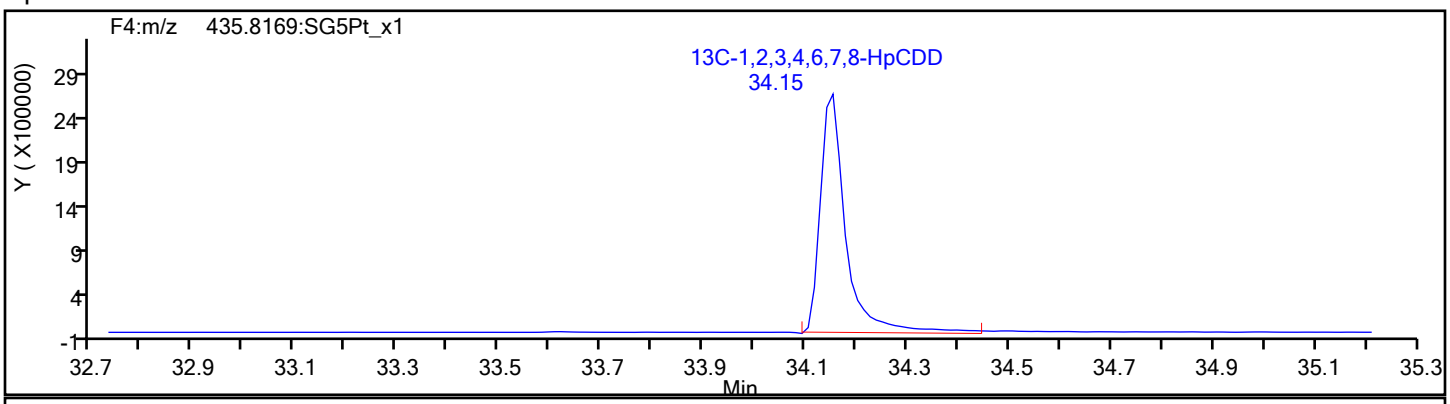

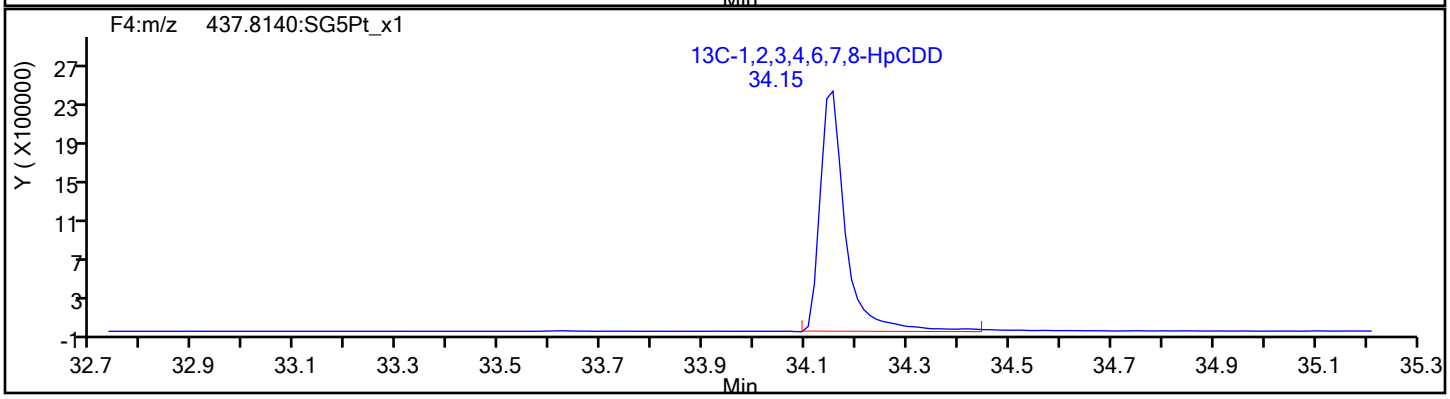

Report Date: 21-Feb-2020 09:50:16 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_45.d		
Injection Date:	20-Feb-2020 00:53:55	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	358703	Sample Line#:	45
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

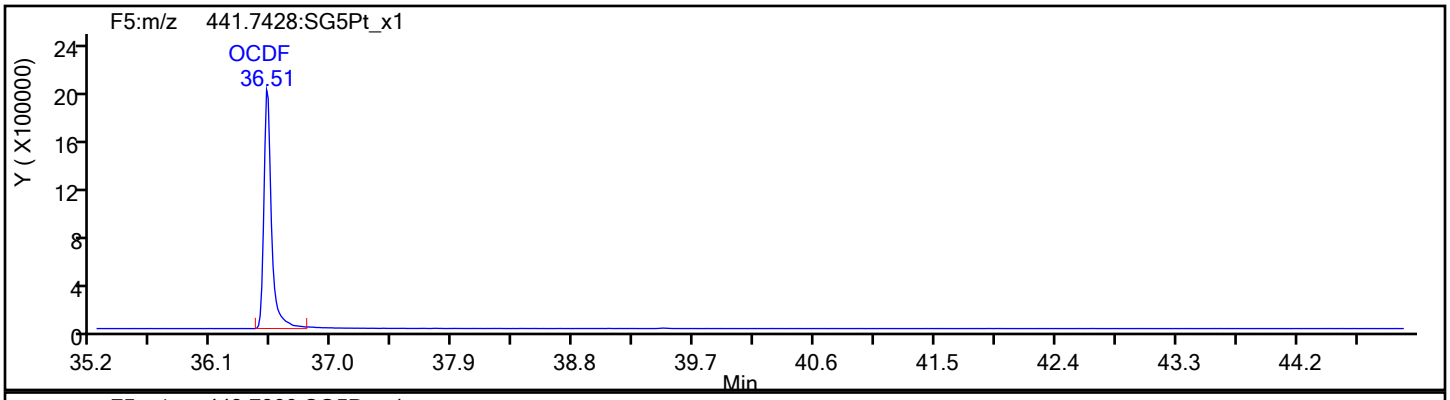

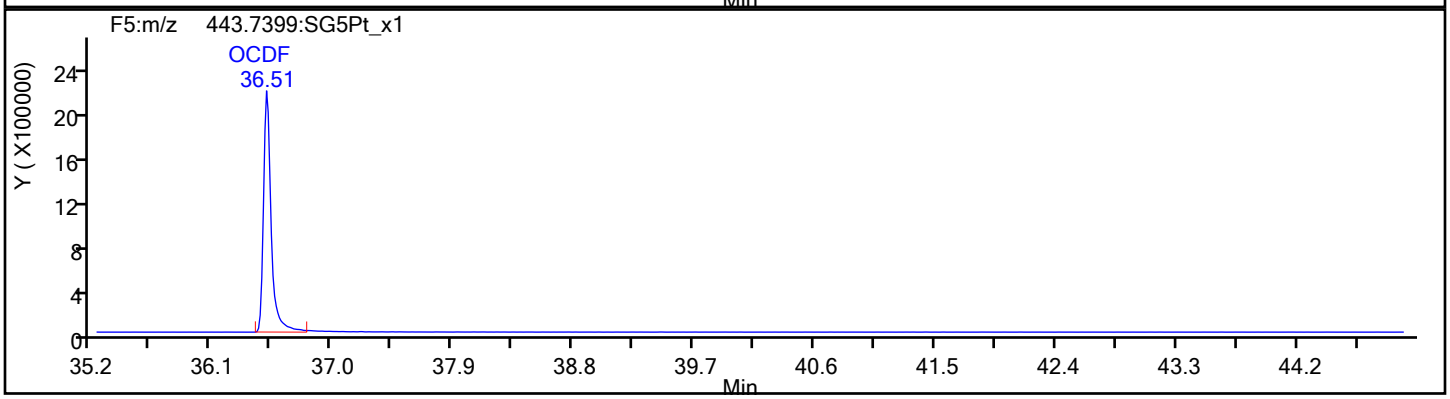

OCDF Standards

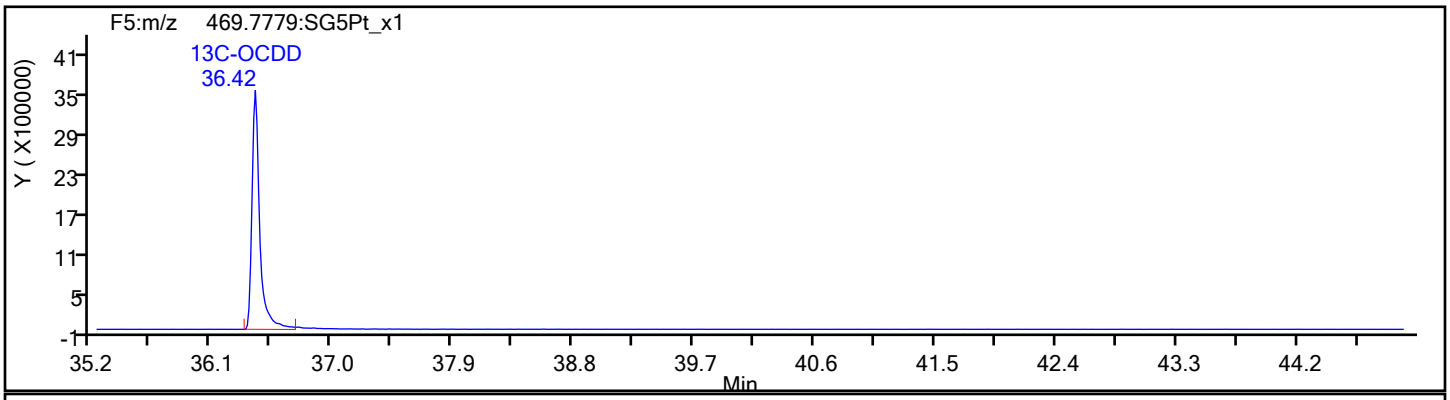

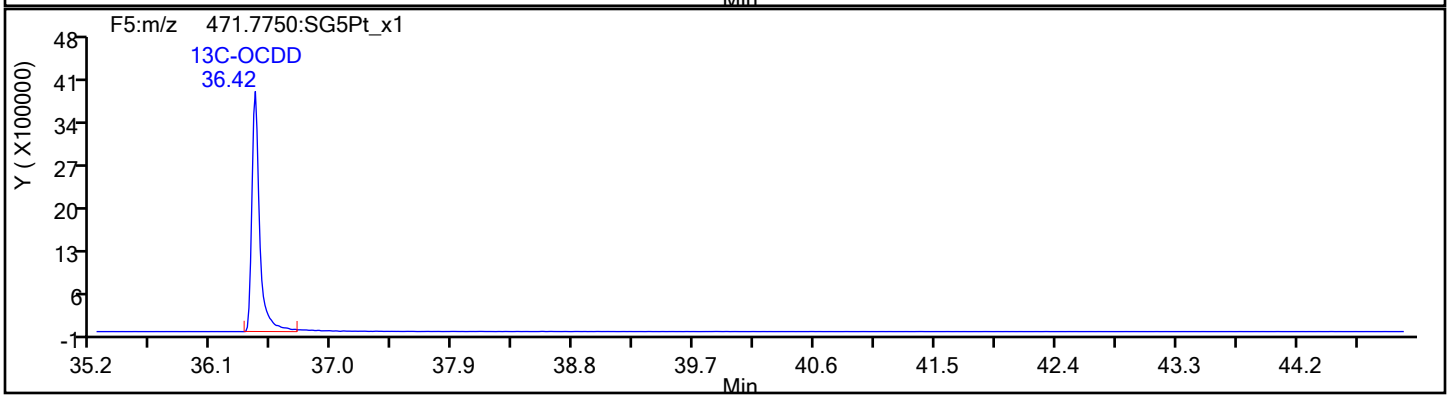

Report Date: 21-Feb-2020 09:50:16 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_45.d		
Injection Date:	20-Feb-2020 00:53:55	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	358703	Sample Line#:	45
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

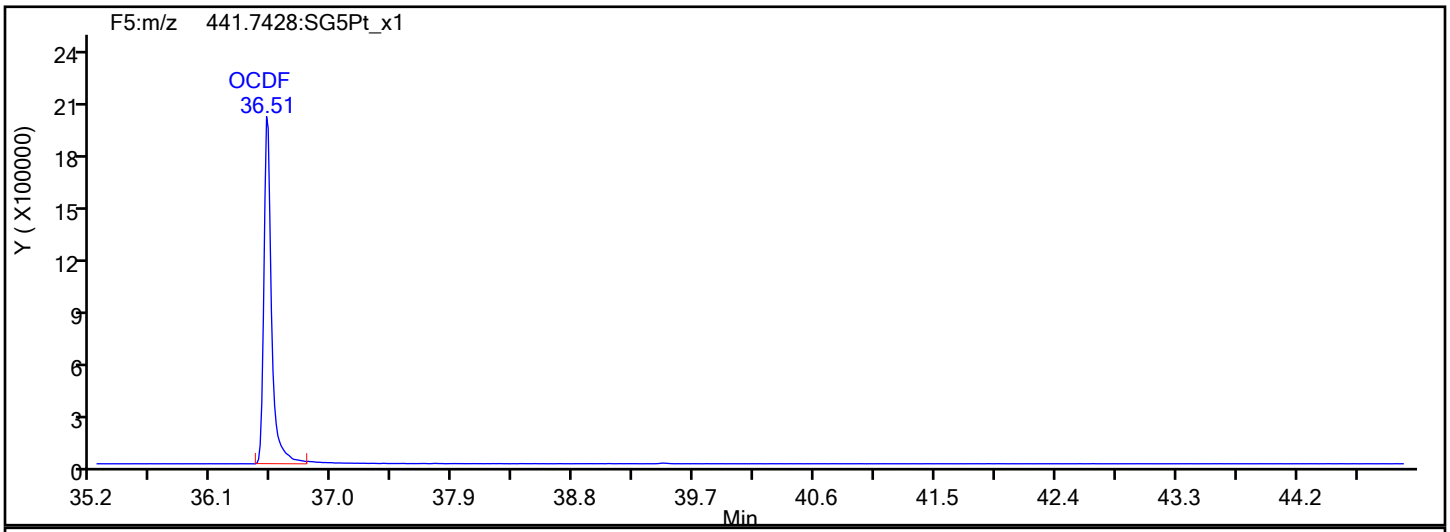

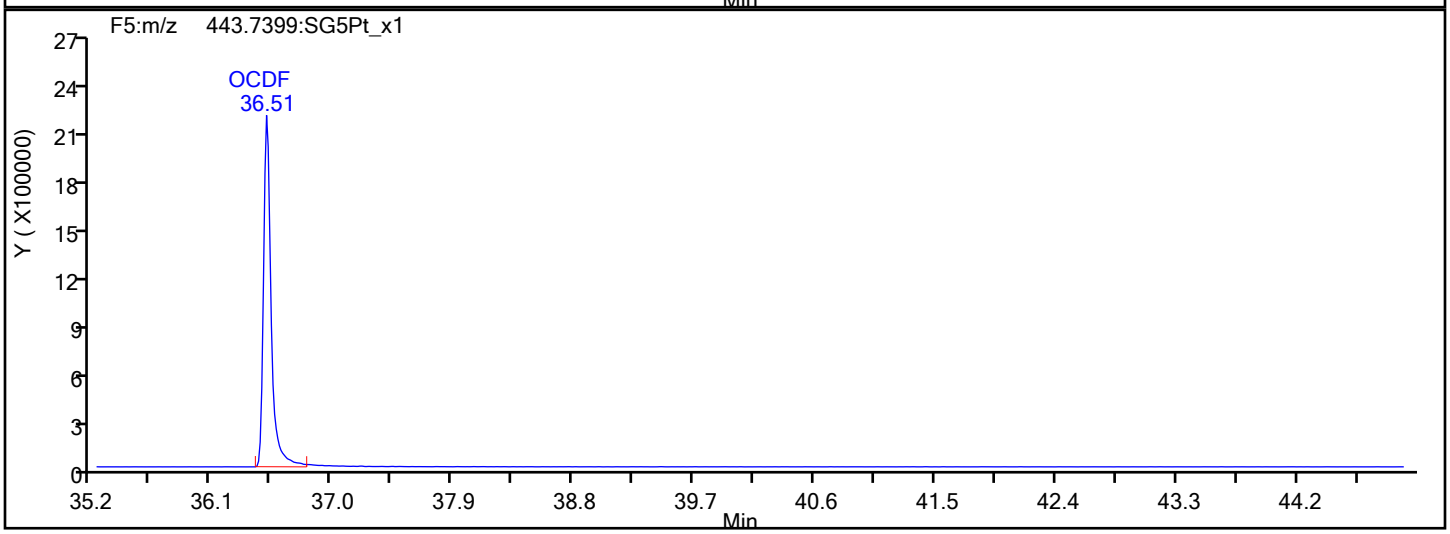

OCDF Interference Mass

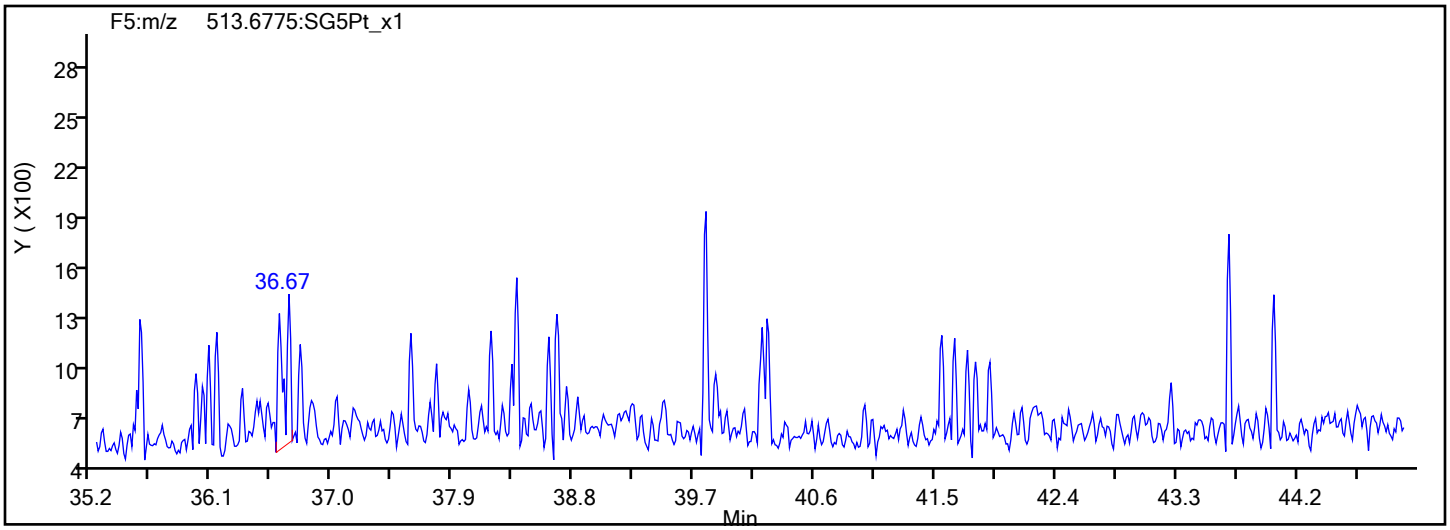

Report Date: 21-Feb-2020 09:50:16 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_45.d		
Injection Date:	20-Feb-2020 00:53:55	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	358703	Sample Line#:	45
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

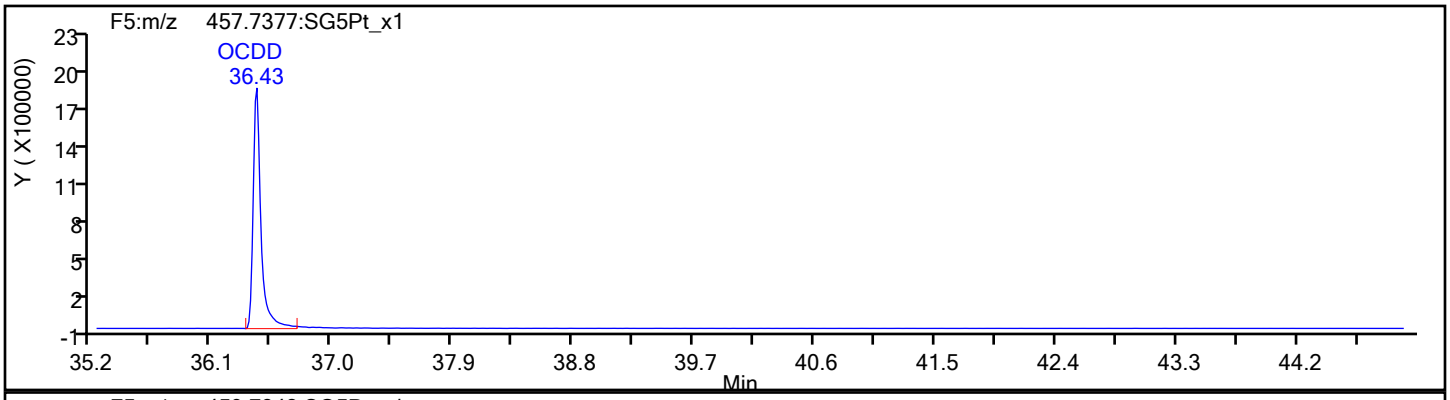

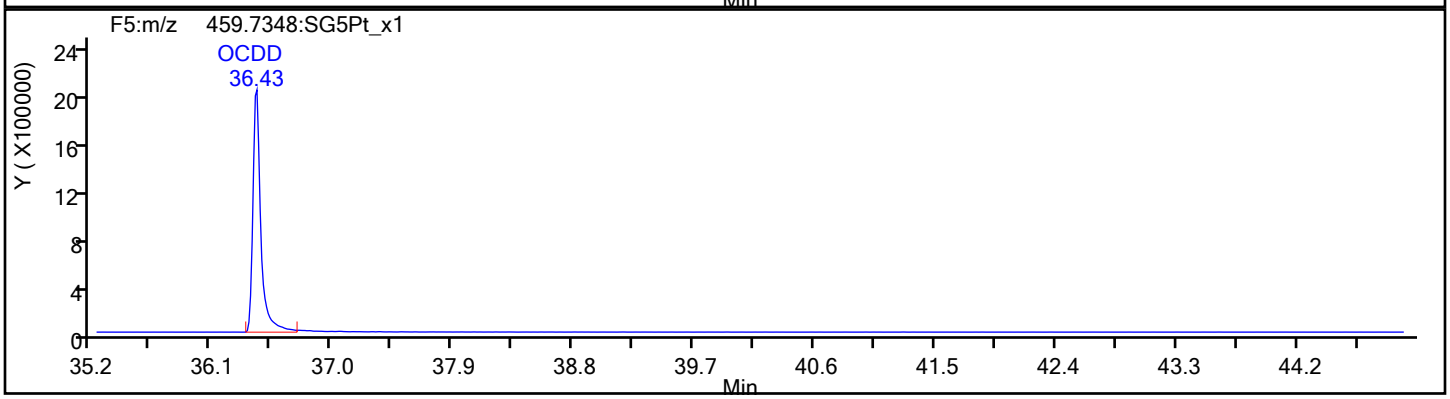

OCDD Standards

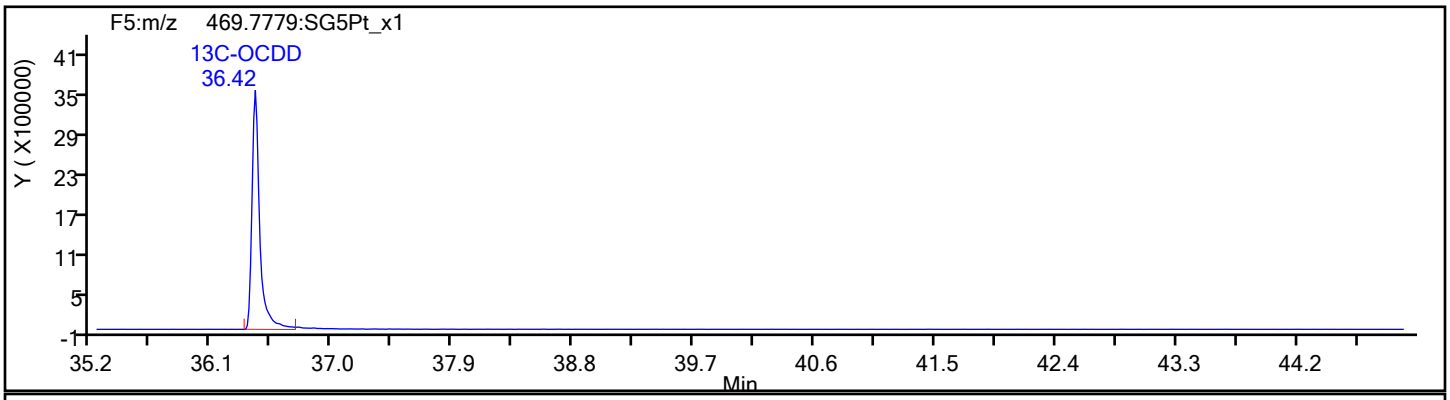

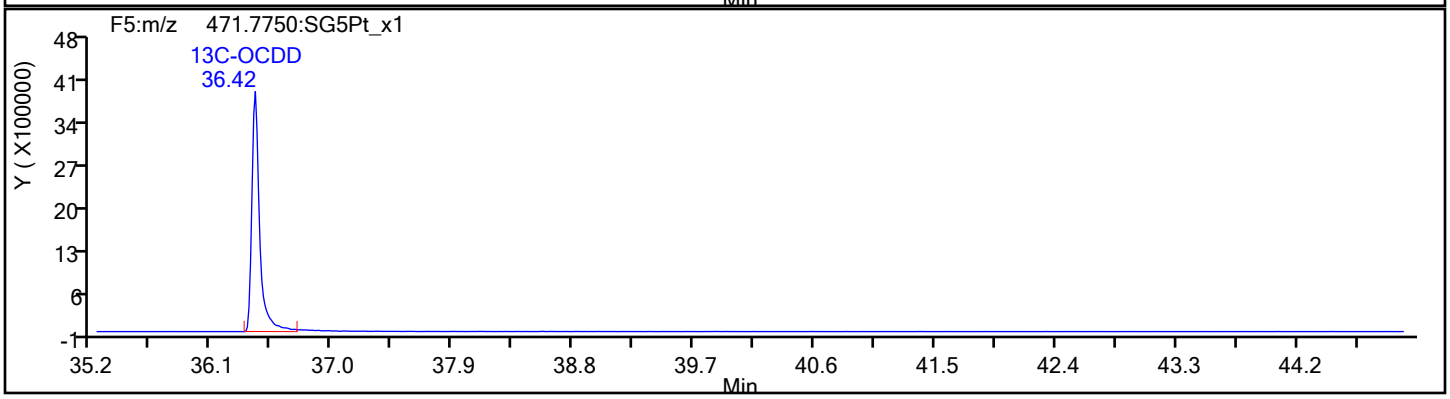

Report Date: 21-Feb-2020 09:50:16 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_45.d		
Injection Date:	20-Feb-2020 00:53:55	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	358703	Sample Line#:	45
Column Type:	DB-5	Column Dia:	0.32 mm

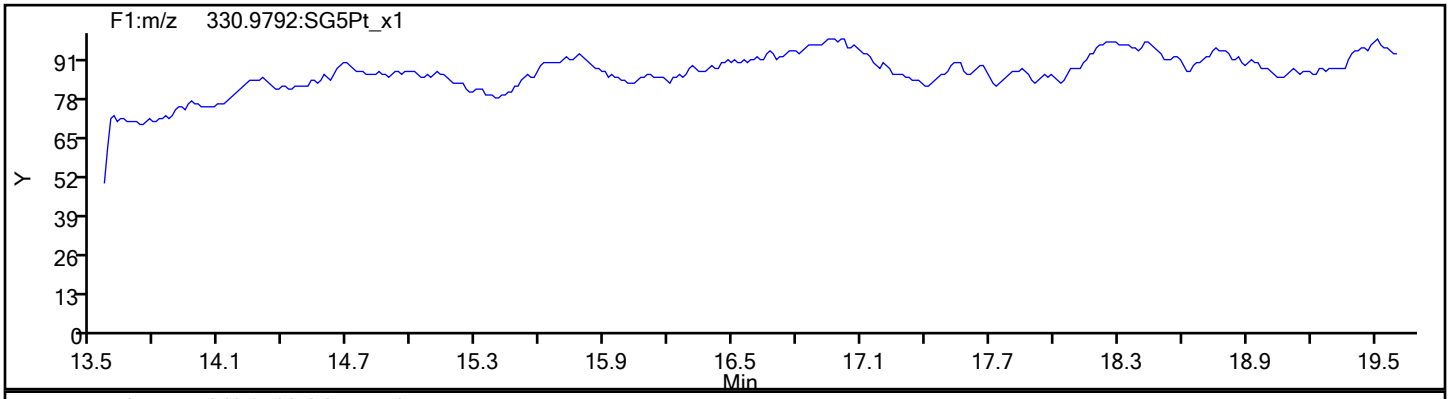

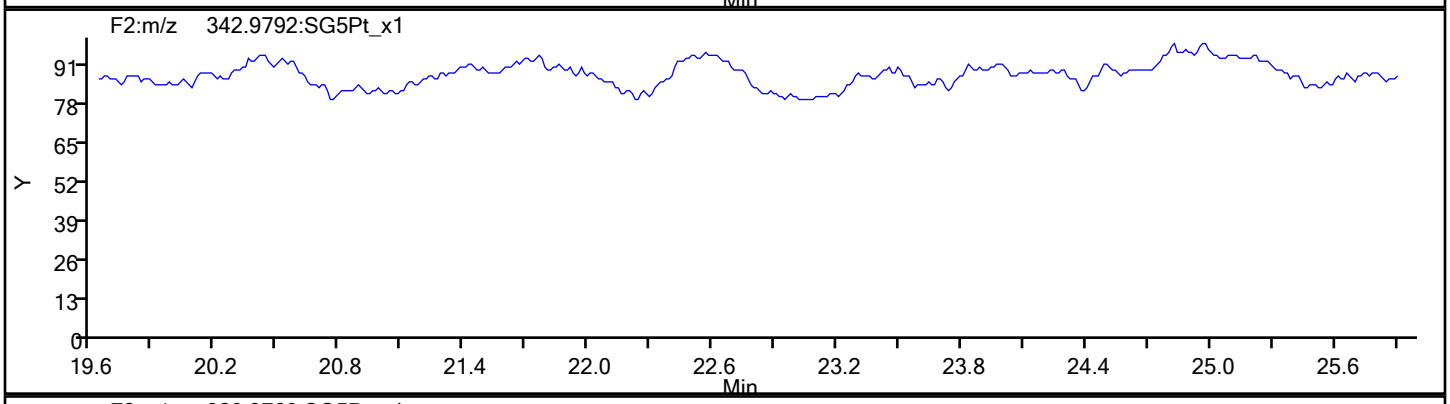

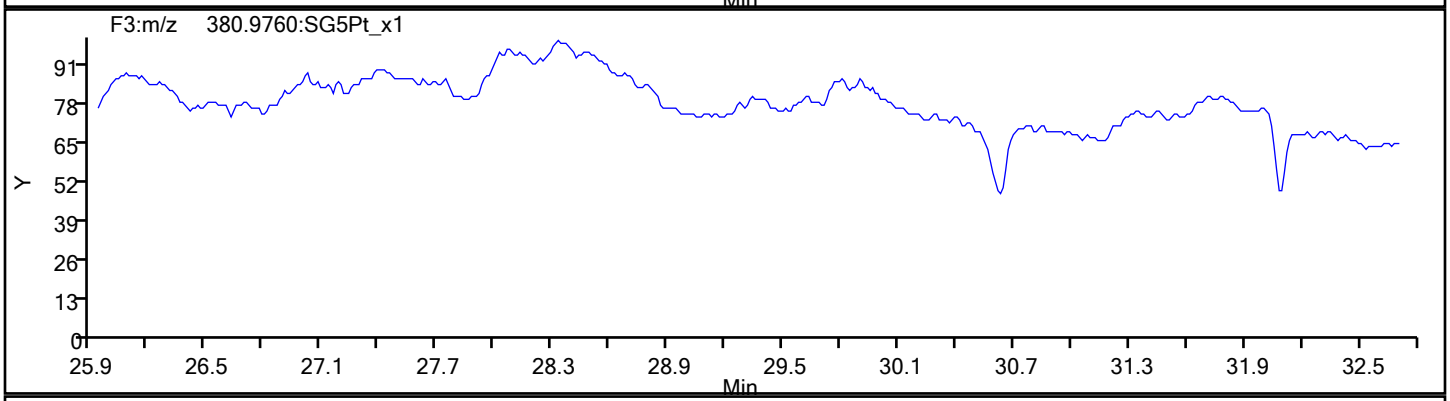

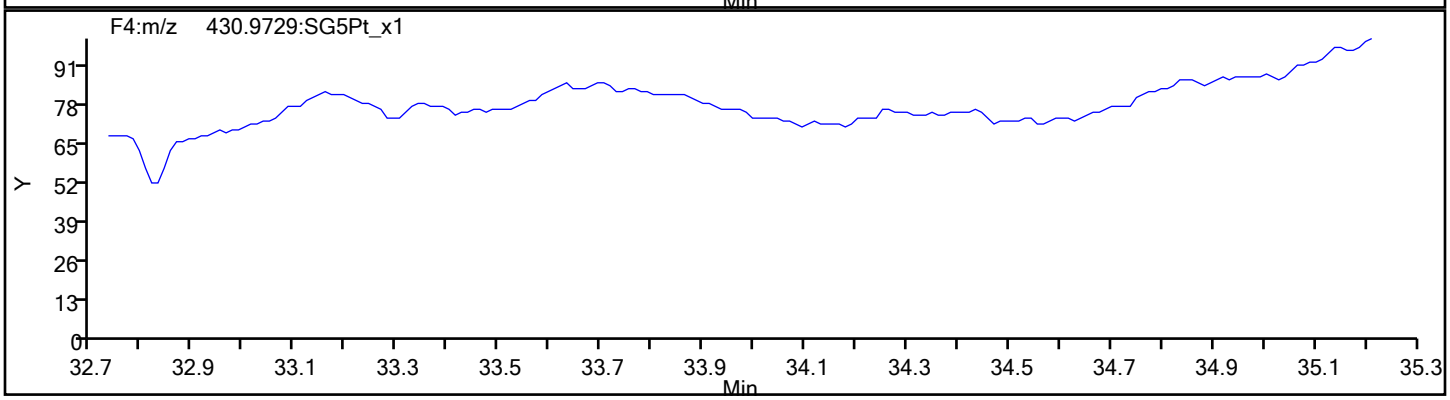

Report Date: 21-Feb-2020 09:50:16 Chrom Revision: 2.3 19-Feb-2020 16:45:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20200218-91349.b\18FE2010D5_45.d		
Injection Date:	20-Feb-2020 00:53:55	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	358703	Sample Line#:	45
Column Type:	DB-5	Column Dia:	0.32 mm

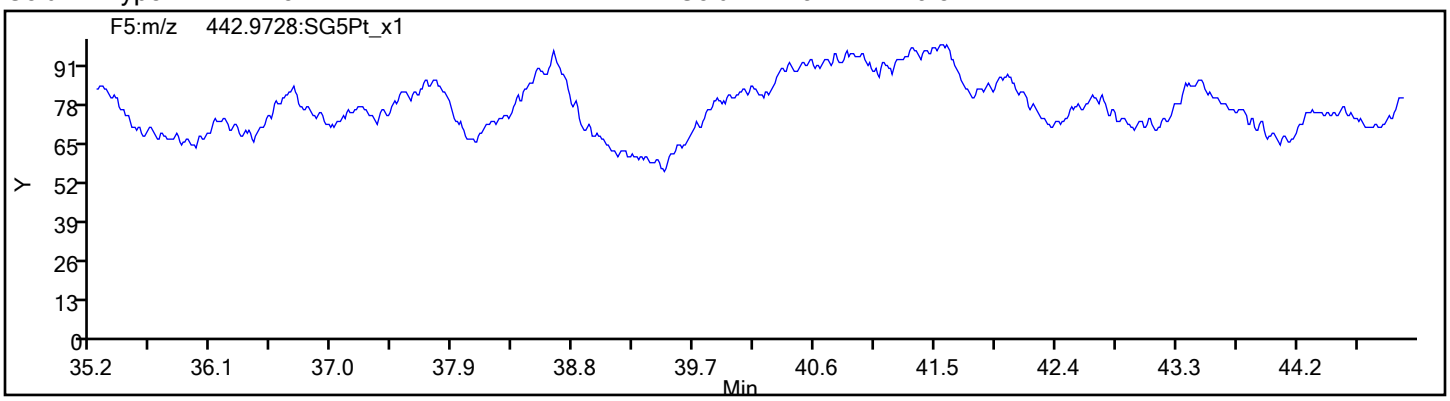

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58545-1

SDG No.:

Instrument ID: 10D5 Start Date: 01/30/2020 00:17

Analysis Batch Number: 353986 End Date: 01/30/2020 06:35

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
WDM 320-353986/2		01/30/2020 00:17	1	29JA20B10D5_2.d	DB-5 0.32(mm)
IC 320-353986/4		01/30/2020 01:49	1	29JA20B10D5_4.d	DB-5 0.32(mm)
IC 320-353986/5		01/30/2020 02:35	1	29JA20B10D5_5.d	DB-5 0.32(mm)
IC 320-353986/6		01/30/2020 03:21	1	29JA20B10D5_6.d	DB-5 0.32(mm)
IC 320-353986/7		01/30/2020 04:07	1	29JA20B10D5_7.d	DB-5 0.32(mm)
IC 320-353986/8		01/30/2020 04:53	1	29JA20B10D5_8.d	DB-5 0.32(mm)
ICV 320-353986/10		01/30/2020 06:35	1	29JA20B10D5_10.d	DB-5 0.32(mm)

1613B

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58545-1

SDG No.:

Instrument ID: 10D5 Start Date: 02/19/2020 21:16

Analysis Batch Number: 358703 End Date: 02/20/2020 07:01

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 320-358703/41		02/19/2020 21:16	1	18FE2010D5_41.d	DB-5 0.32(mm)
WDM 320-358703/42		02/19/2020 22:27	1	18FE2010D5_42.d	DB-5 0.32(mm)
MB 320-357123/1-A		02/20/2020 00:07	1	18FE2010D5_44.d	DB-5 0.32(mm)
LCS 320-357123/2-A		02/20/2020 00:53	1	18FE2010D5_45.d	DB-5 0.32(mm)
ZZZZZ		02/20/2020 01:39	1		DB-5 0.32(mm)
ZZZZZ		02/20/2020 02:25	1		DB-5 0.32(mm)
ZZZZZ		02/20/2020 03:11	1		DB-5 0.32(mm)
ZZZZZ		02/20/2020 03:57	1		DB-5 0.32(mm)
ZZZZZ		02/20/2020 04:43	1		DB-5 0.32(mm)
320-58545-1		02/20/2020 05:29	1	18FE2010D5_51.d	DB-5 0.32(mm)
320-58545-2		02/20/2020 06:15	1	18FE2010D5_52.d	DB-5 0.32(mm)
320-58545-3		02/20/2020 07:01	1	18FE2010D5_53.d	DB-5 0.32(mm)

1613B

DIOXIN BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Sacramen Job No.: 320-58545-1

SDG No.:

Batch Number: 357123 Batch Start Date: 02/13/20 08:36 Batch Analyst: Chang, Fue

Batch Method: HRMS-Sox Batch End Date: 02/17/20 06:15

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ExtractionID	RotoVapID	HRDXNIDA 00412	HRDXNIS 00121
MB 320-357123/1		HRMS-Sox, 1613B		10.0 g	20.0 uL	G - 1	1	1 mL	20 uL
LCS 320-357123/2		HRMS-Sox, 1613B		10.0 g	20.0 uL	G - 2	3	1 mL	20 uL
320-58545-A-1	11187072-Berm-Rock	HRMS-Sox, 1613B	T	10.05 g	20.0 uL	H - 2	3	1 mL	20 uL
320-58545-A-2	11187072-Eastern Rock	HRMS-Sox, 1613B	T	10.26 g	20.0 uL	H - 3	1	1 mL	20 uL
320-58545-A-3	11187072-Western-Rock	HRMS-Sox, 1613B	T	9.73 g	20.0 uL	H - 4	3	1 mL	20 uL

Lab Sample ID	Client Sample ID	Method Chain	Basis	HRDXNSU 00231	HRDXNTA 00118				
MB 320-357123/1		HRMS-Sox, 1613B		1 mL					
LCS 320-357123/2		HRMS-Sox, 1613B		1 mL	50 uL				
320-58545-A-1	11187072-Berm-Rock	HRMS-Sox, 1613B	T	1 mL					
320-58545-A-2	11187072-Eastern Rock	HRMS-Sox, 1613B	T	1 mL					
320-58545-A-3	11187072-Western-Rock	HRMS-Sox, 1613B	T	1 mL					

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

DIOXIN BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Sacramen Job No.: 320-58545-1

SDG No.:

Batch Number: 357123 Batch Start Date: 02/13/20 08:36 Batch Analyst: Chang, Fue

Batch Method: HRMS-Sox Batch End Date: 02/17/20 06:15

Batch Notes	
20% DCM:Hexane ID	DH28_00164 mL
65% DCM:Hexane ID	DH6535_00451 mL
Acid Silica Gel ID	SA5644_00601
Acid Alumina ID	28X
Balance ID	QA-070
C14 ID	STBJ0716
Hexane ID	Hexane_00160 mL
IFB Clean Up	RDR 02/17/20
Na2SO4 ID	1875901
Analyst ID - IDA Reagent Drop	FC 2/13/20 HD05018 B-4/4
Analyst ID - IDA Reagent Drop Witness	JH 02/13/20
Analyst ID - IS Reagent Drop	NR 02/17/2020 HRDXNIS_00121 B 3/4 DB15270 20 uL
Analyst ID - IS Reagent Drop Witness	FC 02/17/20
Analyst ID - SU Reagent Drop	RDR 02/17/20 HRDXNSU_00231 B1/4 HD05018 1.00 mL
Analyst ID - SU Reagent Drop Witness	FC 02/17/20
Analyst ID - TA Reagent Drop	FC 2/13/20 DB15270 B-5/10
Analyst ID - TA Reagent Drop Witness	JH 02/13/20
Silica Gel ID	SilicaGel_00310
Soxhlet/Soxtherm End	FC 02/13/20 1245
Soxhlet/Soxtherm Start	FC 02/13/20 0945
Storage Box ID	DXN-132
Toluene ID	1876688 mL

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Sacramento Job Number: 320-58545-1

SDG No.:

Project: San Jacinto River Waste Pits Superfund

Client Sample ID	Lab Sample ID
11187072-Berm-Rock	320-58545-1
11187072-Eastern Rock	320-58545-2
11187072-Western-Rock	320-58545-3

Comments:

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Sacrament Job Number: 320-58545-1

SDG Number:

Matrix: Sediment Instrument ID: NOEQUIP

Method: D 2216 MDL Date: 01/01/2017 12:44

Analyte	Wavelength/ Mass	RL (%)	MDL (%)
Percent Moisture		0.1	0.1
Percent Solids		0.1	0.1

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Sacrament Job Number: 320-58545-1

SDG Number:

Matrix: Sediment Instrument ID: NOEQUIP

Method: D 2216 XMDL Date: 01/01/2017 12:46

Analyte	Wavelength/ Mass	XRL (%)	XMDL (%)
Percent Moisture		0.1	0.1
Percent Solids		0.1	0.1

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 320-58545-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: D 2216

Start Date: 02/14/2020 13:45 End Date: 02/14/2020 13:45

Lab Sample Id	D/F	Type	Time	Analytes																							
				% Sol	Moist																						
320-58545-1	1	T	13:45	X	X																						
320-58545-1 DU	1	T	13:45	X	X																						
320-58545-2	1	T	13:45	X	X																						
320-58545-3	1	T	13:45	X	X																						
ZZZZZZ			13:45																								
ZZZZZZ			13:45																								
ZZZZZZ			13:45																								
ZZZZZZ			13:45																								
ZZZZZZ			13:45																								
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ZZZZZZ			13:45																								
ZZZZZZ			13:45																								
ZZZZZZ			13:45																								
ZZZZZZ			13:45																								
ZZZZZZ			13:45																								
ZZZZZZ			13:45																								

Prep Types:
T = Total/NA

FORM XIII-IN

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Sacramen Job No.: 320-58545-1

SDG No.:

Batch Number: 357523 Batch Start Date: 02/14/20 13:45 Batch Analyst: Rusti, Constantin

Batch Method: D 2216 Batch End Date: 02/17/20 10:24

Lab Sample ID	Client Sample ID	Method Chain	Basis	DISH#	DishWeight	SampleMassWet	SampleMassDry		
320-58545-A-1	11187072-Berm-Rock	D 2216	T	1	1.00 g	13.49 g	13.45 g		
320-58545-A-1 DU	11187072-Berm-Rock	D 2216	T	2	1.00 g	12.09 g	12.05 g		
320-58545-A-2	11187072-Eastern Rock	D 2216	T	3	1.01 g	11.21 g	10.64 g		
320-58545-A-3	11187072-Western-Rock	D 2216	T	4	1.03 g	11.94 g	11.31 g		

Batch Notes	
Balance ID	QA-068
Date and Time Samples in Desiccator	02/17/2020 09:33
Date and Time Samples out of Desiccator	02/17/2020 10:24
Date samples were placed in the oven	02/14/2020
Oven Temp In	109 Degrees C
Time samples were place in the oven	13:45
Date samples were removed from oven	02/17/2020
Oven Temp Out	117 Degrees C
Time Samples were removed from oven	09:33
Oven ID	Soil Prep #2
Thermometer ID	151969607

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Shipping and Receiving Documents

CHAIN OF CUSTODY RECORD

COC NO.: 59818

Address: 2055 Niagara Falls Blvd

PAGE ___ OF ___

Phone: 716-297-6150 Fax:

Project No/ Phase/Task Code: 11187072	Laboratory Name: Eurofins/Test America	Lab Location: Sacramento	SSOW ID:
Project Name: San Jacinto	Lab Contact: Carrie Gamber / Beth Hitt		Cooler No:
Project Location: Texas			Carrier:
GHD Chemistry Contact: Debbie Brennan			Airbill No:
Sampler(s): Don Pope			Total # of Containers: 3

Item	Sample Identification (Containers for each sample may be combined on one line)	Date (mm/dd/yy)	Time (hh:mm)	Matrix Code (see back of COC)	Grab (G) or Comp (C)	Filtered (Y/N)	Dissolved Furans												Total Containers/sample	MS/MSD Request	Comments/ Special Instructions:
	PRESERVATION - (SEE BACK OF COC FOR ABBREVIATIONS)																				
1	11187072-Berm-Rock	2/11/20	11:00	SO			x												1		Attn to: Carrie Gamber
2	11187072- Eastern Rock	2/11/20	11:00	SO			x												1		
3	11187072- Western Rock	2/11/20	11:00	SO			x												1		
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

320-58545 Chain of Custody

TAT Required in business days (use separate COCs for different TATs):

☐ ☐1 Day ☐2 Days ☐3 Days ☐1 Week ☐2 Week

Notes/ Special Requirements:

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1. Don Pope	GHD	2/11/20	13:30	1. [signature]	ETA - SAC	Feb 12, 20	920
2.				2.			
3.				3.			

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT – ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE – Fully Executed Copy (CRA) YELLOW – Receiving Laboratory Copy PINK – Shipper GOLDENROD – Sampling Crew

CRA Form: COC-10B (20110804)

eurofins | Environment Testing TestAmerica

Sacramento Sample Receiving Notes

320-58545 Field Sheet

Tracking #: 4576 5885 1726

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier

GSO / OnTrac / Goldstreak / USPS / Other_____

Job:_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations. File in the job folder with the COC.

Notes:_____

Therm. ID: AK12 Corr. Factor: (+ / -) 0 °C

Ice ✓ Wet_____ Gel_____ Other_____

Cooler Custody Seal: —

Cooler ID: —

Temp Observed: 1.1 °C Corrected: 1.1 °C

From: Temp Blank ☑ Sample ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Samples received within holding time?	☑	☐	☐

Initials: PK Date: Feb 12, 20

Unpacking/Labeling The Samples	Yes	No	NA
CoC is complete w/o discrepancies?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
Sample containers have legible labels?	☑	☐	☐
Sample custody seal?	☐	☐	☑
Containers are not broken or leaking?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

Non-conformance	Yes	No	NA
NCM Filed?	☐	☐	☑

Initials: SO Date: 2/12/20

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

ORIGIN ID:DKKA (716) 297-2160
BRITT GEBHARDT
GHD
2055 NIAGARA FALLS BLVD

NIAGARA FALLS, NY 14304
UNITED STATES US

SHIP DATE: 11FEB20
ACTWGT: 20.00 LB MAN
CAD: 68417/CAFE3211

BILL SENDER

TO **SAMPLE RECEIVING**
EUROFINS/TEST AMERICA
880 RIVERSIDE PARKWAY

W. SACRAMENTO CA 95605
(916) 373-5600
REF: 11187072 - NI0402 GEB (POPE)

FedEx
Express

J181118060501ev

TRK# 0201 **4576 5885 1726**

WED - 12 FEB 10:30A
PRIORITY OVERNIGHT

XH BLUA

95605
CA-US **SMF**

Part # 154254-354 RIT EXP 01/20

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 320-58545-1

Login Number: 58545
List Number: 1
Creator: Nuval, Mark-Anthony M

List Source: Eurofins TestAmerica, Sacramento

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Job Number: 180-96144-1

Job Description: San Jacinto River Waste Pits Superfund

For:
GHD Services Inc.
5551 Corporate Boulevard
Suite 200
Baton Rouge, LA 70808

Attention: Janie Smith

Approved for release.
Carrie L Gamber
Senior Project Manager
5/19/2020 12:07 PM

Carrie L Gamber, Senior Project Manager
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2428
carrie.gamber@testamericainc.com
05/19/2020
Revision: 1

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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Definitions/Glossary

Client: GHD Services Inc. Job ID: 180-96144-1
Project/Site: San Jacinto River Waste Pits Superfund

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.

Dioxin

Qualifier	Qualifier Description
*	Isotope Dilution analyte is outside acceptance limits.
B	Compound was found in the blank and sample.
G	The reported quantitation limit has been raised due to an exhibited elevated noise or matrix interference
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
cn	Refer to Case Narrative for further detail
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE

Client: GHD Services Inc.

Project: San Jacinto River Waste Pits Superfund

Report Number: 180-96144-1 REVISED

NOTE: Per the client's request, the TEQ has been removed from this report.

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 09/25/2019; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 4.8 C.

VOLATILES
The continuing calibration verification (CCV) analyzed in batch 180-292524 was outside the method criteria for the following analytes: 2-Hexanone, 4-Methyl-2-pentanone, Bromomethane and Chloroethane, low. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analytes is considered estimated.

SEMIVOLATILES
Several analytes failed the recovery criteria low for the MS of sample 11187072-CONTACT-INITIAL (180-96144-1) in batch 180-293862.

The continuing calibration verification (CCV) associated with batch 180-293945 recovered above the upper control limit for Pyridine. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCVIS 180-293945/3).

The continuing calibration verification (CCV) associated with batch 180-293862 recovered above the upper control limit for Pyridine and N-Nitrosodimethylamine. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample was impacted: (CCVIS 180-293862/3).

PESTICIDES
The Method Blank and sample were reanalyzed for Hexachlorobenzene following a CCV for Hexachlorobenzene.

PCBs
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

CHLORINATED HERBICIDES
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

METALS
Due to a program malfunction for the Mercury analysis, the temperature data log was unable to be saved. The analyst observed temperature at 121 +/- 3 degrees Celsius at 15 psi for 15 minutes. There was no averse affect on the data.
11187072-CONTACT-INITIAL (180-96144-1), (CCB 320-327724/10-A), (CCV 320-327724/9-A), (ICB 320-327724/8-A), (ICV 320-327724/7-A), (LCS 320-327721/12-A), (LCS 320-327722/12-A), (MB 320-327721/11-A), (MB 320-327722/11-A), (320-54693-C-2-B), (320-54693-C-2-E MS), (320-54693-C-2-F MSD), (320-54693-C-2-B SD ^5), (320-54749-A-2-G), (320-54749-A-2-H MS), (320-54749-A-2-I MSD) and (320-54749-A-2-G SD ^5)

Calcium, Copper, Magnesium and Zinc were detected in method blank MB 320-327228/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Lead, Potassium, Sodium and Zinc were detected in method blank MB 320-327230/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Sodium failed the recovery criteria low for the MS of sample 11187072-CONTACT-INITIAL (180-96144-1) in batch 320-331282. The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

GENERAL CHEMSITRY

Sample 11187072-CONTACT-INITIAL (180-96144-1) required dilution prior to analysis on the IC. The reporting limits have been adjusted accordingly.

Due to the matrix, the initial volume used for the following sample deviated from the standard procedure for TDS: 11187072-CONTACT-INITIAL (180-96144-1). The reporting limits (RLs) have been adjusted proportionately.

Biochemical Oxygen Demand failed the recovery criteria low for LCS 180-293371/4.

The correction factor for the Seeded Control Blank (SCB) for batch 293371 was outside the method range of 0.6 to 1.0 mg/L for BOD. Thus, there is added uncertainty for the associated sample results.

The glucose-glutamic acid standard recovered outside the recovery limits specified in the method in batch 293371 for BOD.

The initial dissolved oxygen reading for the 100-ml aliquot of the sample for BOD was < 7.00 mg/L. The result may be biased low. 11187072-CONTACT-INITIAL (180-96144-1)

DIOXINS

The following sample exhibited elevated noise or matrix interferences for one or more analytes causing elevation of the detection limit (EDL): 11187072-CONTACT-INITIAL (180-96144-1) . The reporting limit (RL) for the affected analytes has been raised to be equal to the EDL, and a "G" qualifier applied.

The following sample was diluted to bring the concentration of target analytes within the calibration range: 11187072-CONTACT-INITIAL (180-96144-1). Elevated reporting limits (RLs) are provided.

Several analytes were detected in method blank MB 320-327320/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD and/or 13C-1,2,3,7,8,9-HxCDD associated with the following samples run on instrument 10D5 exceeded this criteria: 11187072-CONTACT-INITIAL (180-96144-1), (LCS 320-327320/2-A), (LCSD 320-327320/3-A) and (MB 320-327320/1-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

Detection Summary

Client: GHD Services Inc. Job ID: 180-96144-1
Project/Site: San Jacinto River Waste Pits Superfund

Client Sample ID: 11187072-CONTACT-INITIAL Lab Sample ID: 180-96144-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bromide	1.5		0.50	0.087	mg/L	1		EPA 300.0 R2.1	Total/NA
Chloride	400		10	7.1	mg/L	10		EPA 300.0 R2.1	Total/NA
Sulfate	8.7		1.0	0.38	mg/L	1		EPA 300.0 R2.1	Total/NA
2,3,7,8-TCDD	1500		9.6	6.0	pg/L	1		1613B	Total/NA
1,2,3,7,8-PeCDD	18	J B	48	1.8	pg/L	1		1613B	Total/NA
1,2,3,7,8-PeCDF	200	B	48	2.8	pg/L	1		1613B	Total/NA
2,3,4,7,8-PeCDF	110	B	48	3.0	pg/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	2.8	J B	48	2.0	pg/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	4.1	J B	48	1.9	pg/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	410	B	48	3.6	pg/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	110	B	48	4.1	pg/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	4.2	J B q	48	2.4	pg/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	12	J B	48	2.8	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	150	B	48	5.4	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	160	B	48	2.8	pg/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	58	B	48	3.2	pg/L	1		1613B	Total/NA
OCDD	3300	B	96	8.3	pg/L	1		1613B	Total/NA
OCDF	130		96	3.2	pg/L	1		1613B	Total/NA
Total TCDD	1600		9.6	6.0	pg/L	1		1613B	Total/NA
Total TCDF	8100	G	27	27	pg/L	1		1613B	Total/NA
Total PeCDD	20	J B q	48	1.8	pg/L	1		1613B	Total/NA
Total PeCDF	490	B q	48	2.9	pg/L	1		1613B	Total/NA
Total HxCDD	35	J B q	48	1.9	pg/L	1		1613B	Total/NA
Total HxCDF	620	B q	48	3.2	pg/L	1		1613B	Total/NA
Total HpCDD	370	B	48	5.4	pg/L	1		1613B	Total/NA
Total HpCDF	280	B	48	3.0	pg/L	1		1613B	Total/NA
2,3,7,8-TCDF - RA	3900		19	6.4	pg/L	2		1613B	Total/NA
Barium	0.17		0.0050	0.0025	mg/L	1		6010C	Total/NA
Beryllium	0.00037	J	0.0020	0.00030	mg/L	1		6010C	Total/NA
Calcium	35	B	0.50	0.050	mg/L	1		6010C	Total/NA
Copper	0.011	B	0.010	0.0021	mg/L	1		6010C	Total/NA
Iron	0.022	J	0.10	0.020	mg/L	1		6010C	Total/NA
Potassium	12		1.0	0.093	mg/L	1		6010C	Total/NA
Magnesium	22	B	0.50	0.040	mg/L	1		6010C	Total/NA
Manganese	0.14		0.0050	0.0025	mg/L	1		6010C	Total/NA
Molybdenum	0.0079	J	0.020	0.0027	mg/L	1		6010C	Total/NA
Sodium	250		1.0	0.25	mg/L	1		6010C	Total/NA
Zinc	0.011	B	0.010	0.0030	mg/L	1		6010C	Total/NA
Strontium	0.31		0.050	0.0050	mg/L	1		6010C	Total/NA
Barium	0.18		0.0050	0.0025	mg/L	1		6010C	Dissolved
Calcium	37		0.50	0.050	mg/L	1		6010C	Dissolved
Copper	0.014		0.010	0.0021	mg/L	1		6010C	Dissolved
Magnesium	22		0.50	0.040	mg/L	1		6010C	Dissolved
Manganese	0.15		0.0050	0.0025	mg/L	1		6010C	Dissolved
Potassium	11	B	1.0	0.093	mg/L	1		6010C	Dissolved
Sodium	260	B	1.0	0.25	mg/L	1		6010C	Dissolved
Zinc	0.013	B	0.010	0.0030	mg/L	1		6010C	Dissolved
Molybdenum	0.0076	J	0.020	0.0027	mg/L	1		6010C	Dissolved
Strontium	0.32		0.050	0.0050	mg/L	1		6010C	Dissolved
Phosphorus	0.066	J	0.50	0.050	mg/L	1		6010C	Dissolved
Mercury	0.00037		0.00020	0.00010	mg/L	1		7470A	Dissolved

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: GHD Services Inc.
Job ID: 180-96144-1
Project/Site: San Jacinto River Waste Pits Superfund

Client Sample ID: 11187072-CONTACT-INITIAL (Continued) Lab Sample ID: 180-96144-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ammonia, distilled	2.7		0.10	0.088	mg/L	1		EPA 350.1	Total/NA
Chemical Oxygen Demand	92		10	9.1	mg/L	1		EPA 410.4	Total/NA
pH	7.8	HF	0.1	0.1	SU	1		EPA 9040C	Total/NA
Total Dissolved Solids	910		50	50	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	3400		25	25	mg/L	1		SM 2540D	Total/NA
Total Organic Carbon - Duplicates	4.5		1.0	0.51	mg/L	1		SM 5310C	Total/NA
Total Alkalinity as CaCO3 to pH 4.5	210		5.0	5.0	mg/L	1		SM2320 B	Total/NA
Bicarbonate Alkalinity as CaCO3	210		5.0	5.0	mg/L	1		SM2320 B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-96144-1

Method: EPA 8260C - Volatile Organic Compounds by GC/MS

Client Sample ID: 11187072-CONTACT-INITIAL
Date Collected: 09/24/19 15:00
Date Received: 09/25/19 09:00

Lab Sample ID: 180-96144-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	2.5	ug/L			09/25/19 15:15	1
1,1,2-Trichloroethane	ND		5.0	2.4	ug/L			09/25/19 15:15	1
1,1-Dichloroethane	ND		5.0	1.8	ug/L			09/25/19 15:15	1
1,1-Dichloroethene	ND		5.0	2.9	ug/L			09/25/19 15:15	1
1,2-Dichlorobenzene	ND		5.0	2.0	ug/L			09/25/19 15:15	1
1,2-Dichloroethane	ND		5.0	1.5	ug/L			09/25/19 15:15	1
1,2-Dichloropropane	ND		5.0	2.5	ug/L			09/25/19 15:15	1
1,2,4-Trichlorobenzene	ND		5.0	3.7	ug/L			09/25/19 15:15	1
1,3-Dichlorobenzene	ND		5.0	1.6	ug/L			09/25/19 15:15	1
1,4-Dichlorobenzene	ND		5.0	1.0	ug/L			09/25/19 15:15	1
2-Butanone (MEK)	ND		5.0	2.9	ug/L			09/25/19 15:15	1
Benzene	ND		5.0	2.0	ug/L			09/25/19 15:15	1
Bromoform	ND		5.0	2.6	ug/L			09/25/19 15:15	1
Carbon tetrachloride	ND		5.0	3.3	ug/L			09/25/19 15:15	1
Chlorobenzene	ND		5.0	1.6	ug/L			09/25/19 15:15	1
Chloroform	ND		5.0	2.1	ug/L			09/25/19 15:15	1
Chloroethane	ND		5.0	2.6	ug/L			09/25/19 15:15	1
cis-1,2-Dichloroethene	ND		5.0	1.6	ug/L			09/25/19 15:15	1
cis-1,3-Dichloropropene	ND		5.0	1.6	ug/L			09/25/19 15:15	1
Dichlorobromomethane	ND		5.0	2.4	ug/L			09/25/19 15:15	1
Ethylbenzene	ND		5.0	2.2	ug/L			09/25/19 15:15	1
m-Xylene & p-Xylene	ND		5.0	1.9	ug/L			09/25/19 15:15	1
o-Xylene	ND		5.0	2.4	ug/L			09/25/19 15:15	1
Tetrachloroethene	ND		5.0	2.0	ug/L			09/25/19 15:15	1
Toluene	ND		5.0	1.7	ug/L			09/25/19 15:15	1
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/L			09/25/19 15:15	1
trans-1,3-Dichloropropene	ND		5.0	1.7	ug/L			09/25/19 15:15	1
Trichloroethene	ND		5.0	1.5	ug/L			09/25/19 15:15	1
Vinyl chloride	ND		5.0	3.7	ug/L			09/25/19 15:15	1
Xylenes, Total	ND		10	4.3	ug/L			09/25/19 15:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*58 - 139*		*09/25/19 15:15*	*1*
4-Bromofluorobenzene (Surr)	*99*		*64 - 122*		*09/25/19 15:15*	*1*
Dibromofluoromethane (Surr)	*104*		*70 - 127*		*09/25/19 15:15*	*1*
Toluene-d8 (Surr)	*108*		*71 - 125*		*09/25/19 15:15*	*1*

Method: EPA 8270D - Semivolatile Organic Compounds (GC/MS)

Client Sample ID: 11187072-CONTACT-INITIAL **Lab Sample ID: 180-96144-1**
Date Collected: 09/24/19 15:00 **Matrix: Water**
Date Received: 09/25/19 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND	F1	1.8	0.63	ug/L		10/01/19 11:49	10/07/19 19:30	1
Acenaphthylene	ND	F1	1.8	0.63	ug/L		10/01/19 11:49	10/07/19 19:30	1
Anthracene	ND		1.8	0.47	ug/L		10/01/19 11:49	10/07/19 19:30	1
Benzo[a]anthracene	ND		1.8	0.72	ug/L		10/01/19 11:49	10/07/19 19:30	1
Benzo[a]pyrene	ND		1.8	0.51	ug/L		10/01/19 11:49	10/07/19 19:30	1
Benzo[b]fluoranthene	ND		1.8	0.93	ug/L		10/01/19 11:49	10/07/19 19:30	1
Benzo[g,h,i]perylene	ND	F1	1.8	0.66	ug/L		10/01/19 11:49	10/07/19 19:30	1
Benzo[k]fluoranthene	ND		1.8	0.85	ug/L		10/01/19 11:49	10/07/19 19:30	1
Bis(2-ethylhexyl) phthalate	ND		96	60	ug/L		10/01/19 11:49	10/07/19 19:30	1
2,2'-oxybis[1-chloropropane]	ND		1.8	0.56	ug/L		10/01/19 11:49	10/07/19 19:30	1
4-Bromophenyl phenyl ether	ND		9.6	0.61	ug/L		10/01/19 11:49	10/07/19 19:30	1
Butyl benzyl phthalate	ND		9.6	4.4	ug/L		10/01/19 11:49	10/07/19 19:30	1
Carbazole	ND		1.8	0.49	ug/L		10/01/19 11:49	10/07/19 19:30	1
4-Chloroaniline	ND	F1	9.6	0.42	ug/L		10/01/19 11:49	10/07/19 19:30	1
2-Chloronaphthalene	ND	F1	1.8	0.57	ug/L		10/01/19 11:49	10/07/19 19:30	1
4-Chlorophenyl phenyl ether	ND	F1	9.6	0.59	ug/L		10/01/19 11:49	10/07/19 19:30	1
Chrysene	ND		1.8	0.78	ug/L		10/01/19 11:49	10/07/19 19:30	1
Dibenz(a,h)anthracene	ND		1.8	0.69	ug/L		10/01/19 11:49	10/07/19 19:30	1
Dibenzofuran	ND	F1	9.6	0.70	ug/L		10/01/19 11:49	10/07/19 19:30	1
Di-n-butyl phthalate	ND		9.6	7.1	ug/L		10/01/19 11:49	10/07/19 19:30	1
3,3'-Dichlorobenzidine	ND		9.6	5.6	ug/L		10/01/19 11:49	10/07/19 19:30	1
Diethyl phthalate	ND		9.6	5.5	ug/L		10/01/19 11:49	10/07/19 19:30	1
Dimethyl phthalate	ND		9.6	0.54	ug/L		10/01/19 11:49	10/07/19 19:30	1
2,4-Dinitrotoluene	ND		9.6	0.49	ug/L		10/01/19 11:49	10/07/19 19:30	1
2,6-Dinitrotoluene	ND		9.6	0.58	ug/L		10/01/19 11:49	10/07/19 19:30	1
Di-n-octyl phthalate	ND		9.6	6.6	ug/L		10/01/19 11:49	10/07/19 19:30	1
Fluoranthene	ND		1.8	0.58	ug/L		10/01/19 11:49	10/07/19 19:30	1
Fluorene	ND	F1	1.8	0.66	ug/L		10/01/19 11:49	10/07/19 19:30	1
Hexachlorobenzene	ND		1.8	0.54	ug/L		10/01/19 11:49	10/07/19 19:30	1
Hexachlorobutadiene	ND	F1	1.8	0.66	ug/L		10/01/19 11:49	10/07/19 19:30	1
Hexachlorocyclopentadiene	ND	F1	9.6	4.8	ug/L		10/01/19 11:49	10/07/19 19:30	1
Hexachloroethane	ND	F1	9.6	0.60	ug/L		10/01/19 11:49	10/07/19 19:30	1
Indeno[1,2,3-cd]pyrene	ND		1.8	0.82	ug/L		10/01/19 11:49	10/07/19 19:30	1
Isophorone	ND		9.6	0.52	ug/L		10/01/19 11:49	10/07/19 19:30	1
2-Methylnaphthalene	ND	F1	1.8	0.60	ug/L		10/01/19 11:49	10/07/19 19:30	1
Naphthalene	ND	F1	1.8	0.57	ug/L		10/01/19 11:49	10/07/19 19:30	1
2-Nitroaniline	ND		48	5.3	ug/L		10/01/19 11:49	10/07/19 19:30	1
3-Nitroaniline	ND		48	0.64	ug/L		10/01/19 11:49	10/07/19 19:30	1
4-Nitroaniline	ND		48	0.56	ug/L		10/01/19 11:49	10/07/19 19:30	1
4-Nitrophenol	ND		48	1.4	ug/L		10/01/19 11:49	10/07/19 19:30	1
Nitrobenzene	ND		19	4.8	ug/L		10/01/19 11:49	10/07/19 19:30	1
N-Nitrosodi-n-propylamine	ND		1.8	0.68	ug/L		10/01/19 11:49	10/07/19 19:30	1
N-Nitrosodiphenylamine	ND		9.6	1.1	ug/L		10/01/19 11:49	10/07/19 19:30	1
Phenanthrene	ND		1.8	0.53	ug/L		10/01/19 11:49	10/07/19 19:30	1
Pyrene	ND		1.8	0.52	ug/L		10/01/19 11:49	10/07/19 19:30	1
4-Chloro-3-methylphenol	ND		9.6	0.59	ug/L		10/01/19 11:49	10/07/19 19:30	1
2-Chlorophenol	ND	F1	9.6	0.62	ug/L		10/01/19 11:49	10/07/19 19:30	1
2-Methylphenol	ND	F1	9.6	2.9	ug/L		10/01/19 11:49	10/07/19 19:30	1
Methylphenol, 3 & 4	ND	F1	9.6	3.6	ug/L		10/01/19 11:49	10/07/19 19:30	1

Method: EPA 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: 11187072-CONTACT-INITIAL **Lab Sample ID: 180-96144-1**
Date Collected: 09/24/19 15:00 **Matrix: Water**
Date Received: 09/25/19 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenol	ND	F1	1.8	0.49	ug/L		10/01/19 11:49	10/07/19 19:30	1
2,4-Dimethylphenol	ND	F1	9.6	0.39	ug/L		10/01/19 11:49	10/07/19 19:30	1
2,4-Dinitrophenol	ND		96	15	ug/L		10/01/19 11:49	10/07/19 19:30	1
4,6-Dinitro-2-methylphenol	ND		48	14	ug/L		10/01/19 11:49	10/07/19 19:30	1
2-Nitrophenol	ND		9.6	0.59	ug/L		10/01/19 11:49	10/07/19 19:30	1
Pentachlorophenol	ND		48	8.1	ug/L		10/01/19 11:49	10/07/19 19:30	1
Phenol	ND	F1	9.6	4.7	ug/L		10/01/19 11:49	10/07/19 19:30	1
2,4,5-Trichlorophenol	ND		9.6	0.59	ug/L		10/01/19 11:49	10/07/19 19:30	1
2,4,6-Trichlorophenol	ND	F1	9.6	0.65	ug/L		10/01/19 11:49	10/07/19 19:30	1
Acetophenone	ND		9.6	0.60	ug/L		10/01/19 11:49	10/07/19 19:30	1
Atrazine	ND		9.6	6.1	ug/L		10/01/19 11:49	10/07/19 19:30	1
Benzaldehyde	ND		9.6	1.1	ug/L		10/01/19 11:49	10/07/19 19:30	1
1,1'-Biphenyl	ND	F1	9.6	0.57	ug/L		10/01/19 11:49	10/07/19 19:30	1
Caprolactam	ND		48	4.5	ug/L		10/01/19 11:49	10/07/19 19:30	1
Bis(2-chloroethoxy)methane	ND	F1	9.6	0.64	ug/L		10/01/19 11:49	10/07/19 19:30	1
Bis(2-chloroethyl)ether	ND	F1	1.8	0.38	ug/L		10/01/19 11:49	10/07/19 19:30	1
Pyridine	ND	F1	19	5.2	ug/L		10/01/19 11:49	10/07/19 19:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5 (Surr)	*80*		*45 - 108*	*10/01/19 11:49*	*10/07/19 19:30*	*1*
Phenol-d5 (Surr)	*62*		*40 - 105*	*10/01/19 11:49*	*10/07/19 19:30*	*1*
2-Fluorobiphenyl	*57*		*44 - 105*	*10/01/19 11:49*	*10/07/19 19:30*	*1*
2,4,6-Tribromophenol (Surr)	*81*		*38 - 111*	*10/01/19 11:49*	*10/07/19 19:30*	*1*
2-Fluorophenol (Surr)	*55*		*38 - 105*	*10/01/19 11:49*	*10/07/19 19:30*	*1*
Terphenyl-d14 (Surr)	*82*		*20 - 128*	*10/01/19 11:49*	*10/07/19 19:30*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-96144-1

Method: EPA 8081B - Organochlorine Pesticides (GC)

Client Sample ID: 11187072-CONTACT-INITIAL
Date Collected: 09/24/19 15:00
Date Received: 09/25/19 09:00

Lab Sample ID: 180-96144-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
gamma-BHC (Lindane)	ND		0.047	0.011	ug/L		09/28/19 04:25	10/01/19 21:44	1
Chlordane (technical)	ND		0.47	0.27	ug/L		09/28/19 04:25	10/01/19 21:44	1
Endrin	ND		0.047	0.0086	ug/L		09/28/19 04:25	10/01/19 21:44	1
Heptachlor	ND		0.047	0.017	ug/L		09/28/19 04:25	10/01/19 21:44	1
Heptachlor epoxide	ND		0.047	0.013	ug/L		09/28/19 04:25	10/01/19 21:44	1
Methoxychlor	ND		0.047	0.029	ug/L		09/28/19 04:25	10/01/19 21:44	1
Toxaphene	ND		3.8	1.9	ug/L		09/28/19 04:25	10/01/19 21:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*89*		*54 - 138*	*09/28/19 04:25*	*10/01/19 21:44*	*1*
Tetrachloro-m-xylene	*82*		*54 - 138*	*09/28/19 04:25*	*10/01/19 21:44*	*1*
DCB Decachlorobiphenyl (Surr)	*85*		*62 - 150*	*09/28/19 04:25*	*10/01/19 21:44*	*1*
DCB Decachlorobiphenyl (Surr)	*95*		*62 - 150*	*09/28/19 04:25*	*10/01/19 21:44*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-96144-1

Method: EPA 8081B - Organochlorine Pesticides (GC) - RA

Client Sample ID: 11187072-CONTACT-INITIAL
Date Collected: 09/24/19 15:00
Date Received: 09/25/19 09:00

Lab Sample ID: 180-96144-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobenzene	ND		0.047	0.016	ug/L		09/28/19 04:25	10/02/19 10:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*95*		*54 - 138*	*09/28/19 04:25*	*10/02/19 10:24*	*1*
Tetrachloro-m-xylene	*88*		*54 - 138*	*09/28/19 04:25*	*10/02/19 10:24*	*1*
DCB Decachlorobiphenyl (Surr)	*98*		*62 - 150*	*09/28/19 04:25*	*10/02/19 10:24*	*1*
DCB Decachlorobiphenyl (Surr)	*104*		*62 - 150*	*09/28/19 04:25*	*10/02/19 10:24*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-96144-1

Method: EPA 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: 11187072-CONTACT-INITIAL
Date Collected: 09/24/19 15:00
Date Received: 09/25/19 09:00

Lab Sample ID: 180-96144-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.38	0.18	ug/L		09/28/19 04:25	09/30/19 15:11	1
PCB-1221	ND		0.38	0.22	ug/L		09/28/19 04:25	09/30/19 15:11	1
PCB-1232	ND		0.38	0.20	ug/L		09/28/19 04:25	09/30/19 15:11	1
PCB-1242	ND		0.38	0.34	ug/L		09/28/19 04:25	09/30/19 15:11	1
PCB-1248	ND		0.38	0.11	ug/L		09/28/19 04:25	09/30/19 15:11	1
PCB-1254	ND		0.38	0.36	ug/L		09/28/19 04:25	09/30/19 15:11	1
PCB-1260	ND		0.38	0.15	ug/L		09/28/19 04:25	09/30/19 15:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*82*		*45 - 133*	*09/28/19 04:25*	*09/30/19 15:11*	*1*
Tetrachloro-m-xylene (Surr)	*85*		*45 - 133*	*09/28/19 04:25*	*09/30/19 15:11*	*1*
DCB Decachlorobiphenyl (Surr)	*92*		*59 - 144*	*09/28/19 04:25*	*09/30/19 15:11*	*1*
DCB Decachlorobiphenyl (Surr)	*96*		*59 - 144*	*09/28/19 04:25*	*09/30/19 15:11*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-96144-1

Method: EPA 8151A - Herbicides (GC)

Client Sample ID: 11187072-CONTACT-INITIAL
Date Collected: 09/24/19 15:00
Date Received: 09/25/19 09:00

Lab Sample ID: 180-96144-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		3.8	1.9	ug/L		09/28/19 06:30	10/02/19 01:42	20
Silvex (2,4,5-TP)	ND		0.94	0.29	ug/L		09/28/19 06:30	10/02/19 01:42	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*54*		*20 - 105*	*09/28/19 06:30*	*10/02/19 01:42*	*20*
2,4-Dichlorophenylacetic acid	*51*		*20 - 105*	*09/28/19 06:30*	*10/02/19 01:42*	*20*

Client Sample Results

Client: GHD Services Inc.
Job ID: 180-96144-1
Project/Site: San Jacinto River Waste Pits Superfund

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Client Sample ID: 11187072-CONTACT-INITIAL
Lab Sample ID: 180-96144-1
Date Collected: 09/24/19 15:00
Matrix: Water
Date Received: 09/25/19 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	**1.5**		0.50	0.087	mg/L			10/08/19 11:22	1
Chloride	**400**		10	7.1	mg/L			10/08/19 11:37	10
Sulfate	**8.7**		1.0	0.38	mg/L			10/08/19 11:22	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-96144-1

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: 11187072-CONTACT-INITIAL
Date Collected: 09/24/19 15:00
Date Received: 09/25/19 09:00

Lab Sample ID: 180-96144-1
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	1500		9.6	6.0	pg/L		09/30/19 11:45	10/04/19 02:06	1
1,2,3,7,8-PeCDD	18	J B	48	1.8	pg/L		09/30/19 11:45	10/04/19 02:06	1
1,2,3,7,8-PeCDF	200	B	48	2.8	pg/L		09/30/19 11:45	10/04/19 02:06	1
2,3,4,7,8-PeCDF	110	B	48	3.0	pg/L		09/30/19 11:45	10/04/19 02:06	1
1,2,3,4,7,8-HxCDD	2.8	J B	48	2.0	pg/L		09/30/19 11:45	10/04/19 02:06	1
1,2,3,6,7,8-HxCDD	4.1	J B	48	1.9	pg/L		09/30/19 11:45	10/04/19 02:06	1
1,2,3,7,8,9-HxCDD	ND		48	1.8	pg/L		09/30/19 11:45	10/04/19 02:06	1
1,2,3,4,7,8-HxCDF	410	B	48	3.6	pg/L		09/30/19 11:45	10/04/19 02:06	1
1,2,3,6,7,8-HxCDF	110	B	48	4.1	pg/L		09/30/19 11:45	10/04/19 02:06	1
1,2,3,7,8,9-HxCDF	4.2	J B q	48	2.4	pg/L		09/30/19 11:45	10/04/19 02:06	1
2,3,4,6,7,8-HxCDF	12	J B	48	2.8	pg/L		09/30/19 11:45	10/04/19 02:06	1
1,2,3,4,6,7,8-HpCDD	150	B	48	5.4	pg/L		09/30/19 11:45	10/04/19 02:06	1
1,2,3,4,6,7,8-HpCDF	160	B	48	2.8	pg/L		09/30/19 11:45	10/04/19 02:06	1
1,2,3,4,7,8,9-HpCDF	58	B	48	3.2	pg/L		09/30/19 11:45	10/04/19 02:06	1
OCDD	3300	B	96	8.3	pg/L		09/30/19 11:45	10/04/19 02:06	1
OCDF	130		96	3.2	pg/L		09/30/19 11:45	10/04/19 02:06	1
Total TCDD	1600		9.6	6.0	pg/L		09/30/19 11:45	10/04/19 02:06	1
Total TCDF	8100	G	27	27	pg/L		09/30/19 11:45	10/04/19 02:06	1
Total PeCDD	20	J B q	48	1.8	pg/L		09/30/19 11:45	10/04/19 02:06	1
Total PeCDF	490	B q	48	2.9	pg/L		09/30/19 11:45	10/04/19 02:06	1
Total HxCDD	35	J B q	48	1.9	pg/L		09/30/19 11:45	10/04/19 02:06	1
Total HxCDF	620	B q	48	3.2	pg/L		09/30/19 11:45	10/04/19 02:06	1
Total HpCDD	370	B	48	5.4	pg/L		09/30/19 11:45	10/04/19 02:06	1
Total HpCDF	280	B	48	3.0	pg/L		09/30/19 11:45	10/04/19 02:06	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*48*		*25 - 164*	*09/30/19 11:45*	*10/04/19 02:06*	*1*
13C-2,3,7,8-TCDF	*43*		*24 - 169*	*09/30/19 11:45*	*10/04/19 02:06*	*1*
13C-1,2,3,7,8-PeCDD	*41*		*25 - 181*	*09/30/19 11:45*	*10/04/19 02:06*	*1*
13C-1,2,3,7,8-PeCDF	*41*		*24 - 185*	*09/30/19 11:45*	*10/04/19 02:06*	*1*
13C-2,3,4,7,8-PeCDF	*42*		*21 - 178*	*09/30/19 11:45*	*10/04/19 02:06*	*1*
13C-1,2,3,4,7,8-HxCDD	*41*		*32 - 141*	*09/30/19 11:45*	*10/04/19 02:06*	*1*
13C-1,2,3,6,7,8-HxCDD	*43*		*28 - 130*	*09/30/19 11:45*	*10/04/19 02:06*	*1*
13C-1,2,3,4,7,8-HxCDF	*44*		*26 - 152*	*09/30/19 11:45*	*10/04/19 02:06*	*1*
13C-1,2,3,6,7,8-HxCDF	*41*		*26 - 123*	*09/30/19 11:45*	*10/04/19 02:06*	*1*
13C-1,2,3,7,8,9-HxCDF	*43*		*29 - 147*	*09/30/19 11:45*	*10/04/19 02:06*	*1*
13C-2,3,4,6,7,8-HxCDF	*41*		*28 - 136*	*09/30/19 11:45*	*10/04/19 02:06*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*33*		*23 - 140*	*09/30/19 11:45*	*10/04/19 02:06*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*32*		*28 - 143*	*09/30/19 11:45*	*10/04/19 02:06*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*35*		*26 - 138*	*09/30/19 11:45*	*10/04/19 02:06*	*1*
13C-OCDD	*25*		*17 - 157*	*09/30/19 11:45*	*10/04/19 02:06*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*105*		*35 - 197*	*09/30/19 11:45*	*10/04/19 02:06*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-96144-1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Client Sample ID: 11187072-CONTACT-INITIAL
Date Collected: 09/24/19 15:00
Date Received: 09/25/19 09:00

Lab Sample ID: 180-96144-1
Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	**3900**		19	6.4	pg/L		09/30/19 11:45	10/10/19 21:13	2

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*53*		*24 - 169*	*09/30/19 11:45*	*10/10/19 21:13*	*2*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*107*		*35 - 197*	*09/30/19 11:45*	*10/10/19 21:13*	*2*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-96144-1

Method: 6010C - Metals (ICP)

Client Sample ID: 11187072-CONTACT-INITIAL
Date Collected: 09/24/19 15:00
Date Received: 09/25/19 09:00

Lab Sample ID: 180-96144-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.0050	0.00084	mg/L		09/30/19 06:00	09/30/19 18:15	1
Aluminum	ND		0.20	0.048	mg/L		09/30/19 06:00	09/30/19 18:15	1
Arsenic	ND		0.020	0.012	mg/L		09/30/19 06:00	09/30/19 18:15	1
Barium	**0.17**		0.0050	0.0025	mg/L		09/30/19 06:00	09/30/19 18:15	1
Beryllium	**0.00037**	**J**	0.0020	0.00030	mg/L		09/30/19 06:00	09/30/19 18:15	1
Calcium	**35**	**B**	0.50	0.050	mg/L		09/30/19 06:00	09/30/19 18:15	1
Cadmium	ND		0.0020	0.00050	mg/L		09/30/19 06:00	09/30/19 18:15	1
Cobalt	ND		0.0050	0.0030	mg/L		09/30/19 06:00	09/30/19 18:15	1
Chromium	ND		0.0080	0.0012	mg/L		09/30/19 06:00	09/30/19 18:15	1
Copper	**0.011**	**B**	0.010	0.0021	mg/L		09/30/19 06:00	09/30/19 18:15	1
Iron	**0.022**	**J**	0.10	0.020	mg/L		09/30/19 06:00	10/01/19 16:49	1
Potassium	**12**		1.0	0.093	mg/L		09/30/19 06:00	09/30/19 18:15	1
Magnesium	**22**	**B**	0.50	0.040	mg/L		09/30/19 06:00	09/30/19 18:15	1
Manganese	**0.14**		0.0050	0.0025	mg/L		09/30/19 06:00	09/30/19 18:15	1
Molybdenum	**0.0079**	**J**	0.020	0.0027	mg/L		09/30/19 06:00	09/30/19 18:15	1
Sodium	**250**		1.0	0.25	mg/L		09/30/19 06:00	10/01/19 16:49	1
Nickel	ND		0.0050	0.0024	mg/L		09/30/19 06:00	09/30/19 18:15	1
Phosphorus	ND		0.50	0.050	mg/L		09/30/19 06:00	09/30/19 18:15	1
Lead	ND		0.0050	0.0025	mg/L		09/30/19 06:00	09/30/19 18:15	1
Selenium	ND		0.020	0.013	mg/L		09/30/19 06:00	09/30/19 18:15	1
Vanadium	ND		0.0050	0.0019	mg/L		09/30/19 06:00	09/30/19 18:15	1
Zinc	**0.011**	**B**	0.010	0.0030	mg/L		09/30/19 06:00	09/30/19 18:15	1
Antimony	ND		0.020	0.0098	mg/L		09/30/19 06:00	09/30/19 18:15	1
Thallium	ND		0.020	0.0090	mg/L		09/30/19 06:00	09/30/19 18:15	1
Strontium	**0.31**		0.050	0.0050	mg/L		09/30/19 06:00	09/30/19 18:15	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-96144-1

Method: 6010C - Metals (ICP) - Dissolved

Client Sample ID: 11187072-CONTACT-INITIAL
Date Collected: 09/24/19 15:00
Date Received: 09/25/19 09:00

Lab Sample ID: 180-96144-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		0.20	0.048	mg/L		09/30/19 06:00	10/15/19 15:59	1
Antimony	ND		0.020	0.0098	mg/L		09/30/19 06:00	10/15/19 15:59	1
Arsenic	ND		0.020	0.012	mg/L		09/30/19 06:00	10/15/19 15:59	1
Barium	**0.18**		0.0050	0.0025	mg/L		09/30/19 06:00	10/15/19 15:59	1
Beryllium	ND		0.0020	0.00030	mg/L		09/30/19 06:00	10/15/19 15:59	1
Cadmium	ND		0.0020	0.00050	mg/L		09/30/19 06:00	10/15/19 15:59	1
Calcium	**37**		0.50	0.050	mg/L		09/30/19 06:00	10/15/19 15:59	1
Chromium	ND		0.0080	0.0012	mg/L		09/30/19 06:00	10/15/19 15:59	1
Cobalt	ND		0.0050	0.0030	mg/L		09/30/19 06:00	10/15/19 15:59	1
Copper	**0.014**		0.010	0.0021	mg/L		09/30/19 06:00	10/15/19 15:59	1
Iron	ND		0.10	0.020	mg/L		09/30/19 06:00	10/15/19 15:59	1
Lead	ND		0.0050	0.0025	mg/L		09/30/19 06:00	10/15/19 15:59	1
Magnesium	**22**		0.50	0.040	mg/L		09/30/19 06:00	10/15/19 15:59	1
Manganese	**0.15**		0.0050	0.0025	mg/L		09/30/19 06:00	10/15/19 15:59	1
Nickel	ND		0.0050	0.0024	mg/L		09/30/19 06:00	10/15/19 15:59	1
Potassium	**11**	**B**	1.0	0.093	mg/L		09/30/19 06:00	10/15/19 15:59	1
Selenium	ND		0.020	0.013	mg/L		09/30/19 06:00	10/15/19 15:59	1
Silver	ND		0.0050	0.00084	mg/L		09/30/19 06:00	10/15/19 15:59	1
Sodium	**260**	**B**	1.0	0.25	mg/L		09/30/19 06:00	10/15/19 15:59	1
Thallium	ND		0.020	0.0090	mg/L		09/30/19 06:00	10/15/19 15:59	1
Vanadium	ND		0.0050	0.0019	mg/L		09/30/19 06:00	10/15/19 15:59	1
Zinc	**0.013**	**B**	0.010	0.0030	mg/L		09/30/19 06:00	10/15/19 15:59	1
Molybdenum	**0.0076**	**J**	0.020	0.0027	mg/L		09/30/19 06:00	10/15/19 15:59	1
Strontium	**0.32**		0.050	0.0050	mg/L		09/30/19 06:00	10/15/19 15:59	1
Phosphorus	**0.066**	**J**	0.50	0.050	mg/L		09/30/19 06:00	10/15/19 15:59	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-96144-1

Method: 7470A - Mercury (CVAA)

Client Sample ID: 11187072-CONTACT-INITIAL
Date Collected: 09/24/19 15:00
Date Received: 09/25/19 09:00

Lab Sample ID: 180-96144-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00010	mg/L		10/02/19 09:30	10/03/19 10:56	1

Client Sample Results

Client: GHD Services Inc.
Job ID: 180-96144-1
Project/Site: San Jacinto River Waste Pits Superfund

Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: 11187072-CONTACT-INITIAL
Lab Sample ID: 180-96144-1
Date Collected: 09/24/19 15:00
Matrix: Water
Date Received: 09/25/19 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00037		0.00020	0.00010	mg/L		10/02/19 09:30	10/03/19 09:51	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-96144-1

General Chemistry

Client Sample ID: 11187072-CONTACT-INITIAL
Date Collected: 09/24/19 15:00
Date Received: 09/25/19 09:00

Lab Sample ID: 180-96144-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia, distilled	**2.7**		0.10	0.088	mg/L		10/02/19 20:04	10/07/19 16:20	1
Chemical Oxygen Demand	**92**		10	9.1	mg/L		10/02/19 08:30	10/02/19 09:19	1
pH	**7.8**	**HF**	0.1	0.1	SU			10/01/19 13:38	1
Total Dissolved Solids	**910**		50	50	mg/L			09/28/19 10:21	1
Total Suspended Solids	**3400**		25	25	mg/L			09/26/19 10:53	1
Biochemical Oxygen Demand	ND	* cn	6.0	6.0	mg/L			09/26/19 10:08	1
Total Organic Carbon - Duplicates	**4.5**		1.0	0.51	mg/L			10/10/19 20:32	1
Total Alkalinity as CaCO3 to pH 4.!	**210**		5.0	5.0	mg/L			09/26/19 17:04	1
Bicarbonate Alkalinity as CaCO3	**210**		5.0	5.0	mg/L			09/26/19 17:04	1
Carbonate Alkalinity as CaCO3	ND		5.0	5.0	mg/L			09/26/19 17:04	1

Default Detection Limits

Client: GHD Services Inc.
Job ID: 180-96144-1
Project/Site: San Jacinto River Waste Pits Superfund

Method: EPA 8260C - Volatile Organic Compounds by GC/MS

Analyte	RL	MDL	Units
1,1,1-Trichloroethane	5.0	2.5	ug/L
1,1,2-Trichloroethane	5.0	2.4	ug/L
1,1-Dichloroethane	5.0	1.8	ug/L
1,1-Dichloroethene	5.0	2.9	ug/L
1,2,4-Trichlorobenzene	5.0	3.7	ug/L
1,2-Dichlorobenzene	5.0	2.0	ug/L
1,2-Dichloroethane	5.0	1.5	ug/L
1,2-Dichloropropane	5.0	2.5	ug/L
1,3-Dichlorobenzene	5.0	1.6	ug/L
1,4-Dichlorobenzene	5.0	1.0	ug/L
2-Butanone (MEK)	5.0	2.9	ug/L
Benzene	5.0	2.0	ug/L
Bromoform	5.0	2.6	ug/L
Carbon tetrachloride	5.0	3.3	ug/L
Chlorobenzene	5.0	1.6	ug/L
Chloroethane	5.0	2.6	ug/L
Chloroform	5.0	2.1	ug/L
cis-1,2-Dichloroethene	5.0	1.6	ug/L
cis-1,3-Dichloropropene	5.0	1.6	ug/L
Dichlorobromomethane	5.0	2.4	ug/L
Ethylbenzene	5.0	2.2	ug/L
m-Xylene & p-Xylene	5.0	1.9	ug/L
o-Xylene	5.0	2.4	ug/L
Tetrachloroethene	5.0	2.0	ug/L
Toluene	5.0	1.7	ug/L
trans-1,2-Dichloroethene	5.0	2.5	ug/L
trans-1,3-Dichloropropene	5.0	1.7	ug/L
Trichloroethene	5.0	1.5	ug/L
Vinyl chloride	5.0	3.7	ug/L
Xylenes, Total	10	4.3	ug/L

Method: EPA 8270D - Semivolatile Organic Compounds (GC/MS)

Prep: 3520C

Analyte	RL	MDL	Units
1,1'-Biphenyl	10	0.59	ug/L
2,2'-oxybis[1-chloropropane]	1.9	0.58	ug/L
2,4,5-Trichlorophenol	10	0.61	ug/L
2,4,6-Trichlorophenol	10	0.68	ug/L
2,4-Dichlorophenol	1.9	0.51	ug/L
2,4-Dimethylphenol	10	0.41	ug/L
2,4-Dinitrophenol	100	15	ug/L
2,4-Dinitrotoluene	10	0.51	ug/L
2,6-Dinitrotoluene	10	0.60	ug/L
2-Chloronaphthalene	1.9	0.59	ug/L
2-Chlorophenol	10	0.64	ug/L
2-Methylnaphthalene	1.9	0.62	ug/L
2-Methylphenol	10	3.0	ug/L
2-Nitroaniline	50	5.5	ug/L
2-Nitrophenol	10	0.61	ug/L
3,3'-Dichlorobenzidine	10	5.8	ug/L
3-Nitroaniline	50	0.67	ug/L
4,6-Dinitro-2-methylphenol	50	15	ug/L

Method: EPA 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Prep: 3520C

Analyte	RL	MDL	Units
4-Bromophenyl phenyl ether	10	0.63	ug/L
4-Chloro-3-methylphenol	10	0.61	ug/L
4-Chloroaniline	10	0.44	ug/L
4-Chlorophenyl phenyl ether	10	0.61	ug/L
4-Nitroaniline	50	0.58	ug/L
4-Nitrophenol	50	1.4	ug/L
Acenaphthene	1.9	0.65	ug/L
Acenaphthylene	1.9	0.65	ug/L
Acetophenone	10	0.62	ug/L
Anthracene	1.9	0.49	ug/L
Atrazine	10	6.3	ug/L
Benzaldehyde	10	1.1	ug/L
Benzo[a]anthracene	1.9	0.75	ug/L
Benzo[a]pyrene	1.9	0.53	ug/L
Benzo[b]fluoranthene	1.9	0.97	ug/L
Benzo[g,h,i]perylene	1.9	0.69	ug/L
Benzo[k]fluoranthene	1.9	0.88	ug/L
Bis(2-chloroethoxy)methane	10	0.67	ug/L
Bis(2-chloroethyl)ether	1.9	0.40	ug/L
Bis(2-ethylhexyl) phthalate	100	62	ug/L
Butyl benzyl phthalate	10	4.6	ug/L
Caprolactam	50	4.7	ug/L
Carbazole	1.9	0.51	ug/L
Chrysene	1.9	0.81	ug/L
Dibenz(a,h)anthracene	1.9	0.72	ug/L
Dibenzofuran	10	0.73	ug/L
Diethyl phthalate	10	5.7	ug/L
Dimethyl phthalate	10	0.56	ug/L
Di-n-butyl phthalate	10	7.4	ug/L
Di-n-octyl phthalate	10	6.9	ug/L
Fluoranthene	1.9	0.60	ug/L
Fluorene	1.9	0.69	ug/L
Hexachlorobenzene	1.9	0.56	ug/L
Hexachlorobutadiene	1.9	0.69	ug/L
Hexachlorocyclopentadiene	10	5.0	ug/L
Hexachloroethane	10	0.62	ug/L
Indeno[1,2,3-cd]pyrene	1.9	0.85	ug/L
Isophorone	10	0.54	ug/L
Methylphenol, 3 & 4	10	3.7	ug/L
Naphthalene	1.9	0.59	ug/L
Nitrobenzene	20	5.0	ug/L
N-Nitrosodi-n-propylamine	1.9	0.71	ug/L
N-Nitrosodiphenylamine	10	1.2	ug/L
Pentachlorophenol	50	8.5	ug/L
Phenanthrene	1.9	0.55	ug/L
Phenol	10	4.9	ug/L
Pyrene	1.9	0.54	ug/L
Pyridine	20	5.4	ug/L

Method: EPA 8081B - Organochlorine Pesticides (GC)

Prep: 3510C

Default Detection Limits

Client: GHD Services Inc.
Job ID: 180-96144-1
Project/Site: San Jacinto River Waste Pits Superfund

Method: EPA 8081B - Organochlorine Pesticides (GC)

Prep: 3510C

Analyte	RL	MDL	Units
Chlordane (technical)	0.50	0.29	ug/L
Endrin	0.050	0.0091	ug/L
gamma-BHC (Lindane)	0.050	0.012	ug/L
Heptachlor	0.050	0.018	ug/L
Heptachlor epoxide	0.050	0.014	ug/L
Hexachlorobenzene	0.050	0.017	ug/L
Methoxychlor	0.050	0.031	ug/L
Toxaphene	4.0	2.0	ug/L

Method: EPA 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Prep: 3510C

Analyte	RL	MDL	Units
PCB-1016	0.40	0.19	ug/L
PCB-1221	0.40	0.23	ug/L
PCB-1232	0.40	0.21	ug/L
PCB-1242	0.40	0.37	ug/L
PCB-1248	0.40	0.12	ug/L
PCB-1254	0.40	0.38	ug/L
PCB-1260	0.40	0.16	ug/L

Method: EPA 8151A - Herbicides (GC)

Prep: 8151A

Analyte	RL	MDL	Units
2,4-D	4.0	2.0	ug/L
Silvex (2,4,5-TP)	1.0	0.30	ug/L

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	RL	MDL	Units
Bromide	0.50	0.087	mg/L
Chloride	1.0	0.71	mg/L
Sulfate	1.0	0.38	mg/L

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Prep: 1613B

Analyte	RL		Units
1,2,3,4,6,7,8-HpCDD	50		pg/L
1,2,3,4,6,7,8-HpCDF	50		pg/L
1,2,3,4,7,8,9-HpCDF	50		pg/L
1,2,3,4,7,8-HxCDD	50		pg/L
1,2,3,4,7,8-HxCDF	50		pg/L
1,2,3,6,7,8-HxCDD	50		pg/L
1,2,3,6,7,8-HxCDF	50		pg/L
1,2,3,7,8,9-HxCDD	50		pg/L
1,2,3,7,8,9-HxCDF	50		pg/L
1,2,3,7,8-PeCDD	50		pg/L
1,2,3,7,8-PeCDF	50		pg/L
2,3,4,6,7,8-HxCDF	50		pg/L
2,3,4,7,8-PeCDF	50		pg/L
2,3,7,8-TCDD	10		pg/L
2,3,7,8-TCDF	10		pg/L
OCDD	100		pg/L

Default Detection Limits

Client: GHD Services Inc.
Job ID: 180-96144-1
Project/Site: San Jacinto River Waste Pits Superfund

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Prep: 1613B

Analyte	RL		Units
OCDF	100		pg/L
Total HpCDD	50		pg/L
Total HpCDF	50		pg/L
Total HxCDD	50		pg/L
Total HxCDF	50		pg/L
Total PeCDD	50		pg/L
Total PeCDF	50		pg/L
Total TCDD	10		pg/L
Total TCDF	10		pg/L

Method: 6010C - Metals (ICP)

Prep: 3010A

Analyte	RL	MDL	Units
Aluminum	0.20	0.048	mg/L
Antimony	0.020	0.0098	mg/L
Arsenic	0.020	0.012	mg/L
Barium	0.0050	0.0025	mg/L
Beryllium	0.0020	0.00030	mg/L
Cadmium	0.0020	0.00050	mg/L
Calcium	0.50	0.050	mg/L
Chromium	0.0080	0.0012	mg/L
Cobalt	0.0050	0.0030	mg/L
Copper	0.010	0.0021	mg/L
Iron	0.10	0.020	mg/L
Lead	0.0050	0.0025	mg/L
Magnesium	0.50	0.040	mg/L
Manganese	0.0050	0.0025	mg/L
Molybdenum	0.020	0.0027	mg/L
Nickel	0.0050	0.0024	mg/L
Phosphorus	0.50	0.050	mg/L
Potassium	1.0	0.093	mg/L
Selenium	0.020	0.013	mg/L
Silver	0.0050	0.00084	mg/L
Sodium	1.0	0.25	mg/L
Strontium	0.050	0.0050	mg/L
Thallium	0.020	0.0090	mg/L
Vanadium	0.0050	0.0019	mg/L
Zinc	0.010	0.0030	mg/L

Method: 6010C - Metals (ICP) - Dissolved

Prep: 3010A

Analyte	RL	MDL	Units
Aluminum	0.20	0.048	mg/L
Antimony	0.020	0.0098	mg/L
Arsenic	0.020	0.012	mg/L
Barium	0.0050	0.0025	mg/L
Beryllium	0.0020	0.00030	mg/L
Cadmium	0.0020	0.00050	mg/L
Calcium	0.50	0.050	mg/L
Chromium	0.0080	0.0012	mg/L
Cobalt	0.0050	0.0030	mg/L

Default Detection Limits

Client: GHD Services Inc.
Job ID: 180-96144-1
Project/Site: San Jacinto River Waste Pits Superfund

Method: 6010C - Metals (ICP) - Dissolved (Continued)

Prep: 3010A

Analyte	RL	MDL	Units
Copper	0.010	0.0021	mg/L
Iron	0.10	0.020	mg/L
Lead	0.0050	0.0025	mg/L
Magnesium	0.50	0.040	mg/L
Manganese	0.0050	0.0025	mg/L
Molybdenum	0.020	0.0027	mg/L
Nickel	0.0050	0.0024	mg/L
Phosphorus	0.50	0.050	mg/L
Potassium	1.0	0.093	mg/L
Selenium	0.020	0.013	mg/L
Silver	0.0050	0.00084	mg/L
Sodium	1.0	0.25	mg/L
Strontium	0.050	0.0050	mg/L
Thallium	0.020	0.0090	mg/L
Vanadium	0.0050	0.0019	mg/L
Zinc	0.010	0.0030	mg/L

Method: 7470A - Mercury (CVAA)

Prep: 7470A

Analyte	RL	MDL	Units
Mercury	0.00020	0.00010	mg/L

Method: 7470A - Mercury (CVAA) - Dissolved

Prep: 7470A

Analyte	RL	MDL	Units
Mercury	0.00020	0.00010	mg/L

General Chemistry

Analyte	RL	MDL	Units
pH	0.1	0.1	SU
Total Dissolved Solids	10	10	mg/L
Total Suspended Solids	0.50	0.50	mg/L
Biochemical Oxygen Demand	2.0	2.0	mg/L
Total Organic Carbon - Duplicates	1.0	0.51	mg/L
Bicarbonate Alkalinity as CaCO3	5.0	5.0	mg/L
Carbonate Alkalinity as CaCO3	5.0	5.0	mg/L
Total Alkalinity as CaCO3 to pH 4.5	5.0	5.0	mg/L

General Chemistry

Prep: 410.4

Analyte	RL	MDL	Units
Chemical Oxygen Demand	10	9.1	mg/L

General Chemistry

Prep: Distill/Ammonia

Analyte	RL	MDL	Units
Ammonia, distilled	0.10	0.088	mg/L

Surrogate Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-96144-1

Method: EPA 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(58-139)	(64-122)	(70-127)	(71-125)
180-96144-1	11187072-CONTACT-INITIAL	107	99	104	108
LCS 180-292524/6	Lab Control Sample	110	89	93	89
MB 180-292524/8	Method Blank	108	96	99	102

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: EPA 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		NBZ	PHL	FBP	TBP	2FP	TPHL
Lab Sample ID	Client Sample ID	(45-108)	(40-105)	(44-105)	(38-111)	(38-105)	(20-128)
180-96144-1	11187072-CONTACT-INITIAL	80	62	57	81	55	82
180-96144-1 MS	11187072-CONTACT-INITIAL	58	47	45	74	45	28
LCS 180-293338/2-A	Lab Control Sample	82	71	60	78	77	78
MB 180-293338/1-A	Method Blank	92	79	66	82	84	81

Surrogate Legend

NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
FBP = 2-Fluorobiphenyl
TBP = 2,4,6-Tribromophenol (Surr)
2FP = 2-Fluorophenol (Surr)
TPHL = Terphenyl-d14 (Surr)

Method: EPA 8081B - Organochlorine Pesticides (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TCX1	TCX2	DCB1	DCB2
Lab Sample ID	Client Sample ID	(54-138)	(54-138)	(62-150)	(62-150)
180-96144-1	11187072-CONTACT-INITIAL	89	82	85	95
180-96144-1 - RA	11187072-CONTACT-INITIAL	95	88	98	104
LCS 180-293037/2-A	Lab Control Sample	91	84	89	99
LCSD 180-293037/3-A	Lab Control Sample Dup	95	89	92	104
MB 180-293037/1-A	Method Blank	87	83	87	95
MB 180-293037/1-A - RA	Method Blank	101	96	100	108

Surrogate Legend

TCX = Tetrachloro-m-xylene
DCB = DCB Decachlorobiphenyl (Surr)

Surrogate Summary

Client: GHD Services Inc. Job ID: 180-96144-1
Project/Site: San Jacinto River Waste Pits Superfund

Method: EPA 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TCX1	TCX2	DCB1	DCB2
Lab Sample ID	Client Sample ID	(45-133)	(45-133)	(59-144)	(59-144)
180-96144-1	11187072-CONTACT-INITIAL	82	85	92	96
LCS 180-293037/4-A	Lab Control Sample	81	84	89	92
LCSD 180-293037/5-A	Lab Control Sample Dup	81	86	88	92
MB 180-293037/1-A	Method Blank	96	101	100	102

Surrogate Legend

TCX = Tetrachloro-m-xylene (Surr)
DCB = DCB Decachlorobiphenyl (Surr)

Method: EPA 8151A - Herbicides (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		DCPAA1	DCPAA2
Lab Sample ID	Client Sample ID	(20-105)	(20-105)
180-96144-1	11187072-CONTACT-INITIAL	54	51
LB 180-292822/1-E	Method Blank	58	55
LCS 180-293050/2-A	Lab Control Sample	72	67
LCSD 180-293050/3-A	Lab Control Sample Dup	67	64
MB 180-293050/1-A	Method Blank	58	55

Surrogate Legend

DCPAA = 2,4-Dichlorophenylacetic acid

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		37TCDD
Lab Sample ID	Client Sample ID	(35-197)
180-96144-1	11187072-CONTACT-INITIAL	105
180-96144-1 - RA	11187072-CONTACT-INITIAL	107
MB 320-327320/1-A	Method Blank	111

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		37TCDD
Lab Sample ID	Client Sample ID	(31-191)
LCS 320-327320/2-A	Lab Control Sample	109
LCSD 320-327320/3-A	Lab Control Sample Dup	97

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: GHD Services Inc. Job ID: 180-96144-1
Project/Site: San Jacinto River Waste Pits Superfund

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		TCDD	TCDF	PeCDD	PeCDF	PeCF	HxCDD	HxDD	HxCDF
Lab Sample ID	Client Sample ID	(25-164)	(24-169)	(25-181)	(24-185)	(21-178)	(32-141)	(28-130)	(26-152)
180-96144-1	11187072-CONTACT-INITIAL	48	43	41	41	42	41	43	44
180-96144-1 - RA	11187072-CONTACT-INITIAL		53						
MB 320-327320/1-A	Method Blank	52	46	49	49	51	58	57	60

		Percent Isotope Dilution Recovery (Acceptance Limits)						
		HxDF	HxCF	13CHxCF	HpCDD	HpCDF	HpCDF2	OCDD
Lab Sample ID	Client Sample ID	(26-123)	(29-147)	(28-136)	(23-140)	(28-143)	(26-138)	(17-157)
180-96144-1	11187072-CONTACT-INITIAL	41	43	41	33	32	35	25
180-96144-1 - RA	11187072-CONTACT-INITIAL							
MB 320-327320/1-A	Method Blank	57	54	55	48	48	47	36

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		TCDD	TCDF	PeCDD	PeCDF	PeCF	HxCDD	HxDD	HxCDF
Lab Sample ID	Client Sample ID	(20-175)	(22-152)	(21-227)	(21-192)	(13-328)	(21-193)	(25-163)	(19-202)
LCS 320-327320/2-A	Lab Control Sample	65	52	59	62	69	68	65	65
LCSD 320-327320/3-A	Lab Control Sample Dup	46	44	52	48	53	57	62	62

		Percent Isotope Dilution Recovery (Acceptance Limits)						
		HxDF	HxCF	13CHxCF	HpCDD	HpCDF	HpCDF2	OCDD
Lab Sample ID	Client Sample ID	(21-159)	(17-205)	(22-176)	(26-166)	(21-158)	(20-186)	(13-199)
LCS 320-327320/2-A	Lab Control Sample	69	63	69	60	55	61	51
LCSD 320-327320/3-A	Lab Control Sample Dup	59	54	54	53	54	56	44

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF

Isotope Dilution Summary

Client: GHD Services Inc.

Job ID: 180-96144-1

Project/Site: San Jacinto River Waste Pits Superfund

HxDF = 13C-1,2,3,6,7,8-HxCDF

HxCF = 13C-1,2,3,7,8,9-HxCDF

13CHxCF = 13C-2,3,4,6,7,8-HxCDF

HpCDD = 13C-1,2,3,4,6,7,8-HpCDD

HpCDF = 13C-1,2,3,4,6,7,8-HpCDF

HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF

OCDD = 13C-OCDD

Method: EPA 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 180-292524/8
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 292524

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	2.5	ug/L			09/25/19 09:48	1
1,1,2-Trichloroethane	ND		5.0	2.4	ug/L			09/25/19 09:48	1
1,1-Dichloroethane	ND		5.0	1.8	ug/L			09/25/19 09:48	1
1,1-Dichloroethene	ND		5.0	2.9	ug/L			09/25/19 09:48	1
1,2-Dichlorobenzene	ND		5.0	2.0	ug/L			09/25/19 09:48	1
1,2-Dichloroethane	ND		5.0	1.5	ug/L			09/25/19 09:48	1
1,2-Dichloropropane	ND		5.0	2.5	ug/L			09/25/19 09:48	1
1,2,4-Trichlorobenzene	ND		5.0	3.7	ug/L			09/25/19 09:48	1
1,3-Dichlorobenzene	ND		5.0	1.6	ug/L			09/25/19 09:48	1
1,4-Dichlorobenzene	ND		5.0	1.0	ug/L			09/25/19 09:48	1
2-Butanone (MEK)	ND		5.0	2.9	ug/L			09/25/19 09:48	1
Benzene	ND		5.0	2.0	ug/L			09/25/19 09:48	1
Bromoform	ND		5.0	2.6	ug/L			09/25/19 09:48	1
Carbon tetrachloride	ND		5.0	3.3	ug/L			09/25/19 09:48	1
Chlorobenzene	ND		5.0	1.6	ug/L			09/25/19 09:48	1
Chloroform	ND		5.0	2.1	ug/L			09/25/19 09:48	1
Chloroethane	ND		5.0	2.6	ug/L			09/25/19 09:48	1
cis-1,2-Dichloroethene	ND		5.0	1.6	ug/L			09/25/19 09:48	1
cis-1,3-Dichloropropene	ND		5.0	1.6	ug/L			09/25/19 09:48	1
Dichlorobromomethane	ND		5.0	2.4	ug/L			09/25/19 09:48	1
Ethylbenzene	ND		5.0	2.2	ug/L			09/25/19 09:48	1
m-Xylene & p-Xylene	ND		5.0	1.9	ug/L			09/25/19 09:48	1
o-Xylene	ND		5.0	2.4	ug/L			09/25/19 09:48	1
Tetrachloroethene	ND		5.0	2.0	ug/L			09/25/19 09:48	1
Toluene	ND		5.0	1.7	ug/L			09/25/19 09:48	1
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/L			09/25/19 09:48	1
trans-1,3-Dichloropropene	ND		5.0	1.7	ug/L			09/25/19 09:48	1
Trichloroethene	ND		5.0	1.5	ug/L			09/25/19 09:48	1
Vinyl chloride	ND		5.0	3.7	ug/L			09/25/19 09:48	1
Xylenes, Total	ND		10	4.3	ug/L			09/25/19 09:48	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*58 - 139*		*09/25/19 09:48*	*1*
4-Bromofluorobenzene (Surr)	*96*		*64 - 122*		*09/25/19 09:48*	*1*
Dibromofluoromethane (Surr)	*99*		*70 - 127*		*09/25/19 09:48*	*1*
Toluene-d8 (Surr)	*102*		*71 - 125*		*09/25/19 09:48*	*1*

Lab Sample ID: LCS 180-292524/6
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 292524

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	10.0	9.10		ug/L		91	77 - 130
1,1,2-Trichloroethane	10.0	10.2		ug/L		102	75 - 119
1,1-Dichloroethane	10.0	9.29		ug/L		93	73 - 118
1,1-Dichloroethene	10.0	8.19		ug/L		82	60 - 131
1,2-Dichlorobenzene	10.0	9.19		ug/L		92	72 - 121
1,2-Dichloroethane	10.0	10.4		ug/L		104	62 - 129

Method: EPA 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 180-292524/6 **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 292524

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloropropane	10.0	9.46		ug/L		95	66 - 121
1,2,4-Trichlorobenzene	10.0	10.5		ug/L		105	15 - 150
1,3-Dichlorobenzene	10.0	8.34		ug/L		83	78 - 120
1,4-Dichlorobenzene	10.0	8.50		ug/L		85	76 - 119
2-Butanone (MEK)	20.0	23.7		ug/L		118	33 - 133
Benzene	10.0	8.70		ug/L		87	72 - 118
Bromoform	10.0	9.67		ug/L		97	61 - 149
Carbon tetrachloride	10.0	9.02		ug/L		90	69 - 137
Chlorobenzene	10.0	8.67		ug/L		87	77 - 122
Chloroform	10.0	8.53		ug/L		85	78 - 119
Chloroethane	10.0	5.57		ug/L		56	20 - 150
cis-1,2-Dichloroethene	10.0	8.77		ug/L		88	78 - 116
cis-1,3-Dichloropropene	10.0	9.46		ug/L		95	70 - 124
Dichlorobromomethane	10.0	9.14		ug/L		91	79 - 119
Ethylbenzene	10.0	8.39		ug/L		84	73 - 127
m-Xylene & p-Xylene	10.0	8.67		ug/L		87	73 - 125
o-Xylene	10.0	8.94		ug/L		89	72 - 124
Tetrachloroethene	10.0	8.08		ug/L		81	75 - 125
Toluene	10.0	8.60		ug/L		86	69 - 125
trans-1,2-Dichloroethene	10.0	8.53		ug/L		85	71 - 121
trans-1,3-Dichloropropene	10.0	10.3		ug/L		103	65 - 130
Trichloroethene	10.0	8.02		ug/L		80	76 - 120
Vinyl chloride	10.0	10.2		ug/L		102	52 - 130
Xylenes, Total	20.0	17.6		ug/L		88	73 - 123

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*110*		*58 - 139*
4-Bromofluorobenzene (Surr)	*89*		*64 - 122*
Dibromofluoromethane (Surr)	*93*		*70 - 127*
Toluene-d8 (Surr)	*89*		*71 - 125*

Method: EPA 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 180-293338/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 293862 **Prep Batch: 293338**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1.9	0.65	ug/L		10/01/19 11:49	10/05/19 11:20	1
Acenaphthylene	ND		1.9	0.65	ug/L		10/01/19 11:49	10/05/19 11:20	1
Anthracene	ND		1.9	0.49	ug/L		10/01/19 11:49	10/05/19 11:20	1
Benzo[a]anthracene	ND		1.9	0.75	ug/L		10/01/19 11:49	10/05/19 11:20	1
Benzo[a]pyrene	ND		1.9	0.53	ug/L		10/01/19 11:49	10/05/19 11:20	1
Benzo[b]fluoranthene	ND		1.9	0.97	ug/L		10/01/19 11:49	10/05/19 11:20	1
Benzo[g,h,i]perylene	ND		1.9	0.69	ug/L		10/01/19 11:49	10/05/19 11:20	1
Benzo[k]fluoranthene	ND		1.9	0.88	ug/L		10/01/19 11:49	10/05/19 11:20	1
Bis(2-ethylhexyl) phthalate	ND		100	62	ug/L		10/01/19 11:49	10/05/19 11:20	1
2,2'-oxybis[1-chloropropane]	ND		1.9	0.58	ug/L		10/01/19 11:49	10/05/19 11:20	1
4-Bromophenyl phenyl ether	ND		10	0.63	ug/L		10/01/19 11:49	10/05/19 11:20	1

Method: EPA 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 180-293338/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 293862 **Prep Batch: 293338**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Butyl benzyl phthalate	ND		10	4.6	ug/L		10/01/19 11:49	10/05/19 11:20	1
Carbazole	ND		1.9	0.51	ug/L		10/01/19 11:49	10/05/19 11:20	1
4-Chloroaniline	ND		10	0.44	ug/L		10/01/19 11:49	10/05/19 11:20	1
2-Chloronaphthalene	ND		1.9	0.59	ug/L		10/01/19 11:49	10/05/19 11:20	1
4-Chlorophenyl phenyl ether	ND		10	0.61	ug/L		10/01/19 11:49	10/05/19 11:20	1
Chrysene	ND		1.9	0.81	ug/L		10/01/19 11:49	10/05/19 11:20	1
Dibenz(a,h)anthracene	ND		1.9	0.72	ug/L		10/01/19 11:49	10/05/19 11:20	1
Dibenzofuran	ND		10	0.73	ug/L		10/01/19 11:49	10/05/19 11:20	1
Di-n-butyl phthalate	ND		10	7.4	ug/L		10/01/19 11:49	10/05/19 11:20	1
3,3'-Dichlorobenzidine	ND		10	5.8	ug/L		10/01/19 11:49	10/05/19 11:20	1
Diethyl phthalate	ND		10	5.7	ug/L		10/01/19 11:49	10/05/19 11:20	1
Dimethyl phthalate	ND		10	0.56	ug/L		10/01/19 11:49	10/05/19 11:20	1
2,4-Dinitrotoluene	ND		10	0.51	ug/L		10/01/19 11:49	10/05/19 11:20	1
2,6-Dinitrotoluene	ND		10	0.60	ug/L		10/01/19 11:49	10/05/19 11:20	1
Di-n-octyl phthalate	ND		10	6.9	ug/L		10/01/19 11:49	10/05/19 11:20	1
Fluoranthene	ND		1.9	0.60	ug/L		10/01/19 11:49	10/05/19 11:20	1
Fluorene	ND		1.9	0.69	ug/L		10/01/19 11:49	10/05/19 11:20	1
Hexachlorobenzene	ND		1.9	0.56	ug/L		10/01/19 11:49	10/05/19 11:20	1
Hexachlorobutadiene	ND		1.9	0.69	ug/L		10/01/19 11:49	10/05/19 11:20	1
Hexachlorocyclopentadiene	ND		10	5.0	ug/L		10/01/19 11:49	10/05/19 11:20	1
Hexachloroethane	ND		10	0.62	ug/L		10/01/19 11:49	10/05/19 11:20	1
Indeno[1,2,3-cd]pyrene	ND		1.9	0.85	ug/L		10/01/19 11:49	10/05/19 11:20	1
Isophorone	ND		10	0.54	ug/L		10/01/19 11:49	10/05/19 11:20	1
2-Methylnaphthalene	ND		1.9	0.62	ug/L		10/01/19 11:49	10/05/19 11:20	1
Naphthalene	ND		1.9	0.59	ug/L		10/01/19 11:49	10/05/19 11:20	1
2-Nitroaniline	ND		50	5.5	ug/L		10/01/19 11:49	10/05/19 11:20	1
3-Nitroaniline	ND		50	0.67	ug/L		10/01/19 11:49	10/05/19 11:20	1
4-Nitroaniline	ND		50	0.58	ug/L		10/01/19 11:49	10/05/19 11:20	1
4-Nitrophenol	ND		50	1.4	ug/L		10/01/19 11:49	10/05/19 11:20	1
Nitrobenzene	ND		20	5.0	ug/L		10/01/19 11:49	10/05/19 11:20	1
N-Nitrosodi-n-propylamine	ND		1.9	0.71	ug/L		10/01/19 11:49	10/05/19 11:20	1
N-Nitrosodiphenylamine	ND		10	1.2	ug/L		10/01/19 11:49	10/05/19 11:20	1
Phenanthrene	ND		1.9	0.55	ug/L		10/01/19 11:49	10/05/19 11:20	1
Pyrene	ND		1.9	0.54	ug/L		10/01/19 11:49	10/05/19 11:20	1
4-Chloro-3-methylphenol	ND		10	0.61	ug/L		10/01/19 11:49	10/05/19 11:20	1
2-Chlorophenol	ND		10	0.64	ug/L		10/01/19 11:49	10/05/19 11:20	1
2-Methylphenol	ND		10	3.0	ug/L		10/01/19 11:49	10/05/19 11:20	1
Methylphenol, 3 & 4	ND		10	3.7	ug/L		10/01/19 11:49	10/05/19 11:20	1
2,4-Dichlorophenol	ND		1.9	0.51	ug/L		10/01/19 11:49	10/05/19 11:20	1
2,4-Dimethylphenol	ND		10	0.41	ug/L		10/01/19 11:49	10/05/19 11:20	1
2,4-Dinitrophenol	ND		100	15	ug/L		10/01/19 11:49	10/05/19 11:20	1
4,6-Dinitro-2-methylphenol	ND		50	15	ug/L		10/01/19 11:49	10/05/19 11:20	1
2-Nitrophenol	ND		10	0.61	ug/L		10/01/19 11:49	10/05/19 11:20	1
Pentachlorophenol	ND		50	8.5	ug/L		10/01/19 11:49	10/05/19 11:20	1
Phenol	ND		10	4.9	ug/L		10/01/19 11:49	10/05/19 11:20	1
2,4,5-Trichlorophenol	ND		10	0.61	ug/L		10/01/19 11:49	10/05/19 11:20	1
2,4,6-Trichlorophenol	ND		10	0.68	ug/L		10/01/19 11:49	10/05/19 11:20	1
Acetophenone	ND		10	0.62	ug/L		10/01/19 11:49	10/05/19 11:20	1
Atrazine	ND		10	6.3	ug/L		10/01/19 11:49	10/05/19 11:20	1

Method: EPA 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 180-293338/1-A
Matrix: Water
Analysis Batch: 293862

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 293338

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzaldehyde	ND		10	1.1	ug/L		10/01/19 11:49	10/05/19 11:20	1
1,1'-Biphenyl	ND		10	0.59	ug/L		10/01/19 11:49	10/05/19 11:20	1
Caprolactam	ND		50	4.7	ug/L		10/01/19 11:49	10/05/19 11:20	1
Bis(2-chloroethoxy)methane	ND		10	0.67	ug/L		10/01/19 11:49	10/05/19 11:20	1
Bis(2-chloroethyl)ether	ND		1.9	0.40	ug/L		10/01/19 11:49	10/05/19 11:20	1
Pyridine	ND		20	5.4	ug/L		10/01/19 11:49	10/05/19 11:20	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5 (Surr)	*92*		*45 - 108*	*10/01/19 11:49*	*10/05/19 11:20*	*1*
Phenol-d5 (Surr)	*79*		*40 - 105*	*10/01/19 11:49*	*10/05/19 11:20*	*1*
2-Fluorobiphenyl	*66*		*44 - 105*	*10/01/19 11:49*	*10/05/19 11:20*	*1*
2,4,6-Tribromophenol (Surr)	*82*		*38 - 111*	*10/01/19 11:49*	*10/05/19 11:20*	*1*
2-Fluorophenol (Surr)	*84*		*38 - 105*	*10/01/19 11:49*	*10/05/19 11:20*	*1*
Terphenyl-d14 (Surr)	*81*		*20 - 128*	*10/01/19 11:49*	*10/05/19 11:20*	*1*

Lab Sample ID: LCS 180-293338/2-A
Matrix: Water
Analysis Batch: 293862

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 293338

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	200	117		ug/L		59	51 - 100
Acenaphthylene	200	120		ug/L		60	47 - 100
Anthracene	200	133		ug/L		67	51 - 100
Benzo[a]anthracene	200	144		ug/L		72	49 - 100
Benzo[a]pyrene	200	138		ug/L		69	49 - 100
Benzo[b]fluoranthene	200	134		ug/L		67	47 - 100
Benzo[g,h,i]perylene	200	137		ug/L		68	50 - 100
Benzo[k]fluoranthene	200	127		ug/L		64	47 - 100
Bis(2-ethylhexyl) phthalate	200	166		ug/L		83	41 - 100
2,2'-oxybis[1-chloropropane]	200	148		ug/L		74	35 - 105
4-Bromophenyl phenyl ether	200	133		ug/L		67	52 - 100
Butyl benzyl phthalate	200	169		ug/L		85	41 - 100
Carbazole	200	131		ug/L		65	50 - 100
4-Chloroaniline	200	127		ug/L		63	50 - 100
2-Chloronaphthalene	200	115		ug/L		57	52 - 100
4-Chlorophenyl phenyl ether	200	117		ug/L		58	52 - 100
Chrysene	200	144		ug/L		72	49 - 100
Dibenz(a,h)anthracene	200	144		ug/L		72	50 - 100
Dibenzofuran	200	112		ug/L		56	51 - 100
Di-n-butyl phthalate	200	149		ug/L		74	51 - 100
3,3'-Dichlorobenzidine	200	150		ug/L		75	45 - 100
Diethyl phthalate	200	126		ug/L		63	50 - 100
Dimethyl phthalate	200	125		ug/L		63	52 - 100
2,4-Dinitrotoluene	200	143		ug/L		71	51 - 100
2,6-Dinitrotoluene	200	135		ug/L		68	53 - 100
Di-n-octyl phthalate	200	146		ug/L		73	36 - 103
Fluoranthene	200	141		ug/L		71	52 - 100
Fluorene	200	113		ug/L		57	52 - 100

Method: EPA 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 180-293338/2-A
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 293862
Prep Batch: 293338

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobenzene	200	128		ug/L		64	50 - 100
Hexachlorobutadiene	200	124		ug/L		62	43 - 100
Hexachlorocyclopentadiene	200	131		ug/L		65	36 - 100
Hexachloroethane	200	133		ug/L		67	53 - 100
Indeno[1,2,3-cd]pyrene	200	140		ug/L		70	51 - 100
Isophorone	200	146		ug/L		73	48 - 100
2-Methylnaphthalene	200	130		ug/L		65	52 - 100
Naphthalene	200	129		ug/L		65	53 - 100
2-Nitroaniline	200	155		ug/L		78	49 - 104
3-Nitroaniline	200	126		ug/L		63	48 - 100
4-Nitroaniline	200	124		ug/L		62	47 - 100
4-Nitrophenol	400	349		ug/L		87	39 - 117
Nitrobenzene	200	150		ug/L		75	52 - 100
N-Nitrosodi-n-propylamine	200	149		ug/L		75	51 - 100
N-Nitrosodiphenylamine	200	127		ug/L		63	50 - 100
Phenanthrene	200	126		ug/L		63	49 - 100
Pyrene	200	146		ug/L		73	45 - 100
4-Chloro-3-methylphenol	200	154		ug/L		77	51 - 100
2-Chlorophenol	200	136		ug/L		68	54 - 100
2-Methylphenol	200	129		ug/L		64	53 - 100
Methylphenol, 3 & 4	200	129		ug/L		64	50 - 100
2,4-Dichlorophenol	200	136		ug/L		68	51 - 100
2,4-Dimethylphenol	200	150		ug/L		75	51 - 100
2,4-Dinitrophenol	400	295		ug/L		74	30 - 100
4,6-Dinitro-2-methylphenol	400	264		ug/L		66	40 - 100
2-Nitrophenol	200	159		ug/L		80	54 - 100
Pentachlorophenol	400	226		ug/L		56	38 - 100
Phenol	200	128		ug/L		64	50 - 100
2,4,5-Trichlorophenol	200	121		ug/L		61	50 - 100
2,4,6-Trichlorophenol	200	127		ug/L		64	53 - 100
Acetophenone	200	131		ug/L		66	48 - 100
Atrazine	200	146		ug/L		73	20 - 100
Benzaldehyde	200	95.2		ug/L		48	10 - 100
1,1'-Biphenyl	200	119		ug/L		59	51 - 100
Caprolactam	200	143		ug/L		72	50 - 100
Bis(2-chloroethoxy)methane	200	130		ug/L		65	53 - 100
Bis(2-chloroethyl)ether	200	126		ug/L		63	53 - 100
Pyridine	400	322		ug/L		81	47 - 101

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Nitrobenzene-d5 (Surr)	*82*		*45 - 108*
Phenol-d5 (Surr)	*71*		*40 - 105*
2-Fluorobiphenyl	*60*		*44 - 105*
2,4,6-Tribromophenol (Surr)	*78*		*38 - 111*
2-Fluorophenol (Surr)	*77*		*38 - 105*
Terphenyl-d14 (Surr)	*78*		*20 - 128*

Method: EPA 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 180-96144-1 MS **Client Sample ID: 11187072-CONTACT-INITIAL**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 293862 **Prep Batch: 293338**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	ND	F1	192	89.2	F1	ug/L		46	51 - 100
Acenaphthylene	ND	F1	192	89.2	F1	ug/L		46	47 - 100
Anthracene	ND		192	119		ug/L		62	51 - 100
Benzo[a]anthracene	ND		192	142		ug/L		74	49 - 100
Benzo[a]pyrene	ND		192	130		ug/L		67	49 - 100
Benzo[b]fluoranthene	ND		192	129		ug/L		67	47 - 100
Benzo[g,h,i]perylene	ND	F1	192	84.7	F1	ug/L		44	50 - 100
Benzo[k]fluoranthene	ND		192	125		ug/L		65	47 - 100
Bis(2-ethylhexyl) phthalate	ND		192	180		ug/L		94	41 - 100
2,2'-oxybis[1-chloropropane]	ND		192	95.3		ug/L		50	35 - 105
4-Bromophenyl phenyl ether	ND		192	112		ug/L		58	52 - 100
Butyl benzyl phthalate	ND		192	173		ug/L		90	41 - 100
Carbazole	ND		192	126		ug/L		65	50 - 100
4-Chloroaniline	ND	F1	192	88.7	F1	ug/L		46	50 - 100
2-Chloronaphthalene	ND	F1	192	82.0	F1	ug/L		43	52 - 100
4-Chlorophenyl phenyl ether	ND	F1	192	93.5	F1	ug/L		49	52 - 100
Chrysene	ND		192	140		ug/L		73	49 - 100
Dibenz(a,h)anthracene	ND		192	142		ug/L		74	50 - 100
Dibenzofuran	ND	F1	192	87.3	F1	ug/L		45	51 - 100
Di-n-butyl phthalate	ND		192	141		ug/L		73	51 - 100
3,3'-Dichlorobenzidine	ND		192	106		ug/L		55	45 - 100
Diethyl phthalate	ND		192	119		ug/L		62	50 - 100
Dimethyl phthalate	ND		192	113		ug/L		59	52 - 100
2,4-Dinitrotoluene	ND		192	133		ug/L		69	51 - 100
2,6-Dinitrotoluene	ND		192	117		ug/L		61	53 - 100
Di-n-octyl phthalate	ND		192	149		ug/L		77	36 - 103
Fluoranthene	ND		192	131		ug/L		68	52 - 100
Fluorene	ND	F1	192	92.7	F1	ug/L		48	52 - 100
Hexachlorobenzene	ND		192	112		ug/L		58	50 - 100
Hexachlorobutadiene	ND	F1	192	69.8	F1	ug/L		36	43 - 100
Hexachlorocyclopentadiene	ND	F1	192	13.0	F1	ug/L		7	36 - 100
Hexachloroethane	ND	F1	192	55.5	F1	ug/L		29	53 - 100
Indeno[1,2,3-cd]pyrene	ND		192	139		ug/L		72	51 - 100
Isophorone	ND		192	109		ug/L		57	48 - 100
2-Methylnaphthalene	ND	F1	192	88.5	F1	ug/L		46	52 - 100
Naphthalene	ND	F1	192	81.7	F1	ug/L		43	53 - 100
2-Nitroaniline	ND		192	129		ug/L		67	49 - 104
3-Nitroaniline	ND		192	103		ug/L		53	48 - 100
4-Nitroaniline	ND		192	109		ug/L		57	47 - 100
4-Nitrophenol	ND		385	334		ug/L		87	39 - 117
Nitrobenzene	ND		192	106		ug/L		55	52 - 100
N-Nitrosodi-n-propylamine	ND		192	105		ug/L		54	51 - 100
N-Nitrosodiphenylamine	ND		192	101		ug/L		52	50 - 100
Phenanthrene	ND		192	115		ug/L		60	49 - 100
Pyrene	ND		192	146		ug/L		76	45 - 100
4-Chloro-3-methylphenol	ND		192	120		ug/L		62	51 - 100
2-Chlorophenol	ND	F1	192	86.6	F1	ug/L		45	54 - 100
2-Methylphenol	ND	F1	192	86.7	F1	ug/L		45	53 - 100

Method: EPA 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 180-96144-1 MS **Client Sample ID: 11187072-CONTACT-INITIAL**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 293862 **Prep Batch: 293338**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Methylphenol, 3 & 4	ND	F1	192	92.0	F1	ug/L		48	50 - 100
2,4-Dichlorophenol	ND	F1	192	96.3	F1	ug/L		50	51 - 100
2,4-Dimethylphenol	ND	F1	192	79.4	F1	ug/L		41	51 - 100
2,4-Dinitrophenol	ND		385	257		ug/L		67	30 - 100
4,6-Dinitro-2-methylphenol	ND		385	257		ug/L		67	40 - 100
2-Nitrophenol	ND		192	107		ug/L		56	54 - 100
Pentachlorophenol	ND		385	205		ug/L		53	38 - 100
Phenol	ND	F1	192	84.7	F1	ug/L		44	50 - 100
2,4,5-Trichlorophenol	ND		192	97.1		ug/L		51	50 - 100
2,4,6-Trichlorophenol	ND	F1	192	98.5	F1	ug/L		51	53 - 100
Acetophenone	ND		192	93.2		ug/L		48	48 - 100
Atrazine	ND		192	141		ug/L		73	20 - 100
Benzaldehyde	ND		192	91.2		ug/L		47	10 - 100
1,1'-Biphenyl	ND	F1	192	85.9	F1	ug/L		45	51 - 100
Caprolactam	ND		192	140		ug/L		73	50 - 100
Bis(2-chloroethoxy)methane	ND	F1	192	89.8	F1	ug/L		47	53 - 100
Bis(2-chloroethyl)ether	ND	F1	192	83.4	F1	ug/L		43	53 - 100
Pyridine	ND	F1	385	170	F1	ug/L		44	47 - 101

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Nitrobenzene-d5 (Surr)	*58*		*45 - 108*
Phenol-d5 (Surr)	*47*		*40 - 105*
2-Fluorobiphenyl	*45*		*44 - 105*
2,4,6-Tribromophenol (Surr)	*74*		*38 - 111*
2-Fluorophenol (Surr)	*45*		*38 - 105*
Terphenyl-d14 (Surr)	*28*		*20 - 128*

Method: EPA 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 180-293037/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 293301 **Prep Batch: 293037**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
gamma-BHC (Lindane)	ND		0.050	0.012	ug/L		09/28/19 04:25	10/01/19 20:57	1
Chlordane (technical)	ND		0.50	0.29	ug/L		09/28/19 04:25	10/01/19 20:57	1
Endrin	ND		0.050	0.0091	ug/L		09/28/19 04:25	10/01/19 20:57	1
Heptachlor	ND		0.050	0.018	ug/L		09/28/19 04:25	10/01/19 20:57	1
Heptachlor epoxide	ND		0.050	0.014	ug/L		09/28/19 04:25	10/01/19 20:57	1
Methoxychlor	ND		0.050	0.031	ug/L		09/28/19 04:25	10/01/19 20:57	1
Toxaphene	ND		4.0	2.0	ug/L		09/28/19 04:25	10/01/19 20:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*87*		*54 - 138*	*09/28/19 04:25*	*10/01/19 20:57*	*1*
Tetrachloro-m-xylene	*83*		*54 - 138*	*09/28/19 04:25*	*10/01/19 20:57*	*1*
DCB Decachlorobiphenyl (Surr)	*87*		*62 - 150*	*09/28/19 04:25*	*10/01/19 20:57*	*1*
DCB Decachlorobiphenyl (Surr)	*95*		*62 - 150*	*09/28/19 04:25*	*10/01/19 20:57*	*1*

Method: EPA 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 180-293037/2-A
Matrix: Water
Analysis Batch: 293301

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 293037

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
gamma-BHC (Lindane)	1.00	0.921		ug/L		92	66 - 127
Endrin	1.00	0.878		ug/L		88	71 - 134
Heptachlor	1.00	0.880		ug/L		88	66 - 134
Heptachlor epoxide	1.00	0.880		ug/L		88	65 - 141
Methoxychlor	1.00	0.841		ug/L		84	59 - 131

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*91*		*54 - 138*
Tetrachloro-m-xylene	*84*		*54 - 138*
DCB Decachlorobiphenyl (Surr)	*89*		*62 - 150*
DCB Decachlorobiphenyl (Surr)	*99*		*62 - 150*

Lab Sample ID: LCSD 180-293037/3-A
Matrix: Water
Analysis Batch: 293301

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 293037

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
gamma-BHC (Lindane)	1.00	0.947		ug/L		95	66 - 127	3	15
Endrin	1.00	0.908		ug/L		91	71 - 134	3	18
Heptachlor	1.00	0.939		ug/L		94	66 - 134	6	15
Heptachlor epoxide	1.00	0.919		ug/L		92	65 - 141	4	15
Methoxychlor	1.00	0.911		ug/L		91	59 - 131	8	28

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*95*		*54 - 138*
Tetrachloro-m-xylene	*89*		*54 - 138*
DCB Decachlorobiphenyl (Surr)	*92*		*62 - 150*
DCB Decachlorobiphenyl (Surr)	*104*		*62 - 150*

Method: EPA 8081B - Organochlorine Pesticides (GC) - RA

Lab Sample ID: MB 180-293037/1-A
Matrix: Water
Analysis Batch: 293427

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 293037

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobenzene - RA	ND		0.050	0.017	ug/L		09/28/19 04:25	10/02/19 10:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene - RA	*101*		*54 - 138*	*09/28/19 04:25*	*10/02/19 10:08*	*1*
Tetrachloro-m-xylene - RA	*96*		*54 - 138*	*09/28/19 04:25*	*10/02/19 10:08*	*1*
DCB Decachlorobiphenyl (Surr) - RA	*100*		*62 - 150*	*09/28/19 04:25*	*10/02/19 10:08*	*1*
DCB Decachlorobiphenyl (Surr) - RA	*108*		*62 - 150*	*09/28/19 04:25*	*10/02/19 10:08*	*1*

QC Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-96144-1

Method: EPA 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 180-293037/1-A
Matrix: Water
Analysis Batch: 293170

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 293037

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.40	0.19	ug/L		09/28/19 04:25	09/30/19 14:51	1
PCB-1221	ND		0.40	0.23	ug/L		09/28/19 04:25	09/30/19 14:51	1
PCB-1232	ND		0.40	0.21	ug/L		09/28/19 04:25	09/30/19 14:51	1
PCB-1242	ND		0.40	0.37	ug/L		09/28/19 04:25	09/30/19 14:51	1
PCB-1248	ND		0.40	0.12	ug/L		09/28/19 04:25	09/30/19 14:51	1
PCB-1254	ND		0.40	0.38	ug/L		09/28/19 04:25	09/30/19 14:51	1
PCB-1260	ND		0.40	0.16	ug/L		09/28/19 04:25	09/30/19 14:51	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*96*		*45 - 133*	*09/28/19 04:25*	*09/30/19 14:51*	*1*
Tetrachloro-m-xylene (Surr)	*101*		*45 - 133*	*09/28/19 04:25*	*09/30/19 14:51*	*1*
DCB Decachlorobiphenyl (Surr)	*100*		*59 - 144*	*09/28/19 04:25*	*09/30/19 14:51*	*1*
DCB Decachlorobiphenyl (Surr)	*102*		*59 - 144*	*09/28/19 04:25*	*09/30/19 14:51*	*1*

Lab Sample ID: LCS 180-293037/4-A
Matrix: Water
Analysis Batch: 293170

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 293037

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
PCB-1016			40.0	35.1		ug/L		88	55 - 124		
PCB-1260			40.0	34.5		ug/L		86	56 - 122		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene (Surr)	*81*		*45 - 133*
Tetrachloro-m-xylene (Surr)	*84*		*45 - 133*
DCB Decachlorobiphenyl (Surr)	*89*		*59 - 144*
DCB Decachlorobiphenyl (Surr)	*92*		*59 - 144*

Lab Sample ID: LCSD 180-293037/5-A
Matrix: Water
Analysis Batch: 293170

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 293037

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-1016			40.0	35.6		ug/L		89	55 - 124	1	23
PCB-1260			40.0	35.3		ug/L		88	56 - 122	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene (Surr)	*81*		*45 - 133*
Tetrachloro-m-xylene (Surr)	*86*		*45 - 133*
DCB Decachlorobiphenyl (Surr)	*88*		*59 - 144*
DCB Decachlorobiphenyl (Surr)	*92*		*59 - 144*

Method: EPA 8151A - Herbicides (GC)

Lab Sample ID: LB 180-292822/1-E **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 293383 **Prep Batch: 293050**

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		40	20	ug/L		09/28/19 06:30	10/02/19 00:28	20
Silvex (2,4,5-TP)	ND		10	3.0	ug/L		09/28/19 06:30	10/02/19 00:28	20

Surrogate	*LB %Recovery*	*LB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*58*		*20 - 105*	*09/28/19 06:30*	*10/02/19 00:28*	*20*
2,4-Dichlorophenylacetic acid	*55*		*20 - 105*	*09/28/19 06:30*	*10/02/19 00:28*	*20*

Lab Sample ID: MB 180-293050/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 293383 **Prep Batch: 293050**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		4.0	2.0	ug/L		09/28/19 06:30	10/01/19 23:14	20
Silvex (2,4,5-TP)	ND		1.0	0.30	ug/L		09/28/19 06:30	10/01/19 23:14	20

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*58*		*20 - 105*	*09/28/19 06:30*	*10/01/19 23:14*	*20*
2,4-Dichlorophenylacetic acid	*55*		*20 - 105*	*09/28/19 06:30*	*10/01/19 23:14*	*20*

Lab Sample ID: LCS 180-293050/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 293383 **Prep Batch: 293050**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
2,4-D			20.0	14.7		ug/L		73	10 - 100		
Silvex (2,4,5-TP)			5.00	3.56		ug/L		71	23 - 109		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4-Dichlorophenylacetic acid	*72*		*20 - 105*
2,4-Dichlorophenylacetic acid	*67*		*20 - 105*

Lab Sample ID: LCSD 180-293050/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 293383 **Prep Batch: 293050**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,4-D			20.0	13.1		ug/L		66	10 - 100	11	35
Silvex (2,4,5-TP)			5.00	3.28		ug/L		66	23 - 109	8	33

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4-Dichlorophenylacetic acid	*67*		*20 - 105*
2,4-Dichlorophenylacetic acid	*64*		*20 - 105*

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Lab Sample ID: MB 180-294038/6
Matrix: Water
Analysis Batch: 294038

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.50	0.087	mg/L			10/08/19 04:56	1
Chloride	ND		1.0	0.71	mg/L			10/08/19 04:56	1
Sulfate	ND		1.0	0.38	mg/L			10/08/19 04:56	1

Lab Sample ID: LCS 180-294038/5
Matrix: Water
Analysis Batch: 294038

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	5.00	4.91		mg/L		98	90 - 110
Chloride	25.0	24.3		mg/L		97	90 - 110
Sulfate	25.0	24.1		mg/L		96	90 - 110

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-327320/1-A
Matrix: Water
Analysis Batch: 328202

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 327320

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		10	1.5	pg/L		09/30/19 11:45	10/03/19 23:48	1
2,3,7,8-TCDF	ND		10	1.2	pg/L		09/30/19 11:45	10/03/19 23:48	1
1,2,3,7,8-PeCDD	7.71	J	50	1.6	pg/L		09/30/19 11:45	10/03/19 23:48	1
1,2,3,7,8-PeCDF	5.15	J	50	1.0	pg/L		09/30/19 11:45	10/03/19 23:48	1
2,3,4,7,8-PeCDF	6.08	J	50	1.1	pg/L		09/30/19 11:45	10/03/19 23:48	1
1,2,3,4,7,8-HxCDD	8.56	J	50	1.6	pg/L		09/30/19 11:45	10/03/19 23:48	1
1,2,3,6,7,8-HxCDD	6.29	J	50	1.5	pg/L		09/30/19 11:45	10/03/19 23:48	1
1,2,3,7,8,9-HxCDD	6.76	J	50	1.4	pg/L		09/30/19 11:45	10/03/19 23:48	1
1,2,3,4,7,8-HxCDF	5.98	J q	50	2.7	pg/L		09/30/19 11:45	10/03/19 23:48	1
1,2,3,6,7,8-HxCDF	7.51	J	50	2.8	pg/L		09/30/19 11:45	10/03/19 23:48	1
1,2,3,7,8,9-HxCDF	6.32	J	50	1.9	pg/L		09/30/19 11:45	10/03/19 23:48	1
2,3,4,6,7,8-HxCDF	5.51	J q	50	2.0	pg/L		09/30/19 11:45	10/03/19 23:48	1
1,2,3,4,6,7,8-HpCDD	5.78	J	50	1.0	pg/L		09/30/19 11:45	10/03/19 23:48	1
1,2,3,4,6,7,8-HpCDF	7.05	J	50	0.79	pg/L		09/30/19 11:45	10/03/19 23:48	1
1,2,3,4,7,8,9-HpCDF	5.84	J	50	1.1	pg/L		09/30/19 11:45	10/03/19 23:48	1
OCDD	16.0	J	100	1.7	pg/L		09/30/19 11:45	10/03/19 23:48	1
OCDF	ND		100	2.5	pg/L		09/30/19 11:45	10/03/19 23:48	1
Total TCDD	ND		10	1.5	pg/L		09/30/19 11:45	10/03/19 23:48	1
Total TCDF	ND		10	1.2	pg/L		09/30/19 11:45	10/03/19 23:48	1
Total PeCDD	7.71	J	50	1.6	pg/L		09/30/19 11:45	10/03/19 23:48	1
Total PeCDF	11.2	J	50	1.1	pg/L		09/30/19 11:45	10/03/19 23:48	1
Total HxCDD	21.6	J	50	1.5	pg/L		09/30/19 11:45	10/03/19 23:48	1
Total HxCDF	25.3	J q	50	2.4	pg/L		09/30/19 11:45	10/03/19 23:48	1
Total HpCDD	5.78	J	50	1.0	pg/L		09/30/19 11:45	10/03/19 23:48	1
Total HpCDF	12.9	J	50	0.93	pg/L		09/30/19 11:45	10/03/19 23:48	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*52*		*25 - 164*	*09/30/19 11:45*	*10/03/19 23:48*	*1*
13C-2,3,7,8-TCDF	*46*		*24 - 169*	*09/30/19 11:45*	*10/03/19 23:48*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-327320/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 328202 **Prep Batch: 327320**

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,7,8-PeCDD	49		25 - 181	09/30/19 11:45	10/03/19 23:48	1
13C-1,2,3,7,8-PeCDF	49		24 - 185	09/30/19 11:45	10/03/19 23:48	1
13C-2,3,4,7,8-PeCDF	51		21 - 178	09/30/19 11:45	10/03/19 23:48	1
13C-1,2,3,4,7,8-HxCDD	58		32 - 141	09/30/19 11:45	10/03/19 23:48	1
13C-1,2,3,6,7,8-HxCDD	57		28 - 130	09/30/19 11:45	10/03/19 23:48	1
13C-1,2,3,4,7,8-HxCDF	60		26 - 152	09/30/19 11:45	10/03/19 23:48	1
13C-1,2,3,6,7,8-HxCDF	57		26 - 123	09/30/19 11:45	10/03/19 23:48	1
13C-1,2,3,7,8,9-HxCDF	54		29 - 147	09/30/19 11:45	10/03/19 23:48	1
13C-2,3,4,6,7,8-HxCDF	55		28 - 136	09/30/19 11:45	10/03/19 23:48	1
13C-1,2,3,4,6,7,8-HpCDD	48		23 - 140	09/30/19 11:45	10/03/19 23:48	1
13C-1,2,3,4,6,7,8-HpCDF	48		28 - 143	09/30/19 11:45	10/03/19 23:48	1
13C-1,2,3,4,7,8,9-HpCDF	47		26 - 138	09/30/19 11:45	10/03/19 23:48	1
13C-OCDD	36		17 - 157	09/30/19 11:45	10/03/19 23:48	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	111		35 - 197	09/30/19 11:45	10/03/19 23:48	1

Lab Sample ID: LCS 320-327320/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 328202 **Prep Batch: 327320**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	200	201		pg/L		101	67 - 158
2,3,7,8-TCDF	200	216		pg/L		108	75 - 158
1,2,3,7,8-PeCDD	1000	1150		pg/L		115	70 - 142
1,2,3,7,8-PeCDF	1000	1060		pg/L		106	80 - 134
2,3,4,7,8-PeCDF	1000	1010		pg/L		101	68 - 160
1,2,3,4,7,8-HxCDD	1000	1060		pg/L		106	70 - 164
1,2,3,6,7,8-HxCDD	1000	1060		pg/L		106	76 - 134
1,2,3,7,8,9-HxCDD	1000	1010		pg/L		101	64 - 162
1,2,3,4,7,8-HxCDF	1000	1050		pg/L		105	72 - 134
1,2,3,6,7,8-HxCDF	1000	1100		pg/L		110	84 - 130
1,2,3,7,8,9-HxCDF	1000	1050		pg/L		105	78 - 130
2,3,4,6,7,8-HxCDF	1000	1100		pg/L		110	70 - 156
1,2,3,4,6,7,8-HpCDD	1000	1080		pg/L		108	70 - 140
1,2,3,4,6,7,8-HpCDF	1000	1050		pg/L		105	82 - 122
1,2,3,4,7,8,9-HpCDF	1000	1010		pg/L		101	78 - 138
OCDD	2000	2000		pg/L		100	78 - 144
OCDF	2000	2090		pg/L		104	63 - 170

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	65		20 - 175
13C-2,3,7,8-TCDF	52		22 - 152
13C-1,2,3,7,8-PeCDD	59		21 - 227
13C-1,2,3,7,8-PeCDF	62		21 - 192
13C-2,3,4,7,8-PeCDF	69		13 - 328
13C-1,2,3,4,7,8-HxCDD	68		21 - 193
13C-1,2,3,6,7,8-HxCDD	65		25 - 163

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-327320/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 328202 **Prep Batch: 327320**

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-1,2,3,4,7,8-HxCDF	65		19 - 202
13C-1,2,3,6,7,8-HxCDF	69		21 - 159
13C-1,2,3,7,8,9-HxCDF	63		17 - 205
13C-2,3,4,6,7,8-HxCDF	69		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	60		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	55		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	61		20 - 186
13C-OCDD	51		13 - 199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	109		31 - 191

Lab Sample ID: LCSD 320-327320/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 328202 **Prep Batch: 327320**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD			200	190		pg/L		95	67 - 158	6	50
2,3,7,8-TCDF			200	218		pg/L		109	75 - 158	1	50
1,2,3,7,8-PeCDD			1000	1120		pg/L		112	70 - 142	2	50
1,2,3,7,8-PeCDF			1000	1050		pg/L		105	80 - 134	1	50
2,3,4,7,8-PeCDF			1000	1010		pg/L		101	68 - 160	0	50
1,2,3,4,7,8-HxCDD			1000	1060		pg/L		106	70 - 164	0	50
1,2,3,6,7,8-HxCDD			1000	1070		pg/L		107	76 - 134	2	50
1,2,3,7,8,9-HxCDD			1000	977		pg/L		98	64 - 162	4	50
1,2,3,4,7,8-HxCDF			1000	1030		pg/L		103	72 - 134	2	50
1,2,3,6,7,8-HxCDF			1000	1060		pg/L		106	84 - 130	4	50
1,2,3,7,8,9-HxCDF			1000	1050		pg/L		105	78 - 130	1	50
2,3,4,6,7,8-HxCDF			1000	1050		pg/L		105	70 - 156	4	50
1,2,3,4,6,7,8-HpCDD			1000	1090		pg/L		109	70 - 140	1	50
1,2,3,4,6,7,8-HpCDF			1000	1030		pg/L		103	82 - 122	2	50
1,2,3,4,7,8,9-HpCDF			1000	1000		pg/L		100	78 - 138	1	50
OCDD			2000	2060		pg/L		103	78 - 144	3	50
OCDF			2000	2190		pg/L		110	63 - 170	5	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	46		20 - 175
13C-2,3,7,8-TCDF	44		22 - 152
13C-1,2,3,7,8-PeCDD	52		21 - 227
13C-1,2,3,7,8-PeCDF	48		21 - 192
13C-2,3,4,7,8-PeCDF	53		13 - 328
13C-1,2,3,4,7,8-HxCDD	57		21 - 193
13C-1,2,3,6,7,8-HxCDD	62		25 - 163
13C-1,2,3,4,7,8-HxCDF	62		19 - 202
13C-1,2,3,6,7,8-HxCDF	59		21 - 159
13C-1,2,3,7,8,9-HxCDF	54		17 - 205
13C-2,3,4,6,7,8-HxCDF	54		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	53		26 - 166

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-327320/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 328202 **Prep Batch: 327320**

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C-1,2,3,4,6,7,8-HpCDF	*54*		*21 - 158*
13C-1,2,3,4,7,8,9-HpCDF	*56*		*20 - 186*
13C-OCDD	*44*		*13 - 199*

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
37Cl4-2,3,7,8-TCDD	*97*		*31 - 191*

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 320-327228/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 327515 **Prep Batch: 327228**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		0.20	0.048	mg/L		09/30/19 06:00	09/30/19 17:40	1
Arsenic	ND		0.020	0.012	mg/L		09/30/19 06:00	09/30/19 17:40	1
Barium	ND		0.0050	0.0025	mg/L		09/30/19 06:00	09/30/19 17:40	1
Beryllium	ND		0.0020	0.00030	mg/L		09/30/19 06:00	09/30/19 17:40	1
Cadmium	ND		0.0020	0.00050	mg/L		09/30/19 06:00	09/30/19 17:40	1
Calcium	0.0732	J	0.50	0.050	mg/L		09/30/19 06:00	09/30/19 17:40	1
Chromium	ND		0.0080	0.0012	mg/L		09/30/19 06:00	09/30/19 17:40	1
Cobalt	ND		0.0050	0.0030	mg/L		09/30/19 06:00	09/30/19 17:40	1
Copper	0.00293	J	0.010	0.0021	mg/L		09/30/19 06:00	09/30/19 17:40	1
Magnesium	0.0434	J	0.50	0.040	mg/L		09/30/19 06:00	09/30/19 17:40	1
Manganese	ND		0.0050	0.0025	mg/L		09/30/19 06:00	09/30/19 17:40	1
Potassium	ND		1.0	0.093	mg/L		09/30/19 06:00	09/30/19 17:40	1
Nickel	ND		0.0050	0.0024	mg/L		09/30/19 06:00	09/30/19 17:40	1
Silver	ND		0.0050	0.00084	mg/L		09/30/19 06:00	09/30/19 17:40	1
Lead	ND		0.0050	0.0025	mg/L		09/30/19 06:00	09/30/19 17:40	1
Selenium	ND		0.020	0.013	mg/L		09/30/19 06:00	09/30/19 17:40	1
Vanadium	ND		0.0050	0.0019	mg/L		09/30/19 06:00	09/30/19 17:40	1
Zinc	0.00452	J	0.010	0.0030	mg/L		09/30/19 06:00	09/30/19 17:40	1
Antimony	ND		0.020	0.0098	mg/L		09/30/19 06:00	09/30/19 17:40	1
Molybdenum	ND		0.020	0.0027	mg/L		09/30/19 06:00	09/30/19 17:40	1
Thallium	ND		0.020	0.0090	mg/L		09/30/19 06:00	09/30/19 17:40	1
Strontium	ND		0.050	0.0050	mg/L		09/30/19 06:00	09/30/19 17:40	1
Phosphorus	ND		0.50	0.050	mg/L		09/30/19 06:00	09/30/19 17:40	1

Lab Sample ID: MB 320-327228/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 327736 **Prep Batch: 327228**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	0.020	mg/L		09/30/19 06:00	10/01/19 16:06	1
Sodium	ND		1.0	0.25	mg/L		09/30/19 06:00	10/01/19 16:06	1

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCS 320-327228/2-A
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 327515
Prep Batch: 327228

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	5.00	4.89		mg/L		98	80 - 120
Arsenic	0.500	0.444		mg/L		89	80 - 120
Barium	0.500	0.474		mg/L		95	80 - 120
Beryllium	0.250	0.272		mg/L		109	80 - 120
Cadmium	0.250	0.242		mg/L		97	80 - 120
Calcium	25.0	23.7		mg/L		95	80 - 120
Chromium	0.250	0.259		mg/L		103	80 - 120
Cobalt	0.250	0.263		mg/L		105	80 - 120
Copper	0.250	0.236		mg/L		94	80 - 120
Magnesium	25.0	24.9		mg/L		100	80 - 120
Manganese	0.250	0.236		mg/L		94	80 - 120
Potassium	25.0	26.6		mg/L		106	80 - 120
Nickel	0.250	0.249		mg/L		100	80 - 120
Silver	0.0500	0.0486		mg/L		97	80 - 120
Lead	0.250	0.256		mg/L		102	80 - 120
Selenium	0.500	0.523		mg/L		105	80 - 120
Vanadium	0.250	0.265		mg/L		106	80 - 120
Zinc	0.499	0.492		mg/L		99	80 - 120
Antimony	0.500	0.493		mg/L		99	80 - 120
Molybdenum	0.250	0.252		mg/L		101	80 - 120
Thallium	0.500	0.482		mg/L		96	80 - 120
Strontium	0.250	0.236		mg/L		94	80 - 120
Phosphorus	5.00	5.58		mg/L		112	80 - 120

Lab Sample ID: LCS 320-327228/2-A
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 331614
Prep Batch: 327228

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	5.00	4.79		mg/L		96	80 - 120
Sodium	25.0	24.0		mg/L		96	80 - 120

Lab Sample ID: MB 320-327230/1-A
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 331282
Prep Batch: 327230

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		0.20	0.048	mg/L		09/30/19 06:00	10/15/19 15:36	1
Arsenic	ND		0.020	0.012	mg/L		09/30/19 06:00	10/15/19 15:36	1
Barium	ND		0.0050	0.0025	mg/L		09/30/19 06:00	10/15/19 15:36	1
Beryllium	ND		0.0020	0.00030	mg/L		09/30/19 06:00	10/15/19 15:36	1
Cadmium	ND		0.0020	0.00050	mg/L		09/30/19 06:00	10/15/19 15:36	1
Calcium	ND		0.50	0.050	mg/L		09/30/19 06:00	10/15/19 15:36	1
Chromium	ND		0.0080	0.0012	mg/L		09/30/19 06:00	10/15/19 15:36	1
Cobalt	ND		0.0050	0.0030	mg/L		09/30/19 06:00	10/15/19 15:36	1
Copper	ND		0.010	0.0021	mg/L		09/30/19 06:00	10/15/19 15:36	1
Iron	ND		0.10	0.020	mg/L		09/30/19 06:00	10/15/19 15:36	1
Magnesium	ND		0.50	0.040	mg/L		09/30/19 06:00	10/15/19 15:36	1
Manganese	ND		0.0050	0.0025	mg/L		09/30/19 06:00	10/15/19 15:36	1

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: MB 320-327230/1-A
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 331282
Prep Batch: 327230

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	0.124	J	1.0	0.093	mg/L		09/30/19 06:00	10/15/19 15:36	1
Nickel	ND		0.0050	0.0024	mg/L		09/30/19 06:00	10/15/19 15:36	1
Silver	ND		0.0050	0.00084	mg/L		09/30/19 06:00	10/15/19 15:36	1
Lead	0.00278	J	0.0050	0.0025	mg/L		09/30/19 06:00	10/15/19 15:36	1
Sodium	0.346	J	1.0	0.25	mg/L		09/30/19 06:00	10/15/19 15:36	1
Selenium	ND		0.020	0.013	mg/L		09/30/19 06:00	10/15/19 15:36	1
Vanadium	ND		0.0050	0.0019	mg/L		09/30/19 06:00	10/15/19 15:36	1
Zinc	0.00334	J	0.010	0.0030	mg/L		09/30/19 06:00	10/15/19 15:36	1
Antimony	ND		0.020	0.0098	mg/L		09/30/19 06:00	10/15/19 15:36	1
Molybdenum	ND		0.020	0.0027	mg/L		09/30/19 06:00	10/15/19 15:36	1
Thallium	ND		0.020	0.0090	mg/L		09/30/19 06:00	10/15/19 15:36	1
Strontium	ND		0.050	0.0050	mg/L		09/30/19 06:00	10/15/19 15:36	1
Phosphorus	ND		0.50	0.050	mg/L		09/30/19 06:00	10/15/19 15:36	1

Lab Sample ID: LCS 320-327230/2-A
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 331282
Prep Batch: 327230

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	5.00	4.95		mg/L		99	80 - 120
Arsenic	0.500	0.450		mg/L		90	80 - 120
Barium	0.500	0.508		mg/L		102	80 - 120
Beryllium	0.250	0.257		mg/L		103	80 - 120
Cadmium	0.250	0.246		mg/L		99	80 - 120
Calcium	25.0	24.8		mg/L		99	80 - 120
Chromium	0.250	0.252		mg/L		101	80 - 120
Cobalt	0.250	0.248		mg/L		99	80 - 120
Copper	0.250	0.227		mg/L		91	80 - 120
Iron	5.00	4.93		mg/L		99	80 - 120
Magnesium	25.0	24.6		mg/L		99	80 - 120
Manganese	0.250	0.250		mg/L		100	80 - 120
Potassium	25.0	24.8		mg/L		99	80 - 120
Nickel	0.250	0.244		mg/L		97	80 - 120
Silver	0.0500	0.0492		mg/L		99	80 - 120
Lead	0.250	0.246		mg/L		98	80 - 120
Sodium	25.0	24.8		mg/L		99	80 - 120
Selenium	0.500	0.483		mg/L		97	80 - 120
Vanadium	0.250	0.255		mg/L		102	80 - 120
Zinc	0.499	0.474		mg/L		95	80 - 120
Antimony	0.500	0.489		mg/L		98	80 - 120
Molybdenum	0.250	0.245		mg/L		98	80 - 120
Thallium	0.500	0.503		mg/L		101	80 - 120
Strontium	0.250	0.241		mg/L		97	80 - 120
Phosphorus	5.00	5.19		mg/L		104	80 - 120

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: 180-96144-1 MS **Client Sample ID: 11187072-CONTACT-INITIAL**
Matrix: Water **Prep Type: Dissolved**
Analysis Batch: 331282 **Prep Batch: 327230**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	ND		5.00	4.98		mg/L		100	75 - 125
Arsenic	ND		0.500	0.456		mg/L		91	75 - 125
Barium	0.18		0.500	0.688		mg/L		102	75 - 125
Beryllium	ND		0.250	0.258		mg/L		103	75 - 125
Cadmium	ND		0.250	0.245		mg/L		98	75 - 125
Calcium	37		25.0	61.0		mg/L		97	75 - 125
Chromium	ND		0.250	0.254		mg/L		101	75 - 125
Cobalt	ND		0.250	0.249		mg/L		99	75 - 125
Copper	0.014		0.250	0.238		mg/L		90	75 - 125
Iron	ND		5.00	4.89		mg/L		98	75 - 125
Magnesium	22		25.0	46.1		mg/L		97	75 - 125
Manganese	0.15		0.250	0.392		mg/L		99	75 - 125
Potassium	11	B	25.0	36.2		mg/L		100	75 - 125
Nickel	ND		0.250	0.242		mg/L		97	75 - 125
Silver	ND		0.0500	0.0493		mg/L		99	75 - 125
Lead	ND		0.250	0.246		mg/L		98	75 - 125
Sodium	260	B	25.0	275	4	mg/L		74	75 - 125
Selenium	ND		0.500	0.476		mg/L		95	75 - 125
Vanadium	ND		0.250	0.260		mg/L		104	75 - 125
Zinc	0.013	B	0.499	0.485		mg/L		95	75 - 125
Antimony	ND		0.500	0.494		mg/L		99	75 - 125
Molybdenum	0.0076	J	0.250	0.255		mg/L		99	75 - 125
Thallium	ND		0.500	0.477		mg/L		95	75 - 125
Strontium	0.32		0.250	0.556		mg/L		95	75 - 125
Phosphorus	0.066	J	5.00	5.40		mg/L		107	75 - 125

Lab Sample ID: 180-96144-1 MSD **Client Sample ID: 11187072-CONTACT-INITIAL**
Matrix: Water **Prep Type: Dissolved**
Analysis Batch: 331282 **Prep Batch: 327230**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	ND		5.00	5.02		mg/L		100	75 - 125	1	20
Arsenic	ND		0.500	0.456		mg/L		91	75 - 125	0	20
Barium	0.18		0.500	0.698		mg/L		104	75 - 125	1	20
Beryllium	ND		0.250	0.261		mg/L		104	75 - 125	1	20
Cadmium	ND		0.250	0.246		mg/L		98	75 - 125	0	20
Calcium	37		25.0	61.3		mg/L		98	75 - 125	1	20
Chromium	ND		0.250	0.256		mg/L		103	75 - 125	1	20
Cobalt	ND		0.250	0.250		mg/L		100	75 - 125	0	20
Copper	0.014		0.250	0.243		mg/L		91	75 - 125	2	20
Iron	ND		5.00	4.95		mg/L		99	75 - 125	1	20
Magnesium	22		25.0	46.8		mg/L		100	75 - 125	2	20
Manganese	0.15		0.250	0.394		mg/L		99	75 - 125	1	20
Potassium	11	B	25.0	36.6		mg/L		102	75 - 125	1	20
Nickel	ND		0.250	0.243		mg/L		97	75 - 125	0	20
Silver	ND		0.0500	0.0498		mg/L		100	75 - 125	1	20
Lead	ND		0.250	0.244		mg/L		97	75 - 125	1	20
Sodium	260	B	25.0	278	4	mg/L		87	75 - 125	1	20
Selenium	ND		0.500	0.480		mg/L		96	75 - 125	1	20

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: 180-96144-1 MSD **Client Sample ID: 11187072-CONTACT-INITIAL**
Matrix: Water **Prep Type: Dissolved**
Analysis Batch: 331282 **Prep Batch: 327230**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Vanadium	ND		0.250	0.261		mg/L		105	75 - 125	1	20
Zinc	0.013	B	0.499	0.486		mg/L		95	75 - 125	0	20
Antimony	ND		0.500	0.498		mg/L		100	75 - 125	1	20
Molybdenum	0.0076	J	0.250	0.256		mg/L		100	75 - 125	1	20
Thallium	ND		0.500	0.477		mg/L		95	75 - 125	0	20
Strontium	0.32		0.250	0.557		mg/L		96	75 - 125	0	20
Phosphorus	0.066	J	5.00	5.42		mg/L		107	75 - 125	0	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 320-327721/11-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 328188 **Prep Batch: 327721**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00010	mg/L		10/02/19 09:30	10/03/19 10:15	1

Lab Sample ID: LCS 320-327721/12-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 328188 **Prep Batch: 327721**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00100	0.000964		mg/L		96	82 - 113

Lab Sample ID: MB 320-327722/11-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 328188 **Prep Batch: 327722**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00010	mg/L		10/02/19 09:30	10/03/19 09:09	1

Lab Sample ID: LCS 320-327722/12-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 328188 **Prep Batch: 327722**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00100	0.00103		mg/L		103	82 - 113

Method: EPA 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 180-293550/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 294028 **Prep Batch: 293550**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia, distilled	ND		0.10	0.088	mg/L		10/02/19 20:02	10/07/19 15:44	1

Method: EPA 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: LCS 180-293550/2-A
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 294028
Prep Batch: 293550

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia, distilled	2.00	2.08		mg/L		104	90 - 110

Method: EPA 410.4 - COD

Lab Sample ID: MB 180-293350/12-A
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 293458
Prep Batch: 293350

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		10	9.1	mg/L		10/02/19 08:30	10/02/19 09:19	1

Lab Sample ID: LCS 180-293350/11-A
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 293458
Prep Batch: 293350

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	100	101		mg/L		101	90 - 110

Method: EPA 9040C - pH

Lab Sample ID: LCS 180-293299/1
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 293299

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100	99 - 101

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 180-293084/2
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 293084

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	10	mg/L			09/28/19 10:21	1

Lab Sample ID: LCS 180-293084/1
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 293084

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	633	632		mg/L		100	80 - 120

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 180-292765/2
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 292765

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		0.50	0.50	mg/L			09/26/19 10:53	1

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: LCS 180-292765/1 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 292765

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	82.3	84.0		mg/L		102	80 - 120

Method: SM 5210B - 5 Day BOD test

Lab Sample ID: USB 180-293371/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 293371

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		2.0	2.0	mg/L			09/26/19 09:44	1

Lab Sample ID: LCS 180-293371/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 293371

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Biochemical Oxygen Demand	198	126	*	mg/L		64	85 - 115

Method: SM 5310C - Total Organic Carbon

Lab Sample ID: MB 180-294581/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 294581

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	ND		1.0	0.51	mg/L			10/10/19 17:08	1

Lab Sample ID: LCS 180-294581/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 294581

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Duplicates	20.0	19.0		mg/L		95	85 - 115

Lab Sample ID: LCSD 180-294581/5 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 294581

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Duplicates	20.0	19.1		mg/L		96	85 - 115	1	20

Method: SM2320 B - Alkalinity, Total

Lab Sample ID: MB 180-292886/26 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 292886

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity as CaCO3 to pH 4.5	ND		5.0	5.0	mg/L			09/26/19 15:04	1

Method: SM2320 B - Alkalinity, Total (Continued)

Lab Sample ID: MB 180-292886/26
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 292886

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	ND		5.0	5.0	mg/L			09/26/19 15:04	1
Carbonate Alkalinity as CaCO3	ND		5.0	5.0	mg/L			09/26/19 15:04	1

Lab Sample ID: LCS 180-292886/25
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 292886

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Alkalinity as CaCO3 to pH 4.5			250	231		mg/L		92	90 - 110		

QC Association Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-96144-1

GC/MS VOA

Analysis Batch: 292524

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96144-1	11187072-CONTACT-INITIAL	Total/NA	Water	EPA 8260C	
MB 180-292524/8	Method Blank	Total/NA	Water	EPA 8260C	
LCS 180-292524/6	Lab Control Sample	Total/NA	Water	EPA 8260C	

GC/MS Semi VOA

Prep Batch: 293338

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96144-1	11187072-CONTACT-INITIAL	Total/NA	Water	3520C	
MB 180-293338/1-A	Method Blank	Total/NA	Water	3520C	
LCS 180-293338/2-A	Lab Control Sample	Total/NA	Water	3520C	
180-96144-1 MS	11187072-CONTACT-INITIAL	Total/NA	Water	3520C	

Analysis Batch: 293862

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 180-293338/1-A	Method Blank	Total/NA	Water	EPA 8270D	293338
LCS 180-293338/2-A	Lab Control Sample	Total/NA	Water	EPA 8270D	293338
180-96144-1 MS	11187072-CONTACT-INITIAL	Total/NA	Water	EPA 8270D	293338

Analysis Batch: 293945

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96144-1	11187072-CONTACT-INITIAL	Total/NA	Water	EPA 8270D	293338

GC Semi VOA

Leach Batch: 292822

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LB 180-292822/1-E	Method Blank	Total/NA	Water	1311	

Prep Batch: 293037

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96144-1	11187072-CONTACT-INITIAL	Total/NA	Water	3510C	
180-96144-1 - RA	11187072-CONTACT-INITIAL	Total/NA	Water	3510C	
MB 180-293037/1-A	Method Blank	Total/NA	Water	3510C	
MB 180-293037/1-A - RA	Method Blank	Total/NA	Water	3510C	
LCS 180-293037/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCS 180-293037/4-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 180-293037/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
LCSD 180-293037/5-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Prep Batch: 293050

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96144-1	11187072-CONTACT-INITIAL	Total/NA	Water	8151A	
LB 180-292822/1-E	Method Blank	Total/NA	Water	8151A	292822
MB 180-293050/1-A	Method Blank	Total/NA	Water	8151A	
LCS 180-293050/2-A	Lab Control Sample	Total/NA	Water	8151A	
LCSD 180-293050/3-A	Lab Control Sample Dup	Total/NA	Water	8151A	

Analysis Batch: 293170

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96144-1	11187072-CONTACT-INITIAL	Total/NA	Water	EPA 8082A	293037
MB 180-293037/1-A	Method Blank	Total/NA	Water	EPA 8082A	293037

GC Semi VOA (Continued)

Analysis Batch: 293170 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 180-293037/4-A	Lab Control Sample	Total/NA	Water	EPA 8082A	293037
LCSD 180-293037/5-A	Lab Control Sample Dup	Total/NA	Water	EPA 8082A	293037

Analysis Batch: 293301

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96144-1	11187072-CONTACT-INITIAL	Total/NA	Water	EPA 8081B	293037
MB 180-293037/1-A	Method Blank	Total/NA	Water	EPA 8081B	293037
LCS 180-293037/2-A	Lab Control Sample	Total/NA	Water	EPA 8081B	293037
LCSD 180-293037/3-A	Lab Control Sample Dup	Total/NA	Water	EPA 8081B	293037

Analysis Batch: 293383

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96144-1	11187072-CONTACT-INITIAL	Total/NA	Water	EPA 8151A	293050
LB 180-292822/1-E	Method Blank	Total/NA	Water	EPA 8151A	293050
MB 180-293050/1-A	Method Blank	Total/NA	Water	EPA 8151A	293050
LCS 180-293050/2-A	Lab Control Sample	Total/NA	Water	EPA 8151A	293050
LCSD 180-293050/3-A	Lab Control Sample Dup	Total/NA	Water	EPA 8151A	293050

Analysis Batch: 293427

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96144-1 - RA	11187072-CONTACT-INITIAL	Total/NA	Water	EPA 8081B	293037
MB 180-293037/1-A - RA	Method Blank	Total/NA	Water	EPA 8081B	293037

HPLC/IC

Analysis Batch: 294038

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96144-1	11187072-CONTACT-INITIAL	Total/NA	Water	EPA 300.0 R2.1	
180-96144-1	11187072-CONTACT-INITIAL	Total/NA	Water	EPA 300.0 R2.1	
MB 180-294038/6	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 180-294038/5	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

Specialty Organics

Prep Batch: 327320

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96144-1	11187072-CONTACT-INITIAL	Total/NA	Water	1613B	
180-96144-1 - RA	11187072-CONTACT-INITIAL	Total/NA	Water	1613B	
MB 320-327320/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-327320/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-327320/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

Analysis Batch: 328202

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96144-1	11187072-CONTACT-INITIAL	Total/NA	Water	1613B	327320
MB 320-327320/1-A	Method Blank	Total/NA	Water	1613B	327320
LCS 320-327320/2-A	Lab Control Sample	Total/NA	Water	1613B	327320
LCSD 320-327320/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	327320

Analysis Batch: 330101

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96144-1 - RA	11187072-CONTACT-INITIAL	Total/NA	Water	1613B	327320

QC Association Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-96144-1

Metals

Prep Batch: 327228

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96144-1	11187072-CONTACT-INITIAL	Total/NA	Water	3010A	
MB 320-327228/1-A	Method Blank	Total/NA	Water	3010A	
LCS 320-327228/2-A	Lab Control Sample	Total/NA	Water	3010A	

Prep Batch: 327230

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96144-1	11187072-CONTACT-INITIAL	Dissolved	Water	3010A	
MB 320-327230/1-A	Method Blank	Total/NA	Water	3010A	
LCS 320-327230/2-A	Lab Control Sample	Total/NA	Water	3010A	
180-96144-1 MS	11187072-CONTACT-INITIAL	Dissolved	Water	3010A	
180-96144-1 MSD	11187072-CONTACT-INITIAL	Dissolved	Water	3010A	

Analysis Batch: 327515

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96144-1	11187072-CONTACT-INITIAL	Total/NA	Water	6010C	327228
MB 320-327228/1-A	Method Blank	Total/NA	Water	6010C	327228
LCS 320-327228/2-A	Lab Control Sample	Total/NA	Water	6010C	327228

Prep Batch: 327721

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96144-1	11187072-CONTACT-INITIAL	Total/NA	Water	7470A	
MB 320-327721/11-A	Method Blank	Total/NA	Water	7470A	
LCS 320-327721/12-A	Lab Control Sample	Total/NA	Water	7470A	

Prep Batch: 327722

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96144-1	11187072-CONTACT-INITIAL	Dissolved	Water	7470A	
MB 320-327722/11-A	Method Blank	Total/NA	Water	7470A	
LCS 320-327722/12-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 327736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96144-1	11187072-CONTACT-INITIAL	Total/NA	Water	6010C	327228
MB 320-327228/1-A	Method Blank	Total/NA	Water	6010C	327228

Analysis Batch: 328188

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96144-1	11187072-CONTACT-INITIAL	Dissolved	Water	7470A	327722
180-96144-1	11187072-CONTACT-INITIAL	Total/NA	Water	7470A	327721
MB 320-327721/11-A	Method Blank	Total/NA	Water	7470A	327721
MB 320-327722/11-A	Method Blank	Total/NA	Water	7470A	327722
LCS 320-327721/12-A	Lab Control Sample	Total/NA	Water	7470A	327721
LCS 320-327722/12-A	Lab Control Sample	Total/NA	Water	7470A	327722

Analysis Batch: 331282

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96144-1	11187072-CONTACT-INITIAL	Dissolved	Water	6010C	327230
MB 320-327230/1-A	Method Blank	Total/NA	Water	6010C	327230
LCS 320-327230/2-A	Lab Control Sample	Total/NA	Water	6010C	327230
180-96144-1 MS	11187072-CONTACT-INITIAL	Dissolved	Water	6010C	327230
180-96144-1 MSD	11187072-CONTACT-INITIAL	Dissolved	Water	6010C	327230

QC Association Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-96144-1

Metals

Analysis Batch: 331614

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 320-327228/2-A	Lab Control Sample	Total/NA	Water	6010C	327228

General Chemistry

Analysis Batch: 292765

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96144-1	11187072-CONTACT-INITIAL	Total/NA	Water	SM 2540D	
MB 180-292765/2	Method Blank	Total/NA	Water	SM 2540D	
LCS 180-292765/1	Lab Control Sample	Total/NA	Water	SM 2540D	

Analysis Batch: 292886

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96144-1	11187072-CONTACT-INITIAL	Total/NA	Water	SM2320 B	
MB 180-292886/26	Method Blank	Total/NA	Water	SM2320 B	
LCS 180-292886/25	Lab Control Sample	Total/NA	Water	SM2320 B	

Analysis Batch: 293084

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96144-1	11187072-CONTACT-INITIAL	Total/NA	Water	SM 2540C	
MB 180-293084/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-293084/1	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 293299

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96144-1	11187072-CONTACT-INITIAL	Total/NA	Water	EPA 9040C	
LCS 180-293299/1	Lab Control Sample	Total/NA	Water	EPA 9040C	

Prep Batch: 293350

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96144-1	11187072-CONTACT-INITIAL	Total/NA	Water	410.4	
MB 180-293350/12-A	Method Blank	Total/NA	Water	410.4	
LCS 180-293350/11-A	Lab Control Sample	Total/NA	Water	410.4	

Analysis Batch: 293371

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96144-1	11187072-CONTACT-INITIAL	Total/NA	Water	SM 5210B	
USB 180-293371/2	Method Blank	Total/NA	Water	SM 5210B	
LCS 180-293371/4	Lab Control Sample	Total/NA	Water	SM 5210B	

Analysis Batch: 293458

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96144-1	11187072-CONTACT-INITIAL	Total/NA	Water	EPA 410.4	293350
MB 180-293350/12-A	Method Blank	Total/NA	Water	EPA 410.4	293350
LCS 180-293350/11-A	Lab Control Sample	Total/NA	Water	EPA 410.4	293350

Prep Batch: 293550

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96144-1	11187072-CONTACT-INITIAL	Total/NA	Water	Distill/Ammonia	
MB 180-293550/1-A	Method Blank	Total/NA	Water	Distill/Ammonia	
LCS 180-293550/2-A	Lab Control Sample	Total/NA	Water	Distill/Ammonia	

QC Association Summary

Client: GHD Services Inc.
Job ID: 180-96144-1
Project/Site: San Jacinto River Waste Pits Superfund

General Chemistry

Analysis Batch: 294028

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96144-1	11187072-CONTACT-INITIAL	Total/NA	Water	EPA 350.1	293550
MB 180-293550/1-A	Method Blank	Total/NA	Water	EPA 350.1	293550
LCS 180-293550/2-A	Lab Control Sample	Total/NA	Water	EPA 350.1	293550

Analysis Batch: 294581

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96144-1	11187072-CONTACT-INITIAL	Total/NA	Water	SM 5310C	
MB 180-294581/6	Method Blank	Total/NA	Water	SM 5310C	
LCS 180-294581/4	Lab Control Sample	Total/NA	Water	SM 5310C	
LCSD 180-294581/5	Lab Control Sample Dup	Total/NA	Water	SM 5310C	

Lab Chronicle

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-96144-1

Client Sample ID: 11187072-CONTACT-INITIAL

Date Collected: 09/24/19 15:00
Date Received: 09/25/19 09:00

Lab Sample ID: 180-96144-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 8260C		1	5 mL	5 mL	292524	09/25/19 15:15	PJJ	TAL PIT
	Instrument ID:	CHHP10								
Total/NA	Prep	3520C			260 mL	2.5 mL	293338	10/01/19 11:49	BJT	TAL PIT
Total/NA	Analysis	EPA 8270D		1	1 mL	1 mL	293945	10/07/19 19:30	VVP	TAL PIT
	Instrument ID:	CH732								
Total/NA	Prep	3510C			1060 mL	40.0 mL	293037	09/28/19 04:25	CBY	TAL PIT
Total/NA	Analysis	EPA 8081B		1			293301	10/01/19 21:44	DFE	TAL PIT
	Instrument ID:	CHGC17								
Total/NA	Prep	3510C	RA		1060 mL	40.0 mL	293037	09/28/19 04:25	CBY	TAL PIT
Total/NA	Analysis	EPA 8081B	RA	1			293427	10/02/19 10:24	DFE	TAL PIT
	Instrument ID:	CHGC17								
Total/NA	Prep	3510C			1060 mL	40.0 mL	293037	09/28/19 04:25	CBY	TAL PIT
Total/NA	Analysis	EPA 8082A		1			293170	09/30/19 15:11	JMO	TAL PIT
	Instrument ID:	CHGC10								
Total/NA	Prep	8151A			1060 mL	10.0 mL	293050	09/28/19 06:30	CBY	TAL PIT
Total/NA	Analysis	EPA 8151A		20			293383	10/02/19 01:42	JBF	TAL PIT
	Instrument ID:	CGC1								
Total/NA	Analysis	EPA 300.0 R2.1		1			294038	10/08/19 11:22	MJH	TAL PIT
	Instrument ID:	CHIC2100A								
Total/NA	Analysis	EPA 300.0 R2.1		10			294038	10/08/19 11:37	MJH	TAL PIT
	Instrument ID:	CHIC2100A								
Total/NA	Prep	1613B			1045 mL	20 uL	327320	09/30/19 11:45	NR	TAL SAC
Total/NA	Analysis	1613B		1			328202	10/04/19 02:06	AS	TAL SAC
	Instrument ID:	10D5								
Total/NA	Prep	1613B	RA		1045 mL	20 uL	327320	09/30/19 11:45	NR	TAL SAC
Total/NA	Analysis	1613B	RA	2			330101	10/10/19 21:13	AS	TAL SAC
	Instrument ID:	11D2								
Dissolved	Prep	3010A			50 mL	50 mL	327230	09/30/19 06:00	NIM	TAL SAC
Dissolved	Analysis	6010C		1			331282	10/15/19 15:59	GSH	TAL SAC
	Instrument ID:	T01								
Total/NA	Prep	3010A			50 mL	50 mL	327228	09/30/19 06:00	NIM	TAL SAC
Total/NA	Analysis	6010C		1			327515	09/30/19 18:15	GSH	TAL SAC
	Instrument ID:	T01								
Total/NA	Prep	3010A			50 mL	50 mL	327228	09/30/19 06:00	NIM	TAL SAC
Total/NA	Analysis	6010C		1			327736	10/01/19 16:49	GSH	TAL SAC
	Instrument ID:	T01								
Dissolved	Prep	7470A			30 mL	30 mL	327722	10/02/19 09:30	MGO	TAL SAC
Dissolved	Analysis	7470A		1			328188	10/03/19 09:51	MGO	TAL SAC
	Instrument ID:	H04								
Total/NA	Prep	7470A			30 mL	30 mL	327721	10/02/19 09:30	MGO	TAL SAC
Total/NA	Analysis	7470A		1			328188	10/03/19 10:56	MGO	TAL SAC
	Instrument ID:	H04								
Total/NA	Prep	Distill/Ammonia			50 mL	50 mL	293550	10/02/19 20:04	TAM	TAL PIT
Total/NA	Analysis	EPA 350.1		1			294028	10/07/19 16:20	TAM	TAL PIT
	Instrument ID:	ASTORIA1								

Lab Chronicle

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-96144-1

Client Sample ID: 11187072-CONTACT-INITIAL

Date Collected: 09/24/19 15:00
Date Received: 09/25/19 09:00

Lab Sample ID: 180-96144-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	410.4			1.0 mL	1.0 mL	293350	10/02/19 08:30	CLL	TAL PIT
Total/NA	Analysis	EPA 410.4		1	1.0 mL	1.0 mL	293458	10/02/19 09:19	ELS	TAL PIT
	Instrument ID:	GENESYS10S								
Total/NA	Analysis	EPA 9040C		1			293299	10/01/19 13:38	MTW	TAL PIT
	Instrument ID:	NOEQUIP								
Total/NA	Analysis	SM 2540C		1	20 mL	100 mL	293084	09/28/19 10:21	AVS	TAL PIT
	Instrument ID:	NOEQUIP								
Total/NA	Analysis	SM 2540D		1	20 mL	1000 mL	292765	09/26/19 10:53	AGP	TAL PIT
	Instrument ID:	NOEQUIP								
Total/NA	Analysis	SM 5210B		1	100 mL	300 mL	293371	09/26/19 10:08	ELS	TAL PIT
	Instrument ID:	BOD2								
Total/NA	Analysis	SM 5310C		1			294581	10/10/19 20:32	TAM	TAL PIT
	Instrument ID:	TOC1030								
Total/NA	Analysis	SM2320 B		1			292886	09/26/19 17:04	AVS	TAL PIT
	Instrument ID:	PCTITRATOR								

Laboratory References:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058
TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Analyst References:

Lab: TAL PIT
- Batch Type: Prep
  - BJT = Bill Trout
  - CBY = Charles Yushinski
  - CLL = Cheryl Loheyde
  - TAM = Tessa Mastalski
- Batch Type: Analysis
  - AGP = Angela Partridge
  - AVS = Abbey Smith
  - DFE = David Eppinger
  - ELS = Edwin Shireman
  - JBF = Joshua Fritsch
  - JMO = John Oravec
  - MJH = Matthew Hartman
  - MTW = Michael Wesoloski
  - PJJ = Patrick Journet
  - TAM = Tessa Mastalski
  - VVP = Vincent Piccolino

Lab: TAL SAC
- Batch Type: Prep
  - MGO = Marsella Ortiz
  - NIM = Nataliya Merritt
  - NR = Noe Ruiz
- Batch Type: Analysis
  - AS = Ajay Sharda
  - GSH = Greg Harry
  - MGO = Marsella Ortiz

Accreditation/Certification Summary

Client: GHD Services Inc. Job ID: 180-96144-1
Project/Site: San Jacinto River Waste Pits Superfund

Laboratory: Eurofins TestAmerica, Pittsburgh

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704528-15-2	03-31-20

Laboratory: Eurofins TestAmerica, Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704399	05-31-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
6010C	3010A	Water	Aluminum
6010C	3010A	Water	Antimony
6010C	3010A	Water	Arsenic
6010C	3010A	Water	Barium
6010C	3010A	Water	Beryllium
6010C	3010A	Water	Cadmium
6010C	3010A	Water	Calcium
6010C	3010A	Water	Chromium
6010C	3010A	Water	Cobalt
6010C	3010A	Water	Copper
6010C	3010A	Water	Iron
6010C	3010A	Water	Lead
6010C	3010A	Water	Magnesium
6010C	3010A	Water	Manganese
6010C	3010A	Water	Molybdenum
6010C	3010A	Water	Nickel
6010C	3010A	Water	Phosphorus
6010C	3010A	Water	Potassium
6010C	3010A	Water	Selenium
6010C	3010A	Water	Silver
6010C	3010A	Water	Sodium
6010C	3010A	Water	Strontium
6010C	3010A	Water	Thallium
6010C	3010A	Water	Vanadium
6010C	3010A	Water	Zinc
7470A	7470A	Water	Mercury

Method Summary

Client: GHD Services Inc.
Job ID: 180-96144-1
Project/Site: San Jacinto River Waste Pits Superfund

Method	Method Description	Protocol	Laboratory
EPA 8260C	Volatile Organic Compounds by GC/MS	SW846	TAL PIT
EPA 8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PIT
EPA 8081B	Organochlorine Pesticides (GC)	SW846	TAL PIT
EPA 8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL PIT
EPA 8151A	Herbicides (GC)	SW846	TAL PIT
EPA 300.0 R2.1	Anions, Ion Chromatography	EPA	TAL PIT
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	TAL SAC
6010C	Metals (ICP)	SW846	TAL SAC
7470A	Mercury (CVAA)	SW846	TAL SAC
EPA 350.1	Nitrogen, Ammonia	EPA	TAL PIT
EPA 410.4	COD	MCAWW	TAL PIT
EPA 9040C	pH	SW846	TAL PIT
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PIT
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL PIT
SM 5210B	5 Day BOD test	SM	TAL PIT
SM 5310C	Total Organic Carbon	SM	TAL PIT
SM2320 B	Alkalinity, Total	SM18	TAL PIT
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	TAL SAC
3010A	Preparation, Total Metals	SW846	TAL SAC
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL PIT
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PIT
410.4	COD	MCAWW	TAL PIT
5030C	Purge and Trap	SW846	TAL PIT
7470A	Preparation, Mercury	SW846	TAL SAC
8151A	Extraction (Herbicides)	SW846	TAL PIT
Distill/Ammonia	Distillation, Ammonia	None	TAL PIT

Protocol References:

EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
None = None
SM = "Standard Methods For The Examination Of Water And Wastewater"
SM18 = "Standard Methods For The Examination Of Water And Wastewater", 18th Edition, 1992.
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058
TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GHD Services Inc.
Job ID: 180-96144-1
Project/Site: San Jacinto River Waste Pits Superfund

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-96144-1	11187072-CONTACT-INITIAL	Water	09/24/19 15:00	09/25/19 09:00	

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-96144-1

SDG No.:

Instrument ID: CHHP10 Analysis Batch Number: 291542

Lab Sample ID: IC 180-291542/3 Client Sample ID:

Date Analyzed: 09/17/19 09:39 Lab File ID: 10091703.d GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,1-Dichloroethene	3.08	Peak assignment corrected	journetp	09/17/19 10:19
2,2-Dichloropropane	5.65	Peak assignment corrected	journetp	09/17/19 10:19
1,4-Dioxane	7.79	Peak assignment corrected	journetp	09/17/19 10:19

Lab Sample ID: IC 180-291542/4 Client Sample ID:

Date Analyzed: 09/17/19 10:04 Lab File ID: 10091704.d GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Isobutyl alcohol	6.70	Poor chromatography	journetp	09/17/19 12:43
1,2-Dichloropropane	7.68	Peak assignment corrected	journetp	09/17/19 10:33
1,4-Dioxane	7.78	Poor chromatography	journetp	09/17/19 12:42

Lab Sample ID: ICIS 180-291542/5 Client Sample ID:

Date Analyzed: 09/17/19 10:29 Lab File ID: 10091705.d GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2-Dichloropropane	7.68	Peak assignment corrected	journetp	09/17/19 11:30

Lab Sample ID: IC 180-291542/6 Client Sample ID:

Date Analyzed: 09/17/19 10:54 Lab File ID: 10091706.d GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2-Dichloropropane	7.68	Peak assignment corrected	journetp	09/17/19 11:31

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-96144-1

SDG No.:

Instrument ID: CHHP10 Analysis Batch Number: 291542

Lab Sample ID: IC 180-291542/7 Client Sample ID:

Date Analyzed: 09/17/19 11:19 Lab File ID: 10091707.d GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromomethane	2.07	Poor chromatography	journetp	09/17/19 13:06
1,2-Dichloropropane	7.68	Peak assignment corrected	journetp	09/17/19 12:34

Lab Sample ID: IC 180-291542/8 Client Sample ID:

Date Analyzed: 09/17/19 11:44 Lab File ID: 10091708.d GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2-Dichloropropane	7.68	Peak assignment corrected	journetp	09/17/19 12:35
1,4-Dioxane	7.78	Poor chromatography	journetp	09/17/19 12:35

Lab Sample ID: IC 180-291542/9 Client Sample ID:

Date Analyzed: 09/17/19 12:09 Lab File ID: 10091709.d GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2-Dichloropropane	7.68	Peak assignment corrected	journetp	09/17/19 12:36

Lab Sample ID: IC 180-291542/10 Client Sample ID:

Date Analyzed: 09/17/19 12:35 Lab File ID: 10091710.d GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2-Dichloropropane	7.68	Peak assignment corrected	journetp	09/17/19 12:57

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-96144-1

SDG No.:

Instrument ID: CHHP10 Analysis Batch Number: 292524

Lab Sample ID: CCVIS 180-292524/5 Client Sample ID:

Date Analyzed: 09/25/19 08:33 Lab File ID: 10092505.d GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acetonitrile	3.56	Peak assignment corrected	journetp	09/25/19 12:52

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-96144-1

SDG No.:

Instrument ID: CH732 Analysis Batch Number: 284340

Lab Sample ID: IC 180-284340/3 Client Sample ID:

Date Analyzed: 07/10/19 07:55 Lab File ID: D07100003.D GC Column: Rxi-5SilMS ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,4-Dioxane	1.65	Peak assignment corrected	piccolinov	07/10/19 10:50
Pyridine	2.40	Incomplete Integration	piccolinov	07/10/19 10:50
Benzoic acid	7.19	Incomplete Integration	piccolinov	07/10/19 10:51
Caprolactam	7.89	Incomplete Integration	piccolinov	07/10/19 10:51
2,3,4,6-Tetrachlorophenol	9.54	Incomplete Integration	piccolinov	07/10/19 10:51
Pentachlorophenol	10.47	Incomplete Integration	piccolinov	07/10/19 10:51
Bis(2-ethylhexyl) phthalate	14.44	Incomplete Integration	piccolinov	07/10/19 10:52
Di-n-octyl phthalate	15.75	Incomplete Integration	piccolinov	07/10/19 10:52
Benzo[k]fluoranthene	16.66	Incomplete Integration	piccolinov	07/10/19 10:52
Benzo[a]pyrene	17.27	Incomplete Integration	piccolinov	07/10/19 10:53
Indeno[1,2,3-cd]pyrene	19.79	Incomplete Integration	piccolinov	07/10/19 10:53
Dibenz(a,h)anthracene	19.83	Incomplete Integration	piccolinov	07/10/19 10:53
Benzo[g,h,i]perylene	20.51	Incomplete Integration	piccolinov	07/10/19 10:54

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-96144-1

SDG No.:

Instrument ID: CH732 Analysis Batch Number: 284340

Lab Sample ID: IC 180-284340/4 Client Sample ID:

Date Analyzed: 07/10/19 08:21 Lab File ID: D07100004.D GC Column: Rxi-5SilMS ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
N-Nitrosodimethylamine	2.23	Incomplete Integration	piccolinov	07/10/19 10:47
Pyridine	2.33	Incomplete Integration	piccolinov	07/10/19 10:48
Benzoic acid	7.19	Incomplete Integration	piccolinov	07/10/19 10:48
Caprolactam	7.87	Incomplete Integration	piccolinov	07/10/19 10:48
2,3,4,6-Tetrachlorophenol	9.53	Incomplete Integration	piccolinov	07/10/19 10:48
4,6-Dinitro-2-methylphenol	9.77	Incomplete Integration	piccolinov	07/10/19 10:48
Pentachlorophenol	10.47	Incomplete Integration	piccolinov	07/10/19 10:49
Benzo[a]pyrene	17.27	Incomplete Integration	piccolinov	07/10/19 10:49
Indeno[1,2,3-cd]pyrene	19.79	Incomplete Integration	piccolinov	07/10/19 10:50
Dibenz(a,h)anthracene	19.83	Incomplete Integration	piccolinov	07/10/19 10:50
Benzo[g,h,i]perylene	20.49	Incomplete Integration	piccolinov	07/10/19 10:50

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-96144-1

SDG No.:

Instrument ID: CH732 Analysis Batch Number: 284340

Lab Sample ID: IC 180-284340/5 Client Sample ID:

Date Analyzed: 07/10/19 08:48 Lab File ID: D07100005.D GC Column: Rxi-5SilMS ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Pyridine	2.30	Incomplete Integration	piccolinov	07/10/19 10:45
Benzoic acid	7.19	Incomplete Integration	piccolinov	07/10/19 10:45
Caprolactam	7.87	Incomplete Integration	piccolinov	07/10/19 10:46
2,3,4,6-Tetrachlorophenol	9.53	Incomplete Integration	piccolinov	07/10/19 10:46
Dibenz(a,h)anthracene	19.84	Incomplete Integration	piccolinov	07/10/19 10:47
Benzo[g,h,i]perylene	20.51	Incomplete Integration	piccolinov	07/10/19 10:47

Lab Sample ID: ICIS 180-284340/6 Client Sample ID:

Date Analyzed: 07/10/19 09:14 Lab File ID: D07100006.D GC Column: Rxi-5SilMS ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Pyridine	2.30	Incomplete Integration	piccolinov	07/10/19 10:44
Benzoic acid	7.20	Incomplete Integration	piccolinov	07/10/19 10:44

Lab Sample ID: IC 180-284340/9 Client Sample ID:

Date Analyzed: 07/10/19 10:34 Lab File ID: D07100009.D GC Column: Rxi-5SilMS ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzoic acid	7.24	Peak assignment corrected	piccolinov	07/10/19 11:00

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-96144-1

SDG No.:

Instrument ID: CH732 Analysis Batch Number: 284340

Lab Sample ID: IC 180-284340/10 Client Sample ID:

Date Analyzed: 07/10/19 11:01 Lab File ID: D07100010.D GC Column: Rxi-5SilMS ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Aniline	5.86	Peak assignment corrected	piccolino v	07/10/19 11:38
Benzoic acid	7.26	Peak assignment corrected	piccolino v	07/10/19 11:38

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-96144-1

SDG No.:

Instrument ID: CH732 Analysis Batch Number: 293862

Lab Sample ID: CCVIS 180-293862/3 Client Sample ID:

Date Analyzed: 10/05/19 10:53 Lab File ID: D10050003.D GC Column: Rxi-5SilMS ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Indeno[1,2,3-cd]pyrene	19.58	Peak assignment corrected	piccolino v	10/05/19 11:19

Lab Sample ID: MB 180-293338/1-A Client Sample ID:

Date Analyzed: 10/05/19 11:20 Lab File ID: D10050004.D GC Column: Rxi-5SilMS ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,1'-Biphenyl		Invalid Compound ID	piccolino v	10/05/19 15:23
2-Nitroaniline		Invalid Compound ID	piccolino v	10/05/19 15:23
4,6-Dinitro-2-methylphenol		Invalid Compound ID	piccolino v	10/05/19 15:23
Fluorene		Invalid Compound ID	piccolino v	10/05/19 15:23
Pyrene		Invalid Compound ID	piccolino v	10/05/19 15:23

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-96144-1

SDG No.:

Instrument ID: CH732 Analysis Batch Number: 293945

Lab Sample ID: 180-96144-1 Client Sample ID: 11187072-CONTACT-INITIAL

Date Analyzed: 10/07/19 19:30 Lab File ID: D10070027.D GC Column: Rxi-5SilMS ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2-Methylnaphthalene	8.15	Invalid Compound ID	piccolinov	10/08/19 07:27
1,1'-Biphenyl		Invalid Compound ID	piccolinov	10/08/19 07:28
4,6-Dinitro-2-methylphenol		Invalid Compound ID	piccolinov	10/08/19 07:28
4-Bromophenyl phenyl ether		Invalid Compound ID	piccolinov	10/08/19 07:28
4-Nitrophenol		Invalid Compound ID	piccolinov	10/08/19 07:28
Acenaphthylene		Invalid Compound ID	piccolinov	10/08/19 07:28
Carbazole		Invalid Compound ID	piccolinov	10/08/19 07:28
Dibenzofuran		Invalid Compound ID	piccolinov	10/08/19 07:28
Di-n-octyl phthalate		Invalid Compound ID	piccolinov	10/08/19 07:28
Fluorene		Invalid Compound ID	piccolinov	10/08/19 07:28
N-Nitrosodi-n-propylamine		Invalid Compound ID	piccolinov	10/08/19 07:27
N-Nitrosodiphenylamine		Invalid Compound ID	piccolinov	10/08/19 07:28
Pyrene		Invalid Compound ID	piccolinov	10/08/19 07:28

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-96144-1

SDG No.:

Instrument ID: CHGC17 Analysis Batch Number: 274564

Lab Sample ID: IC 180-274564/2 Client Sample ID:

Date Analyzed: 04/02/19 09:51 Lab File ID: 03269002.D GC Column: MR-1 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	7.11	Baseline Smoothing	eppinged	04/02/19 10:09
Toxaphene Peak 2	7.63	Baseline Smoothing	eppinged	04/02/19 10:09
Toxaphene Peak 3	7.83	Baseline Smoothing	eppinged	04/02/19 10:09
Toxaphene Peak 4	7.99	Baseline Smoothing	eppinged	04/02/19 10:09

Lab Sample ID: IC 180-274564/2 Client Sample ID:

Date Analyzed: 04/02/19 09:51 Lab File ID: 03269002.D GC Column: MR-2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	7.32	Split Peak	eppinged	04/02/19 10:08
Toxaphene Peak 2	7.86	Baseline Smoothing	eppinged	04/02/19 10:08
Toxaphene Peak 3	8.10	Baseline Smoothing	eppinged	04/02/19 10:08
Dibutylchlorendate ISTD	8.34	Baseline Smoothing	eppinged	04/02/19 10:08
Toxaphene Peak 4	8.58	Baseline Smoothing	eppinged	04/02/19 10:08

Lab Sample ID: IC 180-274564/3 Client Sample ID:

Date Analyzed: 04/02/19 10:08 Lab File ID: 03269003.D GC Column: MR-1 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	7.11	Baseline Smoothing	eppinged	04/02/19 10:24
Toxaphene Peak 2	7.63	Baseline Smoothing	eppinged	04/02/19 10:24
Toxaphene Peak 3	7.83	Baseline Smoothing	eppinged	04/02/19 10:24
Toxaphene Peak 4	8.00	Baseline Smoothing	eppinged	04/02/19 10:24
Dibutylchlorendate ISTD	8.33	Baseline Smoothing	eppinged	04/02/19 10:24

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-96144-1

SDG No.:

Instrument ID: CHGC17 Analysis Batch Number: 274564

Lab Sample ID: IC 180-274564/3 Client Sample ID:

Date Analyzed: 04/02/19 10:08 Lab File ID: 03269003.D GC Column: MR-2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	7.32	Baseline Smoothing	eppinged	04/02/19 10:24
Toxaphene Peak 2	7.86	Baseline Smoothing	eppinged	04/02/19 10:24
Toxaphene Peak 3	8.10	Baseline Smoothing	eppinged	04/02/19 10:24
Dibutylchlorendate ISTD	8.35	Baseline Smoothing	eppinged	04/02/19 10:24
Toxaphene Peak 4	8.59	Baseline Smoothing	eppinged	04/02/19 10:24

Lab Sample ID: IC 180-274564/6 Client Sample ID:

Date Analyzed: 04/02/19 10:57 Lab File ID: 03269006.D GC Column: MR-2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	7.32	Baseline Smoothing	eppinged	04/02/19 11:12
Toxaphene Peak 2	7.86	Baseline Smoothing	eppinged	04/02/19 11:12
Toxaphene Peak 3	8.10	Baseline Smoothing	eppinged	04/02/19 11:12
Dibutylchlorendate ISTD	8.34	Baseline Smoothing	eppinged	04/02/19 11:12
Toxaphene Peak 4	8.59	Baseline Smoothing	eppinged	04/02/19 11:12

Lab Sample ID: IC 180-274564/12 Client Sample ID:

Date Analyzed: 04/02/19 12:35 Lab File ID: 03269012.D GC Column: MR-1 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chlorobenside	6.89	Split Peak	eppinged	04/02/19 12:51

Lab Sample ID: IC 180-274564/12 Client Sample ID:

Date Analyzed: 04/02/19 12:35 Lab File ID: 03269012.D GC Column: MR-2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chlorobenside	7.10	Split Peak	eppinged	04/02/19 12:51

EPA 8081B

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-96144-1

SDG No.:

Instrument ID: CHGC17 Analysis Batch Number: 274564

Lab Sample ID: IC 180-274564/13 Client Sample ID:

Date Analyzed: 04/02/19 12:52 Lab File ID: 03269013.D GC Column: MR-1 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Isodrin	6.56	Split Peak	eppinged	04/02/19 13:07
oxy-Chlordane	6.59	Split Peak	eppinged	04/02/19 13:07
Chlorobenside	6.89	Split Peak	eppinged	04/02/19 13:07

Lab Sample ID: IC 180-274564/13 Client Sample ID:

Date Analyzed: 04/02/19 12:52 Lab File ID: 03269013.D GC Column: MR-2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Isodrin	6.68	Peak assignment corrected	eppinged	04/02/19 13:07
oxy-Chlordane	6.68	Split Peak	eppinged	04/02/19 13:07
Chlorobenside	7.09	Split Peak	eppinged	04/02/19 13:07

Lab Sample ID: IC 180-274564/16 Client Sample ID:

Date Analyzed: 04/02/19 13:41 Lab File ID: 03269016.D GC Column: MR-1 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Isodrin	6.56	Split Peak	eppinged	04/03/19 07:59
oxy-Chlordane	6.59	Split Peak	eppinged	04/03/19 07:59

Lab Sample ID: IC 180-274564/16 Client Sample ID:

Date Analyzed: 04/02/19 13:41 Lab File ID: 03269016.D GC Column: MR-2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Isodrin	6.68	Peak assignment corrected	eppinged	04/03/19 07:59
oxy-Chlordane	6.68	Split Peak	eppinged	04/03/19 07:59

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-96144-1

SDG No.:

Instrument ID: CHGC17 Analysis Batch Number: 274564

Lab Sample ID: IC 180-274564/24 Client Sample ID:

Date Analyzed: 04/02/19 15:52 Lab File ID: 03269024.D GC Column: MR-1 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
delta-BHC	5.89	Split Peak	eppinged	04/03/19 08:10
Heptachlor	6.00	Split Peak	eppinged	04/03/19 08:11
cis-Chlordane	6.92	Split Peak	eppinged	04/03/19 08:11
Endosulfan I	6.96	Split Peak	eppinged	04/03/19 08:11
Dibutylchlorendate ISTD	8.33	Split Peak	eppinged	04/03/19 08:11
Endrin ketone	8.39	Split Peak	eppinged	04/03/19 08:11

Lab Sample ID: IC 180-274564/24 Client Sample ID:

Date Analyzed: 04/02/19 15:52 Lab File ID: 03269024.D GC Column: MR-2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Heptachlor	6.06	Split Peak	eppinged	04/03/19 08:11
Endosulfan I	7.13	Split Peak	eppinged	04/03/19 08:11
Endrin ketone	8.92	Split Peak	eppinged	04/03/19 08:11

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-96144-1

SDG No.:

Instrument ID: CHGC17 Analysis Batch Number: 293301

Lab Sample ID: PEM 180-293301/25 Client Sample ID:

Date Analyzed: 10/01/19 16:28 Lab File ID: 10011925.D GC Column: MR-1 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Endrin ketone	8.38	Split Peak	eppinged	10/02/19 05:58

Lab Sample ID: PEM 180-293301/25 Client Sample ID:

Date Analyzed: 10/01/19 16:28 Lab File ID: 10011925.D GC Column: MR-2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Endrin ketone	8.90	Split Peak	eppinged	10/02/19 05:58

Lab Sample ID: 180-96144-1 Client Sample ID: 11187072-CONTACT-INITIAL

Date Analyzed: 10/01/19 21:44 Lab File ID: 10011945.D GC Column: MR-2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Hexachlorobenzene	5.39	Baseline Smoothing	eppinged	10/02/19 06:14

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-96144-1

SDG No.:

Instrument ID: CHGC17 Analysis Batch Number: 293427

Lab Sample ID: PEM 180-293427/1 Client Sample ID:

Date Analyzed: 10/02/19 07:14 Lab File ID: 10021901.D GC Column: MR-1 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Endrin ketone	8.39	Split Peak	eppinged	10/02/19 07:36

Lab Sample ID: PEM 180-293427/1 Client Sample ID:

Date Analyzed: 10/02/19 07:14 Lab File ID: 10021901.D GC Column: MR-2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Endrin ketone	8.90	Split Peak	eppinged	10/02/19 07:36

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-96144-1

SDG No.:

Instrument ID: CHGC10 Analysis Batch Number: 292146

Lab Sample ID: IC 180-292146/5 Client Sample ID:

Date Analyzed: 09/21/19 09:45 Lab File ID: S0921906.D GC Column: RTX-CLP1 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1016 Peak 1	3.69	Instrument noise	oravecj	09/23/19 06:40
PCB-1016 Peak 5	5.78	Instrument noise	oravecj	09/23/19 06:41

Lab Sample ID: IC 180-292146/5 Client Sample ID:

Date Analyzed: 09/21/19 09:45 Lab File ID: S0921906.D GC Column: RTX-CLP2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1016 Peak 1	4.35	Instrument noise	oravecj	09/23/19 06:42
PCB-1016 Peak 2	5.51	Instrument noise	oravecj	09/23/19 06:43
PCB-1016 Peak 3	5.72	Instrument noise	oravecj	09/23/19 06:43
PCB-1260 Peak 4	10.87	Instrument noise	oravecj	09/23/19 06:42

Lab Sample ID: IC 180-292146/6 Client Sample ID:

Date Analyzed: 09/21/19 10:02 Lab File ID: S0921907.D GC Column: RTX-CLP1 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1016 Peak 1	3.69	Instrument noise	oravecj	09/23/19 06:41

EPA 8082A

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-96144-1

SDG No.:

Instrument ID: CHGC10 Analysis Batch Number: 293170

Lab Sample ID: CCVIS 180-293170/5 Client Sample ID:

Date Analyzed: 09/30/19 11:26 Lab File ID: S0930905.D GC Column: RTX-CLP2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1260 Peak 1	8.89	Instrument noise	oravecj	10/01/19 09:41
PCB-1260 Peak 2	9.27	Instrument noise	oravecj	10/01/19 09:41
PCB-1260 Peak 3	9.87	Instrument noise	oravecj	10/01/19 09:41
PCB-1260 Peak 4	10.86	Instrument noise	oravecj	10/01/19 09:41
PCB-1260 Peak 5	11.39	Instrument noise	oravecj	10/01/19 09:41
PCB-205 (IS)	12.22	Instrument noise	oravecj	10/01/19 09:41

EPA 8082A

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-96144-1

SDG No.:

Instrument ID: CHGC10 Analysis Batch Number: 293170

Lab Sample ID: 180-96144-1 Client Sample ID: 11187072-CONTACT-INITIAL

Date Analyzed: 09/30/19 15:11 Lab File ID: S0930916.D GC Column: RTX-CLP1 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1221		Unspecified		
PCB-1232		Unspecified		
PCB-1254		Unspecified		
PCB-1260		Unspecified		
PCB-1221 Peak 1		Invalid Compound ID	oravecj	10/01/19 09:47
PCB-1221 Peak 2		Invalid Compound ID	oravecj	10/01/19 09:47
PCB-1221 Peak 3		Invalid Compound ID	oravecj	10/01/19 09:47
PCB-1232 Peak 1		Invalid Compound ID	oravecj	10/01/19 09:47
PCB-1232 Peak 2		Invalid Compound ID	oravecj	10/01/19 09:47
PCB-1232 Peak 3		Invalid Compound ID	oravecj	10/01/19 09:47
PCB-1232 Peak 4		Invalid Compound ID	oravecj	10/01/19 09:47
PCB-1232 Peak 5		Invalid Compound ID	oravecj	10/01/19 09:47
PCB-1254 Peak 1		Invalid Compound ID	oravecj	10/01/19 09:47
PCB-1254 Peak 2		Invalid Compound ID	oravecj	10/01/19 09:47
PCB-1254 Peak 3		Invalid Compound ID	oravecj	10/01/19 09:47
PCB-1254 Peak 4		Invalid Compound ID	oravecj	10/01/19 09:47
PCB-1254 Peak 5		Invalid Compound ID	oravecj	10/01/19 09:47
PCB-1260 Peak 1		Invalid Compound ID	oravecj	10/01/19 09:47
PCB-1260 Peak 2		Invalid Compound ID	oravecj	10/01/19 09:47
PCB-1260 Peak 3		Invalid Compound ID	oravecj	10/01/19 09:47
PCB-1260 Peak 4		Invalid Compound ID	oravecj	10/01/19 09:47
PCB-1260 Peak 5		Invalid Compound ID	oravecj	10/01/19 09:47

EPA 8082A

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-96144-1

SDG No.:

Instrument ID: CHGC10 Analysis Batch Number: 293170

Lab Sample ID: 180-96144-1 Client Sample ID: 11187072-CONTACT-INITIAL

Date Analyzed: 09/30/19 15:11 Lab File ID: S0930916.D GC Column: RTX-CLP2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1221		Unspecified		
PCB-1232		Unspecified		
PCB-1254		Unspecified		
PCB-1260		Unspecified		
PCB-1221 Peak 1		Invalid Compound ID	oravecj	10/01/19 09:47
PCB-1221 Peak 2		Invalid Compound ID	oravecj	10/01/19 09:47
PCB-1221 Peak 3		Invalid Compound ID	oravecj	10/01/19 09:47
PCB-1232 Peak 1		Invalid Compound ID	oravecj	10/01/19 09:47
PCB-1232 Peak 2		Invalid Compound ID	oravecj	10/01/19 09:47
PCB-1232 Peak 3		Invalid Compound ID	oravecj	10/01/19 09:47
PCB-1232 Peak 4		Invalid Compound ID	oravecj	10/01/19 09:47
PCB-1232 Peak 5		Invalid Compound ID	oravecj	10/01/19 09:47
PCB-1254 Peak 1		Invalid Compound ID	oravecj	10/01/19 09:47
PCB-1254 Peak 2		Invalid Compound ID	oravecj	10/01/19 09:47
PCB-1254 Peak 3		Invalid Compound ID	oravecj	10/01/19 09:47
PCB-1254 Peak 4		Invalid Compound ID	oravecj	10/01/19 09:47
PCB-1254 Peak 5		Invalid Compound ID	oravecj	10/01/19 09:47
PCB-1260 Peak 1		Invalid Compound ID	oravecj	10/01/19 09:47
PCB-1260 Peak 2		Invalid Compound ID	oravecj	10/01/19 09:47
PCB-1260 Peak 3		Invalid Compound ID	oravecj	10/01/19 09:47
PCB-1260 Peak 4		Invalid Compound ID	oravecj	10/01/19 09:47
PCB-1260 Peak 5		Invalid Compound ID	oravecj	10/01/19 09:47

EPA 8082A

HERBICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-96144-1

SDG No.:

Instrument ID: CGC1 Analysis Batch Number: 288571

Lab Sample ID: IC 180-288571/2 Client Sample ID:

Date Analyzed: 08/19/19 18:39 Lab File ID: 0819190000015.D GC Column: RTX-50 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,4-Dichlorophenylacetic acid	8.03	Baseline Smoothing	fritschj	08/20/19 08:28
MCPA	8.67	Baseline Smoothing	fritschj	08/20/19 08:30

Lab Sample ID: IC 180-288571/2 Client Sample ID:

Date Analyzed: 08/19/19 18:39 Lab File ID: 0819190000015.D GC Column: RTX-1701 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,4-Dichlorophenylacetic acid	8.00	Split Peak	fritschj	08/20/19 08:28
MCPP	8.43	Baseline Smoothing	fritschj	08/20/19 08:28
MCPA	8.73	Baseline Smoothing	fritschj	08/20/19 08:29
2,4-DB	11.15	Incomplete Integration	fritschj	08/20/19 08:30
Dinoseb	11.80	Incomplete Integration	fritschj	08/20/19 08:30

Lab Sample ID: IC 180-288571/3 Client Sample ID:

Date Analyzed: 08/19/19 19:04 Lab File ID: 0819190000016.D GC Column: RTX-50 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,4-Dichlorophenylacetic acid	8.03	Baseline Smoothing	fritschj	08/20/19 08:32

Lab Sample ID: IC 180-288571/3 Client Sample ID:

Date Analyzed: 08/19/19 19:04 Lab File ID: 0819190000016.D GC Column: RTX-1701 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,4-Dichlorophenylacetic acid	8.00	Baseline Smoothing	fritschj	08/20/19 08:32
MCPP	8.42	Baseline Smoothing	fritschj	08/20/19 08:33

HERBICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-96144-1

SDG No.:

Instrument ID: CGC1 Analysis Batch Number: 288571

Lab Sample ID: ICRT 180-288571/5 Client Sample ID:

Date Analyzed: 08/19/19 19:54 Lab File ID: 0819190000018.D GC Column: RTX-50 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dalapon	2.18	Peak assignment corrected	fritschj	08/20/19 08:15
2,4-Dichlorophenylacetic acid	8.03	Peak assignment corrected	fritschj	08/20/19 08:15
MCPP	8.25	Peak assignment corrected	fritschj	08/20/19 08:17
Dicamba	8.33	Peak assignment corrected	fritschj	08/20/19 08:18
MCPA	8.67	Peak assignment corrected	fritschj	08/20/19 08:18
Dichlorprop	8.95	Peak assignment corrected	fritschj	08/20/19 08:19
2,4-D	9.44	Peak assignment corrected	fritschj	08/20/19 08:19
Pentachlorophenol	9.97	Peak assignment corrected	fritschj	08/20/19 08:21
Silvex (2,4,5-TP)	10.12	Peak assignment corrected	fritschj	08/20/19 08:22
2,4,5-T	10.67	Peak assignment corrected	fritschj	08/20/19 08:23
Dinoseb	10.93	Peak assignment corrected	fritschj	08/20/19 08:24
2,4-DB	11.06	Peak assignment corrected	fritschj	08/20/19 08:24

Lab Sample ID: ICRT 180-288571/5 Client Sample ID:

Date Analyzed: 08/19/19 19:54 Lab File ID: 0819190000018.D GC Column: RTX-1701 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dalapon	2.35	Peak assignment corrected	fritschj	08/20/19 08:15
2,4-Dichlorophenylacetic acid	8.00	Peak assignment corrected	fritschj	08/20/19 08:16
Dicamba	8.27	Peak assignment corrected	fritschj	08/20/19 08:18
MCPP	8.42	Baseline Smoothing	fritschj	08/20/19 09:09
MCPA	8.73	Peak assignment corrected	fritschj	08/20/19 08:18
Dichlorprop	9.10	Peak assignment corrected	fritschj	08/20/19 08:19
2,4-D	9.49	Peak assignment corrected	fritschj	08/20/19 08:19
Pentachlorophenol	9.69	Peak assignment corrected	fritschj	08/20/19 08:22
Silvex (2,4,5-TP)	10.26	Peak assignment corrected	fritschj	08/20/19 08:22
2,4,5-T	10.72	Peak assignment corrected	fritschj	08/20/19 08:23
2,4-DB	11.15	Peak assignment corrected	fritschj	08/20/19 08:24
Dinoseb	11.80	Peak assignment corrected	fritschj	08/20/19 08:24

EPA 8151A

HERBICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-96144-1

SDG No.:

Instrument ID: CGC1 Analysis Batch Number: 288571

Lab Sample ID: IC 180-288571/6 Client Sample ID:

Date Analyzed: 08/19/19 20:19 Lab File ID: 0819190000019.D GC Column: RTX-1701 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,4-Dichlorophenylacetic acid	8.00	Baseline Smoothing	fritschj	08/20/19 08:38
MCPP	8.42	Baseline Smoothing	fritschj	08/20/19 09:01

Lab Sample ID: IC 180-288571/7 Client Sample ID:

Date Analyzed: 08/19/19 20:44 Lab File ID: 0819190000020.D GC Column: RTX-50 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
MCPA	8.67	Baseline Smoothing	fritschj	08/20/19 08:39
Dichlorprop	8.95	Baseline Smoothing	fritschj	08/20/19 08:39

Lab Sample ID: IC 180-288571/7 Client Sample ID:

Date Analyzed: 08/19/19 20:44 Lab File ID: 0819190000020.D GC Column: RTX-1701 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,4-Dichlorophenylacetic acid	8.00	Baseline Smoothing	fritschj	08/20/19 08:39
MCPP	8.42	Baseline Smoothing	fritschj	08/20/19 09:01

Lab Sample ID: IC 180-288571/8 Client Sample ID:

Date Analyzed: 08/19/19 21:09 Lab File ID: 0819190000021.D GC Column: RTX-50 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
MCPP	8.25	Baseline Smoothing	fritschj	08/20/19 08:40
MCPA	8.67	Baseline Smoothing	fritschj	08/20/19 08:40

EPA 8151A

HERBICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-96144-1

SDG No.:

Instrument ID: CGC1 Analysis Batch Number: 288571

Lab Sample ID: IC 180-288571/8 Client Sample ID:

Date Analyzed: 08/19/19 21:09 Lab File ID: 0819190000021.D GC Column: RTX-1701 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,4-Dichlorophenylacetic acid	8.00	Baseline Smoothing	fritschj	08/20/19 08:39
MCPP	8.42	Baseline Smoothing	fritschj	08/20/19 08:59

HERBICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-96144-1

SDG No.:

Instrument ID: CGC1 Analysis Batch Number: 293383

Lab Sample ID: CCVRT 180-293383/2 Client Sample ID:

Date Analyzed: 10/01/19 17:50 Lab File ID: 1001190000004.D GC Column: RTX-50 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,4-Dichlorophenylacetic acid	7.95	Baseline Smoothing	fritschj	10/02/19 11:56

Lab Sample ID: CCVRT 180-293383/2 Client Sample ID:

Date Analyzed: 10/01/19 17:50 Lab File ID: 1001190000004.D GC Column: RTX-1701 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,4-Dichlorophenylacetic acid	7.99	Baseline Smoothing	fritschj	10/02/19 11:56
MCPA	8.72	Baseline Smoothing	fritschj	10/02/19 11:57
2,4-D	9.48	Baseline Smoothing	fritschj	10/02/19 11:57

Lab Sample ID: CCV 180-293383/13 Client Sample ID:

Date Analyzed: 10/01/19 22:24 Lab File ID: 1001190000015.D GC Column: RTX-50 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,4-Dichlorophenylacetic acid	7.95	Baseline Smoothing	fritschj	10/02/19 14:22

Lab Sample ID: CCV 180-293383/13 Client Sample ID:

Date Analyzed: 10/01/19 22:24 Lab File ID: 1001190000015.D GC Column: RTX-1701 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
MCPP	8.41	Baseline Smoothing	fritschj	10/02/19 14:22

Lab Sample ID: LCS 180-293050/2-A Client Sample ID:

Date Analyzed: 10/01/19 23:38 Lab File ID: 1001190000018.D GC Column: RTX-50 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,4-Dichlorophenylacetic acid	7.95	Baseline Smoothing	fritschj	10/02/19 14:24

EPA 8151A

HERBICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-96144-1

SDG No.:

Instrument ID: CGC1 Analysis Batch Number: 293383

Lab Sample ID: CCV 180-293383/22 Client Sample ID:

Date Analyzed: 10/02/19 02:06 Lab File ID: 1001190000024.D GC Column: RTX-50 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,4-Dichlorophenylacetic acid	7.95	Baseline Smoothing	fritschj	10/02/19 14:47

Lab Sample ID: CCV 180-293383/22 Client Sample ID:

Date Analyzed: 10/02/19 02:06 Lab File ID: 1001190000024.D GC Column: RTX-1701 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,4-Dichlorophenylacetic acid	7.99	Baseline Smoothing	fritschj	10/02/19 14:47

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Sacram Job No.: 180-96144-1

SDG No.:

Instrument ID: 10D5 Analysis Batch Number: 324128

Lab Sample ID: IC 320-324128/3 Client Sample ID:

Date Analyzed: 09/17/19 13:03 Lab File ID: 17SE1910D5_3.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,7,8,9-HxCDD	31.76	Invalid Compound ID	shardaa	09/17/19 18:02

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Sacram Job No.: 180-96144-1

SDG No.:

Instrument ID: 10D5 Analysis Batch Number: 328202

Lab Sample ID: MB 320-327320/1-A Client Sample ID:

Date Analyzed: 10/03/19 23:48 Lab File ID: 03OC1910D5_16.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,7,8-PeCDF	20.98	Split Peak	dadunj	10/07/19 08:45
2,3,4,7,8-PeCDF	22.22	Baseline	dadunj	10/07/19 08:45
1,2,3,6,7,8-HxCDF	29.11	Baseline	dadunj	10/07/19 08:46
2,3,4,6,7,8-HxCDF	30.51	Baseline	dadunj	10/07/19 08:46
1,2,3,4,7,8-HxCDD	30.79	Split Peak	dadunj	10/07/19 08:47
1,2,3,6,7,8-HxCDD	30.91	Split Peak	dadunj	10/07/19 08:47
1,2,3,7,8,9-HxCDD	31.34	Split Peak	dadunj	10/07/19 08:47
1,2,3,7,8,9-HxCDF	31.57	Split Peak	dadunj	10/07/19 08:47
1,2,3,4,6,7,8-HpCDF	33.23	Split Peak	dadunj	10/07/19 08:48
1,2,3,4,6,7,8-HpCDD	34.01	Split Peak	dadunj	10/07/19 08:48
1,2,3,4,7,8,9-HpCDF	34.28	Split Peak	dadunj	10/07/19 08:48
OCDD	36.25	Split Peak	dadunj	10/07/19 08:48

Lab Sample ID: 180-96144-1 Client Sample ID: 11187072-CONTACT-INITIAL

Date Analyzed: 10/04/19 02:06 Lab File ID: 03OC1910D5_19.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,7,8-PeCDF	21.00	Split Peak	dadunj	10/07/19 08:53
1,2,3,7,8-PeCDD	22.92	Baseline	dadunj	10/07/19 08:54
2,3,4,6,7,8-HxCDF	30.51	Split Peak	dadunj	10/07/19 08:55
1,2,3,4,7,8-HxCDD	30.80	Invalid Compound ID	dadunj	10/07/19 08:55
1,2,3,6,7,8-HxCDD	30.93	Invalid Compound ID	dadunj	10/07/19 08:55
1,2,3,4,6,7,8-HpCDF	33.24	Split Peak	dadunj	10/07/19 08:56
OCDF	36.33	Split Peak	dadunj	10/07/19 08:56

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
10 PPM TOC/CC_01298	10/11/19	10/10/19	DI Water, Lot DI WATER	200 mg/L	WTOC1000SP_00028	2 mL	TOC Result 1	10 mg/L
							TOC Result 2	10 mg/L
							Total Organic Carbon - Duplicates	10 mg/L
.WTOC1000SP_00028	12/31/19	Ricca Chemical Co, Lot 2812D25			(Purchased Reagent)		TOC Result 1	1000 mg/L
							TOC Result 2	1000 mg/L
							Total Organic Carbon - Duplicates	1000 mg/L
ALK 125 PPM C_00099	10/02/19	09/26/19	DI Water, Lot DI WATER	1000 mL	WNA2C03P_00001	0.125 g	Total Alkalinity as CaCO3 to pH 4.5	125 mg/L
.WNA2C03P_00001	06/09/20	FISHER, Lot 164101			(Purchased Reagent)		Total Alkalinity as CaCO3 to pH 4.5	1 g/g
ALK 250 PPM_00104	10/02/19	09/26/19	DIWater, Lot DI Water	1000 mL	WNA2C03P_00001	0.25 g	Total Alkalinity as CaCO3 to pH 4.5	250 mg/L
.WNA2C03P_00001	06/09/20	FISHER, Lot 164101			(Purchased Reagent)		Total Alkalinity as CaCO3 to pH 4.5	1 g/g
GCAPPIX1L1_00022	08/11/19	03/13/19	Hexane, Lot 3019174	25 mL	GCAPPX1WORKST_00018	0.025 mL	Chlorobenside	0.002 ug/mL
							DCPA	0.001 ug/mL
							Hexachlorobenzene	0.001 ug/mL
							Isodrin	0.001 ug/mL
							Mirex	0.001 ug/mL
							oxy-Chlordane	0.001 ug/mL
.GCAPPX1WORKST_00018	03/06/19	02/11/19	Hexane, Lot 3019174	10 mL	GCAPPIX1STD_00005	1 mL	Chlorobenside	2 ug/mL
							DCPA	1 ug/mL
							Hexachlorobenzene	1 ug/mL
							Isodrin	1 ug/mL
							Mirex	1 ug/mL
							oxy-Chlordane	1 ug/mL
..GCAPPIX1STD_00005	03/06/19	ACCUSTANDARD, Lot 216031541-02			(Purchased Reagent)		Chlorobenside	20 ug/mL
							DCPA	10 ug/mL
							Hexachlorobenzene	10 ug/mL
							Isodrin	10 ug/mL
							Mirex	10 ug/mL
							oxy-Chlordane	10 ug/mL
GCAPPIX1L2_00023	08/11/19	03/26/19	Hexane, Lot 3019174	25 mL	GCAPPX1WORKST_00018	0.125 mL	Chlorobenside	0.01 ug/mL
							DCPA	0.005 ug/mL
							Hexachlorobenzene	0.005 ug/mL
							Isodrin	0.005 ug/mL
							Mirex	0.005 ug/mL
							oxy-Chlordane	0.005 ug/mL
.GCAPPX1WORKST_00018	03/06/19	02/11/19	Hexane, Lot 3019174	10 mL	GCAPPIX1STD_00005	1 mL	Chlorobenside	2 ug/mL
							DCPA	1 ug/mL
							Hexachlorobenzene	1 ug/mL
							Isodrin	1 ug/mL
							Mirex	1 ug/mL
							oxy-Chlordane	1 ug/mL
..GCAPPIX1STD_00005	03/06/19	ACCUSTANDARD, Lot 216031541-02			(Purchased Reagent)		Chlorobenside	20 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							DCPA	10 ug/mL
							Hexachlorobenzene	10 ug/mL
							Isodrin	10 ug/mL
							Mirex	10 ug/mL
							oxy-Chlordane	10 ug/mL
GCAPPIX1L3_00028	08/11/19	03/07/19	Hexane, Lot 3019174	40 mL	GCAPPX1WORKST_00018	1 mL	Chlorobenside	0.05 ug/mL
							DCPA	0.025 ug/mL
							Hexachlorobenzene	0.025 ug/mL
							Isodrin	0.025 ug/mL
							Mirex	0.025 ug/mL
							oxy-Chlordane	0.025 ug/mL
.GCAPPX1WORKST_00018	03/06/19	02/11/19	Hexane, Lot 3019174	10 mL	GCAPPIX1STD_00005	1 mL	Chlorobenside	2 ug/mL
							DCPA	1 ug/mL
							Hexachlorobenzene	1 ug/mL
							Isodrin	1 ug/mL
							Mirex	1 ug/mL
							oxy-Chlordane	1 ug/mL
..GCAPPIX1STD_00005	03/06/19	ACCUSTANDARD, Lot 216031541-02			(Purchased Reagent)		Chlorobenside	20 ug/mL
							DCPA	10 ug/mL
							Hexachlorobenzene	10 ug/mL
							Isodrin	10 ug/mL
							Mirex	10 ug/mL
							oxy-Chlordane	10 ug/mL
GCAPPIX1L3_00032	03/17/20	09/17/19	Hexane, Lot 3295450	40 mL	GCAPPX1WORKST_00019	1 mL	Hexachlorobenzene	0.025 ug/mL
.GCAPPX1WORKST_00019	03/17/20	09/17/19	Hexane, Lot 3295450	10 mL	GCAPPIX1STD_00006	1 mL	Hexachlorobenzene	1 ug/mL
..GCAPPIX1STD_00006	03/26/20	ACCUSTANDARD, Lot 216031541-02			(Purchased Reagent)		Hexachlorobenzene	10 ug/mL
GCAPPIX1L4_00022	08/11/19	03/26/19	Hexane, Lot 3019174	25 mL	GCAPPX1WORKST_00018	1.25 mL	Chlorobenside	0.1 ug/mL
							DCPA	0.05 ug/mL
							Hexachlorobenzene	0.05 ug/mL
							Isodrin	0.05 ug/mL
							Mirex	0.05 ug/mL
							oxy-Chlordane	0.05 ug/mL
.GCAPPX1WORKST_00018	03/06/19	02/11/19	Hexane, Lot 3019174	10 mL	GCAPPIX1STD_00005	1 mL	Chlorobenside	2 ug/mL
							DCPA	1 ug/mL
							Hexachlorobenzene	1 ug/mL
							Isodrin	1 ug/mL
							Mirex	1 ug/mL
							oxy-Chlordane	1 ug/mL
..GCAPPIX1STD_00005	03/06/19	ACCUSTANDARD, Lot 216031541-02			(Purchased Reagent)		Chlorobenside	20 ug/mL
							DCPA	10 ug/mL
							Hexachlorobenzene	10 ug/mL
							Isodrin	10 ug/mL
							Mirex	10 ug/mL
							oxy-Chlordane	10 ug/mL
GCAPPIX1L5_00021	08/11/19	03/26/19	Hexane, Lot 3019174	25 mL	GCAPPX1WORKST_00018	2.5 mL	Chlorobenside	0.2 ug/mL
							DCPA	0.1 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Hexachlorobenzene	0.1 ug/mL
							Isodrin	0.1 ug/mL
							Mirex	0.1 ug/mL
							oxy-Chlordane	0.1 ug/mL
.GCAPPX1WORKST_00018	03/06/19	02/11/19	Hexane, Lot 3019174	10 mL	GCAPPIX1STD_00005	1 mL	Chlorobenside	2 ug/mL
							DCPA	1 ug/mL
							Hexachlorobenzene	1 ug/mL
							Isodrin	1 ug/mL
							Mirex	1 ug/mL
							oxy-Chlordane	1 ug/mL
..GCAPPIX1STD_00005	03/06/19	ACCUSTANDARD, Lot 216031541-02			(Purchased Reagent)		Chlorobenside	20 ug/mL
							DCPA	10 ug/mL
							Hexachlorobenzene	10 ug/mL
							Isodrin	10 ug/mL
							Mirex	10 ug/mL
							oxy-Chlordane	10 ug/mL
GCAPPIX1L6_00021	08/11/19	03/26/19	Hexane, Lot 3019174	12.5 mL	GCAPPX1WORKST_00018	2.5 mL	Chlorobenside	0.4 ug/mL
							DCPA	0.2 ug/mL
							Hexachlorobenzene	0.2 ug/mL
							Isodrin	0.2 ug/mL
							Mirex	0.2 ug/mL
							oxy-Chlordane	0.2 ug/mL
.GCAPPX1WORKST_00018	03/06/19	02/11/19	Hexane, Lot 3019174	10 mL	GCAPPIX1STD_00005	1 mL	Chlorobenside	2 ug/mL
							DCPA	1 ug/mL
							Hexachlorobenzene	1 ug/mL
							Isodrin	1 ug/mL
							Mirex	1 ug/mL
							oxy-Chlordane	1 ug/mL
..GCAPPIX1STD_00005	03/06/19	ACCUSTANDARD, Lot 216031541-02			(Purchased Reagent)		Chlorobenside	20 ug/mL
							DCPA	10 ug/mL
							Hexachlorobenzene	10 ug/mL
							Isodrin	10 ug/mL
							Mirex	10 ug/mL
							oxy-Chlordane	10 ug/mL
GCAR1248CALL4_00022	02/28/20	08/27/19	Hexane, Lot 2938930	100 mL	GCPCBI1248STD_00006	0.05 mL	PCB-1248 Peak 1	0.5 ug/mL
							PCB-1248 Peak 2	0.5 ug/mL
							PCB-1248 Peak 3	0.5 ug/mL
							PCB-1248 Peak 4	0.5 ug/mL
							PCB-1248 Peak 5	0.5 ug/mL
.GCPCBI1248STD_00006	07/31/20	RESTEK, Lot A01303107			(Purchased Reagent)		PCB-1248 Peak 1	1000 ug/mL
							PCB-1248 Peak 2	1000 ug/mL
							PCB-1248 Peak 3	1000 ug/mL
							PCB-1248 Peak 4	1000 ug/mL
							PCB-1248 Peak 5	1000 ug/mL
GCAR1248CALL4_00022	02/28/20	08/27/19	Hexane, Lot 2938930	100 mL	GCPCBI1248STD_00006	0.05 mL	PCB-1248	0.5 ug/mL
.GCPCBI1248STD_00006	07/31/20	RESTEK, Lot A01303107			(Purchased Reagent)		PCB-1248	1000 ug/mL
GCAR1660CALL1_00025	02/26/20	08/27/19	HEXANE, Lot 2938930	100 mL	GC1660WORKS_00021	0.01 mL	PCB-1016 Peak 1	0.01 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1016 Peak 2	0.01 ug/mL
							PCB-1016 Peak 3	0.01 ug/mL
							PCB-1016 Peak 4	0.01 ug/mL
							PCB-1016 Peak 5	0.01 ug/mL
							PCB-1260 Peak 1	0.01 ug/mL
							PCB-1260 Peak 2	0.01 ug/mL
							PCB-1260 Peak 3	0.01 ug/mL
							PCB-1260 Peak 4	0.01 ug/mL
							PCB-1260 Peak 5	0.01 ug/mL
							DCB Decachlorobiphenyl (Surr)	0.0005 ug/mL
							Tetrachloro-m-xylene	0.0005 ug/mL
.GC1660WORKS_00021	02/26/20	02/26/19	Hexane, Lot 2938930	40 mL	GCPCBI1660STD_00014	4 mL	PCB-1016 Peak 1	100 ug/mL
							PCB-1016 Peak 2	100 ug/mL
							PCB-1016 Peak 3	100 ug/mL
							PCB-1016 Peak 4	100 ug/mL
							PCB-1016 Peak 5	100 ug/mL
							PCB-1260 Peak 1	100 ug/mL
							PCB-1260 Peak 2	100 ug/mL
							PCB-1260 Peak 3	100 ug/mL
							PCB-1260 Peak 4	100 ug/mL
							PCB-1260 Peak 5	100 ug/mL
					GCPEST(SURR)S_00009	1 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPCBI1660STD_00014	08/30/22	RESTEK, Lot A0119290			(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL
							PCB-1016 Peak 5	1000 ug/mL
							PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL
..GCPEST(SURR)S_00009	11/30/23	RESTEK, Lot A0130424			(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
GCAR1660CALL2_00019	02/26/20	08/27/19	HEXANE, Lot 2938930	100 mL	GC1660WORKS_00021	0.1 mL	PCB-1016 Peak 1	0.1 ug/mL
							PCB-1016 Peak 2	0.1 ug/mL
							PCB-1016 Peak 3	0.1 ug/mL
							PCB-1016 Peak 4	0.1 ug/mL
							PCB-1016 Peak 5	0.1 ug/mL
							PCB-1260 Peak 1	0.1 ug/mL
							PCB-1260 Peak 2	0.1 ug/mL
							PCB-1260 Peak 3	0.1 ug/mL
							PCB-1260 Peak 4	0.1 ug/mL
							PCB-1260 Peak 5	0.1 ug/mL
							DCB Decachlorobiphenyl (Surr)	0.005 ug/mL
							Tetrachloro-m-xylene	0.005 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.GC1660WORKS_00021	02/26/20	02/26/19	Hexane, Lot 2938930	40 mL	GCPCBI1660STD_00014	4 mL	PCB-1016 Peak 1	100 ug/mL
							PCB-1016 Peak 2	100 ug/mL
							PCB-1016 Peak 3	100 ug/mL
							PCB-1016 Peak 4	100 ug/mL
							PCB-1016 Peak 5	100 ug/mL
							PCB-1260 Peak 1	100 ug/mL
							PCB-1260 Peak 2	100 ug/mL
							PCB-1260 Peak 3	100 ug/mL
							PCB-1260 Peak 4	100 ug/mL
							PCB-1260 Peak 5	100 ug/mL
					GCPEST(SURR)S_00009	1 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPCBI1660STD_00014	08/30/22	RESTEK, Lot A0119290			(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL
							PCB-1016 Peak 5	1000 ug/mL
							PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL
..GCPEST(SURR)S_00009	11/30/23	RESTEK, Lot A0130424			(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
GCAR1660CALL3_00018	02/26/20	08/27/19	HEXANE, Lot 2938930	100 mL	GC1660WORKS_00021	0.25 mL	PCB-1016 Peak 1	0.25 ug/mL
							PCB-1016 Peak 2	0.25 ug/mL
							PCB-1016 Peak 3	0.25 ug/mL
							PCB-1016 Peak 4	0.25 ug/mL
							PCB-1016 Peak 5	0.25 ug/mL
							PCB-1260 Peak 1	0.25 ug/mL
							PCB-1260 Peak 2	0.25 ug/mL
							PCB-1260 Peak 3	0.25 ug/mL
							PCB-1260 Peak 4	0.25 ug/mL
							PCB-1260 Peak 5	0.25 ug/mL
							DCB Decachlorobiphenyl (Surr)	0.0125 ug/mL
							Tetrachloro-m-xylene	0.0125 ug/mL
.GC1660WORKS_00021	02/26/20	02/26/19	Hexane, Lot 2938930	40 mL	GCPCBI1660STD_00014	4 mL	PCB-1016 Peak 1	100 ug/mL
							PCB-1016 Peak 2	100 ug/mL
							PCB-1016 Peak 3	100 ug/mL
							PCB-1016 Peak 4	100 ug/mL
							PCB-1016 Peak 5	100 ug/mL
							PCB-1260 Peak 1	100 ug/mL
							PCB-1260 Peak 2	100 ug/mL
							PCB-1260 Peak 3	100 ug/mL
							PCB-1260 Peak 4	100 ug/mL
							PCB-1260 Peak 5	100 ug/mL
					GCPEST(SURR)S_00009	1 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Tetrachloro-m-xylene	5 ug/mL
..GCPCBI1660STD_00014	08/30/22		RESTEK, Lot A0119290		(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL
							PCB-1016 Peak 5	1000 ug/mL
							PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL
..GCPEST(SURR)S_00009	11/30/23		RESTEK, Lot A0130424		(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
GCAR1660CALL4_00019	02/26/20	08/27/19	HEXANE, Lot 2938930	200 mL	GC1660WORKS_00021	1 mL	PCB-1016 Peak 1	0.5 ug/mL
							PCB-1016 Peak 2	0.5 ug/mL
							PCB-1016 Peak 3	0.5 ug/mL
							PCB-1016 Peak 4	0.5 ug/mL
							PCB-1016 Peak 5	0.5 ug/mL
							PCB-1260 Peak 1	0.5 ug/mL
							PCB-1260 Peak 2	0.5 ug/mL
							PCB-1260 Peak 3	0.5 ug/mL
							PCB-1260 Peak 4	0.5 ug/mL
							PCB-1260 Peak 5	0.5 ug/mL
							DCB Decachlorobiphenyl (Surr)	0.025 ug/mL
							Tetrachloro-m-xylene	0.025 ug/mL
.GC1660WORKS_00021	02/26/20	02/26/19	Hexane, Lot 2938930	40 mL	GCPCBI1660STD_00014	4 mL	PCB-1016 Peak 1	100 ug/mL
							PCB-1016 Peak 2	100 ug/mL
							PCB-1016 Peak 3	100 ug/mL
							PCB-1016 Peak 4	100 ug/mL
							PCB-1016 Peak 5	100 ug/mL
							PCB-1260 Peak 1	100 ug/mL
							PCB-1260 Peak 2	100 ug/mL
							PCB-1260 Peak 3	100 ug/mL
							PCB-1260 Peak 4	100 ug/mL
							PCB-1260 Peak 5	100 ug/mL
					GCPEST(SURR)S_00009	1 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPCBI1660STD_00014	08/30/22		RESTEK, Lot A0119290		(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL
							PCB-1016 Peak 5	1000 ug/mL
							PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..GCPEST(SURR)S_00009	11/30/23		RESTEK, Lot A0130424		(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
GCAR1660CALL4_00019	02/26/20	08/27/19	HEXANE, Lot 2938930	200 mL	GC1660WORKS_00021	1 mL	PCB-1016	0.5 ug/mL
							PCB-1260	0.5 ug/mL
.GC1660WORKS_00021	02/26/20	02/26/19	Hexane, Lot 2938930	40 mL	GCPCBI1660STD_00014	4 mL	PCB-1016	100 ug/mL
							PCB-1260	100 ug/mL
..GCPCBI1660STD_00014	08/30/22		RESTEK, Lot A0119290		(Purchased Reagent)		PCB-1016	1000 ug/mL
							PCB-1260	1000 ug/mL
GCAR1660CALL5_00019	02/26/20	08/27/19	HEXANE, Lot 2938930	200 mL	GC1660WORKS_00021	2 mL	PCB-1016 Peak 1	1 ug/mL
							PCB-1016 Peak 2	1 ug/mL
							PCB-1016 Peak 3	1 ug/mL
							PCB-1016 Peak 4	1 ug/mL
							PCB-1016 Peak 5	1 ug/mL
							PCB-1260 Peak 1	1 ug/mL
							PCB-1260 Peak 2	1 ug/mL
							PCB-1260 Peak 3	1 ug/mL
							PCB-1260 Peak 4	1 ug/mL
							PCB-1260 Peak 5	1 ug/mL
							DCB Decachlorobiphenyl (Surr)	0.05 ug/mL
							Tetrachloro-m-xylene	0.05 ug/mL
.GC1660WORKS_00021	02/26/20	02/26/19	Hexane, Lot 2938930	40 mL	GCPCBI1660STD_00014	4 mL	PCB-1016 Peak 1	100 ug/mL
							PCB-1016 Peak 2	100 ug/mL
							PCB-1016 Peak 3	100 ug/mL
							PCB-1016 Peak 4	100 ug/mL
							PCB-1016 Peak 5	100 ug/mL
							PCB-1260 Peak 1	100 ug/mL
							PCB-1260 Peak 2	100 ug/mL
							PCB-1260 Peak 3	100 ug/mL
							PCB-1260 Peak 4	100 ug/mL
							PCB-1260 Peak 5	100 ug/mL
					GCPEST(SURR)S_00009	1 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPCBI1660STD_00014	08/30/22		RESTEK, Lot A0119290		(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL
							PCB-1016 Peak 5	1000 ug/mL
							PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL
..GCPEST(SURR)S_00009	11/30/23		RESTEK, Lot A0130424		(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
GCAR1660CALL6_00017	02/26/20	08/27/19	HEXANE, Lot 2938930	100 mL	GC1660WORKS_00021	2 mL	PCB-1016 Peak 1	2 ug/mL
							PCB-1016 Peak 2	2 ug/mL
							PCB-1016 Peak 3	2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1016 Peak 4	2 ug/mL
							PCB-1016 Peak 5	2 ug/mL
							PCB-1260 Peak 1	2 ug/mL
							PCB-1260 Peak 2	2 ug/mL
							PCB-1260 Peak 3	2 ug/mL
							PCB-1260 Peak 4	2 ug/mL
							PCB-1260 Peak 5	2 ug/mL
							DCB Decachlorobiphenyl (Surr)	0.1 ug/mL
							Tetrachloro-m-xylene	0.1 ug/mL
.GC1660WORKS_00021	02/26/20	02/26/19	Hexane, Lot 2938930	40 mL	GCPCBI1660STD_00014	4 mL	PCB-1016 Peak 1	100 ug/mL
							PCB-1016 Peak 2	100 ug/mL
							PCB-1016 Peak 3	100 ug/mL
							PCB-1016 Peak 4	100 ug/mL
							PCB-1016 Peak 5	100 ug/mL
							PCB-1260 Peak 1	100 ug/mL
							PCB-1260 Peak 2	100 ug/mL
							PCB-1260 Peak 3	100 ug/mL
							PCB-1260 Peak 4	100 ug/mL
							PCB-1260 Peak 5	100 ug/mL
					GCPEST(SURR)S_00009	1 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPCBI1660STD_00014	08/30/22	RESTEK, Lot A0119290			(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL
							PCB-1016 Peak 5	1000 ug/mL
							PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL
..GCPEST(SURR)S_00009	11/30/23	RESTEK, Lot A0130424			(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
GCAR1660CALL7_00018	02/26/20	08/27/19	HEXANE, Lot 2938930	100 mL	GC1660WORKS_00021	4 mL	PCB-1016 Peak 1	4 ug/mL
							PCB-1016 Peak 2	4 ug/mL
							PCB-1016 Peak 3	4 ug/mL
							PCB-1016 Peak 4	4 ug/mL
							PCB-1016 Peak 5	4 ug/mL
							PCB-1260 Peak 1	4 ug/mL
							PCB-1260 Peak 2	4 ug/mL
							PCB-1260 Peak 3	4 ug/mL
							PCB-1260 Peak 4	4 ug/mL
							PCB-1260 Peak 5	4 ug/mL
							DCB Decachlorobiphenyl (Surr)	0.2 ug/mL
							Tetrachloro-m-xylene	0.2 ug/mL
.GC1660WORKS_00021	02/26/20	02/26/19	Hexane, Lot 2938930	40 mL	GCPCBI1660STD_00014	4 mL	PCB-1016 Peak 1	100 ug/mL
							PCB-1016 Peak 2	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1016 Peak 3	100 ug/mL
							PCB-1016 Peak 4	100 ug/mL
							PCB-1016 Peak 5	100 ug/mL
							PCB-1260 Peak 1	100 ug/mL
							PCB-1260 Peak 2	100 ug/mL
							PCB-1260 Peak 3	100 ug/mL
							PCB-1260 Peak 4	100 ug/mL
							PCB-1260 Peak 5	100 ug/mL
					GCPEST(SURR)S_00009	1 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPCBI1660STD_00014	08/30/22		RESTEK, Lot A0119290		(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL
							PCB-1016 Peak 5	1000 ug/mL
							PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL
..GCPEST(SURR)S_00009	11/30/23		RESTEK, Lot A0130424		(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
GCAR2154CALL4_00021	02/28/20	08/27/19	Hexane, Lot 2938930	100 mL	GCPCB2154 mix_00005	0.05 mL	PCB-1221 Peak 1	0.5 ug/mL
							PCB-1221 Peak 2	0.5 ug/mL
							PCB-1221 Peak 3	0.5 ug/mL
							PCB-1254 Peak 1	0.5 ug/mL
							PCB-1254 Peak 2	0.5 ug/mL
							PCB-1254 Peak 3	0.5 ug/mL
							PCB-1254 Peak 4	0.5 ug/mL
							PCB-1254 Peak 5	0.5 ug/mL
.GCPCB2154 mix_00005	04/30/22		RESTEK, Lot a0116420		(Purchased Reagent)		PCB-1221 Peak 1	1000 ug/mL
							PCB-1221 Peak 2	1000 ug/mL
							PCB-1221 Peak 3	1000 ug/mL
							PCB-1254 Peak 1	1000 ug/mL
							PCB-1254 Peak 2	1000 ug/mL
							PCB-1254 Peak 3	1000 ug/mL
							PCB-1254 Peak 4	1000 ug/mL
							PCB-1254 Peak 5	1000 ug/mL
GCAR2154CALL4_00021	02/28/20	08/27/19	Hexane, Lot 2938930	100 mL	GCPCB2154 mix_00005	0.05 mL	PCB-1221	0.5 ug/mL
							PCB-1254	0.5 ug/mL
.GCPCB2154 mix_00005	04/30/22		RESTEK, Lot a0116420		(Purchased Reagent)		PCB-1221	1000 ug/mL
							PCB-1254	1000 ug/mL
GCAR3262CALL4_00014	02/28/20	08/27/19	Hexane, Lot 2938930	100 mL	GCPCB3262 mix_00003	0.05 mL	PCB-1232 Peak 1	0.5 ug/mL
							PCB-1232 Peak 2	0.5 ug/mL
							PCB-1232 Peak 3	0.5 ug/mL
							PCB-1232 Peak 4	0.5 ug/mL
							PCB-1232 Peak 5	0.5 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1262 Peak 1	0.5 ug/mL
							PCB-1262 Peak 2	0.5 ug/mL
							PCB-1262 Peak 3	0.5 ug/mL
							PCB-1262 Peak 4	0.5 ug/mL
							PCB-1262 Peak 5	0.5 ug/mL
.GCPCB3262 mix_00003	10/30/21		RESTEK, Lot A0112323		(Purchased Reagent)		PCB-1232 Peak 1	1000 ug/mL
							PCB-1232 Peak 2	1000 ug/mL
							PCB-1232 Peak 3	1000 ug/mL
							PCB-1232 Peak 4	1000 ug/mL
							PCB-1232 Peak 5	1000 ug/mL
							PCB-1262 Peak 1	1000 ug/mL
							PCB-1262 Peak 2	1000 ug/mL
							PCB-1262 Peak 3	1000 ug/mL
							PCB-1262 Peak 4	1000 ug/mL
							PCB-1262 Peak 5	1000 ug/mL
GCAR3262CALL4_00014	02/28/20	08/27/19	Hexane, Lot 2938930	100 mL	GCPCB3262 mix_00003	0.05 mL	PCB-1232	0.5 ug/mL
.GCPCB3262 mix_00003	10/30/21		RESTEK, Lot A0112323		(Purchased Reagent)		PCB-1232	1000 ug/mL
GCAR4268CALL4_00014	02/28/20	08/27/19	Hexane, Lot 2938930	100 mL	GCPCB4268 mix_00004	0.05 mL	PCB-1242 Peak 1	0.5 ug/mL
							PCB-1242 Peak 2	0.5 ug/mL
							PCB-1242 Peak 3	0.5 ug/mL
							PCB-1242 Peak 4	0.5 ug/mL
							PCB-1242 Peak 5	0.5 ug/mL
							PCB-1268 Peak 1	0.5 ug/mL
							PCB-1268 Peak 2	0.5 ug/mL
							PCB-1268 Peak 3	0.5 ug/mL
							PCB-1268 Peak 4	0.5 ug/mL
.GCPCB4268 mix_00004	05/30/21		RESTEK, Lot A0109391		(Purchased Reagent)		PCB-1242 Peak 1	1000 ug/mL
							PCB-1242 Peak 2	1000 ug/mL
							PCB-1242 Peak 3	1000 ug/mL
							PCB-1242 Peak 4	1000 ug/mL
							PCB-1242 Peak 5	1000 ug/mL
							PCB-1268 Peak 1	1000 ug/mL
							PCB-1268 Peak 2	1000 ug/mL
							PCB-1268 Peak 3	1000 ug/mL
							PCB-1268 Peak 4	1000 ug/mL
GCAR4268CALL4_00014	02/28/20	08/27/19	Hexane, Lot 2938930	100 mL	GCPCB4268 mix_00004	0.05 mL	PCB-1242	0.5 ug/mL
.GCPCB4268 mix_00004	05/30/21		RESTEK, Lot A0109391		(Purchased Reagent)		PCB-1242	1000 ug/mL
GCCHLORLEVEL1_00011	09/04/19	03/04/19	Hexane, Lot 3019174	40 mL	GCCHLORINTSTD_00006	0.004 mL	Chlordane (technical) Peak 1	0.005 ug/mL
							Chlordane (technical) Peak 2	0.005 ug/mL
							Chlordane (technical) Peak 3	0.005 ug/mL
							Chlordane (technical) Peak 4	0.005 ug/mL
.GCCHLORINTSTD_00006	02/29/20	03/04/19	Hexane, Lot 3019174	40 mL	TECHCHLORDANE_00001	400 uL	Chlordane (technical) Peak 1	50 ug/mL
							Chlordane (technical) Peak 2	50 ug/mL
							Chlordane (technical) Peak 3	50 ug/mL
							Chlordane (technical) Peak 4	50 ug/mL
..TECHCHLORDANE_00001	02/29/20		RESTEK, Lot A0117443		(Purchased Reagent)		Chlordane (technical) Peak 1	5000 ug/mL
							Chlordane (technical) Peak 2	5000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Chlordane (technical) Peak 3	5000 ug/mL
							Chlordane (technical) Peak 4	5000 ug/mL
GCCHLORLEVEL2_00009	09/04/19	03/04/19	Hexane, Lot 3019174	40 mL	GCCHLORINTSTD_00006	0.02 mL	Chlordane (technical) Peak 1	0.025 ug/mL
							Chlordane (technical) Peak 2	0.025 ug/mL
							Chlordane (technical) Peak 3	0.025 ug/mL
							Chlordane (technical) Peak 4	0.025 ug/mL
.GCCHLORINTSTD_00006	02/29/20	03/04/19	Hexane, Lot 3019174	40 mL	TECHCHLORDANE_00001	400 uL	Chlordane (technical) Peak 1	50 ug/mL
							Chlordane (technical) Peak 2	50 ug/mL
							Chlordane (technical) Peak 3	50 ug/mL
							Chlordane (technical) Peak 4	50 ug/mL
..TECHCHLORDANE_00001	02/29/20	RESTEK, Lot A0117443			(Purchased Reagent)		Chlordane (technical) Peak 1	5000 ug/mL
							Chlordane (technical) Peak 2	5000 ug/mL
							Chlordane (technical) Peak 3	5000 ug/mL
							Chlordane (technical) Peak 4	5000 ug/mL
GCCHLORLEVEL3_00015	09/04/19	03/04/19	Hexane, Lot 3019174	40 mL	GCCHLORINTSTD_00006	0.2 mL	Chlordane (technical) Peak 1	0.25 ug/mL
							Chlordane (technical) Peak 2	0.25 ug/mL
							Chlordane (technical) Peak 3	0.25 ug/mL
							Chlordane (technical) Peak 4	0.25 ug/mL
.GCCHLORINTSTD_00006	02/29/20	03/04/19	Hexane, Lot 3019174	40 mL	TECHCHLORDANE_00001	400 uL	Chlordane (technical) Peak 1	50 ug/mL
							Chlordane (technical) Peak 2	50 ug/mL
							Chlordane (technical) Peak 3	50 ug/mL
							Chlordane (technical) Peak 4	50 ug/mL
..TECHCHLORDANE_00001	02/29/20	RESTEK, Lot A0117443			(Purchased Reagent)		Chlordane (technical) Peak 1	5000 ug/mL
							Chlordane (technical) Peak 2	5000 ug/mL
							Chlordane (technical) Peak 3	5000 ug/mL
							Chlordane (technical) Peak 4	5000 ug/mL
GCCHLORLEVEL3_00017	02/29/20	09/19/19	Hexane, Lot 3295450	40 mL	GCCHLORINTSTD_00006	0.2 mL	Chlordane (technical)	0.25 ug/mL
.GCCHLORINTSTD_00006	02/29/20	03/04/19	Hexane, Lot 3019174	40 mL	TECHCHLORDANE_00001	400 uL	Chlordane (technical)	50 ug/mL
..TECHCHLORDANE_00001	02/29/20	RESTEK, Lot A0117443			(Purchased Reagent)		Chlordane (technical)	5000 ug/mL
GCCHLORLEVEL4_00009	09/04/19	03/04/19	Hexane, Lot 3019174	40 mL	GCCHLORINTSTD_00006	1 mL	Chlordane (technical) Peak 1	1.25 ug/mL
							Chlordane (technical) Peak 2	1.25 ug/mL
							Chlordane (technical) Peak 3	1.25 ug/mL
							Chlordane (technical) Peak 4	1.25 ug/mL
.GCCHLORINTSTD_00006	02/29/20	03/04/19	Hexane, Lot 3019174	40 mL	TECHCHLORDANE_00001	400 uL	Chlordane (technical) Peak 1	50 ug/mL
							Chlordane (technical) Peak 2	50 ug/mL
							Chlordane (technical) Peak 3	50 ug/mL
							Chlordane (technical) Peak 4	50 ug/mL
..TECHCHLORDANE_00001	02/29/20	RESTEK, Lot A0117443			(Purchased Reagent)		Chlordane (technical) Peak 1	5000 ug/mL
							Chlordane (technical) Peak 2	5000 ug/mL
							Chlordane (technical) Peak 3	5000 ug/mL
							Chlordane (technical) Peak 4	5000 ug/mL
GCCHLORLEVEL5_00011	09/04/19	03/04/19	Hexane, Lot 3019174	40 mL	GCCHLORINTSTD_00006	2 mL	Chlordane (technical) Peak 1	2.5 ug/mL
							Chlordane (technical) Peak 2	2.5 ug/mL
							Chlordane (technical) Peak 3	2.5 ug/mL
							Chlordane (technical) Peak 4	2.5 ug/mL
.GCCHLORINTSTD_00006	02/29/20	03/04/19	Hexane, Lot 3019174	40 mL	TECHCHLORDANE_00001	400 uL	Chlordane (technical) Peak 1	50 ug/mL

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Chlordane (technical) Peak 2	50 ug/mL
							Chlordane (technical) Peak 3	50 ug/mL
							Chlordane (technical) Peak 4	50 ug/mL
..TECHCHLORDANE_00001	02/29/20		RESTEK, Lot A0117443		(Purchased Reagent)		Chlordane (technical) Peak 1	5000 ug/mL
							Chlordane (technical) Peak 2	5000 ug/mL
							Chlordane (technical) Peak 3	5000 ug/mL
							Chlordane (technical) Peak 4	5000 ug/mL
GCHERBCALSL1_00027	06/30/20	04/03/19	Hexane, Lot 1932891	40 mL	GCHERBICALSTK_00021	0.125 mL	2,4-Dichlorophenylacetic acid	0.02 ug/mL
							2,4,5-T	0.005 ug/mL
							2,4-D	0.02 ug/mL
							2,4-DB	0.02 ug/mL
							Dalapon	0.02 ug/mL
							Dicamba	0.01 ug/mL
							Dichlorprop	0.02 ug/mL
							Dinoseb	0.02 ug/mL
							MCPA	2 ug/mL
							MCPP	2 ug/mL
							Pentachlorophenol	0.005 ug/mL
							Silvex (2,4,5-TP)	0.005 ug/mL
.GCHERBICALSTK_00021	06/30/20	04/03/19	Hexane, Lot 1932891	10 mL	GCDCAASSTD_00008	0.064 mL	2,4-Dichlorophenylacetic acid	6.4 ug/mL
					GCHERBICALMIX_00018	0.32 mL	2,4,5-T	1.6 ug/mL
							2,4-D	6.4 ug/mL
							2,4-DB	6.4 ug/mL
							Dalapon	6.4 ug/mL
							Dicamba	3.2 ug/mL
							Dichlorprop	6.4 ug/mL
							Dinoseb	6.4 ug/mL
							MCPA	640 ug/mL
							MCPP	640 ug/mL
							Pentachlorophenol	1.6 ug/mL
							Silvex (2,4,5-TP)	1.6 ug/mL
..GCDCAASSTD_00008	06/30/20		RESTEK, Lot A0140943		(Purchased Reagent)		2,4-Dichlorophenylacetic acid	1000 ug/mL
..GCHERBICALMIX_00018	07/31/20		restek, Lot A0142217		(Purchased Reagent)		2,4,5-T	50 ug/mL
							2,4-D	200 ug/mL
							2,4-DB	200 ug/mL
							Dalapon	200 ug/mL
							Dicamba	100 ug/mL
							Dichlorprop	200 ug/mL
							Dinoseb	200 ug/mL
							MCPA	20000 ug/mL
							MCPP	20000 ug/mL
							Pentachlorophenol	50 ug/mL
							Silvex (2,4,5-TP)	50 ug/mL
GCHERBCALSL2_00024	06/30/20	04/03/19	Hexane, Lot 1932891	40 mL	GCHERBICALSTK_00021	0.25 mL	2,4-Dichlorophenylacetic acid	0.04 ug/mL
							2,4,5-T	0.01 ug/mL
							2,4-D	0.04 ug/mL
							2,4-DB	0.04 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Dalapon	0.04 ug/mL
							Dicamba	0.02 ug/mL
							Dichlorprop	0.04 ug/mL
							Dinoseb	0.04 ug/mL
							MCPA	4 ug/mL
							MCPP	4 ug/mL
							Pentachlorophenol	0.01 ug/mL
							Silvex (2,4,5-TP)	0.01 ug/mL
.GCHERBICALSTK_00021	06/30/20	04/03/19	Hexane, Lot 1932891	10 mL	GCDCAASSTD_00008	0.064 mL	2,4-Dichlorophenylacetic acid	6.4 ug/mL
					GCHERBICALMIX_00018	0.32 mL	2,4,5-T	1.6 ug/mL
							2,4-D	6.4 ug/mL
							2,4-DB	6.4 ug/mL
							Dalapon	6.4 ug/mL
							Dicamba	3.2 ug/mL
							Dichlorprop	6.4 ug/mL
							Dinoseb	6.4 ug/mL
							MCPA	640 ug/mL
							MCPP	640 ug/mL
							Pentachlorophenol	1.6 ug/mL
							Silvex (2,4,5-TP)	1.6 ug/mL
..GCDCAASSTD_00008	06/30/20		RESTEK, Lot A0140943		(Purchased Reagent)		2,4-Dichlorophenylacetic acid	1000 ug/mL
..GCHERBICALMIX_00018	07/31/20		restek, Lot A0142217		(Purchased Reagent)		2,4,5-T	50 ug/mL
							2,4-D	200 ug/mL
							2,4-DB	200 ug/mL
							Dalapon	200 ug/mL
							Dicamba	100 ug/mL
							Dichlorprop	200 ug/mL
							Dinoseb	200 ug/mL
							MCPA	20000 ug/mL
							MCPP	20000 ug/mL
							Pentachlorophenol	50 ug/mL
							Silvex (2,4,5-TP)	50 ug/mL
GCHERBCALSL3_00028	06/30/20	04/03/19	Hexane, Lot 1932891	100 mL	GCHERBICALSTK_00021	1.25 mL	2,4-Dichlorophenylacetic acid	0.08 ug/mL
							2,4,5-T	0.02 ug/mL
							2,4-D	0.08 ug/mL
							2,4-DB	0.08 ug/mL
							Dalapon	0.08 ug/mL
							Dicamba	0.04 ug/mL
							Dichlorprop	0.08 ug/mL
							Dinoseb	0.08 ug/mL
							MCPA	8 ug/mL
							MCPP	8 ug/mL
							Pentachlorophenol	0.02 ug/mL
							Silvex (2,4,5-TP)	0.02 ug/mL
.GCHERBICALSTK_00021	06/30/20	04/03/19	Hexane, Lot 1932891	10 mL	GCDCAASSTD_00008	0.064 mL	2,4-Dichlorophenylacetic acid	6.4 ug/mL
					GCHERBICALMIX_00018	0.32 mL	2,4,5-T	1.6 ug/mL
							2,4-D	6.4 ug/mL

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Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,4-DB	6.4 ug/mL
							Dalapon	6.4 ug/mL
							Dicamba	3.2 ug/mL
							Dichlorprop	6.4 ug/mL
							Dinoseb	6.4 ug/mL
							MCPA	640 ug/mL
							MCPP	640 ug/mL
							Pentachlorophenol	1.6 ug/mL
							Silvex (2,4,5-TP)	1.6 ug/mL
..GCDCAASSTD_00008	06/30/20		RESTEK, Lot A0140943		(Purchased Reagent)		2,4-Dichlorophenylacetic acid	1000 ug/mL
..GCHERBICALMIX_00018	07/31/20		restek, Lot A0142217		(Purchased Reagent)		2,4,5-T	50 ug/mL
							2,4-D	200 ug/mL
							2,4-DB	200 ug/mL
							Dalapon	200 ug/mL
							Dicamba	100 ug/mL
							Dichlorprop	200 ug/mL
							Dinoseb	200 ug/mL
							MCPA	20000 ug/mL
							MCPP	20000 ug/mL
							Pentachlorophenol	50 ug/mL
							Silvex (2,4,5-TP)	50 ug/mL
GCHERBCALSL4_00027	06/30/20	04/03/19	Hexane, Lot 1932891	40 mL	GCHERBICALSTK_00021	1 mL	2,4-Dichlorophenylacetic acid	0.16 ug/mL
							2,4,5-T	0.04 ug/mL
							2,4-D	0.16 ug/mL
							2,4-DB	0.16 ug/mL
							Dalapon	0.16 ug/mL
							Dicamba	0.08 ug/mL
							Dichlorprop	0.16 ug/mL
							Dinoseb	0.16 ug/mL
							MCPA	16 ug/mL
							MCPP	16 ug/mL
							Pentachlorophenol	0.04 ug/mL
							Silvex (2,4,5-TP)	0.04 ug/mL
.GCHERBICALSTK_00021	06/30/20	04/03/19	Hexane, Lot 1932891	10 mL	GCDCAASSTD_00008	0.064 mL	2,4-Dichlorophenylacetic acid	6.4 ug/mL
					GCHERBICALMIX_00018	0.32 mL	2,4,5-T	1.6 ug/mL
							2,4-D	6.4 ug/mL
							2,4-DB	6.4 ug/mL
							Dalapon	6.4 ug/mL
							Dicamba	3.2 ug/mL
							Dichlorprop	6.4 ug/mL
							Dinoseb	6.4 ug/mL
							MCPA	640 ug/mL
							MCPP	640 ug/mL
							Pentachlorophenol	1.6 ug/mL
							Silvex (2,4,5-TP)	1.6 ug/mL
..GCDCAASSTD_00008	06/30/20		RESTEK, Lot A0140943		(Purchased Reagent)		2,4-Dichlorophenylacetic acid	1000 ug/mL
..GCHERBICALMIX_00018	07/31/20		restek, Lot A0142217		(Purchased Reagent)		2,4,5-T	50 ug/mL

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Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,4-D	200 ug/mL
							2,4-DB	200 ug/mL
							Dalapon	200 ug/mL
							Dicamba	100 ug/mL
							Dichlorprop	200 ug/mL
							Dinoseb	200 ug/mL
							MCPA	20000 ug/mL
							MCPP	20000 ug/mL
							Pentachlorophenol	50 ug/mL
							Silvex (2,4,5-TP)	50 ug/mL
GCHERBCALSL5_00024	06/30/20	04/03/19	Hexane, Lot 1932891	40 mL	GCHERBICALSTK_00021	2 mL	2,4-Dichlorophenylacetic acid	0.32 ug/mL
							2,4,5-T	0.08 ug/mL
							2,4-D	0.32 ug/mL
							2,4-DB	0.32 ug/mL
							Dalapon	0.32 ug/mL
							Dicamba	0.16 ug/mL
							Dichlorprop	0.32 ug/mL
							Dinoseb	0.32 ug/mL
							MCPA	32 ug/mL
							MCPP	32 ug/mL
							Pentachlorophenol	0.08 ug/mL
							Silvex (2,4,5-TP)	0.08 ug/mL
.GCHERBICALSTK_00021	06/30/20	04/03/19	Hexane, Lot 1932891	10 mL	GCDCAASSTD_00008	0.064 mL	2,4-Dichlorophenylacetic acid	6.4 ug/mL
					GCHERBICALMIX_00018	0.32 mL	2,4,5-T	1.6 ug/mL
							2,4-D	6.4 ug/mL
							2,4-DB	6.4 ug/mL
							Dalapon	6.4 ug/mL
							Dicamba	3.2 ug/mL
							Dichlorprop	6.4 ug/mL
							Dinoseb	6.4 ug/mL
							MCPA	640 ug/mL
							MCPP	640 ug/mL
							Pentachlorophenol	1.6 ug/mL
							Silvex (2,4,5-TP)	1.6 ug/mL
..GCDCAASSTD_00008	06/30/20	RESTEK, Lot A0140943			(Purchased Reagent)		2,4-Dichlorophenylacetic acid	1000 ug/mL
..GCHERBICALMIX_00018	07/31/20	restek, Lot A0142217			(Purchased Reagent)		2,4,5-T	50 ug/mL
							2,4-D	200 ug/mL
							2,4-DB	200 ug/mL
							Dalapon	200 ug/mL
							Dicamba	100 ug/mL
							Dichlorprop	200 ug/mL
							Dinoseb	200 ug/mL
							MCPA	20000 ug/mL
							MCPP	20000 ug/mL
							Pentachlorophenol	50 ug/mL
							Silvex (2,4,5-TP)	50 ug/mL
GCHERBCALSL6_00012	06/30/20	04/03/19	Hexane, Lot 1932891	20 mL	GCHERBICALSTK_00021	2 mL	2,4-Dichlorophenylacetic acid	0.64 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,4,5-T	0.16 ug/mL
							2,4-D	0.64 ug/mL
							2,4-DB	0.64 ug/mL
							Dalapon	0.64 ug/mL
							Dicamba	0.32 ug/mL
							Dichlorprop	0.64 ug/mL
							Dinoseb	0.64 ug/mL
							MCPA	64 ug/mL
							MCPP	64 ug/mL
							Pentachlorophenol	0.16 ug/mL
							Silvex (2,4,5-TP)	0.16 ug/mL
.GCHERBICALSTK_00021	06/30/20	04/03/19	Hexane, Lot 1932891	10 mL	GCDCAASSTD_00008	0.064 mL	2,4-Dichlorophenylacetic acid	6.4 ug/mL
					GCHERBICALMIX_00018	0.32 mL	2,4,5-T	1.6 ug/mL
							2,4-D	6.4 ug/mL
							2,4-DB	6.4 ug/mL
							Dalapon	6.4 ug/mL
							Dicamba	3.2 ug/mL
							Dichlorprop	6.4 ug/mL
							Dinoseb	6.4 ug/mL
							MCPA	640 ug/mL
							MCPP	640 ug/mL
							Pentachlorophenol	1.6 ug/mL
							Silvex (2,4,5-TP)	1.6 ug/mL
..GCDCAASSTD_00008	06/30/20	RESTEK, Lot A0140943			(Purchased Reagent)		2,4-Dichlorophenylacetic acid	1000 ug/mL
..GCHERBICALMIX_00018	07/31/20	restek, Lot A0142217			(Purchased Reagent)		2,4,5-T	50 ug/mL
							2,4-D	200 ug/mL
							2,4-DB	200 ug/mL
							Dalapon	200 ug/mL
							Dicamba	100 ug/mL
							Dichlorprop	200 ug/mL
							Dinoseb	200 ug/mL
							MCPA	20000 ug/mL
							MCPP	20000 ug/mL
							Pentachlorophenol	50 ug/mL
							Silvex (2,4,5-TP)	50 ug/mL
GCHERBCALSL7_00011	06/30/20	04/03/19	Hexane, Lot 1932891	40 mL	GCHERBICALSTK_00021	0.0625 mL	2,4-Dichlorophenylacetic acid	0.01 ug/mL
							2,4,5-T	0.0025 ug/mL
							2,4-D	0.01 ug/mL
							2,4-DB	0.01 ug/mL
							Dalapon	0.01 ug/mL
							Dicamba	0.005 ug/mL
							Dichlorprop	0.01 ug/mL
							Dinoseb	0.01 ug/mL
							MCPA	1 ug/mL
							MCPP	1 ug/mL
							Pentachlorophenol	0.0025 ug/mL
							Silvex (2,4,5-TP)	0.0025 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.GCHERBICALSTK_00021	06/30/20	04/03/19	Hexane, Lot 1932891	10 mL	GCDCAASSTD_00008	0.064 mL	2,4-Dichlorophenylacetic acid	6.4 ug/mL
					GCHERBICALMIX_00018	0.32 mL	2,4,5-T	1.6 ug/mL
							2,4-D	6.4 ug/mL
							2,4-DB	6.4 ug/mL
							Dalapon	6.4 ug/mL
							Dicamba	3.2 ug/mL
							Dichlorprop	6.4 ug/mL
							Dinoseb	6.4 ug/mL
							MCPA	640 ug/mL
							MCPP	640 ug/mL
							Pentachlorophenol	1.6 ug/mL
							Silvex (2,4,5-TP)	1.6 ug/mL
..GCDCAASSTD_00008	06/30/20		RESTEK, Lot A0140943		(Purchased Reagent)		2,4-Dichlorophenylacetic acid	1000 ug/mL
..GCHERBICALMIX_00018	07/31/20		restek, Lot A0142217		(Purchased Reagent)		2,4,5-T	50 ug/mL
							2,4-D	200 ug/mL
							2,4-DB	200 ug/mL
							Dalapon	200 ug/mL
							Dicamba	100 ug/mL
							Dichlorprop	200 ug/mL
							Dinoseb	200 ug/mL
							MCPA	20000 ug/mL
							MCPP	20000 ug/mL
							Pentachlorophenol	50 ug/mL
							Silvex (2,4,5-TP)	50 ug/mL
GCMATRIXWORKS_00034	03/18/20	09/18/19	ACETONE, Lot 2680072	200 mL	AR1016(10000)_00001	0.8 mL	PCB-1016	40 ug/mL
					AR1260(10000)_00001	0.8 mL	PCB-1260	40 ug/mL
.AR1016(10000)_00001	03/31/22		restek, Lot A0125929		(Purchased Reagent)		PCB-1016	10000 ug/mL
.AR1260(10000)_00001	03/31/22		Restek, Lot A0126325		(Purchased Reagent)		PCB-1260	10000 ug/mL
GCPest L1_00026	08/03/19	02/06/19	Hexane, Lot 3019174	40 mL	GCCLPSURRSTK_00010	0.008 mL	DCB Decachlorobiphenyl (Surr)	0.001 ug/mL
							Tetrachloro-m-xylene	0.001 ug/mL
					GCPestCAL_00014	0.004 mL	4,4'-DDD	0.001 ug/mL
							4,4'-DDE	0.001 ug/mL
							4,4'-DDT	0.001 ug/mL
							Aldrin	0.001 ug/mL
							alpha-BHC	0.001 ug/mL
							beta-BHC	0.001 ug/mL
							cis-Chlordane	0.001 ug/mL
							delta-BHC	0.001 ug/mL
							Dieldrin	0.001 ug/mL
							Endosulfan I	0.001 ug/mL
							Endosulfan II	0.001 ug/mL
							Endosulfan sulfate	0.001 ug/mL
							Endrin	0.001 ug/mL
							Endrin aldehyde	0.001 ug/mL
							Endrin ketone	0.001 ug/mL
							gamma-BHC (Lindane)	0.001 ug/mL
							Heptachlor	0.001 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Heptachlor epoxide	0.001 ug/mL
							Methoxychlor	0.001 ug/mL
							trans-Chlordane	0.001 ug/mL
.GCCLPSURRSTK_00010	08/03/19	08/03/18	Hexane, Lot 2819206	20 mL	GCPEST(SURR)S_00009	0.5 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPEST(SURR)S_00009	11/30/23	RESTEK, Lot A0130424			(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
.GCPestCAL_00014	02/06/20	02/06/19	Hexane, Lot 3019174	20 mL	GCPESTAB3STD_00004	0.1 mL	4,4'-DDD	10 ug/mL
							4,4'-DDE	10 ug/mL
							4,4'-DDT	10 ug/mL
							Aldrin	10 ug/mL
							alpha-BHC	10 ug/mL
							beta-BHC	10 ug/mL
							cis-Chlordane	10 ug/mL
							delta-BHC	10 ug/mL
							Dieldrin	10 ug/mL
							Endosulfan I	10 ug/mL
							Endosulfan II	10 ug/mL
							Endosulfan sulfate	10 ug/mL
							Endrin	10 ug/mL
							Endrin aldehyde	10 ug/mL
							Endrin ketone	10 ug/mL
							gamma-BHC (Lindane)	10 ug/mL
							Heptachlor	10 ug/mL
							Heptachlor epoxide	10 ug/mL
							Methoxychlor	10 ug/mL
							trans-Chlordane	10 ug/mL
..GCPESTAB3STD_00004	09/30/22	RESTEK, Lot A0137734			(Purchased Reagent)		4,4'-DDD	2000 ug/mL
							4,4'-DDE	2000 ug/mL
							4,4'-DDT	2000 ug/mL
							Aldrin	2000 ug/mL
							alpha-BHC	2000 ug/mL
							beta-BHC	2000 ug/mL
							cis-Chlordane	2000 ug/mL
							delta-BHC	2000 ug/mL
							Dieldrin	2000 ug/mL
							Endosulfan I	2000 ug/mL
							Endosulfan II	2000 ug/mL
							Endosulfan sulfate	2000 ug/mL
							Endrin	2000 ug/mL
							Endrin aldehyde	2000 ug/mL
							Endrin ketone	2000 ug/mL
							gamma-BHC (Lindane)	2000 ug/mL
							Heptachlor	2000 ug/mL
							Heptachlor epoxide	2000 ug/mL
							Methoxychlor	2000 ug/mL
							trans-Chlordane	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
GCPESTISSPK2_00015	05/15/19	11/15/18	Hexane, Lot 2938930	100 mL	DBC Internal_00002	0.5 mL	Dibutylchlorendate ISTD	1 ug/mL
					GCpest/pcbINT_00004	0.1 mL	1-Bromo-2-nitrobenzene	1 ug/mL
.DBC Internal_00002	05/31/20		RESTEK, Lot A0126147		(Purchased Reagent)		Dibutylchlorendate ISTD	200 ug/mL
.GCpest/pcbINT_00004	04/30/20		restek, Lot A0124315		(Purchased Reagent)		1-Bromo-2-nitrobenzene	1000 ug/mL
GCPESTISSPK2_00016	11/08/19	05/08/19	Hexane, Lot 3151769	100 mL	DBC Internal_00002	0.5 mL	Dibutylchlorendate ISTD	1 ug/mL
					GCpest/pcbINT_00004	0.1 mL	1-Bromo-2-nitrobenzene	1 ug/mL
.DBC Internal_00002	05/31/20		RESTEK, Lot A0126147		(Purchased Reagent)		Dibutylchlorendate ISTD	200 ug/mL
.GCpest/pcbINT_00004	04/30/20		restek, Lot A0124315		(Purchased Reagent)		1-Bromo-2-nitrobenzene	1000 ug/mL
GCPestL2_00022	08/03/19	02/06/19	Hexane, Lot 3019174	40 mL	GCCLPSURRSTK_00010	0.04 mL	DCB Decachlorobiphenyl (Surr)	0.005 ug/mL
							Tetrachloro-m-xylene	0.005 ug/mL
					GCPestCAL_00014	0.02 mL	4,4'-DDD	0.005 ug/mL
							4,4'-DDE	0.005 ug/mL
							4,4'-DDT	0.005 ug/mL
							Aldrin	0.005 ug/mL
							alpha-BHC	0.005 ug/mL
							beta-BHC	0.005 ug/mL
							cis-Chlordane	0.005 ug/mL
							delta-BHC	0.005 ug/mL
							Dieldrin	0.005 ug/mL
							Endosulfan I	0.005 ug/mL
							Endosulfan II	0.005 ug/mL
							Endosulfan sulfate	0.005 ug/mL
							Endrin	0.005 ug/mL
							Endrin aldehyde	0.005 ug/mL
							Endrin ketone	0.005 ug/mL
							gamma-BHC (Lindane)	0.005 ug/mL
							Heptachlor	0.005 ug/mL
							Heptachlor epoxide	0.005 ug/mL
							Methoxychlor	0.005 ug/mL
							trans-Chlordane	0.005 ug/mL
.GCCLPSURRSTK_00010	08/03/19	08/03/18	Hexane, Lot 2819206	20 mL	GCPEST(SURR)S_00009	0.5 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPEST(SURR)S_00009	11/30/23		RESTEK, Lot A0130424		(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
.GCPestCAL_00014	02/06/20	02/06/19	Hexane, Lot 3019174	20 mL	GCPESTAB3STD_00004	0.1 mL	4,4'-DDD	10 ug/mL
							4,4'-DDE	10 ug/mL
							4,4'-DDT	10 ug/mL
							Aldrin	10 ug/mL
							alpha-BHC	10 ug/mL
							beta-BHC	10 ug/mL
							cis-Chlordane	10 ug/mL
							delta-BHC	10 ug/mL
							Dieldrin	10 ug/mL
							Endosulfan I	10 ug/mL
							Endosulfan II	10 ug/mL
							Endosulfan sulfate	10 ug/mL
							Endrin	10 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Endrin aldehyde	10 ug/mL
							Endrin ketone	10 ug/mL
							gamma-BHC (Lindane)	10 ug/mL
							Heptachlor	10 ug/mL
							Heptachlor epoxide	10 ug/mL
							Methoxychlor	10 ug/mL
							trans-Chlordane	10 ug/mL
..GCPESTAB3STD_00004	09/30/22		RESTEK, Lot A0137734		(Purchased Reagent)		4,4'-DDD	2000 ug/mL
							4,4'-DDE	2000 ug/mL
							4,4'-DDT	2000 ug/mL
							Aldrin	2000 ug/mL
							alpha-BHC	2000 ug/mL
							beta-BHC	2000 ug/mL
							cis-Chlordane	2000 ug/mL
							delta-BHC	2000 ug/mL
							Dieldrin	2000 ug/mL
							Endosulfan I	2000 ug/mL
							Endosulfan II	2000 ug/mL
							Endosulfan sulfate	2000 ug/mL
							Endrin	2000 ug/mL
							Endrin aldehyde	2000 ug/mL
							Endrin ketone	2000 ug/mL
							gamma-BHC (Lindane)	2000 ug/mL
							Heptachlor	2000 ug/mL
							Heptachlor epoxide	2000 ug/mL
							Methoxychlor	2000 ug/mL
							trans-Chlordane	2000 ug/mL
GCPestL3_00028	08/03/19	02/06/19	Hexane, Lot 3019174	100 mL	GCCLPSURRSTK_00010	0.5 mL	DCB Decachlorobiphenyl (Surr)	0.025 ug/mL
							Tetrachloro-m-xylene	0.025 ug/mL
					GCPestCAL_00014	0.25 mL	4,4'-DDD	0.025 ug/mL
							4,4'-DDE	0.025 ug/mL
							4,4'-DDT	0.025 ug/mL
							Aldrin	0.025 ug/mL
							alpha-BHC	0.025 ug/mL
							beta-BHC	0.025 ug/mL
							cis-Chlordane	0.025 ug/mL
							delta-BHC	0.025 ug/mL
							Dieldrin	0.025 ug/mL
							Endosulfan I	0.025 ug/mL
							Endosulfan II	0.025 ug/mL
							Endosulfan sulfate	0.025 ug/mL
							Endrin	0.025 ug/mL
							Endrin aldehyde	0.025 ug/mL
							Endrin ketone	0.025 ug/mL
							gamma-BHC (Lindane)	0.025 ug/mL
							Heptachlor	0.025 ug/mL
							Heptachlor epoxide	0.025 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Methoxychlor	0.025 ug/mL
							trans-Chlordane	0.025 ug/mL
.GCCLPSURRSTK_00010	08/03/19	08/03/18	Hexane, Lot 2819206	20 mL	GCPEST(SURR)S_00009	0.5 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPEST(SURR)S_00009	11/30/23		RESTEK, Lot A0130424		(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
.GCPestCAL_00014	02/06/20	02/06/19	Hexane, Lot 3019174	20 mL	GCPESTAB3STD_00004	0.1 mL	4,4'-DDD	10 ug/mL
							4,4'-DDE	10 ug/mL
							4,4'-DDT	10 ug/mL
							Aldrin	10 ug/mL
							alpha-BHC	10 ug/mL
							beta-BHC	10 ug/mL
							cis-Chlordane	10 ug/mL
							delta-BHC	10 ug/mL
							Dieldrin	10 ug/mL
							Endosulfan I	10 ug/mL
							Endosulfan II	10 ug/mL
							Endosulfan sulfate	10 ug/mL
							Endrin	10 ug/mL
							Endrin aldehyde	10 ug/mL
							Endrin ketone	10 ug/mL
							gamma-BHC (Lindane)	10 ug/mL
							Heptachlor	10 ug/mL
							Heptachlor epoxide	10 ug/mL
							Methoxychlor	10 ug/mL
							trans-Chlordane	10 ug/mL
..GCPESTAB3STD_00004	09/30/22		RESTEK, Lot A0137734		(Purchased Reagent)		4,4'-DDD	2000 ug/mL
							4,4'-DDE	2000 ug/mL
							4,4'-DDT	2000 ug/mL
							Aldrin	2000 ug/mL
							alpha-BHC	2000 ug/mL
							beta-BHC	2000 ug/mL
							cis-Chlordane	2000 ug/mL
							delta-BHC	2000 ug/mL
							Dieldrin	2000 ug/mL
							Endosulfan I	2000 ug/mL
							Endosulfan II	2000 ug/mL
							Endosulfan sulfate	2000 ug/mL
							Endrin	2000 ug/mL
							Endrin aldehyde	2000 ug/mL
							Endrin ketone	2000 ug/mL
							gamma-BHC (Lindane)	2000 ug/mL
							Heptachlor	2000 ug/mL
							Heptachlor epoxide	2000 ug/mL
							Methoxychlor	2000 ug/mL
							trans-Chlordane	2000 ug/mL
GCPestL3_00032	02/06/20	09/17/19	Hexane, Lot 3295450	100 mL	GCCLPSURRSTK_00011	0.5 mL	DCB Decachlorobiphenyl (Surr)	0.025 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Tetrachloro-m-xylene	0.025 ug/mL
					GCPestCAL_00014	0.25 mL	Endrin	0.025 ug/mL
							gamma-BHC (Lindane)	0.025 ug/mL
							Heptachlor	0.025 ug/mL
							Heptachlor epoxide	0.025 ug/mL
							Methoxychlor	0.025 ug/mL
.GCCLPSURRSTK_00011	08/08/20	08/08/19	Hexane, Lot 3200099	20 mL	GCPEST(SURR)S_00010	0.5 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPEST(SURR)S_00010	11/30/24	RESTEK, Lot A0141110			(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
.GCPestCAL_00014	02/06/20	02/06/19	Hexane, Lot 3019174	20 mL	GCPESTAB3STD_00004	0.1 mL	Endrin	10 ug/mL
							gamma-BHC (Lindane)	10 ug/mL
							Heptachlor	10 ug/mL
							Heptachlor epoxide	10 ug/mL
							Methoxychlor	10 ug/mL
..GCPESTAB3STD_00004	09/30/22	RESTEK, Lot A0137734			(Purchased Reagent)		Endrin	2000 ug/mL
							gamma-BHC (Lindane)	2000 ug/mL
							Heptachlor	2000 ug/mL
							Heptachlor epoxide	2000 ug/mL
							Methoxychlor	2000 ug/mL
GCPestL4_00021	08/03/19	02/06/19	Hexane, Lot 3019174	40 mL	GCCLPSURRSTK_00010	0.4 mL	DCB Decachlorobiphenyl (Surr)	0.05 ug/mL
							Tetrachloro-m-xylene	0.05 ug/mL
					GCPestCAL_00014	0.2 mL	4,4'-DDD	0.05 ug/mL
							4,4'-DDE	0.05 ug/mL
							4,4'-DDT	0.05 ug/mL
							Aldrin	0.05 ug/mL
							alpha-BHC	0.05 ug/mL
							beta-BHC	0.05 ug/mL
							cis-Chlordane	0.05 ug/mL
							delta-BHC	0.05 ug/mL
							Dieldrin	0.05 ug/mL
							Endosulfan I	0.05 ug/mL
							Endosulfan II	0.05 ug/mL
							Endosulfan sulfate	0.05 ug/mL
							Endrin	0.05 ug/mL
							Endrin aldehyde	0.05 ug/mL
							Endrin ketone	0.05 ug/mL
							gamma-BHC (Lindane)	0.05 ug/mL
							Heptachlor	0.05 ug/mL
							Heptachlor epoxide	0.05 ug/mL
							Methoxychlor	0.05 ug/mL
							trans-Chlordane	0.05 ug/mL
.GCCLPSURRSTK_00010	08/03/19	08/03/18	Hexane, Lot 2819206	20 mL	GCPEST(SURR)S_00009	0.5 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPEST(SURR)S_00009	11/30/23	RESTEK, Lot A0130424			(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
.GCPestCAL_00014	02/06/20	02/06/19	Hexane, Lot 3019174	20 mL	GCPESTAB3STD_00004	0.1 mL	4,4'-DDD	10 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4,4'-DDE	10 ug/mL
							4,4'-DDT	10 ug/mL
							Aldrin	10 ug/mL
							alpha-BHC	10 ug/mL
							beta-BHC	10 ug/mL
							cis-Chlordane	10 ug/mL
							delta-BHC	10 ug/mL
							Dieldrin	10 ug/mL
							Endosulfan I	10 ug/mL
							Endosulfan II	10 ug/mL
							Endosulfan sulfate	10 ug/mL
							Endrin	10 ug/mL
							Endrin aldehyde	10 ug/mL
							Endrin ketone	10 ug/mL
							gamma-BHC (Lindane)	10 ug/mL
							Heptachlor	10 ug/mL
							Heptachlor epoxide	10 ug/mL
							Methoxychlor	10 ug/mL
							trans-Chlordane	10 ug/mL
..GCPESTAB3STD_00004	09/30/22		RESTEK, Lot A0137734		(Purchased Reagent)		4,4'-DDD	2000 ug/mL
							4,4'-DDE	2000 ug/mL
							4,4'-DDT	2000 ug/mL
							Aldrin	2000 ug/mL
							alpha-BHC	2000 ug/mL
							beta-BHC	2000 ug/mL
							cis-Chlordane	2000 ug/mL
							delta-BHC	2000 ug/mL
							Dieldrin	2000 ug/mL
							Endosulfan I	2000 ug/mL
							Endosulfan II	2000 ug/mL
							Endosulfan sulfate	2000 ug/mL
							Endrin	2000 ug/mL
							Endrin aldehyde	2000 ug/mL
							Endrin ketone	2000 ug/mL
							gamma-BHC (Lindane)	2000 ug/mL
							Heptachlor	2000 ug/mL
							Heptachlor epoxide	2000 ug/mL
							Methoxychlor	2000 ug/mL
							trans-Chlordane	2000 ug/mL
GCPestL5_00021	08/03/19	02/06/19	Hexane, Lot 3019174	40 mL	GCCLPSURRSTK_00010	0.8 mL	DCB Decachlorobiphenyl (Surr)	0.1 ug/mL
							Tetrachloro-m-xylene	0.1 ug/mL
					GCPestCAL_00014	0.4 mL	4,4'-DDD	0.1 ug/mL
							4,4'-DDE	0.1 ug/mL
							4,4'-DDT	0.1 ug/mL
							Aldrin	0.1 ug/mL
							alpha-BHC	0.1 ug/mL
							beta-BHC	0.1 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							cis-Chlordane	0.1 ug/mL
							delta-BHC	0.1 ug/mL
							Dieldrin	0.1 ug/mL
							Endosulfan I	0.1 ug/mL
							Endosulfan II	0.1 ug/mL
							Endosulfan sulfate	0.1 ug/mL
							Endrin	0.1 ug/mL
							Endrin aldehyde	0.1 ug/mL
							Endrin ketone	0.1 ug/mL
							gamma-BHC (Lindane)	0.1 ug/mL
							Heptachlor	0.1 ug/mL
							Heptachlor epoxide	0.1 ug/mL
							Methoxychlor	0.1 ug/mL
							trans-Chlordane	0.1 ug/mL
.GCCLPSURRSTK_00010	08/03/19	08/03/18	Hexane, Lot 2819206	20 mL	GCPEST(SURR)S_00009	0.5 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPEST(SURR)S_00009	11/30/23	RESTEK, Lot A0130424			(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
.GCPestCAL_00014	02/06/20	02/06/19	Hexane, Lot 3019174	20 mL	GCPESTAB3STD_00004	0.1 mL	4,4'-DDD	10 ug/mL
							4,4'-DDE	10 ug/mL
							4,4'-DDT	10 ug/mL
							Aldrin	10 ug/mL
							alpha-BHC	10 ug/mL
							beta-BHC	10 ug/mL
							cis-Chlordane	10 ug/mL
							delta-BHC	10 ug/mL
							Dieldrin	10 ug/mL
							Endosulfan I	10 ug/mL
							Endosulfan II	10 ug/mL
							Endosulfan sulfate	10 ug/mL
							Endrin	10 ug/mL
							Endrin aldehyde	10 ug/mL
							Endrin ketone	10 ug/mL
							gamma-BHC (Lindane)	10 ug/mL
							Heptachlor	10 ug/mL
							Heptachlor epoxide	10 ug/mL
							Methoxychlor	10 ug/mL
							trans-Chlordane	10 ug/mL
..GCPESTAB3STD_00004	09/30/22	RESTEK, Lot A0137734			(Purchased Reagent)		4,4'-DDD	2000 ug/mL
							4,4'-DDE	2000 ug/mL
							4,4'-DDT	2000 ug/mL
							Aldrin	2000 ug/mL
							alpha-BHC	2000 ug/mL
							beta-BHC	2000 ug/mL
							cis-Chlordane	2000 ug/mL
							delta-BHC	2000 ug/mL
							Dieldrin	2000 ug/mL
							Endosulfan I	2000 ug/mL

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Endosulfan II	2000 ug/mL
							Endosulfan sulfate	2000 ug/mL
							Endrin	2000 ug/mL
							Endrin aldehyde	2000 ug/mL
							Endrin ketone	2000 ug/mL
							gamma-BHC (Lindane)	2000 ug/mL
							Heptachlor	2000 ug/mL
							Heptachlor epoxide	2000 ug/mL
							Methoxychlor	2000 ug/mL
							trans-Chlordane	2000 ug/mL
GCPestL6_00021	08/03/19	02/06/19	Hexane, Lot 3019174	40 mL	GCCLPSURRSTK_00010	1.6 mL	DCB Decachlorobiphenyl (Surr)	0.2 ug/mL
							Tetrachloro-m-xylene	0.2 ug/mL
					GCPestCAL_00014	0.8 mL	4,4'-DDD	0.2 ug/mL
							4,4'-DDE	0.2 ug/mL
							4,4'-DDT	0.2 ug/mL
							Aldrin	0.2 ug/mL
							alpha-BHC	0.2 ug/mL
							beta-BHC	0.2 ug/mL
							cis-Chlordane	0.2 ug/mL
							delta-BHC	0.2 ug/mL
							Dieldrin	0.2 ug/mL
							Endosulfan I	0.2 ug/mL
							Endosulfan II	0.2 ug/mL
							Endosulfan sulfate	0.2 ug/mL
							Endrin	0.2 ug/mL
							Endrin aldehyde	0.2 ug/mL
							Endrin ketone	0.2 ug/mL
							gamma-BHC (Lindane)	0.2 ug/mL
							Heptachlor	0.2 ug/mL
							Heptachlor epoxide	0.2 ug/mL
							Methoxychlor	0.2 ug/mL
							trans-Chlordane	0.2 ug/mL
.GCCLPSURRSTK_00010	08/03/19	08/03/18	Hexane, Lot 2819206	20 mL	GCPEST(SURR)S_00009	0.5 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPEST(SURR)S_00009	11/30/23	RESTEK, Lot A0130424			(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
.GCPestCAL_00014	02/06/20	02/06/19	Hexane, Lot 3019174	20 mL	GCPESTAB3STD_00004	0.1 mL	4,4'-DDD	10 ug/mL
							4,4'-DDE	10 ug/mL
							4,4'-DDT	10 ug/mL
							Aldrin	10 ug/mL
							alpha-BHC	10 ug/mL
							beta-BHC	10 ug/mL
							cis-Chlordane	10 ug/mL
							delta-BHC	10 ug/mL
							Dieldrin	10 ug/mL
							Endosulfan I	10 ug/mL
							Endosulfan II	10 ug/mL

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

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Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Endosulfan sulfate	10 ug/mL
							Endrin	10 ug/mL
							Endrin aldehyde	10 ug/mL
							Endrin ketone	10 ug/mL
							gamma-BHC (Lindane)	10 ug/mL
							Heptachlor	10 ug/mL
							Heptachlor epoxide	10 ug/mL
							Methoxychlor	10 ug/mL
							trans-Chlordane	10 ug/mL
..GCPESTAB3STD_00004	09/30/22	RESTEK, Lot A0137734			(Purchased Reagent)		4,4'-DDD	2000 ug/mL
							4,4'-DDE	2000 ug/mL
							4,4'-DDT	2000 ug/mL
							Aldrin	2000 ug/mL
							alpha-BHC	2000 ug/mL
							beta-BHC	2000 ug/mL
							cis-Chlordane	2000 ug/mL
							delta-BHC	2000 ug/mL
							Dieldrin	2000 ug/mL
							Endosulfan I	2000 ug/mL
							Endosulfan II	2000 ug/mL
							Endosulfan sulfate	2000 ug/mL
							Endrin	2000 ug/mL
							Endrin aldehyde	2000 ug/mL
							Endrin ketone	2000 ug/mL
							gamma-BHC (Lindane)	2000 ug/mL
							Heptachlor	2000 ug/mL
							Heptachlor epoxide	2000 ug/mL
							Methoxychlor	2000 ug/mL
							trans-Chlordane	2000 ug/mL
GCPESTPEMSTD_00040	01/31/20	08/16/19	Hexane, Lot 3295450	100 mL	GCCLPSURRSTK_00011	0.5 mL	DCB Decachlorobiphenyl (Surr)	0.025 ug/mL
							Tetrachloro-m-xylene	0.025 ug/mL
					GCPEST(PEM2)_00001	0.5 mL	4,4'-DDT	0.05 ug/mL
							Endrin	0.025 ug/mL
.GCCLPSURRSTK_00011	08/08/20	08/08/19	Hexane, Lot 3200099	20 mL	GCPEST(SURR)S_00010	0.5 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPEST(SURR)S_00010	11/30/24	RESTEK, Lot A0141110			(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
.GCPEST(PEM2)_00001	01/31/20	RESTEK, Lot A0123952			(Purchased Reagent)		4,4'-DDT	10 ug/mL
							Endrin	5 ug/mL
GCTOXLEVEL1_00011	06/04/19	12/04/18	Hexane, Lot 2938930	40 mL	GCTOXINTERSTD_00006	0.016 mL	Toxaphene Peak 1	0.02 ug/mL
							Toxaphene Peak 2	0.02 ug/mL
							Toxaphene Peak 3	0.02 ug/mL
							Toxaphene Peak 4	0.02 ug/mL
.GCTOXINTERSTD_00006	12/04/19	12/04/18	Hexane, Lot 2938930	40 mL	GCTOXSTDSTD_00002	0.4 mL	Toxaphene Peak 1	50 ug/mL
							Toxaphene Peak 2	50 ug/mL
							Toxaphene Peak 3	50 ug/mL
							Toxaphene Peak 4	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..GCTOXSTDSTD_00002	10/31/20		RESTEK, Lot A0120412		(Purchased Reagent)		Toxaphene Peak 1	5000 ug/mL
							Toxaphene Peak 2	5000 ug/mL
							Toxaphene Peak 3	5000 ug/mL
							Toxaphene Peak 4	5000 ug/mL
GCTOXLEVEL2_00009	06/04/19	12/04/18	Hexane, Lot 2938930	40 mL	GCTOXINTERSTD_00006	0.16 mL	Toxaphene Peak 1	0.2 ug/mL
							Toxaphene Peak 2	0.2 ug/mL
							Toxaphene Peak 3	0.2 ug/mL
							Toxaphene Peak 4	0.2 ug/mL
.GCTOXINTERSTD_00006	12/04/19	12/04/18	Hexane, Lot 2938930	40 mL	GCTOXSTDSTD_00002	0.4 mL	Toxaphene Peak 1	50 ug/mL
							Toxaphene Peak 2	50 ug/mL
							Toxaphene Peak 3	50 ug/mL
							Toxaphene Peak 4	50 ug/mL
..GCTOXSTDSTD_00002	10/31/20		RESTEK, Lot A0120412		(Purchased Reagent)		Toxaphene Peak 1	5000 ug/mL
							Toxaphene Peak 2	5000 ug/mL
							Toxaphene Peak 3	5000 ug/mL
							Toxaphene Peak 4	5000 ug/mL
GCTOXLEVEL3_00018	06/04/19	12/04/18	Hexane, Lot 2938930	40 mL	GCTOXINTERSTD_00006	0.8 mL	Toxaphene Peak 1	1 ug/mL
							Toxaphene Peak 2	1 ug/mL
							Toxaphene Peak 3	1 ug/mL
							Toxaphene Peak 4	1 ug/mL
.GCTOXINTERSTD_00006	12/04/19	12/04/18	Hexane, Lot 2938930	40 mL	GCTOXSTDSTD_00002	0.4 mL	Toxaphene Peak 1	50 ug/mL
							Toxaphene Peak 2	50 ug/mL
							Toxaphene Peak 3	50 ug/mL
							Toxaphene Peak 4	50 ug/mL
..GCTOXSTDSTD_00002	10/31/20		RESTEK, Lot A0120412		(Purchased Reagent)		Toxaphene Peak 1	5000 ug/mL
							Toxaphene Peak 2	5000 ug/mL
							Toxaphene Peak 3	5000 ug/mL
							Toxaphene Peak 4	5000 ug/mL
GCTOXLEVEL3_00020	12/04/19	06/25/19	Hexane, Lot 3200099	40 mL	GCTOXINTERSTD_00006	0.8 mL	Toxaphene	1 ug/mL
.GCTOXINTERSTD_00006	12/04/19	12/04/18	Hexane, Lot 2938930	40 mL	GCTOXSTDSTD_00002	0.4 mL	Toxaphene	50 ug/mL
..GCTOXSTDSTD_00002	10/31/20		RESTEK, Lot A0120412		(Purchased Reagent)		Toxaphene	5000 ug/mL
GCTOXLEVEL4_00010	06/04/19	12/04/18	Hexane, Lot 2938930	20 mL	GCTOXINTERSTD_00006	1 mL	Toxaphene Peak 1	2.5 ug/mL
							Toxaphene Peak 2	2.5 ug/mL
							Toxaphene Peak 3	2.5 ug/mL
							Toxaphene Peak 4	2.5 ug/mL
.GCTOXINTERSTD_00006	12/04/19	12/04/18	Hexane, Lot 2938930	40 mL	GCTOXSTDSTD_00002	0.4 mL	Toxaphene Peak 1	50 ug/mL
							Toxaphene Peak 2	50 ug/mL
							Toxaphene Peak 3	50 ug/mL
							Toxaphene Peak 4	50 ug/mL
..GCTOXSTDSTD_00002	10/31/20		RESTEK, Lot A0120412		(Purchased Reagent)		Toxaphene Peak 1	5000 ug/mL
							Toxaphene Peak 2	5000 ug/mL
							Toxaphene Peak 3	5000 ug/mL
							Toxaphene Peak 4	5000 ug/mL
GCTOXLEVEL5_00013	06/04/19	12/04/18	Hexane, Lot 2938930	20 mL	GCTOXINTERSTD_00006	2 mL	Toxaphene Peak 1	5 ug/mL
							Toxaphene Peak 2	5 ug/mL
							Toxaphene Peak 3	5 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Toxaphene Peak 4	5 ug/mL
.GCTOXINTERSTD_00006	12/04/19	12/04/18	Hexane, Lot 2938930	40 mL	GCTOXSTDSTD_00002	0.4 mL	Toxaphene Peak 1	50 ug/mL
							Toxaphene Peak 2	50 ug/mL
							Toxaphene Peak 3	50 ug/mL
							Toxaphene Peak 4	50 ug/mL
..GCTOXSTDSTD_00002	10/31/20	RESTEK, Lot A0120412			(Purchased Reagent)		Toxaphene Peak 1	5000 ug/mL
							Toxaphene Peak 2	5000 ug/mL
							Toxaphene Peak 3	5000 ug/mL
							Toxaphene Peak 4	5000 ug/mL
Herb(RTS)spk_00009	02/28/20	restek, Lot A0135473			(Purchased Reagent)		2,4,5-T	5 ug/mL
							2,4-D	20 ug/mL
							2,4-DB	20 ug/mL
							Dalapon	20 ug/mL
							Dicamba	10 ug/mL
							Dichlorprop	20 ug/mL
							Dinoseb	20 ug/mL
							MCPA	2000 ug/mL
							MCPP	2000 ug/mL
							Pentachlorophenol	5 ug/mL
							Silvex (2,4,5-TP)	5 ug/mL
icccv_02500	10/08/19	10/07/19	DI Water, Lot 0	15 mL	ICPRIMARYSTA_00012	0.3 mL	Bromide	10 ug/mL
							Chloride	50 ug/mL
							Sulfate	50 ug/mL
.ICPRIMARYSTA_00012	10/31/19	HIGH-PURITY STDS, Lot 1830312			(Purchased Reagent)		Bromide	500 ug/mL
							Chloride	2500 ug/mL
							Sulfate	2500 ug/mL
icicv_02534	10/08/19	10/07/19	DI Water, Lot NA	5 mL	ICSECONDSTD1_00013	0.6 mL	Bromide	12 ug/mL
							Chloride	60 ug/mL
							Sulfate	60 ug/mL
.ICSECONDSTD1_00013	08/26/20	inorganic ventures, Lot P2-MEB682713			(Purchased Reagent)		Bromide	100 ug/mL
							Chloride	500 ug/mL
							Sulfate	500 ug/mL
iclcs_00720	10/08/19	10/07/19	DI Water, Lot 0	15 mL	ICPRIMARYSTA_00012	0.15 mL	Bromide	5 ug/mL
							Chloride	25 ug/mL
							Sulfate	25 ug/mL
.ICPRIMARYSTA_00012	10/31/19	HIGH-PURITY STDS, Lot 1830312			(Purchased Reagent)		Bromide	500 ug/mL
							Chloride	2500 ug/mL
							Sulfate	2500 ug/mL
ICSTDL10_00057	10/01/19	09/30/19	DI Water, Lot Super Q	5 mL	ICPRIMARYSTA_00012	0.4 mL	Bromide	40 ug/mL
							Chloride	200 ug/mL
							Fluoride	10 ug/mL
							Sulfate	200 ug/mL
.ICPRIMARYSTA_00012	10/31/19	HIGH-PURITY STDS, Lot 1830312			(Purchased Reagent)		Bromide	500 ug/mL
							Chloride	2500 ug/mL
							Fluoride	125 ug/mL
							Sulfate	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
ICSTDL2_00423	10/01/19	09/30/19	DI Water, Lot SUPER Q	5 mL	ICSTDL6_00526	0.1 mL	Bromide	0.2 ug/mL
							Chloride	1 ug/mL
							Fluoride	0.05 ug/mL
							Sulfate	1 ug/mL
.ICSTDL6_00526	10/01/19	09/30/19	DI Water, Lot SUPER Q	5 mL	ICPRIMARYSTA_00012	0.1 mL	Bromide	10 ug/mL
							Chloride	50 ug/mL
							Fluoride	2.5 ug/mL
							Sulfate	50 ug/mL
..ICPRIMARYSTA_00012	10/31/19	HIGH-PURITY STDS, Lot 1830312			(Purchased Reagent)		Bromide	500 ug/mL
							Chloride	2500 ug/mL
							Fluoride	125 ug/mL
							Sulfate	2500 ug/mL
ICSTDL3_00495	10/01/19	09/30/19	DI Water, Lot SUPER Q	5 mL	ICSTDL6_00526	0.5 mL	Bromide	1 ug/mL
							Chloride	5 ug/mL
							Fluoride	0.25 ug/mL
							Sulfate	5 ug/mL
.ICSTDL6_00526	10/01/19	09/30/19	DI Water, Lot SUPER Q	5 mL	ICPRIMARYSTA_00012	0.1 mL	Bromide	10 ug/mL
							Chloride	50 ug/mL
							Fluoride	2.5 ug/mL
							Sulfate	50 ug/mL
..ICPRIMARYSTA_00012	10/31/19	HIGH-PURITY STDS, Lot 1830312			(Purchased Reagent)		Bromide	500 ug/mL
							Chloride	2500 ug/mL
							Fluoride	125 ug/mL
							Sulfate	2500 ug/mL
ICSTDL4_00328	10/01/19	09/30/19	DI Water, Lot na	5 mL	ICSTDL8_00267	0.5 mL	Bromide	2 ug/mL
							Chloride	10 ug/mL
							Fluoride	0.5 ug/mL
							Sulfate	10 ug/mL
.ICSTDL8_00267	10/01/19	09/30/19	DI Water, Lot SUPER Q	5 mL	ICPRIMARYSTA_00012	0.2 mL	Bromide	20 ug/mL
							Chloride	100 ug/mL
							Fluoride	5 ug/mL
							Sulfate	100 ug/mL
..ICPRIMARYSTA_00012	10/31/19	HIGH-PURITY STDS, Lot 1830312			(Purchased Reagent)		Bromide	500 ug/mL
							Chloride	2500 ug/mL
							Fluoride	125 ug/mL
							Sulfate	2500 ug/mL
ICSTDL5_00324	10/01/19	09/30/19	DI Water, Lot SUPER Q	5 mL	ICSTDL8_00267	1 mL	Bromide	4 ug/mL
							Chloride	20 ug/mL
							Fluoride	1 ug/mL
							Sulfate	20 ug/mL
.ICSTDL8_00267	10/01/19	09/30/19	DI Water, Lot SUPER Q	5 mL	ICPRIMARYSTA_00012	0.2 mL	Bromide	20 ug/mL
							Chloride	100 ug/mL
							Fluoride	5 ug/mL
							Sulfate	100 ug/mL
..ICPRIMARYSTA_00012	10/31/19	HIGH-PURITY STDS, Lot 1830312			(Purchased Reagent)		Bromide	500 ug/mL
							Chloride	2500 ug/mL
							Fluoride	125 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Sulfate	2500 ug/mL
ICSTDL6_00526	10/01/19	09/30/19	DI Water, Lot SUPER Q	5 mL	ICPRIMARYSTA_00012	0.1 mL	Bromide	10 ug/mL
							Chloride	50 ug/mL
							Fluoride	2.5 ug/mL
							Sulfate	50 ug/mL
.ICPRIMARYSTA_00012	10/31/19	HIGH-PURITY STDS, Lot 1830312			(Purchased Reagent)		Bromide	500 ug/mL
							Chloride	2500 ug/mL
							Fluoride	125 ug/mL
							Sulfate	2500 ug/mL
ICSTDL7_00328	10/01/19	09/30/19	DI Water, Lot SUPER Q	5 mL	ICPRIMARYSTA_00012	0.15 mL	Bromide	15 ug/mL
							Chloride	75 ug/mL
							Fluoride	3.75 ug/mL
							Sulfate	75 ug/mL
.ICPRIMARYSTA_00012	10/31/19	HIGH-PURITY STDS, Lot 1830312			(Purchased Reagent)		Bromide	500 ug/mL
							Chloride	2500 ug/mL
							Fluoride	125 ug/mL
							Sulfate	2500 ug/mL
ICSTDL8_00267	10/01/19	09/30/19	DI Water, Lot SUPER Q	5 mL	ICPRIMARYSTA_00012	0.2 mL	Bromide	20 ug/mL
							Chloride	100 ug/mL
							Fluoride	5 ug/mL
							Sulfate	100 ug/mL
.ICPRIMARYSTA_00012	10/31/19	HIGH-PURITY STDS, Lot 1830312			(Purchased Reagent)		Bromide	500 ug/mL
							Chloride	2500 ug/mL
							Fluoride	125 ug/mL
							Sulfate	2500 ug/mL
ICSTDL9_00248	10/01/19	09/30/19	DI Water, Lot Super Q	5 mL	ICPRIMARYSTA_00012	0.3 mL	Bromide	30 ug/mL
							Chloride	150 ug/mL
							Fluoride	7.5 ug/mL
							Sulfate	150 ug/mL
.ICPRIMARYSTA_00012	10/31/19	HIGH-PURITY STDS, Lot 1830312			(Purchased Reagent)		Bromide	500 ug/mL
							Chloride	2500 ug/mL
							Fluoride	125 ug/mL
							Sulfate	2500 ug/mL
ICV 40 PPM_01430	10/11/19	10/10/19	DI Water, Lot DIWATER	100 mg/L	WTOC1000SP_00028	4 mL	TOC Result 1	40 mg/L
							TOC Result 2	40 mg/L
							Total Organic Carbon - Duplicates	40 mg/L
.WTOC1000SP_00028	12/31/19	Ricca Chemical Co, Lot 2812D25			(Purchased Reagent)		TOC Result 1	1000 mg/L
							TOC Result 2	1000 mg/L
							Total Organic Carbon - Duplicates	1000 mg/L
LCS 20 PPM_01431	10/11/19	10/10/19	DI Water, Lot DIWATER	200 mg/L	WTOC1000P_00046	4 mL	Total Organic Carbon - Duplicates	20 mg/L
.WTOC1000P_00046	02/06/21	Lab Chem, Lot J028-17			(Purchased Reagent)		Total Organic Carbon - Duplicates	1000 mg/L
op-p/pcb sur_00024	12/30/19	06/25/19	ACETONE, Lot 2680072	2000 mL	GCDCBStock_00008	1.6 mL	DCB Decachlorobiphenyl (Surr)	0.8 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					GCTCMXSTD_00010	0.8 mL	Tetrachloro-m-xylene	0.8 ug/mL
.GCDCBStock_00008	01/31/21	ULTRA, Lot CK-4355			(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	1000 ug/mL
.GCTCMXSTD_00010	10/30/20	Ultra Scientific, Lot CL-3352			(Purchased Reagent)		Tetrachloro-m-xylene	2000 ug/mL
OPHERBRTSSURR_00010	08/31/20	RESTEK, Lot A0125706			(Purchased Reagent)		2,4-Dichlorophenylacetic acid	10 ug/mL
OPLVISPKMIX1i_00066	02/28/20	07/31/19	Methanol, Lot 0000198123	250 mL	SVLIST1/STD1_00001	50 mL	1,1'-Biphenyl	200 ug/mL
							1,2,4,5-Tetrachlorobenzene	200 ug/mL
							1,2,4-Trichlorobenzene	200 ug/mL
							1,2-Dichlorobenzene	200 ug/mL
							1,2-Diphenylhydrazine	200 ug/mL
							1,3-Dichlorobenzene	200 ug/mL
							1,3-Dinitrobenzene	200 ug/mL
							1,4-Dichlorobenzene	200 ug/mL
							1,4-Dioxane	200 ug/mL
							1-Methylnaphthalene	200 ug/mL
							2,2'-oxybis[1-chloropropane]	200 ug/mL
							2,3,4,6-Tetrachlorophenol	200 ug/mL
							2,4,5-Trichlorophenol	200 ug/mL
							2,4,6-Trichlorophenol	200 ug/mL
							2,4-Dichlorophenol	200 ug/mL
							2,4-Dimethylphenol	200 ug/mL
							2,4-Dinitrophenol	400 ug/mL
							2,4-Dinitrotoluene	200 ug/mL
							2,6-Dichlorophenol	200 ug/mL
							2,6-Dinitrotoluene	200 ug/mL
							2-Chloronaphthalene	200 ug/mL
							2-Chlorophenol	200 ug/mL
							2-Methylnaphthalene	200 ug/mL
							2-Methylphenol	200 ug/mL
							2-Nitroaniline	200 ug/mL
							2-Nitrophenol	200 ug/mL
							3 & 4 Methylphenol	200 ug/mL
							3-Nitroaniline	200 ug/mL
							4,6-Dinitro-2-methylphenol	400 ug/mL
							4-Bromophenyl phenyl ether	200 ug/mL
							4-Chloro-3-methylphenol	200 ug/mL
							4-Chloroaniline	200 ug/mL
							4-Chlorophenyl phenyl ether	200 ug/mL
							4-Nitroaniline	200 ug/mL
							4-Nitrophenol	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Acetophenone	200 ug/mL
							Aniline	200 ug/mL
							Anthracene	200 ug/mL
							Azobenzene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Benzyl alcohol	200 ug/mL
							Bis(2-chloroethoxy)methane	200 ug/mL
							Bis(2-chloroethyl)ether	200 ug/mL
							Bis(2-ethylhexyl) phthalate	200 ug/mL
							Butyl benzyl phthalate	200 ug/mL
							Carbazole	200 ug/mL
							Chrysene	200 ug/mL
							Di-n-butyl phthalate	200 ug/mL
							Di-n-octyl phthalate	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Dibenzofuran	200 ug/mL
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Hexachlorobenzene	200 ug/mL
							Hexachlorobutadiene	200 ug/mL
							Hexachlorocyclopentadiene	200 ug/mL
							Hexachloroethane	200 ug/mL
							Hexadecane	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Isophorone	200 ug/mL
							Methyl Phenols,Total	400 ug/mL
							Methylphenol, 3 & 4	200 ug/mL
							n-Decane	200 ug/mL
							N-Nitrosodi-n-propylamine	200 ug/mL
							N-Nitrosodimethylamine	200 ug/mL
							N-Nitrosodiphenylamine	200 ug/mL
							n-Octadecane	200 ug/mL
							Naphthalene	200 ug/mL
							Nitrobenzene	200 ug/mL
							Pentachlorophenol	400 ug/mL
							Phenanthrene	200 ug/mL
							Phenol	200 ug/mL
							Pyrene	200 ug/mL
							Pyridine	400 ug/mL
							Total Cresols	400 ug/mL
					SVLIST1/STD11_00002	25 mL	Atrazine	200 ug/mL
							Benzaldehyde	200 ug/mL
							Caprolactam	200 ug/mL
					SVLIST1/STD9_00003	25 mL	3,3'-Dichlorobenzidine	200 ug/mL
							Benzidine	200 ug/mL
					SVLVstd10_00012	25 mL	Benzoic acid	200 ug/mL
							Indene	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.SVLIST1/STD1_00001	05/31/20		Restek, Lot A0143135		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							Methyl Phenols,Total	2000 ug/mL
							Methylphenol, 3 & 4	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
							Total Cresols	2000 ug/mL
.SVLIST1/STD11_00002	05/31/20		Restek, Lot A0143627		(Purchased Reagent)		Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
.SVLIST1/STD9_00003	05/31/20		Restek, Lot A0143498		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
							Benzidine	2000 ug/mL
.SVLVstd10_00012	08/31/20		Restek, Lot A0145854		(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
OPPESTMATRIX_00036	02/24/20	08/24/19	ACETONE, Lot 2680072	100 mL	GCPESTAB3STD_00003	0.05 mL	4,4'-DDD	1 ug/mL
							4,4'-DDE	1 ug/mL
							4,4'-DDT	1 ug/mL
							Aldrin	1 ug/mL
							alpha-BHC	1 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							beta-BHC	1 ug/mL
							cis-Chlordane	1 ug/mL
							delta-BHC	1 ug/mL
							Dieldrin	1 ug/mL
							Endosulfan I	1 ug/mL
							Endosulfan II	1 ug/mL
							Endosulfan sulfate	1 ug/mL
							Endrin	1 ug/mL
							Endrin aldehyde	1 ug/mL
							Endrin ketone	1 ug/mL
							gamma-BHC (Lindane)	1 ug/mL
							Heptachlor	1 ug/mL
							Heptachlor epoxide	1 ug/mL
							Methoxychlor	1 ug/mL
							trans-Chlordane	1 ug/mL
.GCPESTAB3STD_00003	07/31/21		RESTEK, Lot A0129369		(Purchased Reagent)		4,4'-DDD	2000 ug/mL
							4,4'-DDE	2000 ug/mL
							4,4'-DDT	2000 ug/mL
							Aldrin	2000 ug/mL
							alpha-BHC	2000 ug/mL
							beta-BHC	2000 ug/mL
							cis-Chlordane	2000 ug/mL
							delta-BHC	2000 ug/mL
							Dieldrin	2000 ug/mL
							Endosulfan I	2000 ug/mL
							Endosulfan II	2000 ug/mL
							Endosulfan sulfate	2000 ug/mL
							Endrin	2000 ug/mL
							Endrin aldehyde	2000 ug/mL
							Endrin ketone	2000 ug/mL
							gamma-BHC (Lindane)	2000 ug/mL
							Heptachlor	2000 ug/mL
							Heptachlor epoxide	2000 ug/mL
							Methoxychlor	2000 ug/mL
							trans-Chlordane	2000 ug/mL
OPQL8270SURi_00084	03/05/20	09/05/19	Methanol, Lot 0000198123	500 mL	SVLVSURSPK_00007	20 mL	2,4,6-Tribromophenol (Surr)	200 ug/mL
							2-Fluorobiphenyl	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5 (Surr)	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL
							Terphenyl-d14 (Surr)	200 ug/mL
.SVLVSURSPK_00007	09/30/23		Restek, Lot A0143524		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
PCBINT_00010	02/01/20	08/01/19	Hexane, Lot 1932891	100 mL	GCBZ#205STD1_00006	10 mL	PCB-205 (IS)	10 ug/mL
					GCpest/pcbINT_00005	1 mL	1-Bromo-2-nitrobenzene	10 ug/mL
.GCBZ#205STD1_00006	09/06/26	AccuStandard, Lot 216091034			(Purchased Reagent)		PCB-205 (IS)	100 ug/mL
.GCpest/pcbINT_00005	04/30/20	restek, Lot A0141134			(Purchased Reagent)		1-Bromo-2-nitrobenzene	1000 ug/mL
SVDFTPP50i_00034							Aramite, Total	
							Diallate	
							Methyl Phenols,Total	
							Tentatively Identified Compound	
					SVTUNINGMIXs_00006	500 uL	4,4'-DDD	0 ug/mL
							4,4'-DDE	0 ug/mL
							4,4'-DDT	50 ug/mL
							Benzidine_T	50 ug/mL
							DFTPP	50 ug/mL
							Pentachlorophenol_T	50 ug/mL
.SVTUNINGMIXs_00006	12/31/19	Restek, Lot A0123348			(Purchased Reagent)		4,4'-DDD	0 ug/mL
							4,4'-DDE	0 ug/mL
							4,4'-DDT	1000 ug/mL
							Benzidine_T	1000 ug/mL
							DFTPP	1000 ug/mL
							Pentachlorophenol_T	1000 ug/mL
SVTAPITINTRNi_00022	06/22/20	06/22/19	MeCl2, Lot 3157036	25 mL	SVLVIntstd_00010	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
.SVLVIntstd_00010	09/30/23	Restek, Lot A0141743			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
SVTAPSTD0.38i_00009	12/20/19	05/20/19	MeCl2, Lot 3157036	1 mL	SVTAPITINTRNi_00021	10 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
					SVTAPITSTCKi_00022	4.75 uL	Benzo[e]pyrene	0.19 ug/mL
							2,3,5,6-Tetrachlorophenol	0.19 ug/mL
							2-Naphthylamine	0.19 ug/mL
							7,12-Dimethylbenz(a)anthracene	0.19 ug/mL
							1,1'-Biphenyl	0.19 ug/mL
							1,2,4,5-Tetrachlorobenzene	0.19 ug/mL
							1,2,4-Trichlorobenzene	0.19 ug/mL
							1,2-Dichlorobenzene	0.19 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2-Diphenylhydrazine	0.19 ug/mL
							1,3-Dichlorobenzene	0.19 ug/mL
							1,3-Dinitrobenzene	0.19 ug/mL
							1,4-Dichlorobenzene	0.19 ug/mL
							1,4-Dioxane	0.19 ug/mL
							1-Methylnaphthalene	0.19 ug/mL
							2,2'-oxybis[1-chloropropane]	0.19 ug/mL
							2,3,4,6-Tetrachlorophenol	0.19 ug/mL
							2,4,5-Trichlorophenol	0.19 ug/mL
							2,4,6-Trichlorophenol	0.19 ug/mL
							2,4-Dichlorophenol	0.19 ug/mL
							2,4-Dimethylphenol	0.19 ug/mL
							2,4-Dinitrophenol	0.38 ug/mL
							2,4-Dinitrotoluene	0.19 ug/mL
							2,6-Dichlorophenol	0.19 ug/mL
							2,6-Dinitrotoluene	0.19 ug/mL
							2-Chloronaphthalene	0.19 ug/mL
							2-Chlorophenol	0.19 ug/mL
							2-Methylnaphthalene	0.19 ug/mL
							2-Methylphenol	0.19 ug/mL
							2-Nitroaniline	0.19 ug/mL
							2-Nitrophenol	0.19 ug/mL
							3-Nitroaniline	0.19 ug/mL
							4,6-Dinitro-2-methylphenol	0.38 ug/mL
							4-Bromophenyl phenyl ether	0.19 ug/mL
							4-Chloro-3-methylphenol	0.19 ug/mL
							4-Chloroaniline	0.19 ug/mL
							4-Chlorophenyl phenyl ether	0.19 ug/mL
							4-Nitroaniline	0.19 ug/mL
							4-Nitrophenol	0.38 ug/mL
							Acenaphthene	0.19 ug/mL
							Acenaphthylene	0.19 ug/mL
							Acetophenone	0.19 ug/mL
							Aniline	0.19 ug/mL
							Anthracene	0.19 ug/mL
							Azobenzene	0.19 ug/mL
							Benzo[a]anthracene	0.19 ug/mL
							Benzo[a]pyrene	0.19 ug/mL
							Benzo[b]fluoranthene	0.19 ug/mL
							Benzo[g,h,i]perylene	0.19 ug/mL
							Benzo[k]fluoranthene	0.19 ug/mL
							Benzyl alcohol	0.19 ug/mL
							Bis(2-chloroethoxy)methane	0.19 ug/mL
							Bis(2-chloroethyl)ether	0.19 ug/mL
							Bis(2-ethylhexyl) phthalate	0.19 ug/mL
							Butyl benzyl phthalate	0.19 ug/mL
							Carbazole	0.19 ug/mL
							Chrysene	0.19 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Di-n-butyl phthalate	0.19 ug/mL
							Di-n-octyl phthalate	0.19 ug/mL
							Dibenz(a,h)anthracene	0.19 ug/mL
							Dibenzofuran	0.19 ug/mL
							Diethyl phthalate	0.19 ug/mL
							Dimethyl phthalate	0.19 ug/mL
							Fluoranthene	0.19 ug/mL
							Fluorene	0.19 ug/mL
							Hexachlorobenzene	0.19 ug/mL
							Hexachlorobutadiene	0.19 ug/mL
							Hexachlorocyclopentadiene	0.19 ug/mL
							Hexachloroethane	0.19 ug/mL
							Hexadecane	0.19 ug/mL
							Indeno[1,2,3-cd]pyrene	0.19 ug/mL
							Isophorone	0.19 ug/mL
							Methylphenol, 3 & 4	0.19 ug/mL
							n-Decane	0.19 ug/mL
							N-Nitrosodi-n-propylamine	0.19 ug/mL
							N-Nitrosodimethylamine	0.19 ug/mL
							N-Nitrosodiphenylamine	0.19 ug/mL
							n-Octadecane	0.19 ug/mL
							Naphthalene	0.19 ug/mL
							Nitrobenzene	0.19 ug/mL
							Pentachlorophenol	0.38 ug/mL
							Phenanthrene	0.19 ug/mL
							Phenol	0.19 ug/mL
							Pyrene	0.19 ug/mL
							Pyridine	0.38 ug/mL
							Atrazine	0.19 ug/mL
							Benzaldehyde	0.19 ug/mL
							Caprolactam	0.19 ug/mL
							3,3'-Dichlorobenzidine	0.19 ug/mL
							Benzidine	0.19 ug/mL
							Benzoic acid	0.19 ug/mL
							Indene	0.19 ug/mL
							2,4,6-Tribromophenol (Surr)	0.19 ug/mL
							2-Fluorobiphenyl	0.19 ug/mL
							2-Fluorophenol (Surr)	0.19 ug/mL
							Nitrobenzene-d5 (Surr)	0.19 ug/mL
							Phenol-d5 (Surr)	0.19 ug/mL
							Terphenyl-d14 (Surr)	0.19 ug/mL
							Methyl methanesulfonate	0.19 ug/mL
							N-Nitrosopyrrolidine	0.19 ug/mL
.SVTAPITINTRNi_00021	01/29/20	01/29/19	MeCl2, Lot 2973424	25 mL	SVLVIntstd_00009	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenanthrene-d10	400 ug/mL
..SVLVIntstd_00009	01/31/22	Restek, Lot A0123893			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.SVTAPITSTCKi_00022	12/20/19	05/20/19	MeCl2, Lot 3157036	20 mL	sv benzoepyre_00005	800 uL	Benzo[e]pyrene	40 ug/mL
					SV2356TCPs_00004	800 uL	2,3,5,6-Tetrachlorophenol	40 ug/mL
					SV2NAPAMINEs_00009	800 uL	2-Naphthylamine	40 ug/mL
					sv712dimbenza_00012	800 uL	7,12-Dimethylbenz(a)anthracene	40 ug/mL
					SVLIST1/STD1_00001	800 uL	1,1'-Biphenyl	40 ug/mL
							1,2,4,5-Tetrachlorobenzene	40 ug/mL
							1,2,4-Trichlorobenzene	40 ug/mL
							1,2-Dichlorobenzene	40 ug/mL
							1,2-Diphenylhydrazine	40 ug/mL
							1,3-Dichlorobenzene	40 ug/mL
							1,3-Dinitrobenzene	40 ug/mL
							1,4-Dichlorobenzene	40 ug/mL
							1,4-Dioxane	40 ug/mL
							1-Methylnaphthalene	40 ug/mL
							2,2'-oxybis[1-chloropropane]	40 ug/mL
							2,3,4,6-Tetrachlorophenol	40 ug/mL
							2,4,5-Trichlorophenol	40 ug/mL
							2,4,6-Trichlorophenol	40 ug/mL
							2,4-Dichlorophenol	40 ug/mL
							2,4-Dimethylphenol	40 ug/mL
							2,4-Dinitrophenol	80 ug/mL
							2,4-Dinitrotoluene	40 ug/mL
							2,6-Dichlorophenol	40 ug/mL
							2,6-Dinitrotoluene	40 ug/mL
							2-Chloronaphthalene	40 ug/mL
							2-Chlorophenol	40 ug/mL
							2-Methylnaphthalene	40 ug/mL
							2-Methylphenol	40 ug/mL
							2-Nitroaniline	40 ug/mL
							2-Nitrophenol	40 ug/mL
							3-Nitroaniline	40 ug/mL
							4,6-Dinitro-2-methylphenol	80 ug/mL
							4-Bromophenyl phenyl ether	40 ug/mL
							4-Chloro-3-methylphenol	40 ug/mL
							4-Chloroaniline	40 ug/mL
							4-Chlorophenyl phenyl ether	40 ug/mL
							4-Nitroaniline	40 ug/mL
							4-Nitrophenol	80 ug/mL
							Acenaphthene	40 ug/mL
							Acenaphthylene	40 ug/mL
							Acetophenone	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Aniline	40 ug/mL
							Anthracene	40 ug/mL
							Azobenzene	40 ug/mL
							Benzo[a]anthracene	40 ug/mL
							Benzo[a]pyrene	40 ug/mL
							Benzo[b]fluoranthene	40 ug/mL
							Benzo[g,h,i]perylene	40 ug/mL
							Benzo[k]fluoranthene	40 ug/mL
							Benzyl alcohol	40 ug/mL
							Bis(2-chloroethoxy)methane	40 ug/mL
							Bis(2-chloroethyl)ether	40 ug/mL
							Bis(2-ethylhexyl) phthalate	40 ug/mL
							Butyl benzyl phthalate	40 ug/mL
							Carbazole	40 ug/mL
							Chrysene	40 ug/mL
							Di-n-butyl phthalate	40 ug/mL
							Di-n-octyl phthalate	40 ug/mL
							Dibenz(a,h)anthracene	40 ug/mL
							Dibenzofuran	40 ug/mL
							Diethyl phthalate	40 ug/mL
							Dimethyl phthalate	40 ug/mL
							Fluoranthene	40 ug/mL
							Fluorene	40 ug/mL
							Hexachlorobenzene	40 ug/mL
							Hexachlorobutadiene	40 ug/mL
							Hexachlorocyclopentadiene	40 ug/mL
							Hexachloroethane	40 ug/mL
							Hexadecane	40 ug/mL
							Indeno[1,2,3-cd]pyrene	40 ug/mL
							Isophorone	40 ug/mL
							Methylphenol, 3 & 4	40 ug/mL
							n-Decane	40 ug/mL
							N-Nitrosodi-n-propylamine	40 ug/mL
							N-Nitrosodimethylamine	40 ug/mL
							N-Nitrosodiphenylamine	40 ug/mL
							n-Octadecane	40 ug/mL
							Naphthalene	40 ug/mL
							Nitrobenzene	40 ug/mL
							Pentachlorophenol	80 ug/mL
							Phenanthrene	40 ug/mL
							Phenol	40 ug/mL
							Pyrene	40 ug/mL
							Pyridine	80 ug/mL
					SVLIST1/STD11_00002	400 uL	Atrazine	40 ug/mL
							Benzaldehyde	40 ug/mL
							Caprolactam	40 ug/mL
					SVLIST1/STD9_00003	400 uL	3,3'-Dichlorobenzidine	40 ug/mL
							Benzidine	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					SVLVstd10_00012	400 uL	Benzoic acid	40 ug/mL
							Indene	40 ug/mL
					SVLVSURRSPK_00021	160 uL	2,4,6-Tribromophenol (Surr)	40 ug/mL
							2-Fluorobiphenyl	40 ug/mL
							2-Fluorophenol (Surr)	40 ug/mL
							Nitrobenzene-d5 (Surr)	40 ug/mL
							Phenol-d5 (Surr)	40 ug/mL
							Terphenyl-d14 (Surr)	40 ug/mL
					svmethylmetha_00012	800 uL	Methyl methanesulfonate	40 ug/mL
					SVNNITROPYROs_00018	800 uL	N-Nitrosopyrrolidine	40 ug/mL
..sv benzoepyre_00005	03/17/20		Absolute, Lot 031715		(Purchased Reagent)		Benzo[e]pyrene	1000 ug/mL
..SV2356TCPs_00004	09/21/20		Absolute, Lot 092115		(Purchased Reagent)		2,3,5,6-Tetrachlorophenol	1000 ug/mL
..SV2NAPAMINEs_00009	11/19/22		Ultra Scientific, Lot Cs-5614		(Purchased Reagent)		2-Naphthylamine	1000 ug/mL
..sv712dimbenza_00012	05/31/21		Absolute, Lot 053116		(Purchased Reagent)		7,12-Dimethylbenz(a)anthracene	1000 ug/mL
..SVLIST1/STD1_00001	05/31/20		Restek, Lot A0143135		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							Methylphenol, 3 & 4	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
..SVLIST1/STD11_00002	05/31/20	Restek, Lot A0143627			(Purchased Reagent)		Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Caprolactam	2000 ug/mL
..SVLIST1/STD9_00003	05/31/20		Restek, Lot A0143498		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
							Benzidine	2000 ug/mL
..SVLVstd10_00012	08/31/20		Restek, Lot A0145854		(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
..SVLVSURRSPK_00021	12/31/21		Restek, Lot A0123269		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
..svmethylmetha_00012	03/27/22		Absolute, Lot 032717		(Purchased Reagent)		Methyl methanesulfonate	1000 ug/mL
..SVNNITROPYROs_00018	12/28/19		absolute, Lot 122816		(Purchased Reagent)		N-Nitrosopyrrolidine	1000 ug/mL
SVTAPSTD10i_00332	07/13/19	07/06/19	MeCl2, Lot 3239892	1 mL	SVTAPITINTRNi_00021	10 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
					SVTAPITSTCKi_00022	125 uL	Benzo[e]pyrene	5 ug/mL
							2,3,5,6-Tetrachlorophenol	5 ug/mL
							2-Naphthylamine	5 ug/mL
							7,12-Dimethylbenz(a)anthracene	5 ug/mL
							1,1'-Biphenyl	5 ug/mL
							1,2,4,5-Tetrachlorobenzene	5 ug/mL
							1,2,4-Trichlorobenzene	5 ug/mL
							1,2-Dichlorobenzene	5 ug/mL
							1,2-Diphenylhydrazine	5 ug/mL
							1,3-Dichlorobenzene	5 ug/mL
							1,3-Dinitrobenzene	5 ug/mL
							1,4-Dichlorobenzene	5 ug/mL
							1,4-Dioxane	5 ug/mL
							1-Methylnaphthalene	5 ug/mL
							2,2'-oxybis[1-chloropropane]	5 ug/mL
							2,3,4,6-Tetrachlorophenol	5 ug/mL
							2,4,5-Trichlorophenol	5 ug/mL
							2,4,6-Trichlorophenol	5 ug/mL
							2,4-Dichlorophenol	5 ug/mL
							2,4-Dimethylphenol	5 ug/mL
							2,4-Dinitrophenol	10 ug/mL
							2,4-Dinitrotoluene	5 ug/mL
							2,6-Dichlorophenol	5 ug/mL
							2,6-Dinitrotoluene	5 ug/mL
							2-Chloronaphthalene	5 ug/mL
							2-Chlorophenol	5 ug/mL
							2-Methylnaphthalene	5 ug/mL
							2-Methylphenol	5 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Nitroaniline	5 ug/mL
							2-Nitrophenol	5 ug/mL
							3-Nitroaniline	5 ug/mL
							4,6-Dinitro-2-methylphenol	10 ug/mL
							4-Bromophenyl phenyl ether	5 ug/mL
							4-Chloro-3-methylphenol	5 ug/mL
							4-Chloroaniline	5 ug/mL
							4-Chlorophenyl phenyl ether	5 ug/mL
							4-Nitroaniline	5 ug/mL
							4-Nitrophenol	10 ug/mL
							Acenaphthene	5 ug/mL
							Acenaphthylene	5 ug/mL
							Acetophenone	5 ug/mL
							Aniline	5 ug/mL
							Anthracene	5 ug/mL
							Azobenzene	5 ug/mL
							Benzo[a]anthracene	5 ug/mL
							Benzo[a]pyrene	5 ug/mL
							Benzo[b]fluoranthene	5 ug/mL
							Benzo[g,h,i]perylene	5 ug/mL
							Benzo[k]fluoranthene	5 ug/mL
							Benzyl alcohol	5 ug/mL
							Bis(2-chloroethoxy)methane	5 ug/mL
							Bis(2-chloroethyl)ether	5 ug/mL
							Bis(2-ethylhexyl) phthalate	5 ug/mL
							Butyl benzyl phthalate	5 ug/mL
							Carbazole	5 ug/mL
							Chrysene	5 ug/mL
							Di-n-butyl phthalate	5 ug/mL
							Di-n-octyl phthalate	5 ug/mL
							Dibenz(a,h)anthracene	5 ug/mL
							Dibenzofuran	5 ug/mL
							Diethyl phthalate	5 ug/mL
							Dimethyl phthalate	5 ug/mL
							Fluoranthene	5 ug/mL
							Fluorene	5 ug/mL
							Hexachlorobenzene	5 ug/mL
							Hexachlorobutadiene	5 ug/mL
							Hexachlorocyclopentadiene	5 ug/mL
							Hexachloroethane	5 ug/mL
							Hexadecane	5 ug/mL
							Indeno[1,2,3-cd]pyrene	5 ug/mL
							Isophorone	5 ug/mL
							Methylphenol, 3 & 4	5 ug/mL
							n-Decane	5 ug/mL
							N-Nitrosodi-n-propylamine	5 ug/mL
							N-Nitrosodimethylamine	5 ug/mL
							N-Nitrosodiphenylamine	5 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							n-Octadecane	5 ug/mL
							Naphthalene	5 ug/mL
							Nitrobenzene	5 ug/mL
							Pentachlorophenol	10 ug/mL
							Phenanthrene	5 ug/mL
							Phenol	5 ug/mL
							Pyrene	5 ug/mL
							Pyridine	10 ug/mL
							Atrazine	5 ug/mL
							Benzaldehyde	5 ug/mL
							Caprolactam	5 ug/mL
							3,3'-Dichlorobenzidine	5 ug/mL
							Benzidine	5 ug/mL
							Benzoic acid	5 ug/mL
							Indene	5 ug/mL
							2,4,6-Tribromophenol (Surr)	5 ug/mL
							2-Fluorobiphenyl	5 ug/mL
							2-Fluorophenol (Surr)	5 ug/mL
							Nitrobenzene-d5 (Surr)	5 ug/mL
							Phenol-d5 (Surr)	5 ug/mL
							Terphenyl-d14 (Surr)	5 ug/mL
							Methyl methanesulfonate	5 ug/mL
							N-Nitrosopyrrolidine	5 ug/mL
.SVTAPITINTRNi_00021	01/29/20	01/29/19	MeCl2, Lot 2973424	25 mL	SVLVIntstd_00009	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..SVLVIntstd_00009	01/31/22	Restek, Lot A0123893			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.SVTAPITSTCKi_00022	12/20/19	05/20/19	MeCl2, Lot 3157036	20 mL	sv benzoepyre_00005	800 uL	Benzo[e]pyrene	40 ug/mL
					SV2356TCPs_00004	800 uL	2,3,5,6-Tetrachlorophenol	40 ug/mL
					SV2NAPAMINEs_00009	800 uL	2-Naphthylamine	40 ug/mL
					sv712dimbenza_00012	800 uL	7,12-Dimethylbenz(a)anthracene	40 ug/mL
					SVLIST1/STD1_00001	800 uL	1,1'-Biphenyl	40 ug/mL
							1,2,4,5-Tetrachlorobenzene	40 ug/mL
							1,2,4-Trichlorobenzene	40 ug/mL
							1,2-Dichlorobenzene	40 ug/mL
							1,2-Diphenylhydrazine	40 ug/mL
							1,3-Dichlorobenzene	40 ug/mL
							1,3-Dinitrobenzene	40 ug/mL
							1,4-Dichlorobenzene	40 ug/mL
							1,4-Dioxane	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1-Methylnaphthalene	40 ug/mL
							2,2'-oxybis[1-chloropropane]	40 ug/mL
							2,3,4,6-Tetrachlorophenol	40 ug/mL
							2,4,5-Trichlorophenol	40 ug/mL
							2,4,6-Trichlorophenol	40 ug/mL
							2,4-Dichlorophenol	40 ug/mL
							2,4-Dimethylphenol	40 ug/mL
							2,4-Dinitrophenol	80 ug/mL
							2,4-Dinitrotoluene	40 ug/mL
							2,6-Dichlorophenol	40 ug/mL
							2,6-Dinitrotoluene	40 ug/mL
							2-Chloronaphthalene	40 ug/mL
							2-Chlorophenol	40 ug/mL
							2-Methylnaphthalene	40 ug/mL
							2-Methylphenol	40 ug/mL
							2-Nitroaniline	40 ug/mL
							2-Nitrophenol	40 ug/mL
							3-Nitroaniline	40 ug/mL
							4,6-Dinitro-2-methylphenol	80 ug/mL
							4-Bromophenyl phenyl ether	40 ug/mL
							4-Chloro-3-methylphenol	40 ug/mL
							4-Chloroaniline	40 ug/mL
							4-Chlorophenyl phenyl ether	40 ug/mL
							4-Nitroaniline	40 ug/mL
							4-Nitrophenol	80 ug/mL
							Acenaphthene	40 ug/mL
							Acenaphthylene	40 ug/mL
							Acetophenone	40 ug/mL
							Aniline	40 ug/mL
							Anthracene	40 ug/mL
							Azobenzene	40 ug/mL
							Benzo[a]anthracene	40 ug/mL
							Benzo[a]pyrene	40 ug/mL
							Benzo[b]fluoranthene	40 ug/mL
							Benzo[g,h,i]perylene	40 ug/mL
							Benzo[k]fluoranthene	40 ug/mL
							Benzyl alcohol	40 ug/mL
							Bis(2-chloroethoxy)methane	40 ug/mL
							Bis(2-chloroethyl)ether	40 ug/mL
							Bis(2-ethylhexyl) phthalate	40 ug/mL
							Butyl benzyl phthalate	40 ug/mL
							Carbazole	40 ug/mL
							Chrysene	40 ug/mL
							Di-n-butyl phthalate	40 ug/mL
							Di-n-octyl phthalate	40 ug/mL
							Dibenz(a,h)anthracene	40 ug/mL
							Dibenzofuran	40 ug/mL
							Diethyl phthalate	40 ug/mL

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Dimethyl phthalate	40 ug/mL
							Fluoranthene	40 ug/mL
							Fluorene	40 ug/mL
							Hexachlorobenzene	40 ug/mL
							Hexachlorobutadiene	40 ug/mL
							Hexachlorocyclopentadiene	40 ug/mL
							Hexachloroethane	40 ug/mL
							Hexadecane	40 ug/mL
							Indeno[1,2,3-cd]pyrene	40 ug/mL
							Isophorone	40 ug/mL
							Methylphenol, 3 & 4	40 ug/mL
							n-Decane	40 ug/mL
							N-Nitrosodi-n-propylamine	40 ug/mL
							N-Nitrosodimethylamine	40 ug/mL
							N-Nitrosodiphenylamine	40 ug/mL
							n-Octadecane	40 ug/mL
							Naphthalene	40 ug/mL
							Nitrobenzene	40 ug/mL
							Pentachlorophenol	80 ug/mL
							Phenanthrene	40 ug/mL
							Phenol	40 ug/mL
							Pyrene	40 ug/mL
							Pyridine	80 ug/mL
					SVLIST1/STD11_00002	400 uL	Atrazine	40 ug/mL
							Benzaldehyde	40 ug/mL
							Caprolactam	40 ug/mL
					SVLIST1/STD9_00003	400 uL	3,3'-Dichlorobenzidine	40 ug/mL
							Benzidine	40 ug/mL
					SVLVstd10_00012	400 uL	Benzoic acid	40 ug/mL
							Indene	40 ug/mL
					SVLVSURRSPK_00021	160 uL	2,4,6-Tribromophenol (Surr)	40 ug/mL
							2-Fluorobiphenyl	40 ug/mL
							2-Fluorophenol (Surr)	40 ug/mL
							Nitrobenzene-d5 (Surr)	40 ug/mL
							Phenol-d5 (Surr)	40 ug/mL
							Terphenyl-d14 (Surr)	40 ug/mL
					svmethylmetha_00012	800 uL	Methyl methanesulfonate	40 ug/mL
					SVNNITROPYROs_00018	800 uL	N-Nitrosopyrrolidine	40 ug/mL
..sv benzoepyre_00005	03/17/20	Absolute, Lot 031715			(Purchased Reagent)		Benzo[e]pyrene	1000 ug/mL
..SV2356TCPs_00004	09/21/20	Absolute, Lot 092115			(Purchased Reagent)		2,3,5,6-Tetrachlorophenol	1000 ug/mL
..SV2NAPAMINEs_00009	11/19/22	Ultra Scientific, Lot Cs-5614			(Purchased Reagent)		2-Naphthylamine	1000 ug/mL
..sv712dimbenza_00012	05/31/21	Absolute, Lot 053116			(Purchased Reagent)		7,12-Dimethylbenz(a)anthracene	1000 ug/mL
..SVLIST1/STD1_00001	05/31/20	Restek, Lot A0143135			(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							Methylphenol, 3 & 4	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
..SVLIST1/STD11_00002	05/31/20		Restek, Lot A0143627		(Purchased Reagent)		Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
..SVLIST1/STD9_00003	05/31/20		Restek, Lot A0143498		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
							Benzidine	2000 ug/mL
..SVLVstd10_00012	08/31/20		Restek, Lot A0145854		(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
..SVLVSURRSPK_00021	12/31/21		Restek, Lot A0123269		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
..svmethylmetha_00012	03/27/22		Absolute, Lot 032717		(Purchased Reagent)		Methyl methanesulfonate	1000 ug/mL
..SVNNITROPYROs_00018	12/28/19		absolute, Lot 122816		(Purchased Reagent)		N-Nitrosopyrrolidine	1000 ug/mL
SVTAPSTD10i_00344	10/11/19	10/04/19	MeCl2, Lot 3327029	1 mL	SVTAPITINTRNi_00021	10 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.SVTAPITINTRNi_00021	01/29/20	01/29/19	MeCl2, Lot 2973424	25 mL	SVLVIntstd_00009	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..SVLVIntstd_00009	01/31/22	Restek, Lot A0123893			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
SVTAPSTD10i_00344	10/11/19	10/04/19	MeCl2, Lot 3327029	1 mL	SVTAPITSTCKi_00022	125 uL	1,1'-Biphenyl	5 ug/mL
							2,2'-oxybis[1-chloropropane]	5 ug/mL
							2,4,5-Trichlorophenol	5 ug/mL
							2,4,6-Trichlorophenol	5 ug/mL
							2,4-Dichlorophenol	5 ug/mL
							2,4-Dimethylphenol	5 ug/mL
							2,4-Dinitrophenol	10 ug/mL
							2,4-Dinitrotoluene	5 ug/mL
							2,6-Dinitrotoluene	5 ug/mL
							2-Chloronaphthalene	5 ug/mL
							2-Chlorophenol	5 ug/mL
							2-Methylnaphthalene	5 ug/mL
							2-Methylphenol	5 ug/mL
							2-Nitroaniline	5 ug/mL
							2-Nitrophenol	5 ug/mL
							3-Nitroaniline	5 ug/mL
							4,6-Dinitro-2-methylphenol	10 ug/mL
							4-Bromophenyl phenyl ether	5 ug/mL
							4-Chloro-3-methylphenol	5 ug/mL
							4-Chloroaniline	5 ug/mL
							4-Chlorophenyl phenyl ether	5 ug/mL
							4-Nitroaniline	5 ug/mL
							4-Nitrophenol	10 ug/mL
							Acenaphthene	5 ug/mL
							Acenaphthylene	5 ug/mL
							Acetophenone	5 ug/mL
							Anthracene	5 ug/mL
							Benzo[a]anthracene	5 ug/mL
							Benzo[a]pyrene	5 ug/mL
							Benzo[b]fluoranthene	5 ug/mL
							Benzo[g,h,i]perylene	5 ug/mL
							Benzo[k]fluoranthene	5 ug/mL
							Bis(2-chloroethoxy)methane	5 ug/mL
							Bis(2-chloroethyl)ether	5 ug/mL
							Bis(2-ethylhexyl) phthalate	5 ug/mL
							Butyl benzyl phthalate	5 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Carbazole	5 ug/mL
							Chrysene	5 ug/mL
							Di-n-butyl phthalate	5 ug/mL
							Di-n-octyl phthalate	5 ug/mL
							Dibenz(a,h)anthracene	5 ug/mL
							Dibenzofuran	5 ug/mL
							Diethyl phthalate	5 ug/mL
							Dimethyl phthalate	5 ug/mL
							Fluoranthene	5 ug/mL
							Fluorene	5 ug/mL
							Hexachlorobenzene	5 ug/mL
							Hexachlorobutadiene	5 ug/mL
							Hexachlorocyclopentadiene	5 ug/mL
							Hexachloroethane	5 ug/mL
							Indeno[1,2,3-cd]pyrene	5 ug/mL
							Isophorone	5 ug/mL
							Methylphenol, 3 & 4	5 ug/mL
							N-Nitrosodi-n-propylamine	5 ug/mL
							N-Nitrosodiphenylamine	5 ug/mL
							Naphthalene	5 ug/mL
							Nitrobenzene	5 ug/mL
							Pentachlorophenol	10 ug/mL
							Phenanthrene	5 ug/mL
							Phenol	5 ug/mL
							Pyrene	5 ug/mL
							Pyridine	10 ug/mL
							Atrazine	5 ug/mL
							Benzaldehyde	5 ug/mL
							Caprolactam	5 ug/mL
							3,3'-Dichlorobenzidine	5 ug/mL
							2,4,6-Tribromophenol (Surr)	5 ug/mL
							2-Fluorobiphenyl	5 ug/mL
							2-Fluorophenol (Surr)	5 ug/mL
							Nitrobenzene-d5 (Surr)	5 ug/mL
							Phenol-d5 (Surr)	5 ug/mL
							Terphenyl-d14 (Surr)	5 ug/mL
.SVTAPITSTCKi_00022	12/20/19	05/20/19	MeCl2, Lot 3157036	20 mL	SVLIST1/STD1_00001	800 uL	1,1'-Biphenyl	40 ug/mL
							2,2'-oxybis[1-chloropropane]	40 ug/mL
							2,4,5-Trichlorophenol	40 ug/mL
							2,4,6-Trichlorophenol	40 ug/mL
							2,4-Dichlorophenol	40 ug/mL
							2,4-Dimethylphenol	40 ug/mL
							2,4-Dinitrophenol	80 ug/mL
							2,4-Dinitrotoluene	40 ug/mL
							2,6-Dinitrotoluene	40 ug/mL
							2-Chloronaphthalene	40 ug/mL
							2-Chlorophenol	40 ug/mL
							2-Methylnaphthalene	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Methylphenol	40 ug/mL
							2-Nitroaniline	40 ug/mL
							2-Nitrophenol	40 ug/mL
							3-Nitroaniline	40 ug/mL
							4,6-Dinitro-2-methylphenol	80 ug/mL
							4-Bromophenyl phenyl ether	40 ug/mL
							4-Chloro-3-methylphenol	40 ug/mL
							4-Chloroaniline	40 ug/mL
							4-Chlorophenyl phenyl ether	40 ug/mL
							4-Nitroaniline	40 ug/mL
							4-Nitrophenol	80 ug/mL
							Acenaphthene	40 ug/mL
							Acenaphthylene	40 ug/mL
							Acetophenone	40 ug/mL
							Anthracene	40 ug/mL
							Benzo[a]anthracene	40 ug/mL
							Benzo[a]pyrene	40 ug/mL
							Benzo[b]fluoranthene	40 ug/mL
							Benzo[g,h,i]perylene	40 ug/mL
							Benzo[k]fluoranthene	40 ug/mL
							Bis(2-chloroethoxy)methane	40 ug/mL
							Bis(2-chloroethyl)ether	40 ug/mL
							Bis(2-ethylhexyl) phthalate	40 ug/mL
							Butyl benzyl phthalate	40 ug/mL
							Carbazole	40 ug/mL
							Chrysene	40 ug/mL
							Di-n-butyl phthalate	40 ug/mL
							Di-n-octyl phthalate	40 ug/mL
							Dibenz(a,h)anthracene	40 ug/mL
							Dibenzofuran	40 ug/mL
							Diethyl phthalate	40 ug/mL
							Dimethyl phthalate	40 ug/mL
							Fluoranthene	40 ug/mL
							Fluorene	40 ug/mL
							Hexachlorobenzene	40 ug/mL
							Hexachlorobutadiene	40 ug/mL
							Hexachlorocyclopentadiene	40 ug/mL
							Hexachloroethane	40 ug/mL
							Indeno[1,2,3-cd]pyrene	40 ug/mL
							Isophorone	40 ug/mL
							Methylphenol, 3 & 4	40 ug/mL
							N-Nitrosodi-n-propylamine	40 ug/mL
							N-Nitrosodiphenylamine	40 ug/mL
							Naphthalene	40 ug/mL
							Nitrobenzene	40 ug/mL
							Pentachlorophenol	80 ug/mL
							Phenanthrene	40 ug/mL
							Phenol	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Pyrene	40 ug/mL
							Pyridine	80 ug/mL
					SVLIST1/STD11_00002	400 uL	Atrazine	40 ug/mL
							Benzaldehyde	40 ug/mL
							Caprolactam	40 ug/mL
					SVLIST1/STD9_00003	400 uL	3,3'-Dichlorobenzidine	40 ug/mL
					SVLVSURRSPK_00021	160 uL	2,4,6-Tribromophenol (Surr)	40 ug/mL
							2-Fluorobiphenyl	40 ug/mL
							2-Fluorophenol (Surr)	40 ug/mL
							Nitrobenzene-d5 (Surr)	40 ug/mL
							Phenol-d5 (Surr)	40 ug/mL
							Terphenyl-d14 (Surr)	40 ug/mL
..SVLIST1/STD1_00001	05/31/20		Restek, Lot A0143135		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Anthracene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							Methylphenol, 3 & 4	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
..SVLIST1/STD11_00002	05/31/20		Restek, Lot A0143627		(Purchased Reagent)		Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
..SVLIST1/STD9_00003	05/31/20		Restek, Lot A0143498		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
..SVLVSURRSPK_00021	12/31/21		Restek, Lot A0123269		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
SVTAPSTD2.0i_00020	12/20/19	05/20/19	MeCl2, Lot 3157036	1 mL	SVTAPITINTRNi_00021	10 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
					SVTAPITSTCKi_00022	25 uL	Benzo[e]pyrene	1 ug/mL
							2,3,5,6-Tetrachlorophenol	1 ug/mL
							2-Naphthylamine	1 ug/mL
							7,12-Dimethylbenz(a)anthracene	1 ug/mL
							1,1'-Biphenyl	1 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,4,5-Tetrachlorobenzene	1 ug/mL
							1,2,4-Trichlorobenzene	1 ug/mL
							1,2-Dichlorobenzene	1 ug/mL
							1,2-Diphenylhydrazine	1 ug/mL
							1,3-Dichlorobenzene	1 ug/mL
							1,3-Dinitrobenzene	1 ug/mL
							1,4-Dichlorobenzene	1 ug/mL
							1,4-Dioxane	1 ug/mL
							1-Methylnaphthalene	1 ug/mL
							2,2'-oxybis[1-chloropropane]	1 ug/mL
							2,3,4,6-Tetrachlorophenol	1 ug/mL
							2,4,5-Trichlorophenol	1 ug/mL
							2,4,6-Trichlorophenol	1 ug/mL
							2,4-Dichlorophenol	1 ug/mL
							2,4-Dimethylphenol	1 ug/mL
							2,4-Dinitrophenol	2 ug/mL
							2,4-Dinitrotoluene	1 ug/mL
							2,6-Dichlorophenol	1 ug/mL
							2,6-Dinitrotoluene	1 ug/mL
							2-Chloronaphthalene	1 ug/mL
							2-Chlorophenol	1 ug/mL
							2-Methylnaphthalene	1 ug/mL
							2-Methylphenol	1 ug/mL
							2-Nitroaniline	1 ug/mL
							2-Nitrophenol	1 ug/mL
							3-Nitroaniline	1 ug/mL
							4,6-Dinitro-2-methylphenol	2 ug/mL
							4-Bromophenyl phenyl ether	1 ug/mL
							4-Chloro-3-methylphenol	1 ug/mL
							4-Chloroaniline	1 ug/mL
							4-Chlorophenyl phenyl ether	1 ug/mL
							4-Nitroaniline	1 ug/mL
							4-Nitrophenol	2 ug/mL
							Acenaphthene	1 ug/mL
							Acenaphthylene	1 ug/mL
							Acetophenone	1 ug/mL
							Aniline	1 ug/mL
							Anthracene	1 ug/mL
							Azobenzene	1 ug/mL
							Benzo[a]anthracene	1 ug/mL
							Benzo[a]pyrene	1 ug/mL
							Benzo[b]fluoranthene	1 ug/mL
							Benzo[g,h,i]perylene	1 ug/mL
							Benzo[k]fluoranthene	1 ug/mL
							Benzyl alcohol	1 ug/mL
							Bis(2-chloroethoxy)methane	1 ug/mL
							Bis(2-chloroethyl)ether	1 ug/mL
							Bis(2-ethylhexyl) phthalate	1 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Butyl benzyl phthalate	1 ug/mL
							Carbazole	1 ug/mL
							Chrysene	1 ug/mL
							Di-n-butyl phthalate	1 ug/mL
							Di-n-octyl phthalate	1 ug/mL
							Dibenz(a,h)anthracene	1 ug/mL
							Dibenzofuran	1 ug/mL
							Diethyl phthalate	1 ug/mL
							Dimethyl phthalate	1 ug/mL
							Fluoranthene	1 ug/mL
							Fluorene	1 ug/mL
							Hexachlorobenzene	1 ug/mL
							Hexachlorobutadiene	1 ug/mL
							Hexachlorocyclopentadiene	1 ug/mL
							Hexachloroethane	1 ug/mL
							Hexadecane	1 ug/mL
							Indeno[1,2,3-cd]pyrene	1 ug/mL
							Isophorone	1 ug/mL
							Methylphenol, 3 & 4	1 ug/mL
							n-Decane	1 ug/mL
							N-Nitrosodi-n-propylamine	1 ug/mL
							N-Nitrosodimethylamine	1 ug/mL
							N-Nitrosodiphenylamine	1 ug/mL
							n-Octadecane	1 ug/mL
							Naphthalene	1 ug/mL
							Nitrobenzene	1 ug/mL
							Pentachlorophenol	2 ug/mL
							Phenanthrene	1 ug/mL
							Phenol	1 ug/mL
							Pyrene	1 ug/mL
							Pyridine	2 ug/mL
							Atrazine	1 ug/mL
							Benzaldehyde	1 ug/mL
							Caprolactam	1 ug/mL
							3,3'-Dichlorobenzidine	1 ug/mL
							Benzidine	1 ug/mL
							Benzoic acid	1 ug/mL
							Indene	1 ug/mL
							2,4,6-Tribromophenol (Surr)	1 ug/mL
							2-Fluorobiphenyl	1 ug/mL
							2-Fluorophenol (Surr)	1 ug/mL
							Nitrobenzene-d5 (Surr)	1 ug/mL
							Phenol-d5 (Surr)	1 ug/mL
							Terphenyl-d14 (Surr)	1 ug/mL
							Methyl methanesulfonate	1 ug/mL
							N-Nitrosopyrrolidine	1 ug/mL
.SVTAPITINTRNi_00021	01/29/20	01/29/19	MeCl2, Lot 2973424	25 mL	SVLVIntstd_00009	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..SVLVIntstd_00009	01/31/22	Restek, Lot A0123893			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.SVTAPITSTCKi_00022	12/20/19	05/20/19	MeCl2, Lot 3157036	20 mL	sv benzoepyre_00005	800 uL	Benzo[e]pyrene	40 ug/mL
					SV2356TCPs_00004	800 uL	2,3,5,6-Tetrachlorophenol	40 ug/mL
					SV2NAPAMINEs_00009	800 uL	2-Naphthylamine	40 ug/mL
					sv712dimbenza_00012	800 uL	7,12-Dimethylbenz(a)anthracene	40 ug/mL
					SVLIST1/STD1_00001	800 uL	1,1'-Biphenyl	40 ug/mL
							1,2,4,5-Tetrachlorobenzene	40 ug/mL
							1,2,4-Trichlorobenzene	40 ug/mL
							1,2-Dichlorobenzene	40 ug/mL
							1,2-Diphenylhydrazine	40 ug/mL
							1,3-Dichlorobenzene	40 ug/mL
							1,3-Dinitrobenzene	40 ug/mL
							1,4-Dichlorobenzene	40 ug/mL
							1,4-Dioxane	40 ug/mL
							1-Methylnaphthalene	40 ug/mL
							2,2'-oxybis[1-chloropropane]	40 ug/mL
							2,3,4,6-Tetrachlorophenol	40 ug/mL
							2,4,5-Trichlorophenol	40 ug/mL
							2,4,6-Trichlorophenol	40 ug/mL
							2,4-Dichlorophenol	40 ug/mL
							2,4-Dimethylphenol	40 ug/mL
							2,4-Dinitrophenol	80 ug/mL
							2,4-Dinitrotoluene	40 ug/mL
							2,6-Dichlorophenol	40 ug/mL
							2,6-Dinitrotoluene	40 ug/mL
							2-Chloronaphthalene	40 ug/mL
							2-Chlorophenol	40 ug/mL
							2-Methylnaphthalene	40 ug/mL
							2-Methylphenol	40 ug/mL
							2-Nitroaniline	40 ug/mL
							2-Nitrophenol	40 ug/mL
							3-Nitroaniline	40 ug/mL
							4,6-Dinitro-2-methylphenol	80 ug/mL
							4-Bromophenyl phenyl ether	40 ug/mL
							4-Chloro-3-methylphenol	40 ug/mL
							4-Chloroaniline	40 ug/mL
							4-Chlorophenyl phenyl ether	40 ug/mL
							4-Nitroaniline	40 ug/mL
							4-Nitrophenol	80 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Acenaphthene	40 ug/mL
							Acenaphthylene	40 ug/mL
							Acetophenone	40 ug/mL
							Aniline	40 ug/mL
							Anthracene	40 ug/mL
							Azobenzene	40 ug/mL
							Benzo[a]anthracene	40 ug/mL
							Benzo[a]pyrene	40 ug/mL
							Benzo[b]fluoranthene	40 ug/mL
							Benzo[g,h,i]perylene	40 ug/mL
							Benzo[k]fluoranthene	40 ug/mL
							Benzyl alcohol	40 ug/mL
							Bis(2-chloroethoxy)methane	40 ug/mL
							Bis(2-chloroethyl)ether	40 ug/mL
							Bis(2-ethylhexyl) phthalate	40 ug/mL
							Butyl benzyl phthalate	40 ug/mL
							Carbazole	40 ug/mL
							Chrysene	40 ug/mL
							Di-n-butyl phthalate	40 ug/mL
							Di-n-octyl phthalate	40 ug/mL
							Dibenz(a,h)anthracene	40 ug/mL
							Dibenzofuran	40 ug/mL
							Diethyl phthalate	40 ug/mL
							Dimethyl phthalate	40 ug/mL
							Fluoranthene	40 ug/mL
							Fluorene	40 ug/mL
							Hexachlorobenzene	40 ug/mL
							Hexachlorobutadiene	40 ug/mL
							Hexachlorocyclopentadiene	40 ug/mL
							Hexachloroethane	40 ug/mL
							Hexadecane	40 ug/mL
							Indeno[1,2,3-cd]pyrene	40 ug/mL
							Isophorone	40 ug/mL
							Methylphenol, 3 & 4	40 ug/mL
							n-Decane	40 ug/mL
							N-Nitrosodi-n-propylamine	40 ug/mL
							N-Nitrosodimethylamine	40 ug/mL
							N-Nitrosodiphenylamine	40 ug/mL
							n-Octadecane	40 ug/mL
							Naphthalene	40 ug/mL
							Nitrobenzene	40 ug/mL
							Pentachlorophenol	80 ug/mL
							Phenanthrene	40 ug/mL
							Phenol	40 ug/mL
							Pyrene	40 ug/mL
							Pyridine	80 ug/mL
					SVLIST1/STD11_00002	400 uL	Atrazine	40 ug/mL
							Benzaldehyde	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Caprolactam	40 ug/mL
					SVLIST1/STD9_00003	400 uL	3,3'-Dichlorobenzidine	40 ug/mL
							Benzidine	40 ug/mL
					SVLVstd10_00012	400 uL	Benzoic acid	40 ug/mL
							Indene	40 ug/mL
					SVLVSURRSPK_00021	160 uL	2,4,6-Tribromophenol (Surr)	40 ug/mL
							2-Fluorobiphenyl	40 ug/mL
							2-Fluorophenol (Surr)	40 ug/mL
							Nitrobenzene-d5 (Surr)	40 ug/mL
							Phenol-d5 (Surr)	40 ug/mL
							Terphenyl-d14 (Surr)	40 ug/mL
					svmethylmetha_00012	800 uL	Methyl methanesulfonate	40 ug/mL
					SVNNITROPYROs_00018	800 uL	N-Nitrosopyrrolidine	40 ug/mL
..sv benzoepyre_00005	03/17/20	Absolute, Lot 031715			(Purchased Reagent)		Benzo[e]pyrene	1000 ug/mL
..SV2356TCPs_00004	09/21/20	Absolute, Lot 092115			(Purchased Reagent)		2,3,5,6-Tetrachlorophenol	1000 ug/mL
..SV2NAPAMINEs_00009	11/19/22	Ultra Scientific, Lot Cs-5614			(Purchased Reagent)		2-Naphthylamine	1000 ug/mL
..sv712dimbenza_00012	05/31/21	Absolute, Lot 053116			(Purchased Reagent)		7,12-Dimethylbenz(a)anthracene	1000 ug/mL
..SVLIST1/STD1_00001	05/31/20	Restek, Lot A0143135			(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							Methylphenol, 3 & 4	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Pyridine	2000 ug/mL
..SVLIST1/STD11_00002	05/31/20		Restek, Lot A0143627		(Purchased Reagent)		Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
..SVLIST1/STD9_00003	05/31/20		Restek, Lot A0143498		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
							Benzidine	2000 ug/mL
..SVLVstd10_00012	08/31/20		Restek, Lot A0145854		(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
..SVLVSURRSPK_00021	12/31/21		Restek, Lot A0123269		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
..svmethylmetha_00012	03/27/22		Absolute, Lot 032717		(Purchased Reagent)		Methyl methanesulfonate	1000 ug/mL
..SVNNITROPYROs_00018	12/28/19		absolute, Lot 122816		(Purchased Reagent)		N-Nitrosopyrrolidine	1000 ug/mL
SVTAPSTD20i_00017	12/20/19	05/20/19	MeCl2, Lot 3157036	1 mL	SVTAPITINTRNi_00021	10 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
					SVTAPITSTCKi_00022	250 uL	Benzo[e]pyrene	10 ug/mL
							2,3,5,6-Tetrachlorophenol	10 ug/mL
							2-Naphthylamine	10 ug/mL
							7,12-Dimethylbenz(a)anthracene	10 ug/mL
							1,1'-Biphenyl	10 ug/mL
							1,2,4,5-Tetrachlorobenzene	10 ug/mL
							1,2,4-Trichlorobenzene	10 ug/mL
							1,2-Dichlorobenzene	10 ug/mL
							1,2-Diphenylhydrazine	10 ug/mL
							1,3-Dichlorobenzene	10 ug/mL
							1,3-Dinitrobenzene	10 ug/mL
							1,4-Dichlorobenzene	10 ug/mL
							1,4-Dioxane	10 ug/mL
							1-Methylnaphthalene	10 ug/mL
							2,2'-oxybis[1-chloropropane]	10 ug/mL
							2,3,4,6-Tetrachlorophenol	10 ug/mL
							2,4,5-Trichlorophenol	10 ug/mL
							2,4,6-Trichlorophenol	10 ug/mL
							2,4-Dichlorophenol	10 ug/mL
							2,4-Dimethylphenol	10 ug/mL
							2,4-Dinitrophenol	20 ug/mL
							2,4-Dinitrotoluene	10 ug/mL
							2,6-Dichlorophenol	10 ug/mL
							2,6-Dinitrotoluene	10 ug/mL
							2-Chloronaphthalene	10 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Chlorophenol	10 ug/mL
							2-Methylnaphthalene	10 ug/mL
							2-Methylphenol	10 ug/mL
							2-Nitroaniline	10 ug/mL
							2-Nitrophenol	10 ug/mL
							3-Nitroaniline	10 ug/mL
							4,6-Dinitro-2-methylphenol	20 ug/mL
							4-Bromophenyl phenyl ether	10 ug/mL
							4-Chloro-3-methylphenol	10 ug/mL
							4-Chloroaniline	10 ug/mL
							4-Chlorophenyl phenyl ether	10 ug/mL
							4-Nitroaniline	10 ug/mL
							4-Nitrophenol	20 ug/mL
							Acenaphthene	10 ug/mL
							Acenaphthylene	10 ug/mL
							Acetophenone	10 ug/mL
							Aniline	10 ug/mL
							Anthracene	10 ug/mL
							Azobenzene	10 ug/mL
							Benzo[a]anthracene	10 ug/mL
							Benzo[a]pyrene	10 ug/mL
							Benzo[b]fluoranthene	10 ug/mL
							Benzo[g,h,i]perylene	10 ug/mL
							Benzo[k]fluoranthene	10 ug/mL
							Benzyl alcohol	10 ug/mL
							Bis(2-chloroethoxy)methane	10 ug/mL
							Bis(2-chloroethyl)ether	10 ug/mL
							Bis(2-ethylhexyl) phthalate	10 ug/mL
							Butyl benzyl phthalate	10 ug/mL
							Carbazole	10 ug/mL
							Chrysene	10 ug/mL
							Di-n-butyl phthalate	10 ug/mL
							Di-n-octyl phthalate	10 ug/mL
							Dibenz(a,h)anthracene	10 ug/mL
							Dibenzofuran	10 ug/mL
							Diethyl phthalate	10 ug/mL
							Dimethyl phthalate	10 ug/mL
							Fluoranthene	10 ug/mL
							Fluorene	10 ug/mL
							Hexachlorobenzene	10 ug/mL
							Hexachlorobutadiene	10 ug/mL
							Hexachlorocyclopentadiene	10 ug/mL
							Hexachloroethane	10 ug/mL
							Hexadecane	10 ug/mL
							Indeno[1,2,3-cd]pyrene	10 ug/mL
							Isophorone	10 ug/mL
							Methylphenol, 3 & 4	10 ug/mL
							n-Decane	10 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							N-Nitrosodi-n-propylamine	10 ug/mL
							N-Nitrosodimethylamine	10 ug/mL
							N-Nitrosodiphenylamine	10 ug/mL
							n-Octadecane	10 ug/mL
							Naphthalene	10 ug/mL
							Nitrobenzene	10 ug/mL
							Pentachlorophenol	20 ug/mL
							Phenanthrene	10 ug/mL
							Phenol	10 ug/mL
							Pyrene	10 ug/mL
							Pyridine	20 ug/mL
							Atrazine	10 ug/mL
							Benzaldehyde	10 ug/mL
							Caprolactam	10 ug/mL
							3,3'-Dichlorobenzidine	10 ug/mL
							Benzidine	10 ug/mL
							Benzoic acid	10 ug/mL
							Indene	10 ug/mL
							2,4,6-Tribromophenol (Surr)	10 ug/mL
							2-Fluorobiphenyl	10 ug/mL
							2-Fluorophenol (Surr)	10 ug/mL
							Nitrobenzene-d5 (Surr)	10 ug/mL
							Phenol-d5 (Surr)	10 ug/mL
							Terphenyl-d14 (Surr)	10 ug/mL
							Methyl methanesulfonate	10 ug/mL
							N-Nitrosopyrrolidine	10 ug/mL
.SVTAPITINTRNi_00021	01/29/20	01/29/19	MeCl2, Lot 2973424	25 mL	SVLVIntstd_00009	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..SVLVIntstd_00009	01/31/22	Restek, Lot A0123893			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.SVTAPITSTCKi_00022	12/20/19	05/20/19	MeCl2, Lot 3157036	20 mL	sv benzoepyre_00005	800 uL	Benzo[e]pyrene	40 ug/mL
					SV2356TCPs_00004	800 uL	2,3,5,6-Tetrachlorophenol	40 ug/mL
					SV2NAPAMINEs_00009	800 uL	2-Naphthylamine	40 ug/mL
					sv712dimbenza_00012	800 uL	7,12-Dimethylbenz(a)anthracene	40 ug/mL
					SVLIST1/STD1_00001	800 uL	1,1'-Biphenyl	40 ug/mL
							1,2,4,5-Tetrachlorobenzene	40 ug/mL
							1,2,4-Trichlorobenzene	40 ug/mL
							1,2-Dichlorobenzene	40 ug/mL
							1,2-Diphenylhydrazine	40 ug/mL
							1,3-Dichlorobenzene	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,3-Dinitrobenzene	40 ug/mL
							1,4-Dichlorobenzene	40 ug/mL
							1,4-Dioxane	40 ug/mL
							1-Methylnaphthalene	40 ug/mL
							2,2'-oxybis[1-chloropropane]	40 ug/mL
							2,3,4,6-Tetrachlorophenol	40 ug/mL
							2,4,5-Trichlorophenol	40 ug/mL
							2,4,6-Trichlorophenol	40 ug/mL
							2,4-Dichlorophenol	40 ug/mL
							2,4-Dimethylphenol	40 ug/mL
							2,4-Dinitrophenol	80 ug/mL
							2,4-Dinitrotoluene	40 ug/mL
							2,6-Dichlorophenol	40 ug/mL
							2,6-Dinitrotoluene	40 ug/mL
							2-Chloronaphthalene	40 ug/mL
							2-Chlorophenol	40 ug/mL
							2-Methylnaphthalene	40 ug/mL
							2-Methylphenol	40 ug/mL
							2-Nitroaniline	40 ug/mL
							2-Nitrophenol	40 ug/mL
							3-Nitroaniline	40 ug/mL
							4,6-Dinitro-2-methylphenol	80 ug/mL
							4-Bromophenyl phenyl ether	40 ug/mL
							4-Chloro-3-methylphenol	40 ug/mL
							4-Chloroaniline	40 ug/mL
							4-Chlorophenyl phenyl ether	40 ug/mL
							4-Nitroaniline	40 ug/mL
							4-Nitrophenol	80 ug/mL
							Acenaphthene	40 ug/mL
							Acenaphthylene	40 ug/mL
							Acetophenone	40 ug/mL
							Aniline	40 ug/mL
							Anthracene	40 ug/mL
							Azobenzene	40 ug/mL
							Benzo[a]anthracene	40 ug/mL
							Benzo[a]pyrene	40 ug/mL
							Benzo[b]fluoranthene	40 ug/mL
							Benzo[g,h,i]perylene	40 ug/mL
							Benzo[k]fluoranthene	40 ug/mL
							Benzyl alcohol	40 ug/mL
							Bis(2-chloroethoxy)methane	40 ug/mL
							Bis(2-chloroethyl)ether	40 ug/mL
							Bis(2-ethylhexyl) phthalate	40 ug/mL
							Butyl benzyl phthalate	40 ug/mL
							Carbazole	40 ug/mL
							Chrysene	40 ug/mL
							Di-n-butyl phthalate	40 ug/mL
							Di-n-octyl phthalate	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Dibenz(a,h)anthracene	40 ug/mL
							Dibenzofuran	40 ug/mL
							Diethyl phthalate	40 ug/mL
							Dimethyl phthalate	40 ug/mL
							Fluoranthene	40 ug/mL
							Fluorene	40 ug/mL
							Hexachlorobenzene	40 ug/mL
							Hexachlorobutadiene	40 ug/mL
							Hexachlorocyclopentadiene	40 ug/mL
							Hexachloroethane	40 ug/mL
							Hexadecane	40 ug/mL
							Indeno[1,2,3-cd]pyrene	40 ug/mL
							Isophorone	40 ug/mL
							Methylphenol, 3 & 4	40 ug/mL
							n-Decane	40 ug/mL
							N-Nitrosodi-n-propylamine	40 ug/mL
							N-Nitrosodimethylamine	40 ug/mL
							N-Nitrosodiphenylamine	40 ug/mL
							n-Octadecane	40 ug/mL
							Naphthalene	40 ug/mL
							Nitrobenzene	40 ug/mL
							Pentachlorophenol	80 ug/mL
							Phenanthrene	40 ug/mL
							Phenol	40 ug/mL
							Pyrene	40 ug/mL
							Pyridine	80 ug/mL
					SVLIST1/STD11_00002	400 uL	Atrazine	40 ug/mL
							Benzaldehyde	40 ug/mL
							Caprolactam	40 ug/mL
					SVLIST1/STD9_00003	400 uL	3,3'-Dichlorobenzidine	40 ug/mL
							Benzidine	40 ug/mL
					SVLVstd10_00012	400 uL	Benzoic acid	40 ug/mL
							Indene	40 ug/mL
					SVLVSURRSPK_00021	160 uL	2,4,6-Tribromophenol (Surr)	40 ug/mL
							2-Fluorobiphenyl	40 ug/mL
							2-Fluorophenol (Surr)	40 ug/mL
							Nitrobenzene-d5 (Surr)	40 ug/mL
							Phenol-d5 (Surr)	40 ug/mL
							Terphenyl-d14 (Surr)	40 ug/mL
					svmethylmetha_00012	800 uL	Methyl methanesulfonate	40 ug/mL
					SVNNITROPYROs_00018	800 uL	N-Nitrosopyrrolidine	40 ug/mL
..sv benzoepyre_00005	03/17/20	Absolute, Lot 031715			(Purchased Reagent)		Benzo[e]pyrene	1000 ug/mL
..SV2356TCPs_00004	09/21/20	Absolute, Lot 092115			(Purchased Reagent)		2,3,5,6-Tetrachlorophenol	1000 ug/mL
..SV2NAPAMINEs_00009	11/19/22	Ultra Scientific, Lot Cs-5614			(Purchased Reagent)		2-Naphthylamine	1000 ug/mL
..sv712dimbenza_00012	05/31/21	Absolute, Lot 053116			(Purchased Reagent)		7,12-Dimethylbenz(a)anthracene	1000 ug/mL
..SVLIST1/STD1_00001	05/31/20	Restek, Lot A0143135			(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							Methylphenol, 3 & 4	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
..SVLIST1/STD11_00002	05/31/20		Restek, Lot A0143627		(Purchased Reagent)		Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
..SVLIST1/STD9_00003	05/31/20		Restek, Lot A0143498		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
							Benzidine	2000 ug/mL
..SVLVstd10_00012	08/31/20		Restek, Lot A0145854		(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
..SVLVSURRSPK_00021	12/31/21		Restek, Lot A0123269		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
..svmethylmetha_00012	03/27/22		Absolute, Lot 032717		(Purchased Reagent)		Methyl methanesulfonate	1000 ug/mL
..SVNNITROPYROs_00018	12/28/19		absolute, Lot 122816		(Purchased Reagent)		N-Nitrosopyrrolidine	1000 ug/mL
SVTAPSTD4.0i_00019	12/20/19	05/20/19	MeCl2, Lot 3157036	1 mL	SVTAPITINTRNi_00021	10 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
					SVTAPITSTCKi_00022	50 uL	Benzo[e]pyrene	2 ug/mL
							2,3,5,6-Tetrachlorophenol	2 ug/mL
							2-Naphthylamine	2 ug/mL
							7,12-Dimethylbenz(a)anthracene	2 ug/mL
							1,1'-Biphenyl	2 ug/mL
							1,2,4,5-Tetrachlorobenzene	2 ug/mL
							1,2,4-Trichlorobenzene	2 ug/mL
							1,2-Dichlorobenzene	2 ug/mL
							1,2-Diphenylhydrazine	2 ug/mL
							1,3-Dichlorobenzene	2 ug/mL
							1,3-Dinitrobenzene	2 ug/mL
							1,4-Dichlorobenzene	2 ug/mL
							1,4-Dioxane	2 ug/mL
							1-Methylnaphthalene	2 ug/mL
							2,2'-oxybis[1-chloropropane]	2 ug/mL
							2,3,4,6-Tetrachlorophenol	2 ug/mL
							2,4,5-Trichlorophenol	2 ug/mL
							2,4,6-Trichlorophenol	2 ug/mL
							2,4-Dichlorophenol	2 ug/mL
							2,4-Dimethylphenol	2 ug/mL
							2,4-Dinitrophenol	4 ug/mL
							2,4-Dinitrotoluene	2 ug/mL
							2,6-Dichlorophenol	2 ug/mL
							2,6-Dinitrotoluene	2 ug/mL
							2-Chloronaphthalene	2 ug/mL
							2-Chlorophenol	2 ug/mL
							2-Methylnaphthalene	2 ug/mL
							2-Methylphenol	2 ug/mL
							2-Nitroaniline	2 ug/mL
							2-Nitrophenol	2 ug/mL
							3-Nitroaniline	2 ug/mL
							4,6-Dinitro-2-methylphenol	4 ug/mL
							4-Bromophenyl phenyl ether	2 ug/mL
							4-Chloro-3-methylphenol	2 ug/mL
							4-Chloroaniline	2 ug/mL
							4-Chlorophenyl phenyl ether	2 ug/mL
							4-Nitroaniline	2 ug/mL
							4-Nitrophenol	4 ug/mL
							Acenaphthene	2 ug/mL
							Acenaphthylene	2 ug/mL
							Acetophenone	2 ug/mL
							Aniline	2 ug/mL
							Anthracene	2 ug/mL
							Azobenzene	2 ug/mL
							Benzo[a]anthracene	2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[a]pyrene	2 ug/mL
							Benzo[b]fluoranthene	2 ug/mL
							Benzo[g,h,i]perylene	2 ug/mL
							Benzo[k]fluoranthene	2 ug/mL
							Benzyl alcohol	2 ug/mL
							Bis(2-chloroethoxy)methane	2 ug/mL
							Bis(2-chloroethyl)ether	2 ug/mL
							Bis(2-ethylhexyl) phthalate	2 ug/mL
							Butyl benzyl phthalate	2 ug/mL
							Carbazole	2 ug/mL
							Chrysene	2 ug/mL
							Di-n-butyl phthalate	2 ug/mL
							Di-n-octyl phthalate	2 ug/mL
							Dibenz(a,h)anthracene	2 ug/mL
							Dibenzofuran	2 ug/mL
							Diethyl phthalate	2 ug/mL
							Dimethyl phthalate	2 ug/mL
							Fluoranthene	2 ug/mL
							Fluorene	2 ug/mL
							Hexachlorobenzene	2 ug/mL
							Hexachlorobutadiene	2 ug/mL
							Hexachlorocyclopentadiene	2 ug/mL
							Hexachloroethane	2 ug/mL
							Hexadecane	2 ug/mL
							Indeno[1,2,3-cd]pyrene	2 ug/mL
							Isophorone	2 ug/mL
							Methylphenol, 3 & 4	2 ug/mL
							n-Decane	2 ug/mL
							N-Nitrosodi-n-propylamine	2 ug/mL
							N-Nitrosodimethylamine	2 ug/mL
							N-Nitrosodiphenylamine	2 ug/mL
							n-Octadecane	2 ug/mL
							Naphthalene	2 ug/mL
							Nitrobenzene	2 ug/mL
							Pentachlorophenol	4 ug/mL
							Phenanthrene	2 ug/mL
							Phenol	2 ug/mL
							Pyrene	2 ug/mL
							Pyridine	4 ug/mL
							Atrazine	2 ug/mL
							Benzaldehyde	2 ug/mL
							Caprolactam	2 ug/mL
							3,3'-Dichlorobenzidine	2 ug/mL
							Benzidine	2 ug/mL
							Benzoic acid	2 ug/mL
							Indene	2 ug/mL
							2,4,6-Tribromophenol (Surr)	2 ug/mL
							2-Fluorobiphenyl	2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Fluorophenol (Surr)	2 ug/mL
							Nitrobenzene-d5 (Surr)	2 ug/mL
							Phenol-d5 (Surr)	2 ug/mL
							Terphenyl-d14 (Surr)	2 ug/mL
							Methyl methanesulfonate	2 ug/mL
							N-Nitrosopyrrolidine	2 ug/mL
.SVTAPITINTRNi_00021	01/29/20	01/29/19	MeCl2, Lot 2973424	25 mL	SVLVIntstd_00009	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..SVLVIntstd_00009	01/31/22	Restek, Lot A0123893			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.SVTAPITSTCKi_00022	12/20/19	05/20/19	MeCl2, Lot 3157036	20 mL	sv benzoepyre_00005	800 uL	Benzo[e]pyrene	40 ug/mL
					SV2356TCPs_00004	800 uL	2,3,5,6-Tetrachlorophenol	40 ug/mL
					SV2NAPAMINEs_00009	800 uL	2-Naphthylamine	40 ug/mL
					sv712dimbenza_00012	800 uL	7,12-Dimethylbenz(a)anthracene	40 ug/mL
					SVLIST1/STD1_00001	800 uL	1,1'-Biphenyl	40 ug/mL
							1,2,4,5-Tetrachlorobenzene	40 ug/mL
							1,2,4-Trichlorobenzene	40 ug/mL
							1,2-Dichlorobenzene	40 ug/mL
							1,2-Diphenylhydrazine	40 ug/mL
							1,3-Dichlorobenzene	40 ug/mL
							1,3-Dinitrobenzene	40 ug/mL
							1,4-Dichlorobenzene	40 ug/mL
							1,4-Dioxane	40 ug/mL
							1-Methylnaphthalene	40 ug/mL
							2,2'-oxybis[1-chloropropane]	40 ug/mL
							2,3,4,6-Tetrachlorophenol	40 ug/mL
							2,4,5-Trichlorophenol	40 ug/mL
							2,4,6-Trichlorophenol	40 ug/mL
							2,4-Dichlorophenol	40 ug/mL
							2,4-Dimethylphenol	40 ug/mL
							2,4-Dinitrophenol	80 ug/mL
							2,4-Dinitrotoluene	40 ug/mL
							2,6-Dichlorophenol	40 ug/mL
							2,6-Dinitrotoluene	40 ug/mL
							2-Chloronaphthalene	40 ug/mL
							2-Chlorophenol	40 ug/mL
							2-Methylnaphthalene	40 ug/mL
							2-Methylphenol	40 ug/mL
							2-Nitroaniline	40 ug/mL
							2-Nitrophenol	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							3-Nitroaniline	40 ug/mL
							4,6-Dinitro-2-methylphenol	80 ug/mL
							4-Bromophenyl phenyl ether	40 ug/mL
							4-Chloro-3-methylphenol	40 ug/mL
							4-Chloroaniline	40 ug/mL
							4-Chlorophenyl phenyl ether	40 ug/mL
							4-Nitroaniline	40 ug/mL
							4-Nitrophenol	80 ug/mL
							Acenaphthene	40 ug/mL
							Acenaphthylene	40 ug/mL
							Acetophenone	40 ug/mL
							Aniline	40 ug/mL
							Anthracene	40 ug/mL
							Azobenzene	40 ug/mL
							Benzo[a]anthracene	40 ug/mL
							Benzo[a]pyrene	40 ug/mL
							Benzo[b]fluoranthene	40 ug/mL
							Benzo[g,h,i]perylene	40 ug/mL
							Benzo[k]fluoranthene	40 ug/mL
							Benzyl alcohol	40 ug/mL
							Bis(2-chloroethoxy)methane	40 ug/mL
							Bis(2-chloroethyl)ether	40 ug/mL
							Bis(2-ethylhexyl) phthalate	40 ug/mL
							Butyl benzyl phthalate	40 ug/mL
							Carbazole	40 ug/mL
							Chrysene	40 ug/mL
							Di-n-butyl phthalate	40 ug/mL
							Di-n-octyl phthalate	40 ug/mL
							Dibenz(a,h)anthracene	40 ug/mL
							Dibenzofuran	40 ug/mL
							Diethyl phthalate	40 ug/mL
							Dimethyl phthalate	40 ug/mL
							Fluoranthene	40 ug/mL
							Fluorene	40 ug/mL
							Hexachlorobenzene	40 ug/mL
							Hexachlorobutadiene	40 ug/mL
							Hexachlorocyclopentadiene	40 ug/mL
							Hexachloroethane	40 ug/mL
							Hexadecane	40 ug/mL
							Indeno[1,2,3-cd]pyrene	40 ug/mL
							Isophorone	40 ug/mL
							Methylphenol, 3 & 4	40 ug/mL
							n-Decane	40 ug/mL
							N-Nitrosodi-n-propylamine	40 ug/mL
							N-Nitrosodimethylamine	40 ug/mL
							N-Nitrosodiphenylamine	40 ug/mL
							n-Octadecane	40 ug/mL
							Naphthalene	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Nitrobenzene	40 ug/mL
							Pentachlorophenol	80 ug/mL
							Phenanthrene	40 ug/mL
							Phenol	40 ug/mL
							Pyrene	40 ug/mL
							Pyridine	80 ug/mL
					SVLIST1/STD11_00002	400 uL	Atrazine	40 ug/mL
							Benzaldehyde	40 ug/mL
							Caprolactam	40 ug/mL
					SVLIST1/STD9_00003	400 uL	3,3'-Dichlorobenzidine	40 ug/mL
							Benzidine	40 ug/mL
					SVLVstd10_00012	400 uL	Benzoic acid	40 ug/mL
							Indene	40 ug/mL
					SVLVSURRSPK_00021	160 uL	2,4,6-Tribromophenol (Surr)	40 ug/mL
							2-Fluorobiphenyl	40 ug/mL
							2-Fluorophenol (Surr)	40 ug/mL
							Nitrobenzene-d5 (Surr)	40 ug/mL
							Phenol-d5 (Surr)	40 ug/mL
							Terphenyl-d14 (Surr)	40 ug/mL
					svmethylmetha_00012	800 uL	Methyl methanesulfonate	40 ug/mL
					SVNNITROPYROs_00018	800 uL	N-Nitrosopyrrolidine	40 ug/mL
..sv benzoepyre_00005	03/17/20	Absolute, Lot 031715			(Purchased Reagent)		Benzo[e]pyrene	1000 ug/mL
..SV2356TCPs_00004	09/21/20	Absolute, Lot 092115			(Purchased Reagent)		2,3,5,6-Tetrachlorophenol	1000 ug/mL
..SV2NAPAMINEs_00009	11/19/22	Ultra Scientific, Lot Cs-5614			(Purchased Reagent)		2-Naphthylamine	1000 ug/mL
..sv712dimbenza_00012	05/31/21	Absolute, Lot 053116			(Purchased Reagent)		7,12-Dimethylbenz(a)anthracene	1000 ug/mL
..SVLIST1/STD1_00001	05/31/20	Restek, Lot A0143135			(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							Methylphenol, 3 & 4	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
..SVLIST1/STD11_00002	05/31/20		Restek, Lot A0143627		(Purchased Reagent)		Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
..SVLIST1/STD9_00003	05/31/20		Restek, Lot A0143498		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
							Benzidine	2000 ug/mL
..SVLVstd10_00012	08/31/20		Restek, Lot A0145854		(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
..SVLVSURRSPK_00021	12/31/21		Restek, Lot A0123269		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
..svmethylmetha_00012	03/27/22		Absolute, Lot 032717		(Purchased Reagent)		Methyl methanesulfonate	1000 ug/mL
..SVNNITROPYROs_00018	12/28/19		absolute, Lot 122816		(Purchased Reagent)		N-Nitrosopyrrolidine	1000 ug/mL
SVTAPSTD40i_00017	12/20/19	05/20/19	MeCl2, Lot 3157036	1 mL	SVTAPITINTRNi_00021	10 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
					SVTAPITSTCKi_00022	500 uL	Benzo[e]pyrene	20 ug/mL
							2,3,5,6-Tetrachlorophenol	20 ug/mL
							2-Naphthylamine	20 ug/mL
							7,12-Dimethylbenz(a)anthracene	20 ug/mL
							1,1'-Biphenyl	20 ug/mL
							1,2,4,5-Tetrachlorobenzene	20 ug/mL
							1,2,4-Trichlorobenzene	20 ug/mL
							1,2-Dichlorobenzene	20 ug/mL
							1,2-Diphenylhydrazine	20 ug/mL
							1,3-Dichlorobenzene	20 ug/mL
							1,3-Dinitrobenzene	20 ug/mL
							1,4-Dichlorobenzene	20 ug/mL
							1,4-Dioxane	20 ug/mL
							1-Methylnaphthalene	20 ug/mL
							2,2'-oxybis[1-chloropropane]	20 ug/mL
							2,3,4,6-Tetrachlorophenol	20 ug/mL
							2,4,5-Trichlorophenol	20 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,4,6-Trichlorophenol	20 ug/mL
							2,4-Dichlorophenol	20 ug/mL
							2,4-Dimethylphenol	20 ug/mL
							2,4-Dinitrophenol	40 ug/mL
							2,4-Dinitrotoluene	20 ug/mL
							2,6-Dichlorophenol	20 ug/mL
							2,6-Dinitrotoluene	20 ug/mL
							2-Chloronaphthalene	20 ug/mL
							2-Chlorophenol	20 ug/mL
							2-Methylnaphthalene	20 ug/mL
							2-Methylphenol	20 ug/mL
							2-Nitroaniline	20 ug/mL
							2-Nitrophenol	20 ug/mL
							3-Nitroaniline	20 ug/mL
							4,6-Dinitro-2-methylphenol	40 ug/mL
							4-Bromophenyl phenyl ether	20 ug/mL
							4-Chloro-3-methylphenol	20 ug/mL
							4-Chloroaniline	20 ug/mL
							4-Chlorophenyl phenyl ether	20 ug/mL
							4-Nitroaniline	20 ug/mL
							4-Nitrophenol	40 ug/mL
							Acenaphthene	20 ug/mL
							Acenaphthylene	20 ug/mL
							Acetophenone	20 ug/mL
							Aniline	20 ug/mL
							Anthracene	20 ug/mL
							Azobenzene	20 ug/mL
							Benzo[a]anthracene	20 ug/mL
							Benzo[a]pyrene	20 ug/mL
							Benzo[b]fluoranthene	20 ug/mL
							Benzo[g,h,i]perylene	20 ug/mL
							Benzo[k]fluoranthene	20 ug/mL
							Benzyl alcohol	20 ug/mL
							Bis(2-chloroethoxy)methane	20 ug/mL
							Bis(2-chloroethyl)ether	20 ug/mL
							Bis(2-ethylhexyl) phthalate	20 ug/mL
							Butyl benzyl phthalate	20 ug/mL
							Carbazole	20 ug/mL
							Chrysene	20 ug/mL
							Di-n-butyl phthalate	20 ug/mL
							Di-n-octyl phthalate	20 ug/mL
							Dibenz(a,h)anthracene	20 ug/mL
							Dibenzofuran	20 ug/mL
							Diethyl phthalate	20 ug/mL
							Dimethyl phthalate	20 ug/mL
							Fluoranthene	20 ug/mL
							Fluorene	20 ug/mL
							Hexachlorobenzene	20 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Hexachlorobutadiene	20 ug/mL
							Hexachlorocyclopentadiene	20 ug/mL
							Hexachloroethane	20 ug/mL
							Hexadecane	20 ug/mL
							Indeno[1,2,3-cd]pyrene	20 ug/mL
							Isophorone	20 ug/mL
							Methylphenol, 3 & 4	20 ug/mL
							n-Decane	20 ug/mL
							N-Nitrosodi-n-propylamine	20 ug/mL
							N-Nitrosodimethylamine	20 ug/mL
							N-Nitrosodiphenylamine	20 ug/mL
							n-Octadecane	20 ug/mL
							Naphthalene	20 ug/mL
							Nitrobenzene	20 ug/mL
							Pentachlorophenol	40 ug/mL
							Phenanthrene	20 ug/mL
							Phenol	20 ug/mL
							Pyrene	20 ug/mL
							Pyridine	40 ug/mL
							Atrazine	20 ug/mL
							Benzaldehyde	20 ug/mL
							Caprolactam	20 ug/mL
							3,3'-Dichlorobenzidine	20 ug/mL
							Benzidine	20 ug/mL
							Benzoic acid	20 ug/mL
							Indene	20 ug/mL
							2,4,6-Tribromophenol (Surr)	20 ug/mL
							2-Fluorobiphenyl	20 ug/mL
							2-Fluorophenol (Surr)	20 ug/mL
							Nitrobenzene-d5 (Surr)	20 ug/mL
							Phenol-d5 (Surr)	20 ug/mL
							Terphenyl-d14 (Surr)	20 ug/mL
							Methyl methanesulfonate	20 ug/mL
							N-Nitrosopyrrolidine	20 ug/mL
.SVTAPITINTRNi_00021	01/29/20	01/29/19	MeCl2, Lot 2973424	25 mL	SVLVIntstd_00009	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..SVLVIntstd_00009	01/31/22	Restek, Lot A0123893			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.SVTAPITSTCKi_00022	12/20/19	05/20/19	MeCl2, Lot 3157036	20 mL	sv benzoepyre_00005	800 uL	Benzo[e]pyrene	40 ug/mL
					SV2356TCPs_00004	800 uL	2,3,5,6-Tetrachlorophenol	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					SV2NAPAMINEs_00009	800 uL	2-Naphthylamine	40 ug/mL
					sv712dimbenza_00012	800 uL	7,12-Dimethylbenz(a)anthracene	40 ug/mL
					SVLIST1/STD1_00001	800 uL	1,1'-Biphenyl	40 ug/mL
							1,2,4,5-Tetrachlorobenzene	40 ug/mL
							1,2,4-Trichlorobenzene	40 ug/mL
							1,2-Dichlorobenzene	40 ug/mL
							1,2-Diphenylhydrazine	40 ug/mL
							1,3-Dichlorobenzene	40 ug/mL
							1,3-Dinitrobenzene	40 ug/mL
							1,4-Dichlorobenzene	40 ug/mL
							1,4-Dioxane	40 ug/mL
							1-Methylnaphthalene	40 ug/mL
							2,2'-oxybis[1-chloropropane]	40 ug/mL
							2,3,4,6-Tetrachlorophenol	40 ug/mL
							2,4,5-Trichlorophenol	40 ug/mL
							2,4,6-Trichlorophenol	40 ug/mL
							2,4-Dichlorophenol	40 ug/mL
							2,4-Dimethylphenol	40 ug/mL
							2,4-Dinitrophenol	80 ug/mL
							2,4-Dinitrotoluene	40 ug/mL
							2,6-Dichlorophenol	40 ug/mL
							2,6-Dinitrotoluene	40 ug/mL
							2-Chloronaphthalene	40 ug/mL
							2-Chlorophenol	40 ug/mL
							2-Methylnaphthalene	40 ug/mL
							2-Methylphenol	40 ug/mL
							2-Nitroaniline	40 ug/mL
							2-Nitrophenol	40 ug/mL
							3-Nitroaniline	40 ug/mL
							4,6-Dinitro-2-methylphenol	80 ug/mL
							4-Bromophenyl phenyl ether	40 ug/mL
							4-Chloro-3-methylphenol	40 ug/mL
							4-Chloroaniline	40 ug/mL
							4-Chlorophenyl phenyl ether	40 ug/mL
							4-Nitroaniline	40 ug/mL
							4-Nitrophenol	80 ug/mL
							Acenaphthene	40 ug/mL
							Acenaphthylene	40 ug/mL
							Acetophenone	40 ug/mL
							Aniline	40 ug/mL
							Anthracene	40 ug/mL
							Azobenzene	40 ug/mL
							Benzo[a]anthracene	40 ug/mL
							Benzo[a]pyrene	40 ug/mL
							Benzo[b]fluoranthene	40 ug/mL
							Benzo[g,h,i]perylene	40 ug/mL
							Benzo[k]fluoranthene	40 ug/mL
							Benzyl alcohol	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Bis(2-chloroethoxy)methane	40 ug/mL
							Bis(2-chloroethyl)ether	40 ug/mL
							Bis(2-ethylhexyl) phthalate	40 ug/mL
							Butyl benzyl phthalate	40 ug/mL
							Carbazole	40 ug/mL
							Chrysene	40 ug/mL
							Di-n-butyl phthalate	40 ug/mL
							Di-n-octyl phthalate	40 ug/mL
							Dibenz(a,h)anthracene	40 ug/mL
							Dibenzofuran	40 ug/mL
							Diethyl phthalate	40 ug/mL
							Dimethyl phthalate	40 ug/mL
							Fluoranthene	40 ug/mL
							Fluorene	40 ug/mL
							Hexachlorobenzene	40 ug/mL
							Hexachlorobutadiene	40 ug/mL
							Hexachlorocyclopentadiene	40 ug/mL
							Hexachloroethane	40 ug/mL
							Hexadecane	40 ug/mL
							Indeno[1,2,3-cd]pyrene	40 ug/mL
							Isophorone	40 ug/mL
							Methylphenol, 3 & 4	40 ug/mL
							n-Decane	40 ug/mL
							N-Nitrosodi-n-propylamine	40 ug/mL
							N-Nitrosodimethylamine	40 ug/mL
							N-Nitrosodiphenylamine	40 ug/mL
							n-Octadecane	40 ug/mL
							Naphthalene	40 ug/mL
							Nitrobenzene	40 ug/mL
							Pentachlorophenol	80 ug/mL
							Phenanthrene	40 ug/mL
							Phenol	40 ug/mL
							Pyrene	40 ug/mL
							Pyridine	80 ug/mL
					SVLIST1/STD11_00002	400 uL	Atrazine	40 ug/mL
							Benzaldehyde	40 ug/mL
							Caprolactam	40 ug/mL
					SVLIST1/STD9_00003	400 uL	3,3'-Dichlorobenzidine	40 ug/mL
							Benzidine	40 ug/mL
					SVLVstd10_00012	400 uL	Benzoic acid	40 ug/mL
							Indene	40 ug/mL
					SVLVSURRSPK_00021	160 uL	2,4,6-Tribromophenol (Surr)	40 ug/mL
							2-Fluorobiphenyl	40 ug/mL
							2-Fluorophenol (Surr)	40 ug/mL
							Nitrobenzene-d5 (Surr)	40 ug/mL
							Phenol-d5 (Surr)	40 ug/mL
							Terphenyl-d14 (Surr)	40 ug/mL
					svmethylmetha_00012	800 uL	Methyl methanesulfonate	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					SVNNITROPYROs_00018	800 uL	N-Nitrosopyrrolidine	40 ug/mL
..sv benzoepyre_00005	03/17/20		Absolute, Lot 031715		(Purchased Reagent)		Benzo[e]pyrene	1000 ug/mL
..SV2356TCPs_00004	09/21/20		Absolute, Lot 092115		(Purchased Reagent)		2,3,5,6-Tetrachlorophenol	1000 ug/mL
..SV2NAPAMINEs_00009	11/19/22		Ultra Scientific, Lot Cs-5614		(Purchased Reagent)		2-Naphthylamine	1000 ug/mL
..sv712dimbenza_00012	05/31/21		Absolute, Lot 053116		(Purchased Reagent)		7,12-Dimethylbenz(a)anthracene	1000 ug/mL
..SVLIST1/STD1_00001	05/31/20		Restek, Lot A0143135		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							Methylphenol, 3 & 4	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
..SVLIST1/STD11_00002	05/31/20		Restek, Lot A0143627		(Purchased Reagent)		Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
..SVLIST1/STD9_00003	05/31/20		Restek, Lot A0143498		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
							Benzidine	2000 ug/mL
..SVLVstd10_00012	08/31/20		Restek, Lot A0145854		(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
..SVLVSURRSPK_00021	12/31/21		Restek, Lot A0123269		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
..svmethylmetha_00012	03/27/22		Absolute, Lot 032717		(Purchased Reagent)		Methyl methanesulfonate	1000 ug/mL
..SVNNITROPYROs_00018	12/28/19		absolute, Lot 122816		(Purchased Reagent)		N-Nitrosopyrrolidine	1000 ug/mL
SVTAPSTD60i_00017	12/20/19	05/20/19	MeCl2, Lot 3157036	1 mL	SVTAPITINTRNi_00021	10 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
					SVTAPITSTCKi_00022	750 uL	Benzo[e]pyrene	30 ug/mL
							2,3,5,6-Tetrachlorophenol	30 ug/mL
							2-Naphthylamine	30 ug/mL
							7,12-Dimethylbenz(a)anthracene	30 ug/mL
							1,1'-Biphenyl	30 ug/mL
							1,2,4,5-Tetrachlorobenzene	30 ug/mL
							1,2,4-Trichlorobenzene	30 ug/mL
							1,2-Dichlorobenzene	30 ug/mL
							1,2-Diphenylhydrazine	30 ug/mL
							1,3-Dichlorobenzene	30 ug/mL
							1,3-Dinitrobenzene	30 ug/mL
							1,4-Dichlorobenzene	30 ug/mL
							1,4-Dioxane	30 ug/mL
							1-Methylnaphthalene	30 ug/mL
							2,2'-oxybis[1-chloropropane]	30 ug/mL
							2,3,4,6-Tetrachlorophenol	30 ug/mL
							2,4,5-Trichlorophenol	30 ug/mL
							2,4,6-Trichlorophenol	30 ug/mL
							2,4-Dichlorophenol	30 ug/mL
							2,4-Dimethylphenol	30 ug/mL
							2,4-Dinitrophenol	60 ug/mL
							2,4-Dinitrotoluene	30 ug/mL
							2,6-Dichlorophenol	30 ug/mL
							2,6-Dinitrotoluene	30 ug/mL
							2-Chloronaphthalene	30 ug/mL
							2-Chlorophenol	30 ug/mL
							2-Methylnaphthalene	30 ug/mL
							2-Methylphenol	30 ug/mL
							2-Nitroaniline	30 ug/mL
							2-Nitrophenol	30 ug/mL
							3-Nitroaniline	30 ug/mL
							4,6-Dinitro-2-methylphenol	60 ug/mL
							4-Bromophenyl phenyl ether	30 ug/mL
							4-Chloro-3-methylphenol	30 ug/mL
							4-Chloroaniline	30 ug/mL
							4-Chlorophenyl phenyl ether	30 ug/mL
							4-Nitroaniline	30 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Nitrophenol	60 ug/mL
							Acenaphthene	30 ug/mL
							Acenaphthylene	30 ug/mL
							Acetophenone	30 ug/mL
							Aniline	30 ug/mL
							Anthracene	30 ug/mL
							Azobenzene	30 ug/mL
							Benzo[a]anthracene	30 ug/mL
							Benzo[a]pyrene	30 ug/mL
							Benzo[b]fluoranthene	30 ug/mL
							Benzo[g,h,i]perylene	30 ug/mL
							Benzo[k]fluoranthene	30 ug/mL
							Benzyl alcohol	30 ug/mL
							Bis(2-chloroethoxy)methane	30 ug/mL
							Bis(2-chloroethyl)ether	30 ug/mL
							Bis(2-ethylhexyl) phthalate	30 ug/mL
							Butyl benzyl phthalate	30 ug/mL
							Carbazole	30 ug/mL
							Chrysene	30 ug/mL
							Di-n-butyl phthalate	30 ug/mL
							Di-n-octyl phthalate	30 ug/mL
							Dibenz(a,h)anthracene	30 ug/mL
							Dibenzofuran	30 ug/mL
							Diethyl phthalate	30 ug/mL
							Dimethyl phthalate	30 ug/mL
							Fluoranthene	30 ug/mL
							Fluorene	30 ug/mL
							Hexachlorobenzene	30 ug/mL
							Hexachlorobutadiene	30 ug/mL
							Hexachlorocyclopentadiene	30 ug/mL
							Hexachloroethane	30 ug/mL
							Hexadecane	30 ug/mL
							Indeno[1,2,3-cd]pyrene	30 ug/mL
							Isophorone	30 ug/mL
							Methylphenol, 3 & 4	30 ug/mL
							n-Decane	30 ug/mL
							N-Nitrosodi-n-propylamine	30 ug/mL
							N-Nitrosodimethylamine	30 ug/mL
							N-Nitrosodiphenylamine	30 ug/mL
							n-Octadecane	30 ug/mL
							Naphthalene	30 ug/mL
							Nitrobenzene	30 ug/mL
							Pentachlorophenol	60 ug/mL
							Phenanthrene	30 ug/mL
							Phenol	30 ug/mL
							Pyrene	30 ug/mL
							Pyridine	60 ug/mL
							Atrazine	30 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzaldehyde	30 ug/mL
							Caprolactam	30 ug/mL
							3,3'-Dichlorobenzidine	30 ug/mL
							Benzidine	30 ug/mL
							Benzoic acid	30 ug/mL
							Indene	30 ug/mL
							2,4,6-Tribromophenol (Surr)	30 ug/mL
							2-Fluorobiphenyl	30 ug/mL
							2-Fluorophenol (Surr)	30 ug/mL
							Nitrobenzene-d5 (Surr)	30 ug/mL
							Phenol-d5 (Surr)	30 ug/mL
							Terphenyl-d14 (Surr)	30 ug/mL
							Methyl methanesulfonate	30 ug/mL
							N-Nitrosopyrrolidine	30 ug/mL
.SVTAPITINTRNi_00021	01/29/20	01/29/19	MeCl2, Lot 2973424	25 mL	SVLVIntstd_00009	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..SVLVIntstd_00009	01/31/22	Restek, Lot A0123893			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.SVTAPITSTCKi_00022	12/20/19	05/20/19	MeCl2, Lot 3157036	20 mL	sv benzoepyre_00005	800 uL	Benzo[e]pyrene	40 ug/mL
					SV2356TCPs_00004	800 uL	2,3,5,6-Tetrachlorophenol	40 ug/mL
					SV2NAPAMINEs_00009	800 uL	2-Naphthylamine	40 ug/mL
					sv712dimbenza_00012	800 uL	7,12-Dimethylbenz(a)anthracene	40 ug/mL
					SVLIST1/STD1_00001	800 uL	1,1'-Biphenyl	40 ug/mL
							1,2,4,5-Tetrachlorobenzene	40 ug/mL
							1,2,4-Trichlorobenzene	40 ug/mL
							1,2-Dichlorobenzene	40 ug/mL
							1,2-Diphenylhydrazine	40 ug/mL
							1,3-Dichlorobenzene	40 ug/mL
							1,3-Dinitrobenzene	40 ug/mL
							1,4-Dichlorobenzene	40 ug/mL
							1,4-Dioxane	40 ug/mL
							1-Methylnaphthalene	40 ug/mL
							2,2'-oxybis[1-chloropropane]	40 ug/mL
							2,3,4,6-Tetrachlorophenol	40 ug/mL
							2,4,5-Trichlorophenol	40 ug/mL
							2,4,6-Trichlorophenol	40 ug/mL
							2,4-Dichlorophenol	40 ug/mL
							2,4-Dimethylphenol	40 ug/mL
							2,4-Dinitrophenol	80 ug/mL
							2,4-Dinitrotoluene	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,6-Dichlorophenol	40 ug/mL
							2,6-Dinitrotoluene	40 ug/mL
							2-Chloronaphthalene	40 ug/mL
							2-Chlorophenol	40 ug/mL
							2-Methylnaphthalene	40 ug/mL
							2-Methylphenol	40 ug/mL
							2-Nitroaniline	40 ug/mL
							2-Nitrophenol	40 ug/mL
							3-Nitroaniline	40 ug/mL
							4,6-Dinitro-2-methylphenol	80 ug/mL
							4-Bromophenyl phenyl ether	40 ug/mL
							4-Chloro-3-methylphenol	40 ug/mL
							4-Chloroaniline	40 ug/mL
							4-Chlorophenyl phenyl ether	40 ug/mL
							4-Nitroaniline	40 ug/mL
							4-Nitrophenol	80 ug/mL
							Acenaphthene	40 ug/mL
							Acenaphthylene	40 ug/mL
							Acetophenone	40 ug/mL
							Aniline	40 ug/mL
							Anthracene	40 ug/mL
							Azobenzene	40 ug/mL
							Benzo[a]anthracene	40 ug/mL
							Benzo[a]pyrene	40 ug/mL
							Benzo[b]fluoranthene	40 ug/mL
							Benzo[g,h,i]perylene	40 ug/mL
							Benzo[k]fluoranthene	40 ug/mL
							Benzyl alcohol	40 ug/mL
							Bis(2-chloroethoxy)methane	40 ug/mL
							Bis(2-chloroethyl)ether	40 ug/mL
							Bis(2-ethylhexyl) phthalate	40 ug/mL
							Butyl benzyl phthalate	40 ug/mL
							Carbazole	40 ug/mL
							Chrysene	40 ug/mL
							Di-n-butyl phthalate	40 ug/mL
							Di-n-octyl phthalate	40 ug/mL
							Dibenz(a,h)anthracene	40 ug/mL
							Dibenzofuran	40 ug/mL
							Diethyl phthalate	40 ug/mL
							Dimethyl phthalate	40 ug/mL
							Fluoranthene	40 ug/mL
							Fluorene	40 ug/mL
							Hexachlorobenzene	40 ug/mL
							Hexachlorobutadiene	40 ug/mL
							Hexachlorocyclopentadiene	40 ug/mL
							Hexachloroethane	40 ug/mL
							Hexadecane	40 ug/mL
							Indeno[1,2,3-cd]pyrene	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Isophorone	40 ug/mL
							Methylphenol, 3 & 4	40 ug/mL
							n-Decane	40 ug/mL
							N-Nitrosodi-n-propylamine	40 ug/mL
							N-Nitrosodimethylamine	40 ug/mL
							N-Nitrosodiphenylamine	40 ug/mL
							n-Octadecane	40 ug/mL
							Naphthalene	40 ug/mL
							Nitrobenzene	40 ug/mL
							Pentachlorophenol	80 ug/mL
							Phenanthrene	40 ug/mL
							Phenol	40 ug/mL
							Pyrene	40 ug/mL
							Pyridine	80 ug/mL
					SVLIST1/STD11_00002	400 uL	Atrazine	40 ug/mL
							Benzaldehyde	40 ug/mL
							Caprolactam	40 ug/mL
					SVLIST1/STD9_00003	400 uL	3,3'-Dichlorobenzidine	40 ug/mL
							Benzidine	40 ug/mL
					SVLVstd10_00012	400 uL	Benzoic acid	40 ug/mL
							Indene	40 ug/mL
					SVLVSURRSPK_00021	160 uL	2,4,6-Tribromophenol (Surr)	40 ug/mL
							2-Fluorobiphenyl	40 ug/mL
							2-Fluorophenol (Surr)	40 ug/mL
							Nitrobenzene-d5 (Surr)	40 ug/mL
							Phenol-d5 (Surr)	40 ug/mL
							Terphenyl-d14 (Surr)	40 ug/mL
					svmethylmetha_00012	800 uL	Methyl methanesulfonate	40 ug/mL
					SVNNITROPYROs_00018	800 uL	N-Nitrosopyrrolidine	40 ug/mL
..sv benzoepyre_00005	03/17/20	Absolute, Lot 031715			(Purchased Reagent)		Benzo[e]pyrene	1000 ug/mL
..SV2356TCPs_00004	09/21/20	Absolute, Lot 092115			(Purchased Reagent)		2,3,5,6-Tetrachlorophenol	1000 ug/mL
..SV2NAPAMINEs_00009	11/19/22	Ultra Scientific, Lot Cs-5614			(Purchased Reagent)		2-Naphthylamine	1000 ug/mL
..sv712dimbenza_00012	05/31/21	Absolute, Lot 053116			(Purchased Reagent)		7,12-Dimethylbenz(a)anthracene	1000 ug/mL
..SVLIST1/STD1_00001	05/31/20	Restek, Lot A0143135			(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							Methylphenol, 3 & 4	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
..SVLIST1/STD11_00002	05/31/20		Restek, Lot A0143627		(Purchased Reagent)		Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
..SVLIST1/STD9_00003	05/31/20		Restek, Lot A0143498		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
							Benzidine	2000 ug/mL
..SVLVstd10_00012	08/31/20		Restek, Lot A0145854		(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
..SVLVSURRSPK_00021	12/31/21		Restek, Lot A0123269		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
..svmethylmetha_00012	03/27/22		Absolute, Lot 032717		(Purchased Reagent)		Methyl methanesulfonate	1000 ug/mL
..SVNNITROPYROs_00018	12/28/19		absolute, Lot 122816		(Purchased Reagent)		N-Nitrosopyrrolidine	1000 ug/mL
SVTAPSTD80i_00017	12/20/19	05/20/19	MeCl2, Lot 3157036	1 mL	SVTAPITINTRNi_00021	10 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
					SVTAPITSTCKi_00022	1000 uL	Benzo[e]pyrene	40 ug/mL
							2,3,5,6-Tetrachlorophenol	40 ug/mL
							2-Naphthylamine	40 ug/mL
							7,12-Dimethylbenz(a)anthracene	40 ug/mL
							1,1'-Biphenyl	40 ug/mL
							1,2,4,5-Tetrachlorobenzene	40 ug/mL
							1,2,4-Trichlorobenzene	40 ug/mL
							1,2-Dichlorobenzene	40 ug/mL
							1,2-Diphenylhydrazine	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,3-Dichlorobenzene	40 ug/mL
							1,3-Dinitrobenzene	40 ug/mL
							1,4-Dichlorobenzene	40 ug/mL
							1,4-Dioxane	40 ug/mL
							1-Methylnaphthalene	40 ug/mL
							2,2'-oxybis[1-chloropropane]	40 ug/mL
							2,3,4,6-Tetrachlorophenol	40 ug/mL
							2,4,5-Trichlorophenol	40 ug/mL
							2,4,6-Trichlorophenol	40 ug/mL
							2,4-Dichlorophenol	40 ug/mL
							2,4-Dimethylphenol	40 ug/mL
							2,4-Dinitrophenol	80 ug/mL
							2,4-Dinitrotoluene	40 ug/mL
							2,6-Dichlorophenol	40 ug/mL
							2,6-Dinitrotoluene	40 ug/mL
							2-Chloronaphthalene	40 ug/mL
							2-Chlorophenol	40 ug/mL
							2-Methylnaphthalene	40 ug/mL
							2-Methylphenol	40 ug/mL
							2-Nitroaniline	40 ug/mL
							2-Nitrophenol	40 ug/mL
							3-Nitroaniline	40 ug/mL
							4,6-Dinitro-2-methylphenol	80 ug/mL
							4-Bromophenyl phenyl ether	40 ug/mL
							4-Chloro-3-methylphenol	40 ug/mL
							4-Chloroaniline	40 ug/mL
							4-Chlorophenyl phenyl ether	40 ug/mL
							4-Nitroaniline	40 ug/mL
							4-Nitrophenol	80 ug/mL
							Acenaphthene	40 ug/mL
							Acenaphthylene	40 ug/mL
							Acetophenone	40 ug/mL
							Aniline	40 ug/mL
							Anthracene	40 ug/mL
							Azobenzene	40 ug/mL
							Benzo[a]anthracene	40 ug/mL
							Benzo[a]pyrene	40 ug/mL
							Benzo[b]fluoranthene	40 ug/mL
							Benzo[g,h,i]perylene	40 ug/mL
							Benzo[k]fluoranthene	40 ug/mL
							Benzyl alcohol	40 ug/mL
							Bis(2-chloroethoxy)methane	40 ug/mL
							Bis(2-chloroethyl)ether	40 ug/mL
							Bis(2-ethylhexyl) phthalate	40 ug/mL
							Butyl benzyl phthalate	40 ug/mL
							Carbazole	40 ug/mL
							Chrysene	40 ug/mL
							Di-n-butyl phthalate	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Di-n-octyl phthalate	40 ug/mL
							Dibenz(a,h)anthracene	40 ug/mL
							Dibenzofuran	40 ug/mL
							Diethyl phthalate	40 ug/mL
							Dimethyl phthalate	40 ug/mL
							Fluoranthene	40 ug/mL
							Fluorene	40 ug/mL
							Hexachlorobenzene	40 ug/mL
							Hexachlorobutadiene	40 ug/mL
							Hexachlorocyclopentadiene	40 ug/mL
							Hexachloroethane	40 ug/mL
							Hexadecane	40 ug/mL
							Indeno[1,2,3-cd]pyrene	40 ug/mL
							Isophorone	40 ug/mL
							Methylphenol, 3 & 4	40 ug/mL
							n-Decane	40 ug/mL
							N-Nitrosodi-n-propylamine	40 ug/mL
							N-Nitrosodimethylamine	40 ug/mL
							N-Nitrosodiphenylamine	40 ug/mL
							n-Octadecane	40 ug/mL
							Naphthalene	40 ug/mL
							Nitrobenzene	40 ug/mL
							Pentachlorophenol	80 ug/mL
							Phenanthrene	40 ug/mL
							Phenol	40 ug/mL
							Pyrene	40 ug/mL
							Pyridine	80 ug/mL
							Atrazine	40 ug/mL
							Benzaldehyde	40 ug/mL
							Caprolactam	40 ug/mL
							3,3'-Dichlorobenzidine	40 ug/mL
							Benzidine	40 ug/mL
							Benzoic acid	40 ug/mL
							Indene	40 ug/mL
							2,4,6-Tribromophenol (Surr)	40 ug/mL
							2-Fluorobiphenyl	40 ug/mL
							2-Fluorophenol (Surr)	40 ug/mL
							Nitrobenzene-d5 (Surr)	40 ug/mL
							Phenol-d5 (Surr)	40 ug/mL
							Terphenyl-d14 (Surr)	40 ug/mL
							Methyl methanesulfonate	40 ug/mL
							N-Nitrosopyrrolidine	40 ug/mL
.SVTAPITINTRNi_00021	01/29/20	01/29/19	MeCl2, Lot 2973424	25 mL	SVLVIntstd_00009	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..SVLVIntstd_00009	01/31/22		Restek, Lot A0123893		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.SVTAPITSTCKi_00022	12/20/19	05/20/19	MeCl2, Lot 3157036	20 mL	sv benzoepyre_00005	800 uL	Benzo[e]pyrene	40 ug/mL
					SV2356TCPs_00004	800 uL	2,3,5,6-Tetrachlorophenol	40 ug/mL
					SV2NAPAMINEs_00009	800 uL	2-Naphthylamine	40 ug/mL
					sv712dimbenza_00012	800 uL	7,12-Dimethylbenz(a)anthracene	40 ug/mL
					SVLIST1/STD1_00001	800 uL	1,1'-Biphenyl	40 ug/mL
							1,2,4,5-Tetrachlorobenzene	40 ug/mL
							1,2,4-Trichlorobenzene	40 ug/mL
							1,2-Dichlorobenzene	40 ug/mL
							1,2-Diphenylhydrazine	40 ug/mL
							1,3-Dichlorobenzene	40 ug/mL
							1,3-Dinitrobenzene	40 ug/mL
							1,4-Dichlorobenzene	40 ug/mL
							1,4-Dioxane	40 ug/mL
							1-Methylnaphthalene	40 ug/mL
							2,2'-oxybis[1-chloropropane]	40 ug/mL
							2,3,4,6-Tetrachlorophenol	40 ug/mL
							2,4,5-Trichlorophenol	40 ug/mL
							2,4,6-Trichlorophenol	40 ug/mL
							2,4-Dichlorophenol	40 ug/mL
							2,4-Dimethylphenol	40 ug/mL
							2,4-Dinitrophenol	80 ug/mL
							2,4-Dinitrotoluene	40 ug/mL
							2,6-Dichlorophenol	40 ug/mL
							2,6-Dinitrotoluene	40 ug/mL
							2-Chloronaphthalene	40 ug/mL
							2-Chlorophenol	40 ug/mL
							2-Methylnaphthalene	40 ug/mL
							2-Methylphenol	40 ug/mL
							2-Nitroaniline	40 ug/mL
							2-Nitrophenol	40 ug/mL
							3-Nitroaniline	40 ug/mL
							4,6-Dinitro-2-methylphenol	80 ug/mL
							4-Bromophenyl phenyl ether	40 ug/mL
							4-Chloro-3-methylphenol	40 ug/mL
							4-Chloroaniline	40 ug/mL
							4-Chlorophenyl phenyl ether	40 ug/mL
							4-Nitroaniline	40 ug/mL
							4-Nitrophenol	80 ug/mL
							Acenaphthene	40 ug/mL
							Acenaphthylene	40 ug/mL
							Acetophenone	40 ug/mL
							Aniline	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Anthracene	40 ug/mL
							Azobenzene	40 ug/mL
							Benzo[a]anthracene	40 ug/mL
							Benzo[a]pyrene	40 ug/mL
							Benzo[b]fluoranthene	40 ug/mL
							Benzo[g,h,i]perylene	40 ug/mL
							Benzo[k]fluoranthene	40 ug/mL
							Benzyl alcohol	40 ug/mL
							Bis(2-chloroethoxy)methane	40 ug/mL
							Bis(2-chloroethyl)ether	40 ug/mL
							Bis(2-ethylhexyl) phthalate	40 ug/mL
							Butyl benzyl phthalate	40 ug/mL
							Carbazole	40 ug/mL
							Chrysene	40 ug/mL
							Di-n-butyl phthalate	40 ug/mL
							Di-n-octyl phthalate	40 ug/mL
							Dibenz(a,h)anthracene	40 ug/mL
							Dibenzofuran	40 ug/mL
							Diethyl phthalate	40 ug/mL
							Dimethyl phthalate	40 ug/mL
							Fluoranthene	40 ug/mL
							Fluorene	40 ug/mL
							Hexachlorobenzene	40 ug/mL
							Hexachlorobutadiene	40 ug/mL
							Hexachlorocyclopentadiene	40 ug/mL
							Hexachloroethane	40 ug/mL
							Hexadecane	40 ug/mL
							Indeno[1,2,3-cd]pyrene	40 ug/mL
							Isophorone	40 ug/mL
							Methylphenol, 3 & 4	40 ug/mL
							n-Decane	40 ug/mL
							N-Nitrosodi-n-propylamine	40 ug/mL
							N-Nitrosodimethylamine	40 ug/mL
							N-Nitrosodiphenylamine	40 ug/mL
							n-Octadecane	40 ug/mL
							Naphthalene	40 ug/mL
							Nitrobenzene	40 ug/mL
							Pentachlorophenol	80 ug/mL
							Phenanthrene	40 ug/mL
							Phenol	40 ug/mL
							Pyrene	40 ug/mL
							Pyridine	80 ug/mL
					SVLIST1/STD11_00002	400 uL	Atrazine	40 ug/mL
							Benzaldehyde	40 ug/mL
							Caprolactam	40 ug/mL
					SVLIST1/STD9_00003	400 uL	3,3'-Dichlorobenzidine	40 ug/mL
							Benzidine	40 ug/mL
					SVLVstd10_00012	400 uL	Benzoic acid	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Indene	40 ug/mL
					SVLVSURRSPK_00021	160 uL	2,4,6-Tribromophenol (Surr)	40 ug/mL
							2-Fluorobiphenyl	40 ug/mL
							2-Fluorophenol (Surr)	40 ug/mL
							Nitrobenzene-d5 (Surr)	40 ug/mL
							Phenol-d5 (Surr)	40 ug/mL
							Terphenyl-d14 (Surr)	40 ug/mL
					svmethylmetha_00012	800 uL	Methyl methanesulfonate	40 ug/mL
					SVNNITROPYROs_00018	800 uL	N-Nitrosopyrrolidine	40 ug/mL
..sv benzoepyre_00005	03/17/20	Absolute, Lot 031715			(Purchased Reagent)		Benzo[e]pyrene	1000 ug/mL
..SV2356TCPs_00004	09/21/20	Absolute, Lot 092115			(Purchased Reagent)		2,3,5,6-Tetrachlorophenol	1000 ug/mL
..SV2NAPAMINEs_00009	11/19/22	Ultra Scientific, Lot Cs-5614			(Purchased Reagent)		2-Naphthylamine	1000 ug/mL
..sv712dimbenza_00012	05/31/21	Absolute, Lot 053116			(Purchased Reagent)		7,12-Dimethylbenz(a)anthracene	1000 ug/mL
..SVLIST1/STD1_00001	05/31/20	Restek, Lot A0143135			(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							Methylphenol, 3 & 4	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
..SVLIST1/STD11_00002	05/31/20	Restek, Lot A0143627			(Purchased Reagent)		Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..SVLIST1/STD9_00003	05/31/20		Restek, Lot A0143498		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
							Benzidine	2000 ug/mL
..SVLVstd10_00012	08/31/20		Restek, Lot A0145854		(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
..SVLVSURRSPK_00021	12/31/21		Restek, Lot A0123269		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
..svmethylmetha_00012	03/27/22		Absolute, Lot 032717		(Purchased Reagent)		Methyl methanesulfonate	1000 ug/mL
..SVNNITROPYROs_00018	12/28/19		absolute, Lot 122816		(Purchased Reagent)		N-Nitrosopyrrolidine	1000 ug/mL
VOA8260INT_00099	10/06/19	09/06/19	Methanol, Lot 3167189	10 mL	VOA8260INTRES_00166	1 mL	1,4-Dichlorobenzene-d4	25 ug/mL
							Chlorobenzene-d5	25 ug/mL
							Fluorobenzene (IS)	25 ug/mL
							TBA-d9 (IS)	500 ug/mL
.VOA8260INTRES_00166	01/31/24		Restek, Lot A0145169		(Purchased Reagent)		1,4-Dichlorobenzene-d4	250 ug/mL
							Chlorobenzene-d5	250 ug/mL
							Fluorobenzene (IS)	250 ug/mL
							TBA-d9 (IS)	5000 ug/mL
VOA8260SURR_00099	10/06/19	09/06/19	Methanol, Lot 3167189	100 mL	VOA8260SURRES_00160	1 mL	1,2-Dichloroethane-d4 (Surr)	25 ug/mL
							4-Bromofluorobenzene (Surr)	25 ug/mL
							Dibromofluoromethane (Surr)	25 ug/mL
							Toluene-d8 (Surr)	25 ug/mL
.VOA8260SURRES_00160	11/30/23		Restek, Lot A0143613		(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Dibromofluoromethane (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
VOA8260VOAPRI_00372	09/19/19	09/12/19	Methanol, Lot 3167194	10 mL	VOA8260GAS1ST_00276	0.1 mL	Bromomethane	25 ug/mL
							Butadiene	25 ug/mL
							Chloroethane	25 ug/mL
							Chloromethane	25 ug/mL
							Dichlorodifluoromethane	25 ug/mL
							Dichlorofluoromethane	25 ug/mL
							Trichlorofluoromethane	25 ug/mL
							Vinyl chloride	25 ug/mL
					VOA8260VOAPRI_00369	1 mL	2-Butanone (MEK)	25 ug/mL
							2-Hexanone	25 ug/mL
							4-Methyl-2-pentanone (MIBK)	25 ug/mL
							Acetone	25 ug/mL
							1,1,1,2-Tetrachloroethane	25 ug/mL
							1,1,1-Trichloroethane	25 ug/mL
							1,1,2,2-Tetrachloroethane	25 ug/mL
							1,1,2-Trichloro-1,2,2-trifluor oethane	25 ug/mL
							1,1,2-Trichloroethane	25 ug/mL
							1,1-Dichloroethane	25 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,1-Dichloroethene	25 ug/mL
							1,1-Dichloropropene	25 ug/mL
							1,2,3-Trichlorobenzene	25 ug/mL
							1,2,3-Trichloropropane	25 ug/mL
							1,2,4-Trichlorobenzene	25 ug/mL
							1,2,4-Trimethylbenzene	25 ug/mL
							1,2-Dibromo-3-Chloropropane	25 ug/mL
							1,2-Dichlorobenzene	25 ug/mL
							1,2-Dichloroethane	25 ug/mL
							1,2-Dichloropropane	25 ug/mL
							1,3,5-Trimethylbenzene	25 ug/mL
							1,3-Dichlorobenzene	25 ug/mL
							1,3-Dichloropropane	25 ug/mL
							1,4-Dichlorobenzene	25 ug/mL
							1,4-Dioxane	500 ug/mL
							2,2-Dichloropropane	25 ug/mL
							2-Chlorotoluene	25 ug/mL
							2-Methyl-2-propanol	250 ug/mL
							3-Chloro-1-propene	25 ug/mL
							4-Chlorotoluene	25 ug/mL
							4-Isopropyltoluene	25 ug/mL
							Acrylonitrile	250 ug/mL
							Benzene	25 ug/mL
							Bromobenzene	25 ug/mL
							Bromoform	25 ug/mL
							Carbon disulfide	25 ug/mL
							Carbon tetrachloride	25 ug/mL
							Chlorobenzene	25 ug/mL
							Chlorobromomethane	25 ug/mL
							Chlorodibromomethane	25 ug/mL
							Chloroform	25 ug/mL
							cis-1,2-Dichloroethene	25 ug/mL
							cis-1,3-Dichloropropene	25 ug/mL
							Cyclohexane	25 ug/mL
							Dibromomethane	25 ug/mL
							Dichlorobromomethane	25 ug/mL
							Ethyl ether	25 ug/mL
							Ethyl methacrylate	25 ug/mL
							Ethylbenzene	25 ug/mL
							Ethylene Dibromide	25 ug/mL
							Hexachlorobutadiene	25 ug/mL
							Hexane	25 ug/mL
							Iodomethane	25 ug/mL
							Isobutyl alcohol	625 ug/mL
							Isopropylbenzene	25 ug/mL
							m-Xylene & p-Xylene	25 ug/mL
							Methyl acetate	50 ug/mL
							Methyl tert-butyl ether	25 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Methylcyclohexane	25 ug/mL
							Methylene Chloride	25 ug/mL
							n-Butylbenzene	25 ug/mL
							n-Heptane	25 ug/mL
							N-Propylbenzene	25 ug/mL
							Naphthalene	25 ug/mL
							o-Xylene	25 ug/mL
							sec-Butylbenzene	25 ug/mL
							Styrene	25 ug/mL
							tert-Butylbenzene	25 ug/mL
							Tetrachloroethene	25 ug/mL
							Tetrahydrofuran	50 ug/mL
							Toluene	25 ug/mL
							trans-1,2-Dichloroethene	25 ug/mL
							trans-1,3-Dichloropropene	25 ug/mL
							trans-1,4-Dichloro-2-butene	25 ug/mL
							Trichloroethene	25 ug/mL
.VOA8260GAS1ST_00276	03/31/21		Restek, Lot A0146651		(Purchased Reagent)		Bromomethane	2500 ug/mL
							Butadiene	2500 ug/mL
							Chloroethane	2500 ug/mL
							Chloromethane	2500 ug/mL
							Dichlorodifluoromethane	2500 ug/mL
							Dichlorofluoromethane	2500 ug/mL
							Trichlorofluoromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
.VOA8260VOAPRI_00369	09/27/19	08/27/19	Methanol, Lot 3167192	10 mL	VOA8260KET1ST_00132	0.2 mL	2-Butanone (MEK)	250 ug/mL
							2-Hexanone	250 ug/mL
							4-Methyl-2-pentanone (MIBK)	250 ug/mL
							Acetone	250 ug/mL
					VOA8260MEGA1_00090	1 mL	1,1,1,2-Tetrachloroethane	250 ug/mL
							1,1,1-Trichloroethane	250 ug/mL
							1,1,2,2-Tetrachloroethane	250 ug/mL
							1,1,2-Trichloro-1,2,2-trifluor oethane	250 ug/mL
							1,1,2-Trichloroethane	250 ug/mL
							1,1-Dichloroethane	250 ug/mL
							1,1-Dichloroethene	250 ug/mL
							1,1-Dichloropropene	250 ug/mL
							1,2,3-Trichlorobenzene	250 ug/mL
							1,2,3-Trichloropropane	250 ug/mL
							1,2,4-Trichlorobenzene	250 ug/mL
							1,2,4-Trimethylbenzene	250 ug/mL
							1,2-Dibromo-3-Chloropropane	250 ug/mL
							1,2-Dichlorobenzene	250 ug/mL
							1,2-Dichloroethane	250 ug/mL
							1,2-Dichloropropane	250 ug/mL
							1,3,5-Trimethylbenzene	250 ug/mL
							1,3-Dichlorobenzene	250 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,3-Dichloropropane	250 ug/mL
							1,4-Dichlorobenzene	250 ug/mL
							1,4-Dioxane	5000 ug/mL
							2,2-Dichloropropane	250 ug/mL
							2-Chlorotoluene	250 ug/mL
							2-Methyl-2-propanol	2500 ug/mL
							3-Chloro-1-propene	250 ug/mL
							4-Chlorotoluene	250 ug/mL
							4-Isopropyltoluene	250 ug/mL
							Acrylonitrile	2500 ug/mL
							Benzene	250 ug/mL
							Bromobenzene	250 ug/mL
							Bromoform	250 ug/mL
							Carbon disulfide	250 ug/mL
							Carbon tetrachloride	250 ug/mL
							Chlorobenzene	250 ug/mL
							Chlorobromomethane	250 ug/mL
							Chlorodibromomethane	250 ug/mL
							Chloroform	250 ug/mL
							cis-1,2-Dichloroethene	250 ug/mL
							cis-1,3-Dichloropropene	250 ug/mL
							Cyclohexane	250 ug/mL
							Dibromomethane	250 ug/mL
							Dichlorobromomethane	250 ug/mL
							Ethyl ether	250 ug/mL
							Ethyl methacrylate	250 ug/mL
							Ethylbenzene	250 ug/mL
							Ethylene Dibromide	250 ug/mL
							Hexachlorobutadiene	250 ug/mL
							Hexane	250 ug/mL
							Iodomethane	250 ug/mL
							Isobutyl alcohol	6250 ug/mL
							Isopropylbenzene	250 ug/mL
							m-Xylene & p-Xylene	250 ug/mL
							Methyl acetate	500 ug/mL
							Methyl tert-butyl ether	250 ug/mL
							Methylcyclohexane	250 ug/mL
							Methylene Chloride	250 ug/mL
							n-Butylbenzene	250 ug/mL
							n-Heptane	250 ug/mL
							N-Propylbenzene	250 ug/mL
							Naphthalene	250 ug/mL
							o-Xylene	250 ug/mL
							sec-Butylbenzene	250 ug/mL
							Styrene	250 ug/mL
							tert-Butylbenzene	250 ug/mL
							Tetrachloroethene	250 ug/mL
							Tetrahydrofuran	500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Toluene	250 ug/mL
							trans-1,2-Dichloroethene	250 ug/mL
							trans-1,3-Dichloropropene	250 ug/mL
							trans-1,4-Dichloro-2-butene	250 ug/mL
							Trichloroethene	250 ug/mL
..VOA8260KET1ST_00132	12/31/21	Restek, Lot A0143988			(Purchased Reagent)		2-Butanone (MEK)	12500 ug/mL
							2-Hexanone	12500 ug/mL
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL
							Acetone	12500 ug/mL
..VOA8260MEGA1_00090	06/30/21	Restek, Lot A0143774			(Purchased Reagent)		1,1,1,2-Tetrachloroethane	2500 ug/mL
							1,1,1-Trichloroethane	2500 ug/mL
							1,1,2,2-Tetrachloroethane	2500 ug/mL
							1,1,2-Trichloro-1,2,2-trifluor oethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,1-Dichloropropene	2500 ug/mL
							1,2,3-Trichlorobenzene	2500 ug/mL
							1,2,3-Trichloropropane	2500 ug/mL
							1,2,4-Trichlorobenzene	2500 ug/mL
							1,2,4-Trimethylbenzene	2500 ug/mL
							1,2-Dibromo-3-Chloropropane	2500 ug/mL
							1,2-Dichlorobenzene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,2-Dichloropropane	2500 ug/mL
							1,3,5-Trimethylbenzene	2500 ug/mL
							1,3-Dichlorobenzene	2500 ug/mL
							1,3-Dichloropropane	2500 ug/mL
							1,4-Dichlorobenzene	2500 ug/mL
							1,4-Dioxane	50000 ug/mL
							2,2-Dichloropropane	2500 ug/mL
							2-Chlorotoluene	2500 ug/mL
							2-Methyl-2-propanol	25000 ug/mL
							3-Chloro-1-propene	2500 ug/mL
							4-Chlorotoluene	2500 ug/mL
							4-Isopropyltoluene	2500 ug/mL
							Acrylonitrile	25000 ug/mL
							Benzene	2500 ug/mL
							Bromobenzene	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon disulfide	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chlorobromomethane	2500 ug/mL
							Chlorodibromomethane	2500 ug/mL
							Chloroform	2500 ug/mL
							cis-1,2-Dichloroethene	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							cis-1,3-Dichloropropene	2500 ug/mL
							Cyclohexane	2500 ug/mL
							Dibromomethane	2500 ug/mL
							Dichlorobromomethane	2500 ug/mL
							Ethyl ether	2500 ug/mL
							Ethyl methacrylate	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Ethylene Dibromide	2500 ug/mL
							Hexachlorobutadiene	2500 ug/mL
							Hexane	2500 ug/mL
							Iodomethane	2500 ug/mL
							Isobutyl alcohol	62500 ug/mL
							Isopropylbenzene	2500 ug/mL
							m-Xylene & p-Xylene	2500 ug/mL
							Methyl acetate	5000 ug/mL
							Methyl tert-butyl ether	2500 ug/mL
							Methylcyclohexane	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							n-Butylbenzene	2500 ug/mL
							n-Heptane	2500 ug/mL
							N-Propylbenzene	2500 ug/mL
							Naphthalene	2500 ug/mL
							o-Xylene	2500 ug/mL
							sec-Butylbenzene	2500 ug/mL
							Styrene	2500 ug/mL
							tert-Butylbenzene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Tetrahydrofuran	5000 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							trans-1,4-Dichloro-2-butene	2500 ug/mL
							Trichloroethene	2500 ug/mL
VOA8260VOAPRI_00373	09/27/19	09/20/19	Methanol, Lot 3167192	10 mL	VOA8260GAS1ST_00277	0.1 mL	Chloroethane	25 ug/mL
							Vinyl chloride	25 ug/mL
					VOA8260VOAPRI_00369	1 mL	1,1,1-Trichloroethane	25 ug/mL
							1,1,2-Trichloroethane	25 ug/mL
							1,1-Dichloroethane	25 ug/mL
							1,1-Dichloroethene	25 ug/mL
							1,2,4-Trichlorobenzene	25 ug/mL
							1,2-Dichlorobenzene	25 ug/mL
							1,2-Dichloroethane	25 ug/mL
							1,2-Dichloropropane	25 ug/mL
							1,3-Dichlorobenzene	25 ug/mL
							1,4-Dichlorobenzene	25 ug/mL
							Benzene	25 ug/mL
							Bromoform	25 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Carbon tetrachloride	25 ug/mL
							Chlorobenzene	25 ug/mL
							Chloroform	25 ug/mL
							cis-1,2-Dichloroethene	25 ug/mL
							cis-1,3-Dichloropropene	25 ug/mL
							Dichlorobromomethane	25 ug/mL
							Ethylbenzene	25 ug/mL
							m-Xylene & p-Xylene	25 ug/mL
							o-Xylene	25 ug/mL
							Tetrachloroethene	25 ug/mL
							Toluene	25 ug/mL
							trans-1,2-Dichloroethene	25 ug/mL
							trans-1,3-Dichloropropene	25 ug/mL
							Trichloroethene	25 ug/mL
							Xylenes, Total	50 ug/mL
.VOA8260GAS1ST_00277	03/31/21		Restek, Lot A0146651		(Purchased Reagent)		Chloroethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
.VOA8260VOAPRI_00369	09/27/19	08/27/19	Methanol, Lot 3167192	10 mL	VOA8260MEGA1_00090	1 mL	1,1,1-Trichloroethane	250 ug/mL
							1,1,2-Trichloroethane	250 ug/mL
							1,1-Dichloroethane	250 ug/mL
							1,1-Dichloroethene	250 ug/mL
							1,2,4-Trichlorobenzene	250 ug/mL
							1,2-Dichlorobenzene	250 ug/mL
							1,2-Dichloroethane	250 ug/mL
							1,2-Dichloropropane	250 ug/mL
							1,3-Dichlorobenzene	250 ug/mL
							1,4-Dichlorobenzene	250 ug/mL
							Benzene	250 ug/mL
							Bromoform	250 ug/mL
							Carbon tetrachloride	250 ug/mL
							Chlorobenzene	250 ug/mL
							Chloroform	250 ug/mL
							cis-1,2-Dichloroethene	250 ug/mL
							cis-1,3-Dichloropropene	250 ug/mL
							Dichlorobromomethane	250 ug/mL
							Ethylbenzene	250 ug/mL
							m-Xylene & p-Xylene	250 ug/mL
							o-Xylene	250 ug/mL
							Tetrachloroethene	250 ug/mL
							Toluene	250 ug/mL
							trans-1,2-Dichloroethene	250 ug/mL
							trans-1,3-Dichloropropene	250 ug/mL
							Trichloroethene	250 ug/mL
							Xylenes, Total	500 ug/mL
..VOA8260MEGA1_00090	06/30/21		Restek, Lot A0143774		(Purchased Reagent)		1,1,1-Trichloroethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,4-Trichlorobenzene	2500 ug/mL
							1,2-Dichlorobenzene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,2-Dichloropropane	2500 ug/mL
							1,3-Dichlorobenzene	2500 ug/mL
							1,4-Dichlorobenzene	2500 ug/mL
							Benzene	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chloroform	2500 ug/mL
							cis-1,2-Dichloroethene	2500 ug/mL
							cis-1,3-Dichloropropene	2500 ug/mL
							Dichlorobromomethane	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							m-Xylene & p-Xylene	2500 ug/mL
							o-Xylene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							Trichloroethene	2500 ug/mL
							Xylenes, Total	5000 ug/mL
VOABFB25_00118							1,2-Dichloroethene, Total	
							1,3-Dichloropropene, Total	
							Tentatively Identified Compound	
							Total BTEX	
							Xylenes, Total	
					VOABFB50_00119	5 mL	BFB	25 ug/mL
.VOABFB50_00119	10/13/19	09/13/19	Methanol, Lot 3167189	50 mL	VOABFBRES_00081	1 mL	BFB	50 ug/mL
..VOABFBRES_00081	11/30/23	Restek, Lot A0142868			(Purchased Reagent)		BFB	2500 ug/mL
voaWKet2ndRes_00043	10/06/19	09/06/19	Methanol, Lot 3167192	50 mL	VOA8260KET2ND_00124	100 uL	2-Butanone (MEK)	25 ug/mL
.VOA8260KET2ND_00124	11/30/21	Restek, Lot A0140456			(Purchased Reagent)		2-Butanone (MEK)	12500 ug/mL
WBODGGAP_00078	07/23/24	HACH, Lot A9206			(Purchased Reagent)		Biochemical Oxygen Demand	198 mg/L
WCODLL 100ppm_00450	10/02/19	10/01/19	DI Water, Lot Super Q	50 mL	WCOD1000P_00025	5 mL	Chemical Oxygen Demand	100 mg/L
.WCOD1000P_00025	04/12/21	LabChem Inc., Lot G137-28			(Purchased Reagent)		Chemical Oxygen Demand	1000 mg/L
WCODLL 10ppm_00448	10/02/19	10/01/19	DI Water, Lot Super Q	50 mL	WCOD1000P_00025	0.5 mL	Chemical Oxygen Demand	10 mg/L
.WCOD1000P_00025	04/12/21	LabChem Inc., Lot G137-28			(Purchased Reagent)		Chemical Oxygen Demand	1000 mg/L
WCODLL 125ppm_00445	10/02/19	10/01/19	DI Water, Lot Super Q	50 mL	WCOD1000P_00025	6.25 mL	Chemical Oxygen Demand	125 mg/L
.WCOD1000P_00025	04/12/21	LabChem Inc., Lot G137-28			(Purchased Reagent)		Chemical Oxygen Demand	1000 mg/L
WCODLL 150ppm_00455	10/02/19	10/01/19	DI Water, Lot Super Q	50 mL	WCOD1000P_00025	7.5 mL	Chemical Oxygen Demand	150 mg/L
.WCOD1000P_00025	04/12/21	LabChem Inc., Lot G137-28			(Purchased Reagent)		Chemical Oxygen Demand	1000 mg/L
WCODLL 25ppm_00448	10/02/19	10/01/19	DI Water, Lot Super Q	50 mL	WCOD1000P_00025	1.25 mL	Chemical Oxygen Demand	25 mg/L
.WCOD1000P_00025	04/12/21	LabChem Inc., Lot G137-28			(Purchased Reagent)		Chemical Oxygen Demand	1000 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
WCODLL 50ppm_00445	10/02/19	10/01/19	DI Water, Lot Super Q	50 mL	WCOD1000P_00025	2.5 mL	Chemical Oxygen Demand	50 mg/L
.WCOD1000P_00025	04/12/21	LabChem Inc., Lot G137-28			(Purchased Reagent)		Chemical Oxygen Demand	1000 mg/L
WCODLL 75ppm_00445	10/02/19	10/01/19	DI Water, Lot Super Q	50 mL	WCOD1000P_00025	3.75 mL	Chemical Oxygen Demand	75 mg/L
.WCOD1000P_00025	04/12/21	LabChem Inc., Lot G137-28			(Purchased Reagent)		Chemical Oxygen Demand	1000 mg/L
WCODLL CCV_00438	10/02/19	10/01/19	DI Water, Lot Super Q	25 mL	WCOD1000P_00025	2.5 mL	Chemical Oxygen Demand	100 mg/L
.WCOD1000P_00025	04/12/21	LabChem Inc., Lot G137-28			(Purchased Reagent)		Chemical Oxygen Demand	1000 mg/L
WCODLL ICVLCS_00445	10/02/19	10/01/19	DI Water, Lot Super Q	25 mL	WCOD1000P_00025	2.5 mL	Chemical Oxygen Demand	100 mg/L
.WCOD1000P_00025	04/12/21	LabChem Inc., Lot G137-28			(Purchased Reagent)		Chemical Oxygen Demand	1000 mg/L
WNH31000P_00027	03/13/20	Lab Chem, Lot H068-14			(Purchased Reagent)		Ammonia, distilled	1000 mg/L
WNH31000S_00017	05/23/20	Lab Chem Inc., Lot H136-09			(Purchased Reagent)		Ammonia, distilled	1000 mg/L
							Ammonia, undistilled	1000 mg/L
WpHBuffer7CCV_00033	09/19/20	LabChem, Lot H250-16			(Purchased Reagent)		pH	7 SU
WpHBuffer7P_00020	07/12/20	Lab Chem, Lot H191-04			(Purchased Reagent)		pH	7 SU
WResPSP_00062	07/31/21	Phenova, Lot 8195-09			(Purchased Reagent)		Total Dissolved Solids	633 mg/L
							Total Suspended Solids	82.3 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
HGIM_02499	10/02/19	10/02/19	HNO3, Lot 0000129810	50 mL	HG7470TA_00025	0.5 mL	Mercury	100 ug/L
					MTHNO3_00123	1 mL	Stock Chemical	14000000 ug/L
.HG7470TA_00025	08/31/20	CPI International, Lot 991303-13			(Purchased Reagent)		Mercury	10 ug/mL
.MTHNO3_00123	06/01/20	Macron, Lot 187388			(Purchased Reagent)		Stock Chemical	70 %
HGIM_02500	10/02/19	10/02/19	HNO3, Lot 0000129810	50 mL	HG7470TA_00026	0.5 mL	Mercury	100 ug/L
					MTHNO3_00123	1 mL	Stock Chemical	14000000 ug/L
.HG7470TA_00026	06/25/20	Inorganic Ventures, Lot N2-HG670218			(Purchased Reagent)		Mercury	10 ug/mL
.MTHNO3_00123	06/01/20	Macron, Lot 187388			(Purchased Reagent)		Stock Chemical	70 %
HRDXNCP_00038	10/16/19	10/16/18	C14, Lot STBH5862	6 mL	HRDXNCP_00037	1.2 mL	1,2,3,4,6,7,9-HpCDD	40 pg/uL
							1,2,3,4,6,7-HxCDD	40 pg/uL
							1,2,3,4,6,8-HxCDF	40 pg/uL
							1,2,3,4,8,9-HxCDF	40 pg/uL
							1,2,3,7-TCDD	40 pg/uL
							1,2,3,8,9-PeCDD	40 pg/uL
							1,2,3,8,9-PeCDF	40 pg/uL
							1,2,3,9-TCDD	40 pg/uL
							1,2,3,9-TCDF	40 pg/uL
							1,2,4,6,7,9-HxCDD	40 pg/uL
							1,2,4,7,9-PeCDD	40 pg/uL
							1,2,8,9-TCDD	40 pg/uL
							1,2,8,9-TCDF	40 pg/uL
							1,3,4,6,8-PeCDF	40 pg/uL
							1,3,6,8-TCDD	40 pg/uL
							1,3,6,8-TCDF	40 pg/uL
							13C-2,3,7,8-TCDD	40 pg/uL
							13C-2,3,7,8-TCDF	40 pg/uL
							2,3,4,7-TCDF	40 pg/uL
							2,3,7,8-TCDD	40 pg/uL
							2,3,7,8-TCDF	40 pg/uL
.HRDXNCP_00037	03/31/25	CIL, Lot ER03111502			(Purchased Reagent)		1,2,3,4,6,7,9-HpCDD	200 ng/mL
							1,2,3,4,6,7-HxCDD	200 ng/mL
							1,2,3,4,6,8-HxCDF	200 ng/mL
							1,2,3,4,8,9-HxCDF	200 ng/mL
							1,2,3,7-TCDD	200 ng/mL
							1,2,3,8,9-PeCDD	200 ng/mL
							1,2,3,8,9-PeCDF	200 ng/mL
							1,2,3,9-TCDD	200 ng/mL
							1,2,3,9-TCDF	200 ng/mL
							1,2,4,6,7,9-HxCDD	200 ng/mL
							1,2,4,7,9-PeCDD	200 ng/mL
							1,2,8,9-TCDD	200 ng/mL
							1,2,8,9-TCDF	200 ng/mL
							1,3,4,6,8-PeCDF	200 ng/mL
							1,3,6,8-TCDD	200 ng/mL
							1,3,6,8-TCDF	200 ng/mL
							13C-2,3,7,8-TCDD	200 ng/mL
							13C-2,3,7,8-TCDF	200 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,3,4,7-TCDF	200 ng/mL
							2,3,7,8-TCDD	200 ng/mL
							2,3,7,8-TCDF	200 ng/mL
HRDXNCP_00040	08/30/20	08/30/19	C14, Lot STBH7678	6 mL	HRDXNCP_00039	1.2 mL	1,2,3,4,6,7,9-HpCDD	40 pg/uL
							1,2,3,4,6,7-HxCDD	40 pg/uL
							1,2,3,4,6,8-HxCDF	40 pg/uL
							1,2,3,4,8,9-HxCDF	40 pg/uL
							1,2,3,7-TCDD	40 pg/uL
							1,2,3,8,9-PeCDD	40 pg/uL
							1,2,3,8,9-PeCDF	40 pg/uL
							1,2,3,9-TCDD	40 pg/uL
							1,2,3,9-TCDF	40 pg/uL
							1,2,4,6,7,9-HxCDD	40 pg/uL
							1,2,4,7,9-PeCDD	40 pg/uL
							1,2,8,9-TCDD	40 pg/uL
							1,2,8,9-TCDF	40 pg/uL
							1,3,4,6,8-PeCDF	40 pg/uL
							1,3,6,8-TCDD	40 pg/uL
							1,3,6,8-TCDF	40 pg/uL
							13C-2,3,7,8-TCDD	40 pg/uL
							13C-2,3,7,8-TCDF	40 pg/uL
							2,3,4,7-TCDF	40 pg/uL
							2,3,7,8-TCDD	40 pg/uL
							2,3,7,8-TCDF	40 pg/uL
.HRDXNCP_00039	03/31/25		CIL, Lot ER03111502		(Purchased Reagent)		1,2,3,4,6,7,9-HpCDD	200 ng/mL
							1,2,3,4,6,7-HxCDD	200 ng/mL
							1,2,3,4,6,8-HxCDF	200 ng/mL
							1,2,3,4,8,9-HxCDF	200 ng/mL
							1,2,3,7-TCDD	200 ng/mL
							1,2,3,8,9-PeCDD	200 ng/mL
							1,2,3,8,9-PeCDF	200 ng/mL
							1,2,3,9-TCDD	200 ng/mL
							1,2,3,9-TCDF	200 ng/mL
							1,2,4,6,7,9-HxCDD	200 ng/mL
							1,2,4,7,9-PeCDD	200 ng/mL
							1,2,8,9-TCDD	200 ng/mL
							1,2,8,9-TCDF	200 ng/mL
							1,3,4,6,8-PeCDF	200 ng/mL
							1,3,6,8-TCDD	200 ng/mL
							1,3,6,8-TCDF	200 ng/mL
							13C-2,3,7,8-TCDD	200 ng/mL
							13C-2,3,7,8-TCDF	200 ng/mL
							2,3,4,7-TCDF	200 ng/mL
							2,3,7,8-TCDD	200 ng/mL
							2,3,7,8-TCDF	200 ng/mL
HRDXNIC_00042	04/29/20	07/02/19	C14, Lot STBH7678	0.5 mL	HRDXNIDA_00303	0.125 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.25 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNSU_00196	0.05 mL	37Cl4-2,3,7,8-TCDD	40 ng/mL
					HRDXNTA_00102	0.5 mL	1,2,3,4,6,7,8-HpCDD	200 ng/mL
							1,2,3,4,6,7,8-HpCDF	200 ng/mL
							1,2,3,4,7,8,9-HpCDF	200 ng/mL
							1,2,3,4,7,8-HxCDD	200 ng/mL
							1,2,3,4,7,8-HxCDF	200 ng/mL
							1,2,3,6,7,8-HxCDD	200 ng/mL
							1,2,3,6,7,8-HxCDF	200 ng/mL
							1,2,3,7,8,9-HxCDD	200 ng/mL
							1,2,3,7,8,9-HxCDF	200 ng/mL
							1,2,3,7,8-PeCDD	200 ng/mL
							1,2,3,7,8-PeCDF	200 ng/mL
							2,3,4,6,7,8-HxCDF	200 ng/mL
							2,3,4,7,8-PeCDF	200 ng/mL
							2,3,7,8-TCDD	40 ng/mL
							2,3,7,8-TCDF	40 ng/mL
							OCDD	400 ng/mL
							OCDF	400 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00102	03/01/25	Wellington Labs, Lot 13PAR0418			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	200 ng/mL
							1,2,3,4,6,7,8-HpCDF	200 ng/mL
							1,2,3,4,7,8,9-HpCDF	200 ng/mL
							1,2,3,4,7,8-HxCDD	200 ng/mL
							1,2,3,4,7,8-HxCDF	200 ng/mL
							1,2,3,6,7,8-HxCDD	200 ng/mL
							1,2,3,6,7,8-HxCDF	200 ng/mL
							1,2,3,7,8,9-HxCDD	200 ng/mL
							1,2,3,7,8,9-HxCDF	200 ng/mL
							1,2,3,7,8-PeCDD	200 ng/mL
							1,2,3,7,8-PeCDF	200 ng/mL
							2,3,4,6,7,8-HxCDF	200 ng/mL
							2,3,4,7,8-PeCDF	200 ng/mL
							2,3,7,8-TCDD	40 ng/mL
							2,3,7,8-TCDF	40 ng/mL
							OCDD	400 ng/mL
							OCDF	400 ng/mL
HRDXNIDA_00390	09/18/20	09/18/19	Acetone, Lot 0000225409	500 mL	HRDXNIDA_00364	5 mL	13C-1,2,3,4,6,7,8-HpCDD	2 pg/uL
							13C-1,2,3,4,6,7,8-HpCDF	2 pg/uL
							13C-2,3,7,8-TCDF	2 pg/uL
							13C-2,3,7,8-TCDD	2 pg/uL
							13C-1,2,3,6,7,8-HxCDF	2 pg/uL
							13C-1,2,3,7,8,9-HxCDF	2 pg/uL
							13C-2,3,4,6,7,8-HxCDF	2 pg/uL
							13C-1,2,3,7,8-PeCDD	2 pg/uL
							13C-1,2,3,7,8-PeCDF	2 pg/uL
							13C-1,2,3,6,7,8-HxCDD	2 pg/uL
							13C-OCDD	4 pg/uL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					HRDXNIDA_00379	2.5 mL	13C-1,2,3,4,7,8,9-HpCDF	2 pg/uL
							13C-2,3,4,7,8-PeCDF	2 pg/uL
							13C-1,2,3,4,7,8-HxCDD	2 pg/uL
							13C-1,2,3,4,7,8-HxCDF	2 pg/uL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIDA_00379	04/11/26	04/11/19	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00375	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00376	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00377	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00378	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00375	05/31/26	CIL, Lot ER04251601			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00376	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00377	06/30/26	CIL, Lot ER04211601			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00378	07/31/27	CIL, Lot ER04211701			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
.HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
..HRDXNIS_00110	09/30/26	CIL, Lot ER08221601			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
..HRDXNIS_00111	01/31/27	CIL, Lot ER11081602			(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
HRDXNL2_00027	04/29/20	07/02/19	C14, Lot STBH7678	1 mL	HRDXNIDA_00303	0.25 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					HRDXNIDA_00364	0.5 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIS_00117	1 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00217	0.625 mL	37Cl4-2,3,7,8-TCDD	0.5 ng/mL
					HRDXNTA_00113	0.125 mL	1,2,3,4,6,7,8-HpCDD	2.5 ng/mL
							1,2,3,4,6,7,8-HpCDF	2.5 ng/mL
							1,2,3,4,7,8,9-HpCDF	2.5 ng/mL
							1,2,3,4,7,8-HxCDD	2.5 ng/mL
							1,2,3,4,7,8-HxCDF	2.5 ng/mL
							1,2,3,6,7,8-HxCDD	2.5 ng/mL
							1,2,3,6,7,8-HxCDF	2.5 ng/mL
							1,2,3,7,8,9-HxCDD	2.5 ng/mL
							1,2,3,7,8,9-HxCDF	2.5 ng/mL
							1,2,3,7,8-PeCDD	2.5 ng/mL
							1,2,3,7,8-PeCDF	2.5 ng/mL
							2,3,4,6,7,8-HxCDF	2.5 ng/mL
							2,3,4,7,8-PeCDF	2.5 ng/mL
							2,3,7,8-TCDD	0.5 ng/mL
							2,3,7,8-TCDF	0.5 ng/mL
							OCDD	5 ng/mL
							OCDF	5 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20		CIL, Lot ER111010-01		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24		CIL, Lot ER08101404		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26		CIL, Lot ER09131601		(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26		CIL, Lot ER03031601		(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26		CIL, Lot ER02241603		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20		CIL, Lot ER100610-01		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20		CIL, Lot ER100610-02		(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21		CIL, Lot ER012111-01		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28		CIL, Lot ER03151801		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27		CIL, Lot ER04051701		(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26		CIL, Lot ER08221601		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27		CIL, Lot ER11081602		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00217	07/01/20	07/01/19	Isooctane, Lot 0000201867	500 mL	HRDXNSU_00196	1000 uL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
..HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
...HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
....HRDXNSU_00187	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00113	05/29/20	05/29/19	Acetone, Lot 00000197752	25 mL	HRDXNTA_00092	0.25 mL	1,2,3,4,6,7,8-HpCDD	20 ng/mL
							1,2,3,4,6,7,8-HpCDF	20 ng/mL
							1,2,3,4,7,8,9-HpCDF	20 ng/mL
							1,2,3,4,7,8-HxCDD	20 ng/mL
							1,2,3,4,7,8-HxCDF	20 ng/mL
							1,2,3,6,7,8-HxCDD	20 ng/mL
							1,2,3,6,7,8-HxCDF	20 ng/mL
							1,2,3,7,8,9-HxCDD	20 ng/mL
							1,2,3,7,8,9-HxCDF	20 ng/mL
							1,2,3,7,8-PeCDD	20 ng/mL
							1,2,3,7,8-PeCDF	20 ng/mL
							2,3,4,6,7,8-HxCDF	20 ng/mL
							2,3,4,7,8-PeCDF	20 ng/mL
							2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL
							OCDD	40 ng/mL
							OCDF	40 ng/mL
..HRDXNTA_00092	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL3_00025	04/29/20	07/02/19	C14, Lot STBH7678	0.5 mL	HRDXNIDA_00303	0.125 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.25 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIS_00117	0.5 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00217	1.25 mL	37Cl4-2,3,7,8-TCDD	2 ng/mL
					HRDXNTA_00113	0.25 mL	1,2,3,4,6,7,8-HpCDD	10 ng/mL
							1,2,3,4,6,7,8-HpCDF	10 ng/mL
							1,2,3,4,7,8,9-HpCDF	10 ng/mL
							1,2,3,4,7,8-HxCDD	10 ng/mL
							1,2,3,4,7,8-HxCDF	10 ng/mL
							1,2,3,6,7,8-HxCDD	10 ng/mL
							1,2,3,6,7,8-HxCDF	10 ng/mL
							1,2,3,7,8,9-HxCDD	10 ng/mL
							1,2,3,7,8,9-HxCDF	10 ng/mL
							1,2,3,7,8-PeCDD	10 ng/mL
							1,2,3,7,8-PeCDF	10 ng/mL
							2,3,4,6,7,8-HxCDF	10 ng/mL
							2,3,4,7,8-PeCDF	10 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,3,7,8-TCDD	2 ng/mL
							2,3,7,8-TCDF	2 ng/mL
							OCDD	20 ng/mL
							OCDF	20 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26	CIL, Lot ER08221601			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27	CIL, Lot ER11081602			(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00217	07/01/20	07/01/19	Isooctane, Lot 0000201867	500 mL	HRDXNSU_00196	1000 uL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
..HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
...HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
....HRDXNSU_00187	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00113	05/29/20	05/29/19	Acetone, Lot 00000197752	25 mL	HRDXNTA_00092	0.25 mL	1,2,3,4,6,7,8-HpCDD	20 ng/mL
							1,2,3,4,6,7,8-HpCDF	20 ng/mL
							1,2,3,4,7,8,9-HpCDF	20 ng/mL
							1,2,3,4,7,8-HxCDD	20 ng/mL
							1,2,3,4,7,8-HxCDF	20 ng/mL
							1,2,3,6,7,8-HxCDD	20 ng/mL
							1,2,3,6,7,8-HxCDF	20 ng/mL
							1,2,3,7,8,9-HxCDD	20 ng/mL
							1,2,3,7,8,9-HxCDF	20 ng/mL
							1,2,3,7,8-PeCDD	20 ng/mL
							1,2,3,7,8-PeCDF	20 ng/mL
							2,3,4,6,7,8-HxCDF	20 ng/mL
							2,3,4,7,8-PeCDF	20 ng/mL
							2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL
							OCDD	40 ng/mL
							OCDF	40 ng/mL
..HRDXNTA_00092	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL4_00084	04/29/20	07/11/19	C14, Lot STBH7678	1 mL	HRDXNIDA_00364	0.5 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIDA_00379	0.25 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIS_00117	1 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00196	0.02 mL	37Cl4-2,3,7,8-TCDD	8 ng/mL
					HRDXNTA_00093	0.025 mL	1,2,3,4,6,7,8-HpCDD	50 ng/mL
							1,2,3,4,6,7,8-HpCDF	50 ng/mL
							1,2,3,4,7,8,9-HpCDF	50 ng/mL
							1,2,3,4,7,8-HxCDD	50 ng/mL
							1,2,3,4,7,8-HxCDF	50 ng/mL
							1,2,3,6,7,8-HxCDD	50 ng/mL
							1,2,3,6,7,8-HxCDF	50 ng/mL
							1,2,3,7,8,9-HxCDD	50 ng/mL
							1,2,3,7,8,9-HxCDF	50 ng/mL
							1,2,3,7,8-PeCDD	50 ng/mL
							1,2,3,7,8-PeCDF	50 ng/mL
							2,3,4,6,7,8-HxCDF	50 ng/mL
							2,3,4,7,8-PeCDF	50 ng/mL
							2,3,7,8-TCDD	10 ng/mL
							2,3,7,8-TCDF	10 ng/mL
							OCDD	100 ng/mL
							OCDF	100 ng/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIDA_00379	04/11/26	04/11/19	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00375	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					HRDXNIDA_00376	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00377	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00378	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00375	05/31/26		CIL, Lot ER04251601		(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00376	01/31/27		CIL, Lot ER01061701		(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00377	06/30/26		CIL, Lot ER04211601		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00378	07/31/27		CIL, Lot ER04211701		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26		CIL, Lot ER08221601		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27		CIL, Lot ER11081602		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00093	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL5_00028	04/29/20	07/02/19	C14, Lot STBH7678	0.2 mL	HRDXNIDA_00303	0.05 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.1 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIS_00117	0.2 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00196	0.02 mL	37Cl4-2,3,7,8-TCDD	40 ng/mL
					HRDXNTA_00093	0.02 mL	1,2,3,4,6,7,8-HpCDD	200 ng/mL
							1,2,3,4,6,7,8-HpCDF	200 ng/mL
							1,2,3,4,7,8,9-HpCDF	200 ng/mL
							1,2,3,4,7,8-HxCDD	200 ng/mL
							1,2,3,4,7,8-HxCDF	200 ng/mL
							1,2,3,6,7,8-HxCDD	200 ng/mL
							1,2,3,6,7,8-HxCDF	200 ng/mL
							1,2,3,7,8,9-HxCDD	200 ng/mL
							1,2,3,7,8,9-HxCDF	200 ng/mL
							1,2,3,7,8-PeCDD	200 ng/mL
							1,2,3,7,8-PeCDF	200 ng/mL
							2,3,4,6,7,8-HxCDF	200 ng/mL
							2,3,4,7,8-PeCDF	200 ng/mL
							2,3,7,8-TCDD	40 ng/mL
							2,3,7,8-TCDF	40 ng/mL
							OCDD	400 ng/mL
							OCDF	400 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNIDA_00357	04/30/26		CIL, Lot ER02241603		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20		CIL, Lot ER100610-01		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20		CIL, Lot ER100610-02		(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21		CIL, Lot ER012111-01		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28		CIL, Lot ER03151801		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27		CIL, Lot ER04051701		(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26		CIL, Lot ER08221601		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27		CIL, Lot ER11081602		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00093	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL6_00024	04/29/20	07/02/19	C14, Lot STBH7678	0.2 mL	HRDXNIDA_00303	0.05 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.1 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIS_00117	0.2 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00196	0.1 mL	37Cl4-2,3,7,8-TCDD	200 ng/mL
					HRDXNTA_00093	0.1 mL	1,2,3,4,6,7,8-HpCDD	1000 ng/mL
							1,2,3,4,6,7,8-HpCDF	1000 ng/mL
							1,2,3,4,7,8,9-HpCDF	1000 ng/mL
							1,2,3,4,7,8-HxCDD	1000 ng/mL
							1,2,3,4,7,8-HxCDF	1000 ng/mL
							1,2,3,6,7,8-HxCDD	1000 ng/mL
							1,2,3,6,7,8-HxCDF	1000 ng/mL
							1,2,3,7,8,9-HxCDD	1000 ng/mL
							1,2,3,7,8,9-HxCDF	1000 ng/mL
							1,2,3,7,8-PeCDD	1000 ng/mL
							1,2,3,7,8-PeCDF	1000 ng/mL
							2,3,4,6,7,8-HxCDF	1000 ng/mL
							2,3,4,7,8-PeCDF	1000 ng/mL
							2,3,7,8-TCDD	200 ng/mL
							2,3,7,8-TCDF	200 ng/mL
							OCDD	2000 ng/mL
							OCDF	2000 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNIDA_00357	04/30/26		CIL, Lot ER02241603		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20		CIL, Lot ER100610-01		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20		CIL, Lot ER100610-02		(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21		CIL, Lot ER012111-01		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28		CIL, Lot ER03151801		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27		CIL, Lot ER04051701		(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26		CIL, Lot ER08221601		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27		CIL, Lot ER11081602		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00093	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNSU_00220	09/18/20	09/18/19	Isooctane, Lot 0000201867	500 mL	HRDXNSU_00196	1000 uL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
HRDXNTA_00116	08/26/20	08/26/19	Acetone, Lot 00000236139	25 mL	HRDXNTA_00093	0.25 mL	1,2,3,4,6,7,8-HpCDD	20 ng/mL
							1,2,3,4,6,7,8-HpCDF	20 ng/mL
							1,2,3,4,7,8,9-HpCDF	20 ng/mL
							1,2,3,4,7,8-HxCDD	20 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,4,7,8-HxCDF	20 ng/mL
							1,2,3,6,7,8-HxCDD	20 ng/mL
							1,2,3,6,7,8-HxCDF	20 ng/mL
							1,2,3,7,8,9-HxCDD	20 ng/mL
							1,2,3,7,8,9-HxCDF	20 ng/mL
							1,2,3,7,8-PeCDD	20 ng/mL
							1,2,3,7,8-PeCDF	20 ng/mL
							2,3,4,6,7,8-HxCDF	20 ng/mL
							2,3,4,7,8-PeCDF	20 ng/mL
							2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL
							OCDD	40 ng/mL
							OCDF	40 ng/mL
.HRDXNTA_00093	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
MT6010CCV_00081	10/17/19	08/16/19	HNO3/HCL, Lot --	500 mL	MT-CALSTD1_00025	250 mL	Aluminum	25 mg/L
							Arsenic	0.5 mg/L
							Barium	2.5 mg/L
							Beryllium	0.5 mg/L
							Cadmium	0.5 mg/L
							Calcium	25 mg/L
							Chromium	2.5 mg/L
							Cobalt	2.5 mg/L
							Copper	2.5 mg/L
							Iron	25 mg/L
							Lead	0.5 mg/L
							Magnesium	25 mg/L
							Manganese	2.5 mg/L
							Nickel	2.5 mg/L
							Phosphorus	2.5 mg/L
							Potassium	25 mg/L
							Selenium	0.5 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Silver	0.5 mg/L
							Sodium	25 mg/L
							Strontium	2.5 mg/L
							Thallium	0.5 mg/L
							Vanadium	2.5 mg/L
							Zinc	2.5 mg/L
							Antimony	0.5 mg/L
							Molybdenum	1 mg/L
.MT-CALSTD1_00025	10/17/19	08/05/19	HNO3/HCL, Lot --	1000 mL	MT6010MIX1_00005	20 mL	Aluminum	50 mg/L
							Arsenic	1 mg/L
							Barium	5 mg/L
							Beryllium	1 mg/L
							Cadmium	1 mg/L
							Calcium	50 mg/L
							Chromium	5 mg/L
							Cobalt	5 mg/L
							Copper	5 mg/L
							Iron	50 mg/L
							Lead	1 mg/L
							Magnesium	50 mg/L
							Manganese	5 mg/L
							Nickel	5 mg/L
							Phosphorus	5 mg/L
							Potassium	50 mg/L
							Selenium	1 mg/L
							Silver	1 mg/L
							Sodium	50 mg/L
							Strontium	5 mg/L
							Thallium	1 mg/L
							Vanadium	5 mg/L
							Zinc	5 mg/L
					MT6010MIX2_00005	20 mL	Antimony	1 mg/L
							Molybdenum	2 mg/L
..MT6010MIX1_00005	03/13/20	Inorganic Ventures, Lot N2-MEB666854			(Purchased Reagent)		Aluminum	2500 mg/L
							Arsenic	50 mg/L
							Barium	250 mg/L
							Beryllium	50 mg/L
							Cadmium	50 mg/L
							Calcium	2500 mg/L
							Chromium	250 mg/L
							Cobalt	250 mg/L
							Copper	250 mg/L
							Iron	2500 mg/L
							Lead	50 mg/L
							Magnesium	2500 mg/L
							Manganese	250 mg/L
							Nickel	250 mg/L
							Phosphorus	250 mg/L

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Potassium	2500 mg/L
							Selenium	50 mg/L
							Silver	50 mg/L
							Sodium	2500 mg/L
							Strontium	250 mg/L
							Thallium	50 mg/L
							Vanadium	250 mg/L
							Zinc	250 mg/L
..MT6010MIX2_00005	03/13/20	Inorganic Ventures, Lot N2-MEB666853			(Purchased Reagent)		Antimony	50 mg/L
							Molybdenum	100 mg/L
MT6010CRI_QSM_00044	11/24/19	09/09/19	HNO3/HCL, Lot --	1000 mL	MTAgXXXTA_00011	0.005 mL	Silver	0.004995 mg/L
					MTAlXXXXTA_00004	0.02 mL	Aluminum	0.2006 mg/L
					MTAsXXXTA_00009	0.04 mL	Arsenic	0.04 mg/L
					MTBaXXXTA_00009	0.02 mL	Barium	0.02 mg/L
					MTBeXXXTA_00008	0.003 mL	Beryllium	0.002988 mg/L
					MTCaXXXXTA_00004	0.05 mL	Calcium	0.4998 mg/L
					MTCdXXXTA_00008	0.003 mL	Cadmium	0.003 mg/L
					MTCoXXXTA_00008	0.01 mL	Cobalt	0.01001 mg/L
					MTCrXXXTA_00009	0.01 mL	Chromium	0.01003 mg/L
					MTCuXXXTA_00008	0.015 mL	Copper	0.014865 mg/L
					MTFeXXXXTA_00005	0.01 mL	Iron	0.1002 mg/L
					MTKXXXXTA_00015	0.1 mL	Potassium	0.9965 mg/L
					MTMgXXXTA_00018	0.05 mL	Magnesium	0.5005 mg/L
					MTMnXXXTA_00008	0.01 mL	Manganese	0.01001 mg/L
					MTMoXXXTA_00008	0.02 mL	Molybdenum	0.01998 mg/L
					MTNaXXXXTA_00004	0.05 mL	Sodium	0.5035 mg/L
					MTNiXXXTA_00008	0.01 mL	Nickel	0.00995 mg/L
					MTPbXXXTA_00010	0.01 mL	Lead	0.01009 mg/L
					MTPXXXTA_00003	0.05 mL	Phosphorus	0.5 mg/L
					MTSbXXXTA_00008	0.03 mL	Antimony	0.03 mg/L
					MTSeXXXTA_00008	0.04 mL	Selenium	0.04016 mg/L
					MTSrXXXTA_00008	0.05 mL	Strontium	0.05 mg/L
					MTTlXXXTA_00009	0.03 mL	Thallium	0.03006 mg/L
					MTVXXXXTA_00009	0.02 mL	Vanadium	0.01996 mg/L
					MTZnXXXTA_00011	0.02 mL	Zinc	0.01994 mg/L
.MTAgXXXTA_00011	11/24/19	Inorganic Ventures, Lot M2-AG666654			(Purchased Reagent)		Silver	999 ug/mL
.MTAlXXXXTA_00004	07/30/20	CPI International, Lot 169484-37			(Purchased Reagent)		Aluminum	10030 ug/mL
.MTAsXXXTA_00009	01/18/20	CPI, Lot 175385-43			(Purchased Reagent)		Arsenic	1000 ug/mL
.MTBaXXXTA_00009	01/16/20	CPI international, Lot 273421-52			(Purchased Reagent)		Barium	1000 ug/mL
.MTBeXXXTA_00008	01/16/20	CPI international, Lot 660981-36			(Purchased Reagent)		Beryllium	996 ug/mL
.MTCaXXXXTA_00004	07/30/20	CPI International, Lot 855297-64			(Purchased Reagent)		Calcium	9996 ug/mL
.MTCdXXXTA_00008	01/16/20	CPI International, Lot 160499-92			(Purchased Reagent)		Cadmium	1000 ug/mL
.MTCoXXXTA_00008	01/16/20	CPI, Lot 161693-95			(Purchased Reagent)		Cobalt	1001 ug/mL
.MTCrXXXTA_00009	01/16/20	CPI International, Lot 975466-53			(Purchased Reagent)		Chromium	1003 ug/mL
.MTCuXXXTA_00008	01/16/20	CPI International, Lot 982446-3			(Purchased Reagent)		Copper	991 ug/mL
.MTFeXXXXTA_00005	07/30/20	CPI International, Lot 998527-9			(Purchased Reagent)		Iron	10020 ug/mL
.MTKXXXXTA_00015	07/30/20	CPI International, Lot 172053-80			(Purchased Reagent)		Potassium	9965 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MTMgXXXTA_00018	07/30/20	CPI International, Lot 982185-24			(Purchased Reagent)		Magnesium	10010 ug/mL
.MTMnXXXTA_00008	01/16/20	CPI International, Lot 167539-78			(Purchased Reagent)		Manganese	1001 ug/mL
.MTMoXXXTA_00008	01/16/20	CPI International, Lot 169424-45			(Purchased Reagent)		Molybdenum	999 ug/mL
.MTNaXXXXTA_00004	07/30/20	CPI International, Lot 752887-33			(Purchased Reagent)		Sodium	10070 ug/mL
.MTNiXXXTA_00008	01/16/20	CPI, Lot 166665-108			(Purchased Reagent)		Nickel	995 ug/mL
.MTPbXXXTA_00010	01/16/20	CPI, Lot 981329-18			(Purchased Reagent)		Lead	1009 ug/mL
.MTPXXXTA_00003	01/16/20	CPI, Lot 451077-22			(Purchased Reagent)		Phosphorus	10000 ug/mL
.MTSbXXXTA_00008	01/16/20	CPI, Lot 153992-34			(Purchased Reagent)		Antimony	1000 ug/mL
.MTSeXXXTA_00008	01/16/20	CPI, Lot 982461-7			(Purchased Reagent)		Selenium	1004 ug/mL
.MTSrXXXTA_00008	01/16/20	CPI, Lot 168227-43			(Purchased Reagent)		Strontium	1000 ug/mL
.MTTlXXXTA_00009	01/16/20	CPI, Lot 148983-92			(Purchased Reagent)		Thallium	1002 ug/mL
.MTVXXXXTA_00009	01/16/20	CPI International, Lot 152207-102			(Purchased Reagent)		Vanadium	998 ug/mL
.MTZnXXXTA_00011	01/16/20	CPI International, Lot 166918-115			(Purchased Reagent)		Zinc	997 ug/mL
MT6010CRI_STD_00028	11/24/19	09/09/19	HNO3/HCL, Lot --	1000 mL	MTAgXXXTA_00011	0.005 mL	Silver	0.004995 mg/L
					MTAlXXXXTA_00004	0.02 mL	Aluminum	0.2006 mg/L
					MTAsXXXTA_00009	0.02 mL	Arsenic	0.02 mg/L
					MTBaXXXTA_00009	0.005 mL	Barium	0.005 mg/L
					MTBeXXXTA_00008	0.002 mL	Beryllium	0.001992 mg/L
					MTCaXXXXTA_00004	0.05 mL	Calcium	0.4998 mg/L
					MTCdXXXTA_00008	0.002 mL	Cadmium	0.002 mg/L
					MTCoXXXTA_00008	0.005 mL	Cobalt	0.005005 mg/L
					MTCrXXXTA_00009	0.005 mL	Chromium	0.005015 mg/L
					MTCuXXXTA_00008	0.01 mL	Copper	0.00991 mg/L
					MTFeXXXXTA_00005	0.01 mL	Iron	0.1002 mg/L
					MTKXXXXTA_00015	0.1 mL	Potassium	0.9965 mg/L
					MTMgXXXTA_00018	0.05 mL	Magnesium	0.5005 mg/L
					MTMnXXXTA_00008	0.005 mL	Manganese	0.005005 mg/L
					MTMoXXXTA_00008	0.02 mL	Molybdenum	0.01998 mg/L
					MTNaXXXXTA_00004	0.05 mL	Sodium	0.5035 mg/L
					MTNiXXXTA_00008	0.005 mL	Nickel	0.004975 mg/L
					MTPbXXXTA_00010	0.005 mL	Lead	0.005045 mg/L
					MTPXXXTA_00002	0.5 mL	Phosphorus	0.501 mg/L
					MTSbXXXTA_00008	0.02 mL	Antimony	0.02 mg/L
					MTSeXXXTA_00008	0.02 mL	Selenium	0.02008 mg/L
					MTSrXXXTA_00008	0.05 mL	Strontium	0.05 mg/L
					MTTlXXXTA_00009	0.02 mL	Thallium	0.02004 mg/L
					MTVXXXXTA_00009	0.005 mL	Vanadium	0.00499 mg/L
					MTZnXXXTA_00011	0.01 mL	Zinc	0.00997 mg/L
.MTAgXXXTA_00011	11/24/19	Inorganic Ventures, Lot M2-AG666654			(Purchased Reagent)		Silver	999 ug/mL
.MTAlXXXXTA_00004	07/30/20	CPI International, Lot 169484-37			(Purchased Reagent)		Aluminum	10030 ug/mL
.MTAsXXXTA_00009	01/18/20	CPI, Lot 175385-43			(Purchased Reagent)		Arsenic	1000 ug/mL
.MTBaXXXTA_00009	01/16/20	CPI international, Lot 273421-52			(Purchased Reagent)		Barium	1000 ug/mL
.MTBeXXXTA_00008	01/16/20	CPI international, Lot 660981-36			(Purchased Reagent)		Beryllium	996 ug/mL
.MTCaXXXXTA_00004	07/30/20	CPI International, Lot 855297-64			(Purchased Reagent)		Calcium	9996 ug/mL
.MTCdXXXTA_00008	01/16/20	CPI International, Lot 160499-92			(Purchased Reagent)		Cadmium	1000 ug/mL
.MTCoXXXTA_00008	01/16/20	CPI, Lot 161693-95			(Purchased Reagent)		Cobalt	1001 ug/mL
.MTCrXXXTA_00009	01/16/20	CPI International, Lot 975466-53			(Purchased Reagent)		Chromium	1003 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MTCuXXXTA_00008	01/16/20	CPI International, Lot 982446-3			(Purchased Reagent)		Copper	991 ug/mL
.MTFeXXXXTA_00005	07/30/20	CPI International, Lot 998527-9			(Purchased Reagent)		Iron	10020 ug/mL
.MTKXXXXTA_00015	07/30/20	CPI International, Lot 172053-80			(Purchased Reagent)		Potassium	9965 ug/mL
.MTMgXXXTA_00018	07/30/20	CPI International, Lot 982185-24			(Purchased Reagent)		Magnesium	10010 ug/mL
.MTMnXXXTA_00008	01/16/20	CPI International, Lot 167539-78			(Purchased Reagent)		Manganese	1001 ug/mL
.MTMoXXXTA_00008	01/16/20	CPI International, Lot 169424-45			(Purchased Reagent)		Molybdenum	999 ug/mL
.MTNaXXXXTA_00004	07/30/20	CPI International, Lot 752887-33			(Purchased Reagent)		Sodium	10070 ug/mL
.MTNiXXXTA_00008	01/16/20	CPI, Lot 166665-108			(Purchased Reagent)		Nickel	995 ug/mL
.MTPbXXXTA_00010	01/16/20	CPI, Lot 981329-18			(Purchased Reagent)		Lead	1009 ug/mL
.MTPXXXTA_00002	01/08/20	CPI, Lot 978200-10			(Purchased Reagent)		Phosphorus	1002 ug/mL
.MTSbXXXTA_00008	01/16/20	CPI, Lot 153992-34			(Purchased Reagent)		Antimony	1000 ug/mL
.MTSeXXXTA_00008	01/16/20	CPI, Lot 982461-7			(Purchased Reagent)		Selenium	1004 ug/mL
.MTSrXXXTA_00008	01/16/20	CPI, Lot 168227-43			(Purchased Reagent)		Strontium	1000 ug/mL
.MTTlXXXTA_00009	01/16/20	CPI, Lot 148983-92			(Purchased Reagent)		Thallium	1002 ug/mL
.MTVXXXXTA_00009	01/16/20	CPI International, Lot 152207-102			(Purchased Reagent)		Vanadium	998 ug/mL
.MTZnXXXTA_00011	01/16/20	CPI International, Lot 166918-115			(Purchased Reagent)		Zinc	997 ug/mL
MT6010ICSA_00042	12/17/19	09/06/19	HNO3/HCL, Lot --	100 mL	MT-ICP-ICSA_00001	10 mL	Aluminum	500 ug/mL
							Calcium	500 ug/mL
							Iron	200 ug/mL
							Magnesium	500 ug/mL
.MT-ICP-ICSA_00001	01/08/20	CPI, Lot 982821-1			(Purchased Reagent)		Aluminum	5000 mg/L
							Calcium	5000 mg/L
							Iron	2000 mg/L
							Magnesium	5000 mg/L
MT6010ICSAB_00029	12/17/19	09/06/19	HNO3/HCL, Lot --	100 mL	MT-ICP-ICSA_00001	10 mL	Aluminum	500 mg/L
							Calcium	500 mg/L
							Iron	200 mg/L
							Magnesium	500 mg/L
					MT-ICP-ICSB2_00001	1 mL	Arsenic	1 mg/L
							B	10 mg/L
							Barium	1.001 mg/L
							Beryllium	0.5002 mg/L
							Cadmium	1 mg/L
							Chromium	0.9998 mg/L
							Cobalt	1 mg/L
							Copper	1 mg/L
							Lead	1 mg/L
							Manganese	1.001 mg/L
							Nickel	1.001 mg/L
							Phosphorus	10 mg/L
							Potassium	10 mg/L
							Selenium	1 mg/L
							Silver	1 mg/L
							Sodium	10 mg/L
							Strontium	1 mg/L
							Thallium	1 mg/L
							Vanadium	1 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Zinc	1.001 mg/L
.MT-ICP-ICSA_00001	01/08/20		CPI, Lot 982821-1		(Purchased Reagent)		Aluminum	5000 mg/L
							Calcium	5000 mg/L
							Iron	2000 mg/L
							Magnesium	5000 mg/L
.MT-ICP-ICSB2_00001	01/08/20		CPI, Lot 990626-2		(Purchased Reagent)		Arsenic	100 mg/L
							B	1000 mg/L
							Barium	100.1 mg/L
							Beryllium	50.02 mg/L
							Cadmium	100 mg/L
							Chromium	99.98 mg/L
							Cobalt	100 mg/L
							Copper	100 mg/L
							Lead	100 mg/L
							Manganese	100.1 mg/L
							Nickel	100.1 mg/L
							Phosphorus	1000 mg/L
							Potassium	1000 mg/L
							Selenium	100 mg/L
							Silver	100 mg/L
							Sodium	1000 mg/L
							Strontium	100 mg/L
							Thallium	100 mg/L
							Vanadium	100 mg/L
							Zinc	100.1 mg/L
MT6010ICV_00038	11/24/19	09/24/19	5% HCl +2%HNO3, Lot NA	100 mL	MT_CalMix1-SS_00001	1 mL	Antimony	1 ppm
							Arsenic	1 ppm
							Barium	1 ppm
							Beryllium	1 ppm
							Cadmium	1.001 ppm
							Chromium	1 ppm
							Cobalt	1 ppm
							Copper	1.001 ppm
							Lead	1 ppm
							Manganese	1 ppm
							Molybdenum	1 ppm
							Nickel	1 ppm
							Selenium	1 ppm
							Strontium	1 ppm
							Thallium	1 ppm
							Vanadium	1 ppm
					MT_CalMix2-SS_00001	0.5 mL	Aluminum	10 ppm
							Calcium	10 ppm
							Iron	10 ppm
							Magnesium	10 ppm
							Potassium	10.005 ppm
							Sodium	10.005 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					MT_CalMix3-SS_00001	0.2 mL	Phosphorus	2 ppm
					MTAgXXXTA-SS_00001	0.025 mL	Silver	0.249 ppm
					MTZnXXXTA-SS_00001	0.1 mL	Zinc	0.997 ppm
.MT_CalMix1-SS_00001	11/24/19	CPI International, Lot 982733-2			(Purchased Reagent)		Antimony	100 mg/L
							Arsenic	100 mg/L
							Barium	100 mg/L
							Beryllium	100 mg/L
							Cadmium	100.1 mg/L
							Chromium	100 mg/L
							Cobalt	100 mg/L
							Copper	100.1 mg/L
							Lead	100 mg/L
							Manganese	100 mg/L
							Molybdenum	100 mg/L
							Nickel	100 mg/L
							Selenium	100 mg/L
							Strontium	100 mg/L
							Thallium	100 mg/L
							Vanadium	100 mg/L
.MT_CalMix2-SS_00001	11/24/19	CPI International, Lot 982735-2			(Purchased Reagent)		Aluminum	2000 mg/L
							Calcium	2000 mg/L
							Iron	2000 mg/L
							Magnesium	2000 mg/L
							Potassium	2001 mg/L
							Sodium	2001 mg/L
.MT_CalMix3-SS_00001	11/24/19	CPI International, Lot 982739-1			(Purchased Reagent)		Phosphorus	1000 mg/L
.MTAgXXXTA-SS_00001	11/28/19	CPI International, Lot 975475-12			(Purchased Reagent)		Silver	996 ug/mL
.MTZnXXXTA-SS_00001	11/28/19	CPI International, Lot 166918-115			(Purchased Reagent)		Zinc	997 ug/mL
MT6010LCS1_00014	01/16/20	09/19/19	5% HNO3, Lot na	1000 mL	MT_spike1_00002	250 mL	Arsenic	50 mg/L
							Barium	50 mg/L
							Beryllium	25 mg/L
							Cadmium	25 mg/L
							Chromium	25 mg/L
							Cobalt	25 mg/L
							Copper	25 mg/L
							Lead	25.025 mg/L
							Li	25 mg/L
							Manganese	25.025 mg/L
							Molybdenum	25 mg/L
							Nickel	25 mg/L
							Selenium	50 mg/L
							Si	50 mg/L
							Sn	50 mg/L
							Strontium	25 mg/L
							Thallium	50 mg/L
							Ti	25 mg/L
							Vanadium	25 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MT_spike1_00002	09/19/20		CPI, Lot 993218-2		(Purchased Reagent)		Arsenic	200 mg/L
							Barium	200 mg/L
							Beryllium	100 mg/L
							Cadmium	100 mg/L
							Chromium	100 mg/L
							Cobalt	100 mg/L
							Copper	100 mg/L
							Lead	100.1 mg/L
							Li	100 mg/L
							Manganese	100.1 mg/L
							Molybdenum	100 mg/L
							Nickel	100 mg/L
							Selenium	200 mg/L
							Si	200 mg/L
							Sn	200 mg/L
							Strontium	100 mg/L
							Thallium	200 mg/L
							Ti	100 mg/L
							Vanadium	100 mg/L
MT6010LCS2_00013	12/27/19	09/19/19	5% HNO3, Lot na	1000 mL	MT_spike2_00002	500 mL	Aluminum	500 mg/L
							Calcium	2500 mg/L
							Iron	500 mg/L
							Magnesium	2500 mg/L
							Potassium	2500 mg/L
							Sodium	2500 mg/L
.MT_spike2_00002	07/26/20		CPI, Lot 982744-1		(Purchased Reagent)		Aluminum	1000 mg/L
							Calcium	5000 mg/L
							Iron	1000 mg/L
							Magnesium	5000 mg/L
							Potassium	5000 mg/L
							Sodium	5000 mg/L
MT6010LCS3_00013	11/24/19	09/19/19	5%HNO3, Lot na	100 mL	MTAgXXXTA_00011	0.5 mL	Silver	4.995 mg/L
					MTBXXXXTA_00010	5 mL	B	500.5 mg/L
					MTPXXXTA_00003	5 mL	Phosphorus	500 mg/L
					MTSbXXXTA_00008	5 mL	Antimony	50 mg/L
					MTSiXXXTA_00018	4.5 mL	Si	434.79 mg/L
							SiO2	930.015 mg/L
					MTSXXXXTA_00015	5 mL	Sulfur	498.3 mg/L
					MTZnXXXTA_00010	5 mL	Zinc	49.85 mg/L
.MTAgXXXTA_00011	11/24/19		Inorganic Ventures, Lot M2-AG666654		(Purchased Reagent)		Silver	999 ug/mL
.MTBXXXXTA_00010	02/04/20		CPI, Lot 982186-5		(Purchased Reagent)		B	10010 ug/mL
.MTPXXXTA_00003	01/16/20		CPI, Lot 451077-22		(Purchased Reagent)		Phosphorus	10000 ug/mL
.MTSbXXXTA_00008	01/16/20		CPI, Lot 153992-34		(Purchased Reagent)		Antimony	1000 ug/mL
.MTSiXXXTA_00018	03/11/20		CPI, Lot 167061R-32		(Purchased Reagent)		Si	9662 ug/mL
							SiO2	20667 ug/mL
.MTSXXXXTA_00015	01/16/20		CPI, Lot 987745-10		(Purchased Reagent)		Sulfur	9966 ug/mL
.MTZnXXXTA_00010	11/24/19		Inorganic Ventures, Lot N2-ZN668257		(Purchased Reagent)		Zinc	997 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
MT6010PDS_00005	01/08/20	09/06/19	5% HNO3, Lot n/a	100 mL	MT-ICP-ICSA_00001	5 mL	Aluminum	250 mg/L
							Calcium	250 mg/L
							Iron	100 mg/L
							Magnesium	250 mg/L
					MT-ICP-ICSB1_00001	2.5 mL	Antimony	2.5 mg/L
							Molybdenum	2.5 mg/L
					MT-ICP-ICSB2_00001	2.5 mL	Arsenic	2.5 mg/L
							Barium	2.5025 mg/L
							Beryllium	1.2505 mg/L
							Cadmium	2.5 mg/L
							Chromium	2.4995 mg/L
							Cobalt	2.5 mg/L
							Copper	2.5 mg/L
							Lead	2.5 mg/L
							Manganese	2.5025 mg/L
							Nickel	2.5025 mg/L
							Phosphorus	25 mg/L
							Potassium	249.213 mg/L
							Selenium	2.5 mg/L
							Silver	2.5 mg/L
							Sodium	251.575 mg/L
							Strontium	2.5 mg/L
							Thallium	2.5 mg/L
							Vanadium	2.5 mg/L
							Zinc	2.5025 mg/L
					MTKXXXXTA_00014	2.25 mL	Potassium	249.213 mg/L
					MTNaXXXXTA_00003	2.25 mL	Sodium	251.575 mg/L
.MT-ICP-ICSA_00001	01/08/20	CPI, Lot 982821-1			(Purchased Reagent)		Aluminum	5000 mg/L
							Calcium	5000 mg/L
							Iron	2000 mg/L
							Magnesium	5000 mg/L
.MT-ICP-ICSB1_00001	01/08/20	CPI, Lot 990624-2			(Purchased Reagent)		Antimony	100 mg/L
							Molybdenum	100 mg/L
.MT-ICP-ICSB2_00001	01/08/20	CPI, Lot 990626-2			(Purchased Reagent)		Arsenic	100 mg/L
							Barium	100.1 mg/L
							Beryllium	50.02 mg/L
							Cadmium	100 mg/L
							Chromium	99.98 mg/L
							Cobalt	100 mg/L
							Copper	100 mg/L
							Lead	100 mg/L
							Manganese	100.1 mg/L
							Nickel	100.1 mg/L
							Phosphorus	1000 mg/L
							Potassium	1000 mg/L
							Selenium	100 mg/L
							Silver	100 mg/L
							Sodium	1000 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Strontium	100 mg/L
							Thallium	100 mg/L
							Vanadium	100 mg/L
							Zinc	100.1 mg/L
.MTKXXXXTA_00014	01/08/20	CPI International, Lot 172053-56			(Purchased Reagent)		Potassium	9965 ug/mL
.MTNaXXXXTA_00003	01/08/20	CPI International, Lot 752887-20			(Purchased Reagent)		Sodium	10070 ug/mL

Reagent

AR1016(10000)_00001

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Certificate of Analysis

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 572370 **Lot No.:** A0125929

Description : Custom Aroclor 1016 Standard

Custom Aroclor 1016 Standard 10,000µg/mL, Isooctane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2022 **Storage:** 10°C or colder

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)			
1	Aroclor 1016		10,060.0	µg/mL	+/-	93.0971	µg/mL	Gravimetric
	CAS # 12674-11-2	(Lot 5013300)			+/-	326.8660	µg/mL	Unstressed
	Purity —%				+/-	422.6873	µg/mL	Stressed

Solvent: Isooctane
CAS # 540-84-1
Purity 99%

Reagent

AR1260(10000)_00001

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 572371 **Lot No.:** A0126325

Description : Custom Aroclor 1260 Standard

Custom Aroclor 1260 Standard 10,000µg/mL, Isooctane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2022 **Storage:** 10°C or colder

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1260		10,020.0 µg/mL	+/- 92.7270	µg/mL	Gravimetric
	CAS # 11096-82-5	(Lot W-129-06)		+/- 325.5664	µg/mL	Unstressed
	Purity ----%			+/- 421.0066	µg/mL	Stressed

Solvent: Isooctane
CAS # 540-84-1
Purity 99%

Reagent

DBC Internal_00002

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32025 **Lot No.:** A0126147

Description : Dibutyl Chlorendate Mix

Dibutylchlorendate 200µg/mL, Acetone, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Dibutyl chlorendate **CAS #** 1770-80-5 (Lot CAP-25493-47) **Purity** 99%	202.0 µg/mL	+/- 1.4323 µg/mL +/- 9.3150 µg/mL +/- 9.5516 µg/mL		Gravimetric Unstressed Stressed

Solvent: Acetone
CAS # 67-64-1
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

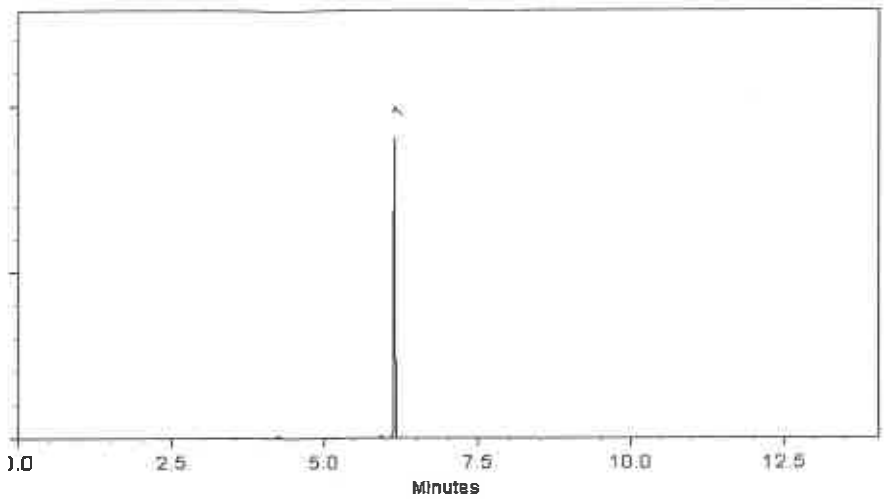

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Matt Fragassi - Mix Technician

Date Mixed: 24-Mar-2017 **Balance:** 1127510105

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 28-Mar-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

Reagent

GCAPPIX1STD_00005

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USA

AccuStandard® Inc.

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CERTIFICATE OF ANALYSIS

Catalog No: S-14316B-R1
Description: Custom Pesticide Standard
Lot: 216031541-02
Solvent: Hexane
Hazards: *Refer to SDS for complete safety information*

Signal Word: Danger

Date Certified: Feb 6, 2018
Expiration: Mar 6, 2019
Sample Size: 1 mL
Components: 6
Storage Condition: Refrig (0-5 °C)

Included on ISO/IEC 17025 Scope of Accreditation: Yes

Included on ISO Guide 34 Scope of Accreditation: Yes

Component	CAS #	Purity % (GC/MS)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
Chlorbenside	103-17-3	99.7	20.04	19.98
Dacthal	1861-32-1	100.0	10.02	10.02
Hexachlorobenzene	118-74-1	100.0	10.10	10.10
Mirex	2385-85-5	98.9	10.00	9.89
Oxychlordane Isomer	27304-13-8	100.0	10.07	10.07
Isodrin	465-73-6	99.4	10.08	10.02

APPIX 1 2-21-18

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] All weights are traceable through NIST, Test No. 822-275872-11

[2] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

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Certified By: _____
Larry Decker, Organic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001:2015

125 Market Street
New Haven, CT 06513
USA

AccuStandard® Inc.

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www.AccuStandard.com

CERTIFICATE OF ANALYSIS

Catalog No: S-14316B-R1
Description: Custom Pesticide Standard
Lot: 216031541-03
Solvent: Hexane
Hazards: *Refer to SDS for complete safety information*

Signal Word: Danger

Date Certified: Feb 26, 2019
Expiration: Mar 26, 2020
Sample Size: 1 mL
Components: 6
Storage Condition: Refrig (0-5 °C)

Included on ISO/IEC 17025 Scope of Accreditation: Yes

Included on ISO 17034 Scope of Accreditation: Yes

Component	CAS #	Purity % (GC/MS)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
Chlorbenside	103-17-3	99.7	20.04	19.98
Dacthal	1861-32-1	100.0	10.02	10.02
Hexachlorobenzene	118-74-1	100.0	10.10	10.10
Mirex	2385-85-5	98.9	10.00	9.89
Oxychlordane Isomer	27304-13-8	100.0	10.07	10.07
Isodrin	465-73-6	99.4	10.08	10.02

APPIX1 CAL

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] All weights are traceable through NIST, Test No. 822-275872-11

[2] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker

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Certified By: _____
Larry Decker, Organic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015

QR-ORG/INO-001
Rev. 5/18

Reagent

GCBZ#205STD1_00006

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CERTIFICATE OF ANALYSIS

Catalog No: C-205S-TP
Description: 2,3,3',4,4',5,5',6-Octachlorobiphenyl
Lot: 216091034
Solvent: Isooctane
Hazards: *Refer to SDS for complete safety information*

Signal Word: Danger

Date Certified: Sep 6, 2016
Expiration: Sep 6, 2026
Sample Size: 1 mL
Components: 1
Storage Condition: Ambient (>5 °C)/Sonicate

Included on ISO/IEC 17025 Scope of Accreditation: Yes

Included on ISO Guide 34 Scope of Accreditation: Yes

Component	CAS #	Purity % (GC/MS)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
2,3,3',4,4',5,5',6-Octachlorobiphenyl	74472-53-0	99.0	100.2	99.2

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] All weights are traceable through NIST, Test No. 822-275872-11

[2] Certified Analyte Concentration = Purity x Prepared Concentration. The Uncertainty associated with the gravimetric values reported on this certificate is ±0.24%. The CRM Uncertainty calculated for this product is ±5%. These values are the expanded uncertainty and represent an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker

See reverse side for additional information

Certified By: Larry Decker, Organic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001

Reagent

GCDCAASSTD_00008

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567804 **Lot No.:** A0140943

Description : DCAA Standard

DCAA Standard 1,000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2020 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
I	2,4-dichlorophenylacetic acid **CAS #** 19719-28-9 **Purity** 99% (Lot S30618V)	1,004.7 µg/mL	+/- 5.9674	µg/mL	Gravimetric
			+/- 53.4489	µg/mL	Unstressed
			+/- 53.5384	µg/mL	Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Reagent

GCDCBStock_00008

Certificate of Analysis

Decachlorobiphenyl Solution

Product Number: PPS-150 **Page:** 1 of 1

Lot Number: CP-6040 **Lot Issue Date:** 16-Dec-2016 **Expiration Date:** 31-Jan-2021

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
decachlorobiphenyl (BZ # 209)	002051-24-3	RM01256	1000 ± 5 µg/mL

Matrix: toluene

Storage: Store at Room Temperature (15° to 30°C).

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

John Russo
President

Monica Bourgeois
Director of QA/RA

ISO 9001
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Reagent

GCHERBICALMIX_00018

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CERTIFIED REFERENCE MATERIAL

Gravimetric Certificate

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ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569749 **Lot No.:** A0142217

Description : Herbicide List #1 Standard (2015)

Herbicide List #1 Standard (2015) 50-20,000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : October 31, 2021 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Component #	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2,4,5-T		50.5 µg/mL	+/- 0.3581	µg/mL	Gravimetric
	CAS # 93-76-5	(Lot 6693400)		+/- 2.6937	µg/mL	Unstressed
	Purity 99%			+/- 2.6982	µg/mL	Stressed
2	2,4,5-TP (silvex)		50.0 µg/mL	+/- 0.3545	µg/mL	Gravimetric
	CAS # 93-72-1	(Lot 5299900)		+/- 2.6671	µg/mL	Unstressed
	Purity 99%			+/- 2.6715	µg/mL	Stressed
3	2,4-D		201.0 µg/mL	+/- 1.4253	µg/mL	Gravimetric
	CAS # 94-75-7	(Lot 7677600)		+/- 10.7216	µg/mL	Unstressed
	Purity 99%			+/- 10.7395	µg/mL	Stressed
4	2,4-DB		201.0 µg/mL	+/- 1.4253	µg/mL	Gravimetric
	CAS # 94-82-6	(Lot 5262300)		+/- 10.7216	µg/mL	Unstressed
	Purity 99%			+/- 10.7395	µg/mL	Stressed
5	Dalapon		200.5 µg/mL	+/- 1.4214	µg/mL	Gravimetric
	CAS # 75-99-0	(Lot 7138100)		+/- 10.6923	µg/mL	Unstressed
	Purity 95%			+/- 10.7101	µg/mL	Stressed
6	Dicamba		100.5 µg/mL	+/- 0.7126	µg/mL	Gravimetric
	CAS # 1918-00-9	(Lot 7173700)		+/- 5.3608	µg/mL	Unstressed
	Purity 99%			+/- 5.3697	µg/mL	Stressed
7	Dichlorprop		201.0 µg/mL	+/- 1.4253	µg/mL	Gravimetric
	CAS # 120-36-5	(Lot 4619200)		+/- 10.7216	µg/mL	Unstressed
	Purity 99%			+/- 10.7395	µg/mL	Stressed

8	Dinoseb			201.0	µg/mL	+/-	1.4253	µg/mL	Gravimetric
	CAS #	88-85-7	(Lot 50001)			+/-	10.7216	µg/mL	Unstressed
	Purity	99%				+/-	10.7395	µg/mL	Stressed
9	MCPA			20,198.3	µg/mL	+/-	118.2655	µg/mL	Gravimetric
	CAS #	94-74-6	(Lot 7204500)			+/-	1,074.3731	µg/mL	Unstressed
	Purity	97%				+/-	1,076.1727	µg/mL	Stressed
10	MCPP (Mecoprop)			20,094.0	µg/mL	+/-	117.6548	µg/mL	Gravimetric
	CAS #	93-65-2	(Lot 6899400)			+/-	1,068.8247	µg/mL	Unstressed
	Purity	99%				+/-	1,070.6150	µg/mL	Stressed
11	Pentachlorophenol			50.5	µg/mL	+/-	0.3581	µg/mL	Gravimetric
	CAS #	87-86-5	(Lot 180924JACG)			+/-	2.6937	µg/mL	Unstressed
	Purity	99%				+/-	2.6982	µg/mL	Stressed
12	Picloram			201.8	µg/mL	+/-	1.4306	µg/mL	Gravimetric
	CAS #	1918-02-1	(Lot 34ATO)			+/-	10.7622	µg/mL	Unstressed
	Purity	97%				+/-	10.7801	µg/mL	Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Tom Suckar - Mix Technician

Date Mixed: 09-Oct-2018 **Balance:** 1128360905

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

Specific Reference Material Notes:
Failure to derivatize this standard will lead to incorrect quantitative results.

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

GCPCB2154 mix_00005

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569745.sec **Lot No.:** A0116420

Description : PCB-1221/1254 Standard

PCB-1221/1254 Standard 1000 µg/ml, Hexane, 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2022 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Aroclor 1221 **CAS #** 11104-28-2.SEC (Lot W-126-07) **Purity** ----%	1,004.0 µg/mL	+/- 5.9635 µg/mL +/- 31.8340 µg/mL +/- 41.5787 µg/mL	Gravimetric Unstressed Stressed
2	Aroclor 1254 **CAS #** 11097-69-1.SEC (Lot RM00922) **Purity** ----%	1,002.0 µg/mL	+/- 5.9516 µg/mL +/- 31.7706 µg/mL +/- 41.4958 µg/mL	Gravimetric Unstressed Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

GCPCB3262 mix_00003

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569746 **Lot No.:** A0112323

Description : PCB-1232/1262 Standard

PCB-1232/1262 Standard 1000 µg/ml, Hexane, 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : October 31, 2021 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1232 **CAS #** 11141-16-5 (Lot W-107-05) **Purity** ----%	1,000.0 µg/mL	+/- 10.0737 +/- 32.1814 +/- 42.2011	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	Aroclor 1262 **CAS #** 37324-23-5 (Lot 3067100) **Purity** ----%	1,000.0 µg/mL	+/- 10.0737 +/- 32.1814 +/- 42.2011	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

GCPCB4268 mix_00004

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569747.sec **Lot No.:** A0109391

Description : PCB-1242/1268 Standard

PCB-1242/1268 Standard 1000 µg/ml, Hexane, 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2021 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1242 **CAS #** 53469-21-9.SEC (Lot NTO1020) **Purity** 99%	1,000.0 µg/mL	+/- 5.9397 +/- 31.1358 +/- 41.4093	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	Aroclor 1268 **CAS #** 11100-14-4.SEC (Lot W-131-05) **Purity** ----%	1,004.0 µg/mL	+/- 5.9635 +/- 31.2604 +/- 41.5749	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

GCPCBI1248STD_00006

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32010 **Lot No.:** A0103107

Description : Aroclor® 1248 Standard

Aroclor® 1248 Standard 1,000µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2020 **Storage:** 25°C nominal

Handling: This product contains PCB's

C E R T I F I E D V A L U E S

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1248	1,000.4 µg/mL	+/- 5.8709	µg/mL	Gravimetric
	CAS # 12672-29-6 (Lot W-108-07)		+/- 31.1348	µg/mL	Unstressed
	Purity ----%		+/- 41.4157	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

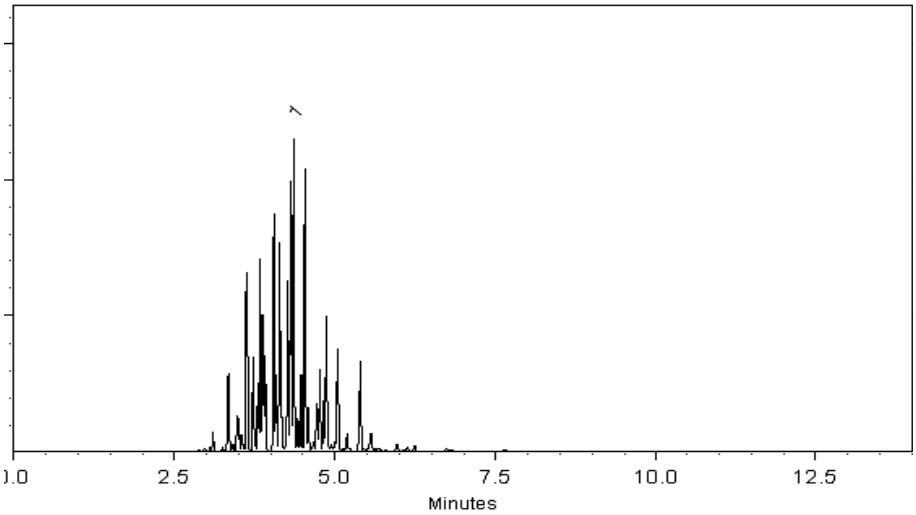

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cheryl Graham - Mix Technician

Date Mixed: 02-May-2014 **Balance:** 1128342313

Jennifer L. Pollino - QC Analyst

Date Passed: 06-May-2014

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31840, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

GCPCBI1660STD_00014

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32039 **Lot No.:** A0119290

Description : Aroclor® 1016/1260 Mix

Aroclor® 1016/1260 Mix 1,000 µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2022 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1016 **CAS #** 12674-11-2 **Purity** ----%	(Lot W-125-01)	1,005.0 µg/mL	+/- 5.8567 +/- 31.8448 +/- 41.6041	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	Aroclor 1260 **CAS #** 11096-82-5 **Purity** ----%	(Lot W-129-06)	1,007.2 µg/mL	+/- 5.8695 +/- 31.9145 +/- 41.6951	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

GCPEST(PEM2)_00001

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571991 **Lot No.:** A0123952

Description : 8081 Performance Evaluation Mix

8081 Performance Evaluation Mix 5-10 µg/ml, Hexane/Toluene (90:10), 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Endrin **CAS #** 72-20-8 **Purity** 98%	(Lot SZBD119XV)	5.0 µg/mL	+/- 0.1541 +/- 0.2734 +/- 0.3619	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	4,4'-DDT **CAS #** 50-29-3 **Purity** 99%	(Lot S37912V)	10.0 µg/mL	+/- 0.3090 +/- 0.5480 +/- 0.7254	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Hexane/Toluene (90:10)
CAS # 110-54-3/108-88-3
Purity 99%

Rec'd
4-3-19

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

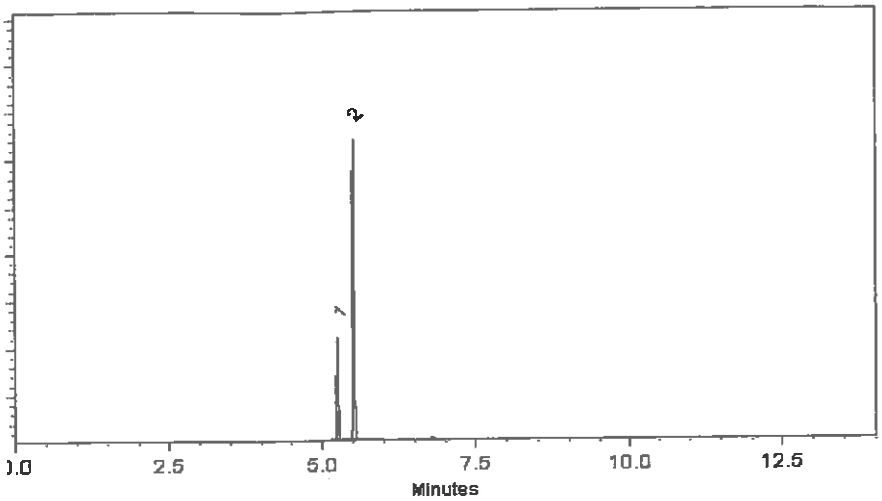

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Isaiah Harrison - Mix Technician

Date Mixed: 04-Jan-2017 **Balance:** 1128353505

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 10-Jan-2017

Manufactured under Restek's ISO 9001:2008
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Certificate #FM 80397

Reagent

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32000 **Lot No.:** A0130424

Description : Pesticide Surrogate Mix

Pesticide Surrogate Mix 200 µg/mL, Acetone, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2023 **Storage:** 10°C or colder

Handling: Contains PCBs - sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2,4,5,6-Tetrachloro-m-xylene		201.2 µg/mL	+/- 1.1725	µg/mL	Gravimetric
	CAS # 877-09-8	(Lot 0052481)		+/- 6.3751	µg/mL	Unstressed
	Purity 98%			+/- 8.3288	µg/mL	Stressed
2	Decachlorobiphenyl (BZ# 209)		201.5 µg/mL	+/- 1.1742	µg/mL	Gravimetric
	CAS # 2051-24-3	(Lot ER071509-01)		+/- 6.3848	µg/mL	Unstressed
	Purity 99%			+/- 8.3415	µg/mL	Stressed

Solvent: Acetone
CAS # 67-64-1
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

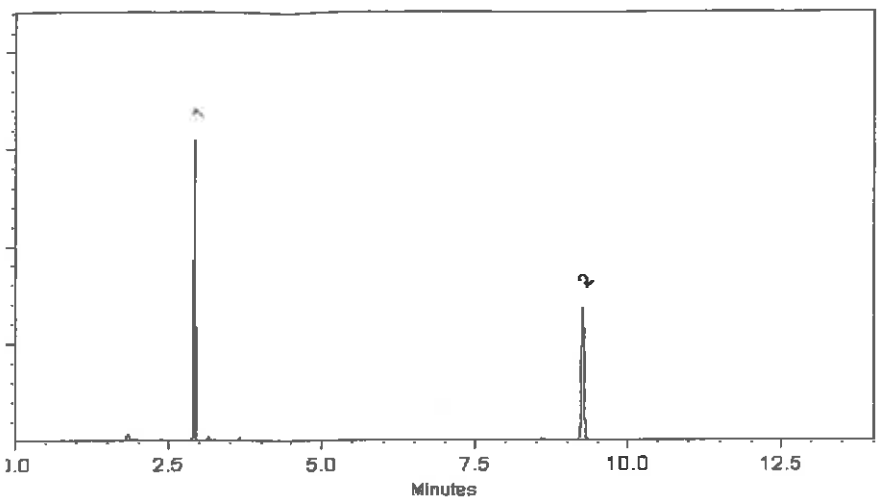

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 31-Aug-2017 **Balance:** B345965662

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 07-Sep-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

Reagent

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32000 **Lot No.:** A0141110

Description : Pesticide Surrogate Mix

Pesticide Surrogate Mix 200 µg/mL, Acetone, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2024 **Storage:** 10°C or colder

Handling: Contains PCBs - sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	2,4,5,6-Tetrachloro-m-xylene **CAS #** 877-09-8 (Lot 0052481) **Purity** 98%	201.4 µg/mL	+/- 1.1736 µg/mL +/- 6.3813 µg/mL +/- 8.3370 µg/mL	Gravimetric Unstressed Stressed
2	Decachlorobiphenyl (BZ# 209) **CAS #** 2051-24-3 (Lot ER071509-01) **Purity** 99%	200.6 µg/mL	+/- 1.1690 µg/mL +/- 6.3563 µg/mL +/- 8.3043 µg/mL	Gravimetric Unstressed Stressed

Solvent: Acetone
CAS # 67-64-1
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

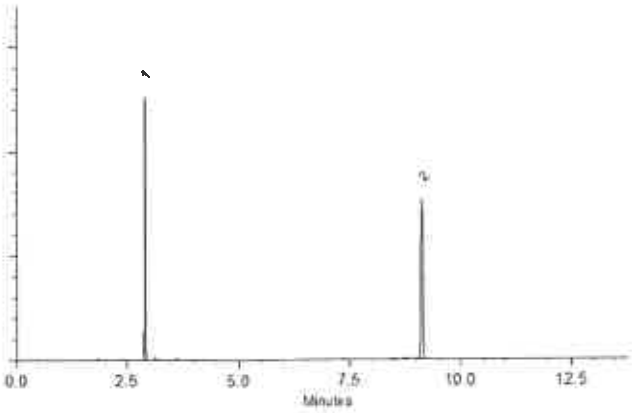

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 29-Aug-2018 **Balance:** B707717271

Justine Albertson - Operations Tech-ARM QC

Date Passed: 04-Sep-2018

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32279 **Lot No.:** A0124315

Description : 1-Bromo-2-nitrobenzene Standard

1-Bromo-2-nitrobenzene Standard 1000 µg/mL, Acetone, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1-Bromo-2-nitrobenzene **CAS #** 577-19-5 (Lot 643872/1) **Purity** 99%	1,006.0 µg/mL	+/- 5.9753 µg/mL +/- 56.4187 µg/mL +/- 57.7382 µg/mL	Gravimetric Unstressed Stressed

Solvent: Acetone
CAS # 67-64-1
Purity 99%

Reagent

GCpest/pcbINT_00005

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32279 **Lot No.:** A0141134

Description : 1-Bromo-2-nitrobenzene Standard

1-Bromo-2-nitrobenzene Standard 1000 µg/mL, Acetone, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2021 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)			
1	1-Bromo-2-nitrobenzene		1,005.0	µg/mL	+/-	5.9694	µg/mL	Gravimetric
	CAS # 577-19-5	(Lot 643872/1)			+/-	56.3626	µg/mL	Unstressed
	Purity 99%				+/-	57.6808	µg/mL	Stressed

Solvent: Acetone
CAS # 67-64-1
Purity 99%

Rec'd 11-19-18

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID

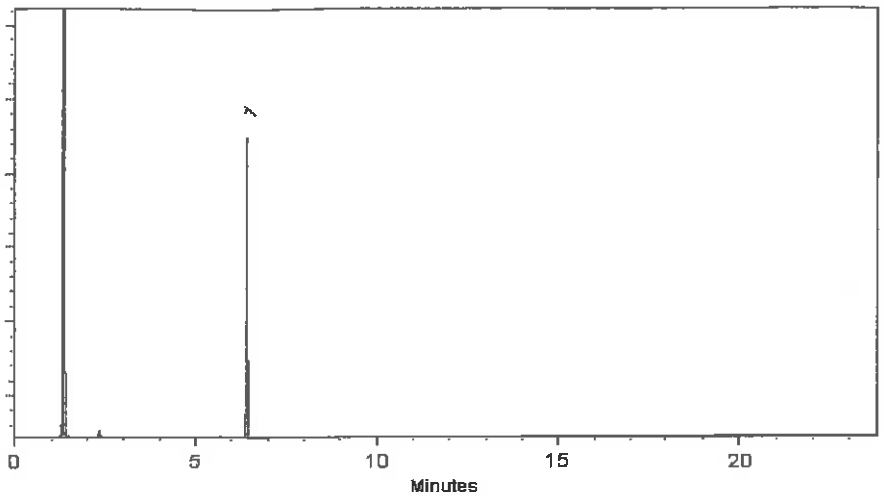

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Dustin J Lidgett

Dustin Lidgett - Mix Technician **Date Mixed:** 29-Aug-2018 **Balance:** B442140311

Jennifer L Pollino

Jennifer Pollino - Operations Tech-ARM QC **Date Passed:** 31-Aug-2018

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

Reagent

GCPESTAB3STD_00003

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32415 **Lot No.:** A0129369

Description : Organochlorine Pesticide Mix AB #3

Organochlorine Pesticide Mix AB #3 2,000 µg/mL, Hexane/Toluene (50:50), 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : July 31, 2021 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	alpha-BHC **CAS #** 319-84-6 **Purity** 99%	(Lot 0911942)	2,012.0 µg/mL	+/- 11.8075 µg/mL +/- 91.6450 µg/mL +/- 132.3230 µg/mL		Gravimetric Unstressed Stressed
2	gamma-BHC (Lindane) **CAS #** 58-89-9 **Purity** 99%	(Lot 6357300)	2,010.5 µg/mL	+/- 11.7987 µg/mL +/- 91.5767 µg/mL +/- 132.2244 µg/mL		Gravimetric Unstressed Stressed
3	beta-BHC **CAS #** 319-85-7 **Purity** 98%	(Lot SZBD116XV)	2,011.9 µg/mL	+/- 11.8072 µg/mL +/- 91.6423 µg/mL +/- 132.3191 µg/mL		Gravimetric Unstressed Stressed
4	delta-BHC **CAS #** 319-86-8 **Purity** 99%	(Lot ER02101401)	2,017.0 µg/mL	+/- 11.8369 µg/mL +/- 91.8728 µg/mL +/- 132.6518 µg/mL		Gravimetric Unstressed Stressed
5	Heptachlor **CAS #** 76-44-8 **Purity** 99%	(Lot NT056422)	2,011.5 µg/mL	+/- 11.8046 µg/mL +/- 91.6223 µg/mL +/- 132.2901 µg/mL		Gravimetric Unstressed Stressed
6	Aldrin **CAS #** 309-00-2 **Purity** 98%	(Lot 5923100)	2,009.0 µg/mL	+/- 11.7899 µg/mL +/- 91.5084 µg/mL +/- 132.1257 µg/mL		Gravimetric Unstressed Stressed
7	Heptachlor epoxide (isomer B) **CAS #** 1024-57-3 **Purity** 99%	(Lot ER121511-01)	2,007.0 µg/mL	+/- 11.7782 µg/mL +/- 91.4173 µg/mL +/- 131.9942 µg/mL		Gravimetric Unstressed Stressed

8	trans-Chlordane			2,007.0	µg/mL	+/-	11.7782	µg/mL	Gravimetric
	CAS #	5103-74-2	(Lot ER061906-04)			+/-	91.4173	µg/mL	Unstressed
	Purity	99%				+/-	131.9942	µg/mL	Stressed
9	cis-Chlordane			2,006.0	µg/mL	+/-	11.7723	µg/mL	Gravimetric
	CAS #	5103-71-9	(Lot ER062410-01)			+/-	91.3717	µg/mL	Unstressed
	Purity	99%				+/-	131.9284	µg/mL	Stressed
10	Endosulfan I			2,013.0	µg/mL	+/-	11.8134	µg/mL	Gravimetric
	CAS #	959-98-8	(Lot ER012105-02)			+/-	91.6906	µg/mL	Unstressed
	Purity	99%				+/-	132.3888	µg/mL	Stressed
11	4,4'-DDE			2,008.5	µg/mL	+/-	11.7870	µg/mL	Gravimetric
	CAS #	72-55-9	(Lot GHYQG)			+/-	91.4856	µg/mL	Unstressed
	Purity	99%				+/-	132.0928	µg/mL	Stressed
12	Dieldrin			2,006.0	µg/mL	+/-	11.7723	µg/mL	Gravimetric
	CAS #	60-57-1	(Lot ER030105-03)			+/-	91.3717	µg/mL	Unstressed
	Purity	99%				+/-	131.9284	µg/mL	Stressed
13	Endrin			2,019.3	µg/mL	+/-	11.8503	µg/mL	Gravimetric
	CAS #	72-20-8	(Lot 6429800)			+/-	91.9771	µg/mL	Unstressed
	Purity	98%				+/-	132.8025	µg/mL	Stressed
14	4,4'-DDD			2,014.9	µg/mL	+/-	11.8244	µg/mL	Gravimetric
	CAS #	72-54-8	(Lot ER061207-01)			+/-	91.7762	µg/mL	Unstressed
	Purity	98%				+/-	132.5124	µg/mL	Stressed
15	Endosulfan II			2,007.5	µg/mL	+/-	11.7811	µg/mL	Gravimetric
	CAS #	33213-65-9	(Lot ER102407-02)			+/-	91.4401	µg/mL	Unstressed
	Purity	99%				+/-	132.0271	µg/mL	Stressed
16	Endrin aldehyde			2,008.5	µg/mL	+/-	11.7870	µg/mL	Gravimetric
	CAS #	7421-93-4	(Lot ER082306-01)			+/-	91.4856	µg/mL	Unstressed
	Purity	99%				+/-	132.0928	µg/mL	Stressed
17	4,4'-DDT			2,009.0	µg/mL	+/-	11.7899	µg/mL	Gravimetric
	CAS #	50-29-3	(Lot S37912V)			+/-	91.5084	µg/mL	Unstressed
	Purity	99%				+/-	132.1257	µg/mL	Stressed
18	Endosulfan sulfate			2,009.3	µg/mL	+/-	11.7916	µg/mL	Gravimetric
	CAS #	1031-07-8	(Lot SZBC213XV)			+/-	91.5211	µg/mL	Unstressed
	Purity	96%				+/-	132.1441	µg/mL	Stressed
19	Methoxychlor			2,015.4	µg/mL	+/-	11.8273	µg/mL	Gravimetric
	CAS #	72-43-5	(Lot 6429900)			+/-	91.7985	µg/mL	Unstressed
	Purity	98%				+/-	132.5446	µg/mL	Stressed
20	Endrin ketone			2,007.5	µg/mL	+/-	11.7811	µg/mL	Gravimetric
	CAS #	53494-70-5	(Lot 160405JLM)			+/-	91.4401	µg/mL	Unstressed
	Purity	99%				+/-	132.0271	µg/mL	Stressed

Solvent: Hexane/Toluene (50:50)
CAS # 110-54-3/108-88-3
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
150°C to 300°C
@ 4°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
300°C

Det. Type:
ECD

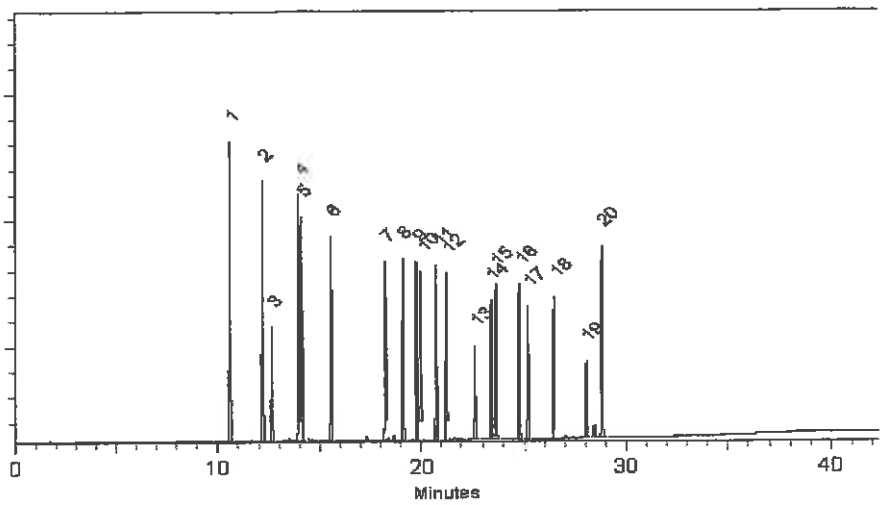

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 24-Jul-2017 **Balance:** B442140311

Diane Shaffer - Operations Tech-ARM QC

Date Passed: 25-Jul-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

Reagent

GCPESTAB3STD_00004

RESTEK® CERTIFIED REFERENCE MATERIAL

110 Benner Circle
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Certificate of Analysis

AB#3

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Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Rec'd 10-26-18

Catalog No. : 32415 **Lot No.:** A0137734

Description : Organochlorine Pesticide Mix AB #3

Organochlorine Pesticide Mix AB #3 2,000 µg/mL, Hexane/Toluene (50:50), 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2022 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	alpha-BHC **CAS #** 319-84-6 **Purity** 99%	(Lot 0911942)	2,016.5 µg/mL	+/- 11.8340 +/- 91.8500 +/- 132.6190	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	gamma-BHC (Lindane) **CAS #** 58-89-9 **Purity** 99%	(Lot 6815700)	2,018.5 µg/mL	+/- 11.8457 +/- 91.9411 +/- 132.7505	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
3	beta-BHC **CAS #** 319-85-7 **Purity** 98%	(Lot BCBS8692V)	2,009.5 µg/mL	+/- 11.7928 +/- 91.5307 +/- 132.1579	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
4	delta-BHC **CAS #** 319-86-8 **Purity** 99%	(Lot ER02101401)	2,018.5 µg/mL	+/- 11.8457 +/- 91.9411 +/- 132.7505	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
5	Heptachlor **CAS #** 76-44-8 **Purity** 99%	(Lot NT060133)	2,015.0 µg/mL	+/- 11.8251 +/- 91.7817 +/- 132.5203	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
6	Aldrin **CAS #** 309-00-2 **Purity** 99%	(Lot 7321900)	2,014.5 µg/mL	+/- 11.8222 +/- 91.7589 +/- 132.4874	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
7	Heptachlor epoxide (isomer B) **CAS #** 1024-57-3 **Purity** 99%	(Lot ER121511-01)	2,007.5 µg/mL	+/- 11.7811 +/- 91.4401 +/- 132.0271	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

8	trans-Chlordane			2,009.0	µg/mL	+/-	11.7899	µg/mL	Gravimetric
	CAS #	5103-74-2	(Lot ER061906-04)			+/-	91.5084	µg/mL	Unstressed
	Purity	99%				+/-	132.1257	µg/mL	Stressed
9	cis-Chlordane			2,008.0	µg/mL	+/-	11.7841	µg/mL	Gravimetric
	CAS #	5103-71-9	(Lot ER062410-01)			+/-	91.4628	µg/mL	Unstressed
	Purity	99%				+/-	132.0599	µg/mL	Stressed
10	Endosulfan I			2,016.0	µg/mL	+/-	11.8310	µg/mL	Gravimetric
	CAS #	959-98-8	(Lot ER012105-02)			+/-	91.8272	µg/mL	Unstressed
	Purity	99%				+/-	132.5861	µg/mL	Stressed
11	4,4'-DDE			2,012.5	µg/mL	+/-	11.8105	µg/mL	Gravimetric
	CAS #	72-55-9	(Lot GHYQG)			+/-	91.6678	µg/mL	Unstressed
	Purity	99%				+/-	132.3559	µg/mL	Stressed
12	Dieldrin			1,999.2	µg/mL	+/-	11.7324	µg/mL	Gravimetric
	CAS #	60-[illegible]	(Lot 5709400)			+/-	91.0620	µg/mL	Unstressed
	Purity	98%				+/-	131.4812	µg/mL	Stressed
13	Endrin			2,012.4	µg/mL	+/-	11.8101	µg/mL	Gravimetric
	CAS #	72-20-8	(Lot 6898800)			+/-	91.6646	µg/mL	Unstressed
	Purity	98%				+/-	132.3513	µg/mL	Stressed
14	4,4'-DDD			2,005.5	µg/mL	+/-	11.7694	µg/mL	Gravimetric
	CAS #	72-54-8	(Lot HAN02-KNCK)			+/-	91.3490	µg/mL	Unstressed
	Purity	99%				+/-	131.8955	µg/mL	Stressed
15	Endosulfan II			2,018.0	µg/mL	+/-	11.8428	µg/mL	Gravimetric
	CAS #	33213-65-9	(Lot 7276300)			+/-	91.9183	µg/mL	Unstressed
	Purity	99%				+/-	132.7176	µg/mL	Stressed
16	Endrin aldehyde			2,015.5	µg/mL	+/-	11.8281	µg/mL	Gravimetric
	CAS #	7421-93-4	(Lot ER082306-01)			+/-	91.8045	µg/mL	Unstressed
	Purity	99%				+/-	132.5532	µg/mL	Stressed
17	4,4'-DDT			2,016.5	µg/mL	+/-	11.8340	µg/mL	Gravimetric
	CAS #	50-29-3	(Lot S37912V)			+/-	91.8500	µg/mL	Unstressed
	Purity	99%				+/-	132.6190	µg/mL	Stressed
18	Endosulfan sulfate			2,009.3	µg/mL	+/-	11.7914	µg/mL	Gravimetric
	CAS #	1031-07-8	(Lot BCBT8804)			+/-	91.5198	µg/mL	Unstressed
	Purity	95%				+/-	132.1422	µg/mL	Stressed
19	Methoxychlor			2,006.5	µg/mL	+/-	11.7753	µg/mL	Gravimetric
	CAS #	72-43-5	(Lot 7322100)			+/-	91.3945	µg/mL	Unstressed
	Purity	99%				+/-	131.9613	µg/mL	Stressed
20	Endrin ketone			2,007.0	µg/mL	+/-	11.7782	µg/mL	Gravimetric
	CAS #	53494-70-5	(Lot 160405JLM)			+/-	91.4173	µg/mL	Unstressed
	Purity	99%				+/-	131.9942	µg/mL	Stressed

Solvent: Hexane/Toluene (50:50)
CAS # 110-54-3/108-88-3
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
150°C to 300°C
@ 4°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
300°C

Det. Type:
ECD

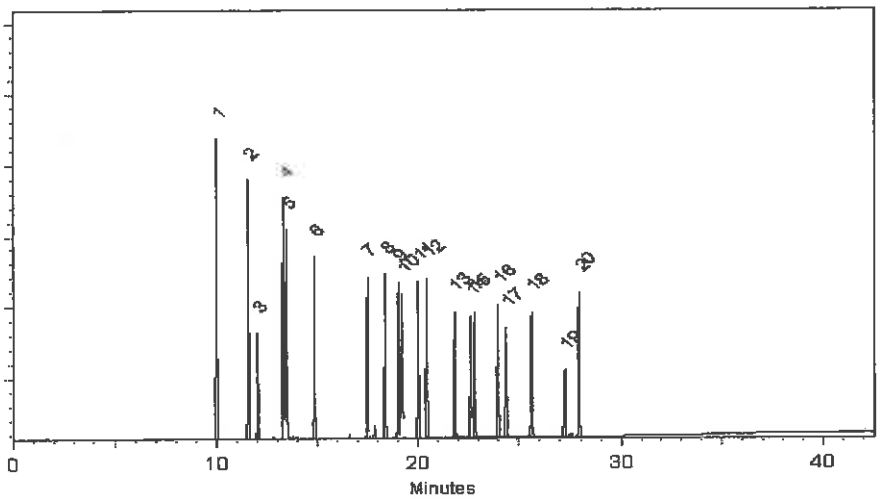

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 03-May-2018 **Balance:** B442140311

Amanda Miller - Operations Tech-ARM QC

Date Passed: 18-May-2018

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

Reagent

GCTCMXSTD_00010

Certificate of Analysis

2,4,5,6-Tetrachloro-m-xylene Solution

Product Number: IST-440 **Page:** 1 of 1

Lot Number: CL-3352A **Lot Issue Date:** 05-Oct-2017 **Expiration Date:** 31-Oct-2020

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
2,4,5,6-tetrachloro-m-xylene	000877-09-8	RM04082	2006 ± 10 µg/mL

Matrix: acetone

Storage: Store at Room Temperature (15° to 30°C).

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

John Russo
President

Monica Bourgeois
Director of QA/RA

ISO 9001
Registered
TUV USA, Inc.

250 SMITH STREET • NORTH KINGSTOWN, RHODE ISLAND 02852 • WWW.ULTRASCI.COM

Reagent

GCTOXSTDSTD_00002

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Fax: (814)353-1309

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32071 **Lot No.:** A0120412

Description : Toxaphene Standard

Toxaphene Standard 5,000 µg/mL, Isooctane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : October 31, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Toxaphene **CAS #** 8001-35-2 (Lot NT053206) **Purity** ----%	5,024.0 µg/mL	+/- 29.4836 µg/mL +/- 159.2305 µg/mL +/- 208.0080 µg/mL	Gravimetric Unstressed Stressed

Solvent: Isooctane
CAS # 540-84-1
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

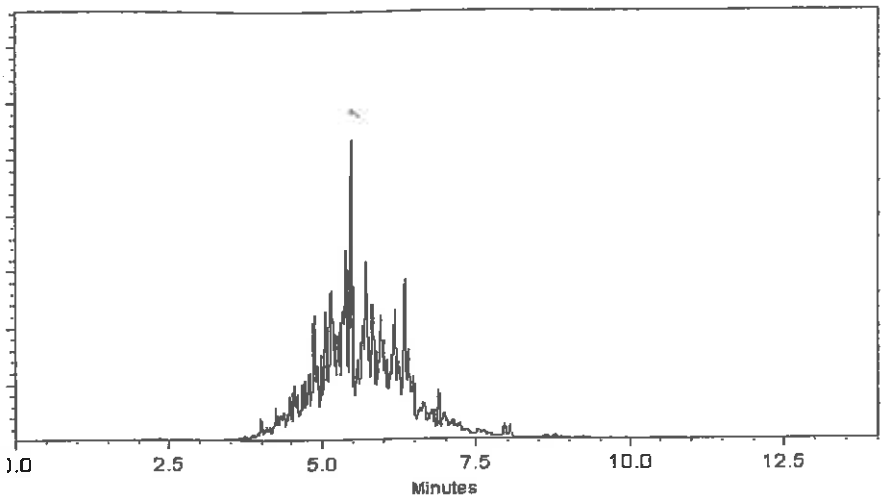

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Dawn Brownson - Mix Technician

Date Mixed: 14-Jul-2016 **Balance:** 1125113331

Jennifer L. Pollino - QC Analyst

Date Passed: 20-Jul-2016

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

Reagent

Herb(RTS)spk_00009

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Gravimetric Certificate

ACCREDITED
ISO Guide 34 Accredited Reference Material Producer Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569750 **Lot No.:** A0135473

Description : Herbicide LCS RTS (2015)

Herbicide LCS RTS (2015) 5-2000 µg/mL, Methanol, 25mL/bottle

Container Size : 25 mL **Pkg Amt:** > 25 mL

Expiration Date : February 29, 2020 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Component #	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2,4,5-T		5.0 µg/mL	+/- 0.0436	µg/mL	Gravimetric
	CAS # 93-76-5	(Lot 6693400)		+/- 0.2690	µg/mL	Unstressed
	Purity 99%			+/- 0.2694	µg/mL	Stressed
2	2,4,5-TP (silvex)		5.0 µg/mL	+/- 0.0436	µg/mL	Gravimetric
	CAS # 93-72-1	(Lot 5299900)		+/- 0.2690	µg/mL	Unstressed
	Purity 99%			+/- 0.2694	µg/mL	Stressed
3	2,4-D		20.0 µg/mL	+/- 0.1556	µg/mL	Gravimetric
	CAS # 94-75-7	(Lot 6780500)		+/- 1.0698	µg/mL	Unstressed
	Purity 99%			+/- 1.0716	µg/mL	Stressed
4	2,4-DB		20.0 µg/mL	+/- 0.1555	µg/mL	Gravimetric
	CAS # 94-82-6	(Lot 5262300)		+/- 1.0687	µg/mL	Unstressed
	Purity 99%			+/- 1.0705	µg/mL	Stressed
5	Dalapon		20.0 µg/mL	+/- 0.1558	µg/mL	Gravimetric
	CAS # 75-99-0	(Lot 6249700)		+/- 1.0711	µg/mL	Unstressed
	Purity 95%			+/- 1.0729	µg/mL	Stressed
6	Dicamba		10.0 µg/mL	+/- 0.0777	µg/mL	Gravimetric
	CAS # 1918-00-9	(Lot 6875900)		+/- 0.5344	µg/mL	Unstressed
	Purity 99%			+/- 0.5353	µg/mL	Stressed
7	Dichlorprop		20.0 µg/mL	+/- 0.1555	µg/mL	Gravimetric
	CAS # 120-36-5	(Lot 5810200)		+/- 1.0687	µg/mL	Unstressed
	Purity 99%			+/- 1.0705	µg/mL	Stressed

8	Dinoseb **CAS #** 88-85-7 **Purity** 99%	(Lot 50001)	20.0	µg/mL	+/-	0.1556	µg/mL	Gravimetric
					+/-	1.0698	µg/mL	Unstressed
					+/-	1.0716	µg/mL	Stressed
9	MCPA **CAS #** 94-74-6 **Purity** 96%	(Lot 6376200)	2,002.0	µg/mL	+/-	11.6397	µg/mL	Gravimetric
					+/-	106.4790	µg/mL	Unstressed
					+/-	106.6574	µg/mL	Stressed
10	MCPP (Mecoprop) **CAS #** 93-65-2 **Purity** 99%	(Lot 6899400)	2,000.0	µg/mL	+/-	11.6282	µg/mL	Gravimetric
					+/-	106.3734	µg/mL	Unstressed
					+/-	106.5517	µg/mL	Stressed
11	Pentachlorophenol **CAS #** 87-86-5 **Purity** 99%	(Lot 170306KJA)	5.0	µg/mL	+/-	0.0434	µg/mL	Gravimetric
					+/-	0.2679	µg/mL	Unstressed
					+/-	0.2683	µg/mL	Stressed
12	Picloram **CAS #** 1918-02-1 **Purity** 98%	(Lot 34ATO)	20.0	µg/mL	+/-	0.1554	µg/mL	Gravimetric
					+/-	1.0683	µg/mL	Unstressed
					+/-	1.0701	µg/mL	Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

F. Joseph Tallon - Mix Technician **Date Mixed:** 22-Feb-2018 **Balance:** B251644995

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

Specific Reference Material Notes:
Failure to derivatize this standard will lead to incorrect quantitative results.

Reagent

ICPRIMARYSTA_00012

7221 Investment Drive • North Charleston, SC 29418
843.767.7900 • info@highpuritystandards.com • www.highpuritystandards.com

Certificate of Analysis

Certified Reference Material

ISO Guide 34:2009 (RMP) Accreditation Certificate Number AR-1436

ISO/IEC 17025:2005 Accreditation Certificate Number AT-1529

Product Description:

Name:	IC Spike
Part Number:	**SM-606-005 Solution A**
Lot Number:	**1830312**
Matrix:	H_2O
Purity:	98.5+%

Certified Values:

Component	Certified Value (µg/mL)	NIST SRM ID	NIST SRM Lot #
Bromide	500 ± 3	3184	151130
Chloride	2500 ± 13	3182	060925
Fluoride	125 ± 1	3183	140203
NO_3 as N	125 ± 1	3185	170309
PO_4 as P	125 ± 1	3186	170606
Sulfate	2500 ± 13	3181	080603

Certified values are based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via ion chromatography (IC) and/or inductively coupled plasma optical emission spectrometry (ICP-OES) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor *k* is about 2.

* Refer to Traceability Information, Section d

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for twelve months from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date: October 2018

Certificate Issue Date: October 30, 2018

Moven Mututuvari

Moven Mututuvari PhD., Laboratory Manager

Preparation Information:

The Certified Reference Material (CRM) is generally prepared from single element standard solutions that are ISO Guide 34 certified reference materials and manufactured under appropriate laboratory conditions using the methods developed at NIST for SRM Spectrometric Standard Solutions. Sub-boiling distilled high-purity acid has been used to place the materials in solution and to stabilize the standard. The matrix is as noted above in 18 megaohm deionized water.

Stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. This testing includes, but is not limited to, the effect of temperature and packaging on the product. If during the period of validity, a recall is instituted due to substantial changes in the stability of this product, the purchaser will be notified.

Homogeneity:

This product is determined to be homogeneous following in-house procedures developed in accordance with the requirements of ISO Guide 34 and ISO Guide 35.

Intended Use:

This product is intended for use as a calibration standard, quality control standard, and/or for the validation of analytical methods. The standard is confirmed homogeneous; therefore, the minimum sample size should be consistent with the end user's measurement capabilities.

Traceability Information:

The traceability of this standard is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties. The maintenance of the base and derived units of International System of Units (SI) with traceability of measurement results (contemporary metrology) to SI ensures their comparability over time as follows.

a. **Standard Weight and Analytical Balance**
The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in "NIST Weights and Measures Measurement Assurance Program" with a certificate of measurement traceability to NIST primary standards.
The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.

b. **Volumetric Device**
The calibration of volumetric vessels is checked annually using the ASTM method E542.

c. **Thermometer**
The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

d. **Calibration Standards**
The Calibration Standard is traceable to SRM 3100 Series Spectrometric Standard Solutions. If a SRM is not availabe, a second source standard or independent lot is used.

Refer to Safety Datasheet (SDS) for hazardous information.

NOTICE: HPS products are intended for laboratory use only. All products should be handled and used by trained professional personnel. The responsibility for the safe handling and use of these products rests solely with the buyer and/or user. The data and information as stated was furnished by the manufacturer of the product. The information provided in this certificate pertains only to the lot number specified. None of the information provided in this certificate may be used, reproduced or transmitted in any form or by any means without written approval from High Purity Standards.

Reagent

ICSECONDSTD1_00013

INORGANIC VENTURES
CERTIFICATE OF ANALYSIS
Christiansburg VA 24073 USA
inorganicventures.com
fax: 540.585.3012

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Ion Chromatography Solution
Catalog Number:	TA-17
Lot Number:	P2-MEB682713
Matrix:	H2O
Value / Analyte(s):	500 mg/L ea: Chloride, Sulfate, 100 mg/L ea: Bromide, 25 mg/L ea: Fluoride, Nitrate as N, o-Phosphate as P

Second Source: Whenever possible, this solution was manufactured from a second set of concentrates in our manufacturing facility.

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Bromide, Br	100.0 ± 0.5 mg/L	Chloride, Cl	500.1 ± 2.2 mg/L
Fluoride, F-	25.02 ± 0.08 mg/L	Nitrate as N, NNO3-	25.00 ± 0.09 mg/L
o-Phosphate as P, PPO4	24.99 ± 0.11 mg/L	Sulfate, SO4	500.1 ± 2.3 mg/L

Density: 1.001 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Br	IC Assay	3184	151130
Br	Fajans	999c	999c
Cl	IC Assay	3182	060925
Cl	Fajans	999c	999c
F-	IC Assay	3183	140203
NNO3-	IC Assay	3185	050517
PPO4	IC Assay	3186	090723
SO4	IC Assay	3181	080603

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method I with standard uncertainty $u_{char\ I}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{1/2}$ where $u_{char\ I}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 CHROMATOGRAM

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; Inorganicventures.com; info@Inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 25, 2019

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- July 25, 2023

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Manager, Quality Control

Michael J Booth

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Paul R Gaines

Reagent

OPHERBRTSSURR_00010

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568751 **Lot No.:** A0140416

Description : Herbicide Surrogate RTS

Herbicide Surrogate RTS 10µg/mL, Methanol, 100mL/bottle

Container Size : 100 mL **Pkg Amt:** > 100 mL

Expiration Date : August 31, 2020 **Storage:** 10°C or colder

Handling: This product is photosensitive.

3173325
ID: OPHERBRTSSURR_00010
Exp: 08/31/20 Prpd: JBF
HERBICIDE SURROOGATE RTS

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	2,4-dichlorophenylacetic acid **CAS #** 19719-28-9 (Lot S30618V) **Purity** 99%	10.0 µg/mL	+/- 0.0706 µg/mL +/- 0.5334 µg/mL +/- 0.5343 µg/mL	Gravimetric Unstressed Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Reagent

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sv benzoepyre_00005

CERTIFIED WEIGHT REPORT

Part Number: 71016
Lot Number: 031715
Description: Benzo(e)pyrene

Solvent(s): **Lot#**
Methylene chloride 72062

Expiration Date: 031720
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 1000

Formulated By: Paul Barron 031715 DATE

Reviewed By: Pedro L. Rentas 031715 DATE

Weight(s) shown below were combined and diluted to (mL): 100.0 — 5E-05 Balance Uncertainty; 0.003 Flask Uncertainty

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	MSDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. Benzo(e)pyrene	1016	012013	1000	99.5	0.2	0.10051	0.10082	1003.1	4.2	192-97-2	N/A	N/A

Method GC8MSD-3.M: Column:SPB-5 (30m X 0.25mm ID X 0.25µm film thickness) Temp 1 = 50°C (1min.), Temp 2 = 300°C (9min.), Rate = 10°C/min., Injector B= 250°C, Detector B = 275°C, Split Ratio = 100:1, Scan Rate = 2. Analysis performed by: Candice Warren.

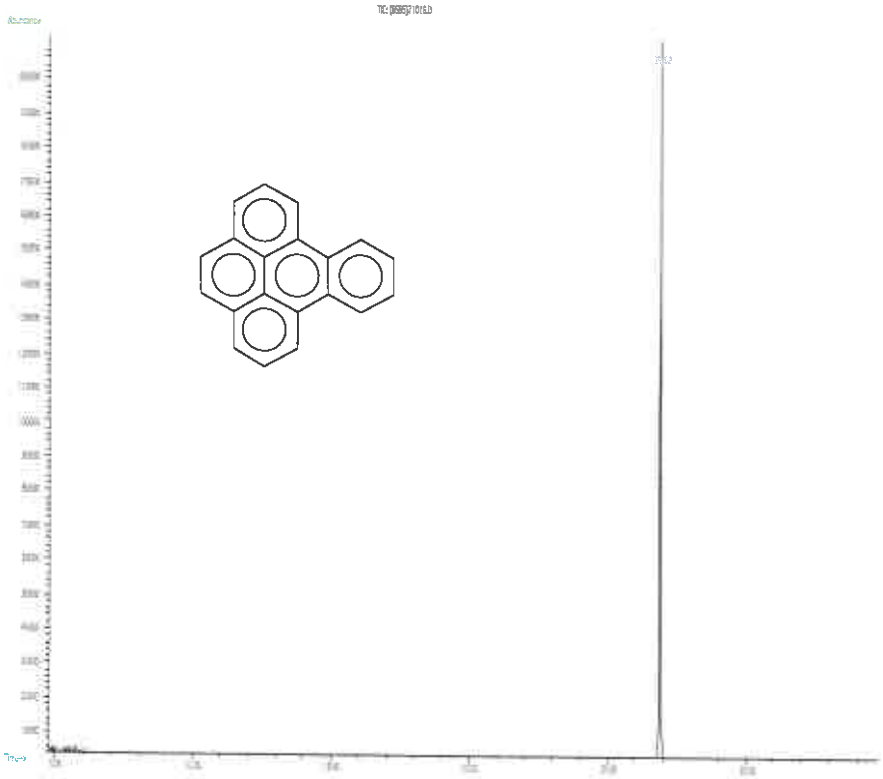

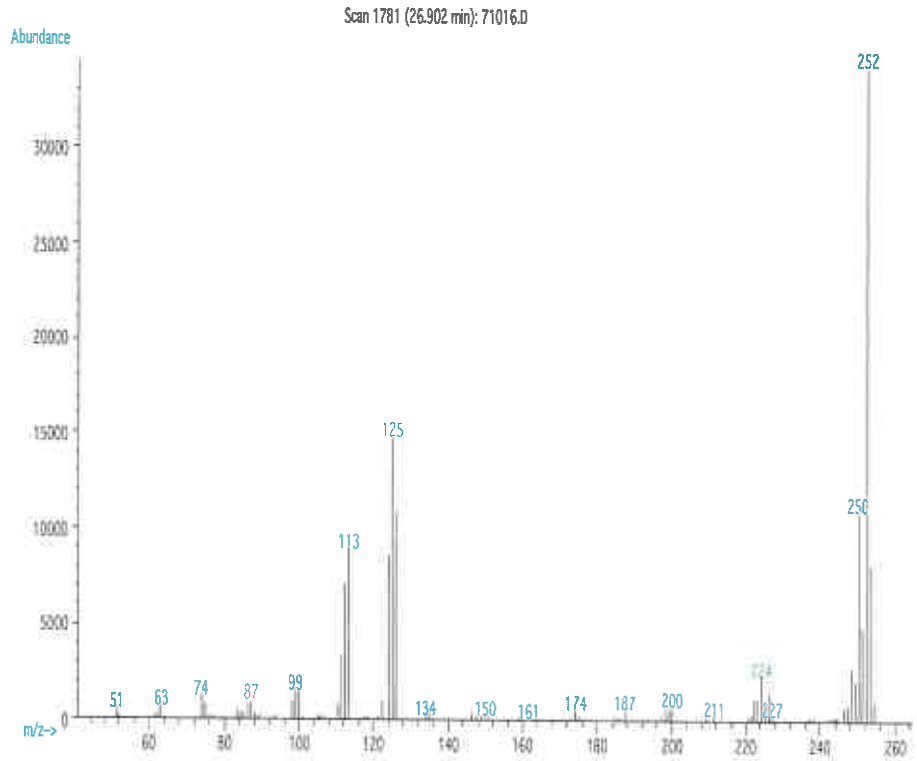

Reagent

SV2356TCPs_00004

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ISO 9001 QS Registered
ISO 17025-34-35-43 Accredited
Scopes: http://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT

Part Number: 70315
Lot Number: 092115
Description: 2,3,5,6-Tetrachlorophenol

Expiration Date: 092120
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 1000

Solvent(s):	Lot#
Methylene chloride	72062

Formulated By: Paul Barron — 092115 DATE

Reviewed By: Pedro L. Rentas — 092115 DATE

Weight(s) shown below were combined and diluted to (mL): 25.0 — 5E-05 Balance Uncertainty; 0.001 Flask Uncertainty

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty	CAS#	OSHA PEL (TWA)	LD50
1. 2,3,5,6-Tetrachlorophenol	315	060697	1000	98	0.2	0.02551	0.02555	1001.7	0.0057	00935-95-5	N/A	N/A

MSDS Information (Solvent Safety Info. On Attached pg.)

Method GC8MSD-3.M: Column: SPB-5 (30m X 0.25mm ID X 0.25µm film thickness) Temp 1 = 50°C (1min.), Temp 2 = 300°C (9 min.), Rate = 10°C/min., Injector B= 200°C, Detector B = 300°C. Scan Rate = 2, Split Ratio = 100:1. Analysis performed by Lance R. Boynton.

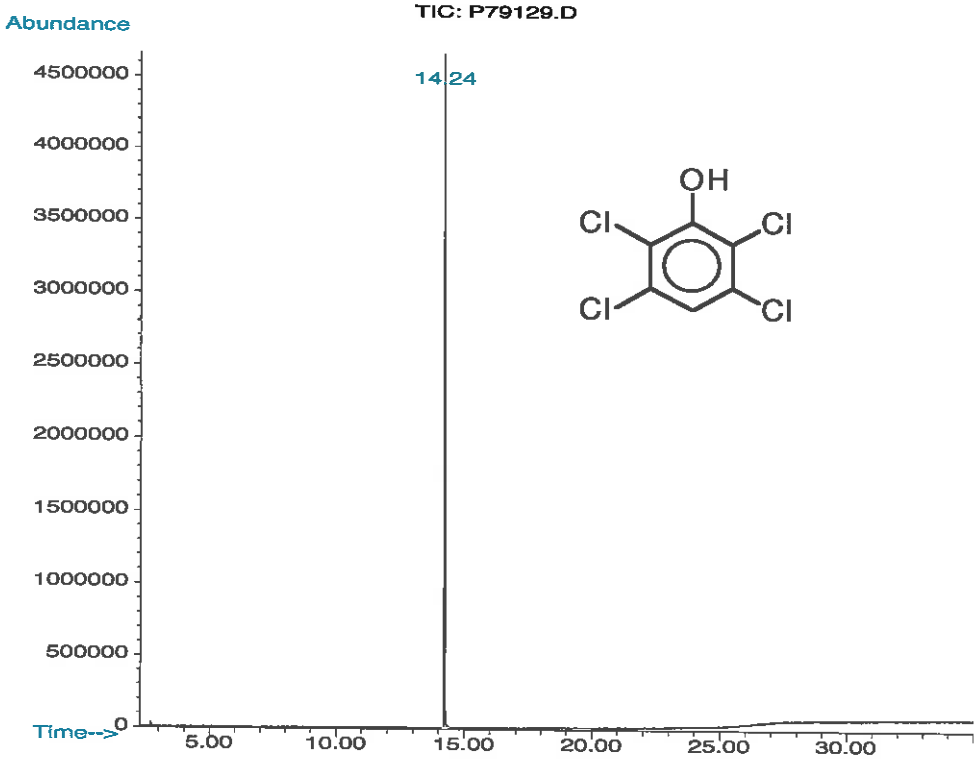

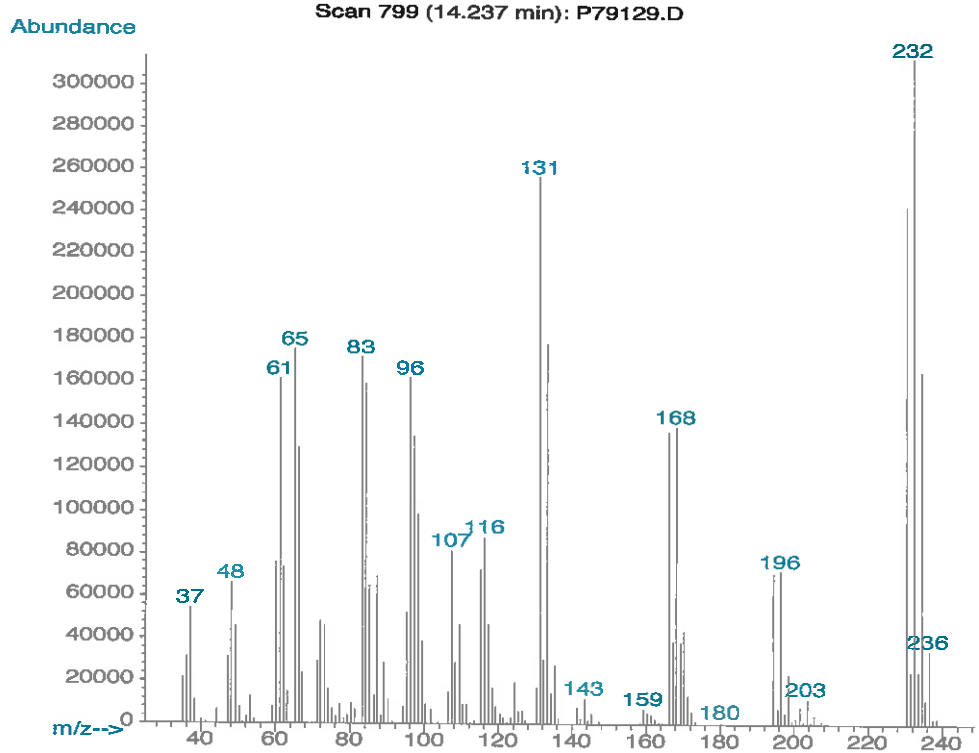

Reagent

SV2NAPAMINEs_00009

Agilent

Certificate of Analysis
ISO Guide 34

2-Naphthylamine Standard

Product Number:	EPA-1135			**Page:**	1 of 1
Lot Number:	CS-5614	**Lot Issue Date:**	19-Nov-2018	**Expiration Date:**	31-Dec-2022

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with Agilent's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
2-naphthylamine	000091-59-8	RM10617	1002 ± 5 µg/mL

Matrix: methanol (methyl alcohol)

Storage: Store at Room Temperature (15° to 30°C).

Agilent uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

Monica Bourgeois
QMS Representative

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER
ISO Guide 34 Cert No. AR-1936

Produced in accordance with TUV USA Inc 56 100 18560026 registered ISO 9001 Quality Managment System

ANAB ACCREDITED TESTING LABORATORY
ISO17025 Cert No. AT-1937

250 Smith Street North Kingstown, Rhode Island 02852 www.ultrasci.com

Reagent

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sv712dimbenza_00012

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Certified Reference Material CRM

ISO 9001 QS Registered
ISO 17025-34-35-43 Accredited
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CERTIFIED WEIGHT REPORT

Part Number: 70411
Lot Number: 053116
Description: 7,12-Dimethylbenz(a)anthracene

Solvent(s): **Lot#**
Methylene chloride 76782

Expiration Date: 053121
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 1000
NIST Test ID#: 822-275872-11 5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to (mL): 100.0 0.003 Flask Uncertainty

Formulated By:		053116 DATE
Reviewed By:	Pedro L. Rentas	053116 DATE

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight (g)	Actual Weight (g)	Actual Conc(µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	MSDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. 7,12-Dimethylbenz(a)anthracene	411	GGR4E-DC	1000	98	0.2	0.10205	0.10231	1002.5	4.2	57-97-6	N/A	orl-rat 327mg/kg

Method GC8MSD-3.M: Column:SPB-5 (30m X 0.25mm ID X 0.25µm film thickness), Temp 1 = 50°C (1min.), Temp 2 = 300°C (9 min.), Rate = 10°C/min., Injector B= 200°C, Detector B = 300°C, Scan Rate = 2, Analysis performed by Candice Warren.

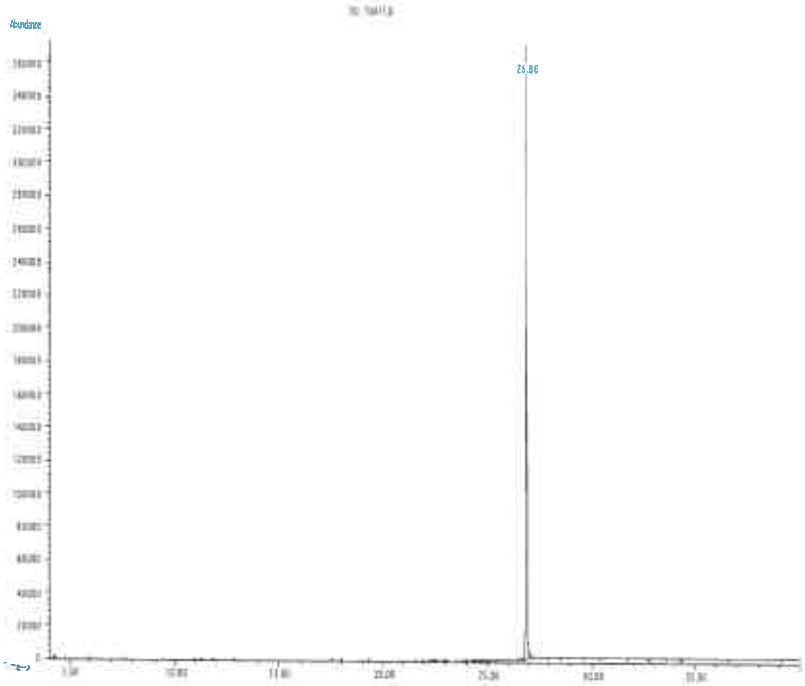

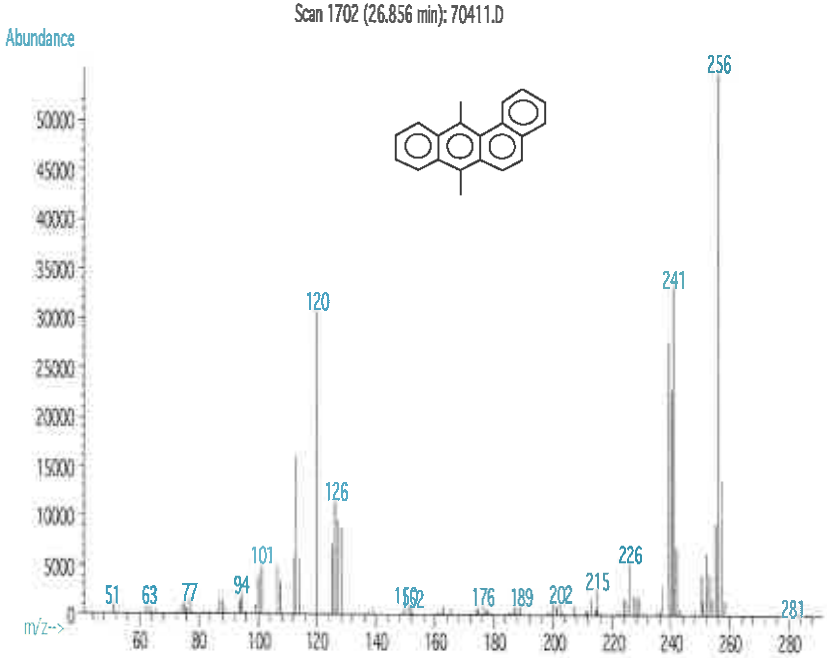

- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

Reagent

SVLIST1/STD1_00001

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571995 **Lot No.:** A0143135

Description : 8270 List 1 / Std #1 MegaMix (2017)

8270 List 1 / Std #1 MegaMix (2017) 500-2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : May 31, 2020 **Storage:** 0°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dioxane **CAS #** 123-91-1 **Purity** 99%	(Lot SHBJ7415)	1,006.6 µg/mL	+/- 5.8525 µg/mL +/- 12.0330 µg/mL +/- 19.1503 µg/mL	Gravimetric Unstressed Stressed
2	N-Nitrosodimethylamine **CAS #** 62-75-9 **Purity** 99%	(Lot 180322JLM)	1,006.7 µg/mL	+/- 5.8530 µg/mL +/- 12.0342 µg/mL +/- 19.1522 µg/mL	Gravimetric Unstressed Stressed
3	Pyridine **CAS #** 110-86-1 **Purity** 99%	(Lot SHBC7174V)	2,012.8 µg/mL	+/- 11.7026 µg/mL +/- 24.0611 µg/mL +/- 38.2929 µg/mL	Gravimetric Unstressed Stressed
4	Phenol **CAS #** 108-95-2 **Purity** 99%	(Lot SHBF9719V)	1,009.5 µg/mL	+/- 5.8693 µg/mL +/- 12.0676 µg/mL +/- 19.2054 µg/mL	Gravimetric Unstressed Stressed
5	Aniline **CAS #** 62-53-3 **Purity** 99%	(Lot K22Z462)	1,005.1 µg/mL	+/- 5.8437 µg/mL +/- 12.0150 µg/mL +/- 19.1217 µg/mL	Gravimetric Unstressed Stressed
6	Bis(2-chloroethyl)ether **CAS #** 111-44-4 **Purity** 99%	(Lot SHBD4430V)	1,006.9 µg/mL	+/- 5.8542 µg/mL +/- 12.0365 µg/mL +/- 19.1560 µg/mL	Gravimetric Unstressed Stressed
7	n-Decane (C10) **CAS #** 124-18-5 **Purity** 99%	(Lot SHBJ8526)	1,005.6 µg/mL	+/- 5.8466 µg/mL +/- 12.0210 µg/mL +/- 19.1312 µg/mL	Gravimetric Unstressed Stressed

24	Bis(2-chloroethoxy)methane **CAS #** 111-91-1 **Purity** 99%	(Lot 5670100)	1,008.5	µg/mL	+/- +/- +/-	5.8635 12.0557 19.1864	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
25	2,4-Dichlorophenol **CAS #** 120-83-2 **Purity** 99%	(Lot BCBJ8113V)	1,009.4	µg/mL	+/- +/- +/-	5.8687 12.0664 19.2035	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
26	1,2,4-Trichlorobenzene **CAS #** 120-82-1 **Purity** 99%	(Lot SHBJ9215)	1,009.0	µg/mL	+/- +/- +/-	5.8664 12.0616 19.1959	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
27	Naphthalene **CAS #** 91-20-3 **Purity** 99%	(Lot MKBZ8680V)	1,007.7	µg/mL	+/- +/- +/-	5.8589 12.0461 19.1712	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
28	2,6-Dichlorophenol **CAS #** 87-65-0 **Purity** 99%	(Lot MKBP8620V)	1,003.5	µg/mL	+/- +/- +/-	5.8344 11.9959 19.0913	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
29	4-Chloroaniline **CAS #** 106-47-8 **Purity** 99%	(Lot BCBJ1580V)	1,007.0	µg/mL	+/- +/- +/-	5.8548 12.0377 19.1579	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
30	Hexachlorobutadiene **CAS #** 87-68-3 **Purity** 99%	(Lot J31X013)	1,009.4	µg/mL	+/- +/- +/-	5.8687 12.0664 19.2035	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
31	4-Chloro-3-methylphenol **CAS #** 59-50-7 **Purity** 99%	(Lot STBC7309V)	1,007.2	µg/mL	+/- +/- +/-	5.8559 12.0401 19.1617	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
32	2-Methylnaphthalene **CAS #** 91-57-6 **Purity** 96%	(Lot STBF0201V)	1,002.3	µg/mL	+/- +/- +/-	5.8277 11.9820 19.0692	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
33	1-Methylnaphthalene **CAS #** 90-12-0 **Purity** 99%	(Lot 525000-9)	1,007.3	µg/mL	+/- +/- +/-	5.8565 12.0413 19.1636	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
34	1,2,4,5-Tetrachlorobenzene **CAS #** 95-94-3 **Purity** 99%	(Lot MKBW7717V)	1,005.1	µg/mL	+/- +/- +/-	5.8437 12.0150 19.1217	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
35	Hexachlorocyclopentadiene **CAS #** 77-47-4 **Purity** 99%	(Lot 0012017H)	1,007.5	µg/mL	+/- +/- +/-	5.8577 12.0437 19.1674	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
36	2,4,6-Trichlorophenol **CAS #** 88-06-2 **Purity** 99%	(Lot STBF3742V)	1,006.9	µg/mL	+/- +/- +/-	5.8542 12.0365 19.1560	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
37	2,4,5-Trichlorophenol **CAS #** 95-95-4 **Purity** 99%	(Lot FHN01)	1,005.1	µg/mL	+/- +/- +/-	5.8437 12.0150 19.1217	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
38	2-Chloronaphthalene **CAS #** 91-58-7 **Purity** 99%	(Lot AJ2UI)	1,004.7	µg/mL	+/- +/- +/-	5.8414 12.0102 19.1141	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
39	Biphenyl **CAS #** 92-52-4 **Purity** 99%	(Lot MKBV9808V)	1,008.9	µg/mL	+/- +/- +/-	5.8658 12.0605 19.1940	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

56	4-Nitroaniline			1,008.3	µg/mL	+/-	5.8625	µg/mL	Gravimetric
	CAS #	100-01-6	(Lot BCBG4702V)			+/-	12.0535	µg/mL	Unstressed
	Purity	98%				+/-	19.1830	µg/mL	Stressed
57	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)			2,010.2	µg/mL	+/-	11.6875	µg/mL	Gravimetric
	CAS #	534-52-1	(Lot LRAC0549)			+/-	24.0301	µg/mL	Unstressed
	Purity	99%				+/-	38.2435	µg/mL	Stressed
58	Diphenylamine			857.6	µg/mL	+/-	4.9977	µg/mL	Gravimetric
	CAS #	122-39-4	(Lot MKBN8295V)			+/-	10.2574	µg/mL	Unstressed
	Purity	99%				+/-	16.3191	µg/mL	Stressed
59	Azobenzene			1,009.6	µg/mL	+/-	5.8699	µg/mL	Gravimetric
	CAS #	103-33-3	(Lot BCBQ0927V)			+/-	12.0688	µg/mL	Unstressed
	Purity	99%				+/-	19.2073	µg/mL	Stressed
60	4-Bromophenyl phenyl ether			1,009.1	µg/mL	+/-	5.8670	µg/mL	Gravimetric
	CAS #	101-55-3	(Lot STBB9729V)			+/-	12.0628	µg/mL	Unstressed
	Purity	99%				+/-	19.1978	µg/mL	Stressed
61	Hexachlorobenzene			1,007.6	µg/mL	+/-	5.8583	µg/mL	Gravimetric
	CAS #	118-74-1	(Lot LRAB8468)			+/-	12.0449	µg/mL	Unstressed
	Purity	99%				+/-	19.1693	µg/mL	Stressed
62	Pentachlorophenol			2,018.5	µg/mL	+/-	11.7357	µg/mL	Gravimetric
	CAS #	87-86-5	(Lot 180924JACG)			+/-	24.1293	µg/mL	Unstressed
	Purity	99%				+/-	38.4014	µg/mL	Stressed
63	n-Octadecane (C18)			1,008.4	µg/mL	+/-	5.8629	µg/mL	Gravimetric
	CAS #	593-45-3	(Lot T7N4E)			+/-	12.0545	µg/mL	Unstressed
	Purity	99%				+/-	19.1845	µg/mL	Stressed
64	Phenanthrene			1,005.8	µg/mL	+/-	5.8478	µg/mL	Gravimetric
	CAS #	85-01-8	(Lot MKCD3760)			+/-	12.0234	µg/mL	Unstressed
	Purity	99%				+/-	19.1351	µg/mL	Stressed
65	Anthracene			1,004.8	µg/mL	+/-	5.8420	µg/mL	Gravimetric
	CAS #	120-12-7	(Lot MKCC7378)			+/-	12.0114	µg/mL	Unstressed
	Purity	99%				+/-	19.1160	µg/mL	Stressed
66	Carbazole			1,006.5	µg/mL	+/-	5.8519	µg/mL	Gravimetric
	CAS #	86-74-8	(Lot 7528800)			+/-	12.0318	µg/mL	Unstressed
	Purity	99%				+/-	19.1484	µg/mL	Stressed
67	Di-n-butylphthalate			1,007.9	µg/mL	+/-	5.8600	µg/mL	Gravimetric
	CAS #	84-74-2	(Lot MKBW8599V)			+/-	12.0485	µg/mL	Unstressed
	Purity	99%				+/-	19.1750	µg/mL	Stressed
68	Fluoranthene			1,005.5	µg/mL	+/-	5.8459	µg/mL	Gravimetric
	CAS #	206-44-0	(Lot MKBQ6360V)			+/-	12.0196	µg/mL	Unstressed
	Purity	98%				+/-	19.1290	µg/mL	Stressed
69	Pyrene			1,006.5	µg/mL	+/-	5.8519	µg/mL	Gravimetric
	CAS #	129-00-0	(Lot BCBT5695)			+/-	12.0318	µg/mL	Unstressed
	Purity	99%				+/-	19.1484	µg/mL	Stressed
70	Benzyl butyl phthalate			1,007.9	µg/mL	+/-	5.8600	µg/mL	Gravimetric
	CAS #	85-68-7	(Lot MKCF0058)			+/-	12.0485	µg/mL	Unstressed
	Purity	99%				+/-	19.1750	µg/mL	Stressed
71	Benz(a)anthracene			1,009.7	µg/mL	+/-	5.8706	µg/mL	Gravimetric
	CAS #	56-55-3	(Lot 0012018)			+/-	12.0704	µg/mL	Unstressed
	Purity	96%				+/-	19.2098	µg/mL	Stressed

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID

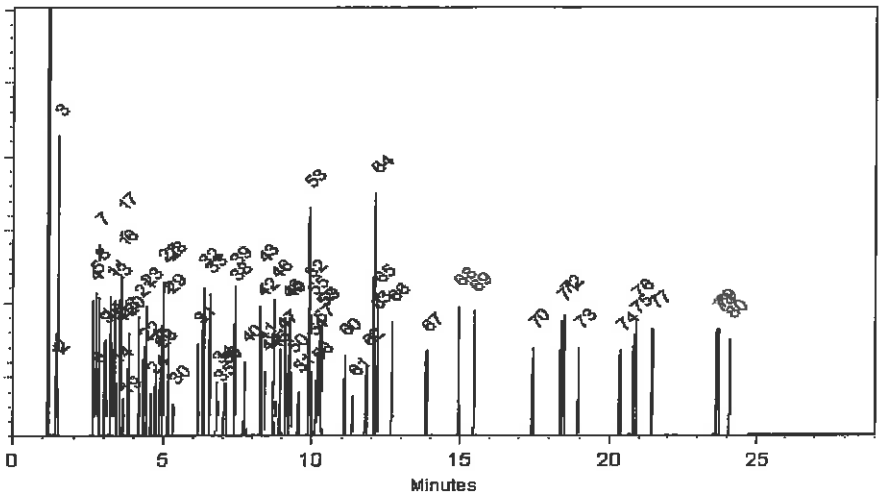

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 12-Nov-2018 **Balance:** B442140311

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 26-Nov-2018

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

Reagent

SVLIST1/STD11_00002

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569732 **Lot No.:** A0143627

Description : 8270 List 1 / Std #11

8270 List 1 / Std #11 2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : May 31, 2020 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Benzaldehyde **CAS #** 100-52-7 **Purity** 99%	(Lot SHBG8690V)	1,996.1 µg/mL	+/- 11.6055 µg/mL +/- 63.9863 µg/mL +/- 74.3816 µg/mL		Gravimetric Unstressed Stressed
2	epsilon-Caprolactam **CAS #** 105-60-2 **Purity** 99%	(Lot I16X016)	2,004.8 µg/mL	+/- 11.6561 µg/mL +/- 64.2652 µg/mL +/- 74.7058 µg/mL		Gravimetric Unstressed Stressed
3	Atrazine **CAS #** 1912-24-9 **Purity** 99%	(Lot 77P7D)	2,003.0 µg/mL	+/- 11.6456 µg/mL +/- 64.2075 µg/mL +/- 74.6387 µg/mL		Gravimetric Unstressed Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Reagent

SVLIST1/STD9_00003

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569730 **Lot No.:** A0143498

Description : 8270 List 1 / Std #9

8270 List 1 / Std #9 2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : May 31, 2020 **Storage:** 10°C or colder

Handling: Contains carcinogen/reproductive toxin.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Benzidine **CAS #** 92-87-5 **Purity** 99%	(Lot 180810JACG)	2,018.6 µg/mL	+/- 11.7363 +/- 24.1305 +/- 38.4033	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	3,3'-Dichlorobenzidine **CAS #** 91-94-1 **Purity** 99%	(Lot 070518JACG)	2,014.4 µg/mL	+/- 11.7119 +/- 24.0803 +/- 38.3234	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Reagent

SVLVIntstd_00009

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567684 **Lot No.:** A0123893

Description : 8270 Internal Standard

8270 Internal Standard 2,000µg/mL, Methylene Chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : January 31, 2022 **Storage:** 10°C or colder

Handling: Sonication required. Mix is photosensitive.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)		
1	1,4-Dichlorobenzene-d4 **CAS #** 3855-82-1 **Purity** 99%	(Lot PR-18488)	2,002.5 µg/mL		+/- 11.6424 µg/mL		Gravimetric
					+/- 90.1915 µg/mL		Unstressed
					+/- 100.0787 µg/mL		Stressed
2	Naphthalene-d8 **CAS #** 1146-65-2 **Purity** 99%	(Lot M-1452)	2,001.0 µg/mL		+/- 11.6337 µg/mL		Gravimetric
					+/- 90.1240 µg/mL		Unstressed
					+/- 100.0037 µg/mL		Stressed
3	Acenaphthene-d10 **CAS #** 15067-26-2 **Purity** 99%	(Lot PR-25444)	2,000.7 µg/mL		+/- 11.6322 µg/mL		Gravimetric
					+/- 90.1127 µg/mL		Unstressed
					+/- 99.9912 µg/mL		Stressed
4	Phenanthrene-d10 **CAS #** 1517-22-2 **Purity** 99%	(Lot PR-23065)	2,004.4 µg/mL		+/- 11.6538 µg/mL		Gravimetric
					+/- 90.2794 µg/mL		Unstressed
					+/- 100.1761 µg/mL		Stressed
5	Chrysene-d12 **CAS #** 1719-03-5 **Purity** 99%	(Lot PR1998604229CR1)	2,000.1 µg/mL		+/- 11.6288 µg/mL		Gravimetric
					+/- 90.0857 µg/mL		Unstressed
					+/- 99.9612 µg/mL		Stressed
6	Perylene-d12 **CAS #** 1520-96-3 **Purity** 99%	(Lot PR-24113)	2,000.6 µg/mL		+/- 11.6314 µg/mL		Gravimetric
					+/- 90.1060 µg/mL		Unstressed
					+/- 99.9837 µg/mL		Stressed

Reagent

SVLVIntstd_00010

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567684 **Lot No.:** A0141743

Description : 8270 Internal Standard

8270 Internal Standard 2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : September 30, 2023 **Storage:** 10°C or colder

Handling: Sonication required. Mix is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dichlorobenzene-d4 **CAS #** 3855-82-1 (Lot PR-18488) **Purity** 99%	2,008.7 µg/mL	+/- 11.6788 µg/mL +/- 90.4731 µg/mL +/- 100.3910 µg/mL	Gravimetric Unstressed Stressed
2	Naphthalene-d8 **CAS #** 1146-65-2 (Lot M-1452) **Purity** 99%	2,009.2 µg/mL	+/- 11.6817 µg/mL +/- 90.4956 µg/mL +/- 100.4160 µg/mL	Gravimetric Unstressed Stressed
3	Acenaphthene-d10 **CAS #** 15067-26-2 (Lot PR-28021) **Purity** 99%	2,008.3 µg/mL	+/- 11.6764 µg/mL +/- 90.4550 µg/mL +/- 100.3710 µg/mL	Gravimetric Unstressed Stressed
4	Phenanthrene-d10 **CAS #** 1517-22-2 (Lot PR-23065) **Purity** 98%	2,007.3 µg/mL	+/- 11.6708 µg/mL +/- 90.4115 µg/mL +/- 100.3228 µg/mL	Gravimetric Unstressed Stressed
5	Chrysene-d12 **CAS #** 1719-03-5 (Lot PR-28823) **Purity** 99%	2,006.0 µg/mL	+/- 11.6631 µg/mL +/- 90.3514 µg/mL +/- 100.2561 µg/mL	Gravimetric Unstressed Stressed
6	Perylene-d12 **CAS #** 1520-96-3 (Lot PR-27342) **Purity** 99%	2,008.6 µg/mL	+/- 11.6782 µg/mL +/- 90.4685 µg/mL +/- 100.3860 µg/mL	Gravimetric Unstressed Stressed

Reagent

SVLVstd10_00012

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569731 **Lot No.:** A0145854

Description : 8270 List 1 / Std #10

8270 List 1 / Std #10 2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : August 31, 2020 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.: K=2)		
1	Indene **CAS #** 95-13-6 **Purity** 98%	(Lot MKBT8433V)	2,000.2 µg/mL	+/- 11.6292 µg/mL +/- 112.1481 µg/mL +/- 114.7722 µg/mL		Gravimetric Unstressed Stressed
2	Benzoic acid **CAS #** 65-85-0 **Purity** 99%	(Lot MKCC9722)	2,000.1 µg/mL	+/- 11.6288 µg/mL +/- 112.1436 µg/mL +/- 114.7676 µg/mL		Gravimetric Unstressed Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Reagent

SVLVSURRSPK_00021

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567685 **Lot No.:** A0123269

Description : 8270 Surrogate Standard

8270 Surrogate Standard 5,000 ug/ml, Methylene Chloride, 5 ml/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : December 31, 2021 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

C E R T I F I E D V A L U E S

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2-Fluorophenol		5,017.0 µg/mL	+/- 29.1677	µg/mL	Gravimetric
	CAS # 367-12-4	(Lot STBD7945V)		+/- 146.4126	µg/mL	Unstressed
	Purity 99%			+/- 177.6661	µg/mL	Stressed
2	Phenol-d5		4,965.4 µg/mL	+/- 28.8690	µg/mL	Gravimetric
	CAS # 4165-62-2	(Lot X-479)		+/- 144.9056	µg/mL	Unstressed
	Purity 99%			+/- 175.8373	µg/mL	Stressed
3	Nitrobenzene-d5		5,019.4 µg/mL	+/- 29.1814	µg/mL	Gravimetric
	CAS # 4165-60-0	(Lot PR-25462)		+/- 146.4812	µg/mL	Unstressed
	Purity 99%			+/- 177.7494	µg/mL	Stressed
4	2-Fluorobiphenyl		5,031.5 µg/mL	+/- 29.2518	µg/mL	Gravimetric
	CAS # 321-60-8	(Lot 10194342)		+/- 146.8343	µg/mL	Unstressed
	Purity 99%			+/- 178.1779	µg/mL	Stressed
5	2,4,6-Tribromophenol		5,026.7 µg/mL	+/- 29.2238	µg/mL	Gravimetric
	CAS # 118-79-6	(Lot 29699MJV)		+/- 146.6942	µg/mL	Unstressed
	Purity 99%			+/- 178.0079	µg/mL	Stressed
6	p-Terphenyl-d14		5,029.2 µg/mL	+/- 29.2387	µg/mL	Gravimetric
	CAS # 1718-51-0	(Lot PR-21037)		+/- 146.7686	µg/mL	Unstressed
	Purity 99%			+/- 178.0982	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Tech Tips:
Due to the limited solubility of p-terphenyl-d14 in methanol, we do not recommend that this mixture be diluted in methanol.

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID

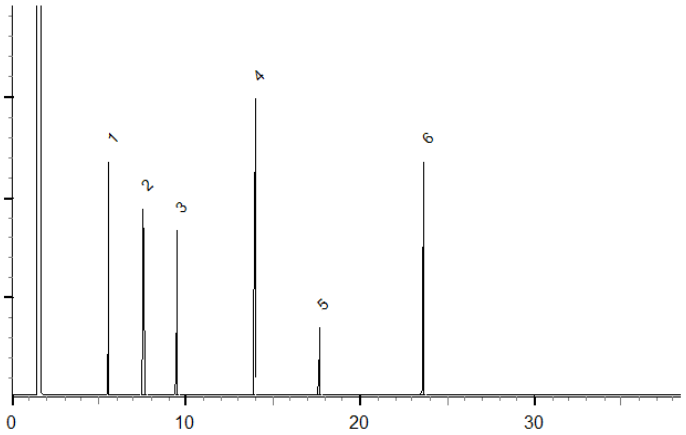

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Dawn Brownson - Mix Technician

Date Mixed: 06-Dec-2016 **Balance:** B345965662

Justine Albertson - Operations Tech-ARM QC

Date Passed: 08-Dec-2016

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567685 **Lot No.:** A0143524

Description : 8270 Surrogate Standard

8270 Surrogate Standard 5,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : November 30, 2023 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2-Fluorophenol **CAS #** 367-12-4 **Purity** 99%	(Lot STBF3761V)	4,998.8 µg/mL	+/- 29.0635 µg/mL +/- 145.8817 µg/mL +/- 177.0219 µg/mL		Gravimetric Unstressed Stressed
2	Phenol-d5 **CAS #** 4165-62-2 **Purity** 99%	(Lot CD-105)	5,018.9 µg/mL	+/- 29.1801 µg/mL +/- 146.4674 µg/mL +/- 177.7325 µg/mL		Gravimetric Unstressed Stressed
3	Nitrobenzene-d5 **CAS #** 4165-60-0 **Purity** 99%	(Lot PR-29603)	5,009.3 µg/mL	+/- 29.1243 µg/mL +/- 146.1872 µg/mL +/- 177.3925 µg/mL		Gravimetric Unstressed Stressed
4	2-Fluorobiphenyl **CAS #** 321-60-8 **Purity** 99%	(Lot M09E045)	5,024.7 µg/mL	+/- 29.2138 µg/mL +/- 146.6366 µg/mL +/- 177.9379 µg/mL		Gravimetric Unstressed Stressed
5	2,4,6-Tribromophenol **CAS #** 118-79-6 **Purity** 99%	(Lot 29699MJV)	5,012.1 µg/mL	+/- 29.1410 µg/mL +/- 146.2708 µg/mL +/- 177.4940 µg/mL		Gravimetric Unstressed Stressed
6	p-Terphenyl-d14 **CAS #** 1718-51-0 **Purity** 99%	(Lot B180320L)	5,022.9 µg/mL	+/- 29.2038 µg/mL +/- 146.5860 µg/mL +/- 177.8765 µg/mL		Gravimetric Unstressed Stressed

Reagent

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svmethylmetha_00012

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Analytical Reference Material ARM

ISO 9001 QS Registered
ISO 17025-34-35-43 Accredited
Scopes: http://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT

Part Number: 70443
Lot Number: 032717
Description: Methyl methane sulfonate

Solvent(s): **Lot#**
Methylene chloride 76782

Expiration Date: 032722
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 1000
NIST Test ID#: 822-275872-11 5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to (mL): 25.0 0.001 Flask Uncertainty

		032717
Formulated By:	Bryan Njeba	DATE
		032717
Reviewed By:	Pedro L. Rentas	DATE

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight (g)	Actual Weight (g)	Actual Conc(µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	CAS#	OSHA PEL (TWA)	LD50
1. Methyl methane sulfonate	443	07322PW	1000	99	0.2	0.02525	0.02527	1000.8	5.7	66-27-3	N/A	orl-rat 225mg/kg

MSDS Information (Solvent Safety Info. On Attached pg.)

Method GC6MSD-1: Column: Vocol (60m X 0.25mm ID X 1.5µm film thickness). Temp. 1=35°C (10min.), Temp. 2=200°C (8.75 min.), Rate=4°C/min., Injector Temp.=200°C, Detector Temp.=220°C. Analysis performed by Pedro Rentas.

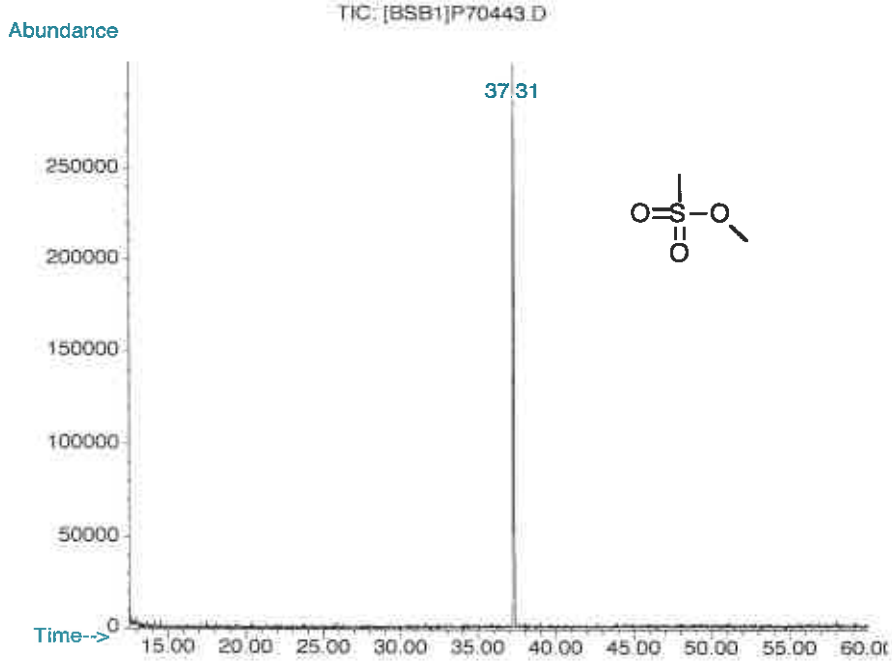

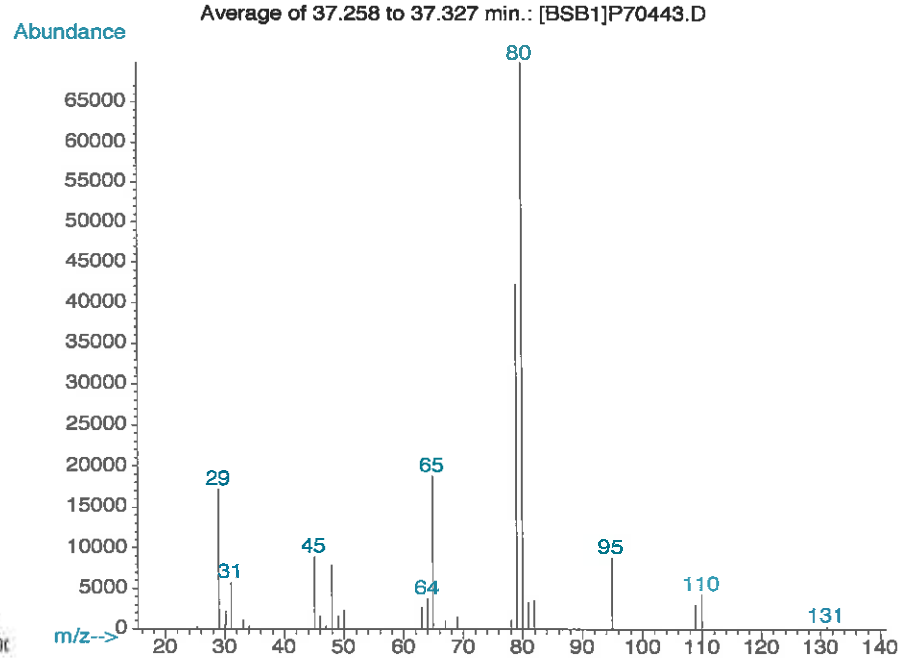

- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

Reagent

SVNNITROPYROs_00018

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ISO 9001 QS Registered
ISO 17025-34-35-43 Accredited
Scopes: http://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT

Part Number: 70451
Lot Number: 122816
Description: N-Nitrosopyrrolidine

Solvent(s): **Lot#**
Methylene chloride 76782

Expiration Date: 122819
Recommended Storage: Freezer (0 °C)
Nominal Concentration (µg/mL): 1000
NIST Test ID#: 822-275872-11 5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to (mL): 25.0 0.001 Flask Uncertainty

Formulated By:	Paul Barron	122816 DATE
Reviewed By:	Pedro L. Rentas	122816 DATE

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight (g)	Actual Weight (g)	Actual Conc(µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	MSDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. N-Nitrosopyrrolidine	451	04025BM	1000	99	0.2	0.02525	0.02528	1001.2	5.7	930-55-2	N/A	orl-rat 900mg/kg

Method GC8MSD-3.M: Column:SPB-5 (30m X 0.25mm ID X 0.25µm film thickness) Temp 1 = 50°C (1min.), Temp 2 = 300°C (9min.), Rate = 10°C/min., Injector B= 200°C, Detector B = 275°C, Split Ratio = 100:1, Scan Rate = 2. Analysis performed by: Candice Warren.

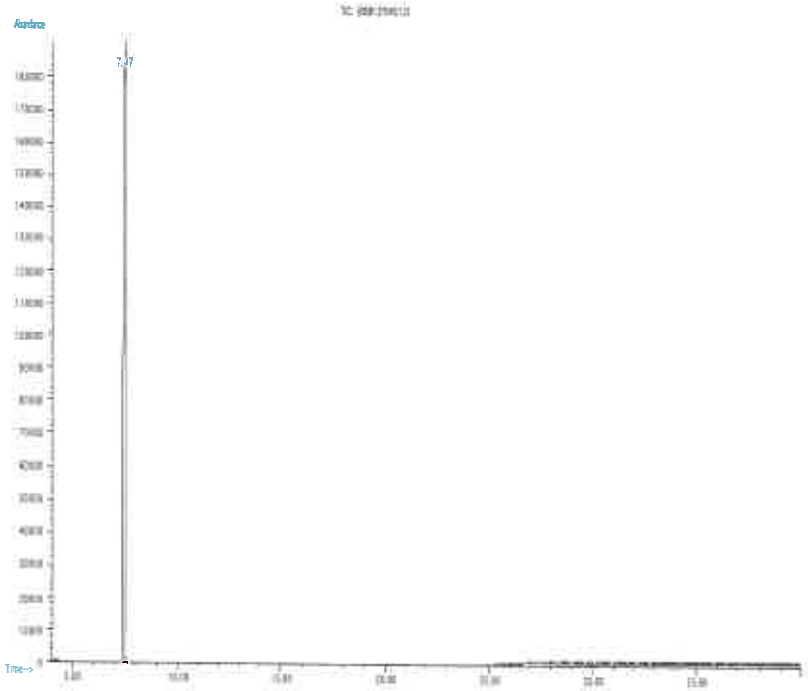

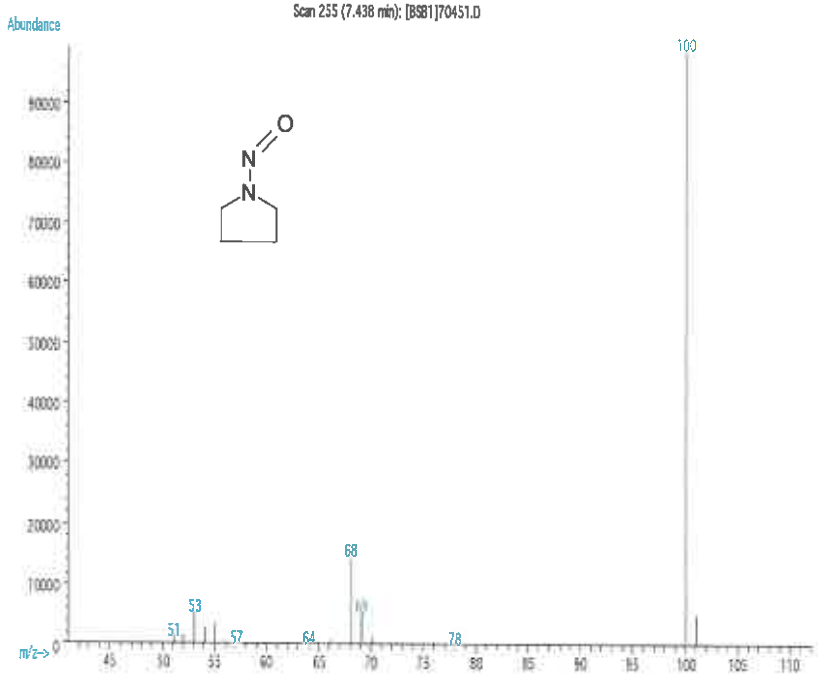

- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

Reagent

SVTUNINGMIXs_00006

110 Benner Circle
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Tel: (800)356-1688
Fax: (814)353-1309

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

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ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31615 **Lot No.:** A0123348

Description : GC/MS Tuning Mixture

GC/MS Tuning Mixture 1,000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : December 31, 2019 **Storage:** 10°C or colder

Handling: Contains carcinogen/reproductive toxin.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Pentachlorophenol	1,007.6 µg/mL	+/- 5.9132	µg/mL	Gravimetric
	CAS # 87-86-5 (Lot 160412JLM)		+/- 45.8954	µg/mL	Unstressed
	Purity 99%		+/- 66.2667	µg/mL	Stressed
2	DFTPP (Decafluorotriphenylphosphine)	1,004.4 µg/mL	+/- 5.8944	µg/mL	Gravimetric
	CAS # 5074-71-5 (Lot 10109917)		+/- 45.7496	µg/mL	Unstressed
	Purity 99%		+/- 66.0563	µg/mL	Stressed
3	Benzidine	1,009.6 µg/mL	+/- 5.9249	µg/mL	Gravimetric
	CAS # 92-87-5 (Lot 160809JLM)		+/- 45.9865	µg/mL	Unstressed
	Purity 99%		+/- 66.3983	µg/mL	Stressed
4	4,4'-DDT	1,002.0 µg/mL	+/- 5.8803	µg/mL	Gravimetric
	CAS # 50-29-3 (Lot ER012306-03)		+/- 45.6403	µg/mL	Unstressed
	Purity 99%		+/- 65.8984	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Reagent

TECHCHLORDANE_00001

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Bellefonte, PA 16823-8812
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Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571052-FL **Lot No.:** A0117443

Description : Chlordane Standard

Chlordane Standard 5000 µg/mL, Isooctane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 29, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)		
1	Chlordane		5,002.0 µg/mL	+/-	29.3545	µg/mL	Gravimetric
	CAS # 57-74-9.SEC	(Lot 30912)		+/-	158.5332	µg/mL	Unstressed
	Purity ----%			+/-	207.0971	µg/mL	Stressed

Solvent: Isooctane
CAS # 540-84-1
Purity 99%

TECH
CHLORDANE
1ST

Tech Tips:
CAS #57-74-9 nomenclature is based on EPA method 8081B.

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

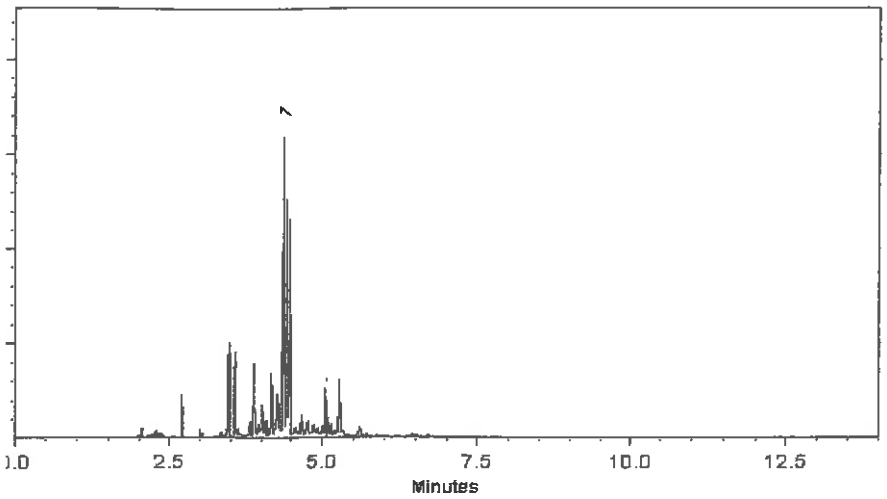

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Brandon Reish - Mix Technician

Date Mixed: 19-Feb-2016 **Balance:** B345965662

Jennifer L. Pollino - QC Analyst

Date Passed: 23-Feb-2016

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

Reagent

VOA8260GAS1ST_00276

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Certificate #3222.01

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ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569722 **Lot No.:** A0146651

Description : 8260 List 1 / Std #3 Gases (2015)

8260 List 1 / Std #3 Gases (2015) 2,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2022 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Dichlorodifluoromethane (CFC-12) CAS # 75-71-8 (Lot 00012554) Purity 99%	2,500.2 µg/mL	+/- 19.5056 µg/mL +/- 140.7858 µg/mL +/- 144.0522 µg/mL	Gravimetric Unstressed Stressed
2	Chloromethane (methyl chloride) CAS # 74-87-3 (Lot SHBJ6334) Purity 99%	2,501.5 µg/mL	+/- 20.4136 µg/mL +/- 140.9867 µg/mL +/- 144.2520 µg/mL	Gravimetric Unstressed Stressed
3	Vinyl chloride CAS # 75-01-4 (Lot 00012557) Purity 99%	2,502.6 µg/mL	+/- 19.3699 µg/mL +/- 140.9018 µg/mL +/- 144.1719 µg/mL	Gravimetric Unstressed Stressed
4	1,3-Butadiene CAS # 106-99-0 (Lot SHBK2299) Purity 99%	2,502.4 µg/mL	+/- 21.0409 µg/mL +/- 141.1253 µg/mL +/- 144.3895 µg/mL	Gravimetric Unstressed Stressed
5	Bromomethane (methyl bromide) CAS # 74-83-9 (Lot 101604) Purity 99%	2,501.9 µg/mL	+/- 18.1039 µg/mL +/- 140.6930 µg/mL +/- 143.9660 µg/mL	Gravimetric Unstressed Stressed
6	Chloroethane (ethyl chloride) CAS # 75-00-3 (Lot 107-401039114-1) Purity 99%	2,498.4 µg/mL	+/- 18.1959 µg/mL +/- 140.5102 µg/mL +/- 143.7782 µg/mL	Gravimetric Unstressed Stressed
7	Dichlorofluoromethane (CFC-21) CAS # 75-43-4 (Lot 7978700) Purity 99%	2,500.0 µg/mL	+/- 14.5352 µg/mL +/- 140.1725 µg/mL +/- 143.4524 µg/mL	Gravimetric Unstressed Stressed

8	Trichlorofluoromethane (CFC-11)		2,505.7	µg/mL	+/-	19.3191	µg/mL	Gravimetric
	CAS # 75-69-4	(Lot SHBH4155V)			+/-	141.0656	µg/mL	Unstressed
	Purity 99%				+/-	144.3399	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Tech Tips:
Raw material may contain trace amounts of tert-Butanol.

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD

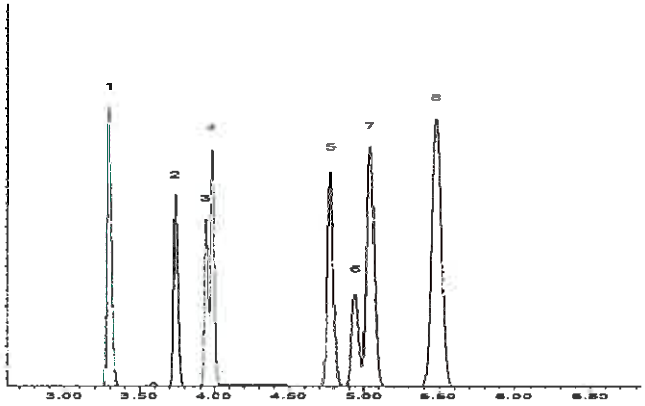

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 05-Mar-2019 **Balance:** B707717271

John Lidgett - AD Chemist

Date Passed: 12-Mar-2019

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

VOA8260GAS1ST_00277

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Tel: (800)356-1688
Fax: (814)353-1309

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569722 **Lot No.:** A0146651

Description : 8260 List 1 / Std #3 Gases (2015)

8260 List 1 / Std #3 Gases (2015) 2,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2022 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Dichlorodifluoromethane (CFC-12) **CAS #** 75-71-8 (Lot 00012554) **Purity** 99%	2,500.2 µg/mL	+/- 19.5056 µg/mL +/- 140.7858 µg/mL +/- 144.0522 µg/mL	Gravimetric Unstressed Stressed
2	Chloromethane (methyl chloride) **CAS #** 74-87-3 (Lot SHBJ6334) **Purity** 99%	2,501.5 µg/mL	+/- 20.4136 µg/mL +/- 140.9867 µg/mL +/- 144.2520 µg/mL	Gravimetric Unstressed Stressed
3	Vinyl chloride **CAS #** 75-01-4 (Lot 00012557) **Purity** 99%	2,502.6 µg/mL	+/- 19.3699 µg/mL +/- 140.9018 µg/mL +/- 144.1719 µg/mL	Gravimetric Unstressed Stressed
4	1,3-Butadiene **CAS #** 106-99-0 (Lot SHBK2299) **Purity** 99%	2,502.4 µg/mL	+/- 21.0409 µg/mL +/- 141.1253 µg/mL +/- 144.3895 µg/mL	Gravimetric Unstressed Stressed
5	Bromomethane (methyl bromide) **CAS #** 74-83-9 (Lot 101604) **Purity** 99%	2,501.9 µg/mL	+/- 18.1039 µg/mL +/- 140.6930 µg/mL +/- 143.9660 µg/mL	Gravimetric Unstressed Stressed
6	Chloroethane (ethyl chloride) **CAS #** 75-00-3 (Lot 107-401039114-1) **Purity** 99%	2,498.4 µg/mL	+/- 18.1959 µg/mL +/- 140.5102 µg/mL +/- 143.7782 µg/mL	Gravimetric Unstressed Stressed
7	Dichlorofluoromethane (CFC-21) **CAS #** 75-43-4 (Lot 7978700) **Purity** 99%	2,500.0 µg/mL	+/- 14.5352 µg/mL +/- 140.1725 µg/mL +/- 143.4524 µg/mL	Gravimetric Unstressed Stressed

8	Trichlorofluoromethane (CFC-11)		2,505.7	µg/mL	+/-	19.3191	µg/mL	Gravimetric
	CAS # 75-69-4	(Lot SHBH4155V)			+/-	141.0656	µg/mL	Unstressed
	Purity 99%				+/-	144.3399	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Tech Tips:
Raw material may contain trace amounts of tert-Butanol.

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD

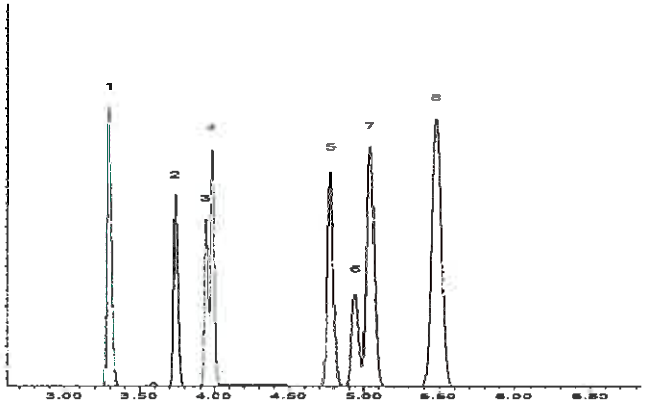

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 05-Mar-2019 **Balance:** B707717271

John Lidgett - AD Chemist

Date Passed: 12-Mar-2019

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

VOA8260INTRES_00166

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568718 **Lot No.:** A0145169

Description : 8260 Internal Standard 2014

8260 Internal Standard 2014 250-5,000µg/mL, P&T Methanol/Water (90:10), 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : January 31, 2024 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	tert-Butyl-d9-alcohol **CAS #** 25725-11-5 (Lot CD-107) **Purity** 98%	5,044.0 µg/mL	+/- 29.3246 µg/mL +/- 107.9918 µg/mL +/- 111.1314 µg/mL	Gravimetric Unstressed Stressed
2	2-Butanone-d5 **CAS #** 24313-50-6 (Lot M-276) **Purity** 99%	1,254.2 µg/mL	+/- 7.2922 µg/mL +/- 26.8533 µg/mL +/- 27.6340 µg/mL	Gravimetric Unstressed Stressed
3	Fluorobenzene **CAS #** 462-06-6 (Lot BCBK8171V) **Purity** 99%	252.1 µg/mL	+/- 1.4689 µg/mL +/- 5.3977 µg/mL +/- 5.5545 µg/mL	Gravimetric Unstressed Stressed
4	1,4-Dioxane-d8 **CAS #** 17647-74-4 (Lot I-19942) **Purity** 99%	5,027.8 µg/mL	+/- 29.2304 µg/mL +/- 107.6448 µg/mL +/- 110.7743 µg/mL	Gravimetric Unstressed Stressed
5	Chlorobenzene-d5 **CAS #** 3114-55-4 (Lot PR-23926) **Purity** 99%	250.6 µg/mL	+/- 1.4603 µg/mL +/- 5.3661 µg/mL +/- 5.5220 µg/mL	Gravimetric Unstressed Stressed
6	1,4-Dichlorobenzene-d4 **CAS #** 3855-82-1 (Lot PR-18488) **Purity** 99%	251.6 µg/mL	+/- 1.4660 µg/mL +/- 5.3871 µg/mL +/- 5.5436 µg/mL	Gravimetric Unstressed Stressed

Reagent

VOA8260KET1ST_00132

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569721 **Lot No.:** A0143988

Description : 8260 List 1/ Std #2 Ketones (2015)

8260 List 1/ Std #2 Ketones (2015) 12,500µg/mL, P&T Methanol/Water (90:10), 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : December 31, 2021 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Acetone **CAS #** 67-64-1 **Purity** 99%	(Lot SHBJ7699)	12,500.5 µg/mL	+/- 72.6790 µg/mL +/- 754.2106 µg/mL +/- 756.0012 µg/mL		Gravimetric Unstressed Stressed
2	2-Butanone (MEK) **CAS #** 78-93-3 **Purity** 99%	(Lot SHBF2461V)	12,501.0 µg/mL	+/- 72.6819 µg/mL +/- 754.2407 µg/mL +/- 756.0314 µg/mL		Gravimetric Unstressed Stressed
3	4-Methyl-2-pentanone (MIBK) **CAS #** 108-10-1 **Purity** 99%	(Lot SHBH8930)	12,501.5 µg/mL	+/- 72.6848 µg/mL +/- 754.2709 µg/mL +/- 756.0617 µg/mL		Gravimetric Unstressed Stressed
4	2-Hexanone **CAS #** 591-78-6 **Purity** 99%	(Lot MKCD9048)	12,501.8 µg/mL	+/- 72.6863 µg/mL +/- 754.2860 µg/mL +/- 756.0768 µg/mL		Gravimetric Unstressed Stressed

Solvent: P&T Methanol/Water (90:10)
CAS # 67-56-1/7732-18-5
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

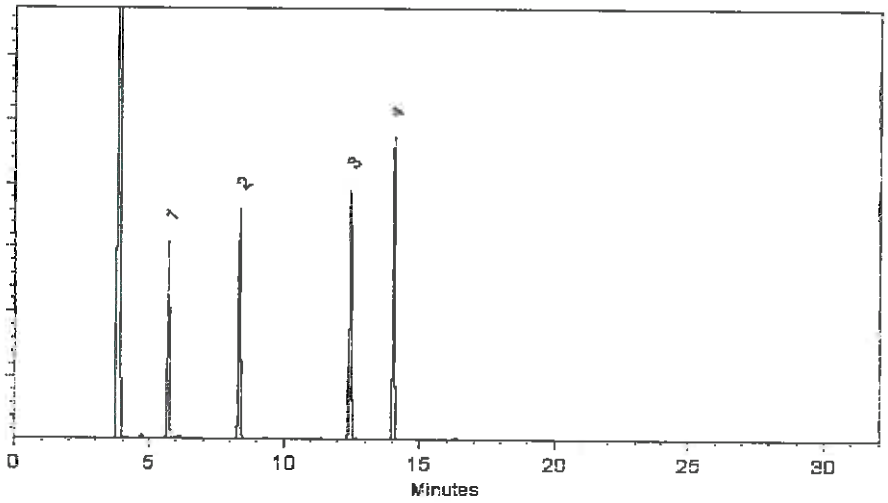

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

F. Joseph Talion - Mix Technician

Date Mixed: 11-Dec-2018 **Balance:** B251644995

Jennifer Pollino
Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 14-Dec-2018

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

VOA8260KET2ND_00124

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569721.SEC **Lot No.:** A0143456

Description : 8260 List 1/ Std #2 Ketones (2015)

8260 List 1/ Std #2 Ketones (2015) 12,500µg/mL, P&T Methanol/Water (90:10), 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2021 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Acetone **CAS #** 67-64-1.SEC (Lot U13B039) **Purity** 99%	12,524.5 µg/mL	+/- 72.8185 µg/mL +/- 755.6586 µg/mL +/- 757.4526 µg/mL	Gravimetric Unstressed Stressed
2	2-Butanone (MEK) **CAS #** 78-93-3.SEC (Lot RGZ2A) **Purity** 99%	12,527.8 µg/mL	+/- 72.8374 µg/mL +/- 755.8547 µg/mL +/- 757.6492 µg/mL	Gravimetric Unstressed Stressed
3	4-Methyl-2-pentanone (MIBK) **CAS #** 108-10-1.SEC (Lot E29T040) **Purity** 99%	12,515.3 µg/mL	+/- 72.7647 µg/mL +/- 755.1005 µg/mL +/- 756.8932 µg/mL	Gravimetric Unstressed Stressed
4	2-Hexanone **CAS #** 591-78-6.SEC (Lot Y3TUO) **Purity** 98%	12,516.8 µg/mL	+/- 72.7738 µg/mL +/- 755.1943 µg/mL +/- 756.9873 µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol/Water (90:10)
CAS # 67-56-1/7732-18-5
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

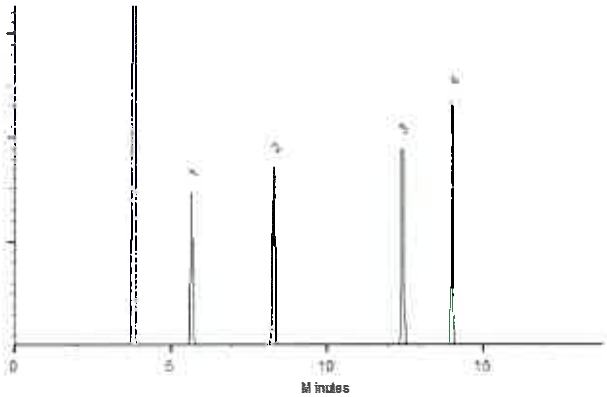

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Dustin J Lidgett

Dustin Lidgett - Mix Technician

Date Mixed: 20-Nov-2018 **Balance:** 1127510105

Justine Albertson - Operations Tech-ARM GC

Date Passed: 29-Nov-2018

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

VOA8260MEGA1_00090

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571992 **Lot No.:** A0143774

Description : 8260 List 1 / Std #1 MegaMix (2017)

8260 List 1 / Std #1 MegaMix (2017) 1,250-62,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2021 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Diethyl ether (ethyl ether) CAS # 60-29-7 (Lot SHBJ5713) Purity 99%	2,500.6 µg/mL	+/- 14.5388	µg/mL	Gravimetric
			+/- 150.8738	µg/mL	Unstressed
			+/- 151.2320	µg/mL	Stressed
2	1,1,2-Trichlorotrifluoroethane (CFC-113) CAS # 76-13-1 (Lot 00009482) Purity 99%	2,501.6 µg/mL	+/- 14.5447	µg/mL	Gravimetric
			+/- 150.9341	µg/mL	Unstressed
			+/- 151.2925	µg/mL	Stressed
3	1,1-dichloroethene CAS # 75-35-4 (Lot SHBG8609V) Purity 99%	2,501.9 µg/mL	+/- 14.5461	µg/mL	Gravimetric
			+/- 150.9492	µg/mL	Unstressed
			+/- 151.3076	µg/mL	Stressed
4	tert-Butanol (TBA) CAS # 75-65-0 (Lot SHBJ9404) Purity 99%	25,008.1 µg/mL	+/- 145.3918	µg/mL	Gravimetric
			+/- 1,508.8503	µg/mL	Unstressed
			+/- 1,512.4325	µg/mL	Stressed
5	Methyl acetate CAS # 79-20-9 (Lot SHBG4345V) Purity 99%	5,000.8 µg/mL	+/- 29.0748	µg/mL	Gravimetric
			+/- 301.7174	µg/mL	Unstressed
			+/- 302.4337	µg/mL	Stressed
6	Iodomethane (methyl iodide) CAS # 74-88-4 (Lot SHBH4362V) Purity 99%	2,500.6 µg/mL	+/- 14.5388	µg/mL	Gravimetric
			+/- 150.8738	µg/mL	Unstressed
			+/- 151.2320	µg/mL	Stressed
7	Allyl chloride (3-chloropropene) CAS # 107-05-1 (Lot WXBB7852V) Purity 99%	2,502.0 µg/mL	+/- 14.5468	µg/mL	Gravimetric
			+/- 150.9567	µg/mL	Unstressed
			+/- 151.3151	µg/mL	Stressed

8	Methylene chloride (dichloromethane) **CAS #** 75-09-2 **Purity** 99%	(Lot SHBK5095)	2,500.8	µg/mL	+/- +/- +/-	14.5396 150.8813 151.2395	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
9	Carbon disulfide **CAS #** 75-15-0 **Purity** 99%	(Lot U22D706)	2,501.1	µg/mL	+/- +/- +/-	14.5418 150.9040 151.2622	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
10	Acrylonitrile **CAS #** 107-13-1 **Purity** 99%	(Lot R15D047)	25,010.4	µg/mL	+/- +/- +/-	145.4049 1,508.9860 1,512.5686	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
11	Methyl-tert-butyl ether (MTBE) **CAS #** 1634-04-4 **Purity** 99%	(Lot SHBH9526)	2,500.3	µg/mL	+/- +/- +/-	14.5367 150.8512 151.2093	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
12	cis-1,2-Dichloroethene **CAS #** 156-59-2 **Purity** 99%	(Lot MKBX5945V)	2,501.3	µg/mL	+/- +/- +/-	14.5425 150.9115 151.2698	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
13	n-Hexane (C6) **CAS #** 110-54-3 **Purity** 99%	(Lot SHBH8106)	2,500.8	µg/mL	+/- +/- +/-	14.5396 150.8813 151.2395	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
14	1,1-Dichloroethane **CAS #** 75-34-3 **Purity** 99%	(Lot 462600)	2,500.4	µg/mL	+/- +/- +/-	14.5374 150.8587 151.2169	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
15	2,2-Dichloropropane **CAS #** 594-20-7 **Purity** 99%	(Lot BCBT5124)	2,500.9	µg/mL	+/- +/- +/-	14.5403 150.8889 151.2471	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
16	trans-1,2-Dichloroethene **CAS #** 156-60-5 **Purity** 99%	(Lot MKBH9850V)	2,500.3	µg/mL	+/- +/- +/-	14.5367 150.8512 151.2093	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
17	Isobutanol (2-Methyl-1-propanol) **CAS #** 78-83-1 **Purity** 99%	(Lot SHBK0551)	62,500.9	µg/mL	+/- +/- +/-	363.3665 3,770.9529 3,779.9058	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
18	chloroform **CAS #** 67-66-3 **Purity** 99%	(Lot SHBJ9076)	2,500.5	µg/mL	+/- +/- +/-	14.5381 150.8662 151.2244	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
19	Bromochloromethane **CAS #** 74-97-5 **Purity** 98%	(Lot 00008541)	2,500.6	µg/mL	+/- +/- +/-	14.5387 150.8718 151.2300	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
20	Tetrahydrofuran **CAS #** 109-99-9 **Purity** 99%	(Lot SHBJ6179)	5,000.6	µg/mL	+/- +/- +/-	29.0741 301.7099 302.4262	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
21	1,1,1-trichloroethane **CAS #** 71-55-6 **Purity** 99%	(Lot B15W12061)	2,500.8	µg/mL	+/- +/- +/-	14.5396 150.8813 151.2395	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
22	Cyclohexane **CAS #** 110-82-7 **Purity** 99%	(Lot MKCC9660)	2,500.9	µg/mL	+/- +/- +/-	14.5403 150.8889 151.2471	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
23	1,1-Dichloropropene **CAS #** 563-58-6 **Purity** 99%	(Lot 180531JLM)	2,500.6	µg/mL	+/- +/- +/-	14.5388 150.8738 151.2320	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

24	carbon tetrachloride **CAS #** 56-23-5 **Purity** 99%	(Lot SHBJ2110)	2,501.1	µg/mL	+/-	14.5418	µg/mL	Gravimetric
					+/-	150.9040	µg/mL	Unstressed
					+/-	151.2622	µg/mL	Stressed
25	n-Heptane (C7) **CAS #** 142-82-5 **Purity** 99%	(Lot SHBJ2424)	2,501.6	µg/mL	+/-	14.5447	µg/mL	Gravimetric
					+/-	150.9341	µg/mL	Unstressed
					+/-	151.2925	µg/mL	Stressed
26	1,2-Dichloroethane **CAS #** 107-06-2 **Purity** 99%	(Lot SHBJ0707)	2,501.3	µg/mL	+/-	14.5425	µg/mL	Gravimetric
					+/-	150.9115	µg/mL	Unstressed
					+/-	151.2698	µg/mL	Stressed
27	Benzene **CAS #** 71-43-2 **Purity** 99%	(Lot SHBJ5344)	2,500.9	µg/mL	+/-	14.5403	µg/mL	Gravimetric
					+/-	150.8889	µg/mL	Unstressed
					+/-	151.2471	µg/mL	Stressed
28	Trichloroethene **CAS #** 79-01-6 **Purity** 99%	(Lot SHBH1955V)	2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
					+/-	150.8662	µg/mL	Unstressed
					+/-	151.2244	µg/mL	Stressed
29	Methylcyclohexane **CAS #** 108-87-2 **Purity** 99%	(Lot SHBJ0457)	2,501.6	µg/mL	+/-	14.5447	µg/mL	Gravimetric
					+/-	150.9341	µg/mL	Unstressed
					+/-	151.2925	µg/mL	Stressed
30	1,2-Dichloropropane **CAS #** 78-87-5 **Purity** 99%	(Lot BCBR0882V)	2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
					+/-	150.8662	µg/mL	Unstressed
					+/-	151.2244	µg/mL	Stressed
31	1,4-Dioxane **CAS #** 123-91-1 **Purity** 99%	(Lot SHBJ7415)	50,001.1	µg/mL	+/-	290.6957	µg/mL	Gravimetric
					+/-	3,016.7880	µg/mL	Unstressed
					+/-	3,023.9503	µg/mL	Stressed
32	Dibromomethane **CAS #** 74-95-3 **Purity** 99%	(Lot 10201030)	2,502.0	µg/mL	+/-	14.5468	µg/mL	Gravimetric
					+/-	150.9567	µg/mL	Unstressed
					+/-	151.3151	µg/mL	Stressed
33	cis-1,3-Dichloropropene **CAS #** 10061-01-5 **Purity** 99%	(Lot 25076)	2,501.4	µg/mL	+/-	14.5432	µg/mL	Gravimetric
					+/-	150.9190	µg/mL	Unstressed
					+/-	151.2773	µg/mL	Stressed
34	Toluene **CAS #** 108-88-3 **Purity** 99%	(Lot SHBJ5659)	2,500.1	µg/mL	+/-	14.5359	µg/mL	Gravimetric
					+/-	150.8436	µg/mL	Unstressed
					+/-	151.2017	µg/mL	Stressed
35	Ethyl methacrylate **CAS #** 97-63-2 **Purity** 99%	(Lot 69796APV)	2,502.8	µg/mL	+/-	14.5512	µg/mL	Gravimetric
					+/-	151.0020	µg/mL	Unstressed
					+/-	151.3605	µg/mL	Stressed
36	trans-1,3-Dichloropropene **CAS #** 10061-02-6 **Purity** 98%	(Lot C797620)	2,500.6	µg/mL	+/-	14.5387	µg/mL	Gravimetric
					+/-	150.8718	µg/mL	Unstressed
					+/-	151.2300	µg/mL	Stressed
37	1,1,2-Trichloroethane **CAS #** 79-00-5 **Purity** 99%	(Lot FGB01)	2,500.4	µg/mL	+/-	14.5374	µg/mL	Gravimetric
					+/-	150.8587	µg/mL	Unstressed
					+/-	151.2169	µg/mL	Stressed
38	1,3-Dichloropropane **CAS #** 142-28-9 **Purity** 99%	(Lot BCBG2162V)	2,500.9	µg/mL	+/-	14.5403	µg/mL	Gravimetric
					+/-	150.8889	µg/mL	Unstressed
					+/-	151.2471	µg/mL	Stressed
39	Tetrachloroethene **CAS #** 127-18-4 **Purity** 99%	(Lot SHBH9691)	2,501.0	µg/mL	+/-	14.5410	µg/mL	Gravimetric
					+/-	150.8964	µg/mL	Unstressed
					+/-	151.2547	µg/mL	Stressed

40	dibromochloromethane **CAS #** 124-48-1 **Purity** 98%	(Lot MKCC0877)	2,502.4	µg/mL	+/-	14.5493	µg/mL	Gravimetric
					+/-	150.9827	µg/mL	Unstressed
					+/-	151.3411	µg/mL	Stressed
41	1,2-Dibromoethane (EDB) **CAS #** 106-93-4 **Purity** 99%	(Lot BCBH3877V)	2,500.4	µg/mL	+/-	14.5374	µg/mL	Gravimetric
					+/-	150.8587	µg/mL	Unstressed
					+/-	151.2169	µg/mL	Stressed
42	Chlorobenzene **CAS #** 108-90-7 **Purity** 99%	(Lot SHBH4459V)	2,501.1	µg/mL	+/-	14.5418	µg/mL	Gravimetric
					+/-	150.9040	µg/mL	Unstressed
					+/-	151.2622	µg/mL	Stressed
43	m-Xylene **CAS #** 108-38-3 **Purity** 99%	(Lot SHBJ2338)	1,251.5	µg/mL	+/-	7.2763	µg/mL	Gravimetric
					+/-	75.5085	µg/mL	Unstressed
					+/-	75.6878	µg/mL	Stressed
44	p-Xylene **CAS #** 106-42-3 **Purity** 99%	(Lot SHBJ0052)	1,250.1	µg/mL	+/-	7.2683	µg/mL	Gravimetric
					+/-	75.4256	µg/mL	Unstressed
					+/-	75.6047	µg/mL	Stressed
45	Ethylbenzene **CAS #** 100-41-4 **Purity** 99%	(Lot SHBJ3183)	2,500.0	µg/mL	+/-	14.5352	µg/mL	Gravimetric
					+/-	150.8361	µg/mL	Unstressed
					+/-	151.1942	µg/mL	Stressed
46	1,1,1,2-Tetrachloroethane **CAS #** 630-20-6 **Purity** 99%	(Lot MKBS3769V)	2,500.0	µg/mL	+/-	14.5352	µg/mL	Gravimetric
					+/-	150.8361	µg/mL	Unstressed
					+/-	151.1942	µg/mL	Stressed
47	o-Xylene **CAS #** 95-47-6 **Purity** 99%	(Lot SHBH7231)	2,500.8	µg/mL	+/-	14.5396	µg/mL	Gravimetric
					+/-	150.8813	µg/mL	Unstressed
					+/-	151.2395	µg/mL	Stressed
48	Styrene **CAS #** 100-42-5 **Purity** 99%	(Lot MKCC9766)	2,500.0	µg/mL	+/-	14.5352	µg/mL	Gravimetric
					+/-	150.8361	µg/mL	Unstressed
					+/-	151.1942	µg/mL	Stressed
49	Isopropylbenzene (cumene) **CAS #** 98-82-8 **Purity** 99%	(Lot 10185056)	2,500.1	µg/mL	+/-	14.5359	µg/mL	Gravimetric
					+/-	150.8436	µg/mL	Unstressed
					+/-	151.2017	µg/mL	Stressed
50	bromoform **CAS #** 75-25-2 **Purity** 99%	(Lot SHBG3138V)	2,501.0	µg/mL	+/-	14.5410	µg/mL	Gravimetric
					+/-	150.8964	µg/mL	Unstressed
					+/-	151.2547	µg/mL	Stressed
51	bromodichloromethane **CAS #** 75-27-4 **Purity** 99%	(Lot MKCF8470)	2,501.6	µg/mL	+/-	14.5447	µg/mL	Gravimetric
					+/-	150.9341	µg/mL	Unstressed
					+/-	151.2925	µg/mL	Stressed
52	1,1,2,2-Tetrachloroethane **CAS #** 79-34-5 **Purity** 99%	(Lot CFA4D)	2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
					+/-	150.8662	µg/mL	Unstressed
					+/-	151.2244	µg/mL	Stressed
53	1,2,3-Trichloropropane **CAS #** 96-18-4 **Purity** 99%	(Lot BCBH8722V)	2,501.3	µg/mL	+/-	14.5425	µg/mL	Gravimetric
					+/-	150.9115	µg/mL	Unstressed
					+/-	151.2698	µg/mL	Stressed
54	trans-1,4-dichloro-2-butene **CAS #** 110-57-6 **Purity** 94%	(Lot MKBX7788V)	2,500.0	µg/mL	+/-	14.5355	µg/mL	Gravimetric
					+/-	150.8389	µg/mL	Unstressed
					+/-	151.1971	µg/mL	Stressed
55	n-Propylbenzene **CAS #** 103-65-1 **Purity** 99%	(Lot WXBC3346V)	2,500.0	µg/mL	+/-	14.5352	µg/mL	Gravimetric
					+/-	150.8361	µg/mL	Unstressed
					+/-	151.1942	µg/mL	Stressed

56	Bromobenzene		2,500.1	µg/mL	+/-	14.5359	µg/mL	Gravimetric
	CAS # 108-86-1	(Lot WXBC5147V)			+/-	150.8436	µg/mL	Unstressed
	Purity 99%				+/-	151.2017	µg/mL	Stressed
57	1,3,5-Trimethylbenzene		2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
	CAS # 108-67-8	(Lot BCBS7648V)			+/-	150.8662	µg/mL	Unstressed
	Purity 99%				+/-	151.2244	µg/mL	Stressed
58	2-Chlorotoluene		2,500.1	µg/mL	+/-	14.5359	µg/mL	Gravimetric
	CAS # 95-49-8	(Lot MKBW5554V)			+/-	150.8436	µg/mL	Unstressed
	Purity 99%				+/-	151.2017	µg/mL	Stressed
59	4-Chlorotoluene		2,500.9	µg/mL	+/-	14.5403	µg/mL	Gravimetric
	CAS # 106-43-4	(Lot MKBL7753V)			+/-	150.8889	µg/mL	Unstressed
	Purity 99%				+/-	151.2471	µg/mL	Stressed
60	tert-Butylbenzene		2,500.1	µg/mL	+/-	14.5359	µg/mL	Gravimetric
	CAS # 98-06-6	(Lot STBD6954V)			+/-	150.8436	µg/mL	Unstressed
	Purity 99%				+/-	151.2017	µg/mL	Stressed
61	1,2,4-Trimethylbenzene		2,499.9	µg/mL	+/-	14.5348	µg/mL	Gravimetric
	CAS # 95-63-6	(Lot MKBH5027V)			+/-	150.8320	µg/mL	Unstressed
	Purity 97%				+/-	151.1901	µg/mL	Stressed
62	sec-Butylbenzene		2,501.1	µg/mL	+/-	14.5418	µg/mL	Gravimetric
	CAS # 135-98-8	(Lot MKBR9260V)			+/-	150.9040	µg/mL	Unstressed
	Purity 99%				+/-	151.2622	µg/mL	Stressed
63	p-Isopropyltoluene (p-Cymene)		2,501.1	µg/mL	+/-	14.5418	µg/mL	Gravimetric
	CAS # 99-87-6	(Lot MKBV3556V)			+/-	150.9040	µg/mL	Unstressed
	Purity 99%				+/-	151.2622	µg/mL	Stressed
64	1,3-Dichlorobenzene		2,501.4	µg/mL	+/-	14.5432	µg/mL	Gravimetric
	CAS # 541-73-1	(Lot BCBQ7100V)			+/-	150.9190	µg/mL	Unstressed
	Purity 99%				+/-	151.2773	µg/mL	Stressed
65	1,4-Dichlorobenzene		2,501.5	µg/mL	+/-	14.5439	µg/mL	Gravimetric
	CAS # 106-46-7	(Lot MKBS4401V)			+/-	150.9266	µg/mL	Unstressed
	Purity 99%				+/-	151.2849	µg/mL	Stressed
66	n-Butylbenzene		2,501.0	µg/mL	+/-	14.5410	µg/mL	Gravimetric
	CAS # 104-51-8	(Lot 09804AE)			+/-	150.8964	µg/mL	Unstressed
	Purity 99%				+/-	151.2547	µg/mL	Stressed
67	1,2-Dichlorobenzene		2,502.9	µg/mL	+/-	14.5519	µg/mL	Gravimetric
	CAS # 95-50-1	(Lot SHBG3111V)			+/-	151.0095	µg/mL	Unstressed
	Purity 99%				+/-	151.3681	µg/mL	Stressed
68	1,2-Dibromo-3-chloropropane		2,502.0	µg/mL	+/-	14.5468	µg/mL	Gravimetric
	CAS # 96-12-8	(Lot FBL01)			+/-	150.9567	µg/mL	Unstressed
	Purity 99%				+/-	151.3151	µg/mL	Stressed
69	1,2,4-Trichlorobenzene		2,502.1	µg/mL	+/-	14.5476	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBJ9215)			+/-	150.9643	µg/mL	Unstressed
	Purity 99%				+/-	151.3227	µg/mL	Stressed
70	Hexachlorobutadiene		2,501.5	µg/mL	+/-	14.5439	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot J31X013)			+/-	150.9266	µg/mL	Unstressed
	Purity 99%				+/-	151.2849	µg/mL	Stressed
71	Naphthalene		2,502.8	µg/mL	+/-	14.5512	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBZ8680V)			+/-	151.0020	µg/mL	Unstressed
	Purity 99%				+/-	151.3605	µg/mL	Stressed

72	1,2,3-Trichlorobenzene **CAS #** 87-61-6 **Purity** 99%	(Lot MKBX7627V)	2,502.5	µg/mL	+/-	14.5498	µg/mL	Gravimetric
					+/-	150.9869	µg/mL	Unstressed
					+/-	151.3454	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
40°C (hold 6 min.) to 240°C
@ 6°C/min. (hold 10 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD

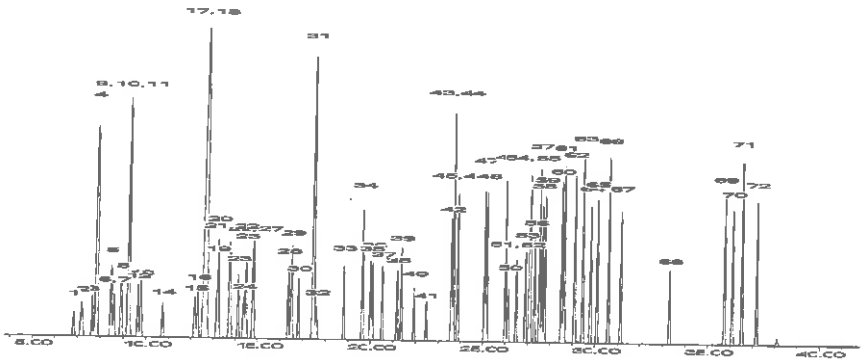

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

F. Joseph Tallon - Mix Technician

Date Mixed: 05-Dec-2018 **Balance:** B251644995

Diane Shaffer - Operations Tech-ARM QC

Date Passed: 21-Dec-2018

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

VOA8260SURRES_00160

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567650 **Lot No.:** A0143613

Description : 8260 Surrogate Standard

8260 Surrogate Standard 2,500µg/mL, P&T Methanol, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : November 30, 2023 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)			
1	Dibromofluoromethane		2,506.4	µg/mL	+/-	14.5724	µg/mL	Gravimetric
	CAS # 1868-53-7	(Lot 0012017)			+/-	140.5314	µg/mL	Unstressed
	Purity 99%				+/-	143.8196	µg/mL	Stressed
2	1,2-Dichloroethane-d4		2,503.8	µg/mL	+/-	14.5570	µg/mL	Gravimetric
	CAS # 17060-07-0	(Lot PR-29377)			+/-	140.3828	µg/mL	Unstressed
	Purity 99%				+/-	143.6676	µg/mL	Stressed
3	Toluene-d8		2,512.2	µg/mL	+/-	14.6059	µg/mL	Gravimetric
	CAS # 2037-26-5	(Lot PR-27311)			+/-	140.8538	µg/mL	Unstressed
	Purity 99%				+/-	144.1496	µg/mL	Stressed
4	1-Bromo-4-fluorobenzene (BFB)		2,501.8	µg/mL	+/-	14.5457	µg/mL	Gravimetric
	CAS # 460-00-4	(Lot 20401KO)			+/-	140.2734	µg/mL	Unstressed
	Purity 99%				+/-	143.5557	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Reagent

VOABFBRES_00081

110 Benner Circle
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Fax: (814)353-1309

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 30067 **Lot No.:** A0142868

Description : 4-Bromofluorobenzene Standard

4-Bromofluorobenzene Standard 2,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2023 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1-Bromo-4-fluorobenzene (BFB) **CAS #** 460-00-4 (Lot 20401KO) **Purity** 99%	2,510.0 µg/mL	+/- 14.7301 µg/mL	Gravimetric
			+/- 140.7475 µg/mL	Unstressed
			+/- 144.0401 µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Reagent

WBODGGAP_00078

Certificate of Analysis List

For request number 1204003

Catalog Number Entered	Lot Number Entered	Related Catalog Number	Related Lot Code	Description
2514420	9206	N/A	N/A	ez GGA for BOD Test

Total Enclosures: 1

HACH COMPANY

P.O.Box 389
Loveland, CO 80539
(970) 669-3050

An ISO 9001 Certified Company

Certificate of Analysis

COMMODITY: **ez GGA for BOD Test**
COMMODITY NUMBER: **2514420**
LOT NUMBER: **A9206**

MANUFACTURE DATE: **8/6/2019**

DATE OF ANALYSIS: **8/12/2019**

TEST	*SPECIFICATIONS*	*RESULTS*
Confirmation test to ensure glutamic acid has been added.	To Pass	Passed
COD Concentration used to confirm the total concentration of Glucose-Glutamic Acid is correct.	884 to 956 mg/l	891.0 mg/l

The expiration date is Jul 2024

After preparation following the instruction sheet the BOD concentration is 198 mg/L.

Certified by Scott Als

Scott Als
Analytical Services Chemist

Reagent

WCOD1000P_00025

LabChem
performance through chemistry
Jackson's Pointe Commerce Park - Building 1000
1010 Jackson's Pointe Court, Zelienople, PA 16063
Ph: 412-826-5230 | Fax: 724-473-0647 | www.labchem.com

CERTIFICATE OF ANALYSIS

Description: COD STANDARD, 1mL = 1mg COD

Mfg. Date: 04/12/2019

Catalog Number: LC13245

Exp. Date: 04/12/2021

Lot Number: J102-02

ANALYTICAL SECTION

Test	Specification	Test Result
Appearance	clear, colorless solution	Pass Test
Assay (as mg/mL COD)	1.00 mg/mL +/- 0.01	1.00 mg/mL
Traceable to NIST	Potassium Hydrogen Phthalate	84L

Intended Use - Product is intended for use in manufacturing procedures and laboratory procedures and protocols.

Storage Information - Unless otherwise noted on the product label, store the product under normal lab conditions in its tightly closed, original container. Do not pipet directly from the container or return unused portions to the container.

Instructions for Handling and Use - Please refer to the associated product label and Safety Data Sheet (SDS) for information regarding safety and handling of this product.

Preparation - All products are manufactured and tested according to established, documented procedures and methodology. Production documentation records manufacturing data, raw material traceability and testing history on a per lot basis. Balances, thermometers, and glassware are calibrated before first use and on a regular schedule with references traceable to NIST standards.

Submitted by: Greg Albright, Chemist Supervisor

An ISO9001:2008 certified company. Registration # 0306-01 08/30/2019 11:33 AM

Form #17.13 07/28/2016

Reagent

WNA2C03P_00001

Fisher Scientific

1 Reagent Lane
Fair Lawn, NJ 07410
201.796.7100 tel
201.796.1329 fax

Certificate of Analysis

Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2008 standard by SAI Global Certificate Number CERT - 0090918

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Certain products (USP/FCC/NF/EP/BP/JP grades) are sold for use in food, drug, or medical device manufacturing. Fisher does not claim regulatory coverage under 21 CFR nor maintain DMF's with the FDA. The following are the actual analytical results obtained:

Catalog Number	**S263**	**Quality Test / Release Date**	**9/28/2016**
Lot Number	**164101**		
Description	**SODIUM CARBONATE, ANHYDROUS, CERTIFIED A.C.S.**		
Country of Origin	**China**	*** Suggested Retest Date**	**Sep-2021**
Chemical Origin	**Inorganic-non animal**		
BSE/TSE Comment	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		

Result name	Units	Specifications	Test Value
APPEARANCE		REPORT	White crystalline powder.
ASSAY	%	>= 99.5	99.8
CALCIUM	%	<= 0.03	0.010
CHLORIDE	%	<= 0.001	<0.0010
HEAVY METALS (as Pb)	ppm	<= 5	<5.0
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
INSOLUBLE MATTER	%	<= 0.01	<0.010
IRON (Fe)	ppm	<= 5	<5.0
LOSS ON HEATING @ 285 DEG C	%	<= 1.0	0.2
MAGNESIUM	%	<= 0.005	<0.005
PHOSPHATE (PO4)	%	<= 0.001	<0.0010
POTASSIUM (K)	%	<= 0.005	0.001
SILICA (SiO2)	%	<= 0.005	<0.005
SULFUR COMPOUNDS	%	<= 0.003	<0.0030

Teresa Bailey-Wyche

Quality Assurance Specialist - Certificate of Analysis Fair Lawn

Note: The data listed is valid for all package sizes of this lot of this product, expressed as a extension of this catalog number listed above. If there are any questions with this certificate, please call Chemical Services at (800) 227-6701.
*Based on suggested storage condition.

Reagent

WNH31000P_00027

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Ph: 412-826-5230 | Fax: 724-473-0647 | www.labchem.com

CERTIFICATE OF ANALYSIS

Description: AMMONIA (as NITROGEN) STANDARD, 1000ppm (1mL = 1mg N)

Mfg. Date: 03/13/2018

Catalog Number: LC17940

Exp. Date: 03/13/2020

Lot Number: H068-14

ANALYTICAL SECTION

Test	Specification	Test Result
Appearance	clear, colorless solution	Pass Test
Concentration ppm N	1000ppm +/- 10ppm	1003 ppm
Concentration mg N/mL	1.000 +/- 0.010 mg N/mL	1.003 mg N/mL
Traceable to NIST	Potassium Chloride	999b

Intended Use - Product is intended for use in manufacturing procedures and laboratory procedures and protocols.

Storage Information - Unless otherwise noted on the product label, store the product under normal lab conditions in its tightly closed, original container. Do not pipet directly from the container or return unused portions to the container.

Instructions for Handling and Use - Please refer to the associated product label and Safety Data Sheet (SDS) for information regarding safety and handling of this product.

Preparation - All products are manufactured and tested according to established, documented procedures and methodology. Production documentation records manufacturing data, raw material traceability and testing history on a per lot basis. Balances, thermometers, and glassware are calibrated before first use and on a regular schedule with references traceable to NIST standards.

Submitted by: Greg Albright, Chemist Supervisor

Reagent

WNH31000S_00017

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Jackson's Pointe Commerce Park - Building 1000
1010 Jackson's Pointe Court, Zelienople, PA 16063
Ph: 412-826-5230 | Fax: 724-473-0647 | www.labchem.com

CERTIFICATE OF ANALYSIS

Description: AMMONIA (as NITROGEN) STANDARD, 1000ppm (1mL = 1mg N)

Mfg. Date: 05/23/2018

Catalog Number: LC17940

Exp. Date: 05/23/2020

Lot Number: H136-09

ANALYTICAL SECTION

Test	Specification	Test Result
Appearance	clear, colorless solution	Pass Test
Concentration ppm N	1000ppm +/- 10ppm	1000 ppm
Concentration mg N/mL	1.000 +/- 0.010 mg N/mL	1.000 mg N/mL
Traceable to NIST	Potassium Chloride	999b

Intended Use - Product is intended for use in manufacturing procedures and laboratory procedures and protocols.

Storage Information - Unless otherwise noted on the product label, store the product under normal lab conditions in its tightly closed, original container. Do not pipet directly from the container or return unused portions to the container.

Instructions for Handling and Use - Please refer to the associated product label and Safety Data Sheet (SDS) for information regarding safety and handling of this product.

Preparation - All products are manufactured and tested according to established, documented procedures and methodology. Production documentation records manufacturing data, raw material traceability and testing history on a per lot basis. Balances, thermometers, and glassware are calibrated before first use and on a regular schedule with references traceable to NIST standards.

Submitted by: Greg Albright, Chemist Supervisor

An ISO9001:2008 certified company. Registration # 0306-01 01/29/2019 2:39 PM

Form #17.13 07/28/2016

Reagent

WpHBuffer7CCV_00033

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2939079
ID: WpHBuffer7CCV_00033
Exp:09/19/20 Prpd:MTW Opn:10/04/18
pH Buffer 7 LCS

CERTIFICATE OF ANALYSIS

Description: BUFFER SOLUTION pH 7.0 Yellow

Mfg. Date: 09/19/2018

Catalog Number: LC12380

Exp. Date: 09/19/2020

Lot Number: H250-16

ANALYTICAL SECTION

Test	Specification	Test Result
Appearance	clear, yellow solution	Pass Test
pH @ 25 degrees C	pH 7.00 +/- 0.01	7.01
Traceable to NIST SRMs		186g 187f

Intended Use - Product is intended for use in manufacturing procedures and laboratory procedures and protocols.

Storage Information - Unless otherwise noted on the product label, store the product under normal lab conditions in its tightly closed, original container. Do not pipet directly from the container or return unused portions to the container.

Instructions for Handling and Use - Please refer to the associated product label and Safety Data Sheet (SDS) for information regarding safety and handling of this product.

Preparation - All products are manufactured and tested according to established, documented procedures and methodology. Production documentation records manufacturing data, raw material traceability and testing history on a per lot basis. Balances, thermometers, and glassware are calibrated before first use and on a regular schedule with references traceable to NIST standards.

Submitted by: Greg Albright, Chemist Supervisor

An ISO9001:2008 certified company. Registration # 0306-01

10/16/2018 11:43 AM

Form #17.13 07/28/2016

Reagent

WpHBuffer7P_00020

2923701
ID: WpHBuffer7P_00020
Exp:07/12/20 Prpd:MTW Opn:10/02/18
pH Buffer 7

LabChem
performance through chemistry
Jackson's Pointe Commerce Park - Building 1000
1010 Jackson's Pointe Court, Zelienople, PA 16063
Ph: 412-826-5230 | Fax: 724-473-0647 | www.labchem.com

CERTIFICATE OF ANALYSIS

Description: BUFFER SOLUTION pH 7.0

Catalog Number: LC12370

Mfg. Date: 07/12/2018

Lot Number: H191-04

Exp. Date: 07/12/2020

ANALYTICAL SECTION

Test	Specification	Test Result
Appearance	clear, colorless solution	Pass Test
pH @ 25 degrees C	pH 7.00 +/- 0.01	6.99
Verified against NIST buffer		186g, 187f

Intended Use - Product is intended for use in manufacturing procedures and laboratory procedures and protocols.

Storage Information - Unless otherwise noted on the product label, store the product under normal lab conditions in its tightly closed, original container. Do not pipet directly from the container or return unused portions to the container.

Instructions for Handling and Use - Please refer to the associated product label and Safety Data Sheet (SDS) for information regarding safety and handling of this product.

Preparation - All products are manufactured and tested according to established, documented procedures and methodology. Production documentation records manufacturing data, raw material traceability and testing history on a per lot basis. Balances, thermometers, and glassware are calibrated before first use and on a regular schedule with references traceable to NIST standards.

Submitted by: Greg Albright, Chemist Supervisor

An ISO9001:2008 certified company. Registration # 0306-01

10/02/2018 2:26 PM

Form #17.13 07/28/2016

Reagent

WResPSP_00062

phenova
Certified Reference Materials

info@phenova.com • www.phenova.com • 1-866-942-2978

3350631
ID: WResPSP_00062
Exp: 07/31/21 Prpd: AVS
Phenova Residue LCS

WP Solids — Lot #8195-09

TNI Analyte Code	Analyte	Certified Value mg/L	Acceptance Limits mg/L	Acceptance Limits %
1955	Total Dissolved Solids at 180° (TFR)	633	570 - 697	90.0 - 110
1960	Non-Filterable Residue (TSS)	82.3	67.3 - 91.5	81.8 - 111
1950	Total Solids	716	644 - 787	89.9 - 110

Certified Values = "100% true concentration" of each analyte as determined from gravimetric and volumetric measurements made during standard manufacture.

Acceptance Limits = Generated based on the criteria established by The NELAC Institute (TNI) Fields of Proficiency Testing tables using regression equations and/or fixed percentage limits, historical data and other criteria distributed by accrediting agencies as applicable. Please note that regression based acceptance criteria are based on the Assigned Value and may have different criteria at different concentrations.

Solvent = Deionized Water

Store at 20-25°C.

Expiration Date: 07/21

Catalog #QC-SOL-WP

Preparation Instructions: The WP Solids standard is provided as a ready-to-use standard that does not require dilution prior to use. Shake adequately to homogenize the standard before removing an aliquot for analysis. Analyze by your normal procedures.

Note: It is strongly recommended that you analyze for TSS prior to removing aliquots for other analyses from the Solids bottle.

RAB 8-9-19

Approved by: BJW

Date: 07/19

Reviewed by: AMB

Date: 07/19

Reagent

WTOC1000SP_00028

RICCA CHEMICAL COMPANY®

1841 Broad Street
Pocomoke City, MD 21851
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

Certificate of Analysis

Organic Carbon Standard, 1000 ppm C

Lot Number: 2812D25 **Product Number:** 1847

Manufacture Date: DEC 31, 2018
Expiration Date: DEC 2019

The certified value reported is the prepared value based upon the method of preparation of the material. The uncertainty in the prepared value is based upon the volumetric method of preparation.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Phosphoric Acid	7664-38-2	ACS
Potassium Acid Phthalate	877-24-7	ACS Acidimetric

Test	Specification	Result
Appearance	Colorless liquid	Passed
Carbon (C)	995-1005 ppm	1000 ppm

Specification	Reference
Organic Carbon Stock Solution	APHA (5310 B)
Potassium Hydrogen Phthalate, Stock Solution	EPA (SW-846) (9060)
Potassium Hydrogen Phthalate, Stock Solution, 1000 mg Carbon/liter	EPA (415.1)
Organic Carbon Solution, Standard (1 mL = 1 mg C)	ASTM (D 2579)

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
1847-16	500 mL amber glass	12 months
1847-32	1 L amber glass	12 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

Andy Baumgartner (12/31/2018)
Quality Control Supervisor

This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

This test report shall not be reproduced, except in full, without the written approval of Ricca Chemical Company.

Reagent

HG7470TA_00025

Rec'd 2/12/19

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: G34-4400-10PPM331-100

Mercury (Hg) – 10 µg/mL

Lot #: 991303-13

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty
Hg	10.0 ± 0.1 µg/mL (w/v)
	10.0 ± 0.1 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO Guide 34**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 10.0 µg/mL by gravimetric methods using a single-element concentrate dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3133, lot #061204**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	1	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	MAJOR	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

February 5, 2019
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

HG7470TA_00026

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 - USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6779 - 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01

ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Mass Spec Solution
Catalog Number:	MSHG-10PPM
Lot Number:	N2-HG670218
Matrix:	10% (v/v) HCl
Value / Analyte(s):	10 µg/mL ea: Mercury
Starting Material:	Hg metal
Starting Material Lot#:	1959
Starting Material Purity:	99.9994%

RE: 6/24/19

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value:	10.004 ± 0.053 µg/mL
Density:	1.020 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Hg	ICP Assay	3133	061204
Hg	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

O	Ag		0.000011	M	Eu	<	0.000201	O	Na		0.000004	M	Se	<	0.015915	O	Zn	<	0.001510
O	Al		0.000001	O	Fe		0.000001	M	Nb	<	0.000201	O	Si		0.000005	M	Zr	<	0.000201
M	As	<	0.000402	M	Ga	<	0.000201	M	Nd	<	0.000201	M	Sm	<	0.000201				
M	Au	<	0.003631	M	Gd	<	0.000201	M	Ni	<	0.000402	M	Sn	<	0.001007				
M	B	<	0.001208	M	Ge	<	0.000201	M	Os	<	0.000605	M	Sr	<	0.000201				
M	Ba	<	0.000201	M	Hf	<	0.000201	O	P	<	0.032370	M	Ta	<	0.000201				
M	Be	<	0.000201	s	Hg	<		M	Pb	<	0.000201	M	Tb	<	0.000201				
M	Bi	<	0.000201	M	Ho	<	0.000201	M	Pd	<	0.000403	M	Te	<	0.002216				
O	Ca		0.000007	M	In	<	0.000201	M	Pr	<	0.000201	M	Th	<	0.000201				
M	Cd	<	0.000201	M	Ir	<	0.000201	M	Pt	<	0.000402	M	Ti	<	0.000402				
M	Ce	<	0.000201	O	K		0.000020	M	Rb	<	0.000201	O	Tl	<	0.016508				
M	Co	<	0.000201	M	La	<	0.000201	M	Re	<	0.000201	M	Tm	<	0.000201				
O	Cr	<	0.003021	O	Li	<	0.000107	M	Rh	<	0.000201	M	U	<	0.008058				
M	Cs	<	0.001208	M	Lu	<	0.000201	M	Ru	<	0.000201	M	V	<	0.000201				
M	Cu	<	0.000402	O	Mg		0.000001	O	S	<	0.053950	M	W	<	0.000604				
M	Dy	<	0.000201	M	Mn	<	0.000604	M	Sb	<	0.001208	M	Y	<	0.000201				
M	Er	<	0.000201	M	Mo		0.000009	M	Sc	<	0.000201	M	Yb	<	0.000201				

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 200.59 +2 4 Hg(OH)(aq) 1+
Chemical Compatibility - Stable in HNO3. Avoid basic media forming insoluble carbonate. The sulfide, basic carbonate, oxalate, phosphate, arsenite, arsenate and iodide are insoluble in water.
Stability - 2-100 ppb levels not stable in 1% HNO3 / LDPE container, stable in 10% HNO3 packaged in borosilicate glass. 1-100 ppm levels stable in 7% HNO3 packaged in borosilicate glass. 1000-10,000 ppm solutions are chemically stable for years in 5-10% HNO3 / LDPE container.
Hg Containing Samples (Preparation and Solution) - Metal (soluble in HNO3); Oxide (Soluble in HNO3); Ores and Organic based (The literature has more references to the preparation of Hg containing samples than any other element. Please consult the literature for your specific sample type, since such preparations are prone to error. Or e-mail our technical staff and we will contact you to discuss your particular sample preparation questions in further detail.).
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 202 amu	9 ppt	n/a	186W16O
ICP-OES 184.950 nm	0.03 / 0.005 µg/mL	1	
ICP-OES 194.227 nm	0.03 / 0.005 µg/mL	1	V
ICP-OES 253.652 nm	0.1 / 0.03 µg/mL	1	Ta, Co, Th ,Rh , Fe, U

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

November 21, 2018

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- November 21, 2022

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Reagent

HRDXNCP_00039

received 8/30/19 KSS

(pg 1/6)

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

PCDD/PCDF Window Defining and Isomer Specificity Mix (DB-5)

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number:	EDF-4147
Solution Lot:	ER03111502
Expiration Date:	March 2025
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/ analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies.
- Ampules are overfilled to ensure a minimum 1 2 mL volume We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

March 24, 2015
Date

Component	Chromatographic Purity	Concentration
1,3,6,8-Tetrachlorodibenzo-p-dioxin	99.9%	200.3 ± 2.0 ng/mL
1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin	99.8%	200.6 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzo-p-dioxin	99.2%	200.3 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	98.9%	200.1 ± 2.0 ng/mL
1,2,3,9-Tetrachlorodibenzo-p-dioxin	99.6%	199.9 ± 2.0 ng/mL
1,2,8,9-Tetrachlorodibenzo-p-dioxin	99.2%	200.2 ± 2.0 ng/mL
1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin	98.9%	200.6 ± 2.0 ng/mL
1,2,3,8,9-Pentachlorodibenzo-p-dioxin	99.0%	200.1 ± 2.0 ng/mL
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin	98.7%	200.2 ± 2.0 ng/mL
1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin	99.0%	200.5 ± 2.0 ng/mL
1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin	98.9%	200.1 ± 2.0 ng/mL
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	99.8%	200.3 ± 2.0 ng/mL
1,3,6,8-Tetrachlorodibenzofuran	98.5%	200.1 ± 2.0 ng/mL
1,2,3,9-Tetrachlorodibenzofuran	98.2%	200.4 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzofuran	99.4%	200.0 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	99.2%	200.5 ± 2.0 ng/mL
2,3,4,7-Tetrachlorodibenzofuran	98.7%	200.2 ± 2.0 ng/mL
1,2,8,9-Tetrachlorodibenzofuran	99.3%	199.9 ± 2.0 ng/mL
1,3,4,6,8-Pentachlorodibenzofuran	99.5%	200.6 ± 2.0 ng/mL
1,2,3,8,9-Pentachlorodibenzofuran	99.0%	200.5 ± 2.0 ng/mL
1,2,3,4,6,8-Hexachlorodibenzofuran	98.6%	200.5 ± 2.0 ng/mL
1,2,3,4,8,9-Hexachlorodibenzofuran	99.7%	200.5 ± 2.0 ng/mL
1,2,3,4,6,7,8-Heptachlorodibenzofuran	98.9%	200.6 ± 2.0 ng/mL
1,2,3,4,7,8,9-Heptachlorodibenzofuran	99.1%	200.1 ± 2.0 ng/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Stock solution concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.

Standard Solution Assay Parameters

Analysis Method:	GC/MS
Column:	DB-5ms 30 m x 0.25 mm ID, 0.25 µm film thickness
Temp Program:	140°C to 200°C at 40°C/min 200°C to 300°C at 4°C/min
Injector Temp:	Cool-on-Column
Detector Temp:	280°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	1

Solution Standard Verification and Homogeneity

Compound	Verified Concentration ng/mL	Acceptance Criteria	%RSD - Homogeneity %	Acceptance Criteria
1,3,6,8-Tetrachlorodibenzo-p-dioxin	200.4	± 10%	1.6	≤ 5%
1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin/ 2,3,7,8-Tetrachlorodibenzo-p-dioxin/ 1,2,3,9-Tetrachlorodibenzo-p-dioxin [1]	591.2	± 10%	1.6	≤ 5%
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	196.8	± 10%	2.7	≤ 5%
1,2,8,9-Tetrachlorodibenzo-p-dioxin	197.2	± 10%	2.8	≤ 5%
1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin	194.6	± 10%	2.8	≤ 5%
1,2,3,8,9-Pentachlorodibenzo-p-dioxin	194.7	± 10%	2.3	≤ 5%
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin	195.3	± 10%	1.7	≤ 5%
1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin	192.6	± 10%	2.3	≤ 5%
1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin	191.2	± 10%	2.5	≤ 5%
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	196.7	± 10%	2.1	≤ 5%
1,3,6,8-Tetrachlorodibenzofuran	202.3	± 10%	2.1	≤ 5%
1,2,3,9-Tetrachlorodibenzofuran	194.4	± 10%	2.4	≤ 5%
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	198.0	± 10%	3.3	≤ 5%
2,3,4,7-Tetrachlorodibenzofuran/ 2,3,7,8-Tetrachlorodibenzofuran [1]	399.3	± 10%	2.4	≤ 5%
1,2,8,9-Tetrachlorodibenzofuran	198.9	± 10%	2.9	≤ 5%
1,3,4,6,8-Pentachlorodibenzofuran	195.0	± 10%	2.1	≤ 5%
1,2,3,8,9-Pentachlorodibenzofuran	199.6	± 10%	2.1	≤ 5%
1,2,3,4,6,8-Hexachlorodibenzofuran	195.5	± 10%	2.4	≤ 5%
1,2,3,4,8,9-Hexachlorodibenzofuran	196.4	± 10%	1.8	≤ 5%
1,2,3,4,6,7,8-Heptachlorodibenzofuran	197.4	± 10%	2.9	≤ 5%
1,2,3,4,7,8,9-Heptachlorodibenzofuran	195.3	± 10%	2.1	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The %RSD of samples pulled from across the lot demonstrate homogeneity.
- Product is compared to prior lot and meets acceptance criteria of ± 10%.

[1] Compounds co-elute. Concentration is the sum of both or all analytes.

Neat Material Data

Compound	Lot Number	CAS Number	Chemical Formula	Molecular Weight	Chromatographic Purity
1,3,6,8-Tetrachlorodibenzo-p-dioxin	ER040811-02	33423-92-6	$C_{12}H_4Cl_4O_2$	321.97	99.9%
1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin	ER021510-01	NA	$C_{12}H_4Cl_4O_2$	321.97	99.8%
2,3,7,8-Tetrachlorodibenzo-p-dioxin	ER061009-02	1746-01-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	ER01031401	76523-40-5	$^{13}C_{12}H_4Cl_4O_2$	333.84	98.9%
1,2,3,9-Tetrachlorodibenzo-p-dioxin	ER0529401	71669-26-6	$C_{12}H_4Cl_4O_2$	321.97	99.6%
1,2,8,9-Tetrachlorodibenzo-p-dioxin	ER11201301	62470-54-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%
1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin	ER11051302	NA	$C_{12}H_3Cl_5O_2$	356.42	98.9%
1,2,3,8,9-Pentachlorodibenzo-p-dioxin	ER05161401	NA	$C_{12}H_3Cl_5O_2$	356.42	99.0%
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin	ER08101402	NA	$C_{12}H_2Cl_6O_2$	390.86	98.7%
1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin	ER030107-01	NA	$C_{12}H_2Cl_6O_2$	390.86	99.0%
1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin	ER01201502	58200-70-7	$C_{12}HCl_7O_2$	425.31	98.9%
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	ER100207-02	35822-46-9	$C_{12}HCl_7O_2$	425.31	99.8%
1,3,6,8-Tetrachlorodibenzofuran	ER021808-01	71998-72-6	$C_{12}H_4Cl_4O$	305.98	98.5%
1,2,3,9-Tetrachlorodibenzofuran	ER071107-01	NA	$C_{12}H_4Cl_4O$	305.98	98.2%
2,3,7,8-Tetrachlorodibenzofuran	ER101211-02	51207-31-9	$C_{12}H_4Cl_4O$	305.98	99.4%
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	ER12101304	89059-46-1	$^{13}C_{12}H_4Cl_4O$	317.88	99.2%
2,3,4,7-Tetrachlorodibenzofuran	ER052307-01	NA	$C_{12}H_4Cl_4O$	305.98	98.7%
1,2,8,9-Tetrachlorodibenzofuran	ER041508-03	NA	$C_{12}H_4Cl_4O$	305.98	99.3%
1,3,4,6,8-Pentachlorodibenzofuran	ER04231401	NA	$C_{12}H_3Cl_5O$	340.42	99.5%
1,2,3,8,9-Pentachlorodibenzofuran	ER12101303	NA	$C_{12}H_3Cl_5O$	340.42	99.0%
1,2,3,4,6,8-Hexachlorodibenzofuran	ER04231402	NA	$C_{12}H_2Cl_6O$	374.86	98.6%
1,2,3,4,8,9-Hexachlorodibenzofuran	ER12091401	92341-07-6	$C_{12}H_2Cl_6O$	374.86	99.7%
1,2,3,4,6,7,8-Heptachlorodibenzofuran	ER02281403	67562-39-4	$C_{12}HCl_7O$	409.31	98.9%
1,2,3,4,7,8,9-Heptachlorodibenzofuran	ER01121503	55673-89-7	$C_{12}HCl_7O$	409.31	99.1%

Product Analysis

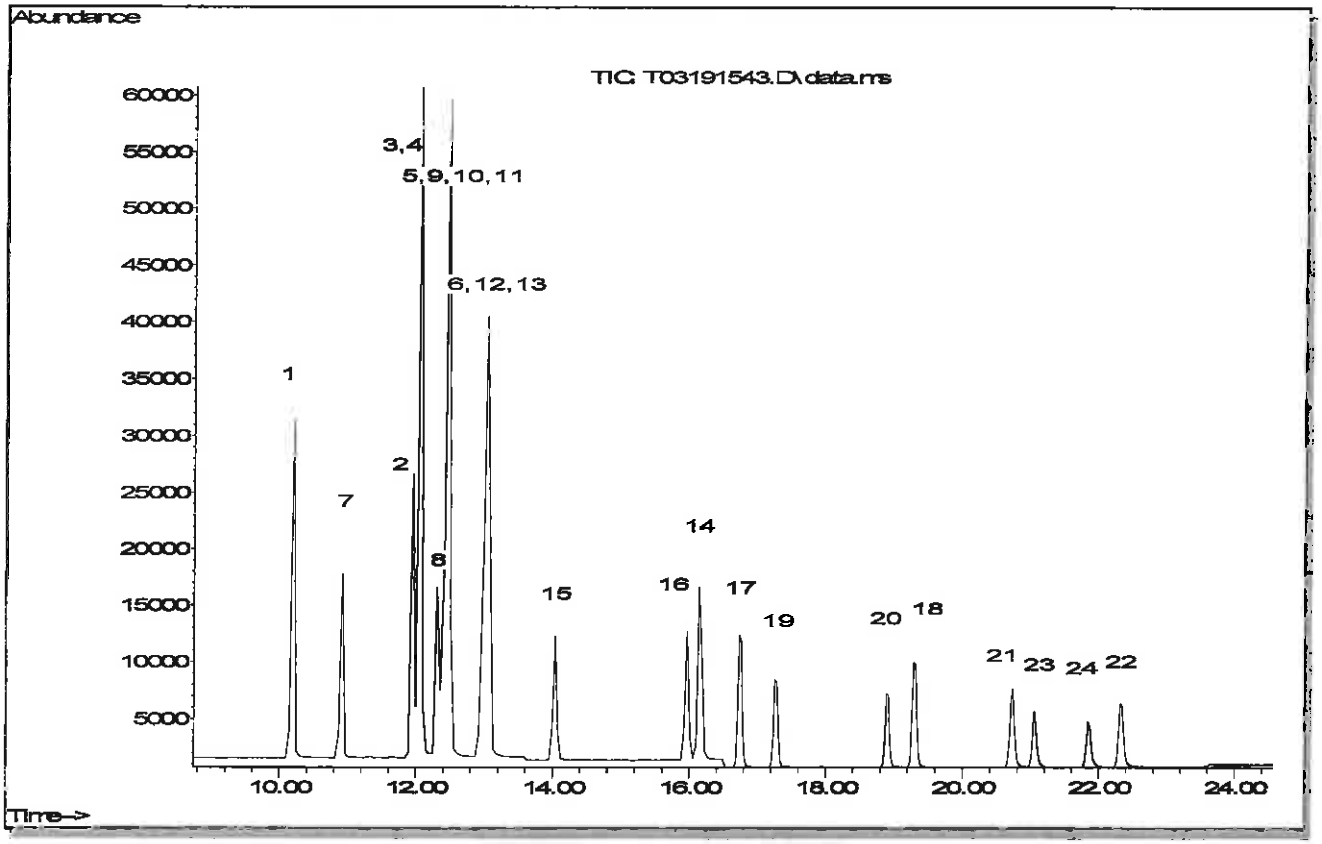

1 1,3,6,8-Tetrachlorodibenzofuran
2 2,3,4,7-Tetrachlorodibenzofuran
3 2,3,7,8-Tetrachlorodibenzofuran
4 2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$
5 1,2,3,9-Tetrachlorodibenzofuran
6 1,2,8,9-Tetrachlorodibenzofuran
7 1,3,6,8-Tetrachlorodibenzo-p-dioxin
8 1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin
9 1,2,3,9-Tetrachlorodibenzo-p-dioxin
10 2,3,7,8-Tetrachlorodibenzo-p-dioxin
11 2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$
12 1,2,8,9-Tetrachlorodibenzo-p-dioxin
13 1,3,4,6,8-Pentachlorodibenzofuran
14 1,2,3,8,9-Pentachlorodibenzofuran
15 1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin
16 1,2,3,8,9-Pentachlorodibenzo-p-dioxin
17 1,2,3,4,6,8-Hexachlorodibenzofuran
18 1,2,3,4,8,9-Hexachlorodibenzofuran
19 1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin
20 1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin
21 1,2,3,4,6,7,8-Heptachlorodibenzofuran
22 1,2,3,4,7,8,9-Heptachlorodibenzofuran
23 1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin
24 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin

COA Revision History

Revision No.	Date	Reason for Revision
00	March 24, 2015	Initial version

Reagent

HRDXNIDA_00075

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-$^{13}C_{12}$

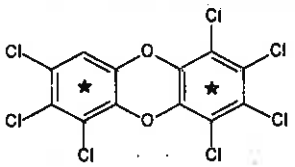

Catalog Number:	ED-972
Solution Lot:	ER111010-01
Expiration Date:	November 2020
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature Do not store cold
Intended Use:	For laboratory use only Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-$^{13}C_{12}$	98.9%	50.03 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER111010-01	50.5	± 5%	0.5	≤ 3%
Previous Lot	ER011807-01	47.4	± 5%	1.8	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

January 15, 2016
Date

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}HO_2Cl_7$
Compound Lot:	ER100110-01	**CAS Number:**	NA
		Molecular Weight:	437.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.9%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.10% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		98.91%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

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Spectral and Physical Data

GC/FID

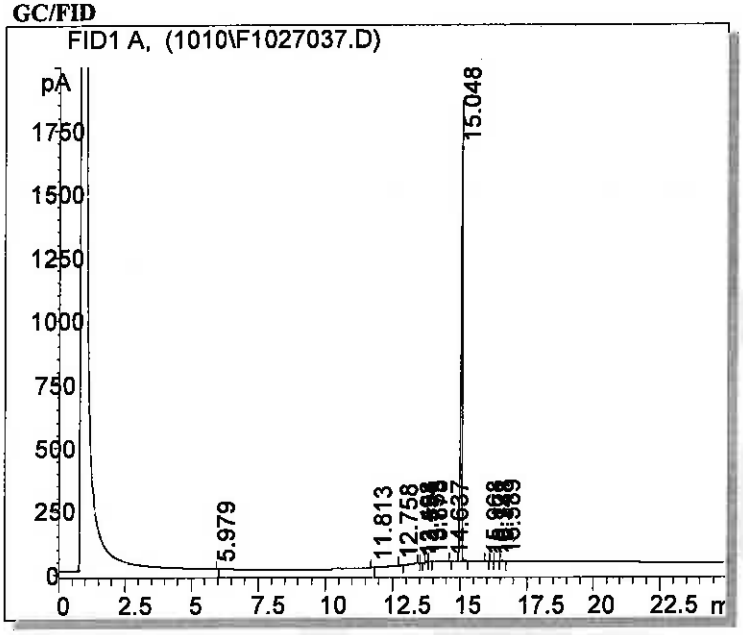

Column:	DB-5ms, 30m x 0.53mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-column
Detector Temp:	325°C
Data File Name:	S:\GC\GC6\2010\1010\F1027037.D
Instrument:	GC#6
Sample Name:	ER100110-01
Acquired:	October 28, 2010

Peak #	Ret Time	Area	Height	Area %
1	5.98	0.34	0.18	0.00
2	11.81	1.00	0.08	0.01
3	12.76	10.96	2.89	0.16
4	13.50	1.19	0.32	0.02
5	13.55	2.63	0.80	0.04
6	13.75	13.39	3.28	0.19
7	13.88	7.04	1.81	0.10
8	14.64	0.86	0.28	0.01
9	15.05	6900.70	1812.09	98.81
10	15.97	3.15	0.73	0.05
11	16.17	2.25	0.55	0.03
12	16.35	5.12	1.10	0.07
13	16.59	18.93	4.26	0.27
14	26.99	15.17	0.35	0.22
15	35.58	0.06	0.21	0.00
16	41.80	0.77	0.13	0.01

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Spectral and Physical Data (cont.)

GC/MS

Compound Name : 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-13C
Lab Number : [illegible]
Instrument : Agilent 5973N MSD/5890 GC
Operator-Inst ID : [illegible] - 010106
Date Reported : Wed Oct 27 [illegible] 2010
Column Type : [illegible] x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 300°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 290°C

Scan Range : 50-550

Total Ion Chromatogram

Mass Spectrum

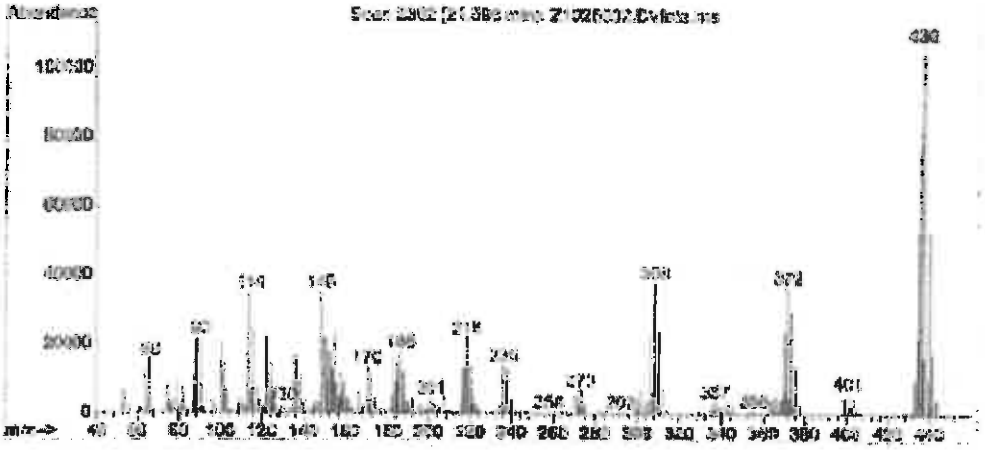

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COA Revision History

Revision No.	Date	Reason for Revision
00	November 24, 2010	Initial version
01	January 15, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

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Reagent

HRDXNIDA_00247

Recd 8-17-16

Cerilliant® Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$

HpCDF

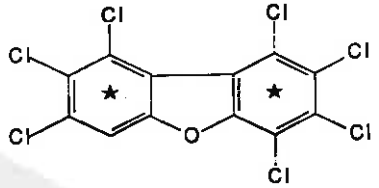

Catalog Number: EF-988
Solution Lot: ER04251601
Expiration Date: March 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	99.1%	49.99 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Acceptance Criteria	%RSD - Homogeneity Actual Results	Acceptance Criteria
New Lot	ER04251601	49.11	± 5%	0.2	≤ 3%
Previous Lot	ER053107-02	50.58	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

June 21, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}HCl_7O$
Compound Lot:	ER04041602	**CAS Number:**	109719-94-0
		Molecular Weight:	421.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.1%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS SIM	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.16% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.10%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data (cont.)

GC/FID

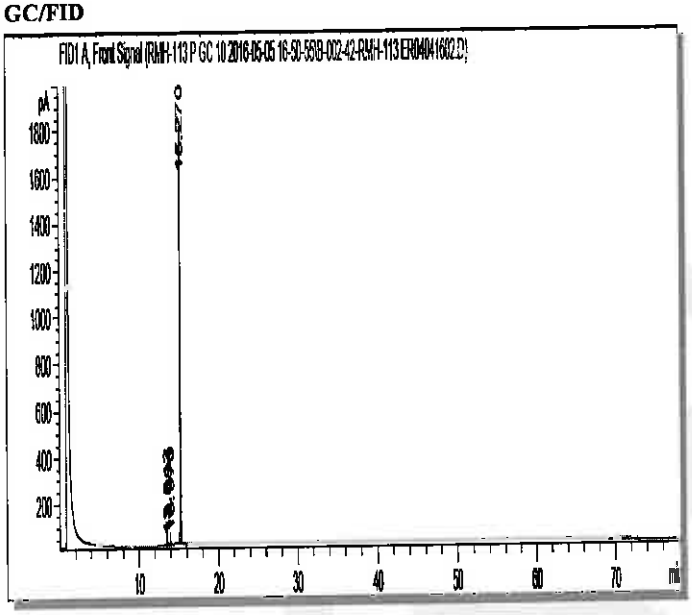

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Data File Name:	RMH-113 P GC 10 2016-05-05 16-50-55\B-002-42.D
Instrument:	GC#10
Sample Name:	ER04041602
Acquired:	May 05, 2016

Peak #	Ret Time	Area	Height	Area %
1	13.51	8.76	2.52	0.12
2	13.68	17.42	7.45	0.24
3	13.97	39.65	15.48	0.54
4	15.27	7226.95	1798.33	99.10

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 1,2,3,4,7,8,9-Heptachlorodibenzofuran-13C12
Lot Number	: EM04041602
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Wed May 04 15:34:28 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

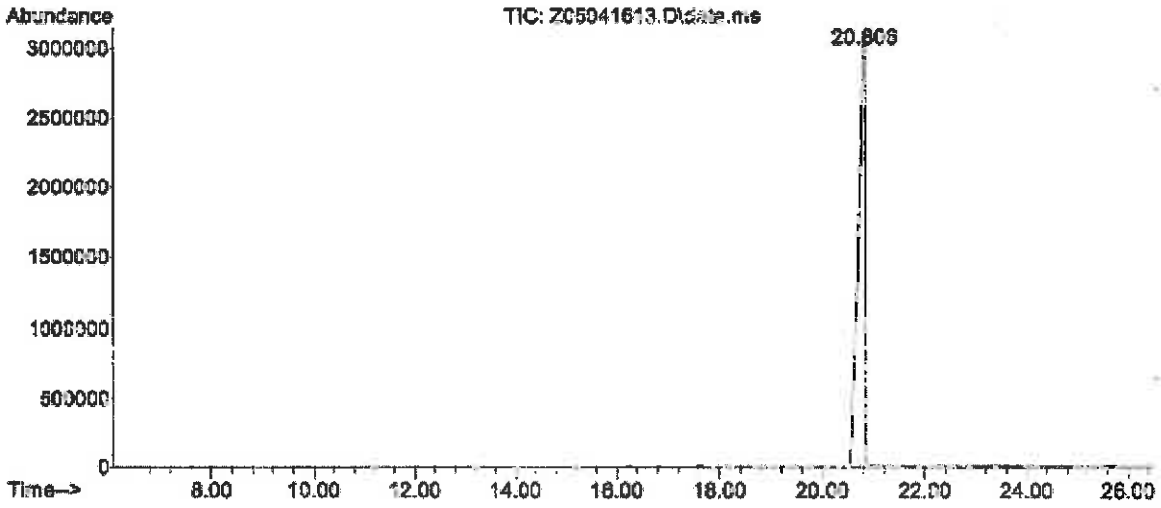

Mass Spectrum

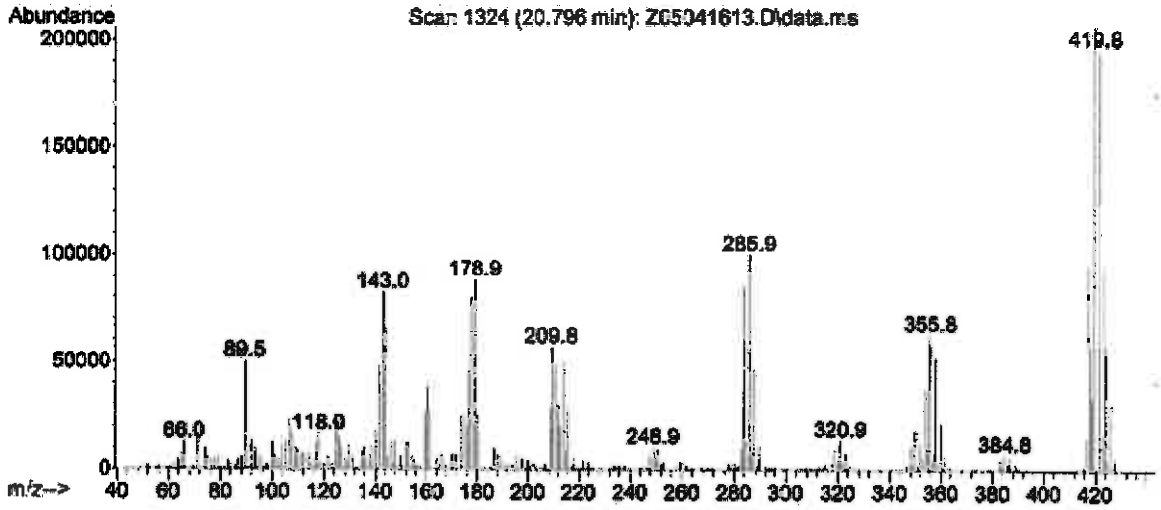

COA Revision History

Revision No.	Date	Reason for Revision
00	June 21, 2016	Initial version

Reagent

HRDXNIDA_00297

r: 9/28/17 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

1042065
ID: HRDXNIDA_00297
Exp: 01/31/27 Prpd: SKV
13C-2,3,4,7,8-PeCDF [50ug

CIL

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$

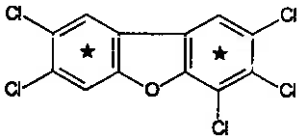

Catalog Number: EF-958
Solution Lot: ER01061701
Expiration Date: January 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	97.9%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s); measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER01061701	50.51	± 5%	0.1	≤ 3%
Previous Lot	ER11041601	49.56	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

January 27, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3Cl_5O$
Compound Lot:	ER11101601	**CAS Number:**	116843-02-8
		Molecular Weight:	352.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0102	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.02% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 0.5%
Mass Balance Purity Factor		98.33%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

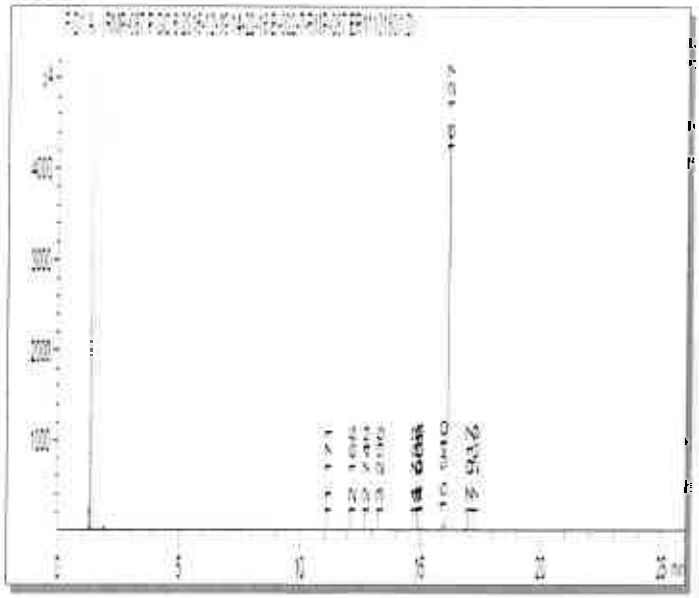

Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 100°C to 300°C at 15°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: RMP-087 P GC 6 2016-12-19 14-22-16\B-002-7.D
Instrument: GC#6
Sample Name: ER11101601
Acquired: December 19, 2016

Peak #	Ret Time	Area	Height	Area %
1	11.17	0.94	0.40	0.01
2	12.17	1.30	0.39	0.01
3	12.75	0.47	0.20	0.00
4	13.30	0.90	0.35	0.01
5	14.75	1.70	0.87	0.02
6	14.91	1.09	0.56	0.01
7	14.97	32.24	17.54	0.29
8	15.94	124.38	64.36	1.13
9	16.13	10866.60	4688.80	98.41
10	17.02	6.31	2.46	0.06
11	17.27	6.76	2.34	0.06

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 2,3,4,7,8-Pentachlorodibenzofuran-13C12
Lot Number	: ER11101601
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRS)
Date Reported	: Tue Dec 20 12:19:55 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.50 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

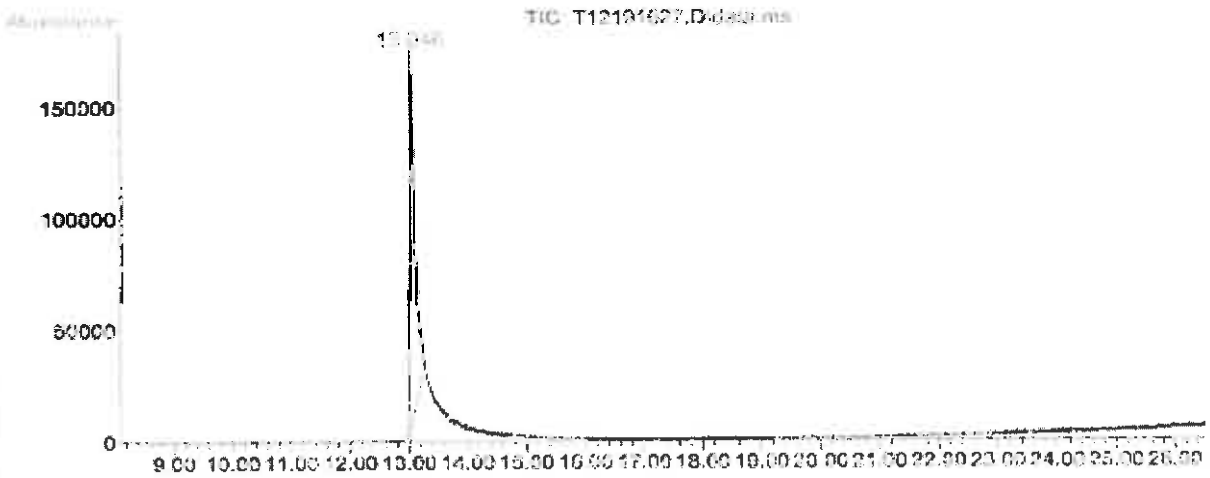

Mass Spectrum

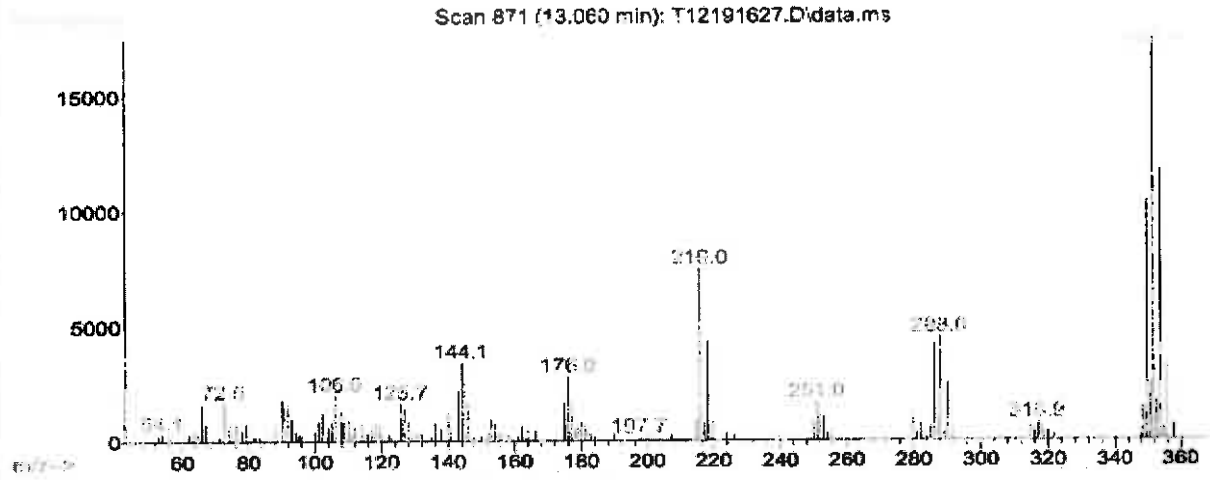

Reagent

HRDXNIDA_00301

n: 9/20/17 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

1042073
ID: HRDXNIDA_00301
Exp: 10/31/21 Prpd: SKV
13C-1,2,3,4,7,8-HxCDD [50

CIL

Certificate of Analysis

Certificate Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 9001
GMP/GLP

1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

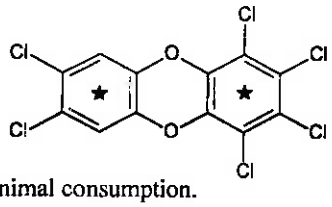

Catalog Number: ED-946
Solution Lot: ER102711-01
Expiration Date: October 2021
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.0%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER102711-01	48.2	± 5%	0.2	≤ 3%
Previous Lot	ER012208-01	49.6	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS ACCREDITED
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

September 17, 2015
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O_2$
Compound Lot:	ER011008-01	**CAS Number:**	109719-80-4
		Molecular Weight:	402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.2%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.08% $^{13}C_0$ vs $^{13}C_{12}$
		0.19% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.19%

- Chromatographic purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

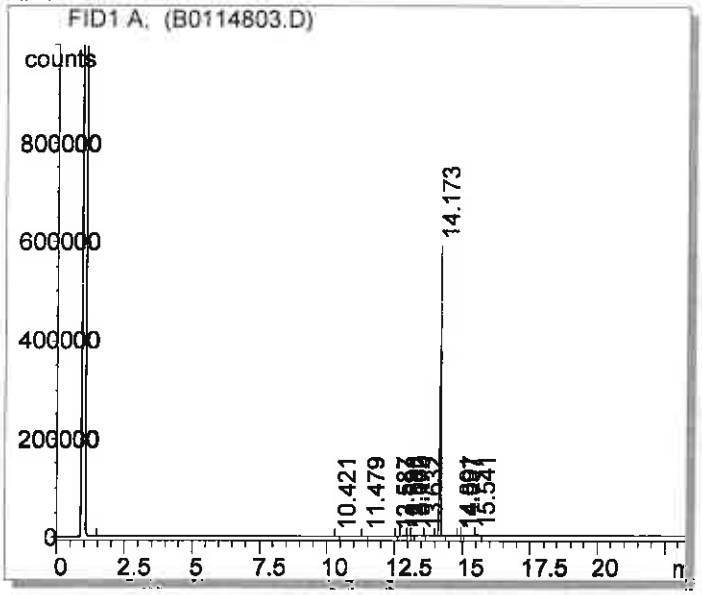

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0114803.D
Instrument:	GC#2
Sample Name:	ER011008-01
Acquired:	January 14, 2008

Peak #	Ret Time	Area	Height	Area %
1	10.42	287.44	132.33	0.02
2	11.48	242.24	92.03	0.01
3	12.59	389.12	196.33	0.02
4	12.90	3015.36	1199.07	0.17
5	13.06	2243.36	788.13	0.13
6	13.17	2243.90	754.45	0.13
7	13.63	2349.03	134.07	0.02
8	14.17	427.02	588610.00	99.20
9	14.89	1731980.00	110.79	0.03
10	15.00	512.26	86.41	0.02
11	15.54	4077.63	1008.44	0.23

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

Compound Name : 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-13C12
Lot Number : [illegible]-01
Instrument : Agilent 5973N MSD/6890N GC
Operator-Inst ID : REC - C1010E
Date Reported : Wed Jan 16 11:15:58 2008
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 300°C@6°C/min (5 min)
Injection Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 280°C

Scan Range : 50-550

Total Ion Chromatogram

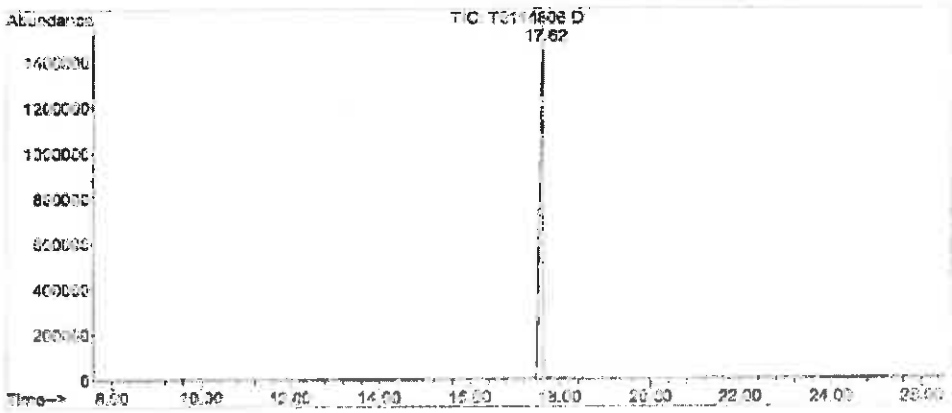

Mass Spectrum

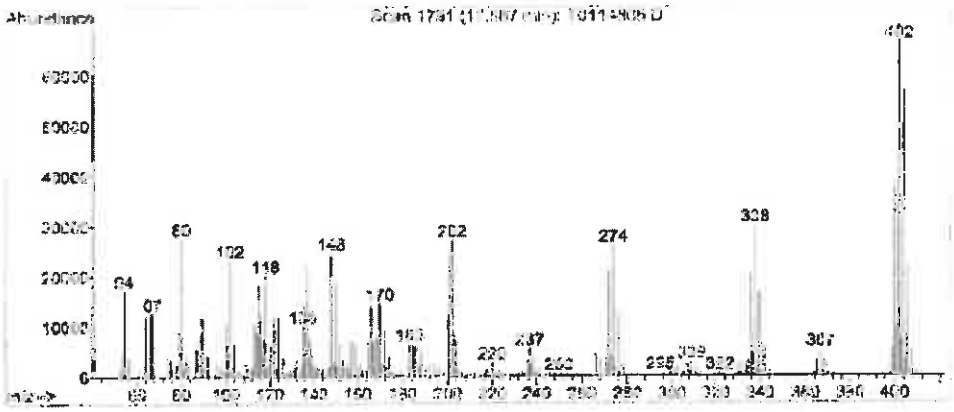

COA Revision History

Revision No.	Date	Reason for Revision
00	November 12, 2011	Initial version
01	September 17, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet"

Reagent

HRDXNIDA_00302

r: 9/20/17 SKV

1042074
ID: HRDXNIDA_00302
Exp: 07/31/20 Prpd: SKV
13C-1,2,3,4,7,8-HxCDF [50

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CIL

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

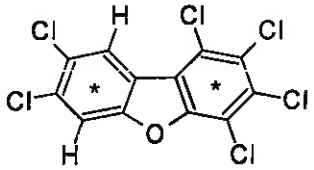

Catalog Number:	EF-963
Solution Lot:	ER072810-02
Expiration Date:	July 2020
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Protect from air and light, store at room temperature. Do not store cold.
Intended Use:	For laboratory use only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration.

Component	Chromatographic Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.6%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Acceptance Criteria	%RSD - Homogeneity Actual Results	Acceptance Criteria
New Lot	ER072810-02	47.4	± 5%	0.3	≤ 3%
Previous Lot	LR011907-01	46.6	—	1.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

November 15, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$
Compound Lot:	35135-45

Chemical Formula:	$^{13}C_{12}H_2OCl_6$
CAS Number:	114423-98-2
Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.6%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% C_0 vs C_{12}
		0.13% C_6 vs C_{12}
Purity Factor		99.57%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

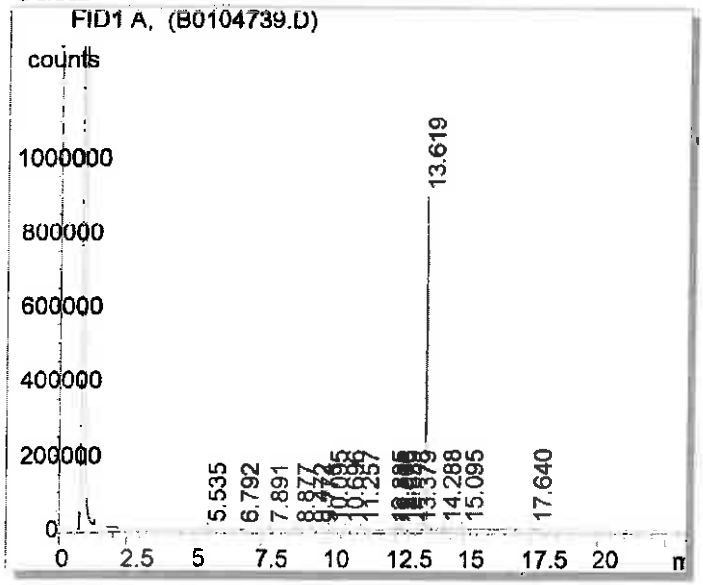

Column:	DB-5ms, 30m x 0.53mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0104739.D
Instrument:	GC#2
Sample Name:	35135-45
Acquired:	January 05, 2007

Peak #	Ret Time	Area	Height	Area %
1	4.21	615.24	161.26	0.02
2	5.21	1024.94	292.85	0.04
3	6.09	326.05	83.67	0.01
4	7.10	301.83	31.69	0.01
5	7.75	169.71	40.31	0.01
6	8.38	136.91	47.17	0.01
7	8.97	123.76	38.29	0.00
8	12.30	2684.80	1153.73	0.10
9	12.48	1162.83	467.42	0.04
10	12.56	1893.94	719.41	0.07
11	12.68	466.69	180.24	0.02
12	12.86	690.32	301.63	0.03
13	13.62	2651450.00	979725.00	99.58
14	14.34	274.11	82.01	0.01
15	15.17	1208.09	320.67	0.05
16	19.00	166.44	32.66	0.01

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

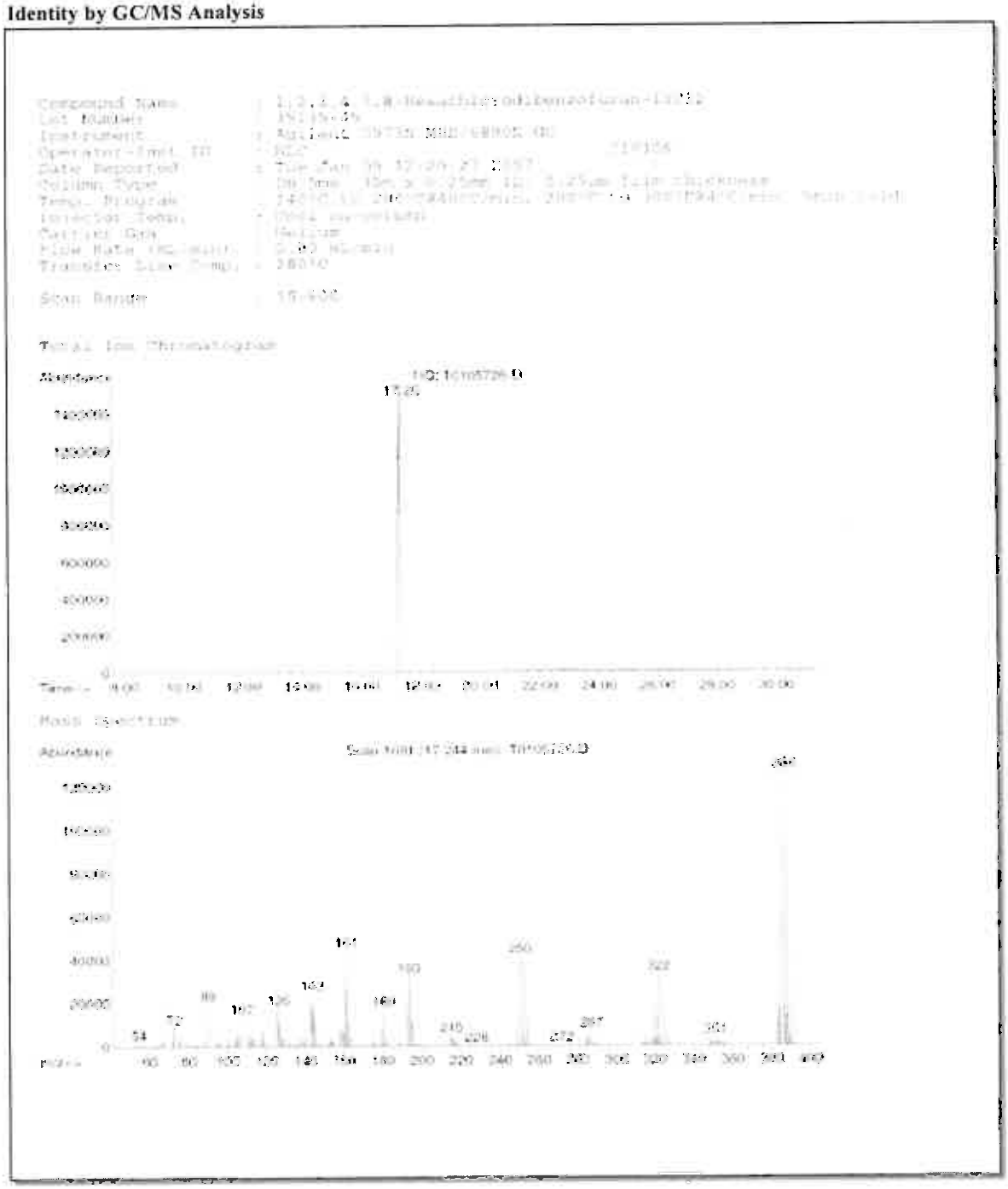

COA Revision History

Revision No.	Date	Reason for Revision
00	September 22, 2010	Initial version
01	September 22, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet"
02	November 15, 2016	Corrected Molecular Weight from 368.77 to 386.77

Reagent

HRDXNIDA_00353

r: 11/28/18 SKV

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Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,6,7,8-Heptachlorodibenzofuran-$^{13}C_{12}$

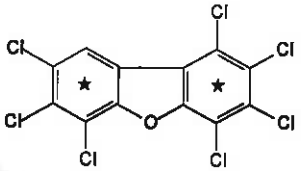

Catalog Number: EF-974
Solution Lot: ER08101404
Expiration Date: November 2024
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,6,7,8-Heptachlorodibenzofuran-$^{13}C_{12}$	98.3%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER08101404	48.75	± 5%	0.3	≤ 3%
Previous Lot	ER102711-02	51.49	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

December 03, 2015
Date

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 60°C to 300°C at 40°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 4
Linearity (r): 1.000

Neat Material Data

Compound Name: 1,2,3,4,6,7,8-Heptachlorodibenzofuran-$^{13}C_{12}$
Compound Lot: ER020507-02

Chemical Formula: $^{13}C_{12}HCl_7O$
CAS Number: 109719-84-8
Molecular Weight: 421.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	98.7%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.16% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS	SP10-0105	Pass
		no single DD/DF impurity ≥1.0%
Purity Factor		98.69%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

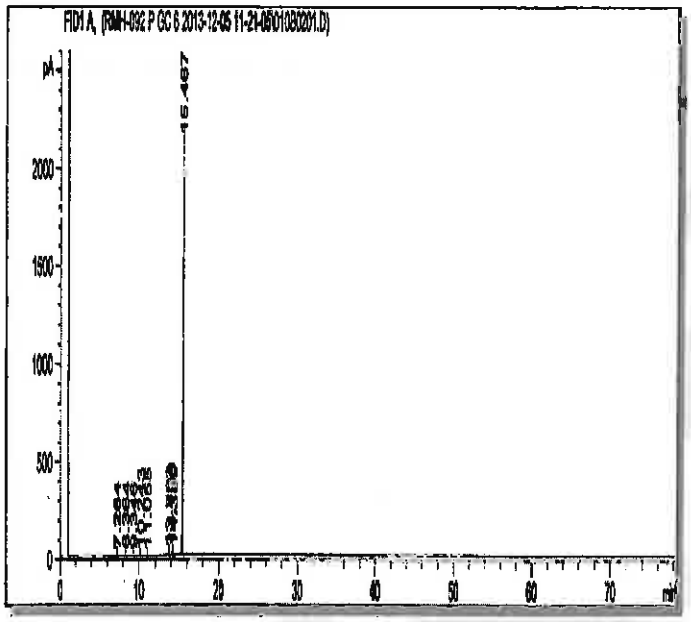

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-092 P GC 6 2013-12-05 11-21-05\010B0201.D
Instrument:	GC#6
Sample Name:	ER020507-02
Acquired:	December 05, 2013

Peak #	Ret Time	Area	Height	Area %
1	7.26	4.41	2.08	0.05
2	8.36	11.76	5.45	0.12
3	9.35	5.20	2.32	0.05
4	10.24	1.47	0.62	0.02
5	11.06	0.34	0.17	0.00
6	13.75	8.81	4.38	0.09
7	13.80	23.67	9.98	0.25
8	14.13	43.07	16.42	0.45
9	14.20	21.73	8.77	0.23
10	14.39	4.79	1.81	0.05
11	15.47	9349.36	2200.33	98.68

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 1,2,3,4,6,7,8-Heptachlorodibenzofuran-13C12
Lot Number : ER020507-02
Instrument : Agilent GCMS
Operator : ECM(BRYAN_DOCKERY)
Date Reported : Tue Dec 17 09:08:58 2013
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL\min) : 0.80 mL/min
Transfer Line Temp. : 280°C
Scan Range : 50-550

Total Ion Chromatogram

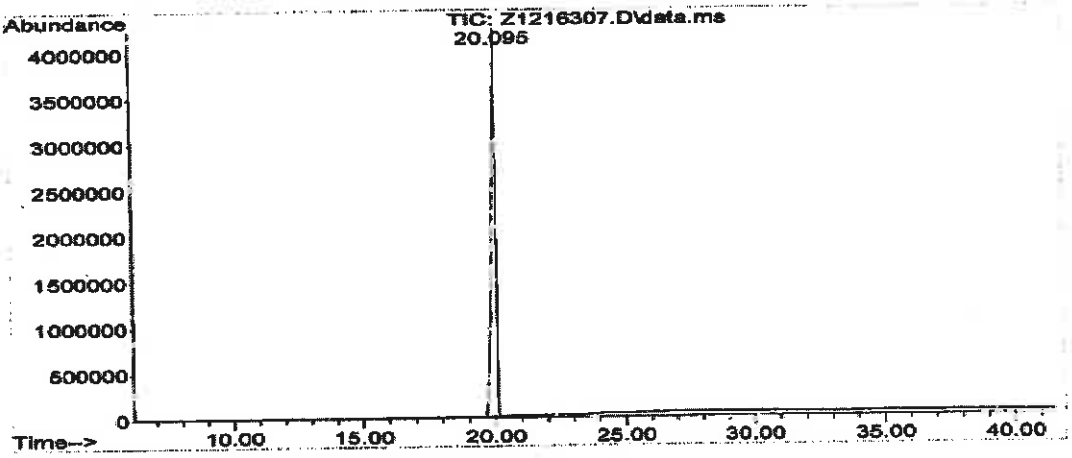

Mass Spectrum

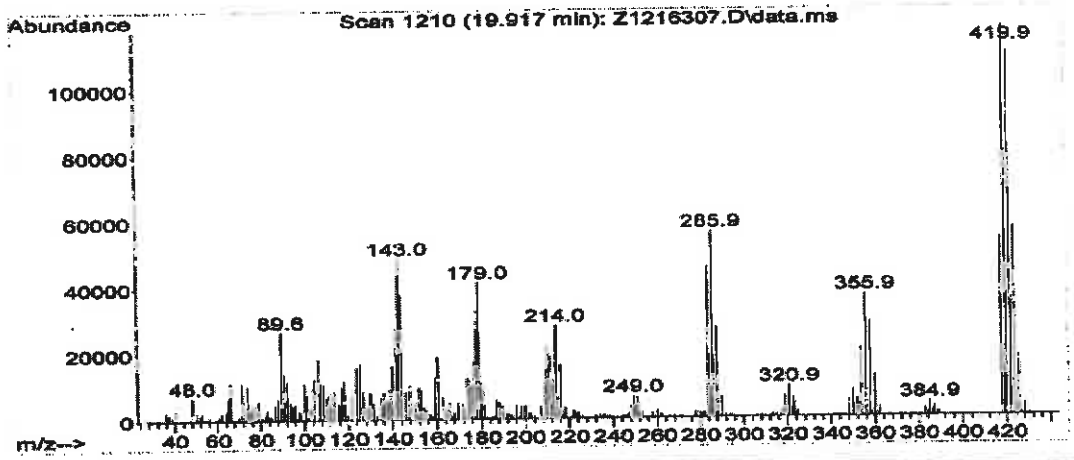

COA Revision History

Revision No.	Date	Reason for Revision
00	January 19, 2015	Initial version
01	December 04, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet"

Reagent

HRDXNIDA_00354

Rec: 11/28/18 SKV

Cerilliant Analytical Reference Standards
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Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$

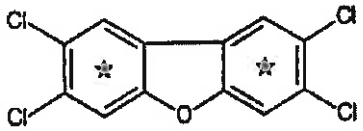

Catalog Number: EF-904
Solution Lot: ER09131601
Expiration Date: September 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	99.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER09131601	49.91	± 5%	0.2	≤ 3%
Previous Lot	ER12101304	51.13	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

November 02, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_4Cl_4O$
Compound Lot:	ER01161401	**CAS Number:**	89059-46-1
		Molecular Weight:	317.88

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.2%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS SIM	SP10-0105	No single DD/DF ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.00% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.24%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

GC/FID

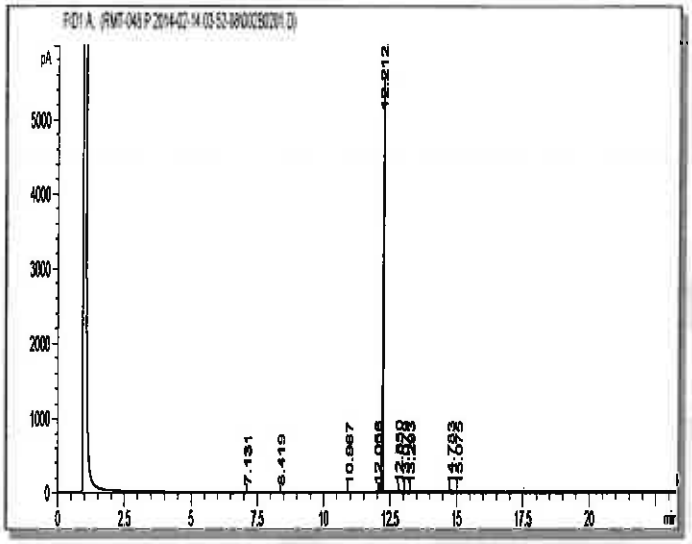

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMT-048 P 2014-02-14 03-52-08\002B0201.D
Instrument:	GC#10
Sample Name:	ER01161401
Acquired:	February 14, 2014

Peak #	Ret Time	Area	Height	Area %
1	7.13	1.19	0.61	0.01
2	8.42	3.23	1.42	0.03
3	10.97	3.57	1.04	0.03
4	12.06	20.86	12.47	0.18
5	12.21	11764.70	5466.96	99.29
6	12.85	30.72	15.48	0.26
7	13.08	7.62	4.03	0.06
8	13.29	5.47	2.91	0.05
9	14.78	7.62	2.76	0.06
10	15.08	3.87	1.33	0.03

GC/MS

Compound Name	: 2,3,7,8-Tetrachlorodibenzofuran-13C12
Lot Number	: ER01161401
Instrument	: Agilent GCMS
Operator	: ECM(SAMUEL_GIUFFRE)
Date Reported	: Thu Feb 13 11:57:07 2014
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

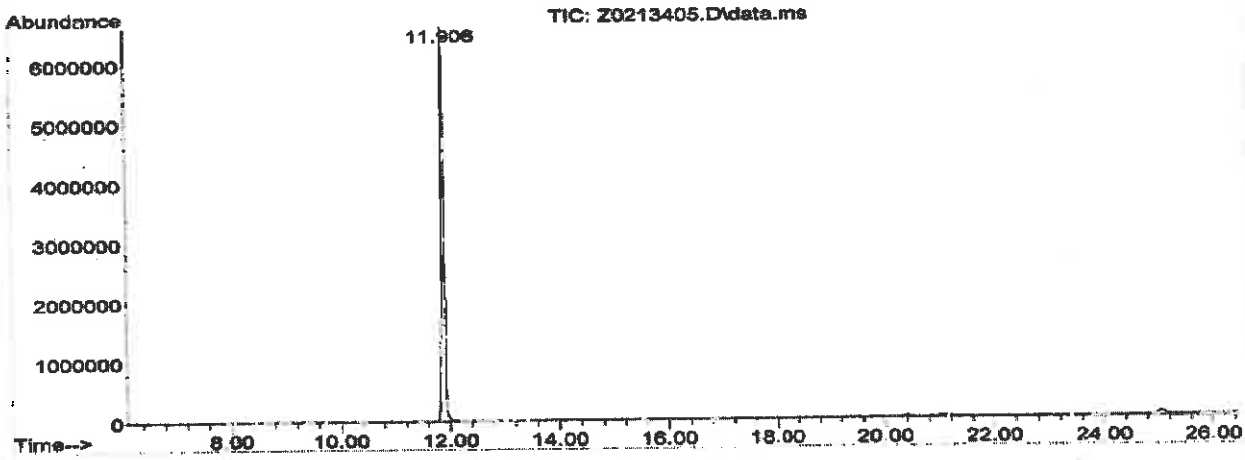

Mass Spectrum

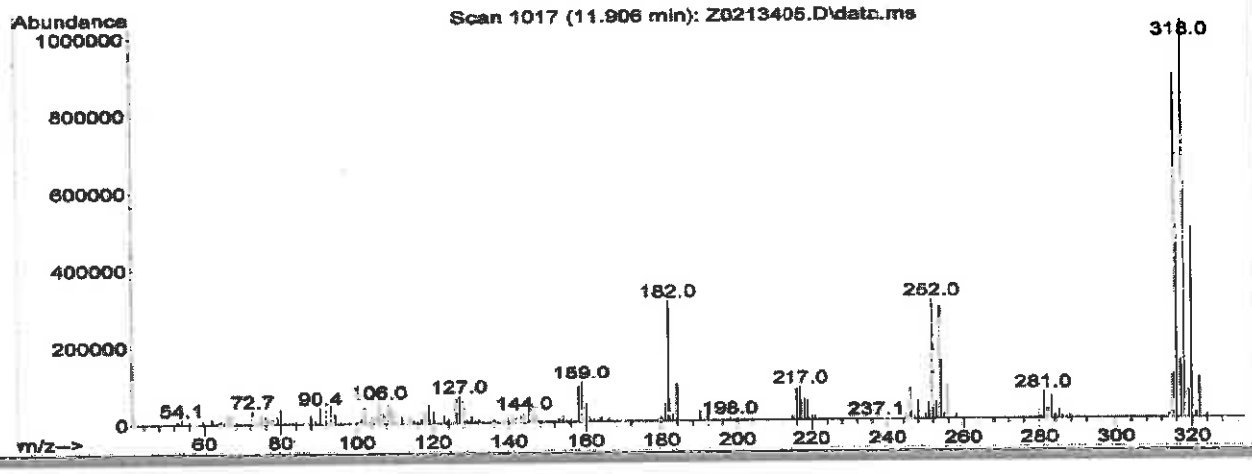

COA Revision History

Revision No.	Date	Reason for Revision
00	November 02, 2016	Initial version

Reagent

HRDXNIDA_00355

Rec: 11/28/18 SJV

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Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$

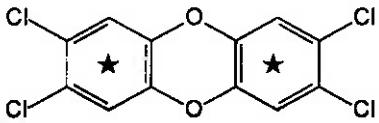

Catalog Number: ED-900
Solution Lot: ER03031601
Expiration Date: March 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.4%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution, and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER03031601	52.66	± 5%	0.3	≤ 3%
Previous Lot	ER01031401	49.83	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

March 24, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-35ms 30 m x 0.53 mm ID, 1.0 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_4Cl_4O_2$
Compound Lot:	ER01201405	**CAS Number:**	76523-40-5
		Molecular Weight:	333.88

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity and Distribution by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.05% $^{13}C_6$ vs $^{13}C_{12}$
Impurities by GC/MS SIM Analysis	SP10-0105	no single DD/DF impurity $\geq$0.5%
Mass Balance Purity Factor		99.34%

- The primary chromatographic purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Mass Balance Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

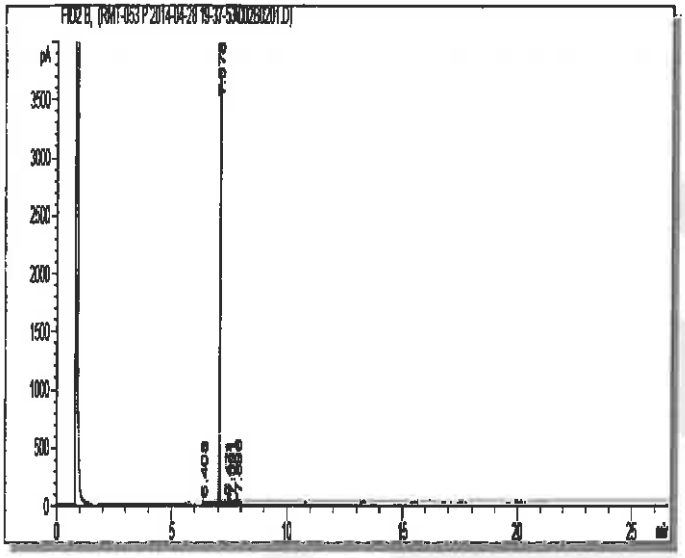

Column:	DB-35ms, 30 m x 0.53 mm ID, 1.0 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMT-053 P 2014-04-28 19-37-53\002B0201.D
Instrument:	GC#6
Sample Name:	ER01201405
Acquired:	April 28, 2014

Peak #	Ret Time	Area	Height	Area %
1	6.41	4 36	2.80	0.08
2	7 08	5225 21	3678.99	99.32
3	7 47	5 29	3.00	0.10
4	7 59	9 11	4.81	0.17
5	7.90	17 05	9.22	0.32

GC/MS

Compound Name	: 2,3,7,8-Tetrachlorodibenzo-p-dioxin-13C12
Lot Number	: ERD1201405
Instrument	: Agilent GCMS
Operator	: ECM(SAMUEL_GIUITRE)
Date Reported	: Tue May 06 09:30:26 2014
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 220°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

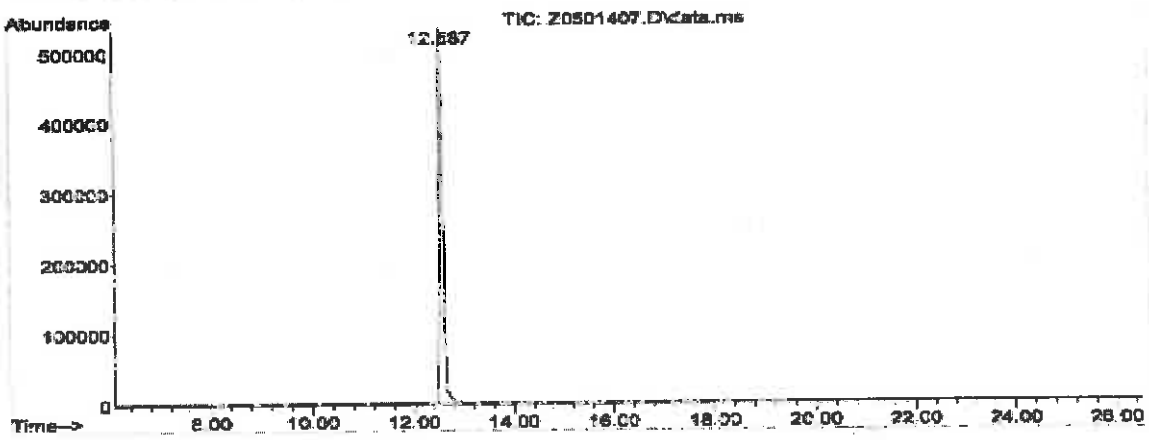

Mass Spectrum

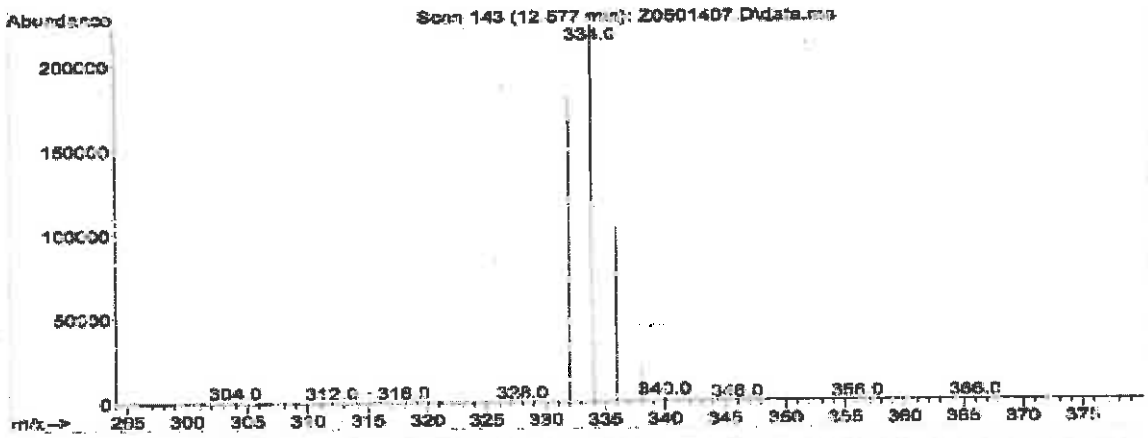

Reagent

HRDXNIDA_00357

r: 1/15/19 SKV

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ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Certificate of Analysis

1,2,3,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

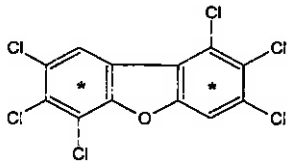

Catalog Number: EF-985
Solution Lot: ER02241603
Expiration Date: April 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.6%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER02241603	50.09	± 5%	0.4	≤ 3%
Previous Lot	ER053107-03	50.81	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

May 04, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O$
Compound Lot:	ER051607-01	**CAS Number:**	116843-03-9
		Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.06% $^{13}C_6$ vs $^{13}C_{12}$
Impurities by GC/MS SIM Analysis	SP10-0105	no single DD/DF impurity ≥ 0.5%
Mass Balance Purity Factor		99.01%

- The chromatographic purity is calculated as the average of two independently performed analyses utilizing two different methods Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Mass Balance Purity Factor
- Mass Balance Purity Factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

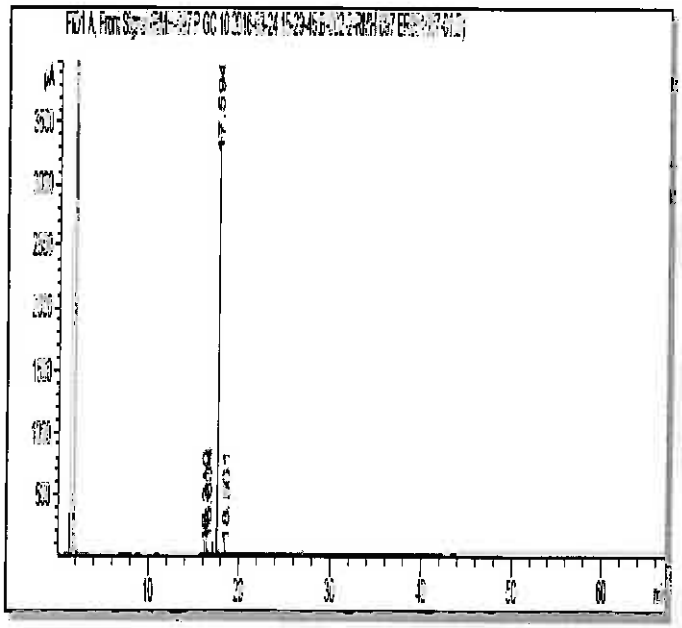

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	40°C to 300°C at 15°C/min hold 50 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-097 P GC 10 2016-03-24 15-29-45\B-002-2.D
Instrument:	GC#10
Sample Name:	ER051607-01
Acquired:	March 24, 2016

Peak #	Ret Time	Area	Height	Area %
1	16.31	6.97	3.21	0.08
2	16.60	77.08	33.51	0.83
3	17.59	9156.82	3458.38	99.00
4	18.56	8.48	2.69	0.09

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 1,2,3,6,7,8-Hexachlorodibenzofuran-13C12
Lot Number	: ER051607-01
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Fri Mar 18 07:08:54 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

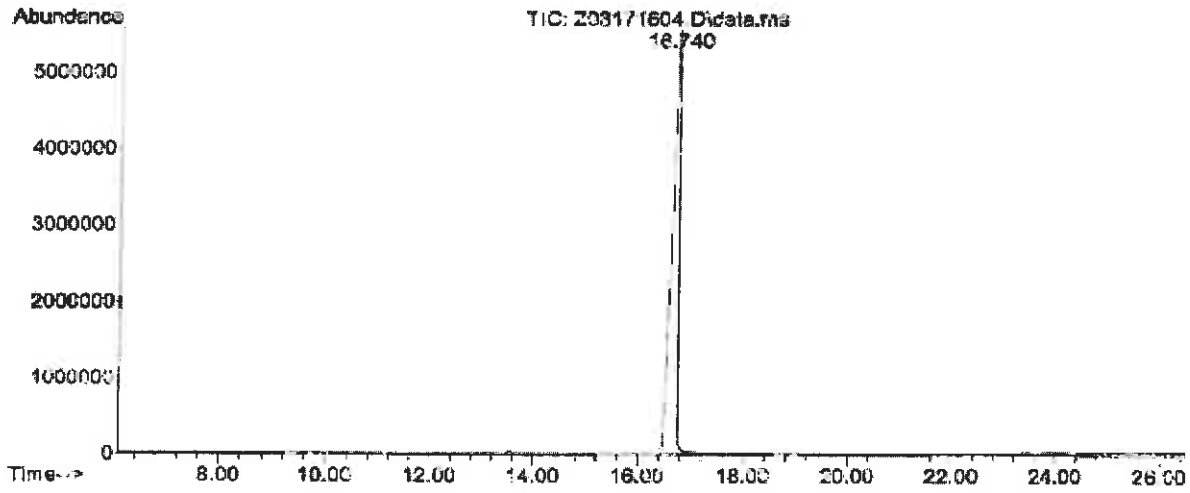

Mass Spectrum

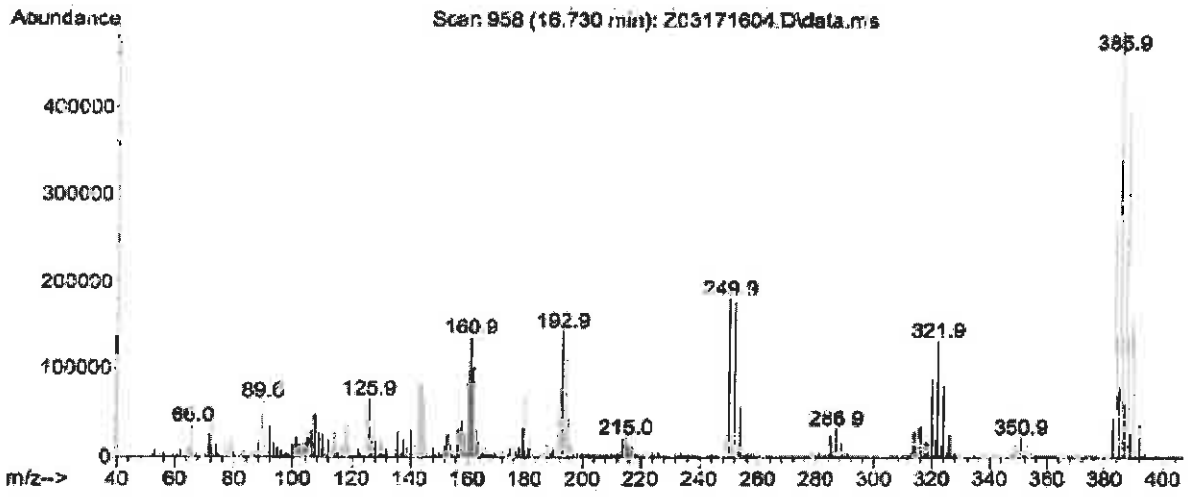

COA Revision History

Revision No.	Date	Reason for Revision
00	May 04, 2016	Initial version

Reagent

HRDXNIDA_00358

r: 1/15/19 SKV

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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,7,8,9-Hexachlorodibenzofuran-$^{13}C_{12}$

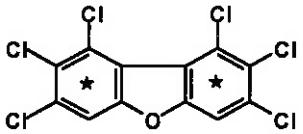

Catalog Number: EF-986
Solution Lot: ER100610-01
Expiration Date: December 2020
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For laboratory use only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
1,2,3,7,8,9-Hexachlorodibenzofuran-$^{13}C_{12}$	99.5%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER100610-01	51.2	± 5%	0.4	≤ 3%
Previous Lot	ER100107-01	49.9	± 5%	1.4	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

February 14, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2OCl_6$
Compound Lot:	ER080108-03	**CAS Number:**	116843-04-0
		Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.5%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.03% $^{13}C_0$ vs $^{13}C_{12}$
		0.09% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.49%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

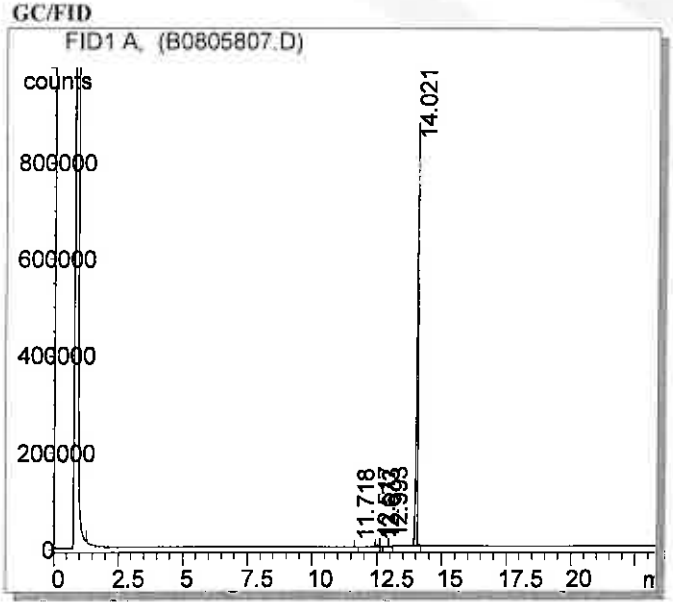

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0805807.D
Instrument:	GC#2
Sample Name:	ER080108-03
Acquired:	August 05, 2008

Peak #	Ret Time	Area	Height	Area %
1	11.72	318.47	152.10	0.01
2	12.52	8294.54	2994.64	0.30
3	12.67	155.17	67.29	0.01
4	12.99	4248.66	1646.53	0.16
5	14.02	2708910.00	880320.00	99.52

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

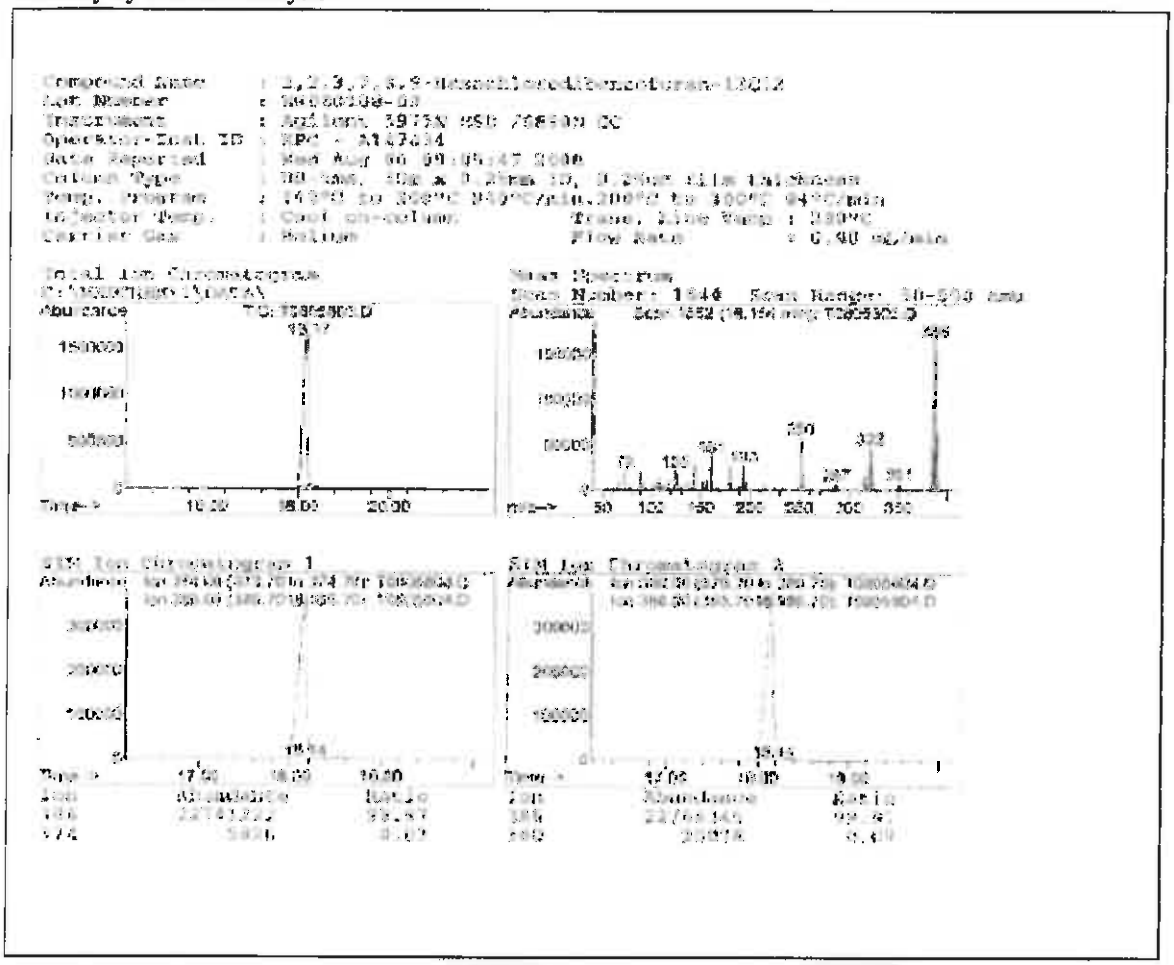

COA Revision History

Revision No.	Date	Reason for Revision
00	January 12, 2011	Initial version
01	November 05, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".
02	February 14, 2017	Corrected Isotopic Purity by GC/MS SIM from C to ^{13}C.

Reagent

HRDXNIDA_00359

r: 1/15/19 SKV

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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

2,3,4,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

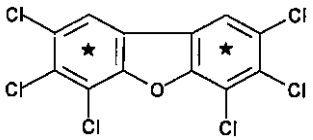

Catalog Number:	EF-987
Solution Lot:	ER100610-02
Expiration Date:	December 2020
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For laboratory use only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
2,3,4,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.4%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER100610-02	50.9	± 5%	0.6	≤ 3%
Previous Lot	ER031507-03	50.3	± 5%	1.8	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

January 15, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,4,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O$
Compound Lot:	ER061906-02	**CAS Number:**	116843-05-1
		Molecular Weight:	386.73

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.4%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.04% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.40%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

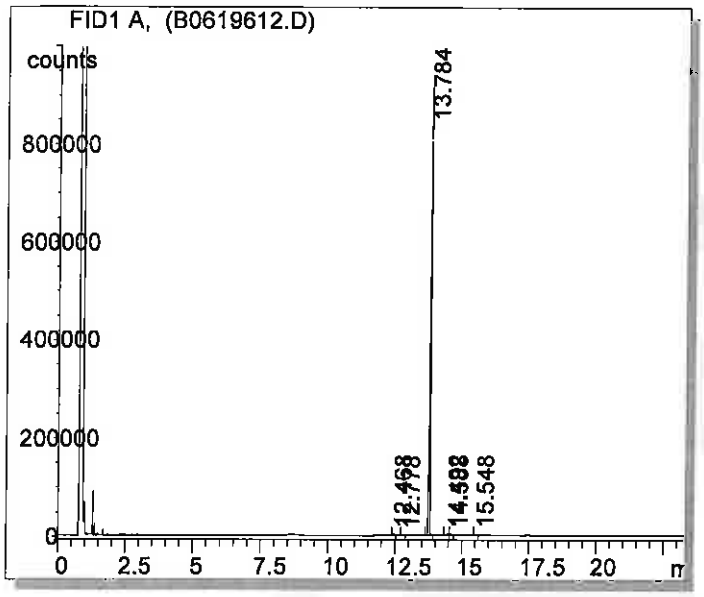

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0619612.D
Instrument:	GC#2
Sample Name:	ER061906-02
Acquired:	June 19, 2006

Peak #	Ret Time	Area	Height	Area %
1	12.47	4458	1822	0.18
2	12.78	3496	1304	0.14
3	13.78	2443150	925399	99.39
4	14.49	1528	387	0.06
5	14.59	4236	1332	0.17
6	15.55	1361	348	0.06

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 2,3,4,6,7,8-Hexachlorodibenzofuran-13C12
Lot Number : ER061906-02
Instrument : Agilent 5975N MSD /6890N GC
Operator Inst ID : RPC - A147434
Date Reported : Tue Jun 20 08:44:12 2006
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C 8.0°C/min,200°C to 320°C @4°C/min
Injector Temp. : Cool on-column Trans. Line Temp : 280°C
Carrier Gas : Helium Flow Rate : 0.80 mL/min

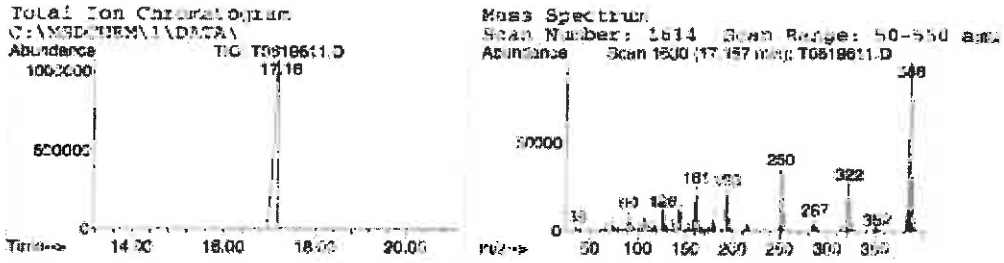

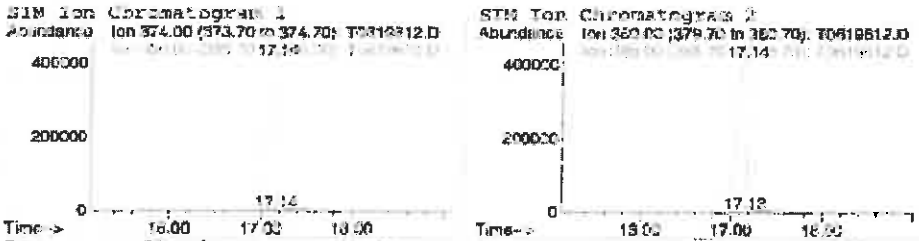

Ion	Abundance	Ratio
386	32389658	99.99
374	1998	0.01

Ion	Abundance	Ratio
386	32389446	99.96
380	12974	0.04

COA Revision History

Revision No.	Date	Reason for Revision
00	January 04, 2011	Initial version
01	January 15, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Reagent

HRDXNIDA_00360

r: 1/15/19 SKV

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Analytical Reference Standards
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Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,7,8-Pentachlorodibenzo-p-dioxin-$^{13}C_{12}$

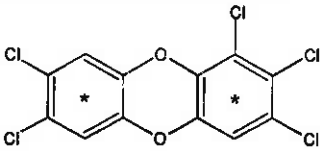

Catalog Number: ED-955
Solution Lot: ER08041401
Expiration Date: August 2024
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,7,8-Pentachlorodibenzo-p-dioxin-$^{13}C_{12}$	98.2%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER08041401	48.80	± 5%	0.3	≤ 3%
Previous Lot	ER030907-02	49.84	± 5%	0.4	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

February 10, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,7,8-Pentachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3Cl_5O_2$
Compound Lot:	ER06241403	**CAS Number:**	109719-79-1
		Molecular Weight:	368.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.9%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS-SIM Analysis	SP10-0105	0.07% $^{13}C_0$ vs $^{13}C_{12}$
		0.14% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS	SP10-0105	No single DD/DF $\geq$ 0.5%
Mass Balance Purity Factor		98.90%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

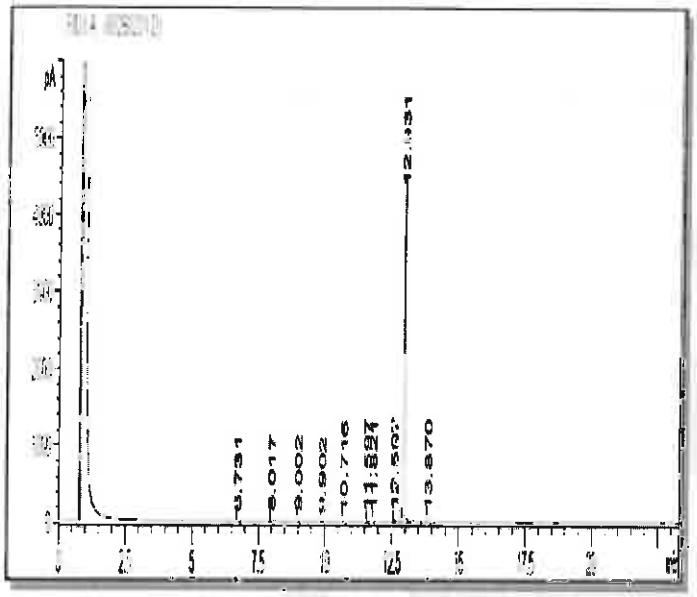

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min, hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMP-085 P GC 6 2014-07-30 18-11-11\002B0201.D
Instrument:	GC#6
Sample Name:	ER06241403
Acquired:	July 30, 2014

Peak #	Ret Time	Area	Height	Area %
1	6 73	7.32	3.42	0.07
2	8.02	3 79	1.60	0.04
3	9.00	8 74	3.64	0.08
4	9 90	3 38	1.35	0.03
5	10 72	1 31	0.45	0.01
6	11 60	14 46	6.69	0.14
7	11 82	2 21	1.11	0.02
8	12.60	68 05	28.10	0.64
9	12.93	10594 10	4235.85	98.91
10	13.87	7 09	2.57	0.07

Spectral and Physical Data (cont.)

GC/MS

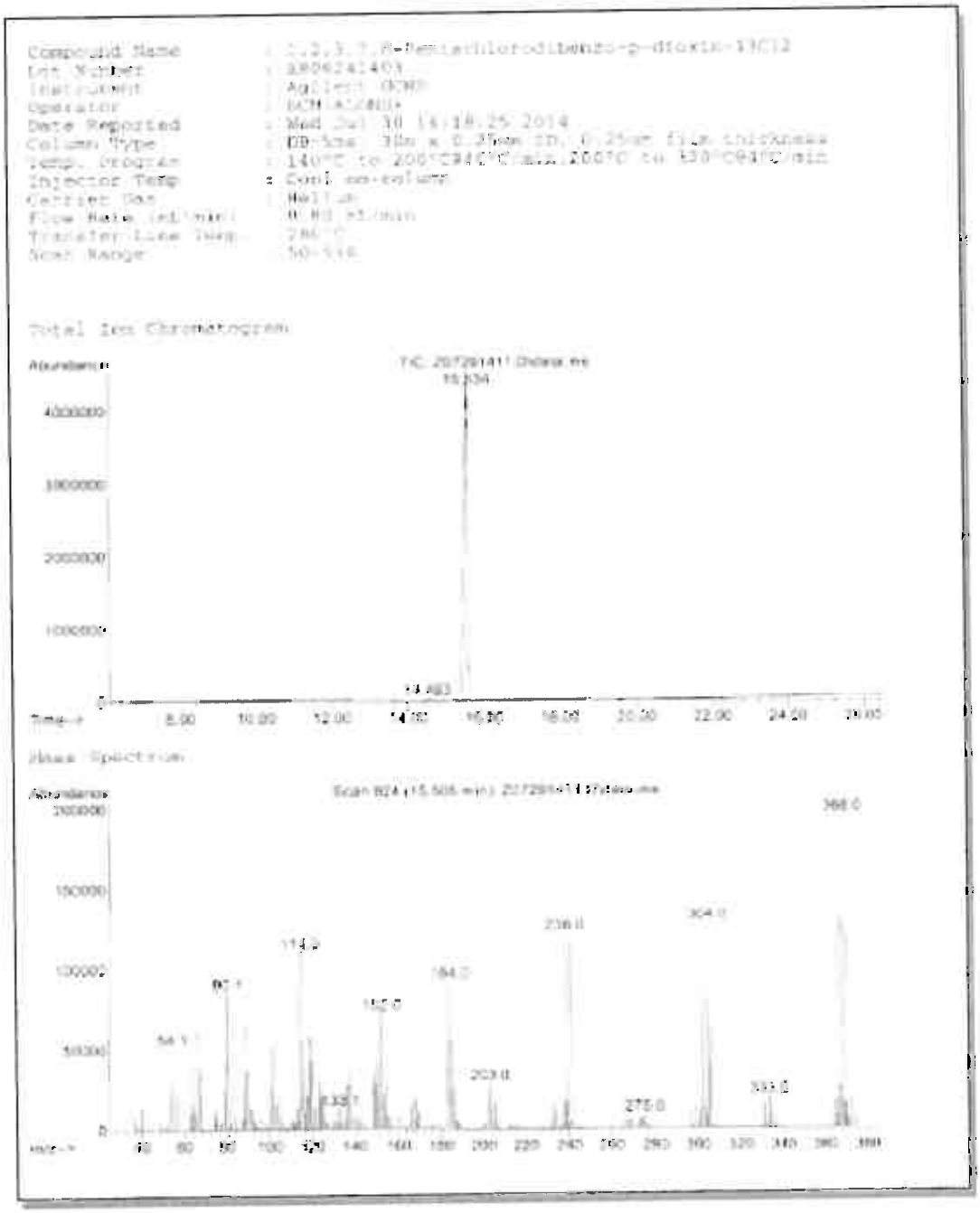

COA Revision History

Revision No.	Date	Reason for Revision
00	September 24, 2014	Initial version
01	February 10, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Reagent

HRDXNIDA_00361

r: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
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CIL

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$

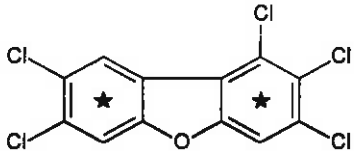

Catalog Number: EF-952
Solution Lot: ER012111-01
Expiration Date: January 2021
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For laboratory use only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
1,2,3,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	99.2%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER012111-01	50.7	± 5%	0.4	≤ 3%
Previous Lot	ER0100407-02	51.0	± 5%	0.5	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

February 15, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3OCl_5$
Compound Lot:	ER090110-01	**CAS Number:**	109719-77-9
		Molecular Weight:	352.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.2%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.03% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.17%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

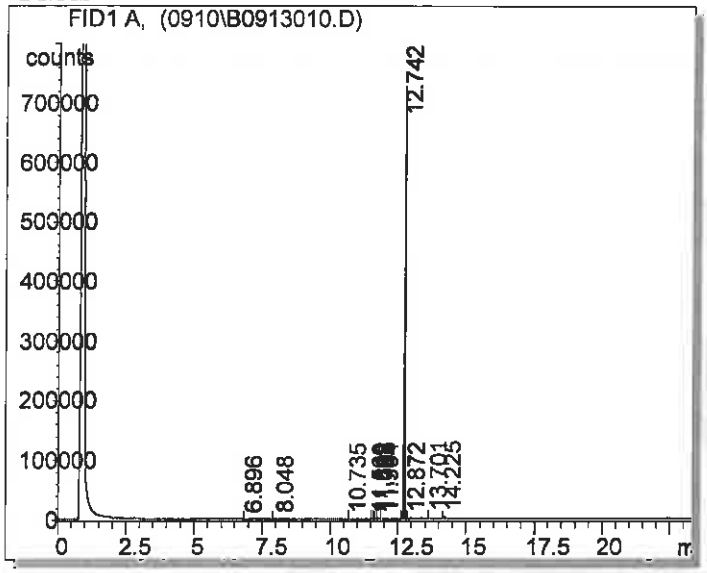

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	S:\GC\GC2\2010\0910\B0913010.D
Instrument:	GC#2
Sample Name:	ER090110-01
Acquired:	September 13, 2010

Peak #	Ret Time	Area	Height	Area %
1	6.90	618.64	296.84	0.04
2	8.05	254 50	102.70	0.01
3	10.74	162 25	70.86	0.01
4	11 57	145 03	82.11	0.01
5	11 62	468 46	216.27	0.03
6	11 69	1863 76	870.51	0.11
7	11.79	1631 76	576.35	0.10
8	11.90	421 31	184.81	0.02
9	12.74	1702290 00	729831.00	99.20
10	12.87	308 15	147.54	0.02
11	13.70	3743 55	1299.40	0.22
12	14.23	4032 24	1491.01	0.23

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

Compound Name : 1,2,3,7,8-Pentachlorodibenzofuran-13C12
Lot Number : EX090110-01
Instrument : Agilent 5973N MSD/6890N GC
Operator-Inst ID : RPC - C10106
Date Reported : Tue Sep 14 11:05:33 2010
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 280°C

Scan Range : 50-550

Total Ion Chromatogram

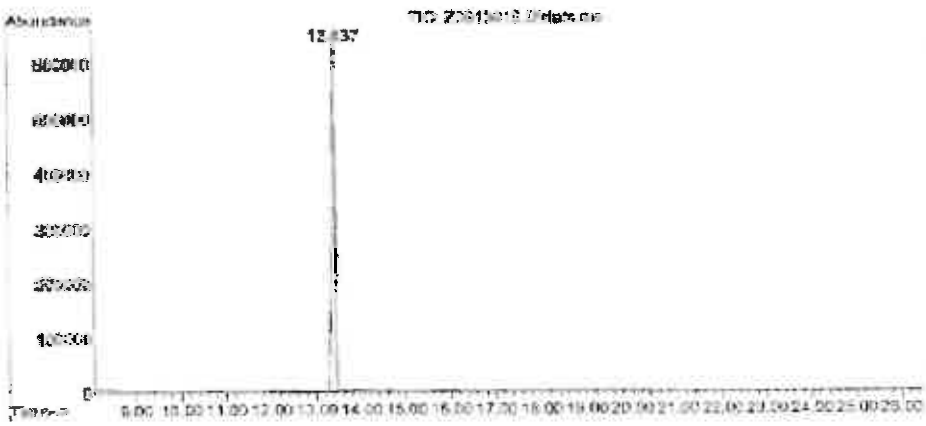

Mass Spectrum

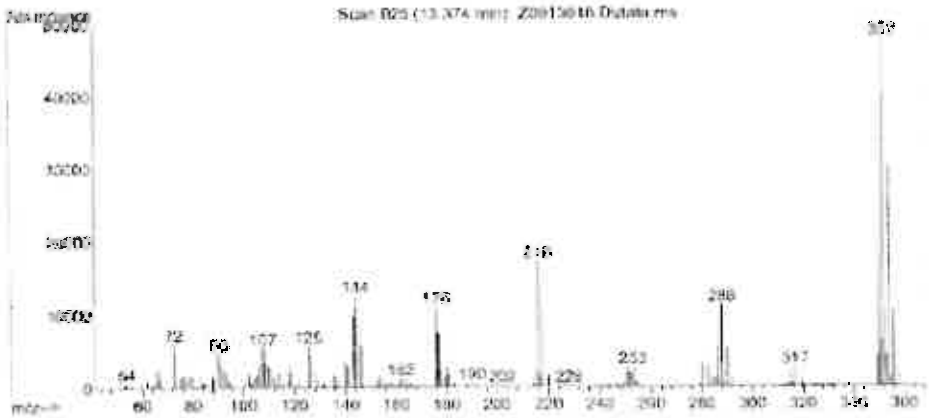

COA Revision History

Revision No.	Date	Reason for Revision
00	February 11, 2011	Initial version
01	March 01, 2011	Corrected typographical error: Chemical Structure
02	February 15, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Reagent

HRDXNIDA_00362

P: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

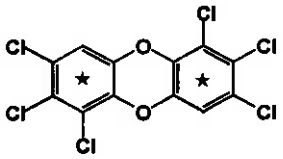

Catalog Number:	ED-966
Solution Lot:	ER03151801
Expiration Date:	March 2028
Solvent:	n-Nonane:Toluene (80:20) (v/v)
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	> 99.9%	50.03 ± 0.28 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER03151801	52.29	± 5%	0.2	≤ 3%
Previous Lot	ER010209-01	48.05	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using balances that have been qualified and calibrated to ISO 17025 requirements. All calibrations utilize NIST traceable weights which are calibrated externally by a qualified ISO 17025 accredited calibration laboratory to NIST standards. Qualification of each balance includes the assignment of a minimum weighing by a qualified and ISO 17025 accredited calibration vendor taking into consideration the balance and installed environmental conditions to ensure compliance with USP tolerances of NMT 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

April 19, 2018
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O_2$
Compound Lot:	FN01151802	**CAS Number:**	109719-81-5
		Molecular Weight:	402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.04% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 1.0%
Mass Balance Purity Factor		98.96%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

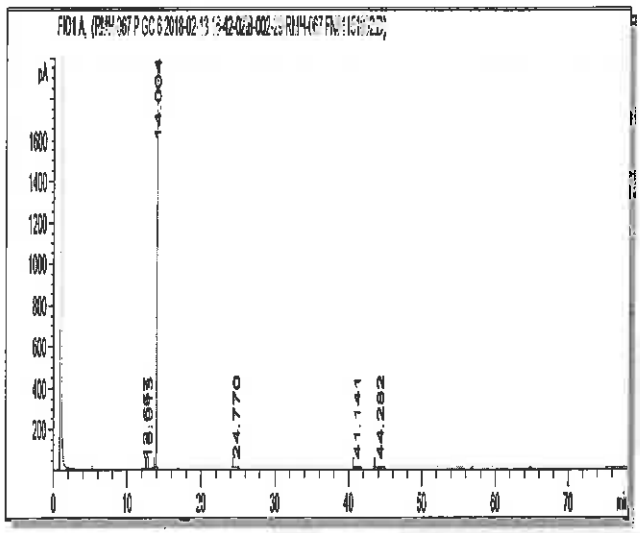

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-067 P GC 6 2018-02-13 16-42-02\B-002-29.D
Instrument:	GC#6
Sample Name:	FN01151802
Acquired:	February 13, 2018

Peak #	Ret Time	Area	Height	Area %
1	12.66	1 69	0.62	0.03
2	13.01	1 96	0.53	0.03
3	14 00	5617 62	1952.76	98.87
4	24 77	5.26	0.34	0.09
5	41 14	10.58	0.38	0.19
6	44 28	44.69	1.49	0.79

Spectral and Physical Data (cont.)

GC/MS

```
Compound Name          : 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-13C12
Lot Number             : FN01151802
Instrument             : Agilent GCMS
Operator               : FCM(SGIUFTRE)
Date Reported          : Mon Mar 05 10:17:32 2018
Column Type            : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program          : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.         : Cool on-column
Carrier Gas            : Helium
Flow Rate (mL\min)     : 0.80 mL/min
Transfer Line Temp.    : 280°C
Scan Range             : 50-550
```

Total Ion Chromatogram

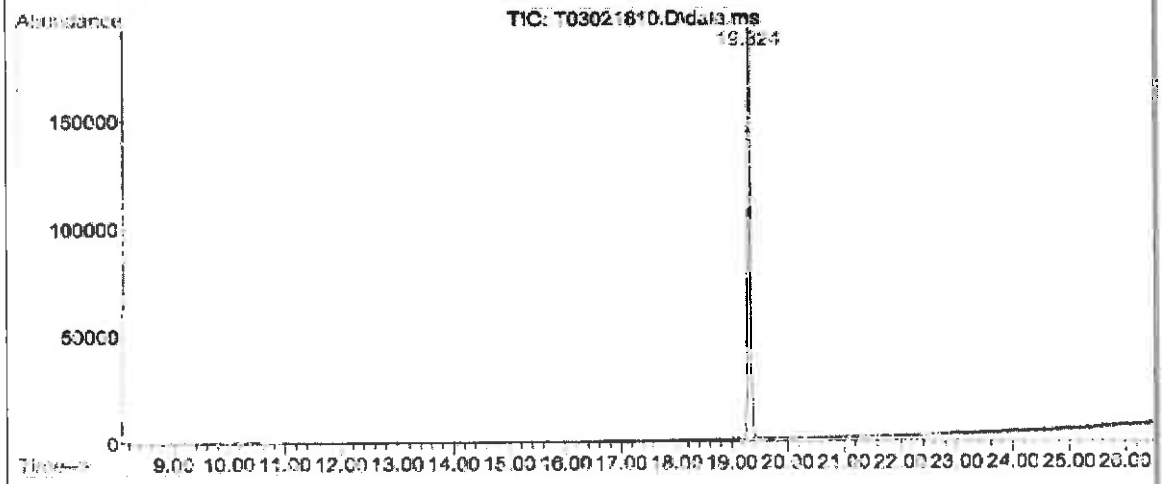

Mass Spectrum

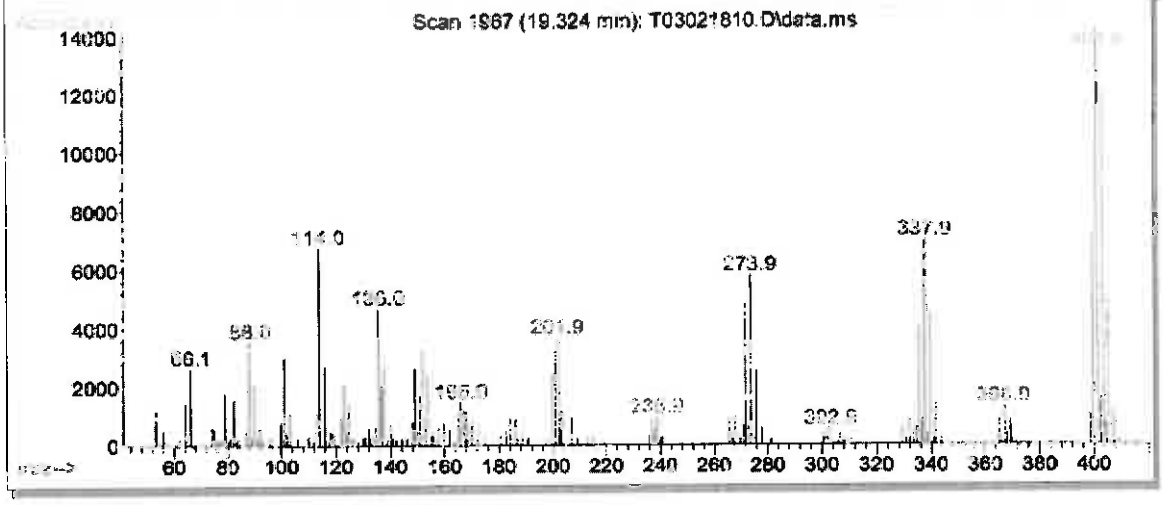

Reagent

HRDXNIDA_00365

Rec 11/28/18 SKV

1450145
ID: HRDXNIDA_00347
Exp: 04/30/27 Prpd: SKV
13C-OCDD [10 ug/mL]

Cerilliant Analytical Reference Standards
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Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Octachlorodibenzo-p-dioxin-$^{13}C_{12}$

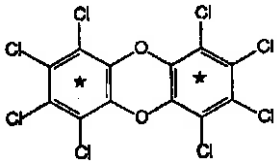

Catalog Number: ED-981-1.2
Solution Lot: ER04051701
Expiration Date: April 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
Octachlorodibenzo-p-dioxin-$^{13}C_{12}$	> 99.9%	10.00 ± 0.05 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04057101	10.22	± 5%	1.1	≤ 5%
Previous Lot	ER06061601	10.17	± 5%	0 8	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

May 19, 2017
Date

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-5ms, 30 m x 0.25 mm ID, 0.25 µm film thickness
Temp Program: 70°C to 200°C at 40°C/min
200°C to 280°C at 10°C/min hold 15 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 3
Linearity (r): 0.997

Neat Material Data

Compound Name: Octachlorodibenzo-p-dioxin-$^{13}C_{12}$
Compound Lot: ER04041601

Chemical Formula: $^{13}C_{12}Cl_8O_2$
CAS Number: 114423-97-1
Molecular Weight: 471.66

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.1%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.07% $^{13}C_0$ vs $^{13}C_{12}$
		0.96% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.15%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

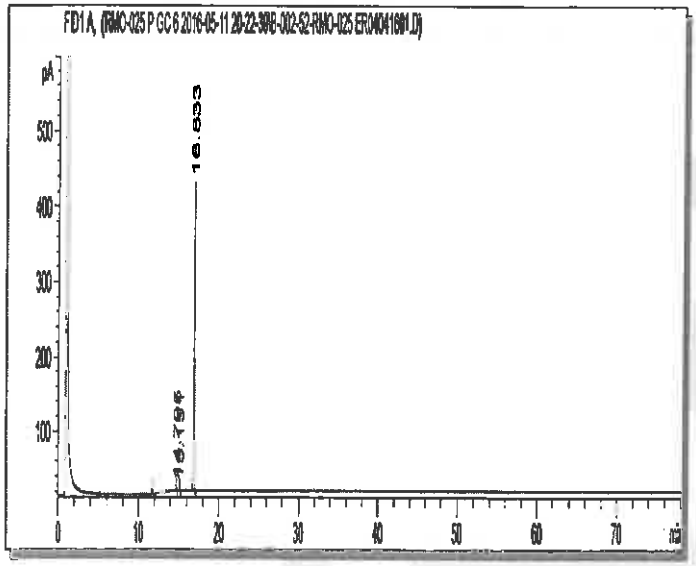

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMO-025 P GC 6 2016-05-11 20-22-39\B-002-52.D
Instrument:	GC#6
Sample Name:	ER04041601
Acquired:	May 11, 2016

Peak #	Ret Time	Area	Height	Area %
1	14.80	12.12	3.62	0.61
2	15.15	4.72	1.32	0.24
3	16.83	1980.56	409.54	99.16

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: Octachlorodibenzo-p-dioxin-13C12
Lot Number	: ERC4041601
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Wed May 04 13:45:40 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

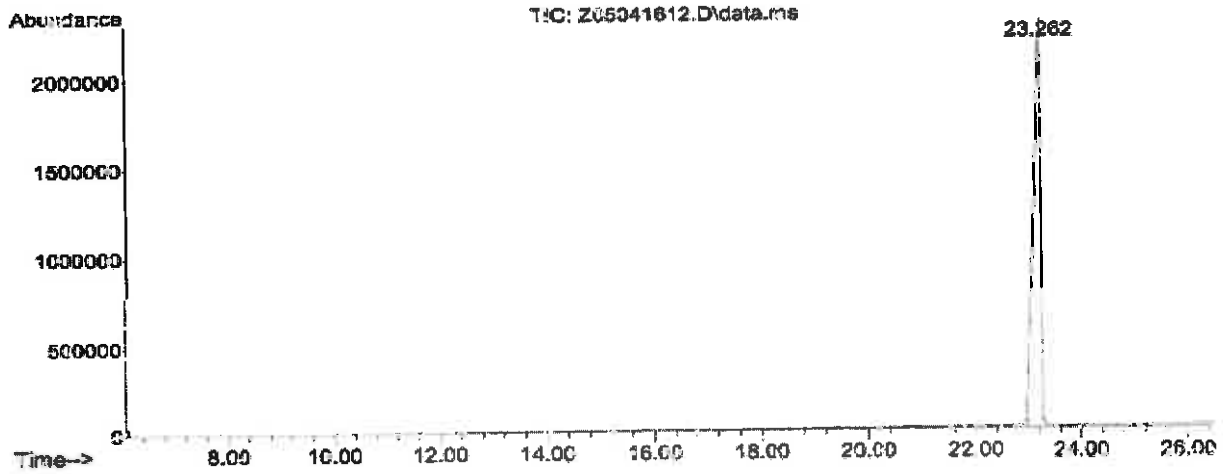

Mass Spectrum

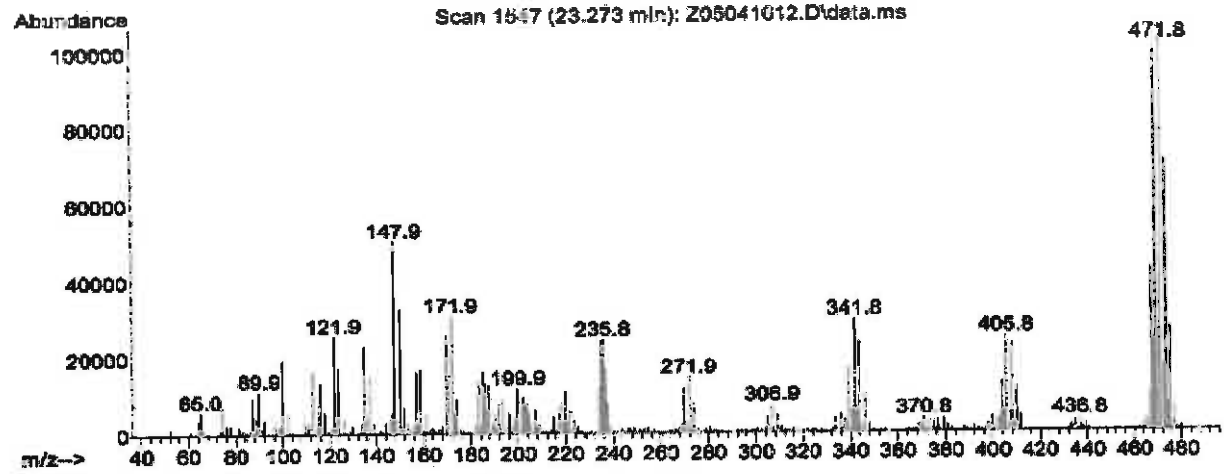

Reagent

HRDXNIDA_00375

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Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$

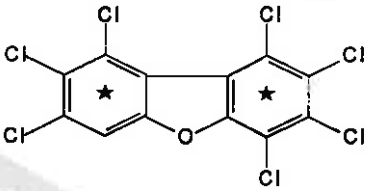

Catalog Number: EF-988
Solution Lot: ER04251601
Expiration Date: May 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	99.1%	49.99 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass, Purity Factor of the analyte(s), measured mass of the solution, and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04251601	49.11	± 5%	0.2	≤ 3%
Previous Lot	ER053107-02	50.58	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

November 09, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}HCl_7O$
Compound Lot:	ER04041602	**CAS Number:**	109719-94-0
		Molecular Weight:	421.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.1%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS SIM	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.16% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.10%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data (cont.)

GC/FID

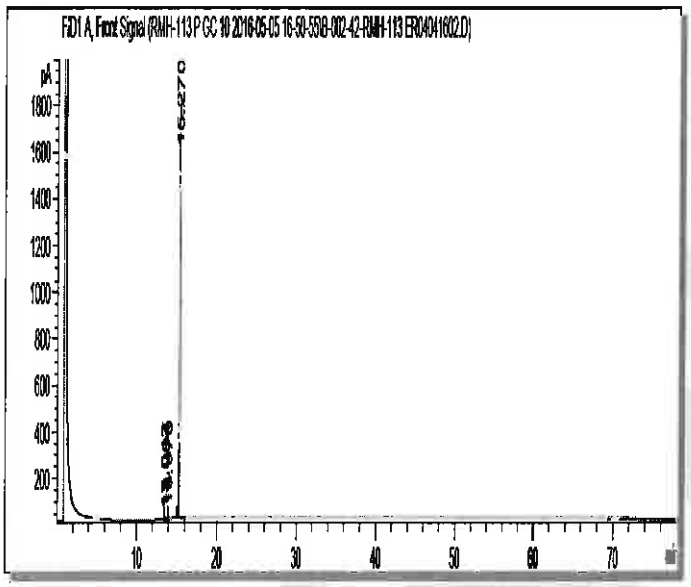

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-113 P GC 10 2016-05-05 16-50-55\B-002-42.D
Instrument:	GC#10
Sample Name:	ER04041602
Acquired:	May 05, 2016

Peak #	Ret Time	Area	Height	Area %
1	13.51	8.76	2.52	0.12
2	13.68	17.42	7.45	0.24
3	13.97	39.65	15.48	0.54
4	15.27	7226.95	1798.33	99.10

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 1,2,3,4,7,8,9-Heptachlorodibenzofuran-13C12
Lot Number	: ER04041602
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Wed May 04 15:34:28 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

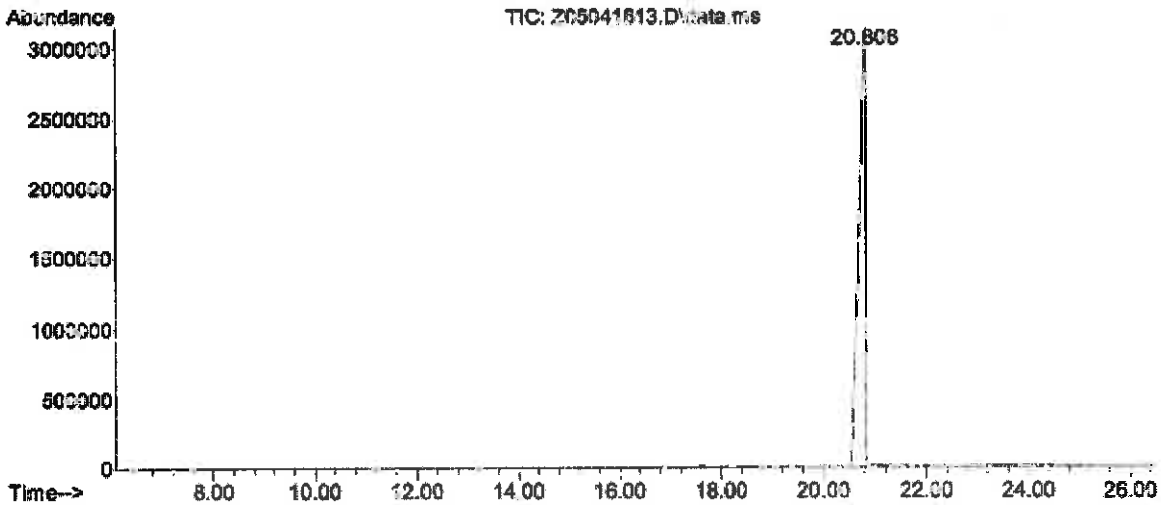

Mass Spectrum

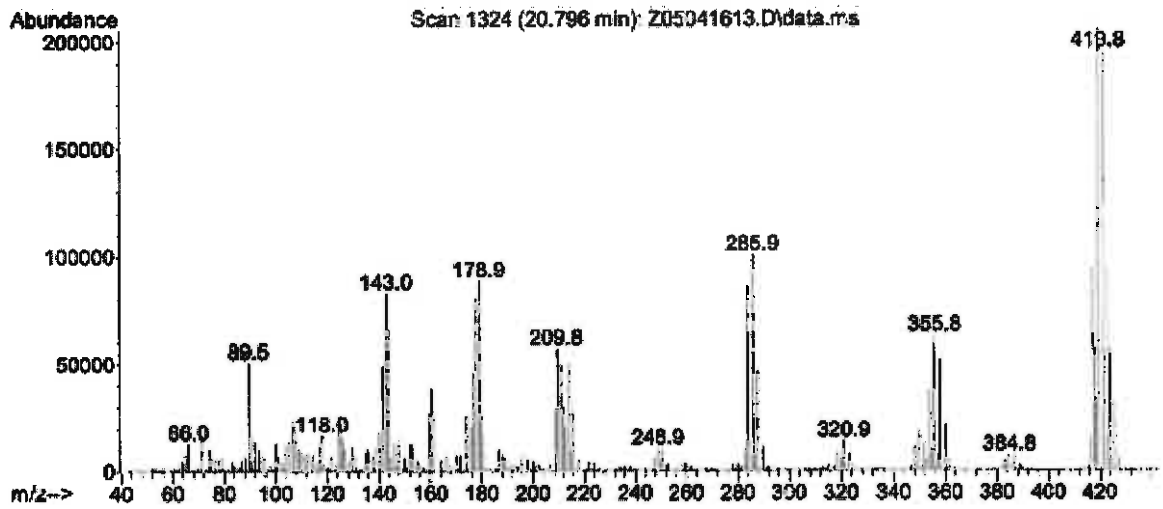

COA Revision History

Revision No.	Date	Reason for Revision
00	June 21, 2016	Initial version
01	November 09, 2016	Corrected Expiration Date from March 2026 to May 2026.

Reagent

HRDXNIDA_00376

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Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$

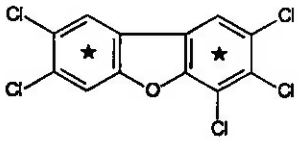

Catalog Number: EF-958
Solution Lot: ER01061701
Expiration Date: January 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	97.9%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass, Purity Factor of the analyte(s), measured mass of the solution, and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Acceptance Criteria	%RSD - Homogeneity Actual Results	Acceptance Criteria
New Lot	ER01061701	50.51	± 5%	0.1	≤ 3%
Previous Lot	ER11041601	49.56	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

January 27, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3Cl_5O$
Compound Lot:	ER11101601	**CAS Number:**	116843-02-8
		Molecular Weight:	352.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0102	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.02% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 0.5%
Mass Balance Purity Factor		**98.33%**

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

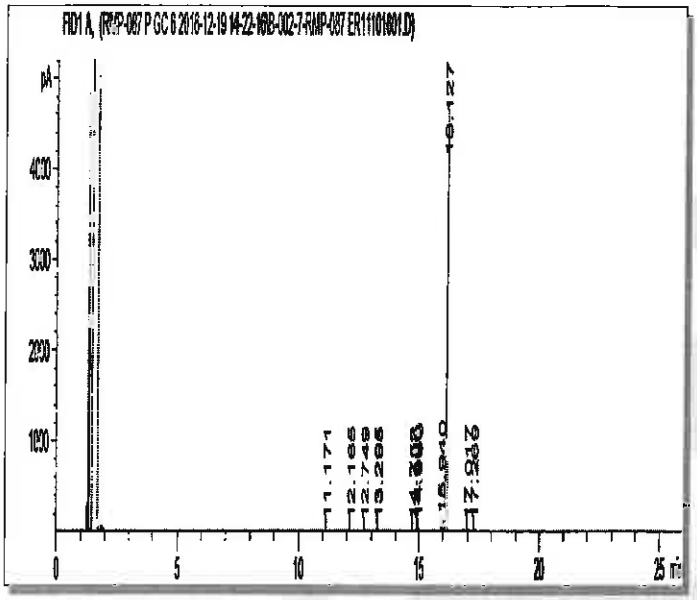

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMP-087 P GC 6 2016-12-19 14-22-16\B-002-7.D
Instrument:	GC#6
Sample Name:	ER11101601
Acquired:	December 19, 2016

Peak #	Ret Time	Area	Height	Area %
1	11.17	0.94	0.40	0.01
2	12.17	1.30	0.39	0.01
3	12.75	0.47	0.20	0.00
4	13.30	0.90	0.35	0.01
5	14.75	1.70	0.87	0.02
6	14.91	1.09	0.56	0.01
7	14.97	32.24	17.54	0.29
8	15.94	124.38	64.36	1.13
9	16.13	10866.60	4688.80	98.41
10	17.02	6.31	2.46	0.06
11	17.27	6.76	2.34	0.06

Spectral and Physical Data (cont.)

GC/MS

```
Compound Name          : 2,3,4,7,8-Pentachlorodibenzofuran-13C12
Lot Number             : ER11101601
Instrument             : Agilent GCMS
Operator               : ECM(SGIUFFRE)
Date Reported          : Tue Dec 20 12:19:55 2016
Column Type            : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program          : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.         : Cool on-column
Carrier Gas            : Helium
Flow Rate (mL\min)     : 0.80 mL/min
Transfer Line Temp.    : 280°C
Scan Range             : 50-550
```

Total Ion Chromatogram

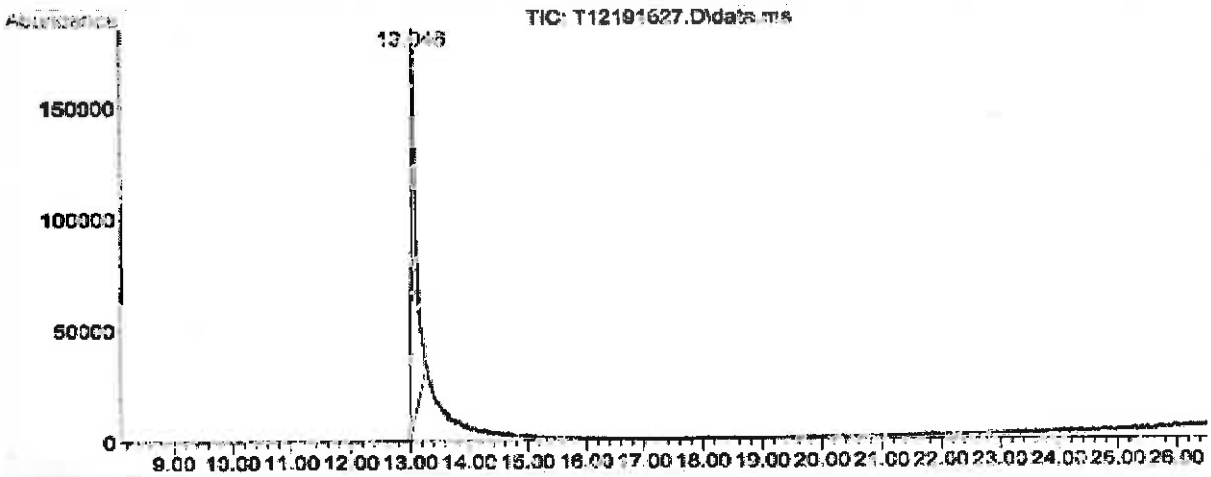

Mass Spectrum

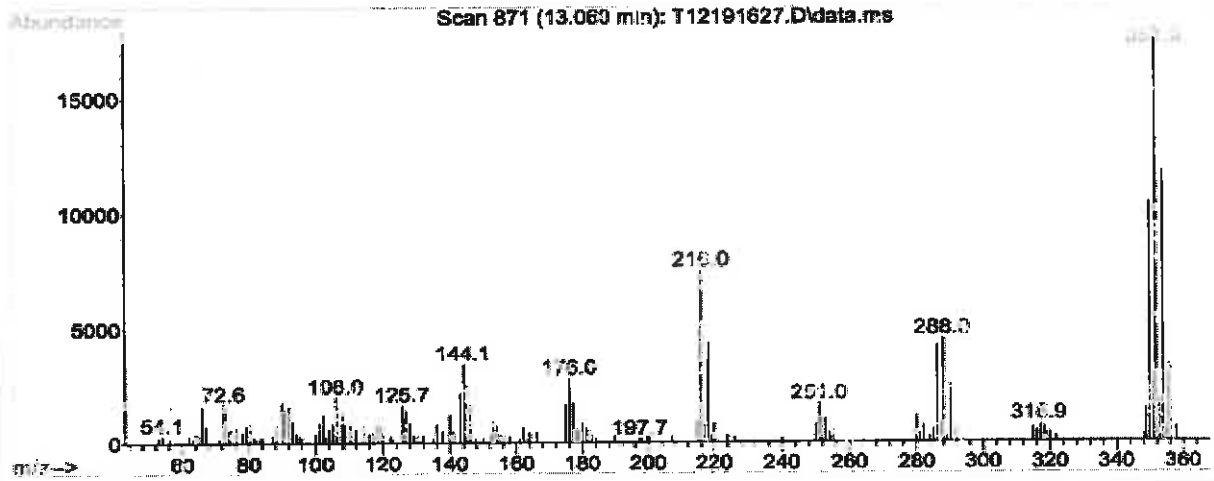

Reagent

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ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

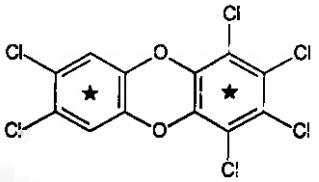

Catalog Number:	ED-946
Solution Lot:	ER04211601
Expiration Date:	June 2026
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.3%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04211601	49.24	± 5%	0.4	≤ 3%
Previous Lot	ER102711-01	49.69	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

August 11, 2016
Date

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 60°C to 300°C at 40°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 4
Linearity (r): 1.000

Neat Material Data

Compound Name: 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$
Compound Lot: ER011008-01

Chemical Formula: $^{13}C_{12}H_2Cl_6O_2$
CAS Number: 109719-80-4
Molecular Weight: 402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.08% $^{13}C_0$ vs $^{13}C_{12}$
		0.21% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.26%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

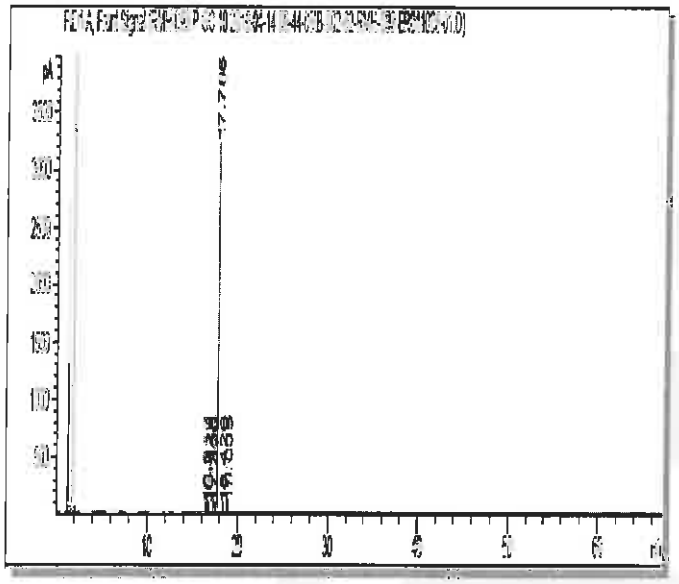

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	40°C to 300°C at 15°C/min hold 50 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-098 P GC 10 2016-04-14 08-44-08\B-002-62.D
Instrument:	GC#10
Sample Name:	ER011008-01
Acquired:	April 14, 2016

Peak #	Ret Time	Area	Height	Area %
1	16.56	16.58	7.74	0.19
2	16.72	11.25	5.08	0.13
3	16.83	8.45	4.05	0.10
4	17.30	1.81	0.71	0.02
5	17.48	1.07	0.50	0.01
6	17.79	8682.22	3203.58	99.29
7	18.43	1.99	0.68	0.02
8	19.01	20.62	6.08	0.24

Spectral and Physical Data (cont.)

GC/MS

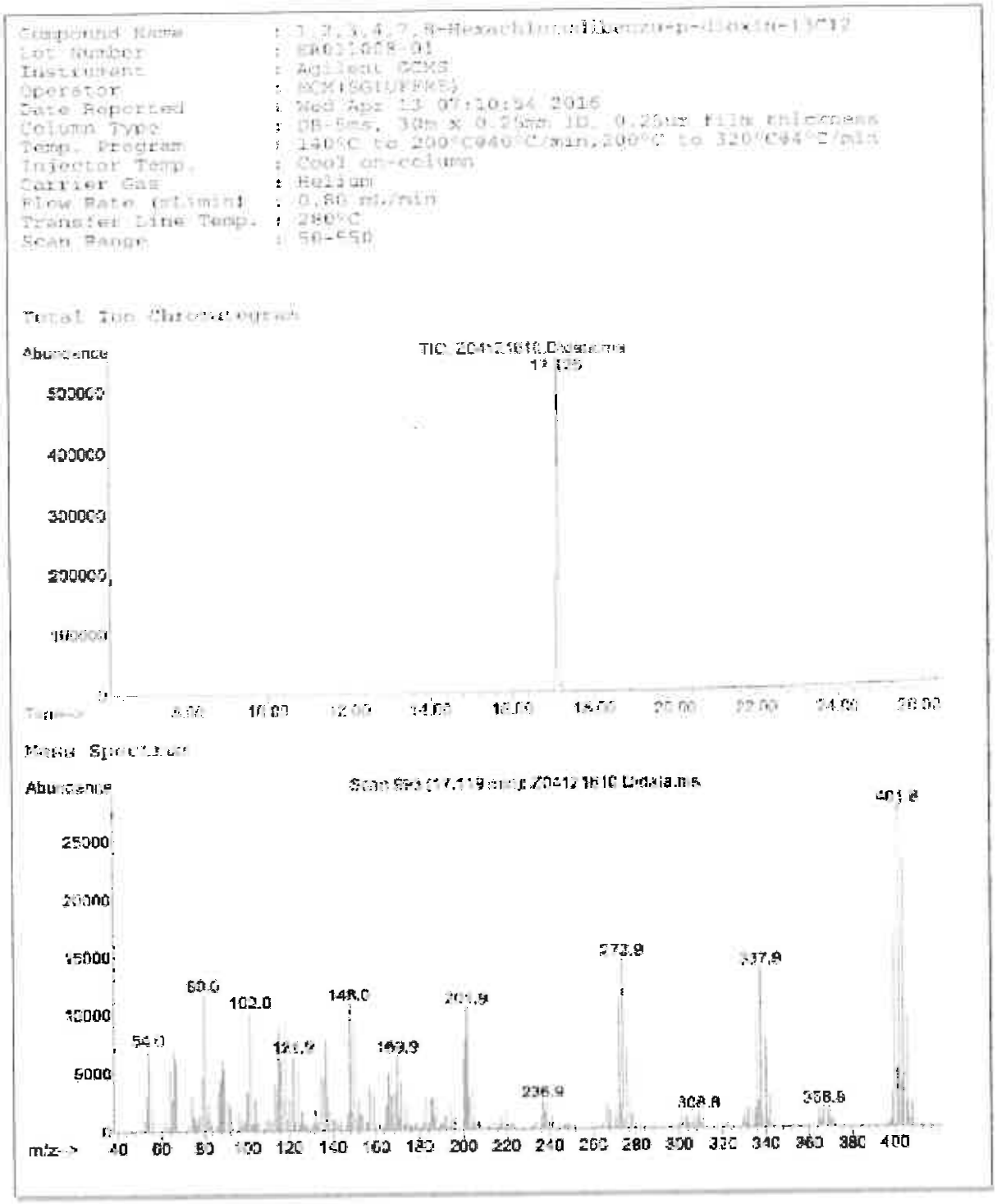

Reagent

HRDXNIDA_00378

r: 4/8/19 SKJ

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Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

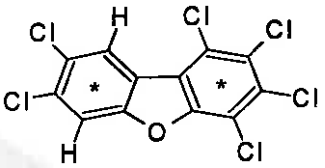

Catalog Number:	EF-963
Solution Lot:	ER04211701
Expiration Date:	July 2027
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.4%	50.00 ± 0.28 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04211701	49.47	± 5%	0.2	≤ 3%
Previous Lot	ER072810-02	45.87	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release

Traceability

- Gravemetrically prepared using balances that have been qualified and calibrated to ISO 17025 requirements. All calibrations utilize NIST traceable weights which are calibrated externally by a qualified ISO 17025 accredited calibration laboratory to NIST standards. Qualification of each balance includes the assignment of a minimum weighing by a qualified and ISO 17025 accredited calibration vendor taking into consideration the balance and installed environmental conditions to ensure compliance with USP tolerances of NMT 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

September 11, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}Cl_6H_2O$
Compound Lot:	ER11281601	**CAS Number:**	114423-98-2
		Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0102	99.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.06% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 0.5%
Mass Balance Purity Factor		99.31%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

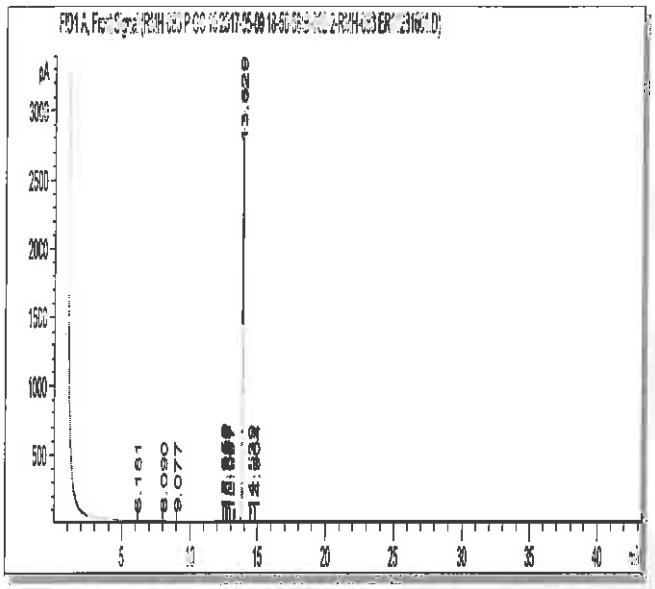

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 30 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-083 P GC 10 2017-05-09 18-50-58\B-002-2.D
Instrument:	GC#10
Sample Name:	ER11281601
Acquired:	May 09, 2017

Peak #	Ret Time	Area	Height	Area %
1	6.18	1.10	0.64	0.01
2	8.09	2.00	0.70	0.02
3	9.08	1.17	0.48	0.01
4	12.55	14.76	7.25	0.16
5	12.73	32.67	11.32	0.36
6	12.84	5.45	2.50	0.06
7	13.00	2.51	1.30	0.03
8	13.83	8993.56	3122.16	99.30
9	14.54	1.11	0.20	0.01
10	14.90	2.71	0.86	0.03

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 1,2,3,4,7,8-hexachlorodibenzofuran-13C12
Lot Number : SRI1281601
Instrument : Agilent GCMS
Operator : ECM(SGIDEFKE)
Date Reported : Mon May 08 09:30:09 2017
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@60°C/min,200°C to 320°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL\min) : 0.80 mL/min
Transfer Line Temp. : 280°C
Scan Range : 50-550

Total Ion Chromatogram

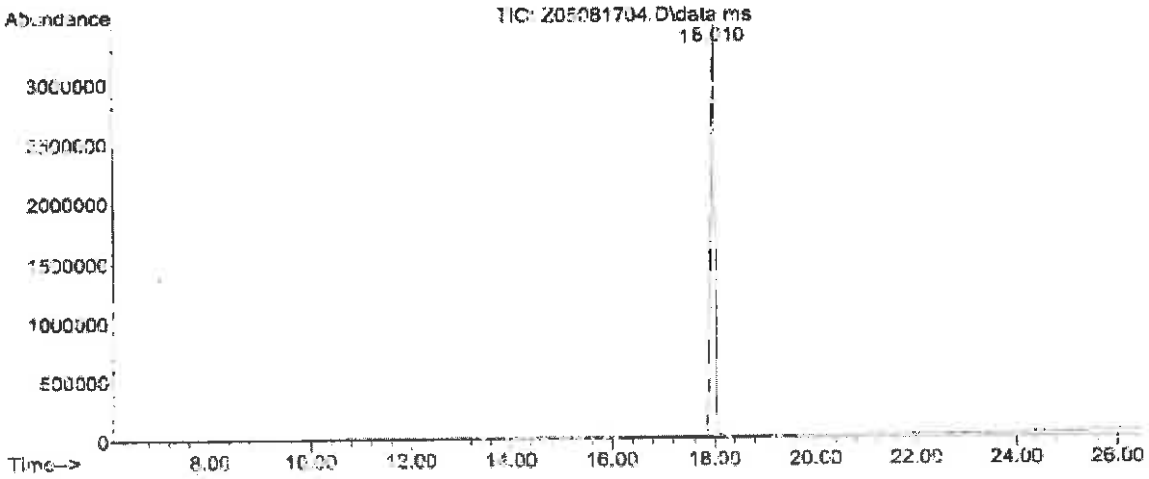

Mass Spectrum

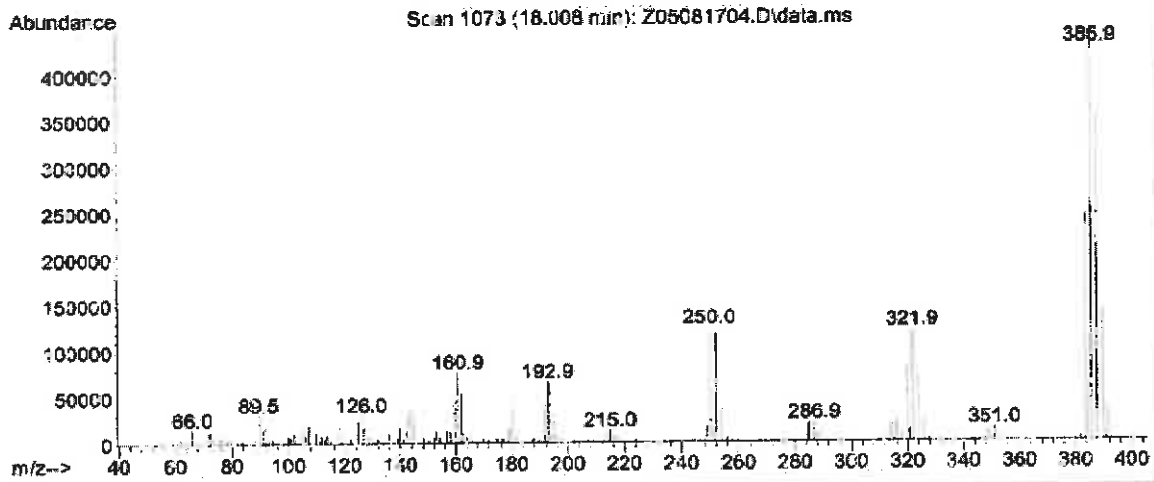

Reagent

HRDXNIS_00110

r: 9/4/18 SKV

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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

Catalog Number: ED-996
Solution Lot: ER08221601
Expiration Date: September 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER08221601	49.20	± 5%	0.3	≤ 3%
Previous Lot	ER021313-01	49.56	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

September 28, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O_2$
Compound Lot:	ER110510-01	**CAS Number:**	109719-82-6
		Molecular Weight:	402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.04% $^{13}C_0$ vs $^{13}C_{12}$
		0.27% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.02%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

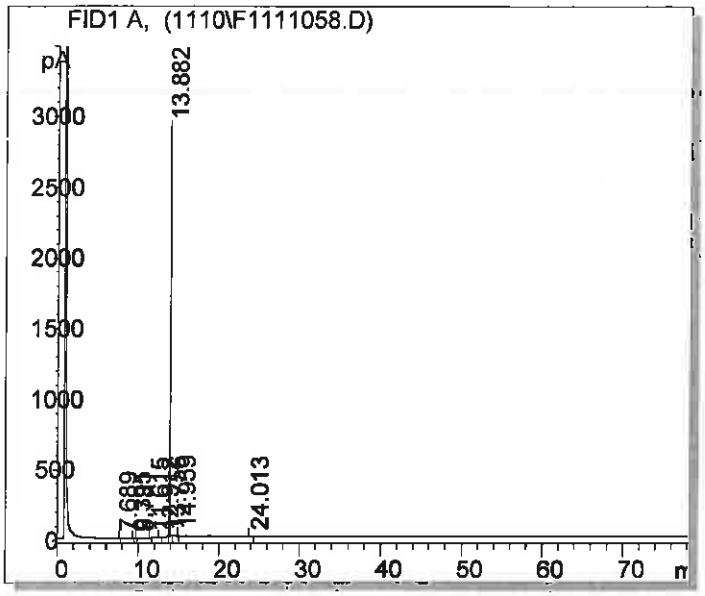

Column:	DB-5ms 30m x 0.53mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-column
Detector Temp:	325°C
Data File Name:	S:\GC\GC6\2010\1110\F1111058.D
Instrument:	GC#6
Sample Name:	ER110510-01
Acquired:	November 12, 2010

Peak #	Ret Time	Area	Height	Area %
1	4 69	0.45	0.10	0.01
2	9.40	0 72	0.14	0.01
3	9.78	0 80	0.13	0.01
4	11 62	7.34	2.54	0.09
5	12 91	2.59	0.23	0.03
6	13 76	1.91	1.00	0.02
7	13 88	8026.07	2938.74	99.11
8	14.96	36.82	11.38	0.45
9	24.01	21.08	1.62	0.26

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-13C12
Lot Number : ER110510-01
Instrument : Agilent 5973N MSD /6890N GC
Operator-Inst ID : RPC - A147434
Date Reported : Fri Nov 12 16:41:14 2010
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C @40°C/min,200°C to 320°C @4°C/min
Injector Temp. : Cool on-column Trans. Line Temp : 280°C
Carrier Gas : Helium Flow Rate : 0.80 mL/min

Total Ion Chromatogram
S:\GCMS\GCMS2\2010\1110\

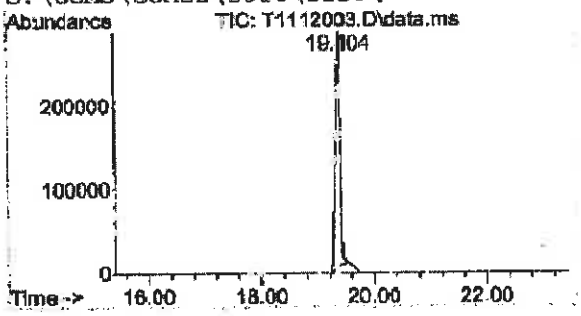

Mass Spectrum
Scan Number: 1976 Scan Range: 50-550 amu

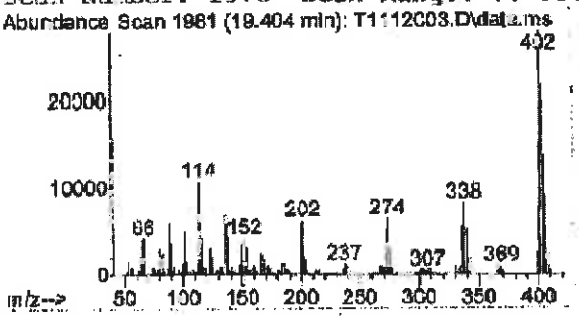

SIM Ion Chromatogram 1

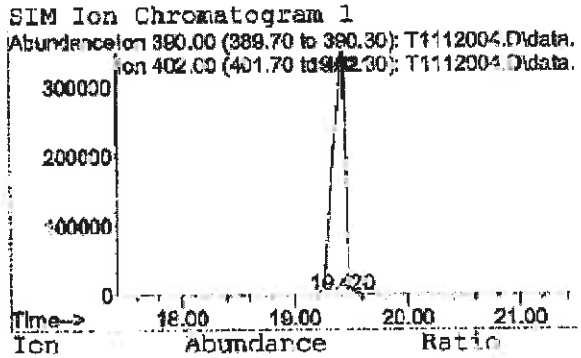

Ion	Abundance	Ratio
402	26368380	99.96
390	9776	0.04

SIM Ion Chromatogram 2

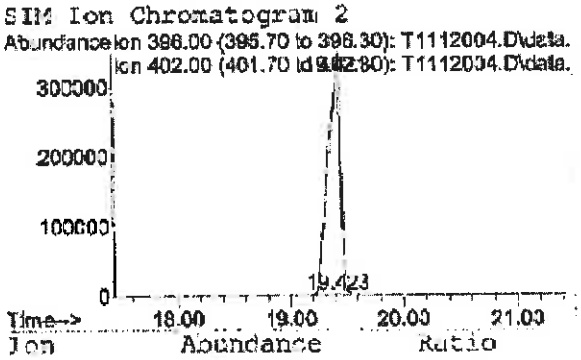

Ion	Abundance	Ratio
402	26368380	99.73
396	71626	0.27

Reagent

HRDXNIS_00111

Rec: 9/4/18 SKV

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Analytical Reference Standards
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Certificate of Analysis

1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$

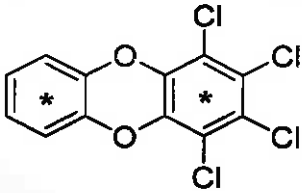

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number: ED-911
Solution Lot: ER11081602
Expiration Date: January 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.7%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER11081602	51.01	± 10%	0.1	≤ 3%
Previous Lot	ER060710-01	50.59	± 10%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

January 23, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_4Cl_4O_2$
Compound Lot:	ER02021602	**CAS Number:**	114423-99-3
		Molecular Weight:	333.88

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS	SP10-0105	no single DD/DF impurity ≥ 1.0%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.03% $^{13}C_0$ vs $^{13}C_{12}$
		0.01% $^{13}C_6$ vs $^{13}C_{12}$
Identity by ^{1}H-NMR Analysis	USP <761>, SP10-0116	Consistent with Structure
Residual Solvent by ^{1}H-NMR Analysis	USP <761>, SP10-0116	0.31% Dichloromethane
Mass Balance Purity Factor		98.71%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

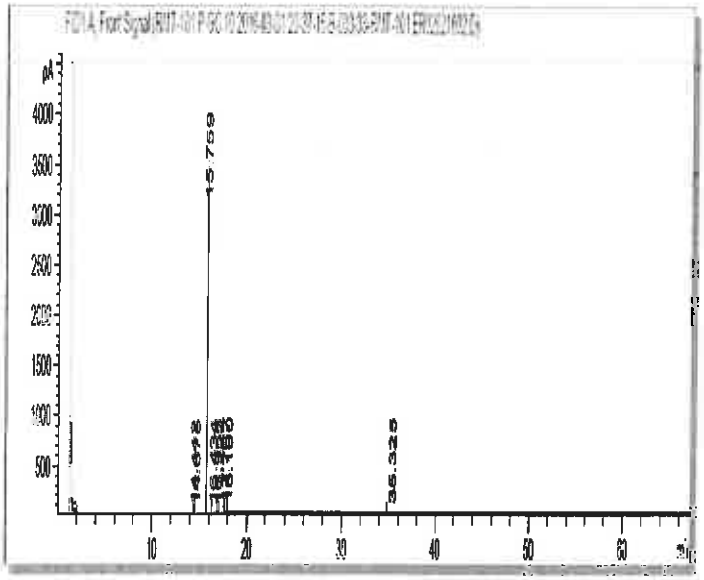

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	40°C to 300°C at 15°C/min hold 50 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMT-101 P GC 10 2016-03-01 20-37-15\B-003-33.D
Instrument:	GC#10
Sample Name:	ER02021602
Acquired:	March 01, 2016

Peak #	Ret Time	Area	Height	Area %
1	14.44	1.34	0.53	0.02
2	14.68	3.60	0.58	0.05
3	15.76	7522.29	3054.11	99.22
4	16.43	3.51	0.80	0.05
5	16.96	2.38	1.09	0.03
6	17.13	4.79	2.26	0.06
7	17.77	8.72	3.38	0.11
8	18.10	1.68	0.54	0.02
9	35.33	32.94	1.28	0.43

^{1}H NMR

Instrument:	JEOL ECS 400
Solvent:	Chloroform-D

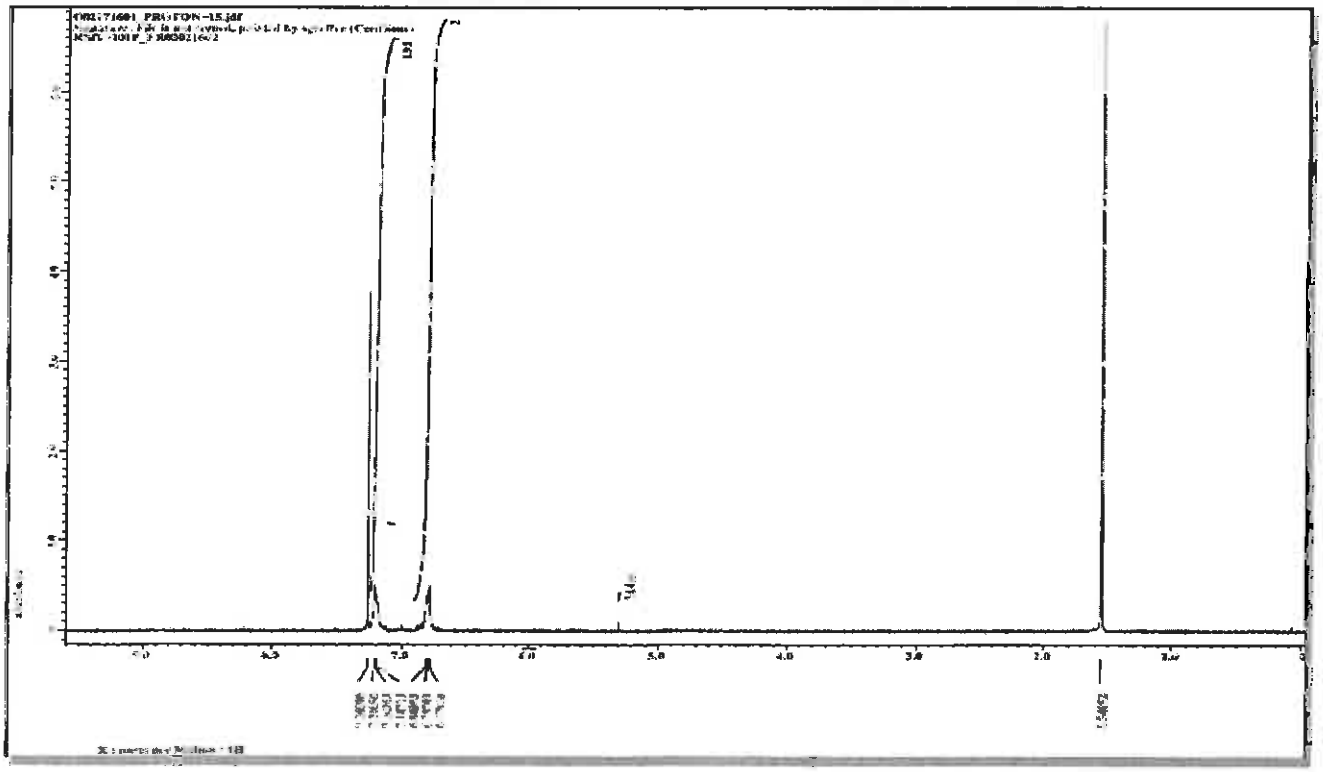

Spectral and Physical Data (cont.)

GC/MS

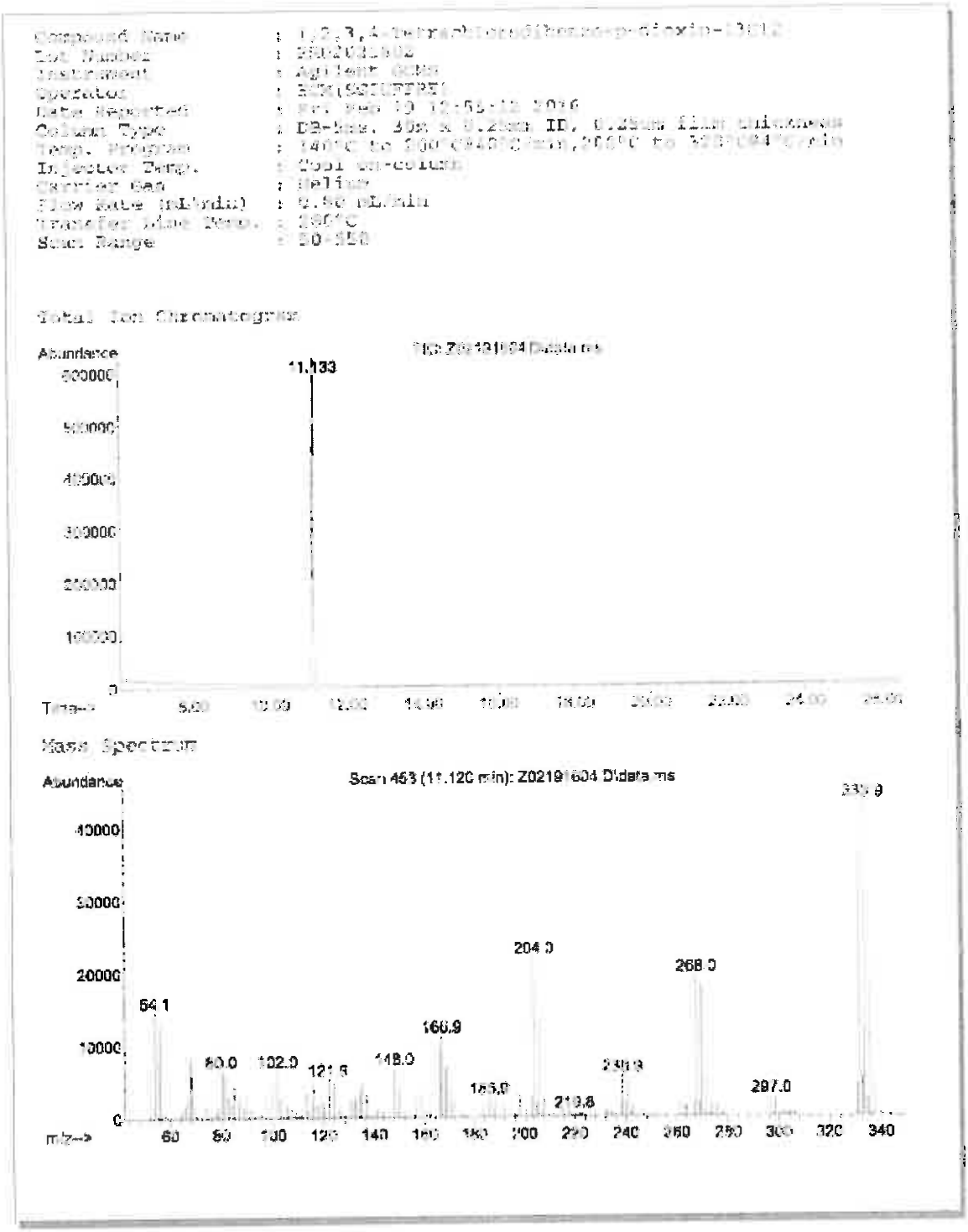

Reagent

HRDXNSU_00187

r: 7/30/18 SKN

Cerilliant
Analytical Reference Standards
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CIL

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$

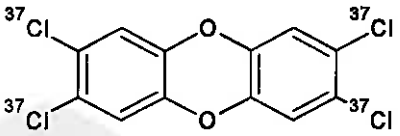

Catalog Number: ED-907
Solution Lot: ER05211501
Expiration Date: July 2025
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold
Shipping: Ambient.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Instructions for Use: Sonicate before use.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration
- For MS Applications, we advise laboratories not to mix lots during a single sequence.

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$	98.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Acceptance Criteria	%RSD - Homogeneity Actual Results	Acceptance Criteria
New Lot	ER05211501	50.60	± 10%	0.2	≤ 5%
Previous Lot	ER052010-02	49.73	± 10%	0.5	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after

ACLASS ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

August 03, 2015
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$	**Chemical Formula:**	$C_{12}H_4O_2{}^{37}Cl_4$
Compound Lot:	ER040510-01	**CAS Number**	85508-50-5
		Molecular Weight	328.02

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{37}Cl_0$ vs $^{37}Cl_4$
Identity by ^{1}H-NMR Analysis	USP <761>, SP10-0116	Consistent with Structure
Residual Solvent Analysis by ^{1}H-NMR	USP <761>, SP10-0116	1.2% Chloroform
Purity Factor		97.14%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

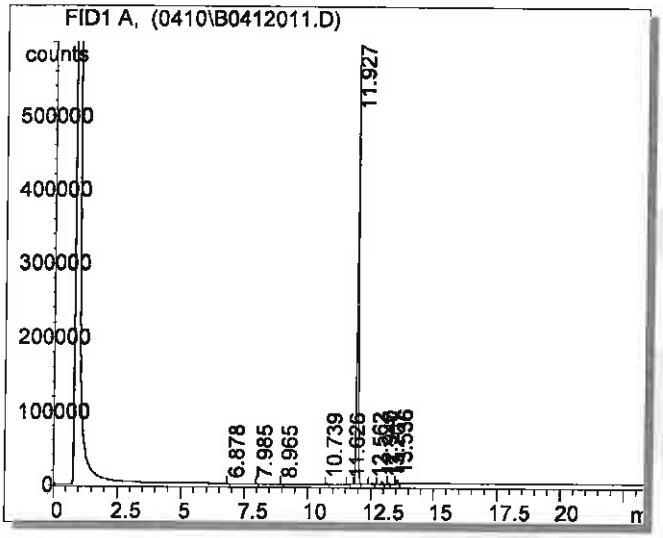

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	S:\GC\GC2\2010\0410\B0412011.D
Instrument:	GC#2
Sample Name:	ER040510-01
Acquired:	April 13, 2010

Peak #	Ret Time	Area	Height	Area %
1	6.88	245.58	89.37	0.01
2	7.99	304.03	131.27	0.01
3	8.97	233.91	72.32	0.01
4	10.74	931.14	265.29	0.04
5	11.63	127.86	46.74	0.01
6	11.93	2261830.00	580792.00	98.34
7	12.56	6435.54	1838.17	0.28
8	12.94	13336.80	4373.86	0.58
9	13.20	2178.30	729.98	0.09
10	13.54	14483.80	5038.43	0.63

^{1}H NMR

Instrument:	JEOL ECS 400
Solvent:	Toluene-D_8

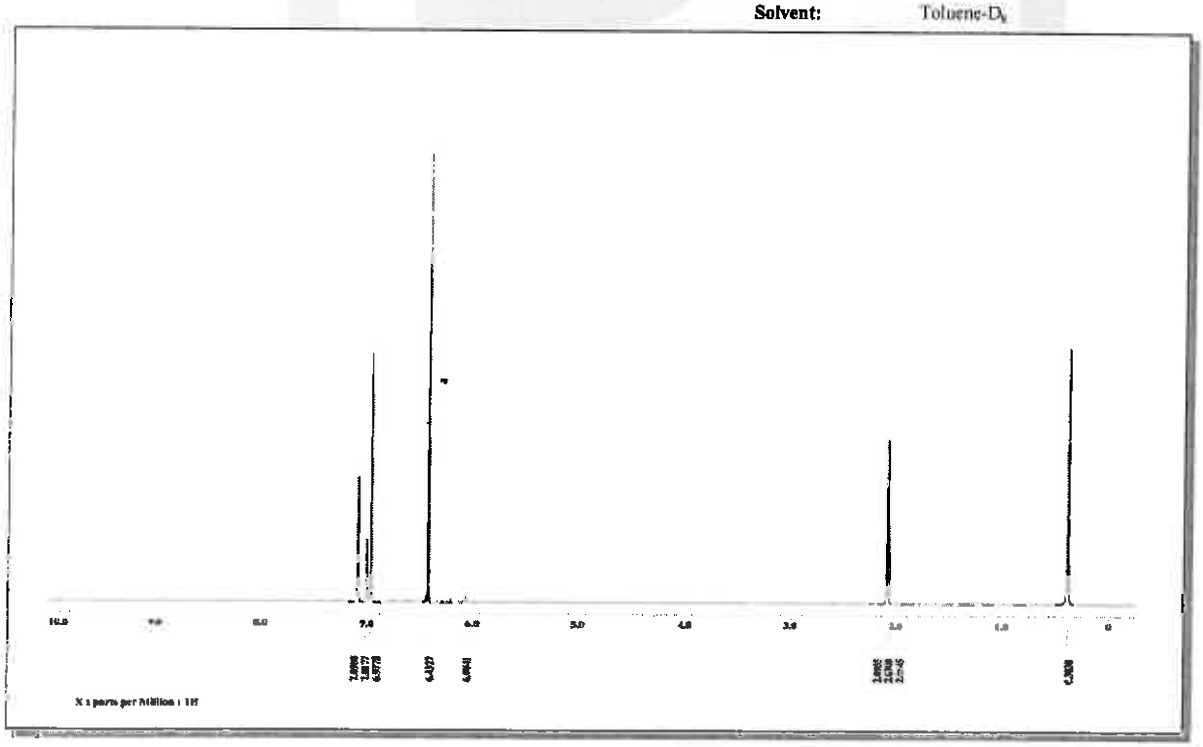

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

Compound Name : 2,3,7,8-Tetrachlorodibenzo-p-dioxin-37C14
Lot Number : KR060510-02
Instrument : Agilent 5973N MSD/6890N GC
Operator-Inst ID : RPC - C10106
Date Acquired : Mon Apr 19 23:23:00 2010
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 320°C@10°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 280°C

Scan Range : 50-550

Total Ion Chromatogram

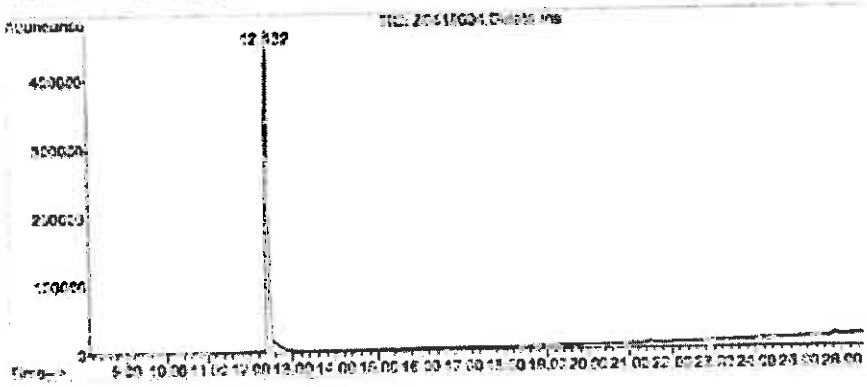

Mass Spectrum

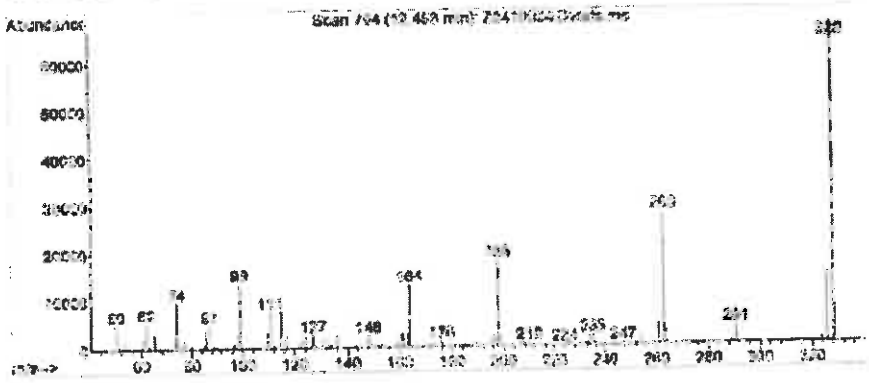

Reagent

HRDXNTA_00092

R: 7/6/18 SKJ

Cerilliant
Analytical Reference Standards
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Certificate of Analysis

Method 1613 PAR Stock Solution

Certificant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number: EDF-7999-10X
Solution Lot: ER02241602
Expiration Date: April 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/ analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 volume. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Lot Number	CAS Number	Chemical Formula	Molecular Weight	Chromatographic Purity	Concentration
2,3,7,8-TeCDD	ER04271502	1746-01-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%	399.9 ± 4.0 ng/mL
2,3,7,8-TeCDF	ER101211-02	51207-31-9	$C_{12}H_4Cl_4O$	305.97	99.4%	399.9 ± 4.0 ng/mL
1,2,3,7,8-PeCDD	ER110909-02	40321-76-4	$C_{12}H_3Cl_5O_2$	356.42	99.2%	2000 ± 20 ng/mL
1,2,3,7,8-PeCDF	ER03121401	57117-41-6	$C_{12}H_3Cl_5O$	340.42	99.5%	1999 ± 20 ng/mL
2,3,4,7,8-PeCDF	ER070710-01	57117-31-4	$C_{12}H_3Cl_5O$	340.42	99.4%	1999 ± 20 ng/mL
1,2,3,4,7,8-HxCDD	ER080108-02	39227-28-6	$C_{12}H_2Cl_6O_2$	390.86	98.6%	2000 ± 20 ng/mL
1,2,3,6,7,8-HxCDD	ER03231501	57653-85-7	$C_{12}H_2Cl_6O_2$	390.86	99.6%	2000 ± 20 ng/mL
1,2,3,7,8,9-HxCDD	ER02041601	19408-74-3	$C_{12}H_2Cl_6O_2$	390.86	99.2%	2000 ± 20 ng/mL
1,2,3,4,7,8-HxCDF	ER021110-01	70648-26-9	$C_{12}H_2Cl_6O$	374.86	99.0%	2000 ± 20 ng/mL
1,2,3,6,7,8-HxCDF	ER04161501	57117-44-9	$C_{12}H_2Cl_6O$	374.86	99.8%	2000 ± 20 ng/mL
1,2,3,7,8,9-HxCDF	ER060107-01	72918-21-9	$C_{12}H_2Cl_6O$	374.86	97.5%	1999 ± 20 ng/mL
2,3,4,6,7,8-HxCDF	ER02041602	60851-34-5	$C_{12}H_2Cl_6O$	374.86	99.1%	2001 ± 20 ng/mL
1,2,3,4,6,7,8-HpCDD	ER01201504	35822-46-9	$C_{12}HCl_7O_2$	425.31	98.5%	1999 ± 20 ng/mL
1,2,3,4,6,7,8-HpCDF	ER02281403	67562-39-4	$C_{12}HCl_7O$	409.31	98.9%	1999 ± 20 ng/mL
1,2,3,4,7,8,9-HpCDF	ER01121503	55673-89-7	$C_{12}HCl_7O$	409.31	99.1%	1999 ± 20 ng/mL
OCDD	ER05221301	3268-87-9	$C_{12}Cl_8O_2$	459.75	99.9%	3999 ± 40 ng/mL
OCDF	ER040811-01	39001-02-0	$C_{12}Cl_8O$	443.75	98.9%	4000 ± 40 ng/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Stock solution concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

April 28, 2016
Date

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.

Standard Solution Assay Parameters

Analysis Method: GC/ECD
Column: DB-5ms, 30 m x 0.25 mm ID, 0 25 µm film thickness
Temp Program: 140°C to 200°C at 40°C/min, 200°C to 300°C at 4°C/min hold 3 min
Injector Temp: Cool on-column
Detector Temp: 280°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 1

Solution Standard Verification and Homogeneity

Compound	Verified Concentration ng/mL	Acceptance Criteria	%RSD - Homogeneity %	Acceptance Criteria
2,3,7,8-TeCDD	397 1	± 10%	0.7	≤ 5%
2,3,7,8-TeCDF	386 6	± 10%	0.7	≤ 5%
1,2,3,7,8-PeCDD	1937	± 10%	0 8	≤ 5%
1,2,3,7,8-PeCDF	1919	± 10%	0.8	≤ 5%
2,3,4,7,8-PeCDF	1941	± 10%	0.8	≤ 5%
1,2,3,4,7,8-HxCDD	1932	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDD	1987	± 10%	0 8	≤ 5%
1,2,3,7,8,9-HxCDD	1943	± 10%	0 7	≤ 5%
1,2,3,4,7,8-HxCDF	1933	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDF	1909	± 10%	0.9	≤ 5%
1,2,3,7,8,9-HxCDF	1942	± 10%	0.7	≤ 5%
2,3,4,6,7,8-HxCDF	1950	± 10%	0.8	≤ 5%
1.2.3.4.6.7.8-HpCDD	1930	± 10%	0.9	≤ 5%
1,2,3,4,6,7,8-HpCDF	1919	± 10%	0.9	≤ 5%
1,2,3,4,7,8,9-HpCDF	1943	± 10%	1.0	≤ 5%
OCDD	3844	± 10%	1.0	≤ 5%
OCDF	3906	± 10%	0.9	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The %RSD of samples pulled from across the lot demonstrate homogeneity.
- Product is compared to prior lot and meets acceptance criteria of ± 10%.

Product Analysis

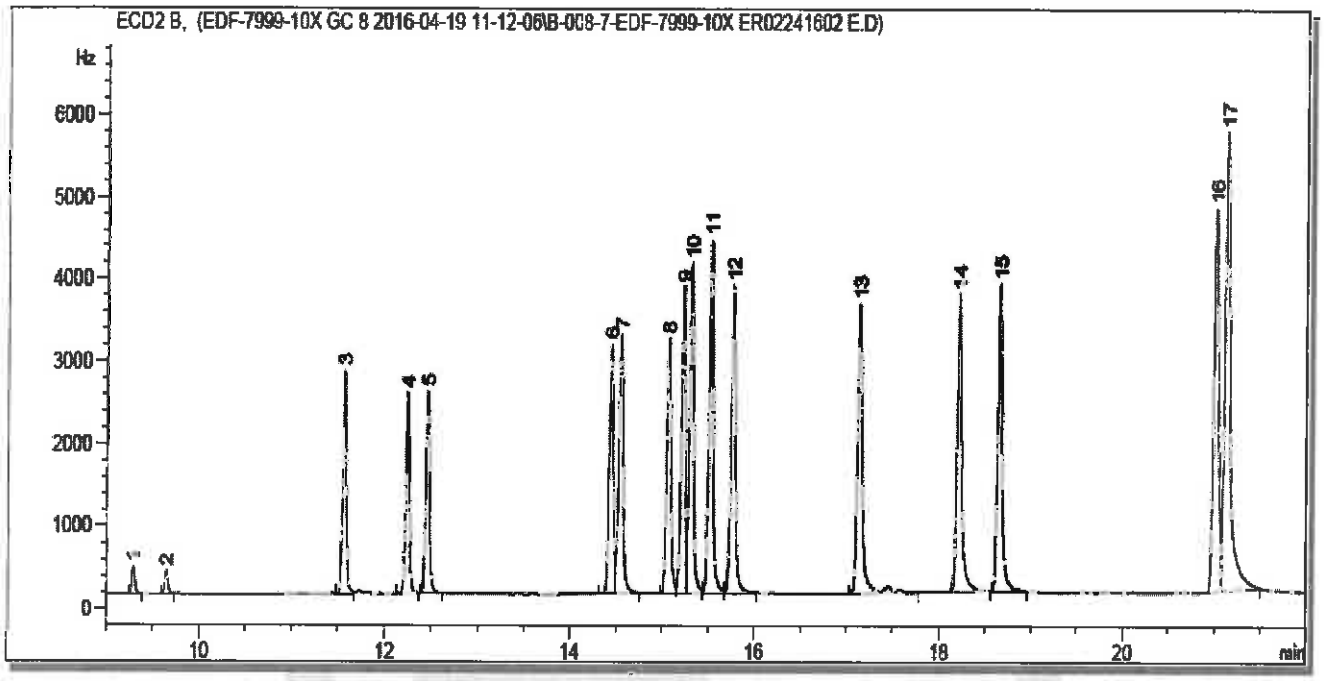

Peak:	Analyte:
1	2,3,7,8-Tetrachlorodibenzofuran
2	2,3,7,8-Tetrachloro-p-dioxin
3	1,2,3,7,8-Pentachlorodibenzofuran
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8	2,3,4,6,7,8-Hexachlorodibenzofuran
9	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin
10	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin
11	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin
12	1,2,3,7,8,9-Hexachlorodibenzofuran
13	1,2,3,4,6,7,8-Heptachlorodibenzofuran
14	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin
15	1,2,3,4,7,8,9-Heptachlorodibenzofuran
16	Octachlorodibenzo-p-dioxin
17	Octachlorodibenzofuran

COA Revision History

Revision No.	Date	Reason for Revision
00	April 28, 2016	Initial version

Reagent

HRDXNTA_00093

R: 7/6/18 SKJ

Cerilliant
Analytical Reference Standards
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Certificate of Analysis

Method 1613 PAR Stock Solution

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number: EDF-7999-10X
Solution Lot: ER02241602
Expiration Date: April 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/ analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 volume. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

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1,2,3,7,8-PeCDD	ER110909-02	40321-76-4	$C_{12}H_3Cl_5O_2$	356.42	99.2%	2000 ± 20 ng/mL
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1,2,3,4,7,8-HxCDD	ER080108-02	39227-28-6	$C_{12}H_2Cl_6O_2$	390.86	98.6%	2000 ± 20 ng/mL
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ANAB ACCREDITED
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

April 28, 2016
Date

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
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Injector Temp: Cool on-column
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Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 1

Solution Standard Verification and Homogeneity

Compound	Verified Concentration ng/mL	Acceptance Criteria	%RSD - Homogeneity %	Acceptance Criteria
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Product Analysis

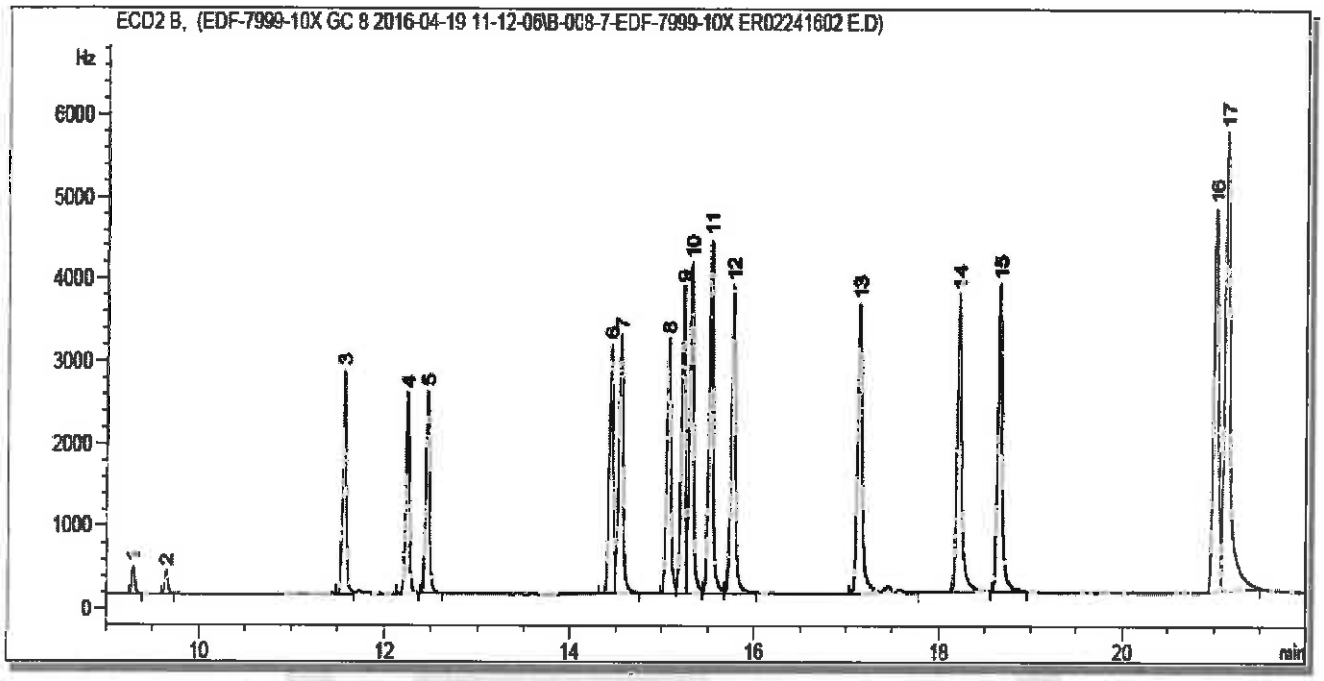

Peak:	Analyte:
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2	2,3,7,8-Tetrachloro-p-dioxin
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9	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin
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12	1,2,3,7,8,9-Hexachlorodibenzofuran
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14	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin
15	1,2,3,4,7,8,9-Heptachlorodibenzofuran
16	Octachlorodibenzo-p-dioxin
17	Octachlorodibenzofuran

COA Revision History

Revision No.	Date	Reason for Revision
00	April 28, 2016	Initial version

Reagent

HRDXNTA_00102

Rec: 1/31/19 SKV

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

EPA-1613PAR

U.S. EPA Method 1613 Native PCDD/PCDF
Precision and Recovery Stock Solution

PRODUCT CODE:	EPA-1613PAR
LOT NUMBER:	13PAR0418
SOLVENT(S):	Nonane/Toluene
DATE PREPARED: (mm/dd/yyyy)	04/11/2018
LAST TESTED: (mm/dd/yyyy)	04/12/2018
EXPIRY DATE: (mm/dd/yyyy)	03/01/2025
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION:

EPA-1613PAR is a solution/mixture of all the 2,3,7,8-substituted chlorinated dibenzo-p-dioxins (PCDDs) and 2,3,7,8-substituted dibenzofurans (PCDFs). The components and their concentrations are given in Table A.

EPA-1613PAR was designed for, and prepared to be used according to, U.S. EPA Method 1613 (Revision B).

The individual PCDDs and PCDFs all have chemical purities of >98%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: HRGC/HRMS Data (SIR; 10,000 mass resolving power)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Table A: **EPA-1613PAR; Components and Concentrations (ng/ml, ± 5% in nonane/ 2.4% toluene)**

	Concentration (ng/ml)
PCDDs:	
2,3,7,8-Tetrachlorodibenzo-p-dioxin	40
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	200
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	200
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	200
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	200
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	200
Octachlorodibenzo-p-dioxin	400
PCDFs:	
2,3,7,8-Tetrachlorodibenzofuran	40
1,2,3,7,8-Pentachlorodibenzofuran	200
2,3,4,7,8-Pentachlorodibenzofuran	200
1,2,3,4,7,8-Hexachlorodibenzofuran	200
1,2,3,6,7,8-Hexachlorodibenzofuran	200
1,2,3,7,8,9-Hexachlorodibenzofuran	200
2,3,4,6,7,8-Hexachlorodibenzofuran	200
1,2,3,4,6,7,8-Heptachlorodibenzofuran	200
1,2,3,4,7,8,9-Heptachlorodibenzofuran	200
Octachlorodibenzofuran	400

Certified By: _____ **Date:** 04/16/2018 (mm/dd/yyyy)

B.G. Chittim, General Manager

Figure 1: **EPA-1613PAR; HRGC/HRMS Data (60 m DB-5 Column)**

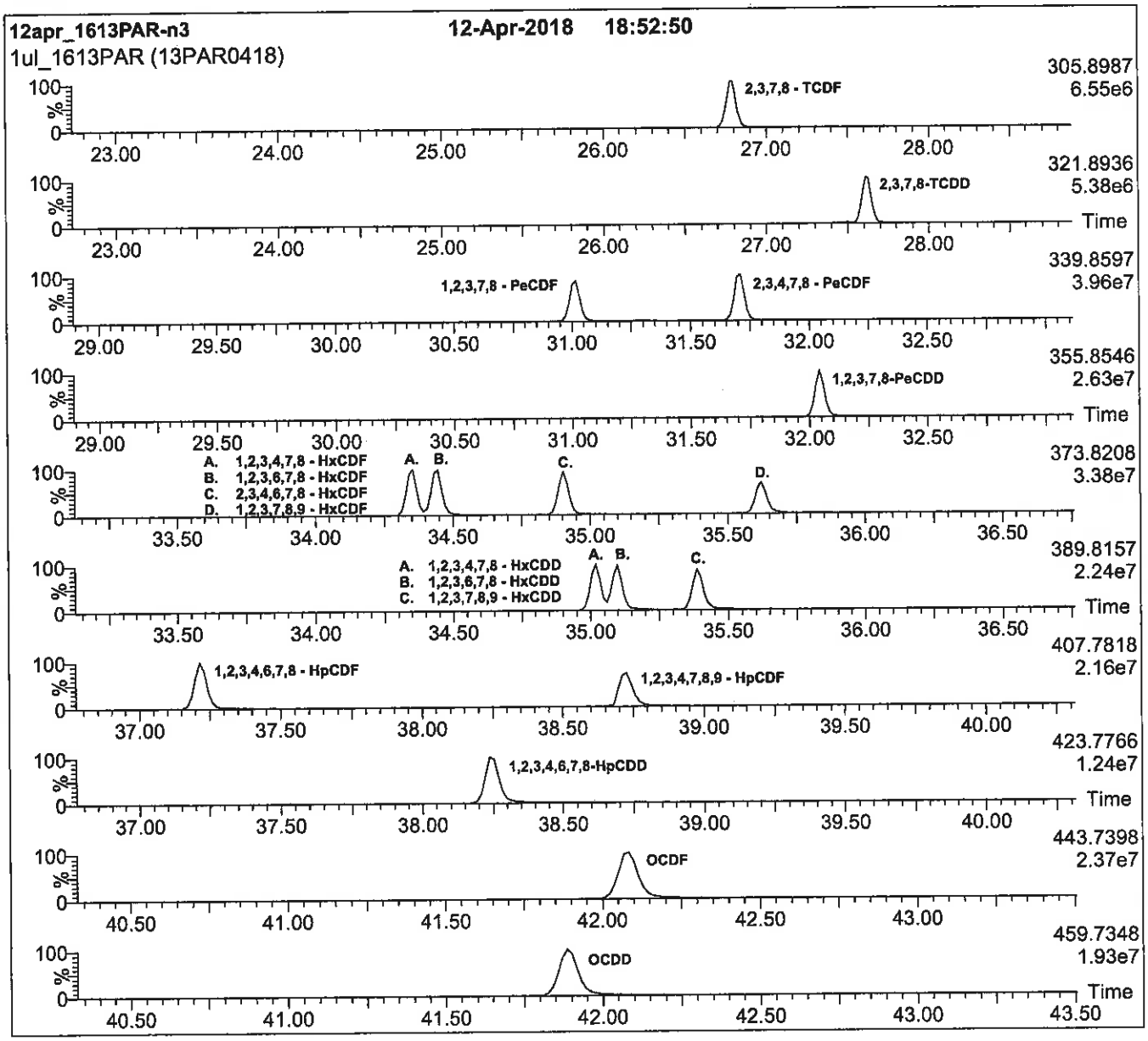

HRGC/HRMS:

Agilent 6890N (HRGC)
Autospec Ultima (HRMS)

Chromatographic Conditions:

Column: 60 m DB-5 (0.25 mm id, 0.25 µm film thickness) Agilent J&W

Flow:	Constant at 1 ml/min	Oven:	150 °C (1 min)
Injector:	280 °C (Splitless Injection)		12 °C/min to 200 °C
Ionization:	EI+		3 °C/min to 235 °C
Detector:	280 °C		235 °C (8 min)
	SIR at 10,000 mass resolving power		8 °C/min to 310 °C
			310 °C (8 min)

Reagent

MT-ICP-ICSA_00001

CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

Product #: TA-ICP-ICSA

ICP ICSA Mix

Lot #: 982821-1

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
Al	5000 ± 25 mg/L	Fe	2000 ± 10 mg/L
Ca	5000 ± 25 mg/L	Mg	5000 ± 25 mg/L

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see reverse side)**. The solution was stabilized using high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentrations were determined based upon gravimetric procedures. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see reverse side)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 21, 2018
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

Cont# 1480942.
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1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM		Analyte	Aq. SRM	MO SRM		Analyte	Aq. SRM	MO SRM
Ag	3151	1077a		Hf	3122	—		S	3154	2770
Al	3101a	1075a		Hg	3133	3133		Sb	3102a	3102a
As	3103a	3103a		Ho	3123a	—		Sc	3148a	3148a
Au	3121	—		In	3124a	3124a		Se	3149	3149
B	3107	3107		K	3141a	3141a		Si	3150	1066a
Ba	3104a	1051b		La	3127a	3127a		Sm	3147a	—
Be	3105a	3105a		Li	3129a	3129a		Sn	3161a	1057b
Bi	3106	3106		Lu	3130a	—		SO_4^{-2}	3181	—
Br^-	3184	—		Mg	3131a	3131a		Sr	3153a	3153a
Ca	3109a	3109a		Mn	3132	3132		Ta	3155	—
Cd	3108	1053a		Mo	3134	3134		Tb	3157a	—
Ce	3110	3110		Na	3152a	3152a		Te	3156	—
Cl^-	3182	1818a		Nb	3137	—		Th	3159	—
Co	3113	3113		Nd	3135a	—		Ti	3162a	3162a
Cr	3112a	1078b		Ni	3136	1065b		Tl	3158	3158
Cs	3111a	—		NO_3^-	3185	—		Tm	3160a	—
Cu	3114	1080a		P	3139a	3139a		U	3164	—
Dy	3115a	—		Pb	3128	3128		V	3165	1052b
Er	3116a	—		Pd	3138	—		W	3163	3163
Eu	3117a	—		PO_4^{-3}	3186	—		Y	3167a	3167a
F^-	3183	—		Pr	3142a	—		Yb	3166a	—
Fe	3126a	1079b		Pt	3140	3140		Zn	3168a	3168a
Ga	3119a	—		Rb	3145a	—		Zr	3169	3169
Gd	3118a	—		Re	3143	—				
Ge	3120a	—		Rh	3144	3144				

Reagent

MT-ICP-ICSB1_00001

CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

Product #: TA-ICP-ICSAB-1

ICP ICSAB Mix Solution 1

Lot #: 990624-2

Matrix: 5% HNO_3/0.5% HF

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
Mo	100.0 ± 0.5 mg/L	Si	1000 ± 5 mg/L	Tl	100.0 ± 0.5 mg/L
Sb	100.0 ± 0.5 mg/L	Sn	100.0 ± 0.5 mg/L		

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see reverse side)**. The solution was stabilized using high purity nitric acid (HNO_3), hydrofluoric acid (HF) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentrations were determined based upon gravimetric procedures. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see reverse side)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 21, 2018
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

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Ag	3151	1077a		Hf	3122	—		S	3154	2770
Al	3101a	1075a		Hg	3133	3133		Sb	3102a	3102a
As	3103a	3103a		Ho	3123a	—		Sc	3148a	3148a
Au	3121	—		In	3124a	3124a		Se	3149	3149
B	3107	3107		K	3141a	3141a		Si	3150	1066a
Ba	3104a	1051b		La	3127a	3127a		Sm	3147a	—
Be	3105a	3105a		Li	3129a	3129a		Sn	3161a	1057b
Bi	3106	3106		Lu	3130a	—		SO_4^{-2}	3181	—
Br^-	3184	—		Mg	3131a	3131a		Sr	3153a	3153a
Ca	3109a	3109a		Mn	3132	3132		Ta	3155	—
Cd	3108	1053a		Mo	3134	3134		Tb	3157a	—
Ce	3110	3110		Na	3152a	3152a		Te	3156	—
Cl^-	3182	1818a		Nb	3137	—		Th	3159	—
Co	3113	3113		Nd	3135a	—		Ti	3162a	3162a
Cr	3112a	1078b		Ni	3136	1065b		Tl	3158	3158
Cs	3111a	—		NO_3^-	3185	—		Tm	3160a	—
Cu	3114	1080a		P	3139a	3139a		U	3164	—
Dy	3115a	—		Pb	3128	3128		V	3165	1052b
Er	3116a	—		Pd	3138	—		W	3163	3163
Eu	3117a	—		PO_4^{-3}	3186	—		Y	3167a	3167a
F^-	3183	—		Pr	3142a	—		Yb	3166a	—
Fe	3126a	1079b		Pt	3140	3140		Zn	3168a	3168a
Ga	3119a	—		Rb	3145a	—		Zr	3169	3169
Gd	3118a	—		Re	3143	—				
Ge	3120a	—		Rh	3144	3144				

Reagent

MT-ICP-ICSB2_00001

CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

Product #: TA-ICP-ICSAB-2

ICP ICSAB Mix Solution 2

Lot #: 990626-2

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
Ag	100.0 ± 0.5 mg/L	Cr	99.98 ± 0.50 mg/L	Pb	100.0 ± 0.5 mg/L
As	100.0 ± 0.5 mg/L	Cu	100.0 ± 0.5 mg/L	Se	100.0 ± 0.5 mg/L
B	1000 ± 5 mg/L	K	1000 ± 5 mg/L	Sr	100.0 ± 0.5 mg/L
Ba	100.1 ± 0.5 mg/L	Mn	100.1 ± 0.5 mg/L	Tl	100.0 ± 0.5 mg/L
Be	50.02 ± 0.25 mg/L	Na	1000 ± 5 mg/L	V	100.0 ± 0.5 mg/L
Cd	100.0 ± 0.5 mg/L	Ni	100.1 ± 0.5 mg/L	Zn	100.1 ± 0.5 mg/L
Co	100.0 ± 0.5 mg/L	P	1000 ± 5 mg/L		

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see reverse side)**. The solution was stabilized using high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentrations were determined based upon gravimetric procedures. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see reverse side)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

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Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 21, 2018

Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

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- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
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This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM		Analyte	Aq. SRM	MO SRM		Analyte	Aq. SRM	MO SRM
Ag	3151	1077a		Hf	3122	—		S	3154	2770
Al	3101a	1075a		Hg	3133	3133		Sb	3102a	3102a
As	3103a	3103a		Ho	3123a	—		Sc	3148a	3148a
Au	3121	—		In	3124a	3124a		Se	3149	3149
B	3107	3107		K	3141a	3141a		Si	3150	1066a
Ba	3104a	1051b		La	3127a	3127a		Sm	3147a	—
Be	3105a	3105a		Li	3129a	3129a		Sn	3161a	1057b
Bi	3106	3106		Lu	3130a	—		SO_4^{-2}	3181	—
Br^-	3184	—		Mg	3131a	3131a		Sr	3153a	3153a
Ca	3109a	3109a		Mn	3132	3132		Ta	3155	—
Cd	3108	1053a		Mo	3134	3134		Tb	3157a	—
Ce	3110	3110		Na	3152a	3152a		Te	3156	—
Cl^-	3182	1818a		Nb	3137	—		Th	3159	—
Co	3113	3113		Nd	3135a	—		Ti	3162a	3162a
Cr	3112a	1078b		Ni	3136	1065b		Tl	3158	3158
Cs	3111a	—		NO_3^-	3185	—		Tm	3160a	—
Cu	3114	1080a		P	3139a	3139a		U	3164	—
Dy	3115a	—		Pb	3128	3128		V	3165	1052b
Er	3116a	—		Pd	3138	—		W	3163	3163
Eu	3117a	—		PO_4^{-3}	3186	—		Y	3167a	3167a
F^-	3183	—		Pr	3142a	—		Yb	3166a	—
Fe	3126a	1079b		Pt	3140	3140		Zn	3168a	3168a
Ga	3119a	—		Rb	3145a	—		Zr	3169	3169
Gd	3118a	—		Re	3143	—				
Ge	3120a	—		Rh	3144	3144				

Reagent

MT_CalMix1-SS_00001

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

ICP ICPMS CAL Mix # 1

Matrix: 5% HNO_3/tr. HF

1427789
ID MT_CalMix1-SS_00001
Exp. 04/26/20 Prpd CJH
Second Source Cal Mix 1 f

Product #: TA-CAL1-SS

Lot #: 982733-2

Received: 11/6/18

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
As	100.0 ± 0.5 mg/L	Li	100.0 ± 0.5 mg/L	Si	1000 ± 5 mg/L
Ba	100.0 ± 0.5 mg/L	Mn	100.0 ± 0.5 mg/L	Sn	100.1 ± 0.5 mg/L
Be	100.0 ± 0.5 mg/L	Mo	100.0 ± 0.5 mg/L	Sr	100.0 ± 0.5 mg/L
Cd	100.1 ± 0.5 mg/L	Ni	100.0 ± 0.5 mg/L	Ti	100.1 ± 0.5 mg/L
Co	100.0 ± 0.5 mg/L	Pb	100.0 ± 0.5 mg/L	Tl	100.0 ± 0.5 mg/L
Cr	100.0 ± 0.5 mg/L	Sb	100.0 ± 0.5 mg/L	V	100.0 ± 0.5 mg/L
Cu	100.1 ± 0.5 mg/L	Se	100.0 ± 0.5 mg/L		

Intended Use: This solution is intended for use as a second source certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see reverse side)**. The solution was stabilized using high purity nitric acid (HNO_3), trace hydrofluoric acid (HF) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with dilutions are performed in Class A calibrated glassware. The certified concentrations were determined based upon gravimetric procedures. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see reverse side)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

October 26, 2018
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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The Netherlands

www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
  - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM		Analyte	Aq. SRM	MO SRM		Analyte	Aq. SRM	MO SRM
Ag	3151	1077a		Hf	3122	—		S	3154	2770
Al	3101a	1075a		Hg	3133	3133		Sb	3102a	3102a
As	3103a	3103a		Ho	3123a	—		Sc	3148a	3148a
Au	3121	—		In	3124a	3124a		Se	3149	3149
B	3107	3107		K	3141a	3141a		Si	3150	1066a
Ba	3104a	1051b		La	3127a	3127a		Sm	3147a	—
Be	3105a	3105a		Li	3129a	3129a		Sn	3161a	1057b
Bi	3106	3106		Lu	3130a	—		SO_4^{-2}	3181	—
Br^-	3184	—		Mg	3131a	3131a		Sr	3153a	3153a
Ca	3109a	3109a		Mn	3132	3132		Ta	3155	—
Cd	3108	1053a		Mo	3134	3134		Tb	3157a	—
Ce	3110	3110		Na	3152a	3152a		Te	3156	—
Cl^-	3182	1818a		Nb	3137	—		Th	3159	—
Co	3113	3113		Nd	3135a	—		Ti	3162a	3162a
Cr	3112a	1078b		Ni	3136	1065b		Tl	3158	3158
Cs	3111a	—		NO_3^-	3185	—		Tm	3160a	—
Cu	3114	1080a		P	3139a	3139a		U	3164	—
Dy	3115a	—		Pb	3128	3128		V	3165	1052b
Er	3116a	—		Pd	3138	—		W	3163	3163
Eu	3117a	—		PO_4^{-3}	3186	—		Y	3167a	3167a
F^-	3183	—		Pr	3142a	—		Yb	3166a	—
Fe	3126a	1079b		Pt	3140	3140		Zn	3168a	3168a
Ga	3119a	—		Rb	3145a	—		Zr	3169	3169
Gd	3118a	—		Re	3143	—				
Ge	3120a	—		Rh	3144	3144				

Reagent

MT_CalMix2-SS_00001

CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

1427812
ID MT_CalMix2-SS_00001
Exp 04/26/20 Prpd CJH
Second Source Cal Mix 2 f

Product #: TA-CAL2-SS

ICP ICPMS CAL Mix # 2

Lot #: 982735-2

Matrix: 5% HNO_3

Received 11/6/18

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
Al	2000 ± 10 mg/L	Fe	2000 ± 10 mg/L	Mg	2000 ± 10 mg/L
Ca	2000 ± 10 mg/L	K	2001 ± 10 mg/L	Na	2001 ± 10 mg/L

Intended Use: This solution is intended for use as a second source certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see reverse side)**. The solution was stabilized using high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentrations were determined based upon gravimetric procedures. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see reverse side)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

October 26, 2018
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM		Analyte	Aq. SRM	MO SRM		Analyte	Aq. SRM	MO SRM
Ag	3151	1077a		Hf	3122	—		S	3154	2770
Al	3101a	1075a		Hg	3133	3133		Sb	3102a	3102a
As	3103a	3103a		Ho	3123a	—		Sc	3148a	3148a
Au	3121	—		In	3124a	3124a		Se	3149	3149
B	3107	3107		K	3141a	3141a		Si	3150	1066a
Ba	3104a	1051b		La	3127a	3127a		Sm	3147a	—
Be	3105a	3105a		Li	3129a	3129a		Sn	3161a	1057b
Bi	3106	3106		Lu	3130a	—		SO_4^{-2}	3181	—
Br^-	3184	—		Mg	3131a	3131a		Sr	3153a	3153a
Ca	3109a	3109a		Mn	3132	3132		Ta	3155	—
Cd	3108	1053a		Mo	3134	3134		Tb	3157a	—
Ce	3110	3110		Na	3152a	3152a		Te	3156	—
Cl^-	3182	1818a		Nb	3137	—		Th	3159	—
Co	3113	3113		Nd	3135a	—		Ti	3162a	3162a
Cr	3112a	1078b		Ni	3136	1065b		Tl	3158	3158
Cs	3111a	—		NO_3^-	3185	—		Tm	3160a	—
Cu	3114	1080a		P	3139a	3139a		U	3164	—
Dy	3115a	—		Pb	3128	3128		V	3165	1052b
Er	3116a	—		Pd	3138	—		W	3163	3163
Eu	3117a	—		PO_4^{-3}	3186	—		Y	3167a	3167a
F^-	3183	—		Pr	3142a	—		Yb	3166a	—
Fe	3126a	1079b		Pt	3140	3140		Zn	3168a	3168a
Ga	3119a	—		Rb	3145a	—		Zr	3169	3169
Gd	3118a	—		Re	3143	—				
Ge	3120a	—		Rh	3144	3144				

Reagent

MT_CalMix3-SS_00001

CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

1427814
ID MT_CalMix3-SS_00001
Exp. 04/26/20 Prpd CJH
Second Source Cal Mix 3 f

Product #: TA-CAL3-SS

ICP ICPMS CAL Mix # 3

Lot #: 982739-1

Matrix: 5% HNO_3/tr. HF

Received 11/6/18

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
P	1000 ± 5 mg/L	U	100.0 ± 0.5 mg/L
S	1001 ± 5 mg/L	W	100.0 ± 0.5 mg/L

Intended Use: This solution is intended for use as a second source certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

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Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

October 26, 2018
Certification Date

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
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- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
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This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM		Analyte	Aq. SRM	MO SRM		Analyte	Aq. SRM	MO SRM
Ag	3151	1077a		Hf	3122	—		S	3154	2770
Al	3101a	1075a		Hg	3133	3133		Sb	3102a	3102a
As	3103a	3103a		Ho	3123a	—		Sc	3148a	3148a
Au	3121	—		In	3124a	3124a		Se	3149	3149
B	3107	3107		K	3141a	3141a		Si	3150	1066a
Ba	3104a	1051b		La	3127a	3127a		Sm	3147a	—
Be	3105a	3105a		Li	3129a	3129a		Sn	3161a	1057b
Bi	3106	3106		Lu	3130a	—		SO_4^{-2}	3181	—
Br^-	3184	—		Mg	3131a	3131a		Sr	3153a	3153a
Ca	3109a	3109a		Mn	3132	3132		Ta	3155	—
Cd	3108	1053a		Mo	3134	3134		Tb	3157a	—
Ce	3110	3110		Na	3152a	3152a		Te	3156	—
Cl^-	3182	1818a		Nb	3137	—		Th	3159	—
Co	3113	3113		Nd	3135a	—		Ti	3162a	3162a
Cr	3112a	1078b		Ni	3136	1065b		Tl	3158	3158
Cs	3111a	—		NO_3^-	3185	—		Tm	3160a	—
Cu	3114	1080a		P	3139a	3139a		U	3164	—
Dy	3115a	—		Pb	3128	3128		V	3165	1052b
Er	3116a	—		Pd	3138	—		W	3163	3163
Eu	3117a	—		PO_4^{-3}	3186	—		Y	3167a	3167a
F^-	3183	—		Pr	3142a	—		Yb	3166a	—
Fe	3126a	1079b		Pt	3140	3140		Zn	3168a	3168a
Ga	3119a	—		Rb	3145a	—		Zr	3169	3169
Gd	3118a	—		Re	3143	—				
Ge	3120a	—		Rh	3144	3144				

Reagent

MT_spike1_00002

Re: 8/14/19

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

Product #: TA-SPIKE1+

Spike Mix # 1

Lot #: 993218-2

Matrix: 5% HNO_3/tr. HF

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
As	200.0 ± 1.0 mg/L	Li	100.0 ± 0.5 mg/L	Sn	200.0 ± 1.0 mg/L
Ba	200.0 ± 1.0 mg/L	Mn	100.1 ± 0.5 mg/L	Sr	100.0 ± 0.5 mg/L
Be	100.0 ± 0.5 mg/L	Mo	100.0 ± 0.5 mg/L	Ti	100.0 ± 0.5 mg/L
Cd	100.0 ± 0.5 mg/L	Ni	100.0 ± 0.5 mg/L	Tl	200.0 ± 1.0 mg/L
Co	100.0 ± 0.5 mg/L	Pb	100.1 ± 0.5 mg/L	V	100.0 ± 0.5 mg/L
Cr	100.0 ± 0.5 mg/L	Se	200.0 ± 1.0 mg/L		
Cu	100.0 ± 0.5 mg/L	Sl	200.0 ± 1.0 mg/L		

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see reverse side)**. The solution was stabilized using high purity nitric acid (HNO_3), trace hydrofluoric acid (HF) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentrations were determined based upon gravimetric procedures. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see reverse side)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

April 4, 2019
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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The Netherlands

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

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- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
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This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM		Analyte	Aq. SRM	MO SRM		Analyte	Aq. SRM	MO SRM
Ag	3151	1077a		Hf	3122	—		S	3154	2770
Al	3101a	1075a		Hg	3133	3133		Sb	3102a	3102a
As	3103a	3103a		Ho	3123a	—		Sc	3148a	3148a
Au	3121	—		In	3124a	3124a		Se	3149	3149
B	3107	3107		K	3141a	3141a		Si	3150	1066a
Ba	3104a	1051b		La	3127a	3127a		Sm	3147a	—
Be	3105a	3105a		Li	3129a	3129a		Sn	3161a	1057b
Bi	3106	3106		Lu	3130a	—		SO_4^{-2}	3181	—
Br^-	3184	—		Mg	3131a	3131a		Sr	3153a	3153a
Ca	3109a	3109a		Mn	3132	3132		Ta	3155	—
Cd	3108	1053a		Mo	3134	3134		Tb	3157a	—
Ce	3110	3110		Na	3152a	3152a		Te	3156	—
Cl^-	3182	1818a		Nb	3137	—		Th	3159	—
Co	3113	3113		Nd	3135a	—		Ti	3162a	3162a
Cr	3112a	1078b		Ni	3136	1065b		Tl	3158	3158
Cs	3111a	—		NO_3^-	3185	—		Tm	3160a	—
Cu	3114	1080a		P	3139a	3139a		U	3164	—
Dy	3115a	—		Pb	3128	3128		V	3165	1052b
Er	3116a	—		Pd	3138	—		W	3163	3163
Eu	3117a	—		PO_4^{-3}	3186	—		Y	3167a	3167a
F^-	3183	—		Pr	3142a	—		Yb	3166a	—
Fe	3126a	1079b		Pt	3140	3140		Zn	3168a	3168a
Ga	3119a	—		Rb	3145a	—		Zr	3169	3169
Gd	3118a	—		Re	3143	—				
Ge	3120a	—		Rh	3144	3144				

Reagent

MT_spike2_00002

CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

Product #: TA-SPIKE2

Spike Mix # 2

Lot #: 982744-1

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
Al	1000 ± 5 mg/L	Fe	1000 ± 5 mg/L	Mg	5000 ± 25 mg/L
Ca	5000 ± 25 mg/L	K	5000 ± 25 mg/L	Na	5000 ± 25 mg/L

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see reverse side)**. The solution was stabilized using high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentrations were determined based upon gravimetric procedures. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see reverse side)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

March 11, 2019
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM		Analyte	Aq. SRM	MO SRM		Analyte	Aq. SRM	MO SRM
Ag	3151	1077a		Hf	3122	—		S	3154	2770
Al	3101a	1075a		Hg	3133	3133		Sb	3102a	3102a
As	3103a	3103a		Ho	3123a	—		Sc	3148a	3148a
Au	3121	—		In	3124a	3124a		Se	3149	3149
B	3107	3107		K	3141a	3141a		Si	3150	1066a
Ba	3104a	1051b		La	3127a	3127a		Sm	3147a	—
Be	3105a	3105a		Li	3129a	3129a		Sn	3161a	1057b
Bi	3106	3106		Lu	3130a	—		SO_4^{-2}	3181	—
Br^-	3184	—		Mg	3131a	3131a		Sr	3153a	3153a
Ca	3109a	3109a		Mn	3132	3132		Ta	3155	—
Cd	3108	1053a		Mo	3134	3134		Tb	3157a	—
Ce	3110	3110		Na	3152a	3152a		Te	3156	—
Cl^-	3182	1818a		Nb	3137	—		Th	3159	—
Co	3113	3113		Nd	3135a	—		Ti	3162a	3162a
Cr	3112a	1078b		Ni	3136	1065b		Tl	3158	3158
Cs	3111a	—		NO_3^-	3185	—		Tm	3160a	—
Cu	3114	1080a		P	3139a	3139a		U	3164	—
Dy	3115a	—		Pb	3128	3128		V	3165	1052b
Er	3116a	—		Pd	3138	—		W	3163	3163
Eu	3117a	—		PO_4^{-3}	3186	—		Y	3167a	3167a
F^-	3183	—		Pr	3142a	—		Yb	3166a	—
Fe	3126a	1079b		Pt	3140	3140		Zn	3168a	3168a
Ga	3119a	—		Rb	3145a	—		Zr	3169	3169
Gd	3118a	—		Re	3143	—				
Ge	3120a	—		Rh	3144	3144				

Reagent

MTAgXXXTA-SS_00001

CERTIFICATE OF ANALYSIS

1427826
ID MTAgXXXTA-SS_00001
Exp 04/26/20 Prpd CJH
Cal Std - Silver 1000 ug/

Single-Element Aqueous CRM

SE Std Silver (Ag) – 1000 µg/mL

Matrix: 5% HNO_3

Product #: TA-1000511

Lot #: 975475-12

Received 11/6/18

Element	Certified Concentration & Uncertainty
Ag	996 ± 3 µg/mL (w/v)
	987 ± 3 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure silver (Ag) metal dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3151, lot #992212**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	MAJOR	Co	<0.5	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	<2	Cs	<1	Hf	<0.2	Mg	<5	Pb	2	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	3	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	2	Cu	9	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	2	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

October 26, 2018
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTAgXXXTA_00011

INORGANIC VENTURES
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CERTIFICATE OF ANALYSIS

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGAG1
Lot Number:	N2-AG666654
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Silver
Starting Material:	Ag Shot
Starting Material Lot#:	2042 and 1575
Starting Material Purity:	99.9994%

1427824
ID MTAgXXXTA_00011
Exp 04/10/22 Prpd CJh
Silver 1000 ug/mL

Received: 11/5/18

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 999 ± 6 µg/mL

Density: 1.026 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **1003 ± 4 µg/mL**
ICP Assay NIST SRM 3151 Lot Number: 992212

Assay Method #2 **997 ± 2 µg/mL**
Volhard NIST SRM 999c Lot Number: 999c

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

s	Ag	<		M	Eu	<	0.000253	O	Na		0.000861	M	Se	<	0.001010	O	Zn		0.000568
O	Al		0.000157	O	Fe		0.000297	M	Nb	<	0.000253	O	Si		0.000957	M	Zr	<	0.000507
M	As	<	0.001776	M	Ga	<	0.000253	M	Nd	<	0.000253	M	Sm	<	0.000253				
M	Au	<	0.001010	M	Gd	<	0.000253	O	Ni		0.000218	M	Sn		0.000240				
O	B		0.000244	M	Ge	<	0.000507	n	Os	<		O	Sr		0.000017				
M	Ba	<	0.001269	M	Hf	<	0.000253	O	P	<	0.021220	M	Ta	<	0.000253				
O	Be	<	0.000318	M	Hg	<	0.002525	M	Pb		0.000292	M	Tb	<	0.000253				
M	Bi		0.000146	M	Ho	<	0.000253	M	Pd		0.000177	M	Te	<	0.006346				
O	Ca		0.000887	M	In	<	0.002538	M	Pr	<	0.000253	M	Th	<	0.000253				
M	Cd	<	0.000253	M	Ir	<	0.001010	M	Pt	<	0.000253	O	Ti	<	0.002864				
M	Ce	<	0.000253	O	K	<	0.006366	M	Rb	<	0.000507	M	Tl	<	0.000253				
O	Co	<	0.002228	M	La	<	0.000253	M	Re	<	0.000253	M	Tm	<	0.000253				
O	Cr	<	0.002122	O	Li	<	0.000212	M	Rh	<	0.000253	M	U	<	0.000253				
M	Cs	<	0.000253	M	Lu	<	0.000253	M	Ru	<	0.000252	M	V	<	0.001776				
O	Cu		0.000599	O	Mg		0.000104	O	S	<	0.045623	M	W	<	0.000253				
M	Dy	<	0.000253	O	Mn	<	0.001061	M	Sb	<	0.009138	M	Y	<	0.000253				
M	Er	<	0.000253	M	Mo	<	0.001015	M	Sc	<	0.000761	M	Yb	<	0.000253				

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 107.87 +1 6 Ag(H2O)6+
Chemical Compatibility -Stable in HNO3, and HF. Avoid basic media. Ag forms more insoluble salts than any other metal. It also is subject to photochemical reduction to the metal in HCl media although 10 µg/mL solutions in 10% HCl [AgClx1-x] are commonly used in the analytical laboratory. The most common solubility problems exist with arsenate, arsenite , bromide, chloride, iodide, carbonate , chromate, cyanide, iodate, oxalate, oxide, sulfate, sulfide, tartrate, and thiocyanate in aqueous media. The addition of nitric acid renders many of these salts soluble.
Stability - 2-100 ppb levels stable for 75+ days when mixed with equivalent levels of all other elements including the precious metals (where chloride is present) when in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO3 / LDPE container.
Ag Containing Samples (Preparation and Solution) -Metal (Soluble in HNO3); Oxides (Soluble in HNO3); Ores (Digestion with conc. HNO3).
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 107 amu	1 ppt	N/A	91Zr16O
ICP-OES 243.779 nm	0.12/0.01 µg/mL	1	Mn, Th, Ni, Rh
ICP-OES 328.068 nm	0.007/0.0007 µg/mL	1	Ce, Rh, V
ICP-OES 338.289 nm	0.013/0.001 µg/mL	1	Ce, Cr, Th

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

April 10, 2018

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **April 10, 2022**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Michael J Booth

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Paul R Gaines

Reagent

MTAlXXXXTA_00004

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

RC: 6/24/19

Product #: TA-10M11

SE Std Aluminum (Al) – 10,000 µg/mL

Lot #: 169484-37

Matrix: 5% HNO_3

1687335

ID: MTAIXXXXTA_00004

Exp 07/30/20 Prod JMD Gen 07-30-19

Aluminum 10,000 ug/mL

Element	Certified Concentration & Uncertainty
Al	10,030 ± 20 µg/mL (w/v)
	9428 ± 22 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.999% pure aluminum nitrate [$Al(NO_3)_3$] dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3101a, lot #140903**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	<10	Ge	<5	Mg	<50	Pd	<5	Si	<1000	V	<10
Al	MAJOR	Cs	<5	Hf	<2	Mn	<10	Pr	<2	Sm	<2	W	16
As	<20	Cr	89	Hg	<5	Mo	<5	Pt	<5	Sn	<5	Y	<5
Au	<5	Cu	<10	Ho	<2	Na	3315	Rb	<5	Sr	<10	Yb	<2
B	<50	Dy	<2	In	nd	Nb	<5	Re	<2	Ta	<5	Zn	30
Ba	<10	Er	<2	Ir	<2	Nd	<2	Rh	<5	Tb	<5		
Bi	<2	Eu	<2	K	<250	Ni	<20	Ru	<5	Te	<10		
Ca	330	Fe	890	La	<5	Os	<5	Sb	<5	Ti	<20		
Cd	<5	Ga	681	Li	<20	P	<1000	Sc	<50	Tl	10		
Ce	<2	Gd	<2	Lu	<2	Pb	<10	Se	<20	Tm	<2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

June 10, 2019

Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTAsXXXTA_00009

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-100031

SE Std Arsenic (As) – 1000 µg/mL

Lot #: 175385-43

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty
As	1000 ± 2 µg/mL (w/v)
	983 ± 2 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure arsenic (As) metal dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3103a, lot #100818**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Mg	<5	Pd	<0.5	Si	<100	V	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mn	<1	Pr	<0.2	Sm	<0.2	W	<0.5
As	MAJOR	Cr	0.7	Hg	<0.5	Mo	0.7	Pt	<0.5	Sn	1	Y	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Na	<25	Rb	<0.5	Sr	<1	Yb	<0.2
B	<5	Dy	<0.2	In	nd	Nb	<0.5	Re	<0.2	Ta	<0.5	Zn	<2
Ba	2	Er	<0.2	Ir	<0.2	Nd	<0.2	Rh	13	Tb	<0.5		
Bi	<0.2	Eu	<0.2	K	<25	Ni	3	Ru	6	Te	<1		
Ca	<25	Fe	<10	La	<0.5	Os	<0.5	Sb	<0.5	Ti	<2		
Cd	<0.5	Ga	<0.5	Li	<2	P	<100	Sc	<5	Tl	<0.5		
Ce	<0.2	Gd	<0.2	Lu	<0.2	Pb	<1	Se	<2	Tm	<0.2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

January 10, 2019
Certification Date

Rec'd 1/17/19
Cont # 1489813

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTBaXXXTA_00009

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM — Product #: TA-100041

SE Std Barium (Ba) – 1000 µg/mL — Lot #: 273421-52

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty
Ba	1000 ± 3 µg/mL (w/v)
	994 ± 3 µg/g (w/w)

1477001
ID: MTBaXXXTA_C0009
Exp: 05/17/20 Prpd: JMD
Barium 1000 ug/mL

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure barium nitrate [$Ba(NO_3)_2$] dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3104a, lot #140909**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	3	Co	<1	Ge	<0.5	Mg	<5	Pd	<0.5	Si	<100	V	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mn	<1	Pr	<0.2	Sm	0.9	W	<0.5
As	<2	Cr	<0.5	Hg	<0.5	Mo	0.7	Pt	<0.5	Sn	<0.5	Y	1
Au	<0.5	Cu	<1	Ho	<0.2	Na	<25	Rb	2	Sr	3	Yb	<0.2
B	<5	Dy	<0.2	In	nd	Nb	<0.5	Re	<0.2	Ta	<0.5	Zn	<2
Ba	MAJOR	Er	<0.2	Ir	<0.2	Nd	<0.2	Rh	<0.5	Tb	<0.5		
Bi	<0.2	Eu	14	K	<25	Ni	<2	Ru	<0.5	Te	<1		
Ca	<25	Fe	<10	La	2	Os	<0.5	Sb	<0.5	Ti	<2		
Cd	<0.5	Ga	<0.5	Li	<2	P	<100	Sc	<5	Tl	<0.5		
Ce	<0.2	Gd	<0.2	Lu	<0.2	Pb	<1	Se	<2	Tm	<0.2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 17, 2018
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTBeXXXTA_00008

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-100051

SE Std Beryllium (Be) – 1000 µg/mL

Lot #: 660981-36

Matrix: 5% HNO_3

1477002
ID: MTBeXXXTA_00008
Exp: 05/17/20 Prpd: JMO
Beryllium 1000 ug/mL

Element	Certified Concentration & Uncertainty
Be	996 ± 5 µg/mL (w/v)
	983 ± 5 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.995% pure beryllium acetate [$Be_4O(C_2H_3O_2)_6$] dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3105a, lot #090514**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Mg	<5	Pd	<0.5	Si	<100	V	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mn	<1	Pr	<0.2	Sm	<0.2	W	<0.5
As	<2	Cr	<0.5	Hg	<0.5	Mo	<0.5	Pt	<0.5	Sn	<0.5	Y	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Na	<25	Rb	<0.5	Sr	<1	Yb	<0.2
B	<5	Dy	<0.2	In	nd	Nb	<0.5	Re	<0.2	Ta	<0.5	Zn	<2
Ba	<1	Er	<0.2	Ir	<0.2	Nd	<0.2	Rh	<0.5	Tb	<0.5		
Bi	<0.2	Eu	<0.2	K	<25	Ni	<2	Ru	<0.5	Te	<1		
Ca	<25	Fe	<10	La	<0.5	Os	<0.5	Sb	<0.5	Ti	<2		
Cd	<0.5	Ga	<0.5	Li	<2	P	<100	Sc	<5	Tl	<0.5		
Ce	<0.2	Gd	<0.2	Lu	<0.2	Pb	<1	Se	<2	Tm	<0.2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau, Certifying Officer

December 17, 2018
Certification Date

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The Netherlands

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTBXXXXTA_00010

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: G34-S4400-10M76

Boron (B) – 10,000 µg/mL

Lot #: 982186-5

Matrix: NH_4OH

Element	Certified Concentration & Uncertainty
B	10,010 ± 20 µg/mL (w/v)
	9825 ± 22 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO Guide 34**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.9995% pure boric acid (H_3BO_3) dissolved in high purity ammonium hydroxide (NH_4OH) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3107, lot #110830**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	240	Co	<10	Ge	<5	Lu	<2	P	<1000	Sb	10	Te	<10
Al	72	Cs	<5	Hf	19	Mg	<50	Pb	<10	Sc	<50	Ti	<20
As	<20	Cr	15	Hg	82	Mn	<10	Pd	233	Se	<20	Tl	<5
Au	196	Cu	<10	Ho	<2	Mo	15	Pr	<2	Si	<1000	Tm	<2
B	MAJOR	Dy	<2	In	nd	Na	<250	Pt	<5	Sm	<2	V	<10
Ba	<10	Er	<2	Ir	5	Nb	10	Rb	<5	Sn	507	W	90
Bi	5	Eu	<2	K	<250	Nd	<2	Re	<2	Sr	<10	Y	<5
Ca	<250	Fe	<100	La	<5	Ni	<20	Rh	70	Ta	286	Yb	<2
Cd	<5	Ga	<5	Li	<20	Os	10	Ru	11	Tb	<5	Zn	<20
Ce	<2	Gd	<2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Cont # 1491638

Chuck Goudreau

Chuck Goudreau, Certifying Officer

January 15, 2019

Certification Date

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTCaXXXXTA_00004

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

RC: 6/24/19

Product #: TA-10M91

SE Std Calcium (Ca) – 10,000 µg/mL

Lot #: 855297-64

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty
Ca	9996 ± 20 µg/mL (w/v)
	9683 ± 19 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001, ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.999% pure calcium carbonate ($CaCO_3$) dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3109a, lot #130213**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	<10	Ge	<5	Mg	<50	Pd	<5	Si	<1000	V	<10
Al	<20	Cs	<5	Hf	<2	Mn	<10	Pr	3	Sm	<2	W	<5
As	<20	Cr	<5	Hg	<5	Mo	<5	Pt	<5	Sn	<5	Y	<5
Au	<5	Cu	<10	Ho	<2	Na	<250	Rb	<5	Sr	148	Yb	<2
B	<50	Dy	<2	In	nd	Nb	<5	Re	<2	Ta	<5	Zn	<20
Ba	<10	Er	<2	Ir	<2	Nd	<2	Rh	<5	Tb	<5		
Bi	<2	Eu	<2	K	<250	Ni	<20	Ru	<5	Te	<10		
Ca	MAJOR	Fe	<100	La	<5	Os	<5	Sb	<5	Ti	<20		
Cd	<5	Ga	<5	Li	<20	P	<1000	Sc	<50	Tl	<5		
Ce	<2	Gd	<2	Lu	<2	Pb	<10	Se	<20	Tm	<2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

June 10, 2019
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTCdXXXTA_00008

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-100081

SE Std Cadmium (Cd) – 1000 µg/mL

Lot #: 160499-92

Matrix: 5% HNO_3

1477003
ID: MTCdXXXTA_00008
Exp: 05/17/20 Prpd: JMC
Cadmium 1000 ug/mL

Element	Certified Concentration & Uncertainty
Cd	1000 ± 5 µg/mL (w/v)
	997 ± 5 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.9997% pure cadmium (Cd) metal dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3108, lot #130116**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	<10	Ge	<5	Mg	<50	Pd	<5	Si	<1000	V	<10
Al	<20	Cs	<5	Hf	<2	Mn	22	Pr	<2	Sm	<2	W	<5
As	<20	Cr	<5	Hg	<5	Mo	<5	Pt	<5	Sn	<5	Y	<5
Au	10	Cu	<10	Ho	<2	Na	<250	Rb	<5	Sr	<10	Yb	<2
B	<50	Dy	<2	In	nd	Nb	<5	Re	<2	Ta	<5	Zn	<20
Ba	<10	Er	<2	Ir	<2	Nd	<2	Rh	6	Tb	<5		
Bi	<2	Eu	<2	K	<250	Ni	<20	Ru	<5	Te	<10		
Ca	<250	Fe	<100	La	<5	Os	6	Sb	<5	Ti	<20		
Cd	MAJOR	Ga	<5	Li	<20	P	<1000	Sc	<50	Tl	12		
Ce	<2	Gd	<2	Lu	<2	Pb	<10	Se	<20	Tm	17		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 17, 2018
Certification Date

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTCoXXXTA_00008

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-1000131

SE Std Cobalt (Co) – 1000 µg/mL

Lot #: 161693-95

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty
Co	1001 ± 2 µg/mL (w/v)
	997 ± 2 µg/g (w/w)

1477006
ID: MTCoXXXTA_00008
Exp: 05/17/20 Prpd: JMD
Cobalt 1000 ug/mL

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure cobalt (Co) dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3113, lot #000630**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	MAJOR	Ge	<0.5	Mg	<5	Pd	1	Si	<100	V	<1
Al	10	Cs	<0.5	Hf	<0.2	Mn	<1	Pr	<0.2	Sm	<0.2	W	2
As	<2	Cr	<0.5	Hg	<0.5	Mo	<0.5	Pt	<0.5	Sn	<0.5	Y	<0.5
Au	<0.5	Cu	4	Ho	<0.2	Na	<25	Rb	<0.5	Sr	<1	Yb	<0.2
B	<5	Dy	<0.2	In	nd	Nb	<0.5	Re	<0.2	Ta	<0.5	Zn	<2
Ba	<1	Er	<0.2	Ir	<0.2	Nd	<0.2	Rh	<0.5	Tb	<0.5		
Bi	<0.2	Eu	<0.2	K	<25	Ni	<2	Ru	2	Te	<1		
Ca	<25	Fe	<10	La	<0.5	Os	<0.5	Sb	<0.5	Ti	<2		
Cd	<0.5	Ga	<0.5	Li	<2	P	<100	Sc	<5	Tl	<0.5		
Ce	0.4	Gd	<0.2	Lu	<0.2	Pb	3	Se	<2	Tm	<0.2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 17, 2018
Certification Date

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTCrXXXTA_00009

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-1000121

SE Std Chromium (Cr) – 1000 µg/mL

Lot #: 975466-53

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty
Cr	1003 ± 3 µg/mL (w/v)
	994 ± 3 µg/g (w/w)

1477004
ID: MTCrXXXTA_00009
Exp: 05/11/20 Prpd: JMD
Chromium 1000 ug/mL

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.996% pure chromium (Cr) metal dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3112a, lot #030730**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	2	Co	<1	Ge	<0.5	Mg	<5	Pd	2	Si	<100	V	<1
Al	<2	Cs	<0.5	Hf	2	Mn	<1	Pr	<0.2	Sm	<0.2	W	<0.5
As	<2	Cr	MAJOR	Hg	<0.5	Mo	2	Pt	<0.5	Sn	<0.5	Y	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Na	<25	Rb	<0.5	Sr	<1	Yb	<0.2
B	<5	Dy	<0.2	In	nd	Nb	<0.5	Re	<0.2	Ta	<0.5	Zn	<2
Ba	<1	Er	<0.2	Ir	<0.2	Nd	<0.2	Rh	<0.5	Tb	<0.5		
Bi	<0.2	Eu	<0.2	K	<25	Ni	<2	Ru	<0.5	Te	<1		
Ca	<25	Fe	16	La	<0.5	Os	<0.5	Sb	<0.5	Ti	<2		
Cd	<0.5	Ga	<0.5	Li	<2	P	<100	Sc	<5	Tl	<0.5		
Ce	<0.2	Gd	<0.2	Lu	<0.2	Pb	<1	Se	<2	Tm	<0.2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau, Certifying Officer

December 17, 2018
Certification Date

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The Netherlands

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTCuXXXTA_00008

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-1000141

SE Std Copper (Cu) – 1000 µg/mL

Lot #: 982446-3

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty
Cu	991 ± 2 µg/mL (w/v)
	988 ± 2 µg/g (w/w)

1477035
ID: MTCuXXXTA_00008
Exp: 05/17/20 Prpd: JMO
Copper 1000 ug/mL

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001, ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.9999% pure copper (Cu) metal dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3114, lot #121207**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	MAJOR	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 17, 2018
Certification Date

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTFeXXXXTA_00005

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

RE: 6/24/19

Product #: TA-10M261

SE Std Iron (Fe) – 10,000 µg/mL

Lot #: 998527-9

Matrix: 5% HNO_3

1667338
ID: MTFeXXXXTA_00005
Exp:07/30/20 Prpd:JMD Opn:07/30/19
Iron 10,000 ug/mL

Element	Certified Concentration & Uncertainty
Fe	10,020 ± 30 µg/mL (w/v)
	9643 ± 33 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.999% pure iron nitrate nonahydrate [$Fe(NO_3)_3$] dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3126a, lot #140812.** The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	20	Ge	<5	Lu	<2	P	<1000	Sb	9	Te	<10
Al	60	Cs	<5	Hf	4	Mg	<50	Pb	<10	Sc	<50	Ti	<20
As	<20	Cr	46	Hg	<5	Mn	11	Pd	<5	Se	<20	Tl	<5
Au	<5	Cu	90	Ho	<2	Mo	<5	Pr	<2	Si	<1000	Tm	<2
B	<50	Dy	<2	In	nd	Na	704	Pt	<5	Sm	<2	V	<10
Ba	<10	Er	<2	Ir	<2	Nb	<5	Rb	<5	Sn	9	W	<5
Bi	15	Eu	<2	K	<250	Nd	<2	Re	<2	Sr	<10	Y	<5
Ca	<250	Fe	MAJOR	La	<5	Ni	117	Rh	<5	Ta	<5	Yb	21
Cd	6	Ga	6	Li	<20	Os	<5	Ru	<5	Tb	<5	Zn	109
Ce	<2	Gd	<2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

June 10, 2019
Certification Date

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTKXXXXTA_00014

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-10M411

SE Std Potassium (K) – 10,000 µg/mL

Lot #: 172053-56

Matrix: 5% HNO_3

1477052
ID: MTKXXXXTA_00014
Exp: 05/17/20 Prpd: JMD
Potassium 10,000 ug/mL

Element	Certified Concentration & Uncertainty
K	9965 ± 50 µg/mL (w/v)
	9744 ± 50 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.997% pure potassium nitrate (KNO_3) dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3141a, lot #140813** The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	<10	Ge	<5	Mg	<50	Pd	<5	Si	<1000	V	<10
Al	<20	Cs	<5	Hf	<2	Mn	<10	Pr	<2	Sm	<2	W	<5
As	<20	Cr	<5	Hg	<5	Mo	<5	Pt	<5	Sn	<5	Y	<5
Au	<5	Cu	<10	Ho	<2	Na	<250	Rb	79	Sr	<10	Yb	<2
B	<50	Dy	<2	In	nd	Nb	<5	Re	<2	Ta	<5	Zn	<20
Ba	<10	Er	<2	Ir	<2	Nd	<2	Rh	<5	Tb	<5		
Bi	<2	Eu	<2	K	MAJOR	Ni	<20	Ru	<5	Te	<10		
Ca	<250	Fe	<100	La	<5	Os	<5	Sb	<5	Ti	<20		
Cd	<5	Ga	<5	Li	<20	P	<1000	Sc	<50	Tl	<5		
Ce	<2	Gd	<2	Lu	<2	Pb	<10	Se	<20	Tm	<2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau, Certifying Officer

December 17, 2018
Certification Date

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The Netherlands

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTKXXXXTA_00015

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

SE Std Potassium (K) – 10,000 µg/mL

Matrix: 5% HNO_3

RC: 6/24/19

Product #: TA-10M411

Lot #: 172053-80

1687354

B: MTKXXXXTA_00515

Exp 07/30/20 Prod JMD Con 07/30/19

Potassium 10,000 µg/mL

Element	Certified Concentration & Uncertainty
K	9965 ± 50 µg/mL (w/v)
	9744 ± 50 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.997% pure potassium nitrate (KNO_3) dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3141a, lot #140813** The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	<10	Ge	<5	Mg	<50	Pd	<5	Si	<1000	V	<10
Al	<20	Cs	<5	Hf	<2	Mn	<10	Pr	<2	Sm	<2	W	<5
As	<20	Cr	<5	Hg	<5	Mo	<5	Pt	<5	Sn	<5	Y	<5
Au	<5	Cu	<10	Ho	<2	Na	<250	Rb	79	Sr	<10	Yb	<2
B	<50	Dy	<2	In	nd	Nb	<5	Re	<2	Ta	<5	Zn	<20
Ba	<10	Er	<2	Ir	<2	Nd	<2	Rh	<5	Tb	<5		
Bi	<2	Eu	<2	K	MAJOR	Ni	<20	Ru	<5	Te	<10		
Ca	<250	Fe	<100	La	<5	Os	<5	Sb	<5	Ti	<20		
Cd	<5	Ga	<5	Li	<20	P	<1000	Sc	<50	Tl	<5		
Ce	<2	Gd	<2	Lu	<2	Pb	<10	Se	<20	Tm	<2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

June 14, 2019

Certification Date

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTMgXXXTA_00018

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-10M311

SE Std Magnesium (Mg) – 10,000 µg/mL RE: 6/24/19

Lot #: 982185-24

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty
Mg	10,010 ± 30 µg/mL (w/v)
	9543 ± 29 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.999% pure magnesium nitrate [$Mg(NO_3)_2$] dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3131a, lot #140110**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	<10	Ge	<5	Lu	<2	P	<1000	Sb	<5	Te	<10
Al	<20	Cs	<5	Hf	<2	Mg	Major	Pb	<10	Sc	<50	Ti	<20
As	<20	Cr	<5	Hg	<5	Mn	22	Pd	<5	Se	<20	Tl	<5
Au	<5	Cu	<10	Ho	<2	Mo	7	Pr	<2	Si	<1000	Tm	<2
B	<50	Dy	<2	In	nd	Na	<250	Pt	<5	Sm	<2	V	<10
Ba	<10	Er	<2	Ir	<2	Nb	<5	Rb	<5	Sn	<5	W	<5
Bi	<2	Eu	<2	K	<250	Nd	<2	Re	<2	Sr	<10	Y	<5
Ca	359	Fe	<100	La	<5	Ni	<20	Rh	<5	Ta	<5	Yb	<2
Cd	<5	Ga	<5	Li	<20	Os	<5	Ru	<5	Tb	<5	Zn	<20
Ce	<2	Gd	<2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau, Certifying Officer

June 10, 2019
Certification Date

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The Netherlands

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTMnXXXTA_00008

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-1000321

SE Std Manganese (Mn) – 1000 µg/mL

Lot #: 167539-78

Matrix: 5% HNO_3

1477007
ID: MTMnXXXTA_00008
Exp: 05/17/20 Prpd: JWD
Manganese 1000 ug/mL

Element	Certified Concentration & Uncertainty
Mn	1001 ± 3 µg/mL (w/v)
	995 ± 3 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.98% pure manganese (Mn) dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3132, lot #050429**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	2	Ge	<0.5	Mg	63	Pd	<0.5	Si	<100	V	3
Al	3	Cs	<0.5	Hf	<0.2	Mn	MAJOR	Pr	<0.2	Sm	<0.2	W	<0.5
As	<2	Cr	<0.5	Hg	<0.5	Mo	<0.5	Pt	<0.5	Sn	<0.5	Y	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Na	<25	Rb	<0.5	Sr	<1	Yb	<0.2
B	<5	Dy	<0.2	In	nd	Nb	<0.5	Re	<0.2	Ta	<0.5	Zn	<2
Ba	<1	Er	<0.2	Ir	<0.2	Nd	<0.2	Rh	<0.5	Tb	<0.5		
Bi	<0.2	Eu	<0.2	K	<25	Ni	<2	Ru	<0.5	Te	<1		
Ca	<25	Fe	<10	La	<0.5	Os	<0.5	Sb	<0.5	Ti	<2		
Cd	<0.5	Ga	<0.5	Li	<2	P	<100	Sc	<5	Tl	<0.5		
Ce	<0.2	Gd	<0.2	Lu	<0.2	Pb	2	Se	<2	Tm	<0.2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 17, 2018
Certification Date

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTMoXXXTA_00008

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-1000343

SE Std Molybdenum (Mo) – 1000 µg/mL

Lot #: 169424-45

Matrix: 5% HNO_3/tr. HF

1477008
ID: MTMoXXXTA_00008
Exp: 05/17/20 Prpd: JMD
Molybdenum 1000 ug/mL

Element	Certified Concentration & Uncertainty
Mo	999 ± 3 µg/mL (w/v)
	980 ± 3 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure molybdenum (Mo) metal dissolved in high purity nitric acid (HNO_3), trace hydrofluoric acid (HF) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3134, lot #891307**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Mg	<5	Pd	<0.5	Si	<100	V	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mn	<1	Pr	<0.2	Sm	<0.2	W	60
As	<2	Cr	<0.5	Hg	<0.5	Mo	MAJOR	Pt	<0.5	Sn	<0.5	Y	<0.5
Au	1	Cu	<1	Ho	<0.2	Na	<25	Rb	<0.5	Sr	<1	Yb	<0.2
B	<5	Dy	<0.2	In	nd	Nb	<0.5	Re	6	Ta	2	Zn	<2
Ba	<1	Er	<0.2	Ir	<0.2	Nd	<0.2	Rh	<0.5	Tb	<0.5		
Bi	<0.2	Eu	<0.2	K	<25	Ni	<2	Ru	<0.5	Te	<1		
Ca	<25	Fe	<10	La	<0.5	Os	<0.5	Sb	<0.5	Ti	<5		
Cd	<0.5	Ga	<0.5	Li	<2	P	<100	Sc	<5	Tl	<0.5		
Ce	<0.2	Gd	<0.2	Lu	<0.2	Pb	<1	Se	<2	Tm	<0.2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 17, 2018
Certification Date

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTNaXXXXTA_00003

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-10M521

SE Std Sodium (Na) – 10,000 µg/mL

Lot #: 752887-20

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty
Na	10,070 ± 20 µg/mL (w/v)
	9771 ± 24 µg/g (w/w)

1477061
ID: MTNaXXXXTA_00003
Exp: 05/17/20 Ppd: JMD
Sodium 10,000 ug/mL

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.997% pure sodium carbonate (Na_2CO_3) dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3152a, lot #120715.** The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	<10	Ge	<5	Mg	<50	Pd	<5	Si	<1000	V	<10
Al	<20	Cs	11	Hf	<2	Mn	<10	Pr	<2	Sm	<2	W	<5
As	<20	Cr	<5	Hg	<5	Mo	<5	Pt	<5	Sn	<5	Y	<5
Au	<5	Cu	<10	Ho	<2	Na	MAJOR	Rb	70	Sr	14	Yb	<2
B	<50	Dy	<2	In	nd	Nb	<5	Re	<2	Ta	<5	Zn	<20
Ba	26	Er	<2	Ir	<2	Nd	<2	Rh	<5	Tb	<5		
Bi	<2	Eu	<2	K	<250	Ni	<20	Ru	<5	Te	<10		
Ca	<250	Fe	<100	La	<5	Os	<5	Sb	<5	Ti	<20		
Cd	<5	Ga	<5	Li	<20	P	<1000	Sc	<50	Tl	<5		
Ce	<2	Gd	<2	Lu	<2	Pb	<10	Se	<20	Tm	<2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau, Certifying Officer

December 17, 2018
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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The Netherlands

www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTNaXXXXTA_00004

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

SE Std Sodium (Na) – 10,000 µg/mL

Matrix: 5% HNO_3

RC: 6/24/19

Product #: TA-10M521

Lot #: 752887-33

Element	Certified Concentration & Uncertainty
Na	10,070 ± 20 µg/mL (w/v)
	9771 ± 24 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.997% pure sodium carbonate (Na_2CO_3) dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3152a, lot #120715.** The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	<10	Ge	<5	Mg	<50	Pd	<5	Si	<1000	V	<10
Al	<20	Cs	11	Hf	<2	Mn	<10	Pr	<2	Sm	<2	W	<5
As	<20	Cr	<5	Hg	<5	Mo	<5	Pt	<5	Sn	<5	Y	<5
Au	<5	Cu	<10	Ho	<2	Na	MAJOR	Rb	70	Sr	14	Yb	<2
B	<50	Dy	<2	In	nd	Nb	<5	Re	<2	Ta	<5	Zn	<20
Ba	26	Er	<2	Ir	<2	Nd	<2	Rh	<5	Tb	<5		
Bi	<2	Eu	<2	K	<250	Ni	<20	Ru	<5	Te	<10		
Ca	<250	Fe	<100	La	<5	Os	<5	Sb	<5	Ti	<20		
Cd	<5	Ga	<5	Li	<20	P	<1000	Sc	<50	Tl	<5		
Ce	<2	Gd	<2	Lu	<2	Pb	<10	Se	<20	Tm	<2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau, Certifying Officer

June 10, 2019
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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The Netherlands

www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTNiXXXTA_00008

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-1000361

SE Std Nickel (Ni) – 1000 µg/mL

Lot #: 166665-108

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty
Ni	995 ± 5 µg/mL (w/v)
	990 ± 5 µg/g (w/w)

1477010
ID: MTNiXXXTA_000C8
Exp: 05/17/20 Prpd: JMD
Nickel 1000 ug/mL

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.996% pure nickel (Ni) metal dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3136, lot #120619**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	4	Co	<1	Ge	<0.5	Mg	<5	Pd	<0.5	Si	<100	V	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mn	<1	Pr	<0.2	Sm	<0.2	W	14
As	<2	Cr	<0.5	Hg	<0.5	Mo	<0.5	Pt	<0.5	Sn	<0.5	Y	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Na	<25	Rb	<0.5	Sr	<1	Yb	<0.2
B	<5	Dy	<0.2	In	nd	Nb	<0.5	Re	<0.2	Ta	<0.5	Zn	<2
Ba	<1	Er	<0.2	Ir	<0.2	Nd	<0.2	Rh	<0.5	Tb	<0.5		
Bi	<0.2	Eu	<0.2	K	<25	Ni	MAJOR	Ru	<0.5	Te	<1		
Ca	<25	Fe	31	La	<0.5	Os	<0.5	Sb	<0.5	Ti	<2		
Cd	<0.5	Ga	<0.5	Li	<2	P	<100	Sc	<5	Tl	<0.5		
Ce	<0.2	Gd	<0.2	Lu	<0.2	Pb	<1	Se	<2	Tm	<0.2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 17, 2018
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTPbXXXTA_00010

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-1000281

SE Std Lead (Pb) – 1000 µg/mL

Lot #: 981329-18

Matrix: 5% HNO_3

1477012
ID: MTPbXXXTA_00010
Exp: 05/17/20 Prpd: JMD
Lead 1000 ug/mL

Element	Certified Concentration & Uncertainty
Pb	1009 ± 2 µg/mL (w/v)
	1003 ± 2 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure lead (Pb) metal dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3128, lot #101026**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	<2	Cs	1	Hf	<0.2	Mg	<5	Pb	MAJOR	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	0.9
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 17, 2018
Certification Date

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTPXXXTA_00002

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-1000391

SE Std Phosphorous (P) – 1000 µg/mL

Lot #: 978200-10

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty
P	1002 ± 4 µg/mL (w/v)
	997 ± 4 µg/g (w/w)

1477C11
ID: MTPXXXTA_00002
Exp: 05/17/20 Prpd: JMO
Phosphorus 1,000 ug/mL

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.7% pure phosphoric acid (H_3PO_4) dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3139a, lot #060717**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	MAJOR	Sb	<0.5	Te	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau, Certifying Officer

December 17, 2018
Certification Date

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www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

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    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTPXXXTA_00003

Rec'd 1/15/19

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM — Product #: G34-S4400-10M391

Phosphorus (P) – 10,000 µg/mL — Lot #: 451077-22

Matrix: 0.05% HNO_3

Element	Certified Concentration & Uncertainty
P	10,000 ± 50 µg/mL (w/v)
	9867 ± 50 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO Guide 34**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using a single-element concentrate dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3139a**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Ce	<2	Gd	<2	Lu	<2	Pb	<10	Se	<20	Tl	<5
Al	<20	Co	<10	Ge	<5	Mg	<50	Pd	<5	Si	<1000	Tm	<2
As	<20	Cs	<5	Hf	<2	Mn	<10	Pr	<2	Sm	<2	U	<5
Au	<5	Cr	<5	Hg	<5	Mo	146	Pt	<5	Sn	<5	V	<10
B	<50	Cu	<10	Ho	<2	Na	<250	Rb	<5	Sr	<10	W	<5
Ba	<10	Dy	<2	In	nd	Nb	<5	Re	<2	Ta	<5	Y	<5
Be	<5	Er	<2	Ir	<2	Nd	<2	Rh	<5	Tb	<5	Yb	<2
Bi	<2	Eu	<2	K	<250	Ni	<20	Ru	<5	Te	<10	Zn	<20
Ca	<250	Fe	<100	La	<5	Os	<5	Sb	<5	Th	<5	Zr	<5
Cd	<5	Ga	<5	Li	<20	P	MAJOR	Sc	<50	Ti	<20		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Cont # 1487296

Chuck Goudreau

Chuck Goudreau, Certifying Officer

January 7, 2019
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTSbXXXTA_00008

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-100023

SE Std Antimony (Sb) – 1000 µg/mL

Lot #: 153992-34

Matrix: 5% HNO_3/tr. HF

1477015
ID: MTSbXXXTA_00008
Exp: 05/17/20 Prpd: JMD
Antimony 1000 ug/mL

Element	Certified Concentration & Uncertainty
Sb	1000 ± 5 µg/mL (w/v)
	977 ± 5 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure antimony (Sb) metal dissolved in high purity nitric acid (HNO_3), trace hydrofluoric acid (HF) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3102a, lot #140911**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Mg	<5	Pd	<0.5	Si	<1000	V	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mn	<1	Pr	<0.2	Sm	<0.2	W	<0.5
As	<2	Cr	<0.5	Hg	<0.5	Mo	<0.5	Pt	<0.5	Sn	<0.5	Y	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Na	<25	Rb	<0.5	Sr	<1	Yb	<0.2
B	<5	Dy	<0.2	In	nd	Nb	0.6	Re	<0.2	Ta	<0.5	Zn	<2
Ba	<1	Er	<0.2	Ir	<0.2	Nd	<0.2	Rh	<0.5	Tb	<0.5		
Bi	<0.2	Eu	<0.2	K	<25	Ni	<2	Ru	<0.5	Te	<1		
Ca	<25	Fe	<10	La	4	Os	<0.5	Sb	MAJOR	Ti	<2		
Cd	<0.5	Ga	<0.5	Li	<2	P	<100	Sc	<5	Tl	<0.5		
Ce	<0.2	Gd	<0.2	Lu	<0.2	Pb	<1	Se	<2	Tm	<0.2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau, Certifying Officer

December 17, 2018
Certification Date

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTSeXXXTA_00008

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-1000491

SE Std Selenium (Se) – 1000 µg/mL

Lot #: 982461-7

Matrix: 5% HNO_3

1477014
ID: MTSeXXXTA_00008
Exp: 05/17/20 Prpd: JMD
Selenium 1000 ug/mL

Element	Certified Concentration & Uncertainty
Se	1004 ± 7 µg/mL (w/v)
	996 ± 7 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure selenium (Se) metal dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3149, lot #100901**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	MAJOR	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 17, 2018
Certification Date

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTSiXXXTA_00018

CPI INTERNATIONAL

REPORT OF ANALYSIS

Single-Element Aqueous RM

Product #: S4400-10M504F

Silicon (Si) – 10,000 µg/mL

Lot #: 167061R-32

Matrix: H_2O

Rec'd 3/6/19 LW

Element	Certified Concentration
Si	10,000 µg/mL (w/v)
	9662 µg/g (w/w)

Intended Use: This solution is intended for use as a reference material (RM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This RM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO Guide 34**, and **ISO/IEC 17025**. This RM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.999% pure ammonium hexafluorosilicate [$(NH_4)_2SiF_6$] dissolved in and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this RM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration was determined based upon gravimetric procedures. Secondary verification of the certified concentration was performed using ICP-OES and is traceable to **NIST SRM 3150**. The uncertainty associated with the certified concentration is ±0.5% relative, which is the sum of the estimated errors due to the purity of the raw materials, the gravimetric preparation of the solution, and transpiration through the container. This represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Ce	<2	Gd	<2	Lu	<2	Pb	<10	Se	<20	Tl	<5
Al	<20	Co	<10	Ge	11	Mg	<50	Pd	<5	Si	MAJOR	Tm	<2
As	<20	Cs	<5	Hf	<2	Mn	<10	Pr	<2	Sm	<2	U	<5
Au	<5	Cr	<5	Hg	<5	Mo	<5	Pt	<5	Sn	<5	V	<10
B	<50	Cu	<10	Ho	<2	Na	<250	Rb	<5	Sr	<10	W	<5
Ba	<10	Dy	<2	In	nd	Nb	<5	Re	<2	Ta	<5	Y	<5
Be	<5	Er	<2	Ir	<2	Nd	<2	Rh	<5	Tb	<5	Yb	<2
Bi	<2	Eu	<2	K	<250	Ni	<20	Ru	<5	Te	<10	Zn	<20
Ca	<250	Fe	<100	La	<5	Os	<5	Sb	<5	Th	<5	Zr	<5
Cd	<5	Ga	<5	Li	<20	P	<1000	Sc	<50	Ti	<20		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the RM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original RM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Cont # 153 2020
MTSi0XXTA_02018

Chuck Goudreau

Chuck Goudreau, Certifying Officer

February 8, 2019
Certification Date

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Reagent

MTSrXXXTA_00008

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-1000531

SE Std Strontium (Sr) – 1000 µg/mL

Lot #: 168227-43

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty
Sr	1000 ± 5 µg/mL (w/v)
	992 ± 5 µg/g (w/w)

1477013
ID: MTSrXXXTA_00008
Exp: 05/17/20 Prpd: JMD
Strontium 1000 ug/mL

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.9965% pure strontium nitrate [$Sr(NO_3)_2$] dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3153a, lot #990906**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Mg	<5	Pd	<0.5	Si	<100	V	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mn	<1	Pr	<0.2	Sm	<0.2	W	<0.5
As	<2	Cr	<0.5	Hg	<0.5	Mo	<0.5	Pt	<0.5	Sn	<0.5	Y	1
Au	<0.5	Cu	<1	Ho	<0.2	Na	<25	Rb	<0.5	Sr	MAJOR	Yb	<0.2
B	<5	Dy	<0.2	In	nd	Nb	<0.5	Re	<0.2	Ta	<0.5	Zn	<2
Ba	56	Er	<0.2	Ir	<0.2	Nd	<0.2	Rh	<0.5	Tb	<0.5		
Bi	<0.2	Eu	<0.2	K	<25	Ni	<2	Ru	<0.5	Te	<1		
Ca	<25	Fe	<10	La	<0.5	Os	<0.5	Sb	<0.5	Ti	<2		
Cd	<0.5	Ga	<0.5	Li	<2	P	<100	Sc	<5	Tl	<0.5		
Ce	0.9	Gd	<0.2	Lu	<0.2	Pb	<1	Se	<2	Tm	<0.2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 17, 2018
Certification Date

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTSXXXXTA_00015

CPI INTERNATIONAL

Rec'd 1/15/19

REPORT OF ANALYSIS

Single-Element Aqueous RM

Product #: S4400-10M544

Sulfur (S) – 10,000 µg/mL

Lot #: 987745-10

Matrix: H_2O

Element	Certified Concentration
S	9966 µg/mL (w/v)
	9790 µg/g (w/w)

Intended Use: This solution is intended for use as a reference material (RM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This RM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO Guide 34**, and **ISO/IEC 17025**. This RM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.999% pure ammonium sulfate [$(NH_4)_2SO_4$] dissolved and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this RM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration was determined based upon gravimetric procedures. Secondary verification of the certified concentration was performed using ICP-OES and is traceable to **NIST SRM 3154**. The uncertainty associated with the certified concentration is ±0.5% relative, which is the sum of the estimated errors due to the purity of the raw materials, the gravimetric preparation of the solution, and transpiration through the container. This represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	<10	Ge	<5	Lu	<2	P	<1000	Sb	<5	Te	<10
Al	<20	Cs	<5	Hf	<2	Mg	<50	Pb	<10	Sc	<50	Ti	<20
As	<20	Cr	289	Hg	<5	Mn	<10	Pd	<5	Se	<20	Tl	<5
Au	<5	Cu	<10	Ho	<2	Mo	<5	Pr	<2	Si	<1000	Tm	<2
B	<50	Dy	<2	In	nd	Na	<250	Pt	<5	Sm	<2	V	<10
Ba	<10	Er	<2	Ir	<2	Nb	<5	Rb	<5	Sn	<5	W	<5
Bi	<2	Eu	<2	K	<250	Nd	<2	Re	<2	Sr	<10	Y	<5
Ca	<250	Fe	<100	La	6	Ni	<20	Rh	<5	Ta	<5	Yb	<2
Cd	<5	Ga	<5	Li	<20	Os	<5	Ru	<5	Tb	<5	Zn	<20
Ce	<2	Gd	<2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the RM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original RM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Cont# 1487295

Chuck Goudreau

Chuck Goudreau, Certifying Officer

January 4, 2019
Certification Date

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www.cpiinternational.com

Reagent

MTTlXXXTA_00009

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-1000581

SE Std Thallium (Tl) – 1000 µg/mL

Lot #: 148983-92

Matrix: 5% HNO_3

1477021
ID: MTTIXXXTA_00009
Exp: 05/17/20 Prpd: JMD
Thallium 1000 ug/mL

Element	Certified Concentration & Uncertainty
Tl	1002 ± 3 µg/mL (w/v)
	997 ± 3 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.99% pure thallium (Tl) metal dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3158, lot #993012**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<1	Co	<1	Ge	<0.5	Mg	<5	Pd	<0.5	Si	<100	V	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mn	<1	Pr	<0.2	Sm	<0.2	W	<0.5
As	<2	Cr	<0.5	Hg	13	Mo	<0.5	Pt	<0.5	Sn	<0.5	Y	<0.5
Au	<0.5	Cu	2	Ho	<0.2	Na	<25	Rb	<0.5	Sr	<1	Yb	<0.2
B	<5	Dy	<0.2	In	nd	Nb	<0.5	Re	<0.2	Ta	<0.5	Zn	<2
Ba	<1	Er	<0.2	Ir	<0.2	Nd	<0.2	Rh	<0.5	Tb	<0.5		
Bi	0.3	Eu	<0.2	K	<25	Ni	<2	Ru	<0.5	Te	<1		
Ca	<25	Fe	<10	La	<0.5	Os	<0.5	Sb	<0.5	Ti	<2		
Cd	<0.5	Ga	<0.5	Li	<2	P	<100	Sc	<5	Tl	MAJOR		
Ce	<0.2	Gd	<0.2	Lu	<0.2	Pb	5	Se	<2	Tm	<0.2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau, Certifying Officer

December 17, 2018
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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The Netherlands

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTVXXXXTA_00009

CERTIFICATE OF ANALYSIS

f

Single-Element Aqueous CRM

Product #: TA-1000651

SE Std Vanadium (V) – 1000 µg/mL

Lot #: 152207-102

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty
V	998 ± 4 µg/mL (w/v)
	989 ± 4 µg/g (w/w)

1477028
ID: MTVXXXXTA_00009
Exp: 06/17/20 Prpd: JMD
Vanadium 1000 ug/mL

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.995% pure vanadium pentoxide (V_2O_5) dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3165, lot #992706**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Mg	<5	Pd	<0.5	Si	141	V	MAJOR
Al	8	Cs	<0.5	Hf	<0.2	Mn	<1	Pr	<0.2	Sm	<0.2	W	<0.5
As	<2	Cr	8	Hg	<0.5	Mo	<0.5	Pt	<0.5	Sn	<0.5	Y	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Na	<25	Rb	5	Sr	<1	Yb	<0.2
B	<5	Dy	<0.2	In	nd	Nb	<0.5	Re	<0.2	Ta	<0.5	Zn	<2
Ba	28	Er	<0.2	Ir	<0.2	Nd	<0.2	Rh	<0.5	Tb	<0.5		
Bi	<0.2	Eu	<0.2	K	<25	Ni	<2	Ru	1	Te	<1		
Ca	<25	Fe	18	La	<0.5	Os	<0.5	Sb	1	Ti	6		
Cd	<0.5	Ga	<0.5	Li	<2	P	<100	Sc	<5	Tl	<0.5		
Ce	<0.2	Gd	<0.2	Lu	<0.2	Pb	<1	Se	<2	Tm	<0.2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau, Certifying Officer

December 17, 2018
Certification Date

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www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTZnXXXTA-SS_00001

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

SE Std Zinc (Zn) – 1000 µg/mL

Matrix: 5% HNO_3

1427841
ID MTZnXXXTA-SS_00001
Exp. 04/26/20 Prpd CJH
Cal Std - Zinc 1000 ug/mL

Product #: TA-1000681

Lot #: 166918-115

Received 11/6/18

Element	Certified Concentration & Uncertainty
Zn	997 ± 3 µg/mL (w/v)
	991 ± 3 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.9999% pure zinc (Zn) metal dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3168a, lot #120629**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Mg	<5	Pd	<0.5	Si	<100	V	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mn	<1	Pr	<0.2	Sm	<0.2	W	<0.5
As	32	Cr	<0.5	Hg	<0.5	Mo	<0.5	Pt	<0.5	Sn	<0.5	Y	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Na	<25	Rb	<0.5	Sr	<1	Yb	<0.2
B	<5	Dy	<0.2	In	nd	Nb	<0.5	Re	<0.2	Ta	<0.5	Zn	MAJOR
Ba	<1	Er	<0.2	Ir	<0.2	Nd	<0.2	Rh	<0.5	Tb	<0.5		
Bi	<0.2	Eu	<0.2	K	<25	Ni	<2	Ru	<0.5	Te	<1		
Ca	<25	Fe	<10	La	<0.5	Os	<0.5	Sb	<0.5	Ti	<2		
Cd	<0.5	Ga	<0.5	Li	<2	P	<100	Sc	<5	Tl	<0.5		
Ce	<0.2	Gd	<0.2	Lu	<0.2	Pb	3	Se	<2	Tm	<0.2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

October 26, 2018
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTZnXXXTA_00010

INORGANIC VENTURES
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inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

1427840
ID MTZnXXXTA_00010
Exp 06/20/22 Prpd CJH
Zinc 1000 ug/mL

Received 11/5/17

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGZN1
Lot Number:	N2-ZN668257
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Zinc
Starting Material:	Zn Metal
Starting Material Lot#:	580919
Starting Material Purity:	99.9998%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 997 ± 5 µg/mL

Density: 1.011 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **996 ± 4 µg/mL**
ICP Assay NIST SRM 3168a Lot Number: 120629

Assay Method #2 **998 ± 3 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM by one method

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

O	Ag		0.000724	M	Eu	<	0.000500	O	Na		0.001892	O	Se	<	0.020160	s	Zn	<
O	Al		0.000544	O	Fe		0.004803	M	Nb	<	0.000500	O	Si		0.001248	M	Zr	< 0.000500
M	As	<	0.005009	M	Ga	<	0.008015	M	Nd	<	0.000500	M	Sm	<	0.000500			
M	Au	<	0.001497	M	Gd	<	0.000500	O	Ni		0.002721	M	Sn	<	0.004007			
O	B	<	0.044800	M	Ge	<	0.004508	M	Os	<	0.011977	O	Sr		0.000022			
M	Ba		0.000078	M	Hf	<	0.000500	O	P	<	0.022400	M	Ta	<	0.000500			
M	Be	<	0.000500	M	Hg	<	0.002994	M	Pb		0.012038	M	Tb	<	0.000500			
M	Bi	<	0.001502	M	Ho	<	0.000500	M	Pd	<	0.001001	M	Te	<	0.000500			
O	Ca		0.002529	M	In	<	0.002003	M	Pr	<	0.000500	M	Th	<	0.000500			
M	Cd		0.000547	M	Ir	<	0.002495	M	Pt	<	0.000500	O	Ti	<	0.001568			
M	Ce	<	0.000500	M	K		0.000725	M	Rb	<	0.004007	M	Tl	<	0.002003			
M	Co	<	0.005009	M	La	<	0.000500	M	Re	<	0.000500	M	Tm	<	0.000500			
M	Cr	<	0.001001	O	Li	<	0.000112	M	Rh	<	0.000500	M	U	<	0.000500			
M	Cs	<	0.000500	M	Lu	<	0.000500	O	Ru	<	0.007840	M	V	<	0.001001			
O	Cu		0.004681	O	Mg		0.000549	O	S	<	0.044800	M	W	<	0.001001			
M	Dy	<	0.000500	O	Mn		0.001429	M	Sb	<	0.009017	M	Y	<	0.000500			
M	Er	<	0.000500	M	Mo	<	0.003506	M	Sc	<	0.002003	M	Yb	<	0.000500			

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 65.39 +2 4 Zn(OH)(aq)1+
Chemical Compatibility -Stable in HCl, HNO3, H2SO4 ,HF, H3PO4. Avoid basic media forming insoluble carbonate and hydroxide. Stable with most metals and inorganic anions in acidic media.
Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO3 / LDPE container.
Zn Containing Samples (Preparation and Solution) -Metal (soluble in HNO3); Oxides (Soluble in HCl); Ores (Dissolve in HCl / HNO3); Organic based (dry ash at 4500C and dissolve ash in HCl) (sulfuric/peroxide acid digestion)
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 66 amu	7 ppt	N/A	50Ti16O,50Cr16O, 50V16O, 34S16O2, 32S16O18O, 32S17O2, 33S16O17O, 32S34S, 33S2
ICP-OES 202.548 nm	0.004/0.0002 µg/mL	1	Nb, Cu, Co, Hf
ICP-OES 206.200 nm	0.006/0.0006 µg/mL	1	Sb, Ta, Bi, Os
ICP-OES 213.856 nm	0.002/0.0004 µg/mL	1	Ni, Cu, V

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a **minimum** sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

June 20, 2018

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **June 20, 2022**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Michael J Booth

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Paul R Gaines

Reagent

MTZnXXXTA_00011

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-1000681

SE Std Zinc (Zn) – 1000 µg/mL

Lot #: 166918-115

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty
Zn	997 ± 3 µg/mL (w/v)
	991 ± 3 µg/g (w/w)

1477033
ID: MTZnXXXTA_00011
Exp: 05/17/20 Prpd: JMD
Zinc 1000 ug/mL

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.9999% pure zinc (Zn) metal dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3168a, lot #120629**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Mg	<5	Pd	<0.5	Si	<100	V	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mn	<1	Pr	<0.2	Sm	<0.2	W	<0.5
As	32	Cr	<0.5	Hg	<0.5	Mo	<0.5	Pt	<0.5	Sn	<0.5	Y	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Na	<25	Rb	<0.5	Sr	<1	Yb	<0.2
B	<5	Dy	<0.2	In	nd	Nb	<0.5	Re	<0.2	Ta	<0.5	Zn	MAJOR
Ba	<1	Er	<0.2	Ir	<0.2	Nd	<0.2	Rh	<0.5	Tb	<0.5		
Bi	<0.2	Eu	<0.2	K	<25	Ni	<2	Ru	<0.5	Te	<1		
Ca	<25	Fe	<10	La	<0.5	Os	<0.5	Sb	<0.5	Ti	<2		
Cd	<0.5	Ga	<0.5	Li	<2	P	<100	Sc	<5	Tl	<0.5		
Ce	<0.2	Gd	<0.2	Lu	<0.2	Pb	3	Se	<2	Tm	<0.2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau, Certifying Officer

December 17, 2018
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Method 8260C

Volatile Organic Compounds (GC/MS) by Method 8260C

FORM II
GC/MS VOA SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-624 ID: 0.18(mm)

Client Sample ID	Lab Sample ID	DBFM #	DCA #	TOL #	BFB #
11187072-CONTACT-INITIAL	180-96144-1	104	107	108	99
	MB 180-292524/8	99	108	102	96
	LCS 180-292524/6	93	110	89	89

	QC LIMITS
DBFM = Dibromofluoromethane (Surr)	70-127
DCA = 1,2-Dichloroethane-d4 (Surr)	58-139
TOL = Toluene-d8 (Surr)	71-125
BFB = 4-Bromofluorobenzene (Surr)	64-122

Column to be used to flag recovery values

FORM II EPA 8260C

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 10092506.d

Lab ID: LCS 180-292524/6 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	10.0	9.10	91	77-130	
1,1,2-Trichloroethane	10.0	10.2	102	75-119	
1,1-Dichloroethane	10.0	9.29	93	73-118	
1,1-Dichloroethene	10.0	8.19	82	60-131	
1,2-Dichlorobenzene	10.0	9.19	92	72-121	
1,2-Dichloroethane	10.0	10.4	104	62-129	
1,2-Dichloropropane	10.0	9.46	95	66-121	
1,2,4-Trichlorobenzene	10.0	10.5	105	15-150	
1,3-Dichlorobenzene	10.0	8.34	83	78-120	
1,4-Dichlorobenzene	10.0	8.50	85	76-119	
2-Butanone (MEK)	20.0	23.7	118	33-133	
Benzene	10.0	8.70	87	72-118	
Bromoform	10.0	9.67	97	61-149	
Carbon tetrachloride	10.0	9.02	90	69-137	
Chlorobenzene	10.0	8.67	87	77-122	
Chloroform	10.0	8.53	85	78-119	
Chloroethane	10.0	5.57	56	20-150	
cis-1,2-Dichloroethene	10.0	8.77	88	78-116	
cis-1,3-Dichloropropene	10.0	9.46	95	70-124	
Dichlorobromomethane	10.0	9.14	91	79-119	
Ethylbenzene	10.0	8.39	84	73-127	
m-Xylene & p-Xylene	10.0	8.67	87	73-125	
o-Xylene	10.0	8.94	89	72-124	
Tetrachloroethene	10.0	8.08	81	75-125	
Toluene	10.0	8.60	86	69-125	
trans-1,2-Dichloroethene	10.0	8.53	85	71-121	
trans-1,3-Dichloropropene	10.0	10.3	103	65-130	
Trichloroethene	10.0	8.02	80	76-120	
Vinyl chloride	10.0	10.2	102	52-130	
Xylenes, Total	20.0	17.6	88	73-123	

Column to be used to flag recovery and RPD values

FORM III EPA 8260C

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab File ID: 10092508.d Lab Sample ID: MB 180-292524/8

Matrix: Water Heated Purge:(Y/N) N

Instrument ID: CHHP10 Date Analyzed: 09/25/2019 09:48

GC Column: DB-624 ID: 0.18(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 180-292524/6	10092506.d	09/25/2019 08:58
11187072-CONTACT-INITIAL	180-96144-1	10092521.d	09/25/2019 15:15

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab File ID: 10091701c.d BFB Injection Date: 09/17/2019

Instrument ID: CHHP10 BFB Injection Time: 08:35

Analysis Batch No.: 291542

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	16.6	
75	30.0 - 60.0 % of mass 95	44.3	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	7.2	
173	Less than 2.0 % of mass 174	0.0	(0.0) 1
174	50.0 - 120.00 % of mass 95	86.0	
175	5.0 - 9.0 % of mass 174	6.9	(8.0) 1
176	95.0 - 101.0 % of mass 174	85.5	(99.3) 1
177	5.0 - 9.0 % of mass 176	5.8	(6.8) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	IC 180-291542/3	10091703.d	09/17/2019	9:39
	IC 180-291542/4	10091704.d	09/17/2019	10:04
	ICIS 180-291542/5	10091705.d	09/17/2019	10:29
	IC 180-291542/6	10091706.d	09/17/2019	10:54
	IC 180-291542/7	10091707.d	09/17/2019	11:19
	IC 180-291542/8	10091708.d	09/17/2019	11:44
	IC 180-291542/9	10091709.d	09/17/2019	12:09
	IC 180-291542/10	10091710.d	09/17/2019	12:35

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab File ID: 10092504.d BFB Injection Date: 09/25/2019

Instrument ID: CHHP10 BFB Injection Time: 08:01

Analysis Batch No.: 292524

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	17.8	
75	30.0 - 60.0 % of mass 95	45.7	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.9	
173	Less than 2.0 % of mass 174	0.0	(0.0) 1
174	50.0 - 120.00 % of mass 95	82.3	
175	5.0 - 9.0 % of mass 174	6.2	(7.5) 1
176	95.0 - 101.0 % of mass 174	78.7	(95.5) 1
177	5.0 - 9.0 % of mass 176	5.1	(6.5) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCVIS 180-292524/5	10092505.d	09/25/2019	8:33
	LCS 180-292524/6	10092506.d	09/25/2019	8:58
	MB 180-292524/8	10092508.d	09/25/2019	9:48
11187072-CONTACT-INITIAL	180-96144-1	10092521.d	09/25/2019	15:15

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Sample No.: CCVIS 180-292524/5 Date Analyzed: 09/25/2019 08:33

Instrument ID: CHHP10 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): 10092505.d Heated Purge: (Y/N) N

Calibration ID: 41518

		TBAd9		FB		CBNZd5	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		104982	3.98	513145	7.00	105610	10.13
UPPER LIMIT		209964	4.48	1026290	7.50	211220	10.63
LOWER LIMIT		52491	3.48	256573	6.50	52805	9.63
LAB SAMPLE ID	CLIENT SAMPLE ID						
LCS 180-292524/6		168147	3.98	537133	7.00	117547	10.13
MB 180-292524/8		139025	3.94	624006	7.01	132905	10.13
180-96144-1	11187072-CONTACT-INITIAL	101800	3.94	580587	7.01	119500	10.13

TBAd9 = TBA-d9 (IS)
FB = Fluorobenzene (IS)
CBNZd5 = Chlorobenzene-d5

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8260C

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Sample No.: CCVIS 180-292524/5 Date Analyzed: 09/25/2019 08:33

Instrument ID: CHHP10 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): 10092505.d Heated Purge: (Y/N) N

Calibration ID: 41518

		DCBd4					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		188596	12.47				
UPPER LIMIT		377192	12.97				
LOWER LIMIT		94298	11.97				
LAB SAMPLE ID	CLIENT SAMPLE ID						
LCS 180-292524/6		215683	12.47				
MB 180-292524/8		223764	12.47				
180-96144-1	11187072-CONTACT-INITIAL	202806	12.47				

DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8260C

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: 11187072-CONTACT-INITIAL Lab Sample ID: 180-96144-1

Matrix: Water Lab File ID: 10092521.d

Analysis Method: EPA 8260C Date Collected: 09/24/2019 15:00

Sample wt/vol: 5(mL) Date Analyzed: 09/25/2019 15:15

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 292524 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		5.0	2.5
79-00-5	1,1,2-Trichloroethane	ND		5.0	2.4
75-34-3	1,1-Dichloroethane	ND		5.0	1.8
75-35-4	1,1-Dichloroethene	ND		5.0	2.9
95-50-1	1,2-Dichlorobenzene	ND		5.0	2.0
107-06-2	1,2-Dichloroethane	ND		5.0	1.5
78-87-5	1,2-Dichloropropane	ND		5.0	2.5
120-82-1	1,2,4-Trichlorobenzene	ND		5.0	3.7
541-73-1	1,3-Dichlorobenzene	ND		5.0	1.6
106-46-7	1,4-Dichlorobenzene	ND		5.0	1.0
78-93-3	2-Butanone (MEK)	ND		5.0	2.9
71-43-2	Benzene	ND		5.0	2.0
75-25-2	Bromoform	ND		5.0	2.6
56-23-5	Carbon tetrachloride	ND		5.0	3.3
108-90-7	Chlorobenzene	ND		5.0	1.6
67-66-3	Chloroform	ND		5.0	2.1
75-00-3	Chloroethane	ND		5.0	2.6
156-59-2	cis-1,2-Dichloroethene	ND		5.0	1.6
10061-01-5	cis-1,3-Dichloropropene	ND		5.0	1.6
75-27-4	Dichlorobromomethane	ND		5.0	2.4
100-41-4	Ethylbenzene	ND		5.0	2.2
179601-23-1	m-Xylene & p-Xylene	ND		5.0	1.9
95-47-6	o-Xylene	ND		5.0	2.4
127-18-4	Tetrachloroethene	ND		5.0	2.0
108-88-3	Toluene	ND		5.0	1.7
156-60-5	trans-1,2-Dichloroethene	ND		5.0	2.5
10061-02-6	trans-1,3-Dichloropropene	ND		5.0	1.7
79-01-6	Trichloroethene	ND		5.0	1.5
75-01-4	Vinyl chloride	ND		5.0	3.7
1330-20-7	Xylenes, Total	ND		10	4.3

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: 11187072-CONTACT-INITIAL Lab Sample ID: 180-96144-1

Matrix: Water Lab File ID: 10092521.d

Analysis Method: EPA 8260C Date Collected: 09/24/2019 15:00

Sample wt/vol: 5(mL) Date Analyzed: 09/25/2019 15:15

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 292524 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	107		58-139
460-00-4	4-Bromofluorobenzene (Surr)	99		64-122
1868-53-7	Dibromofluoromethane (Surr)	104		70-127
2037-26-5	Toluene-d8 (Surr)	108		71-125

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File:	\\chromna\Pittsburgh\ChromData\CHHP10\20190925-28808.b\10092521.d				
Lims ID:	180-96144-Q-1				
Client ID:	11187072-CONTACT-INITIAL				
Sample Type:	Client				
Inject. Date:	25-Sep-2019 15:15:30	ALS Bottle#:	21	Worklist Smp#:	21
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	180-0028808-021				
Operator ID:	Patrick Journet	Instrument ID:	CHHP10		
Method:	\\chromna\Pittsburgh\ChromData\CHHP10\20190925-28808.b\MSVOA_CHHP10.m				
Limit Group:	VOA 8260C_D ICAL				
Last Update:	26-Sep-2019 13:49:44	Calib Date:	17-Sep-2019 12:35:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091710.d				
Column 1 :	DB-624 (0.18 mm)		Det: MS SCAN		
Process Host:	CTX0325				

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	3.940	3.975	-0.035	0	101800	1000.0	
* 2 Fluorobenzene (IS)	96	7.010	7.004	0.006	99	580587	50.0	
* 3 Chlorobenzene-d5	119	10.133	10.133	0.000	85	119500	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.474	12.474	0.000	94	202806	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.275	6.275	0.000	93	123035	52.1	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.651	6.651	0.000	0	108193	53.7	
$ 7 Toluene-d8 (Surr)	98	8.675	8.675	0.000	93	557728	53.9	
$ 8 4-Bromofluorobenzene (Surr	95	11.322	11.316	0.006	89	169476	49.6	

Reagents:

VOA8260INT_00099	Amount Added: 2.00	Units: uL	Run Reagent
VOA8260SURR_00099	Amount Added: 2.00	Units: uL	Run Reagent

Report Date: 26-Sep-2019 13:54:49 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP10\20190925-28808.b\10092521.d				
Injection Date:	25-Sep-2019 15:15:30	Instrument ID:	CHHP10	Operator ID:	Patrick Journet
Lims ID:	180-96144-Q-1	Lab Sample ID:	180-96144-1	Worklist Smp#:	21
Client ID:	11187072-CONTACT-INITIAL				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	21
Method:	MSVOA_CHHP10	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

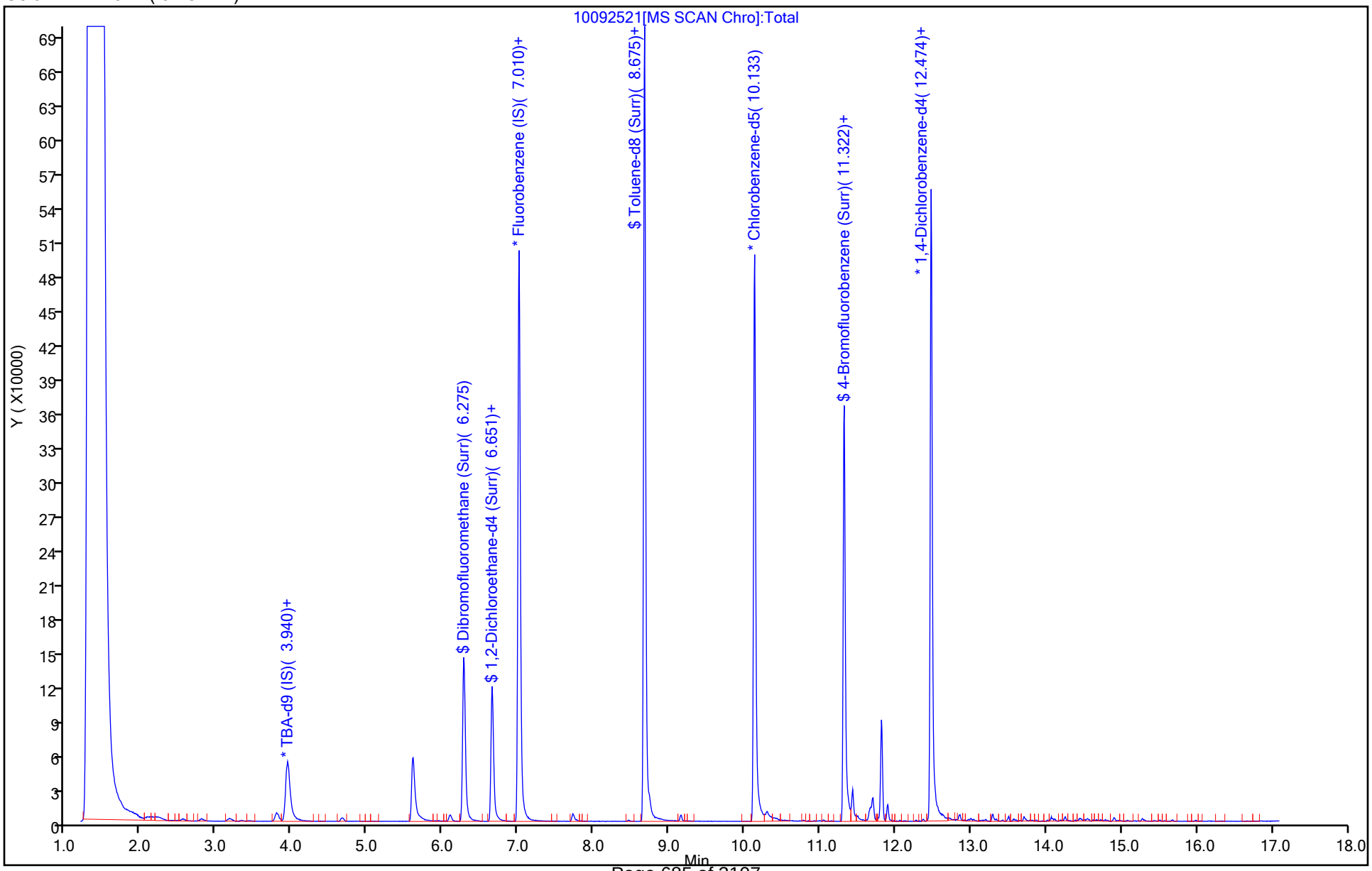

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP10\20190925-28808.b\10092521.d
Lims ID: 180-96144-Q-1
Client ID: 11187072-CONTACT-INITIAL
Sample Type: Client
Inject. Date: 25-Sep-2019 15:15:30 ALS Bottle#: 21 Worklist Smp#: 21
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0028808-021
Operator ID: Patrick Journet Instrument ID: CHHP10

Method: \\chromna\Pittsburgh\ChromData\CHHP10\20190925-28808.b\MSVOA_CHHP10.m
Limit Group: VOA 8260C_D ICAL
Last Update: 26-Sep-2019 13:49:44 Calib Date: 17-Sep-2019 12:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091710.d

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0325

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	50.0	52.1	104.15
$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	53.7	107.42
$ 7 Toluene-d8 (Surr)	50.0	53.9	107.77
$ 8 4-Bromofluorobenzene (Surr)	50.0	49.6	99.26

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 291542

SDG No.:

Instrument ID: CHHP10 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 09:39 Calibration End Date: 09/17/2019 12:35 Calibration ID: 41518

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-291542/3	10091703.d
Level 2	IC 180-291542/4	10091704.d
Level 3	ICIS 180-291542/5	10091705.d
Level 4	IC 180-291542/6	10091706.d
Level 5	IC 180-291542/7	10091707.d
Level 6	IC 180-291542/8	10091708.d
Level 7	IC 180-291542/9	10091709.d
Level 8	IC 180-291542/10	10091710.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Dichlorodifluoromethane	0.4775 0.3749	0.3785 0.3873	0.3784 0.3806	0.4044	0.3960	Ave		0.3972			0.1000	8.6		20.0			
Chloromethane	0.4166 0.3409	0.3239 0.3665	0.3211 0.3597	0.3464	0.3526	Ave		0.3535			0.1000	8.5		20.0			
Vinyl chloride	0.4153 0.3365	0.3313 0.3500	0.3350 0.3413	0.3525	0.3513	Ave		0.3517			0.1000	7.7		20.0			
1,3-Butadiene	0.2707 0.2936	0.2442 0.3088	0.2541 0.3059	0.2876	0.2846	Ave		0.2812			0.0100	8.3		20.0			
Bromomethane	0.1581 0.0988	0.1731 +++++	0.1181 +++++	0.1111	0.1110	Ave		0.1283			0.0500	23.3	*	20.0			
Chloroethane	0.1395 0.1280	0.1434 0.1442	0.1152 0.1347	0.0905	0.1007	Ave		0.1245			0.0500	16.3		20.0			
Dichlorofluoromethane	0.3175 0.2960	0.2797 0.3152	0.2823 +++++	0.2740	0.2898	Ave		0.2935			0.0100	5.8		20.0			
Trichlorofluoromethane	0.3628 0.3192	0.3170 0.3294	0.3074 +++++	0.3073	0.3179	Ave		0.3230			0.1000	5.9		20.0			
Ethyl ether	0.1622 0.1168	0.1215 0.1316	0.1276 0.1204	0.1360	0.1319	Ave		0.1310			0.0100	10.9		20.0			
1,1-Dichloroethene	0.2655 0.2168	0.2179 0.2271	0.2205 0.2297	0.2270	0.2284	Ave		0.2291			0.1000	6.8		20.0			
1,1,2-Trichloro-1,2,2-trifluoroethane	0.2938 0.2240	0.2283 0.2305	0.2281 0.2312	0.2362	0.2339	Ave		0.2383			0.1000	9.5		20.0			
Acetone	0.0426 0.0531	0.0387 0.0582	0.0582 0.0548	0.0738	0.0641	Ave		0.0554			0.0500	20.2	*	20.0			
Iodomethane	0.4253 0.3482	0.3564 0.3694	0.3551 0.3596	0.3638	0.3643	Ave		0.3678			0.0100	6.6		20.0			
Carbon disulfide	0.7804 0.7524	0.6889 0.7906	0.7096 0.8002	0.7541	0.7632	Ave		0.7549			0.1000	5.1		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 291542

SDG No.:

Instrument ID: CHHP10 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 09:39 Calibration End Date: 09/17/2019 12:35 Calibration ID: 41518

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Allyl chloride	0.1426 0.1386	0.1284 0.1437	0.1314 0.1490	0.1412	0.1393	Ave		0.1393			0.0100	4.8		20.0			
Methyl acetate	0.1110 0.0862	0.0907 +++++	0.0799 +++++	0.1009	0.0917	Ave		0.0934		*	0.1000	11.8		20.0			
Methylene Chloride	0.4701 0.2173	0.2577 0.2376	0.2252 0.2208	0.2376	0.2306	Lin2	1.2640	0.2150			0.1000				0.9980		0.9900
tert-Butyl alcohol	1.6431 1.3036	0.8795 1.5623	1.1599 +++++	1.1978	1.3784	Ave		1.3035			0.0100	19.8		20.0			
Acrylonitrile	0.0509 0.0395	0.0377 +++++	0.0370 +++++	0.0463	0.0424	Ave		0.0423			0.0100	12.8		20.0			
trans-1,2-Dichloroethene	0.3034 0.2555	0.2560 0.2699	0.2522 0.2672	0.2625	0.2595	Ave		0.2658			0.1000	6.1		20.0			
Methyl tert-butyl ether	0.4654 0.4191	0.4254 0.4946	0.3941 0.4186	0.4527	0.4382	Ave		0.4385			0.1000	7.2		20.0			
Hexane	0.6166 0.4496	0.4561 0.4733	0.4402 0.4676	0.4690	0.4528	Ave		0.4782			0.0100	11.9		20.0			
1,1-Dichloroethane	0.5031 0.4240	0.4188 0.4525	0.4139 0.4400	0.4343	0.4362	Ave		0.4403			0.2000	6.4		20.0			
2,2-Dichloropropane	0.0576 0.0540	0.0506 0.0534	0.0500 0.0525	0.0524	0.0558	Ave		0.0533			0.0100	4.7		20.0			
cis-1,2-Dichloroethene	0.3161 0.2685	0.2654 0.2881	0.2645 0.2764	0.2802	0.2779	Ave		0.2796			0.1000	6.0		20.0			
2-Butanone (MEK)	0.0575 0.0704	0.0640 +++++	0.0729 +++++	0.0930	0.0802	Ave		0.0730			0.0500	17.1		20.0			
Chlorobromomethane	0.1190 0.1082	0.1088 0.1221	0.1070 0.1088	0.1175	0.1144	Ave		0.1132			0.0100	5.1		20.0			
Tetrahydrofuran	0.0420 0.0402	0.0381 +++++	0.0356 +++++	0.0470	0.0434	Ave		0.0410			0.0100	9.8		20.0			
Chloroform	0.6198 0.4076	0.4243 0.4383	0.4046 0.4224	0.4254	0.4223	Ave		0.4456			0.2000	16.0		20.0			
1,1,1-Trichloroethane	0.3872 0.3561	0.3377 0.3696	0.3389 0.3639	0.3566	0.3598	Ave		0.3587			0.1000	4.5		20.0			
Cyclohexane	0.6030 0.5152	0.5008 0.5446	0.5006 0.5387	0.5298	0.5236	Ave		0.5320			0.1000	6.2		20.0			
Carbon tetrachloride	0.3700 0.3432	0.3189 0.3572	0.3272 0.3546	0.3450	0.3505	Ave		0.3458			0.1000	4.8		20.0			
1,1-Dichloropropene	0.4449 0.3860	0.3732 0.4063	0.3727 0.4055	0.3977	0.3902	Ave		0.3971			0.0100	5.9		20.0			
Benzene	1.2611 1.0724	1.0603 1.1645	1.0449 1.1239	1.0972	1.0878	Ave		1.1140			0.5000	6.3		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 291542

SDG No.:

Instrument ID: CHHP10 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 09:39 Calibration End Date: 09/17/2019 12:35 Calibration ID: 41518

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Isobutyl alcohol	0.0049 0.0042	0.0037 0.0055	0.0041 +++++	0.0056	0.0051	Ave		0.0047		*	0.0100	15.4		20.0			
1,2-Dichloroethane	0.2530 0.2251	0.2303 0.2601	0.2220 0.2290	0.2482	0.2374	Ave		0.2381			0.1000	5.9		20.0			
n-Heptane	0.6040 0.5085	0.5093 0.5385	0.4960 0.5345	0.5266	0.5150	Ave		0.5290			0.0100	6.3		20.0			
Trichloroethene	0.3629 0.3140	0.3098 0.3297	0.3140 0.3271	0.3291	0.3261	Ave		0.3266			0.2000	5.1		20.0			
Methylcyclohexane	0.6432 0.5594	0.5505 0.5807	0.5485 0.5759	0.5776	0.5737	Ave		0.5762			0.1000	5.2		20.0			
1,2-Dichloropropane	0.2744 0.2431	0.2406 0.2697	0.2356 0.2487	0.2518	0.2520	Ave		0.2520			0.1000	5.4		20.0			
Dibromomethane	0.1095 0.0967	0.0951 0.1130	0.0925 0.0965	0.1072	0.1022	Ave		0.1016			0.0100	7.4		20.0			
1,4-Dioxane	0.0009 0.0011	0.0005 0.0009	0.0010 0.0010	0.0014	0.0013	Ave		0.0010		*	0.0100	26.2	*	20.0			
Dichlorobromomethane	0.2842 0.2767	0.2536 0.3104	0.2571 0.2856	0.2861	0.2884	Ave		0.2803			0.2000	6.5		20.0			
cis-1,3-Dichloropropene	0.2917 0.3437	0.2981 +++++	0.3112 +++++	0.3531	0.3550	Ave		0.3255			0.2000	8.8		20.0			
4-Methyl-2-pentanone (MIBK)	0.4688 0.6297	0.5957 +++++	0.5703 +++++	0.7084	0.6652	Ave		0.6063			0.1000	13.8		20.0			
Toluene	6.4416 5.5512	5.3196 5.7779	5.3483 5.7842	5.4412	5.6911	Ave		5.6694			0.4000	6.4		20.0			
trans-1,3-Dichloropropene	0.7624 1.2074	0.9767 +++++	1.0069 +++++	1.2010	1.2475	Ave		1.0670			0.1000	17.5		20.0			
Ethyl methacrylate	0.7775 0.9658	0.8217 +++++	0.8346 +++++	1.0024	1.0262	Ave		0.9047			0.0100	11.7		20.0			
1,1,2-Trichloroethane	0.8012 0.6972	0.6787 0.7834	0.6604 0.6907	0.7452	0.7495	Ave		0.7258			0.1000	7.1		20.0			
Tetrachloroethene	1.2926 1.1550	1.1067 1.1719	1.0994 1.1895	1.1437	1.1711	Ave		1.1662			0.2000	5.1		20.0			
1,3-Dichloropropane	1.2337 1.1872	1.1436 1.3422	1.1053 1.1943	1.2611	1.2591	Ave		1.2158			0.0100	6.1		20.0			
2-Hexanone	0.3098 0.4963	0.3891 +++++	0.4754 +++++	0.6078	0.5426	Qua	-13.50	0.7317	-0.000561		0.1000				0.9940		0.9900
Chlorodibromomethane	0.7968 0.8563	0.7455 0.9458	0.7730 0.8519	0.8650	0.9003	Ave		0.8418			0.1000	7.9		20.0			
1,2-Dibromoethane	0.5877 0.6256	0.5741 +++++	0.5705 +++++	0.6725	0.6639	Ave		0.6157			0.1000	7.3		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 291542

SDG No.:

Instrument ID: CHHP10 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 09:39 Calibration End Date: 09/17/2019 12:35 Calibration ID: 41518

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Chlorobenzene	4.3196 3.3363	3.3255 3.5081	3.2843 3.4226	3.3872	3.5382	Ave		3.5152			0.5000	9.6		20.0			
1,1,1,2-Tetrachloroethane	1.3323 1.1323	1.0652 1.1839	1.0764 1.1313	1.1350	1.1988	Ave		1.1569			0.0100	7.3		20.0			
Ethylbenzene	2.2757 2.0129	1.9028 2.0712	1.9214 2.0976	1.9866	2.0731	Ave		2.0427			0.1000	5.8		20.0			
m-Xylene & p-Xylene	2.8851 2.4721	2.2912 2.5124	2.4025 2.5447	2.4109	2.5379	Ave		2.5071			0.1000	7.0		20.0			
o-Xylene	2.6877 2.3088	2.2516 2.3909	2.2610 2.3775	2.3345	2.4370	Ave		2.3811			0.3000	5.9		20.0			
Styrene	4.0184 3.6872	3.5315 3.9162	3.5447 3.8047	3.7346	3.8811	Ave		3.7648			0.3000	4.6		20.0			
Bromoform	0.4110 0.4463	0.3808 0.5067	0.3878 0.4366	0.4693	0.4753	Ave		0.4392			0.1000	10.1		20.0			
Isopropylbenzene	7.6646 6.1770	6.1975 6.2712	6.1880 6.3377	6.2378	6.5550	Ave		6.4536			0.1000	7.8		20.0			
Bromobenzene	0.9554 0.8086	0.7130 0.8279	0.7346 0.8034	0.7742	0.8352	Ave		0.8065			0.0100	9.2		20.0			
1,1,2,2-Tetrachloroethane	1.0109 0.7555	0.7729 +++++	0.7192 +++++	0.8399	0.8396	Ave		0.8230			0.3000	12.6		20.0			
1,2,3-Trichloropropane	0.1540 0.1404	0.1314 0.1612	0.1245 0.1322	0.1448	0.1525	Ave		0.1426			0.0100	9.0		20.0			
trans-1,4-Dichloro-2-butene	0.0931 0.1144	0.0747 0.1350	0.0826 0.1111	0.1111	0.1163	Ave		0.1048			0.0100	18.9		20.0			
N-Propylbenzene	1.2893 1.1739	1.0668 1.1483	1.0753 1.1976	1.1069	1.1759	Ave		1.1542			0.0100	6.3		20.0			
2-Chlorotoluene	1.1136 0.9262	0.8422 0.9049	0.8637 0.9288	0.8720	0.9441	Ave		0.9244			0.0100	9.1		20.0			
1,3,5-Trimethylbenzene	3.8119 3.2524	2.9229 3.1860	2.9953 3.2974	3.0417	3.3006	Ave		3.2260			0.0100	8.6		20.0			
4-Chlorotoluene	1.1776 0.9545	0.8911 0.9471	0.8948 0.9680	0.9112	0.9764	Ave		0.9651			0.0100	9.5		20.0			
tert-Butylbenzene	3.5608 2.9537	2.7084 2.8413	2.7868 2.9486	2.7785	3.0445	Ave		2.9528			0.0100	9.1		20.0			
1,2,4-Trimethylbenzene	3.8337 3.1010	2.9072 3.0829	2.9190 3.1417	2.9748	3.2265	Ave		3.1483			0.0100	9.5		20.0			
sec-Butylbenzene	5.4137 4.3427	4.0438 4.1493	4.1024 4.3271	4.0921	4.4706	Ave		4.3677			0.0100	10.3		20.0			
1,3-Dichlorobenzene	2.0279 1.6424	1.5457 1.6540	1.5449 1.6390	1.6015	1.7281	Ave		1.6730			0.6000	9.3		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 291542

SDG No.:

Instrument ID: CHHP10 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 09:39 Calibration End Date: 09/17/2019 12:35 Calibration ID: 41518

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
4-Isopropyltoluene	4.6541 3.7352	3.5816 3.5953	3.6012 3.7259	3.6284	3.9038	Ave		3.8032			0.0100	9.5		20.0			
1,4-Dichlorobenzene	2.2811 1.6601	1.6225 1.6939	1.5991 1.6405	1.6685	1.7432	Ave		1.7386			0.5000	12.9		20.0			
n-Butylbenzene	3.9934 3.1856	2.9155 3.1225	3.0606 3.1492	3.0863	3.3543	Ave		3.2334			0.0100	10.2		20.0			
1,2-Dichlorobenzene	1.9827 1.4408	1.3785 1.4911	1.3775 1.3895	1.4588	1.5511	Ave		1.5087			0.4000	13.3		20.0			
1,2-Dibromo-3-Chloropropane	0.0638 0.0674	0.0617 +++++	0.0644 +++++	0.0818	0.0810	Ave		0.0700			0.0500	12.9		20.0			
1,2,4-Trichlorobenzene	1.0264 0.6680	0.7567 0.8260	0.7837 0.6988	0.8480	0.8254	Ave		0.8041			0.2000	13.7		20.0			
Hexachlorobutadiene	0.7846 0.4490	0.5415 0.5376	0.5459 0.4592	0.5442	0.5715	Ave		0.5542			0.0100	18.6		20.0			
Naphthalene	1.6795 +++++	1.1943 +++++	1.1678 +++++	1.3719	1.2780	Ave		1.3383			0.0100	15.4		20.0			
1,2,3-Trichlorobenzene	0.9044 +++++	0.6232 +++++	0.6014 +++++	0.6423	0.6124	Lin2	1.5553	0.5886			0.0100				0.9980		0.9900
Dibromofluoromethane (Surr)	0.2032 0.2033	0.2018 0.2216	0.1951 +++++	0.2089	0.1906	Ave		0.2035				4.9		20.0			
1,2-Dichloroethane-d4 (Surr)	0.1668 0.1717	0.1735 0.1988	0.1605 +++++	0.1816	0.1613	Ave		0.1735				7.7		20.0			
Toluene-d8 (Surr)	4.5252 4.3522	4.3451 4.5797	4.1644 +++++	4.3022	4.0469	Ave		4.3308				4.3		20.0			
4-Bromofluorobenzene (Surr)	1.4342 1.3965	1.4396 1.5220	1.3874 1.4723	1.4475	1.3313	Ave		1.4288				4.0		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 291542

SDG No.:

Instrument ID: CHHP10 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 09:39 Calibration End Date: 09/17/2019 12:35 Calibration ID: 41518

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-291542/3	10091703.d
Level 2	IC 180-291542/4	10091704.d
Level 3	ICIS 180-291542/5	10091705.d
Level 4	IC 180-291542/6	10091706.d
Level 5	IC 180-291542/7	10091707.d
Level 6	IC 180-291542/8	10091708.d
Level 7	IC 180-291542/9	10091709.d
Level 8	IC 180-291542/10	10091710.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Dichlorodifluoromethane	FB	Ave	20353 646472	87443 707026	170036 928225	281397	367538	5.00 175	25.0 200	50.0 250	75.0	100
Chloromethane	FB	Ave	17755 587911	74844 669075	144297 877188	241030	327243	5.00 175	25.0 200	50.0 250	75.0	100
Vinyl chloride	FB	Ave	17700 580235	76554 638979	150520 832380	245307	326052	5.00 175	25.0 200	50.0 250	75.0	100
1,3-Butadiene	FB	Ave	11538 506312	56430 563626	114175 745872	200107	264114	5.00 175	25.0 200	50.0 250	75.0	100
Bromomethane	FB	Ave	6737 170309	39988 +++++	53058 +++++	77305	103019	5.00 175	25.0 +++++	50.0 +++++	75.0	100
Chloroethane	FB	Ave	5946 220657	33131 263185	51776 328504	62947	93417	5.00 175	25.0 200	50.0 250	75.0	100
Dichlorofluoromethane	FB	Ave	13531 510402	64626 575411	126861 +++++	190624	268908	5.00 175	25.0 200	50.0 +++++	75.0	100
Trichlorofluoromethane	FB	Ave	15464 550414	73247 601300	138135 +++++	213857	295063	5.00 175	25.0 200	50.0 +++++	75.0	100
Ethyl ether	FB	Ave	6914 201441	28077 240261	57336 293652	94618	122391	5.00 175	25.0 200	50.0 250	75.0	100
1,1-Dichloroethene	FB	Ave	11314 373897	50336 414613	99081 560186	157918	212014	5.00 175	25.0 200	50.0 250	75.0	100
1,1,2-Trichloro-1,2,2-trifluoroetha ne	FB	Ave	12520 386206	52738 420782	102504 563882	164371	217118	5.00 175	25.0 200	50.0 250	75.0	100
Acetone	FB	Ave	9073 183284	17891 212525	52301 267076	102657	118916	25.0 350	50.0 400	100 500	150	200
Iodomethane	FB	Ave	18126 600382	82345 674387	159553 876997	253118	338104	5.00 175	25.0 200	50.0 250	75.0	100
Carbon disulfide	FB	Ave	33260 1297440	159173 1443239	318855 1951252	524699	708280	5.00 175	25.0 200	50.0 250	75.0	100
Allyl chloride	FB	Ave	6077 239065	29676 262285	59026 363299	98283	129324	5.00 175	25.0 200	50.0 250	75.0	100

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 291542

SDG No.:

Instrument ID: CHHP10 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 09:39 Calibration End Date: 09/17/2019 12:35 Calibration ID: 41518

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Methyl acetate	FB	Ave	9462 297188	41889 +++++	71796 +++++	140445	170162	10.0 350	50.0 +++++	100 +++++	150	200
Methylene Chloride	FB	Lin2	20037 374674	59549 433814	101200 538495	165352	214010	5.00 175	25.0 200	50.0 250	75.0	100
tert-Butyl alcohol	TBAd 9	Ave	6237 196114	12561 283156	49761 +++++	107342	128384	50.0 1750	250 2000	500 +++++	750	1000
Acrylonitrile	FB	Ave	21693 681346	87217 +++++	166088 +++++	322241	393617	50.0 1750	250 +++++	500 +++++	750	1000
trans-1,2-Dichloroethene	FB	Ave	12929 440665	59140 492699	113313 651522	182644	240874	5.00 175	25.0 200	50.0 250	75.0	100
Methyl tert-butyl ether	FB	Ave	19835 722713	98294 902951	177091 1020675	314988	406653	5.00 175	25.0 200	50.0 250	75.0	100
Hexane	FB	Ave	26279 775312	105378 863939	197804 1140353	326371	420264	5.00 175	25.0 200	50.0 250	75.0	100
1,1-Dichloroethane	FB	Ave	21442 731144	96763 826100	185998 1072914	302166	404794	5.00 175	25.0 200	50.0 250	75.0	100
2,2-Dichloropropane	FB	Ave	2457 93037	11700 97479	22479 128121	36447	51776	5.00 175	25.0 200	50.0 250	75.0	100
cis-1,2-Dichloroethene	FB	Ave	13472 463068	61319 525985	118860 674114	194975	257870	5.00 175	25.0 200	50.0 250	75.0	100
2-Butanone (MEK)	FB	Ave	12262 242875	29573 +++++	65480 +++++	129400	148870	25.0 350	50.0 +++++	100 +++++	150	200
Chlorobromomethane	FB	Ave	5070 186604	25129 222961	48084 265378	81750	106145	5.00 175	25.0 200	50.0 250	75.0	100
Tetrahydrofuran	FB	Ave	3578 138551	17623 +++++	31982 +++++	65443	80482	10.0 350	50.0 +++++	100 +++++	150	200
Chloroform	FB	Ave	26418 702802	98019 800034	181828 1030001	296015	391884	5.00 175	25.0 200	50.0 250	75.0	100
1,1,1-Trichloroethane	FB	Ave	16501 614072	78011 674609	152279 887400	248105	333951	5.00 175	25.0 200	50.0 250	75.0	100
Cyclohexane	FB	Ave	25702 888483	115698 994097	224939 1313712	368659	485943	5.00 175	25.0 200	50.0 250	75.0	100
Carbon tetrachloride	FB	Ave	15770 591741	73673 652090	147017 864719	240055	325294	5.00 175	25.0 200	50.0 250	75.0	100
1,1-Dichloropropene	FB	Ave	18963 665543	86225 741697	167495 988796	276757	362095	5.00 175	25.0 200	50.0 250	75.0	100
Benzene	FB	Ave	53748 1849182	244971 2125695	469526 2740670	763438	1009540	5.00 175	25.0 200	50.0 250	75.0	100
Isobutyl alcohol	FB	Ave	5228 180715	21643 251333	46094 +++++	97709	118530	125 4375	625 5000	1250 +++++	1875	2500
1,2-Dichloroethane	FB	Ave	10782 388094	53216 474857	99745 558427	172726	220276	5.00 175	25.0 200	50.0 250	75.0	100

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 291542

SDG No.:

Instrument ID: CHHP10 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 09:39 Calibration End Date: 09/17/2019 12:35 Calibration ID: 41518

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
n-Heptane	FB	Ave	25742 876835	117662 982945	222865 1303397	366447	477993	5.00 175	25.0 200	50.0 250	75.0	100
Trichloroethene	FB	Ave	15469 541447	71584 601875	141090 797685	228960	302608	5.00 175	25.0 200	50.0 250	75.0	100
Methylcyclohexane	FB	Ave	27415 964585	127185 1060069	246480 1404444	401878	532412	5.00 175	25.0 200	50.0 250	75.0	100
1,2-Dichloropropane	FB	Ave	11695 419136	55581 492313	105861 606507	175174	233887	5.00 175	25.0 200	50.0 250	75.0	100
Dibromomethane	FB	Ave	4666 166763	21972 206336	41562 235280	74598	94878	5.00 175	25.0 200	50.0 250	75.0	100
1,4-Dioxane	FB	Ave	787 37418	2495 31650	9210 47549	19404	24434	100 3500	500 4000	1000 5000	1500	2000
Dichlorobromomethane	FB	Ave	12114 477153	58584 566621	115516 696463	199101	267673	5.00 175	25.0 200	50.0 250	75.0	100
cis-1,3-Dichloropropene	FB	Ave	12433 592684	68883 +++++	139821 +++++	245687	329464	5.00 175	25.0 +++++	50.0 +++++	75.0	100
4-Methyl-2-pentanone (MIBK)	CBNZ d5	Ave	22287 476574	62050 +++++	115227 +++++	227551	272039	25.0 350	50.0 +++++	100 +++++	150	200
Toluene	CBNZ d5	Ave	61251 2100780	277051 2382016	540272 3093145	873858	1163760	5.00 175	25.0 200	50.0 250	75.0	100
trans-1,3-Dichloropropene	CBNZ d5	Ave	7249 456905	50867 +++++	101716 +++++	192882	255101	5.00 175	25.0 +++++	50.0 +++++	75.0	100
Ethyl methacrylate	CBNZ d5	Ave	7393 365493	42795 +++++	84306 +++++	160992	209850	5.00 175	25.0 +++++	50.0 +++++	75.0	100
1,1,2-Trichloroethane	CBNZ d5	Ave	7618 263853	35350 322978	66711 369339	119678	153263	5.00 175	25.0 200	50.0 250	75.0	100
Tetrachloroethene	CBNZ d5	Ave	12291 437081	57640 483141	111061 636073	183670	239477	5.00 175	25.0 200	50.0 250	75.0	100
1,3-Dichloropropane	CBNZ d5	Ave	11731 449275	59563 553354	111657 638638	202537	257473	5.00 175	25.0 200	50.0 250	75.0	100
2-Hexanone	CBNZ d5	Qua	14727 375615	40532 +++++	96048 +++++	195230	221922	25.0 350	50.0 +++++	100 +++++	150	200
Chlorodibromomethane	CBNZ d5	Ave	7577 324055	38828 389925	78087 455539	138911	184091	5.00 175	25.0 200	50.0 250	75.0	100
1,2-Dibromoethane	CBNZ d5	Ave	5588 236756	29901 +++++	57628 +++++	108007	135763	5.00 175	25.0 +++++	50.0 +++++	75.0	100
Chlorobenzene	CBNZ d5	Ave	41074 1262585	173196 1446275	331777 1830227	543986	723507	5.00 175	25.0 200	50.0 250	75.0	100
1,1,1,2-Tetrachloroethane	CBNZ d5	Ave	12668 428519	55477 488070	108732 604946	182275	245148	5.00 175	25.0 200	50.0 250	75.0	100
Ethylbenzene	CBNZ d5	Ave	21639 761735	99101 853861	194094 1121724	319050	423913	5.00 175	25.0 200	50.0 250	75.0	100

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 291542

SDG No.:

Instrument ID: CHHP10 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 09:39 Calibration End Date: 09/17/2019 12:35 Calibration ID: 41518

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
m-Xylene & p-Xylene	CBNZ d5	Ave	27434 935530	119327 1035775	242700 1360795	387191	518964	5.00 175	25.0 200	50.0 250	75.0	100
o-Xylene	CBNZ d5	Ave	25557 873747	117269 985664	228397 1271390	374920	498324	5.00 175	25.0 200	50.0 250	75.0	100
Styrene	CBNZ d5	Ave	38210 1395346	183925 1614506	358081 2034583	599774	793633	5.00 175	25.0 200	50.0 250	75.0	100
Bromoform	CBNZ d5	Ave	3908 168899	19832 208887	39174 233476	75368	97196	5.00 175	25.0 200	50.0 250	75.0	100
Isopropylbenzene	CBNZ d5	Ave	72880 2337571	322776 2585394	625101 3389132	1001787	1340411	5.00 175	25.0 200	50.0 250	75.0	100
Bromobenzene	DCBd 4	Ave	15655 470153	63446 541927	124966 662898	208918	276156	5.00 175	25.0 200	50.0 250	75.0	100
1,1,2,2-Tetrachloroethane	CBNZ d5	Ave	9612 285913	40254 +++++	72654 +++++	134887	171689	5.00 175	25.0 +++++	50.0 +++++	75.0	100
1,2,3-Trichloropropane	DCBd 4	Ave	2523 81640	11696 105503	21181 109048	39066	50425	5.00 175	25.0 200	50.0 250	75.0	100
trans-1,4-Dichloro-2-butene	DCBd 4	Ave	1525 66521	6648 88371	14057 91682	29993	38459	5.00 175	25.0 200	50.0 250	75.0	100
N-Propylbenzene	DCBd 4	Ave	21127 682522	94924 751650	182918 988193	298689	388809	5.00 175	25.0 200	50.0 250	75.0	100
2-Chlorotoluene	DCBd 4	Ave	18247 538499	74942 592309	146924 766382	235302	312157	5.00 175	25.0 200	50.0 250	75.0	100
1,3,5-Trimethylbenzene	DCBd 4	Ave	62462 1890978	260088 2085405	509536 2720905	820821	1091364	5.00 175	25.0 200	50.0 250	75.0	100
4-Chlorotoluene	DCBd 4	Ave	19297 554990	79292 619955	152223 798764	245893	322841	5.00 175	25.0 200	50.0 250	75.0	100
tert-Butylbenzene	DCBd 4	Ave	58347 1717337	241002 1859758	474073 2433045	749790	1006686	5.00 175	25.0 200	50.0 250	75.0	100
1,2,4-Trimethylbenzene	DCBd 4	Ave	62819 1802951	258691 2017944	496553 2592461	802759	1066839	5.00 175	25.0 200	50.0 250	75.0	100
sec-Butylbenzene	DCBd 4	Ave	88709 2524916	359825 2715950	697871 3570552	1104263	1478230	5.00 175	25.0 200	50.0 250	75.0	100
1,3-Dichlorobenzene	DCBd 4	Ave	33230 954939	137536 1082658	262814 1352480	432180	571403	5.00 175	25.0 200	50.0 250	75.0	100
4-Isopropyltoluene	DCBd 4	Ave	76263 2171707	318697 2353282	612604 3074496	979141	1290811	5.00 175	25.0 200	50.0 250	75.0	100
1,4-Dichlorobenzene	DCBd 4	Ave	37378 965198	144377 1108751	272025 1353649	450262	576388	5.00 175	25.0 200	50.0 250	75.0	100
n-Butylbenzene	DCBd 4	Ave	65437 1852148	259427 2043832	520639 2598650	832852	1109125	5.00 175	25.0 200	50.0 250	75.0	100
1,2-Dichlorobenzene	DCBd 4	Ave	32488 837687	122663 976028	234322 1146592	393668	512869	5.00 175	25.0 200	50.0 250	75.0	100

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 291542

SDG No.:

Instrument ID: CHHP10 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 09:39 Calibration End Date: 09/17/2019 12:35 Calibration ID: 41518

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
1,2-Dibromo-3-Chloropropane	DCBd 4	Ave	1045 39188	5492 +++++	10952 +++++	22077	26787	5.00 175	25.0 +++++	50.0 +++++	75.0	100
1,2,4-Trichlorobenzene	DCBd 4	Ave	16818 388407	67331 540691	133315 576608	228845	272926	5.00 175	25.0 200	50.0 250	75.0	100
Hexachlorobutadiene	DCBd 4	Ave	12856 261057	48187 351913	92866 378936	146842	188970	5.00 175	25.0 200	50.0 250	75.0	100
Naphthalene	DCBd 4	Ave	27520 +++++	106268 +++++	198653 +++++	370226	422590	5.00 +++++	25.0 +++++	50.0 +++++	75.0	100
1,2,3-Trichlorobenzene	DCBd 4	Lin2	14820 +++++	55458 +++++	102305 +++++	173341	202486	5.00 +++++	25.0 +++++	50.0 +++++	75.0	100
Dibromofluoromethane (Surr)	FB	Ave	8661 350534	46614 404522	87646 +++++	145327	176872	5.00 175	25.0 200	50.0 +++++	75.0	100
1,2-Dichloroethane-d4 (Surr)	FB	Ave	7111 296143	40092 362866	72127 +++++	126388	149663	5.00 175	25.0 200	50.0 +++++	75.0	100
Toluene-d8 (Surr)	CBNZ d5	Ave	43029 1647022	226299 1888047	420680 +++++	690928	827536	5.00 175	25.0 200	50.0 +++++	75.0	100
4-Bromofluorobenzene (Surr)	CBNZ d5	Ave	13637 528489	74975 627450	140154 787300	232469	272233	5.00 175	25.0 200	50.0 250	75.0	100

Curve Type Legend:

Ave = Average ISTD
Lin2 = Linear 1/conc^2 ISTD
Qua = Quadratic ISTD

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 291542

SDG No.:

Instrument ID: CHHP10 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 09:39 Calibration End Date: 09/17/2019 12:35 Calibration ID: 41518

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-291542/3	10091703.d
Level 2	IC 180-291542/4	10091704.d
Level 3	ICIS 180-291542/5	10091705.d
Level 4	IC 180-291542/6	10091706.d
Level 5	IC 180-291542/7	10091707.d
Level 6	IC 180-291542/8	10091708.d
Level 7	IC 180-291542/9	10091709.d
Level 8	IC 180-291542/10	10091710.d

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
Dichlorodifluoromethane	20.2 -2.5	-4.7 -4.2	-4.7	1.8	-0.3	-5.6	50 30	30 30	30	30	30	30
Chloromethane	17.9 3.7	-8.4 1.8	-9.2	-2.0	-0.2	-3.5	50 30	30 30	30	30	30	30
Vinyl chloride	18.1 -0.5	-5.8 -2.9	-4.7	0.2	-0.1	-4.3	50 30	30 30	30	30	30	30
1,3-Butadiene	-3.7 9.8	-13.1 8.8	-9.6	2.3	1.2	4.4	50 30	30 30	30	30	30	30
Bromomethane	23.2 +++++	34.8 * +++++	-8.0	-13.4	-13.5	-23.0	50	30	30	30	30	30
Chloroethane	12.0 15.8	15.2 8.2	-7.5	-27.3	-19.2	2.8	50 30	30 30	30	30	30	30
Dichlorofluoromethane	8.2 7.4	-4.7 +++++	-3.8	-6.7	-1.3	0.9	50 30	30	30	30	30	30
Trichlorofluoromethane	12.3 2.0	-1.9 +++++	-4.8	-4.9	-1.6	-1.2	50 30	30	30	30	30	30
Ethyl ether	23.8 0.5	-7.2 -8.1	-2.6	3.8	0.7	-10.8	50 30	30 30	30	30	30	30
1,1-Dichloroethene	15.9 -0.9	-4.9 0.3	-3.8	-0.9	-0.3	-5.4	50 30	30 30	30	30	30	30
1,1,2-Trichloro-1,2,2-trifluoroethane	23.3 -3.3	-4.2 -2.9	-4.3	-0.8	-1.8	-6.0	50 30	30 30	30	30	30	30
Acetone	-23.2 5.0	-30.1 * -1.2	5.0	33.1 *	15.6	-4.1	50 30	30 30	30	30	30	30
Iodomethane	15.6 0.5	-3.1 -2.2	-3.4	-1.1	-0.9	-5.3	50 30	30 30	30	30	30	30
Carbon disulfide	3.4 4.7	-8.7 6.0	-6.0	-0.1	1.1	-0.3	50 30	30 30	30	30	30	30
Allyl chloride	2.4 3.2	-7.8 7.0	-5.7	1.4	0.0	-0.5	50 30	30 30	30	30	30	30

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 291542

SDG No.:

Instrument ID: CHHP10 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 09:39 Calibration End Date: 09/17/2019 12:35 Calibration ID: 41518

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
Methyl acetate	18.9 +++++	-2.9 +++++	-14.5	8.1	-1.8	-7.7	50	30	30	30	30	30
Methylene Chloride	1.1 7.6	-3.7 0.3	-7.0	2.7	1.4	-2.3	50 30	30 30	30	30	30	30
tert-Butyl alcohol	26.1 19.9	-32.5 * +++++	-11.0	-8.1	5.7	0.0	50 30	30	30	30	30	30
Acrylonitrile	20.3 +++++	-10.8 +++++	-12.6	9.5	0.2	-6.6	50	30	30	30	30	30
trans-1,2-Dichloroethene	14.1 1.6	-3.7 0.5	-5.1	-1.2	-2.3	-3.8	50 30	30 30	30	30	30	30
Methyl tert-butyl ether	6.1 12.8	-3.0 -4.6	-10.1	3.2	-0.1	-4.4	50 30	30 30	30	30	30	30
Hexane	28.9 -1.0	-4.6 -2.2	-7.9	-1.9	-5.3	-6.0	50 30	30 30	30	30	30	30
1,1-Dichloroethane	14.2 2.8	-4.9 -0.1	-6.0	-1.4	-0.9	-3.7	50 30	30 30	30	30	30	30
2,2-Dichloropropane	8.2 0.2	-5.0 -1.4	-6.1	-1.7	4.7	1.2	50 30	30 30	30	30	30	30
cis-1,2-Dichloroethene	13.0 3.0	-5.1 -1.1	-5.4	0.2	-0.6	-4.0	50 30	30 30	30	30	30	30
2-Butanone (MEK)	-21.2 +++++	-12.3 +++++	-0.2	27.4	9.9	-3.5	50	30	30	30	30	30
Chlorobromomethane	5.1 7.9	-3.9 -3.9	-5.5	3.8	1.0	-4.4	50 30	30 30	30	30	30	30
Tetrahydrofuran	2.3 +++++	-7.1 +++++	-13.3	14.6	5.6	-2.1	50	30	30	30	30	30
Chloroform	39.1 -1.6	-4.8 -5.2	-9.2	-4.5	-5.2	-8.5	50 30	30 30	30	30	30	30
1,1,1-Trichloroethane	7.9 3.0	-5.9 1.4	-5.5	-0.6	0.3	-0.7	50 30	30 30	30	30	30	30
Cyclohexane	13.3 2.4	-5.9 1.3	-5.9	-0.4	-1.6	-3.2	50 30	30 30	30	30	30	30
Carbon tetrachloride	7.0 3.3	-7.8 2.5	-5.4	-0.2	1.4	-0.8	50 30	30 30	30	30	30	30
1,1-Dichloropropene	12.1 2.3	-6.0 2.1	-6.1	0.2	-1.7	-2.8	50 30	30 30	30	30	30	30
Benzene	13.2 4.5	-4.8 0.9	-6.2	-1.5	-2.4	-3.7	50 30	30 30	30	30	30	30
Isobutyl alcohol	3.5 16.2	-21.0 +++++	-13.4	18.5	7.8	-11.6	50 30	30	30	30	30	30
1,2-Dichloroethane	6.2 9.2	-3.3 -3.8	-6.8	4.2	-0.3	-5.5	50 30	30 30	30	30	30	30

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 291542

SDG No.:

Instrument ID: CHHP10 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 09:39 Calibration End Date: 09/17/2019 12:35 Calibration ID: 41518

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
n-Heptane	14.2 1.8	-3.7 1.0	-6.3	-0.5	-2.6	-3.9	50 30	30 30	30	30	30	30
Trichloroethene	11.1 1.0	-5.1 0.2	-3.9	0.8	-0.2	-3.9	50 30	30 30	30	30	30	30
Methylcyclohexane	11.6 0.8	-4.5 0.0	-4.8	0.2	-0.4	-2.9	50 30	30 30	30	30	30	30
1,2-Dichloropropane	8.9 7.0	-4.5 -1.3	-6.5	-0.1	0.0	-3.5	50 30	30 30	30	30	30	30
Dibromomethane	7.8 11.3	-6.4 -5.0	-9.0	5.5	0.6	-4.8	50 30	30 30	30	30	30	30
1,4-Dioxane	-9.1 -14.7	-46.8 * -4.0	0.9	37.3 *	29.6	6.8	50 30	30 30	30	30	30	30
Dichlorobromomethane	1.4 10.7	-9.5 1.9	-8.3	2.1	2.9	-1.3	50 30	30 30	30	30	30	30
cis-1,3-Dichloropropene	-10.4 +++++	-8.4 +++++	-4.4	8.5	9.1	5.6	50	30	30	30	30	30
4-Methyl-2-pentanone (MIBK)	-22.7 +++++	-1.8 +++++	-5.9	16.8	9.7	3.8	50	30	30	30	30	30
Toluene	13.6 1.9	-6.2 2.0	-5.7	-4.0	0.4	-2.1	50 30	30 30	30	30	30	30
trans-1,3-Dichloropropene	-28.5 +++++	-8.5 +++++	-5.6	12.6	16.9	13.2	50	30	30	30	30	30
Ethyl methacrylate	-14.1 +++++	-9.2 +++++	-7.8	10.8	13.4	6.8	50	30	30	30	30	30
1,1,2-Trichloroethane	10.4 7.9	-6.5 -4.8	-9.0	2.7	3.3	-3.9	50 30	30 30	30	30	30	30
Tetrachloroethene	10.8 0.5	-5.1 2.0	-5.7	-1.9	0.4	-1.0	50 30	30 30	30	30	30	30
1,3-Dichloropropane	1.5 10.4	-5.9 -1.8	-9.1	3.7	3.6	-2.4	50 30	30 30	30	30	30	30
2-Hexanone	18.8 +++++	-6.6 +++++	-10.4	9.0	-1.8	-0.2	50	30	30	30	30	30
Chlorodibromomethane	-5.3 12.4	-11.4 1.2	-8.2	2.7	6.9	1.7	50 30	30 30	30	30	30	30
1,2-Dibromoethane	-4.6 +++++	-6.8 +++++	-7.3	9.2	7.8	1.6	50	30	30	30	30	30
Chlorobenzene	22.9 -0.2	-5.4 -2.6	-6.6	-3.6	0.7	-5.1	50 30	30 30	30	30	30	30
1,1,1,2-Tetrachloroethane	15.2 2.3	-7.9 -2.2	-7.0	-1.9	3.6	-2.1	50 30	30 30	30	30	30	30
Ethylbenzene	11.4 1.4	-6.8 2.7	-5.9	-2.7	1.5	-1.5	50 30	30 30	30	30	30	30

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 291542

SDG No.:

Instrument ID: CHHP10 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 09:39 Calibration End Date: 09/17/2019 12:35 Calibration ID: 41518

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
m-Xylene & p-Xylene	15.1 0.2	-8.6 1.5	-4.2	-3.8	1.2	-1.4	50 30	30 30	30	30	30	30
o-Xylene	12.9 0.4	-5.4 -0.2	-5.0	-2.0	2.3	-3.0	50 30	30 30	30	30	30	30
Styrene	6.7 4.0	-6.2 1.1	-5.8	-0.8	3.1	-2.1	50 30	30 30	30	30	30	30
Bromoform	-6.4 15.4	-13.3 -0.6	-11.7	6.8	8.2	1.6	50 30	30 30	30	30	30	30
Isopropylbenzene	18.8 -2.8	-4.0 -1.8	-4.1	-3.3	1.6	-4.3	50 30	30 30	30	30	30	30
Bromobenzene	18.5 2.7	-11.6 -0.4	-8.9	-4.0	3.6	0.3	50 30	30 30	30	30	30	30
1,1,2,2-Tetrachloroethane	22.8 +++++	-6.1 +++++	-12.6	2.1	2.0	-8.2	50	30	30	30	30	30
1,2,3-Trichloropropane	8.0 13.0	-7.8 -7.3	-12.7	1.5	6.9	-1.5	50 30	30 30	30	30	30	30
trans-1,4-Dichloro-2-butene	-11.2 28.8	-28.7 6.0	-21.2	6.1	11.0	9.2	50 30	30 30	30	30	30	30
N-Propylbenzene	11.7 -0.5	-7.6 3.8	-6.8	-4.1	1.9	1.7	50 30	30 30	30	30	30	30
2-Chlorotoluene	20.5 -2.1	-8.9 0.5	-6.6	-5.7	2.1	0.2	50 30	30 30	30	30	30	30
1,3,5-Trimethylbenzene	18.2 -1.2	-9.4 2.2	-7.2	-5.7	2.3	0.8	50 30	30 30	30	30	30	30
4-Chlorotoluene	22.0 -1.9	-7.7 0.3	-7.3	-5.6	1.2	-1.1	50 30	30 30	30	30	30	30
tert-Butylbenzene	20.6 -3.8	-8.3 -0.1	-5.6	-5.9	3.1	0.0	50 30	30 30	30	30	30	30
1,2,4-Trimethylbenzene	21.8 -2.1	-7.7 -0.2	-7.3	-5.5	2.5	-1.5	50 30	30 30	30	30	30	30
sec-Butylbenzene	23.9 -5.0	-7.4 -0.9	-6.1	-6.3	2.4	-0.6	50 30	30 30	30	30	30	30
1,3-Dichlorobenzene	21.2 -1.1	-7.6 -2.0	-7.7	-4.3	3.3	-1.8	50 30	30 30	30	30	30	30
4-Isopropyltoluene	22.4 -5.5	-5.8 -2.0	-5.3	-4.6	2.6	-1.8	50 30	30 30	30	30	30	30
1,4-Dichlorobenzene	31.2 -2.6	-6.7 -5.6	-8.0	-4.0	0.3	-4.5	50 30	30 30	30	30	30	30
n-Butylbenzene	23.5 -3.4	-9.8 -2.6	-5.3	-4.6	3.7	-1.5	50 30	30 30	30	30	30	30
1,2-Dichlorobenzene	31.4 -1.2	-8.6 -7.9	-8.7	-3.3	2.8	-4.5	50 30	30 30	30	30	30	30

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 291542

SDG No.:

Instrument ID: CHHP10 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 09:39 Calibration End Date: 09/17/2019 12:35 Calibration ID: 41518

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
1,2-Dibromo-3-Chloropropane	-8.9 +++++	-11.8 +++++	-8.0	16.8	15.7	-3.7	50	30	30	30	30	30
1,2,4-Trichlorobenzene	27.6 2.7	-5.9 -13.1	-2.5	5.5	2.6	-16.9	50 30	30 30	30	30	30	30
Hexachlorobutadiene	41.6 -3.0	-2.3 -17.1	-1.5	-1.8	3.1	-19.0	50 30	30 30	30	30	30	30
Naphthalene	25.5 +++++	-10.8 +++++	-12.7	2.5	-4.5	+++++	50	30	30	30	30	
1,2,3-Trichlorobenzene	0.8 +++++	-4.7 +++++	-3.1	5.6	1.4	+++++	50	30	30	30	30	
Dibromofluoromethane (Surr)	-0.1 8.9	-0.8 +++++	-4.1	2.6	-6.3	-0.1	50 30	30	30	30	30	30
1,2-Dichloroethane-d4 (Surr)	-3.8 14.6	0.0 +++++	-7.5	4.7	-7.0	-1.0	50 30	30	30	30	30	30
Toluene-d8 (Surr)	4.5 5.7	0.3 +++++	-3.8	-0.7	-6.6	0.5	50 30	30	30	30	30	30
4-Bromofluorobenzene (Surr)	0.4 6.5	0.8 3.0	-2.9	1.3	-6.8	-2.3	50 30	30 30	30	30	30	30

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091703.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 17-Sep-2019 09:39:30 ALS Bottle#: 3 Worklist Smp#: 3
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0028678-003
Operator ID: Patrick Journet Instrument ID: CHHP10
Sublist: chrom-MSVOA_CHHP10*sub20

Method: \\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\MSVOA_CHHP10.m
Limit Group: VOA 8260C_D ICAL
Last Update: 17-Sep-2019 14:11:56 Calib Date: 17-Sep-2019 12:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091710.d

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0337

First Level Reviewer: journetp Date: 17-Sep-2019 13:58:11

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	3.993	3.993	0.000	0	75917	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.010	7.010	0.000	99	426206	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.127	10.127	0.000	84	95087	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.474	12.474	0.000	93	163861	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.281	6.281	0.000	93	8661	5.00	4.99	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.651	6.651	0.000	0	7111	5.00	4.81	
$ 7 Toluene-d8 (Surr)	98	8.675	8.675	0.000	93	43029	5.00	5.22	
$ 8 4-Bromofluorobenzene (Surr	95	11.327	11.327	0.000	90	13637	5.00	5.02	
10 Dichlorodifluoromethane	85	1.505	1.505	0.000	98	20353	5.00	6.01	
11 Chloromethane	50	1.652	1.652	0.000	93	17755	5.00	5.89	
12 Vinyl chloride	62	1.781	1.781	0.000	98	17700	5.00	5.90	
13 Butadiene	39	1.799	1.799	0.000	91	11538	5.00	4.81	
14 Bromomethane	94	2.075	2.075	0.000	91	6737	5.00	6.16	
15 Chloroethane	64	2.187	2.187	0.000	98	5946	5.00	5.60	
17 Dichlorofluoromethane	67	2.451	2.451	0.000	96	13531	5.00	5.41	
16 Trichlorofluoromethane	101	2.487	2.487	0.000	95	15464	5.00	5.62	
18 Ethyl ether	59	2.810	2.810	0.000	93	6914	5.00	6.19	
20 1,1-Dichloroethene	96	3.075	3.075	0.000	97	11314	5.00	5.79	a
21 1,1,2-Trichloro-1,2,2-trif	101	3.128	3.128	0.000	92	12520	5.00	6.16	
22 Acetone	43	3.187	3.187	0.000	98	9073	25.0	19.2	
23 Iodomethane	142	3.234	3.234	0.000	98	18126	5.00	5.78	
24 Carbon disulfide	76	3.316	3.316	0.000	99	33260	5.00	5.17	
26 3-Chloro-1-propene	76	3.581	3.581	0.000	95	6077	5.00	5.12	
28 Methyl acetate	43	3.634	3.634	0.000	98	9462	10.0	11.9	
29 Methylene Chloride	84	3.798	3.798	0.000	95	20037	5.00	5.05	
32 2-Methyl-2-propanol	59	4.128	4.128	0.000	91	6237	50.0	63.0	
31 Acrylonitrile	53	4.216	4.216	0.000	96	21693	50.0	60.2	
30 trans-1,2-Dichloroethene	96	4.216	4.216	0.000	99	12929	5.00	5.71	
33 Methyl tert-butyl ether	73	4.245	4.245	0.000	97	19835	5.00	5.31	
34 Hexane	57	4.657	4.657	0.000	94	26279	5.00	6.45	
36 1,1-Dichloroethane	63	4.887	4.887	0.000	95	21442	5.00	5.71	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
42 2,2-Dichloropropane	97	5.645	5.616	0.029	87	2457	5.00	5.41	a
41 cis-1,2-Dichloroethene	96	5.651	5.651	0.000	82	13472	5.00	5.65	
43 2-Butanone (MEK)	43	5.692	5.692	0.000	95	12262	25.0	19.7	
46 Chlorobromomethane	128	5.951	5.951	0.000	95	5070	5.00	5.25	
48 Tetrahydrofuran	42	5.981	5.981	0.000	86	3578	10.0	10.2	
49 Chloroform	83	6.098	6.098	0.000	94	26418	5.00	6.96	
50 1,1,1-Trichloroethane	97	6.245	6.245	0.000	98	16501	5.00	5.40	
52 Cyclohexane	56	6.316	6.316	0.000	90	25702	5.00	5.67	
53 Carbon tetrachloride	117	6.416	6.416	0.000	97	15770	5.00	5.35	
54 1,1-Dichloropropene	75	6.439	6.439	0.000	95	18963	5.00	5.60	
55 Benzene	78	6.657	6.657	0.000	97	53748	5.00	5.66	
51 Isobutyl alcohol	41	6.716	6.716	0.000	92	5228	125.0	129.4	
56 1,2-Dichloroethane	62	6.751	6.751	0.000	95	10782	5.00	5.31	
59 n-Heptane	43	7.034	7.034	0.000	96	25742	5.00	5.71	
60 Trichloroethene	130	7.404	7.404	0.000	96	15469	5.00	5.56	
63 Methylcyclohexane	83	7.634	7.634	0.000	87	27415	5.00	5.58	
64 1,2-Dichloropropane	63	7.675	7.675	0.000	93	11695	5.00	5.44	
65 Dibromomethane	93	7.769	7.769	0.000	96	4666	5.00	5.39	
67 1,4-Dioxane	88	7.792	7.792	0.000	52	787	100.0	90.9	a
68 Dichlorobromomethane	83	7.969	7.969	0.000	99	12114	5.00	5.07	
71 cis-1,3-Dichloropropene	75	8.428	8.428	0.000	95	12433	5.00	4.48	
72 4-Methyl-2-pentanone (MIBK	43	8.581	8.581	0.000	97	22287	25.0	19.3	
73 Toluene	91	8.745	8.745	0.000	98	61251	5.00	5.68	
74 trans-1,3-Dichloropropene	75	9.022	9.022	0.000	93	7249	5.00	3.57	
75 Ethyl methacrylate	69	9.080	9.080	0.000	89	7393	5.00	4.30	
76 1,1,2-Trichloroethane	97	9.192	9.192	0.000	90	7618	5.00	5.52	
77 Tetrachloroethene	164	9.257	9.257	0.000	97	12291	5.00	5.54	
78 1,3-Dichloropropane	76	9.351	9.351	0.000	92	11731	5.00	5.07	
79 2-Hexanone	43	9.445	9.445	0.000	95	14727	25.0	29.7	
81 Chlorodibromomethane	129	9.563	9.563	0.000	90	7577	5.00	4.73	
82 Ethylene Dibromide	107	9.675	9.675	0.000	97	5588	5.00	4.77	
83 Chlorobenzene	112	10.163	10.163	0.000	98	41074	5.00	6.14	
84 1,1,1,2-Tetrachloroethane	131	10.251	10.251	0.000	92	12668	5.00	5.76	
85 Ethylbenzene	106	10.263	10.263	0.000	98	21639	5.00	5.57	
86 m-Xylene & p-Xylene	106	10.398	10.398	0.000	0	27434	5.00	5.75	
88 o-Xylene	106	10.774	10.774	0.000	96	25557	5.00	5.64	
89 Styrene	104	10.804	10.804	0.000	95	38210	5.00	5.34	
90 Bromoform	173	10.974	10.974	0.000	95	3908	5.00	4.68	
91 Isopropylbenzene	105	11.145	11.145	0.000	95	72880	5.00	5.94	
94 Bromobenzene	156	11.457	11.457	0.000	89	15655	5.00	5.92	
93 1,1,2,2-Tetrachloroethane	83	11.463	11.463	0.000	95	9612	5.00	6.14	
95 1,2,3-Trichloropropane	110	11.510	11.510	0.000	83	2523	5.00	5.40	
96 trans-1,4-Dichloro-2-buten	53	11.563	11.563	0.000	61	1525	5.00	4.44	
97 N-Propylbenzene	120	11.563	11.563	0.000	99	21127	5.00	5.59	
98 2-Chlorotoluene	126	11.645	11.645	0.000	98	18247	5.00	6.02	
99 1,3,5-Trimethylbenzene	105	11.745	11.745	0.000	96	62462	5.00	5.91	
100 4-Chlorotoluene	126	11.774	11.774	0.000	95	19297	5.00	6.10	
101 tert-Butylbenzene	119	12.051	12.051	0.000	91	58347	5.00	6.03	
103 1,2,4-Trimethylbenzene	105	12.116	12.116	0.000	96	62819	5.00	6.09	
104 sec-Butylbenzene	105	12.274	12.274	0.000	93	88709	5.00	6.20	
105 1,3-Dichlorobenzene	146	12.398	12.398	0.000	97	33230	5.00	6.06	
106 4-Isopropyltoluene	119	12.433	12.433	0.000	98	76263	5.00	6.12	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
107 1,4-Dichlorobenzene	146	12.498	12.498	0.000	95	37378	5.00	6.56	
110 n-Butylbenzene	91	12.845	12.845	0.000	97	65437	5.00	6.18	
111 1,2-Dichlorobenzene	146	12.851	12.851	0.000	98	32488	5.00	6.57	
112 1,2-Dibromo-3-Chloropropan	157	13.651	13.651	0.000	80	1045	5.00	4.55	
114 1,2,4-Trichlorobenzene	180	14.462	14.462	0.000	94	16818	5.00	6.38	
115 Hexachlorobutadiene	225	14.598	14.598	0.000	98	12856	5.00	7.08	
116 Naphthalene	128	14.727	14.727	0.000	97	27520	5.00	6.27	
117 1,2,3-Trichlorobenzene	180	14.945	14.945	0.000	96	14820	5.00	5.04	
S 130 1,2-Dichloroethene, Total	96				0		10.0	11.4	
S 129 Xylenes, Total	106				0		10.0	11.4	
S 131 1,3-Dichloropropene, Total	1				0		10.0	8.05	
S 145 Total BTEX	1				0		25.0	28.3	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

voaWKetmix1st_00018	Amount Added:	0.80	Units: uL
VOA8260VOAPRI_00372	Amount Added:	0.20	Units: uL
VOA8260SURR_00099	Amount Added:	0.20	Units: uL
VOA8260INT_00099	Amount Added:	2.00	Units: uL

Report Date: 17-Sep-2019 14:11:57 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091703.d				
Injection Date:	17-Sep-2019 09:39:30	Instrument ID:	CHHP10	Operator ID:	Patrick Journet
Lims ID:	IC			Worklist Smp#:	3
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	MSVOA_CHHP10	Limit Group:	VOA 8260C_D ICAL		
Column: DB-624 (0.18 mm)					

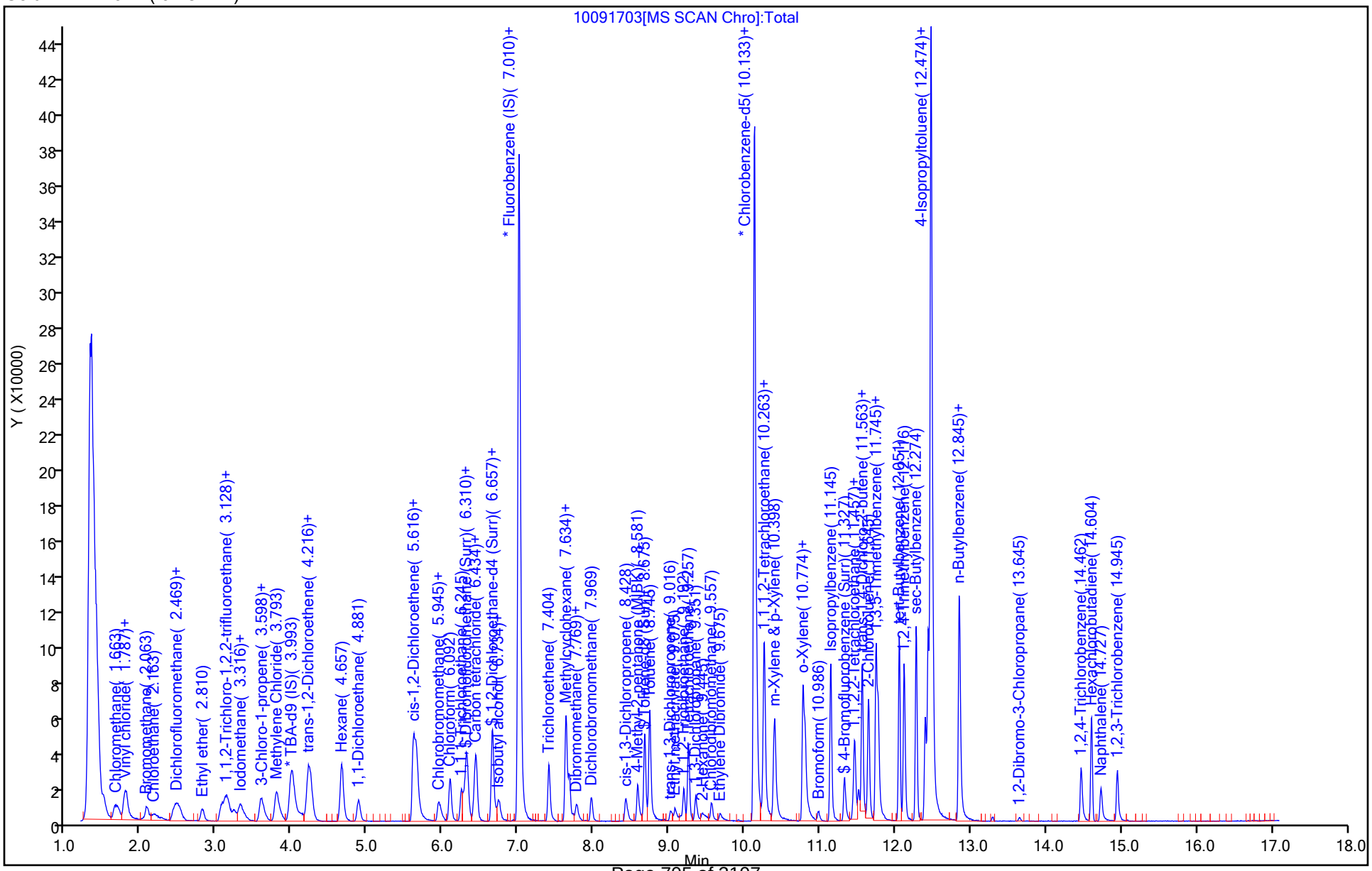

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091703.d				
Injection Date:	17-Sep-2019 09:39:30	Instrument ID:	CHHP10		
Lims ID:	IC				
Client ID:					
Operator ID:	Patrick Journet	ALS Bottle#:	3	Worklist Smp#:	3
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP10	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

20 1,1-Dichloroethene, CAS: 75-35-4

Signal: 1

Not Detected
Expected RT: 3.07

Processing Integration Results

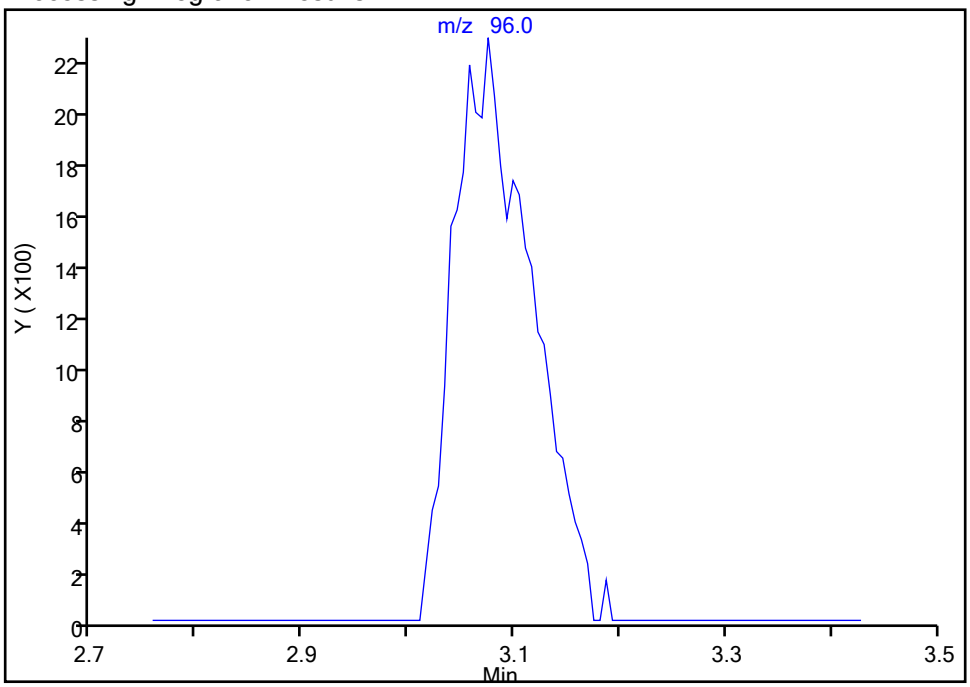

RT: 3.07
Area: 11314
Amount: 5.793181
Amount Units: ng

Manual Integration Results

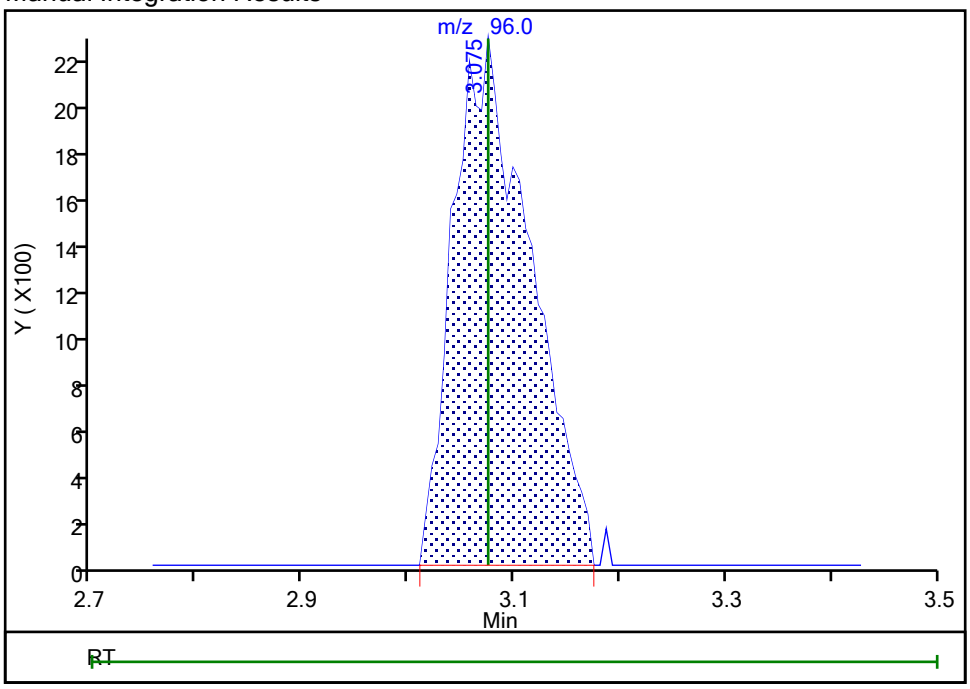

Reviewer: journetp, 17-Sep-2019 10:19:45
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091703.d				
Injection Date:	17-Sep-2019 09:39:30	Instrument ID:	CHHP10		
Lims ID:	IC				
Client ID:					
Operator ID:	Patrick Journet	ALS Bottle#:	3	Worklist Smp#:	3
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP10	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

42 2,2-Dichloropropane, CAS: 594-20-7

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 5.62

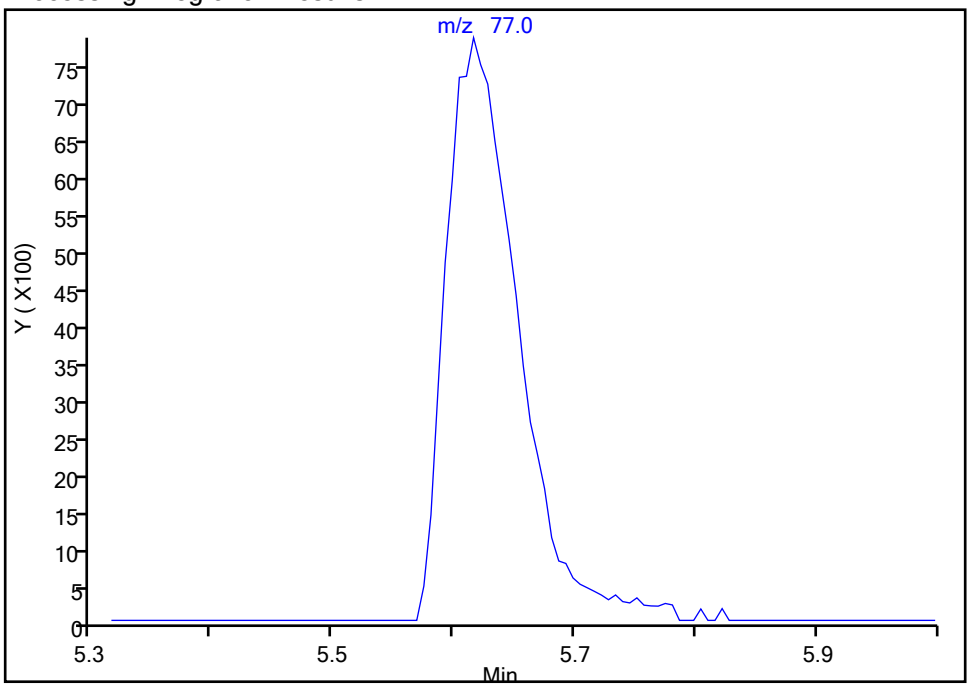

Manual Integration Results

RT: 5.62
Area: 31947
Amount: 5.408188
Amount Units: ng

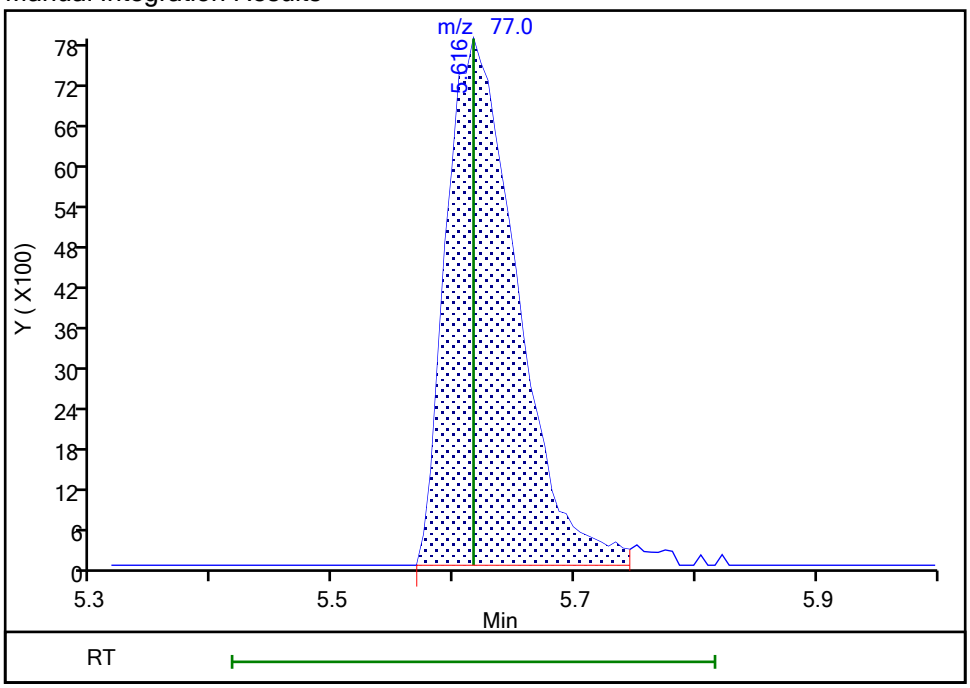

Reviewer: journetp, 17-Sep-2019 10:19:50
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091703.d				
Injection Date:	17-Sep-2019 09:39:30	Instrument ID:	CHHP10		
Lims ID:	IC				
Client ID:					
Operator ID:	Patrick Journet	ALS Bottle#:	3	Worklist Smp#:	3
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP10	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

67 1,4-Dioxane, CAS: 123-91-1

Signal: 1

Not Detected
Expected RT: 7.79

Processing Integration Results

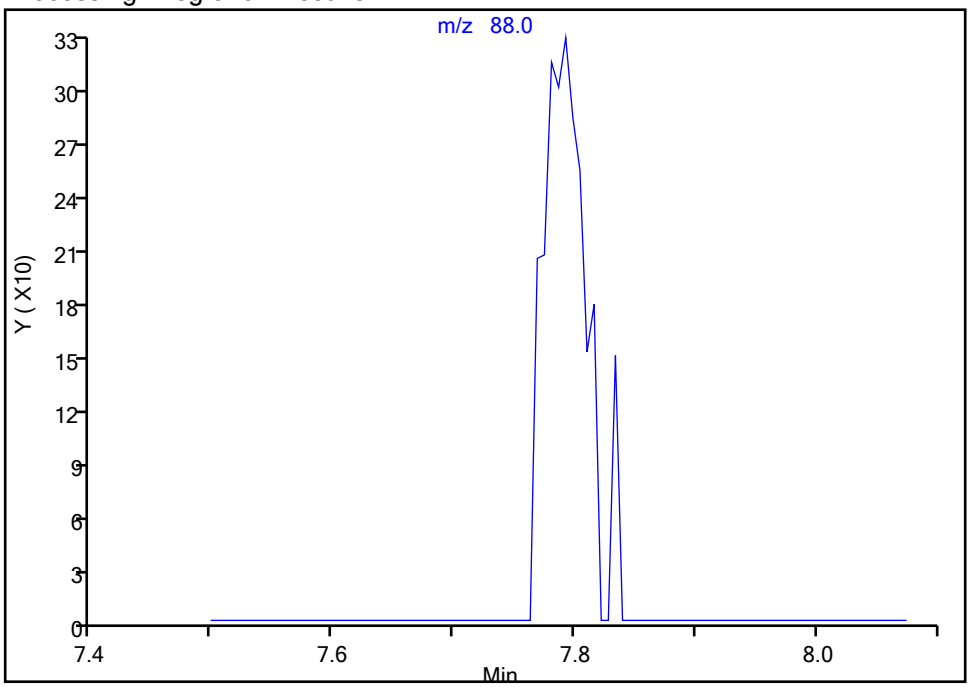

RT: 7.79
Area: 787
Amount: 90.899412
Amount Units: ng

Manual Integration Results

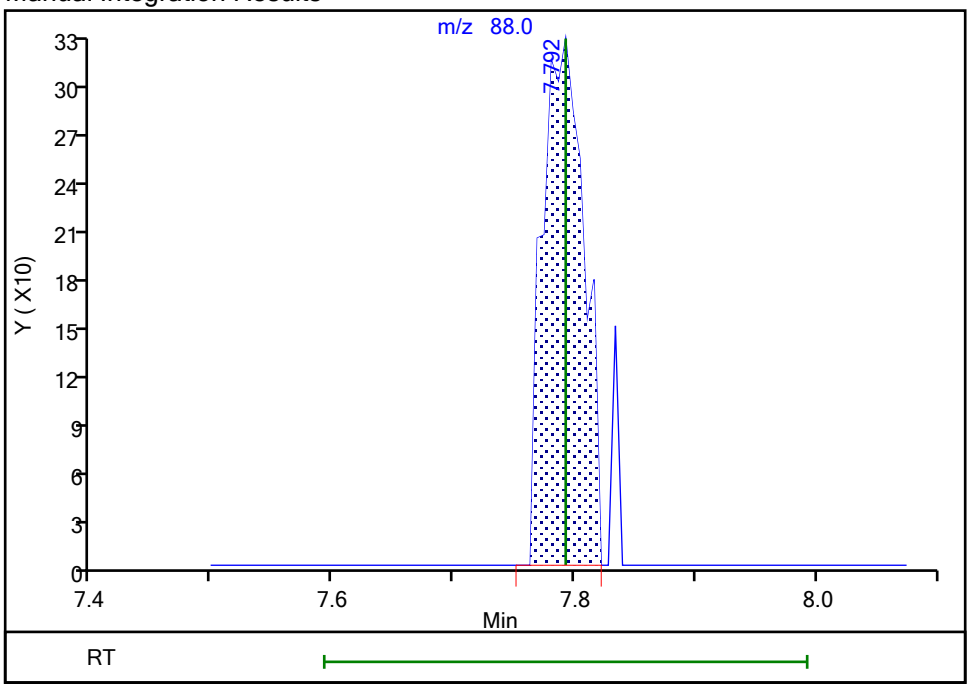

Reviewer: journetp, 17-Sep-2019 10:19:55
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091704.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 17-Sep-2019 10:04:30 ALS Bottle#: 4 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0028678-004
Operator ID: Patrick Journet Instrument ID: CHHP10
Sublist: chrom-MSVOA_CHHP10*sub20

Method: \\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\MSVOA_CHHP10.m
Limit Group: VOA 8260C_D ICAL
Last Update: 17-Sep-2019 14:12:01 Calib Date: 17-Sep-2019 12:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091710.d

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0337

First Level Reviewer: journetp Date: 17-Sep-2019 13:31:02

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	3.975	3.993	-0.018	0	57127	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.010	7.010	0.000	99	462081	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.128	10.127	0.001	84	104163	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.474	12.474	0.000	95	177964	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.275	6.281	-0.006	94	46614	25.0	24.8	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.651	6.651	0.000	0	40092	25.0	25.0	
$ 7 Toluene-d8 (Surr)	98	8.675	8.675	0.000	92	226299	25.0	25.1	
$ 8 4-Bromofluorobenzene (Surr	95	11.322	11.327	-0.005	92	74975	25.0	25.2	
10 Dichlorodifluoromethane	85	1.510	1.505	0.006	98	87443	25.0	23.8	
11 Chloromethane	50	1.663	1.652	0.011	99	74844	25.0	22.9	
12 Vinyl chloride	62	1.793	1.781	0.012	98	76554	25.0	23.6	
13 Butadiene	39	1.810	1.799	0.011	93	56430	25.0	21.7	
14 Bromomethane	94	2.099	2.075	0.024	91	39988	25.0	33.7	
15 Chloroethane	64	2.222	2.187	0.035	100	33131	25.0	28.8	
17 Dichlorofluoromethane	67	2.463	2.451	0.012	96	64626	25.0	23.8	
16 Trichlorofluoromethane	101	2.504	2.487	0.017	98	73247	25.0	24.5	
18 Ethyl ether	59	2.810	2.810	0.000	92	28077	25.0	23.2	
20 1,1-Dichloroethene	96	3.069	3.075	-0.006	97	50336	25.0	23.8	
21 1,1,2-Trichloro-1,2,2-trif	101	3.134	3.128	0.006	92	52738	25.0	24.0	
22 Acetone	43	3.169	3.187	-0.018	99	17891	50.0	34.9	
23 Iodomethane	142	3.240	3.234	0.006	98	82345	25.0	24.2	
24 Carbon disulfide	76	3.322	3.316	0.006	99	159173	25.0	22.8	
26 3-Chloro-1-propene	76	3.593	3.581	0.012	91	29676	25.0	23.1	
28 Methyl acetate	43	3.628	3.634	-0.006	99	41889	50.0	48.5	
29 Methylene Chloride	84	3.799	3.798	0.001	96	59549	25.0	24.1	
32 2-Methyl-2-propanol	59	4.104	4.128	-0.024	96	12561	250.0	168.7	
31 Acrylonitrile	53	4.204	4.216	-0.012	99	87217	250.0	223.1	
30 trans-1,2-Dichloroethene	96	4.228	4.216	0.012	99	59140	25.0	24.1	
33 Methyl tert-butyl ether	73	4.251	4.245	0.006	96	98294	25.0	24.3	
34 Hexane	57	4.663	4.657	0.006	94	105378	25.0	23.8	
36 1,1-Dichloroethane	63	4.881	4.887	-0.006	96	96763	25.0	23.8	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
42 2,2-Dichloropropane	97	5.645	5.616	0.029	84	11700	25.0	23.8	
41 cis-1,2-Dichloroethene	96	5.651	5.651	0.000	81	61319	25.0	23.7	
43 2-Butanone (MEK)	43	5.681	5.692	-0.011	100	29573	50.0	43.8	
46 Chlorobromomethane	128	5.945	5.951	-0.006	94	25129	25.0	24.0	
48 Tetrahydrofuran	42	5.975	5.981	-0.006	88	17623	50.0	46.5	
49 Chloroform	83	6.092	6.098	-0.006	93	98019	25.0	23.8	
50 1,1,1-Trichloroethane	97	6.245	6.245	0.000	99	78011	25.0	23.5	
52 Cyclohexane	56	6.316	6.316	0.000	91	115698	25.0	23.5	
53 Carbon tetrachloride	117	6.422	6.416	0.006	96	73673	25.0	23.1	
54 1,1-Dichloropropene	75	6.440	6.439	0.001	95	86225	25.0	23.5	
55 Benzene	78	6.657	6.657	0.000	97	244971	25.0	23.8	
51 Isobutyl alcohol	41	6.698	6.716	-0.018	95	21643	625.0	494.0	M
56 1,2-Dichloroethane	62	6.740	6.751	-0.011	97	53216	25.0	24.2	
59 n-Heptane	43	7.034	7.034	0.000	93	117662	25.0	24.1	
60 Trichloroethene	130	7.404	7.404	0.000	96	71584	25.0	23.7	
63 Methylcyclohexane	83	7.634	7.634	0.000	87	127185	25.0	23.9	
64 1,2-Dichloropropane	63	7.675	7.675	0.000	94	55581	25.0	23.9	a
65 Dibromomethane	93	7.769	7.769	0.000	94	21972	25.0	23.4	
67 1,4-Dioxane	88	7.781	7.792	-0.011	53	2495	500.0	265.8	Ma
68 Dichlorobromomethane	83	7.969	7.969	0.000	99	58584	25.0	22.6	
71 cis-1,3-Dichloropropene	75	8.422	8.428	-0.006	96	68883	25.0	22.9	
72 4-Methyl-2-pentanone (MIBK	43	8.581	8.581	0.001	97	62050	50.0	49.1	
73 Toluene	91	8.739	8.745	-0.006	99	277051	25.0	23.5	
74 trans-1,3-Dichloropropene	75	9.010	9.022	-0.012	94	50867	25.0	22.9	
75 Ethyl methacrylate	69	9.075	9.080	-0.005	92	42795	25.0	22.7	
76 1,1,2-Trichloroethane	97	9.192	9.192	0.000	90	35350	25.0	23.4	
77 Tetrachloroethene	164	9.257	9.257	0.000	97	57640	25.0	23.7	
78 1,3-Dichloropropane	76	9.351	9.351	0.000	92	59563	25.0	23.5	
79 2-Hexanone	43	9.428	9.445	-0.017	98	40532	50.0	46.7	
81 Chlorodibromomethane	129	9.563	9.563	0.000	90	38828	25.0	22.1	
82 Ethylene Dibromide	107	9.675	9.675	0.000	97	29901	25.0	23.3	
83 Chlorobenzene	112	10.163	10.163	0.000	97	173196	25.0	23.7	
84 1,1,1,2-Tetrachloroethane	131	10.251	10.251	0.000	95	55477	25.0	23.0	
85 Ethylbenzene	106	10.263	10.263	0.000	98	99101	25.0	23.3	
86 m-Xylene & p-Xylene	106	10.398	10.398	0.000	0	119327	25.0	22.8	
88 o-Xylene	106	10.775	10.774	0.001	96	117269	25.0	23.6	
89 Styrene	104	10.798	10.804	-0.006	96	183925	25.0	23.5	
90 Bromoform	173	10.975	10.974	0.001	97	19832	25.0	21.7	
91 Isopropylbenzene	105	11.139	11.145	-0.006	95	322776	25.0	24.0	
94 Bromobenzene	156	11.451	11.457	-0.006	91	63446	25.0	22.1	
93 1,1,2,2-Tetrachloroethane	83	11.457	11.463	-0.006	95	40254	25.0	23.5	
95 1,2,3-Trichloropropane	110	11.510	11.510	0.000	86	11696	25.0	23.0	
96 trans-1,4-Dichloro-2-buten	53	11.510	11.563	-0.053	67	6648	25.0	17.8	
97 N-Propylbenzene	120	11.557	11.563	-0.006	99	94924	25.0	23.1	
98 2-Chlorotoluene	126	11.645	11.645	0.000	98	74942	25.0	22.8	
99 1,3,5-Trimethylbenzene	105	11.739	11.745	-0.006	96	260088	25.0	22.7	
100 4-Chlorotoluene	126	11.769	11.774	-0.005	96	79292	25.0	23.1	
101 tert-Butylbenzene	119	12.051	12.051	0.000	91	241002	25.0	22.9	
103 1,2,4-Trimethylbenzene	105	12.116	12.116	0.000	96	258691	25.0	23.1	
104 sec-Butylbenzene	105	12.274	12.274	0.000	93	359825	25.0	23.1	
105 1,3-Dichlorobenzene	146	12.392	12.398	-0.006	98	137536	25.0	23.1	
106 4-Isopropyltoluene	119	12.433	12.433	0.000	97	318697	25.0	23.5	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
107 1,4-Dichlorobenzene	146	12.498	12.498	0.000	96	144377	25.0	23.3	
110 n-Butylbenzene	91	12.839	12.845	-0.006	97	259427	25.0	22.5	
111 1,2-Dichlorobenzene	146	12.851	12.851	0.000	98	122663	25.0	22.8	
112 1,2-Dibromo-3-Chloropropan	157	13.645	13.651	-0.006	86	5492	25.0	22.0	
114 1,2,4-Trichlorobenzene	180	14.463	14.462	0.001	94	67331	25.0	23.5	
115 Hexachlorobutadiene	225	14.604	14.598	0.006	96	48187	25.0	24.4	
116 Naphthalene	128	14.721	14.727	-0.006	97	106268	25.0	22.3	
117 1,2,3-Trichlorobenzene	180	14.939	14.945	-0.006	96	55458	25.0	23.8	
S 130 1,2-Dichloroethene, Total	96				0		50.0	47.8	
S 129 Xylenes, Total	106				0		50.0	46.5	
S 131 1,3-Dichloropropene, Total	1				0		50.0	45.8	
S 145 Total BTEX	1				0		125.0	117.0	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

VOA8260INT_00099	Amount Added:	2.00	Units: uL
VOA8260SURR_00099	Amount Added:	1.00	Units: uL
VOA8260VOAPRI_00372	Amount Added:	1.00	Units: uL
voaWKetmix1st_00018	Amount Added:	1.00	Units: uL

Report Date: 17-Sep-2019 14:12:03 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091704.d				
Injection Date:	17-Sep-2019 10:04:30	Instrument ID:	CHHP10	Operator ID:	Patrick Journet
Lims ID:	IC			Worklist Smp#:	4
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	MSVOA_CHHP10	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

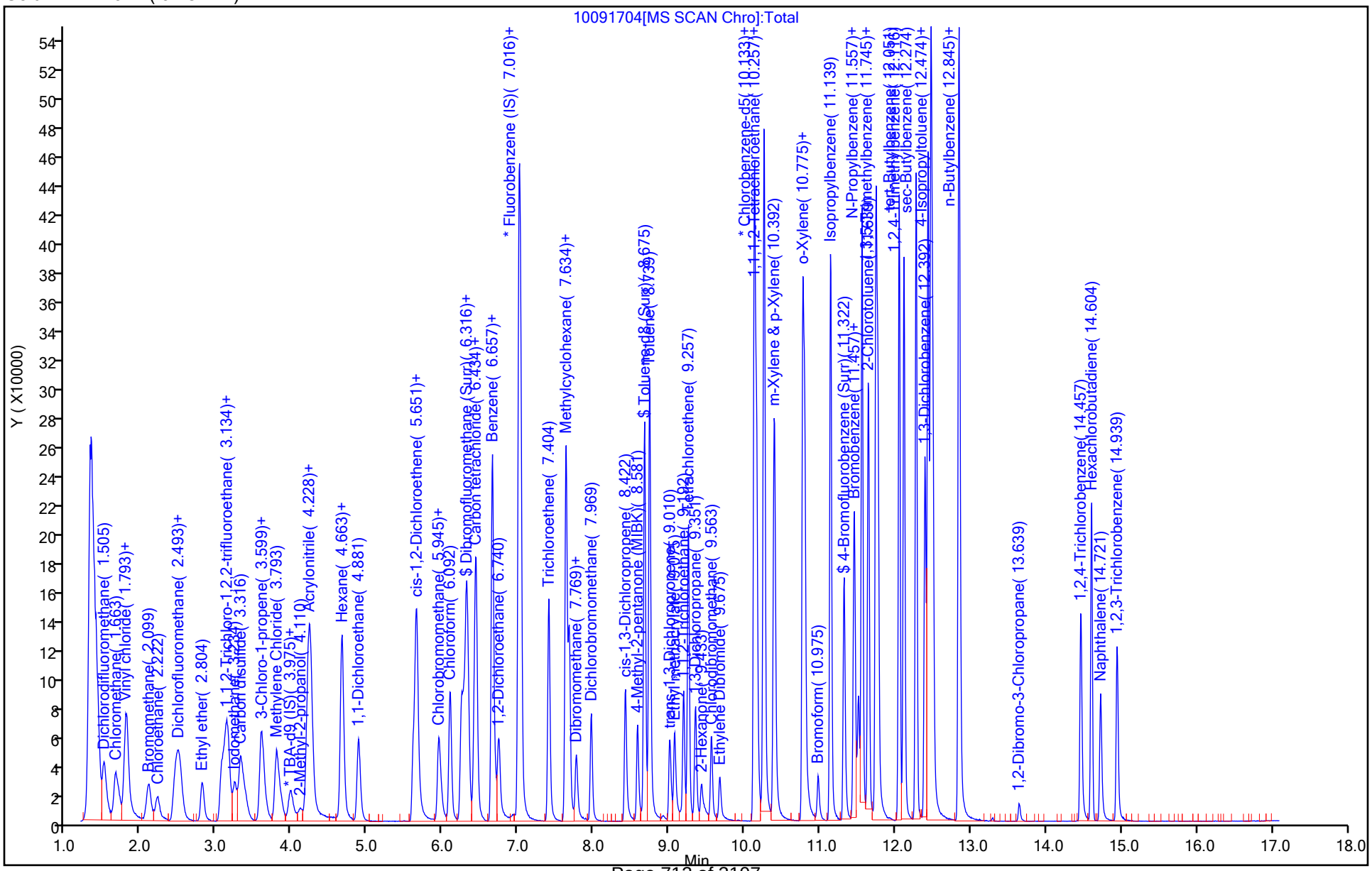

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091704.d				
Injection Date:	17-Sep-2019 10:04:30	Instrument ID:	CHHP10		
Lims ID:	IC				
Client ID:					
Operator ID:	Patrick Journet	ALS Bottle#:	4	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP10	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

51 Isobutyl alcohol, CAS: 78-83-1

Signal: 1

Processing Integration Results

RT: 6.70
Area: 14316
Amount: 351.9846
Amount Units: ng

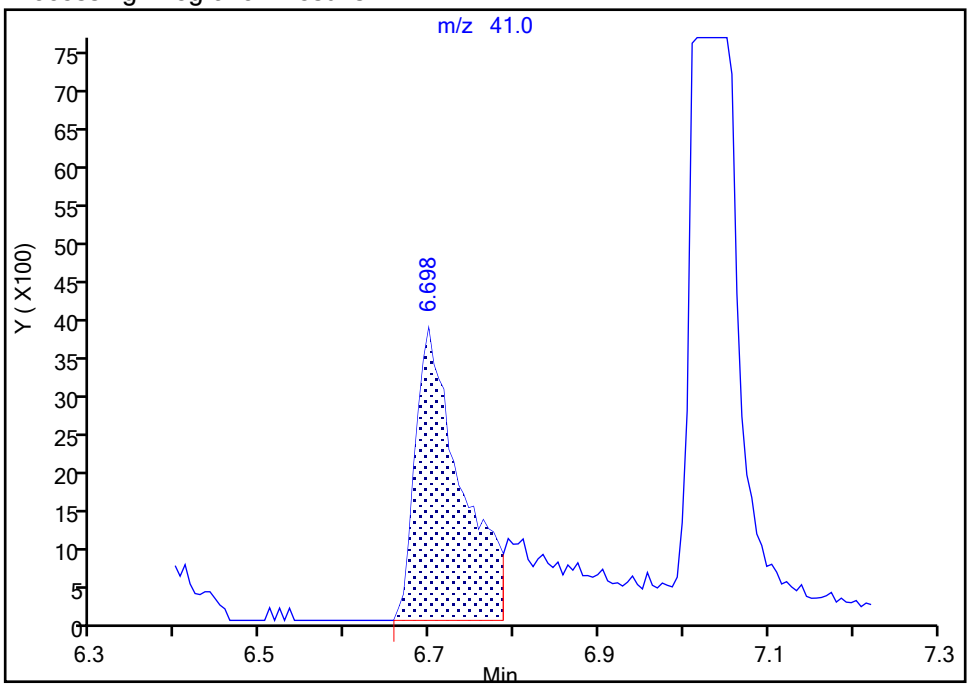

Manual Integration Results

RT: 6.70
Area: 21643
Amount: 494.0480
Amount Units: ng

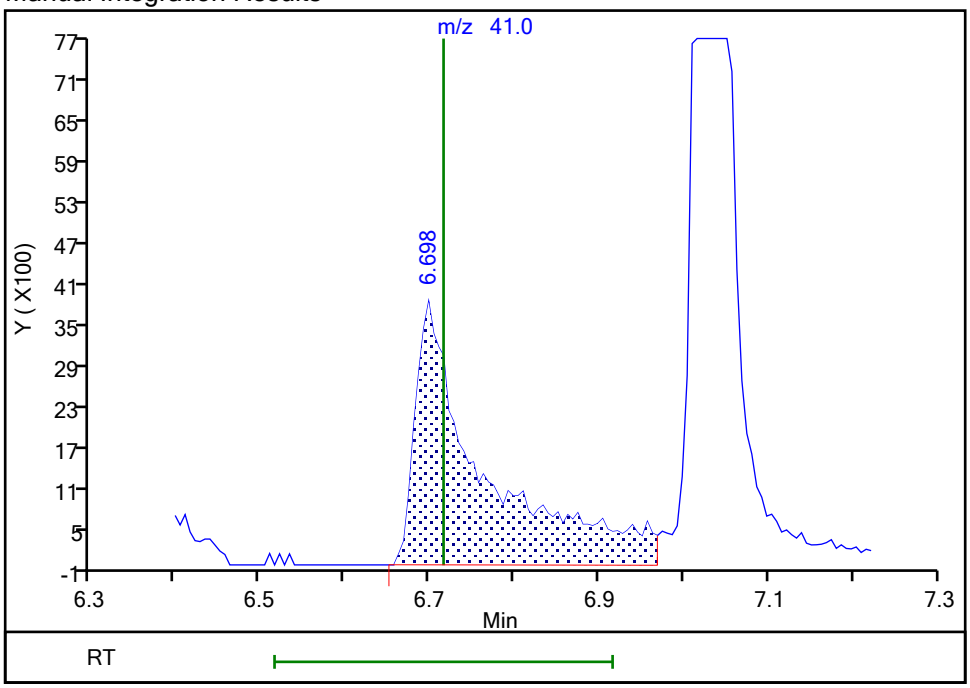

Reviewer: journetp, 17-Sep-2019 12:43:13

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091704.d				
Injection Date:	17-Sep-2019 10:04:30	Instrument ID:	CHHP10		
Lims ID:	IC				
Client ID:					
Operator ID:	Patrick Journet	ALS Bottle#:	4	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP10	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

64 1,2-Dichloropropane, CAS: 78-87-5

Signal: 1

Not Detected
Expected RT: 7.67

Processing Integration Results

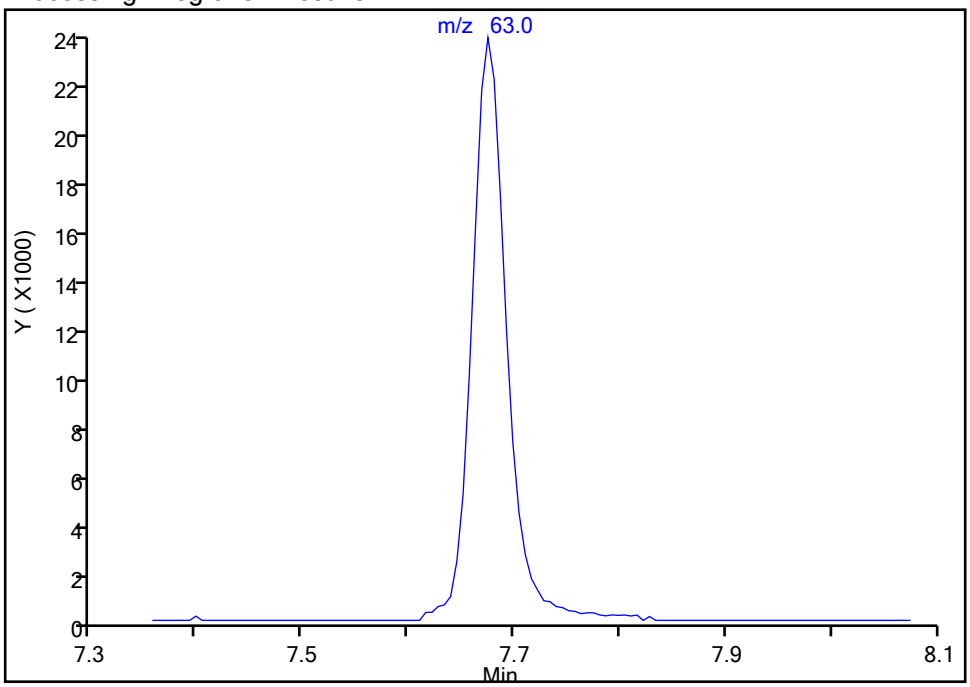

Manual Integration Results

RT: 7.67
Area: 55581
Amount: 23.868317
Amount Units: ng

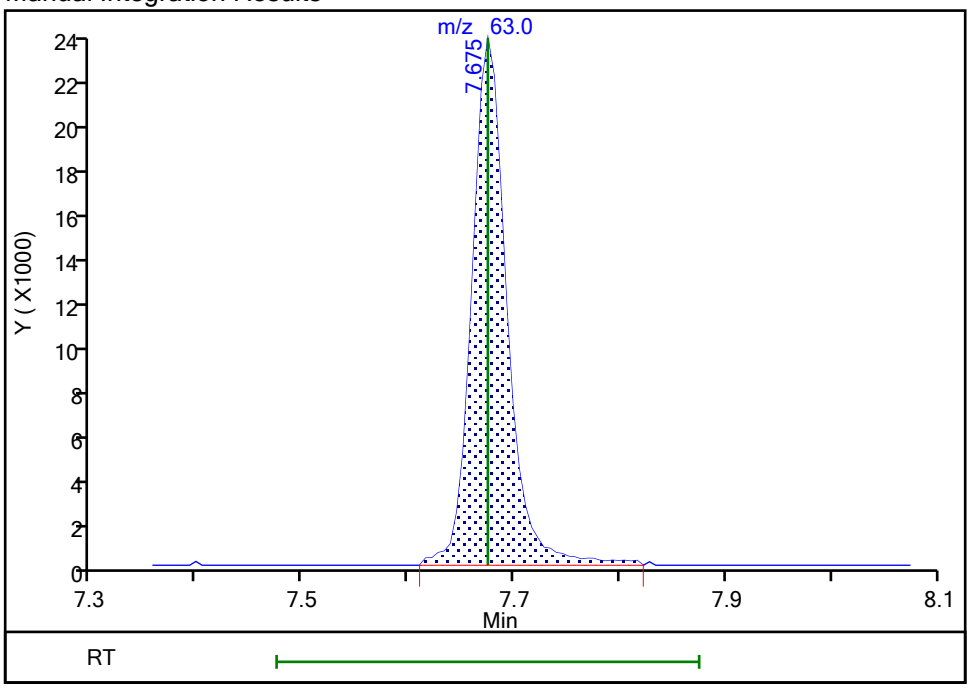

Reviewer: journetp, 17-Sep-2019 10:33:01
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091704.d				
Injection Date:	17-Sep-2019 10:04:30	Instrument ID:	CHHP10		
Lims ID:	IC				
Client ID:					
Operator ID:	Patrick Journet	ALS Bottle#:	4	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP10	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

67 1,4-Dioxane, CAS: 123-91-1

Signal: 1

Not Detected
Expected RT: 7.79

Processing Integration Results

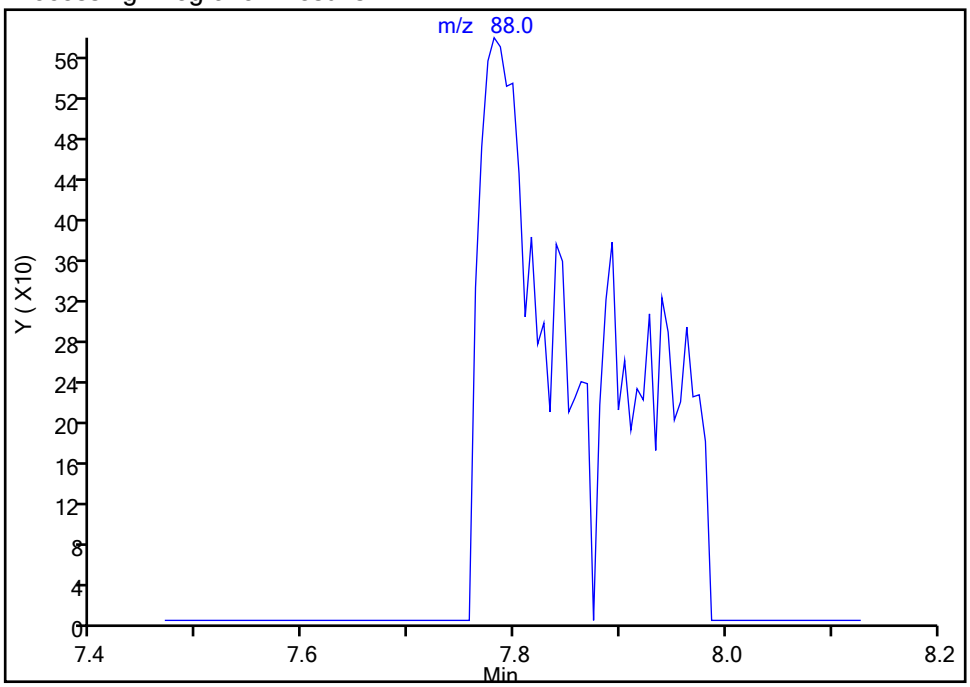

RT: 7.78
Area: 2495
Amount: 265.8021
Amount Units: ng

Manual Integration Results

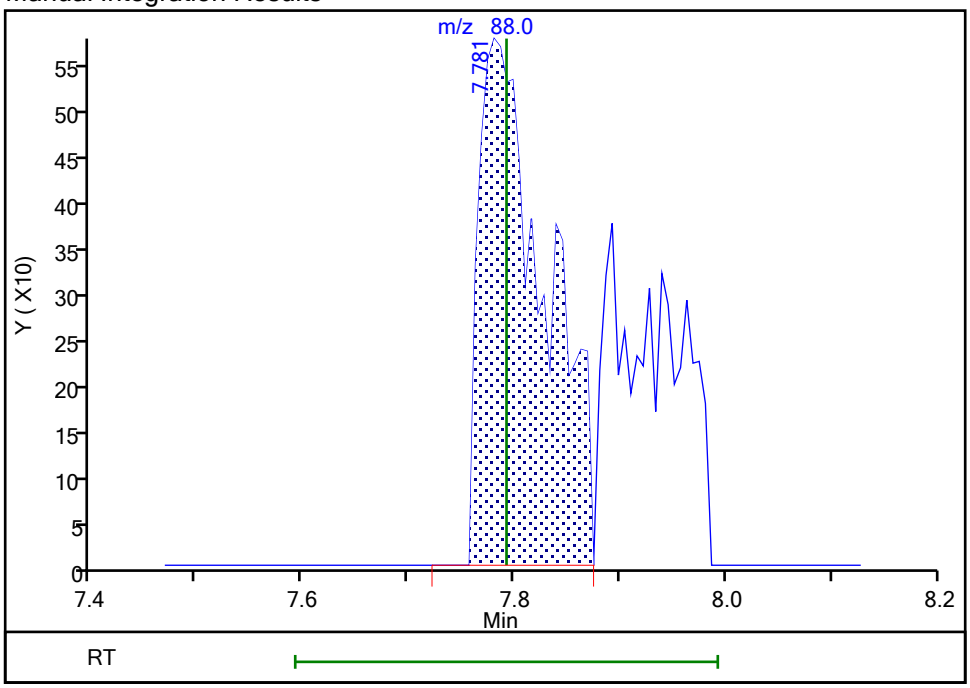

Reviewer: journetp, 17-Sep-2019 12:42:47
Audit Action: Manually Integrated Audit Reason: Poor chromatography

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091705.d
Lims ID: ICIS
Client ID:
Sample Type: ICIS Calib Level: 3
Inject. Date: 17-Sep-2019 10:29:30 ALS Bottle#: 5 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0028671-005
Operator ID: Patrick Journet Instrument ID: CHHP10
Sublist: chrom-MSVOA_CHHP10*sub20

Method: \\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\MSVOA_CHHP10.m
Limit Group: VOA 8260C_D ICAL
Last Update: 17-Sep-2019 14:12:06 Calib Date: 17-Sep-2019 12:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091710.d

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0337

First Level Reviewer: journetp Date: 17-Sep-2019 11:31:19

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	3.987	3.987	0.000	0	85800	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.010	7.010	0.000	99	449350	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.128	10.128	0.000	83	101018	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.474	12.474	0.000	93	170112	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.275	6.275	0.000	94	87646	50.0	47.9	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.651	6.651	0.000	0	72127	50.0	46.3	
$ 7 Toluene-d8 (Surr)	98	8.675	8.675	0.000	93	420680	50.0	48.1	
$ 8 4-Bromofluorobenzene (Surr	95	11.316	11.316	0.000	92	140154	50.0	48.6	
10 Dichlorodifluoromethane	85	1.505	1.505	0.000	99	170036	50.0	47.6	
11 Chloromethane	50	1.663	1.663	0.000	99	144297	50.0	45.4	
12 Vinyl chloride	62	1.793	1.793	0.000	98	150520	50.0	47.6	
13 Butadiene	39	1.810	1.810	0.000	93	114175	50.0	45.2	
14 Bromomethane	94	2.075	2.075	0.000	91	53058	50.0	46.0	
15 Chloroethane	64	2.187	2.187	0.000	100	51776	50.0	46.3	
17 Dichlorofluoromethane	67	2.457	2.457	0.000	97	126861	50.0	48.1	
16 Trichlorofluoromethane	101	2.493	2.493	0.000	98	138135	50.0	47.6	
18 Ethyl ether	59	2.810	2.810	0.000	95	57336	50.0	48.7	
20 1,1-Dichloroethene	96	3.069	3.069	0.000	98	99081	50.0	48.1	
21 1,1,2-Trichloro-1,2,2-trif	101	3.140	3.140	0.000	93	102504	50.0	47.9	
22 Acetone	43	3.175	3.175	0.000	99	52301	100.0	105.0	
23 Iodomethane	142	3.240	3.240	0.000	98	159553	50.0	48.3	
24 Carbon disulfide	76	3.316	3.316	0.000	99	318855	50.0	47.0	
26 3-Chloro-1-propene	76	3.587	3.587	0.000	91	59026	50.0	47.2	
28 Methyl acetate	43	3.622	3.622	0.000	99	71796	100.0	85.5	
29 Methylene Chloride	84	3.793	3.793	0.000	95	101200	50.0	46.5	
32 2-Methyl-2-propanol	59	4.128	4.128	0.000	99	49761	500.0	444.9	
31 Acrylonitrile	53	4.204	4.204	0.000	98	166088	500.0	436.8	
30 trans-1,2-Dichloroethene	96	4.216	4.216	0.000	99	113313	50.0	47.4	
33 Methyl tert-butyl ether	73	4.251	4.251	0.000	97	177091	50.0	44.9	
34 Hexane	57	4.663	4.663	0.000	95	197804	50.0	46.0	
36 1,1-Dichloroethane	63	4.875	4.875	0.000	96	185998	50.0	47.0	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
42 2,2-Dichloropropane	97	5.640	5.634	0.006	91	22479	50.0	46.9	
41 cis-1,2-Dichloroethene	96	5.657	5.657	0.000	82	118860	50.0	47.3	
43 2-Butanone (MEK)	43	5.681	5.681	0.000	100	65480	100.0	99.8	
46 Chlorobromomethane	128	5.945	5.945	0.000	94	48084	50.0	47.3	
48 Tetrahydrofuran	42	5.969	5.969	0.000	92	31982	100.0	86.7	
49 Chloroform	83	6.093	6.093	0.000	94	181828	50.0	45.4	
50 1,1,1-Trichloroethane	97	6.245	6.245	0.000	99	152279	50.0	47.2	
52 Cyclohexane	56	6.316	6.316	0.000	90	224939	50.0	47.0	
53 Carbon tetrachloride	117	6.416	6.416	0.000	97	147017	50.0	47.3	
54 1,1-Dichloropropene	75	6.440	6.440	0.000	95	167495	50.0	46.9	
55 Benzene	78	6.651	6.651	0.000	97	469526	50.0	46.9	
51 Isobutyl alcohol	41	6.698	6.698	0.000	94	46094	1250.0	1082.0	
56 1,2-Dichloroethane	62	6.740	6.740	0.000	97	99745	50.0	46.6	
59 n-Heptane	43	7.034	7.034	0.000	94	222865	50.0	46.9	
60 Trichloroethene	130	7.404	7.404	0.000	96	141090	50.0	48.1	
63 Methylcyclohexane	83	7.634	7.634	0.000	88	246480	50.0	47.6	
64 1,2-Dichloropropane	63	7.675	7.675	0.000	96	105861	50.0	46.7	a
65 Dibromomethane	93	7.769	7.769	0.000	93	41562	50.0	45.5	
67 1,4-Dioxane	88	7.781	7.781	0.000	28	9210	1000.0	1009.0	
68 Dichlorobromomethane	83	7.969	7.969	0.000	99	115516	50.0	45.9	
71 cis-1,3-Dichloropropene	75	8.416	8.416	0.000	96	139821	50.0	47.8	
72 4-Methyl-2-pentanone (MIBK	43	8.581	8.581	0.000	97	115227	100.0	94.1	
73 Toluene	91	8.739	8.739	0.000	98	540272	50.0	47.2	
74 trans-1,3-Dichloropropene	75	9.004	9.004	0.000	93	101716	50.0	47.2	
75 Ethyl methacrylate	69	9.069	9.069	0.000	91	84306	50.0	46.1	
76 1,1,2-Trichloroethane	97	9.192	9.192	0.000	91	66711	50.0	45.5	
77 Tetrachloroethene	164	9.251	9.251	0.000	97	111061	50.0	47.1	
78 1,3-Dichloropropane	76	9.351	9.351	0.000	91	111657	50.0	45.5	
79 2-Hexanone	43	9.422	9.422	0.000	98	96048	100.0	89.6	
81 Chlorodibromomethane	129	9.557	9.557	0.000	91	78087	50.0	45.9	
82 Ethylene Dibromide	107	9.669	9.669	0.000	99	57628	50.0	46.3	
83 Chlorobenzene	112	10.157	10.157	0.000	97	331777	50.0	46.7	
84 1,1,1,2-Tetrachloroethane	131	10.251	10.251	0.000	95	108732	50.0	46.5	
85 Ethylbenzene	106	10.263	10.263	0.000	98	194094	50.0	47.0	
86 m-Xylene & p-Xylene	106	10.392	10.392	0.000	0	242700	50.0	47.9	
88 o-Xylene	106	10.775	10.775	0.000	95	228397	50.0	47.5	
89 Styrene	104	10.798	10.798	0.000	95	358081	50.0	47.1	
90 Bromoform	173	10.975	10.975	0.000	97	39174	50.0	44.1	
91 Isopropylbenzene	105	11.139	11.139	0.000	95	625101	50.0	47.9	
94 Bromobenzene	156	11.451	11.451	0.000	91	124966	50.0	45.5	
93 1,1,2,2-Tetrachloroethane	83	11.457	11.457	0.000	94	72654	50.0	43.7	
95 1,2,3-Trichloropropane	110	11.510	11.510	0.000	85	21181	50.0	43.7	
96 trans-1,4-Dichloro-2-buten	53	11.504	11.504	0.000	78	14057	50.0	39.4	
97 N-Propylbenzene	120	11.557	11.557	0.000	99	182918	50.0	46.6	
98 2-Chlorotoluene	126	11.645	11.645	0.000	98	146924	50.0	46.7	
99 1,3,5-Trimethylbenzene	105	11.745	11.745	0.000	96	509536	50.0	46.4	
100 4-Chlorotoluene	126	11.769	11.769	0.000	97	152223	50.0	46.4	
101 tert-Butylbenzene	119	12.051	12.051	0.000	91	474073	50.0	47.2	
103 1,2,4-Trimethylbenzene	105	12.116	12.116	0.000	96	496553	50.0	46.4	
104 sec-Butylbenzene	105	12.274	12.274	0.000	93	697871	50.0	47.0	
105 1,3-Dichlorobenzene	146	12.392	12.392	0.000	98	262814	50.0	46.2	
106 4-Isopropyltoluene	119	12.433	12.433	0.000	97	612604	50.0	47.3	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
107 1,4-Dichlorobenzene	146	12.498	12.498	0.000	97	272025	50.0	46.0	
110 n-Butylbenzene	91	12.839	12.839	0.000	97	520639	50.0	47.3	
111 1,2-Dichlorobenzene	146	12.851	12.851	0.000	99	234322	50.0	45.6	
112 1,2-Dibromo-3-Chloropropan	157	13.639	13.639	0.000	87	10952	50.0	46.0	
114 1,2,4-Trichlorobenzene	180	14.457	14.457	0.000	94	133315	50.0	48.7	
115 Hexachlorobutadiene	225	14.604	14.604	0.000	97	92866	50.0	49.3	
116 Naphthalene	128	14.721	14.721	0.000	97	198653	50.0	43.6	
117 1,2,3-Trichlorobenzene	180	14.939	14.939	0.000	96	102305	50.0	48.4	
S 130 1,2-Dichloroethene, Total	96				0		100.0	94.7	
S 129 Xylenes, Total	106				0		100.0	95.4	
S 131 1,3-Dichloropropene, Total	1				0		100.0	95.0	
S 145 Total BTEX	1				0		250.0	236.5	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

VOA8260INT_00099	Amount Added:	2.00	Units: uL
VOA8260SURR_00099	Amount Added:	2.00	Units: uL
VOA8260VOAPRI_00372	Amount Added:	2.00	Units: uL
voaWKetmix1st_00018	Amount Added:	2.00	Units: uL

Report Date: 17-Sep-2019 14:12:09 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091705.d				
Injection Date:	17-Sep-2019 10:29:30	Instrument ID:	CHHP10	Operator ID:	Patrick Journet
Lims ID:	ICIS			Worklist Smp#:	5
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	MSVOA_CHHP10	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

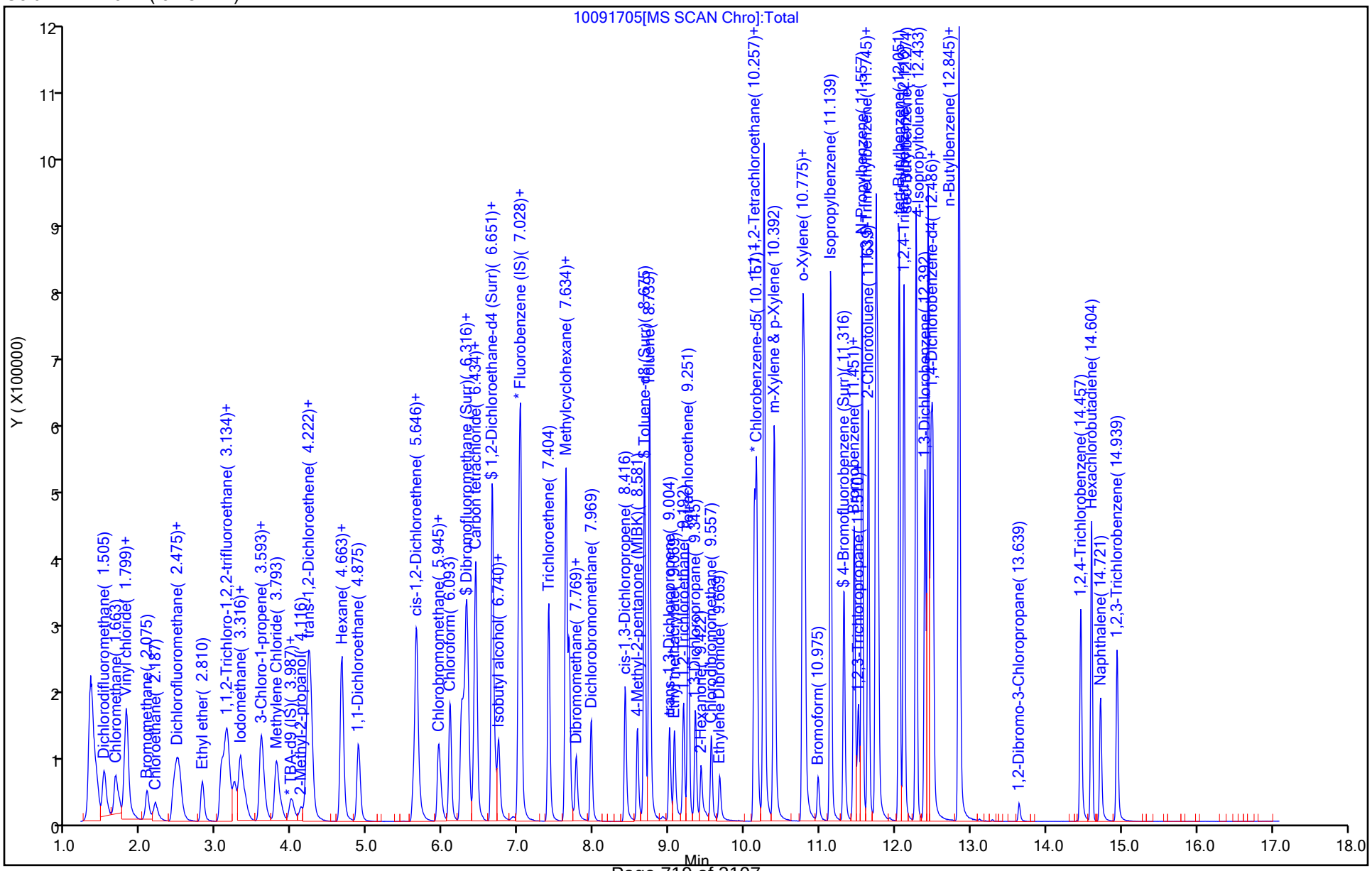

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091705.d				
Injection Date:	17-Sep-2019 10:29:30	Instrument ID:	CHHP10		
Lims ID:	ICIS				
Client ID:					
Operator ID:	Patrick Journet	ALS Bottle#:	5	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP10	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

64 1,2-Dichloropropane, CAS: 78-87-5

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 7.67

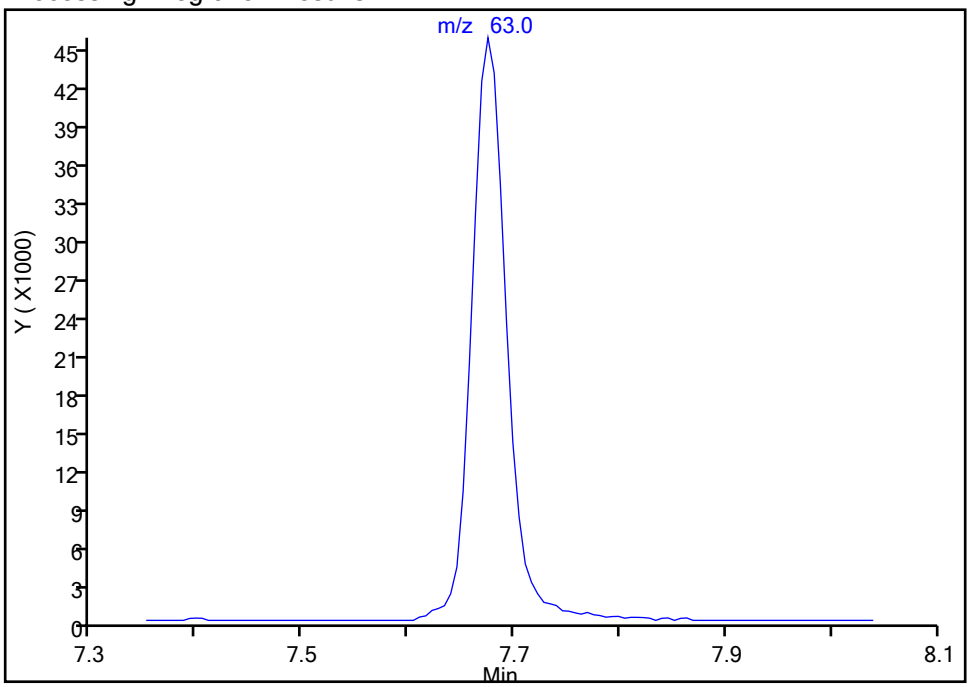

Manual Integration Results

RT: 7.67
Area: 105861
Amount: 46.748190
Amount Units: ng

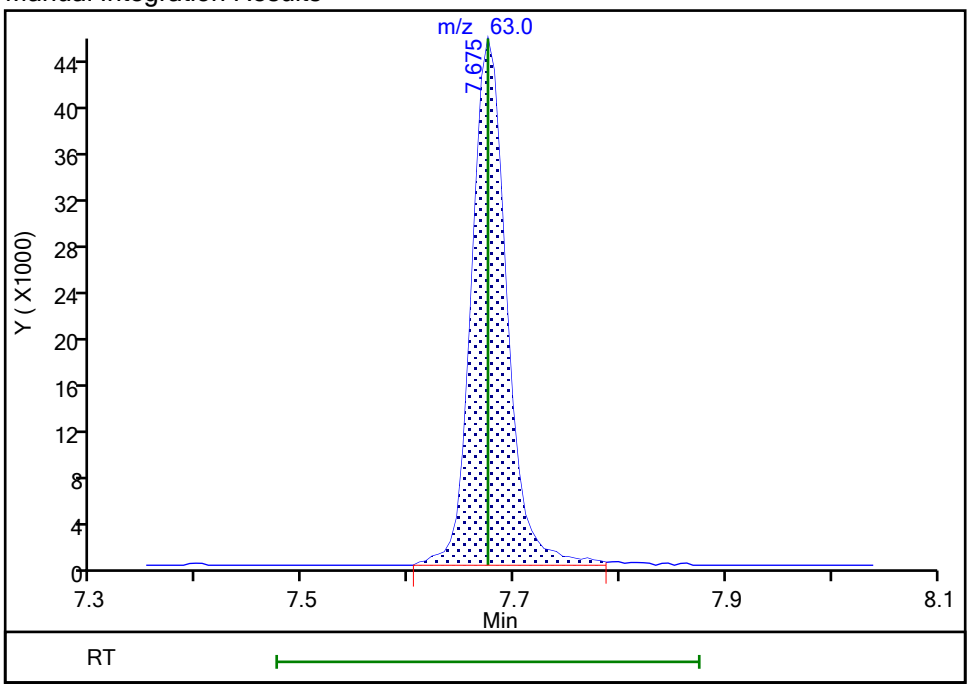

Reviewer: journetp, 17-Sep-2019 11:30:49
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091706.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 17-Sep-2019 10:54:30 ALS Bottle#: 6 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0028678-006
Operator ID: Patrick Journet Instrument ID: CHHP10
Sublist: chrom-MSVOA_CHHP10*sub20

Method: \\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\MSVOA_CHHP10.m
Limit Group: VOA 8260C_D ICAL
Last Update: 17-Sep-2019 14:12:11 Calib Date: 17-Sep-2019 12:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091710.d

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0337

First Level Reviewer: journetp Date: 17-Sep-2019 11:34:59

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.010	4.010	0.000	0	119487	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.010	7.010	0.000	99	463877	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.127	10.127	0.000	83	107066	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.474	12.474	0.000	93	179903	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.275	6.275	0.000	94	145327	75.0	77.0	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.651	6.651	0.000	0	126388	75.0	78.5	
$ 7 Toluene-d8 (Surr)	98	8.669	8.669	0.000	93	690928	75.0	74.5	
$ 8 4-Bromofluorobenzene (Surr	95	11.316	11.316	0.000	92	232469	75.0	76.0	
10 Dichlorodifluoromethane	85	1.504	1.504	0.000	99	281397	75.0	76.4	
11 Chloromethane	50	1.663	1.663	0.000	99	241030	75.0	73.5	
12 Vinyl chloride	62	1.787	1.787	0.000	98	245307	75.0	75.2	
13 Butadiene	39	1.804	1.804	0.000	91	200107	75.0	76.7	
14 Bromomethane	94	2.075	2.075	0.000	91	77305	75.0	64.9	
15 Chloroethane	64	2.181	2.181	0.000	100	62947	75.0	54.5	
17 Dichlorofluoromethane	67	2.451	2.451	0.000	97	190624	75.0	70.0	
16 Trichlorofluoromethane	101	2.475	2.475	0.000	98	213857	75.0	71.4	
18 Ethyl ether	59	2.804	2.804	0.000	95	94618	75.0	77.8	
20 1,1-Dichloroethene	96	3.051	3.051	0.000	96	157918	75.0	74.3	
21 1,1,2-Trichloro-1,2,2-trif	101	3.134	3.134	0.000	92	164371	75.0	74.4	
22 Acetone	43	3.181	3.181	0.000	99	102657	150.0	199.6	
23 Iodomethane	142	3.228	3.228	0.000	98	253118	75.0	74.2	
24 Carbon disulfide	76	3.310	3.310	0.000	100	524699	75.0	74.9	
26 3-Chloro-1-propene	76	3.587	3.587	0.000	92	98283	75.0	76.1	
28 Methyl acetate	43	3.622	3.622	0.000	99	140445	150.0	162.1	
29 Methylene Chloride	84	3.792	3.792	0.000	93	165352	75.0	77.0	
32 2-Methyl-2-propanol	59	4.145	4.145	0.000	97	107342	750.0	689.2	
31 Acrylonitrile	53	4.198	4.198	0.000	98	322241	750.0	821.0	
30 trans-1,2-Dichloroethene	96	4.216	4.216	0.000	98	182644	75.0	74.1	
33 Methyl tert-butyl ether	73	4.257	4.257	0.000	98	314988	75.0	77.4	
34 Hexane	57	4.651	4.651	0.000	93	326371	75.0	73.6	
36 1,1-Dichloroethane	63	4.875	4.875	0.000	96	302166	75.0	74.0	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
42 2,2-Dichloropropane	97	5.639	5.634	0.005	90	36447	75.0	73.7	
41 cis-1,2-Dichloroethene	96	5.645	5.645	0.000	81	194975	75.0	75.2	
43 2-Butanone (MEK)	43	5.686	5.686	0.000	100	129400	150.0	191.1	
46 Chlorobromomethane	128	5.939	5.939	0.000	95	81750	75.0	77.8	
48 Tetrahydrofuran	42	5.969	5.969	0.000	90	65443	150.0	171.9	
49 Chloroform	83	6.092	6.092	0.000	94	296015	75.0	71.6	
50 1,1,1-Trichloroethane	97	6.245	6.245	0.000	99	248105	75.0	74.6	
52 Cyclohexane	56	6.310	6.310	0.000	90	368659	75.0	74.7	
53 Carbon tetrachloride	117	6.416	6.416	0.000	97	240055	75.0	74.8	
54 1,1-Dichloropropene	75	6.439	6.439	0.000	96	276757	75.0	75.1	
55 Benzene	78	6.651	6.651	0.000	97	763438	75.0	73.9	
51 Isobutyl alcohol	41	6.698	6.698	0.000	94	97709	1875.0	2221.8	
56 1,2-Dichloroethane	62	6.739	6.739	0.000	97	172726	75.0	78.2	
59 n-Heptane	43	7.028	7.028	0.000	94	366447	75.0	74.7	
60 Trichloroethene	130	7.398	7.398	0.000	96	228960	75.0	75.6	
63 Methylcyclohexane	83	7.633	7.633	0.000	88	401878	75.0	75.2	
64 1,2-Dichloropropane	63	7.675	7.675	0.000	93	175174	75.0	74.9	a
65 Dibromomethane	93	7.769	7.769	0.000	95	74598	75.0	79.1	
67 1,4-Dioxane	88	7.780	7.780	0.000	93	19404	1500.0	2059.2	
68 Dichlorobromomethane	83	7.963	7.963	0.000	99	199101	75.0	76.6	
71 cis-1,3-Dichloropropene	75	8.416	8.416	0.000	96	245687	75.0	81.4	
72 4-Methyl-2-pentanone (MIBK	43	8.580	8.580	0.000	97	227551	150.0	175.3	
73 Toluene	91	8.739	8.739	0.000	98	873858	75.0	72.0	
74 trans-1,3-Dichloropropene	75	9.004	9.004	0.000	93	192882	75.0	84.4	
75 Ethyl methacrylate	69	9.069	9.069	0.000	91	160992	75.0	83.1	
76 1,1,2-Trichloroethane	97	9.192	9.192	0.000	90	119678	75.0	77.0	
77 Tetrachloroethene	164	9.251	9.251	0.000	97	183670	75.0	73.5	
78 1,3-Dichloropropane	76	9.345	9.345	0.000	91	202537	75.0	77.8	
79 2-Hexanone	43	9.422	9.422	0.000	97	195230	150.0	163.6	
81 Chlorodibromomethane	129	9.557	9.557	0.000	90	138911	75.0	77.1	
82 Ethylene Dibromide	107	9.669	9.669	0.000	98	108007	75.0	81.9	
83 Chlorobenzene	112	10.157	10.157	0.000	97	543986	75.0	72.3	
84 1,1,1,2-Tetrachloroethane	131	10.251	10.251	0.000	96	182275	75.0	73.6	
85 Ethylbenzene	106	10.263	10.263	0.000	98	319050	75.0	72.9	
86 m-Xylene & p-Xylene	106	10.392	10.392	0.000	0	387191	75.0	72.1	
88 o-Xylene	106	10.774	10.774	0.000	95	374920	75.0	73.5	
89 Styrene	104	10.798	10.798	0.000	95	599774	75.0	74.4	
90 Bromoform	173	10.974	10.974	0.000	98	75368	75.0	80.1	
91 Isopropylbenzene	105	11.139	11.139	0.000	95	1001787	75.0	72.5	
94 Bromobenzene	156	11.451	11.451	0.000	91	208918	75.0	72.0	
93 1,1,2,2-Tetrachloroethane	83	11.463	11.463	0.000	95	134887	75.0	76.5	
95 1,2,3-Trichloropropane	110	11.510	11.510	0.000	84	39066	75.0	76.1	
96 trans-1,4-Dichloro-2-buten	53	11.504	11.504	0.000	81	29993	75.0	79.5	
97 N-Propylbenzene	120	11.557	11.557	0.000	98	298689	75.0	71.9	
98 2-Chlorotoluene	126	11.645	11.645	0.000	98	235302	75.0	70.7	
99 1,3,5-Trimethylbenzene	105	11.745	11.745	0.000	96	820821	75.0	70.7	
100 4-Chlorotoluene	126	11.768	11.768	0.000	98	245893	75.0	70.8	
101 tert-Butylbenzene	119	12.051	12.051	0.000	91	749790	75.0	70.6	
103 1,2,4-Trimethylbenzene	105	12.115	12.115	0.000	96	802759	75.0	70.9	
104 sec-Butylbenzene	105	12.274	12.274	0.000	93	1104263	75.0	70.3	
105 1,3-Dichlorobenzene	146	12.392	12.392	0.000	98	432180	75.0	71.8	
106 4-Isopropyltoluene	119	12.433	12.433	0.000	97	979141	75.0	71.6	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
107 1,4-Dichlorobenzene	146	12.498	12.498	0.000	95	450262	75.0	72.0	
110 n-Butylbenzene	91	12.839	12.839	0.000	97	832852	75.0	71.6	
111 1,2-Dichlorobenzene	146	12.851	12.851	0.000	99	393668	75.0	72.5	
112 1,2-Dibromo-3-Chloropropan	157	13.639	13.639	0.000	88	22077	75.0	87.6	
114 1,2,4-Trichlorobenzene	180	14.456	14.456	0.000	94	228845	75.0	79.1	
115 Hexachlorobutadiene	225	14.604	14.604	0.000	98	146842	75.0	73.6	
116 Naphthalene	128	14.721	14.721	0.000	97	370226	75.0	76.9	
117 1,2,3-Trichlorobenzene	180	14.939	14.939	0.000	95	173341	75.0	79.2	
S 130 1,2-Dichloroethene, Total	96				0		150.0	149.2	
S 129 Xylenes, Total	106				0		150.0	145.7	
S 131 1,3-Dichloropropene, Total	1				0		150.0	165.8	
S 145 Total BTEX	1				0		375.0	364.4	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

VOA8260INT_00099	Amount Added:	2.00	Units: uL
VOA8260SURR_00099	Amount Added:	3.00	Units: uL
VOA8260VOAPRI_00372	Amount Added:	3.00	Units: uL
voaWKetmix1st_00018	Amount Added:	3.00	Units: uL

Report Date: 17-Sep-2019 14:12:14 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091706.d				
Injection Date:	17-Sep-2019 10:54:30	Instrument ID:	CHHP10	Operator ID:	Patrick Journet
Lims ID:	IC			Worklist Smp#:	6
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	MSVOA_CHHP10	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

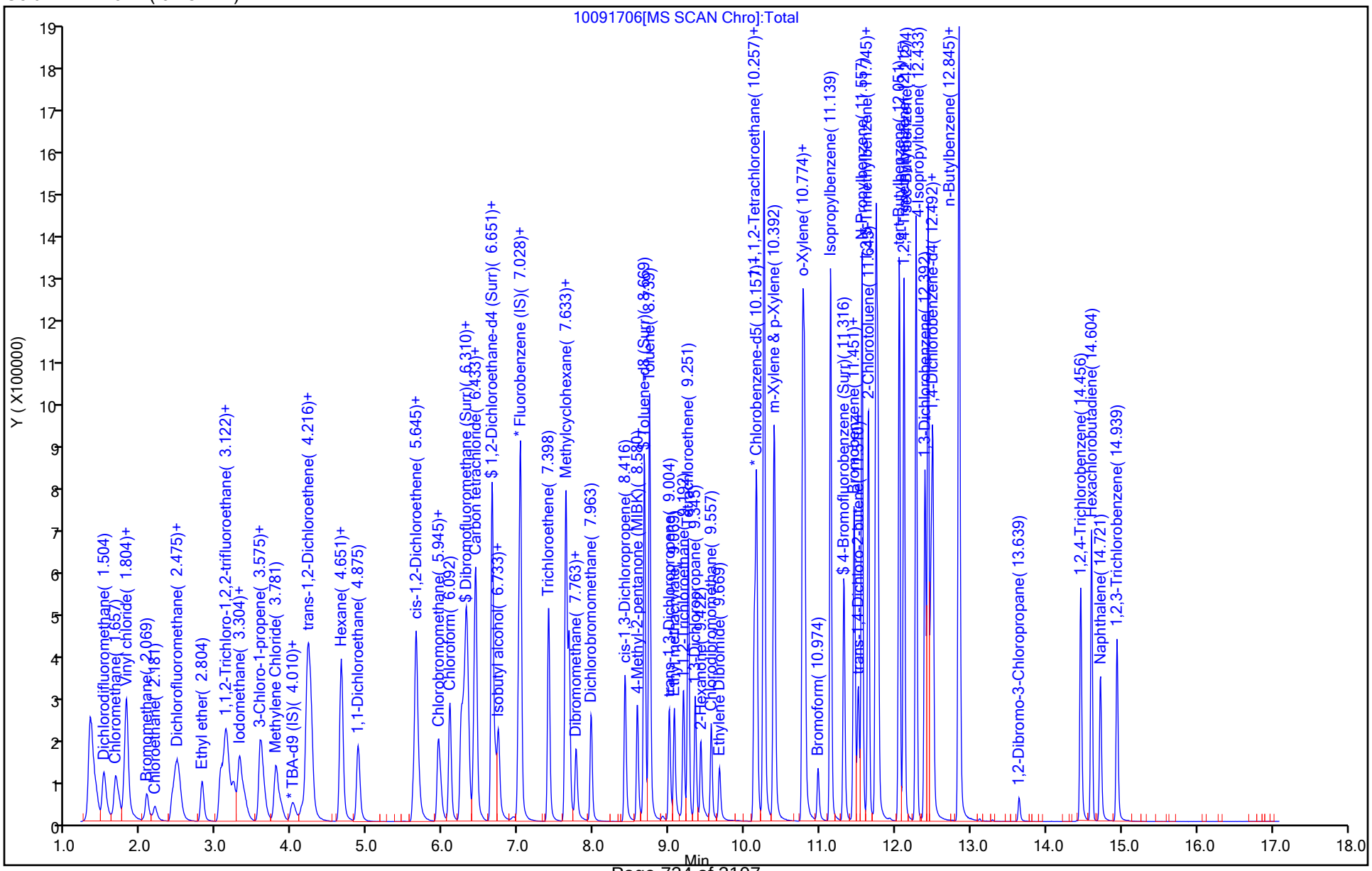

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091706.d				
Injection Date:	17-Sep-2019 10:54:30	Instrument ID:	CHHP10		
Lims ID:	IC				
Client ID:					
Operator ID:	Patrick Journet	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP10	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

64 1,2-Dichloropropane, CAS: 78-87-5

Signal: 1

Not Detected
Expected RT: 7.67

Processing Integration Results

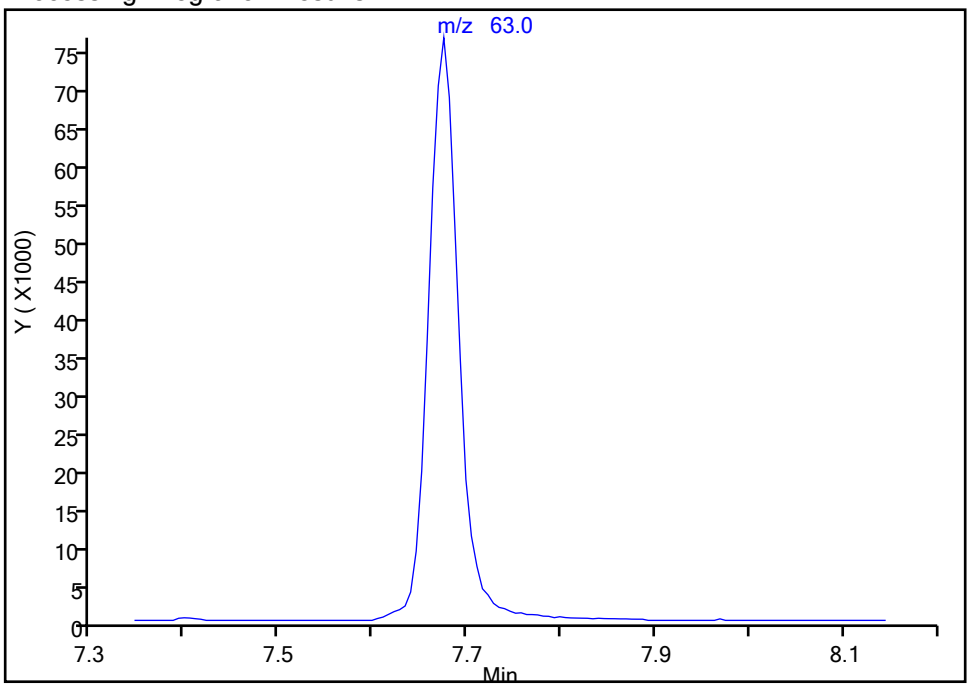

Manual Integration Results

RT: 7.67
Area: 175174
Amount: 74.934249
Amount Units: ng

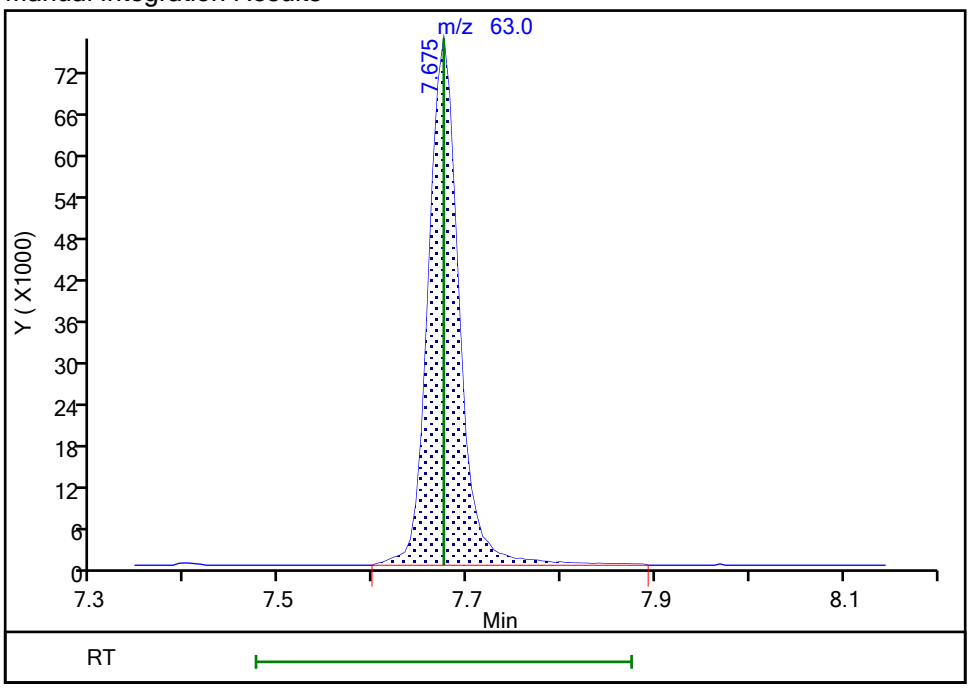

Reviewer: journetp, 17-Sep-2019 11:31:57
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091707.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 17-Sep-2019 11:19:30 ALS Bottle#: 7 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0028678-007
Operator ID: Patrick Journet Instrument ID: CHHP10
Sublist: chrom-MSVOA_CHHP10*sub20

Method: \\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\MSVOA_CHHP10.m
Limit Group: VOA 8260C_D ICAL
Last Update: 17-Sep-2019 14:12:17 Calib Date: 17-Sep-2019 12:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091710.d

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0337

First Level Reviewer: journetp Date: 17-Sep-2019 12:34:45

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	3.998	4.010	-0.012	0	93139	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.010	7.010	0.000	99	464030	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.133	10.127	0.006	83	102243	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.474	12.474	0.000	92	165327	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.275	6.275	0.000	94	176872	100.0	93.7	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.651	6.651	0.000	0	149663	100.0	93.0	
$ 7 Toluene-d8 (Surr)	98	8.674	8.669	0.005	93	827536	100.0	93.4	
$ 8 4-Bromofluorobenzene (Surr	95	11.315	11.316	-0.001	92	272233	100.0	93.2	
10 Dichlorodifluoromethane	85	1.504	1.504	0.000	99	367538	100.0	99.7	
11 Chloromethane	50	1.663	1.663	0.000	99	327243	100.0	99.8	
12 Vinyl chloride	62	1.787	1.787	0.000	98	326052	100.0	99.9	
13 Butadiene	39	1.804	1.804	0.000	92	264114	100.0	101.2	
14 Bromomethane	94	2.069	2.075	-0.006	90	103019	100.0	86.5	M
15 Chloroethane	64	2.181	2.181	0.000	100	93417	100.0	80.8	
17 Dichlorofluoromethane	67	2.457	2.451	0.006	96	268908	100.0	98.7	
16 Trichlorofluoromethane	101	2.481	2.475	0.006	98	295063	100.0	98.4	
18 Ethyl ether	59	2.810	2.804	0.006	98	122391	100.0	100.7	
20 1,1-Dichloroethene	96	3.069	3.051	0.018	97	212014	100.0	99.7	
21 1,1,2-Trichloro-1,2,2-trif	101	3.134	3.134	0.000	93	217118	100.0	98.2	
22 Acetone	43	3.181	3.181	0.000	98	118916	200.0	231.2	
23 Iodomethane	142	3.240	3.228	0.012	97	338104	100.0	99.1	
24 Carbon disulfide	76	3.310	3.310	0.000	99	708280	100.0	101.1	
26 3-Chloro-1-propene	76	3.587	3.587	0.000	91	129324	100.0	100.0	
28 Methyl acetate	43	3.622	3.622	0.000	98	170162	200.0	196.3	
29 Methylene Chloride	84	3.787	3.792	-0.005	95	214010	100.0	101.4	
32 2-Methyl-2-propanol	59	4.122	4.145	-0.023	94	128384	1000.0	1057.5	
31 Acrylonitrile	53	4.192	4.198	-0.006	98	393617	1000.0	1002.5	
30 trans-1,2-Dichloroethene	96	4.216	4.216	0.000	99	240874	100.0	97.7	
33 Methyl tert-butyl ether	73	4.245	4.257	-0.012	95	406653	100.0	99.9	
34 Hexane	57	4.657	4.651	0.006	95	420264	100.0	94.7	
36 1,1-Dichloroethane	63	4.875	4.875	0.000	96	404794	100.0	99.1	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
42 2,2-Dichloropropane	97	5.639	5.634	0.005	91	51776	100.0	104.7	
41 cis-1,2-Dichloroethene	96	5.651	5.645	0.006	81	257870	100.0	99.4	
43 2-Butanone (MEK)	43	5.681	5.686	-0.005	100	148870	200.0	219.7	
46 Chlorobromomethane	128	5.939	5.939	0.000	95	106145	100.0	101.0	
48 Tetrahydrofuran	42	5.969	5.969	0.000	89	80482	200.0	211.3	
49 Chloroform	83	6.092	6.092	0.000	94	391884	100.0	94.8	
50 1,1,1-Trichloroethane	97	6.245	6.245	0.000	98	333951	100.0	100.3	
52 Cyclohexane	56	6.316	6.310	0.006	92	485943	100.0	98.4	
53 Carbon tetrachloride	117	6.416	6.416	0.000	97	325294	100.0	101.4	
54 1,1-Dichloropropene	75	6.439	6.439	0.000	96	362095	100.0	98.3	
55 Benzene	78	6.651	6.651	0.000	97	1009540	100.0	97.6	
51 Isobutyl alcohol	41	6.692	6.698	-0.006	95	118530	2500.0	2694.3	
56 1,2-Dichloroethane	62	6.733	6.739	-0.006	97	220276	100.0	99.7	
59 n-Heptane	43	7.033	7.028	0.005	94	477993	100.0	97.4	
60 Trichloroethene	130	7.404	7.398	0.006	96	302608	100.0	99.8	
63 Methylcyclohexane	83	7.633	7.633	0.000	89	532412	100.0	99.6	
64 1,2-Dichloropropane	63	7.675	7.675	0.000	96	233887	100.0	100.0	a
65 Dibromomethane	93	7.763	7.769	-0.006	95	94878	100.0	100.6	
67 1,4-Dioxane	88	7.780	7.780	0.000	92	24434	2000.0	2592.1	
68 Dichlorobromomethane	83	7.963	7.963	0.000	99	267673	100.0	102.9	
71 cis-1,3-Dichloropropene	75	8.416	8.416	0.000	96	329464	100.0	109.1	
72 4-Methyl-2-pentanone (MIBK	43	8.574	8.580	-0.006	97	272039	200.0	219.4	
73 Toluene	91	8.739	8.739	0.000	98	1163760	100.0	100.4	
74 trans-1,3-Dichloropropene	75	9.004	9.004	0.000	93	255101	100.0	116.9	
75 Ethyl methacrylate	69	9.069	9.069	0.000	91	209850	100.0	113.4	
76 1,1,2-Trichloroethane	97	9.192	9.192	0.000	90	153263	100.0	103.3	
77 Tetrachloroethene	164	9.251	9.251	0.000	97	239477	100.0	100.4	
78 1,3-Dichloropropane	76	9.345	9.345	0.000	93	257473	100.0	103.6	
79 2-Hexanone	43	9.422	9.422	0.000	97	221922	200.0	196.3	
81 Chlorodibromomethane	129	9.557	9.557	0.000	90	184091	100.0	106.9	
82 Ethylene Dibromide	107	9.669	9.669	0.000	99	135763	100.0	107.8	
83 Chlorobenzene	112	10.157	10.157	0.000	97	723507	100.0	100.7	
84 1,1,1,2-Tetrachloroethane	131	10.251	10.251	0.000	97	245148	100.0	103.6	
85 Ethylbenzene	106	10.263	10.263	0.000	98	423913	100.0	101.5	
86 m-Xylene & p-Xylene	106	10.392	10.392	0.000	0	518964	100.0	101.2	
88 o-Xylene	106	10.774	10.774	0.000	95	498324	100.0	102.3	
89 Styrene	104	10.798	10.798	0.000	95	793633	100.0	103.1	
90 Bromoform	173	10.974	10.974	0.000	98	97196	100.0	108.2	
91 Isopropylbenzene	105	11.139	11.139	0.000	95	1340411	100.0	101.6	
94 Bromobenzene	156	11.451	11.451	0.000	90	276156	100.0	103.6	
93 1,1,2,2-Tetrachloroethane	83	11.457	11.463	-0.006	95	171689	100.0	102.0	
96 trans-1,4-Dichloro-2-buten	53	11.504	11.504	0.000	86	38459	100.0	111.0	
95 1,2,3-Trichloropropane	110	11.510	11.510	0.000	84	50425	100.0	106.9	
97 N-Propylbenzene	120	11.557	11.557	0.000	98	388809	100.0	101.9	
98 2-Chlorotoluene	126	11.645	11.645	0.000	98	312157	100.0	102.1	
99 1,3,5-Trimethylbenzene	105	11.745	11.745	0.000	96	1091364	100.0	102.3	
100 4-Chlorotoluene	126	11.768	11.768	0.000	97	322841	100.0	101.2	
101 tert-Butylbenzene	119	12.051	12.051	0.000	91	1006686	100.0	103.1	
103 1,2,4-Trimethylbenzene	105	12.115	12.115	0.000	96	1066839	100.0	102.5	
104 sec-Butylbenzene	105	12.274	12.274	0.000	93	1478230	100.0	102.4	
105 1,3-Dichlorobenzene	146	12.392	12.392	0.000	98	571403	100.0	103.3	
106 4-Isopropyltoluene	119	12.433	12.433	0.000	97	1290811	100.0	102.6	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
107 1,4-Dichlorobenzene	146	12.498	12.498	0.000	96	576388	100.0	100.3	
110 n-Butylbenzene	91	12.839	12.839	0.000	97	1109125	100.0	103.7	
111 1,2-Dichlorobenzene	146	12.851	12.851	0.000	98	512869	100.0	102.8	
112 1,2-Dibromo-3-Chloropropan	157	13.639	13.639	0.000	88	26787	100.0	115.7	
114 1,2,4-Trichlorobenzene	180	14.456	14.456	0.000	94	272926	100.0	102.6	
115 Hexachlorobutadiene	225	14.604	14.604	0.000	97	188970	100.0	103.1	
116 Naphthalene	128	14.721	14.721	0.000	96	422590	100.0	95.5	
117 1,2,3-Trichlorobenzene	180	14.939	14.939	0.000	96	202486	100.0	101.4	
S 130 1,2-Dichloroethene, Total	96				0		200.0	197.0	
S 129 Xylenes, Total	106				0		200.0	203.6	
S 131 1,3-Dichloropropene, Total	1				0		200.0	226.0	
S 145 Total BTEX	1				0		500.0	503.1	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

VOA8260INT_00099	Amount Added:	2.00	Units: uL
VOA8260SURR_00099	Amount Added:	4.00	Units: uL
VOA8260VOAPRI_00372	Amount Added:	4.00	Units: uL
voaWKetmix1st_00018	Amount Added:	4.00	Units: uL

Report Date: 17-Sep-2019 14:12:20 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091707.d				
Injection Date:	17-Sep-2019 11:19:30	Instrument ID:	CHHP10	Operator ID:	Patrick Journet
Lims ID:	IC			Worklist Smp#:	7
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	MSVOA_CHHP10	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

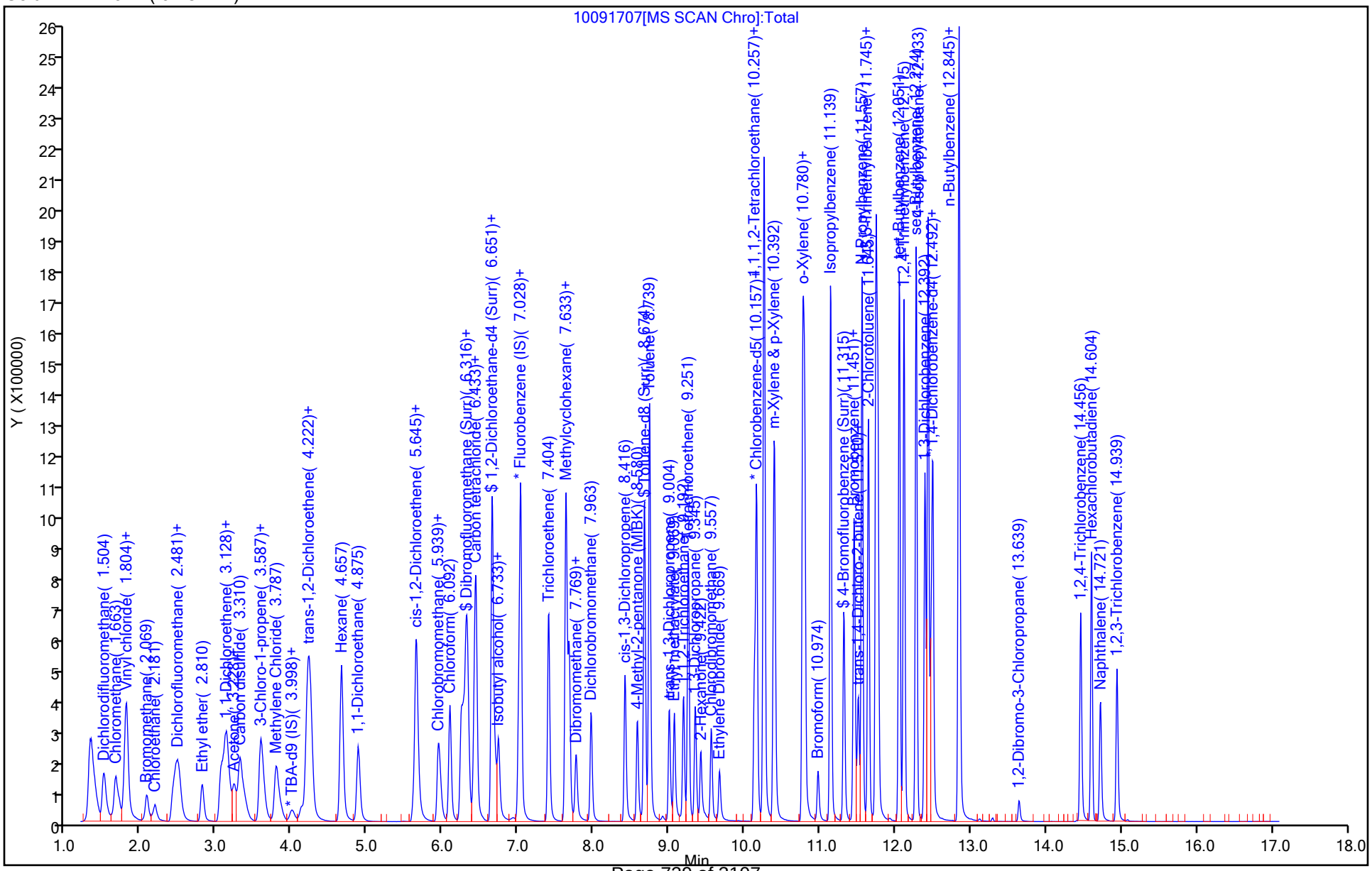

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091707.d				
Injection Date:	17-Sep-2019 11:19:30	Instrument ID:	CHHP10		
Lims ID:	IC				
Client ID:					
Operator ID:	Patrick Journet	ALS Bottle#:	7	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP10	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

14 Bromomethane, CAS: 74-83-9

Signal: 1

Processing Integration Results

RT: 2.07
Area: 101080
Amount: 91.187773
Amount Units: ng

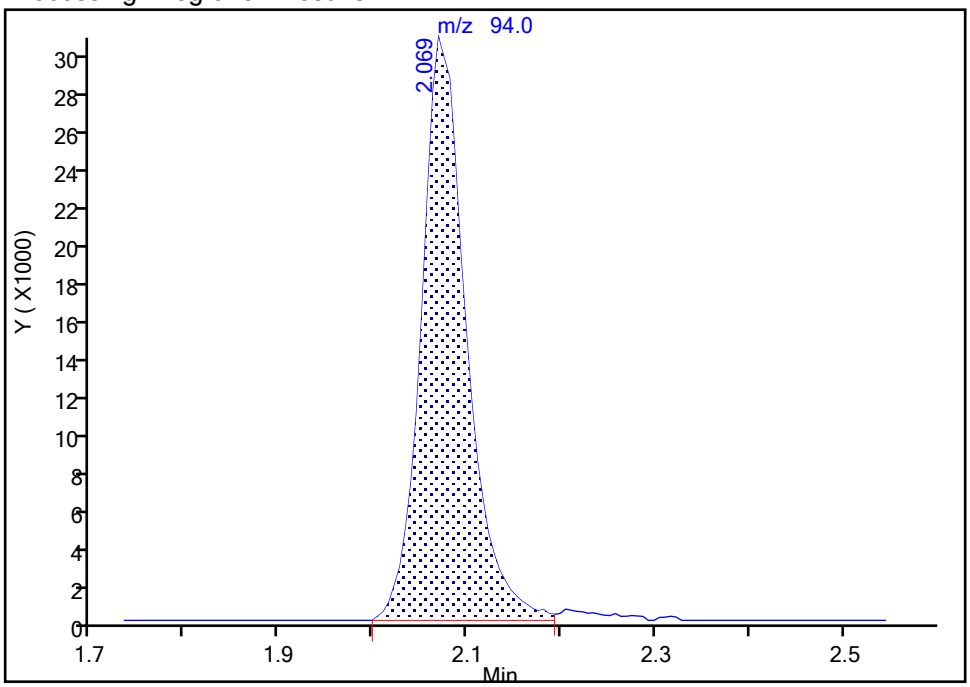

Manual Integration Results

RT: 2.07
Area: 103019
Amount: 86.486582
Amount Units: ng

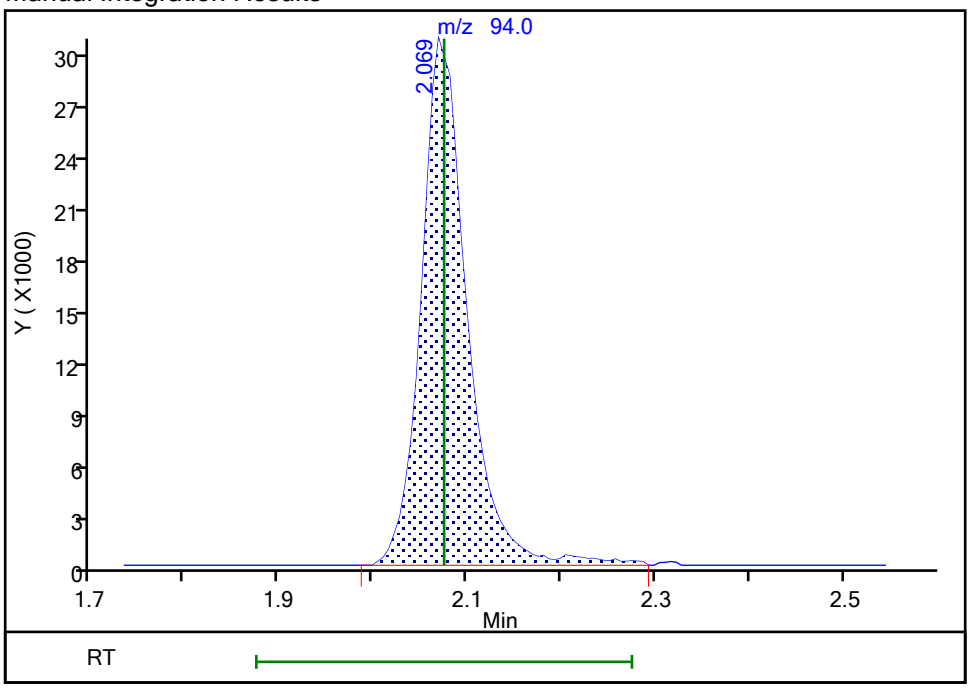

Reviewer: journetp, 17-Sep-2019 13:06:39
Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091707.d				
Injection Date:	17-Sep-2019 11:19:30	Instrument ID:	CHHP10		
Lims ID:	IC				
Client ID:					
Operator ID:	Patrick Journet	ALS Bottle#:	7	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP10	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

64 1,2-Dichloropropane, CAS: 78-87-5

Signal: 1

Not Detected
Expected RT: 7.67

Processing Integration Results

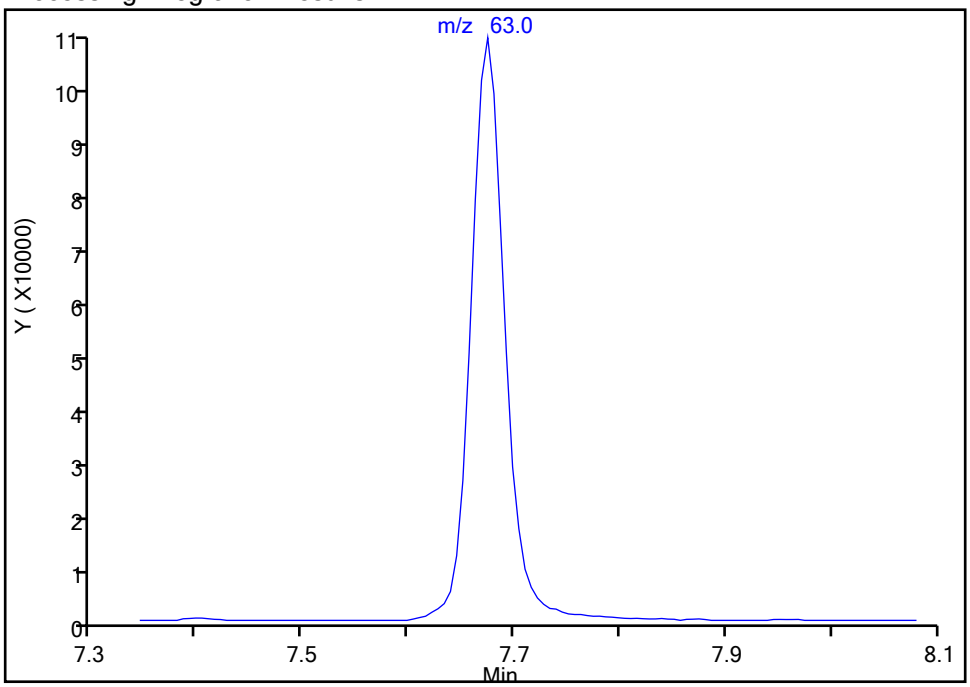

RT: 7.67
Area: 233887
Amount: 100.0169
Amount Units: ng

Manual Integration Results

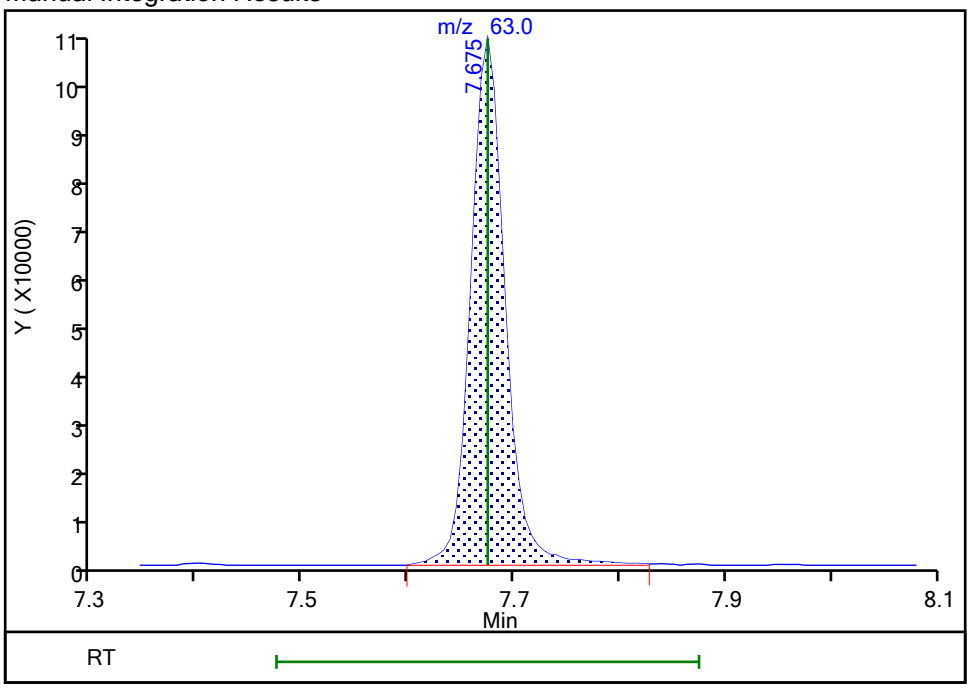

Reviewer: journetp, 17-Sep-2019 12:34:25
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091708.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 17-Sep-2019 11:44:30 ALS Bottle#: 8 Worklist Smp#: 8
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0028678-008
Operator ID: Patrick Journet Instrument ID: CHHP10
Sublist: chrom-MSVOA_CHHP10*sub20

Method: \\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\MSVOA_CHHP10.m
Limit Group: VOA 8260C_D ICAL
Last Update: 17-Sep-2019 14:12:22 Calib Date: 17-Sep-2019 12:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091710.d

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0337

First Level Reviewer: journetp Date: 17-Sep-2019 14:11:26

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	3.999	4.010	-0.011	0	85967	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.010	7.010	0.000	99	492680	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.133	10.127	0.006	86	108124	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.474	12.474	0.000	92	166119	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.281	6.275	0.006	94	350534	175.0	174.8	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.651	6.651	0.000	0	296143	175.0	173.3	
$ 7 Toluene-d8 (Surr)	98	8.675	8.669	0.006	93	1647022	175.0	175.9	
$ 8 4-Bromofluorobenzene (Surr	95	11.316	11.316	0.000	92	528489	175.0	171.0	
10 Dichlorodifluoromethane	85	1.510	1.504	0.006	99	646472	175.0	165.2	
11 Chloromethane	50	1.663	1.663	0.000	99	587911	175.0	168.8	
12 Vinyl chloride	62	1.793	1.787	0.006	98	580235	175.0	167.4	
13 Butadiene	39	1.810	1.804	0.006	91	506312	175.0	182.7	
14 Bromomethane	94	2.075	2.075	0.000	90	170309	175.0	134.7	
15 Chloroethane	64	2.187	2.181	0.006	99	220657	175.0	179.8	
17 Dichlorofluoromethane	67	2.463	2.451	0.012	96	510402	175.0	176.5	
16 Trichlorofluoromethane	101	2.499	2.475	0.024	98	550414	175.0	172.9	
18 Ethyl ether	59	2.805	2.804	0.001	93	201441	175.0	156.0	
20 1,1-Dichloroethene	96	3.069	3.051	0.018	97	373897	175.0	165.6	
21 1,1,2-Trichloro-1,2,2-trif	101	3.140	3.134	0.006	92	386206	175.0	164.5	
22 Acetone	43	3.181	3.181	0.000	97	183284	350.0	335.6	
23 Iodomethane	142	3.240	3.228	0.012	98	600382	175.0	165.7	
24 Carbon disulfide	76	3.316	3.310	0.006	99	1297440	175.0	174.4	
26 3-Chloro-1-propene	76	3.593	3.587	0.006	91	239065	175.0	174.2	
28 Methyl acetate	43	3.622	3.622	0.000	92	297188	350.0	323.0	
29 Methylene Chloride	84	3.793	3.792	0.001	94	374674	175.0	170.9	
32 2-Methyl-2-propanol	59	4.122	4.145	-0.023	96	196114	1750.0	1750.1	
31 Acrylonitrile	53	4.204	4.198	0.006	98	681346	1750.0	1634.4	
30 trans-1,2-Dichloroethene	96	4.222	4.216	0.006	99	440665	175.0	168.3	
33 Methyl tert-butyl ether	73	4.251	4.257	-0.006	96	722713	175.0	167.3	
34 Hexane	57	4.663	4.651	0.012	93	775312	175.0	164.6	
36 1,1-Dichloroethane	63	4.881	4.875	0.006	96	731144	175.0	168.5	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
42 2,2-Dichloropropane	97	5.646	5.634	0.012	91	93037	175.0	177.2	
41 cis-1,2-Dichloroethene	96	5.651	5.645	0.006	81	463068	175.0	168.0	
43 2-Butanone (MEK)	43	5.681	5.686	-0.005	100	242875	350.0	337.6	
46 Chlorobromomethane	128	5.945	5.939	0.006	96	186604	175.0	167.3	
48 Tetrahydrofuran	42	5.969	5.969	0.000	90	138551	350.0	342.6	
49 Chloroform	83	6.093	6.092	0.001	93	702802	175.0	160.1	
50 1,1,1-Trichloroethane	97	6.251	6.245	0.006	98	614072	175.0	173.7	
52 Cyclohexane	56	6.322	6.310	0.012	90	888483	175.0	169.5	
53 Carbon tetrachloride	117	6.422	6.416	0.006	97	591741	175.0	173.7	
54 1,1-Dichloropropene	75	6.440	6.439	0.001	96	665543	175.0	170.1	
55 Benzene	78	6.657	6.651	0.006	97	1849182	175.0	168.5	
51 Isobutyl alcohol	41	6.698	6.698	0.000	97	180715	4375.0	3869.0	
56 1,2-Dichloroethane	62	6.740	6.739	0.001	97	388094	175.0	165.4	
59 n-Heptane	43	7.034	7.028	0.006	94	876835	175.0	168.2	
60 Trichloroethene	130	7.404	7.398	0.006	96	541447	175.0	168.3	
63 Methylcyclohexane	83	7.634	7.633	0.001	88	964585	175.0	169.9	
64 1,2-Dichloropropane	63	7.675	7.675	0.000	96	419136	175.0	168.8	a
65 Dibromomethane	93	7.763	7.769	-0.006	95	166763	175.0	166.6	
67 1,4-Dioxane	88	7.775	7.780	-0.005	93	37418	3500.0	3738.7	M
68 Dichlorobromomethane	83	7.963	7.963	0.000	99	477153	175.0	172.8	
71 cis-1,3-Dichloropropene	75	8.416	8.416	0.000	96	592684	175.0	184.8	
72 4-Methyl-2-pentanone (MIBK	43	8.581	8.580	0.001	97	476574	350.0	363.5	
73 Toluene	91	8.739	8.739	0.000	98	2100780	175.0	171.4	
74 trans-1,3-Dichloropropene	75	8.998	9.004	-0.006	93	456905	175.0	198.0	
75 Ethyl methacrylate	69	9.069	9.069	0.000	90	365493	175.0	186.8	
76 1,1,2-Trichloroethane	97	9.192	9.192	0.000	89	263853	175.0	168.1	
77 Tetrachloroethene	164	9.257	9.251	0.006	97	437081	175.0	173.3	
78 1,3-Dichloropropane	76	9.345	9.345	0.000	91	449275	175.0	170.9	
79 2-Hexanone	43	9.416	9.422	-0.006	97	375615	350.0	349.4	
81 Chlorodibromomethane	129	9.557	9.557	0.000	90	324055	175.0	178.0	
82 Ethylene Dibromide	107	9.669	9.669	0.000	98	236756	175.0	177.8	
83 Chlorobenzene	112	10.157	10.157	0.000	96	1262585	175.0	166.1	
84 1,1,1,2-Tetrachloroethane	131	10.251	10.251	0.000	97	428519	175.0	171.3	
85 Ethylbenzene	106	10.263	10.263	0.000	98	761735	175.0	172.4	
86 m-Xylene & p-Xylene	106	10.398	10.392	0.006	0	935530	175.0	172.6	
88 o-Xylene	106	10.775	10.774	0.001	96	873747	175.0	169.7	
89 Styrene	104	10.798	10.798	0.000	95	1395346	175.0	171.4	
90 Bromoform	173	10.975	10.974	0.001	98	168899	175.0	177.8	
91 Isopropylbenzene	105	11.145	11.139	0.006	95	2337571	175.0	167.5	
94 Bromobenzene	156	11.451	11.451	0.000	91	470153	175.0	175.5	
93 1,1,2,2-Tetrachloroethane	83	11.463	11.463	0.000	95	285913	175.0	160.6	
96 trans-1,4-Dichloro-2-buten	53	11.504	11.504	0.000	83	66521	175.0	191.1	
95 1,2,3-Trichloropropane	110	11.510	11.510	0.000	84	81640	175.0	172.3	
97 N-Propylbenzene	120	11.563	11.557	0.006	99	682522	175.0	178.0	
98 2-Chlorotoluene	126	11.645	11.645	0.000	98	538499	175.0	175.3	
99 1,3,5-Trimethylbenzene	105	11.745	11.745	0.000	96	1890978	175.0	176.4	
100 4-Chlorotoluene	126	11.769	11.768	0.001	98	554990	175.0	173.1	
101 tert-Butylbenzene	119	12.051	12.051	0.000	91	1717337	175.0	175.1	
103 1,2,4-Trimethylbenzene	105	12.116	12.115	0.001	97	1802951	175.0	172.4	
104 sec-Butylbenzene	105	12.274	12.274	0.000	93	2524916	175.0	174.0	
105 1,3-Dichlorobenzene	146	12.392	12.392	0.000	98	954939	175.0	171.8	
106 4-Isopropyltoluene	119	12.433	12.433	0.000	97	2171707	175.0	171.9	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
107 1,4-Dichlorobenzene	146	12.498	12.498	0.000	95	965198	175.0	167.1	
110 n-Butylbenzene	91	12.845	12.839	0.006	97	1852148	175.0	172.4	
111 1,2-Dichlorobenzene	146	12.851	12.851	0.000	99	837687	175.0	167.1	
112 1,2-Dibromo-3-Chloropropan	157	13.645	13.639	0.006	89	39188	175.0	168.5	
114 1,2,4-Trichlorobenzene	180	14.457	14.456	0.001	95	388407	175.0	145.4	
115 Hexachlorobutadiene	225	14.604	14.604	0.000	98	261057	175.0	141.8	
116 Naphthalene	128	14.721	14.721	0.000	97	593473	175.0	133.5	
117 1,2,3-Trichlorobenzene	180	14.939	14.939	0.000	96	275209	175.0	138.1	
S 130 1,2-Dichloroethene, Total	96				0		350.0	336.3	
S 129 Xylenes, Total	106				0		350.0	342.2	
S 131 1,3-Dichloropropene, Total	1				0		350.0	382.8	
S 145 Total BTEX	1				0		875.0	854.5	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

VOA8260INT_00099	Amount Added:	2.00	Units: uL
VOA8260SURR_00099	Amount Added:	7.00	Units: uL
VOA8260VOAPRI_00372	Amount Added:	7.00	Units: uL
voaWKetmix1st_00018	Amount Added:	7.00	Units: uL

Report Date: 17-Sep-2019 14:12:25 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091708.d

Injection Date: 17-Sep-2019 11:44:30 Instrument ID: CHHP10 Operator ID: Patrick Journet

Lims ID: IC Worklist Smp#: 8

Client ID:

Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 8

Method: MSVOA_CHHP10 Limit Group: VOA 8260C_D ICAL

Column: DB-624 (0.18 mm)

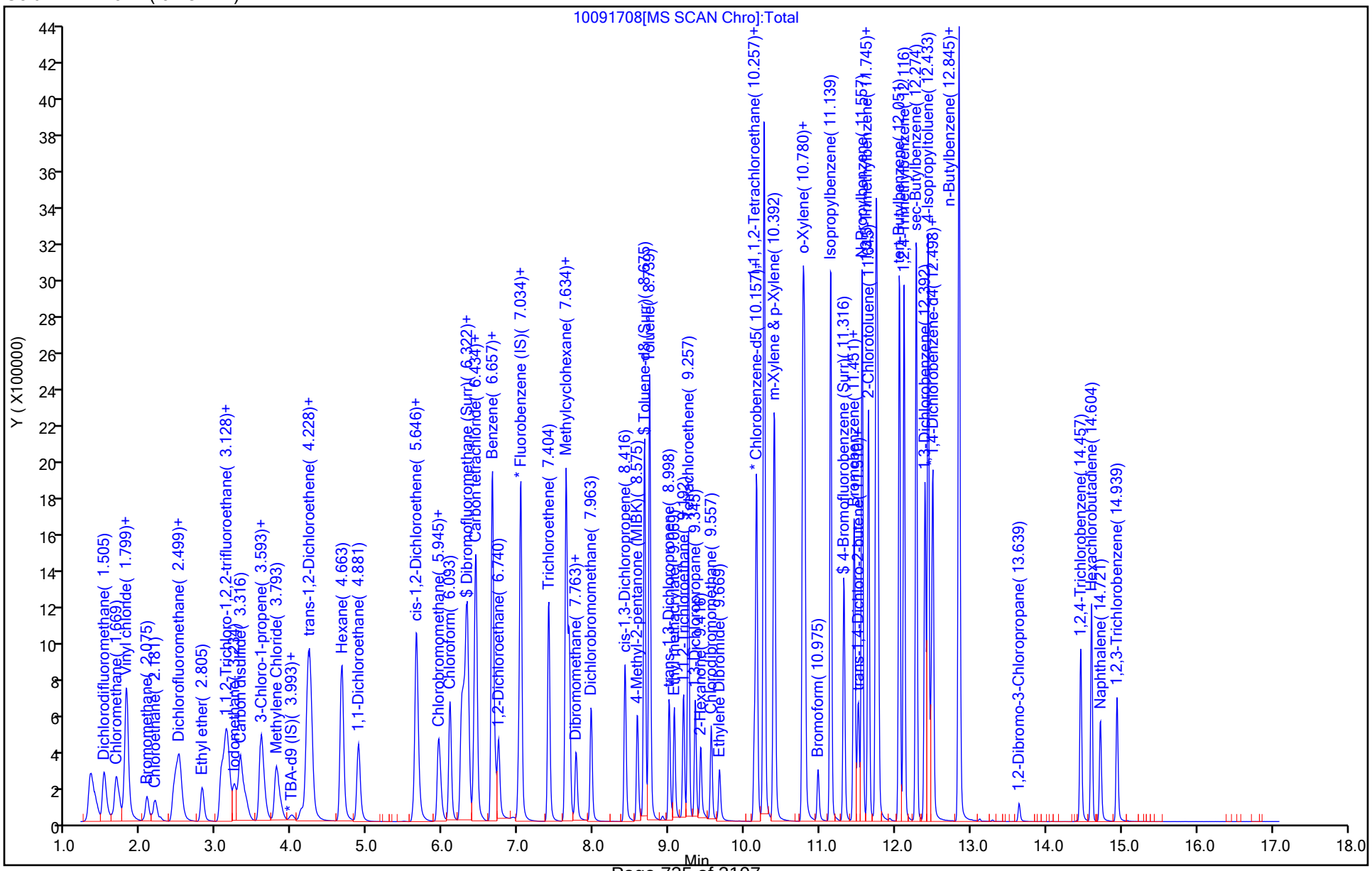

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091708.d				
Injection Date:	17-Sep-2019 11:44:30	Instrument ID:	CHHP10		
Lims ID:	IC				
Client ID:					
Operator ID:	Patrick Journet	ALS Bottle#:	8	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP10	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

64 1,2-Dichloropropane, CAS: 78-87-5

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 7.67

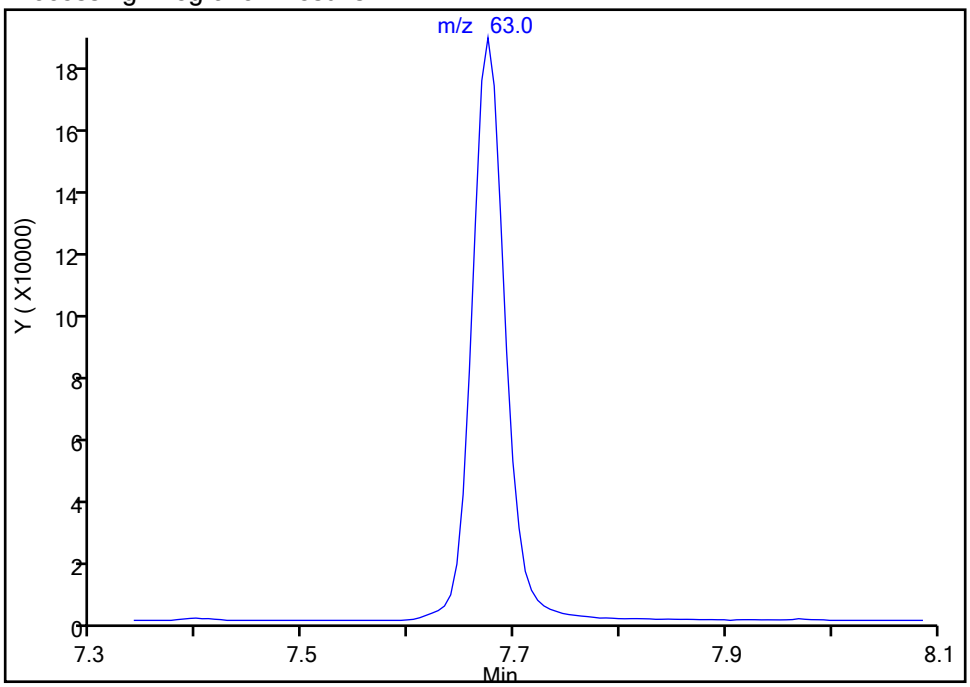

Manual Integration Results

RT: 7.67
Area: 419136
Amount: 168.8121
Amount Units: ng

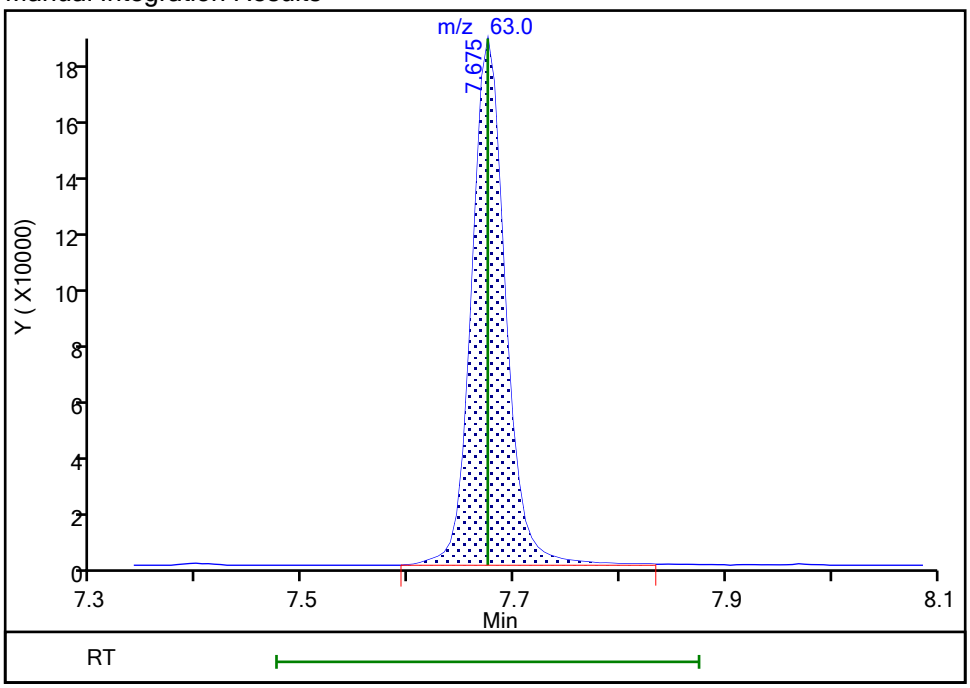

Reviewer: journetp, 17-Sep-2019 12:35:16
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091708.d				
Injection Date:	17-Sep-2019 11:44:30	Instrument ID:	CHHP10		
Lims ID:	IC				
Client ID:					
Operator ID:	Patrick Journet	ALS Bottle#:	8	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP10	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

67 1,4-Dioxane, CAS: 123-91-1

Signal: 1

Processing Integration Results

RT: 7.77
Area: 29037
Amount: 2968.7521
Amount Units: ng

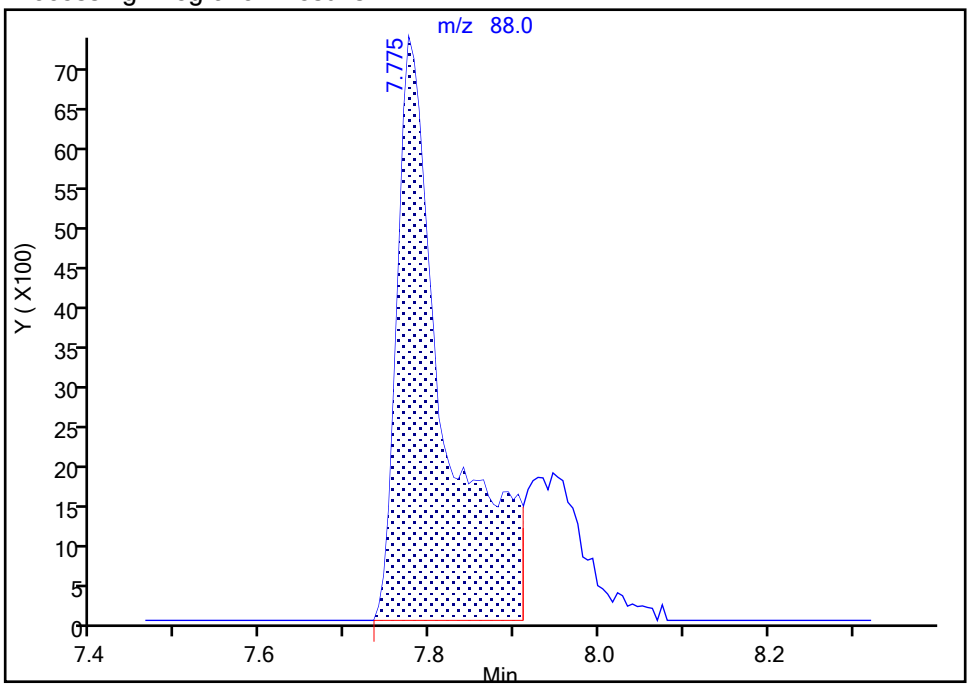

Manual Integration Results

RT: 7.77
Area: 37418
Amount: 3738.7079
Amount Units: ng

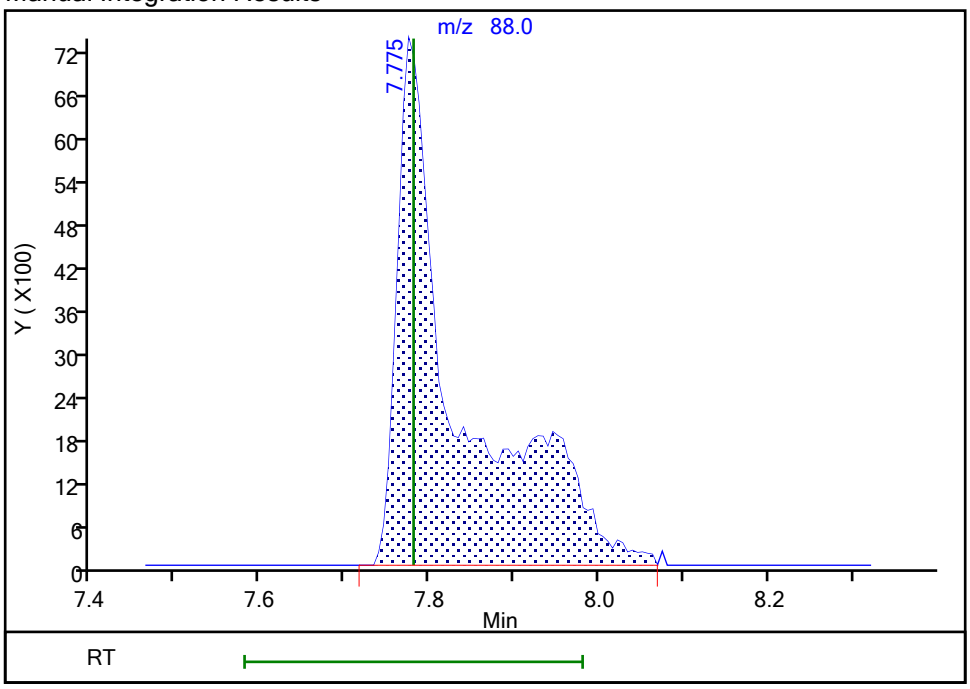

Reviewer: journetp, 17-Sep-2019 12:35:29

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091709.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 17-Sep-2019 12:09:30 ALS Bottle#: 9 Worklist Smp#: 9
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0028678-009
Operator ID: Patrick Journet Instrument ID: CHHP10
Sublist: chrom-MSVOA_CHHP10*sub20

Method: \\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\MSVOA_CHHP10.m
Limit Group: VOA 8260C_D ICAL
Last Update: 17-Sep-2019 14:12:29 Calib Date: 17-Sep-2019 12:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091710.d

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0337

First Level Reviewer: journetp Date: 17-Sep-2019 12:41:05

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	3.981	4.010	-0.029	0	90622	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.010	7.010	0.000	99	456369	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.133	10.127	0.006	83	103066	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.474	12.474	0.000	92	163638	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.281	6.275	0.006	94	404522	200.0	217.8	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.651	6.651	0.000	0	362866	200.0	229.2	
$ 7 Toluene-d8 (Surr)	98	8.675	8.669	0.006	93	1888047	200.0	211.5	
$ 8 4-Bromofluorobenzene (Surr	95	11.316	11.316	0.000	91	627450	200.0	213.0	
10 Dichlorodifluoromethane	85	1.505	1.504	0.001	99	707026	200.0	195.0	
11 Chloromethane	50	1.663	1.663	0.000	99	669075	200.0	207.4	
12 Vinyl chloride	62	1.793	1.787	0.006	98	638979	200.0	199.1	
13 Butadiene	39	1.810	1.804	0.006	92	563626	200.0	219.6	
14 Bromomethane	94	2.099	2.075	0.024	90	306700	200.0	261.8	
15 Chloroethane	64	2.205	2.181	0.024	99	263185	200.0	231.6	
17 Dichlorofluoromethane	67	2.469	2.451	0.018	97	575411	200.0	214.8	
16 Trichlorofluoromethane	101	2.499	2.475	0.024	98	601300	200.0	203.9	
18 Ethyl ether	59	2.804	2.804	0.000	93	240261	200.0	200.9	
20 1,1-Dichloroethene	96	3.087	3.051	0.036	98	414613	200.0	198.3	
21 1,1,2-Trichloro-1,2,2-trif	101	3.134	3.134	0.000	92	420782	200.0	193.5	
22 Acetone	43	3.181	3.181	0.000	99	212525	400.0	420.1	
23 Iodomethane	142	3.240	3.228	0.012	98	674387	200.0	200.9	
24 Carbon disulfide	76	3.322	3.310	0.012	99	1443239	200.0	209.5	
26 3-Chloro-1-propene	76	3.587	3.587	0.000	92	262285	200.0	206.3	
28 Methyl acetate	43	3.628	3.622	0.006	98	407314	400.0	477.9	
29 Methylene Chloride	84	3.799	3.792	0.007	96	433814	200.0	215.1	
32 2-Methyl-2-propanol	59	4.116	4.145	-0.029	97	283156	2000.0	2397.0	
31 Acrylonitrile	53	4.204	4.198	0.006	98	896425	2000.0	2321.4	
30 trans-1,2-Dichloroethene	96	4.222	4.216	0.006	99	492699	200.0	203.1	
33 Methyl tert-butyl ether	73	4.251	4.257	-0.006	96	902951	200.0	225.6	
34 Hexane	57	4.657	4.651	0.006	94	863939	200.0	198.0	
36 1,1-Dichloroethane	63	4.881	4.875	0.006	96	826100	200.0	205.5	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
42 2,2-Dichloropropane	97	5.645	5.634	0.011	90	97479	200.0	200.4	
41 cis-1,2-Dichloroethene	96	5.651	5.645	0.006	81	525985	200.0	206.1	
43 2-Butanone (MEK)	43	5.687	5.686	0.001	100	315108	400.0	472.9	
46 Chlorobromomethane	128	5.945	5.939	0.006	96	222961	200.0	215.8	
48 Tetrahydrofuran	42	5.969	5.969	0.000	91	191589	400.0	511.4	
49 Chloroform	83	6.093	6.092	0.001	94	800034	200.0	196.7	
50 1,1,1-Trichloroethane	97	6.251	6.245	0.006	98	674609	200.0	206.0	
52 Cyclohexane	56	6.322	6.310	0.012	93	994097	200.0	204.7	
53 Carbon tetrachloride	117	6.422	6.416	0.006	97	652090	200.0	206.6	
54 1,1-Dichloropropene	75	6.445	6.439	0.006	96	741697	200.0	204.7	
55 Benzene	78	6.657	6.651	0.006	97	2125695	200.0	209.1	
51 Isobutyl alcohol	41	6.692	6.698	-0.006	94	251333	5000.0	5809.0	
56 1,2-Dichloroethane	62	6.740	6.739	0.001	97	474857	200.0	218.5	
59 n-Heptane	43	7.034	7.028	0.006	94	982945	200.0	203.6	
60 Trichloroethene	130	7.404	7.398	0.006	97	601875	200.0	201.9	
63 Methylcyclohexane	83	7.634	7.633	0.001	89	1060069	200.0	201.6	
64 1,2-Dichloropropane	63	7.675	7.675	0.000	97	492313	200.0	214.1	a
65 Dibromomethane	93	7.763	7.769	-0.006	95	206336	200.0	222.5	
67 1,4-Dioxane	88	7.781	7.780	0.001	90	31650	4000.0	3414.0	
68 Dichlorobromomethane	83	7.963	7.963	0.000	99	566621	200.0	221.5	
71 cis-1,3-Dichloropropene	75	8.416	8.416	0.000	96	708314	200.0	238.4	
72 4-Methyl-2-pentanone (MIBK	43	8.581	8.580	0.001	97	654079	400.0	523.3	
73 Toluene	91	8.739	8.739	0.000	98	2382016	200.0	203.8	
74 trans-1,3-Dichloropropene	75	8.998	9.004	-0.006	93	570977	200.0	259.6	
75 Ethyl methacrylate	69	9.069	9.069	0.000	91	475937	200.0	255.2	
76 1,1,2-Trichloroethane	97	9.192	9.192	0.000	90	322978	200.0	215.9	
77 Tetrachloroethene	164	9.257	9.251	0.006	97	483141	200.0	201.0	
78 1,3-Dichloropropane	76	9.345	9.345	0.000	91	553354	200.0	220.8	
79 2-Hexanone	43	9.416	9.422	-0.006	97	500673	400.0	NQ	
81 Chlorodibromomethane	129	9.557	9.557	0.000	90	389925	200.0	224.7	
82 Ethylene Dibromide	107	9.669	9.669	0.000	98	299066	200.0	235.6	
83 Chlorobenzene	112	10.157	10.157	0.000	96	1446275	200.0	199.6	
84 1,1,1,2-Tetrachloroethane	131	10.251	10.251	0.000	97	488070	200.0	204.7	
85 Ethylbenzene	106	10.263	10.263	0.000	98	853861	200.0	202.8	
86 m-Xylene & p-Xylene	106	10.392	10.392	0.000	0	1035775	200.0	200.4	
88 o-Xylene	106	10.775	10.774	0.001	95	985664	200.0	200.8	
89 Styrene	104	10.798	10.798	0.000	95	1614506	200.0	208.0	
90 Bromoform	173	10.975	10.974	0.001	98	208887	200.0	230.7	
91 Isopropylbenzene	105	11.145	11.139	0.006	95	2585394	200.0	194.3	
94 Bromobenzene	156	11.451	11.451	0.000	91	541927	200.0	205.3	
93 1,1,2,2-Tetrachloroethane	83	11.463	11.463	0.000	95	364634	200.0	214.9	
96 trans-1,4-Dichloro-2-buten	53	11.498	11.504	-0.006	87	88371	200.0	257.7	
95 1,2,3-Trichloropropane	110	11.516	11.510	0.006	84	105503	200.0	226.0	
97 N-Propylbenzene	120	11.563	11.557	0.006	99	751650	200.0	199.0	
98 2-Chlorotoluene	126	11.645	11.645	0.000	97	592309	200.0	195.8	
99 1,3,5-Trimethylbenzene	105	11.745	11.745	0.000	96	2085405	200.0	197.5	
100 4-Chlorotoluene	126	11.769	11.768	0.001	98	619955	200.0	196.3	
101 tert-Butylbenzene	119	12.057	12.051	0.006	92	1859758	200.0	192.4	
103 1,2,4-Trimethylbenzene	105	12.116	12.115	0.001	96	2017944	200.0	195.8	
104 sec-Butylbenzene	105	12.280	12.274	0.006	93	2715950	200.0	190.0	
105 1,3-Dichlorobenzene	146	12.392	12.392	0.000	98	1082658	200.0	197.7	
106 4-Isopropyltoluene	119	12.439	12.433	0.006	97	2353282	200.0	189.1	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
107 1,4-Dichlorobenzene	146	12.498	12.498	0.000	96	1108751	200.0	194.9	
110 n-Butylbenzene	91	12.845	12.839	0.006	97	2043832	200.0	193.1	
111 1,2-Dichlorobenzene	146	12.851	12.851	0.000	99	976028	200.0	197.7	
112 1,2-Dibromo-3-Chloropropan	157	13.639	13.639	0.000	89	59484	200.0	259.6	
114 1,2,4-Trichlorobenzene	180	14.457	14.456	0.001	95	540691	200.0	205.5	
115 Hexachlorobutadiene	225	14.604	14.604	0.000	97	351913	200.0	194.0	
116 Naphthalene	128	14.721	14.721	0.000	97	939951	200.0	214.6	
117 1,2,3-Trichlorobenzene	180	14.939	14.939	0.000	96	426589	200.0	218.8	
S 130 1,2-Dichloroethene, Total	96				0		400.0	409.2	
S 129 Xylenes, Total	106				0		400.0	401.2	
S 131 1,3-Dichloropropene, Total	1				0		400.0	498.0	
S 145 Total BTEX	1				0		1000.0	1016.9	

QC Flag Legend

Processing Flags

NQ - Not Quantifiable

Review Flags

a - User Assigned ID

Reagents:

VOA8260INT_00099	Amount Added:	2.00	Units: uL
VOA8260SURR_00099	Amount Added:	8.00	Units: uL
VOA8260VOAPRI_00372	Amount Added:	8.00	Units: uL
voaWKetmix1st_00018	Amount Added:	8.00	Units: uL

Report Date: 17-Sep-2019 14:12:32 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091709.d

Injection Date: 17-Sep-2019 12:09:30 Instrument ID: CHHP10 Operator ID: Patrick Journet

Lims ID: IC Worklist Smp#: 9

Client ID:

Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 9

Method: MSVOA_CHHP10 Limit Group: VOA 8260C_D ICAL

Column: DB-624 (0.18 mm)

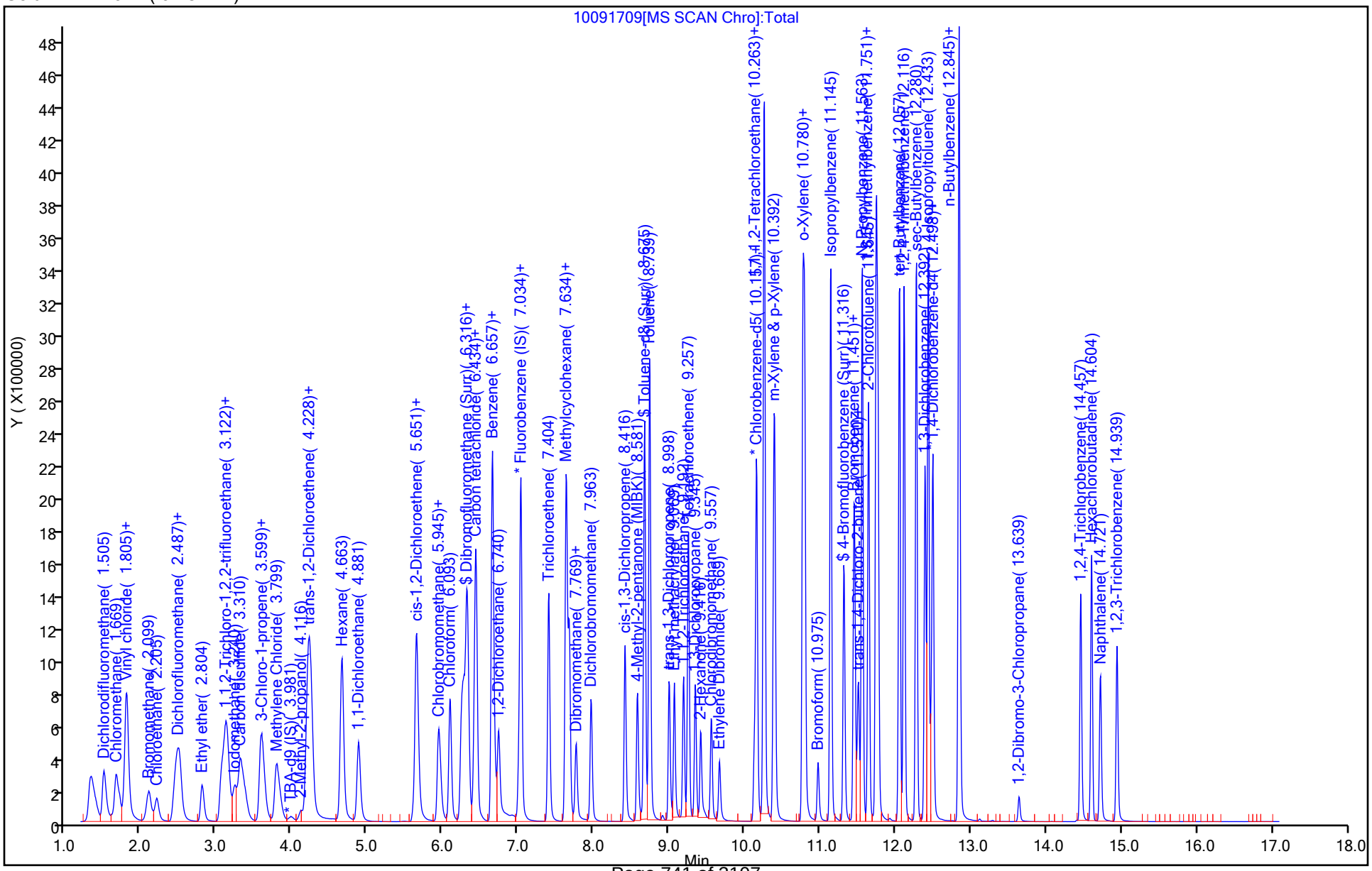

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091709.d				
Injection Date:	17-Sep-2019 12:09:30	Instrument ID:	CHHP10		
Lims ID:	IC				
Client ID:					
Operator ID:	Patrick Journet	ALS Bottle#:	9	Worklist Smp#:	9
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP10	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

64 1,2-Dichloropropane, CAS: 78-87-5

Signal: 1

Not Detected
Expected RT: 7.67

Processing Integration Results

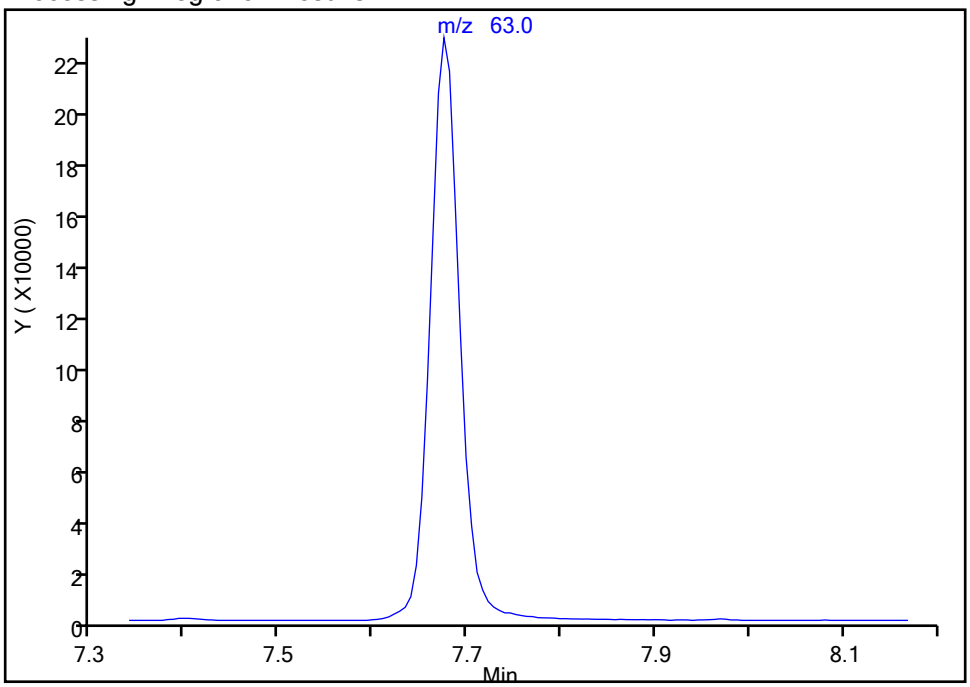

RT: 7.67
Area: 492313
Amount: 214.0616
Amount Units: ng

Manual Integration Results

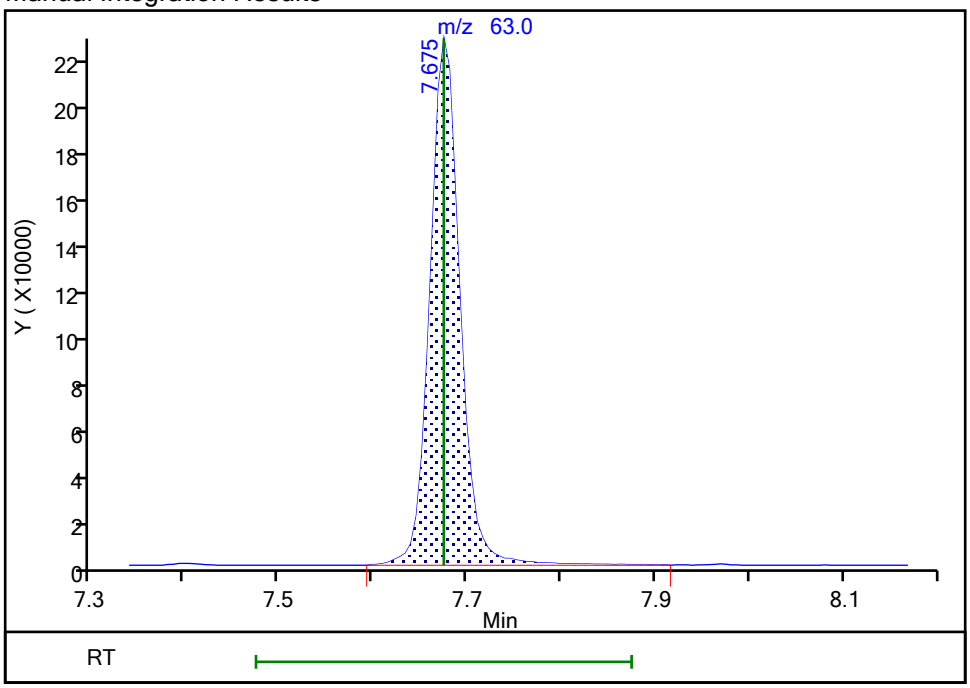

Reviewer: journetp, 17-Sep-2019 12:36:39
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091710.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 17-Sep-2019 12:35:30 ALS Bottle#: 10 Worklist Smp#: 10
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0028678-010
Operator ID: Patrick Journet Instrument ID: CHHP10
Sublist: chrom-MSVOA_CHHP10*sub20

Method: \\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\MSVOA_CHHP10.m
Limit Group: VOA 8260C_D ICAL
Last Update: 17-Sep-2019 14:12:34 Calib Date: 17-Sep-2019 12:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091710.d

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0337

First Level Reviewer: journetp Date: 17-Sep-2019 12:59:08

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	3.993	4.010	-0.017	0	79995	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.010	7.010	0.000	99	487709	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.133	10.127	0.006	83	106951	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.474	12.474	0.000	92	165033	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.281	6.275	0.006	94	507374	250.0	255.6	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.651	6.651	0.000	0	425667	250.0	251.6	
$ 7 Toluene-d8 (Surr)	98	8.675	8.669	0.006	92	2437456	250.0	263.1	
$ 8 4-Bromofluorobenzene (Surr	95	11.316	11.316	0.000	92	787300	250.0	257.6	
10 Dichlorodifluoromethane	85	1.505	1.504	0.000	99	928225	250.0	239.6	
11 Chloromethane	50	1.675	1.663	0.012	99	877188	250.0	254.4	
12 Vinyl chloride	62	1.793	1.787	0.006	98	832380	250.0	242.7	
13 Butadiene	39	1.810	1.804	0.006	91	745872	250.0	271.9	
14 Bromomethane	94	2.075	2.075	0.000	91	228202	250.0	182.3	
15 Chloroethane	64	2.193	2.181	0.012	99	328504	250.0	270.5	
17 Dichlorofluoromethane	67	2.475	2.451	0.024	97	742195	250.0	259.3	
16 Trichlorofluoromethane	101	2.510	2.475	0.035	98	798202	250.0	253.3	
18 Ethyl ether	59	2.804	2.804	0.000	93	293652	250.0	229.8	
20 1,1-Dichloroethene	96	3.075	3.051	0.024	97	560186	250.0	250.7	
21 1,1,2-Trichloro-1,2,2-trif	101	3.140	3.134	0.006	93	563882	250.0	242.6	
22 Acetone	43	3.175	3.181	-0.006	99	267076	500.0	494.0	
23 Iodomethane	142	3.240	3.228	0.012	98	876997	250.0	244.5	
24 Carbon disulfide	76	3.316	3.310	0.006	100	1951252	250.0	265.0	
26 3-Chloro-1-propene	76	3.587	3.587	0.000	94	363299	250.0	267.4	
28 Methyl acetate	43	3.628	3.622	0.006	98	399348	500.0	438.4	
29 Methylene Chloride	84	3.798	3.792	0.006	95	538495	250.0	250.8	
32 2-Methyl-2-propanol	59	4.122	4.145	-0.023	97	272517	2500.0	2613.4	
31 Acrylonitrile	53	4.198	4.198	0.000	99	940486	2500.0	2279.0	
30 trans-1,2-Dichloroethene	96	4.222	4.216	0.006	99	651522	250.0	251.3	
33 Methyl tert-butyl ether	73	4.251	4.257	-0.006	97	1020675	250.0	238.6	
34 Hexane	57	4.657	4.651	0.006	95	1140353	250.0	244.5	
36 1,1-Dichloroethane	63	4.887	4.875	0.012	96	1072914	250.0	249.8	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
42 2,2-Dichloropropane	97	5.645	5.634	0.011	91	128121	250.0	246.4	
41 cis-1,2-Dichloroethene	96	5.651	5.645	0.006	81	674114	250.0	247.1	
43 2-Butanone (MEK)	43	5.681	5.686	-0.005	100	352725	500.0	495.3	
46 Chlorobromomethane	128	5.945	5.939	0.006	96	265378	250.0	240.3	
48 Tetrahydrofuran	42	5.969	5.969	0.000	90	189426	500.0	473.2	
49 Chloroform	83	6.092	6.092	0.000	94	1030001	250.0	237.0	
50 1,1,1-Trichloroethane	97	6.245	6.245	0.000	98	887400	250.0	253.6	
52 Cyclohexane	56	6.322	6.310	0.012	90	1313712	250.0	253.1	
53 Carbon tetrachloride	117	6.422	6.416	0.006	97	864719	250.0	256.4	
54 1,1-Dichloropropene	75	6.439	6.439	0.000	96	988796	250.0	255.3	
55 Benzene	78	6.657	6.651	0.006	97	2740670	250.0	252.2	
51 Isobutyl alcohol	41	6.692	6.698	-0.006	97	243170	6250.0	5259.2	
56 1,2-Dichloroethane	62	6.739	6.739	0.000	97	558427	250.0	240.4	
59 n-Heptane	43	7.034	7.028	0.006	94	1303397	250.0	252.6	
60 Trichloroethene	130	7.404	7.398	0.006	97	797685	250.0	250.4	
63 Methylcyclohexane	83	7.639	7.633	0.006	89	1404444	250.0	249.9	
64 1,2-Dichloropropane	63	7.675	7.675	0.000	96	606507	250.0	246.8	a
65 Dibromomethane	93	7.763	7.769	-0.006	96	235280	250.0	237.4	
67 1,4-Dioxane	88	7.781	7.780	0.001	92	47549	5000.0	4799.4	
68 Dichlorobromomethane	83	7.969	7.963	0.006	99	696463	250.0	254.8	
71 cis-1,3-Dichloropropene	75	8.416	8.416	0.000	96	863933	250.0	272.1	
72 4-Methyl-2-pentanone (MIBK	43	8.581	8.580	0.001	97	668478	500.0	515.4	
73 Toluene	91	8.745	8.739	0.006	99	3093145	250.0	255.1	
74 trans-1,3-Dichloropropene	75	8.998	9.004	-0.006	93	672382	250.0	294.6	
75 Ethyl methacrylate	69	9.069	9.069	0.000	90	513607	250.0	265.4	
76 1,1,2-Trichloroethane	97	9.192	9.192	0.000	90	369339	250.0	237.9	
77 Tetrachloroethene	164	9.257	9.251	0.006	97	636073	250.0	255.0	
78 1,3-Dichloropropane	76	9.345	9.345	0.000	91	638638	250.0	245.6	
79 2-Hexanone	43	9.416	9.422	-0.006	97	540116	500.0	NQ	
81 Chlorodibromomethane	129	9.557	9.557	0.000	90	455539	250.0	253.0	
82 Ethylene Dibromide	107	9.669	9.669	0.000	99	331264	250.0	251.5	
83 Chlorobenzene	112	10.157	10.157	0.000	96	1830227	250.0	243.4	
84 1,1,1,2-Tetrachloroethane	131	10.257	10.251	0.006	97	604946	250.0	244.5	
85 Ethylbenzene	106	10.263	10.263	0.000	98	1121724	250.0	256.7	
86 m-Xylene & p-Xylene	106	10.398	10.392	0.006	0	1360795	250.0	253.7	
88 o-Xylene	106	10.775	10.774	0.000	95	1271390	250.0	249.6	
89 Styrene	104	10.798	10.798	0.000	96	2034583	250.0	252.6	
90 Bromoform	173	10.974	10.974	0.000	97	233476	250.0	248.5	
91 Isopropylbenzene	105	11.145	11.139	0.006	95	3389132	250.0	245.5	
94 Bromobenzene	156	11.451	11.451	0.000	91	662898	250.0	249.0	
93 1,1,2,2-Tetrachloroethane	83	11.463	11.463	0.000	94	383518	250.0	217.9	
96 trans-1,4-Dichloro-2-buten	53	11.504	11.504	0.000	84	91682	250.0	265.0	
95 1,2,3-Trichloropropane	110	11.510	11.510	0.000	84	109048	250.0	231.7	
97 N-Propylbenzene	120	11.563	11.557	0.006	99	988193	250.0	259.4	
98 2-Chlorotoluene	126	11.645	11.645	0.000	97	766382	250.0	251.2	
99 1,3,5-Trimethylbenzene	105	11.745	11.745	0.000	96	2720905	250.0	255.5	
100 4-Chlorotoluene	126	11.769	11.768	0.001	98	798764	250.0	250.8	
101 tert-Butylbenzene	119	12.057	12.051	0.006	92	2433045	250.0	249.6	
103 1,2,4-Trimethylbenzene	105	12.116	12.115	0.001	97	2592461	250.0	249.5	
104 sec-Butylbenzene	105	12.280	12.274	0.006	93	3570552	250.0	247.7	
105 1,3-Dichlorobenzene	146	12.392	12.392	0.000	98	1352480	250.0	244.9	
106 4-Isopropyltoluene	119	12.433	12.433	0.000	97	3074496	250.0	244.9	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
107 1,4-Dichlorobenzene	146	12.498	12.498	0.000	95	1353649	250.0	235.9	
110 n-Butylbenzene	91	12.845	12.839	0.006	97	2598650	250.0	243.5	
111 1,2-Dichlorobenzene	146	12.851	12.851	0.000	98	1146592	250.0	230.2	
112 1,2-Dibromo-3-Chloropropan	157	13.639	13.639	0.000	89	55870	250.0	241.8	
114 1,2,4-Trichlorobenzene	180	14.457	14.456	0.001	95	576608	250.0	217.2	
115 Hexachlorobutadiene	225	14.604	14.604	0.000	97	378936	250.0	207.2	
116 Naphthalene	128	14.721	14.721	0.000	97	909579	250.0	205.9	
117 1,2,3-Trichlorobenzene	180	14.939	14.939	0.000	96	427607	250.0	217.4	
S 130 1,2-Dichloroethene, Total	96				0		500.0	498.5	
S 129 Xylenes, Total	106				0		500.0	503.4	
S 131 1,3-Dichloropropene, Total	1				0		500.0	566.7	
S 145 Total BTEX	1				0		1250.0	1267.4	

QC Flag Legend

Processing Flags

NQ - Not Quantifiable

Review Flags

a - User Assigned ID

Reagents:

VOA8260VOAPRI_00372	Amount Added: 10.00	Units: uL
voaWKetmix1st_00018	Amount Added: 10.00	Units: uL
VOA8260INT_00099	Amount Added: 2.00	Units: uL
VOA8260SURR_00099	Amount Added: 10.00	Units: uL

Report Date: 17-Sep-2019 14:12:37 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091710.d

Injection Date: 17-Sep-2019 12:35:30 Instrument ID: CHHP10 Operator ID: Patrick Journet

Lims ID: IC Worklist Smp#: 10

Client ID:

Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 10

Method: MSVOA_CHHP10 Limit Group: VOA 8260C_D ICAL

Column: DB-624 (0.18 mm)

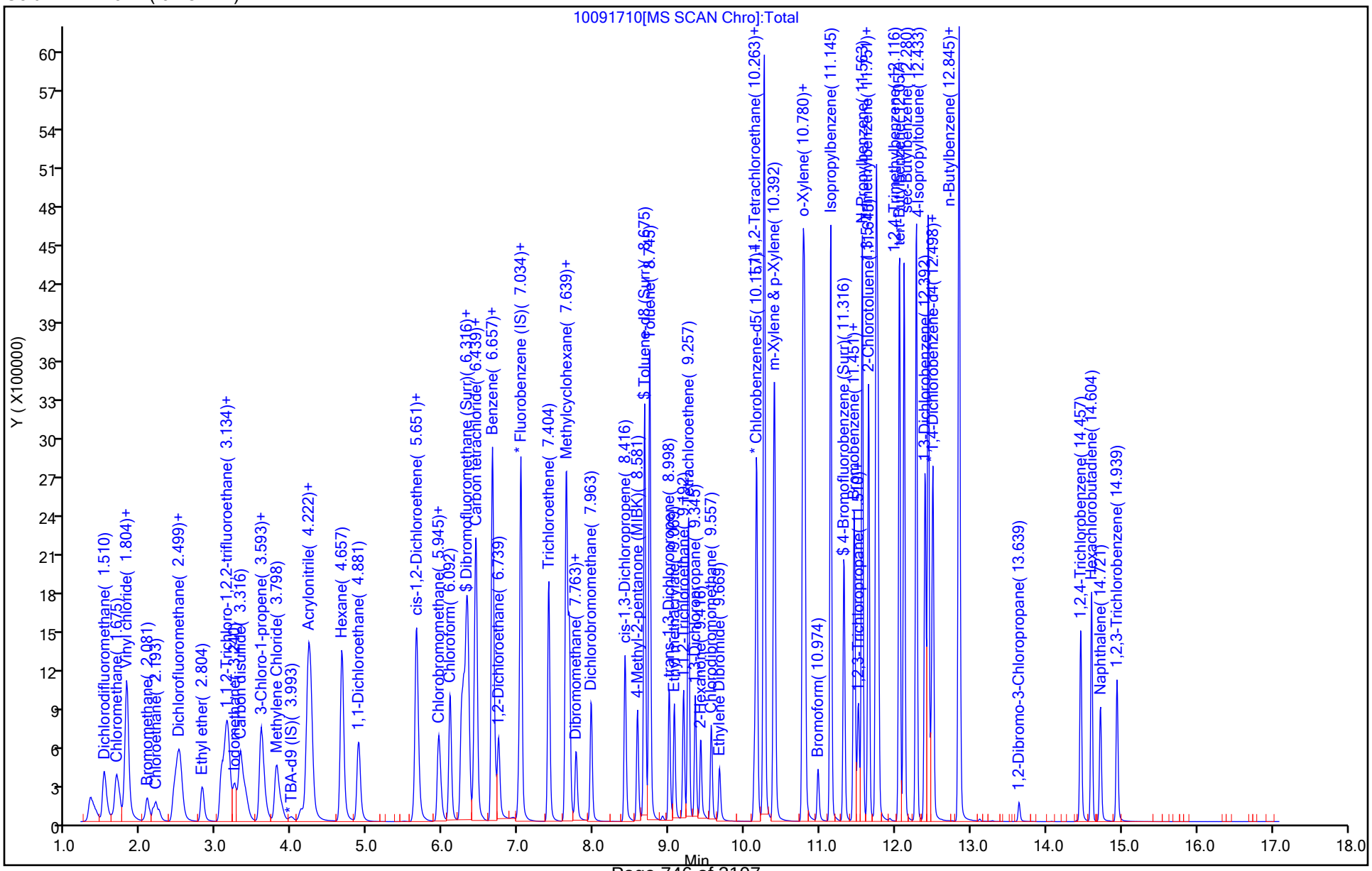

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091710.d				
Injection Date:	17-Sep-2019 12:35:30	Instrument ID:	CHHP10		
Lims ID:	IC				
Client ID:					
Operator ID:	Patrick Journet	ALS Bottle#:	10	Worklist Smp#:	10
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP10	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

64 1,2-Dichloropropane, CAS: 78-87-5

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 7.67

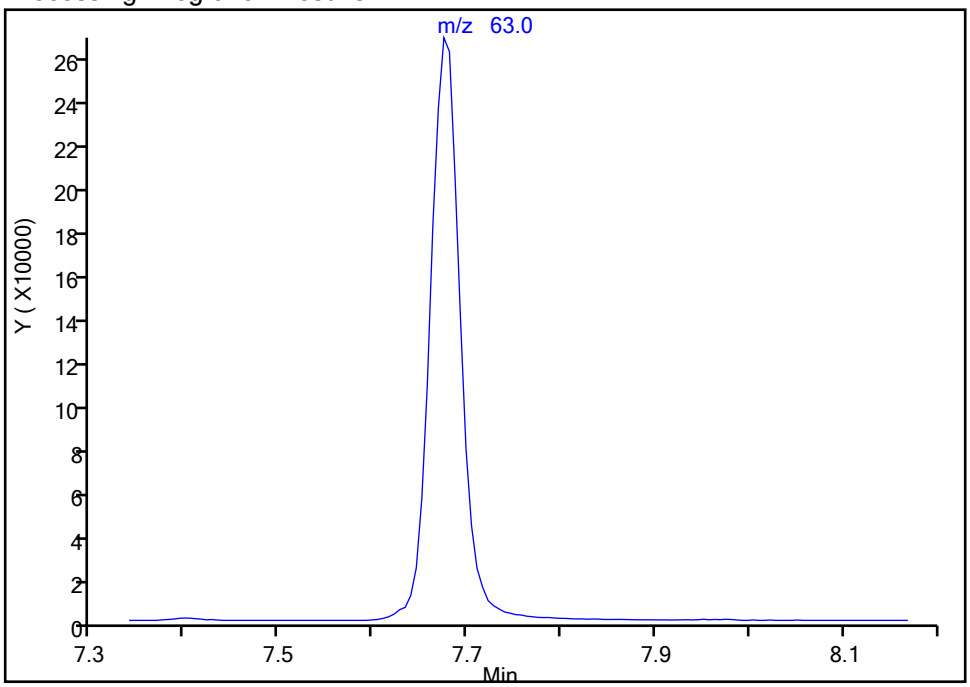

Manual Integration Results

RT: 7.67
Area: 606507
Amount: 246.7679
Amount Units: ng

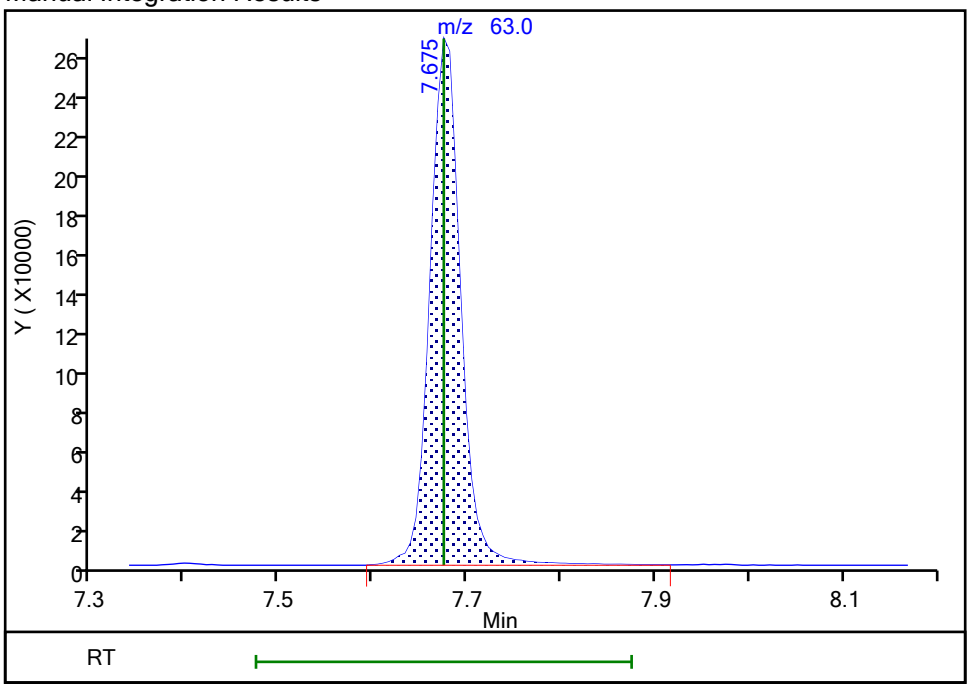

Reviewer: journetp, 17-Sep-2019 12:57:02
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Calibration / Dichlorodifluoromethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.3972

Error Coefficients

Standard Error:	539000
Relative Standard Error:	8.6
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	2.387695	50.0	426206.0	0.477539	Y
2	IC 180-291542/4	25.0	9.461869	50.0	462081.0	0.378475	Y
3	ICIS 180-291542/5	50.0	18.920218	50.0	449350.0	0.378404	Y
4	IC 180-291542/6	75.0	30.330993	50.0	463877.0	0.404413	Y
5	IC 180-291542/7	100.0	39.602827	50.0	464030.0	0.396028	Y
6	IC 180-291542/8	175.0	65.607697	50.0	492680.0	0.374901	Y
7	IC 180-291542/9	200.0	77.462098	50.0	456369.0	0.38731	Y
8	IC 180-291542/10	250.0	95.161767	50.0	487709.0	0.380647	Y

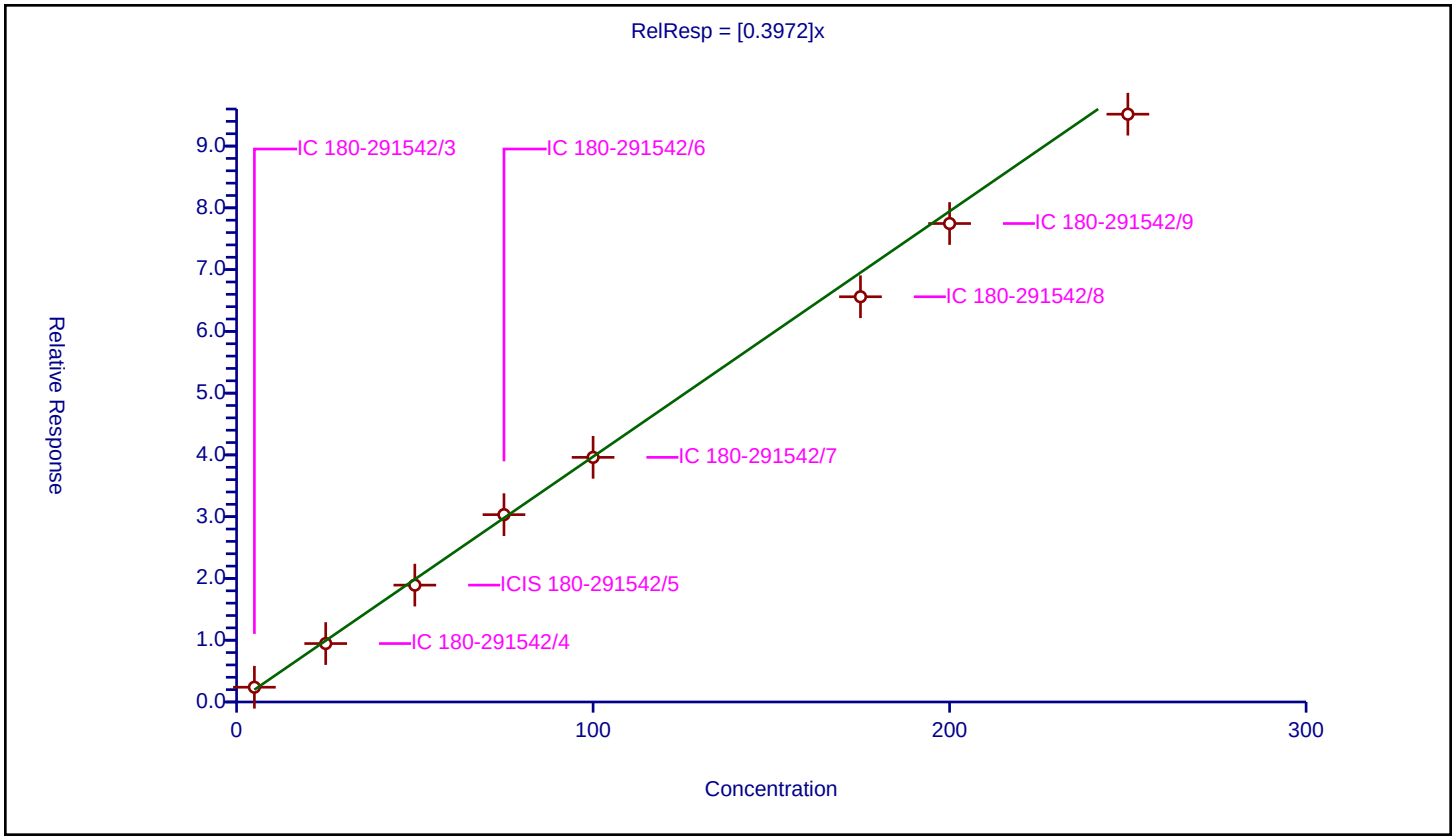

Calibration / Chloromethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.3535

Error Coefficients

Standard Error:	501000
Relative Standard Error:	8.5
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	2.082913	50.0	426206.0	0.416583	Y
2	IC 180-291542/4	25.0	8.09858	50.0	462081.0	0.323943	Y
3	ICIS 180-291542/5	50.0	16.056192	50.0	449350.0	0.321124	Y
4	IC 180-291542/6	75.0	25.979947	50.0	463877.0	0.346399	Y
5	IC 180-291542/7	100.0	35.260975	50.0	464030.0	0.35261	Y
6	IC 180-291542/8	175.0	59.66459	50.0	492680.0	0.340941	Y
7	IC 180-291542/9	200.0	73.304168	50.0	456369.0	0.366521	Y
8	IC 180-291542/10	250.0	89.929446	50.0	487709.0	0.359718	Y

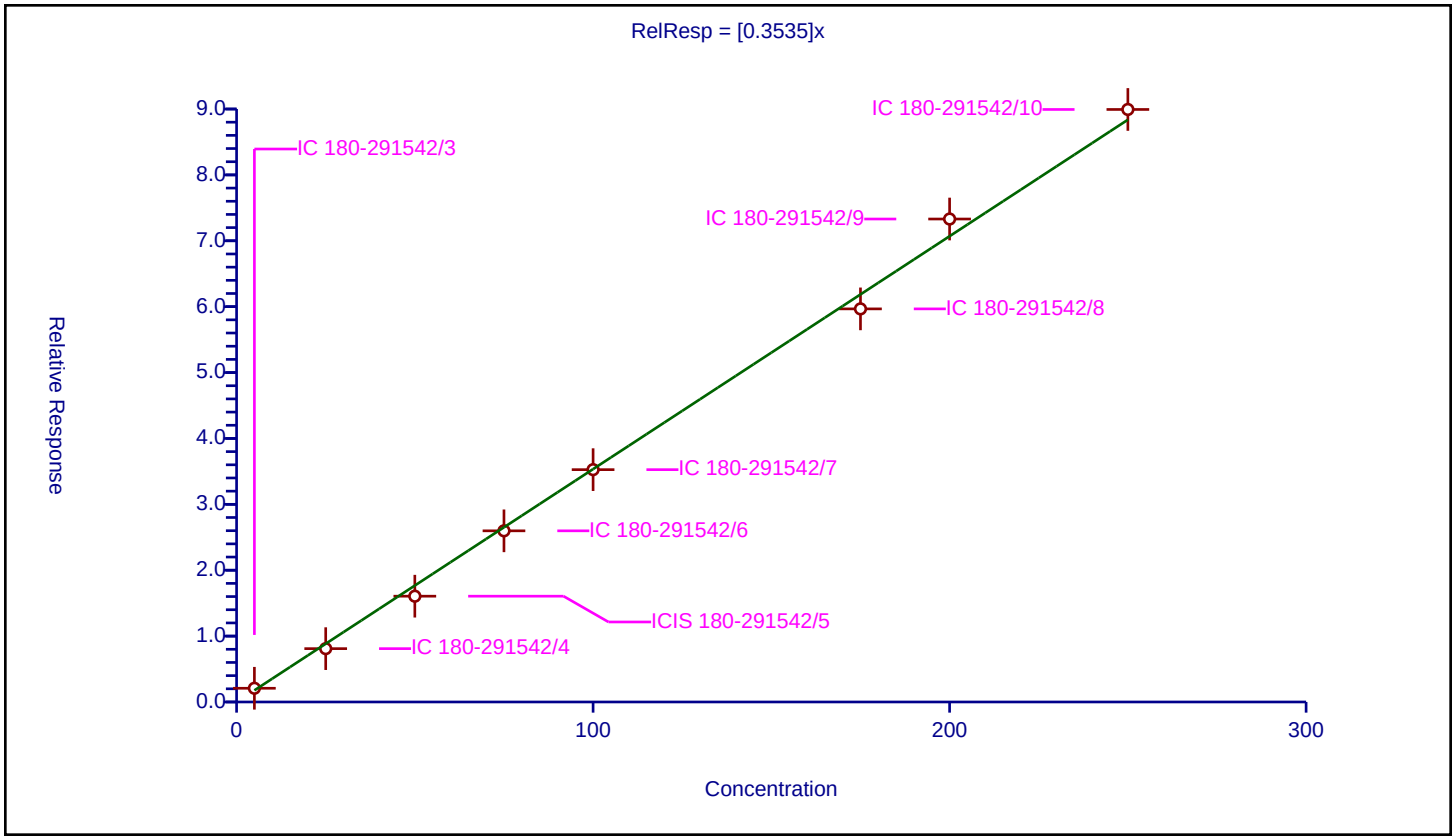

Calibration / Vinyl chloride

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.3517

Error Coefficients

Standard Error:	483000
Relative Standard Error:	7.7
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.992

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	2.076461	50.0	426206.0	0.415292	Y
2	IC 180-291542/4	25.0	8.283613	50.0	462081.0	0.331345	Y
3	ICIS 180-291542/5	50.0	16.748637	50.0	449350.0	0.334973	Y
4	IC 180-291542/6	75.0	26.440953	50.0	463877.0	0.352546	Y
5	IC 180-291542/7	100.0	35.132642	50.0	464030.0	0.351326	Y
6	IC 180-291542/8	175.0	58.885585	50.0	492680.0	0.336489	Y
7	IC 180-291542/9	200.0	70.006837	50.0	456369.0	0.350034	Y
8	IC 180-291542/10	250.0	85.335723	50.0	487709.0	0.341343	Y

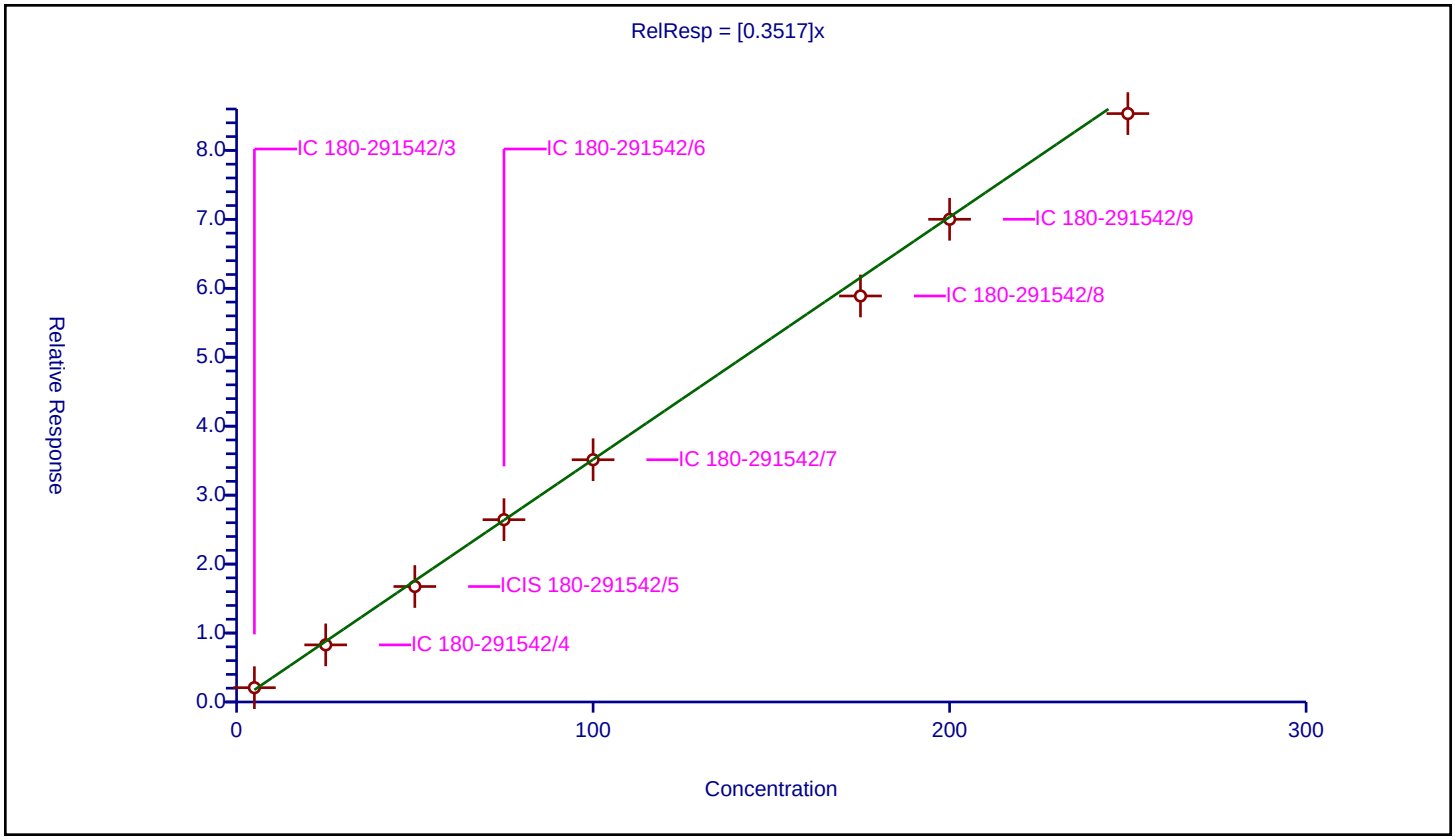

Calibration / Butadiene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.2812

Error Coefficients

Standard Error:	424000
Relative Standard Error:	8.3
Correlation Coefficient:	0.997
Coefficient of Determination (Adjusted):	0.992

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	1.353571	50.0	426206.0	0.270714	Y
2	IC 180-291542/4	25.0	6.106072	50.0	462081.0	0.244243	Y
3	ICIS 180-291542/5	50.0	12.704462	50.0	449350.0	0.254089	Y
4	IC 180-291542/6	75.0	21.568972	50.0	463877.0	0.287586	Y
5	IC 180-291542/7	100.0	28.45872	50.0	464030.0	0.284587	Y
6	IC 180-291542/8	175.0	51.383454	50.0	492680.0	0.29362	Y
7	IC 180-291542/9	200.0	61.751127	50.0	456369.0	0.308756	Y
8	IC 180-291542/10	250.0	76.46691	50.0	487709.0	0.305868	Y

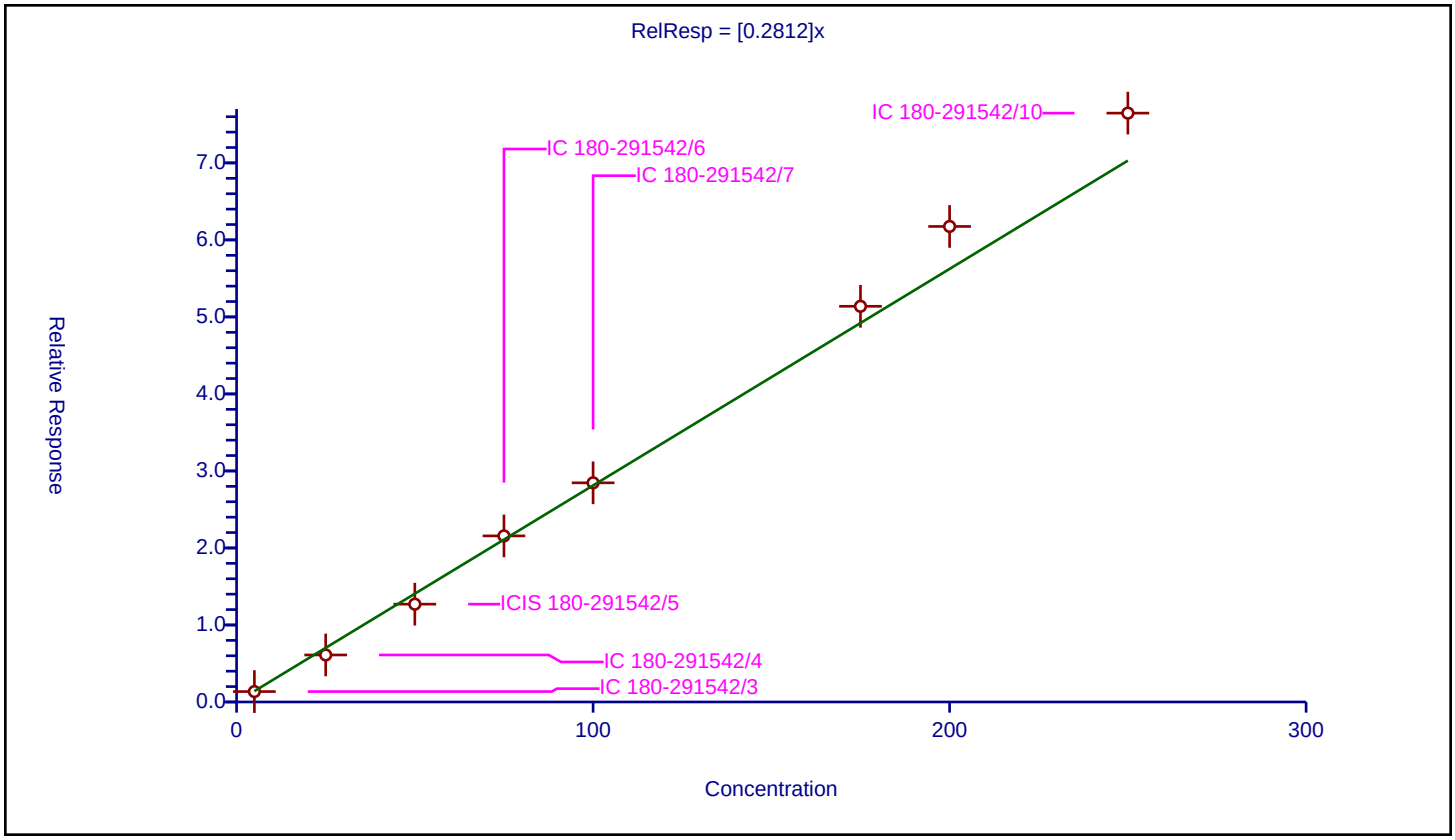

Calibration / Bromomethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.1283

Error Coefficients

Standard Error:	100000
Relative Standard Error:	23.3
Correlation Coefficient:	0.993
Coefficient of Determination (Adjusted):	0.922

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	0.790346	50.0	426206.0	0.158069	Y
2	IC 180-291542/4	25.0	4.326947	50.0	462081.0	0.173078	Y
3	ICIS 180-291542/5	50.0	5.903861	50.0	449350.0	0.118077	Y
4	IC 180-291542/6	75.0	8.332489	50.0	463877.0	0.1111	Y
5	IC 180-291542/7	100.0	11.100468	50.0	464030.0	0.111005	Y
6	IC 180-291542/8	175.0	17.283937	50.0	492680.0	0.098765	Y
7	IC 180-291542/9	200.0	33.602195	50.0	456369.0	0.168011	N
8	IC 180-291542/10	250.0	23.395303	50.0	487709.0	0.093581	N

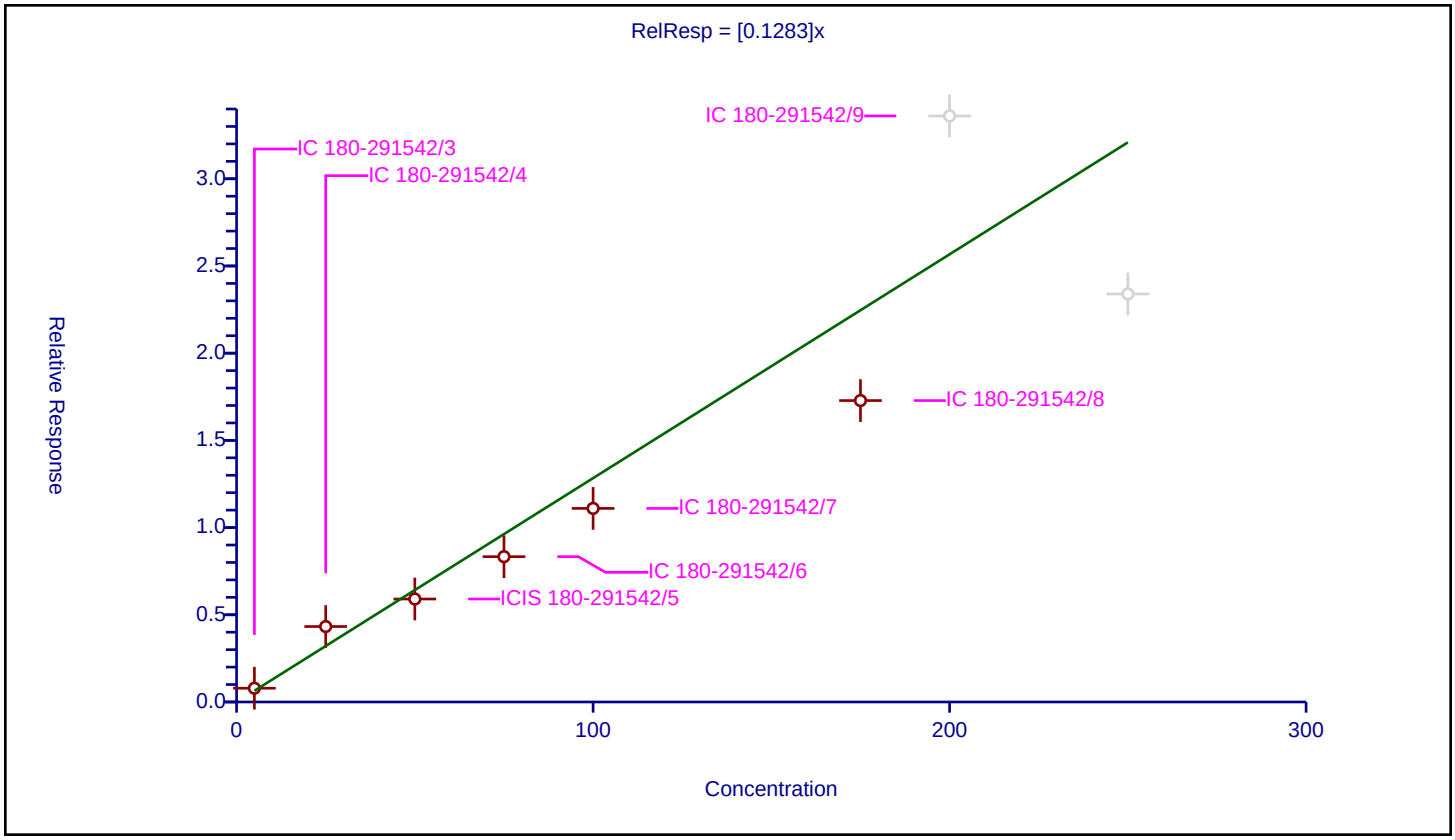

Calibration / Chloroethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.1245

Error Coefficients

Standard Error:	186000
Relative Standard Error:	16.3
Correlation Coefficient:	0.983
Coefficient of Determination (Adjusted):	0.967

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	0.69755	50.0	426206.0	0.13951	Y
2	IC 180-291542/4	25.0	3.584978	50.0	462081.0	0.143399	Y
3	ICIS 180-291542/5	50.0	5.761211	50.0	449350.0	0.115224	Y
4	IC 180-291542/6	75.0	6.78488	50.0	463877.0	0.090465	Y
5	IC 180-291542/7	100.0	10.065836	50.0	464030.0	0.100658	Y
6	IC 180-291542/8	175.0	22.393541	50.0	492680.0	0.127963	Y
7	IC 180-291542/9	200.0	28.834671	50.0	456369.0	0.144173	Y
8	IC 180-291542/10	250.0	33.678279	50.0	487709.0	0.134713	Y

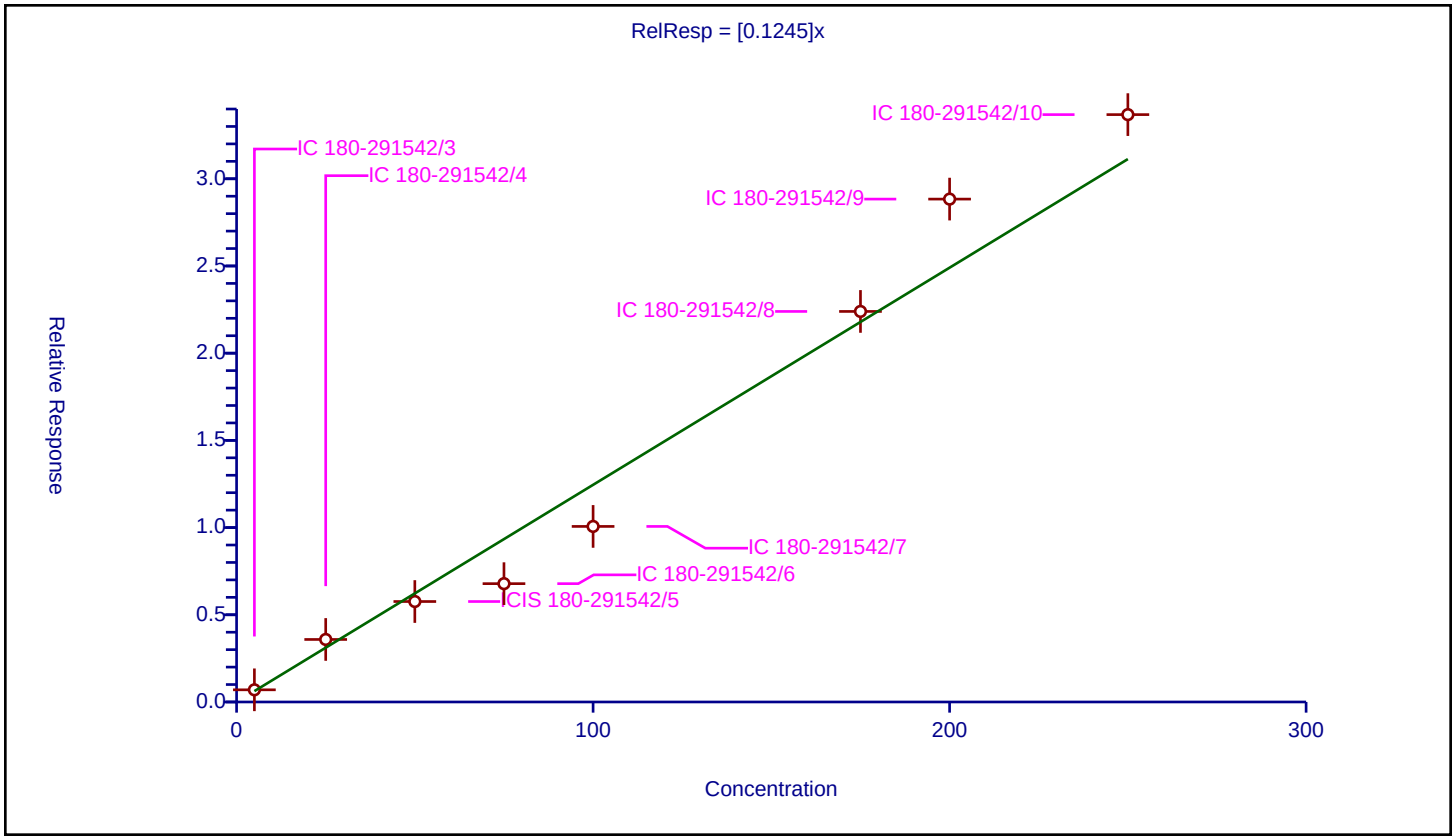

Calibration / Dichlorofluoromethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.2935

Error Coefficients

Standard Error:	347000
Relative Standard Error:	5.8
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	1.587378	50.0	426206.0	0.317476	Y
2	IC 180-291542/4	25.0	6.99293	50.0	462081.0	0.279717	Y
3	ICIS 180-291542/5	50.0	14.116057	50.0	449350.0	0.282321	Y
4	IC 180-291542/6	75.0	20.546826	50.0	463877.0	0.273958	Y
5	IC 180-291542/7	100.0	28.975282	50.0	464030.0	0.289753	Y
6	IC 180-291542/8	175.0	51.79853	50.0	492680.0	0.295992	Y
7	IC 180-291542/9	200.0	63.042297	50.0	456369.0	0.315211	Y
8	IC 180-291542/10	250.0	76.089943	50.0	487709.0	0.30436	N

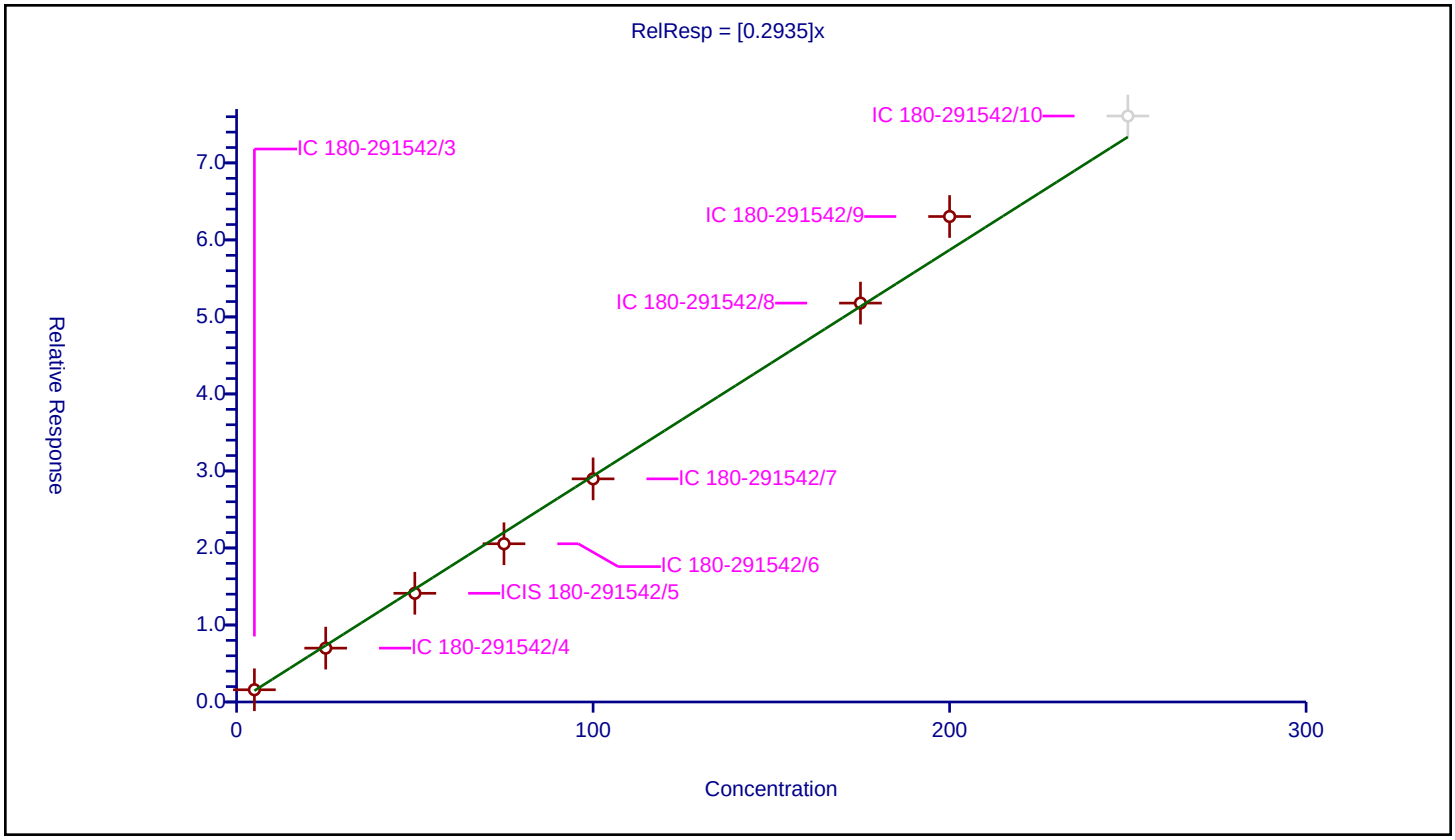

Calibration / Trichlorofluoromethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.323

Error Coefficients

Standard Error:	370000
Relative Standard Error:	5.9
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	1.814146	50.0	426206.0	0.362829	Y
2	IC 180-291542/4	25.0	7.925775	50.0	462081.0	0.317031	Y
3	ICIS 180-291542/5	50.0	15.370535	50.0	449350.0	0.307411	Y
4	IC 180-291542/6	75.0	23.051046	50.0	463877.0	0.307347	Y
5	IC 180-291542/7	100.0	31.793526	50.0	464030.0	0.317935	Y
6	IC 180-291542/8	175.0	55.859178	50.0	492680.0	0.319195	Y
7	IC 180-291542/9	200.0	65.878708	50.0	456369.0	0.329394	Y
8	IC 180-291542/10	250.0	81.831789	50.0	487709.0	0.327327	N

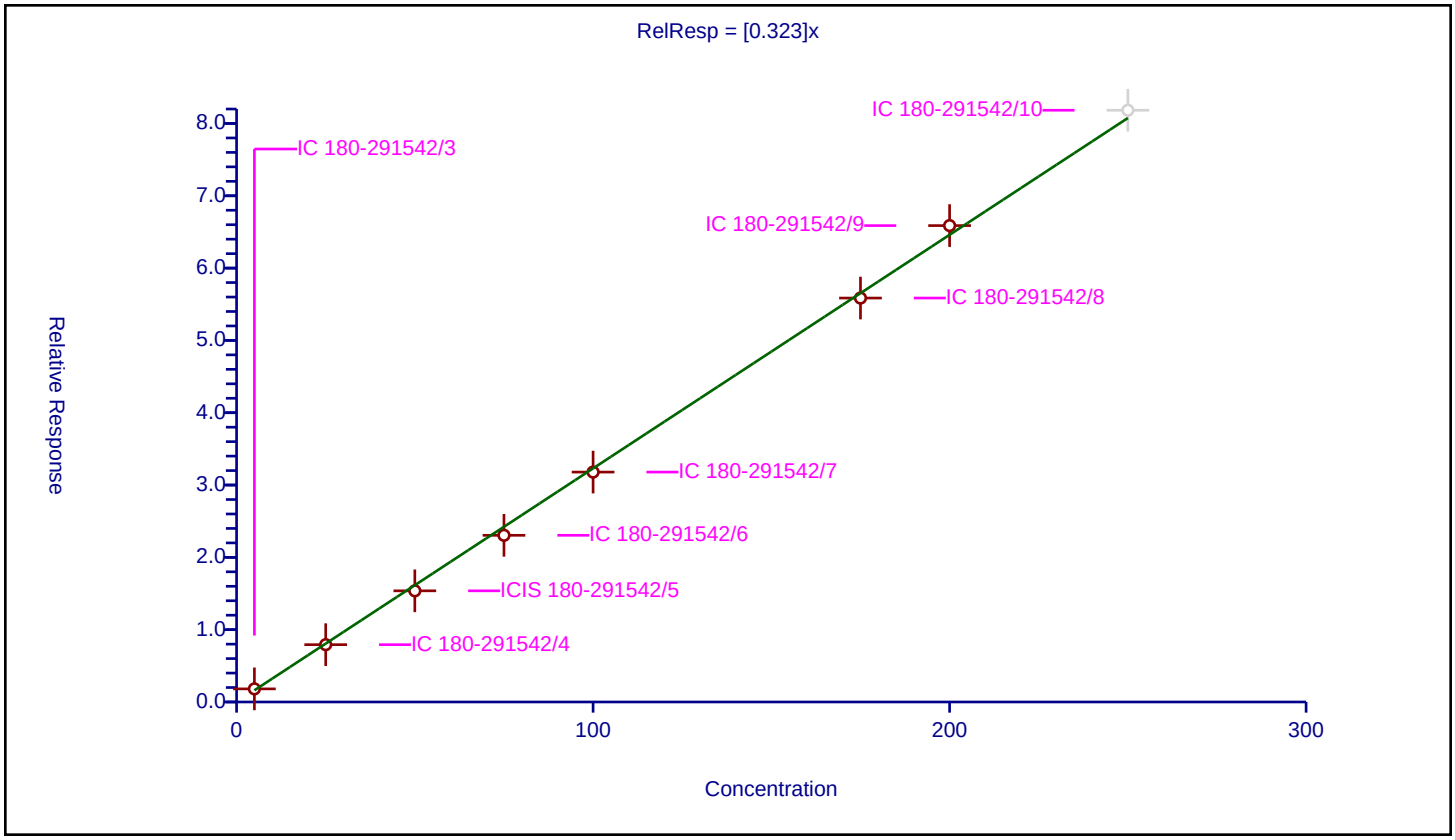

Calibration / Ethyl ether

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.131

Error Coefficients

Standard Error:	174000
Relative Standard Error:	10.9
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.985

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	0.81111	50.0	426206.0	0.162222	Y
2	IC 180-291542/4	25.0	3.038104	50.0	462081.0	0.121524	Y
3	ICIS 180-291542/5	50.0	6.379882	50.0	449350.0	0.127598	Y
4	IC 180-291542/6	75.0	10.198609	50.0	463877.0	0.135981	Y
5	IC 180-291542/7	100.0	13.187833	50.0	464030.0	0.131878	Y
6	IC 180-291542/8	175.0	20.443391	50.0	492680.0	0.116819	Y
7	IC 180-291542/9	200.0	26.323107	50.0	456369.0	0.131616	Y
8	IC 180-291542/10	250.0	30.105247	50.0	487709.0	0.120421	Y

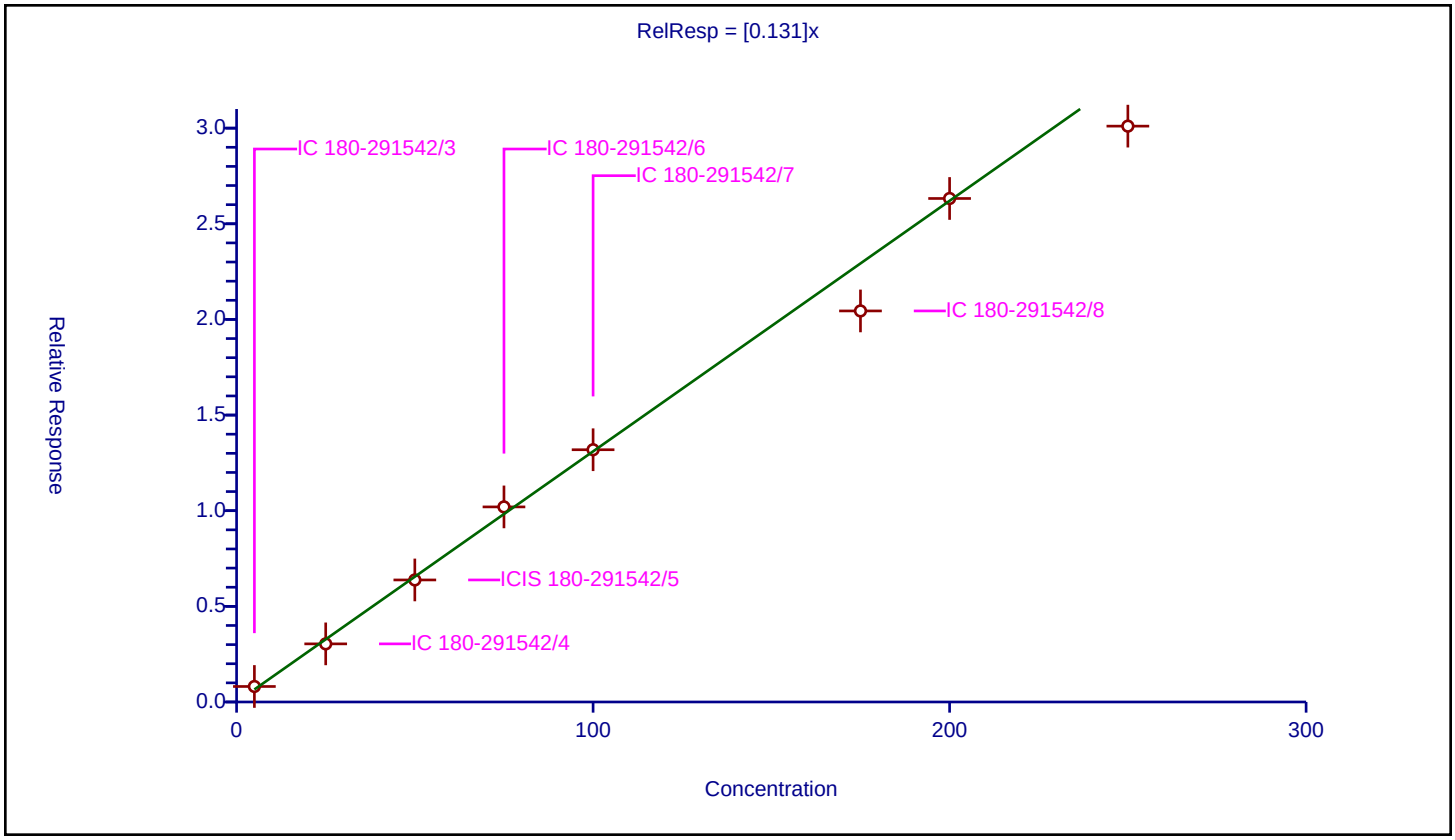

Calibration / 1,1-Dichloroethene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.2291

Error Coefficients

Standard Error:	318000
Relative Standard Error:	6.8
Correlation Coefficient:	0.997
Coefficient of Determination (Adjusted):	0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	1.327292	50.0	426206.0	0.265458	Y
2	IC 180-291542/4	25.0	5.446664	50.0	462081.0	0.217867	Y
3	ICIS 180-291542/5	50.0	11.024925	50.0	449350.0	0.220498	Y
4	IC 180-291542/6	75.0	17.021538	50.0	463877.0	0.226954	Y
5	IC 180-291542/7	100.0	22.844859	50.0	464030.0	0.228449	Y
6	IC 180-291542/8	175.0	37.945218	50.0	492680.0	0.21683	Y
7	IC 180-291542/9	200.0	45.425193	50.0	456369.0	0.227126	Y
8	IC 180-291542/10	250.0	57.430353	50.0	487709.0	0.229721	Y

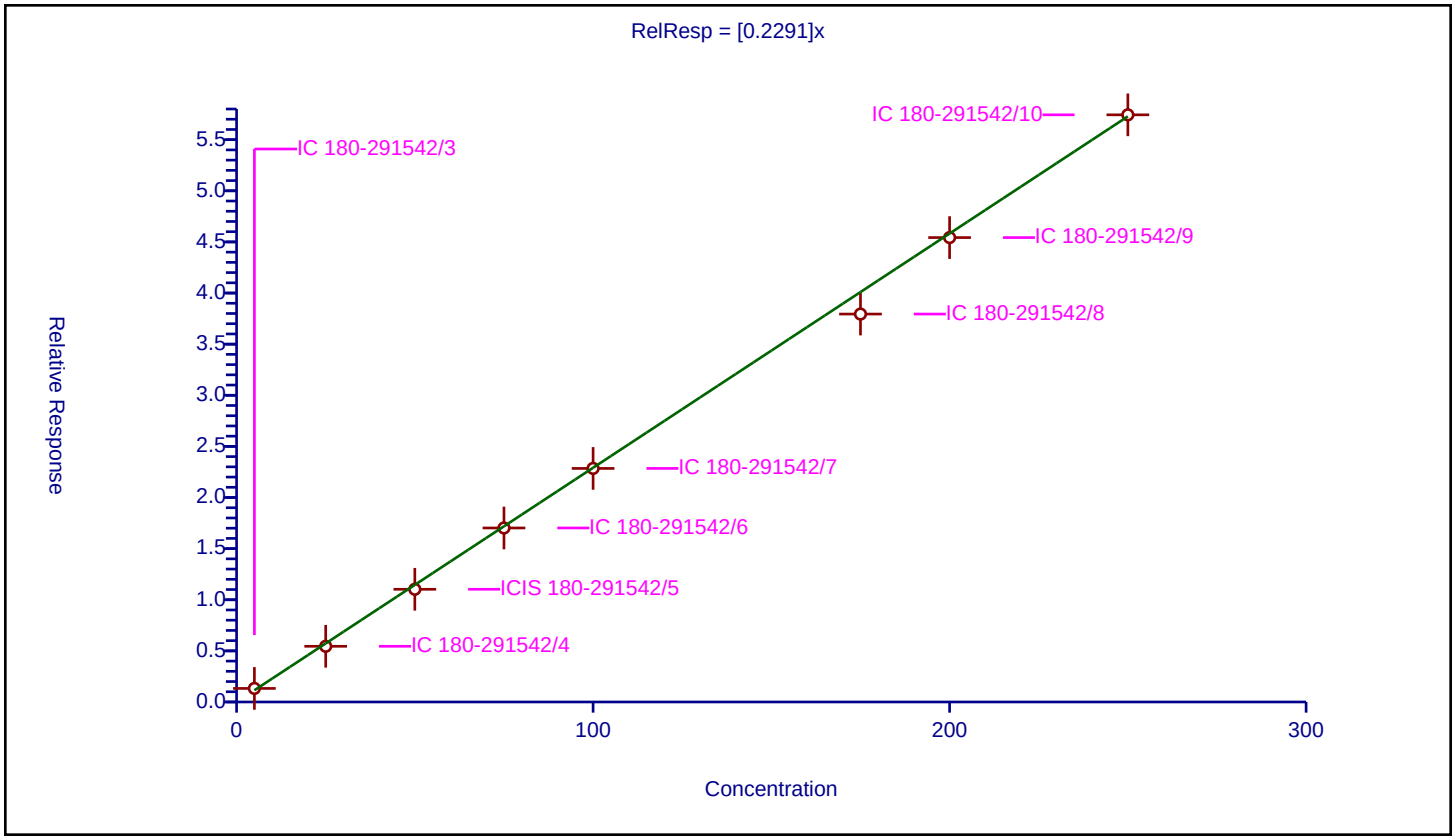

Calibration / 1,1,2-Trichloro-1,2,2-trifluoroethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.2383

Error Coefficients

Standard Error:	323000
Relative Standard Error:	9.5
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.988

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	1.468773	50.0	426206.0	0.293755	Y
2	IC 180-291542/4	25.0	5.706575	50.0	462081.0	0.228263	Y
3	ICIS 180-291542/5	50.0	11.405808	50.0	449350.0	0.228116	Y
4	IC 180-291542/6	75.0	17.717089	50.0	463877.0	0.236228	Y
5	IC 180-291542/7	100.0	23.394824	50.0	464030.0	0.233948	Y
6	IC 180-291542/8	175.0	39.194406	50.0	492680.0	0.223968	Y
7	IC 180-291542/9	200.0	46.101072	50.0	456369.0	0.230505	Y
8	IC 180-291542/10	250.0	57.809267	50.0	487709.0	0.231237	Y

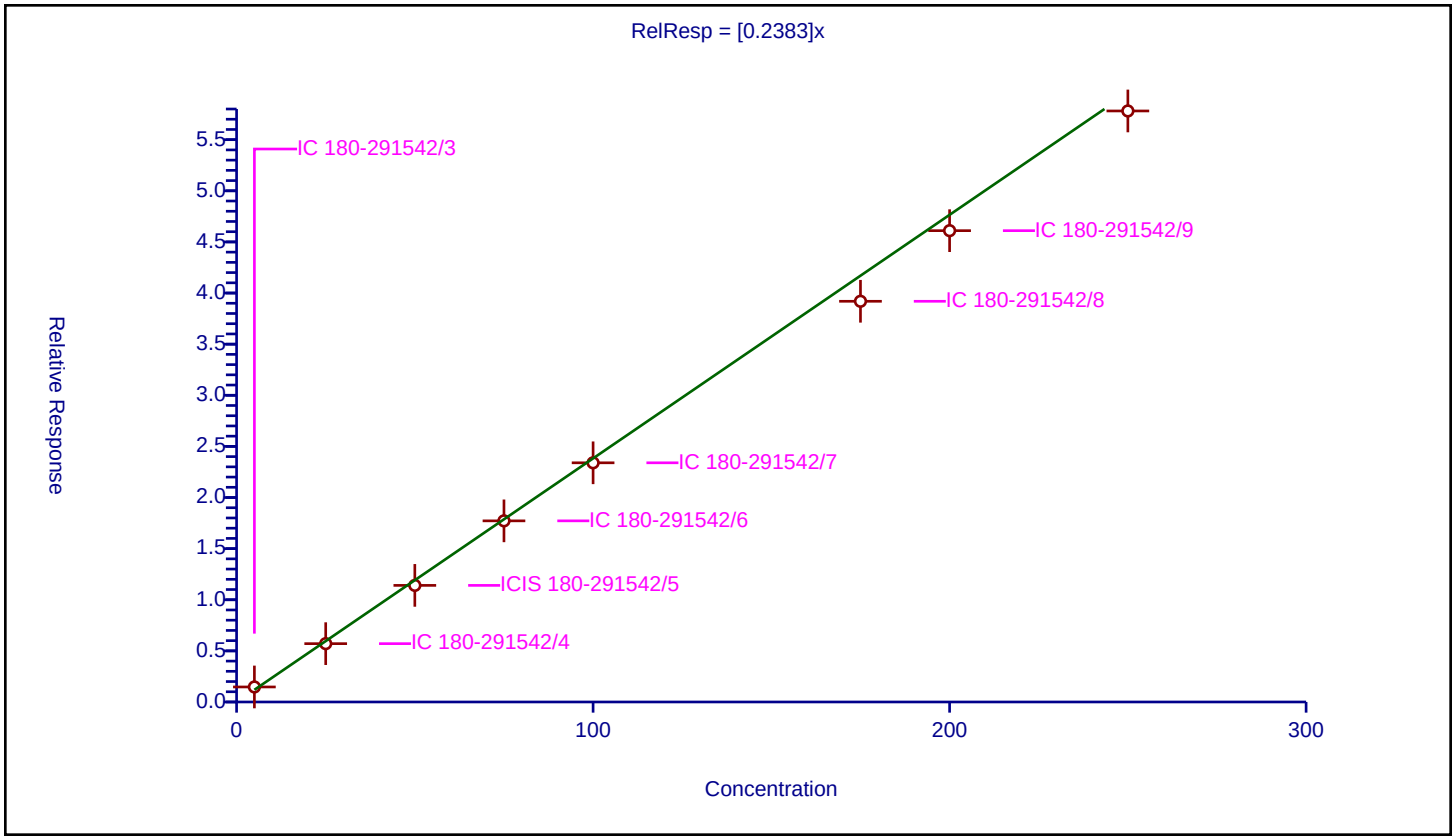

Calibration / Acetone

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.05543

Error Coefficients

Standard Error:	159000
Relative Standard Error:	20.2
Correlation Coefficient:	0.988
Coefficient of Determination (Adjusted):	0.949

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	25.0	1.064391	50.0	426206.0	0.042576	Y
2	IC 180-291542/4	50.0	1.935916	50.0	462081.0	0.038718	Y
3	ICIS 180-291542/5	100.0	5.819628	50.0	449350.0	0.058196	Y
4	IC 180-291542/6	150.0	11.06511	50.0	463877.0	0.073767	Y
5	IC 180-291542/7	200.0	12.813396	50.0	464030.0	0.064067	Y
6	IC 180-291542/8	350.0	18.600714	50.0	492680.0	0.053145	Y
7	IC 180-291542/9	400.0	23.284338	50.0	456369.0	0.058211	Y
8	IC 180-291542/10	500.0	27.380672	50.0	487709.0	0.054761	Y

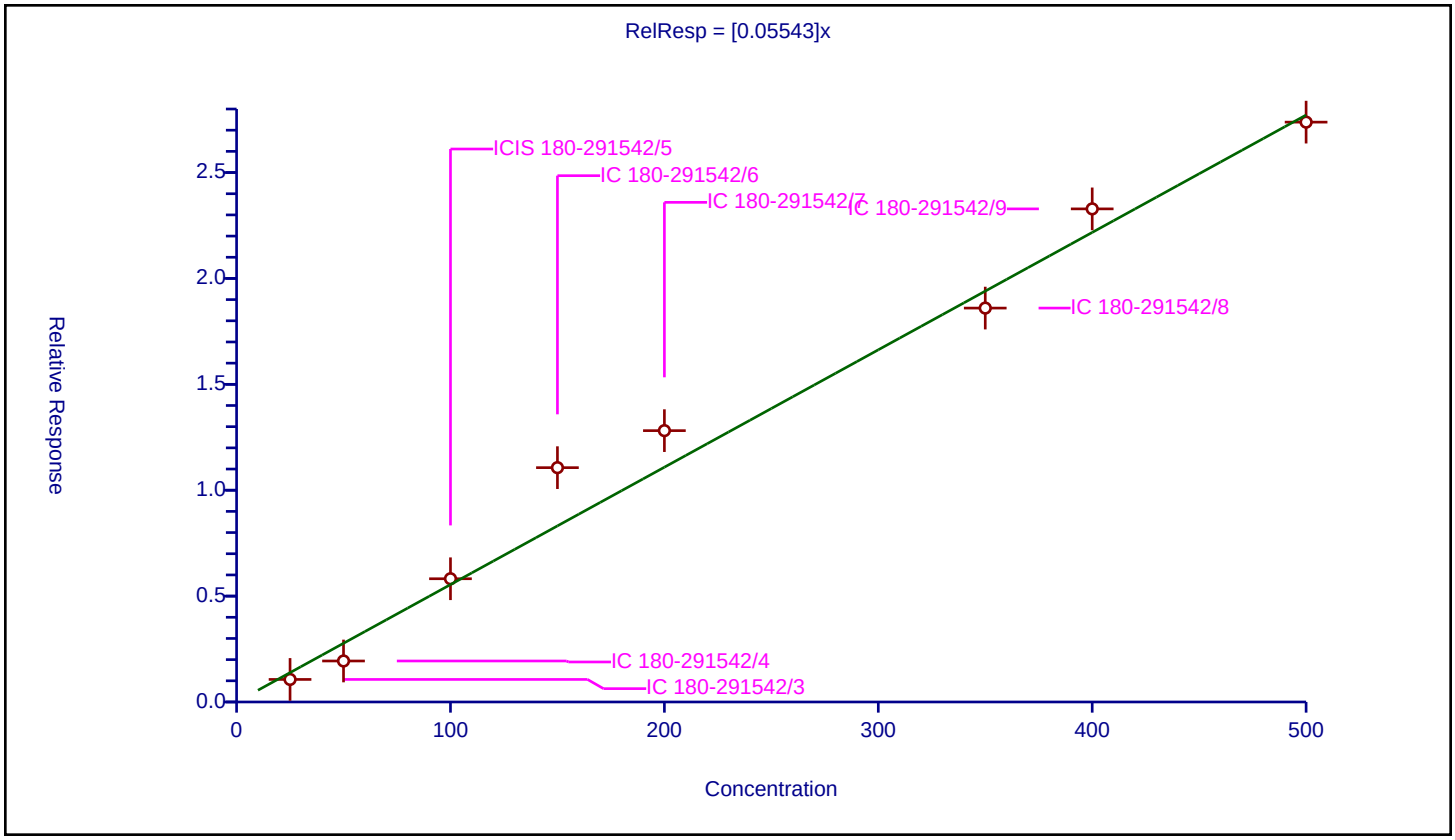

Calibration / Iodomethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.3678

Error Coefficients

Standard Error:	506000
Relative Standard Error:	6.6
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	2.126437	50.0	426206.0	0.425287	Y
2	IC 180-291542/4	25.0	8.910234	50.0	462081.0	0.356409	Y
3	ICIS 180-291542/5	50.0	17.753755	50.0	449350.0	0.355075	Y
4	IC 180-291542/6	75.0	27.282879	50.0	463877.0	0.363772	Y
5	IC 180-291542/7	100.0	36.431265	50.0	464030.0	0.364313	Y
6	IC 180-291542/8	175.0	60.930218	50.0	492680.0	0.348173	Y
7	IC 180-291542/9	200.0	73.886154	50.0	456369.0	0.369431	Y
8	IC 180-291542/10	250.0	89.909864	50.0	487709.0	0.359639	Y

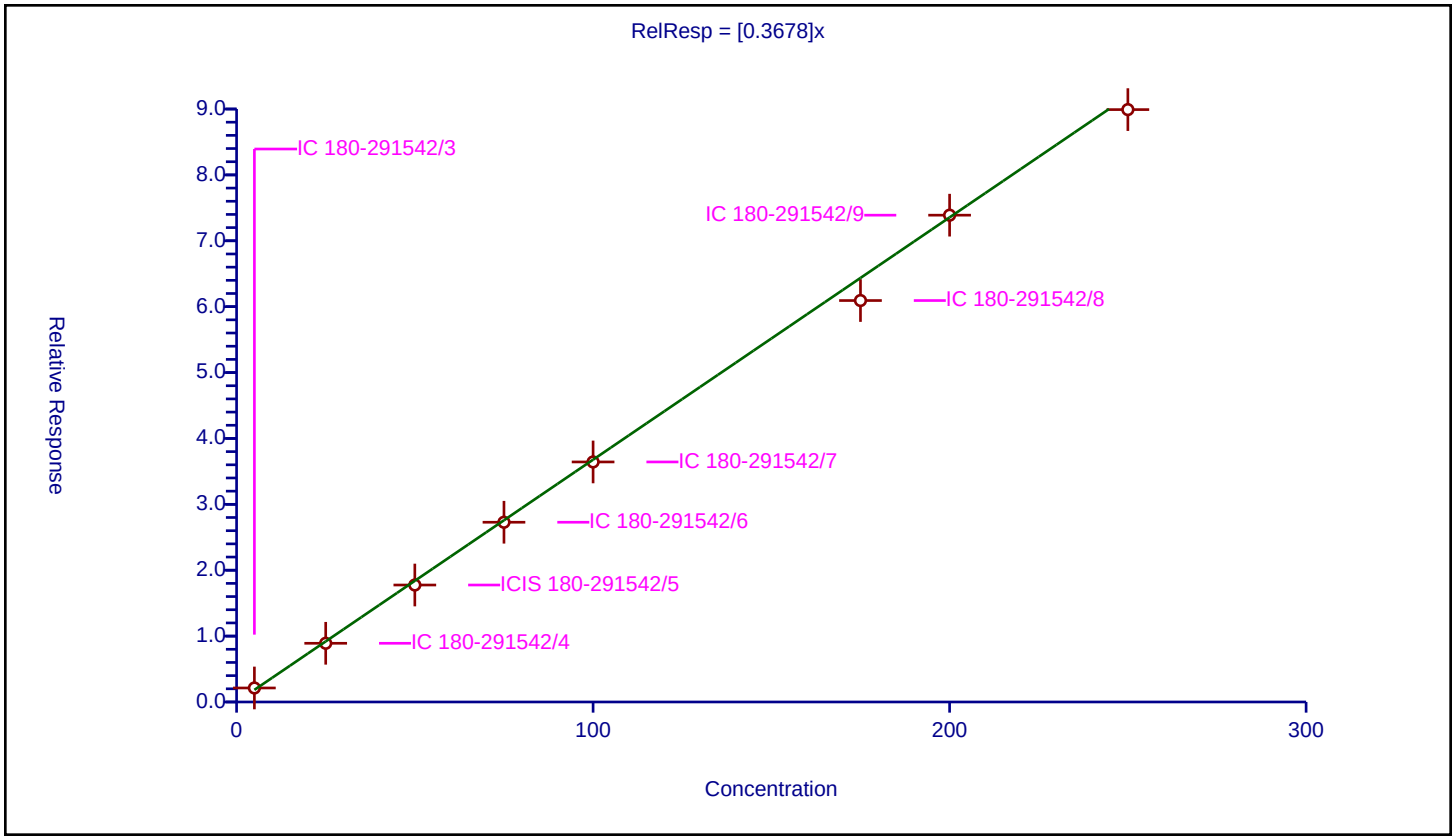

Calibration / Carbon disulfide

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.7549

Error Coefficients

Standard Error:	1100000
Relative Standard Error:	5.1
Correlation Coefficient:	0.997
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	3.901869	50.0	426206.0	0.780374	Y
2	IC 180-291542/4	25.0	17.223495	50.0	462081.0	0.68894	Y
3	ICIS 180-291542/5	50.0	35.479582	50.0	449350.0	0.709592	Y
4	IC 180-291542/6	75.0	56.555833	50.0	463877.0	0.754078	Y
5	IC 180-291542/7	100.0	76.318341	50.0	464030.0	0.763183	Y
6	IC 180-291542/8	175.0	131.671673	50.0	492680.0	0.75241	Y
7	IC 180-291542/9	200.0	158.121936	50.0	456369.0	0.79061	Y
8	IC 180-291542/10	250.0	200.042648	50.0	487709.0	0.800171	Y

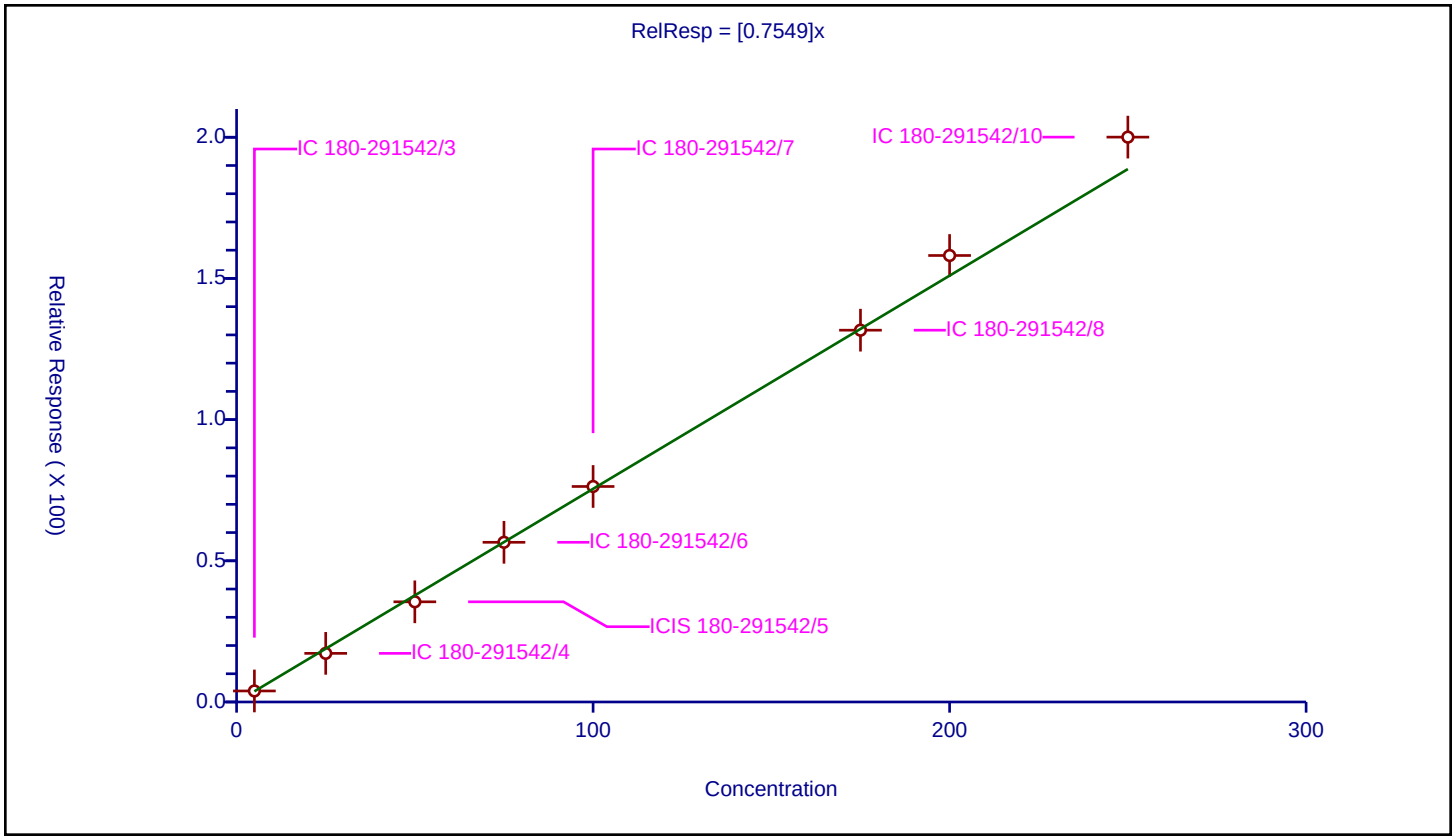

Calibration / 3-Chloro-1-propene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.1393

Error Coefficients

Standard Error:	203000
Relative Standard Error:	4.8
Correlation Coefficient:	0.995
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	0.712918	50.0	426206.0	0.142584	Y
2	IC 180-291542/4	25.0	3.211125	50.0	462081.0	0.128445	Y
3	ICIS 180-291542/5	50.0	6.567931	50.0	449350.0	0.131359	Y
4	IC 180-291542/6	75.0	10.593649	50.0	463877.0	0.141249	Y
5	IC 180-291542/7	100.0	13.934875	50.0	464030.0	0.139349	Y
6	IC 180-291542/8	175.0	24.261691	50.0	492680.0	0.138638	Y
7	IC 180-291542/9	200.0	28.736067	50.0	456369.0	0.14368	Y
8	IC 180-291542/10	250.0	37.245468	50.0	487709.0	0.148982	Y

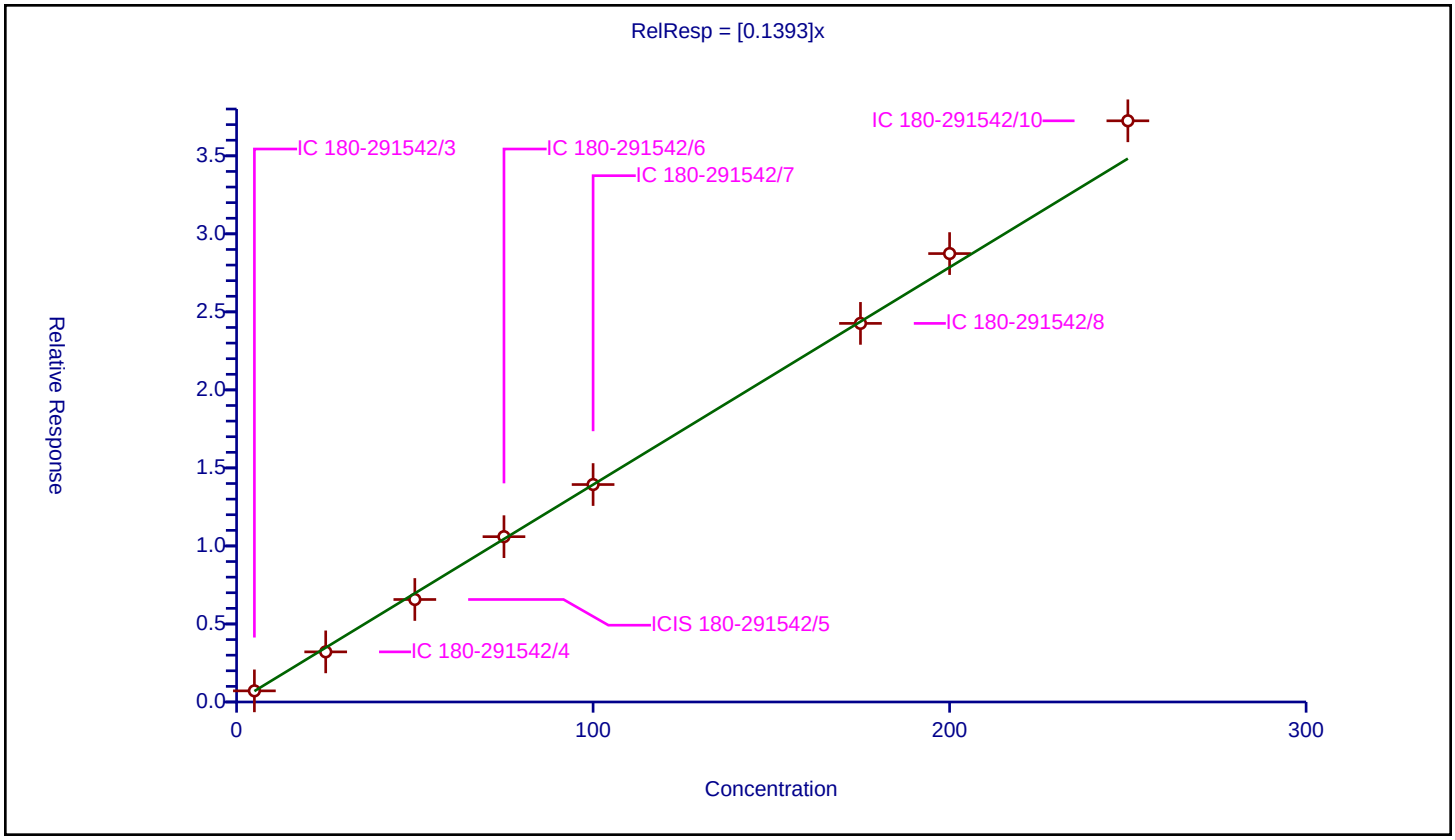

Calibration / Methyl acetate

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.09339

Error Coefficients

Standard Error:	170000
Relative Standard Error:	11.8
Correlation Coefficient:	0.994
Coefficient of Determination (Adjusted):	0.981

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	10.0	1.110027	50.0	426206.0	0.111003	Y
2	IC 180-291542/4	50.0	4.532647	50.0	462081.0	0.090653	Y
3	ICIS 180-291542/5	100.0	7.988873	50.0	449350.0	0.079889	Y
4	IC 180-291542/6	150.0	15.138172	50.0	463877.0	0.100921	Y
5	IC 180-291542/7	200.0	18.335237	50.0	464030.0	0.091676	Y
6	IC 180-291542/8	350.0	30.160347	50.0	492680.0	0.086172	Y
7	IC 180-291542/9	400.0	44.625511	50.0	456369.0	0.111564	N
8	IC 180-291542/10	500.0	40.941217	50.0	487709.0	0.081882	N

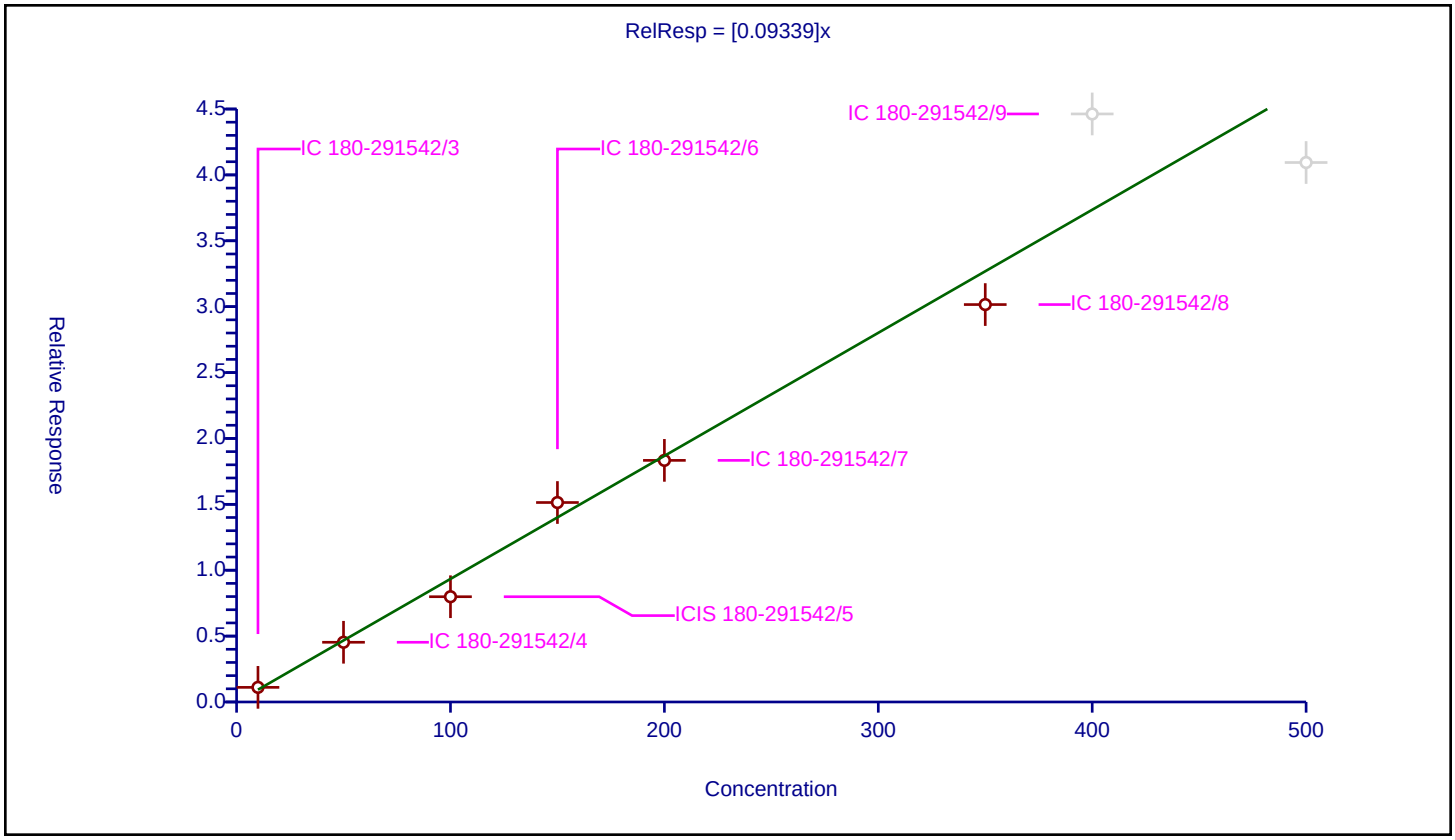

Calibration / Methylene Chloride

Curve Type:	Linear
Weighting:	Conc_Sq
Origin:	None
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	1.264
Slope:	0.215

Error Coefficients

Standard Error:	343000
Relative Standard Error:	4.8
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	2.350624	50.0	426206.0	0.470125	Y
2	IC 180-291542/4	25.0	6.443567	50.0	462081.0	0.257743	Y
3	ICIS 180-291542/5	50.0	11.26071	50.0	449350.0	0.225214	Y
4	IC 180-291542/6	75.0	17.822828	50.0	463877.0	0.237638	Y
5	IC 180-291542/7	100.0	23.059931	50.0	464030.0	0.230599	Y
6	IC 180-291542/8	175.0	38.024072	50.0	492680.0	0.21728	Y
7	IC 180-291542/9	200.0	47.528864	50.0	456369.0	0.237644	Y
8	IC 180-291542/10	250.0	55.206588	50.0	487709.0	0.220826	Y

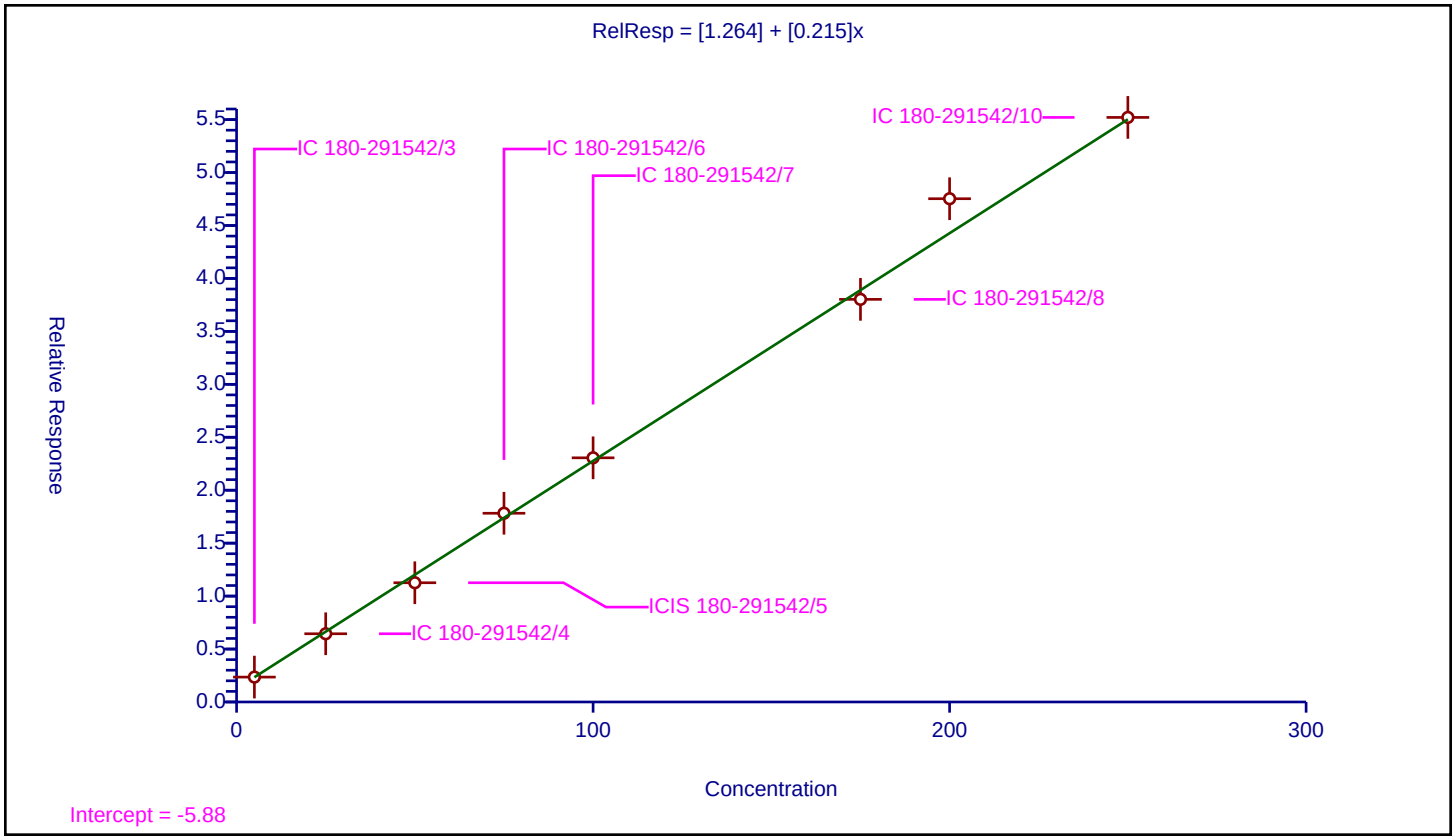

Calibration / 2-Methyl-2-propanol

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.304

Error Coefficients

Standard Error:	156000
Relative Standard Error:	19.8
Correlation Coefficient:	0.968
Coefficient of Determination (Adjusted):	0.949

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	50.0	82.155512	1000.0	75917.0	1.64311	Y
2	IC 180-291542/4	250.0	219.878516	1000.0	57127.0	0.879514	Y
3	ICIS 180-291542/5	500.0	579.965035	1000.0	85800.0	1.15993	Y
4	IC 180-291542/6	750.0	898.357143	1000.0	119487.0	1.19781	Y
5	IC 180-291542/7	1000.0	1378.41291	1000.0	93139.0	1.378413	Y
6	IC 180-291542/8	1750.0	2281.27072	1000.0	85967.0	1.303583	Y
7	IC 180-291542/9	2000.0	3124.583434	1000.0	90622.0	1.562292	Y
8	IC 180-291542/10	2500.0	3406.675417	1000.0	79995.0	1.36267	N

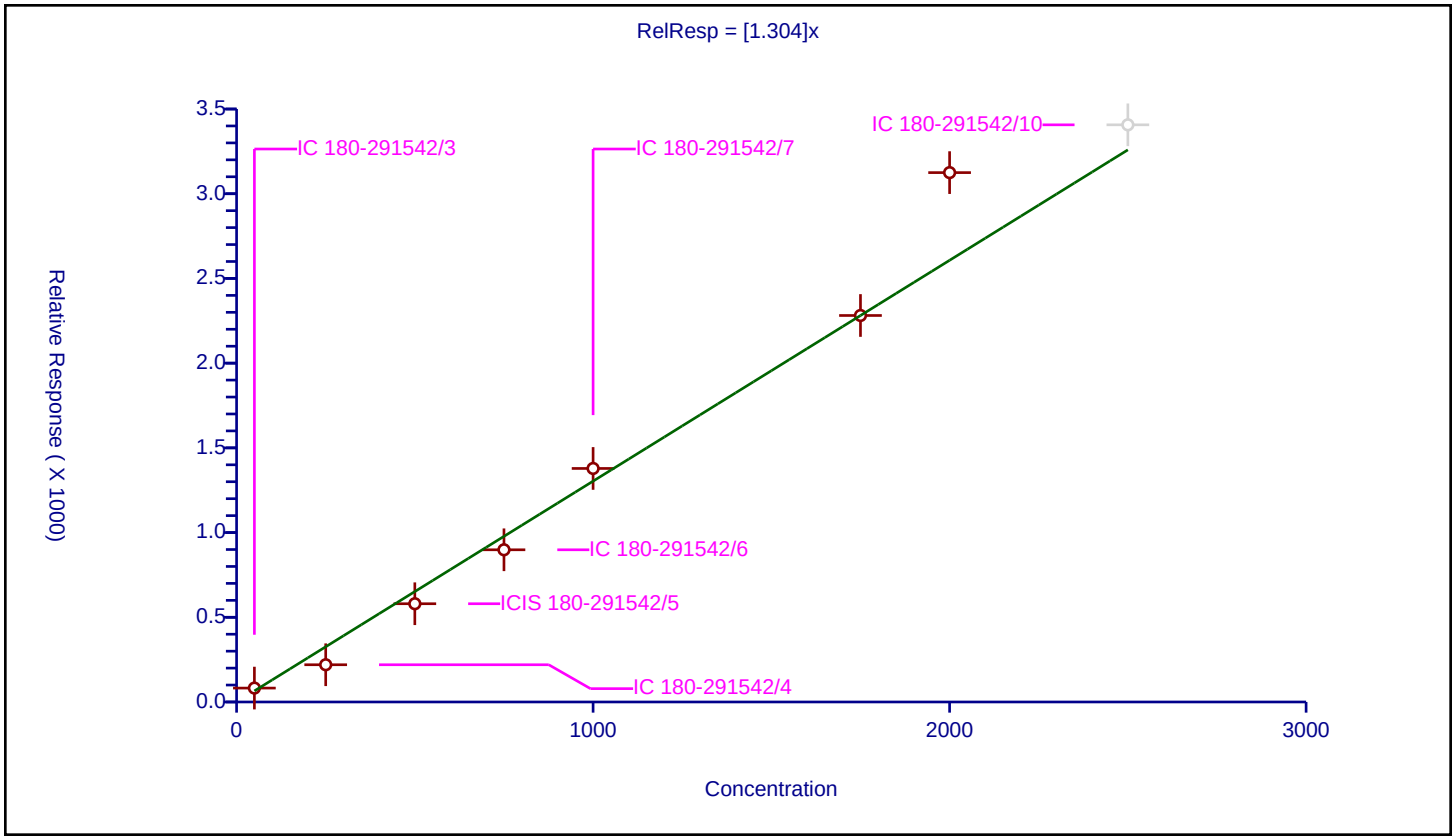

Calibration / Acrylonitrile

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.04231

Error Coefficients

Standard Error:	389000
Relative Standard Error:	12.8
Correlation Coefficient:	0.994
Coefficient of Determination (Adjusted):	0.977

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	50.0	2.544896	50.0	426206.0	0.050898	Y
2	IC 180-291542/4	250.0	9.437415	50.0	462081.0	0.03775	Y
3	ICIS 180-291542/5	500.0	18.480917	50.0	449350.0	0.036962	Y
4	IC 180-291542/6	750.0	34.733453	50.0	463877.0	0.046311	Y
5	IC 180-291542/7	1000.0	42.412883	50.0	464030.0	0.042413	Y
6	IC 180-291542/8	1750.0	69.146911	50.0	492680.0	0.039513	Y
7	IC 180-291542/9	2000.0	98.21274	50.0	456369.0	0.049106	N
8	IC 180-291542/10	2500.0	96.418766	50.0	487709.0	0.038568	N

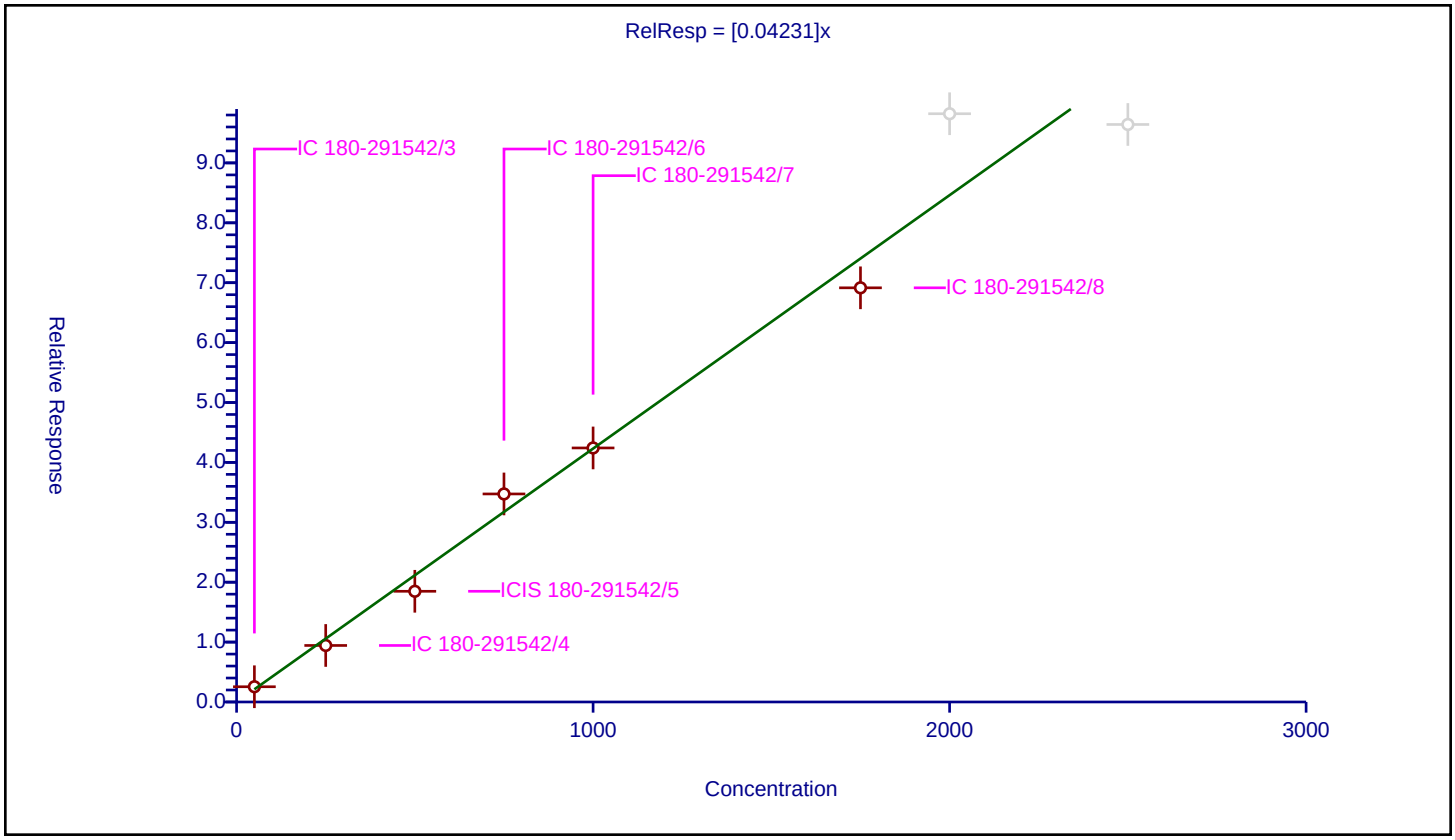

Calibration / trans-1,2-Dichloroethene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.2658

Error Coefficients

Standard Error:	372000
Relative Standard Error:	6.1
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	1.516755	50.0	426206.0	0.303351	Y
2	IC 180-291542/4	25.0	6.399311	50.0	462081.0	0.255972	Y
3	ICIS 180-291542/5	50.0	12.608546	50.0	449350.0	0.252171	Y
4	IC 180-291542/6	75.0	19.686684	50.0	463877.0	0.262489	Y
5	IC 180-291542/7	100.0	25.954572	50.0	464030.0	0.259546	Y
6	IC 180-291542/8	175.0	44.721219	50.0	492680.0	0.25555	Y
7	IC 180-291542/9	200.0	53.980332	50.0	456369.0	0.269902	Y
8	IC 180-291542/10	250.0	66.794133	50.0	487709.0	0.267177	Y

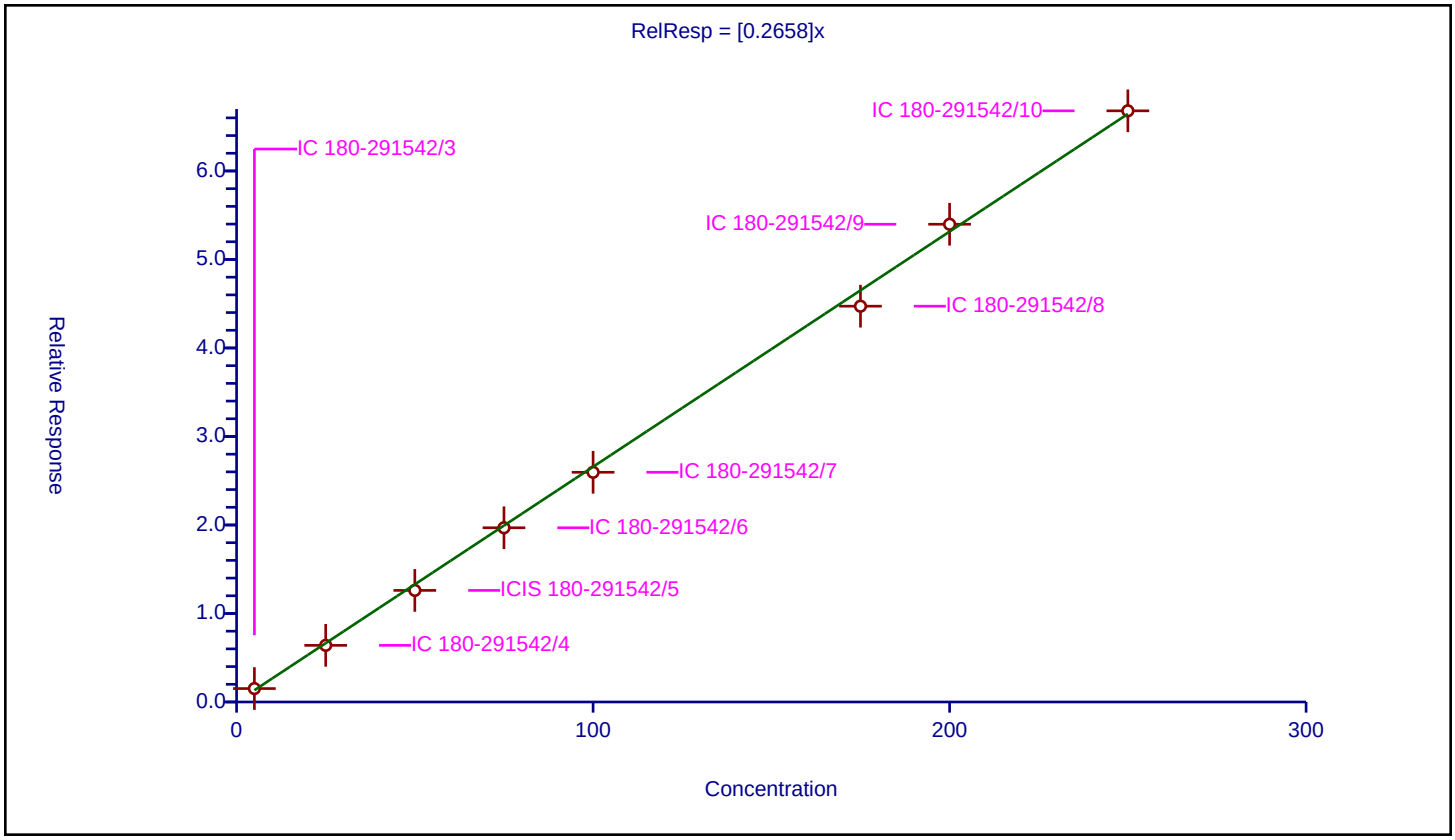

Calibration / Methyl tert-butyl ether

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.4385

Error Coefficients

Standard Error:	619000
Relative Standard Error:	7.2
Correlation Coefficient:	0.994
Coefficient of Determination (Adjusted):	0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	2.326926	50.0	426206.0	0.465385	Y
2	IC 180-291542/4	25.0	10.636014	50.0	462081.0	0.425441	Y
3	ICIS 180-291542/5	50.0	19.705241	50.0	449350.0	0.394105	Y
4	IC 180-291542/6	75.0	33.951673	50.0	463877.0	0.452689	Y
5	IC 180-291542/7	100.0	43.817533	50.0	464030.0	0.438175	Y
6	IC 180-291542/8	175.0	73.345072	50.0	492680.0	0.419115	Y
7	IC 180-291542/9	200.0	98.927732	50.0	456369.0	0.494639	Y
8	IC 180-291542/10	250.0	104.639754	50.0	487709.0	0.418559	Y

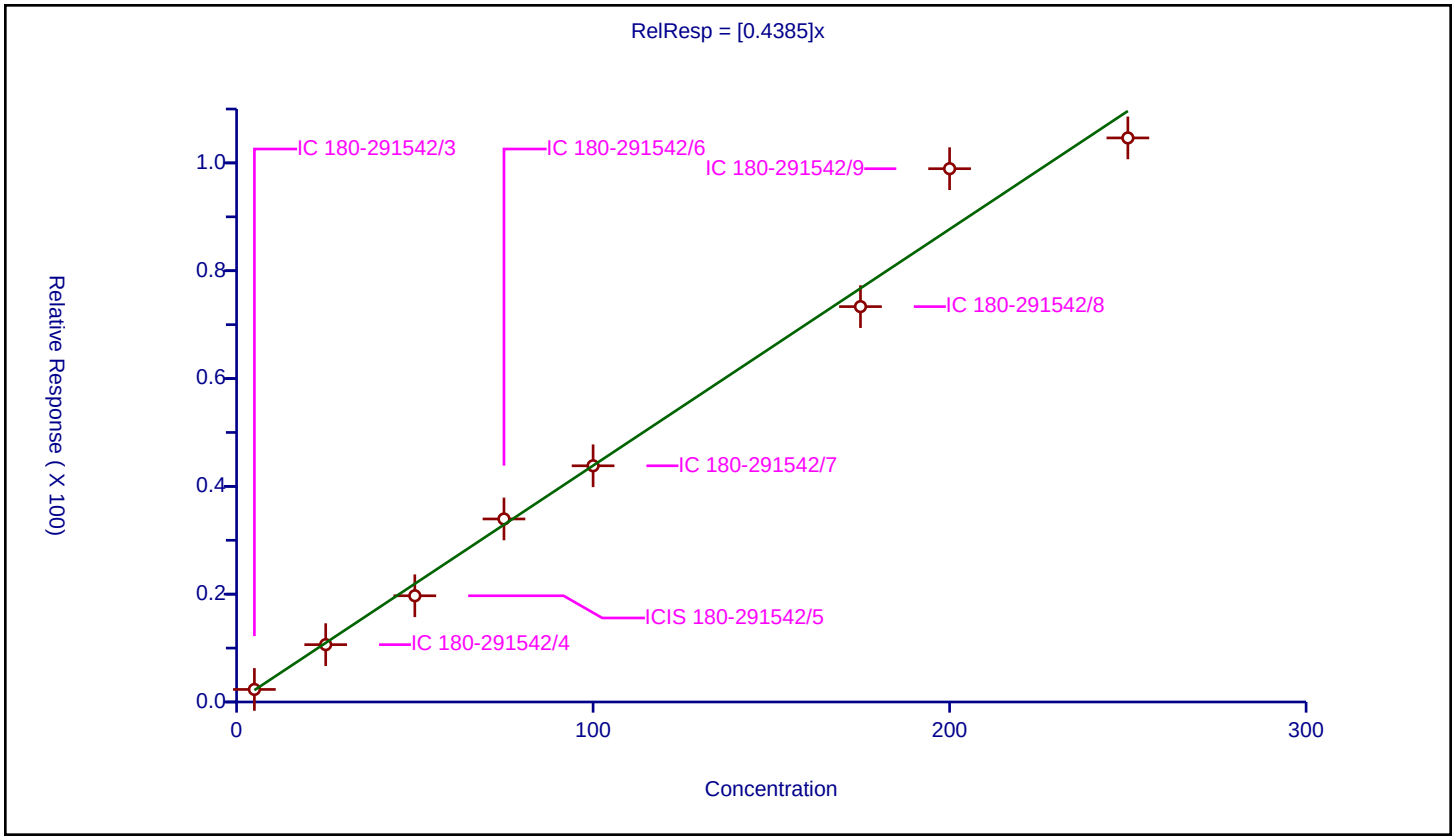

Calibration / Hexane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.4782

Error Coefficients

Standard Error:	653000
Relative Standard Error:	11.9
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.981

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	3.082899	50.0	426206.0	0.61658	Y
2	IC 180-291542/4	25.0	11.402546	50.0	462081.0	0.456102	Y
3	ICIS 180-291542/5	50.0	22.010014	50.0	449350.0	0.4402	Y
4	IC 180-291542/6	75.0	35.178614	50.0	463877.0	0.469048	Y
5	IC 180-291542/7	100.0	45.284141	50.0	464030.0	0.452841	Y
6	IC 180-291542/8	175.0	78.683121	50.0	492680.0	0.449618	Y
7	IC 180-291542/9	200.0	94.653559	50.0	456369.0	0.473268	Y
8	IC 180-291542/10	250.0	116.909161	50.0	487709.0	0.467637	Y

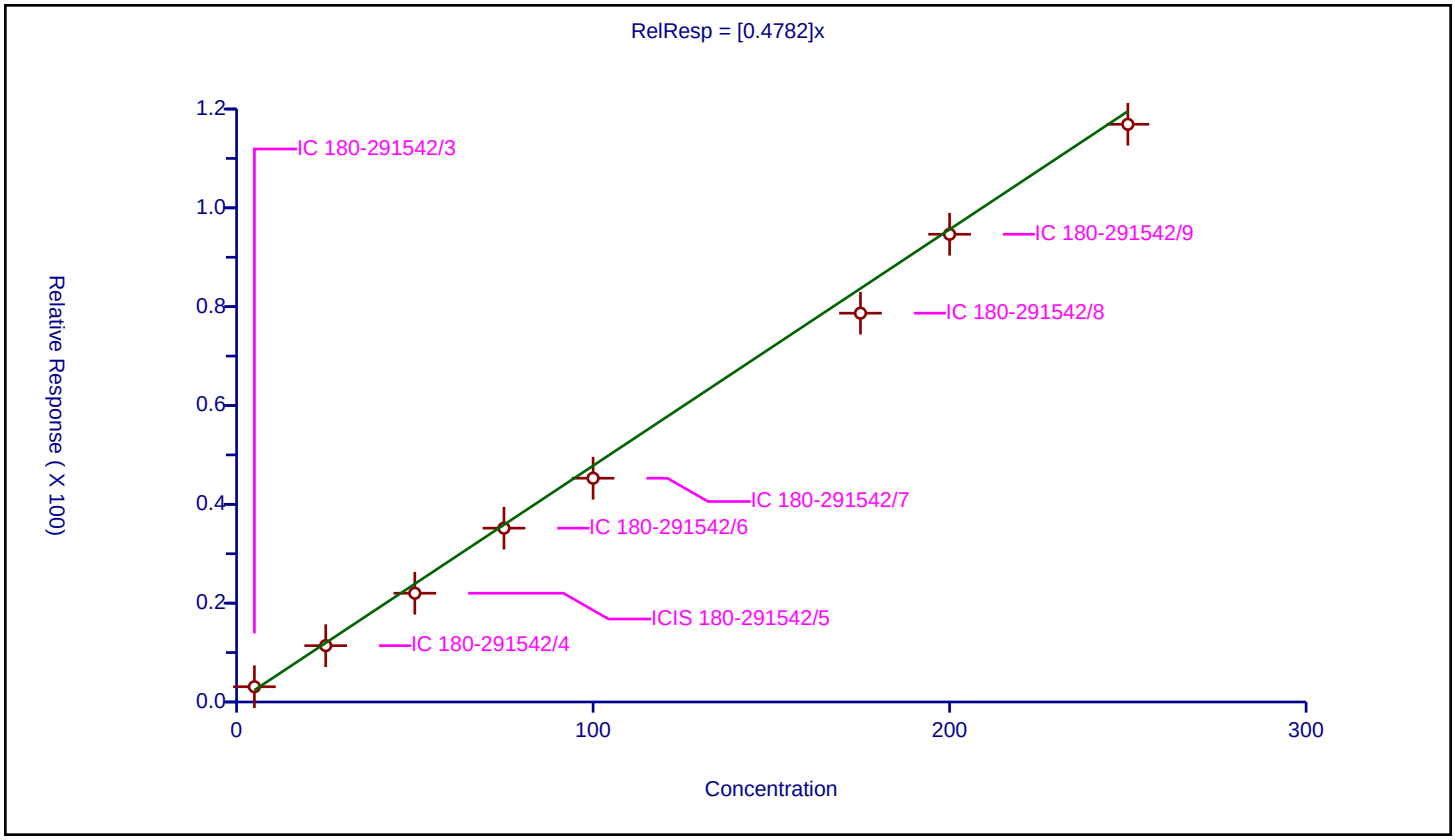

Calibration / 1,1-Dichloroethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.4403

Error Coefficients

Standard Error:	617000
Relative Standard Error:	6.4
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	2.51545	50.0	426206.0	0.50309	Y
2	IC 180-291542/4	25.0	10.47035	50.0	462081.0	0.418814	Y
3	ICIS 180-291542/5	50.0	20.696339	50.0	449350.0	0.413927	Y
4	IC 180-291542/6	75.0	32.569625	50.0	463877.0	0.434262	Y
5	IC 180-291542/7	100.0	43.617223	50.0	464030.0	0.436172	Y
6	IC 180-291542/8	175.0	74.200698	50.0	492680.0	0.424004	Y
7	IC 180-291542/9	200.0	90.5079	50.0	456369.0	0.45254	Y
8	IC 180-291542/10	250.0	109.995305	50.0	487709.0	0.439981	Y

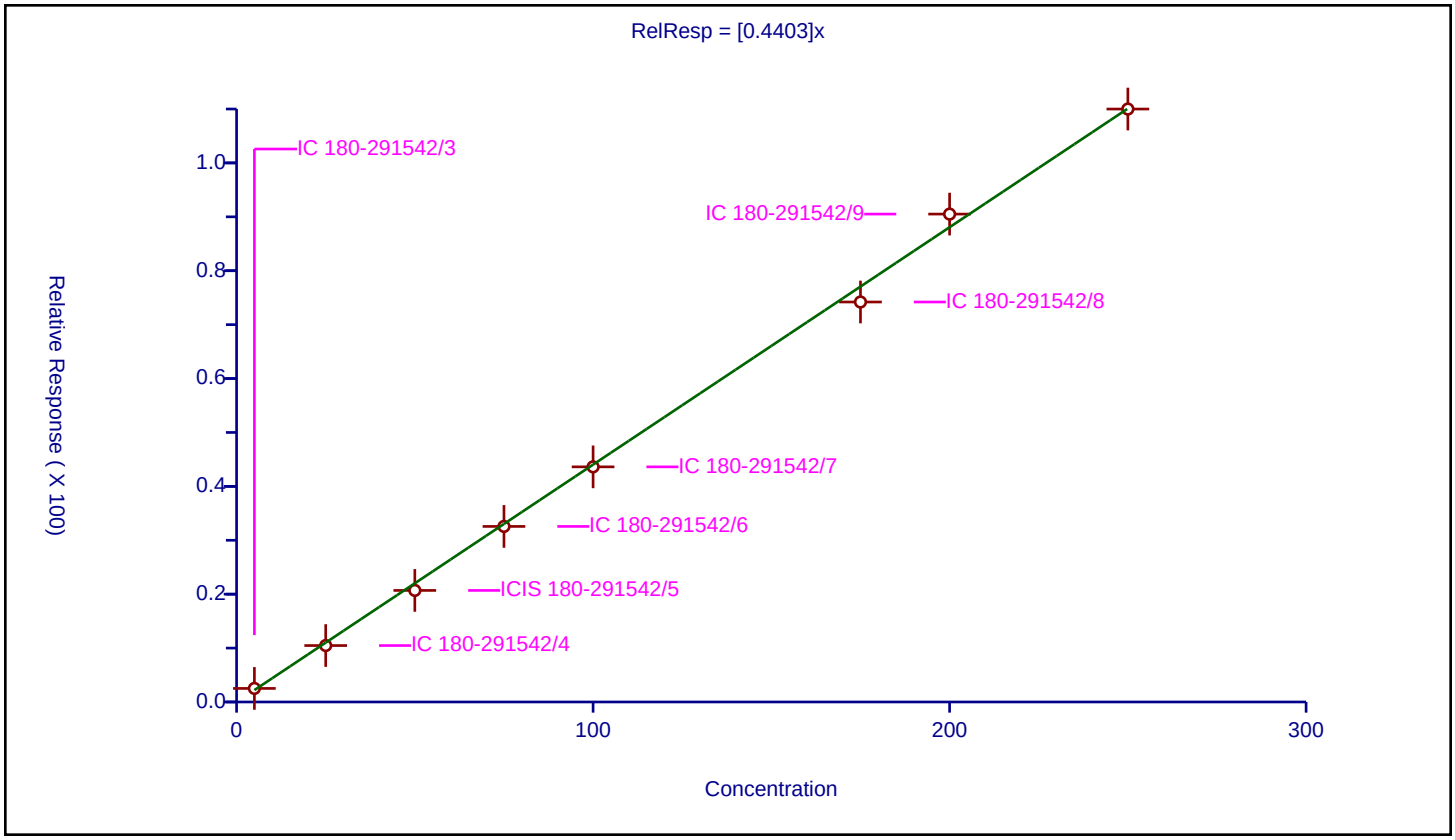

Calibration / 2,2-Dichloropropane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.0533

Error Coefficients

Standard Error:	74900
Relative Standard Error:	4.7
Correlation Coefficient:	0.997
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	0.288241	50.0	426206.0	0.057648	Y
2	IC 180-291542/4	25.0	1.266012	50.0	462081.0	0.05064	Y
3	ICIS 180-291542/5	50.0	2.50128	50.0	449350.0	0.050026	Y
4	IC 180-291542/6	75.0	3.92852	50.0	463877.0	0.05238	Y
5	IC 180-291542/7	100.0	5.57895	50.0	464030.0	0.055789	Y
6	IC 180-291542/8	175.0	9.44193	50.0	492680.0	0.053954	Y
7	IC 180-291542/9	200.0	10.679845	50.0	456369.0	0.053399	Y
8	IC 180-291542/10	250.0	13.134984	50.0	487709.0	0.05254	Y

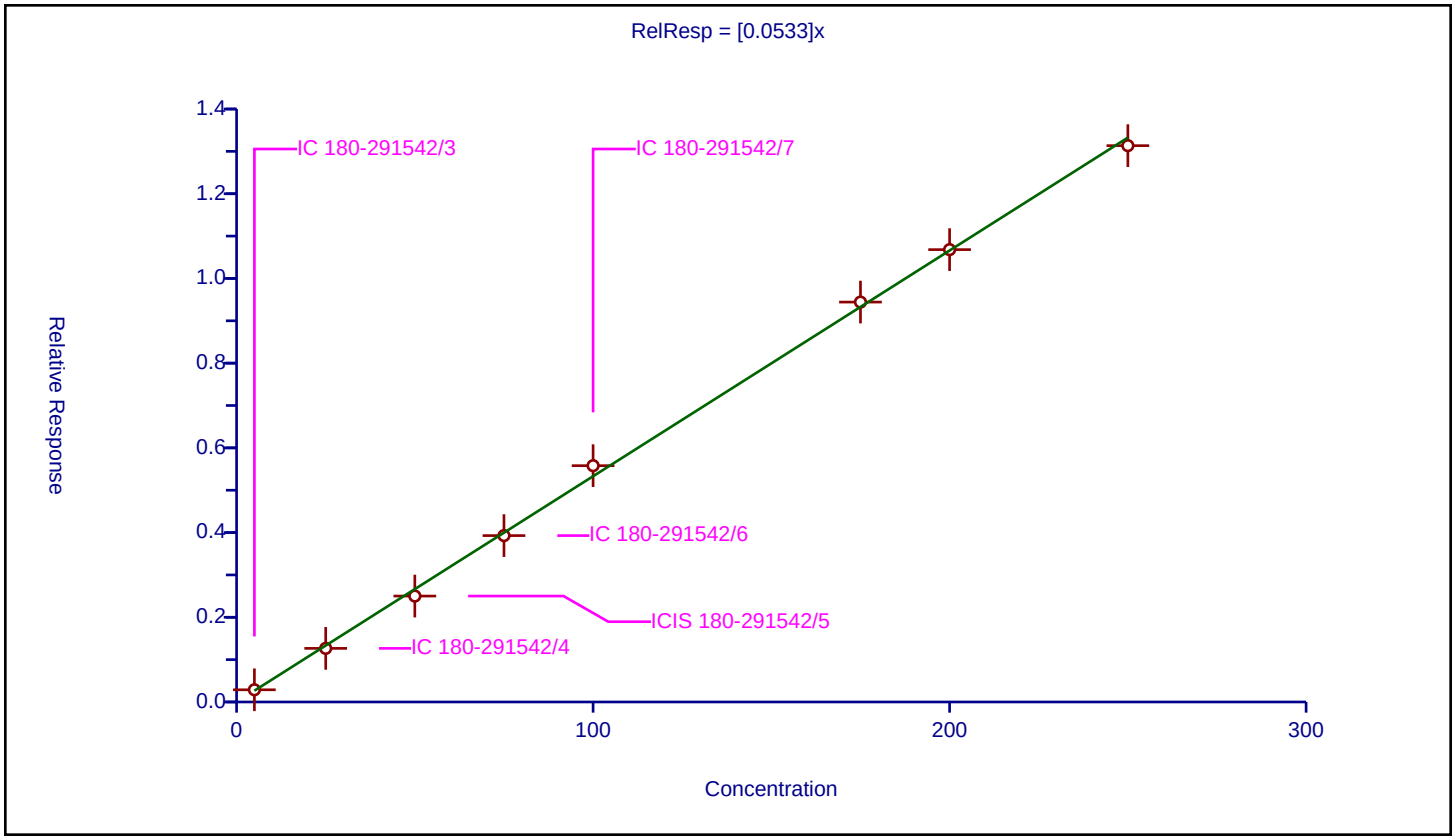

Calibration / cis-1,2-Dichloroethene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.2796

Error Coefficients

Standard Error:	391000
Relative Standard Error:	6.0
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	1.580456	50.0	426206.0	0.316091	Y
2	IC 180-291542/4	25.0	6.635092	50.0	462081.0	0.265404	Y
3	ICIS 180-291542/5	50.0	13.225771	50.0	449350.0	0.264515	Y
4	IC 180-291542/6	75.0	21.015808	50.0	463877.0	0.280211	Y
5	IC 180-291542/7	100.0	27.785919	50.0	464030.0	0.277859	Y
6	IC 180-291542/8	175.0	46.994804	50.0	492680.0	0.268542	Y
7	IC 180-291542/9	200.0	57.627161	50.0	456369.0	0.288136	Y
8	IC 180-291542/10	250.0	69.110269	50.0	487709.0	0.276441	Y

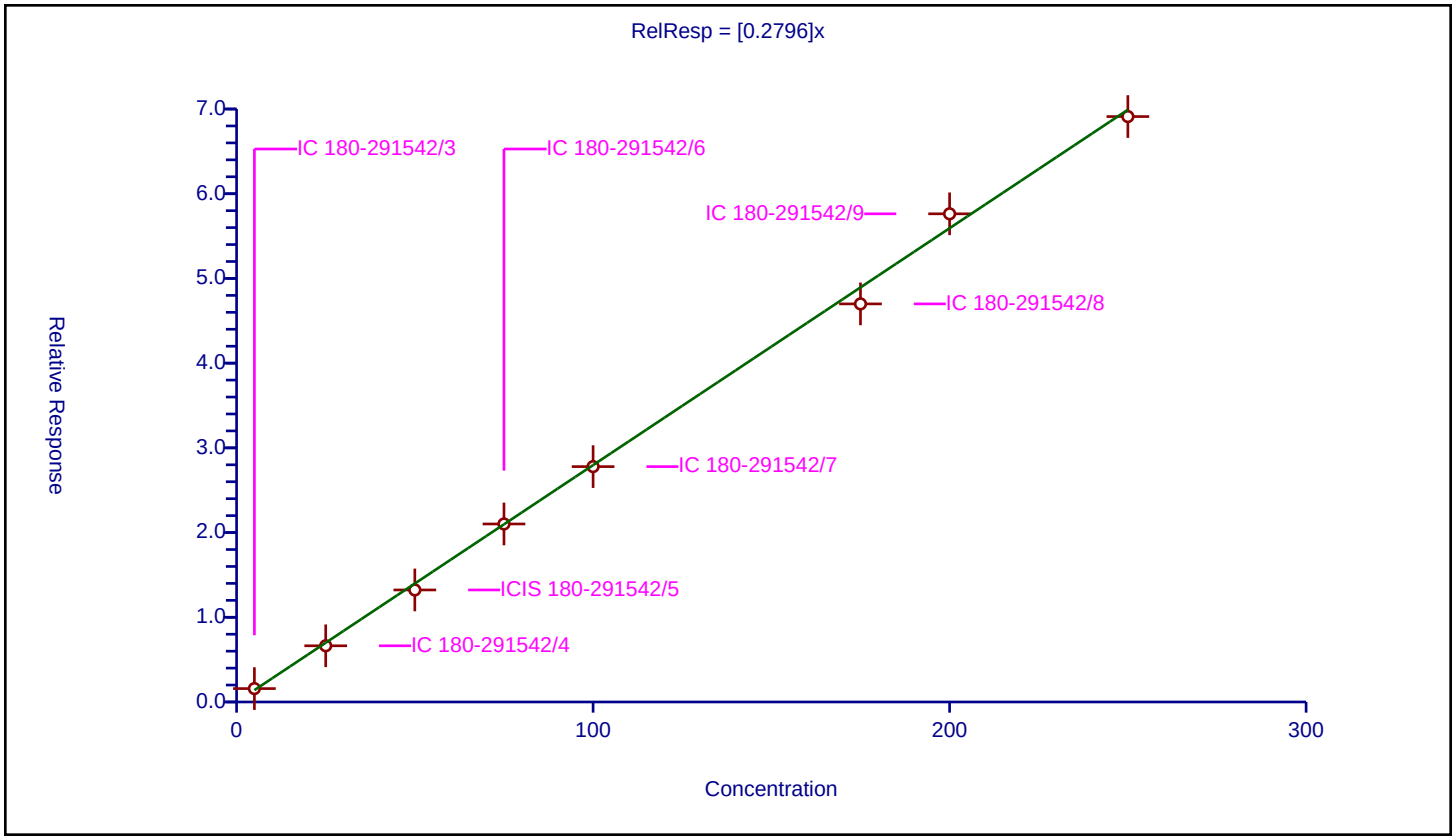

Calibration / 2-Butanone (MEK)

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.073

Error Coefficients

Standard Error:	144000
Relative Standard Error:	17.1
Correlation Coefficient:	0.982
Coefficient of Determination (Adjusted):	0.958

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	25.0	1.438506	50.0	426206.0	0.05754	Y
2	IC 180-291542/4	50.0	3.19998	50.0	462081.0	0.064	Y
3	ICIS 180-291542/5	100.0	7.28608	50.0	449350.0	0.072861	Y
4	IC 180-291542/6	150.0	13.947663	50.0	463877.0	0.092984	Y
5	IC 180-291542/7	200.0	16.040989	50.0	464030.0	0.080205	Y
6	IC 180-291542/8	350.0	24.648352	50.0	492680.0	0.070424	Y
7	IC 180-291542/9	400.0	34.523379	50.0	456369.0	0.086308	N
8	IC 180-291542/10	500.0	36.16142	50.0	487709.0	0.072323	N

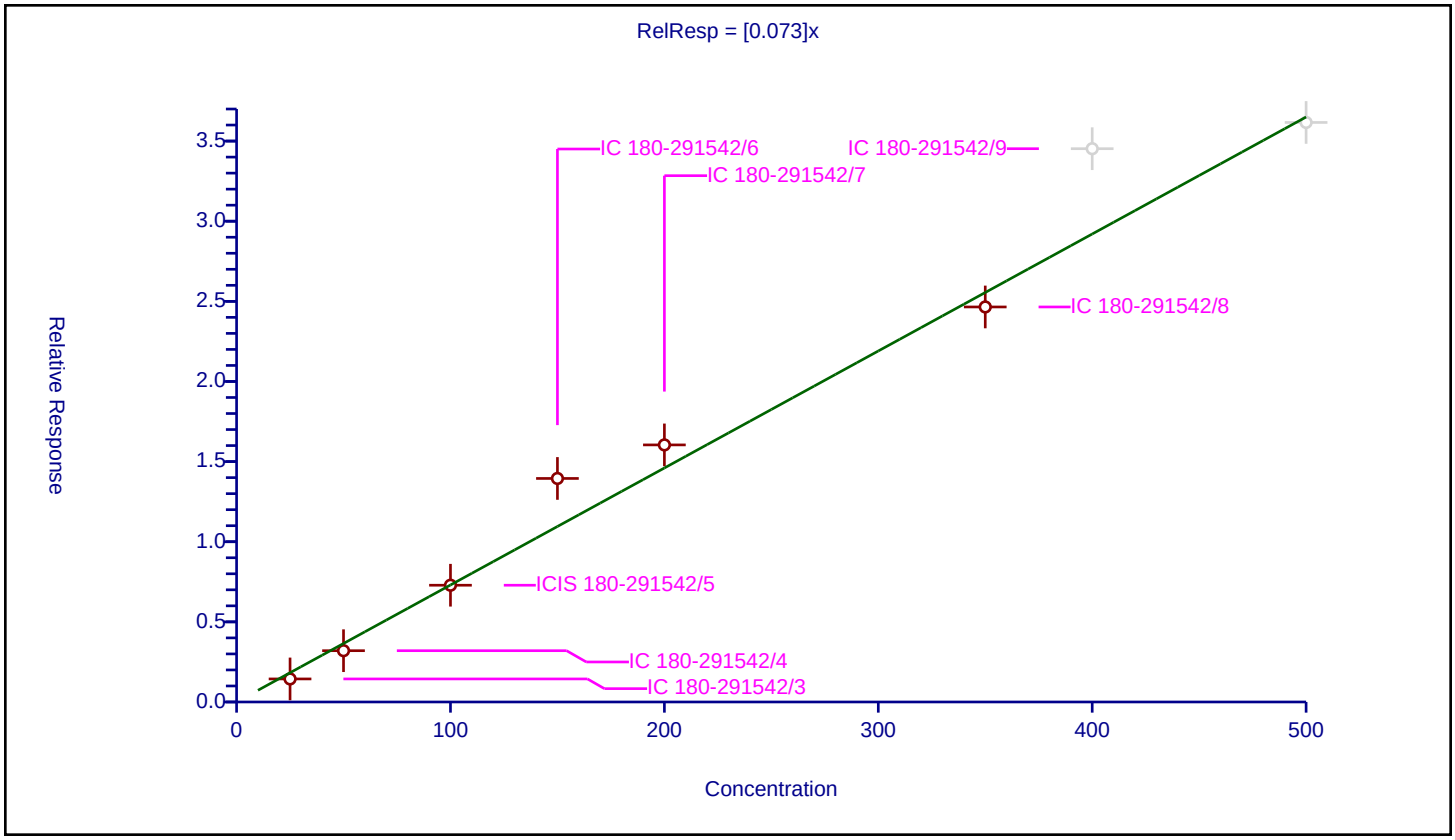

Calibration / Chlorobromomethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.1132

Error Coefficients

Standard Error:	158000
Relative Standard Error:	5.1
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	0.594783	50.0	426206.0	0.118957	Y
2	IC 180-291542/4	25.0	2.719112	50.0	462081.0	0.108764	Y
3	ICIS 180-291542/5	50.0	5.350395	50.0	449350.0	0.107008	Y
4	IC 180-291542/6	75.0	8.811603	50.0	463877.0	0.117488	Y
5	IC 180-291542/7	100.0	11.437299	50.0	464030.0	0.114373	Y
6	IC 180-291542/8	175.0	18.937647	50.0	492680.0	0.108215	Y
7	IC 180-291542/9	200.0	24.427711	50.0	456369.0	0.122139	Y
8	IC 180-291542/10	250.0	27.206592	50.0	487709.0	0.108826	Y

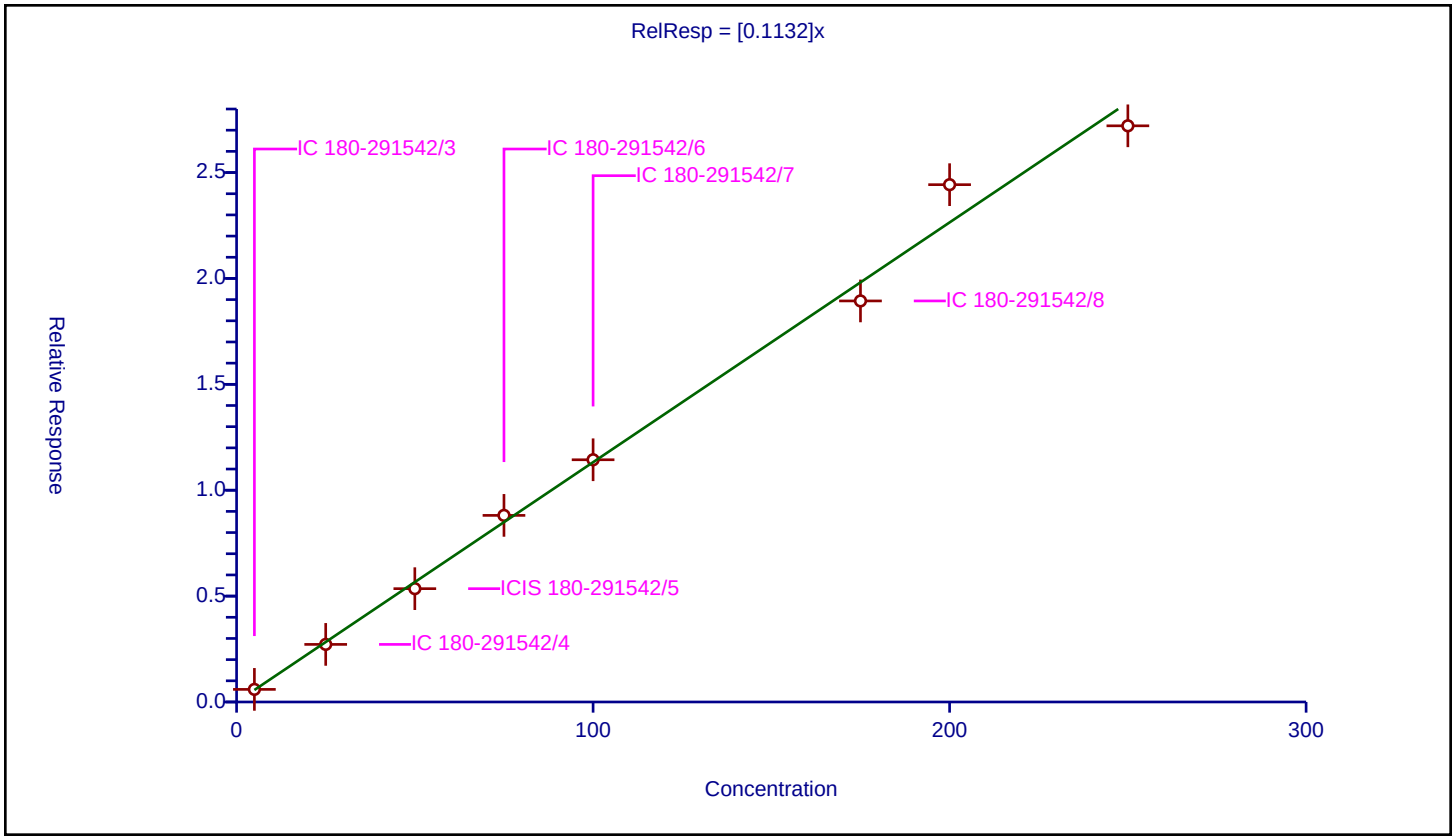

Calibration / Tetrahydrofuran

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.04104

Error Coefficients

Standard Error:	79100
Relative Standard Error:	9.8
Correlation Coefficient:	0.992
Coefficient of Determination (Adjusted):	0.988

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	10.0	0.41975	50.0	426206.0	0.041975	Y
2	IC 180-291542/4	50.0	1.906917	50.0	462081.0	0.038138	Y
3	ICIS 180-291542/5	100.0	3.558696	50.0	449350.0	0.035587	Y
4	IC 180-291542/6	150.0	7.053917	50.0	463877.0	0.047026	Y
5	IC 180-291542/7	200.0	8.672069	50.0	464030.0	0.04336	Y
6	IC 180-291542/8	350.0	14.060952	50.0	492680.0	0.040174	Y
7	IC 180-291542/9	400.0	20.99058	50.0	456369.0	0.052476	N
8	IC 180-291542/10	500.0	19.419982	50.0	487709.0	0.03884	N

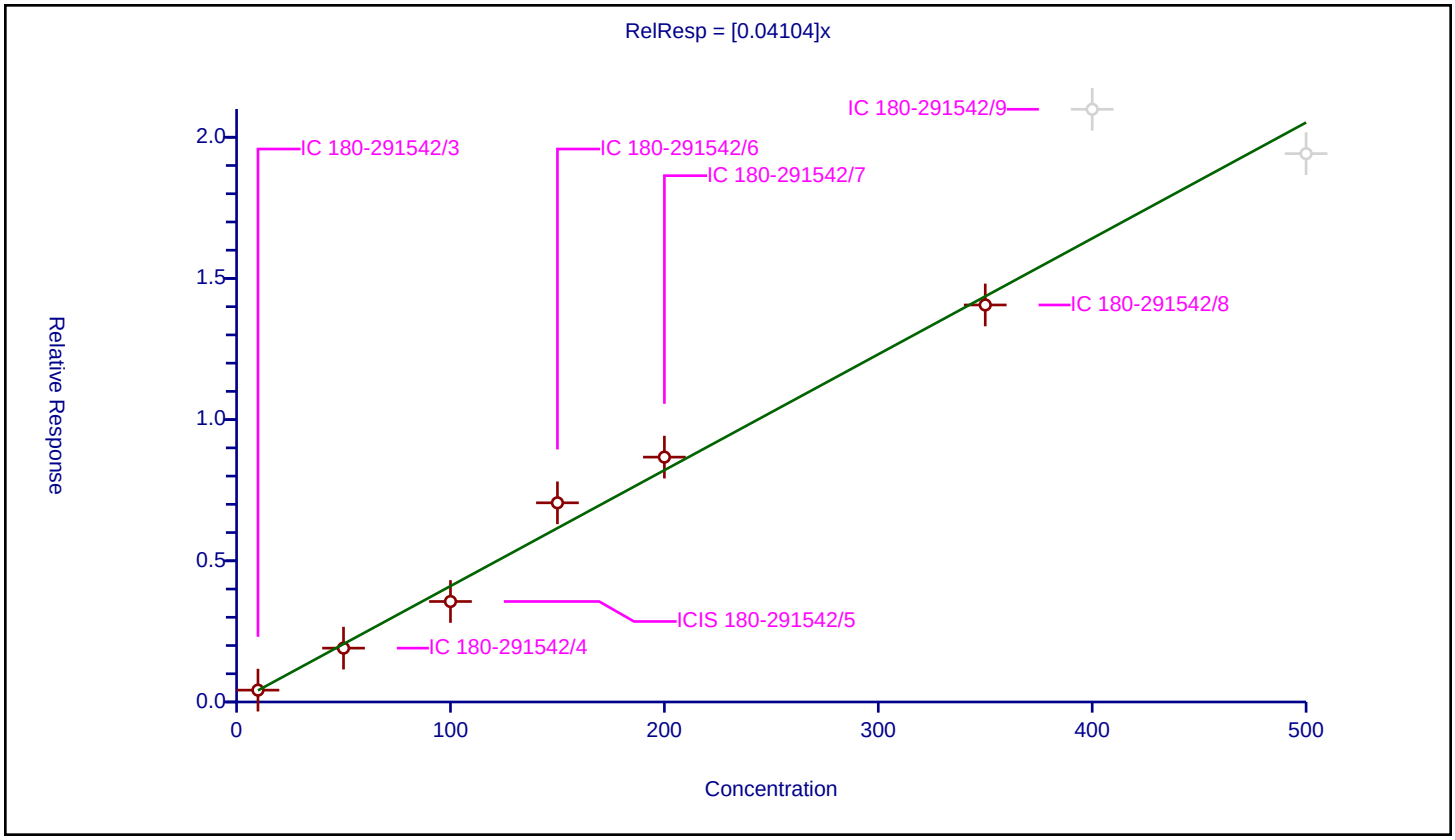

Calibration / Chloroform

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.4456

Error Coefficients

Standard Error:	595000
Relative Standard Error:	16.0
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.964

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	3.099206	50.0	426206.0	0.619841	Y
2	IC 180-291542/4	25.0	10.606257	50.0	462081.0	0.42425	Y
3	ICIS 180-291542/5	50.0	20.232336	50.0	449350.0	0.404647	Y
4	IC 180-291542/6	75.0	31.906626	50.0	463877.0	0.425422	Y
5	IC 180-291542/7	100.0	42.226149	50.0	464030.0	0.422261	Y
6	IC 180-291542/8	175.0	71.324389	50.0	492680.0	0.407568	Y
7	IC 180-291542/9	200.0	87.652097	50.0	456369.0	0.43826	Y
8	IC 180-291542/10	250.0	105.595857	50.0	487709.0	0.422383	Y

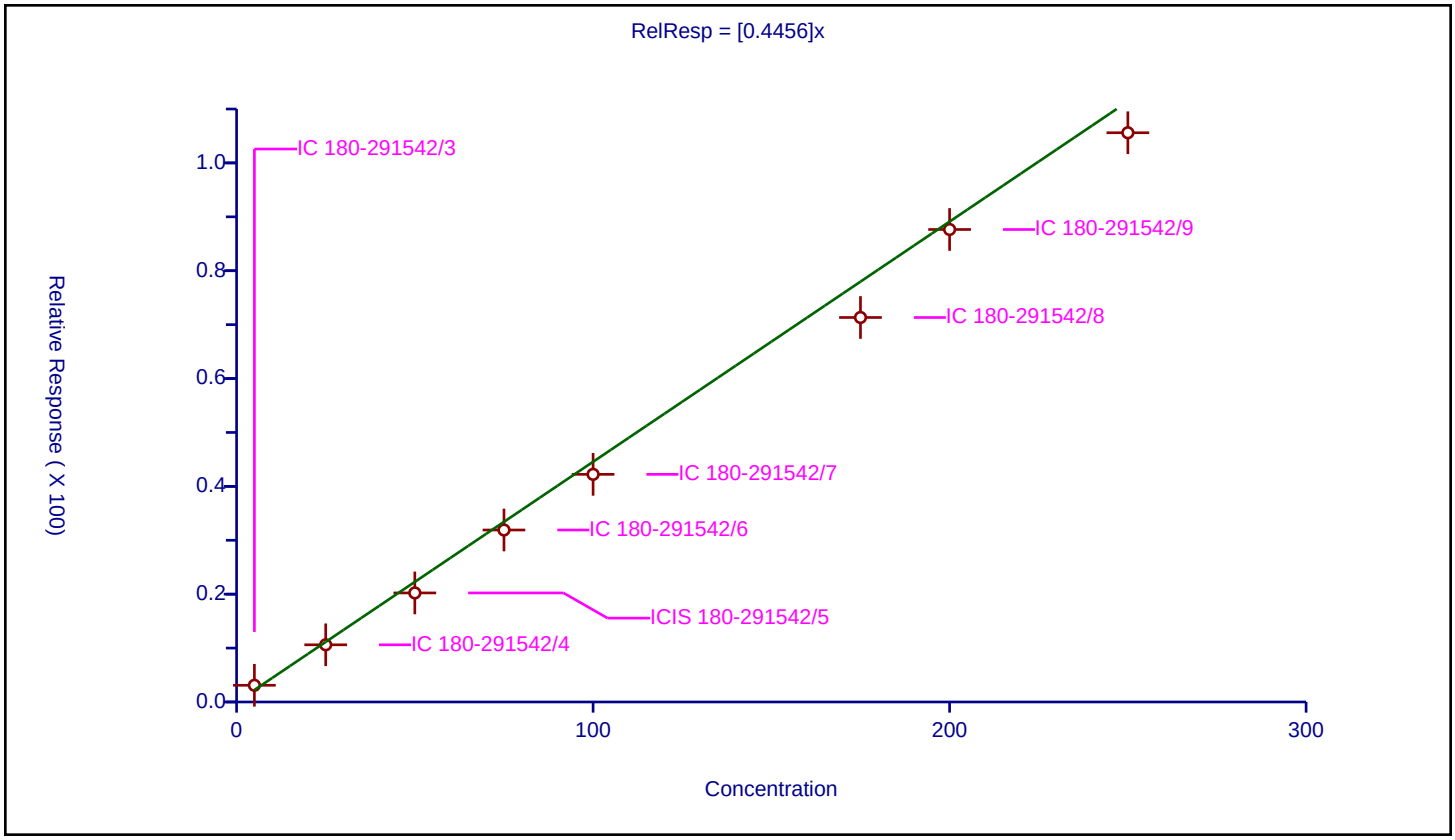

Calibration / 1,1,1-Trichloroethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.3587

Error Coefficients

Standard Error:	510000
Relative Standard Error:	4.5
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	1.935801	50.0	426206.0	0.38716	Y
2	IC 180-291542/4	25.0	8.441269	50.0	462081.0	0.337651	Y
3	ICIS 180-291542/5	50.0	16.944364	50.0	449350.0	0.338887	Y
4	IC 180-291542/6	75.0	26.742542	50.0	463877.0	0.356567	Y
5	IC 180-291542/7	100.0	35.983773	50.0	464030.0	0.359838	Y
6	IC 180-291542/8	175.0	62.319558	50.0	492680.0	0.356112	Y
7	IC 180-291542/9	200.0	73.910476	50.0	456369.0	0.369552	Y
8	IC 180-291542/10	250.0	90.976381	50.0	487709.0	0.363906	Y

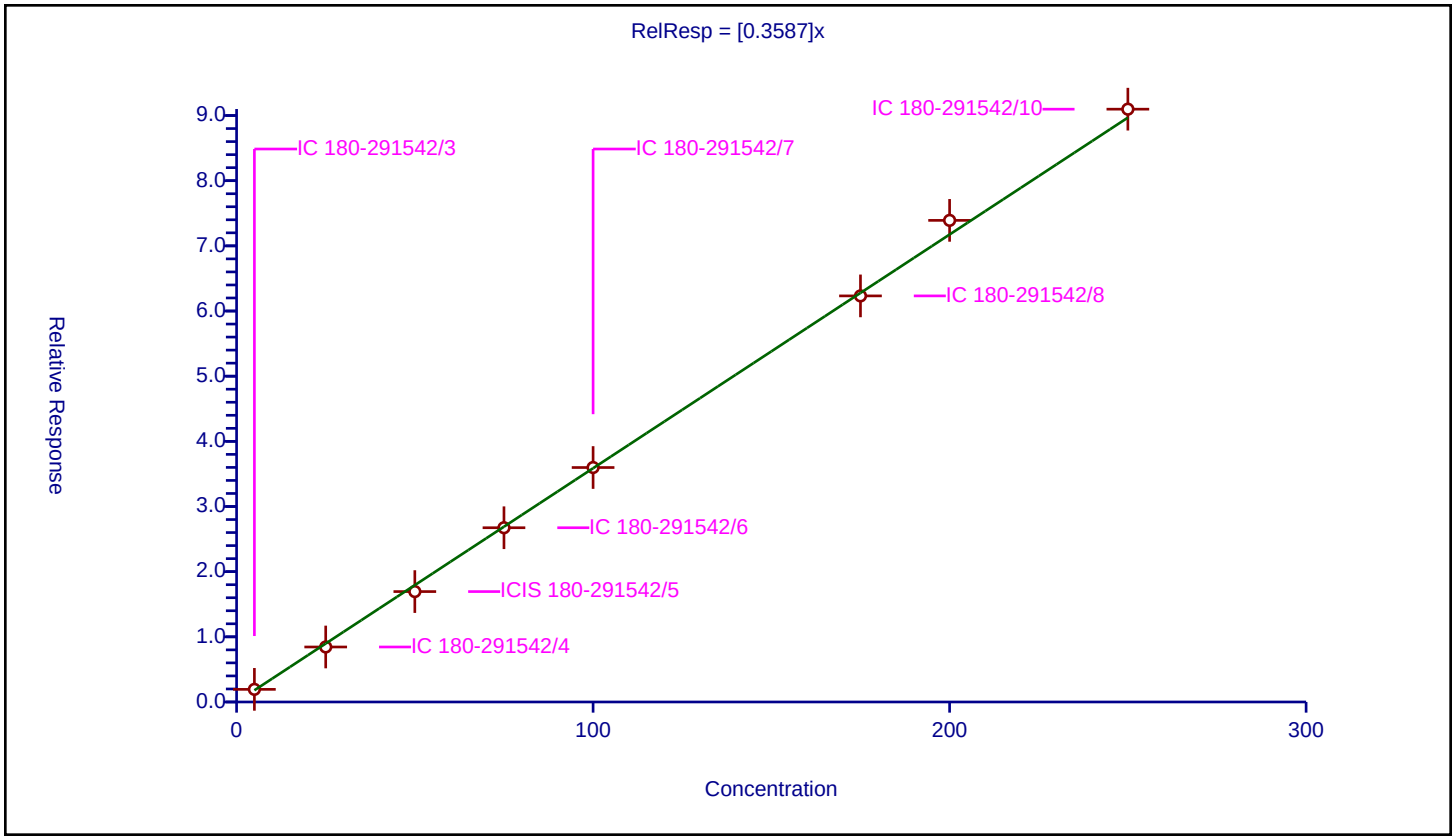

Calibration / Dibromofluoromethane (Surr)

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.2035

Error Coefficients

Standard Error:	241000
Relative Standard Error:	4.9
Correlation Coefficient:	0.997
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	1.016058	50.0	426206.0	0.203212	Y
2	IC 180-291542/4	25.0	5.043921	50.0	462081.0	0.201757	Y
3	ICIS 180-291542/5	50.0	9.752531	50.0	449350.0	0.195051	Y
4	IC 180-291542/6	75.0	15.664389	50.0	463877.0	0.208859	Y
5	IC 180-291542/7	100.0	19.058251	50.0	464030.0	0.190583	Y
6	IC 180-291542/8	175.0	35.574206	50.0	492680.0	0.203281	Y
7	IC 180-291542/9	200.0	44.319619	50.0	456369.0	0.221598	Y
8	IC 180-291542/10	250.0	52.016059	50.0	487709.0	0.208064	N

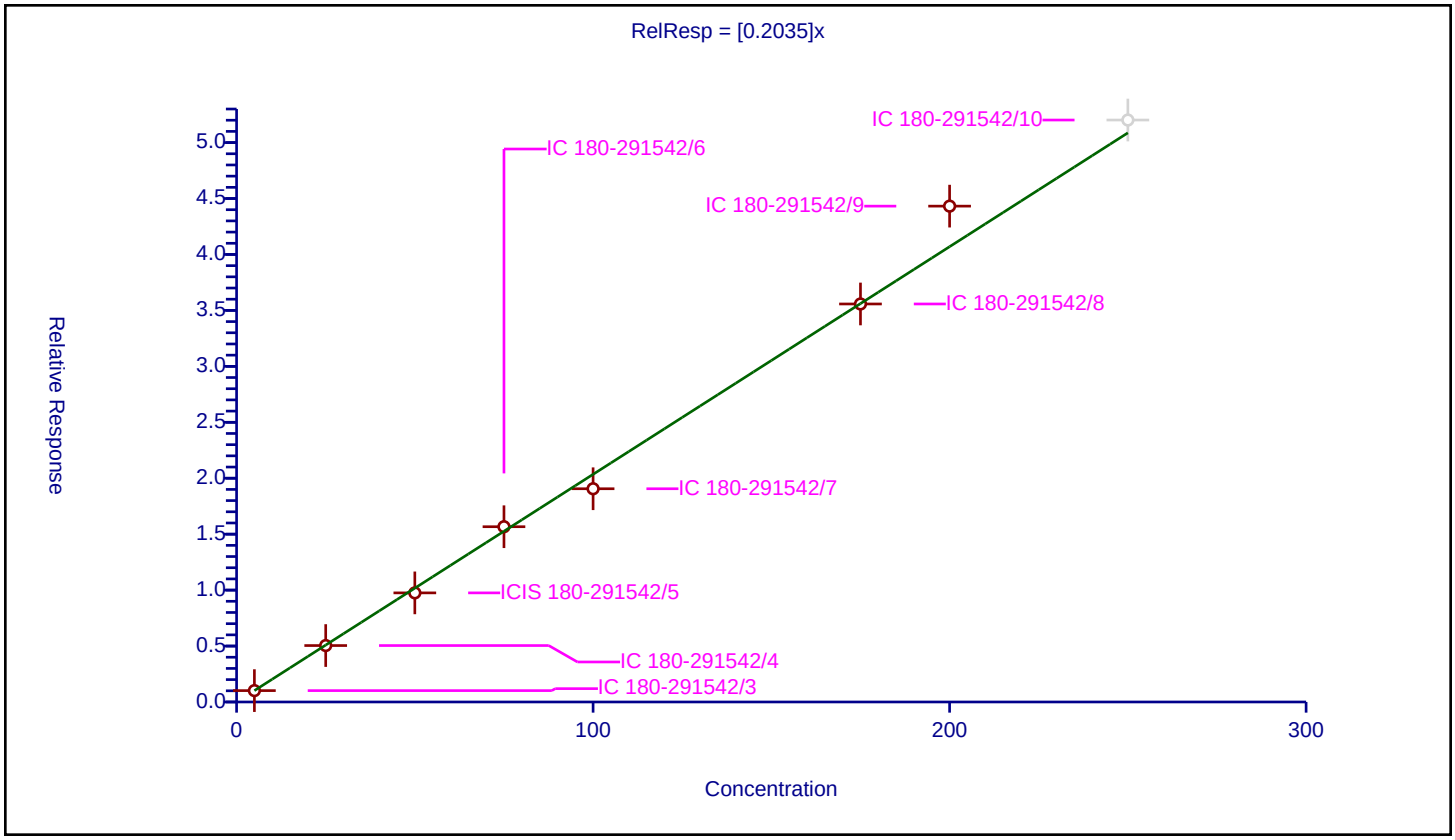

Calibration / Cyclohexane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.532

Error Coefficients

Standard Error:	750000
Relative Standard Error:	6.2
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	3.015209	50.0	426206.0	0.603042	Y
2	IC 180-291542/4	25.0	12.519234	50.0	462081.0	0.500769	Y
3	ICIS 180-291542/5	50.0	25.029376	50.0	449350.0	0.500588	Y
4	IC 180-291542/6	75.0	39.736719	50.0	463877.0	0.529823	Y
5	IC 180-291542/7	100.0	52.361162	50.0	464030.0	0.523612	Y
6	IC 180-291542/8	175.0	90.168365	50.0	492680.0	0.515248	Y
7	IC 180-291542/9	200.0	108.91373	50.0	456369.0	0.544569	Y
8	IC 180-291542/10	250.0	134.681952	50.0	487709.0	0.538728	Y

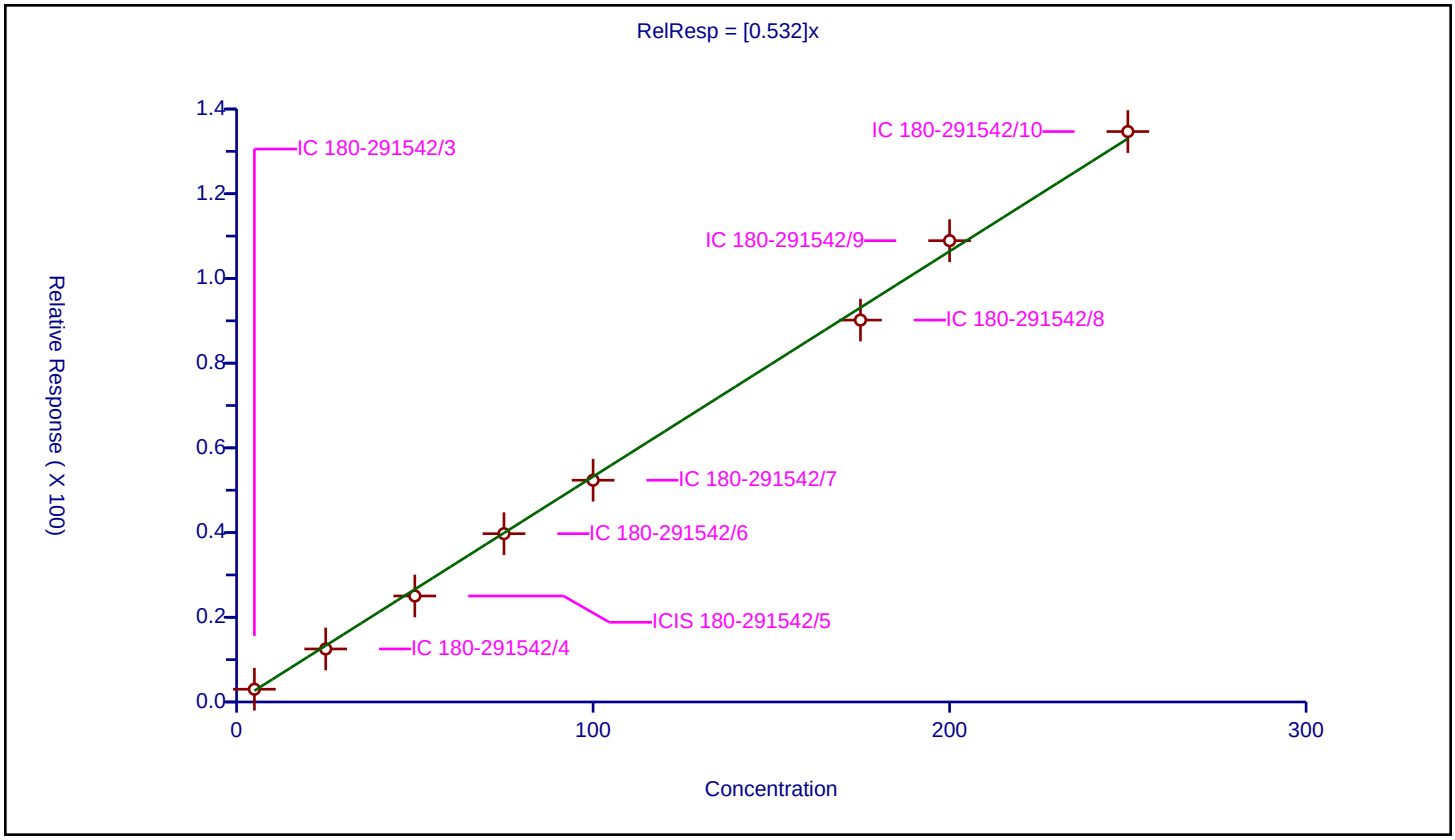

Calibration / Carbon tetrachloride

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.3458

Error Coefficients

Standard Error:	495000
Relative Standard Error:	4.8
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	1.850044	50.0	426206.0	0.370009	Y
2	IC 180-291542/4	25.0	7.971871	50.0	462081.0	0.318875	Y
3	ICIS 180-291542/5	50.0	16.358852	50.0	449350.0	0.327177	Y
4	IC 180-291542/6	75.0	25.874855	50.0	463877.0	0.344998	Y
5	IC 180-291542/7	100.0	35.050967	50.0	464030.0	0.35051	Y
6	IC 180-291542/8	175.0	60.05328	50.0	492680.0	0.343162	Y
7	IC 180-291542/9	200.0	71.443284	50.0	456369.0	0.357216	Y
8	IC 180-291542/10	250.0	88.651122	50.0	487709.0	0.354604	Y

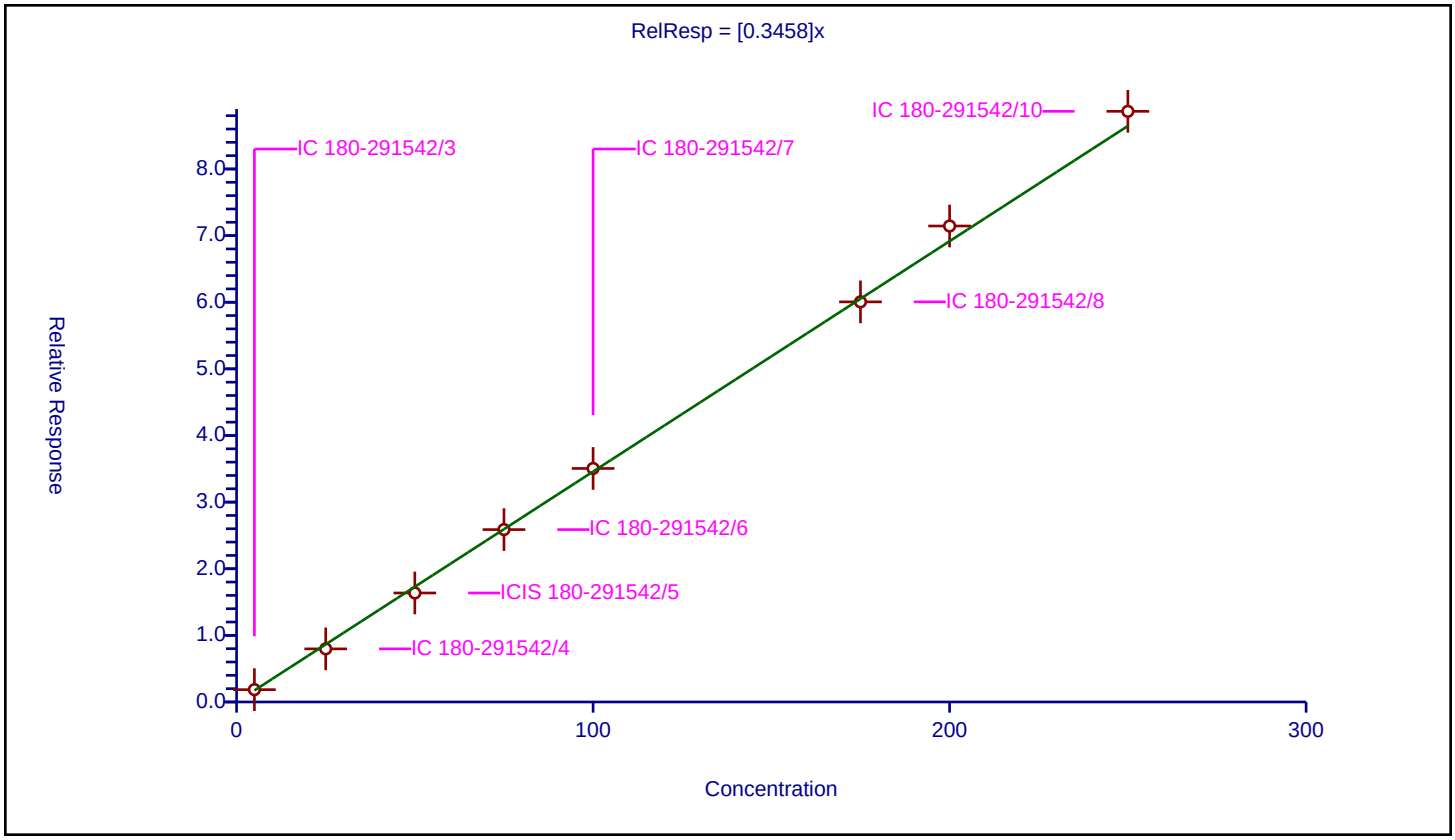

Calibration / 1,1-Dichloropropene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.3971

Error Coefficients

Standard Error:	562000
Relative Standard Error:	5.9
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	2.224628	50.0	426206.0	0.444926	Y
2	IC 180-291542/4	25.0	9.330074	50.0	462081.0	0.373203	Y
3	ICIS 180-291542/5	50.0	18.637476	50.0	449350.0	0.37275	Y
4	IC 180-291542/6	75.0	29.83086	50.0	463877.0	0.397745	Y
5	IC 180-291542/7	100.0	39.016335	50.0	464030.0	0.390163	Y
6	IC 180-291542/8	175.0	67.543131	50.0	492680.0	0.385961	Y
7	IC 180-291542/9	200.0	81.260668	50.0	456369.0	0.406303	Y
8	IC 180-291542/10	250.0	101.371515	50.0	487709.0	0.405486	Y

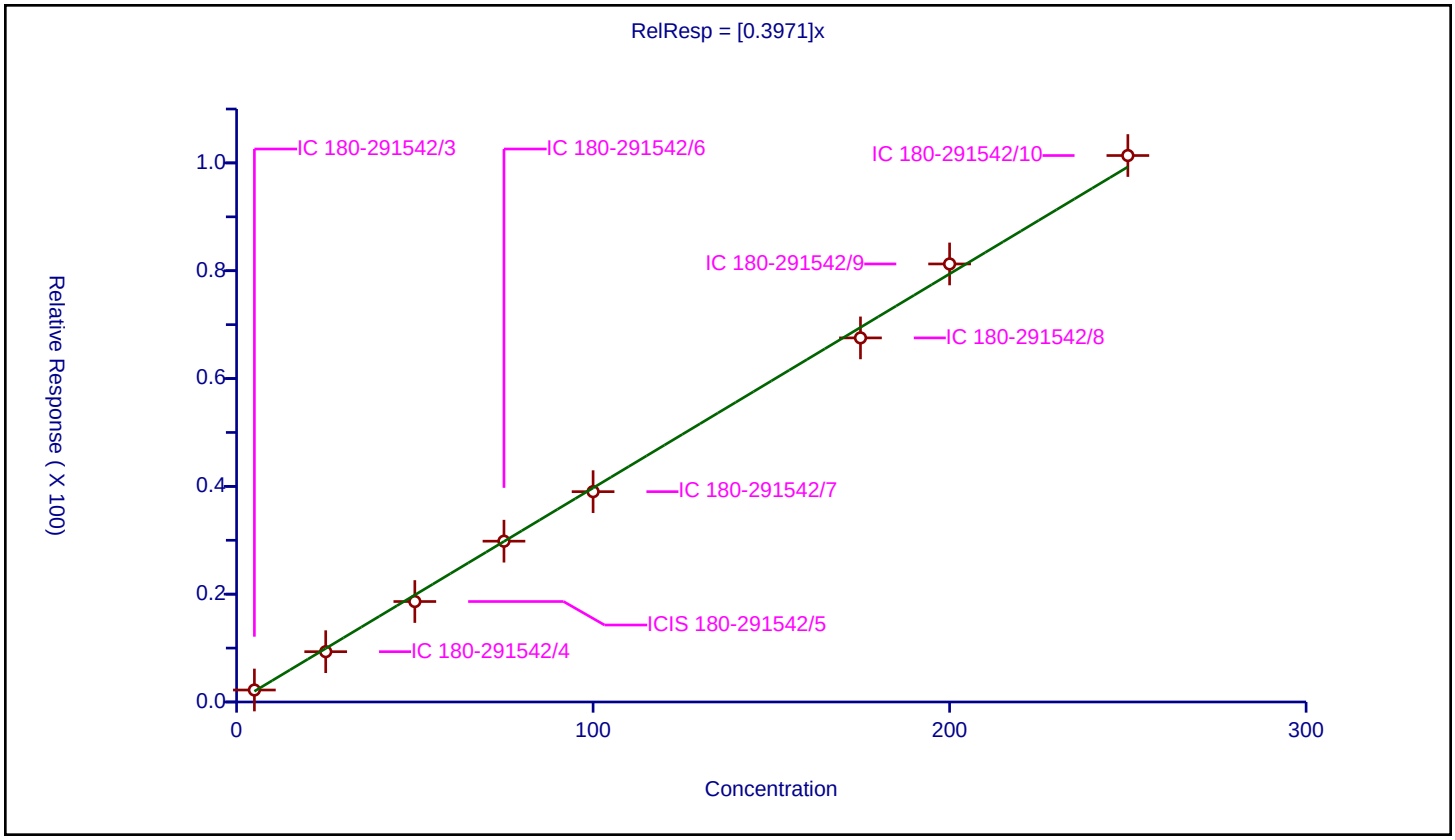

Calibration / 1,2-Dichloroethane-d4 (Surr)

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.1735

Error Coefficients

Standard Error:	210000
Relative Standard Error:	7.7
Correlation Coefficient:	0.992
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	0.834221	50.0	426206.0	0.166844	Y
2	IC 180-291542/4	25.0	4.3382	50.0	462081.0	0.173528	Y
3	ICIS 180-291542/5	50.0	8.025704	50.0	449350.0	0.160514	Y
4	IC 180-291542/6	75.0	13.623008	50.0	463877.0	0.18164	Y
5	IC 180-291542/7	100.0	16.126436	50.0	464030.0	0.161264	Y
6	IC 180-291542/8	175.0	30.054295	50.0	492680.0	0.171739	Y
7	IC 180-291542/9	200.0	39.755768	50.0	456369.0	0.198779	Y
8	IC 180-291542/10	250.0	43.639445	50.0	487709.0	0.174558	N

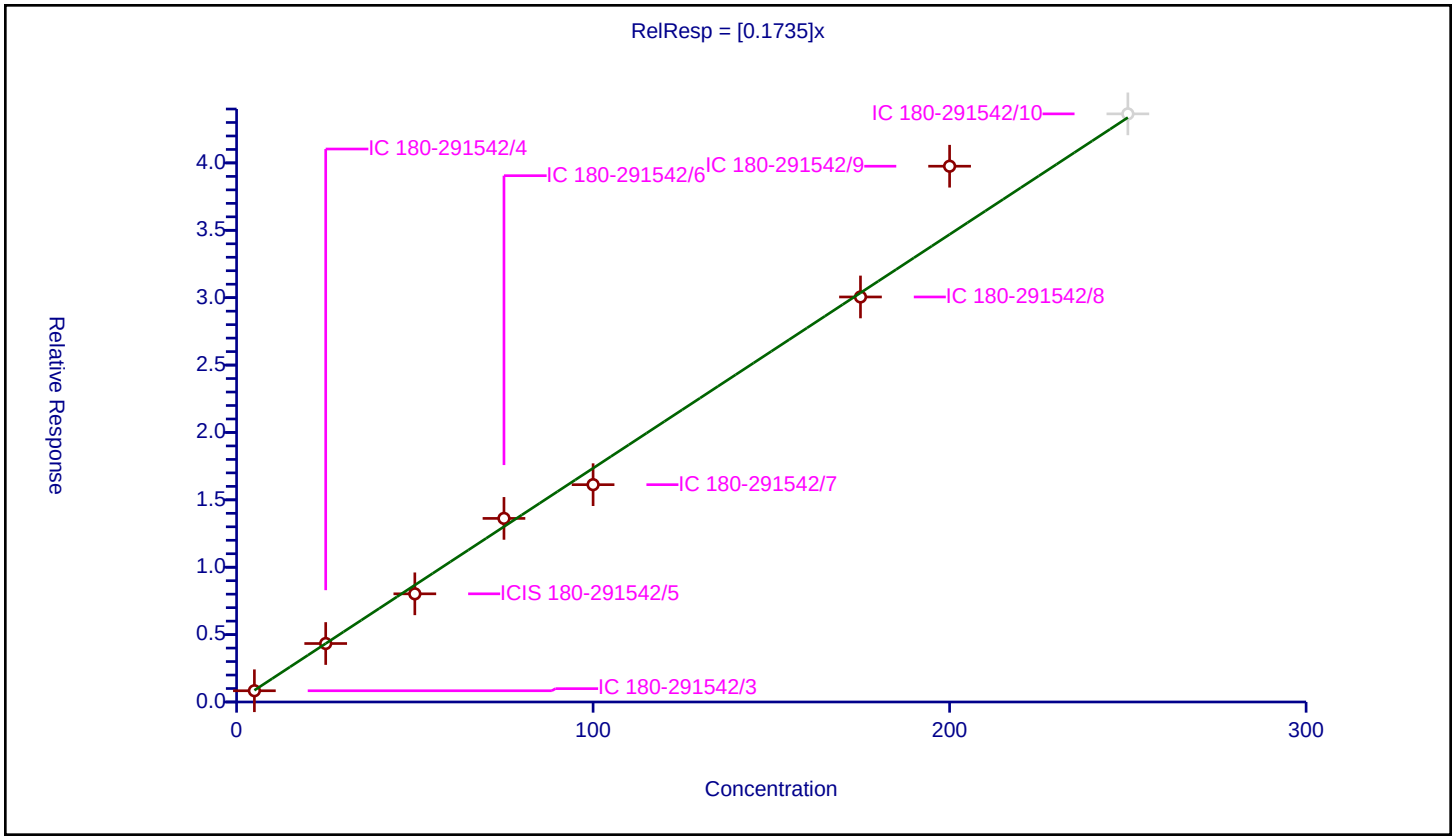

Calibration / Benzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.114

Error Coefficients

Standard Error:	1570000
Relative Standard Error:	6.3
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	6.305402	50.0	426206.0	1.26108	Y
2	IC 180-291542/4	25.0	26.507366	50.0	462081.0	1.060295	Y
3	ICIS 180-291542/5	50.0	52.245021	50.0	449350.0	1.0449	Y
4	IC 180-291542/6	75.0	82.288839	50.0	463877.0	1.097185	Y
5	IC 180-291542/7	100.0	108.779605	50.0	464030.0	1.087796	Y
6	IC 180-291542/8	175.0	187.665625	50.0	492680.0	1.072375	Y
7	IC 180-291542/9	200.0	232.892133	50.0	456369.0	1.164461	Y
8	IC 180-291542/10	250.0	280.9739	50.0	487709.0	1.123896	Y

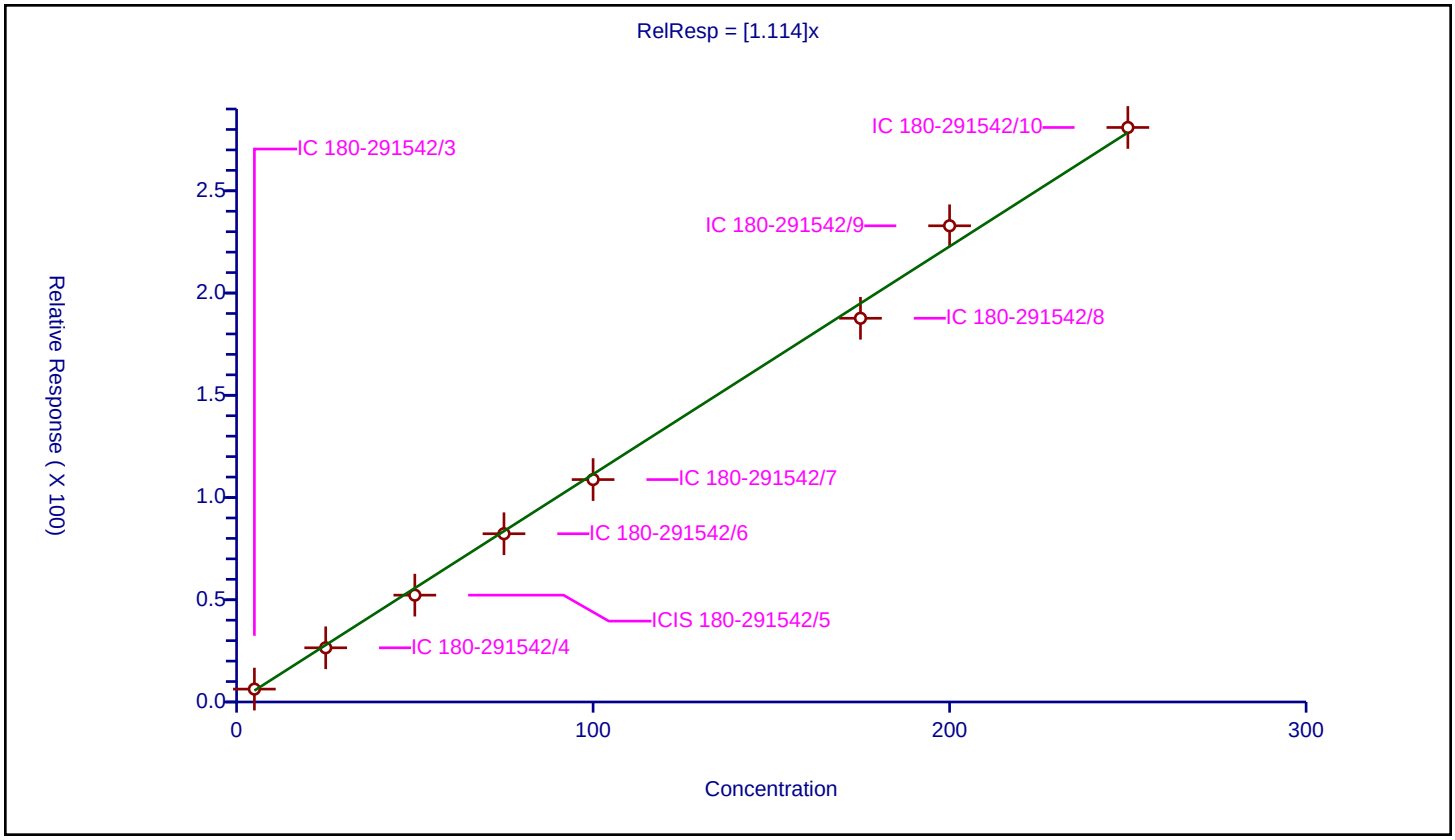

Calibration / Isobutyl alcohol

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.00474

Error Coefficients

Standard Error:	143000
Relative Standard Error:	15.4
Correlation Coefficient:	0.976
Coefficient of Determination (Adjusted):	0.972

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	125.0	0.613318	50.0	426206.0	0.004907	Y
2	IC 180-291542/4	625.0	2.341905	50.0	462081.0	0.003747	Y
3	ICIS 180-291542/5	1250.0	5.128964	50.0	449350.0	0.004103	Y
4	IC 180-291542/6	1875.0	10.531779	50.0	463877.0	0.005617	Y
5	IC 180-291542/7	2500.0	12.771804	50.0	464030.0	0.005109	Y
6	IC 180-291542/8	4375.0	18.339998	50.0	492680.0	0.004192	Y
7	IC 180-291542/9	5000.0	27.53616	50.0	456369.0	0.005507	Y
8	IC 180-291542/10	6250.0	24.929825	50.0	487709.0	0.003989	N

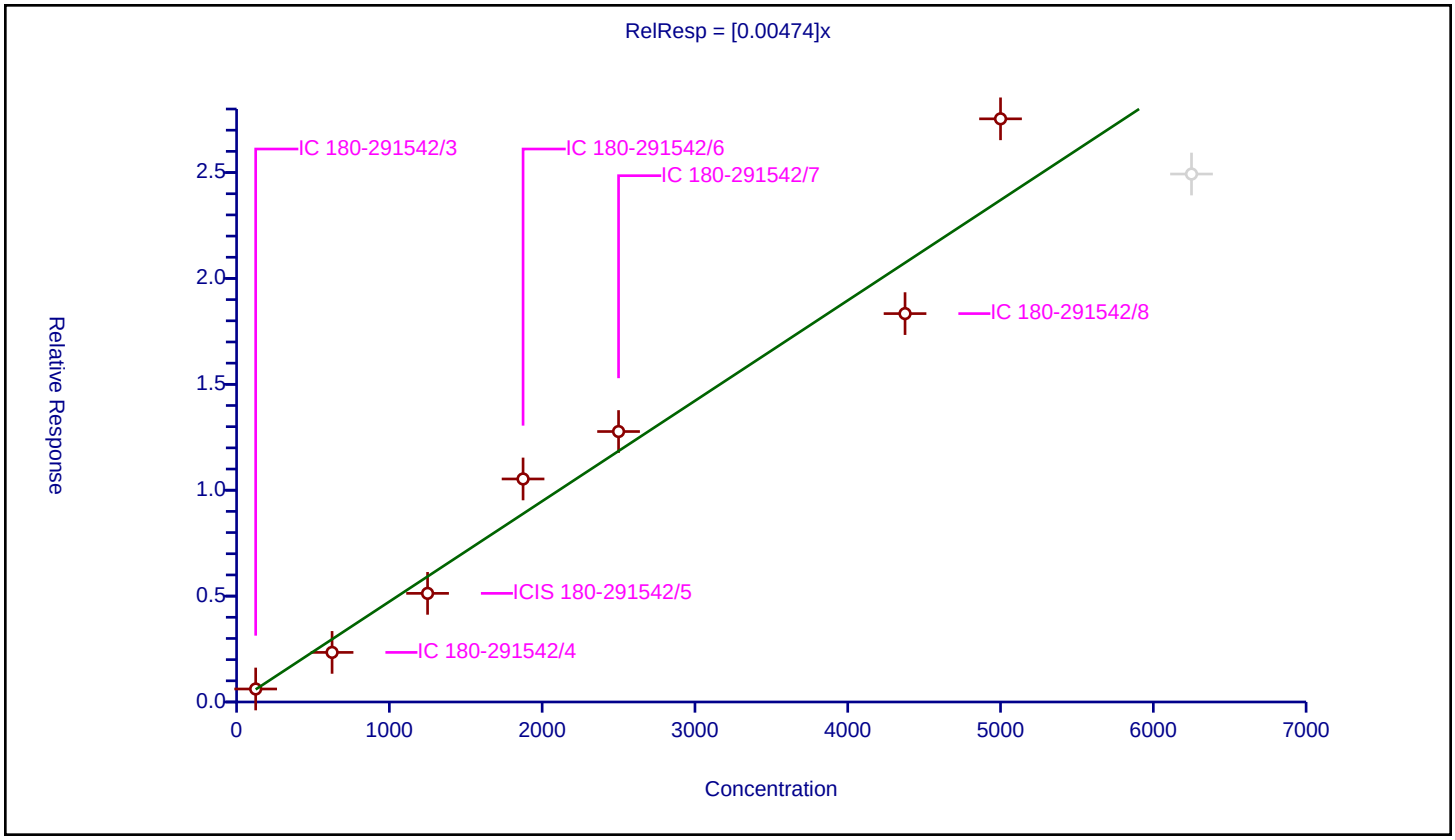

Calibration / 1,2-Dichloroethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.2381

Error Coefficients

Standard Error:	334000
Relative Standard Error:	5.9
Correlation Coefficient:	0.997
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	1.264881	50.0	426206.0	0.252976	Y
2	IC 180-291542/4	25.0	5.758298	50.0	462081.0	0.230332	Y
3	ICIS 180-291542/5	50.0	11.098809	50.0	449350.0	0.221976	Y
4	IC 180-291542/6	75.0	18.617651	50.0	463877.0	0.248235	Y
5	IC 180-291542/7	100.0	23.735103	50.0	464030.0	0.237351	Y
6	IC 180-291542/8	175.0	39.386011	50.0	492680.0	0.225063	Y
7	IC 180-291542/9	200.0	52.025554	50.0	456369.0	0.260128	Y
8	IC 180-291542/10	250.0	57.25002	50.0	487709.0	0.229	Y

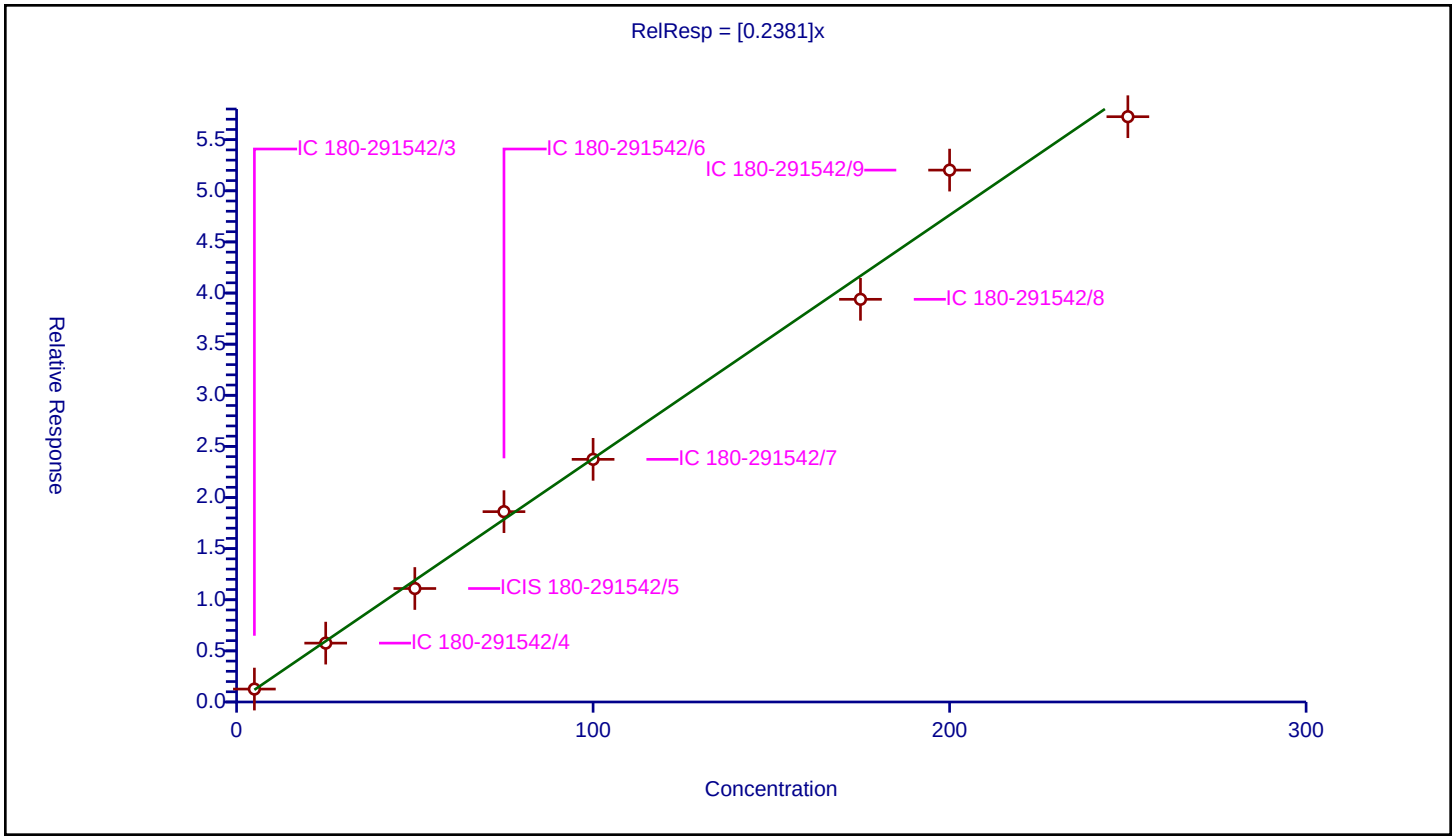

Calibration / n-Heptane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.529

Error Coefficients

Standard Error:	743000
Relative Standard Error:	6.3
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	3.019901	50.0	426206.0	0.60398	Y
2	IC 180-291542/4	25.0	12.73175	50.0	462081.0	0.50927	Y
3	ICIS 180-291542/5	50.0	24.798598	50.0	449350.0	0.495972	Y
4	IC 180-291542/6	75.0	39.498294	50.0	463877.0	0.526644	Y
5	IC 180-291542/7	100.0	51.504536	50.0	464030.0	0.515045	Y
6	IC 180-291542/8	175.0	88.986259	50.0	492680.0	0.508493	Y
7	IC 180-291542/9	200.0	107.691912	50.0	456369.0	0.53846	Y
8	IC 180-291542/10	250.0	133.624456	50.0	487709.0	0.534498	Y

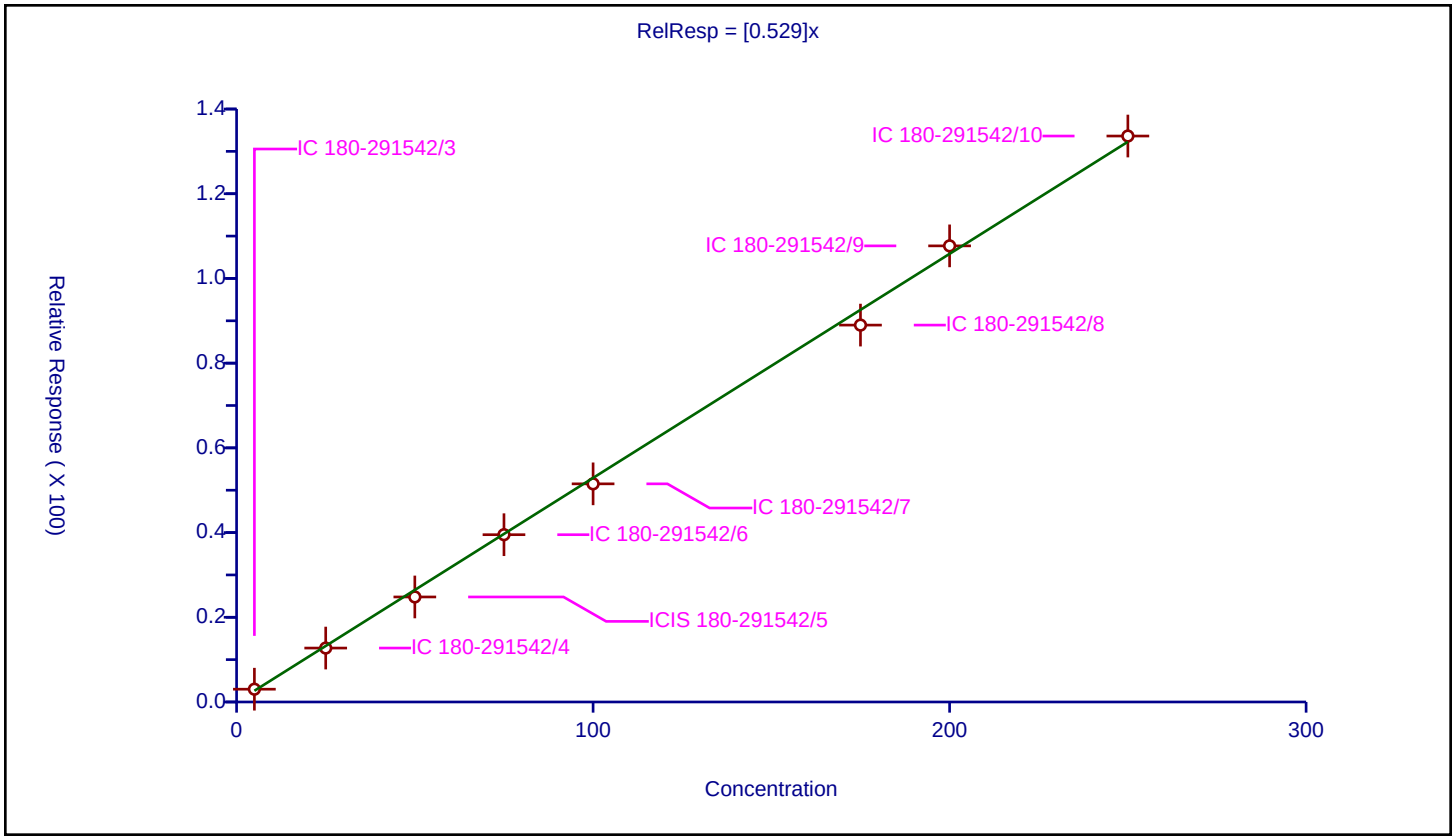

Calibration / Trichloroethene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.3266

Error Coefficients

Standard Error:	457000
Relative Standard Error:	5.1
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	1.814733	50.0	426206.0	0.362947	Y
2	IC 180-291542/4	25.0	7.745828	50.0	462081.0	0.309833	Y
3	ICIS 180-291542/5	50.0	15.699343	50.0	449350.0	0.313987	Y
4	IC 180-291542/6	75.0	24.678956	50.0	463877.0	0.329053	Y
5	IC 180-291542/7	100.0	32.606513	50.0	464030.0	0.326065	Y
6	IC 180-291542/8	175.0	54.949156	50.0	492680.0	0.313995	Y
7	IC 180-291542/9	200.0	65.941705	50.0	456369.0	0.329709	Y
8	IC 180-291542/10	250.0	81.778786	50.0	487709.0	0.327115	Y

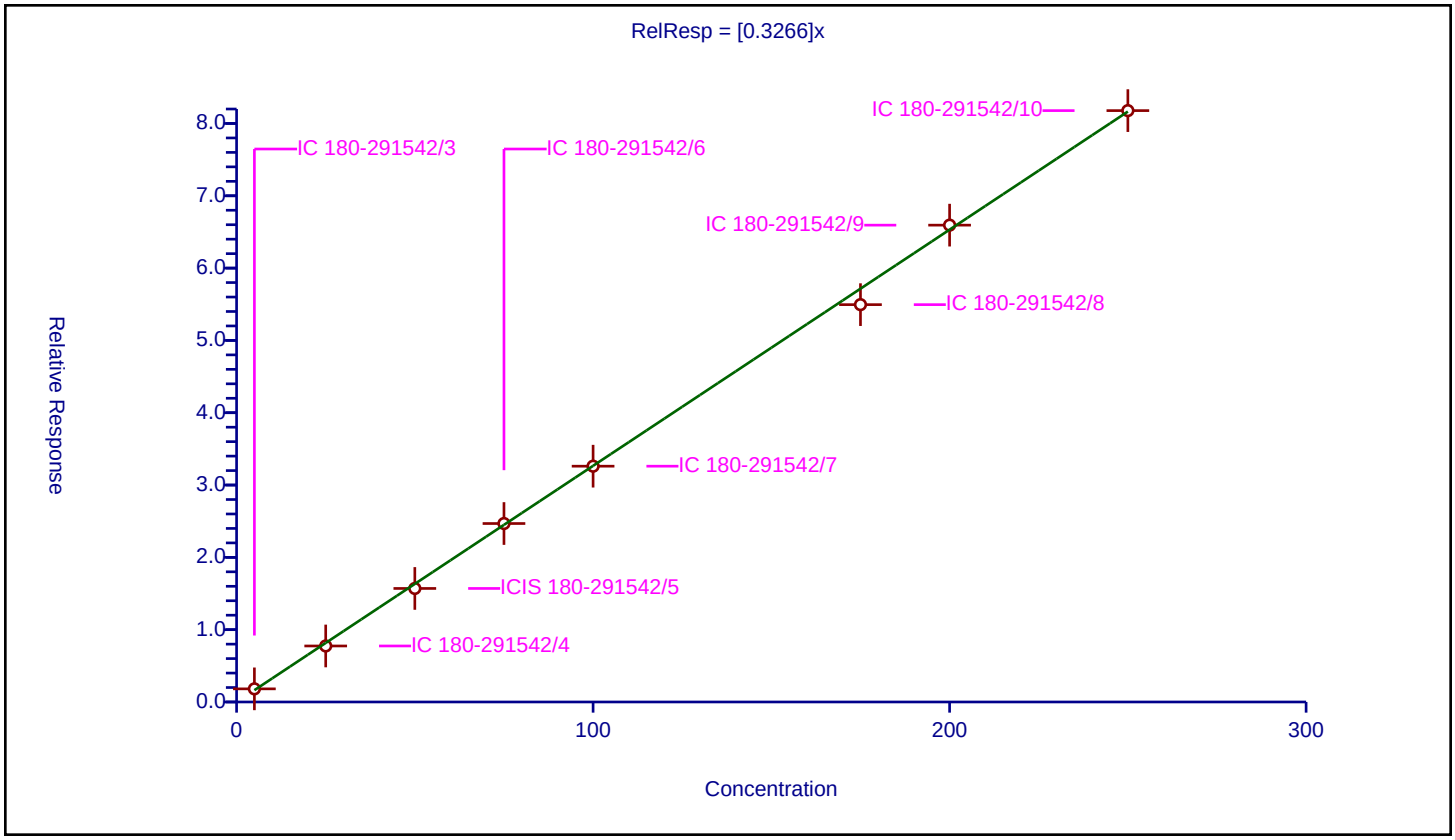

Calibration / Methylcyclohexane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.5762

Error Coefficients

Standard Error:	806000
Relative Standard Error:	5.2
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	3.216168	50.0	426206.0	0.643234	Y
2	IC 180-291542/4	25.0	13.762198	50.0	462081.0	0.550488	Y
3	ICIS 180-291542/5	50.0	27.426282	50.0	449350.0	0.548526	Y
4	IC 180-291542/6	75.0	43.317302	50.0	463877.0	0.577564	Y
5	IC 180-291542/7	100.0	57.368274	50.0	464030.0	0.573683	Y
6	IC 180-291542/8	175.0	97.891634	50.0	492680.0	0.559381	Y
7	IC 180-291542/9	200.0	116.141653	50.0	456369.0	0.580708	Y
8	IC 180-291542/10	250.0	143.98381	50.0	487709.0	0.575935	Y

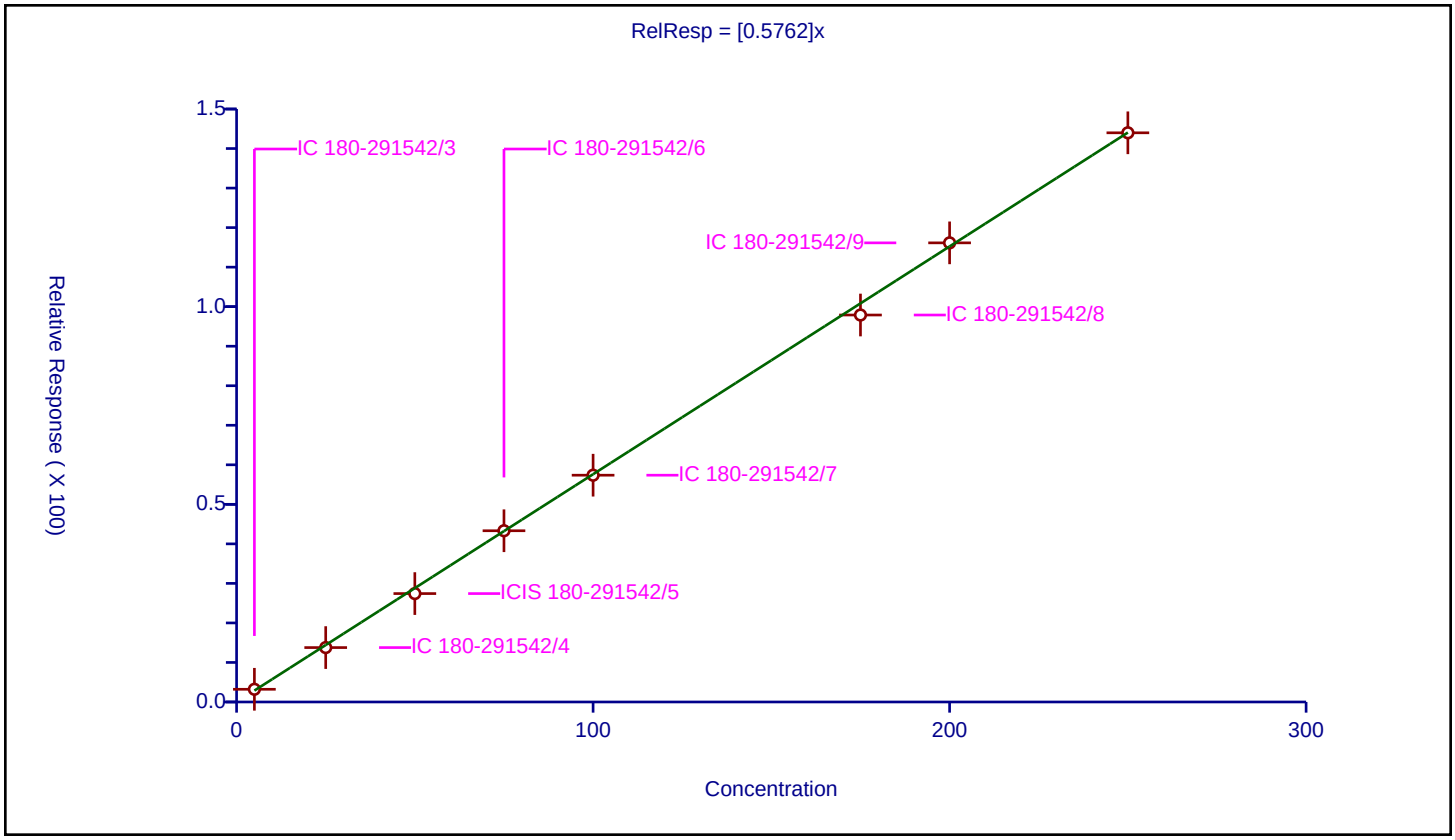

Calibration / 1,2-Dichloropropane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.252

Error Coefficients

Standard Error:	356000
Relative Standard Error:	5.4
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	1.371989	50.0	426206.0	0.274398	Y
2	IC 180-291542/4	25.0	6.014205	50.0	462081.0	0.240568	Y
3	ICIS 180-291542/5	50.0	11.779348	50.0	449350.0	0.235587	Y
4	IC 180-291542/6	75.0	18.881514	50.0	463877.0	0.251754	Y
5	IC 180-291542/7	100.0	25.201711	50.0	464030.0	0.252017	Y
6	IC 180-291542/8	175.0	42.536332	50.0	492680.0	0.243065	Y
7	IC 180-291542/9	200.0	53.938041	50.0	456369.0	0.26969	Y
8	IC 180-291542/10	250.0	62.179189	50.0	487709.0	0.248717	Y

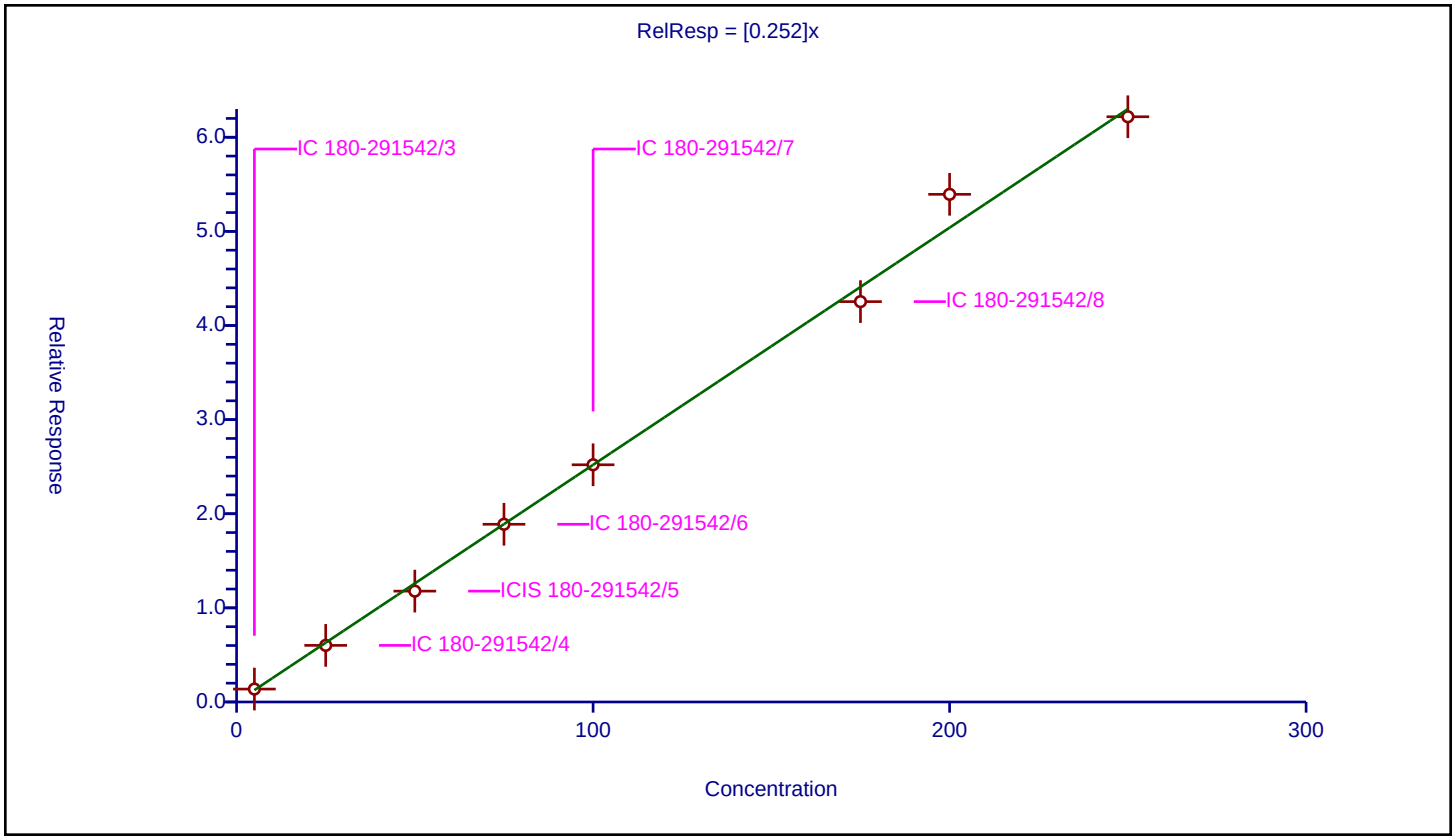

Calibration / Dibromomethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.1016

Error Coefficients

Standard Error:	143000
Relative Standard Error:	7.4
Correlation Coefficient:	0.995
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	0.547388	50.0	426206.0	0.109478	Y
2	IC 180-291542/4	25.0	2.377505	50.0	462081.0	0.0951	Y
3	ICIS 180-291542/5	50.0	4.62468	50.0	449350.0	0.092494	Y
4	IC 180-291542/6	75.0	8.040709	50.0	463877.0	0.107209	Y
5	IC 180-291542/7	100.0	10.223261	50.0	464030.0	0.102233	Y
6	IC 180-291542/8	175.0	16.924068	50.0	492680.0	0.096709	Y
7	IC 180-291542/9	200.0	22.606268	50.0	456369.0	0.113031	Y
8	IC 180-291542/10	250.0	24.120941	50.0	487709.0	0.096484	Y

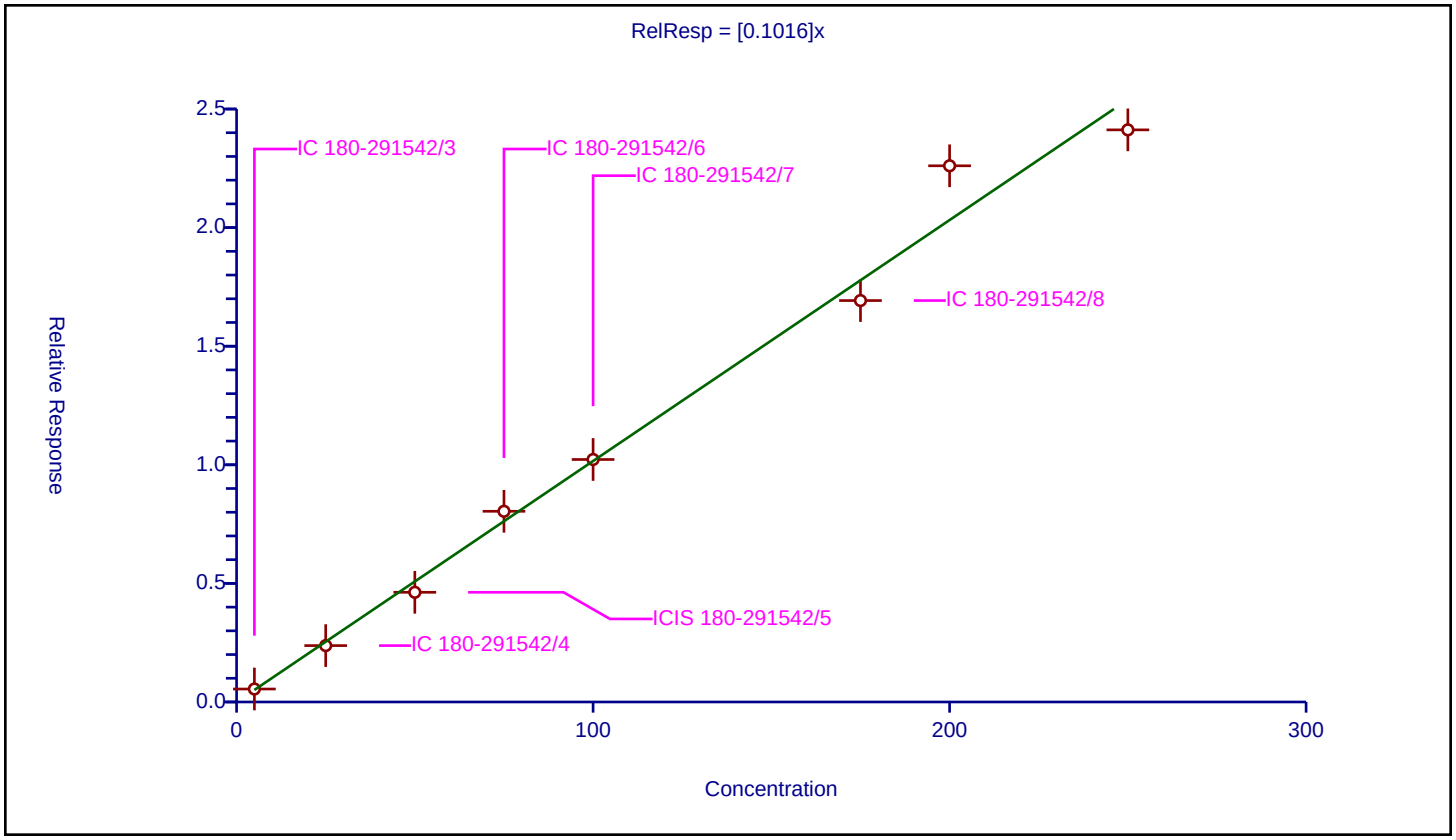

Calibration / 1,4-Dioxane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.001016

Error Coefficients

Standard Error:	28600
Relative Standard Error:	26.2
Correlation Coefficient:	0.943
Coefficient of Determination (Adjusted):	0.929

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	100.0	0.092326	50.0	426206.0	0.000923	Y
2	IC 180-291542/4	500.0	0.269974	50.0	462081.0	0.00054	Y
3	ICIS 180-291542/5	1000.0	1.024814	50.0	449350.0	0.001025	Y
4	IC 180-291542/6	1500.0	2.091503	50.0	463877.0	0.001394	Y
5	IC 180-291542/7	2000.0	2.632804	50.0	464030.0	0.001316	Y
6	IC 180-291542/8	3500.0	3.797394	50.0	492680.0	0.001085	Y
7	IC 180-291542/9	4000.0	3.467589	50.0	456369.0	0.000867	Y
8	IC 180-291542/10	5000.0	4.874731	50.0	487709.0	0.000975	Y

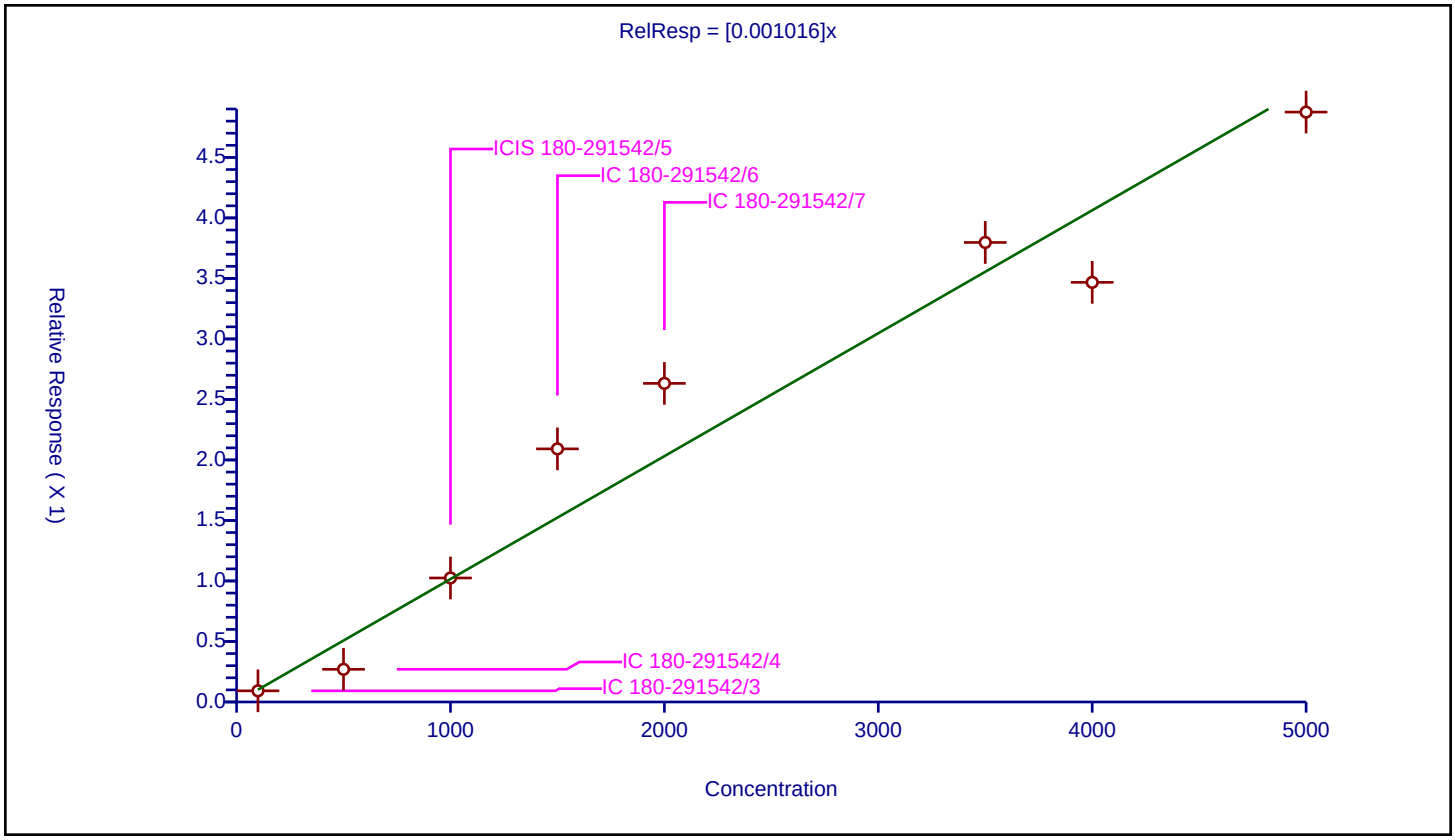

Calibration / Dichlorobromomethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.2803

Error Coefficients

Standard Error:	407000
Relative Standard Error:	6.5
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	1.421144	50.0	426206.0	0.284229	Y
2	IC 180-291542/4	25.0	6.339148	50.0	462081.0	0.253566	Y
3	ICIS 180-291542/5	50.0	12.853678	50.0	449350.0	0.257074	Y
4	IC 180-291542/6	75.0	21.460538	50.0	463877.0	0.286141	Y
5	IC 180-291542/7	100.0	28.842208	50.0	464030.0	0.288422	Y
6	IC 180-291542/8	175.0	48.424231	50.0	492680.0	0.27671	Y
7	IC 180-291542/9	200.0	62.07926	50.0	456369.0	0.310396	Y
8	IC 180-291542/10	250.0	71.401491	50.0	487709.0	0.285606	Y

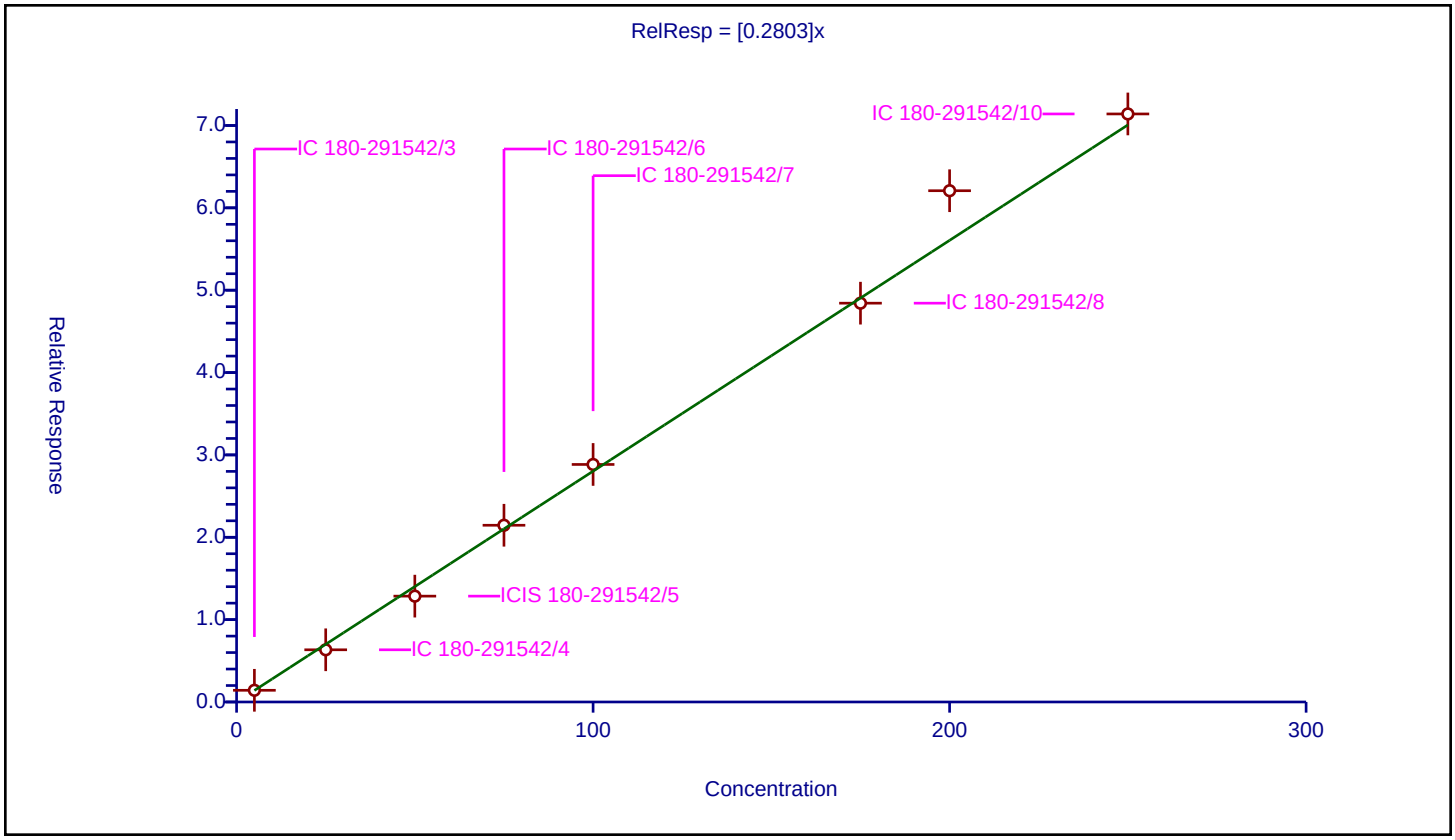

Calibration / cis-1,3-Dichloropropene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.3255

Error Coefficients

Standard Error:	330000
Relative Standard Error:	8.8
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	1.458567	50.0	426206.0	0.291713	Y
2	IC 180-291542/4	25.0	7.453563	50.0	462081.0	0.298143	Y
3	ICIS 180-291542/5	50.0	15.55814	50.0	449350.0	0.311163	Y
4	IC 180-291542/6	75.0	26.481912	50.0	463877.0	0.353092	Y
5	IC 180-291542/7	100.0	35.500291	50.0	464030.0	0.355003	Y
6	IC 180-291542/8	175.0	60.148981	50.0	492680.0	0.343708	Y
7	IC 180-291542/9	200.0	77.603211	50.0	456369.0	0.388016	N
8	IC 180-291542/10	250.0	88.570541	50.0	487709.0	0.354282	N

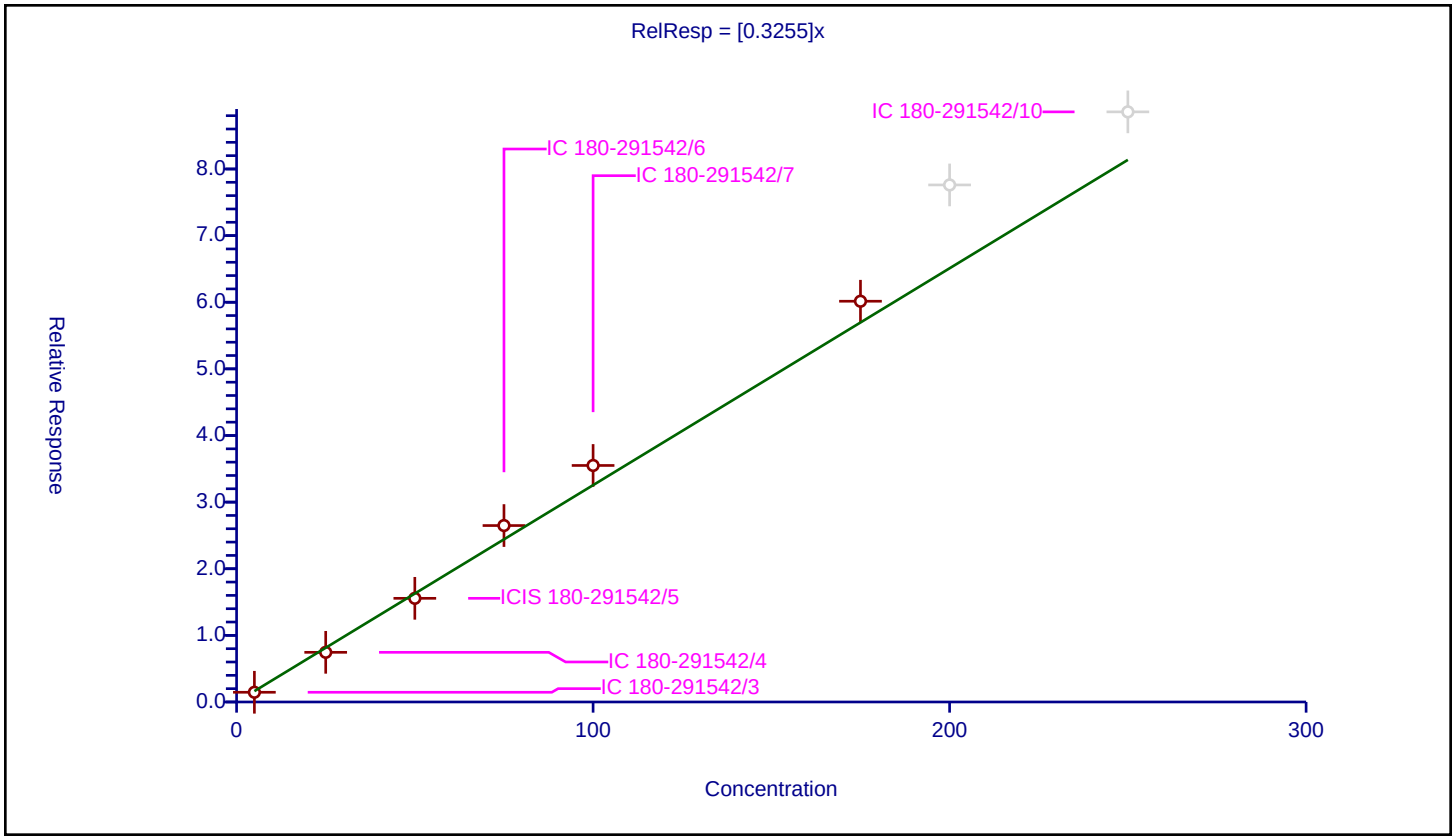

Calibration / 4-Methyl-2-pentanone (MIBK)

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.6063

Error Coefficients

Standard Error:	272000
Relative Standard Error:	13.8
Correlation Coefficient:	0.993
Coefficient of Determination (Adjusted):	0.972

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	25.0	11.719268	50.0	95087.0	0.468771	Y
2	IC 180-291542/4	50.0	29.785048	50.0	104163.0	0.595701	Y
3	ICIS 180-291542/5	100.0	57.032905	50.0	101018.0	0.570329	Y
4	IC 180-291542/6	150.0	106.266695	50.0	107066.0	0.708445	Y
5	IC 180-291542/7	200.0	133.035513	50.0	102243.0	0.665178	Y
6	IC 180-291542/8	350.0	220.383079	50.0	108124.0	0.629666	Y
7	IC 180-291542/9	400.0	317.310752	50.0	103066.0	0.793277	N
8	IC 180-291542/10	500.0	312.516012	50.0	106951.0	0.625032	N

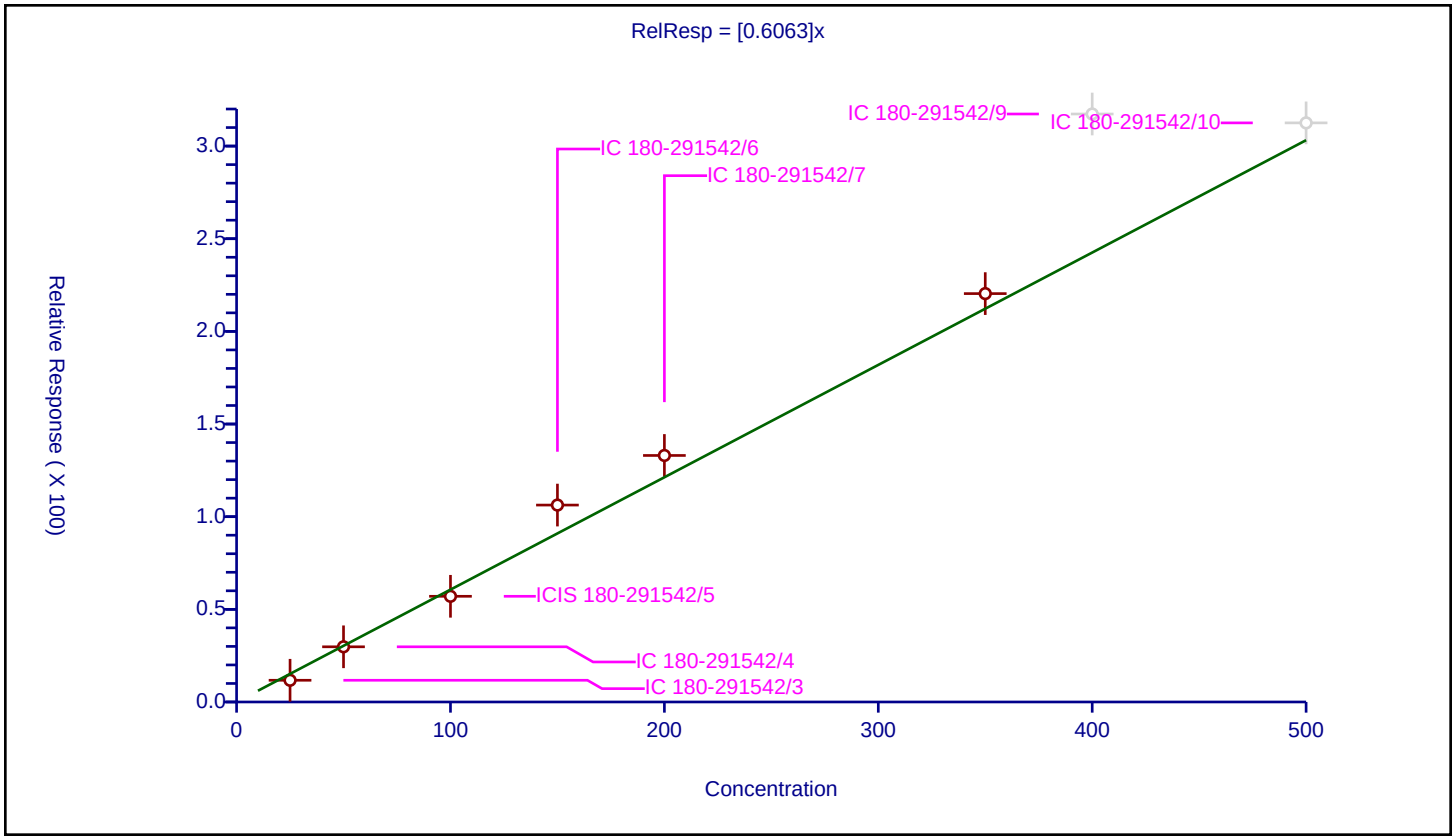

Calibration / Toluene-d8 (Surr)

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	4.331

Error Coefficients

Standard Error:	1130000
Relative Standard Error:	4.3
Correlation Coefficient:	0.996
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	22.626121	50.0	95087.0	4.525224	Y
2	IC 180-291542/4	25.0	108.627344	50.0	104163.0	4.345094	Y
3	ICIS 180-291542/5	50.0	208.220317	50.0	101018.0	4.164406	Y
4	IC 180-291542/6	75.0	322.664525	50.0	107066.0	4.302194	Y
5	IC 180-291542/7	100.0	404.690786	50.0	102243.0	4.046908	Y
6	IC 180-291542/8	175.0	761.635715	50.0	108124.0	4.352204	Y
7	IC 180-291542/9	200.0	915.940756	50.0	103066.0	4.579704	Y
8	IC 180-291542/10	250.0	1139.519967	50.0	106951.0	4.55808	N

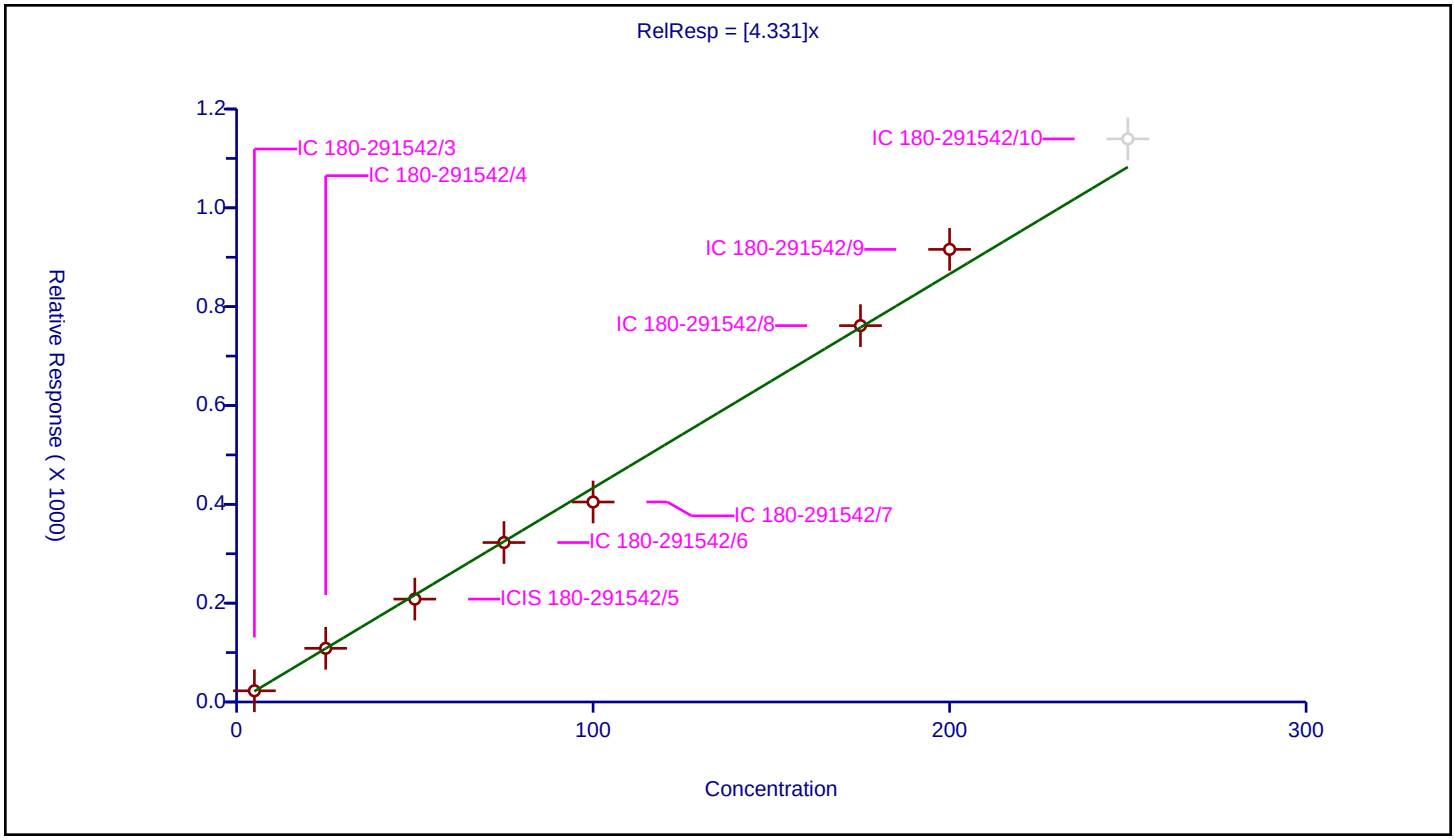

Calibration / Toluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	5.669

Error Coefficients

Standard Error:	1780000
Relative Standard Error:	6.4
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	32.207873	50.0	95087.0	6.441575	Y
2	IC 180-291542/4	25.0	132.989161	50.0	104163.0	5.319566	Y
3	ICIS 180-291542/5	50.0	267.413728	50.0	101018.0	5.348275	Y
4	IC 180-291542/6	75.0	408.093139	50.0	107066.0	5.441242	Y
5	IC 180-291542/7	100.0	569.114756	50.0	102243.0	5.691148	Y
6	IC 180-291542/8	175.0	971.467944	50.0	108124.0	5.551245	Y
7	IC 180-291542/9	200.0	1155.577979	50.0	103066.0	5.77789	Y
8	IC 180-291542/10	250.0	1446.057073	50.0	106951.0	5.784228	Y

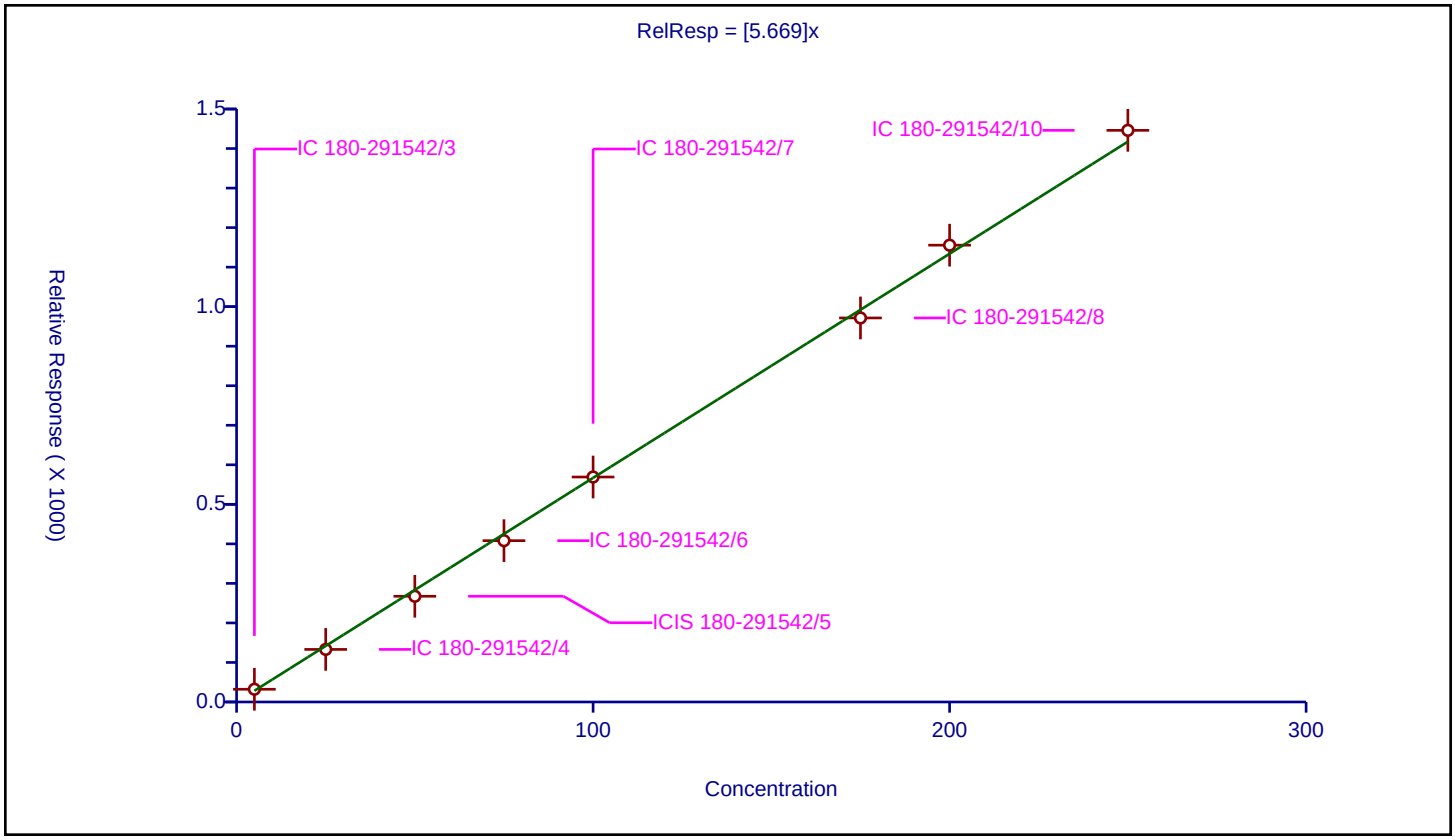

Calibration / trans-1,3-Dichloropropene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.067

Error Coefficients

Standard Error:	254000
Relative Standard Error:	17.5
Correlation Coefficient:	0.997
Coefficient of Determination (Adjusted):	0.969

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	3.811772	50.0	95087.0	0.762354	Y
2	IC 180-291542/4	25.0	24.417019	50.0	104163.0	0.976681	Y
3	ICIS 180-291542/5	50.0	50.345483	50.0	101018.0	1.00691	Y
4	IC 180-291542/6	75.0	90.076215	50.0	107066.0	1.201016	Y
5	IC 180-291542/7	100.0	124.752306	50.0	102243.0	1.247523	Y
6	IC 180-291542/8	175.0	211.287503	50.0	108124.0	1.207357	Y
7	IC 180-291542/9	200.0	276.995809	50.0	103066.0	1.384979	N
8	IC 180-291542/10	250.0	314.341147	50.0	106951.0	1.257365	N

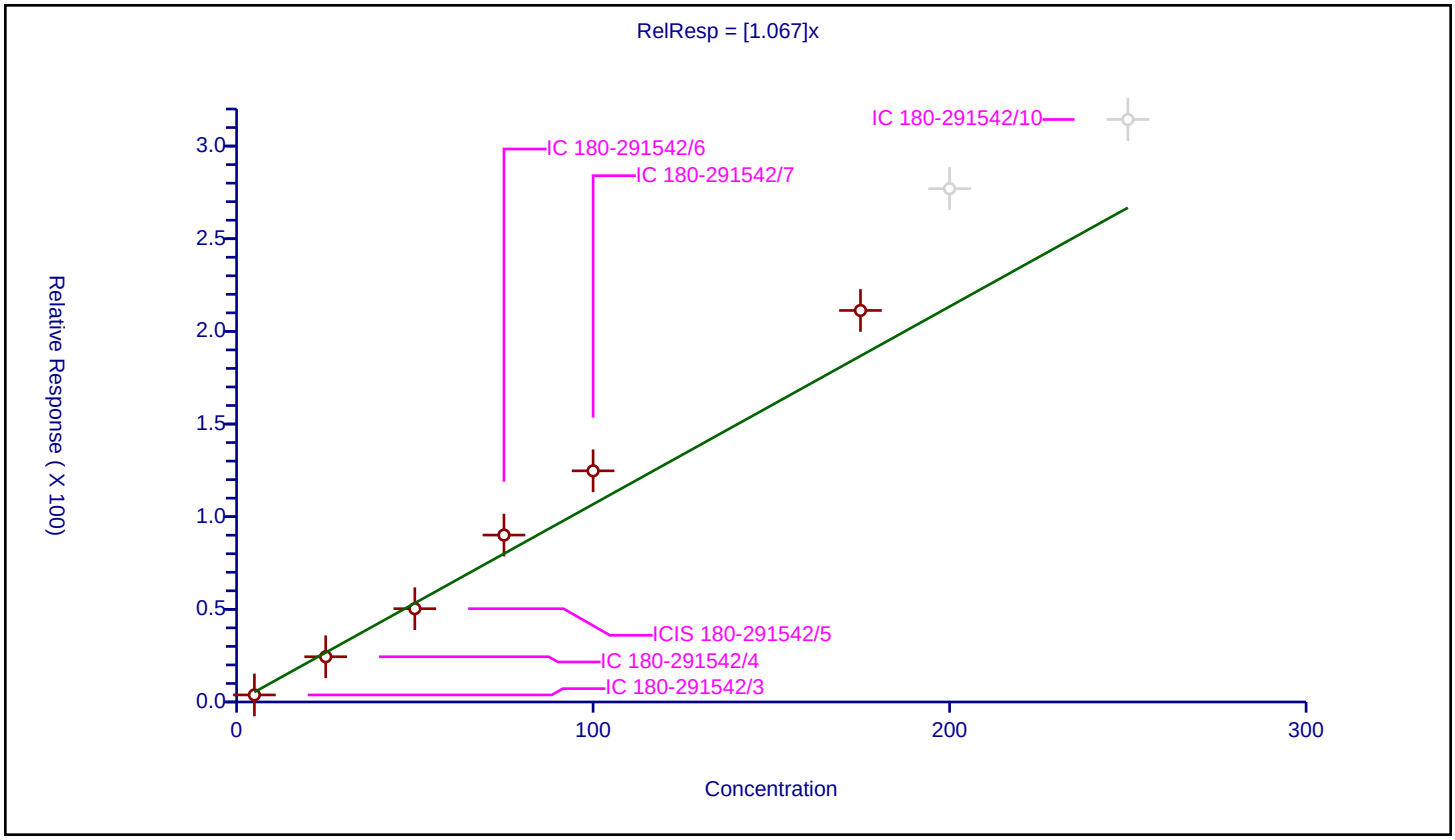

Calibration / Ethyl methacrylate

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.9047

Error Coefficients

Standard Error:	206000
Relative Standard Error:	11.7
Correlation Coefficient:	0.996
Coefficient of Determination (Adjusted):	0.985

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	3.887493	50.0	95087.0	0.777499	Y
2	IC 180-291542/4	25.0	20.542323	50.0	104163.0	0.821693	Y
3	ICIS 180-291542/5	50.0	41.728207	50.0	101018.0	0.834564	Y
4	IC 180-291542/6	75.0	75.183532	50.0	107066.0	1.002447	Y
5	IC 180-291542/7	100.0	102.623162	50.0	102243.0	1.026232	Y
6	IC 180-291542/8	175.0	169.015667	50.0	108124.0	0.965804	Y
7	IC 180-291542/9	200.0	230.88943	50.0	103066.0	1.154447	N
8	IC 180-291542/10	250.0	240.113229	50.0	106951.0	0.960453	N

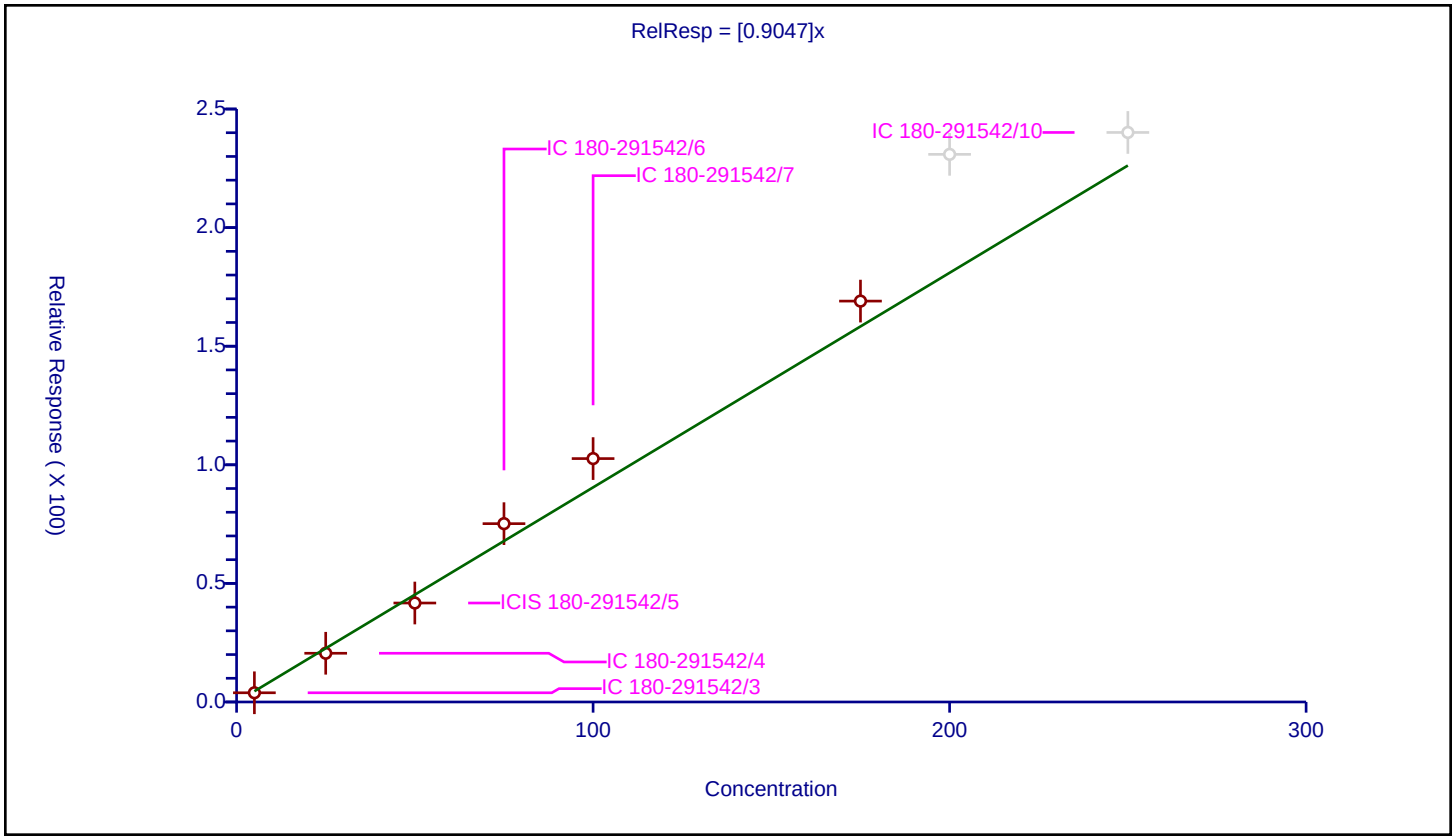

Calibration / 1,1,2-Trichloroethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.7258

Error Coefficients

Standard Error:	225000
Relative Standard Error:	7.1
Correlation Coefficient:	0.995
Coefficient of Determination (Adjusted):	0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	4.005805	50.0	95087.0	0.801161	Y
2	IC 180-291542/4	25.0	16.968597	50.0	104163.0	0.678744	Y
3	ICIS 180-291542/5	50.0	33.019363	50.0	101018.0	0.660387	Y
4	IC 180-291542/6	75.0	55.889825	50.0	107066.0	0.745198	Y
5	IC 180-291542/7	100.0	74.950363	50.0	102243.0	0.749504	Y
6	IC 180-291542/8	175.0	122.014076	50.0	108124.0	0.697223	Y
7	IC 180-291542/9	200.0	156.685037	50.0	103066.0	0.783425	Y
8	IC 180-291542/10	250.0	172.66739	50.0	106951.0	0.69067	Y

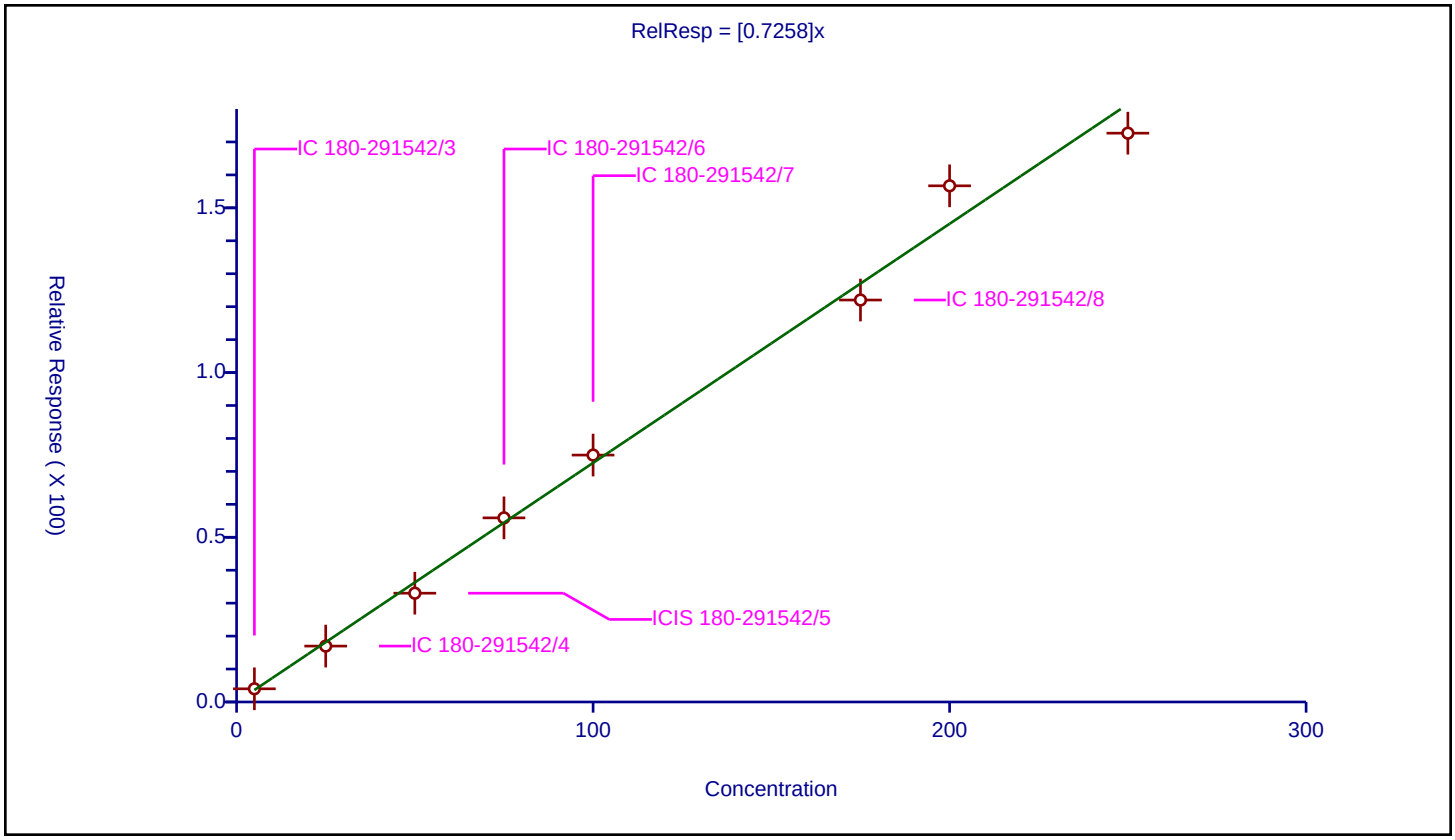

Calibration / Tetrachloroethene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.166

Error Coefficients

Standard Error:	365000
Relative Standard Error:	5.1
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	6.463029	50.0	95087.0	1.292606	Y
2	IC 180-291542/4	25.0	27.668174	50.0	104163.0	1.106727	Y
3	ICIS 180-291542/5	50.0	54.970896	50.0	101018.0	1.099418	Y
4	IC 180-291542/6	75.0	85.774195	50.0	107066.0	1.143656	Y
5	IC 180-291542/7	100.0	117.111685	50.0	102243.0	1.171117	Y
6	IC 180-291542/8	175.0	202.120251	50.0	108124.0	1.154973	Y
7	IC 180-291542/9	200.0	234.384278	50.0	103066.0	1.171921	Y
8	IC 180-291542/10	250.0	297.366551	50.0	106951.0	1.189466	Y

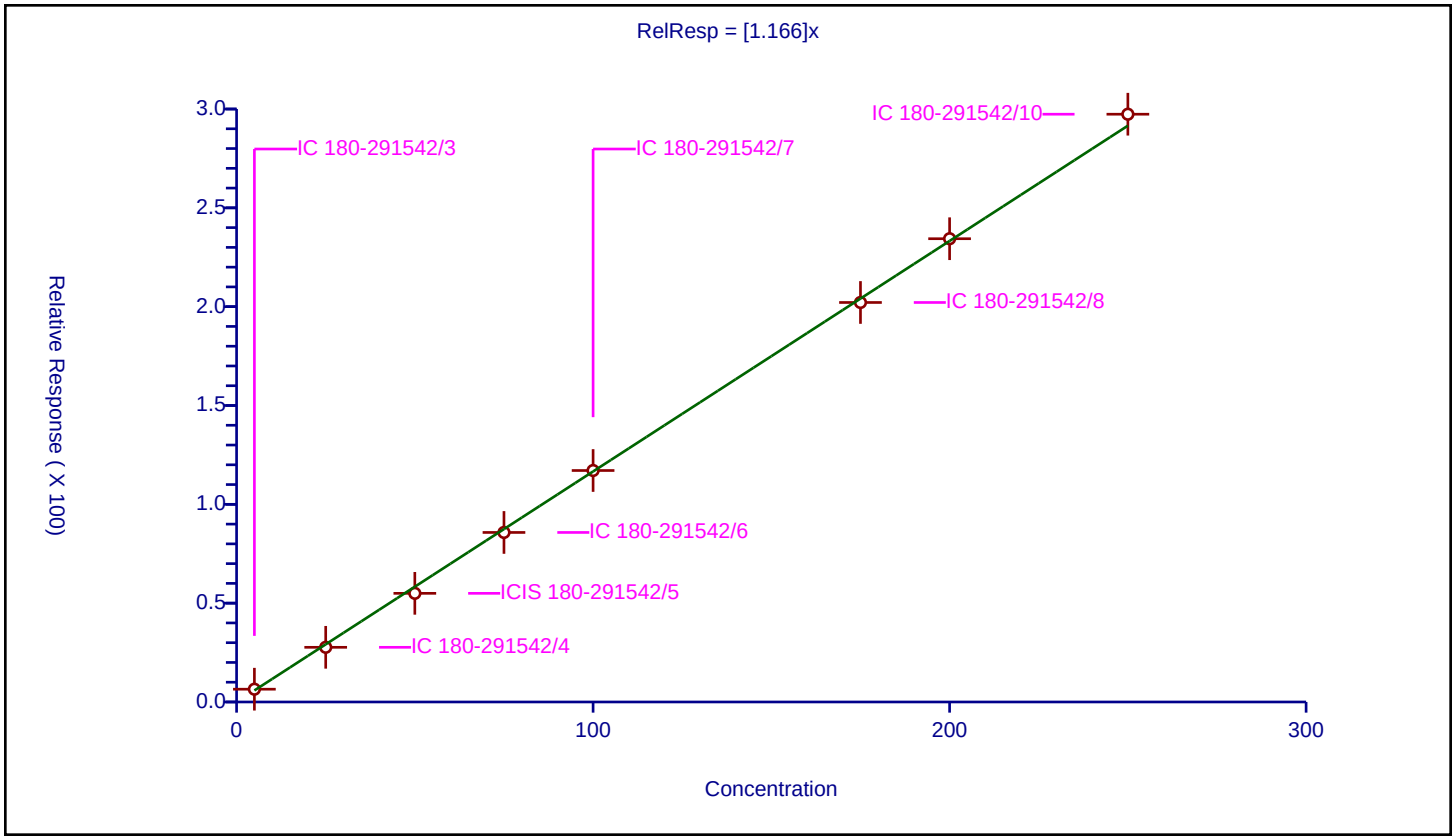

Calibration / 1,3-Dichloropropane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.216

Error Coefficients

Standard Error:	385000
Relative Standard Error:	6.1
Correlation Coefficient:	0.996
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	6.168561	50.0	95087.0	1.233712	Y
2	IC 180-291542/4	25.0	28.591246	50.0	104163.0	1.14365	Y
3	ICIS 180-291542/5	50.0	55.265893	50.0	101018.0	1.105318	Y
4	IC 180-291542/6	75.0	94.585116	50.0	107066.0	1.261135	Y
5	IC 180-291542/7	100.0	125.912287	50.0	102243.0	1.259123	Y
6	IC 180-291542/8	175.0	207.759147	50.0	108124.0	1.187195	Y
7	IC 180-291542/9	200.0	268.446432	50.0	103066.0	1.342232	Y
8	IC 180-291542/10	250.0	298.565698	50.0	106951.0	1.194263	Y

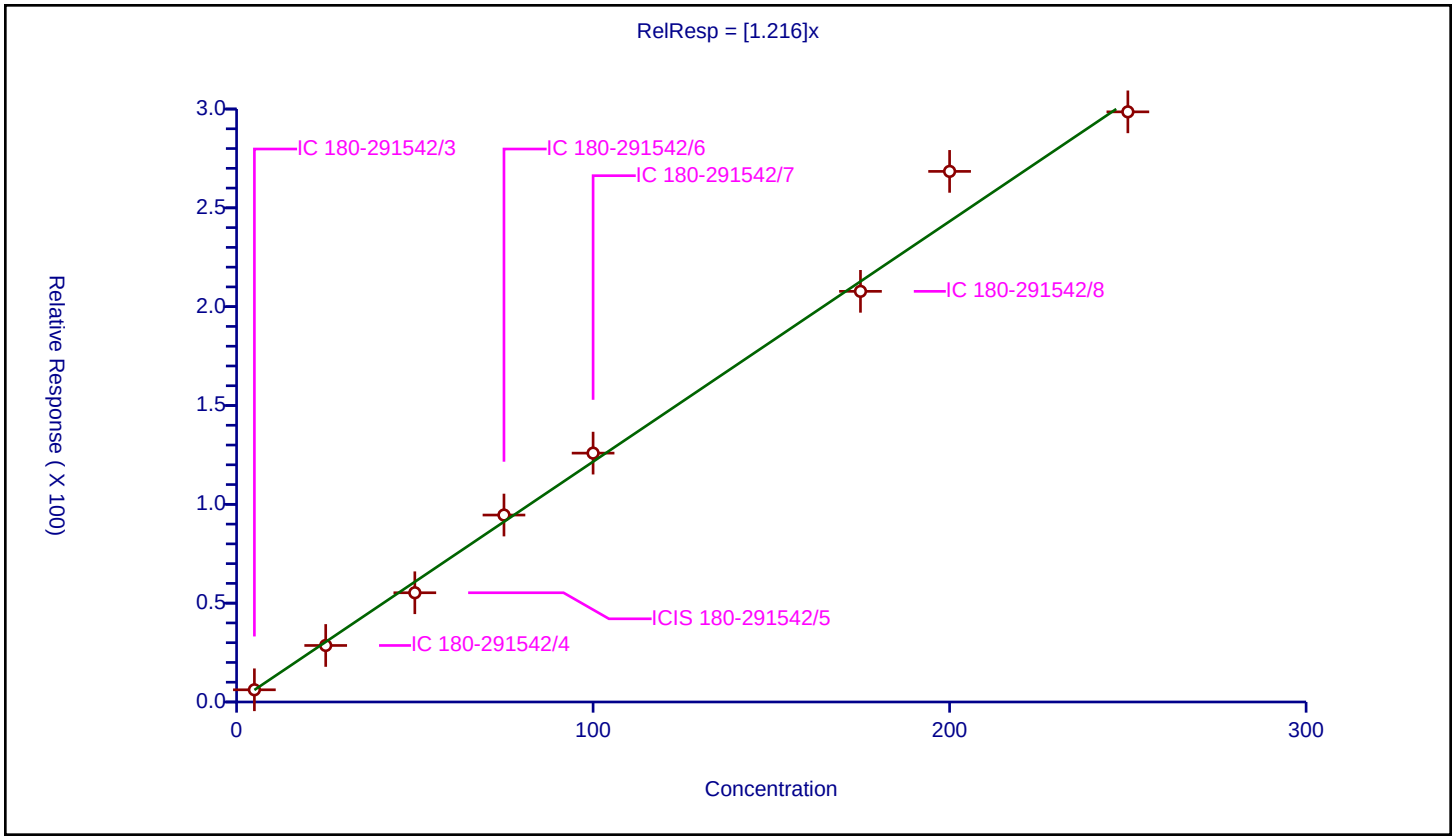

Calibration / 2-Hexanone

Curve Type:	Quadratic
Weighting:	None
Origin:	None
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	-13.5
Slope:	0.7317
Second Order:	-0.0005607

Error Coefficients

Standard Error:	282000
Relative Standard Error:	14.1
Correlation Coefficient:	0.990
Coefficient of Determination (Adjusted):	0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	25.0	7.743961	50.0	95087.0	0.309758	Y
2	IC 180-291542/4	50.0	19.456045	50.0	104163.0	0.389121	Y
3	ICIS 180-291542/5	100.0	47.540042	50.0	101018.0	0.4754	Y
4	IC 180-291542/6	150.0	91.172735	50.0	107066.0	0.607818	Y
5	IC 180-291542/7	200.0	108.526745	50.0	102243.0	0.542634	Y
6	IC 180-291542/8	350.0	173.696404	50.0	108124.0	0.496275	Y
7	IC 180-291542/9	400.0	242.889508	50.0	103066.0	0.607224	N
8	IC 180-291542/10	500.0	252.506288	50.0	106951.0	0.505013	N

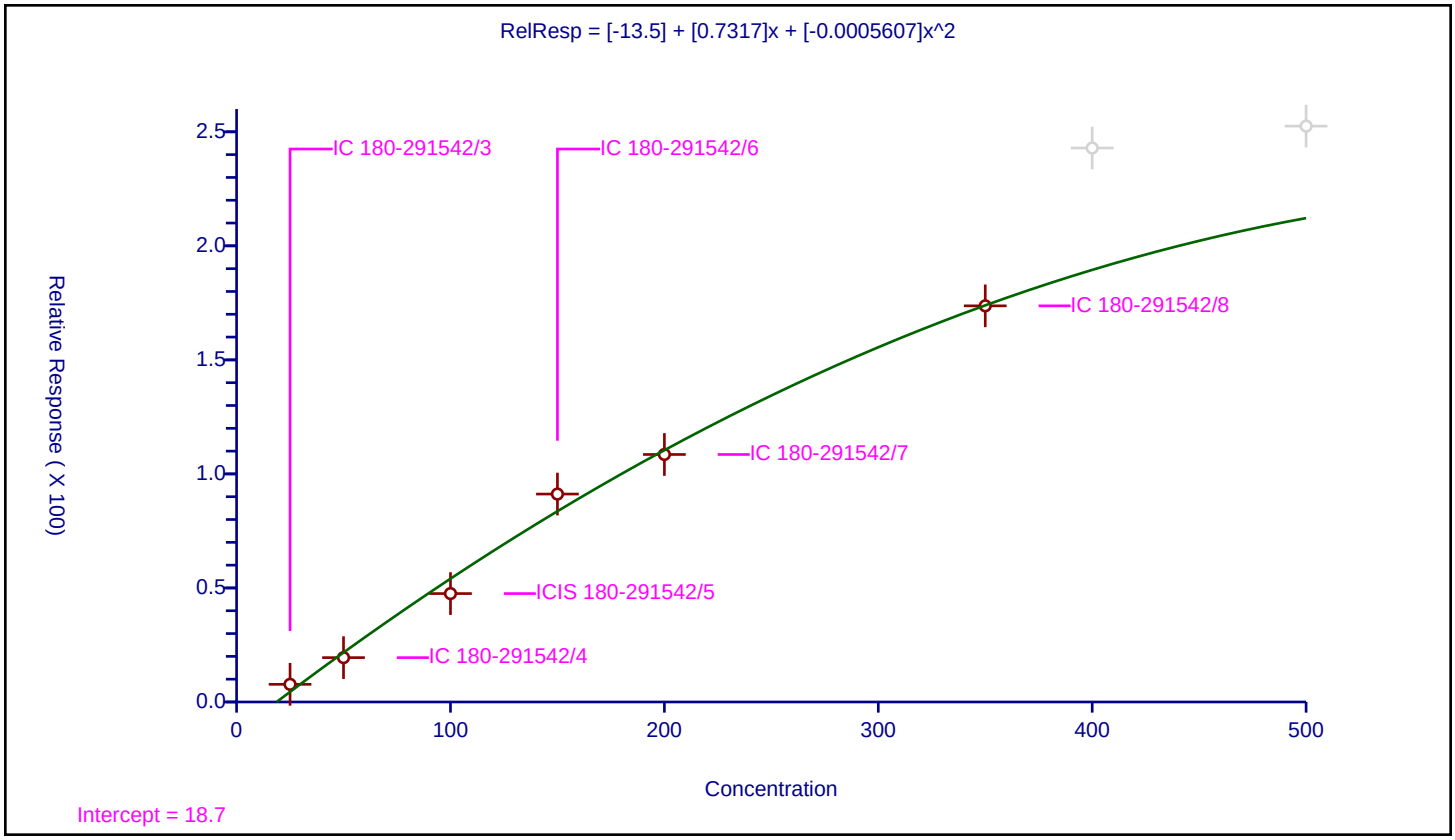

Calibration / Chlorodibromomethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.8418

Error Coefficients

Standard Error:	274000
Relative Standard Error:	7.9
Correlation Coefficient:	0.997
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	3.984246	50.0	95087.0	0.796849	Y
2	IC 180-291542/4	25.0	18.638096	50.0	104163.0	0.745524	Y
3	ICIS 180-291542/5	50.0	38.650043	50.0	101018.0	0.773001	Y
4	IC 180-291542/6	75.0	64.871668	50.0	107066.0	0.864956	Y
5	IC 180-291542/7	100.0	90.026212	50.0	102243.0	0.900262	Y
6	IC 180-291542/8	175.0	149.853409	50.0	108124.0	0.856305	Y
7	IC 180-291542/9	200.0	189.162769	50.0	103066.0	0.945814	Y
8	IC 180-291542/10	250.0	212.966218	50.0	106951.0	0.851865	Y

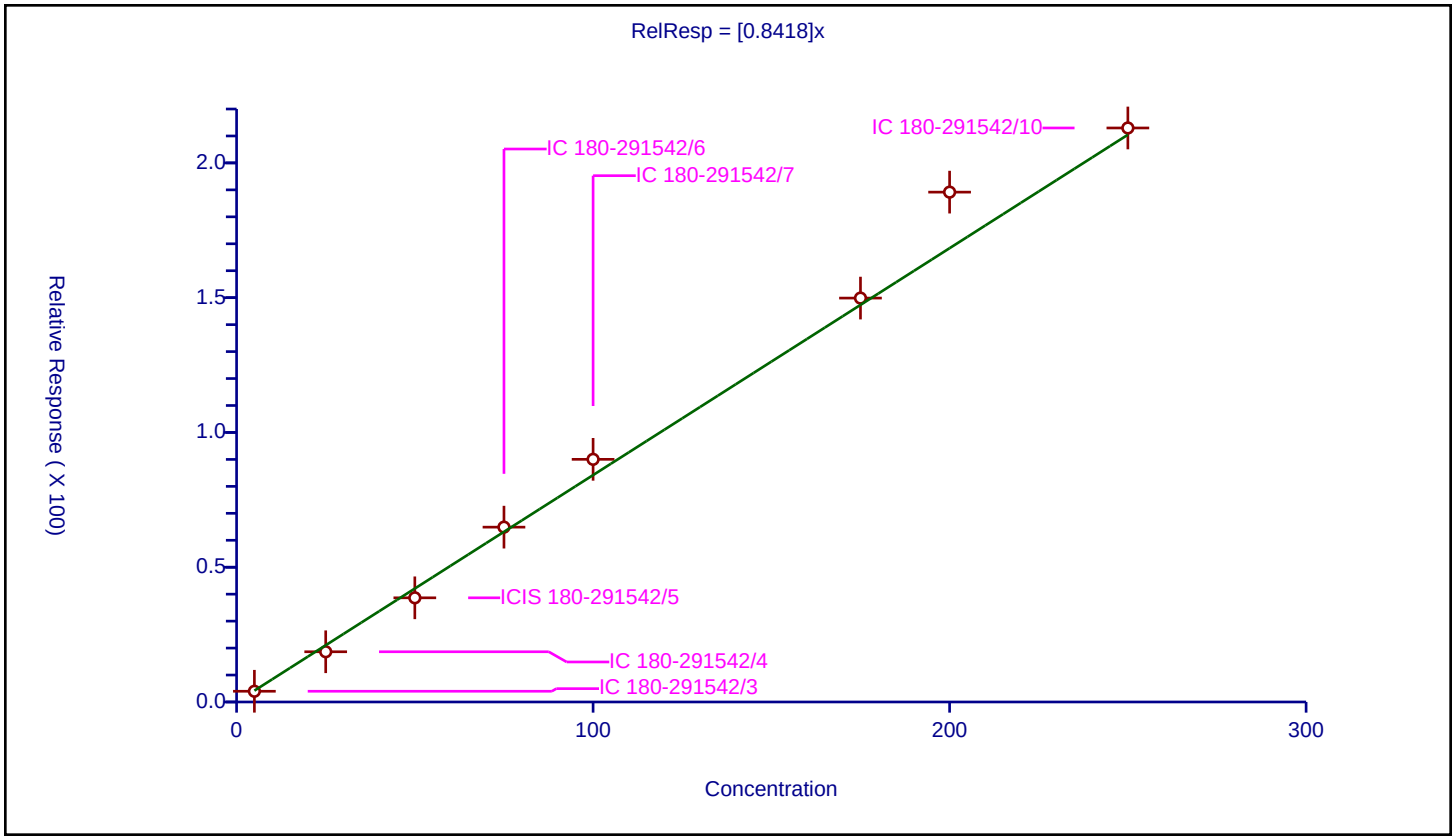

Calibration / Ethylene Dibromide

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.6157

Error Coefficients

Standard Error:	134000
Relative Standard Error:	7.3
Correlation Coefficient:	0.996
Coefficient of Determination (Adjusted):	0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	2.938362	50.0	95087.0	0.587672	Y
2	IC 180-291542/4	25.0	14.352985	50.0	104163.0	0.574119	Y
3	ICIS 180-291542/5	50.0	28.523629	50.0	101018.0	0.570473	Y
4	IC 180-291542/6	75.0	50.439449	50.0	107066.0	0.672526	Y
5	IC 180-291542/7	100.0	66.39232	50.0	102243.0	0.663923	Y
6	IC 180-291542/8	175.0	109.483556	50.0	108124.0	0.62562	Y
7	IC 180-291542/9	200.0	145.084703	50.0	103066.0	0.725424	N
8	IC 180-291542/10	250.0	154.867182	50.0	106951.0	0.619469	N

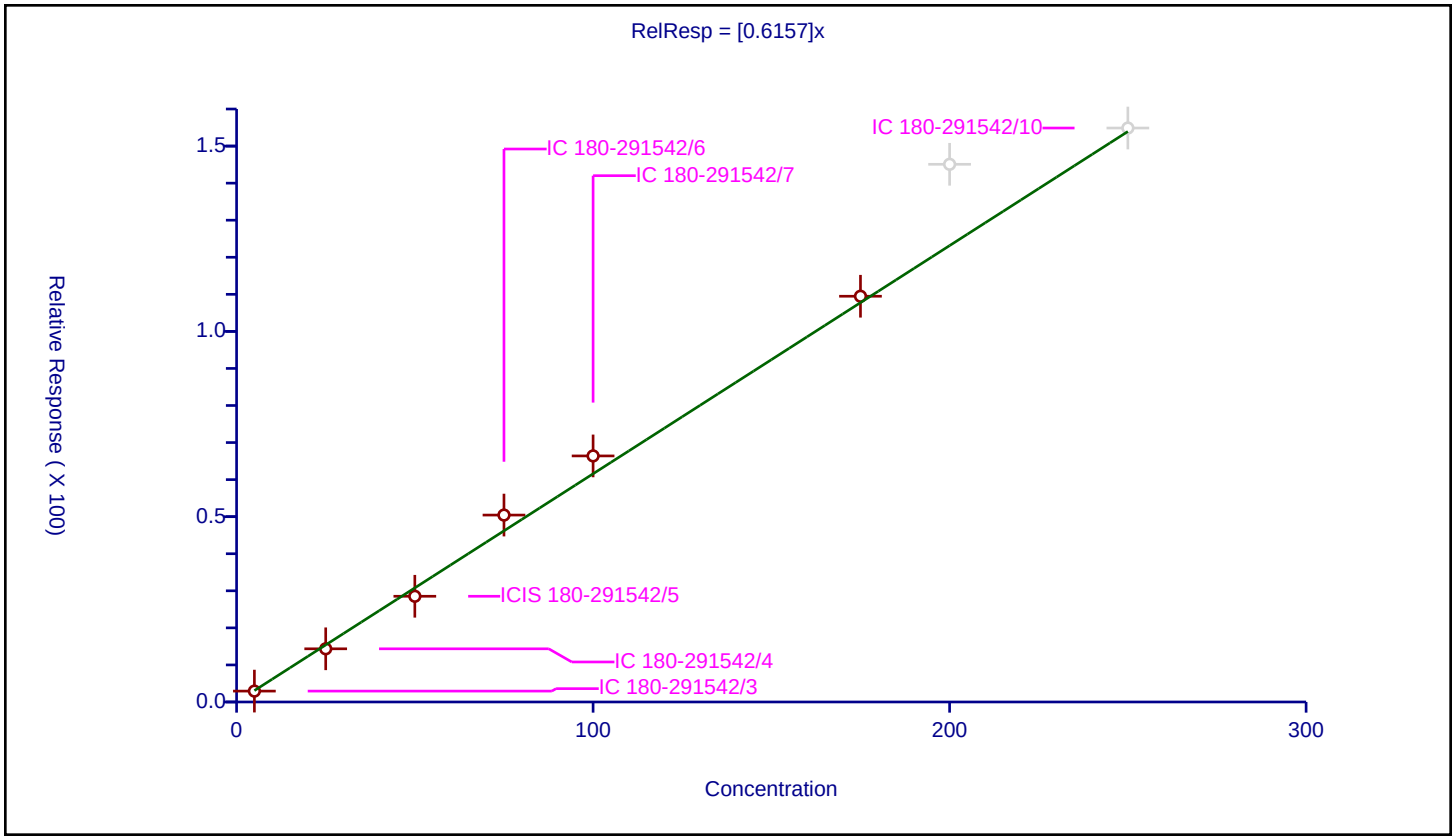

Calibration / Chlorobenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	3.515

Error Coefficients

Standard Error:	1070000
Relative Standard Error:	9.6
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.988

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	21.598115	50.0	95087.0	4.319623	Y
2	IC 180-291542/4	25.0	83.137006	50.0	104163.0	3.32548	Y
3	ICIS 180-291542/5	50.0	164.216773	50.0	101018.0	3.284335	Y
4	IC 180-291542/6	75.0	254.042366	50.0	107066.0	3.387232	Y
5	IC 180-291542/7	100.0	353.817376	50.0	102243.0	3.538174	Y
6	IC 180-291542/8	175.0	583.859735	50.0	108124.0	3.336341	Y
7	IC 180-291542/9	200.0	701.625657	50.0	103066.0	3.508128	Y
8	IC 180-291542/10	250.0	855.638096	50.0	106951.0	3.422552	Y

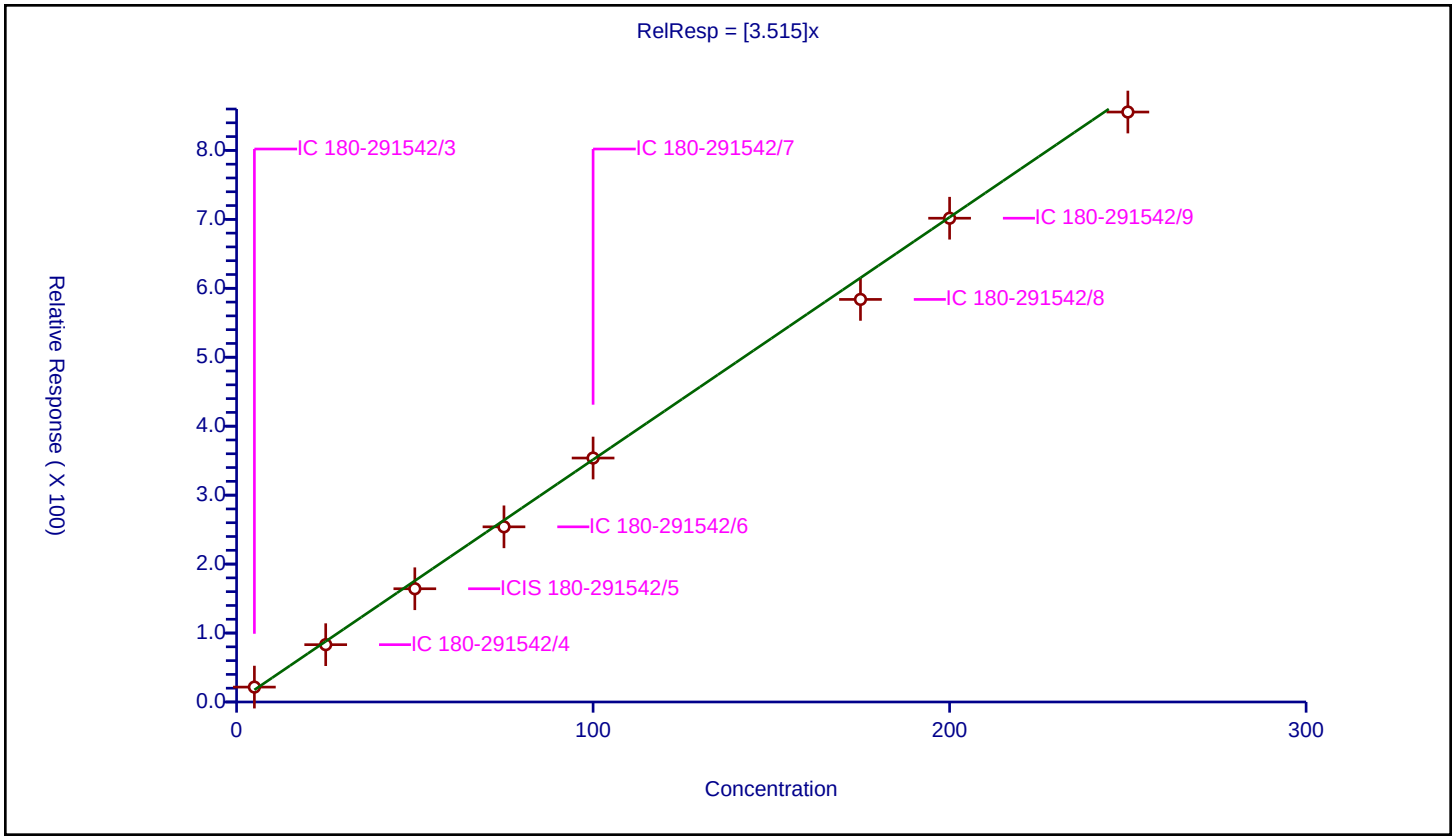

Calibration / 1,1,1,2-Tetrachloroethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.157

Error Coefficients

Standard Error:	358000
Relative Standard Error:	7.3
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	6.661268	50.0	95087.0	1.332254	Y
2	IC 180-291542/4	25.0	26.629897	50.0	104163.0	1.065196	Y
3	ICIS 180-291542/5	50.0	53.818131	50.0	101018.0	1.076363	Y
4	IC 180-291542/6	75.0	85.122728	50.0	107066.0	1.13497	Y
5	IC 180-291542/7	100.0	119.88498	50.0	102243.0	1.19885	Y
6	IC 180-291542/8	175.0	198.160908	50.0	108124.0	1.132348	Y
7	IC 180-291542/9	200.0	236.775464	50.0	103066.0	1.183877	Y
8	IC 180-291542/10	250.0	282.81456	50.0	106951.0	1.131258	Y

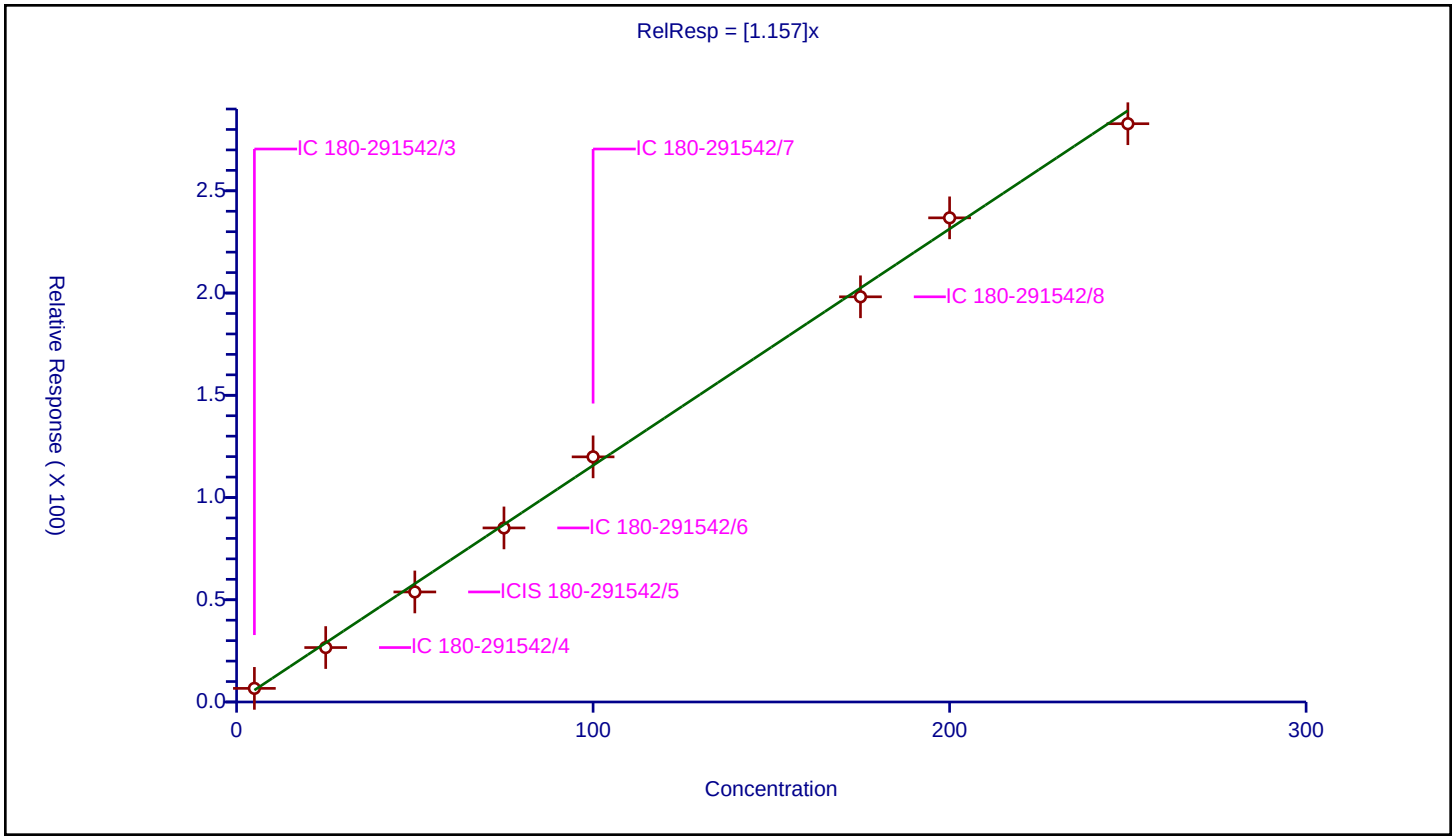

Calibration / Ethylbenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	2.043

Error Coefficients

Standard Error:	643000
Relative Standard Error:	5.8
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	11.378527	50.0	95087.0	2.275705	Y
2	IC 180-291542/4	25.0	47.570154	50.0	104163.0	1.902806	Y
3	ICIS 180-291542/5	50.0	96.069017	50.0	101018.0	1.92138	Y
4	IC 180-291542/6	75.0	148.99688	50.0	107066.0	1.986625	Y
5	IC 180-291542/7	100.0	207.306613	50.0	102243.0	2.073066	Y
6	IC 180-291542/8	175.0	352.250657	50.0	108124.0	2.012861	Y
7	IC 180-291542/9	200.0	414.230202	50.0	103066.0	2.071151	Y
8	IC 180-291542/10	250.0	524.410244	50.0	106951.0	2.097641	Y

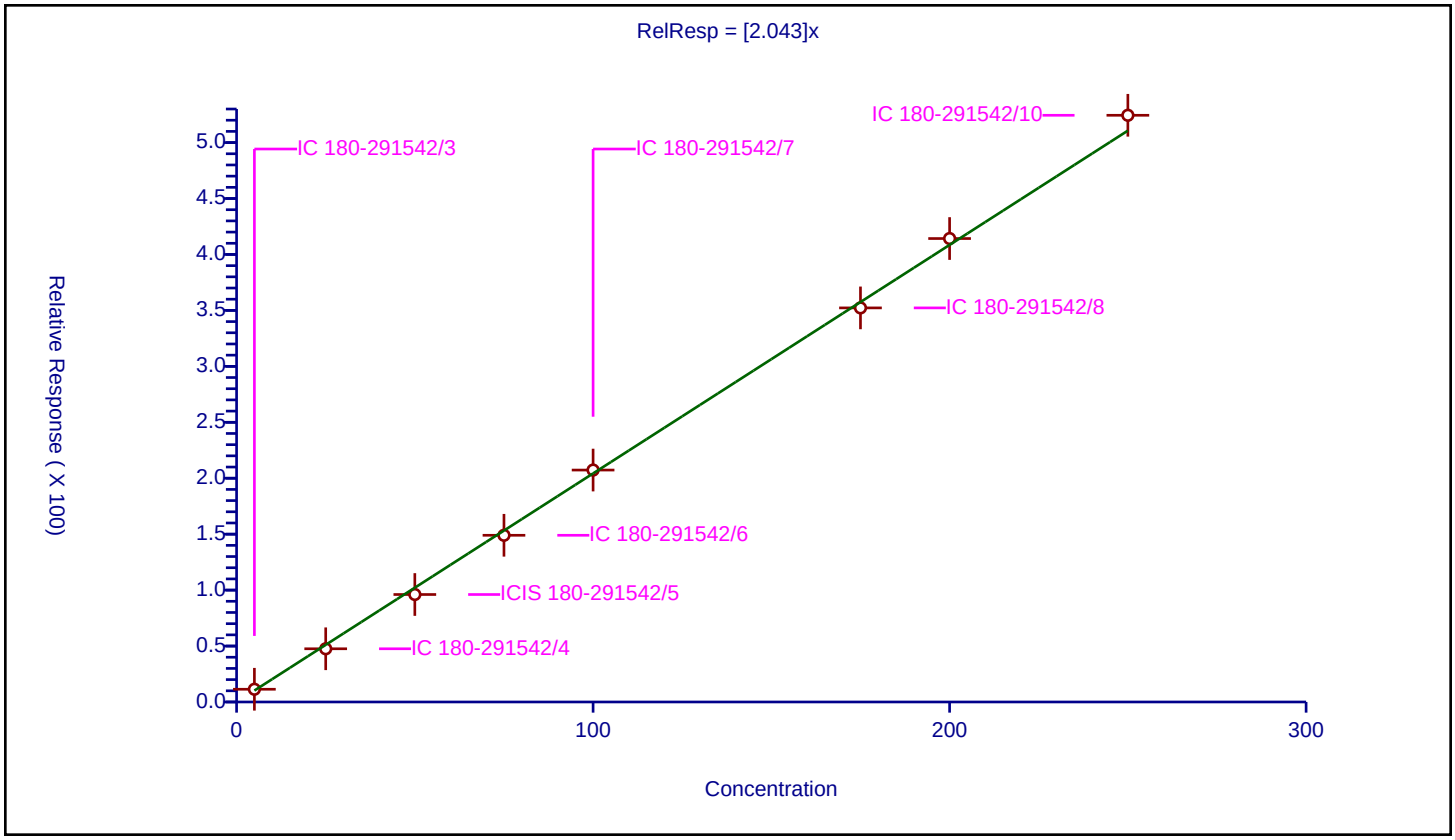

Calibration / m-Xylene & p-Xylene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	2.507

Error Coefficients

Standard Error:	783000
Relative Standard Error:	7.0
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	14.425736	50.0	95087.0	2.885147	Y
2	IC 180-291542/4	25.0	57.278976	50.0	104163.0	2.291159	Y
3	ICIS 180-291542/5	50.0	120.127106	50.0	101018.0	2.402542	Y
4	IC 180-291542/6	75.0	180.818841	50.0	107066.0	2.410918	Y
5	IC 180-291542/7	100.0	253.789501	50.0	102243.0	2.537895	Y
6	IC 180-291542/8	175.0	432.61903	50.0	108124.0	2.472109	Y
7	IC 180-291542/9	200.0	502.48142	50.0	103066.0	2.512407	Y
8	IC 180-291542/10	250.0	636.176847	50.0	106951.0	2.544707	Y

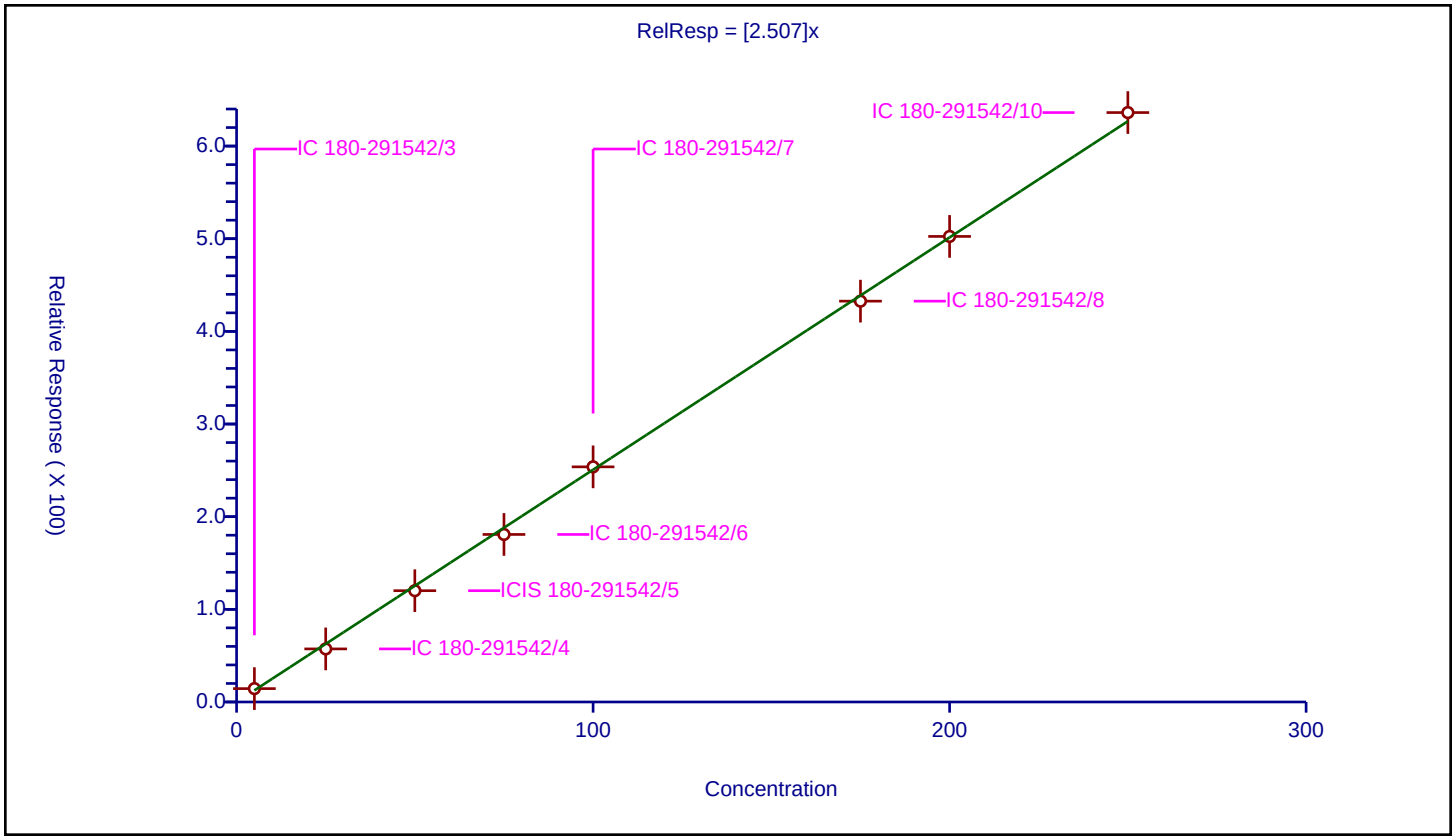

Calibration / o-Xylene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	2.381

Error Coefficients

Standard Error:	737000
Relative Standard Error:	5.9
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	13.438746	50.0	95087.0	2.687749	Y
2	IC 180-291542/4	25.0	56.291101	50.0	104163.0	2.251644	Y
3	ICIS 180-291542/5	50.0	113.047675	50.0	101018.0	2.260953	Y
4	IC 180-291542/6	75.0	175.088263	50.0	107066.0	2.33451	Y
5	IC 180-291542/7	100.0	243.695901	50.0	102243.0	2.436959	Y
6	IC 180-291542/8	175.0	404.048592	50.0	108124.0	2.308849	Y
7	IC 180-291542/9	200.0	478.171269	50.0	103066.0	2.390856	Y
8	IC 180-291542/10	250.0	594.379669	50.0	106951.0	2.377519	Y

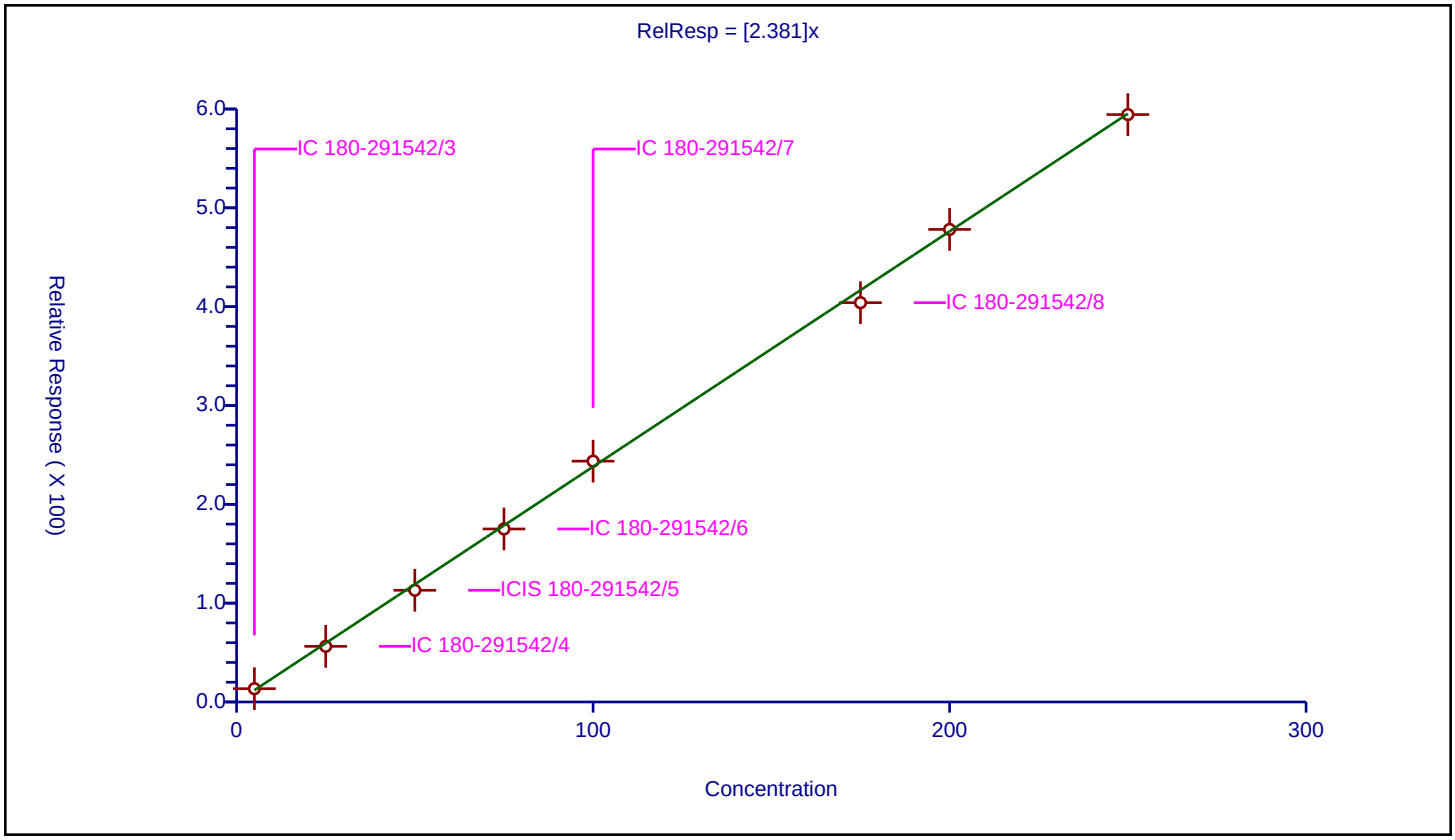

Calibration / Styrene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	3.765

Error Coefficients

Standard Error:	1190000
Relative Standard Error:	4.6
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	20.092126	50.0	95087.0	4.018425	Y
2	IC 180-291542/4	25.0	88.287108	50.0	104163.0	3.531484	Y
3	ICIS 180-291542/5	50.0	177.236235	50.0	101018.0	3.544725	Y
4	IC 180-291542/6	75.0	280.095455	50.0	107066.0	3.734606	Y
5	IC 180-291542/7	100.0	388.111167	50.0	102243.0	3.881112	Y
6	IC 180-291542/8	175.0	645.252673	50.0	108124.0	3.687158	Y
7	IC 180-291542/9	200.0	783.238895	50.0	103066.0	3.916194	Y
8	IC 180-291542/10	250.0	951.175305	50.0	106951.0	3.804701	Y

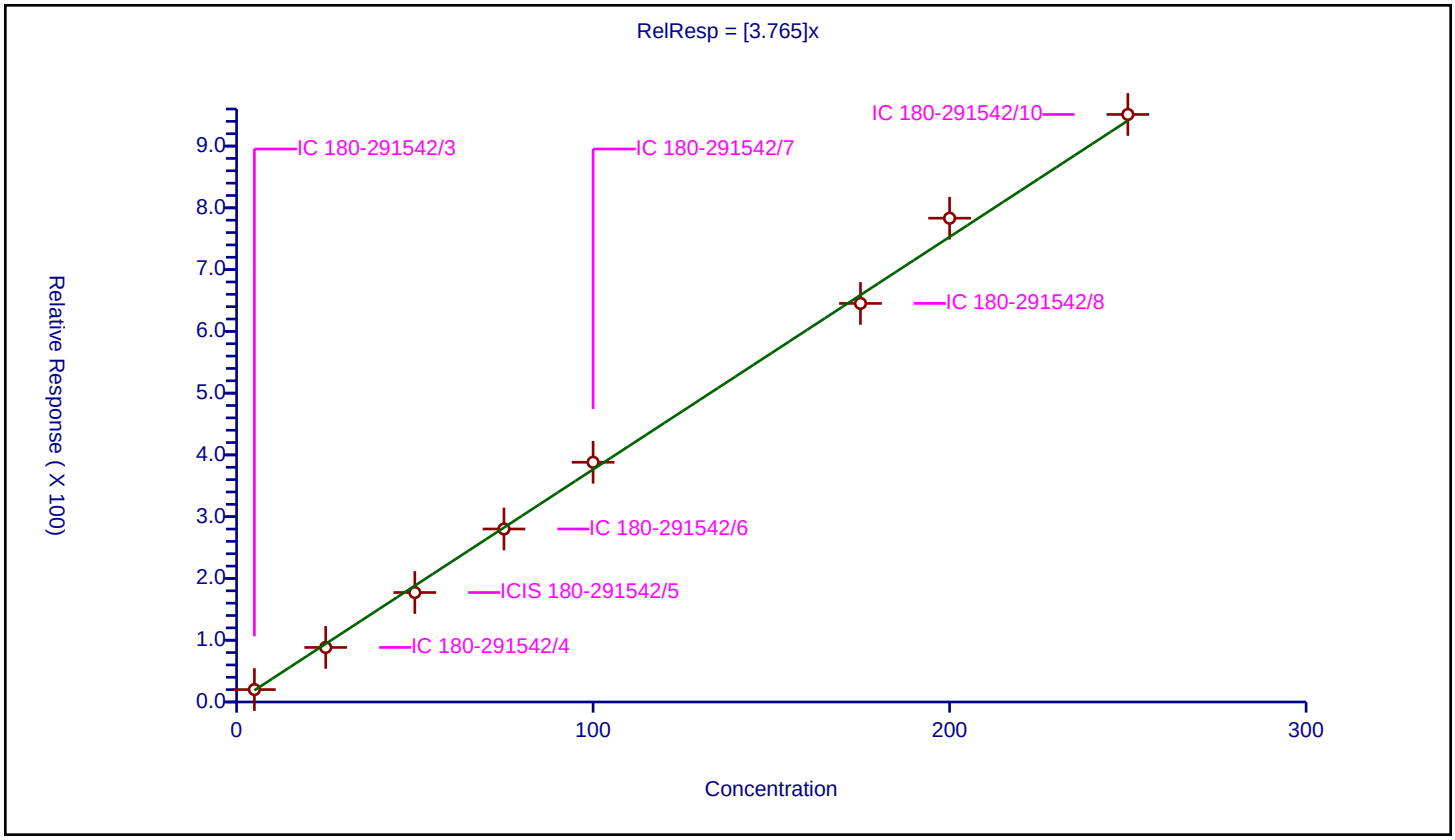

Calibration / Bromoform

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.4392

Error Coefficients

Standard Error:	143000
Relative Standard Error:	10.1
Correlation Coefficient:	0.993
Coefficient of Determination (Adjusted):	0.989

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	2.05496	50.0	95087.0	0.410992	Y
2	IC 180-291542/4	25.0	9.519695	50.0	104163.0	0.380788	Y
3	ICIS 180-291542/5	50.0	19.389614	50.0	101018.0	0.387792	Y
4	IC 180-291542/6	75.0	35.196981	50.0	107066.0	0.469293	Y
5	IC 180-291542/7	100.0	47.53186	50.0	102243.0	0.475319	Y
6	IC 180-291542/8	175.0	78.104306	50.0	108124.0	0.44631	Y
7	IC 180-291542/9	200.0	101.336522	50.0	103066.0	0.506683	Y
8	IC 180-291542/10	250.0	109.15092	50.0	106951.0	0.436604	Y

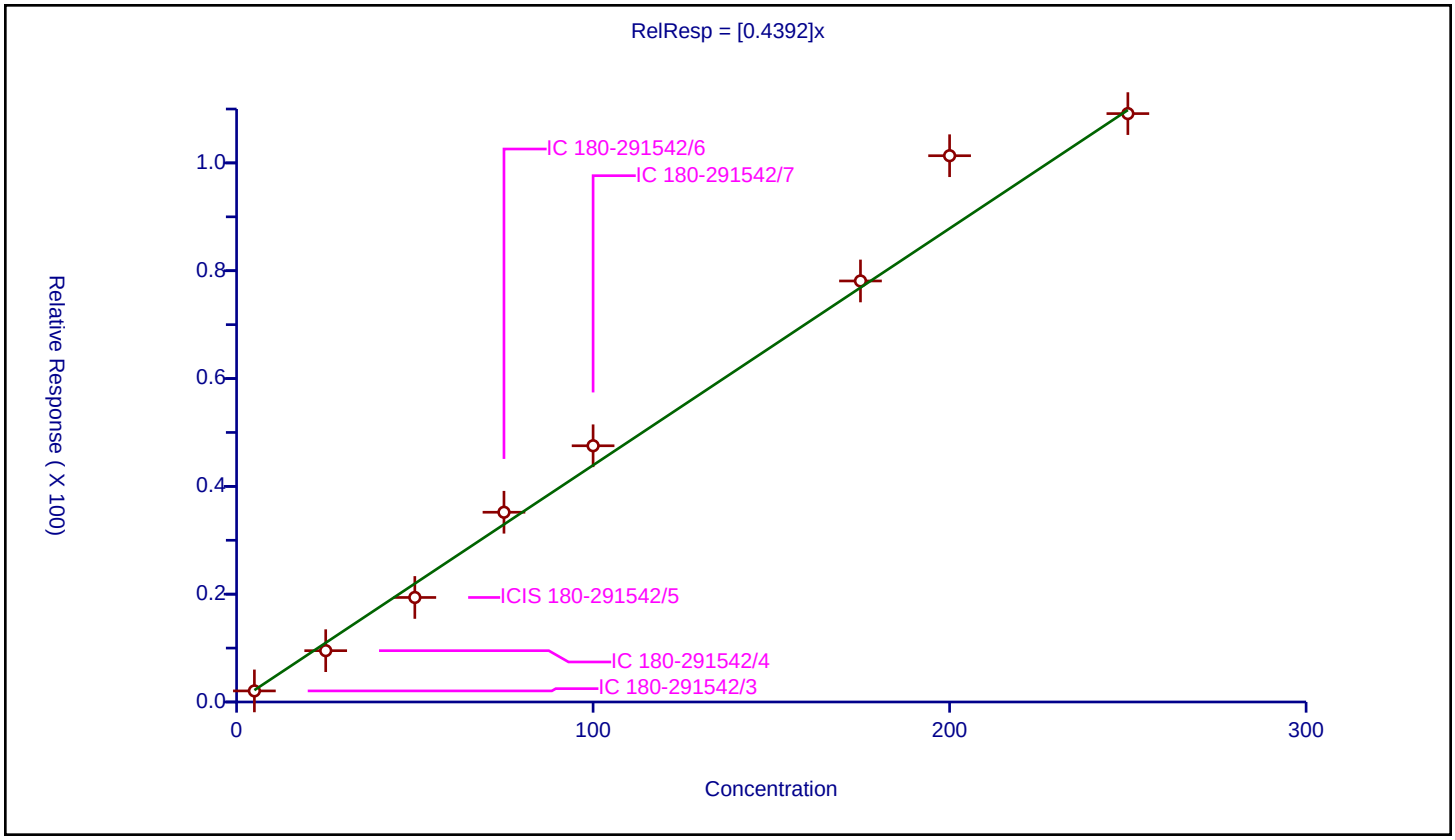

Calibration / Isopropylbenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	6.454

Error Coefficients

Standard Error:	1960000
Relative Standard Error:	7.8
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.992

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	38.322799	50.0	95087.0	7.66456	Y
2	IC 180-291542/4	25.0	154.937934	50.0	104163.0	6.197517	Y
3	ICIS 180-291542/5	50.0	309.4008	50.0	101018.0	6.188016	Y
4	IC 180-291542/6	75.0	467.836194	50.0	107066.0	6.237816	Y
5	IC 180-291542/7	100.0	655.502577	50.0	102243.0	6.555026	Y
6	IC 180-291542/8	175.0	1080.967685	50.0	108124.0	6.176958	Y
7	IC 180-291542/9	200.0	1254.241942	50.0	103066.0	6.27121	Y
8	IC 180-291542/10	250.0	1584.432123	50.0	106951.0	6.337728	Y

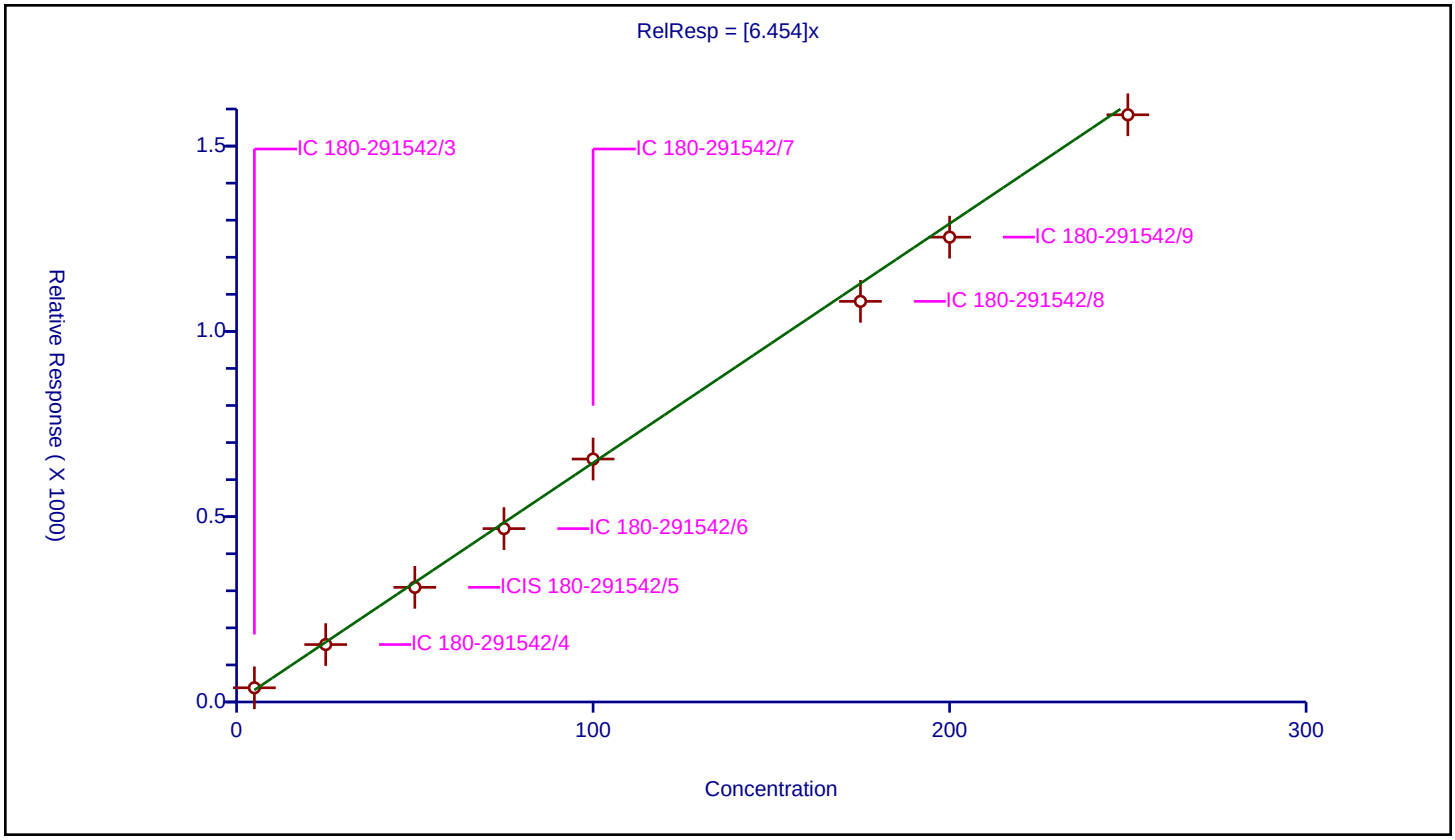

Calibration / 4-Bromofluorobenzene (Surr)

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.429

Error Coefficients

Standard Error:	454000
Relative Standard Error:	4.0
Correlation Coefficient:	0.997
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	7.170801	50.0	95087.0	1.43416	Y
2	IC 180-291542/4	25.0	35.989267	50.0	104163.0	1.439571	Y
3	ICIS 180-291542/5	50.0	69.370805	50.0	101018.0	1.387416	Y
4	IC 180-291542/6	75.0	108.563409	50.0	107066.0	1.447512	Y
5	IC 180-291542/7	100.0	133.130385	50.0	102243.0	1.331304	Y
6	IC 180-291542/8	175.0	244.390237	50.0	108124.0	1.396516	Y
7	IC 180-291542/9	200.0	304.392331	50.0	103066.0	1.521962	Y
8	IC 180-291542/10	250.0	368.06575	50.0	106951.0	1.472263	Y

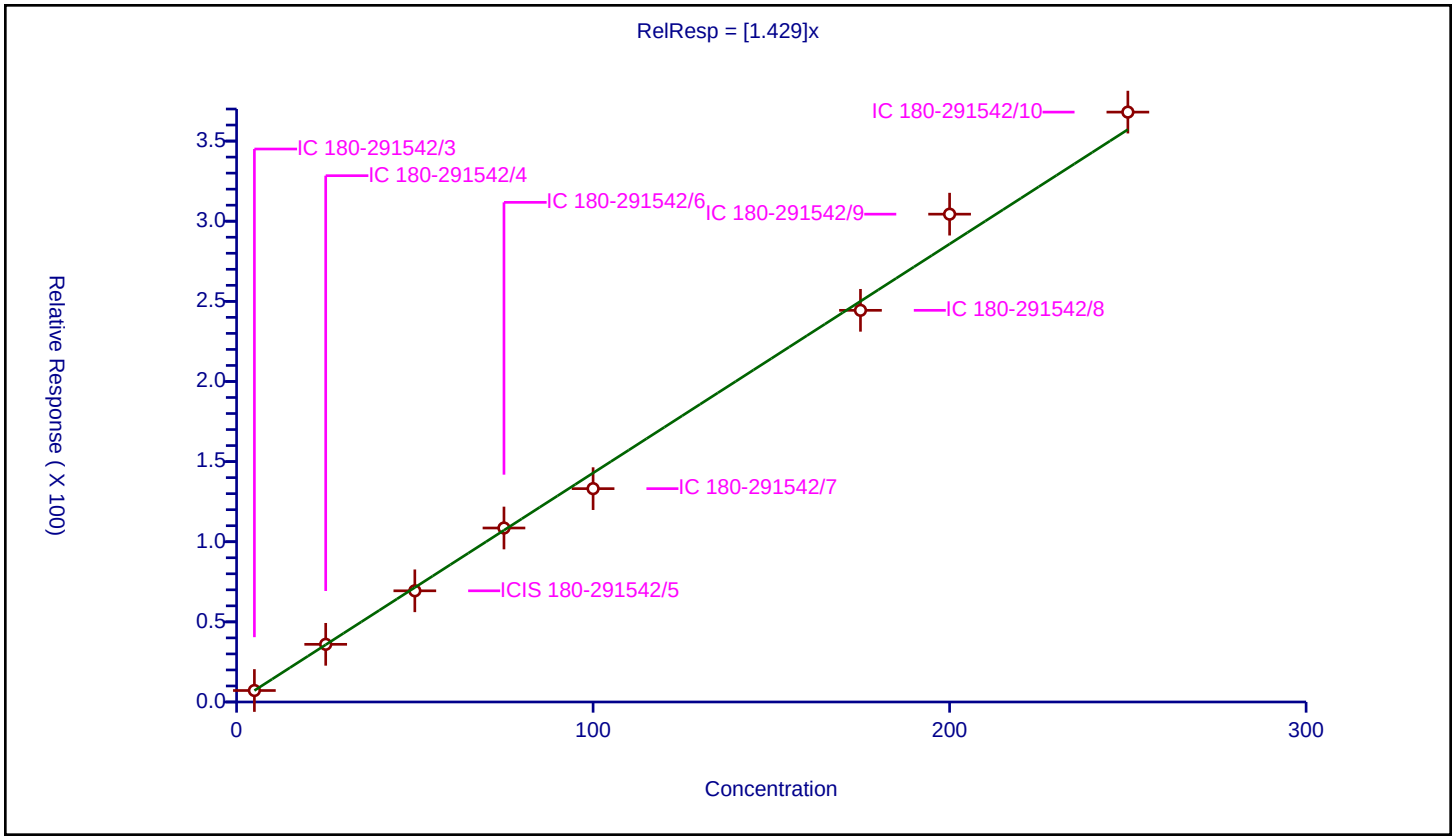

Calibration / Bromobenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.8065

Error Coefficients

Standard Error:	395000
Relative Standard Error:	9.2
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.989

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	4.776915	50.0	163861.0	0.955383	Y
2	IC 180-291542/4	25.0	17.825515	50.0	177964.0	0.713021	Y
3	ICIS 180-291542/5	50.0	36.730507	50.0	170112.0	0.73461	Y
4	IC 180-291542/6	75.0	58.064068	50.0	179903.0	0.774188	Y
5	IC 180-291542/7	100.0	83.518119	50.0	165327.0	0.835181	Y
6	IC 180-291542/8	175.0	141.510905	50.0	166119.0	0.808634	Y
7	IC 180-291542/9	200.0	165.58715	50.0	163638.0	0.827936	Y
8	IC 180-291542/10	250.0	200.838014	50.0	165033.0	0.803352	Y

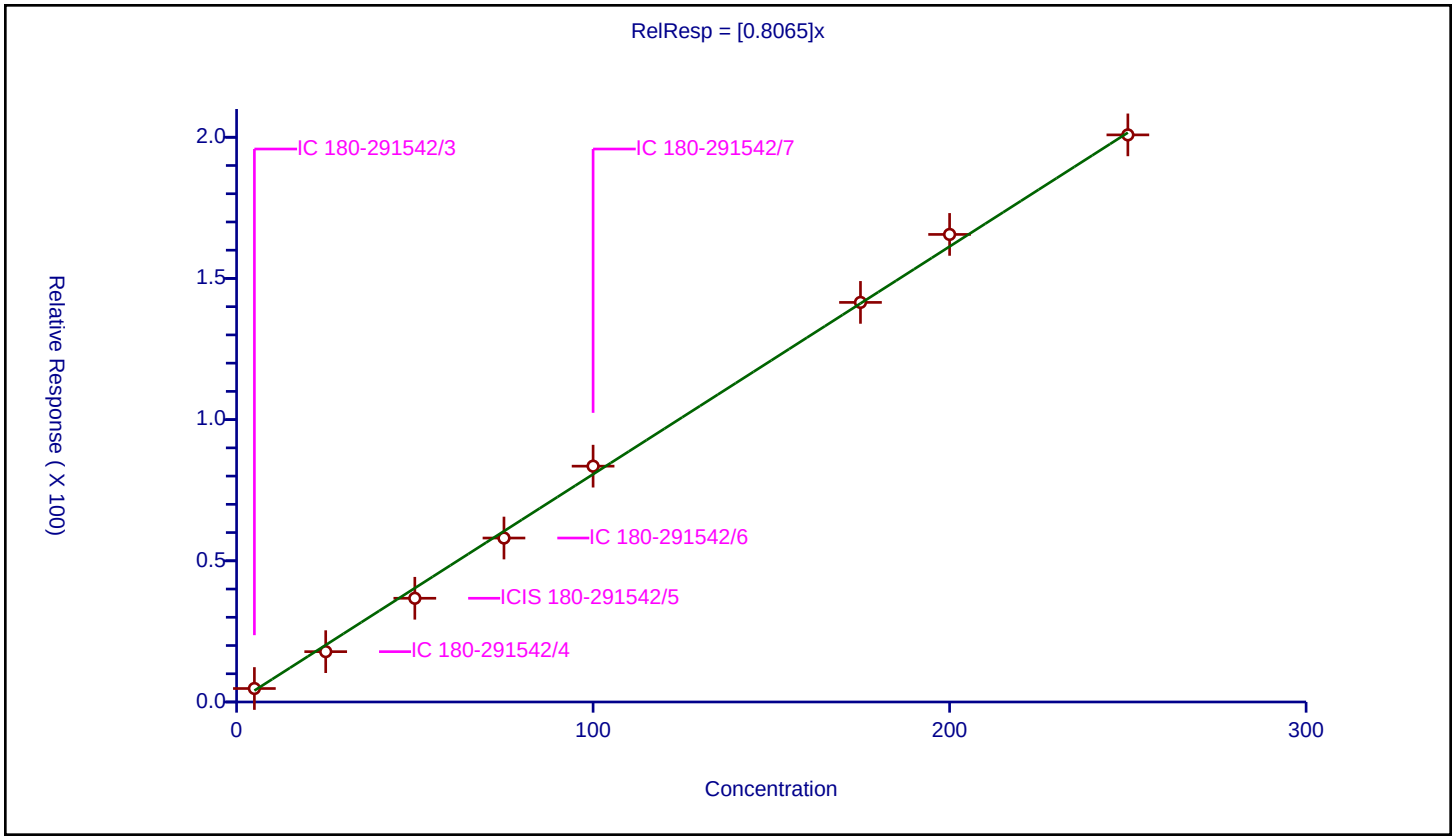

Calibration / 1,1,2,2-Tetrachloroethane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.823

Error Coefficients

Standard Error:	165000
Relative Standard Error:	12.6
Correlation Coefficient:	0.995
Coefficient of Determination (Adjusted):	0.977

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	5.054319	50.0	95087.0	1.010864	Y
2	IC 180-291542/4	25.0	19.3226	50.0	104163.0	0.772904	Y
3	ICIS 180-291542/5	50.0	35.960918	50.0	101018.0	0.719218	Y
4	IC 180-291542/6	75.0	62.992453	50.0	107066.0	0.839899	Y
5	IC 180-291542/7	100.0	83.961249	50.0	102243.0	0.839612	Y
6	IC 180-291542/8	175.0	132.215327	50.0	108124.0	0.755516	Y
7	IC 180-291542/9	200.0	176.893447	50.0	103066.0	0.884467	N
8	IC 180-291542/10	250.0	179.296126	50.0	106951.0	0.717185	N

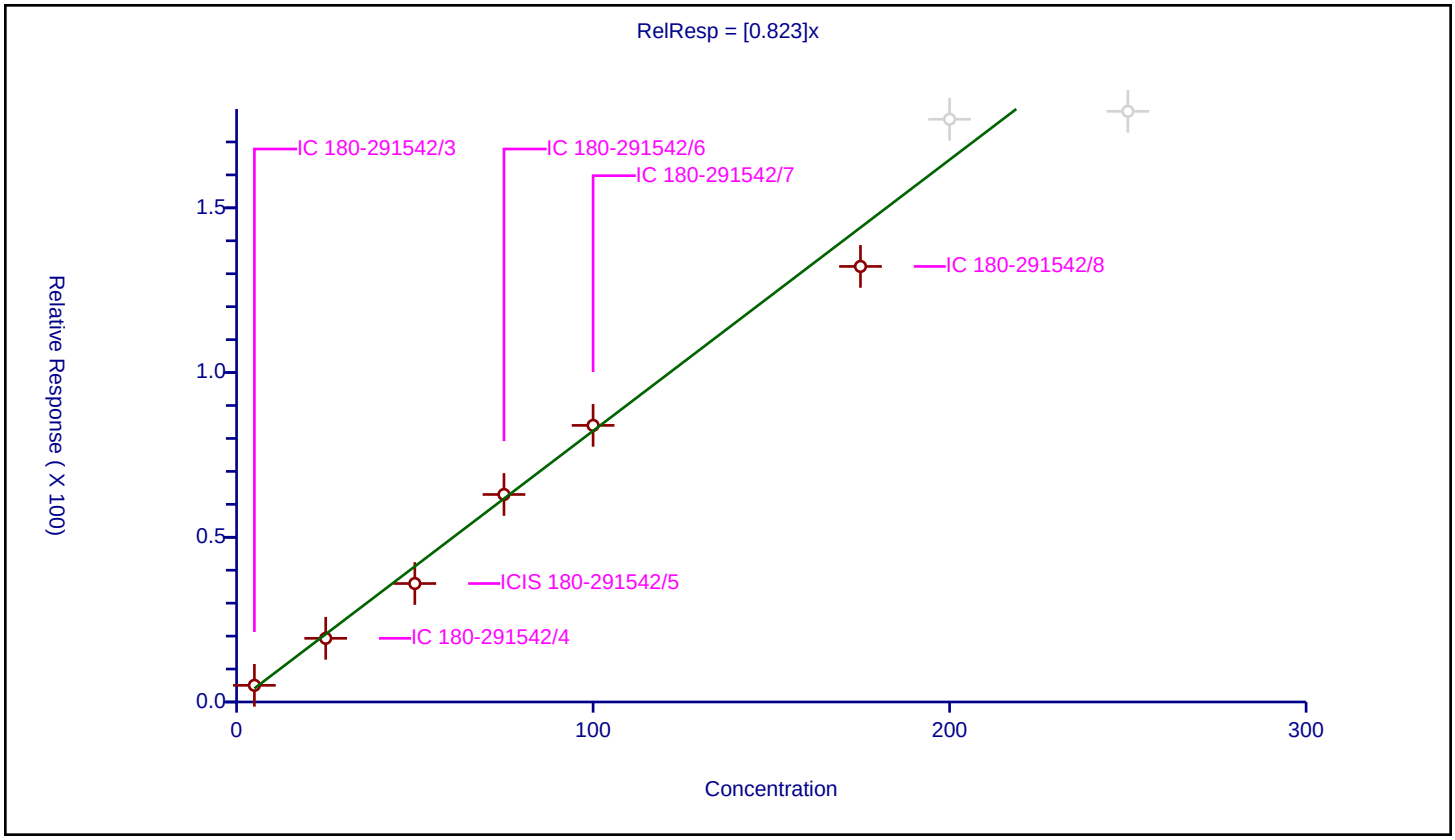

Calibration / trans-1,4-Dichloro-2-butene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.1048

Error Coefficients

Standard Error:	57600
Relative Standard Error:	18.9
Correlation Coefficient:	0.981
Coefficient of Determination (Adjusted):	0.962

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	0.465333	50.0	163861.0	0.093067	Y
2	IC 180-291542/4	25.0	1.867793	50.0	177964.0	0.074712	Y
3	ICIS 180-291542/5	50.0	4.13169	50.0	170112.0	0.082634	Y
4	IC 180-291542/6	75.0	8.335881	50.0	179903.0	0.111145	Y
5	IC 180-291542/7	100.0	11.631192	50.0	165327.0	0.116312	Y
6	IC 180-291542/8	175.0	20.022093	50.0	166119.0	0.114412	Y
7	IC 180-291542/9	200.0	27.00198	50.0	163638.0	0.13501	Y
8	IC 180-291542/10	250.0	27.776869	50.0	165033.0	0.111107	Y

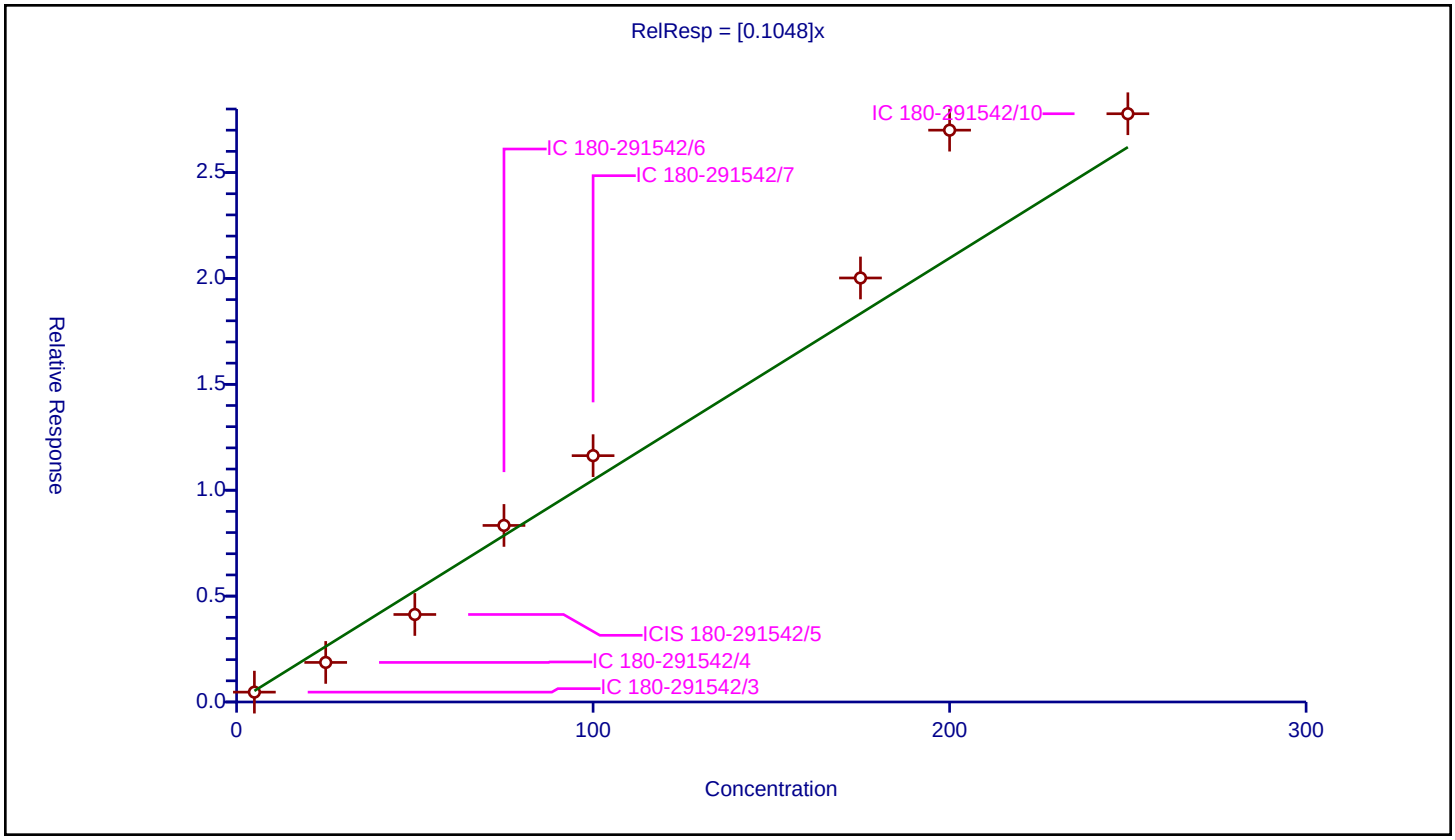

Calibration / 1,2,3-Trichloropropane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.1426

Error Coefficients

Standard Error:	70000
Relative Standard Error:	9.0
Correlation Coefficient:	0.981
Coefficient of Determination (Adjusted):	0.990

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	0.76986	50.0	163861.0	0.153972	Y
2	IC 180-291542/4	25.0	3.286058	50.0	177964.0	0.131442	Y
3	ICIS 180-291542/5	50.0	6.225604	50.0	170112.0	0.124512	Y
4	IC 180-291542/6	75.0	10.857518	50.0	179903.0	0.144767	Y
5	IC 180-291542/7	100.0	15.25008	50.0	165327.0	0.152501	Y
6	IC 180-291542/8	175.0	24.572746	50.0	166119.0	0.140416	Y
7	IC 180-291542/9	200.0	32.236705	50.0	163638.0	0.161184	Y
8	IC 180-291542/10	250.0	33.038241	50.0	165033.0	0.132153	Y

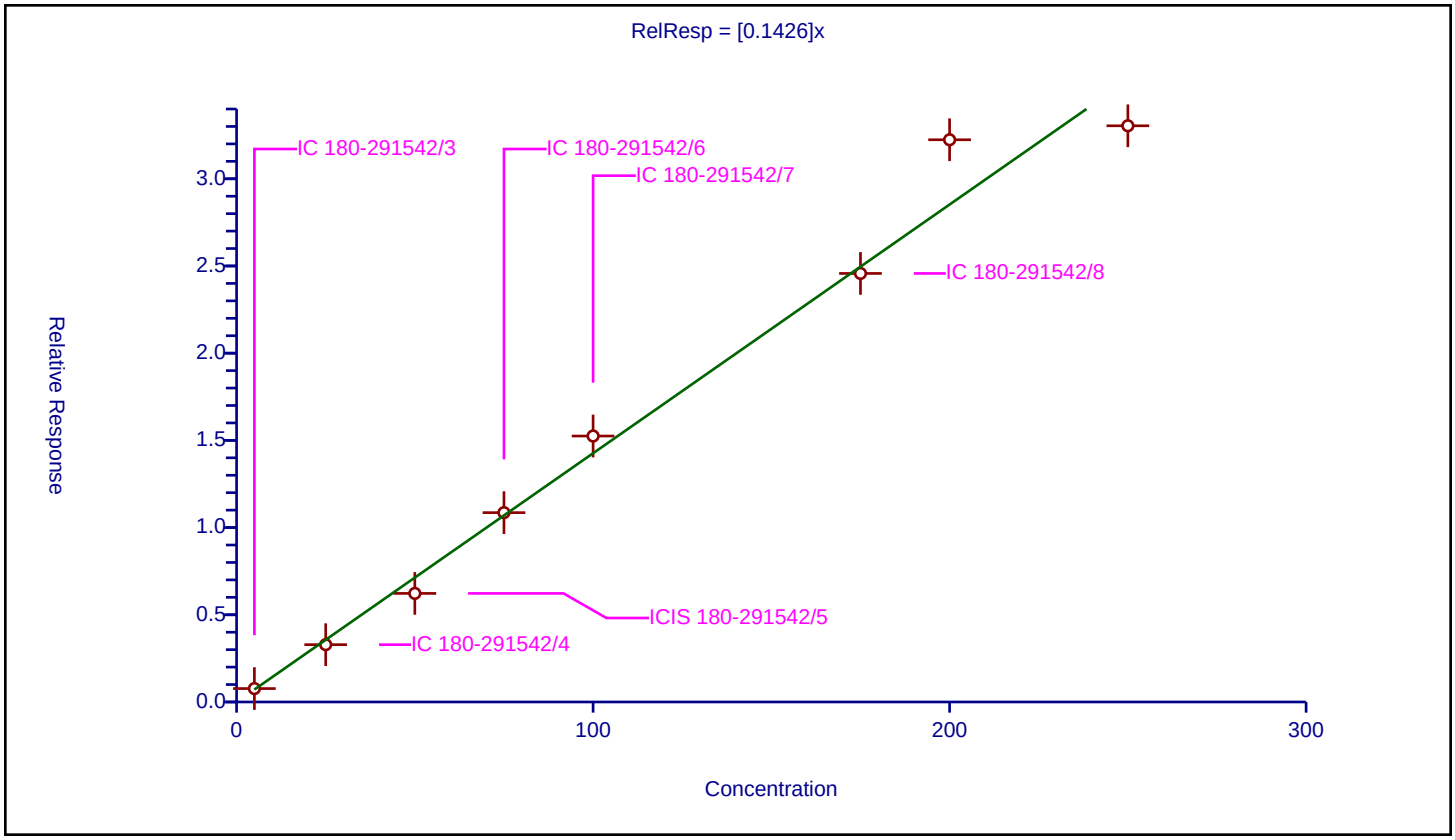

Calibration / N-Propylbenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.154

Error Coefficients

Standard Error:	572000
Relative Standard Error:	6.3
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	6.446622	50.0	163861.0	1.289324	Y
2	IC 180-291542/4	25.0	26.669439	50.0	177964.0	1.066778	Y
3	ICIS 180-291542/5	50.0	53.763991	50.0	170112.0	1.07528	Y
4	IC 180-291542/6	75.0	83.013902	50.0	179903.0	1.106852	Y
5	IC 180-291542/7	100.0	117.587871	50.0	165327.0	1.175879	Y
6	IC 180-291542/8	175.0	205.431648	50.0	166119.0	1.173895	Y
7	IC 180-291542/9	200.0	229.668537	50.0	163638.0	1.148343	Y
8	IC 180-291542/10	250.0	299.392546	50.0	165033.0	1.19757	Y

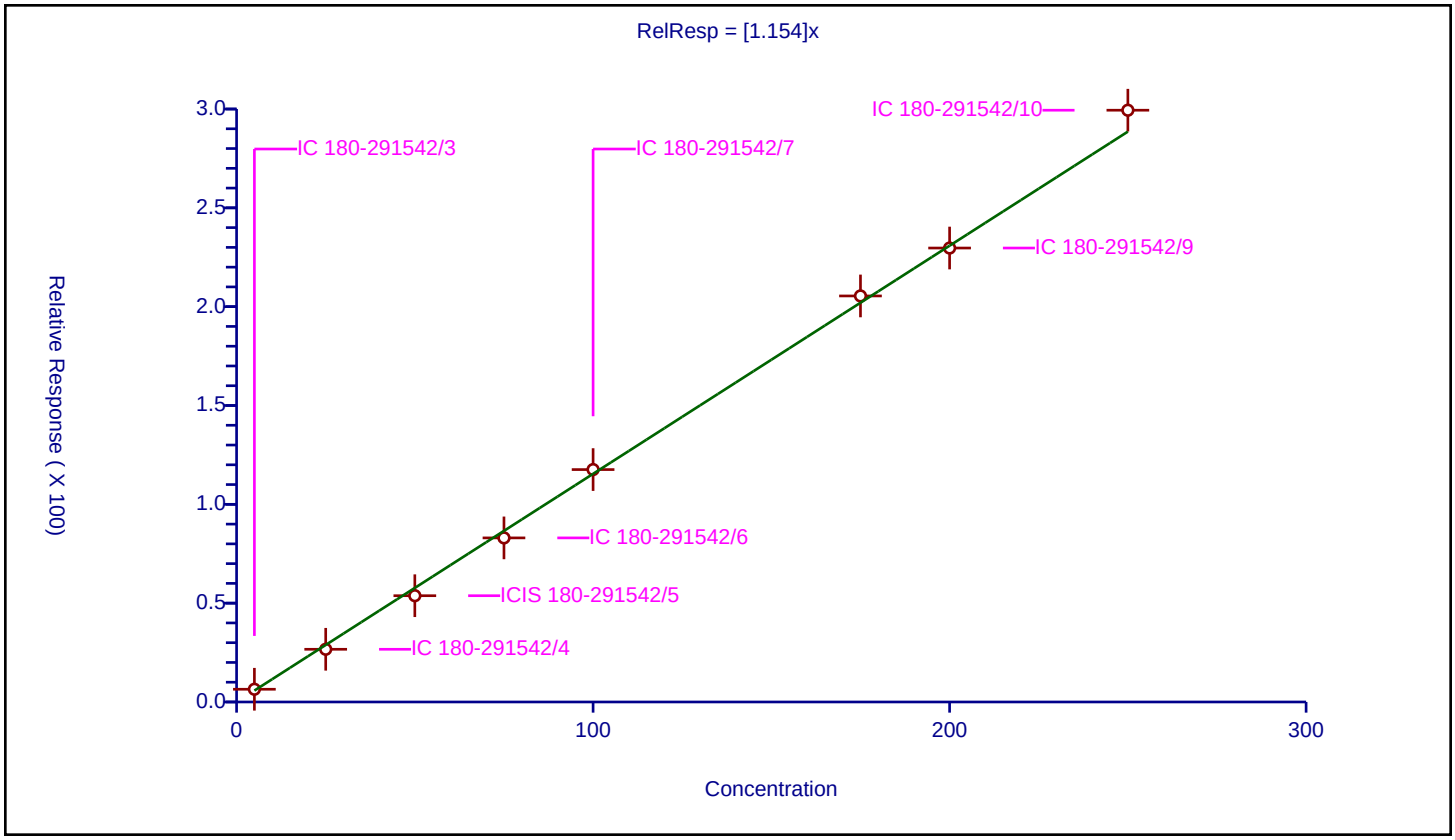

Calibration / 2-Chlorotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.9244

Error Coefficients

Standard Error:	448000
Relative Standard Error:	9.1
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.989

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	5.567829	50.0	163861.0	1.113566	Y
2	IC 180-291542/4	25.0	21.055382	50.0	177964.0	0.842215	Y
3	ICIS 180-291542/5	50.0	43.18449	50.0	170112.0	0.86369	Y
4	IC 180-291542/6	75.0	65.396908	50.0	179903.0	0.871959	Y
5	IC 180-291542/7	100.0	94.405935	50.0	165327.0	0.944059	Y
6	IC 180-291542/8	175.0	162.082302	50.0	166119.0	0.926185	Y
7	IC 180-291542/9	200.0	180.981496	50.0	163638.0	0.904907	Y
8	IC 180-291542/10	250.0	232.190532	50.0	165033.0	0.928762	Y

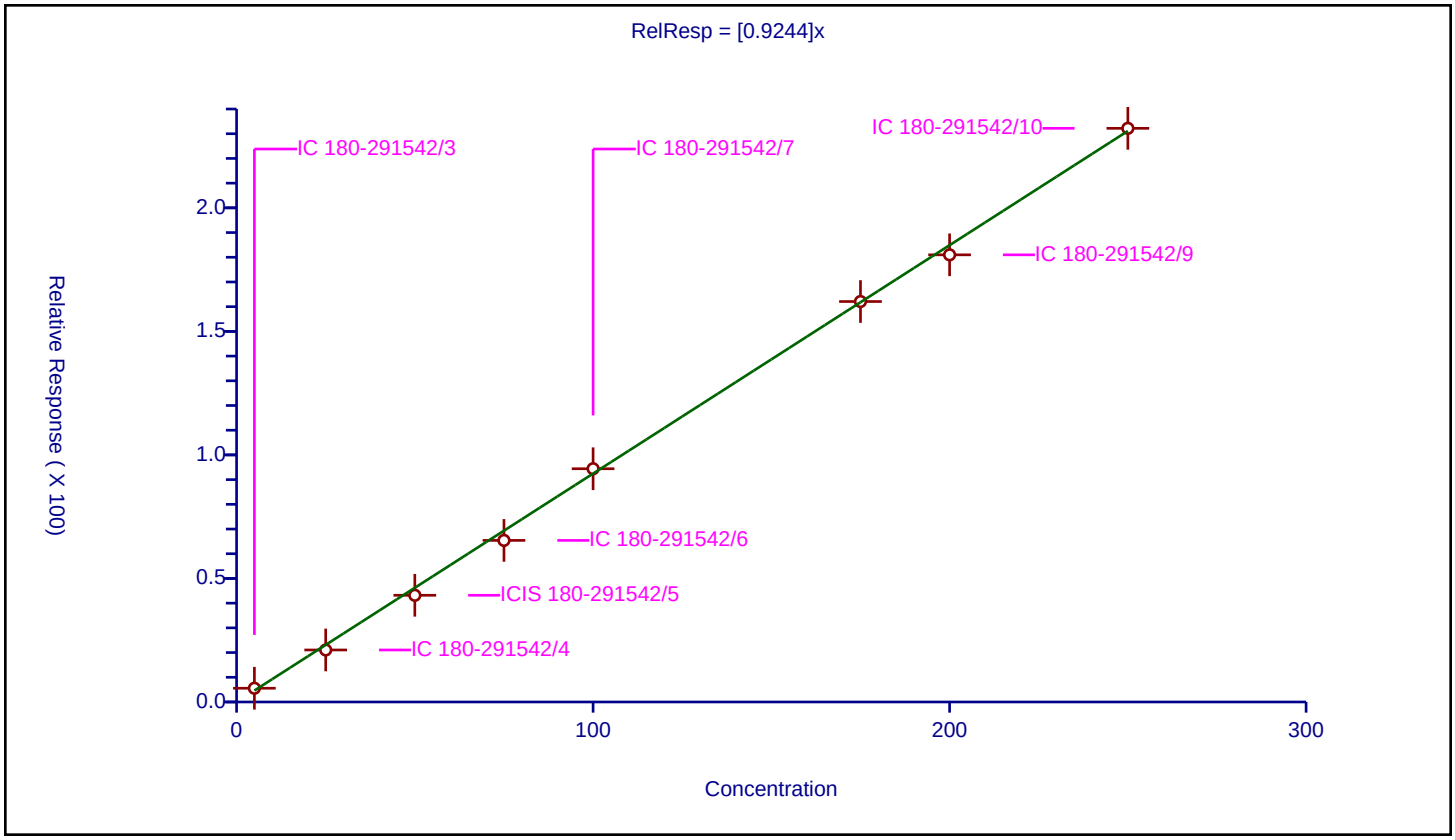

Calibration / 1,3,5-Trimethylbenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	3.226

Error Coefficients

Standard Error:	1580000
Relative Standard Error:	8.6
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	19.059447	50.0	163861.0	3.811889	Y
2	IC 180-291542/4	25.0	73.073206	50.0	177964.0	2.922928	Y
3	ICIS 180-291542/5	50.0	149.764861	50.0	170112.0	2.995297	Y
4	IC 180-291542/6	75.0	228.128769	50.0	179903.0	3.041717	Y
5	IC 180-291542/7	100.0	330.06224	50.0	165327.0	3.300622	Y
6	IC 180-291542/8	175.0	569.163672	50.0	166119.0	3.252364	Y
7	IC 180-291542/9	200.0	637.200711	50.0	163638.0	3.186004	Y
8	IC 180-291542/10	250.0	824.351796	50.0	165033.0	3.297407	Y

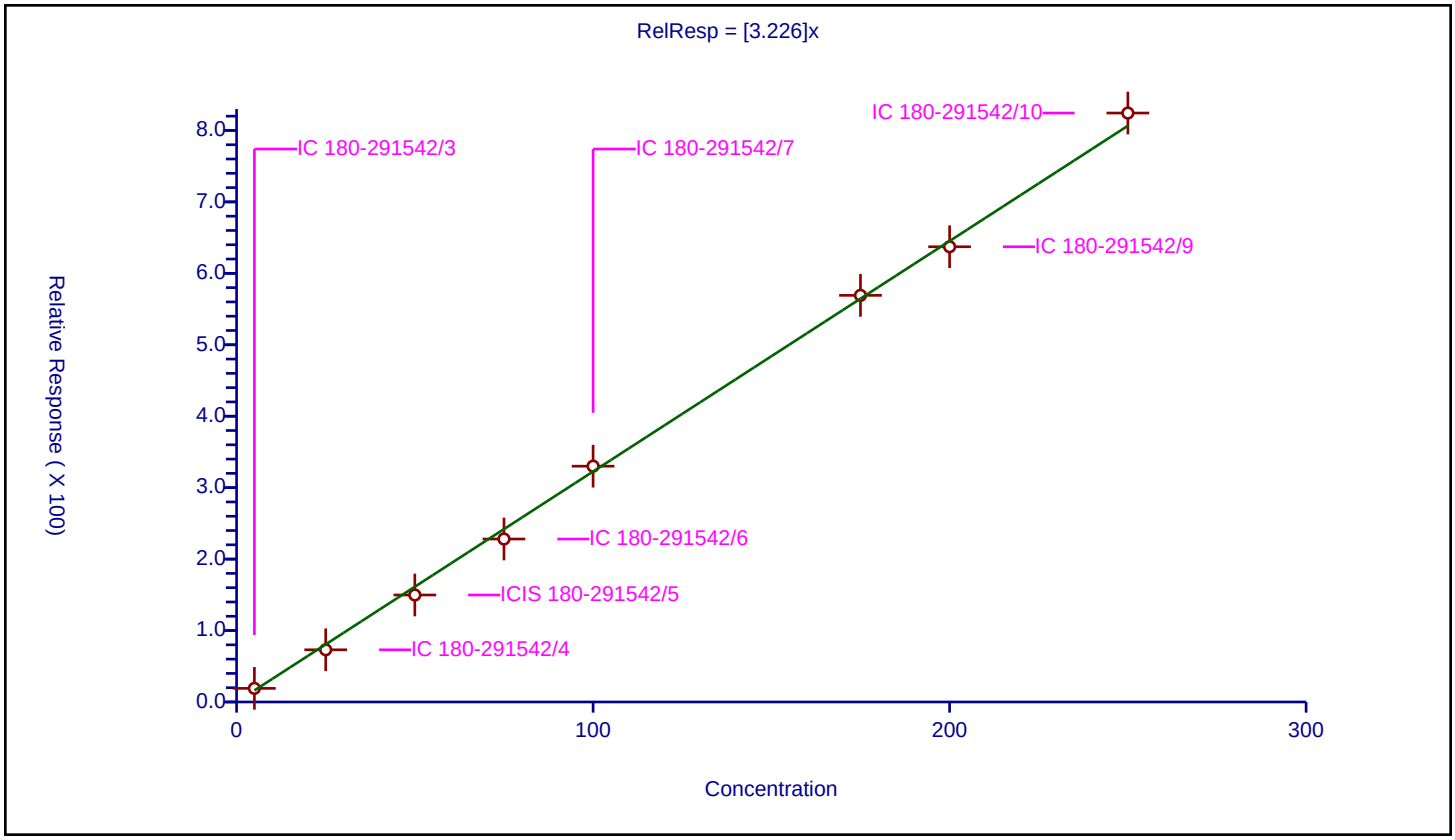

Calibration / 4-Chlorotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.9651

Error Coefficients

Standard Error:	467000
Relative Standard Error:	9.5
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.988

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	5.888222	50.0	163861.0	1.177644	Y
2	IC 180-291542/4	25.0	22.277539	50.0	177964.0	0.891102	Y
3	ICIS 180-291542/5	50.0	44.741994	50.0	170112.0	0.89484	Y
4	IC 180-291542/6	75.0	68.340439	50.0	179903.0	0.911206	Y
5	IC 180-291542/7	100.0	97.637107	50.0	165327.0	0.976371	Y
6	IC 180-291542/8	175.0	167.045913	50.0	166119.0	0.954548	Y
7	IC 180-291542/9	200.0	189.4288	50.0	163638.0	0.947144	Y
8	IC 180-291542/10	250.0	242.001297	50.0	165033.0	0.968005	Y

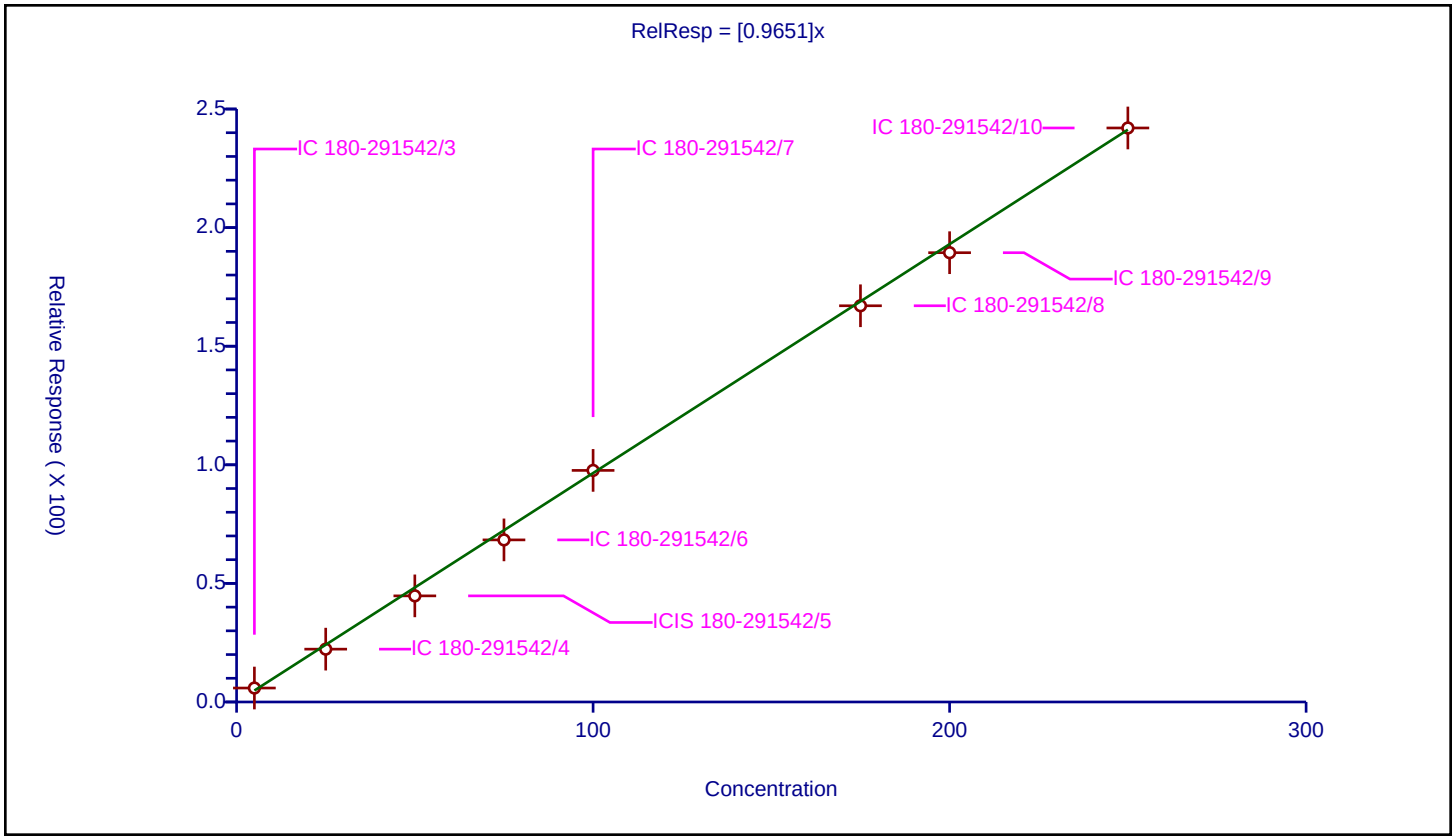

Calibration / tert-Butylbenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	2.953

Error Coefficients

Standard Error:	1420000
Relative Standard Error:	9.1
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.989

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	17.803809	50.0	163861.0	3.560762	Y
2	IC 180-291542/4	25.0	67.710885	50.0	177964.0	2.708435	Y
3	ICIS 180-291542/5	50.0	139.341434	50.0	170112.0	2.786829	Y
4	IC 180-291542/6	75.0	208.387298	50.0	179903.0	2.778497	Y
5	IC 180-291542/7	100.0	304.452993	50.0	165327.0	3.04453	Y
6	IC 180-291542/8	175.0	516.899632	50.0	166119.0	2.953712	Y
7	IC 180-291542/9	200.0	568.253706	50.0	163638.0	2.841269	Y
8	IC 180-291542/10	250.0	737.138936	50.0	165033.0	2.948556	Y

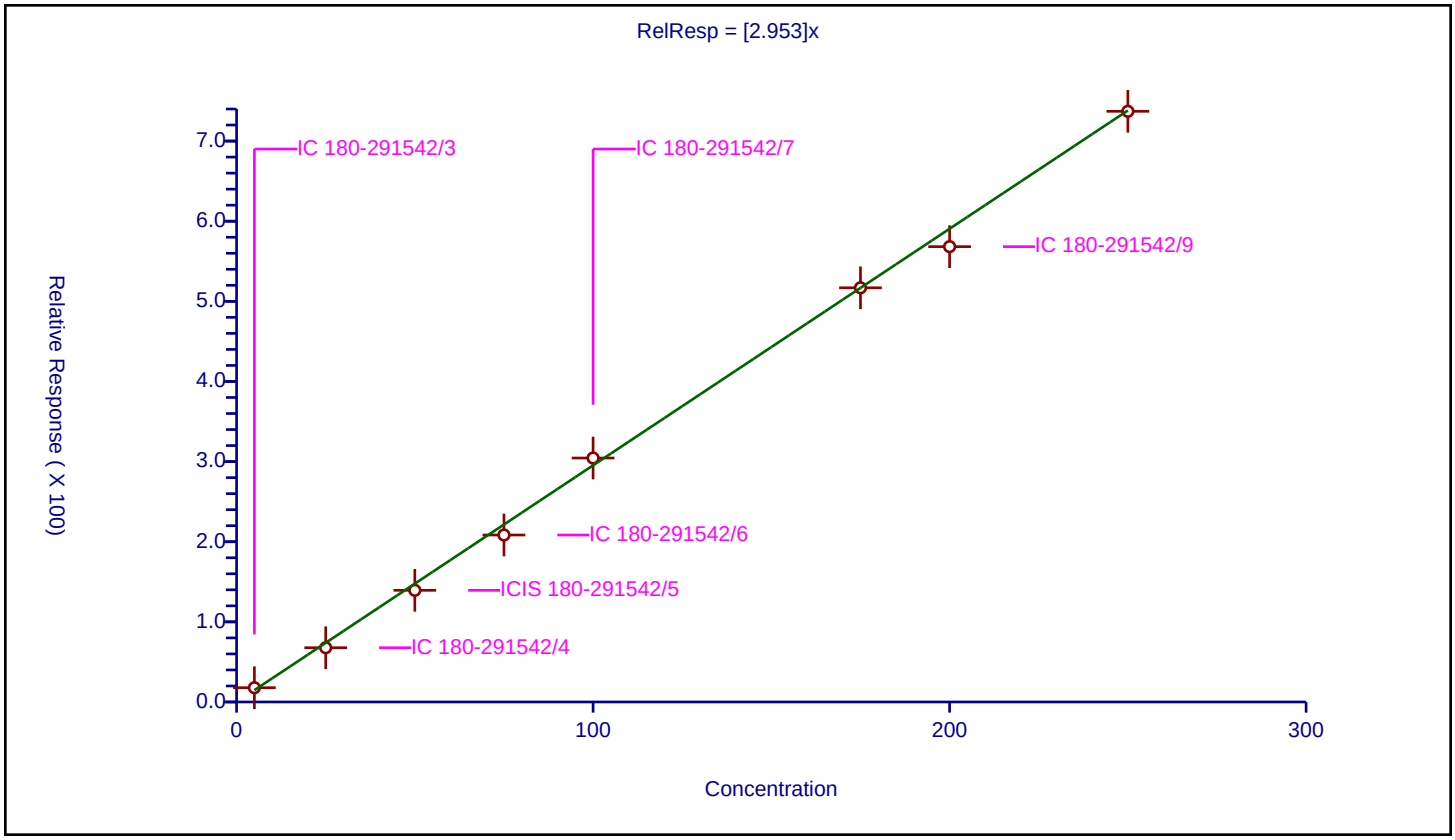

Calibration / 1,2,4-Trimethylbenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	3.148

Error Coefficients

Standard Error:	1520000
Relative Standard Error:	9.5
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.988

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	19.168381	50.0	163861.0	3.833676	Y
2	IC 180-291542/4	25.0	72.680711	50.0	177964.0	2.907228	Y
3	ICIS 180-291542/5	50.0	145.948845	50.0	170112.0	2.918977	Y
4	IC 180-291542/6	75.0	223.108842	50.0	179903.0	2.974785	Y
5	IC 180-291542/7	100.0	322.645121	50.0	165327.0	3.226451	Y
6	IC 180-291542/8	175.0	542.668509	50.0	166119.0	3.100963	Y
7	IC 180-291542/9	200.0	616.587834	50.0	163638.0	3.082939	Y
8	IC 180-291542/10	250.0	785.437155	50.0	165033.0	3.141749	Y

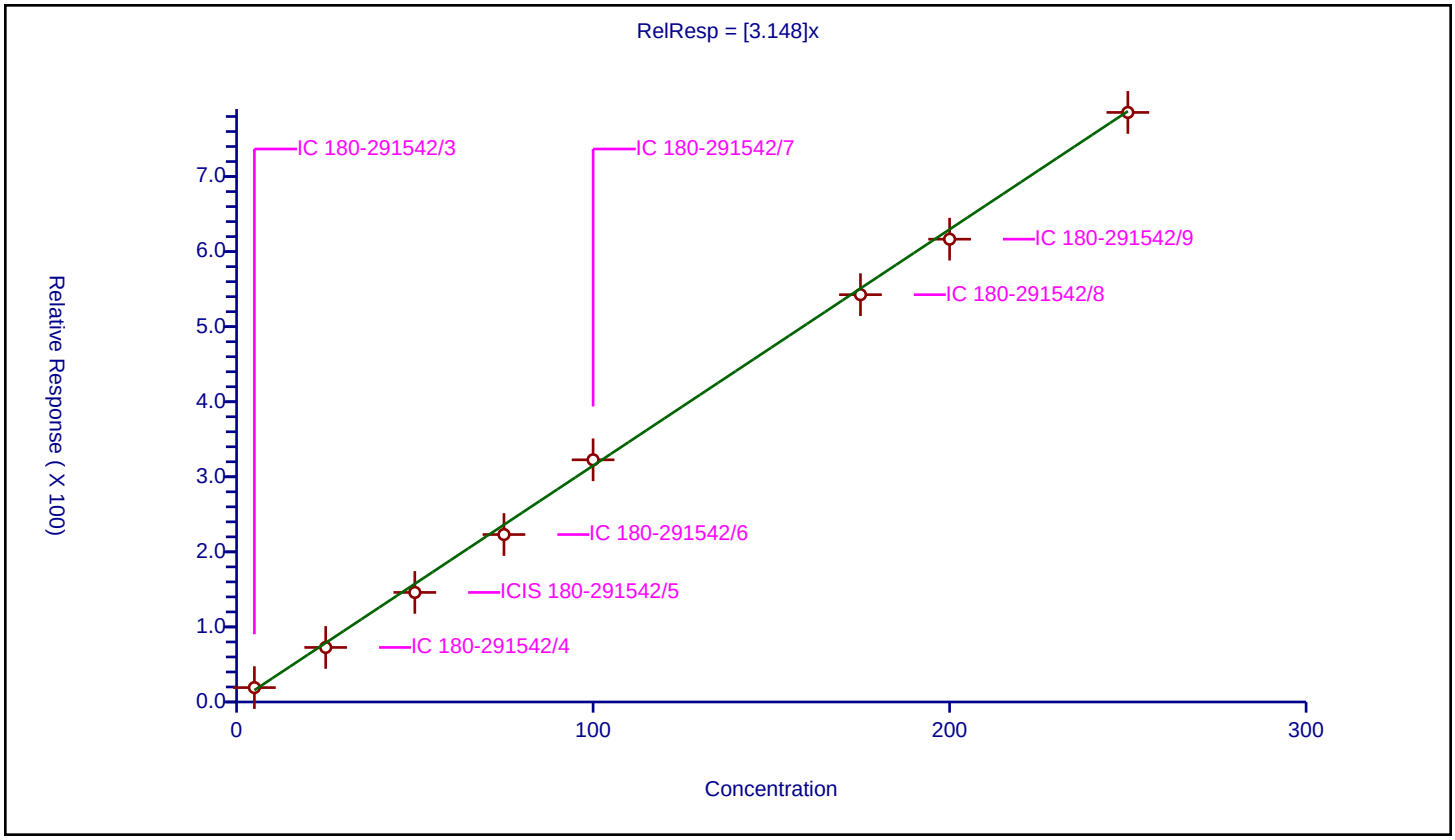

Calibration / sec-Butylbenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	4.368

Error Coefficients

Standard Error:	2090000
Relative Standard Error:	10.3
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.986

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	27.068369	50.0	163861.0	5.413674	Y
2	IC 180-291542/4	25.0	101.094884	50.0	177964.0	4.043795	Y
3	ICIS 180-291542/5	50.0	205.121038	50.0	170112.0	4.102421	Y
4	IC 180-291542/6	75.0	306.90511	50.0	179903.0	4.092068	Y
5	IC 180-291542/7	100.0	447.062488	50.0	165327.0	4.470625	Y
6	IC 180-291542/8	175.0	759.972068	50.0	166119.0	4.342698	Y
7	IC 180-291542/9	200.0	829.865312	50.0	163638.0	4.149327	Y
8	IC 180-291542/10	250.0	1081.769101	50.0	165033.0	4.327076	Y

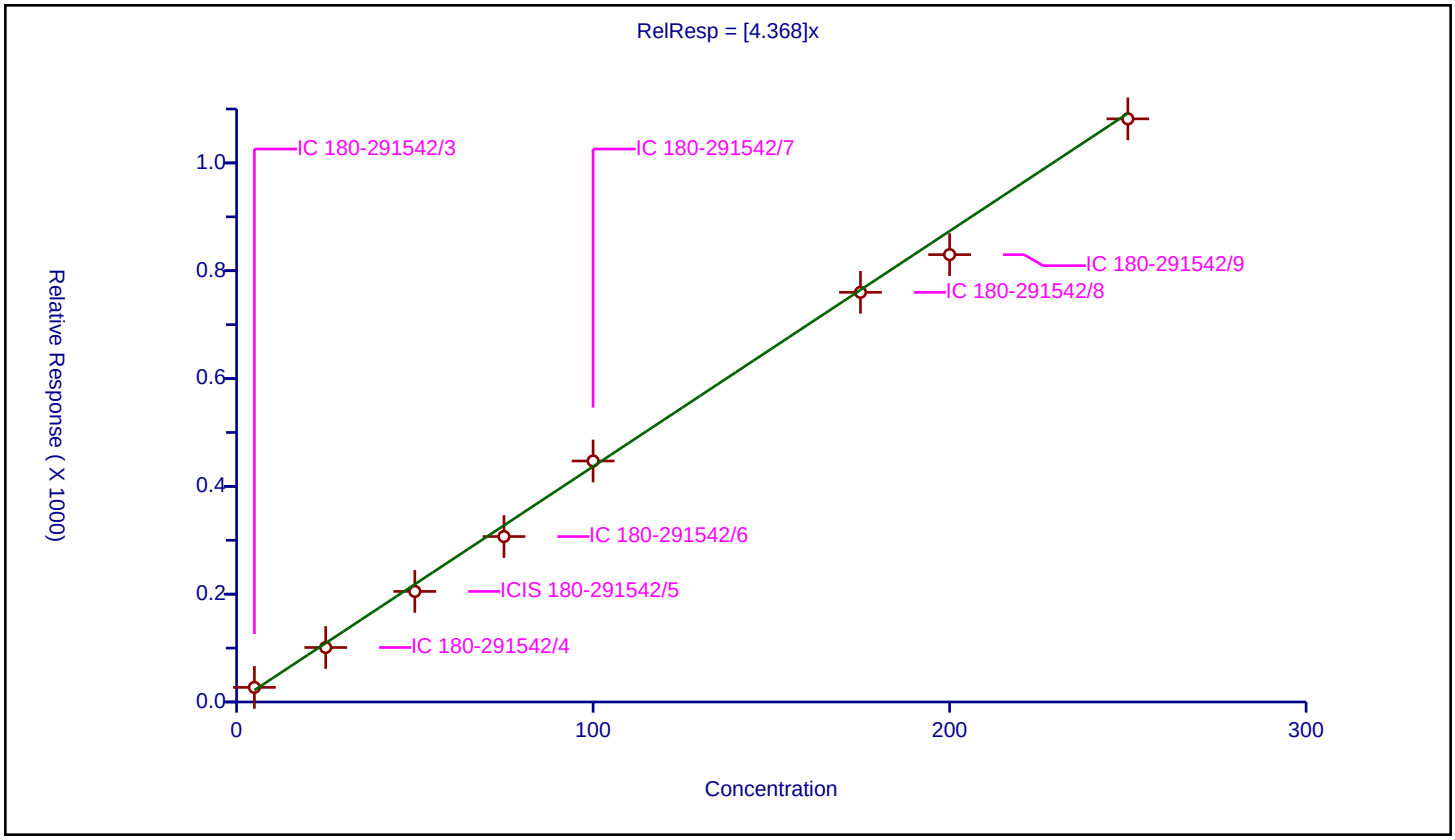

Calibration / 1,3-Dichlorobenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.673

Error Coefficients

Standard Error:	803000
Relative Standard Error:	9.3
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.989

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	10.139692	50.0	163861.0	2.027938	Y
2	IC 180-291542/4	25.0	38.641523	50.0	177964.0	1.545661	Y
3	ICIS 180-291542/5	50.0	77.247343	50.0	170112.0	1.544947	Y
4	IC 180-291542/6	75.0	120.114728	50.0	179903.0	1.60153	Y
5	IC 180-291542/7	100.0	172.809946	50.0	165327.0	1.728099	Y
6	IC 180-291542/8	175.0	287.426182	50.0	166119.0	1.642435	Y
7	IC 180-291542/9	200.0	330.808859	50.0	163638.0	1.654044	Y
8	IC 180-291542/10	250.0	409.760472	50.0	165033.0	1.639042	Y

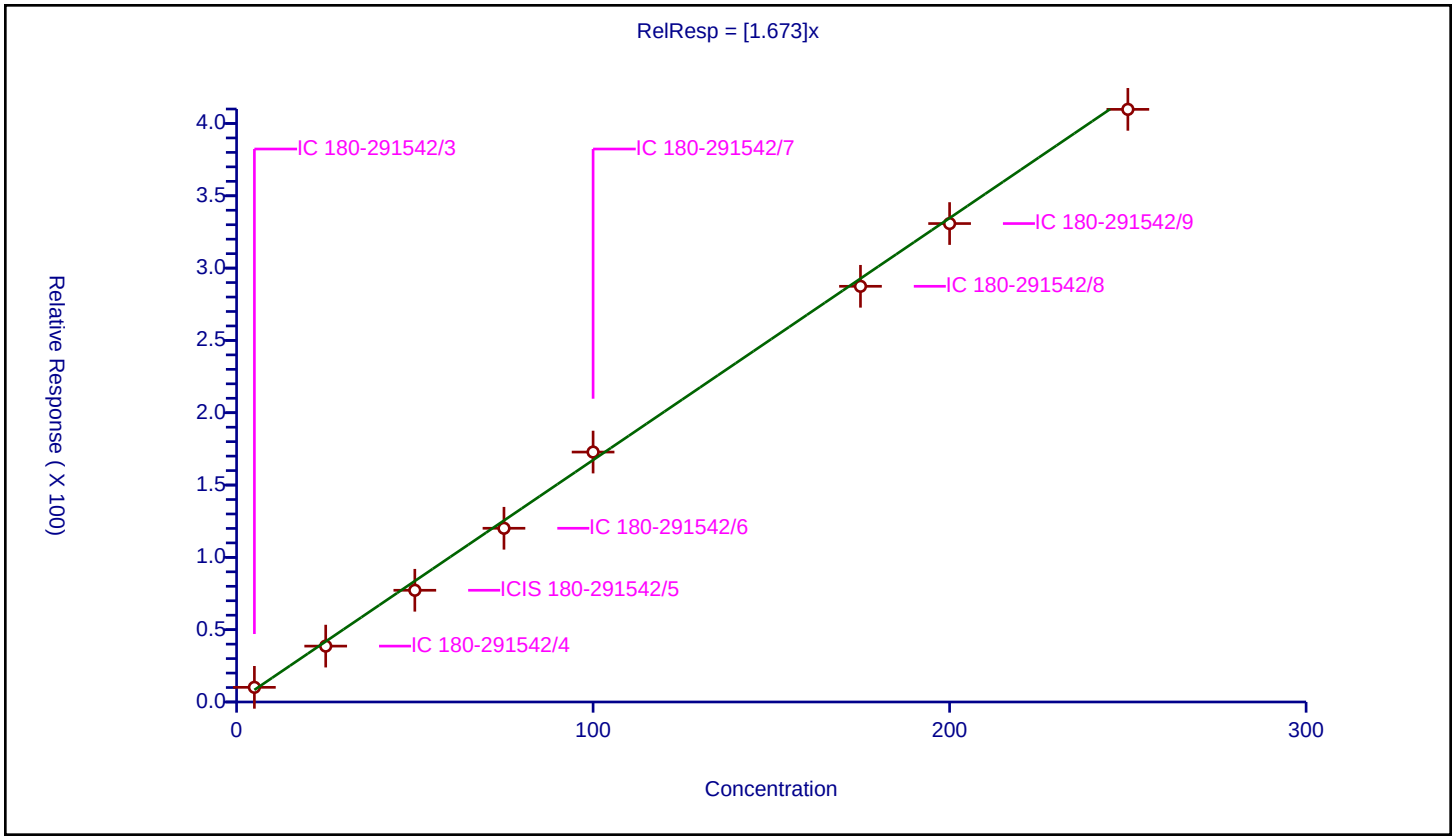

Calibration / 4-Isopropyltoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	3.803

Error Coefficients

Standard Error:	1800000
Relative Standard Error:	9.5
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.988

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	23.270638	50.0	163861.0	4.654128	Y
2	IC 180-291542/4	25.0	89.539738	50.0	177964.0	3.58159	Y
3	ICIS 180-291542/5	50.0	180.05902	50.0	170112.0	3.60118	Y
4	IC 180-291542/6	75.0	272.130259	50.0	179903.0	3.628403	Y
5	IC 180-291542/7	100.0	390.381184	50.0	165327.0	3.903812	Y
6	IC 180-291542/8	175.0	653.660027	50.0	166119.0	3.7352	Y
7	IC 180-291542/9	200.0	719.051198	50.0	163638.0	3.595256	Y
8	IC 180-291542/10	250.0	931.479159	50.0	165033.0	3.725917	Y

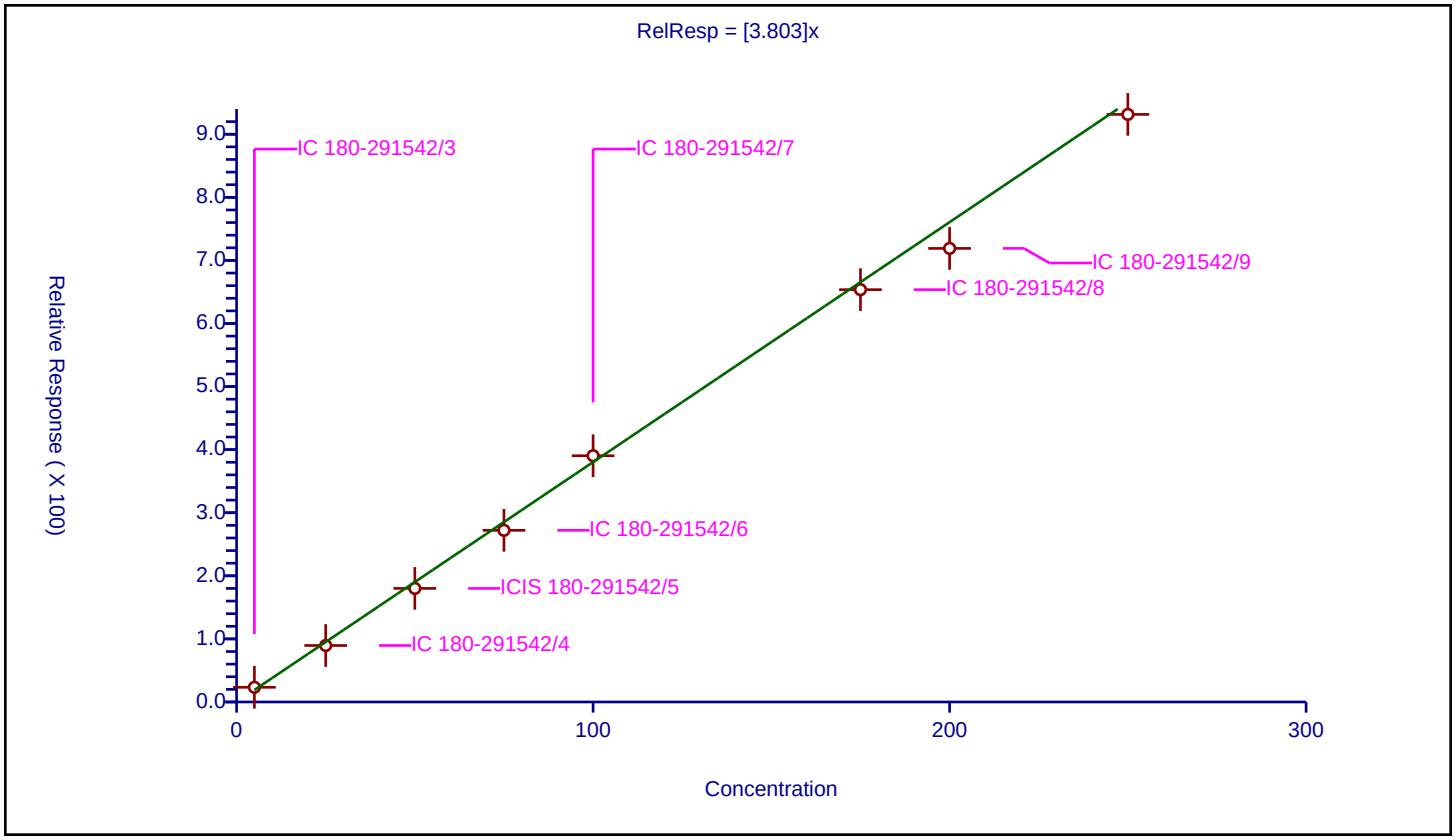

Calibration / 1,4-Dichlorobenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.739

Error Coefficients

Standard Error:	813000
Relative Standard Error:	12.9
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.977

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	11.405398	50.0	163861.0	2.28108	Y
2	IC 180-291542/4	25.0	40.563541	50.0	177964.0	1.622542	Y
3	ICIS 180-291542/5	50.0	79.954677	50.0	170112.0	1.599094	Y
4	IC 180-291542/6	75.0	125.140214	50.0	179903.0	1.668536	Y
5	IC 180-291542/7	100.0	174.317565	50.0	165327.0	1.743176	Y
6	IC 180-291542/8	175.0	290.514029	50.0	166119.0	1.66008	Y
7	IC 180-291542/9	200.0	338.78164	50.0	163638.0	1.693908	Y
8	IC 180-291542/10	250.0	410.114644	50.0	165033.0	1.640459	Y

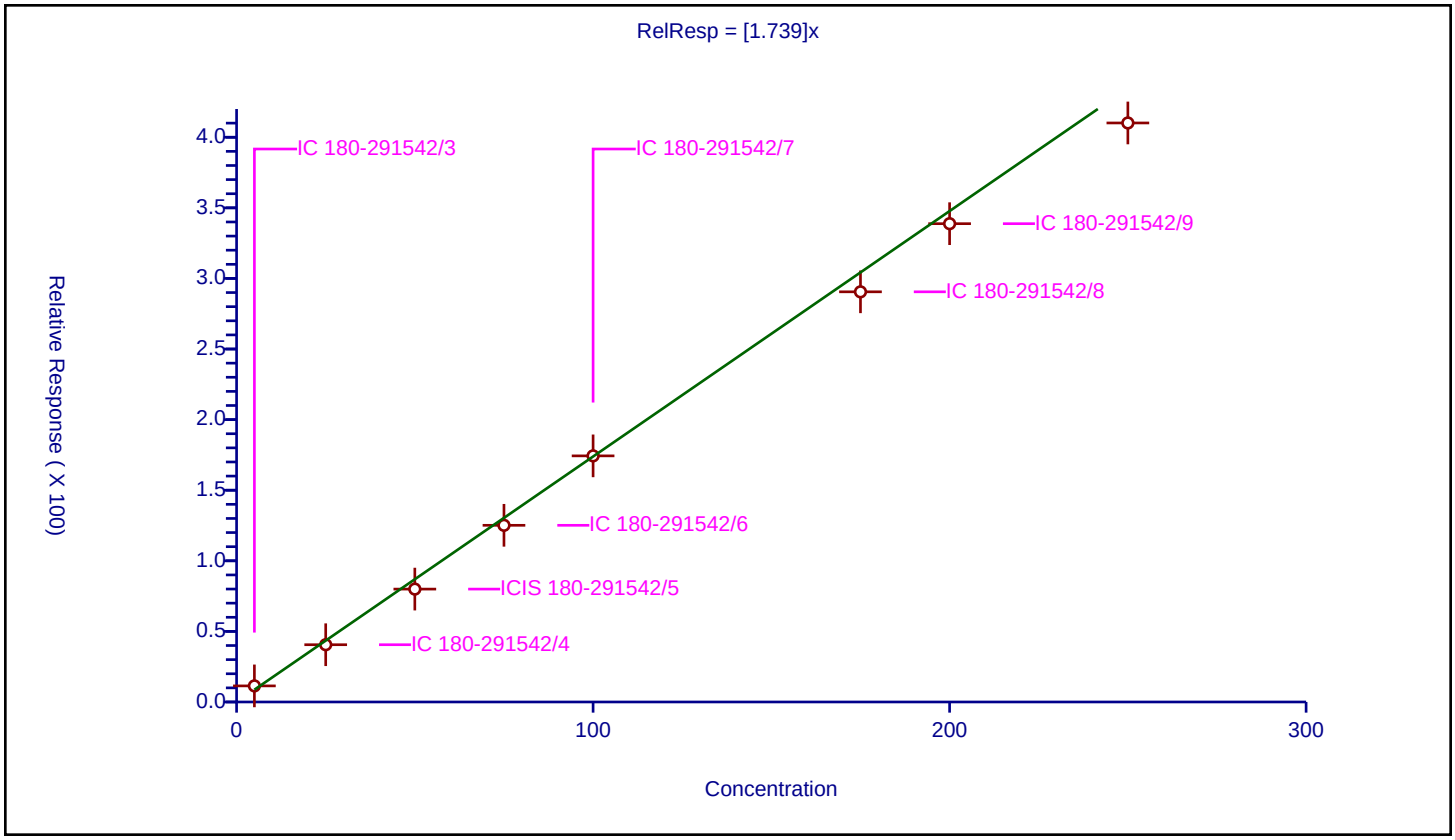

Calibration / n-Butylbenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	3.233

Error Coefficients

Standard Error:	1540000
Relative Standard Error:	10.2
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.986

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	19.967228	50.0	163861.0	3.993446	Y
2	IC 180-291542/4	25.0	72.887494	50.0	177964.0	2.9155	Y
3	ICIS 180-291542/5	50.0	153.028299	50.0	170112.0	3.060566	Y
4	IC 180-291542/6	75.0	231.472516	50.0	179903.0	3.0863	Y
5	IC 180-291542/7	100.0	335.433716	50.0	165327.0	3.354337	Y
6	IC 180-291542/8	175.0	557.476267	50.0	166119.0	3.185579	Y
7	IC 180-291542/9	200.0	624.497977	50.0	163638.0	3.12249	Y
8	IC 180-291542/10	250.0	787.312235	50.0	165033.0	3.149249	Y

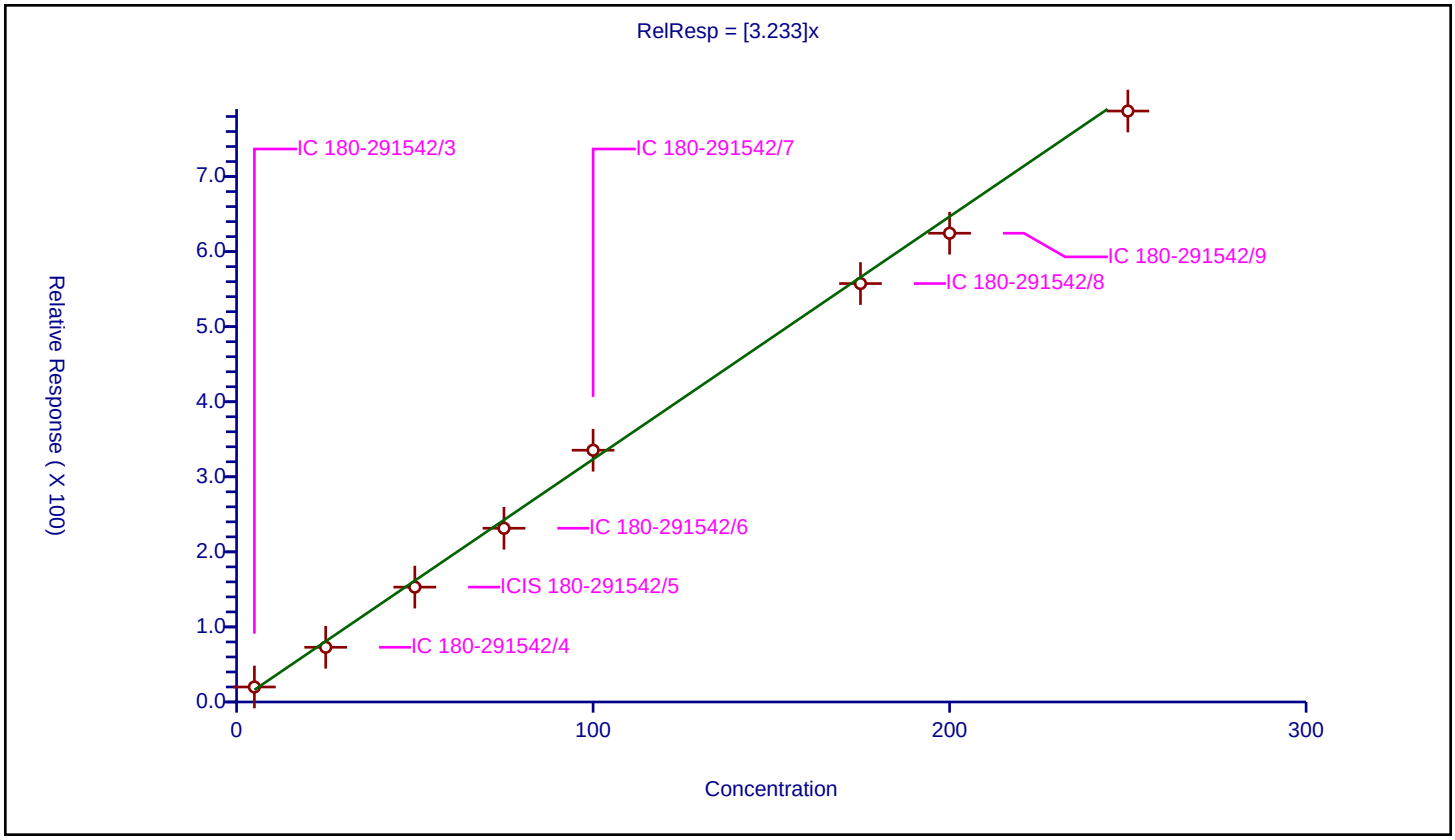

Calibration / 1,2-Dichlorobenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.509

Error Coefficients

Standard Error:	703000
Relative Standard Error:	13.3
Correlation Coefficient:	0.997
Coefficient of Determination (Adjusted):	0.976

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	9.91328	50.0	163861.0	1.982656	Y
2	IC 180-291542/4	25.0	34.462869	50.0	177964.0	1.378515	Y
3	ICIS 180-291542/5	50.0	68.87286	50.0	170112.0	1.377457	Y
4	IC 180-291542/6	75.0	109.411183	50.0	179903.0	1.458816	Y
5	IC 180-291542/7	100.0	155.107454	50.0	165327.0	1.551075	Y
6	IC 180-291542/8	175.0	252.134614	50.0	166119.0	1.440769	Y
7	IC 180-291542/9	200.0	298.227795	50.0	163638.0	1.491139	Y
8	IC 180-291542/10	250.0	347.382645	50.0	165033.0	1.389531	Y

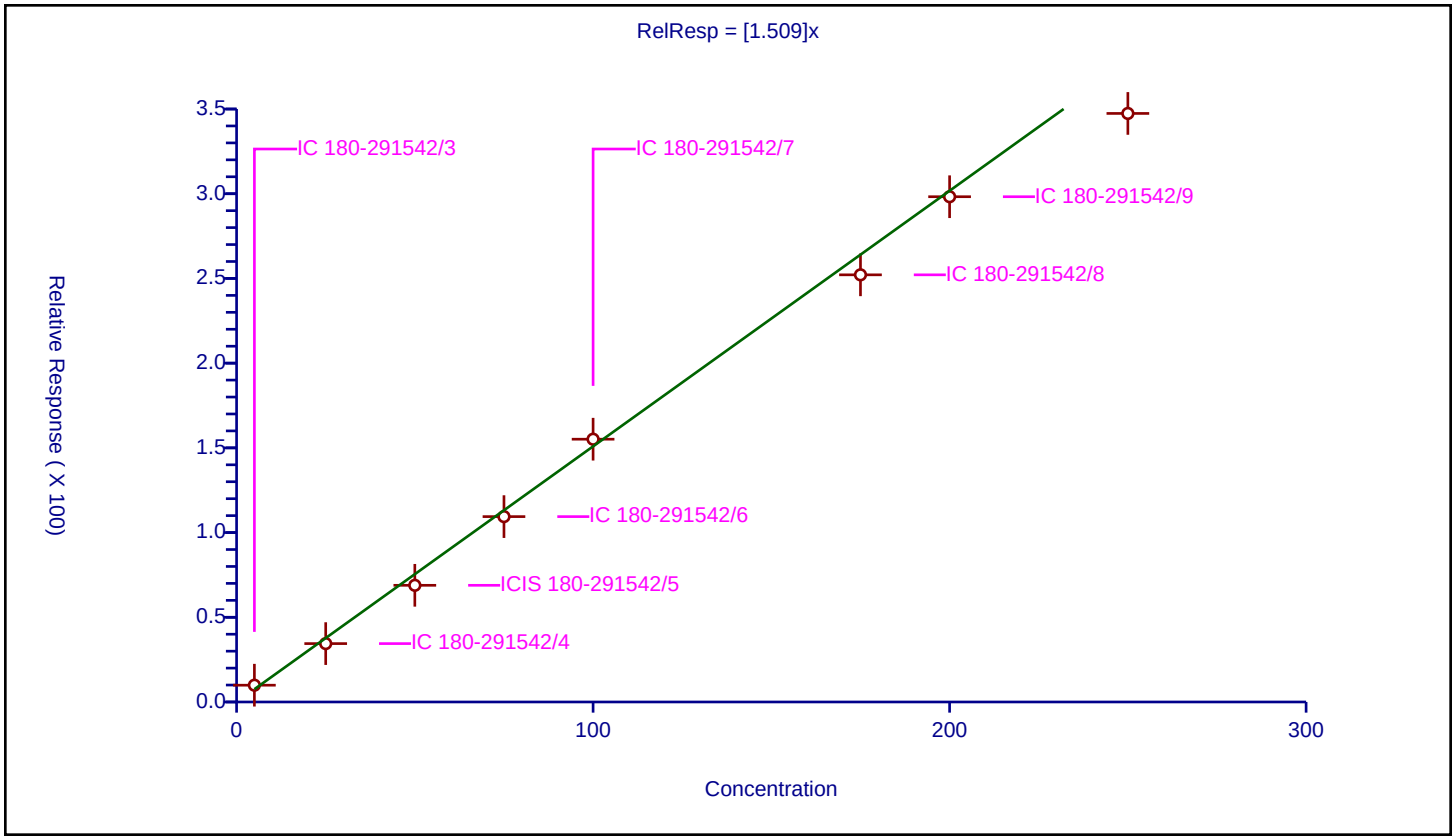

Calibration / 1,2-Dibromo-3-Chloropropane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.07002

Error Coefficients

Standard Error:	24000
Relative Standard Error:	12.9
Correlation Coefficient:	0.969
Coefficient of Determination (Adjusted):	0.981

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	0.318868	50.0	163861.0	0.063774	Y
2	IC 180-291542/4	25.0	1.543009	50.0	177964.0	0.06172	Y
3	ICIS 180-291542/5	50.0	3.219056	50.0	170112.0	0.064381	Y
4	IC 180-291542/6	75.0	6.135807	50.0	179903.0	0.081811	Y
5	IC 180-291542/7	100.0	8.101218	50.0	165327.0	0.081012	Y
6	IC 180-291542/8	175.0	11.795159	50.0	166119.0	0.067401	Y
7	IC 180-291542/9	200.0	18.175485	50.0	163638.0	0.090877	N
8	IC 180-291542/10	250.0	16.926918	50.0	165033.0	0.067708	N

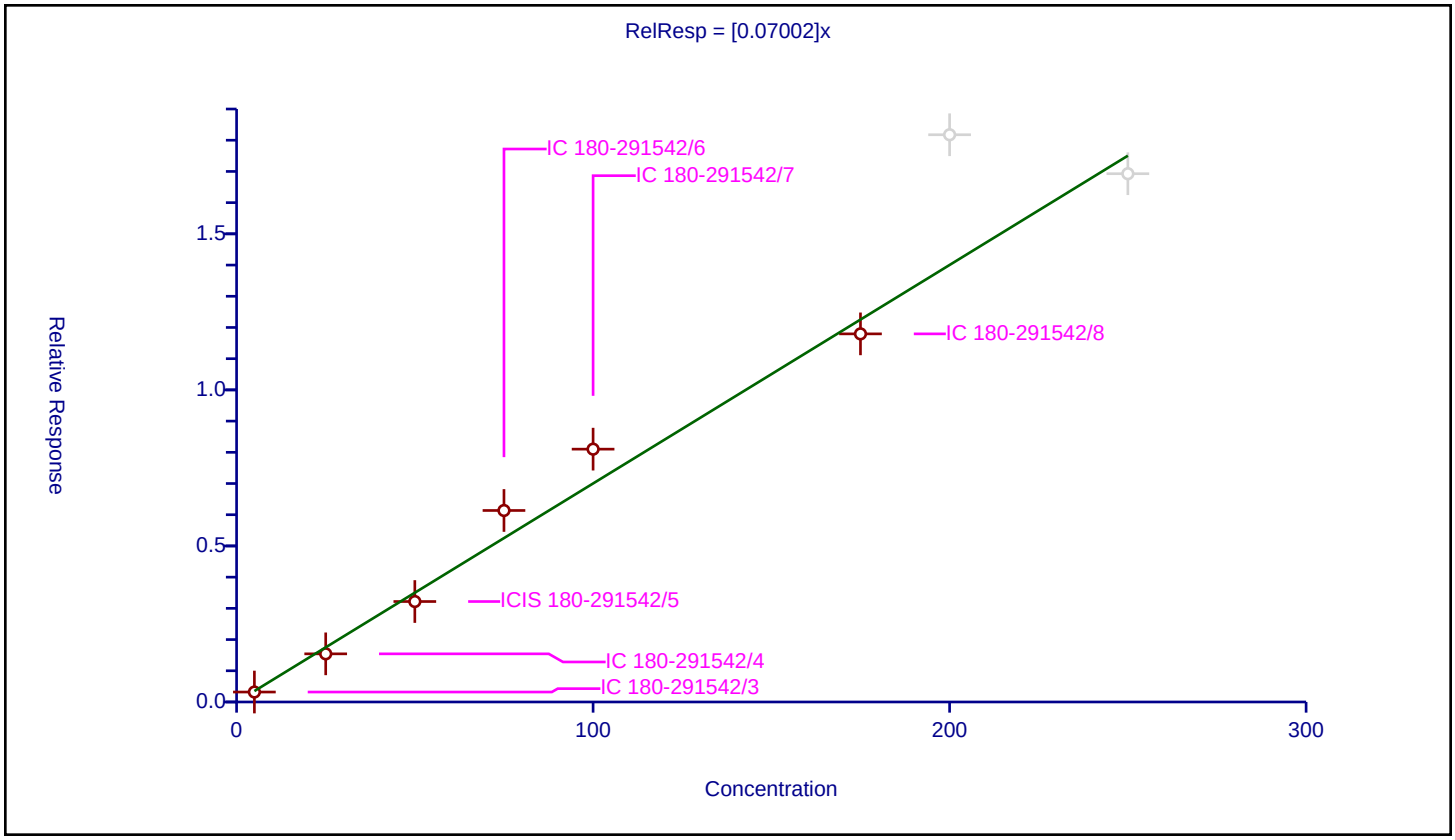

Calibration / 1,2,4-Trichlorobenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.8041

Error Coefficients

Standard Error:	363000
Relative Standard Error:	13.7
Correlation Coefficient:	0.977
Coefficient of Determination (Adjusted):	0.975

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	5.131789	50.0	163861.0	1.026358	Y
2	IC 180-291542/4	25.0	18.917028	50.0	177964.0	0.756681	Y
3	ICIS 180-291542/5	50.0	39.184478	50.0	170112.0	0.78369	Y
4	IC 180-291542/6	75.0	63.60233	50.0	179903.0	0.848031	Y
5	IC 180-291542/7	100.0	82.541267	50.0	165327.0	0.825413	Y
6	IC 180-291542/8	175.0	116.906254	50.0	166119.0	0.668036	Y
7	IC 180-291542/9	200.0	165.209487	50.0	163638.0	0.826047	Y
8	IC 180-291542/10	250.0	174.694758	50.0	165033.0	0.698779	Y

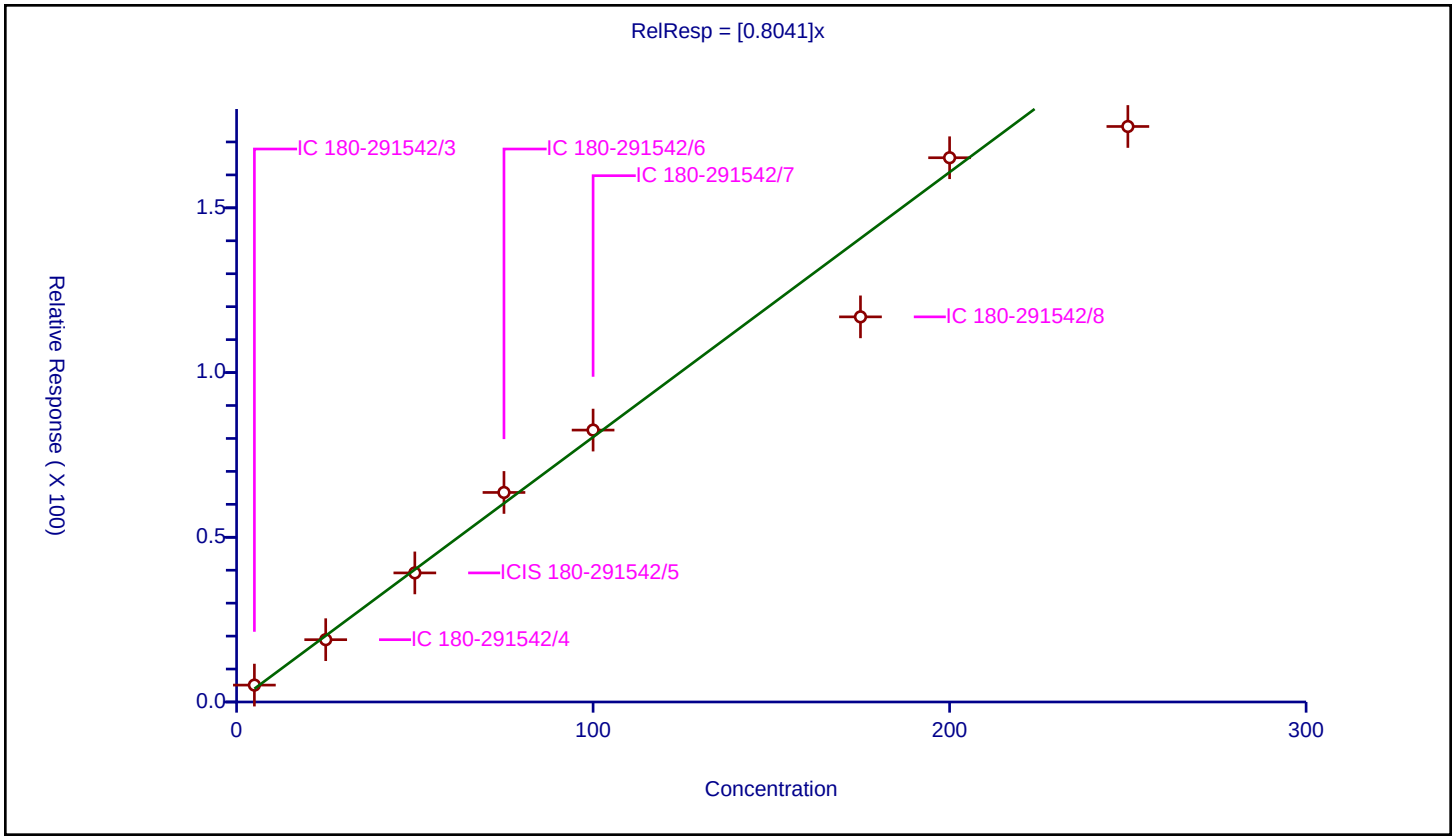

Calibration / Hexachlorobutadiene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.5542

Error Coefficients

Standard Error:	240000
Relative Standard Error:	18.6
Correlation Coefficient:	0.980
Coefficient of Determination (Adjusted):	0.950

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	3.922837	50.0	163861.0	0.784567	Y
2	IC 180-291542/4	25.0	13.538412	50.0	177964.0	0.541536	Y
3	ICIS 180-291542/5	50.0	27.295546	50.0	170112.0	0.545911	Y
4	IC 180-291542/6	75.0	40.811437	50.0	179903.0	0.544152	Y
5	IC 180-291542/7	100.0	57.150375	50.0	165327.0	0.571504	Y
6	IC 180-291542/8	175.0	78.575298	50.0	166119.0	0.449002	Y
7	IC 180-291542/9	200.0	107.527897	50.0	163638.0	0.537639	Y
8	IC 180-291542/10	250.0	114.80613	50.0	165033.0	0.459225	Y

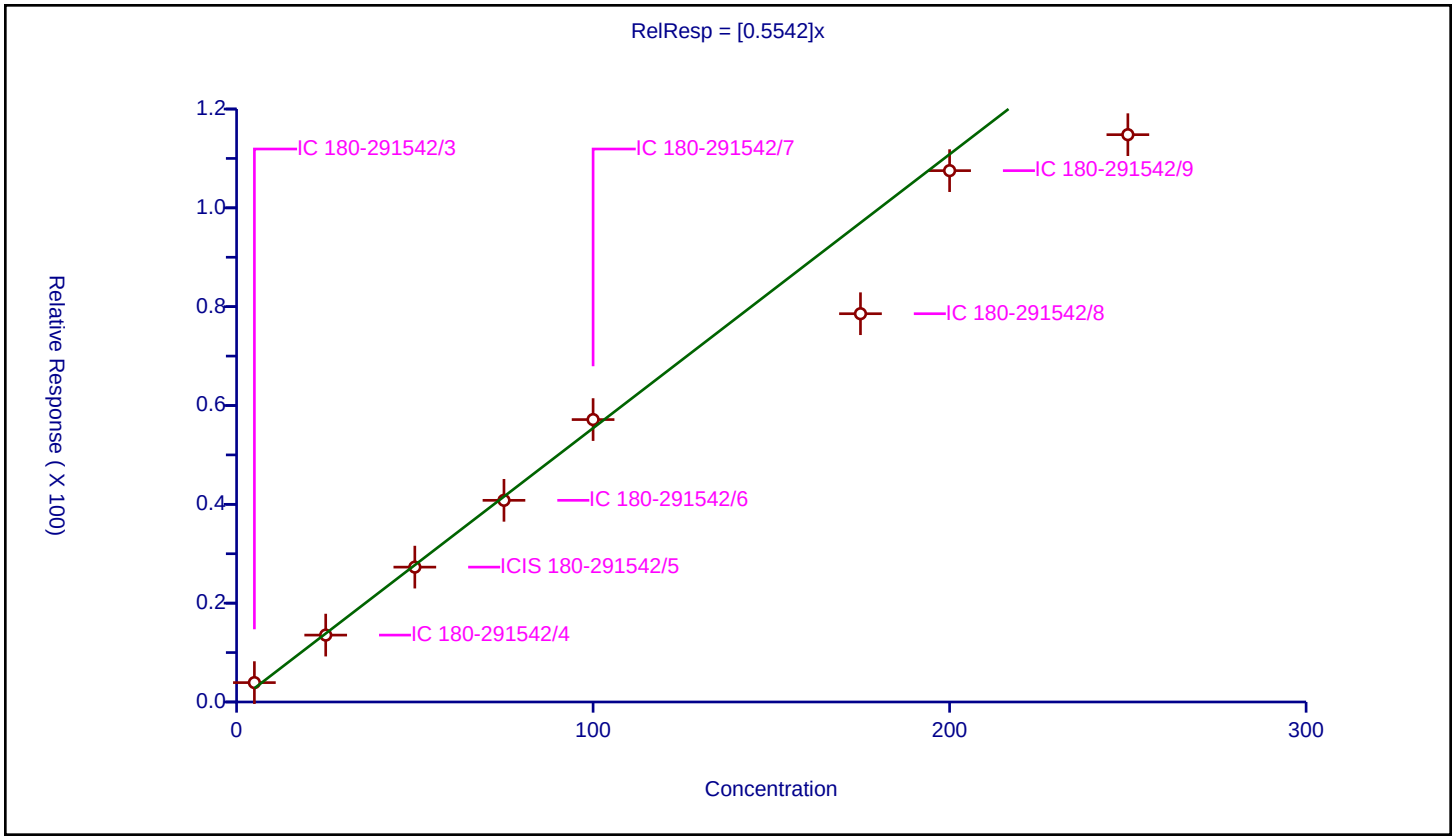

Calibration / Naphthalene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.338

Error Coefficients

Standard Error:	303000
Relative Standard Error:	15.4
Correlation Coefficient:	0.979
Coefficient of Determination (Adjusted):	0.963

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	8.397361	50.0	163861.0	1.679472	Y
2	IC 180-291542/4	25.0	29.8566	50.0	177964.0	1.194264	Y
3	ICIS 180-291542/5	50.0	58.388885	50.0	170112.0	1.167778	Y
4	IC 180-291542/6	75.0	102.896005	50.0	179903.0	1.371947	Y
5	IC 180-291542/7	100.0	127.804291	50.0	165327.0	1.278043	Y
6	IC 180-291542/8	175.0	178.628874	50.0	166119.0	1.020736	N
7	IC 180-291542/9	200.0	287.204378	50.0	163638.0	1.436022	N
8	IC 180-291542/10	250.0	275.574885	50.0	165033.0	1.1023	N

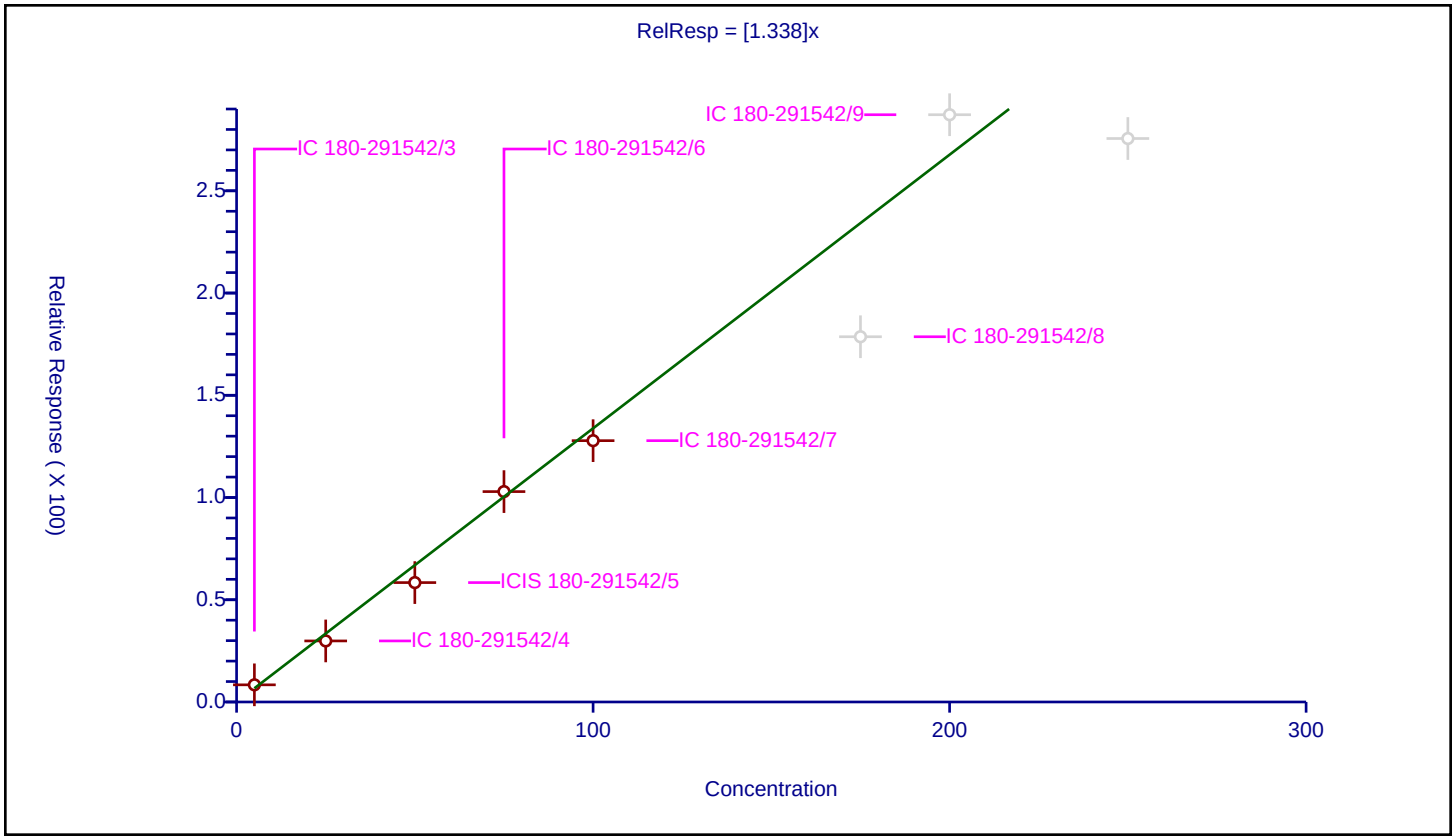

Calibration / 1,2,3-Trichlorobenzene

Curve Type:	Linear
Weighting:	Conc_Sq
Origin:	None
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	1.555
Slope:	0.5886

Error Coefficients

Standard Error:	168000
Relative Standard Error:	4.7
Correlation Coefficient:	0.988
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-291542/3	5.0	4.522125	50.0	163861.0	0.904425	Y
2	IC 180-291542/4	25.0	15.581241	50.0	177964.0	0.62325	Y
3	ICIS 180-291542/5	50.0	30.069895	50.0	170112.0	0.601398	Y
4	IC 180-291542/6	75.0	48.176239	50.0	179903.0	0.64235	Y
5	IC 180-291542/7	100.0	61.238031	50.0	165327.0	0.61238	Y
6	IC 180-291542/8	175.0	82.834895	50.0	166119.0	0.473342	N
7	IC 180-291542/9	200.0	130.345335	50.0	163638.0	0.651727	N
8	IC 180-291542/10	250.0	129.551968	50.0	165033.0	0.518208	N

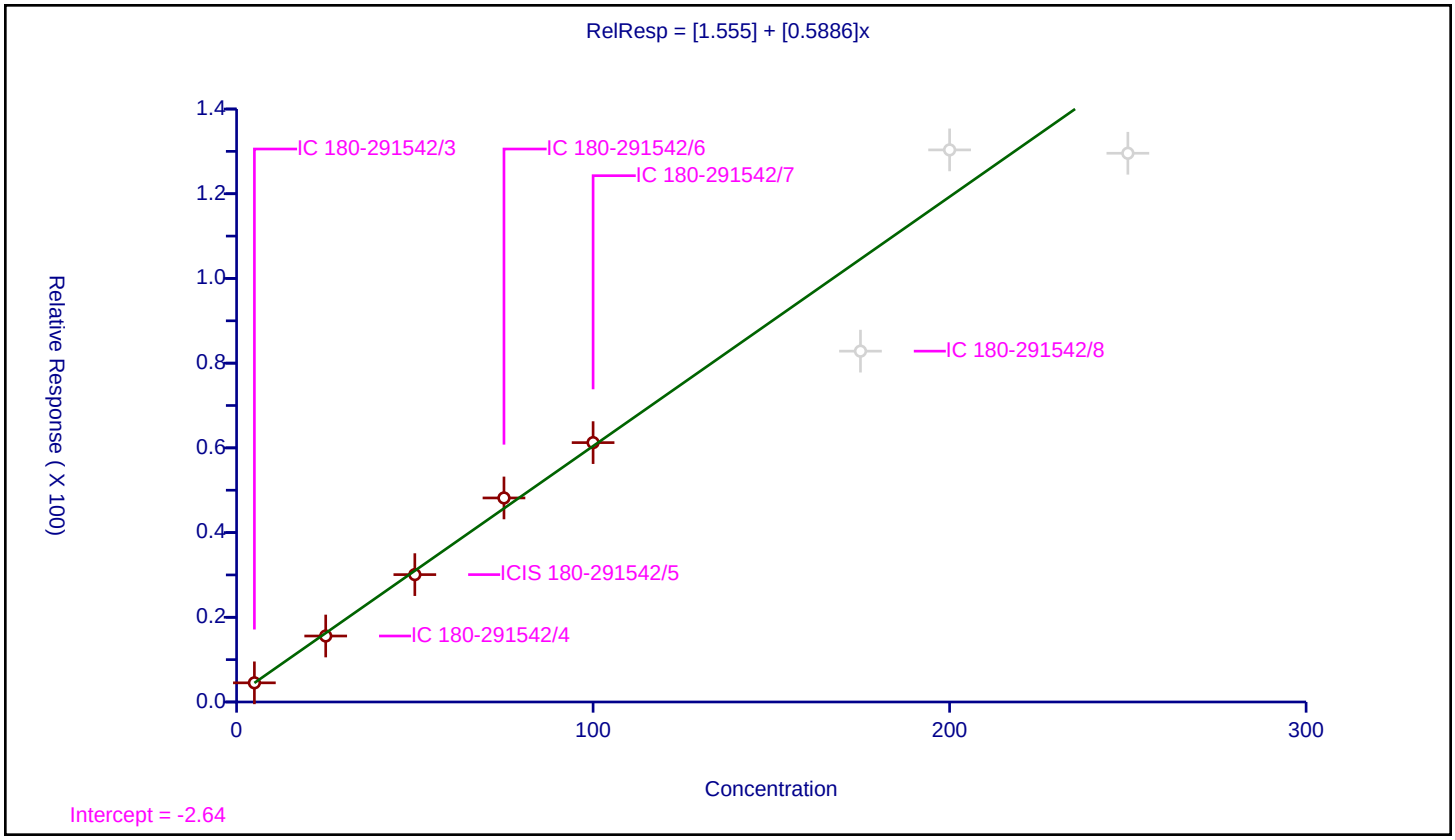

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCVIS 180-292524/5 Calibration Date: 09/25/2019 08:33

Instrument ID: CHHP10 Calib Start Date: 06/08/2019 15:41

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 06/08/2019 21:31

Lab File ID: 10092505.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Acetonitrile	Ave	0.0652	0.0730	0.0100	112	100	12.0	20.0

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP10\20190925-28808.b\10092505.d
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 25-Sep-2019 08:33:30 ALS Bottle#: 5 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0028808-005
Operator ID: Patrick Journet Instrument ID: CHHP10
Sublist: chrom-MSVOA_CHHP10*sub22

Method: \\chromna\Pittsburgh\ChromData\CHHP10\20190925-28808.b\MSVOA_CHHP10.m
Limit Group: VOA 8260C_D ICAL
Last Update: 26-Sep-2019 13:55:27 Calib Date: 17-Sep-2019 12:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091710.d

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0325

First Level Reviewer: journetp Date: 25-Sep-2019 09:20:12

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	3.975	3.975	0.000	0	104982	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.004	7.004	0.000	99	513145	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.133	10.133	0.000	85	105610	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.474	12.474	0.000	94	188596	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.275	6.275	0.000	93	97329	50.0	46.6	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.651	6.651	0.000	0	87364	50.0	49.1	
$ 7 Toluene-d8 (Surr)	98	8.675	8.675	0.000	93	449431	50.0	49.1	
$ 8 4-Bromofluorobenzene (Surr	95	11.316	11.316	0.000	88	137989	50.0	45.7	
10 Dichlorodifluoromethane	85	1.510	1.510	0.000	99	181704	50.0	44.6	
11 Chloromethane	50	1.681	1.681	0.000	98	214282	50.0	59.1	
12 Vinyl chloride	62	1.787	1.787	0.000	77	204191	50.0	56.6	
13 Butadiene	39	1.793	1.793	0.000	87	172346	50.0	59.7	
14 Bromomethane	94	2.057	2.057	0.000	91	46246	50.0	35.1	
15 Chloroethane	64	2.163	2.163	0.000	99	36253	50.0	28.4	
17 Dichlorofluoromethane	67	2.434	2.434	0.000	96	174724	50.0	58.0	
16 Trichlorofluoromethane	101	2.440	2.440	0.000	89	158546	50.0	47.8	
18 Ethyl ether	59	2.793	2.793	0.000	96	76969	50.0	57.2	
20 1,1-Dichloroethene	96	3.046	3.046	0.000	96	101974	50.0	43.4	
21 1,1,2-Trichloro-1,2,2-trif	101	3.122	3.122	0.000	95	118607	50.0	48.5	
22 Acetone	43	3.163	3.163	0.000	100	57856	100.0	101.7	
23 Iodomethane	142	3.222	3.222	0.000	99	161152	50.0	42.7	
24 Carbon disulfide	76	3.304	3.304	0.000	100	358074	50.0	46.2	
27 Acetonitrile	41	3.563	3.557	0.006	90	374474	500.0	559.8	a
26 3-Chloro-1-propene	76	3.575	3.575	0.000	92	65892	50.0	46.1	
28 Methyl acetate	43	3.610	3.610	0.000	98	95711	100.0	99.9	
29 Methylene Chloride	84	3.781	3.781	0.000	99	118074	50.0	47.6	
32 2-Methyl-2-propanol	59	4.104	4.104	0.000	94	68269	500.0	498.9	
31 Acrylonitrile	53	4.187	4.187	0.000	99	237973	500.0	548.1	
30 trans-1,2-Dichloroethene	96	4.204	4.204	0.000	96	122948	50.0	45.1	
33 Methyl tert-butyl ether	73	4.240	4.240	0.000	97	212526	50.0	47.2	
34 Hexane	57	4.646	4.646	0.000	92	239344	50.0	48.8	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 1,1-Dichloroethane	63	4.869	4.869	0.000	96	214596	50.0	47.5	
42 2,2-Dichloropropane	97	5.634	5.634	0.000	92	30159	50.0	55.1	
41 cis-1,2-Dichloroethene	96	5.645	5.645	0.000	84	127422	50.0	44.4	
43 2-Butanone (MEK)	43	5.681	5.681	0.000	100	66371	100.0	88.6	
46 Chlorobromomethane	128	5.940	5.940	0.000	97	49693	50.0	42.8	
48 Tetrahydrofuran	42	5.969	5.969	0.000	90	39810	100.0	94.5	
49 Chloroform	83	6.087	6.087	0.000	94	194186	50.0	42.5	
50 1,1,1-Trichloroethane	97	6.240	6.240	0.000	99	179814	50.0	48.8	
52 Cyclohexane	56	6.304	6.304	0.000	92	288488	50.0	52.8	
53 Carbon tetrachloride	117	6.410	6.410	0.000	97	168098	50.0	47.4	
54 1,1-Dichloropropene	75	6.434	6.434	0.000	96	183779	50.0	45.1	
55 Benzene	78	6.651	6.651	0.000	97	509516	50.0	44.6	
51 Isobutyl alcohol	41	6.692	6.692	0.000	95	62570	1250.0	1286.2	
56 1,2-Dichloroethane	62	6.734	6.734	0.000	97	114544	50.0	46.9	
59 n-Heptane	43	7.028	7.028	0.000	94	255960	50.0	47.1	
60 Trichloroethene	130	7.398	7.398	0.000	97	142028	50.0	42.4	
63 Methylcyclohexane	83	7.628	7.628	0.000	89	270263	50.0	45.7	
64 1,2-Dichloropropane	63	7.669	7.669	0.000	95	117655	50.0	45.5	
65 Dibromomethane	93	7.763	7.763	0.000	96	44897	50.0	43.1	
67 1,4-Dioxane	88	7.781	7.781	0.000	96	9879	1000.0	947.7	
68 Dichlorobromomethane	83	7.963	7.963	0.000	99	123765	50.0	43.0	
71 cis-1,3-Dichloropropene	75	8.416	8.416	0.000	95	144456	50.0	43.2	
72 4-Methyl-2-pentanone (MIBK	43	8.581	8.581	0.000	96	87792	100.0	68.5	
73 Toluene	91	8.739	8.739	0.000	98	554675	50.0	46.3	
74 trans-1,3-Dichloropropene	75	9.004	9.004	0.000	93	104619	50.0	46.4	
75 Ethyl methacrylate	69	9.069	9.069	0.000	92	85729	50.0	44.9	
76 1,1,2-Trichloroethane	97	9.192	9.192	0.000	92	69963	50.0	45.6	
77 Tetrachloroethene	164	9.257	9.257	0.000	96	109787	50.0	44.6	
78 1,3-Dichloropropane	76	9.345	9.345	0.000	93	117215	50.0	45.6	
79 2-Hexanone	43	9.422	9.422	0.000	97	84581	100.0	77.8	
81 Chlorodibromomethane	129	9.557	9.557	0.000	91	78280	50.0	44.0	
82 Ethylene Dibromide	107	9.675	9.675	0.000	98	58930	50.0	45.3	
83 Chlorobenzene	112	10.157	10.157	0.000	95	330228	50.0	44.5	
84 1,1,1,2-Tetrachloroethane	131	10.251	10.251	0.000	94	114800	50.0	47.0	
85 Ethylbenzene	106	10.263	10.263	0.000	98	193023	50.0	44.7	
86 m-Xylene & p-Xylene	106	10.392	10.392	0.000	0	240382	50.0	45.4	
88 o-Xylene	106	10.775	10.775	0.000	96	237766	50.0	47.3	
89 Styrene	104	10.798	10.798	0.000	95	355439	50.0	44.7	
90 Bromoform	173	10.975	10.975	0.000	96	37500	50.0	40.4	
91 Isopropylbenzene	105	11.139	11.139	0.000	95	672621	50.0	49.3	
94 Bromobenzene	156	11.451	11.451	0.000	92	123181	50.0	40.5	
93 1,1,2,2-Tetrachloroethane	83	11.463	11.463	0.000	95	85848	50.0	49.4	
96 trans-1,4-Dichloro-2-buten	53	11.504	11.504	0.000	73	17147	50.0	43.4	
95 1,2,3-Trichloropropane	110	11.516	11.516	0.000	85	24105	50.0	44.8	
97 N-Propylbenzene	120	11.557	11.557	0.000	99	184513	50.0	42.4	
98 2-Chlorotoluene	126	11.645	11.645	0.000	97	148834	50.0	42.7	
99 1,3,5-Trimethylbenzene	105	11.745	11.745	0.000	95	562884	50.0	46.3	
100 4-Chlorotoluene	126	11.769	11.769	0.000	98	151908	50.0	41.7	
101 tert-Butylbenzene	119	12.051	12.051	0.000	92	508839	50.0	45.7	
103 1,2,4-Trimethylbenzene	105	12.116	12.116	0.000	97	549848	50.0	46.3	
104 sec-Butylbenzene	105	12.280	12.280	0.000	94	782588	50.0	47.5	
105 1,3-Dichlorobenzene	146	12.392	12.392	0.000	98	272625	50.0	43.2	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
106 4-Isopropyltoluene	119	12.433	12.433	0.000	97	670906	50.0	46.8	
107 1,4-Dichlorobenzene	146	12.498	12.498	0.000	96	290921	50.0	44.4	
110 n-Butylbenzene	91	12.845	12.845	0.000	98	599466	50.0	49.2	
111 1,2-Dichlorobenzene	146	12.851	12.851	0.000	98	261118	50.0	45.9	
112 1,2-Dibromo-3-Chloropropan	157	13.645	13.645	0.000	87	13337	50.0	50.5	
114 1,2,4-Trichlorobenzene	180	14.463	14.463	0.000	94	160999	50.0	53.1	
115 Hexachlorobutadiene	225	14.604	14.604	0.000	98	105344	50.0	50.4	
116 Naphthalene	128	14.721	14.721	0.000	97	269782	50.0	53.4	
117 1,2,3-Trichlorobenzene	180	14.939	14.939	0.000	96	132629	50.0	57.1	
S 130 1,2-Dichloroethene, Total	96				0		100.0	89.5	
S 129 Xylenes, Total	106				0		100.0	92.7	
S 131 1,3-Dichloropropene, Total	1				0		100.0	89.7	
S 145 Total BTEX	1				0		250.0	228.3	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

voaWKet2ndRes_00043	Amount Added:	2.00	Units: uL	
VOA8260VOAPRI_00373	Amount Added:	2.00	Units: uL	
Acetonitrile2_00011	Amount Added:	2.00	Units: uL	
VOA8260INT_00099	Amount Added:	2.00	Units: uL	Run Reagent
VOA8260SURR_00099	Amount Added:	2.00	Units: uL	Run Reagent

Report Date: 26-Sep-2019 13:55:28 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP10\20190925-28808.b\10092505.d				
Injection Date:	25-Sep-2019 08:33:30	Instrument ID:	CHHP10	Operator ID:	Patrick Journet
Lims ID:	CCVIS			Worklist Smp#:	5
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	MSVOA_CHHP10	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

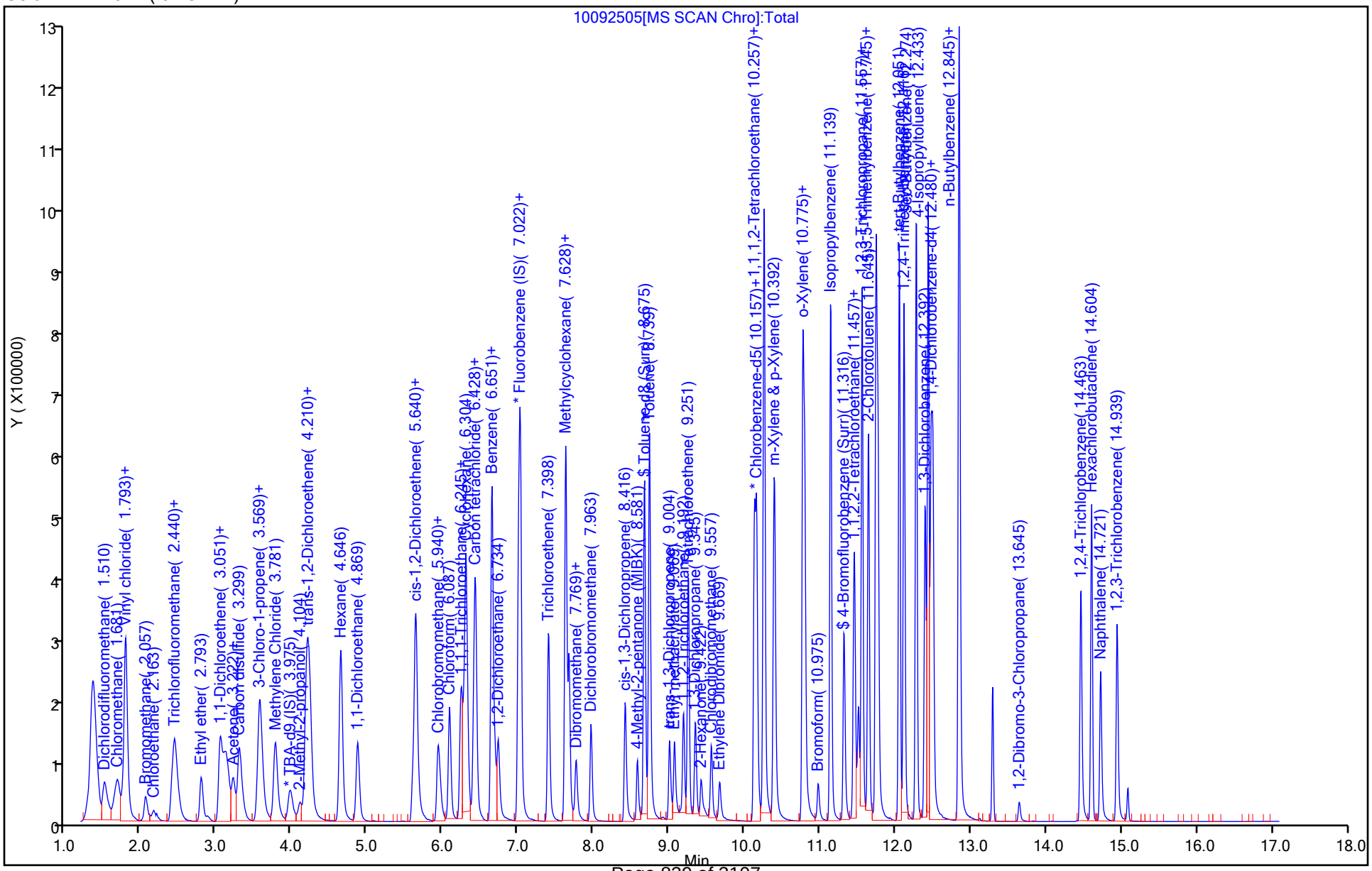

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP10\20190925-28808.b\10092505.d				
Injection Date:	25-Sep-2019 08:33:30	Instrument ID:	CHHP10		
Lims ID:	CCVIS				
Client ID:					
Operator ID:	Patrick Journet	ALS Bottle#:	5	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP10	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

27 Acetonitrile, CAS: 75-05-8

Signal: 1

Not Detected
Expected RT: 3.56

Processing Integration Results

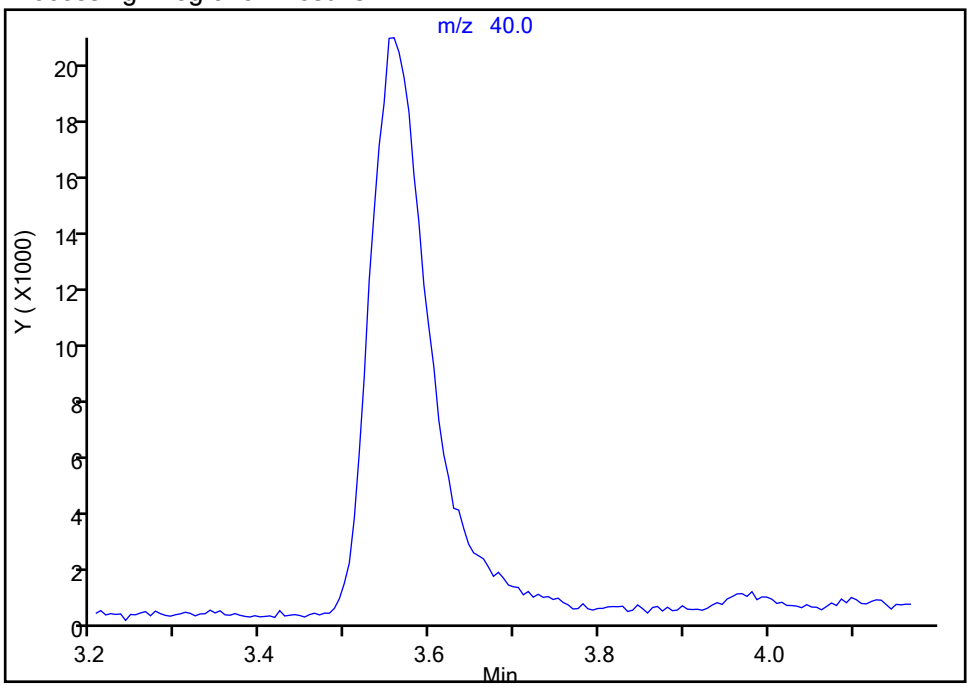

Manual Integration Results

RT: 3.56
Area: 104117
Amount: 559.7877
Amount Units: ng

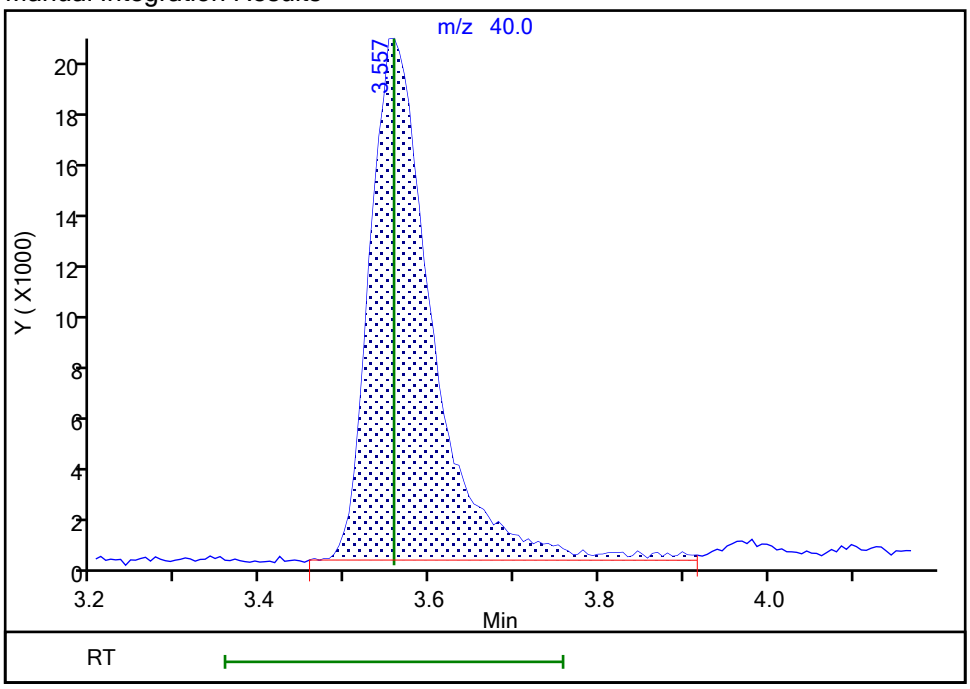

Reviewer: journetp, 25-Sep-2019 12:52:21
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCVIS 180-292524/5 Calibration Date: 09/25/2019 08:33

Instrument ID: CHHP10 Calib Start Date: 09/17/2019 09:39

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 09/17/2019 12:35

Lab File ID: 10092505.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.3972	0.3541	0.1000	8.91	10.0	-10.9	20.0
Chloromethane	Ave	0.3535	0.4176	0.1000	11.8	10.0	18.1	20.0
Vinyl chloride	Ave	0.3517	0.3979	0.1000	11.3	10.0	13.2	20.0
1,3-Butadiene	Ave	0.2812	0.3359	0.0100	11.9	10.0	19.4	20.0
Bromomethane	Ave	0.1283	0.0901	0.0500	7.02	10.0	-29.8*	20.0
Chloroethane	Ave	0.1245	0.0707	0.0500	5.67	10.0	-43.3*	20.0
Dichlorofluoromethane	Ave	0.2935	0.3405	0.0100	11.6	10.0	16.0	20.0
Trichlorofluoromethane	Ave	0.3230	0.3090	0.1000	9.57	10.0	-4.3	20.0
Ethyl ether	Ave	0.1310	0.1500	0.0100	11.4	10.0	14.5	20.0
1,1-Dichloroethene	Ave	0.2291	0.1987	0.1000	8.67	10.0	-13.3	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.2383	0.2311	0.1000	9.70	10.0	-3.0	20.0
Acetone	Ave	0.0554	0.0564	0.0500	20.3	20.0	1.7	20.0
Iodomethane	Ave	0.3678	0.3141	0.0100	8.54	10.0	-14.6	20.0
Carbon disulfide	Ave	0.7549	0.6978	0.1000	9.24	10.0	-7.6	20.0
Allyl chloride	Ave	0.1393	0.1284	0.0100	9.22	10.0	-7.8	20.0
Methyl acetate	Ave	0.0934	0.0933*	0.1000	20.0	20.0	-0.1	20.0
Methylene Chloride	Lin2		0.2301	0.1000	9.52	10.0	-4.8	20.0
tert-Butyl alcohol	Ave	1.304	1.301	0.0100	99.8	100	-0.2	20.0
Acrylonitrile	Ave	0.0423	0.0464	0.0100	110	100	9.6	20.0
trans-1,2-Dichloroethene	Ave	0.2658	0.2396	0.1000	9.02	10.0	-9.8	20.0
Methyl tert-butyl ether	Ave	0.4385	0.4142	0.1000	9.44	10.0	-5.6	20.0
Hexane	Ave	0.4782	0.4664	0.0100	9.75	10.0	-2.5	20.0
1,1-Dichloroethane	Ave	0.4403	0.4182	0.2000	9.50	10.0	-5.0	20.0
2,2-Dichloropropane	Ave	0.0533	0.0588	0.0100	11.0	10.0	10.3	20.0
cis-1,2-Dichloroethene	Ave	0.2796	0.2483	0.1000	8.88	10.0	-11.2	20.0
2-Butanone (MEK)	Ave	0.0730	0.0647	0.0500	17.7	20.0	-11.4	20.0
Chlorobromomethane	Ave	0.1132	0.0968	0.0100	8.55	10.0	-14.5	20.0
Tetrahydrofuran	Ave	0.0410	0.0388	0.0100	18.9	20.0	-5.5	20.0
Chloroform	Ave	0.4456	0.3784	0.2000	8.49	10.0	-15.1	20.0
1,1,1-Trichloroethane	Ave	0.3587	0.3504	0.1000	9.77	10.0	-2.3	20.0
Cyclohexane	Ave	0.5320	0.5622	0.1000	10.6	10.0	5.7	20.0
Carbon tetrachloride	Ave	0.3458	0.3276	0.1000	9.47	10.0	-5.3	20.0
1,1-Dichloropropene	Ave	0.3971	0.3581	0.0100	9.02	10.0	-9.8	20.0
Benzene	Ave	1.114	0.9929	0.5000	8.91	10.0	-10.9	20.0
Isobutyl alcohol	Ave	0.0047	0.0049*	0.0100	257	250	2.9	20.0
1,2-Dichloroethane	Ave	0.2381	0.2232	0.1000	9.37	10.0	-6.3	20.0
n-Heptane	Ave	0.5290	0.4988	0.0100	9.43	10.0	-5.7	20.0
Trichloroethene	Ave	0.3266	0.2768	0.2000	8.47	10.0	-15.3	20.0
Methylcyclohexane	Ave	0.5762	0.5267	0.1000	9.14	10.0	-8.6	20.0
1,2-Dichloropropane	Ave	0.2520	0.2293	0.1000	9.10	10.0	-9.0	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCVIS 180-292524/5 Calibration Date: 09/25/2019 08:33

Instrument ID: CHHP10 Calib Start Date: 09/17/2019 09:39

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 09/17/2019 12:35

Lab File ID: 10092505.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dibromomethane	Ave	0.1016	0.0875	0.0100	8.61	10.0	-13.9	20.0
1,4-Dioxane	Ave	0.0010	0.0010*	0.0100	190	200	-5.2	20.0
Dichlorobromomethane	Ave	0.2803	0.2412	0.2000	8.61	10.0	-13.9	20.0
cis-1,3-Dichloropropene	Ave	0.3255	0.2815	0.2000	8.65	10.0	-13.5	20.0
4-Methyl-2-pentanone (MIBK)	Ave	0.6063	0.4156	0.1000	13.7	20.0	-31.5*	20.0
Toluene	Ave	5.669	5.252	0.4000	9.26	10.0	-7.4	20.0
trans-1,3-Dichloropropene	Ave	1.067	0.9906	0.1000	9.28	10.0	-7.2	20.0
Ethyl methacrylate	Ave	0.9047	0.8118	0.0100	8.97	10.0	-10.3	20.0
1,1,2-Trichloroethane	Ave	0.7258	0.6625	0.1000	9.13	10.0	-8.7	20.0
Tetrachloroethene	Ave	1.166	1.040	0.2000	8.91	10.0	-10.9	20.0
1,3-Dichloropropane	Ave	1.216	1.110	0.0100	9.13	10.0	-8.7	20.0
2-Hexanone	Qua		0.4004	0.1000	15.6	20.0	-22.2*	20.0
Chlorodibromomethane	Ave	0.8418	0.7412	0.1000	8.80	10.0	-12.0	20.0
1,2-Dibromoethane	Ave	0.6157	0.5580	0.1000	9.06	10.0	-9.4	20.0
Chlorobenzene	Ave	3.515	3.127	0.5000	8.90	10.0	-11.0	20.0
1,1,1,2-Tetrachloroethane	Ave	1.157	1.087	0.0100	9.40	10.0	-6.0	20.0
Ethylbenzene	Ave	2.043	1.828	0.1000	8.95	10.0	-10.5	20.0
m-Xylene & p-Xylene	Ave	2.507	2.276	0.1000	9.08	10.0	-9.2	20.0
o-Xylene	Ave	2.381	2.251	0.3000	9.46	10.0	-5.4	20.0
Styrene	Ave	3.765	3.366	0.3000	8.94	10.0	-10.6	20.0
Bromoform	Ave	0.4392	0.3551	0.1000	8.08	10.0	-19.2	20.0
Isopropylbenzene	Ave	6.454	6.369	0.1000	9.87	10.0	-1.3	20.0
Bromobenzene	Ave	0.8065	0.6532	0.0100	8.10	10.0	-19.0	20.0
1,1,2,2-Tetrachloroethane	Ave	0.8230	0.8129	0.3000	9.88	10.0	-1.2	20.0
trans-1,4-Dichloro-2-butene	Ave	0.1048	0.0909	0.0100	8.68	10.0	-13.2	20.0
1,2,3-Trichloropropane	Ave	0.1426	0.1278	0.0100	8.96	10.0	-10.4	20.0
N-Propylbenzene	Ave	1.154	0.9784	0.0100	8.48	10.0	-15.2	20.0
2-Chlorotoluene	Ave	0.9244	0.7892	0.0100	8.54	10.0	-14.6	20.0
1,3,5-Trimethylbenzene	Ave	3.226	2.985	0.0100	9.25	10.0	-7.5	20.0
4-Chlorotoluene	Ave	0.9651	0.8055	0.0100	8.35	10.0	-16.5	20.0
tert-Butylbenzene	Ave	2.953	2.698	0.0100	9.14	10.0	-8.6	20.0
1,2,4-Trimethylbenzene	Ave	3.148	2.915	0.0100	9.26	10.0	-7.4	20.0
sec-Butylbenzene	Ave	4.368	4.150	0.0100	9.50	10.0	-5.0	20.0
1,3-Dichlorobenzene	Ave	1.673	1.446	0.6000	8.64	10.0	-13.6	20.0
4-Isopropyltoluene	Ave	3.803	3.557	0.0100	9.35	10.0	-6.5	20.0
1,4-Dichlorobenzene	Ave	1.739	1.543	0.5000	8.87	10.0	-11.3	20.0
n-Butylbenzene	Ave	3.233	3.179	0.0100	9.83	10.0	-1.7	20.0
1,2-Dichlorobenzene	Ave	1.509	1.385	0.4000	9.18	10.0	-8.2	20.0
1,2-Dibromo-3-Chloropropane	Ave	0.0700	0.0707	0.0500	10.1	10.0	1.0	20.0
1,2,4-Trichlorobenzene	Ave	0.8041	0.8537	0.2000	10.6	10.0	6.2	20.0
Hexachlorobutadiene	Ave	0.5542	0.5586	0.0100	10.1	10.0	0.8	20.0

FORM VII EPA 8260C

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCVIS 180-292524/5 Calibration Date: 09/25/2019 08:33

Instrument ID: CHHP10 Calib Start Date: 09/17/2019 09:39

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 09/17/2019 12:35

Lab File ID: 10092505.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Naphthalene	Ave	1.338	1.430	0.0100	10.7	10.0	6.9	20.0
1,2,3-Trichlorobenzene	Lin2		0.7032	0.0100	11.4	10.0	14.2	20.0
Dibromofluoromethane (Surr)	Ave	0.2035	0.1897		9.32	10.0	-6.8	20.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.1735	0.1703		9.81	10.0	-1.9	20.0
Toluene-d8 (Surr)	Ave	4.331	4.256		9.83	10.0	-1.7	20.0
4-Bromofluorobenzene (Surr)	Ave	1.429	1.307		9.14	10.0	-8.6	20.0

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP10\20190925-28808.b\10092505.d
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 25-Sep-2019 08:33:30 ALS Bottle#: 5 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0028808-005
Operator ID: Patrick Journet Instrument ID: CHHP10
Sublist: chrom-MSVOA_CHHP10*sub22

Method: \\chromna\Pittsburgh\ChromData\CHHP10\20190925-28808.b\MSVOA_CHHP10.m
Limit Group: VOA 8260C_D ICAL
Last Update: 26-Sep-2019 13:55:27 Calib Date: 17-Sep-2019 12:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091710.d

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0325

First Level Reviewer: journetp Date: 25-Sep-2019 09:20:12

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	3.975	3.975	0.000	0	104982	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.004	7.004	0.000	99	513145	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.133	10.133	0.000	85	105610	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.474	12.474	0.000	94	188596	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.275	6.275	0.000	93	97329	50.0	46.6	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.651	6.651	0.000	0	87364	50.0	49.1	
$ 7 Toluene-d8 (Surr)	98	8.675	8.675	0.000	93	449431	50.0	49.1	
$ 8 4-Bromofluorobenzene (Surr	95	11.316	11.316	0.000	88	137989	50.0	45.7	
10 Dichlorodifluoromethane	85	1.510	1.510	0.000	99	181704	50.0	44.6	
11 Chloromethane	50	1.681	1.681	0.000	98	214282	50.0	59.1	
12 Vinyl chloride	62	1.787	1.787	0.000	77	204191	50.0	56.6	
13 Butadiene	39	1.793	1.793	0.000	87	172346	50.0	59.7	
14 Bromomethane	94	2.057	2.057	0.000	91	46246	50.0	35.1	
15 Chloroethane	64	2.163	2.163	0.000	99	36253	50.0	28.4	
17 Dichlorofluoromethane	67	2.434	2.434	0.000	96	174724	50.0	58.0	
16 Trichlorofluoromethane	101	2.440	2.440	0.000	89	158546	50.0	47.8	
18 Ethyl ether	59	2.793	2.793	0.000	96	76969	50.0	57.2	
20 1,1-Dichloroethene	96	3.046	3.046	0.000	96	101974	50.0	43.4	
21 1,1,2-Trichloro-1,2,2-trif	101	3.122	3.122	0.000	95	118607	50.0	48.5	
22 Acetone	43	3.163	3.163	0.000	100	57856	100.0	101.7	
23 Iodomethane	142	3.222	3.222	0.000	99	161152	50.0	42.7	
24 Carbon disulfide	76	3.304	3.304	0.000	100	358074	50.0	46.2	
27 Acetonitrile	41	3.563	3.557	0.006	90	374474	500.0	559.8	a
26 3-Chloro-1-propene	76	3.575	3.575	0.000	92	65892	50.0	46.1	
28 Methyl acetate	43	3.610	3.610	0.000	98	95711	100.0	99.9	
29 Methylene Chloride	84	3.781	3.781	0.000	99	118074	50.0	47.6	
32 2-Methyl-2-propanol	59	4.104	4.104	0.000	94	68269	500.0	498.9	
31 Acrylonitrile	53	4.187	4.187	0.000	99	237973	500.0	548.1	
30 trans-1,2-Dichloroethene	96	4.204	4.204	0.000	96	122948	50.0	45.1	
33 Methyl tert-butyl ether	73	4.240	4.240	0.000	97	212526	50.0	47.2	
34 Hexane	57	4.646	4.646	0.000	92	239344	50.0	48.8	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 1,1-Dichloroethane	63	4.869	4.869	0.000	96	214596	50.0	47.5	
42 2,2-Dichloropropane	97	5.634	5.634	0.000	92	30159	50.0	55.1	
41 cis-1,2-Dichloroethene	96	5.645	5.645	0.000	84	127422	50.0	44.4	
43 2-Butanone (MEK)	43	5.681	5.681	0.000	100	66371	100.0	88.6	
46 Chlorobromomethane	128	5.940	5.940	0.000	97	49693	50.0	42.8	
48 Tetrahydrofuran	42	5.969	5.969	0.000	90	39810	100.0	94.5	
49 Chloroform	83	6.087	6.087	0.000	94	194186	50.0	42.5	
50 1,1,1-Trichloroethane	97	6.240	6.240	0.000	99	179814	50.0	48.8	
52 Cyclohexane	56	6.304	6.304	0.000	92	288488	50.0	52.8	
53 Carbon tetrachloride	117	6.410	6.410	0.000	97	168098	50.0	47.4	
54 1,1-Dichloropropene	75	6.434	6.434	0.000	96	183779	50.0	45.1	
55 Benzene	78	6.651	6.651	0.000	97	509516	50.0	44.6	
51 Isobutyl alcohol	41	6.692	6.692	0.000	95	62570	1250.0	1286.2	
56 1,2-Dichloroethane	62	6.734	6.734	0.000	97	114544	50.0	46.9	
59 n-Heptane	43	7.028	7.028	0.000	94	255960	50.0	47.1	
60 Trichloroethene	130	7.398	7.398	0.000	97	142028	50.0	42.4	
63 Methylcyclohexane	83	7.628	7.628	0.000	89	270263	50.0	45.7	
64 1,2-Dichloropropane	63	7.669	7.669	0.000	95	117655	50.0	45.5	
65 Dibromomethane	93	7.763	7.763	0.000	96	44897	50.0	43.1	
67 1,4-Dioxane	88	7.781	7.781	0.000	96	9879	1000.0	947.7	
68 Dichlorobromomethane	83	7.963	7.963	0.000	99	123765	50.0	43.0	
71 cis-1,3-Dichloropropene	75	8.416	8.416	0.000	95	144456	50.0	43.2	
72 4-Methyl-2-pentanone (MIBK	43	8.581	8.581	0.000	96	87792	100.0	68.5	
73 Toluene	91	8.739	8.739	0.000	98	554675	50.0	46.3	
74 trans-1,3-Dichloropropene	75	9.004	9.004	0.000	93	104619	50.0	46.4	
75 Ethyl methacrylate	69	9.069	9.069	0.000	92	85729	50.0	44.9	
76 1,1,2-Trichloroethane	97	9.192	9.192	0.000	92	69963	50.0	45.6	
77 Tetrachloroethene	164	9.257	9.257	0.000	96	109787	50.0	44.6	
78 1,3-Dichloropropane	76	9.345	9.345	0.000	93	117215	50.0	45.6	
79 2-Hexanone	43	9.422	9.422	0.000	97	84581	100.0	77.8	
81 Chlorodibromomethane	129	9.557	9.557	0.000	91	78280	50.0	44.0	
82 Ethylene Dibromide	107	9.675	9.675	0.000	98	58930	50.0	45.3	
83 Chlorobenzene	112	10.157	10.157	0.000	95	330228	50.0	44.5	
84 1,1,1,2-Tetrachloroethane	131	10.251	10.251	0.000	94	114800	50.0	47.0	
85 Ethylbenzene	106	10.263	10.263	0.000	98	193023	50.0	44.7	
86 m-Xylene & p-Xylene	106	10.392	10.392	0.000	0	240382	50.0	45.4	
88 o-Xylene	106	10.775	10.775	0.000	96	237766	50.0	47.3	
89 Styrene	104	10.798	10.798	0.000	95	355439	50.0	44.7	
90 Bromoform	173	10.975	10.975	0.000	96	37500	50.0	40.4	
91 Isopropylbenzene	105	11.139	11.139	0.000	95	672621	50.0	49.3	
94 Bromobenzene	156	11.451	11.451	0.000	92	123181	50.0	40.5	
93 1,1,2,2-Tetrachloroethane	83	11.463	11.463	0.000	95	85848	50.0	49.4	
96 trans-1,4-Dichloro-2-buten	53	11.504	11.504	0.000	73	17147	50.0	43.4	
95 1,2,3-Trichloropropane	110	11.516	11.516	0.000	85	24105	50.0	44.8	
97 N-Propylbenzene	120	11.557	11.557	0.000	99	184513	50.0	42.4	
98 2-Chlorotoluene	126	11.645	11.645	0.000	97	148834	50.0	42.7	
99 1,3,5-Trimethylbenzene	105	11.745	11.745	0.000	95	562884	50.0	46.3	
100 4-Chlorotoluene	126	11.769	11.769	0.000	98	151908	50.0	41.7	
101 tert-Butylbenzene	119	12.051	12.051	0.000	92	508839	50.0	45.7	
103 1,2,4-Trimethylbenzene	105	12.116	12.116	0.000	97	549848	50.0	46.3	
104 sec-Butylbenzene	105	12.280	12.280	0.000	94	782588	50.0	47.5	
105 1,3-Dichlorobenzene	146	12.392	12.392	0.000	98	272625	50.0	43.2	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
106 4-Isopropyltoluene	119	12.433	12.433	0.000	97	670906	50.0	46.8	
107 1,4-Dichlorobenzene	146	12.498	12.498	0.000	96	290921	50.0	44.4	
110 n-Butylbenzene	91	12.845	12.845	0.000	98	599466	50.0	49.2	
111 1,2-Dichlorobenzene	146	12.851	12.851	0.000	98	261118	50.0	45.9	
112 1,2-Dibromo-3-Chloropropan	157	13.645	13.645	0.000	87	13337	50.0	50.5	
114 1,2,4-Trichlorobenzene	180	14.463	14.463	0.000	94	160999	50.0	53.1	
115 Hexachlorobutadiene	225	14.604	14.604	0.000	98	105344	50.0	50.4	
116 Naphthalene	128	14.721	14.721	0.000	97	269782	50.0	53.4	
117 1,2,3-Trichlorobenzene	180	14.939	14.939	0.000	96	132629	50.0	57.1	
S 130 1,2-Dichloroethene, Total	96				0		100.0	89.5	
S 129 Xylenes, Total	106				0		100.0	92.7	
S 131 1,3-Dichloropropene, Total	1				0		100.0	89.7	
S 145 Total BTEX	1				0		250.0	228.3	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

voaWKet2ndRes_00043	Amount Added:	2.00	Units: uL	
VOA8260VOAPRI_00373	Amount Added:	2.00	Units: uL	
Acetonitrile2_00011	Amount Added:	2.00	Units: uL	
VOA8260INT_00099	Amount Added:	2.00	Units: uL	Run Reagent
VOA8260SURR_00099	Amount Added:	2.00	Units: uL	Run Reagent

Report Date: 26-Sep-2019 13:55:28 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP10\20190925-28808.b\10092505.d				
Injection Date:	25-Sep-2019 08:33:30	Instrument ID:	CHHP10	Operator ID:	Patrick Journet
Lims ID:	CCVIS			Worklist Smp#:	5
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	MSVOA_CHHP10	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

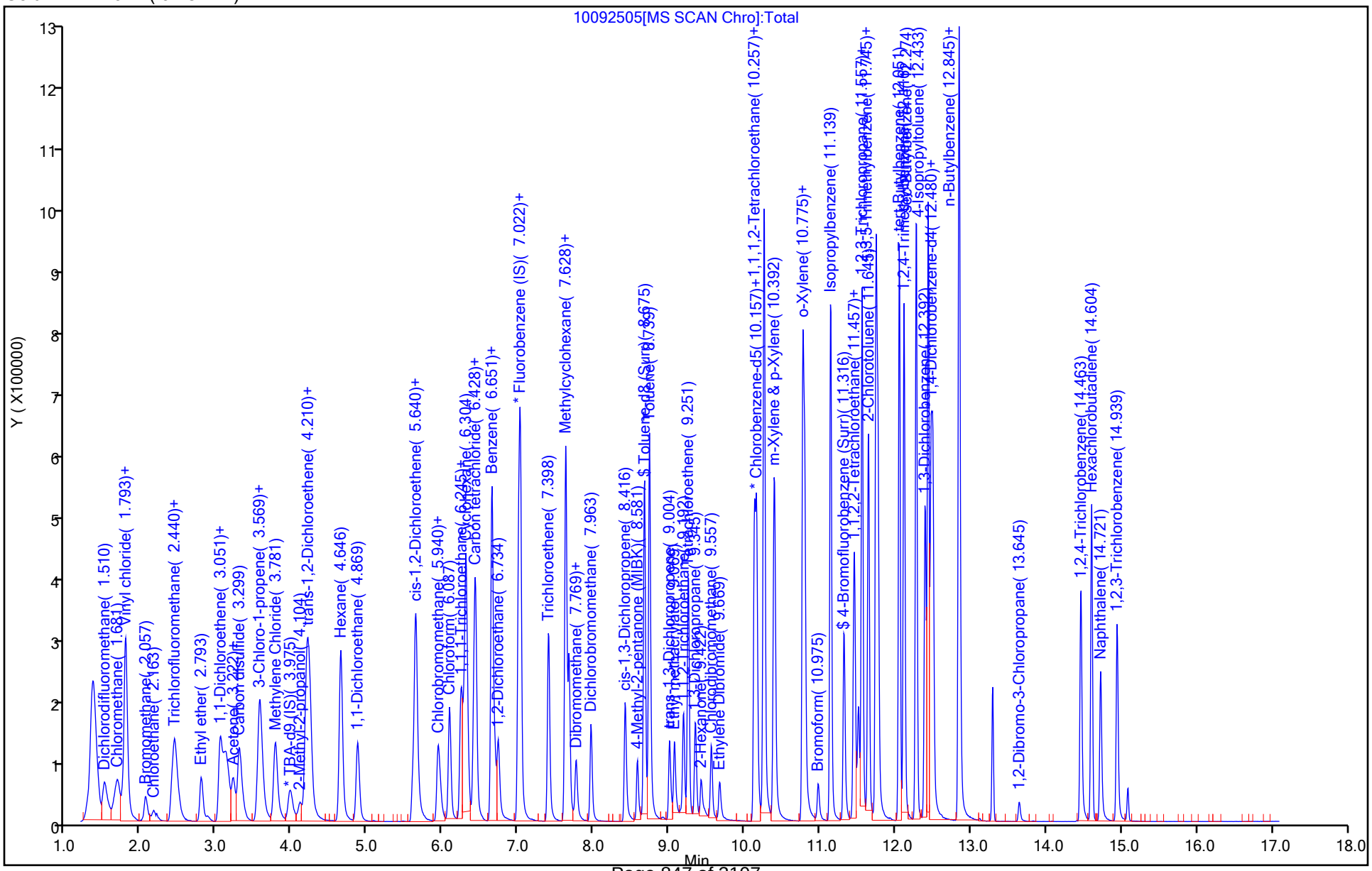

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File:	\\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091701c.d				
Lims ID:	BFB				
Client ID:					
Sample Type:	BFB				
Inject. Date:	17-Sep-2019 08:35:30	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	5.0 mL	Dil. Factor:	1.0000		
Sample Info:	180-0028678-001				
Operator ID:	Patrick Journet	Instrument ID:	CHHP10		
Method:	\\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\MSVOA_CHHP10.m				
Limit Group:	VOA 8260C_D ICAL				
Last Update:	17-Sep-2019 15:28:55	Calib Date:	17-Sep-2019 12:35:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091710.d				
Column 1 :	DB-624 (0.18 mm)		Det: MS SCAN		
Process Host:	CTX0337				

First Level Reviewer: journetp Date: 17-Sep-2019 08:54:43

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
$ 9 BFB	95	11.321	11.321	0.000	0	68395	NR	NR	

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Reagents:

VOABFB25_00118 Amount Added: 1.00 Units: uL

MS Tune Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091701c.d				
Injection Date:	17-Sep-2019 08:35:30	Instrument ID:	CHHP10		
Lims ID:	BFB				
Client ID:					
Operator ID:	Patrick Journet	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	5.0 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP10	Limit Group:	VOA 8260C_D ICAL		
Tune Method:	BFB Method 8260				

$ 9 BFB

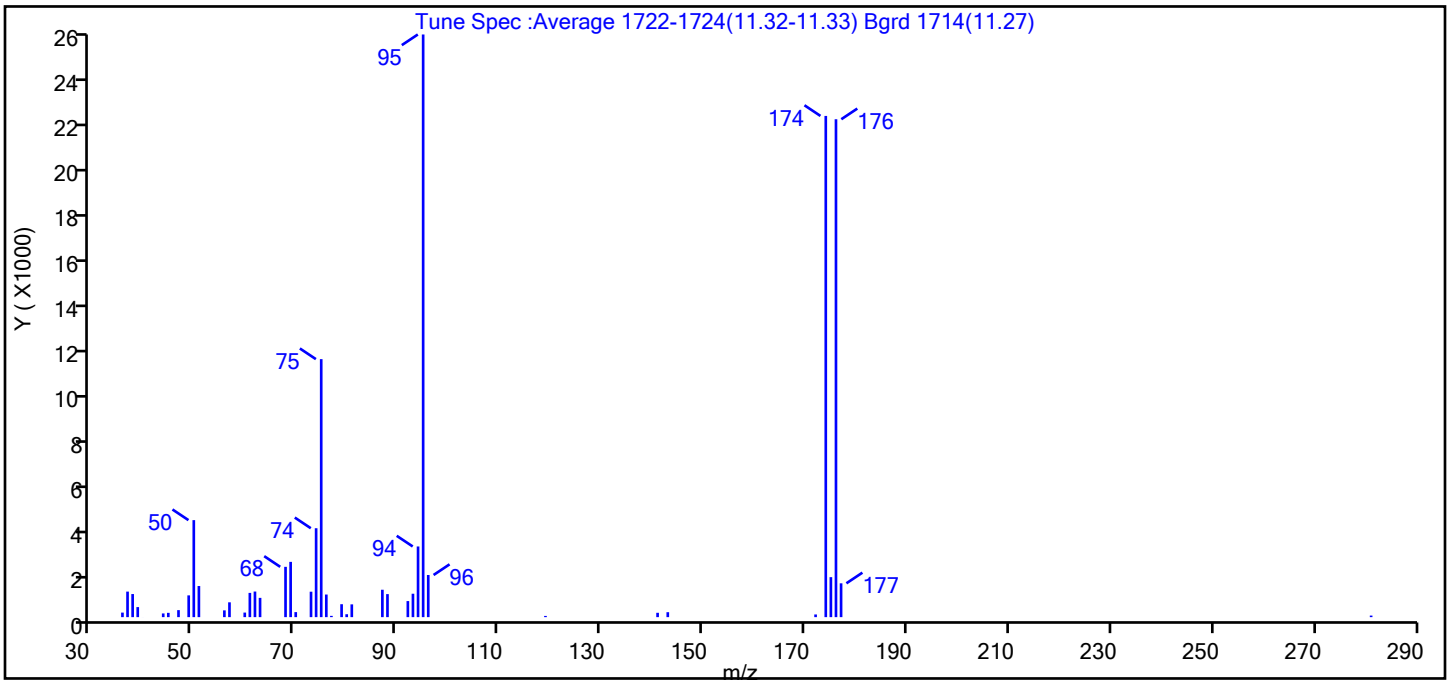

m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	16.6
75	30 to 60% of m/z 95	44.3
96	5 to 9% of m/z 95	7.2
173	Less than 2% of m/z 174	0.0 (0.0)
174	50 to 120% of m/z 95	86.0
175	5 to 9% of m/z 174	6.9 (8.0)
176	Greater than 95% but less than 101% of m/z 174	85.5 (99.3)
177	5 to 9% of m/z 176	5.8 (6.8)

Data File: \\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091701c.d\MSVOA_CHHP10.rslt\spectra
Injection Date: 17-Sep-2019 08:35:30
Spectrum: Tune Spec :Average 1722-1724(11.32-11.33) Bgrd 1714(11.27)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 44

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	198	56.00	295	75.00	11226	95.00	25352
37.00	1111	57.00	645	76.00	984	96.00	1834
38.00	1005	60.00	199	77.00	56	119.00	53
39.00	437	61.00	1055	79.00	563	141.00	189
40.00	1	62.00	1114	80.00	127	143.00	215
44.00	161	63.00	839	81.00	556	172.00	117
45.00	187	68.00	2189	87.00	1192	174.00	21808
47.00	305	69.00	2405	88.00	1002	175.00	1740
49.00	947	70.00	219	92.00	699	176.00	21664
50.00	4221	73.00	1107	93.00	1019	177.00	1472
51.00	1354	74.00	3869	94.00	3075	281.00	68

Report Date: 17-Sep-2019 15:28:55 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091701c.d				
Injection Date:	17-Sep-2019 08:35:30	Instrument ID:	CHHP10	Operator ID:	Patrick Journet
Lims ID:	BFB			Worklist Smp#:	1
Client ID:					
Injection Vol:	5.0 mL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	MSVOA_CHHP10	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

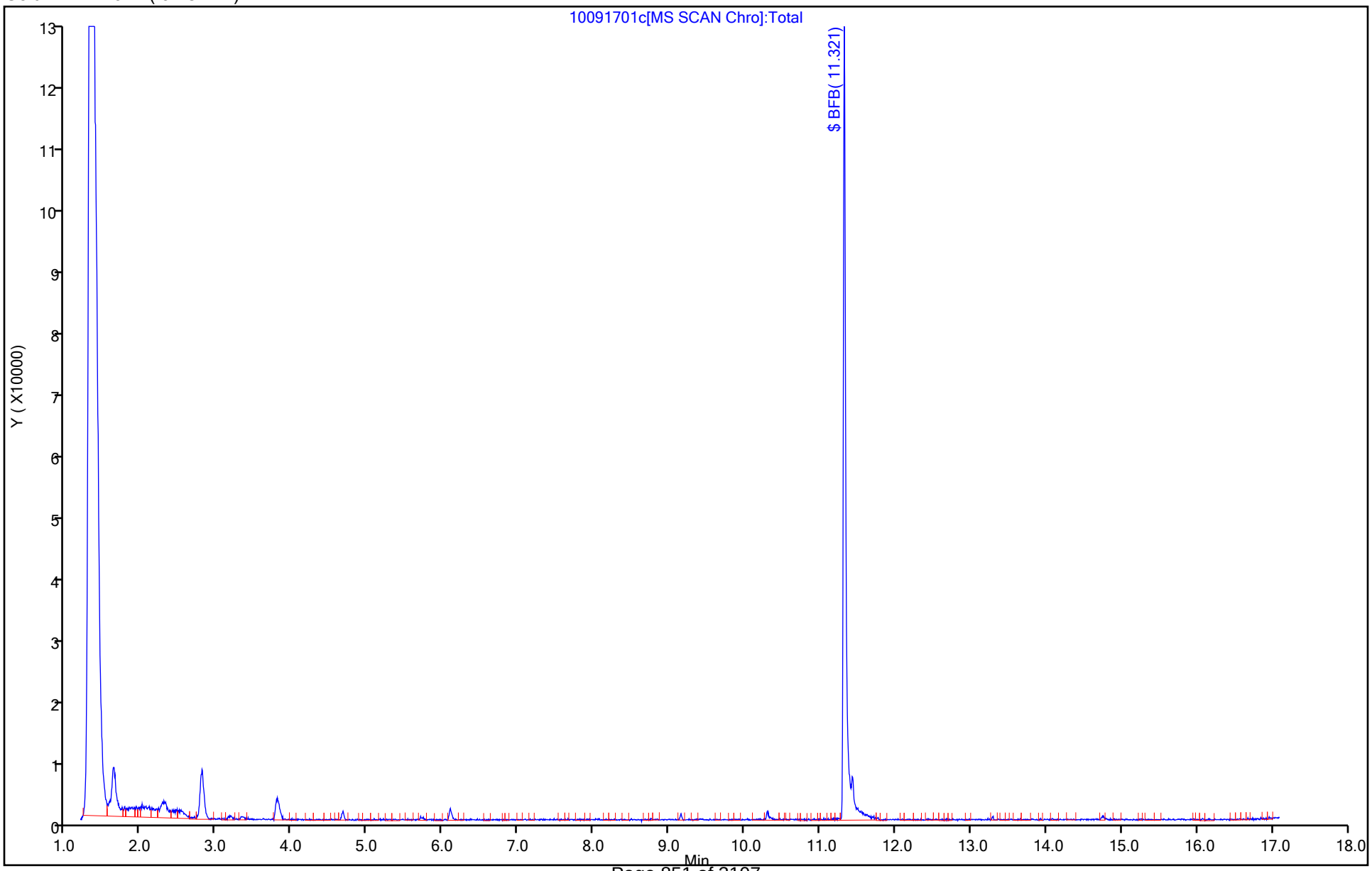

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP10\20190925-28808.b\10092504.d
Lims ID: BFB
Client ID:
Sample Type: BFB
Inject. Date: 25-Sep-2019 08:01:30 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 5.0 mL Dil. Factor: 1.0000
Sample Info: 180-0028808-004
Operator ID: Patrick Journet Instrument ID: CHHP10

Method: \\chromna\Pittsburgh\ChromData\CHHP10\20190925-28808.b\MSVOA_CHHP10.m
Limit Group: VOA 8260C_D ICAL
Last Update: 26-Sep-2019 13:55:30 Calib Date: 17-Sep-2019 12:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091710.d

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0325

First Level Reviewer: journetp Date: 25-Sep-2019 12:55:21

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
$ 9 BFB	95	11.316	11.316	0.000	0	154643	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

VOABFB25_00118 Amount Added: 1.00 Units: uL

Report Date: 26-Sep-2019 13:55:31 Chrom Revision: 2.3 17-Sep-2019 16:19:08

MS Tune Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP10\20190925-28808.b\10092504.d				
Injection Date:	25-Sep-2019 08:01:30	Instrument ID:	CHHP10		
Lims ID:	BFB				
Client ID:					
Operator ID:	Patrick Journet	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	5.0 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP10	Limit Group:	VOA 8260C_D ICAL		
Tune Method:	BFB Method 8260				

$ 9 BFB

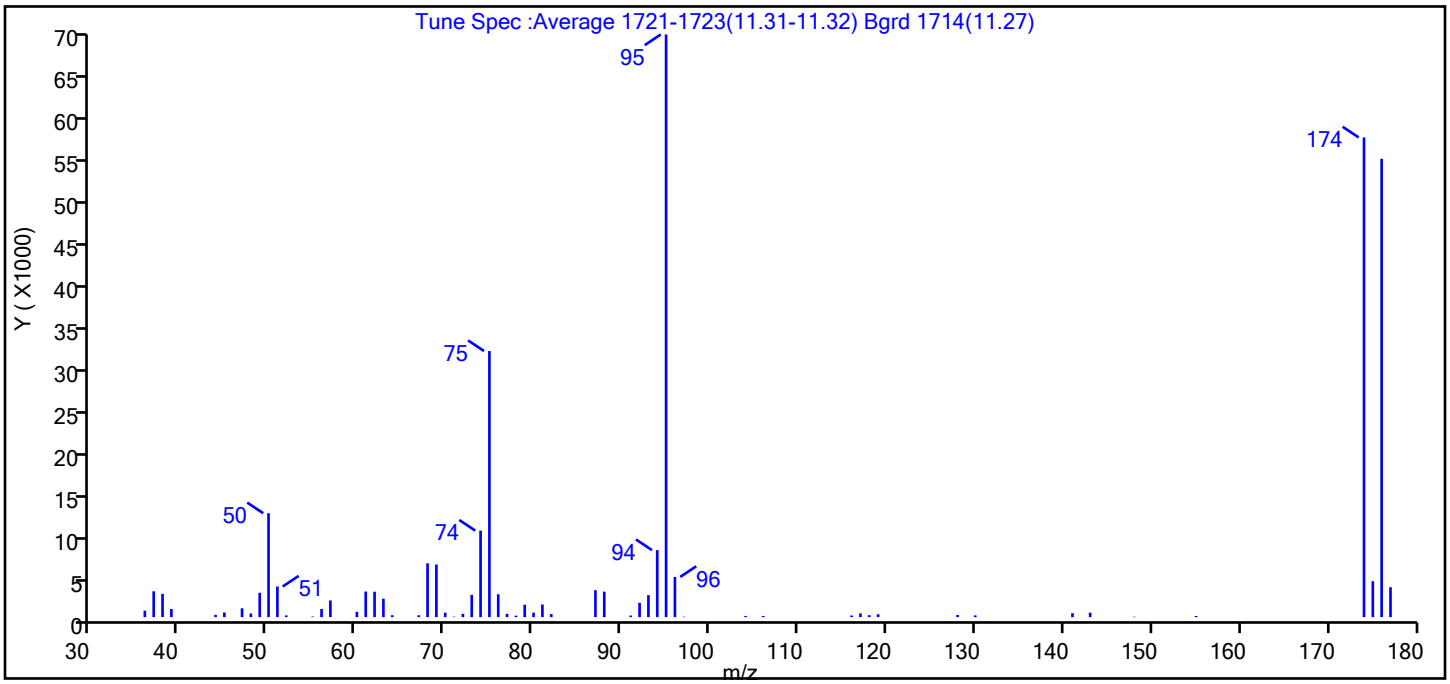

m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	17.8
75	30 to 60% of m/z 95	45.7
96	5 to 9% of m/z 95	6.9
173	Less than 2% of m/z 174	0.0 (0.0)
174	50 to 120% of m/z 95	82.3
175	5 to 9% of m/z 174	6.2 (7.5)
176	Greater than 95% but less than 101% of m/z 174	78.7 (95.5)
177	5 to 9% of m/z 176	5.1 (6.5)

Report Date: 26-Sep-2019 13:55:31 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Data File: \\chromna\Pittsburgh\ChromData\CHHP10\20190925-28808.b\10092504.d\MSVOA_CHHP10.rslt\spectra.
Injection Date: 25-Sep-2019 08:01:30
Spectrum: Tune Spec :Average 1721-1723(11.31-11.32) Bgrd 1714(11.27)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 62

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	765	60.00	638	78.00	180	116.00	195
37.00	3085	61.00	3051	79.00	1480	117.00	447
38.00	2771	62.00	3031	80.00	537	118.00	232
39.00	968	63.00	2198	81.00	1507	119.00	346
43.00	4	64.00	228	82.00	365	128.00	258
44.00	269	67.00	224	87.00	3214	130.00	209
45.00	557	68.00	6415	88.00	3043	141.00	475
47.00	1056	69.00	6280	91.00	192	143.00	534
48.00	432	70.00	534	92.00	1707	148.00	53
49.00	2903	71.00	55	93.00	2624	155.00	139
50.00	12385	72.00	398	94.00	7994	174.00	57184
51.00	3650	73.00	2652	95.00	69456	175.00	4286
52.00	208	74.00	10313	96.00	4792	176.00	54632
55.00	72	75.00	31720	97.00	52	177.00	3568
56.00	977	76.00	2727	104.00	145		
57.00	1990	77.00	400	106.00	142		

Report Date: 26-Sep-2019 13:55:31 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP10\20190925-28808.b\10092504.d				
Injection Date:	25-Sep-2019 08:01:30	Instrument ID:	CHHP10	Operator ID:	Patrick Journet
Lims ID:	BFB			Worklist Smp#:	4
Client ID:					
Injection Vol:	5.0 mL	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	MSVOA_CHHP10	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

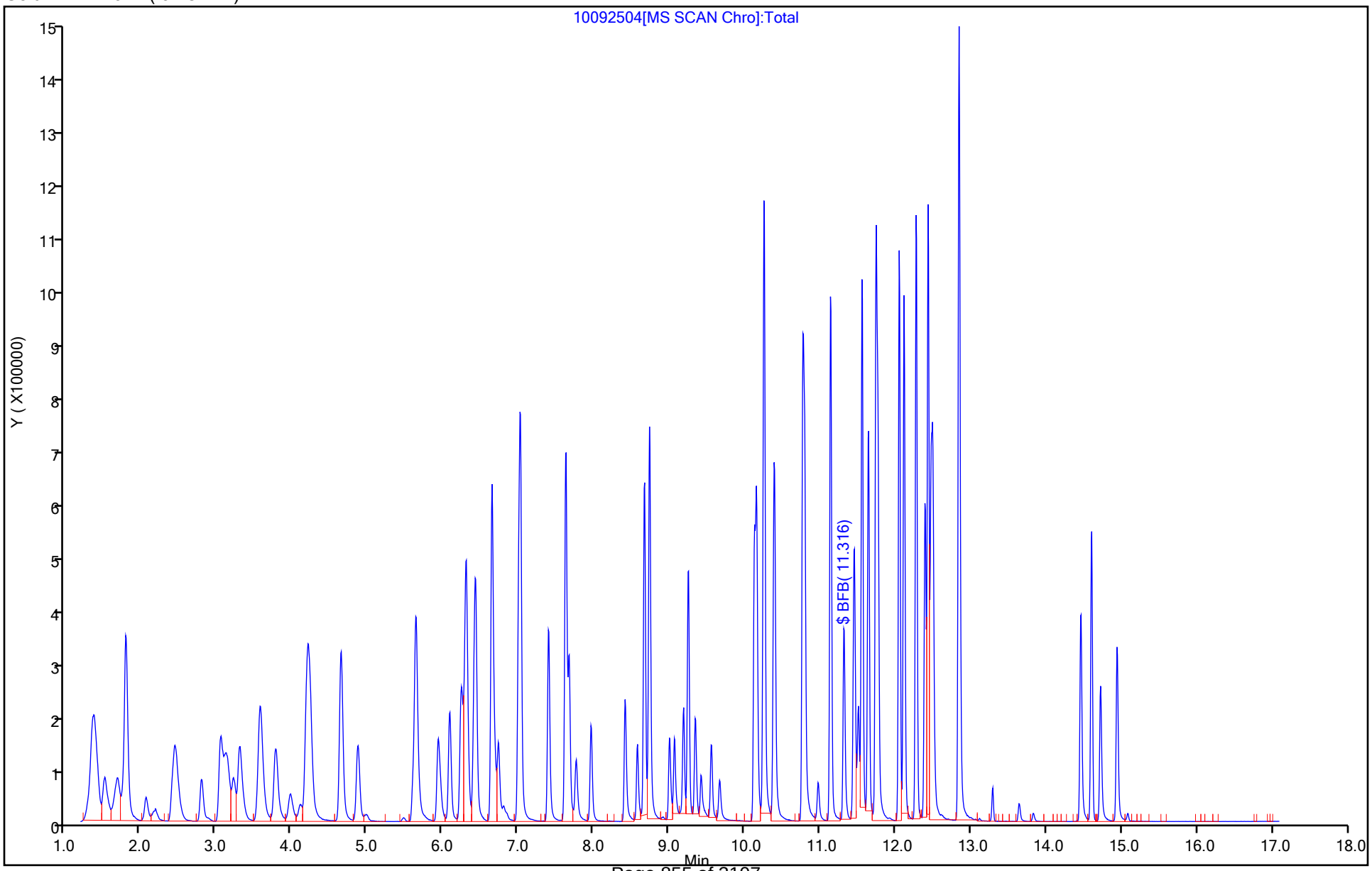

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 180-292524/8

Matrix: Water Lab File ID: 10092508.d

Analysis Method: EPA 8260C Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 09/25/2019 09:48

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 292524 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		5.0	2.5
79-00-5	1,1,2-Trichloroethane	ND		5.0	2.4
75-34-3	1,1-Dichloroethane	ND		5.0	1.8
75-35-4	1,1-Dichloroethene	ND		5.0	2.9
95-50-1	1,2-Dichlorobenzene	ND		5.0	2.0
107-06-2	1,2-Dichloroethane	ND		5.0	1.5
78-87-5	1,2-Dichloropropane	ND		5.0	2.5
120-82-1	1,2,4-Trichlorobenzene	ND		5.0	3.7
541-73-1	1,3-Dichlorobenzene	ND		5.0	1.6
106-46-7	1,4-Dichlorobenzene	ND		5.0	1.0
78-93-3	2-Butanone (MEK)	ND		5.0	2.9
71-43-2	Benzene	ND		5.0	2.0
75-25-2	Bromoform	ND		5.0	2.6
56-23-5	Carbon tetrachloride	ND		5.0	3.3
108-90-7	Chlorobenzene	ND		5.0	1.6
67-66-3	Chloroform	ND		5.0	2.1
75-00-3	Chloroethane	ND		5.0	2.6
156-59-2	cis-1,2-Dichloroethene	ND		5.0	1.6
10061-01-5	cis-1,3-Dichloropropene	ND		5.0	1.6
75-27-4	Dichlorobromomethane	ND		5.0	2.4
100-41-4	Ethylbenzene	ND		5.0	2.2
179601-23-1	m-Xylene & p-Xylene	ND		5.0	1.9
95-47-6	o-Xylene	ND		5.0	2.4
127-18-4	Tetrachloroethene	ND		5.0	2.0
108-88-3	Toluene	ND		5.0	1.7
156-60-5	trans-1,2-Dichloroethene	ND		5.0	2.5
10061-02-6	trans-1,3-Dichloropropene	ND		5.0	1.7
79-01-6	Trichloroethene	ND		5.0	1.5
75-01-4	Vinyl chloride	ND		5.0	3.7
1330-20-7	Xylenes, Total	ND		10	4.3

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 180-292524/8

Matrix: Water Lab File ID: 10092508.d

Analysis Method: EPA 8260C Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 09/25/2019 09:48

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 292524 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	108		58-139
460-00-4	4-Bromofluorobenzene (Surr)	96		64-122
1868-53-7	Dibromofluoromethane (Surr)	99		70-127
2037-26-5	Toluene-d8 (Surr)	102		71-125

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP10\20190925-28808.b\10092508.d
Lims ID: mb
Client ID:
Sample Type: MB
Inject. Date: 25-Sep-2019 09:48:30 ALS Bottle#: 8 Worklist Smp#: 8
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0028808-008
Operator ID: Patrick Journet Instrument ID: CHHP10

Method: \\chromna\Pittsburgh\ChromData\CHHP10\20190925-28808.b\MSVOA_CHHP10.m
Limit Group: VOA 8260C_D ICAL
Last Update: 26-Sep-2019 13:49:44 Calib Date: 17-Sep-2019 12:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091710.d

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0325

First Level Reviewer: journetp Date: 25-Sep-2019 12:55:13

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	3.940	3.975	-0.035	0	139025	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.010	7.004	0.006	99	624006	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.133	10.133	0.000	86	132905	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.474	12.474	0.000	95	223764	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.275	6.275	0.000	93	125902	50.0	49.6	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.651	6.651	0.000	0	117101	50.0	54.1	
$ 7 Toluene-d8 (Surr)	98	8.675	8.675	0.000	93	588541	50.0	51.1	
$ 8 4-Bromofluorobenzene (Surr	95	11.321	11.316	0.005	88	182281	50.0	48.0	
37 Isopropyl alcohol	45	3.951	3.987	-0.036	26	7231		NC	
19 Acrolein	56	4.657	4.657	0.000	47	3094		NC	
57 Isooctane	57	7.010	7.033	-0.023	33	21736		NC	
70 2-Chloroethyl vinyl ether	63	8.675	8.739	-0.064	36	481		NC	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

VOA8260INT_00099 Amount Added: 2.00 Units: uL Run Reagent
VOA8260SURR_00099 Amount Added: 2.00 Units: uL Run Reagent

Report Date: 26-Sep-2019 13:55:16 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP10\20190925-28808.b\10092508.d				
Injection Date:	25-Sep-2019 09:48:30	Instrument ID:	CHHP10	Operator ID:	Patrick Journet
Lims ID:	mb			Worklist Smp#:	8
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	MSVOA_CHHP10	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

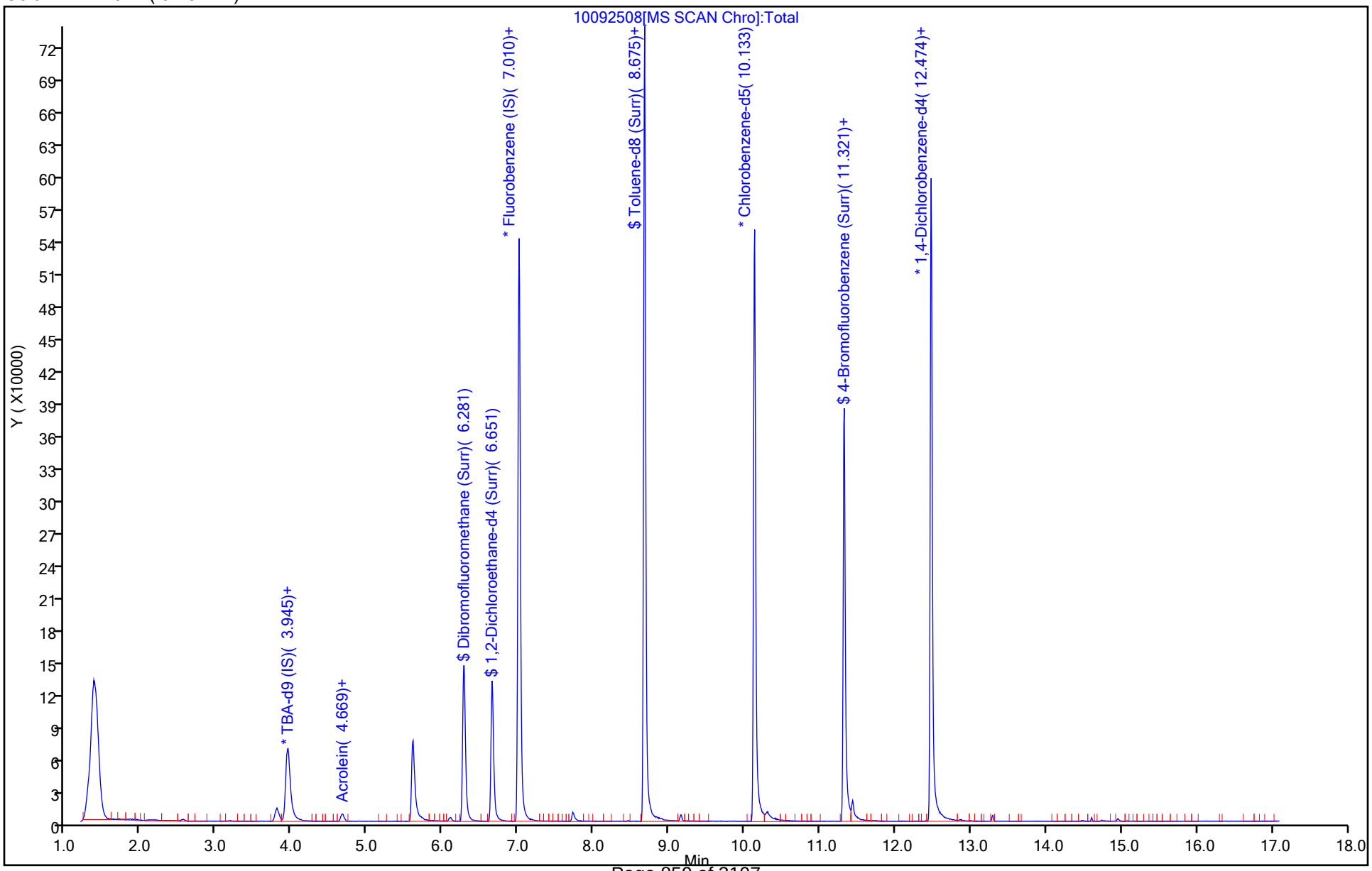

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP10\20190925-28808.b\10092508.d
Lims ID: mb
Client ID:
Sample Type: MB
Inject. Date: 25-Sep-2019 09:48:30 ALS Bottle#: 8 Worklist Smp#: 8
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0028808-008
Operator ID: Patrick Journet Instrument ID: CHHP10

Method: \\chromna\Pittsburgh\ChromData\CHHP10\20190925-28808.b\MSVOA_CHHP10.m
Limit Group: VOA 8260C_D ICAL
Last Update: 26-Sep-2019 13:49:44 Calib Date: 17-Sep-2019 12:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091710.d

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0325

First Level Reviewer: journetp Date: 25-Sep-2019 12:55:13

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	50.0	49.6	99.16
$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	54.1	108.18
$ 7 Toluene-d8 (Surr)	50.0	51.1	102.25
$ 8 4-Bromofluorobenzene (Surr)	50.0	48.0	95.99

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 180-292524/6

Matrix: Water Lab File ID: 10092506.d

Analysis Method: EPA 8260C Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 09/25/2019 08:58

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 292524 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	9.10		5.0	2.5
79-00-5	1,1,2-Trichloroethane	10.2		5.0	2.4
75-34-3	1,1-Dichloroethane	9.29		5.0	1.8
75-35-4	1,1-Dichloroethene	8.19		5.0	2.9
95-50-1	1,2-Dichlorobenzene	9.19		5.0	2.0
107-06-2	1,2-Dichloroethane	10.4		5.0	1.5
78-87-5	1,2-Dichloropropane	9.46		5.0	2.5
120-82-1	1,2,4-Trichlorobenzene	10.5		5.0	3.7
541-73-1	1,3-Dichlorobenzene	8.34		5.0	1.6
106-46-7	1,4-Dichlorobenzene	8.50		5.0	1.0
78-93-3	2-Butanone (MEK)	23.7		5.0	2.9
71-43-2	Benzene	8.70		5.0	2.0
75-25-2	Bromoform	9.67		5.0	2.6
56-23-5	Carbon tetrachloride	9.02		5.0	3.3
108-90-7	Chlorobenzene	8.67		5.0	1.6
67-66-3	Chloroform	8.53		5.0	2.1
75-00-3	Chloroethane	5.57		5.0	2.6
156-59-2	cis-1,2-Dichloroethene	8.77		5.0	1.6
10061-01-5	cis-1,3-Dichloropropene	9.46		5.0	1.6
75-27-4	Dichlorobromomethane	9.14		5.0	2.4
100-41-4	Ethylbenzene	8.39		5.0	2.2
179601-23-1	m-Xylene & p-Xylene	8.67		5.0	1.9
95-47-6	o-Xylene	8.94		5.0	2.4
127-18-4	Tetrachloroethene	8.08		5.0	2.0
108-88-3	Toluene	8.60		5.0	1.7
156-60-5	trans-1,2-Dichloroethene	8.53		5.0	2.5
10061-02-6	trans-1,3-Dichloropropene	10.3		5.0	1.7
79-01-6	Trichloroethene	8.02		5.0	1.5
75-01-4	Vinyl chloride	10.2		5.0	3.7
1330-20-7	Xylenes, Total	17.6		10	4.3

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 180-292524/6

Matrix: Water Lab File ID: 10092506.d

Analysis Method: EPA 8260C Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 09/25/2019 08:58

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 292524 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	110		58-139
460-00-4	4-Bromofluorobenzene (Surr)	89		64-122
1868-53-7	Dibromofluoromethane (Surr)	93		70-127
2037-26-5	Toluene-d8 (Surr)	89		71-125

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP10\20190925-28808.b\10092506.d
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 25-Sep-2019 08:58:30 ALS Bottle#: 6 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0028808-006
Operator ID: Patrick Journet Instrument ID: CHHP10

Method: \\chromna\Pittsburgh\ChromData\CHHP10\20190925-28808.b\MSVOA_CHHP10.m
Limit Group: VOA 8260C_D ICAL
Last Update: 26-Sep-2019 13:49:44 Calib Date: 17-Sep-2019 12:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091710.d

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0325

First Level Reviewer: journetp Date: 25-Sep-2019 12:52:41

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	3.975	3.975	0.000	0	168147	1000.0	1000.0	
* 2 Fluorobenzene (IS)	96	7.004	7.004	0.000	99	537133	50.0	50.0	
* 3 Chlorobenzene-d5	119	10.133	10.133	0.000	85	117547	50.0	50.0	
* 4 1,4-Dichlorobenzene-d4	152	12.474	12.474	0.000	94	215683	50.0	50.0	
$ 5 Dibromofluoromethane (Surr	113	6.275	6.275	0.000	93	101398	50.0	46.4	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.645	6.651	-0.006	0	102689	50.0	55.1	
$ 7 Toluene-d8 (Surr)	98	8.674	8.675	-0.001	93	455059	50.0	44.7	
$ 8 4-Bromofluorobenzene (Surr	95	11.321	11.316	0.005	90	149831	50.0	44.6	
10 Dichlorodifluoromethane	85	1.516	1.510	0.006	99	172421	50.0	40.4	
11 Chloromethane	50	1.687	1.681	0.006	98	206208	50.0	54.3	
12 Vinyl chloride	62	1.793	1.787	0.006	62	193370	50.0	51.2	
13 Butadiene	39	1.793	1.793	0.000	88	168295	50.0	55.7	
14 Bromomethane	94	2.057	2.057	0.000	91	46158	50.0	33.5	
15 Chloroethane	64	2.175	2.163	0.012	98	37284	50.0	27.9	
17 Dichlorofluoromethane	67	2.440	2.434	0.006	97	167591	50.0	53.2	
16 Trichlorofluoromethane	101	2.440	2.440	0.000	93	151653	50.0	43.7	
18 Ethyl ether	59	2.798	2.793	0.005	96	90798	50.0	64.5	
20 1,1-Dichloroethene	96	3.045	3.046	-0.001	95	100837	50.0	41.0	
21 1,1,2-Trichloro-1,2,2-trif	101	3.116	3.122	-0.006	94	114650	50.0	44.8	
22 Acetone	43	3.169	3.163	0.006	100	79572	100.0	133.6	
23 Iodomethane	142	3.222	3.222	0.000	99	162208	50.0	41.1	
24 Carbon disulfide	76	3.304	3.304	0.000	99	348942	50.0	43.0	
27 Acetonitrile	41	3.569	3.557	0.012	88	413856	500.0	591.0	a
26 3-Chloro-1-propene	76	3.575	3.575	0.000	92	65801	50.0	44.0	
28 Methyl acetate	43	3.616	3.610	0.006	98	128087	100.0	127.7	
29 Methylene Chloride	84	3.781	3.781	0.000	98	126281	50.0	48.8	
32 2-Methyl-2-propanol	59	4.110	4.104	0.006	96	105057	500.0	479.3	
31 Acrylonitrile	53	4.187	4.187	0.000	99	328266	500.0	722.3	
30 trans-1,2-Dichloroethene	96	4.210	4.204	0.006	96	121784	50.0	42.7	
33 Methyl tert-butyl ether	73	4.245	4.240	0.005	98	257750	50.0	54.7	
34 Hexane	57	4.645	4.646	-0.001	92	237704	50.0	46.3	
36 1,1-Dichloroethane	63	4.869	4.869	0.000	96	219766	50.0	46.5	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
42 2,2-Dichloropropane	97	5.633	5.634	-0.001	92	29363	50.0	51.3	
41 cis-1,2-Dichloroethene	96	5.645	5.645	0.000	84	131743	50.0	43.9	
43 2-Butanone (MEK)	43	5.675	5.681	-0.006	100	92768	100.0	118.3	
46 Chlorobromomethane	128	5.939	5.940	-0.001	97	56254	50.0	46.3	
48 Tetrahydrofuran	42	5.969	5.969	0.000	91	59518	100.0	135.0	
49 Chloroform	83	6.092	6.087	0.005	94	204255	50.0	42.7	
50 1,1,1-Trichloroethane	97	6.239	6.240	-0.001	99	175351	50.0	45.5	
52 Cyclohexane	56	6.310	6.304	0.006	92	281238	50.0	49.2	
53 Carbon tetrachloride	117	6.416	6.410	0.006	96	167617	50.0	45.1	
54 1,1-Dichloropropene	75	6.433	6.434	-0.001	97	180845	50.0	42.4	
55 Benzene	78	6.651	6.651	0.000	97	520869	50.0	43.5	
51 Isobutyl alcohol	41	6.692	6.692	0.000	95	94017	1250.0	1846.3	
56 1,2-Dichloroethane	62	6.733	6.734	-0.001	97	133505	50.0	52.2	
59 n-Heptane	43	7.028	7.028	0.000	94	245981	50.0	43.3	
60 Trichloroethene	130	7.398	7.398	0.000	97	140698	50.0	40.1	
63 Methylcyclohexane	83	7.627	7.628	-0.001	91	265822	50.0	42.9	
64 1,2-Dichloropropane	63	7.675	7.669	0.006	96	128084	50.0	47.3	
65 Dibromomethane	93	7.763	7.763	0.000	97	55076	50.0	50.5	
67 1,4-Dioxane	88	7.786	7.781	0.005	96	13330	1000.0	1221.7	
68 Dichlorobromomethane	83	7.963	7.963	0.000	99	137639	50.0	45.7	
71 cis-1,3-Dichloropropene	75	8.416	8.416	0.000	96	165449	50.0	47.3	
72 4-Methyl-2-pentanone (MIBK	43	8.580	8.581	-0.001	96	124279	100.0	87.2	
73 Toluene	91	8.739	8.739	0.000	98	573182	50.0	43.0	
74 trans-1,3-Dichloropropene	75	9.004	9.004	0.000	93	129433	50.0	51.6	
75 Ethyl methacrylate	69	9.069	9.069	0.000	91	119301	50.0	56.1	
76 1,1,2-Trichloroethane	97	9.192	9.192	0.000	91	87054	50.0	51.0	
77 Tetrachloroethene	164	9.251	9.257	-0.006	96	110716	50.0	40.4	
78 1,3-Dichloropropane	76	9.345	9.345	0.000	92	146720	50.0	51.3	
79 2-Hexanone	43	9.421	9.422	-0.001	95	127776	100.0	100.5	
81 Chlorodibromomethane	129	9.557	9.557	0.000	90	97195	50.0	49.1	
82 Ethylene Dibromide	107	9.669	9.675	-0.006	98	75975	50.0	52.5	
83 Chlorobenzene	112	10.157	10.157	0.000	97	358335	50.0	43.4	
84 1,1,1,2-Tetrachloroethane	131	10.251	10.251	0.000	95	123749	50.0	45.5	
85 Ethylbenzene	106	10.263	10.263	0.000	98	201526	50.0	42.0	
86 m-Xylene & p-Xylene	106	10.392	10.392	0.000	0	255627	50.0	43.4	
88 o-Xylene	106	10.774	10.775	-0.001	96	250253	50.0	44.7	
89 Styrene	104	10.798	10.798	0.000	96	394324	50.0	44.6	
90 Bromoform	173	10.980	10.975	0.006	96	49939	50.0	48.4	
91 Isopropylbenzene	105	11.139	11.139	0.000	95	690854	50.0	45.5	
94 Bromobenzene	156	11.451	11.451	0.000	93	138864	50.0	39.9	
93 1,1,2,2-Tetrachloroethane	83	11.463	11.463	0.000	96	115815	50.0	59.9	
96 trans-1,4-Dichloro-2-buten	53	11.504	11.504	0.000	84	25061	50.0	55.4	
95 1,2,3-Trichloropropane	110	11.515	11.516	-0.001	85	33071	50.0	53.8	
97 N-Propylbenzene	120	11.557	11.557	0.000	99	191910	50.0	38.5	
98 2-Chlorotoluene	126	11.645	11.645	0.000	97	158117	50.0	39.7	
99 1,3,5-Trimethylbenzene	105	11.745	11.745	0.000	95	583481	50.0	41.9	
100 4-Chlorotoluene	126	11.768	11.769	-0.001	97	164257	50.0	39.5	
101 tert-Butylbenzene	119	12.051	12.051	0.000	92	520047	50.0	40.8	
103 1,2,4-Trimethylbenzene	105	12.115	12.116	-0.001	97	582698	50.0	42.9	
104 sec-Butylbenzene	105	12.274	12.280	-0.006	94	800698	50.0	42.5	
105 1,3-Dichlorobenzene	146	12.398	12.392	0.006	98	301052	50.0	41.7	
106 4-Isopropyltoluene	119	12.433	12.433	0.000	97	691558	50.0	42.2	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
107 1,4-Dichlorobenzene	146	12.498	12.498	0.000	96	318654	50.0	42.5	
110 n-Butylbenzene	91	12.845	12.845	0.000	98	618116	50.0	44.3	
111 1,2-Dichlorobenzene	146	12.851	12.851	0.000	99	299211	50.0	46.0	
112 1,2-Dibromo-3-Chloropropan	157	13.645	13.645	0.000	86	19715	50.0	65.3	
114 1,2,4-Trichlorobenzene	180	14.456	14.463	-0.006	95	182491	50.0	52.6	
115 Hexachlorobutadiene	225	14.603	14.604	-0.001	99	110227	50.0	46.1	
116 Naphthalene	128	14.721	14.721	0.000	97	352331	50.0	61.0	
117 1,2,3-Trichlorobenzene	180	14.939	14.939	0.000	96	155192	50.0	58.5	
S 130 1,2-Dichloroethene, Total	96				0		100.0	86.5	
S 129 Xylenes, Total	106				0		100.0	88.1	
S 131 1,3-Dichloropropene, Total	1				0		100.0	98.9	
S 145 Total BTEX	1				0		250.0	216.6	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

VOA8260VOAPRI_00373	Amount Added:	2.00	Units: uL	
voaWKet2ndRes_00043	Amount Added:	2.00	Units: uL	
Acetonitrile2_00011	Amount Added:	2.00	Units: uL	
VOA8260INT_00099	Amount Added:	2.00	Units: uL	Run Reagent
VOA8260SURR_00099	Amount Added:	2.00	Units: uL	Run Reagent

Report Date: 26-Sep-2019 13:55:24 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP10\20190925-28808.b\10092506.d				
Injection Date:	25-Sep-2019 08:58:30	Instrument ID:	CHHP10	Operator ID:	Patrick Journet
Lims ID:	LCS			Worklist Smp#:	6
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	MSVOA_CHHP10	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

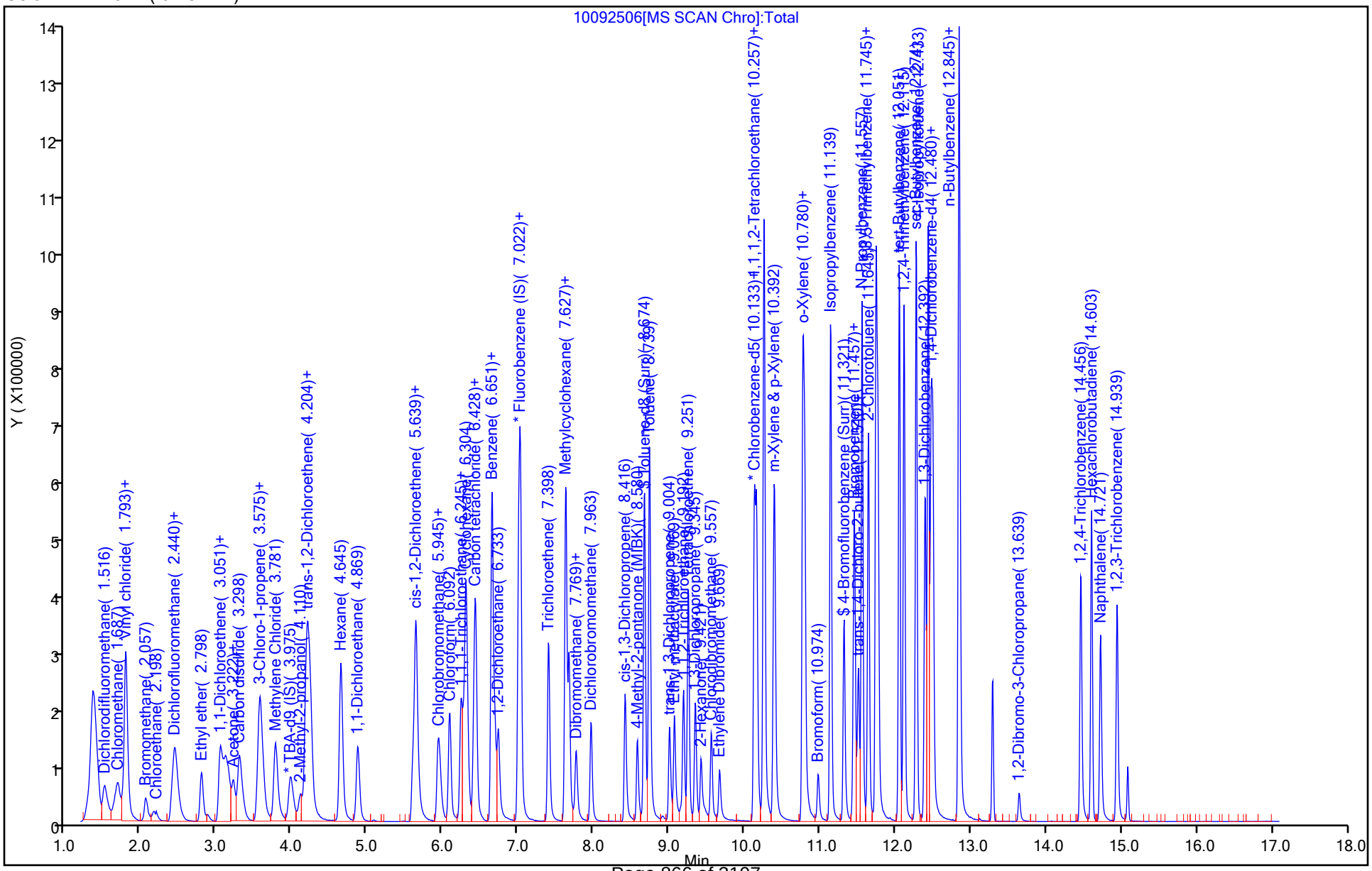

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP10\20190925-28808.b\10092506.d
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 25-Sep-2019 08:58:30 ALS Bottle#: 6 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0028808-006
Operator ID: Patrick Journet Instrument ID: CHHP10

Method: \\chromna\Pittsburgh\ChromData\CHHP10\20190925-28808.b\MSVOA_CHHP10.m
Limit Group: VOA 8260C_D ICAL
Last Update: 26-Sep-2019 13:49:44 Calib Date: 17-Sep-2019 12:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP10\20190917-28678.b\10091710.d

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0325

First Level Reviewer: journetp Date: 25-Sep-2019 12:52:41

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	50.0	46.4	92.78
$ 6 1,2-Dichloroethane-d4 (Surr)	50.0	55.1	110.21
$ 7 Toluene-d8 (Surr)	50.0	44.7	89.39
$ 8 4-Bromofluorobenzene (Surr)	50.0	44.6	89.21

GC/MS VOA ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Instrument ID: CHHP10 Start Date: 09/17/2019 08:35

Analysis Batch Number: 291542 End Date: 09/17/2019 19:15

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 180-291542/1		09/17/2019 08:35	1	10091701c.d	DB-624 0.18(mm)
IC 180-291542/3		09/17/2019 09:39	1	10091703.d	DB-624 0.18(mm)
IC 180-291542/4		09/17/2019 10:04	1	10091704.d	DB-624 0.18(mm)
ICIS 180-291542/5		09/17/2019 10:29	1	10091705.d	DB-624 0.18(mm)
IC 180-291542/6		09/17/2019 10:54	1	10091706.d	DB-624 0.18(mm)
IC 180-291542/7		09/17/2019 11:19	1	10091707.d	DB-624 0.18(mm)
IC 180-291542/8		09/17/2019 11:44	1	10091708.d	DB-624 0.18(mm)
IC 180-291542/9		09/17/2019 12:09	1	10091709.d	DB-624 0.18(mm)
IC 180-291542/10		09/17/2019 12:35	1	10091710.d	DB-624 0.18(mm)
ZZZZZ		09/17/2019 14:14	1		DB-624 0.18(mm)
ZZZZZ		09/17/2019 14:39	1		DB-624 0.18(mm)
ZZZZZ		09/17/2019 15:05	1		DB-624 0.18(mm)
ZZZZZ		09/17/2019 15:30	1		DB-624 0.18(mm)
ZZZZZ		09/17/2019 15:55	1		DB-624 0.18(mm)
ICV 180-291542/19		09/17/2019 16:20	1		DB-624 0.18(mm)
ZZZZZ		09/17/2019 18:00	1		DB-624 0.18(mm)
ZZZZZ		09/17/2019 18:25	1		DB-624 0.18(mm)
ZZZZZ		09/17/2019 18:50	1		DB-624 0.18(mm)
ZZZZZ		09/17/2019 19:15	1		DB-624 0.18(mm)

EPA 8260C

GC/MS VOA ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Instrument ID: CHHP10 Start Date: 09/25/2019 08:01

Analysis Batch Number: 292524 End Date: 09/25/2019 18:36

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 180-292524/4		09/25/2019 08:01	1	10092504.d	DB-624 0.18(mm)
CCVIS 180-292524/5		09/25/2019 08:33	1	10092505.d	DB-624 0.18(mm)
LCS 180-292524/6		09/25/2019 08:58	1	10092506.d	DB-624 0.18(mm)
ZZZZZ		09/25/2019 09:23	1		DB-624 0.18(mm)
MB 180-292524/8		09/25/2019 09:48	1	10092508.d	DB-624 0.18(mm)
ZZZZZ		09/25/2019 10:13	1		DB-624 0.18(mm)
ZZZZZ		09/25/2019 10:38	1		DB-624 0.18(mm)
ZZZZZ		09/25/2019 11:03	1		DB-624 0.18(mm)
ZZZZZ		09/25/2019 11:30	1		DB-624 0.18(mm)
ZZZZZ		09/25/2019 11:55	1		DB-624 0.18(mm)
ZZZZZ		09/25/2019 12:20	1		DB-624 0.18(mm)
ZZZZZ		09/25/2019 13:10	100		DB-624 0.18(mm)
ZZZZZ		09/25/2019 13:35	100		DB-624 0.18(mm)
ZZZZZ		09/25/2019 14:00	100		DB-624 0.18(mm)
ZZZZZ		09/25/2019 14:25	1		DB-624 0.18(mm)
ZZZZZ		09/25/2019 14:50	1		DB-624 0.18(mm)
180-96144-1		09/25/2019 15:15	1	10092521.d	DB-624 0.18(mm)
ZZZZZ		09/25/2019 15:41	1		DB-624 0.18(mm)
ZZZZZ		09/25/2019 16:05	1		DB-624 0.18(mm)
ZZZZZ		09/25/2019 16:31	1		DB-624 0.18(mm)
ZZZZZ		09/25/2019 16:56	1		DB-624 0.18(mm)
ZZZZZ		09/25/2019 17:21	1		DB-624 0.18(mm)
ZZZZZ		09/25/2019 17:46	1		DB-624 0.18(mm)
ZZZZZ		09/25/2019 18:11	1		DB-624 0.18(mm)
ZZZZZ		09/25/2019 18:36	100		DB-624 0.18(mm)

EPA 8260C

GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-96144-1

SDG No.:

Batch Number: 292524 Batch Start Date: 09/25/19 08:01 Batch Analyst: Journet, Patrick

Batch Method: EPA 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	Acetonitrile2 00011	VOA8260INT 00099	VOA8260SURR 00099
BFB 180-292524/4		EPA 8260C		5 mL	5 mL				
CCVIS 180-292524/5		EPA 8260C		5 mL	5 mL		2 uL	2 uL	2 uL
LCS 180-292524/6		EPA 8260C		5 mL	5 mL		2 uL	2 uL	2 uL
MB 180-292524/8		EPA 8260C		5 mL	5 mL			2 uL	2 uL
180-96144-Q-1	11187072-CONTACT -INITIAL	EPA 8260C	T	5 mL	5 mL	<2 SU		2 uL	2 uL

Lab Sample ID	Client Sample ID	Method Chain	Basis	VOA8260VOAPRI 00373	VOABFB25 00118	voaWKet2ndRes 00043			
BFB 180-292524/4		EPA 8260C			1 uL				
CCVIS 180-292524/5		EPA 8260C		2 uL		2 uL			
LCS 180-292524/6		EPA 8260C		2 uL		2 uL			
MB 180-292524/8		EPA 8260C							
180-96144-Q-1	11187072-CONTACT -INITIAL	EPA 8260C	T						

Batch Notes	
Batch Comment	3167192-MEOH
pH Indicator ID	HC682547
Vial Lot Number	0103701E

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Method 8270D

Semivolatile Organic Compounds (GC/MS) by Method 8270D

FORM II
GC/MS SEMI VOA SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): Rxi-5SilMS ID: 0.32(mm)

Client Sample ID	Lab Sample ID	2FP #	PHL #	NBZ #	FBP #	TBP #	TPHL #
11187072-CONTACT-INITIAL	180-96144-1	55	62	80	57	81	82
	MB 180-293338/1-A	84	79	92	66	82	81
	LCS 180-293338/2-A	77	71	82	60	78	78
11187072-CONTACT-INITIAL MS	180-96144-1 MS	45	47	58	45	74	28

	QC LIMITS
2FP = 2-Fluorophenol (Surr)	38-105
PHL = Phenol-d5 (Surr)	40-105
NBZ = Nitrobenzene-d5 (Surr)	45-108
FBP = 2-Fluorobiphenyl	44-105
TBP = 2,4,6-Tribromophenol (Surr)	38-111
TPHL = Terphenyl-d14 (Surr)	20-128

Column to be used to flag recovery values

FORM II EPA 8270D

FORM III
GC/MS SEMI VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Matrix: Water Level: Low Lab File ID: D10050005.D

Lab ID: LCS 180-293338/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Acenaphthene	200	117	59	51-100	
Acenaphthylene	200	120	60	47-100	
Anthracene	200	133	67	51-100	
Benzo[a]anthracene	200	144	72	49-100	
Benzo[a]pyrene	200	138	69	49-100	
Benzo[b]fluoranthene	200	134	67	47-100	
Benzo[g,h,i]perylene	200	137	68	50-100	
Benzo[k]fluoranthene	200	127	64	47-100	
Bis(2-ethylhexyl) phthalate	200	166	83	41-100	
2,2'-oxybis[1-chloropropane]	200	148	74	35-105	
4-Bromophenyl phenyl ether	200	133	67	52-100	
Butyl benzyl phthalate	200	169	85	41-100	
Carbazole	200	131	65	50-100	
4-Chloroaniline	200	127	63	50-100	
2-Chloronaphthalene	200	115	57	52-100	
4-Chlorophenyl phenyl ether	200	117	58	52-100	
Chrysene	200	144	72	49-100	
Dibenz(a,h)anthracene	200	144	72	50-100	
Dibenzofuran	200	112	56	51-100	
Di-n-butyl phthalate	200	149	74	51-100	
3,3'-Dichlorobenzidine	200	150	75	45-100	
Diethyl phthalate	200	126	63	50-100	
Dimethyl phthalate	200	125	63	52-100	
2,4-Dinitrotoluene	200	143	71	51-100	
2,6-Dinitrotoluene	200	135	68	53-100	
Di-n-octyl phthalate	200	146	73	36-103	
Fluoranthene	200	141	71	52-100	
Fluorene	200	113	57	52-100	
Hexachlorobenzene	200	128	64	50-100	
Hexachlorobutadiene	200	124	62	43-100	
Hexachlorocyclopentadiene	200	131	65	36-100	
Hexachloroethane	200	133	67	53-100	
Indeno[1,2,3-cd]pyrene	200	140	70	51-100	
Isophorone	200	146	73	48-100	
2-Methylnaphthalene	200	130	65	52-100	
Naphthalene	200	129	65	53-100	
2-Nitroaniline	200	155	78	49-104	
3-Nitroaniline	200	126	63	48-100	
4-Nitroaniline	200	124	62	47-100	
4-Nitrophenol	400	349	87	39-117	
Nitrobenzene	200	150	75	52-100	
N-Nitrosodi-n-propylamine	200	149	75	51-100	

Column to be used to flag recovery and RPD values

FORM III EPA 8270D

FORM III
GC/MS SEMI VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Matrix: Water Level: Low Lab File ID: D10050005.D

Lab ID: LCS 180-293338/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
N-Nitrosodiphenylamine	200	127	63	50-100	
Phenanthrene	200	126	63	49-100	
Pyrene	200	146	73	45-100	
4-Chloro-3-methylphenol	200	154	77	51-100	
2-Chlorophenol	200	136	68	54-100	
2-Methylphenol	200	129	64	53-100	
Methylphenol, 3 & 4	200	129	64	50-100	
2,4-Dichlorophenol	200	136	68	51-100	
2,4-Dimethylphenol	200	150	75	51-100	
2,4-Dinitrophenol	400	295	74	30-100	
4,6-Dinitro-2-methylphenol	400	264	66	40-100	
2-Nitrophenol	200	159	80	54-100	
Pentachlorophenol	400	226	56	38-100	
Phenol	200	128	64	50-100	
2,4,5-Trichlorophenol	200	121	61	50-100	
2,4,6-Trichlorophenol	200	127	64	53-100	
Acetophenone	200	131	66	48-100	
Atrazine	200	146	73	20-100	
Benzaldehyde	200	95.2	48	10-100	
1,1'-Biphenyl	200	119	59	51-100	
Caprolactam	200	143	72	50-100	
Bis(2-chloroethoxy)methane	200	130	65	53-100	
Bis(2-chloroethyl)ether	200	126	63	53-100	
Pyridine	400	322	81	47-101	

Column to be used to flag recovery and RPD values

FORM III EPA 8270D

FORM III
GC/MS SEMI VOA MATRIX SPIKE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Matrix: Water Level: Low Lab File ID: D10050027.D

Lab ID: 180-96144-1 MS Client ID: 11187072-CONTACT-INITIAL MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Acenaphthene	192	ND	89.2	46	51-100	F1
Acenaphthylene	192	ND	89.2	46	47-100	F1
Anthracene	192	ND	119	62	51-100	
Benzo[a]anthracene	192	ND	142	74	49-100	
Benzo[a]pyrene	192	ND	130	67	49-100	
Benzo[b]fluoranthene	192	ND	129	67	47-100	
Benzo[g,h,i]perylene	192	ND	84.7	44	50-100	F1
Benzo[k]fluoranthene	192	ND	125	65	47-100	
Bis(2-ethylhexyl) phthalate	192	ND	180	94	41-100	
2,2'-oxybis[1-chloropropane]	192	ND	95.3	50	35-105	
4-Bromophenyl phenyl ether	192	ND	112	58	52-100	
Butyl benzyl phthalate	192	ND	173	90	41-100	
Carbazole	192	ND	126	65	50-100	
4-Chloroaniline	192	ND	88.7	46	50-100	F1
2-Chloronaphthalene	192	ND	82.0	43	52-100	F1
4-Chlorophenyl phenyl ether	192	ND	93.5	49	52-100	F1
Chrysene	192	ND	140	73	49-100	
Dibenz(a,h)anthracene	192	ND	142	74	50-100	
Dibenzofuran	192	ND	87.3	45	51-100	F1
Di-n-butyl phthalate	192	ND	141	73	51-100	
3,3'-Dichlorobenzidine	192	ND	106	55	45-100	
Diethyl phthalate	192	ND	119	62	50-100	
Dimethyl phthalate	192	ND	113	59	52-100	
2,4-Dinitrotoluene	192	ND	133	69	51-100	
2,6-Dinitrotoluene	192	ND	117	61	53-100	
Di-n-octyl phthalate	192	ND	149	77	36-103	
Fluoranthene	192	ND	131	68	52-100	
Fluorene	192	ND	92.7	48	52-100	F1
Hexachlorobenzene	192	ND	112	58	50-100	
Hexachlorobutadiene	192	ND	69.8	36	43-100	F1
Hexachlorocyclopentadiene	192	ND	13.0	7	36-100	F1
Hexachloroethane	192	ND	55.5	29	53-100	F1
Indeno[1,2,3-cd]pyrene	192	ND	139	72	51-100	
Isophorone	192	ND	109	57	48-100	
2-Methylnaphthalene	192	ND	88.5	46	52-100	F1
Naphthalene	192	ND	81.7	43	53-100	F1
2-Nitroaniline	192	ND	129	67	49-104	
3-Nitroaniline	192	ND	103	53	48-100	
4-Nitroaniline	192	ND	109	57	47-100	
4-Nitrophenol	385	ND	334	87	39-117	
Nitrobenzene	192	ND	106	55	52-100	
N-Nitrosodi-n-propylamine	192	ND	105	54	51-100	

Column to be used to flag recovery and RPD values

FORM III EPA 8270D

FORM III
GC/MS SEMI VOA MATRIX SPIKE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Matrix: Water Level: Low Lab File ID: D10050027.D

Lab ID: 180-96144-1 MS Client ID: 11187072-CONTACT-INITIAL MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
N-Nitrosodiphenylamine	192	ND	101	52	50-100	
Phenanthrene	192	ND	115	60	49-100	
Pyrene	192	ND	146	76	45-100	
4-Chloro-3-methylphenol	192	ND	120	62	51-100	
2-Chlorophenol	192	ND	86.6	45	54-100	F1
2-Methylphenol	192	ND	86.7	45	53-100	F1
Methylphenol, 3 & 4	192	ND	92.0	48	50-100	F1
2,4-Dichlorophenol	192	ND	96.3	50	51-100	F1
2,4-Dimethylphenol	192	ND	79.4	41	51-100	F1
2,4-Dinitrophenol	385	ND	257	67	30-100	
4,6-Dinitro-2-methylphenol	385	ND	257	67	40-100	
2-Nitrophenol	192	ND	107	56	54-100	
Pentachlorophenol	385	ND	205	53	38-100	
Phenol	192	ND	84.7	44	50-100	F1
2,4,5-Trichlorophenol	192	ND	97.1	51	50-100	
2,4,6-Trichlorophenol	192	ND	98.5	51	53-100	F1
Acetophenone	192	ND	93.2	48	48-100	
Atrazine	192	ND	141	73	20-100	
Benzaldehyde	192	ND	91.2	47	10-100	
1,1'-Biphenyl	192	ND	85.9	45	51-100	F1
Caprolactam	192	ND	140	73	50-100	
Bis(2-chloroethoxy)methane	192	ND	89.8	47	53-100	F1
Bis(2-chloroethyl)ether	192	ND	83.4	43	53-100	F1
Pyridine	385	ND	170	44	47-101	F1

Column to be used to flag recovery and RPD values

FORM III EPA 8270D

FORM IV
GC/MS SEMI VOA METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab File ID: D10050004.D Lab Sample ID: MB 180-293338/1-A

Matrix: Water Date Extracted: 10/01/2019 11:49

Instrument ID: CH732 Date Analyzed: 10/05/2019 11:20

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 180-293338/2-A	D10050005.D	10/05/2019 11:47
11187072-CONTACT-INITIAL MS	180-96144-1 MS	D10050027.D	10/05/2019 21:25
11187072-CONTACT-INITIAL	180-96144-1	D10070027.D	10/07/2019 19:30

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab File ID: D07100002.D DFTPP Injection Date: 07/10/2019

Instrument ID: CH732 DFTPP Injection Time: 07:40

Analysis Batch No.: 284340

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0 - 60.0 % of mass 198	35.6	
68	Less than 2.0 % of mass 69	0.0	(0.0) 1
69	Mass 69 relative abundance	37.6	
70	Less than 2.0 % of mass 69	0.2	(0.6) 1
127	40.0 - 60.0 % of mass 198	45.5	
197	Less than 1.0 % of mass 198	0.0	
198	Base Peak, 100 % relative abundance	100.0	
199	5.0- 9.0 % of mass 198	6.7	
275	10.0 - 30.0 % of mass 198	22.4	
365	Greater than 1.0 % of mass 198	2.2	
441	Present but less than mass 443	6.9	(74.2) 3
442	Greater than 40.0 % of mass 198	47.7	
443	17.0 - 23.0 % of mass 442	9.3	(19.4) 2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	IC 180-284340/3	D07100003.D	07/10/2019	7:55
	IC 180-284340/4	D07100004.D	07/10/2019	8:21
	IC 180-284340/5	D07100005.D	07/10/2019	8:48
	ICIS 180-284340/6	D07100006.D	07/10/2019	9:14
	IC 180-284340/7	D07100007.D	07/10/2019	9:41
	IC 180-284340/8	D07100008.D	07/10/2019	10:07
	IC 180-284340/9	D07100009.D	07/10/2019	10:34
	IC 180-284340/10	D07100010.D	07/10/2019	11:01

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab File ID: D10050002.D DFTPP Injection Date: 10/05/2019

Instrument ID: CH732 DFTPP Injection Time: 10:39

Analysis Batch No.: 293862

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0 - 60.0 % of mass 198	42.3	
68	Less than 2.0 % of mass 69	0.0	(0.0) 1
69	Mass 69 relative abundance	44.5	
70	Less than 2.0 % of mass 69	0.2	(0.5) 1
127	40.0 - 60.0 % of mass 198	49.9	
197	Less than 1.0 % of mass 198	0.0	
198	Base Peak, 100 % relative abundance	100.0	
199	5.0- 9.0 % of mass 198	7.2	
275	10.0 - 30.0 % of mass 198	24.5	
365	Greater than 1.0 % of mass 198	2.6	
441	Present but less than mass 443	9.9	(80.3) 3
442	Greater than 40.0 % of mass 198	63.3	
443	17.0 - 23.0 % of mass 442	12.3	(19.5) 2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCVIS 180-293862/3	D10050003.D	10/05/2019	10:53
	MB 180-293338/1-A	D10050004.D	10/05/2019	11:20
	LCS 180-293338/2-A	D10050005.D	10/05/2019	11:47
11187072-CONTACT-INITIAL MS	180-96144-1 MS	D10050027.D	10/05/2019	21:25

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab File ID: D10070002.D DFTPP Injection Date: 10/07/2019

Instrument ID: CH732 DFTPP Injection Time: 08:48

Analysis Batch No.: 293945

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0 - 60.0 % of mass 198	45.0	
68	Less than 2.0 % of mass 69	0.0	(0.0) 1
69	Mass 69 relative abundance	45.9	
70	Less than 2.0 % of mass 69	0.3	(0.6) 1
127	40.0 - 60.0 % of mass 198	51.2	
197	Less than 1.0 % of mass 198	0.0	
198	Base Peak, 100 % relative abundance	100.0	
199	5.0- 9.0 % of mass 198	6.6	
275	10.0 - 30.0 % of mass 198	24.6	
365	Greater than 1.0 % of mass 198	3.0	
441	Present but less than mass 443	9.6	(75.4) 3
442	Greater than 40.0 % of mass 198	62.3	
443	17.0 - 23.0 % of mass 442	12.8	(20.5) 2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCVIS 180-293945/3	D10070003.D	10/07/2019	9:02
11187072-CONTACT-INITIAL	180-96144-1	D10070027.D	10/07/2019	19:30

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Sample No.: CCVIS 180-293862/3 Date Analyzed: 10/05/2019 10:53

Instrument ID: CH732 GC Column: Rxi-5SilMS ID: 0.32(mm)

Lab File ID (Standard): D10050003.D Heated Purge: (Y/N) N

Calibration ID: 40829

		DCBd4		NPT		ANT	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		191783	6.17	779769	7.45	464928	9.16
UPPER LIMIT		383566	6.67	1559538	7.95	929856	9.66
LOWER LIMIT		95892	5.67	389885	6.95	232464	8.66
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 180-293338/1-A		177974	6.17	711589	7.45	484713	9.16
LCS 180-293338/2-A		161400	6.17	634400	7.45	427992	9.16
180-96144-1 MS	11187072-CONTACT-INITIAL MS	185010	6.16	731194	7.44	482623	9.15

DCBd4 = 1,4-Dichlorobenzene-d4
NPT = Naphthalene-d8
ANT = Acenaphthene-d10

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8270D

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Sample No.: CCVIS 180-293862/3 Date Analyzed: 10/05/2019 10:53

Instrument ID: CH732 GC Column: Rxi-5SilMS ID: 0.32(mm)

Lab File ID (Standard): D10050003.D Heated Purge: (Y/N) N

Calibration ID: 40829

		PHN		CRY		PRY	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		964474	10.61	952349	14.35	847697	17.24
UPPER LIMIT		1928948	11.11	1904698	14.85	1695394	17.74
LOWER LIMIT		482237	10.11	476175	13.85	423849	16.74
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 180-293338/1-A		959490	10.60	904636	14.35	832211	17.23
LCS 180-293338/2-A		861889	10.60	813616	14.35	795282	17.23
180-96144-1 MS	11187072-CONTACT-INITIAL MS	974211	10.60	852597	14.34	819560	17.22

PHN = Phenanthrene-d10
CRY = Chrysene-d12
PRY = Perylene-d12

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8270D

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Sample No.: CCVIS 180-293945/3 Date Analyzed: 10/07/2019 09:02

Instrument ID: CH732 GC Column: Rxi-5SilMS ID: 0.32(mm)

Lab File ID (Standard): D10070003.D Heated Purge: (Y/N) N

Calibration ID: 40829

		DCBd4		NPT		ANT	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		231343	6.18	954217	7.46	600718	9.16
UPPER LIMIT		462686	6.68	1908434	7.96	1201436	9.66
LOWER LIMIT		115672	5.68	477109	6.96	300359	8.66
LAB SAMPLE ID	CLIENT SAMPLE ID						
180-96144-1	11187072-CONTACT-INITIAL	209379	6.16	879236	7.45	586383	9.16

DCBd4 = 1,4-Dichlorobenzene-d4
NPT = Naphthalene-d8
ANT = Acenaphthene-d10

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8270D

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Sample No.: CCVIS 180-293945/3 Date Analyzed: 10/07/2019 09:02

Instrument ID: CH732 GC Column: Rxi-5SilMS ID: 0.32(mm)

Lab File ID (Standard): D10070003.D Heated Purge: (Y/N) N

Calibration ID: 40829

		PHN		CRY		PRY	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		1277116	10.61	1189637	14.35	1016036	17.23
UPPER LIMIT		2554232	11.11	2379274	14.85	2032072	17.73
LOWER LIMIT		638558	10.11	594819	13.85	508018	16.73
LAB SAMPLE ID	CLIENT SAMPLE ID						
180-96144-1	11187072-CONTACT-INITIAL	1157554	10.60	988759	14.35	892249	17.23

PHN = Phenanthrene-d10
CRY = Chrysene-d12
PRY = Perylene-d12

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8270D

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: 11187072-CONTACT-INITIAL Lab Sample ID: 180-96144-1

Matrix: Water Lab File ID: D10070027.D

Analysis Method: EPA 8270D Date Collected: 09/24/2019 15:00

Extract. Method: 3520C Date Extracted: 10/01/2019 11:49

Sample wt/vol: 260(mL) Date Analyzed: 10/07/2019 19:30

Con. Extract Vol.: 2.5(mL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 293945 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	ND	F1	1.8	0.63
208-96-8	Acenaphthylene	ND	F1	1.8	0.63
120-12-7	Anthracene	ND		1.8	0.47
56-55-3	Benzo[a]anthracene	ND		1.8	0.72
50-32-8	Benzo[a]pyrene	ND		1.8	0.51
205-99-2	Benzo[b]fluoranthene	ND		1.8	0.93
191-24-2	Benzo[g,h,i]perylene	ND	F1	1.8	0.66
207-08-9	Benzo[k]fluoranthene	ND		1.8	0.85
117-81-7	Bis(2-ethylhexyl) phthalate	ND		96	60
108-60-1	2,2'-oxybis[1-chloropropane]	ND		1.8	0.56
101-55-3	4-Bromophenyl phenyl ether	ND		9.6	0.61
85-68-7	Butyl benzyl phthalate	ND		9.6	4.4
86-74-8	Carbazole	ND		1.8	0.49
106-47-8	4-Chloroaniline	ND	F1	9.6	0.42
91-58-7	2-Chloronaphthalene	ND	F1	1.8	0.57
7005-72-3	4-Chlorophenyl phenyl ether	ND	F1	9.6	0.59
218-01-9	Chrysene	ND		1.8	0.78
53-70-3	Dibenz(a,h)anthracene	ND		1.8	0.69
132-64-9	Dibenzofuran	ND	F1	9.6	0.70
84-74-2	Di-n-butyl phthalate	ND		9.6	7.1
91-94-1	3,3'-Dichlorobenzidine	ND		9.6	5.6
84-66-2	Diethyl phthalate	ND		9.6	5.5
131-11-3	Dimethyl phthalate	ND		9.6	0.54
121-14-2	2,4-Dinitrotoluene	ND		9.6	0.49
606-20-2	2,6-Dinitrotoluene	ND		9.6	0.58
117-84-0	Di-n-octyl phthalate	ND		9.6	6.6
206-44-0	Fluoranthene	ND		1.8	0.58
86-73-7	Fluorene	ND	F1	1.8	0.66
118-74-1	Hexachlorobenzene	ND		1.8	0.54
87-68-3	Hexachlorobutadiene	ND	F1	1.8	0.66
77-47-4	Hexachlorocyclopentadiene	ND	F1	9.6	4.8
67-72-1	Hexachloroethane	ND	F1	9.6	0.60
193-39-5	Indeno[1,2,3-cd]pyrene	ND		1.8	0.82
78-59-1	Isophorone	ND		9.6	0.52

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: 11187072-CONTACT-INITIAL Lab Sample ID: 180-96144-1

Matrix: Water Lab File ID: D10070027.D

Analysis Method: EPA 8270D Date Collected: 09/24/2019 15:00

Extract. Method: 3520C Date Extracted: 10/01/2019 11:49

Sample wt/vol: 260(mL) Date Analyzed: 10/07/2019 19:30

Con. Extract Vol.: 2.5(mL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 293945 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
91-57-6	2-Methylnaphthalene	ND	F1	1.8	0.60
91-20-3	Naphthalene	ND	F1	1.8	0.57
88-74-4	2-Nitroaniline	ND		48	5.3
99-09-2	3-Nitroaniline	ND		48	0.64
100-01-6	4-Nitroaniline	ND		48	0.56
100-02-7	4-Nitrophenol	ND		48	1.4
98-95-3	Nitrobenzene	ND		19	4.8
621-64-7	N-Nitrosodi-n-propylamine	ND		1.8	0.68
86-30-6	N-Nitrosodiphenylamine	ND		9.6	1.1
85-01-8	Phenanthrene	ND		1.8	0.53
129-00-0	Pyrene	ND		1.8	0.52
59-50-7	4-Chloro-3-methylphenol	ND		9.6	0.59
95-57-8	2-Chlorophenol	ND	F1	9.6	0.62
95-48-7	2-Methylphenol	ND	F1	9.6	2.9
106-44-5	Methylphenol, 3 & 4	ND	F1	9.6	3.6
120-83-2	2,4-Dichlorophenol	ND	F1	1.8	0.49
105-67-9	2,4-Dimethylphenol	ND	F1	9.6	0.39
51-28-5	2,4-Dinitrophenol	ND		96	15
534-52-1	4,6-Dinitro-2-methylphenol	ND		48	14
88-75-5	2-Nitrophenol	ND		9.6	0.59
87-86-5	Pentachlorophenol	ND		48	8.1
108-95-2	Phenol	ND	F1	9.6	4.7
95-95-4	2,4,5-Trichlorophenol	ND		9.6	0.59
88-06-2	2,4,6-Trichlorophenol	ND	F1	9.6	0.65
98-86-2	Acetophenone	ND		9.6	0.60
1912-24-9	Atrazine	ND		9.6	6.1
100-52-7	Benzaldehyde	ND		9.6	1.1
92-52-4	1,1'-Biphenyl	ND	F1	9.6	0.57
105-60-2	Caprolactam	ND		48	4.5
111-91-1	Bis(2-chloroethoxy)methane	ND	F1	9.6	0.64
111-44-4	Bis(2-chloroethyl)ether	ND	F1	1.8	0.38
110-86-1	Pyridine	ND	F1	19	5.2

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: 11187072-CONTACT-INITIAL Lab Sample ID: 180-96144-1

Matrix: Water Lab File ID: D10070027.D

Analysis Method: EPA 8270D Date Collected: 09/24/2019 15:00

Extract. Method: 3520C Date Extracted: 10/01/2019 11:49

Sample wt/vol: 260(mL) Date Analyzed: 10/07/2019 19:30

Con. Extract Vol.: 2.5(mL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 293945 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
4165-60-0	Nitrobenzene-d5 (Surr)	80		45-108
4165-62-2	Phenol-d5 (Surr)	62		40-105
321-60-8	2-Fluorobiphenyl	57		44-105
118-79-6	2,4,6-Tribromophenol (Surr)	81		38-111
367-12-4	2-Fluorophenol (Surr)	55		38-105
1718-51-0	Terphenyl-d14 (Surr)	82		20-128

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CH732\20191007-29002.b\D10070027.D
Lims ID: 180-96144-E-1-A
Client ID: 11187072-CONTACT-INITIAL
Sample Type: Client
Inject. Date: 07-Oct-2019 19:30:30 ALS Bottle#: 26 Worklist Smp#: 27
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029002-027
Operator ID: 003200 Instrument ID: CH732

Method: \\chromna\Pittsburgh\ChromData\CH732\20191007-29002.b\BNA_CH732.m
Limit Group: BNA 8270D ICAL
Last Update: 08-Oct-2019 07:33:28 Calib Date: 11-Jul-2019 12:08:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CH732\20190711-27697.b\D07110010.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0339

First Level Reviewer: piccolinov Date: 08-Oct-2019 07:28:53

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.161	6.177	-0.016	98	209379	8.00	
* 2 Naphthalene-d8	136	7.449	7.459	-0.011	100	879236	8.00	
* 3 Acenaphthene-d10	164	9.158	9.163	-0.005	95	586383	8.00	
* 4 Phenanthrene-d10	188	10.595	10.606	-0.011	97	1157554	8.00	
* 5 Chrysene-d12	240	14.345	14.345	0.000	99	988759	8.00	
* 6 Perylene-d12	264	17.225	17.225	0.000	97	892249	8.00	
$ 7 2-Fluorophenol	112	4.724	4.745	-0.021	93	519263	22.0	
$ 8 Phenol-d5	99	5.792	5.803	-0.011	0	863266	24.8	
$ 9 Nitrobenzene-d5	82	6.722	6.732	-0.010	91	1037630	32.2	
$ 10 2-Fluorobiphenyl	172	8.490	8.501	-0.011	100	2250664	22.9	
$ 11 2,4,6-Tribromophenol	330	9.911	9.916	-0.005	88	319412	32.3	
$ 12 Terphenyl-d14	244	12.518	12.518	0.000	100	2963545	32.7	
15 Pyridine	79		2.277				ND	
25 Benzaldehyde	77		5.707				ND	
26 Phenol	94		5.819				ND	
29 Bis(2-chloroethyl)ether	93		5.894				ND	
30 2-Chlorophenol	128		5.958				ND	
36 2-Methylphenol	108		6.433				ND	
38 2,2'-oxybis[1-chloropropan	45		6.455				ND	
41 N-Nitrosodi-n-propylamine	70		6.583				ND	U
40 Acetophenone	105		6.583				ND	
42 4-Methylphenol	108		6.588				ND	
45 Hexachloroethane	117		6.700				ND	
46 Nitrobenzene	77		6.754				ND	
48 Isophorone	82		6.989				ND	
49 2-Nitrophenol	139		7.074				ND	
50 2,4-Dimethylphenol	107		7.112				ND	
53 Bis(2-chloroethoxy)methane	93		7.197				ND	
54 2,4-Dichlorophenol	162		7.315				ND	
58 Naphthalene	128		7.480				ND	
59 4-Chloroaniline	127		7.523				ND	
62 Hexachlorobutadiene	225		7.603				ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
64 Caprolactam	113	7.817	7.828	-0.011	77	3773	0.3818	
67 4-Chloro-3-methylphenol	107		7.983				ND	
69 2-Methylnaphthalene	142	8.148	8.154	-0.006	14	1033	0.0127	
72 Hexachlorocyclopentadiene	237		8.314				ND	
74 2,4,6-Trichlorophenol	196		8.421				ND	
75 2,4,5-Trichlorophenol	196		8.458				ND	
76 1,1'-Biphenyl	154		8.597				ND	U
77 2-Chloronaphthalene	162		8.629				ND	
79 2-Nitroaniline	65		8.709				ND	
82 Dimethyl phthalate	163		8.864				ND	
84 2,6-Dinitrotoluene	165		8.928				ND	
85 Acenaphthylene	152		9.030				ND	U
86 3-Nitroaniline	138		9.099				ND	
88 Acenaphthene	153		9.195				ND	
87 2,4-Dinitrophenol	184		9.195				ND	
89 4-Nitrophenol	109		9.238				ND	U
91 2,4-Dinitrotoluene	165		9.318				ND	
93 Dibenzofuran	168		9.356				ND	U
98 Diethyl phthalate	149	9.521	9.532	-0.011	97	19108	0.2125	
100 4-Chlorophenyl phenyl ethe	204		9.665				ND	
101 4-Nitroaniline	138		9.681				ND	
103 Fluorene	166		9.687				ND	U
104 4,6-Dinitro-2-methylphenol	198		9.713				ND	U
105 N-Nitrosodiphenylamine	169		9.772				ND	U
110 4-Bromophenyl phenyl ether	248		10.135				ND	U
112 Hexachlorobenzene	284		10.226				ND	
113 Atrazine	200		10.258				ND	
116 Pentachlorophenol	266		10.403				ND	
121 Phenanthrene	178		10.627				ND	
122 Anthracene	178		10.680				ND	
124 Carbazole	167		10.830				ND	U
126 Di-n-butyl phthalate	149	11.145	11.151	-0.005	98	14321	0.1006	
131 Fluoranthene	202		12.027				ND	
133 Pyrene	202		12.347				ND	U
138 Butyl benzyl phthalate	149	13.256	13.255	0.001	16	3474	0.0666	
144 3,3'-Dichlorobenzidine	252		14.249				ND	
145 Bis(2-ethylhexyl) phthalat	149	14.292	14.292	0.000	98	151681	2.09	
146 Benzo[a]anthracene	228		14.324				ND	
147 Chrysene	228		14.393				ND	
150 Di-n-octyl phthalate	149		15.590				ND	U
152 Benzo[b]fluoranthene	252		16.450				ND	
153 Benzo[k]fluoranthene	252		16.503				ND	
154 Benzo[a]pyrene	252		17.112				ND	
157 Indeno[1,2,3-cd]pyrene	276		19.575				ND	
158 Dibenz(a,h)anthracene	278		19.602				ND	
159 Benzo[g,h,i]perylene	276		20.248				ND	

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

SVTAPITINTRNi_00022	Amount Added:	1.00	Units: uL	Run Reagent

Report Date: 08-Oct-2019 07:34:41 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20191007-29002.b\D10070027.D				
Injection Date:	07-Oct-2019 19:30:30	Instrument ID:	CH732	Operator ID:	003200
Lims ID:	180-96144-E-1-A	Lab Sample ID:	180-96144-1	Worklist Smp#:	27
Client ID:	11187072-CONTACT-INITIAL				
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	26
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

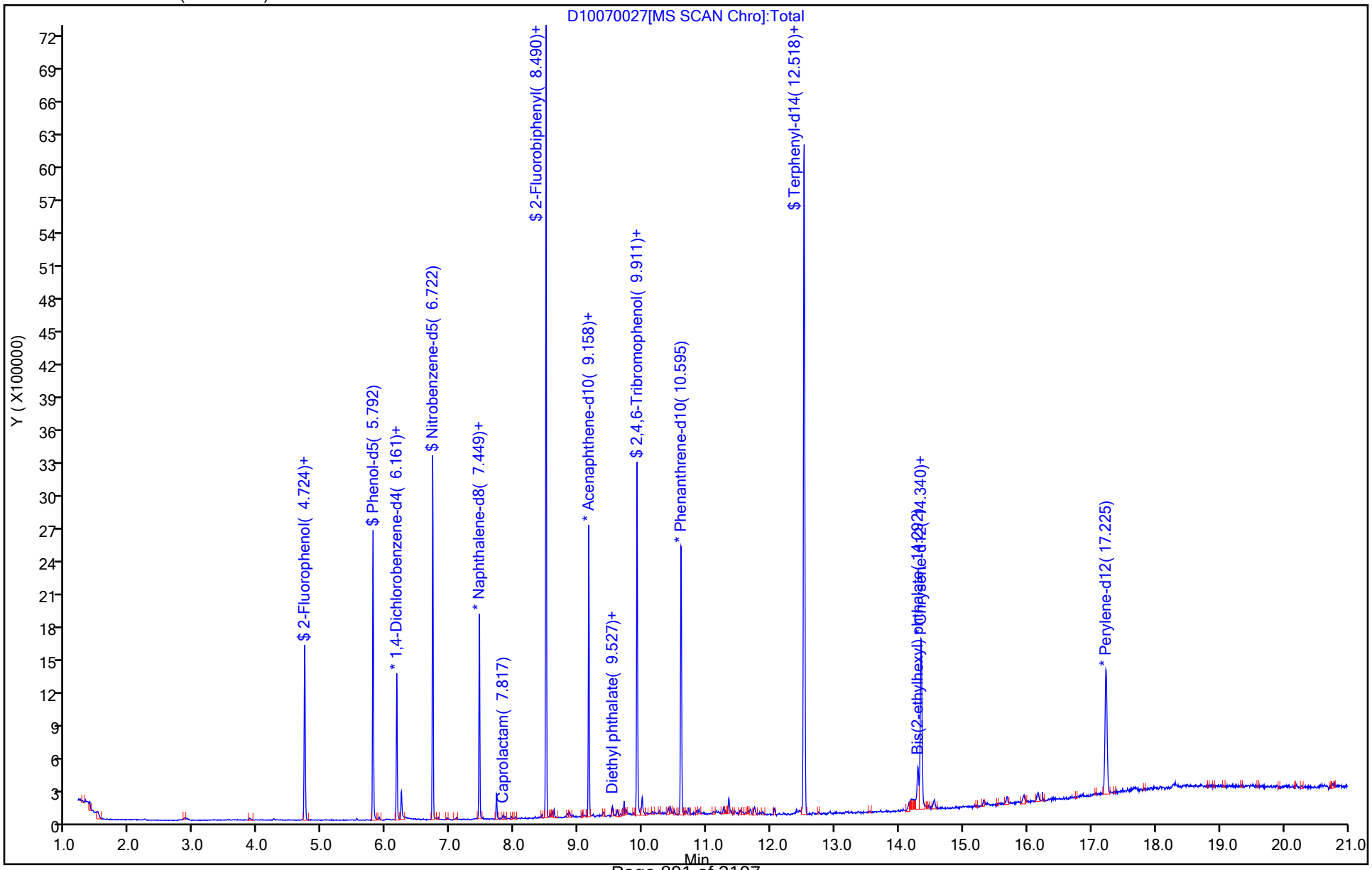

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CH732\20191007-29002.b\D10070027.D
Lims ID: 180-96144-E-1-A
Client ID: 11187072-CONTACT-INITIAL
Sample Type: Client
Inject. Date: 07-Oct-2019 19:30:30 ALS Bottle#: 26 Worklist Smp#: 27
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029002-027
Operator ID: 003200 Instrument ID: CH732

Method: \\chromna\Pittsburgh\ChromData\CH732\20191007-29002.b\BNA_CH732.m
Limit Group: BNA 8270D ICAL
Last Update: 08-Oct-2019 07:33:28 Calib Date: 11-Jul-2019 12:08:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CH732\20190711-27697.b\D07110010.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0339

First Level Reviewer: piccolinov Date: 08-Oct-2019 07:28:53

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	40.0	22.0	54.97
$ 8 Phenol-d5	40.0	24.8	61.97
$ 9 Nitrobenzene-d5	40.0	32.2	80.41
$ 10 2-Fluorobiphenyl	40.0	22.9	57.37
$ 11 2,4,6-Tribromophenol	40.0	32.3	80.75
$ 12 Terphenyl-d14	40.0	32.7	81.76

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20191007-29002.b\D10070027.D				
Injection Date:	07-Oct-2019 19:30:30	Instrument ID:	CH732		
Lims ID:	180-96144-E-1-A	Lab Sample ID:	180-96144-1		
Client ID:	11187072-CONTACT-INITIAL				
Operator ID:	003200	ALS Bottle#:	26	Worklist Smp#:	27
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

85 Acenaphthylene, CAS: 208-96-8

Processing Results

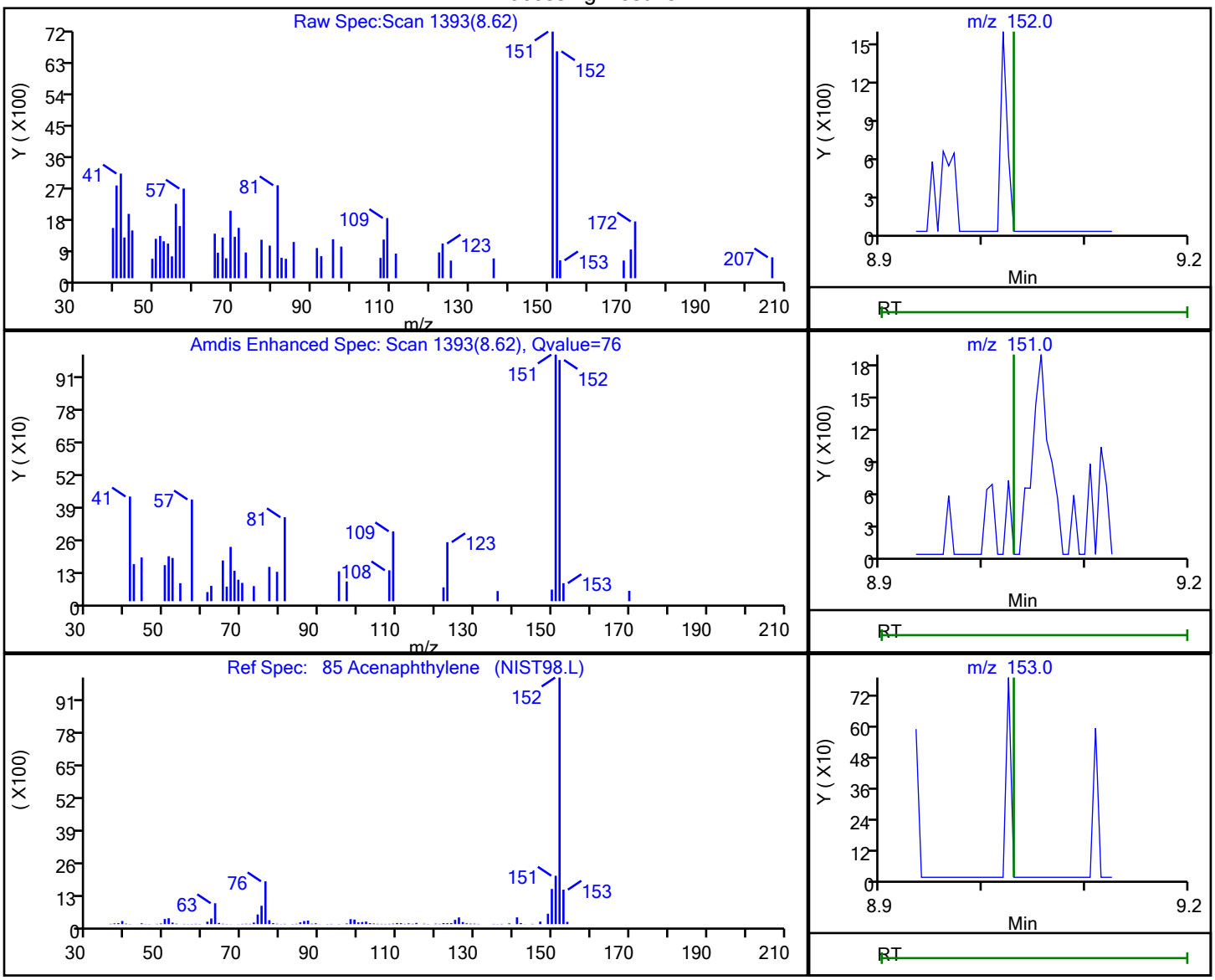

RT	Mass	Response	Amount
8.62	152.00	6047	0.045198
8.62	151.00	9180	
8.62	153.00	751	

Reviewer: piccolinov, 08-Oct-2019 07:28:09

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20191007-29002.b\D10070027.D				
Injection Date:	07-Oct-2019 19:30:30	Instrument ID:	CH732		
Lims ID:	180-96144-E-1-A	Lab Sample ID:	180-96144-1		
Client ID:	11187072-CONTACT-INITIAL				
Operator ID:	003200	ALS Bottle#:	26	Worklist Smp#:	27
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

124 Carbazole, CAS: 86-74-8

Processing Results

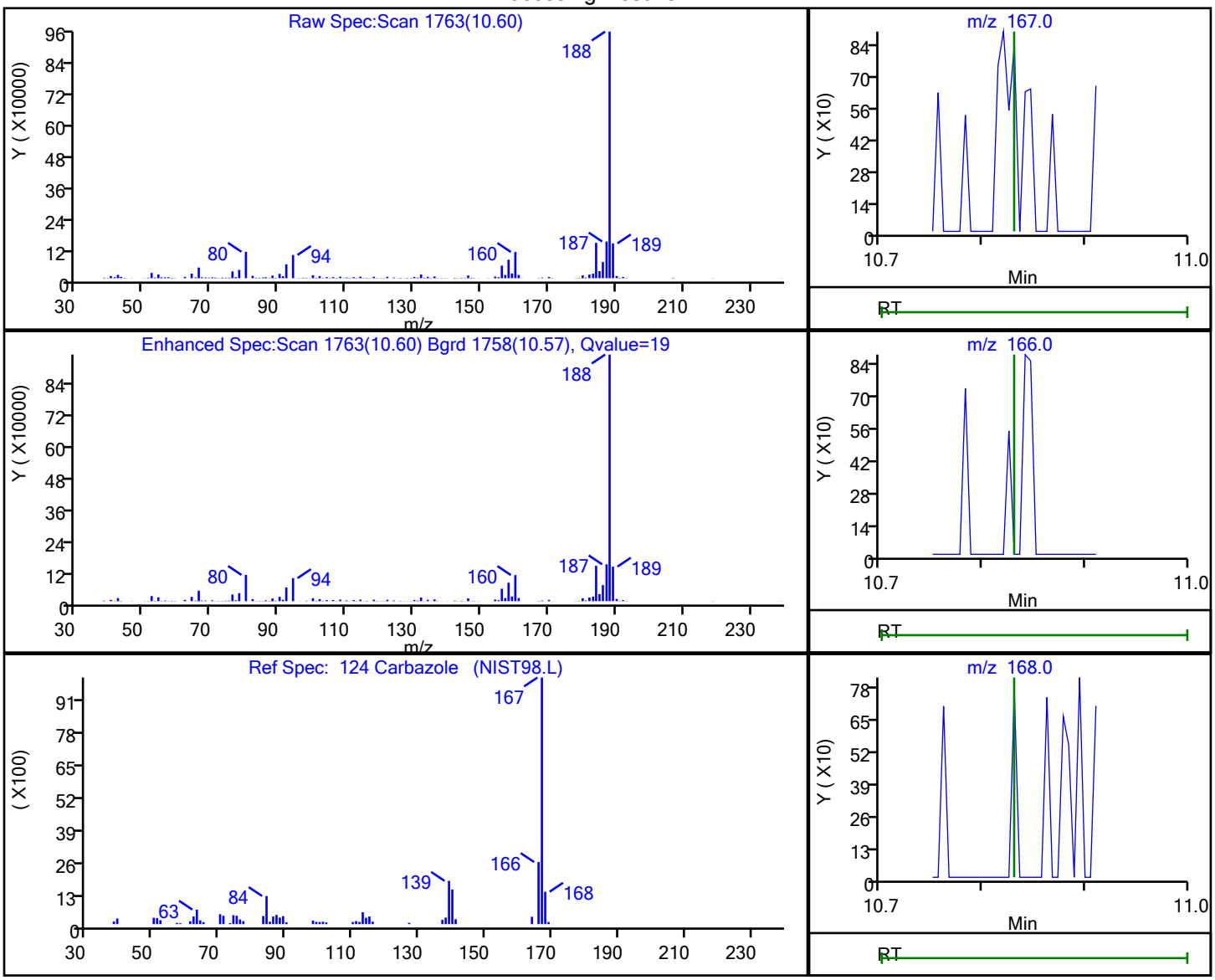

RT	Mass	Response	Amount
10.60	167.00	917	0.006923
10.59	168.00	3024	
10.82	166.00	0	

Reviewer: piccolinov, 08-Oct-2019 07:28:41

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20191007-29002.b\D10070027.D				
Injection Date:	07-Oct-2019 19:30:30	Instrument ID:	CH732		
Lims ID:	180-96144-E-1-A	Lab Sample ID:	180-96144-1		
Client ID:	11187072-CONTACT-INITIAL				
Operator ID:	003200	ALS Bottle#:	26	Worklist Smp#:	27
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

93 Dibenzofuran, CAS: 132-64-9

Processing Results

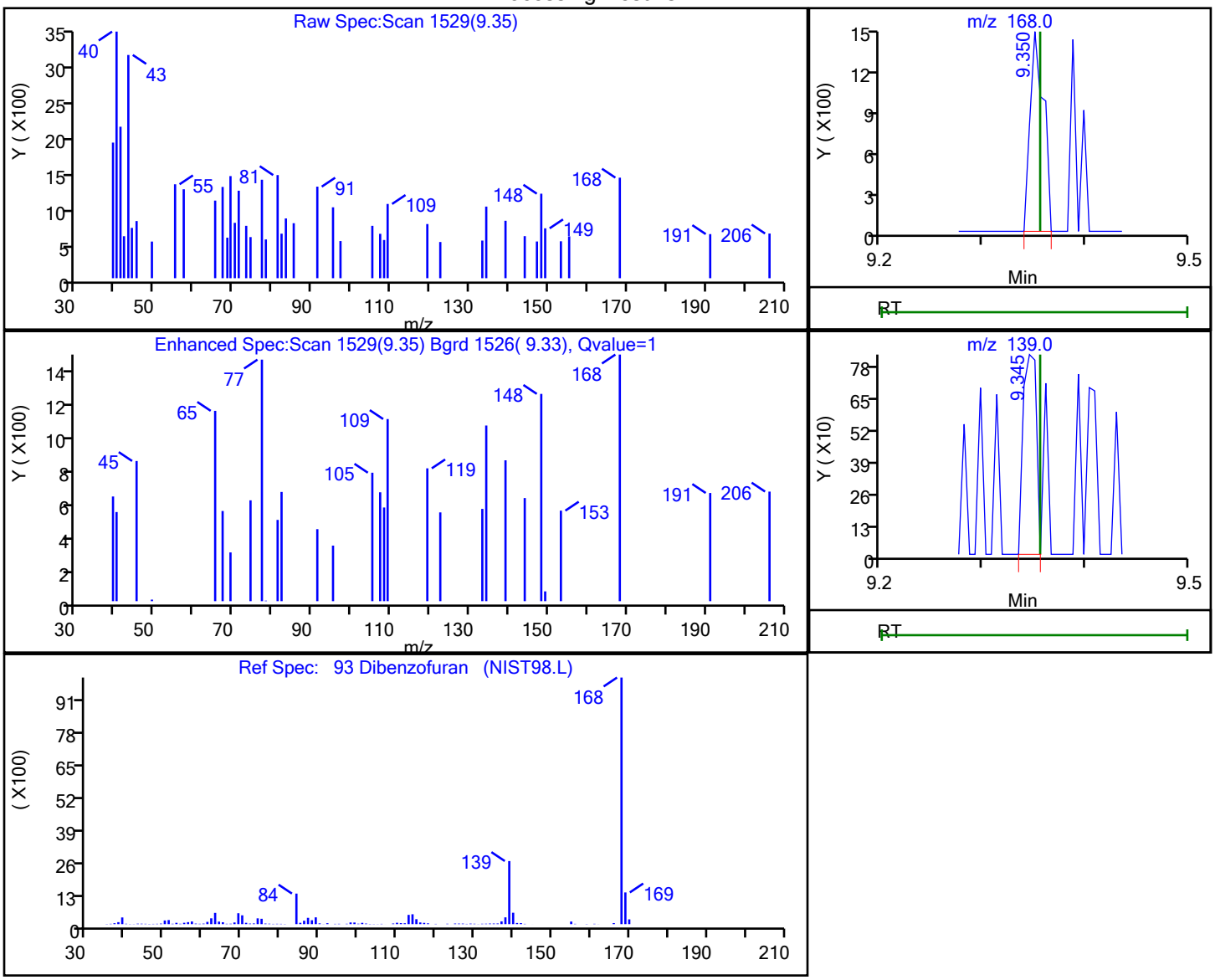

RT	Mass	Response	Amount
9.35	168.00	1292	0.009856
9.35	139.00	748	

Reviewer: piccolinov, 08-Oct-2019 07:28:14

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20191007-29002.b\D10070027.D				
Injection Date:	07-Oct-2019 19:30:30	Instrument ID:	CH732		
Lims ID:	180-96144-E-1-A	Lab Sample ID:	180-96144-1		
Client ID:	11187072-CONTACT-INITIAL				
Operator ID:	003200	ALS Bottle#:	26	Worklist Smp#:	27
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

150 Di-n-octyl phthalate, CAS: 117-84-0

Processing Results

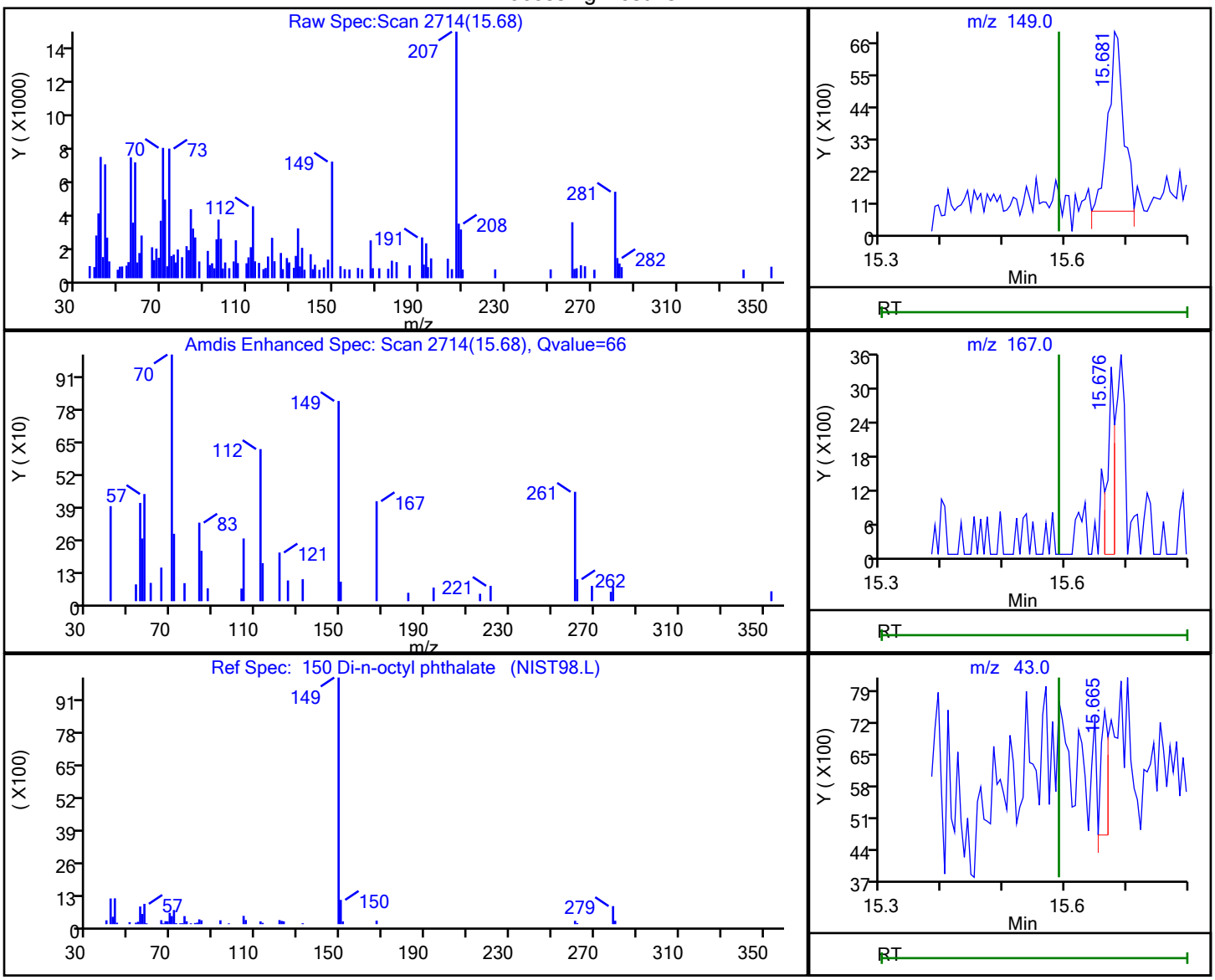

RT	Mass	Response	Amount
15.68	149.00	10833	0.079101
15.68	167.00	2550	
15.66	43.00	2223	

Reviewer: piccolinov, 08-Oct-2019 07:28:48

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20191007-29002.b\D10070027.D				
Injection Date:	07-Oct-2019 19:30:30	Instrument ID:	CH732		
Lims ID:	180-96144-E-1-A	Lab Sample ID:	180-96144-1		
Client ID:	11187072-CONTACT-INITIAL				
Operator ID:	003200	ALS Bottle#:	26	Worklist Smp#:	27
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

103 Fluorene, CAS: 86-73-7

Processing Results

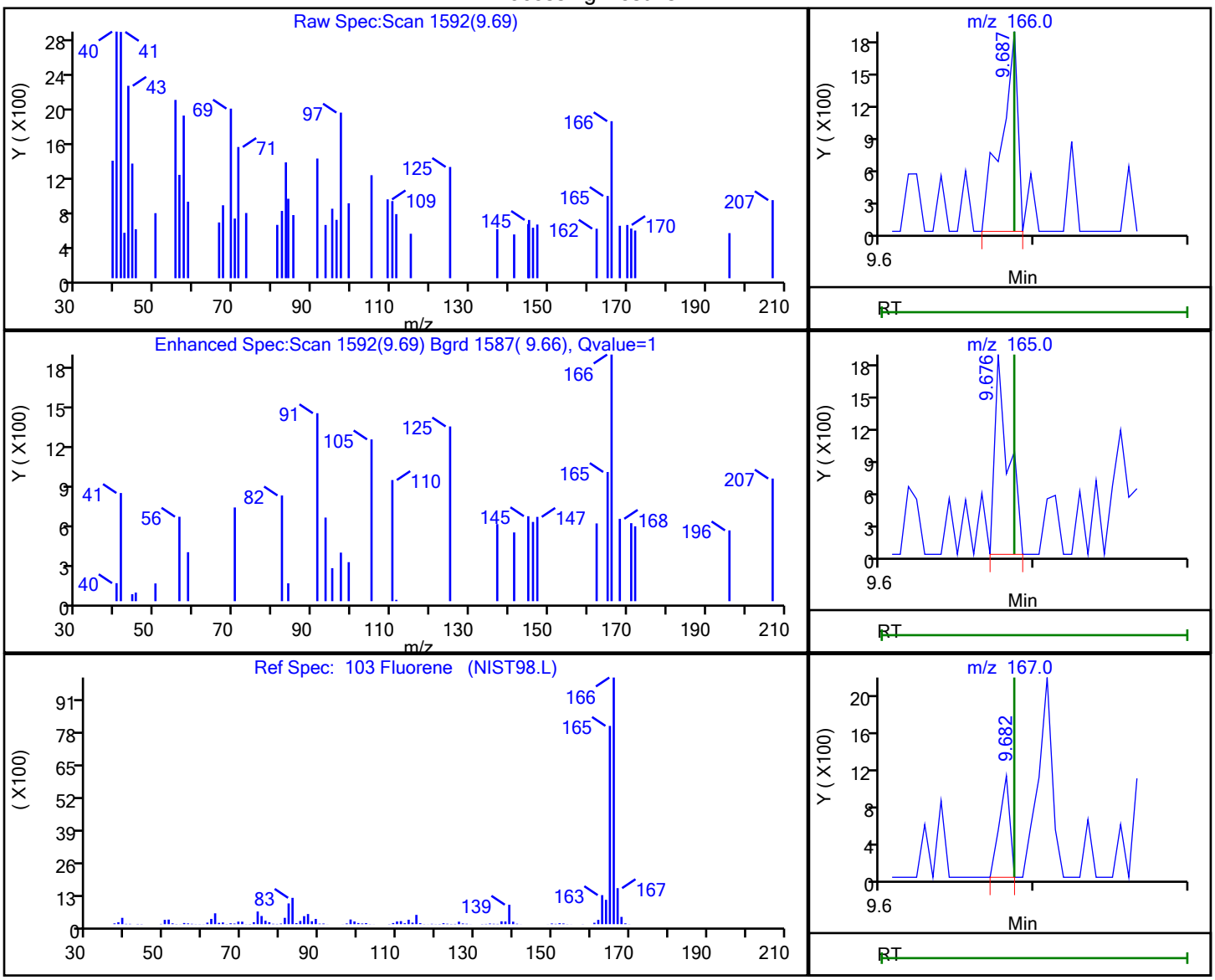

RT	Mass	Response	Amount
9.69	166.00	1339	0.012926
9.68	165.00	1131	
9.68	167.00	513	

Reviewer: piccolinov, 08-Oct-2019 07:28:36

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20191007-29002.b\D10070027.D				
Injection Date:	07-Oct-2019 19:30:30	Instrument ID:	CH732		
Lims ID:	180-96144-E-1-A	Lab Sample ID:	180-96144-1		
Client ID:	11187072-CONTACT-INITIAL				
Operator ID:	003200	ALS Bottle#:	26	Worklist Smp#:	27
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

69 2-Methylnaphthalene, CAS: 91-57-6

Signal: 2

Processing Integration Results

RT: 8.15
Area: 1281
Amount: 0.012682
Amount Units: ng

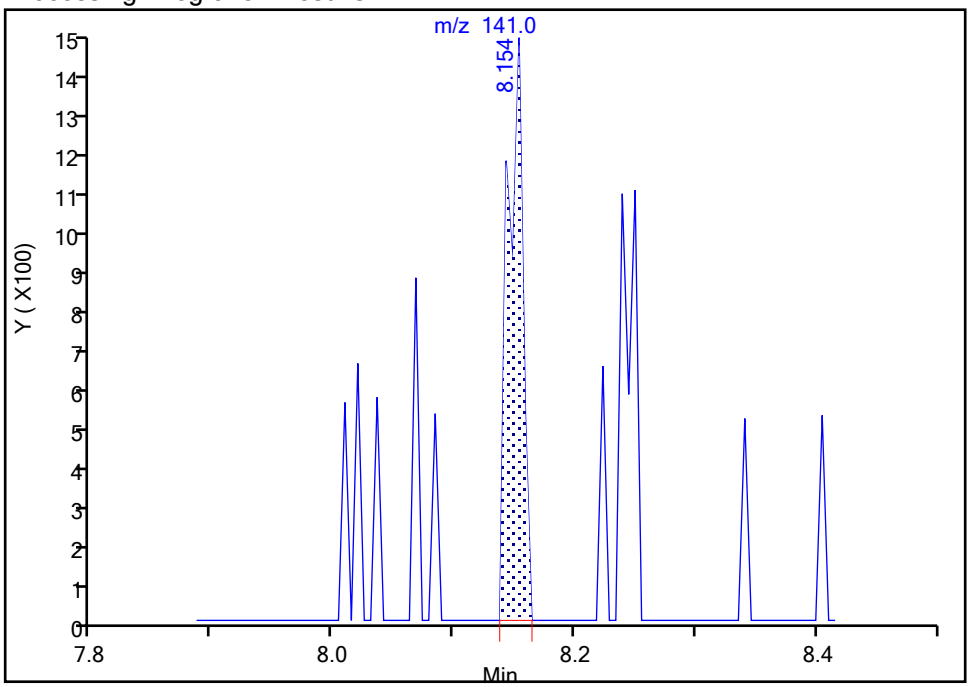

Manual Integration Results

RT: 8.15
Area: 1281
Amount: 0.012682
Amount Units: ng

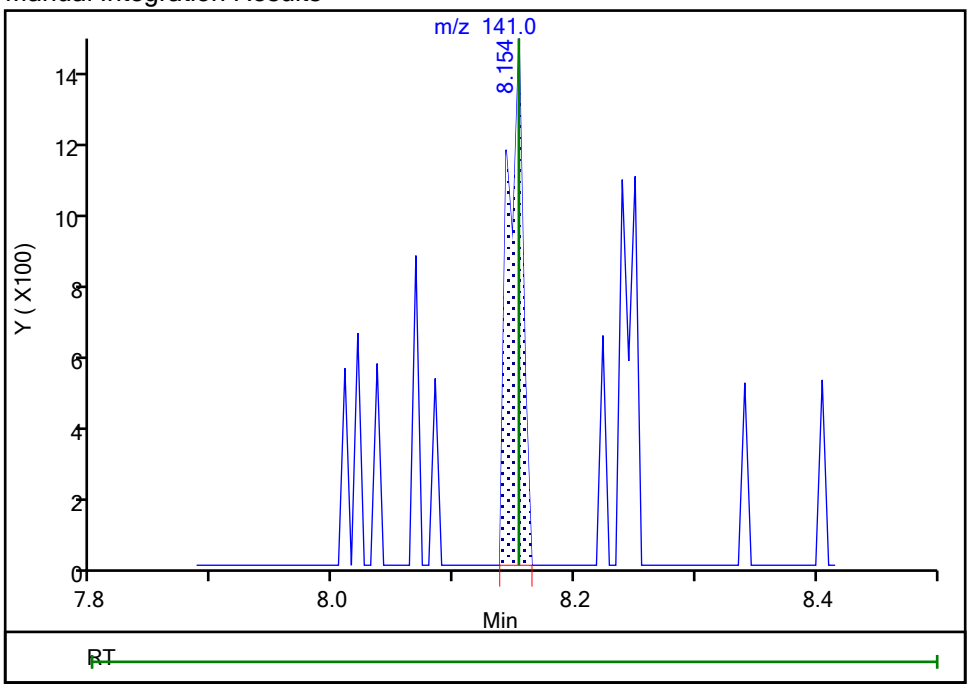

Reviewer: piccolinov, 08-Oct-2019 07:27:53
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20191007-29002.b\D10070027.D				
Injection Date:	07-Oct-2019 19:30:30	Instrument ID:	CH732		
Lims ID:	180-96144-E-1-A	Lab Sample ID:	180-96144-1		
Client ID:	11187072-CONTACT-INITIAL				
Operator ID:	003200	ALS Bottle#:	26	Worklist Smp#:	27
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

69 2-Methylnaphthalene, CAS: 91-57-6

Signal: 3

Processing Integration Results

RT: 8.15
Area: 834
Amount: 0.012682
Amount Units: ng

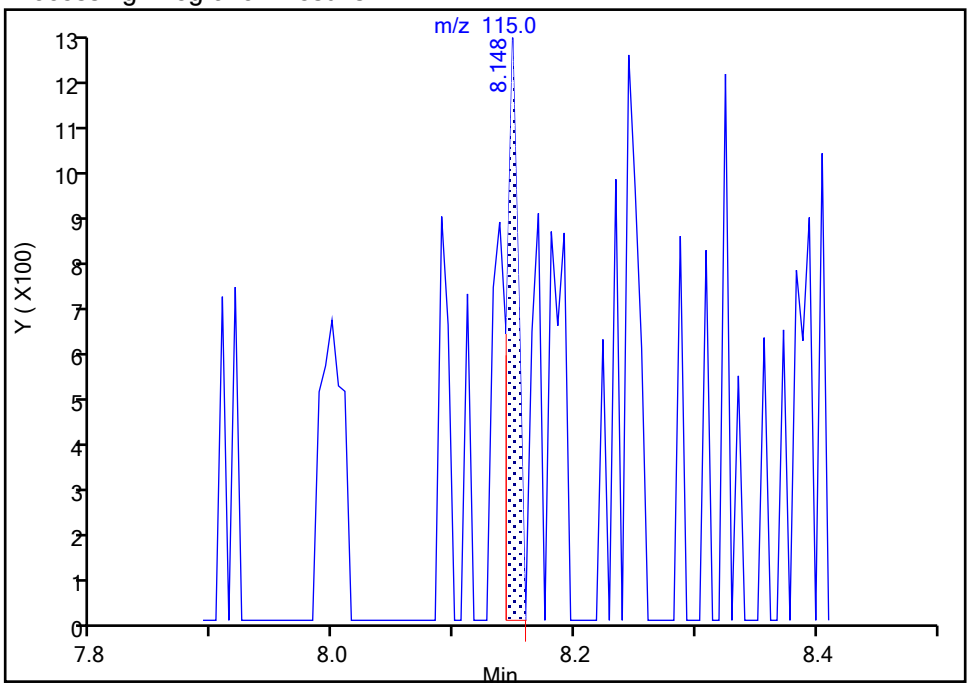

Manual Integration Results

RT: 8.15
Area: 834
Amount: 0.012682
Amount Units: ng

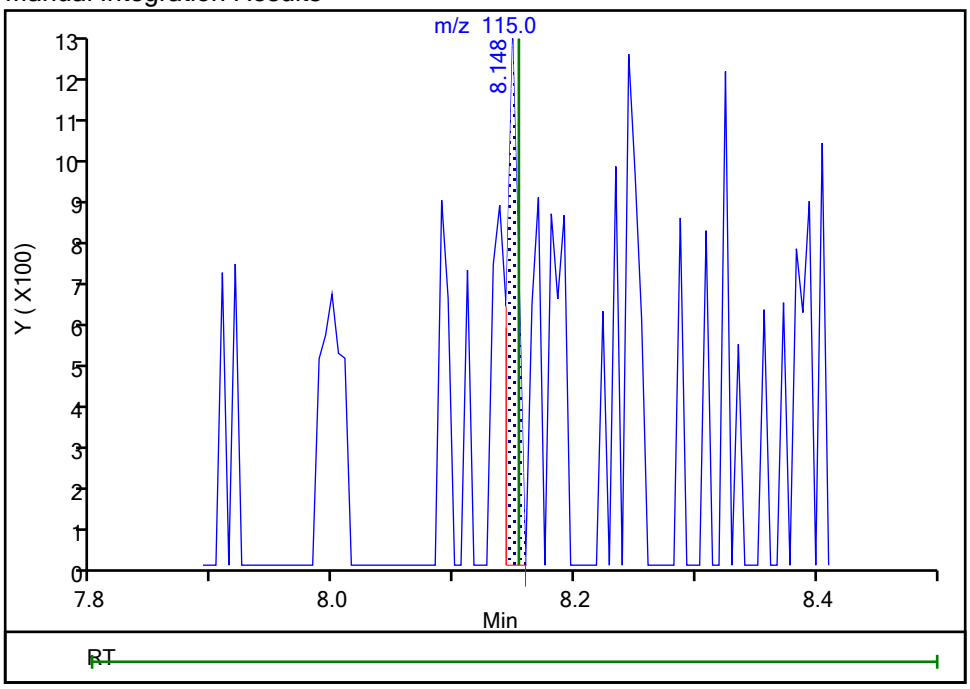

Reviewer: piccolinov, 08-Oct-2019 07:27:53

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20191007-29002.b\D10070027.D				
Injection Date:	07-Oct-2019 19:30:30	Instrument ID:	CH732		
Lims ID:	180-96144-E-1-A	Lab Sample ID:	180-96144-1		
Client ID:	11187072-CONTACT-INITIAL				
Operator ID:	003200	ALS Bottle#:	26	Worklist Smp#:	27
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

89 4-Nitrophenol, CAS: 100-02-7

Processing Results

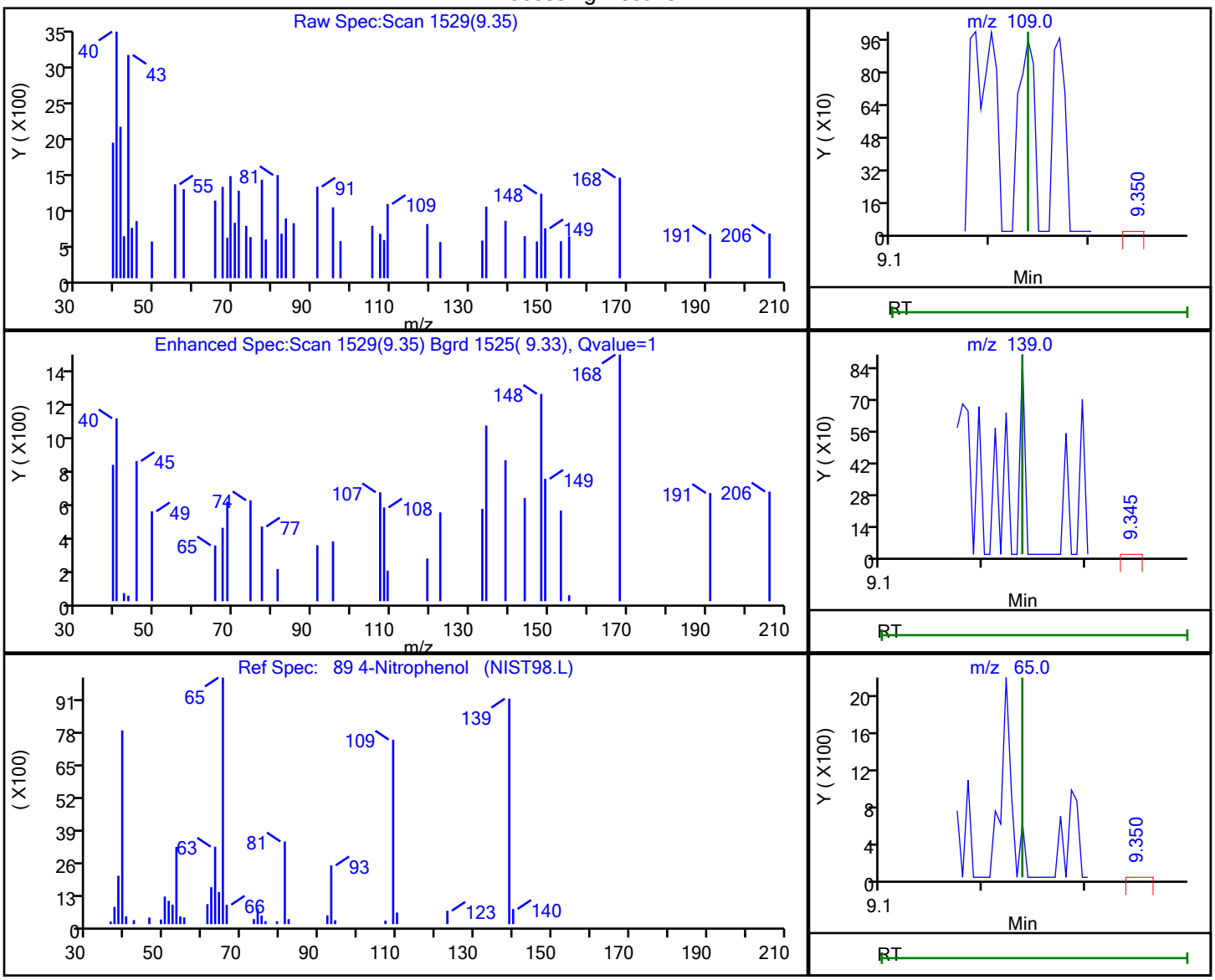

RT	Mass	Response	Amount
9.35	109.00	755	0.067517
9.35	139.00	748	
9.35	65.00	867	

Reviewer: piccolinov, 08-Oct-2019 07:28:12

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20191007-29002.b\D10070027.D				
Injection Date:	07-Oct-2019 19:30:30	Instrument ID:	CH732		
Lims ID:	180-96144-E-1-A	Lab Sample ID:	180-96144-1		
Client ID:	11187072-CONTACT-INITIAL				
Operator ID:	003200	ALS Bottle#:	26	Worklist Smp#:	27
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

41 N-Nitrosodi-n-propylamine, CAS: 621-64-7

Processing Results

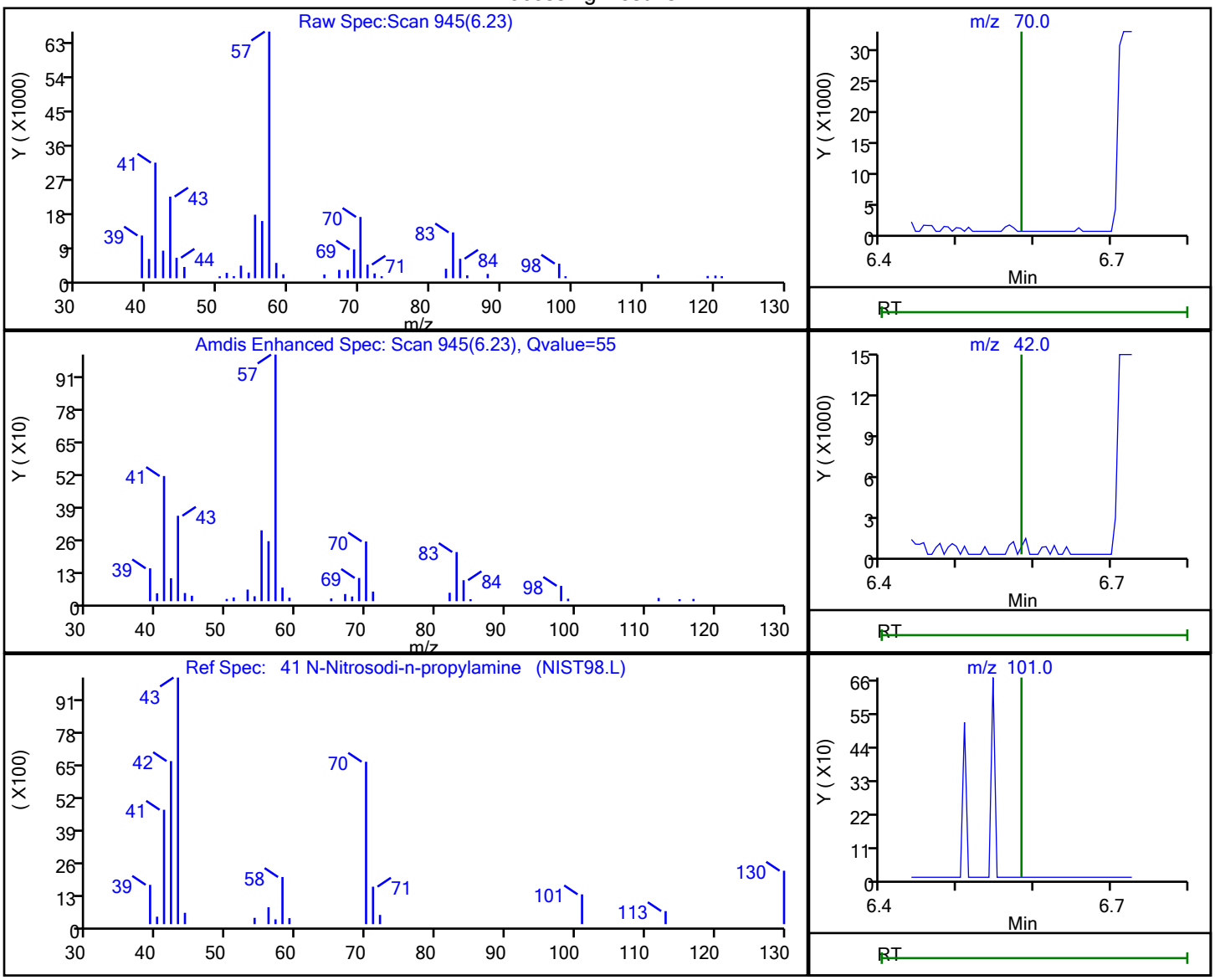

RT	Mass	Response	Amount
6.23	70.00	18108	0.887149
6.23	42.00	10301	
6.58	101.00	0	

Reviewer: piccolinov, 08-Oct-2019 07:27:42

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20191007-29002.b\D10070027.D				
Injection Date:	07-Oct-2019 19:30:30	Instrument ID:	CH732		
Lims ID:	180-96144-E-1-A	Lab Sample ID:	180-96144-1		
Client ID:	11187072-CONTACT-INITIAL				
Operator ID:	003200	ALS Bottle#:	26	Worklist Smp#:	27
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

105 N-Nitrosodiphenylamine, CAS: 86-30-6

Processing Results

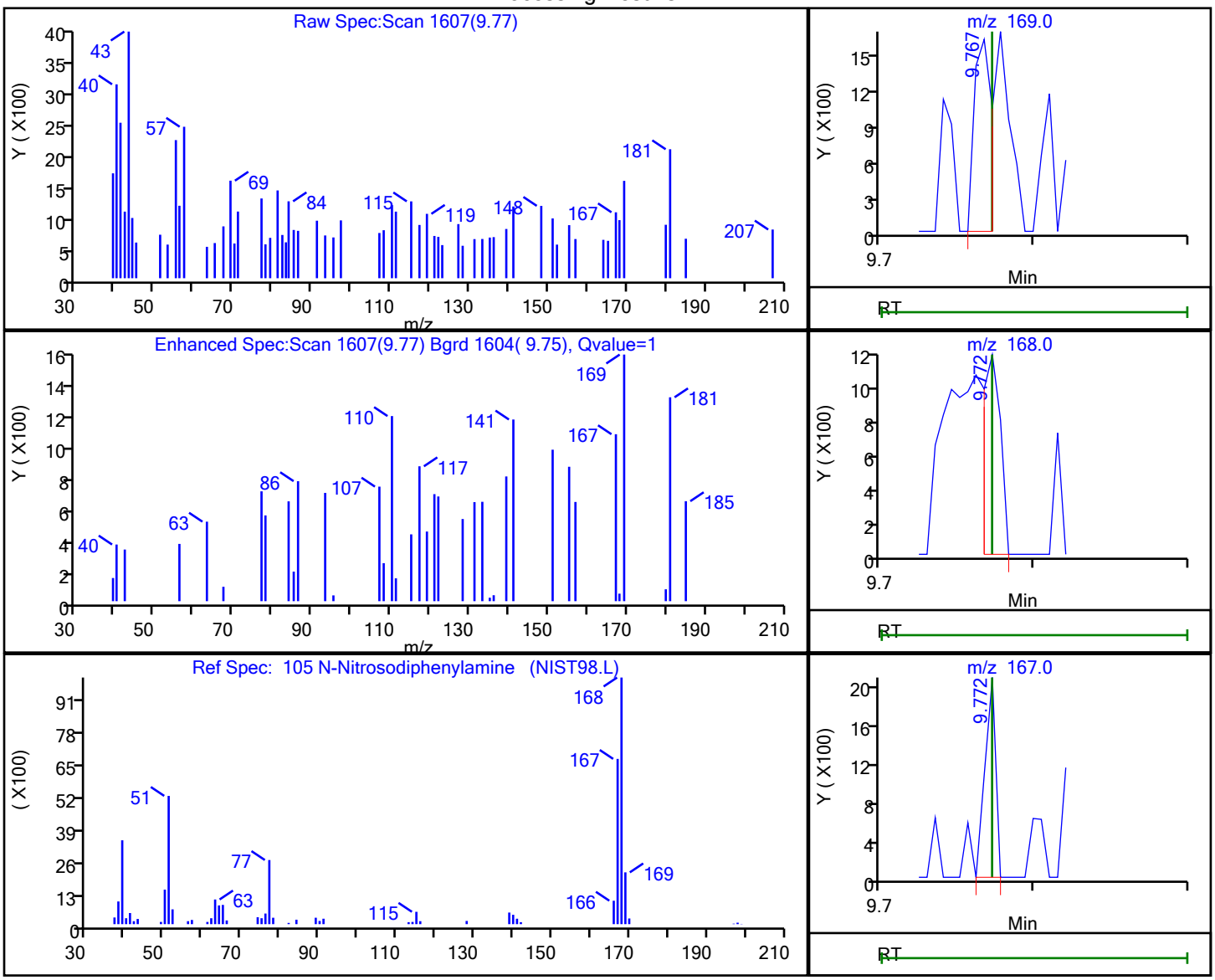

RT	Mass	Response	Amount
9.77	169.00	1265	0.018050
9.77	168.00	911	
9.77	167.00	1012	

Reviewer: piccolinov, 08-Oct-2019 07:28:38

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20191007-29002.b\D10070027.D				
Injection Date:	07-Oct-2019 19:30:30	Instrument ID:	CH732		
Lims ID:	180-96144-E-1-A	Lab Sample ID:	180-96144-1		
Client ID:	11187072-CONTACT-INITIAL				
Operator ID:	003200	ALS Bottle#:	26	Worklist Smp#:	27
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

133 Pyrene, CAS: 129-00-0

Processing Results

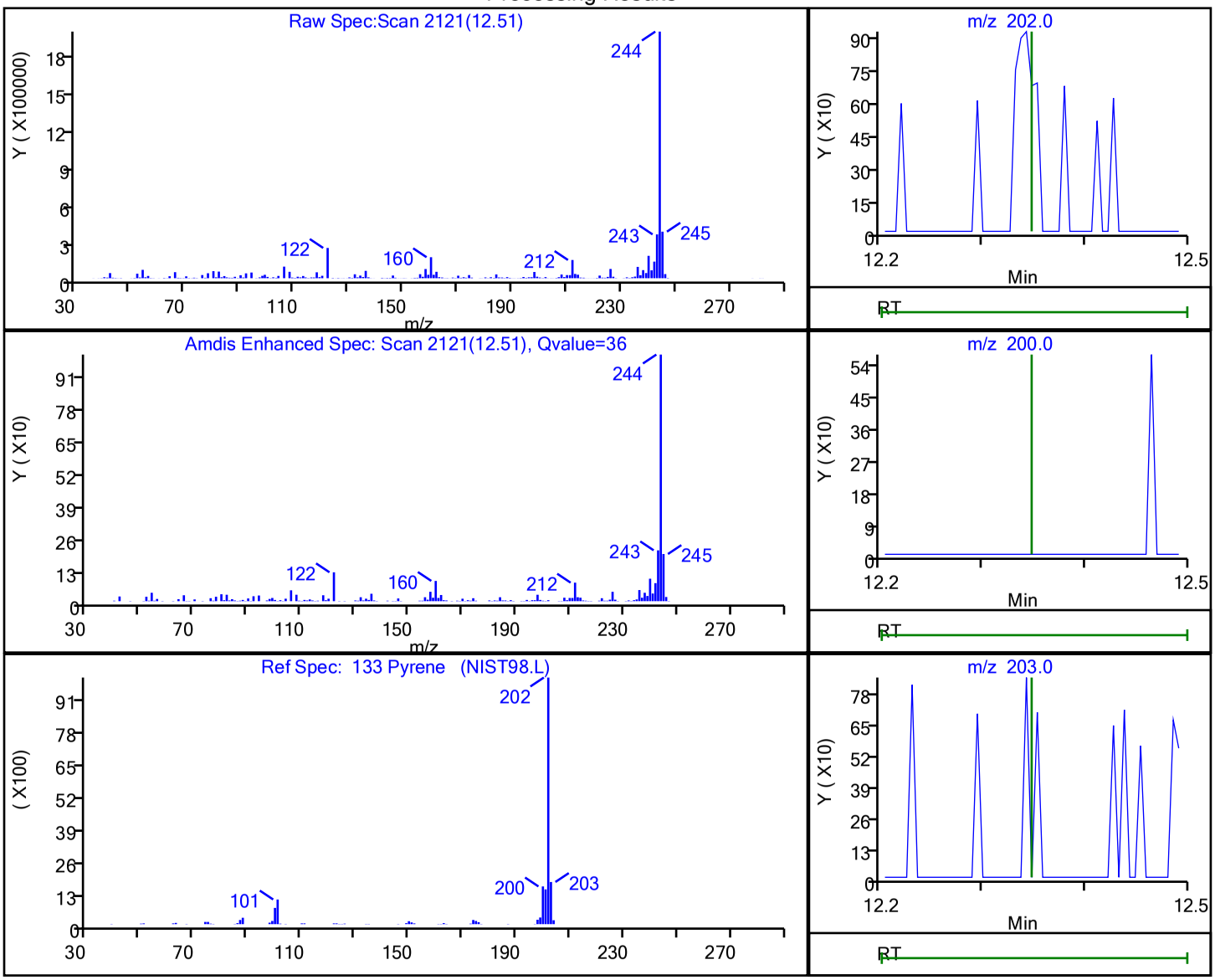

RT	Mass	Response	Amount
12.51	202.00	11479	0.079500
12.51	200.00	5735	
12.51	203.00	929	

Reviewer: piccolinov, 08-Oct-2019 07:28:44

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20191007-29002.b\D10070027.D				
Injection Date:	07-Oct-2019 19:30:30	Instrument ID:	CH732		
Lims ID:	180-96144-E-1-A	Lab Sample ID:	180-96144-1		
Client ID:	11187072-CONTACT-INITIAL				
Operator ID:	003200	ALS Bottle#:	26	Worklist Smp#:	27
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

104 4,6-Dinitro-2-methylphenol, CAS: 534-52-1

Processing Results

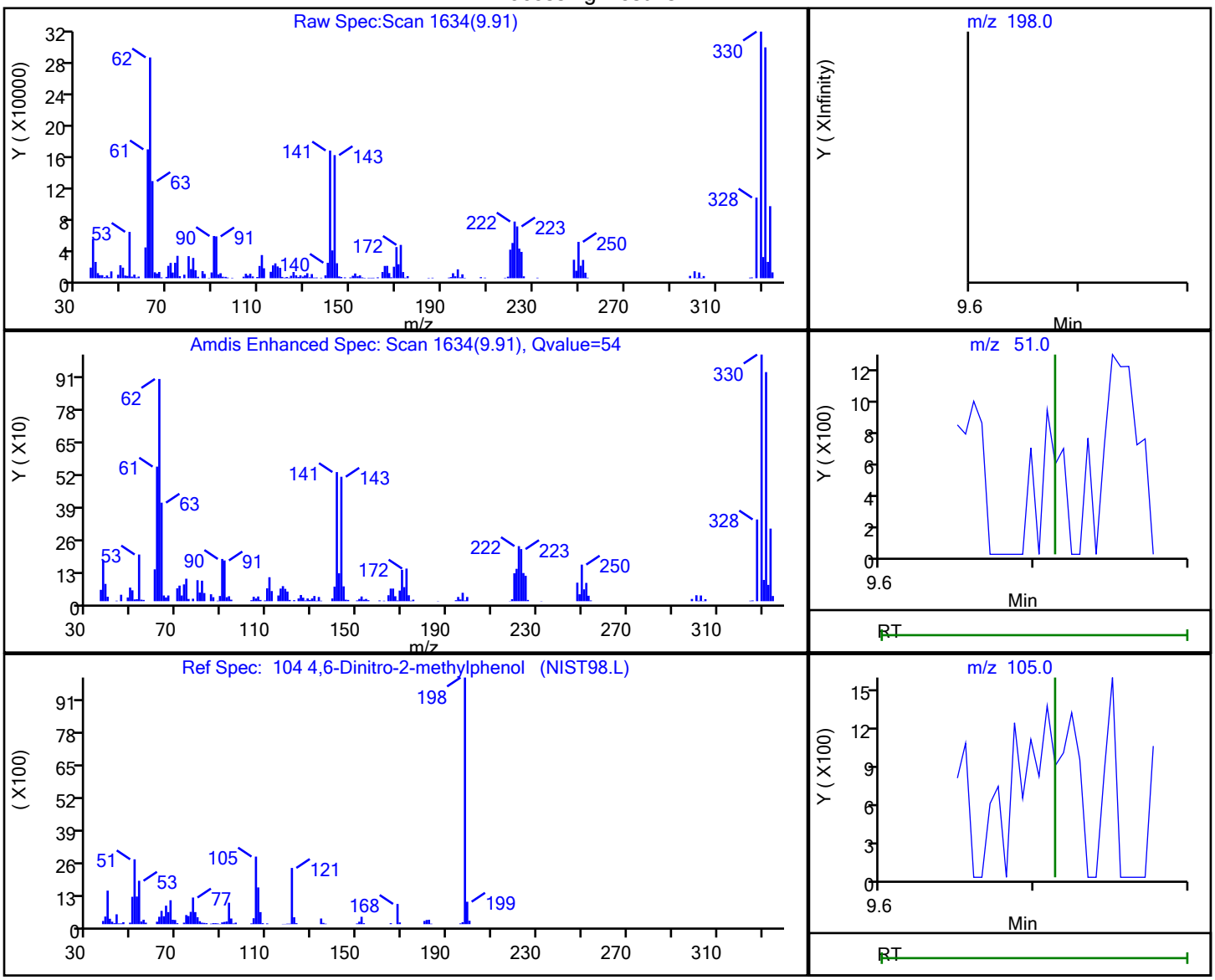

RT	Mass	Response	Amount
9.91	198.00	751	3.241975
9.91	51.00	4138	
9.91	105.00	4946	

Reviewer: piccolinov, 08-Oct-2019 07:28:37

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20191007-29002.b\D10070027.D				
Injection Date:	07-Oct-2019 19:30:30	Instrument ID:	CH732		
Lims ID:	180-96144-E-1-A	Lab Sample ID:	180-96144-1		
Client ID:	11187072-CONTACT-INITIAL				
Operator ID:	003200	ALS Bottle#:	26	Worklist Smp#:	27
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

76 1,1'-Biphenyl, CAS: 92-52-4

Processing Results

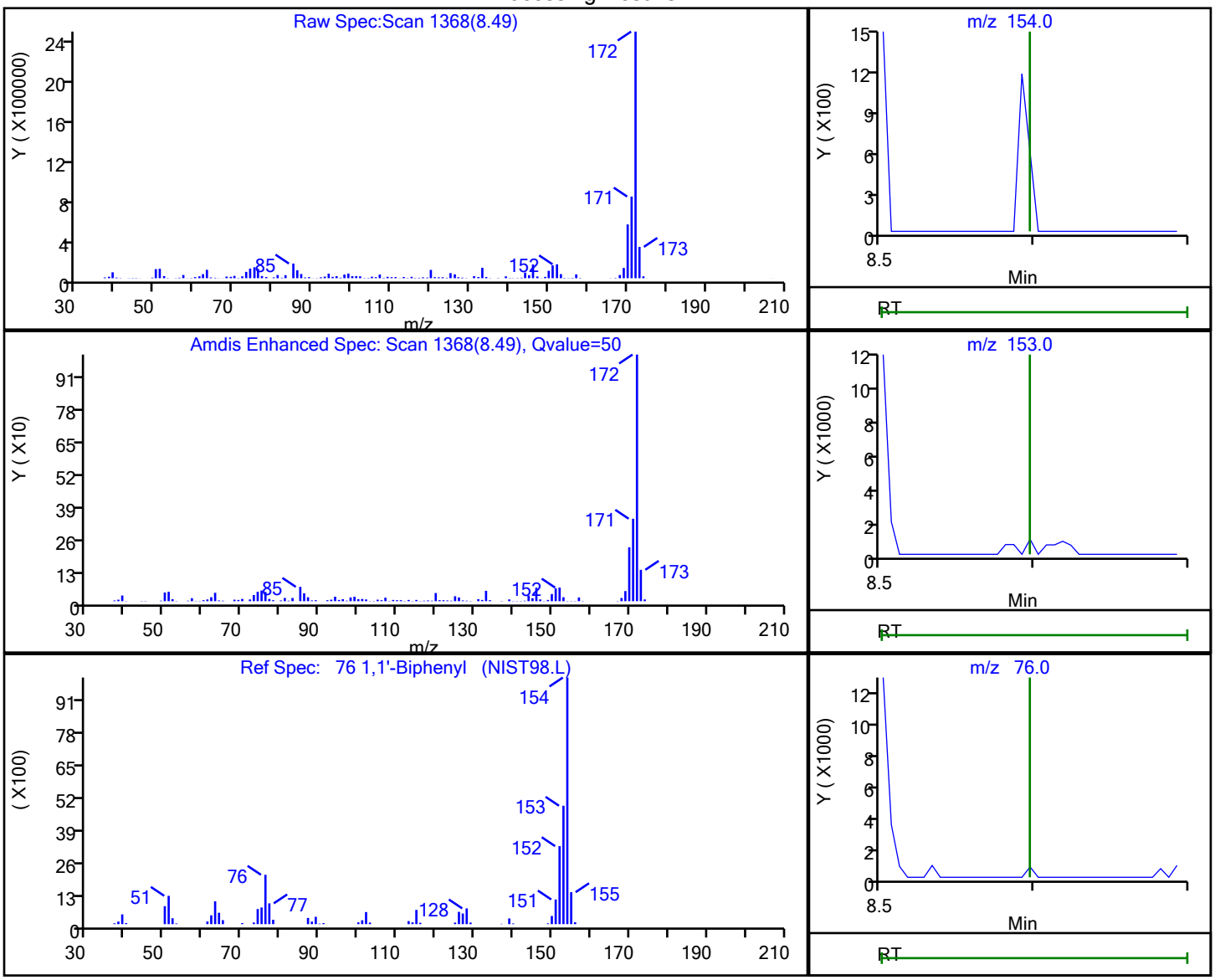

RT	Mass	Response	Amount
8.49	154.00	3699	0.034129
8.49	153.00	38673	
8.49	76.00	82390	

Reviewer: piccolinov, 08-Oct-2019 07:28:06

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 284340

SDG No.:

Instrument ID: CH732 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/10/2019 07:55 Calibration End Date: 07/10/2019 11:01 Calibration ID: 40820

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-284340/3	D07100003.D
Level 2	IC 180-284340/4	D07100004.D
Level 3	IC 180-284340/5	D07100005.D
Level 4	ICIS 180-284340/6	D07100006.D
Level 5	IC 180-284340/7	D07100007.D
Level 6	IC 180-284340/8	D07100008.D
Level 7	IC 180-284340/9	D07100009.D
Level 8	IC 180-284340/10	D07100010.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
1,4-Dioxane	0.3245 0.2935	0.2704 0.2908	0.2996 0.2763	0.3039	0.2938	Ave		0.2941			0.0100	5.7		50.0			
N-Nitrosodimethylamine	0.3199 0.3938	0.3345 0.3873	0.3624 0.3765	0.3831	0.3938	Ave		0.3689			0.0100	7.6		20.0			
Pyridine	0.4773 0.6556	0.6198 0.6435	0.6463 0.6012	0.6687	0.6391	Ave		0.6189			0.0100	9.8		50.0			
Methyl methanesulfonate	0.4910 0.5587	0.5225 0.5588	0.5684 0.5093	0.5707	0.5684	Ave		0.5435			0.0100	5.7		50.0			
Benzaldehyde	0.9890 0.9046	0.9667 0.8550	0.9574 0.7251	0.9641	0.9755	Ave		0.9172			0.0100	9.7		50.0			
Phenol	1.5919 1.5495	1.6369 1.4541	1.6215 1.3194	1.6635	1.6008	Ave		1.5547			0.8000	7.4		20.0			
Aniline	1.7605 1.7723	1.8766 1.6668	1.8358 1.5226	1.8522	1.8036	Ave		1.7613			0.0100	6.6		20.0			
Bis(2-chloroethyl)ether	1.2083 1.0755	1.1491 1.0280	1.1470 0.9747	1.1482	1.1222	Ave		1.1066			0.7000	6.9		20.0			
2-Chlorophenol	0.9713 1.2011	1.1438 1.1647	1.2043 1.0883	1.2185	1.2338	Ave		1.1532			0.8000	7.6		20.0			
n-Decane	1.0834 0.9189	1.0481 0.8431	1.0027 0.7754	1.0085	0.9563	Ave		0.9545				10.9		20.0			
1,3-Dichlorobenzene	1.4474 1.4223	1.5369 1.3719	1.5123 1.2694	1.5090	1.4729	Ave		1.4428			0.0100	6.1		20.0			
1,4-Dichlorobenzene	1.5019 1.4456	1.4948 1.3927	1.4983 1.2718	1.5259	1.4785	Ave		1.4512			0.0100	5.7		20.0			
Benzyl alcohol	0.6591 0.7950	0.6905 0.7757	0.7464 0.7161	0.7698	0.7963	Ave		0.7436			0.0100	6.8		50.0			
1,2-Dichlorobenzene	1.4973 1.3964	1.5009 1.3477	1.4925 1.2368	1.4681	1.4286	Ave		1.4210			0.0100	6.5		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 284340

SDG No.:

Instrument ID: CH732 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/10/2019 07:55 Calibration End Date: 07/10/2019 11:01 Calibration ID: 40820

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
2-Methylphenol	1.0750 1.0887	1.1263 1.0325	1.1656 0.9243	1.1826	1.1100	Ave		1.0881			0.7000	7.5		20.0			
Indene	2.3266 2.1222	2.4074 1.9806	2.3655 1.7857	2.3525	2.1983	Ave		2.1923			0.0100	10.0		20.0			
2,2'-oxybis[1-chloropropane]	1.4966 1.2177	1.4943 1.1193	1.4036 0.9985	1.3727	1.2544	Ave		1.2946			0.0100	13.8		50.0			
N-Nitrosopyrrolidine	0.4399 0.5886	0.4926 0.5744	0.5176 0.5285	0.5530	0.5466	Ave		0.5301			0.0100	9.0		50.0			
Acetophenone	1.7628 1.5417	1.8304 1.4759	1.7493 1.3022	1.7670	1.6755	Ave		1.6381			0.0100	11.1		20.0			
Methylphenol, 3 & 4	1.0439 1.0727	1.2153 1.0400	1.2057 0.9205	1.2069	1.1383	Ave		1.1054			0.6000	9.5		20.0			
N-Nitrosodi-n-propylamine	0.7841 0.7388	0.9011 0.6978	0.8454 0.5989	0.8657	0.8072	Ave		0.7799			0.5000	12.7		20.0			
Hexachloroethane	0.5591 0.6141	0.5743 0.5810	0.6071 0.5400	0.6122	0.6132	Ave		0.5876			0.3000	4.8		20.0			
Nitrobenzene	0.2752 0.3081	0.3041 0.3019	0.3218 0.2705	0.3276	0.3343	Ave		0.3054			0.2000	7.6		20.0			
Isophorone	0.5212 0.5743	0.5536 0.5624	0.5922 0.5062	0.5985	0.6081	Ave		0.5646			0.4000	6.5		20.0			
2-Nitrophenol	+++++ 0.1603	0.1097 0.1617	0.1214 0.1519	0.1451	0.1618	Ave		0.1446			0.1000	14.5		20.0			
2,4-Dimethylphenol	0.2861 0.3094	0.3019 0.3001	0.3347 0.2746	0.3274	0.3316	Ave		0.3082			0.2000	7.1		50.0			
Benzoic acid	0.1328 0.1342	0.1324 0.1655	0.1415 +++++	0.1024	0.1228	Ave		0.1331			0.0100	14.3		50.0			
Bis(2-chloroethoxy)methane	0.3825 0.3568	0.3897 0.3400	0.3951 0.3057	0.3894	0.3853	Ave		0.3681			0.3000	8.6		20.0			
2,4-Dichlorophenol	0.2312 0.2887	0.2611 0.2863	0.2893 0.2587	0.2931	0.2938	Ave		0.2753			0.2000	8.2		20.0			
1,2,4-Trichlorobenzene	0.3847 0.3418	0.3532 0.3413	0.3697 0.3056	0.3685	0.3671	Ave		0.3540			0.0100	6.9		20.0			
Naphthalene	1.0520 0.9403	1.0555 0.9032	1.0416 0.7992	1.0243	1.0146	Ave		0.9788			0.7000	9.3		20.0			
4-Chloroaniline	0.4089 0.4026	0.4135 0.3949	0.4289 0.3570	0.4293	0.4241	Ave		0.4074			0.0100	5.9		20.0			
2,6-Dichlorophenol	0.2510 0.2748	0.2748 0.2738	0.2881 0.2482	0.2926	0.2908	Ave		0.2743			0.0100	6.2		20.0			
Hexachlorobutadiene	0.2220 0.2143	0.2197 0.2154	0.2186 0.1993	0.2240	0.2256	Ave		0.2174			0.0100	3.8		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 284340

SDG No.:

Instrument ID: CH732 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/10/2019 07:55 Calibration End Date: 07/10/2019 11:01 Calibration ID: 40820

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Caprolactam	+++++ 0.0991	0.0721 0.1023	0.0785 0.0959	0.0863	0.0953	Ave		0.0899			0.0100	12.6		50.0			
4-Chloro-3-methylphenol	0.2192 0.2892	0.2564 0.2915	0.2844 0.2651	0.2946	0.2996	Ave		0.2750			0.2000	9.8		20.0			
2-Methylnaphthalene	0.7466 0.7218	0.7849 0.6956	0.7981 0.6127	0.7876	0.7817	Ave		0.7411			0.4000	8.5		20.0			
1-Methylnaphthalene	0.7379 0.6527	0.7254 0.6549	0.7310 0.5737	0.7256	0.7172	Ave		0.6898			0.0100	8.4		20.0			
Hexachlorocyclopentadiene	0.3115 0.4173	0.3433 0.4179	0.3639 0.3995	0.3914	0.4264	Ave		0.3839			0.0500	10.6		50.0			
1,2,4,5-Tetrachlorobenzene	0.6771 0.5923	0.6776 0.5643	0.6692 0.5283	0.6615	0.6375	Ave		0.6260			0.0100	9.2		20.0			
2,4,6-Trichlorophenol	0.2741 0.3991	0.3384 0.3893	0.3605 0.3687	0.3968	0.4095	Ave		0.3671			0.2000	12.1		20.0			
2,4,5-Trichlorophenol	0.2819 0.4115	0.3773 0.4075	0.3917 0.3857	0.4126	0.4258	Ave		0.3867			0.2000	11.7		20.0			
1,1'-Biphenyl	1.6220 1.4130	1.6149 1.3022	1.5741 1.1875	1.5806	1.5348	Ave		1.4787			0.0100	10.9		20.0			
2-Chloronaphthalene	1.2621 1.1124	1.2777 1.0468	1.2391 0.9644	1.2310	1.2068	Ave		1.1676			0.8000	9.7		20.0			
2-Nitroaniline	+++++ 0.3272	0.2316 0.3246	0.2640 0.3005	0.3160	0.3276	Ave		0.2988			0.0100	12.5		20.0			
Dimethyl phthalate	1.2683 1.2755	1.2974 1.2274	1.2907 1.1119	1.3438	1.3051	Ave		1.2650			0.0100	5.6		20.0			
1,3-Dinitrobenzene	+++++ 0.2041	0.1055 0.2118	0.1291 0.2015	0.1743	0.1939	Lin2	-0.219	0.2043			0.0100				0.9960		0.9900
2,6-Dinitrotoluene	+++++ 0.2870	0.2095 0.2912	0.2468 0.2726	0.2801	0.2914	Ave		0.2684			0.2000	11.3		20.0			
Acenaphthylene	1.8368 1.8078	1.9158 1.6905	1.9347 1.4991	2.0048	1.9125	Ave		1.8253			0.9000	8.9		20.0			
3-Nitroaniline	+++++ 0.3229	0.2492 0.3230	0.2689 0.3029	0.3094	0.3214	Ave		0.2997			0.0100	9.8		20.0			
Acenaphthene	1.2339 1.0960	1.3208 1.0230	1.2488 0.9108	1.2373	1.2089	Ave		1.1600			0.9000	11.9		20.0			
2,4-Dinitrophenol	+++++ 0.1657	+++++ 0.1718	+++++ 0.1731	0.0769	0.0950	Lin1	-2.680	0.1912			0.0100				0.9920		0.9900
4-Nitrophenol	+++++ 0.1673	0.1203 0.1713	0.1347 0.1587	0.1550	0.1607	Ave		0.1526			0.0100	12.1		50.0			
2,4-Dinitrotoluene	+++++ 0.3927	0.2714 0.4026	0.2966 0.3749	0.3575	0.3816	Ave		0.3539			0.2000	14.2		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 284340

SDG No.:

Instrument ID: CH732 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/10/2019 07:55 Calibration End Date: 07/10/2019 11:01 Calibration ID: 40820

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Dibenzofuran	1.8490 1.7272	1.9744 1.6260	1.8902 1.4452	1.9372	1.8577	Ave		1.7884			0.8000	10.0		20.0			
2,3,5,6-Tetrachlorophenol	+++++ 0.3834	0.2836 0.3987	0.3131 0.3689	0.3564	0.3801	Ave		0.3549			0.0100	11.7		20.0			
2,3,4,6-Tetrachlorophenol	0.2449 0.3839	0.3365 0.3959	0.3468 0.3652	0.3770	0.3687	Ave		0.3524			0.0100	13.5		20.0			
2-Naphthylamine	1.0858 1.2436	1.2963 1.2116	1.2785 1.0707	1.3639	1.3163	Ave		1.2333			0.0100	8.6		50.0			
Diethyl phthalate	1.2173 1.1841	1.3283 1.1522	1.3288 1.0252	1.3274	1.2508	Ave		1.2268			0.0100	8.7		20.0			
Hexadecane	0.4629 0.4497	0.5560 0.3915	0.5537 +++++	0.5360	0.5143	Ave		0.4949				12.5		20.0			
4-Chlorophenyl phenyl ether	0.7989 0.7430	0.7863 0.7347	0.7784 0.6675	0.7868	0.7738	Ave		0.7587			0.4000	5.7		20.0			
4-Nitroaniline	+++++ 0.3321	0.2910 0.3230	0.2915 0.2914	0.3422	0.3353	Ave		0.3152			0.0100	7.3		20.0			
Fluorene	1.5134 1.3306	1.5950 1.2773	1.5132 1.1244	1.5091	1.4434	Ave		1.4133			0.9000	11.1		20.0			
4,6-Dinitro-2-methylphenol	+++++ 0.1150	0.0504 0.1205	0.0617 0.1155	0.0853	0.1008	Lin1	-0.379	0.1186			0.0100				0.9970		0.9900
N-Nitrosodiphenylamine	0.4671 0.5031	0.4971 0.4649	0.5007 0.4232	0.5072	0.5115	Ave		0.4844			0.0100	6.3		20.0			
1,2-Diphenylhydrazine(as Azobenzene)	0.6067 0.6823	0.7548 0.6070	0.7149 0.5380	0.7159	0.7100	Ave		0.6662			0.0100	11.1		20.0			
Azobenzene	0.6067 0.6823	0.7548 0.6070	0.7149 0.5380	0.7159	0.7100	Ave		0.6662			0.0100	11.1		20.0			
4-Bromophenyl phenyl ether	0.1821 0.2031	0.1949 0.1966	0.2078 0.1819	0.2012	0.2102	Ave		0.1972			0.1000	5.4		20.0			
Hexachlorobenzene	0.1974 0.1938	0.1858 0.1887	0.2001 0.1745	0.1938	0.1954	Ave		0.1912			0.1000	4.3		20.0			
Atrazine	0.1268 0.1926	0.1549 0.1883	0.1805 0.1709	0.1871	0.1941	Ave		0.1744			0.0100	13.3		50.0			
Pentachlorophenol	0.0885 0.1292	0.1153 0.1341	0.1117 0.1258	0.1129	0.1222	Ave		0.1175			0.0500	12.0		50.0			
n-Octadecane	1.9313 2.2871	2.4558 1.9819	2.4909 +++++	2.5832	2.3851	Ave		2.3022				11.0		20.0			
Phenanthrene	1.0758 1.0016	1.0654 0.9258	1.1135 0.8138	1.0645	1.0499	Ave		1.0138			0.7000	9.7		20.0			
Anthracene	0.8834 1.0062	1.0112 0.9434	1.0919 0.8336	1.0752	1.0667	Ave		0.9890			0.7000	9.5		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

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GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 284340

SDG No.:

Instrument ID: CH732 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/10/2019 07:55 Calibration End Date: 07/10/2019 11:01 Calibration ID: 40820

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Carbazole	0.8204 0.9562	0.9084 0.8913	0.9839 0.7939	0.9899	0.9790	Ave		0.9154			0.0100	8.3		20.0			
Di-n-butyl phthalate	0.7257 1.1089	0.8936 1.0340	1.0050 0.8902	1.0852	1.1296	Ave		0.9840			0.0100	14.0		20.0			
Fluoranthene	1.0020 1.1780	1.0777 1.1225	1.1945 0.9984	1.2028	1.2192	Ave		1.1244			0.6000	8.0		20.0			
Benzidine	+++++ 0.6561	0.4487 0.5835	0.5126 +++++	0.6209	0.6675	Ave		0.5815			0.0100	14.8		50.0			
Pyrene	1.1629 1.2002	1.1440 1.1180	1.2223 0.9902	1.2582	1.2502	Ave		1.1682			0.6000	7.5		20.0			
Butyl benzyl phthalate	+++++ 0.4817	0.3278 0.4730	0.3565 0.4335	0.4175	0.4632	Ave		0.4219			0.0100	14.1		20.0			
3,3'-Dichlorobenzidine	+++++ 0.4007	0.2474 0.4140	0.2910 0.3762	0.3523	0.3772	Lin2	-0.321	0.3951			0.0100				0.9970		0.9900
Bis(2-ethylhexyl) phthalate	+++++ 0.6703	0.4404 0.6515	0.4993 0.5918	0.5972	0.6553	Ave		0.5865			0.0100	14.8		20.0			
Benzo[a]anthracene	1.0179 1.0783	1.0275 1.0388	1.0684 0.9565	1.0933	1.0972	Ave		1.0472			0.8000	4.5		20.0			
Chrysene	1.0485 1.0427	1.0216 1.0466	1.0542 0.9469	1.0794	1.0702	Ave		1.0388			0.7000	3.9		20.0			
Di-n-octyl phthalate	1.3455 1.3241	1.2098 1.2981	1.2183 1.1846	1.0370	1.2059	Ave		1.2279			0.0100	8.0		50.0			
7,12-Dimethylbenz(a)anthracene	0.4991 0.6269	0.5285 0.6066	0.5404 0.5608	0.5869	0.6200	Ave		0.5712			0.0100	8.1		20.0			
Benzo[b]fluoranthene	1.0889 1.2393	1.1581 1.2319	1.1596 1.1400	1.3003	1.2589	Ave		1.1972			0.7000	5.9		20.0			
Benzo[k]fluoranthene	1.2277 1.3295	1.2547 1.2429	1.3039 1.1413	1.2826	1.3705	Ave		1.2691			0.7000	5.5		20.0			
Benzo[e]pyrene	1.0792 1.1697	1.0586 1.1400	1.0717 1.0582	1.1547	1.1674	Ave		1.1124			0.0100	4.5		20.0			
Benzo[a]pyrene	1.1556 1.0999	0.9542 1.1228	1.0238 1.0441	1.1073	1.1230	Ave		1.0788			0.7000	6.1		20.0			
Indeno[1,2,3-cd]pyrene	1.0236 1.2148	1.0396 1.2639	1.0495 1.1802	1.1620	1.2118	Ave		1.1432			0.5000	8.1		20.0			
Dibenz(a,h)anthracene	0.8142 0.9971	0.8378 1.0488	0.8852 0.9947	0.9279	0.9782	Ave		0.9355			0.4000	8.9		20.0			
Benzo[g,h,i]perylene	0.9195 1.0384	0.9366 1.0734	0.9280 1.0124	0.9944	1.0249	Ave		0.9910			0.5000	5.7		20.0			
2-Fluorophenol (Surr)	0.7631 0.9798	0.8674 0.9499	0.8854 0.8956	0.9332	0.9442	Ave		0.9023				7.5		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 284340

SDG No.:

Instrument ID: CH732 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/10/2019 07:55 Calibration End Date: 07/10/2019 11:01 Calibration ID: 40820

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Phenol-d5 (Surr)	1.2799 1.3564	1.3356 1.3072	1.3541 1.1991	1.4290	1.3834	Ave		1.3306				5.2		20.0			
Nitrobenzene-d5 (Surr)	0.2623 0.3009	0.2803 0.2988	0.3035 0.2734	0.3101	0.3190	Ave		0.2935				6.6		20.0			
2-Fluorobiphenyl	1.4100 1.2725	1.4501 1.2034	1.4485 1.0850	1.4412	1.3931	Ave		1.3380				10.2		20.0			
2,4,6-Tribromophenol (Surr)	+++++ 0.0746	0.0513 0.0748	0.0652 0.0721	0.0683	0.0721	Ave		0.0683			0.0100	12.1		20.0			
Terphenyl-d14 (Surr)	0.7117 0.7543	0.7007 0.7374	0.7447 0.6738	0.7671	0.7759	Ave		0.7332				4.8		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 284340

SDG No.:

Instrument ID: CH732 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/10/2019 07:55 Calibration End Date: 07/10/2019 11:01 Calibration ID: 40820

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-284340/3	D07100003.D
Level 2	IC 180-284340/4	D07100004.D
Level 3	IC 180-284340/5	D07100005.D
Level 4	ICIS 180-284340/6	D07100006.D
Level 5	IC 180-284340/7	D07100007.D
Level 6	IC 180-284340/8	D07100008.D
Level 7	IC 180-284340/9	D07100009.D
Level 8	IC 180-284340/10	D07100010.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
1,4-Dioxane	DCBd 4	Ave	3453 287233	14991 405148	31930 557312	79516	157068	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
N-Nitrosodimethylamine	DCBd 4	Ave	3404 385451	18546 539587	38622 759488	100239	210528	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Pyridine	DCBd 4	Ave	10160 1283266	68729 1793105	137768 2425498	349984	683369	0.760 80.0	4.00 120	8.00 160	20.0	40.0
Methyl methanesulfonate	DCBd 4	Ave	5225 546766	28970 778481	60578 1027330	149354	303914	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Benzaldehyde	DCBd 4	Ave	10525 885384	53604 1191120	102037 1462599	252280	521554	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Phenol	DCBd 4	Ave	16942 1516576	90762 2025806	172809 2661298	435310	855894	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Aniline	DCBd 4	Ave	18736 1734546	104056 2322117	195650 3071073	484691	964288	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Bis(2-chloroethyl)ether	DCBd 4	Ave	12859 1052602	63717 1432146	122244 1966009	300469	599974	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2-Chlorophenol	DCBd 4	Ave	10337 1175532	63421 1622698	128348 2195160	318849	659670	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
n-Decane	DCBd 4	Ave	11530 899329	58113 1174537	106868 1563996	263914	511310	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
1,3-Dichlorobenzene	DCBd 4	Ave	15404 1392070	85218 1911308	161176 2560490	394878	787521	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
1,4-Dichlorobenzene	DCBd 4	Ave	15984 1414803	82886 1940211	159687 2565236	399289	790470	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Benzyl alcohol	DCBd 4	Ave	7014 778076	38285 1080650	79546 1444390	201437	425739	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
1,2-Dichlorobenzene	DCBd 4	Ave	15935 1366735	83222 1877551	159063 2494684	384181	763803	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2-Methylphenol	DCBd 4	Ave	11441 1065532	62454 1438484	124224 1864280	309459	593453	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 284340

SDG No.:

Instrument ID: CH732 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/10/2019 07:55 Calibration End Date: 07/10/2019 11:01 Calibration ID: 40820

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Indene	DCBd 4	Ave	24760 2077011	133488 2759344	252103 3601843	615598	1175355	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2,2'-oxybis[1-chloropropane]	DCBd 4	Ave	15927 1191750	82858 1559387	149586 2013952	359218	670677	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
N-Nitrosopyrrolidine	DCBd 4	Ave	4682 576040	27312 800232	55162 1066104	144706	292244	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Acetophenone	DCBd 4	Ave	18760 1508949	101490 2056223	186438 2626686	462390	895841	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Methylphenol, 3 & 4	DCBd 4	Ave	11109 1049918	67386 1448901	128504 1856667	315818	608620	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
N-Nitrosodi-n-propylamine	DCBd 4	Ave	8345 723044	49964 972217	90104 1207991	226531	431603	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Hexachloroethane	DCBd 4	Ave	5950 601030	31846 809421	64700 1089304	160199	327876	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Nitrobenzene	NPT	Ave	12863 1349536	74244 1843013	147352 2416550	371502	753208	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Isophorone	NPT	Ave	24357 2515496	135186 3433433	271160 4522081	678777	1370191	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2-Nitrophenol	NPT	Ave	+++++ 701980	26791 987348	55604 1356443	164505	364606	+++++ 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2,4-Dimethylphenol	NPT	Ave	13373 1355222	73716 1832039	153256 2452619	371295	747268	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Benzoic acid	NPT	Ave	6208 587674	32320 1010073	64799 +++++	116171	276785	0.380 40.0	2.00 60.0	4.00 +++++	10.0	20.0
Bis(2-chloroethoxy)methane	NPT	Ave	17876 1562890	95151 2075746	180917 2730574	441629	868230	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2,4-Dichlorophenol	NPT	Ave	10806 1264551	63753 1747977	132446 2310520	332432	662078	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
1,2,4-Trichlorobenzene	NPT	Ave	17978 1497125	86242 2083686	169285 2729993	417945	827231	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Naphthalene	NPT	Ave	49168 4118236	257734 5513915	476896 7139004	1161615	2286138	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
4-Chloroaniline	NPT	Ave	19110 1763172	100956 2410944	196395 3189070	486889	955721	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2,6-Dichlorophenol	NPT	Ave	11731 1203450	67108 1671433	131906 2217353	331789	655279	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Hexachlorobutadiene	NPT	Ave	10375 938637	53634 1314778	100073 1780641	254047	508329	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Caprolactam	NPT	Ave	+++++ 433951	17604 624705	35920 856449	97839	214731	+++++ 40.0	2.00 60.0	4.00 80.0	10.0	20.0
4-Chloro-3-methylphenol	NPT	Ave	10244 1266573	62596 1779372	130222 2367968	334099	675063	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 284340

SDG No.:

Instrument ID: CH732 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/10/2019 07:55 Calibration End Date: 07/10/2019 11:01 Calibration ID: 40820

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
2-Methylnaphthalene	NPT	Ave	34892 3161344	191660 4246566	365404 5473368	893217	1761498	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
1-Methylnaphthalene	NPT	Ave	34485 2858558	177120 3998338	334682 5124808	822849	1616038	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Hexachlorocyclopentadiene	ANT	Ave	8894 1131147	49678 1645908	102823 2237017	267658	587507	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
1,2,4,5-Tetrachlorobenzene	ANT	Ave	19331 1605576	98047 2222429	189107 2957957	452444	878375	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2,4,6-Trichlorophenol	ANT	Ave	7825 1081693	48975 1533257	101885 2064402	271393	564297	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2,4,5-Trichlorophenol	ANT	Ave	8048 1115362	54593 1604981	110697 2159572	282178	586685	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
1,1'-Biphenyl	ANT	Ave	46307 3830067	233695 5128549	444839 6648806	1081025	2114870	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2-Chloronaphthalene	ANT	Ave	36034 3015320	184895 4122907	350153 5399911	841908	1662851	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2-Nitroaniline	ANT	Ave	+++++ 886770	33510 1278278	74597 1682338	216102	451405	+++++ 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Dimethyl phthalate	ANT	Ave	36211 3457284	187747 4833887	364743 6225419	919078	1798331	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
1,3-Dinitrobenzene	ANT	Lin2	+++++ 553285	15271 834109	36495 1128400	119219	267197	+++++ 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2,6-Dinitrotoluene	ANT	Ave	+++++ 777856	30315 1147001	69751 1526544	191539	401496	+++++ 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Acenaphthylene	ANT	Ave	52441 4900210	277238 6657821	546742 8393662	1371108	2635285	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
3-Nitroaniline	ANT	Ave	+++++ 875207	36060 1272083	75979 1696217	211638	442860	+++++ 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Acenaphthene	ANT	Ave	35229 2970759	191128 4029078	352900 5099583	846242	1665780	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2,4-Dinitrophenol	ANT	Lin1	+++++ 898310	+++++ 1353481	+++++ 1938711	105178	261686	+++++ 80.0	+++++ 120	+++++ 160	20.0	40.0
4-Nitrophenol	ANT	Ave	+++++ 906719	34809 1349372	76141 1776970	211995	442830	+++++ 80.0	4.00 120	8.00 160	20.0	40.0
2,4-Dinitrotoluene	ANT	Ave	+++++ 1064393	39278 1585537	83828 2098824	244531	525765	+++++ 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Dibenzofuran	ANT	Ave	52789 4681657	285707 6403706	534165 8091808	1324858	2559709	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2,3,5,6-Tetrachlorophenol	ANT	Ave	+++++ 1039087	41034 1570072	88470 2065581	243765	523678	+++++ 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2,3,4,6-Tetrachlorophenol	ANT	Ave	6993 1040579	48696 1559364	98004 2044878	257812	508039	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 284340

SDG No.:

Instrument ID: CH732 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/10/2019 07:55 Calibration End Date: 07/10/2019 11:01 Calibration ID: 40820

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
2-Naphthylamine	ANT	Ave	30998 3370764	187592 4771857	361303 5994730	932813	1813769	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Diethyl phthalate	ANT	Ave	34755 3209618	192218 4537947	375502 5739920	907847	1723517	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Hexadecane	NPT	Ave	21635 1969725	135768 2390238	253508 +++++	607818	1158920	0.380 40.0	2.00 60.0	4.00 +++++	10.0	20.0
4-Chlorophenyl phenyl ether	ANT	Ave	22807 2014031	113779 2893507	219982 3737253	538125	1066156	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
4-Nitroaniline	ANT	Ave	+++++ 900293	42113 1271958	82376 1631558	234021	462024	+++++ 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Fluorene	ANT	Ave	43206 3606624	230811 5030346	427628 6295668	1032132	1988856	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
4,6-Dinitro-2-methylphenol	PHN	Lin1	+++++ 1305809	31037 2095652	70941 2855759	252767	581431	+++++ 80.0	4.00 120	8.00 160	20.0	40.0
N-Nitrosodiphenylamine	PHN	Ave	27950 2856356	153194 4044365	288028 5231212	751483	1474797	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
1,2-Diphenylhydrazine(as Azobenzene)	PHN	Ave	36300 3873545	232617 5280358	411232 6650494	1060659	2047134	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Azobenzene	PHN	Ave	36300 3873545	232617 5280358	411232 6650494	1060659	2047134	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
4-Bromophenyl phenyl ether	PHN	Ave	10896 1153158	60083 1709886	119533 2248280	298145	606148	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Hexachlorobenzene	PHN	Ave	11812 1100481	57253 1641616	115112 2156858	287097	563367	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Atrazine	PHN	Ave	7584 1093176	47745 1637742	103805 2112582	277263	559536	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Pentachlorophenol	PHN	Ave	10593 1466830	71077 2332919	128551 3109018	334650	704759	0.760 80.0	4.00 120	8.00 160	20.0	40.0
n-Octadecane	DCBd 4	Ave	20554 2238446	136170 2761147	265471 +++++	675977	1275229	0.380 40.0	2.00 60.0	4.00 +++++	10.0	20.0
Phenanthrene	PHN	Ave	64366 5686119	328359 8053402	640552 10059876	1577156	3027100	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Anthracene	PHN	Ave	52857 5712633	311641 8206432	628099 10304637	1593043	3075673	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Carbazole	PHN	Ave	49088 5428683	279970 7753424	565987 9813847	1466637	2822576	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Di-n-butyl phthalate	PHN	Ave	43424 6295607	275400 8995293	578158 11003430	1607859	3256844	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Fluoranthene	PHN	Ave	59951 6687725	332159 9764617	687120 12340731	1782134	3515257	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Benzidine	CRY	Ave	+++++ 3726949	134333 5278653	299523 +++++	928497	1894502	+++++ 40.0	2.00 60.0	4.00 +++++	10.0	20.0

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 284340

SDG No.:

Instrument ID: CH732 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/10/2019 07:55 Calibration End Date: 07/10/2019 11:01 Calibration ID: 40820

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Pyrene	CRY	Ave	66337 6818174	342523 10113513	714221 12602536	1881600	3548375	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Butyl benzyl phthalate	CRY	Ave	+++++ 2736583	98133 4279305	208307 5517067	624340	1314809	+++++ 40.0	2.00 60.0	4.00 80.0	10.0	20.0
3,3'-Dichlorobenzidine	CRY	Lin2	+++++ 2276149	74066 3744963	170052 4788242	526816	1070668	+++++ 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Bis(2-ethylhexyl) phthalate	CRY	Ave	+++++ 3807850	131847 5893810	291725 7532428	893068	1859835	+++++ 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Benzo[a]anthracene	CRY	Ave	58068 6125583	307625 9397341	624307 12174635	1634984	3114053	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Chrysene	CRY	Ave	59812 5923324	305861 9467943	615985 12051757	1614227	3037393	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Di-n-octyl phthalate	PRY	Ave	61792 6152210	280679 10221170	583828 13062953	1253330	2751691	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
7,12-Dimethylbenz(a)anthracene	PRY	Ave	22919 2912846	122627 4776197	258952 6184348	709295	1414863	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Benzo[b]fluoranthene	PRY	Ave	50009 5758180	268702 9700280	555697 12571044	1571554	2872727	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Benzo[k]fluoranthene	PRY	Ave	56382 6176939	291099 9786687	624818 12585748	1550103	3127218	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Benzo[e]pyrene	PRY	Ave	49564 5434484	245600 8976268	513581 11668822	1395488	2663909	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Benzo[a]pyrene	PRY	Ave	53071 5110156	221377 8841076	490626 11513767	1338281	2562644	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Indeno[1,2,3-cd]pyrene	PRY	Ave	47009 5644040	241210 9952177	502939 13014199	1404309	2765282	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Dibenz(a,h)anthracene	PRY	Ave	37392 4632864	194373 8258335	424180 10968778	1121426	2232183	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Benzo[g,h,i]perylene	PRY	Ave	42226 4824432	217306 8452372	444715 11164594	1201846	2338701	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2-Fluorophenol (Surr)	DCBd 4	Ave	8121 958961	48095 1323446	94363 1806413	244214	504833	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Phenol-d5 (Surr)	DCBd 4	Ave	13621 1327561	74055 1821094	144310 2418664	373935	739665	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Nitrobenzene-d5 (Surr)	NPT	Ave	12258 1317710	68433 1824382	138954 2442045	351705	718713	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2-Fluorobiphenyl	ANT	Ave	40256 3449186	209844 4739322	409335 6074926	985643	1919511	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2,4,6-Tribromophenol (Surr)	PHN	Ave	+++++ 423758	15802 650735	37508 891189	101150	207946	+++++ 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Terphenyl-d14 (Surr)	CRY	Ave	40601 4284637	209802 6670818	435126 8575772	1147130	2202119	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 284340

SDG No.:

Instrument ID: CH732 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/10/2019 07:55 Calibration End Date: 07/10/2019 11:01 Calibration ID: 40820

Curve Type Legend:

Ave = Average ISTD
Lin1 = Linear 1/conc ISTD
Lin2 = Linear 1/conc^2 ISTD

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 284340

SDG No.:

Instrument ID: CH732 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/10/2019 07:55 Calibration End Date: 07/10/2019 11:01 Calibration ID: 40820

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-284340/3	D07100003.D
Level 2	IC 180-284340/4	D07100004.D
Level 3	IC 180-284340/5	D07100005.D
Level 4	ICIS 180-284340/6	D07100006.D
Level 5	IC 180-284340/7	D07100007.D
Level 6	IC 180-284340/8	D07100008.D
Level 7	IC 180-284340/9	D07100009.D
Level 8	IC 180-284340/10	D07100010.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
1,4-Dioxane	10.3 -1.1	-8.1 -6.0	1.9	3.3	-0.1	-0.2	50 30	30 30	30	30	30	30
N-Nitrosodimethylamine	-13.3 5.0	-9.3 2.1	-1.8	3.8	6.7	6.8	50 30	30 30	30	30	30	30
Pyridine	-22.9 4.0	0.1 -2.9	4.4	8.0	3.3	5.9	50 30	30 30	30	30	30	30
Methyl methanesulfonate	-9.7 2.8	-3.9 -6.3	4.6	5.0	4.6	2.8	50 30	30 30	30	30	30	30
Benzaldehyde	7.8 -6.8	5.4 -20.9	4.4	5.1	6.4	-1.4	50 30	30 30	30	30	30	30
Phenol	2.4 -6.5	5.3 -15.1	4.3	7.0	3.0	-0.3	50 30	30 30	30	30	30	30
Aniline	0.0 -5.4	6.5 -13.6	4.2	5.2	2.4	0.6	50 30	30 30	30	30	30	30
Bis(2-chloroethyl)ether	9.2 -7.1	3.8 -11.9	3.7	3.8	1.4	-2.8	50 30	30 30	30	30	30	30
2-Chlorophenol	-15.8 1.0	-0.8 -5.6	4.4	5.7	7.0	4.2	50 30	30 30	30	30	30	30
n-Decane	13.5 -11.7	9.8 -18.8	5.0	5.7	0.2	-3.7	50 30	30 30	30	30	30	30
1,3-Dichlorobenzene	0.3 -4.9	6.5 -12.0	4.8	4.6	2.1	-1.4	50 30	30 30	30	30	30	30
1,4-Dichlorobenzene	3.5 -4.0	3.0 -12.4	3.3	5.1	1.9	-0.4	50 30	30 30	30	30	30	30
Benzyl alcohol	-11.4 4.3	-7.1 -3.7	0.4	3.5	7.1	6.9	50 30	30 30	30	30	30	30
1,2-Dichlorobenzene	5.4 -5.2	5.6 -13.0	5.0	3.3	0.5	-1.7	50 30	30 30	30	30	30	30
2-Methylphenol	-1.2 -5.1	3.5 -15.1	7.1	8.7	2.0	0.1	50 30	30 30	30	30	30	30

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 284340

SDG No.:

Instrument ID: CH732 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/10/2019 07:55 Calibration End Date: 07/10/2019 11:01 Calibration ID: 40820

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
Indene	6.1 -9.7	9.8 -18.5	7.9	7.3	0.3	-3.2	50 30	30 30	30	30	30	30
2,2'-oxybis[1-chloropropane]	15.6 -13.5	15.4 -22.9	8.4	6.0	-3.1	-5.9	50 30	30 30	30	30	30	30
N-Nitrosopyrrolidine	-17.0 8.3	-7.1 -0.3	-2.4	4.3	3.1	11.0	50 30	30 30	30	30	30	30
Acetophenone	7.6 -9.9	11.7 -20.5	6.8	7.9	2.3	-5.9	50 30	30 30	30	30	30	30
Methylphenol, 3 & 4	-5.6 -5.9	9.9 -16.7	9.1	9.2	3.0	-3.0	50 30	30 30	30	30	30	30
N-Nitrosodi-n-propylamine	0.5 -10.5	15.5 -23.2	8.4	11.0	3.5	-5.3	50 30	30 30	30	30	30	30
Hexachloroethane	-4.9 -1.1	-2.3 -8.1	3.3	4.2	4.4	4.5	50 30	30 30	30	30	30	30
Nitrobenzene	-9.9 -1.2	-0.5 -11.4	5.4	7.2	9.4	0.9	50 30	30 30	30	30	30	30
Isophorone	-7.7 -0.4	-1.9 -10.3	4.9	6.0	7.7	1.7	50 30	30 30	30	30	30	30
2-Nitrophenol	+++++ 11.9	-24.1 5.0	-16.0	0.3	11.9	10.9	 30	50 30	30	30	30	30
2,4-Dimethylphenol	-7.2 -2.6	-2.1 -10.9	8.6	6.2	7.6	0.4	50 30	30 30	30	30	30	30
Benzoic acid	-0.2 24.3	-0.5 +++++	6.3	-23.0	-7.7	0.8	50 30	30	30	30	30	30
Bis(2-chloroethoxy)methane	3.9 -7.6	5.9 -16.9	7.4	5.8	4.7	-3.1	50 30	30 30	30	30	30	30
2,4-Dichlorophenol	-16.0 4.0	-5.2 -6.0	5.1	6.5	6.7	4.9	50 30	30 30	30	30	30	30
1,2,4-Trichlorobenzene	8.7 -3.6	-0.2 -13.7	4.4	4.1	3.7	-3.4	50 30	30 30	30	30	30	30
Naphthalene	7.5 -7.7	7.8 -18.3	6.4	4.6	3.7	-3.9	50 30	30 30	30	30	30	30
4-Chloroaniline	0.4 -3.1	1.5 -12.4	5.3	5.4	4.1	-1.2	50 30	30 30	30	30	30	30
2,6-Dichlorophenol	-8.5 -0.2	0.2 -9.5	5.0	6.7	6.0	0.2	50 30	30 30	30	30	30	30
Hexachlorobutadiene	2.1 -0.9	1.1 -8.3	0.6	3.1	3.8	-1.4	50 30	30 30	30	30	30	30
Caprolactam	+++++ 13.8	-19.8 6.6	-12.7	-4.1	6.0	10.2	 30	50 30	30	30	30	30
4-Chloro-3-methylphenol	-20.3 6.0	-6.8 -3.6	3.4	7.1	8.9	5.2	50 30	30 30	30	30	30	30

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 284340

SDG No.:

Instrument ID: CH732 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/10/2019 07:55 Calibration End Date: 07/10/2019 11:01 Calibration ID: 40820

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
2-Methylnaphthalene	0.7 -6.1	5.9 -17.3	7.7	6.3	5.5	-2.6	50 30	30 30	30	30	30	30
1-Methylnaphthalene	7.0 -5.1	5.2 -16.8	6.0	5.2	4.0	-5.4	50 30	30 30	30	30	30	30
Hexachlorocyclopentadiene	-18.9 8.9	-10.6 4.1	-5.2	1.9	11.1	8.7	50 30	30 30	30	30	30	30
1,2,4,5-Tetrachlorobenzene	8.2 -9.9	8.2 -15.6	6.9	5.7	1.8	-5.4	50 30	30 30	30	30	30	30
2,4,6-Trichlorophenol	-25.3 6.1	-7.8 0.4	-1.8	8.1	11.6	8.7	50 30	30 30	30	30	30	30
2,4,5-Trichlorophenol	-27.1 5.4	-2.5 -0.3	1.3	6.7	10.1	6.4	50 30	30 30	30	30	30	30
1,1'-Biphenyl	9.7 -11.9	9.2 -19.7	6.5	6.9	3.8	-4.4	50 30	30 30	30	30	30	30
2-Chloronaphthalene	8.1 -10.3	9.4 -17.4	6.1	5.4	3.4	-4.7	50 30	30 30	30	30	30	30
2-Nitroaniline	+++++ 8.6	-22.5 0.6	-11.6	5.8	9.7	9.5	 30	50 30	30	30	30	30
Dimethyl phthalate	0.3 -3.0	2.6 -12.1	2.0	6.2	3.2	0.8	50 30	30 30	30	30	30	30
1,3-Dinitrobenzene	+++++ 5.5	5.4 0.0	-9.9	-3.9	0.3	2.6	 30	50 30	30	30	30	30
2,6-Dinitrotoluene	+++++ 8.5	-21.9 1.6	-8.0	4.4	8.6	6.9	 30	50 30	30	30	30	30
Acenaphthylene	0.6 -7.4	5.0 -17.9	6.0	9.8	4.8	-1.0	50 30	30 30	30	30	30	30
3-Nitroaniline	+++++ 7.8	-16.8 1.1	-10.3	3.3	7.2	7.7	 30	50 30	30	30	30	30
Acenaphthene	6.4 -11.8	13.9 -21.5	7.7	6.7	4.2	-5.5	50 30	30 30	30	30	30	30
2,4-Dinitrophenol	+++++ 1.5	+++++ -0.7	+++++	10.3	-15.3	4.2	 30	 30		50	30	30
4-Nitrophenol	+++++ 12.3	-21.2 4.0	-11.7	1.6	5.3	9.6	 30	50 30	30	30	30	30
2,4-Dinitrotoluene	+++++ 13.8	-23.3 5.9	-16.2	1.0	7.8	11.0	 30	50 30	30	30	30	30
Dibenzofuran	3.4 -9.1	10.4 -19.2	5.7	8.3	3.9	-3.4	50 30	30 30	30	30	30	30
2,3,5,6-Tetrachlorophenol	+++++ 12.3	-20.1 4.0	-11.8	0.4	7.1	8.0	 30	50 30	30	30	30	30
2,3,4,6-Tetrachlorophenol	-30.5 12.4	-4.5 3.6	-1.6	7.0	4.6	8.9	50 30	30 30	30	30	30	30

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 284340

SDG No.:

Instrument ID: CH732 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/10/2019 07:55 Calibration End Date: 07/10/2019 11:01 Calibration ID: 40820

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
2-Naphthylamine	-12.0 -1.8	5.1 -13.2	3.7	10.6	6.7	0.8	50 30	30 30	30	30	30	30
Diethyl phthalate	-0.8 -6.1	8.3 -16.4	8.3	8.2	2.0	-3.5	50 30	30 30	30	30	30	30
Hexadecane	-6.5 -20.9	12.4 +++++	11.9	8.3	3.9	-9.1	50 30	30	30	30	30	30
4-Chlorophenyl phenyl ether	5.3 -3.2	3.6 -12.0	2.6	3.7	2.0	-2.1	50 30	30 30	30	30	30	30
4-Nitroaniline	+++++ 2.5	-7.7 -7.6	-7.5	8.6	6.4	5.4	 30	50 30	30	30	30	30
Fluorene	7.1 -9.6	12.9 -20.4	7.1	6.8	2.1	-5.9	50 30	30 30	30	30	30	30
4,6-Dinitro-2-methylphenol	+++++ 4.2	22.4 -0.6	-8.0	-12.1	-7.0	1.0	 30	50 30	30	30	30	30
N-Nitrosodiphenylamine	-3.6 -4.0	2.6 -12.6	3.4	4.7	5.6	3.9	50 30	30 30	30	30	30	30
1,2-Diphenylhydrazine(as Azobenzene)	-8.9 -8.9	13.3 -19.2	7.3	7.5	6.6	2.4	50 30	30 30	30	30	30	30
Azobenzene	-8.9 -8.9	13.3 -19.2	7.3	7.5	6.6	2.4	50 30	30 30	30	30	30	30
4-Bromophenyl phenyl ether	-7.7 -0.3	-1.2 -7.8	5.4	2.0	6.6	3.0	50 30	30 30	30	30	30	30
Hexachlorobenzene	3.3 -1.3	-2.8 -8.7	4.7	1.4	2.2	1.4	50 30	30 30	30	30	30	30
Atrazine	-27.3 8.0	-11.2 -2.0	3.5	7.3	11.3	10.4	50 30	30 30	30	30	30	30
Pentachlorophenol	-24.6 14.1	-1.8 7.1	-4.9	-3.9	4.0	10.0	50 30	30 30	30	30	30	30
n-Octadecane	-16.1 -13.9	6.7 +++++	8.2	12.2	3.6	-0.7	50 30	30	30	30	30	30
Phenanthrene	6.1 -8.7	5.1 -19.7	9.8	5.0	3.6	-1.2	50 30	30 30	30	30	30	30
Anthracene	-10.7 -4.6	2.2 -15.7	10.4	8.7	7.9	1.7	50 30	30 30	30	30	30	30
Carbazole	-10.4 -2.6	-0.8 -13.3	7.5	8.1	6.9	4.5	50 30	30 30	30	30	30	30
Di-n-butyl phthalate	-26.2 5.1	-9.2 -9.5	2.1	10.3	14.8	12.7	50 30	30 30	30	30	30	30
Fluoranthene	-10.9 -0.2	-4.1 -11.2	6.2	7.0	8.4	4.8	50 30	30 30	30	30	30	30
Benzidine	+++++ 0.3	-22.8 +++++	-11.9	6.8	14.8	12.8	 30	50	30	30	30	30

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 284340

SDG No.:

Instrument ID: CH732 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/10/2019 07:55 Calibration End Date: 07/10/2019 11:01 Calibration ID: 40820

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
Pyrene	-0.5 -4.3	-2.1 -15.2	4.6	7.7	7.0	2.7	50 30	30 30	30	30	30	30
Butyl benzyl phthalate	+++++ 12.1	-22.3 2.7	-15.5	-1.0	9.8	14.2	 30	50 30	30	30	30	30
3,3'-Dichlorobenzidine	+++++ 6.1	3.3 -3.8	-6.0	-2.7	-0.4	3.5	 30	50 30	30	30	30	30
Bis(2-ethylhexyl) phthalate	+++++ 11.1	-24.9 0.9	-14.9	1.8	11.7	14.3	 30	50 30	30	30	30	30
Benzo[a]anthracene	-2.8 -0.8	-1.9 -8.7	2.0	4.4	4.8	3.0	50 30	30 30	30	30	30	30
Chrysene	0.9 0.8	-1.7 -8.8	1.5	3.9	3.0	0.4	50 30	30 30	30	30	30	30
Di-n-octyl phthalate	9.6 5.7	-1.5 -3.5	-0.8	-15.5	-1.8	7.8	50 30	30 30	30	30	30	30
7,12-Dimethylbenz(a)anthracene	-12.6 6.2	-7.5 -1.8	-5.4	2.8	8.6	9.8	50 30	30 30	30	30	30	30
Benzo[b]fluoranthene	-9.0 2.9	-3.3 -4.8	-3.1	8.6	5.2	3.5	50 30	30 30	30	30	30	30
Benzo[k]fluoranthene	-3.3 -2.1	-1.1 -10.1	2.7	1.1	8.0	4.8	50 30	30 30	30	30	30	30
Benzo[e]pyrene	-3.0 2.5	-4.8 -4.9	-3.7	3.8	4.9	5.1	50 30	30 30	30	30	30	30
Benzo[a]pyrene	7.1 4.1	-11.6 -3.2	-5.1	2.6	4.1	1.9	50 30	30 30	30	30	30	30
Indeno[1,2,3-cd]pyrene	-10.5 10.6	-9.1 3.2	-8.2	1.6	6.0	6.3	50 30	30 30	30	30	30	30
Dibenz(a,h)anthracene	-13.0 12.1	-10.4 6.3	-5.4	-0.8	4.6	6.6	50 30	30 30	30	30	30	30
Benzo[g,h,i]perylene	-7.2 8.3	-5.5 2.2	-6.4	0.4	3.4	4.8	50 30	30 30	30	30	30	30
2-Fluorophenol (Surr)	-15.4 5.3	-3.9 -0.7	-1.9	3.4	4.6	8.6	50 30	30 30	30	30	30	30
Phenol-d5 (Surr)	-3.8 -1.8	0.4 -9.9	1.8	7.4	4.0	1.9	50 30	30 30	30	30	30	30
Nitrobenzene-d5 (Surr)	-10.6 1.8	-4.5 -6.9	3.4	5.7	8.7	2.5	50 30	30 30	30	30	30	30
2-Fluorobiphenyl	5.4 -10.1	8.4 -18.9	8.3	7.7	4.1	-4.9	50 30	30 30	30	30	30	30
2,4,6-Tribromophenol (Surr)	+++++ 9.5	-25.0 5.5	-4.6	-0.1	5.5	9.2	 30	50 30	30	30	30	30
Terphenyl-d14 (Surr)	-2.9 0.6	-4.4 -8.1	1.6	4.6	5.8	2.9	50 30	30 30	30	30	30	30

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100003.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 10-Jul-2019 07:55:30 ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0027677-003
Operator ID: 003200 Instrument ID: CH732
Sublist: chrom-BNA_CH732*sub4

Method: \\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\BNA_CH732.m
Limit Group: BNA 8270D ICAL
Last Update: 11-Jul-2019 05:51:06 Calib Date: 10-Jul-2019 11:01:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100010.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0301

First Level Reviewer: piccolinov Date: 10-Jul-2019 10:54:38

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.220	6.220	0.000	96	224049	8.00	8.00	
* 2 Naphthalene-d8	136	7.513	7.513	0.000	99	983935	8.00	8.00	
* 3 Acenaphthene-d10	164	9.227	9.227	0.000	96	601048	8.00	8.00	
* 4 Phenanthrene-d10	188	10.681	10.681	0.000	97	1259653	8.00	8.00	
* 5 Chrysene-d12	240	14.479	14.479	0.000	97	1200980	8.00	8.00	
* 6 Perylene-d12	264	17.385	17.385	0.000	97	966838	8.00	8.00	
$ 7 2-Fluorophenol	112	4.772	4.772	0.000	89	8121	0.3800	0.3214	
$ 8 Phenol-d5	99	5.835	5.835	0.000	97	13621	0.3800	0.3655	
$ 9 Nitrobenzene-d5	82	6.781	6.781	0.000	86	12258	0.3800	0.3395	
$ 10 2-Fluorobiphenyl	172	8.560	8.560	0.000	99	40256	0.3800	0.4005	
$ 11 2,4,6-Tribromophenol	330	9.986	9.986	0.000	84	2395	0.3800	0.2226	
$ 12 Terphenyl-d14	244	12.630	12.630	0.000	98	40601	0.3800	0.3689	
13 1,4-Dioxane	88	1.652	1.652	0.000	3	3453	0.3800	0.4193	a
14 N-Nitrosodimethylamine	74	2.277	2.277	0.000	88	3404	0.3800	0.3295	
15 Pyridine	79	2.395	2.395	0.000	96	10160	0.7600	0.5861	M
21 Methyl methanesulfonate	80	4.537	4.537	0.000	84	5225	0.3800	0.3433	
25 Benzaldehyde	77	5.750	5.750	0.000	94	10525	0.3800	0.4097	
26 Phenol	94	5.851	5.851	0.000	94	16942	0.3800	0.3891	
27 Aniline	93	5.867	5.867	0.000	97	18736	0.3800	0.3798	
29 Bis(2-chloroethyl)ether	93	5.942	5.942	0.000	97	12859	0.3800	0.4149	
30 2-Chlorophenol	128	6.001	6.001	0.000	94	10337	0.3800	0.3201	
31 n-Decane	43	6.065	6.065	0.000	90	11530	0.3800	0.4313	
32 1,3-Dichlorobenzene	146	6.161	6.161	0.000	97	15404	0.3800	0.3812	
33 1,4-Dichlorobenzene	146	6.241	6.241	0.000	91	15984	0.3800	0.3933	
34 Benzyl alcohol	108	6.359	6.359	0.000	90	7014	0.3800	0.3368	
35 1,2-Dichlorobenzene	146	6.396	6.396	0.000	96	15935	0.3800	0.4004	
36 2-Methylphenol	108	6.476	6.476	0.000	92	11441	0.3800	0.3754	
37 Indene	116	6.487	6.487	0.000	90	24760	0.3800	0.4033	
38 2,2'-oxybis[1-chloropropan	45	6.503	6.503	0.000	89	15927	0.3800	0.4393	
39 N-Nitrosopyrrolidine	100	6.599	6.599	0.000	91	4682	0.3800	0.3153	
40 Acetophenone	105	6.626	6.626	0.000	82	18760	0.3800	0.4089	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
42 4-Methylphenol	108	6.626	6.626	0.000	58	11109	0.3800	0.3588	
41 N-Nitrosodi-n-propylamine	70	6.631	6.631	0.000	58	8345	0.3800	0.3821	
45 Hexachloroethane	117	6.749	6.749	0.000	90	5950	0.3800	0.3615	
46 Nitrobenzene	77	6.802	6.802	0.000	88	12863	0.3800	0.3424	
48 Isophorone	82	7.048	7.048	0.000	98	24357	0.3800	0.3508	
49 2-Nitrophenol	139	7.128	7.128	0.000	89	4466	0.3800	0.2512	
50 2,4-Dimethylphenol	107	7.160	7.160	0.000	95	13373	0.3800	0.3528	
52 Benzoic acid	122	7.187	7.187	0.000	90	6208	0.3800	0.3793	M
53 Bis(2-chloroethoxy)methane	93	7.245	7.245	0.000	98	17876	0.3800	0.3949	
54 2,4-Dichlorophenol	162	7.363	7.363	0.000	94	10806	0.3800	0.3192	
56 1,2,4-Trichlorobenzene	180	7.454	7.454	0.000	92	17978	0.3800	0.4129	
58 Naphthalene	128	7.534	7.534	0.000	95	49168	0.3800	0.4084	
59 4-Chloroaniline	127	7.571	7.571	0.000	97	19110	0.3800	0.3814	
60 2,6-Dichlorophenol	162	7.587	7.587	0.000	96	11731	0.3800	0.3478	
62 Hexachlorobutadiene	225	7.662	7.662	0.000	94	10375	0.3800	0.3881	
64 Caprolactam	113	7.892	7.892	0.000	76	1356	0.3800	0.1226	M
67 4-Chloro-3-methylphenol	107	8.031	8.031	0.000	94	10244	0.3800	0.3029	
69 2-Methylnaphthalene	142	8.212	8.212	0.000	93	34892	0.3800	0.3828	
71 1-Methylnaphthalene	142	8.309	8.309	0.000	93	34485	0.3800	0.4065	
72 Hexachlorocyclopentadiene	237	8.373	8.373	0.000	91	8894	0.3800	0.3084	
73 1,2,4,5-Tetrachlorobenzene	216	8.378	8.378	0.000	96	19331	0.3800	0.4110	
74 2,4,6-Trichlorophenol	196	8.480	8.480	0.000	88	7825	0.3800	0.2837	
75 2,4,5-Trichlorophenol	196	8.512	8.512	0.000	91	8048	0.3800	0.2770	
76 1,1'-Biphenyl	154	8.656	8.656	0.000	94	46307	0.3800	0.4168	
77 2-Chloronaphthalene	162	8.688	8.688	0.000	94	36034	0.3800	0.4108	
79 2-Nitroaniline	65	8.768	8.768	0.000	78	5219	0.3800	0.2325	
82 Dimethyl phthalate	163	8.928	8.928	0.000	99	36211	0.3800	0.3810	
83 1,3-Dinitrobenzene	168	8.960	8.960	0.000	80	2432	0.3800	1.23	
84 2,6-Dinitrotoluene	165	8.992	8.992	0.000	86	3043	0.3800	0.1509	
85 Acenaphthylene	152	9.094	9.094	0.000	98	52441	0.3800	0.3824	
86 3-Nitroaniline	138	9.158	9.158	0.000	89	3940	0.3800	0.1750	
88 Acenaphthene	153	9.259	9.259	0.000	92	35229	0.3800	0.4042	
87 2,4-Dinitrophenol	184	9.259	9.259	0.000	59	4910	0.7600	14.4	
89 4-Nitrophenol	109	9.292	9.292	0.000	75	4394	0.7600	0.3834	
91 2,4-Dinitrotoluene	165	9.382	9.382	0.000	90	4563	0.3800	0.1716	
93 Dibenzofuran	168	9.420	9.420	0.000	98	52789	0.3800	0.3929	
95 2,3,5,6-Tetrachlorophenol	232	9.495	9.495	0.000	90	6307	0.3800	0.2366	
96 2,3,4,6-Tetrachlorophenol	232	9.537	9.537	0.000	69	6993	0.3800	0.2641	M
97 2-Naphthylamine	143	9.564	9.564	0.000	98	30998	0.3800	0.3345	
98 Diethyl phthalate	149	9.596	9.596	0.000	98	34755	0.3800	0.3771	
99 Hexadecane	57	9.601	9.601	0.000	91	21635	0.3800	0.3555	
100 4-Chlorophenyl phenyl ethe	204	9.735	9.735	0.000	87	22807	0.3800	0.4001	
101 4-Nitroaniline	138	9.746	9.746	0.000	42	5342	0.3800	0.2256	
103 Fluorene	166	9.751	9.751	0.000	97	43206	0.3800	0.4069	
104 4,6-Dinitro-2-methylphenol	198	9.778	9.778	0.000	86	2864	0.7600	3.35	
105 N-Nitrosodiphenylamine	169	9.842	9.842	0.000	97	27950	0.3800	0.3665	
90 1,2-Diphenylhydrazine	77	9.885	9.885	0.000	97	36300	0.3800	0.3461	
57 Azobenzene	77	9.885	9.885	0.000	97	36300	0.3800	0.3461	
110 4-Bromophenyl phenyl ether	248	10.205	10.205	0.000	64	10896	0.3800	0.3509	
112 Hexachlorobenzene	284	10.296	10.296	0.000	90	11812	0.3800	0.3924	
113 Atrazine	200	10.323	10.323	0.000	90	7584	0.3800	0.2762	
116 Pentachlorophenol	266	10.472	10.472	0.000	91	10593	0.7600	0.5727	M

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
115 n-Octadecane	57	10.483	10.483	0.000	94	20554	0.3800	0.3188	
121 Phenanthrene	178	10.707	10.707	0.000	95	64366	0.3800	0.4032	
122 Anthracene	178	10.761	10.761	0.000	98	52857	0.3800	0.3394	
124 Carbazole	167	10.910	10.910	0.000	95	49088	0.3800	0.3406	
126 Di-n-butyl phthalate	149	11.241	11.241	0.000	100	43424	0.3800	0.2803	
131 Fluoranthene	202	12.128	12.128	0.000	97	59951	0.3800	0.3386	
132 Benzidine	184	12.262	12.262	0.000	98	22595	0.3800	0.2588	
133 Pyrene	202	12.454	12.454	0.000	97	66337	0.3800	0.3782	
138 Butyl benzyl phthalate	149	13.384	13.384	0.000	95	15545	0.3800	0.2454	
144 3,3'-Dichlorobenzidine	252	14.388	14.388	0.000	71	10008	0.3800	0.9824	
145 Bis(2-ethylhexyl) phthalat	149	14.441	14.441	0.000	95	18519	0.3800	0.2103	Ma
146 Benzo[a]anthracene	228	14.457	14.457	0.000	98	58068	0.3800	0.3694	
147 Chrysene	228	14.532	14.532	0.000	97	59812	0.3800	0.3836	
150 Di-n-octyl phthalate	149	15.750	15.750	0.000	99	61792	0.3800	0.4164	Ma
151 7,12-Dimethylbenz(a)anthra	256	16.594	16.594	0.000	89	22919	0.3800	0.3320	
152 Benzo[b]fluoranthene	252	16.605	16.605	0.000	95	50009	0.3800	0.3456	
153 Benzo[k]fluoranthene	252	16.664	16.664	0.000	97	56382	0.3800	0.3676	M
219 Benzo[e]pyrene	252	17.166	17.166	0.000	98	49564	0.3800	0.3687	
154 Benzo[a]pyrene	252	17.273	17.273	0.000	78	53071	0.3800	0.4070	M
157 Indeno[1,2,3-cd]pyrene	276	19.794	19.794	0.000	97	47009	0.3800	0.3403	M
158 Dibenz(a,h)anthracene	278	19.832	19.832	0.000	47	37392	0.3800	0.3307	M
159 Benzo[g,h,i]perylene	276	20.505	20.505	0.000	94	42226	0.3800	0.3526	M
S 199 Total Cresols	108				0		0.7600	0.7343	
S 197 Methyl Phenols,Total	108				0		0.7600	0.7343	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

SVTAPSTD0.38i_00009 Amount Added: 1.00 Units: mL

Report Date: 11-Jul-2019 05:51:09 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100003.D				
Injection Date:	10-Jul-2019 07:55:30	Instrument ID:	CH732	Operator ID:	003200
Lims ID:	IC			Worklist Smp#:	3
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

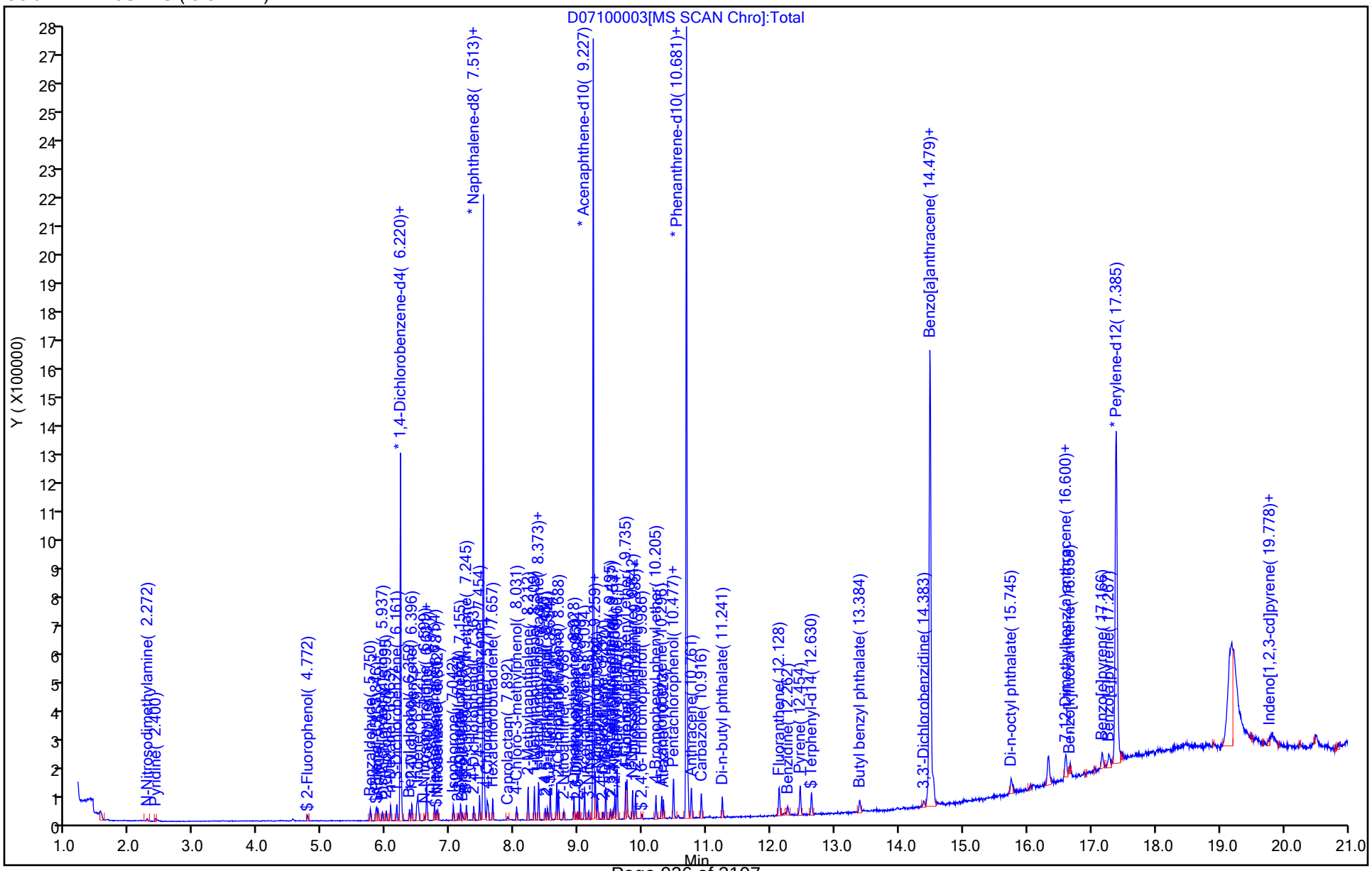

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100003.D				
Injection Date:	10-Jul-2019 07:55:30	Instrument ID:	CH732		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

13 1,4-Dioxane, CAS: 123-91-1

Signal: 1

Not Detected
Expected RT: 1.65

Processing Integration Results

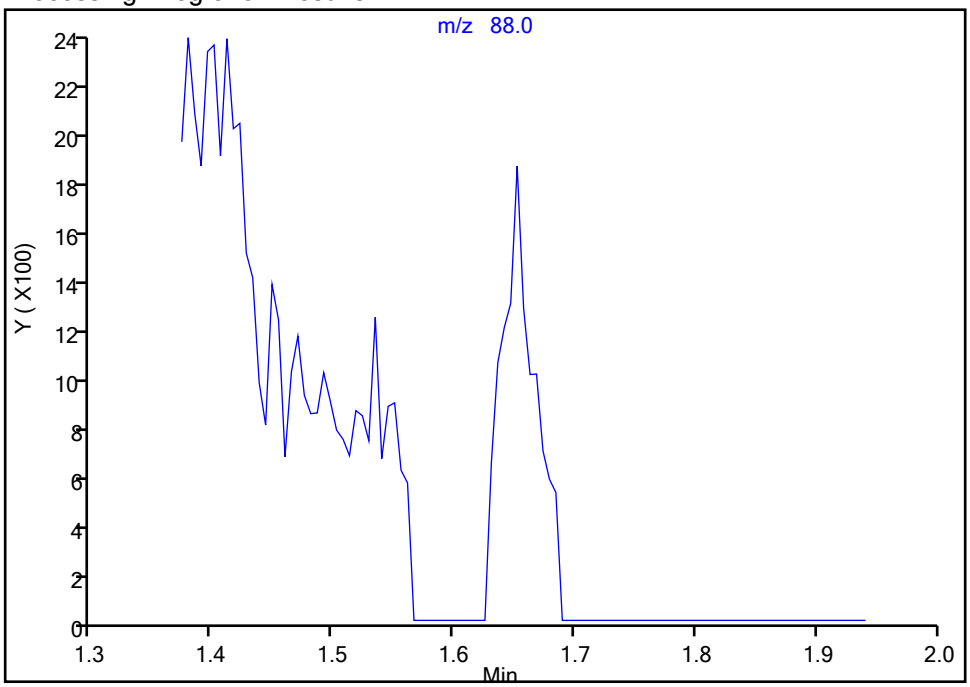

Manual Integration Results

RT: 1.65
Area: 3453
Amount: 0.419255
Amount Units: ng

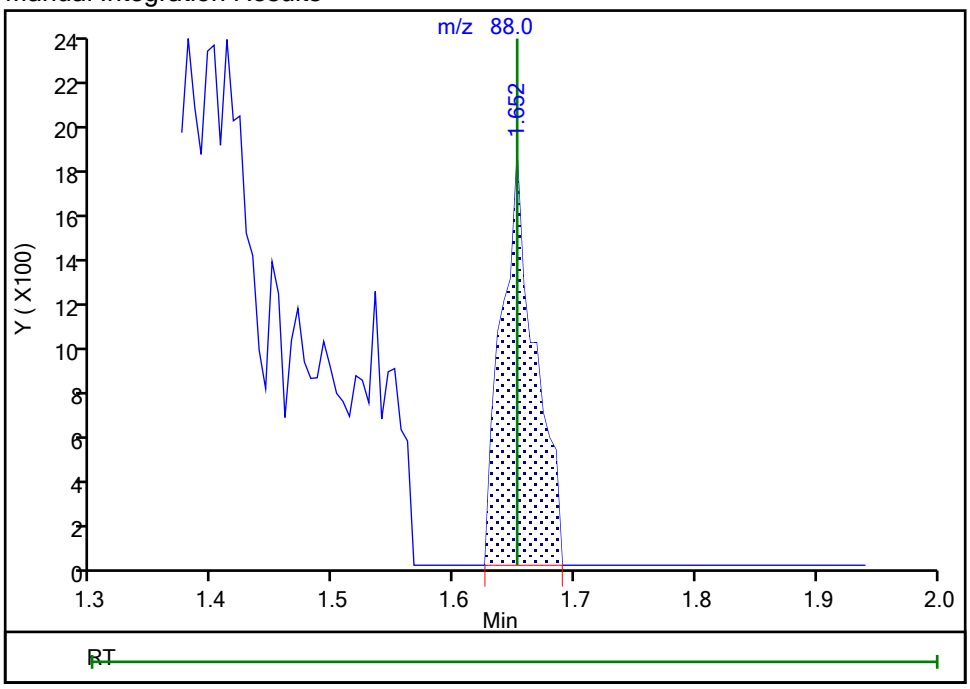

Reviewer: piccolinov, 10-Jul-2019 10:50:41
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100003.D				
Injection Date:	10-Jul-2019 07:55:30	Instrument ID:	CH732		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

15 Pyridine, CAS: 110-86-1

Signal: 1

Processing Integration Results

RT: 2.39
Area: 7899
Amount: 0.470001
Amount Units: ng

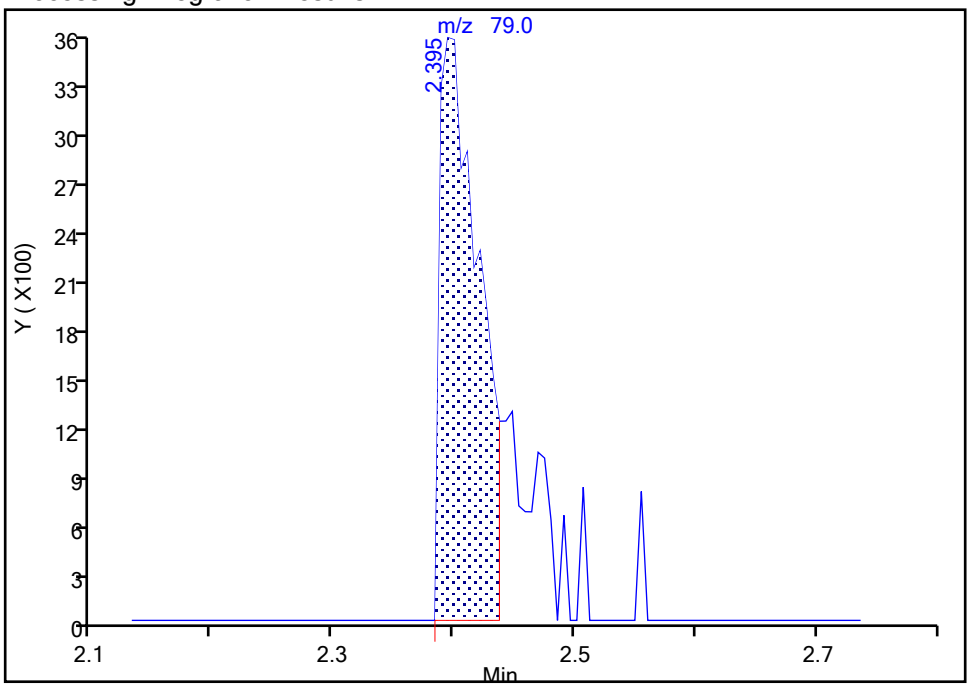

Manual Integration Results

RT: 2.39
Area: 10160
Amount: 0.586120
Amount Units: ng

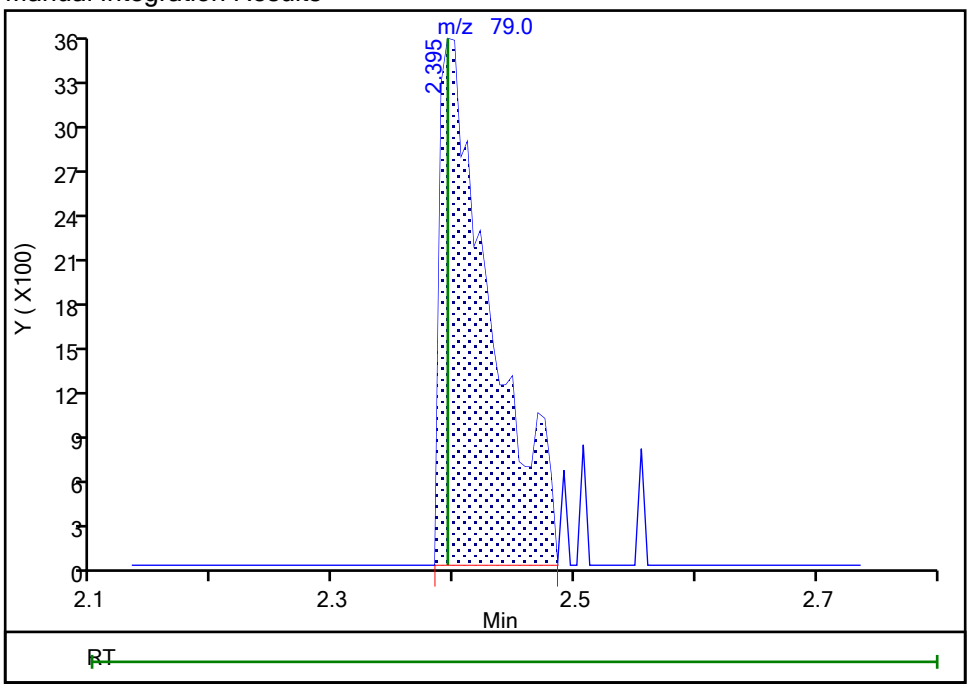

Reviewer: piccolinov, 10-Jul-2019 10:50:53

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100003.D				
Injection Date:	10-Jul-2019 07:55:30	Instrument ID:	CH732		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

52 Benzoic acid, CAS: 65-85-0

Signal: 1

Processing Integration Results

RT: 7.19
Area: 5562
Amount: 0.360653
Amount Units: ng

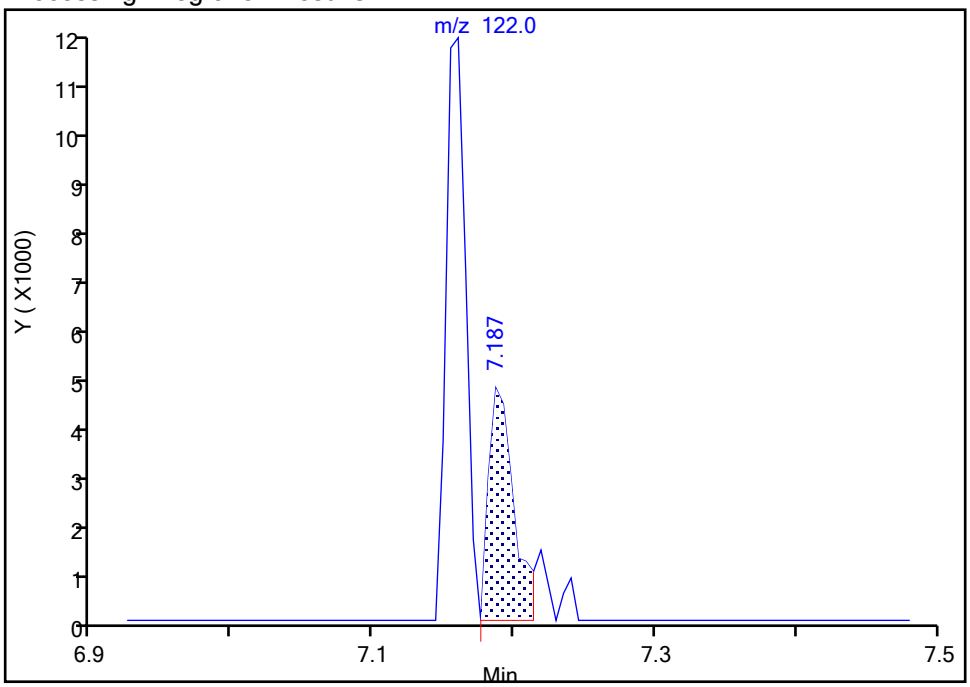

Manual Integration Results

RT: 7.19
Area: 6208
Amount: 0.379259
Amount Units: ng

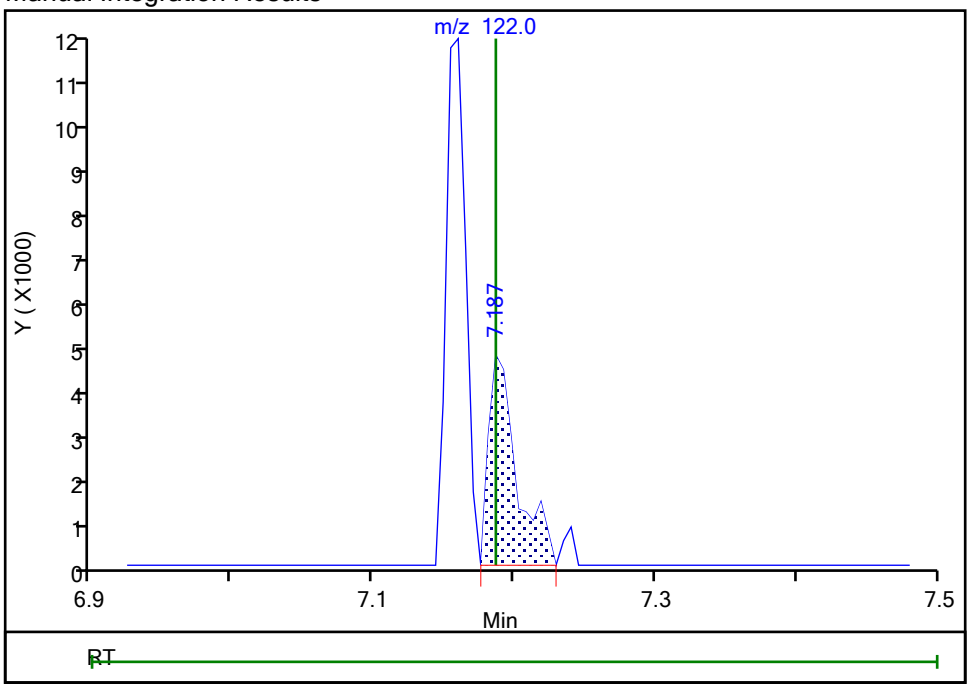

Reviewer: piccolinov, 10-Jul-2019 10:51:06

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100003.D				
Injection Date:	10-Jul-2019 07:55:30	Instrument ID:	CH732		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

64 Caprolactam, CAS: 105-60-2

Signal: 1

Processing Integration Results

RT: 7.89
Area: 1065
Amount: 0.386970
Amount Units: ng

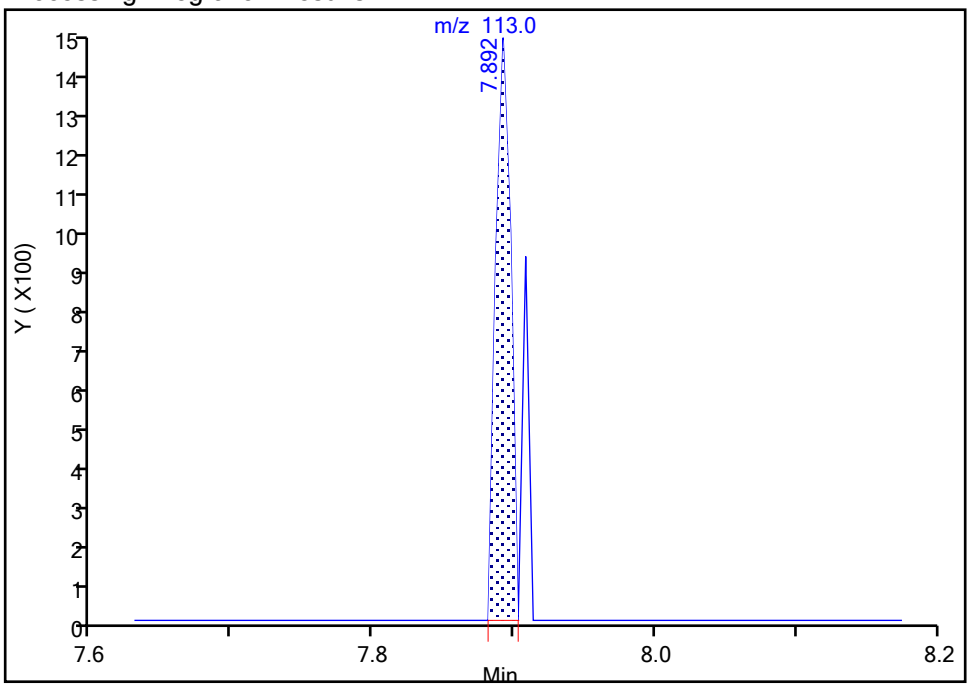

Manual Integration Results

RT: 7.89
Area: 1356
Amount: 0.122618
Amount Units: ng

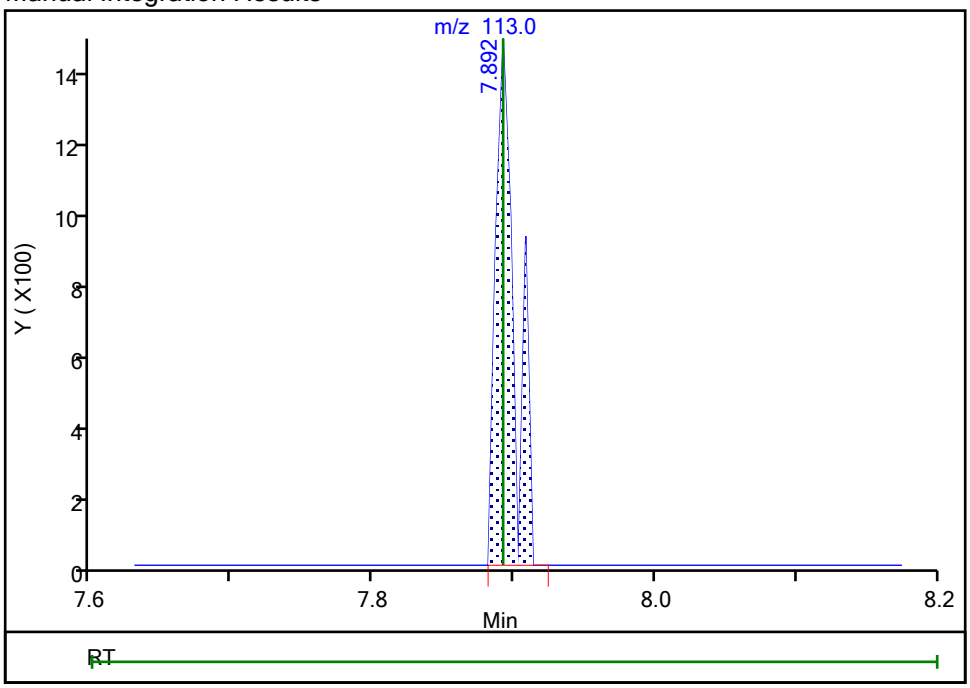

Reviewer: piccolinov, 10-Jul-2019 10:51:14

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100003.D				
Injection Date:	10-Jul-2019 07:55:30	Instrument ID:	CH732		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

96 2,3,4,6-Tetrachlorophenol, CAS: 58-90-2

Signal: 1

Processing Integration Results

RT: 9.54
Area: 6638
Amount: 0.259175
Amount Units: ng

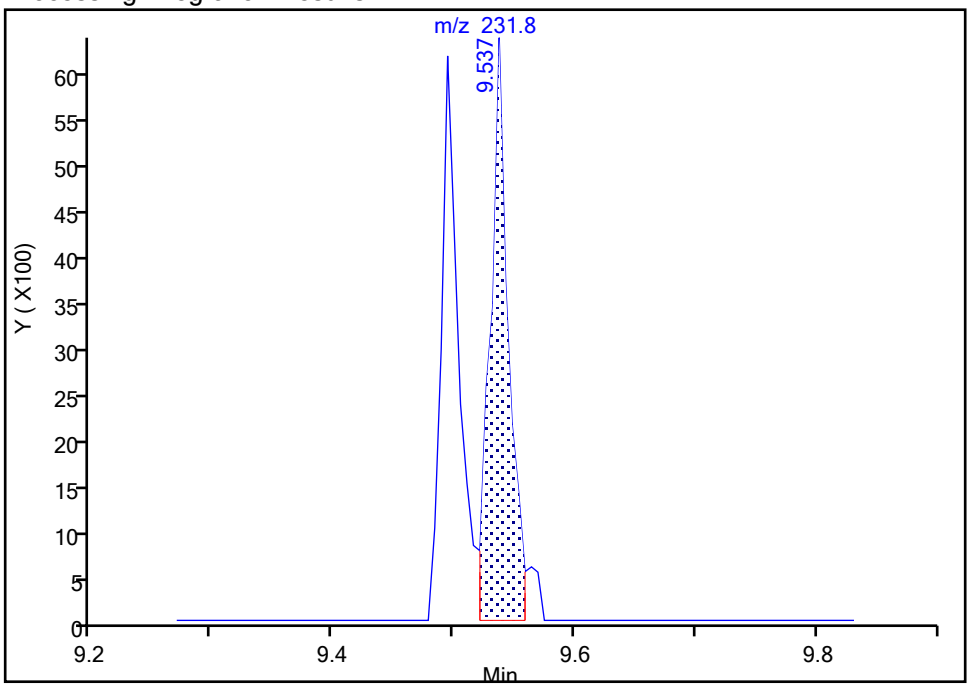

Manual Integration Results

RT: 9.54
Area: 6993
Amount: 0.264145
Amount Units: ng

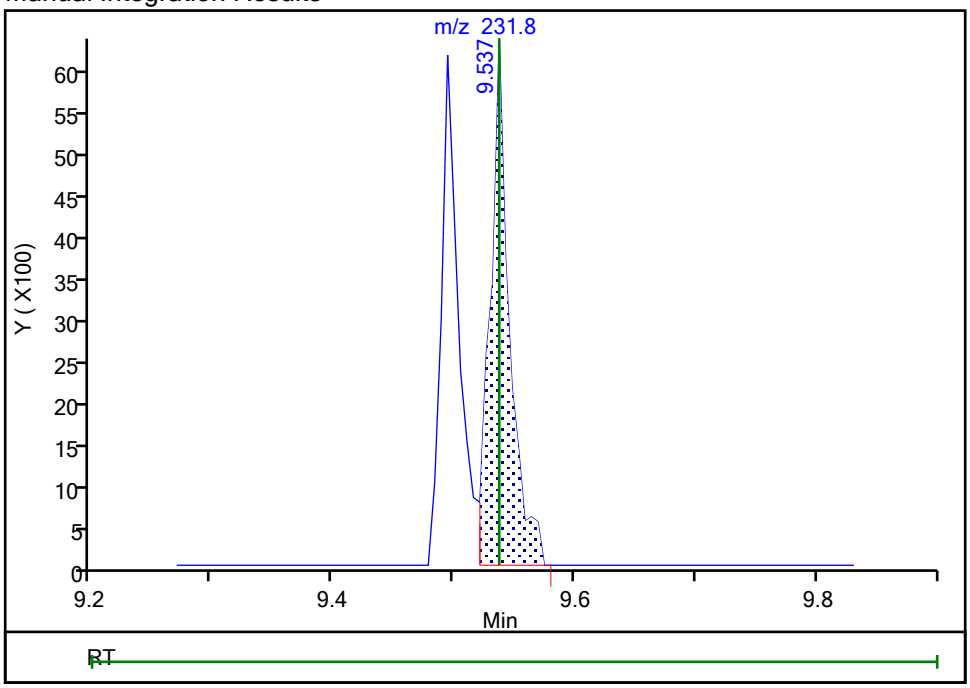

Reviewer: piccolinov, 10-Jul-2019 10:51:32

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100003.D				
Injection Date:	10-Jul-2019 07:55:30	Instrument ID:	CH732		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

116 Pentachlorophenol, CAS: 87-86-5

Signal: 1

Processing Integration Results

RT: 10.47
Area: 10276
Amount: 0.578181
Amount Units: ng

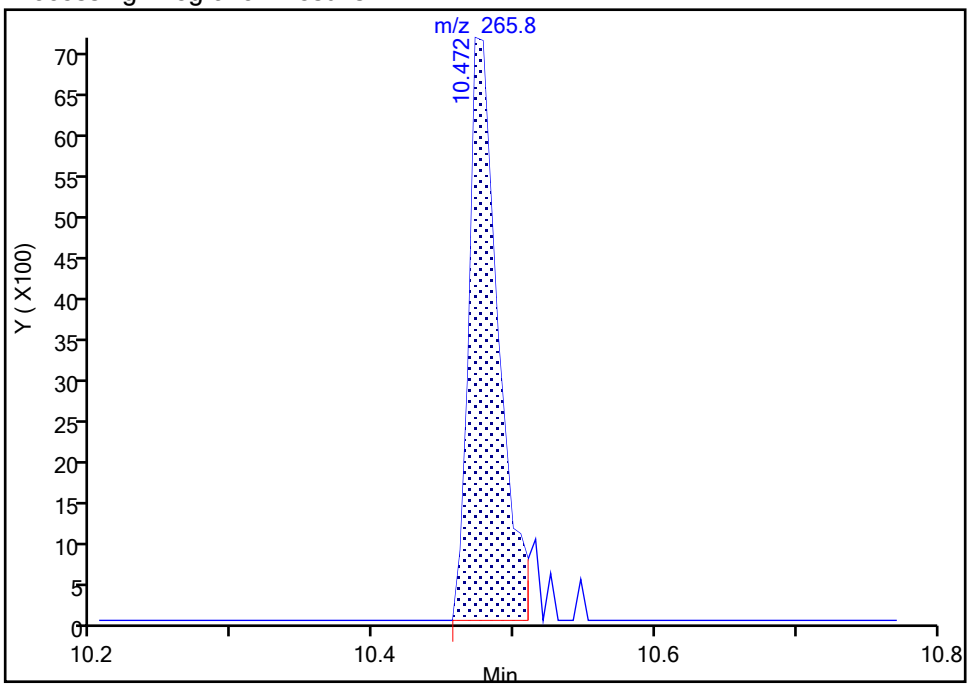

Manual Integration Results

RT: 10.47
Area: 10593
Amount: 0.572712
Amount Units: ng

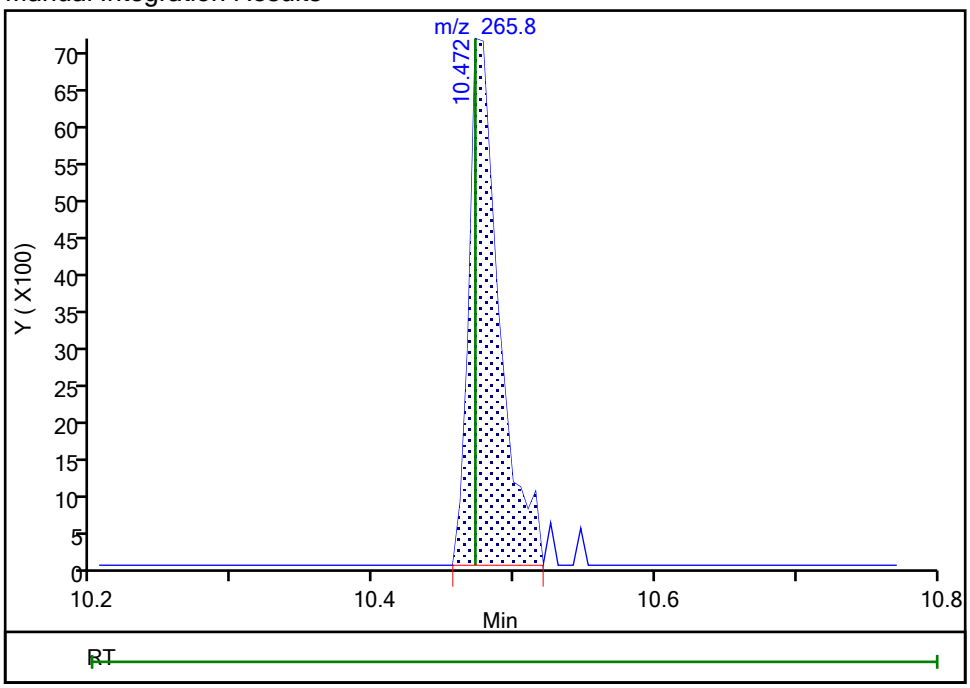

Reviewer: piccolinov, 10-Jul-2019 10:51:50

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100003.D				
Injection Date:	10-Jul-2019 07:55:30	Instrument ID:	CH732		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

145 Bis(2-ethylhexyl) phthalate, CAS: 117-81-7

Signal: 1

Not Detected
Expected RT: 14.44

Processing Integration Results

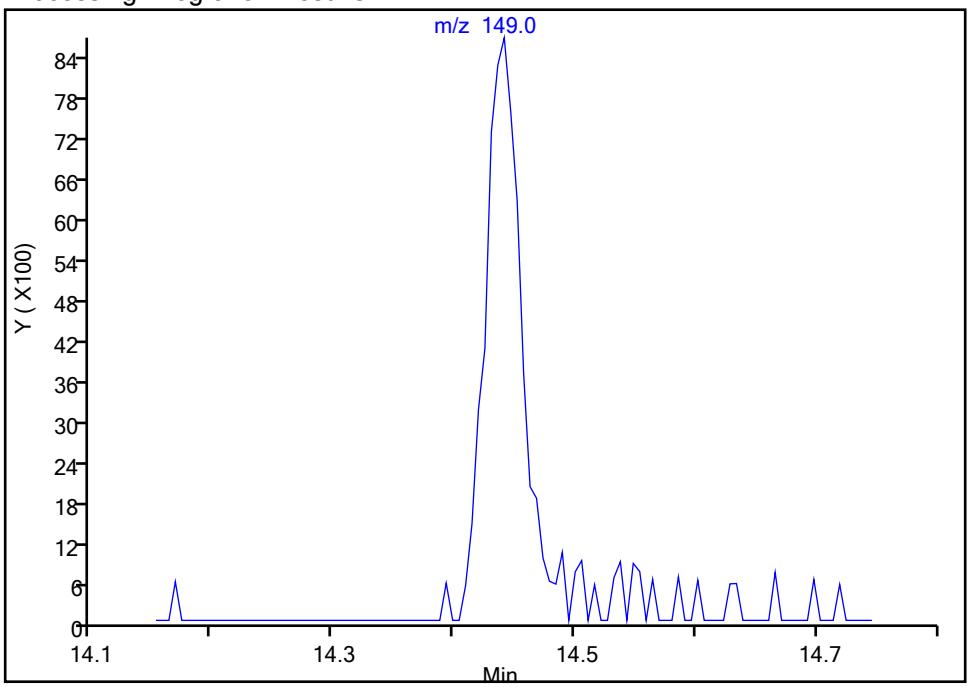

Manual Integration Results

RT: 14.44
Area: 18519
Amount: 0.210320
Amount Units: ng

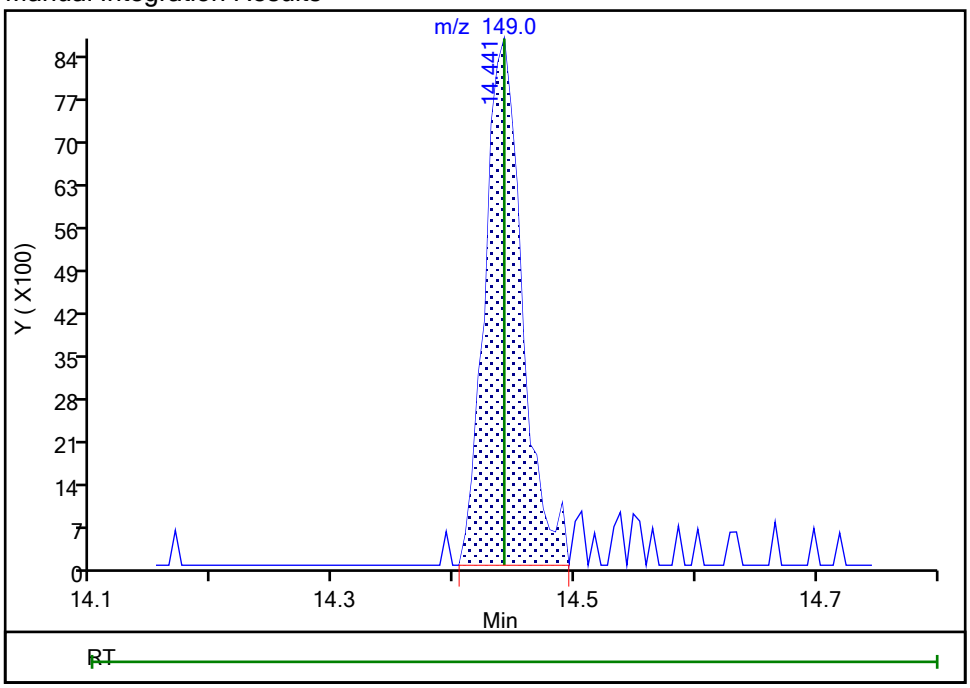

Reviewer: piccolinov, 10-Jul-2019 10:52:06
Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100003.D				
Injection Date:	10-Jul-2019 07:55:30	Instrument ID:	CH732		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

150 Di-n-octyl phthalate, CAS: 117-84-0

Signal: 1

Not Detected
Expected RT: 15.75

Processing Integration Results

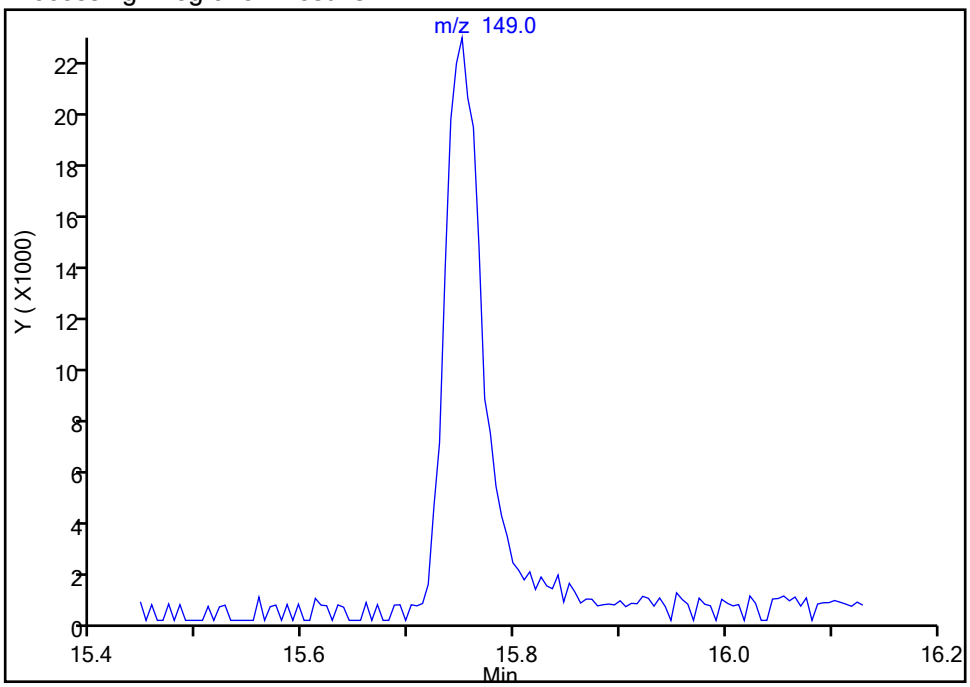

Manual Integration Results

RT: 15.75
Area: 61792
Amount: 0.416390
Amount Units: ng

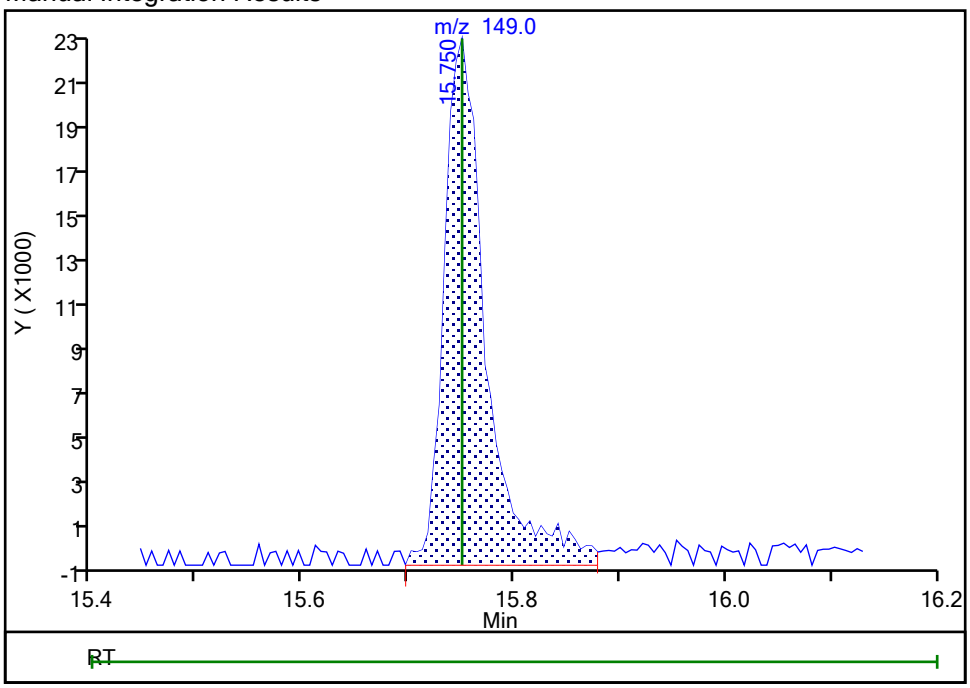

Reviewer: piccolinov, 10-Jul-2019 10:52:42
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100003.D				
Injection Date:	10-Jul-2019 07:55:30	Instrument ID:	CH732		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

153 Benzo[k]fluoranthene, CAS: 207-08-9

Signal: 1

Processing Integration Results

RT: 16.66
Area: 50026
Amount: 0.325490
Amount Units: ng

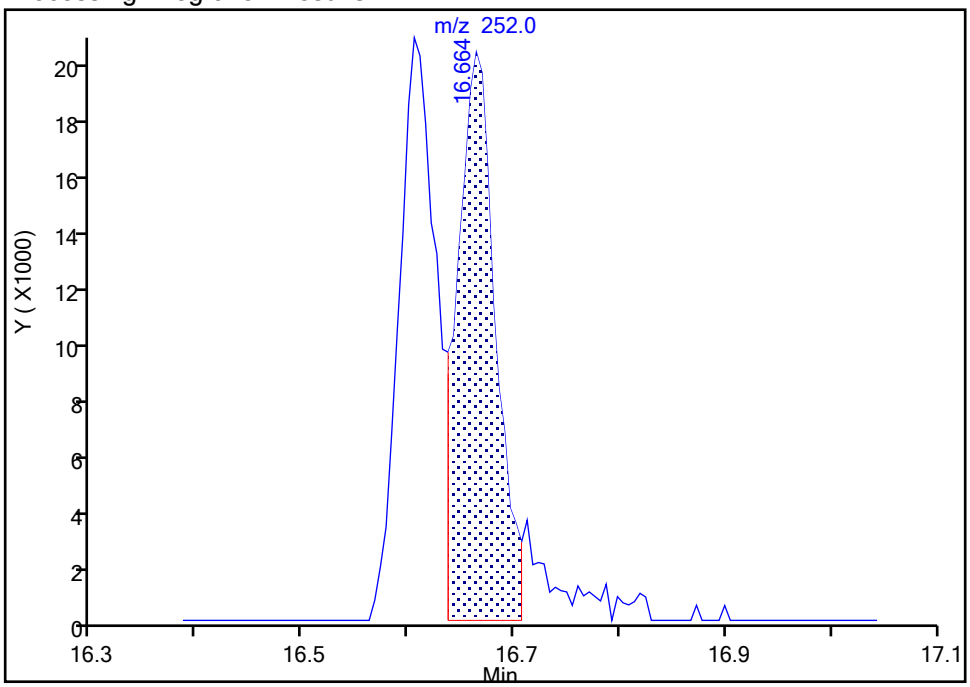

Manual Integration Results

RT: 16.66
Area: 56382
Amount: 0.367598
Amount Units: ng

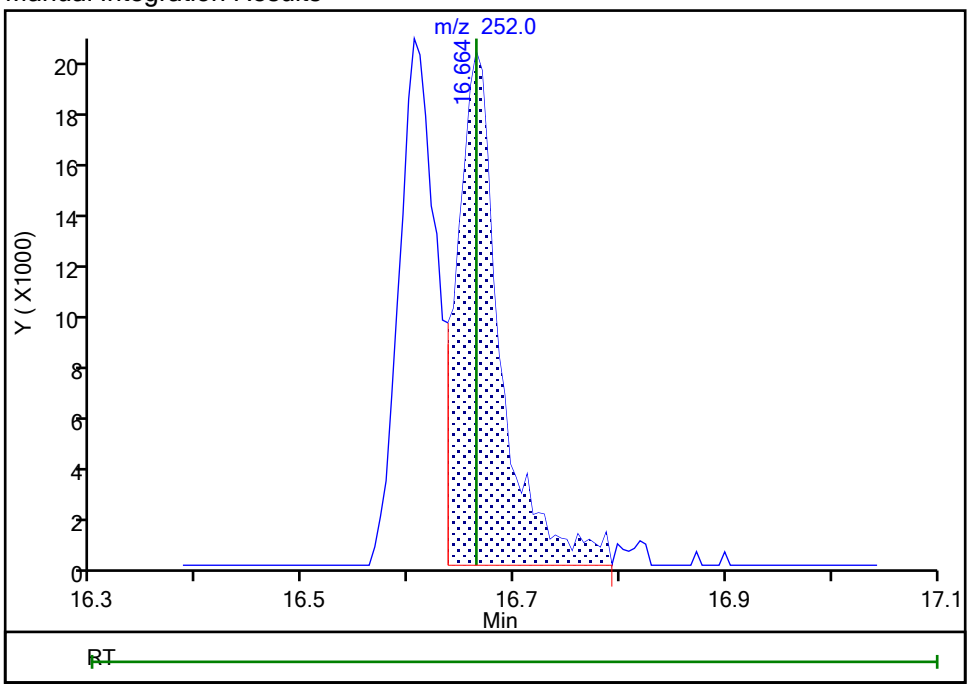

Reviewer: piccolinov, 10-Jul-2019 10:52:55

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100003.D				
Injection Date:	10-Jul-2019 07:55:30	Instrument ID:	CH732		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

154 Benzo[a]pyrene, CAS: 50-32-8

Signal: 1

Processing Integration Results

RT: 17.27
Area: 43672
Amount: 0.346397
Amount Units: ng

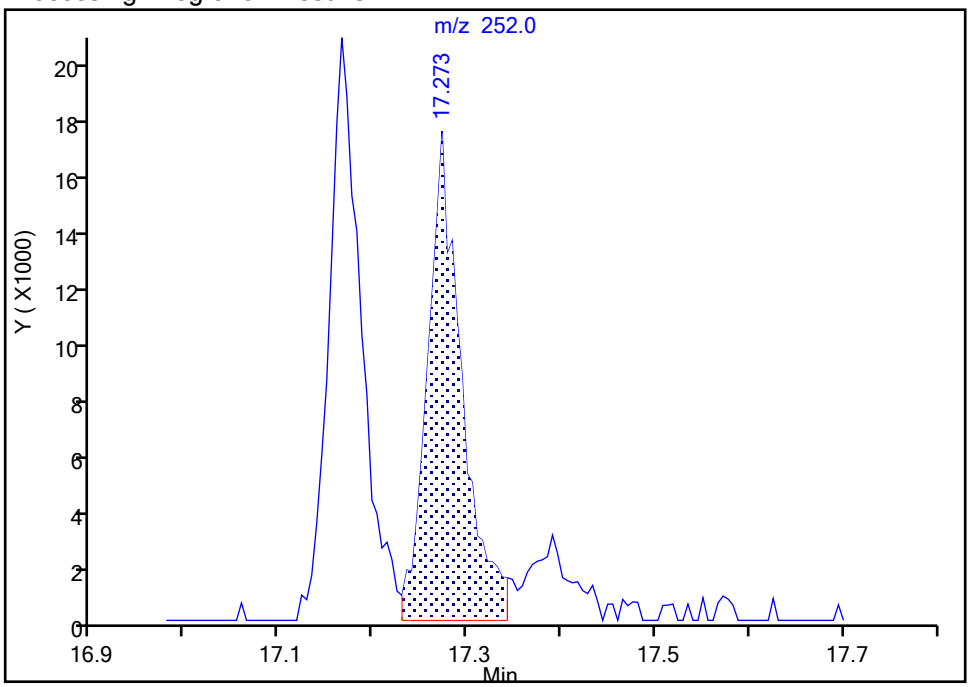

Manual Integration Results

RT: 17.27
Area: 53071
Amount: 0.407038
Amount Units: ng

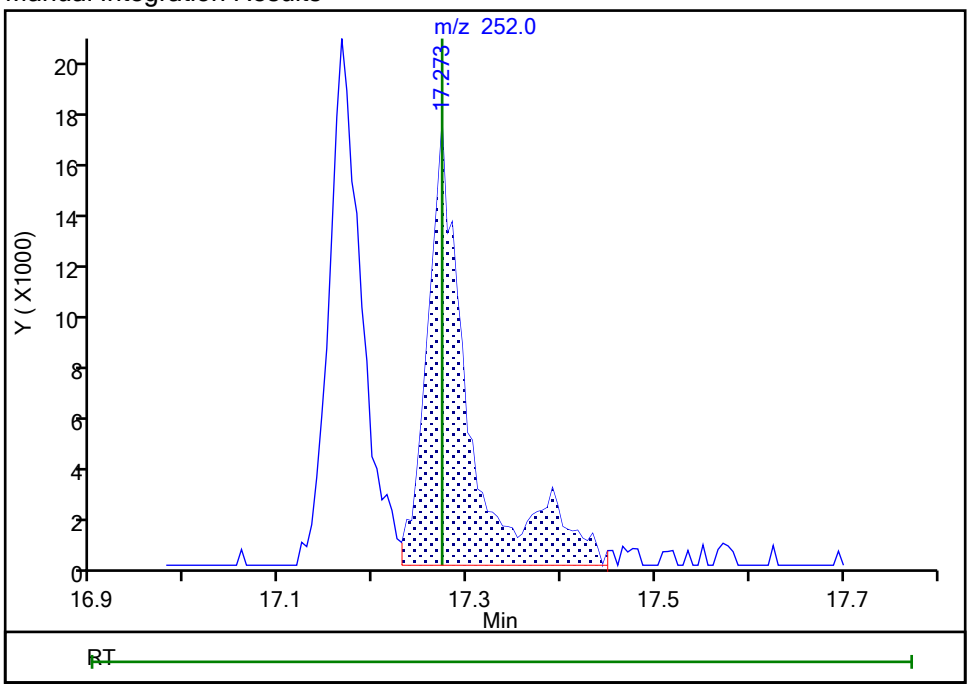

Reviewer: piccolinov, 10-Jul-2019 10:53:09

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100003.D				
Injection Date:	10-Jul-2019 07:55:30	Instrument ID:	CH732		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

157 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

Signal: 1

Processing Integration Results

RT: 19.79
Area: 13929
Amount: 0.115619
Amount Units: ng

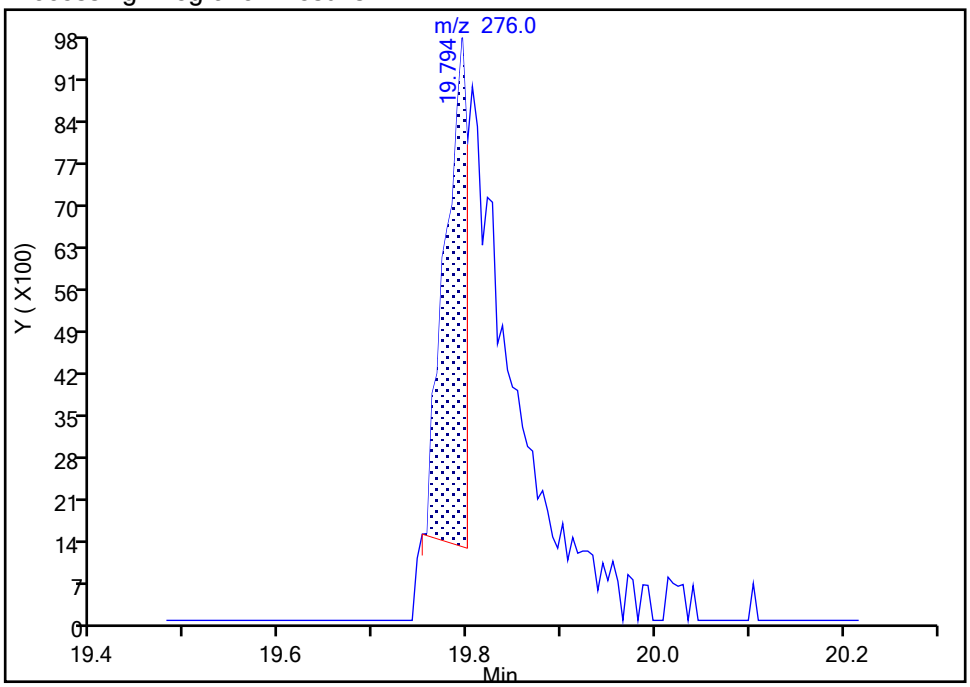

Manual Integration Results

RT: 19.79
Area: 47009
Amount: 0.340254
Amount Units: ng

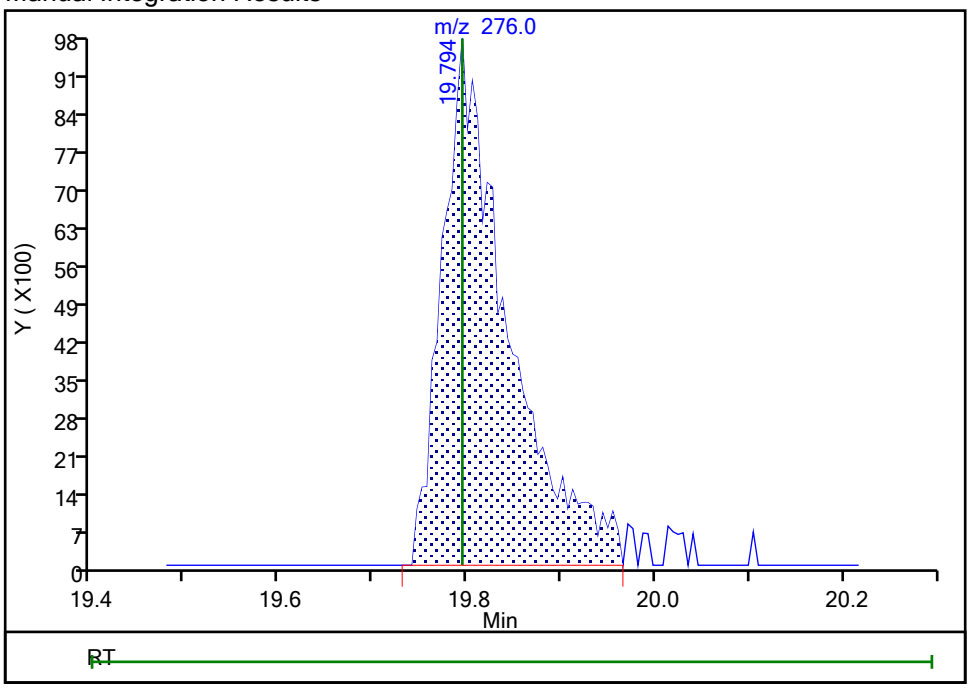

Reviewer: piccolinov, 10-Jul-2019 10:53:38
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100003.D				
Injection Date:	10-Jul-2019 07:55:30	Instrument ID:	CH732		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

158 Dibenz(a,h)anthracene, CAS: 53-70-3

Signal: 1

Processing Integration Results

RT: 19.83
Area: 30498
Amount: 0.286207
Amount Units: ng

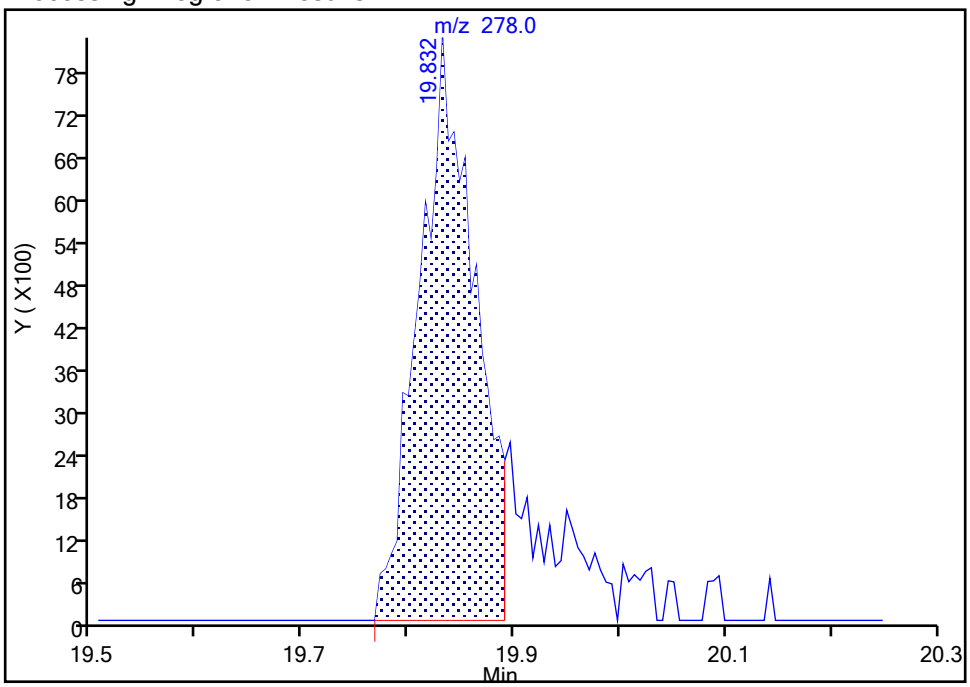

Manual Integration Results

RT: 19.83
Area: 37392
Amount: 0.330734
Amount Units: ng

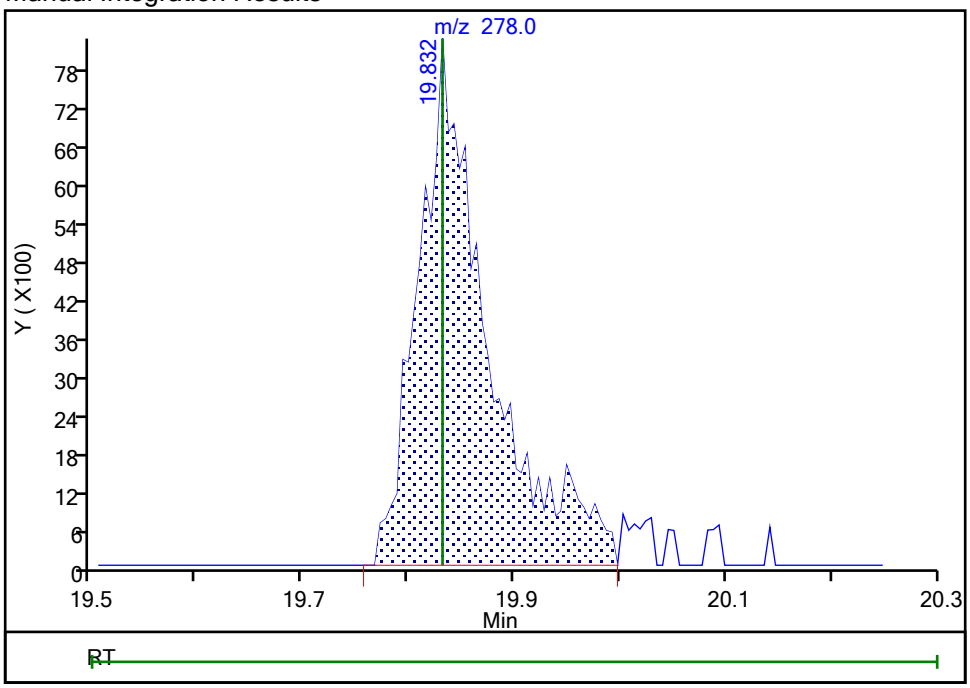

Reviewer: piccolinov, 10-Jul-2019 10:53:48

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100003.D				
Injection Date:	10-Jul-2019 07:55:30	Instrument ID:	CH732		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

159 Benzo[g,h,i]perylene, CAS: 191-24-2

Signal: 1

Processing Integration Results

RT: 20.50
Area: 23258
Amount: 0.380514
Amount Units: ng

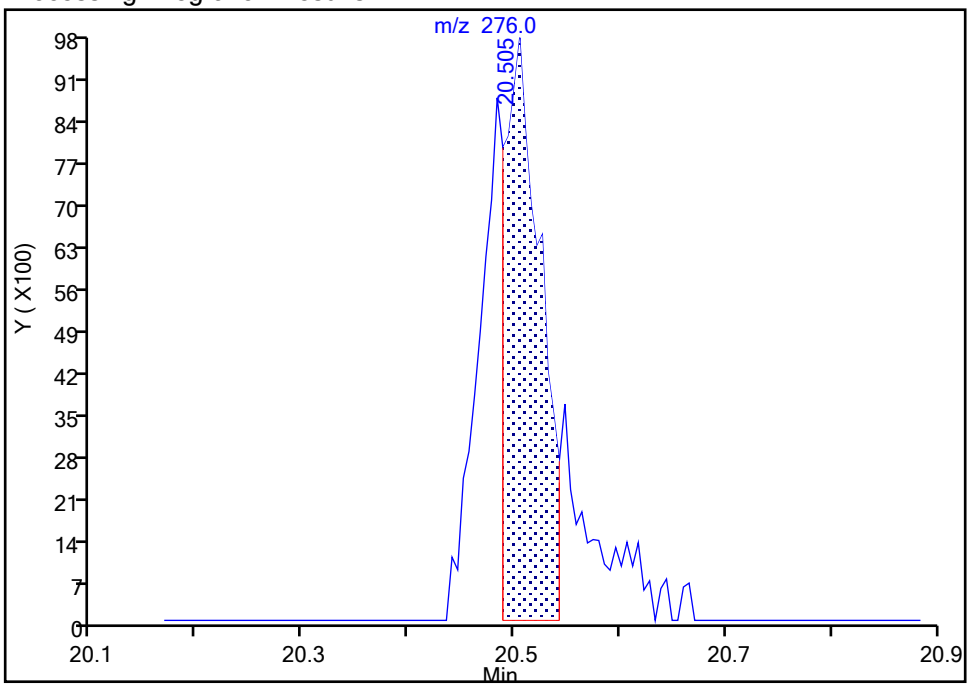

Manual Integration Results

RT: 20.50
Area: 42226
Amount: 0.352582
Amount Units: ng

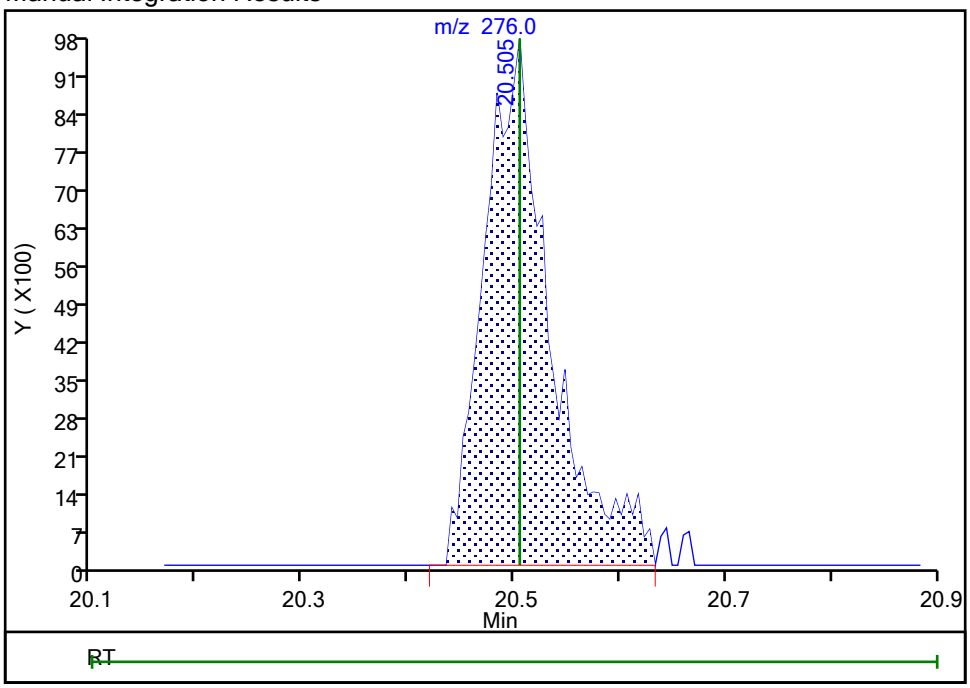

Reviewer: piccolinov, 10-Jul-2019 10:54:10

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100004.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 10-Jul-2019 08:21:30 ALS Bottle#: 3 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0027677-004
Operator ID: 003200 Instrument ID: CH732
Sublist: chrom-BNA_CH732*sub4

Method: \\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\BNA_CH732.m
Limit Group: BNA 8270D ICAL
Last Update: 11-Jul-2019 05:51:15 Calib Date: 10-Jul-2019 11:01:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100010.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0301

First Level Reviewer: piccolinov Date: 10-Jul-2019 10:50:23

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.209	6.220	-0.011	96	221793	8.00	8.00	
* 2 Naphthalene-d8	136	7.502	7.513	-0.011	99	976711	8.00	8.00	
* 3 Acenaphthene-d10	164	9.222	9.227	-0.005	98	578832	8.00	8.00	
* 4 Phenanthrene-d10	188	10.675	10.681	-0.005	97	1232796	8.00	8.00	
* 5 Chrysene-d12	240	14.479	14.479	0.000	97	1197624	8.00	8.00	
* 6 Perylene-d12	264	17.380	17.385	-0.005	97	928049	8.00	8.00	
$ 7 2-Fluorophenol	112	4.756	4.772	-0.016	91	48095	2.00	1.92	
$ 8 Phenol-d5	99	5.824	5.835	-0.011	97	74055	2.00	2.01	
$ 9 Nitrobenzene-d5	82	6.775	6.781	-0.006	88	68433	2.00	1.91	
$ 10 2-Fluorobiphenyl	172	8.549	8.560	-0.011	99	209844	2.00	2.17	
$ 11 2,4,6-Tribromophenol	330	9.981	9.986	-0.005	86	15802	2.00	1.50	
$ 12 Terphenyl-d14	244	12.625	12.630	-0.005	99	209802	2.00	1.91	
13 1,4-Dioxane	88	1.631	1.652	-0.021	86	14991	2.00	1.84	
14 N-Nitrosodimethylamine	74	2.234	2.277	-0.043	96	18546	2.00	1.81	M
15 Pyridine	79	2.331	2.395	-0.065	98	68729	4.00	4.01	M
21 Methyl methanesulfonate	80	4.515	4.537	-0.022	86	28970	2.00	1.92	
25 Benzaldehyde	77	5.739	5.750	-0.011	97	53604	2.00	2.11	
26 Phenol	94	5.840	5.851	-0.011	96	90762	2.00	2.11	
27 Aniline	93	5.856	5.867	-0.011	96	104056	2.00	2.13	
29 Bis(2-chloroethyl)ether	93	5.926	5.942	-0.016	96	63717	2.00	2.08	
30 2-Chlorophenol	128	5.990	6.001	-0.011	96	63421	2.00	1.98	
31 n-Decane	43	6.054	6.065	-0.011	87	58113	2.00	2.20	
32 1,3-Dichlorobenzene	146	6.150	6.161	-0.011	97	85218	2.00	2.13	
33 1,4-Dichlorobenzene	146	6.230	6.241	-0.011	95	82886	2.00	2.06	
34 Benzyl alcohol	108	6.348	6.359	-0.011	91	38285	2.00	1.86	
35 1,2-Dichlorobenzene	146	6.391	6.396	-0.005	97	83222	2.00	2.11	
36 2-Methylphenol	108	6.465	6.476	-0.011	95	62454	2.00	2.07	
37 Indene	116	6.481	6.487	-0.006	90	133488	2.00	2.20	
38 2,2'-oxybis[1-chloropropan	45	6.492	6.503	-0.011	90	82858	2.00	2.31	
39 N-Nitrosopyrrolidine	100	6.588	6.599	-0.011	94	27312	2.00	1.86	
40 Acetophenone	105	6.620	6.626	-0.006	84	101490	2.00	2.23	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
42 4-Methylphenol	108	6.620	6.626	-0.006	64	67386	2.00	2.20	
41 N-Nitrosodi-n-propylamine	70	6.620	6.631	-0.011	66	49964	2.00	2.31	
45 Hexachloroethane	117	6.743	6.749	-0.006	90	31846	2.00	1.95	
46 Nitrobenzene	77	6.791	6.802	-0.011	87	74244	2.00	1.99	
48 Isophorone	82	7.032	7.048	-0.016	99	135186	2.00	1.96	
49 2-Nitrophenol	139	7.117	7.128	-0.011	95	26791	2.00	1.52	
50 2,4-Dimethylphenol	107	7.149	7.160	-0.011	95	73716	2.00	1.96	
52 Benzoic acid	122	7.187	7.187	0.000	88	32320	2.00	1.99	M
53 Bis(2-chloroethoxy)methane	93	7.240	7.245	-0.005	99	95151	2.00	2.12	
54 2,4-Dichlorophenol	162	7.358	7.363	-0.005	93	63753	2.00	1.90	
56 1,2,4-Trichlorobenzene	180	7.448	7.454	-0.006	94	86242	2.00	2.00	
58 Naphthalene	128	7.523	7.534	-0.011	97	257734	2.00	2.16	
59 4-Chloroaniline	127	7.566	7.571	-0.005	96	100956	2.00	2.03	
60 2,6-Dichlorophenol	162	7.582	7.587	-0.005	97	67108	2.00	2.00	
62 Hexachlorobutadiene	225	7.651	7.662	-0.011	92	53634	2.00	2.02	
64 Caprolactam	113	7.870	7.892	-0.022	82	17604	2.00	1.60	M
67 4-Chloro-3-methylphenol	107	8.025	8.031	-0.006	95	62596	2.00	1.86	
69 2-Methylnaphthalene	142	8.202	8.212	-0.010	93	191660	2.00	2.12	
71 1-Methylnaphthalene	142	8.303	8.309	-0.006	93	177120	2.00	2.10	
72 Hexachlorocyclopentadiene	237	8.367	8.373	-0.006	96	49678	2.00	1.79	
73 1,2,4,5-Tetrachlorobenzene	216	8.373	8.378	-0.005	96	98047	2.00	2.16	
74 2,4,6-Trichlorophenol	196	8.474	8.480	-0.006	91	48975	2.00	1.84	
75 2,4,5-Trichlorophenol	196	8.506	8.512	-0.006	95	54593	2.00	1.95	
76 1,1'-Biphenyl	154	8.650	8.656	-0.006	94	233695	2.00	2.18	
77 2-Chloronaphthalene	162	8.677	8.688	-0.011	95	184895	2.00	2.19	
79 2-Nitroaniline	65	8.763	8.768	-0.005	83	33510	2.00	1.55	
82 Dimethyl phthalate	163	8.917	8.928	-0.011	99	187747	2.00	2.05	
83 1,3-Dinitrobenzene	168	8.955	8.960	-0.005	83	15271	2.00	2.11	
84 2,6-Dinitrotoluene	165	8.982	8.992	-0.010	95	30315	2.00	1.56	
85 Acenaphthylene	152	9.088	9.094	-0.006	98	277238	2.00	2.10	
86 3-Nitroaniline	138	9.153	9.158	-0.005	93	36060	2.00	1.66	
88 Acenaphthene	153	9.254	9.259	-0.005	94	191128	2.00	2.28	
87 2,4-Dinitrophenol	184	9.254	9.259	-0.005	59	22281	4.00	15.6	
89 4-Nitrophenol	109	9.286	9.292	-0.006	91	34809	4.00	3.15	
91 2,4-Dinitrotoluene	165	9.372	9.382	-0.010	92	39278	2.00	1.53	
93 Dibenzofuran	168	9.414	9.420	-0.006	98	285707	2.00	2.21	
95 2,3,5,6-Tetrachlorophenol	232	9.489	9.495	-0.006	93	41034	2.00	1.60	
96 2,3,4,6-Tetrachlorophenol	232	9.532	9.537	-0.005	71	48696	2.00	1.91	M
97 2-Naphthylamine	143	9.559	9.564	-0.005	97	187592	2.00	2.10	
98 Diethyl phthalate	149	9.591	9.596	-0.005	98	192218	2.00	2.17	
99 Hexadecane	57	9.596	9.601	-0.005	93	135768	2.00	2.25	
100 4-Chlorophenyl phenyl ethe	204	9.730	9.735	-0.005	89	113779	2.00	2.07	
101 4-Nitroaniline	138	9.740	9.746	-0.006	84	42113	2.00	1.85	
103 Fluorene	166	9.746	9.751	-0.005	95	230811	2.00	2.26	
104 4,6-Dinitro-2-methylphenol	198	9.772	9.778	-0.006	88	31037	4.00	4.90	M
105 N-Nitrosodiphenylamine	169	9.836	9.842	-0.006	99	153194	2.00	2.05	
90 1,2-Diphenylhydrazine	77	9.879	9.885	-0.005	98	232617	2.00	2.27	
57 Azobenzene	77	9.879	9.885	-0.005	98	232617	2.00	2.27	
110 4-Bromophenyl phenyl ether	248	10.205	10.205	0.000	68	60083	2.00	1.98	
112 Hexachlorobenzene	284	10.290	10.296	-0.006	91	57253	2.00	1.94	
113 Atrazine	200	10.323	10.323	-0.001	92	47745	2.00	1.78	
116 Pentachlorophenol	266	10.472	10.472	0.000	92	71077	4.00	3.93	M

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
115 n-Octadecane	57	10.477	10.483	-0.006	95	136170	2.00	2.13	
121 Phenanthrene	178	10.702	10.707	-0.005	97	328359	2.00	2.10	
122 Anthracene	178	10.755	10.761	-0.006	98	311641	2.00	2.04	
124 Carbazole	167	10.905	10.910	-0.005	95	279970	2.00	1.98	
126 Di-n-butyl phthalate	149	11.236	11.241	-0.005	100	275400	2.00	1.82	
131 Fluoranthene	202	12.123	12.128	-0.005	97	332159	2.00	1.92	
132 Benzidine	184	12.262	12.262	0.000	99	134333	2.00	1.54	
133 Pyrene	202	12.449	12.454	-0.005	98	342523	2.00	1.96	
138 Butyl benzyl phthalate	149	13.384	13.384	0.000	97	98133	2.00	1.55	
144 3,3'-Dichlorobenzidine	252	14.383	14.388	-0.005	74	74066	2.00	2.07	
145 Bis(2-ethylhexyl) phthalat	149	14.436	14.441	-0.005	97	131847	2.00	1.50	
146 Benzo[a]anthracene	228	14.457	14.457	0.000	99	307625	2.00	1.96	
147 Chrysene	228	14.527	14.532	-0.005	98	305861	2.00	1.97	
150 Di-n-octyl phthalate	149	15.745	15.750	-0.005	100	280679	2.00	1.97	
151 7,12-Dimethylbenz(a)anthra	256	16.589	16.594	-0.005	92	122627	2.00	1.85	
152 Benzo[b]fluoranthene	252	16.605	16.605	0.000	98	268702	2.00	1.93	
153 Benzo[k]fluoranthene	252	16.658	16.664	-0.006	99	291099	2.00	1.98	
219 Benzo[e]pyrene	252	17.161	17.166	-0.005	98	245600	2.00	1.90	
154 Benzo[a]pyrene	252	17.273	17.273	0.000	78	221377	2.00	1.77	M
157 Indeno[1,2,3-cd]pyrene	276	19.789	19.794	-0.005	97	241210	2.00	1.82	M
158 Dibenz(a,h)anthracene	278	19.832	19.832	0.000	88	194373	2.00	1.79	M
159 Benzo[g,h,i]perylene	276	20.494	20.505	-0.011	97	217306	2.00	1.89	M
S 199 Total Cresols	108				0		4.00	4.27	
S 197 Methyl Phenols,Total	108				0		4.00	4.27	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

SVTAPSTD2.0i_00020 Amount Added: 1.00 Units: mL

Report Date: 11-Jul-2019 05:51:17 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100004.D				
Injection Date:	10-Jul-2019 08:21:30	Instrument ID:	CH732	Operator ID:	003200
Lims ID:	IC			Worklist Smp#:	4
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

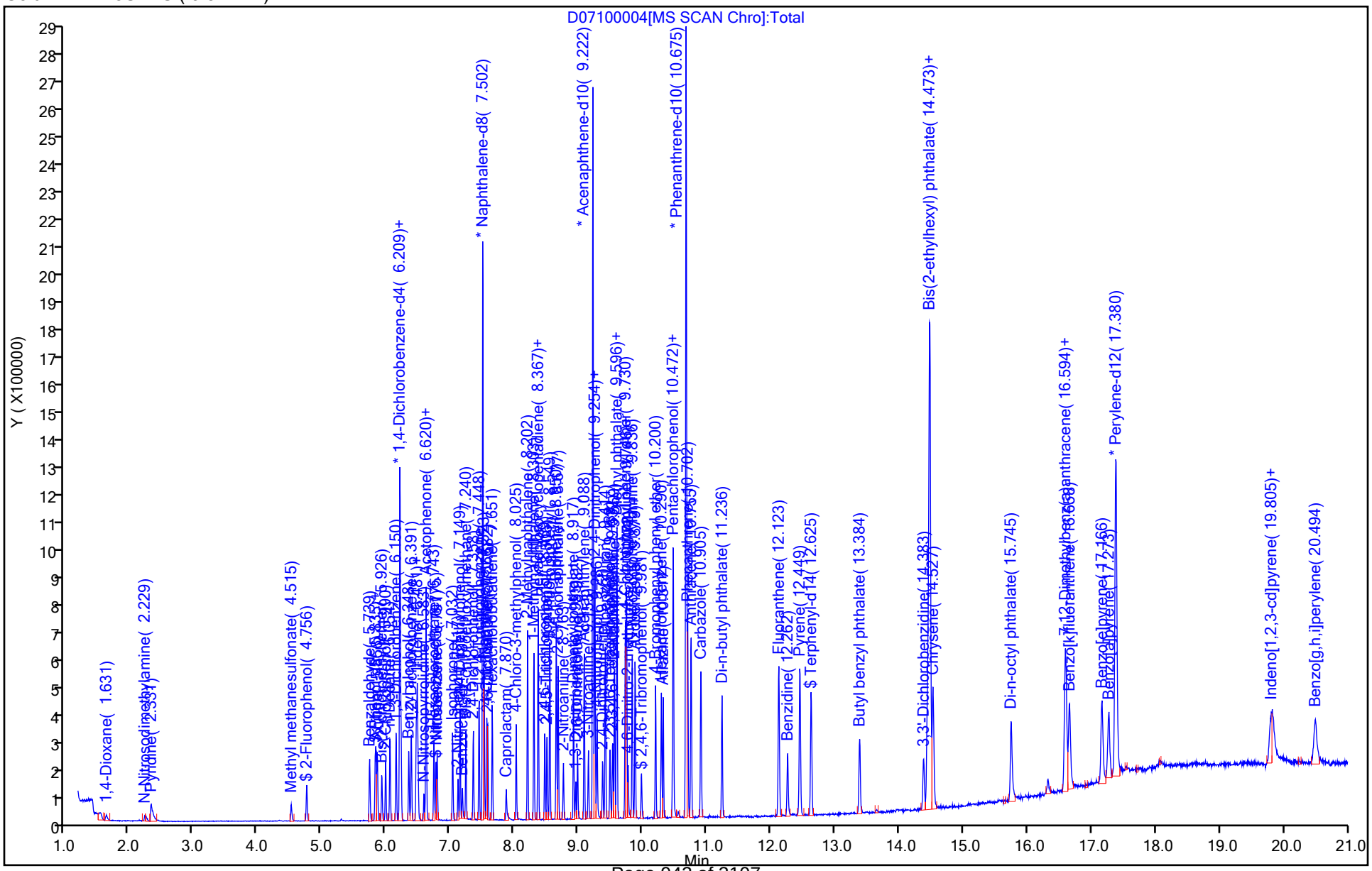

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100004.D				
Injection Date:	10-Jul-2019 08:21:30	Instrument ID:	CH732		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	3	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

14 N-Nitrosodimethylamine, CAS: 62-75-9

Signal: 1

Processing Integration Results

RT: 2.23
Area: 10009
Amount: 1.065273
Amount Units: ng

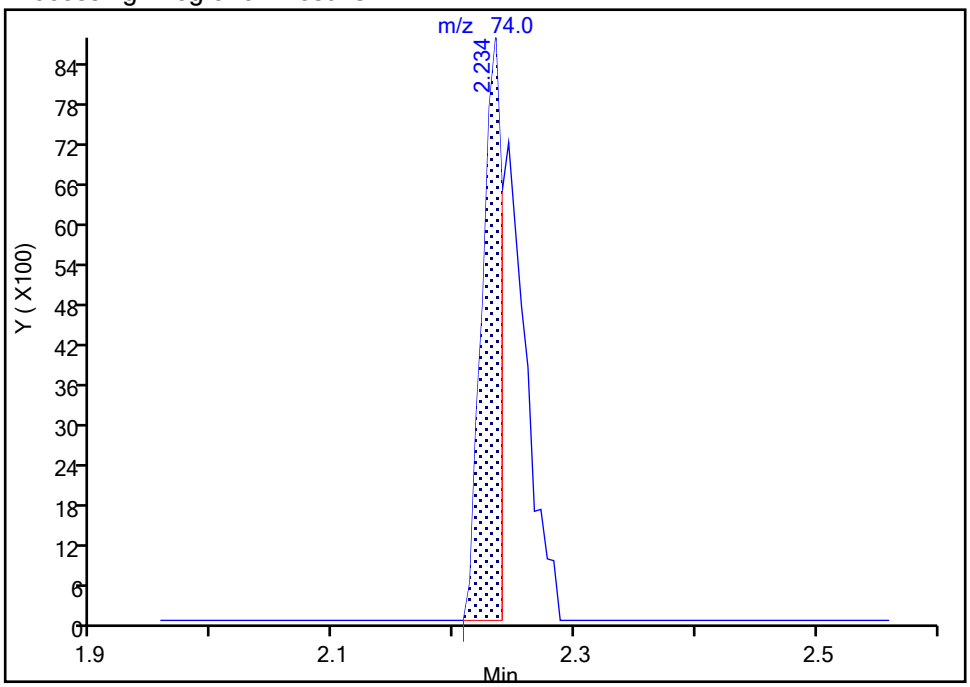

Manual Integration Results

RT: 2.23
Area: 18546
Amount: 1.813356
Amount Units: ng

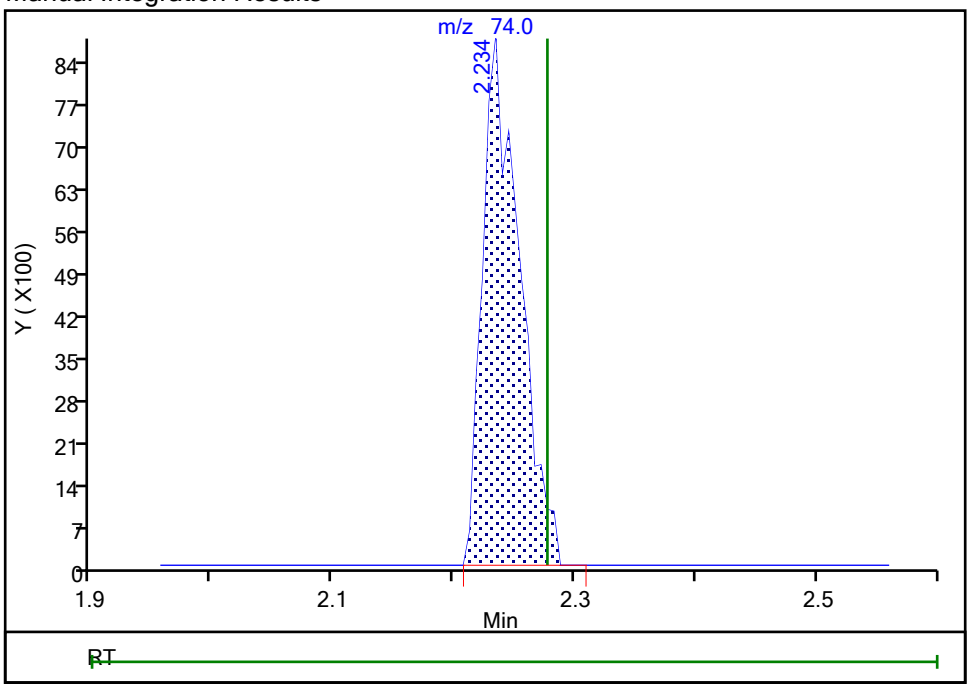

Reviewer: piccolinov, 10-Jul-2019 10:47:55

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100004.D				
Injection Date:	10-Jul-2019 08:21:30	Instrument ID:	CH732		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	3	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

15 Pyridine, CAS: 110-86-1

Signal: 1

Processing Integration Results

RT: 2.33
Area: 57197
Amount: 3.540156
Amount Units: ng

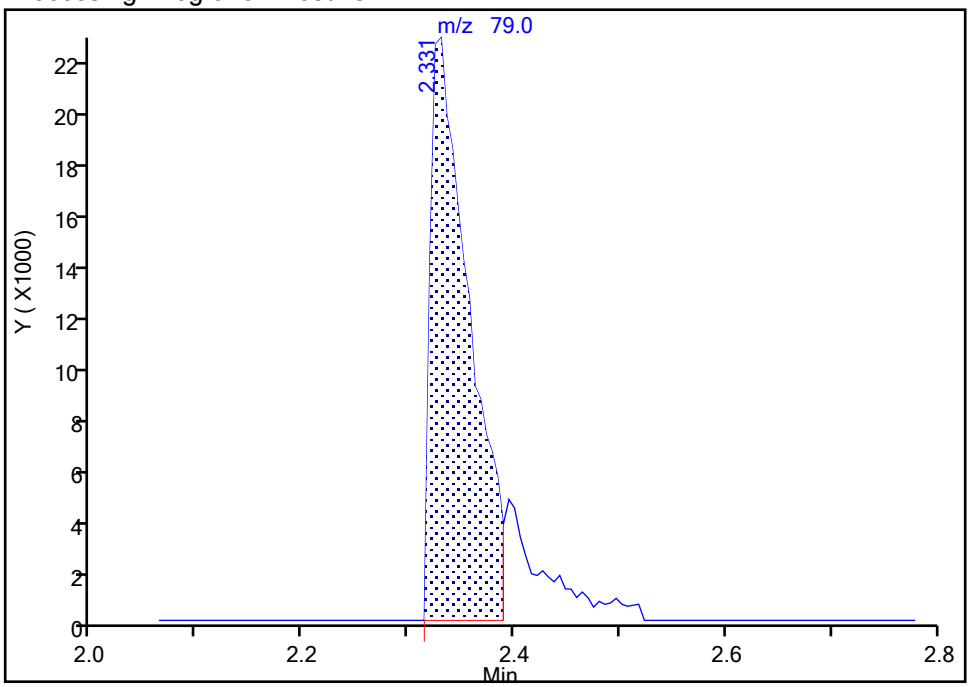

Manual Integration Results

RT: 2.33
Area: 68729
Amount: 4.005237
Amount Units: ng

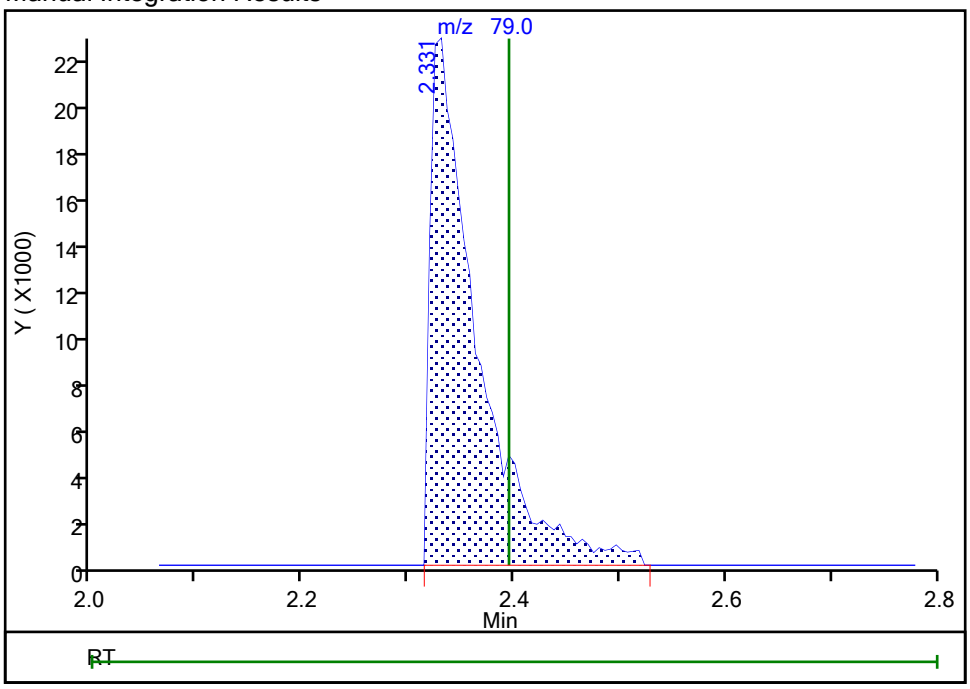

Reviewer: piccolinov, 10-Jul-2019 10:48:00

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100004.D				
Injection Date:	10-Jul-2019 08:21:30	Instrument ID:	CH732		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	3	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

52 Benzoic acid, CAS: 65-85-0

Signal: 1

Processing Integration Results

RT: 7.19
Area: 26587
Amount: 1.792656
Amount Units: ng

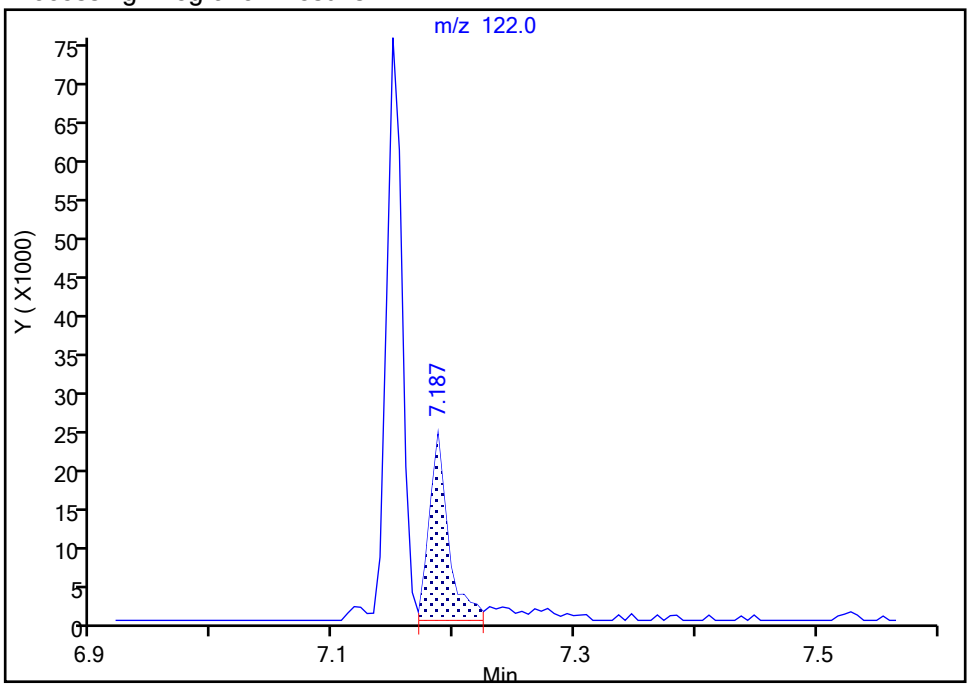

Manual Integration Results

RT: 7.19
Area: 32320
Amount: 1.989097
Amount Units: ng

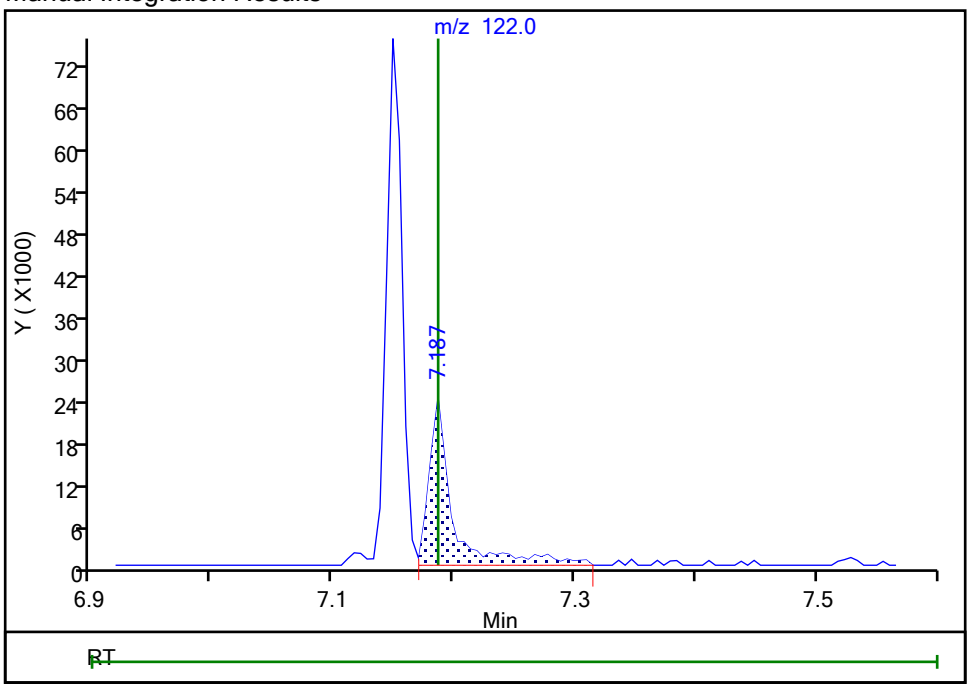

Reviewer: piccolinov, 10-Jul-2019 10:48:16

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100004.D				
Injection Date:	10-Jul-2019 08:21:30	Instrument ID:	CH732		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	3	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

64 Caprolactam, CAS: 105-60-2

Signal: 1

Processing Integration Results

RT: 7.87
Area: 16418
Amount: 1.777415
Amount Units: ng

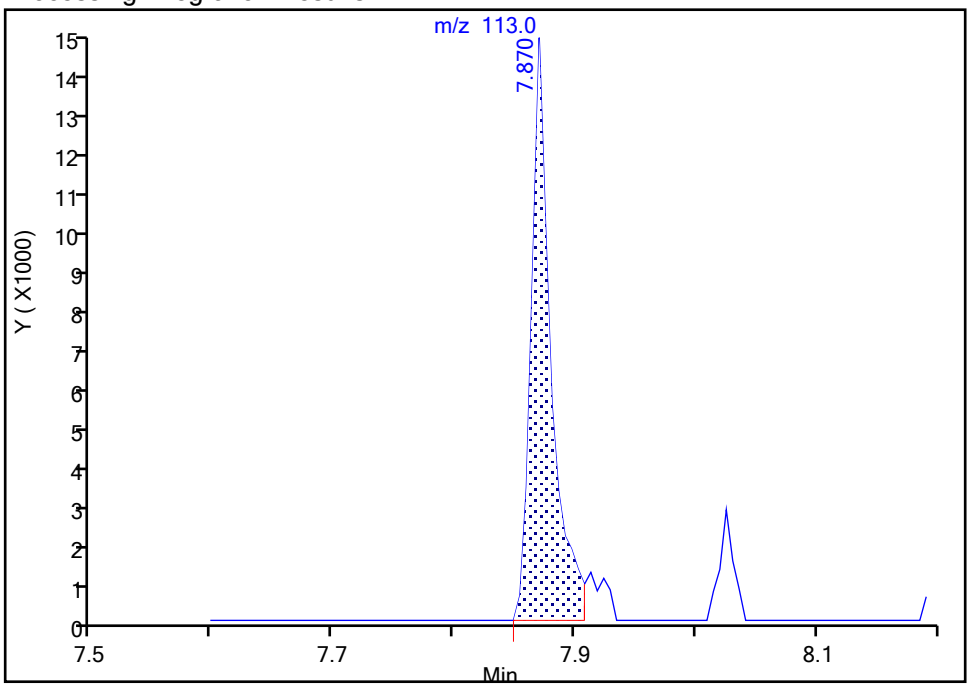

Manual Integration Results

RT: 7.87
Area: 17604
Amount: 1.603637
Amount Units: ng

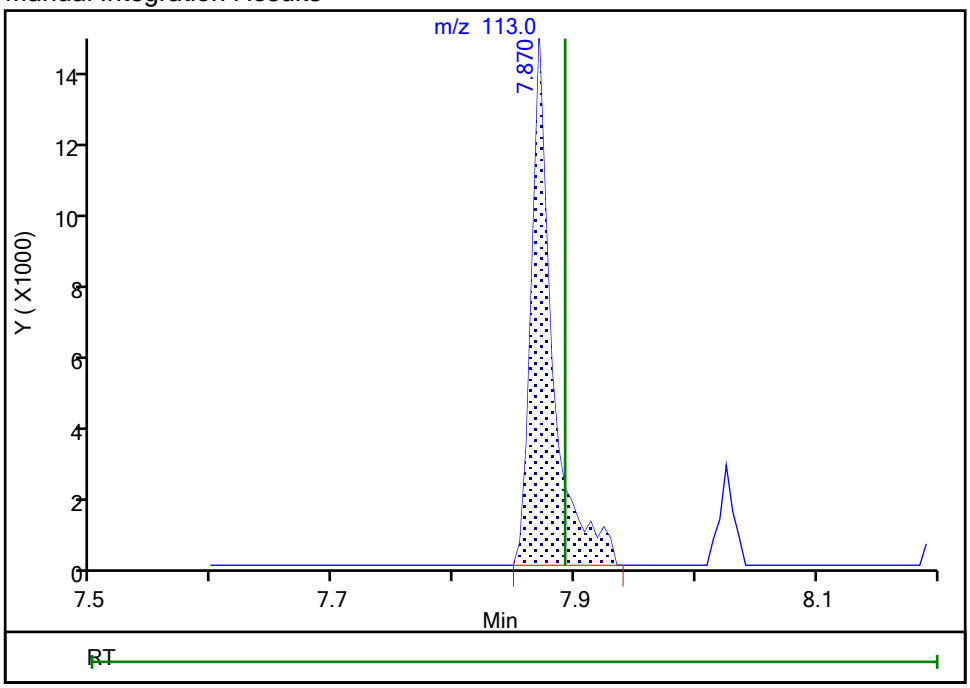

Reviewer: piccolinov, 10-Jul-2019 10:48:24

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

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Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	3	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

96 2,3,4,6-Tetrachlorophenol, CAS: 58-90-2

Signal: 1

Processing Integration Results

RT: 9.53
Area: 47396
Amount: 1.930040
Amount Units: ng

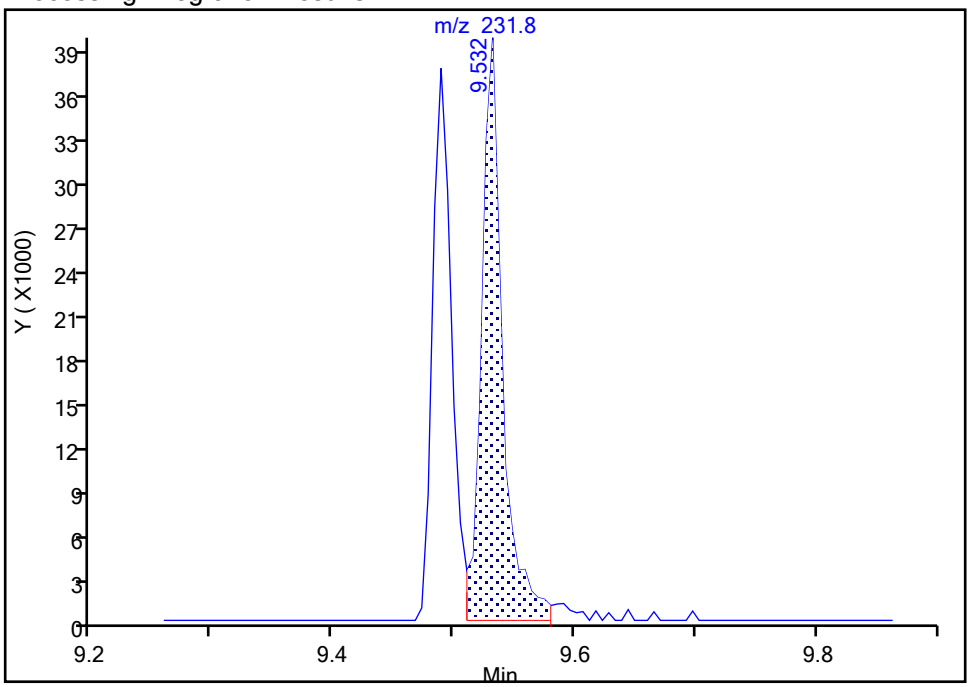

Manual Integration Results

RT: 9.53
Area: 48696
Amount: 1.909979
Amount Units: ng

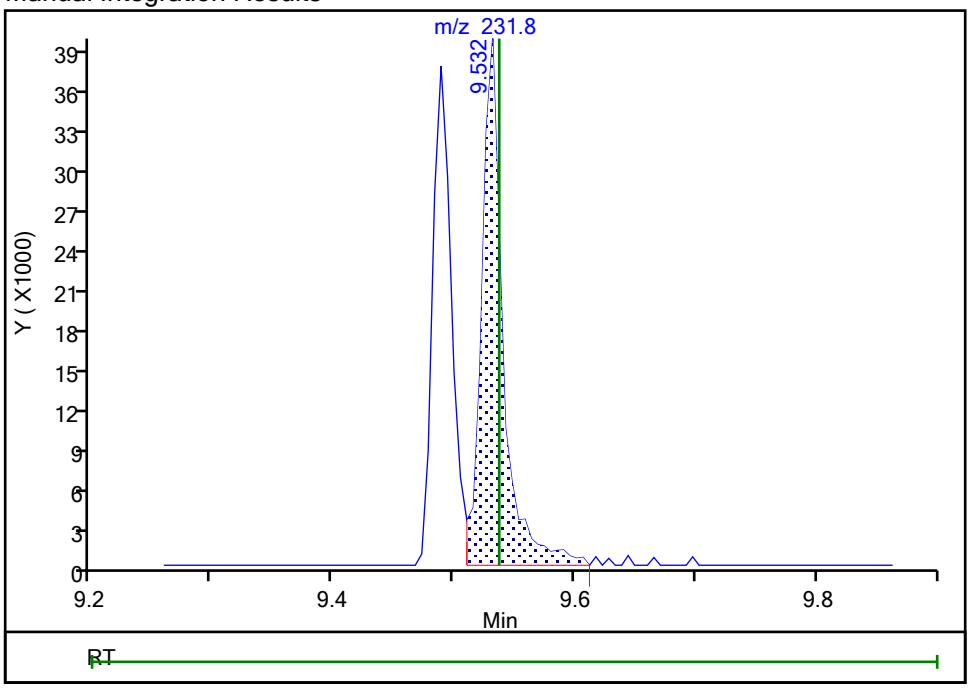

Reviewer: piccolinov, 10-Jul-2019 10:48:42

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100004.D				
Injection Date:	10-Jul-2019 08:21:30	Instrument ID:	CH732		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	3	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

104 4,6-Dinitro-2-methylphenol, CAS: 534-52-1

Signal: 1

Processing Integration Results

RT: 9.77
Area: 30255
Amount: 2.703013
Amount Units: ng

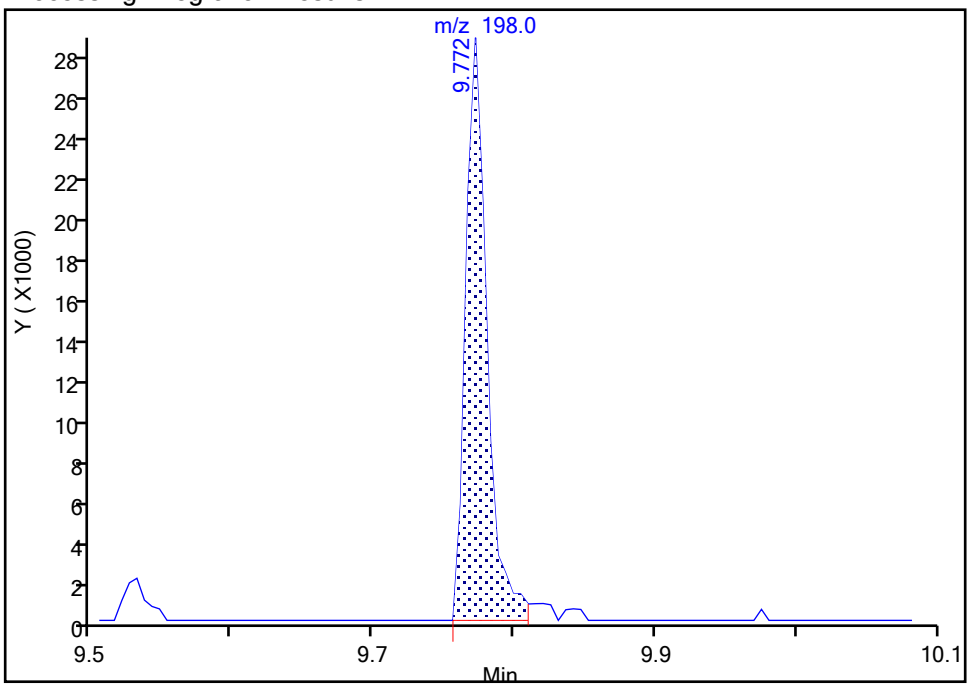

Manual Integration Results

RT: 9.77
Area: 31037
Amount: 4.896752
Amount Units: ng

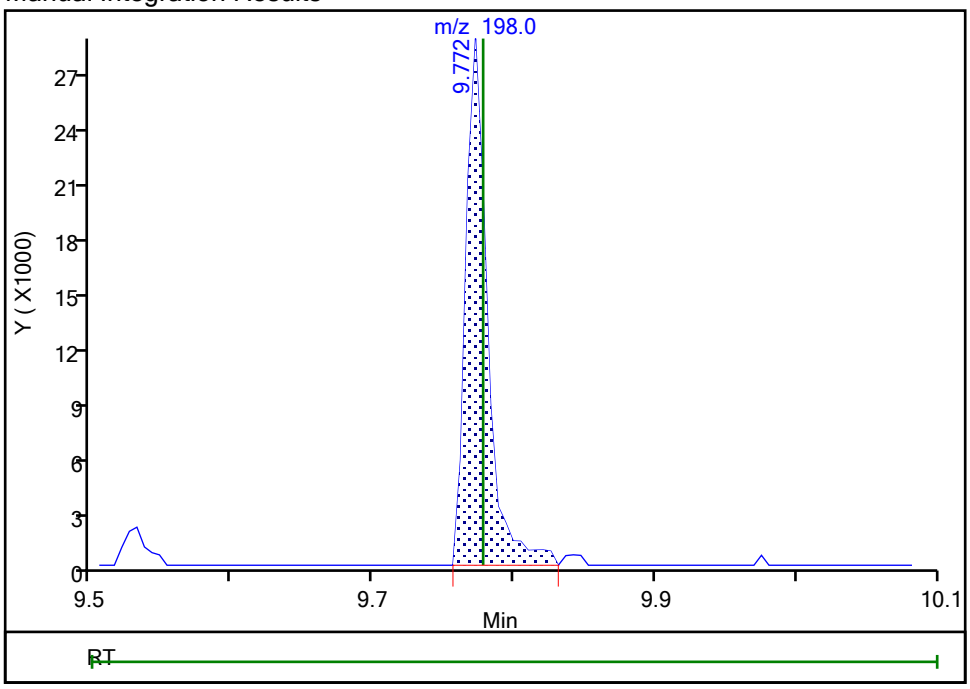

Reviewer: piccolinov, 10-Jul-2019 10:48:59

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100004.D				
Injection Date:	10-Jul-2019 08:21:30	Instrument ID:	CH732		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	3	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

116 Pentachlorophenol, CAS: 87-86-5

Signal: 1

Processing Integration Results

RT: 10.47
Area: 68905
Amount: 3.982134
Amount Units: ng

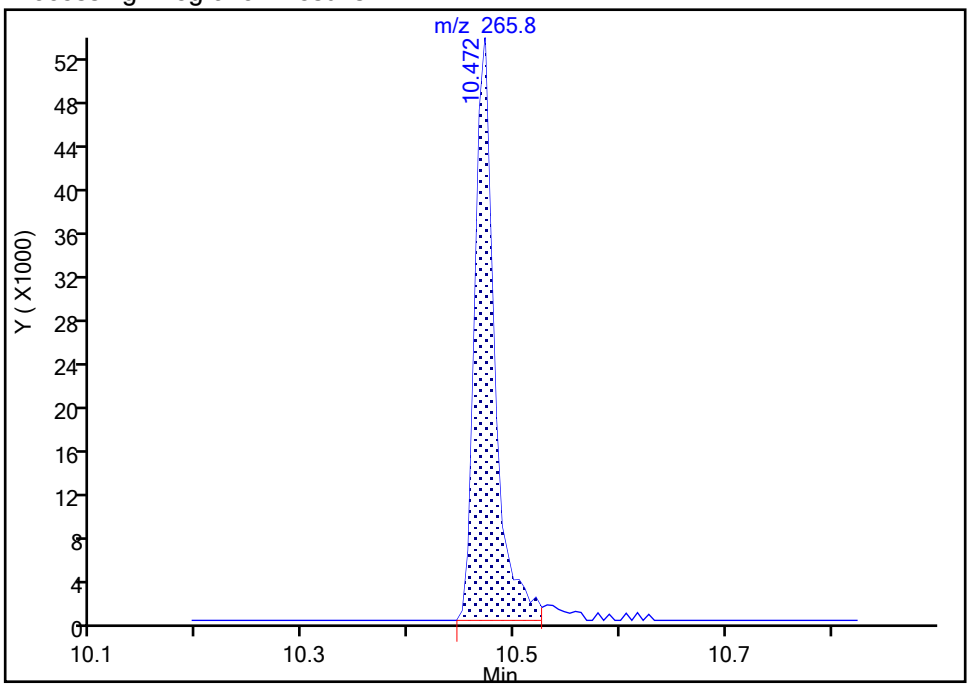

Manual Integration Results

RT: 10.47
Area: 71077
Amount: 3.926504
Amount Units: ng

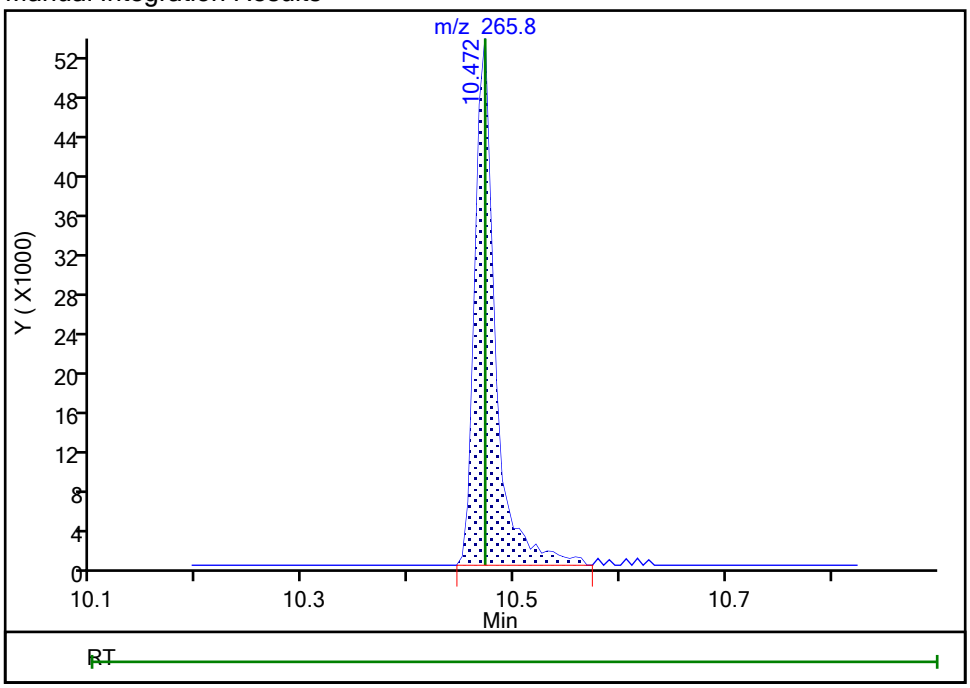

Reviewer: piccolinov, 10-Jul-2019 10:49:13

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100004.D				
Injection Date:	10-Jul-2019 08:21:30	Instrument ID:	CH732		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	3	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

154 Benzo[a]pyrene, CAS: 50-32-8

Signal: 1

Processing Integration Results

RT: 17.27
Area: 189053
Amount: 1.597765
Amount Units: ng

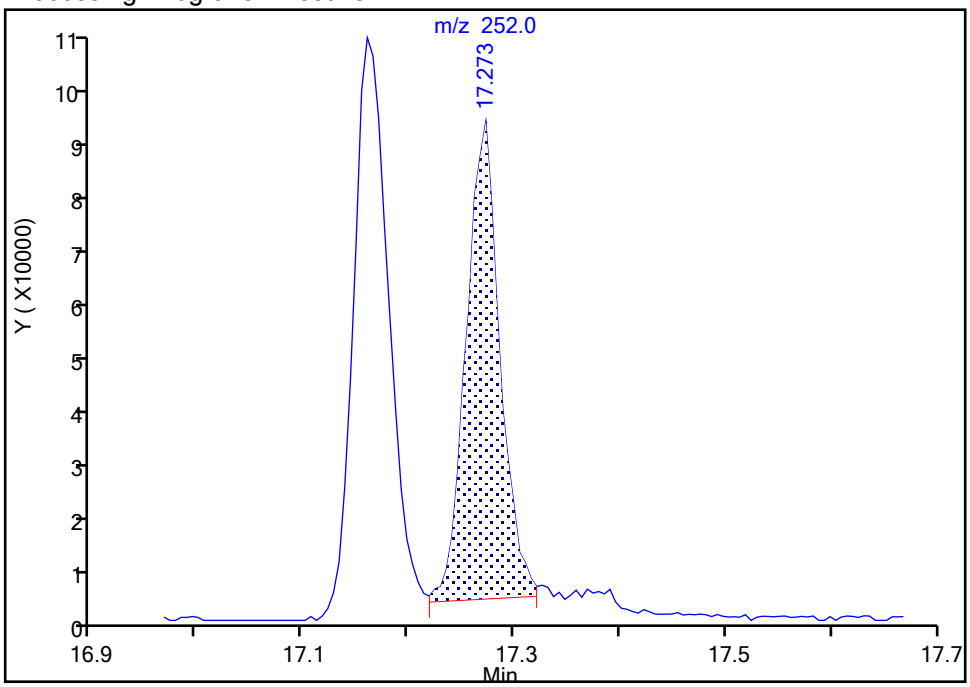

Manual Integration Results

RT: 17.27
Area: 221377
Amount: 1.768860
Amount Units: ng

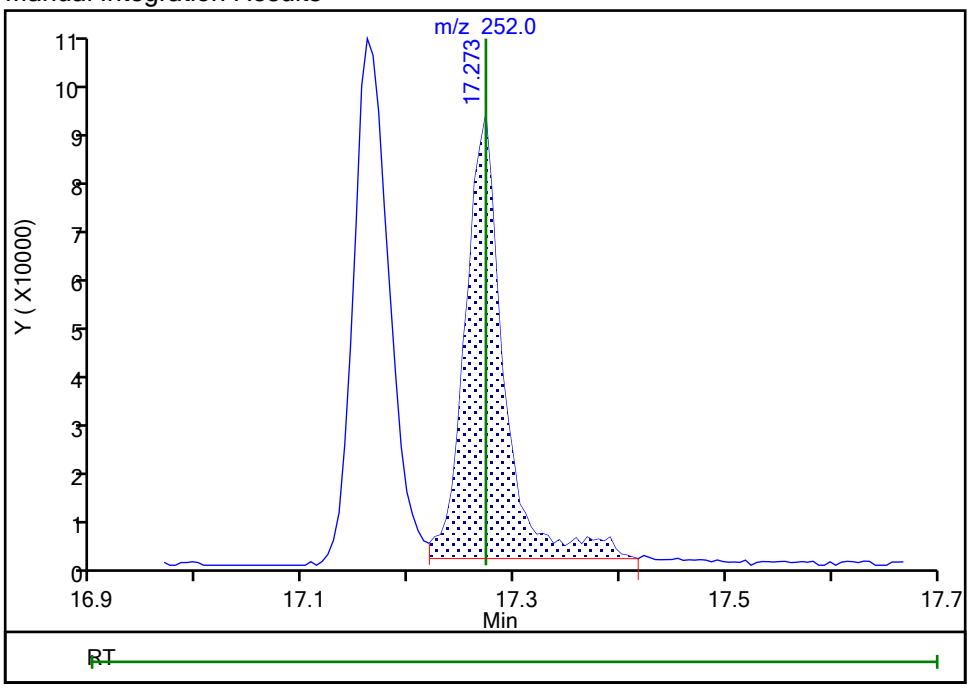

Reviewer: piccolinov, 10-Jul-2019 10:49:55

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100004.D				
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Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	3	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

157 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

Signal: 1

Processing Integration Results

RT: 19.79
Area: 100451
Amount: 0.966713
Amount Units: ng

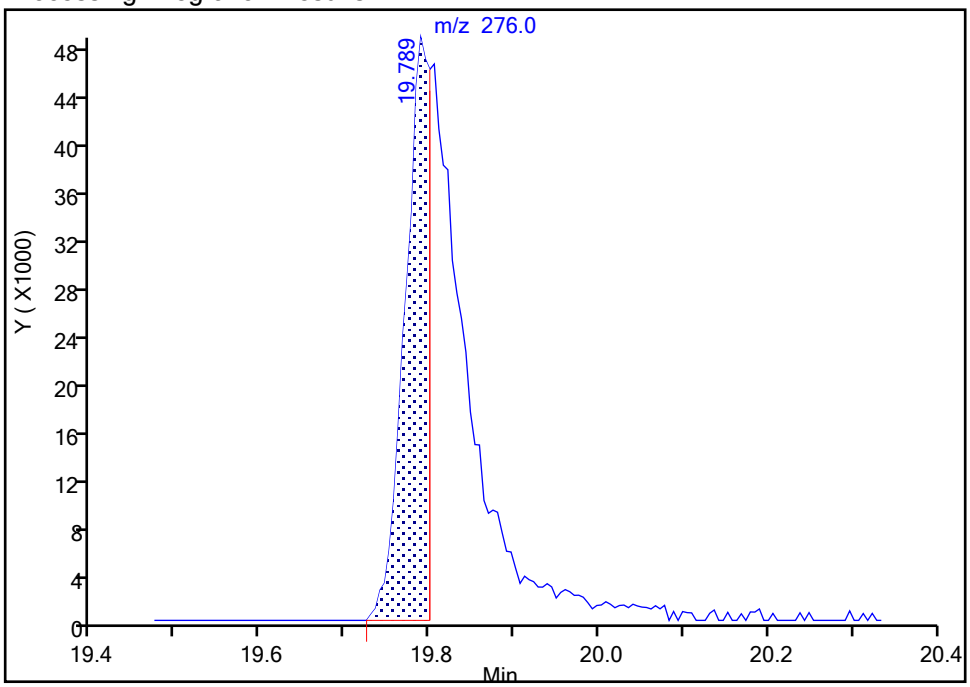

Manual Integration Results

RT: 19.79
Area: 241210
Amount: 1.818863
Amount Units: ng

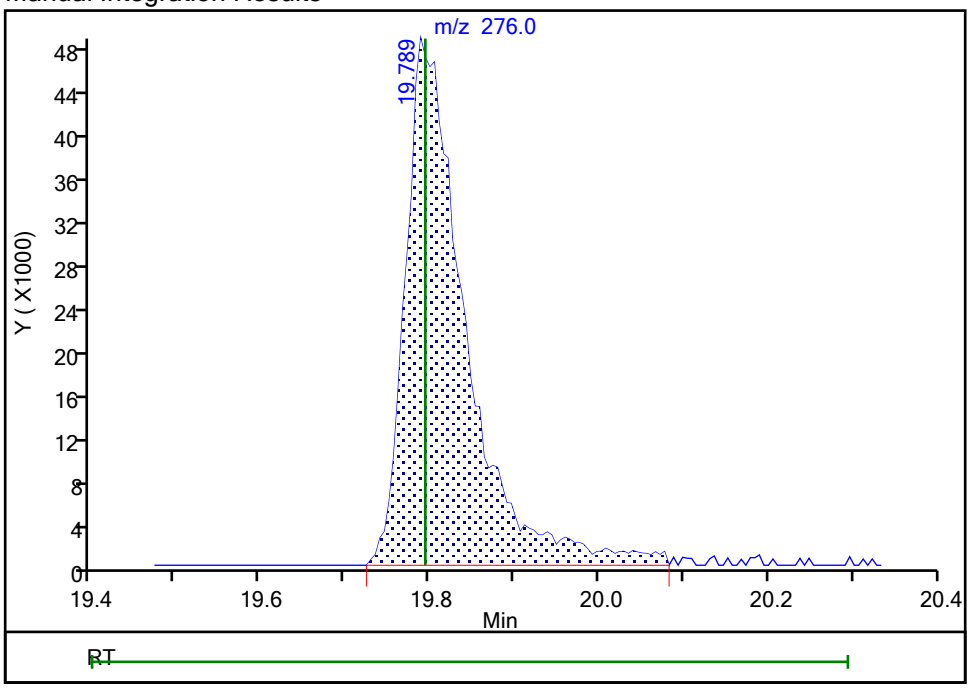

Reviewer: piccolinov, 10-Jul-2019 10:50:06

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100004.D				
Injection Date:	10-Jul-2019 08:21:30	Instrument ID:	CH732		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	3	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

158 Dibenz(a,h)anthracene, CAS: 53-70-3

Signal: 1

Processing Integration Results

RT: 19.83
Area: 168437
Amount: 1.682302
Amount Units: ng

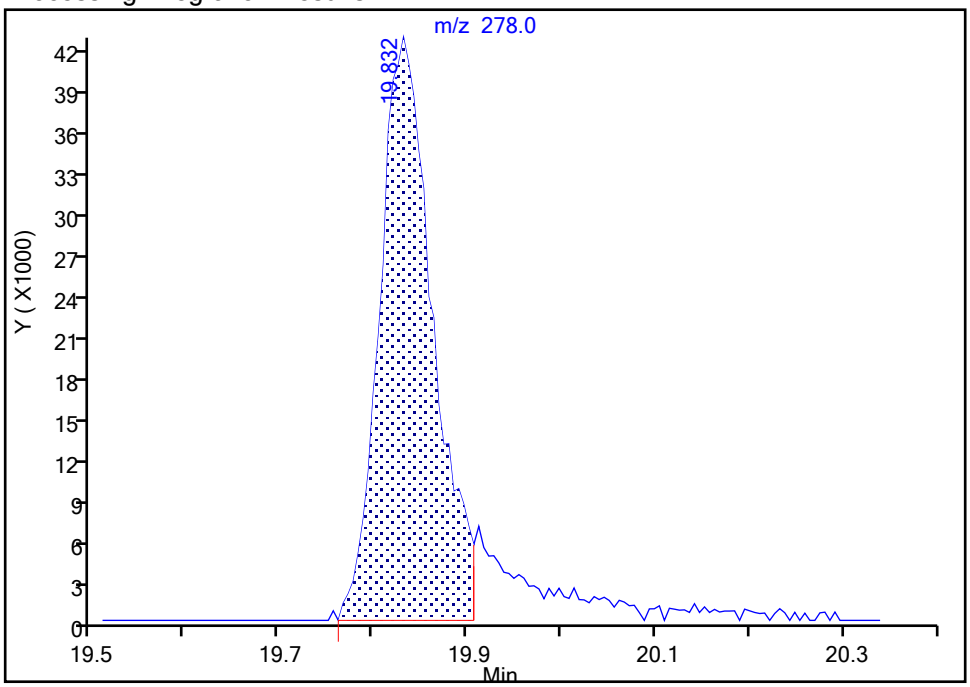

Manual Integration Results

RT: 19.83
Area: 194373
Amount: 1.791093
Amount Units: ng

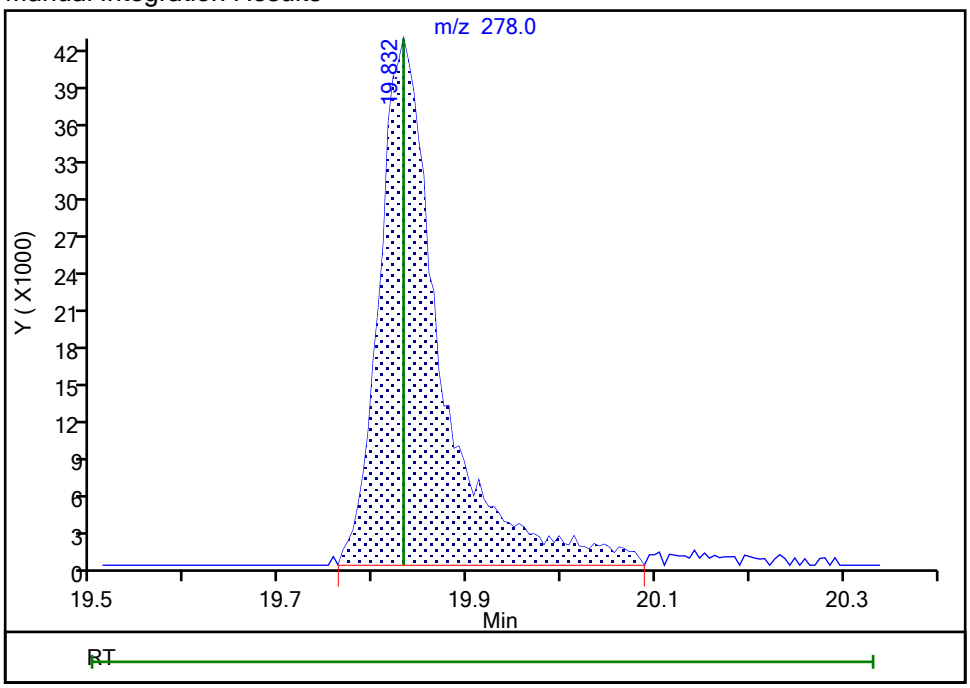

Reviewer: piccolinov, 10-Jul-2019 10:50:11

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100004.D				
Injection Date:	10-Jul-2019 08:21:30	Instrument ID:	CH732		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	3	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

159 Benzo[g,h,i]perylene, CAS: 191-24-2

Signal: 1

Processing Integration Results

RT: 20.49
Area: 199094
Amount: 1.897422
Amount Units: ng

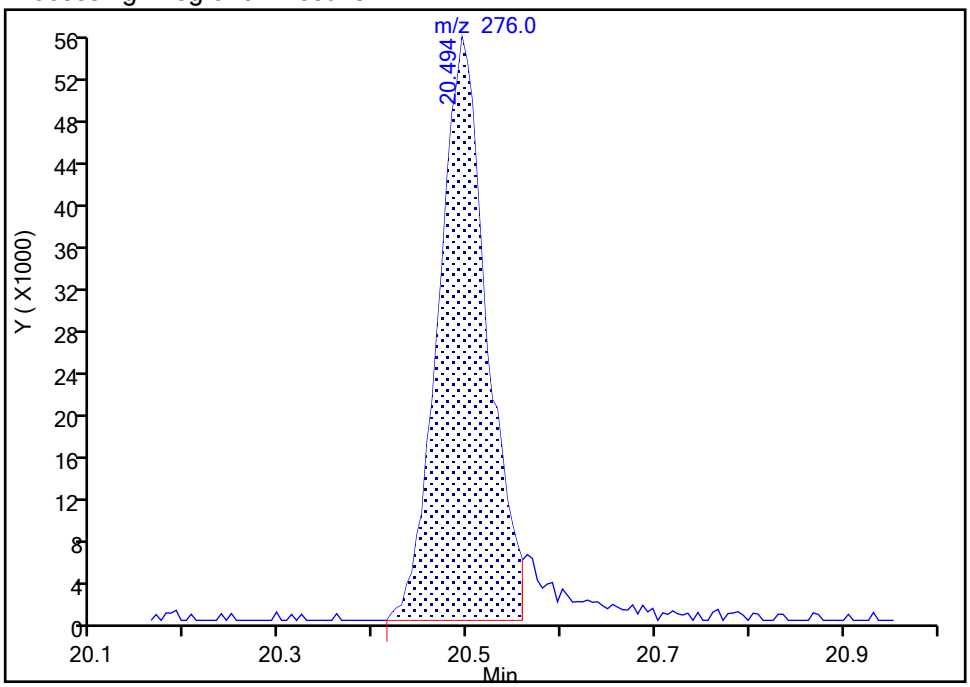

Manual Integration Results

RT: 20.49
Area: 217306
Amount: 1.890316
Amount Units: ng

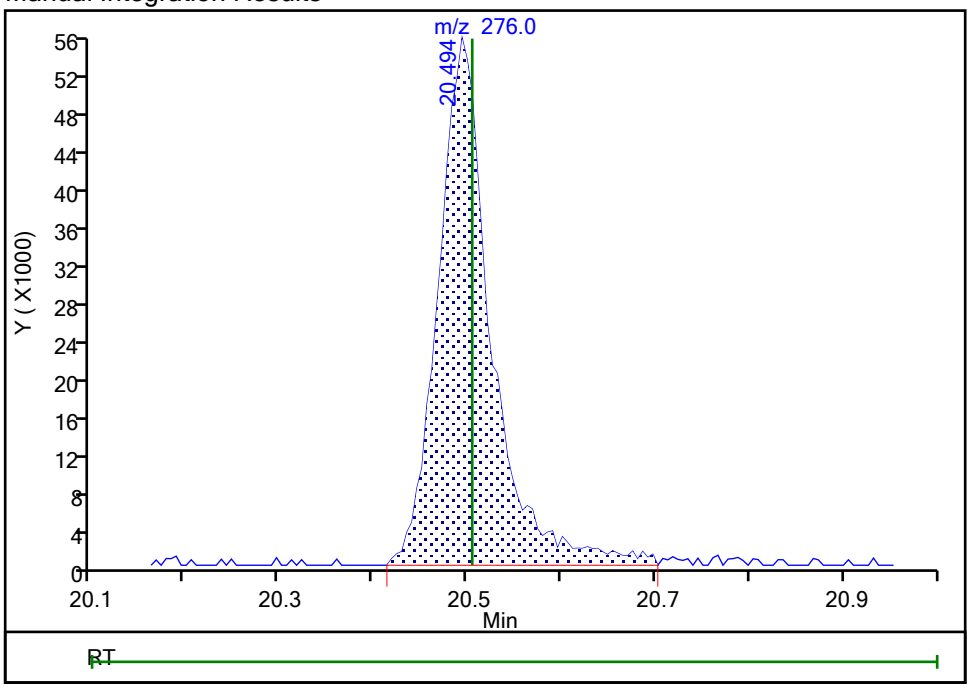

Reviewer: piccolinov, 10-Jul-2019 10:50:18

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100005.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 10-Jul-2019 08:48:30 ALS Bottle#: 4 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0027677-005
Operator ID: 003200 Instrument ID: CH732
Sublist: chrom-BNA_CH732*sub4

Method: \\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\BNA_CH732.m
Limit Group: BNA 8270D ICAL
Last Update: 11-Jul-2019 05:51:23 Calib Date: 10-Jul-2019 11:01:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100010.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0301

First Level Reviewer: piccolinov Date: 10-Jul-2019 10:47:26

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.209	6.220	-0.011	95	213152	8.00	8.00	
* 2 Naphthalene-d8	136	7.507	7.513	-0.006	99	915702	8.00	8.00	
* 3 Acenaphthene-d10	164	9.222	9.227	-0.005	95	565192	8.00	8.00	
* 4 Phenanthrene-d10	188	10.680	10.681	0.000	97	1150507	8.00	8.00	
* 5 Chrysene-d12	240	14.484	14.479	0.005	97	1168627	8.00	8.00	
* 6 Perylene-d12	264	17.390	17.385	0.005	97	958408	8.00	8.00	
$ 7 2-Fluorophenol	112	4.751	4.772	-0.021	91	94363	4.00	3.92	
$ 8 Phenol-d5	99	5.819	5.835	-0.016	98	144310	4.00	4.07	
$ 9 Nitrobenzene-d5	82	6.775	6.781	-0.006	87	138954	4.00	4.14	
$ 10 2-Fluorobiphenyl	172	8.554	8.560	-0.006	100	409335	4.00	4.33	
$ 11 2,4,6-Tribromophenol	330	9.986	9.986	0.000	89	37508	4.00	3.82	
$ 12 Terphenyl-d14	244	12.636	12.630	0.006	100	435126	4.00	4.06	
13 1,4-Dioxane	88	1.615	1.652	-0.037	86	31930	4.00	4.08	
14 N-Nitrosodimethylamine	74	2.218	2.277	-0.059	92	38622	4.00	3.93	
15 Pyridine	79	2.298	2.395	-0.097	97	137768	8.00	8.35	M
21 Methyl methanesulfonate	80	4.505	4.537	-0.032	88	60578	4.00	4.18	
25 Benzaldehyde	77	5.734	5.750	-0.016	97	102037	4.00	4.18	
26 Phenol	94	5.835	5.851	-0.016	98	172809	4.00	4.17	
27 Aniline	93	5.856	5.867	-0.011	97	195650	4.00	4.17	
29 Bis(2-chloroethyl)ether	93	5.926	5.942	-0.016	97	122244	4.00	4.15	
30 2-Chlorophenol	128	5.985	6.001	-0.016	96	128348	4.00	4.18	
31 n-Decane	43	6.054	6.065	-0.011	86	106868	4.00	4.20	
32 1,3-Dichlorobenzene	146	6.150	6.161	-0.011	97	161176	4.00	4.19	
33 1,4-Dichlorobenzene	146	6.225	6.241	-0.016	93	159687	4.00	4.13	
34 Benzyl alcohol	108	6.348	6.359	-0.011	92	79546	4.00	4.02	
35 1,2-Dichlorobenzene	146	6.385	6.396	-0.011	96	159063	4.00	4.20	
36 2-Methylphenol	108	6.465	6.476	-0.011	96	124224	4.00	4.28	
37 Indene	116	6.481	6.487	-0.006	90	252103	4.00	4.32	
38 2,2'-oxybis[1-chloropropan	45	6.492	6.503	-0.011	92	149586	4.00	4.34	
39 N-Nitrosopyrrolidine	100	6.583	6.599	-0.016	94	55162	4.00	3.91	
40 Acetophenone	105	6.620	6.626	-0.006	85	186438	4.00	4.27	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
42 4-Methylphenol	108	6.620	6.626	-0.006	68	128504	4.00	4.36	
41 N-Nitrosodi-n-propylamine	70	6.620	6.631	-0.011	68	90104	4.00	4.34	
45 Hexachloroethane	117	6.743	6.749	-0.006	92	64700	4.00	4.13	
46 Nitrobenzene	77	6.791	6.802	-0.011	88	147352	4.00	4.21	
48 Isophorone	82	7.032	7.048	-0.016	99	271160	4.00	4.20	
49 2-Nitrophenol	139	7.123	7.128	-0.006	96	55604	4.00	3.36	
50 2,4-Dimethylphenol	107	7.149	7.160	-0.011	96	153256	4.00	4.34	
52 Benzoic acid	122	7.192	7.187	0.005	88	64799	4.00	4.25	M
53 Bis(2-chloroethoxy)methane	93	7.240	7.245	-0.005	99	180917	4.00	4.29	
54 2,4-Dichlorophenol	162	7.358	7.363	-0.005	92	132446	4.00	4.20	
56 1,2,4-Trichlorobenzene	180	7.448	7.454	-0.006	93	169285	4.00	4.18	
58 Naphthalene	128	7.529	7.534	-0.006	97	476896	4.00	4.26	
59 4-Chloroaniline	127	7.566	7.571	-0.005	96	196395	4.00	4.21	
60 2,6-Dichlorophenol	162	7.582	7.587	-0.005	97	131906	4.00	4.20	
62 Hexachlorobutadiene	225	7.651	7.662	-0.011	94	100073	4.00	4.02	
64 Caprolactam	113	7.870	7.892	-0.022	82	35920	4.00	3.49	M
67 4-Chloro-3-methylphenol	107	8.025	8.031	-0.006	95	130222	4.00	4.14	
69 2-Methylnaphthalene	142	8.207	8.212	-0.005	93	365404	4.00	4.31	
71 1-Methylnaphthalene	142	8.303	8.309	-0.006	93	334682	4.00	4.24	
72 Hexachlorocyclopentadiene	237	8.367	8.373	-0.006	94	102823	4.00	3.79	
73 1,2,4,5-Tetrachlorobenzene	216	8.373	8.378	-0.005	96	189107	4.00	4.28	
74 2,4,6-Trichlorophenol	196	8.474	8.480	-0.006	91	101885	4.00	3.93	
75 2,4,5-Trichlorophenol	196	8.506	8.512	-0.006	96	110697	4.00	4.05	
76 1,1'-Biphenyl	154	8.650	8.656	-0.006	95	444839	4.00	4.26	
77 2-Chloronaphthalene	162	8.682	8.688	-0.006	95	350153	4.00	4.24	
79 2-Nitroaniline	65	8.763	8.768	-0.005	83	74597	4.00	3.53	
82 Dimethyl phthalate	163	8.923	8.928	-0.005	99	364743	4.00	4.08	
83 1,3-Dinitrobenzene	168	8.955	8.960	-0.005	87	36495	4.00	3.60	
84 2,6-Dinitrotoluene	165	8.987	8.992	-0.005	96	69751	4.00	3.68	
85 Acenaphthylene	152	9.088	9.094	-0.006	98	546742	4.00	4.24	
86 3-Nitroaniline	138	9.153	9.158	-0.005	94	75979	4.00	3.59	
88 Acenaphthene	153	9.254	9.259	-0.005	95	352900	4.00	4.31	
87 2,4-Dinitrophenol	184	9.254	9.259	-0.005	57	19531	8.00	15.5	
89 4-Nitrophenol	109	9.291	9.292	-0.001	90	76141	8.00	7.06	
91 2,4-Dinitrotoluene	165	9.377	9.382	-0.005	92	83828	4.00	3.35	
93 Dibenzofuran	168	9.420	9.420	0.000	98	534165	4.00	4.23	
95 2,3,5,6-Tetrachlorophenol	232	9.494	9.495	-0.001	93	88470	4.00	3.53	
96 2,3,4,6-Tetrachlorophenol	232	9.532	9.537	-0.005	70	98004	4.00	3.94	M
97 2-Naphthylamine	143	9.564	9.564	0.000	97	361303	4.00	4.15	
98 Diethyl phthalate	149	9.596	9.596	0.000	98	375502	4.00	4.33	
99 Hexadecane	57	9.601	9.601	0.000	93	253508	4.00	4.48	
100 4-Chlorophenyl phenyl ethe	204	9.730	9.735	-0.005	89	219982	4.00	4.10	
101 4-Nitroaniline	138	9.740	9.746	-0.006	87	82376	4.00	3.70	
103 Fluorene	166	9.751	9.751	0.000	96	427628	4.00	4.28	
104 4,6-Dinitro-2-methylphenol	198	9.772	9.778	-0.006	89	70941	8.00	7.36	
105 N-Nitrosodiphenylamine	169	9.836	9.842	-0.006	99	288028	4.00	4.13	
90 1,2-Diphenylhydrazine	77	9.884	9.885	0.000	97	411232	4.00	4.29	
57 Azobenzene	77	9.884	9.885	0.000	97	411232	4.00	4.29	
110 4-Bromophenyl phenyl ether	248	10.205	10.205	0.000	65	119533	4.00	4.21	
112 Hexachlorobenzene	284	10.296	10.296	0.000	93	115112	4.00	4.19	
113 Atrazine	200	10.323	10.323	-0.001	94	103805	4.00	4.14	
116 Pentachlorophenol	266	10.472	10.472	0.000	92	128551	8.00	7.61	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
115 n-Octadecane	57	10.477	10.483	-0.006	96	265471	4.00	4.33	
121 Phenanthrene	178	10.702	10.707	-0.005	97	640552	4.00	4.39	
122 Anthracene	178	10.755	10.761	-0.006	97	628099	4.00	4.42	
124 Carbazole	167	10.910	10.910	0.000	95	565987	4.00	4.30	
126 Di-n-butyl phthalate	149	11.241	11.241	0.000	100	578158	4.00	4.09	
131 Fluoranthene	202	12.128	12.128	0.000	97	687120	4.00	4.25	
132 Benzidine	184	12.267	12.262	0.005	100	299523	4.00	3.53	
133 Pyrene	202	12.459	12.454	0.005	98	714221	4.00	4.19	
138 Butyl benzyl phthalate	149	13.389	13.384	0.005	97	208307	4.00	3.38	
144 3,3'-Dichlorobenzidine	252	14.388	14.388	0.000	74	170052	4.00	3.76	
145 Bis(2-ethylhexyl) phthalat	149	14.447	14.441	0.006	97	291725	4.00	3.40	
146 Benzo[a]anthracene	228	14.463	14.457	0.006	98	624307	4.00	4.08	
147 Chrysene	228	14.532	14.532	0.000	97	615985	4.00	4.06	
150 Di-n-octyl phthalate	149	15.756	15.750	0.006	99	583828	4.00	3.97	
151 7,12-Dimethylbenz(a)anthra	256	16.600	16.594	0.006	91	258952	4.00	3.78	
152 Benzo[b]fluoranthene	252	16.616	16.605	0.011	98	555697	4.00	3.87	
153 Benzo[k]fluoranthene	252	16.669	16.664	0.005	99	624818	4.00	4.11	
219 Benzo[e]pyrene	252	17.171	17.166	0.005	98	513581	4.00	3.85	
154 Benzo[a]pyrene	252	17.278	17.273	0.005	78	490626	4.00	3.80	
157 Indeno[1,2,3-cd]pyrene	276	19.810	19.794	0.016	98	502939	4.00	3.67	
158 Dibenz(a,h)anthracene	278	19.837	19.832	0.005	92	424180	4.00	3.78	M
159 Benzo[g,h,i]perylene	276	20.505	20.505	0.000	97	444715	4.00	3.75	M
S 199 Total Cresols	108				0		8.00	8.65	
S 197 Methyl Phenols,Total	108				0		8.00	8.65	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

SVTAPSTD4.0i_00019 Amount Added: 1.00 Units: mL

Report Date: 11-Jul-2019 05:51:25 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100005.D				
Injection Date:	10-Jul-2019 08:48:30	Instrument ID:	CH732	Operator ID:	003200
Lims ID:	IC			Worklist Smp#:	5
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

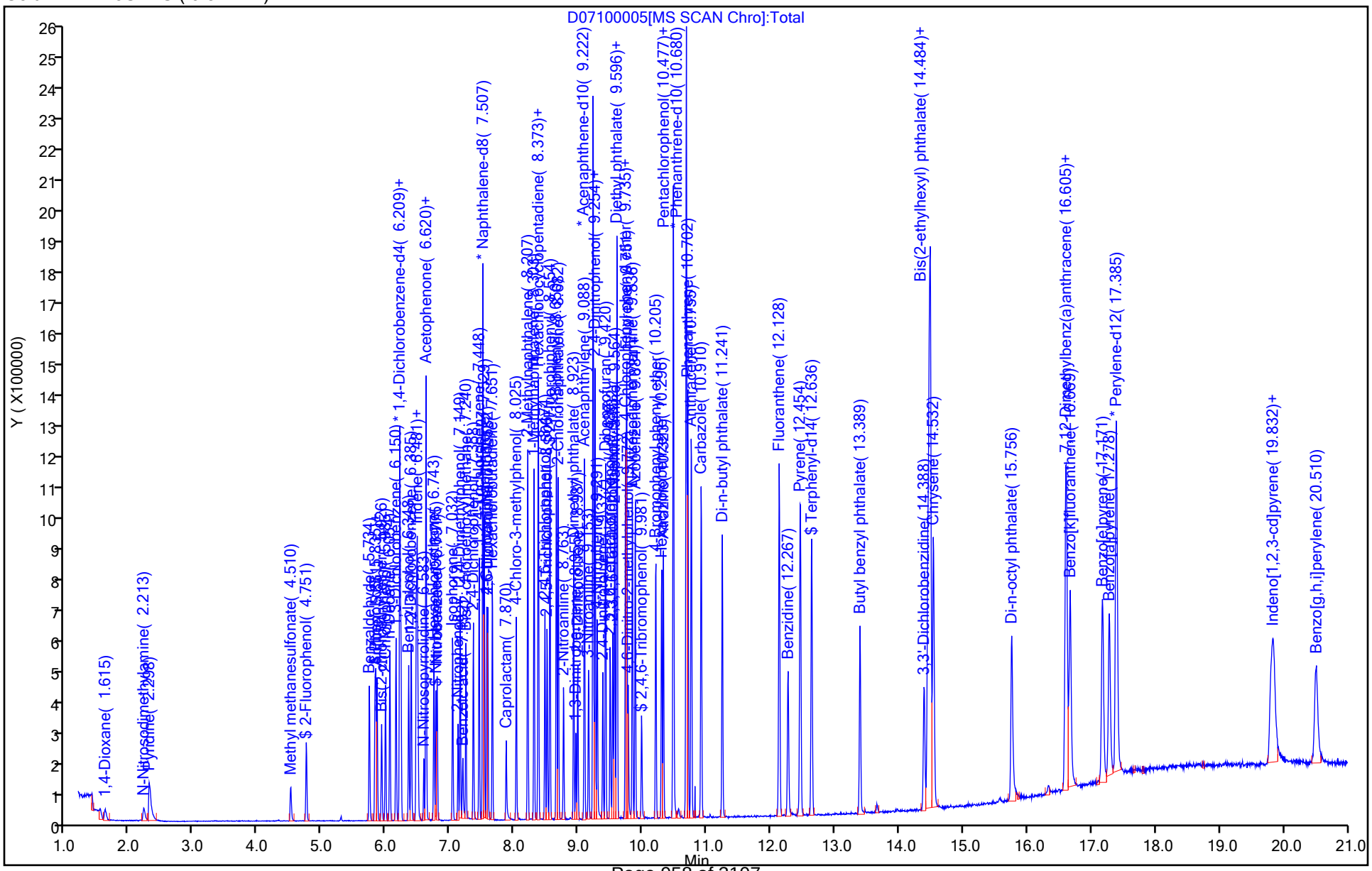

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100005.D				
Injection Date:	10-Jul-2019 08:48:30	Instrument ID:	CH732		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

15 Pyridine, CAS: 110-86-1

Signal: 1

Processing Integration Results

RT: 2.30
Area: 132105
Amount: 8.573127
Amount Units: ng

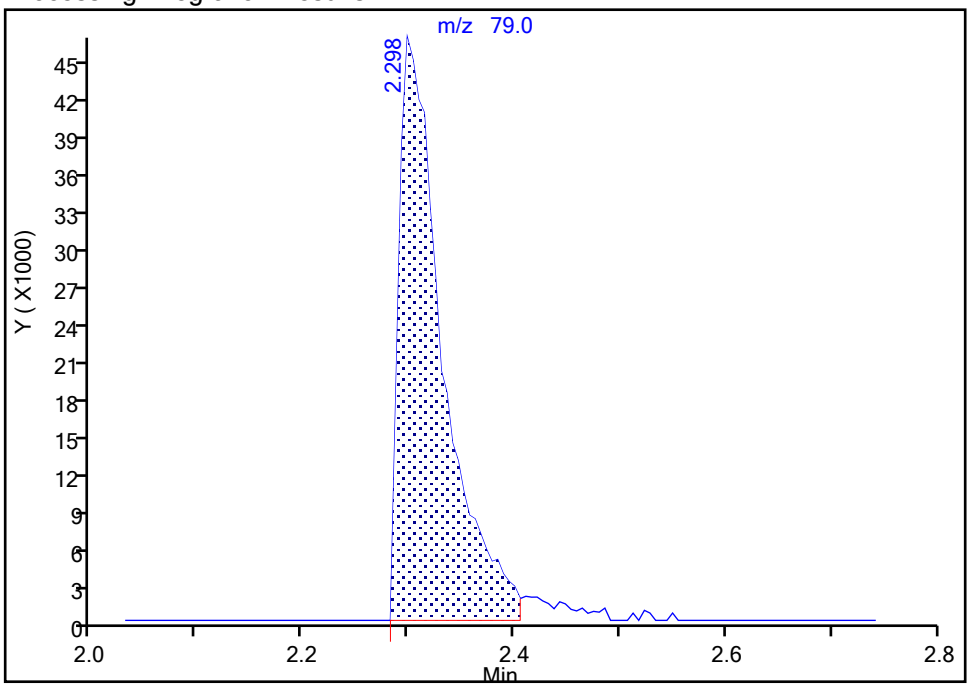

Manual Integration Results

RT: 2.30
Area: 137768
Amount: 8.354010
Amount Units: ng

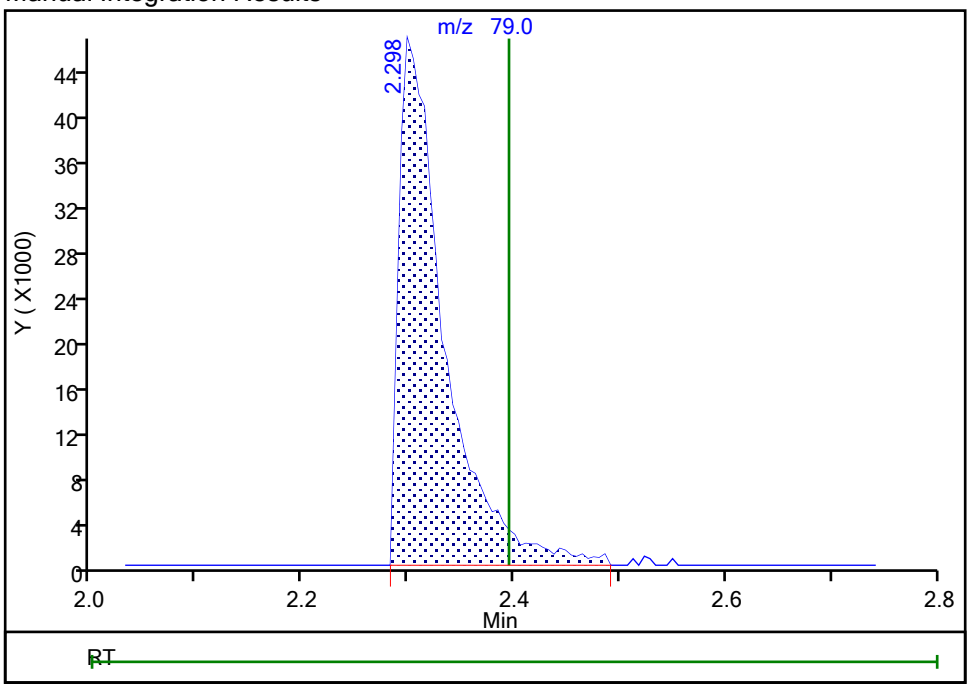

Reviewer: piccolinov, 10-Jul-2019 10:45:30

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100005.D				
Injection Date:	10-Jul-2019 08:48:30	Instrument ID:	CH732		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

52 Benzoic acid, CAS: 65-85-0

Signal: 1

Processing Integration Results

RT: 7.19
Area: 53936
Amount: 4.009504
Amount Units: ng

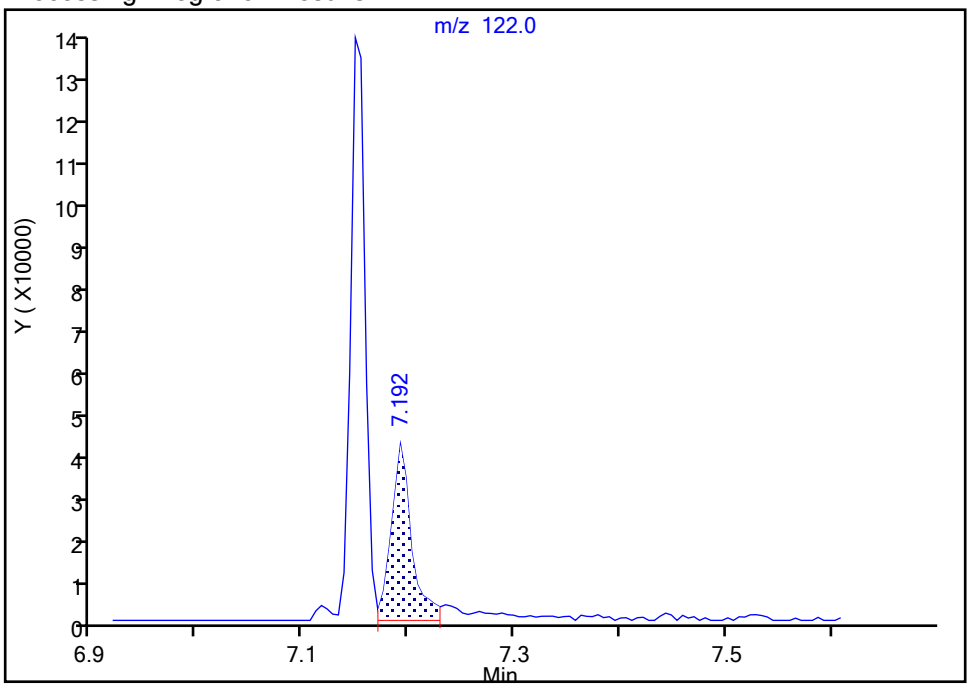

Manual Integration Results

RT: 7.19
Area: 64799
Amount: 4.253680
Amount Units: ng

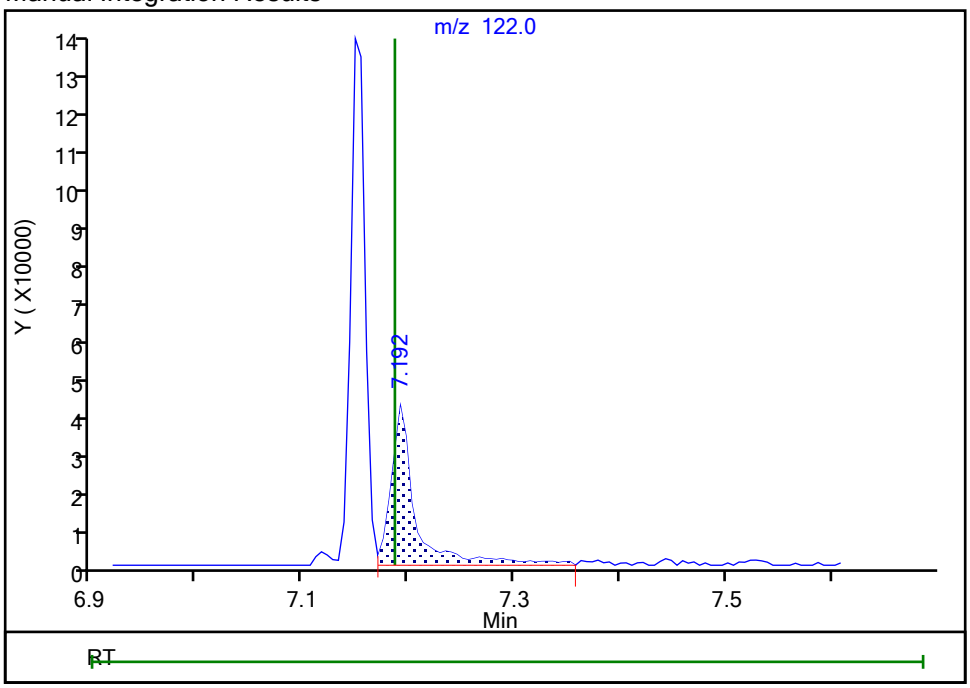

Reviewer: piccolinov, 10-Jul-2019 10:45:54

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100005.D				
Injection Date:	10-Jul-2019 08:48:30	Instrument ID:	CH732		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

64 Caprolactam, CAS: 105-60-2

Signal: 1

Processing Integration Results

RT: 7.87
Area: 33659
Amount: 3.574114
Amount Units: ng

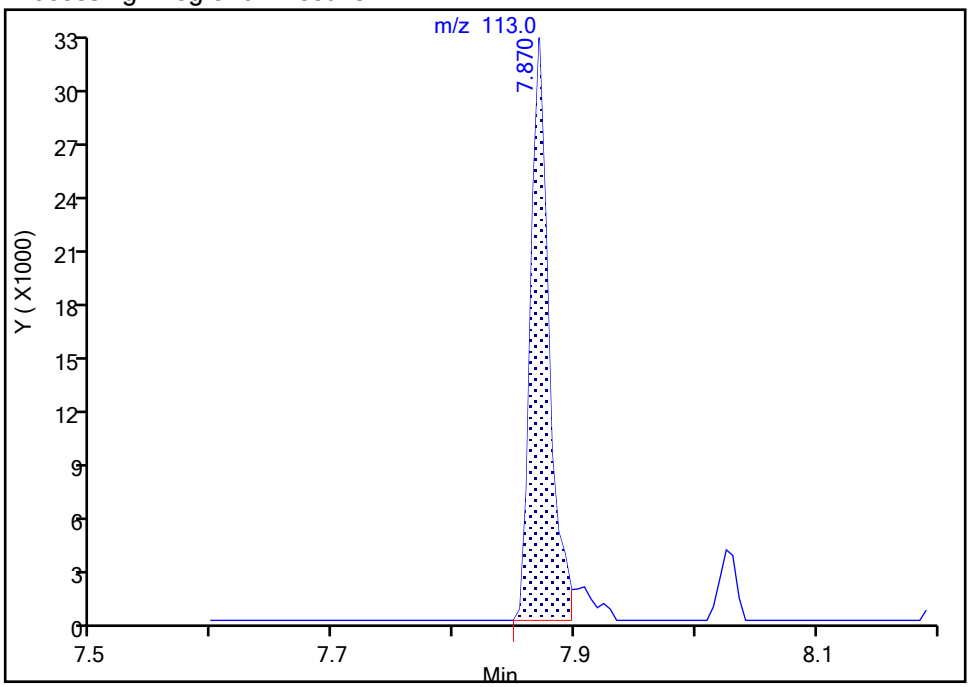

Manual Integration Results

RT: 7.87
Area: 35920
Amount: 3.490141
Amount Units: ng

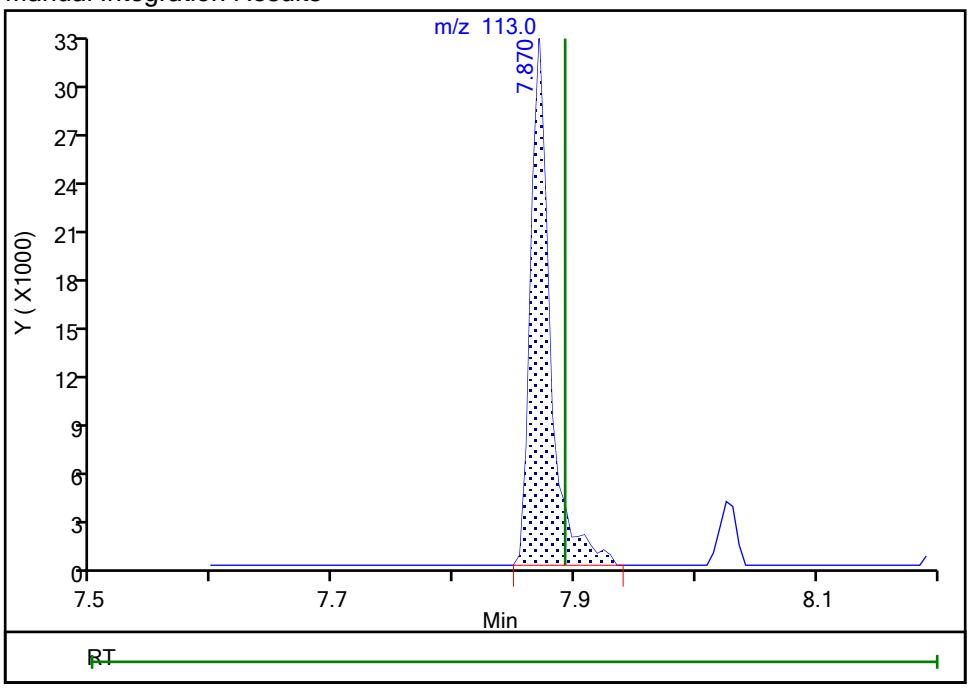

Reviewer: piccolinov, 10-Jul-2019 10:46:04

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100005.D				
Injection Date:	10-Jul-2019 08:48:30	Instrument ID:	CH732		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

96 2,3,4,6-Tetrachlorophenol, CAS: 58-90-2

Signal: 1

Processing Integration Results

RT: 9.53
Area: 89057
Amount: 3.772718
Amount Units: ng

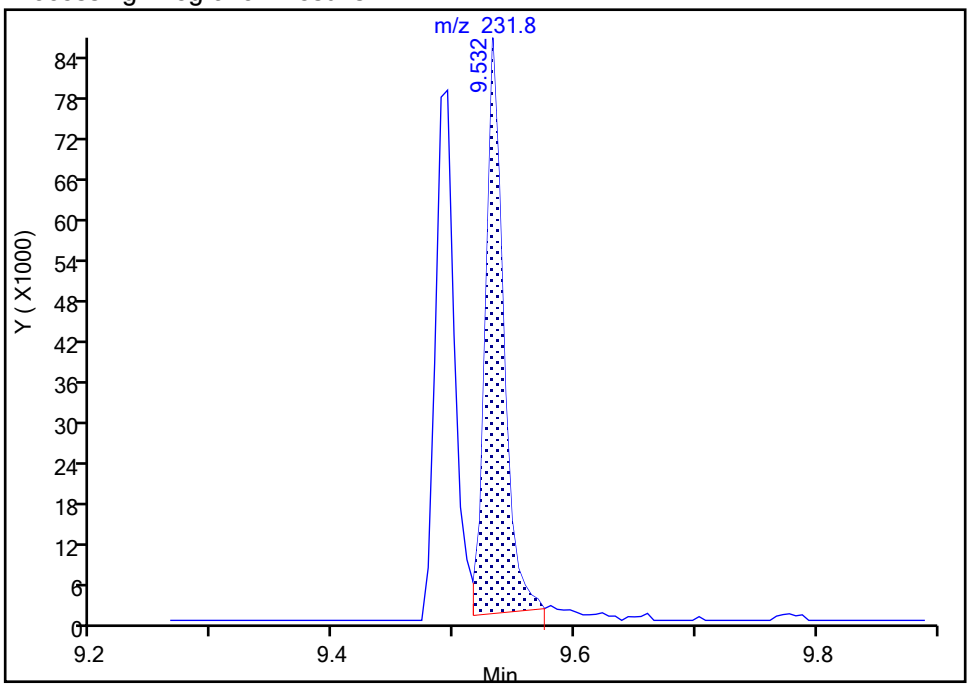

Manual Integration Results

RT: 9.53
Area: 98004
Amount: 3.936730
Amount Units: ng

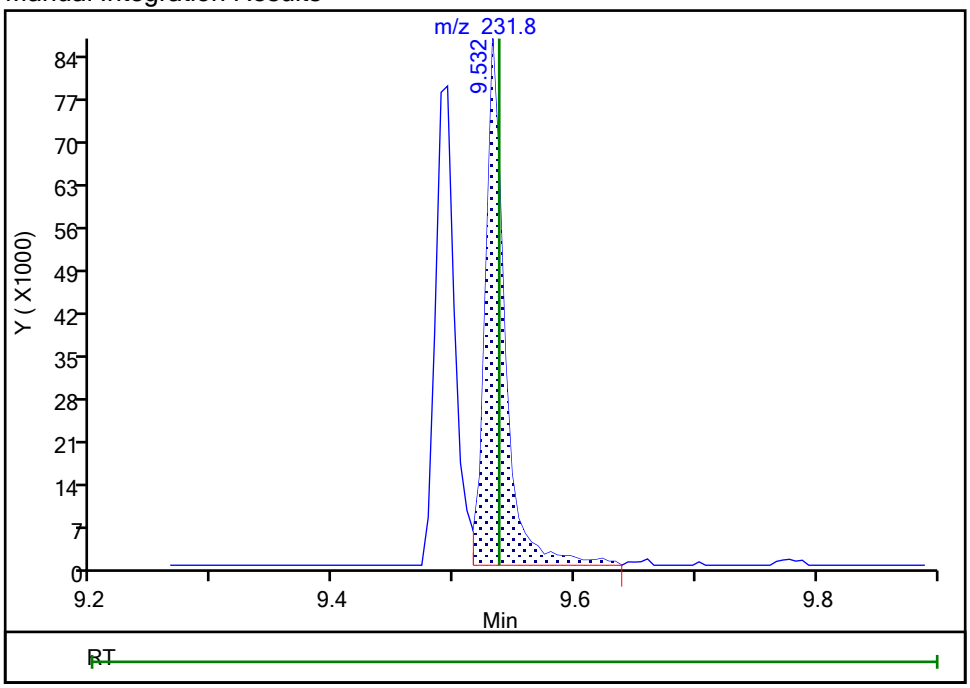

Reviewer: piccolinov, 10-Jul-2019 10:46:41

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100005.D				
Injection Date:	10-Jul-2019 08:48:30	Instrument ID:	CH732		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

158 Dibenz(a,h)anthracene, CAS: 53-70-3

Signal: 1

Processing Integration Results

RT: 19.84
Area: 397328
Amount: 3.884732
Amount Units: ng

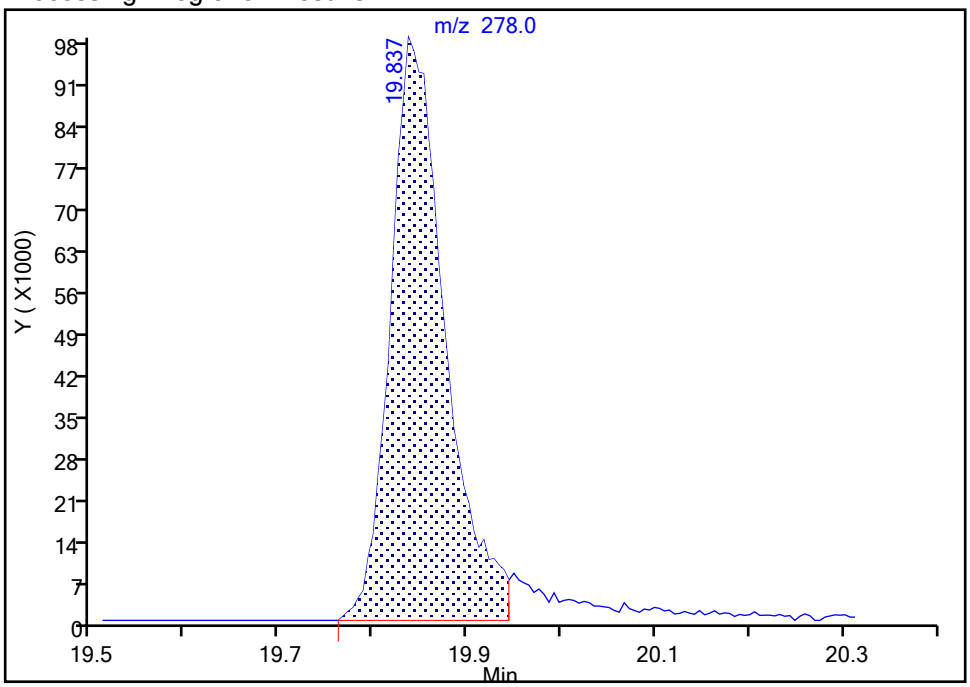

Manual Integration Results

RT: 19.84
Area: 424180
Amount: 3.784887
Amount Units: ng

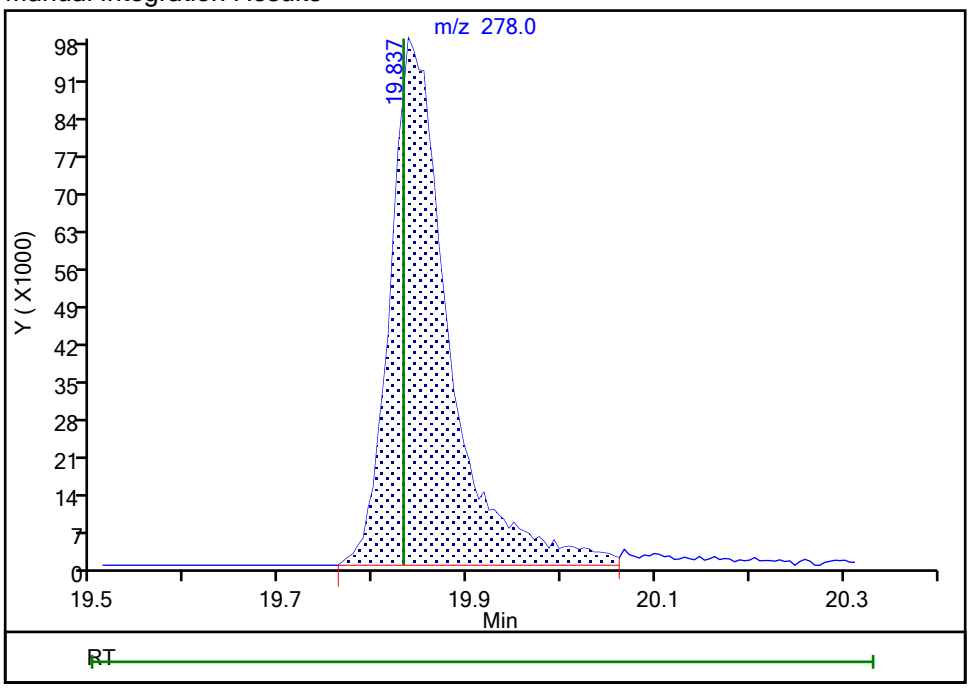

Reviewer: piccolinov, 10-Jul-2019 10:47:11

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100005.D				
Injection Date:	10-Jul-2019 08:48:30	Instrument ID:	CH732		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

159 Benzo[g,h,i]perylene, CAS: 191-24-2

Signal: 1

Processing Integration Results

RT: 20.50
Area: 432371
Amount: 3.795233
Amount Units: ng

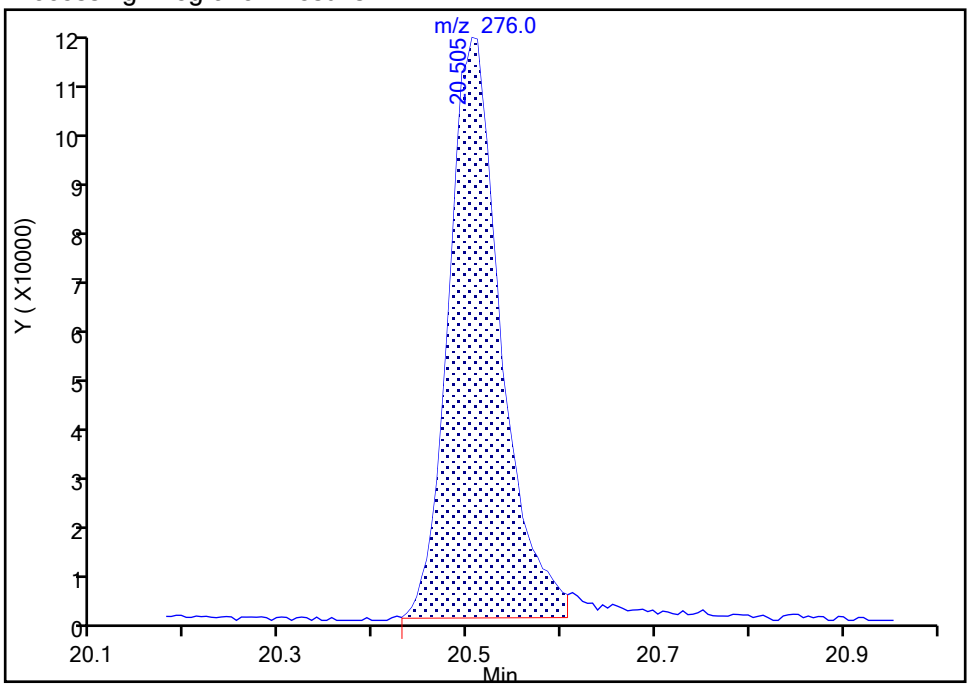

Manual Integration Results

RT: 20.50
Area: 444715
Amount: 3.745975
Amount Units: ng

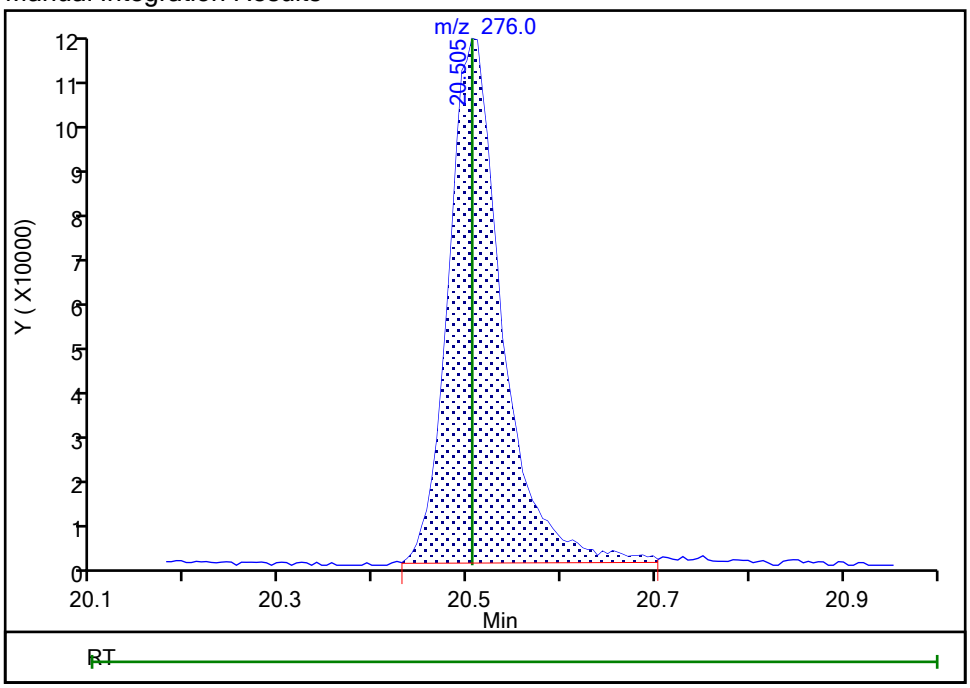

Reviewer: piccolinov, 10-Jul-2019 10:47:17

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100006.D
Lims ID: ICIS
Client ID:
Sample Type: ICIS Calib Level: 4
Inject. Date: 10-Jul-2019 09:14:30 ALS Bottle#: 5 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0027677-006
Operator ID: 003200 Instrument ID: CH732
Sublist: chrom-BNA_CH732*sub4

Method: \\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\BNA_CH732.m
Limit Group: BNA 8270D ICAL
Last Update: 11-Jul-2019 05:51:30 Calib Date: 10-Jul-2019 11:01:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100010.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0301

First Level Reviewer: piccolinov Date: 10-Jul-2019 10:44:59

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.209	6.209	0.000	96	209346	8.00	8.00	
* 2 Naphthalene-d8	136	7.507	7.507	0.000	99	907269	8.00	8.00	
* 3 Acenaphthene-d10	164	9.222	9.222	0.000	96	547134	8.00	8.00	
* 4 Phenanthrene-d10	188	10.680	10.680	0.000	97	1185280	8.00	8.00	
* 5 Chrysene-d12	240	14.484	14.484	0.000	97	1196388	8.00	8.00	
* 6 Perylene-d12	264	17.390	17.390	0.000	97	966853	8.00	8.00	
$ 7 2-Fluorophenol	112	4.756	4.756	0.000	92	244214	10.0	10.3	
$ 8 Phenol-d5	99	5.824	5.824	0.000	97	373935	10.0	10.7	
$ 9 Nitrobenzene-d5	82	6.775	6.775	0.000	87	351705	10.0	10.6	
$ 10 2-Fluorobiphenyl	172	8.549	8.549	0.000	100	985643	10.0	10.8	
$ 11 2,4,6-Tribromophenol	330	9.986	9.986	0.000	93	101150	10.0	9.99	
$ 12 Terphenyl-d14	244	12.636	12.636	0.000	100	1147130	10.0	10.5	
13 1,4-Dioxane	88	1.625	1.625	0.000	86	79516	10.0	10.3	
14 N-Nitrosodimethylamine	74	2.224	2.224	0.000	93	100239	10.0	10.4	
15 Pyridine	79	2.299	2.299	0.000	97	349984	20.0	21.6	M
21 Methyl methanesulfonate	80	4.505	4.505	0.000	88	149354	10.0	10.5	
25 Benzaldehyde	77	5.734	5.734	0.000	97	252280	10.0	10.5	
26 Phenol	94	5.840	5.840	0.000	98	435310	10.0	10.7	
27 Aniline	93	5.856	5.856	0.000	97	484691	10.0	10.5	
29 Bis(2-chloroethyl)ether	93	5.926	5.926	0.000	98	300469	10.0	10.4	
30 2-Chlorophenol	128	5.990	5.990	0.000	96	318849	10.0	10.6	
31 n-Decane	43	6.054	6.054	0.000	87	263914	10.0	10.6	
32 1,3-Dichlorobenzene	146	6.150	6.150	0.000	98	394878	10.0	10.5	
33 1,4-Dichlorobenzene	146	6.230	6.230	0.000	94	399289	10.0	10.5	
34 Benzyl alcohol	108	6.348	6.348	0.000	92	201437	10.0	10.4	
35 1,2-Dichlorobenzene	146	6.391	6.391	0.000	97	384181	10.0	10.3	
36 2-Methylphenol	108	6.465	6.465	0.000	96	309459	10.0	10.9	
37 Indene	116	6.481	6.481	0.000	91	615598	10.0	10.7	
38 2,2'-oxybis[1-chloropropan	45	6.492	6.492	0.000	94	359218	10.0	10.6	
39 N-Nitrosopyrrolidine	100	6.583	6.583	0.000	96	144706	10.0	10.4	
40 Acetophenone	105	6.620	6.620	0.000	85	462390	10.0	10.8	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
42 4-Methylphenol	108	6.620	6.620	0.000	68	315818	10.0	10.9	
41 N-Nitrosodi-n-propylamine	70	6.620	6.620	0.000	67	226531	10.0	11.1	
45 Hexachloroethane	117	6.743	6.743	0.000	91	160199	10.0	10.4	
46 Nitrobenzene	77	6.791	6.791	0.000	86	371502	10.0	10.7	
48 Isophorone	82	7.032	7.032	0.000	99	678777	10.0	10.6	
49 2-Nitrophenol	139	7.117	7.117	0.000	97	164505	10.0	10.0	
50 2,4-Dimethylphenol	107	7.149	7.149	0.000	96	371295	10.0	10.6	
52 Benzoic acid	122	7.197	7.197	0.000	89	116171	10.0	7.70	M
53 Bis(2-chloroethoxy)methane	93	7.240	7.240	0.000	99	441629	10.0	10.6	
54 2,4-Dichlorophenol	162	7.358	7.358	0.000	93	332432	10.0	10.6	
56 1,2,4-Trichlorobenzene	180	7.448	7.448	0.000	93	417945	10.0	10.4	
58 Naphthalene	128	7.529	7.529	0.000	97	1161615	10.0	10.5	
59 4-Chloroaniline	127	7.566	7.566	0.000	97	486889	10.0	10.5	
60 2,6-Dichlorophenol	162	7.582	7.582	0.000	98	331789	10.0	10.7	
62 Hexachlorobutadiene	225	7.651	7.651	0.000	95	254047	10.0	10.3	
64 Caprolactam	113	7.870	7.870	0.000	84	97839	10.0	9.59	
67 4-Chloro-3-methylphenol	107	8.025	8.025	0.000	96	334099	10.0	10.7	
69 2-Methylnaphthalene	142	8.207	8.207	0.000	93	893217	10.0	10.6	
71 1-Methylnaphthalene	142	8.303	8.303	0.000	93	822849	10.0	10.5	
72 Hexachlorocyclopentadiene	237	8.367	8.367	0.000	94	267658	10.0	10.2	
73 1,2,4,5-Tetrachlorobenzene	216	8.373	8.373	0.000	96	452444	10.0	10.6	
74 2,4,6-Trichlorophenol	196	8.474	8.474	0.000	91	271393	10.0	10.8	
75 2,4,5-Trichlorophenol	196	8.506	8.506	0.000	96	282178	10.0	10.7	
76 1,1'-Biphenyl	154	8.650	8.650	0.000	95	1081025	10.0	10.7	
77 2-Chloronaphthalene	162	8.682	8.682	0.000	96	841908	10.0	10.5	
79 2-Nitroaniline	65	8.763	8.763	0.000	84	216102	10.0	10.6	
82 Dimethyl phthalate	163	8.923	8.923	0.000	99	919078	10.0	10.6	
83 1,3-Dinitrobenzene	168	8.955	8.955	0.000	88	119219	10.0	9.61	
84 2,6-Dinitrotoluene	165	8.987	8.987	0.000	96	191539	10.0	10.4	
85 Acenaphthylene	152	9.088	9.088	0.000	99	1371108	10.0	11.0	
86 3-Nitroaniline	138	9.153	9.153	0.000	94	211638	10.0	10.3	
88 Acenaphthene	153	9.254	9.254	0.000	94	846242	10.0	10.7	
87 2,4-Dinitrophenol	184	9.254	9.254	0.000	59	105178	20.0	22.1	
89 4-Nitrophenol	109	9.291	9.291	0.000	90	211995	20.0	20.3	
91 2,4-Dinitrotoluene	165	9.377	9.377	0.000	94	244531	10.0	10.1	
93 Dibenzofuran	168	9.420	9.420	0.000	98	1324858	10.0	10.8	
95 2,3,5,6-Tetrachlorophenol	232	9.489	9.489	0.000	93	243765	10.0	10.0	
96 2,3,4,6-Tetrachlorophenol	232	9.532	9.532	0.000	70	257812	10.0	10.7	
97 2-Naphthylamine	143	9.559	9.559	0.000	97	932813	10.0	11.1	
98 Diethyl phthalate	149	9.596	9.596	0.000	99	907847	10.0	10.8	
99 Hexadecane	57	9.601	9.601	0.000	92	607818	10.0	10.8	
100 4-Chlorophenyl phenyl ethe	204	9.730	9.730	0.000	89	538125	10.0	10.4	
101 4-Nitroaniline	138	9.740	9.740	0.000	86	234021	10.0	10.9	
103 Fluorene	166	9.751	9.751	0.000	96	1032132	10.0	10.7	
104 4,6-Dinitro-2-methylphenol	198	9.772	9.772	0.000	92	252767	20.0	17.6	
105 N-Nitrosodiphenylamine	169	9.836	9.836	0.000	99	751483	10.0	10.5	
90 1,2-Diphenylhydrazine	77	9.884	9.884	0.000	98	1060659	10.0	10.7	
57 Azobenzene	77	9.884	9.884	0.000	97	1060659	10.0	10.7	
110 4-Bromophenyl phenyl ether	248	10.205	10.205	0.000	65	298145	10.0	10.2	
112 Hexachlorobenzene	284	10.296	10.296	0.000	93	287097	10.0	10.1	
113 Atrazine	200	10.323	10.323	0.000	95	277263	10.0	10.7	
116 Pentachlorophenol	266	10.472	10.472	0.000	93	334650	20.0	19.2	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
115 n-Octadecane	57	10.483	10.483	0.000	96	675977	10.0	11.2	
121 Phenanthrene	178	10.702	10.702	0.000	97	1577156	10.0	10.5	
122 Anthracene	178	10.755	10.755	0.000	97	1593043	10.0	10.9	
124 Carbazole	167	10.910	10.910	0.000	95	1466637	10.0	10.8	
126 Di-n-butyl phthalate	149	11.241	11.241	0.000	100	1607859	10.0	11.0	
131 Fluoranthene	202	12.128	12.128	0.000	97	1782134	10.0	10.7	
132 Benzidine	184	12.267	12.267	0.000	100	928497	10.0	10.7	
133 Pyrene	202	12.454	12.454	0.000	98	1881600	10.0	10.8	
138 Butyl benzyl phthalate	149	13.389	13.389	0.000	98	624340	10.0	9.90	
144 3,3'-Dichlorobenzidine	252	14.388	14.388	0.000	74	526816	10.0	9.73	
145 Bis(2-ethylhexyl) phthalat	149	14.441	14.441	0.000	97	893068	10.0	10.2	
146 Benzo[a]anthracene	228	14.463	14.463	0.000	99	1634984	10.0	10.4	
147 Chrysene	228	14.532	14.532	0.000	98	1614227	10.0	10.4	
150 Di-n-octyl phthalate	149	15.756	15.756	0.000	99	1253330	10.0	8.45	
151 7,12-Dimethylbenz(a)anthra	256	16.600	16.600	0.000	91	709295	10.0	10.3	
152 Benzo[b]fluoranthene	252	16.616	16.616	0.000	98	1571554	10.0	10.9	
153 Benzo[k]fluoranthene	252	16.669	16.669	0.000	99	1550103	10.0	10.1	
219 Benzo[e]pyrene	252	17.171	17.171	0.000	98	1395488	10.0	10.4	
154 Benzo[a]pyrene	252	17.278	17.278	0.000	78	1338281	10.0	10.3	
157 Indeno[1,2,3-cd]pyrene	276	19.805	19.805	0.000	98	1404309	10.0	10.2	
158 Dibenz(a,h)anthracene	278	19.842	19.842	0.000	92	1121426	10.0	9.92	
159 Benzo[g,h,i]perylene	276	20.510	20.510	0.000	96	1201846	10.0	10.0	
S 199 Total Cresols	108				0		20.0	21.8	
S 197 Methyl Phenols,Total	108				0		20.0	21.8	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

SVTAPSTD10i_00332 Amount Added: 1.00 Units: mL

Report Date: 11-Jul-2019 05:51:32 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100006.D				
Injection Date:	10-Jul-2019 09:14:30	Instrument ID:	CH732	Operator ID:	003200
Lims ID:	ICIS			Worklist Smp#:	6
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

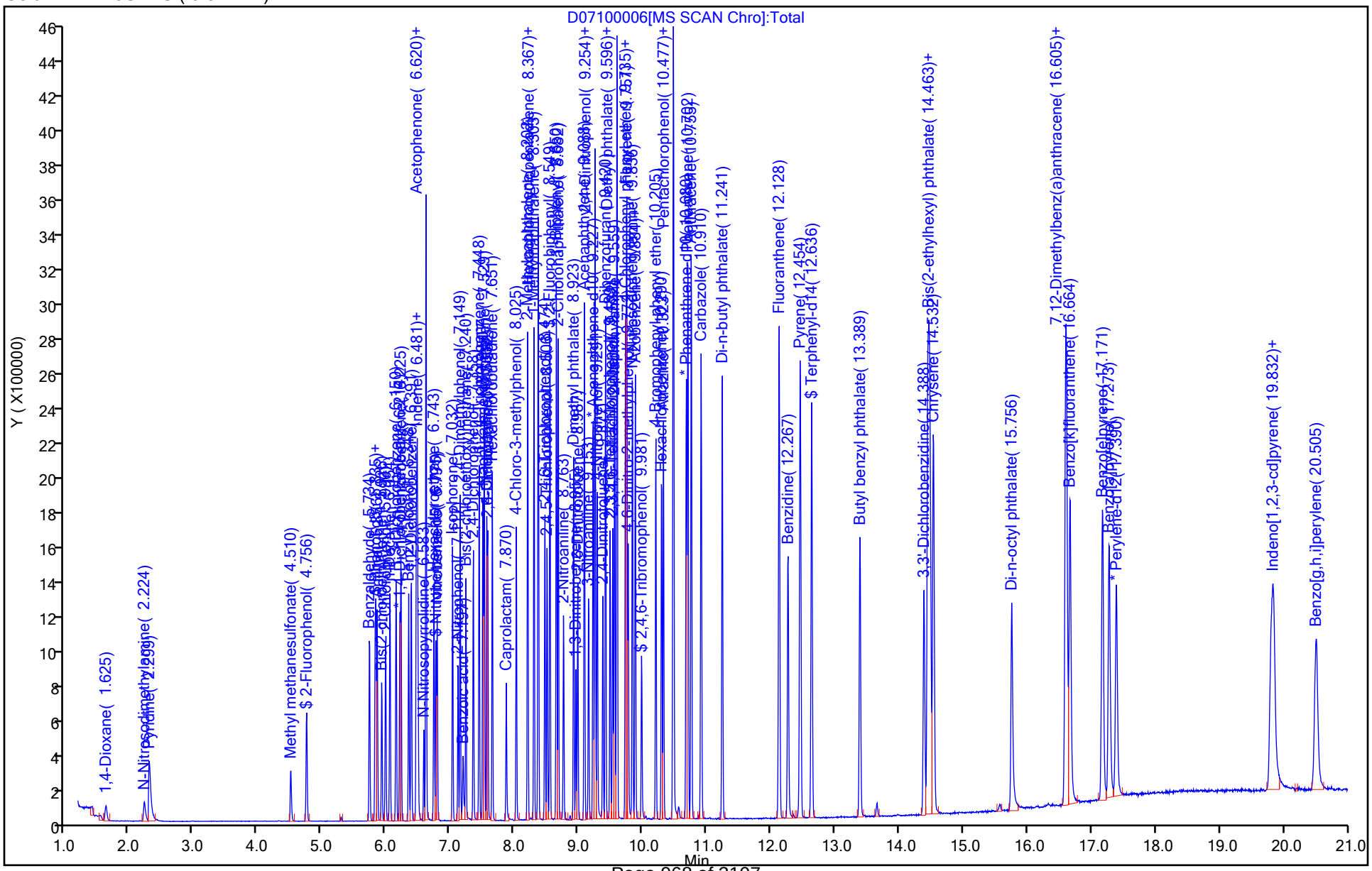

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100006.D				
Injection Date:	10-Jul-2019 09:14:30	Instrument ID:	CH732		
Lims ID:	ICIS				
Client ID:					
Operator ID:	003200	ALS Bottle#:	5	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

15 Pyridine, CAS: 110-86-1

Signal: 1

Processing Integration Results

RT: 2.30
Area: 334296
Amount: 22.281470
Amount Units: ng

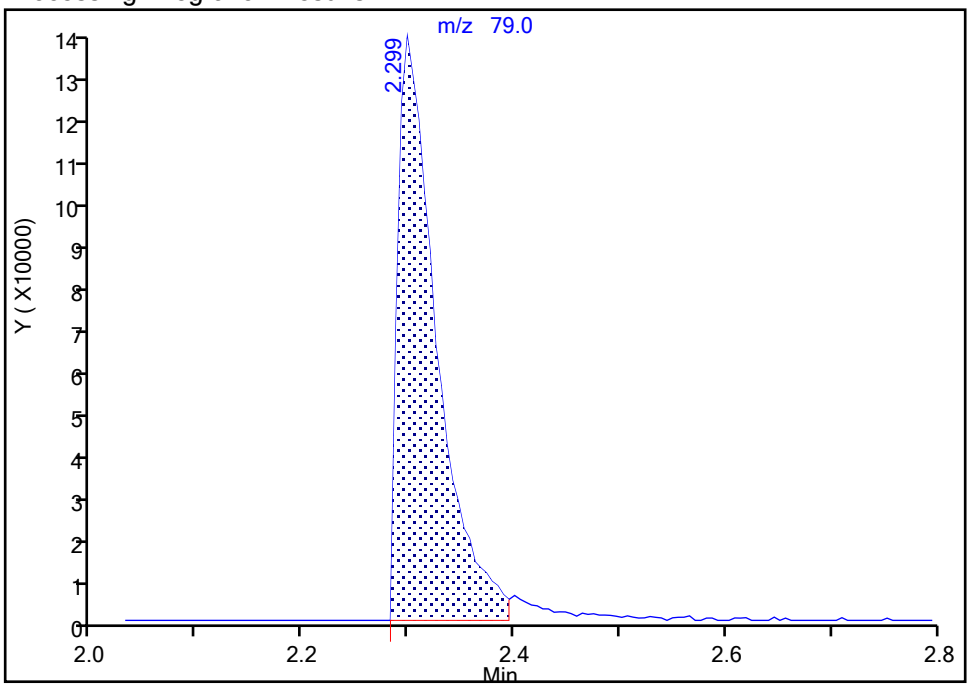

Manual Integration Results

RT: 2.30
Area: 349984
Amount: 21.608248
Amount Units: ng

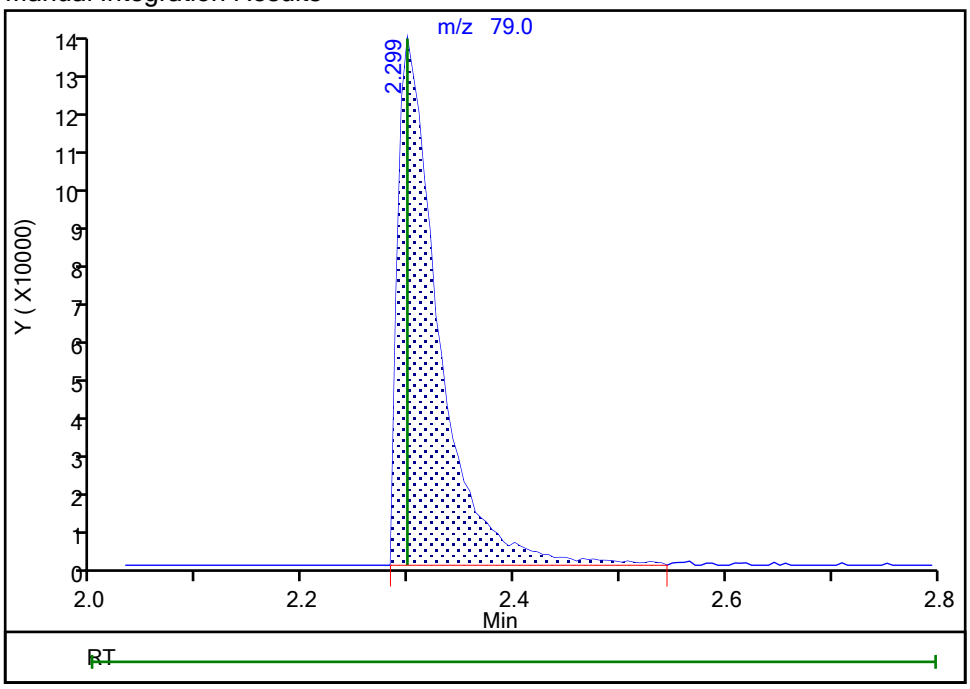

Reviewer: piccolinov, 10-Jul-2019 10:44:01

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100006.D				
Injection Date:	10-Jul-2019 09:14:30	Instrument ID:	CH732		
Lims ID:	ICIS				
Client ID:					
Operator ID:	003200	ALS Bottle#:	5	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

52 Benzoic acid, CAS: 65-85-0

Signal: 1

Processing Integration Results

RT: 7.20
Area: 113260
Amount: 8.528847
Amount Units: ng

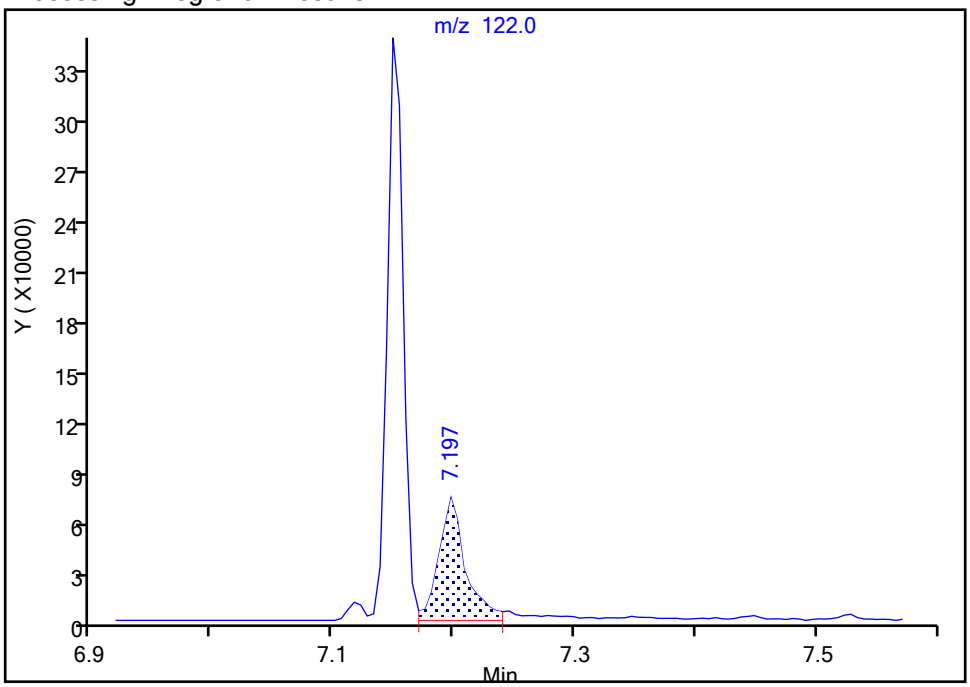

Manual Integration Results

RT: 7.20
Area: 116171
Amount: 7.696839
Amount Units: ng

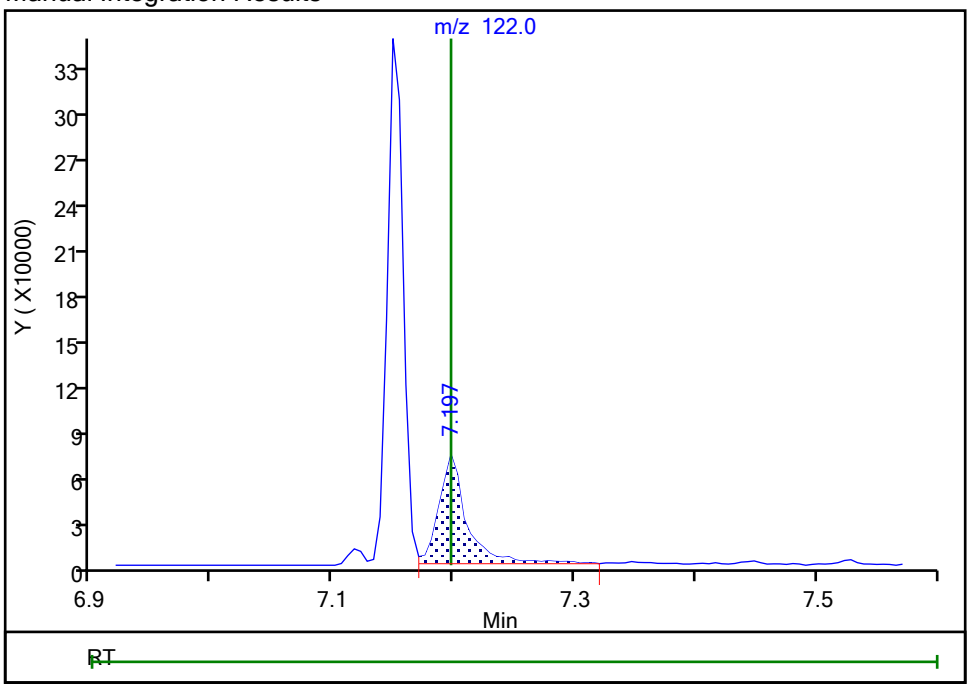

Reviewer: piccolinov, 10-Jul-2019 10:44:26

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100007.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 10-Jul-2019 09:41:30 ALS Bottle#: 6 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0027677-007
Operator ID: 003200 Instrument ID: CH732
Sublist: chrom-BNA_CH732*sub4

Method: \\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\BNA_CH732.m
Limit Group: BNA 8270D ICAL
Last Update: 11-Jul-2019 05:51:38 Calib Date: 10-Jul-2019 11:01:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100010.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0301

First Level Reviewer: piccolinov Date: 10-Jul-2019 10:55:16

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.214	6.209	0.005	95	213864	8.00	8.00	
* 2 Naphthalene-d8	136	7.507	7.507	0.000	99	901331	8.00	8.00	
* 3 Acenaphthene-d10	164	9.227	9.222	0.005	96	551161	8.00	8.00	
* 4 Phenanthrene-d10	188	10.686	10.680	0.006	97	1153293	8.00	8.00	
* 5 Chrysene-d12	240	14.495	14.484	0.011	97	1135309	8.00	8.00	
* 6 Perylene-d12	264	17.401	17.390	0.011	97	912749	8.00	8.00	
$ 7 2-Fluorophenol	112	4.756	4.756	0.000	91	504833	20.0	20.9	
$ 8 Phenol-d5	99	5.824	5.824	0.000	97	739665	20.0	20.8	
$ 9 Nitrobenzene-d5	82	6.775	6.775	0.000	86	718713	20.0	21.7	
$ 10 2-Fluorobiphenyl	172	8.554	8.549	0.005	100	1919511	20.0	20.8	
$ 11 2,4,6-Tribromophenol	330	9.986	9.986	0.000	91	207946	20.0	21.1	
$ 12 Terphenyl-d14	244	12.641	12.636	0.005	100	2202119	20.0	21.2	
13 1,4-Dioxane	88	1.620	1.625	-0.005	88	157068	20.0	20.0	
14 N-Nitrosodimethylamine	74	2.224	2.224	0.000	92	210528	20.0	21.3	
15 Pyridine	79	2.293	2.299	-0.005	97	683369	40.0	41.3	
21 Methyl methanesulfonate	80	4.505	4.505	0.000	88	303914	20.0	20.9	
25 Benzaldehyde	77	5.739	5.734	0.005	96	521554	20.0	21.3	
26 Phenol	94	5.840	5.840	0.000	98	855894	20.0	20.6	
27 Aniline	93	5.856	5.856	0.000	98	964288	20.0	20.5	
29 Bis(2-chloroethyl)ether	93	5.931	5.926	0.005	98	599974	20.0	20.3	
30 2-Chlorophenol	128	5.990	5.990	0.000	96	659670	20.0	21.4	
31 n-Decane	43	6.059	6.054	0.005	86	511310	20.0	20.0	
32 1,3-Dichlorobenzene	146	6.156	6.150	0.006	97	787521	20.0	20.4	
33 1,4-Dichlorobenzene	146	6.230	6.230	0.000	94	790470	20.0	20.4	
34 Benzyl alcohol	108	6.353	6.348	0.005	92	425739	20.0	21.4	
35 1,2-Dichlorobenzene	146	6.391	6.391	0.000	97	763803	20.0	20.1	
36 2-Methylphenol	108	6.471	6.465	0.006	95	593453	20.0	20.4	
37 Indene	116	6.481	6.481	0.000	90	1175355	20.0	20.1	
38 2,2'-oxybis[1-chloropropan	45	6.497	6.492	0.005	90	670677	20.0	19.4	
39 N-Nitrosopyrrolidine	100	6.588	6.583	0.005	95	292244	20.0	20.6	
40 Acetophenone	105	6.620	6.620	0.000	84	895841	20.0	20.5	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
42 4-Methylphenol	108	6.620	6.620	0.000	65	608620	20.0	20.6	
41 N-Nitrosodi-n-propylamine	70	6.620	6.620	0.000	66	431603	20.0	20.7	
45 Hexachloroethane	117	6.743	6.743	0.000	92	327876	20.0	20.9	
46 Nitrobenzene	77	6.797	6.791	0.006	86	753208	20.0	21.9	
48 Isophorone	82	7.037	7.032	0.005	99	1370191	20.0	21.5	
49 2-Nitrophenol	139	7.122	7.117	0.005	94	364606	20.0	22.4	
50 2,4-Dimethylphenol	107	7.155	7.149	0.006	96	747268	20.0	21.5	
52 Benzoic acid	122	7.213	7.197	0.016	87	276785	20.0	18.5	
53 Bis(2-chloroethoxy)methane	93	7.245	7.240	0.005	99	868230	20.0	20.9	
54 2,4-Dichlorophenol	162	7.363	7.358	0.005	93	662078	20.0	21.3	
56 1,2,4-Trichlorobenzene	180	7.448	7.448	0.000	94	827231	20.0	20.7	
58 Naphthalene	128	7.529	7.529	-0.001	97	2286138	20.0	20.7	
59 4-Chloroaniline	127	7.571	7.566	0.005	96	955721	20.0	20.8	
60 2,6-Dichlorophenol	162	7.587	7.582	0.005	98	655279	20.0	21.2	
62 Hexachlorobutadiene	225	7.657	7.651	0.006	94	508329	20.0	20.8	
64 Caprolactam	113	7.881	7.870	0.011	83	214731	20.0	21.2	
67 4-Chloro-3-methylphenol	107	8.031	8.025	0.006	95	675063	20.0	21.8	
69 2-Methylnaphthalene	142	8.207	8.207	0.000	93	1761498	20.0	21.1	
71 1-Methylnaphthalene	142	8.308	8.303	0.005	94	1616038	20.0	20.8	
72 Hexachlorocyclopentadiene	237	8.373	8.367	0.006	94	587507	20.0	22.2	
73 1,2,4,5-Tetrachlorobenzene	216	8.378	8.373	0.005	96	878375	20.0	20.4	
74 2,4,6-Trichlorophenol	196	8.479	8.474	0.005	91	564297	20.0	22.3	
75 2,4,5-Trichlorophenol	196	8.511	8.506	0.005	95	586685	20.0	22.0	
76 1,1'-Biphenyl	154	8.656	8.650	0.006	95	2114870	20.0	20.8	
77 2-Chloronaphthalene	162	8.688	8.682	0.006	95	1662851	20.0	20.7	
79 2-Nitroaniline	65	8.768	8.763	0.005	84	451405	20.0	21.9	
82 Dimethyl phthalate	163	8.928	8.923	0.005	99	1798331	20.0	20.6	
83 1,3-Dinitrobenzene	168	8.960	8.955	0.005	89	267197	20.0	20.1	
84 2,6-Dinitrotoluene	165	8.992	8.987	0.005	96	401496	20.0	21.7	
85 Acenaphthylene	152	9.094	9.088	0.006	98	2635285	20.0	21.0	
86 3-Nitroaniline	138	9.158	9.153	0.005	95	442860	20.0	21.4	
88 Acenaphthene	153	9.259	9.254	0.005	94	1665780	20.0	20.8	
87 2,4-Dinitrophenol	184	9.259	9.254	0.005	85	261686	40.0	33.9	
89 4-Nitrophenol	109	9.297	9.291	0.006	90	442830	40.0	42.1	
91 2,4-Dinitrotoluene	165	9.382	9.377	0.005	94	525765	20.0	21.6	
93 Dibenzofuran	168	9.425	9.420	0.005	98	2559709	20.0	20.8	
95 2,3,5,6-Tetrachlorophenol	232	9.494	9.489	0.005	92	523678	20.0	21.4	
96 2,3,4,6-Tetrachlorophenol	232	9.537	9.532	0.005	70	508039	20.0	20.9	
97 2-Naphthylamine	143	9.564	9.559	0.005	97	1813769	20.0	21.3	
98 Diethyl phthalate	149	9.601	9.596	0.005	99	1723517	20.0	20.4	
99 Hexadecane	57	9.607	9.601	0.006	92	1158920	20.0	20.8	
100 4-Chlorophenyl phenyl ethe	204	9.735	9.730	0.005	88	1066156	20.0	20.4	
101 4-Nitroaniline	138	9.746	9.740	0.006	88	462024	20.0	21.3	
103 Fluorene	166	9.756	9.751	0.005	96	1988856	20.0	20.4	
104 4,6-Dinitro-2-methylphenol	198	9.778	9.772	0.006	91	581431	40.0	37.2	
105 N-Nitrosodiphenylamine	169	9.842	9.836	0.006	99	1474797	20.0	21.1	
90 1,2-Diphenylhydrazine	77	9.890	9.884	0.006	98	2047134	20.0	21.3	
57 Azobenzene	77	9.890	9.884	0.006	98	2047134	20.0	21.3	
110 4-Bromophenyl phenyl ether	248	10.205	10.205	0.000	64	606148	20.0	21.3	
112 Hexachlorobenzene	284	10.296	10.296	0.000	94	563367	20.0	20.4	
113 Atrazine	200	10.328	10.323	0.005	95	559536	20.0	22.3	
116 Pentachlorophenol	266	10.477	10.472	0.005	93	704759	40.0	41.6	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
115 n-Octadecane	57	10.483	10.483	0.000	96	1275229	20.0	20.7	
121 Phenanthrene	178	10.707	10.702	0.005	97	3027100	20.0	20.7	
122 Anthracene	178	10.761	10.755	0.006	97	3075673	20.0	21.6	
124 Carbazole	167	10.915	10.910	0.005	95	2822576	20.0	21.4	
126 Di-n-butyl phthalate	149	11.247	11.241	0.006	100	3256844	20.0	23.0	
131 Fluoranthene	202	12.134	12.128	0.006	98	3515257	20.0	21.7	
132 Benzidine	184	12.272	12.267	0.005	100	1894502	20.0	23.0	
133 Pyrene	202	12.465	12.454	0.011	98	3548375	20.0	21.4	
138 Butyl benzyl phthalate	149	13.394	13.389	0.005	98	1314809	20.0	22.0	
144 3,3'-Dichlorobenzidine	252	14.393	14.388	0.005	74	1070668	20.0	19.9	
145 Bis(2-ethylhexyl) phthalat	149	14.452	14.441	0.011	97	1859835	20.0	22.3	
146 Benzo[a]anthracene	228	14.473	14.463	0.010	99	3114053	20.0	21.0	
147 Chrysene	228	14.548	14.532	0.016	97	3037393	20.0	20.6	
150 Di-n-octyl phthalate	149	15.761	15.756	0.005	99	2751691	20.0	19.6	
151 7,12-Dimethylbenz(a)anthra	256	16.605	16.600	0.005	92	1414863	20.0	21.7	
152 Benzo[b]fluoranthene	252	16.626	16.616	0.010	98	2872727	20.0	21.0	
153 Benzo[k]fluoranthene	252	16.674	16.669	0.005	99	3127218	20.0	21.6	
219 Benzo[e]pyrene	252	17.187	17.171	0.016	98	2663909	20.0	21.0	
154 Benzo[a]pyrene	252	17.289	17.278	0.011	78	2562644	20.0	20.8	
157 Indeno[1,2,3-cd]pyrene	276	19.821	19.805	0.016	98	2765282	20.0	21.2	
158 Dibenz(a,h)anthracene	278	19.858	19.842	0.016	87	2232183	20.0	20.9	
159 Benzo[g,h,i]perylene	276	20.515	20.510	0.005	96	2338701	20.0	20.7	
S 199 Total Cresols	108				0		40.0	41.0	
S 197 Methyl Phenols,Total	108				0		40.0	41.0	

Reagents:

SVTAPSTD20i_00017 Amount Added: 1.00 Units: mL

Report Date: 11-Jul-2019 05:51:40 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100007.D

Injection Date: 10-Jul-2019 09:41:30 Instrument ID: CH732 Operator ID: 003200

Lims ID: IC Worklist Smp#: 7

Client ID:

Injection Vol: 2.0 ul Dil. Factor: 1.0000 ALS Bottle#: 6

Method: BNA_CH732 Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

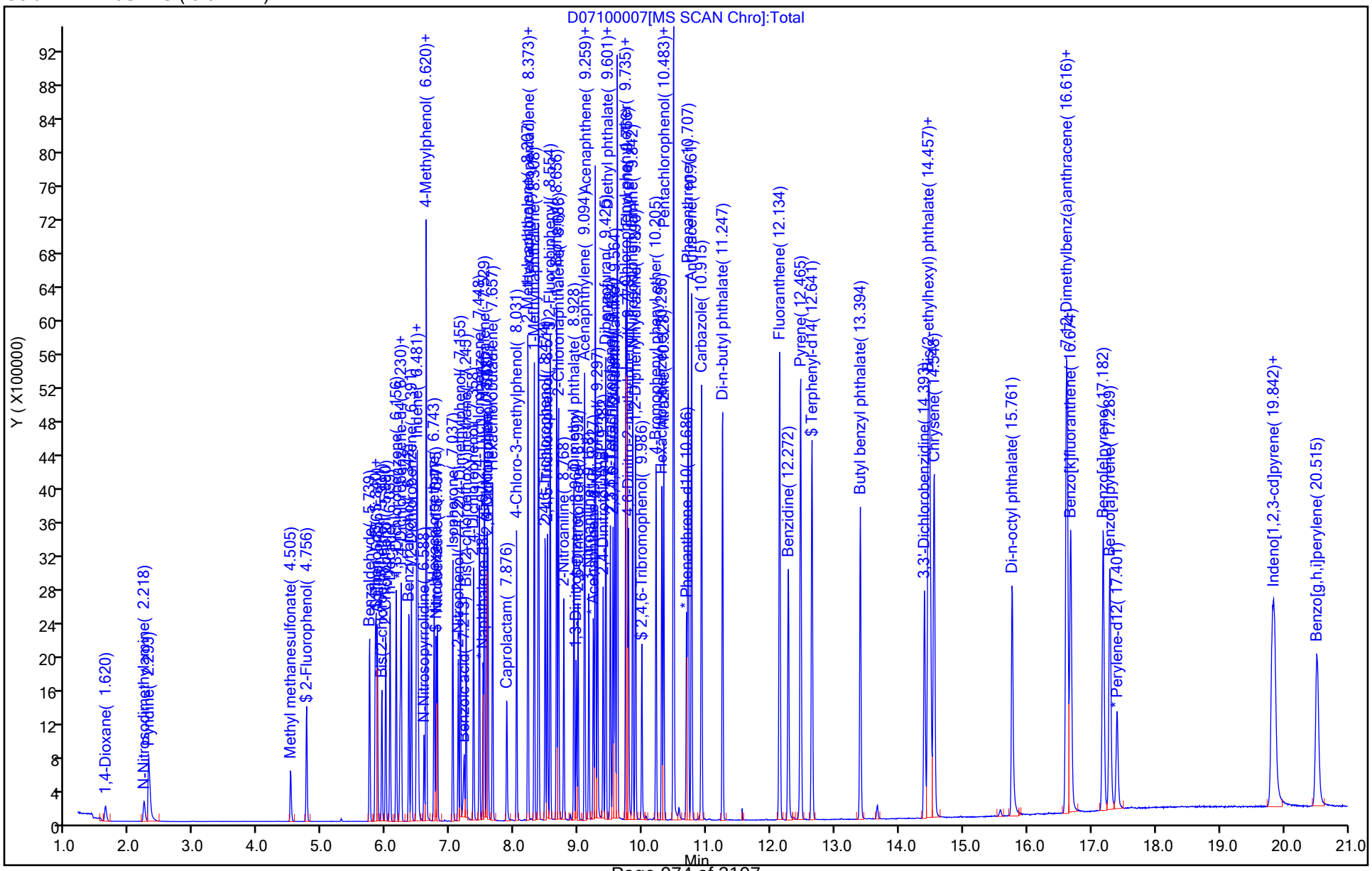

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100008.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 10-Jul-2019 10:07:30 ALS Bottle#: 7 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0027677-008
Operator ID: 003200 Instrument ID: CH732
Sublist: chrom-BNA_CH732*sub4

Method: \\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\BNA_CH732.m
Limit Group: BNA 8270D ICAL
Last Update: 11-Jul-2019 05:51:45 Calib Date: 10-Jul-2019 11:01:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100010.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0301

First Level Reviewer: piccolinov Date: 10-Jul-2019 10:57:13

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.209	6.209	0.000	95	195745	8.00	8.00	
* 2 Naphthalene-d8	136	7.507	7.507	0.000	99	875967	8.00	8.00	
* 3 Acenaphthene-d10	164	9.227	9.222	0.005	95	542106	8.00	8.00	
* 4 Phenanthrene-d10	188	10.680	10.680	0.000	97	1135458	8.00	8.00	
* 5 Chrysene-d12	240	14.489	14.484	0.005	97	1136127	8.00	8.00	
* 6 Perylene-d12	264	17.396	17.390	0.006	97	929238	8.00	8.00	
$ 7 2-Fluorophenol	112	4.745	4.756	-0.011	91	958961	40.0	43.4	
$ 8 Phenol-d5	99	5.824	5.824	0.000	98	1327561	40.0	40.8	
$ 9 Nitrobenzene-d5	82	6.775	6.775	0.000	86	1317710	40.0	41.0	
$ 10 2-Fluorobiphenyl	172	8.554	8.549	0.005	100	3449186	40.0	38.0	
$ 11 2,4,6-Tribromophenol	330	9.986	9.986	0.000	93	423758	40.0	43.7	
$ 12 Terphenyl-d14	244	12.636	12.636	0.000	100	4284637	40.0	41.1	
13 1,4-Dioxane	88	1.604	1.625	-0.021	89	287233	40.0	39.9	
14 N-Nitrosodimethylamine	74	2.202	2.224	-0.022	93	385451	40.0	42.7	
15 Pyridine	79	2.272	2.299	-0.026	97	1283266	80.0	84.7	
21 Methyl methanesulfonate	80	4.499	4.505	-0.006	88	546766	40.0	41.1	
25 Benzaldehyde	77	5.733	5.734	-0.001	96	885384	40.0	39.5	
26 Phenol	94	5.835	5.840	-0.005	98	1516576	40.0	39.9	
27 Aniline	93	5.856	5.856	0.000	97	1734546	40.0	40.2	
29 Bis(2-chloroethyl)ether	93	5.926	5.926	0.000	97	1052602	40.0	38.9	
30 2-Chlorophenol	128	5.985	5.990	-0.006	96	1175532	40.0	41.7	
31 n-Decane	43	6.054	6.054	0.000	86	899329	40.0	38.5	
32 1,3-Dichlorobenzene	146	6.150	6.150	0.000	98	1392070	40.0	39.4	
33 1,4-Dichlorobenzene	146	6.225	6.230	-0.005	94	1414803	40.0	39.8	
34 Benzyl alcohol	108	6.348	6.348	0.000	92	778076	40.0	42.8	
35 1,2-Dichlorobenzene	146	6.385	6.391	-0.006	97	1366735	40.0	39.3	
36 2-Methylphenol	108	6.471	6.465	0.006	95	1065532	40.0	40.0	
37 Indene	116	6.481	6.481	0.000	90	2077011	40.0	38.7	
38 2,2'-oxybis[1-chloropropan	45	6.492	6.492	0.000	93	1191750	40.0	37.6	
39 N-Nitrosopyrrolidine	100	6.588	6.583	0.005	96	576040	40.0	44.4	
40 Acetophenone	105	6.620	6.620	0.000	84	1508949	40.0	37.6	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
42 4-Methylphenol	108	6.620	6.620	0.000	68	1049918	40.0	38.8	
41 N-Nitrosodi-n-propylamine	70	6.620	6.620	0.000	65	723044	40.0	37.9	
45 Hexachloroethane	117	6.743	6.743	0.000	91	601030	40.0	41.8	
46 Nitrobenzene	77	6.791	6.791	0.000	85	1349536	40.0	40.4	
48 Isophorone	82	7.032	7.032	0.000	99	2515496	40.0	40.7	
49 2-Nitrophenol	139	7.117	7.117	0.000	95	701980	40.0	44.4	
50 2,4-Dimethylphenol	107	7.154	7.149	0.005	96	1355222	40.0	40.2	
52 Benzoic acid	122	7.229	7.197	0.032	88	587674	40.0	40.3	
53 Bis(2-chloroethoxy)methane	93	7.240	7.240	0.000	98	1562890	40.0	38.8	
54 2,4-Dichlorophenol	162	7.357	7.358	-0.001	93	1264551	40.0	42.0	
56 1,2,4-Trichlorobenzene	180	7.448	7.448	0.000	94	1497125	40.0	38.6	
58 Naphthalene	128	7.528	7.529	-0.001	97	4118236	40.0	38.4	
59 4-Chloroaniline	127	7.566	7.566	0.000	96	1763172	40.0	39.5	
60 2,6-Dichlorophenol	162	7.582	7.582	0.000	98	1203450	40.0	40.1	
62 Hexachlorobutadiene	225	7.651	7.651	0.000	94	938637	40.0	39.4	
64 Caprolactam	113	7.881	7.870	0.011	83	433951	40.0	44.1	
67 4-Chloro-3-methylphenol	107	8.031	8.025	0.006	95	1266573	40.0	42.1	
69 2-Methylnaphthalene	142	8.207	8.207	0.000	93	3161344	40.0	39.0	
71 1-Methylnaphthalene	142	8.303	8.303	0.000	93	2858558	40.0	37.8	
72 Hexachlorocyclopentadiene	237	8.367	8.367	0.000	95	1131147	40.0	43.5	
73 1,2,4,5-Tetrachlorobenzene	216	8.372	8.373	-0.001	96	1605576	40.0	37.9	
74 2,4,6-Trichlorophenol	196	8.474	8.474	0.000	91	1081693	40.0	43.5	
75 2,4,5-Trichlorophenol	196	8.511	8.506	0.005	95	1115362	40.0	42.6	
76 1,1'-Biphenyl	154	8.656	8.650	0.006	95	3830067	40.0	38.2	
77 2-Chloronaphthalene	162	8.682	8.682	0.000	95	3015320	40.0	38.1	
79 2-Nitroaniline	65	8.762	8.763	-0.001	85	886770	40.0	43.8	
82 Dimethyl phthalate	163	8.923	8.923	0.000	99	3457284	40.0	40.3	
83 1,3-Dinitrobenzene	168	8.960	8.955	0.005	91	553285	40.0	41.0	
84 2,6-Dinitrotoluene	165	8.987	8.987	0.000	96	777856	40.0	42.8	
85 Acenaphthylene	152	9.088	9.088	0.000	99	4900210	40.0	39.6	
86 3-Nitroaniline	138	9.158	9.153	0.005	95	875207	40.0	43.1	
88 Acenaphthene	153	9.259	9.254	0.005	91	2970759	40.0	37.8	
87 2,4-Dinitrophenol	184	9.254	9.254	0.000	85	898310	80.0	83.3	
89 4-Nitrophenol	109	9.297	9.291	0.006	90	906719	80.0	87.7	
91 2,4-Dinitrotoluene	165	9.377	9.377	0.000	95	1064393	40.0	44.4	
93 Dibenzofuran	168	9.420	9.420	0.000	98	4681657	40.0	38.6	
95 2,3,5,6-Tetrachlorophenol	232	9.494	9.489	0.005	92	1039087	40.0	43.2	
96 2,3,4,6-Tetrachlorophenol	232	9.537	9.532	0.005	70	1040579	40.0	43.6	
97 2-Naphthylamine	143	9.564	9.559	0.005	97	3370764	40.0	40.3	
98 Diethyl phthalate	149	9.596	9.596	0.000	99	3209618	40.0	38.6	
99 Hexadecane	57	9.601	9.601	0.000	92	1969725	40.0	36.4	
100 4-Chlorophenyl phenyl ethe	204	9.729	9.730	-0.001	89	2014031	40.0	39.2	
101 4-Nitroaniline	138	9.745	9.740	0.005	87	900293	40.0	42.1	
103 Fluorene	166	9.751	9.751	0.000	96	3606624	40.0	37.7	
104 4,6-Dinitro-2-methylphenol	198	9.778	9.772	0.006	93	1305809	80.0	80.8	
105 N-Nitrosodiphenylamine	169	9.842	9.836	0.006	99	2856356	40.0	41.5	
90 1,2-Diphenylhydrazine	77	9.884	9.884	0.000	97	3873545	40.0	41.0	
57 Azobenzene	77	9.884	9.884	0.000	97	3873545	40.0	41.0	
110 4-Bromophenyl phenyl ether	248	10.205	10.205	0.000	64	1153158	40.0	41.2	
112 Hexachlorobenzene	284	10.296	10.296	0.000	95	1100481	40.0	40.6	
113 Atrazine	200	10.328	10.323	0.005	95	1093176	40.0	44.2	
116 Pentachlorophenol	266	10.472	10.472	0.000	93	1466830	80.0	88.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
115 n-Octadecane	57	10.483	10.483	0.000	97	2238446	40.0	39.7	
121 Phenanthrene	178	10.707	10.702	0.005	98	5686119	40.0	39.5	
122 Anthracene	178	10.760	10.755	0.005	98	5712633	40.0	40.7	
124 Carbazole	167	10.915	10.910	0.005	95	5428683	40.0	41.8	
126 Di-n-butyl phthalate	149	11.241	11.241	0.000	100	6295607	40.0	45.1	
131 Fluoranthene	202	12.128	12.128	0.000	98	6687725	40.0	41.9	
132 Benzidine	184	12.267	12.267	0.000	100	3726949	40.0	45.1	
133 Pyrene	202	12.459	12.454	0.005	97	6818174	40.0	41.1	
138 Butyl benzyl phthalate	149	13.389	13.389	0.000	98	2736583	40.0	45.7	
144 3,3'-Dichlorobenzidine	252	14.393	14.388	0.005	74	2276149	40.0	41.4	
145 Bis(2-ethylhexyl) phthalat	149	14.447	14.441	0.006	97	3807850	40.0	45.7	
146 Benzo[a]anthracene	228	14.468	14.463	0.005	99	6125583	40.0	41.2	
147 Chrysene	228	14.532	14.532	0.000	97	5923324	40.0	40.2	
150 Di-n-octyl phthalate	149	15.755	15.756	-0.001	99	6152210	40.0	43.1	
151 7,12-Dimethylbenz(a)anthra	256	16.605	16.600	0.005	92	2912846	40.0	43.9	
152 Benzo[b]fluoranthene	252	16.621	16.616	0.005	98	5758180	40.0	41.4	
153 Benzo[k]fluoranthene	252	16.680	16.669	0.011	99	6176939	40.0	41.9	
219 Benzo[e]pyrene	252	17.182	17.171	0.011	98	5434484	40.0	42.1	
154 Benzo[a]pyrene	252	17.289	17.278	0.011	78	5110156	40.0	40.8	
157 Indeno[1,2,3-cd]pyrene	276	19.821	19.805	0.016	98	5644040	40.0	42.5	
158 Dibenz(a,h)anthracene	278	19.848	19.842	0.006	94	4632864	40.0	42.6	
159 Benzo[g,h,i]perylene	276	20.521	20.510	0.011	97	4824432	40.0	41.9	
S 199 Total Cresols	108				0		80.0	78.8	
S 197 Methyl Phenols,Total	108				0		80.0	78.8	

Reagents:

SVTAPSTD40i_00017 Amount Added: 1.00 Units: mL

Report Date: 11-Jul-2019 05:51:46 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100008.D				
Injection Date:	10-Jul-2019 10:07:30	Instrument ID:	CH732	Operator ID:	003200
Lims ID:	IC			Worklist Smp#:	8
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

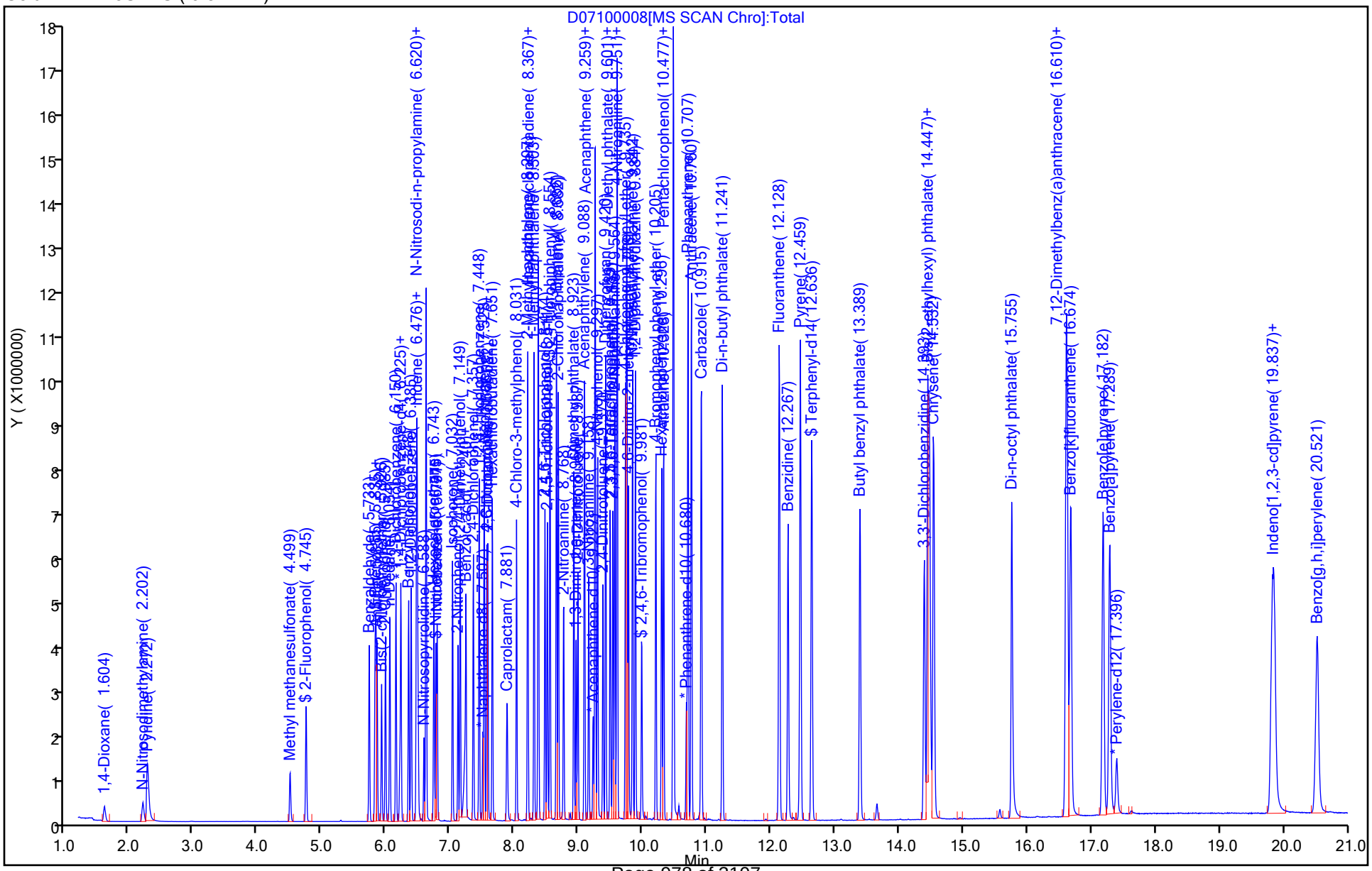

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100009.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 10-Jul-2019 10:34:30 ALS Bottle#: 8 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0027677-009
Operator ID: 003200 Instrument ID: CH732
Sublist: chrom-BNA_CH732*sub4

Method: \\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\BNA_CH732.m
Limit Group: BNA 8270D ICAL
Last Update: 11-Jul-2019 05:51:51 Calib Date: 10-Jul-2019 11:01:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100010.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0301

First Level Reviewer: piccolinov Date: 10-Jul-2019 11:21:50

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.209	6.209	0.000	95	185757	8.00	8.00	
* 2 Naphthalene-d8	136	7.507	7.507	0.000	99	814000	8.00	8.00	
* 3 Acenaphthene-d10	164	9.227	9.222	0.005	96	525122	8.00	8.00	
* 4 Phenanthrene-d10	188	10.680	10.680	0.000	97	1159889	8.00	8.00	
* 5 Chrysene-d12	240	14.495	14.484	0.011	97	1206161	8.00	8.00	
* 6 Perylene-d12	264	17.396	17.390	0.006	97	1049887	8.00	8.00	
$ 7 2-Fluorophenol	112	4.745	4.756	-0.011	91	1323446	60.0	63.2	
$ 8 Phenol-d5	99	5.824	5.824	0.000	98	1821094	60.0	58.9	
$ 9 Nitrobenzene-d5	82	6.775	6.775	0.000	87	1824382	60.0	61.1	
$ 10 2-Fluorobiphenyl	172	8.554	8.549	0.005	99	4739322	60.0	54.0	
$ 11 2,4,6-Tribromophenol	330	9.986	9.986	0.000	92	650735	60.0	65.7	
$ 12 Terphenyl-d14	244	12.641	12.636	0.005	100	6670818	60.0	60.3	
13 1,4-Dioxane	88	1.593	1.625	-0.032	92	405148	60.0	59.3	
14 N-Nitrosodimethylamine	74	2.202	2.224	-0.022	92	539587	60.0	63.0	
15 Pyridine	79	2.266	2.299	-0.032	96	1793105	120.0	124.8	
21 Methyl methanesulfonate	80	4.494	4.505	-0.011	88	778481	60.0	61.7	
25 Benzaldehyde	77	5.733	5.734	-0.001	96	1191120	60.0	55.9	
26 Phenol	94	5.840	5.840	0.000	98	2025806	60.0	56.1	
27 Aniline	93	5.851	5.856	-0.005	98	2322117	60.0	56.8	
29 Bis(2-chloroethyl)ether	93	5.926	5.926	0.000	98	1432146	60.0	55.7	
30 2-Chlorophenol	128	5.985	5.990	-0.005	96	1622698	60.0	60.6	
31 n-Decane	43	6.054	6.054	0.000	86	1174537	60.0	53.0	
32 1,3-Dichlorobenzene	146	6.150	6.150	0.000	97	1911308	60.0	57.1	
33 1,4-Dichlorobenzene	146	6.225	6.230	-0.005	94	1940211	60.0	57.6	
34 Benzyl alcohol	108	6.348	6.348	0.000	92	1080650	60.0	62.6	
35 1,2-Dichlorobenzene	146	6.385	6.391	-0.006	97	1877551	60.0	56.9	
36 2-Methylphenol	108	6.471	6.465	0.006	96	1438484	60.0	56.9	
37 Indene	116	6.476	6.481	-0.005	90	2759344	60.0	54.2	
38 2,2'-oxybis[1-chloropropan	45	6.492	6.492	0.000	90	1559387	60.0	51.9	
39 N-Nitrosopyrrolidine	100	6.588	6.583	0.005	95	800232	60.0	65.0	
40 Acetophenone	105	6.620	6.620	0.000	85	2056223	60.0	54.1	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
42 4-Methylphenol	108	6.620	6.620	0.000	68	1448901	60.0	56.4	
41 N-Nitrosodi-n-propylamine	70	6.620	6.620	0.000	64	972217	60.0	53.7	
45 Hexachloroethane	117	6.738	6.743	-0.005	92	809421	60.0	59.3	
46 Nitrobenzene	77	6.791	6.791	0.000	85	1843013	60.0	59.3	
48 Isophorone	82	7.032	7.032	0.000	99	3433433	60.0	59.8	
49 2-Nitrophenol	139	7.117	7.117	0.000	94	987348	60.0	67.1	
50 2,4-Dimethylphenol	107	7.149	7.149	0.000	95	1832039	60.0	58.4	
52 Benzoic acid	122	7.240	7.197	0.043	89	1010073	60.0	74.6	a
53 Bis(2-chloroethoxy)methane	93	7.240	7.240	0.000	99	2075746	60.0	55.4	
54 2,4-Dichlorophenol	162	7.357	7.358	-0.001	92	1747977	60.0	62.4	
56 1,2,4-Trichlorobenzene	180	7.448	7.448	0.000	93	2083686	60.0	57.8	
58 Naphthalene	128	7.528	7.529	-0.001	97	5513915	60.0	55.4	
59 4-Chloroaniline	127	7.566	7.566	0.000	96	2410944	60.0	58.2	
60 2,6-Dichlorophenol	162	7.582	7.582	0.000	98	1671433	60.0	59.9	
62 Hexachlorobutadiene	225	7.651	7.651	0.000	93	1314778	60.0	59.5	
64 Caprolactam	113	7.892	7.870	0.022	83	624705	60.0	68.3	
67 4-Chloro-3-methylphenol	107	8.031	8.025	0.006	95	1779372	60.0	63.6	
69 2-Methylnaphthalene	142	8.207	8.207	0.000	93	4246566	60.0	56.3	
71 1-Methylnaphthalene	142	8.303	8.303	0.000	94	3998338	60.0	57.0	
72 Hexachlorocyclopentadiene	237	8.367	8.367	0.000	94	1645908	60.0	65.3	
73 1,2,4,5-Tetrachlorobenzene	216	8.373	8.373	-0.001	96	2222429	60.0	54.1	
74 2,4,6-Trichlorophenol	196	8.474	8.474	0.000	90	1533257	60.0	63.6	
75 2,4,5-Trichlorophenol	196	8.511	8.506	0.005	95	1604981	60.0	63.2	
76 1,1'-Biphenyl	154	8.650	8.650	0.000	95	5128549	60.0	52.8	
77 2-Chloronaphthalene	162	8.682	8.682	0.000	95	4122907	60.0	53.8	
79 2-Nitroaniline	65	8.768	8.763	0.005	85	1278278	60.0	65.2	
82 Dimethyl phthalate	163	8.923	8.923	0.000	99	4833887	60.0	58.2	
83 1,3-Dinitrobenzene	168	8.960	8.955	0.005	92	834109	60.0	63.3	
84 2,6-Dinitrotoluene	165	8.987	8.987	0.000	96	1147001	60.0	65.1	
85 Acenaphthylene	152	9.088	9.088	0.000	98	6657821	60.0	55.6	
86 3-Nitroaniline	138	9.158	9.153	0.005	95	1272083	60.0	64.7	
88 Acenaphthene	153	9.259	9.254	0.005	89	4029078	60.0	52.9	
87 2,4-Dinitrophenol	184	9.259	9.254	0.005	67	1353481	120.0	121.8	
89 4-Nitrophenol	109	9.297	9.291	0.006	90	1349372	120.0	134.7	
91 2,4-Dinitrotoluene	165	9.382	9.377	0.005	95	1585537	60.0	68.3	
93 Dibenzofuran	168	9.420	9.420	0.000	97	6403706	60.0	54.6	
95 2,3,5,6-Tetrachlorophenol	232	9.494	9.489	0.005	91	1570072	60.0	67.4	
96 2,3,4,6-Tetrachlorophenol	232	9.537	9.532	0.005	69	1559364	60.0	67.4	
97 2-Naphthylamine	143	9.564	9.559	0.005	97	4771857	60.0	58.9	
98 Diethyl phthalate	149	9.601	9.596	0.005	99	4537947	60.0	56.4	
99 Hexadecane	57	9.601	9.601	0.000	92	2390238	60.0	47.5	
100 4-Chlorophenyl phenyl ethe	204	9.735	9.730	0.005	87	2893507	60.0	58.1	
101 4-Nitroaniline	138	9.751	9.740	0.011	85	1271958	60.0	61.5	
103 Fluorene	166	9.751	9.751	0.000	95	5030346	60.0	54.2	
104 4,6-Dinitro-2-methylphenol	198	9.783	9.772	0.011	93	2095652	120.0	125.1	
105 N-Nitrosodiphenylamine	169	9.842	9.836	0.006	99	4044365	60.0	57.6	
90 1,2-Diphenylhydrazine	77	9.884	9.884	0.000	97	5280358	60.0	54.7	
57 Azobenzene	77	9.884	9.884	0.000	97	5280358	60.0	54.7	
110 4-Bromophenyl phenyl ether	248	10.205	10.205	0.000	63	1709886	60.0	59.8	
112 Hexachlorobenzene	284	10.296	10.296	0.000	95	1641616	60.0	59.2	
113 Atrazine	200	10.328	10.323	0.005	95	1637742	60.0	64.8	
116 Pentachlorophenol	266	10.477	10.472	0.005	94	2332919	120.0	137.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
115 n-Octadecane	57	10.483	10.483	0.000	97	2761147	60.0	51.7	
121 Phenanthrene	178	10.707	10.702	0.005	98	8053402	60.0	54.8	
122 Anthracene	178	10.760	10.755	0.005	98	8206432	60.0	57.2	
124 Carbazole	167	10.915	10.910	0.005	95	7753424	60.0	58.4	
126 Di-n-butyl phthalate	149	11.241	11.241	0.000	100	8995293	60.0	63.0	
131 Fluoranthene	202	12.133	12.128	0.005	98	9764617	60.0	59.9	
132 Benzidine	184	12.267	12.267	0.000	100	5278653	60.0	60.2	
133 Pyrene	202	12.459	12.454	0.005	98	10113513	60.0	57.4	
138 Butyl benzyl phthalate	149	13.394	13.389	0.005	98	4279305	60.0	67.3	
144 3,3'-Dichlorobenzidine	252	14.399	14.388	0.011	73	3744963	60.0	63.7	
145 Bis(2-ethylhexyl) phthalat	149	14.447	14.441	0.006	96	5893810	60.0	66.6	
146 Benzo[a]anthracene	228	14.473	14.463	0.010	99	9397341	60.0	59.5	
147 Chrysene	228	14.548	14.532	0.016	97	9467943	60.0	60.5	
150 Di-n-octyl phthalate	149	15.766	15.756	0.010	99	10221170	60.0	63.4	
151 7,12-Dimethylbenz(a)anthra	256	16.616	16.600	0.016	94	4776197	60.0	63.7	
152 Benzo[b]fluoranthene	252	16.632	16.616	0.016	98	9700280	60.0	61.7	
153 Benzo[k]fluoranthene	252	16.685	16.669	0.016	99	9786687	60.0	58.8	
219 Benzo[e]pyrene	252	17.187	17.171	0.016	98	8976268	60.0	61.5	
154 Benzo[a]pyrene	252	17.294	17.278	0.016	78	8841076	60.0	62.4	
157 Indeno[1,2,3-cd]pyrene	276	19.832	19.805	0.027	98	9952177	60.0	66.3	
158 Dibenz(a,h)anthracene	278	19.864	19.842	0.022	95	8258335	60.0	67.3	
159 Benzo[g,h,i]perylene	276	20.531	20.510	0.021	97	8452372	60.0	65.0	
S 199 Total Cresols	108				0		120.0	113.4	
S 197 Methyl Phenols,Total	108				0		120.0	113.4	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

SVTAPSTD60i_00017 Amount Added: 1.00 Units: mL

Report Date: 11-Jul-2019 05:51:53 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100009.D				
Injection Date:	10-Jul-2019 10:34:30	Instrument ID:	CH732	Operator ID:	003200
Lims ID:	IC			Worklist Smp#:	9
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

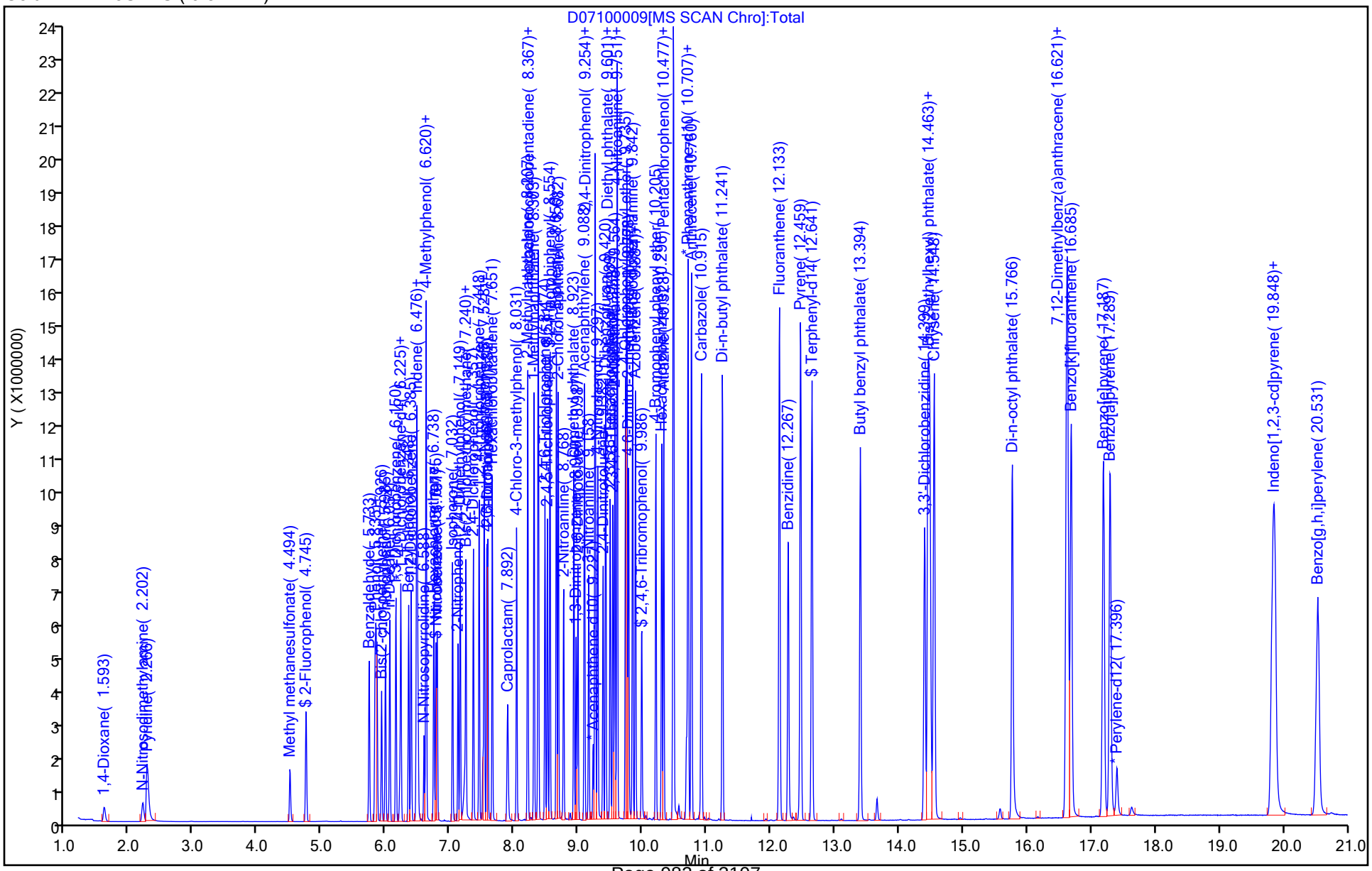

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100009.D				
Injection Date:	10-Jul-2019 10:34:30	Instrument ID:	CH732		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	8	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

52 Benzoic acid, CAS: 65-85-0

Signal: 1

Not Detected
Expected RT: 7.20

Processing Integration Results

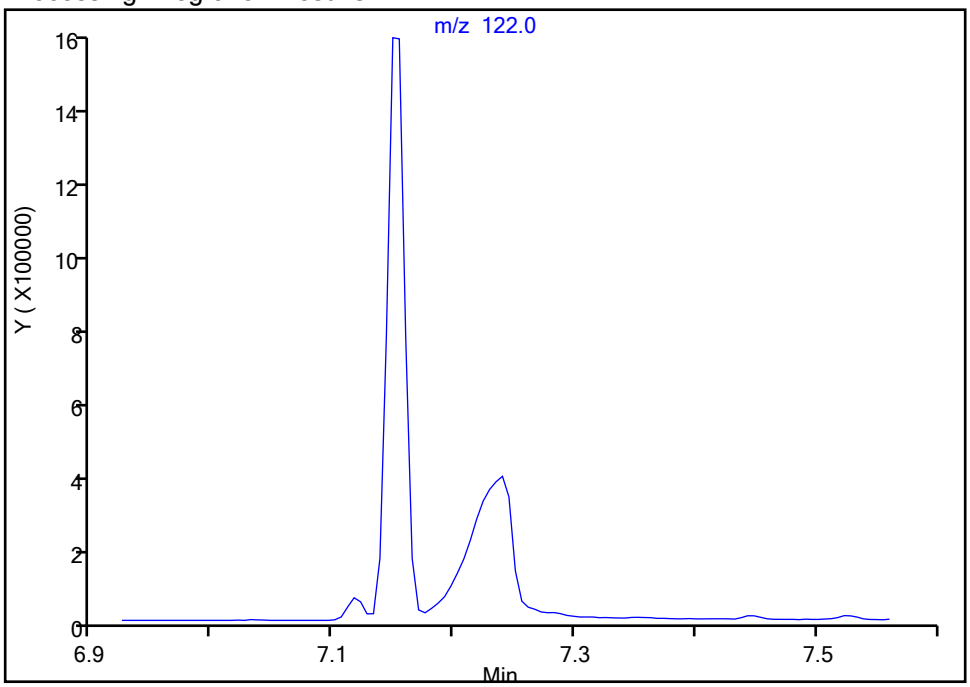

RT: 7.24
Area: 1010073
Amount: 74.589737
Amount Units: ng

Manual Integration Results

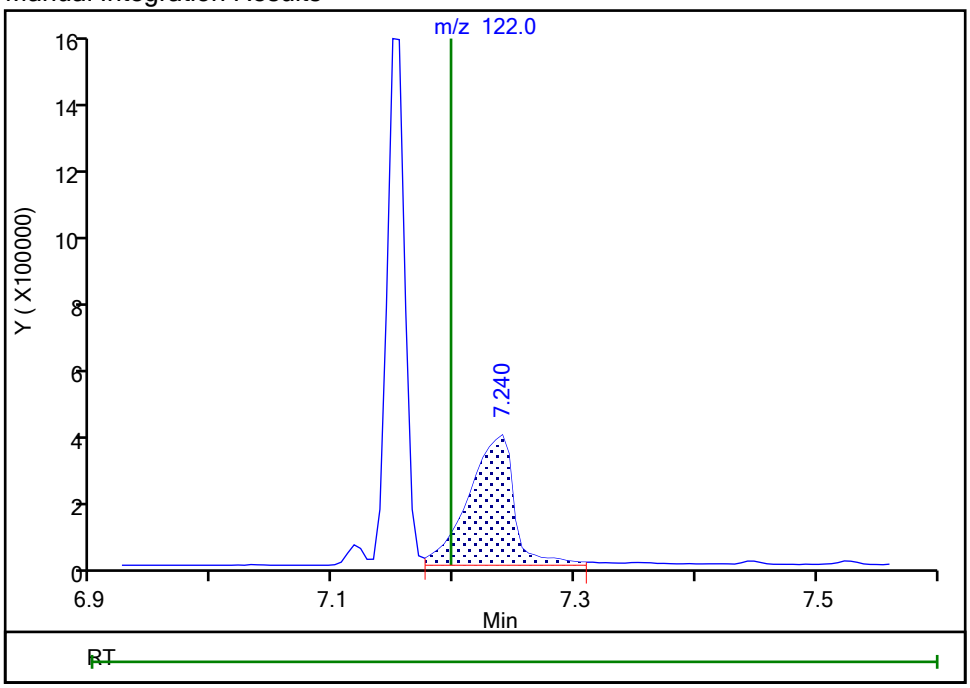

Reviewer: piccolinov, 10-Jul-2019 11:00:53
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100010.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 10-Jul-2019 11:01:30 ALS Bottle#: 9 Worklist Smp#: 10
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0027677-010
Operator ID: 003200 Instrument ID: CH732
Sublist: chrom-BNA_CH732*sub4

Method: \\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\BNA_CH732.m
Limit Group: BNA 8270D ICAL
Last Update: 11-Jul-2019 05:51:59 Calib Date: 10-Jul-2019 11:01:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100010.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0301

First Level Reviewer: piccolinov Date: 10-Jul-2019 11:38:27

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.214	6.209	0.005	95	201705	8.00	8.00	
* 2 Naphthalene-d8	136	7.513	7.507	0.006	99	893252	8.00	8.00	
* 3 Acenaphthene-d10	164	9.227	9.222	0.005	95	559901	8.00	8.00	
* 4 Phenanthrene-d10	188	10.686	10.680	0.006	97	1236102	8.00	8.00	
* 5 Chrysene-d12	240	14.500	14.484	0.016	97	1272774	8.00	8.00	
* 6 Perylene-d12	264	17.401	17.390	0.011	97	1102736	8.00	8.00	
$ 7 2-Fluorophenol	112	4.756	4.756	0.000	90	1806413	80.0	79.4	
$ 8 Phenol-d5	99	5.830	5.824	0.006	97	2418664	80.0	72.1	
$ 9 Nitrobenzene-d5	82	6.781	6.775	0.006	87	2442045	80.0	74.5	
$ 10 2-Fluorobiphenyl	172	8.554	8.549	0.005	99	6074926	80.0	64.9	
$ 11 2,4,6-Tribromophenol	330	9.991	9.986	0.005	93	891189	80.0	84.4	
$ 12 Terphenyl-d14	244	12.641	12.636	0.005	100	8575772	80.0	73.5	
13 1,4-Dioxane	88	1.620	1.625	-0.005	88	557312	80.0	75.2	
14 N-Nitrosodimethylamine	74	2.224	2.224	0.000	93	759488	80.0	81.7	
15 Pyridine	79	2.293	2.299	-0.005	97	2425498	160.0	155.4	
21 Methyl methanesulfonate	80	4.510	4.505	0.005	88	1027330	80.0	75.0	
25 Benzaldehyde	77	5.739	5.734	0.005	96	1462599	80.0	63.2	
26 Phenol	94	5.846	5.840	0.006	98	2661298	80.0	67.9	
27 Aniline	93	5.862	5.856	0.006	98	3071073	80.0	69.2	a
29 Bis(2-chloroethyl)ether	93	5.931	5.926	0.005	98	1966009	80.0	70.5	
30 2-Chlorophenol	128	5.990	5.990	0.000	96	2195160	80.0	75.5	
31 n-Decane	43	6.060	6.054	0.006	86	1563996	80.0	65.0	
32 1,3-Dichlorobenzene	146	6.156	6.150	0.006	97	2560490	80.0	70.4	
33 1,4-Dichlorobenzene	146	6.230	6.230	0.000	94	2565236	80.0	70.1	
34 Benzyl alcohol	108	6.353	6.348	0.005	92	1444390	80.0	77.0	
35 1,2-Dichlorobenzene	146	6.391	6.391	0.000	97	2494684	80.0	69.6	
36 2-Methylphenol	108	6.476	6.465	0.011	94	1864280	80.0	68.0	
37 Indene	116	6.482	6.481	0.001	90	3601843	80.0	65.2	
38 2,2'-oxybis[1-chloropropan	45	6.498	6.492	0.006	92	2013952	80.0	61.7	
39 N-Nitrosopyrrolidine	100	6.594	6.583	0.011	95	1066104	80.0	79.8	
40 Acetophenone	105	6.626	6.620	0.006	85	2626686	80.0	63.6	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
42 4-Methylphenol	108	6.626	6.620	0.006	72	1856667	80.0	66.6	
41 N-Nitrosodi-n-propylamine	70	6.626	6.620	0.006	65	1207991	80.0	61.4	
45 Hexachloroethane	117	6.743	6.743	0.000	92	1089304	80.0	73.5	
46 Nitrobenzene	77	6.797	6.791	0.006	85	2416550	80.0	70.9	
48 Isophorone	82	7.037	7.032	0.005	99	4522081	80.0	71.7	
49 2-Nitrophenol	139	7.123	7.117	0.006	94	1356443	80.0	84.0	
50 2,4-Dimethylphenol	107	7.155	7.149	0.006	96	2452619	80.0	71.3	
52 Benzoic acid	122	7.256	7.197	0.059	88	1465159	80.0	98.6	a
53 Bis(2-chloroethoxy)methane	93	7.245	7.240	0.005	99	2730574	80.0	66.4	
54 2,4-Dichlorophenol	162	7.363	7.358	0.005	92	2310520	80.0	75.2	
56 1,2,4-Trichlorobenzene	180	7.454	7.448	0.006	94	2729993	80.0	69.1	
58 Naphthalene	128	7.534	7.529	0.005	97	7139004	80.0	65.3	
59 4-Chloroaniline	127	7.571	7.566	0.005	96	3189070	80.0	70.1	
60 2,6-Dichlorophenol	162	7.587	7.582	0.005	98	2217353	80.0	72.4	
62 Hexachlorobutadiene	225	7.657	7.651	0.006	93	1780641	80.0	73.4	
64 Caprolactam	113	7.908	7.870	0.038	84	856449	80.0	85.3	
67 4-Chloro-3-methylphenol	107	8.036	8.025	0.011	95	2367968	80.0	77.1	
69 2-Methylnaphthalene	142	8.207	8.207	0.000	92	5473368	80.0	66.1	
71 1-Methylnaphthalene	142	8.309	8.303	0.006	93	5124808	80.0	66.5	
72 Hexachlorocyclopentadiene	237	8.373	8.367	0.006	94	2237017	80.0	83.3	
73 1,2,4,5-Tetrachlorobenzene	216	8.378	8.373	0.005	95	2957957	80.0	67.5	
74 2,4,6-Trichlorophenol	196	8.480	8.474	0.006	90	2064402	80.0	80.4	
75 2,4,5-Trichlorophenol	196	8.517	8.506	0.011	95	2159572	80.0	79.8	
76 1,1'-Biphenyl	154	8.656	8.650	0.006	95	6648806	80.0	64.2	
77 2-Chloronaphthalene	162	8.688	8.682	0.006	95	5399911	80.0	66.1	
79 2-Nitroaniline	65	8.768	8.763	0.005	86	1682338	80.0	80.5	
82 Dimethyl phthalate	163	8.934	8.923	0.011	99	6225419	80.0	70.3	
83 1,3-Dinitrobenzene	168	8.966	8.955	0.011	92	1128400	80.0	80.0	
84 2,6-Dinitrotoluene	165	8.992	8.987	0.005	94	1526544	80.0	81.3	
85 Acenaphthylene	152	9.094	9.088	0.006	98	8393662	80.0	65.7	
86 3-Nitroaniline	138	9.163	9.153	0.010	96	1696217	80.0	80.9	
88 Acenaphthene	153	9.260	9.254	0.006	89	5099583	80.0	62.8	
87 2,4-Dinitrophenol	184	9.265	9.254	0.011	68	1938711	160.0	158.9	
89 4-Nitrophenol	109	9.302	9.291	0.011	88	1776970	160.0	166.4	
91 2,4-Dinitrotoluene	165	9.388	9.377	0.011	95	2098824	80.0	84.7	
93 Dibenzofuran	168	9.425	9.420	0.005	97	8091808	80.0	64.7	
95 2,3,5,6-Tetrachlorophenol	232	9.495	9.489	0.006	91	2065581	80.0	83.2	
96 2,3,4,6-Tetrachlorophenol	232	9.537	9.532	0.005	70	2044878	80.0	82.9	
97 2-Naphthylamine	143	9.569	9.559	0.010	96	5994730	80.0	69.4	
98 Diethyl phthalate	149	9.601	9.596	0.005	99	5739920	80.0	66.9	
99 Hexadecane	57	9.607	9.601	0.006	92	2930347	80.0	53.0	
100 4-Chlorophenyl phenyl ethe	204	9.735	9.730	0.005	88	3737253	80.0	70.4	
101 4-Nitroaniline	138	9.756	9.740	0.016	56	1631558	80.0	74.0	
103 Fluorene	166	9.756	9.751	0.005	96	6295668	80.0	63.6	
104 4,6-Dinitro-2-methylphenol	198	9.783	9.772	0.011	94	2855759	160.0	159.1	
105 N-Nitrosodiphenylamine	169	9.847	9.836	0.011	98	5231212	80.0	69.9	
90 1,2-Diphenylhydrazine	77	9.890	9.884	0.006	96	6650494	80.0	64.6	
57 Azobenzene	77	9.890	9.884	0.006	97	6650494	80.0	64.6	
110 4-Bromophenyl phenyl ether	248	10.210	10.205	0.005	62	2248280	80.0	73.8	
112 Hexachlorobenzene	284	10.301	10.296	0.005	95	2156858	80.0	73.0	
113 Atrazine	200	10.333	10.323	0.010	96	2112582	80.0	78.4	
116 Pentachlorophenol	266	10.483	10.472	0.011	94	3109018	160.0	171.3	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
115 n-Octadecane	57	10.488	10.483	0.005	97	3246983	80.0	55.9	
121 Phenanthrene	178	10.707	10.702	0.005	98	10059876	80.0	64.2	
122 Anthracene	178	10.766	10.755	0.011	98	10304637	80.0	67.4	
124 Carbazole	167	10.921	10.910	0.011	97	9813847	80.0	69.4	
126 Di-n-butyl phthalate	149	11.247	11.241	0.006	100	11003430	80.0	72.4	e
131 Fluoranthene	202	12.139	12.128	0.011	98	12340731	80.0	71.0	
132 Benzidine	184	12.273	12.267	0.006	100	6223678	80.0	67.3	
133 Pyrene	202	12.465	12.454	0.011	96	12602536	80.0	67.8	
138 Butyl benzyl phthalate	149	13.394	13.389	0.005	98	5517067	80.0	82.2	
144 3,3'-Dichlorobenzidine	252	14.399	14.388	0.011	73	4788242	80.0	77.0	
145 Bis(2-ethylhexyl) phthalat	149	14.452	14.441	0.011	96	7532428	80.0	80.7	
146 Benzo[a]anthracene	228	14.479	14.463	0.016	99	12174635	80.0	73.1	
147 Chrysene	228	14.554	14.532	0.022	97	12051757	80.0	72.9	
150 Di-n-octyl phthalate	149	15.766	15.756	0.010	99	13062953	80.0	77.2	
151 7,12-Dimethylbenz(a)anthra	256	16.616	16.600	0.016	92	6184348	80.0	78.6	
152 Benzo[b]fluoranthene	252	16.637	16.616	0.021	98	12571044	80.0	76.2	
153 Benzo[k]fluoranthene	252	16.691	16.669	0.022	99	12585748	80.0	71.9	
219 Benzo[e]pyrene	252	17.193	17.171	0.022	98	11668822	80.0	76.1	
154 Benzo[a]pyrene	252	17.300	17.278	0.022	78	11513767	80.0	77.4	
157 Indeno[1,2,3-cd]pyrene	276	19.837	19.805	0.032	98	13014199	80.0	82.6	
158 Dibenz(a,h)anthracene	278	19.880	19.842	0.038	89	10968778	80.0	85.1	
159 Benzo[g,h,i]perylene	276	20.553	20.510	0.043	96	11164594	80.0	81.7	
S 199 Total Cresols	108				0		160.0	134.6	
S 197 Methyl Phenols,Total	108				0		160.0	134.6	

QC Flag Legend

Processing Flags

e - Potential Peak Saturated

Review Flags

a - User Assigned ID

Reagents:

SVTAPSTD80i_00017 Amount Added: 1.00 Units: mL

Report Date: 11-Jul-2019 05:52:00 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100010.D				
Injection Date:	10-Jul-2019 11:01:30	Instrument ID:	CH732	Operator ID:	003200
Lims ID:	IC			Worklist Smp#:	10
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

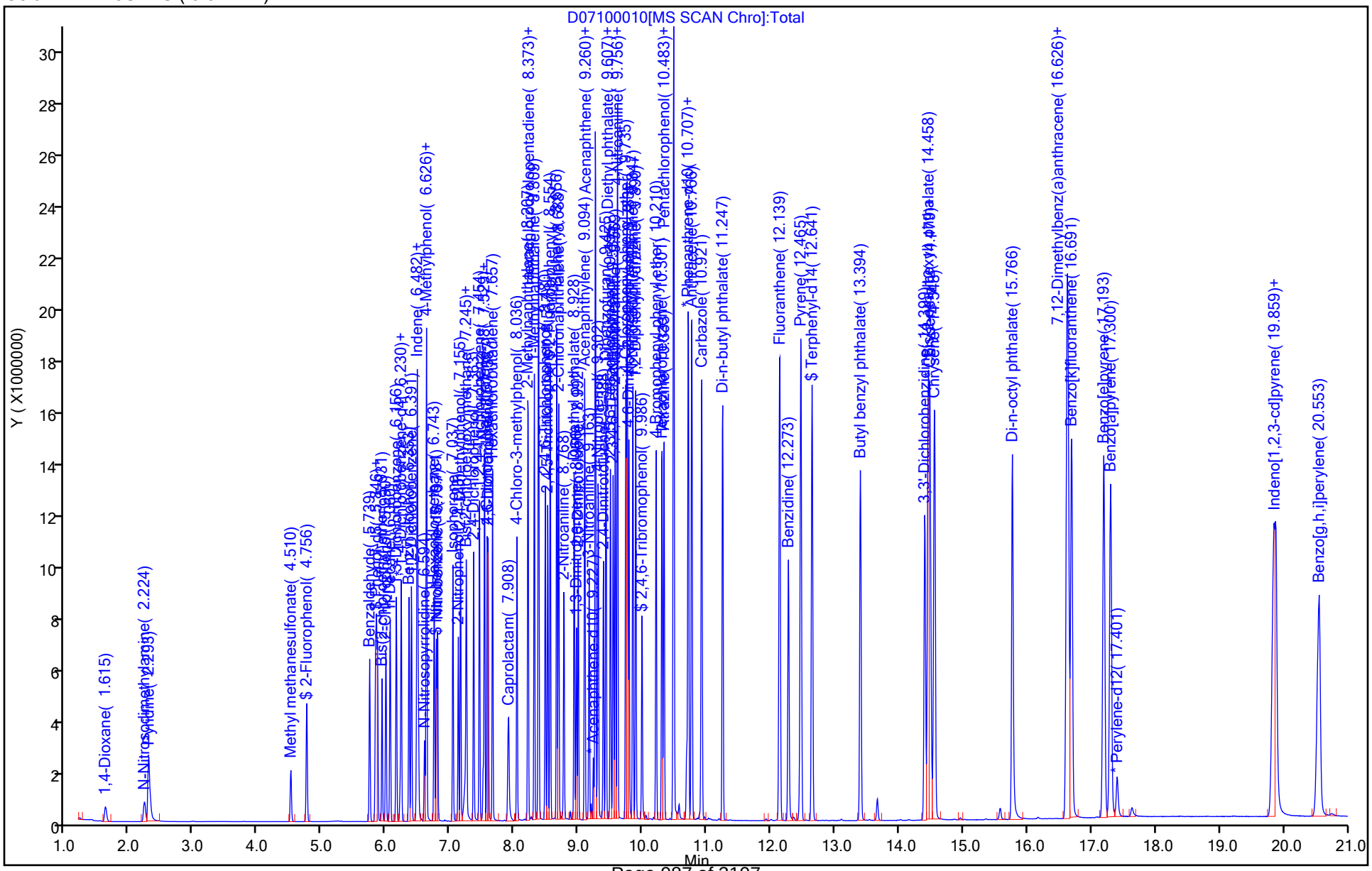

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100010.D				
Injection Date:	10-Jul-2019 11:01:30	Instrument ID:	CH732		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	9	Worklist Smp#:	10
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

27 Aniline, CAS: 62-53-3

Signal: 1

Not Detected
Expected RT: 5.86

Processing Integration Results

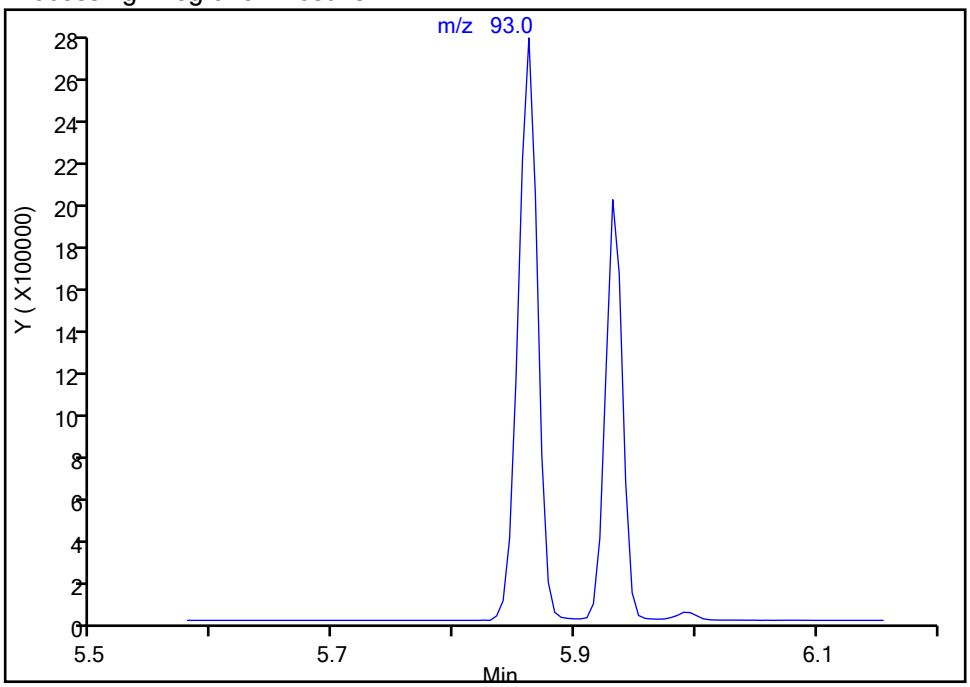

Manual Integration Results

RT: 5.86
Area: 3071073
Amount: 69.156642
Amount Units: ng

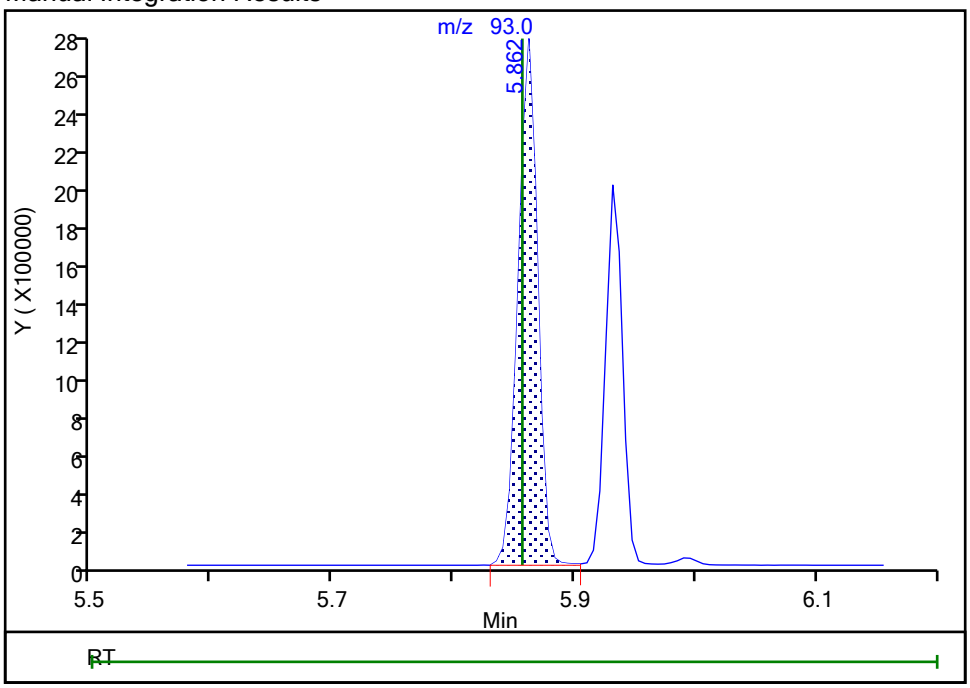

Reviewer: piccolinov, 10-Jul-2019 11:38:24
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100010.D				
Injection Date:	10-Jul-2019 11:01:30	Instrument ID:	CH732		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	9	Worklist Smp#:	10
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

52 Benzoic acid, CAS: 65-85-0

Signal: 1

Not Detected
Expected RT: 7.20

Processing Integration Results

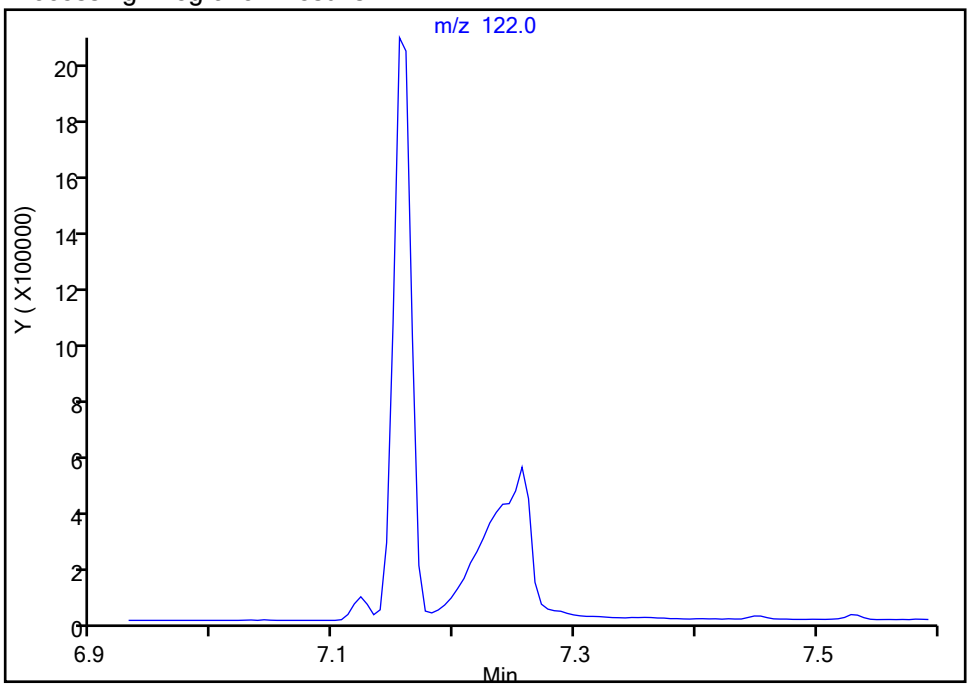

RT: 7.26
Area: 1465159
Amount: 98.596496
Amount Units: ng

Manual Integration Results

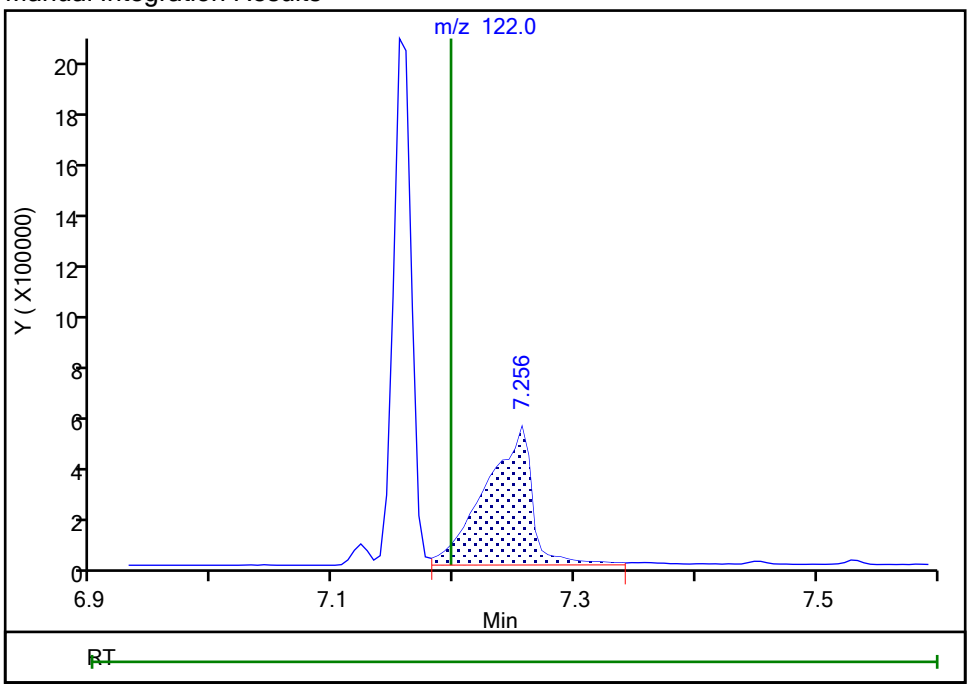

Reviewer: piccolinov, 10-Jul-2019 11:38:52
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCVIS 180-293862/3 Calibration Date: 10/05/2019 10:53

Instrument ID: CH732 Calib Start Date: 07/10/2019 07:55

GC Column: Rxi-5SilMS ID: 0.32(mm) Calib End Date: 07/10/2019 11:01

Lab File ID: D10050003.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Ave	0.2941	0.3279	0.0100	5.58	5.00	11.5	40.0
N-Nitrosodimethylamine	Ave	0.3689	0.4748	0.0100	6.44	5.00	28.7*	20.0
Pyridine	Ave	0.6189	0.7632	0.0100	12.3	10.0	23.3*	20.0
Methyl methanesulfonate	Ave	0.5435	0.5691	0.0100	5.24	5.00	4.7	40.0
Benzaldehyde	Ave	0.9172	0.9860	0.0100	5.38	5.00	7.5	40.0
Phenol	Ave	1.555	1.430	0.8000		5.00	-8.0	20.0
Aniline	Ave	1.761	1.665	0.0100	4.73	5.00	-5.5	20.0
Bis(2-chloroethyl)ether	Ave	1.107	0.9910	0.7000	4.48	5.00	-10.4	20.0
2-Chlorophenol	Ave	1.153	1.121	0.8000	4.86	5.00	-2.8	20.0
n-Decane	Ave	0.9545	1.253	0.0100	6.56	5.00	31.3*	20.0
1,3-Dichlorobenzene	Ave	1.443	1.257	0.0100	4.36	5.00	-12.9	20.0
1,4-Dichlorobenzene	Ave	1.451	1.284	0.0100	4.42	5.00	-11.5	20.0
Benzyl alcohol	Ave	0.7436	0.6767	0.0100	4.55	5.00	-9.0	20.0
1,2-Dichlorobenzene	Ave	1.421	1.227	0.0100	4.32	5.00	-13.7	20.0
2-Methylphenol	Ave	1.088	1.043	0.7000	4.79	5.00	-4.2	20.0
Indene	Ave	2.192	1.947	0.0100	4.44	5.00	-11.2	20.0
2,2'-oxybis[1-chloropropane]	Ave	1.295	1.377	0.0100	5.32	5.00	6.4	20.0
N-Nitrosopyrrolidine	Ave	0.5301	0.4761	0.0100	4.49	5.00	-10.2	20.0
Acetophenone	Ave	1.638	1.578	0.0100	4.82	5.00	-3.7	20.0
N-Nitrosodi-n-propylamine	Ave	0.7799	0.8293	0.5000	5.32	5.00	6.3	20.0
Methylphenol, 3 & 4	Ave	1.105	1.060	0.6000	4.80	5.00	-4.1	20.0
Hexachloroethane	Ave	0.5876	0.5511	0.3000	4.69	5.00	-6.2	20.0
Nitrobenzene	Ave	0.3054	0.3166	0.2000	5.18	5.00	3.7	20.0
Isophorone	Ave	0.5646	0.5480	0.4000	4.85	5.00	-2.9	20.0
2-Nitrophenol	Ave	0.1446	0.1501	0.1000	5.19	5.00	3.8	20.0
2,4-Dimethylphenol	Ave	0.3082	0.3143	0.2000	5.10	5.00	2.0	20.0
Benzoic acid	Ave	0.1331	0.1079	0.0100		5.00	-18.9	40.0
Bis(2-chloroethoxy)methane	Ave	0.3681	0.3200	0.3000	4.35	5.00	-13.0	20.0
2,4-Dichlorophenol	Ave	0.2753	0.2560	0.2000	4.65	5.00	-7.0	20.0
1,2,4-Trichlorobenzene	Ave	0.3540	0.3072	0.0100	4.34	5.00	-13.2	20.0
Naphthalene	Ave	0.9788	0.8481	0.7000	4.33	5.00	-13.4	20.0
4-Chloroaniline	Ave	0.4074	0.3570	0.0100	4.38	5.00	-12.4	20.0
2,6-Dichlorophenol	Ave	0.2743	0.2506	0.0100	4.57	5.00	-8.6	20.0
Hexachlorobutadiene	Ave	0.2174	0.1887	0.0100	4.34	5.00	-13.2	20.0
Caprolactam	Ave	0.0899	0.0825	0.0100		5.00	-8.3	20.0
4-Chloro-3-methylphenol	Ave	0.2750	0.2793	0.2000	5.08	5.00	1.6	20.0
2-Methylnaphthalene	Ave	0.7411	0.6515	0.4000	4.40	5.00	-12.1	20.0
1-Methylnaphthalene	Ave	0.6898	0.5987	0.0100	4.34	5.00	-13.2	20.0
Hexachlorocyclopentadiene	Ave	0.3839	0.3864	0.0500	5.03	5.00	0.6	20.0
1,2,4,5-Tetrachlorobenzene	Ave	0.6260	0.5332	0.0100	4.26	5.00	-14.8	20.0
2,4,6-Trichlorophenol	Ave	0.3671	0.3378	0.2000	4.60	5.00	-8.0	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCVIS 180-293862/3 Calibration Date: 10/05/2019 10:53

Instrument ID: CH732 Calib Start Date: 07/10/2019 07:55

GC Column: Rxi-5SilMS ID: 0.32(mm) Calib End Date: 07/10/2019 11:01

Lab File ID: D10050003.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,4,5-Trichlorophenol	Ave	0.3867	0.3534	0.2000	4.57	5.00	-8.6	20.0
1,1'-Biphenyl	Ave	1.479	1.312	0.0100	4.44	5.00	-11.3	20.0
2-Chloronaphthalene	Ave	1.168	1.040	0.8000	4.45	5.00	-11.0	20.0
2-Nitroaniline	Ave	0.2988	0.3330	0.0100	5.57	5.00	11.4	20.0
Dimethyl phthalate	Ave	1.265	1.150	0.0100	4.55	5.00	-9.1	20.0
1,3-Dinitrobenzene	Lin2		0.1768	0.0100	4.87	5.00	-2.7	40.0
2,6-Dinitrotoluene	Ave	0.2684	0.2559	0.2000	4.77	5.00	-4.7	20.0
Acenaphthylene	Ave	1.825	1.648	0.9000	4.51	5.00	-9.7	20.0
3-Nitroaniline	Ave	0.2997	0.2656	0.0100	4.43	5.00	-11.4	20.0
2,4-Dinitrophenol	Lin1		0.1061	0.0100		10.0	25.6	40.0
Acenaphthene	Ave	1.160	1.043	0.9000	4.49	5.00	-10.1	20.0
4-Nitrophenol	Ave	0.1526	0.1799	0.0100	11.8	10.0	17.9	20.0
2,4-Dinitrotoluene	Ave	0.3539	0.3573	0.2000	5.05	5.00	1.0	20.0
Dibenzofuran	Ave	1.788	1.514	0.8000	4.23	5.00	-15.4	20.0
2,3,5,6-Tetrachlorophenol	Ave	0.3549	0.3125	0.0100	4.40	5.00	-11.9	20.0
2,3,4,6-Tetrachlorophenol	Ave	0.3524	0.3168	0.0100	4.49	5.00	-10.1	20.0
2-Naphthylamine	Ave	1.233	1.087	0.0100	4.41	5.00	-11.9	40.0
Diethyl phthalate	Ave	1.227	1.136	0.0100		5.00	-7.4	20.0
Hexadecane	Ave	0.4949	0.4421	0.0100		5.00	-10.7	20.0
4-Chlorophenyl phenyl ether	Ave	0.7587	0.6486	0.4000	4.27	5.00	-14.5	20.0
4-Nitroaniline	Ave	0.3152	0.2954	0.0100	4.69	5.00	-6.3	20.0
Fluorene	Ave	1.413	1.203	0.9000	4.26	5.00	-14.9	20.0
4,6-Dinitro-2-methylphenol	Lin1		0.0932	0.0100		10.0	-5.4	20.0
N-Nitrosodiphenylamine	Ave	0.4844	0.4277	0.0100	4.42	5.00	-11.7	20.0
1,2-Diphenylhydrazine(as Azobenzene)	Ave	0.6662	0.6054	0.0100	4.54	5.00	-9.1	20.0
Azobenzene	Ave	0.6662	0.6054	0.0100		5.00	-9.1	20.0
4-Bromophenyl phenyl ether	Ave	0.1972	0.1874	0.1000	4.75	5.00	-5.0	20.0
Hexachlorobenzene	Ave	0.1912	0.1765	0.1000	4.62	5.00	-7.7	20.0
Atrazine	Ave	0.1744	0.1834	0.0100		5.00	5.2	40.0
Pentachlorophenol	Ave	0.1175	0.1068	0.0500	9.09	10.0	-9.1	20.0
n-Octadecane	Ave	2.302	2.117	0.0100		5.00	-8.0	20.0
Phenanthrene	Ave	1.014	0.9234	0.7000	4.55	5.00	-8.9	20.0
Anthracene	Ave	0.9890	0.9230	0.7000	4.67	5.00	-6.7	20.0
Carbazole	Ave	0.9154	0.8559	0.0100	4.68	5.00	-6.5	20.0
Di-n-butyl phthalate	Ave	0.9840	1.017	0.0100		5.00	3.4	20.0
Fluoranthene	Ave	1.124	1.115	0.6000	4.96	5.00	-0.8	20.0
Benzidine	Ave	0.5815	0.6672	0.0100		5.00	14.7	40.0
Pyrene	Ave	1.168	1.153	0.6000	4.94	5.00	-1.3	20.0
Butyl benzyl phthalate	Ave	0.4219	0.4693	0.0100	5.56	5.00	11.2	20.0
3,3'-Dichlorobenzidine	Lin2		0.4042	0.0100		5.00	10.4	40.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCVIS 180-293862/3 Calibration Date: 10/05/2019 10:53

Instrument ID: CH732 Calib Start Date: 07/10/2019 07:55

GC Column: Rxi-5SilMS ID: 0.32(mm) Calib End Date: 07/10/2019 11:01

Lab File ID: D10050003.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Bis(2-ethylhexyl) phthalate	Ave	0.5865	0.6449	0.0100		5.00	9.9	20.0
Benzo[a]anthracene	Ave	1.047	1.029	0.8000	4.91	5.00	-1.7	20.0
Chrysene	Ave	1.039	0.9796	0.7000	4.72	5.00	-5.7	20.0
Di-n-octyl phthalate	Ave	1.228	1.448	0.0100		5.00	17.9	20.0
7,12-Dimethylbenz(a)anthracene	Ave	0.5712	0.5147	0.0100	4.51	5.00	-9.9	20.0
Benzo[b]fluoranthene	Ave	1.197	1.165	0.7000	4.87	5.00	-2.7	20.0
Benzo[k]fluoranthene	Ave	1.269	1.120	0.7000	4.41	5.00	-11.7	20.0
Benzo[e]pyrene	Ave	1.112	1.057	0.0100	4.75	5.00	-5.0	20.0
Benzo[a]pyrene	Ave	1.079	1.035	0.7000	4.80	5.00	-4.0	20.0
Indeno[1,2,3-cd]pyrene	Ave	1.143	1.101	0.5000	4.82	5.00	-3.7	20.0
Dibenz(a,h)anthracene	Ave	0.9355	0.9175	0.4000	4.90	5.00	-1.9	20.0
Benzo[g,h,i]perylene	Ave	0.9910	0.9178	0.5000	4.63	5.00	-7.4	20.0
2-Fluorophenol (Surr)	Ave	0.9023	0.9784		5.42	5.00	8.4	20.0
Phenol-d5 (Surr)	Ave	1.331	1.304		4.90	5.00	-2.0	20.0
Nitrobenzene-d5 (Surr)	Ave	0.2935	0.3106		5.29	5.00	5.8	20.0
2-Fluorobiphenyl	Ave	1.338	1.216		4.54	5.00	-9.1	20.0
2,4,6-Tribromophenol (Surr)	Ave	0.0683	0.0712	0.0100	5.21	5.00	4.2	20.0
Terphenyl-d14 (Surr)	Ave	0.7332	0.7525		5.13	5.00	2.6	20.0

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CH732\20191005-28986.b\D10050003.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 05-Oct-2019 10:53:30 ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028986-003
Operator ID: 003200 Instrument ID: CH732
Sublist: chrom-BNA_CH732*sub4

Method: \\chromna\Pittsburgh\ChromData\CH732\20191005-28986.b\BNA_CH732.m
Limit Group: BNA 8270D ICAL
Last Update: 07-Oct-2019 04:39:14 Calib Date: 11-Jul-2019 12:08:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CH732\20190711-27697.b\D07110010.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0303

First Level Reviewer: piccolinov Date: 05-Oct-2019 11:41:16

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.172	6.172	0.000	97	191783	8.00	8.00	
* 2 Naphthalene-d8	136	7.454	7.454	0.000	100	779769	8.00	8.00	
* 3 Acenaphthene-d10	164	9.163	9.163	0.000	95	464928	8.00	8.00	
* 4 Phenanthrene-d10	188	10.606	10.606	0.000	98	964474	8.00	8.00	
* 5 Chrysene-d12	240	14.345	14.345	0.000	98	952349	8.00	8.00	
* 6 Perylene-d12	264	17.235	17.235	0.000	98	847697	8.00	8.00	
$ 7 2-Fluorophenol	112	4.745	4.745	0.000	93	234554	10.0	10.8	
$ 8 Phenol-d5	99	5.803	5.803	0.000	0	312488	10.0	9.80	
$ 9 Nitrobenzene-d5	82	6.733	6.733	0.000	90	302768	10.0	10.6	
$ 10 2-Fluorobiphenyl	172	8.495	8.495	0.000	99	706812	10.0	9.09	
$ 11 2,4,6-Tribromophenol	330	9.917	9.917	0.000	88	85827	10.0	10.4	
$ 12 Terphenyl-d14	244	12.524	12.524	0.000	100	895793	10.0	10.3	
13 1,4-Dioxane	88	1.599	1.599	0.000	93	78611	10.0	11.2	
14 N-Nitrosodimethylamine	74	2.197	2.197	0.000	90	113832	10.0	12.9	
15 Pyridine	79	2.272	2.272	0.000	96	365941	20.0	24.7	
21 Methyl methanesulfonate	80	4.489	4.489	0.000	89	136425	10.0	10.5	
25 Benzaldehyde	77	5.707	5.707	0.000	94	236372	10.0	10.8	
26 Phenol	94	5.819	5.819	0.000	92	342818	10.0	9.20	
27 Aniline	93	5.824	5.824	0.000	92	399087	10.0	9.45	
29 Bis(2-chloroethyl)ether	93	5.894	5.894	0.000	94	237569	10.0	8.96	
30 2-Chlorophenol	128	5.958	5.958	0.000	96	268817	10.0	9.72	
31 n-Decane	43	6.017	6.017	0.000	91	300413	10.0	13.1	
32 1,3-Dichlorobenzene	146	6.118	6.118	0.000	96	301320	10.0	8.71	
33 1,4-Dichlorobenzene	146	6.193	6.193	0.000	92	307768	10.0	8.85	
34 Benzyl alcohol	108	6.316	6.316	0.000	89	162227	10.0	9.10	
35 1,2-Dichlorobenzene	146	6.348	6.348	0.000	94	294112	10.0	8.63	
36 2-Methylphenol	108	6.433	6.433	0.000	95	250001	10.0	9.58	
37 Indene	116	6.439	6.439	0.000	90	466737	10.0	8.88	
38 2,2'-oxybis[1-chloropropan	45	6.455	6.455	0.000	89	330161	10.0	10.6	
39 N-Nitrosopyrrolidine	100	6.551	6.551	0.000	85	114133	10.0	8.98	
41 N-Nitrosodi-n-propylamine	70	6.578	6.578	0.000	74	198813	10.0	10.6	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
40 Acetophenone	105	6.578	6.578	0.000	87	378354	10.0	9.63	
42 4-Methylphenol	108	6.583	6.583	0.000	94	254139	10.0	9.59	
45 Hexachloroethane	117	6.700	6.700	0.000	92	132125	10.0	9.38	
46 Nitrobenzene	77	6.754	6.754	0.000	89	308613	10.0	10.4	
48 Isophorone	82	6.989	6.989	0.000	99	534173	10.0	9.71	
49 2-Nitrophenol	139	7.074	7.074	0.000	97	146324	10.0	10.4	
50 2,4-Dimethylphenol	107	7.107	7.107	0.000	98	306338	10.0	10.2	
52 Benzoic acid	122	7.160	7.160	0.000	85	105197	10.0	8.11	
53 Bis(2-chloroethoxy)methane	93	7.192	7.192	0.000	96	311945	10.0	8.70	
54 2,4-Dichlorophenol	162	7.315	7.315	0.000	95	249485	10.0	9.30	
56 1,2,4-Trichlorobenzene	180	7.400	7.400	0.000	94	299395	10.0	8.68	
58 Naphthalene	128	7.475	7.475	0.000	97	826662	10.0	8.66	
59 4-Chloroaniline	127	7.518	7.518	0.000	95	347983	10.0	8.76	
60 2,6-Dichlorophenol	162	7.534	7.534	0.000	96	244258	10.0	9.14	
62 Hexachlorobutadiene	225	7.603	7.603	0.000	95	183883	10.0	8.68	
64 Caprolactam	113	7.822	7.822	0.000	78	80367	10.0	9.17	
67 4-Chloro-3-methylphenol	107	7.977	7.977	0.000	96	272191	10.0	10.2	
69 2-Methylnaphthalene	142	8.148	8.148	0.000	92	635007	10.0	8.79	
71 1-Methylnaphthalene	142	8.250	8.250	0.000	92	583578	10.0	8.68	
72 Hexachlorocyclopentadiene	237	8.309	8.309	0.000	96	224551	10.0	10.1	
73 1,2,4,5-Tetrachlorobenzene	216	8.314	8.314	0.000	97	309860	10.0	8.52	
74 2,4,6-Trichlorophenol	196	8.415	8.415	0.000	95	196288	10.0	9.20	
75 2,4,5-Trichlorophenol	196	8.453	8.453	0.000	95	205405	10.0	9.14	
76 1,1'-Biphenyl	154	8.592	8.592	0.000	95	762433	10.0	8.87	
77 2-Chloronaphthalene	162	8.624	8.624	0.000	96	604229	10.0	8.90	
79 2-Nitroaniline	65	8.704	8.704	0.000	83	193501	10.0	11.1	
82 Dimethyl phthalate	163	8.864	8.864	0.000	98	668323	10.0	9.09	
83 1,3-Dinitrobenzene	168	8.901	8.901	0.000	83	102748	10.0	9.73	
84 2,6-Dinitrotoluene	165	8.928	8.928	0.000	94	148699	10.0	9.53	
85 Acenaphthylene	152	9.030	9.030	0.000	98	957749	10.0	9.03	
86 3-Nitroaniline	138	9.094	9.094	0.000	92	154358	10.0	8.86	
88 Acenaphthene	153	9.195	9.195	0.000	90	605940	10.0	8.99	
87 2,4-Dinitrophenol	184	9.195	9.195	0.000	64	123312	20.0	25.1	
89 4-Nitrophenol	109	9.238	9.238	0.000	97	209062	20.0	23.6	
91 2,4-Dinitrotoluene	165	9.318	9.318	0.000	92	207651	10.0	10.1	
93 Dibenzofuran	168	9.356	9.356	0.000	96	879725	10.0	8.46	
95 2,3,5,6-Tetrachlorophenol	232	9.430	9.430	0.000	93	181588	10.0	8.81	
96 2,3,4,6-Tetrachlorophenol	232	9.468	9.468	0.000	73	184094	10.0	8.99	
97 2-Naphthylamine	143	9.500	9.500	0.000	96	631512	10.0	8.81	
98 Diethyl phthalate	149	9.532	9.532	0.000	98	660295	10.0	9.26	
99 Hexadecane	57	9.537	9.537	0.000	96	430942	10.0	8.93	
100 4-Chlorophenyl phenyl ethe	204	9.665	9.665	0.000	93	376921	10.0	8.55	
101 4-Nitroaniline	138	9.681	9.681	0.000	83	171666	10.0	9.37	
103 Fluorene	166	9.687	9.687	0.000	94	699028	10.0	8.51	
104 4,6-Dinitro-2-methylphenol	198	9.714	9.714	0.000	84	224663	20.0	18.9	
105 N-Nitrosodiphenylamine	169	9.772	9.772	0.000	63	515660	10.0	8.83	
57 Azobenzene	77	9.820	9.820	0.000	99	729835	10.0	9.09	
90 1,2-Diphenylhydrazine	77	9.820	9.820	0.000	99	729835	10.0	9.09	
110 4-Bromophenyl phenyl ether	248	10.136	10.136	0.000	66	225968	10.0	9.50	
112 Hexachlorobenzene	284	10.226	10.226	0.000	94	212810	10.0	9.23	
113 Atrazine	200	10.258	10.258	0.000	93	221094	10.0	10.5	
116 Pentachlorophenol	266	10.403	10.403	0.000	89	257493	20.0	18.2	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
115 n-Octadecane	57	10.408	10.408	0.000	96	507620	10.0	9.20	
121 Phenanthrene	178	10.627	10.627	0.000	97	1113208	10.0	9.11	
122 Anthracene	178	10.680	10.680	0.000	97	1112798	10.0	9.33	
124 Carbazole	167	10.830	10.830	0.000	97	1031859	10.0	9.35	
126 Di-n-butyl phthalate	149	11.151	11.151	0.000	100	1226666	10.0	10.3	
131 Fluoranthene	202	12.027	12.027	0.000	97	1344074	10.0	9.92	
132 Benzidine	184	12.160	12.160	0.000	99	794209	10.0	11.5	
133 Pyrene	202	12.347	12.347	0.000	99	1372857	10.0	9.87	
138 Butyl benzyl phthalate	149	13.261	13.261	0.000	98	558645	10.0	11.1	
144 3,3'-Dichlorobenzidine	252	14.249	14.249	0.000	74	481145	10.0	11.0	
145 Bis(2-ethylhexyl) phthalat	149	14.297	14.297	0.000	97	767647	10.0	11.0	
146 Benzo[a]anthracene	228	14.329	14.329	0.000	97	1225002	10.0	9.83	
147 Chrysene	228	14.399	14.399	0.000	97	1166108	10.0	9.43	
150 Di-n-octyl phthalate	149	15.601	15.601	0.000	99	1534155	10.0	11.8	
151 7,12-Dimethylbenz(a)anthra	256	16.445	16.445	0.000	92	545380	10.0	9.01	
152 Benzo[b]fluoranthene	252	16.455	16.455	0.000	97	1234451	10.0	9.73	
153 Benzo[k]fluoranthene	252	16.514	16.514	0.000	99	1187284	10.0	8.83	
219 Benzo[e]pyrene	252	17.022	17.022	0.000	97	1120343	10.0	9.50	
154 Benzo[a]pyrene	252	17.118	17.118	0.000	77	1096974	10.0	9.60	
157 Indeno[1,2,3-cd]pyrene	276	19.575	19.575	0.000	98	1167079	10.0	9.63	a
158 Dibenz(a,h)anthracene	278	19.618	19.618	0.000	88	972221	10.0	9.81	
159 Benzo[g,h,i]perylene	276	20.264	20.264	0.000	98	972508	10.0	9.26	
S 197 Methyl Phenols,Total	108				0		20.0	19.2	
S 199 Total Cresols	108				0		20.0	19.2	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

SVTAPSTD10i_00344 Amount Added: 1.00 Units: mL

Report Date: 07-Oct-2019 04:39:15 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20191005-28986.b\D10050003.D				
Injection Date:	05-Oct-2019 10:53:30	Instrument ID:	CH732	Operator ID:	003200
Lims ID:	CCVIS			Worklist Smp#:	3
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

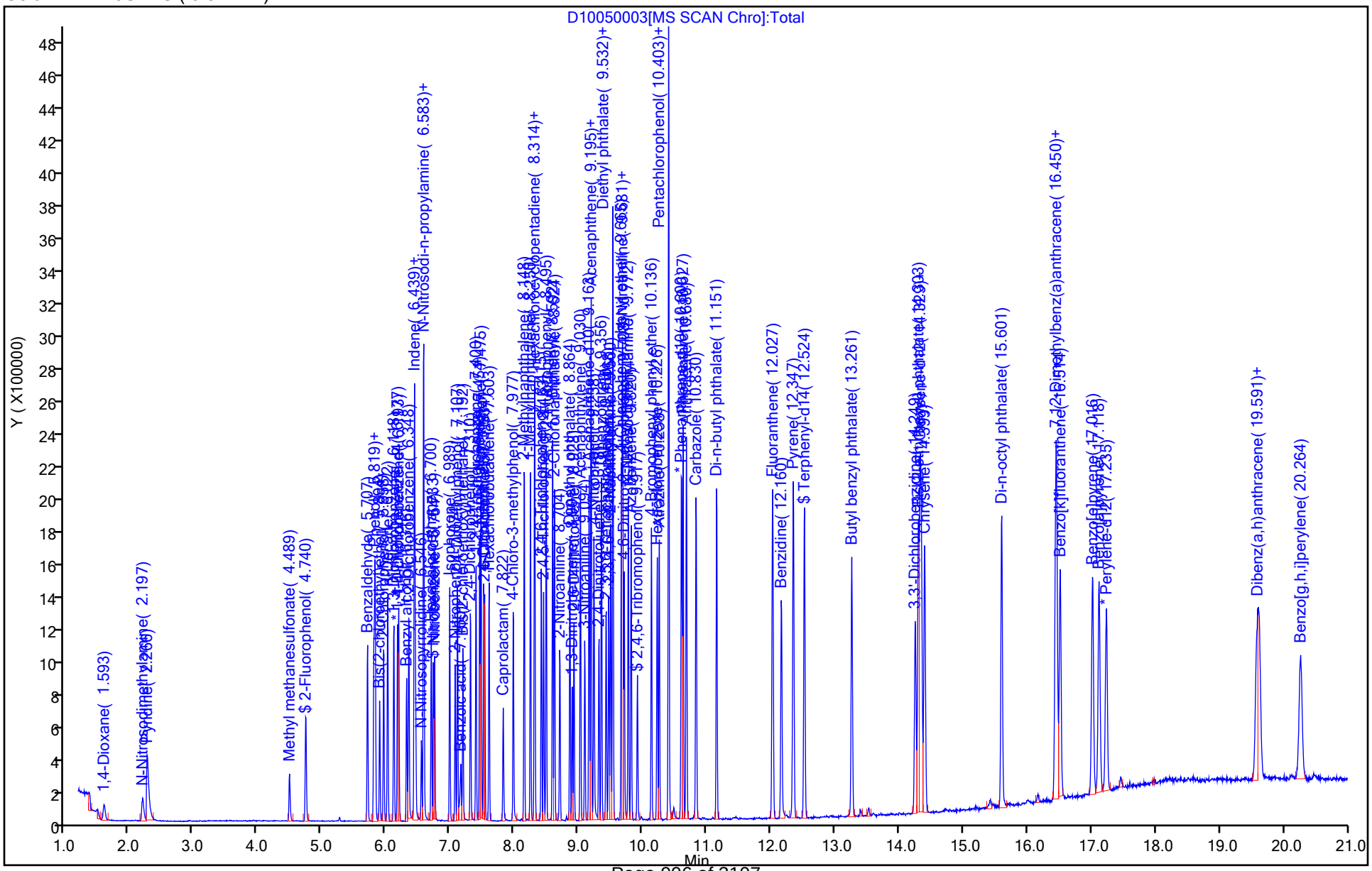

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20191005-28986.b\D10050003.D				
Injection Date:	05-Oct-2019 10:53:30	Instrument ID:	CH732		
Lims ID:	CCVIS				
Client ID:					
Operator ID:	003200	ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

157 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

Signal: 1

Processing Integration Results

RT: 19.72
Area: 2742
Amount: 0.022636
Amount Units: ng

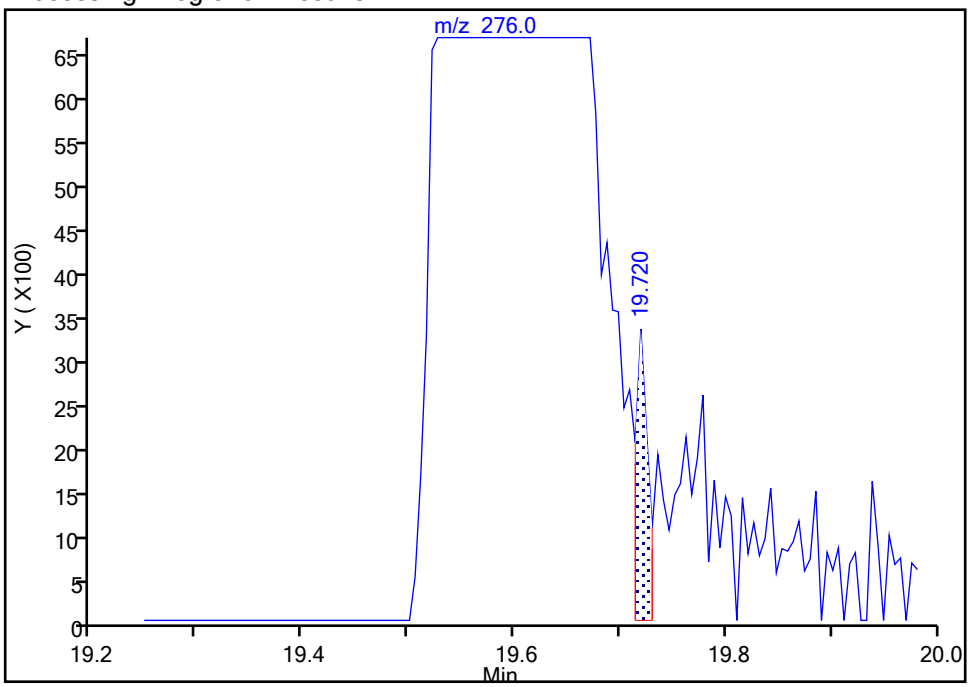

Manual Integration Results

RT: 19.58
Area: 1167079
Amount: 9.634631
Amount Units: ng

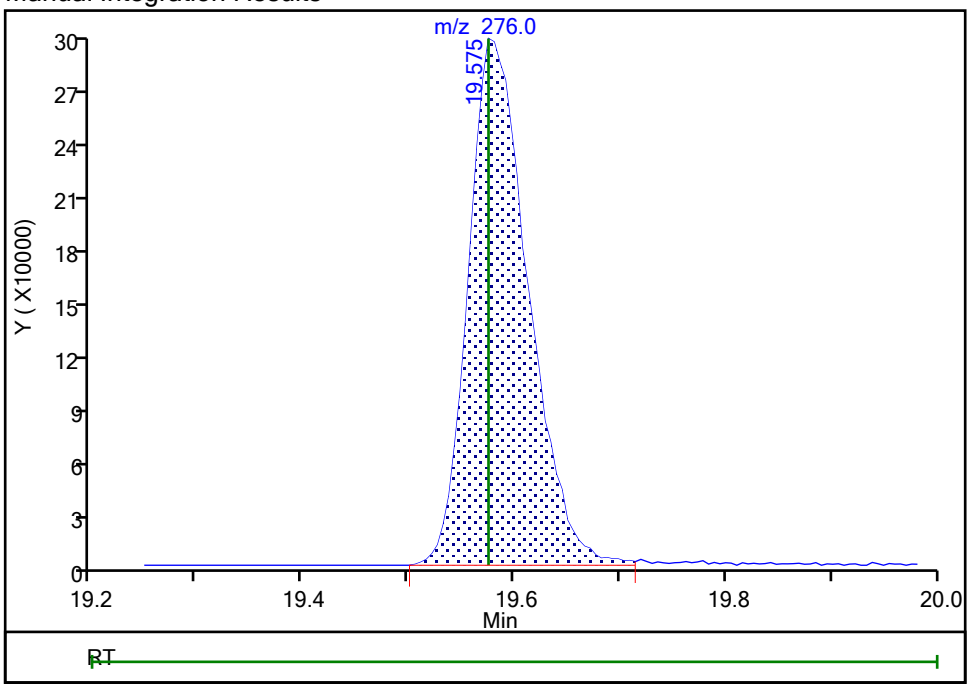

Reviewer: piccolinov, 05-Oct-2019 11:19:04

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCVIS 180-293945/3 Calibration Date: 10/07/2019 09:02

Instrument ID: CH732 Calib Start Date: 07/10/2019 07:55

GC Column: Rxi-5SilMS ID: 0.32(mm) Calib End Date: 07/10/2019 11:01

Lab File ID: D10070003.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Ave	0.2941	0.3389	0.0100	5.76	5.00	15.2	40.0
N-Nitrosodimethylamine	Ave	0.3689	0.4832	0.0100	6.55	5.00	31.0*	20.0
Pyridine	Ave	0.6189	0.7484	0.0100	12.1	10.0	20.9*	20.0
Methyl methanesulfonate	Ave	0.5435	0.5949	0.0100	5.47	5.00	9.5	40.0
Benzaldehyde	Ave	0.9172	1.018	0.0100	5.55	5.00	11.0	40.0
Phenol	Ave	1.555	1.451	0.8000		5.00	-6.7	20.0
Aniline	Ave	1.761	1.681	0.0100	4.77	5.00	-4.6	20.0
Bis(2-chloroethyl)ether	Ave	1.107	1.013	0.7000	4.58	5.00	-8.5	20.0
2-Chlorophenol	Ave	1.153	1.107	0.8000	4.80	5.00	-4.0	20.0
n-Decane	Ave	0.9545	1.263	0.0100	6.61	5.00	32.3*	20.0
1,3-Dichlorobenzene	Ave	1.443	1.280	0.0100	4.44	5.00	-11.3	20.0
1,4-Dichlorobenzene	Ave	1.451	1.291	0.0100	4.45	5.00	-11.0	20.0
Benzyl alcohol	Ave	0.7436	0.6476	0.0100	4.35	5.00	-12.9	20.0
1,2-Dichlorobenzene	Ave	1.421	1.239	0.0100	4.36	5.00	-12.8	20.0
2-Methylphenol	Ave	1.088	1.010	0.7000	4.64	5.00	-7.2	20.0
Indene	Ave	2.192	1.988	0.0100	4.53	5.00	-9.3	20.0
2,2'-oxybis[1-chloropropane]	Ave	1.295	1.465	0.0100	5.66	5.00	13.1	20.0
N-Nitrosopyrrolidine	Ave	0.5301	0.4946	0.0100	4.66	5.00	-6.7	20.0
Acetophenone	Ave	1.638	1.570	0.0100	4.79	5.00	-4.2	20.0
N-Nitrosodi-n-propylamine	Ave	0.7799	0.8523	0.5000	5.46	5.00	9.3	20.0
Methylphenol, 3 & 4	Ave	1.105	1.046	0.6000	4.73	5.00	-5.4	20.0
Hexachloroethane	Ave	0.5876	0.5669	0.3000	4.82	5.00	-3.5	20.0
Nitrobenzene	Ave	0.3054	0.3252	0.2000	5.32	5.00	6.5	20.0
Isophorone	Ave	0.5646	0.5737	0.4000	5.08	5.00	1.6	20.0
2-Nitrophenol	Ave	0.1446	0.1571	0.1000	5.44	5.00	8.7	20.0
2,4-Dimethylphenol	Ave	0.3082	0.3202	0.2000	5.19	5.00	3.9	20.0
Benzoic acid	Ave	0.1331	0.1230	0.0100		5.00	-7.6	40.0
Bis(2-chloroethoxy)methane	Ave	0.3681	0.3358	0.3000	4.56	5.00	-8.8	20.0
2,4-Dichlorophenol	Ave	0.2753	0.2598	0.2000	4.72	5.00	-5.6	20.0
1,2,4-Trichlorobenzene	Ave	0.3540	0.3053	0.0100	4.31	5.00	-13.8	20.0
Naphthalene	Ave	0.9788	0.8738	0.7000	4.46	5.00	-10.7	20.0
4-Chloroaniline	Ave	0.4074	0.3715	0.0100	4.56	5.00	-8.8	20.0
2,6-Dichlorophenol	Ave	0.2743	0.2556	0.0100	4.66	5.00	-6.8	20.0
Hexachlorobutadiene	Ave	0.2174	0.1824	0.0100	4.20	5.00	-16.1	20.0
Caprolactam	Ave	0.0899	0.0851	0.0100	4.73	5.00	-5.3	20.0
4-Chloro-3-methylphenol	Ave	0.2750	0.2797	0.2000	5.09	5.00	1.7	20.0
2-Methylnaphthalene	Ave	0.7411	0.6674	0.4000	4.50	5.00	-9.9	20.0
1-Methylnaphthalene	Ave	0.6898	0.6185	0.0100	4.48	5.00	-10.3	20.0
Hexachlorocyclopentadiene	Ave	0.3839	0.3733	0.0500		5.00	-2.8	20.0
1,2,4,5-Tetrachlorobenzene	Ave	0.6260	0.5220	0.0100	4.17	5.00	-16.6	20.0
2,4,6-Trichlorophenol	Ave	0.3671	0.3372	0.2000	4.59	5.00	-8.1	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCVIS 180-293945/3 Calibration Date: 10/07/2019 09:02

Instrument ID: CH732 Calib Start Date: 07/10/2019 07:55

GC Column: Rxi-5SilMS ID: 0.32(mm) Calib End Date: 07/10/2019 11:01

Lab File ID: D10070003.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,4,5-Trichlorophenol	Ave	0.3867	0.3383	0.2000	4.37	5.00	-12.5	20.0
1,1'-Biphenyl	Ave	1.479	1.291	0.0100	4.37	5.00	-12.7	20.0
2-Chloronaphthalene	Ave	1.168	1.005	0.8000	4.30	5.00	-13.9	20.0
2-Nitroaniline	Ave	0.2988	0.3334	0.0100	5.58	5.00	11.6	20.0
Dimethyl phthalate	Ave	1.265	1.164	0.0100	4.60	5.00	-8.0	20.0
1,3-Dinitrobenzene	Lin2		0.1741	0.0100	4.80	5.00	-4.0	40.0
2,6-Dinitrotoluene	Ave	0.2684	0.2613	0.2000	4.87	5.00	-2.6	20.0
Acenaphthylene	Ave	1.825	1.636	0.9000	4.48	5.00	-10.3	20.0
3-Nitroaniline	Ave	0.2997	0.2748	0.0100	4.58	5.00	-8.3	20.0
2,4-Dinitrophenol	Lin1		0.1111	0.0100		10.0	28.2	40.0
Acenaphthene	Ave	1.160	1.021	0.9000	4.40	5.00	-12.0	20.0
4-Nitrophenol	Ave	0.1526	0.1762	0.0100	11.5	10.0	15.5	20.0
2,4-Dinitrotoluene	Ave	0.3539	0.3681	0.2000	5.20	5.00	4.0	20.0
Dibenzofuran	Ave	1.788	1.485	0.8000	4.15	5.00	-17.0	20.0
2,3,5,6-Tetrachlorophenol	Ave	0.3549	0.2921	0.0100	4.12	5.00	-17.7	20.0
2,3,4,6-Tetrachlorophenol	Ave	0.3524	0.2942	0.0100	4.17	5.00	-16.5	20.0
2-Naphthylamine	Ave	1.233	1.108	0.0100	4.49	5.00	-10.2	40.0
Diethyl phthalate	Ave	1.227	1.127	0.0100		5.00	-8.1	20.0
Hexadecane	Ave	0.4949	0.4679	0.0100		5.00	-5.4	20.0
4-Chlorophenyl phenyl ether	Ave	0.7587	0.6433	0.4000	4.24	5.00	-15.2	20.0
4-Nitroaniline	Ave	0.3152	0.3033	0.0100	4.81	5.00	-3.8	20.0
Fluorene	Ave	1.413	1.221	0.9000	4.32	5.00	-13.6	20.0
4,6-Dinitro-2-methylphenol	Lin1		0.0929	0.0100		10.0	-5.6	20.0
N-Nitrosodiphenylamine	Ave	0.4844	0.4299	0.0100	4.44	5.00	-11.3	20.0
1,2-Diphenylhydrazine(as Azobenzene)	Ave	0.6662	0.6135	0.0100	4.60	5.00	-7.9	20.0
Azobenzene	Ave	0.6662	0.6135	0.0100		5.00	-7.9	20.0
4-Bromophenyl phenyl ether	Ave	0.1972	0.1752	0.1000	4.44	5.00	-11.2	20.0
Hexachlorobenzene	Ave	0.1912	0.1712	0.1000	4.48	5.00	-10.4	20.0
Atrazine	Ave	0.1744	0.1765	0.0100		5.00	1.2	40.0
n-Octadecane	Ave	2.302	2.376	0.0100	5.16	5.00	3.2	20.0
Pentachlorophenol	Ave	0.1175	0.0954	0.0500		10.0	-18.8	20.0
Phenanthrene	Ave	1.014	0.9056	0.7000	4.47	5.00	-10.7	20.0
Anthracene	Ave	0.9890	0.9228	0.7000	4.67	5.00	-6.7	20.0
Carbazole	Ave	0.9154	0.8430	0.0100	4.60	5.00	-7.9	20.0
Di-n-butyl phthalate	Ave	0.9840	1.010	0.0100		5.00	2.7	20.0
Fluoranthene	Ave	1.124	1.108	0.6000	4.93	5.00	-1.5	20.0
Benzidine	Ave	0.5815	0.6620	0.0100		5.00	13.8	40.0
Pyrene	Ave	1.168	1.187	0.6000	5.08	5.00	1.6	20.0
Butyl benzyl phthalate	Ave	0.4219	0.4808	0.0100	5.70	5.00	14.0	20.0
3,3'-Dichlorobenzidine	Lin2		0.3872	0.0100		5.00	6.2	40.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCVIS 180-293945/3 Calibration Date: 10/07/2019 09:02

Instrument ID: CH732 Calib Start Date: 07/10/2019 07:55

GC Column: Rxi-5SilMS ID: 0.32(mm) Calib End Date: 07/10/2019 11:01

Lab File ID: D10070003.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Bis(2-ethylhexyl) phthalate	Ave	0.5865	0.6570	0.0100		5.00	12.0	20.0
Benzo[a]anthracene	Ave	1.047	1.031	0.8000	4.92	5.00	-1.6	20.0
Chrysene	Ave	1.039	0.996	0.7000	4.79	5.00	-4.2	20.0
Di-n-octyl phthalate	Ave	1.228	1.470	0.0100		5.00	19.7	20.0
7,12-Dimethylbenz(a)anthracene	Ave	0.5712	0.5194	0.0100	4.55	5.00	-9.1	20.0
Benzo[b]fluoranthene	Ave	1.197	1.153	0.7000	4.82	5.00	-3.7	20.0
Benzo[k]fluoranthene	Ave	1.269	1.178	0.7000	4.64	5.00	-7.2	20.0
Benzo[e]pyrene	Ave	1.112	1.070	0.0100	4.81	5.00	-3.8	20.0
Benzo[a]pyrene	Ave	1.079	1.050	0.7000	4.87	5.00	-2.6	20.0
Indeno[1,2,3-cd]pyrene	Ave	1.143	1.039	0.5000	4.55	5.00	-9.1	20.0
Dibenz(a,h)anthracene	Ave	0.9355	0.8640	0.4000	4.62	5.00	-7.6	20.0
Benzo[g,h,i]perylene	Ave	0.9910	0.8613	0.5000	4.35	5.00	-13.1	20.0
2-Fluorophenol (Surr)	Ave	0.9023	0.9501		5.26	5.00	5.3	20.0
Phenol-d5 (Surr)	Ave	1.331	1.286		4.83	5.00	-3.3	20.0
Nitrobenzene-d5 (Surr)	Ave	0.2935	0.3221		5.49	5.00	9.7	20.0
2-Fluorobiphenyl	Ave	1.338	1.186		4.43	5.00	-11.3	20.0
2,4,6-Tribromophenol (Surr)	Ave	0.0683	0.0644	0.0100	4.71	5.00	-5.8	20.0
Terphenyl-d14 (Surr)	Ave	0.7332	0.7782		5.31	5.00	6.1	20.0

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CH732\20191007-29002.b\D10070003.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 07-Oct-2019 09:02:30 ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029002-003
Operator ID: 003200 Instrument ID: CH732
Sublist: chrom-BNA_CH732*sub4

Method: \\chromna\Pittsburgh\ChromData\CH732\20191007-29002.b\BNA_CH732.m
Limit Group: BNA 8270D ICAL
Last Update: 08-Oct-2019 07:34:50 Calib Date: 11-Jul-2019 12:08:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CH732\20190711-27697.b\D07110010.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0339

First Level Reviewer: piccolinov Date: 07-Oct-2019 09:26:25

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.177	6.177	0.000	98	231343	8.00	8.00	
* 2 Naphthalene-d8	136	7.459	7.459	0.000	100	954217	8.00	8.00	
* 3 Acenaphthene-d10	164	9.163	9.163	0.000	96	600718	8.00	8.00	
* 4 Phenanthrene-d10	188	10.606	10.606	0.000	97	1277116	8.00	8.00	
* 5 Chrysene-d12	240	14.345	14.345	0.000	98	1189637	8.00	8.00	
* 6 Perylene-d12	264	17.225	17.225	0.000	97	1016036	8.00	8.00	
$ 7 2-Fluorophenol	112	4.745	4.745	0.000	93	274755	10.0	10.5	
$ 8 Phenol-d5	99	5.803	5.803	0.000	0	371887	10.0	9.67	
$ 9 Nitrobenzene-d5	82	6.732	6.732	0.000	92	384146	10.0	11.0	
$ 10 2-Fluorobiphenyl	172	8.501	8.501	0.000	100	890708	10.0	8.87	
$ 11 2,4,6-Tribromophenol	330	9.916	9.916	0.000	86	102759	10.0	9.42	
$ 12 Terphenyl-d14	244	12.518	12.518	0.000	100	1157170	10.0	10.6	
13 1,4-Dioxane	88	1.615	1.615	0.000	91	98010	10.0	11.5	
14 N-Nitrosodimethylamine	74	2.208	2.208	0.000	88	139725	10.0	13.1	
15 Pyridine	79	2.277	2.277	0.000	96	432826	20.0	24.2	
21 Methyl methanesulfonate	80	4.489	4.489	0.000	90	172039	10.0	10.9	
25 Benzaldehyde	77	5.707	5.707	0.000	94	294466	10.0	11.1	
26 Phenol	94	5.819	5.819	0.000	97	419618	10.0	9.33	
27 Aniline	93	5.824	5.824	0.000	97	486149	10.0	9.54	
29 Bis(2-chloroethyl)ether	93	5.894	5.894	0.000	94	292875	10.0	9.15	
30 2-Chlorophenol	128	5.958	5.958	0.000	97	320099	10.0	9.60	
31 n-Decane	43	6.022	6.022	0.000	89	365180	10.0	13.2	
32 1,3-Dichlorobenzene	146	6.118	6.118	0.000	95	370180	10.0	8.87	
33 1,4-Dichlorobenzene	146	6.193	6.193	0.000	91	373292	10.0	8.90	
34 Benzyl alcohol	108	6.316	6.316	0.000	89	187276	10.0	8.71	
35 1,2-Dichlorobenzene	146	6.353	6.353	0.000	94	358156	10.0	8.72	
36 2-Methylphenol	108	6.433	6.433	0.000	95	292011	10.0	9.28	
37 Indene	116	6.444	6.444	0.000	89	574798	10.0	9.07	
38 2,2'-oxybis[1-chloropropan	45	6.455	6.455	0.000	88	423519	10.0	11.3	
39 N-Nitrosopyrrolidine	100	6.551	6.551	0.000	81	143022	10.0	9.33	
41 N-Nitrosodi-n-propylamine	70	6.583	6.583	0.000	79	246457	10.0	10.9	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
40 Acetophenone	105	6.583	6.583	0.000	88	453983	10.0	9.58	
42 4-Methylphenol	108	6.588	6.588	0.000	93	302485	10.0	9.46	
45 Hexachloroethane	117	6.700	6.700	0.000	94	163935	10.0	9.65	
46 Nitrobenzene	77	6.754	6.754	0.000	90	387900	10.0	10.6	
48 Isophorone	82	6.989	6.989	0.000	99	684294	10.0	10.2	
49 2-Nitrophenol	139	7.074	7.074	0.000	96	187435	10.0	10.9	
50 2,4-Dimethylphenol	107	7.112	7.112	0.000	98	381906	10.0	10.4	
52 Benzoic acid	122	7.165	7.165	0.000	90	146747	10.0	9.24	
53 Bis(2-chloroethoxy)methane	93	7.197	7.197	0.000	97	400495	10.0	9.12	
54 2,4-Dichlorophenol	162	7.315	7.315	0.000	96	309832	10.0	9.44	
56 1,2,4-Trichlorobenzene	180	7.400	7.400	0.000	94	364112	10.0	8.62	
58 Naphthalene	128	7.480	7.480	0.000	98	1042265	10.0	8.93	
59 4-Chloroaniline	127	7.523	7.523	0.000	95	443119	10.0	9.12	
60 2,6-Dichlorophenol	162	7.539	7.539	0.000	97	304809	10.0	9.32	
62 Hexachlorobutadiene	225	7.603	7.603	0.000	96	217571	10.0	8.39	
64 Caprolactam	113	7.828	7.828	0.000	76	101552	10.0	9.47	
67 4-Chloro-3-methylphenol	107	7.983	7.983	0.000	97	333598	10.0	10.2	
69 2-Methylnaphthalene	142	8.154	8.154	0.000	92	796057	10.0	9.01	
71 1-Methylnaphthalene	142	8.250	8.250	0.000	92	737688	10.0	8.97	
72 Hexachlorocyclopentadiene	237	8.314	8.314	0.000	96	280320	10.0	9.72	
73 1,2,4,5-Tetrachlorobenzene	216	8.319	8.319	0.000	97	391934	10.0	8.34	
74 2,4,6-Trichlorophenol	196	8.421	8.421	0.000	95	253191	10.0	9.19	
75 2,4,5-Trichlorophenol	196	8.458	8.458	0.000	94	254028	10.0	8.75	
76 1,1'-Biphenyl	154	8.597	8.597	0.000	96	969608	10.0	8.73	
77 2-Chloronaphthalene	162	8.629	8.629	0.000	97	754759	10.0	8.61	
79 2-Nitroaniline	65	8.709	8.709	0.000	80	250328	10.0	11.2	
82 Dimethyl phthalate	163	8.864	8.864	0.000	98	873675	10.0	9.20	
83 1,3-Dinitrobenzene	168	8.901	8.901	0.000	85	130700	10.0	9.60	
84 2,6-Dinitrotoluene	165	8.928	8.928	0.000	94	196222	10.0	9.74	
85 Acenaphthylene	152	9.030	9.030	0.000	98	1228775	10.0	8.97	
86 3-Nitroaniline	138	9.099	9.099	0.000	90	206349	10.0	9.17	
88 Acenaphthene	153	9.195	9.195	0.000	91	766872	10.0	8.80	
87 2,4-Dinitrophenol	184	9.195	9.195	0.000	64	166893	20.0	25.6	
89 4-Nitrophenol	109	9.238	9.238	0.000	95	264581	20.0	23.1	
91 2,4-Dinitrotoluene	165	9.318	9.318	0.000	91	276430	10.0	10.4	
93 Dibenzofuran	168	9.356	9.356	0.000	96	1115192	10.0	8.30	
95 2,3,5,6-Tetrachlorophenol	232	9.430	9.430	0.000	93	219367	10.0	8.23	
96 2,3,4,6-Tetrachlorophenol	232	9.473	9.473	0.000	74	220899	10.0	8.35	
97 2-Naphthylamine	143	9.500	9.500	0.000	96	831713	10.0	8.98	
98 Diethyl phthalate	149	9.532	9.532	0.000	97	846354	10.0	9.19	
99 Hexadecane	57	9.537	9.537	0.000	96	558124	10.0	9.46	
100 4-Chlorophenyl phenyl ethe	204	9.665	9.665	0.000	94	483068	10.0	8.48	
101 4-Nitroaniline	138	9.681	9.681	0.000	86	227770	10.0	9.62	
103 Fluorene	166	9.687	9.687	0.000	97	916608	10.0	8.64	
104 4,6-Dinitro-2-methylphenol	198	9.713	9.713	0.000	85	296731	20.0	18.9	
105 N-Nitrosodiphenylamine	169	9.772	9.772	0.000	62	686224	10.0	8.87	
57 Azobenzene	77	9.820	9.820	0.000	99	979361	10.0	9.21	
90 1,2-Diphenylhydrazine	77	9.820	9.820	0.000	98	979361	10.0	9.21	
110 4-Bromophenyl phenyl ether	248	10.135	10.135	0.000	67	279712	10.0	8.88	
112 Hexachlorobenzene	284	10.226	10.226	0.000	94	273371	10.0	8.96	
113 Atrazine	200	10.258	10.258	0.000	93	281678	10.0	10.1	
116 Pentachlorophenol	266	10.403	10.403	0.000	90	304507	20.0	16.2	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
115 n-Octadecane	57	10.403	10.403	0.000	96	687166	10.0	10.3	
121 Phenanthrene	178	10.627	10.627	0.000	97	1445678	10.0	8.93	
122 Anthracene	178	10.680	10.680	0.000	97	1473218	10.0	9.33	
124 Carbazole	167	10.830	10.830	0.000	97	1345821	10.0	9.21	
126 Di-n-butyl phthalate	149	11.151	11.151	0.000	100	1612595	10.0	10.3	
131 Fluoranthene	202	12.027	12.027	0.000	97	1768589	10.0	9.85	
132 Benzidine	184	12.160	12.160	0.000	99	984420	10.0	11.4	
133 Pyrene	202	12.347	12.347	0.000	98	1765070	10.0	10.2	
138 Butyl benzyl phthalate	149	13.255	13.255	0.000	98	714919	10.0	11.4	
144 3,3'-Dichlorobenzidine	252	14.249	14.249	0.000	74	575841	10.0	10.6	
145 Bis(2-ethylhexyl) phthalat	149	14.292	14.292	0.000	98	976978	10.0	11.2	
146 Benzo[a]anthracene	228	14.324	14.324	0.000	98	1532744	10.0	9.84	
147 Chrysene	228	14.393	14.393	0.000	98	1480490	10.0	9.58	
150 Di-n-octyl phthalate	149	15.590	15.590	0.000	100	1866758	10.0	12.0	
151 7,12-Dimethylbenz(a)anthra	256	16.434	16.434	0.000	92	659598	10.0	9.09	
152 Benzo[b]fluoranthene	252	16.450	16.450	0.000	97	1464685	10.0	9.63	
153 Benzo[k]fluoranthene	252	16.503	16.503	0.000	99	1495737	10.0	9.28	
219 Benzo[e]pyrene	252	17.011	17.011	0.000	97	1358780	10.0	9.62	
154 Benzo[a]pyrene	252	17.112	17.112	0.000	77	1334056	10.0	9.74	
157 Indeno[1,2,3-cd]pyrene	276	19.575	19.575	0.000	99	1319963	10.0	9.09	
158 Dibenz(a,h)anthracene	278	19.602	19.602	0.000	90	1097323	10.0	9.24	
159 Benzo[g,h,i]perylene	276	20.248	20.248	0.000	97	1093861	10.0	8.69	
S 199 Total Cresols	108				0		20.0	18.7	
S 197 Methyl Phenols,Total	108				0		20.0	18.7	

Reagents:

SVTAPSTD10i_00344 Amount Added: 1.00 Units: mL

Report Date: 08-Oct-2019 07:34:51 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20191007-29002.b\D10070003.D				
Injection Date:	07-Oct-2019 09:02:30	Instrument ID:	CH732	Operator ID:	003200
Lims ID:	CCVIS			Worklist Smp#:	3
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

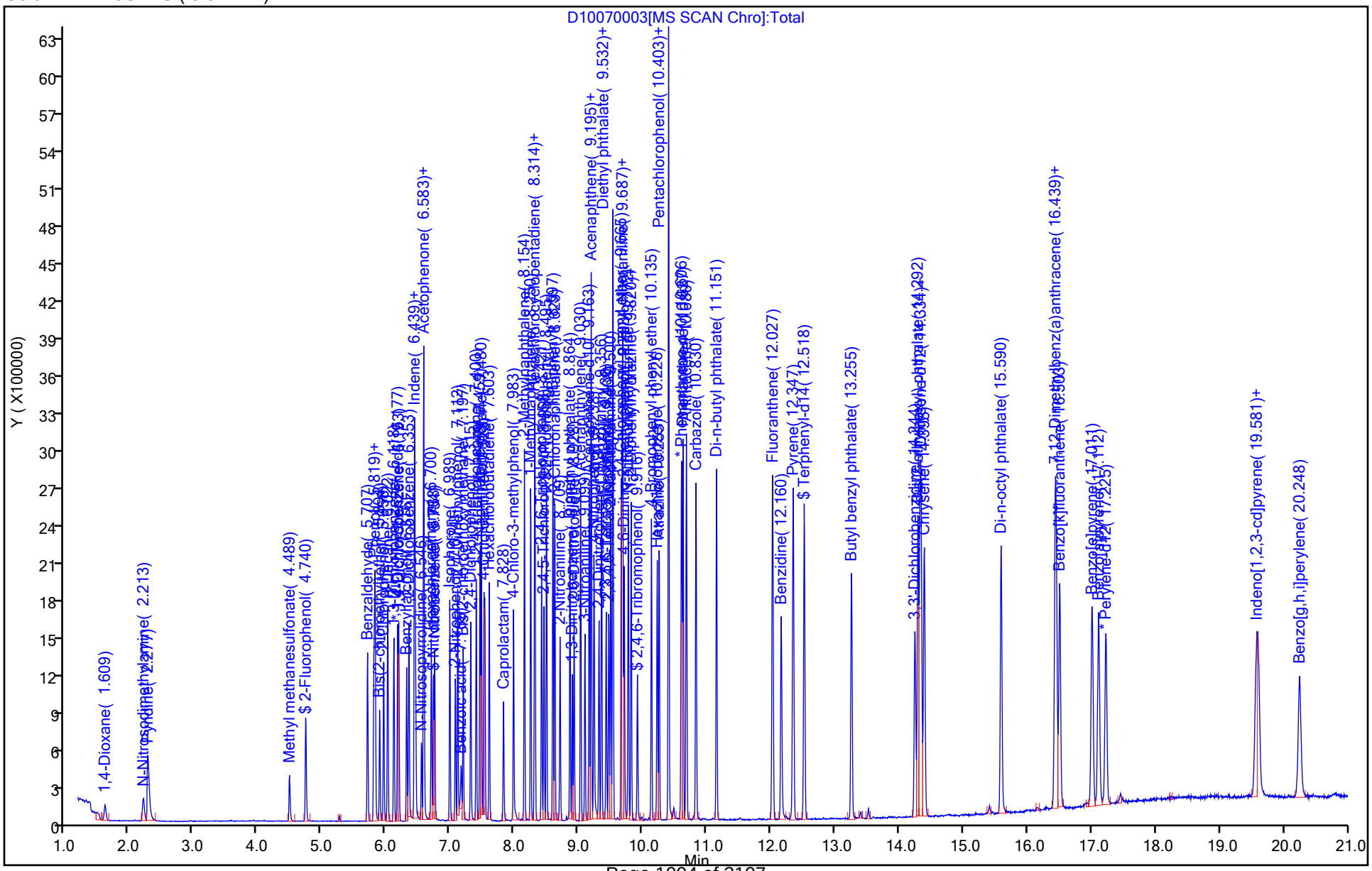

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100002.D				
Lims ID:	DFTPP				
Client ID:					
Sample Type:	DFTPP				
Inject. Date:	10-Jul-2019 07:40:30	ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0027677-002				
Operator ID:	003200	Instrument ID:	CH732		
Method:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\BNA_CH732.m				
Limit Group:	BNA 8270D ICAL				
Last Update:	10-Jul-2019 11:56:00	Calib Date:	10-Jul-2019 11:01:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100010.D				
Column 1 :	Rxi-5SilMS (0.32 mm)		Det: MS SCAN		
Process Host:	CTX0336				

First Level Reviewer: piccolinov Date: 10-Jul-2019 10:43:41

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
189 Pentachlorophenol_T	266	5.586	5.586	0.000	93	942476	NR	NR	
190 DFTPP									
191 Benzidine_T	184	8.263	8.263	0.000	100	6510493	NR	NR	
192 4,4'-DDE	246		8.658					ND	
193 4,4'-DDD	235		8.786					ND	
194 4,4'-DDT	235	9.972	9.972	0.000	99	2790847	NR	NR	

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Reagents:

SVDFTPP50i_00034 Amount Added: 1.00 Units: mL

Report Date: 10-Jul-2019 11:56:01 Chrom Revision: 2.3 20-Jun-2019 20:50:56

MS Tune Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100002.D				
Injection Date:	10-Jul-2019 07:40:30	Instrument ID:	CH732		
Lims ID:	DFTPP				
Client ID:					
Operator ID:	003200	ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Tune Method:	DFTPP Method 8270				

190 DFTPP

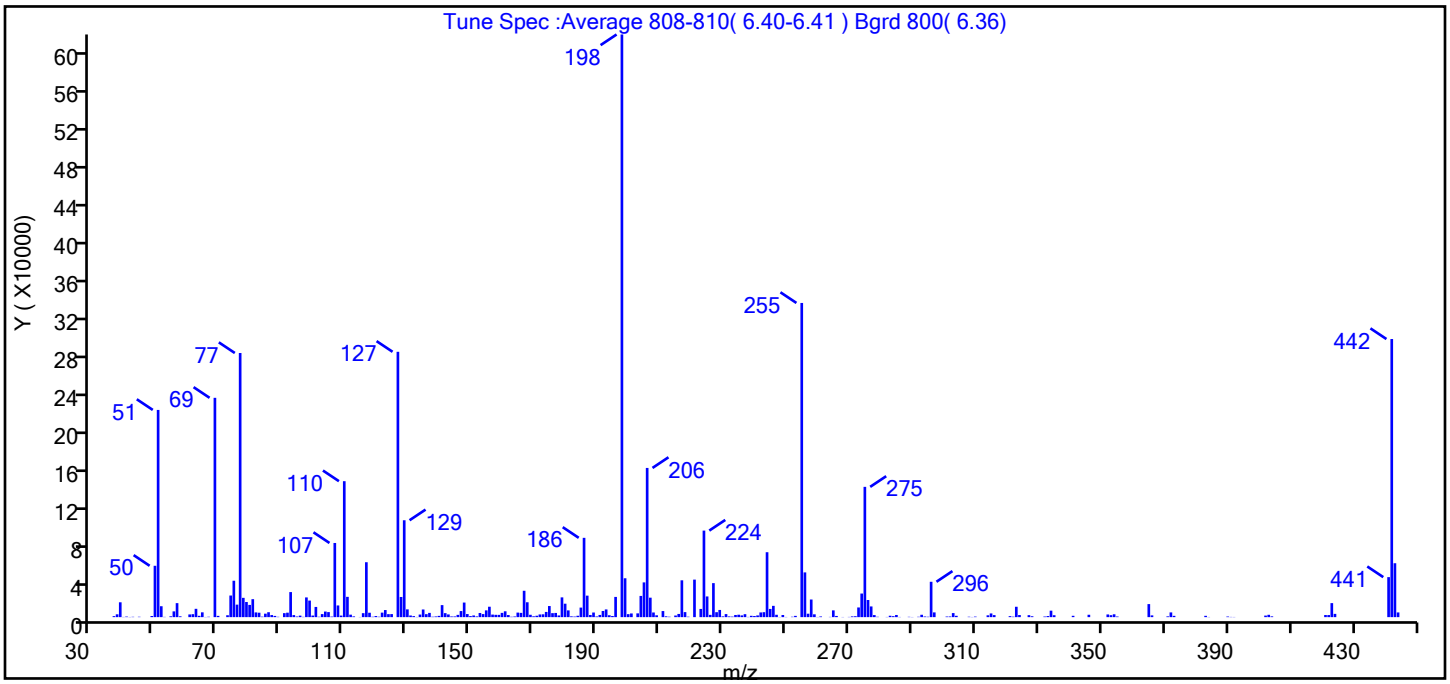

m/z	Ion Abundance Criteria	% Relative Abundance
198	Base peak, 100% relative abundance	100.0
51	30-60% of mass 198	35.6
68	<2% of mass 69	0.0 (0.0)
69	Present	37.6
70	<2% of mass 69	0.2 (0.6)
127	40-60% of mass 198	45.5
197	<1% of mass 198	0.0
199	5-9% of mass 198	6.7
275	10-30% of mass 198	22.4
365	>1% of mass 198	2.2
441	Present but less than mass 443	6.9 (74.2)
442	>40% of mass 198	47.7
443	17-23% of mass 442	9.3 (19.4)

Report Date: 10-Jul-2019 11:56:01 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Data File: \\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100002.D\BNA_CH732.rslt\spectra.d
Injection Date: 10-Jul-2019 07:40:30
Spectrum: Tune Spec :Average 808-810(6.40-6.41) Bgrd 800(6.36)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 278

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	1074	119.00	412	190.00	693	272.00	967
38.00	3006	120.00	1170	191.00	2329	273.00	10286
39.00	15782	121.00	435	192.00	6540	274.00	25072
40.00	205	122.00	4793	193.00	8195	275.00	138432
41.00	617	123.00	7536	194.00	2023	276.00	18208
42.00	182	124.00	3188	195.00	1197	277.00	11371
43.00	362	125.00	3248	196.00	21488	278.00	2178
45.00	405	127.00	281920	198.00	619072	279.00	388
49.00	1209	128.00	21424	199.00	41312	282.00	200
50.00	54560	129.00	102936	200.00	3174	283.00	1480
51.00	220160	130.00	8270	201.00	3917	284.00	1023
52.00	11594	131.00	1747	203.00	4012	285.00	2299
53.00	267	132.00	1093	204.00	22544	286.00	208
55.00	889	133.00	203	205.00	36920	289.00	341
56.00	6141	134.00	2758	206.00	158528	290.00	175
57.00	14880	135.00	8135	207.00	20680	292.00	391
58.00	880	136.00	3164	208.00	4948	293.00	2522
61.00	2875	137.00	4526	209.00	1969	294.00	673
62.00	3151	138.00	455	211.00	6460	295.00	423
63.00	8845	139.00	733	212.00	866	296.00	37584
64.00	1404	140.00	1352	213.00	449	297.00	5048
65.00	5106	141.00	12776	215.00	1727	301.00	648
66.00	183	142.00	4252	216.00	3404	302.00	714
67.00	413	143.00	2864	217.00	39136	303.00	4311
69.00	233024	144.00	735	218.00	5345	304.00	1435
70.00	1356	145.00	737	219.00	473	308.00	433
73.00	2018	146.00	2412	221.00	39880	309.00	179
74.00	22968	147.00	6459	223.00	8724	310.00	577
75.00	38688	148.00	15501	224.00	91952	314.00	1944
76.00	13284	149.00	3278	225.00	21992	315.00	3937
77.00	280640	150.00	1128	226.00	2418	316.00	2164
78.00	20512	151.00	1785	227.00	36136	321.00	1055
79.00	16070	152.00	783	228.00	5261	322.00	495

Report Date: 10-Jul-2019 11:56:01 Chrom Revision: 2.3 20-Jun-2019 20:50:56
Data File: \\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100002.D\BNA_CH732.rslt\spectra.d
Injection Date: 10-Jul-2019 07:40:30
Spectrum: Tune Spec :Average 808-810(6.40-6.41) Bgrd 800(6.36)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 278

m/z	Y	m/z	Y	m/z	Y	m/z	Y
80.00	12997	153.00	4417	229.00	7643	323.00	11032
81.00	19104	154.00	3262	230.00	810	324.00	2241
82.00	5028	155.00	7203	231.00	3233	327.00	2100
83.00	4707	156.00	11070	232.00	770	328.00	939
84.00	511	157.00	2716	233.00	567	332.00	636
85.00	3688	158.00	2477	234.00	2294	333.00	1164
86.00	5217	159.00	2414	235.00	2570	334.00	6883
87.00	2206	160.00	4530	236.00	1859	335.00	2040
88.00	1311	161.00	6210	237.00	3156	341.00	1427
89.00	354	162.00	2224	238.00	226	346.00	2530
91.00	4247	163.00	411	239.00	1419	352.00	2857
92.00	4741	164.00	697	240.00	1169	353.00	2093
93.00	26624	165.00	4827	241.00	1821	354.00	3038
94.00	2175	166.00	4531	242.00	4993	355.00	651
95.00	682	167.00	28024	243.00	5272	365.00	13857
96.00	1605	168.00	15817	244.00	68984	366.00	1866
97.00	294	169.00	2511	245.00	8727	371.00	817
98.00	20952	170.00	890	246.00	12000	372.00	5024
99.00	17608	171.00	1492	247.00	2508	373.00	1385
100.00	1678	172.00	2853	248.00	171	383.00	1405
101.00	10846	173.00	3026	249.00	2264	384.00	187
102.00	415	174.00	5533	250.00	198	390.00	654
103.00	3230	175.00	11802	252.00	422	391.00	237
104.00	5943	176.00	4248	253.00	1350	392.00	192
105.00	5356	177.00	4464	255.00	333824	402.00	1654
106.00	583	178.00	1800	256.00	47536	403.00	2485
107.00	78800	179.00	21000	257.00	3641	404.00	835
108.00	12417	180.00	14278	258.00	18736	421.00	2249
109.00	1652	181.00	7178	259.00	3004	422.00	2206
110.00	144448	182.00	841	260.00	184	423.00	14898
111.00	21568	183.00	611	261.00	723	424.00	3473
112.00	2631	184.00	1473	264.00	261	441.00	42512
113.00	785	185.00	10145	265.00	7198	442.00	295488
115.00	178	186.00	84264	266.00	1272	443.00	57280

Report Date: 10-Jul-2019 11:56:01 Chrom Revision: 2.3 20-Jun-2019 20:50:56
Data File: \\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100002.D\BNA_CH732.rslt\spectra.d
Injection Date: 10-Jul-2019 07:40:30
Spectrum: Tune Spec :Average 808-810(6.40-6.41) Bgrd 800(6.36)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 278

m/z	Y	m/z	Y	m/z	Y	m/z	Y
116.00	4217	187.00	22840	268.00	176	444.00	4991
117.00	58352	188.00	2294	270.00	232		
118.00	4673	189.00	4917	271.00	794		

Report Date: 10-Jul-2019 11:56:01 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100002.D				
Injection Date:	10-Jul-2019 07:40:30	Instrument ID:	CH732	Operator ID:	003200
Lims ID:	DFTPP			Worklist Smp#:	2
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

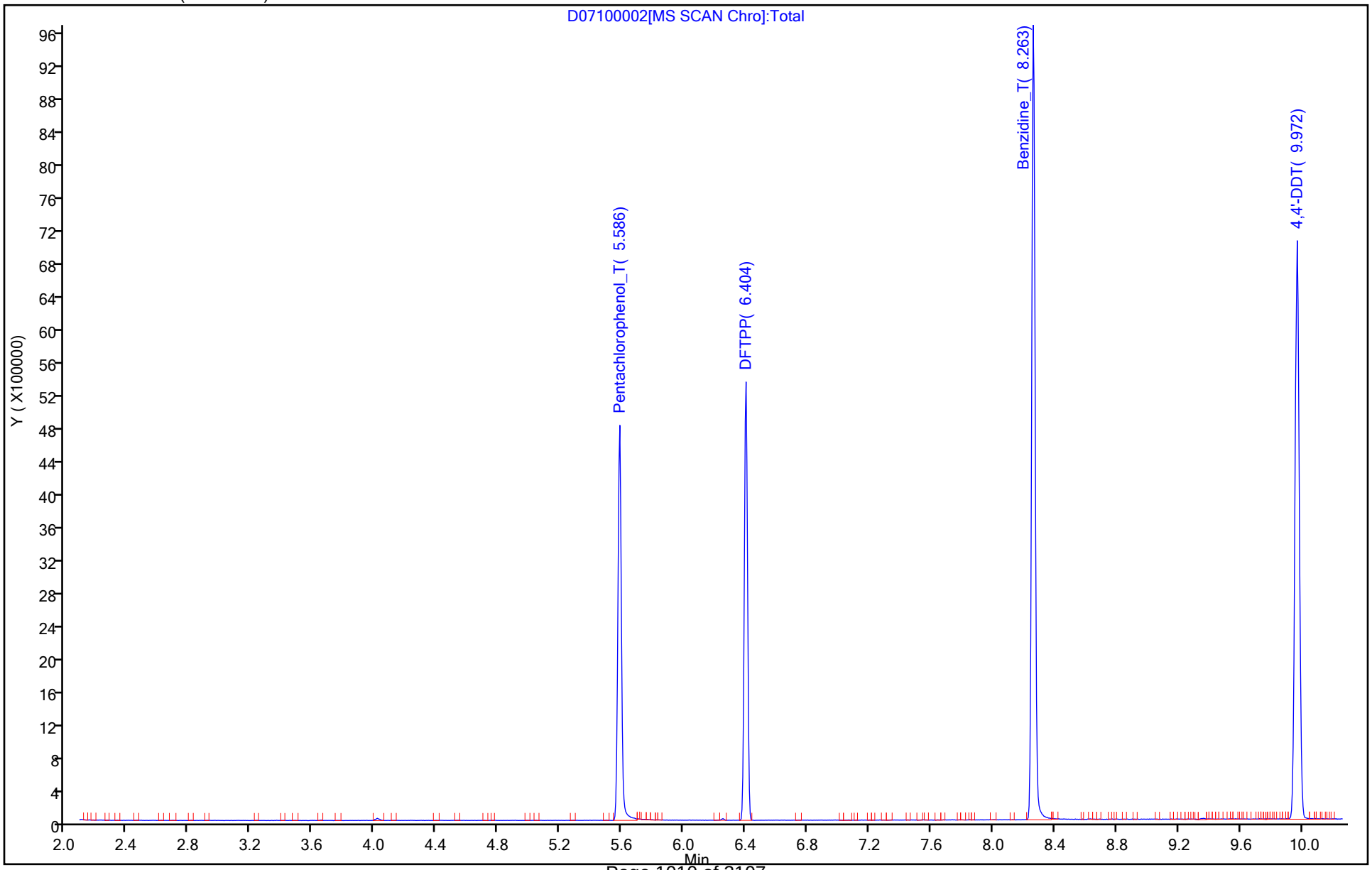

Report Date: 10-Jul-2019 11:56:01 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Breakdown Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100002.D				
Injection Date:	10-Jul-2019 07:40:30	Instrument ID:	CH732		
Lims ID:	DFTPP				
Client ID:					
Operator ID:	003200	ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		

194 4,4'-DDT, Detector: MS SCAN

SW-846 Method

%Breakdown =
(Area Breakdown Cpnds/
Total Area Breakdown Cpnds) * 100

194 4,4'-DDT, Area = 2790847
192 4,4'-DDE, Area = 0
193 4,4'-DDD, Area = 0

%Breakdown: 0.00%, <= 20.00%
Passed

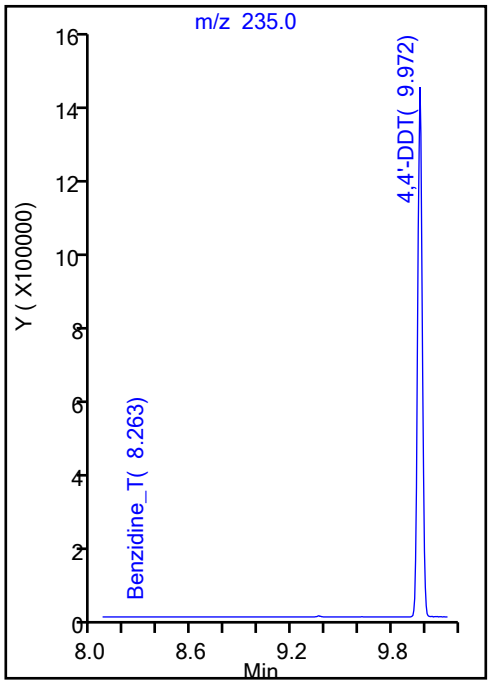

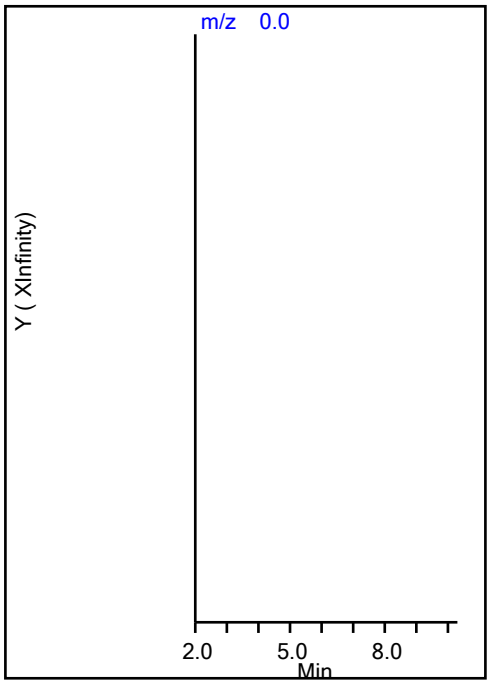

Report Date: 10-Jul-2019 11:56:01 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Peak Tailing Report

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100002.D
Injection Date: 10-Jul-2019 07:40:30 Instrument ID: CH732
Lims ID: DFTPP
Client ID:
Operator ID: 003200 ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: BNA_CH732 Limit Group: BNA 8270D ICAL

191 Benzidine_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.025 (min.)
Front Width = 0.020 (min.)

Tailing Factor = 1.3, Max. Tailing < 2.00
Passed

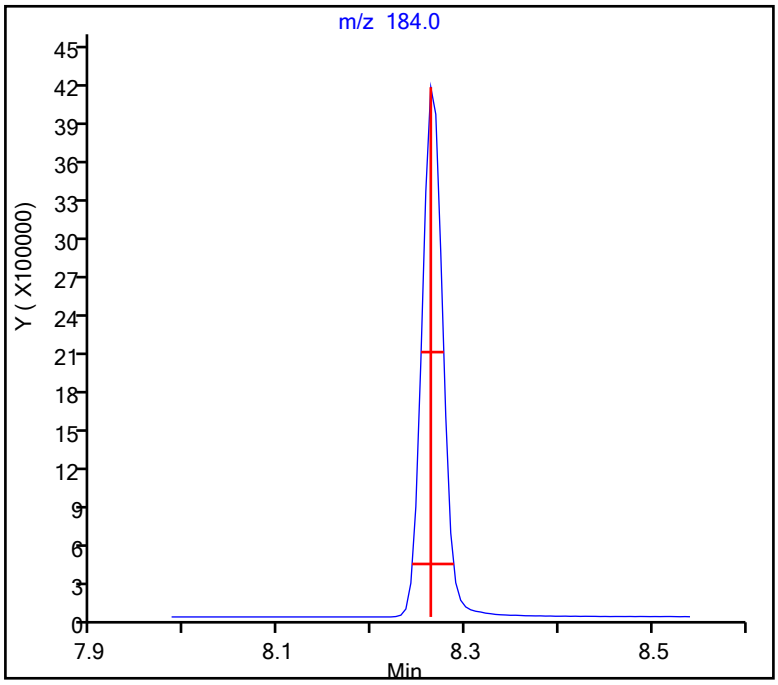

Report Date: 10-Jul-2019 11:56:01 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Peak Tailing Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20190710-27677.b\D07100002.D				
Injection Date:	10-Jul-2019 07:40:30	Instrument ID:	CH732		
Lims ID:	DFTPP				
Client ID:					
Operator ID:	003200	ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		

189 Pentachlorophenol_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.023 (min.)
Front Width = 0.023 (min.)

Tailing Factor = 1.0, Max. Tailing < 2.00
Passed

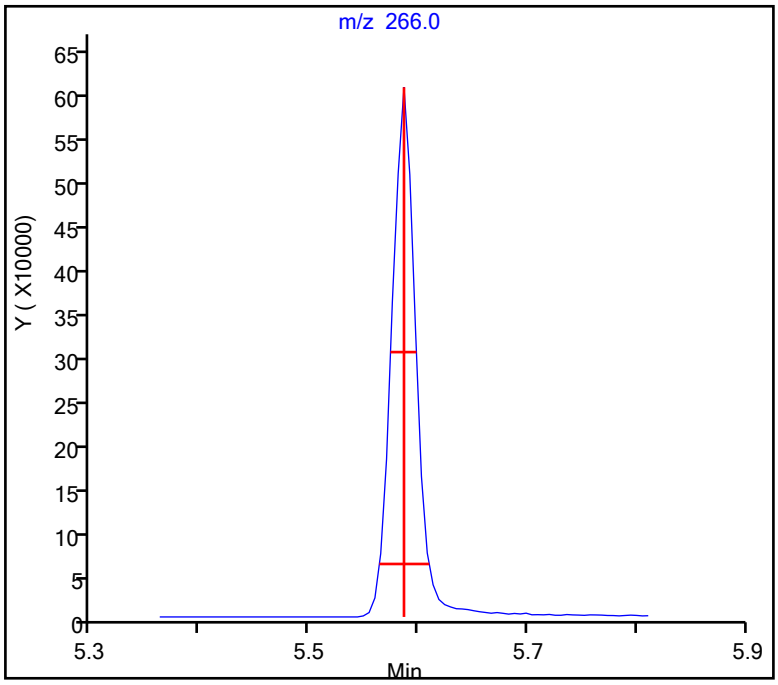

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CH732\20191005-28986.b\D10050002.D
Lims ID: DFTPP
Client ID:
Sample Type: DFTPP
Inject. Date: 05-Oct-2019 10:39:30 ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028986-002
Operator ID: 003200 Instrument ID: CH732

Method: \\chromna\Pittsburgh\ChromData\CH732\20191005-28986.b\BNA_CH732.m
Limit Group: BNA 8270D ICAL
Last Update: 07-Oct-2019 04:39:11 Calib Date: 11-Jul-2019 12:08:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CH732\20190711-27697.b\D07110010.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0303

First Level Reviewer: piccolinov Date: 05-Oct-2019 11:17:34

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
189 Pentachlorophenol_T	266	5.512	5.512	0.000	91	862220	NR	NR	
190 DFTPP									
191 Benzidine_T	184	8.172	8.172	0.000	99	6643766	NR	NR	
192 4,4'-DDE	246		8.482					ND	
193 4,4'-DDD	235		8.786					ND	
194 4,4'-DDT	235	9.833	9.833	0.000	98	3281422	NR	NR	

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Reagents:

SVDFTPP50i_00034 Amount Added: 1.00 Units: mL

Report Date: 07-Oct-2019 04:39:12 Chrom Revision: 2.3 17-Sep-2019 16:19:08

MS Tune Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20191005-28986.b\D10050002.D				
Injection Date:	05-Oct-2019 10:39:30	Instrument ID:	CH732		
Lims ID:	DFTPP				
Client ID:					
Operator ID:	003200	ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Tune Method:	DFTPP Method 8270				

190 DFTPP

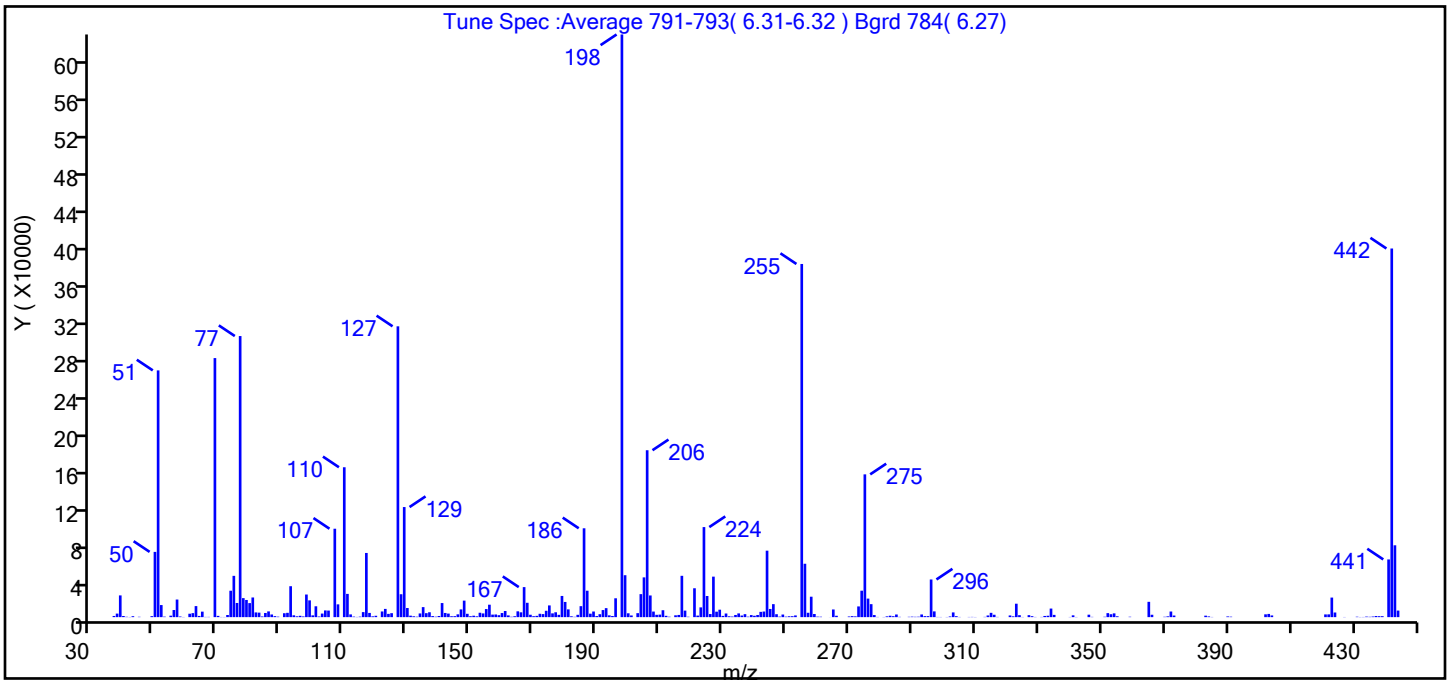

m/z	Ion Abundance Criteria	% Relative Abundance
198	Base peak, 100% relative abundance	100.0
51	30-60% of mass 198	42.3
68	<2% of mass 69	0.0 (0.0)
69	Present	44.5
70	<2% of mass 69	0.2 (0.5)
127	40-60% of mass 198	49.9
197	<1% of mass 198	0.0
199	5-9% of mass 198	7.2
275	10-30% of mass 198	24.5
365	>1% of mass 198	2.6
441	Present but less than mass 443	9.9 (80.3)
442	>40% of mass 198	63.3
443	17-23% of mass 442	12.3 (19.5)

Report Date: 07-Oct-2019 04:39:12 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Data File: \\chromna\Pittsburgh\ChromData\CH732\20191005-28986.b\D10050002.D\BNA_CH732.rslt\spectra.d
Injection Date: 05-Oct-2019 10:39:30
Spectrum: Tune Spec :Average 791-793(6.31-6.32) Bgrd 784(6.27)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 307

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	1261	125.00	4248	205.00	42616	293.00	2868
38.00	3799	127.00	311680	206.00	178880	294.00	1076
39.00	23296	128.00	24552	207.00	23224	295.00	1081
40.00	1228	129.00	117992	208.00	5988	296.00	40368
41.00	393	130.00	9777	209.00	2497	297.00	6166
42.00	177	131.00	1577	210.00	2712	298.00	207
43.00	995	132.00	909	211.00	7407	299.00	187
45.00	379	133.00	491	212.00	1421	301.00	171
49.00	1054	134.00	3953	213.00	455	302.00	727
50.00	69936	135.00	10743	215.00	1963	303.00	5062
51.00	264448	136.00	4258	216.00	2356	304.00	1023
52.00	12941	137.00	5237	217.00	44296	305.00	210
53.00	549	138.00	1134	218.00	6995	308.00	205
55.00	1572	139.00	481	219.00	438	309.00	255
56.00	7631	140.00	1232	221.00	30960	310.00	170
57.00	18872	141.00	15099	222.00	1659	313.00	271
58.00	688	142.00	4490	223.00	10459	314.00	1792
59.00	176	143.00	3804	224.00	96520	315.00	4617
61.00	3658	144.00	978	225.00	22664	316.00	2558
62.00	4302	145.00	1055	226.00	3332	317.00	240
63.00	11847	146.00	2996	227.00	43408	321.00	1802
64.00	1301	147.00	8283	228.00	5856	322.00	848
65.00	5902	148.00	17712	229.00	7988	323.00	14400
66.00	236	149.00	3586	230.00	1349	324.00	2106
67.00	267	150.00	1014	231.00	3903	325.00	182
69.00	277632	151.00	1544	232.00	933	327.00	2124
70.00	1365	152.00	877	233.00	624	328.00	1027
71.00	189	153.00	4704	234.00	2322	329.00	210
72.00	179	154.00	3991	235.00	3998	331.00	225
73.00	2296	155.00	8661	236.00	1735	332.00	1275
74.00	28296	156.00	13338	237.00	3209	333.00	1493
75.00	44256	157.00	2711	238.00	506	334.00	9204
76.00	15175	158.00	2862	239.00	2211	335.00	2420

Report Date: 07-Oct-2019 04:39:12 Chrom Revision: 2.3 17-Sep-2019 16:19:08
Data File: \\chromna\Pittsburgh\ChromData\CH732\20191005-28986.b\D10050002.D\BNA_CH732.rslt\spectra.d
Injection Date: 05-Oct-2019 10:39:30
Spectrum: Tune Spec :Average 791-793(6.31-6.32) Bgrd 784(6.27)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 307

m/z	Y	m/z	Y	m/z	Y	m/z	Y
77.00	301248	159.00	2088	240.00	1490	340.00	194
78.00	20384	160.00	4398	241.00	2307	341.00	1926
79.00	18400	161.00	6564	242.00	5663	342.00	181
80.00	15044	162.00	1860	243.00	6020	346.00	2625
81.00	21072	163.00	407	244.00	71232	347.00	284
82.00	5059	164.00	973	245.00	8765	351.00	411
83.00	4824	165.00	6243	246.00	13925	352.00	4296
84.00	725	166.00	5169	247.00	3138	353.00	3125
85.00	4456	167.00	32192	248.00	570	354.00	4039
86.00	6163	168.00	15384	249.00	2802	355.00	907
87.00	2848	169.00	2563	250.00	518	359.00	424
88.00	1085	170.00	1030	251.00	930	365.00	16416
89.00	528	171.00	1382	252.00	1003	366.00	2559
91.00	4194	172.00	3608	253.00	1823	370.00	389
92.00	4623	173.00	3284	255.00	378496	371.00	845
93.00	33152	174.00	6817	256.00	57216	372.00	6035
94.00	1970	175.00	12568	257.00	4683	373.00	1719
95.00	908	176.00	4057	258.00	21904	383.00	1582
96.00	1434	177.00	5221	259.00	3363	384.00	789
97.00	727	178.00	2476	260.00	549	385.00	205
98.00	24248	179.00	22712	261.00	456	390.00	751
99.00	17984	180.00	16291	264.00	74	391.00	495
100.00	1894	181.00	8329	265.00	8220	402.00	3020
101.00	11645	182.00	910	266.00	1488	403.00	3450
102.00	671	183.00	345	270.00	703	404.00	1818
103.00	3835	184.00	2490	271.00	1060	421.00	2925
104.00	7186	185.00	11769	272.00	814	422.00	2968
105.00	7040	186.00	95232	273.00	11492	423.00	20976
107.00	94760	187.00	28320	274.00	28344	424.00	4971
108.00	13714	188.00	3699	275.00	153024	427.00	176
110.00	160640	189.00	6040	276.00	19880	431.00	460
111.00	24920	190.00	1158	277.00	13915	432.00	175
112.00	2933	191.00	3141	278.00	2224	433.00	189
113.00	579	192.00	7587	279.00	228	434.00	595

Report Date: 07-Oct-2019 04:39:12 Chrom Revision: 2.3 17-Sep-2019 16:19:08
Data File: \\chromna\Pittsburgh\ChromData\CH732\20191005-28986.b\D10050002.D\BNA_CH732.rslt\spectra.d
Injection Date: 05-Oct-2019 10:39:30
Spectrum: Tune Spec :Average 791-793(6.31-6.32) Bgrd 784(6.27)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 307

m/z	Y	m/z	Y	m/z	Y	m/z	Y
114.00	215	193.00	9638	281.00	176	435.00	367
115.00	534	194.00	1918	282.00	834	436.00	668
116.00	5400	195.00	1216	283.00	1517	437.00	1217
117.00	68784	196.00	20216	284.00	998	438.00	1023
118.00	4523	198.00	624448	285.00	2840	439.00	1023
119.00	863	199.00	44936	286.00	309	441.00	61848
120.00	1472	200.00	4131	289.00	362	442.00	395072
122.00	6087	201.00	1796	290.00	530	443.00	77000
123.00	8834	203.00	4270	291.00	372	444.00	7049
124.00	3504	204.00	24656	292.00	477		

Report Date: 07-Oct-2019 04:39:12 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CH732\20191005-28986.b\D10050002.D

Injection Date: 05-Oct-2019 10:39:30 Instrument ID: CH732 Operator ID: 003200

Lims ID: DFTPP Worklist Smp#: 2

Client ID:

Injection Vol: 2.0 ul Dil. Factor: 1.0000 ALS Bottle#: 1

Method: BNA_CH732 Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

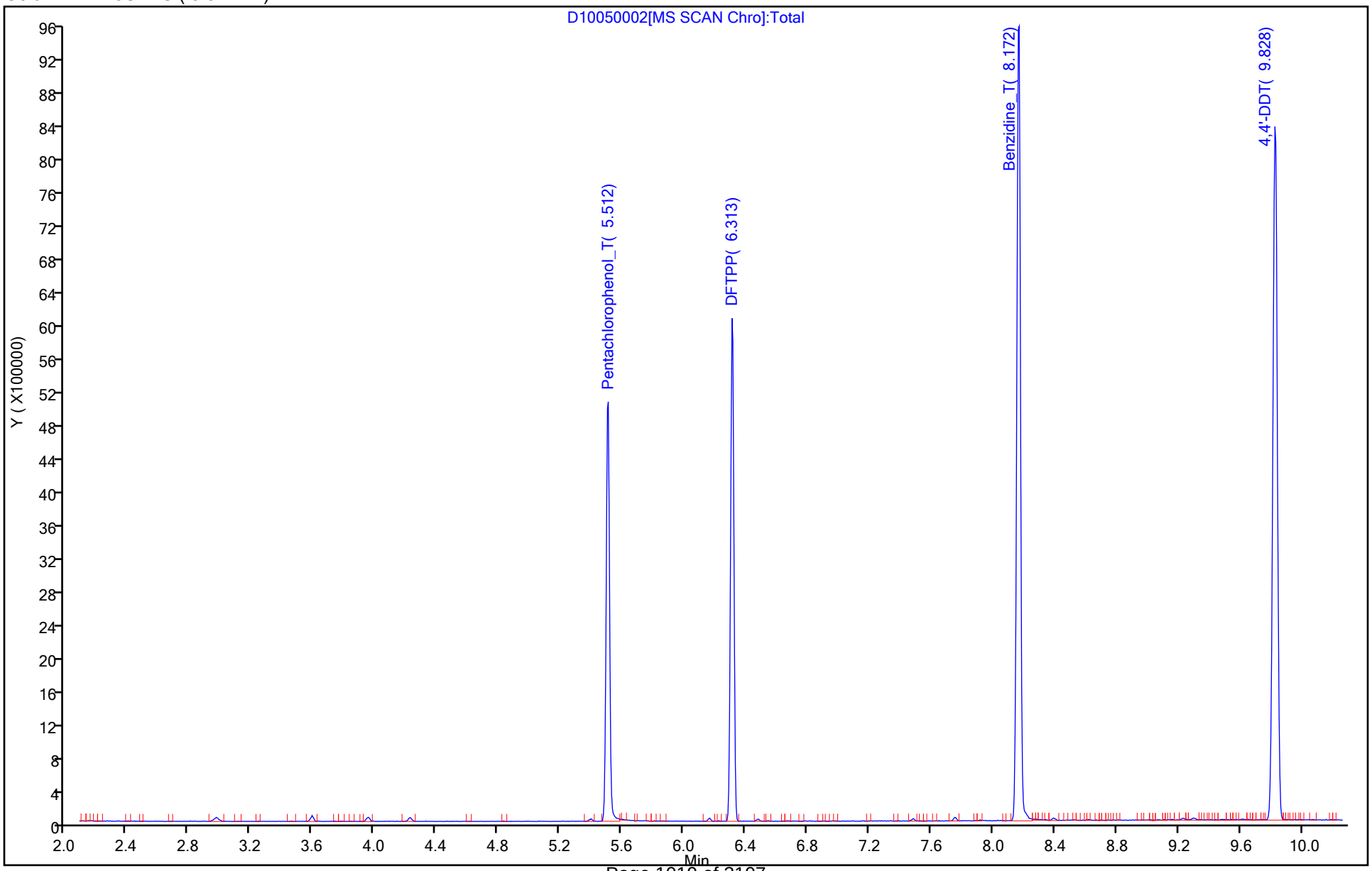

Breakdown Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20191005-28986.b\D10050002.D				
Injection Date:	05-Oct-2019 10:39:30	Instrument ID:	CH732		
Lims ID:	DFTPP				
Client ID:					
Operator ID:	003200	ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		

194 4,4'-DDT, Detector: MS SCAN

SW-846 Method

%Breakdown =
(Area Breakdown Cpnds/
Total Area Breakdown Cpnds) * 100

194 4,4'-DDT, Area = 3281422
192 4,4'-DDE, Area = 0
193 4,4'-DDD, Area = 0

%Breakdown: 0.00%, <= 20.00%
Passed

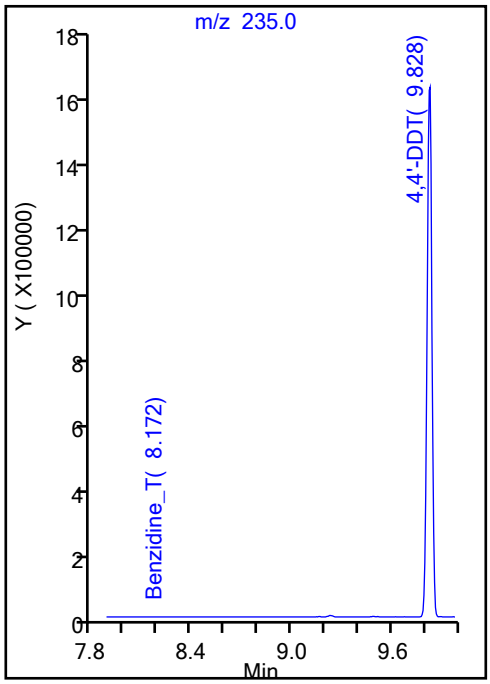

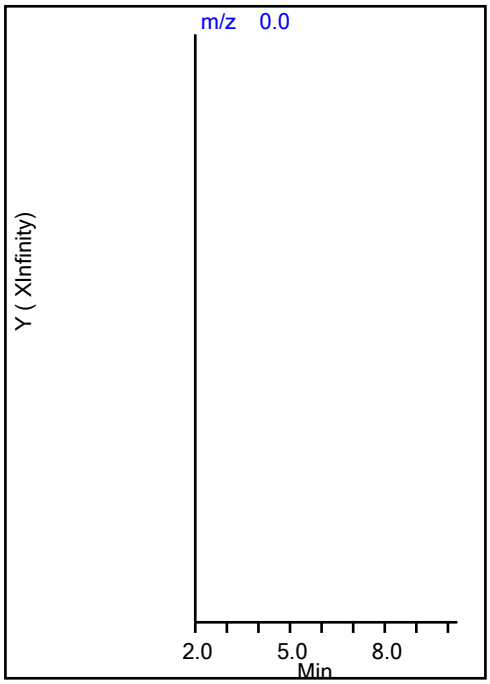

Report Date: 07-Oct-2019 04:39:12 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Peak Tailing Report

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CH732\20191005-28986.b\D10050002.D
Injection Date: 05-Oct-2019 10:39:30 Instrument ID: CH732
Lims ID: DFTPP
Client ID:
Operator ID: 003200 ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: BNA_CH732 Limit Group: BNA 8270D ICAL

191 Benzidine_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.020 (min.)
Front Width = 0.027 (min.)

Tailing Factor = 0.7, Max. Tailing < 2.00
Passed

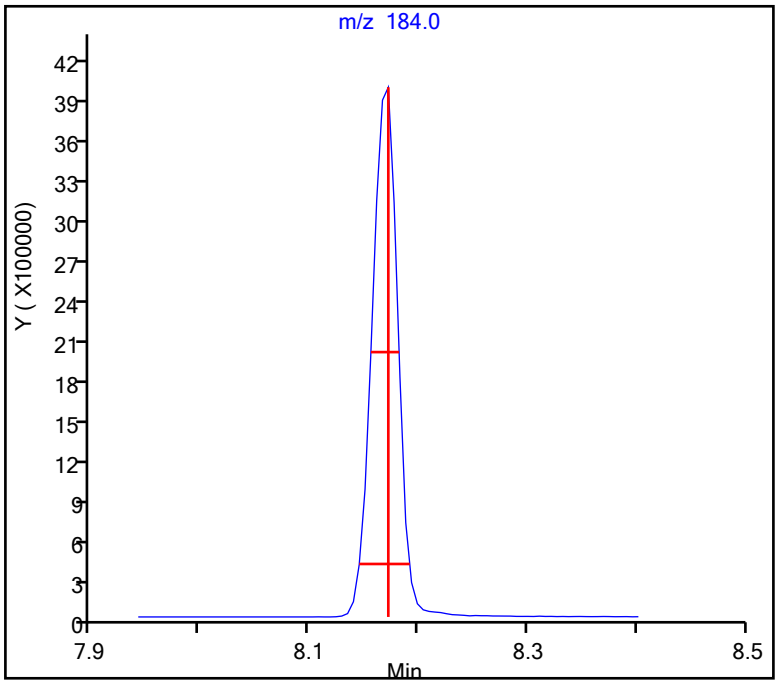

Peak Tailing Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20191005-28986.b\D10050002.D				
Injection Date:	05-Oct-2019 10:39:30	Instrument ID:	CH732		
Lims ID:	DFTPP				
Client ID:					
Operator ID:	003200	ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		

189 Pentachlorophenol_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.020 (min.)
Front Width = 0.023 (min.)

Tailing Factor = 0.9, Max. Tailing < 2.00
Passed

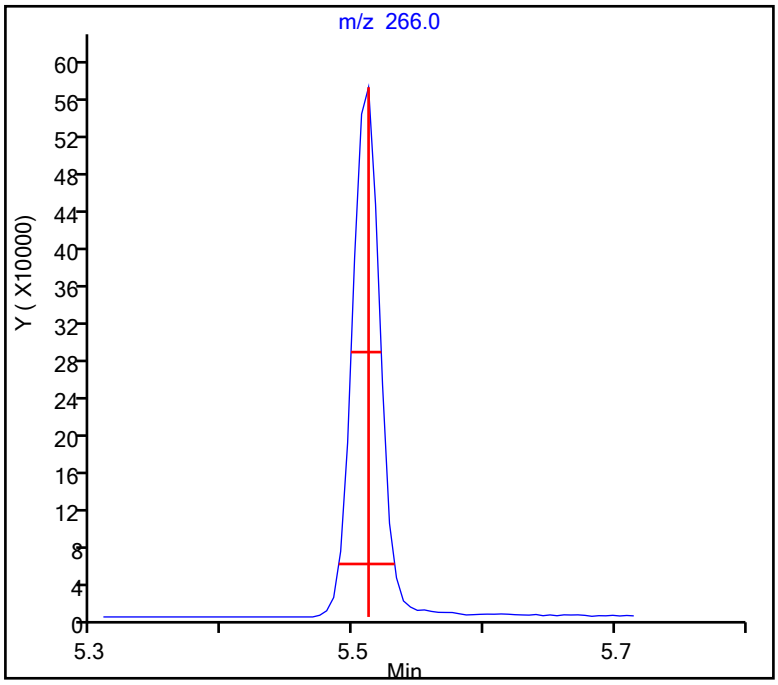

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CH732\20191007-29002.b\D10070002.D
Lims ID: DFTPP
Client ID:
Sample Type: DFTPP
Inject. Date: 07-Oct-2019 08:48:30 ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029002-002
Operator ID: 003200 Instrument ID: CH732

Method: \\chromna\Pittsburgh\ChromData\CH732\20191007-29002.b\BNA_CH732.m
Limit Group: BNA 8270D ICAL
Last Update: 08-Oct-2019 07:34:47 Calib Date: 11-Jul-2019 12:08:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CH732\20190711-27697.b\D07110010.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0339

First Level Reviewer: piccolinov Date: 07-Oct-2019 09:26:11

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
189 Pentachlorophenol_T	266	5.560	5.560	0.000	90	794889	NR	NR	
190 DFTPP									
191 Benzidine_T	184	8.220	8.220	0.000	99	6387815	NR	NR	
192 4,4'-DDE	246	8.578	8.578	0.000	1	1278		NR	
193 4,4'-DDD	235		8.786					ND	
194 4,4'-DDT	235	9.892	9.892	0.000	98	3184284	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

SVDFTPP50i_00034 Amount Added: 1.00 Units: mL

MS Tune Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20191007-29002.b\D10070002.D				
Injection Date:	07-Oct-2019 08:48:30	Instrument ID:	CH732		
Lims ID:	DFTPP				
Client ID:					
Operator ID:	003200	ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Tune Method:	DFTPP Method 8270				

190 DFTPP

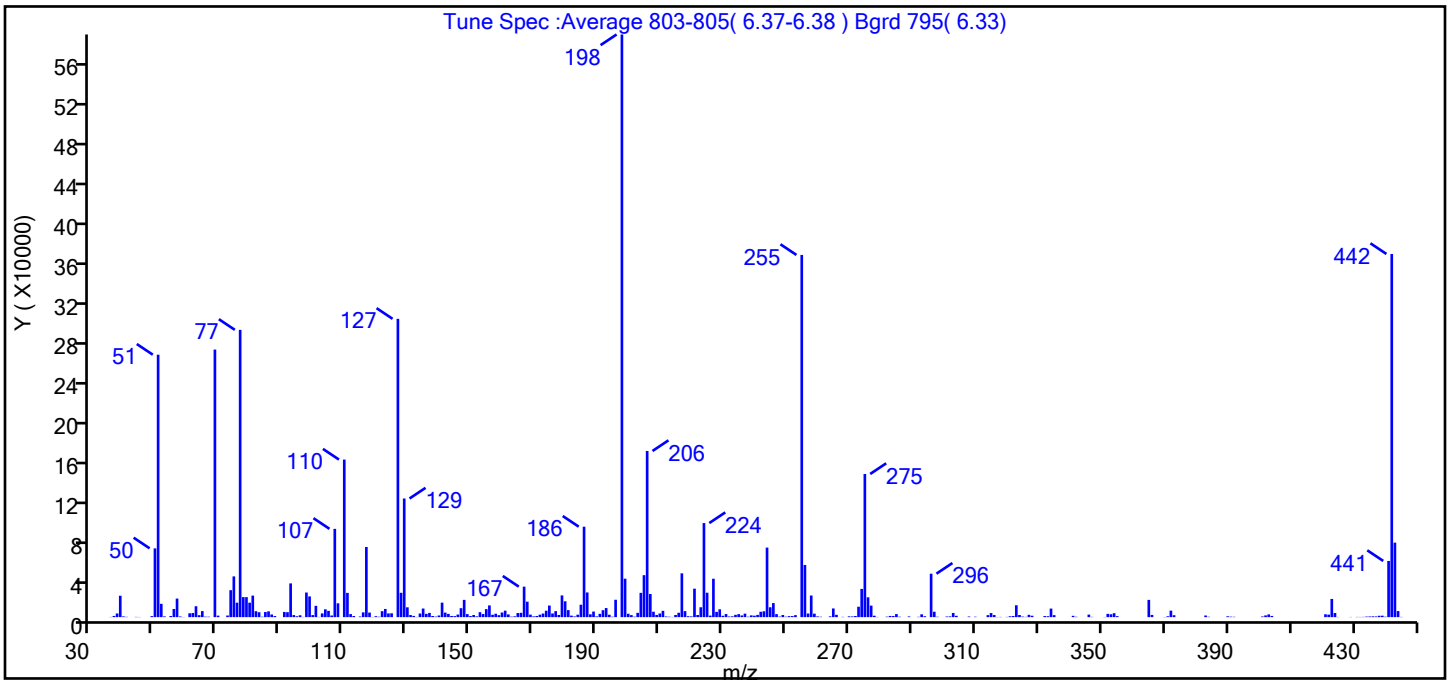

m/z	Ion Abundance Criteria	% Relative Abundance
198	Base peak, 100% relative abundance	100.0
51	30-60% of mass 198	45.0
68	<2% of mass 69	0.0 (0.0)
69	Present	45.9
70	<2% of mass 69	0.3 (0.6)
127	40-60% of mass 198	51.2
197	<1% of mass 198	0.0
199	5-9% of mass 198	6.6
275	10-30% of mass 198	24.6
365	>1% of mass 198	3.0
441	Present but less than mass 443	9.6 (75.4)
442	>40% of mass 198	62.3
443	17-23% of mass 442	12.8 (20.5)

Data File: \\chromna\Pittsburgh\ChromData\CH732\20191007-29002.b\D10070002.D\BNA_CH732.rslt\spectra.d
Injection Date: 07-Oct-2019 08:48:30
Spectrum: Tune Spec :Average 803-805(6.37-6.38) Bgrd 795(6.33)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 304

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	208	127.00	298176	204.00	24280	289.00	707
37.00	1192	128.00	24336	205.00	41968	292.00	320
38.00	3668	129.00	118592	206.00	166080	293.00	2825
39.00	21400	130.00	9825	207.00	23096	294.00	917
40.00	757	131.00	2113	208.00	5426	296.00	43432
41.00	306	132.00	1226	209.00	2221	297.00	5422
44.00	242	133.00	213	210.00	3644	298.00	400
45.00	174	134.00	3616	211.00	6308	301.00	621
49.00	999	135.00	8614	212.00	659	302.00	756
50.00	68752	136.00	3295	213.00	429	303.00	4168
51.00	262336	137.00	4242	214.00	201	304.00	1350
52.00	13330	138.00	1133	215.00	2148	308.00	625
53.00	755	139.00	555	216.00	4372	310.00	431
55.00	1120	140.00	1650	217.00	43800	314.00	1993
56.00	8130	141.00	14473	218.00	6006	315.00	4073
57.00	18560	142.00	4554	219.00	935	316.00	2092
58.00	690	143.00	3243	220.00	725	317.00	171
59.00	172	144.00	1183	221.00	28472	318.00	229
61.00	3845	145.00	1018	222.00	2159	320.00	238
62.00	4138	146.00	2577	223.00	9867	321.00	872
63.00	10916	147.00	8958	224.00	94040	322.00	1117
64.00	1939	148.00	17256	225.00	24424	323.00	11889
65.00	6057	149.00	3042	226.00	1534	324.00	2165
66.00	494	150.00	1093	227.00	38408	325.00	550
67.00	446	151.00	2147	228.00	5250	326.00	278
69.00	267456	152.00	796	229.00	7830	327.00	2327
70.00	1512	153.00	4946	230.00	1364	328.00	1395
73.00	1627	154.00	3104	231.00	3080	332.00	1056
74.00	26936	155.00	8010	232.00	662	333.00	933
75.00	40736	156.00	11714	233.00	806	334.00	8570
76.00	14457	157.00	2376	234.00	2306	335.00	1989
77.00	287168	158.00	3406	235.00	2992	341.00	1329
78.00	20016	159.00	1945	236.00	1686	342.00	372

Report Date: 08-Oct-2019 07:34:48 Chrom Revision: 2.3 17-Sep-2019 16:19:08
Data File: \\chromna\Pittsburgh\ChromData\CH732\20191007-29002.b\D10070002.D\BNA_CH732.rslt\spectra.d
Injection Date: 07-Oct-2019 08:48:30
Spectrum: Tune Spec :Average 803-805(6.37-6.38) Bgrd 795(6.33)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 304

m/z	Y	m/z	Y	m/z	Y	m/z	Y
79.00	20000	160.00	4624	237.00	3507	346.00	2545
80.00	14451	161.00	6464	238.00	430	347.00	269
81.00	21520	162.00	2705	239.00	1768	351.00	175
82.00	5949	163.00	494	240.00	1459	352.00	3298
83.00	4910	164.00	804	241.00	2257	353.00	2863
84.00	427	165.00	4081	242.00	5374	354.00	3931
85.00	5104	166.00	4317	243.00	5871	355.00	972
86.00	5788	167.00	30488	244.00	69520	365.00	17256
87.00	2656	168.00	15447	245.00	9877	366.00	2229
88.00	1105	169.00	2496	246.00	14062	370.00	173
91.00	5191	170.00	756	247.00	3032	371.00	853
92.00	4967	171.00	1163	248.00	534	372.00	6503
93.00	33744	172.00	2478	249.00	2115	373.00	1899
94.00	2047	173.00	3618	250.00	449	383.00	1637
95.00	902	174.00	6424	251.00	1011	384.00	377
96.00	1882	175.00	11586	252.00	1067	390.00	838
97.00	212	176.00	3688	253.00	2007	391.00	475
98.00	24600	177.00	5997	255.00	362048	392.00	348
99.00	20712	178.00	2196	256.00	52136	401.00	683
100.00	2039	179.00	21736	257.00	3617	402.00	1716
101.00	11323	180.00	15851	258.00	21640	403.00	2732
102.00	236	181.00	7031	259.00	3470	404.00	1201
103.00	3721	182.00	1509	260.00	730	421.00	2866
104.00	7837	183.00	698	261.00	400	422.00	2524
105.00	6271	184.00	2454	264.00	779	423.00	18200
106.00	1620	185.00	12416	265.00	8691	424.00	4135
107.00	88248	186.00	90432	266.00	2310	425.00	189
108.00	13824	187.00	24688	268.00	278	429.00	178
110.00	157504	188.00	2838	270.00	794	431.00	224
111.00	24264	189.00	5596	271.00	702	432.00	202
112.00	3050	190.00	737	272.00	1113	433.00	265
113.00	1151	191.00	3306	273.00	10406	434.00	547
115.00	641	192.00	6935	274.00	28200	435.00	661
116.00	4770	193.00	9090	275.00	143104	436.00	799

Report Date: 08-Oct-2019 07:34:48 Chrom Revision: 2.3 17-Sep-2019 16:19:08
Data File: \\chromna\Pittsburgh\ChromData\CH732\20191007-29002.b\D10070002.D\BNA_CH732.rslt\spectra.d
Injection Date: 07-Oct-2019 08:48:30
Spectrum: Tune Spec :Average 803-805(6.37-6.38) Bgrd 795(6.33)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 304

m/z	Y	m/z	Y	m/z	Y	m/z	Y
117.00	70136	194.00	2377	276.00	19824	437.00	718
118.00	4557	195.00	423	277.00	11538	438.00	1385
119.00	176	196.00	17384	278.00	1422	439.00	1445
120.00	930	198.00	582400	279.00	206	440.00	431
121.00	417	199.00	38456	282.00	461	441.00	56152
122.00	5964	200.00	3391	283.00	1197	442.00	363008
123.00	8187	201.00	2005	284.00	1113	443.00	74456
124.00	3735	202.00	495	285.00	3079	444.00	6065
125.00	3862	203.00	4300	286.00	430	445.00	238

Report Date: 08-Oct-2019 07:34:48 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20191007-29002.b\D10070002.D				
Injection Date:	07-Oct-2019 08:48:30	Instrument ID:	CH732	Operator ID:	003200
Lims ID:	DFTPP			Worklist Smp#:	2
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

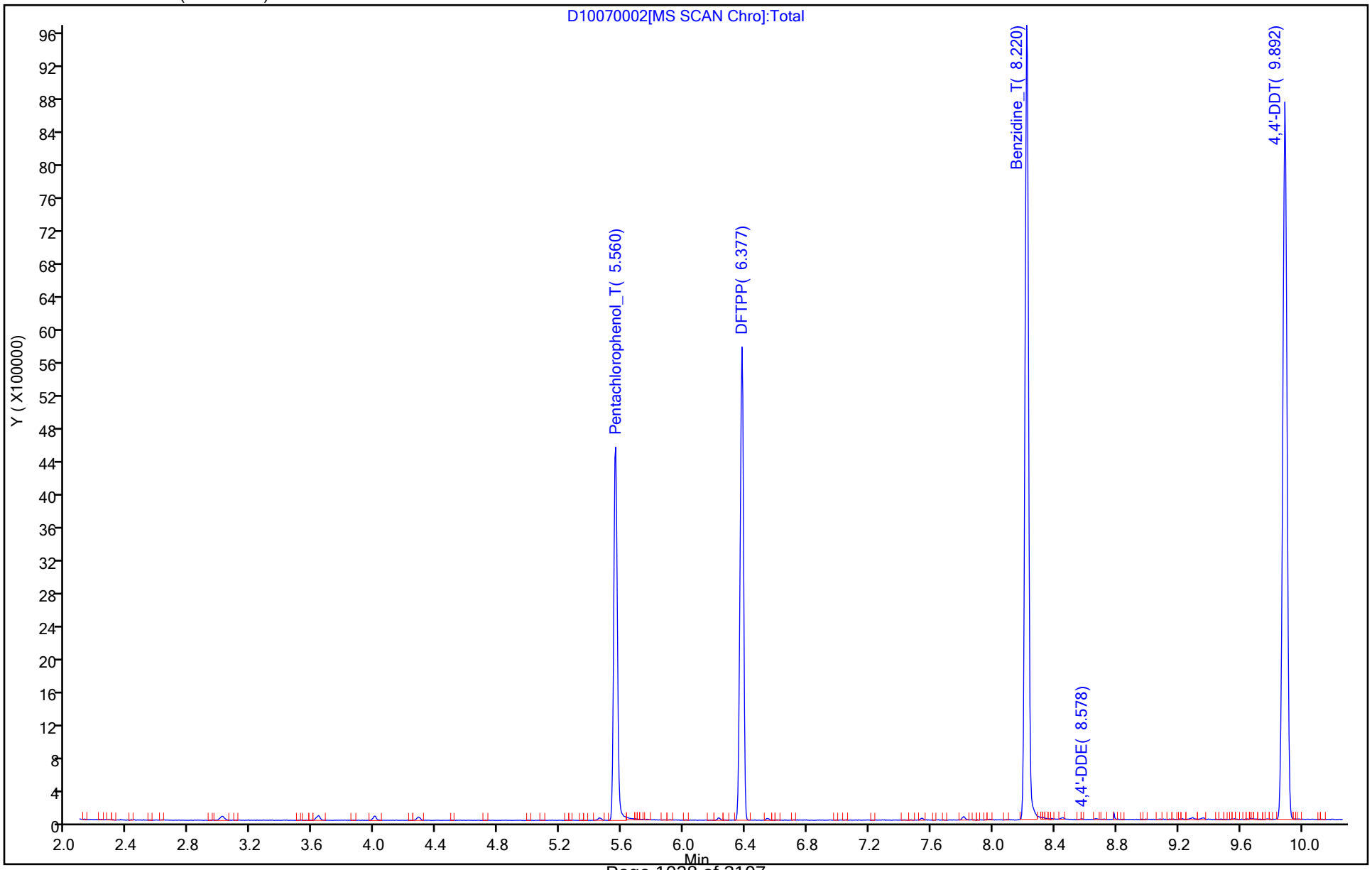

Report Date: 08-Oct-2019 07:34:48 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Breakdown Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20191007-29002.b\D10070002.D				
Injection Date:	07-Oct-2019 08:48:30	Instrument ID:	CH732		
Lims ID:	DFTPP				
Client ID:					
Operator ID:	003200	ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		

194 4,4'-DDT, Detector: MS SCAN

SW-846 Method

%Breakdown =
(Area Breakdown Cpnds/
Total Area Breakdown Cpnds) * 100

194 4,4'-DDT, Area = 3184284
192 4,4'-DDE, Area = 1278
193 4,4'-DDD, Area = 0

%Breakdown: 0.04%, <= 20.00%
Passed

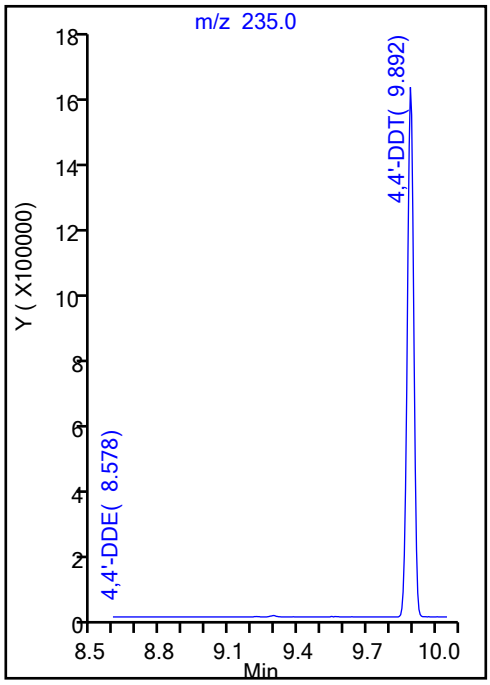

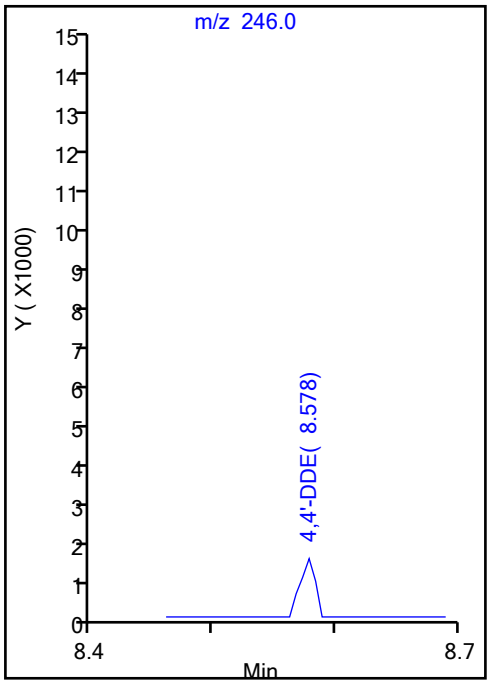

Report Date: 08-Oct-2019 07:34:48 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Peak Tailing Report

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CH732\20191007-29002.b\D10070002.D
Injection Date: 07-Oct-2019 08:48:30 Instrument ID: CH732
Lims ID: DFTPP
Client ID:
Operator ID: 003200 ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: BNA_CH732 Limit Group: BNA 8270D ICAL

191 Benzidine_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.024 (min.)
Front Width = 0.021 (min.)

Tailing Factor = 1.1, Max. Tailing < 2.00
Passed

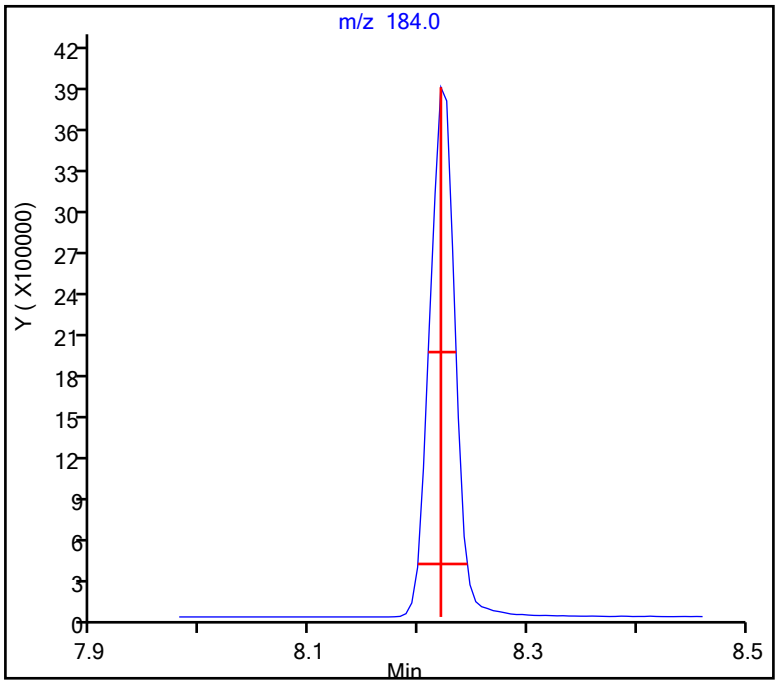

Report Date: 08-Oct-2019 07:34:48 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Peak Tailing Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20191007-29002.b\D10070002.D				
Injection Date:	07-Oct-2019 08:48:30	Instrument ID:	CH732		
Lims ID:	DFTPP				
Client ID:					
Operator ID:	003200	ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		

189 Pentachlorophenol_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.024 (min.)
Front Width = 0.023 (min.)

Tailing Factor = 1.0, Max. Tailing < 2.00
Passed

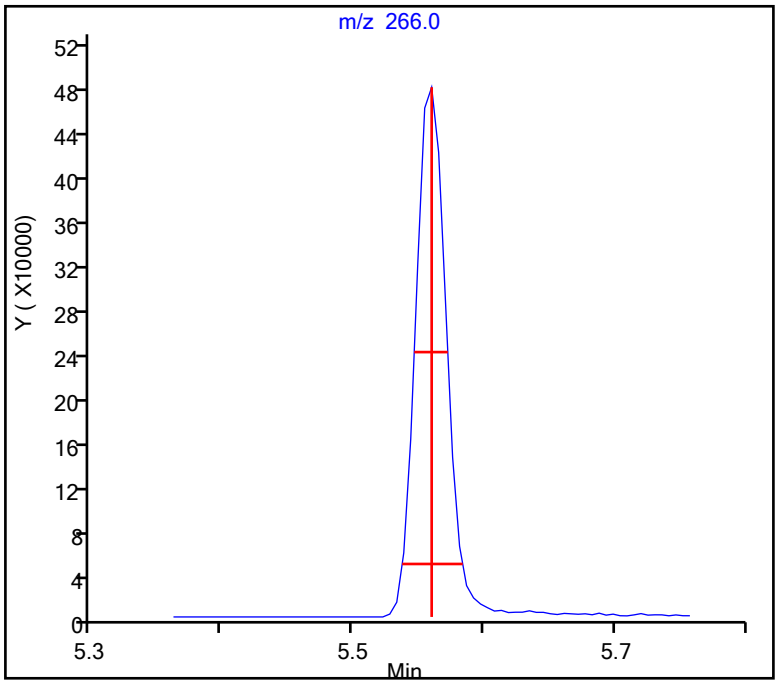

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-96144-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 180-293338/1-A
Matrix: Water
Lab File ID: D10050004.D
Analysis Method: EPA 8270D
Date Collected:
Extract. Method: 3520C
Date Extracted: 10/01/2019 11:49
Sample wt/vol: 250(mL)
Date Analyzed: 10/05/2019 11:20
Con. Extract Vol.: 2.5(mL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 293862
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	ND		1.9	0.65
208-96-8	Acenaphthylene	ND		1.9	0.65
120-12-7	Anthracene	ND		1.9	0.49
56-55-3	Benzo[a]anthracene	ND		1.9	0.75
50-32-8	Benzo[a]pyrene	ND		1.9	0.53
205-99-2	Benzo[b]fluoranthene	ND		1.9	0.97
191-24-2	Benzo[g,h,i]perylene	ND		1.9	0.69
207-08-9	Benzo[k]fluoranthene	ND		1.9	0.88
117-81-7	Bis(2-ethylhexyl) phthalate	ND		100	62
108-60-1	2,2'-oxybis[1-chloropropane]	ND		1.9	0.58
101-55-3	4-Bromophenyl phenyl ether	ND		10	0.63
85-68-7	Butyl benzyl phthalate	ND		10	4.6
86-74-8	Carbazole	ND		1.9	0.51
106-47-8	4-Chloroaniline	ND		10	0.44
91-58-7	2-Chloronaphthalene	ND		1.9	0.59
7005-72-3	4-Chlorophenyl phenyl ether	ND		10	0.61
218-01-9	Chrysene	ND		1.9	0.81
53-70-3	Dibenz(a,h)anthracene	ND		1.9	0.72
132-64-9	Dibenzofuran	ND		10	0.73
84-74-2	Di-n-butyl phthalate	ND		10	7.4
91-94-1	3,3'-Dichlorobenzidine	ND		10	5.8
84-66-2	Diethyl phthalate	ND		10	5.7
131-11-3	Dimethyl phthalate	ND		10	0.56
121-14-2	2,4-Dinitrotoluene	ND		10	0.51
606-20-2	2,6-Dinitrotoluene	ND		10	0.60
117-84-0	Di-n-octyl phthalate	ND		10	6.9
206-44-0	Fluoranthene	ND		1.9	0.60
86-73-7	Fluorene	ND		1.9	0.69
118-74-1	Hexachlorobenzene	ND		1.9	0.56
87-68-3	Hexachlorobutadiene	ND		1.9	0.69
77-47-4	Hexachlorocyclopentadiene	ND		10	5.0
67-72-1	Hexachloroethane	ND		10	0.62
193-39-5	Indeno[1,2,3-cd]pyrene	ND		1.9	0.85
78-59-1	Isophorone	ND		10	0.54

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 180-293338/1-A

Matrix: Water Lab File ID: D10050004.D

Analysis Method: EPA 8270D Date Collected:

Extract. Method: 3520C Date Extracted: 10/01/2019 11:49

Sample wt/vol: 250(mL) Date Analyzed: 10/05/2019 11:20

Con. Extract Vol.: 2.5(mL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 293862 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
91-57-6	2-Methylnaphthalene	ND		1.9	0.62
91-20-3	Naphthalene	ND		1.9	0.59
88-74-4	2-Nitroaniline	ND		50	5.5
99-09-2	3-Nitroaniline	ND		50	0.67
100-01-6	4-Nitroaniline	ND		50	0.58
100-02-7	4-Nitrophenol	ND		50	1.4
98-95-3	Nitrobenzene	ND		20	5.0
621-64-7	N-Nitrosodi-n-propylamine	ND		1.9	0.71
86-30-6	N-Nitrosodiphenylamine	ND		10	1.2
85-01-8	Phenanthrene	ND		1.9	0.55
129-00-0	Pyrene	ND		1.9	0.54
59-50-7	4-Chloro-3-methylphenol	ND		10	0.61
95-57-8	2-Chlorophenol	ND		10	0.64
95-48-7	2-Methylphenol	ND		10	3.0
106-44-5	Methylphenol, 3 & 4	ND		10	3.7
120-83-2	2,4-Dichlorophenol	ND		1.9	0.51
105-67-9	2,4-Dimethylphenol	ND		10	0.41
51-28-5	2,4-Dinitrophenol	ND		100	15
534-52-1	4,6-Dinitro-2-methylphenol	ND		50	15
88-75-5	2-Nitrophenol	ND		10	0.61
87-86-5	Pentachlorophenol	ND		50	8.5
108-95-2	Phenol	ND		10	4.9
95-95-4	2,4,5-Trichlorophenol	ND		10	0.61
88-06-2	2,4,6-Trichlorophenol	ND		10	0.68
98-86-2	Acetophenone	ND		10	0.62
1912-24-9	Atrazine	ND		10	6.3
100-52-7	Benzaldehyde	ND		10	1.1
92-52-4	1,1'-Biphenyl	ND		10	0.59
105-60-2	Caprolactam	ND		50	4.7
111-91-1	Bis(2-chloroethoxy)methane	ND		10	0.67
111-44-4	Bis(2-chloroethyl)ether	ND		1.9	0.40
110-86-1	Pyridine	ND		20	5.4

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 180-293338/1-A

Matrix: Water Lab File ID: D10050004.D

Analysis Method: EPA 8270D Date Collected:

Extract. Method: 3520C Date Extracted: 10/01/2019 11:49

Sample wt/vol: 250(mL) Date Analyzed: 10/05/2019 11:20

Con. Extract Vol.: 2.5(mL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 293862 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
4165-60-0	Nitrobenzene-d5 (Surr)	92		45-108
4165-62-2	Phenol-d5 (Surr)	79		40-105
321-60-8	2-Fluorobiphenyl	66		44-105
118-79-6	2,4,6-Tribromophenol (Surr)	82		38-111
367-12-4	2-Fluorophenol (Surr)	84		38-105
1718-51-0	Terphenyl-d14 (Surr)	81		20-128

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CH732\20191005-28986.b\D10050004.D
Lims ID: MB 180-293338/1-A
Client ID:
Sample Type: MB
Inject. Date: 05-Oct-2019 11:20:30 ALS Bottle#: 3 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028986-004
Operator ID: 003200 Instrument ID: CH732

Method: \\chromna\Pittsburgh\ChromData\CH732\20191005-28986.b\BNA_CH732.m
Limit Group: BNA 8270D ICAL
Last Update: 07-Oct-2019 04:39:14 Calib Date: 11-Jul-2019 12:08:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CH732\20190711-27697.b\D07110010.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0303

First Level Reviewer: piccolinov Date: 05-Oct-2019 15:23:32

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.172	6.172	0.000	97	177974	8.00	8.00	
* 2 Naphthalene-d8	136	7.454	7.454	0.000	100	711589	8.00	8.00	
* 3 Acenaphthene-d10	164	9.163	9.163	0.000	94	484713	8.00	8.00	
* 4 Phenanthrene-d10	188	10.600	10.606	-0.006	97	959490	8.00	8.00	
* 5 Chrysene-d12	240	14.351	14.345	0.006	99	904636	8.00	8.00	
* 6 Perylene-d12	264	17.230	17.235	-0.005	98	832211	8.00	8.00	
$ 7 2-Fluorophenol	112	4.740	4.745	-0.005	93	675570	40.0	33.7	
$ 8 Phenol-d5	99	5.803	5.803	0.000	0	939849	40.0	31.8	
$ 9 Nitrobenzene-d5	82	6.733	6.733	0.000	90	955584	40.0	36.6	
$ 10 2-Fluorobiphenyl	172	8.495	8.495	0.000	100	2135026	40.0	26.3	
$ 11 2,4,6-Tribromophenol	330	9.916	9.917	-0.001	90	270010	40.0	32.9	
$ 12 Terphenyl-d14	244	12.524	12.524	0.000	100	2677655	40.0	32.3	
13 1,4-Dioxane	88		1.599					ND	
14 N-Nitrosodimethylamine	74		2.197					ND	
15 Pyridine	79		2.272					ND	
176 Dimethylformamide	73		3.052					ND	U
18 2-Picoline	93		4.030					ND	U
19 N-Nitrosomethylethylamine	88		4.233					ND	U
21 Methyl methanesulfonate	80		4.489					ND	U
20 Acrylamide	71		4.719					ND	U
23 N-Nitrosodiethylamine	102		5.115					ND	U
24 Ethyl methanesulfonate	79		5.256					ND	U
25 Benzaldehyde	77		5.707					ND	
28 Pentachloroethane	167		5.806					ND	U
26 Phenol	94		5.819					ND	
27 Aniline	93		5.824					ND	
29 Bis(2-chloroethyl)ether	93		5.894					ND	
30 2-Chlorophenol	128		5.958					ND	
31 n-Decane	43		6.017					ND	U
32 1,3-Dichlorobenzene	146		6.118					ND	
43 N-Nitrosomorpholine	116		6.140					ND	U
175 1,2,3-Trimethylbenzene	105		6.188					ND	U

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
33 1,4-Dichlorobenzene	146		6.193					ND	
34 Benzyl alcohol	108		6.316					ND	U
35 1,2-Dichlorobenzene	146		6.348					ND	
36 2-Methylphenol	108		6.433					ND	
37 Indene	116		6.439					ND	
38 2,2'-oxybis[1-chloropropan	45		6.455					ND	
39 N-Nitrosopyrrolidine	100		6.551					ND	U
41 N-Nitrosodi-n-propylamine	70		6.578					ND	
40 Acetophenone	105		6.578					ND	
42 4-Methylphenol	108		6.583					ND	
44 2-Toluidine	106		6.664					ND	U
45 Hexachloroethane	117		6.700					ND	
46 Nitrobenzene	77		6.754					ND	
47 N-Nitrosopiperidine	114		6.818					ND	U
48 Isophorone	82		6.989					ND	
49 2-Nitrophenol	139		7.074					ND	
50 2,4-Dimethylphenol	107		7.107					ND	
166 4-Chloro-3-nitro-alpha,alp	179		7.112					ND	U
52 Benzoic acid	122		7.160					ND	
51 o,o',o''-Triethylphosphoro	198		7.182					ND	U
53 Bis(2-chloroethoxy)methane	93		7.192					ND	
54 2,4-Dichlorophenol	162		7.315					ND	
235 Tributylamine	142		7.325					ND	
56 1,2,4-Trichlorobenzene	180		7.400					ND	
55 alpha,alpha-Dimethyl phene	58		7.411					ND	U
66 p-Phenylene diamine	108		7.422					ND	U
58 Naphthalene	128		7.475					ND	
59 4-Chloroaniline	127		7.518					ND	
61 Hexachloropropene	213		7.526					ND	U
60 2,6-Dichlorophenol	162		7.534					ND	
62 Hexachlorobutadiene	225		7.603					ND	
63 Quinoline	129		7.786					ND	U
64 Caprolactam	113		7.822					ND	
65 N-Nitrosodi-n-butylamine	84		7.860					ND	U
67 4-Chloro-3-methylphenol	107		7.977					ND	
68 Safrole, Total	162		8.026					ND	U
69 2-Methylnaphthalene	142		8.148					ND	
71 1-Methylnaphthalene	142		8.250					ND	U
72 Hexachlorocyclopentadiene	237		8.309					ND	
73 1,2,4,5-Tetrachlorobenzene	216		8.314					ND	
74 2,4,6-Trichlorophenol	196		8.415					ND	
75 2,4,5-Trichlorophenol	196		8.453					ND	
80 1,4-Naphthoquinone	158		8.474					ND	U
81 1,4-Dinitrobenzene	168		8.474					ND	U
167 Phthalic anhydride	104		8.474					ND	U
180 Isosafrole	162		8.514					ND	U
76 1,1'-Biphenyl	154		8.592					ND	U
78 1-Chloronaphthalene	162		8.616					ND	U
77 2-Chloronaphthalene	162		8.624					ND	
79 2-Nitroaniline	65		8.704					ND	U
82 Dimethyl phthalate	163		8.864					ND	
83 1,3-Dinitrobenzene	168		8.901					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
84 2,6-Dinitrotoluene	165		8.928					ND	
85 Acenaphthylene	152		9.030					ND	
86 3-Nitroaniline	138		9.094					ND	
170 4-tert-Octylphenol	135		9.142					ND	U
88 Acenaphthene	153		9.195					ND	
87 2,4-Dinitrophenol	184		9.195					ND	
89 4-Nitrophenol	109		9.238					ND	
92 Pentachlorobenzene	250		9.294					ND	U
91 2,4-Dinitrotoluene	165		9.318					ND	
94 1-Naphthylamine	143		9.340					ND	U
93 Dibenzofuran	168		9.356					ND	
95 2,3,5,6-Tetrachlorophenol	232		9.430					ND	
96 2,3,4,6-Tetrachlorophenol	232		9.468					ND	
97 2-Naphthylamine	143		9.500					ND	U
98 Diethyl phthalate	149	9.532	9.532	0.000	96	9102		0.1225	
99 Hexadecane	57		9.537					ND	
100 4-Chlorophenyl phenyl ethe	204		9.665					ND	
101 4-Nitroaniline	138		9.681					ND	
103 Fluorene	166		9.687					ND	U
104 4,6-Dinitro-2-methylphenol	198		9.714					ND	U
105 N-Nitrosodiphenylamine	169		9.772					ND	
57 Azobenzene	77		9.820					ND	
90 1,2-Diphenylhydrazine	77		9.820					ND	
102 N-Nitro-o-toluidine	152		9.890					ND	U
114 4-Aminobiphenyl	169		9.890					ND	U
117 Pronamide	173		9.890					ND	U
107 1,3,5-Trinitrobenzene	213		9.896					ND	U
108 Phenacetin	108		9.939					ND	U
109 Phorate	121		9.944					ND	U
111 Dimethoate	87		10.099					ND	U
110 4-Bromophenyl phenyl ether	248		10.136					ND	
112 Hexachlorobenzene	284		10.226					ND	
113 Atrazine	200		10.258					ND	
118 Pentachloronitrobenzene	237		10.302					ND	U
225 PCB-14	222		10.333					ND	U
116 Pentachlorophenol	266		10.403					ND	
115 n-Octadecane	57		10.408					ND	
119 Disulfoton	88		10.419					ND	U
120 Dinoseb	211		10.545					ND	U
123 Hexachlorophene TIC	198		10.600					ND	U
121 Phenanthrene	178		10.627					ND	
122 Anthracene	178		10.680					ND	
125 Methyl parathion	109		10.793					ND	U
124 Carbazole	167		10.830					ND	
126 Di-n-butyl phthalate	149		11.151					ND	
127 Ethyl Parathion	109		11.189					ND	U
233 PCB-36	256		11.220					ND	U
128 4-Nitroquinoline-1-oxide	190		11.263					ND	U
129 Methapyrilene	58		11.317					ND	U
70 Diphenamid	167		11.482					ND	
224 PCB-104	326		11.482					ND	U
106 Diphenylamine	167		11.620					ND	U

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
130 Isodrin	193		11.821					ND	U
227 PCB-121	326		11.952					ND	U
131 Fluoranthene	202		12.027					ND	
234 PCB-155	360		12.096					ND	U
132 Benzidine	184		12.160					ND	U
133 Pyrene	202		12.347					ND	U
228 PCB-78	290		12.438					ND	U
139 3,3'-Dimethylbenzidine	212		12.481					ND	U
135 p-Dimethylamino azobenzene	225		12.481					ND	U
134 1,2,3,4 -Tetrachlorobenzen	216		12.481					ND	U
136 Chlorobenzilate	139		12.783					ND	U
137 Famphur	218		12.850					ND	U
140 Kepone	272		13.030					ND	U
232 PCB-142	360		13.138					ND	U
138 Butyl benzyl phthalate	149		13.261					ND	
141 2-Acetylaminofluorene	181		13.363					ND	U
142 Thionazin	97		13.789					ND	U
143 4,4'-Methylene bis(2-chlor	231		13.881					ND	U
144 3,3'-Dichlorobenzidine	252		14.249					ND	
149 6-Methylchrysene	242		14.287					ND	U
145 Bis(2-ethylhexyl) phthalat	149		14.297					ND	
146 Benzo[a]anthracene	228		14.329					ND	
229 PCB-204	428		14.388					ND	U
147 Chrysene	228		14.399					ND	
230 PCB-192	394		14.420					ND	U
148 Sulfotepp	97		14.530					ND	U
150 Di-n-octyl phthalate	149		15.601					ND	
151 7,12-Dimethylbenz(a)anthra	256		16.445					ND	
152 Benzo[b]fluoranthene	252		16.455					ND	
153 Benzo[k]fluoranthene	252		16.514					ND	
219 Benzo[e]pyrene	252		17.022					ND	
154 Benzo[a]pyrene	252		17.118					ND	
155 3-Methylcholanthrene	268		17.524					ND	U
156 Dibenz[a,h]acridine	279		18.636					ND	U
220 Dibenz[a,j]acridine	279		19.247					ND	U
157 Indeno[1,2,3-cd]pyrene	276		19.575					ND	
158 Dibenz(a,h)anthracene	278		19.618					ND	
159 Benzo[g,h,i]perylene	276		20.264					ND	
187 1,2-Dibromo-3-Chloropropan	157		0.000					ND	U
177 1,2,3,4-Tetrahydronaphthal	104		0.000					ND	U
212 2,3,7,8-TCDD TIC	1		0.000					ND	U
162 3-Chlorobenzoic Acid	139		0.000					ND	U
164 Aramite Peak 2	185		0.000					ND	U
213 3-Methylphenol	1		0.000					ND	U
184 Diallate Peak 1	86		0.000					ND	U
182 4-Chlorophenol	128		0.000					ND	U
174 2-Chlorobenzoic Acid	139		0.000					ND	U
181 4-Chlorobenzoic Acid	139		0.000					ND	U
169 Octachlorostyrene	308		0.000					ND	U
168 Aramite Peak 1	185		0.000					ND	U
223 2,6-Dichlorotoluene	1		0.000					ND	U
179 2,5-Dichlorophenol	162		0.000					ND	U

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
173 Octachlorocyclopentene	307		0.000					ND	U
226 PCB-184	1		0.000					ND	U
231 DCB Decachlorobiphenyl	1		0.000					ND	U
160 n,n'-Dimethylaniline	120		0.000					ND	U
163 Diallate Peak 2	86		0.000					ND	U
183 2,3-Dichlorophenol	162		0.000					ND	U
185 4-Nitrobiphenyl	199		0.000					ND	U
189 Pentachlorophenol_T	266		5.512					ND	U
191 Benzidine_T	184		8.172					ND	U
192 4,4'-DDE	246		8.482					ND	U
193 4,4'-DDD	235		8.786					ND	U
194 4,4'-DDT	235		9.833					ND	U
S 195 Aramite, Total	185		1.000					ND	
S 197 Methyl Phenols,Total	108		0.000					ND	
S 198 Diallate	86		0.000					ND	
S 199 Total Cresols	108		0.000					ND	

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

SVTAPITINTRNi_00022 Amount Added: 1.00 Units: uL Run Reagent

Report Date: 07-Oct-2019 04:39:21 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20191005-28986.b\D10050004.D				
Injection Date:	05-Oct-2019 11:20:30	Instrument ID:	CH732	Operator ID:	003200
Lims ID:	MB 180-293338/1-A			Worklist Smp#:	4
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

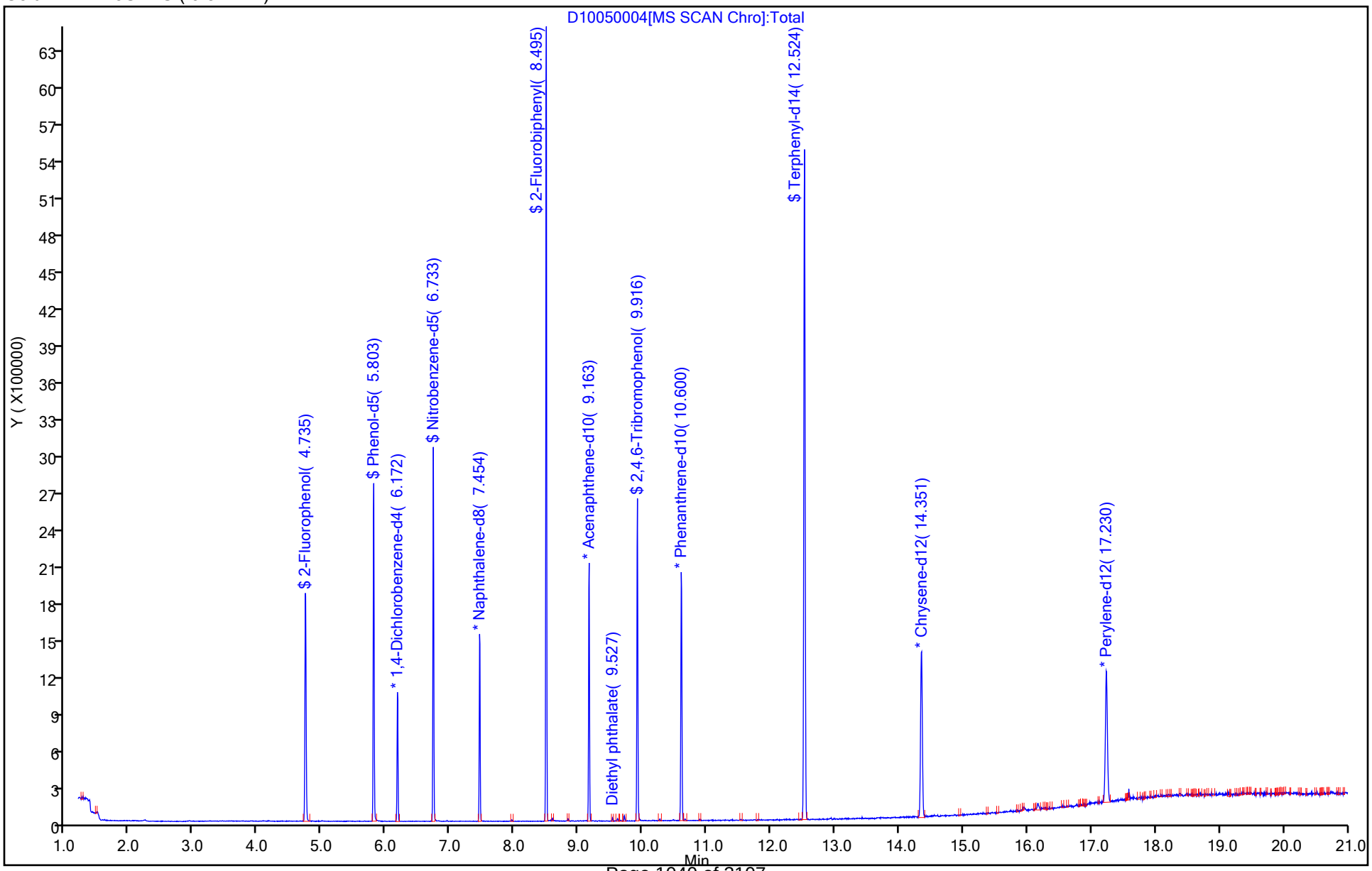

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CH732\20191005-28986.b\D10050004.D
Lims ID: MB 180-293338/1-A
Client ID:
Sample Type: MB
Inject. Date: 05-Oct-2019 11:20:30 ALS Bottle#: 3 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028986-004
Operator ID: 003200 Instrument ID: CH732

Method: \\chromna\Pittsburgh\ChromData\CH732\20191005-28986.b\BNA_CH732.m
Limit Group: BNA 8270D ICAL
Last Update: 07-Oct-2019 04:39:14 Calib Date: 11-Jul-2019 12:08:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CH732\20190711-27697.b\D07110010.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0303

First Level Reviewer: piccolinov Date: 05-Oct-2019 15:23:32

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	40.0	33.7	84.14
$ 8 Phenol-d5	40.0	31.8	79.38
$ 9 Nitrobenzene-d5	40.0	36.6	91.50
$ 10 2-Fluorobiphenyl	40.0	26.3	65.84
$ 11 2,4,6-Tribromophenol	40.0	32.9	82.35
$ 12 Terphenyl-d14	40.0	32.3	80.74

Report Date: 07-Oct-2019 04:39:21 Chrom Revision: 2.3 17-Sep-2019 16:19:08

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20191005-28986.b\D10050004.D				
Injection Date:	05-Oct-2019 11:20:30	Instrument ID:	CH732		
Lims ID:	MB 180-293338/1-A				
Client ID:					
Operator ID:	003200	ALS Bottle#:	3	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

103 Fluorene, CAS: 86-73-7

Processing Results

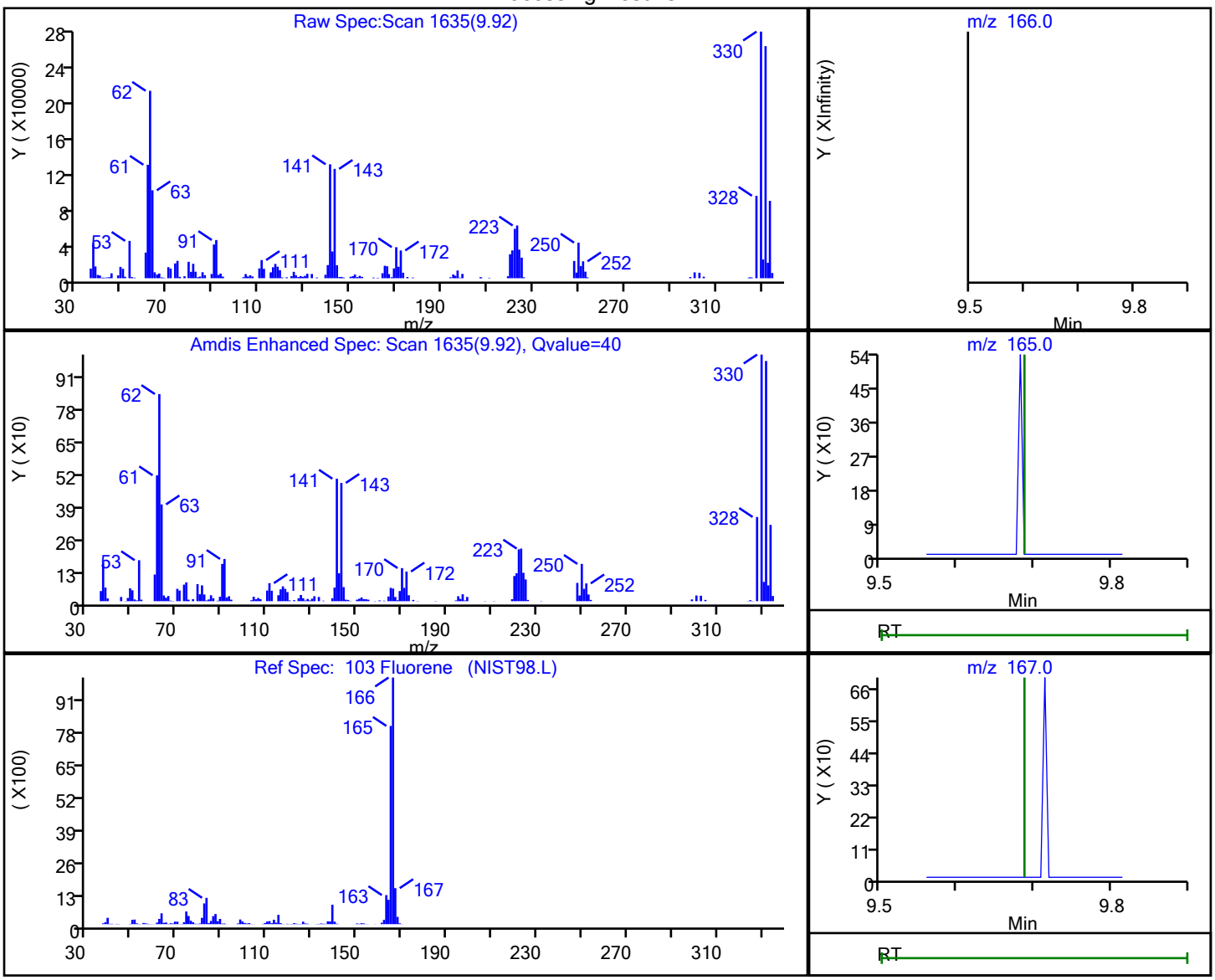

RT	Mass	Response	Amount
9.92	166.00	14964	0.174751
9.92	165.00	14343	
9.92	167.00	4724	

Reviewer: piccolinov, 05-Oct-2019 15:23:16

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 07-Oct-2019 04:39:21 Chrom Revision: 2.3 17-Sep-2019 16:19:08

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20191005-28986.b\D10050004.D				
Injection Date:	05-Oct-2019 11:20:30	Instrument ID:	CH732		
Lims ID:	MB 180-293338/1-A				
Client ID:					
Operator ID:	003200	ALS Bottle#:	3	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

79 2-Nitroaniline, CAS: 88-74-4

Processing Results

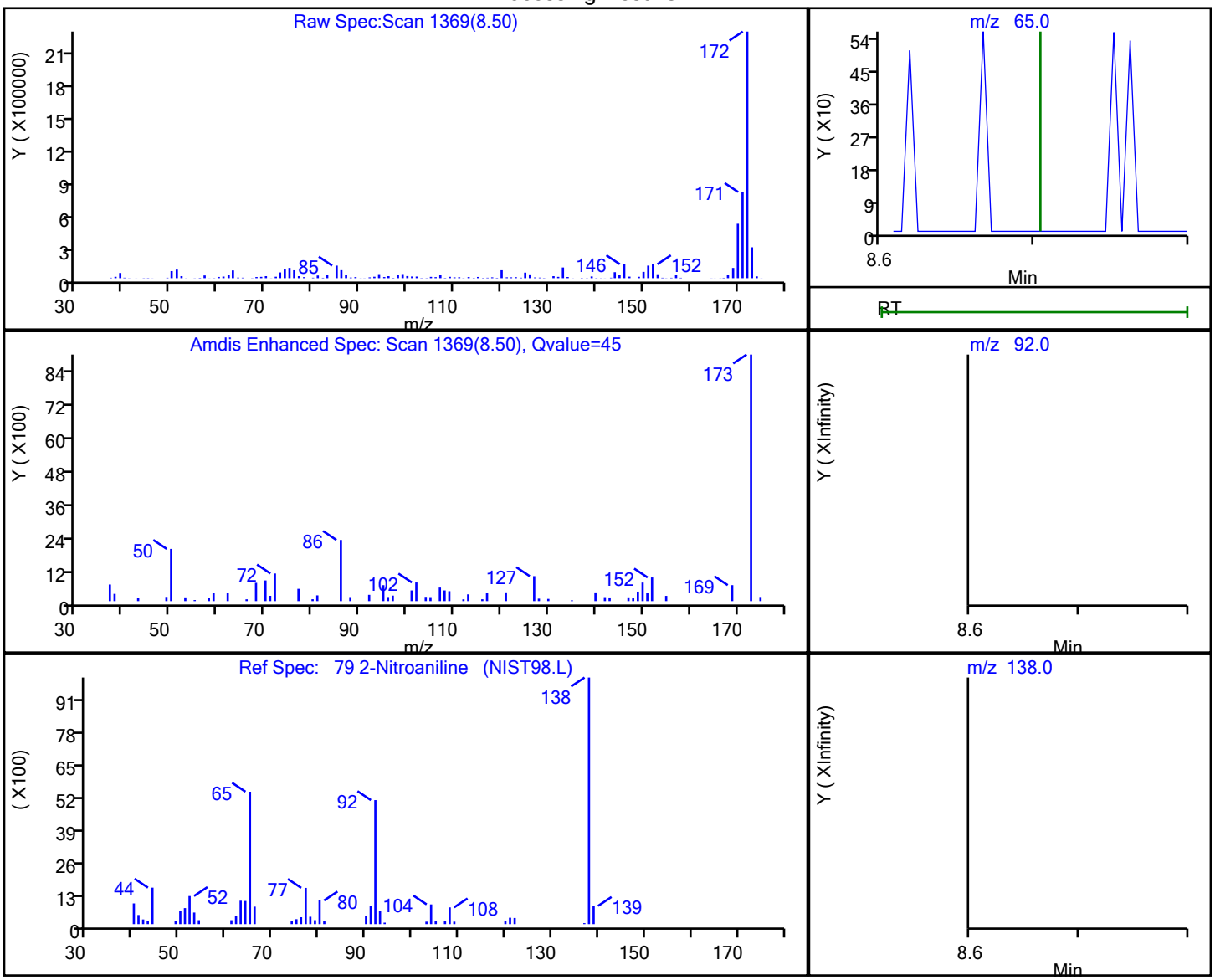

RT	Mass	Response	Amount
8.50	65.00	4262	0.235449
8.49	92.00	7501	
8.50	138.00	1313	

Reviewer: piccolinov, 05-Oct-2019 15:23:09

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20191005-28986.b\D10050004.D				
Injection Date:	05-Oct-2019 11:20:30	Instrument ID:	CH732		
Lims ID:	MB 180-293338/1-A				
Client ID:					
Operator ID:	003200	ALS Bottle#:	3	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

133 Pyrene, CAS: 129-00-0

Processing Results

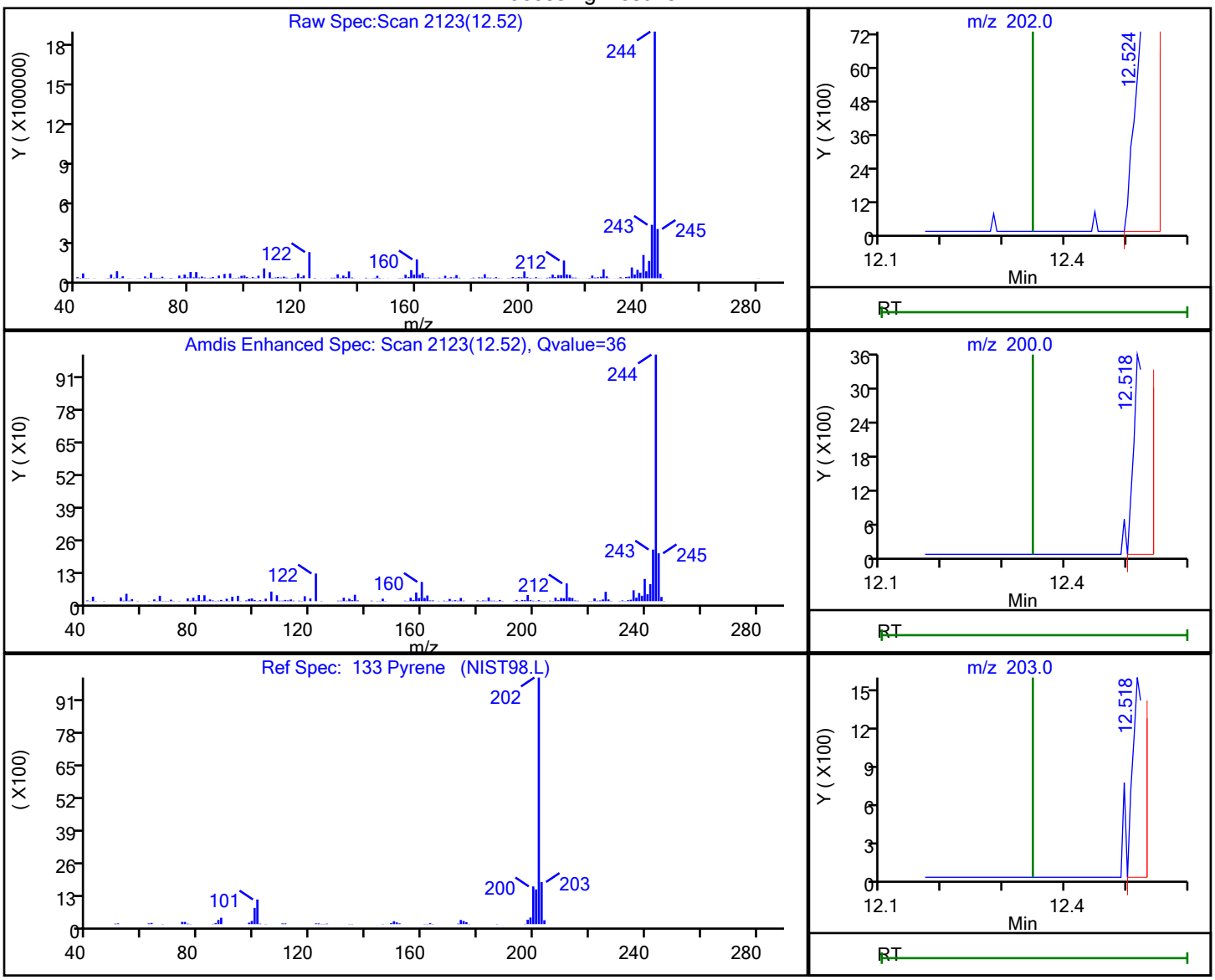

RT	Mass	Response	Amount
12.52	202.00	10675	0.080807
12.52	200.00	4875	
12.52	203.00	1788	

Reviewer: piccolinov, 05-Oct-2019 15:23:22

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 07-Oct-2019 04:39:21 Chrom Revision: 2.3 17-Sep-2019 16:19:08

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20191005-28986.b\D10050004.D				
Injection Date:	05-Oct-2019 11:20:30	Instrument ID:	CH732		
Lims ID:	MB 180-293338/1-A				
Client ID:					
Operator ID:	003200	ALS Bottle#:	3	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

104 4,6-Dinitro-2-methylphenol, CAS: 534-52-1

Processing Results

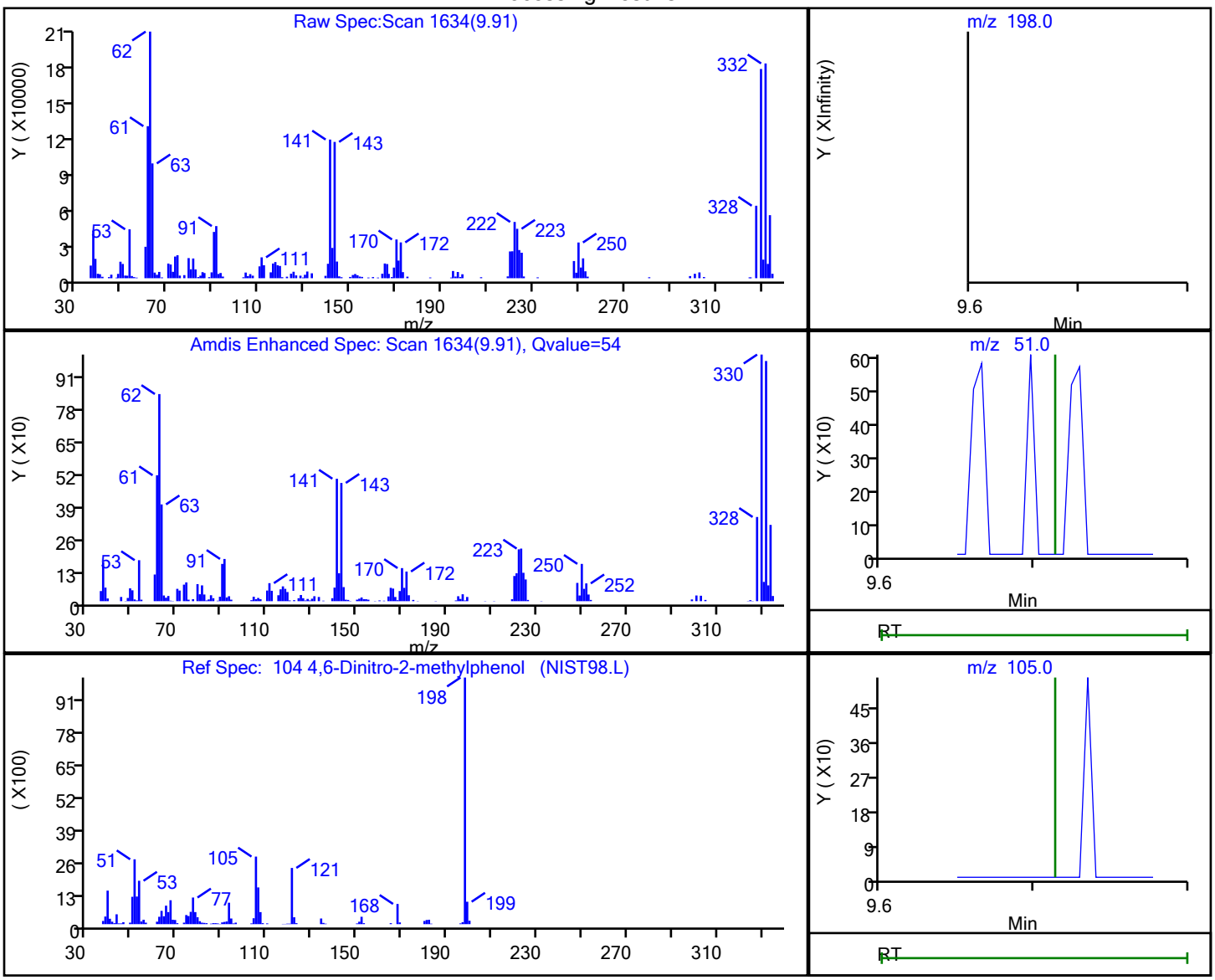

RT	Mass	Response	Amount
9.91	198.00	795	3.254104
9.91	51.00	2505	
9.92	105.00	1961	

Reviewer: piccolinov, 05-Oct-2019 15:23:17

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20191005-28986.b\D10050004.D				
Injection Date:	05-Oct-2019 11:20:30	Instrument ID:	CH732		
Lims ID:	MB 180-293338/1-A				
Client ID:					
Operator ID:	003200	ALS Bottle#:	3	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

76 1,1'-Biphenyl, CAS: 92-52-4

Processing Results

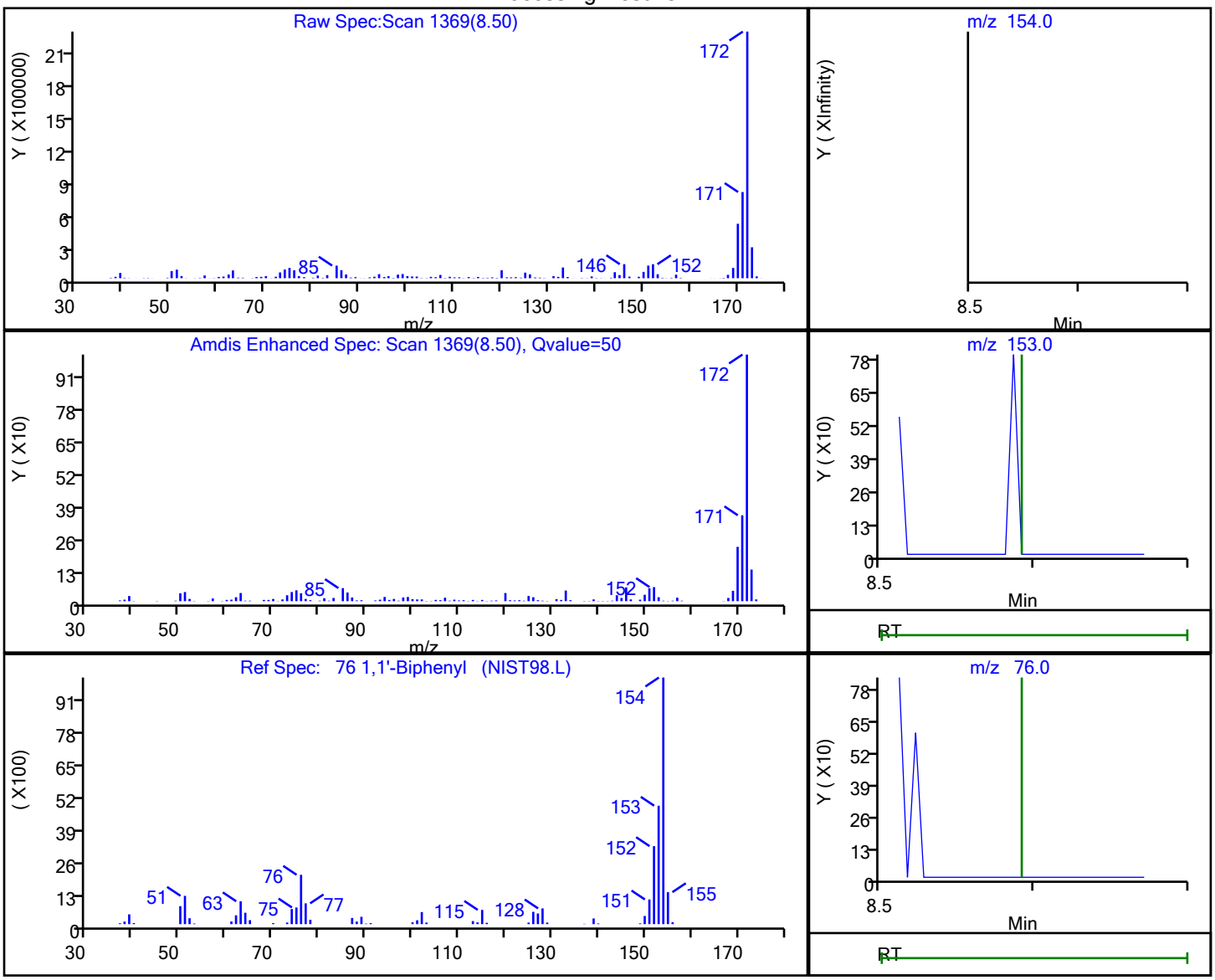

RT	Mass	Response	Amount
8.50	154.00	3698	0.041277
8.50	153.00	34254	
8.50	76.00	71612	

Reviewer: piccolinov, 05-Oct-2019 15:23:08

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-96144-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 180-293338/2-A
Matrix: Water
Lab File ID: D10050005.D
Analysis Method: EPA 8270D
Date Collected:
Extract. Method: 3520C
Date Extracted: 10/01/2019 11:49
Sample wt/vol: 250(mL)
Date Analyzed: 10/05/2019 11:47
Con. Extract Vol.: 2.5(mL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 293862
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	117		1.9	0.65
208-96-8	Acenaphthylene	120		1.9	0.65
120-12-7	Anthracene	133		1.9	0.49
56-55-3	Benzo[a]anthracene	144		1.9	0.75
50-32-8	Benzo[a]pyrene	138		1.9	0.53
205-99-2	Benzo[b]fluoranthene	134		1.9	0.97
191-24-2	Benzo[g,h,i]perylene	137		1.9	0.69
207-08-9	Benzo[k]fluoranthene	127		1.9	0.88
117-81-7	Bis(2-ethylhexyl) phthalate	166		100	62
108-60-1	2,2'-oxybis[1-chloropropane]	148		1.9	0.58
101-55-3	4-Bromophenyl phenyl ether	133		10	0.63
85-68-7	Butyl benzyl phthalate	169		10	4.6
86-74-8	Carbazole	131		1.9	0.51
106-47-8	4-Chloroaniline	127		10	0.44
91-58-7	2-Chloronaphthalene	115		1.9	0.59
7005-72-3	4-Chlorophenyl phenyl ether	117		10	0.61
218-01-9	Chrysene	144		1.9	0.81
53-70-3	Dibenz(a,h)anthracene	144		1.9	0.72
132-64-9	Dibenzofuran	112		10	0.73
84-74-2	Di-n-butyl phthalate	149		10	7.4
91-94-1	3,3'-Dichlorobenzidine	150		10	5.8
84-66-2	Diethyl phthalate	126		10	5.7
131-11-3	Dimethyl phthalate	125		10	0.56
121-14-2	2,4-Dinitrotoluene	143		10	0.51
606-20-2	2,6-Dinitrotoluene	135		10	0.60
117-84-0	Di-n-octyl phthalate	146		10	6.9
206-44-0	Fluoranthene	141		1.9	0.60
86-73-7	Fluorene	113		1.9	0.69
118-74-1	Hexachlorobenzene	128		1.9	0.56
87-68-3	Hexachlorobutadiene	124		1.9	0.69
77-47-4	Hexachlorocyclopentadiene	131		10	5.0
67-72-1	Hexachloroethane	133		10	0.62
193-39-5	Indeno[1,2,3-cd]pyrene	140		1.9	0.85
78-59-1	Isophorone	146		10	0.54

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 180-293338/2-A

Matrix: Water Lab File ID: D10050005.D

Analysis Method: EPA 8270D Date Collected:

Extract. Method: 3520C Date Extracted: 10/01/2019 11:49

Sample wt/vol: 250(mL) Date Analyzed: 10/05/2019 11:47

Con. Extract Vol.: 2.5(mL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 293862 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
91-57-6	2-Methylnaphthalene	130		1.9	0.62
91-20-3	Naphthalene	129		1.9	0.59
88-74-4	2-Nitroaniline	155		50	5.5
99-09-2	3-Nitroaniline	126		50	0.67
100-01-6	4-Nitroaniline	124		50	0.58
100-02-7	4-Nitrophenol	349		50	1.4
98-95-3	Nitrobenzene	150		20	5.0
621-64-7	N-Nitrosodi-n-propylamine	149		1.9	0.71
86-30-6	N-Nitrosodiphenylamine	127		10	1.2
85-01-8	Phenanthrene	126		1.9	0.55
129-00-0	Pyrene	146		1.9	0.54
59-50-7	4-Chloro-3-methylphenol	154		10	0.61
95-57-8	2-Chlorophenol	136		10	0.64
95-48-7	2-Methylphenol	129		10	3.0
106-44-5	Methylphenol, 3 & 4	129		10	3.7
120-83-2	2,4-Dichlorophenol	136		1.9	0.51
105-67-9	2,4-Dimethylphenol	150		10	0.41
51-28-5	2,4-Dinitrophenol	295		100	15
534-52-1	4,6-Dinitro-2-methylphenol	264		50	15
88-75-5	2-Nitrophenol	159		10	0.61
87-86-5	Pentachlorophenol	226		50	8.5
108-95-2	Phenol	128		10	4.9
95-95-4	2,4,5-Trichlorophenol	121		10	0.61
88-06-2	2,4,6-Trichlorophenol	127		10	0.68
98-86-2	Acetophenone	131		10	0.62
1912-24-9	Atrazine	146		10	6.3
100-52-7	Benzaldehyde	95.2		10	1.1
92-52-4	1,1'-Biphenyl	119		10	0.59
105-60-2	Caprolactam	143		50	4.7
111-91-1	Bis(2-chloroethoxy)methane	130		10	0.67
111-44-4	Bis(2-chloroethyl)ether	126		1.9	0.40
110-86-1	Pyridine	322		20	5.4

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 180-293338/2-A

Matrix: Water Lab File ID: D10050005.D

Analysis Method: EPA 8270D Date Collected:

Extract. Method: 3520C Date Extracted: 10/01/2019 11:49

Sample wt/vol: 250(mL) Date Analyzed: 10/05/2019 11:47

Con. Extract Vol.: 2.5(mL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 293862 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
4165-60-0	Nitrobenzene-d5 (Surr)	82		45-108
4165-62-2	Phenol-d5 (Surr)	71		40-105
321-60-8	2-Fluorobiphenyl	60		44-105
118-79-6	2,4,6-Tribromophenol (Surr)	78		38-111
367-12-4	2-Fluorophenol (Surr)	77		38-105
1718-51-0	Terphenyl-d14 (Surr)	78		20-128

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CH732\20191005-28986.b\D10050005.D
Lims ID: LCS 180-293338/2-A
Client ID:
Sample Type: LCS
Inject. Date: 05-Oct-2019 11:47:30 ALS Bottle#: 4 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028986-005
Operator ID: 003200 Instrument ID: CH732

Method: \\chromna\Pittsburgh\ChromData\CH732\20191005-28986.b\BNA_CH732.m
Limit Group: BNA 8270D ICAL
Last Update: 07-Oct-2019 04:39:14 Calib Date: 11-Jul-2019 12:08:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CH732\20190711-27697.b\D07110010.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0303

First Level Reviewer: piccolinov Date: 05-Oct-2019 15:23:49

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.166	6.172	-0.006	96	161400	8.00	8.00	
* 2 Naphthalene-d8	136	7.454	7.454	0.000	100	634400	8.00	8.00	
* 3 Acenaphthene-d10	164	9.158	9.163	-0.005	94	427992	8.00	8.00	
* 4 Phenanthrene-d10	188	10.600	10.606	-0.006	97	861889	8.00	8.00	
* 5 Chrysene-d12	240	14.350	14.345	0.005	99	813616	8.00	8.00	
* 6 Perylene-d12	264	17.230	17.235	-0.005	98	795282	8.00	8.00	
$ 7 2-Fluorophenol	112	4.734	4.745	-0.011	94	561174	40.0	30.8	
$ 8 Phenol-d5	99	5.798	5.803	-0.005	0	759477	40.0	28.3	
$ 9 Nitrobenzene-d5	82	6.727	6.733	-0.006	90	760772	40.0	32.7	
$ 10 2-Fluorobiphenyl	172	8.490	8.495	-0.005	100	1706700	40.0	23.8	
$ 11 2,4,6-Tribromophenol	330	9.916	9.917	-0.001	92	231170	40.0	31.4	
$ 12 Terphenyl-d14	244	12.518	12.524	-0.006	99	2318902	40.0	31.1	
13 1,4-Dioxane	88	1.582	1.599	-0.017	94	191352	40.0	32.3	
14 N-Nitrosodimethylamine	74	2.181	2.197	-0.016	89	280352	40.0	37.7	
15 Pyridine	79	2.250	2.272	-0.022	97	804307	80.0	64.4	
25 Benzaldehyde	77	5.696	5.707	-0.011	94	352235	40.0	19.0	
26 Phenol	94	5.814	5.819	-0.005	98	802227	40.0	25.6	
27 Aniline	93	5.819	5.824	-0.005	96	861591	40.0	24.2	
29 Bis(2-chloroethyl)ether	93	5.888	5.894	-0.006	94	563603	40.0	25.2	
30 2-Chlorophenol	128	5.952	5.958	-0.006	97	634176	40.0	27.3	
31 n-Decane	43	6.011	6.017	-0.006	89	639034	40.0	33.2	
32 1,3-Dichlorobenzene	146	6.107	6.118	-0.011	96	711111	40.0	24.4	
33 1,4-Dichlorobenzene	146	6.187	6.193	-0.006	92	733641	40.0	25.1	
34 Benzyl alcohol	108	6.310	6.316	-0.006	89	357006	40.0	23.8	
35 1,2-Dichlorobenzene	146	6.342	6.348	-0.006	95	705679	40.0	24.6	
36 2-Methylphenol	108	6.428	6.433	-0.005	96	566066	40.0	25.8	
37 Indene	116	6.433	6.439	-0.006	90	1090685	40.0	24.7	
38 2,2'-oxybis[1-chloropropan	45	6.449	6.455	-0.006	90	773587	40.0	29.6	
41 N-Nitrosodi-n-propylamine	70	6.572	6.578	-0.006	92	469320	40.0	29.8	
40 Acetophenone	105	6.572	6.578	-0.006	87	866306	40.0	26.2	
42 4-Methylphenol	108	6.583	6.583	0.000	92	575062	40.0	25.8	
45 Hexachloroethane	117	6.695	6.700	-0.005	94	316532	40.0	26.7	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
46 Nitrobenzene	77	6.748	6.754	-0.006	89	724414	40.0	29.9	
48 Isophorone	82	6.983	6.989	-0.006	99	1304045	40.0	29.1	
49 2-Nitrophenol	139	7.069	7.074	-0.005	97	365491	40.0	31.9	
50 2,4-Dimethylphenol	107	7.106	7.107	0.000	98	731459	40.0	29.9	
52 Benzoic acid	122	7.181	7.160	0.021	88	403980	40.0	38.3	
53 Bis(2-chloroethoxy)methane	93	7.192	7.192	0.000	97	758691	40.0	26.0	
54 2,4-Dichlorophenol	162	7.309	7.315	-0.006	95	595356	40.0	27.3	
56 1,2,4-Trichlorobenzene	180	7.395	7.400	-0.005	94	714094	40.0	25.4	
58 Naphthalene	128	7.475	7.475	0.000	98	2007649	40.0	25.9	
59 4-Chloroaniline	127	7.512	7.518	-0.006	94	819176	40.0	25.4	
60 2,6-Dichlorophenol	162	7.528	7.534	-0.006	96	590996	40.0	27.2	
62 Hexachlorobutadiene	225	7.598	7.603	-0.005	96	428929	40.0	24.9	
64 Caprolactam	113	7.828	7.822	0.006	77	204486	40.0	28.7	
67 4-Chloro-3-methylphenol	107	7.977	7.977	0.000	96	673561	40.0	30.9	
69 2-Methylnaphthalene	142	8.148	8.148	0.000	92	1527488	40.0	26.0	
71 1-Methylnaphthalene	142	8.244	8.250	-0.006	94	1447429	40.0	26.5	
72 Hexachlorocyclopentadiene	237	8.308	8.309	0.000	97	537666	40.0	26.2	
73 1,2,4,5-Tetrachlorobenzene	216	8.314	8.314	0.000	97	739275	40.0	22.1	
74 2,4,6-Trichlorophenol	196	8.415	8.415	0.000	94	500444	40.0	25.5	
75 2,4,5-Trichlorophenol	196	8.453	8.453	0.000	96	501486	40.0	24.2	
76 1,1'-Biphenyl	154	8.592	8.592	0.000	95	1877578	40.0	23.7	
77 2-Chloronaphthalene	162	8.618	8.624	-0.006	96	1435246	40.0	23.0	
79 2-Nitroaniline	65	8.704	8.704	0.000	79	496736	40.0	31.1	
82 Dimethyl phthalate	163	8.859	8.864	-0.005	98	1697932	40.0	25.1	
83 1,3-Dinitrobenzene	168	8.896	8.901	-0.005	84	269907	40.0	25.8	
84 2,6-Dinitrotoluene	165	8.923	8.928	-0.005	93	388504	40.0	27.1	
85 Acenaphthylene	152	9.024	9.030	-0.006	98	2344287	40.0	24.0	
86 3-Nitroaniline	138	9.094	9.094	0.000	91	403097	40.0	25.1	
88 Acenaphthene	153	9.190	9.195	-0.005	88	1452960	40.0	23.4	
87 2,4-Dinitrophenol	184	9.190	9.195	-0.005	69	460972	80.0	59.1	
89 4-Nitrophenol	109	9.238	9.238	0.000	96	569641	80.0	69.8	
91 2,4-Dinitrotoluene	165	9.313	9.318	-0.005	92	541213	40.0	28.6	
93 Dibenzofuran	168	9.355	9.356	-0.001	96	2141553	40.0	22.4	
96 2,3,4,6-Tetrachlorophenol	232	9.468	9.468	0.000	74	460664	40.0	24.4	
98 Diethyl phthalate	149	9.526	9.532	-0.006	97	1651888	40.0	25.2	
99 Hexadecane	57	9.532	9.537	-0.005	96	1038000	40.0	26.5	
100 4-Chlorophenyl phenyl ethe	204	9.665	9.665	0.000	91	945886	40.0	23.3	
101 4-Nitroaniline	138	9.681	9.681	0.000	80	419889	40.0	24.9	
103 Fluorene	166	9.681	9.687	-0.006	95	1712594	40.0	22.7	
104 4,6-Dinitro-2-methylphenol	198	9.708	9.714	-0.006	86	634752	80.0	52.9	
105 N-Nitrosodiphenylamine	169	9.772	9.772	0.000	62	1321804	40.0	25.3	
57 Azobenzene	77	9.815	9.820	-0.005	99	1838880	40.0	25.6	
90 1,2-Diphenylhydrazine	77	9.815	9.820	-0.005	98	1838880	40.0	25.6	
110 4-Bromophenyl phenyl ether	248	10.135	10.136	-0.001	66	566994	40.0	26.7	
112 Hexachlorobenzene	284	10.221	10.226	-0.005	93	529015	40.0	25.7	
113 Atrazine	200	10.258	10.258	0.000	94	548764	40.0	29.2	
116 Pentachlorophenol	266	10.397	10.403	-0.006	90	570985	80.0	45.1	
115 n-Octadecane	57	10.403	10.408	-0.005	96	1129363	40.0	24.3	
121 Phenanthrene	178	10.627	10.627	0.000	97	2759494	40.0	25.3	
122 Anthracene	178	10.680	10.680	0.000	97	2834831	40.0	26.6	
124 Carbazole	167	10.830	10.830	0.000	97	2583112	40.0	26.2	
126 Di-n-butyl phthalate	149	11.150	11.151	-0.001	100	3153558	40.0	29.7	

Report Date: 07-Oct-2019 04:39:24 Chrom Revision: 2.3 17-Sep-2019 16:19:08
Data File: \\chromna\Pittsburgh\ChromData\CH732\20191005-28986.b\D10050005.D

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
131 Fluoranthene	202	12.027	12.027	0.000	97	3426897	40.0	28.3	
132 Benzidine	184	12.160	12.160	0.000	99	1308582	40.0	22.1	
133 Pyrene	202	12.347	12.347	0.000	98	3476051	40.0	29.3	
138 Butyl benzyl phthalate	149	13.261	13.261	0.000	98	1452472	40.0	33.9	
144 3,3'-Dichlorobenzidine	252	14.249	14.249	0.000	74	1173996	40.0	30.0	
145 Bis(2-ethylhexyl) phthalat	149	14.297	14.297	0.000	97	1976670	40.0	33.1	
146 Benzo[a]anthracene	228	14.329	14.329	0.000	98	3071031	40.0	28.8	
147 Chrysene	228	14.399	14.399	-0.001	96	3050677	40.0	28.9	
150 Di-n-octyl phthalate	149	15.595	15.601	-0.006	100	3571706	40.0	29.3	
152 Benzo[b]fluoranthene	252	16.461	16.455	0.006	97	3187848	40.0	26.8	
153 Benzo[k]fluoranthene	252	16.514	16.514	0.000	99	3206801	40.0	25.4	
154 Benzo[a]pyrene	252	17.123	17.118	0.005	77	2967460	40.0	27.7	
157 Indeno[1,2,3-cd]pyrene	276	19.586	19.575	0.011	99	3177874	40.0	28.0	
158 Dibenz(a,h)anthracene	278	19.618	19.618	0.000	92	2677701	40.0	28.8	
159 Benzo[g,h,i]perylene	276	20.270	20.264	0.006	98	2695540	40.0	27.4	
S 197 Methyl Phenols,Total	108				0		80.0	51.6	
S 199 Total Cresols	108				0		80.0	51.6	

Reagents:

SVTAPITINTRNi_00022 Amount Added: 1.00 Units: uL Run Reagent

Report Date: 07-Oct-2019 04:39:24 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20191005-28986.b\D10050005.D				
Injection Date:	05-Oct-2019 11:47:30	Instrument ID:	CH732	Operator ID:	003200
Lims ID:	LCS 180-293338/2-A			Worklist Smp#:	5
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

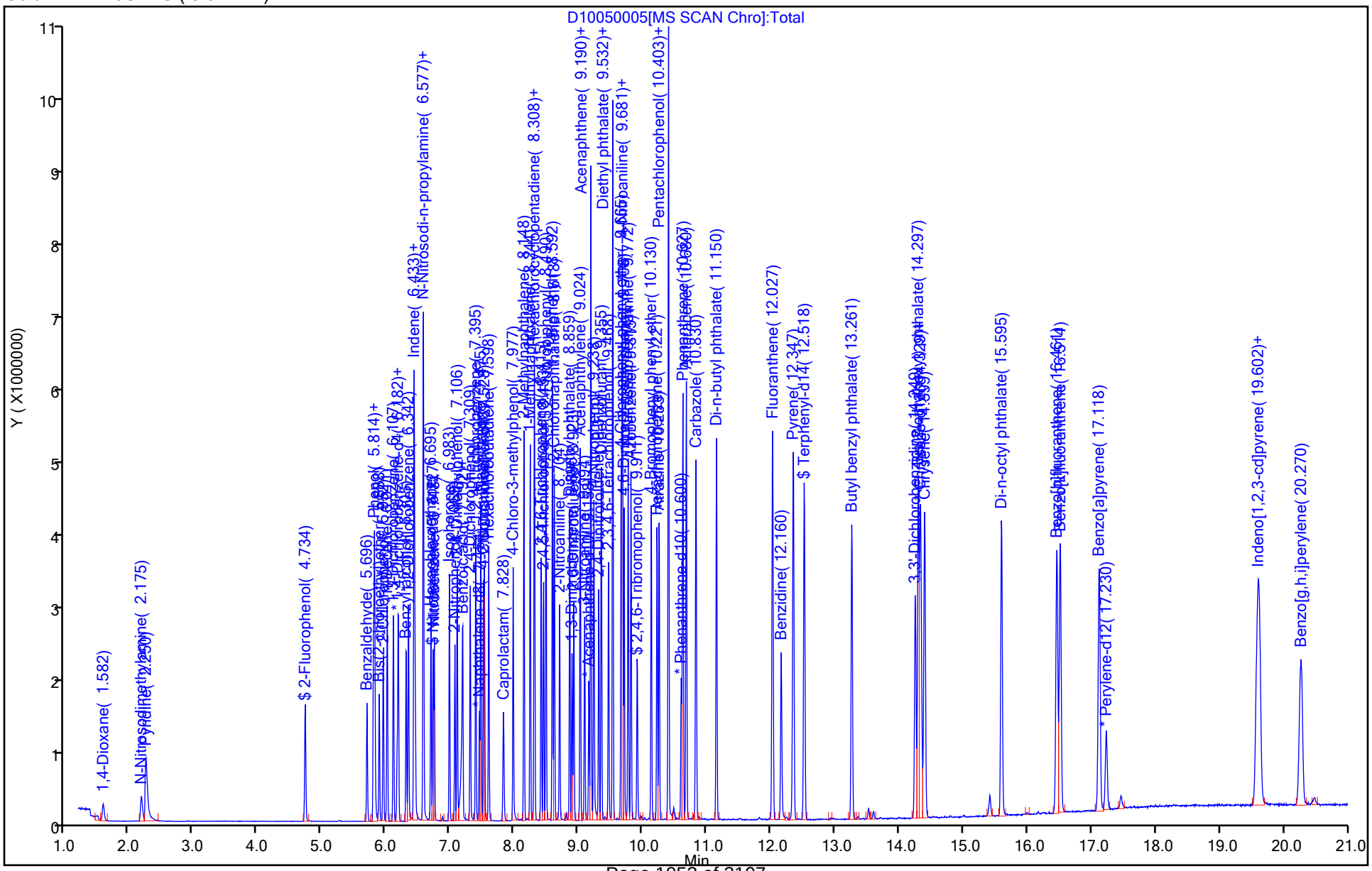

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CH732\20191005-28986.b\D10050005.D
Lims ID: LCS 180-293338/2-A
Client ID:
Sample Type: LCS
Inject. Date: 05-Oct-2019 11:47:30 ALS Bottle#: 4 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028986-005
Operator ID: 003200 Instrument ID: CH732

Method: \\chromna\Pittsburgh\ChromData\CH732\20191005-28986.b\BNA_CH732.m
Limit Group: BNA 8270D ICAL
Last Update: 07-Oct-2019 04:39:14 Calib Date: 11-Jul-2019 12:08:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CH732\20190711-27697.b\D07110010.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0303

First Level Reviewer: piccolinov Date: 05-Oct-2019 15:23:49

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	40.0	30.8	77.07
$ 8 Phenol-d5	40.0	28.3	70.73
$ 9 Nitrobenzene-d5	40.0	32.7	81.71
$ 10 2-Fluorobiphenyl	40.0	23.8	59.61
$ 11 2,4,6-Tribromophenol	40.0	31.4	78.49
$ 12 Terphenyl-d14	40.0	31.1	77.75

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-96144-1
SDG No.:
Client Sample ID: 11187072-CONTACT-INITIAL MS
Lab Sample ID: 180-96144-1 MS
Matrix: Water
Lab File ID: D10050027.D
Analysis Method: EPA 8270D
Date Collected: 09/24/2019 15:00
Extract. Method: 3520C
Date Extracted: 10/01/2019 11:49
Sample wt/vol: 260(mL)
Date Analyzed: 10/05/2019 21:25
Con. Extract Vol.: 2.5(mL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 293862
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	89.2		1.8	0.63
208-96-8	Acenaphthylene	89.2		1.8	0.63
120-12-7	Anthracene	119		1.8	0.47
56-55-3	Benzo[a]anthracene	142		1.8	0.72
50-32-8	Benzo[a]pyrene	130		1.8	0.51
205-99-2	Benzo[b]fluoranthene	129		1.8	0.93
191-24-2	Benzo[g,h,i]perylene	84.7		1.8	0.66
207-08-9	Benzo[k]fluoranthene	125		1.8	0.85
117-81-7	Bis(2-ethylhexyl) phthalate	180		96	60
108-60-1	2,2'-oxybis[1-chloropropane]	95.3		1.8	0.56
101-55-3	4-Bromophenyl phenyl ether	112		9.6	0.61
85-68-7	Butyl benzyl phthalate	173		9.6	4.4
86-74-8	Carbazole	126		1.8	0.49
106-47-8	4-Chloroaniline	88.7		9.6	0.42
91-58-7	2-Chloronaphthalene	82.0		1.8	0.57
7005-72-3	4-Chlorophenyl phenyl ether	93.5		9.6	0.59
218-01-9	Chrysene	140		1.8	0.78
53-70-3	Dibenz(a,h)anthracene	142		1.8	0.69
132-64-9	Dibenzofuran	87.3		9.6	0.70
84-74-2	Di-n-butyl phthalate	141		9.6	7.1
91-94-1	3,3'-Dichlorobenzidine	106		9.6	5.6
84-66-2	Diethyl phthalate	119		9.6	5.5
131-11-3	Dimethyl phthalate	113		9.6	0.54
121-14-2	2,4-Dinitrotoluene	133		9.6	0.49
606-20-2	2,6-Dinitrotoluene	117		9.6	0.58
117-84-0	Di-n-octyl phthalate	149		9.6	6.6
206-44-0	Fluoranthene	131		1.8	0.58
86-73-7	Fluorene	92.7		1.8	0.66
118-74-1	Hexachlorobenzene	112		1.8	0.54
87-68-3	Hexachlorobutadiene	69.8		1.8	0.66
77-47-4	Hexachlorocyclopentadiene	13.0		9.6	4.8
67-72-1	Hexachloroethane	55.5		9.6	0.60
193-39-5	Indeno[1,2,3-cd]pyrene	139		1.8	0.82

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-96144-1
SDG No.:
Client Sample ID: 11187072-CONTACT-INITIAL MS
Lab Sample ID: 180-96144-1 MS
Matrix: Water
Lab File ID: D10050027.D
Analysis Method: EPA 8270D
Date Collected: 09/24/2019 15:00
Extract. Method: 3520C
Date Extracted: 10/01/2019 11:49
Sample wt/vol: 260(mL)
Date Analyzed: 10/05/2019 21:25
Con. Extract Vol.: 2.5(mL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 293862
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
78-59-1	Isophorone	109		9.6	0.52
91-57-6	2-Methylnaphthalene	88.5		1.8	0.60
91-20-3	Naphthalene	81.7		1.8	0.57
88-74-4	2-Nitroaniline	129		48	5.3
99-09-2	3-Nitroaniline	103		48	0.64
100-01-6	4-Nitroaniline	109		48	0.56
100-02-7	4-Nitrophenol	334		48	1.4
98-95-3	Nitrobenzene	106		19	4.8
621-64-7	N-Nitrosodi-n-propylamine	105		1.8	0.68
86-30-6	N-Nitrosodiphenylamine	101		9.6	1.1
85-01-8	Phenanthrene	115		1.8	0.53
129-00-0	Pyrene	146		1.8	0.52
59-50-7	4-Chloro-3-methylphenol	120		9.6	0.59
95-57-8	2-Chlorophenol	86.6		9.6	0.62
95-48-7	2-Methylphenol	86.7		9.6	2.9
106-44-5	Methylphenol, 3 & 4	92.0		9.6	3.6
120-83-2	2,4-Dichlorophenol	96.3		1.8	0.49
105-67-9	2,4-Dimethylphenol	79.4		9.6	0.39
51-28-5	2,4-Dinitrophenol	257		96	15
534-52-1	4,6-Dinitro-2-methylphenol	257		48	14
88-75-5	2-Nitrophenol	107		9.6	0.59
87-86-5	Pentachlorophenol	205		48	8.1
108-95-2	Phenol	84.7		9.6	4.7
95-95-4	2,4,5-Trichlorophenol	97.1		9.6	0.59
88-06-2	2,4,6-Trichlorophenol	98.5		9.6	0.65
98-86-2	Acetophenone	93.2		9.6	0.60
1912-24-9	Atrazine	141		9.6	6.1
100-52-7	Benzaldehyde	91.2		9.6	1.1
92-52-4	1,1'-Biphenyl	85.9		9.6	0.57
105-60-2	Caprolactam	140		48	4.5
111-91-1	Bis(2-chloroethoxy)methane	89.8		9.6	0.64
111-44-4	Bis(2-chloroethyl)ether	83.4		1.8	0.38
110-86-1	Pyridine	170		19	5.2

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-96144-1
SDG No.:
Client Sample ID: 11187072-CONTACT-INITIAL MS
Lab Sample ID: 180-96144-1 MS
Matrix: Water
Lab File ID: D10050027.D
Analysis Method: EPA 8270D
Date Collected: 09/24/2019 15:00
Extract. Method: 3520C
Date Extracted: 10/01/2019 11:49
Sample wt/vol: 260(mL)
Date Analyzed: 10/05/2019 21:25
Con. Extract Vol.: 2.5(mL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 293862
Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
4165-60-0	Nitrobenzene-d5 (Surr)	58		45-108
4165-62-2	Phenol-d5 (Surr)	47		40-105
321-60-8	2-Fluorobiphenyl	45		44-105
118-79-6	2,4,6-Tribromophenol (Surr)	74		38-111
367-12-4	2-Fluorophenol (Surr)	45		38-105
1718-51-0	Terphenyl-d14 (Surr)	28		20-128

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CH732\20191005-28986.b\D10050027.D
Lims ID: 180-96144-F-1-A MS
Client ID:
Sample Type: MS
Inject. Date: 05-Oct-2019 21:25:30 ALS Bottle#: 26 Worklist Smp#: 27
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028986-027
Operator ID: 003200 Instrument ID: CH732

Method: \\chromna\Pittsburgh\ChromData\CH732\20191005-28986.b\BNA_CH732.m
Limit Group: BNA 8270D ICAL
Last Update: 07-Oct-2019 04:38:09 Calib Date: 11-Jul-2019 12:08:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CH732\20190711-27697.b\D07110010.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0303

First Level Reviewer: piccolinov Date: 07-Oct-2019 04:35:24

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.156	6.172	-0.016	97	185010	8.00	8.00	
* 2 Naphthalene-d8	136	7.443	7.454	-0.011	100	731194	8.00	8.00	
* 3 Acenaphthene-d10	164	9.147	9.163	-0.016	95	482623	8.00	8.00	
* 4 Phenanthrene-d10	188	10.595	10.606	-0.011	97	974211	8.00	8.00	
* 5 Chrysene-d12	240	14.340	14.345	-0.005	100	852597	8.00	8.00	
* 6 Perylene-d12	264	17.219	17.235	-0.016	98	819560	8.00	8.00	
$ 7 2-Fluorophenol	112	4.719	4.733	-0.026	93	374782	40.0	18.0	
$ 8 Phenol-d5	99	5.787	5.788	-0.016	0	575782	40.0	18.7	
$ 9 Nitrobenzene-d5	82	6.717	6.723	-0.017	90	625320	40.0	23.3	
$ 10 2-Fluorobiphenyl	172	8.479	8.486	-0.016	100	1446759	40.0	17.9	
$ 11 2,4,6-Tribromophenol	330	9.906	9.907	-0.011	88	246787	40.0	29.7	
$ 12 Terphenyl-d14	244	12.508	12.519	-0.016	100	861813	40.0	11.0	
15 Pyridine	79	2.218	2.266	-0.054	97	504826	80.0	35.3	
25 Benzaldehyde	77	5.685	5.692	-0.022	94	402335	40.0	19.0	
26 Phenol	94	5.798	5.804	-0.021	97	633556	40.0	17.6	
29 Bis(2-chloroethyl)ether	93	5.872	5.879	-0.022	95	443919	40.0	17.3	
30 2-Chlorophenol	128	5.937	5.942	-0.021	96	480263	40.0	18.0	
36 2-Methylphenol	108	6.417	6.417	-0.016	95	453881	40.0	18.0	
38 2,2'-oxybis[1-chloropropan	45	6.433	6.438	-0.022	89	593620	40.0	19.8	
41 N-Nitrosodi-n-propylamine	70	6.562	6.561	-0.016	78	392756	40.0	21.8	
40 Acetophenone	105	6.562	6.561	-0.016	90	734261	40.0	19.4	
42 4-Methylphenol	108	6.572	6.566	-0.011	90	489409	40.0	19.1	
45 Hexachloroethane	117	6.684	6.683	-0.016	93	156992	40.0	11.6	
46 Nitrobenzene	77	6.733	6.744	-0.021	90	613115	40.0	22.0	
48 Isophorone	82	6.973	6.979	-0.016	99	1166718	40.0	22.6	
49 2-Nitrophenol	139	7.058	7.064	-0.016	99	294095	40.0	22.3	
50 2,4-Dimethylphenol	107	7.096	7.096	-0.010	98	465529	40.0	16.5	
53 Bis(2-chloroethoxy)methane	93	7.181	7.182	-0.011	97	628418	40.0	18.7	
54 2,4-Dichlorophenol	162	7.299	7.304	-0.016	95	503952	40.0	20.0	
58 Naphthalene	128	7.464	7.464	-0.011	98	1521215	40.0	17.0	
59 4-Chloroaniline	127	7.507	7.507	-0.011	95	686949	40.0	18.4	
62 Hexachlorobutadiene	225	7.587	7.592	-0.016	96	288332	40.0	14.5	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
64 Caprolactam	113	7.817	7.811	-0.005	77	239294	40.0	29.1	
67 4-Chloro-3-methylphenol	107	7.972	7.966	-0.005	96	628335	40.0	25.0	
69 2-Methylnaphthalene	142	8.138	8.137	-0.010	92	1246280	40.0	18.4	
72 Hexachlorocyclopentadiene	237	8.298	8.299	-0.010	94	62819	40.0	2.71	
74 2,4,6-Trichlorophenol	196	8.405	8.406	-0.010	94	453579	40.0	20.5	
75 2,4,5-Trichlorophenol	196	8.442	8.443	-0.011	94	471380	40.0	20.2	
76 1,1'-Biphenyl	154	8.581	8.582	-0.011	95	1594642	40.0	17.9	
77 2-Chloronaphthalene	162	8.613	8.614	-0.011	96	1201480	40.0	17.1	
79 2-Nitroaniline	65	8.693	8.694	-0.011	79	482613	40.0	26.8	
82 Dimethyl phthalate	163	8.853	8.854	-0.011	98	1795076	40.0	23.5	
84 2,6-Dinitrotoluene	165	8.918	8.918	-0.010	94	393504	40.0	24.3	
85 Acenaphthylene	152	9.014	9.019	-0.016	98	2044043	40.0	18.6	
86 3-Nitroaniline	138	9.083	9.083	-0.011	90	385916	40.0	21.3	
88 Acenaphthene	153	9.179	9.185	-0.016	87	1298180	40.0	18.6	
87 2,4-Dinitrophenol	184	9.185	9.185	-0.010	70	455174	80.0	53.5	
89 4-Nitrophenol	109	9.233	9.227	-0.005	96	639001	80.0	69.4	
91 2,4-Dinitrotoluene	165	9.308	9.307	-0.010	93	591168	40.0	27.7	
93 Dibenzofuran	168	9.345	9.345	-0.011	96	1959098	40.0	18.2	
98 Diethyl phthalate	149	9.521	9.521	-0.011	98	1834673	40.0	24.8	
100 4-Chlorophenyl phenyl ethe	204	9.655	9.654	-0.010	93	889960	40.0	19.4	
101 4-Nitroaniline	138	9.671	9.670	-0.010	81	431146	40.0	22.7	
103 Fluorene	166	9.676	9.676	-0.011	94	1644811	40.0	19.3	
104 4,6-Dinitro-2-methylphenol	198	9.703	9.704	-0.011	84	727174	80.0	53.6	
105 N-Nitrosodiphenylamine	169	9.762	9.762	-0.010	63	1237393	40.0	21.0	
110 4-Bromophenyl phenyl ether	248	10.125	10.125	-0.011	66	562012	40.0	23.4	
112 Hexachlorobenzene	284	10.216	10.216	-0.010	93	543711	40.0	23.4	
113 Atrazine	200	10.248	10.248	-0.010	93	621967	40.0	29.3	
116 Pentachlorophenol	266	10.392	10.392	-0.011	90	610411	80.0	42.7	
121 Phenanthrene	178	10.616	10.616	-0.011	97	2947060	40.0	23.9	
122 Anthracene	178	10.670	10.670	-0.010	97	2972940	40.0	24.7	
124 Carbazole	167	10.825	10.819	-0.005	98	2915805	40.0	26.2	
126 Di-n-butyl phthalate	149	11.140	11.139	-0.011	100	3522948	40.0	29.4	
131 Fluoranthene	202	12.016	12.015	-0.011	97	3739574	40.0	27.3	
133 Pyrene	202	12.337	12.343	-0.010	98	3777487	40.0	30.3	
138 Butyl benzyl phthalate	149	13.250	13.256	-0.011	99	1613912	40.0	35.9	
144 3,3'-Dichlorobenzidine	252	14.244	14.244	-0.005	74	893365	40.0	22.0	
145 Bis(2-ethylhexyl) phthalat	149	14.286	14.292	-0.011	97	2339123	40.0	37.4	
146 Benzo[a]anthracene	228	14.319	14.318	-0.010	98	3285604	40.0	29.4	
147 Chrysene	228	14.388	14.393	-0.011	96	3232590	40.0	29.2	
150 Di-n-octyl phthalate	149	15.585	15.595	-0.016	100	3888888	40.0	30.9	
152 Benzo[b]fluoranthene	252	16.450	16.461	-0.005	97	3300443	40.0	26.9	
153 Benzo[k]fluoranthene	252	16.503	16.503	-0.011	99	3372731	40.0	25.9	
154 Benzo[a]pyrene	252	17.107	17.112	-0.011	77	2983064	40.0	27.0	
157 Indeno[1,2,3-cd]pyrene	276	19.575	19.570	0.000	99	3389257	40.0	28.9	
158 Dibenz(a,h)anthracene	278	19.613	19.611	-0.005	93	2828658	40.0	29.5	
159 Benzo[g,h,i]perylene	276	20.259	20.257	-0.005	98	1789272	40.0	17.6	

Reagents:

SVTAPITINTRNi_00022 Amount Added: 1.00 Units: uL Run Reagent

Report Date: 07-Oct-2019 04:39:08 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH732\20191005-28986.b\D10050027.D				
Injection Date:	05-Oct-2019 21:25:30	Instrument ID:	CH732	Operator ID:	003200
Lims ID:	180-96144-F-1-A MS			Worklist Smp#:	27
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	26
Method:	BNA_CH732	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

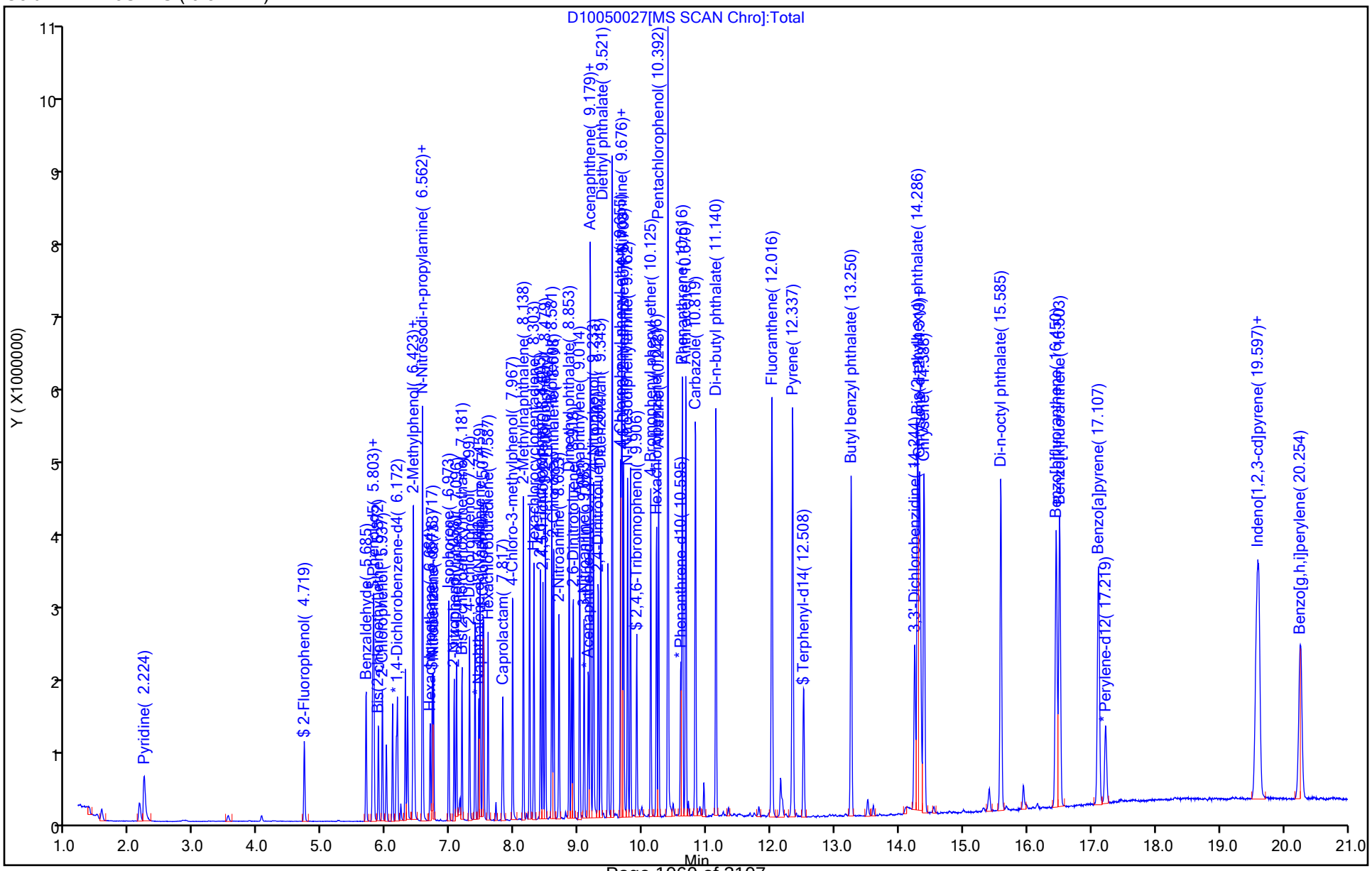

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CH732\20191005-28986.b\D10050027.D
Lims ID: 180-96144-F-1-A MS
Client ID:
Sample Type: MS
Inject. Date: 05-Oct-2019 21:25:30 ALS Bottle#: 26 Worklist Smp#: 27
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028986-027
Operator ID: 003200 Instrument ID: CH732

Method: \\chromna\Pittsburgh\ChromData\CH732\20191005-28986.b\BNA_CH732.m
Limit Group: BNA 8270D ICAL
Last Update: 07-Oct-2019 04:38:09 Calib Date: 11-Jul-2019 12:08:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CH732\20190711-27697.b\D07110010.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0303

First Level Reviewer: piccolinov Date: 07-Oct-2019 04:35:24

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	40.0	18.0	44.90
$ 8 Phenol-d5	40.0	18.7	46.78
$ 9 Nitrobenzene-d5	40.0	23.3	58.27
$ 10 2-Fluorobiphenyl	40.0	17.9	44.81
$ 11 2,4,6-Tribromophenol	40.0	29.7	74.13
$ 12 Terphenyl-d14	40.0	11.0	27.57

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Instrument ID: CH732 Start Date: 07/10/2019 07:40

Analysis Batch Number: 284340 End Date: 07/10/2019 14:08

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 180-284340/2		07/10/2019 07:40	1	D07100002.D	Rxi-5SilMS 0.32(mm)
IC 180-284340/3		07/10/2019 07:55	1	D07100003.D	Rxi-5SilMS 0.32(mm)
IC 180-284340/4		07/10/2019 08:21	1	D07100004.D	Rxi-5SilMS 0.32(mm)
IC 180-284340/5		07/10/2019 08:48	1	D07100005.D	Rxi-5SilMS 0.32(mm)
ICIS 180-284340/6		07/10/2019 09:14	1	D07100006.D	Rxi-5SilMS 0.32(mm)
IC 180-284340/7		07/10/2019 09:41	1	D07100007.D	Rxi-5SilMS 0.32(mm)
IC 180-284340/8		07/10/2019 10:07	1	D07100008.D	Rxi-5SilMS 0.32(mm)
IC 180-284340/9		07/10/2019 10:34	1	D07100009.D	Rxi-5SilMS 0.32(mm)
IC 180-284340/10		07/10/2019 11:01	1	D07100010.D	Rxi-5SilMS 0.32(mm)
ICV 180-284340/11		07/10/2019 11:27	1		Rxi-5SilMS 0.32(mm)
ICV 180-284340/12		07/10/2019 11:54	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		07/10/2019 12:47	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		07/10/2019 13:14	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		07/10/2019 13:41	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		07/10/2019 14:08	1		Rxi-5SilMS 0.32(mm)

EPA 8270D

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Instrument ID: CH732 Start Date: 10/05/2019 10:39

Analysis Batch Number: 293862 End Date: 10/05/2019 21:25

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 180-293862/2		10/05/2019 10:39	1	D10050002.D	Rxi-5SilMS 0.32(mm)
CCVIS 180-293862/3		10/05/2019 10:53	1	D10050003.D	Rxi-5SilMS 0.32(mm)
MB 180-293338/1-A		10/05/2019 11:20	1	D10050004.D	Rxi-5SilMS 0.32(mm)
LCS 180-293338/2-A		10/05/2019 11:47	1	D10050005.D	Rxi-5SilMS 0.32(mm)
ZZZZZ		10/05/2019 17:30	1		Rxi-5SilMS 0.32(mm)
180-96144-1 MS		10/05/2019 21:25	1	D10050027.D	Rxi-5SilMS 0.32(mm)

EPA 8270D

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Instrument ID: CH732 Start Date: 10/07/2019 08:48

Analysis Batch Number: 293945 End Date: 10/07/2019 20:22

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 180-293945/2		10/07/2019 08:48	1	D10070002.D	Rxi-5SilMS 0.32(mm)
CCVIS 180-293945/3		10/07/2019 09:02	1	D10070003.D	Rxi-5SilMS 0.32(mm)
ZZZZZ		10/07/2019 09:28	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		10/07/2019 09:55	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		10/07/2019 15:34	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		10/07/2019 16:00	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		10/07/2019 16:27	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		10/07/2019 16:53	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		10/07/2019 17:19	1		Rxi-5SilMS 0.32(mm)
180-96144-1		10/07/2019 19:30	1	D10070027.D	Rxi-5SilMS 0.32(mm)
ZZZZZ		10/07/2019 19:56	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		10/07/2019 20:22	1		Rxi-5SilMS 0.32(mm)

EPA 8270D

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-96144-1

SDG No.:

Batch Number: 293338 Batch Start Date: 10/01/19 11:49 Batch Analyst: Trout, Bill

Batch Method: 3520C Batch End Date: 10/04/19 15:55

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ReceivedpH	FirstAdjustpH	SecondAdjustpH	OPLVISPKMIX1i 00066
MB 180-293338/1		3520C, EPA 8270D		250 mL	2.5 mL	6 SU	2 SU	11 SU	
LCS 180-293338/2		3520C, EPA 8270D		250 mL	2.5 mL	6 SU	2 SU	11 SU	250 uL
180-96144-F-1 MS	11187072-CONTACT -INITIAL	3520C, EPA 8270D	T	260 mL	2.5 mL	7 SU	2 SU	11 SU	250 uL
180-96144-E-1	11187072-CONTACT -INITIAL	3520C, EPA 8270D	T	260 mL	2.5 mL	7 SU	2 SU	11 SU	

Lab Sample ID	Client Sample ID	Method Chain	Basis	OPQL8270SURi 00084					
MB 180-293338/1		3520C, EPA 8270D		250 uL					
LCS 180-293338/2		3520C, EPA 8270D		250 uL					
180-96144-F-1 MS	11187072-CONTACT -INITIAL	3520C, EPA 8270D	T	250 uL					
180-96144-E-1	11187072-CONTACT -INITIAL	3520C, EPA 8270D	T	250 uL					

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-96144-1

SDG No.:

Batch Number: 293338 Batch Start Date: 10/01/19 11:49 Batch Analyst: Trout, Bill

Batch Method: 3520C Batch End Date: 10/04/19 15:55

Batch Notes	
Acid Used for pH Adjustment ID	3363493
Concentration 1 Thermometer ID	water bath 2 CF 2.0
Concentration 2 Thermometer ID	1 CF 0.0
Analyst ID - Concentration	EPS
Concentration 1 Corrected Temperature	67 Degrees C
Concentration 2 Corrected Temperature	21 Degrees C
Equipment ID - Concentration 1	water bath 2
Equipment ID - Concentration 2	1
Analyst ID - Extraction	BT
Filter ID	16917464
Extraction 1 End Time	10/02/2019 09:00
Extraction 1 Start Time	10/01/2019 15:00
Na2SO4 ID	3132606
pH Indicator ID	Ph paper HC987808
Prep Solvent ID	3396883
Analyst ID - Spike Analyst	BT
Sufficient Volume for Batch QC	yes
Concentration 1 Uncorrected Temperature	65 Degrees C
Concentration 2 Uncorrected Temperature	21 Degrees C

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Method 8081B

Organochlorine Pesticides (GC) by Method 8081B

FORM II
PESTICIDES SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): MR-1 ID: 0.53(mm) GC Column (2): MR-2 ID: 0.53(mm)

Client Sample ID	Lab Sample ID	TCX1 #	TCX2 #	DCB1 #	DCB2 #
11187072-CONTACT-INITIAL	180-96144-1	89	82	85	95
11187072-CONTACT-INITIAL RA	180-96144-1 RA	95	88	98	104
	MB 180-293037/1-A	87	83	87	95
	MB 180-293037/1-A RA	101	96	100	108
	LCS 180-293037/2-A	91	84	89	99
	LCSD 180-293037/3-A	95	89	92	104

	QC LIMITS
TCX = Tetrachloro-m-xylene	54-138
DCB = DCB Decachlorobiphenyl (Surr)	62-150

Column to be used to flag recovery values

FORM II EPA 8081B

FORM III
PESTICIDES LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 10011943.D

Lab ID: LCS 180-293037/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
gamma-BHC (Lindane)	1.00	0.921	92	66-127	
Endrin	1.00	0.878	88	71-134	
Heptachlor	1.00	0.880	88	66-134	
Heptachlor epoxide	1.00	0.880	88	65-141	
Methoxychlor	1.00	0.841	84	59-131	

Column to be used to flag recovery and RPD values

FORM III EPA 8081B

FORM III
PESTICIDES LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 10011944.D

Lab ID: LCSD 180-293037/3-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
gamma-BHC (Lindane)	1.00	0.947	95	3	15	66-127	
Endrin	1.00	0.908	91	3	18	71-134	
Heptachlor	1.00	0.939	94	6	15	66-134	
Heptachlor epoxide	1.00	0.919	92	4	15	65-141	
Methoxychlor	1.00	0.911	91	8	28	59-131	

Column to be used to flag recovery and RPD values

FORM III EPA 8081B

FORM IV
PESTICIDES METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: MB 180-293037/1-A

Matrix: Water Date Extracted: 09/28/2019 04:25

Lab File ID:(1) 10011942.D Lab File ID:(2) 10011942.D

Date Analyzed:(1) 10/01/2019 20:57 Date Analyzed:(2) 10/01/2019 20:57

Instrument ID:(1) CHGC17 Instrument ID:(2) CHGC17

GC Column:(1) MR-1 ID: 0.53(mm) GC Column:(2) MR-2 ID: 0.53(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
	LCS 180-293037/2-A	10/01/2019 21:13	10/01/2019 21:13
	LCSD 180-293037/3-A	10/01/2019 21:28	10/01/2019 21:28
11187072-CONTACT-INITIAL	180-96144-1	10/01/2019 21:44	10/01/2019 21:44

FORM IV
PESTICIDES METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: MB 180-293037/1-A

Matrix: Water Date Extracted: 09/28/2019 04:25

Lab File ID:(1) 10021912.D Lab File ID:(2) 10021912.D

Date Analyzed:(1) 10/02/2019 10:08 Date Analyzed:(2) 10/02/2019 10:08

Instrument ID:(1) CHGC17 Instrument ID:(2) CHGC17

GC Column:(1) MR-1 ID: 0.53(mm) GC Column:(2) MR-2 ID: 0.53(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
11187072-CONTACT-INITIAL RA	180-96144-1 RA	10/02/2019 10:24	10/02/2019 10:24

FORM VIII
PESTICIDES INTERNAL STANDARD HEIGHT AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Sample No.: CCVIS 180-293301/28 Date Analyzed: 10/01/2019 17:15

Instrument ID: CHGC17 GC Column: MR-1 ID: 0.53(mm)

Lab File ID (Standard): 10011928.D Heated Purge: (Y/N) N

Calibration ID: 39993

		BNB		DBC			
		HEIGHT #	RT #	HEIGHT #	RT #	HEIGHT #	RT #
12/24 HOUR STD		158006128	3.91	106647479	8.32		
UPPER LIMIT		237009192	3.92	159971219	8.33		
LOWER LIMIT		79003064	3.90	53323740	8.31		
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 180-293037/1-A		174423703	3.91	119818676	8.32		
LCS 180-293037/2-A		173310661	3.91	117360370	8.32		
LCSD 180-293037/3-A		180377465	3.91	123366726	8.32		
180-96144-1	11187072-CONTACT-INITIAL	172290352	3.91	122924068	8.32		

BNB = 1-Bromo-2-nitrobenzene
DBC = Dibutylchlorendate ISTD

Area Limit = 50%-150% of internal standard area
RT Limit = ± 0.01 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8081B

FORM VIII
PESTICIDES INTERNAL STANDARD HEIGHT AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Sample No.: CCVIS 180-293301/28 Date Analyzed: 10/01/2019 17:15

Instrument ID: CHGC17 GC Column: MR-2 ID: 0.53(mm)

Lab File ID (Standard): 10011928.D Heated Purge: (Y/N) N

Calibration ID: 39994

		BNB		DBC			
		HEIGHT #	RT #	HEIGHT #	RT #	HEIGHT #	RT #
12/24 HOUR STD		317400586	4.10	186771679	8.32		
UPPER LIMIT		476100879	4.11	280157519	8.33		
LOWER LIMIT		158700293	4.09	93385840	8.31		
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 180-293037/1-A		347150700	4.10	191082232	8.32		
LCS 180-293037/2-A		336109091	4.10	190142600	8.32		
LCSD 180-293037/3-A		354484271	4.10	197889622	8.32		
180-96144-1	11187072-CONTACT-INITIAL	338735409	4.10	199168372	8.32		

BNB = 1-Bromo-2-nitrobenzene
DBC = Dibutylchlorendate ISTD

Area Limit = 50%-150% of internal standard area
RT Limit = ± 0.01 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8081B

FORM VIII
PESTICIDES INTERNAL STANDARD HEIGHT AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Sample No.: CCVIS 180-293427/5 Date Analyzed: 10/02/2019 08:17

Instrument ID: CHGC17 GC Column: MR-1 ID: 0.53(mm)

Lab File ID (Standard): 10021905.D Heated Purge: (Y/N) N

Calibration ID: 39993

		BNB		DBC			
		HEIGHT #	RT #	HEIGHT #	RT #	HEIGHT #	RT #
12/24 HOUR STD		145161409	3.91	102807018	8.32		
UPPER LIMIT		217742114	3.92	154210527	8.33		
LOWER LIMIT		72580705	3.90	51403509	8.31		
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 180-293037/1-A RA		152883058	3.91	99112575	8.32		
180-96144-1 RA	11187072-CONTACT-INITIAL RA	158684854	3.91	104710191	8.32		

BNB = 1-Bromo-2-nitrobenzene
DBC = Dibutylchlorendate ISTD

Area Limit = 50%-150% of internal standard area
RT Limit = ± 0.01 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8081B

FORM VIII
PESTICIDES INTERNAL STANDARD HEIGHT AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Sample No.: CCVIS 180-293427/5 Date Analyzed: 10/02/2019 08:17

Instrument ID: CHGC17 GC Column: MR-2 ID: 0.53(mm)

Lab File ID (Standard): 10021905.D Heated Purge: (Y/N) N

Calibration ID: 39994

		BNB		DBC			
		HEIGHT #	RT #	HEIGHT #	RT #	HEIGHT #	RT #
12/24 HOUR STD		291239350	4.10	183363088	8.32		
UPPER LIMIT		436859025	4.11	275044632	8.33		
LOWER LIMIT		145619675	4.09	91681544	8.31		
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 180-293037/1-A RA		306072828	4.10	178434037	8.32		
180-96144-1 RA	11187072-CONTACT-INITIAL RA	311116017	4.10	189341459	8.32		

BNB = 1-Bromo-2-nitrobenzene
DBC = Dibutylchlorendate ISTD

Area Limit = 50%-150% of internal standard area
RT Limit = ± 0.01 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8081B

FORM X
IDENTIFICATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 180-293037/2-A

Instrument ID (1): CHGC17 Instrument ID (2): CHGC17

Date Analyzed (1): 10/01/2019 21:13 Date Analyzed (2): 10/01/2019 21:13

GC Column (1): MR-1 ID: 0.53(mm) GC Column (2): MR-2 ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
gamma-BHC (Lindane)	1		5.52	5.51	5.53	0.921		2.2
	2		5.72	5.71	5.73	0.942		
Heptachlor	1		5.99	5.98	6.00	0.880		9.5
	2		6.04	6.03	6.05	0.968		
Heptachlor epoxide	1		6.63	6.62	6.64	0.880		8.5
	2		6.76	6.75	6.77	0.958		
Endrin	1		7.39	7.38	7.40	0.878		4.4
	2		7.63	7.62	7.64	0.917		
Methoxychlor	1		8.25	8.24	8.26	0.841		9.4
	2		8.51	8.50	8.52	0.765		

FORM X
IDENTIFICATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 180-293037/3-A

Instrument ID (1): CHGC17 Instrument ID (2): CHGC17

Date Analyzed (1): 10/01/2019 21:28 Date Analyzed (2): 10/01/2019 21:28

GC Column (1): MR-1 ID: 0.53(mm) GC Column (2): MR-2 ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
gamma-BHC (Lindane)	1		5.52	5.51	5.53	0.947		3.7
	2		5.72	5.71	5.73	0.983		
Heptachlor	1		5.99	5.98	6.00	0.939		6.9
	2		6.04	6.03	6.05	1.01		
Heptachlor epoxide	1		6.63	6.62	6.64	0.919		11.1
	2		6.76	6.75	6.77	1.03		
Endrin	1		7.39	7.38	7.40	0.908		4.4
	2		7.63	7.62	7.64	0.949		
Methoxychlor	1		8.25	8.24	8.26	0.911		13.6
	2		8.52	8.50	8.52	0.795		

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: 11187072-CONTACT-INITIAL Lab Sample ID: 180-96144-1

Matrix: Water Lab File ID: 10011945.D

Analysis Method: EPA 8081B Date Collected: 09/24/2019 15:00

Extraction Method: 3510C Date Extracted: 09/28/2019 04:25

Sample wt/vol: 1060(mL) Date Analyzed: 10/01/2019 21:44

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: MR-1 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 293301 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
58-89-9	gamma-BHC (Lindane)	ND		0.047	0.011
12789-03-6	Chlordane (technical)	ND		0.47	0.27
72-20-8	Endrin	ND		0.047	0.0086
76-44-8	Heptachlor	ND		0.047	0.017
1024-57-3	Heptachlor epoxide	ND		0.047	0.013
72-43-5	Methoxychlor	ND		0.047	0.029
8001-35-2	Toxaphene	ND		3.8	1.9

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene	89		54-138
2051-24-3	DCB Decachlorobiphenyl (Surr)	85		62-150

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011945.D
Lims ID: 180-96144-A-1-A
Client ID: 11187072-CONTACT-INITIAL
Sample Type: Client
Inject. Date: 01-Oct-2019 21:44:37 ALS Bottle#: 45 Worklist Smp#: 45
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028917-045
Operator ID: Instrument ID: CHGC17

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 02-Oct-2019 06:16:22 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0320

First Level Reviewer: eppinged Date: 02-Oct-2019 06:16:22

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene						
1	3.909	3.913	-0.004	172290352H	0.1000	
2	4.095	4.099	-0.004	338735409H	0.1000	
$ 3 Tetrachloro-m-xylene						
1	4.891	4.895	-0.004	37515953H	0.0177	
2	4.953	4.958	-0.005	64265263H	0.0164	
					RPD = 7.49	
6 Hexachlorobenzene						M
1	5.294	5.289	0.005	267803H	0.000141	
2	5.389	5.381	0.008	597754H	0.000154	M
					RPD = 8.72	
7 gamma-BHC (Lindane)						
1		5.523			ND	
2		5.724				
9 Chlordane (technical)						
1		5.812			ND	
1		5.986				
1		6.842				
1		6.910				
2		5.882				
2		6.041				
2		6.995				
2		7.044				
11 Heptachlor						
1		5.989			ND	
2		6.044				
16 Heptachlor epoxide						
1		6.626			ND	
2		6.760				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
24 Toxaphene						
1		7.100			ND	
1		7.620				
1		7.820				
1		7.984				
2		7.300				
2		7.843				
2		8.082				
2		8.564				
27 Endrin						
1		7.394			ND	
2		7.627				
35 Methoxychlor						
1		8.246			ND	
2		8.514				
* 36 Dibutylchlorendate ISTD						s
1	8.316	8.321	-0.005	122924068H	0.1000	
2	8.317	8.322	-0.005	199168372H	0.1000	
$ 39 DCB Decachlorobiphenyl (Surr)						
1	10.167	10.176	-0.009	13013386H	0.0170	
2	10.599	10.608	-0.009	23576253H	0.0189	
					RPD = 10.52	

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

H - Response Measured by Height

Review Flags

M - Manually Integrated

Reagents:

GCPESTISSPK2_00016 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 02-Oct-2019 06:16:33 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011945.D				
Injection Date:	01-Oct-2019 21:44:37	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	180-96144-A-1-A	Lab Sample ID:	180-96144-1	Worklist Smp#:	45
Client ID:	11187072-CONTACT-INITIAL				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	45
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

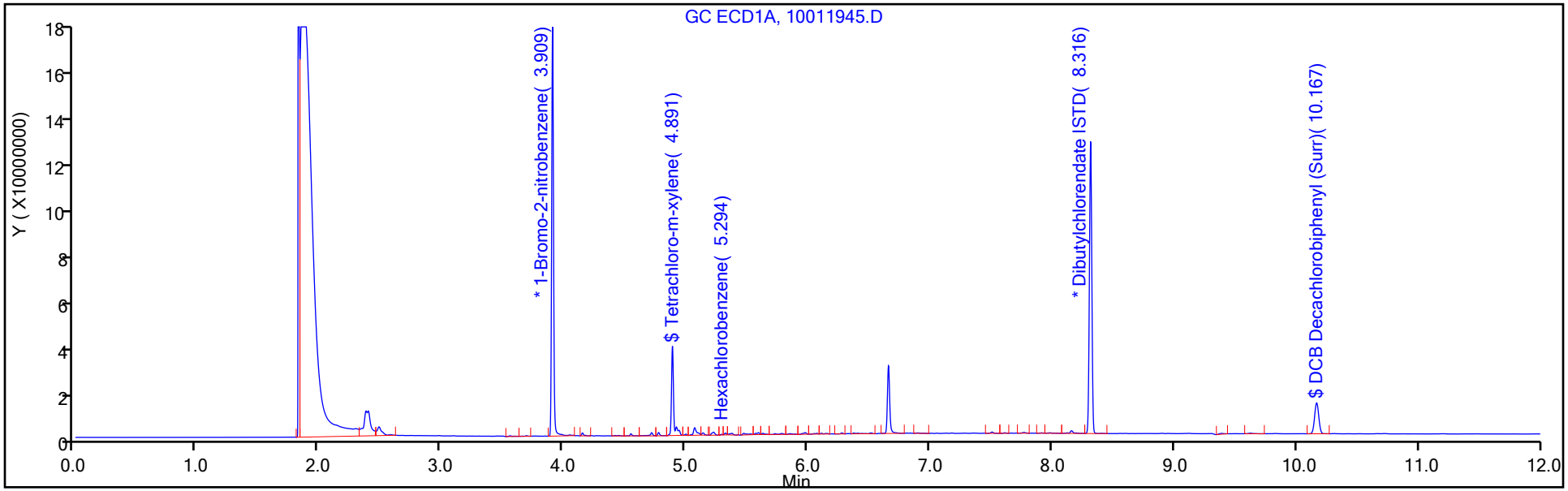

Column: MR-2 (0.53 mm)

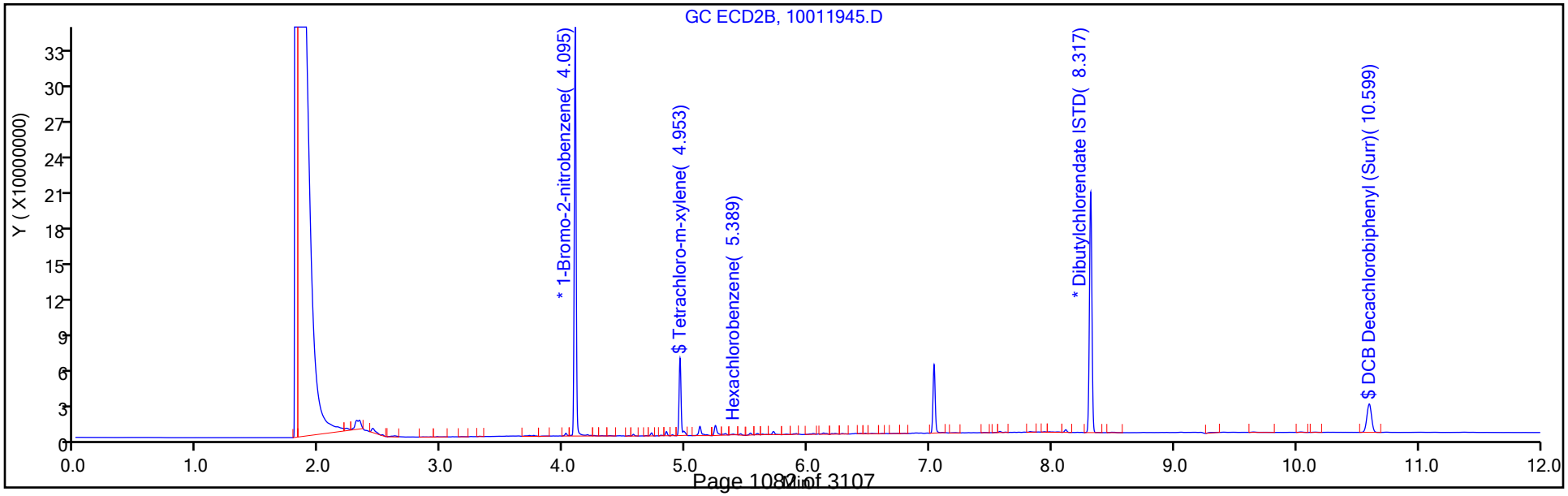

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011945.D				
Lims ID:	180-96144-A-1-A				
Client ID:	11187072-CONTACT-INITIAL				
Sample Type:	Client				
Inject. Date:	01-Oct-2019 21:44:37	ALS Bottle#:	45	Worklist Smp#:	45
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0028917-045				
Operator ID:		Instrument ID:	CHGC17		

Method:	\\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\IS PEST_CHGC17.m		
Limit Group:	GCS 8081B ICAL with IS		
Last Update:	02-Oct-2019 06:16:22	Calib Date:	02-Apr-2019 17:14:51
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D		

Column 1 :	MR-1 (0.53 mm)	Det: GC ECD1A
Column 2 :	MR-2 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0320	

First Level Reviewer: eppinged Date: 02-Oct-2019 06:16:22

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0177	88.62
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0170	85.09

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0164	82.23
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0189	94.54

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: 11187072-CONTACT-INITIAL Lab Sample ID: 180-96144-1

Matrix: Water Lab File ID: 10011945.D

Analysis Method: EPA 8081B Date Collected: 09/24/2019 15:00

Extraction Method: 3510C Date Extracted: 09/28/2019 04:25

Sample wt/vol: 1060(mL) Date Analyzed: 10/01/2019 21:44

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: MR-2 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 293301 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene	82		54-138
2051-24-3	DCB Decachlorobiphenyl (Surr)	95		62-150

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011945.D
Lims ID: 180-96144-A-1-A
Client ID: 11187072-CONTACT-INITIAL
Sample Type: Client
Inject. Date: 01-Oct-2019 21:44:37 ALS Bottle#: 45 Worklist Smp#: 45
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028917-045
Operator ID: Instrument ID: CHGC17

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 02-Oct-2019 06:16:22 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0320

First Level Reviewer: eppinged Date: 02-Oct-2019 06:16:22

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene						
1	3.909	3.913	-0.004	172290352H	0.1000	
2	4.095	4.099	-0.004	338735409H	0.1000	
$ 3 Tetrachloro-m-xylene						
1	4.891	4.895	-0.004	37515953H	0.0177	
2	4.953	4.958	-0.005	64265263H	0.0164	
					RPD = 7.49	
6 Hexachlorobenzene						M
1	5.294	5.289	0.005	267803H	0.000141	
2	5.389	5.381	0.008	597754H	0.000154	M
					RPD = 8.72	
7 gamma-BHC (Lindane)						
1		5.523			ND	
2		5.724				
9 Chlordane (technical)						
1		5.812			ND	
1		5.986				
1		6.842				
1		6.910				
2		5.882				
2		6.041				
2		6.995				
2		7.044				
11 Heptachlor						
1		5.989			ND	
2		6.044				
16 Heptachlor epoxide						
1		6.626			ND	
2		6.760				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
24 Toxaphene						
1		7.100			ND	
1		7.620				
1		7.820				
1		7.984				
2		7.300				
2		7.843				
2		8.082				
2		8.564				
27 Endrin						
1		7.394			ND	
2		7.627				
35 Methoxychlor						
1		8.246			ND	
2		8.514				
* 36 Dibutylchlorendate ISTD						s
1	8.316	8.321	-0.005	122924068H	0.1000	
2	8.317	8.322	-0.005	199168372H	0.1000	
$ 39 DCB Decachlorobiphenyl (Surr)						
1	10.167	10.176	-0.009	13013386H	0.0170	
2	10.599	10.608	-0.009	23576253H	0.0189	
					RPD = 10.52	

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

H - Response Measured by Height

Review Flags

M - Manually Integrated

Reagents:

GCPESTISSPK2_00016 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 02-Oct-2019 06:16:33 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011945.D				
Injection Date:	01-Oct-2019 21:44:37	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	180-96144-A-1-A	Lab Sample ID:	180-96144-1	Worklist Smp#:	45
Client ID:	11187072-CONTACT-INITIAL				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	45
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

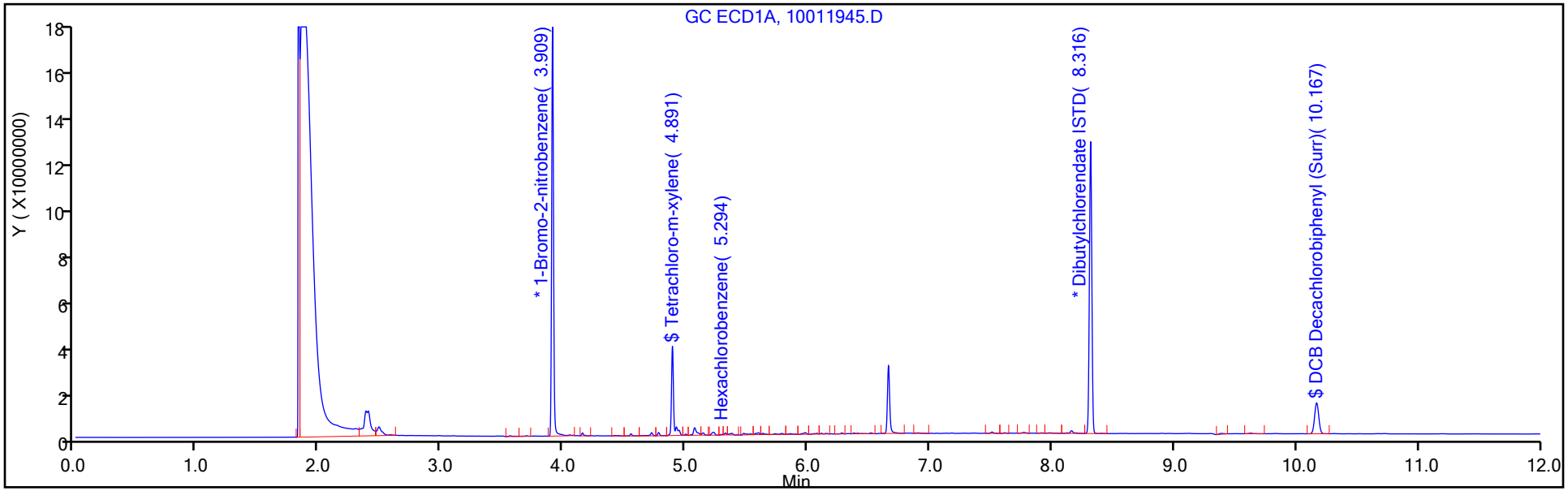

Column: MR-2 (0.53 mm)

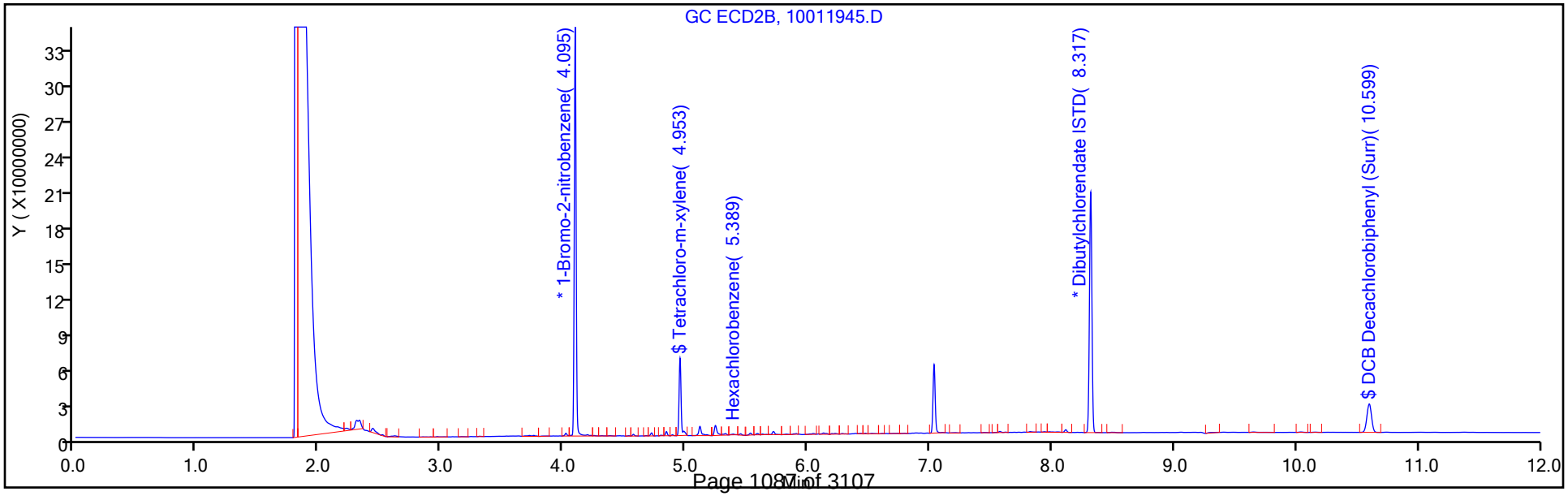

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011945.D				
Lims ID:	180-96144-A-1-A				
Client ID:	11187072-CONTACT-INITIAL				
Sample Type:	Client				
Inject. Date:	01-Oct-2019 21:44:37	ALS Bottle#:	45	Worklist Smp#:	45
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0028917-045				
Operator ID:		Instrument ID:	CHGC17		
Method:	\\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\IS PEST_CHGC17.m				
Limit Group:	GCS 8081B ICAL with IS				
Last Update:	02-Oct-2019 06:16:22	Calib Date:	02-Apr-2019 17:14:51		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D				
Column 1 :	MR-1 (0.53 mm)		Det: GC ECD1A		
Column 2 :	MR-2 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0320				
First Level Reviewer: eppinged		Date:	02-Oct-2019 06:16:22		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0177	88.62
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0170	85.09

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0164	82.23
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0189	94.54

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011945.D				
Injection Date:	01-Oct-2019 21:44:37	Instrument ID:	CHGC17		
Lims ID:	180-96144-A-1-A	Lab Sample ID:	180-96144-1		
Client ID:	11187072-CONTACT-INITIAL				
Operator ID:		ALS Bottle#:	45	Worklist Smp#:	45
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

6 Hexachlorobenzene, CAS: 118-74-1

Signal: 2

Processing Integration Results

RT: 5.39
Height: 783277
Amount: 0.000202
Amount Units: ng

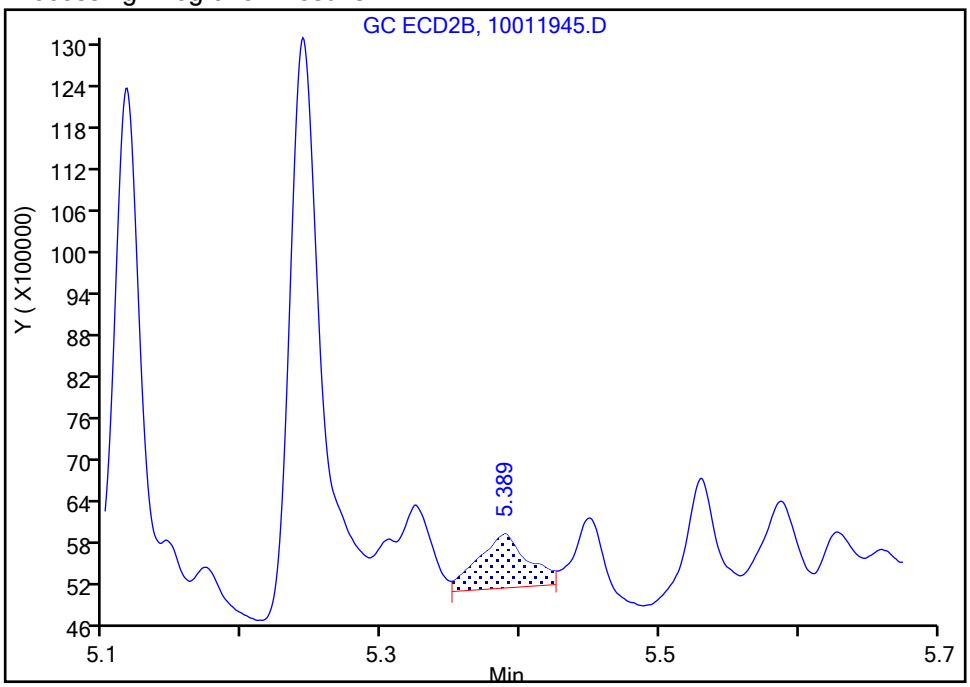

Manual Integration Results

RT: 5.39
Height: 597754
Amount: 0.000154
Amount Units: ng

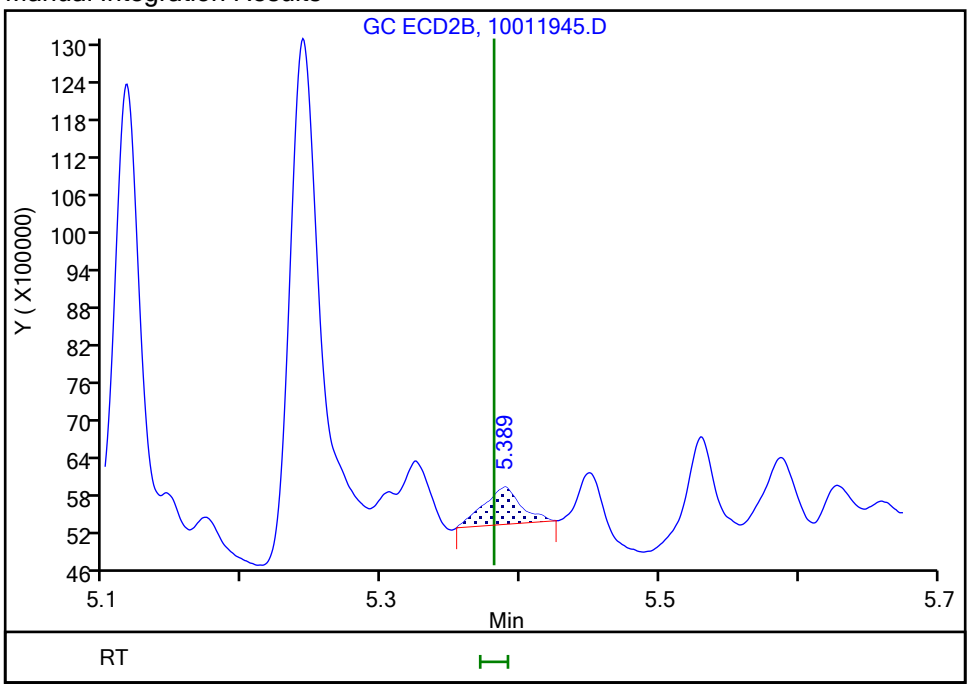

Reviewer: eppinged, 02-Oct-2019 06:14:53

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-96144-1
SDG No.:
Client Sample ID: 11187072-CONTACT-INITIAL RA
Lab Sample ID: 180-96144-1 RA
Matrix: Water
Lab File ID: 10021913.D
Analysis Method: EPA 8081B
Date Collected: 09/24/2019 15:00
Extraction Method: 3510C
Date Extracted: 09/28/2019 04:25
Sample wt/vol: 1060(mL)
Date Analyzed: 10/02/2019 10:24
Con. Extract Vol.: 40.0(mL)
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: MR-1 ID: 0.53(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 293427
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
118-74-1	Hexachlorobenzene	ND		0.047	0.016

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene	95		54-138
2051-24-3	DCB Decachlorobiphenyl (Surr)	98		62-150

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\10021913.D
Lims ID: 180-96144-A-1-A
Client ID: 11187072-CONTACT-INITIAL
Sample Type: Client
Inject. Date: 02-Oct-2019 10:24:40 ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028932-013
Operator ID: Instrument ID: CHGC17

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 02-Oct-2019 08:37:02 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0320

First Level Reviewer: eppinged Date: 02-Oct-2019 10:46:14

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene						
1	3.910	3.913	-0.003	158684854	H	0.1000
2	4.095	4.098	-0.003	311116017	H	0.1000
$ 3 Tetrachloro-m-xylene						
1	4.892	4.895	-0.003	37202250	H	0.0191
2	4.954	4.957	-0.003	63361964	H	0.0177
					RPD =	7.78
6 Hexachlorobenzene						
1	5.294	5.294	0.000	307092	H	0.000176
2	5.387	5.385	0.002	727682	H	0.000204
					RPD =	14.96
7 gamma-BHC (Lindane)						
1		5.522			ND	
2		5.724				
9 Chlordane (technical)						
1		5.812			ND	
1		5.986				
1		6.842				
1		6.910				
2		5.882				
2		6.041				
2		6.995				
2		7.044				
11 Heptachlor						
1		5.988			ND	
2		6.043				
16 Heptachlor epoxide						
1		6.627			ND	
2		6.760				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
24 Toxaphene						
1		7.100			ND	
1		7.623				
1		7.819				
1		7.985				
2		7.301				
2		7.843				
2		8.082				
2		8.564				
27 Endrin						
1		7.394			ND	
2		7.626				
35 Methoxychlor						
1		8.246			ND	
2		8.513				
* 36 Dibutylchlorendate ISTD						
1	8.319	8.322	-0.003	104710191	H 0.1000	
2	8.318	8.322	-0.004	189341459	H 0.1000	
$ 39 DCB Decachlorobiphenyl (Surr)						
1	10.171	10.177	-0.006	12781059	H 0.0196	
2	10.602	10.607	-0.005	24663111	H 0.0208	
					RPD = 5.86	

Reagents:

GCPESTISSPK2_00016 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 02-Oct-2019 10:46:19 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\10021913.D				
Injection Date:	02-Oct-2019 10:24:40	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	180-96144-A-1-A	Lab Sample ID:	180-96144-1	Worklist Smp#:	13
Client ID:	11187072-CONTACT-INITIAL				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

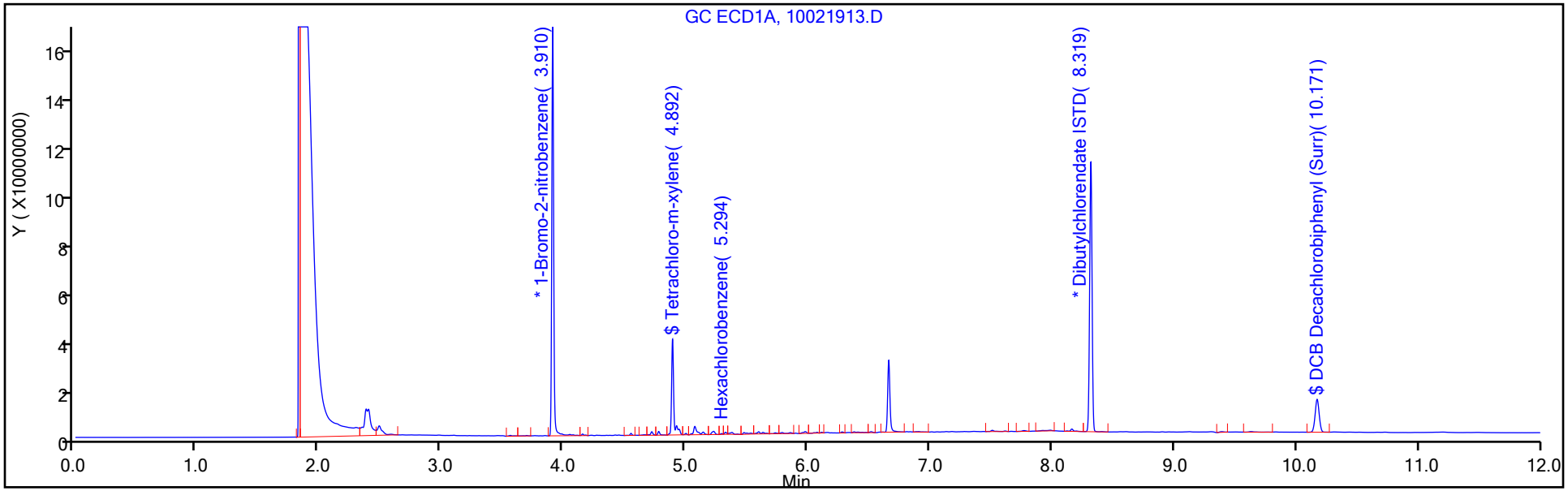

Column: MR-2 (0.53 mm)

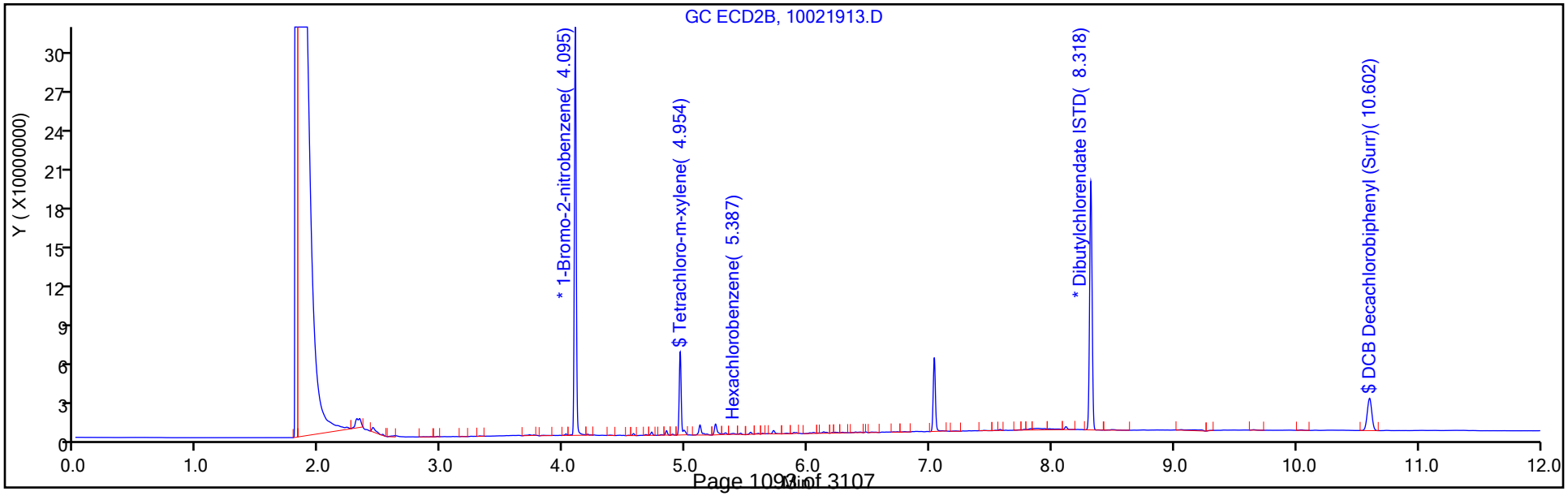

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\10021913.D				
Lims ID:	180-96144-A-1-A				
Client ID:	11187072-CONTACT-INITIAL				
Sample Type:	Client				
Inject. Date:	02-Oct-2019 10:24:40	ALS Bottle#:	13	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0028932-013				
Operator ID:		Instrument ID:	CHGC17		

Method:	\\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\IS PEST_CHGC17.m		
Limit Group:	GCS 8081B ICAL with IS		
Last Update:	02-Oct-2019 08:37:02	Calib Date:	02-Apr-2019 17:14:51
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D		

Column 1 :	MR-1 (0.53 mm)	Det: GC ECD1A
Column 2 :	MR-2 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0320	

First Level Reviewer: eppinged Date: 02-Oct-2019 10:46:14

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0191	95.42
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0196	98.11

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0177	88.27
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0208	104.03

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-96144-1
SDG No.:
Client Sample ID: 11187072-CONTACT-INITIAL RA
Lab Sample ID: 180-96144-1 RA
Matrix: Water
Lab File ID: 10021913.D
Analysis Method: EPA 8081B
Date Collected: 09/24/2019 15:00
Extraction Method: 3510C
Date Extracted: 09/28/2019 04:25
Sample wt/vol: 1060(mL)
Date Analyzed: 10/02/2019 10:24
Con. Extract Vol.: 40.0(mL)
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: MR-2 ID: 0.53(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 293427
Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene	88		54-138
2051-24-3	DCB Decachlorobiphenyl (Surr)	104		62-150

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\10021913.D
Lims ID: 180-96144-A-1-A
Client ID: 11187072-CONTACT-INITIAL
Sample Type: Client
Inject. Date: 02-Oct-2019 10:24:40 ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028932-013
Operator ID: Instrument ID: CHGC17

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 02-Oct-2019 08:37:02 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0320

First Level Reviewer: eppinged Date: 02-Oct-2019 10:46:14

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene						
1	3.910	3.913	-0.003	158684854	H	0.1000
2	4.095	4.098	-0.003	311116017	H	0.1000
$ 3 Tetrachloro-m-xylene						
1	4.892	4.895	-0.003	37202250	H	0.0191
2	4.954	4.957	-0.003	63361964	H	0.0177
					RPD =	7.78
6 Hexachlorobenzene						
1	5.294	5.294	0.000	307092	H	0.000176
2	5.387	5.385	0.002	727682	H	0.000204
					RPD =	14.96
7 gamma-BHC (Lindane)						
1		5.522			ND	
2		5.724				
9 Chlordane (technical)						
1		5.812			ND	
1		5.986				
1		6.842				
1		6.910				
2		5.882				
2		6.041				
2		6.995				
2		7.044				
11 Heptachlor						
1		5.988			ND	
2		6.043				
16 Heptachlor epoxide						
1		6.627			ND	
2		6.760				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
24 Toxaphene						
1		7.100			ND	
1		7.623				
1		7.819				
1		7.985				
2		7.301				
2		7.843				
2		8.082				
2		8.564				
27 Endrin						
1		7.394			ND	
2		7.626				
35 Methoxychlor						
1		8.246			ND	
2		8.513				
* 36 Dibutylchlorendate ISTD						
1	8.319	8.322	-0.003	104710191	H	0.1000
2	8.318	8.322	-0.004	189341459	H	0.1000
$ 39 DCB Decachlorobiphenyl (Surr)						
1	10.171	10.177	-0.006	12781059	H	0.0196
2	10.602	10.607	-0.005	24663111	H	0.0208
					RPD =	5.86

Reagents:

GCPESTISSPK2_00016 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 02-Oct-2019 10:46:20 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\10021913.D				
Injection Date:	02-Oct-2019 10:24:40	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	180-96144-A-1-A	Lab Sample ID:	180-96144-1	Worklist Smp#:	13
Client ID:	11187072-CONTACT-INITIAL				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

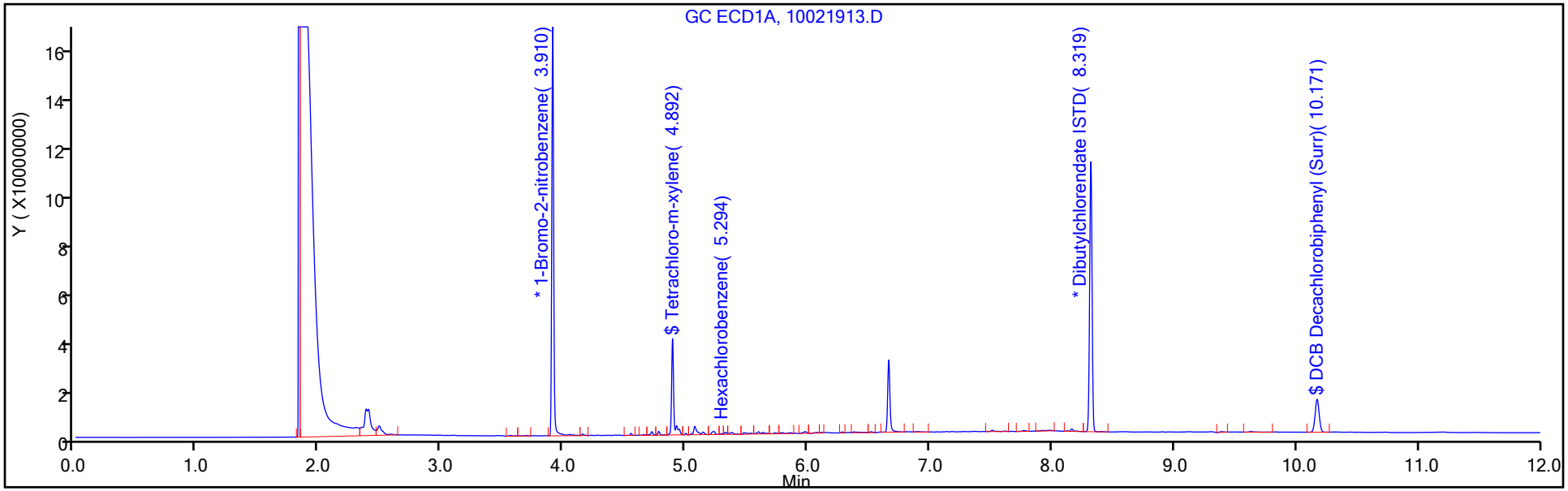

Column: MR-2 (0.53 mm)

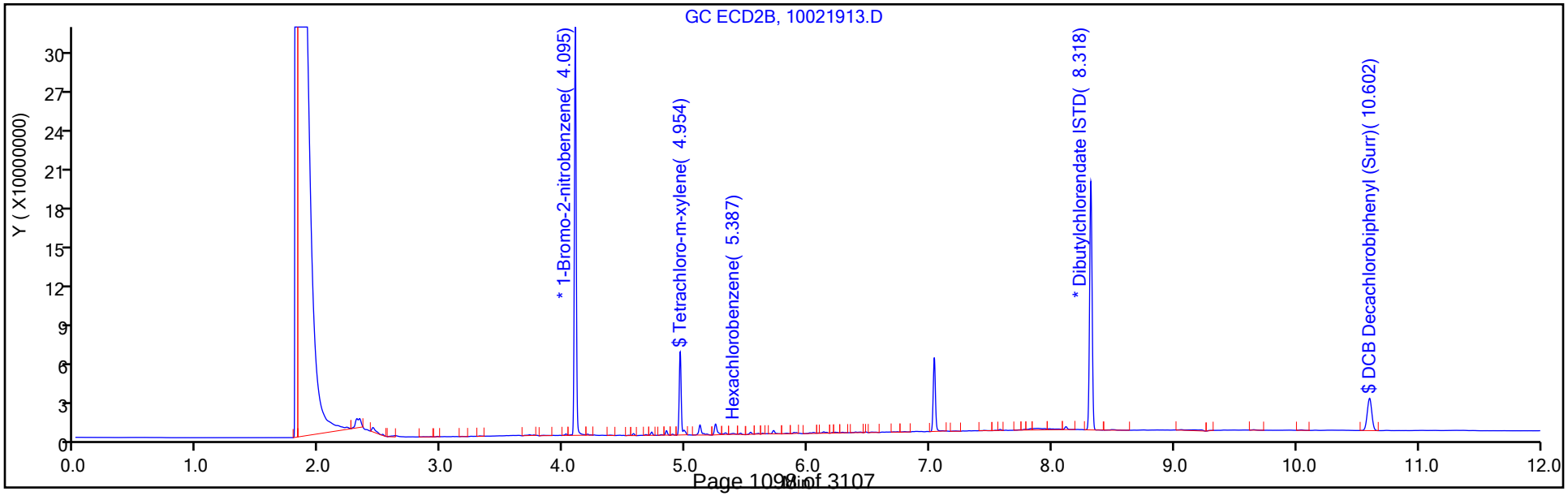

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\10021913.D				
Lims ID:	180-96144-A-1-A				
Client ID:	11187072-CONTACT-INITIAL				
Sample Type:	Client				
Inject. Date:	02-Oct-2019 10:24:40	ALS Bottle#:	13	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0028932-013				
Operator ID:		Instrument ID:	CHGC17		

Method:	\\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\IS PEST_CHGC17.m		
Limit Group:	GCS 8081B ICAL with IS		
Last Update:	02-Oct-2019 08:37:02	Calib Date:	02-Apr-2019 17:14:51
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D		

Column 1 :	MR-1 (0.53 mm)	Det: GC ECD1A
Column 2 :	MR-2 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0320	

First Level Reviewer: eppinged Date: 02-Oct-2019 10:46:14

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0191	95.42
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0196	98.11

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0177	88.27
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0208	104.03

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 274564

SDG No.:

Instrument ID: CHGC17 GC Column: MR-1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/02/2019 09:51 Calibration End Date: 04/02/2019 10:57 Calibration ID: 39969

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-274564/2	03269002.D
Level 2	IC 180-274564/3	03269003.D
Level 3	IC 180-274564/4	03269004.D
Level 4	IC 180-274564/5	03269005.D
Level 5	IC 180-274564/6	03269006.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Toxaphene Peak 1	0.0077	0.0096	0.0100	0.0096	0.0095	Ave		0.0093				9.8		20.0			
Toxaphene Peak 2	0.0175	0.0182	0.0195	0.0192	0.0194	Ave		0.0188				4.7		20.0			
Toxaphene Peak 3	0.0148	0.0163	0.0179	0.0176	0.0177	Ave		0.0169				7.7		20.0			
Toxaphene Peak 4	0.0080	0.0100	0.0111	0.0112	0.0111	Ave		0.0103				13.2		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 274564

SDG No.:

Instrument ID: CHGC17 GC Column: MR-1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/02/2019 09:51 Calibration End Date: 04/02/2019 10:57 Calibration ID: 39969

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-274564/2	03269002.D
Level 2	IC 180-274564/3	03269003.D
Level 3	IC 180-274564/4	03269004.D
Level 4	IC 180-274564/5	03269005.D
Level 5	IC 180-274564/6	03269006.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
Toxaphene Peak 1	BNB	Ave	243970	3199811	16199840	40467711	81815827	0.0200	0.200	1.00	2.50	5.00
Toxaphene Peak 2	BNB	Ave	554405	6040749	31558200	80704607	166647839	0.0200	0.200	1.00	2.50	5.00
Toxaphene Peak 3	BNB	Ave	469370	5433159	28954694	74120838	151790471	0.0200	0.200	1.00	2.50	5.00
Toxaphene Peak 4	BNB	Ave	253515	3331429	18003471	46930078	94982530	0.0200	0.200	1.00	2.50	5.00

Curve Type Legend:

Ave = Average ISTD by Height

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 274564

SDG No.:

Instrument ID: CHGC17 GC Column: MR-1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/02/2019 09:51 Calibration End Date: 04/02/2019 10:57 Calibration ID: 39969

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-274564/2	03269002.D
Level 2	IC 180-274564/3	03269003.D
Level 3	IC 180-274564/4	03269004.D
Level 4	IC 180-274564/5	03269005.D
Level 5	IC 180-274564/6	03269006.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #		LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	
Toxaphene Peak 1	-17.2	3.4	7.5	3.6	2.6		50	30	30	30	30	
Toxaphene Peak 2	-6.7	-3.2	3.8	2.4	3.6		50	30	30	30	30	
Toxaphene Peak 3	-12.2	-3.2	5.9	4.6	4.9		50	30	30	30	30	
Toxaphene Peak 4	-22.1	-2.6	8.1	8.7	7.8		50	30	30	30	30	

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269002.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 02-Apr-2019 09:51:48 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-002
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub1

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:23:01 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: eppinged Date: 02-Apr-2019 10:07:52

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.910	3.910	0.000	158360110H	0.1000	0.1000	
2	4.097	4.098	-0.001	218350904H	0.1000	0.1000	
24 Toxaphene							Ma
1	7.111	7.110	0.001	243970H	0.0200	0.0166	M
1	7.628	7.630	-0.002	554405H	0.0200	0.0187	M
1	7.828	7.830	-0.002	469370H	0.0200	0.0176	M
1	7.994	7.997	-0.003	253515H	0.0200	0.0156	M
		Average of Peak Amounts =				0.0171	
2	7.317	7.318	-0.001	410187H	0.0200	0.0186	M
2	7.862	7.861	0.001	951751H	0.0200	0.0200	M
2	8.100	8.101	-0.001	575239H	0.0200	0.0210	M
2	8.583	8.588	-0.005	353132H	0.0200	0.0170	M
		Average of Peak Amounts =				0.0191	
						RPD = 11.26	
* 36 Dibutylchlorendate ISTD							M
1	8.332	8.333	0.000	96039261H	0.1000	0.1000	
2	8.344	8.345	-0.001	115788906H	0.1000	0.1000	M

QC Flag Legend

Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

GCTOXLEVEL1_00011 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00015 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 03-Apr-2019 08:23:01 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269002.D

Injection Date: 02-Apr-2019 09:51:48 Instrument ID: CHGC17 Operator ID:

Lims ID: IC Worklist Smp#: 2

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 2

Method: IS PEST_CHGC17 Limit Group: GCS 8081B ICAL with IS

Column: MR-1 (0.53 mm)

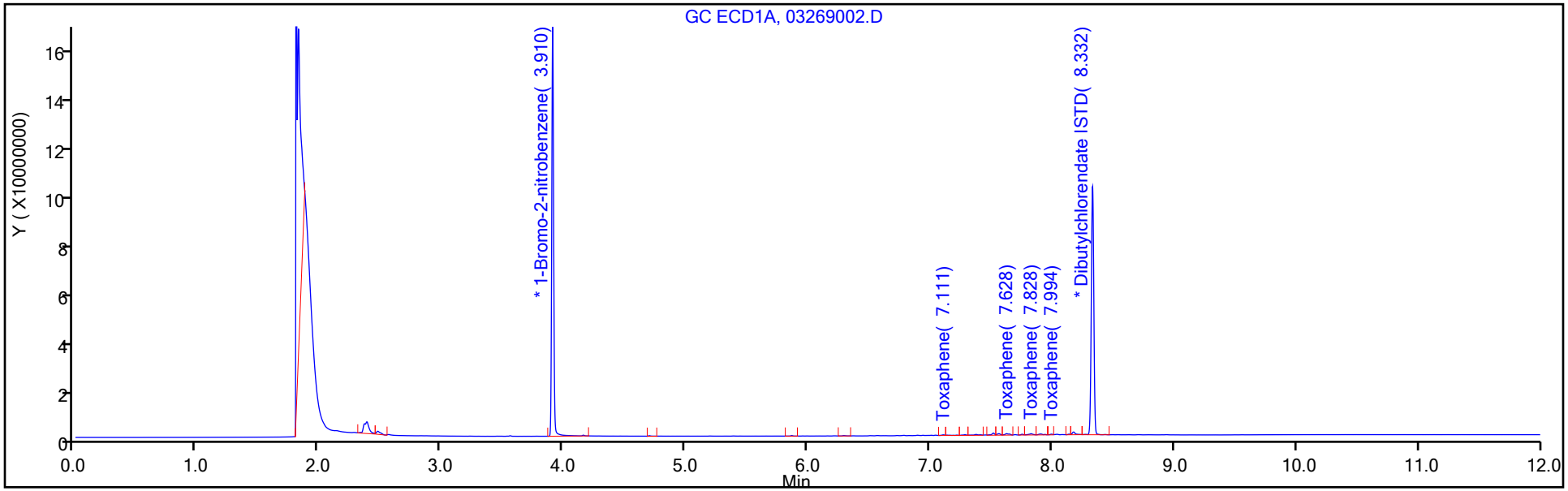

Column: MR-2 (0.53 mm)

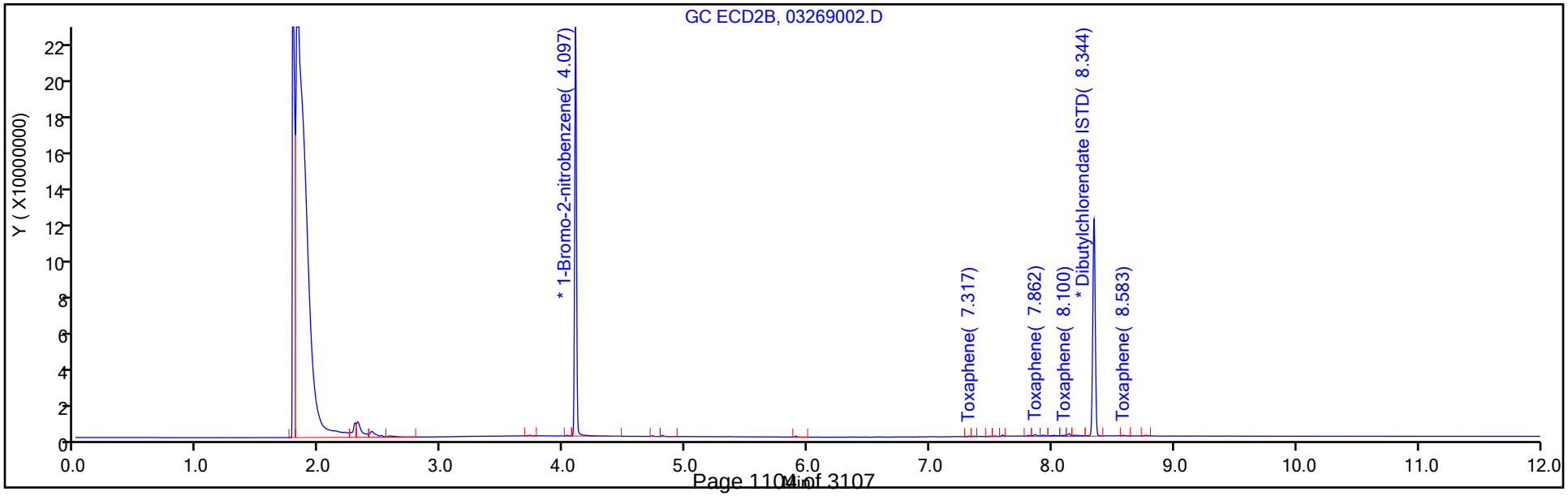

Report Date: 03-Apr-2019 08:23:01 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269002.D				
Injection Date:	02-Apr-2019 09:51:48	Instrument ID:	CHGC17		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

24 Toxaphene, CAS: 8001-35-2

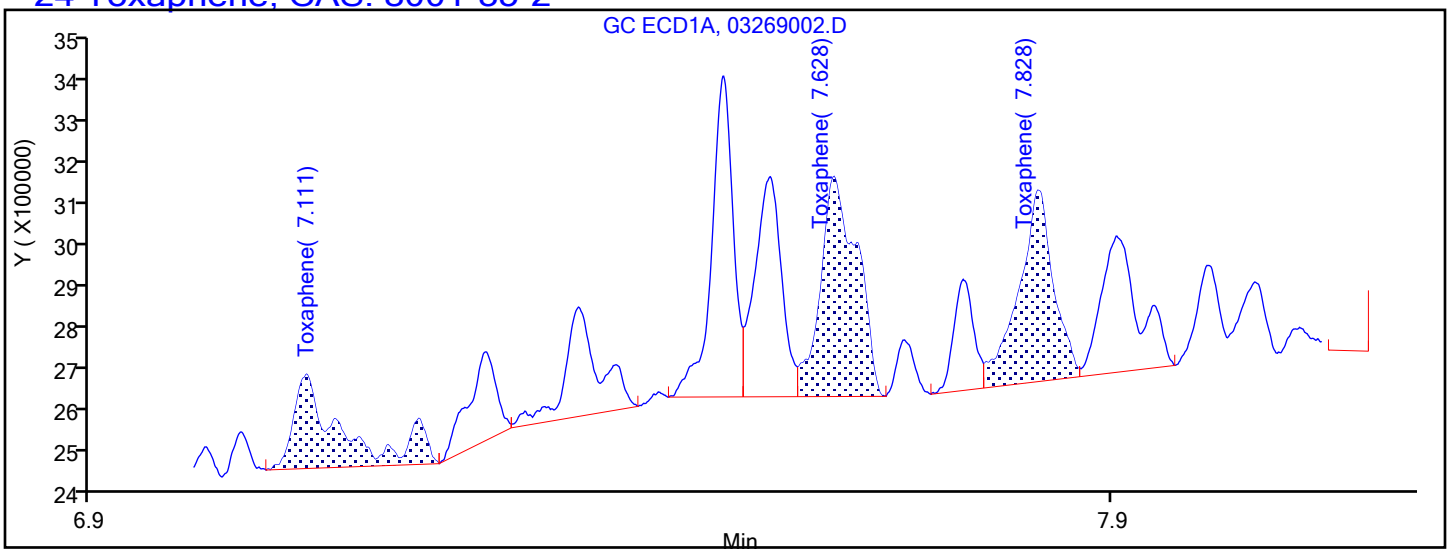

Processing Integration Results

7.111	Response = 214621
7.628	Response = 500764
7.828	Response = 435703
7.997	Response = 0

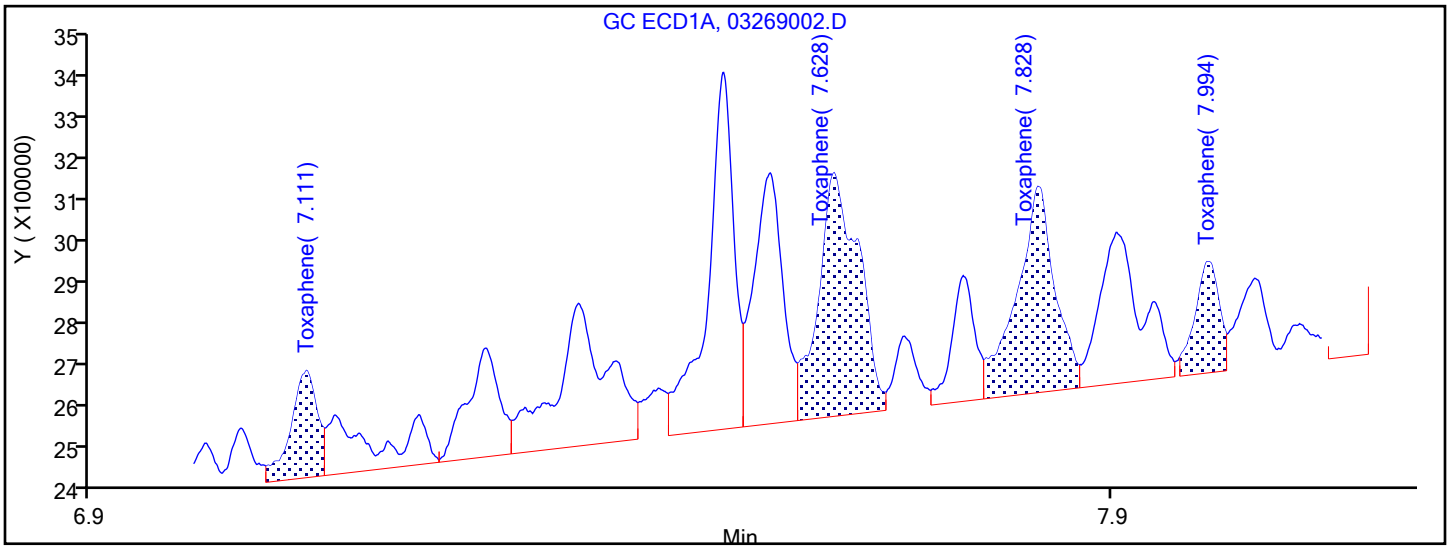

Manual Integration Results

7.111	Response = 243970	M
7.628	Response = 554405	M
7.828	Response = 469370	M
7.994	Response = 253515	M

Reviewer: eppinged, 02-Apr-2019 10:09:09

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269003.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 02-Apr-2019 10:08:11 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-003
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub1

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:23:07 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: eppinged Date: 02-Apr-2019 10:39:45

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.910	3.910	0.000	166387661H	0.1000	0.1000	
2	4.097	4.098	-0.001	227981630H	0.1000	0.1000	
24 Toxaphene							M
1	7.111	7.110	0.001	3199811H	0.2000	0.2068	M
1	7.629	7.630	-0.001	6040749H	0.2000	0.1935	M
1	7.830	7.830	0.000	5433159H	0.2000	0.1935	M
1	7.996	7.997	-0.001	3331429H	0.2000	0.1948	M
		Average of Peak Amounts =				0.1972	
2	7.318	7.318	0.000	4678213H	0.2000	0.2027	M
2	7.861	7.861	0.000	6583999H	0.2000	0.1956	M
2	8.101	8.101	0.000	5462770H	0.2000	0.1906	M
2	8.588	8.588	0.000	4180802H	0.2000	0.1926	M
		Average of Peak Amounts =				0.1954	
					RPD =	0.92	
* 36 Dibutylchlorendate ISTD							M
1	8.331	8.333	-0.001	103564366H	0.1000	0.1000	M
2	8.346	8.345	0.001	126777164H	0.1000	0.1000	M

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

GCTOXLEVEL2_00009 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00015 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 03-Apr-2019 08:23:07 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269003.D

Injection Date: 02-Apr-2019 10:08:11 Instrument ID: CHGC17 Operator ID:

Lims ID: IC Worklist Smp#: 3

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 3

Method: IS PEST_CHGC17 Limit Group: GCS 8081B ICAL with IS

Column: MR-1 (0.53 mm)

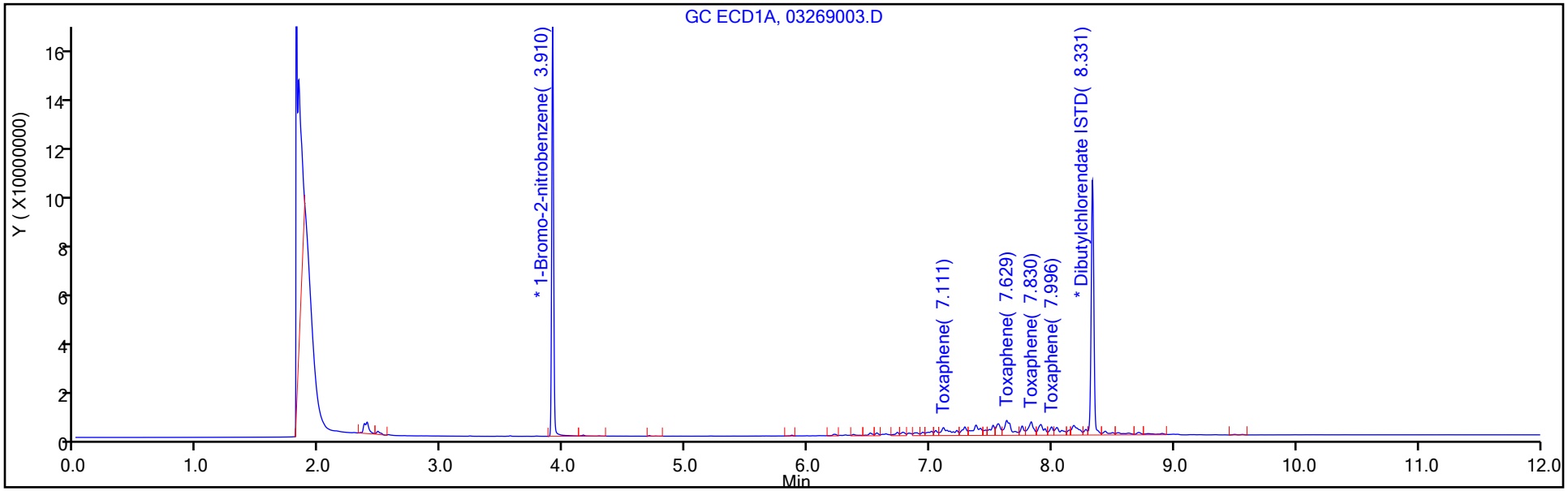

Column: MR-2 (0.53 mm)

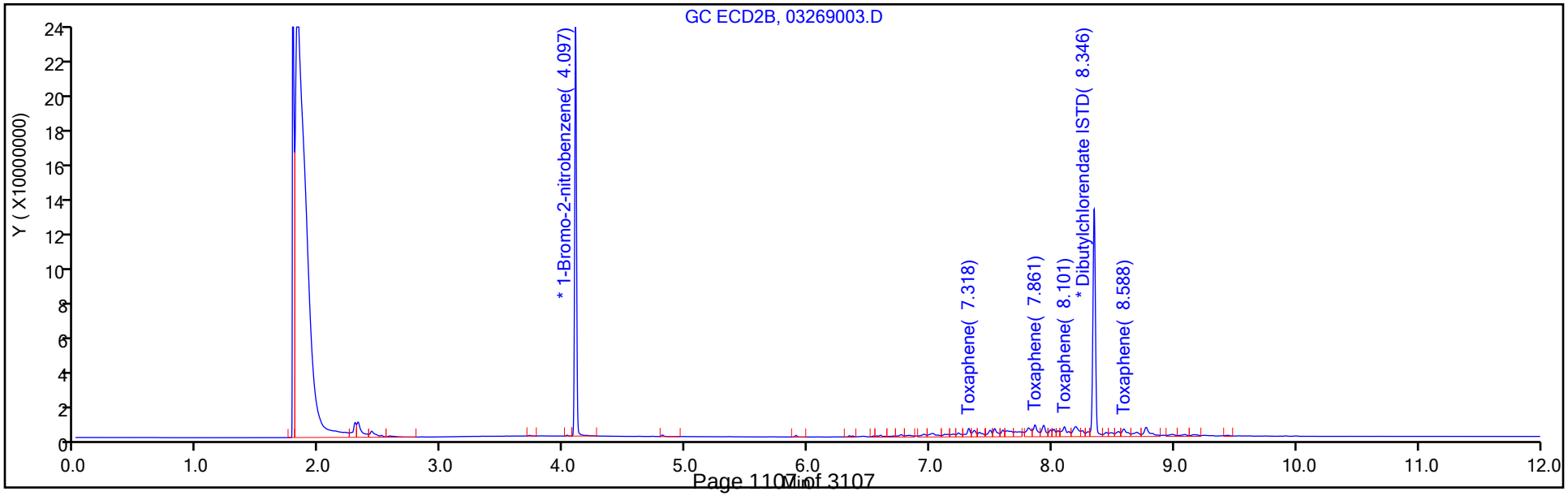

Report Date: 03-Apr-2019 08:23:07 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269003.D				
Injection Date:	02-Apr-2019 10:08:11	Instrument ID:	CHGC17		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

24 Toxaphene, CAS: 8001-35-2

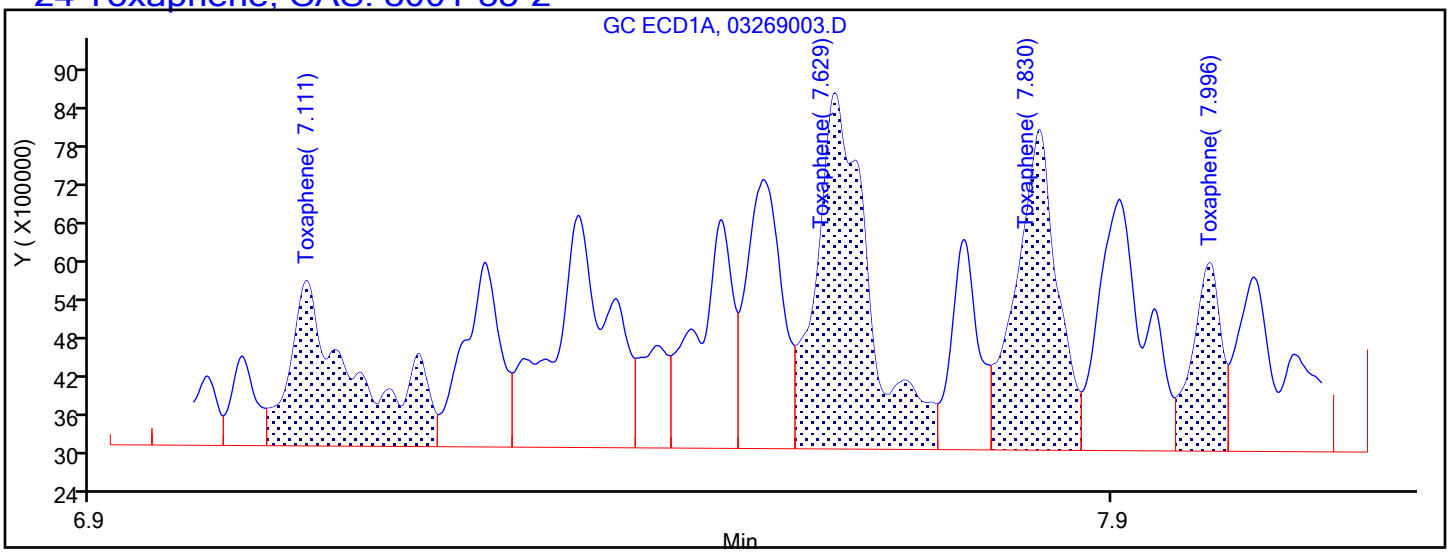

Processing Integration Results

7.111	Response = 2578634
7.629	Response = 5553117
7.830	Response = 4997270
7.996	Response = 2938481

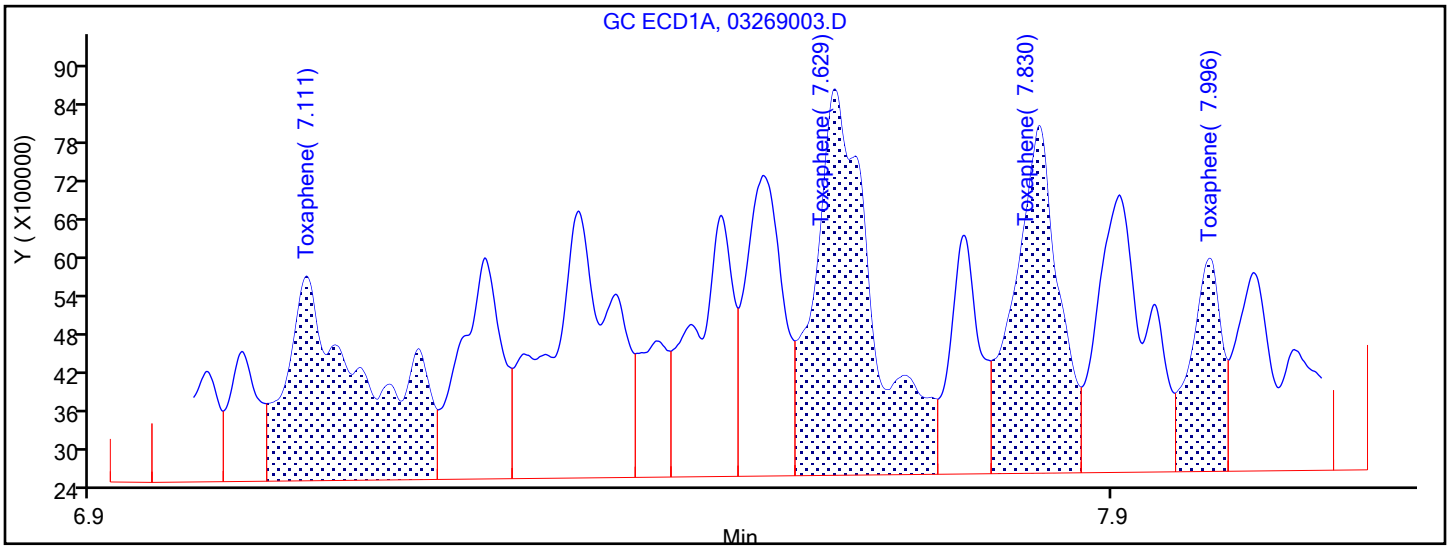

Manual Integration Results

7.111	Response = 3199811	M
7.629	Response = 6040749	M
7.830	Response = 5433159	M
7.996	Response = 3331429	M

Reviewer: eppinged, 02-Apr-2019 10:24:32

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269003.D				
Injection Date:	02-Apr-2019 10:08:11	Instrument ID:	CHGC17		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

* 36 Dibutylchlorendate ISTD, CAS: 1770-80-5

Signal: 1

Processing Integration Results

RT: 8.33
Height: 103257727
Amount: 0.100000
Amount Units: ng

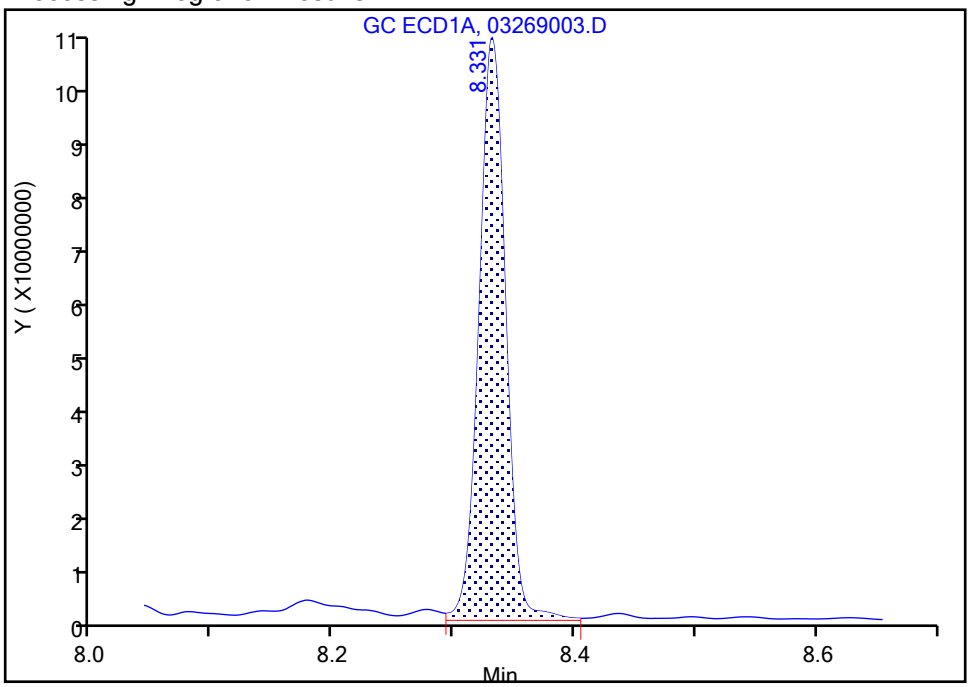

Manual Integration Results

RT: 8.33
Height: 103564366
Amount: 0.100000
Amount Units: ng

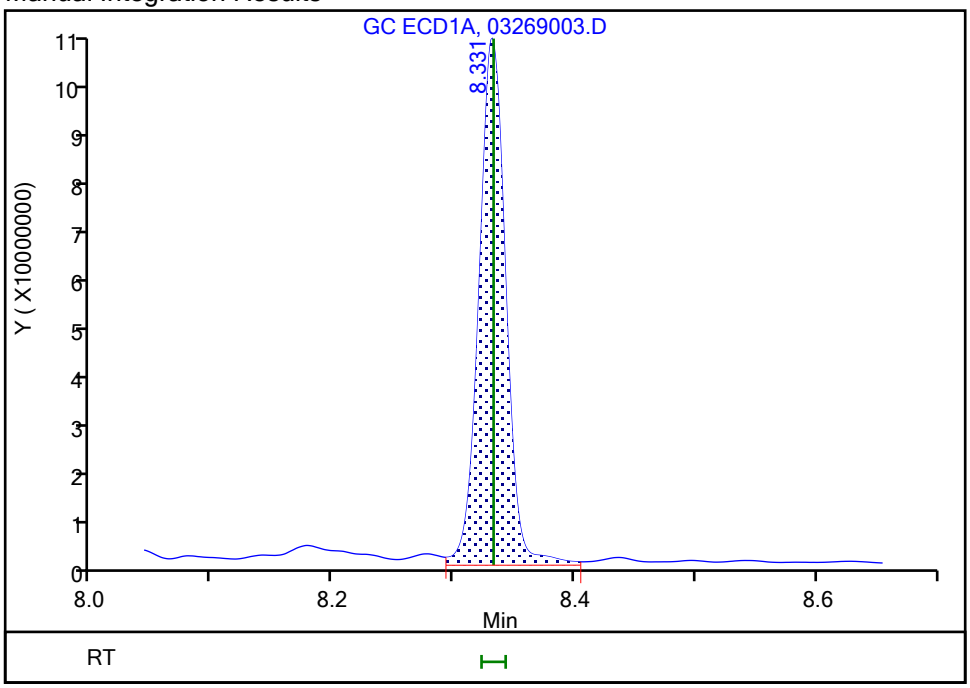

Reviewer: eppinged, 02-Apr-2019 10:24:32

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269004.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 02-Apr-2019 10:24:35 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-004
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub1

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:23:10 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: eppinged Date: 02-Apr-2019 10:56:00

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.910	3.910	0.001	161997697H	0.1000	0.1000	
2	4.099	4.097	0.002	222647204H	0.1000	0.1000	
24 Toxaphene							
1	7.110	7.110	0.000	16199840H	1.00	1.08	
1	7.630	7.630	0.000	31558200H	1.00	1.04	
1	7.830	7.830	0.000	28954694H	1.00	1.06	
1	7.997	7.997	0.000	18003471H	1.00	1.08	
		Average of Peak Amounts =				1.06	
2	7.318	7.318	0.000	23300473H	1.00	1.03	
2	7.861	7.861	0.000	32014875H	1.00	1.02	
2	8.101	8.101	0.000	27928397H	1.00	1.00	
2	8.588	8.588	0.000	22162165H	1.00	1.05	
		Average of Peak Amounts =				1.02	
						RPD = 3.82	
* 36 Dibutylchlorendate ISTD							
1	8.332	8.333	-0.001	114370914H	0.1000	0.1000	
2	8.345	8.344	0.002	139317677H	0.1000	0.1000	

Reagents:

GCTOXLEVEL3_00018 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00015 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 03-Apr-2019 08:23:10 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269004.D				
Injection Date:	02-Apr-2019 10:24:35	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	IC			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

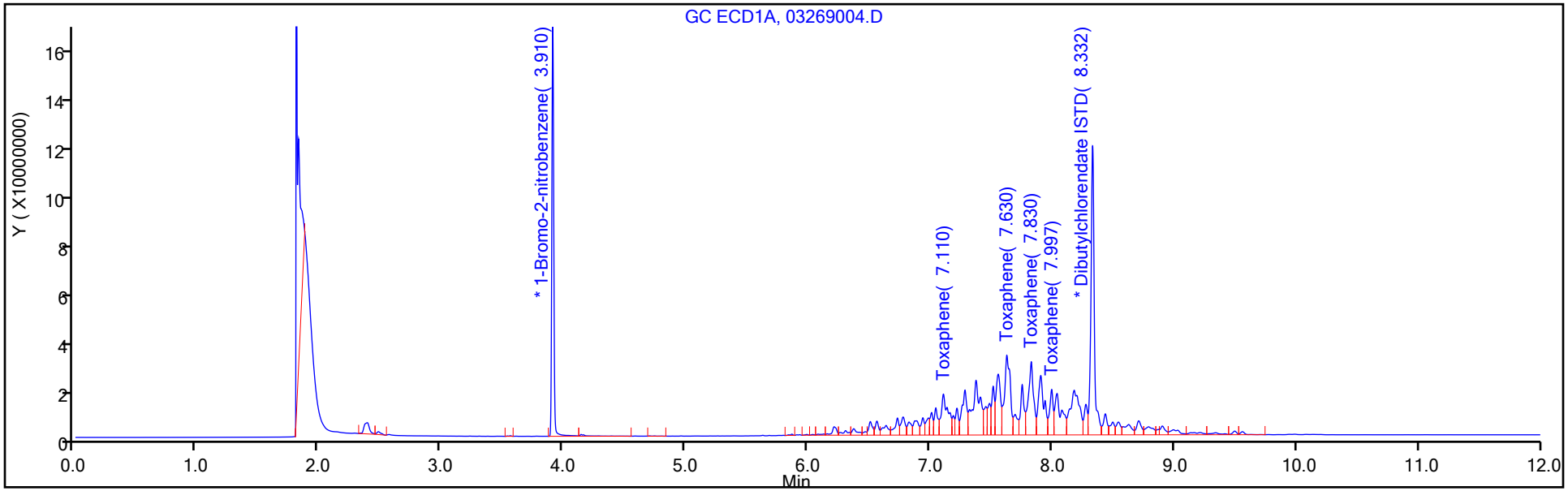

Column: MR-2 (0.53 mm)

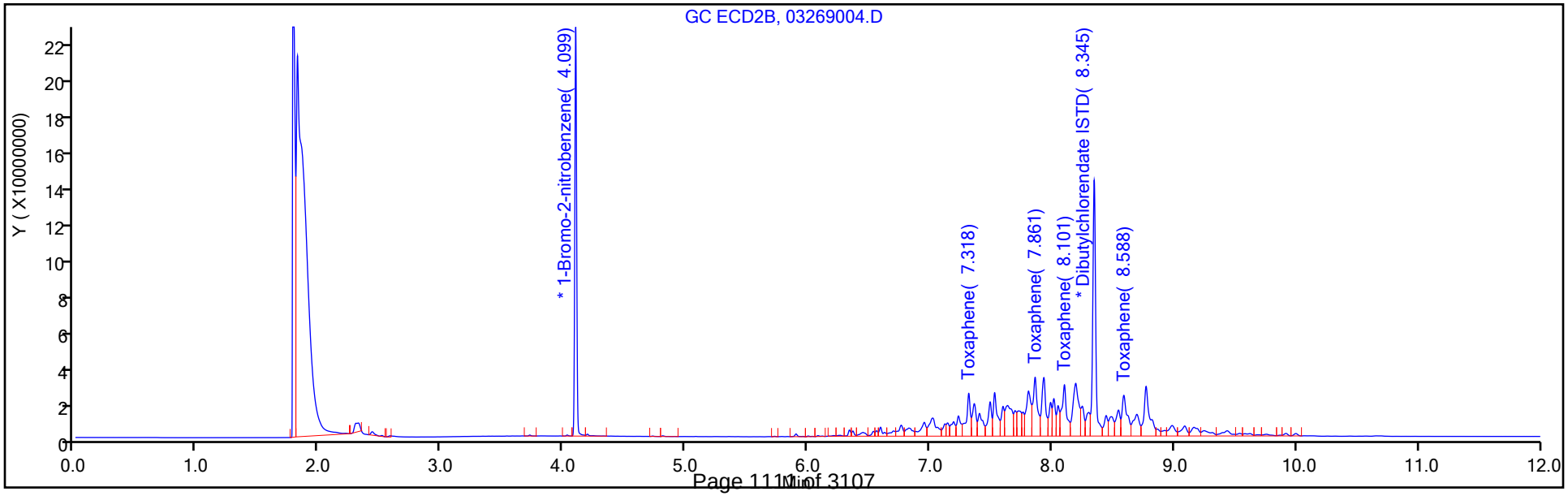

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269005.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 02-Apr-2019 10:41:01 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-005
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub1

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:23:13 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: eppinged Date: 02-Apr-2019 11:11:58

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.910	3.910	0.000	168021063H	0.1000	0.1000	
2	4.098	4.098	0.000	229581371H	0.1000	0.1000	
24 Toxaphene							
1	7.109	7.110	-0.001	40467711H	2.50	2.59	
1	7.630	7.630	0.000	80704607H	2.50	2.56	
1	7.830	7.830	0.000	74120838H	2.50	2.61	
1	7.996	7.997	-0.001	46930078H	2.50	2.72	
		Average of Peak Amounts =				2.62	
2	7.317	7.318	-0.001	58972213H	2.50	2.54	
2	7.862	7.861	0.001	80143477H	2.50	2.49	
2	8.102	8.101	0.001	72260609H	2.50	2.50	
2	8.587	8.588	-0.001	57470329H	2.50	2.63	
		Average of Peak Amounts =				2.54	
						RPD = 3.15	
* 36 Dibutylchlorendate ISTD							
1	8.330	8.333	-0.003	137202248H	0.1000	0.1000	
2	8.346	8.345	0.001	167839185H	0.1000	0.1000	

Reagents:

GCTOXLEVEL4_00010 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00015 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 03-Apr-2019 08:23:13 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269005.D				
Injection Date:	02-Apr-2019 10:41:01	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	IC			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

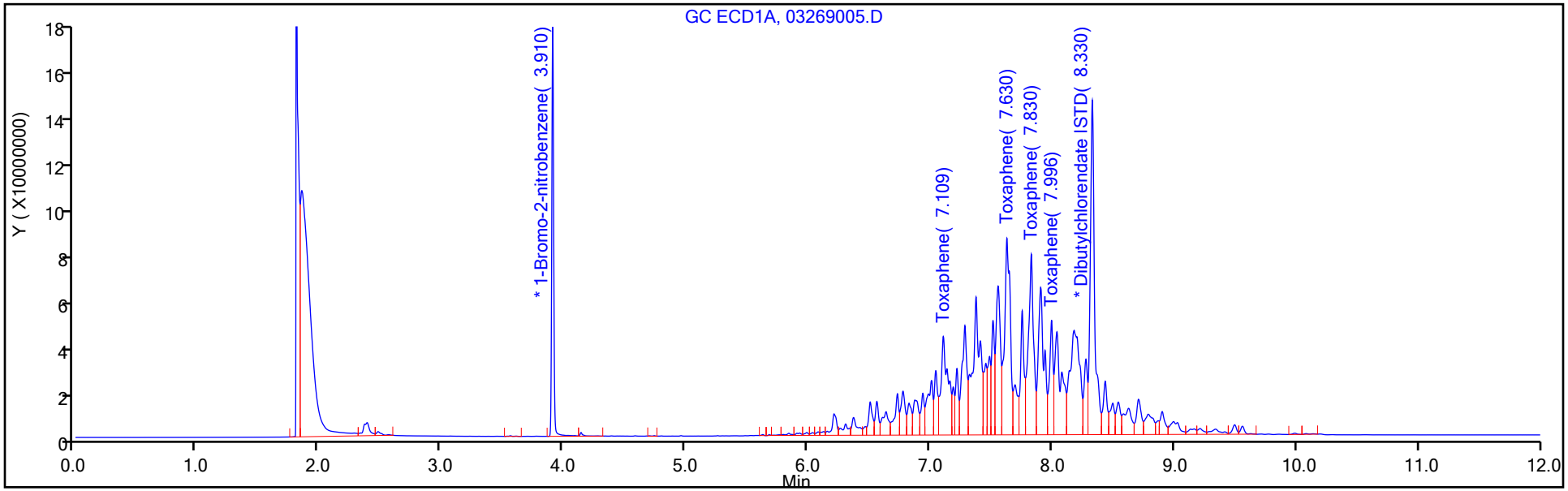

Column: MR-2 (0.53 mm)

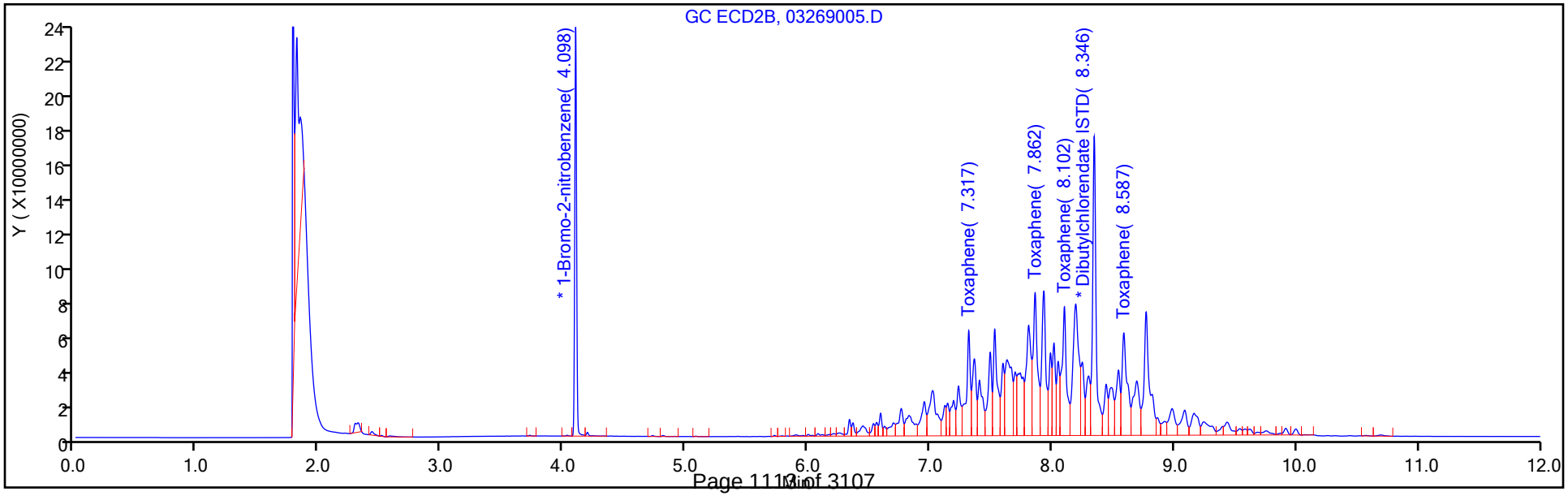

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269006.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 02-Apr-2019 10:57:33 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-006
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub1

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:23:16 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: eppinged Date: 02-Apr-2019 11:27:40

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.909	3.910	-0.001	171434098H	0.1000	0.1000	
2	4.096	4.098	-0.002	231437840H	0.1000	0.1000	
24 Toxaphene							M
1	7.109	7.110	-0.001	81815827H	5.00	5.13	
1	7.629	7.630	-0.001	166647839H	5.00	5.18	
1	7.829	7.830	-0.001	151790471H	5.00	5.25	
1	7.995	7.997	-0.002	94982530H	5.00	5.39	
		Average of Peak Amounts =				5.24	
2	7.316	7.318	-0.002	118318371H	5.00	5.05	M
2	7.859	7.861	-0.002	163035636H	5.00	5.03	M
2	8.099	8.101	-0.002	145595284H	5.00	5.00	M
2	8.586	8.588	-0.002	120228680H	5.00	5.46	M
		Average of Peak Amounts =				5.14	
						RPD = 1.98	
* 36 Dibutylchlorendate ISTD							M
1	8.326	8.333	-0.006	183675286H	0.1000	0.1000	
2	8.344	8.345	-0.001	226072427H	0.1000	0.1000	M

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

GCTOXLEVEL5_00013 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00015 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 03-Apr-2019 08:23:16 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269006.D				
Injection Date:	02-Apr-2019 10:57:33	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	IC			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

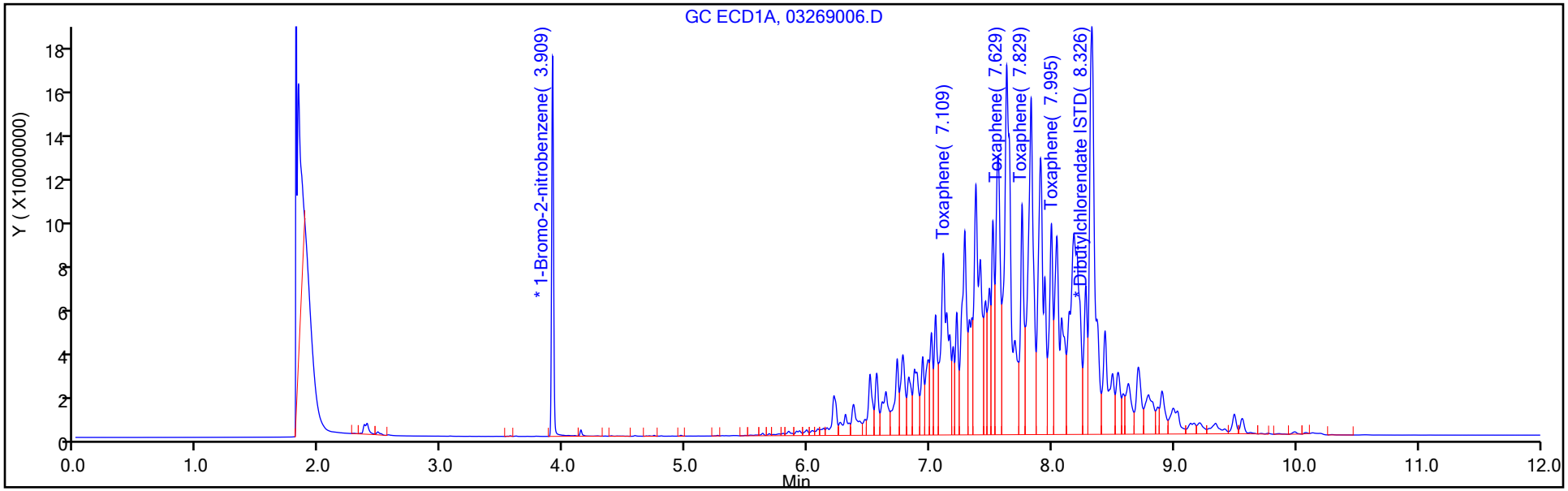

Column: MR-2 (0.53 mm)

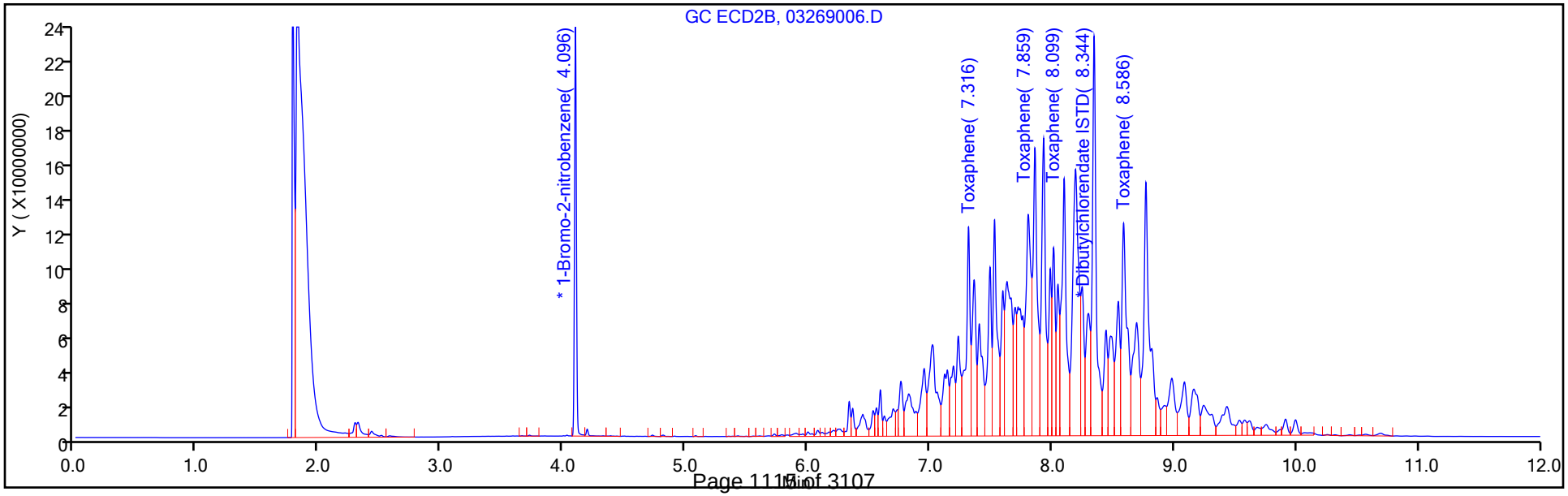

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 274564

SDG No.:

Instrument ID: CHGC17 GC Column: MR-2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/02/2019 09:51 Calibration End Date: 04/02/2019 10:57 Calibration ID: 39970

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-274564/2	03269002.D
Level 2	IC 180-274564/3	03269003.D
Level 3	IC 180-274564/4	03269004.D
Level 4	IC 180-274564/5	03269005.D
Level 5	IC 180-274564/6	03269006.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Toxaphene Peak 1	0.0094	0.0103	0.0105	0.0103	0.0102	Ave		0.0101				4.1		20.0			
Toxaphene Peak 2	0.0218	0.0144	0.0144	0.0140	0.0141	Lin1	0.0002	0.0140							1.0000		0.9900
Toxaphene Peak 3	0.0132	0.0120	0.0125	0.0126	0.0126	Ave		0.0126				3.4		20.0			
Toxaphene Peak 4	0.0081	0.0092	0.0100	0.0100	0.0104	Ave		0.0095				9.6		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 274564

SDG No.:

Instrument ID: CHGC17 GC Column: MR-2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/02/2019 09:51 Calibration End Date: 04/02/2019 10:57 Calibration ID: 39970

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-274564/2	03269002.D
Level 2	IC 180-274564/3	03269003.D
Level 3	IC 180-274564/4	03269004.D
Level 4	IC 180-274564/5	03269005.D
Level 5	IC 180-274564/6	03269006.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
Toxaphene Peak 1	BNB	Ave	410187	4678213	23300473	58972213	118318371	0.0200	0.200	1.00	2.50	5.00
Toxaphene Peak 2	BNB	Lin1	951751	6583999	32014875	80143477	163035636	0.0200	0.200	1.00	2.50	5.00
Toxaphene Peak 3	BNB	Ave	575239	5462770	27928397	72260609	145595284	0.0200	0.200	1.00	2.50	5.00
Toxaphene Peak 4	BNB	Ave	353132	4180802	22162165	57470329	120228680	0.0200	0.200	1.00	2.50	5.00

Curve Type Legend:

Ave = Average ISTD by Height
Lin1 = Linear 1/Conc^2 ISTD by Height

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 274564

SDG No.:

Instrument ID: CHGC17 GC Column: MR-2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/02/2019 09:51 Calibration End Date: 04/02/2019 10:57 Calibration ID: 39970

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-274564/2	03269002.D
Level 2	IC 180-274564/3	03269003.D
Level 3	IC 180-274564/4	03269004.D
Level 4	IC 180-274564/5	03269005.D
Level 5	IC 180-274564/6	03269006.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #		LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	
Toxaphene Peak 1	-7.2	1.3	3.4	1.5	1.0		50	30	30	30	30	
Toxaphene Peak 2	0.2	-2.2	1.8	-0.5	0.7		50	30	30	30	30	
Toxaphene Peak 3	4.8	-4.7	-0.2	0.1	0.1		50	30	30	30	30	
Toxaphene Peak 4	-15.1	-3.7	4.5	5.2	9.1		50	30	30	30	30	

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269002.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 02-Apr-2019 09:51:48 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-002
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub1

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:23:01 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: eppinged Date: 02-Apr-2019 10:07:52

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.910	3.910	0.000	158360110H	0.1000	0.1000	
2	4.097	4.098	-0.001	218350904H	0.1000	0.1000	
24 Toxaphene							Ma
1	7.111	7.110	0.001	243970H	0.0200	0.0166	M
1	7.628	7.630	-0.002	554405H	0.0200	0.0187	M
1	7.828	7.830	-0.002	469370H	0.0200	0.0176	M
1	7.994	7.997	-0.003	253515H	0.0200	0.0156	M
		Average of Peak Amounts =				0.0171	
2	7.317	7.318	-0.001	410187H	0.0200	0.0186	M
2	7.862	7.861	0.001	951751H	0.0200	0.0200	M
2	8.100	8.101	-0.001	575239H	0.0200	0.0210	M
2	8.583	8.588	-0.005	353132H	0.0200	0.0170	M
		Average of Peak Amounts =				0.0191	
						RPD = 11.26	
* 36 Dibutylchlorendate ISTD							M
1	8.332	8.333	0.000	96039261H	0.1000	0.1000	
2	8.344	8.345	-0.001	115788906H	0.1000	0.1000	M

QC Flag Legend

Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

GCTOXLEVEL1_00011 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00015 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 03-Apr-2019 08:23:01 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269002.D

Injection Date: 02-Apr-2019 09:51:48 Instrument ID: CHGC17 Operator ID:

Lims ID: IC Worklist Smp#: 2

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 2

Method: IS PEST_CHGC17 Limit Group: GCS 8081B ICAL with IS

Column: MR-1 (0.53 mm)

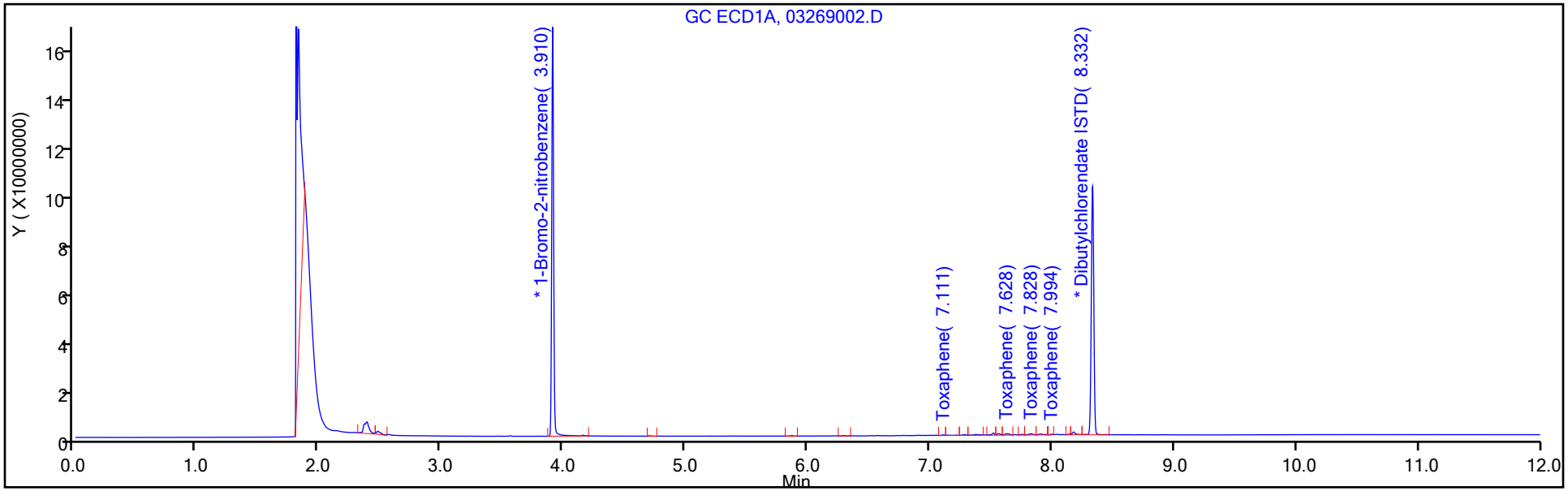

Column: MR-2 (0.53 mm)

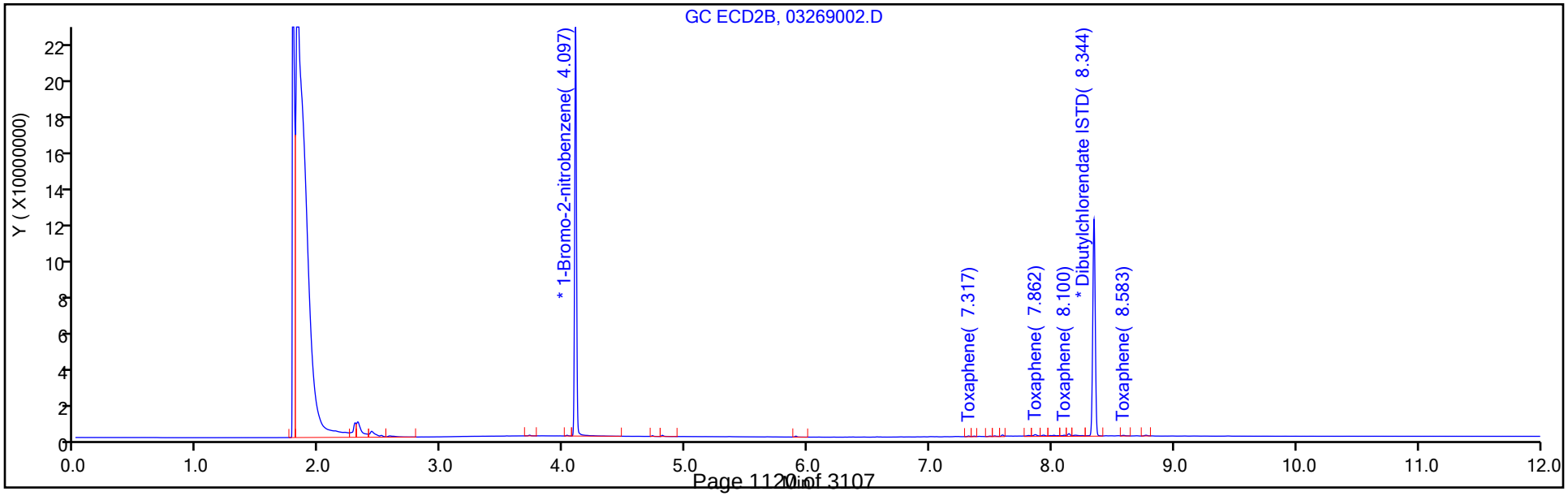

Report Date: 03-Apr-2019 08:23:01 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269002.D				
Injection Date:	02-Apr-2019 09:51:48	Instrument ID:	CHGC17		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

24 Toxaphene, CAS: 8001-35-2

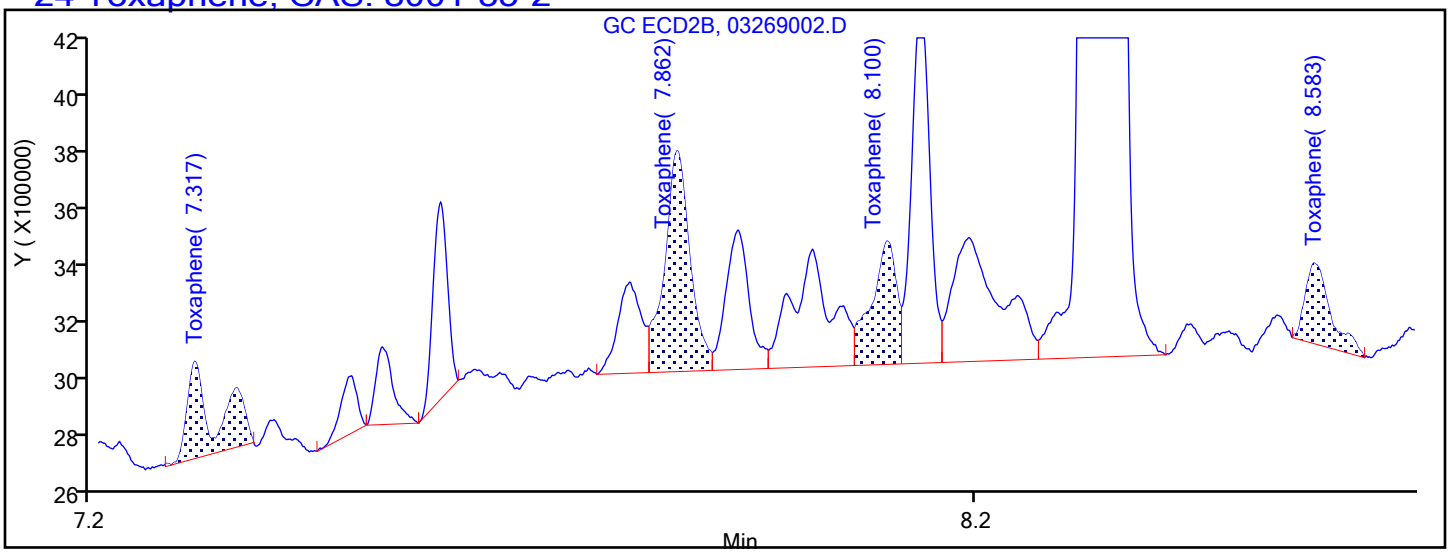

Processing Integration Results

7.317	Response = 327638
7.862	Response = 743405
8.100	Response = 415409
8.583	Response = 271408

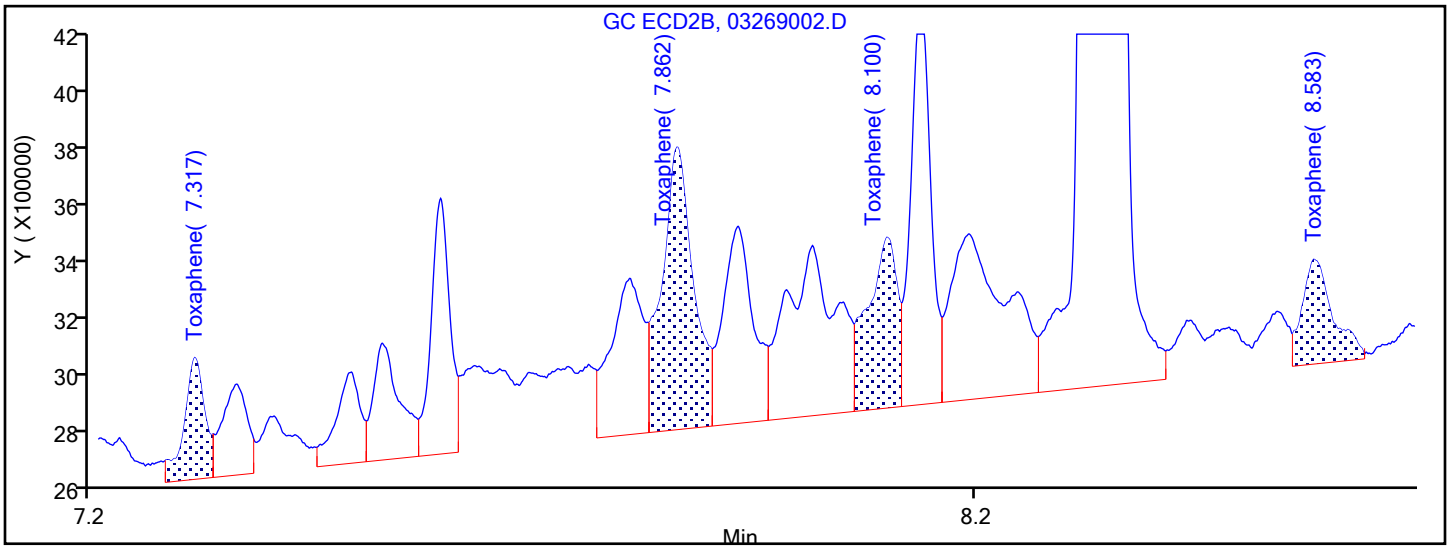

Manual Integration Results

7.317	Response = 410187	M
7.862	Response = 951751	M
8.100	Response = 575239	M
8.583	Response = 353132	M

Reviewer: eppinged, 02-Apr-2019 10:08:27

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269002.D				
Injection Date:	02-Apr-2019 09:51:48	Instrument ID:	CHGC17		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

* 36 Dibutylchlorendate ISTD, CAS: 1770-80-5

Signal: 2

Processing Integration Results

RT: 8.34
Height: 115678954
Amount: 0.100000
Amount Units: ng

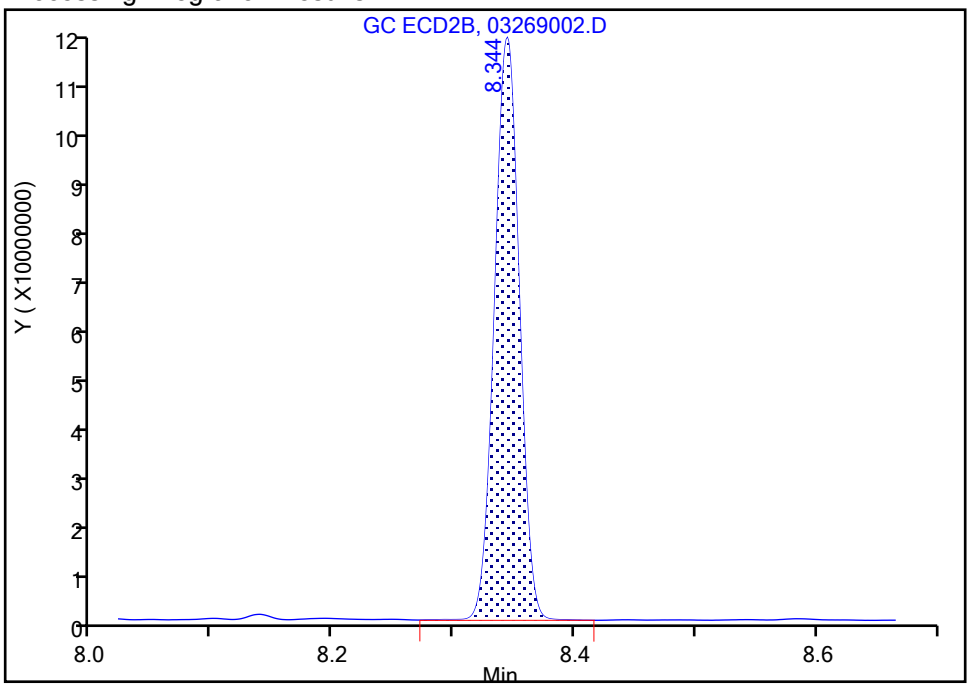

Manual Integration Results

RT: 8.34
Height: 115788906
Amount: 0.100000
Amount Units: ng

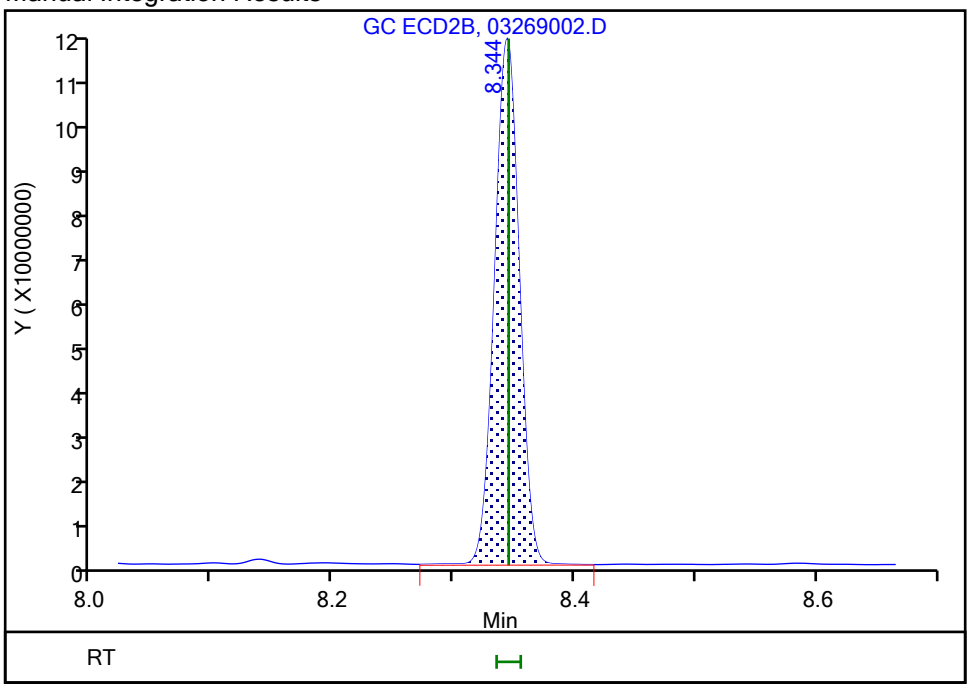

Reviewer: eppinged, 02-Apr-2019 10:08:27

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269003.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 02-Apr-2019 10:08:11 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-003
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub1

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:23:07 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: eppinged Date: 02-Apr-2019 10:39:45

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.910	3.910	0.000	166387661H	0.1000	0.1000	
2	4.097	4.098	-0.001	227981630H	0.1000	0.1000	
24 Toxaphene							M
1	7.111	7.110	0.001	3199811H	0.2000	0.2068	M
1	7.629	7.630	-0.001	6040749H	0.2000	0.1935	M
1	7.830	7.830	0.000	5433159H	0.2000	0.1935	M
1	7.996	7.997	-0.001	3331429H	0.2000	0.1948	M
		Average of Peak Amounts =				0.1972	
2	7.318	7.318	0.000	4678213H	0.2000	0.2027	M
2	7.861	7.861	0.000	6583999H	0.2000	0.1956	M
2	8.101	8.101	0.000	5462770H	0.2000	0.1906	M
2	8.588	8.588	0.000	4180802H	0.2000	0.1926	M
		Average of Peak Amounts =				0.1954	
					RPD =	0.92	
* 36 Dibutylchlorendate ISTD							M
1	8.331	8.333	-0.001	103564366H	0.1000	0.1000	M
2	8.346	8.345	0.001	126777164H	0.1000	0.1000	M

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

GCTOXLEVEL2_00009 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00015 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 03-Apr-2019 08:23:07 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269003.D

Injection Date: 02-Apr-2019 10:08:11 Instrument ID: CHGC17 Operator ID:

Lims ID: IC Worklist Smp#: 3

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 3

Method: IS PEST_CHGC17 Limit Group: GCS 8081B ICAL with IS

Column: MR-1 (0.53 mm)

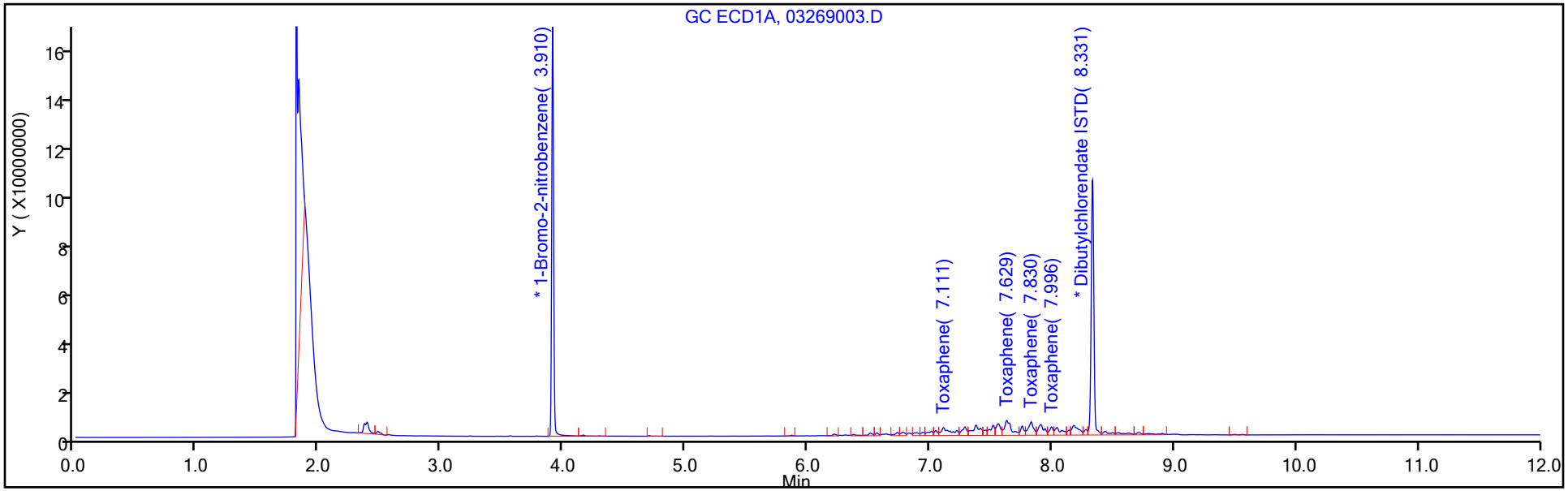

Column: MR-2 (0.53 mm)

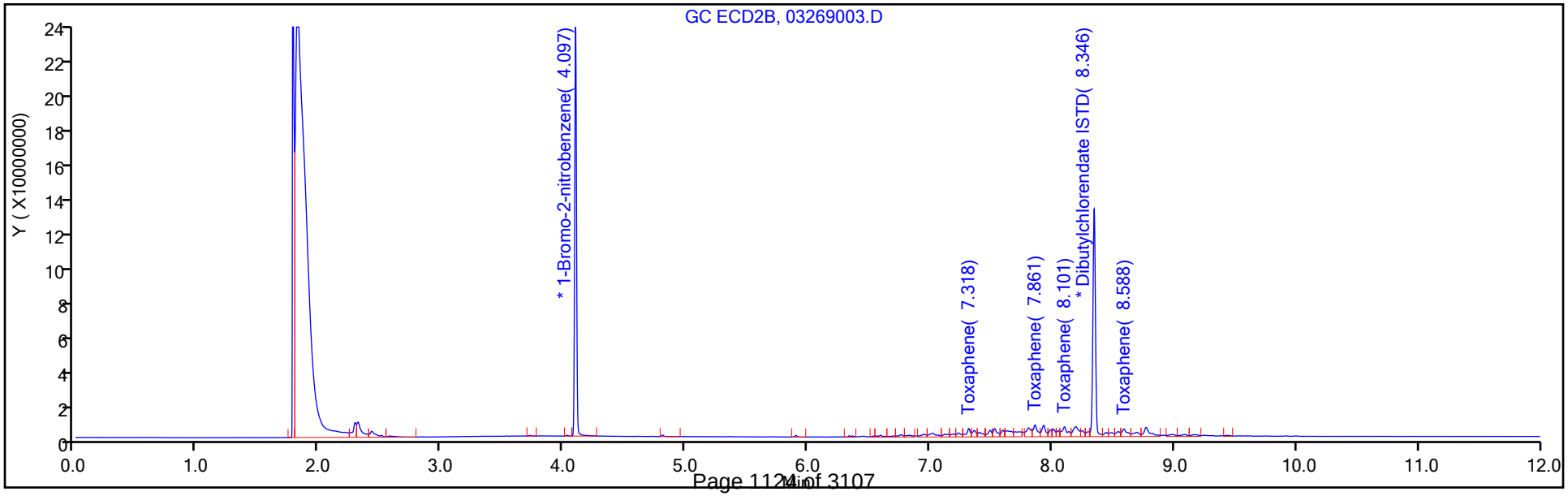

Report Date: 03-Apr-2019 08:23:07 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269003.D

Injection Date: 02-Apr-2019 10:08:11 Instrument ID: CHGC17

Lims ID: IC

Client ID:

Operator ID: ALS Bottle#: 3 Worklist Smp#: 3

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PEST_CHGC17 Limit Group: GCS 8081B ICAL with IS

Column: MR-2 (0.53 mm) Detector GC ECD2B

24 Toxaphene, CAS: 8001-35-2

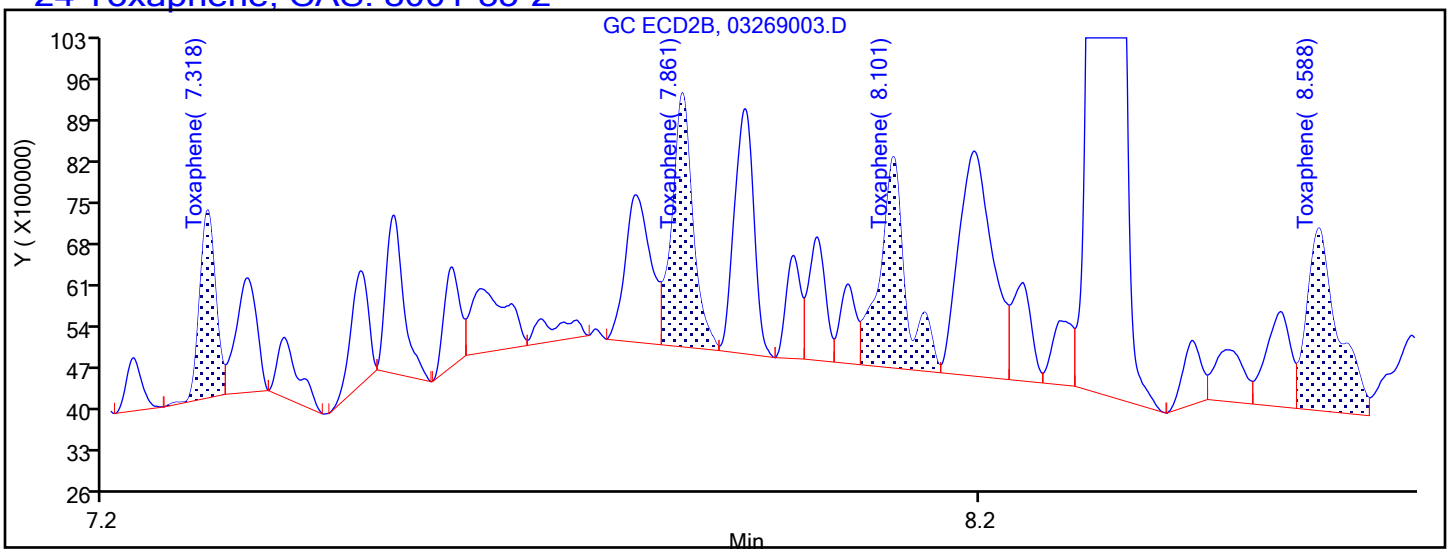

Processing Integration Results

7.318	Response = 3188728
7.861	Response = 4310294
8.101	Response = 3583791
8.588	Response = 3099472

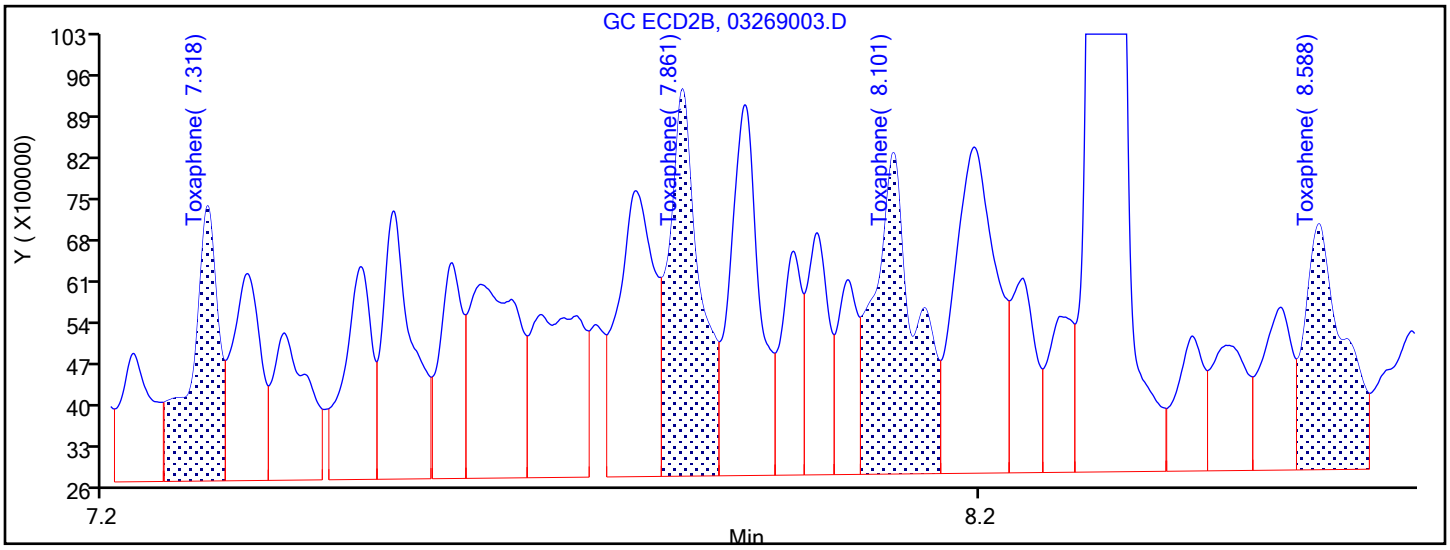

Manual Integration Results

7.318	Response = 4678213	M
7.861	Response = 6583999	M
8.101	Response = 5462770	M
8.588	Response = 4180802	M

Reviewer: eppinged, 02-Apr-2019 10:24:39

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269003.D				
Injection Date:	02-Apr-2019 10:08:11	Instrument ID:	CHGC17		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

* 36 Dibutylchlorendate ISTD, CAS: 1770-80-5

Signal: 2

Processing Integration Results

RT: 8.35
Height: 125404846
Amount: 0.100000
Amount Units: ng

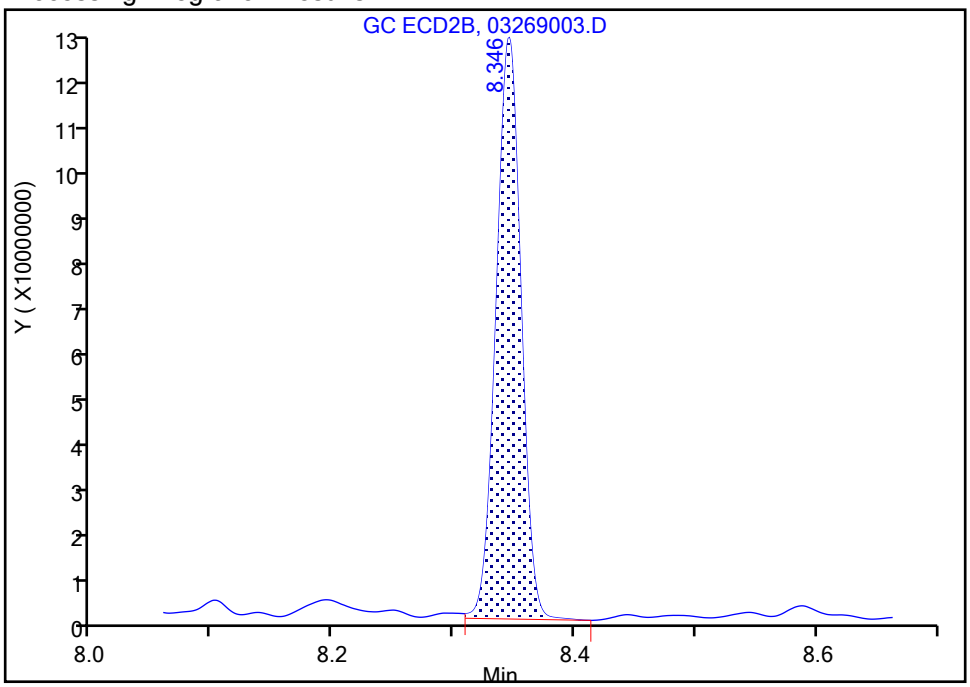

Manual Integration Results

RT: 8.35
Height: 126777164
Amount: 0.100000
Amount Units: ng

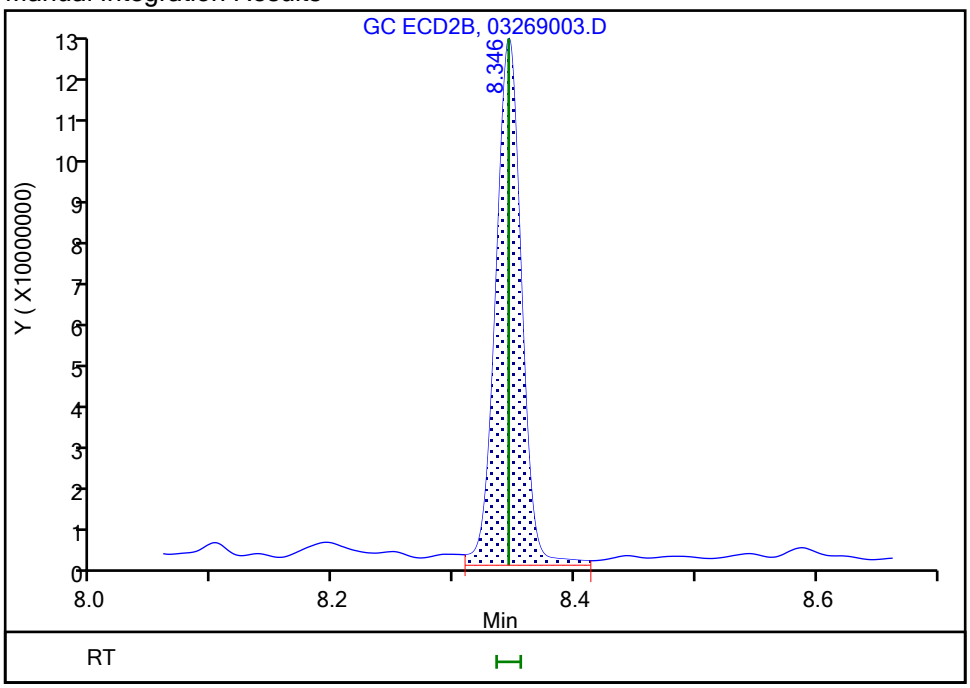

Reviewer: eppinged, 02-Apr-2019 10:24:39

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269004.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 02-Apr-2019 10:24:35 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-004
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub1

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:23:10 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: eppinged Date: 02-Apr-2019 10:56:00

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.910	3.910	0.001	161997697H	0.1000	0.1000	
2	4.099	4.097	0.002	222647204H	0.1000	0.1000	
24 Toxaphene							
1	7.110	7.110	0.000	16199840H	1.00	1.08	
1	7.630	7.630	0.000	31558200H	1.00	1.04	
1	7.830	7.830	0.000	28954694H	1.00	1.06	
1	7.997	7.997	0.000	18003471H	1.00	1.08	
		Average of Peak Amounts =				1.06	
2	7.318	7.318	0.000	23300473H	1.00	1.03	
2	7.861	7.861	0.000	32014875H	1.00	1.02	
2	8.101	8.101	0.000	27928397H	1.00	1.00	
2	8.588	8.588	0.000	22162165H	1.00	1.05	
		Average of Peak Amounts =				1.02	
						RPD = 3.82	
* 36 Dibutylchlorendate ISTD							
1	8.332	8.333	-0.001	114370914H	0.1000	0.1000	
2	8.345	8.344	0.002	139317677H	0.1000	0.1000	

Reagents:

GCTOXLEVEL3_00018 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00015 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 03-Apr-2019 08:23:10 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269004.D				
Injection Date:	02-Apr-2019 10:24:35	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	IC			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

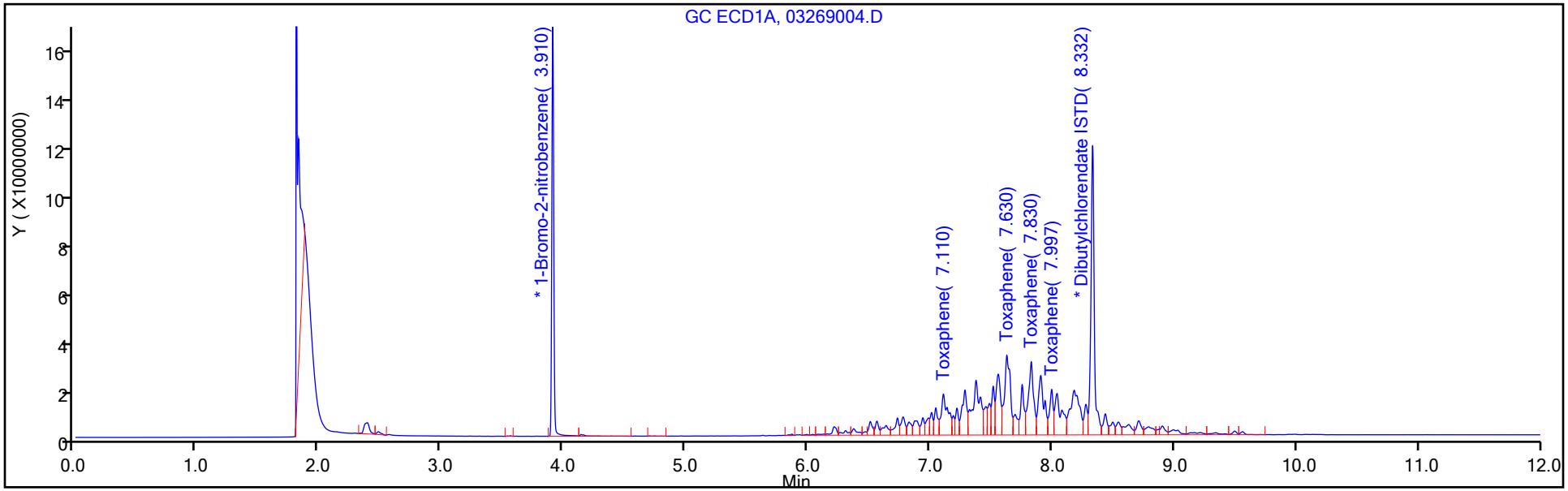

Column: MR-2 (0.53 mm)

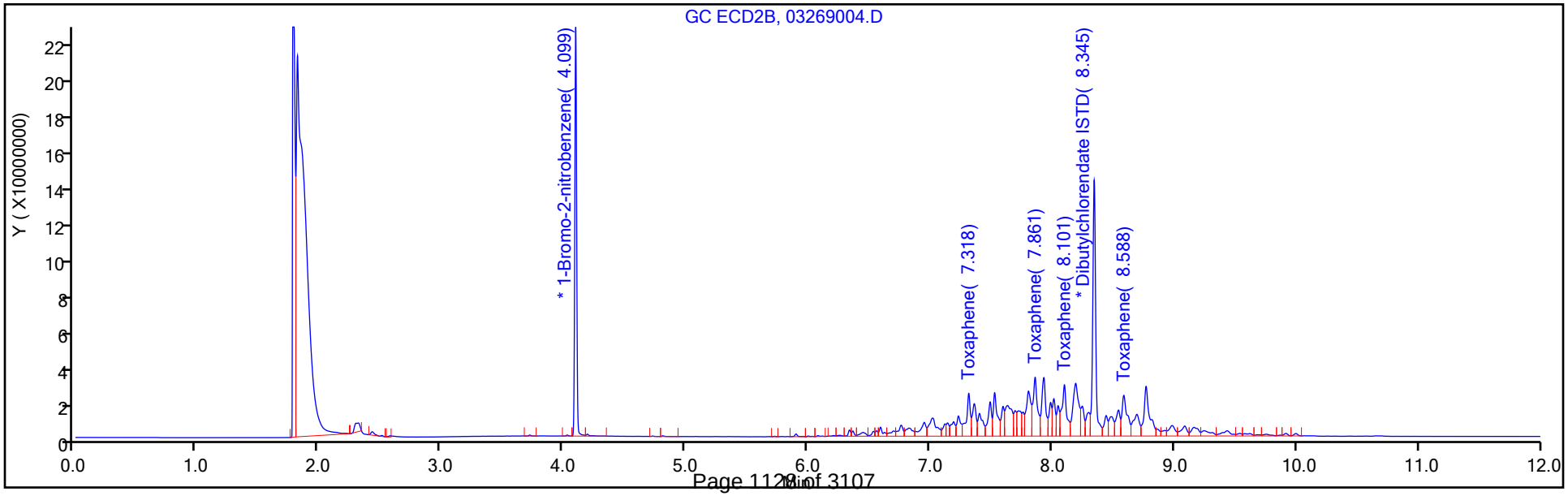

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269005.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 02-Apr-2019 10:41:01 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-005
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub1

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:23:13 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: eppinged Date: 02-Apr-2019 11:11:58

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.910	3.910	0.000	168021063H	0.1000	0.1000	
2	4.098	4.098	0.000	229581371H	0.1000	0.1000	
24 Toxaphene							
1	7.109	7.110	-0.001	40467711H	2.50	2.59	
1	7.630	7.630	0.000	80704607H	2.50	2.56	
1	7.830	7.830	0.000	74120838H	2.50	2.61	
1	7.996	7.997	-0.001	46930078H	2.50	2.72	
		Average of Peak Amounts =				2.62	
2	7.317	7.318	-0.001	58972213H	2.50	2.54	
2	7.862	7.861	0.001	80143477H	2.50	2.49	
2	8.102	8.101	0.001	72260609H	2.50	2.50	
2	8.587	8.588	-0.001	57470329H	2.50	2.63	
		Average of Peak Amounts =				2.54	
						RPD = 3.15	
* 36 Dibutylchlorendate ISTD							
1	8.330	8.333	-0.003	137202248H	0.1000	0.1000	
2	8.346	8.345	0.001	167839185H	0.1000	0.1000	

Reagents:

GCTOXLEVEL4_00010 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00015 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 03-Apr-2019 08:23:13 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269005.D

Injection Date: 02-Apr-2019 10:41:01 Instrument ID: CHGC17 Operator ID:

Lims ID: IC Worklist Smp#: 5

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 5

Method: IS PEST_CHGC17 Limit Group: GCS 8081B ICAL with IS

Column: MR-1 (0.53 mm)

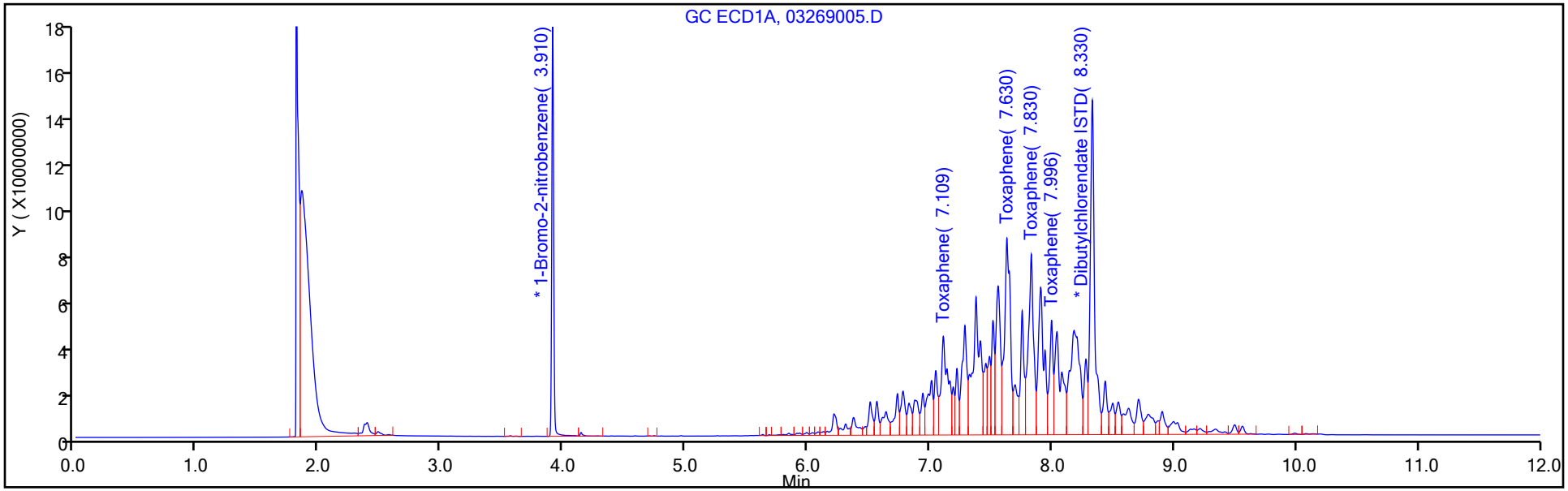

Column: MR-2 (0.53 mm)

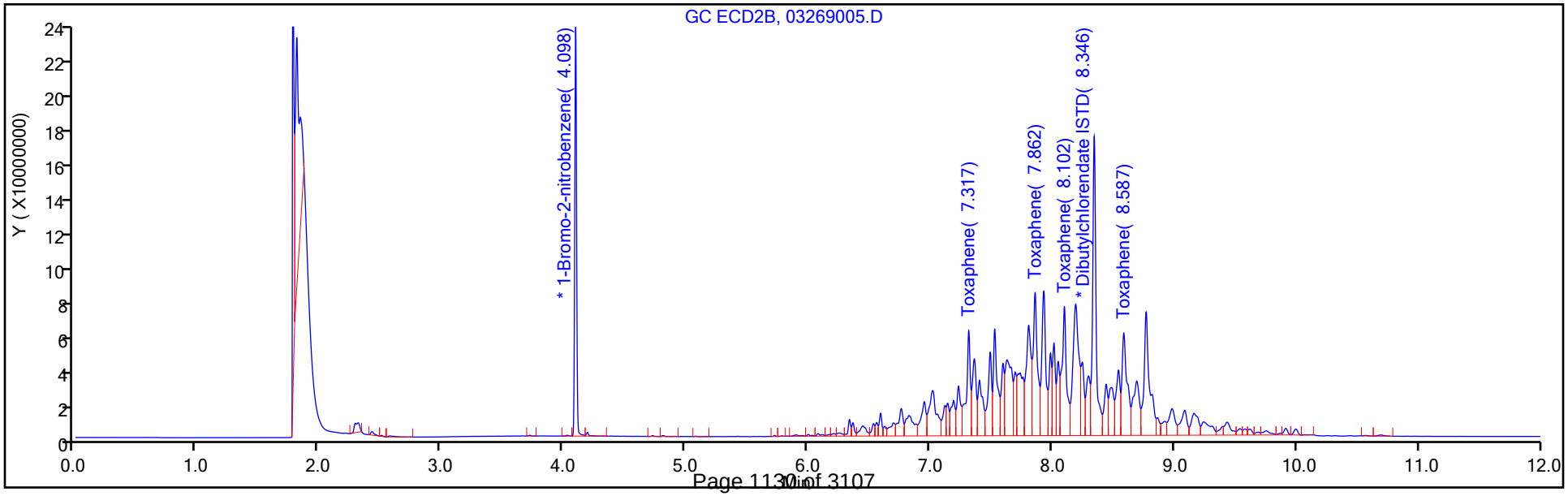

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269006.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 02-Apr-2019 10:57:33 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-006
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub1

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:23:16 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: eppinged Date: 02-Apr-2019 11:27:40

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.909	3.910	-0.001	171434098H	0.1000	0.1000	
2	4.096	4.098	-0.002	231437840H	0.1000	0.1000	
24 Toxaphene							M
1	7.109	7.110	-0.001	81815827H	5.00	5.13	
1	7.629	7.630	-0.001	166647839H	5.00	5.18	
1	7.829	7.830	-0.001	151790471H	5.00	5.25	
1	7.995	7.997	-0.002	94982530H	5.00	5.39	
		Average of Peak Amounts =				5.24	
2	7.316	7.318	-0.002	118318371H	5.00	5.05	M
2	7.859	7.861	-0.002	163035636H	5.00	5.03	M
2	8.099	8.101	-0.002	145595284H	5.00	5.00	M
2	8.586	8.588	-0.002	120228680H	5.00	5.46	M
		Average of Peak Amounts =				5.14	
						RPD = 1.98	
* 36 Dibutylchlorendate ISTD							M
1	8.326	8.333	-0.006	183675286H	0.1000	0.1000	
2	8.344	8.345	-0.001	226072427H	0.1000	0.1000	M

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

GCTOXLEVEL5_00013 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00015 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 03-Apr-2019 08:23:17 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269006.D				
Injection Date:	02-Apr-2019 10:57:33	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	IC			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

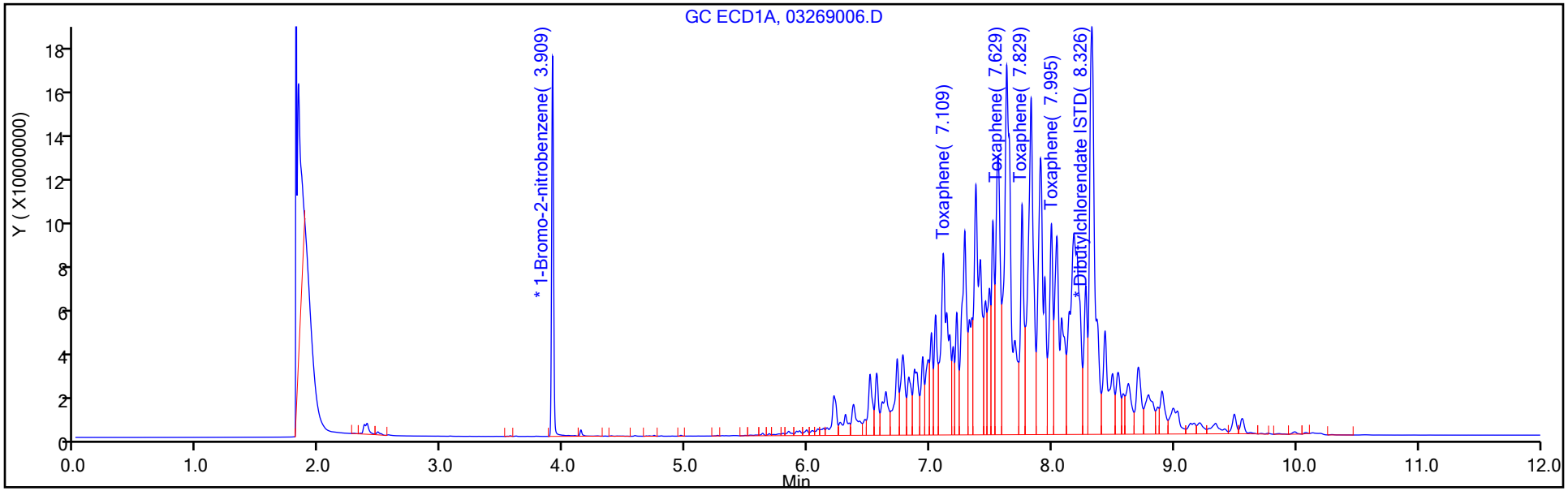

Column: MR-2 (0.53 mm)

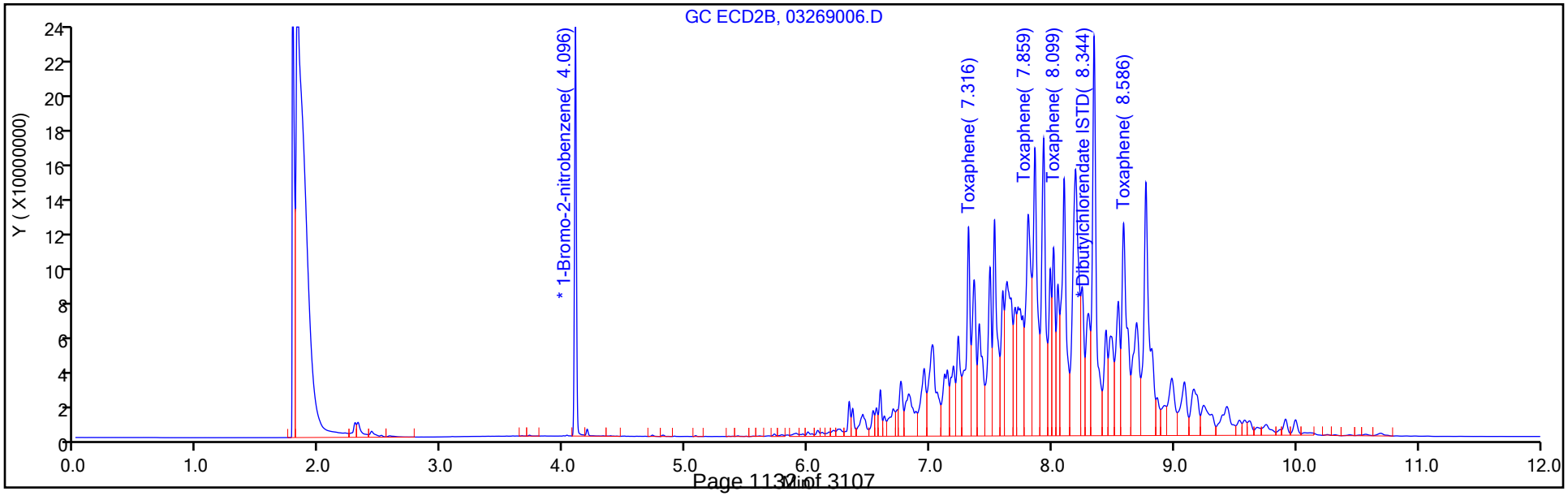

Report Date: 03-Apr-2019 08:23:17 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269006.D				
Injection Date:	02-Apr-2019 10:57:33	Instrument ID:	CHGC17		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

24 Toxaphene, CAS: 8001-35-2

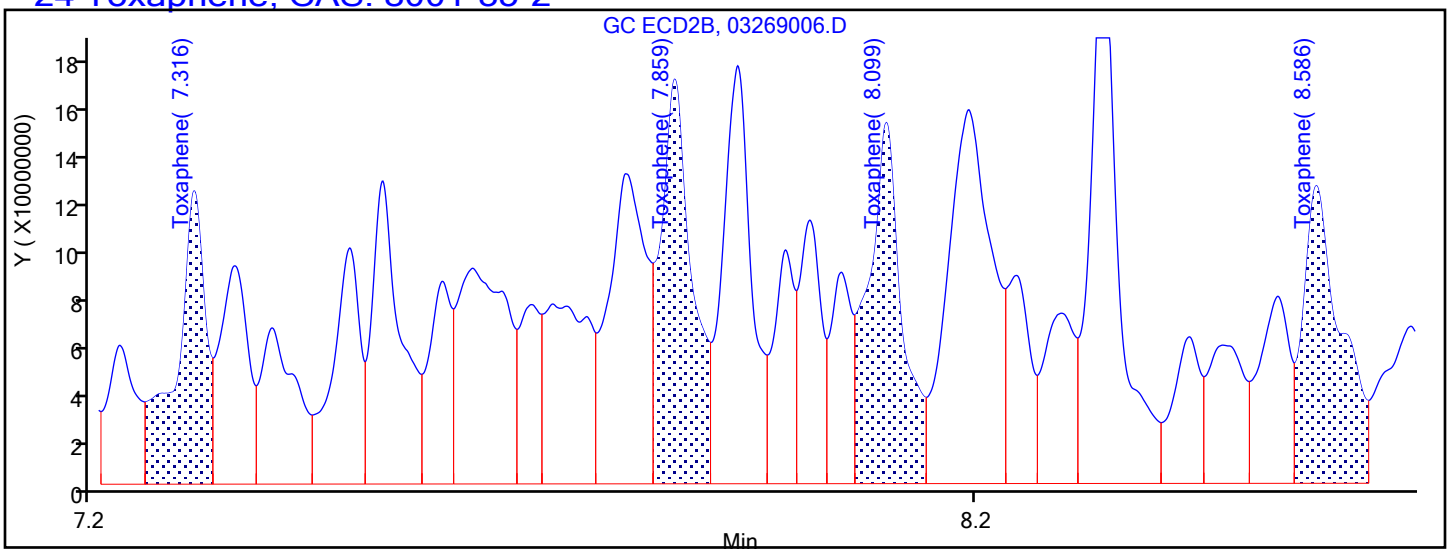

Processing Integration Results

7.316	Response = 117529398
7.859	Response = 162194600
8.099	Response = 144731250
8.586	Response = 119318013

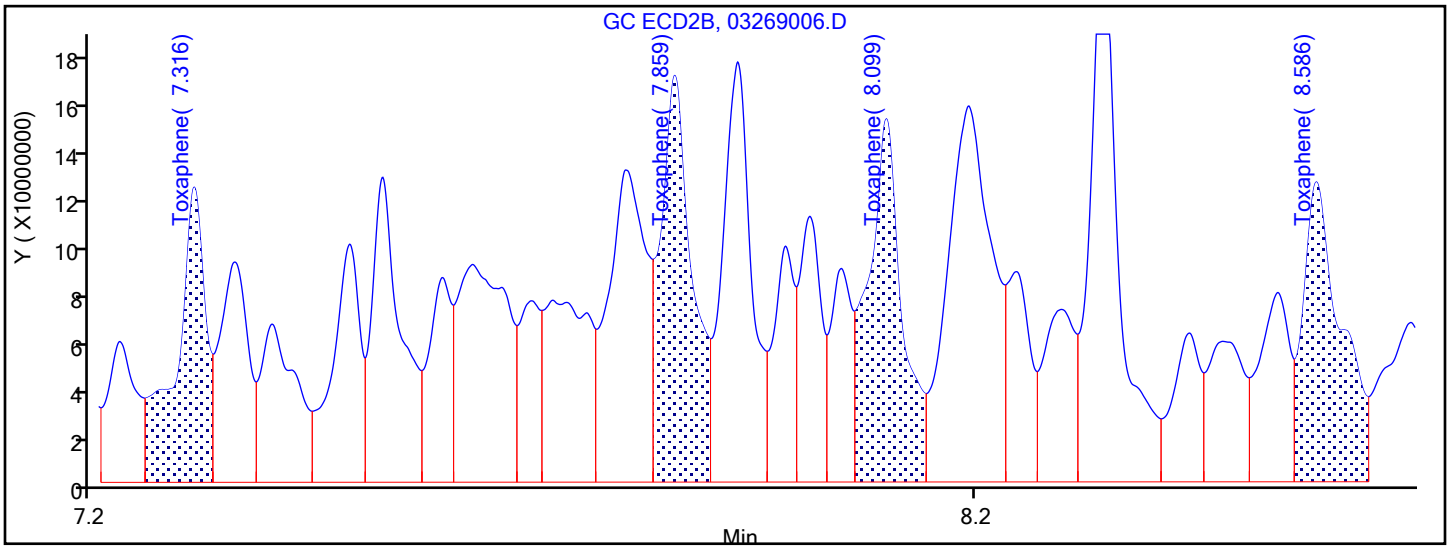

Manual Integration Results

7.316	Response = 118318371	M
7.859	Response = 163035636	M
8.099	Response = 145595284	M
8.586	Response = 120228680	M

Reviewer: eppinged, 02-Apr-2019 11:12:16

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269006.D				
Injection Date:	02-Apr-2019 10:57:33	Instrument ID:	CHGC17		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

* 36 Dibutylchlorendate ISTD, CAS: 1770-80-5

Signal: 2

Processing Integration Results

RT: 8.34
Height: 225184917
Amount: 0.100000
Amount Units: ng

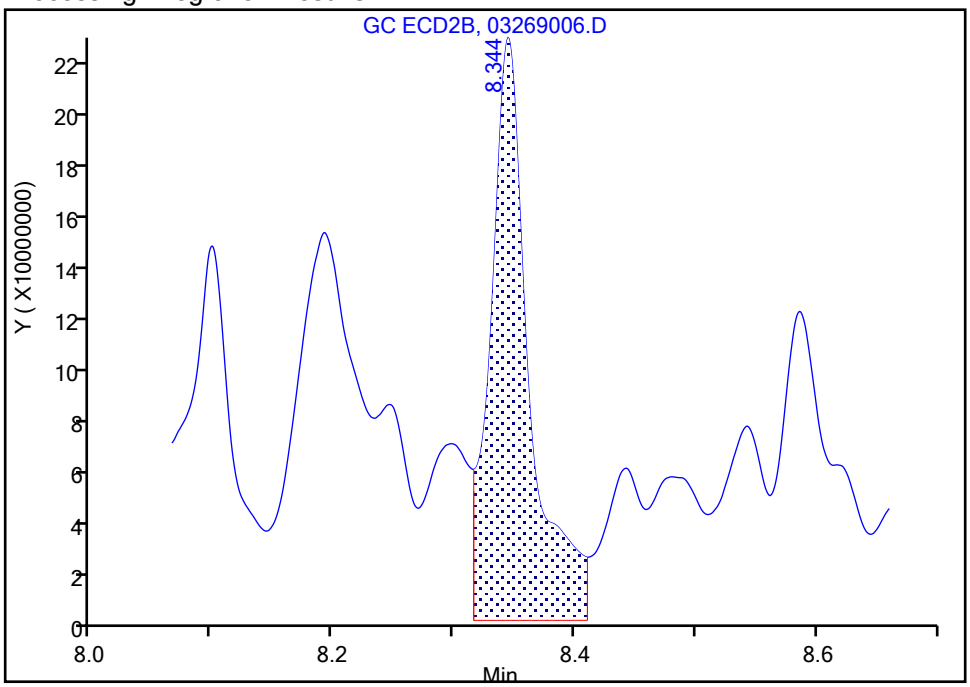

Manual Integration Results

RT: 8.34
Height: 226072427
Amount: 0.100000
Amount Units: ng

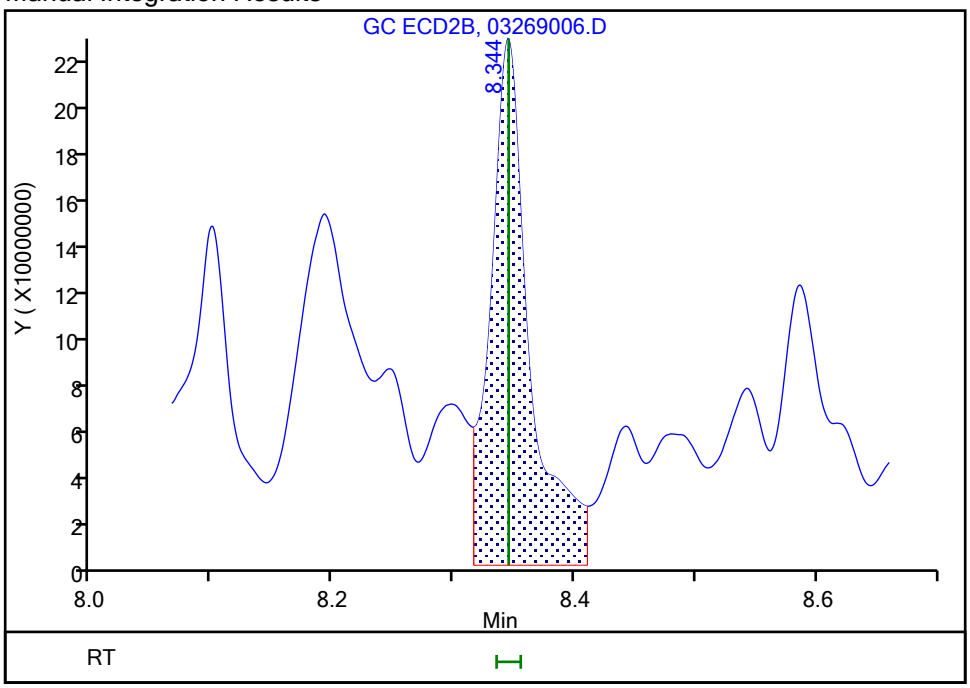

Reviewer: eppinged, 02-Apr-2019 11:12:16

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 274564

SDG No.:

Instrument ID: CHGC17 GC Column: MR-1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/02/2019 11:13 Calibration End Date: 04/02/2019 12:19 Calibration ID: 39975

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-274564/7	03269007.D
Level 2	IC 180-274564/8	03269008.D
Level 3	IC 180-274564/9	03269009.D
Level 4	IC 180-274564/10	03269010.D
Level 5	IC 180-274564/11	03269011.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Chlordane (technical) Peak 1	0.0370	0.0352	0.0319	0.0334	0.0328	Ave		0.0341				6.0		20.0			
Chlordane (technical) Peak 2	0.0518	0.0496	0.0446	0.0465	0.0461	Ave		0.0477				6.1		20.0			
Chlordane (technical) Peak 3	0.1377	0.1329	0.1273	0.1316	0.1297	Ave		0.1318				3.0		20.0			
Chlordane (technical) Peak 4	0.1546	0.1488	0.1383	0.1448	0.1415	Ave		0.1456				4.4		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 274564

SDG No.:

Instrument ID: CHGC17 GC Column: MR-1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/02/2019 11:13 Calibration End Date: 04/02/2019 12:19 Calibration ID: 39975

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-274564/7	03269007.D
Level 2	IC 180-274564/8	03269008.D
Level 3	IC 180-274564/9	03269009.D
Level 4	IC 180-274564/10	03269010.D
Level 5	IC 180-274564/11	03269011.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
Chlordane (technical) Peak 1	BNB	Ave	306323	1421173	13636052	68851797	137429858	0.00500	0.0250	0.250	1.25	2.50
Chlordane (technical) Peak 2	BNB	Ave	428538	2000069	19055157	95719230	193511695	0.00500	0.0250	0.250	1.25	2.50
Chlordane (technical) Peak 3	BNB	Ave	1139154	5363923	54396842	270976118	543688862	0.00500	0.0250	0.250	1.25	2.50
Chlordane (technical) Peak 4	BNB	Ave	1279138	6006427	59093108	298047646	593337226	0.00500	0.0250	0.250	1.25	2.50

Curve Type Legend:

Ave = Average ISTD by Height

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 274564

SDG No.:

Instrument ID: CHGC17 GC Column: MR-1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/02/2019 11:13 Calibration End Date: 04/02/2019 12:19 Calibration ID: 39975

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-274564/7	03269007.D
Level 2	IC 180-274564/8	03269008.D
Level 3	IC 180-274564/9	03269009.D
Level 4	IC 180-274564/10	03269010.D
Level 5	IC 180-274564/11	03269011.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #		LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	
Chlordane (technical) Peak 1	8.7	3.4	-6.4	-1.8	-3.8		50	30	30	30	30	
Chlordane (technical) Peak 2	8.6	3.9	-6.6	-2.6	-3.3		50	30	30	30	30	
Chlordane (technical) Peak 3	4.4	0.8	-3.5	-0.2	-1.7		50	30	30	30	30	
Chlordane (technical) Peak 4	6.2	2.2	-5.0	-0.6	-2.8		50	30	30	30	30	

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269007.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 02-Apr-2019 11:13:56 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-007
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub2

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:23:19 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: eppinged Date: 02-Apr-2019 11:46:13

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.909	3.910	-0.001	165461189H	0.1000	0.1000	
2	4.097	4.098	-0.001	225762708H	0.1000	0.1000	
9 Chlordane (technical)							
1	5.823	5.824	-0.001	306323H	0.005000	0.005434	
1	5.996	5.997	-0.001	428538H	0.005000	0.005428	
1	6.851	6.852	-0.001	1139154H	0.005000	0.005222	
1	6.920	6.921	-0.001	1279138H	0.005000	0.005310	
		Average of Peak Amounts =				0.005348	
2	5.901	5.898	0.003	1341095H	0.005000	0.006479	
2	6.056	6.057	-0.001	513359H	0.005000	0.005365	
2	7.014	7.013	0.001	1261120H	0.005000	0.005036	
2	7.061	7.062	-0.001	757992H	0.005000	0.005107	
		Average of Peak Amounts =				0.005497	
						RPD = 2.73	
* 36 Dibutylchlorendate ISTD							
1	8.333	8.333	0.001	105086236H	0.1000	0.1000	
2	8.345	8.345	0.000	122694028H	0.1000	0.1000	

Reagents:

GCCHLORLEVEL1_00011 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00015 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 03-Apr-2019 08:23:20 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269007.D

Injection Date: 02-Apr-2019 11:13:56 Instrument ID: CHGC17 Operator ID:

Lims ID: IC Worklist Smp#: 7

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 7

Method: IS PEST_CHGC17 Limit Group: GCS 8081B ICAL with IS

Column: MR-1 (0.53 mm)

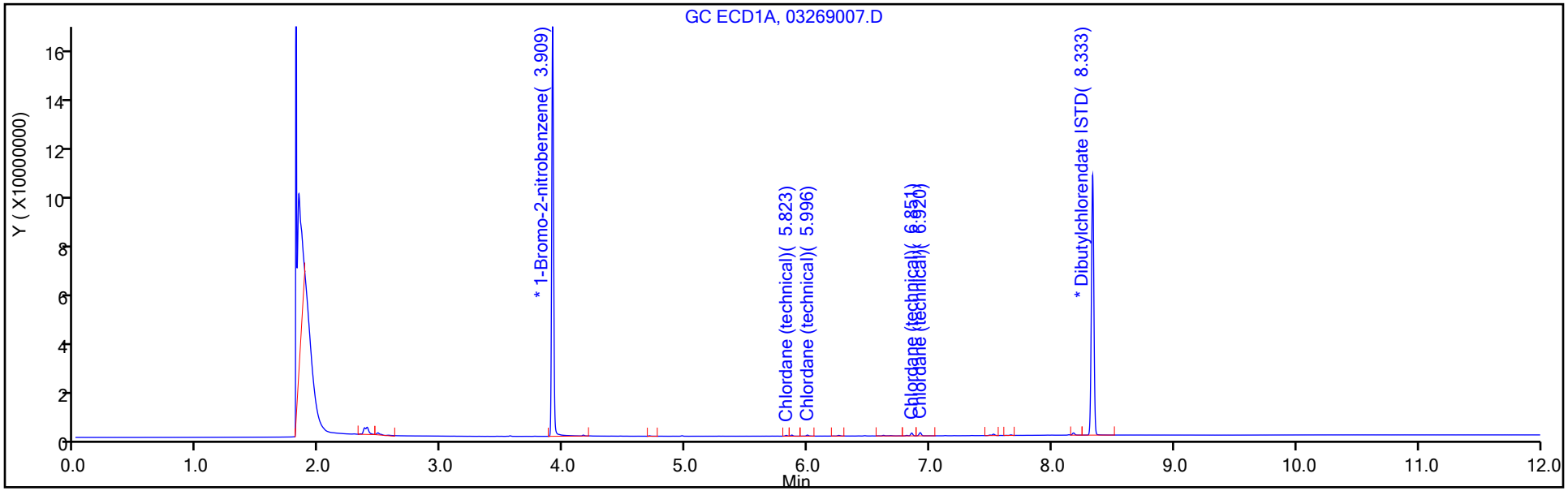

Column: MR-2 (0.53 mm)

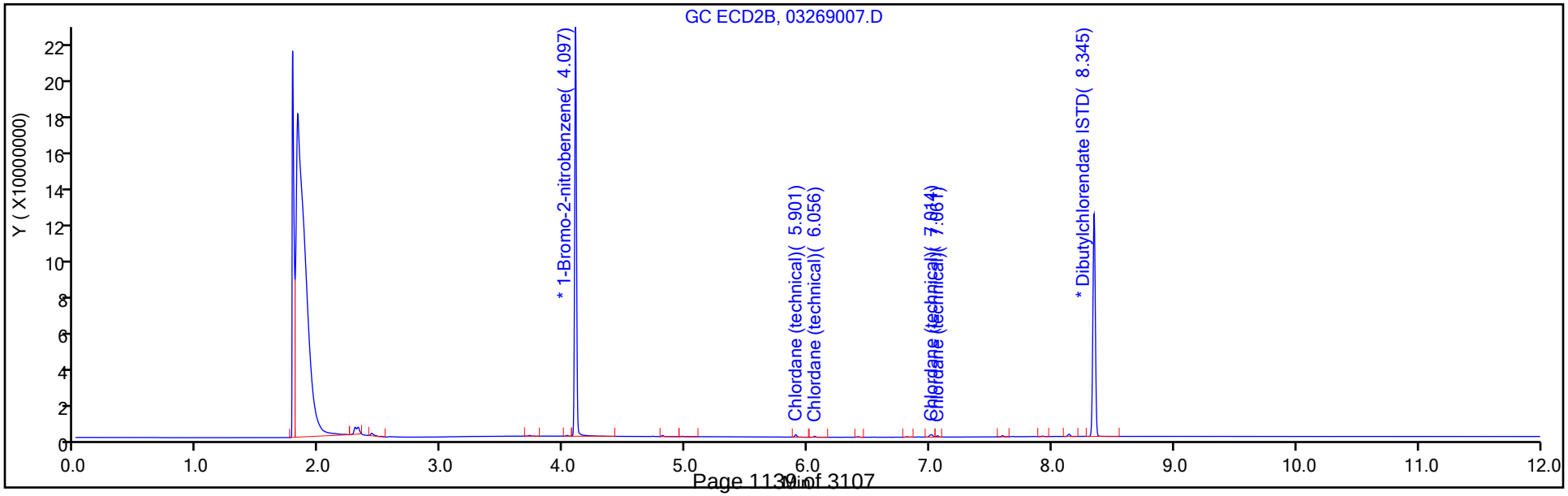

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269008.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 02-Apr-2019 11:30:20 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-008
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub2

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:23:22 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: eppinged Date: 02-Apr-2019 12:06:28

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.909	3.910	-0.001	161433880H	0.1000	0.1000	
2	4.097	4.098	-0.001	217739962H	0.1000	0.1000	
9 Chlordane (technical)							
1	5.823	5.824	-0.001	1421173H	0.0250	0.0258	
1	5.996	5.997	-0.001	2000069H	0.0250	0.0260	
1	6.851	6.852	-0.001	5363923H	0.0250	0.0252	
1	6.921	6.921	0.000	6006427H	0.0250	0.0256	
		Average of Peak Amounts =				0.0256	
2	5.899	5.898	0.001	2061035H	0.0250	0.0188	
2	6.057	6.057	0.000	2370781H	0.0250	0.0257	
2	7.014	7.013	0.001	6162627H	0.0250	0.0255	
2	7.061	7.062	-0.001	3592733H	0.0250	0.0251	
		Average of Peak Amounts =				0.0238	
						RPD = 7.53	
* 36 Dibutylchlorendate ISTD							
1	8.332	8.333	0.000	102684236H	0.1000	0.1000	
2	8.345	8.345	0.000	118207088H	0.1000	0.1000	

Reagents:

GCCHLORLEVEL2_00009 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00015 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 03-Apr-2019 08:23:22 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269008.D				
Injection Date:	02-Apr-2019 11:30:20	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	IC			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

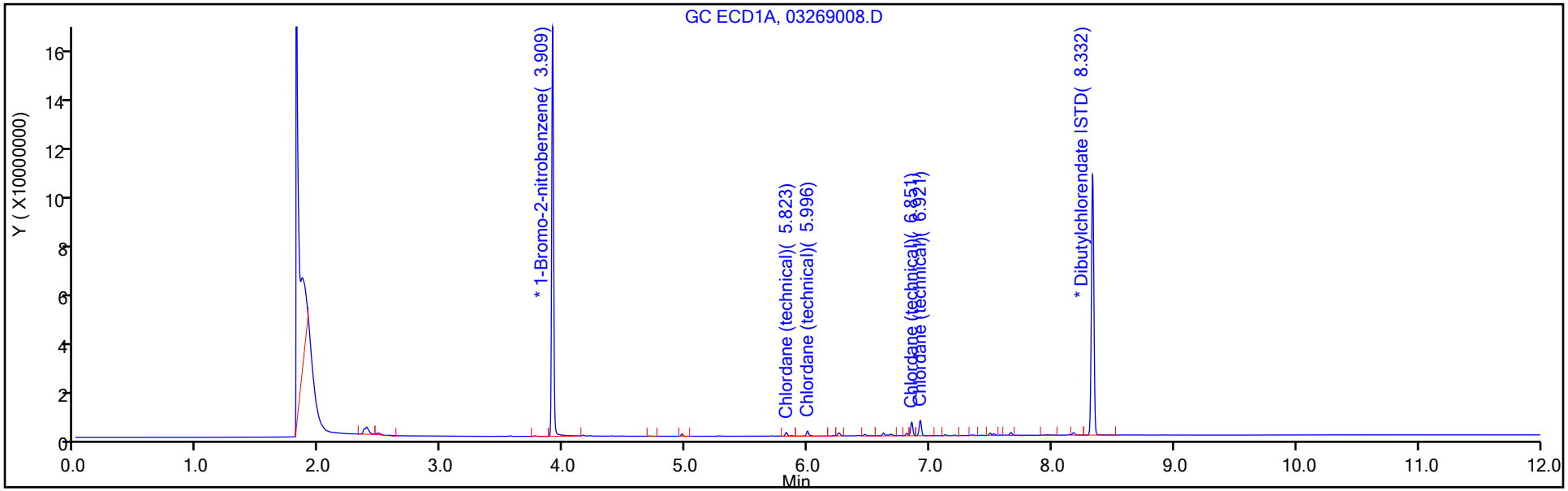

Column: MR-2 (0.53 mm)

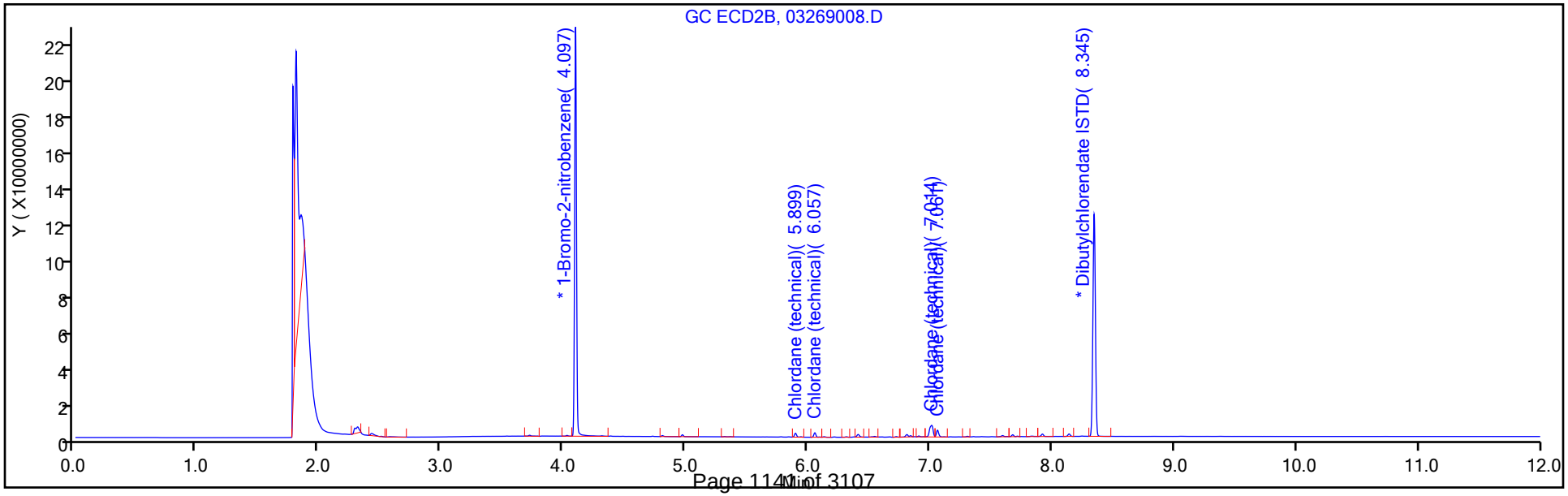

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269009.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 02-Apr-2019 11:46:47 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-009
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub2

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:23:25 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: eppinged Date: 02-Apr-2019 12:17:34

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.911	3.910	0.001	170962705H	0.1000	0.1000	
2	4.097	4.097	0.000	226192341H	0.1000	0.1000	
9 Chlordane (technical)							
1	5.824	5.824	0.000	13636052H	0.2500	0.2341	
1	5.997	5.997	0.000	19055157H	0.2500	0.2336	
1	6.852	6.852	0.000	54396842H	0.2500	0.2414	
1	6.921	6.921	0.000	59093108H	0.2500	0.2374	
		Average of Peak Amounts =				0.2366	
2	5.898	5.898	0.000	16225941H	0.2500	0.2368	
2	6.057	6.057	0.000	23474605H	0.2500	0.2449	
2	7.013	7.013	0.000	61362689H	0.2500	0.2446	
2	7.062	7.062	0.000	35647310H	0.2500	0.2397	
		Average of Peak Amounts =				0.2415	
						RPD = 2.04	
* 36 Dibutylchlorendate ISTD							
1	8.332	8.333	-0.001	109727361H	0.1000	0.1000	
2	8.345	8.344	0.001	124872190H	0.1000	0.1000	

Reagents:

GCCHLORLEVEL3_00015 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00015 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 03-Apr-2019 08:23:25 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269009.D				
Injection Date:	02-Apr-2019 11:46:47	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	IC			Worklist Smp#:	9
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

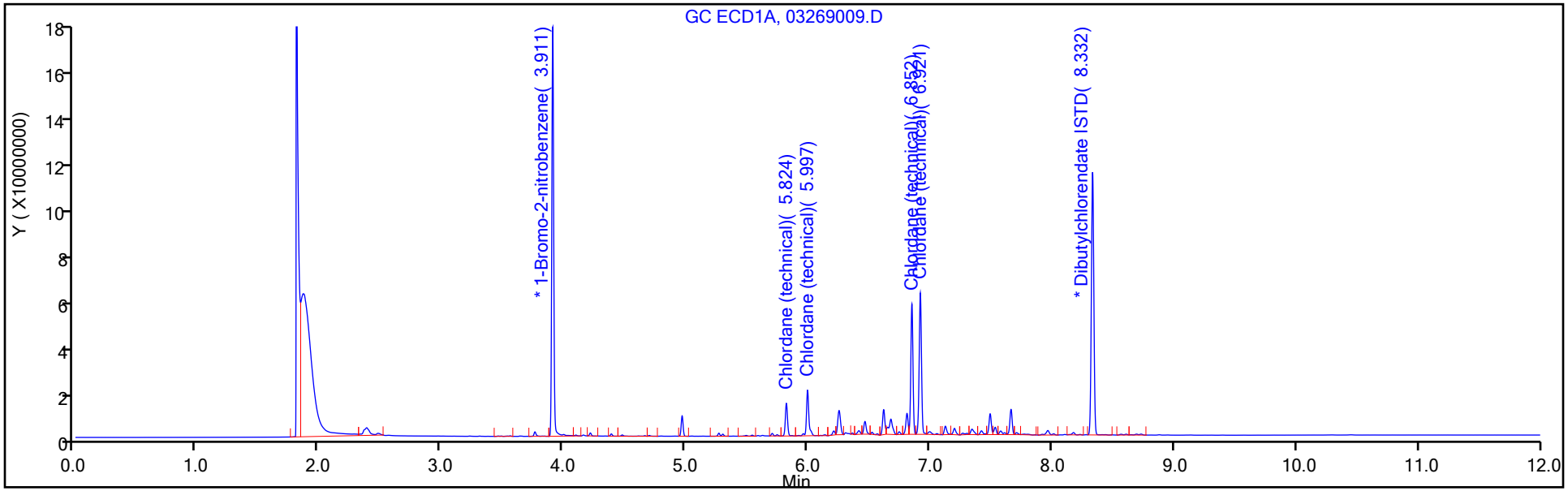

Column: MR-2 (0.53 mm)

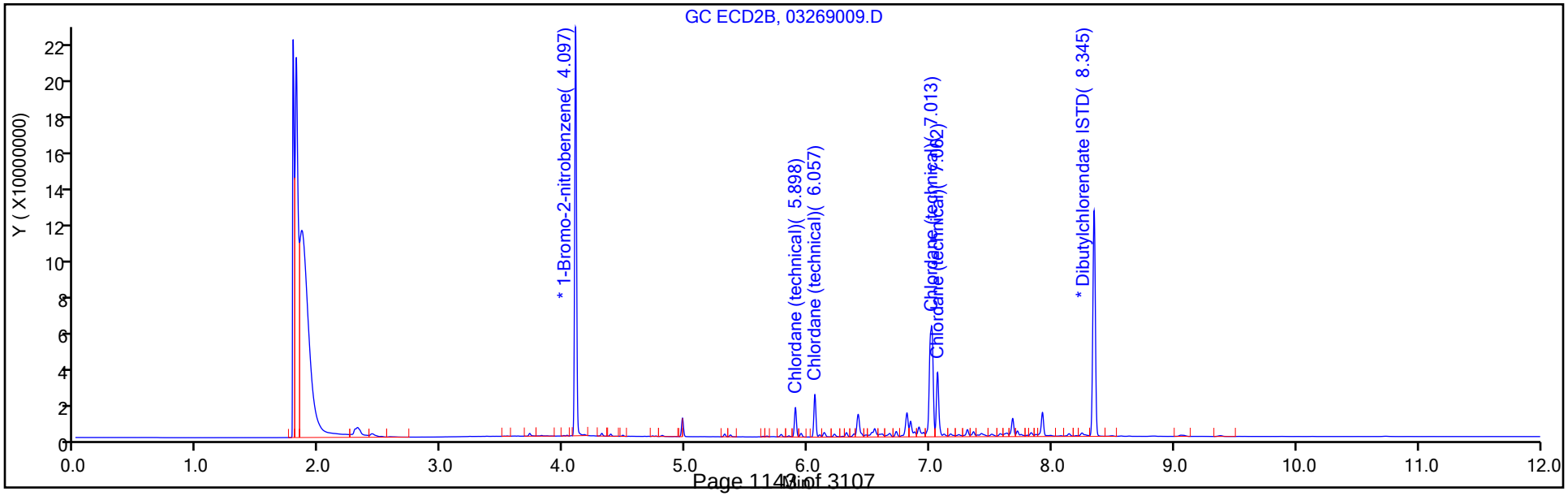

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269010.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 02-Apr-2019 12:03:16 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-010
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub2

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:23:27 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: eppinged Date: 02-Apr-2019 12:33:19

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.910	3.910	0.000	164694814H	0.1000	0.1000	
2	4.097	4.098	-0.001	221345469H	0.1000	0.1000	
9 Chlordane (technical)							
1	5.823	5.824	-0.001	68851797H	1.25	1.23	
1	5.997	5.997	0.000	95719230H	1.25	1.22	
1	6.852	6.852	0.000	270976118H	1.25	1.25	
1	6.922	6.921	0.001	298047646H	1.25	1.24	
		Average of Peak Amounts =				1.23	
2	5.897	5.898	-0.001	79490237H	1.25	1.24	
2	6.057	6.057	0.000	113631352H	1.25	1.21	
2	7.015	7.013	0.002	299146993H	1.25	1.22	
2	7.062	7.062	0.000	182404746H	1.25	1.25	
		Average of Peak Amounts =				1.23	
						RPD = 0.21	
* 36 Dibutylchlorendate ISTD							
1	8.332	8.333	0.000	103715371H	0.1000	0.1000	
2	8.344	8.345	-0.001	121679337H	0.1000	0.1000	

Reagents:

GCCHLORLEVEL4_00009 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00015 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 03-Apr-2019 08:23:28 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269010.D				
Injection Date:	02-Apr-2019 12:03:16	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	IC			Worklist Smp#:	10
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

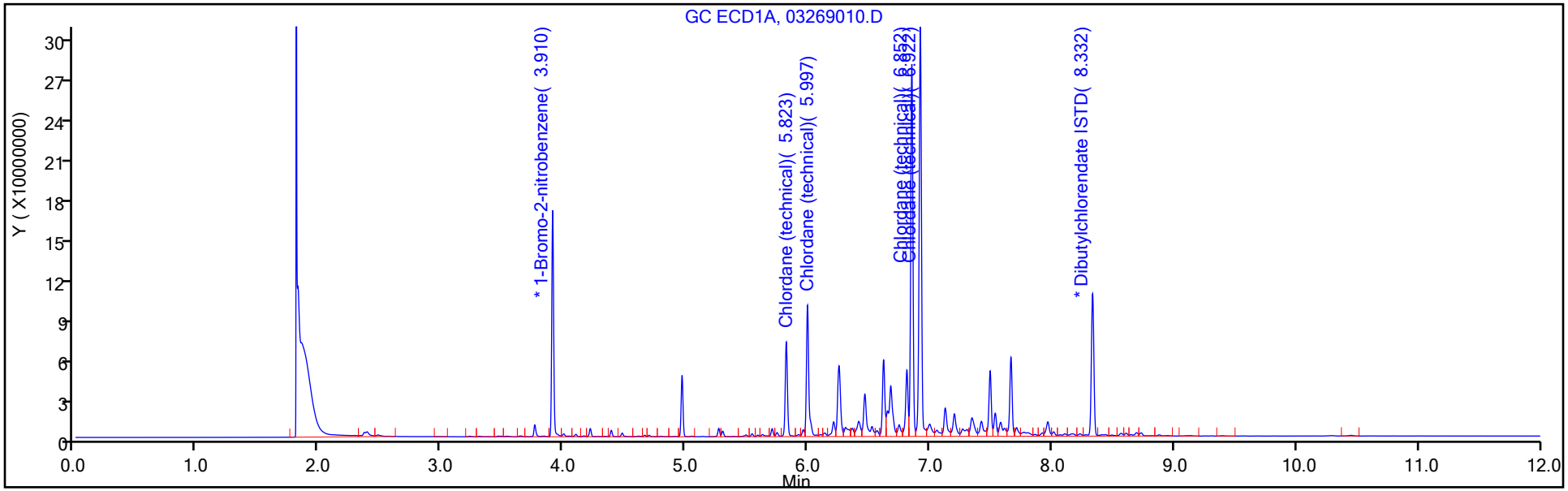

Column: MR-2 (0.53 mm)

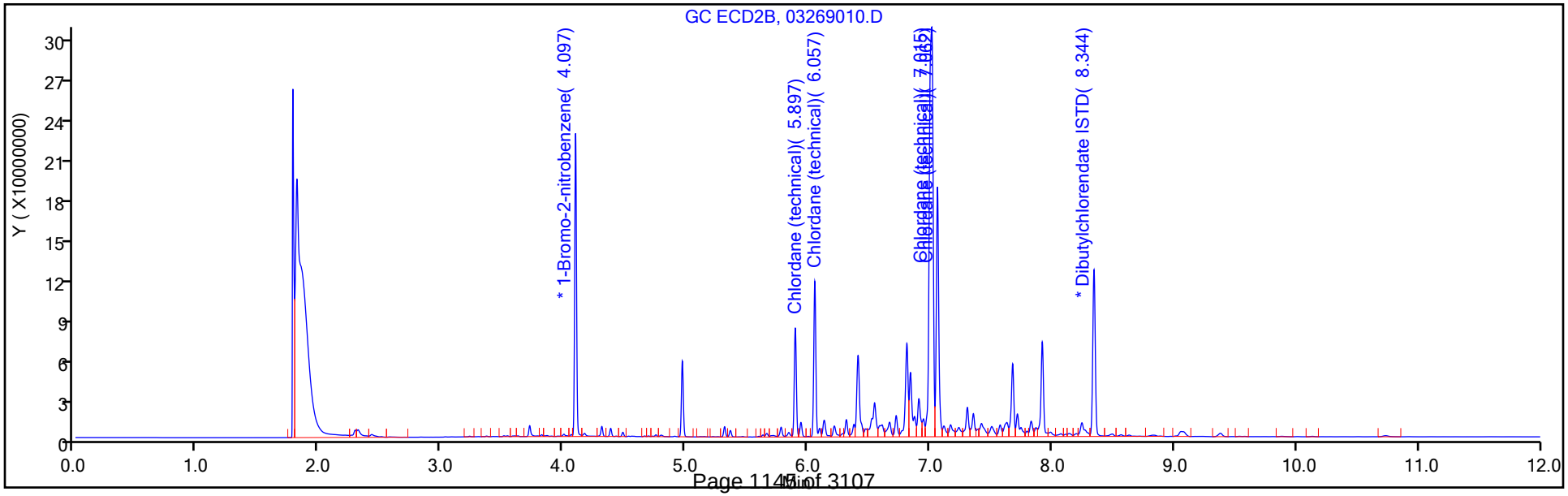

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269011.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 02-Apr-2019 12:19:38 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-011
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub2

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:23:30 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: eppinged Date: 02-Apr-2019 12:35:08

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.911	3.910	0.001	167739662H	0.1000	0.1000	
2	4.098	4.098	0.000	223368585H	0.1000	0.1000	
9 Chlordane (technical)							
1	5.823	5.824	-0.001	137429858H	2.50	2.40	
1	5.997	5.997	0.000	193511695H	2.50	2.42	
1	6.851	6.852	-0.001	543688862H	2.50	2.46	
1	6.921	6.921	0.000	593337226H	2.50	2.43	
		Average of Peak Amounts =				2.43	
2	5.897	5.898	-0.001	162051784H	2.50	2.53	
2	6.057	6.057	0.000	225131772H	2.50	2.38	
2	7.015	7.013	0.002	631491634H	2.50	2.55	
2	7.062	7.062	0.000	371844871H	2.50	2.53	
		Average of Peak Amounts =				2.50	
						RPD = 2.78	
* 36 Dibutylchlorendate ISTD							
1	8.332	8.333	-0.001	107769111H	0.1000	0.1000	
2	8.345	8.345	0.000	124726402H	0.1000	0.1000	

Reagents:

GCCHLORLEVEL5_00011 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00015 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 03-Apr-2019 08:23:31 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269011.D				
Injection Date:	02-Apr-2019 12:19:38	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	IC			Worklist Smp#:	11
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

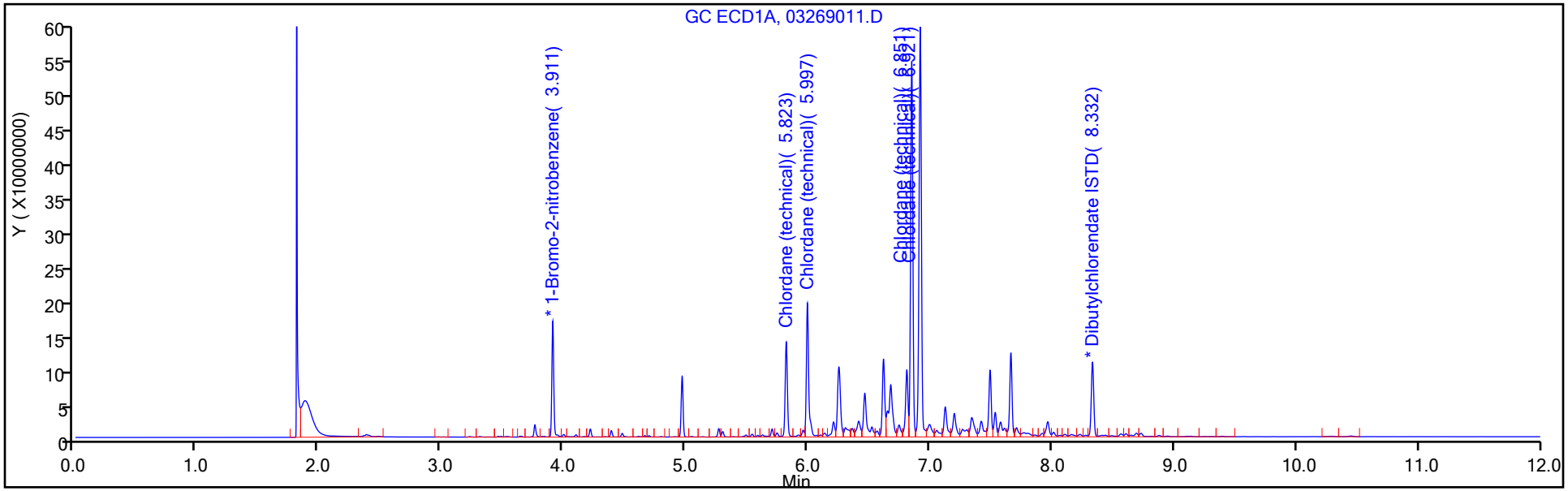

Column: MR-2 (0.53 mm)

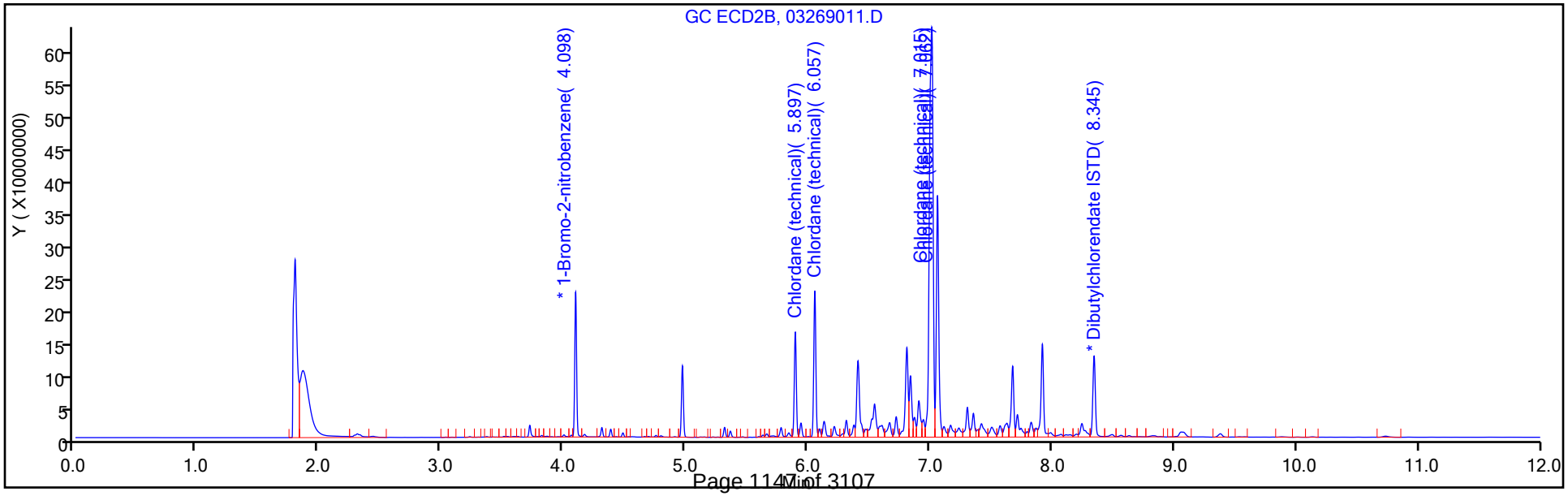

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 274564

SDG No.:

Instrument ID: CHGC17 GC Column: MR-2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/02/2019 11:13 Calibration End Date: 04/02/2019 12:19 Calibration ID: 39976

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-274564/7	03269007.D
Level 2	IC 180-274564/8	03269008.D
Level 3	IC 180-274564/9	03269009.D
Level 4	IC 180-274564/10	03269010.D
Level 5	IC 180-274564/11	03269011.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Chlordane (technical) Peak 1	0.1188	0.0379	0.0287	0.0287	0.0290	Lin1	0.0004	0.0286							0.9990		0.9900
Chlordane (technical) Peak 2	0.0455	0.0436	0.0415	0.0411	0.0403	Ave		0.0424				5.0		20.0			
Chlordane (technical) Peak 3	0.1117	0.1132	0.1085	0.1081	0.1131	Ave		0.1109				2.2		20.0			
Chlordane (technical) Peak 4	0.0671	0.0660	0.0630	0.0659	0.0666	Ave		0.0657				2.4		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 274564

SDG No.:

Instrument ID: CHGC17 GC Column: MR-2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/02/2019 11:13 Calibration End Date: 04/02/2019 12:19 Calibration ID: 39976

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-274564/7	03269007.D
Level 2	IC 180-274564/8	03269008.D
Level 3	IC 180-274564/9	03269009.D
Level 4	IC 180-274564/10	03269010.D
Level 5	IC 180-274564/11	03269011.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
Chlordane (technical) Peak 1	BNB	Lin1	1341095	2061035	16225941	79490237	162051784	0.00500	0.0250	0.250	1.25	2.50
Chlordane (technical) Peak 2	BNB	Ave	513359	2370781	23474605	113631352	225131772	0.00500	0.0250	0.250	1.25	2.50
Chlordane (technical) Peak 3	BNB	Ave	1261120	6162627	61362689	299146993	631491634	0.00500	0.0250	0.250	1.25	2.50
Chlordane (technical) Peak 4	BNB	Ave	757992	3592733	35647310	182404746	371844871	0.00500	0.0250	0.250	1.25	2.50

Curve Type Legend:

Ave = Average ISTD by Height
Lin1 = Linear 1/Conc ISTD by Height

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 274564

SDG No.:

Instrument ID: CHGC17 GC Column: MR-2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/02/2019 11:13 Calibration End Date: 04/02/2019 12:19 Calibration ID: 39976

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-274564/7	03269007.D
Level 2	IC 180-274564/8	03269008.D
Level 3	IC 180-274564/9	03269009.D
Level 4	IC 180-274564/10	03269010.D
Level 5	IC 180-274564/11	03269011.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #		LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	
Chlordane (technical) Peak 1	29.6	-24.7	-5.3	-0.6	1.0		50	30	30	30	30	
Chlordane (technical) Peak 2	7.3	2.8	-2.1	-3.1	-4.9		50	30	30	30	30	
Chlordane (technical) Peak 3	0.7	2.1	-2.2	-2.5	1.9		50	30	30	30	30	
Chlordane (technical) Peak 4	2.1	0.4	-4.1	0.3	1.3		50	30	30	30	30	

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269007.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 02-Apr-2019 11:13:56 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-007
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub2

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:23:19 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: eppinged Date: 02-Apr-2019 11:46:13

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.909	3.910	-0.001	165461189H	0.1000	0.1000	
2	4.097	4.098	-0.001	225762708H	0.1000	0.1000	
9 Chlordane (technical)							
1	5.823	5.824	-0.001	306323H	0.005000	0.005434	
1	5.996	5.997	-0.001	428538H	0.005000	0.005428	
1	6.851	6.852	-0.001	1139154H	0.005000	0.005222	
1	6.920	6.921	-0.001	1279138H	0.005000	0.005310	
		Average of Peak Amounts =				0.005348	
2	5.901	5.898	0.003	1341095H	0.005000	0.006479	
2	6.056	6.057	-0.001	513359H	0.005000	0.005365	
2	7.014	7.013	0.001	1261120H	0.005000	0.005036	
2	7.061	7.062	-0.001	757992H	0.005000	0.005107	
		Average of Peak Amounts =				0.005497	
						RPD = 2.73	
* 36 Dibutylchlorendate ISTD							
1	8.333	8.333	0.001	105086236H	0.1000	0.1000	
2	8.345	8.345	0.000	122694028H	0.1000	0.1000	

Reagents:

GCCHLORLEVEL1_00011 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00015 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 03-Apr-2019 08:23:20 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269007.D				
Injection Date:	02-Apr-2019 11:13:56	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	IC			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

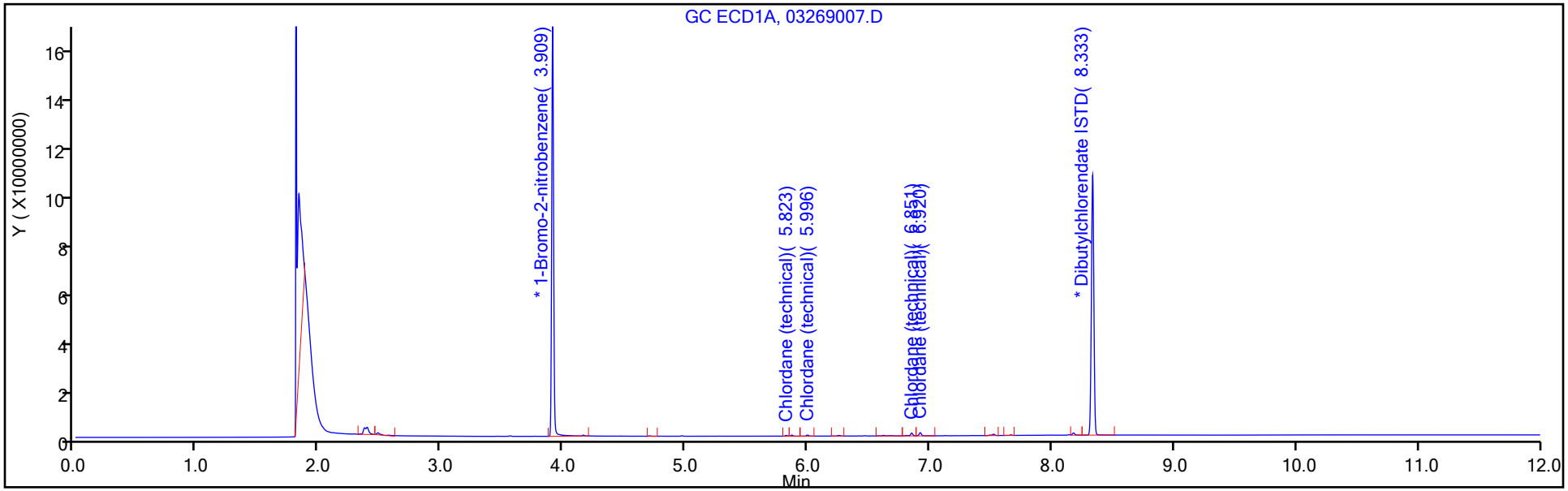

Column: MR-2 (0.53 mm)

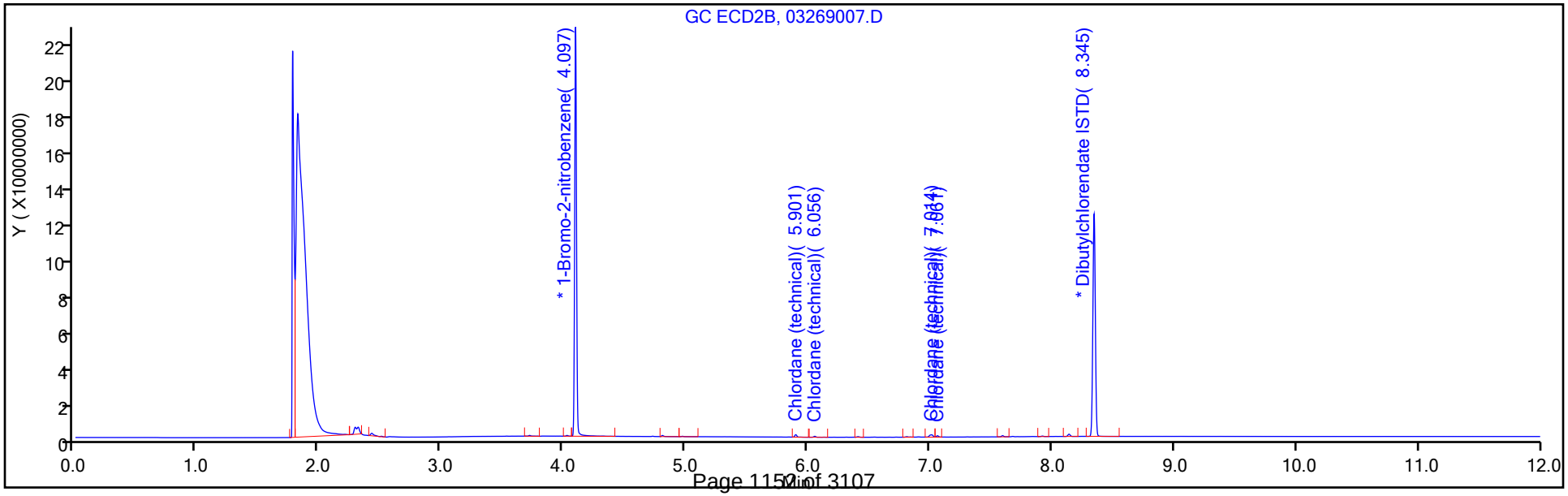

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269008.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 02-Apr-2019 11:30:20 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-008
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub2

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:23:22 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: eppinged Date: 02-Apr-2019 12:06:28

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.909	3.910	-0.001	161433880H	0.1000	0.1000	
2	4.097	4.098	-0.001	217739962H	0.1000	0.1000	
9 Chlordane (technical)							
1	5.823	5.824	-0.001	1421173H	0.0250	0.0258	
1	5.996	5.997	-0.001	2000069H	0.0250	0.0260	
1	6.851	6.852	-0.001	5363923H	0.0250	0.0252	
1	6.921	6.921	0.000	6006427H	0.0250	0.0256	
		Average of Peak Amounts =				0.0256	
2	5.899	5.898	0.001	2061035H	0.0250	0.0188	
2	6.057	6.057	0.000	2370781H	0.0250	0.0257	
2	7.014	7.013	0.001	6162627H	0.0250	0.0255	
2	7.061	7.062	-0.001	3592733H	0.0250	0.0251	
		Average of Peak Amounts =				0.0238	
						RPD = 7.53	
* 36 Dibutylchlorendate ISTD							
1	8.332	8.333	0.000	102684236H	0.1000	0.1000	
2	8.345	8.345	0.000	118207088H	0.1000	0.1000	

Reagents:

GCCHLORLEVEL2_00009 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00015 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 03-Apr-2019 08:23:23 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269008.D				
Injection Date:	02-Apr-2019 11:30:20	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	IC			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

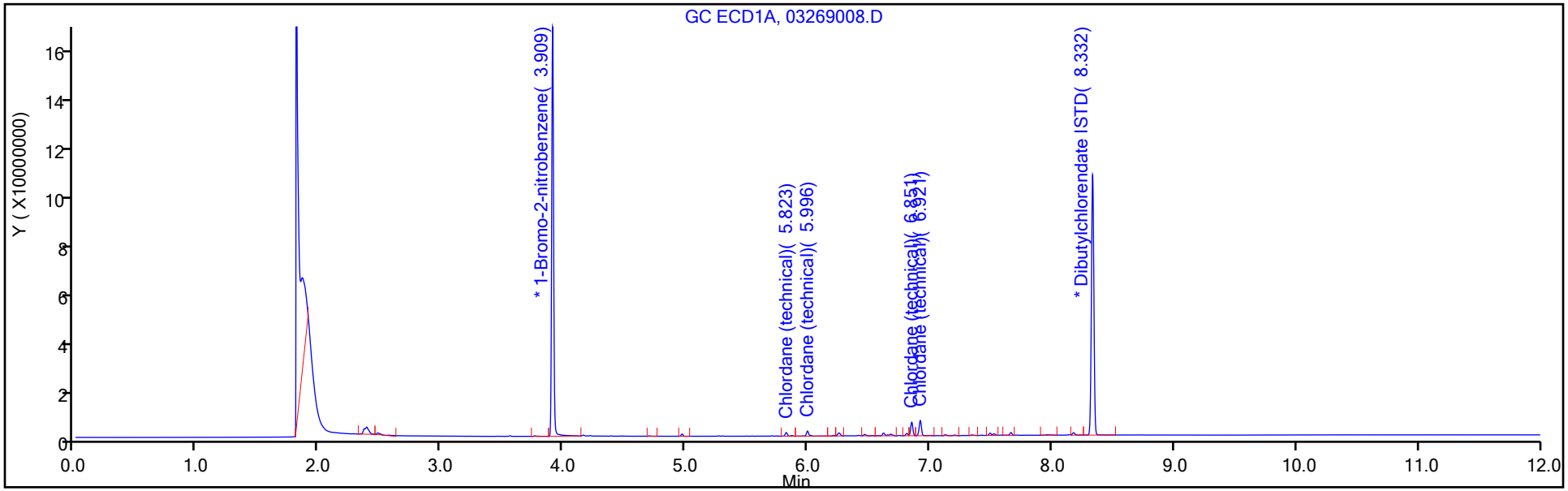

Column: MR-2 (0.53 mm)

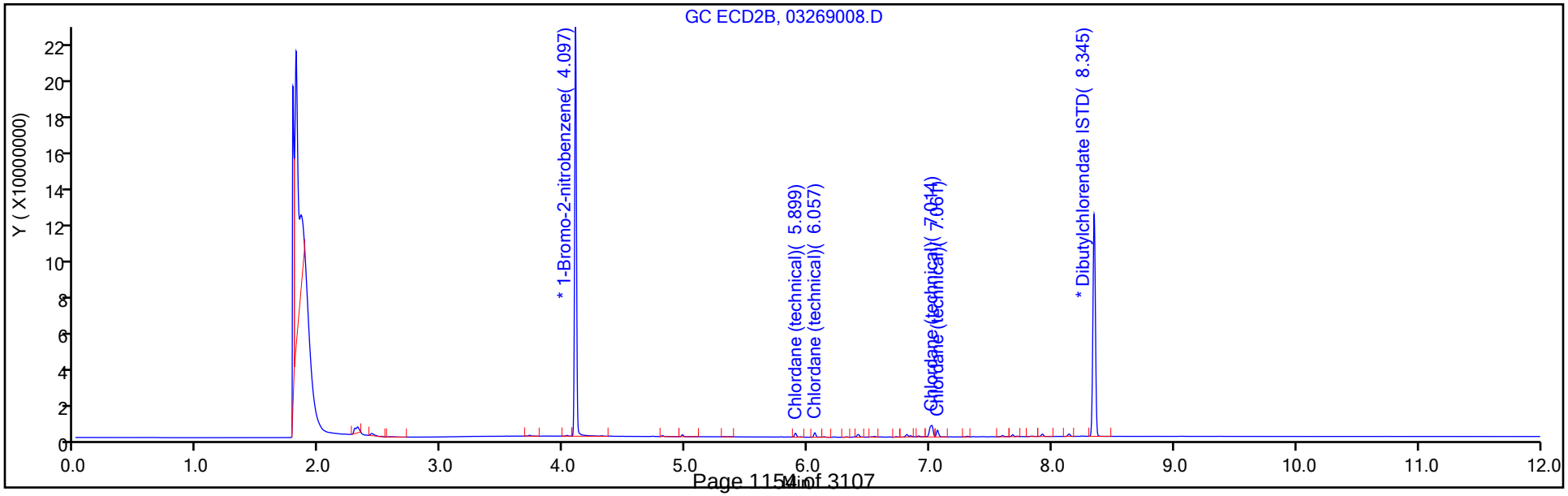

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269009.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 02-Apr-2019 11:46:47 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-009
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub2

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:23:25 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: eppinged Date: 02-Apr-2019 12:17:34

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.911	3.910	0.001	170962705H	0.1000	0.1000	
2	4.097	4.097	0.000	226192341H	0.1000	0.1000	
9 Chlordane (technical)							
1	5.824	5.824	0.000	13636052H	0.2500	0.2341	
1	5.997	5.997	0.000	19055157H	0.2500	0.2336	
1	6.852	6.852	0.000	54396842H	0.2500	0.2414	
1	6.921	6.921	0.000	59093108H	0.2500	0.2374	
		Average of Peak Amounts =				0.2366	
2	5.898	5.898	0.000	16225941H	0.2500	0.2368	
2	6.057	6.057	0.000	23474605H	0.2500	0.2449	
2	7.013	7.013	0.000	61362689H	0.2500	0.2446	
2	7.062	7.062	0.000	35647310H	0.2500	0.2397	
		Average of Peak Amounts =				0.2415	
						RPD = 2.04	
* 36 Dibutylchlorendate ISTD							
1	8.332	8.333	-0.001	109727361H	0.1000	0.1000	
2	8.345	8.344	0.001	124872190H	0.1000	0.1000	

Reagents:

GCCHLORLEVEL3_00015 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00015 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 03-Apr-2019 08:23:25 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269009.D				
Injection Date:	02-Apr-2019 11:46:47	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	IC			Worklist Smp#:	9
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

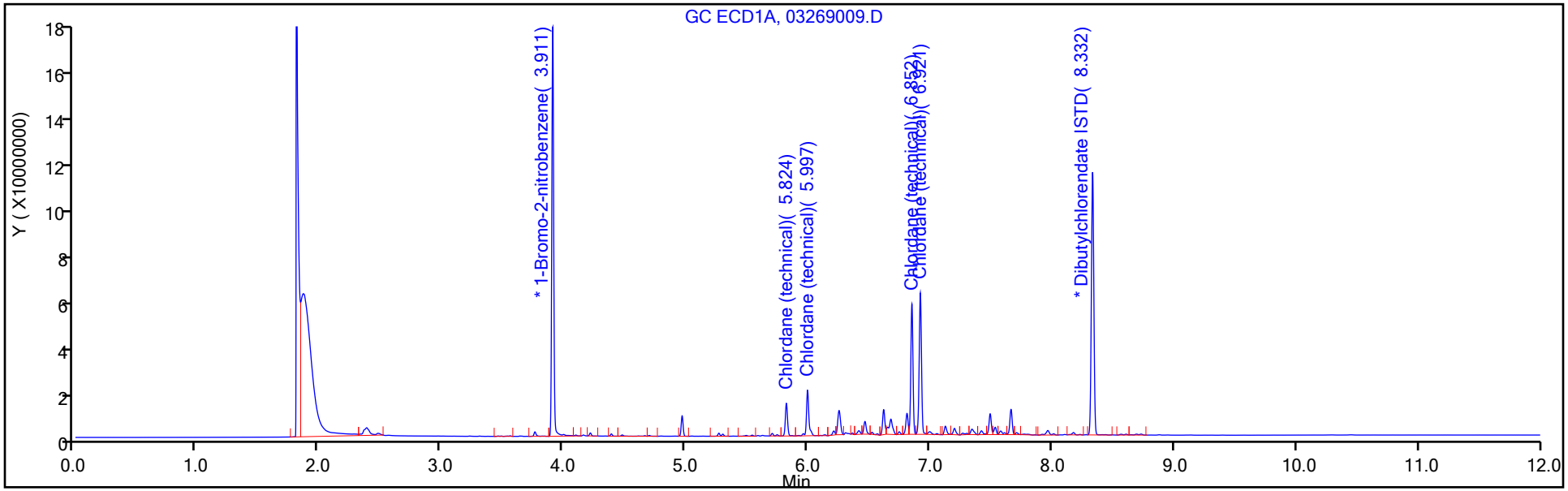

Column: MR-2 (0.53 mm)

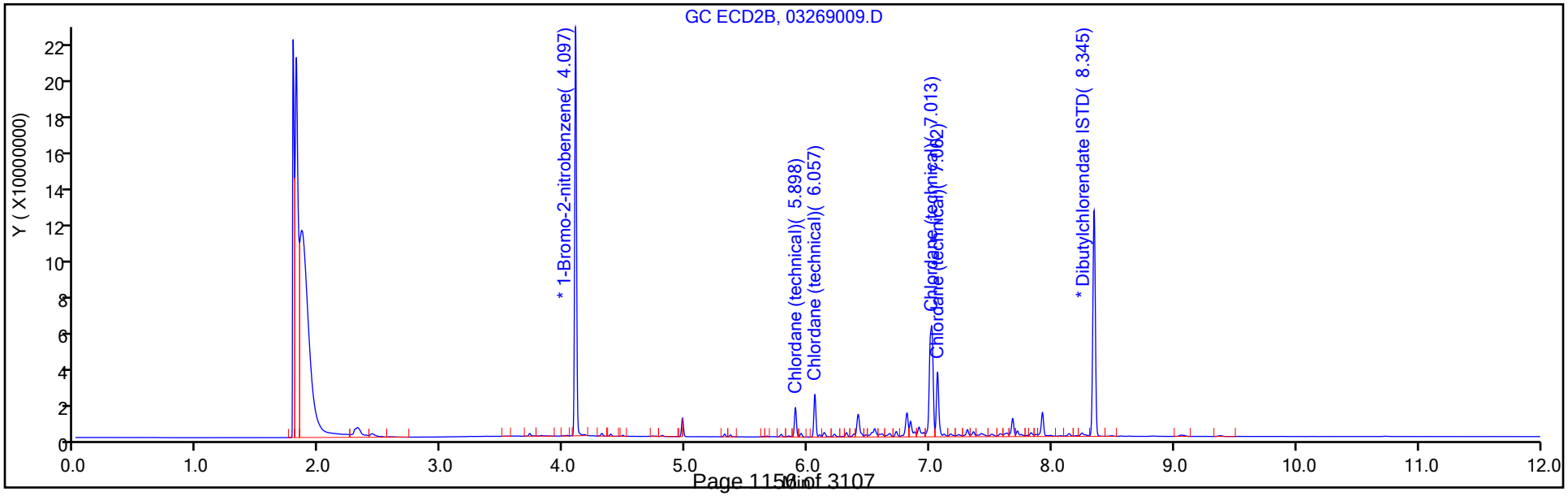

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269010.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 02-Apr-2019 12:03:16 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-010
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub2

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:23:27 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: eppinged Date: 02-Apr-2019 12:33:19

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.910	3.910	0.000	164694814H	0.1000	0.1000	
2	4.097	4.098	-0.001	221345469H	0.1000	0.1000	
9 Chlordane (technical)							
1	5.823	5.824	-0.001	68851797H	1.25	1.23	
1	5.997	5.997	0.000	95719230H	1.25	1.22	
1	6.852	6.852	0.000	270976118H	1.25	1.25	
1	6.922	6.921	0.001	298047646H	1.25	1.24	
		Average of Peak Amounts =				1.23	
2	5.897	5.898	-0.001	79490237H	1.25	1.24	
2	6.057	6.057	0.000	113631352H	1.25	1.21	
2	7.015	7.013	0.002	299146993H	1.25	1.22	
2	7.062	7.062	0.000	182404746H	1.25	1.25	
		Average of Peak Amounts =				1.23	
						RPD = 0.21	
* 36 Dibutylchlorendate ISTD							
1	8.332	8.333	0.000	103715371H	0.1000	0.1000	
2	8.344	8.345	-0.001	121679337H	0.1000	0.1000	

Reagents:

GCCHLORLEVEL4_00009 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00015 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 03-Apr-2019 08:23:28 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269010.D				
Injection Date:	02-Apr-2019 12:03:16	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	IC			Worklist Smp#:	10
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

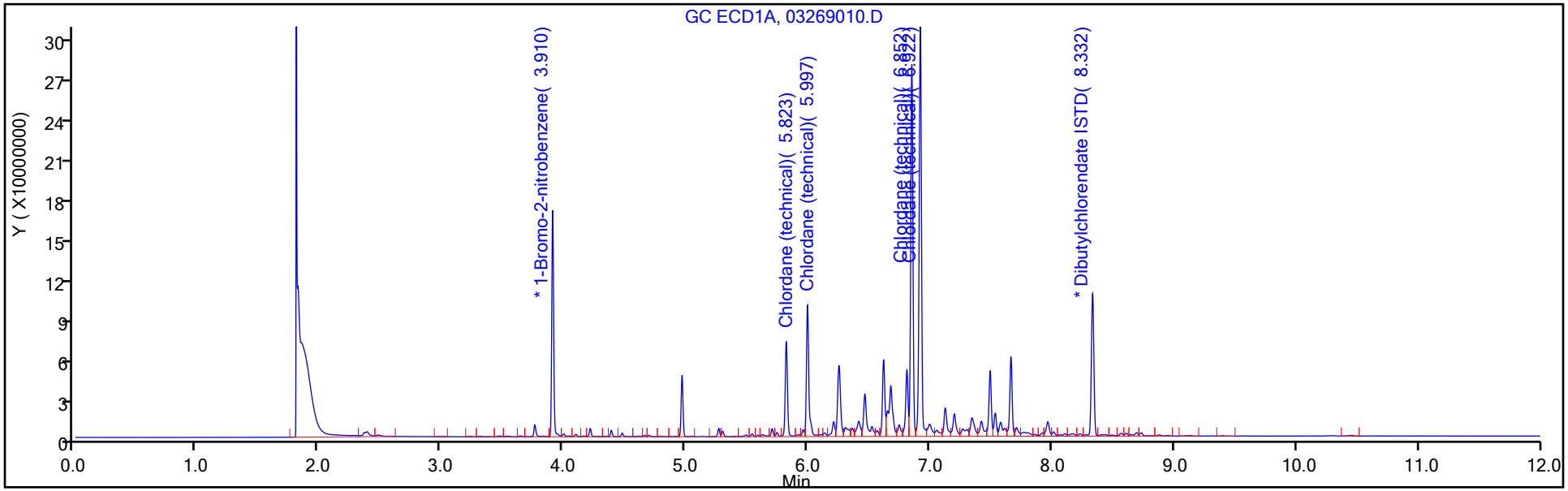

Column: MR-2 (0.53 mm)

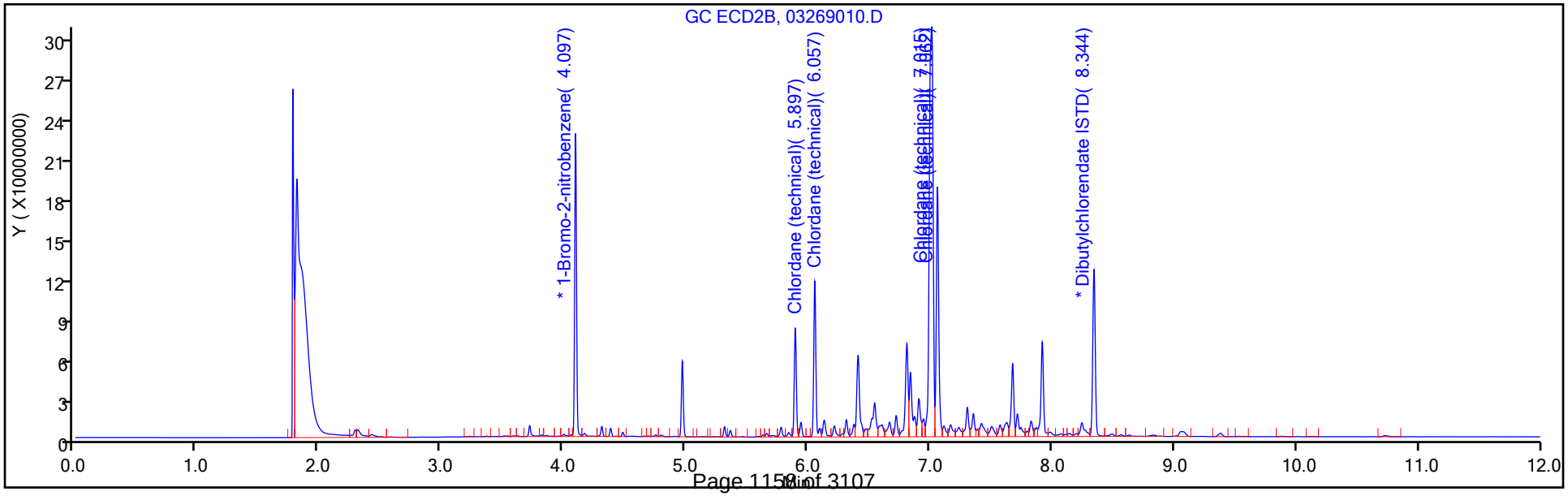

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269011.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 02-Apr-2019 12:19:38 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-011
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub2

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:23:30 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: eppinged Date: 02-Apr-2019 12:35:08

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.911	3.910	0.001	167739662H	0.1000	0.1000	
2	4.098	4.098	0.000	223368585H	0.1000	0.1000	
9 Chlordane (technical)							
1	5.823	5.824	-0.001	137429858H	2.50	2.40	
1	5.997	5.997	0.000	193511695H	2.50	2.42	
1	6.851	6.852	-0.001	543688862H	2.50	2.46	
1	6.921	6.921	0.000	593337226H	2.50	2.43	
		Average of Peak Amounts =				2.43	
2	5.897	5.898	-0.001	162051784H	2.50	2.53	
2	6.057	6.057	0.000	225131772H	2.50	2.38	
2	7.015	7.013	0.002	631491634H	2.50	2.55	
2	7.062	7.062	0.000	371844871H	2.50	2.53	
		Average of Peak Amounts =				2.50	
						RPD = 2.78	
* 36 Dibutylchlorendate ISTD							
1	8.332	8.333	-0.001	107769111H	0.1000	0.1000	
2	8.345	8.345	0.000	124726402H	0.1000	0.1000	

Reagents:

GCCHLORLEVEL5_00011 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00015 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 03-Apr-2019 08:23:31 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269011.D				
Injection Date:	02-Apr-2019 12:19:38	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	IC			Worklist Smp#:	11
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

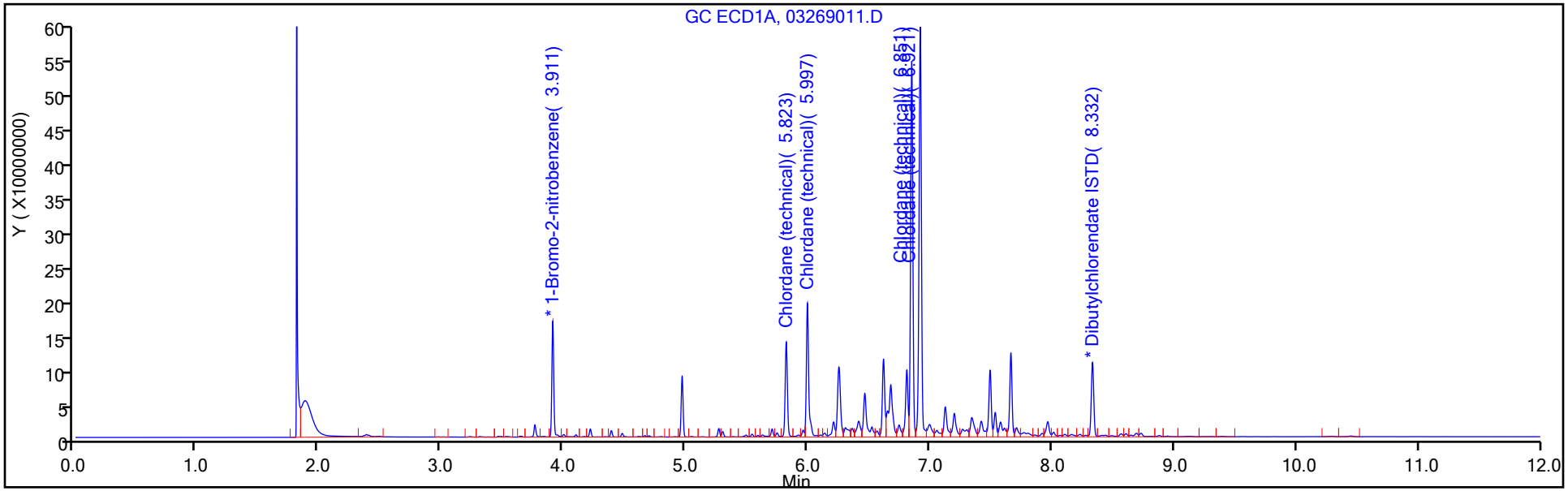

Column: MR-2 (0.53 mm)

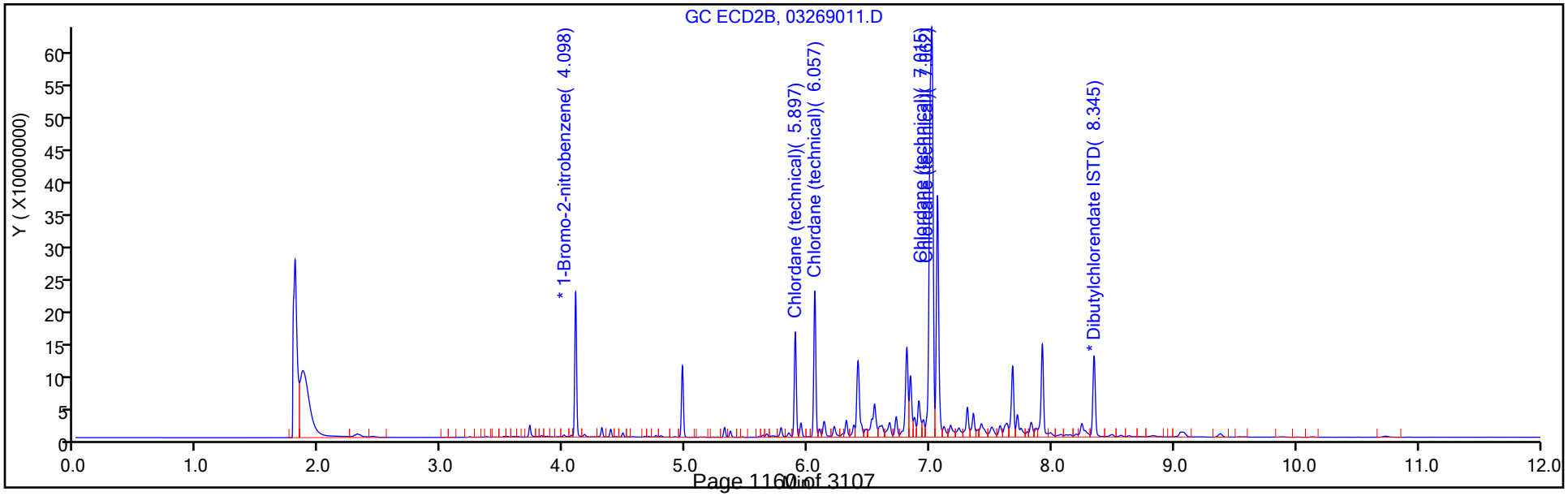

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 274564

SDG No.:

Instrument ID: CHGC17 GC Column: MR-1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/02/2019 12:35 Calibration End Date: 04/02/2019 13:58 Calibration ID: 39981

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-274564/12	03269012.D
Level 2	IC 180-274564/13	03269013.D
Level 3	IC 180-274564/14	03269014.D
Level 4	IC 180-274564/15	03269015.D
Level 5	IC 180-274564/16	03269016.D
Level 6	IC 180-274564/17	03269017.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Hexachlorobenzene	1.1953 1.0753	1.1716	1.0739	1.0423	1.0495	Ave		1.1013				5.9		20.0			
DCPA	0.8533 0.7688	0.8568	0.7997	0.7535	0.7401	Ave		0.7954				6.3		20.0			
Isodrin	1.0101 0.9422	1.0053	0.9278	0.9254	0.9326	Ave		0.9572				4.1		20.0			
oxy-Chlordane	0.9451 0.8436	0.9288	0.8563	0.8347	0.8326	Ave		0.8735				5.7		20.0			
Chlorobenside	0.4539 0.6718	0.6626	0.6588	0.6563	0.6774	Ave		0.6301				13.8		20.0			
Mirex	0.7390 0.6247	0.7071	0.6555	0.6378	0.6128	Ave		0.6628				7.5		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 274564

SDG No.:

Instrument ID: CHGC17 GC Column: MR-1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/02/2019 12:35 Calibration End Date: 04/02/2019 13:58 Calibration ID: 39981

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-274564/12	03269012.D
Level 2	IC 180-274564/13	03269013.D
Level 3	IC 180-274564/14	03269014.D
Level 4	IC 180-274564/15	03269015.D
Level 5	IC 180-274564/16	03269016.D
Level 6	IC 180-274564/17	03269017.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Hexachlorobenzene	BNB	Ave	2072002 370249654	9834167	46602288	91170378	184882834	0.00100 0.200	0.00500	0.0250	0.0500	0.100
DCPA	BNB	Ave	1479072 264723924	7191532	34703811	65909277	130379166	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Isodrin	BNB	Ave	1750978 324435742	8437821	40261195	80943350	164294753	0.00100 0.200	0.00500	0.0250	0.0500	0.100
oxy-Chlordane	BNB	Ave	1638322 290467391	7796442	37158105	73009134	146673886	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Chlorobenside	BNB	Ave	1763147 520621752	12375635	63170354	126676405	263267187	0.00200 0.400	0.0100	0.0500	0.100	0.200
Mirex	DBC	Ave	781551 140230593	3722329	17688913	34723605	69027084	0.00100 0.200	0.00500	0.0250	0.0500	0.100

Curve Type Legend:
Ave = Average ISTD by Height

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 274564

SDG No.:

Instrument ID: CHGC17 GC Column: MR-1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/02/2019 12:35 Calibration End Date: 04/02/2019 13:58 Calibration ID: 39981

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-274564/12	03269012.D
Level 2	IC 180-274564/13	03269013.D
Level 3	IC 180-274564/14	03269014.D
Level 4	IC 180-274564/15	03269015.D
Level 5	IC 180-274564/16	03269016.D
Level 6	IC 180-274564/17	03269017.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
Hexachlorobenzene	8.5	6.4	-2.5	-5.4	-4.7	-2.4	50	30	30	30	30	30
DCPA	7.3	7.7	0.6	-5.3	-6.9	-3.3	50	30	30	30	30	30
Isodrin	5.5	5.0	-3.1	-3.3	-2.6	-1.6	50	30	30	30	30	30
oxy-Chlordane	8.2	6.3	-2.0	-4.4	-4.7	-3.4	50	30	30	30	30	30
Chlorobenside	-19.3	17.0	15.5	14.9	18.6	20.0	50	30	30	30	30	30
Mirex	11.5	6.7	-1.1	-3.8	-7.6	-5.7	50	30	30	30	30	30

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269012.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 02-Apr-2019 12:35:59 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-012
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub3

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:23:34 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: eppinged Date: 02-Apr-2019 13:07:05

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.910	3.910	0.000	173342870H	0.1000	0.1000	
2	4.098	4.098	-0.001	234123456H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.298	5.297	0.001	2072002H	0.001000	0.001085	
2	5.392	5.392	0.000	2853808H	0.001000	0.001064	
						RPD = 2.01	
12 DCPA							
1	6.210	6.210	0.000	1479072H	0.001000	0.001073	
2	6.321	6.321	0.000	1789460H	0.001000	0.001047	
						RPD = 2.44	
14 Isodrin							
1	6.557	6.557	0.000	1750978H	0.001000	0.001055	
2	6.681	6.681	0.000	3364954H	0.001000	0.001023	
						RPD = 3.13	
15 oxy-Chlordane							
1	6.593	6.594	-0.001	1638322H	0.001000	0.001082	
2	6.681	6.681	0.000	3364954H	0.001000	0.001023	
						RPD = 5.63	
19 Chlorobenside							Ma
1	6.888	6.880	0.008	1763147	0.002000	0.001614	M
2	7.095	7.088	0.007	2596009	0.002000	0.001884	a
						RPD = 15.43	
* 36 Dibutylchlorendate ISTD							
1	8.333	8.333	0.000	105752259H	0.1000	0.1000	
2	8.345	8.345	0.000	124947308H	0.1000	0.1000	
38 Mirex							
1	8.919	8.921	-0.002	781551H	0.001000	0.001115	
2	9.209	9.210	-0.001	857209H	0.001000	0.001076	
						RPD = 3.60	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

GCAPPIX1L1_00022	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00015	Amount Added:	0.01	Units: mL	Run Reagent

Report Date: 03-Apr-2019 08:23:34 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269012.D

Injection Date: 02-Apr-2019 12:35:59 Instrument ID: CHGC17 Operator ID:

Lims ID: IC Worklist Smp#: 12

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 12

Method: IS PEST_CHGC17 Limit Group: GCS 8081B ICAL with IS

Column: MR-1 (0.53 mm)

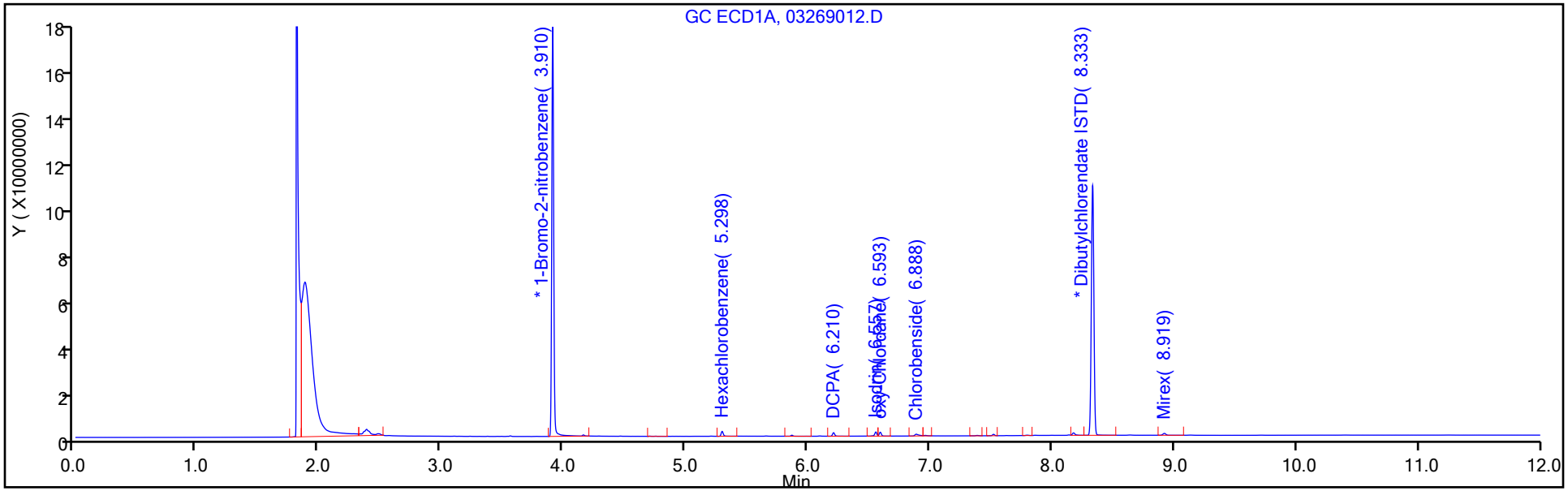

Column: MR-2 (0.53 mm)

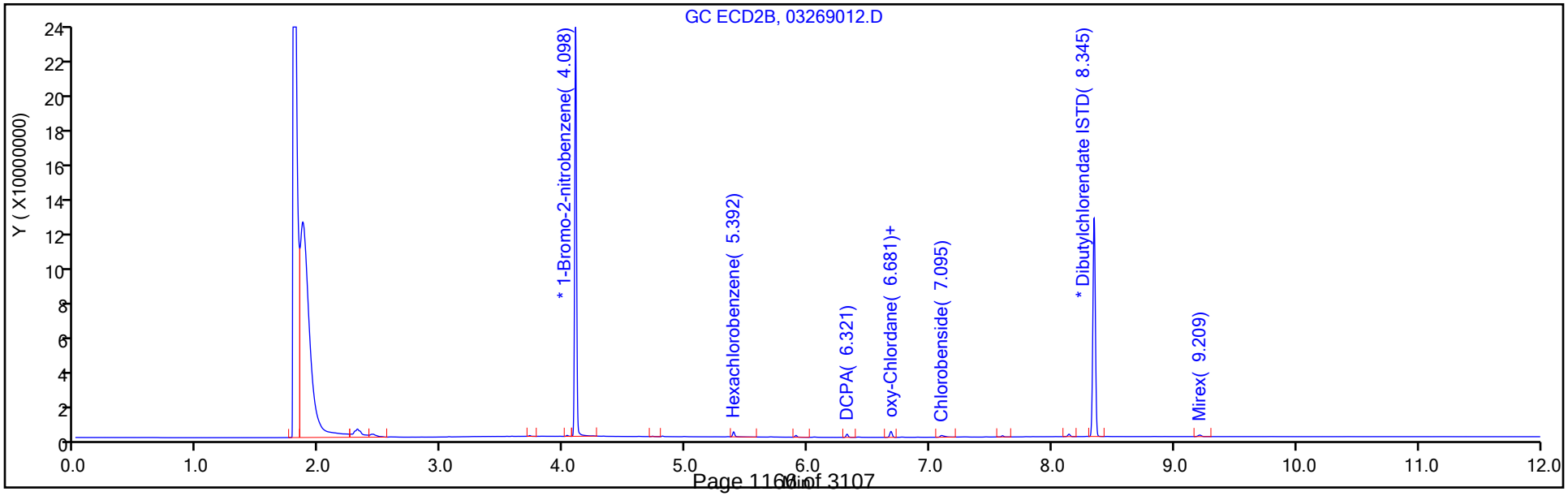

Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269012.D				
Injection Date:	02-Apr-2019 12:35:59	Instrument ID:	CHGC17		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

19 Chlorobenside, CAS: 103-17-3

Signal: 1

Not Detected
Expected RT: 6.88

Processing Integration Results

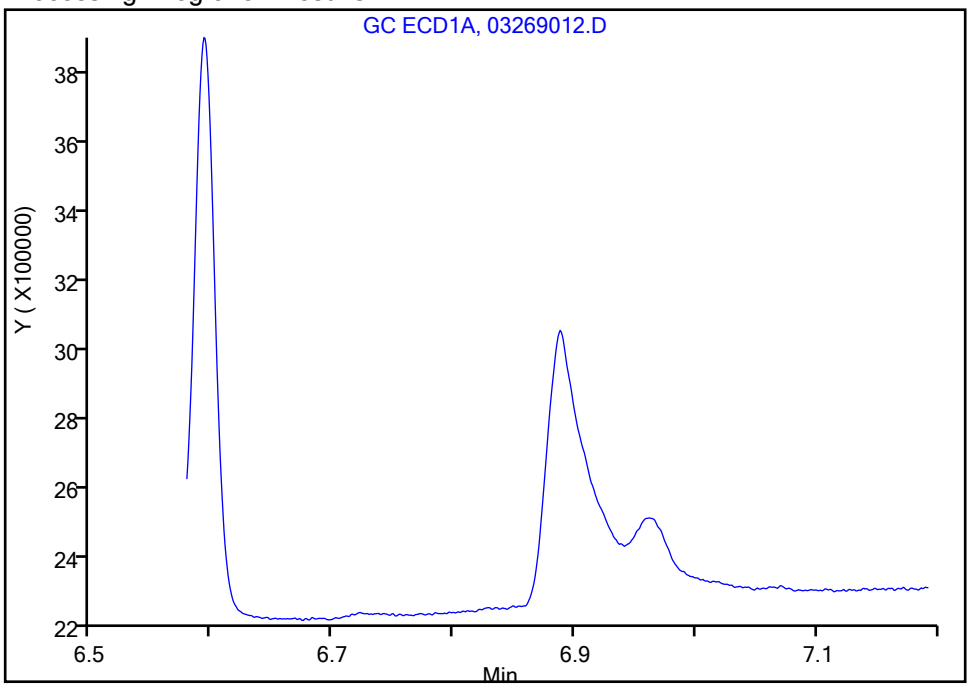

RT: 6.89
Area: 1763147
Amount: 0.001614
Amount Units: ng

Manual Integration Results

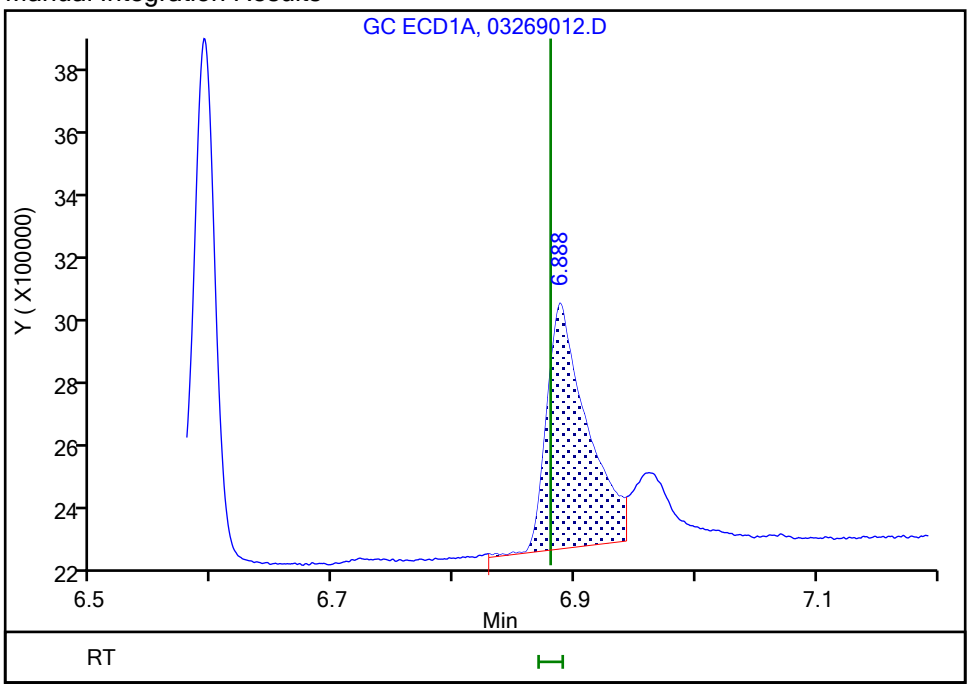

Reviewer: eppinged, 02-Apr-2019 12:51:29
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269013.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 02-Apr-2019 12:52:24 ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-013
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub3

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:23:36 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: eppinged Date: 02-Apr-2019 13:08:50

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.910	3.910	0.000	167873858H	0.1000	0.1000	
2	4.098	4.098	-0.001	226486579H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.298	5.297	0.001	9834167H	0.005000	0.005319	
2	5.392	5.392	0.000	13932603H	0.005000	0.005369	
						RPD = 0.93	
12 DCPA							
1	6.210	6.210	0.000	7191532H	0.005000	0.005386	
2	6.320	6.321	-0.001	8735312H	0.005000	0.005283	
						RPD = 1.93	
14 Isodrin							Ma
1	6.556	6.557	-0.001	8437821H	0.005000	0.005251	M
2	6.680	6.681	-0.001	16923130H	0.005000	0.005317	a
						RPD = 1.25	
15 oxy-Chlordane							Ma
1	6.593	6.594	-0.001	7796442H	0.005000	0.005317	M
2	6.680	6.681	-0.001	16923130H	0.005000	0.005317	a
						RPD = 0.00	
19 Chlorobenside							a
1	6.886	6.880	0.006	12375635	0.0100	0.0117	a
2	7.093	7.088	0.005	13834009	0.0100	0.0104	a
						RPD = 11.97	
* 36 Dibutylchlorendate ISTD							
1	8.332	8.333	-0.001	105285805H	0.1000	0.1000	
2	8.343	8.345	-0.002	119743244H	0.1000	0.1000	
38 Mirex							
1	8.920	8.921	-0.001	3722329H	0.005000	0.005334	
2	9.208	9.210	-0.002	4007714H	0.005000	0.005247	
						RPD = 1.64	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

GCAPPIX1L2_00023	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00015	Amount Added:	0.01	Units: mL	Run Reagent

Report Date: 03-Apr-2019 08:23:36 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269013.D				
Injection Date:	02-Apr-2019 12:52:24	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	IC			Worklist Smp#:	13
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

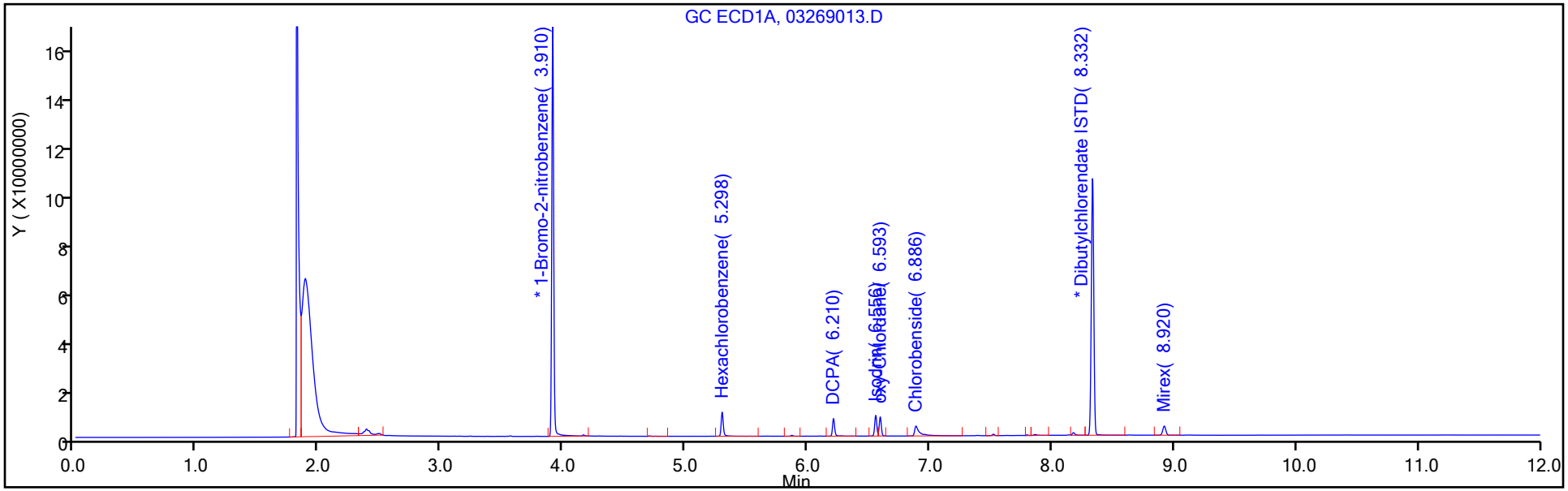

Column: MR-2 (0.53 mm)

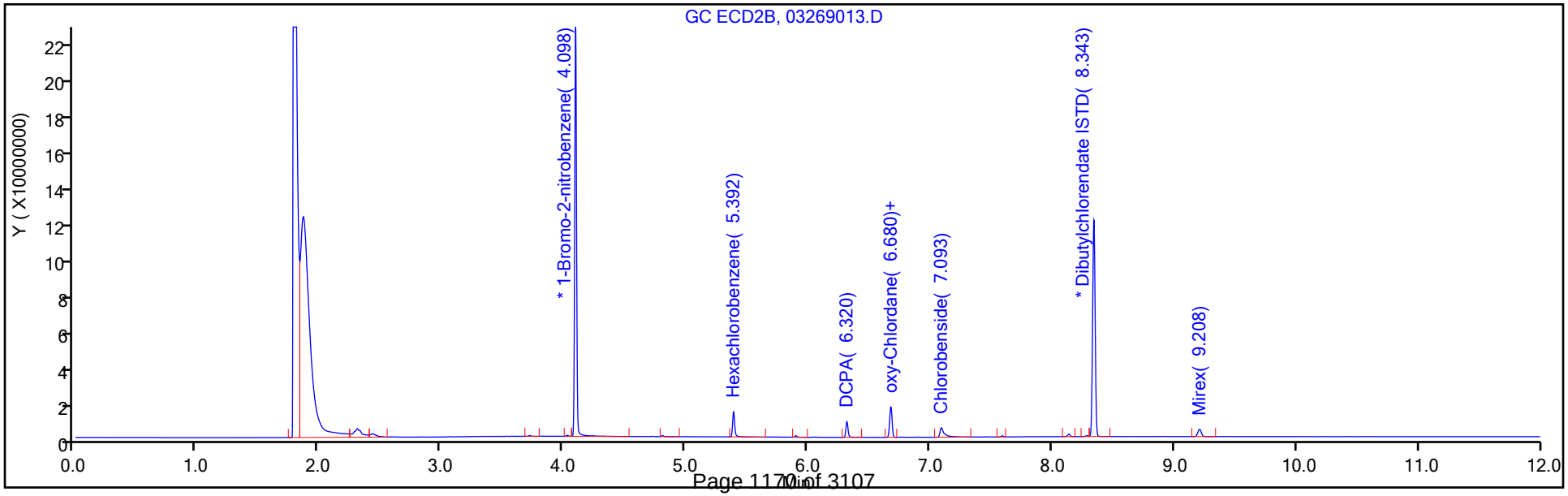

Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269013.D				
Injection Date:	02-Apr-2019 12:52:24	Instrument ID:	CHGC17		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	13	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

14 Isodrin, CAS: 465-73-6

Signal: 1

Processing Integration Results

RT: 6.56
Height: 8437693
Amount: 0.004831
Amount Units: ng

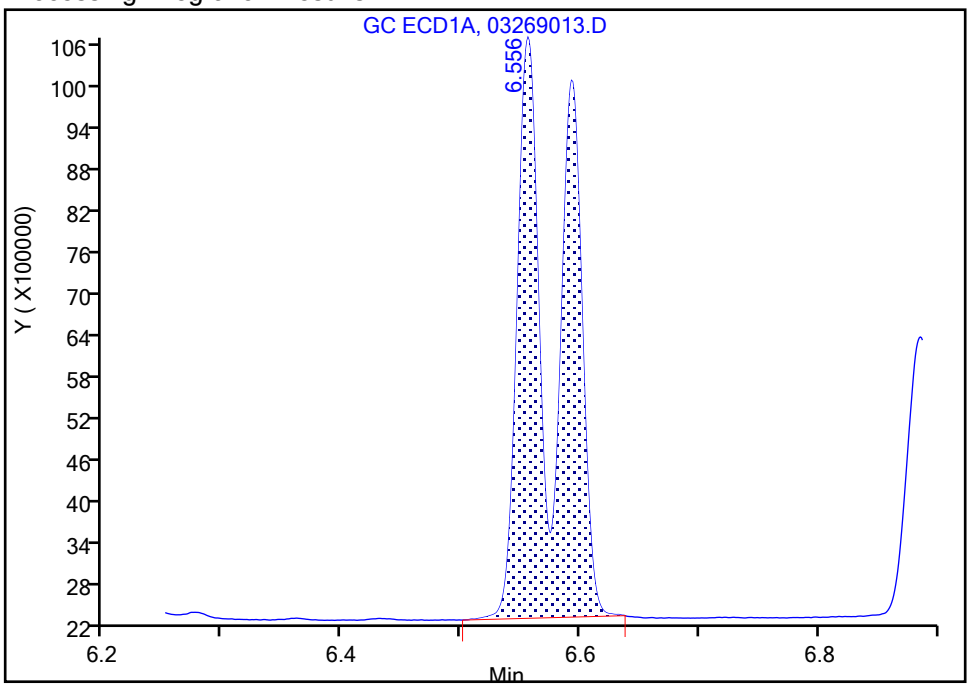

Manual Integration Results

RT: 6.56
Height: 8437821
Amount: 0.005251
Amount Units: ng

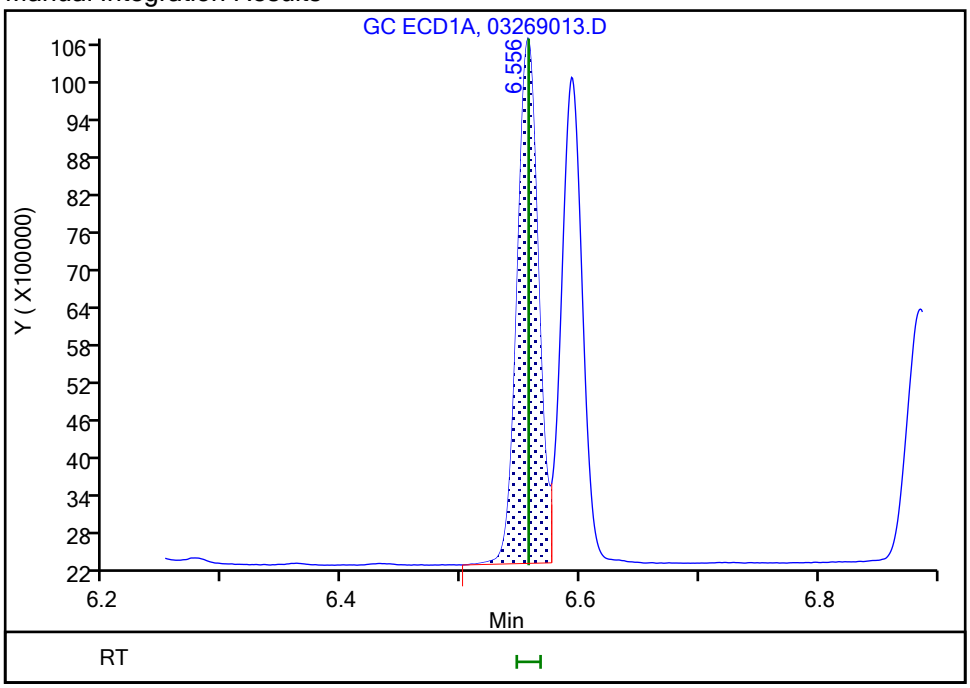

Reviewer: eppinged, 02-Apr-2019 13:07:19

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269013.D				
Injection Date:	02-Apr-2019 12:52:24	Instrument ID:	CHGC17		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	13	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

15 oxy-Chlordane, CAS: 27304-13-8

Signal: 1

Not Detected
Expected RT: 6.59

Processing Integration Results

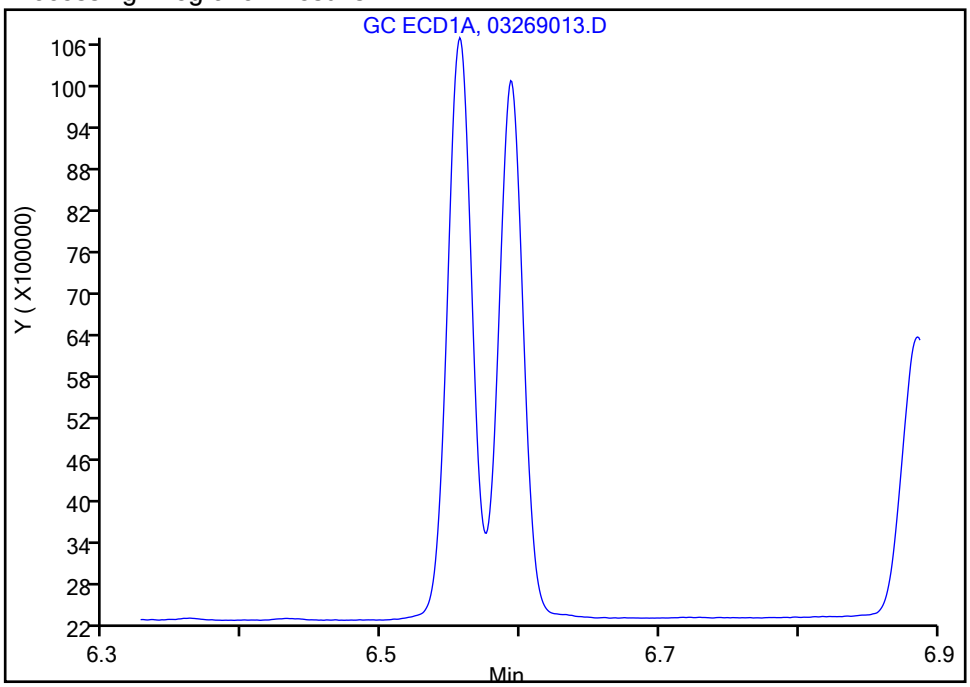

RT: 6.59
Height: 7796442
Amount: 0.005317
Amount Units: ng

Manual Integration Results

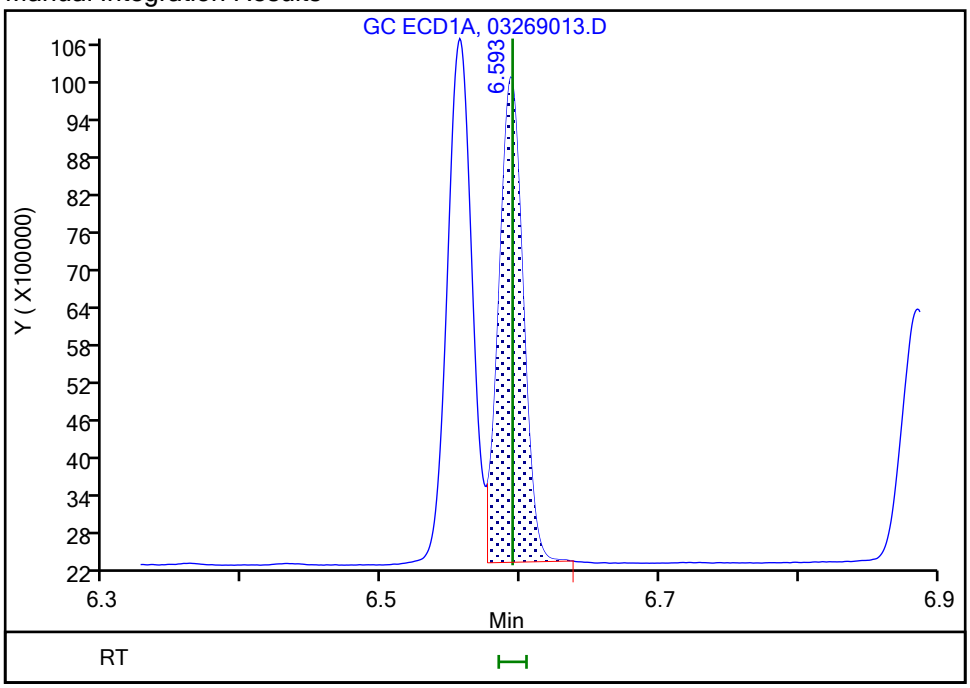

Reviewer: eppinged, 02-Apr-2019 13:07:23
Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269013.D				
Injection Date:	02-Apr-2019 12:52:24	Instrument ID:	CHGC17		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	13	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

19 Chlorobenside, CAS: 103-17-3

Signal: 1

Not Detected
Expected RT: 6.88

Processing Integration Results

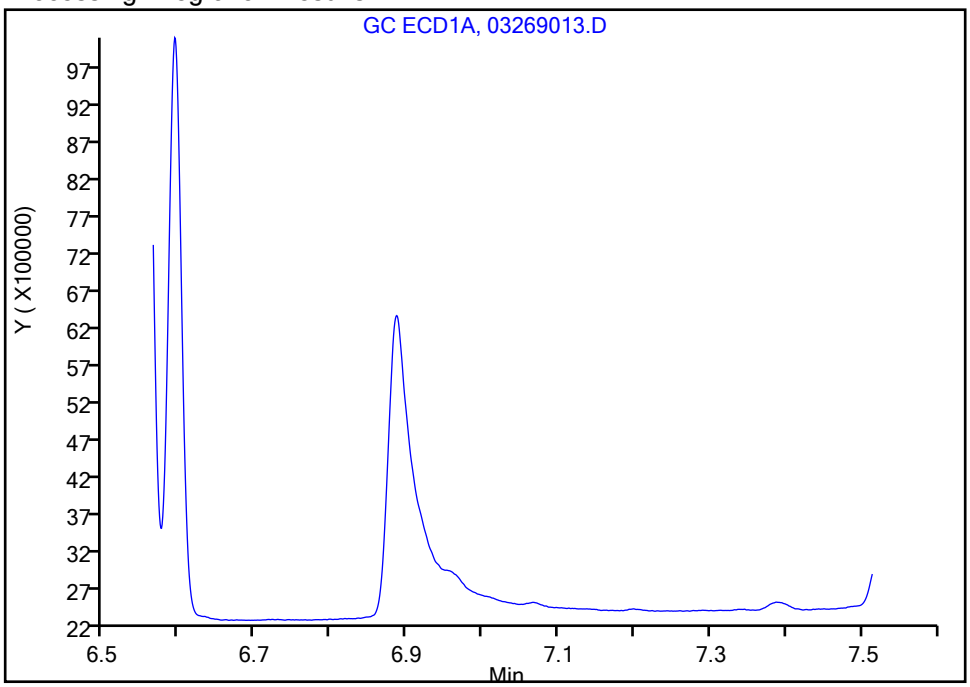

RT: 6.89
Area: 12375635
Amount: 0.011699
Amount Units: ng

Manual Integration Results

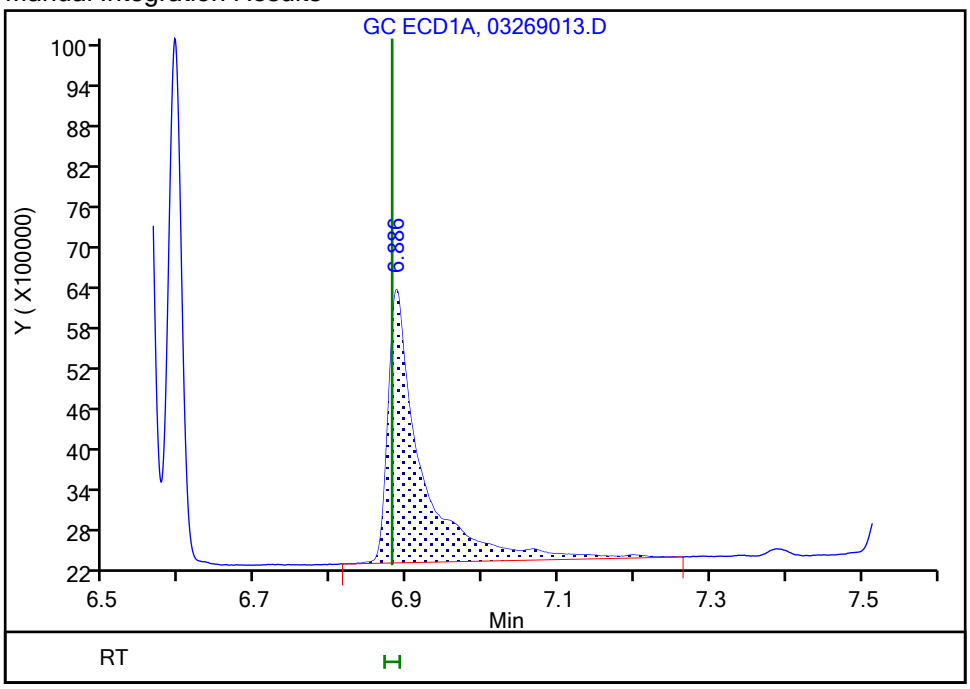

Reviewer: eppinged, 02-Apr-2019 13:07:36
Audit Action: Assigned Compound ID Audit Reason: Split Peak

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269014.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 02-Apr-2019 13:08:55 ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-014
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub3

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:23:39 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.910	3.910	0.000	173574838H	0.1000	0.1000	
2	4.097	4.098	-0.001	230370877H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.297	5.297	0.000	46602288H	0.0250	0.0244	
2	5.392	5.392	0.000	64036373H	0.0250	0.0243	
						RPD = 0.49	
12 DCPA							
1	6.210	6.210	0.000	34703811H	0.0250	0.0251	
2	6.321	6.321	0.000	42887059H	0.0250	0.0255	
						RPD = 1.43	
14 Isodrin							
1	6.557	6.557	0.000	40261195H	0.0250	0.0242	
2	6.681	6.681	0.000	80602702H	0.0250	0.0249	
						RPD = 2.71	
15 oxy-Chlordane							
1	6.594	6.594	0.000	37158105H	0.0250	0.0245	
2	6.681	6.681	0.000	80602702H	0.0250	0.0249	
						RPD = 1.58	
19 Chlorobenside							
1	6.880	6.880	0.000	63170354	0.0500	0.0578	
2	7.088	7.088	0.000	73840160	0.0500	0.0545	
						RPD = 5.87	
* 36 Dibutylchlorendate ISTD							
1	8.333	8.333	0.001	107947044H	0.1000	0.1000	
2	8.345	8.345	0.000	124677601H	0.1000	0.1000	
38 Mirex							
1	8.921	8.921	0.000	17688913H	0.0250	0.0247	
2	9.210	9.210	0.000	19522616H	0.0250	0.0245	
						RPD = 0.70	

Reagents:

GCAPPIX1L3_00028	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00015	Amount Added:	0.01	Units: mL	Run Reagent

Report Date: 03-Apr-2019 08:23:39 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269014.D

Injection Date: 02-Apr-2019 13:08:55 Instrument ID: CHGC17 Operator ID:

Lims ID: IC Worklist Smp#: 14

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 14

Method: IS PEST_CHGC17 Limit Group: GCS 8081B ICAL with IS

Column: MR-1 (0.53 mm)

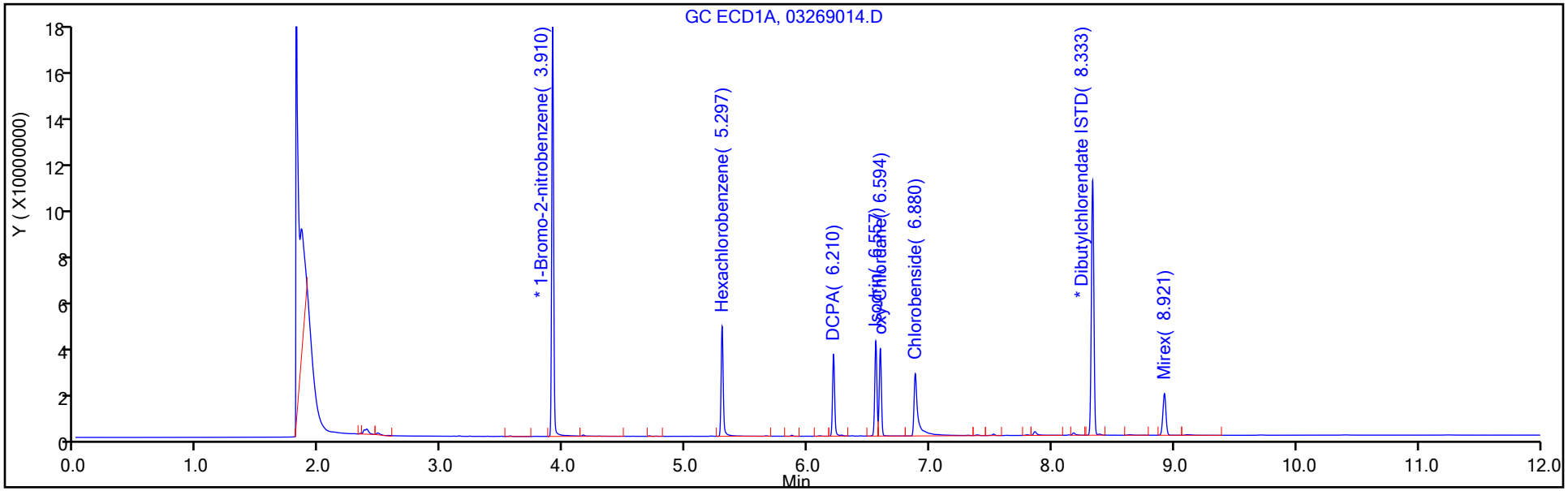

Column: MR-2 (0.53 mm)

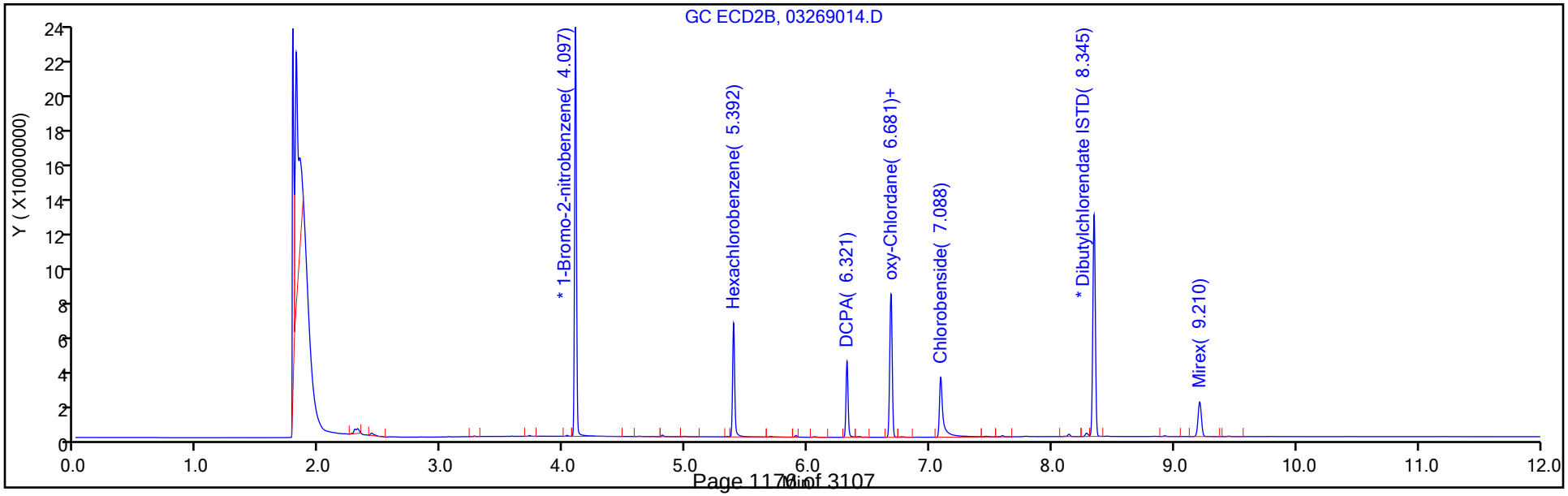

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269015.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 02-Apr-2019 13:25:21 ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-015
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub3

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:23:41 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.909	3.910	-0.001	174940770H	0.1000	0.1000	
2	4.097	4.098	-0.001	234856873H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.297	5.297	0.000	91170378H	0.0500	0.0473	
2	5.391	5.392	-0.001	127241828H	0.0500	0.0473	
						RPD = 0.08	
12 DCPA							
1	6.209	6.210	-0.001	65909277H	0.0500	0.0474	
2	6.319	6.321	-0.002	82724257H	0.0500	0.0482	
						RPD = 1.84	
14 Isodrin							
1	6.555	6.557	-0.002	80943350H	0.0500	0.0483	
2	6.680	6.681	-0.001	159471161H	0.0500	0.0483	
						RPD = 0.04	
15 oxy-Chlordane							
1	6.593	6.594	-0.001	73009134H	0.0500	0.0478	
2	6.680	6.681	-0.001	159471161H	0.0500	0.0483	
						RPD = 1.12	
19 Chlorobenside							
1	6.879	6.880	-0.001	126676405	0.1000	0.1149	
2	7.086	7.088	-0.002	150828188	0.1000	0.1091	
						RPD = 5.17	
* 36 Dibutylchlorendate ISTD							
1	8.332	8.333	-0.001	108877359H	0.1000	0.1000	
2	8.343	8.345	-0.002	126867803H	0.1000	0.1000	
38 Mirex							
1	8.919	8.921	-0.002	34723605H	0.0500	0.0481	
2	9.208	9.210	-0.002	38987574H	0.0500	0.0482	
						RPD = 0.13	

Reagents:

GCAPPIX1L4_00022	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00015	Amount Added:	0.01	Units: mL	Run Reagent

Report Date: 03-Apr-2019 08:23:42 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269015.D				
Injection Date:	02-Apr-2019 13:25:21	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	IC			Worklist Smp#:	15
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	15
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

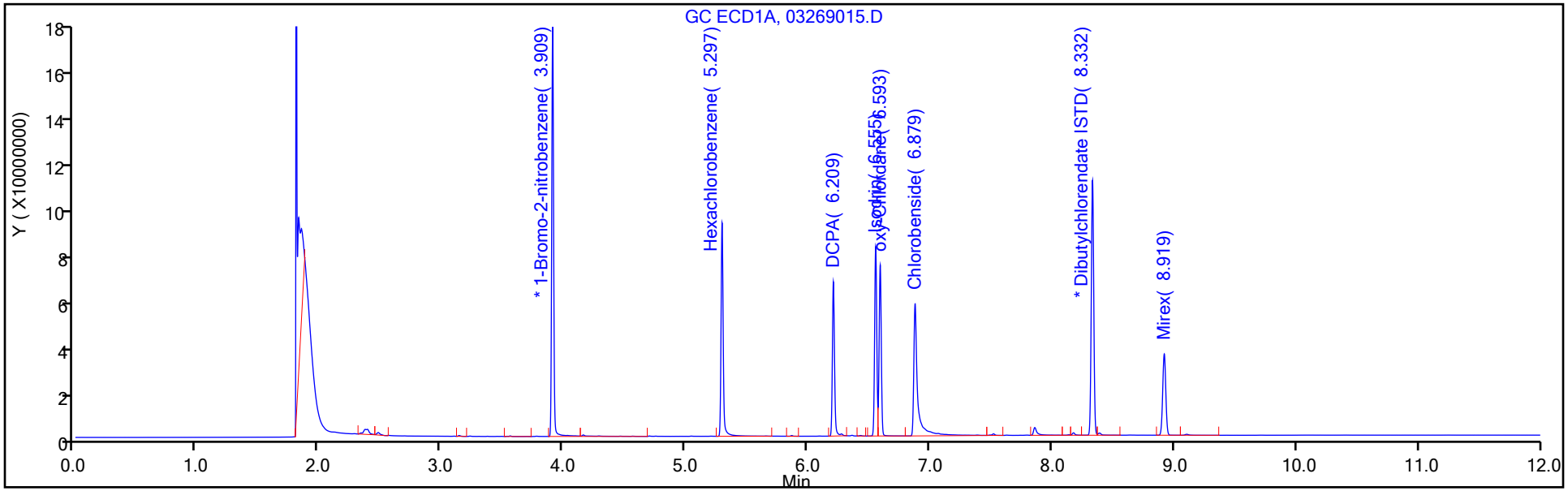

Column: MR-2 (0.53 mm)

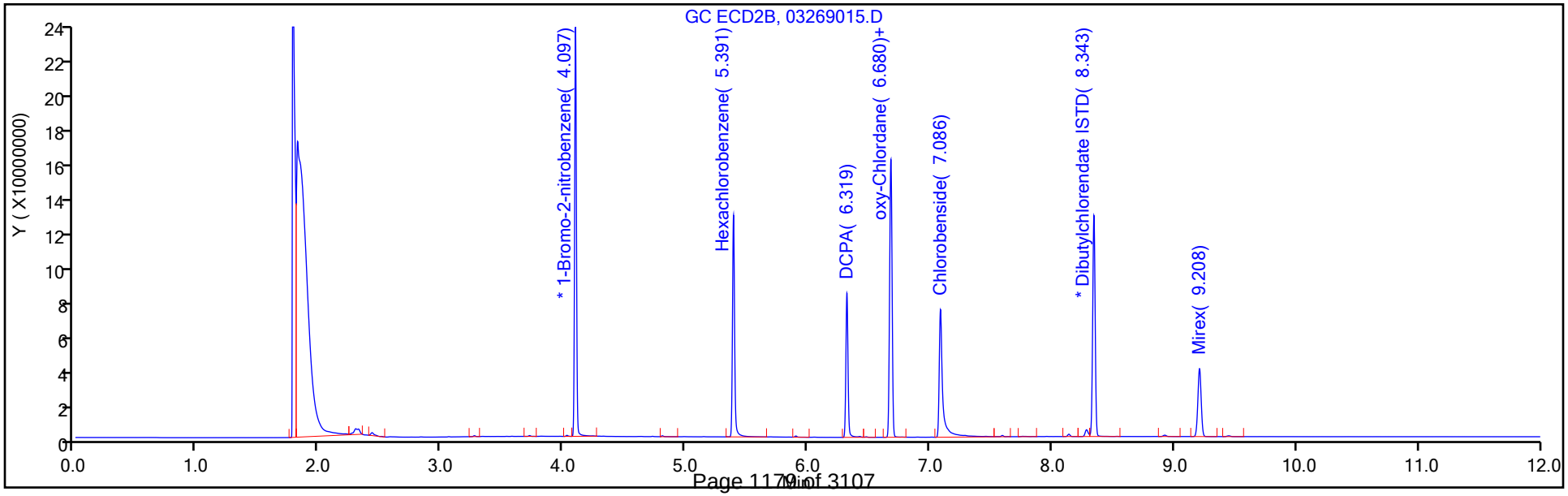

Report Date: 03-Apr-2019 08:23:45 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269016.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 02-Apr-2019 13:41:42 ALS Bottle#: 16 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-016
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub3

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:23:45 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: eppinged Date: 03-Apr-2019 07:59:26

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.910	3.910	0.000	176164368H	0.1000	0.1000	
2	4.097	4.098	-0.001	237740034H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.298	5.297	0.001	184882834H	0.1000	0.0953	
2	5.392	5.392	0.000	258148920H	0.1000	0.0948	
						RPD = 0.56	
12 DCPA							
1	6.210	6.210	0.000	130379166H	0.1000	0.0931	
2	6.320	6.321	-0.001	164493078H	0.1000	0.0948	
						RPD = 1.83	
14 Isodrin							Ma
1	6.556	6.557	-0.001	164294753H	0.1000	0.0974	M
2	6.680	6.681	-0.001	320831665H	0.1000	0.0960	a
						RPD = 1.45	
15 oxy-Chlordane							Ma
1	6.593	6.594	-0.001	146673886H	0.1000	0.0953	M
2	6.680	6.681	-0.001	320831665H	0.1000	0.0960	a
						RPD = 0.74	
19 Chlorobenside							
1	6.875	6.880	-0.005	263267187	0.2000	0.2372	
2	7.085	7.088	-0.003	316660493	0.2000	0.2263	
						RPD = 4.68	
* 36 Dibutylchlorendate ISTD							
1	8.332	8.333	0.000	112651034H	0.1000	0.1000	
2	8.345	8.345	0.000	128719222H	0.1000	0.1000	
38 Mirex							
1	8.920	8.921	-0.001	69027084H	0.1000	0.0924	
2	9.209	9.210	-0.001	78401715H	0.1000	0.0955	
						RPD = 3.24	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

GCAPPIX1L5_00021	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00015	Amount Added:	0.01	Units: mL	Run Reagent

Report Date: 03-Apr-2019 08:23:45 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269016.D				
Injection Date:	02-Apr-2019 13:41:42	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	IC			Worklist Smp#:	16
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	16
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

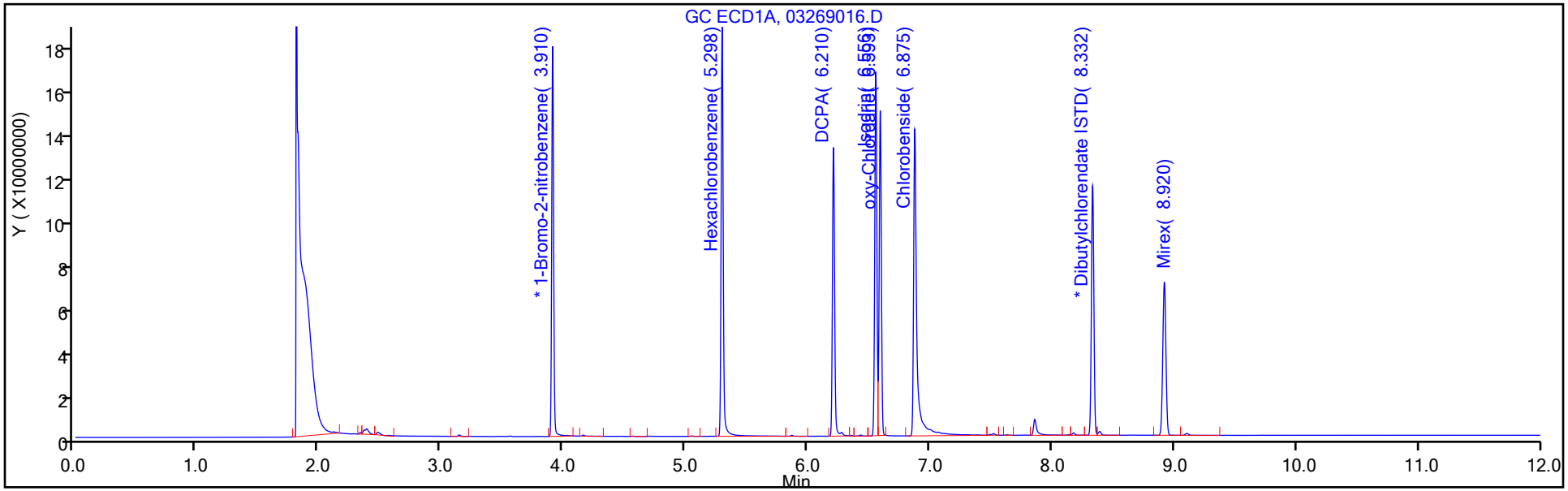

Column: MR-2 (0.53 mm)

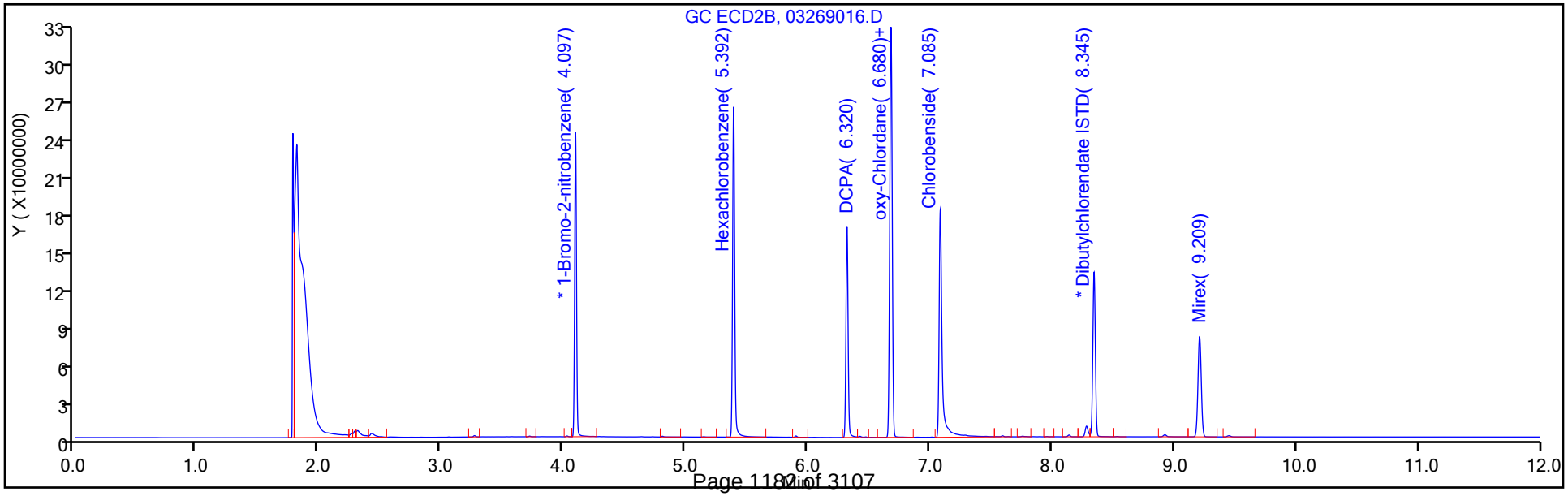

Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269016.D				
Injection Date:	02-Apr-2019 13:41:42	Instrument ID:	CHGC17		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	16	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

14 Isodrin, CAS: 465-73-6

Signal: 1

Processing Integration Results

RT: 6.56
Height: 164295484
Amount: 0.097429
Amount Units: ng

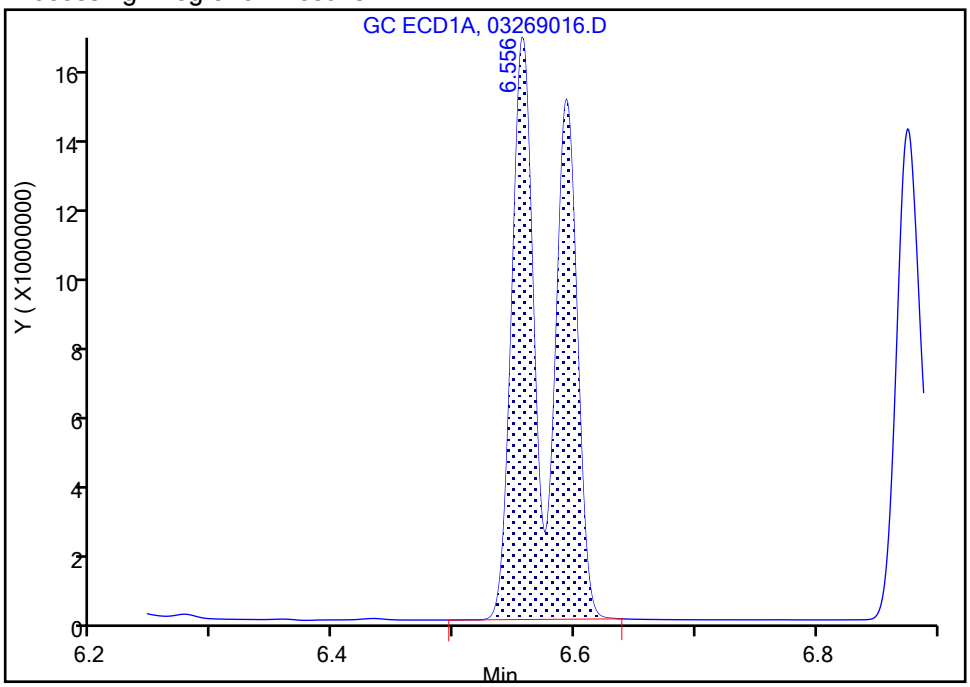

Manual Integration Results

RT: 6.56
Height: 164294753
Amount: 0.097428
Amount Units: ng

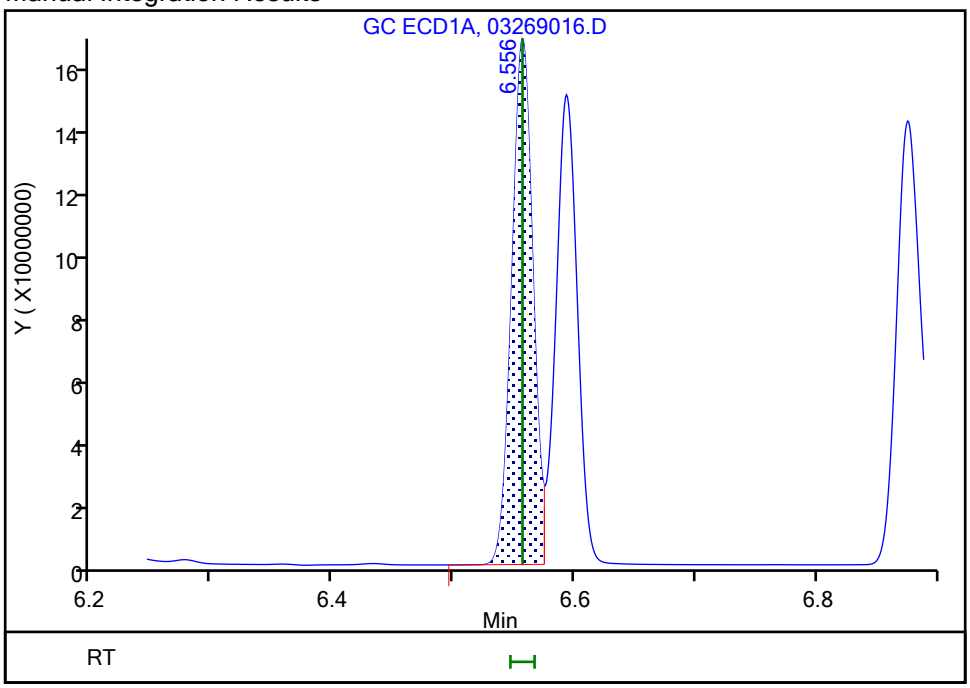

Reviewer: eppinged, 03-Apr-2019 07:59:09

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269016.D				
Injection Date:	02-Apr-2019 13:41:42	Instrument ID:	CHGC17		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	16	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

15 oxy-Chlordane, CAS: 27304-13-8

Signal: 1

Not Detected
Expected RT: 6.59

Processing Integration Results

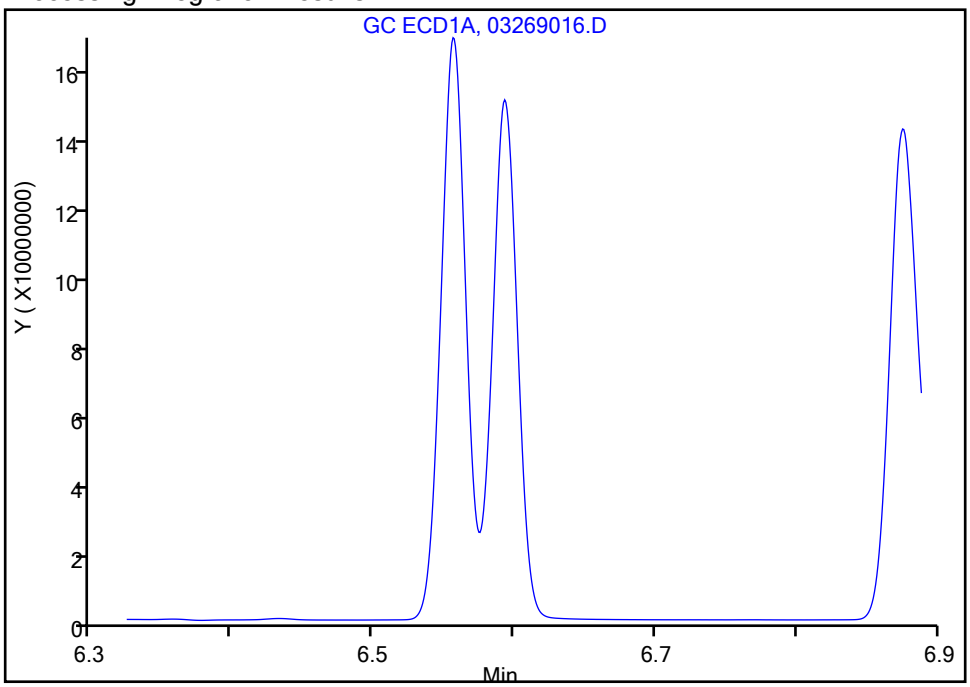

RT: 6.59
Height: 146673886
Amount: 0.095315
Amount Units: ng

Manual Integration Results

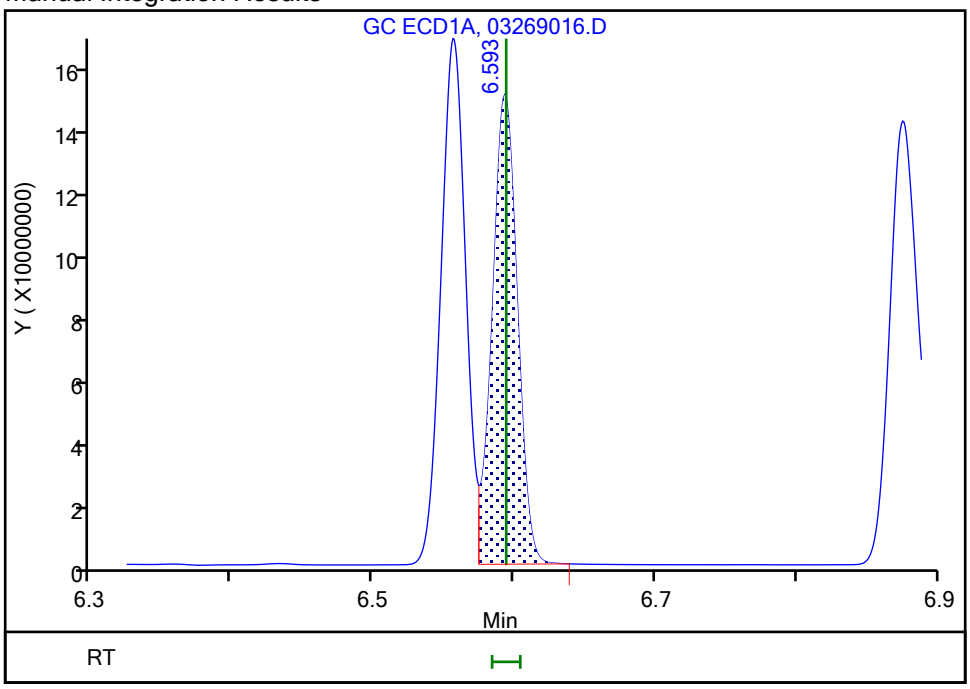

Reviewer: eppinged, 03-Apr-2019 07:59:14
Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269017.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 02-Apr-2019 13:58:05 ALS Bottle#: 17 Worklist Smp#: 17
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-017
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub3

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:23:48 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: eppinged Date: 03-Apr-2019 08:02:34

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.910	3.910	0.000	172162208H	0.1000	0.1000	
2	4.097	4.098	-0.001	231243851H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.297	5.297	0.000	370249654H	0.2000	0.1953	
2	5.391	5.392	-0.001	529305079H	0.2000	0.1998	
						RPD = 2.27	
12 DCPA							
1	6.211	6.210	0.001	264723924H	0.2000	0.1933	
2	6.321	6.321	0.000	325467274H	0.2000	0.1928	
						RPD = 0.28	
14 Isodrin							
1	6.556	6.557	-0.001	324435742H	0.2000	0.1969	
2	6.681	6.681	0.000	644460272H	0.2000	0.1983	
						RPD = 0.73	
15 oxy-Chlordane							
1	6.594	6.594	0.000	290467391H	0.2000	0.1931	
2	6.681	6.681	0.000	644460272H	0.2000	0.1983	
						RPD = 2.64	
19 Chlorobenside							
1	6.874	6.880	-0.006	520621752	0.4000	0.4799	
2	7.083	7.088	-0.005	634853192	0.4000	0.4665	
						RPD = 2.84	
* 36 Dibutylchlorendate ISTD							
1	8.333	8.333	0.000	112232749H	0.1000	0.1000	
2	8.345	8.345	0.000	128635648H	0.1000	0.1000	
38 Mirex							
1	8.921	8.921	0.000	140230593H	0.2000	0.1885	
2	9.210	9.210	0.000	159888342H	0.2000	0.1949	
						RPD = 3.32	

Reagents:

GCAPPIX1L6_00021	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00015	Amount Added:	0.01	Units: mL	Run Reagent

Report Date: 03-Apr-2019 08:23:48 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269017.D				
Injection Date:	02-Apr-2019 13:58:05	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	IC			Worklist Smp#:	17
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	17
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

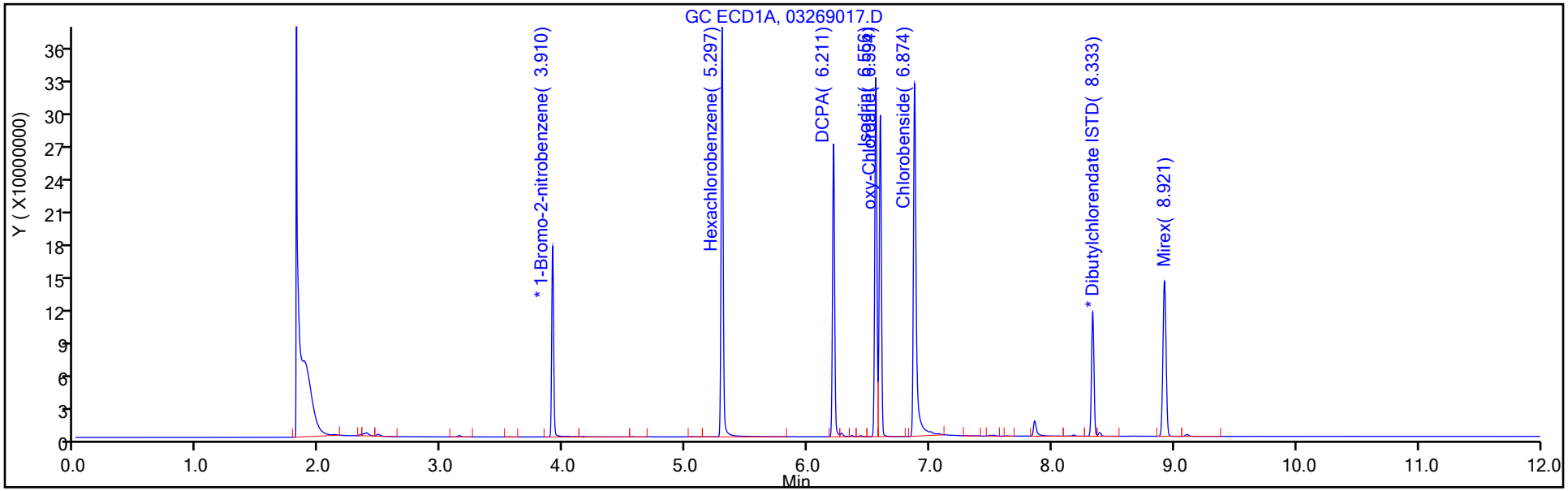

Column: MR-2 (0.53 mm)

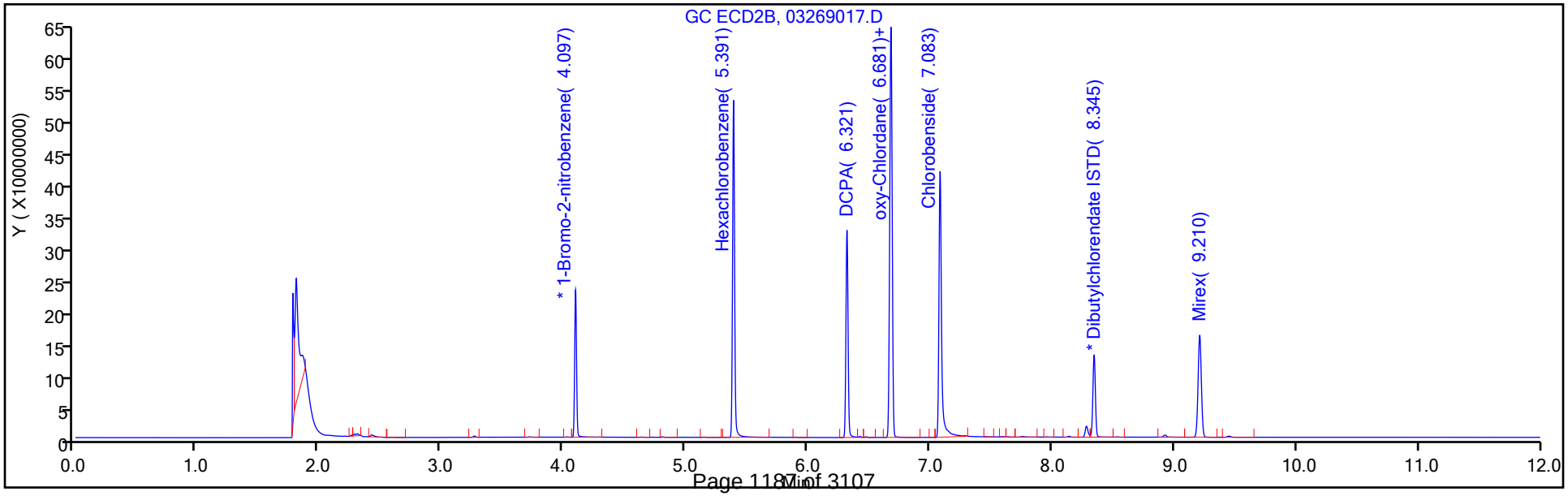

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 274564

SDG No.:

Instrument ID: CHGC17 GC Column: MR-2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/02/2019 12:35 Calibration End Date: 04/02/2019 13:58 Calibration ID: 39982

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-274564/12	03269012.D
Level 2	IC 180-274564/13	03269013.D
Level 3	IC 180-274564/14	03269014.D
Level 4	IC 180-274564/15	03269015.D
Level 5	IC 180-274564/16	03269016.D
Level 6	IC 180-274564/17	03269017.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Hexachlorobenzene	1.2189 1.1445	1.2303	1.1119	1.0836	1.0858	Ave		1.1458				5.7		20.0			
DCPA	0.7643 0.7037	0.7714	0.7447	0.7045	0.6919	Ave		0.7301				4.7		20.0			
Isodrin	1.4373 1.3935	1.4944	1.3995	1.3580	1.3495	Ave		1.4054				3.8		20.0			
oxy-Chlordane	1.4373 1.3935	1.4944	1.3995	1.3580	1.3495	Ave		1.4054				3.8		20.0			
Chlorobenside	0.5159 0.6321	0.5641	0.5917	0.6045	0.6230	Ave		0.5886				7.3		20.0			
Mirex	0.6861 0.6215	0.6694	0.6263	0.6146	0.6091	Ave		0.6378				5.0		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 274564

SDG No.:

Instrument ID: CHGC17 GC Column: MR-2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/02/2019 12:35 Calibration End Date: 04/02/2019 13:58 Calibration ID: 39982

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-274564/12	03269012.D
Level 2	IC 180-274564/13	03269013.D
Level 3	IC 180-274564/14	03269014.D
Level 4	IC 180-274564/15	03269015.D
Level 5	IC 180-274564/16	03269016.D
Level 6	IC 180-274564/17	03269017.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Hexachlorobenzene	BNB	Ave	2853808 529305079	13932603	64036373	127241828	258148920	0.00100 0.200	0.00500	0.0250	0.0500	0.100
DCPA	BNB	Ave	1789460 325467274	8735312	42887059	82724257	164493078	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Isodrin	BNB	Ave	3364954 644460272	16923130	80602702	159471161	320831665	0.00100 0.200	0.00500	0.0250	0.0500	0.100
oxy-Chlordane	BNB	Ave	3364954 644460272	16923130	80602702	159471161	320831665	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Chlorobenside	BNB	Ave	2596009 634853192	13834009	73840160	150828188	316660493	0.00200 0.400	0.0100	0.0500	0.100	0.200
Mirex	DBC	Ave	857209 159888342	4007714	19522616	38987574	78401715	0.00100 0.200	0.00500	0.0250	0.0500	0.100

Curve Type Legend:
Ave = Average ISTD by Height

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 274564

SDG No.:

Instrument ID: CHGC17 GC Column: MR-2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/02/2019 12:35 Calibration End Date: 04/02/2019 13:58 Calibration ID: 39982

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-274564/12	03269012.D
Level 2	IC 180-274564/13	03269013.D
Level 3	IC 180-274564/14	03269014.D
Level 4	IC 180-274564/15	03269015.D
Level 5	IC 180-274564/16	03269016.D
Level 6	IC 180-274564/17	03269017.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
Hexachlorobenzene	6.4	7.4	-3.0	-5.4	-5.2	-0.1	50	30	30	30	30	30
DCPA	4.7	5.7	2.0	-3.5	-5.2	-3.6	50	30	30	30	30	30
Isodrin	2.3	6.3	-0.4	-3.4	-4.0	-0.8	50	30	30	30	30	30
oxy-Chlordane	2.3	6.3	-0.4	-3.4	-4.0	-0.8	50	30	30	30	30	30
Chlorobenside	-5.8	3.8	8.9	9.1	13.2	16.6	50	30	30	30	30	30
Mirex	7.6	4.9	-1.8	-3.6	-4.5	-2.6	50	30	30	30	30	30

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269012.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 02-Apr-2019 12:35:59 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-012
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub3

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:23:34 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: eppinged Date: 02-Apr-2019 13:07:05

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.910	3.910	0.000	173342870H	0.1000	0.1000	
2	4.098	4.098	-0.001	234123456H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.298	5.297	0.001	2072002H	0.001000	0.001085	
2	5.392	5.392	0.000	2853808H	0.001000	0.001064	
						RPD = 2.01	
12 DCPA							
1	6.210	6.210	0.000	1479072H	0.001000	0.001073	
2	6.321	6.321	0.000	1789460H	0.001000	0.001047	
						RPD = 2.44	
14 Isodrin							
1	6.557	6.557	0.000	1750978H	0.001000	0.001055	
2	6.681	6.681	0.000	3364954H	0.001000	0.001023	
						RPD = 3.13	
15 oxy-Chlordane							
1	6.593	6.594	-0.001	1638322H	0.001000	0.001082	
2	6.681	6.681	0.000	3364954H	0.001000	0.001023	
						RPD = 5.63	
19 Chlorobenside							Ma
1	6.888	6.880	0.008	1763147	0.002000	0.001614	M
2	7.095	7.088	0.007	2596009	0.002000	0.001884	a
						RPD = 15.43	
* 36 Dibutylchlorendate ISTD							
1	8.333	8.333	0.000	105752259H	0.1000	0.1000	
2	8.345	8.345	0.000	124947308H	0.1000	0.1000	
38 Mirex							
1	8.919	8.921	-0.002	781551H	0.001000	0.001115	
2	9.209	9.210	-0.001	857209H	0.001000	0.001076	
						RPD = 3.60	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

GCAPPIX1L1_00022	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00015	Amount Added:	0.01	Units: mL	Run Reagent

Report Date: 03-Apr-2019 08:23:34 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269012.D				
Injection Date:	02-Apr-2019 12:35:59	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	IC			Worklist Smp#:	12
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

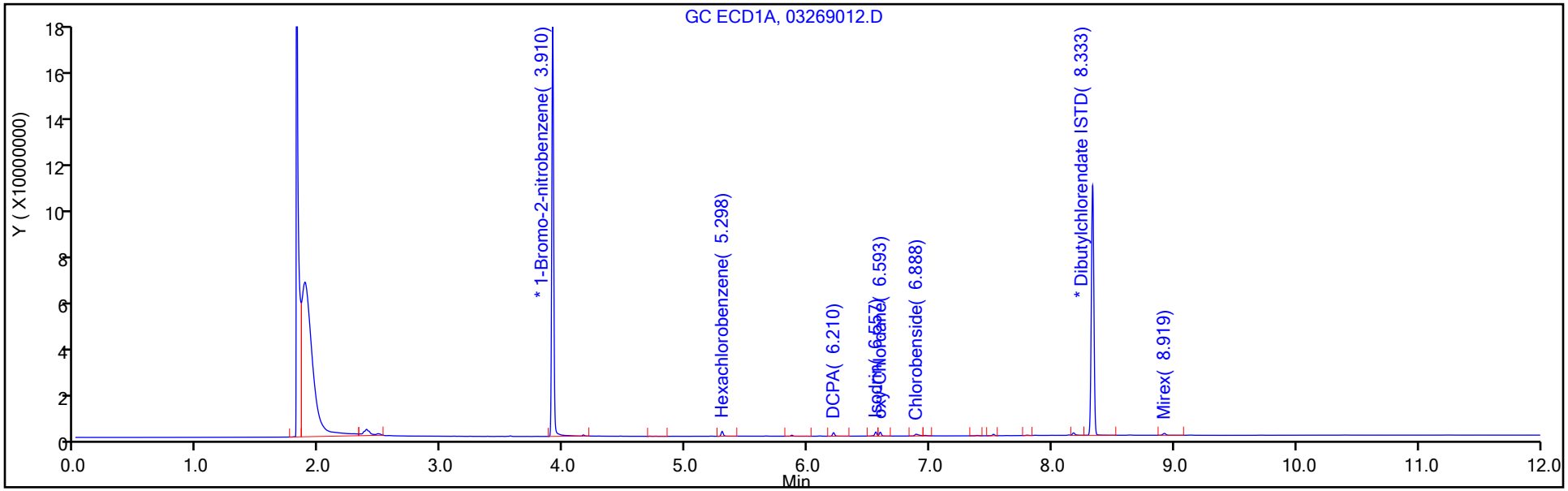

Column: MR-2 (0.53 mm)

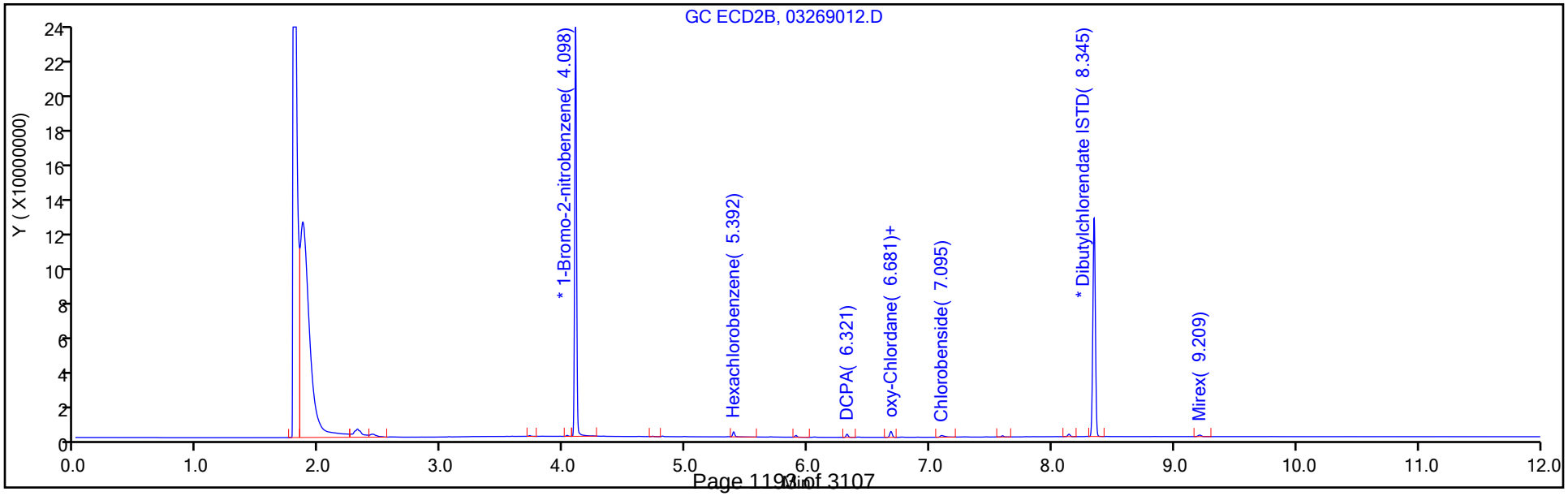

Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269012.D				
Injection Date:	02-Apr-2019 12:35:59	Instrument ID:	CHGC17		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

19 Chlorobenside, CAS: 103-17-3

Signal: 2

Not Detected
Expected RT: 7.09

Processing Integration Results

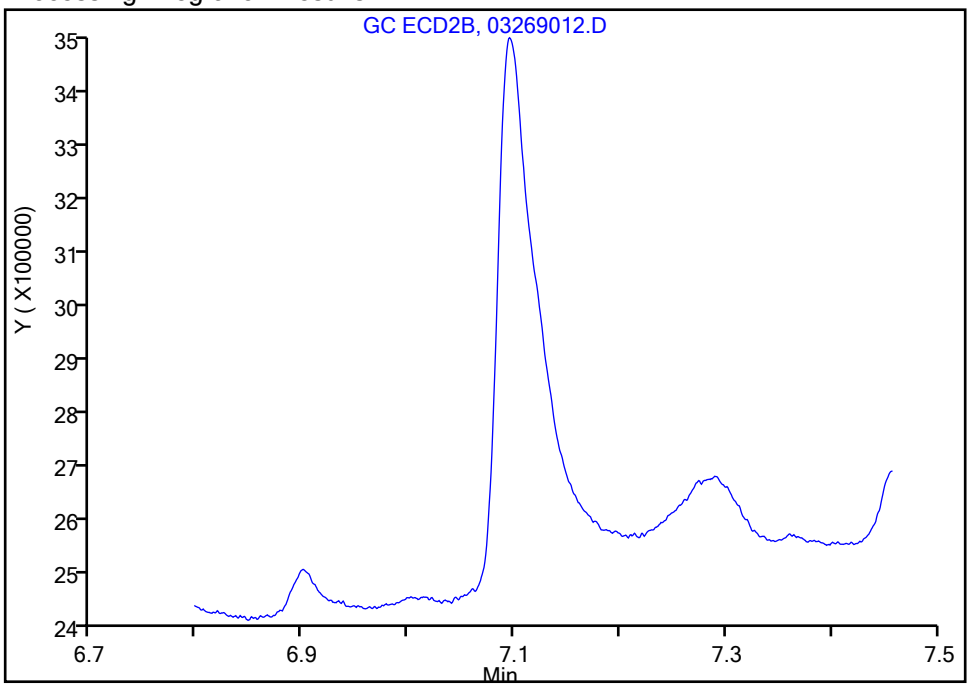

RT: 7.10
Area: 2596009
Amount: 0.001884
Amount Units: ng

Manual Integration Results

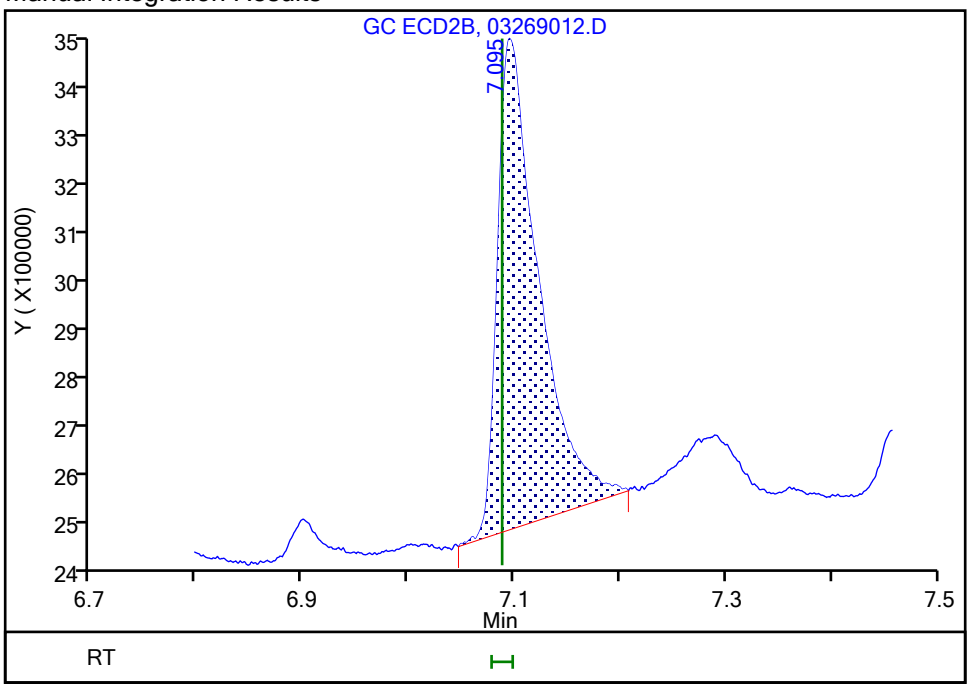

Reviewer: eppinged, 02-Apr-2019 12:51:15
Audit Action: Assigned Compound ID Audit Reason: Split Peak

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269013.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 02-Apr-2019 12:52:24 ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-013
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub3

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:23:36 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: eppinged Date: 02-Apr-2019 13:08:50

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.910	3.910	0.000	167873858H	0.1000	0.1000	
2	4.098	4.098	-0.001	226486579H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.298	5.297	0.001	9834167H	0.005000	0.005319	
2	5.392	5.392	0.000	13932603H	0.005000	0.005369	
						RPD = 0.93	
12 DCPA							
1	6.210	6.210	0.000	7191532H	0.005000	0.005386	
2	6.320	6.321	-0.001	8735312H	0.005000	0.005283	
						RPD = 1.93	
14 Isodrin							Ma
1	6.556	6.557	-0.001	8437821H	0.005000	0.005251	M
2	6.680	6.681	-0.001	16923130H	0.005000	0.005317	a
						RPD = 1.25	
15 oxy-Chlordane							Ma
1	6.593	6.594	-0.001	7796442H	0.005000	0.005317	M
2	6.680	6.681	-0.001	16923130H	0.005000	0.005317	a
						RPD = 0.00	
19 Chlorobenside							a
1	6.886	6.880	0.006	12375635	0.0100	0.0117	a
2	7.093	7.088	0.005	13834009	0.0100	0.0104	a
						RPD = 11.97	
* 36 Dibutylchlorendate ISTD							
1	8.332	8.333	-0.001	105285805H	0.1000	0.1000	
2	8.343	8.345	-0.002	119743244H	0.1000	0.1000	
38 Mirex							
1	8.920	8.921	-0.001	3722329H	0.005000	0.005334	
2	9.208	9.210	-0.002	4007714H	0.005000	0.005247	
						RPD = 1.64	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

GCAPPIX1L2_00023	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00015	Amount Added:	0.01	Units: mL	Run Reagent

Report Date: 03-Apr-2019 08:23:37 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269013.D				
Injection Date:	02-Apr-2019 12:52:24	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	IC			Worklist Smp#:	13
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

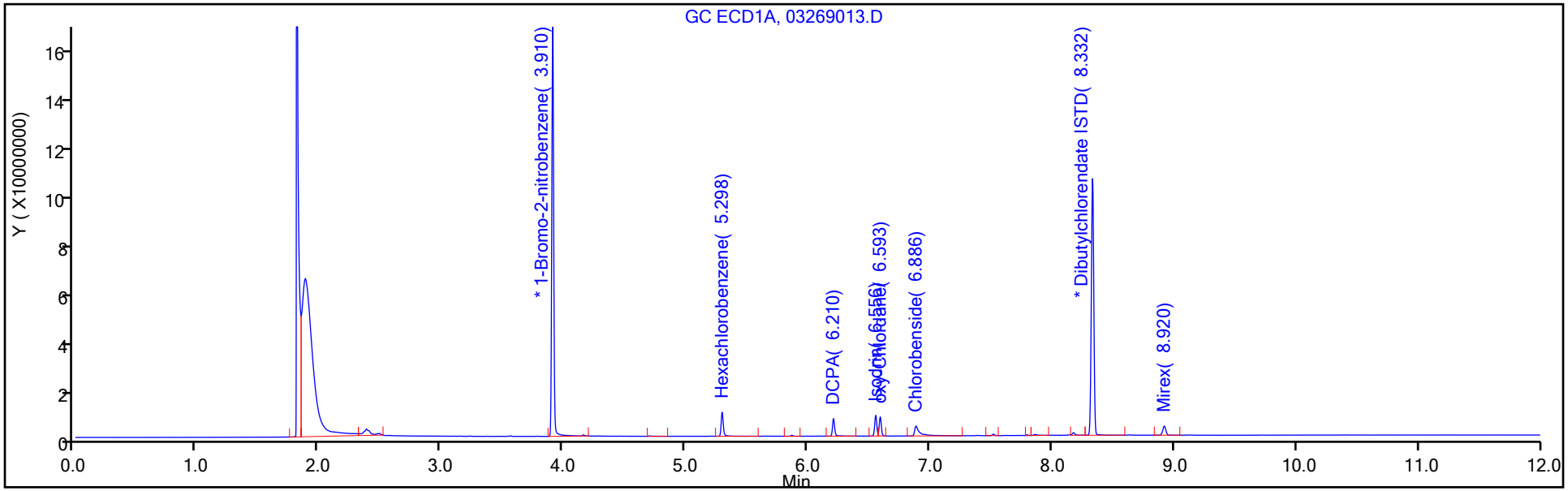

Column: MR-2 (0.53 mm)

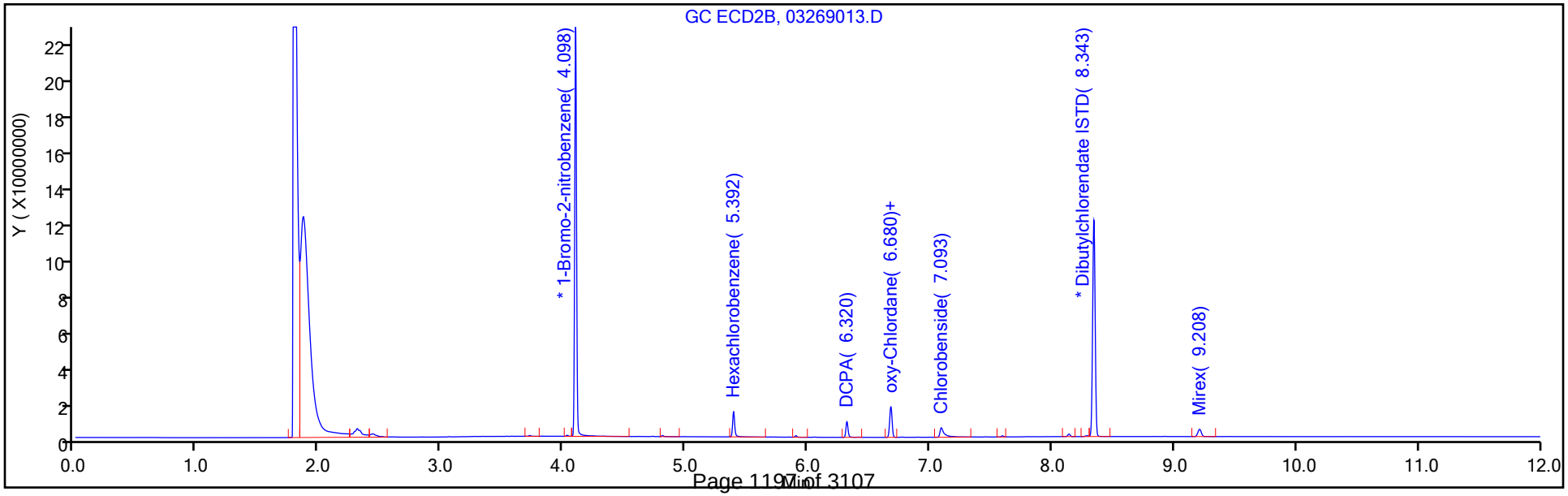

Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269013.D				
Injection Date:	02-Apr-2019 12:52:24	Instrument ID:	CHGC17		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	13	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

14 Isodrin, CAS: 465-73-6

Signal: 2

Processing Integration Results

RT: 6.68
Height: 16923130
Amount: 0.004824
Amount Units: ng

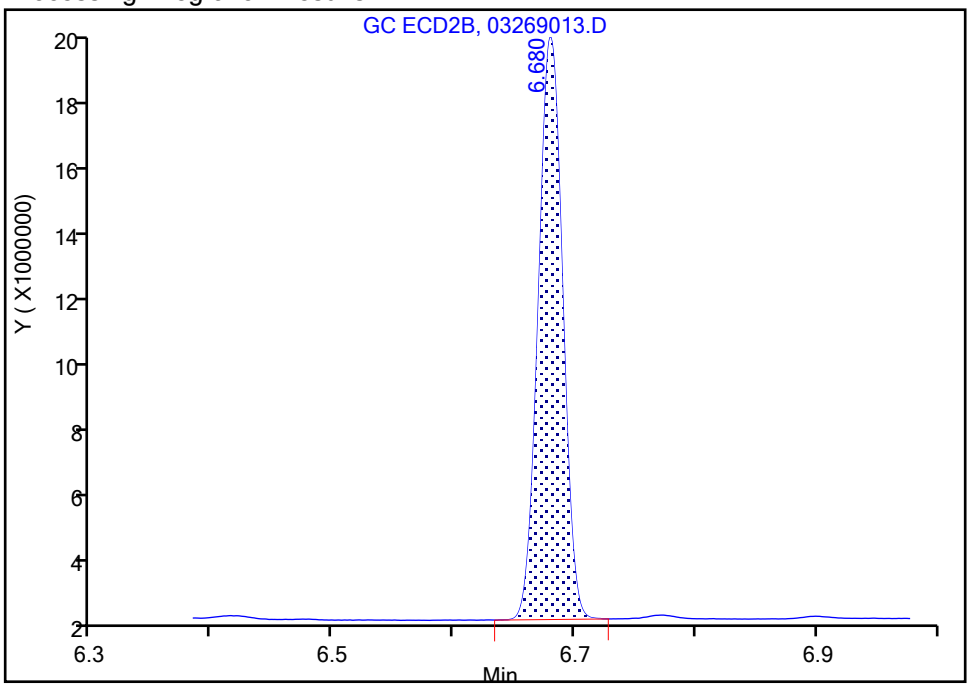

Manual Integration Results

RT: 6.68
Height: 16923130
Amount: 0.005317
Amount Units: ng

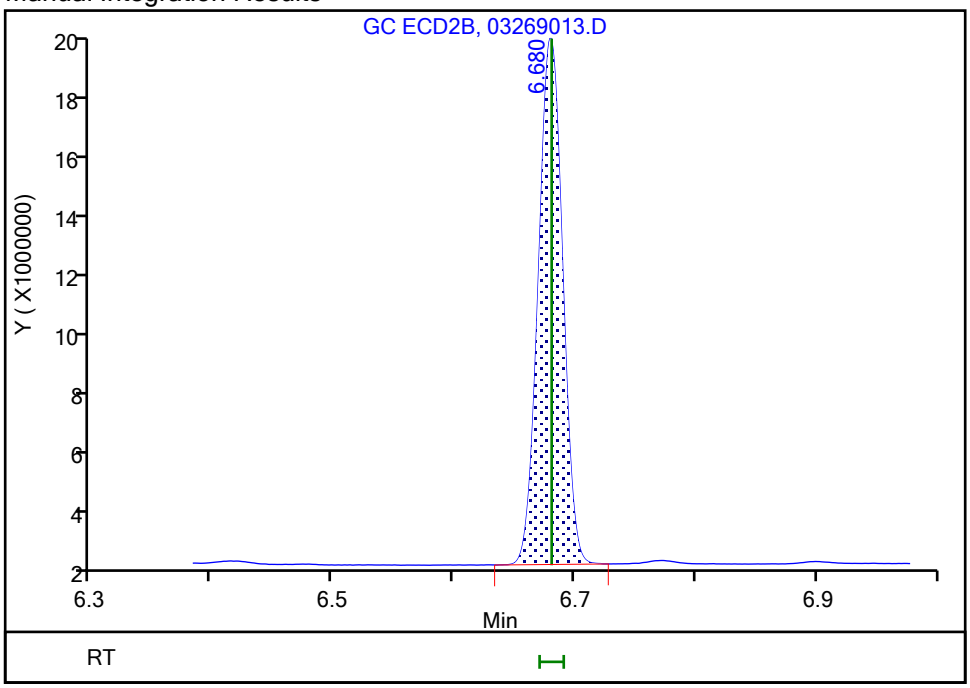

Reviewer: eppinged, 02-Apr-2019 13:07:28

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269013.D				
Injection Date:	02-Apr-2019 12:52:24	Instrument ID:	CHGC17		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	13	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

15 oxy-Chlordane, CAS: 27304-13-8

Signal: 2

Not Detected
Expected RT: 6.68

Processing Integration Results

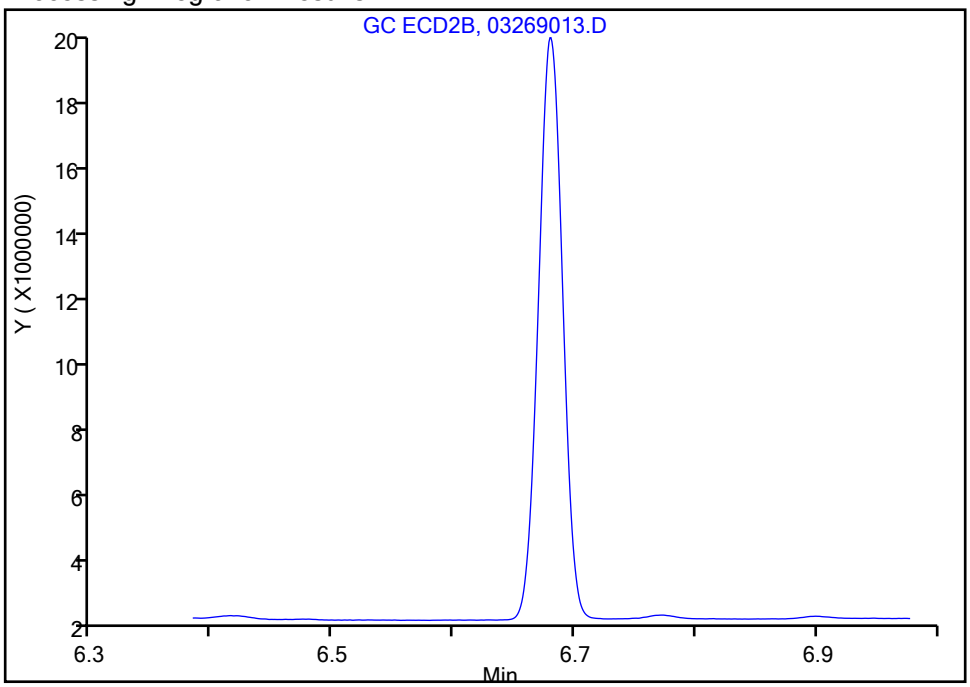

RT: 6.68
Height: 16923130
Amount: 0.005317
Amount Units: ng

Manual Integration Results

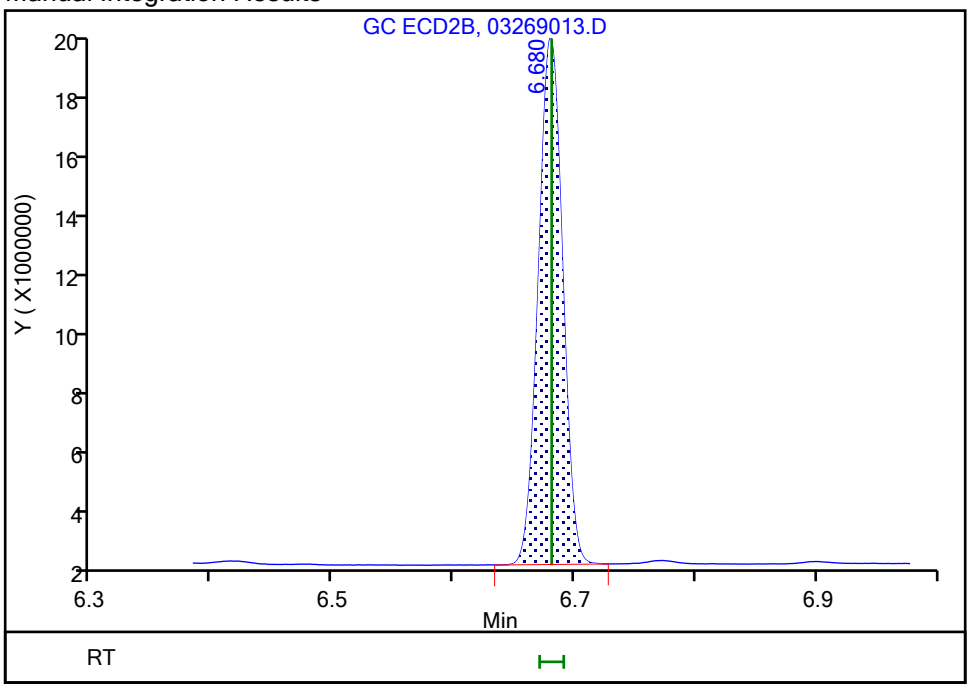

Reviewer: eppinged, 02-Apr-2019 13:07:28
Audit Action: Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269013.D				
Injection Date:	02-Apr-2019 12:52:24	Instrument ID:	CHGC17		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	13	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

19 Chlorobenside, CAS: 103-17-3

Signal: 2

Not Detected
Expected RT: 7.09

Processing Integration Results

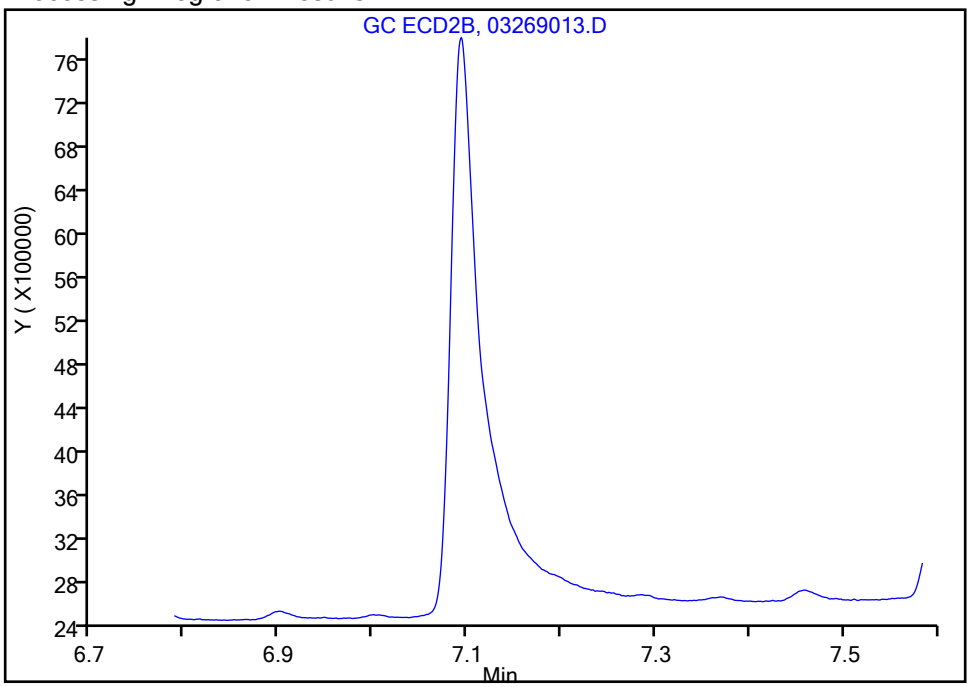

RT: 7.09
Area: 13834009
Amount: 0.010378
Amount Units: ng

Manual Integration Results

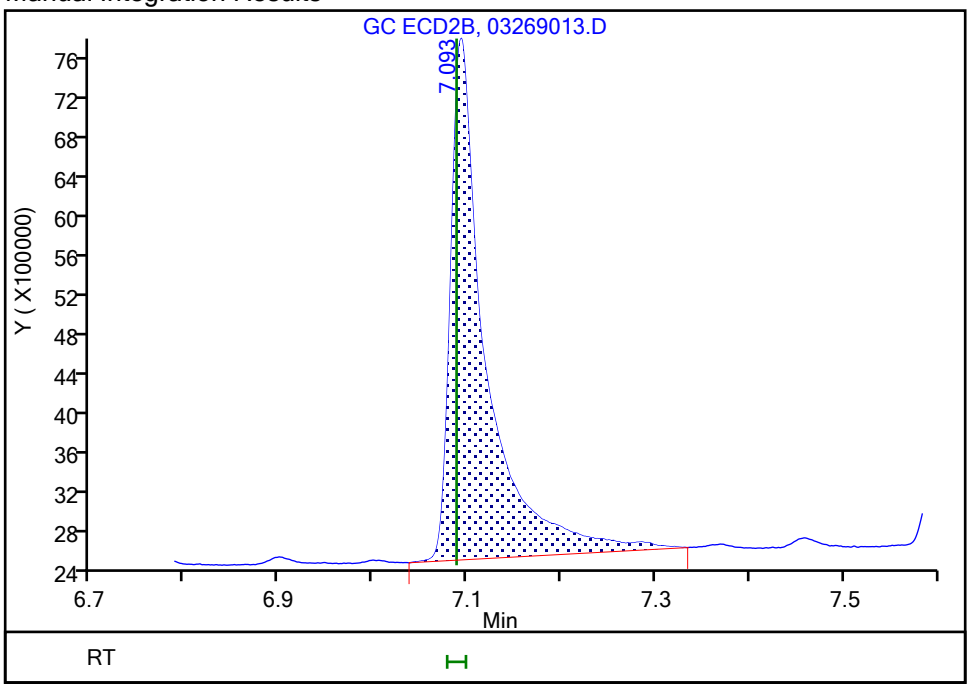

Reviewer: eppinged, 02-Apr-2019 13:07:41
Audit Action: Assigned Compound ID Audit Reason: Split Peak

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269014.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 02-Apr-2019 13:08:55 ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-014
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub3

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:23:39 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.910	3.910	0.000	173574838H	0.1000	0.1000	
2	4.097	4.098	-0.001	230370877H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.297	5.297	0.000	46602288H	0.0250	0.0244	
2	5.392	5.392	0.000	64036373H	0.0250	0.0243	
						RPD = 0.49	
12 DCPA							
1	6.210	6.210	0.000	34703811H	0.0250	0.0251	
2	6.321	6.321	0.000	42887059H	0.0250	0.0255	
						RPD = 1.43	
14 Isodrin							
1	6.557	6.557	0.000	40261195H	0.0250	0.0242	
2	6.681	6.681	0.000	80602702H	0.0250	0.0249	
						RPD = 2.71	
15 oxy-Chlordane							
1	6.594	6.594	0.000	37158105H	0.0250	0.0245	
2	6.681	6.681	0.000	80602702H	0.0250	0.0249	
						RPD = 1.58	
19 Chlorobenside							
1	6.880	6.880	0.000	63170354	0.0500	0.0578	
2	7.088	7.088	0.000	73840160	0.0500	0.0545	
						RPD = 5.87	
* 36 Dibutylchlorendate ISTD							
1	8.333	8.333	0.001	107947044H	0.1000	0.1000	
2	8.345	8.345	0.000	124677601H	0.1000	0.1000	
38 Mirex							
1	8.921	8.921	0.000	17688913H	0.0250	0.0247	
2	9.210	9.210	0.000	19522616H	0.0250	0.0245	
						RPD = 0.70	

Reagents:

GCAPPIX1L3_00028	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00015	Amount Added:	0.01	Units: mL	Run Reagent

Report Date: 03-Apr-2019 08:23:39 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269014.D				
Injection Date:	02-Apr-2019 13:08:55	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	IC			Worklist Smp#:	14
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

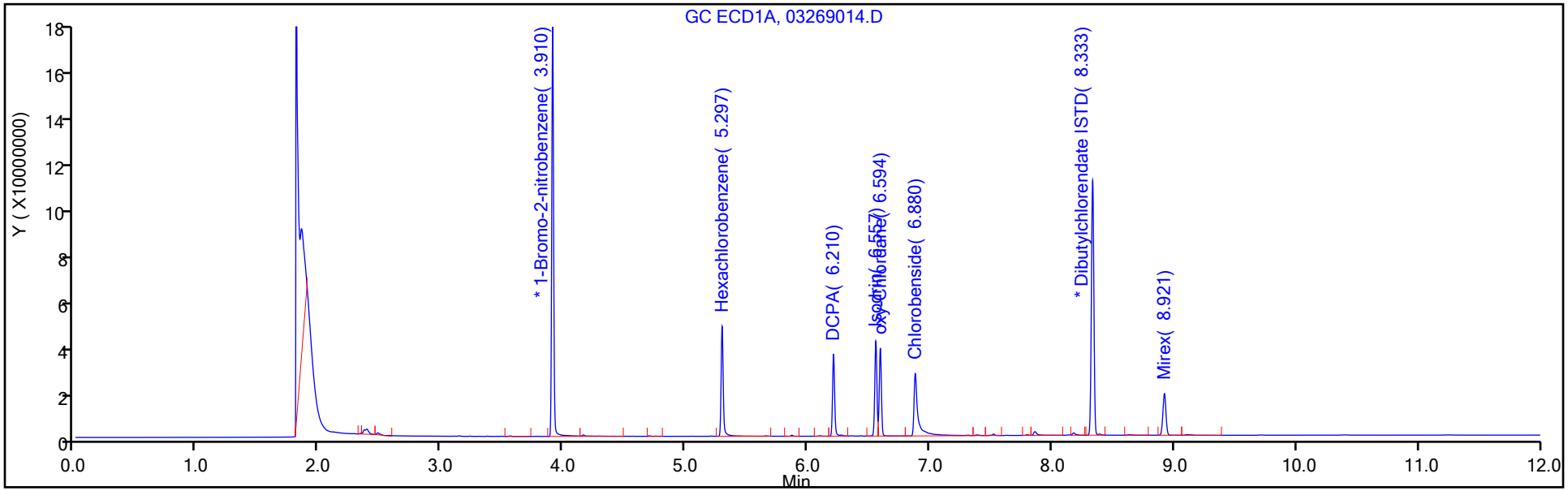

Column: MR-2 (0.53 mm)

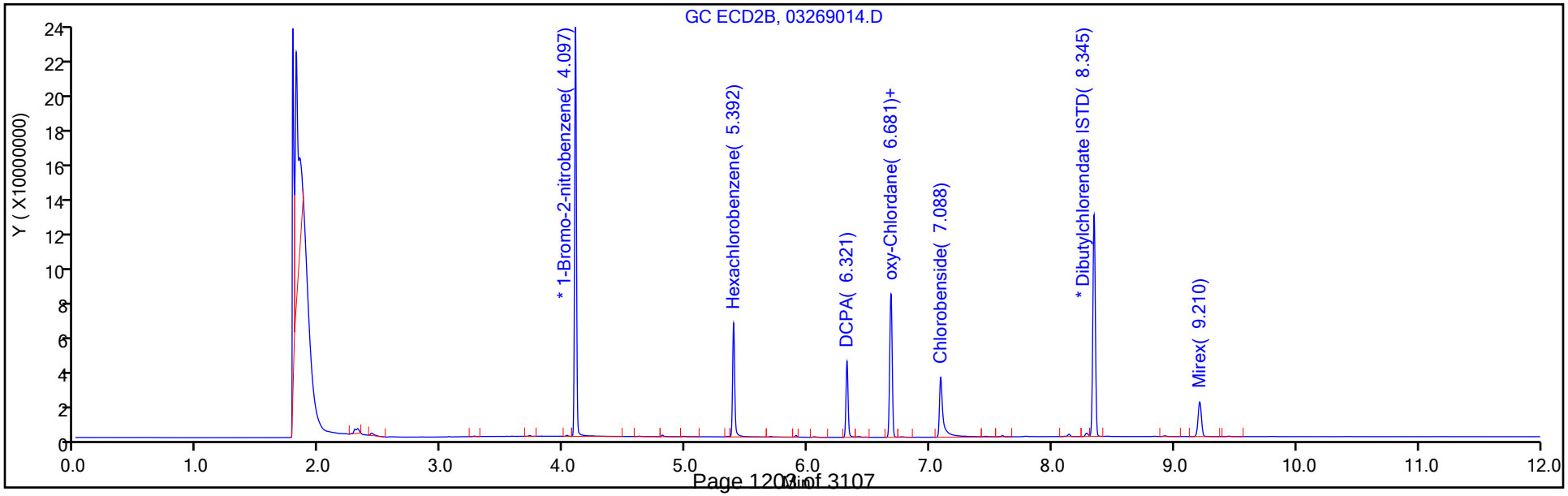

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269015.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 02-Apr-2019 13:25:21 ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-015
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub3

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:23:41 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.909	3.910	-0.001	174940770H	0.1000	0.1000	
2	4.097	4.098	-0.001	234856873H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.297	5.297	0.000	91170378H	0.0500	0.0473	
2	5.391	5.392	-0.001	127241828H	0.0500	0.0473	
						RPD = 0.08	
12 DCPA							
1	6.209	6.210	-0.001	65909277H	0.0500	0.0474	
2	6.319	6.321	-0.002	82724257H	0.0500	0.0482	
						RPD = 1.84	
14 Isodrin							
1	6.555	6.557	-0.002	80943350H	0.0500	0.0483	
2	6.680	6.681	-0.001	159471161H	0.0500	0.0483	
						RPD = 0.04	
15 oxy-Chlordane							
1	6.593	6.594	-0.001	73009134H	0.0500	0.0478	
2	6.680	6.681	-0.001	159471161H	0.0500	0.0483	
						RPD = 1.12	
19 Chlorobenside							
1	6.879	6.880	-0.001	126676405	0.1000	0.1149	
2	7.086	7.088	-0.002	150828188	0.1000	0.1091	
						RPD = 5.17	
* 36 Dibutylchlorendate ISTD							
1	8.332	8.333	-0.001	108877359H	0.1000	0.1000	
2	8.343	8.345	-0.002	126867803H	0.1000	0.1000	
38 Mirex							
1	8.919	8.921	-0.002	34723605H	0.0500	0.0481	
2	9.208	9.210	-0.002	38987574H	0.0500	0.0482	
						RPD = 0.13	

Reagents:

GCAPPIX1L4_00022	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00015	Amount Added:	0.01	Units: mL	Run Reagent

Report Date: 03-Apr-2019 08:23:42 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269015.D				
Injection Date:	02-Apr-2019 13:25:21	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	IC			Worklist Smp#:	15
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	15
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

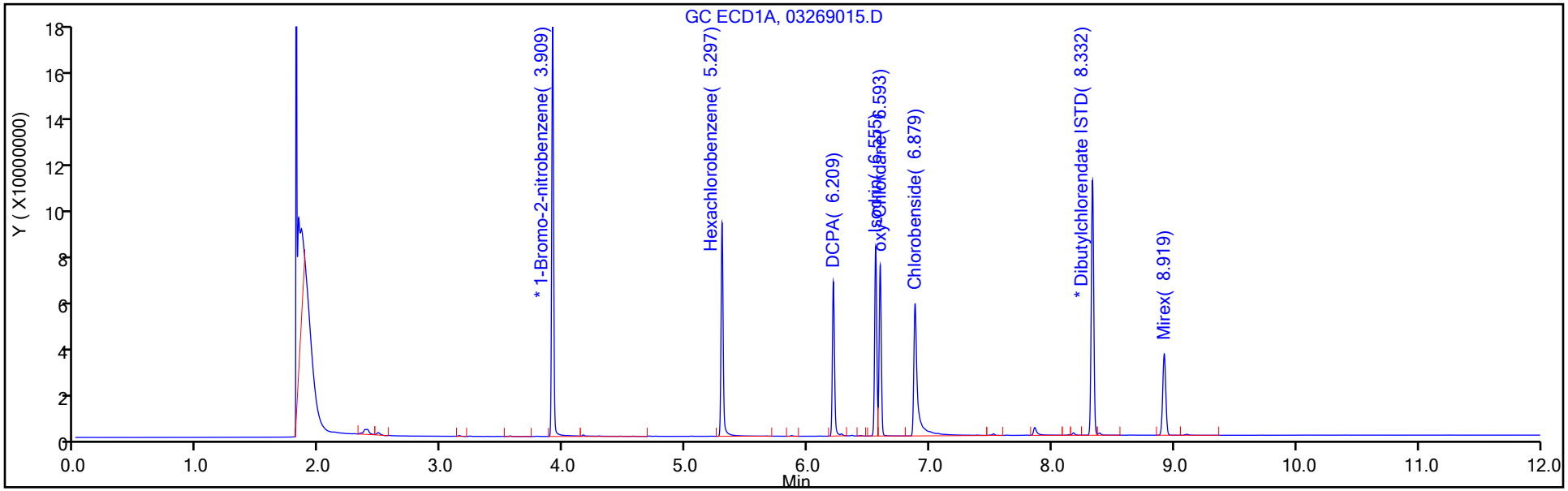

Column: MR-2 (0.53 mm)

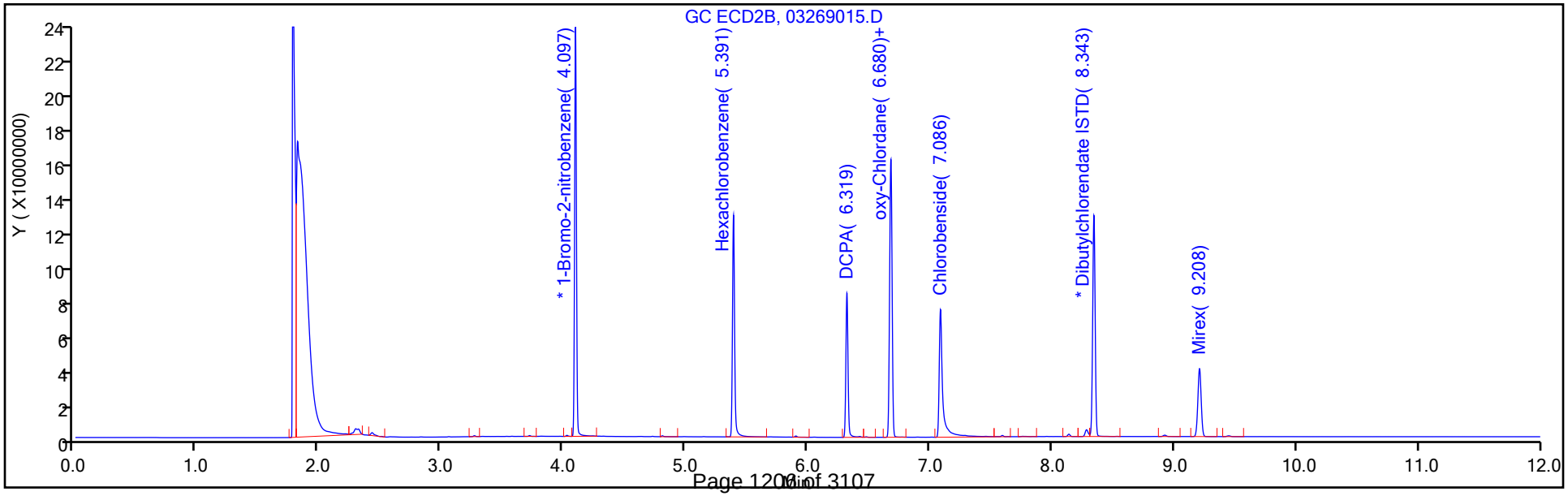

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269016.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 02-Apr-2019 13:41:42 ALS Bottle#: 16 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-016
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub3

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:23:45 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: eppinged Date: 03-Apr-2019 07:59:26

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.910	3.910	0.000	176164368H	0.1000	0.1000	
2	4.097	4.098	-0.001	237740034H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.298	5.297	0.001	184882834H	0.1000	0.0953	
2	5.392	5.392	0.000	258148920H	0.1000	0.0948	
						RPD = 0.56	
12 DCPA							
1	6.210	6.210	0.000	130379166H	0.1000	0.0931	
2	6.320	6.321	-0.001	164493078H	0.1000	0.0948	
						RPD = 1.83	
14 Isodrin							Ma
1	6.556	6.557	-0.001	164294753H	0.1000	0.0974	M
2	6.680	6.681	-0.001	320831665H	0.1000	0.0960	a
						RPD = 1.45	
15 oxy-Chlordane							Ma
1	6.593	6.594	-0.001	146673886H	0.1000	0.0953	M
2	6.680	6.681	-0.001	320831665H	0.1000	0.0960	a
						RPD = 0.74	
19 Chlorobenside							
1	6.875	6.880	-0.005	263267187	0.2000	0.2372	
2	7.085	7.088	-0.003	316660493	0.2000	0.2263	
						RPD = 4.68	
* 36 Dibutylchlorendate ISTD							
1	8.332	8.333	0.000	112651034H	0.1000	0.1000	
2	8.345	8.345	0.000	128719222H	0.1000	0.1000	
38 Mirex							
1	8.920	8.921	-0.001	69027084H	0.1000	0.0924	
2	9.209	9.210	-0.001	78401715H	0.1000	0.0955	
						RPD = 3.24	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

GCAPPIX1L5_00021	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00015	Amount Added:	0.01	Units: mL	Run Reagent

Report Date: 03-Apr-2019 08:23:45 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269016.D				
Injection Date:	02-Apr-2019 13:41:42	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	IC			Worklist Smp#:	16
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	16
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

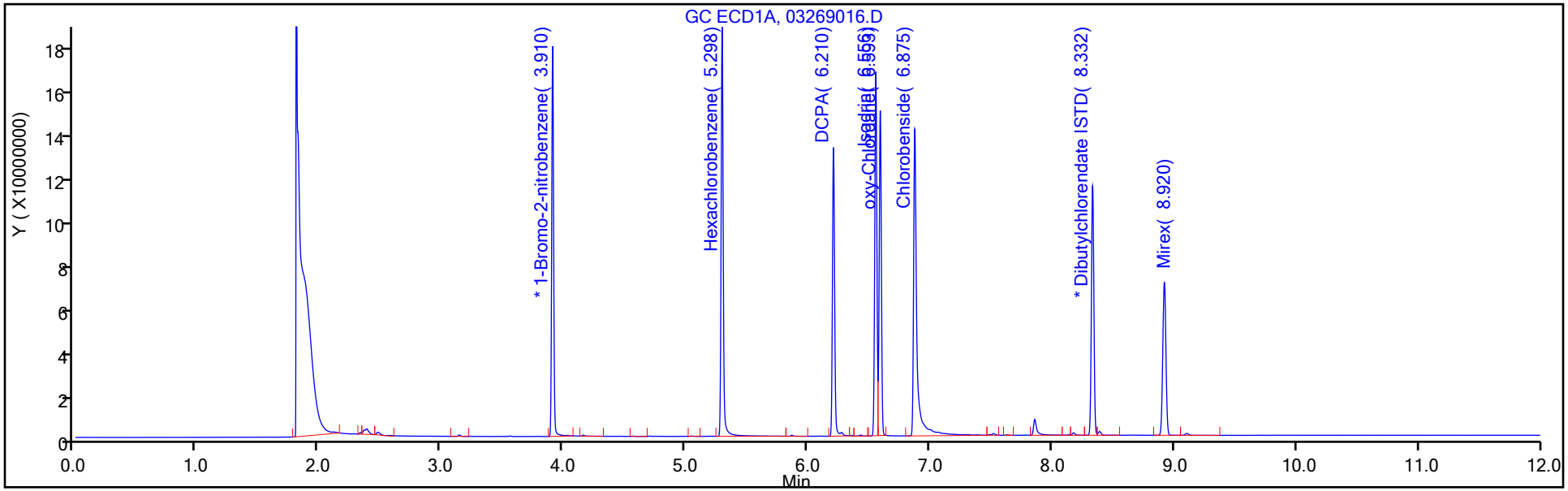

Column: MR-2 (0.53 mm)

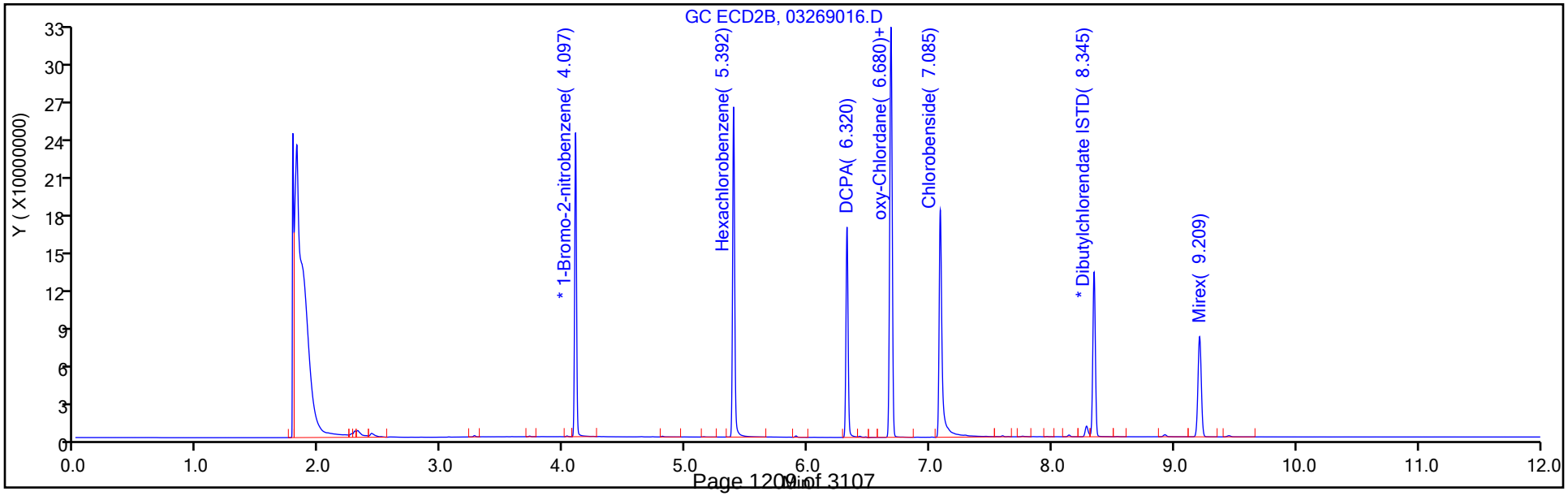

Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269016.D				
Injection Date:	02-Apr-2019 13:41:42	Instrument ID:	CHGC17		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	16	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

14 Isodrin, CAS: 465-73-6

Signal: 2

Processing Integration Results

RT: 6.68
Height: 320831665
Amount: 0.096025
Amount Units: ng

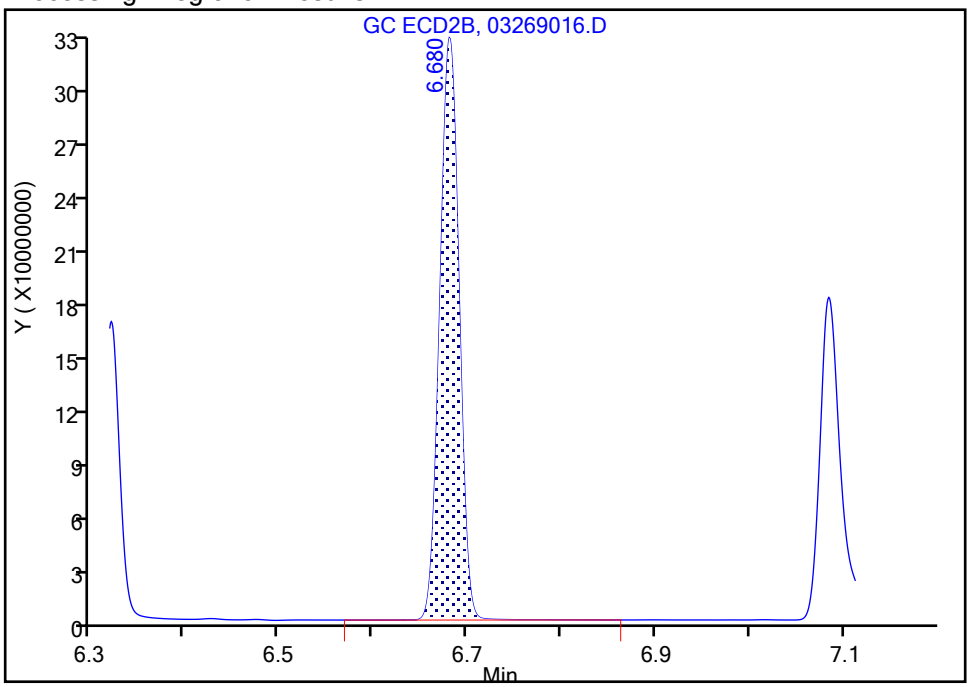

Manual Integration Results

RT: 6.68
Height: 320831665
Amount: 0.096025
Amount Units: ng

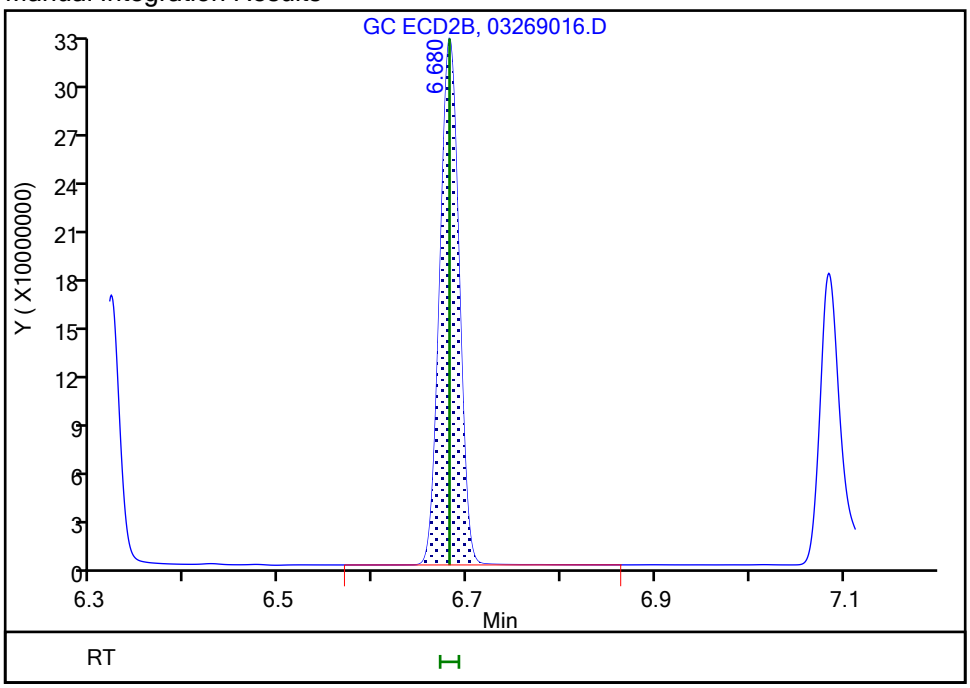

Reviewer: eppinged, 03-Apr-2019 07:59:20

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269016.D				
Injection Date:	02-Apr-2019 13:41:42	Instrument ID:	CHGC17		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	16	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

15 oxy-Chlordane, CAS: 27304-13-8

Signal: 2

Processing Integration Results

Not Detected
Expected RT: 6.68

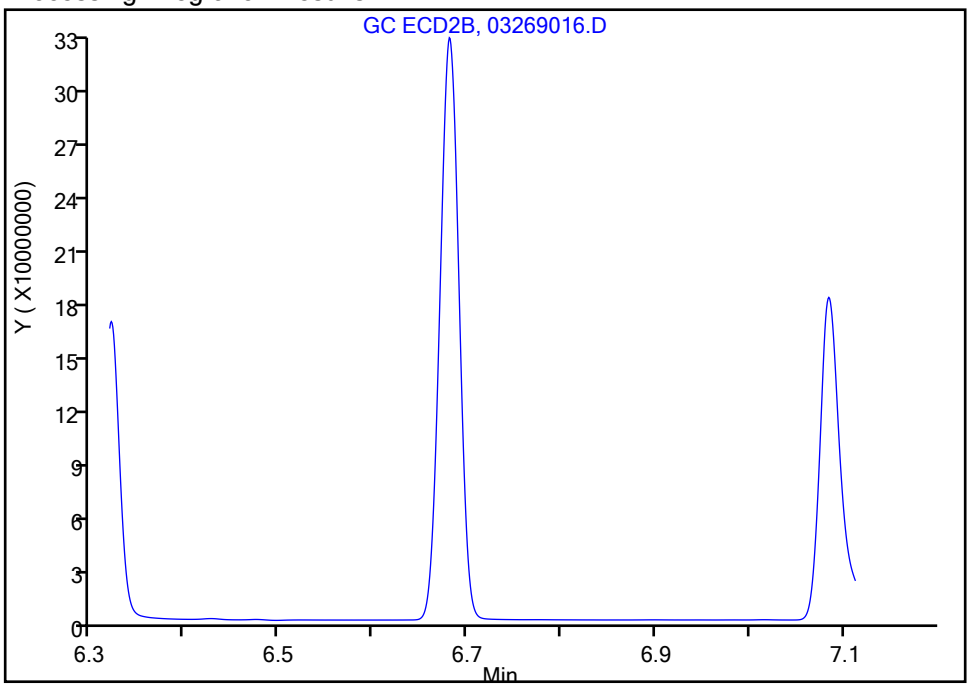

Manual Integration Results

RT: 6.68
Height: 320831665
Amount: 0.096025
Amount Units: ng

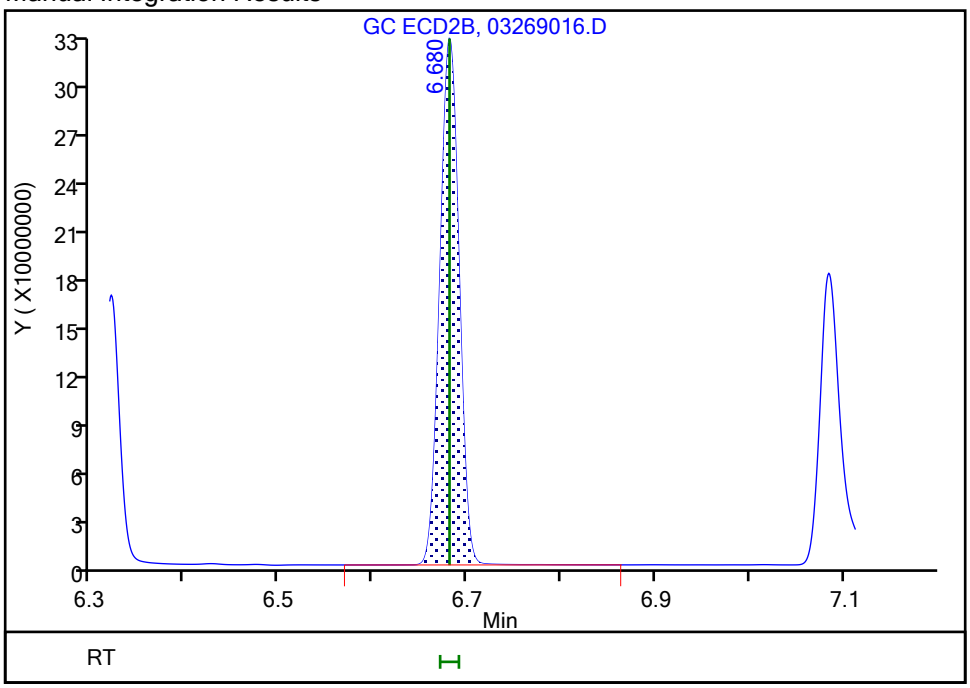

Reviewer: eppinged, 03-Apr-2019 07:59:20
Audit Action: Assigned Compound ID Audit Reason: Split Peak

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269017.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 02-Apr-2019 13:58:05 ALS Bottle#: 17 Worklist Smp#: 17
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-017
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub3

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:23:48 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: eppinged Date: 03-Apr-2019 08:02:34

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.910	3.910	0.000	172162208H	0.1000	0.1000	
2	4.097	4.098	-0.001	231243851H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.297	5.297	0.000	370249654H	0.2000	0.1953	
2	5.391	5.392	-0.001	529305079H	0.2000	0.1998	
						RPD = 2.27	
12 DCPA							
1	6.211	6.210	0.001	264723924H	0.2000	0.1933	
2	6.321	6.321	0.000	325467274H	0.2000	0.1928	
						RPD = 0.28	
14 Isodrin							
1	6.556	6.557	-0.001	324435742H	0.2000	0.1969	
2	6.681	6.681	0.000	644460272H	0.2000	0.1983	
						RPD = 0.73	
15 oxy-Chlordane							
1	6.594	6.594	0.000	290467391H	0.2000	0.1931	
2	6.681	6.681	0.000	644460272H	0.2000	0.1983	
						RPD = 2.64	
19 Chlorobenside							
1	6.874	6.880	-0.006	520621752	0.4000	0.4799	
2	7.083	7.088	-0.005	634853192	0.4000	0.4665	
						RPD = 2.84	
* 36 Dibutylchlorendate ISTD							
1	8.333	8.333	0.000	112232749H	0.1000	0.1000	
2	8.345	8.345	0.000	128635648H	0.1000	0.1000	
38 Mirex							
1	8.921	8.921	0.000	140230593H	0.2000	0.1885	
2	9.210	9.210	0.000	159888342H	0.2000	0.1949	
						RPD = 3.32	

Reagents:

GCAPPIX1L6_00021	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00015	Amount Added:	0.01	Units: mL	Run Reagent

Report Date: 03-Apr-2019 08:23:48 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269017.D				
Injection Date:	02-Apr-2019 13:58:05	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	IC			Worklist Smp#:	17
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	17
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

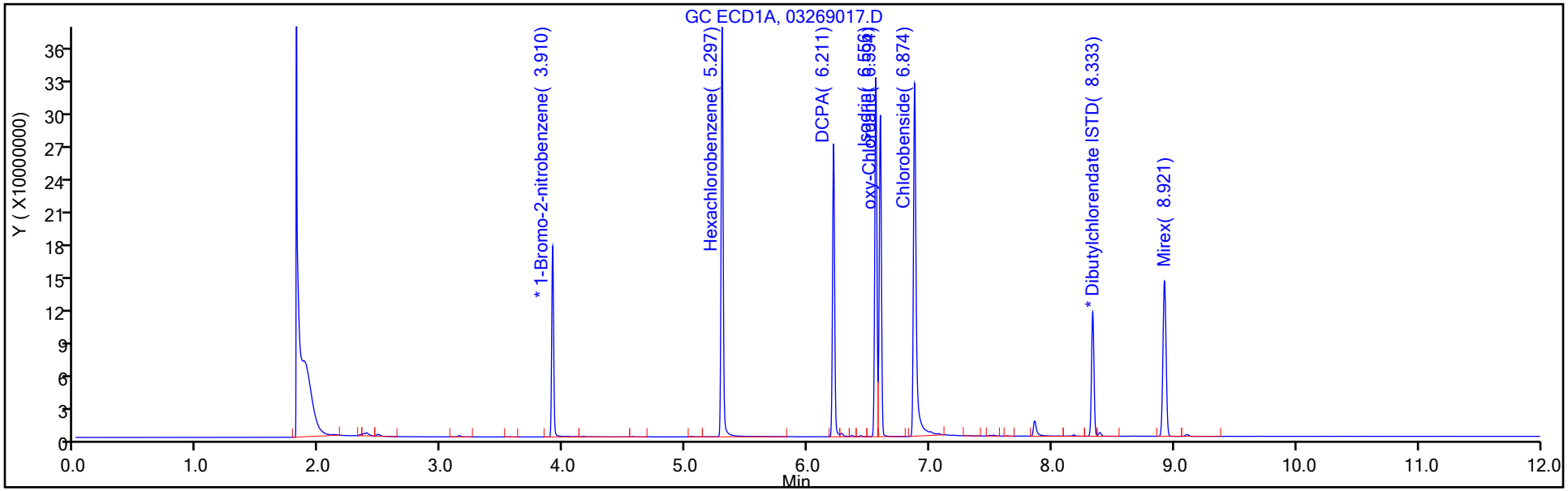

Column: MR-2 (0.53 mm)

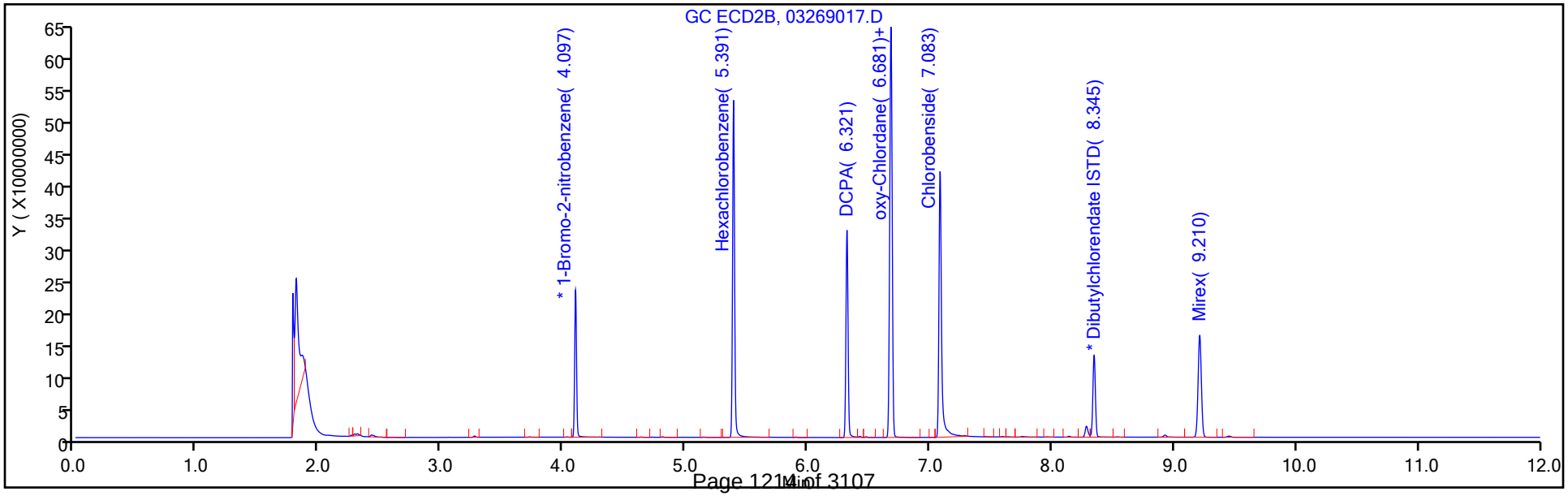

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 274564

SDG No.:

Instrument ID: CHGC17 GC Column: MR-1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/02/2019 15:52 Calibration End Date: 04/02/2019 17:14 Calibration ID: 39993

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-274564/24	03269024.D
Level 2	IC 180-274564/25	03269025.D
Level 3	ICIS 180-274564/26	03269026.D
Level 4	IC 180-274564/27	03269027.D
Level 5	IC 180-274564/28	03269028.D
Level 6	IC 180-274564/29	03269029.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
alpha-BHC	1.4283 1.4206	1.5610	1.5044	1.4894	1.4829	Ave		1.4811				3.5		20.0			
gamma-BHC (Lindane)	1.2871 1.2201	1.3365	1.2919	1.2693	1.2751	Ave		1.2800				2.9		20.0			
beta-BHC	0.6056 0.5184	0.5792	0.5314	0.5344	0.5298	Ave		0.5498				6.3		20.0			
delta-BHC	1.0615 1.1113	1.1172	1.1028	1.1342	1.1351	Ave		1.1104				2.4		20.0			
Heptachlor	1.2170 1.0936	1.2536	1.2012	1.1773	1.1535	Ave		1.1827				4.7		20.0			
Aldrin	1.1426 1.0599	1.2393	1.1758	1.0977	1.1154	Ave		1.1384				5.5		20.0			
Heptachlor epoxide	1.0371 0.9336	1.0813	1.0096	0.9940	0.9637	Ave		1.0032				5.2		20.0			
trans-Chlordane	1.0290 0.9668	1.0621	1.0124	1.0234	1.0064	Ave		1.0167				3.1		20.0			
cis-Chlordane	0.9999 0.9341	1.0173	0.9748	0.9711	0.9742	Ave		0.9786				2.9		20.0			
Endosulfan I	0.9409 0.8439	0.9295	0.8236	0.8893	0.8490	Ave		0.8794				5.5		20.0			
4,4'-DDE	1.3838 1.4541	1.4878	1.4312	1.4483	1.4620	Ave		1.4445				2.4		20.0			
Dieldrin	1.6120 1.4827	1.6552	1.5242	1.5720	1.5346	Ave		1.5634				4.0		20.0			
Endrin	1.3635 1.2419	1.4089	1.2653	1.3256	1.2861	Ave		1.3152				4.8		20.0			
4,4'-DDD	1.6361 1.1581	1.2854	1.1631	1.1818	1.1713	Ave		1.2660				14.8		20.0			
Endosulfan II	1.1738 1.0939	1.2552	1.1256	1.1189	1.1390	Ave		1.1511				5.0		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 274564

SDG No.:

Instrument ID: CHGC17 GC Column: MR-1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/02/2019 15:52 Calibration End Date: 04/02/2019 17:14 Calibration ID: 39993

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Endrin aldehyde	1.0856 0.9408	1.1030	0.9884	0.9906	0.9544	Ave		1.0105				6.7		20.0			
4,4'-DDT	1.1047 1.1253	1.0945	1.0007	1.1143	1.1091	Ave		1.0914				4.2		20.0			
Endosulfan sulfate	1.2507 1.1189	1.2641	1.1583	1.1566	1.1596	Ave		1.1847				4.9		20.0			
Methoxychlor	0.5423 0.5008	0.5476	0.4975	0.4991	0.5056	Ave		0.5155				4.5		20.0			
Endrin ketone	1.2195 1.0562	1.2254	1.0944	1.1011	1.1021	Ave		1.1331				6.3		20.0			
Tetrachloro-m-xylene	1.3144 1.1287	1.3144	1.2351	1.1971	1.1812	Ave		1.2285				6.1		20.0			
DCB Decachlorobiphenyl (Surr)	0.7260 0.5656	0.6838	0.5827	0.5818	0.5925	Ave		0.6221				10.6		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 274564

SDG No.:

Instrument ID: CHGC17 GC Column: MR-1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/02/2019 15:52 Calibration End Date: 04/02/2019 17:14 Calibration ID: 39993

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-274564/24	03269024.D
Level 2	IC 180-274564/25	03269025.D
Level 3	ICIS 180-274564/26	03269026.D
Level 4	IC 180-274564/27	03269027.D
Level 5	IC 180-274564/28	03269028.D
Level 6	IC 180-274564/29	03269029.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
alpha-BHC	BNB	Ave	2288843 511182851	13183819	65674679	130694431	256901061	0.00100 0.200	0.00500	0.0250	0.0500	0.100
gamma-BHC (Lindane)	BNB	Ave	2062538 439027868	11288013	56400707	111386919	220905216	0.00100 0.200	0.00500	0.0250	0.0500	0.100
beta-BHC	BNB	Ave	970394 186525238	4892059	23198864	46898073	91781418	0.00100 0.200	0.00500	0.0250	0.0500	0.100
delta-BHC	BNB	Ave	1700929 399909765	9436035	48145722	99529645	196652040	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Heptachlor	BNB	Ave	1950147 393524279	10587604	52439481	103314331	199833324	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Aldrin	BNB	Ave	1830908 381386028	10467013	51330906	96321512	193233684	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Heptachlor epoxide	BNB	Ave	1661903 335938521	9132458	44075806	87224623	166960256	0.00100 0.200	0.00500	0.0250	0.0500	0.100
trans-Chlordane	BNB	Ave	1648885 347885724	8970282	44196383	89806004	174348399	0.00100 0.200	0.00500	0.0250	0.0500	0.100
cis-Chlordane	BNB	Ave	1602354 336132704	8592082	42557876	85217663	168779880	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Endosulfan I	BNB	Ave	1507670 303666669	7850328	35955559	78041064	147087214	0.00100 0.200	0.00500	0.0250	0.0500	0.100
4,4'-DDE	DBC	Ave	1380935 341079784	7836296	40575507	82621236	165937737	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Dieldrin	DBC	Ave	1608604 347781703	8717544	43213765	89675885	174179561	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Endrin	DBC	Ave	1360620 291299435	7420568	35871623	75620264	145976043	0.00100 0.200	0.00500	0.0250	0.0500	0.100
4,4'-DDD	DBC	Ave	1632689 271648141	6769983	32975678	67417058	132944605	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Endosulfan II	DBC	Ave	1171317 256600729	6611164	31910680	63826738	129276704	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Endrin aldehyde	DBC	Ave	1083343 220679513	5809342	28020916	56507608	108330226	0.00100 0.200	0.00500	0.0250	0.0500	0.100

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 274564

SDG No.:

Instrument ID: CHGC17 GC Column: MR-1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/02/2019 15:52 Calibration End Date: 04/02/2019 17:14 Calibration ID: 39993

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
4,4'-DDT	DBC	Ave	1102360 263952820	5764344	28372308	63564082	125887482	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Endosulfan sulfate	DBC	Ave	1248078 262455559	6657640	32839112	65981631	131622641	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Methoxychlor	DBC	Ave	541174 117477043	2884046	14104766	28471031	57382144	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Endrin ketone	DBC	Ave	1217006 247756190	6454242	31028165	62813934	125087417	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Tetrachloro-m-xylene	BNB	Ave	2106260 406166667	11101436	53922200	105050722	204632463	0.00100 0.200	0.00500	0.0250	0.0500	0.100
DCB Decachlorobiphenyl (Surr)	DBC	Ave	724476 132661705	3601647	16520412	33187916	67254498	0.00100 0.200	0.00500	0.0250	0.0500	0.100

Curve Type Legend:
Ave = Average ISTD by Height

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 274564

SDG No.:

Instrument ID: CHGC17 GC Column: MR-1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/02/2019 15:52 Calibration End Date: 04/02/2019 17:14 Calibration ID: 39993

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-274564/24	03269024.D
Level 2	IC 180-274564/25	03269025.D
Level 3	ICIS 180-274564/26	03269026.D
Level 4	IC 180-274564/27	03269027.D
Level 5	IC 180-274564/28	03269028.D
Level 6	IC 180-274564/29	03269029.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
alpha-BHC	-3.6	5.4	1.6	0.6	0.1	-4.1	50	30	30	30	30	30
gamma-BHC (Lindane)	0.6	4.4	0.9	-0.8	-0.4	-4.7	50	30	30	30	30	30
beta-BHC	10.1	5.4	-3.3	-2.8	-3.6	-5.7	50	30	30	30	30	30
delta-BHC	-4.4	0.6	-0.7	2.1	2.2	0.1	50	30	30	30	30	30
Heptachlor	2.9	6.0	1.6	-0.5	-2.5	-7.5	50	30	30	30	30	30
Aldrin	0.4	8.9	3.3	-3.6	-2.0	-6.9	50	30	30	30	30	30
Heptachlor epoxide	3.4	7.8	0.6	-0.9	-3.9	-6.9	50	30	30	30	30	30
trans-Chlordane	1.2	4.5	-0.4	0.7	-1.0	-4.9	50	30	30	30	30	30
cis-Chlordane	2.2	4.0	-0.4	-0.8	-0.4	-4.5	50	30	30	30	30	30
Endosulfan I	7.0	5.7	-6.3	1.1	-3.5	-4.0	50	30	30	30	30	30
4,4'-DDE	-4.2	3.0	-0.9	0.3	1.2	0.7	50	30	30	30	30	30
Dieldrin	3.1	5.9	-2.5	0.5	-1.8	-5.2	50	30	30	30	30	30
Endrin	3.7	7.1	-3.8	0.8	-2.2	-5.6	50	30	30	30	30	30
4,4'-DDD	29.2	1.5	-8.1	-6.6	-7.5	-8.5	50	30	30	30	30	30
Endosulfan II	2.0	9.1	-2.2	-2.8	-1.0	-5.0	50	30	30	30	30	30
Endrin aldehyde	7.4	9.2	-2.2	-2.0	-5.5	-6.9	50	30	30	30	30	30
4,4'-DDT	1.2	0.3	-8.3	2.1	1.6	3.1	50	30	30	30	30	30
Endosulfan sulfate	5.6	6.7	-2.2	-2.4	-2.1	-5.6	50	30	30	30	30	30
Methoxychlor	5.2	6.2	-3.5	-3.2	-1.9	-2.8	50	30	30	30	30	30
Endrin ketone	7.6	8.1	-3.4	-2.8	-2.7	-6.8	50	30	30	30	30	30
Tetrachloro-m-xylene	7.0	7.0	0.5	-2.6	-3.9	-8.1	50	30	30	30	30	30
DCB Decachlorobiphenyl (Surr)	16.7	9.9	-6.3	-6.5	-4.7	-9.1	50	30	30	30	30	30

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269024.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 02-Apr-2019 15:52:56 ALS Bottle#: 24 Worklist Smp#: 24
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-024
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub12

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:24:11 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: eppinged Date: 03-Apr-2019 08:11:54

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.910	3.910	0.000	160245434H	0.1000	0.1000	
2	4.097	4.098	-0.001	215890624H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.898	4.898	0.000	2106260H	0.001000	0.001070	
2	4.963	4.963	0.000	2504158H	0.001000	0.001005	
						RPD = 6.21	
5 alpha-BHC							
1	5.261	5.261	0.000	2288843H	0.001000	0.000964	
2	5.428	5.428	0.000	2725379H	0.001000	0.000916	
						RPD = 5.20	
7 gamma-BHC (Lindane)							
1	5.525	5.525	0.000	2062538H	0.001000	0.001006	
2	5.731	5.732	-0.001	2414951H	0.001000	0.000953	
						RPD = 5.39	
8 beta-BHC							
1	5.685	5.684	0.001	970394H	0.001000	0.001101	
2	5.971	5.971	0.000	1123221H	0.001000	0.001034	
						RPD = 6.36	
10 delta-BHC							M
1	5.885	5.884	0.001	1700929H	0.001000	0.000956	M
2	6.203	6.203	0.000	1960317H	0.001000	0.000895	
						RPD = 6.61	
11 Heptachlor							Ma
1	5.996	5.997	-0.001	1950147H	0.001000	0.001029	M
2	6.056	6.057	-0.001	2367256H	0.001000	0.001051	a
						RPD = 2.13	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
13 Aldrin							
1	6.277	6.278	-0.001	1830908H	0.001000	0.001004	
2	6.326	6.327	-0.001	2065109H	0.001000	0.000950	
						RPD = 5.46	
16 Heptachlor epoxide							
1	6.633	6.633	0.000	1661903H	0.001000	0.001034	
2	6.773	6.774	-0.001	1898710H	0.001000	0.001032	
						RPD = 0.21	
18 trans-Chlordane							
1	6.850	6.851	-0.001	1648885H	0.001000	0.001012	
2	7.000	7.000	0.000	1831695H	0.001000	0.000961	
						RPD = 5.23	
20 cis-Chlordane							M
1	6.918	6.918	0.000	1602354H	0.001000	0.001022	M
2	7.061	7.062	-0.001	1807524H	0.001000	0.000985	
						RPD = 3.67	
22 Endosulfan I							Ma
1	6.962	6.963	-0.001	1507670H	0.001000	0.001070	M
2	7.130	7.131	-0.001	1687151H	0.001000	0.001018	a
						RPD = 4.93	
23 4,4'-DDE							
1	7.067	7.068	-0.001	1380935H	0.001000	0.000958	
2	7.196	7.196	0.000	1642656H	0.001000	0.000928	
						RPD = 3.16	
26 Dieldrin							
1	7.201	7.201	0.000	1608604H	0.001000	0.001031	
2	7.374	7.375	-0.001	1780572H	0.001000	0.000971	
						RPD = 6.04	
27 Endrin							
1	7.401	7.402	-0.001	1360620H	0.001000	0.001037	
2	7.641	7.641	0.000	1379434H	0.001000	0.000950	
						RPD = 8.68	
30 4,4'-DDD							
1	7.522	7.523	-0.001	1632689H	0.001000	0.001292	
2	7.715	7.714	0.001	1248970H	0.001000	0.000895	
						RPD = 36.36	
31 Endosulfan II							
1	7.596	7.596	0.000	1171317H	0.001000	0.001020	
2	7.903	7.904	-0.001	1308033H	0.001000	0.000970	
						RPD = 4.97	
32 Endrin aldehyde							
1	7.711	7.712	-0.001	1083343H	0.001000	0.001074	
2	8.071	8.071	0.000	1179704H	0.001000	0.001034	
						RPD = 3.86	
33 4,4'-DDT							
1	7.801	7.801	0.000	1102360H	0.001000	0.001012	
2	7.958	7.958	0.000	1198752H	0.001000	0.000870	
						RPD = 15.09	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
34 Endosulfan sulfate							
1	7.920	7.920	0.000	1248078H	0.001000	0.001056	
2	8.296	8.297	-0.001	1257639H	0.001000	0.000995	
						RPD = 5.93	
35 Methoxychlor							
1	8.252	8.253	-0.001	541174H	0.001000	0.001052	
2	8.534	8.533	0.001	635750H	0.001000	0.001046	
						RPD = 0.58	
* 36 Dibutylchlorendate ISTD							M
1	8.333	8.333	0.000	99791525H	0.1000	0.1000	M
2	8.344	8.345	-0.001	117428654H	0.1000	0.1000	
37 Endrin ketone							Ma
1	8.390	8.391	-0.001	1217006H	0.001000	0.001076	M
2	8.924	8.925	-0.001	1178933H	0.001000	0.001001	a
						RPD = 7.26	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.201	10.202	-0.001	724476H	0.001000	0.001167	
2	10.654	10.654	0.000	866376H	0.001000	0.001178	
						RPD = 0.97	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

GCPest L1_00026	Amount Added: 1.00	Units: mL	
GCPESTISSPK2_00015	Amount Added: 0.01	Units: mL	Run Reagent

Report Date: 03-Apr-2019 08:24:11 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269024.D				
Injection Date:	02-Apr-2019 15:52:56	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	IC			Worklist Smp#:	24
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	24
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

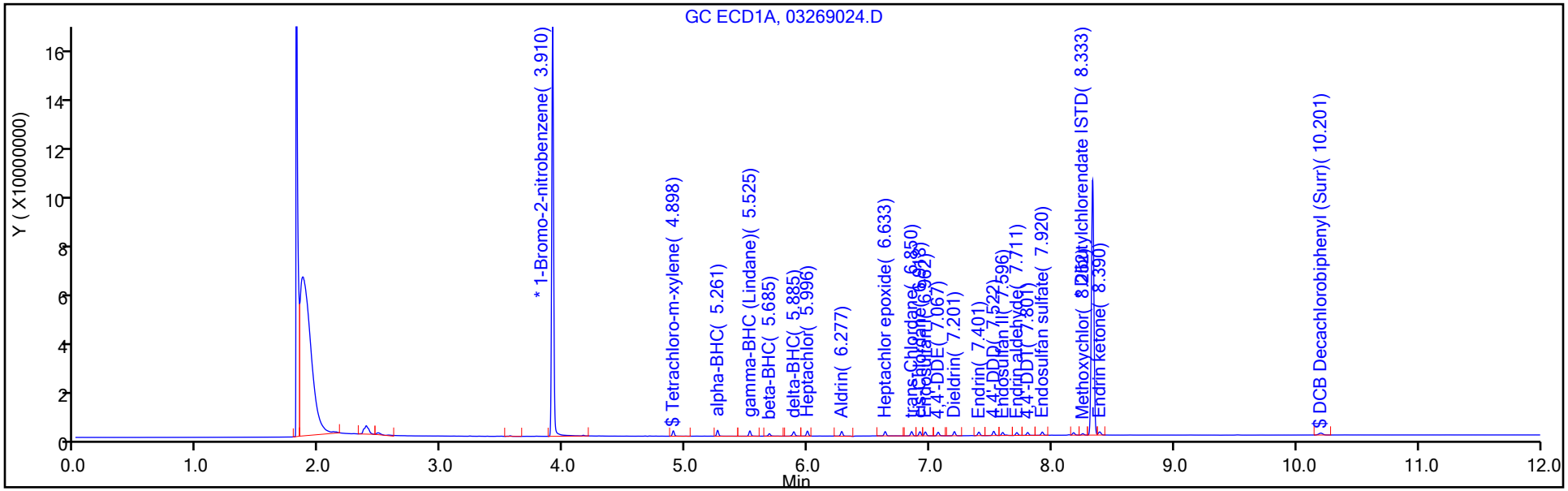

Column: MR-2 (0.53 mm)

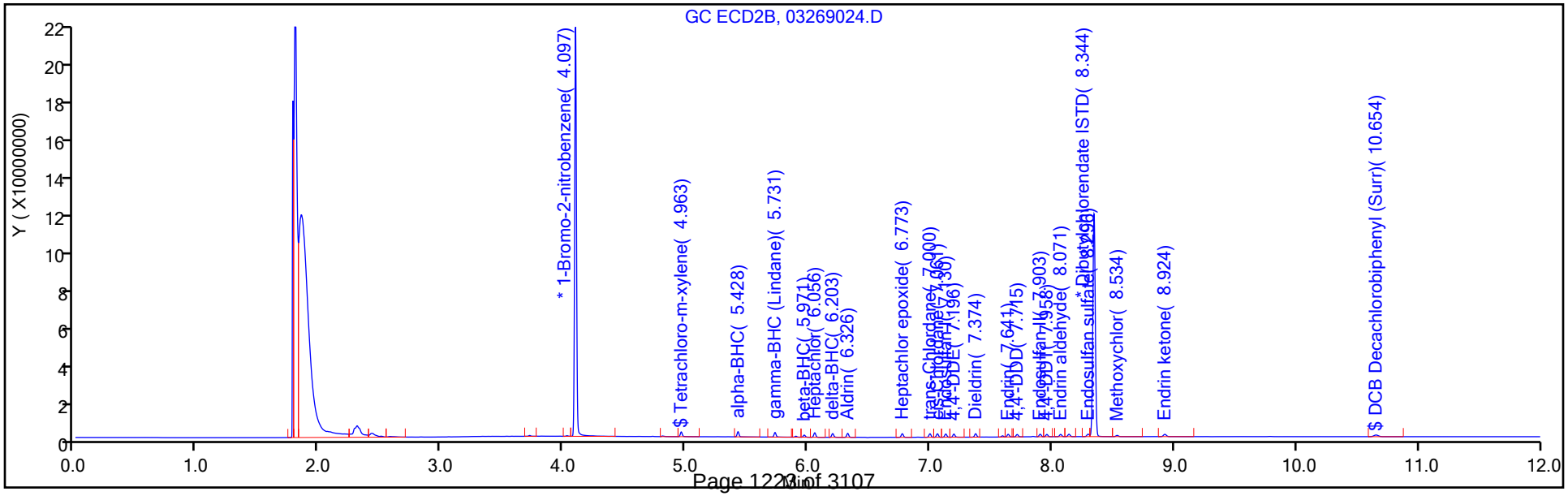

Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269024.D				
Injection Date:	02-Apr-2019 15:52:56	Instrument ID:	CHGC17		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	24	Worklist Smp#:	24
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

10 delta-BHC, CAS: 319-86-8

Signal: 1

Processing Integration Results

RT: 5.88
Height: 1700933
Amount: 0.000956
Amount Units: ng

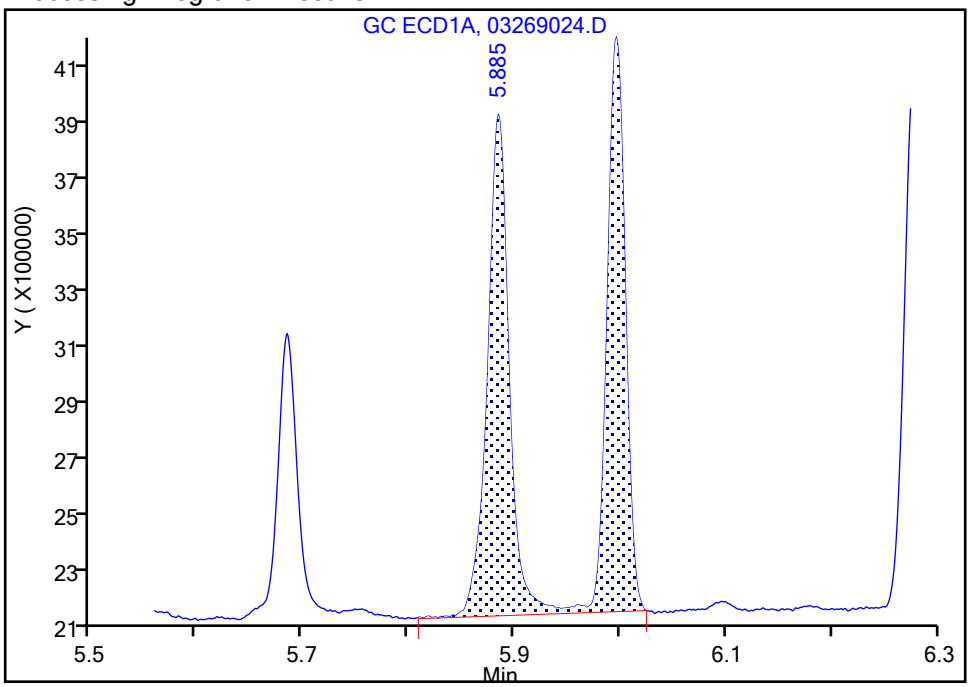

Manual Integration Results

RT: 5.88
Height: 1700929
Amount: 0.000956
Amount Units: ng

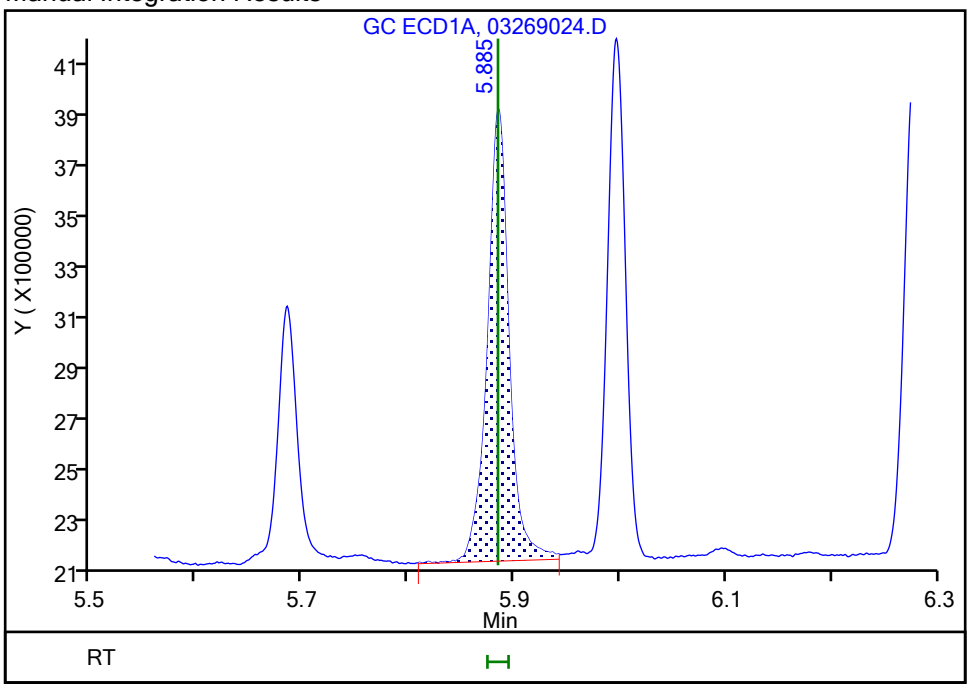

Reviewer: eppinged, 03-Apr-2019 08:10:56

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269024.D				
Injection Date:	02-Apr-2019 15:52:56	Instrument ID:	CHGC17		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	24	Worklist Smp#:	24
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

11 Heptachlor, CAS: 76-44-8

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 6.00

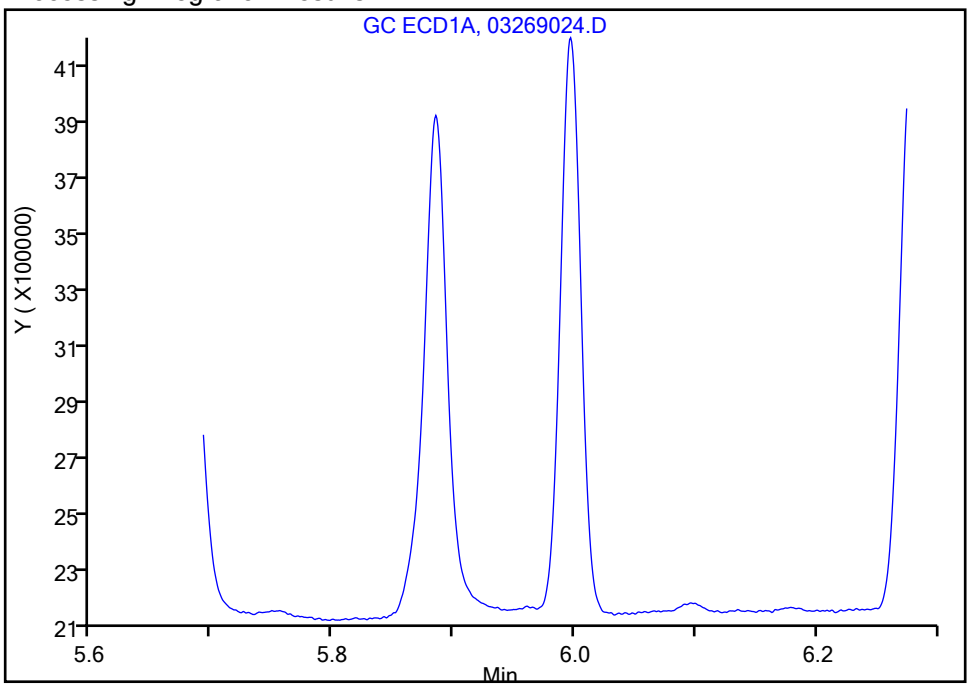

Manual Integration Results

RT: 6.00
Height: 1950147
Amount: 0.001029
Amount Units: ng

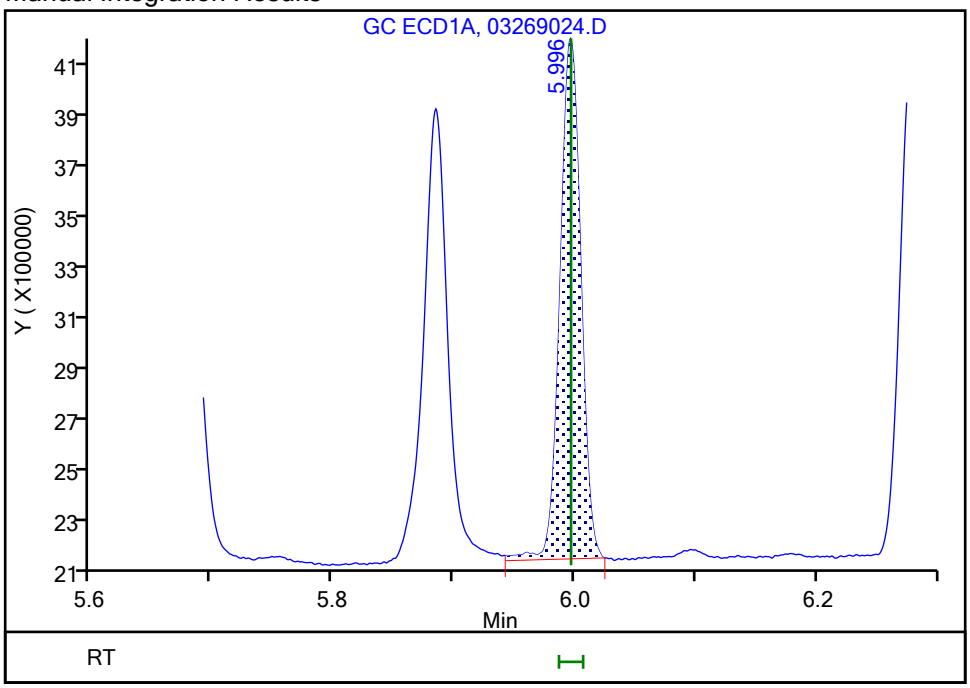

Reviewer: eppinged, 03-Apr-2019 08:11:01
Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269024.D				
Injection Date:	02-Apr-2019 15:52:56	Instrument ID:	CHGC17		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	24	Worklist Smp#:	24
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

20 cis-Chlordane, CAS: 5103-71-9

Signal: 1

Processing Integration Results

RT: 6.92
Height: 1602360
Amount: 0.001022
Amount Units: ng

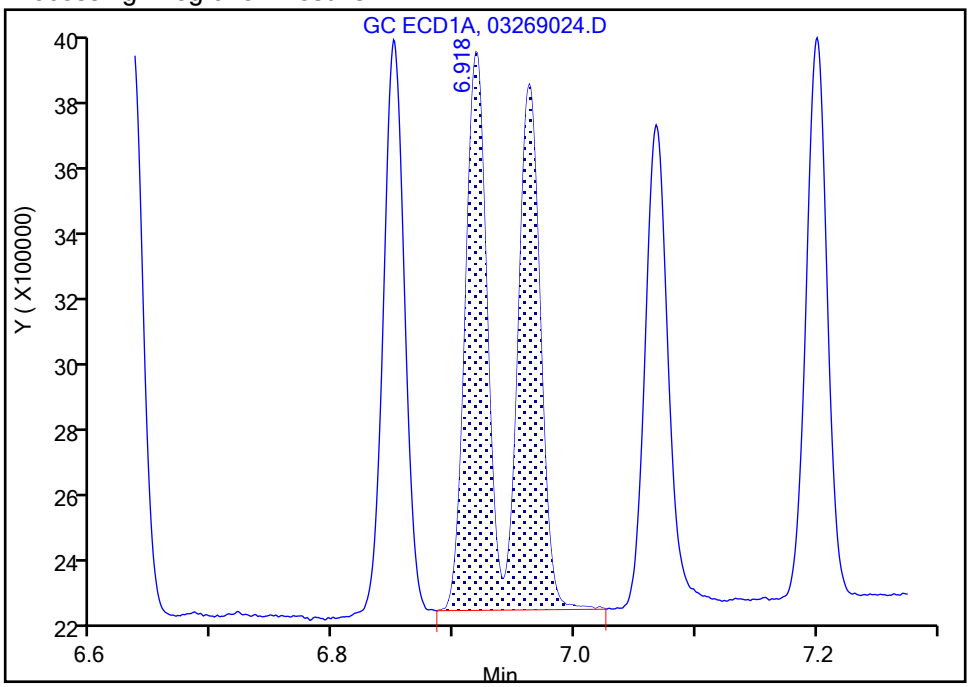

Manual Integration Results

RT: 6.92
Height: 1602354
Amount: 0.001022
Amount Units: ng

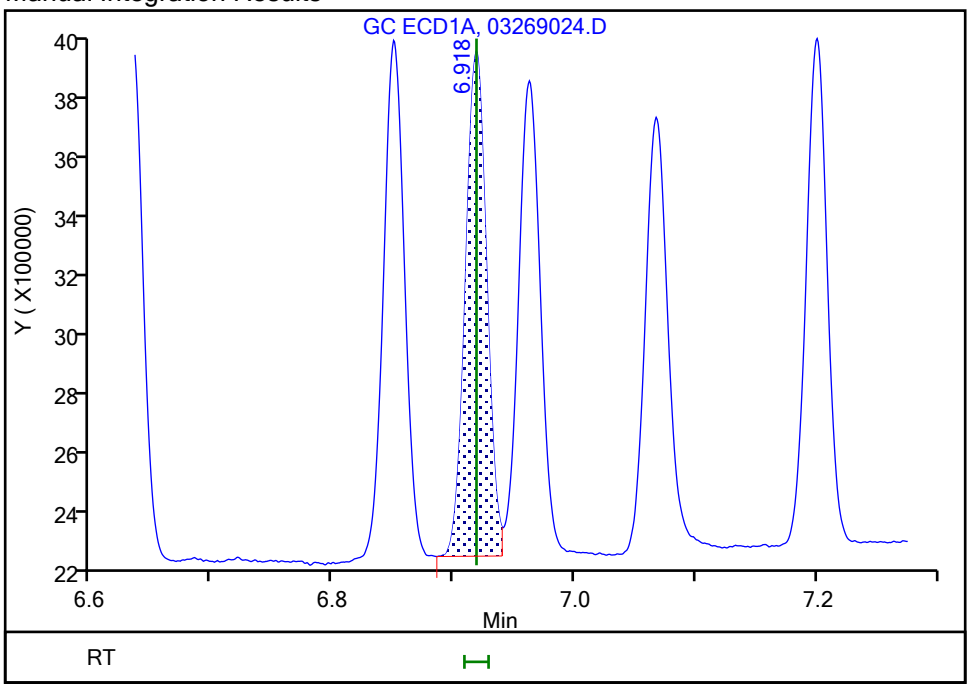

Reviewer: eppinged, 03-Apr-2019 08:11:16

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269024.D				
Injection Date:	02-Apr-2019 15:52:56	Instrument ID:	CHGC17		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	24	Worklist Smp#:	24
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

22 Endosulfan I, CAS: 959-98-8

Signal: 1

Not Detected
Expected RT: 6.96

Processing Integration Results

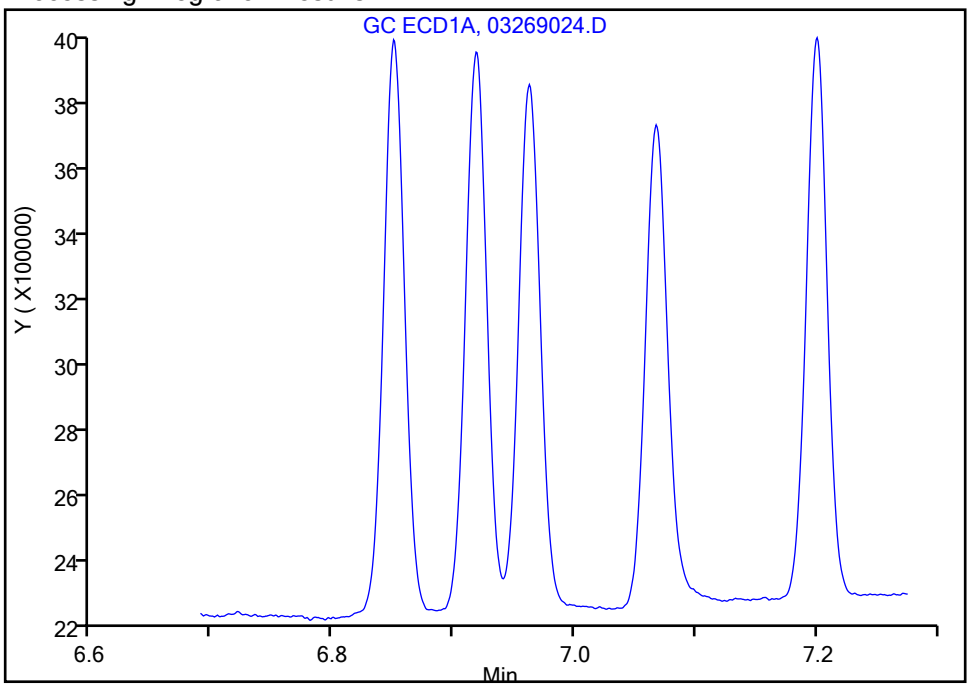

Manual Integration Results

RT: 6.96
Height: 1507670
Amount: 0.001070
Amount Units: ng

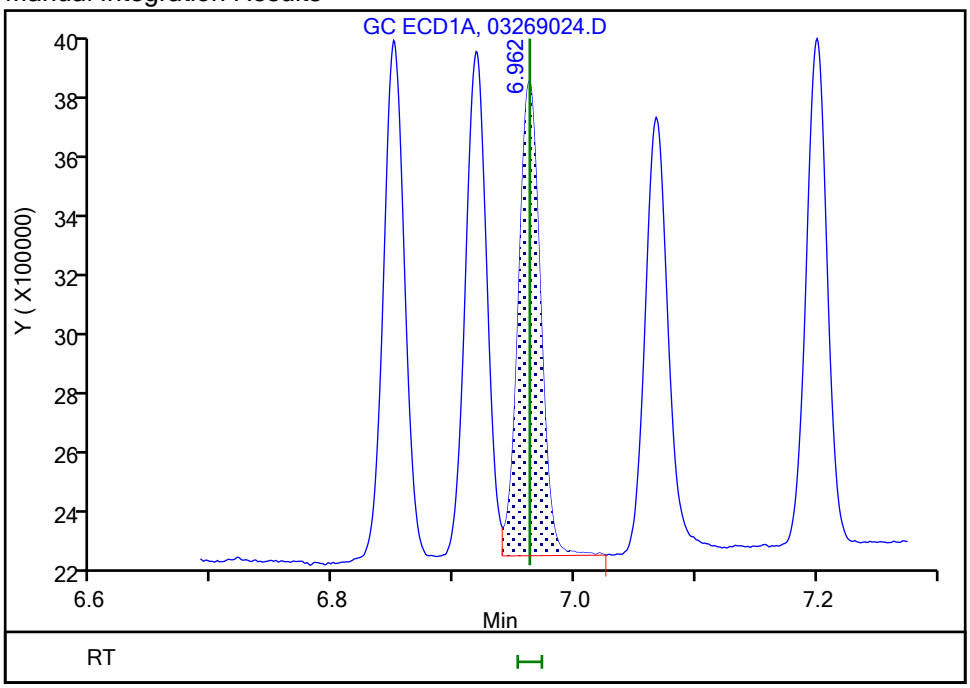

Reviewer: eppinged, 03-Apr-2019 08:11:20
Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269024.D				
Injection Date:	02-Apr-2019 15:52:56	Instrument ID:	CHGC17		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	24	Worklist Smp#:	24
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

* 36 Dibutylchlorendate ISTD, CAS: 1770-80-5

Signal: 1

Processing Integration Results

RT: 8.33
Height: 99791559
Amount: 0.100000
Amount Units: ng

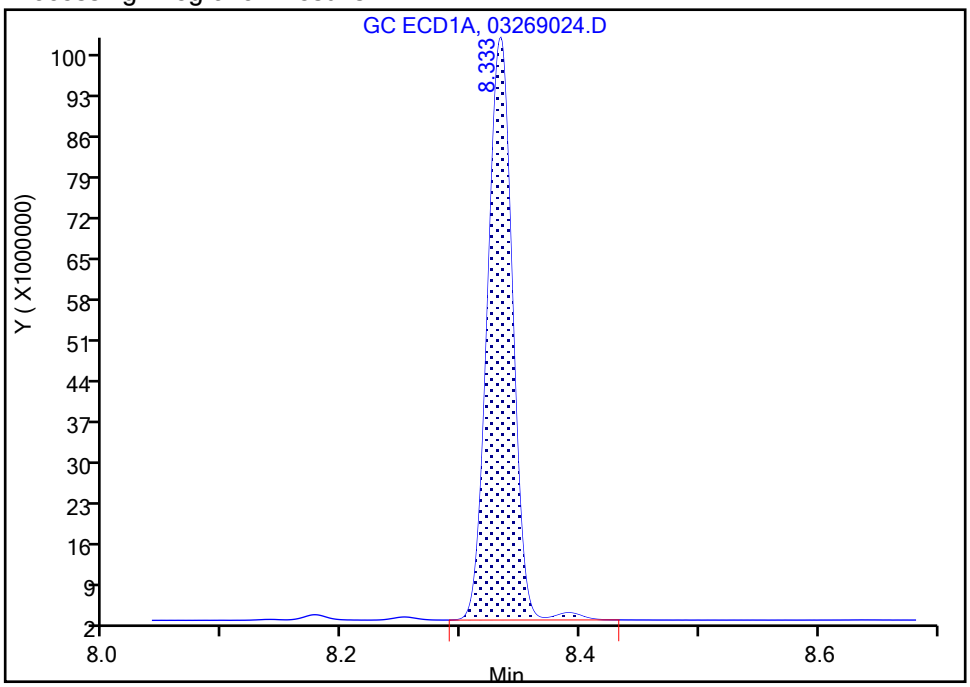

Manual Integration Results

RT: 8.33
Height: 99791525
Amount: 0.100000
Amount Units: ng

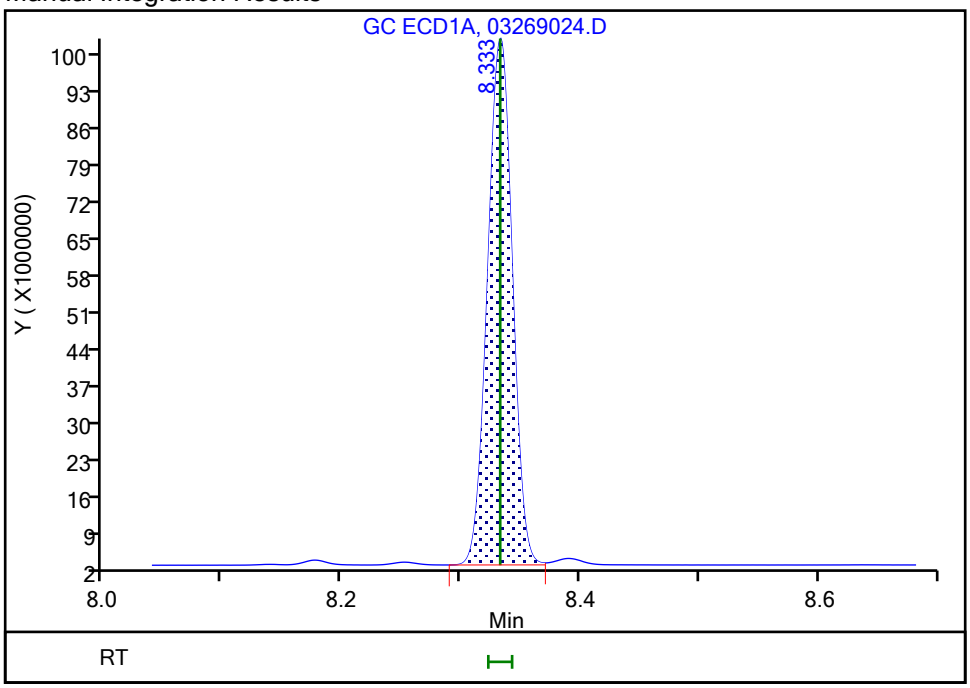

Reviewer: eppinged, 03-Apr-2019 08:11:37

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269024.D				
Injection Date:	02-Apr-2019 15:52:56	Instrument ID:	CHGC17		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	24	Worklist Smp#:	24
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

37 Endrin ketone, CAS: 53494-70-5

Signal: 1

Not Detected
Expected RT: 8.39

Processing Integration Results

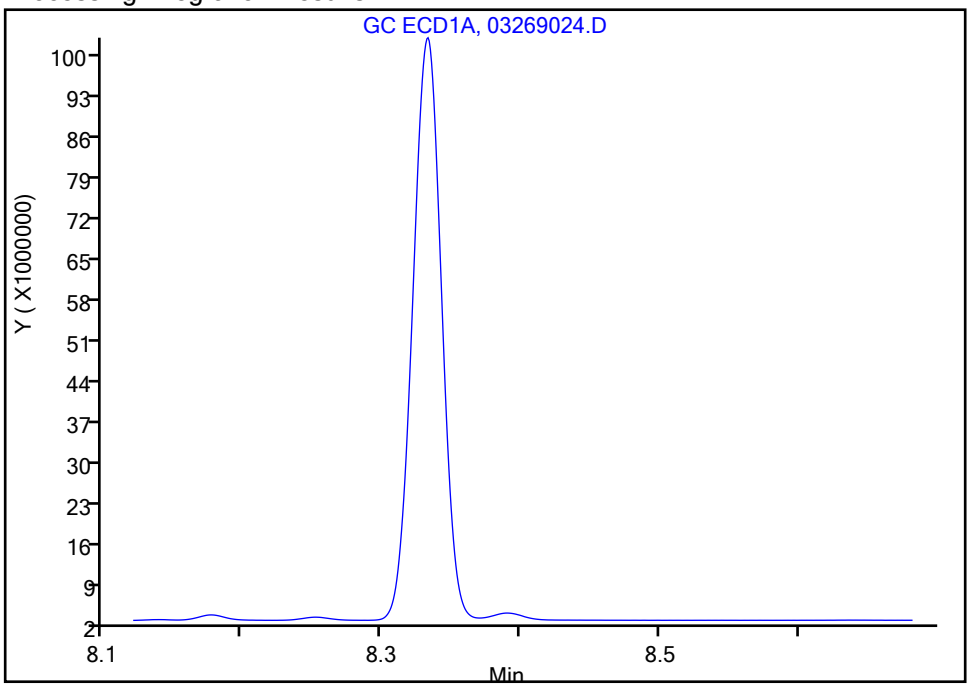

Manual Integration Results

RT: 8.39
Height: 1217006
Amount: 0.001076
Amount Units: ng

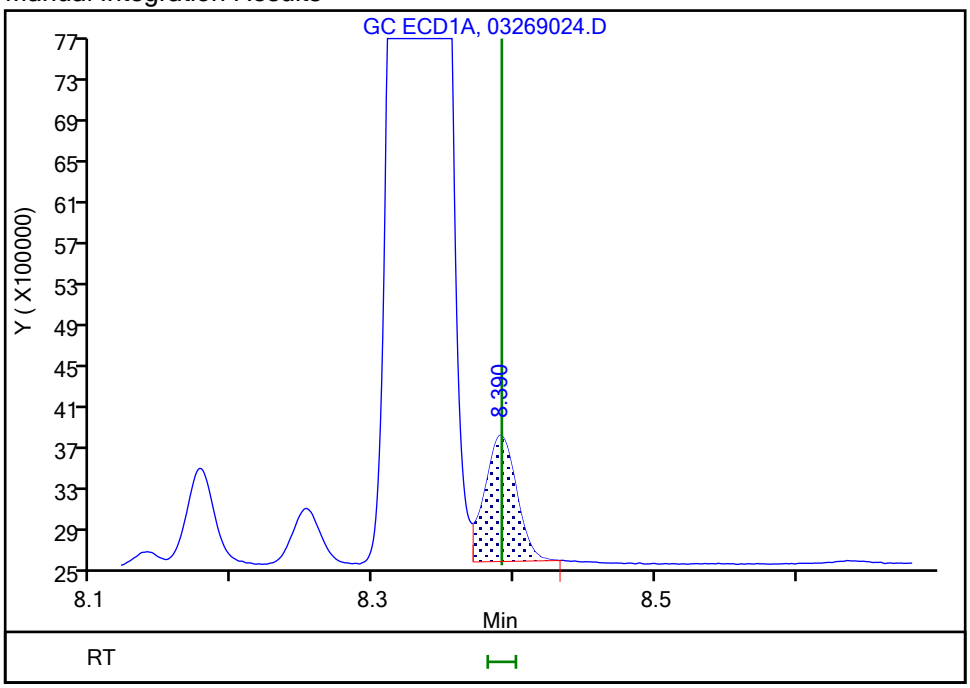

Reviewer: eppinged, 03-Apr-2019 08:11:42
Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269025.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 02-Apr-2019 16:09:19 ALS Bottle#: 25 Worklist Smp#: 25
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-025
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub12

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:24:16 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.910	3.910	-0.001	168918468H	0.1000	0.1000	
2	4.097	4.098	-0.001	226613887H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.898	4.898	0.000	11101436H	0.005000	0.005350	
2	4.964	4.963	0.001	13871159H	0.005000	0.005306	
						RPD = 0.82	
5 alpha-BHC							
1	5.261	5.261	0.000	13183819H	0.005000	0.005270	
2	5.429	5.428	0.001	16440470H	0.005000	0.005261	
						RPD = 0.16	
7 gamma-BHC (Lindane)							
1	5.525	5.525	0.000	11288013H	0.005000	0.005221	
2	5.731	5.732	-0.001	13867957H	0.005000	0.005213	
						RPD = 0.15	
8 beta-BHC							
1	5.685	5.684	0.001	4892059H	0.005000	0.005268	
2	5.970	5.971	-0.001	5899722H	0.005000	0.005172	
						RPD = 1.83	
10 delta-BHC							
1	5.885	5.884	0.001	9436035H	0.005000	0.005031	
2	6.203	6.203	0.000	11730331H	0.005000	0.005101	
						RPD = 1.38	
11 Heptachlor							
1	5.997	5.997	0.000	10587604H	0.005000	0.005300	
2	6.057	6.057	0.000	12410402H	0.005000	0.005250	
						RPD = 0.95	
13 Aldrin							
1	6.278	6.278	0.000	10467013H	0.005000	0.005443	
2	6.326	6.327	-0.001	11950937H	0.005000	0.005239	
						RPD = 3.81	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
16 Heptachlor epoxide							
1	6.634	6.633	0.001	9132458H	0.005000	0.005389	
2	6.774	6.774	0.000	10436129H	0.005000	0.005402	
						RPD = 0.24	
18 trans-Chlordane							
1	6.850	6.851	-0.001	8970282H	0.005000	0.005223	
2	7.000	7.000	0.000	10369225H	0.005000	0.005180	
						RPD = 0.83	
20 cis-Chlordane							
1	6.918	6.918	0.000	8592082H	0.005000	0.005198	
2	7.061	7.062	-0.001	9971685H	0.005000	0.005177	
						RPD = 0.41	
22 Endosulfan I							
1	6.962	6.963	-0.001	7850328H	0.005000	0.005285	
2	7.130	7.131	-0.001	9155312H	0.005000	0.005265	
						RPD = 0.38	
23 4,4'-DDE							
1	7.068	7.068	0.000	7836296H	0.005000	0.005150	
2	7.196	7.196	0.000	9452316H	0.005000	0.005119	
						RPD = 0.60	
26 Dieldrin							
1	7.200	7.201	-0.001	8717544H	0.005000	0.005293	
2	7.375	7.375	0.000	9911929H	0.005000	0.005178	
						RPD = 2.20	
27 Endrin							
1	7.401	7.402	-0.001	7420568H	0.005000	0.005356	
2	7.640	7.641	-0.001	7827060H	0.005000	0.005169	
						RPD = 3.56	
30 4,4'-DDD							
1	7.524	7.523	0.001	6769983H	0.005000	0.005077	
2	7.715	7.714	0.001	7219447H	0.005000	0.004957	
						RPD = 2.39	
31 Endosulfan II							
1	7.595	7.596	-0.001	6611164H	0.005000	0.005453	
2	7.903	7.904	-0.001	7433842H	0.005000	0.005285	
						RPD = 3.12	
32 Endrin aldehyde							
1	7.712	7.712	0.000	5809342H	0.005000	0.005458	
2	8.070	8.071	-0.001	6297200H	0.005000	0.005288	
						RPD = 3.15	
33 4,4'-DDT							
1	7.801	7.801	0.000	5764344H	0.005000	0.005014	
2	7.957	7.958	-0.001	7126266H	0.005000	0.004958	
						RPD = 1.13	
34 Endosulfan sulfate							
1	7.921	7.920	0.001	6657640H	0.005000	0.005335	
2	8.295	8.297	-0.002	6975909H	0.005000	0.005289	
						RPD = 0.87	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
35 Methoxychlor							
1	8.252	8.253	-0.001	2884046H	0.005000	0.005311	
2	8.532	8.533	-0.001	3302557H	0.005000	0.005207	
						RPD = 1.98	
* 36 Dibutylchlorendate ISTD							
1	8.332	8.333	-0.001	105337320H	0.1000	0.1000	
2	8.344	8.345	-0.001	122524649H	0.1000	0.1000	
37 Endrin ketone							
1	8.390	8.391	-0.001	6454242H	0.005000	0.005407	
2	8.924	8.925	-0.001	6339205H	0.005000	0.005158	
						RPD = 4.72	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.201	10.202	-0.001	3601647H	0.005000	0.005496	
2	10.655	10.654	0.001	4246185H	0.005000	0.005536	
						RPD = 0.71	

Reagents:

GCPestL2_00022	Amount Added: 1.00	Units: mL	
GCPESTISSPK2_00015	Amount Added: 0.01	Units: mL	Run Reagent

Report Date: 03-Apr-2019 08:24:16 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269025.D				
Injection Date:	02-Apr-2019 16:09:19	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	IC			Worklist Smp#:	25
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	25
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

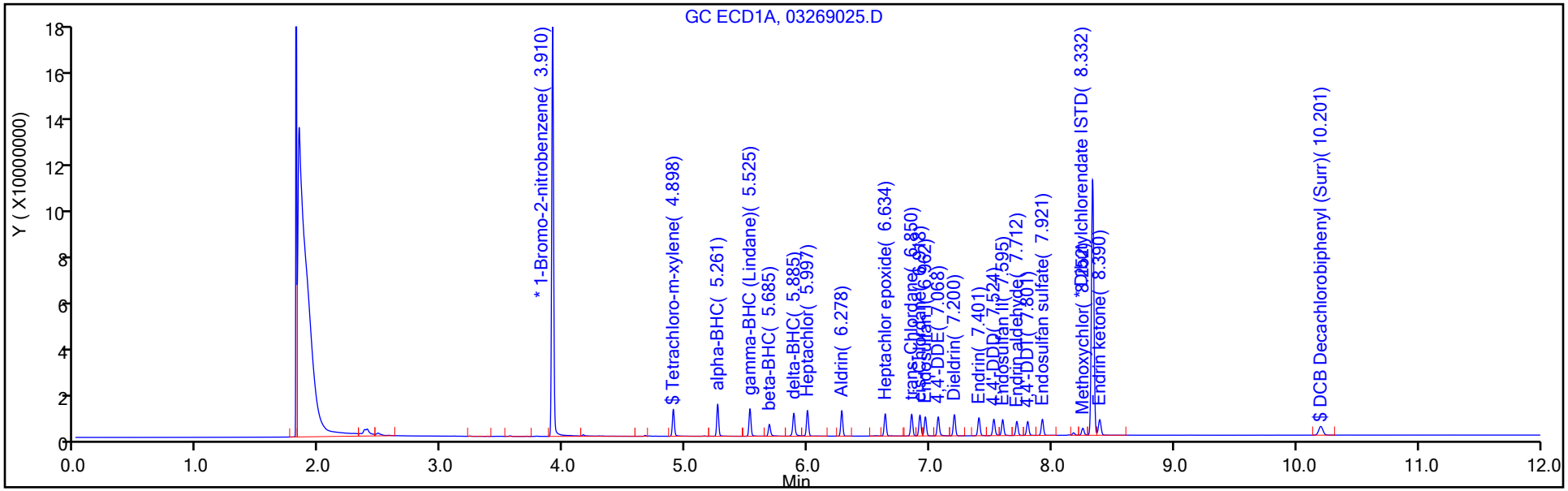

Column: MR-2 (0.53 mm)

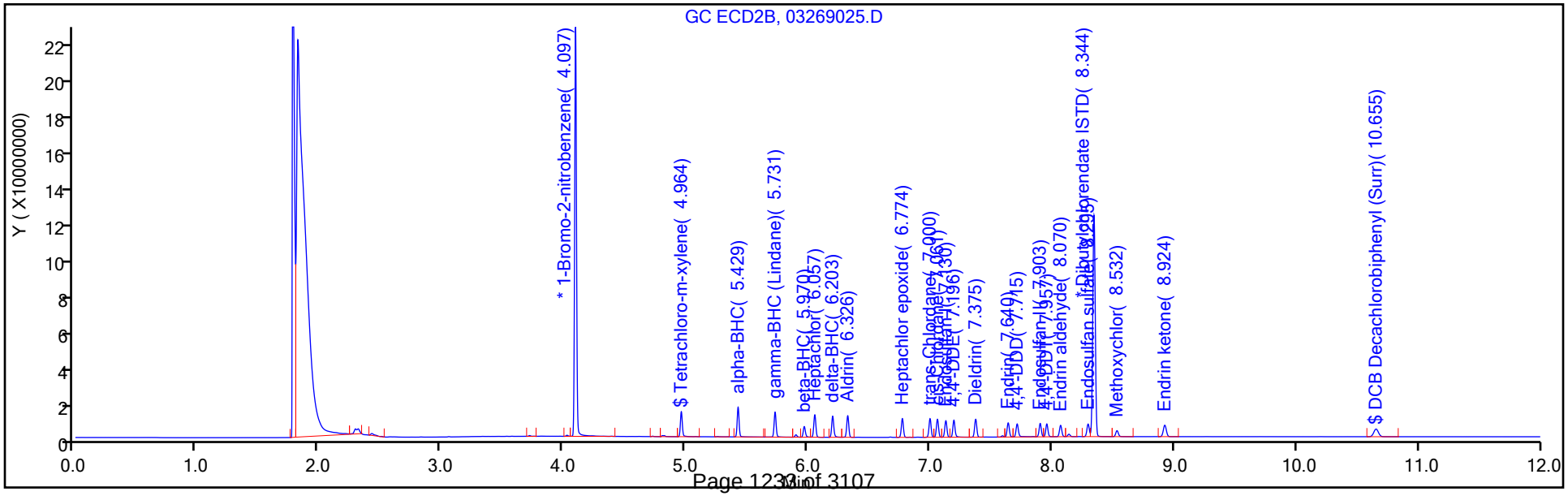

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269026.D
Lims ID: ICIS
Client ID:
Sample Type: ICIS Calib Level: 3
Inject. Date: 02-Apr-2019 16:25:43 ALS Bottle#: 26 Worklist Smp#: 26
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-026
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub12

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:24:19 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: eppinged Date: 03-Apr-2019 08:12:12

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.910	3.910	0.000	174626018H	0.1000	0.1000	
2	4.098	4.098	0.000	233527201H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.898	4.898	0.000	53922200H	0.0250	0.0251	
2	4.963	4.963	0.000	67406322H	0.0250	0.0250	
						RPD = 0.46	
5 alpha-BHC							
1	5.261	5.261	0.000	65674679H	0.0250	0.0254	
2	5.428	5.428	0.000	82259819H	0.0250	0.0255	
						RPD = 0.60	
7 gamma-BHC (Lindane)							
1	5.525	5.525	0.000	56400707H	0.0250	0.0252	
2	5.732	5.732	0.000	68502929H	0.0250	0.0250	
						RPD = 0.98	
8 beta-BHC							
1	5.684	5.684	0.000	23198864H	0.0250	0.0242	
2	5.971	5.971	0.000	29118009H	0.0250	0.0248	
						RPD = 2.48	
10 delta-BHC							
1	5.884	5.884	0.000	48145722H	0.0250	0.0248	
2	6.203	6.203	0.000	58817148H	0.0250	0.0248	
						RPD = 0.05	
11 Heptachlor							
1	5.997	5.997	0.000	52439481H	0.0250	0.0254	
2	6.057	6.057	0.000	55901009H	0.0250	0.0229	
						RPD = 10.11	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
13 Aldrin							
1	6.278	6.278	0.000	51330906H	0.0250	0.0258	
2	6.327	6.327	0.000	59788729H	0.0250	0.0254	
						RPD = 1.50	
16 Heptachlor epoxide							
1	6.633	6.633	0.000	44075806H	0.0250	0.0252	
2	6.774	6.774	0.000	45444851H	0.0250	0.0228	
						RPD = 9.72	
18 trans-Chlordane							
1	6.851	6.851	0.000	44196383H	0.0250	0.0249	
2	7.000	7.000	0.000	51840119H	0.0250	0.0251	
						RPD = 0.95	
20 cis-Chlordane							
1	6.918	6.918	0.000	42557876H	0.0250	0.0249	
2	7.062	7.062	0.000	49242174H	0.0250	0.0248	
						RPD = 0.39	
22 Endosulfan I							
1	6.963	6.963	0.000	35955559H	0.0250	0.0234	
2	7.131	7.131	0.000	41389003H	0.0250	0.0231	
						RPD = 1.37	
23 4,4'-DDE							
1	7.068	7.068	0.000	40575507H	0.0250	0.0248	
2	7.196	7.196	0.000	48297657H	0.0250	0.0246	
						RPD = 0.84	
26 Dieldrin							
1	7.201	7.201	0.000	43213765H	0.0250	0.0244	
2	7.375	7.375	0.000	51010615H	0.0250	0.0250	
						RPD = 2.63	
27 Endrin							
1	7.402	7.402	0.000	35871623H	0.0250	0.0241	
2	7.641	7.641	0.000	40837572H	0.0250	0.0253	
						RPD = 5.15	
30 4,4'-DDD							
1	7.523	7.523	0.000	32975678H	0.0250	0.0230	
2	7.714	7.714	0.000	38087260H	0.0250	0.0246	
						RPD = 6.68	
31 Endosulfan II							
1	7.596	7.596	0.000	31910680H	0.0250	0.0244	
2	7.904	7.904	0.000	37303546H	0.0250	0.0249	
						RPD = 1.85	
32 Endrin aldehyde							
1	7.712	7.712	0.000	28020916H	0.0250	0.0245	
2	8.071	8.071	0.000	30442314H	0.0250	0.0240	
						RPD = 1.84	
33 4,4'-DDT							
1	7.801	7.801	0.000	28372308H	0.0250	0.0229	
2	7.958	7.958	0.000	38059285H	0.0250	0.0249	
						RPD = 8.12	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
34 Endosulfan sulfate							
1	7.920	7.920	0.000	32839112H	0.0250	0.0244	
2	8.297	8.297	0.000	34972189H	0.0250	0.0249	
						RPD = 1.85	
35 Methoxychlor							
1	8.253	8.253	0.000	14104766H	0.0250	0.0241	
2	8.533	8.533	0.000	16076323H	0.0250	0.0238	
						RPD = 1.36	
* 36 Dibutylchlorendate ISTD							
1	8.333	8.333	0.000	113404562H	0.1000	0.1000	
2	8.345	8.345	0.000	130480275H	0.1000	0.1000	
37 Endrin ketone							
1	8.391	8.391	0.000	31028165H	0.0250	0.0241	
2	8.925	8.925	0.000	32132426H	0.0250	0.0246	
						RPD = 1.67	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.202	10.202	0.000	16520412H	0.0250	0.0234	
2	10.654	10.654	0.000	19278604H	0.0250	0.0236	
						RPD = 0.78	

Reagents:

GCPestL3_00028	Amount Added: 1.00	Units: mL	
GCPESTISSPK2_00015	Amount Added: 0.01	Units: mL	Run Reagent

Report Date: 03-Apr-2019 08:24:20 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269026.D				
Injection Date:	02-Apr-2019 16:25:43	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	ICIS			Worklist Smp#:	26
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	26
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

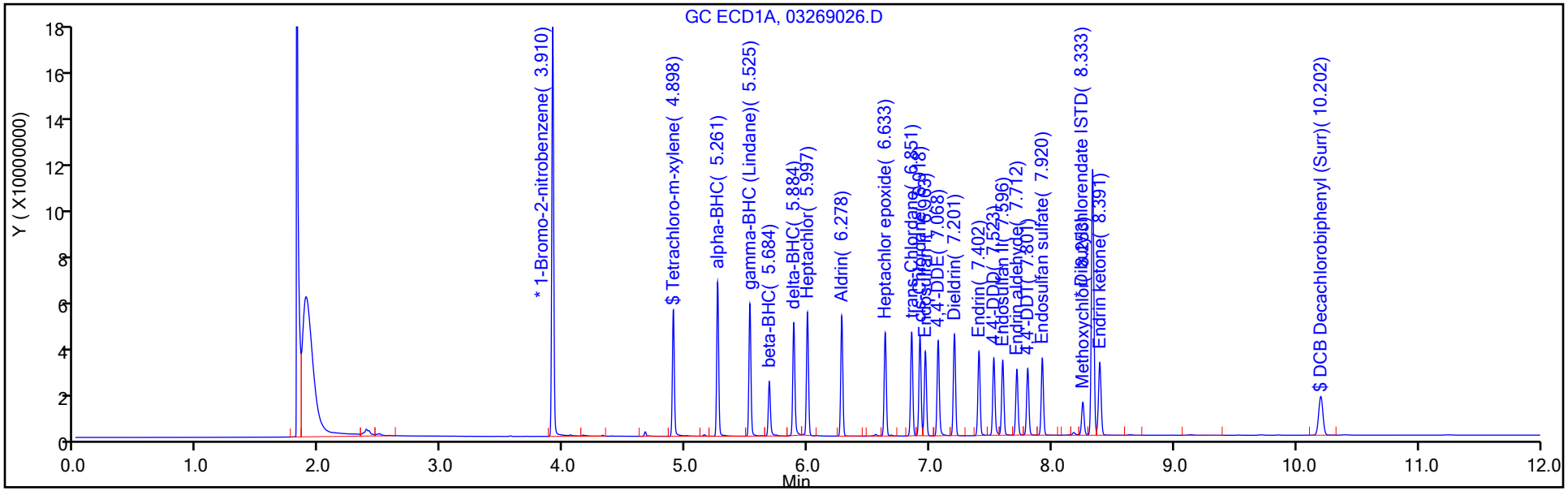

Column: MR-2 (0.53 mm)

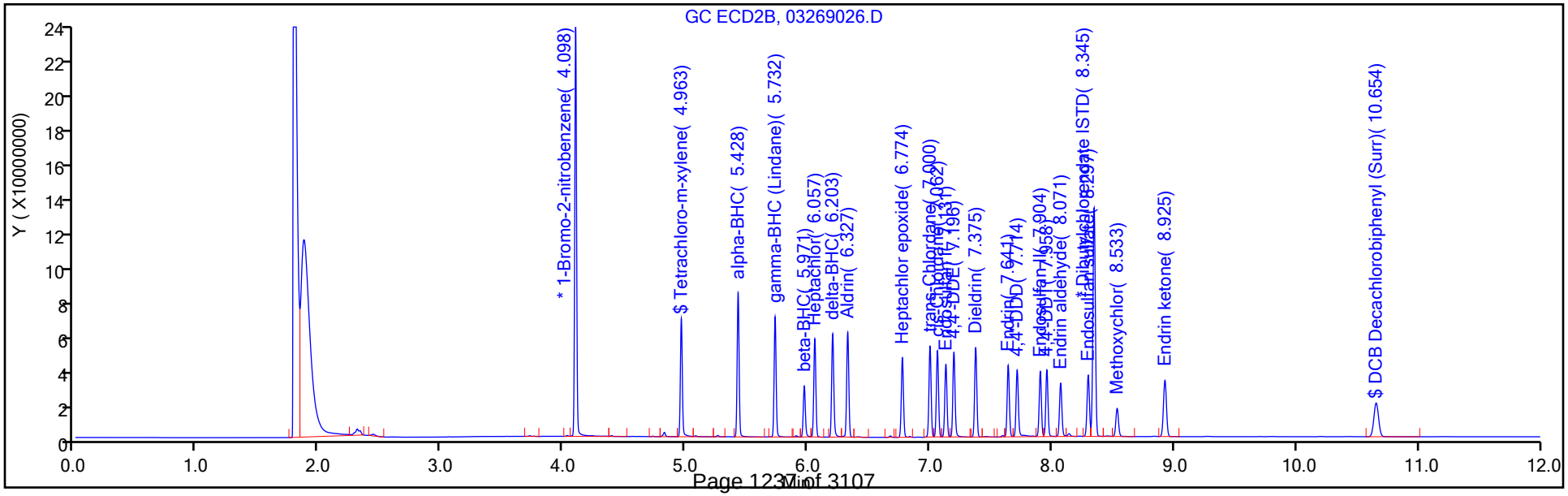

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269027.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 02-Apr-2019 16:42:06 ALS Bottle#: 27 Worklist Smp#: 27
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-027
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub12

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:24:23 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.909	3.910	-0.001	175503785H	0.1000	0.1000	
2	4.096	4.098	-0.002	234530715H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.897	4.898	-0.001	105050722H	0.0500	0.0487	
2	4.962	4.963	-0.001	135267454H	0.0500	0.0500	
						RPD = 2.57	
5 alpha-BHC							
1	5.261	5.261	0.000	130694431H	0.0500	0.0503	
2	5.428	5.428	0.000	162766791H	0.0500	0.0503	
						RPD = 0.10	
7 gamma-BHC (Lindane)							
1	5.525	5.525	0.000	111386919H	0.0500	0.0496	
2	5.731	5.732	-0.001	139604864H	0.0500	0.0507	
						RPD = 2.23	
8 beta-BHC							
1	5.684	5.684	0.000	46898073H	0.0500	0.0486	
2	5.969	5.971	-0.002	57172547H	0.0500	0.0484	
						RPD = 0.36	
10 delta-BHC							
1	5.884	5.884	0.000	99529645H	0.0500	0.0511	
2	6.202	6.203	-0.001	119091245H	0.0500	0.0500	
						RPD = 2.05	
11 Heptachlor							
1	5.996	5.997	-0.001	103314331H	0.0500	0.0498	
2	6.056	6.057	-0.001	125117743H	0.0500	0.0511	
						RPD = 2.71	
13 Aldrin							
1	6.277	6.278	-0.001	96321512H	0.0500	0.0482	
2	6.326	6.327	-0.001	118264758H	0.0500	0.0501	
						RPD = 3.84	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
16 Heptachlor epoxide							
1	6.633	6.633	0.000	87224623H	0.0500	0.0495	
2	6.773	6.774	-0.001	102917262H	0.0500	0.0515	
						RPD = 3.83	
18 trans-Chlordane							
1	6.850	6.851	-0.001	89806004H	0.0500	0.0503	
2	6.999	7.000	-0.001	105418595H	0.0500	0.0509	
						RPD = 1.10	
20 cis-Chlordane							
1	6.917	6.918	-0.001	85217663H	0.0500	0.0496	
2	7.061	7.062	-0.001	99094850H	0.0500	0.0497	
						RPD = 0.18	
22 Endosulfan I							
1	6.962	6.963	-0.001	78041064H	0.0500	0.0506	
2	7.129	7.131	-0.002	91934277H	0.0500	0.0511	
						RPD = 1.02	
23 4,4'-DDE							
1	7.066	7.068	-0.002	82621236H	0.0500	0.0501	
2	7.195	7.196	-0.001	101142590H	0.0500	0.0522	
						RPD = 4.02	
26 Dieldrin							
1	7.200	7.201	-0.001	89675885H	0.0500	0.0503	
2	7.373	7.375	-0.002	104278715H	0.0500	0.0519	
						RPD = 3.19	
27 Endrin							
1	7.401	7.402	-0.001	75620264H	0.0500	0.0504	
2	7.640	7.641	-0.001	81604611H	0.0500	0.0513	
						RPD = 1.86	
30 4,4'-DDD							
1	7.522	7.523	-0.001	67417058H	0.0500	0.0467	
2	7.713	7.714	-0.001	81082595H	0.0500	0.0530	
						RPD = 12.77	
31 Endosulfan II							
1	7.596	7.596	0.000	63826738H	0.0500	0.0486	
2	7.902	7.904	-0.002	73911961H	0.0500	0.0501	
						RPD = 2.96	
32 Endrin aldehyde							
1	7.711	7.712	-0.001	56507608H	0.0500	0.0490	
2	8.069	8.071	-0.002	62985886H	0.0500	0.0504	
						RPD = 2.78	
33 4,4'-DDT							
1	7.801	7.801	0.000	63564082H	0.0500	0.0510	
2	7.956	7.958	-0.002	80229972H	0.0500	0.0532	
						RPD = 4.09	
34 Endosulfan sulfate							
1	7.920	7.920	0.000	65981631H	0.0500	0.0488	
2	8.295	8.297	-0.002	68400848H	0.0500	0.0494	
						RPD = 1.21	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
35 Methoxychlor							
1	8.252	8.253	-0.001	28471031H	0.0500	0.0484	
2	8.532	8.533	-0.001	33510338H	0.0500	0.0503	
						RPD = 3.91	
* 36 Dibutylchlorendate ISTD							
1	8.332	8.333	0.000	114092647H	0.1000	0.1000	
2	8.343	8.345	-0.002	128601051H	0.1000	0.1000	
37 Endrin ketone							
1	8.389	8.391	-0.002	62813934H	0.0500	0.0486	
2	8.923	8.925	-0.002	65512102H	0.0500	0.0508	
						RPD = 4.43	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.199	10.202	-0.003	33187916H	0.0500	0.0468	
2	10.652	10.654	-0.002	38162271H	0.0500	0.0474	
						RPD = 1.36	

Reagents:

GCPestL4_00021	Amount Added: 1.00	Units: mL	
GCPESTISSPK2_00015	Amount Added: 0.01	Units: mL	Run Reagent

Report Date: 03-Apr-2019 08:24:23 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269027.D				
Injection Date:	02-Apr-2019 16:42:06	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	IC			Worklist Smp#:	27
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	27
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

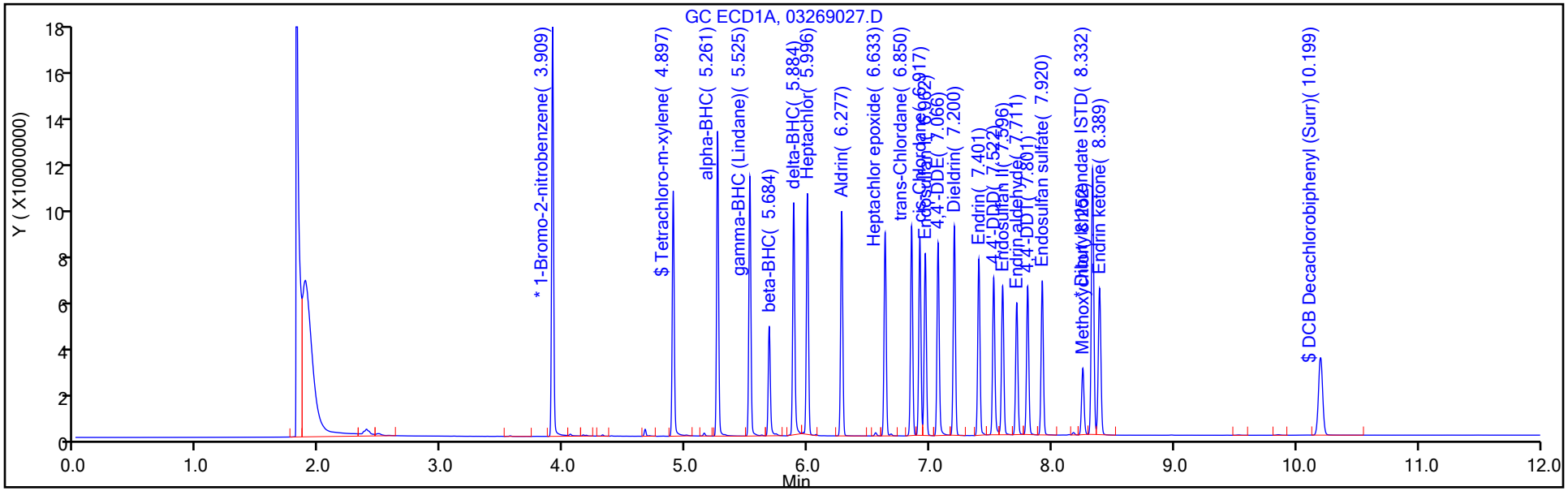

Column: MR-2 (0.53 mm)

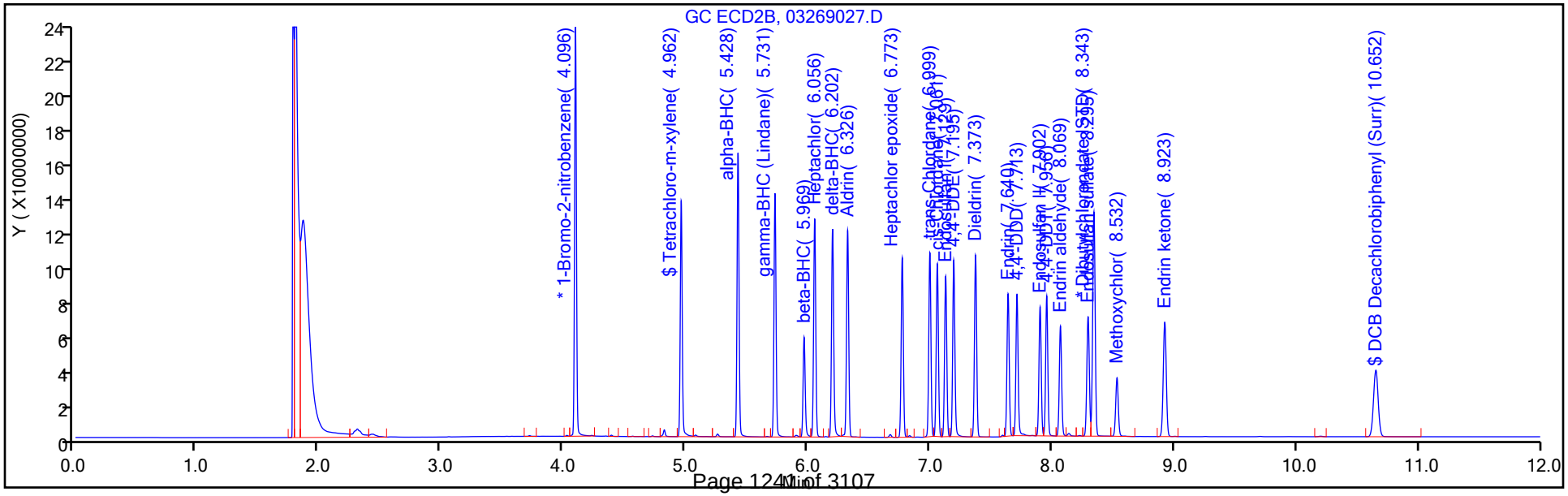

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269028.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 02-Apr-2019 16:58:30 ALS Bottle#: 28 Worklist Smp#: 28
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-028
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub12

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:24:26 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.909	3.910	-0.001	173243876H	0.1000	0.1000	
2	4.096	4.098	-0.002	229088772H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.897	4.898	-0.001	204632463H	0.1000	0.0961	
2	4.963	4.963	0.000	262296224H	0.1000	0.0992	
						RPD = 3.17	
5 alpha-BHC							
1	5.261	5.261	0.000	256901061H	0.1000	0.1001	
2	5.428	5.428	0.000	324385193H	0.1000	0.1027	
						RPD = 2.53	
7 gamma-BHC (Lindane)							
1	5.526	5.525	0.001	220905216H	0.1000	0.0996	
2	5.731	5.732	-0.001	271440482H	0.1000	0.1009	
						RPD = 1.31	
8 beta-BHC							
1	5.684	5.684	0.000	91781418H	0.1000	0.0964	
2	5.970	5.971	-0.001	115369744H	0.1000	0.1000	
						RPD = 3.76	
10 delta-BHC							
1	5.884	5.884	0.000	196652040H	0.1000	0.1022	
2	6.202	6.203	-0.001	244173700H	0.1000	0.1050	
						RPD = 2.70	
11 Heptachlor							
1	5.996	5.997	-0.001	199833324H	0.1000	0.0975	
2	6.056	6.057	-0.001	240135366H	0.1000	0.1005	
						RPD = 2.98	
13 Aldrin							
1	6.277	6.278	-0.001	193233684H	0.1000	0.0980	
2	6.326	6.327	-0.001	234061412H	0.1000	0.1015	
						RPD = 3.54	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
16 Heptachlor epoxide							
1	6.634	6.633	0.001	166960256H	0.1000	0.0961	
2	6.774	6.774	0.000	193242101H	0.1000	0.0989	
						RPD = 2.95	
18 trans-Chlordane							
1	6.850	6.851	-0.001	174348399H	0.1000	0.0990	
2	7.000	7.000	0.000	205076230H	0.1000	0.1013	
						RPD = 2.35	
20 cis-Chlordane							
1	6.918	6.918	0.000	168779880H	0.1000	0.0996	
2	7.061	7.062	-0.001	200412297H	0.1000	0.1029	
						RPD = 3.32	
22 Endosulfan I							
1	6.962	6.963	-0.001	147087214H	0.1000	0.0965	
2	7.131	7.131	0.000	179108759H	0.1000	0.1019	
						RPD = 5.38	
23 4,4'-DDE							
1	7.066	7.068	-0.002	165937737H	0.1000	0.1012	
2	7.196	7.196	0.000	198051124H	0.1000	0.1016	
						RPD = 0.43	
26 Dieldrin							
1	7.201	7.201	0.000	174179561H	0.1000	0.0982	
2	7.374	7.375	-0.001	201095694H	0.1000	0.0996	
						RPD = 1.41	
27 Endrin							
1	7.401	7.402	-0.001	145976043H	0.1000	0.0978	
2	7.641	7.641	0.000	161637910H	0.1000	0.1012	
						RPD = 3.38	
30 4,4'-DDD							
1	7.522	7.523	-0.001	132944605H	0.1000	0.0925	
2	7.713	7.714	-0.001	157813013H	0.1000	0.1027	
						RPD = 10.41	
31 Endosulfan II							
1	7.596	7.596	0.000	129276704H	0.1000	0.0990	
2	7.903	7.904	-0.001	148943279H	0.1000	0.1003	
						RPD = 1.40	
32 Endrin aldehyde							
1	7.711	7.712	-0.001	108330226H	0.1000	0.0945	
2	8.070	8.071	-0.001	124000591H	0.1000	0.0987	
						RPD = 4.38	
33 4,4'-DDT							
1	7.801	7.801	0.000	125887482H	0.1000	0.1016	
2	7.956	7.958	-0.002	158988705H	0.1000	0.1048	
						RPD = 3.09	
34 Endosulfan sulfate							
1	7.921	7.920	0.001	131622641H	0.1000	0.0979	
2	8.296	8.297	-0.001	139319023H	0.1000	0.1001	
						RPD = 2.24	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
35 Methoxychlor							
1	8.251	8.253	-0.002	57382144H	0.1000	0.0981	
2	8.532	8.533	-0.001	66496541H	0.1000	0.0994	
						RPD = 1.30	
* 36 Dibutylchlorendate ISTD							
1	8.332	8.333	0.000	113502729H	0.1000	0.1000	
2	8.344	8.345	-0.001	129294004H	0.1000	0.1000	
37 Endrin ketone							
1	8.390	8.391	-0.001	125087417H	0.1000	0.0973	
2	8.924	8.925	-0.001	131315605H	0.1000	0.1013	
						RPD = 4.03	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.201	10.202	-0.001	67254498H	0.1000	0.0953	
2	10.654	10.654	0.000	75877342H	0.1000	0.0937	
						RPD = 1.60	

Reagents:

GCPestL5_00021 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00015 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 03-Apr-2019 08:24:27 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269028.D				
Injection Date:	02-Apr-2019 16:58:30	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	IC			Worklist Smp#:	28
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	28
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

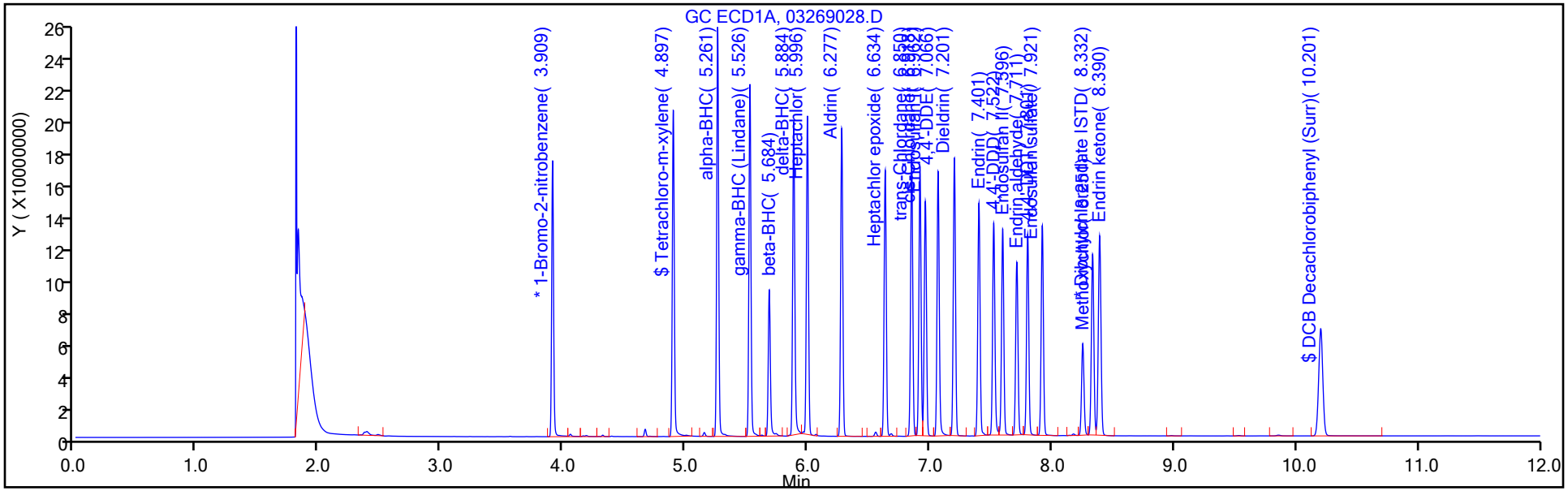

Column: MR-2 (0.53 mm)

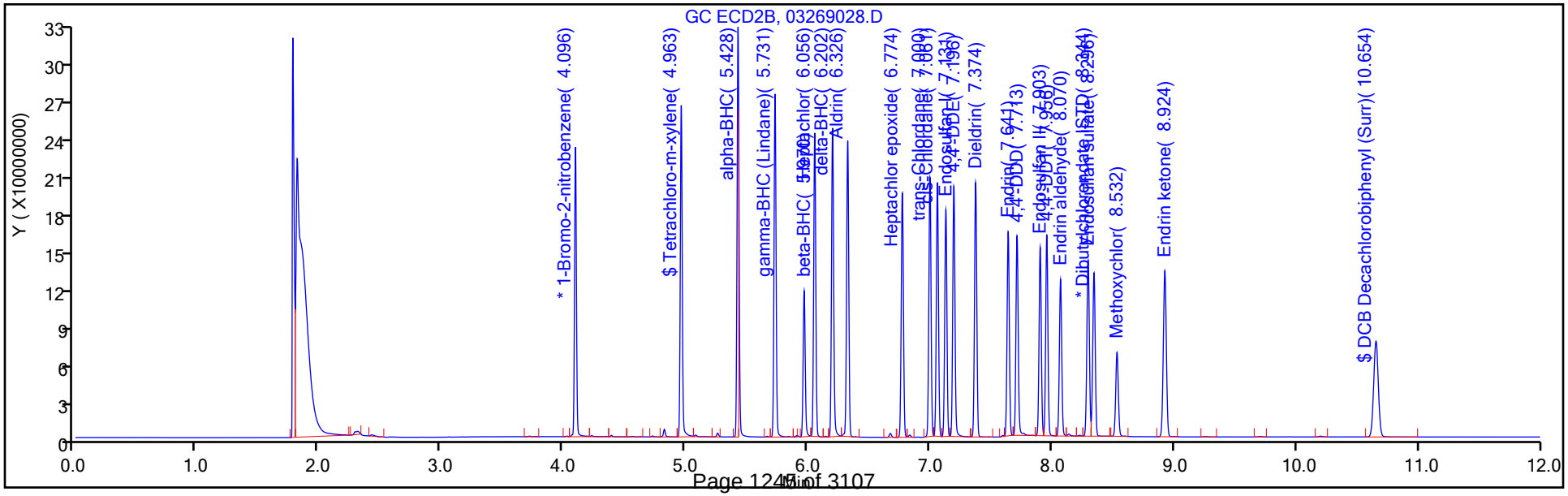

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 02-Apr-2019 17:14:51 ALS Bottle#: 29 Worklist Smp#: 29
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-029
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub12

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:24:30 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: eppinged Date: 03-Apr-2019 08:20:18

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.910	3.910	0.000	179921425H	0.1000	0.1000	
2	4.098	4.098	-0.001	237568637H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.898	4.898	0.000	406166667H	0.2000	0.1838	
2	4.963	4.963	0.000	515384733H	0.2000	0.1880	
						RPD = 2.31	
5 alpha-BHC							
1	5.262	5.261	0.001	511182851H	0.2000	0.1918	
2	5.429	5.428	0.001	639991872H	0.2000	0.1954	
						RPD = 1.83	
7 gamma-BHC (Lindane)							
1	5.525	5.525	0.000	439027868H	0.2000	0.1906	
2	5.732	5.732	0.000	547684185H	0.2000	0.1964	
						RPD = 2.97	
8 beta-BHC							
1	5.683	5.684	-0.001	186525238H	0.2000	0.1886	
2	5.970	5.971	-0.001	232484071H	0.2000	0.1944	
						RPD = 3.06	
10 delta-BHC							
1	5.884	5.884	0.000	399909765H	0.2000	0.2002	
2	6.203	6.203	0.000	502097348H	0.2000	0.2083	
						RPD = 3.96	
11 Heptachlor							
1	5.997	5.997	0.000	393524279H	0.2000	0.1849	
2	6.057	6.057	0.000	472587500H	0.2000	0.1907	
						RPD = 3.07	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
13 Aldrin							
1	6.278	6.278	0.000	381386028H	0.2000	0.1862	
2	6.327	6.327	0.000	462656557H	0.2000	0.1935	
						RPD = 3.83	
16 Heptachlor epoxide							
1	6.634	6.633	0.001	335938521H	0.2000	0.1861	
2	6.774	6.774	0.000	387258768H	0.2000	0.1912	
						RPD = 2.70	
18 trans-Chlordane							
1	6.851	6.851	0.000	347885724H	0.2000	0.1902	
2	7.000	7.000	0.000	405830332H	0.2000	0.1934	
						RPD = 1.67	
20 cis-Chlordane							
1	6.918	6.918	0.000	336132704H	0.2000	0.1909	
2	7.062	7.062	0.000	389406751H	0.2000	0.1928	
						RPD = 1.00	
22 Endosulfan I							
1	6.963	6.963	0.000	303666669H	0.2000	0.1919	
2	7.130	7.131	-0.001	351525433H	0.2000	0.1928	
						RPD = 0.47	
23 4,4'-DDE							
1	7.068	7.068	0.000	341079784H	0.2000	0.2013	
2	7.196	7.196	0.000	405621721H	0.2000	0.2011	
						RPD = 0.12	
26 Dieldrin							
1	7.201	7.201	0.000	347781703H	0.2000	0.1897	
2	7.375	7.375	0.000	401239949H	0.2000	0.1919	
						RPD = 1.15	
27 Endrin							
1	7.402	7.402	0.000	291299435H	0.2000	0.1888	
2	7.642	7.641	0.001	319126544H	0.2000	0.1929	
						RPD = 2.12	
30 4,4'-DDD							
1	7.523	7.523	0.000	271648141H	0.2000	0.1830	
2	7.713	7.714	-0.001	332156142H	0.2000	0.2088	
						RPD = 13.18	
31 Endosulfan II							
1	7.597	7.596	0.001	256600729H	0.2000	0.1901	
2	7.903	7.904	-0.001	298740169H	0.2000	0.1944	
						RPD = 2.25	
32 Endrin aldehyde							
1	7.713	7.712	0.001	220679513H	0.2000	0.1862	
2	8.070	8.071	-0.001	248089126H	0.2000	0.1907	
						RPD = 2.39	
33 4,4'-DDT							
1	7.801	7.801	0.000	263952820H	0.2000	0.2062	
2	7.958	7.958	0.000	324191825H	0.2000	0.2064	
						RPD = 0.11	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
34 Endosulfan sulfate							
1	7.921	7.920	0.001	262455559H	0.2000	0.1889	
2	8.296	8.297	-0.001	277296943H	0.2000	0.1924	
						RPD = 1.86	
35 Methoxychlor							
1	8.253	8.253	0.000	117477043H	0.2000	0.1943	
2	8.533	8.533	0.000	133031659H	0.2000	0.1920	
						RPD = 1.20	
* 36 Dibutylchlorendate ISTD							
1	8.333	8.333	0.000	117283534H	0.1000	0.1000	
2	8.344	8.345	-0.001	133854957H	0.1000	0.1000	
37 Endrin ketone							
1	8.391	8.391	0.000	247756190H	0.2000	0.1864	
2	8.924	8.925	-0.001	257009363H	0.2000	0.1914	
						RPD = 2.64	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.203	10.202	0.001	132661705H	0.2000	0.1818	
2	10.654	10.654	0.000	148316467H	0.2000	0.1770	
						RPD = 2.70	

Reagents:

GCPestL6_00021	Amount Added: 1.00	Units: mL	
GCPESTISSPK2_00015	Amount Added: 0.01	Units: mL	Run Reagent

Report Date: 03-Apr-2019 08:24:30 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D				
Injection Date:	02-Apr-2019 17:14:51	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	IC			Worklist Smp#:	29
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	29
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

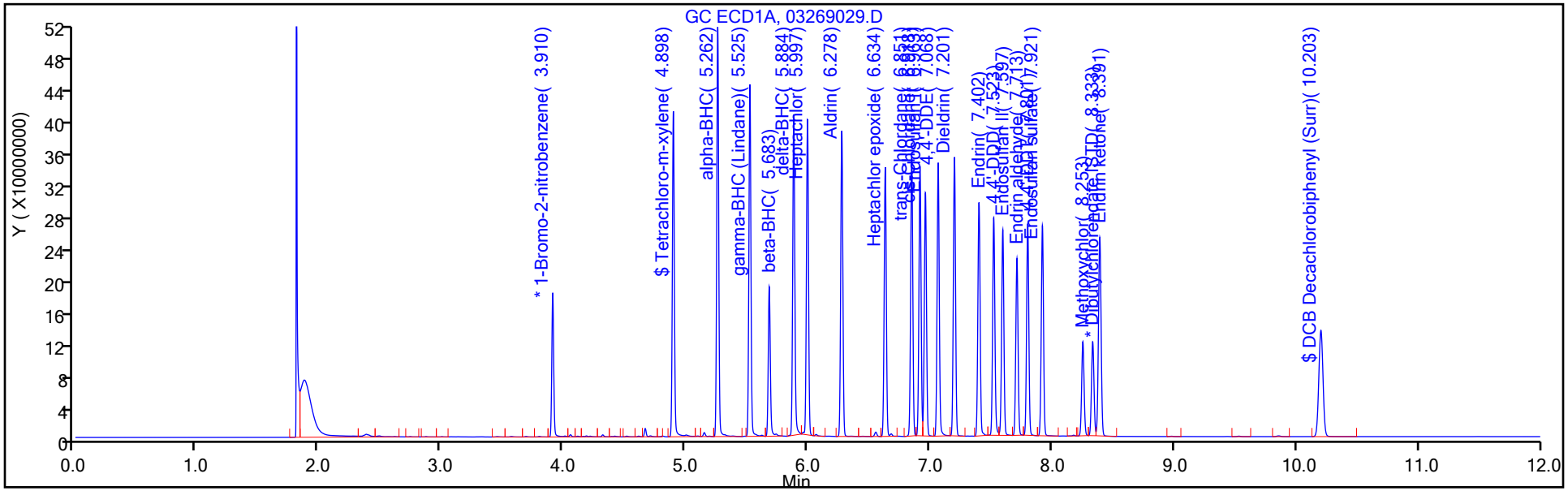

Column: MR-2 (0.53 mm)

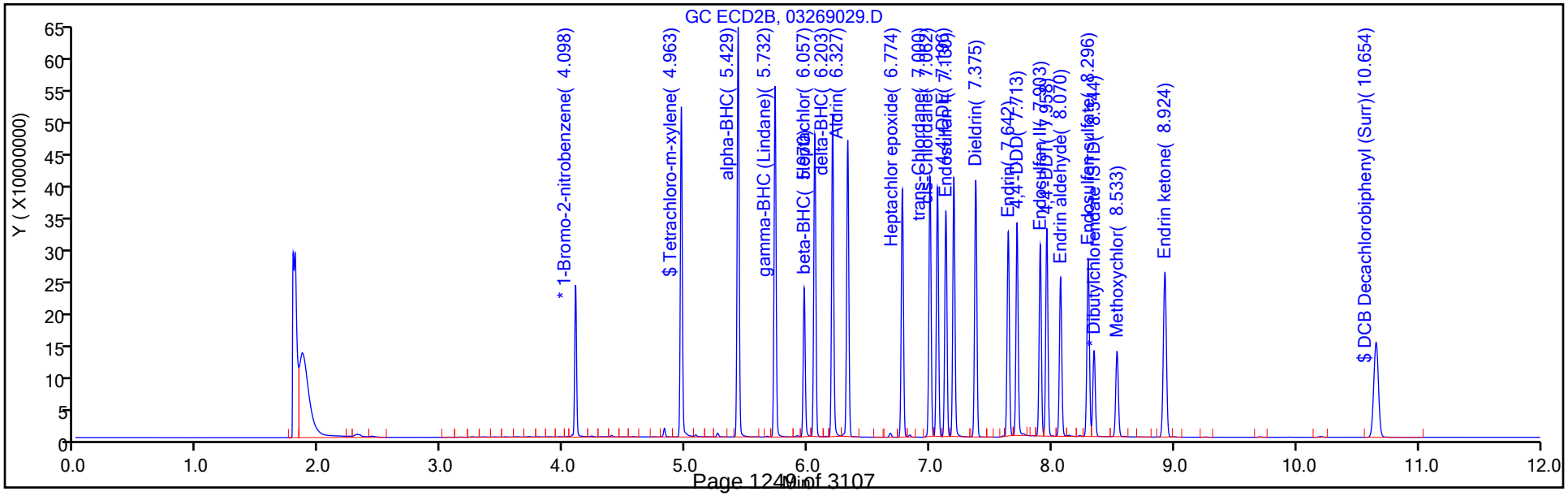

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 274564

SDG No.:

Instrument ID: CHGC17 GC Column: MR-2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/02/2019 15:52 Calibration End Date: 04/02/2019 17:14 Calibration ID: 39994

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-274564/24	03269024.D
Level 2	IC 180-274564/25	03269025.D
Level 3	ICIS 180-274564/26	03269026.D
Level 4	IC 180-274564/27	03269027.D
Level 5	IC 180-274564/28	03269028.D
Level 6	IC 180-274564/29	03269029.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
alpha-BHC	1.2624 1.3470	1.4510	1.4090	1.3880	1.4160	Ave		1.3789				4.8		20.0			
gamma-BHC (Lindane)	1.1186 1.1527	1.2239	1.1734	1.1905	1.1849	Ave		1.1740				3.0		20.0			
beta-BHC	0.5203 0.4893	0.5207	0.4988	0.4875	0.5036	Ave		0.5034				2.9		20.0			
Heptachlor	1.0965 0.9946	1.0953	0.9575	1.0670	1.0482	Ave		1.0432				5.4		20.0			
delta-BHC	0.9080 1.0567	1.0353	1.0075	1.0156	1.0658	Ave		1.0148				5.6		20.0			
Aldrin	0.9566 0.9737	1.0547	1.0241	1.0085	1.0217	Ave		1.0066				3.6		20.0			
Heptachlor epoxide	0.8795 0.8150	0.9210	0.7784	0.8776	0.8435	Ave		0.8525				6.0		20.0			
trans-Chlordane	0.8484 0.8541	0.9151	0.8879	0.8990	0.8952	Ave		0.8833				3.0		20.0			
cis-Chlordane	0.8372 0.8196	0.8801	0.8435	0.8450	0.8748	Ave		0.8500				2.7		20.0			
Endosulfan I	0.7815 0.7398	0.8080	0.7089	0.7840	0.7818	Ave		0.7673				4.7		20.0			
4,4'-DDE	1.3989 1.5152	1.5429	1.4806	1.5730	1.5318	Ave		1.5071				4.1		20.0			
Dieldrin	1.5163 1.4988	1.6179	1.5638	1.6217	1.5553	Ave		1.5623				3.2		20.0			
Endrin	1.1747 1.1921	1.2776	1.2519	1.2691	1.2502	Ave		1.2359				3.4		20.0			
4,4'-DDD	1.0636 1.2407	1.1784	1.1676	1.2610	1.2206	Ave		1.1887				6.0		20.0			
Endosulfan II	1.1139 1.1159	1.2134	1.1436	1.1495	1.1520	Ave		1.1480				3.1		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 274564

SDG No.:

Instrument ID: CHGC17 GC Column: MR-2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/02/2019 15:52 Calibration End Date: 04/02/2019 17:14 Calibration ID: 39994

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
4,4'-DDT	1.0208 1.2110	1.1632	1.1667	1.2477	1.2297	Ave		1.1732				7.0		20.0			
Endrin aldehyde	1.0046 0.9267	1.0279	0.9332	0.9796	0.9591	Ave		0.9718				4.1		20.0			
Endosulfan sulfate	1.0710 1.0358	1.1387	1.0721	1.0638	1.0775	Ave		1.0765				3.1		20.0			
Methoxychlor	0.5414 0.4969	0.5391	0.4928	0.5212	0.5143	Ave		0.5176				4.0		20.0			
Endrin ketone	1.0040 0.9600	1.0348	0.9851	1.0188	1.0156	Ave		1.0030				2.7		20.0			
Tetrachloro-m-xylene	1.1599 1.0847	1.2242	1.1546	1.1535	1.1450	Ave		1.1536				3.8		20.0			
DCB Decachlorobiphenyl (Surr)	0.7378 0.5540	0.6931	0.5910	0.5935	0.5869	Ave		0.6260				11.5		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 274564

SDG No.:

Instrument ID: CHGC17 GC Column: MR-2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/02/2019 15:52 Calibration End Date: 04/02/2019 17:14 Calibration ID: 39994

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-274564/24	03269024.D
Level 2	IC 180-274564/25	03269025.D
Level 3	ICIS 180-274564/26	03269026.D
Level 4	IC 180-274564/27	03269027.D
Level 5	IC 180-274564/28	03269028.D
Level 6	IC 180-274564/29	03269029.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
alpha-BHC	BNB	Ave	2725379 639991872	16440470	82259819	162766791	324385193	0.00100 0.200	0.00500	0.0250	0.0500	0.100
gamma-BHC (Lindane)	BNB	Ave	2414951 547684185	13867957	68502929	139604864	271440482	0.00100 0.200	0.00500	0.0250	0.0500	0.100
beta-BHC	BNB	Ave	1123221 232484071	5899722	29118009	57172547	115369744	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Heptachlor	BNB	Ave	2367256 472587500	12410402	55901009	125117743	240135366	0.00100 0.200	0.00500	0.0250	0.0500	0.100
delta-BHC	BNB	Ave	1960317 502097348	11730331	58817148	119091245	244173700	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Aldrin	BNB	Ave	2065109 462656557	11950937	59788729	118264758	234061412	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Heptachlor epoxide	BNB	Ave	1898710 387258768	10436129	45444851	102917262	193242101	0.00100 0.200	0.00500	0.0250	0.0500	0.100
trans-Chlordane	BNB	Ave	1831695 405830332	10369225	51840119	105418595	205076230	0.00100 0.200	0.00500	0.0250	0.0500	0.100
cis-Chlordane	BNB	Ave	1807524 389406751	9971685	49242174	99094850	200412297	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Endosulfan I	BNB	Ave	1687151 351525433	9155312	41389003	91934277	179108759	0.00100 0.200	0.00500	0.0250	0.0500	0.100
4,4'-DDE	DBC	Ave	1642656 405621721	9452316	48297657	101142590	198051124	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Dieldrin	DBC	Ave	1780572 401239949	9911929	51010615	104278715	201095694	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Endrin	DBC	Ave	1379434 319126544	7827060	40837572	81604611	161637910	0.00100 0.200	0.00500	0.0250	0.0500	0.100
4,4'-DDD	DBC	Ave	1248970 332156142	7219447	38087260	81082595	157813013	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Endosulfan II	DBC	Ave	1308033 298740169	7433842	37303546	73911961	148943279	0.00100 0.200	0.00500	0.0250	0.0500	0.100
4,4'-DDT	DBC	Ave	1198752 324191825	7126266	38059285	80229972	158988705	0.00100 0.200	0.00500	0.0250	0.0500	0.100

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 274564

SDG No.:

Instrument ID: CHGC17 GC Column: MR-2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/02/2019 15:52 Calibration End Date: 04/02/2019 17:14 Calibration ID: 39994

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Endrin aldehyde	DBC	Ave	1179704 248089126	6297200	30442314	62985886	124000591	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Endosulfan sulfate	DBC	Ave	1257639 277296943	6975909	34972189	68400848	139319023	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Methoxychlor	DBC	Ave	635750 133031659	3302557	16076323	33510338	66496541	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Endrin ketone	DBC	Ave	1178933 257009363	6339205	32132426	65512102	131315605	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Tetrachloro-m-xylene	BNB	Ave	2504158 515384733	13871159	67406322	135267454	262296224	0.00100 0.200	0.00500	0.0250	0.0500	0.100
DCB Decachlorobiphenyl (Surr)	DBC	Ave	866376 148316467	4246185	19278604	38162271	75877342	0.00100 0.200	0.00500	0.0250	0.0500	0.100

Curve Type Legend:
Ave = Average ISTD by Height

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 274564

SDG No.:

Instrument ID: CHGC17 GC Column: MR-2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/02/2019 15:52 Calibration End Date: 04/02/2019 17:14 Calibration ID: 39994

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-274564/24	03269024.D
Level 2	IC 180-274564/25	03269025.D
Level 3	ICIS 180-274564/26	03269026.D
Level 4	IC 180-274564/27	03269027.D
Level 5	IC 180-274564/28	03269028.D
Level 6	IC 180-274564/29	03269029.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
alpha-BHC	-8.4	5.2	2.2	0.7	2.7	-2.3	50	30	30	30	30	30
gamma-BHC (Lindane)	-4.7	4.3	-0.1	1.4	0.9	-1.8	50	30	30	30	30	30
beta-BHC	3.4	3.4	-0.9	-3.1	0.0	-2.8	50	30	30	30	30	30
Heptachlor	5.1	5.0	-8.2	2.3	0.5	-4.7	50	30	30	30	30	30
delta-BHC	-10.5	2.0	-0.7	0.1	5.0	4.1	50	30	30	30	30	30
Aldrin	-5.0	4.8	1.7	0.2	1.5	-3.3	50	30	30	30	30	30
Heptachlor epoxide	3.2	8.0	-8.7	2.9	-1.1	-4.4	50	30	30	30	30	30
trans-Chlordane	-3.9	3.6	0.5	1.8	1.3	-3.3	50	30	30	30	30	30
cis-Chlordane	-1.5	3.5	-0.8	-0.6	2.9	-3.6	50	30	30	30	30	30
Endosulfan I	1.8	5.3	-7.6	2.2	1.9	-3.6	50	30	30	30	30	30
4,4'-DDE	-7.2	2.4	-1.8	4.4	1.6	0.5	50	30	30	30	30	30
Dieldrin	-2.9	3.6	0.1	3.8	-0.4	-4.1	50	30	30	30	30	30
Endrin	-5.0	3.4	1.3	2.7	1.2	-3.5	50	30	30	30	30	30
4,4'-DDD	-10.5	-0.9	-1.8	6.1	2.7	4.4	50	30	30	30	30	30
Endosulfan II	-3.0	5.7	-0.4	0.1	0.3	-2.8	50	30	30	30	30	30
4,4'-DDT	-13.0	-0.8	-0.6	6.4	4.8	3.2	50	30	30	30	30	30
Endrin aldehyde	3.4	5.8	-4.0	0.8	-1.3	-4.6	50	30	30	30	30	30
Endosulfan sulfate	-0.5	5.8	-0.4	-1.2	0.1	-3.8	50	30	30	30	30	30
Methoxychlor	4.6	4.1	-4.8	0.7	-0.6	-4.0	50	30	30	30	30	30
Endrin ketone	0.1	3.2	-1.8	1.6	1.3	-4.3	50	30	30	30	30	30
Tetrachloro-m-xylene	0.5	6.1	0.1	0.0	-0.8	-6.0	50	30	30	30	30	30
DCB Decachlorobiphenyl (Surr)	17.8	10.7	-5.6	-5.2	-6.3	-11.5	50	30	30	30	30	30

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269024.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 02-Apr-2019 15:52:56 ALS Bottle#: 24 Worklist Smp#: 24
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-024
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub12

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:24:11 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: eppinged Date: 03-Apr-2019 08:11:54

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.910	3.910	0.000	160245434H	0.1000	0.1000	
2	4.097	4.098	-0.001	215890624H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.898	4.898	0.000	2106260H	0.001000	0.001070	
2	4.963	4.963	0.000	2504158H	0.001000	0.001005	
						RPD = 6.21	
5 alpha-BHC							
1	5.261	5.261	0.000	2288843H	0.001000	0.000964	
2	5.428	5.428	0.000	2725379H	0.001000	0.000916	
						RPD = 5.20	
7 gamma-BHC (Lindane)							
1	5.525	5.525	0.000	2062538H	0.001000	0.001006	
2	5.731	5.732	-0.001	2414951H	0.001000	0.000953	
						RPD = 5.39	
8 beta-BHC							
1	5.685	5.684	0.001	970394H	0.001000	0.001101	
2	5.971	5.971	0.000	1123221H	0.001000	0.001034	
						RPD = 6.36	
10 delta-BHC							M
1	5.885	5.884	0.001	1700929H	0.001000	0.000956	M
2	6.203	6.203	0.000	1960317H	0.001000	0.000895	
						RPD = 6.61	
11 Heptachlor							Ma
1	5.996	5.997	-0.001	1950147H	0.001000	0.001029	M
2	6.056	6.057	-0.001	2367256H	0.001000	0.001051	a
						RPD = 2.13	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
13 Aldrin							
1	6.277	6.278	-0.001	1830908H	0.001000	0.001004	
2	6.326	6.327	-0.001	2065109H	0.001000	0.000950	
						RPD = 5.46	
16 Heptachlor epoxide							
1	6.633	6.633	0.000	1661903H	0.001000	0.001034	
2	6.773	6.774	-0.001	1898710H	0.001000	0.001032	
						RPD = 0.21	
18 trans-Chlordane							
1	6.850	6.851	-0.001	1648885H	0.001000	0.001012	
2	7.000	7.000	0.000	1831695H	0.001000	0.000961	
						RPD = 5.23	
20 cis-Chlordane							M
1	6.918	6.918	0.000	1602354H	0.001000	0.001022	M
2	7.061	7.062	-0.001	1807524H	0.001000	0.000985	
						RPD = 3.67	
22 Endosulfan I							Ma
1	6.962	6.963	-0.001	1507670H	0.001000	0.001070	M
2	7.130	7.131	-0.001	1687151H	0.001000	0.001018	a
						RPD = 4.93	
23 4,4'-DDE							
1	7.067	7.068	-0.001	1380935H	0.001000	0.000958	
2	7.196	7.196	0.000	1642656H	0.001000	0.000928	
						RPD = 3.16	
26 Dieldrin							
1	7.201	7.201	0.000	1608604H	0.001000	0.001031	
2	7.374	7.375	-0.001	1780572H	0.001000	0.000971	
						RPD = 6.04	
27 Endrin							
1	7.401	7.402	-0.001	1360620H	0.001000	0.001037	
2	7.641	7.641	0.000	1379434H	0.001000	0.000950	
						RPD = 8.68	
30 4,4'-DDD							
1	7.522	7.523	-0.001	1632689H	0.001000	0.001292	
2	7.715	7.714	0.001	1248970H	0.001000	0.000895	
						RPD = 36.36	
31 Endosulfan II							
1	7.596	7.596	0.000	1171317H	0.001000	0.001020	
2	7.903	7.904	-0.001	1308033H	0.001000	0.000970	
						RPD = 4.97	
32 Endrin aldehyde							
1	7.711	7.712	-0.001	1083343H	0.001000	0.001074	
2	8.071	8.071	0.000	1179704H	0.001000	0.001034	
						RPD = 3.86	
33 4,4'-DDT							
1	7.801	7.801	0.000	1102360H	0.001000	0.001012	
2	7.958	7.958	0.000	1198752H	0.001000	0.000870	
						RPD = 15.09	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
34 Endosulfan sulfate							
1	7.920	7.920	0.000	1248078H	0.001000	0.001056	
2	8.296	8.297	-0.001	1257639H	0.001000	0.000995	
						RPD = 5.93	
35 Methoxychlor							
1	8.252	8.253	-0.001	541174H	0.001000	0.001052	
2	8.534	8.533	0.001	635750H	0.001000	0.001046	
						RPD = 0.58	
* 36 Dibutylchlorendate ISTD							M
1	8.333	8.333	0.000	99791525H	0.1000	0.1000	M
2	8.344	8.345	-0.001	117428654H	0.1000	0.1000	
37 Endrin ketone							Ma
1	8.390	8.391	-0.001	1217006H	0.001000	0.001076	M
2	8.924	8.925	-0.001	1178933H	0.001000	0.001001	a
						RPD = 7.26	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.201	10.202	-0.001	724476H	0.001000	0.001167	
2	10.654	10.654	0.000	866376H	0.001000	0.001178	
						RPD = 0.97	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

GCPest L1_00026	Amount Added: 1.00	Units: mL	
GCPESTISSPK2_00015	Amount Added: 0.01	Units: mL	Run Reagent

Report Date: 03-Apr-2019 08:24:12 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269024.D

Injection Date: 02-Apr-2019 15:52:56 Instrument ID: CHGC17 Operator ID:

Lims ID: IC Worklist Smp#: 24

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 24

Method: IS PEST_CHGC17 Limit Group: GCS 8081B ICAL with IS

Column: MR-1 (0.53 mm)

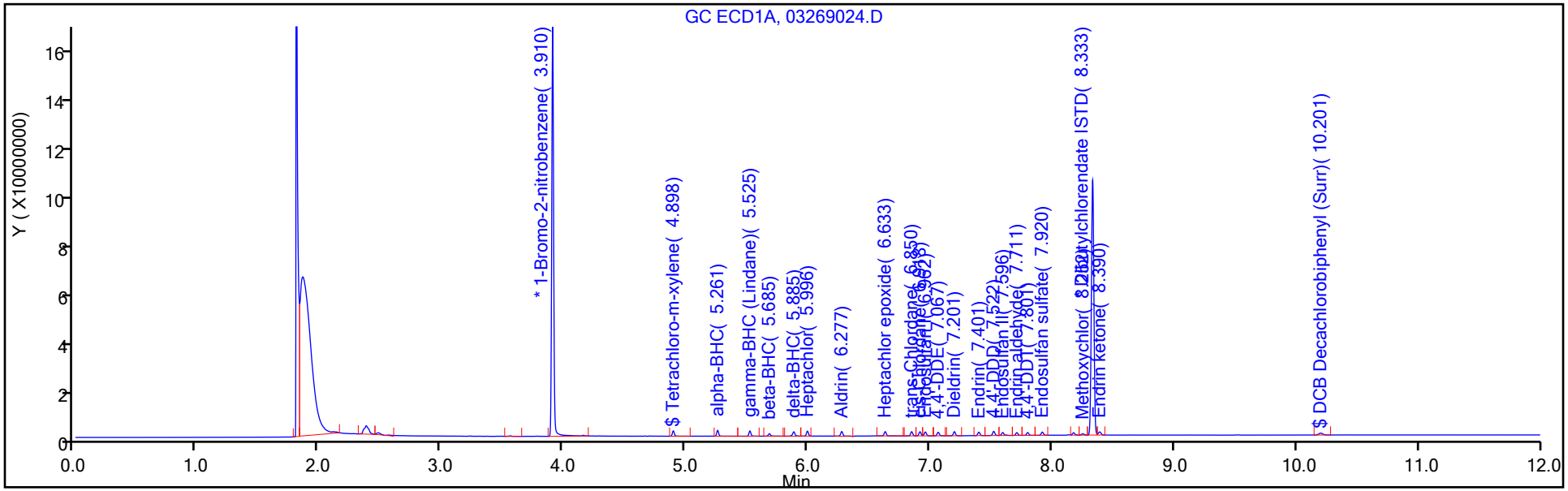

Column: MR-2 (0.53 mm)

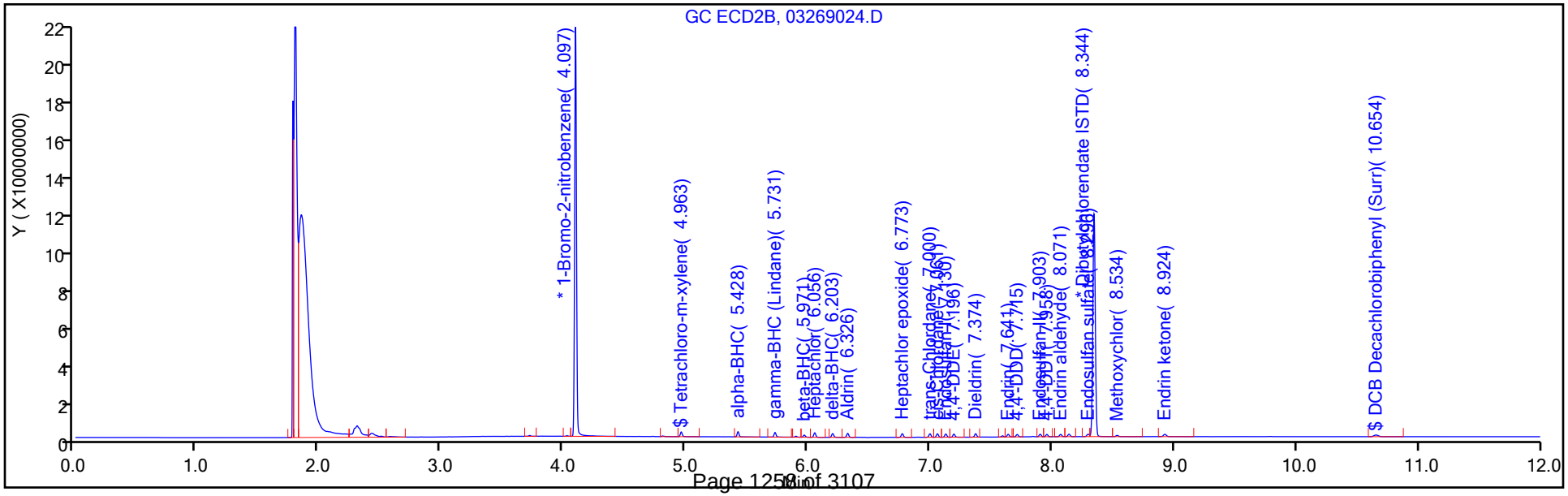

Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269024.D				
Injection Date:	02-Apr-2019 15:52:56	Instrument ID:	CHGC17		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	24	Worklist Smp#:	24
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

11 Heptachlor, CAS: 76-44-8

Signal: 2

Not Detected
Expected RT: 6.06

Processing Integration Results

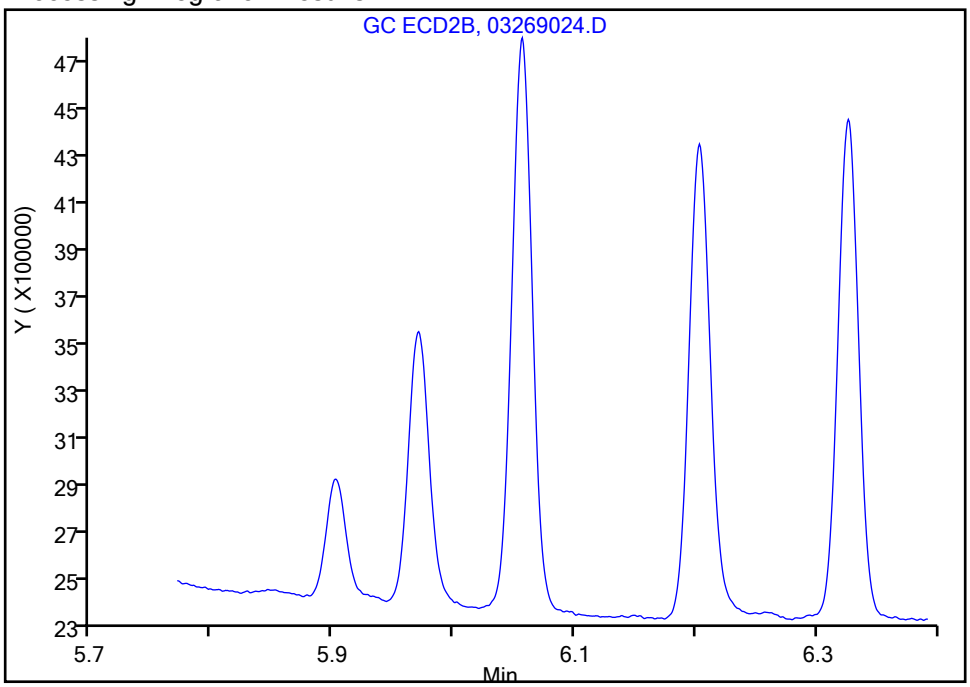

Manual Integration Results

RT: 6.06
Height: 2367256
Amount: 0.001051
Amount Units: ng

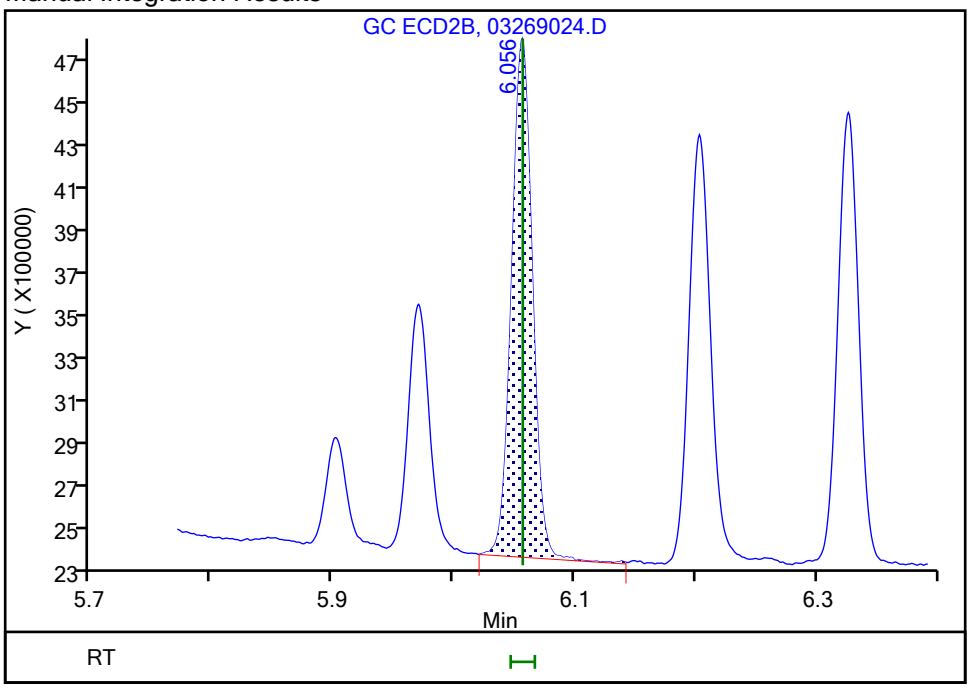

Reviewer: eppinged, 03-Apr-2019 08:11:07
Audit Action: Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269024.D				
Injection Date:	02-Apr-2019 15:52:56	Instrument ID:	CHGC17		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	24	Worklist Smp#:	24
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

22 Endosulfan I, CAS: 959-98-8

Signal: 2

Not Detected
Expected RT: 7.13

Processing Integration Results

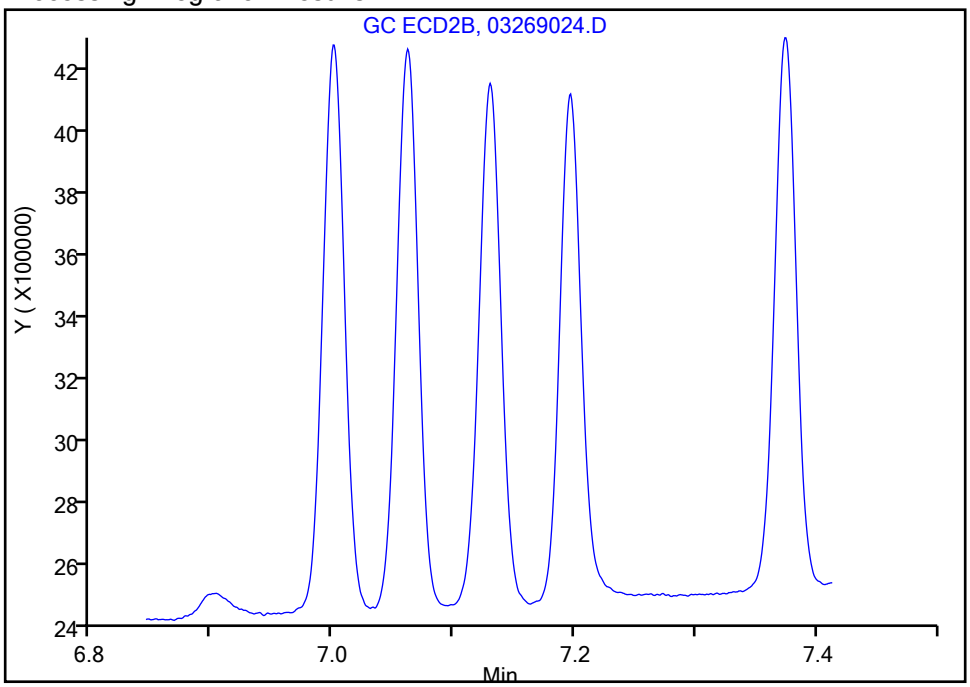

RT: 7.13
Height: 1687151
Amount: 0.001018
Amount Units: ng

Manual Integration Results

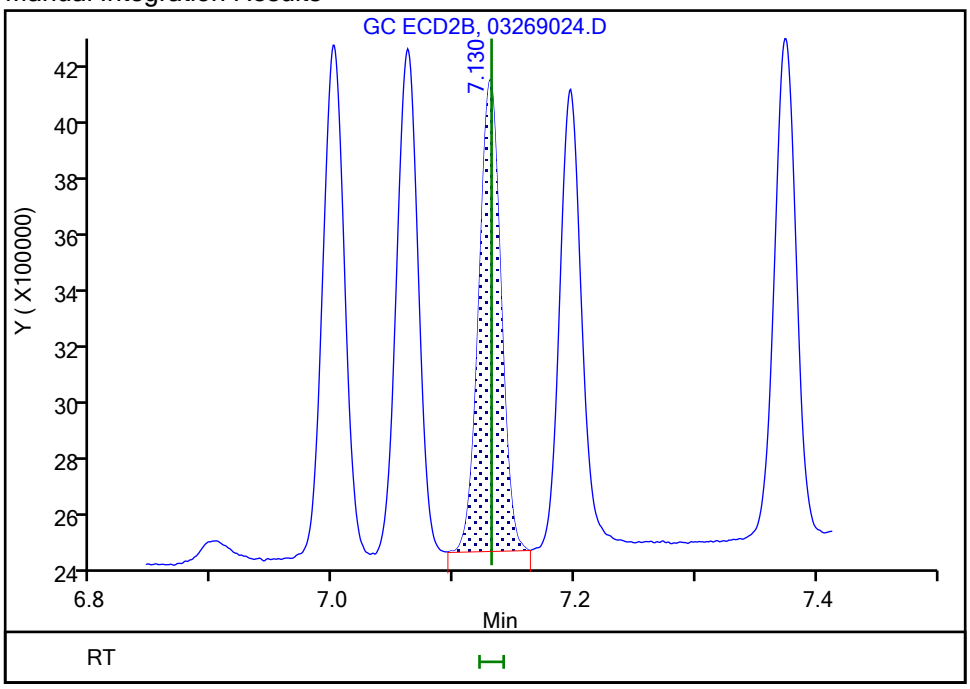

Reviewer: eppinged, 03-Apr-2019 08:11:26
Audit Action: Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269024.D				
Injection Date:	02-Apr-2019 15:52:56	Instrument ID:	CHGC17		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	24	Worklist Smp#:	24
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

37 Endrin ketone, CAS: 53494-70-5

Signal: 2

Not Detected
Expected RT: 8.93

Processing Integration Results

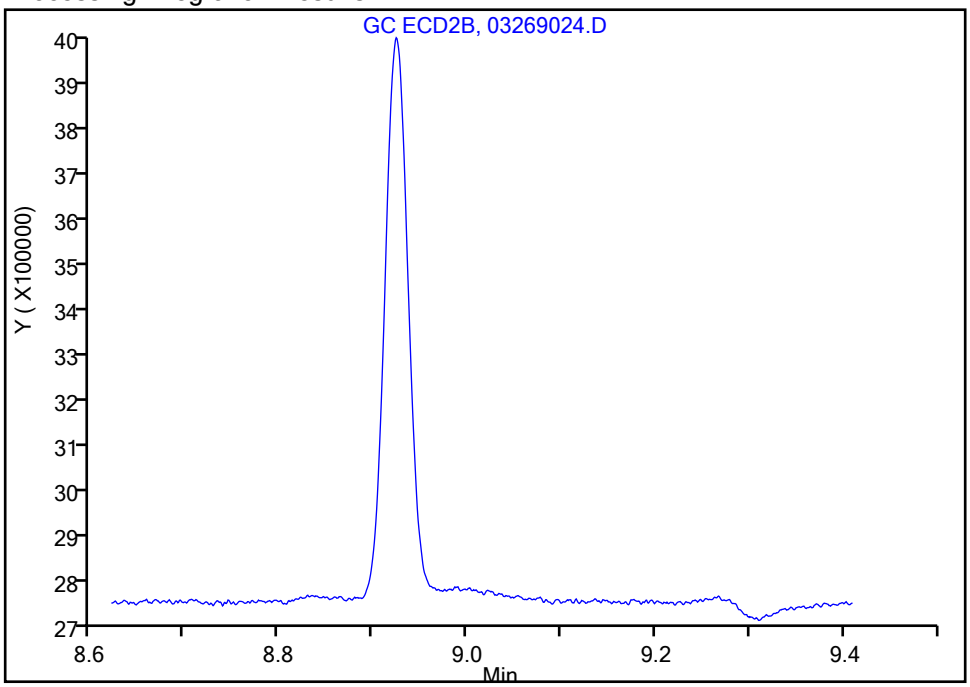

RT: 8.92
Height: 1178933
Amount: 0.001001
Amount Units: ng

Manual Integration Results

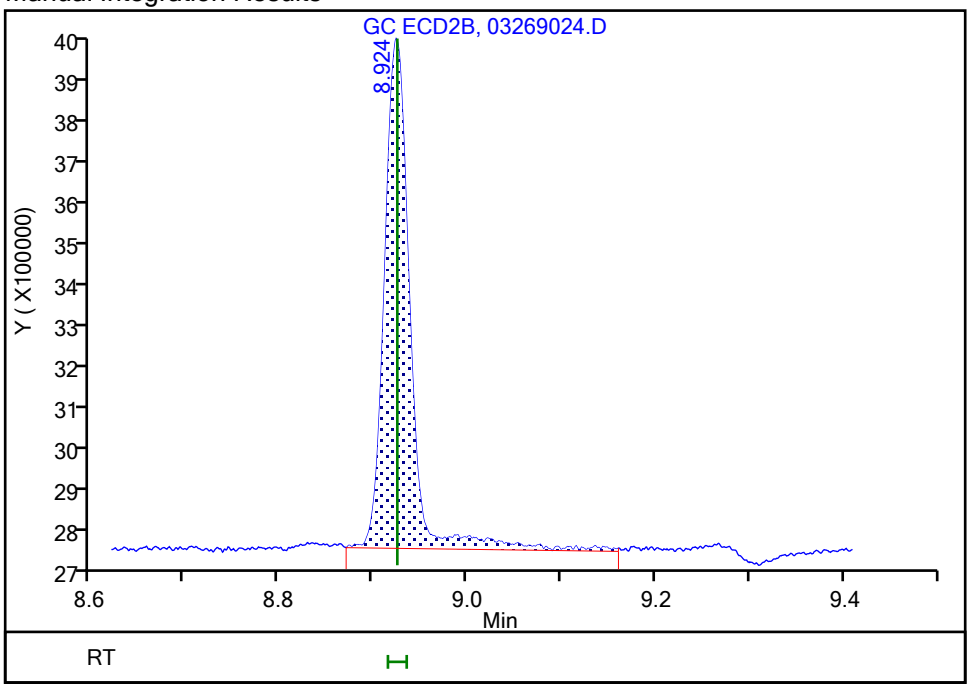

Reviewer: eppinged, 03-Apr-2019 08:11:49
Audit Action: Assigned Compound ID Audit Reason: Split Peak

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269025.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 02-Apr-2019 16:09:19 ALS Bottle#: 25 Worklist Smp#: 25
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-025
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub12

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:24:16 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.910	3.910	-0.001	168918468H	0.1000	0.1000	
2	4.097	4.098	-0.001	226613887H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.898	4.898	0.000	11101436H	0.005000	0.005350	
2	4.964	4.963	0.001	13871159H	0.005000	0.005306	
						RPD = 0.82	
5 alpha-BHC							
1	5.261	5.261	0.000	13183819H	0.005000	0.005270	
2	5.429	5.428	0.001	16440470H	0.005000	0.005261	
						RPD = 0.16	
7 gamma-BHC (Lindane)							
1	5.525	5.525	0.000	11288013H	0.005000	0.005221	
2	5.731	5.732	-0.001	13867957H	0.005000	0.005213	
						RPD = 0.15	
8 beta-BHC							
1	5.685	5.684	0.001	4892059H	0.005000	0.005268	
2	5.970	5.971	-0.001	5899722H	0.005000	0.005172	
						RPD = 1.83	
10 delta-BHC							
1	5.885	5.884	0.001	9436035H	0.005000	0.005031	
2	6.203	6.203	0.000	11730331H	0.005000	0.005101	
						RPD = 1.38	
11 Heptachlor							
1	5.997	5.997	0.000	10587604H	0.005000	0.005300	
2	6.057	6.057	0.000	12410402H	0.005000	0.005250	
						RPD = 0.95	
13 Aldrin							
1	6.278	6.278	0.000	10467013H	0.005000	0.005443	
2	6.326	6.327	-0.001	11950937H	0.005000	0.005239	
						RPD = 3.81	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
16 Heptachlor epoxide							
1	6.634	6.633	0.001	9132458H	0.005000	0.005389	
2	6.774	6.774	0.000	10436129H	0.005000	0.005402	
						RPD = 0.24	
18 trans-Chlordane							
1	6.850	6.851	-0.001	8970282H	0.005000	0.005223	
2	7.000	7.000	0.000	10369225H	0.005000	0.005180	
						RPD = 0.83	
20 cis-Chlordane							
1	6.918	6.918	0.000	8592082H	0.005000	0.005198	
2	7.061	7.062	-0.001	9971685H	0.005000	0.005177	
						RPD = 0.41	
22 Endosulfan I							
1	6.962	6.963	-0.001	7850328H	0.005000	0.005285	
2	7.130	7.131	-0.001	9155312H	0.005000	0.005265	
						RPD = 0.38	
23 4,4'-DDE							
1	7.068	7.068	0.000	7836296H	0.005000	0.005150	
2	7.196	7.196	0.000	9452316H	0.005000	0.005119	
						RPD = 0.60	
26 Dieldrin							
1	7.200	7.201	-0.001	8717544H	0.005000	0.005293	
2	7.375	7.375	0.000	9911929H	0.005000	0.005178	
						RPD = 2.20	
27 Endrin							
1	7.401	7.402	-0.001	7420568H	0.005000	0.005356	
2	7.640	7.641	-0.001	7827060H	0.005000	0.005169	
						RPD = 3.56	
30 4,4'-DDD							
1	7.524	7.523	0.001	6769983H	0.005000	0.005077	
2	7.715	7.714	0.001	7219447H	0.005000	0.004957	
						RPD = 2.39	
31 Endosulfan II							
1	7.595	7.596	-0.001	6611164H	0.005000	0.005453	
2	7.903	7.904	-0.001	7433842H	0.005000	0.005285	
						RPD = 3.12	
32 Endrin aldehyde							
1	7.712	7.712	0.000	5809342H	0.005000	0.005458	
2	8.070	8.071	-0.001	6297200H	0.005000	0.005288	
						RPD = 3.15	
33 4,4'-DDT							
1	7.801	7.801	0.000	5764344H	0.005000	0.005014	
2	7.957	7.958	-0.001	7126266H	0.005000	0.004958	
						RPD = 1.13	
34 Endosulfan sulfate							
1	7.921	7.920	0.001	6657640H	0.005000	0.005335	
2	8.295	8.297	-0.002	6975909H	0.005000	0.005289	
						RPD = 0.87	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
35 Methoxychlor							
1	8.252	8.253	-0.001	2884046H	0.005000	0.005311	
2	8.532	8.533	-0.001	3302557H	0.005000	0.005207	
						RPD = 1.98	
* 36 Dibutylchlorendate ISTD							
1	8.332	8.333	-0.001	105337320H	0.1000	0.1000	
2	8.344	8.345	-0.001	122524649H	0.1000	0.1000	
37 Endrin ketone							
1	8.390	8.391	-0.001	6454242H	0.005000	0.005407	
2	8.924	8.925	-0.001	6339205H	0.005000	0.005158	
						RPD = 4.72	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.201	10.202	-0.001	3601647H	0.005000	0.005496	
2	10.655	10.654	0.001	4246185H	0.005000	0.005536	
						RPD = 0.71	

Reagents:

GCPestL2_00022	Amount Added: 1.00	Units: mL	
GCPESTISSPK2_00015	Amount Added: 0.01	Units: mL	Run Reagent

Report Date: 03-Apr-2019 08:24:16 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269025.D				
Injection Date:	02-Apr-2019 16:09:19	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	IC			Worklist Smp#:	25
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	25
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

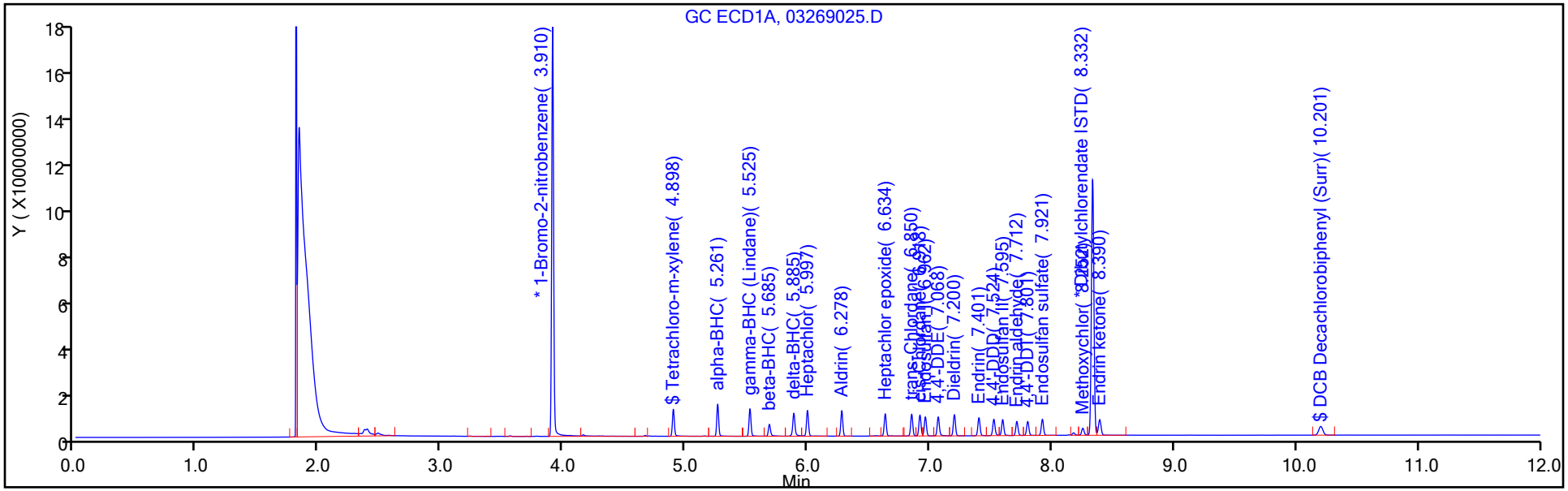

Column: MR-2 (0.53 mm)

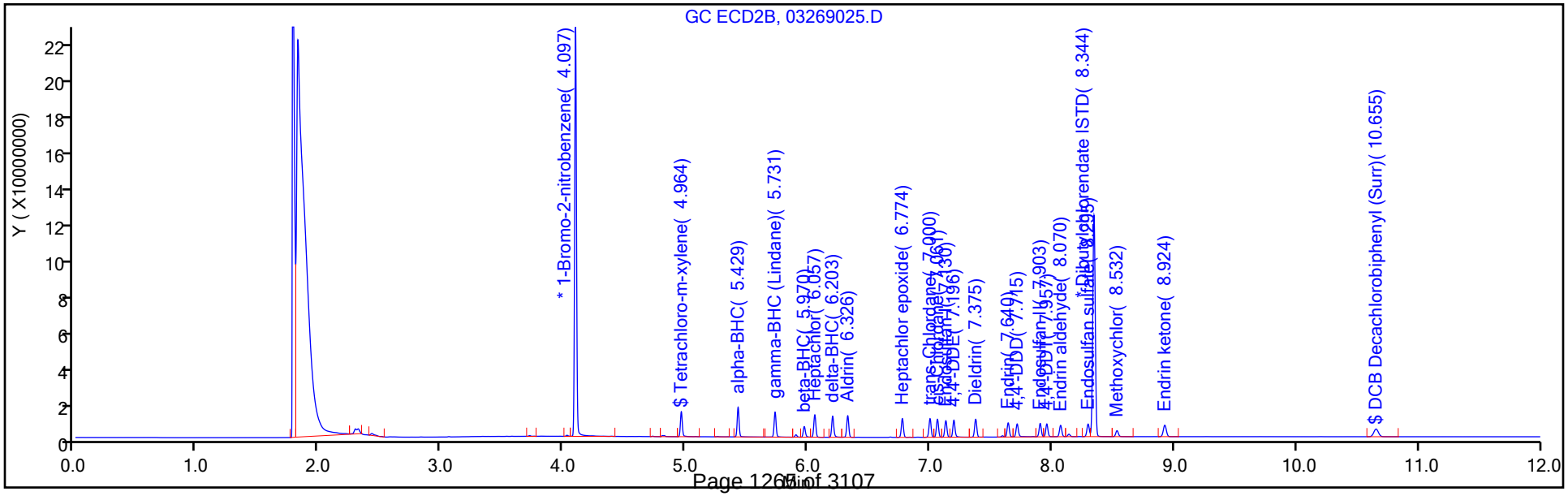

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269026.D
Lims ID: ICIS
Client ID:
Sample Type: ICIS Calib Level: 3
Inject. Date: 02-Apr-2019 16:25:43 ALS Bottle#: 26 Worklist Smp#: 26
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-026
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub12

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:24:19 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: eppinged Date: 03-Apr-2019 08:12:12

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.910	3.910	0.000	174626018H	0.1000	0.1000	
2	4.098	4.098	0.000	233527201H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.898	4.898	0.000	53922200H	0.0250	0.0251	
2	4.963	4.963	0.000	67406322H	0.0250	0.0250	
						RPD = 0.46	
5 alpha-BHC							
1	5.261	5.261	0.000	65674679H	0.0250	0.0254	
2	5.428	5.428	0.000	82259819H	0.0250	0.0255	
						RPD = 0.60	
7 gamma-BHC (Lindane)							
1	5.525	5.525	0.000	56400707H	0.0250	0.0252	
2	5.732	5.732	0.000	68502929H	0.0250	0.0250	
						RPD = 0.98	
8 beta-BHC							
1	5.684	5.684	0.000	23198864H	0.0250	0.0242	
2	5.971	5.971	0.000	29118009H	0.0250	0.0248	
						RPD = 2.48	
10 delta-BHC							
1	5.884	5.884	0.000	48145722H	0.0250	0.0248	
2	6.203	6.203	0.000	58817148H	0.0250	0.0248	
						RPD = 0.05	
11 Heptachlor							
1	5.997	5.997	0.000	52439481H	0.0250	0.0254	
2	6.057	6.057	0.000	55901009H	0.0250	0.0229	
						RPD = 10.11	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
13 Aldrin							
1	6.278	6.278	0.000	51330906H	0.0250	0.0258	
2	6.327	6.327	0.000	59788729H	0.0250	0.0254	
						RPD = 1.50	
16 Heptachlor epoxide							
1	6.633	6.633	0.000	44075806H	0.0250	0.0252	
2	6.774	6.774	0.000	45444851H	0.0250	0.0228	
						RPD = 9.72	
18 trans-Chlordane							
1	6.851	6.851	0.000	44196383H	0.0250	0.0249	
2	7.000	7.000	0.000	51840119H	0.0250	0.0251	
						RPD = 0.95	
20 cis-Chlordane							
1	6.918	6.918	0.000	42557876H	0.0250	0.0249	
2	7.062	7.062	0.000	49242174H	0.0250	0.0248	
						RPD = 0.39	
22 Endosulfan I							
1	6.963	6.963	0.000	35955559H	0.0250	0.0234	
2	7.131	7.131	0.000	41389003H	0.0250	0.0231	
						RPD = 1.37	
23 4,4'-DDE							
1	7.068	7.068	0.000	40575507H	0.0250	0.0248	
2	7.196	7.196	0.000	48297657H	0.0250	0.0246	
						RPD = 0.84	
26 Dieldrin							
1	7.201	7.201	0.000	43213765H	0.0250	0.0244	
2	7.375	7.375	0.000	51010615H	0.0250	0.0250	
						RPD = 2.63	
27 Endrin							
1	7.402	7.402	0.000	35871623H	0.0250	0.0241	
2	7.641	7.641	0.000	40837572H	0.0250	0.0253	
						RPD = 5.15	
30 4,4'-DDD							
1	7.523	7.523	0.000	32975678H	0.0250	0.0230	
2	7.714	7.714	0.000	38087260H	0.0250	0.0246	
						RPD = 6.68	
31 Endosulfan II							
1	7.596	7.596	0.000	31910680H	0.0250	0.0244	
2	7.904	7.904	0.000	37303546H	0.0250	0.0249	
						RPD = 1.85	
32 Endrin aldehyde							
1	7.712	7.712	0.000	28020916H	0.0250	0.0245	
2	8.071	8.071	0.000	30442314H	0.0250	0.0240	
						RPD = 1.84	
33 4,4'-DDT							
1	7.801	7.801	0.000	28372308H	0.0250	0.0229	
2	7.958	7.958	0.000	38059285H	0.0250	0.0249	
						RPD = 8.12	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
34 Endosulfan sulfate							
1	7.920	7.920	0.000	32839112H	0.0250	0.0244	
2	8.297	8.297	0.000	34972189H	0.0250	0.0249	
						RPD = 1.85	
35 Methoxychlor							
1	8.253	8.253	0.000	14104766H	0.0250	0.0241	
2	8.533	8.533	0.000	16076323H	0.0250	0.0238	
						RPD = 1.36	
* 36 Dibutylchlorendate ISTD							
1	8.333	8.333	0.000	113404562H	0.1000	0.1000	
2	8.345	8.345	0.000	130480275H	0.1000	0.1000	
37 Endrin ketone							
1	8.391	8.391	0.000	31028165H	0.0250	0.0241	
2	8.925	8.925	0.000	32132426H	0.0250	0.0246	
						RPD = 1.67	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.202	10.202	0.000	16520412H	0.0250	0.0234	
2	10.654	10.654	0.000	19278604H	0.0250	0.0236	
						RPD = 0.78	

Reagents:

GCPestL3_00028	Amount Added: 1.00	Units: mL	
GCPESTISSPK2_00015	Amount Added: 0.01	Units: mL	Run Reagent

Report Date: 03-Apr-2019 08:24:20 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269026.D				
Injection Date:	02-Apr-2019 16:25:43	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	ICIS			Worklist Smp#:	26
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	26
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

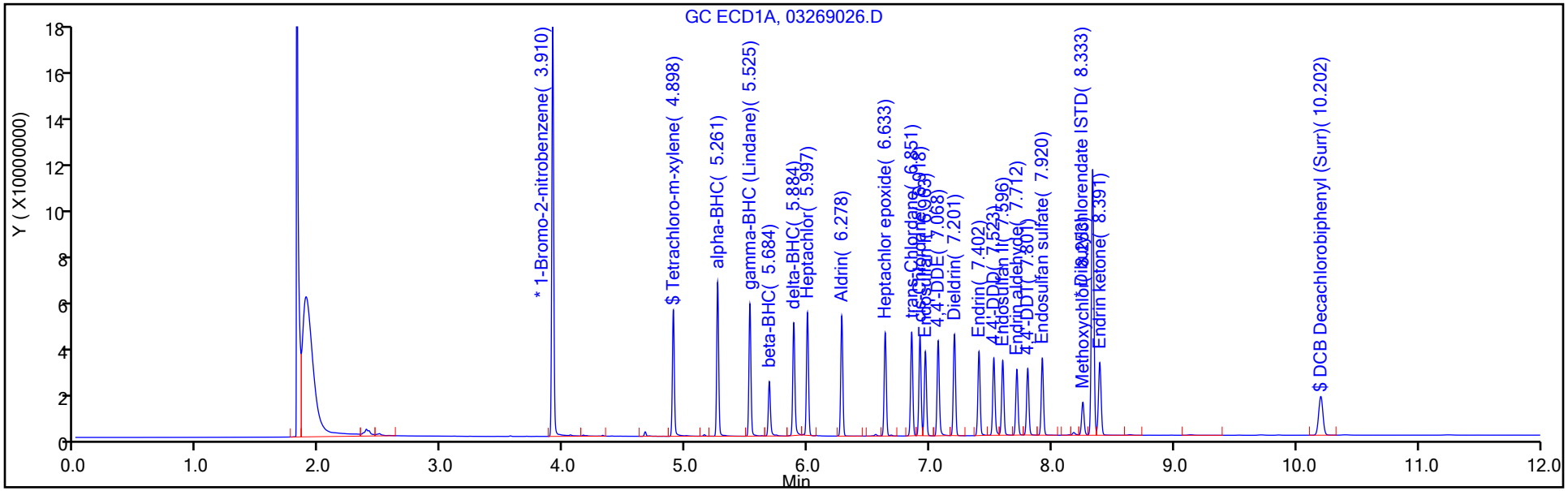

Column: MR-2 (0.53 mm)

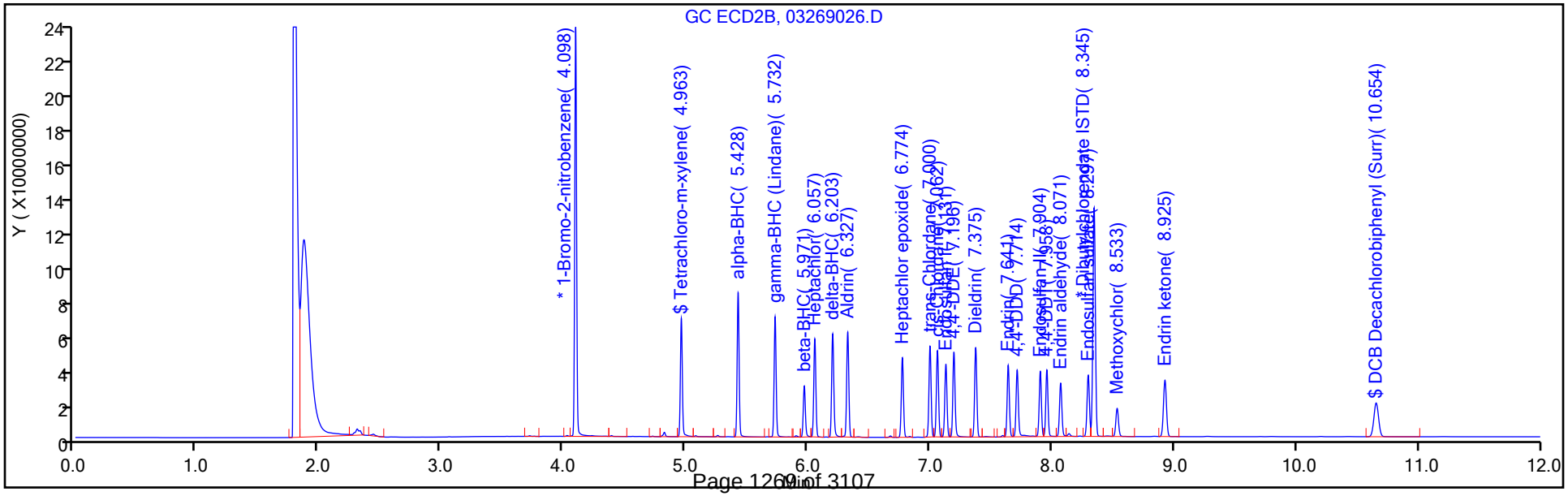

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269027.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 02-Apr-2019 16:42:06 ALS Bottle#: 27 Worklist Smp#: 27
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-027
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub12

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:24:23 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.909	3.910	-0.001	175503785H	0.1000	0.1000	
2	4.096	4.098	-0.002	234530715H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.897	4.898	-0.001	105050722H	0.0500	0.0487	
2	4.962	4.963	-0.001	135267454H	0.0500	0.0500	
						RPD = 2.57	
5 alpha-BHC							
1	5.261	5.261	0.000	130694431H	0.0500	0.0503	
2	5.428	5.428	0.000	162766791H	0.0500	0.0503	
						RPD = 0.10	
7 gamma-BHC (Lindane)							
1	5.525	5.525	0.000	111386919H	0.0500	0.0496	
2	5.731	5.732	-0.001	139604864H	0.0500	0.0507	
						RPD = 2.23	
8 beta-BHC							
1	5.684	5.684	0.000	46898073H	0.0500	0.0486	
2	5.969	5.971	-0.002	57172547H	0.0500	0.0484	
						RPD = 0.36	
10 delta-BHC							
1	5.884	5.884	0.000	99529645H	0.0500	0.0511	
2	6.202	6.203	-0.001	119091245H	0.0500	0.0500	
						RPD = 2.05	
11 Heptachlor							
1	5.996	5.997	-0.001	103314331H	0.0500	0.0498	
2	6.056	6.057	-0.001	125117743H	0.0500	0.0511	
						RPD = 2.71	
13 Aldrin							
1	6.277	6.278	-0.001	96321512H	0.0500	0.0482	
2	6.326	6.327	-0.001	118264758H	0.0500	0.0501	
						RPD = 3.84	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
16 Heptachlor epoxide							
1	6.633	6.633	0.000	87224623H	0.0500	0.0495	
2	6.773	6.774	-0.001	102917262H	0.0500	0.0515	
						RPD = 3.83	
18 trans-Chlordane							
1	6.850	6.851	-0.001	89806004H	0.0500	0.0503	
2	6.999	7.000	-0.001	105418595H	0.0500	0.0509	
						RPD = 1.10	
20 cis-Chlordane							
1	6.917	6.918	-0.001	85217663H	0.0500	0.0496	
2	7.061	7.062	-0.001	99094850H	0.0500	0.0497	
						RPD = 0.18	
22 Endosulfan I							
1	6.962	6.963	-0.001	78041064H	0.0500	0.0506	
2	7.129	7.131	-0.002	91934277H	0.0500	0.0511	
						RPD = 1.02	
23 4,4'-DDE							
1	7.066	7.068	-0.002	82621236H	0.0500	0.0501	
2	7.195	7.196	-0.001	101142590H	0.0500	0.0522	
						RPD = 4.02	
26 Dieldrin							
1	7.200	7.201	-0.001	89675885H	0.0500	0.0503	
2	7.373	7.375	-0.002	104278715H	0.0500	0.0519	
						RPD = 3.19	
27 Endrin							
1	7.401	7.402	-0.001	75620264H	0.0500	0.0504	
2	7.640	7.641	-0.001	81604611H	0.0500	0.0513	
						RPD = 1.86	
30 4,4'-DDD							
1	7.522	7.523	-0.001	67417058H	0.0500	0.0467	
2	7.713	7.714	-0.001	81082595H	0.0500	0.0530	
						RPD = 12.77	
31 Endosulfan II							
1	7.596	7.596	0.000	63826738H	0.0500	0.0486	
2	7.902	7.904	-0.002	73911961H	0.0500	0.0501	
						RPD = 2.96	
32 Endrin aldehyde							
1	7.711	7.712	-0.001	56507608H	0.0500	0.0490	
2	8.069	8.071	-0.002	62985886H	0.0500	0.0504	
						RPD = 2.78	
33 4,4'-DDT							
1	7.801	7.801	0.000	63564082H	0.0500	0.0510	
2	7.956	7.958	-0.002	80229972H	0.0500	0.0532	
						RPD = 4.09	
34 Endosulfan sulfate							
1	7.920	7.920	0.000	65981631H	0.0500	0.0488	
2	8.295	8.297	-0.002	68400848H	0.0500	0.0494	
						RPD = 1.21	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
35 Methoxychlor							
1	8.252	8.253	-0.001	28471031H	0.0500	0.0484	
2	8.532	8.533	-0.001	33510338H	0.0500	0.0503	
						RPD = 3.91	
* 36 Dibutylchlorendate ISTD							
1	8.332	8.333	0.000	114092647H	0.1000	0.1000	
2	8.343	8.345	-0.002	128601051H	0.1000	0.1000	
37 Endrin ketone							
1	8.389	8.391	-0.002	62813934H	0.0500	0.0486	
2	8.923	8.925	-0.002	65512102H	0.0500	0.0508	
						RPD = 4.43	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.199	10.202	-0.003	33187916H	0.0500	0.0468	
2	10.652	10.654	-0.002	38162271H	0.0500	0.0474	
						RPD = 1.36	

Reagents:

GCPestL4_00021	Amount Added: 1.00	Units: mL	
GCPESTISSPK2_00015	Amount Added: 0.01	Units: mL	Run Reagent

Report Date: 03-Apr-2019 08:24:24 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269027.D				
Injection Date:	02-Apr-2019 16:42:06	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	IC			Worklist Smp#:	27
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	27
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

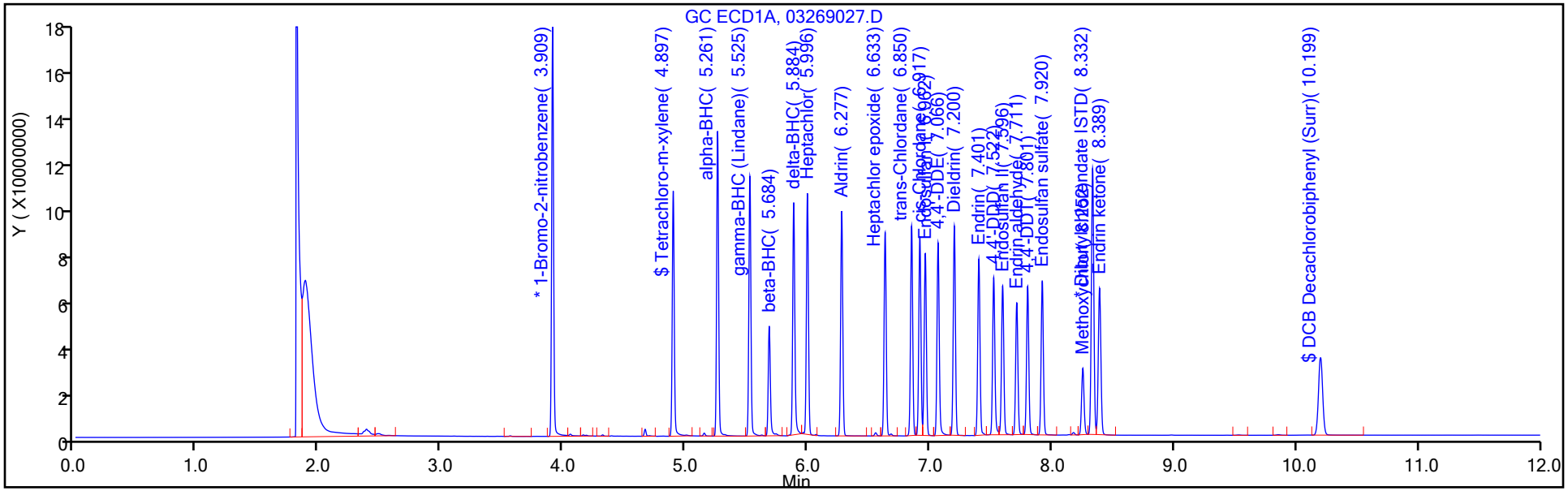

Column: MR-2 (0.53 mm)

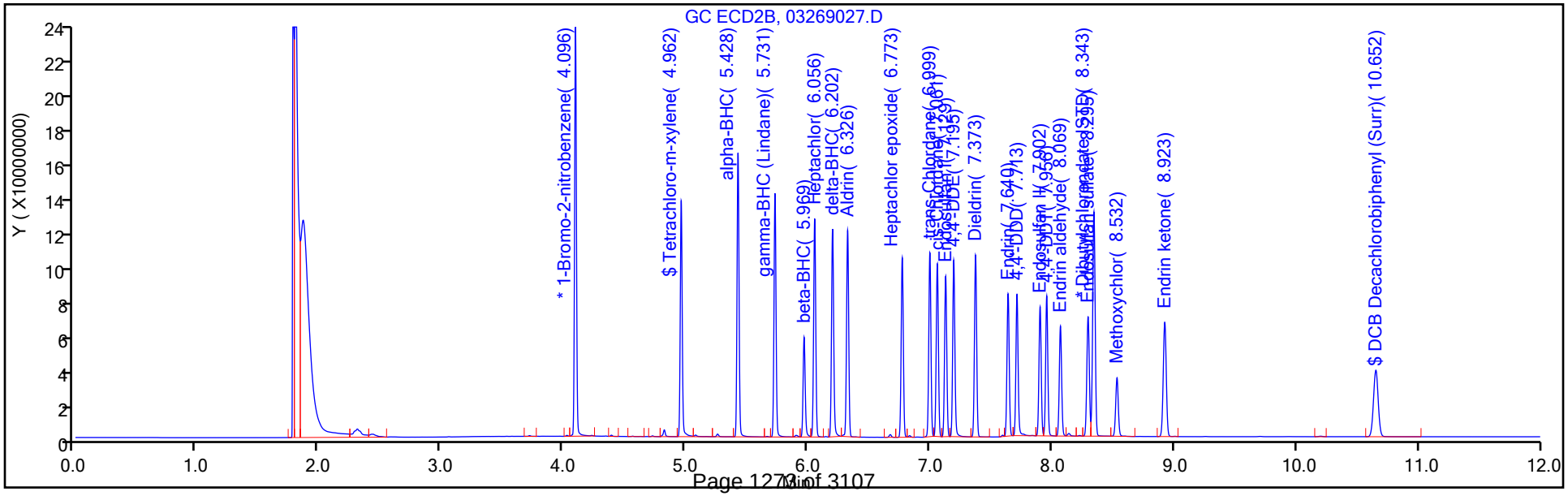

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269028.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 02-Apr-2019 16:58:30 ALS Bottle#: 28 Worklist Smp#: 28
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-028
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub12

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:24:26 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.909	3.910	-0.001	173243876H	0.1000	0.1000	
2	4.096	4.098	-0.002	229088772H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.897	4.898	-0.001	204632463H	0.1000	0.0961	
2	4.963	4.963	0.000	262296224H	0.1000	0.0992	
						RPD = 3.17	
5 alpha-BHC							
1	5.261	5.261	0.000	256901061H	0.1000	0.1001	
2	5.428	5.428	0.000	324385193H	0.1000	0.1027	
						RPD = 2.53	
7 gamma-BHC (Lindane)							
1	5.526	5.525	0.001	220905216H	0.1000	0.0996	
2	5.731	5.732	-0.001	271440482H	0.1000	0.1009	
						RPD = 1.31	
8 beta-BHC							
1	5.684	5.684	0.000	91781418H	0.1000	0.0964	
2	5.970	5.971	-0.001	115369744H	0.1000	0.1000	
						RPD = 3.76	
10 delta-BHC							
1	5.884	5.884	0.000	196652040H	0.1000	0.1022	
2	6.202	6.203	-0.001	244173700H	0.1000	0.1050	
						RPD = 2.70	
11 Heptachlor							
1	5.996	5.997	-0.001	199833324H	0.1000	0.0975	
2	6.056	6.057	-0.001	240135366H	0.1000	0.1005	
						RPD = 2.98	
13 Aldrin							
1	6.277	6.278	-0.001	193233684H	0.1000	0.0980	
2	6.326	6.327	-0.001	234061412H	0.1000	0.1015	
						RPD = 3.54	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
16 Heptachlor epoxide							
1	6.634	6.633	0.001	166960256H	0.1000	0.0961	
2	6.774	6.774	0.000	193242101H	0.1000	0.0989	
						RPD = 2.95	
18 trans-Chlordane							
1	6.850	6.851	-0.001	174348399H	0.1000	0.0990	
2	7.000	7.000	0.000	205076230H	0.1000	0.1013	
						RPD = 2.35	
20 cis-Chlordane							
1	6.918	6.918	0.000	168779880H	0.1000	0.0996	
2	7.061	7.062	-0.001	200412297H	0.1000	0.1029	
						RPD = 3.32	
22 Endosulfan I							
1	6.962	6.963	-0.001	147087214H	0.1000	0.0965	
2	7.131	7.131	0.000	179108759H	0.1000	0.1019	
						RPD = 5.38	
23 4,4'-DDE							
1	7.066	7.068	-0.002	165937737H	0.1000	0.1012	
2	7.196	7.196	0.000	198051124H	0.1000	0.1016	
						RPD = 0.43	
26 Dieldrin							
1	7.201	7.201	0.000	174179561H	0.1000	0.0982	
2	7.374	7.375	-0.001	201095694H	0.1000	0.0996	
						RPD = 1.41	
27 Endrin							
1	7.401	7.402	-0.001	145976043H	0.1000	0.0978	
2	7.641	7.641	0.000	161637910H	0.1000	0.1012	
						RPD = 3.38	
30 4,4'-DDD							
1	7.522	7.523	-0.001	132944605H	0.1000	0.0925	
2	7.713	7.714	-0.001	157813013H	0.1000	0.1027	
						RPD = 10.41	
31 Endosulfan II							
1	7.596	7.596	0.000	129276704H	0.1000	0.0990	
2	7.903	7.904	-0.001	148943279H	0.1000	0.1003	
						RPD = 1.40	
32 Endrin aldehyde							
1	7.711	7.712	-0.001	108330226H	0.1000	0.0945	
2	8.070	8.071	-0.001	124000591H	0.1000	0.0987	
						RPD = 4.38	
33 4,4'-DDT							
1	7.801	7.801	0.000	125887482H	0.1000	0.1016	
2	7.956	7.958	-0.002	158988705H	0.1000	0.1048	
						RPD = 3.09	
34 Endosulfan sulfate							
1	7.921	7.920	0.001	131622641H	0.1000	0.0979	
2	8.296	8.297	-0.001	139319023H	0.1000	0.1001	
						RPD = 2.24	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
35 Methoxychlor							
1	8.251	8.253	-0.002	57382144H	0.1000	0.0981	
2	8.532	8.533	-0.001	66496541H	0.1000	0.0994	
						RPD = 1.30	
* 36 Dibutylchlorendate ISTD							
1	8.332	8.333	0.000	113502729H	0.1000	0.1000	
2	8.344	8.345	-0.001	129294004H	0.1000	0.1000	
37 Endrin ketone							
1	8.390	8.391	-0.001	125087417H	0.1000	0.0973	
2	8.924	8.925	-0.001	131315605H	0.1000	0.1013	
						RPD = 4.03	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.201	10.202	-0.001	67254498H	0.1000	0.0953	
2	10.654	10.654	0.000	75877342H	0.1000	0.0937	
						RPD = 1.60	

Reagents:

GCPestL5_00021 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00015 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 03-Apr-2019 08:24:27 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269028.D				
Injection Date:	02-Apr-2019 16:58:30	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	IC			Worklist Smp#:	28
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	28
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

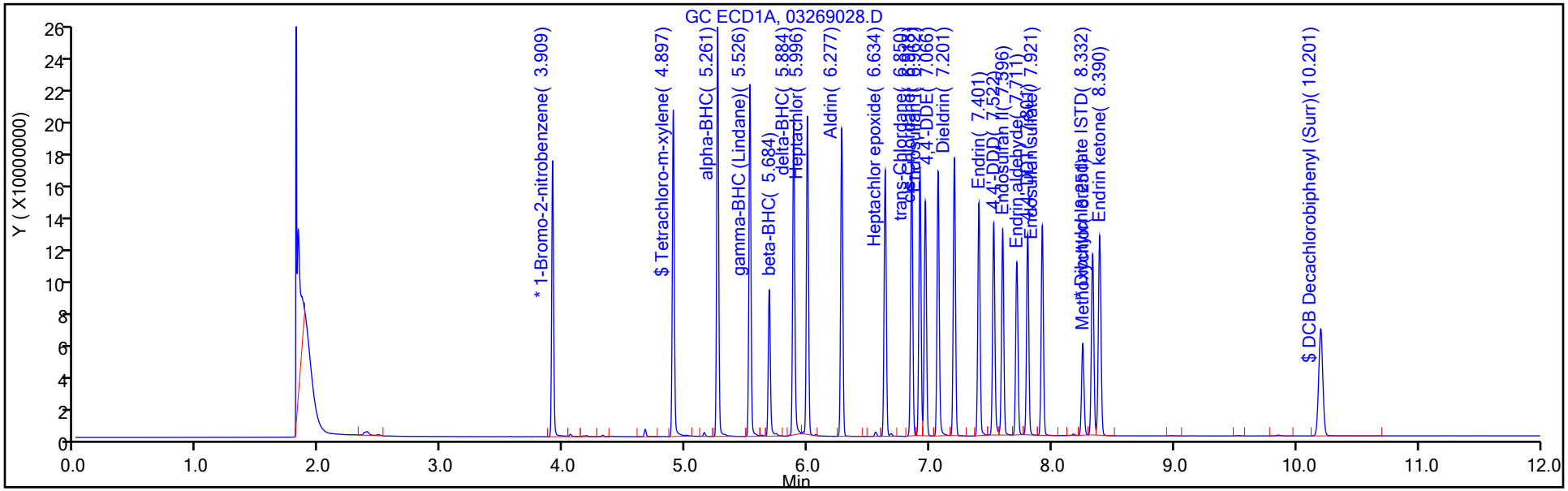

Column: MR-2 (0.53 mm)

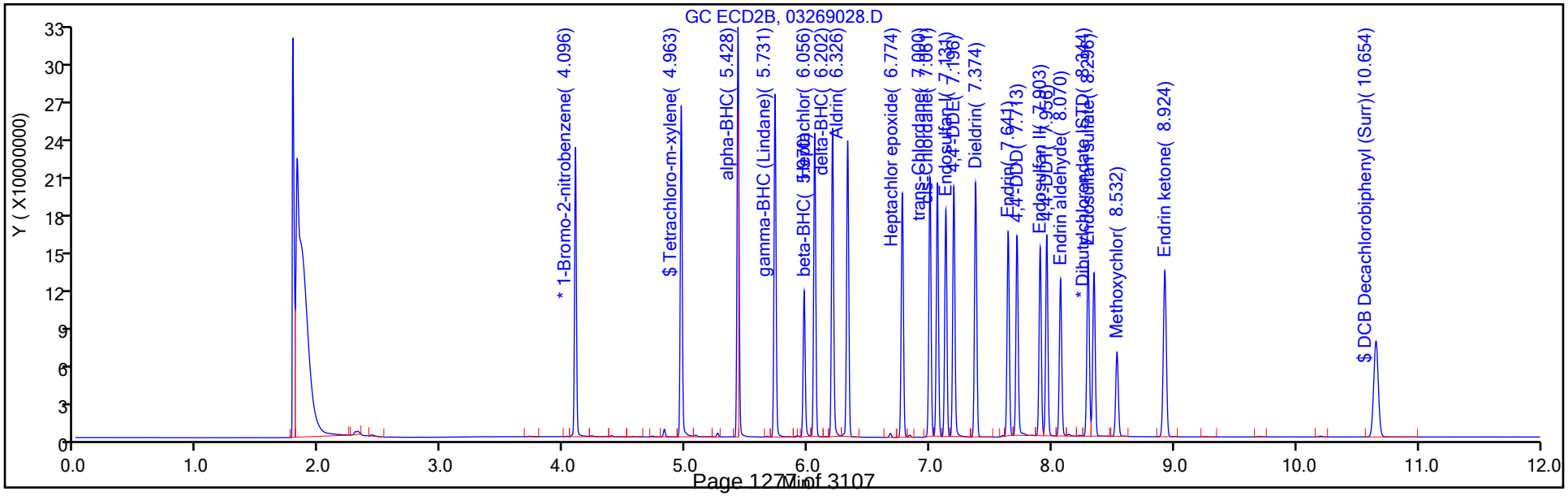

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 02-Apr-2019 17:14:51 ALS Bottle#: 29 Worklist Smp#: 29
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026214-029
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub12

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Apr-2019 08:24:30 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: eppinged Date: 03-Apr-2019 08:20:18

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.910	3.910	0.000	179921425H	0.1000	0.1000	
2	4.098	4.098	-0.001	237568637H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.898	4.898	0.000	406166667H	0.2000	0.1838	
2	4.963	4.963	0.000	515384733H	0.2000	0.1880	
						RPD = 2.31	
5 alpha-BHC							
1	5.262	5.261	0.001	511182851H	0.2000	0.1918	
2	5.429	5.428	0.001	639991872H	0.2000	0.1954	
						RPD = 1.83	
7 gamma-BHC (Lindane)							
1	5.525	5.525	0.000	439027868H	0.2000	0.1906	
2	5.732	5.732	0.000	547684185H	0.2000	0.1964	
						RPD = 2.97	
8 beta-BHC							
1	5.683	5.684	-0.001	186525238H	0.2000	0.1886	
2	5.970	5.971	-0.001	232484071H	0.2000	0.1944	
						RPD = 3.06	
10 delta-BHC							
1	5.884	5.884	0.000	399909765H	0.2000	0.2002	
2	6.203	6.203	0.000	502097348H	0.2000	0.2083	
						RPD = 3.96	
11 Heptachlor							
1	5.997	5.997	0.000	393524279H	0.2000	0.1849	
2	6.057	6.057	0.000	472587500H	0.2000	0.1907	
						RPD = 3.07	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
13 Aldrin							
1	6.278	6.278	0.000	381386028H	0.2000	0.1862	
2	6.327	6.327	0.000	462656557H	0.2000	0.1935	
						RPD = 3.83	
16 Heptachlor epoxide							
1	6.634	6.633	0.001	335938521H	0.2000	0.1861	
2	6.774	6.774	0.000	387258768H	0.2000	0.1912	
						RPD = 2.70	
18 trans-Chlordane							
1	6.851	6.851	0.000	347885724H	0.2000	0.1902	
2	7.000	7.000	0.000	405830332H	0.2000	0.1934	
						RPD = 1.67	
20 cis-Chlordane							
1	6.918	6.918	0.000	336132704H	0.2000	0.1909	
2	7.062	7.062	0.000	389406751H	0.2000	0.1928	
						RPD = 1.00	
22 Endosulfan I							
1	6.963	6.963	0.000	303666669H	0.2000	0.1919	
2	7.130	7.131	-0.001	351525433H	0.2000	0.1928	
						RPD = 0.47	
23 4,4'-DDE							
1	7.068	7.068	0.000	341079784H	0.2000	0.2013	
2	7.196	7.196	0.000	405621721H	0.2000	0.2011	
						RPD = 0.12	
26 Dieldrin							
1	7.201	7.201	0.000	347781703H	0.2000	0.1897	
2	7.375	7.375	0.000	401239949H	0.2000	0.1919	
						RPD = 1.15	
27 Endrin							
1	7.402	7.402	0.000	291299435H	0.2000	0.1888	
2	7.642	7.641	0.001	319126544H	0.2000	0.1929	
						RPD = 2.12	
30 4,4'-DDD							
1	7.523	7.523	0.000	271648141H	0.2000	0.1830	
2	7.713	7.714	-0.001	332156142H	0.2000	0.2088	
						RPD = 13.18	
31 Endosulfan II							
1	7.597	7.596	0.001	256600729H	0.2000	0.1901	
2	7.903	7.904	-0.001	298740169H	0.2000	0.1944	
						RPD = 2.25	
32 Endrin aldehyde							
1	7.713	7.712	0.001	220679513H	0.2000	0.1862	
2	8.070	8.071	-0.001	248089126H	0.2000	0.1907	
						RPD = 2.39	
33 4,4'-DDT							
1	7.801	7.801	0.000	263952820H	0.2000	0.2062	
2	7.958	7.958	0.000	324191825H	0.2000	0.2064	
						RPD = 0.11	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
34 Endosulfan sulfate							
1	7.921	7.920	0.001	262455559H	0.2000	0.1889	
2	8.296	8.297	-0.001	277296943H	0.2000	0.1924	
						RPD = 1.86	
35 Methoxychlor							
1	8.253	8.253	0.000	117477043H	0.2000	0.1943	
2	8.533	8.533	0.000	133031659H	0.2000	0.1920	
						RPD = 1.20	
* 36 Dibutylchlorendate ISTD							
1	8.333	8.333	0.000	117283534H	0.1000	0.1000	
2	8.344	8.345	-0.001	133854957H	0.1000	0.1000	
37 Endrin ketone							
1	8.391	8.391	0.000	247756190H	0.2000	0.1864	
2	8.924	8.925	-0.001	257009363H	0.2000	0.1914	
						RPD = 2.64	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.203	10.202	0.001	132661705H	0.2000	0.1818	
2	10.654	10.654	0.000	148316467H	0.2000	0.1770	
						RPD = 2.70	

Reagents:

GCPestL6_00021	Amount Added: 1.00	Units: mL	
GCPESTISSPK2_00015	Amount Added: 0.01	Units: mL	Run Reagent

Report Date: 03-Apr-2019 08:24:30 Chrom Revision: 2.3 24-Mar-2019 20:11:04

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D				
Injection Date:	02-Apr-2019 17:14:51	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	IC			Worklist Smp#:	29
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	29
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

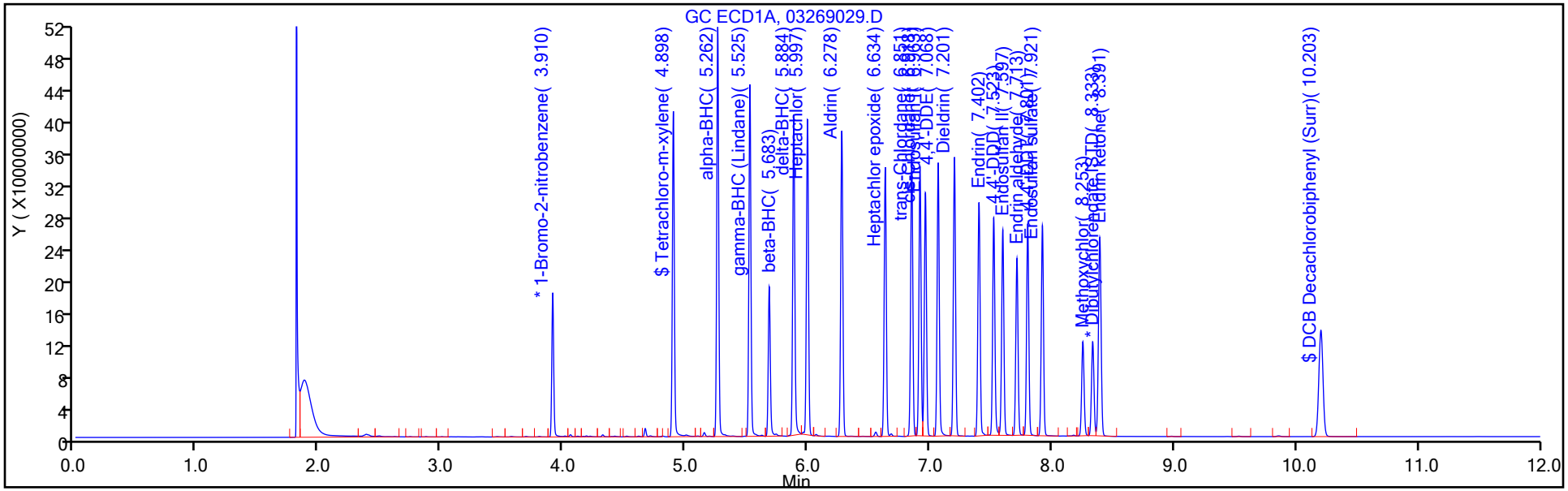

Column: MR-2 (0.53 mm)

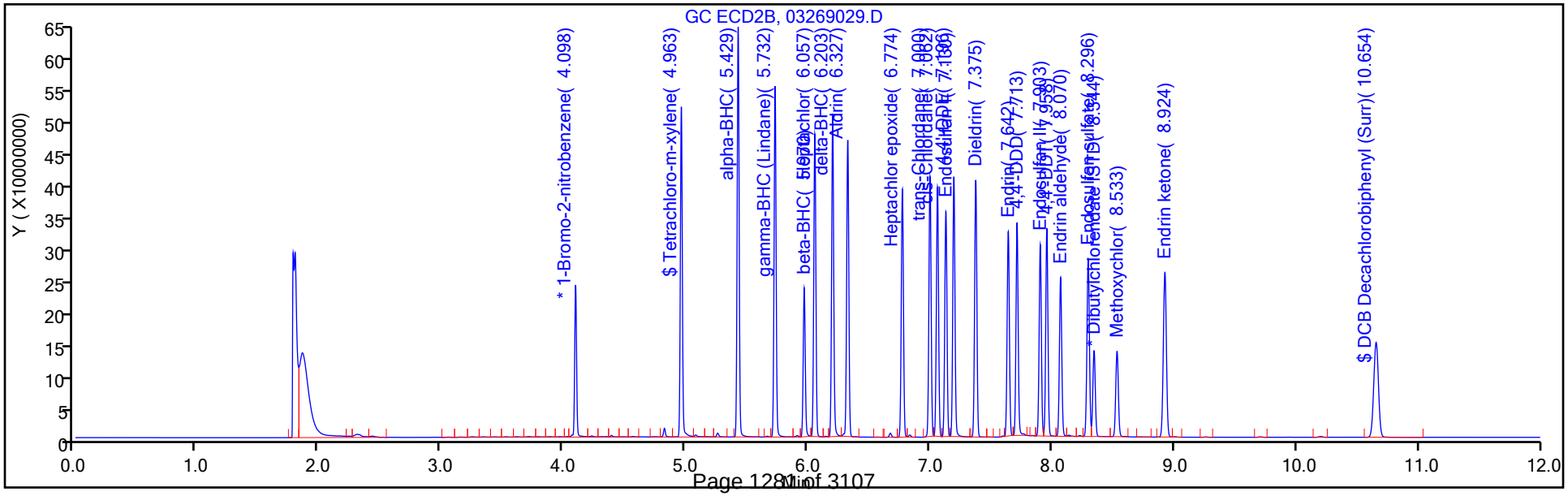

FORM VII
PESTICIDES PERFORMANCE EVALUATION MIXTURE (PEM)

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: PEM 180-293301/25 Calibration Date: 10/01/2019 16:28

Instrument ID: CHGC17 Calib Start Date: 04/02/2019 15:52

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 04/02/2019 17:14

Lab File ID: 10011925.D Conc. Units: ng/uL

ANALYTE	RT	RESPONSE	BREAKDOWN (%)	LIMIT	#
Endrin	7.39	44249824	1.40	15	
Endrin aldehyde		0			
Endrin ketone	8.38	629916			

ANALYTE	RT	RESPONSE	BREAKDOWN (%)	LIMIT	#
4,4'-DDT	7.79	73591753	3.38	15	
4,4'-DDD	7.52	1936448			
4,4'-DDE	7.06	638104			

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011925.D
Lims ID: PEM
Client ID:
Sample Type: PEM
Inject. Date: 01-Oct-2019 16:28:21 ALS Bottle#: 25 Worklist Smp#: 25
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028917-025
Operator ID: Instrument ID: CHGC17
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 02-Oct-2019 06:12:02 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0320

First Level Reviewer: eppinged Date: 02-Oct-2019 05:58:13

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.912	3.909	0.003	154187693H	0.1000	0.1000	
2	4.098	4.095	0.003	306706072H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.895	4.891	0.004	45230147H	0.0250	0.0239	
2	4.957	4.953	0.004	81348740H	0.0250	0.0230	
						RPD = 3.79	
23 4,4'-DDE							
1	7.060	7.056	0.004	502028H		0.000329	
2	7.181	7.177	0.004	914427H		0.000334	
						RPD = 1.56	
27 Endrin							
1	7.393	7.390	0.003	35199636H	0.0250	0.0253	
2	7.626	7.623	0.003	56778575H	0.0250	0.0253	
						RPD = 0.14	
30 4,4'-DDD							
1	7.517	7.513	0.004	1277750H		0.000955	
2	7.700	7.696	0.004	2042495H		0.000946	
						RPD = 0.96	
32 Endrin aldehyde							
1		7.703				ND	
2		8.053					
33 4,4'-DDT							
1	7.794	7.790	0.004	59460816H	0.0500	0.0516	
2	7.942	7.938	0.004	106242935H	0.0500	0.0499	
						RPD = 3.36	
* 36 Dibutylchlorendate ISTD							M
1	8.320	8.317	0.003	105655848H	0.1000	0.1000	M
2	8.321	8.317	0.004	181616006H	0.1000	0.1000	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
37 Endrin ketone							Ma
1	8.382	8.380	0.002	418947H		0.000350	M
2	8.903	8.902	0.001	655159H		0.000360	a
						RPD = 2.74	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.175	10.169	0.006	15143782H	0.0250	0.0230	
2	10.607	10.599	0.008	28315740H	0.0250	0.0249	
						RPD = 7.77	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

GCPESTPEMSTD_00040	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.01	Units: mL	Run Reagent

Report Date: 02-Oct-2019 06:12:40 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011925.D				
Injection Date:	01-Oct-2019 16:28:21	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	PEM			Worklist Smp#:	25
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	25
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

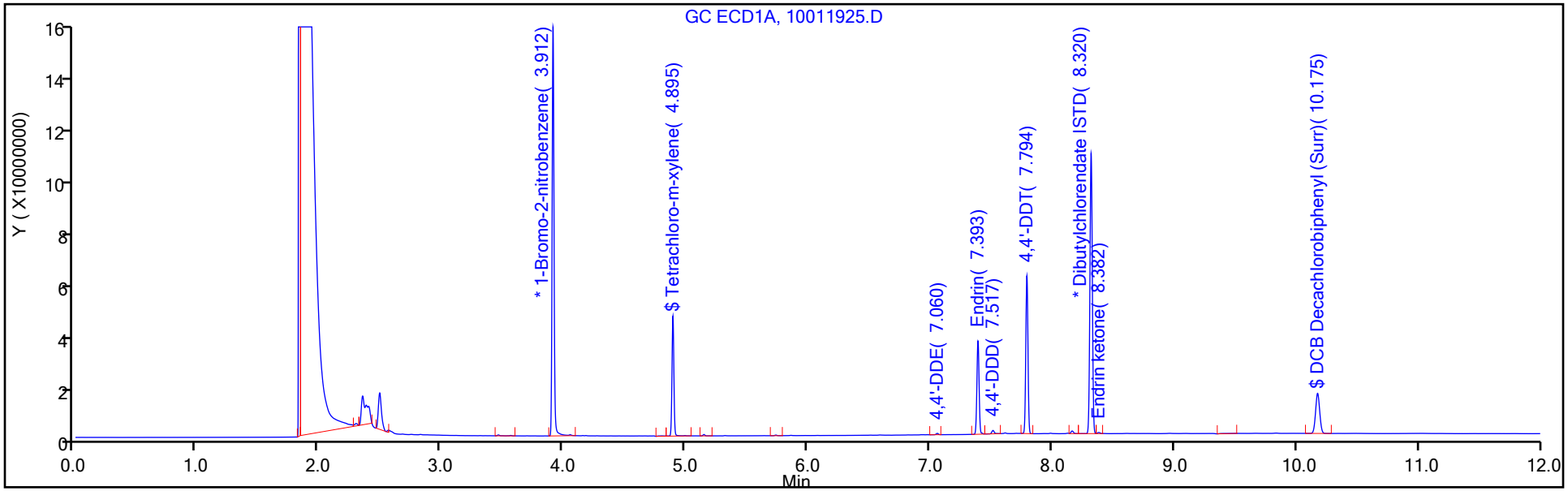

Column: MR-2 (0.53 mm)

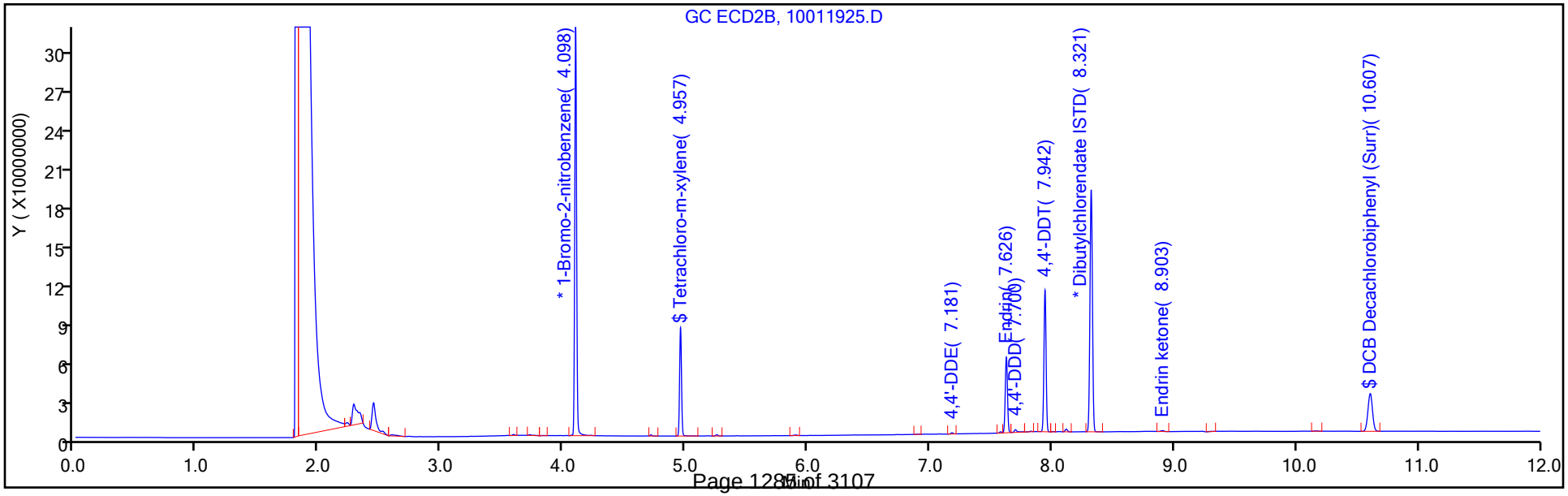

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011925.D				
Injection Date:	01-Oct-2019 16:28:21	Instrument ID:	CHGC17		
Lims ID:	PEM				
Client ID:					
Operator ID:		ALS Bottle#:	25	Worklist Smp#:	25
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

37 Endrin ketone, CAS: 53494-70-5

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 8.38

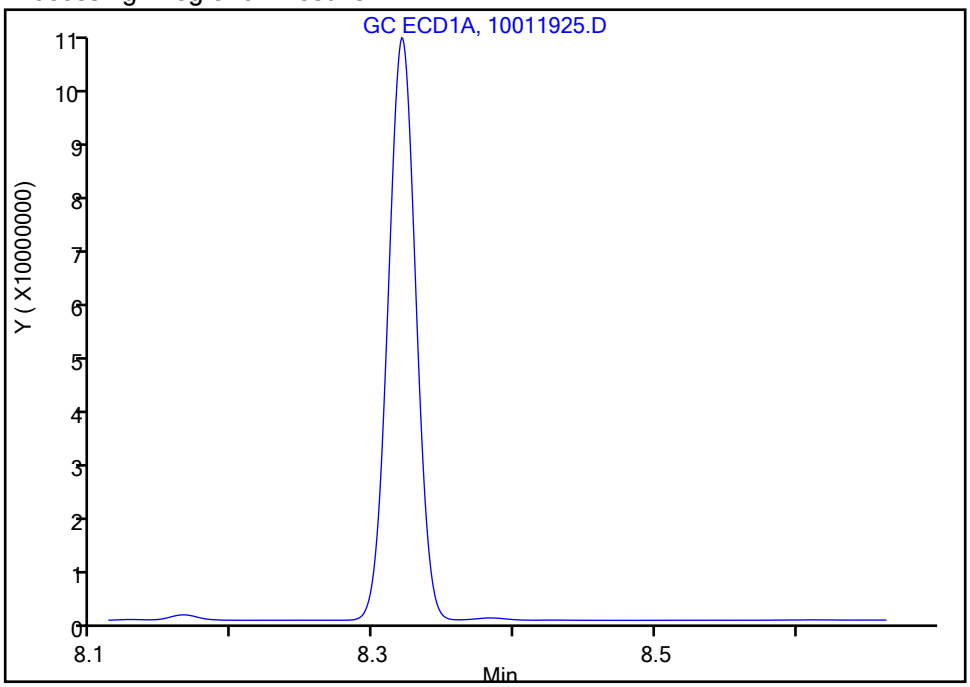

Manual Integration Results

RT: 8.38
Height: 418947
Amount: 0.000350
Amount Units: ng

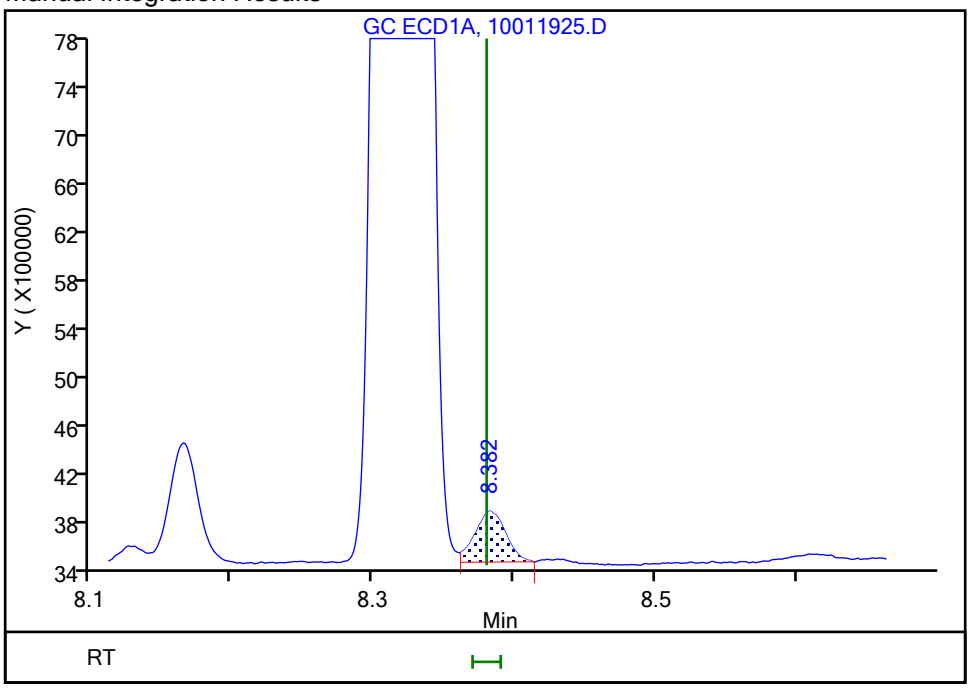

Reviewer: eppinged, 02-Oct-2019 05:58:01
Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

FORM VII
PESTICIDES PERFORMANCE EVALUATION MIXTURE (PEM)

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: PEM 180-293301/25 Calibration Date: 10/01/2019 16:28

Instrument ID: CHGC17 Calib Start Date: 04/02/2019 15:52

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 04/02/2019 17:14

Lab File ID: 10011925.D Conc. Units: ng/uL

ANALYTE	RT	RESPONSE	BREAKDOWN (%)	LIMIT	#
Endrin	7.63	72485761	1.63	15	
Endrin aldehyde		0			
Endrin ketone	8.90	1203908			

ANALYTE	RT	RESPONSE	BREAKDOWN (%)	LIMIT	#
4,4'-DDT	7.94	130669216	3.57	15	
4,4'-DDD	7.70	3709325			
4,4'-DDE	7.18	1125696			

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011925.D
Lims ID: PEM
Client ID:
Sample Type: PEM
Inject. Date: 01-Oct-2019 16:28:21 ALS Bottle#: 25 Worklist Smp#: 25
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028917-025
Operator ID: Instrument ID: CHGC17
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 02-Oct-2019 06:12:02 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0320

First Level Reviewer: eppinged Date: 02-Oct-2019 05:58:13

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.912	3.909	0.003	154187693H	0.1000	0.1000	
2	4.098	4.095	0.003	306706072H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.895	4.891	0.004	45230147H	0.0250	0.0239	
2	4.957	4.953	0.004	81348740H	0.0250	0.0230	
						RPD = 3.79	
23 4,4'-DDE							
1	7.060	7.056	0.004	502028H		0.000329	
2	7.181	7.177	0.004	914427H		0.000334	
						RPD = 1.56	
27 Endrin							
1	7.393	7.390	0.003	35199636H	0.0250	0.0253	
2	7.626	7.623	0.003	56778575H	0.0250	0.0253	
						RPD = 0.14	
30 4,4'-DDD							
1	7.517	7.513	0.004	1277750H		0.000955	
2	7.700	7.696	0.004	2042495H		0.000946	
						RPD = 0.96	
32 Endrin aldehyde							
1		7.703				ND	
2		8.053					
33 4,4'-DDT							
1	7.794	7.790	0.004	59460816H	0.0500	0.0516	
2	7.942	7.938	0.004	106242935H	0.0500	0.0499	
						RPD = 3.36	
* 36 Dibutylchlorendate ISTD							M
1	8.320	8.317	0.003	105655848H	0.1000	0.1000	M
2	8.321	8.317	0.004	181616006H	0.1000	0.1000	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
37 Endrin ketone							Ma
1	8.382	8.380	0.002	418947H		0.000350	M
2	8.903	8.902	0.001	655159H		0.000360	a
						RPD = 2.74	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.175	10.169	0.006	15143782H	0.0250	0.0230	
2	10.607	10.599	0.008	28315740H	0.0250	0.0249	
						RPD = 7.77	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

GCPESTPEMSTD_00040	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.01	Units: mL	Run Reagent

Report Date: 02-Oct-2019 06:12:40 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011925.D				
Injection Date:	01-Oct-2019 16:28:21	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	PEM			Worklist Smp#:	25
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	25
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

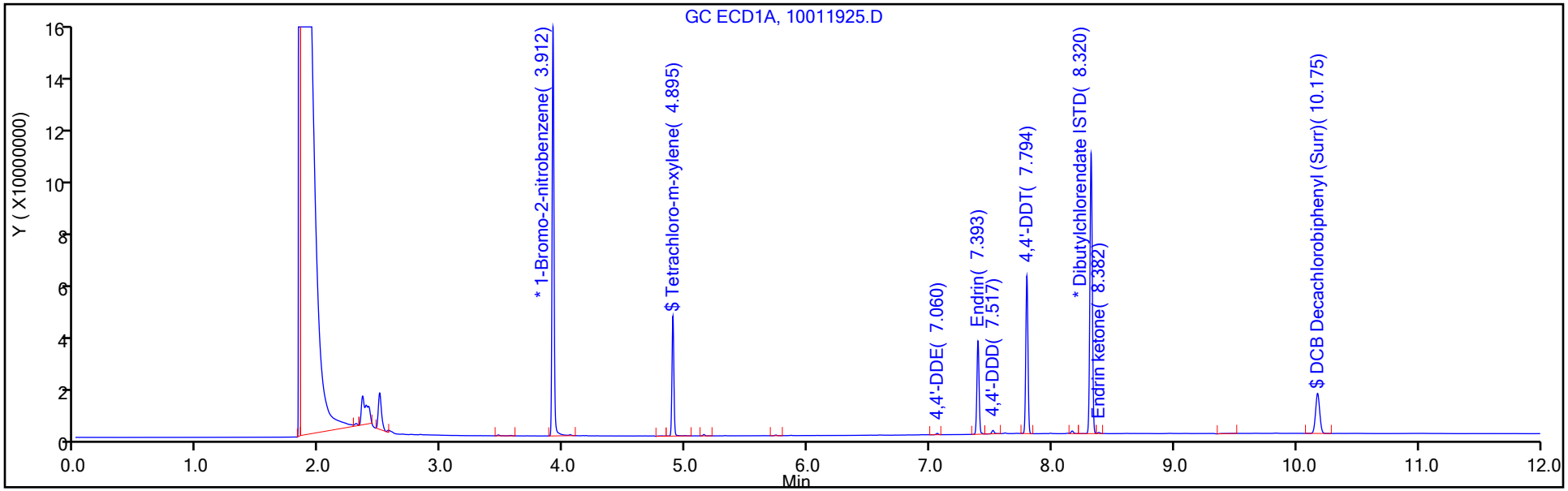

Column: MR-2 (0.53 mm)

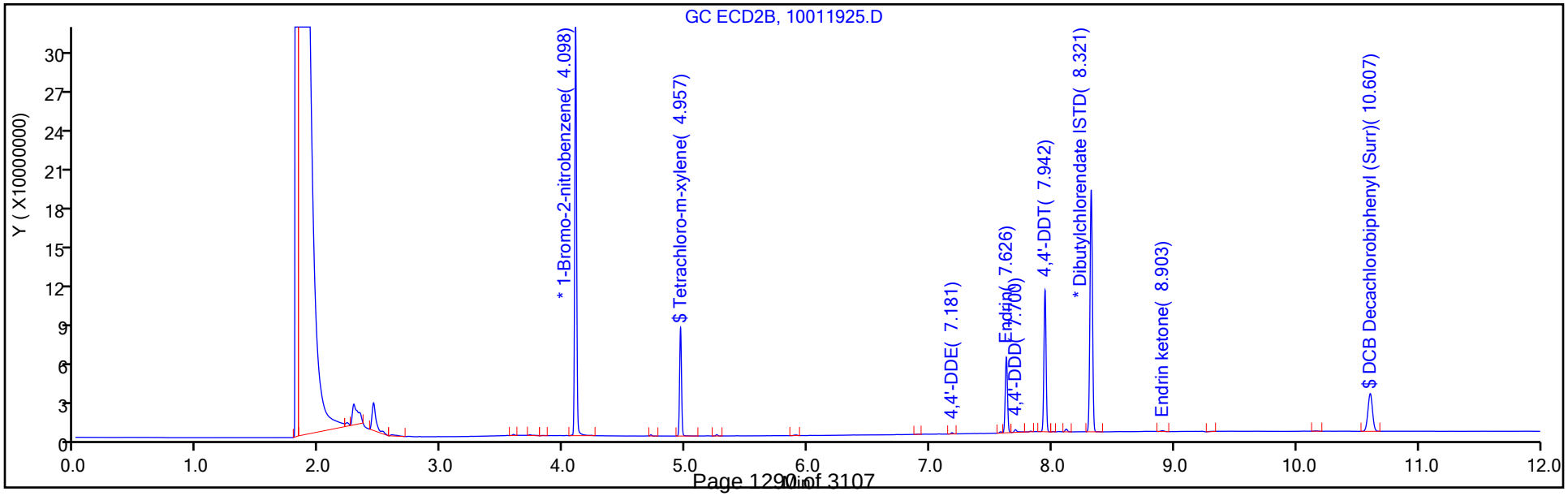

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011925.D				
Injection Date:	01-Oct-2019 16:28:21	Instrument ID:	CHGC17		
Lims ID:	PEM				
Client ID:					
Operator ID:		ALS Bottle#:	25	Worklist Smp#:	25
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

37 Endrin ketone, CAS: 53494-70-5

Signal: 2

Not Detected
Expected RT: 8.90

Processing Integration Results

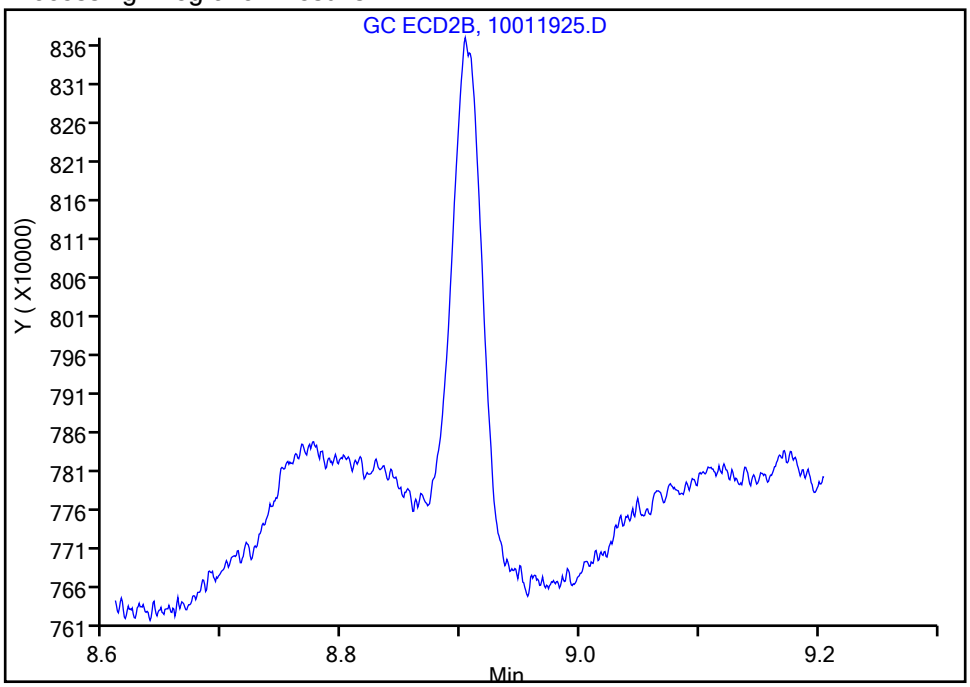

Manual Integration Results

RT: 8.90
Height: 655159
Amount: 0.000360
Amount Units: ng

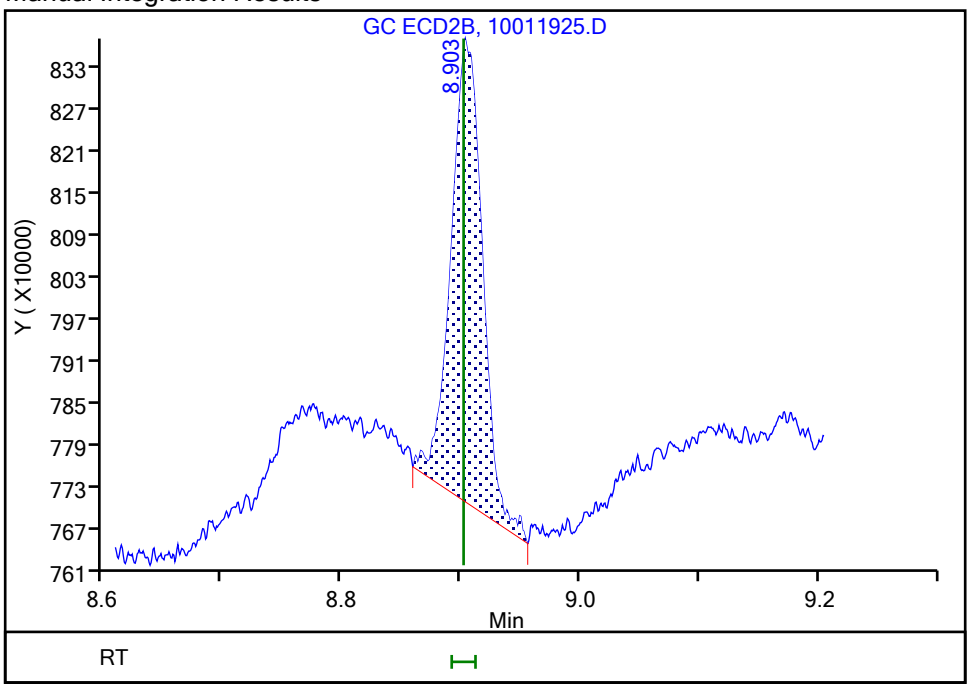

Reviewer: eppinged, 02-Oct-2019 05:58:06
Audit Action: Assigned Compound ID Audit Reason: Split Peak

FORM VII
PESTICIDES PERFORMANCE EVALUATION MIXTURE (PEM)

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: PEM 180-293427/1 Calibration Date: 10/02/2019 07:14

Instrument ID: CHGC17 Calib Start Date: 04/02/2019 15:52

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 04/02/2019 17:14

Lab File ID: 10021901.D Conc. Units: ng/uL

ANALYTE	RT	RESPONSE	BREAKDOWN (%)	LIMIT	#
Endrin	7.40	45618449	1.44	15	
Endrin aldehyde		0			
Endrin ketone	8.39	668818			

ANALYTE	RT	RESPONSE	BREAKDOWN (%)	LIMIT	#
4,4'-DDT	7.80	76035988	4.12	15	
4,4'-DDD	7.52	2385166			
4,4'-DDE	7.06	883418			

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\10021901.D
Lims ID: PEM
Client ID:
Sample Type: PEM
Inject. Date: 02-Oct-2019 07:14:38 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028932-001
Operator ID: Instrument ID: CHGC17
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 02-Oct-2019 09:43:27 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0320

First Level Reviewer: eppinged Date: 02-Oct-2019 07:43:57

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.913	3.912	0.001	148211120H	0.1000	0.1000	
2	4.095	4.098	-0.003	294990618H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.897	4.895	0.002	45473920H	0.0250	0.0250	
2	4.956	4.958	-0.002	80123392H	0.0250	0.0235	
						RPD = 5.90	
23 4,4'-DDE							
1	7.062	7.060	0.002	711918H		0.000469	
2	7.181	7.181	0.000	1288612H		0.000463	
						RPD = 1.27	
27 Endrin							
1	7.397	7.394	0.003	36001717H	0.0250	0.0261	
2	7.626	7.627	-0.001	59754505H	0.0250	0.0262	
						RPD = 0.51	
30 4,4'-DDD							
1	7.519	7.518	0.001	1545584H		0.001162	
2	7.700	7.700	0.000	2489519H		0.001135	
						RPD = 2.40	
32 Endrin aldehyde							
1		7.708				ND	
2		8.057					
33 4,4'-DDT							
1	7.797	7.795	0.002	62157379H	0.0500	0.0542	
2	7.942	7.943	-0.001	112854877H	0.0500	0.0521	
						RPD = 3.95	
* 36 Dibutylchlorendate ISTD							M
1	8.323	8.322	0.001	105044606H	0.1000	0.1000	M
2	8.321	8.322	-0.001	184581297H	0.1000	0.1000	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
37 Endrin ketone							Ma
1	8.386	8.384	0.002	454628H		0.000382	M
2	8.904	8.906	-0.002	728774H		0.000394	a
						RPD = 3.01	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.181	10.176	0.005	15122331H	0.0250	0.0231	
2	10.607	10.608	-0.001	28208751H	0.0250	0.0244	
						RPD = 5.34	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

GCPESTPEMSTD_00040	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.01	Units: mL	Run Reagent

Report Date: 02-Oct-2019 09:48:50 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\10021901.D

Injection Date: 02-Oct-2019 07:14:38 Instrument ID: CHGC17 Operator ID:

Lims ID: PEM Worklist Smp#: 1

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 1

Method: IS PEST_CHGC17 Limit Group: GCS 8081B ICAL with IS

Column: MR-1 (0.53 mm)

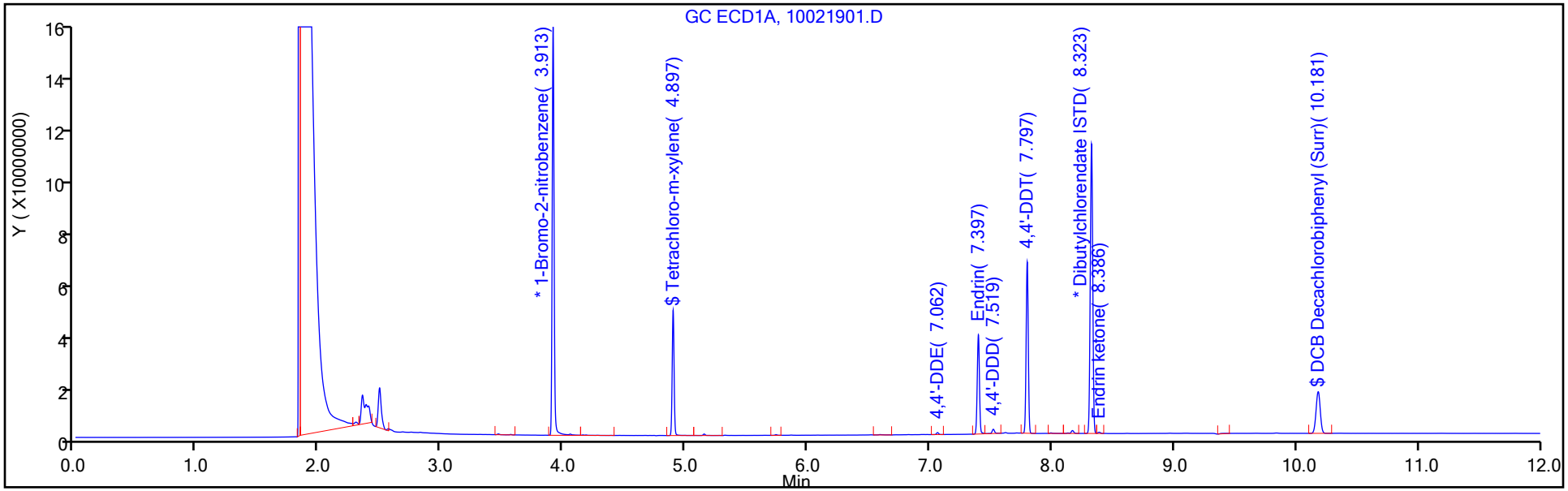

Column: MR-2 (0.53 mm)

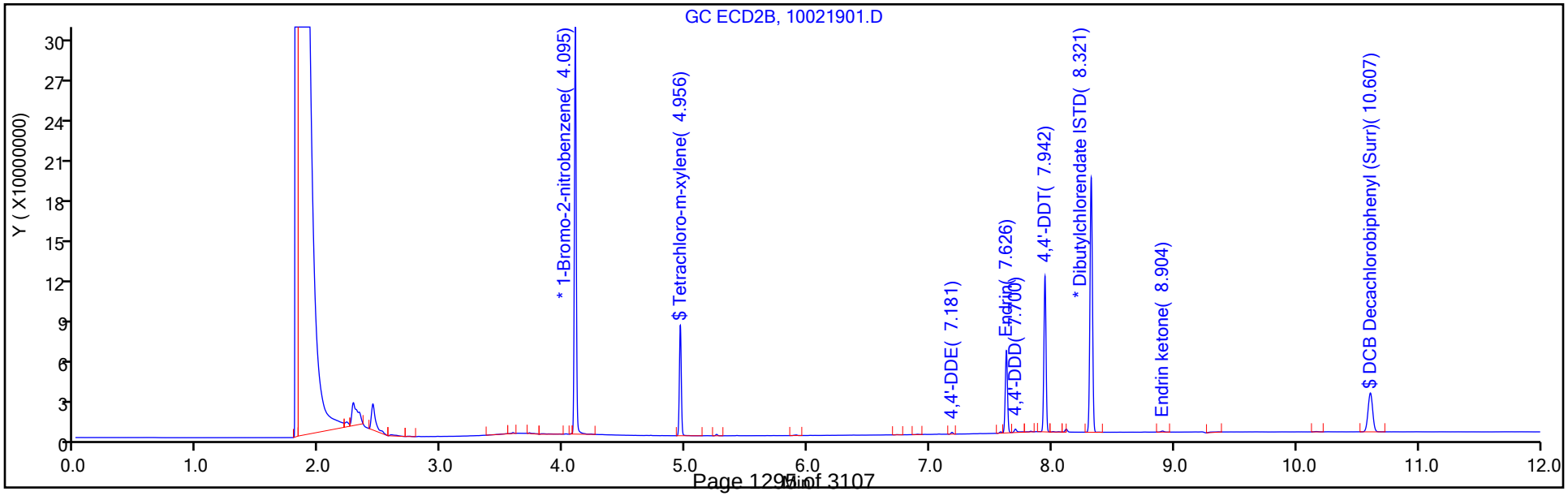

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\10021901.D				
Injection Date:	02-Oct-2019 07:14:38	Instrument ID:	CHGC17		
Lims ID:	PEM				
Client ID:					
Operator ID:		ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

37 Endrin ketone, CAS: 53494-70-5

Signal: 1

Not Detected
Expected RT: 8.38

Processing Integration Results

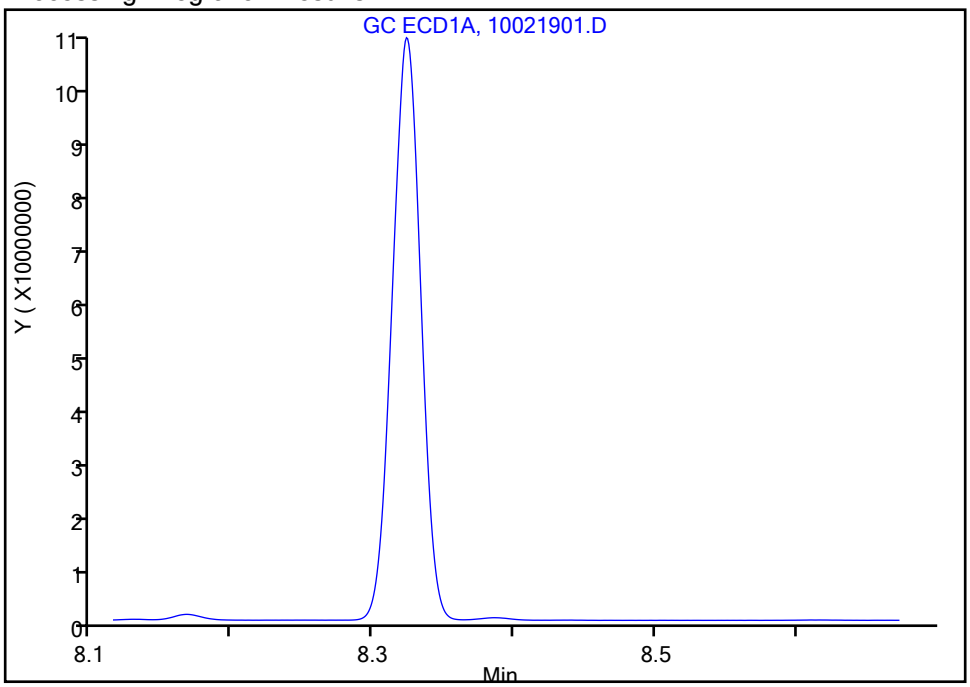

Manual Integration Results

RT: 8.39
Height: 454628
Amount: 0.000382
Amount Units: ng

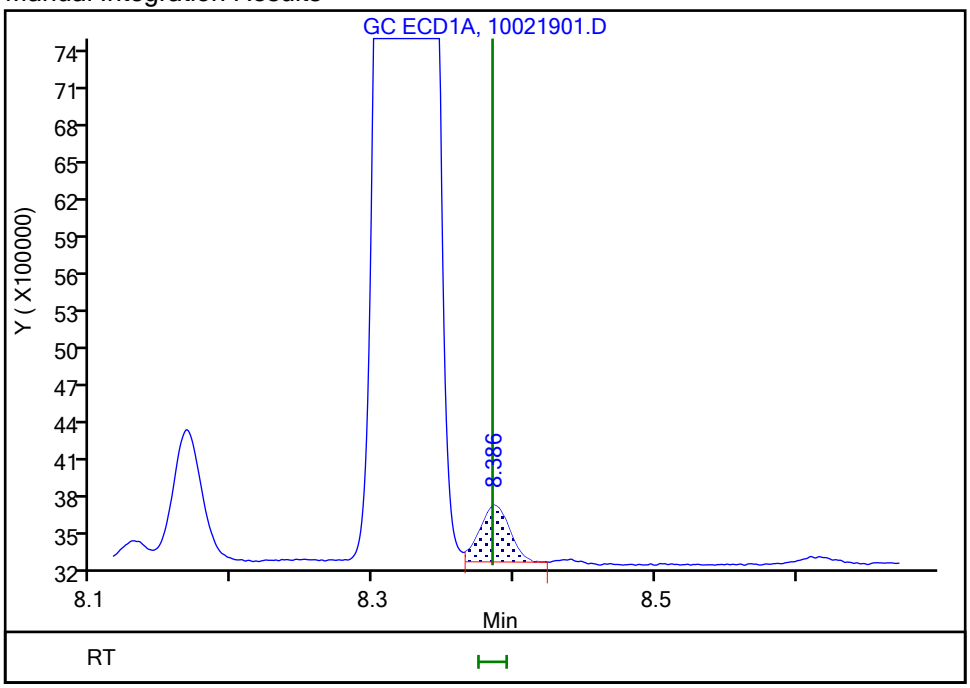

Reviewer: eppinged, 02-Oct-2019 07:36:28
Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

FORM VII
PESTICIDES PERFORMANCE EVALUATION MIXTURE (PEM)

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: PEM 180-293427/1 Calibration Date: 10/02/2019 07:14

Instrument ID: CHGC17 Calib Start Date: 04/02/2019 15:52

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 04/02/2019 17:14

Lab File ID: 10021901.D Conc. Units: ng/uL

ANALYTE	RT	RESPONSE	BREAKDOWN (%)	LIMIT	#
Endrin	7.63	75242054	1.75	15	
Endrin aldehyde		0			
Endrin ketone	8.90	1343971			

ANALYTE	RT	RESPONSE	BREAKDOWN (%)	LIMIT	#
4,4'-DDT	7.94	137681702	4.24	15	
4,4'-DDD	7.70	4561506			
4,4'-DDE	7.18	1531350			

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\10021901.D
Lims ID: PEM
Client ID:
Sample Type: PEM
Inject. Date: 02-Oct-2019 07:14:38 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028932-001
Operator ID: Instrument ID: CHGC17
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 02-Oct-2019 09:43:27 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0320

First Level Reviewer: eppinged Date: 02-Oct-2019 07:43:57

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.913	3.912	0.001	148211120H	0.1000	0.1000	
2	4.095	4.098	-0.003	294990618H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.897	4.895	0.002	45473920H	0.0250	0.0250	
2	4.956	4.958	-0.002	80123392H	0.0250	0.0235	
						RPD = 5.90	
23 4,4'-DDE							
1	7.062	7.060	0.002	711918H		0.000469	
2	7.181	7.181	0.000	1288612H		0.000463	
						RPD = 1.27	
27 Endrin							
1	7.397	7.394	0.003	36001717H	0.0250	0.0261	
2	7.626	7.627	-0.001	59754505H	0.0250	0.0262	
						RPD = 0.51	
30 4,4'-DDD							
1	7.519	7.518	0.001	1545584H		0.001162	
2	7.700	7.700	0.000	2489519H		0.001135	
						RPD = 2.40	
32 Endrin aldehyde							
1		7.708				ND	
2		8.057					
33 4,4'-DDT							
1	7.797	7.795	0.002	62157379H	0.0500	0.0542	
2	7.942	7.943	-0.001	112854877H	0.0500	0.0521	
						RPD = 3.95	
* 36 Dibutylchlorendate ISTD							M
1	8.323	8.322	0.001	105044606H	0.1000	0.1000	M
2	8.321	8.322	-0.001	184581297H	0.1000	0.1000	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
37 Endrin ketone							Ma
1	8.386	8.384	0.002	454628H		0.000382	M
2	8.904	8.906	-0.002	728774H		0.000394	a
						RPD = 3.01	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.181	10.176	0.005	15122331H	0.0250	0.0231	
2	10.607	10.608	-0.001	28208751H	0.0250	0.0244	
						RPD = 5.34	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

GCPESTPEMSTD_00040	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.01	Units: mL	Run Reagent

Report Date: 02-Oct-2019 09:48:51 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\10021901.D

Injection Date: 02-Oct-2019 07:14:38 Instrument ID: CHGC17 Operator ID:

Lims ID: PEM Worklist Smp#: 1

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 1

Method: IS PEST_CHGC17 Limit Group: GCS 8081B ICAL with IS

Column: MR-1 (0.53 mm)

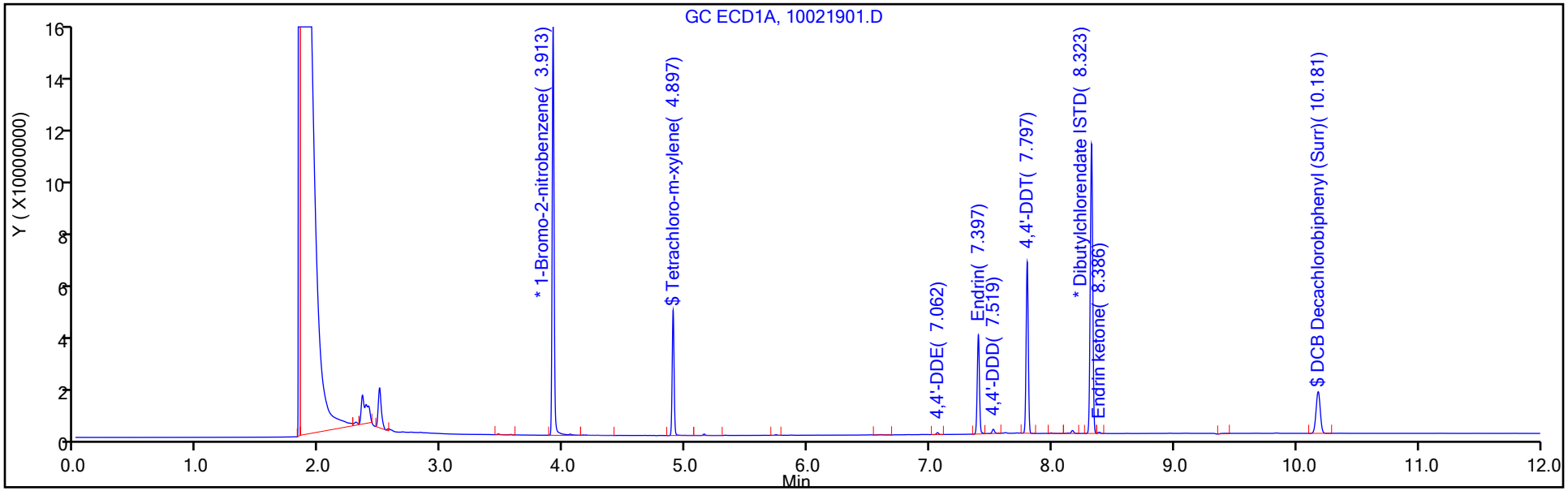

Column: MR-2 (0.53 mm)

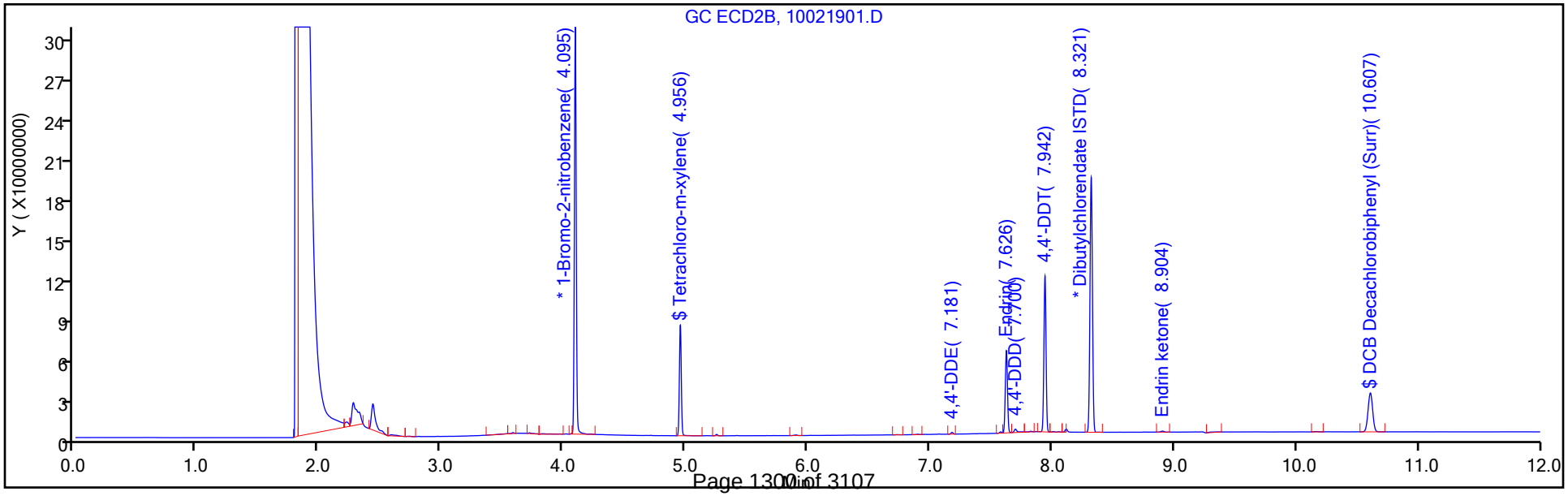

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\10021901.D				
Injection Date:	02-Oct-2019 07:14:38	Instrument ID:	CHGC17		
Lims ID:	PEM				
Client ID:					
Operator ID:		ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

37 Endrin ketone, CAS: 53494-70-5

Signal: 2

Not Detected
Expected RT: 8.91

Processing Integration Results

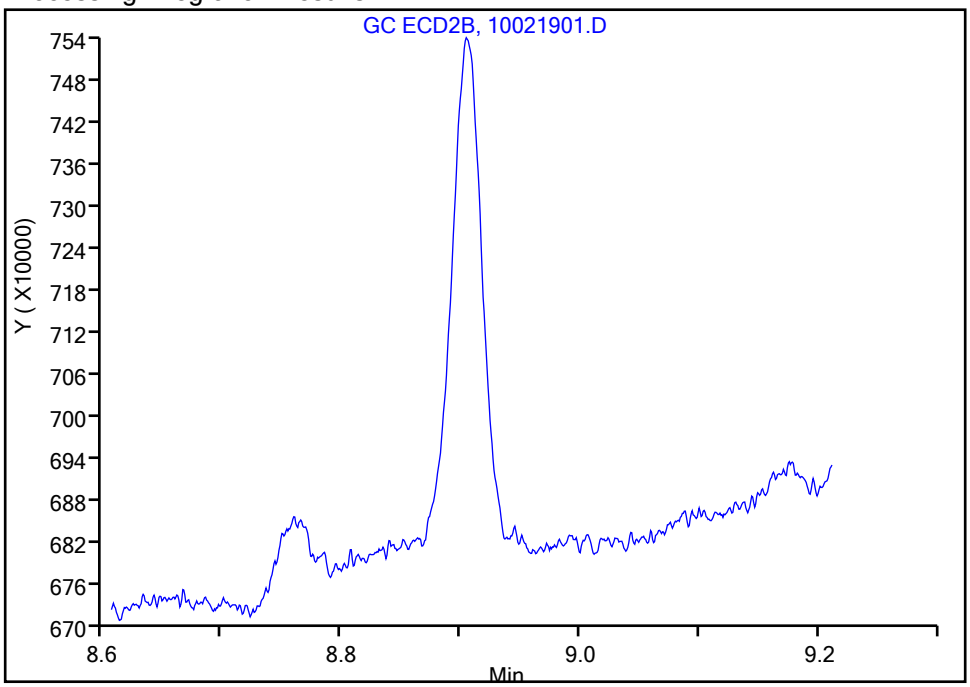

RT: 8.90
Height: 728774
Amount: 0.000394
Amount Units: ng

Manual Integration Results

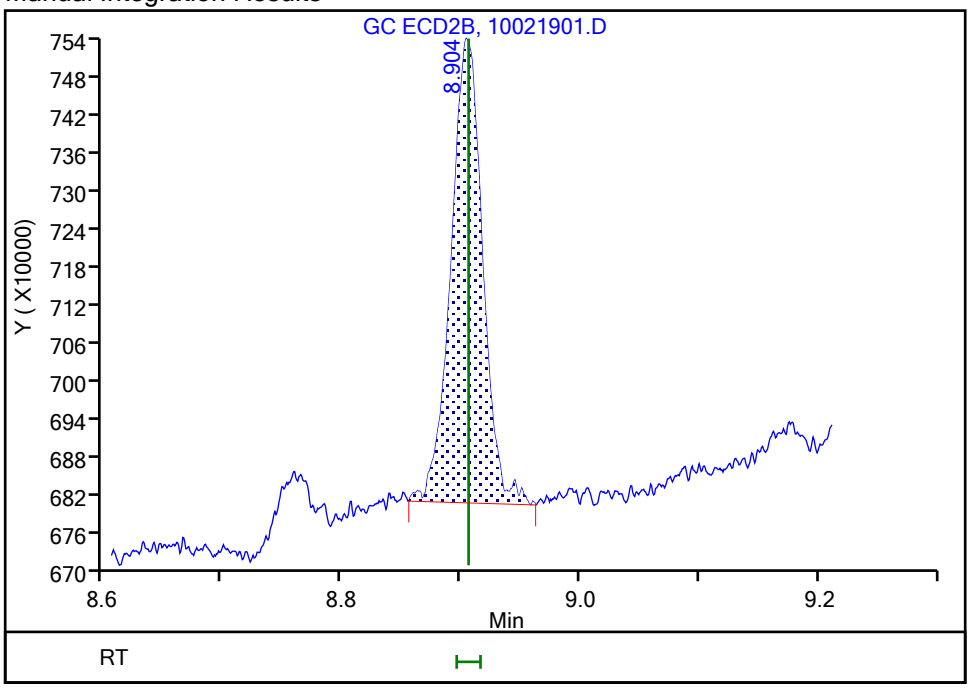

Reviewer: eppinged, 02-Oct-2019 07:36:37
Audit Action: Assigned Compound ID Audit Reason: Split Peak

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-293301/26 Calibration Date: 10/01/2019 16:44

Instrument ID: CHGC17 Calib Start Date: 04/02/2019 09:51

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 04/02/2019 10:57

Lab File ID: 10011926.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Toxaphene Peak 1	Ave	0.0093	0.0120		1.29	1.00	28.7*	20.0
Toxaphene Peak 2	Ave	0.0188	0.0212		1.13	1.00	13.2	20.0
Toxaphene Peak 3	Ave	0.0169	0.0195		1.16	1.00	15.6	20.0
Toxaphene Peak 4	Ave	0.0103	0.0114		1.11	1.00	11.2	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-293301/26 Calibration Date: 10/01/2019 16:44

Instrument ID: CHGC17 Calib Start Date: 04/02/2019 09:51

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 04/02/2019 10:57

Lab File ID: 10011926.D

Analyte	RT	RT WINDOW	
		FROM	TO
Toxaphene Peak 1	7.10	7.09	7.11
Toxaphene Peak 2	7.62	7.61	7.63
Toxaphene Peak 3	7.82	7.81	7.83
Toxaphene Peak 4	7.99	7.97	7.99

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011926.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 01-Oct-2019 16:44:09 ALS Bottle#: 26 Worklist Smp#: 26
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028917-026
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub1

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 02-Oct-2019 06:12:40 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0320

First Level Reviewer: eppinged Date: 02-Oct-2019 05:58:29

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.913	3.909	0.004	161050242H	0.1000	0.1000	
2	4.099	4.095	0.004	324075901H	0.1000	0.1000	
24 Toxaphene							
1	7.104	7.100	0.004	19275131H	1.00	1.29	
1	7.624	7.620	0.004	34185604H	1.00	1.13	
1	7.824	7.820	0.004	31426107H	1.00	1.16	
1	7.989	7.984	0.005	18395884H	1.00	1.11	
		Average of Peak Amounts =				1.17	
2	7.305	7.300	0.005	42895879H	1.00	1.31	
2	7.846	7.843	0.003	52213757H	1.00	1.14	
2	8.086	8.082	0.004	45332254H	1.00	1.11	
2	8.570	8.564	0.006	32158219H	1.00	1.04	
		Average of Peak Amounts =				1.15	
						RPD = 1.77	
* 36 Dibutylchlorendate ISTD							s
1	8.321	8.317	0.005	125015401H	0.1000	0.1000	
2	8.322	8.317	0.005	217449231H	0.1000	0.1000	

QC Flag Legend

Processing Flags
s - Failed ISTD Recovery Test
H - Response Measured by Height

Reagents:

GCTOXLEVEL3_00020 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 02-Oct-2019 06:12:42 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011926.D				
Injection Date:	01-Oct-2019 16:44:09	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	CCV			Worklist Smp#:	26
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	26
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

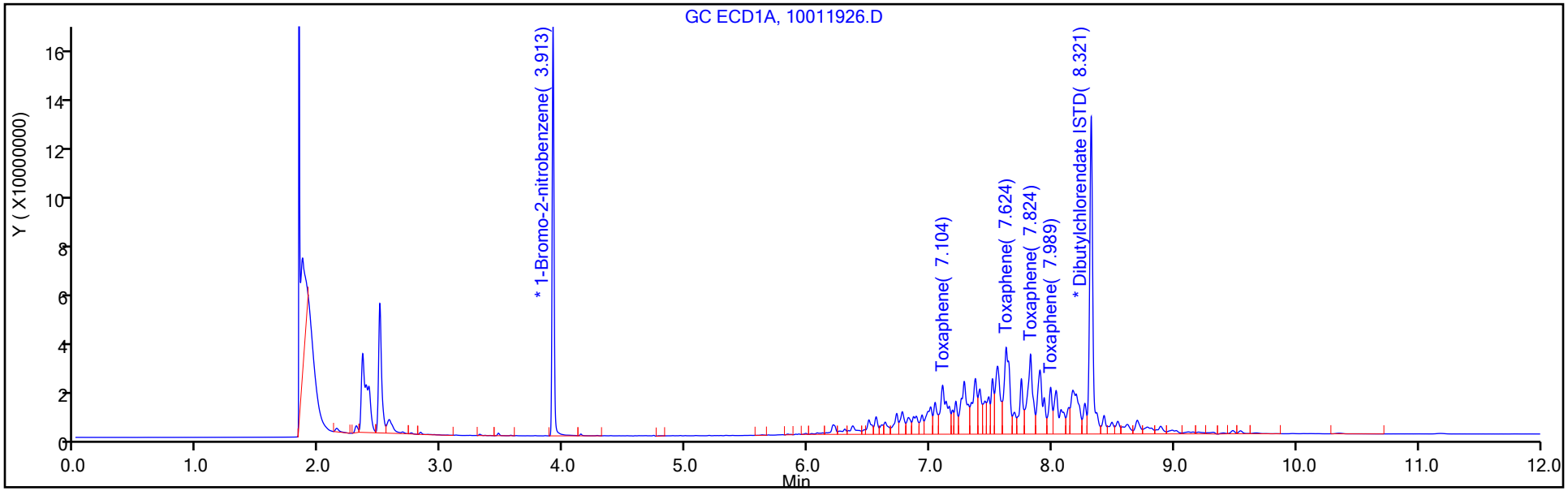

Column: MR-2 (0.53 mm)

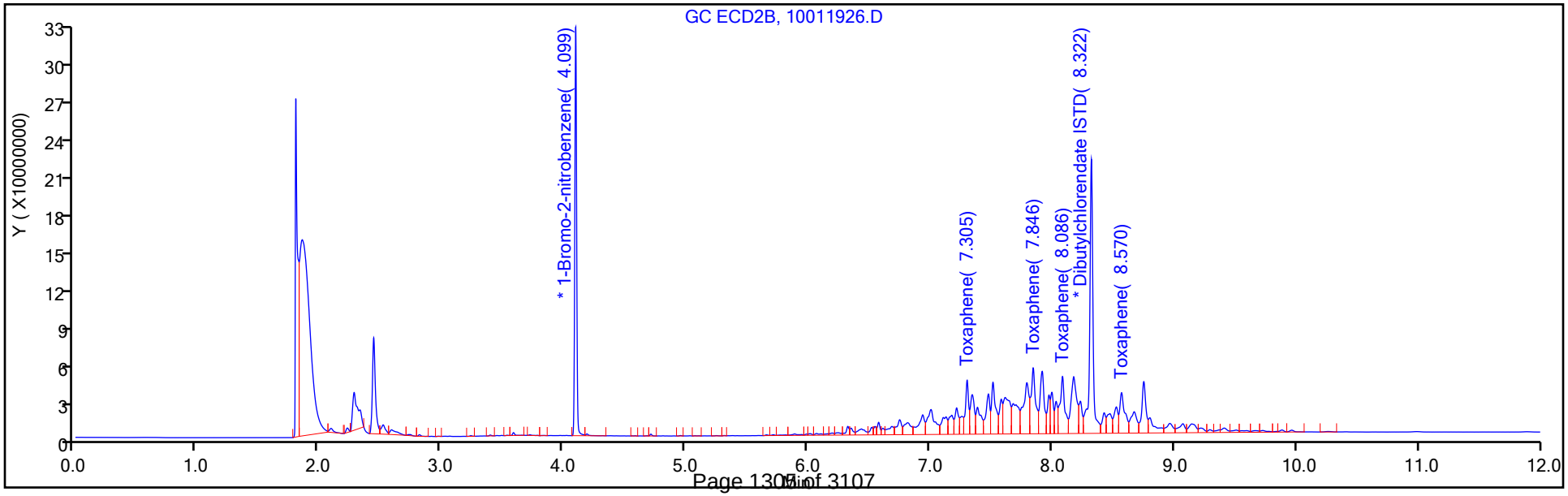

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-293301/26 Calibration Date: 10/01/2019 16:44

Instrument ID: CHGC17 Calib Start Date: 04/02/2019 09:51

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 04/02/2019 10:57

Lab File ID: 10011926.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Toxaphene Peak 1	Ave	0.0101	0.0132		1.31	1.00	30.7*	20.0
Toxaphene Peak 2	Lin1		0.0161		1.14	1.00	14.2	20.0
Toxaphene Peak 3	Ave	0.0126	0.0140		1.11	1.00	11.2	20.0
Toxaphene Peak 4	Ave	0.0095	0.0099		1.04	1.00	4.2	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-293301/26 Calibration Date: 10/01/2019 16:44

Instrument ID: CHGC17 Calib Start Date: 04/02/2019 09:51

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 04/02/2019 10:57

Lab File ID: 10011926.D

Analyte	RT	RT WINDOW	
		FROM	TO
Toxaphene Peak 1	7.31	7.29	7.31
Toxaphene Peak 2	7.85	7.83	7.85
Toxaphene Peak 3	8.09	8.07	8.09
Toxaphene Peak 4	8.57	8.55	8.57

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011926.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 01-Oct-2019 16:44:09 ALS Bottle#: 26 Worklist Smp#: 26
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028917-026
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub1

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 02-Oct-2019 06:12:40 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0320

First Level Reviewer: eppinged Date: 02-Oct-2019 05:58:29

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.913	3.909	0.004	161050242H	0.1000	0.1000	
2	4.099	4.095	0.004	324075901H	0.1000	0.1000	
24 Toxaphene							
1	7.104	7.100	0.004	19275131H	1.00	1.29	
1	7.624	7.620	0.004	34185604H	1.00	1.13	
1	7.824	7.820	0.004	31426107H	1.00	1.16	
1	7.989	7.984	0.005	18395884H	1.00	1.11	
		Average of Peak Amounts =				1.17	
2	7.305	7.300	0.005	42895879H	1.00	1.31	
2	7.846	7.843	0.003	52213757H	1.00	1.14	
2	8.086	8.082	0.004	45332254H	1.00	1.11	
2	8.570	8.564	0.006	32158219H	1.00	1.04	
		Average of Peak Amounts =				1.15	
						RPD = 1.77	
* 36 Dibutylchlorendate ISTD							s
1	8.321	8.317	0.005	125015401H	0.1000	0.1000	
2	8.322	8.317	0.005	217449231H	0.1000	0.1000	

QC Flag Legend

Processing Flags
s - Failed ISTD Recovery Test
H - Response Measured by Height

Reagents:

GCTOXLEVEL3_00020 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 02-Oct-2019 06:12:42 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011926.D				
Injection Date:	01-Oct-2019 16:44:09	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	CCV			Worklist Smp#:	26
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	26
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

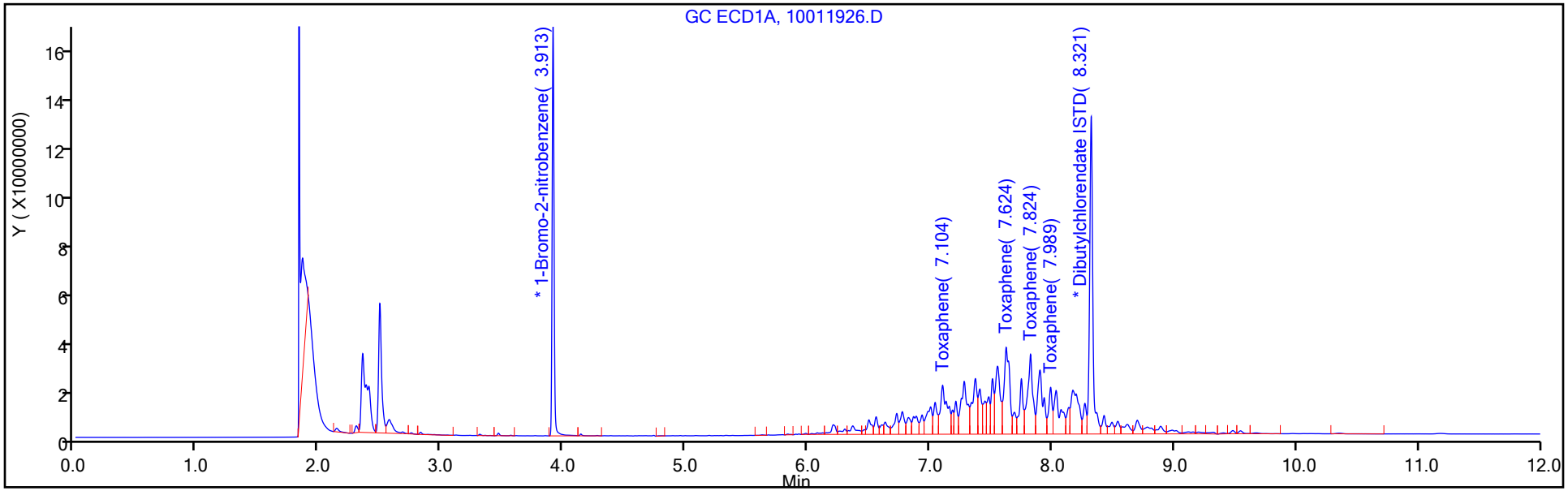

Column: MR-2 (0.53 mm)

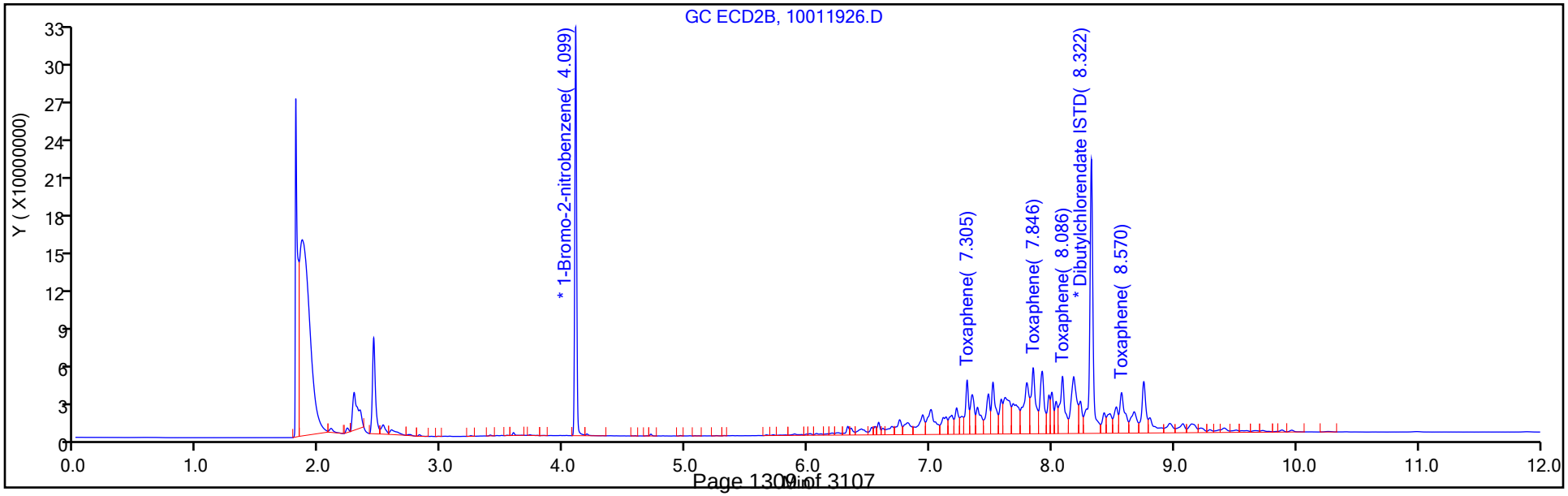

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-293301/27 Calibration Date: 10/01/2019 17:00

Instrument ID: CHGC17 Calib Start Date: 04/02/2019 11:13

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 04/02/2019 12:19

Lab File ID: 10011927.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Chlordane (technical) Peak 1	Ave	0.0341	0.0298		0.219	0.250	-12.6	20.0
Chlordane (technical) Peak 2	Ave	0.0477	0.0435		0.228	0.250	-8.8	20.0
Chlordane (technical) Peak 3	Ave	0.1318	0.1305		0.248	0.250	-1.0	20.0
Chlordane (technical) Peak 4	Ave	0.1456	0.1397		0.240	0.250	-4.0	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-293301/27 Calibration Date: 10/01/2019 17:00

Instrument ID: CHGC17 Calib Start Date: 04/02/2019 11:13

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 04/02/2019 12:19

Lab File ID: 10011927.D

Analyte	RT	RT WINDOW	
		FROM	TO
Chlordane (technical) Peak 1	5.82	5.80	5.82
Chlordane (technical) Peak 2	5.99	5.98	6.00
Chlordane (technical) Peak 3	6.84	6.83	6.85
Chlordane (technical) Peak 4	6.91	6.90	6.92

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011927.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 01-Oct-2019 17:00:03 ALS Bottle#: 27 Worklist Smp#: 27
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028917-027
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub2

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 02-Oct-2019 06:12:43 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0320

First Level Reviewer: eppinged Date: 02-Oct-2019 05:58:35

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.913	3.909	0.004	169118105H	0.1000	0.1000	
2	4.098	4.095	0.003	339350033H	0.1000	0.1000	
9 Chlordane (technical)							
1	5.815	5.812	0.003	12592418H	0.2500	0.2185	
1	5.989	5.986	0.003	18394431H	0.2500	0.2279	
1	6.844	6.842	0.002	55190128H	0.2500	0.2475	
1	6.912	6.910	0.002	59069439H	0.2500	0.2399	
		Average of Peak Amounts =				0.2335	
2	5.884	5.882	0.002	24703754H	0.2500	0.2405	
2	6.043	6.041	0.002	35509186H	0.2500	0.2469	
2	6.993	6.995	-0.002	96524954H	0.2500	0.2564	
2	7.046	7.044	0.002	56367607H	0.2500	0.2527	
		Average of Peak Amounts =				0.2491	
						RPD = 6.48	
* 36 Dibutylchlorendate ISTD							s
1	8.320	8.317	0.004	111774325H	0.1000	0.1000	
2	8.320	8.317	0.004	196512116H	0.1000	0.1000	

QC Flag Legend

Processing Flags
s - Failed ISTD Recovery Test
H - Response Measured by Height

Reagents:

GCCHLORLEVEL3_00017 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 02-Oct-2019 06:12:45 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011927.D				
Injection Date:	01-Oct-2019 17:00:03	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	CCV			Worklist Smp#:	27
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	27
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

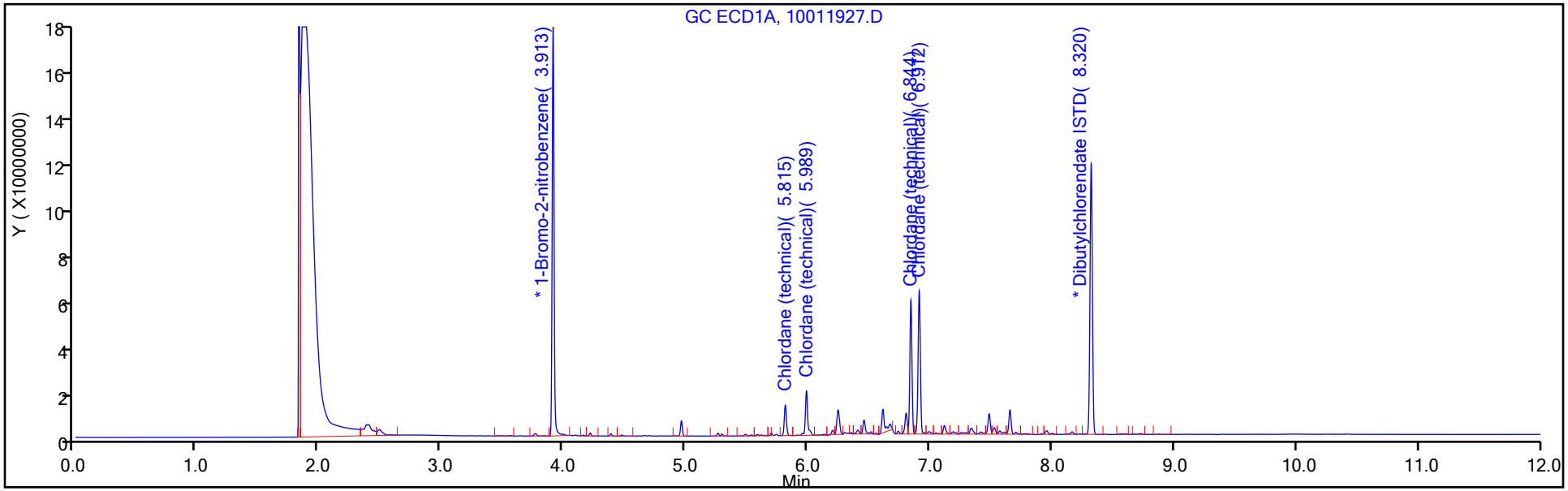

Column: MR-2 (0.53 mm)

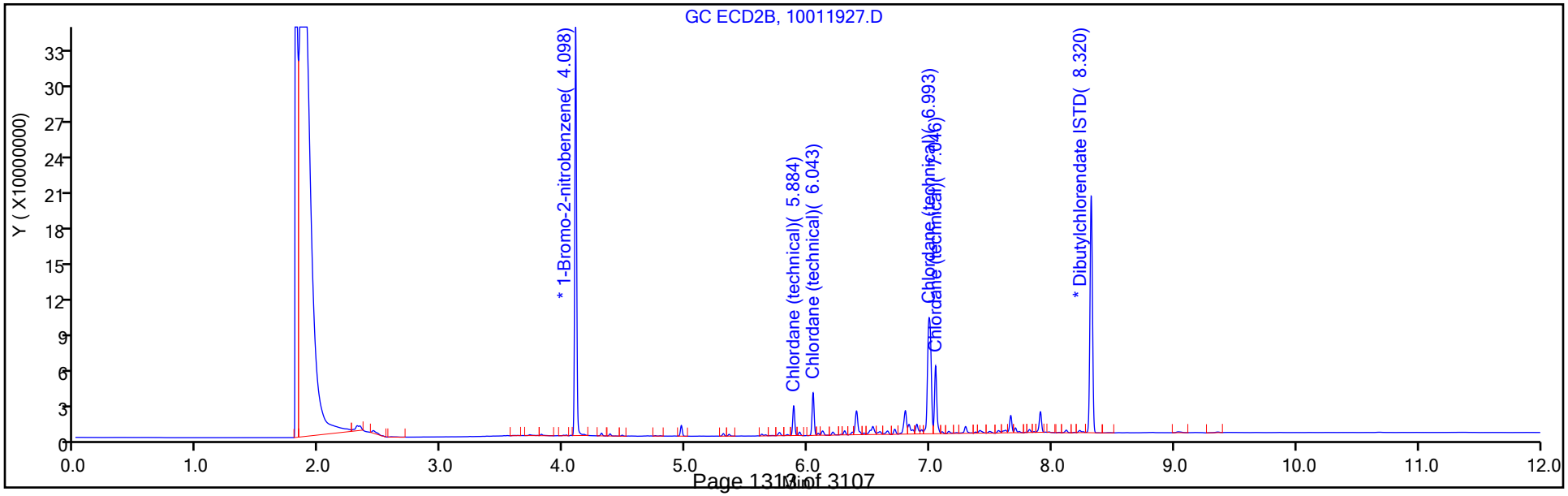

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-293301/27 Calibration Date: 10/01/2019 17:00

Instrument ID: CHGC17 Calib Start Date: 04/02/2019 11:13

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 04/02/2019 12:19

Lab File ID: 10011927.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Chlordane (technical) Peak 1	Lin1		0.0291		0.241	0.250	-3.8	20.0
Chlordane (technical) Peak 2	Ave	0.0424	0.0419		0.247	0.250	-1.3	20.0
Chlordane (technical) Peak 3	Ave	0.1109	0.1138		0.256	0.250	2.6	20.0
Chlordane (technical) Peak 4	Ave	0.0657	0.0664		0.253	0.250	1.1	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-293301/27 Calibration Date: 10/01/2019 17:00

Instrument ID: CHGC17 Calib Start Date: 04/02/2019 11:13

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 04/02/2019 12:19

Lab File ID: 10011927.D

Analyte	RT	RT WINDOW	
		FROM	TO
Chlordane (technical) Peak 1	5.88	5.87	5.89
Chlordane (technical) Peak 2	6.04	6.03	6.05
Chlordane (technical) Peak 3	6.99	6.99	7.01
Chlordane (technical) Peak 4	7.05	7.03	7.05

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011927.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 01-Oct-2019 17:00:03 ALS Bottle#: 27 Worklist Smp#: 27
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028917-027
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub2

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 02-Oct-2019 06:12:43 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0320

First Level Reviewer: eppinged Date: 02-Oct-2019 05:58:35

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.913	3.909	0.004	169118105H	0.1000	0.1000	
2	4.098	4.095	0.003	339350033H	0.1000	0.1000	
9 Chlordane (technical)							
1	5.815	5.812	0.003	12592418H	0.2500	0.2185	
1	5.989	5.986	0.003	18394431H	0.2500	0.2279	
1	6.844	6.842	0.002	55190128H	0.2500	0.2475	
1	6.912	6.910	0.002	59069439H	0.2500	0.2399	
		Average of Peak Amounts =				0.2335	
2	5.884	5.882	0.002	24703754H	0.2500	0.2405	
2	6.043	6.041	0.002	35509186H	0.2500	0.2469	
2	6.993	6.995	-0.002	96524954H	0.2500	0.2564	
2	7.046	7.044	0.002	56367607H	0.2500	0.2527	
		Average of Peak Amounts =				0.2491	
						RPD = 6.48	
* 36 Dibutylchlorendate ISTD							s
1	8.320	8.317	0.004	111774325H	0.1000	0.1000	
2	8.320	8.317	0.004	196512116H	0.1000	0.1000	

QC Flag Legend

Processing Flags
s - Failed ISTD Recovery Test
H - Response Measured by Height

Reagents:

GCCHLORLEVEL3_00017 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 02-Oct-2019 06:12:45 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011927.D

Injection Date: 01-Oct-2019 17:00:03 Instrument ID: CHGC17 Operator ID:

Lims ID: CCV Worklist Smp#: 27

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 27

Method: IS PEST_CHGC17 Limit Group: GCS 8081B ICAL with IS

Column: MR-1 (0.53 mm)

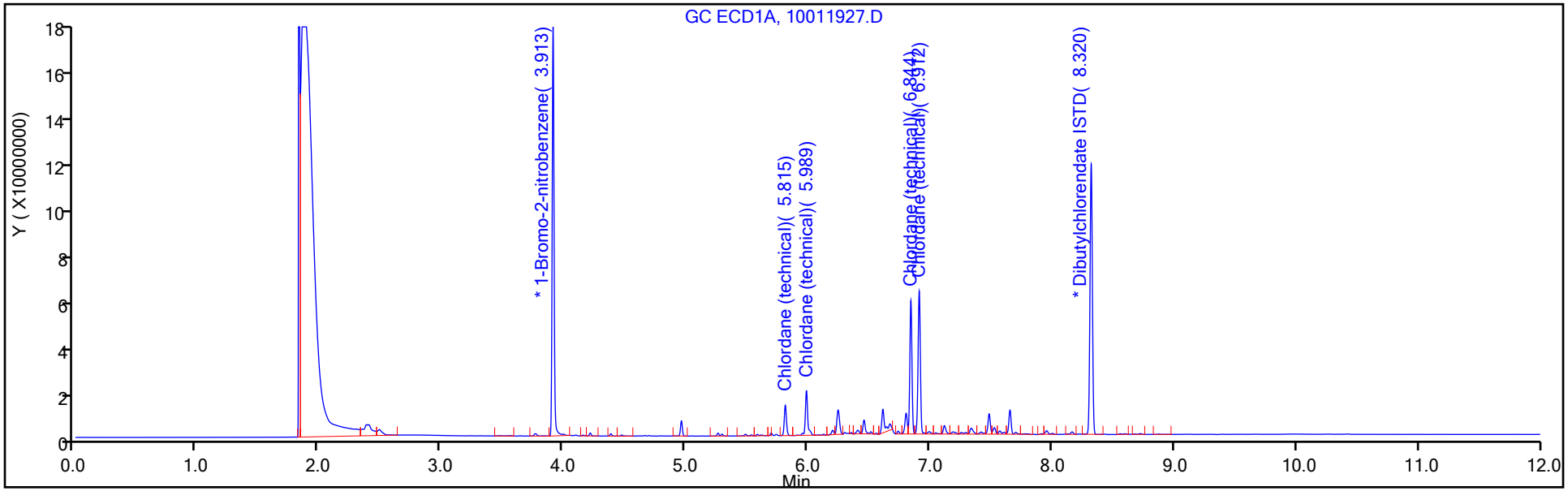

Column: MR-2 (0.53 mm)

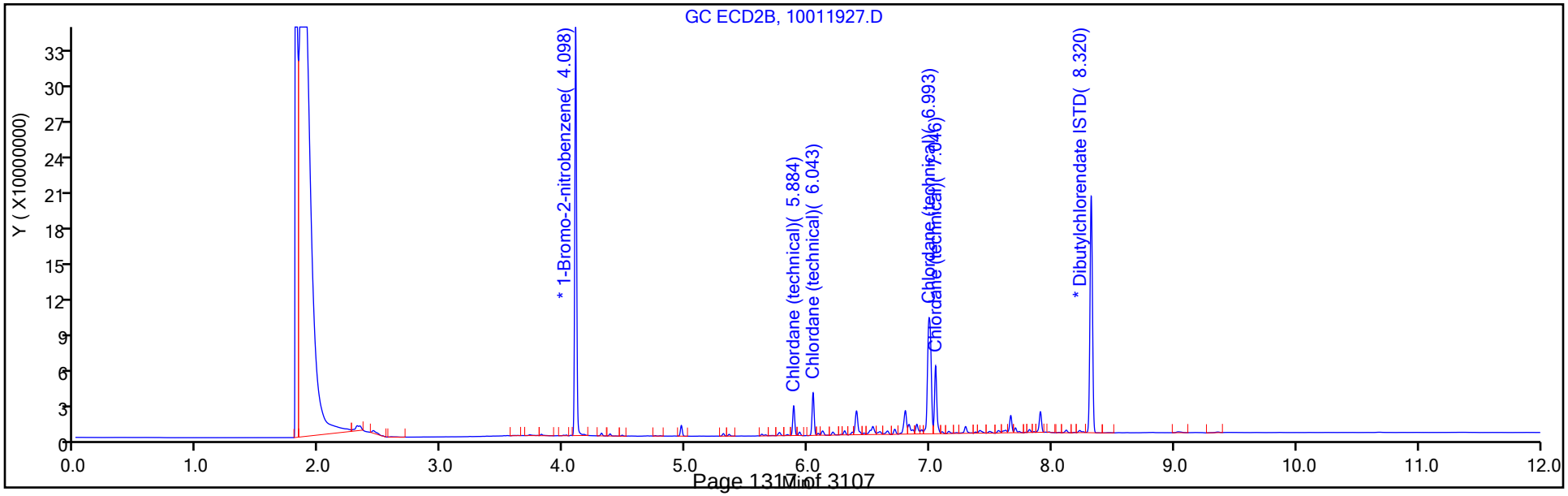

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCVIS 180-293301/28 Calibration Date: 10/01/2019 17:15

Instrument ID: CHGC17 Calib Start Date: 04/02/2019 15:52

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 04/02/2019 17:14

Lab File ID: 10011928.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
alpha-BHC	Ave	1.481	1.558		0.0263	0.0250	5.2	20.0
gamma-BHC (Lindane)	Ave	1.280	1.329		0.0260	0.0250	3.8	20.0
beta-BHC	Ave	0.5498	0.5652		0.0257	0.0250	2.8	20.0
delta-BHC	Ave	1.110	1.263		0.0284	0.0250	13.8	20.0
Heptachlor	Ave	1.183	1.226		0.0259	0.0250	3.7	20.0
Aldrin	Ave	1.138	1.205		0.0265	0.0250	5.9	20.0
Heptachlor epoxide	Ave	1.003	1.039		0.0259	0.0250	3.5	20.0
trans-Chlordane	Ave	1.017	1.041		0.0256	0.0250	2.4	20.0
cis-Chlordane	Ave	0.9786	1.014		0.0259	0.0250	3.6	20.0
Endosulfan I	Ave	0.8794	0.9277		0.0264	0.0250	5.5	20.0
4,4'-DDE	Ave	1.445	1.570		0.0272	0.0250	8.7	20.0
Dieldrin	Ave	1.563	1.540		0.0246	0.0250	-1.5	20.0
Endrin	Ave	1.315	1.324		0.0252	0.0250	0.6	20.0
4,4'-DDD	Ave	1.266	1.261		0.0249	0.0250	-0.4	20.0
Endosulfan II	Ave	1.151	1.061		0.0230	0.0250	-7.9	20.0
Endrin aldehyde	Ave	1.010	0.9089		0.0225	0.0250	-10.0	20.0
4,4'-DDT	Ave	1.091	1.038		0.0238	0.0250	-4.9	20.0
Endosulfan sulfate	Ave	1.185	1.055		0.0223	0.0250	-10.9	20.0
Methoxychlor	Ave	0.5155	0.4787		0.0232	0.0250	-7.1	20.0
Endrin ketone	Ave	1.133	0.9795		0.0216	0.0250	-13.6	20.0
Tetrachloro-m-xylene	Ave	1.229	1.147		0.0233	0.0250	-6.7	20.0
DCB Decachlorobiphenyl (Surr)	Ave	0.6221	0.5440		0.0219	0.0250	-12.6	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCVIS 180-293301/28 Calibration Date: 10/01/2019 17:15

Instrument ID: CHGC17 Calib Start Date: 04/02/2019 15:52

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 04/02/2019 17:14

Lab File ID: 10011928.D

Analyte	RT	RT WINDOW	
		FROM	TO
alpha-BHC	5.26	5.25	5.27
gamma-BHC (Lindane)	5.52	5.51	5.53
beta-BHC	5.69	5.68	5.70
delta-BHC	5.89	5.88	5.90
Heptachlor	5.99	5.98	6.00
Aldrin	6.27	6.26	6.28
Heptachlor epoxide	6.63	6.62	6.64
trans-Chlordane	6.84	6.83	6.85
cis-Chlordane	6.91	6.90	6.92
Endosulfan I	6.95	6.94	6.96
4,4'-DDE	7.06	7.05	7.07
Dieldrin	7.19	7.18	7.20
Endrin	7.39	7.38	7.40
4,4'-DDD	7.52	7.51	7.53
Endosulfan II	7.59	7.58	7.60
Endrin aldehyde	7.71	7.70	7.72
4,4'-DDT	7.80	7.79	7.81
Endosulfan sulfate	7.92	7.91	7.93
Methoxychlor	8.25	8.24	8.26
Endrin ketone	8.38	8.37	8.39
Tetrachloro-m-xylene	4.90	4.89	4.91
DCB Decachlorobiphenyl (Surr)	10.18	10.17	10.19

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011928.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 01-Oct-2019 17:15:53 ALS Bottle#: 28 Worklist Smp#: 28
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028917-028
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub12

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 02-Oct-2019 06:12:46 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0320

First Level Reviewer: eppinged Date: 02-Oct-2019 05:58:49

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.913	3.913	0.000	158006128H	0.1000	0.1000	
2	4.099	4.099	0.000	317400586H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.895	4.895	0.000	45299111H	0.0250	0.0233	
2	4.958	4.958	0.000	82619099H	0.0250	0.0226	
						RPD = 3.37	
5 alpha-BHC							
1	5.259	5.259	0.000	61544558H	0.0250	0.0263	
2	5.422	5.422	0.000	118093831H	0.0250	0.0270	
						RPD = 2.57	
7 gamma-BHC (Lindane)							
1	5.523	5.523	0.000	52492588H	0.0250	0.0260	
2	5.724	5.724	0.000	101474119H	0.0250	0.0272	
						RPD = 4.80	
8 beta-BHC							
1	5.688	5.688	0.000	22324240H	0.0250	0.0257	
2	5.968	5.968	0.000	43786479H	0.0250	0.0274	
						RPD = 6.43	
10 delta-BHC							
1	5.886	5.886	0.000	49903922H	0.0250	0.0284	
2	6.198	6.198	0.000	95407022H	0.0250	0.0296	
						RPD = 4.05	
11 Heptachlor							
1	5.989	5.989	0.000	48427111H	0.0250	0.0259	
2	6.044	6.044	0.000	91115183H	0.0250	0.0275	
						RPD = 6.00	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
13 Aldrin							
1	6.269	6.269	0.000	47602977H	0.0250	0.0265	
2	6.312	6.312	0.000	86098012H	0.0250	0.0269	
						RPD = 1.82	
16 Heptachlor epoxide							
1	6.626	6.626	0.000	41024545H	0.0250	0.0259	
2	6.760	6.760	0.000	75054704H	0.0250	0.0277	
						RPD = 6.92	
18 trans-Chlordane							
1	6.844	6.844	0.000	41107837H	0.0250	0.0256	
2	6.987	6.987	0.000	75338375H	0.0250	0.0269	
						RPD = 4.89	
20 cis-Chlordane							
1	6.910	6.910	0.000	40066260H	0.0250	0.0259	
2	7.047	7.047	0.000	71604779H	0.0250	0.0265	
						RPD = 2.39	
22 Endosulfan I							
1	6.954	6.954	0.000	36646110H	0.0250	0.0264	
2	7.116	7.116	0.000	67192194H	0.0250	0.0276	
						RPD = 4.50	
23 4,4'-DDE							
1	7.060	7.060	0.000	41867028H	0.0250	0.0272	
2	7.181	7.181	0.000	77100597H	0.0250	0.0274	
						RPD = 0.79	
26 Dieldrin							
1	7.194	7.194	0.000	41068876H	0.0250	0.0246	
2	7.360	7.360	0.000	73172816H	0.0250	0.0251	
						RPD = 1.79	
27 Endrin							
1	7.394	7.394	0.000	35291991H	0.0250	0.0252	
2	7.627	7.627	0.000	56854162H	0.0250	0.0246	
						RPD = 2.14	
30 4,4'-DDD							
1	7.518	7.518	0.000	33609590H	0.0250	0.0249	
2	7.700	7.700	0.000	60037395H	0.0250	0.0270	
						RPD = 8.28	
31 Endosulfan II							
1	7.592	7.592	0.000	28275424H	0.0250	0.0230	
2	7.891	7.891	0.000	49974948H	0.0250	0.0233	
						RPD = 1.18	
32 Endrin aldehyde							
1	7.708	7.708	0.000	24233114H	0.0250	0.0225	
2	8.057	8.057	0.000	39817977H	0.0250	0.0219	
						RPD = 2.48	
33 4,4'-DDT							
1	7.795	7.795	0.000	27687766H	0.0250	0.0238	
2	7.943	7.943	0.000	49216830H	0.0250	0.0225	
						RPD = 5.74	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
34 Endosulfan sulfate							
1	7.917	7.917	0.000	28130315H	0.0250	0.0223	
2	8.283	8.283	0.000	45691184H	0.0250	0.0227	
						RPD = 2.05	
35 Methoxychlor							
1	8.246	8.246	0.000	12762866H	0.0250	0.0232	
2	8.514	8.514	0.000	20886573H	0.0250	0.0216	
						RPD = 7.19	
* 36 Dibutylchlorendate ISTD							
1	8.321	8.321	0.000	106647479H	0.1000	0.1000	
2	8.322	8.322	0.000	186771679H	0.1000	0.1000	
37 Endrin ketone							
1	8.384	8.384	0.000	26114849H	0.0250	0.0216	
2	8.906	8.906	0.000	41690727H	0.0250	0.0223	
						RPD = 2.94	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.176	10.176	0.000	14502859H	0.0250	0.0219	
2	10.608	10.608	0.000	26952001H	0.0250	0.0231	
						RPD = 5.30	

Reagents:

GCPestL3_00032	Amount Added: 1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added: 0.01	Units: mL	Run Reagent

Report Date: 02-Oct-2019 06:12:47 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011928.D				
Injection Date:	01-Oct-2019 17:15:53	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	CCVIS			Worklist Smp#:	28
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	28
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

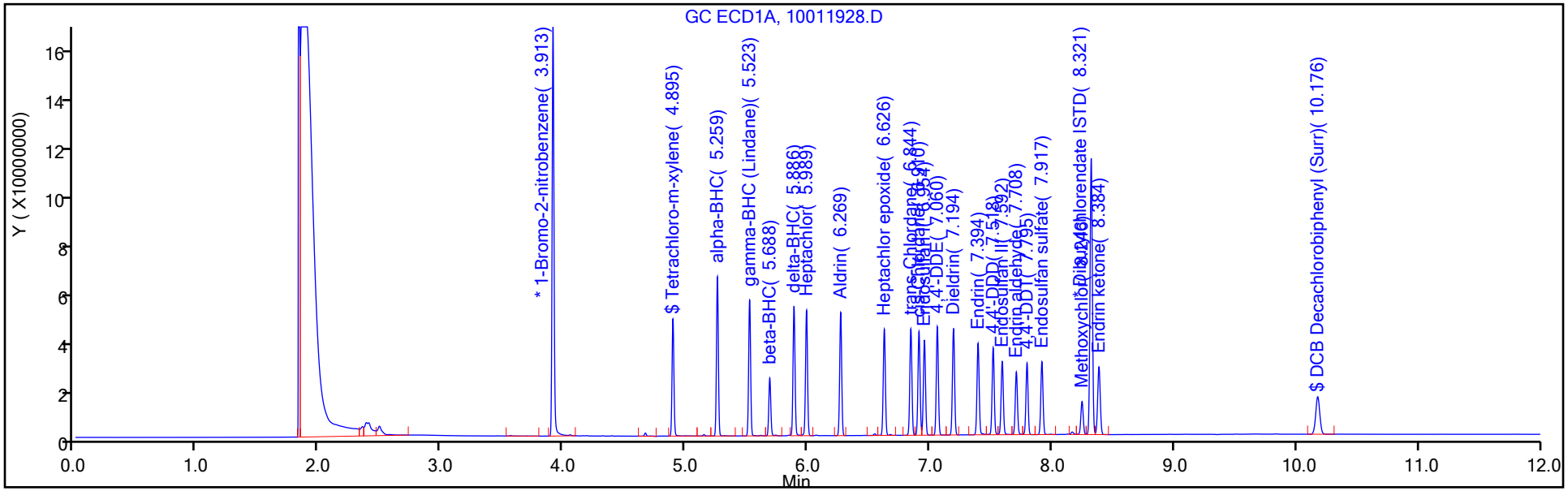

Column: MR-2 (0.53 mm)

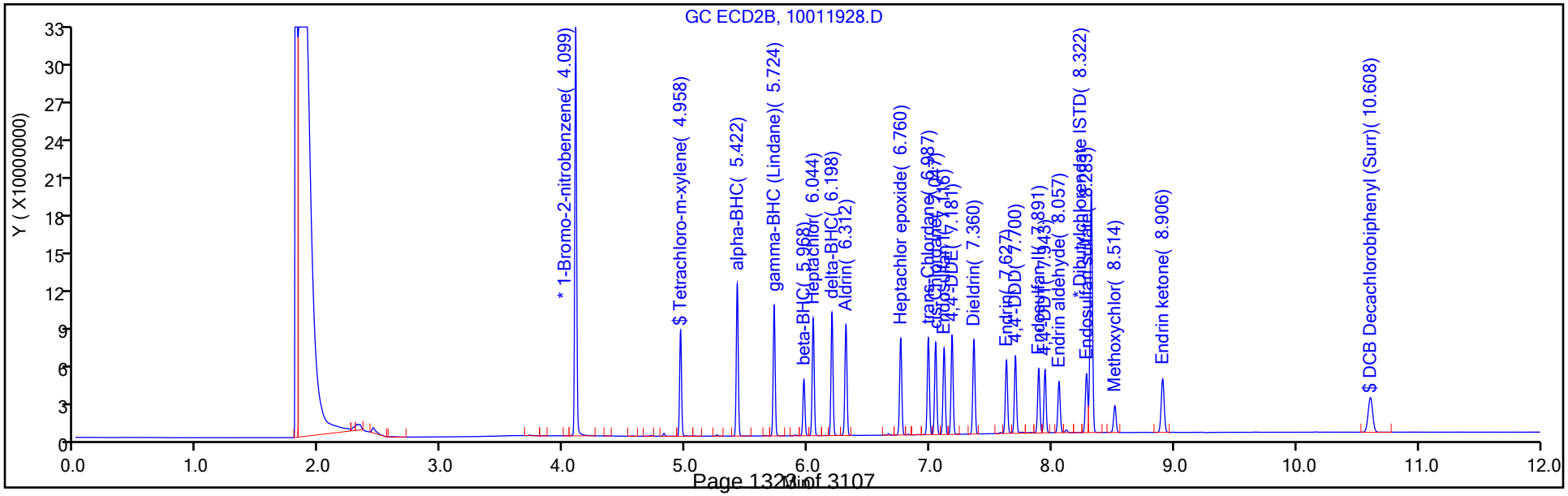

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCVIS 180-293301/28 Calibration Date: 10/01/2019 17:15

Instrument ID: CHGC17 Calib Start Date: 04/02/2019 15:52

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 04/02/2019 17:14

Lab File ID: 10011928.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
alpha-BHC	Ave	1.379	1.488		0.0270	0.0250	7.9	20.0
gamma-BHC (Lindane)	Ave	1.174	1.279		0.0272	0.0250	8.9	20.0
beta-BHC	Ave	0.5034	0.5518		0.0274	0.0250	9.6	20.0
Heptachlor	Ave	1.043	1.148		0.0275	0.0250	10.1	20.0
delta-BHC	Ave	1.015	1.202		0.0296	0.0250	18.5	20.0
Aldrin	Ave	1.007	1.085		0.0269	0.0250	7.8	20.0
Heptachlor epoxide	Ave	0.8525	0.9459		0.0277	0.0250	10.9	20.0
trans-Chlordane	Ave	0.8833	0.9494		0.0269	0.0250	7.5	20.0
cis-Chlordane	Ave	0.8500	0.9024		0.0265	0.0250	6.2	20.0
Endosulfan I	Ave	0.7673	0.8468		0.0276	0.0250	10.4	20.0
4,4'-DDE	Ave	1.507	1.651		0.0274	0.0250	9.6	20.0
Dieldrin	Ave	1.562	1.567		0.0251	0.0250	0.3	20.0
Endrin	Ave	1.236	1.218		0.0246	0.0250	-1.5	20.0
4,4'-DDD	Ave	1.189	1.286		0.0270	0.0250	8.2	20.0
Endosulfan II	Ave	1.148	1.070		0.0233	0.0250	-6.8	20.0
4,4'-DDT	Ave	1.173	1.054		0.0225	0.0250	-10.2	20.0
Endrin aldehyde	Ave	0.9718	0.8528		0.0219	0.0250	-12.3	20.0
Endosulfan sulfate	Ave	1.076	0.9786		0.0227	0.0250	-9.1	20.0
Methoxychlor	Ave	0.5176	0.4473		0.0216	0.0250	-13.6	20.0
Endrin ketone	Ave	1.003	0.8929		0.0223	0.0250	-11.0	20.0
Tetrachloro-m-xylene	Ave	1.154	1.041		0.0226	0.0250	-9.7	20.0
DCB Decachlorobiphenyl (Surr)	Ave	0.6260	0.5772		0.0231	0.0250	-7.8	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCVIS 180-293301/28 Calibration Date: 10/01/2019 17:15

Instrument ID: CHGC17 Calib Start Date: 04/02/2019 15:52

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 04/02/2019 17:14

Lab File ID: 10011928.D

Analyte	RT	RT WINDOW	
		FROM	TO
alpha-BHC	5.42	5.41	5.43
gamma-BHC (Lindane)	5.72	5.71	5.73
beta-BHC	5.97	5.96	5.98
Heptachlor	6.04	6.03	6.05
delta-BHC	6.20	6.19	6.21
Aldrin	6.31	6.30	6.32
Heptachlor epoxide	6.76	6.75	6.77
trans-Chlordane	6.99	6.98	7.00
cis-Chlordane	7.05	7.04	7.06
Endosulfan I	7.12	7.11	7.13
4,4'-DDE	7.18	7.17	7.19
Dieldrin	7.36	7.35	7.37
Endrin	7.63	7.62	7.64
4,4'-DDD	7.70	7.69	7.71
Endosulfan II	7.89	7.88	7.90
4,4'-DDT	7.94	7.93	7.95
Endrin aldehyde	8.06	8.05	8.07
Endosulfan sulfate	8.28	8.27	8.29
Methoxychlor	8.51	8.50	8.52
Endrin ketone	8.91	8.90	8.92
Tetrachloro-m-xylene	4.96	4.95	4.97
DCB Decachlorobiphenyl (Surr)	10.61	10.60	10.62

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011928.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 01-Oct-2019 17:15:53 ALS Bottle#: 28 Worklist Smp#: 28
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028917-028
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub12

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 02-Oct-2019 06:12:46 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0320

First Level Reviewer: eppinged Date: 02-Oct-2019 05:58:49

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.913	3.913	0.000	158006128H	0.1000	0.1000	
2	4.099	4.099	0.000	317400586H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.895	4.895	0.000	45299111H	0.0250	0.0233	
2	4.958	4.958	0.000	82619099H	0.0250	0.0226	
						RPD = 3.37	
5 alpha-BHC							
1	5.259	5.259	0.000	61544558H	0.0250	0.0263	
2	5.422	5.422	0.000	118093831H	0.0250	0.0270	
						RPD = 2.57	
7 gamma-BHC (Lindane)							
1	5.523	5.523	0.000	52492588H	0.0250	0.0260	
2	5.724	5.724	0.000	101474119H	0.0250	0.0272	
						RPD = 4.80	
8 beta-BHC							
1	5.688	5.688	0.000	22324240H	0.0250	0.0257	
2	5.968	5.968	0.000	43786479H	0.0250	0.0274	
						RPD = 6.43	
10 delta-BHC							
1	5.886	5.886	0.000	49903922H	0.0250	0.0284	
2	6.198	6.198	0.000	95407022H	0.0250	0.0296	
						RPD = 4.05	
11 Heptachlor							
1	5.989	5.989	0.000	48427111H	0.0250	0.0259	
2	6.044	6.044	0.000	91115183H	0.0250	0.0275	
						RPD = 6.00	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
13 Aldrin							
1	6.269	6.269	0.000	47602977H	0.0250	0.0265	
2	6.312	6.312	0.000	86098012H	0.0250	0.0269	
						RPD = 1.82	
16 Heptachlor epoxide							
1	6.626	6.626	0.000	41024545H	0.0250	0.0259	
2	6.760	6.760	0.000	75054704H	0.0250	0.0277	
						RPD = 6.92	
18 trans-Chlordane							
1	6.844	6.844	0.000	41107837H	0.0250	0.0256	
2	6.987	6.987	0.000	75338375H	0.0250	0.0269	
						RPD = 4.89	
20 cis-Chlordane							
1	6.910	6.910	0.000	40066260H	0.0250	0.0259	
2	7.047	7.047	0.000	71604779H	0.0250	0.0265	
						RPD = 2.39	
22 Endosulfan I							
1	6.954	6.954	0.000	36646110H	0.0250	0.0264	
2	7.116	7.116	0.000	67192194H	0.0250	0.0276	
						RPD = 4.50	
23 4,4'-DDE							
1	7.060	7.060	0.000	41867028H	0.0250	0.0272	
2	7.181	7.181	0.000	77100597H	0.0250	0.0274	
						RPD = 0.79	
26 Dieldrin							
1	7.194	7.194	0.000	41068876H	0.0250	0.0246	
2	7.360	7.360	0.000	73172816H	0.0250	0.0251	
						RPD = 1.79	
27 Endrin							
1	7.394	7.394	0.000	35291991H	0.0250	0.0252	
2	7.627	7.627	0.000	56854162H	0.0250	0.0246	
						RPD = 2.14	
30 4,4'-DDD							
1	7.518	7.518	0.000	33609590H	0.0250	0.0249	
2	7.700	7.700	0.000	60037395H	0.0250	0.0270	
						RPD = 8.28	
31 Endosulfan II							
1	7.592	7.592	0.000	28275424H	0.0250	0.0230	
2	7.891	7.891	0.000	49974948H	0.0250	0.0233	
						RPD = 1.18	
32 Endrin aldehyde							
1	7.708	7.708	0.000	24233114H	0.0250	0.0225	
2	8.057	8.057	0.000	39817977H	0.0250	0.0219	
						RPD = 2.48	
33 4,4'-DDT							
1	7.795	7.795	0.000	27687766H	0.0250	0.0238	
2	7.943	7.943	0.000	49216830H	0.0250	0.0225	
						RPD = 5.74	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
34 Endosulfan sulfate							
1	7.917	7.917	0.000	28130315H	0.0250	0.0223	
2	8.283	8.283	0.000	45691184H	0.0250	0.0227	
						RPD = 2.05	
35 Methoxychlor							
1	8.246	8.246	0.000	12762866H	0.0250	0.0232	
2	8.514	8.514	0.000	20886573H	0.0250	0.0216	
						RPD = 7.19	
* 36 Dibutylchlorendate ISTD							
1	8.321	8.321	0.000	106647479H	0.1000	0.1000	
2	8.322	8.322	0.000	186771679H	0.1000	0.1000	
37 Endrin ketone							
1	8.384	8.384	0.000	26114849H	0.0250	0.0216	
2	8.906	8.906	0.000	41690727H	0.0250	0.0223	
						RPD = 2.94	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.176	10.176	0.000	14502859H	0.0250	0.0219	
2	10.608	10.608	0.000	26952001H	0.0250	0.0231	
						RPD = 5.30	

Reagents:

GCPestL3_00032	Amount Added: 1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added: 0.01	Units: mL	Run Reagent

Report Date: 02-Oct-2019 06:12:47 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011928.D				
Injection Date:	01-Oct-2019 17:15:53	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	CCVIS			Worklist Smp#:	28
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	28
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

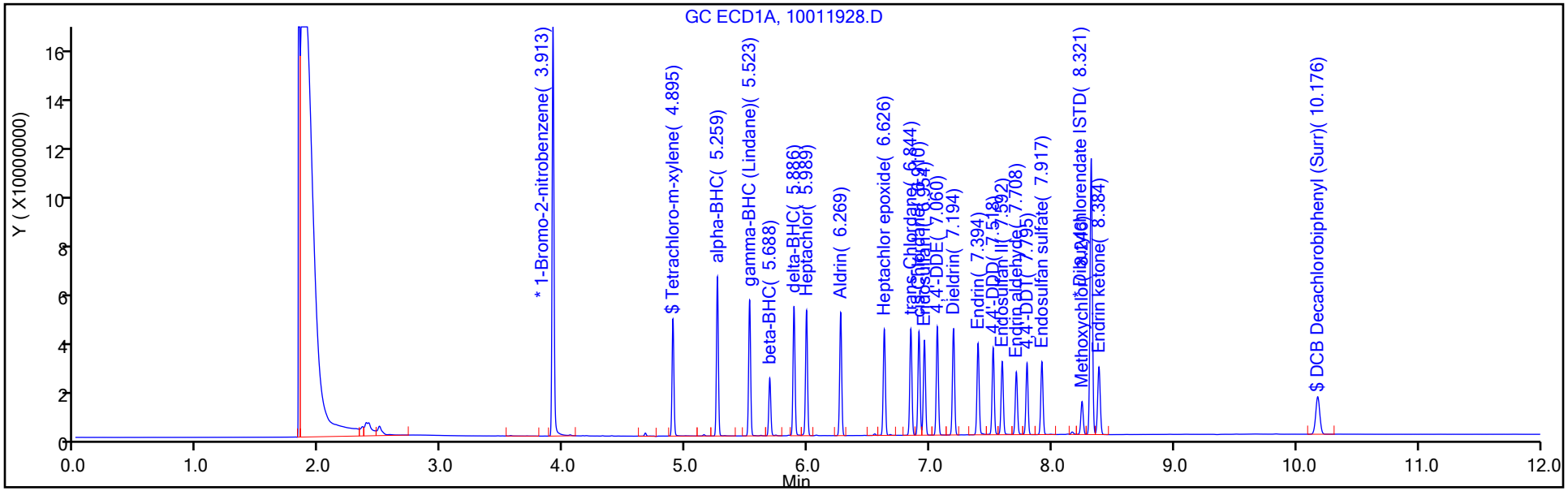

Column: MR-2 (0.53 mm)

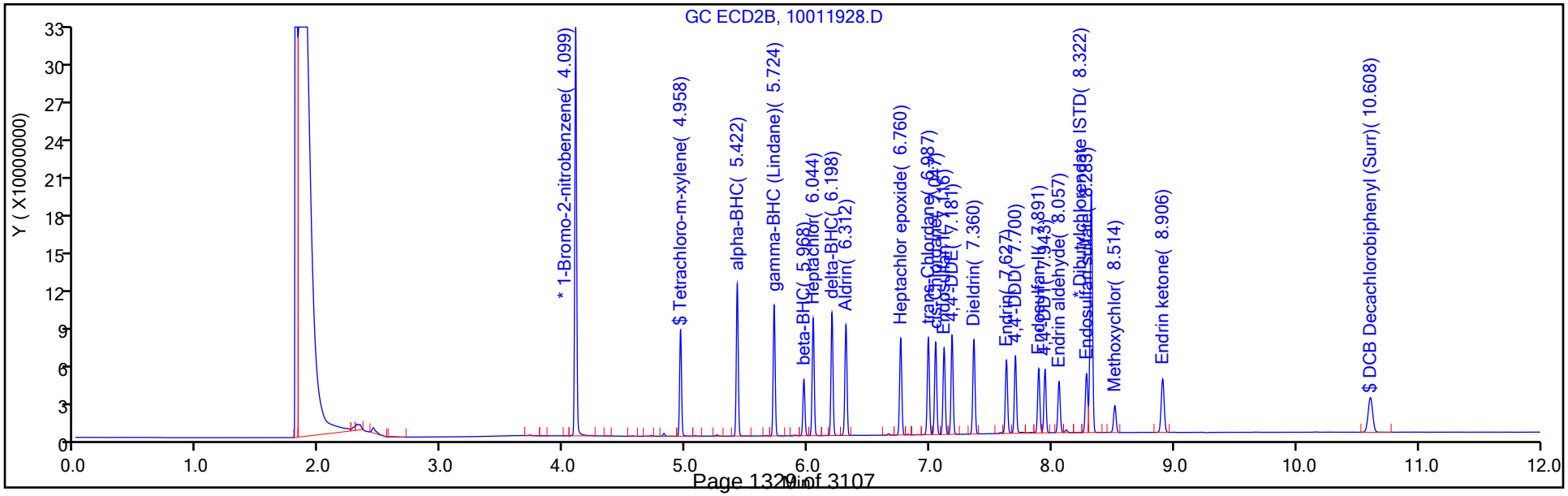

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-293427/2 Calibration Date: 10/02/2019 07:30

Instrument ID: CHGC17 Calib Start Date: 04/02/2019 09:51

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 04/02/2019 10:57

Lab File ID: 10021902.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Toxaphene Peak 1	Ave	0.0093	0.0120		1.29	1.00	28.6*	20.0
Toxaphene Peak 2	Ave	0.0188	0.0224		1.19	1.00	19.3	20.0
Toxaphene Peak 3	Ave	0.0169	0.0205		1.22	1.00	21.5*	20.0
Toxaphene Peak 4	Ave	0.0103	0.0117		1.14	1.00	14.0	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-293427/2 Calibration Date: 10/02/2019 07:30

Instrument ID: CHGC17 Calib Start Date: 04/02/2019 09:51

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 04/02/2019 10:57

Lab File ID: 10021902.D

Analyte	RT	RT WINDOW	
		FROM	TO
Toxaphene Peak 1	7.10	7.09	7.11
Toxaphene Peak 2	7.62	7.61	7.63
Toxaphene Peak 3	7.82	7.81	7.83
Toxaphene Peak 4	7.99	7.98	8.00

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\10021902.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 02-Oct-2019 07:30:25 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028932-002
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub1

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 02-Oct-2019 09:48:56 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0320

First Level Reviewer: eppinged Date: 02-Oct-2019 08:02:50

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.910	3.912	-0.002	159983478H	0.1000	0.1000	
2	4.095	4.098	-0.003	315786945H	0.1000	0.1000	
24 Toxaphene							
1	7.100	7.100	0.000	19136001H	1.00	1.29	
1	7.623	7.623	0.000	35805653H	1.00	1.19	
1	7.819	7.819	0.000	32803274H	1.00	1.22	
1	7.985	7.985	0.000	18748575H	1.00	1.14	
		Average of Peak Amounts =				1.21	
2	7.301	7.301	0.000	42137305H	1.00	1.32	
2	7.843	7.843	0.000	53925321H	1.00	1.21	
2	8.082	8.082	0.000	46435484H	1.00	1.17	
2	8.564	8.564	0.000	31769463H	1.00	1.06	
		Average of Peak Amounts =				1.19	
						RPD = 1.65	
* 36 Dibutylchlorendate ISTD							s
1	8.317	8.322	-0.005	128307497H	0.1000	0.1000	
2	8.318	8.322	-0.004	221640054H	0.1000	0.1000	

QC Flag Legend

Processing Flags
s - Failed ISTD Recovery Test
H - Response Measured by Height

Reagents:

GCTOXLEVEL3_00020 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 02-Oct-2019 09:48:57 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\10021902.D

Injection Date: 02-Oct-2019 07:30:25 Instrument ID: CHGC17 Operator ID:

Lims ID: CCV Worklist Smp#: 2

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 2

Method: IS PEST_CHGC17 Limit Group: GCS 8081B ICAL with IS

Column: MR-1 (0.53 mm)

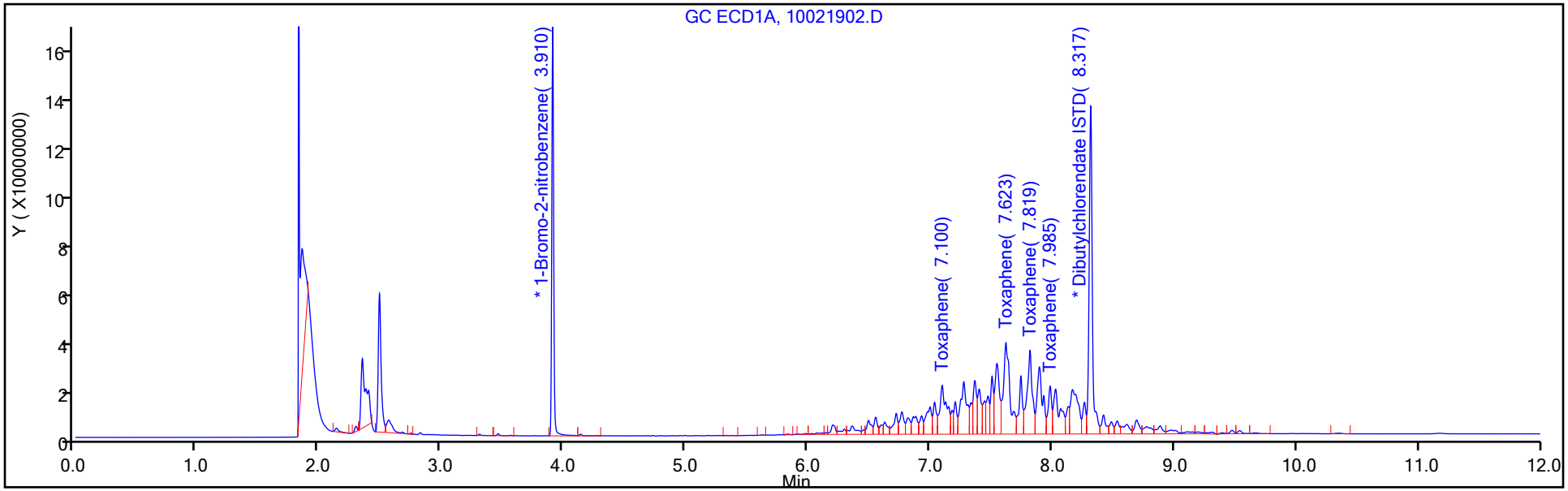

Column: MR-2 (0.53 mm)

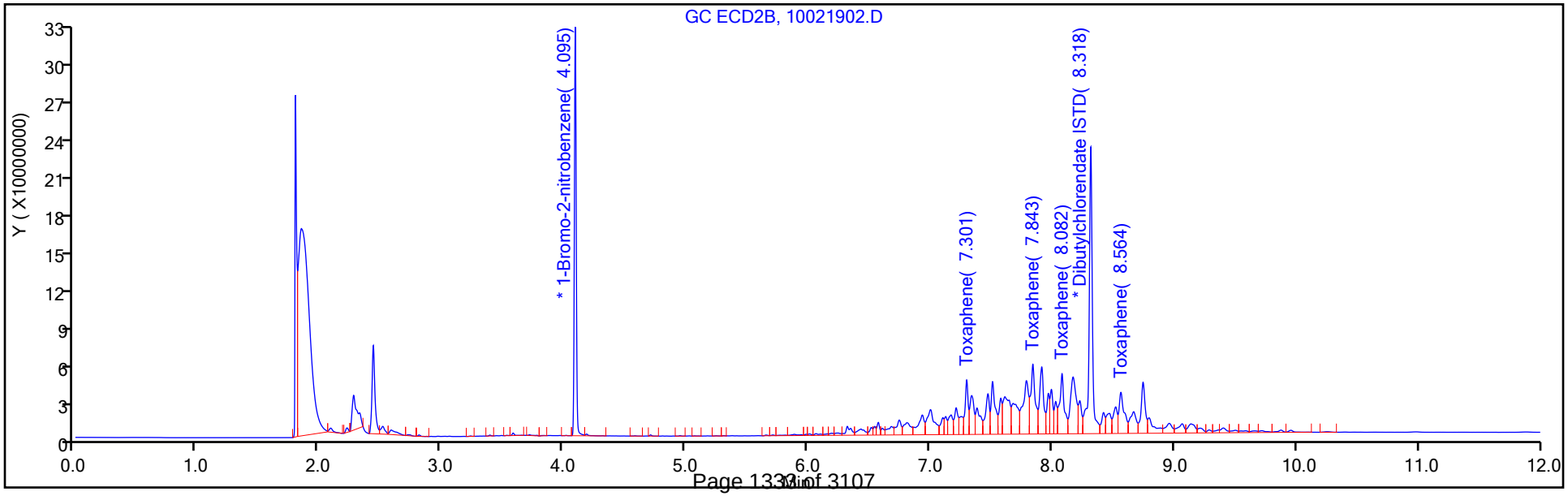

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-293427/2 Calibration Date: 10/02/2019 07:30

Instrument ID: CHGC17 Calib Start Date: 04/02/2019 09:51

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 04/02/2019 10:57

Lab File ID: 10021902.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Toxaphene Peak 1	Ave	0.0101	0.0133		1.32	1.00	31.8*	20.0
Toxaphene Peak 2	Lin1		0.0171		1.21	1.00	21.1*	20.0
Toxaphene Peak 3	Ave	0.0126	0.0147		1.17	1.00	16.9	20.0
Toxaphene Peak 4	Ave	0.0095	0.0101		1.06	1.00	5.6	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-293427/2 Calibration Date: 10/02/2019 07:30

Instrument ID: CHGC17 Calib Start Date: 04/02/2019 09:51

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 04/02/2019 10:57

Lab File ID: 10021902.D

Analyte	RT	RT WINDOW	
		FROM	TO
Toxaphene Peak 1	7.30	7.29	7.31
Toxaphene Peak 2	7.84	7.83	7.85
Toxaphene Peak 3	8.08	8.07	8.09
Toxaphene Peak 4	8.56	8.55	8.57

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\10021902.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 02-Oct-2019 07:30:25 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028932-002
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub1

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 02-Oct-2019 09:48:56 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0320

First Level Reviewer: eppinged Date: 02-Oct-2019 08:02:50

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.910	3.912	-0.002	159983478H	0.1000	0.1000	
2	4.095	4.098	-0.003	315786945H	0.1000	0.1000	
24 Toxaphene							
1	7.100	7.100	0.000	19136001H	1.00	1.29	
1	7.623	7.623	0.000	35805653H	1.00	1.19	
1	7.819	7.819	0.000	32803274H	1.00	1.22	
1	7.985	7.985	0.000	18748575H	1.00	1.14	
		Average of Peak Amounts =				1.21	
2	7.301	7.301	0.000	42137305H	1.00	1.32	
2	7.843	7.843	0.000	53925321H	1.00	1.21	
2	8.082	8.082	0.000	46435484H	1.00	1.17	
2	8.564	8.564	0.000	31769463H	1.00	1.06	
		Average of Peak Amounts =				1.19	
						RPD = 1.65	
* 36 Dibutylchlorendate ISTD							s
1	8.317	8.322	-0.005	128307497H	0.1000	0.1000	
2	8.318	8.322	-0.004	221640054H	0.1000	0.1000	

QC Flag Legend

Processing Flags
s - Failed ISTD Recovery Test
H - Response Measured by Height

Reagents:

GCTOXLEVEL3_00020 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 02-Oct-2019 09:48:59 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\10021902.D

Injection Date: 02-Oct-2019 07:30:25 Instrument ID: CHGC17 Operator ID:

Lims ID: CCV Worklist Smp#: 2

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 2

Method: IS PEST_CHGC17 Limit Group: GCS 8081B ICAL with IS

Column: MR-1 (0.53 mm)

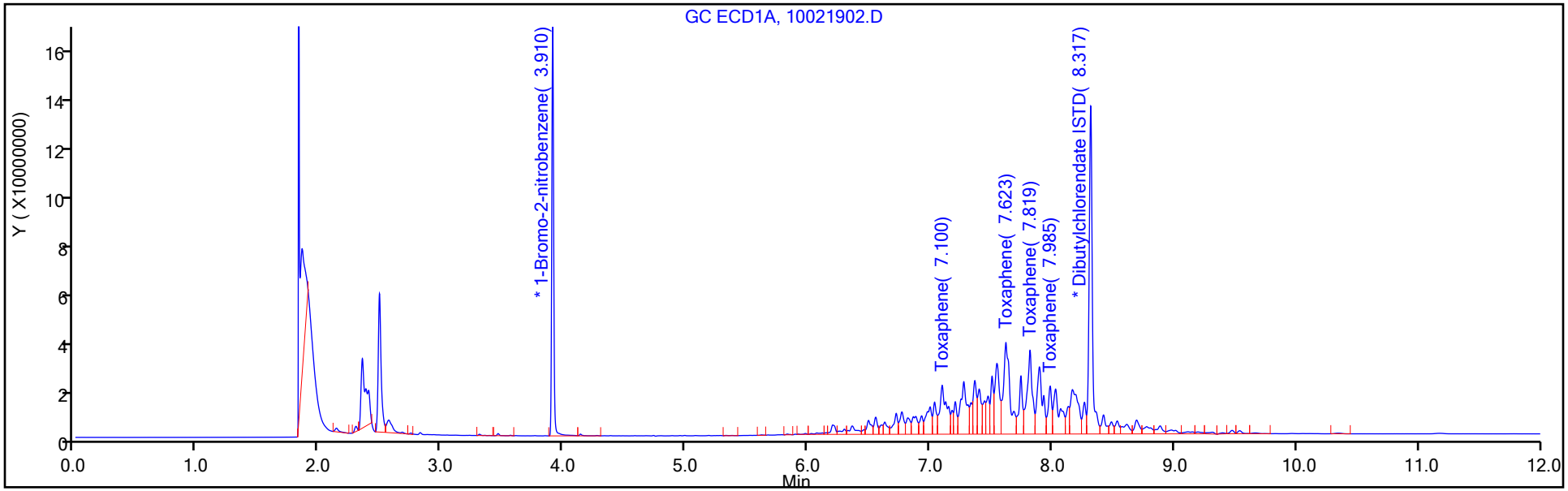

Column: MR-2 (0.53 mm)

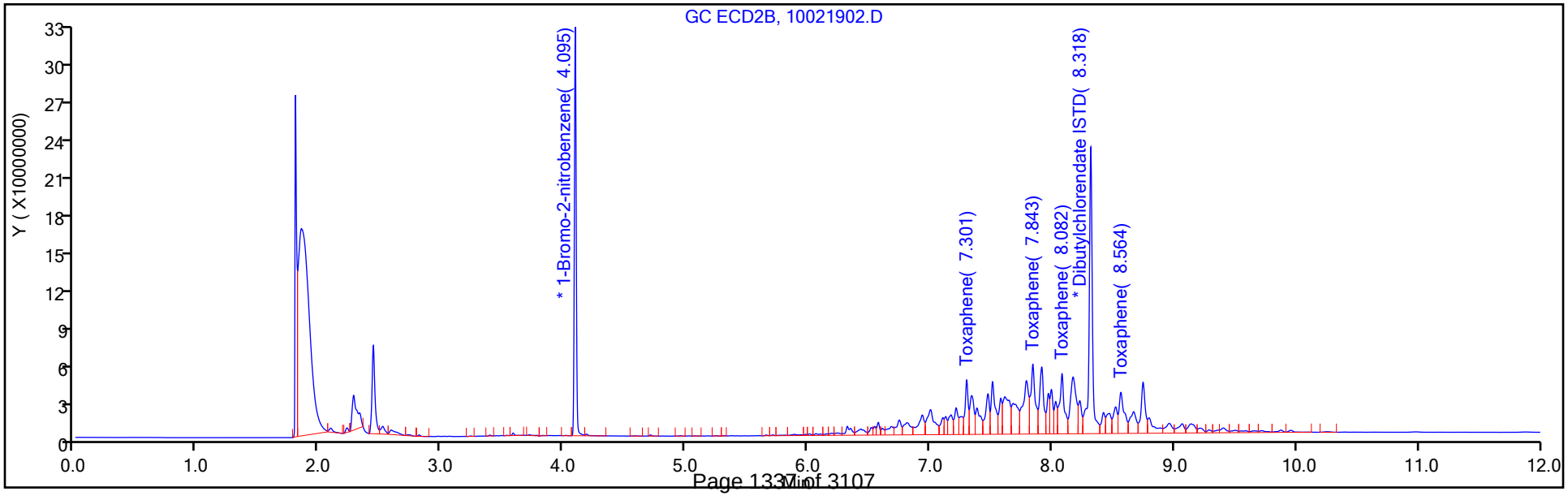

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-293427/3 Calibration Date: 10/02/2019 07:46

Instrument ID: CHGC17 Calib Start Date: 04/02/2019 11:13

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 04/02/2019 12:19

Lab File ID: 10021903.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Chlordane (technical) Peak 1	Ave	0.0341	0.0303		0.222	0.250	-11.1	20.0
Chlordane (technical) Peak 2	Ave	0.0477	0.0456		0.239	0.250	-4.5	20.0
Chlordane (technical) Peak 3	Ave	0.1318	0.1321		0.250	0.250	0.2	20.0
Chlordane (technical) Peak 4	Ave	0.1456	0.1443		0.248	0.250	-0.9	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-293427/3 Calibration Date: 10/02/2019 07:46

Instrument ID: CHGC17 Calib Start Date: 04/02/2019 11:13

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 04/02/2019 12:19

Lab File ID: 10021903.D

Analyte	RT	RT WINDOW	
		FROM	TO
Chlordane (technical) Peak 1	5.81	5.80	5.82
Chlordane (technical) Peak 2	5.98	5.98	6.00
Chlordane (technical) Peak 3	6.84	6.83	6.85
Chlordane (technical) Peak 4	6.91	6.90	6.92

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\10021903.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 02-Oct-2019 07:46:13 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028932-003
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub2

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 02-Oct-2019 09:49:02 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0320

First Level Reviewer: eppinged Date: 02-Oct-2019 08:08:40

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.910	3.912	-0.002	161911273H	0.1000	0.1000	
2	4.095	4.098	-0.003	319903394H	0.1000	0.1000	
9 Chlordane (technical)							
1	5.811	5.812	-0.001	12264419H	0.2500	0.2223	
1	5.984	5.986	-0.002	18454600H	0.2500	0.2389	
1	6.840	6.842	-0.002	53467508H	0.2500	0.2505	
1	6.909	6.910	-0.001	58414928H	0.2500	0.2478	
		Average of Peak Amounts =				0.2399	
2	5.880	5.882	-0.002	24918546H	0.2500	0.2583	
2	6.039	6.041	-0.002	35769772H	0.2500	0.2638	
2	6.994	6.995	-0.001	93040131H	0.2500	0.2622	
2	7.043	7.044	-0.001	54280877H	0.2500	0.2581	
		Average of Peak Amounts =				0.2606	
						RPD = 8.29	
* 36 Dibutylchlorendate ISTD							s
1	8.318	8.322	-0.004	114159147H	0.1000	0.1000	
2	8.318	8.322	-0.004	199996031H	0.1000	0.1000	

QC Flag Legend

Processing Flags
s - Failed ISTD Recovery Test
H - Response Measured by Height

Reagents:

GCCHLORLEVEL3_00017 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 02-Oct-2019 09:49:03 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\10021903.D				
Injection Date:	02-Oct-2019 07:46:13	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	CCV			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

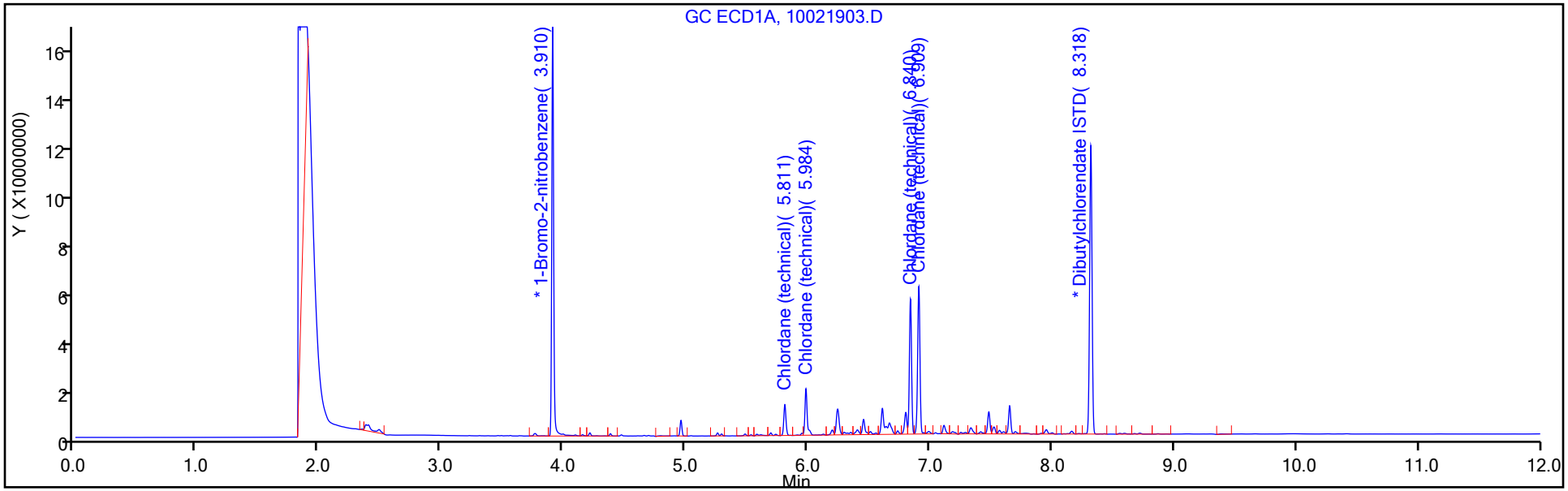

Column: MR-2 (0.53 mm)

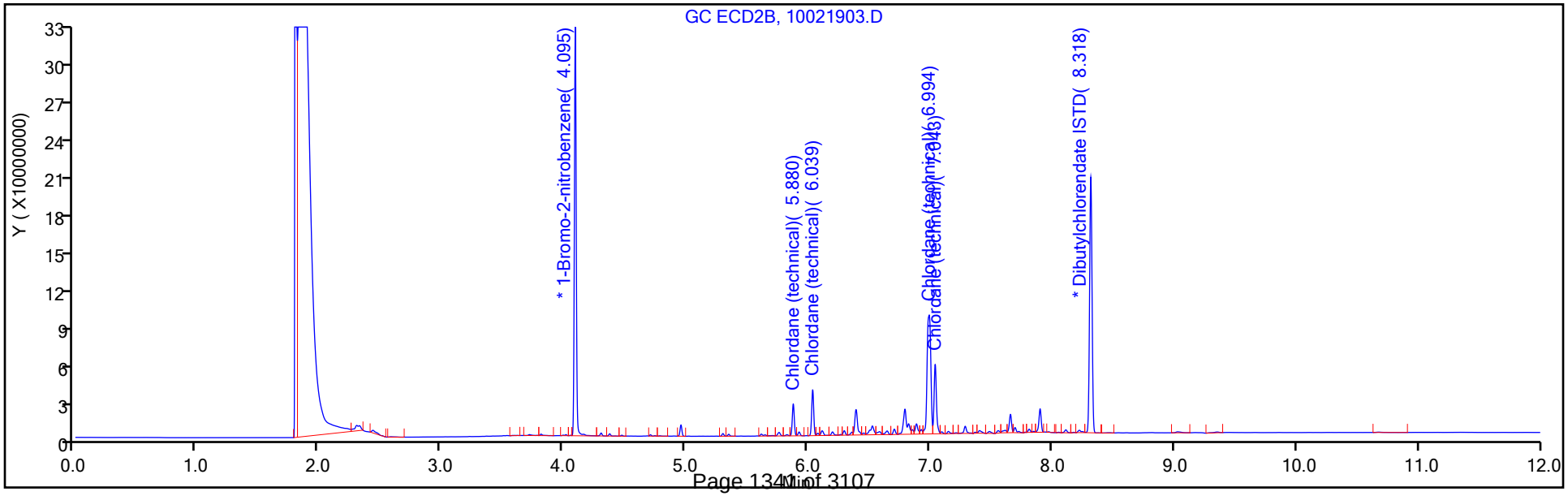

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-293427/3 Calibration Date: 10/02/2019 07:46

Instrument ID: CHGC17 Calib Start Date: 04/02/2019 11:13

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 04/02/2019 12:19

Lab File ID: 10021903.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Chlordane (technical) Peak 1	Lin1		0.0312		0.258	0.250	3.3	20.0
Chlordane (technical) Peak 2	Ave	0.0424	0.0447		0.264	0.250	5.5	20.0
Chlordane (technical) Peak 3	Ave	0.1109	0.1163		0.262	0.250	4.9	20.0
Chlordane (technical) Peak 4	Ave	0.0657	0.0679		0.258	0.250	3.2	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-293427/3 Calibration Date: 10/02/2019 07:46

Instrument ID: CHGC17 Calib Start Date: 04/02/2019 11:13

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 04/02/2019 12:19

Lab File ID: 10021903.D

Analyte	RT	RT WINDOW	
		FROM	TO
Chlordane (technical) Peak 1	5.88	5.87	5.89
Chlordane (technical) Peak 2	6.04	6.03	6.05
Chlordane (technical) Peak 3	6.99	6.99	7.01
Chlordane (technical) Peak 4	7.04	7.03	7.05

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\10021903.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 02-Oct-2019 07:46:13 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028932-003
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub2

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 02-Oct-2019 09:49:02 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0320

First Level Reviewer: eppinged Date: 02-Oct-2019 08:08:40

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.910	3.912	-0.002	161911273H	0.1000	0.1000	
2	4.095	4.098	-0.003	319903394H	0.1000	0.1000	
9 Chlordane (technical)							
1	5.811	5.812	-0.001	12264419H	0.2500	0.2223	
1	5.984	5.986	-0.002	18454600H	0.2500	0.2389	
1	6.840	6.842	-0.002	53467508H	0.2500	0.2505	
1	6.909	6.910	-0.001	58414928H	0.2500	0.2478	
		Average of Peak Amounts =				0.2399	
2	5.880	5.882	-0.002	24918546H	0.2500	0.2583	
2	6.039	6.041	-0.002	35769772H	0.2500	0.2638	
2	6.994	6.995	-0.001	93040131H	0.2500	0.2622	
2	7.043	7.044	-0.001	54280877H	0.2500	0.2581	
		Average of Peak Amounts =				0.2606	
						RPD = 8.29	
* 36 Dibutylchlorendate ISTD							s
1	8.318	8.322	-0.004	114159147H	0.1000	0.1000	
2	8.318	8.322	-0.004	199996031H	0.1000	0.1000	

QC Flag Legend

Processing Flags
s - Failed ISTD Recovery Test
H - Response Measured by Height

Reagents:

GCCHLORLEVEL3_00017 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 02-Oct-2019 09:49:06 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\10021903.D				
Injection Date:	02-Oct-2019 07:46:13	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	CCV			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

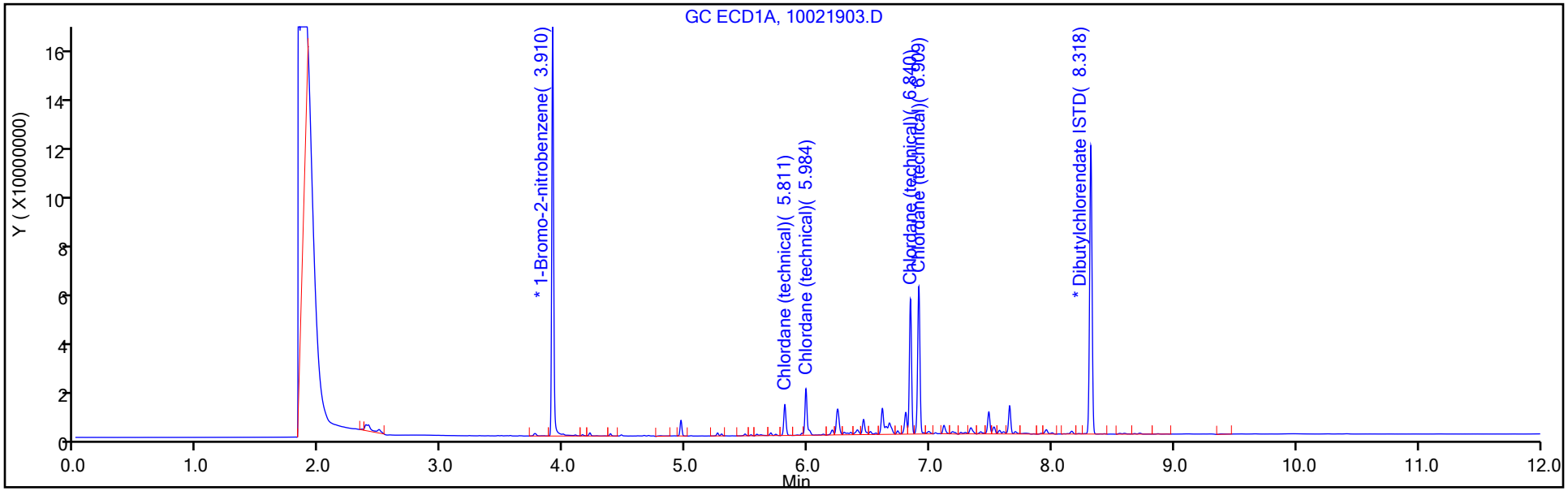

Column: MR-2 (0.53 mm)

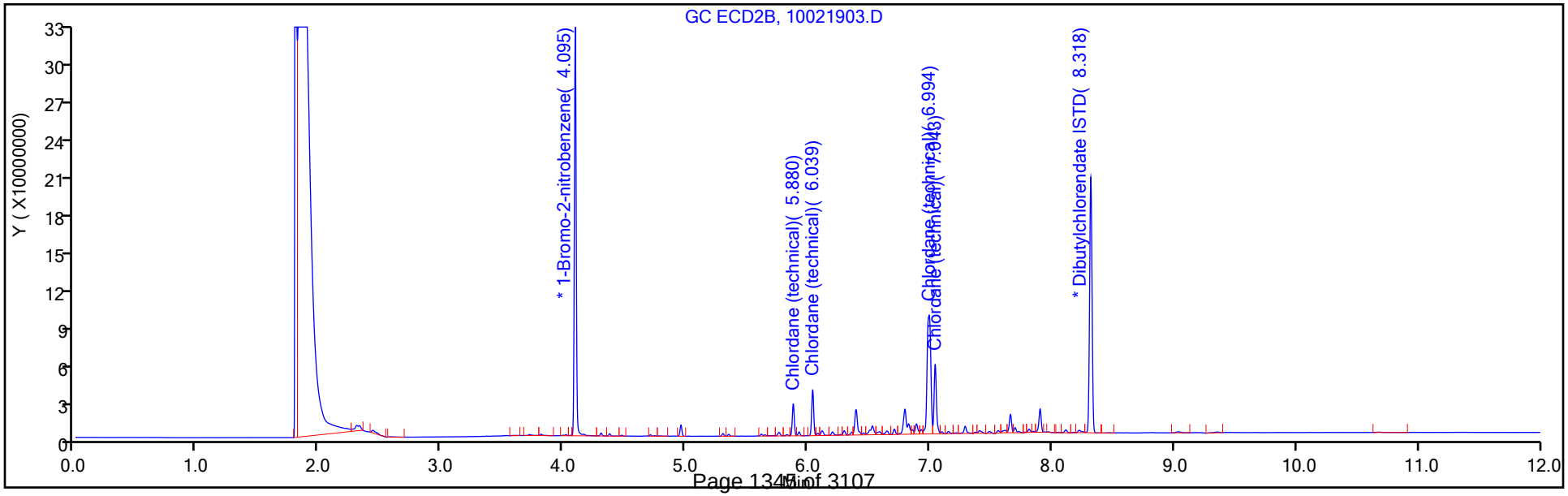

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-293427/4 Calibration Date: 10/02/2019 08:02

Instrument ID: CHGC17 Calib Start Date: 04/02/2019 12:35

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 04/02/2019 13:58

Lab File ID: 10021904.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Hexachlorobenzene	Ave	1.101	1.226		0.0278	0.0250	11.3	20.0
DCPA	Ave	0.7954	0.9419		0.0296	0.0250	18.4	20.0
Isodrin	Ave	0.9572	1.054		0.0275	0.0250	10.1	20.0
oxy-Chlordane	Ave	0.8735	0.9699		0.0278	0.0250	11.0	20.0
Chlorobenside	Ave	0.6301	0.8590		0.0747	0.0500	36.3*	20.0
Mirex	Ave	0.6628	0.6434		0.0243	0.0250	-2.9	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-293427/4 Calibration Date: 10/02/2019 08:02

Instrument ID: CHGC17 Calib Start Date: 04/02/2019 12:35

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 04/02/2019 13:58

Lab File ID: 10021904.D

Analyte	RT	RT WINDOW	
		FROM	TO
Hexachlorobenzene	5.29	5.28	5.30
DCPA	6.20	6.19	6.21
Isodrin	6.55	6.54	6.56
oxy-Chlordane	6.58	6.57	6.59
Chlorobenside	6.87	6.86	6.88
Mirex	8.90	8.89	8.91

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\10021904.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 02-Oct-2019 08:02:10 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028932-004
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub3

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 02-Oct-2019 09:49:09 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0320

First Level Reviewer: eppinged Date: 02-Oct-2019 08:33:39

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							s
1	3.912	3.912	0.000	188995972H	0.1000	0.1000	
2	4.098	4.098	0.000	375826575H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.294	5.294	0.000	57913018H	0.0250	0.0278	
2	5.385	5.385	0.000	126307653H	0.0250	0.0293	
						RPD = 5.27	
12 DCPA							
1	6.203	6.203	0.000	44503751H	0.0250	0.0296	
2	6.308	6.308	0.000	86553062H	0.0250	0.0315	
						RPD = 6.34	
14 Isodrin							
1	6.547	6.547	0.000	49777927H	0.0250	0.0275	
2	6.665	6.665	0.000	151419132H	0.0250	0.0287	
						RPD = 4.11	
15 oxy-Chlordane							
1	6.584	6.584	0.000	45824455H	0.0250	0.0278	
2	6.665	6.665	0.000	151419132H	0.0250	0.0287	
						RPD = 3.23	
19 Chlorobenside							
1	6.867	6.867	0.000	88911430	0.0500	0.0747	
2	7.068	7.068	0.000	163315531	0.0500	0.0738	
						RPD = 1.11	
* 36 Dibutylchlorendate ISTD							s
1	8.322	8.322	0.000	133351075H	0.1000	0.1000	
2	8.322	8.322	0.000	236031408H	0.1000	0.1000	
38 Mirex							
1	8.904	8.904	0.000	21449091H	0.0250	0.0243	
2	9.179	9.179	0.000	34578177H	0.0250	0.0230	
						RPD = 5.50	

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

H - Response Measured by Height

Reagents:

GCAPPIX1L3_00032	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.01	Units: mL	Run Reagent

Report Date: 02-Oct-2019 09:49:10 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\10021904.D

Injection Date: 02-Oct-2019 08:02:10 Instrument ID: CHGC17 Operator ID:

Lims ID: CCV Worklist Smp#: 4

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 4

Method: IS PEST_CHGC17 Limit Group: GCS 8081B ICAL with IS

Column: MR-1 (0.53 mm)

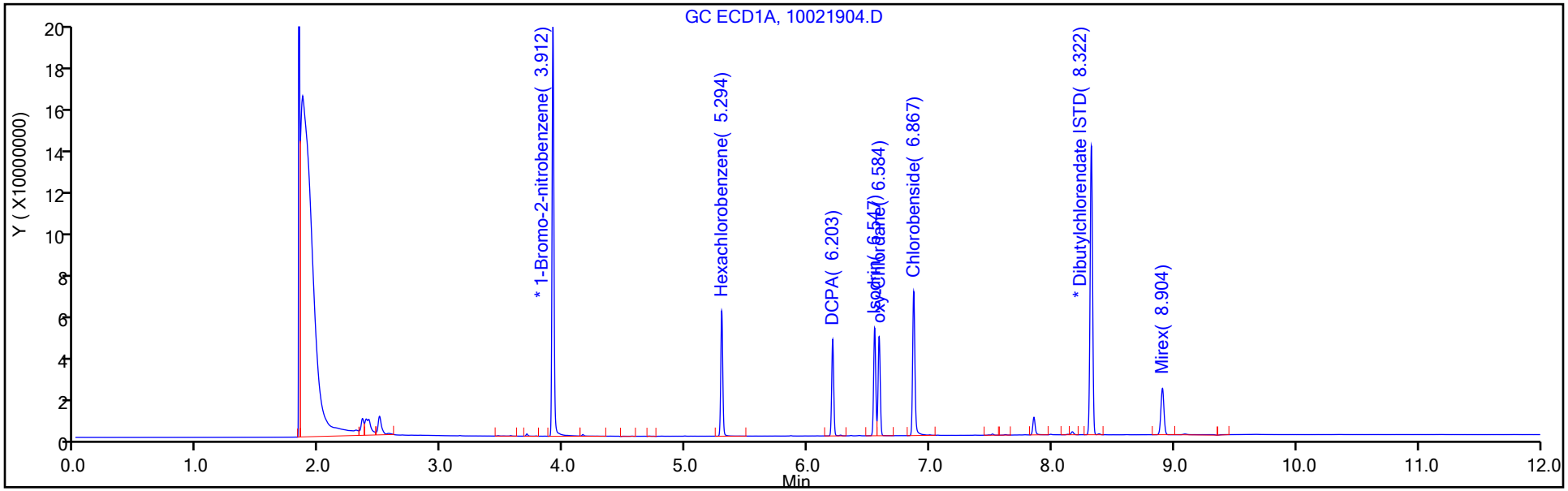

Column: MR-2 (0.53 mm)

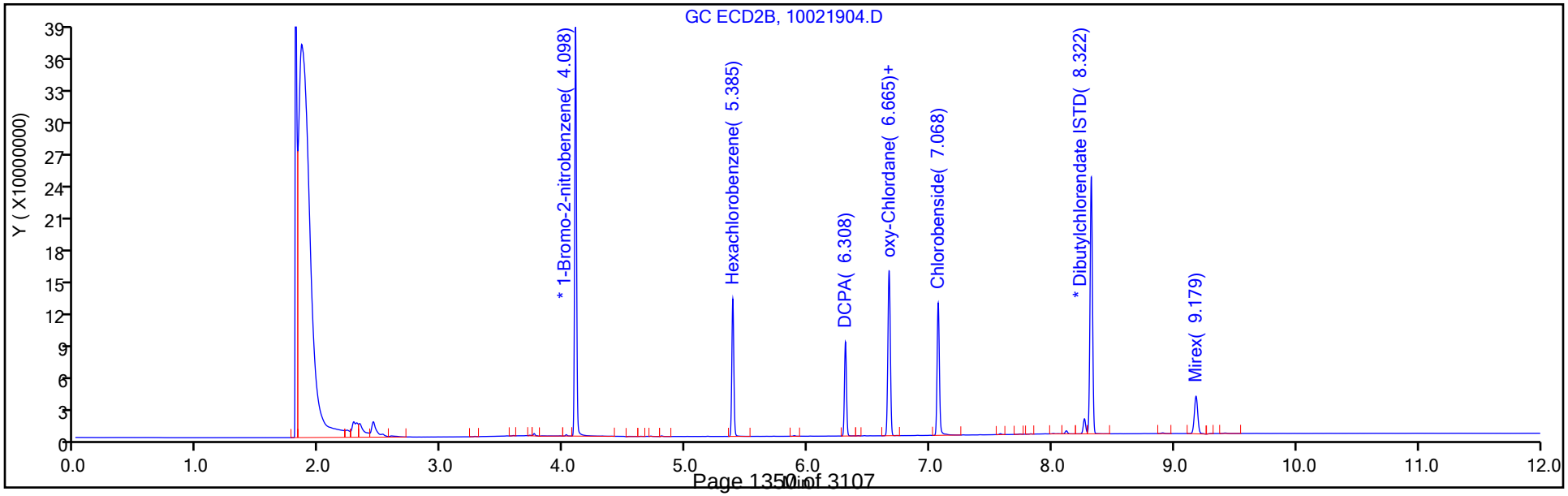

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-293427/4 Calibration Date: 10/02/2019 08:02

Instrument ID: CHGC17 Calib Start Date: 04/02/2019 12:35

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 04/02/2019 13:58

Lab File ID: 10021904.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Hexachlorobenzene	Ave	1.146	1.344		0.0293	0.0250	17.3	20.0
DCPA	Ave	0.7301	0.9212		0.0315	0.0250	26.2*	20.0
Isodrin	Ave	1.405	1.612		0.0287	0.0250	14.7	20.0
oxy-Chlordane	Ave	1.405	1.612		0.0287	0.0250	14.7	20.0
Chlorobenside	Ave	0.5886	0.8094		0.0738	0.0500	37.5*	20.0
Mirex	Ave	0.6378	0.5860		0.0230	0.0250	-8.1	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-293427/4 Calibration Date: 10/02/2019 08:02

Instrument ID: CHGC17 Calib Start Date: 04/02/2019 12:35

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 04/02/2019 13:58

Lab File ID: 10021904.D

Analyte	RT	RT WINDOW	
		FROM	TO
Hexachlorobenzene	5.39	5.38	5.40
DCPA	6.31	6.30	6.32
Isodrin	6.67	6.66	6.68
oxy-Chlordane	6.67	6.66	6.68
Chlorobenside	7.07	7.06	7.08
Mirex	9.18	9.17	9.19

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\10021904.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 02-Oct-2019 08:02:10 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028932-004
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub3

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 02-Oct-2019 09:49:09 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0320

First Level Reviewer: eppinged Date: 02-Oct-2019 08:33:39

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							s
1	3.912	3.912	0.000	188995972H	0.1000	0.1000	
2	4.098	4.098	0.000	375826575H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.294	5.294	0.000	57913018H	0.0250	0.0278	
2	5.385	5.385	0.000	126307653H	0.0250	0.0293	
						RPD = 5.27	
12 DCPA							
1	6.203	6.203	0.000	44503751H	0.0250	0.0296	
2	6.308	6.308	0.000	86553062H	0.0250	0.0315	
						RPD = 6.34	
14 Isodrin							
1	6.547	6.547	0.000	49777927H	0.0250	0.0275	
2	6.665	6.665	0.000	151419132H	0.0250	0.0287	
						RPD = 4.11	
15 oxy-Chlordane							
1	6.584	6.584	0.000	45824455H	0.0250	0.0278	
2	6.665	6.665	0.000	151419132H	0.0250	0.0287	
						RPD = 3.23	
19 Chlorobenside							
1	6.867	6.867	0.000	88911430	0.0500	0.0747	
2	7.068	7.068	0.000	163315531	0.0500	0.0738	
						RPD = 1.11	
* 36 Dibutylchlorendate ISTD							s
1	8.322	8.322	0.000	133351075H	0.1000	0.1000	
2	8.322	8.322	0.000	236031408H	0.1000	0.1000	
38 Mirex							
1	8.904	8.904	0.000	21449091H	0.0250	0.0243	
2	9.179	9.179	0.000	34578177H	0.0250	0.0230	
						RPD = 5.50	

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

H - Response Measured by Height

Reagents:

GCAPPIX1L3_00032	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.01	Units: mL	Run Reagent

Report Date: 02-Oct-2019 09:49:10 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\10021904.D

Injection Date: 02-Oct-2019 08:02:10 Instrument ID: CHGC17 Operator ID:

Lims ID: CCV Worklist Smp#: 4

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 4

Method: IS PEST_CHGC17 Limit Group: GCS 8081B ICAL with IS

Column: MR-1 (0.53 mm)

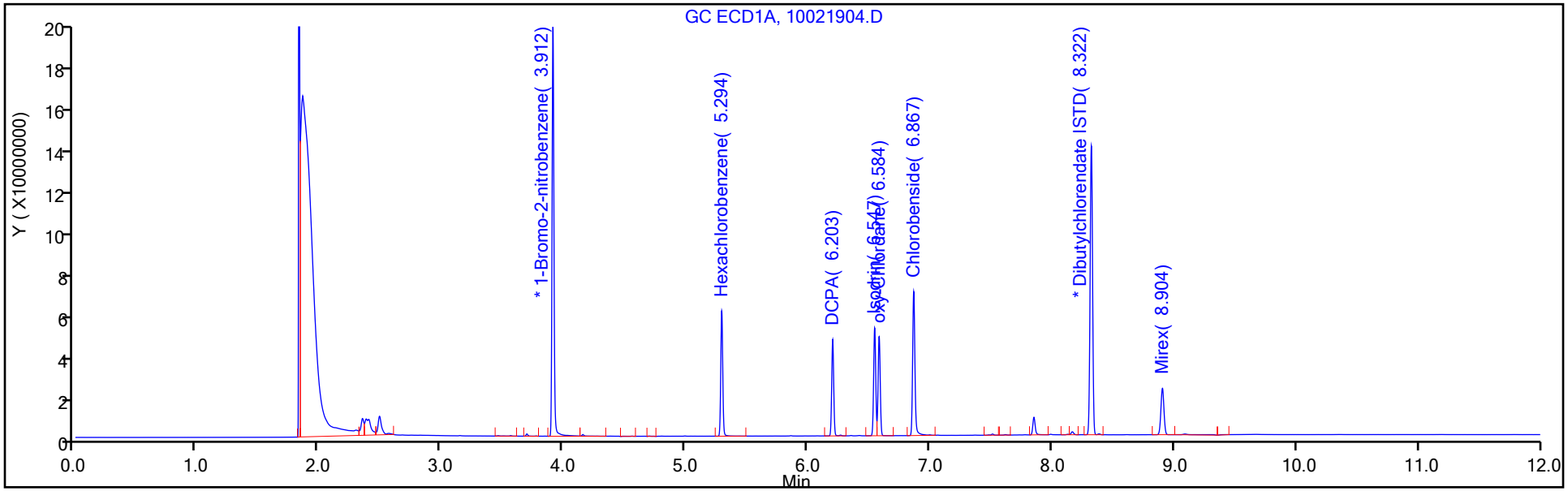

Column: MR-2 (0.53 mm)

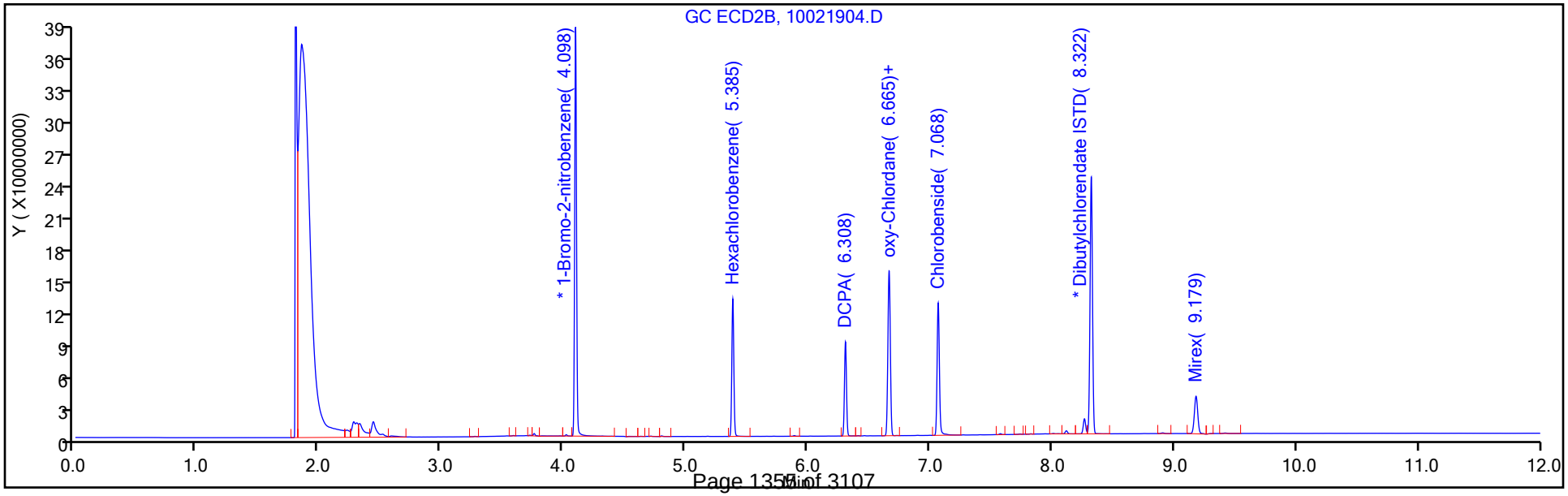

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCVIS 180-293427/5 Calibration Date: 10/02/2019 08:17

Instrument ID: CHGC17 Calib Start Date: 04/02/2019 15:52

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 04/02/2019 17:14

Lab File ID: 10021905.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
alpha-BHC	Ave	1.481	1.728		0.0292	0.0250	16.7	20.0
gamma-BHC (Lindane)	Ave	1.280	1.455		0.0284	0.0250	13.7	20.0
beta-BHC	Ave	0.5498	0.6187		0.0281	0.0250	12.5	20.0
delta-BHC	Ave	1.110	1.356		0.0305	0.0250	22.1*	20.0
Heptachlor	Ave	1.183	1.297		0.0274	0.0250	9.7	20.0
Aldrin	Ave	1.138	1.274		0.0280	0.0250	11.9	20.0
Heptachlor epoxide	Ave	1.003	1.105		0.0275	0.0250	10.1	20.0
trans-Chlordane	Ave	1.017	1.121		0.0276	0.0250	10.3	20.0
cis-Chlordane	Ave	0.9786	1.069		0.0273	0.0250	9.2	20.0
Endosulfan I	Ave	0.8794	0.9838		0.0280	0.0250	11.9	20.0
4,4'-DDE	Ave	1.445	1.602		0.0277	0.0250	10.9	20.0
Dieldrin	Ave	1.563	1.591		0.0254	0.0250	1.8	20.0
Endrin	Ave	1.315	1.366		0.0260	0.0250	3.9	20.0
4,4'-DDD	Ave	1.266	1.336		0.0264	0.0250	5.5	20.0
Endosulfan II	Ave	1.151	1.140		0.0248	0.0250	-1.0	20.0
Endrin aldehyde	Ave	1.010	0.9729		0.0241	0.0250	-3.7	20.0
4,4'-DDT	Ave	1.091	1.128		0.0258	0.0250	3.3	20.0
Endosulfan sulfate	Ave	1.185	1.141		0.0241	0.0250	-3.7	20.0
Methoxychlor	Ave	0.5155	0.5099		0.0247	0.0250	-1.1	20.0
Endrin ketone	Ave	1.133	1.036		0.0229	0.0250	-8.6	20.0
Tetrachloro-m-xylene	Ave	1.229	1.220		0.0248	0.0250	-0.7	20.0
DCB Decachlorobiphenyl (Surr)	Ave	0.6221	0.5644		0.0227	0.0250	-9.3	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCVIS 180-293427/5 Calibration Date: 10/02/2019 08:17

Instrument ID: CHGC17 Calib Start Date: 04/02/2019 15:52

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 04/02/2019 17:14

Lab File ID: 10021905.D

Analyte	RT	RT WINDOW	
		FROM	TO
alpha-BHC	5.26	5.25	5.27
gamma-BHC (Lindane)	5.52	5.51	5.53
beta-BHC	5.69	5.68	5.70
delta-BHC	5.89	5.88	5.90
Heptachlor	5.99	5.98	6.00
Aldrin	6.27	6.26	6.28
Heptachlor epoxide	6.63	6.62	6.64
trans-Chlordane	6.84	6.83	6.85
cis-Chlordane	6.91	6.90	6.92
Endosulfan I	6.96	6.95	6.97
4,4'-DDE	7.06	7.05	7.07
Dieldrin	7.19	7.18	7.20
Endrin	7.39	7.38	7.40
4,4'-DDD	7.52	7.51	7.53
Endosulfan II	7.59	7.58	7.60
Endrin aldehyde	7.71	7.70	7.72
4,4'-DDT	7.80	7.79	7.81
Endosulfan sulfate	7.92	7.91	7.93
Methoxychlor	8.25	8.24	8.26
Endrin ketone	8.38	8.37	8.39
Tetrachloro-m-xylene	4.90	4.89	4.91
DCB Decachlorobiphenyl (Surr)	10.18	10.17	10.19

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\10021905.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 02-Oct-2019 08:17:58 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028932-005
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub12

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 02-Oct-2019 09:49:13 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0320

First Level Reviewer: eppinged Date: 02-Oct-2019 08:49:42

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.913	3.913	0.000	145161409H	0.1000	0.1000	
2	4.098	4.098	0.000	291239350H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.895	4.895	0.000	44286442H	0.0250	0.0248	
2	4.957	4.957	0.000	76407953H	0.0250	0.0227	
						RPD = 8.80	
5 alpha-BHC							
1	5.258	5.258	0.000	62725099H	0.0250	0.0292	
2	5.422	5.422	0.000	117043945H	0.0250	0.0291	
						RPD = 0.10	
7 gamma-BHC (Lindane)							
1	5.522	5.522	0.000	52802526H	0.0250	0.0284	
2	5.724	5.724	0.000	99265508H	0.0250	0.0290	
						RPD = 2.14	
8 beta-BHC							
1	5.687	5.687	0.000	22452545H	0.0250	0.0281	
2	5.967	5.967	0.000	42538296H	0.0250	0.0290	
						RPD = 3.09	
10 delta-BHC							
1	5.886	5.886	0.000	49207836H	0.0250	0.0305	
2	6.197	6.197	0.000	92180916H	0.0250	0.0312	
						RPD = 2.14	
11 Heptachlor							
1	5.988	5.988	0.000	47071480H	0.0250	0.0274	
2	6.043	6.043	0.000	89136294H	0.0250	0.0293	
						RPD = 6.77	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
13 Aldrin							
1	6.267	6.267	0.000	46236338H	0.0250	0.0280	
2	6.312	6.312	0.000	85891905H	0.0250	0.0293	
						RPD = 4.61	
16 Heptachlor epoxide							
1	6.627	6.627	0.000	40086144H	0.0250	0.0275	
2	6.760	6.760	0.000	74814014H	0.0250	0.0301	
						RPD = 9.04	
18 trans-Chlordane							
1	6.844	6.844	0.000	40699013H	0.0250	0.0276	
2	6.987	6.987	0.000	72902383H	0.0250	0.0283	
						RPD = 2.72	
20 cis-Chlordane							
1	6.911	6.911	0.000	38776244H	0.0250	0.0273	
2	7.047	7.047	0.000	71159662H	0.0250	0.0287	
						RPD = 5.16	
22 Endosulfan I							
1	6.956	6.956	0.000	35702816H	0.0250	0.0280	
2	7.116	7.116	0.000	66954190H	0.0250	0.0300	
						RPD = 6.87	
23 4,4'-DDE							
1	7.061	7.061	0.000	41162179H	0.0250	0.0277	
2	7.181	7.181	0.000	75706305H	0.0250	0.0274	
						RPD = 1.16	
26 Dieldrin							
1	7.193	7.193	0.000	40887487H	0.0250	0.0254	
2	7.359	7.359	0.000	73084637H	0.0250	0.0255	
						RPD = 0.29	
27 Endrin							
1	7.394	7.394	0.000	35105100H	0.0250	0.0260	
2	7.626	7.626	0.000	57872430H	0.0250	0.0255	
						RPD = 1.66	
30 4,4'-DDD							
1	7.518	7.518	0.000	34332435H	0.0250	0.0264	
2	7.700	7.700	0.000	60155230H	0.0250	0.0276	
						RPD = 4.52	
31 Endosulfan II							
1	7.592	7.592	0.000	29298558H	0.0250	0.0248	
2	7.891	7.891	0.000	51503970H	0.0250	0.0245	
						RPD = 1.19	
32 Endrin aldehyde							
1	7.707	7.707	0.000	25005580H	0.0250	0.0241	
2	8.057	8.057	0.000	41465106H	0.0250	0.0233	
						RPD = 3.39	
33 4,4'-DDT							
1	7.795	7.795	0.000	28982829H	0.0250	0.0258	
2	7.942	7.942	0.000	52640768H	0.0250	0.0245	
						RPD = 5.41	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
34 Endosulfan sulfate							
1	7.917	7.917	0.000	29325781H	0.0250	0.0241	
2	8.282	8.282	0.000	46733623H	0.0250	0.0237	
						RPD = 1.68	
35 Methoxychlor							
1	8.246	8.246	0.000	13104204H	0.0250	0.0247	
2	8.513	8.513	0.000	21824959H	0.0250	0.0230	
						RPD = 7.26	
* 36 Dibutylchlorendate ISTD							
1	8.322	8.322	0.000	102807018H	0.1000	0.1000	
2	8.322	8.322	0.000	183363088H	0.1000	0.1000	
37 Endrin ketone							
1	8.384	8.384	0.000	26624364H	0.0250	0.0229	
2	8.906	8.906	0.000	42557268H	0.0250	0.0231	
						RPD = 1.24	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.177	10.177	0.000	14505308H	0.0250	0.0227	
2	10.607	10.607	0.000	27523407H	0.0250	0.0240	
						RPD = 5.55	

Reagents:

GCPestL3_00032 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 02-Oct-2019 09:49:14 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\10021905.D

Injection Date: 02-Oct-2019 08:17:58 Instrument ID: CHGC17 Operator ID:

Lims ID: CCVIS Worklist Smp#: 5

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 5

Method: IS PEST_CHGC17 Limit Group: GCS 8081B ICAL with IS

Column: MR-1 (0.53 mm)

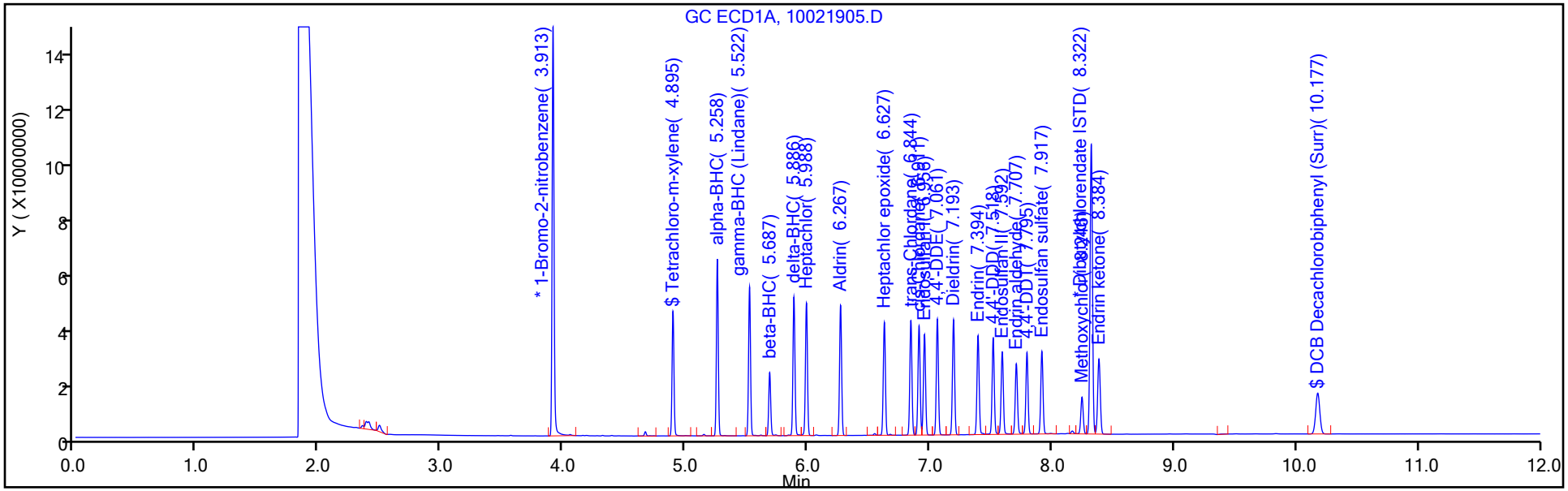

Column: MR-2 (0.53 mm)

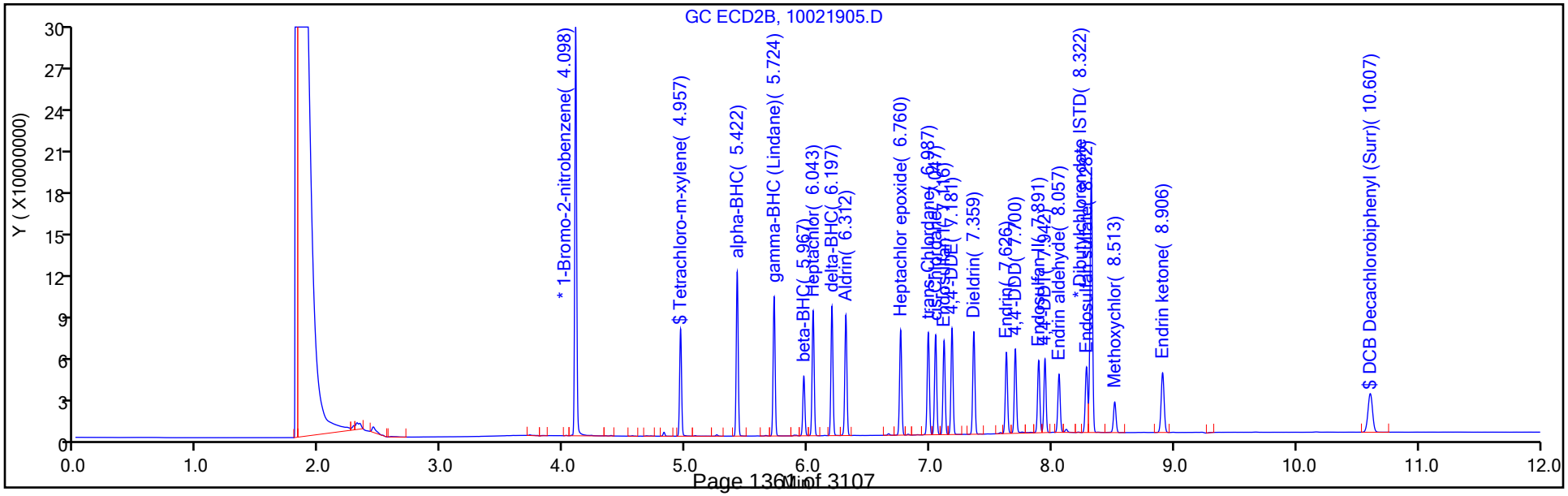

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCVIS 180-293427/5 Calibration Date: 10/02/2019 08:17

Instrument ID: CHGC17 Calib Start Date: 04/02/2019 15:52

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 04/02/2019 17:14

Lab File ID: 10021905.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
alpha-BHC	Ave	1.379	1.608		0.0291	0.0250	16.6	20.0
gamma-BHC (Lindane)	Ave	1.174	1.363		0.0290	0.0250	16.1	20.0
beta-BHC	Ave	0.5034	0.5842		0.0290	0.0250	16.1	20.0
Heptachlor	Ave	1.043	1.224		0.0293	0.0250	17.4	20.0
delta-BHC	Ave	1.015	1.266		0.0312	0.0250	24.8*	20.0
Aldrin	Ave	1.007	1.180		0.0293	0.0250	17.2	20.0
Heptachlor epoxide	Ave	0.8525	1.028		0.0301	0.0250	20.5*	20.0
trans-Chlordane	Ave	0.8833	1.001		0.0283	0.0250	13.4	20.0
cis-Chlordane	Ave	0.8500	0.9773		0.0287	0.0250	15.0	20.0
Endosulfan I	Ave	0.7673	0.9196		0.0300	0.0250	19.8	20.0
4,4'-DDE	Ave	1.507	1.652		0.0274	0.0250	9.6	20.0
Dieldrin	Ave	1.562	1.594		0.0255	0.0250	2.0	20.0
Endrin	Ave	1.236	1.262		0.0255	0.0250	2.1	20.0
4,4'-DDD	Ave	1.189	1.312		0.0276	0.0250	10.4	20.0
Endosulfan II	Ave	1.148	1.124		0.0245	0.0250	-2.1	20.0
4,4'-DDT	Ave	1.173	1.148		0.0245	0.0250	-2.1	20.0
Endrin aldehyde	Ave	0.9718	0.9046		0.0233	0.0250	-6.9	20.0
Endosulfan sulfate	Ave	1.076	1.019		0.0237	0.0250	-5.3	20.0
Methoxychlor	Ave	0.5176	0.4761		0.0230	0.0250	-8.0	20.0
Endrin ketone	Ave	1.003	0.9284		0.0231	0.0250	-7.4	20.0
Tetrachloro-m-xylene	Ave	1.154	1.049		0.0227	0.0250	-9.0	20.0
DCB Decachlorobiphenyl (Surr)	Ave	0.6260	0.6004		0.0240	0.0250	-4.1	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCVIS 180-293427/5 Calibration Date: 10/02/2019 08:17

Instrument ID: CHGC17 Calib Start Date: 04/02/2019 15:52

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 04/02/2019 17:14

Lab File ID: 10021905.D

Analyte	RT	RT WINDOW	
		FROM	TO
alpha-BHC	5.42	5.41	5.43
gamma-BHC (Lindane)	5.72	5.71	5.73
beta-BHC	5.97	5.96	5.98
Heptachlor	6.04	6.03	6.05
delta-BHC	6.20	6.19	6.21
Aldrin	6.31	6.30	6.32
Heptachlor epoxide	6.76	6.75	6.77
trans-Chlordane	6.99	6.98	7.00
cis-Chlordane	7.05	7.04	7.06
Endosulfan I	7.12	7.11	7.13
4,4'-DDE	7.18	7.17	7.19
Dieldrin	7.36	7.35	7.37
Endrin	7.63	7.62	7.64
4,4'-DDD	7.70	7.69	7.71
Endosulfan II	7.89	7.88	7.90
4,4'-DDT	7.94	7.93	7.95
Endrin aldehyde	8.06	8.05	8.07
Endosulfan sulfate	8.28	8.27	8.29
Methoxychlor	8.51	8.50	8.52
Endrin ketone	8.91	8.90	8.92
Tetrachloro-m-xylene	4.96	4.95	4.97
DCB Decachlorobiphenyl (Surr)	10.61	10.60	10.62

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\10021905.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 02-Oct-2019 08:17:58 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028932-005
Operator ID: Instrument ID: CHGC17
Sublist: chrom-IS PEST_CHGC17*sub12

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 02-Oct-2019 09:49:13 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0320

First Level Reviewer: eppinged Date: 02-Oct-2019 08:49:42

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.913	3.913	0.000	145161409H	0.1000	0.1000	
2	4.098	4.098	0.000	291239350H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.895	4.895	0.000	44286442H	0.0250	0.0248	
2	4.957	4.957	0.000	76407953H	0.0250	0.0227	
						RPD = 8.80	
5 alpha-BHC							
1	5.258	5.258	0.000	62725099H	0.0250	0.0292	
2	5.422	5.422	0.000	117043945H	0.0250	0.0291	
						RPD = 0.10	
7 gamma-BHC (Lindane)							
1	5.522	5.522	0.000	52802526H	0.0250	0.0284	
2	5.724	5.724	0.000	99265508H	0.0250	0.0290	
						RPD = 2.14	
8 beta-BHC							
1	5.687	5.687	0.000	22452545H	0.0250	0.0281	
2	5.967	5.967	0.000	42538296H	0.0250	0.0290	
						RPD = 3.09	
10 delta-BHC							
1	5.886	5.886	0.000	49207836H	0.0250	0.0305	
2	6.197	6.197	0.000	92180916H	0.0250	0.0312	
						RPD = 2.14	
11 Heptachlor							
1	5.988	5.988	0.000	47071480H	0.0250	0.0274	
2	6.043	6.043	0.000	89136294H	0.0250	0.0293	
						RPD = 6.77	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
13 Aldrin							
1	6.267	6.267	0.000	46236338H	0.0250	0.0280	
2	6.312	6.312	0.000	85891905H	0.0250	0.0293	
						RPD = 4.61	
16 Heptachlor epoxide							
1	6.627	6.627	0.000	40086144H	0.0250	0.0275	
2	6.760	6.760	0.000	74814014H	0.0250	0.0301	
						RPD = 9.04	
18 trans-Chlordane							
1	6.844	6.844	0.000	40699013H	0.0250	0.0276	
2	6.987	6.987	0.000	72902383H	0.0250	0.0283	
						RPD = 2.72	
20 cis-Chlordane							
1	6.911	6.911	0.000	38776244H	0.0250	0.0273	
2	7.047	7.047	0.000	71159662H	0.0250	0.0287	
						RPD = 5.16	
22 Endosulfan I							
1	6.956	6.956	0.000	35702816H	0.0250	0.0280	
2	7.116	7.116	0.000	66954190H	0.0250	0.0300	
						RPD = 6.87	
23 4,4'-DDE							
1	7.061	7.061	0.000	41162179H	0.0250	0.0277	
2	7.181	7.181	0.000	75706305H	0.0250	0.0274	
						RPD = 1.16	
26 Dieldrin							
1	7.193	7.193	0.000	40887487H	0.0250	0.0254	
2	7.359	7.359	0.000	73084637H	0.0250	0.0255	
						RPD = 0.29	
27 Endrin							
1	7.394	7.394	0.000	35105100H	0.0250	0.0260	
2	7.626	7.626	0.000	57872430H	0.0250	0.0255	
						RPD = 1.66	
30 4,4'-DDD							
1	7.518	7.518	0.000	34332435H	0.0250	0.0264	
2	7.700	7.700	0.000	60155230H	0.0250	0.0276	
						RPD = 4.52	
31 Endosulfan II							
1	7.592	7.592	0.000	29298558H	0.0250	0.0248	
2	7.891	7.891	0.000	51503970H	0.0250	0.0245	
						RPD = 1.19	
32 Endrin aldehyde							
1	7.707	7.707	0.000	25005580H	0.0250	0.0241	
2	8.057	8.057	0.000	41465106H	0.0250	0.0233	
						RPD = 3.39	
33 4,4'-DDT							
1	7.795	7.795	0.000	28982829H	0.0250	0.0258	
2	7.942	7.942	0.000	52640768H	0.0250	0.0245	
						RPD = 5.41	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
34 Endosulfan sulfate							
1	7.917	7.917	0.000	29325781H	0.0250	0.0241	
2	8.282	8.282	0.000	46733623H	0.0250	0.0237	
						RPD = 1.68	
35 Methoxychlor							
1	8.246	8.246	0.000	13104204H	0.0250	0.0247	
2	8.513	8.513	0.000	21824959H	0.0250	0.0230	
						RPD = 7.26	
* 36 Dibutylchlorendate ISTD							
1	8.322	8.322	0.000	102807018H	0.1000	0.1000	
2	8.322	8.322	0.000	183363088H	0.1000	0.1000	
37 Endrin ketone							
1	8.384	8.384	0.000	26624364H	0.0250	0.0229	
2	8.906	8.906	0.000	42557268H	0.0250	0.0231	
						RPD = 1.24	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.177	10.177	0.000	14505308H	0.0250	0.0227	
2	10.607	10.607	0.000	27523407H	0.0250	0.0240	
						RPD = 5.55	

Reagents:

GCPestL3_00032 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 02-Oct-2019 09:49:14 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\10021905.D

Injection Date: 02-Oct-2019 08:17:58 Instrument ID: CHGC17 Operator ID:

Lims ID: CCVIS Worklist Smp#: 5

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 5

Method: IS PEST_CHGC17 Limit Group: GCS 8081B ICAL with IS

Column: MR-1 (0.53 mm)

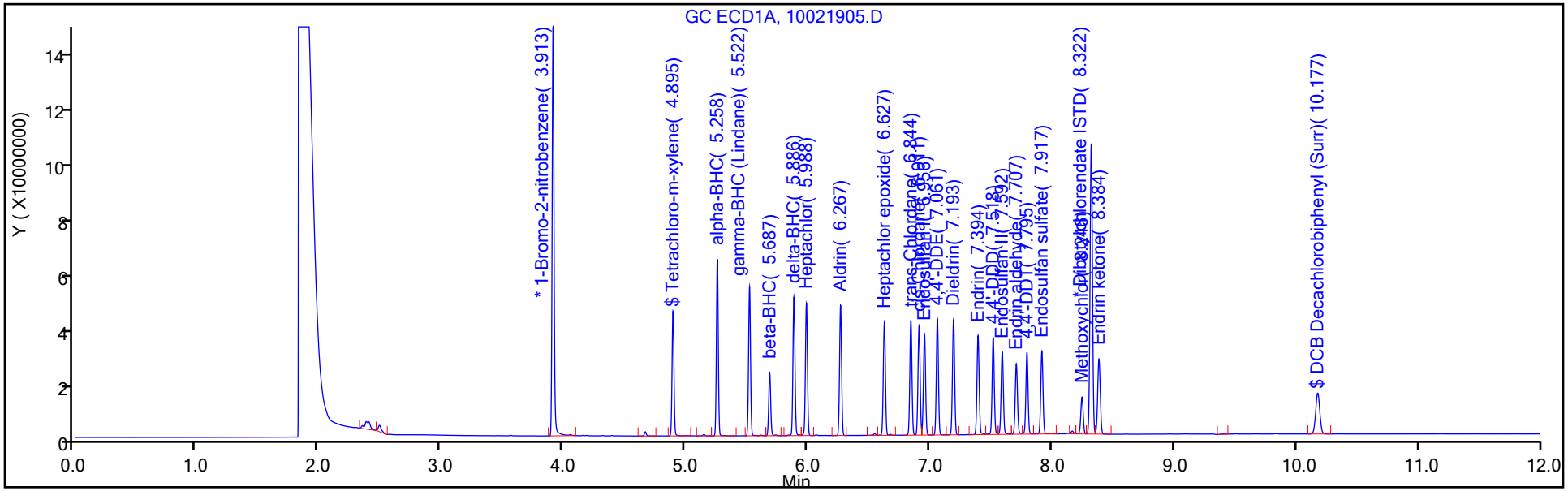

Column: MR-2 (0.53 mm)

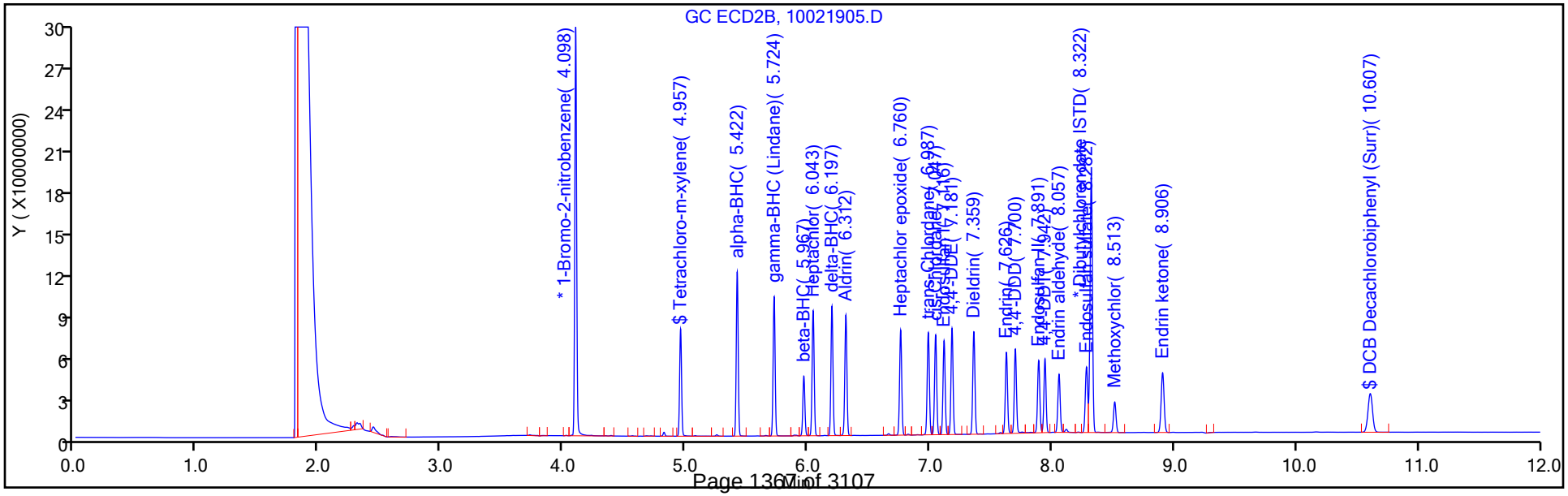

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 180-293037/1-A

Matrix: Water Lab File ID: 10011942.D

Analysis Method: EPA 8081B Date Collected:

Extraction Method: 3510C Date Extracted: 09/28/2019 04:25

Sample wt/vol: 1000(mL) Date Analyzed: 10/01/2019 20:57

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: MR-1 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 293301 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
58-89-9	gamma-BHC (Lindane)	ND		0.050	0.012
12789-03-6	Chlordane (technical)	ND		0.50	0.29
72-20-8	Endrin	ND		0.050	0.0091
76-44-8	Heptachlor	ND		0.050	0.018
1024-57-3	Heptachlor epoxide	ND		0.050	0.014
72-43-5	Methoxychlor	ND		0.050	0.031
8001-35-2	Toxaphene	ND		4.0	2.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene	87		54-138
2051-24-3	DCB Decachlorobiphenyl (Surr)	87		62-150

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011942.D
Lims ID: MB 180-293037/1-A
Client ID:
Sample Type: MB
Inject. Date: 01-Oct-2019 20:57:10 ALS Bottle#: 42 Worklist Smp#: 42
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028917-042
Operator ID: Instrument ID: CHGC17

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 02-Oct-2019 06:16:22 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0320

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.912	3.913	0.000	174423703H	0.1000	0.1000	
2	4.098	4.099	0.000	347150700H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.894	4.895	-0.001	37218450H	0.0200	0.0174	
2	4.957	4.958	-0.001	66328344H	0.0200	0.0166	
						RPD = 4.76	
4 Diallate							
1		5.039				ND	
1		5.128					
2		5.062					
2		5.147					
5 alpha-BHC							
1		5.259				ND	
2		5.422					
6 Hexachlorobenzene							
1		5.289				ND	
2		5.381					
7 gamma-BHC (Lindane)							
1		5.523				ND	
2		5.724					
8 beta-BHC							
1		5.688				ND	
2		5.968					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 Chlordane (technical)							
1		5.812				ND	
1		5.986					
1		6.842					
1		6.910					
2		5.882					
2		6.041					
2		6.995					
2		7.044					
10 delta-BHC							
1		5.886				ND	
2		6.198					
11 Heptachlor							
1		5.989				ND	
2		6.044					
12 DCPA							
1		6.198				ND	
2		6.303					
13 Aldrin							
1		6.269				ND	
2		6.312					
14 Isodrin							
1		6.542				ND	
2		6.661					
15 oxy-Chlordane							
1		6.579				ND	
2		6.661					
16 Heptachlor epoxide							
1		6.626				ND	
2		6.760					
17 2,4'-DDE							
1		6.760				ND	
2		6.890					
18 trans-Chlordane							
1		6.844				ND	
2		6.987					
19 Chlorobenside							
1		6.862				ND	
2		7.063					
20 cis-Chlordane							
1		6.910				ND	
2		7.047					
21 trans-Nonachlor							
1		6.909				ND	
2		6.991					
22 Endosulfan I							
1		6.954				ND	
2		7.116					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
23 4,4'-DDE							
1		7.060				ND	
2		7.181					
24 Toxaphene							
1		7.100				ND	
1		7.620					
1		7.820					
1		7.984					
2		7.300					
2		7.843					
2		8.082					
2		8.564					
25 2,4'-DDD							
1		7.149				ND	
2		7.331					
26 Dieldrin							
1		7.194				ND	
2		7.360					
27 Endrin							
1		7.394				ND	
2		7.627					
28 2,4'-DDT							
1		7.421				ND	
2		7.574					
29 cis-Nonachlor							
1		7.480				ND	
2		7.651					
30 4,4'-DDD							
1		7.518				ND	
2		7.700					
31 Endosulfan II							
1		7.592				ND	
2		7.891					
32 Endrin aldehyde							
1		7.708				ND	
2		8.057					
33 4,4'-DDT							
1		7.795				ND	
2		7.943					
34 Endosulfan sulfate							
1		7.917				ND	
2		8.283					
35 Methoxychlor							
1		8.246				ND	
2		8.514					
* 36 Dibutylchlorendate ISTD							
1	8.322	8.321	0.001	119818676H	0.1000	0.1000	
2	8.321	8.322	-0.001	191082232H	0.1000	0.1000	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
37 Endrin ketone							
1		8.384				ND	
2		9.906					
38 Mirex							
1		8.897				ND	
2		9.172					
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.176	10.176	0.000	12989124H	0.0200	0.0174	
2	10.606	10.608	-0.002	22786709H	0.0200	0.0190	
						RPD = 8.89	

Reagents:

GCPESTISSPK2_00016 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 02-Oct-2019 06:16:28 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011942.D				
Injection Date:	01-Oct-2019 20:57:10	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	MB 180-293037/1-A			Worklist Smp#:	42
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	42
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

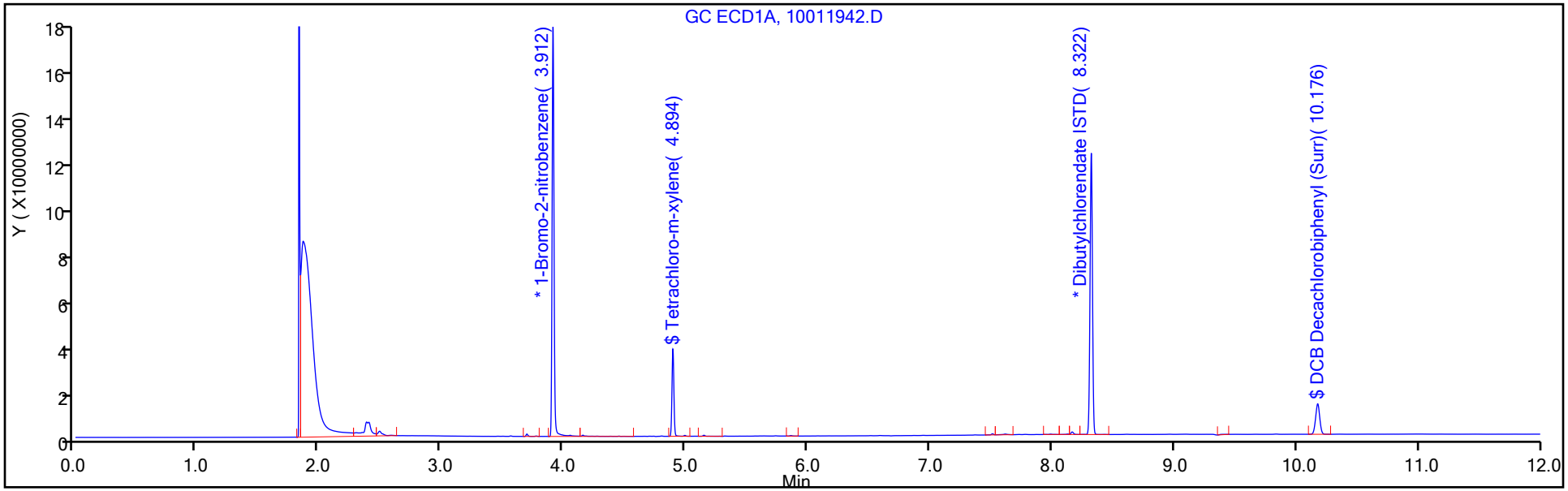

Column: MR-2 (0.53 mm)

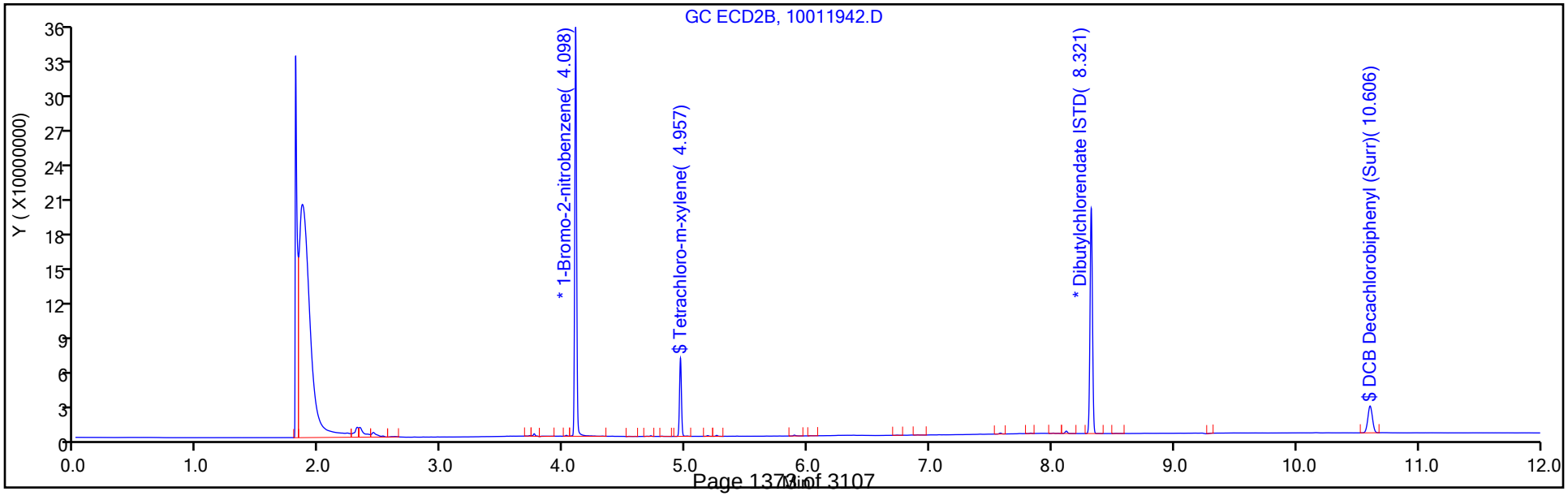

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011942.D				
Lims ID:	MB 180-293037/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	01-Oct-2019 20:57:10	ALS Bottle#:	42	Worklist Smp#:	42
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0028917-042				
Operator ID:		Instrument ID:	CHGC17		

Method:	\\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\IS PEST_CHGC17.m		
Limit Group:	GCS 8081B ICAL with IS		
Last Update:	02-Oct-2019 06:16:22	Calib Date:	02-Apr-2019 17:14:51
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D		

Column 1 :	MR-1 (0.53 mm)	Det: GC ECD1A
Column 2 :	MR-2 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0320	

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0174	86.85
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0174	87.13

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0166	82.81
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0190	95.24

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 180-293037/1-A

Matrix: Water Lab File ID: 10011942.D

Analysis Method: EPA 8081B Date Collected:

Extraction Method: 3510C Date Extracted: 09/28/2019 04:25

Sample wt/vol: 1000(mL) Date Analyzed: 10/01/2019 20:57

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: MR-2 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 293301 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene	83		54-138
2051-24-3	DCB Decachlorobiphenyl (Surr)	95		62-150

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011942.D
Lims ID: MB 180-293037/1-A
Client ID:
Sample Type: MB
Inject. Date: 01-Oct-2019 20:57:10 ALS Bottle#: 42 Worklist Smp#: 42
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028917-042
Operator ID: Instrument ID: CHGC17

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 02-Oct-2019 06:16:22 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0320

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.912	3.913	0.000	174423703H	0.1000	0.1000	
2	4.098	4.099	0.000	347150700H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.894	4.895	-0.001	37218450H	0.0200	0.0174	
2	4.957	4.958	-0.001	66328344H	0.0200	0.0166	
						RPD = 4.76	
4 Diallate							
1		5.039				ND	
1		5.128					
2		5.062					
2		5.147					
5 alpha-BHC							
1		5.259				ND	
2		5.422					
6 Hexachlorobenzene							
1		5.289				ND	
2		5.381					
7 gamma-BHC (Lindane)							
1		5.523				ND	
2		5.724					
8 beta-BHC							
1		5.688				ND	
2		5.968					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 Chlordane (technical)							
1		5.812				ND	
1		5.986					
1		6.842					
1		6.910					
2		5.882					
2		6.041					
2		6.995					
2		7.044					
10 delta-BHC							
1		5.886				ND	
2		6.198					
11 Heptachlor							
1		5.989				ND	
2		6.044					
12 DCPA							
1		6.198				ND	
2		6.303					
13 Aldrin							
1		6.269				ND	
2		6.312					
14 Isodrin							
1		6.542				ND	
2		6.661					
15 oxy-Chlordane							
1		6.579				ND	
2		6.661					
16 Heptachlor epoxide							
1		6.626				ND	
2		6.760					
17 2,4'-DDE							
1		6.760				ND	
2		6.890					
18 trans-Chlordane							
1		6.844				ND	
2		6.987					
19 Chlorobenside							
1		6.862				ND	
2		7.063					
20 cis-Chlordane							
1		6.910				ND	
2		7.047					
21 trans-Nonachlor							
1		6.909				ND	
2		6.991					
22 Endosulfan I							
1		6.954				ND	
2		7.116					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
23 4,4'-DDE							
1		7.060				ND	
2		7.181					
24 Toxaphene							
1		7.100				ND	
1		7.620					
1		7.820					
1		7.984					
2		7.300					
2		7.843					
2		8.082					
2		8.564					
25 2,4'-DDD							
1		7.149				ND	
2		7.331					
26 Dieldrin							
1		7.194				ND	
2		7.360					
27 Endrin							
1		7.394				ND	
2		7.627					
28 2,4'-DDT							
1		7.421				ND	
2		7.574					
29 cis-Nonachlor							
1		7.480				ND	
2		7.651					
30 4,4'-DDD							
1		7.518				ND	
2		7.700					
31 Endosulfan II							
1		7.592				ND	
2		7.891					
32 Endrin aldehyde							
1		7.708				ND	
2		8.057					
33 4,4'-DDT							
1		7.795				ND	
2		7.943					
34 Endosulfan sulfate							
1		7.917				ND	
2		8.283					
35 Methoxychlor							
1		8.246				ND	
2		8.514					
* 36 Dibutylchlorendate ISTD							
1	8.322	8.321	0.001	119818676H	0.1000	0.1000	
2	8.321	8.322	-0.001	191082232H	0.1000	0.1000	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
37 Endrin ketone							
1		8.384				ND	
2		9.906					
38 Mirex							
1		8.897				ND	
2		9.172					
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.176	10.176	0.000	12989124H	0.0200	0.0174	
2	10.606	10.608	-0.002	22786709H	0.0200	0.0190	
						RPD = 8.89	

Reagents:

GCPESTISSPK2_00016 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 02-Oct-2019 06:16:28 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011942.D				
Injection Date:	01-Oct-2019 20:57:10	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	MB 180-293037/1-A			Worklist Smp#:	42
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	42
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

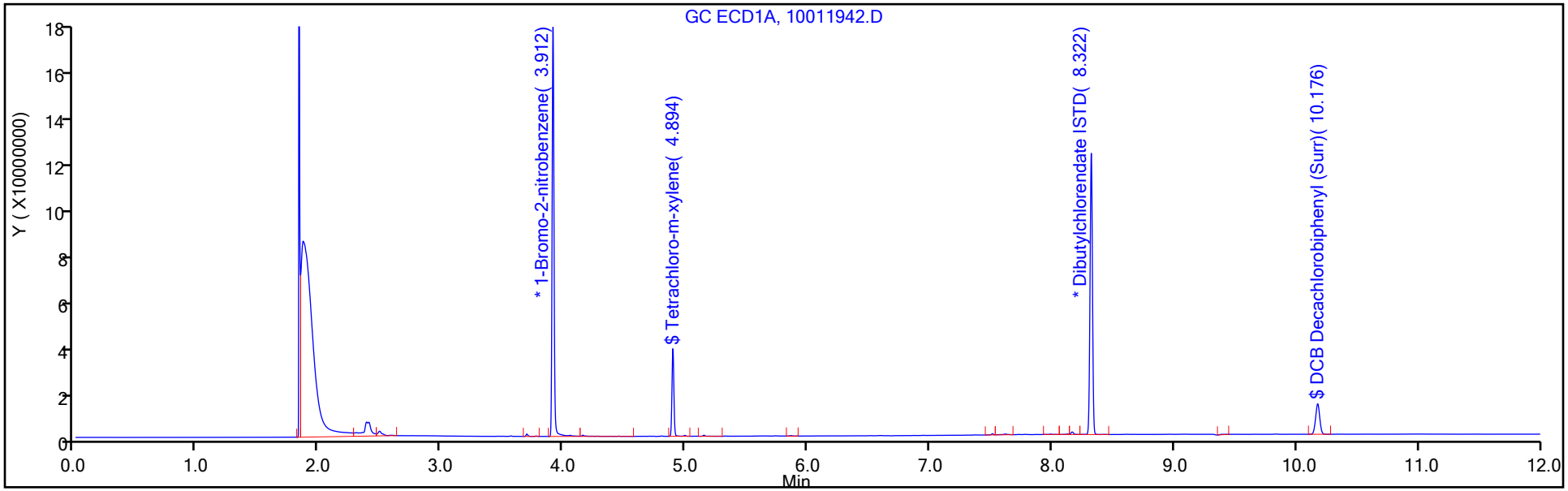

Column: MR-2 (0.53 mm)

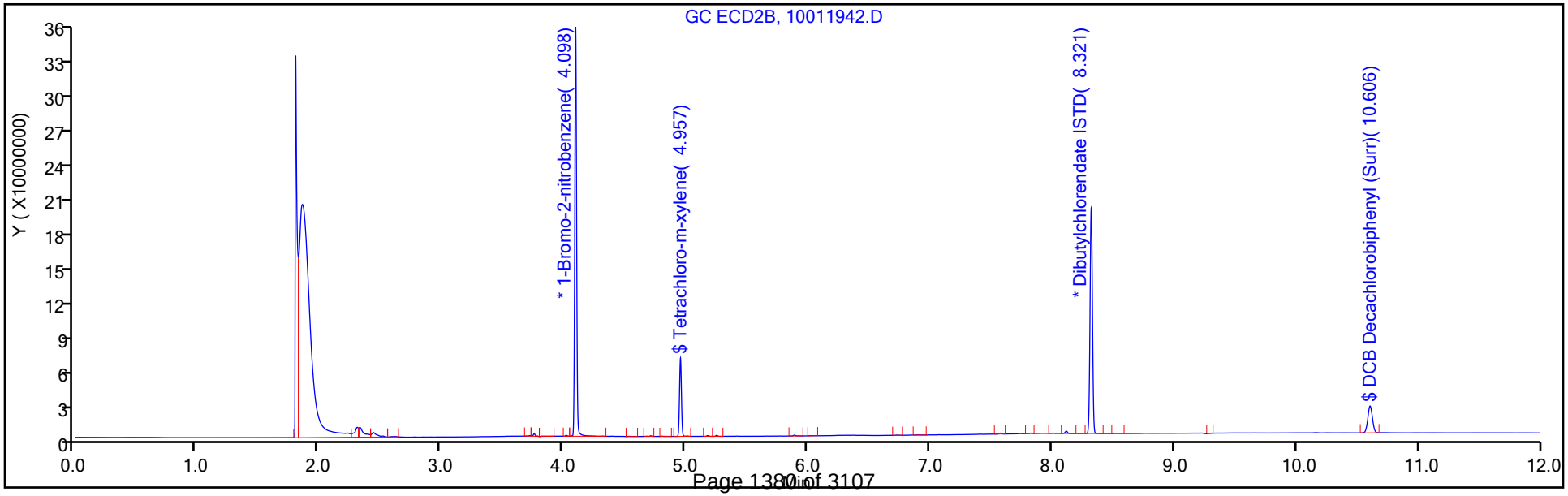

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011942.D				
Lims ID:	MB 180-293037/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	01-Oct-2019 20:57:10	ALS Bottle#:	42	Worklist Smp#:	42
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0028917-042				
Operator ID:		Instrument ID:	CHGC17		

Method:	\\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\IS PEST_CHGC17.m		
Limit Group:	GCS 8081B ICAL with IS		
Last Update:	02-Oct-2019 06:16:22	Calib Date:	02-Apr-2019 17:14:51
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D		

Column 1 :	MR-1 (0.53 mm)	Det: GC ECD1A
Column 2 :	MR-2 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0320	

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0174	86.85
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0174	87.13

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0166	82.81
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0190	95.24

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 180-293037/1-A RA

Matrix: Water Lab File ID: 10021912.D

Analysis Method: EPA 8081B Date Collected:

Extraction Method: 3510C Date Extracted: 09/28/2019 04:25

Sample wt/vol: 1000(mL) Date Analyzed: 10/02/2019 10:08

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: MR-1 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 293427 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
118-74-1	Hexachlorobenzene	ND		0.050	0.017

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene	101		54-138
2051-24-3	DCB Decachlorobiphenyl (Surr)	100		62-150

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\10021912.D
Lims ID: MB 180-293037/1-A
Client ID:
Sample Type: MB
Inject. Date: 02-Oct-2019 10:08:52 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028932-012
Operator ID: Instrument ID: CHGC17

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 02-Oct-2019 08:21:31 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0320

First Level Reviewer: eppinged Date: 02-Oct-2019 10:33:27

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.913	3.913	-0.001	152883058H	0.1000	0.1000	
2	4.098	4.098	-0.001	306072828H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.894	4.895	-0.001	37751946H	0.0200	0.0201	
2	4.956	4.957	-0.001	67747435H	0.0200	0.0192	
						RPD = 4.65	
4 Diallate							
1		5.039				ND	
1		5.128					
2		5.062					
2		5.147					
5 alpha-BHC							
1		5.258				ND	
2		5.422					
6 Hexachlorobenzene							
1		5.294				ND	
2		5.385					
7 gamma-BHC (Lindane)							
1		5.522				ND	
2		5.724					
8 beta-BHC							
1		5.687				ND	
2		5.967					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 Chlordane (technical)							
1		5.812				ND	
1		5.986					
1		6.842					
1		6.910					
2		5.882					
2		6.041					
2		6.995					
2		7.044					
10 delta-BHC							
1		5.886				ND	
2		6.197					
11 Heptachlor							
1		5.988				ND	
2		6.043					
12 DCPA							
1		6.203				ND	
2		6.308					
13 Aldrin							
1		6.267				ND	
2		6.312					
14 Isodrin							
1		6.547				ND	
2		6.665					
15 oxy-Chlordane							
1		6.584				ND	
2		6.665					
16 Heptachlor epoxide							
1		6.627				ND	
2		6.760					
17 2,4'-DDE							
1		6.760				ND	
2		6.890					
18 trans-Chlordane							
1		6.844				ND	
2		6.987					
19 Chlorobenside							
1		6.867				ND	
2		7.068					
21 trans-Nonachlor							
1		6.909				ND	
2		6.991					
20 cis-Chlordane							
1		6.911				ND	
2		7.047					
22 Endosulfan I							
1		6.956				ND	
2		7.116					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
23 4,4'-DDE							
1		7.061				ND	
2		7.181					
24 Toxaphene							
1		7.100				ND	
1		7.623					
1		7.819					
1		7.985					
2		7.301					
2		7.843					
2		8.082					
2		8.564					
25 2,4'-DDD							
1		7.149				ND	
2		7.331					
26 Dieldrin							
1		7.193				ND	
2		7.359					
27 Endrin							
1		7.394				ND	
2		7.626					
28 2,4'-DDT							
1		7.421				ND	
2		7.574					
29 cis-Nonachlor							
1		7.480				ND	
2		7.651					
30 4,4'-DDD							
1		7.518				ND	
2		7.700					
31 Endosulfan II							
1		7.592				ND	
2		7.891					
32 Endrin aldehyde							
1		7.707				ND	
2		8.057					
33 4,4'-DDT							
1		7.795				ND	
2		7.942					
34 Endosulfan sulfate							
1		7.917				ND	
2		8.282					
35 Methoxychlor							
1		8.246				ND	
2		8.513					
* 36 Dibutylchlorendate ISTD							
1	8.319	8.322	-0.002	99112575H	0.1000	0.1000	
2	8.321	8.322	-0.001	178434037H	0.1000	0.1000	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
37 Endrin ketone							
1		8.384				ND	
2		8.906					
38 Mirex							
1		8.904				ND	
2		9.179					
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.175	10.177	-0.002	12335258H	0.0200	0.0200	
2	10.606	10.607	-0.001	24083958H	0.0200	0.0216	
						RPD = 7.47	

Reagents:

GCPESTISSPK2_00016 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 02-Oct-2019 10:33:34 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\10021912.D

Injection Date: 02-Oct-2019 10:08:52 Instrument ID: CHGC17 Operator ID:

Lims ID: MB 180-293037/1-A Worklist Smp#: 12

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 12

Method: IS PEST_CHGC17 Limit Group: GCS 8081B ICAL with IS

Column: MR-1 (0.53 mm)

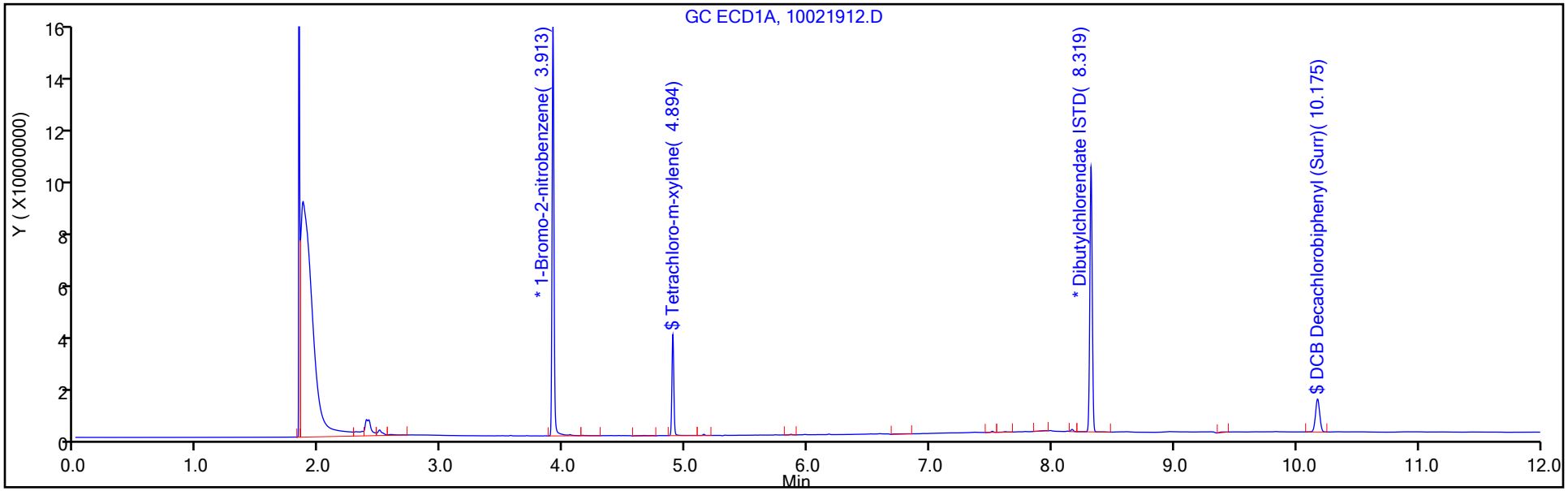

Column: MR-2 (0.53 mm)

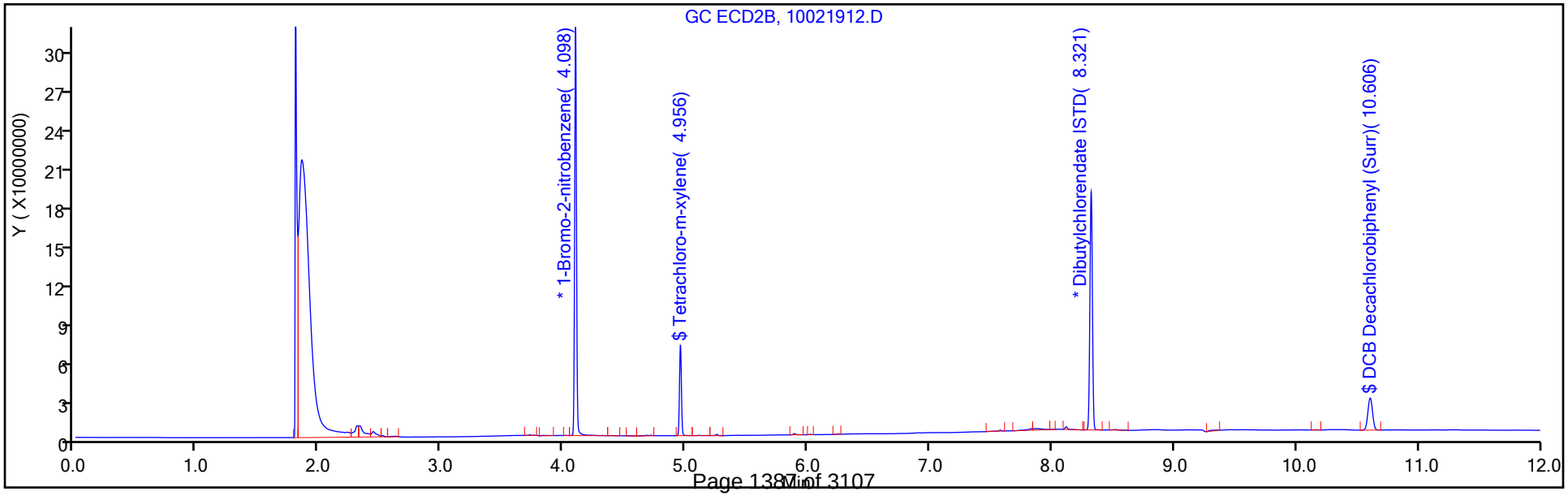

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\10021912.D				
Lims ID:	MB 180-293037/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	02-Oct-2019 10:08:52	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0028932-012				
Operator ID:		Instrument ID:	CHGC17		

Method:	\\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\IS PEST_CHGC17.m		
Limit Group:	GCS 8081B ICAL with IS		
Last Update:	02-Oct-2019 08:21:31	Calib Date:	02-Apr-2019 17:14:51
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D		

Column 1 :	MR-1 (0.53 mm)	Det: GC ECD1A
Column 2 :	MR-2 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0320	

First Level Reviewer: eppinged Date: 02-Oct-2019 10:33:27

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0201	100.50
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0200	100.04

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0192	95.93
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0216	107.80

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 180-293037/1-A RA

Matrix: Water Lab File ID: 10021912.D

Analysis Method: EPA 8081B Date Collected:

Extraction Method: 3510C Date Extracted: 09/28/2019 04:25

Sample wt/vol: 1000(mL) Date Analyzed: 10/02/2019 10:08

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: MR-2 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 293427 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene	96		54-138
2051-24-3	DCB Decachlorobiphenyl (Surr)	108		62-150

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\10021912.D
Lims ID: MB 180-293037/1-A
Client ID:
Sample Type: MB
Inject. Date: 02-Oct-2019 10:08:52 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028932-012
Operator ID: Instrument ID: CHGC17

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 02-Oct-2019 08:21:31 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0320

First Level Reviewer: eppinged Date: 02-Oct-2019 10:33:27

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.913	3.913	-0.001	152883058H	0.1000	0.1000	
2	4.098	4.098	-0.001	306072828H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.894	4.895	-0.001	37751946H	0.0200	0.0201	
2	4.956	4.957	-0.001	67747435H	0.0200	0.0192	
						RPD = 4.65	
4 Diallate							
1		5.039				ND	
1		5.128					
2		5.062					
2		5.147					
5 alpha-BHC							
1		5.258				ND	
2		5.422					
6 Hexachlorobenzene							
1		5.294				ND	
2		5.385					
7 gamma-BHC (Lindane)							
1		5.522				ND	
2		5.724					
8 beta-BHC							
1		5.687				ND	
2		5.967					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 Chlordane (technical)							
1		5.812				ND	
1		5.986					
1		6.842					
1		6.910					
2		5.882					
2		6.041					
2		6.995					
2		7.044					
10 delta-BHC							
1		5.886				ND	
2		6.197					
11 Heptachlor							
1		5.988				ND	
2		6.043					
12 DCPA							
1		6.203				ND	
2		6.308					
13 Aldrin							
1		6.267				ND	
2		6.312					
14 Isodrin							
1		6.547				ND	
2		6.665					
15 oxy-Chlordane							
1		6.584				ND	
2		6.665					
16 Heptachlor epoxide							
1		6.627				ND	
2		6.760					
17 2,4'-DDE							
1		6.760				ND	
2		6.890					
18 trans-Chlordane							
1		6.844				ND	
2		6.987					
19 Chlorobenside							
1		6.867				ND	
2		7.068					
21 trans-Nonachlor							
1		6.909				ND	
2		6.991					
20 cis-Chlordane							
1		6.911				ND	
2		7.047					
22 Endosulfan I							
1		6.956				ND	
2		7.116					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
23 4,4'-DDE							
1		7.061				ND	
2		7.181					
24 Toxaphene							
1		7.100				ND	
1		7.623					
1		7.819					
1		7.985					
2		7.301					
2		7.843					
2		8.082					
2		8.564					
25 2,4'-DDD							
1		7.149				ND	
2		7.331					
26 Dieldrin							
1		7.193				ND	
2		7.359					
27 Endrin							
1		7.394				ND	
2		7.626					
28 2,4'-DDT							
1		7.421				ND	
2		7.574					
29 cis-Nonachlor							
1		7.480				ND	
2		7.651					
30 4,4'-DDD							
1		7.518				ND	
2		7.700					
31 Endosulfan II							
1		7.592				ND	
2		7.891					
32 Endrin aldehyde							
1		7.707				ND	
2		8.057					
33 4,4'-DDT							
1		7.795				ND	
2		7.942					
34 Endosulfan sulfate							
1		7.917				ND	
2		8.282					
35 Methoxychlor							
1		8.246				ND	
2		8.513					
* 36 Dibutylchlorendate ISTD							
1	8.319	8.322	-0.002	99112575H	0.1000	0.1000	
2	8.321	8.322	-0.001	178434037H	0.1000	0.1000	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
37 Endrin ketone							
1		8.384				ND	
2		8.906					
38 Mirex							
1		8.904				ND	
2		9.179					
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.175	10.177	-0.002	12335258H	0.0200	0.0200	
2	10.606	10.607	-0.001	24083958H	0.0200	0.0216	
						RPD = 7.47	

Reagents:

GCPESTISSPK2_00016 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 02-Oct-2019 10:33:34 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\10021912.D

Injection Date: 02-Oct-2019 10:08:52 Instrument ID: CHGC17 Operator ID:

Lims ID: MB 180-293037/1-A Worklist Smp#: 12

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 12

Method: IS PEST_CHGC17 Limit Group: GCS 8081B ICAL with IS

Column: MR-1 (0.53 mm)

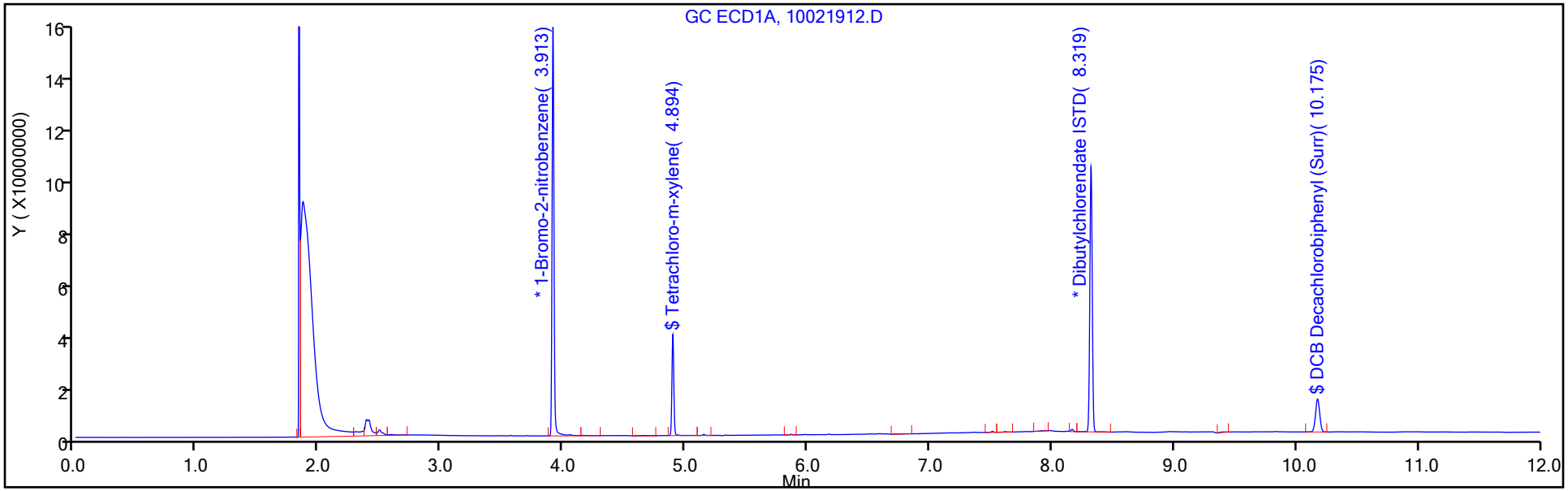

Column: MR-2 (0.53 mm)

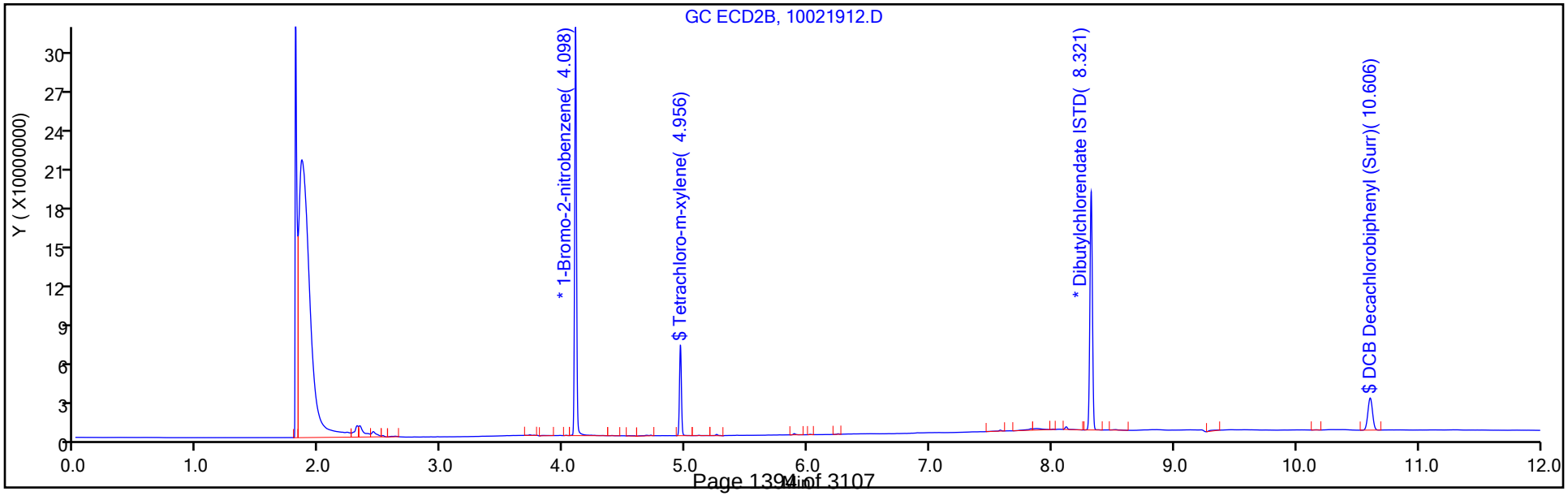

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\10021912.D				
Lims ID:	MB 180-293037/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	02-Oct-2019 10:08:52	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0028932-012				
Operator ID:		Instrument ID:	CHGC17		

Method:	\\chromna\Pittsburgh\ChromData\CHGC17\20191002-28932.b\IS PEST_CHGC17.m		
Limit Group:	GCS 8081B ICAL with IS		
Last Update:	02-Oct-2019 08:21:31	Calib Date:	02-Apr-2019 17:14:51
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D		

Column 1 :	MR-1 (0.53 mm)	Det: GC ECD1A
Column 2 :	MR-2 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0320	

First Level Reviewer: eppinged Date: 02-Oct-2019 10:33:27

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0201	100.50
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0200	100.04

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0192	95.93
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0216	107.80

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 180-293037/2-A

Matrix: Water Lab File ID: 10011943.D

Analysis Method: EPA 8081B Date Collected:

Extraction Method: 3510C Date Extracted: 09/28/2019 04:25

Sample wt/vol: 1000(mL) Date Analyzed: 10/01/2019 21:13

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: MR-1 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 293301 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
58-89-9	gamma-BHC (Lindane)	0.921		0.050	0.012
72-20-8	Endrin	0.878		0.050	0.0091
76-44-8	Heptachlor	0.880		0.050	0.018
1024-57-3	Heptachlor epoxide	0.880		0.050	0.014
72-43-5	Methoxychlor	0.841		0.050	0.031

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene	91		54-138
2051-24-3	DCB Decachlorobiphenyl (Surr)	89		62-150

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011943.D
Lims ID: LCS 180-293037/2-A
Client ID:
Sample Type: LCS
Inject. Date: 01-Oct-2019 21:13:04 ALS Bottle#: 43 Worklist Smp#: 43
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028917-043
Operator ID: Instrument ID: CHGC17

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 02-Oct-2019 06:16:22 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0320

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.913	3.913	0.001	173310661H	0.1000	0.1000	
2	4.098	4.099	0.000	336109091H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.895	4.895	0.000	38541084H	0.0200	0.0181	
2	4.957	4.958	-0.001	65466310H	0.0200	0.0169	
						RPD = 6.96	
5 alpha-BHC							
1	5.258	5.259	-0.001	58096803H	0.0250	0.0226	
2	5.421	5.422	-0.001	108775406H	0.0250	0.0235	
						RPD = 3.63	
7 gamma-BHC (Lindane)							
1	5.522	5.523	-0.001	51058764H	0.0250	0.0230	
2	5.723	5.724	-0.001	92878812H	0.0250	0.0235	
						RPD = 2.24	
8 beta-BHC							
1	5.687	5.688	-0.001	21991509H	0.0250	0.0231	
2	5.967	5.968	-0.001	40666890H	0.0250	0.0240	
						RPD = 4.06	
10 delta-BHC							
1	5.886	5.886	0.000	47310539H	0.0250	0.0246	
2	6.197	6.198	-0.001	86913529H	0.0250	0.0255	
						RPD = 3.58	
11 Heptachlor							
1	5.988	5.989	-0.001	45102364H	0.0250	0.0220	
2	6.043	6.044	-0.001	84819894H	0.0250	0.0242	
						RPD = 9.47	
13 Aldrin							
1	6.268	6.269	-0.001	44409163H	0.0250	0.0225	
2	6.312	6.312	0.000	80172287H	0.0250	0.0237	
						RPD = 5.15	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
16 Heptachlor epoxide							
1	6.626	6.626	0.000	38266609H	0.0250	0.0220	
2	6.760	6.760	0.000	68659470H	0.0250	0.0240	
						RPD = 8.49	
18 trans-Chlordane							
1	6.843	6.844	-0.001	38016683H	0.0250	0.0216	
2	6.987	6.987	0.000	69125754H	0.0250	0.0233	
						RPD = 7.61	
20 cis-Chlordane							
1	6.910	6.910	0.000	37341474H	0.0250	0.0220	
2	7.047	7.047	0.000	64897997H	0.0250	0.0227	
						RPD = 3.12	
22 Endosulfan I							
1	6.955	6.954	0.001	34052959H	0.0250	0.0223	
2	7.116	7.116	0.000	61639187H	0.0250	0.0239	
						RPD = 6.73	
23 4,4'-DDE							
1	7.061	7.060	0.001	38938745H	0.0250	0.0230	
2	7.181	7.181	0.000	68796597H	0.0250	0.0240	
						RPD = 4.43	
26 Dieldrin							
1	7.192	7.194	-0.002	38005465H	0.0250	0.0207	
2	7.359	7.360	-0.001	65807669H	0.0250	0.0222	
						RPD = 6.72	
27 Endrin							
1	7.394	7.394	0.000	33862249H	0.0250	0.0219	
2	7.627	7.627	0.000	53866779H	0.0250	0.0229	
						RPD = 4.38	
30 4,4'-DDD							
1	7.517	7.518	-0.001	31767894H	0.0250	0.0214	
2	7.699	7.700	-0.001	56627669H	0.0250	0.0251	
						RPD = 15.82	
31 Endosulfan II							
1	7.591	7.592	-0.001	30243278H	0.0250	0.0224	
2	7.891	7.891	0.000	51611250H	0.0250	0.0236	
						RPD = 5.45	
32 Endrin aldehyde							
1	7.707	7.708	-0.001	24083087H	0.0250	0.0203	
2	8.057	8.057	0.000	35401568H	0.0250	0.0192	
						RPD = 5.83	
33 4,4'-DDT							
1	7.795	7.795	0.000	27521375H	0.0250	0.0215	
2	7.942	7.943	-0.001	47398514H	0.0250	0.0212	
						RPD = 1.12	
34 Endosulfan sulfate							
1	7.917	7.917	0.000	27195837H	0.0250	0.0196	
2	8.282	8.283	-0.001	37745497H	0.0250	0.0184	
						RPD = 5.89	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
35 Methoxychlor							
1	8.245	8.246	-0.001	12713771H	0.0250	0.0210	
2	8.514	8.514	0.000	18830957H	0.0250	0.0191	
						RPD = 9.38	
* 36 Dibutylchlorendate ISTD							
1	8.322	8.321	0.000	117360370H	0.1000	0.1000	
2	8.321	8.322	-0.001	190142600H	0.1000	0.1000	
37 Endrin ketone							
1	8.384	8.384	0.000	25490000H	0.0250	0.0192	
2	8.906	8.906	0.000	36433682H	0.0250	0.0191	
						RPD = 0.34	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.176	10.176	0.000	12963655H	0.0200	0.0178	
2	10.606	10.608	-0.002	23513844H	0.0200	0.0198	
						RPD = 10.64	

Reagents:

GCPESTISSPK2_00016 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 02-Oct-2019 06:16:30 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011943.D				
Injection Date:	01-Oct-2019 21:13:04	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	LCS 180-293037/2-A			Worklist Smp#:	43
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	43
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

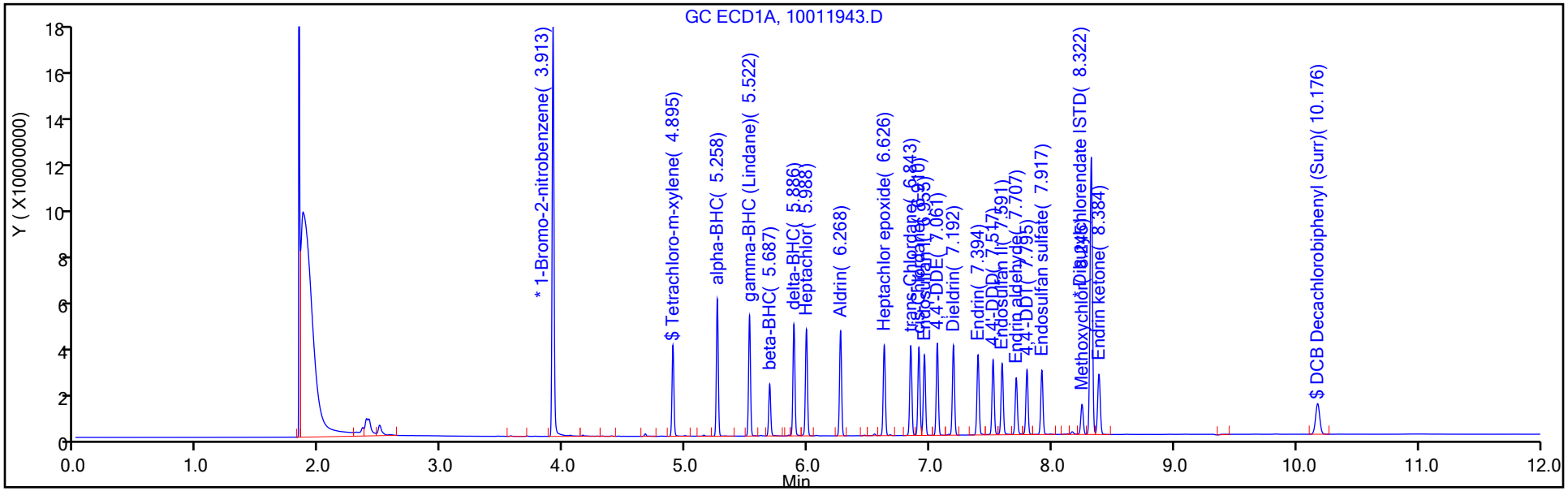

Column: MR-2 (0.53 mm)

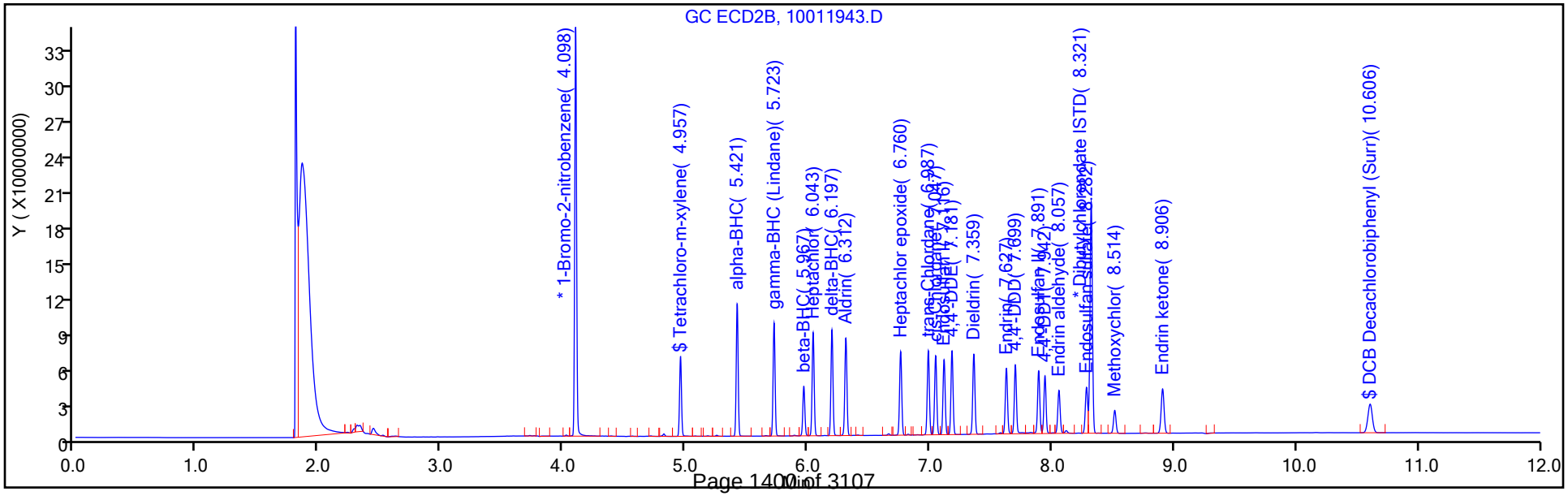

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011943.D				
Lims ID:	LCS 180-293037/2-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	01-Oct-2019 21:13:04	ALS Bottle#:	43	Worklist Smp#:	43
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0028917-043				
Operator ID:		Instrument ID:	CHGC17		

Method:	\\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\IS PEST_CHGC17.m		
Limit Group:	GCS 8081B ICAL with IS		
Last Update:	02-Oct-2019 06:16:22	Calib Date:	02-Apr-2019 17:14:51
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D		

Column 1 :	MR-1 (0.53 mm)	Det: GC ECD1A
Column 2 :	MR-2 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0320	

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0181	90.51
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0178	88.79

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0169	84.42
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0198	98.77

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 180-293037/2-A

Matrix: Water Lab File ID: 10011943.D

Analysis Method: EPA 8081B Date Collected:

Extraction Method: 3510C Date Extracted: 09/28/2019 04:25

Sample wt/vol: 1000(mL) Date Analyzed: 10/01/2019 21:13

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: MR-2 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 293301 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene	84		54-138
2051-24-3	DCB Decachlorobiphenyl (Surr)	99		62-150

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011943.D
Lims ID: LCS 180-293037/2-A
Client ID:
Sample Type: LCS
Inject. Date: 01-Oct-2019 21:13:04 ALS Bottle#: 43 Worklist Smp#: 43
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028917-043
Operator ID: Instrument ID: CHGC17

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 02-Oct-2019 06:16:22 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0320

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.913	3.913	0.001	173310661H	0.1000	0.1000	
2	4.098	4.099	0.000	336109091H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.895	4.895	0.000	38541084H	0.0200	0.0181	
2	4.957	4.958	-0.001	65466310H	0.0200	0.0169	
						RPD = 6.96	
5 alpha-BHC							
1	5.258	5.259	-0.001	58096803H	0.0250	0.0226	
2	5.421	5.422	-0.001	108775406H	0.0250	0.0235	
						RPD = 3.63	
7 gamma-BHC (Lindane)							
1	5.522	5.523	-0.001	51058764H	0.0250	0.0230	
2	5.723	5.724	-0.001	92878812H	0.0250	0.0235	
						RPD = 2.24	
8 beta-BHC							
1	5.687	5.688	-0.001	21991509H	0.0250	0.0231	
2	5.967	5.968	-0.001	40666890H	0.0250	0.0240	
						RPD = 4.06	
10 delta-BHC							
1	5.886	5.886	0.000	47310539H	0.0250	0.0246	
2	6.197	6.198	-0.001	86913529H	0.0250	0.0255	
						RPD = 3.58	
11 Heptachlor							
1	5.988	5.989	-0.001	45102364H	0.0250	0.0220	
2	6.043	6.044	-0.001	84819894H	0.0250	0.0242	
						RPD = 9.47	
13 Aldrin							
1	6.268	6.269	-0.001	44409163H	0.0250	0.0225	
2	6.312	6.312	0.000	80172287H	0.0250	0.0237	
						RPD = 5.15	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
16 Heptachlor epoxide							
1	6.626	6.626	0.000	38266609H	0.0250	0.0220	
2	6.760	6.760	0.000	68659470H	0.0250	0.0240	
						RPD = 8.49	
18 trans-Chlordane							
1	6.843	6.844	-0.001	38016683H	0.0250	0.0216	
2	6.987	6.987	0.000	69125754H	0.0250	0.0233	
						RPD = 7.61	
20 cis-Chlordane							
1	6.910	6.910	0.000	37341474H	0.0250	0.0220	
2	7.047	7.047	0.000	64897997H	0.0250	0.0227	
						RPD = 3.12	
22 Endosulfan I							
1	6.955	6.954	0.001	34052959H	0.0250	0.0223	
2	7.116	7.116	0.000	61639187H	0.0250	0.0239	
						RPD = 6.73	
23 4,4'-DDE							
1	7.061	7.060	0.001	38938745H	0.0250	0.0230	
2	7.181	7.181	0.000	68796597H	0.0250	0.0240	
						RPD = 4.43	
26 Dieldrin							
1	7.192	7.194	-0.002	38005465H	0.0250	0.0207	
2	7.359	7.360	-0.001	65807669H	0.0250	0.0222	
						RPD = 6.72	
27 Endrin							
1	7.394	7.394	0.000	33862249H	0.0250	0.0219	
2	7.627	7.627	0.000	53866779H	0.0250	0.0229	
						RPD = 4.38	
30 4,4'-DDD							
1	7.517	7.518	-0.001	31767894H	0.0250	0.0214	
2	7.699	7.700	-0.001	56627669H	0.0250	0.0251	
						RPD = 15.82	
31 Endosulfan II							
1	7.591	7.592	-0.001	30243278H	0.0250	0.0224	
2	7.891	7.891	0.000	51611250H	0.0250	0.0236	
						RPD = 5.45	
32 Endrin aldehyde							
1	7.707	7.708	-0.001	24083087H	0.0250	0.0203	
2	8.057	8.057	0.000	35401568H	0.0250	0.0192	
						RPD = 5.83	
33 4,4'-DDT							
1	7.795	7.795	0.000	27521375H	0.0250	0.0215	
2	7.942	7.943	-0.001	47398514H	0.0250	0.0212	
						RPD = 1.12	
34 Endosulfan sulfate							
1	7.917	7.917	0.000	27195837H	0.0250	0.0196	
2	8.282	8.283	-0.001	37745497H	0.0250	0.0184	
						RPD = 5.89	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
35 Methoxychlor							
1	8.245	8.246	-0.001	12713771H	0.0250	0.0210	
2	8.514	8.514	0.000	18830957H	0.0250	0.0191	
						RPD = 9.38	
* 36 Dibutylchlorendate ISTD							
1	8.322	8.321	0.000	117360370H	0.1000	0.1000	
2	8.321	8.322	-0.001	190142600H	0.1000	0.1000	
37 Endrin ketone							
1	8.384	8.384	0.000	25490000H	0.0250	0.0192	
2	8.906	8.906	0.000	36433682H	0.0250	0.0191	
						RPD = 0.34	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.176	10.176	0.000	12963655H	0.0200	0.0178	
2	10.606	10.608	-0.002	23513844H	0.0200	0.0198	
						RPD = 10.64	

Reagents:

GCPESTISSPK2_00016 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 02-Oct-2019 06:16:30 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011943.D				
Injection Date:	01-Oct-2019 21:13:04	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	LCS 180-293037/2-A			Worklist Smp#:	43
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	43
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

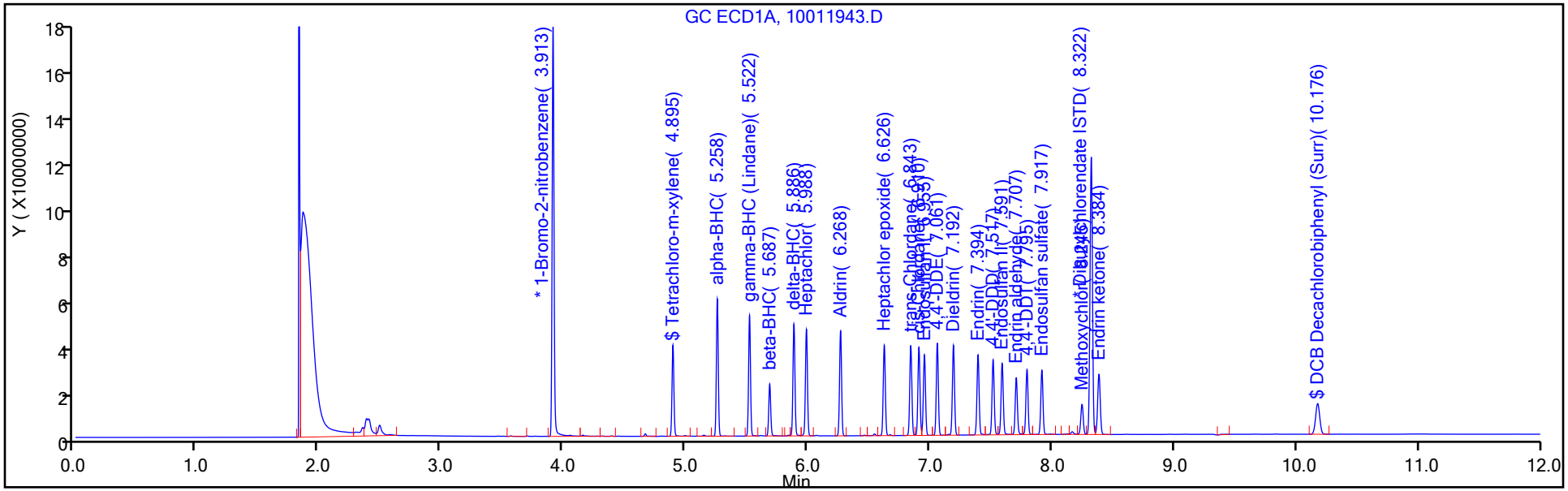

Column: MR-2 (0.53 mm)

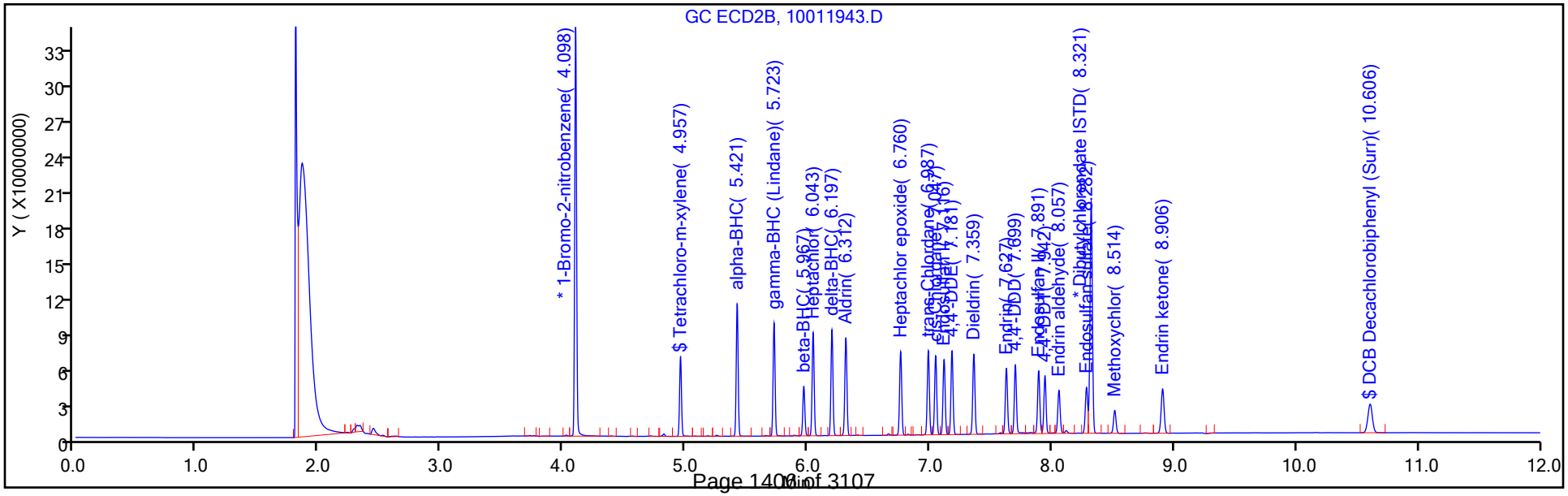

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011943.D				
Lims ID:	LCS 180-293037/2-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	01-Oct-2019 21:13:04	ALS Bottle#:	43	Worklist Smp#:	43
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0028917-043				
Operator ID:		Instrument ID:	CHGC17		

Method:	\\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\IS PEST_CHGC17.m		
Limit Group:	GCS 8081B ICAL with IS		
Last Update:	02-Oct-2019 06:16:22	Calib Date:	02-Apr-2019 17:14:51
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D		

Column 1 :	MR-1 (0.53 mm)	Det: GC ECD1A
Column 2 :	MR-2 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0320	

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0181	90.51
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0178	88.79

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0169	84.42
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0198	98.77

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 180-293037/3-A

Matrix: Water Lab File ID: 10011944.D

Analysis Method: EPA 8081B Date Collected:

Extraction Method: 3510C Date Extracted: 09/28/2019 04:25

Sample wt/vol: 1000(mL) Date Analyzed: 10/01/2019 21:28

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: MR-1 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 293301 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
58-89-9	gamma-BHC (Lindane)	0.947		0.050	0.012
72-20-8	Endrin	0.908		0.050	0.0091
76-44-8	Heptachlor	0.939		0.050	0.018
1024-57-3	Heptachlor epoxide	0.919		0.050	0.014
72-43-5	Methoxychlor	0.911		0.050	0.031

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene	95		54-138
2051-24-3	DCB Decachlorobiphenyl (Surr)	92		62-150

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011944.D
Lims ID: LCSD 180-293037/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 01-Oct-2019 21:28:51 ALS Bottle#: 44 Worklist Smp#: 44
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028917-044
Operator ID: Instrument ID: CHGC17

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 02-Oct-2019 06:16:22 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0320

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.913	3.913	0.000	180377465H	0.1000	0.1000	
2	4.098	4.099	-0.001	354484271H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.895	4.895	0.000	41890972H	0.0200	0.0189	
2	4.957	4.958	-0.001	72435897H	0.0200	0.0177	
						RPD = 6.51	
5 alpha-BHC							
1	5.259	5.259	0.000	63453645H	0.0250	0.0238	
2	5.421	5.422	-0.001	120247984H	0.0250	0.0246	
						RPD = 3.51	
7 gamma-BHC (Lindane)							
1	5.522	5.523	-0.001	54653812H	0.0250	0.0237	
2	5.724	5.724	0.000	102221550H	0.0250	0.0246	
						RPD = 3.70	
8 beta-BHC							
1	5.687	5.688	-0.001	23411827H	0.0250	0.0236	
2	5.966	5.968	-0.002	44971562H	0.0250	0.0252	
						RPD = 6.54	
10 delta-BHC							
1	5.886	5.886	0.000	52451758H	0.0250	0.0262	
2	6.196	6.198	-0.002	96467006H	0.0250	0.0268	
						RPD = 2.37	
11 Heptachlor							
1	5.989	5.989	0.000	50078724H	0.0250	0.0235	
2	6.043	6.044	-0.001	93024079H	0.0250	0.0252	
						RPD = 6.91	
13 Aldrin							
1	6.268	6.269	-0.001	48776034H	0.0250	0.0238	
2	6.311	6.312	-0.001	89558856H	0.0250	0.0251	
						RPD = 5.51	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
16 Heptachlor epoxide							
1	6.625	6.626	-0.001	41580470H	0.0250	0.0230	
2	6.760	6.760	0.000	77570460H	0.0250	0.0257	
						RPD = 11.06	
18 trans-Chlordane							
1	6.843	6.844	-0.001	41777380H	0.0250	0.0228	
2	6.986	6.987	-0.001	75851832H	0.0250	0.0242	
						RPD = 6.14	
20 cis-Chlordane							
1	6.910	6.910	0.000	41100239H	0.0250	0.0233	
2	7.046	7.047	-0.001	71396171H	0.0250	0.0237	
						RPD = 1.75	
22 Endosulfan I							
1	6.955	6.954	0.001	37527067H	0.0250	0.0237	
2	7.115	7.116	-0.001	67689012H	0.0250	0.0249	
						RPD = 5.05	
23 4,4'-DDE							
1	7.060	7.060	0.000	42175585H	0.0250	0.0237	
2	7.180	7.181	-0.001	75915376H	0.0250	0.0255	
						RPD = 7.28	
26 Dieldrin							
1	7.192	7.194	-0.002	41434348H	0.0250	0.0215	
2	7.360	7.360	0.000	72660573H	0.0250	0.0235	
						RPD = 8.98	
27 Endrin							
1	7.394	7.394	0.000	36831903H	0.0250	0.0227	
2	7.627	7.627	0.000	58044235H	0.0250	0.0237	
						RPD = 4.45	
30 4,4'-DDD							
1	7.517	7.518	-0.001	35066643H	0.0250	0.0225	
2	7.700	7.700	0.000	63367657H	0.0250	0.0269	
						RPD = 18.17	
31 Endosulfan II							
1	7.591	7.592	-0.001	32792208H	0.0250	0.0231	
2	7.890	7.891	-0.001	56072524H	0.0250	0.0247	
						RPD = 6.65	
32 Endrin aldehyde							
1	7.707	7.708	-0.001	26500281H	0.0250	0.0213	
2	8.057	8.057	0.000	39172212H	0.0250	0.0204	
						RPD = 4.28	
33 4,4'-DDT							
1	7.795	7.795	0.000	30391328H	0.0250	0.0226	
2	7.943	7.943	0.000	53142312H	0.0250	0.0229	
						RPD = 1.40	
34 Endosulfan sulfate							
1	7.917	7.917	0.000	30066333H	0.0250	0.0206	
2	8.283	8.283	0.000	42568339H	0.0250	0.0200	
						RPD = 2.90	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
35 Methoxychlor							
1	8.245	8.246	-0.001	14481541H	0.0250	0.0228	
2	8.515	8.514	0.001	20354406H	0.0250	0.0199	
						RPD = 13.61	
* 36 Dibutylchlorendate ISTD							s
1	8.321	8.321	0.000	123366726H	0.1000	0.1000	
2	8.322	8.322	0.000	197889622H	0.1000	0.1000	
37 Endrin ketone							
1	8.385	8.384	0.001	28269733H	0.0250	0.0202	
2	8.906	8.906	0.000	39755326H	0.0250	0.0200	
						RPD = 0.96	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.175	10.176	-0.001	14086904H	0.0200	0.0184	
2	10.606	10.608	-0.002	25857199H	0.0200	0.0209	
						RPD = 12.82	

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

H - Response Measured by Height

Reagents:

GCPESTISSPK2_00016 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 02-Oct-2019 06:16:31 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011944.D				
Injection Date:	01-Oct-2019 21:28:51	Instrument ID:	CHGC17	Operator ID:	
Lims ID:	LCSD 180-293037/3-A			Worklist Smp#:	44
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	44
Method:	IS PEST_CHGC17	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

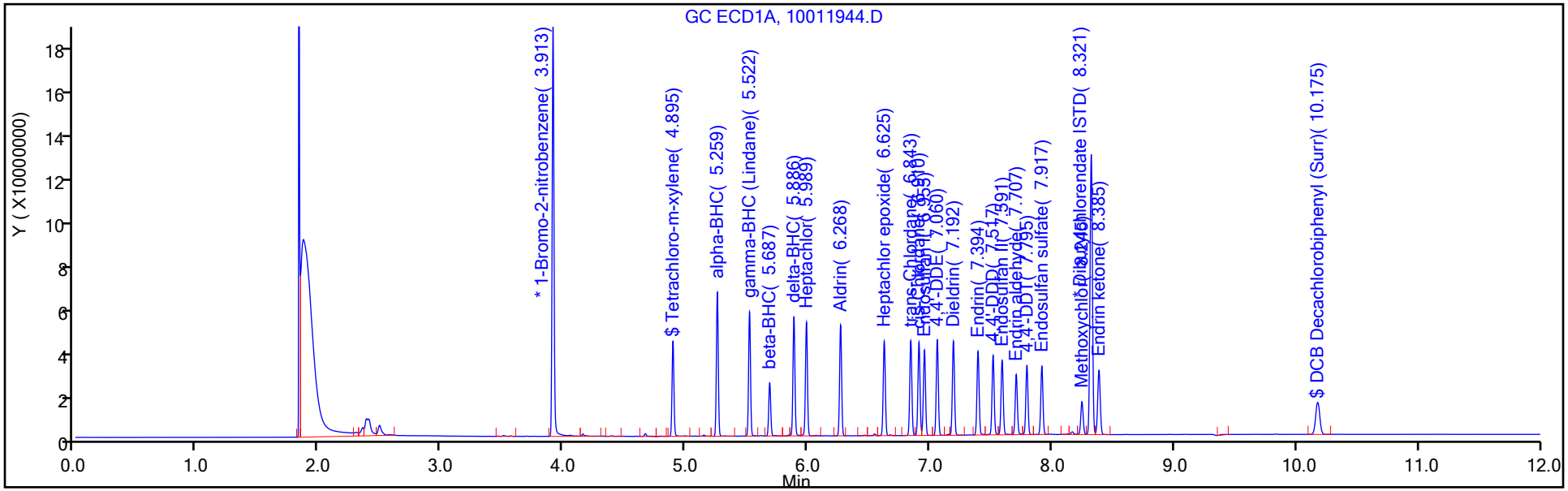

Column: MR-2 (0.53 mm)

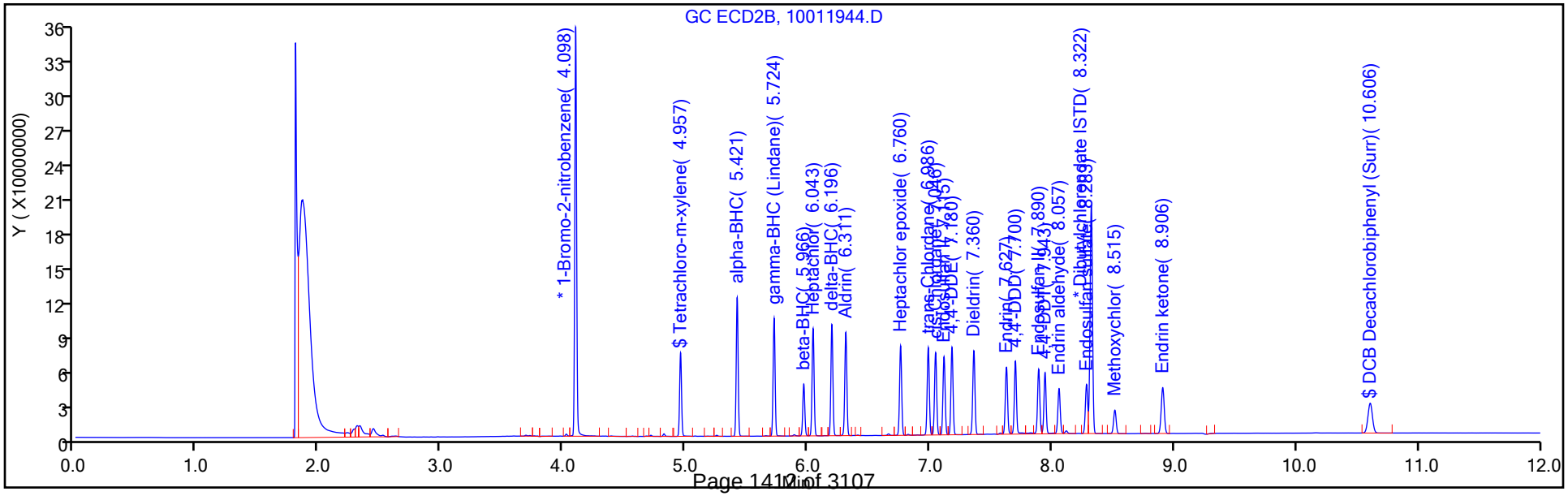

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011944.D				
Lims ID:	LCSD 180-293037/3-A				
Client ID:					
Sample Type:	LCSD				
Inject. Date:	01-Oct-2019 21:28:51	ALS Bottle#:	44	Worklist Smp#:	44
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0028917-044				
Operator ID:		Instrument ID:	CHGC17		

Method:	\\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\IS PEST_CHGC17.m		
Limit Group:	GCS 8081B ICAL with IS		
Last Update:	02-Oct-2019 06:16:22	Calib Date:	02-Apr-2019 17:14:51
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D		

Column 1 :	MR-1 (0.53 mm)	Det: GC ECD1A
Column 2 :	MR-2 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0320	

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0189	94.52
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0184	91.78

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0177	88.56
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0209	104.36

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 180-293037/3-A

Matrix: Water Lab File ID: 10011944.D

Analysis Method: EPA 8081B Date Collected:

Extraction Method: 3510C Date Extracted: 09/28/2019 04:25

Sample wt/vol: 1000(mL) Date Analyzed: 10/01/2019 21:28

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: MR-2 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 293301 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene	89		54-138
2051-24-3	DCB Decachlorobiphenyl (Surr)	104		62-150

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011944.D
Lims ID: LCSD 180-293037/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 01-Oct-2019 21:28:51 ALS Bottle#: 44 Worklist Smp#: 44
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028917-044
Operator ID: Instrument ID: CHGC17

Method: \\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\IS PEST_CHGC17.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 02-Oct-2019 06:16:22 Calib Date: 02-Apr-2019 17:14:51
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0320

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 2 1-Bromo-2-nitrobenzene							
1	3.913	3.913	0.000	180377465H	0.1000	0.1000	
2	4.098	4.099	-0.001	354484271H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.895	4.895	0.000	41890972H	0.0200	0.0189	
2	4.957	4.958	-0.001	72435897H	0.0200	0.0177	
						RPD = 6.51	
5 alpha-BHC							
1	5.259	5.259	0.000	63453645H	0.0250	0.0238	
2	5.421	5.422	-0.001	120247984H	0.0250	0.0246	
						RPD = 3.51	
7 gamma-BHC (Lindane)							
1	5.522	5.523	-0.001	54653812H	0.0250	0.0237	
2	5.724	5.724	0.000	102221550H	0.0250	0.0246	
						RPD = 3.70	
8 beta-BHC							
1	5.687	5.688	-0.001	23411827H	0.0250	0.0236	
2	5.966	5.968	-0.002	44971562H	0.0250	0.0252	
						RPD = 6.54	
10 delta-BHC							
1	5.886	5.886	0.000	52451758H	0.0250	0.0262	
2	6.196	6.198	-0.002	96467006H	0.0250	0.0268	
						RPD = 2.37	
11 Heptachlor							
1	5.989	5.989	0.000	50078724H	0.0250	0.0235	
2	6.043	6.044	-0.001	93024079H	0.0250	0.0252	
						RPD = 6.91	
13 Aldrin							
1	6.268	6.269	-0.001	48776034H	0.0250	0.0238	
2	6.311	6.312	-0.001	89558856H	0.0250	0.0251	
						RPD = 5.51	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
16 Heptachlor epoxide							
1	6.625	6.626	-0.001	41580470H	0.0250	0.0230	
2	6.760	6.760	0.000	77570460H	0.0250	0.0257	
						RPD = 11.06	
18 trans-Chlordane							
1	6.843	6.844	-0.001	41777380H	0.0250	0.0228	
2	6.986	6.987	-0.001	75851832H	0.0250	0.0242	
						RPD = 6.14	
20 cis-Chlordane							
1	6.910	6.910	0.000	41100239H	0.0250	0.0233	
2	7.046	7.047	-0.001	71396171H	0.0250	0.0237	
						RPD = 1.75	
22 Endosulfan I							
1	6.955	6.954	0.001	37527067H	0.0250	0.0237	
2	7.115	7.116	-0.001	67689012H	0.0250	0.0249	
						RPD = 5.05	
23 4,4'-DDE							
1	7.060	7.060	0.000	42175585H	0.0250	0.0237	
2	7.180	7.181	-0.001	75915376H	0.0250	0.0255	
						RPD = 7.28	
26 Dieldrin							
1	7.192	7.194	-0.002	41434348H	0.0250	0.0215	
2	7.360	7.360	0.000	72660573H	0.0250	0.0235	
						RPD = 8.98	
27 Endrin							
1	7.394	7.394	0.000	36831903H	0.0250	0.0227	
2	7.627	7.627	0.000	58044235H	0.0250	0.0237	
						RPD = 4.45	
30 4,4'-DDD							
1	7.517	7.518	-0.001	35066643H	0.0250	0.0225	
2	7.700	7.700	0.000	63367657H	0.0250	0.0269	
						RPD = 18.17	
31 Endosulfan II							
1	7.591	7.592	-0.001	32792208H	0.0250	0.0231	
2	7.890	7.891	-0.001	56072524H	0.0250	0.0247	
						RPD = 6.65	
32 Endrin aldehyde							
1	7.707	7.708	-0.001	26500281H	0.0250	0.0213	
2	8.057	8.057	0.000	39172212H	0.0250	0.0204	
						RPD = 4.28	
33 4,4'-DDT							
1	7.795	7.795	0.000	30391328H	0.0250	0.0226	
2	7.943	7.943	0.000	53142312H	0.0250	0.0229	
						RPD = 1.40	
34 Endosulfan sulfate							
1	7.917	7.917	0.000	30066333H	0.0250	0.0206	
2	8.283	8.283	0.000	42568339H	0.0250	0.0200	
						RPD = 2.90	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
35 Methoxychlor							
1	8.245	8.246	-0.001	14481541H	0.0250	0.0228	
2	8.515	8.514	0.001	20354406H	0.0250	0.0199	
						RPD = 13.61	
* 36 Dibutylchlorendate ISTD							s
1	8.321	8.321	0.000	123366726H	0.1000	0.1000	
2	8.322	8.322	0.000	197889622H	0.1000	0.1000	
37 Endrin ketone							
1	8.385	8.384	0.001	28269733H	0.0250	0.0202	
2	8.906	8.906	0.000	39755326H	0.0250	0.0200	
						RPD = 0.96	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.175	10.176	-0.001	14086904H	0.0200	0.0184	
2	10.606	10.608	-0.002	25857199H	0.0200	0.0209	
						RPD = 12.82	

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

H - Response Measured by Height

Reagents:

GCPESTISSPK2_00016 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 02-Oct-2019 06:16:31 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011944.D

Injection Date: 01-Oct-2019 21:28:51 Instrument ID: CHGC17 Operator ID:

Lims ID: LCSD 180-293037/3-A Worklist Smp#: 44

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 44

Method: IS PEST_CHGC17 Limit Group: GCS 8081B ICAL with IS

Column: MR-1 (0.53 mm)

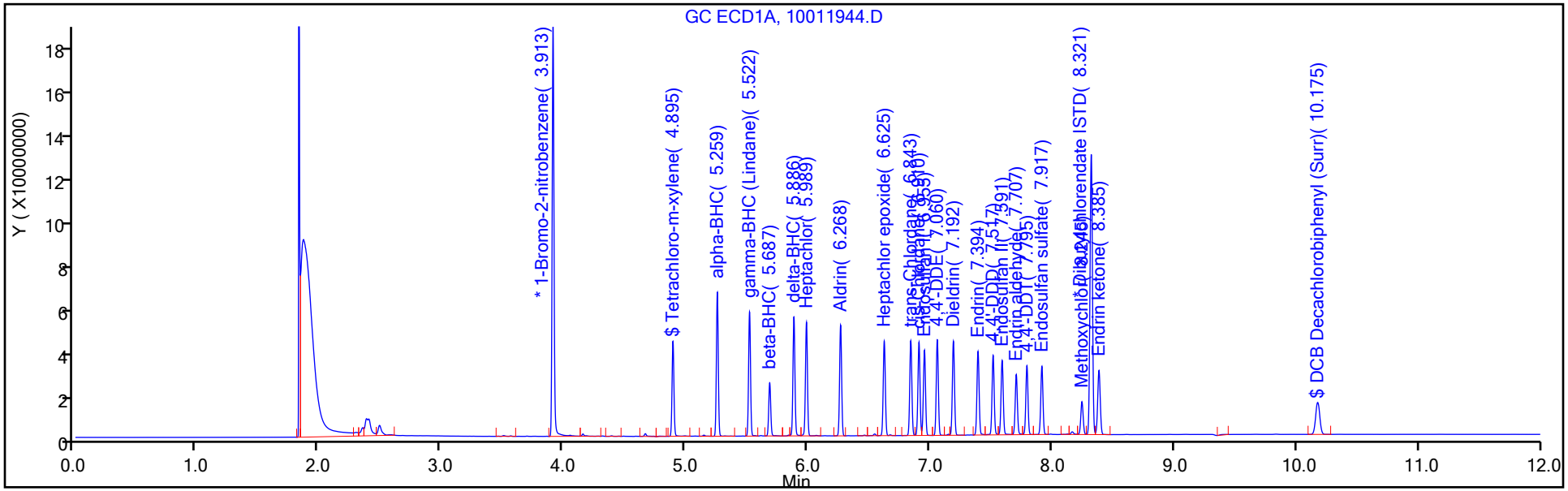

Column: MR-2 (0.53 mm)

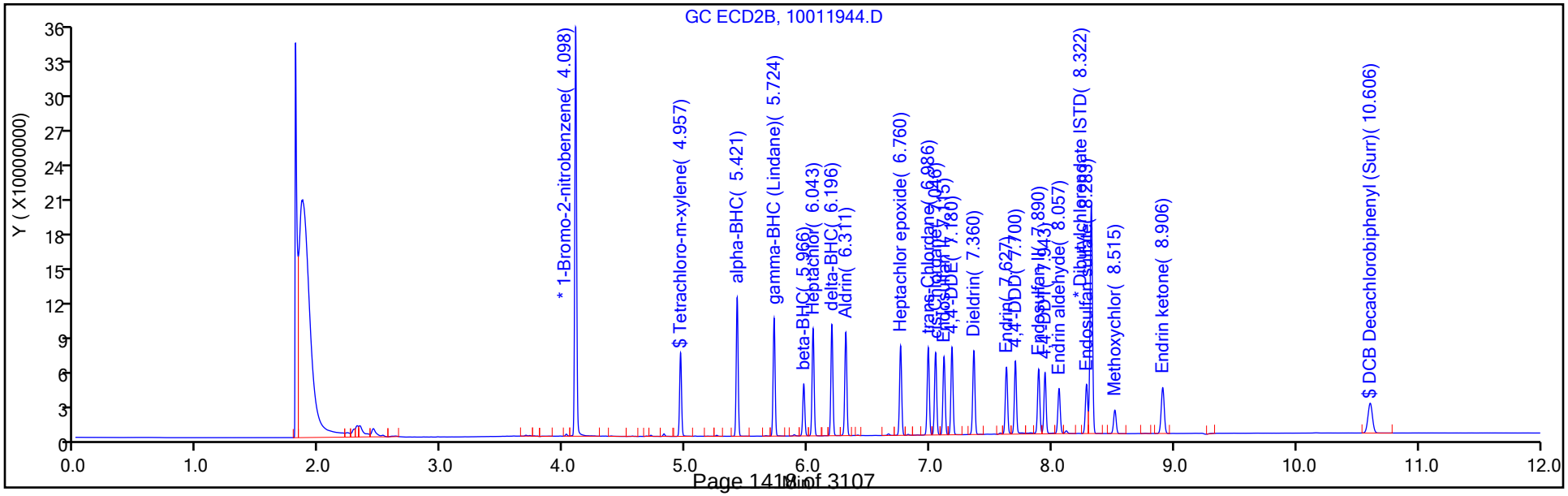

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\10011944.D				
Lims ID:	LCSD 180-293037/3-A				
Client ID:					
Sample Type:	LCSD				
Inject. Date:	01-Oct-2019 21:28:51	ALS Bottle#:	44	Worklist Smp#:	44
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0028917-044				
Operator ID:		Instrument ID:	CHGC17		

Method:	\\chromna\Pittsburgh\ChromData\CHGC17\20191001-28917.b\IS PEST_CHGC17.m		
Limit Group:	GCS 8081B ICAL with IS		
Last Update:	02-Oct-2019 06:16:22	Calib Date:	02-Apr-2019 17:14:51
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC17\20190402-26214.b\03269029.D		

Column 1 :	MR-1 (0.53 mm)	Det: GC ECD1A
Column 2 :	MR-2 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0320	

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0189	94.52
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0184	91.78

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0177	88.56
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0209	104.36

PESTICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Instrument ID: CHGC17 Start Date: 04/02/2019 09:35

Analysis Batch Number: 274564 End Date: 04/02/2019 19:09

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
PEM 180-274564/1		04/02/2019 09:35	1		MR-1 0.53(mm)
PEM 180-274564/1		04/02/2019 09:35	1		MR-2 0.53(mm)
IC 180-274564/2		04/02/2019 09:51	1	03269002.D	MR-1 0.53(mm)
IC 180-274564/2		04/02/2019 09:51	1	03269002.D	MR-2 0.53(mm)
IC 180-274564/3		04/02/2019 10:08	1	03269003.D	MR-1 0.53(mm)
IC 180-274564/3		04/02/2019 10:08	1	03269003.D	MR-2 0.53(mm)
IC 180-274564/4		04/02/2019 10:24	1	03269004.D	MR-1 0.53(mm)
IC 180-274564/4		04/02/2019 10:24	1	03269004.D	MR-2 0.53(mm)
IC 180-274564/5		04/02/2019 10:41	1	03269005.D	MR-1 0.53(mm)
IC 180-274564/5		04/02/2019 10:41	1	03269005.D	MR-2 0.53(mm)
IC 180-274564/6		04/02/2019 10:57	1	03269006.D	MR-1 0.53(mm)
IC 180-274564/6		04/02/2019 10:57	1	03269006.D	MR-2 0.53(mm)
IC 180-274564/7		04/02/2019 11:13	1	03269007.D	MR-1 0.53(mm)
IC 180-274564/7		04/02/2019 11:13	1	03269007.D	MR-2 0.53(mm)
IC 180-274564/8		04/02/2019 11:30	1	03269008.D	MR-1 0.53(mm)
IC 180-274564/8		04/02/2019 11:30	1	03269008.D	MR-2 0.53(mm)
IC 180-274564/9		04/02/2019 11:46	1	03269009.D	MR-1 0.53(mm)
IC 180-274564/9		04/02/2019 11:46	1	03269009.D	MR-2 0.53(mm)
IC 180-274564/10		04/02/2019 12:03	1	03269010.D	MR-1 0.53(mm)
IC 180-274564/10		04/02/2019 12:03	1	03269010.D	MR-2 0.53(mm)
IC 180-274564/11		04/02/2019 12:19	1	03269011.D	MR-1 0.53(mm)
IC 180-274564/11		04/02/2019 12:19	1	03269011.D	MR-2 0.53(mm)
IC 180-274564/12		04/02/2019 12:35	1	03269012.D	MR-1 0.53(mm)
IC 180-274564/12		04/02/2019 12:35	1	03269012.D	MR-2 0.53(mm)
IC 180-274564/13		04/02/2019 12:52	1	03269013.D	MR-1 0.53(mm)
IC 180-274564/13		04/02/2019 12:52	1	03269013.D	MR-2 0.53(mm)
IC 180-274564/14		04/02/2019 13:08	1	03269014.D	MR-1 0.53(mm)
IC 180-274564/14		04/02/2019 13:08	1	03269014.D	MR-2 0.53(mm)
IC 180-274564/15		04/02/2019 13:25	1	03269015.D	MR-1 0.53(mm)
IC 180-274564/15		04/02/2019 13:25	1	03269015.D	MR-2 0.53(mm)
IC 180-274564/16		04/02/2019 13:41	1	03269016.D	MR-1 0.53(mm)
IC 180-274564/16		04/02/2019 13:41	1	03269016.D	MR-2 0.53(mm)
IC 180-274564/17		04/02/2019 13:58	1	03269017.D	MR-1 0.53(mm)
IC 180-274564/17		04/02/2019 13:58	1	03269017.D	MR-2 0.53(mm)
IC 180-274564/18		04/02/2019 14:14	1		MR-1 0.53(mm)
IC 180-274564/18		04/02/2019 14:14	1		MR-2 0.53(mm)
IC 180-274564/19		04/02/2019 14:31	1		MR-1 0.53(mm)
IC 180-274564/19		04/02/2019 14:31	1		MR-2 0.53(mm)
IC 180-274564/20		04/02/2019 14:47	1		MR-1 0.53(mm)
IC 180-274564/20		04/02/2019 14:47	1		MR-2 0.53(mm)
IC 180-274564/21		04/02/2019 15:03	1		MR-1 0.53(mm)
IC 180-274564/21		04/02/2019 15:03	1		MR-2 0.53(mm)
IC 180-274564/22		04/02/2019 15:20	1		MR-1 0.53(mm)
IC 180-274564/22		04/02/2019 15:20	1		MR-2 0.53(mm)
IC 180-274564/23		04/02/2019 15:36	1		MR-1 0.53(mm)

EPA 8081B

PESTICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Instrument ID: CHGC17 Start Date: 04/02/2019 09:35

Analysis Batch Number: 274564 End Date: 04/02/2019 19:09

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 180-274564/23		04/02/2019 15:36	1		MR-2 0.53(mm)
IC 180-274564/24		04/02/2019 15:52	1	03269024.D	MR-1 0.53(mm)
IC 180-274564/24		04/02/2019 15:52	1	03269024.D	MR-2 0.53(mm)
IC 180-274564/25		04/02/2019 16:09	1	03269025.D	MR-1 0.53(mm)
IC 180-274564/25		04/02/2019 16:09	1	03269025.D	MR-2 0.53(mm)
ICIS 180-274564/26		04/02/2019 16:25	1	03269026.D	MR-1 0.53(mm)
ICIS 180-274564/26		04/02/2019 16:25	1	03269026.D	MR-2 0.53(mm)
IC 180-274564/27		04/02/2019 16:42	1	03269027.D	MR-1 0.53(mm)
IC 180-274564/27		04/02/2019 16:42	1	03269027.D	MR-2 0.53(mm)
IC 180-274564/28		04/02/2019 16:58	1	03269028.D	MR-1 0.53(mm)
IC 180-274564/28		04/02/2019 16:58	1	03269028.D	MR-2 0.53(mm)
IC 180-274564/29		04/02/2019 17:14	1	03269029.D	MR-1 0.53(mm)
IC 180-274564/29		04/02/2019 17:14	1	03269029.D	MR-2 0.53(mm)
ICV 180-274564/30		04/02/2019 17:31	1		MR-1 0.53(mm)
ICV 180-274564/30		04/02/2019 17:31	1		MR-2 0.53(mm)
ICV 180-274564/31		04/02/2019 17:47	1		MR-1 0.53(mm)
ICV 180-274564/31		04/02/2019 17:47	1		MR-2 0.53(mm)
ICV 180-274564/32		04/02/2019 18:04	1		MR-1 0.53(mm)
ICV 180-274564/32		04/02/2019 18:04	1		MR-2 0.53(mm)
ICV 180-274564/33		04/02/2019 18:20	1		MR-1 0.53(mm)
ICV 180-274564/33		04/02/2019 18:20	1		MR-2 0.53(mm)
ICV 180-274564/34		04/02/2019 18:36	1		MR-1 0.53(mm)
ICV 180-274564/34		04/02/2019 18:36	1		MR-2 0.53(mm)
ICV 180-274564/35		04/02/2019 18:53	1		MR-1 0.53(mm)
ICV 180-274564/35		04/02/2019 18:53	1		MR-2 0.53(mm)
PEM 180-274564/36		04/02/2019 19:09	1		MR-1 0.53(mm)
PEM 180-274564/36		04/02/2019 19:09	1		MR-2 0.53(mm)

EPA 8081B

PESTICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Instrument ID: CHGC17 Start Date: 10/01/2019 10:08

Analysis Batch Number: 293301 End Date: 10/01/2019 21:44

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
PEM 180-293301/1		10/01/2019 10:08	1		MR-1 0.53(mm)
PEM 180-293301/1		10/01/2019 10:08	1		MR-2 0.53(mm)
CCV 180-293301/2		10/01/2019 10:24	1		MR-1 0.53(mm)
CCV 180-293301/2		10/01/2019 10:24	1		MR-2 0.53(mm)
CCV 180-293301/3		10/01/2019 10:39	1		MR-1 0.53(mm)
CCV 180-293301/3		10/01/2019 10:39	1		MR-2 0.53(mm)
CCVIS 180-293301/4		10/01/2019 10:55	1		MR-1 0.53(mm)
CCVIS 180-293301/4		10/01/2019 10:55	1		MR-2 0.53(mm)
ZZZZZ		10/01/2019 11:59	1		MR-1 0.53(mm)
ZZZZZ		10/01/2019 11:59	1		MR-2 0.53(mm)
ZZZZZ		10/01/2019 12:14	1		MR-1 0.53(mm)
ZZZZZ		10/01/2019 12:14	1		MR-2 0.53(mm)
ZZZZZ		10/01/2019 12:30	1		MR-1 0.53(mm)
ZZZZZ		10/01/2019 12:30	1		MR-2 0.53(mm)
ZZZZZ		10/01/2019 12:46	1		MR-1 0.53(mm)
ZZZZZ		10/01/2019 12:46	1		MR-2 0.53(mm)
ZZZZZ		10/01/2019 13:02	1		MR-1 0.53(mm)
ZZZZZ		10/01/2019 13:02	1		MR-2 0.53(mm)
ZZZZZ		10/01/2019 13:18	1		MR-1 0.53(mm)
ZZZZZ		10/01/2019 13:18	1		MR-2 0.53(mm)
ZZZZZ		10/01/2019 13:34	1		MR-1 0.53(mm)
ZZZZZ		10/01/2019 13:34	1		MR-2 0.53(mm)
ZZZZZ		10/01/2019 13:50	1		MR-1 0.53(mm)
ZZZZZ		10/01/2019 13:50	1		MR-2 0.53(mm)
ZZZZZ		10/01/2019 14:05	1		MR-1 0.53(mm)
ZZZZZ		10/01/2019 14:05	1		MR-2 0.53(mm)
ZZZZZ		10/01/2019 14:21	1		MR-1 0.53(mm)
ZZZZZ		10/01/2019 14:21	1		MR-2 0.53(mm)
ZZZZZ		10/01/2019 14:37	1		MR-1 0.53(mm)
ZZZZZ		10/01/2019 14:37	1		MR-2 0.53(mm)
ZZZZZ		10/01/2019 14:53	1		MR-1 0.53(mm)
ZZZZZ		10/01/2019 14:53	1		MR-2 0.53(mm)
ZZZZZ		10/01/2019 15:09	1		MR-1 0.53(mm)
ZZZZZ		10/01/2019 15:09	1		MR-2 0.53(mm)
ZZZZZ		10/01/2019 15:25	1		MR-1 0.53(mm)
ZZZZZ		10/01/2019 15:25	1		MR-2 0.53(mm)
ZZZZZ		10/01/2019 15:40	1		MR-1 0.53(mm)
ZZZZZ		10/01/2019 15:40	1		MR-2 0.53(mm)
ZZZZZ		10/01/2019 15:56	1		MR-1 0.53(mm)
ZZZZZ		10/01/2019 15:56	1		MR-2 0.53(mm)
ZZZZZ		10/01/2019 16:12	1		MR-1 0.53(mm)
ZZZZZ		10/01/2019 16:12	1		MR-2 0.53(mm)
PEM 180-293301/25		10/01/2019 16:28	1	10011925.D	MR-1 0.53(mm)
PEM 180-293301/25		10/01/2019 16:28	1	10011925.D	MR-2 0.53(mm)
CCV 180-293301/26		10/01/2019 16:44	1	10011926.D	MR-1 0.53(mm)

EPA 8081B

PESTICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Instrument ID: CHGC17 Start Date: 10/01/2019 10:08

Analysis Batch Number: 293301 End Date: 10/01/2019 21:44

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 180-293301/26		10/01/2019 16:44	1	10011926.D	MR-2 0.53(mm)
CCV 180-293301/27		10/01/2019 17:00	1	10011927.D	MR-1 0.53(mm)
CCV 180-293301/27		10/01/2019 17:00	1	10011927.D	MR-2 0.53(mm)
CCVIS 180-293301/28		10/01/2019 17:15	1	10011928.D	MR-1 0.53(mm)
CCVIS 180-293301/28		10/01/2019 17:15	1	10011928.D	MR-2 0.53(mm)
ZZZZZ		10/01/2019 17:31	1		MR-1 0.53(mm)
ZZZZZ		10/01/2019 17:31	1		MR-2 0.53(mm)
ZZZZZ		10/01/2019 17:47	1		MR-1 0.53(mm)
ZZZZZ		10/01/2019 17:47	1		MR-2 0.53(mm)
ZZZZZ		10/01/2019 18:03	1		MR-1 0.53(mm)
ZZZZZ		10/01/2019 18:03	1		MR-2 0.53(mm)
ZZZZZ		10/01/2019 18:19	1		MR-1 0.53(mm)
ZZZZZ		10/01/2019 18:19	1		MR-2 0.53(mm)
ZZZZZ		10/01/2019 18:34	1		MR-1 0.53(mm)
ZZZZZ		10/01/2019 18:34	1		MR-2 0.53(mm)
ZZZZZ		10/01/2019 18:50	1		MR-1 0.53(mm)
ZZZZZ		10/01/2019 18:50	1		MR-2 0.53(mm)
ZZZZZ		10/01/2019 19:06	1		MR-1 0.53(mm)
ZZZZZ		10/01/2019 19:06	1		MR-2 0.53(mm)
ZZZZZ		10/01/2019 19:22	1		MR-1 0.53(mm)
ZZZZZ		10/01/2019 19:22	1		MR-2 0.53(mm)
ZZZZZ		10/01/2019 19:38	1		MR-1 0.53(mm)
ZZZZZ		10/01/2019 19:38	1		MR-2 0.53(mm)
ZZZZZ		10/01/2019 19:54	1		MR-1 0.53(mm)
ZZZZZ		10/01/2019 19:54	1		MR-2 0.53(mm)
ZZZZZ		10/01/2019 20:09	1		MR-1 0.53(mm)
ZZZZZ		10/01/2019 20:09	1		MR-2 0.53(mm)
ZZZZZ		10/01/2019 20:25	1		MR-1 0.53(mm)
ZZZZZ		10/01/2019 20:25	1		MR-2 0.53(mm)
ZZZZZ		10/01/2019 20:41	1		MR-1 0.53(mm)
ZZZZZ		10/01/2019 20:41	1		MR-2 0.53(mm)
MB 180-293037/1-A		10/01/2019 20:57	1	10011942.D	MR-1 0.53(mm)
MB 180-293037/1-A		10/01/2019 20:57	1	10011942.D	MR-2 0.53(mm)
LCS 180-293037/2-A		10/01/2019 21:13	1	10011943.D	MR-1 0.53(mm)
LCS 180-293037/2-A		10/01/2019 21:13	1	10011943.D	MR-2 0.53(mm)
LCSD 180-293037/3-A		10/01/2019 21:28	1	10011944.D	MR-1 0.53(mm)
LCSD 180-293037/3-A		10/01/2019 21:28	1	10011944.D	MR-2 0.53(mm)
180-96144-1		10/01/2019 21:44	1	10011945.D	MR-1 0.53(mm)
180-96144-1		10/01/2019 21:44	1	10011945.D	MR-2 0.53(mm)

EPA 8081B

PESTICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Instrument ID: CHGC17 Start Date: 10/02/2019 07:14

Analysis Batch Number: 293427 End Date: 10/02/2019 20:41

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
PEM 180-293427/1		10/02/2019 07:14	1	10021901.D	MR-1 0.53(mm)
PEM 180-293427/1		10/02/2019 07:14	1	10021901.D	MR-2 0.53(mm)
CCV 180-293427/2		10/02/2019 07:30	1	10021902.D	MR-1 0.53(mm)
CCV 180-293427/2		10/02/2019 07:30	1	10021902.D	MR-2 0.53(mm)
CCV 180-293427/3		10/02/2019 07:46	1	10021903.D	MR-1 0.53(mm)
CCV 180-293427/3		10/02/2019 07:46	1	10021903.D	MR-2 0.53(mm)
CCV 180-293427/4		10/02/2019 08:02	1	10021904.D	MR-1 0.53(mm)
CCV 180-293427/4		10/02/2019 08:02	1	10021904.D	MR-2 0.53(mm)
CCVIS 180-293427/5		10/02/2019 08:17	1	10021905.D	MR-1 0.53(mm)
CCVIS 180-293427/5		10/02/2019 08:17	1	10021905.D	MR-2 0.53(mm)
ZZZZZ		10/02/2019 08:33	1		MR-1 0.53(mm)
ZZZZZ		10/02/2019 08:33	1		MR-2 0.53(mm)
ZZZZZ		10/02/2019 08:49	1		MR-1 0.53(mm)
ZZZZZ		10/02/2019 08:49	1		MR-2 0.53(mm)
ZZZZZ		10/02/2019 09:05	1		MR-1 0.53(mm)
ZZZZZ		10/02/2019 09:05	1		MR-2 0.53(mm)
ZZZZZ		10/02/2019 09:21	1		MR-1 0.53(mm)
ZZZZZ		10/02/2019 09:21	1		MR-2 0.53(mm)
ZZZZZ		10/02/2019 09:37	1		MR-1 0.53(mm)
ZZZZZ		10/02/2019 09:37	1		MR-2 0.53(mm)
ZZZZZ		10/02/2019 09:52	1		MR-1 0.53(mm)
ZZZZZ		10/02/2019 09:52	1		MR-2 0.53(mm)
MB 180-293037/1-A RA		10/02/2019 10:08	1	10021912.D	MR-1 0.53(mm)
MB 180-293037/1-A RA		10/02/2019 10:08	1	10021912.D	MR-2 0.53(mm)
180-96144-1 RA		10/02/2019 10:24	1	10021913.D	MR-1 0.53(mm)
180-96144-1 RA		10/02/2019 10:24	1	10021913.D	MR-2 0.53(mm)
ZZZZZ		10/02/2019 10:40	1		MR-1 0.53(mm)
ZZZZZ		10/02/2019 10:40	1		MR-2 0.53(mm)
ZZZZZ		10/02/2019 10:56	1		MR-1 0.53(mm)
ZZZZZ		10/02/2019 10:56	1		MR-2 0.53(mm)
ZZZZZ		10/02/2019 11:12	1		MR-1 0.53(mm)
ZZZZZ		10/02/2019 11:12	1		MR-2 0.53(mm)
ZZZZZ		10/02/2019 11:27	1		MR-1 0.53(mm)
ZZZZZ		10/02/2019 11:27	1		MR-2 0.53(mm)
ZZZZZ		10/02/2019 11:43	1		MR-1 0.53(mm)
ZZZZZ		10/02/2019 11:43	1		MR-2 0.53(mm)
ZZZZZ		10/02/2019 11:59	1		MR-1 0.53(mm)
ZZZZZ		10/02/2019 11:59	1		MR-2 0.53(mm)
ZZZZZ		10/02/2019 12:15	1		MR-1 0.53(mm)
ZZZZZ		10/02/2019 12:15	1		MR-2 0.53(mm)
ZZZZZ		10/02/2019 12:31	1		MR-1 0.53(mm)
ZZZZZ		10/02/2019 12:31	1		MR-2 0.53(mm)
ZZZZZ		10/02/2019 12:47	1		MR-1 0.53(mm)
ZZZZZ		10/02/2019 12:47	1		MR-2 0.53(mm)
ZZZZZ		10/02/2019 13:02	1		MR-1 0.53(mm)

EPA 8081B

PESTICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Instrument ID: CHGC17 Start Date: 10/02/2019 07:14

Analysis Batch Number: 293427 End Date: 10/02/2019 20:41

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		10/02/2019 13:02	1		MR-2 0.53(mm)
ZZZZZ		10/02/2019 13:18	1		MR-1 0.53(mm)
ZZZZZ		10/02/2019 13:18	1		MR-2 0.53(mm)
ZZZZZ		10/02/2019 13:34	1		MR-1 0.53(mm)
ZZZZZ		10/02/2019 13:34	1		MR-2 0.53(mm)
PEM 180-293427/26		10/02/2019 13:50	1		MR-1 0.53(mm)
PEM 180-293427/26		10/02/2019 13:50	1		MR-2 0.53(mm)
CCV 180-293427/27		10/02/2019 14:06	1		MR-1 0.53(mm)
CCV 180-293427/27		10/02/2019 14:06	1		MR-2 0.53(mm)
CCV 180-293427/28		10/02/2019 14:22	1		MR-1 0.53(mm)
CCV 180-293427/28		10/02/2019 14:22	1		MR-2 0.53(mm)
CCV 180-293427/29		10/02/2019 14:38	1		MR-1 0.53(mm)
CCV 180-293427/29		10/02/2019 14:38	1		MR-2 0.53(mm)
CCVIS 180-293427/30		10/02/2019 14:53	1		MR-1 0.53(mm)
CCVIS 180-293427/30		10/02/2019 14:53	1		MR-2 0.53(mm)
ZZZZZ		10/02/2019 15:09	1		MR-1 0.53(mm)
ZZZZZ		10/02/2019 15:09	1		MR-2 0.53(mm)
ZZZZZ		10/02/2019 15:25	1		MR-1 0.53(mm)
ZZZZZ		10/02/2019 15:25	1		MR-2 0.53(mm)
ZZZZZ		10/02/2019 15:41	1		MR-1 0.53(mm)
ZZZZZ		10/02/2019 15:41	1		MR-2 0.53(mm)
ZZZZZ		10/02/2019 15:57	1		MR-1 0.53(mm)
ZZZZZ		10/02/2019 15:57	1		MR-2 0.53(mm)
ZZZZZ		10/02/2019 16:12	1		MR-1 0.53(mm)
ZZZZZ		10/02/2019 16:12	1		MR-2 0.53(mm)
ZZZZZ		10/02/2019 16:28	1		MR-1 0.53(mm)
ZZZZZ		10/02/2019 16:28	1		MR-2 0.53(mm)
ZZZZZ		10/02/2019 16:44	1		MR-1 0.53(mm)
ZZZZZ		10/02/2019 16:44	1		MR-2 0.53(mm)
ZZZZZ		10/02/2019 17:00	1		MR-1 0.53(mm)
ZZZZZ		10/02/2019 17:00	1		MR-2 0.53(mm)
ZZZZZ		10/02/2019 17:16	1		MR-1 0.53(mm)
ZZZZZ		10/02/2019 17:16	1		MR-2 0.53(mm)
ZZZZZ		10/02/2019 17:32	1		MR-1 0.53(mm)
ZZZZZ		10/02/2019 17:32	1		MR-2 0.53(mm)
ZZZZZ		10/02/2019 17:48	1		MR-1 0.53(mm)
ZZZZZ		10/02/2019 17:48	1		MR-2 0.53(mm)
ZZZZZ		10/02/2019 18:03	1		MR-1 0.53(mm)
ZZZZZ		10/02/2019 18:03	1		MR-2 0.53(mm)
ZZZZZ		10/02/2019 18:19	1		MR-1 0.53(mm)
ZZZZZ		10/02/2019 18:19	1		MR-2 0.53(mm)
ZZZZZ		10/02/2019 18:35	1		MR-1 0.53(mm)
ZZZZZ		10/02/2019 18:35	1		MR-2 0.53(mm)
ZZZZZ		10/02/2019 18:51	1		MR-1 0.53(mm)
ZZZZZ		10/02/2019 18:51	1		MR-2 0.53(mm)

EPA 8081B

PESTICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Instrument ID: CHGC17 Start Date: 10/02/2019 07:14

Analysis Batch Number: 293427 End Date: 10/02/2019 20:41

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		10/02/2019 19:07	1		MR-1 0.53(mm)
ZZZZZ		10/02/2019 19:07	1		MR-2 0.53(mm)
ZZZZZ		10/02/2019 19:22	1		MR-1 0.53(mm)
ZZZZZ		10/02/2019 19:22	1		MR-2 0.53(mm)
ZZZZZ		10/02/2019 19:38	1		MR-1 0.53(mm)
ZZZZZ		10/02/2019 19:38	1		MR-2 0.53(mm)
ZZZZZ		10/02/2019 19:54	1		MR-1 0.53(mm)
ZZZZZ		10/02/2019 19:54	1		MR-2 0.53(mm)
ZZZZZ		10/02/2019 20:10	1		MR-1 0.53(mm)
ZZZZZ		10/02/2019 20:10	1		MR-2 0.53(mm)
ZZZZZ		10/02/2019 20:26	1		MR-1 0.53(mm)
ZZZZZ		10/02/2019 20:26	1		MR-2 0.53(mm)
ZZZZZ		10/02/2019 20:41	1		MR-1 0.53(mm)
ZZZZZ		10/02/2019 20:41	1		MR-2 0.53(mm)

EPA 8081B

PESTICIDES BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-96144-1

SDG No.:

Batch Number: 293037 Batch Start Date: 09/28/19 04:25 Batch Analyst: Yushinski, Charles

Batch Method: 3510C Batch End Date: 09/28/19 09:50

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ReceivedpH	op-p/pcb sur 00024	OPPESTMATRIX 00036	AnalysisComment
MB 180-293037/1		3510C, EPA 8081B		1000 mL	40.0 mL	6 SU	1 mL		Funnel 1
LCS 180-293037/2		3510C, EPA 8081B		1000 mL	40.0 mL	6 SU	1 mL	1 mL	Funnel 2
LCSD 180-293037/3		3510C, EPA 8081B		1000 mL	40.0 mL	6 SU	1 mL	1 mL	Funnel 3
180-96144-A-1	11187072-CONTACT -INITIAL	3510C, EPA 8081B	T	1060 mL	40.0 mL	7 SU	1 mL		Funnel 6

Batch Notes	
Analyst ID - Concentration	CBY
Concentration 1 Corrected Temperature	65 Degrees C
Concentration 2 Corrected Temperature	21 Degrees C
Equipment ID - Concentration 1	water bath 1
Equipment ID - Concentration 2	1
Exchange Solvent ID	Hexane 3383237
Analyst ID - Extraction	CBY
Filter ID	16917464
Na2SO4 ID	3327433
pH Indicator ID	Ph paper HC987808
Prep Solvent ID	Methylene chloride 3384376
Prep Solvent Volume Used	180 mL
Analyst ID - Spike Analyst	CBY
Sufficient Volume for Batch QC	no
Thermometer ID - Concentration 1	water bath 1
Thermometer ID - Concentration 2	1
Concentration 1 Uncorrected Temperature	65 Degrees C
Concentration 2 Uncorrected Temperature	21 Degrees C

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Method 8082A

Polychlorinated Biphenyls (PCBs) (GC) by Method 8082A

FORM II
PCBS SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): RTX-CLP1 ID: 0.53(mm) GC Column (2): RTX-CLP2 ID: 0.53(mm)

Client Sample ID	Lab Sample ID	TCX1 #	TCX2 #	DCB1 #	DCB2 #
11187072-CONTACT-INITIAL	180-96144-1	82	85	92	96
	MB 180-293037/1-A	96	101	100	102
	LCS 180-293037/4-A	81	84	89	92
	LCSD 180-293037/5-A	81	86	88	92

	QC LIMITS
TCX = Tetrachloro-m-xylene (Surr)	45-133
DCB = DCB Decachlorobiphenyl (Surr)	59-144

Column to be used to flag recovery values

FORM II EPA 8082A

FORM III
PCBS LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Matrix: Water Level: Low Lab File ID: S0930919.D

Lab ID: LCS 180-293037/4-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
PCB-1016	40.0	35.1	88	55-124	
PCB-1260	40.0	34.5	86	56-122	

Column to be used to flag recovery and RPD values

FORM III EPA 8082A

FORM III
PCBS LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Matrix: Water Level: Low Lab File ID: S0930920.D

Lab ID: LCSD 180-293037/5-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
PCB-1016	40.0	35.6	89	1	23	55-124	
PCB-1260	40.0	35.3	88	2	20	56-122	

Column to be used to flag recovery and RPD values

FORM III EPA 8082A

FORM IV
PCBS METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: MB 180-293037/1-A

Matrix: Water Date Extracted: 09/28/2019 04:25

Lab File ID:(1) S0930915.D Lab File ID:(2) S0930915.D

Date Analyzed:(1) 09/30/2019 14:51 Date Analyzed:(2) 09/30/2019 14:51

Instrument ID:(1) CHGC10 Instrument ID:(2) CHGC10

GC Column:(1) RTX-CLP1 ID: 0.53(mm) GC Column:(2) RTX-CLP2 ID: 0.53(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
11187072-CONTACT-INITIAL	180-96144-1	09/30/2019 15:11	09/30/2019 15:11
	LCS 180-293037/4-A	09/30/2019 16:12	09/30/2019 16:12
	LCSD 180-293037/5-A	09/30/2019 16:33	09/30/2019 16:33

FORM VIII
PCBS INTERNAL STANDARD HEIGHT AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Sample No.: CCVIS 180-293170/5 Date Analyzed: 09/30/2019 11:26

Instrument ID: CHGC10 GC Column: RTX-CLP1 ID: 0.53(mm)

Lab File ID (Standard): S0930905.D Heated Purge: (Y/N) N

Calibration ID: 41572

		BNB		PCB205			
		HEIGHT #	RT #	HEIGHT #	RT #	HEIGHT #	RT #
12/24 HOUR STD		421497630	2.75	495739920	10.91		
UPPER LIMIT		632246445	2.78	743609880	10.94		
LOWER LIMIT		210748815	2.72	247869960	10.88		
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 180-293037/1-A		378319279	2.75	416374119	10.91		
180-96144-1	11187072-CONTACT-INITIAL	402797526	2.75	462017206	10.91		
LCS 180-293037/4-A		425725355	2.75	494079286	10.91		
LCSD 180-293037/5-A		436625626	2.75	498017490	10.91		

BNB = 1-Bromo-2-nitrobenzene
PCB205 = PCB-205 (IS)

Area Limit = 50%-150% of internal standard area
RT Limit = ± 0.03 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8082A

FORM VIII
PCBS INTERNAL STANDARD HEIGHT AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Sample No.: CCVIS 180-293170/5 Date Analyzed: 09/30/2019 11:26

Instrument ID: CHGC10 GC Column: RTX-CLP2 ID: 0.53(mm)

Lab File ID (Standard): S0930905.D Heated Purge: (Y/N) N

Calibration ID: 41573

		BNB		PCB205			
		HEIGHT #	RT #	HEIGHT #	RT #	HEIGHT #	RT #
12/24 HOUR STD		134026304	2.93	128095599	12.22		
UPPER LIMIT		201039456	2.96	192143399	12.25		
LOWER LIMIT		67013152	2.90	64047800	12.19		
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 180-293037/1-A		116975657	2.94	113660965	12.22		
180-96144-1	11187072-CONTACT-INITIAL	130463666	2.94	121884332	12.22		
LCS 180-293037/4-A		137110408	2.94	130830452	12.22		
LCSD 180-293037/5-A		137767613	2.94	130830693	12.22		

BNB = 1-Bromo-2-nitrobenzene
PCB205 = PCB-205 (IS)

Area Limit = 50%-150% of internal standard area
RT Limit = ± 0.03 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8082A

FORM X
IDENTIFICATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 180-293037/4-A

Instrument ID (1): CHGC10 Instrument ID (2): CHGC10

Date Analyzed (1): 09/30/2019 16:12 Date Analyzed (2): 09/30/2019 16:12

GC Column (1): RTX-CLP1 ID: 0.53(mm) GC Column (2): RTX-CLP2 ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
PCB-1016	1	1	3.70	3.67	3.71	32.6	36.6	4.1
		2	4.56	4.54	4.58	36.8		
		3	4.72	4.70	4.74	36.5		
		4	5.24	5.22	5.26	36.6		
		5	5.78	5.76	5.80	40.5		
	2	1	4.34	4.32	4.36	32.8	35.1	
		2	5.51	5.48	5.52	36.5		
		3	5.71	5.69	5.73	34.8		
		4	6.47	6.45	6.49	35.9		
		5	6.69	6.67	6.71	35.6		
PCB-1260	1	1	7.67	7.65	7.69	35.9	36.6	6.0
		2	8.23	8.21	8.25	39.0		
		3	8.89	8.87	8.91	34.2		
		4	9.43	9.41	9.45	37.5		
		5	9.89	9.87	9.91	36.6		
	2	1	8.89	8.88	8.92	32.3	34.5	
		2	9.27	9.25	9.29	34.6		
		3	9.88	9.86	9.90	36.9		
		4	10.86	10.84	10.88	34.6		
		5	11.39	11.37	11.41	34.1		

FORM X
IDENTIFICATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 180-293037/5-A

Instrument ID (1): CHGC10 Instrument ID (2): CHGC10

Date Analyzed (1): 09/30/2019 16:33 Date Analyzed (2): 09/30/2019 16:33

GC Column (1): RTX-CLP1 ID: 0.53(mm) GC Column (2): RTX-CLP2 ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
PCB-1016	1	1	3.69	3.67	3.71	33.2	36.3	1.9
		2	4.56	4.54	4.58	36.5		
		3	4.72	4.70	4.74	36.0		
		4	5.24	5.22	5.26	36.2		
		5	5.77	5.76	5.80	39.8		
	2	1	4.34	4.32	4.36	33.3	35.6	
		2	5.50	5.48	5.52	36.4		
		3	5.71	5.69	5.73	35.4		
		4	6.47	6.45	6.49	36.8		
		5	6.69	6.67	6.71	36.2		
PCB-1260	1	1	7.67	7.65	7.69	36.7	37.2	5.4
		2	8.23	8.21	8.25	40.0		
		3	8.89	8.87	8.91	34.8		
		4	9.43	9.41	9.45	37.2		
		5	9.89	9.87	9.91	37.2		
	2	1	8.89	8.88	8.92	32.6	35.3	
		2	9.27	9.25	9.29	35.2		
		3	9.88	9.86	9.90	38.1		
		4	10.86	10.84	10.88	35.3		
		5	11.39	11.37	11.41	35.1		

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: 11187072-CONTACT-INITIAL Lab Sample ID: 180-96144-1

Matrix: Water Lab File ID: S0930916.D

Analysis Method: EPA 8082A Date Collected: 09/24/2019 15:00

Extraction Method: 3510C Date Extracted: 09/28/2019 04:25

Sample wt/vol: 1060(mL) Date Analyzed: 09/30/2019 15:11

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: RTX-CLP1 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 293170 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene (Surr)	82		45-133
2051-24-3	DCB Decachlorobiphenyl (Surr)	92		59-144

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930916.D
Lims ID: 180-96144-A-1-A
Client ID: 11187072-CONTACT-INITIAL
Sample Type: Client
Inject. Date: 30-Sep-2019 15:11:24 ALS Bottle#: 16 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028895-016
Operator ID: Instrument ID: CHGC10

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 01-Oct-2019 10:01:47 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: oravecj Date: 01-Oct-2019 09:47:55

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene						
1	2.750	2.747	0.004	402797526	H 0.1000	
2	2.935	2.932	0.003	130463666	H 0.1000	
$ 2 Tetrachloro-m-xylene						
1	3.371	3.368	0.003	78425191	H 0.0164	
2	3.801	3.798	0.003	20540560	H 0.0169	
					RPD = 2.95	
3 PCB-1221						U
1		3.511			ND	
1		3.650				
1		3.690				
2		3.319				
2		4.099				
2		4.337				
4 PCB-1232						U
1		3.512			ND	
1		3.690				
1		4.042				
1		4.716				
1		5.235				
2		4.099				
2		4.338				
2		4.846				
2		5.501				
2		5.704				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
6 PCB-1016						
1		3.692			ND	
1		4.559				
1		4.717				
1		5.237				
1		5.772				
2		4.338				
2		5.502				
2		5.705				
2		6.468				
2		6.684				
7 PCB-1248						
1		4.042			ND	
1		4.942				
1		5.236				
1		5.838				
1		6.826				
2		4.848				
2		6.011				
2		6.685				
2		7.232				
2		7.682				
5 PCB-1242						
1		4.043			ND	
1		4.560				
1		5.237				
1		5.837				
1		5.881				
2		4.339				
2		4.848				
2		5.705				
2		6.468				
2		7.682				
8 PCB-1254						U
1		5.770			ND	
1		6.167				
1		6.824				
1		7.317				
1		7.668				
2		7.223				
2		8.527				
2		8.950				
2		9.562				
2		9.874				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
9 PCB-1260						U
1		7.669			ND	
1		8.225				
1		8.892				
1		9.432				
1		9.889				
2		8.893				
2		9.267				
2		9.873				
2		10.860				
2		11.387				
10 PCB-1262						U
1		8.439			ND	
1		8.890				
1		9.429				
1		9.889				
1		10.012				
2		9.265				
2		10.019				
2		10.484				
2		10.859				
2		11.380				
11 PCB-1268						U
1		9.947			ND	
1		10.009				
1		10.305				
1		11.240				
2		11.377				
2		11.442				
2		11.795				
2		12.600				
* 46 PCB-205 (IS)						
1	10.912	10.912	0.000	462017206H	0.1000	
2	12.218	12.218	0.000	121884332H	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)						
1	11.498	11.498	0.000	64240723H	0.0184	
2	12.930	12.930	0.000	17651362H	0.0192	
					RPD = 4.35	
15 1260 Res 1						
1		0.000			ND	
2		0.000				
14 1260 Res 3						
1		0.000			ND	
2		0.000				
13 1260 Res 2						
1		0.000			ND	
2		0.000				

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

PCBINT_00010	Amount Added:	0.01	Units: mL	Run Reagent

Report Date: 01-Oct-2019 10:02:32 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930916.D				
Injection Date:	30-Sep-2019 15:11:24	Instrument ID:	CHGC10		
Lims ID:	180-96144-A-1-A	Lab Sample ID:	180-96144-1		
Client ID:	11187072-CONTACT-INITIAL				
Operator ID:		ALS Bottle#:	16	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

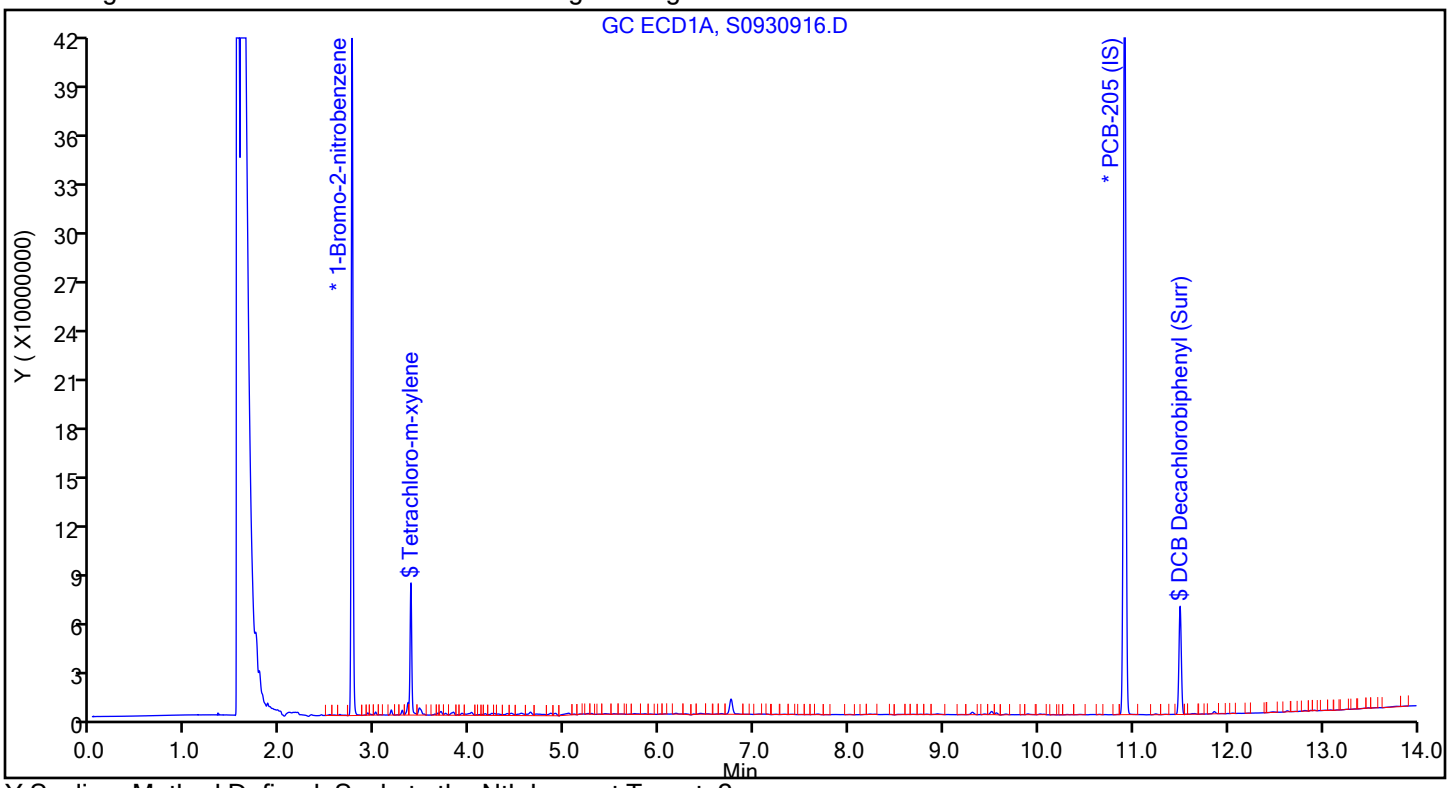

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

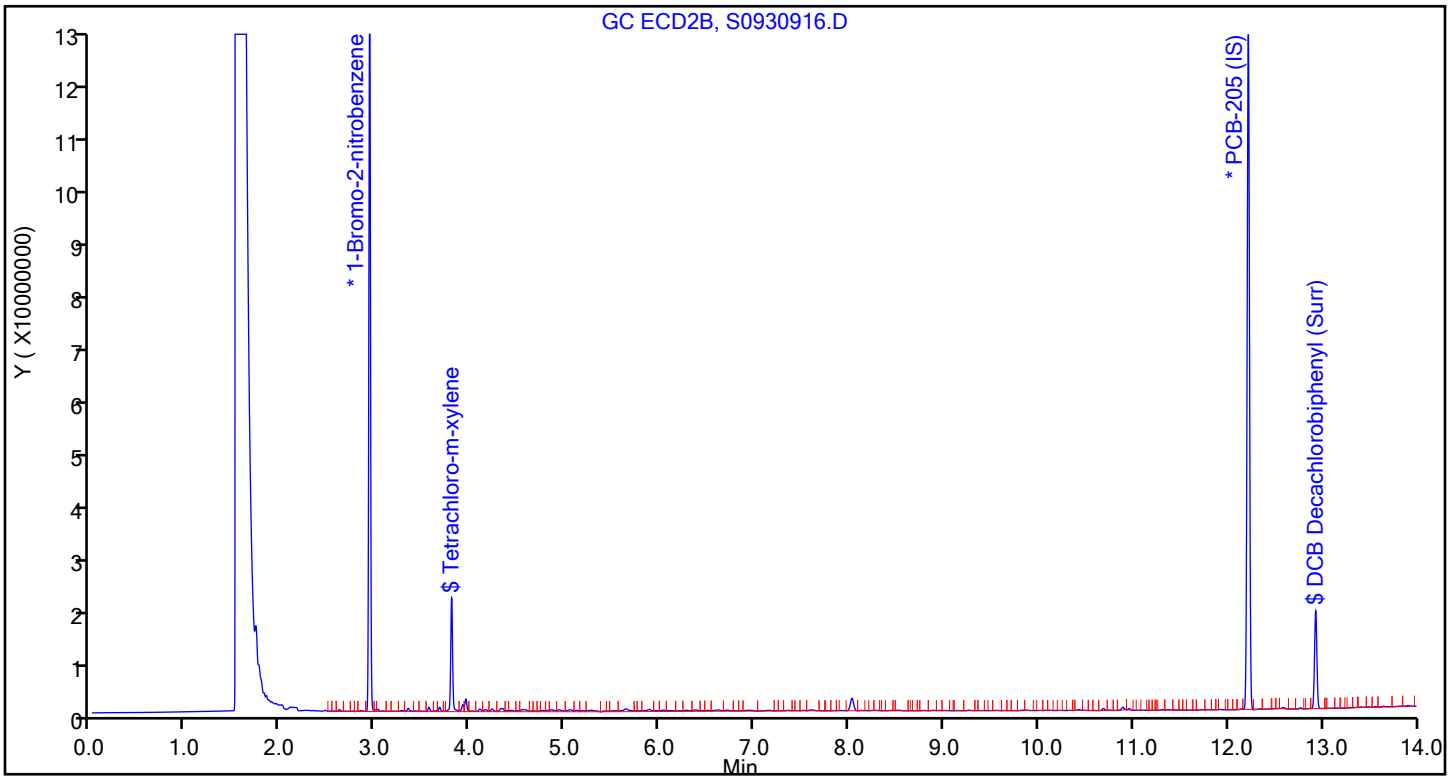

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930916.D				
Lims ID:	180-96144-A-1-A				
Client ID:	11187072-CONTACT-INITIAL				
Sample Type:	Client				
Inject. Date:	30-Sep-2019 15:11:24	ALS Bottle#:	16	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0028895-016				
Operator ID:		Instrument ID:	CHGC10		

Method:	\\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\IS PCB_CHGC10DUAL.m		
Limit Group:	GCS 8082A ICAL with IS		
Last Update:	01-Oct-2019 10:01:47	Calib Date:	21-Sep-2019 11:44:24
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D		

Column 1 :			Det: GC ECD1A
Column 2 :			Det: GC ECD2B
Process Host:	CTX0336		

First Level Reviewer: oravecj Date: 01-Oct-2019 09:47:55

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0164	82.11
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0184	91.88

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0169	84.57
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0192	95.97

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: 11187072-CONTACT-INITIAL Lab Sample ID: 180-96144-1

Matrix: Water Lab File ID: S0930916.D

Analysis Method: EPA 8082A Date Collected: 09/24/2019 15:00

Extraction Method: 3510C Date Extracted: 09/28/2019 04:25

Sample wt/vol: 1060(mL) Date Analyzed: 09/30/2019 15:11

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: RTX-CLP2 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 293170 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
12674-11-2	PCB-1016	ND		0.38	0.18
11104-28-2	PCB-1221	ND		0.38	0.22
11141-16-5	PCB-1232	ND		0.38	0.20
53469-21-9	PCB-1242	ND		0.38	0.34
12672-29-6	PCB-1248	ND		0.38	0.11
11097-69-1	PCB-1254	ND		0.38	0.36
11096-82-5	PCB-1260	ND		0.38	0.15

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene (Surr)	85		45-133
2051-24-3	DCB Decachlorobiphenyl (Surr)	96		59-144

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930916.D
Lims ID: 180-96144-A-1-A
Client ID: 11187072-CONTACT-INITIAL
Sample Type: Client
Inject. Date: 30-Sep-2019 15:11:24 ALS Bottle#: 16 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028895-016
Operator ID: Instrument ID: CHGC10

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 01-Oct-2019 10:01:47 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: oravecj Date: 01-Oct-2019 09:47:55

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene						
1	2.750	2.747	0.004	402797526	H 0.1000	
2	2.935	2.932	0.003	130463666	H 0.1000	
$ 2 Tetrachloro-m-xylene						
1	3.371	3.368	0.003	78425191	H 0.0164	
2	3.801	3.798	0.003	20540560	H 0.0169	
					RPD = 2.95	
3 PCB-1221						U
1		3.511			ND	
1		3.650				
1		3.690				
2		3.319				
2		4.099				
2		4.337				
4 PCB-1232						U
1		3.512			ND	
1		3.690				
1		4.042				
1		4.716				
1		5.235				
2		4.099				
2		4.338				
2		4.846				
2		5.501				
2		5.704				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
6 PCB-1016						
1		3.692			ND	
1		4.559				
1		4.717				
1		5.237				
1		5.772				
2		4.338				
2		5.502				
2		5.705				
2		6.468				
2		6.684				
7 PCB-1248						
1		4.042			ND	
1		4.942				
1		5.236				
1		5.838				
1		6.826				
2		4.848				
2		6.011				
2		6.685				
2		7.232				
2		7.682				
5 PCB-1242						
1		4.043			ND	
1		4.560				
1		5.237				
1		5.837				
1		5.881				
2		4.339				
2		4.848				
2		5.705				
2		6.468				
2		7.682				
8 PCB-1254						U
1		5.770			ND	
1		6.167				
1		6.824				
1		7.317				
1		7.668				
2		7.223				
2		8.527				
2		8.950				
2		9.562				
2		9.874				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
9 PCB-1260						U
1		7.669			ND	
1		8.225				
1		8.892				
1		9.432				
1		9.889				
2		8.893				
2		9.267				
2		9.873				
2		10.860				
2		11.387				
10 PCB-1262						U
1		8.439			ND	
1		8.890				
1		9.429				
1		9.889				
1		10.012				
2		9.265				
2		10.019				
2		10.484				
2		10.859				
2		11.380				
11 PCB-1268						U
1		9.947			ND	
1		10.009				
1		10.305				
1		11.240				
2		11.377				
2		11.442				
2		11.795				
2		12.600				
* 46 PCB-205 (IS)						
1	10.912	10.912	0.000	462017206H	0.1000	
2	12.218	12.218	0.000	121884332H	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)						
1	11.498	11.498	0.000	64240723H	0.0184	
2	12.930	12.930	0.000	17651362H	0.0192	
					RPD = 4.35	
15 1260 Res 1						
1		0.000			ND	
2		0.000				
14 1260 Res 3						
1		0.000			ND	
2		0.000				
13 1260 Res 2						
1		0.000			ND	
2		0.000				

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

PCBINT_00010	Amount Added:	0.01	Units: mL	Run Reagent

Report Date: 01-Oct-2019 10:02:32 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930916.D				
Injection Date:	30-Sep-2019 15:11:24	Instrument ID:	CHGC10		
Lims ID:	180-96144-A-1-A	Lab Sample ID:	180-96144-1		
Client ID:	11187072-CONTACT-INITIAL				
Operator ID:		ALS Bottle#:	16	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

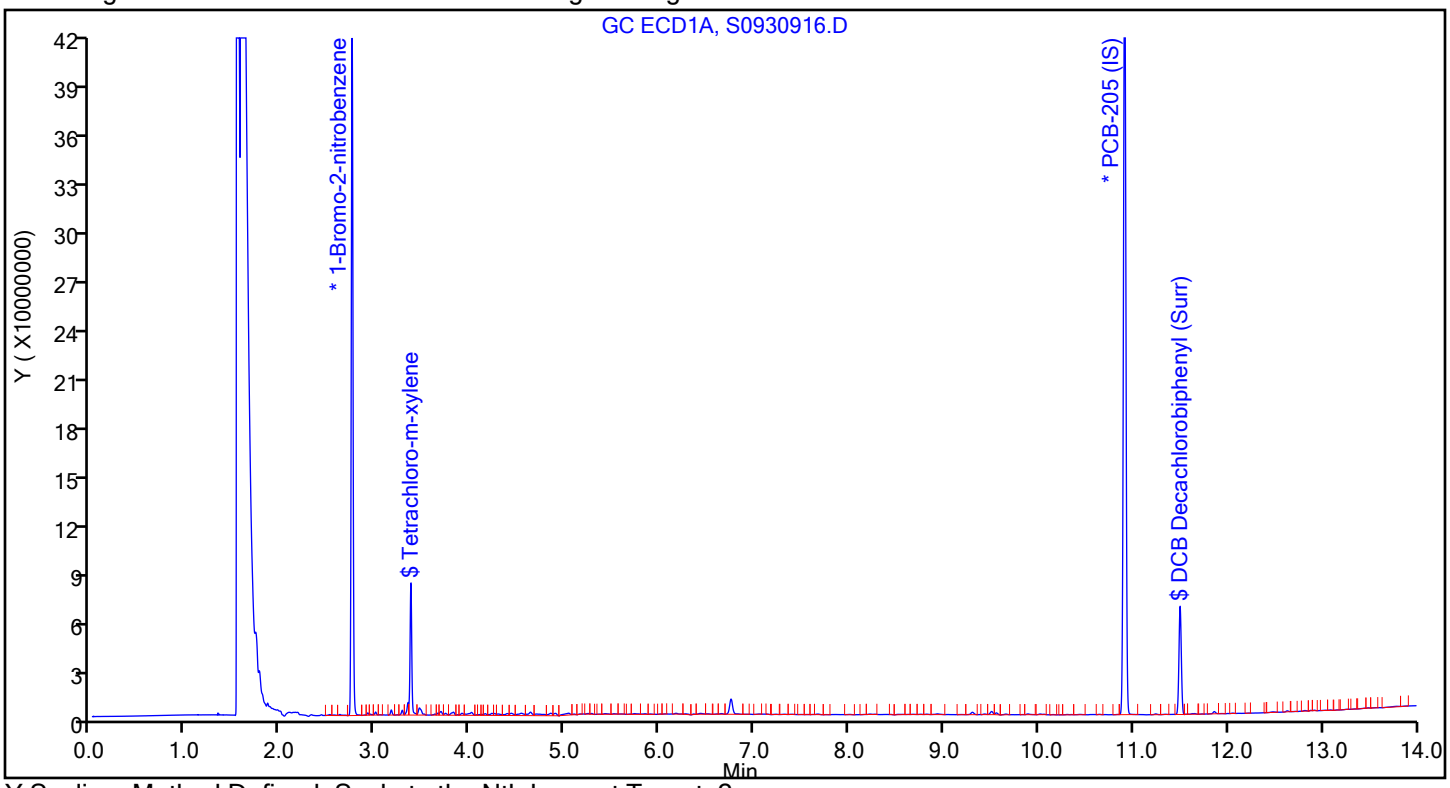

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

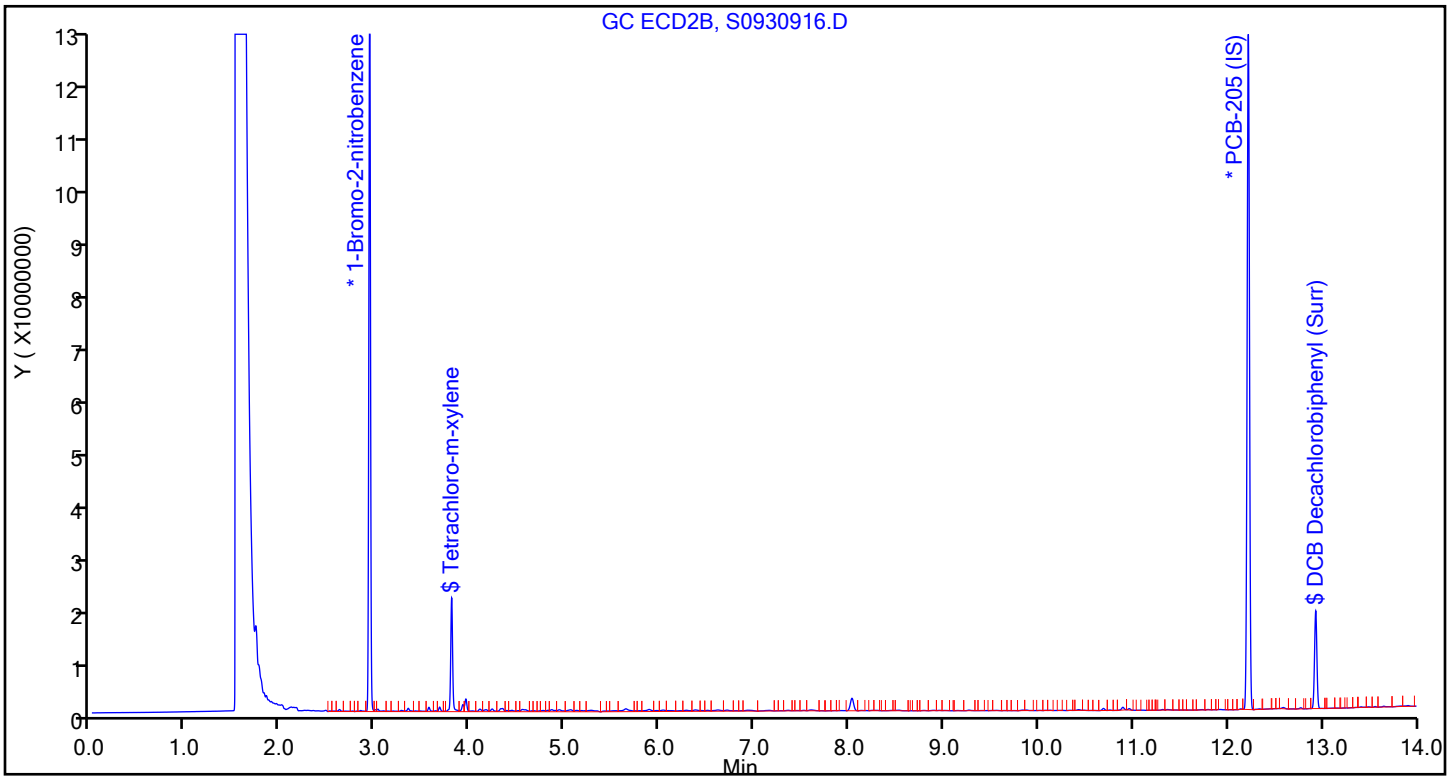

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930916.D				
Lims ID:	180-96144-A-1-A				
Client ID:	11187072-CONTACT-INITIAL				
Sample Type:	Client				
Inject. Date:	30-Sep-2019 15:11:24	ALS Bottle#:	16	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0028895-016				
Operator ID:		Instrument ID:	CHGC10		

Method:	\\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\IS PCB_CHGC10DUAL.m		
Limit Group:	GCS 8082A ICAL with IS		
Last Update:	01-Oct-2019 10:01:47	Calib Date:	21-Sep-2019 11:44:24
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D		

Column 1 :			Det: GC ECD1A
Column 2 :			Det: GC ECD2B
Process Host:	CTX0336		

First Level Reviewer: oravecj Date: 01-Oct-2019 09:47:55

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0164	82.11
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0184	91.88

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0169	84.57
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0192	95.97

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 08:24 Calibration End Date: 09/21/2019 08:24 Calibration ID: 41578

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/1	S0921902.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1221 Peak 1	0.0128					Ave		0.0128						20.0			
PCB-1221 Peak 2	0.0080					Ave		0.0080						20.0			
PCB-1221 Peak 3	0.0280					Ave		0.0280						20.0			
PCB-1254 Peak 1	0.0284					Ave		0.0284						20.0			
PCB-1254 Peak 2	0.0364					Ave		0.0364						20.0			
PCB-1254 Peak 3	0.0519					Ave		0.0519						20.0			
PCB-1254 Peak 4	0.0374					Ave		0.0374						20.0			
PCB-1254 Peak 5	0.0293					Ave		0.0293						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 08:24 Calibration End Date: 09/21/2019 08:24 Calibration ID: 41578

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/1	S0921902.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1					LVL 1				
PCB-1221 Peak 1	BNB	Ave	32144702					0.500				
PCB-1221 Peak 2	BNB	Ave	19959353					0.500				
PCB-1221 Peak 3	BNB	Ave	70409132					0.500				
PCB-1254 Peak 1	PCB20	Ave	68621518					0.500				
PCB-1254 Peak 2	PCB20	Ave	87858157					0.500				
PCB-1254 Peak 3	PCB20	Ave	125183312					0.500				
PCB-1254 Peak 4	PCB20	Ave	90272178					0.500				
PCB-1254 Peak 5	PCB20	Ave	70765853					0.500				

Curve Type Legend:

Ave = Average ISTD by Height

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 08:24 Calibration End Date: 09/21/2019 08:24 Calibration ID: 41578

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/1	S0921902.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #						LVL 1					
PCB-1221 Peak 1	0.0						50					
PCB-1221 Peak 2	0.0						50					
PCB-1221 Peak 3	0.0						50					
PCB-1254 Peak 1	0.0						50					
PCB-1254 Peak 2	0.0						50					
PCB-1254 Peak 3	0.0						50					
PCB-1254 Peak 4	0.0						50					
PCB-1254 Peak 5	0.0						50					

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921902.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 21-Sep-2019 08:24:29 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-001
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub21

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:51:17 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.746	2.748	-0.003	502084993H	0.1000	0.1000	
2	2.936	2.939	-0.003	159461512H	0.1000	0.1000	
3 PCB-1221							
1	3.511	3.511	0.000	32144702H	0.5000	0.5000	
1	3.649	3.649	0.000	19959353H	0.5000	0.5000	
1	3.689	3.689	0.000	70409132H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	3.326	3.326	0.000	5781295H	0.5000	0.5000	
2	4.107	4.107	0.000	7722245H	0.5000	0.5000	
2	4.346	4.346	0.000	15817220H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	
8 PCB-1254							
1	5.770	5.770	0.000	68621518H	0.5000	0.5000	
1	6.166	6.166	0.000	87858157H	0.5000	0.5000	
1	6.824	6.824	0.000	125183312H	0.5000	0.5000	
1	7.317	7.317	0.000	90272178H	0.5000	0.5000	
1	7.669	7.669	0.000	70765853H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	7.236	7.236	0.000	17261740H	0.5000	0.5000	
2	8.539	8.539	0.000	29604964H	0.5000	0.5000	
2	8.961	8.961	0.000	22261397H	0.5000	0.5000	
2	9.571	9.571	0.000	16804059H	0.5000	0.5000	
2	9.884	9.884	0.000	25449167H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	
* 46 PCB-205 (IS)							
1	10.911	10.916	-0.004	482592697H	0.1000	0.1000	
2	12.226	12.227	-0.001	109452127H	0.1000	0.1000	

Reagents:

GCAR2154CALL4_00021	Amount Added:	1.00	Units: mL	
PCBINT_00010	Amount Added:	0.01	Units: mL	Run Reagent

Report Date: 23-Sep-2019 06:51:18 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921902.D

Injection Date: 21-Sep-2019 08:24:29 Instrument ID: CHGC10

Lims ID: IC

Client ID:

Operator ID: ALS Bottle#: 1 Worklist Smp#: 1

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

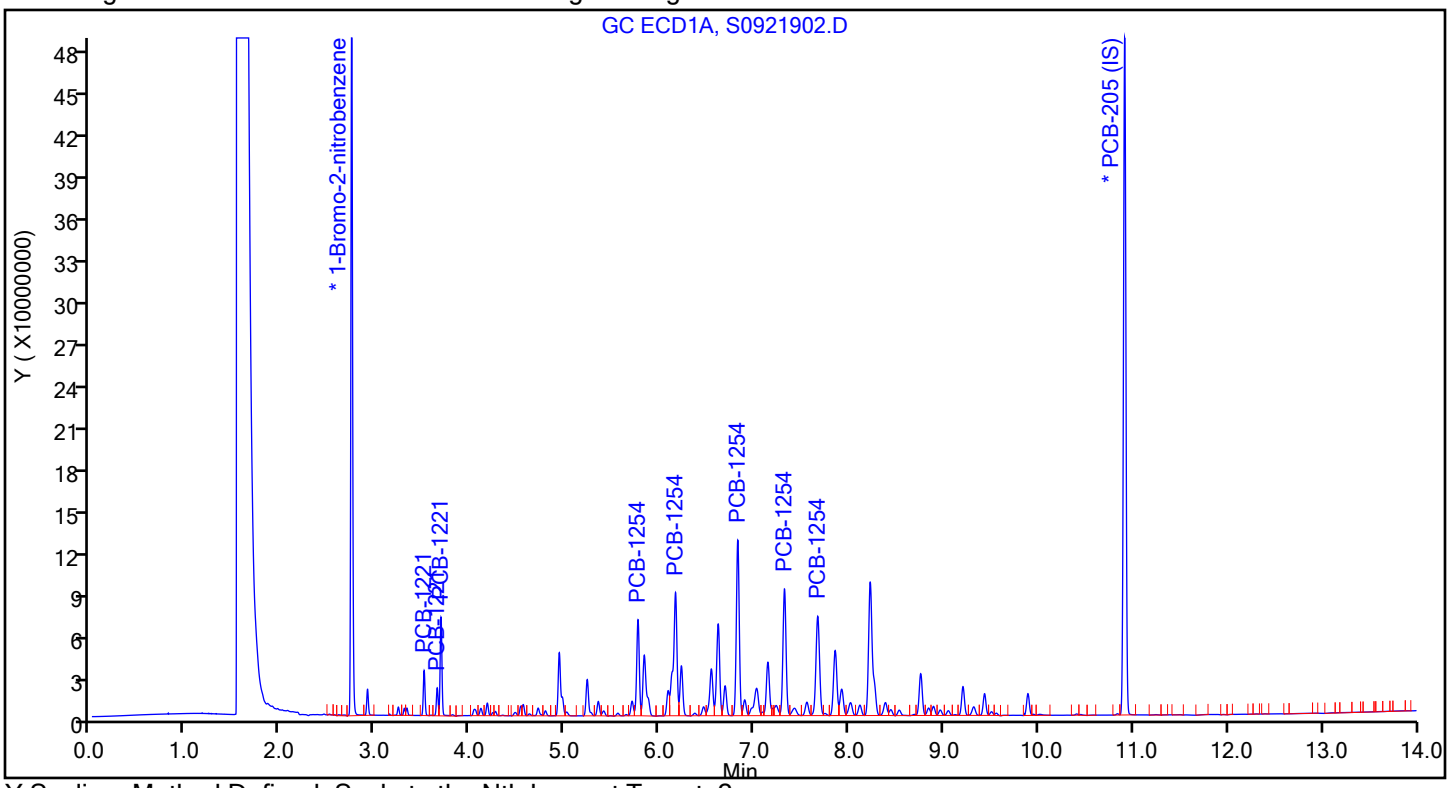

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

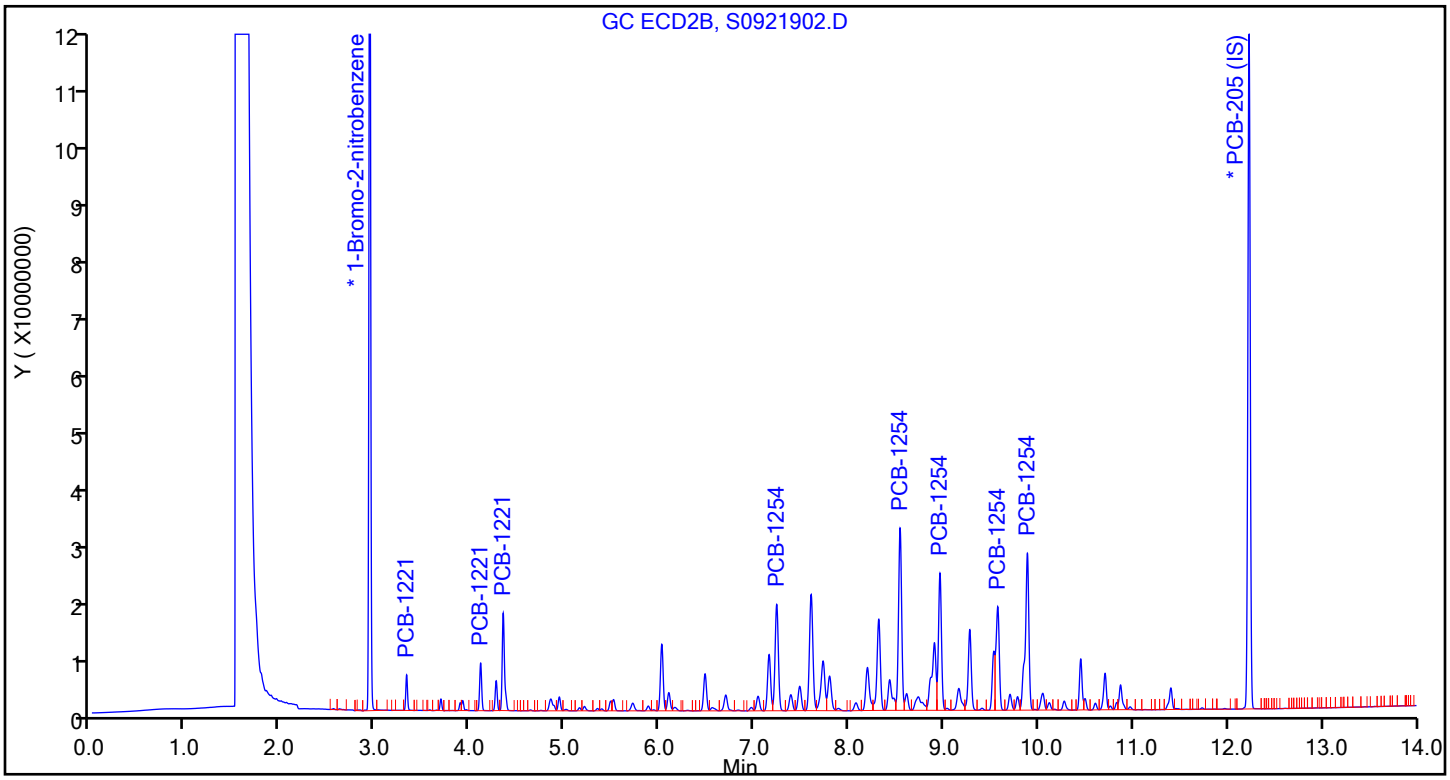

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 08:24 Calibration End Date: 09/21/2019 08:24 Calibration ID: 41579

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/1	S0921902.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1221 Peak 1	0.0073					Ave		0.0073						20.0			
PCB-1221 Peak 2	0.0097					Ave		0.0097						20.0			
PCB-1221 Peak 3	0.0198					Ave		0.0198						20.0			
PCB-1254 Peak 1	0.0315					Ave		0.0315						20.0			
PCB-1254 Peak 2	0.0541					Ave		0.0541						20.0			
PCB-1254 Peak 3	0.0407					Ave		0.0407						20.0			
PCB-1254 Peak 4	0.0307					Ave		0.0307						20.0			
PCB-1254 Peak 5	0.0465					Ave		0.0465						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 08:24 Calibration End Date: 09/21/2019 08:24 Calibration ID: 41579

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/1	S0921902.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1					LVL 1				
PCB-1221 Peak 1	BNB	Ave	5781295					0.500				
PCB-1221 Peak 2	BNB	Ave	7722245					0.500				
PCB-1221 Peak 3	BNB	Ave	15817220					0.500				
PCB-1254 Peak 1	PCB20	Ave	17261740					0.500				
PCB-1254 Peak 2	PCB20	Ave	29604964					0.500				
PCB-1254 Peak 3	PCB20	Ave	22261397					0.500				
PCB-1254 Peak 4	PCB20	Ave	16804059					0.500				
PCB-1254 Peak 5	PCB20	Ave	25449167					0.500				

Curve Type Legend:

Ave = Average ISTD by Height

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 08:24 Calibration End Date: 09/21/2019 08:24 Calibration ID: 41579

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/1	S0921902.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #						LVL 1					
PCB-1221 Peak 1	0.0						50					
PCB-1221 Peak 2	0.0						50					
PCB-1221 Peak 3	0.0						50					
PCB-1254 Peak 1	0.0						50					
PCB-1254 Peak 2	0.0						50					
PCB-1254 Peak 3	0.0						50					
PCB-1254 Peak 4	0.0						50					
PCB-1254 Peak 5	0.0						50					

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921902.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 21-Sep-2019 08:24:29 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-001
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub21

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:51:17 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.746	2.748	-0.003	502084993H	0.1000	0.1000	
2	2.936	2.939	-0.003	159461512H	0.1000	0.1000	
3 PCB-1221							
1	3.511	3.511	0.000	32144702H	0.5000	0.5000	
1	3.649	3.649	0.000	19959353H	0.5000	0.5000	
1	3.689	3.689	0.000	70409132H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	3.326	3.326	0.000	5781295H	0.5000	0.5000	
2	4.107	4.107	0.000	7722245H	0.5000	0.5000	
2	4.346	4.346	0.000	15817220H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	
8 PCB-1254							
1	5.770	5.770	0.000	68621518H	0.5000	0.5000	
1	6.166	6.166	0.000	87858157H	0.5000	0.5000	
1	6.824	6.824	0.000	125183312H	0.5000	0.5000	
1	7.317	7.317	0.000	90272178H	0.5000	0.5000	
1	7.669	7.669	0.000	70765853H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	7.236	7.236	0.000	17261740H	0.5000	0.5000	
2	8.539	8.539	0.000	29604964H	0.5000	0.5000	
2	8.961	8.961	0.000	22261397H	0.5000	0.5000	
2	9.571	9.571	0.000	16804059H	0.5000	0.5000	
2	9.884	9.884	0.000	25449167H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	
* 46 PCB-205 (IS)							
1	10.911	10.916	-0.004	482592697H	0.1000	0.1000	
2	12.226	12.227	-0.001	109452127H	0.1000	0.1000	

Reagents:

GCAR2154CALL4_00021	Amount Added:	1.00	Units: mL	
PCBINT_00010	Amount Added:	0.01	Units: mL	Run Reagent

Report Date: 23-Sep-2019 06:51:18 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921902.D

Injection Date: 21-Sep-2019 08:24:29 Instrument ID: CHGC10

Lims ID: IC

Client ID:

Operator ID: ALS Bottle#: 1 Worklist Smp#: 1

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

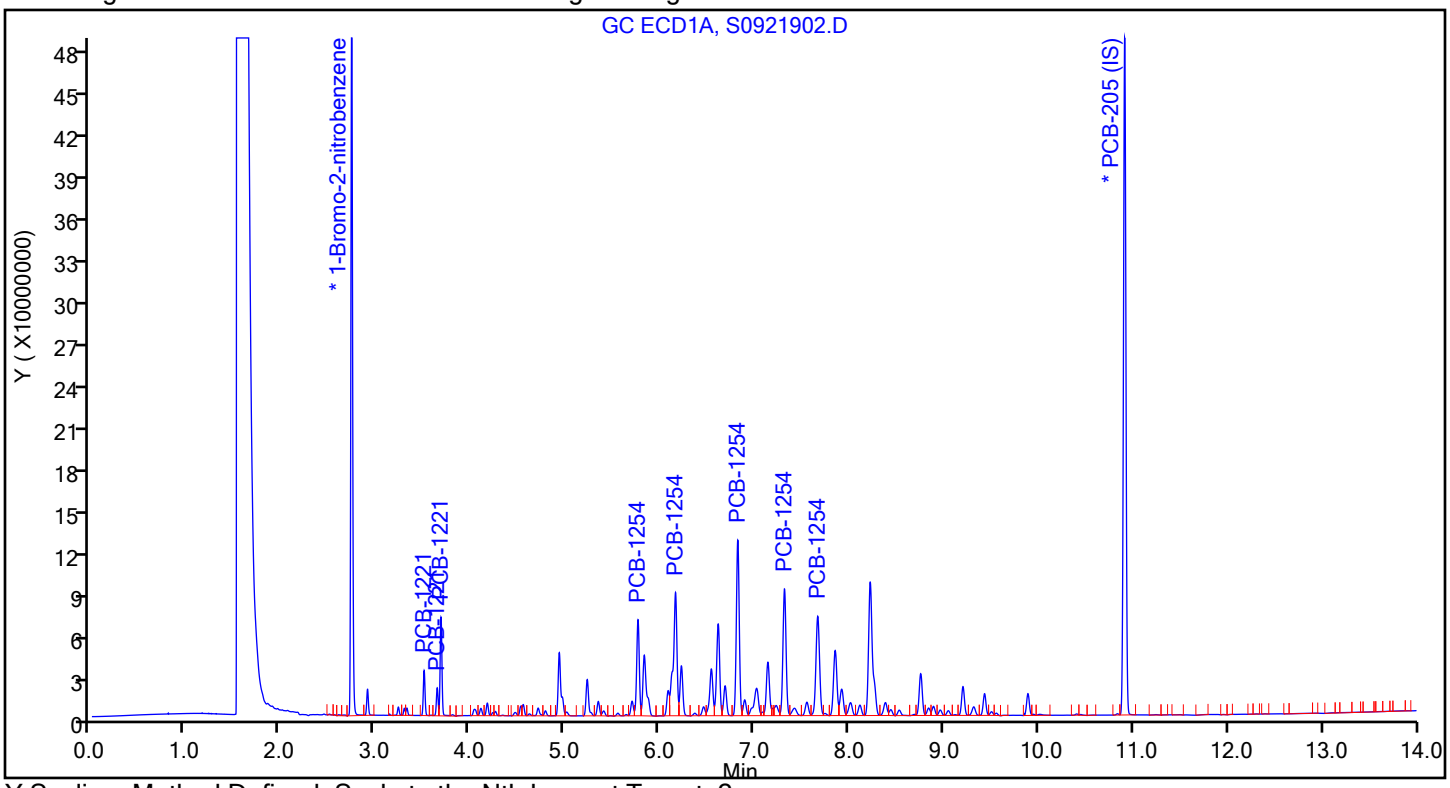

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

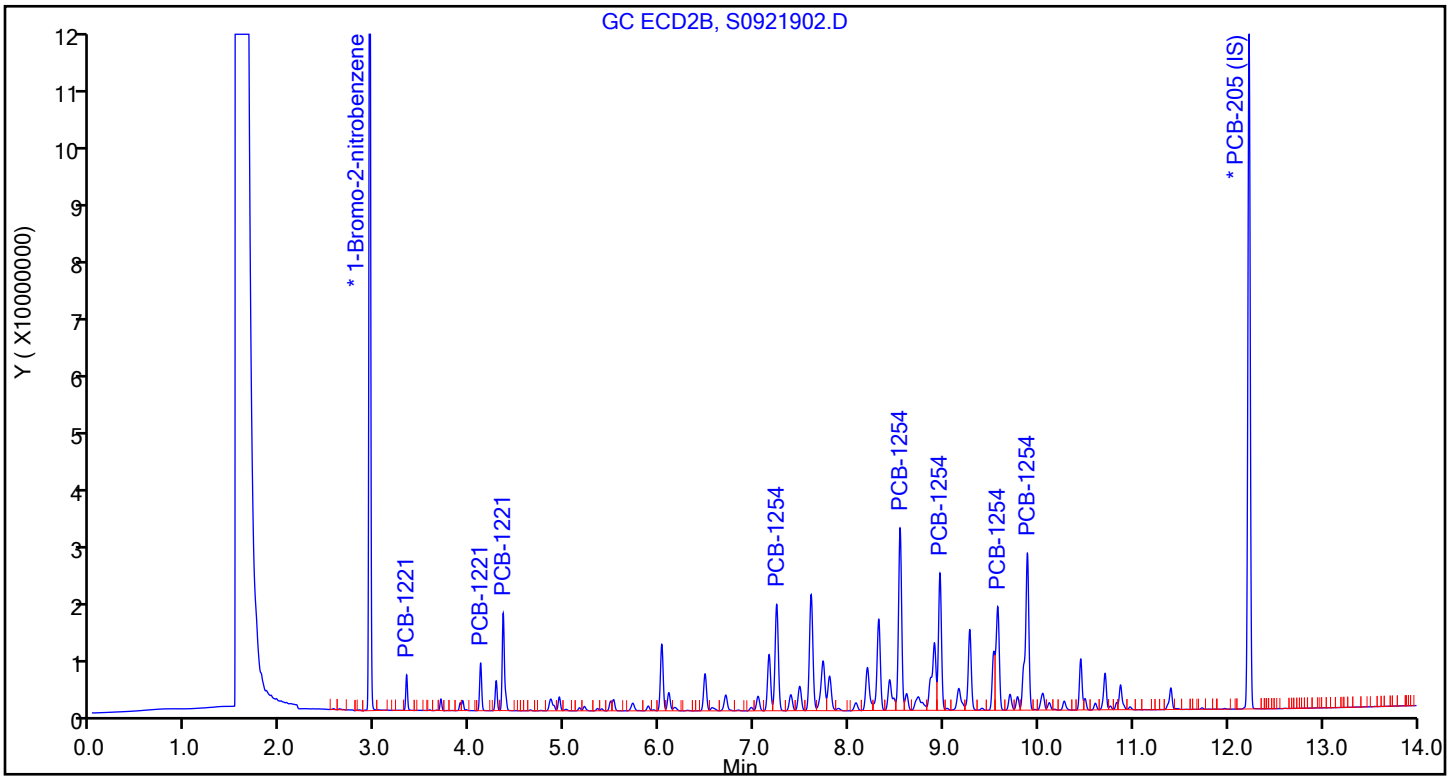

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 08:44 Calibration End Date: 09/21/2019 08:44 Calibration ID: 41584

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/2	S0921903.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1232 Peak 1	0.0111					Ave		0.0111						20.0			
PCB-1232 Peak 2	0.0302					Ave		0.0302						20.0			
PCB-1232 Peak 3	0.0137					Ave		0.0137						20.0			
PCB-1232 Peak 4	0.0171					Ave		0.0171						20.0			
PCB-1232 Peak 5	0.0130					Ave		0.0130						20.0			
PCB-1262 Peak 1	0.0533					Ave		0.0533						20.0			
PCB-1262 Peak 2	0.0550					Ave		0.0550						20.0			
PCB-1262 Peak 3	0.1313					Ave		0.1313						20.0			
PCB-1262 Peak 4	0.0465					Ave		0.0465						20.0			
PCB-1262 Peak 5	0.0406					Ave		0.0406						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 08:44 Calibration End Date: 09/21/2019 08:44 Calibration ID: 41584

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/2	S0921903.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1					LVL 1				
PCB-1232 Peak 1	BNB	Ave	25261390					0.500				
PCB-1232 Peak 2	BNB	Ave	68582400					0.500				
PCB-1232 Peak 3	BNB	Ave	30978329					0.500				
PCB-1232 Peak 4	BNB	Ave	38704959					0.500				
PCB-1232 Peak 5	BNB	Ave	29441519					0.500				
PCB-1262 Peak 1	PCB20	Ave	125444892					0.500				
PCB-1262 Peak 2	PCB20	Ave	129485103					0.500				
PCB-1262 Peak 3	PCB20	Ave	308988223					0.500				
PCB-1262 Peak 4	PCB20	Ave	109430144					0.500				
PCB-1262 Peak 5	PCB20	Ave	95471023					0.500				

Curve Type Legend:

Ave = Average ISTD by Height

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 08:44 Calibration End Date: 09/21/2019 08:44 Calibration ID: 41584

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/2	S0921903.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #						LVL 1					
PCB-1232 Peak 1	0.0						50					
PCB-1232 Peak 2	0.0						50					
PCB-1232 Peak 3	0.0						50					
PCB-1232 Peak 4	0.0						50					
PCB-1232 Peak 5	0.0						50					
PCB-1262 Peak 1	0.0						50					
PCB-1262 Peak 2	0.0						50					
PCB-1262 Peak 3	0.0						50					
PCB-1262 Peak 4	0.0						50					
PCB-1262 Peak 5	0.0						50					

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921903.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 21-Sep-2019 08:44:43 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-002
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub22

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:51:13 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.748	2.748	-0.001	453767079H	0.1000	0.1000	
2	2.938	2.939	-0.002	151720452H	0.1000	0.1000	
4 PCB-1232							
1	3.513	3.513	0.000	25261390H	0.5000	0.5000	
1	3.693	3.693	0.000	68582400H	0.5000	0.5000	
1	4.043	4.043	0.000	30978329H	0.5000	0.5000	
1	4.719	4.719	0.000	38704959H	0.5000	0.5000	
1	5.238	5.238	0.000	29441519H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	4.108	4.108	0.000	5817295H	0.5000	0.5000	
2	4.348	4.348	0.000	15376954H	0.5000	0.5000	
2	4.858	4.858	0.000	9002351H	0.5000	0.5000	
2	5.513	5.513	0.000	14863180H	0.5000	0.5000	
2	5.716	5.716	0.000	8264294H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
10 PCB-1262							
1	8.445	8.445	0.000	125444892H	0.5000	0.5000	
1	8.894	8.894	0.000	129485103H	0.5000	0.5000	
1	9.435	9.435	0.000	308988223H	0.5000	0.5000	
1	9.892	9.892	0.000	109430144H	0.5000	0.5000	
1	10.017	10.017	0.000	95471023H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	9.277	9.277	0.000	23644905H	0.5000	0.5000	
2	10.030	10.030	0.000	37119151H	0.5000	0.5000	
2	10.494	10.494	0.000	34634196H	0.5000	0.5000	
2	10.868	10.868	0.000	75585009H	0.5000	0.5000	
2	11.391	11.391	0.000	43944641H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	
* 46 PCB-205 (IS)							
1	10.915	10.916	-0.001	470586746H	0.1000	0.1000	
2	12.227	12.227	-0.001	114075095H	0.1000	0.1000	

Reagents:

GCAR3262CALL4_00014 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Sep-2019 06:51:13 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921903.D				
Injection Date:	21-Sep-2019 08:44:43	Instrument ID:	CHGC10		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

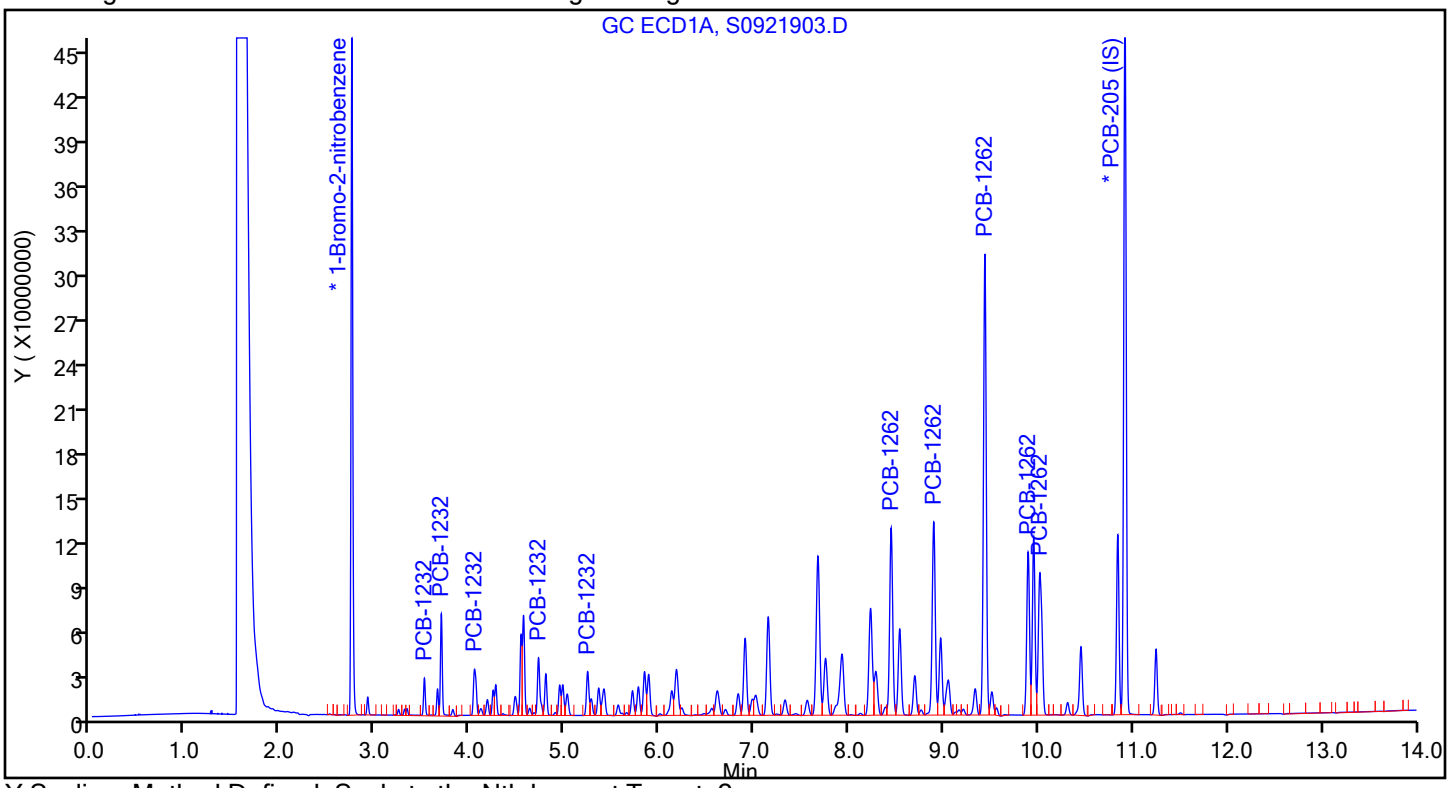

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

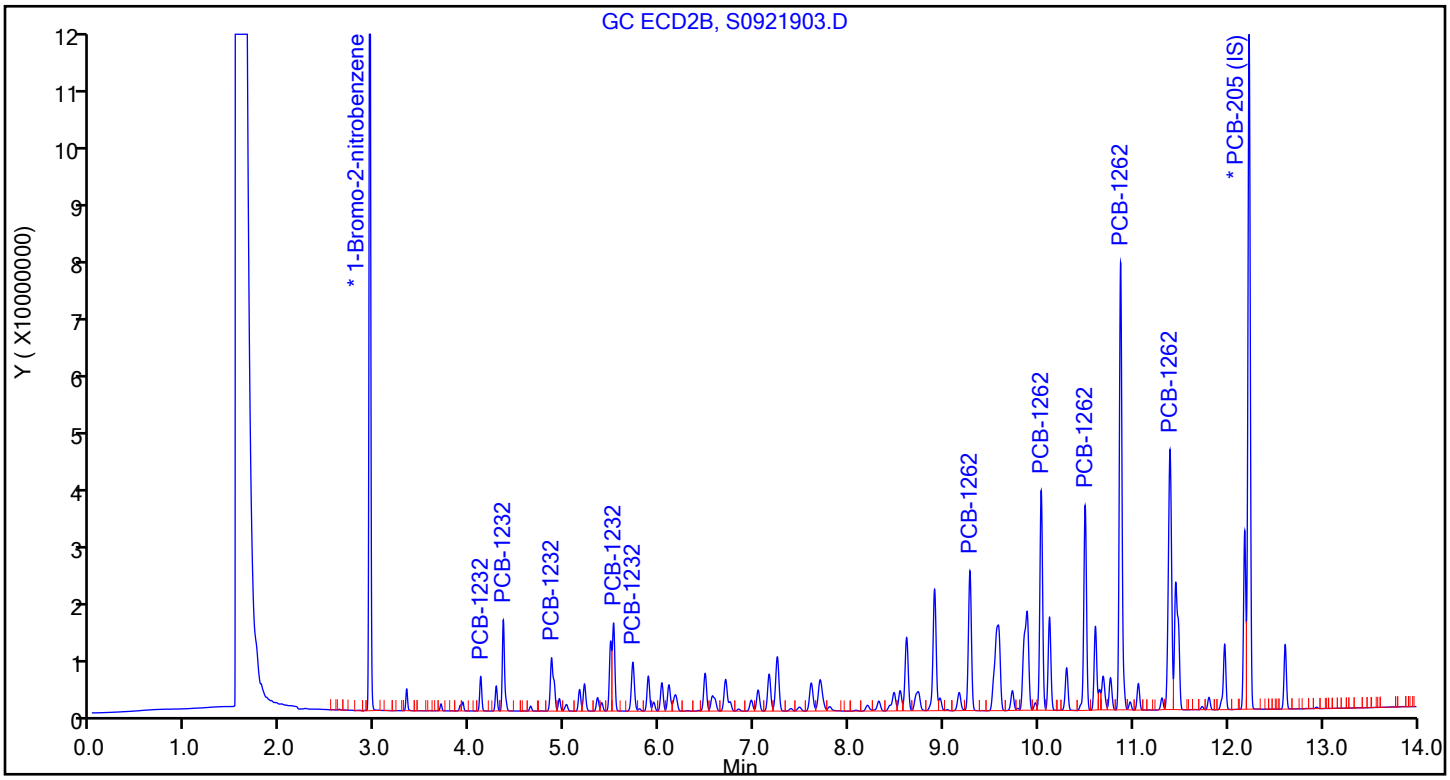

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 08:44 Calibration End Date: 09/21/2019 08:44 Calibration ID: 41585

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/2	S0921903.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1232 Peak 1	0.0077					Ave		0.0077						20.0			
PCB-1232 Peak 2	0.0203					Ave		0.0203						20.0			
PCB-1232 Peak 3	0.0119					Ave		0.0119						20.0			
PCB-1232 Peak 4	0.0196					Ave		0.0196						20.0			
PCB-1232 Peak 5	0.0109					Ave		0.0109						20.0			
PCB-1262 Peak 1	0.0415					Ave		0.0415						20.0			
PCB-1262 Peak 2	0.0651					Ave		0.0651						20.0			
PCB-1262 Peak 3	0.0607					Ave		0.0607						20.0			
PCB-1262 Peak 4	0.1325					Ave		0.1325						20.0			
PCB-1262 Peak 5	0.0770					Ave		0.0770						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 08:44 Calibration End Date: 09/21/2019 08:44 Calibration ID: 41585

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/2	S0921903.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1					LVL 1				
PCB-1232 Peak 1	BNB	Ave	5817295					0.500				
PCB-1232 Peak 2	BNB	Ave	15376954					0.500				
PCB-1232 Peak 3	BNB	Ave	9002351					0.500				
PCB-1232 Peak 4	BNB	Ave	14863180					0.500				
PCB-1232 Peak 5	BNB	Ave	8264294					0.500				
PCB-1262 Peak 1	PCB20	Ave	23644905					0.500				
PCB-1262 Peak 2	PCB20	Ave	37119151					0.500				
PCB-1262 Peak 3	PCB20	Ave	34634196					0.500				
PCB-1262 Peak 4	PCB20	Ave	75585009					0.500				
PCB-1262 Peak 5	PCB20	Ave	43944641					0.500				

Curve Type Legend:

Ave = Average ISTD by Height

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 08:44 Calibration End Date: 09/21/2019 08:44 Calibration ID: 41585

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/2	S0921903.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #						LVL 1					
PCB-1232 Peak 1	0.0						50					
PCB-1232 Peak 2	0.0						50					
PCB-1232 Peak 3	0.0						50					
PCB-1232 Peak 4	0.0						50					
PCB-1232 Peak 5	0.0						50					
PCB-1262 Peak 1	0.0						50					
PCB-1262 Peak 2	0.0						50					
PCB-1262 Peak 3	0.0						50					
PCB-1262 Peak 4	0.0						50					
PCB-1262 Peak 5	0.0						50					

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921903.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 21-Sep-2019 08:44:43 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-002
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub22

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:51:13 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.748	2.748	-0.001	453767079H	0.1000	0.1000	
2	2.938	2.939	-0.002	151720452H	0.1000	0.1000	
4 PCB-1232							
1	3.513	3.513	0.000	25261390H	0.5000	0.5000	
1	3.693	3.693	0.000	68582400H	0.5000	0.5000	
1	4.043	4.043	0.000	30978329H	0.5000	0.5000	
1	4.719	4.719	0.000	38704959H	0.5000	0.5000	
1	5.238	5.238	0.000	29441519H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	4.108	4.108	0.000	5817295H	0.5000	0.5000	
2	4.348	4.348	0.000	15376954H	0.5000	0.5000	
2	4.858	4.858	0.000	9002351H	0.5000	0.5000	
2	5.513	5.513	0.000	14863180H	0.5000	0.5000	
2	5.716	5.716	0.000	8264294H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
10 PCB-1262							
1	8.445	8.445	0.000	125444892H	0.5000	0.5000	
1	8.894	8.894	0.000	129485103H	0.5000	0.5000	
1	9.435	9.435	0.000	308988223H	0.5000	0.5000	
1	9.892	9.892	0.000	109430144H	0.5000	0.5000	
1	10.017	10.017	0.000	95471023H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	9.277	9.277	0.000	23644905H	0.5000	0.5000	
2	10.030	10.030	0.000	37119151H	0.5000	0.5000	
2	10.494	10.494	0.000	34634196H	0.5000	0.5000	
2	10.868	10.868	0.000	75585009H	0.5000	0.5000	
2	11.391	11.391	0.000	43944641H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	
* 46 PCB-205 (IS)							
1	10.915	10.916	-0.001	470586746H	0.1000	0.1000	
2	12.227	12.227	-0.001	114075095H	0.1000	0.1000	

Reagents:

GCAR3262CALL4_00014 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Sep-2019 06:51:13 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921903.D				
Injection Date:	21-Sep-2019 08:44:43	Instrument ID:	CHGC10		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

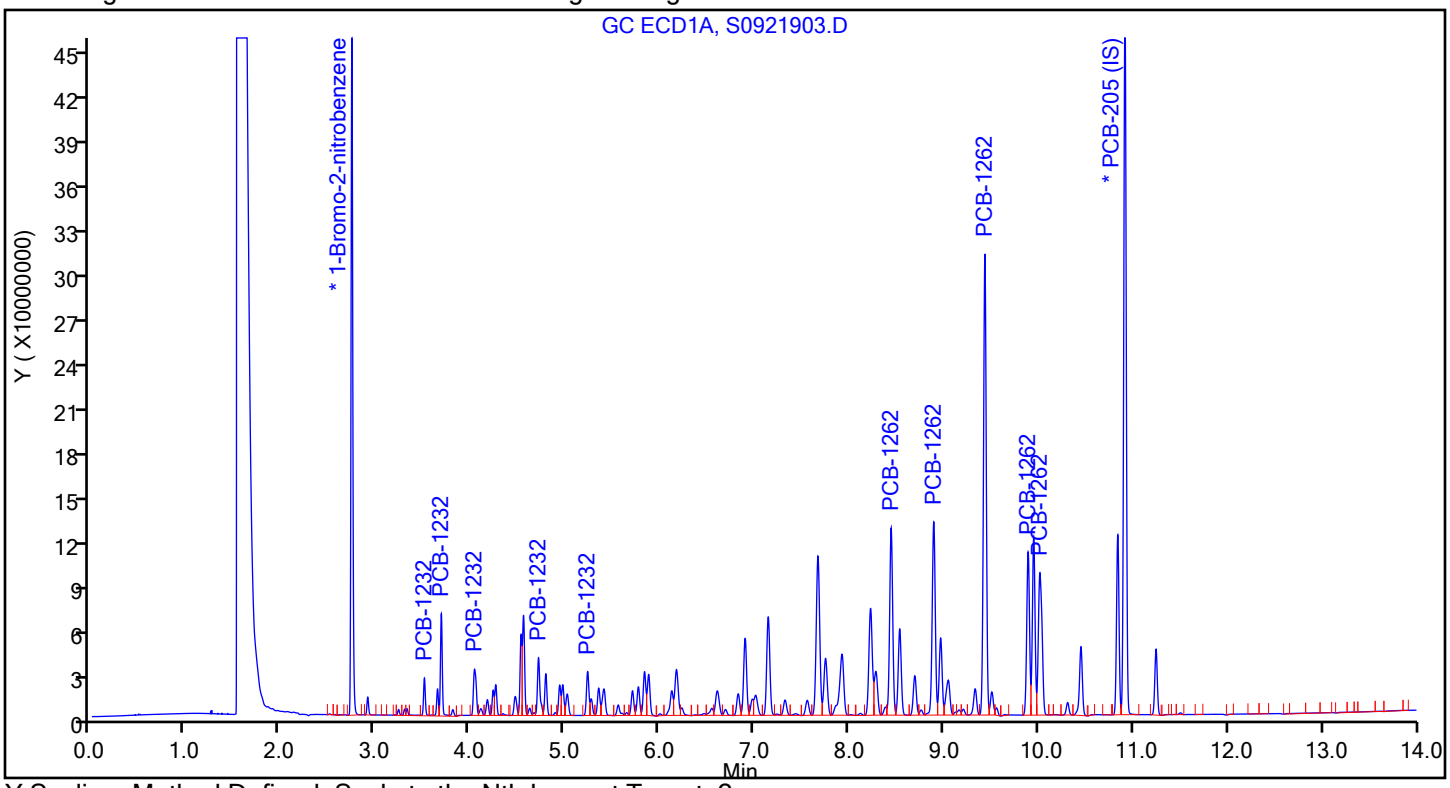

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

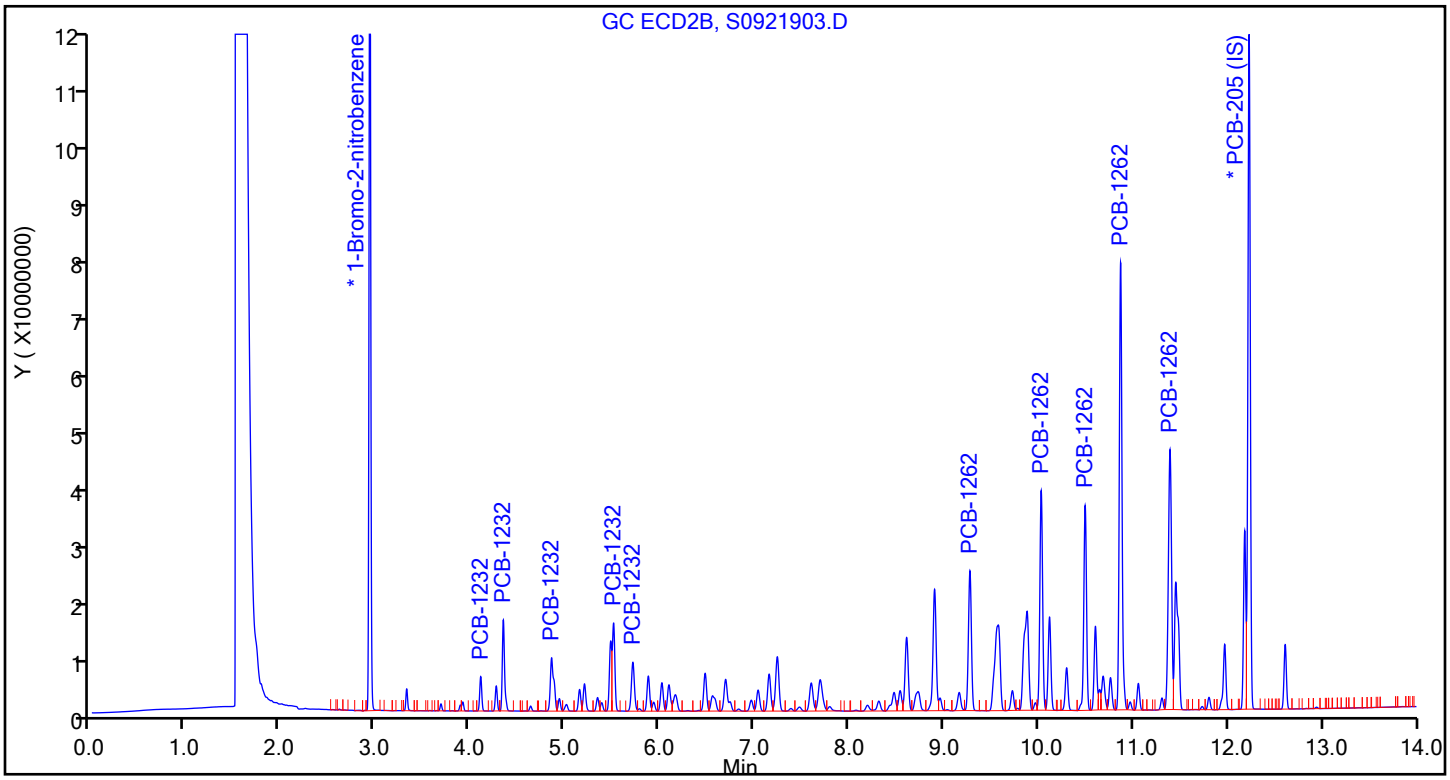

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 09:04 Calibration End Date: 09/21/2019 09:04 Calibration ID: 41590

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/3	S0921904.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1242 Peak 1	0.0199					Ave		0.0199						20.0			
PCB-1242 Peak 2	0.0436					Ave		0.0436						20.0			
PCB-1242 Peak 3	0.0204					Ave		0.0204						20.0			
PCB-1242 Peak 4	0.0200					Ave		0.0200						20.0			
PCB-1242 Peak 5	0.0189					Ave		0.0189						20.0			
PCB-1268 Peak 1	0.1284					Ave		0.1284						20.0			
PCB-1268 Peak 2	0.1110					Ave		0.1110						20.0			
PCB-1268 Peak 3	0.1113					Ave		0.1113						20.0			
PCB-1268 Peak 4	0.3438					Ave		0.3438						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 09:04 Calibration End Date: 09/21/2019 09:04 Calibration ID: 41590

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/3	S0921904.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1					LVL 1				
PCB-1242 Peak 1	BNB	Ave	44066524					0.500				
PCB-1242 Peak 2	BNB	Ave	96853081					0.500				
PCB-1242 Peak 3	BNB	Ave	45205639					0.500				
PCB-1242 Peak 4	BNB	Ave	44391748					0.500				
PCB-1242 Peak 5	BNB	Ave	41969059					0.500				
PCB-1268 Peak 1	PCB20	Ave	313131859					0.500				
PCB-1268 Peak 2	PCB20	Ave	270649982					0.500				
PCB-1268 Peak 3	PCB20	Ave	271456026					0.500				
PCB-1268 Peak 4	PCB20	Ave	838335835					0.500				

Curve Type Legend:
Ave = Average ISTD by Height

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 09:04 Calibration End Date: 09/21/2019 09:04 Calibration ID: 41590

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/3	S0921904.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #						LVL 1					
PCB-1242 Peak 1	0.0						50					
PCB-1242 Peak 2	0.0						50					
PCB-1242 Peak 3	0.0						50					
PCB-1242 Peak 4	0.0						50					
PCB-1242 Peak 5	0.0						50					
PCB-1268 Peak 1	0.0						50					
PCB-1268 Peak 2	0.0						50					
PCB-1268 Peak 3	0.0						50					
PCB-1268 Peak 4	0.0						50					

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921904.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 21-Sep-2019 09:04:59 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-003
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub23

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:51:09 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.747	2.748	-0.001	443923794H	0.1000	0.1000	
2	2.938	2.939	-0.001	149754982H	0.1000	0.1000	
5 PCB-1242							
1	4.044	4.044	0.000	44066524H	0.5000	0.5000	
1	4.562	4.562	0.000	96853081H	0.5000	0.5000	
1	5.239	5.239	0.000	45205639H	0.5000	0.5000	
1	5.839	5.839	0.000	44391748H	0.5000	0.5000	
1	5.884	5.884	0.000	41969059H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	4.349	4.349	0.000	9225656H	0.5000	0.5000	
2	4.858	4.858	0.000	12398671H	0.5000	0.5000	
2	5.717	5.717	0.000	11869382H	0.5000	0.5000	
2	6.479	6.479	0.000	10067576H	0.5000	0.5000	
2	7.694	7.694	0.000	8200767H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	
11 PCB-1268							
1	9.951	9.951	0.000	313131859H	0.5000	0.5000	
1	10.011	10.011	0.000	270649982H	0.5000	0.5000	
1	10.308	10.308	0.000	271456026H	0.5000	0.5000	
1	11.243	11.243	0.000	838335835H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	11.386	11.386	0.000	76885528H	0.5000	0.5000	
2	11.451	11.451	0.000	66013247H	0.5000	0.5000	
2	11.803	11.803	0.000	64668598H	0.5000	0.5000	
2	12.608	12.608	0.000	196983579H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 46 PCB-205 (IS)							
1	10.914	10.916	-0.001	487715820H	0.1000	0.1000	
2	12.227	12.227	-0.001	114645098H	0.1000	0.1000	

Reagents:

GCAR4268CALL4_00014 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Sep-2019 06:51:10 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921904.D

Injection Date: 21-Sep-2019 09:04:59 Instrument ID: CHGC10

Lims ID: IC

Client ID:

Operator ID: ALS Bottle#: 3 Worklist Smp#: 3

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

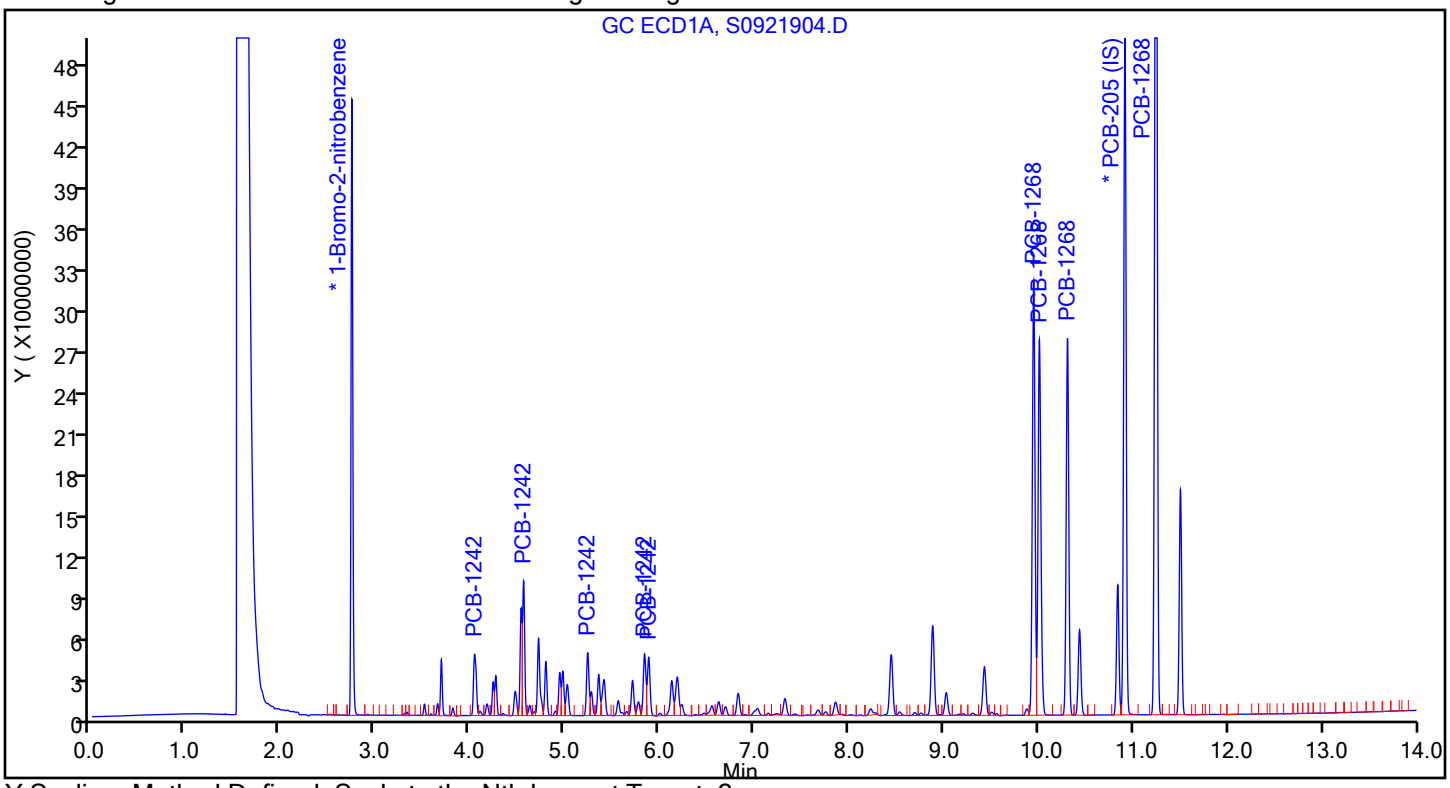

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

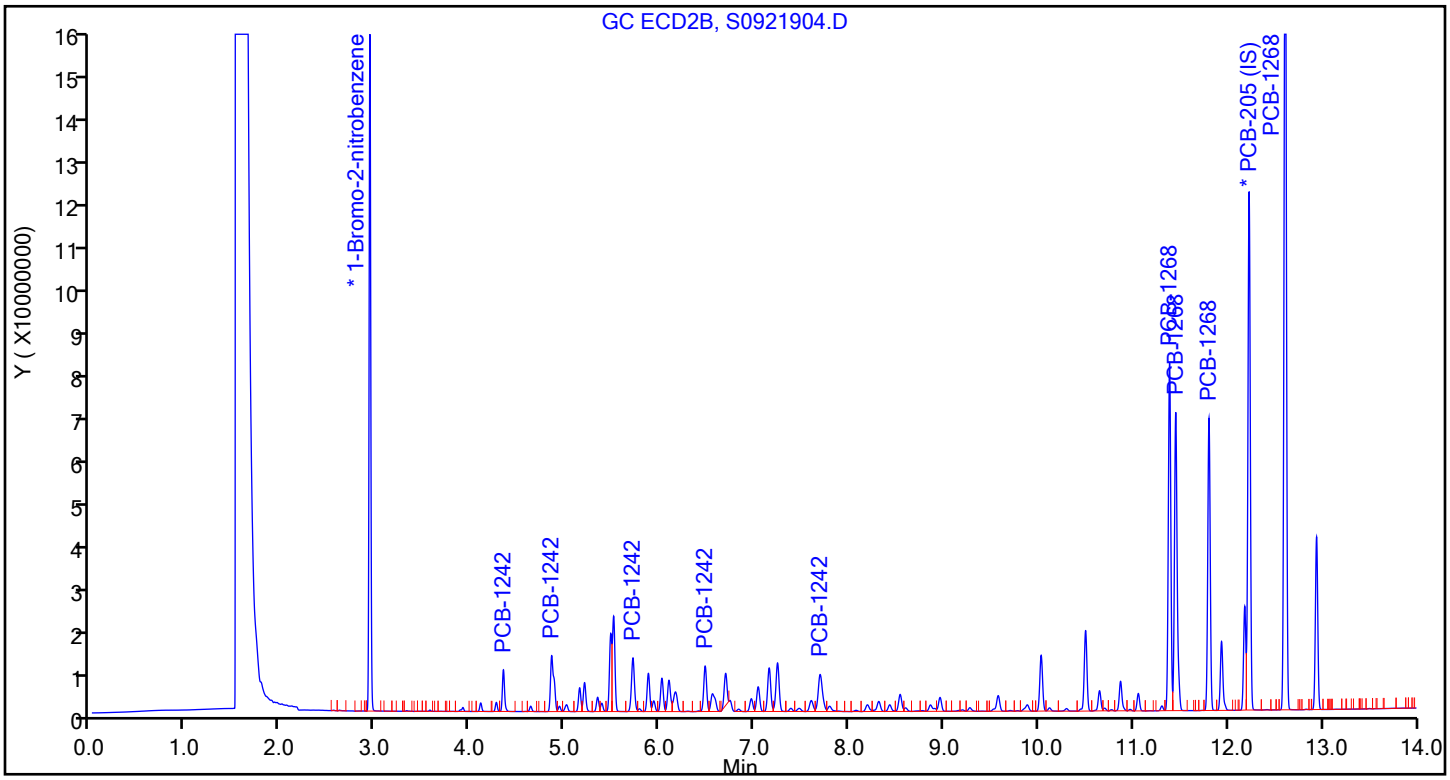

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 09:04 Calibration End Date: 09/21/2019 09:04 Calibration ID: 41591

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/3	S0921904.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1242 Peak 1	0.0123					Ave		0.0123						20.0			
PCB-1242 Peak 2	0.0166					Ave		0.0166						20.0			
PCB-1242 Peak 3	0.0159					Ave		0.0159						20.0			
PCB-1242 Peak 4	0.0134					Ave		0.0134						20.0			
PCB-1242 Peak 5	0.0110					Ave		0.0110						20.0			
PCB-1268 Peak 1	0.1341					Ave		0.1341						20.0			
PCB-1268 Peak 2	0.1152					Ave		0.1152						20.0			
PCB-1268 Peak 3	0.1128					Ave		0.1128						20.0			
PCB-1268 Peak 4	0.3436					Ave		0.3436						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 09:04 Calibration End Date: 09/21/2019 09:04 Calibration ID: 41591

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/3	S0921904.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1					LVL 1				
PCB-1242 Peak 1	BNB	Ave	9225656					0.500				
PCB-1242 Peak 2	BNB	Ave	12398671					0.500				
PCB-1242 Peak 3	BNB	Ave	11869382					0.500				
PCB-1242 Peak 4	BNB	Ave	10067576					0.500				
PCB-1242 Peak 5	BNB	Ave	8200767					0.500				
PCB-1268 Peak 1	PCB20	Ave	76885528					0.500				
PCB-1268 Peak 2	PCB20	Ave	66013247					0.500				
PCB-1268 Peak 3	PCB20	Ave	64668598					0.500				
PCB-1268 Peak 4	PCB20	Ave	196983579					0.500				

Curve Type Legend:
Ave = Average ISTD by Height

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 09:04 Calibration End Date: 09/21/2019 09:04 Calibration ID: 41591

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/3	S0921904.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #						LVL 1					
PCB-1242 Peak 1	0.0						50					
PCB-1242 Peak 2	0.0						50					
PCB-1242 Peak 3	0.0						50					
PCB-1242 Peak 4	0.0						50					
PCB-1242 Peak 5	0.0						50					
PCB-1268 Peak 1	0.0						50					
PCB-1268 Peak 2	0.0						50					
PCB-1268 Peak 3	0.0						50					
PCB-1268 Peak 4	0.0						50					

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921904.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 21-Sep-2019 09:04:59 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-003
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub23

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:51:09 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.747	2.748	-0.001	443923794H	0.1000	0.1000	
2	2.938	2.939	-0.001	149754982H	0.1000	0.1000	
5 PCB-1242							
1	4.044	4.044	0.000	44066524H	0.5000	0.5000	
1	4.562	4.562	0.000	96853081H	0.5000	0.5000	
1	5.239	5.239	0.000	45205639H	0.5000	0.5000	
1	5.839	5.839	0.000	44391748H	0.5000	0.5000	
1	5.884	5.884	0.000	41969059H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	4.349	4.349	0.000	9225656H	0.5000	0.5000	
2	4.858	4.858	0.000	12398671H	0.5000	0.5000	
2	5.717	5.717	0.000	11869382H	0.5000	0.5000	
2	6.479	6.479	0.000	10067576H	0.5000	0.5000	
2	7.694	7.694	0.000	8200767H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	
11 PCB-1268							
1	9.951	9.951	0.000	313131859H	0.5000	0.5000	
1	10.011	10.011	0.000	270649982H	0.5000	0.5000	
1	10.308	10.308	0.000	271456026H	0.5000	0.5000	
1	11.243	11.243	0.000	838335835H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	11.386	11.386	0.000	76885528H	0.5000	0.5000	
2	11.451	11.451	0.000	66013247H	0.5000	0.5000	
2	11.803	11.803	0.000	64668598H	0.5000	0.5000	
2	12.608	12.608	0.000	196983579H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 46 PCB-205 (IS)							
1	10.914	10.916	-0.001	487715820H	0.1000	0.1000	
2	12.227	12.227	-0.001	114645098H	0.1000	0.1000	

Reagents:

GCAR4268CALL4_00014 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Sep-2019 06:51:10 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921904.D

Injection Date: 21-Sep-2019 09:04:59 Instrument ID: CHGC10

Lims ID: IC

Client ID:

Operator ID: ALS Bottle#: 3 Worklist Smp#: 3

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

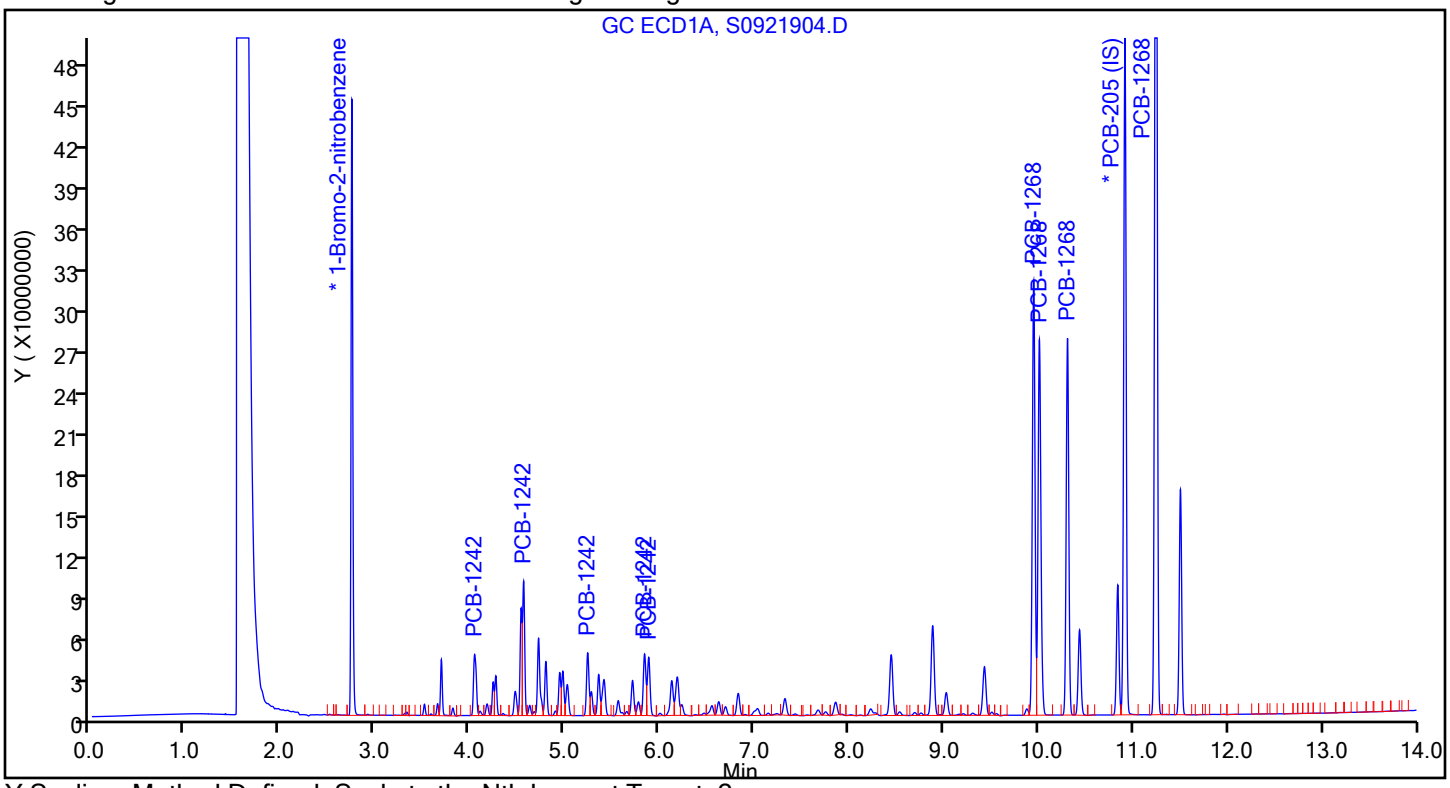

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

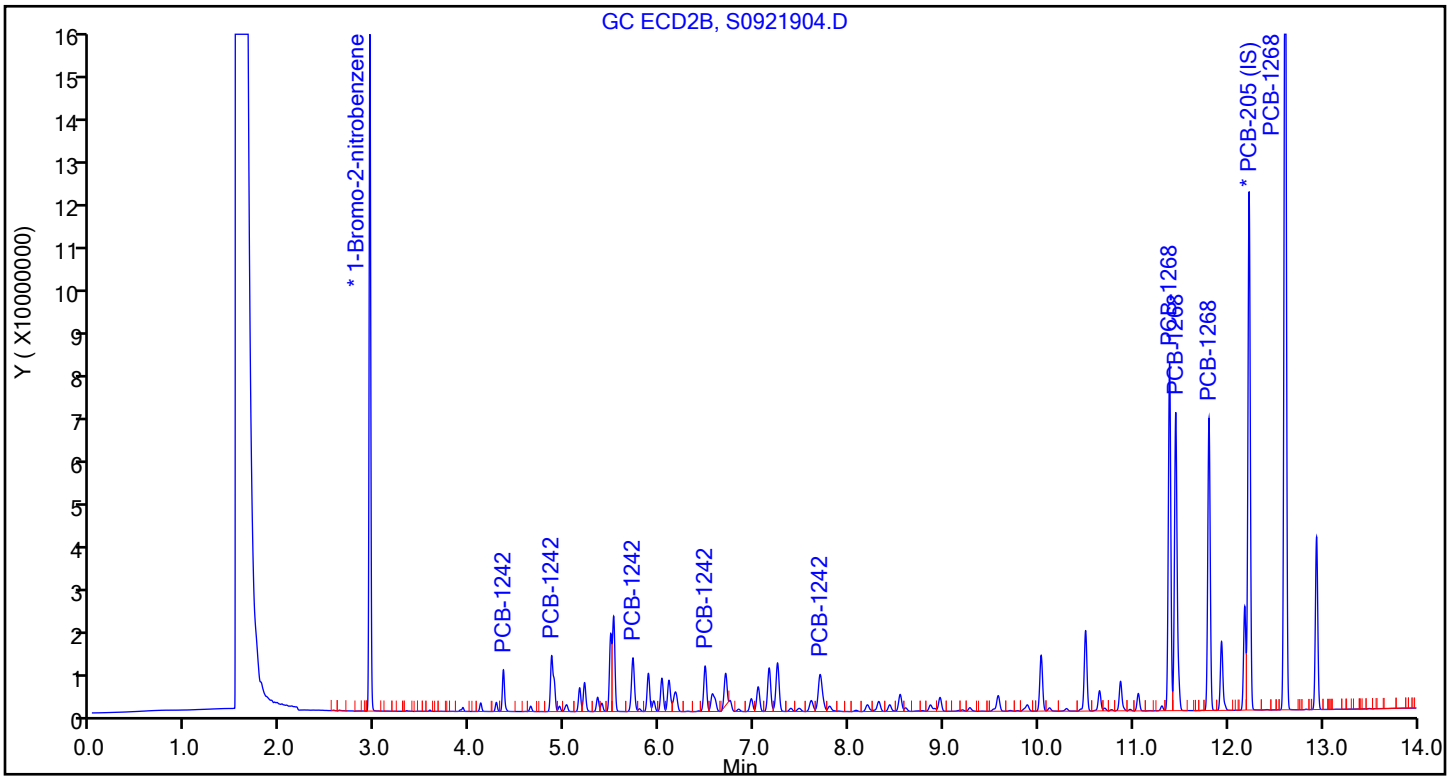

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 09:25 Calibration End Date: 09/21/2019 09:25 Calibration ID: 41596

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/4	S0921905.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1248 Peak 1	0.0107					Ave		0.0107						20.0			
PCB-1248 Peak 2	0.0199					Ave		0.0199						20.0			
PCB-1248 Peak 3	0.0262					Ave		0.0262						20.0			
PCB-1248 Peak 4	0.0289					Ave		0.0289						20.0			
PCB-1248 Peak 5	0.0137					Ave		0.0137						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 09:25 Calibration End Date: 09/21/2019 09:25 Calibration ID: 41596

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/4	S0921905.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1					LVL 1				
PCB-1248 Peak 1	BNB	Ave	31441532					0.500				
PCB-1248 Peak 2	BNB	Ave	58495226					0.500				
PCB-1248 Peak 3	BNB	Ave	76760389					0.500				
PCB-1248 Peak 4	BNB	Ave	84664042					0.500				
PCB-1248 Peak 5	BNB	Ave	40222202					0.500				

Curve Type Legend:
Ave = Average ISTD by Height

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 09:25 Calibration End Date: 09/21/2019 09:25 Calibration ID: 41596

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/4	S0921905.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #						LVL 1					
PCB-1248 Peak 1	0.0						50					
PCB-1248 Peak 2	0.0						50					
PCB-1248 Peak 3	0.0						50					
PCB-1248 Peak 4	0.0						50					
PCB-1248 Peak 5	0.0						50					

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921905.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 21-Sep-2019 09:25:16 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-004
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub24

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:51:06 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.748	2.748	0.000	586812395H	0.1000	0.1000	
2	2.937	2.939	-0.002	165807736H	0.1000	0.1000	
7 PCB-1248							
1	4.041	4.041	0.000	31441532H	0.5000	0.5000	
1	4.942	4.942	0.000	58495226H	0.5000	0.5000	
1	5.237	5.237	0.000	76760389H	0.5000	0.5000	
1	5.837	5.837	0.000	84664042H	0.5000	0.5000	
1	6.827	6.827	0.000	40222202H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	4.857	4.857	0.000	7209203H	0.5000	0.5000	
2	6.021	6.021	0.000	13303793H	0.5000	0.5000	
2	6.695	6.695	0.000	13778515H	0.5000	0.5000	
2	7.242	7.242	0.000	18899551H	0.5000	0.5000	
2	7.693	7.693	0.000	13653229H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
					RPD =	0.00	
* 46 PCB-205 (IS)							
1	10.913	10.916	-0.002	483736962H	0.1000	0.1000	
2	12.225	12.227	-0.002	114239376H	0.1000	0.1000	

Reagents:

GCAR1248CALL4_00022 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Sep-2019 06:51:06 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921905.D

Injection Date: 21-Sep-2019 09:25:16 Instrument ID: CHGC10

Lims ID: IC

Client ID:

Operator ID: ALS Bottle#: 4 Worklist Smp#: 4

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

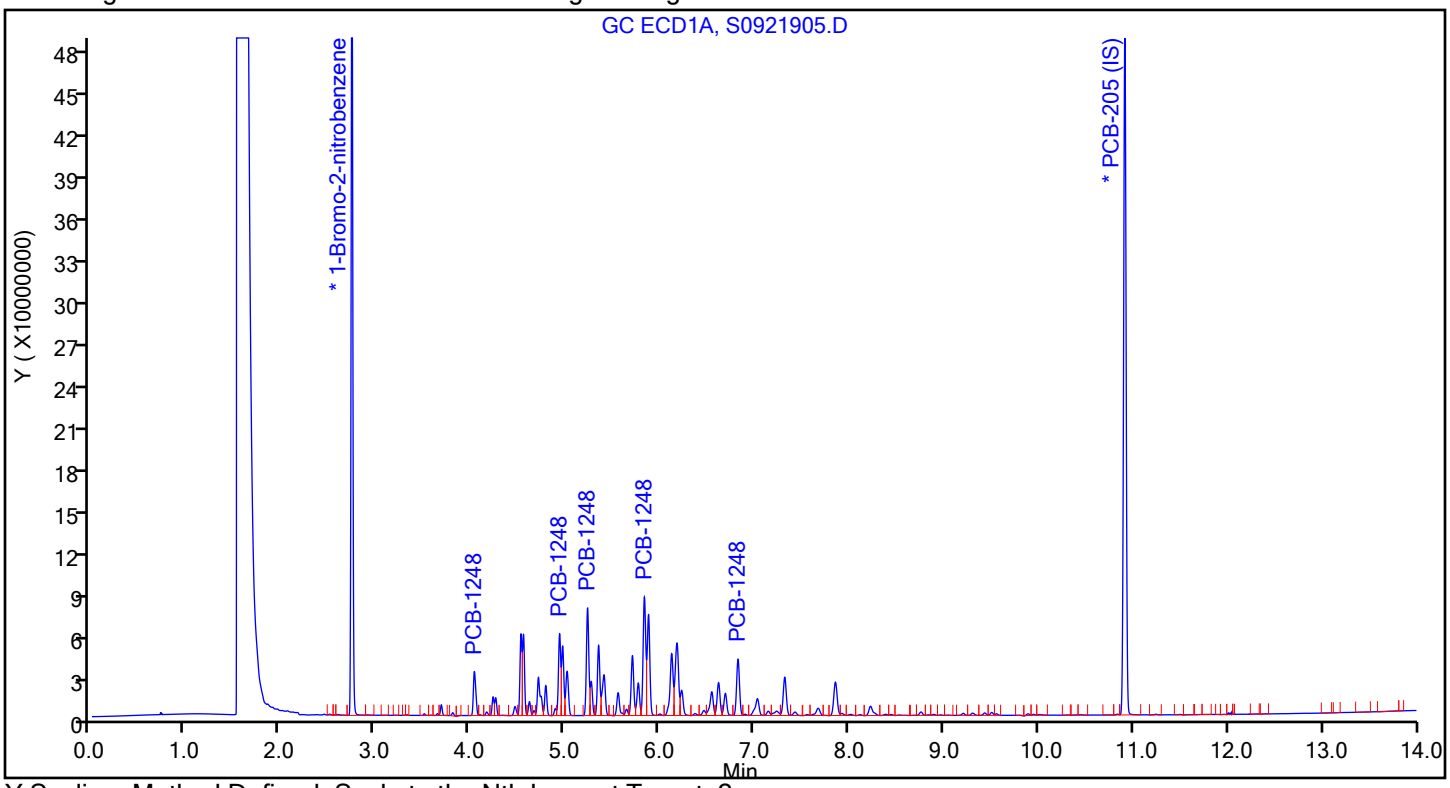

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

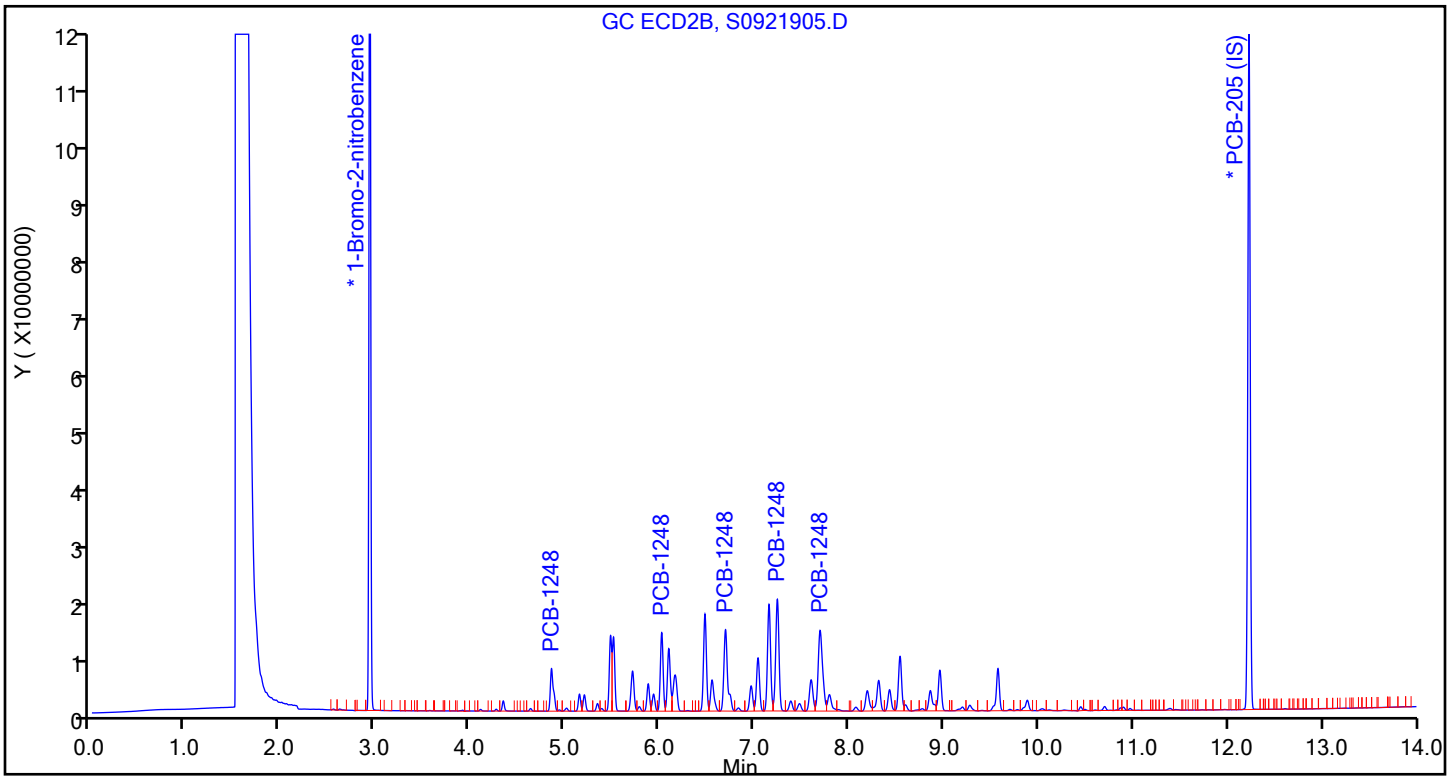

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 09:25 Calibration End Date: 09/21/2019 09:25 Calibration ID: 41597

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/4	S0921905.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1248 Peak 1	0.0087					Ave		0.0087						20.0			
PCB-1248 Peak 2	0.0160					Ave		0.0160						20.0			
PCB-1248 Peak 3	0.0166					Ave		0.0166						20.0			
PCB-1248 Peak 4	0.0228					Ave		0.0228						20.0			
PCB-1248 Peak 5	0.0165					Ave		0.0165						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 09:25 Calibration End Date: 09/21/2019 09:25 Calibration ID: 41597

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/4	S0921905.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1					LVL 1				
PCB-1248 Peak 1	BNB	Ave	7209203					0.500				
PCB-1248 Peak 2	BNB	Ave	13303793					0.500				
PCB-1248 Peak 3	BNB	Ave	13778515					0.500				
PCB-1248 Peak 4	BNB	Ave	18899551					0.500				
PCB-1248 Peak 5	BNB	Ave	13653229					0.500				

Curve Type Legend:
Ave = Average ISTD by Height

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 09:25 Calibration End Date: 09/21/2019 09:25 Calibration ID: 41597

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/4	S0921905.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #						LVL 1					
PCB-1248 Peak 1	0.0						50					
PCB-1248 Peak 2	0.0						50					
PCB-1248 Peak 3	0.0						50					
PCB-1248 Peak 4	0.0						50					
PCB-1248 Peak 5	0.0						50					

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921905.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 21-Sep-2019 09:25:16 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-004
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub24

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:51:06 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.748	2.748	0.000	586812395H	0.1000	0.1000	
2	2.937	2.939	-0.002	165807736H	0.1000	0.1000	
7 PCB-1248							
1	4.041	4.041	0.000	31441532H	0.5000	0.5000	
1	4.942	4.942	0.000	58495226H	0.5000	0.5000	
1	5.237	5.237	0.000	76760389H	0.5000	0.5000	
1	5.837	5.837	0.000	84664042H	0.5000	0.5000	
1	6.827	6.827	0.000	40222202H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	4.857	4.857	0.000	7209203H	0.5000	0.5000	
2	6.021	6.021	0.000	13303793H	0.5000	0.5000	
2	6.695	6.695	0.000	13778515H	0.5000	0.5000	
2	7.242	7.242	0.000	18899551H	0.5000	0.5000	
2	7.693	7.693	0.000	13653229H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
					RPD =	0.00	
* 46 PCB-205 (IS)							
1	10.913	10.916	-0.002	483736962H	0.1000	0.1000	
2	12.225	12.227	-0.002	114239376H	0.1000	0.1000	

Reagents:

GCAR1248CALL4_00022 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Sep-2019 06:51:06 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921905.D

Injection Date: 21-Sep-2019 09:25:16 Instrument ID: CHGC10

Lims ID: IC

Client ID:

Operator ID: ALS Bottle#: 4 Worklist Smp#: 4

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

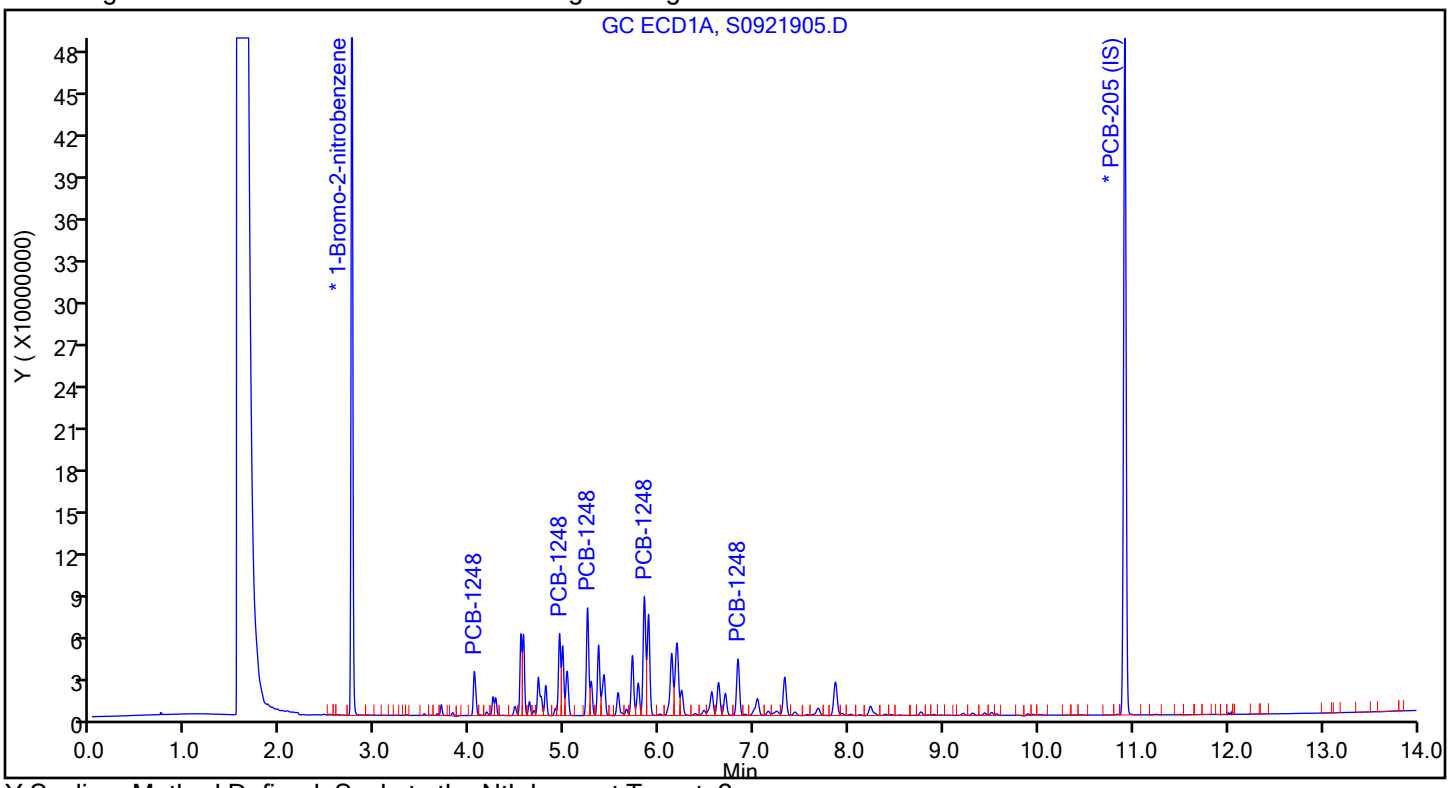

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

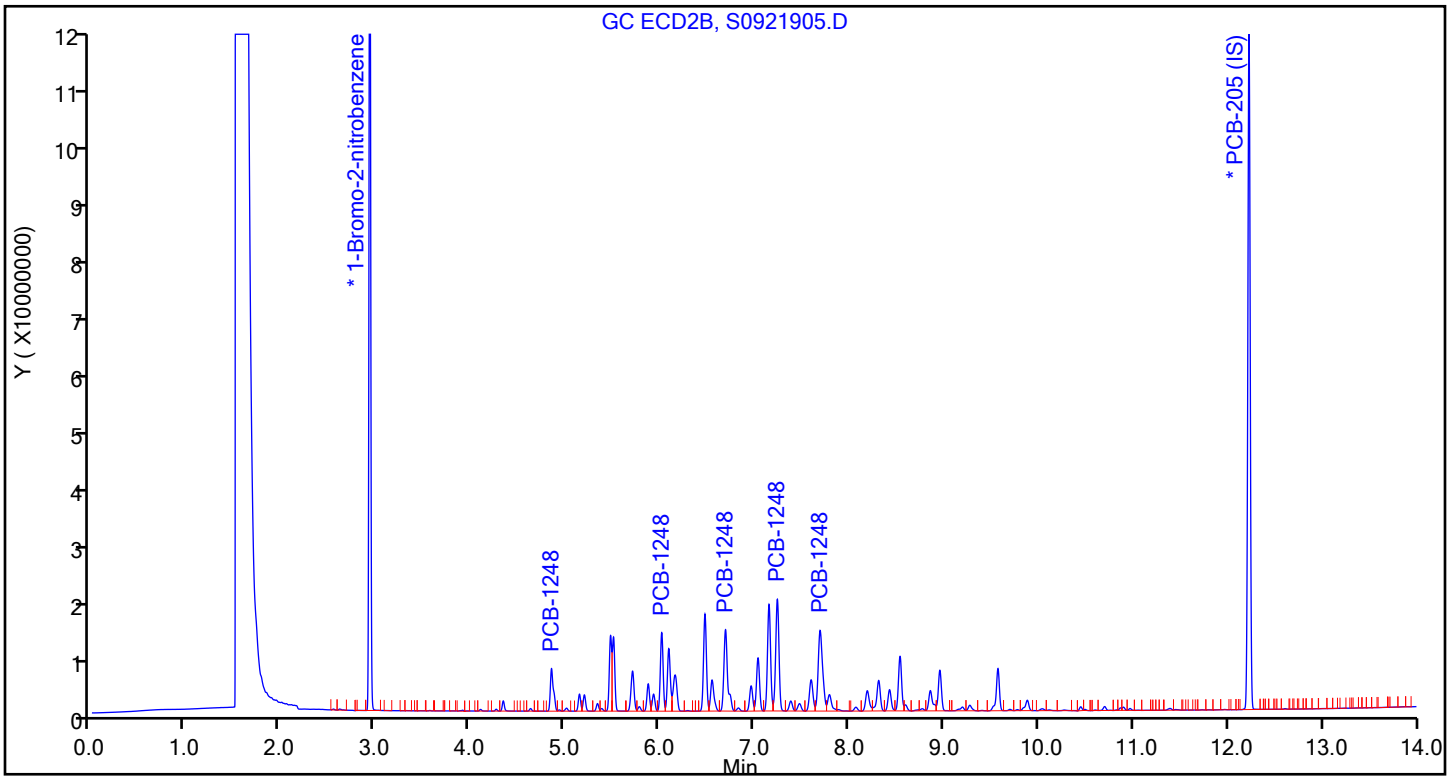

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 09:45 Calibration End Date: 09/21/2019 11:44 Calibration ID: 41572

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/5	S0921906.D
Level 2	IC 180-292146/6	S0921907.D
Level 3	IC 180-292146/7	S0921908.D
Level 4	ICIS 180-292146/8	S0921909.D
Level 5	IC 180-292146/9	S0921910.D
Level 6	IC 180-292146/10	S0921911.D
Level 7	IC 180-292146/11	S0921912.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
PCB-1016 Peak 1	0.0210 0.0138	0.0173 0.0154	0.0160	0.0168	0.0142	Ave		0.0163				14.7		20.0			
PCB-1016 Peak 2	0.0458 0.0337	0.0388 0.0371	0.0353	0.0396	0.0347	Ave		0.0379				10.8		20.0			
PCB-1016 Peak 3	0.0279 0.0183	0.0229 0.0200	0.0199	0.0225	0.0194	Ave		0.0215				15.1		20.0			
PCB-1016 Peak 4	0.0220 0.0156	0.0190 0.0171	0.0169	0.0181	0.0163	Ave		0.0179				12.0		20.0			
PCB-1016 Peak 5	0.0148 0.0100	0.0131 0.0111	0.0110	0.0120	0.0106	Ave		0.0118				14.3		20.0			
PCB-1260 Peak 1	0.0531 0.0426	0.0425 0.0413	0.0397	0.0430	0.0382	Ave		0.0429				11.2		20.0			
PCB-1260 Peak 2	0.0487 0.0382	0.0384 0.0387	0.0362	0.0395	0.0355	Ave		0.0393				11.1		20.0			
PCB-1260 Peak 3	0.0339 0.0273	0.0281 0.0275	0.0255	0.0278	0.0252	Ave		0.0279				10.3		20.0			
PCB-1260 Peak 4	0.0800 0.0735	0.0677 0.0750	0.0663	0.0703	0.0644	Ave		0.0710				7.7		20.0			
PCB-1260 Peak 5	0.0517 0.0391	0.0380 0.0393	0.0358	0.0379	0.0350	Ave		0.0395				14.2		20.0			
Tetrachloro-m-xylene (Surr)	1.3583 1.1170	1.0635 1.3071	1.1288	1.2341	1.0903	Ave		1.1856				9.7		20.0			
DCB Decachlorobiphenyl (Surr)	0.9577 0.7526	0.7370 0.7723	0.7117	0.7046	0.6606	Ave		0.7566				12.7		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 09:45 Calibration End Date: 09/21/2019 11:44 Calibration ID: 41572

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/5	S0921906.D
Level 2	IC 180-292146/6	S0921907.D
Level 3	IC 180-292146/7	S0921908.D
Level 4	ICIS 180-292146/8	S0921909.D
Level 5	IC 180-292146/9	S0921910.D
Level 6	IC 180-292146/10	S0921911.D
Level 7	IC 180-292146/11	S0921912.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
PCB-1016 Peak 1	BNB	Ave	1215117 146478286	7757348 297683567	19465012	43011355	68984311	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1016 Peak 2	BNB	Ave	2650183 357879738	17422255 718318050	42870814	101479442	169029996	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1016 Peak 3	BNB	Ave	1616774 194331631	10274819 387398138	24095778	57484278	94293443	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1016 Peak 4	BNB	Ave	1274564 165919737	8531720 331923571	20495624	46231346	79194729	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1016 Peak 5	BNB	Ave	859011 105686964	5904816 215491843	13300023	30588902	51382965	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1260 Peak 1	PCB2 05	Ave	2713959 373471781	20258773 748697841	45464608	103793343	184837813	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1260 Peak 2	PCB2 05	Ave	2489131 335362989	18330543 701106011	41516910	95246941	171393567	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1260 Peak 3	PCB2 05	Ave	1733597 239780330	13389901 497713780	29204098	67078533	121602077	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1260 Peak 4	PCB2 05	Ave	4092261 645052703	32278171 1358258724	75955835	169586422	311148205	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1260 Peak 5	PCB2 05	Ave	2646642 343286798	18120979 712230375	40995963	91397085	168964818	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
Tetrachloro-m-xylene (Surr)	BNB	Ave	3933517 593197064	23879978 1265766620	68462844	157929430	265426609	0.000500 0.100	0.00500 0.200	0.0125	0.0250	0.0500
DCB Decachlorobiphenyl (Surr)	PCB2 05	Ave	2449552 330247569	17574289 699680251	40763898	84996667	159625471	0.000500 0.100	0.00500 0.200	0.0125	0.0250	0.0500

Curve Type Legend:

Ave = Average ISTD by Height

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 09:45 Calibration End Date: 09/21/2019 11:44 Calibration ID: 41572

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/5	S0921906.D
Level 2	IC 180-292146/6	S0921907.D
Level 3	IC 180-292146/7	S0921908.D
Level 4	ICIS 180-292146/8	S0921909.D
Level 5	IC 180-292146/9	S0921910.D
Level 6	IC 180-292146/10	S0921911.D
Level 7	IC 180-292146/11	S0921912.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
PCB-1016 Peak 1	28.3 -6.0	5.7	-1.8	2.8	-13.3	-15.6	50 30	30	30	30	30	30
PCB-1016 Peak 2	20.9 -2.0	2.5	-6.7	4.7	-8.3	-11.0	50 30	30	30	30	30	30
PCB-1016 Peak 3	29.6 -7.1	6.2	-7.8	4.3	-10.1	-15.1	50 30	30	30	30	30	30
PCB-1016 Peak 4	23.2 -4.0	6.4	-5.4	1.2	-8.9	-12.5	50 30	30	30	30	30	30
PCB-1016 Peak 5	25.8 -5.6	11.5	-7.0	1.4	-10.5	-15.6	50 30	30	30	30	30	30
PCB-1260 Peak 1	23.6 -3.7	-1.0	-7.5	0.3	-10.9	-0.8	50 30	30	30	30	30	30
PCB-1260 Peak 2	23.8 -1.6	-2.2	-7.8	0.4	-9.8	-2.8	50 30	30	30	30	30	30
PCB-1260 Peak 3	21.5 -1.5	0.7	-8.6	-0.3	-9.8	-2.0	50 30	30	30	30	30	30
PCB-1260 Peak 4	12.6 5.5	-4.7	-6.6	-1.0	-9.3	3.5	50 30	30	30	30	30	30
PCB-1260 Peak 5	30.8 -0.6	-3.9	-9.5	-4.2	-11.6	-1.1	50 30	30	30	30	30	30
Tetrachloro-m-xylene (Surr)	14.6 10.2	-10.3	-4.8	4.1	-8.0	-5.8	50 30	30	30	30	30	30
DCB Decachlorobiphenyl (Surr)	26.6 2.1	-2.6	-5.9	-6.9	-12.7	-0.5	50 30	30	30	30	30	30

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921906.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 21-Sep-2019 09:45:33 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-005
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:50:57 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

First Level Reviewer: oravecj Date: 23-Sep-2019 06:41:32

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.749	2.748	0.001	579186423H	0.1000	0.1000	
2	2.939	2.939	0.000	167887646H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.371	3.370	0.001	3933517H	0.000500	0.000573	
2	3.808	3.807	0.001	882478H	0.000500	0.000565	
						RPD = 1.43	
6 PCB-1016							M
1	3.694	3.693	0.001	1215117H	0.0100	0.0128	M
1	4.563	4.562	0.001	2650183H	0.0100	0.0121	
1	4.720	4.720	0.000	1616774H	0.0100	0.0130	
1	5.239	5.239	0.000	1274564H	0.0100	0.0123	
1	5.777	5.775	0.002	859011H	0.0100	0.0126	M
		Average of Peak Amounts =				0.0126	
2	4.350	4.349	0.001	301900H	0.0100	0.0140	M
2	5.514	5.514	0.000	553018H	0.0100	0.0117	M
2	5.716	5.717	-0.001	337551H	0.0100	0.0125	M
2	6.481	6.482	-0.001	280459H	0.0100	0.0125	
2	6.698	6.698	0.000	233976H	0.0100	0.0125	
		Average of Peak Amounts =				0.0126	
						RPD = 0.61	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							M
1	7.671	7.672	-0.001	2713959H	0.0100	0.0124	
1	8.228	8.229	-0.001	2489131H	0.0100	0.0124	
1	8.896	8.897	-0.001	1733597H	0.0100	0.0122	
1	9.436	9.435	0.001	4092261H	0.0100	0.0113	
1	9.893	9.894	-0.001	2646642H	0.0100	0.0131	
		Average of Peak Amounts =				0.0122	
2	8.905	8.905	0.000	497463H	0.0100	0.0129	
2	9.278	9.277	0.001	591928H	0.0100	0.0122	
2	9.883	9.885	-0.002	570204H	0.0100	0.0122	
2	10.869	10.870	-0.001	1077919H	0.0100	0.0121	M
2	11.397	11.397	0.000	626880H	0.0100	0.0124	
		Average of Peak Amounts =				0.0124	
						RPD = 0.96	
* 46 PCB-205 (IS)							
1	10.916	10.916	0.000	511545763H	0.1000	0.1000	
2	12.226	12.227	-0.002	118520037H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.501	11.502	-0.001	2449552H	0.000500	0.000633	
2	12.938	12.940	-0.002	578308H	0.000500	0.000647	
						RPD = 2.16	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCAR1660CALL1_00025 Amount Added: 1.00 Units: mL

PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Sep-2019 06:50:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921906.D

Injection Date: 21-Sep-2019 09:45:33 Instrument ID: CHGC10

Lims ID: IC

Client ID:

Operator ID: ALS Bottle#: 5 Worklist Smp#: 5

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

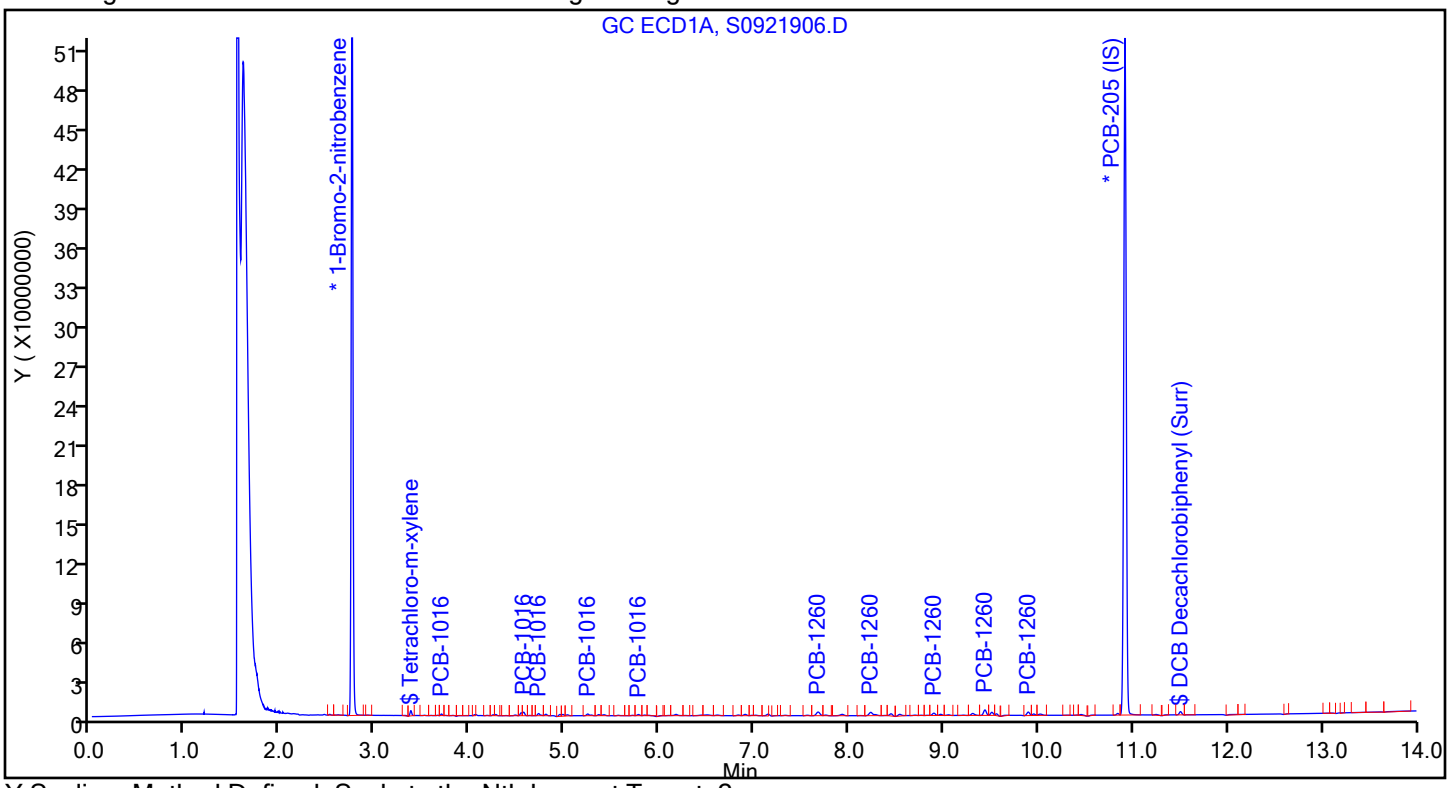

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

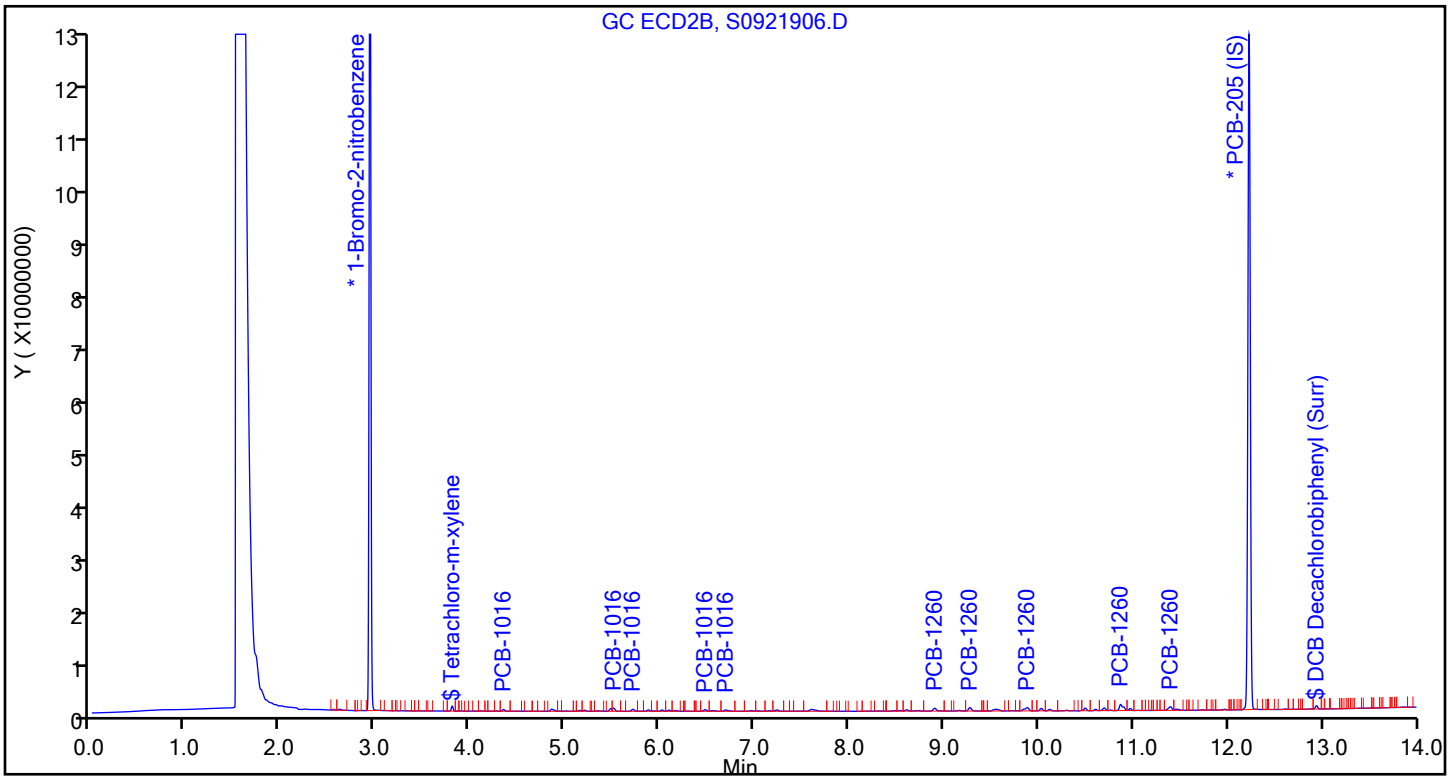

Report Date: 23-Sep-2019 06:50:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921906.D				
Injection Date:	21-Sep-2019 09:45:33	Instrument ID:	CHGC10		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		
Column:		Detector	GC ECD1A		

6 PCB-1016, CAS: 12674-11-2

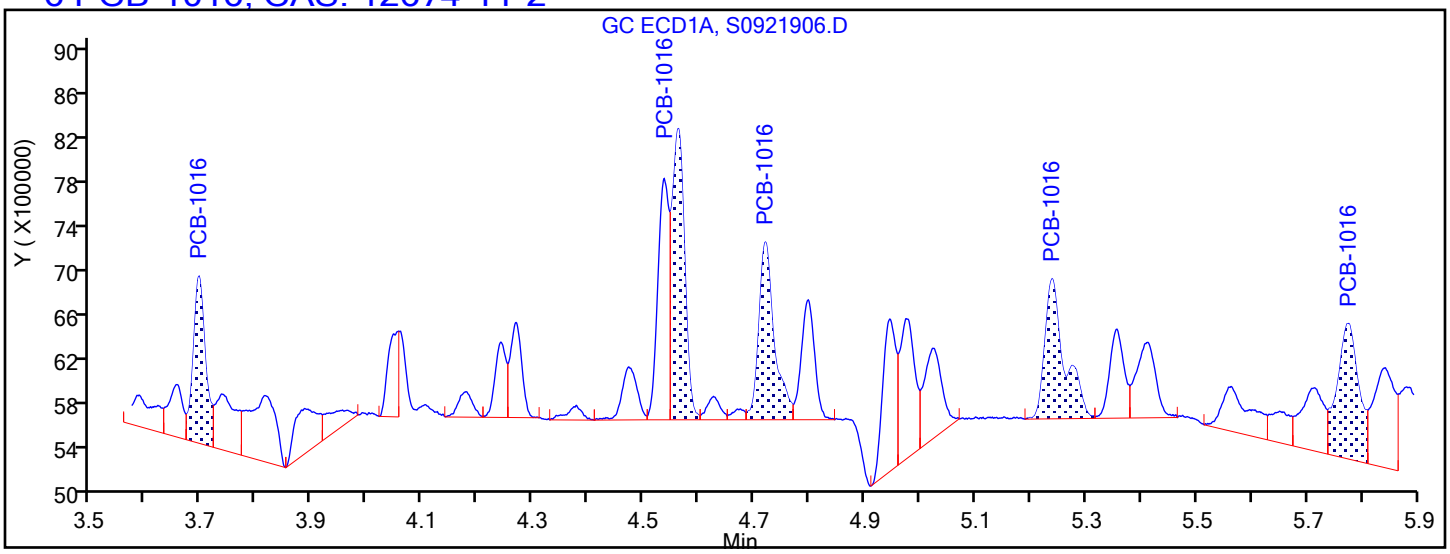

Processing Integration Results

3.694	Response = 1520749
4.563	Response = 2650183
4.720	Response = 1616774
5.239	Response = 1274564
5.777	Response = 1233400

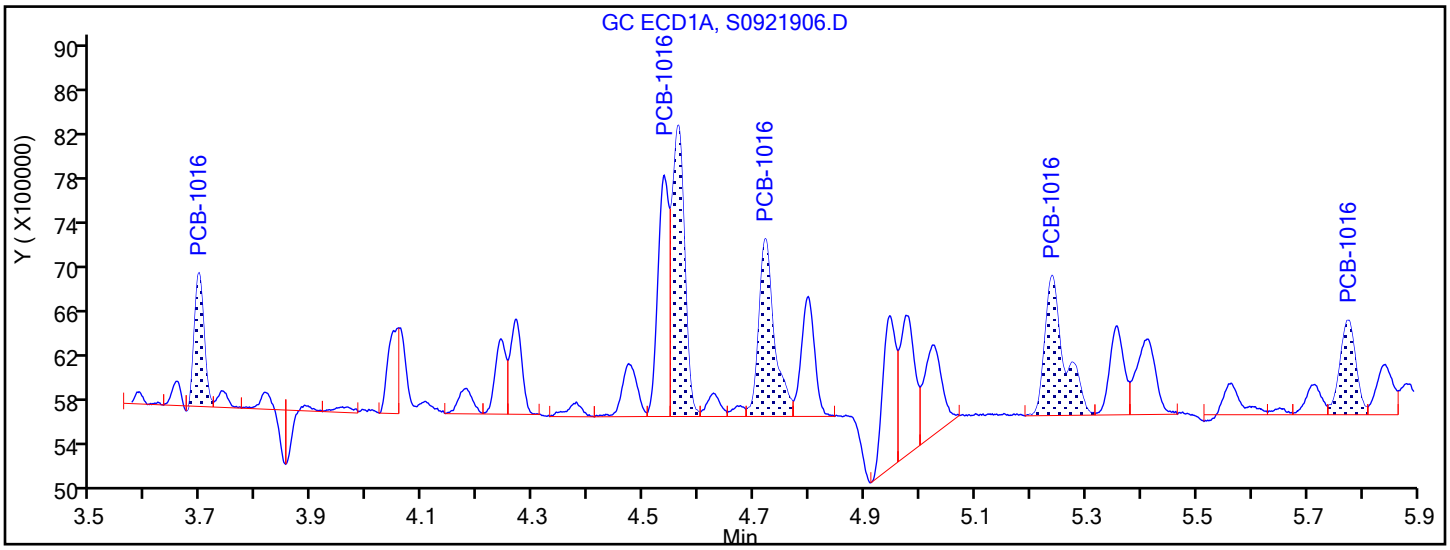

Manual Integration Results

3.694	Response = 1215117	M
4.563	Response = 2650183	
4.720	Response = 1616774	
5.239	Response = 1274564	
5.777	Response = 859011	M

Reviewer: oravecj, 23-Sep-2019 06:40:54

Audit Action: Assigned New Baseline Audit Reason: Instrument noise

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921907.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 21-Sep-2019 10:02:42 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-006
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:50:53 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

First Level Reviewer: oravecj Date: 23-Sep-2019 06:42:25

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.742	2.748	-0.006	449092696H	0.1000	0.1000	
2	2.938	2.939	-0.001	139376234H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.362	3.370	-0.008	23879978H	0.005000	0.004485	
2	3.806	3.807	-0.001	5879261H	0.005000	0.004532	
						RPD = 1.03	
6 PCB-1016							M
1	3.685	3.693	-0.008	7757348H	0.1000	0.1057	M
1	4.552	4.562	-0.010	17422255H	0.1000	0.1025	
1	4.710	4.720	-0.010	10274819H	0.1000	0.1062	
1	5.228	5.239	-0.011	8531720H	0.1000	0.1064	
1	5.764	5.775	-0.011	5904816H	0.1000	0.1115	
		Average of Peak Amounts =				0.1065	
2	4.348	4.349	-0.001	1798270H	0.1000	0.1003	
2	5.511	5.514	-0.003	3827127H	0.1000	0.0972	
2	5.715	5.717	-0.002	2248966H	0.1000	0.1001	
2	6.480	6.482	-0.002	1889754H	0.1000	0.1017	
2	6.696	6.698	-0.002	1582660H	0.1000	0.1020	
		Average of Peak Amounts =				0.1003	
						RPD = 5.98	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	7.660	7.672	-0.012	20258773H	0.1000	0.0990	
1	8.215	8.229	-0.014	18330543H	0.1000	0.0978	
1	8.885	8.897	-0.012	13389901H	0.1000	0.1007	
1	9.425	9.435	-0.010	32278171H	0.1000	0.0953	
1	9.884	9.894	-0.010	18120979H	0.1000	0.0961	
		Average of Peak Amounts =				0.0978	
2	8.903	8.905	-0.002	3637378H	0.1000	0.1041	
2	9.275	9.277	-0.002	4635055H	0.1000	0.1056	
2	9.882	9.885	-0.003	4365390H	0.1000	0.1029	
2	10.868	10.870	-0.002	8314936H	0.1000	0.1028	
2	11.396	11.397	-0.001	4741016H	0.1000	0.1031	
		Average of Peak Amounts =				0.1037	
						RPD = 5.90	
* 46 PCB-205 (IS)							
1	10.909	10.916	-0.007	476926570H	0.1000	0.1000	
2	12.225	12.227	-0.002	107577341H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.496	11.502	-0.006	17574289H	0.005000	0.004870	
2	12.938	12.940	-0.002	4231696H	0.005000	0.005214	
						RPD = 6.81	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCAR1660CALL2_00019 Amount Added: 1.00 Units: mL

PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Sep-2019 06:50:54 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921907.D				
Injection Date:	21-Sep-2019 10:02:42	Instrument ID:	CHGC10		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

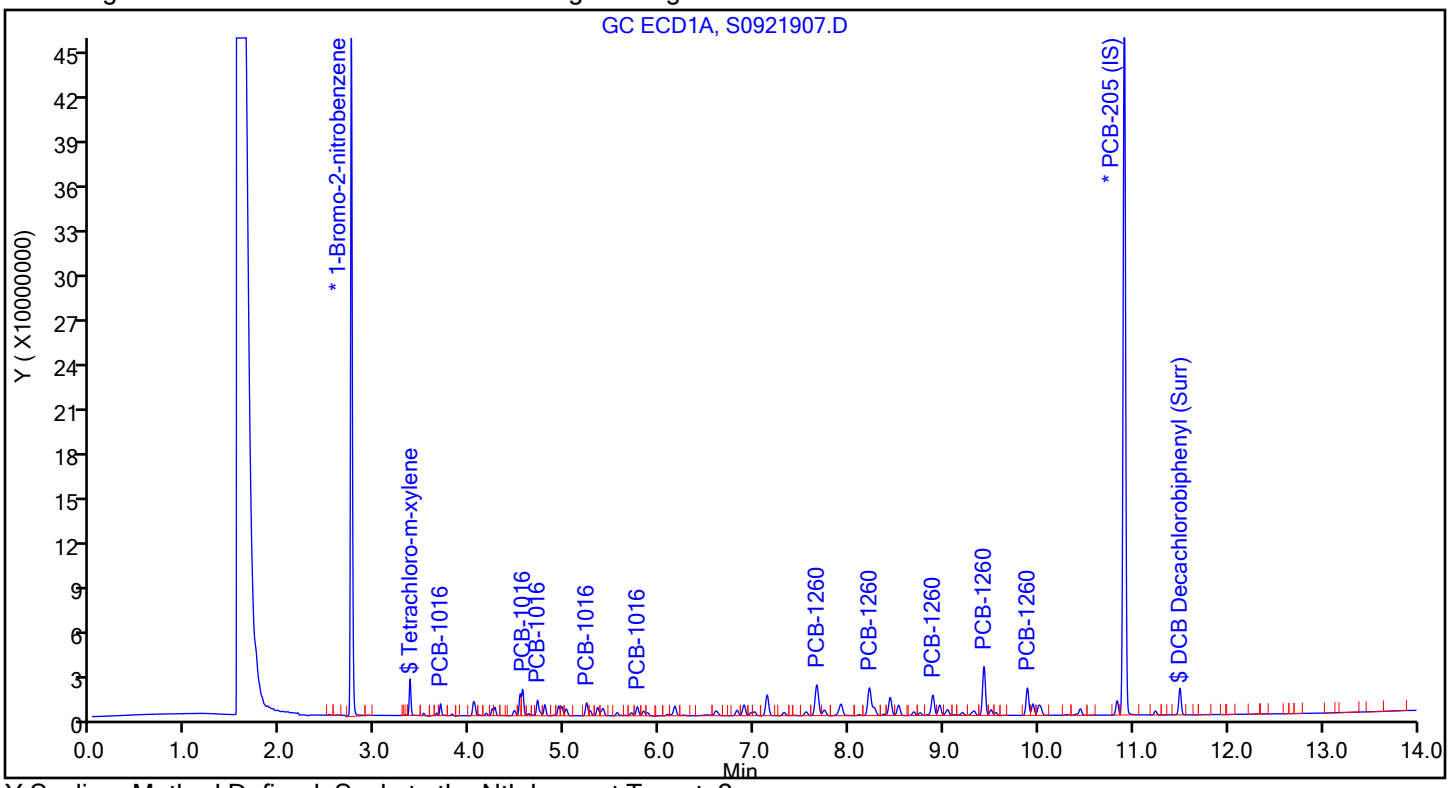

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

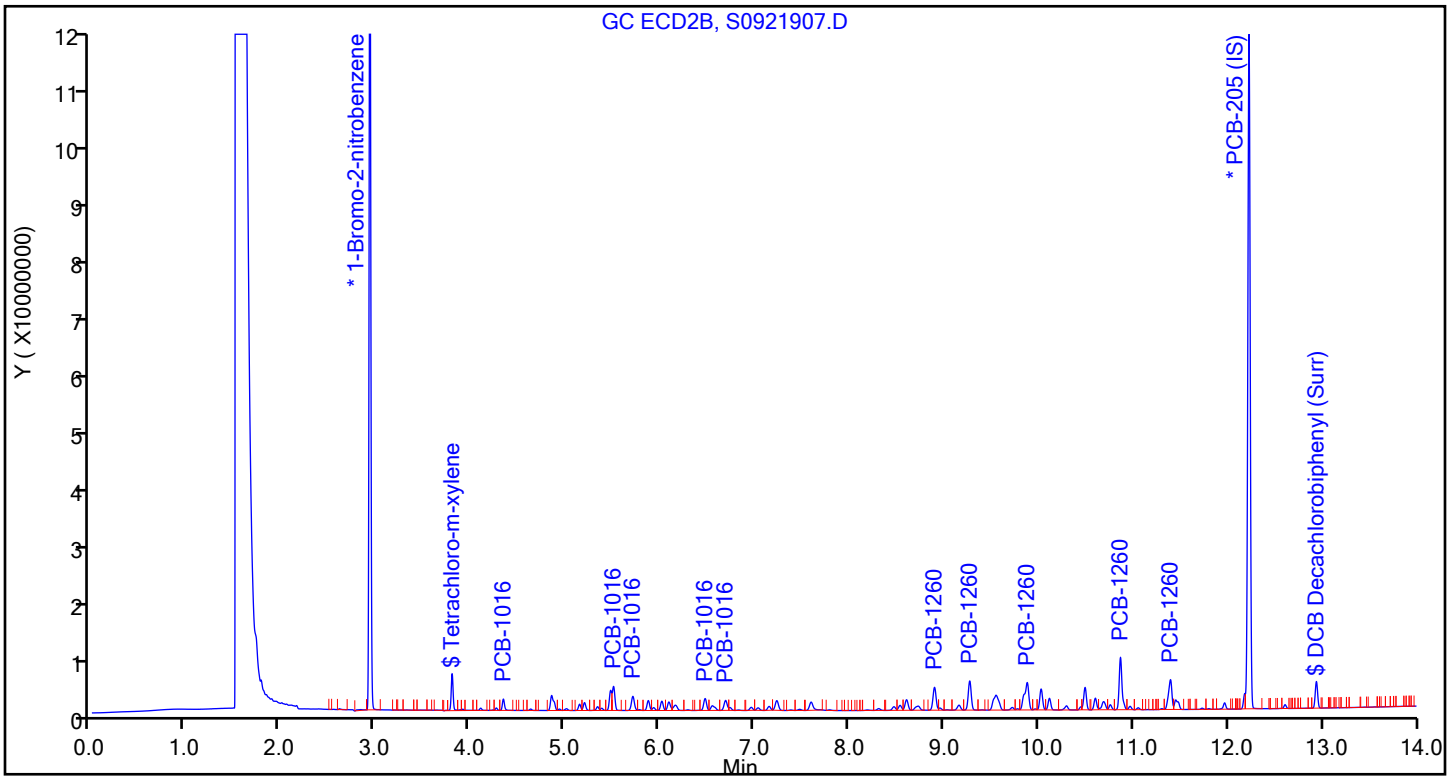

Report Date: 23-Sep-2019 06:50:54 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921907.D				
Injection Date:	21-Sep-2019 10:02:42	Instrument ID:	CHGC10		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		
Column:		Detector	GC ECD1A		

6 PCB-1016, CAS: 12674-11-2

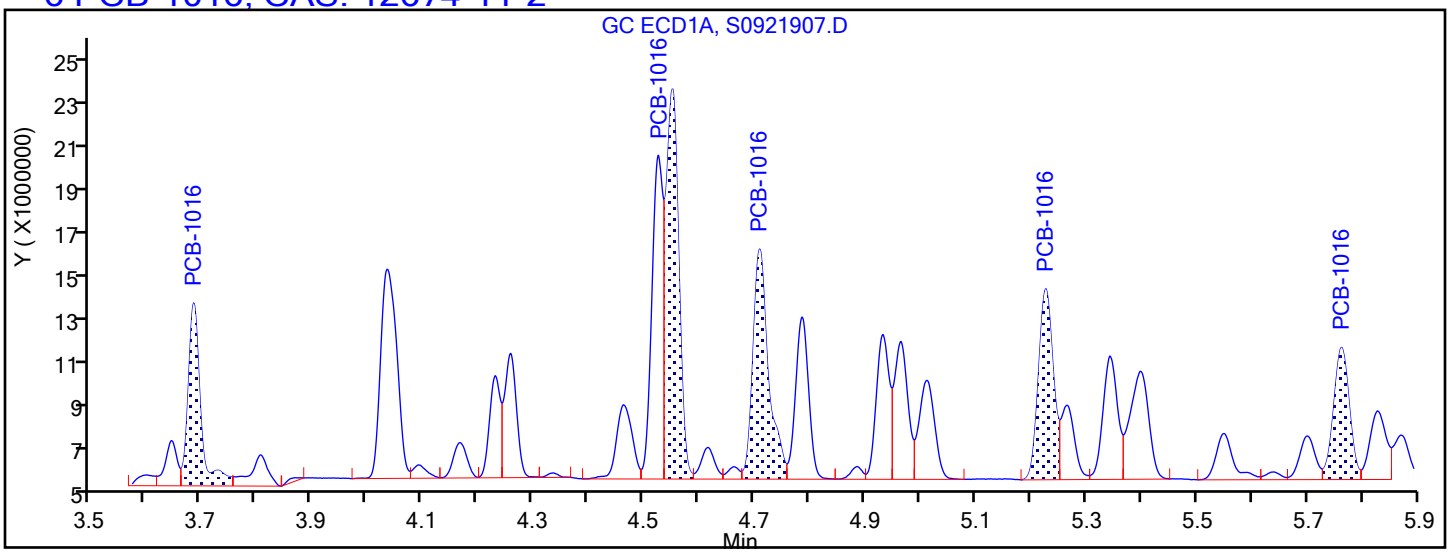

Processing Integration Results

3.685	Response = 8160873
4.552	Response = 17422255
4.710	Response = 10274819
5.228	Response = 8531720
5.764	Response = 5904816

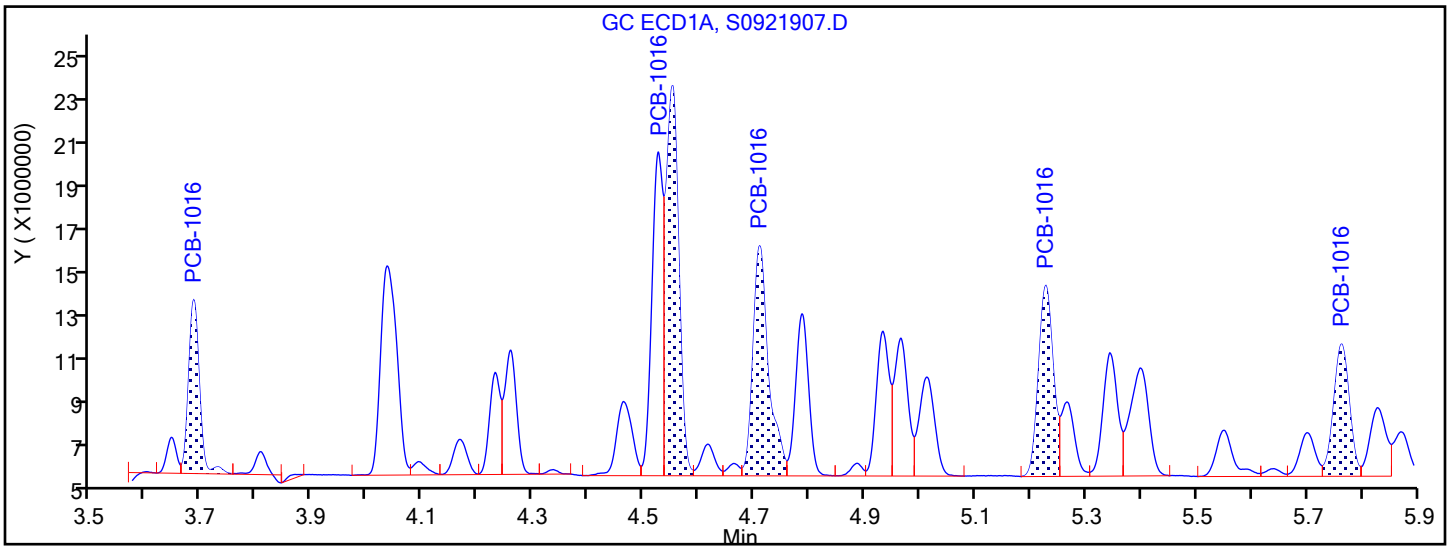

Manual Integration Results

3.685	Response = 7757348	M
4.552	Response = 17422255	
4.710	Response = 10274819	
5.228	Response = 8531720	
5.764	Response = 5904816	

Reviewer: oravecj, 23-Sep-2019 06:41:50

Audit Action: Assigned New Baseline Audit Reason: Instrument noise

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921908.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 21-Sep-2019 10:23:00 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-007
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:50:50 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.748	2.748	-0.001	485226757H	0.1000	0.1000	
2	2.938	2.939	-0.001	150776360H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.369	3.370	-0.001	68462844H	0.0125	0.0119	
2	3.807	3.807	0.000	17364877H	0.0125	0.0124	
						RPD = 3.88	
6 PCB-1016							
1	3.693	3.693	0.000	19465012H	0.2500	0.2454	
1	4.561	4.562	-0.001	42870814H	0.2500	0.2333	
1	4.719	4.720	-0.001	24095778H	0.2500	0.2305	
1	5.239	5.239	0.000	20495624H	0.2500	0.2366	
1	5.775	5.775	0.000	13300023H	0.2500	0.2325	
		Average of Peak Amounts =				0.2357	
2	4.348	4.349	-0.001	4846849H	0.2500	0.2500	
2	5.513	5.514	-0.001	10609096H	0.2500	0.2491	
2	5.717	5.717	0.000	6125446H	0.2500	0.2520	
2	6.481	6.482	-0.001	4982408H	0.2500	0.2480	
2	6.698	6.698	0.000	4150037H	0.2500	0.2472	
		Average of Peak Amounts =				0.2492	
						RPD = 5.60	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	7.673	7.672	0.001	45464608H	0.2500	0.2312	
1	8.227	8.229	-0.002	41516910H	0.2500	0.2305	
1	8.896	8.897	-0.001	29204098H	0.2500	0.2285	
1	9.434	9.435	-0.001	75955835H	0.2500	0.2334	
1	9.893	9.894	-0.001	40995963H	0.2500	0.2263	
		Average of Peak Amounts =				0.2300	
2	8.904	8.905	-0.001	8779289H	0.2500	0.2427	
2	9.277	9.277	0.000	10972709H	0.2500	0.2415	
2	9.883	9.885	-0.002	10380019H	0.2500	0.2365	
2	10.869	10.870	-0.001	20082780H	0.2500	0.2398	
2	11.398	11.397	0.001	11525990H	0.2500	0.2422	
		Average of Peak Amounts =				0.2405	
						RPD = 4.48	
* 46 PCB-205 (IS)							
1	10.914	10.916	-0.001	458191075H	0.1000	0.1000	
2	12.227	12.227	-0.001	111349161H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.502	11.502	0.000	40763898H	0.0125	0.0118	
2	12.938	12.940	-0.002	10191748H	0.0125	0.0121	
						RPD = 3.12	

Reagents:

GCAR1660CALL3_00018	Amount Added: 1.00	Units: mL	
PCBINT_00010	Amount Added: 0.01	Units: mL	Run Reagent

Report Date: 23-Sep-2019 06:50:50 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921908.D				
Injection Date:	21-Sep-2019 10:23:00	Instrument ID:	CHGC10		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

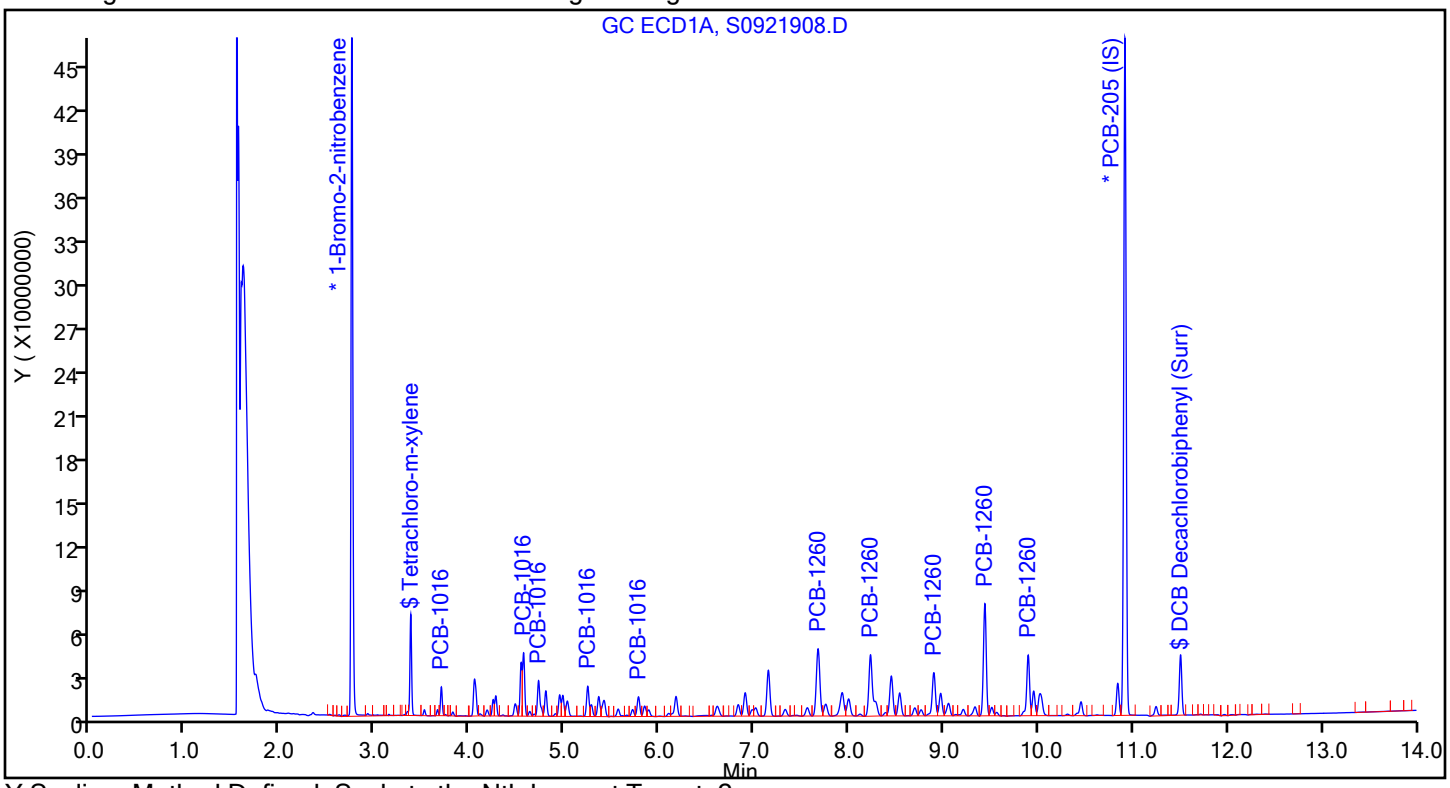

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

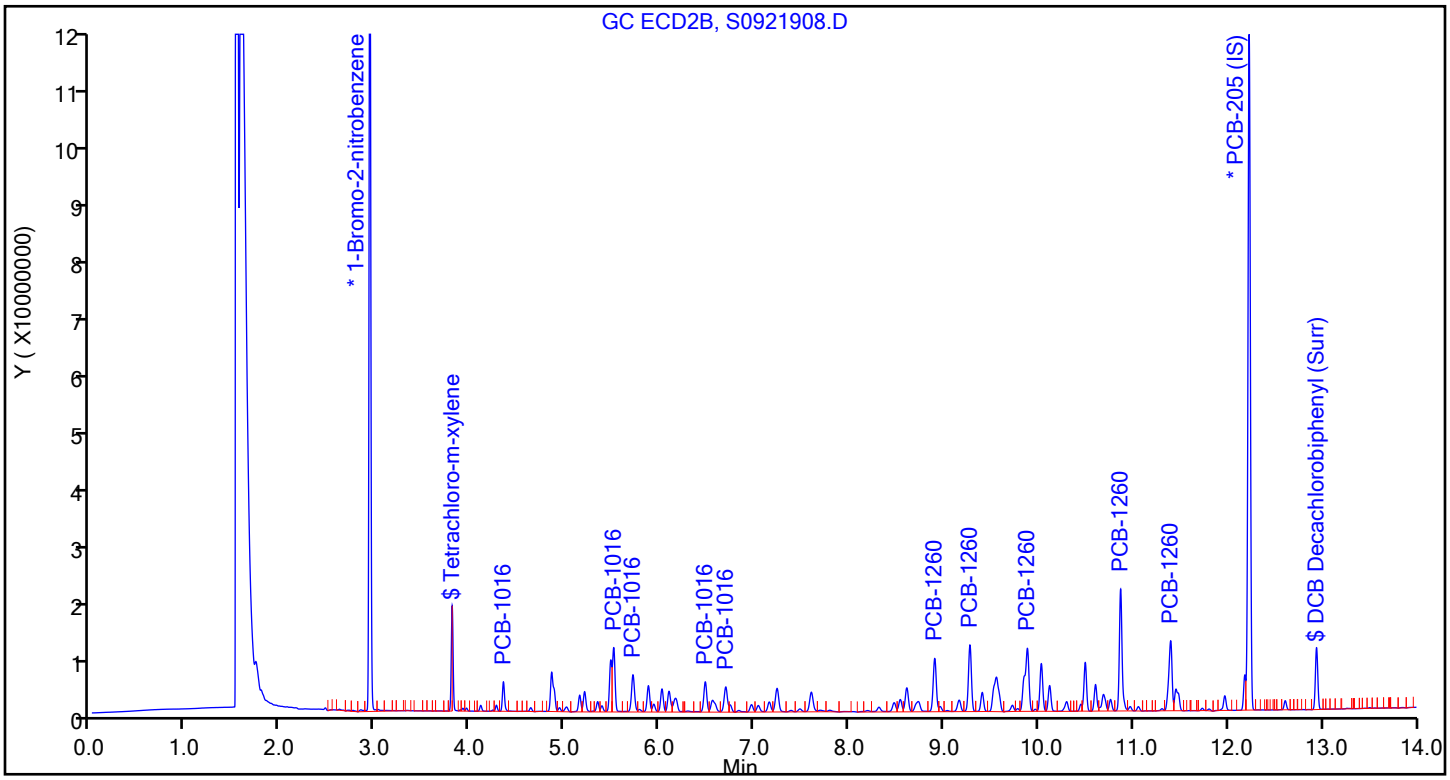

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921909.D
Lims ID: ICIS
Client ID:
Sample Type: ICIS Calib Level: 4
Inject. Date: 21-Sep-2019 10:43:16 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-008
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:50:46 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

First Level Reviewer: oravecj Date: 23-Sep-2019 06:40:31

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.748	2.748	0.000	511889197H	0.1000	0.1000	
2	2.939	2.939	0.000	164036125H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.370	3.370	0.000	157929430H	0.0250	0.0260	
2	3.807	3.807	0.000	38452543H	0.0250	0.0252	
						RPD = 3.28	
6 PCB-1016							
1	3.693	3.693	0.000	43011355H	0.5000	0.5140	
1	4.562	4.562	0.000	101479442H	0.5000	0.5236	
1	4.720	4.720	0.000	57484278H	0.5000	0.5213	
1	5.239	5.239	0.000	46231346H	0.5000	0.5058	
1	5.775	5.775	0.000	30588902H	0.5000	0.5069	
		Average of Peak Amounts =				0.5143	
2	4.349	4.349	0.000	10165005H	0.5000	0.4819	
2	5.514	5.514	0.000	22851496H	0.5000	0.4932	
2	5.717	5.717	0.000	12789537H	0.5000	0.4836	
2	6.482	6.482	0.000	10512408H	0.5000	0.4809	
2	6.698	6.698	0.000	8744313H	0.5000	0.4787	
		Average of Peak Amounts =				0.4837	
						RPD = 6.14	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	7.672	7.672	0.000	103793343H	0.5000	0.5013	
1	8.229	8.229	0.000	95246941H	0.5000	0.5021	
1	8.897	8.897	0.000	67078533H	0.5000	0.4985	
1	9.435	9.435	0.000	169586422H	0.5000	0.4949	
1	9.894	9.894	0.000	91397085H	0.5000	0.4790	
		Average of Peak Amounts =				0.4952	
2	8.905	8.905	0.000	18883129H	0.5000	0.5053	
2	9.277	9.277	0.000	23983861H	0.5000	0.5111	
2	9.885	9.885	0.000	23177185H	0.5000	0.5112	
2	10.870	10.870	0.000	43162891H	0.5000	0.4990	
2	11.397	11.397	0.000	23906070H	0.5000	0.4863	
		Average of Peak Amounts =				0.5025	
						RPD = 1.48	
* 46 PCB-205 (IS)							
1	10.916	10.916	0.000	482499706H	0.1000	0.1000	
2	12.227	12.227	0.000	115027624H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.502	11.502	0.000	84996667H	0.0250	0.0233	
2	12.940	12.940	0.000	20461165H	0.0250	0.0236	
						RPD = 1.26	

Reagents:

GCAR1660CALL4_00019 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Sep-2019 06:50:46 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921909.D

Injection Date: 21-Sep-2019 10:43:16 Instrument ID: CHGC10

Lims ID: ICIS

Client ID:

Operator ID: ALS Bottle#: 8 Worklist Smp#: 8

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

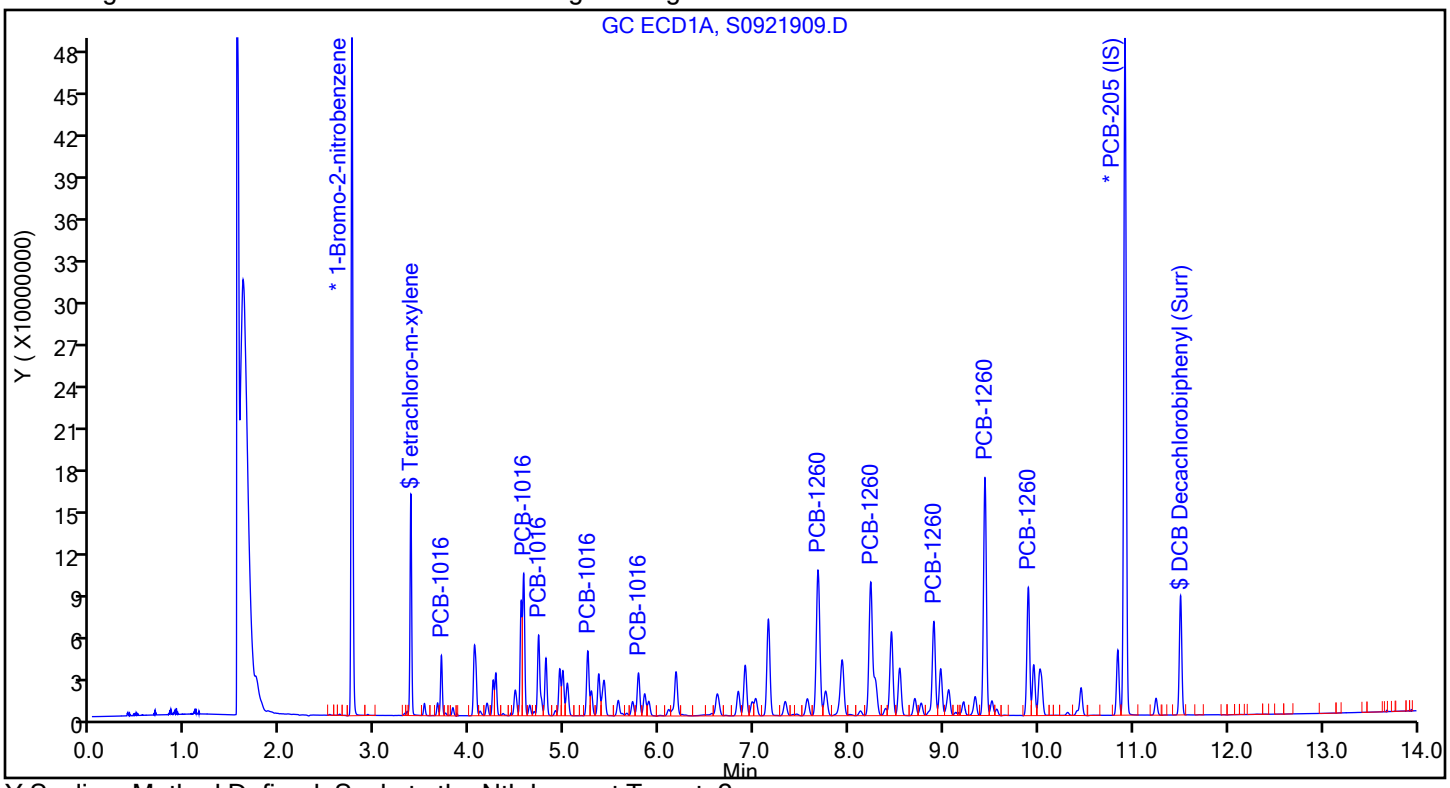

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

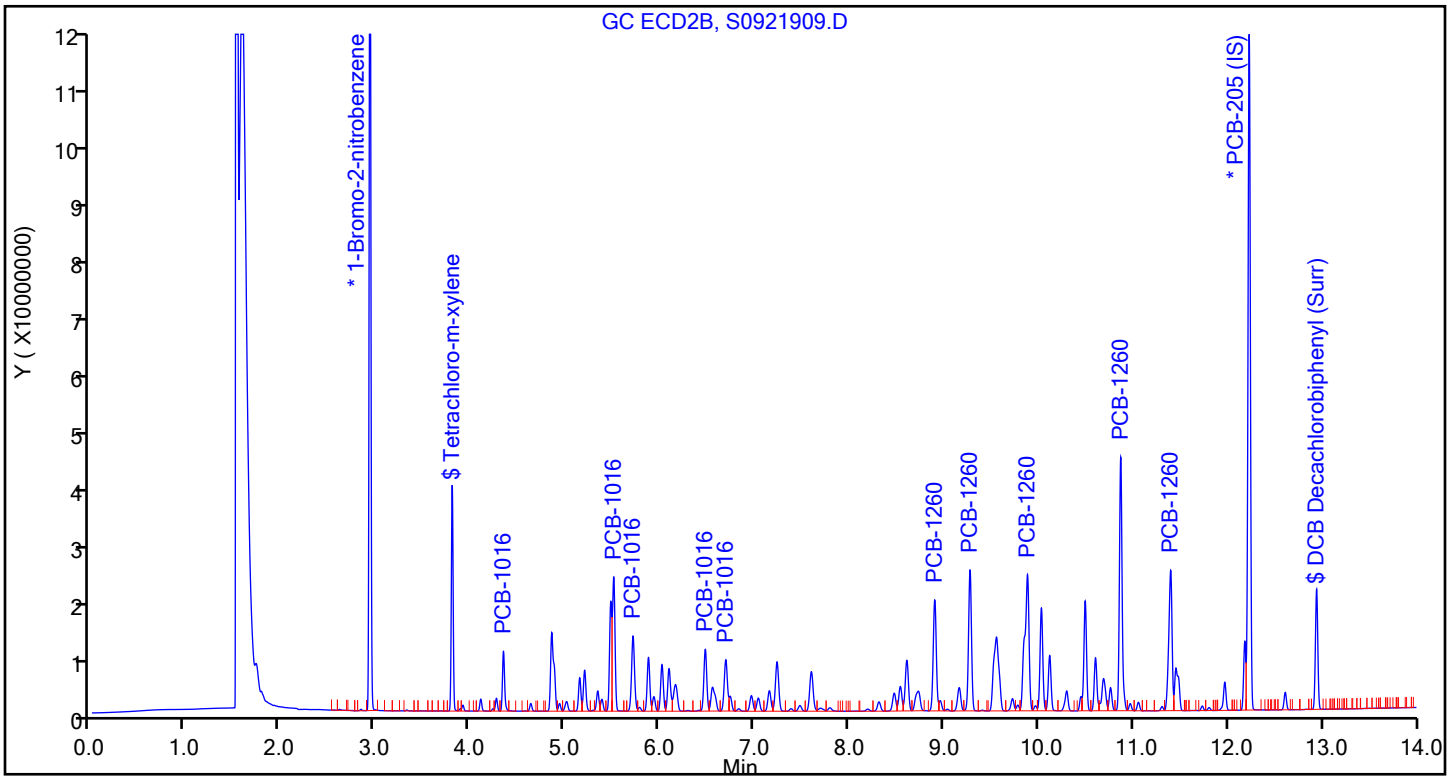

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921910.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 21-Sep-2019 11:03:44 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-009
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:50:42 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.747	2.748	-0.001	486898373H	0.1000	0.1000	
2	2.937	2.939	-0.002	145147868H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.370	3.370	0.000	265426609H	0.0500	0.0460	
2	3.806	3.807	-0.001	62757427H	0.0500	0.0464	
						RPD = 1.01	
6 PCB-1016							
1	3.693	3.693	0.000	68984311H	1.00	0.8667	
1	4.561	4.562	-0.001	169029996H	1.00	0.9169	
1	4.720	4.720	0.000	94293443H	1.00	0.8991	
1	5.239	5.239	0.000	79194729H	1.00	0.9109	
1	5.775	5.775	0.000	51382965H	1.00	0.8952	
		Average of Peak Amounts =				0.8977	
2	4.348	4.349	-0.001	16125319H	1.00	0.8640	
2	5.513	5.514	-0.001	38172898H	1.00	0.9311	
2	5.716	5.717	-0.001	21055775H	1.00	0.8997	
2	6.480	6.482	-0.002	17224077H	1.00	0.8905	
2	6.697	6.698	-0.001	14577808H	1.00	0.9020	
		Average of Peak Amounts =				0.8975	
						RPD = 0.03	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	7.673	7.672	0.001	184837813H	1.00	0.8914	
1	8.228	8.229	-0.001	171393567H	1.00	0.9022	
1	8.896	8.897	-0.001	121602077H	1.00	0.9023	
1	9.436	9.435	0.001	311148205H	1.00	0.9066	
1	9.893	9.894	-0.001	168964818H	1.00	0.8842	
		Average of Peak Amounts =				0.8973	
2	8.905	8.905	0.000	32695592H	1.00	0.8626	
2	9.276	9.277	-0.001	41407640H	1.00	0.8700	
2	9.884	9.885	-0.001	40753408H	1.00	0.8862	
2	10.869	10.870	-0.001	79749385H	1.00	0.9090	
2	11.397	11.397	0.000	44620675H	1.00	0.8949	
		Average of Peak Amounts =				0.8845	
						RPD = 1.44	
* 46 PCB-205 (IS)							
1	10.915	10.916	0.000	483249465H	0.1000	0.1000	
2	12.226	12.227	-0.001	116660848H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.502	11.502	0.000	159625471H	0.0500	0.0437	
2	12.940	12.940	0.000	38543080H	0.0500	0.0438	
						RPD = 0.30	

Reagents:

GCAR1660CALL5_00019 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Sep-2019 06:50:43 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921910.D

Injection Date: 21-Sep-2019 11:03:44 Instrument ID: CHGC10

Lims ID: IC

Client ID:

Operator ID: ALS Bottle#: 9 Worklist Smp#: 9

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

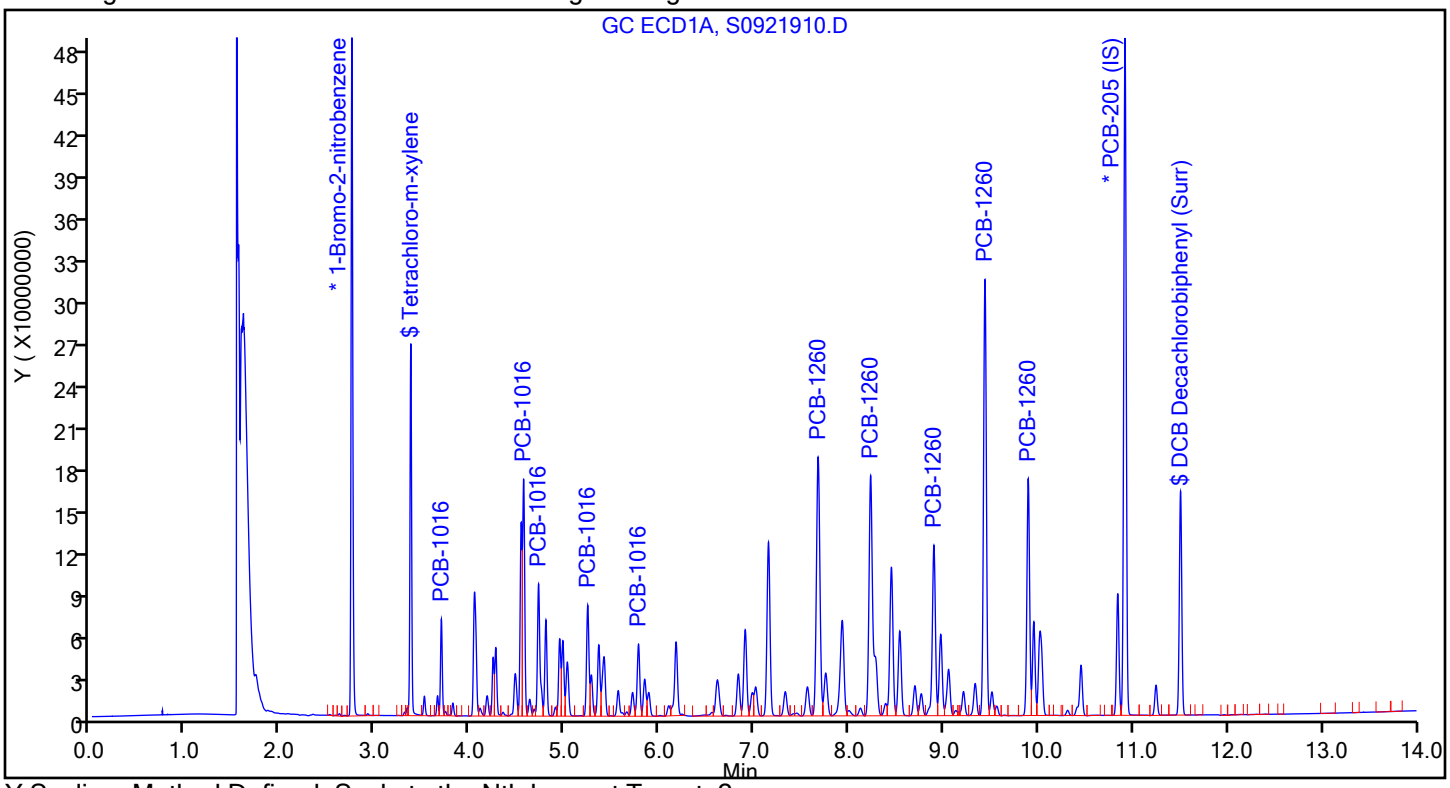

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

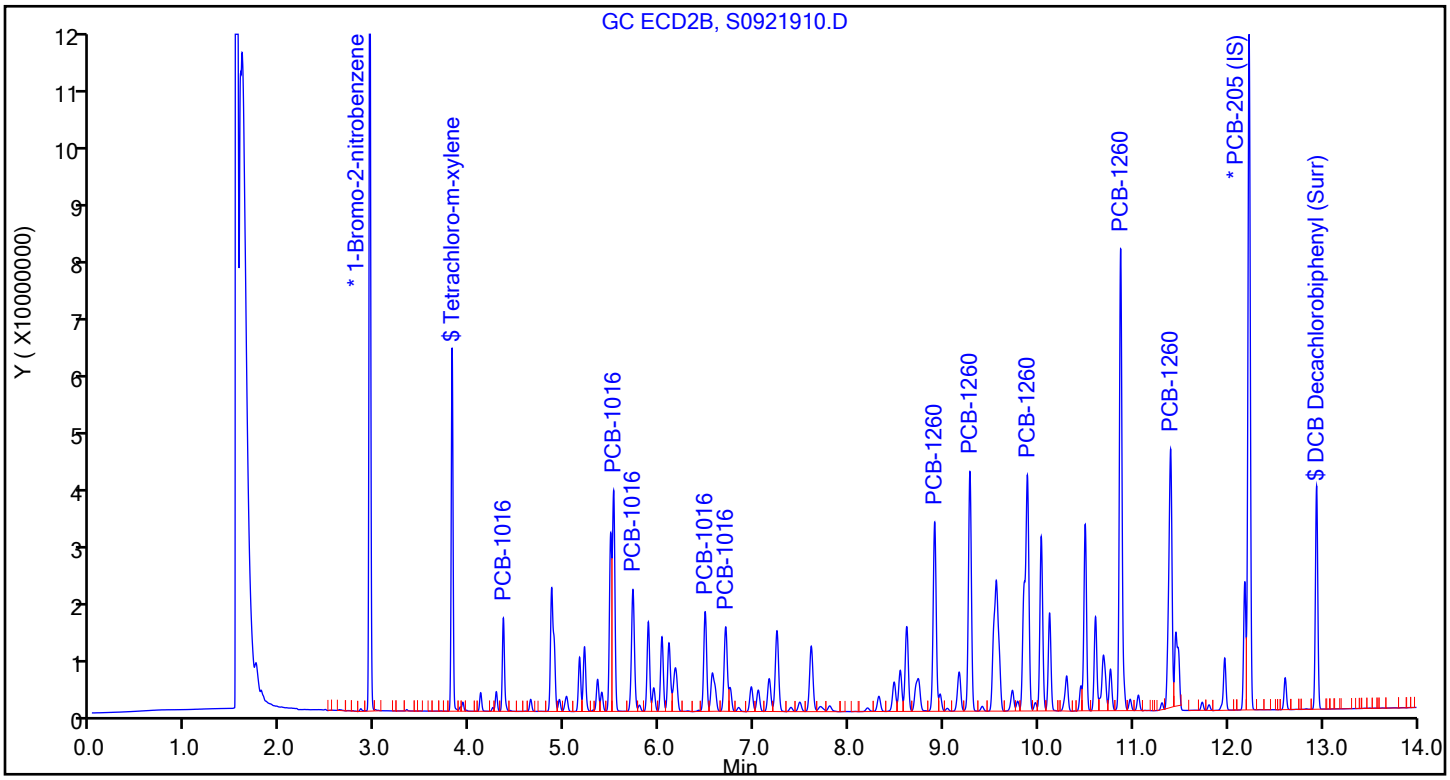

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921911.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 21-Sep-2019 11:24:03 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-010
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:50:38 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.747	2.748	-0.001	531073284H	0.1000	0.1000	
2	2.936	2.939	-0.003	147624344H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.370	3.370	0.000	593197064H	0.1000	0.0942	
2	3.805	3.807	-0.002	136871204H	0.1000	0.0996	
						RPD = 5.56	
6 PCB-1016							
1	3.693	3.693	0.000	146478286H	2.00	1.69	
1	4.560	4.562	-0.002	357879738H	2.00	1.78	
1	4.720	4.720	0.000	194331631H	2.00	1.70	
1	5.239	5.239	0.000	165919737H	2.00	1.75	
1	5.775	5.775	0.000	105686964H	2.00	1.69	
		Average of Peak Amounts =				1.72	
2	4.347	4.349	-0.002	33543708H	2.00	1.77	
2	5.512	5.514	-0.002	81726863H	2.00	1.96	
2	5.715	5.717	-0.002	44974420H	2.00	1.89	
2	6.479	6.482	-0.003	37447080H	2.00	1.90	
2	6.695	6.698	-0.003	31120155H	2.00	1.89	
		Average of Peak Amounts =				1.88	
						RPD = 8.99	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	7.671	7.672	-0.001	373471781H	2.00	1.98	
1	8.228	8.229	-0.001	335362989H	2.00	1.94	
1	8.896	8.897	-0.001	239780330H	2.00	1.96	
1	9.436	9.435	0.001	645052703H	2.00	2.07	
1	9.893	9.894	-0.001	343286798H	2.00	1.98	
		Average of Peak Amounts =				1.99	
2	8.904	8.905	-0.001	67625733H	2.00	1.80	
2	9.276	9.277	-0.001	87761388H	2.00	1.86	
2	9.883	9.885	-0.002	85146647H	2.00	1.87	
2	10.869	10.870	-0.001	157781207H	2.00	1.82	
2	11.397	11.397	0.000	91045846H	2.00	1.85	
		Average of Peak Amounts =				1.84	
						RPD = 7.63	
* 46 PCB-205 (IS)							
1	10.915	10.916	0.000	438806448H	0.1000	0.1000	
2	12.227	12.227	0.000	115386234H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.503	11.502	0.001	330247569H	0.1000	0.0995	
2	12.939	12.940	-0.001	78624611H	0.1000	0.0903	
						RPD = 9.65	

Reagents:

GCAR1660CALL6_00017 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Sep-2019 06:50:38 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921911.D

Injection Date: 21-Sep-2019 11:24:03 Instrument ID: CHGC10

Lims ID: IC

Client ID:

Operator ID: ALS Bottle#: 10 Worklist Smp#: 10

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

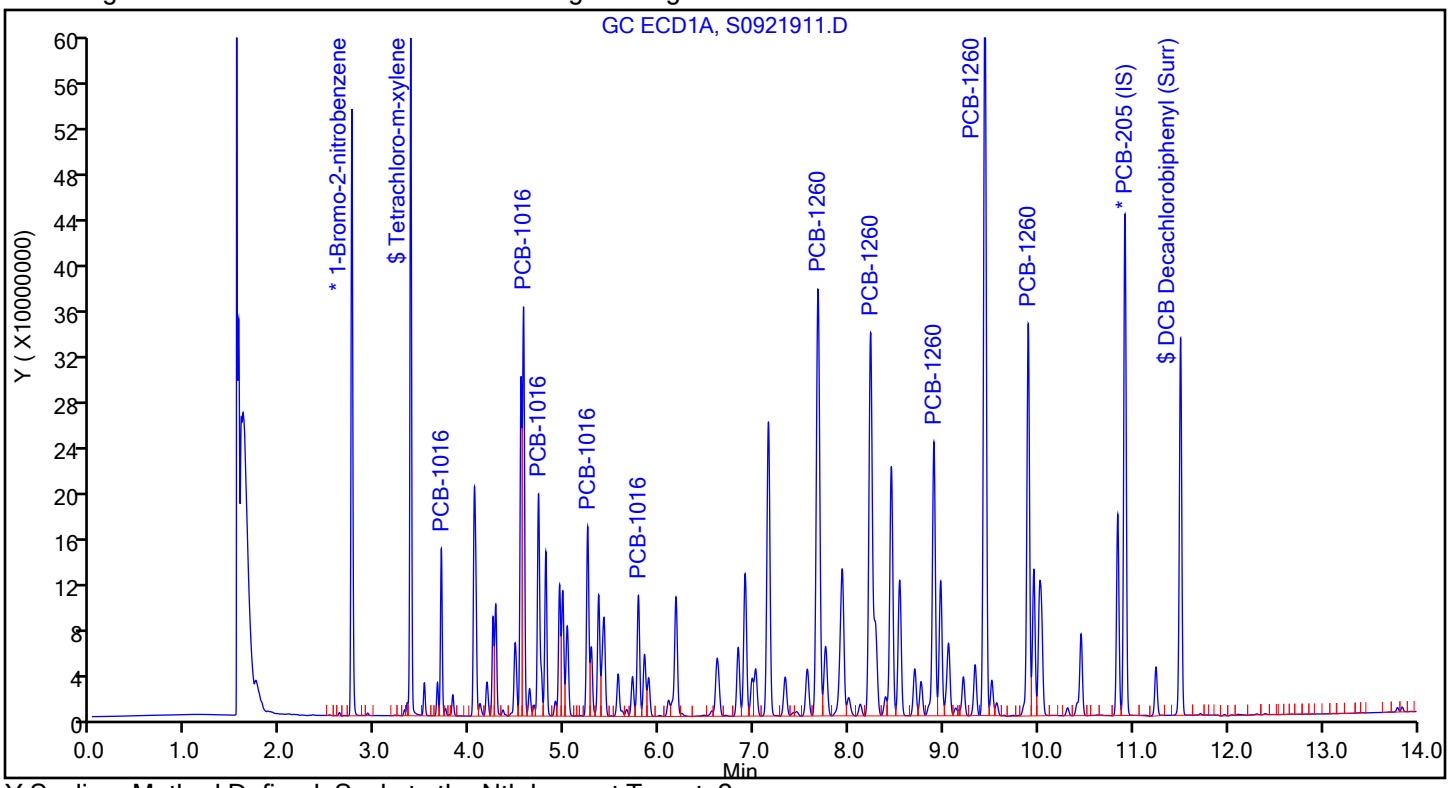

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

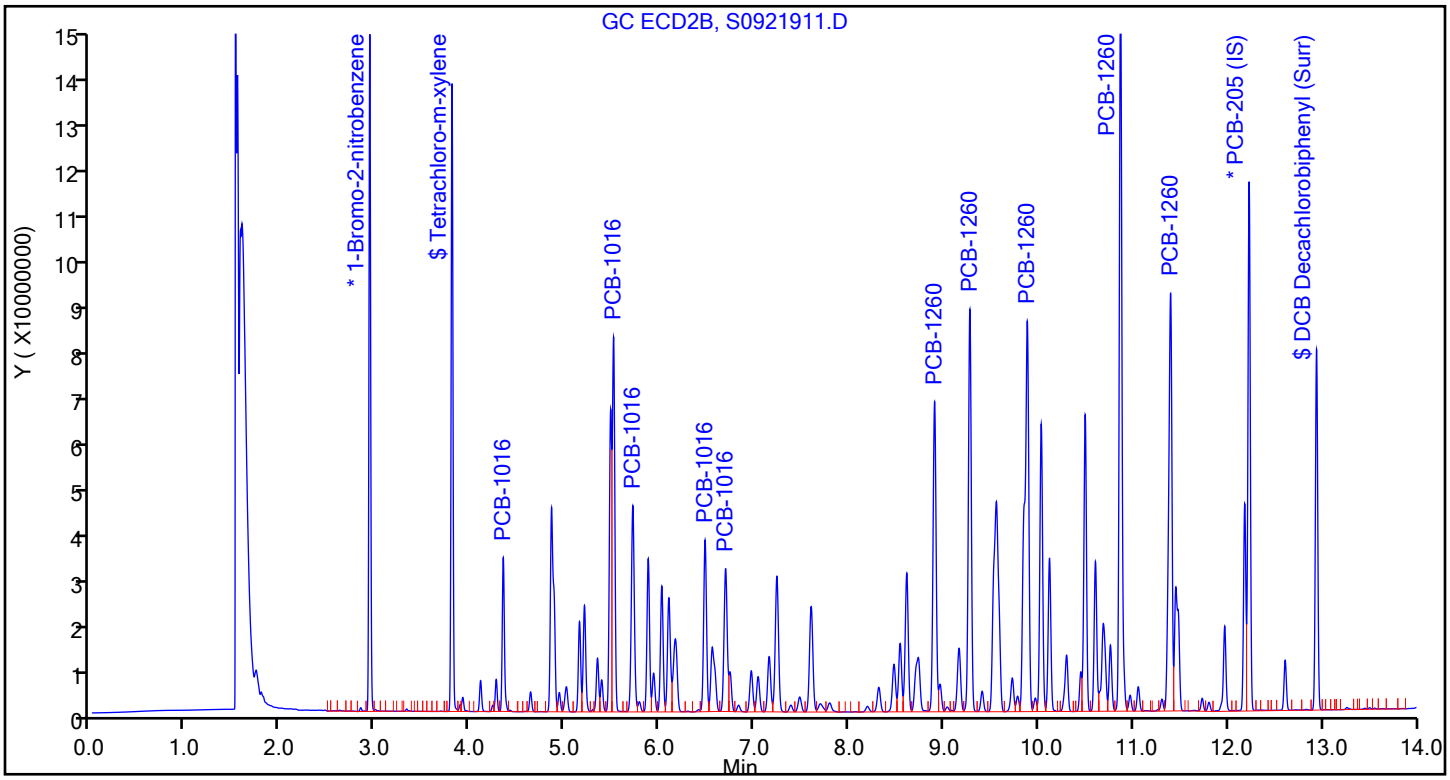

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 21-Sep-2019 11:44:24 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-011
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:50:34 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.748	2.748	0.000	484206744H	0.1000	0.1000	
2	2.938	2.939	-0.001	150217241H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.371	3.370	0.001	1265766620H	0.2000	0.2205	
2	3.808	3.807	0.001	291444322H	0.2000	0.2084	
						RPD = 5.63	
6 PCB-1016							
1	3.694	3.693	0.001	297683567H	4.00	3.76	
1	4.563	4.562	0.001	718318050H	4.00	3.92	
1	4.721	4.720	0.001	387398138H	4.00	3.71	
1	5.241	5.239	0.002	331923571H	4.00	3.84	
1	5.777	5.775	0.002	215491843H	4.00	3.77	
		Average of Peak Amounts =				3.80	
2	4.349	4.349	0.000	68504176H	4.00	3.55	
2	5.514	5.514	0.000	164277483H	4.00	3.87	
2	5.718	5.717	0.001	90339652H	4.00	3.73	
2	6.483	6.482	0.001	74715074H	4.00	3.73	
2	6.699	6.698	0.001	62476014H	4.00	3.74	
		Average of Peak Amounts =				3.72	
						RPD = 2.08	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	7.674	7.672	0.002	748697841H	4.00	3.85	
1	8.229	8.229	0.000	701106011H	4.00	3.94	
1	8.897	8.897	0.000	497713780H	4.00	3.94	
1	9.437	9.435	0.002	1358258724H	4.00	4.22	
1	9.895	9.894	0.001	712230375H	4.00	3.98	
		Average of Peak Amounts =				3.99	
2	8.906	8.905	0.001	134000871H	4.00	3.69	
2	9.278	9.277	0.001	169648913H	4.00	3.72	
2	9.885	9.885	0.000	169212213H	4.00	3.84	
2	10.871	10.870	0.001	332281068H	4.00	3.95	
2	11.399	11.397	0.002	185906716H	4.00	3.89	
		Average of Peak Amounts =				3.82	
						RPD = 4.34	
* 46 PCB-205 (IS)							
1	10.917	10.916	0.001	453013003H	0.1000	0.1000	
2	12.229	12.227	0.002	111866344H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.503	11.502	0.001	699680251H	0.2000	0.2041	
2	12.941	12.940	0.001	163998015H	0.2000	0.1943	
						RPD = 4.93	

Reagents:

GCAR1660CALL7_00018 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Sep-2019 06:50:35 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Injection Date: 21-Sep-2019 11:44:24 Instrument ID: CHGC10

Lims ID: IC

Client ID:

Operator ID: ALS Bottle#: 11 Worklist Smp#: 11

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

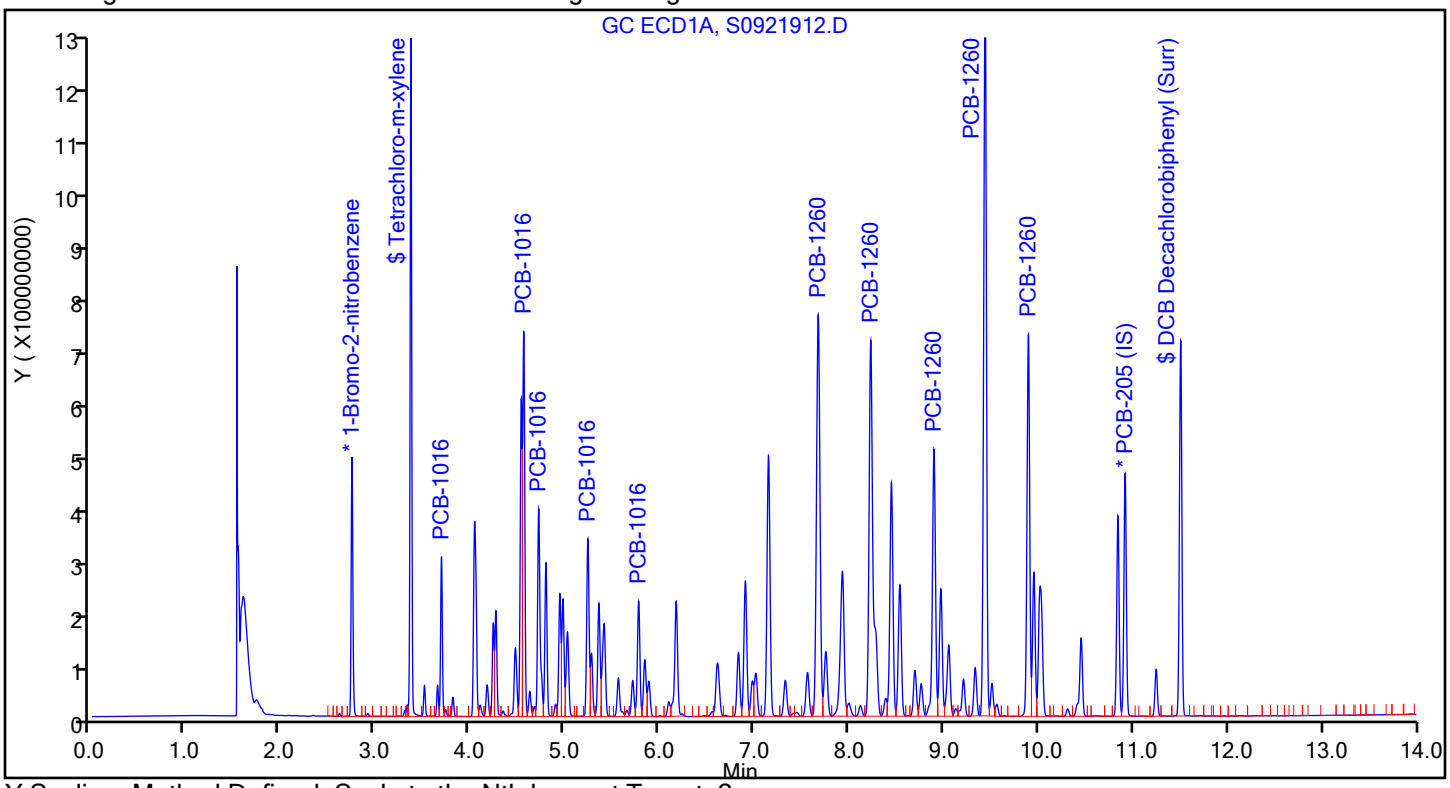

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

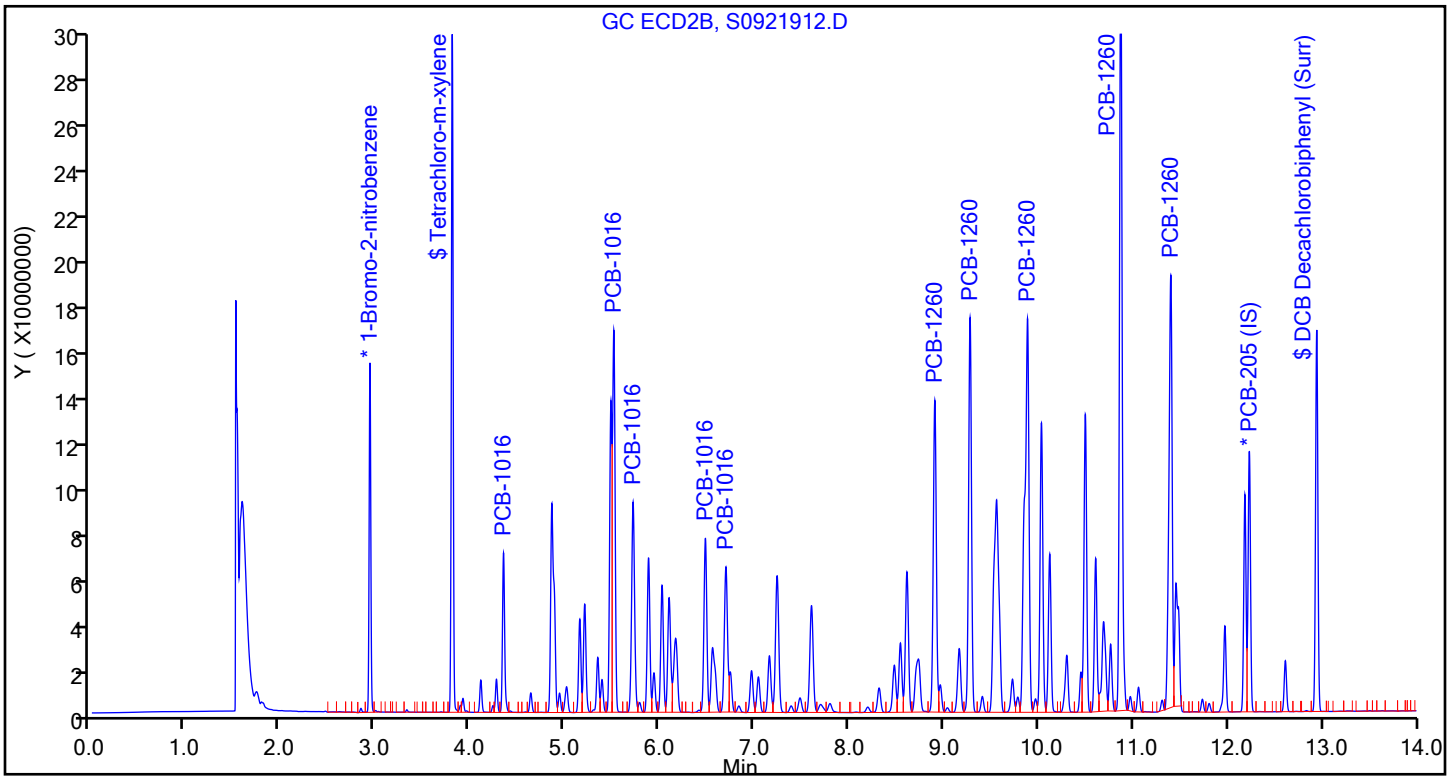

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 09:45 Calibration End Date: 09/21/2019 11:44 Calibration ID: 41573

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/5	S0921906.D
Level 2	IC 180-292146/6	S0921907.D
Level 3	IC 180-292146/7	S0921908.D
Level 4	ICIS 180-292146/8	S0921909.D
Level 5	IC 180-292146/9	S0921910.D
Level 6	IC 180-292146/10	S0921911.D
Level 7	IC 180-292146/11	S0921912.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
PCB-1016 Peak 1	0.0180 0.0114	0.0129 0.0114	0.0129	0.0124	0.0111	Ave		0.0129				18.5		20.0			
PCB-1016 Peak 2	0.0329 0.0277	0.0275 0.0273	0.0281	0.0279	0.0263	Ave		0.0282				7.6		20.0			
PCB-1016 Peak 3	0.0201 0.0152	0.0161 0.0150	0.0163	0.0156	0.0145	Ave		0.0161				11.5		20.0			
PCB-1016 Peak 4	0.0167 0.0127	0.0136 0.0124	0.0132	0.0128	0.0119	Ave		0.0133				11.9		20.0			
PCB-1016 Peak 5	0.0139 0.0105	0.0114 0.0104	0.0110	0.0107	0.0100	Ave		0.0111				11.7		20.0			
PCB-1260 Peak 1	0.0420 0.0293	0.0338 0.0299	0.0315	0.0328	0.0280	Ave		0.0325				14.3		20.0			
PCB-1260 Peak 2	0.0499 0.0380	0.0431 0.0379	0.0394	0.0417	0.0355	Ave		0.0408				11.7		20.0			
PCB-1260 Peak 3	0.0481 0.0369	0.0406 0.0378	0.0373	0.0403	0.0349	Ave		0.0394				10.9		20.0			
PCB-1260 Peak 4	0.0909 0.0684	0.0773 0.0743	0.0721	0.0750	0.0684	Ave		0.0752				10.2		20.0			
PCB-1260 Peak 5	0.0529 0.0395	0.0441 0.0415	0.0414	0.0416	0.0382	Ave		0.0427				11.3		20.0			
Tetrachloro-m-xylene (Surr)	1.0513 0.9272	0.8437 0.9701	0.9214	0.9377	0.8647	Ave		0.9308				7.4		20.0			
DCB Decachlorobiphenyl (Surr)	0.9759 0.6814	0.7867 0.7330	0.7322	0.7115	0.6608	Ave		0.7545				14.0		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 09:45 Calibration End Date: 09/21/2019 11:44 Calibration ID: 41573

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/5	S0921906.D
Level 2	IC 180-292146/6	S0921907.D
Level 3	IC 180-292146/7	S0921908.D
Level 4	ICIS 180-292146/8	S0921909.D
Level 5	IC 180-292146/9	S0921910.D
Level 6	IC 180-292146/10	S0921911.D
Level 7	IC 180-292146/11	S0921912.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
PCB-1016 Peak 1	BNB	Ave	301900 33543708	1798270 68504176	4846849	10165005	16125319	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1016 Peak 2	BNB	Ave	553018 81726863	3827127 164277483	10609096	22851496	38172898	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1016 Peak 3	BNB	Ave	337551 44974420	2248966 90339652	6125446	12789537	21055775	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1016 Peak 4	BNB	Ave	280459 37447080	1889754 74715074	4982408	10512408	17224077	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1016 Peak 5	BNB	Ave	233976 31120155	1582660 62476014	4150037	8744313	14577808	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1260 Peak 1	PCB2 05	Ave	497463 67625733	3637378 134000871	8779289	18883129	32695592	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1260 Peak 2	PCB2 05	Ave	591928 87761388	4635055 169648913	10972709	23983861	41407640	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1260 Peak 3	PCB2 05	Ave	570204 85146647	4365390 169212213	10380019	23177185	40753408	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1260 Peak 4	PCB2 05	Ave	1077919 157781207	8314936 332281068	20082780	43162891	79749385	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1260 Peak 5	PCB2 05	Ave	626880 91045846	4741016 185906716	11525990	23906070	44620675	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
Tetrachloro-m-xylene (Surr)	BNB	Ave	882478 136871204	5879261 291444322	17364877	38452543	62757427	0.000500 0.100	0.00500 0.200	0.0125	0.0250	0.0500
DCB Decachlorobiphenyl (Surr)	PCB2 05	Ave	578308 78624611	4231696 163998015	10191748	20461165	38543080	0.000500 0.100	0.00500 0.200	0.0125	0.0250	0.0500

Curve Type Legend:
Ave = Average ISTD by Height

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 09:45 Calibration End Date: 09/21/2019 11:44 Calibration ID: 41573

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/5	S0921906.D
Level 2	IC 180-292146/6	S0921907.D
Level 3	IC 180-292146/7	S0921908.D
Level 4	ICIS 180-292146/8	S0921909.D
Level 5	IC 180-292146/9	S0921910.D
Level 6	IC 180-292146/10	S0921911.D
Level 7	IC 180-292146/11	S0921912.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
PCB-1016 Peak 1	39.8 -11.3	0.3	0.0	-3.6	-13.6	-11.6	50 30	30	30	30	30	30
PCB-1016 Peak 2	16.6 -3.2	-2.8	-0.4	-1.4	-6.9	-2.0	50 30	30	30	30	30	30
PCB-1016 Peak 3	24.7 -6.7	0.1	0.8	-3.3	-10.0	-5.5	50 30	30	30	30	30	30
PCB-1016 Peak 4	25.4 -6.7	1.7	-0.8	-3.8	-11.0	-4.8	50 30	30	30	30	30	30
PCB-1016 Peak 5	25.2 -6.6	2.0	-1.1	-4.3	-9.8	-5.3	50 30	30	30	30	30	30
PCB-1260 Peak 1	29.2 -7.8	4.1	-2.9	1.1	-13.7	-9.8	50 30	30	30	30	30	30
PCB-1260 Peak 2	22.4 -7.1	5.6	-3.4	2.2	-13.0	-6.8	50 30	30	30	30	30	30
PCB-1260 Peak 3	22.1 -4.1	2.9	-5.4	2.2	-11.4	-6.4	50 30	30	30	30	30	30
PCB-1260 Peak 4	20.9 -1.3	2.8	-4.1	-0.2	-9.1	-9.1	50 30	30	30	30	30	30
PCB-1260 Peak 5	23.8 -2.8	3.1	-3.1	-2.7	-10.5	-7.7	50 30	30	30	30	30	30
Tetrachloro-m-xylene (Surr)	12.9 4.2	-9.4	-1.0	0.7	-7.1	-0.4	50 30	30	30	30	30	30
DCB Decachlorobiphenyl (Surr)	29.3 -2.8	4.3	-3.0	-5.7	-12.4	-9.7	50 30	30	30	30	30	30

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921906.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 21-Sep-2019 09:45:33 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-005
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:50:57 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

First Level Reviewer: oravecj Date: 23-Sep-2019 06:41:32

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.749	2.748	0.001	579186423H	0.1000	0.1000	
2	2.939	2.939	0.000	167887646H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.371	3.370	0.001	3933517H	0.000500	0.000573	
2	3.808	3.807	0.001	882478H	0.000500	0.000565	
						RPD = 1.43	
6 PCB-1016							M
1	3.694	3.693	0.001	1215117H	0.0100	0.0128	M
1	4.563	4.562	0.001	2650183H	0.0100	0.0121	
1	4.720	4.720	0.000	1616774H	0.0100	0.0130	
1	5.239	5.239	0.000	1274564H	0.0100	0.0123	
1	5.777	5.775	0.002	859011H	0.0100	0.0126	M
		Average of Peak Amounts =				0.0126	
2	4.350	4.349	0.001	301900H	0.0100	0.0140	M
2	5.514	5.514	0.000	553018H	0.0100	0.0117	M
2	5.716	5.717	-0.001	337551H	0.0100	0.0125	M
2	6.481	6.482	-0.001	280459H	0.0100	0.0125	
2	6.698	6.698	0.000	233976H	0.0100	0.0125	
		Average of Peak Amounts =				0.0126	
						RPD = 0.61	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							M
1	7.671	7.672	-0.001	2713959H	0.0100	0.0124	
1	8.228	8.229	-0.001	2489131H	0.0100	0.0124	
1	8.896	8.897	-0.001	1733597H	0.0100	0.0122	
1	9.436	9.435	0.001	4092261H	0.0100	0.0113	
1	9.893	9.894	-0.001	2646642H	0.0100	0.0131	
		Average of Peak Amounts =				0.0122	
2	8.905	8.905	0.000	497463H	0.0100	0.0129	
2	9.278	9.277	0.001	591928H	0.0100	0.0122	
2	9.883	9.885	-0.002	570204H	0.0100	0.0122	
2	10.869	10.870	-0.001	1077919H	0.0100	0.0121	M
2	11.397	11.397	0.000	626880H	0.0100	0.0124	
		Average of Peak Amounts =				0.0124	
						RPD = 0.96	
* 46 PCB-205 (IS)							
1	10.916	10.916	0.000	511545763H	0.1000	0.1000	
2	12.226	12.227	-0.002	118520037H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.501	11.502	-0.001	2449552H	0.000500	0.000633	
2	12.938	12.940	-0.002	578308H	0.000500	0.000647	
						RPD = 2.16	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCAR1660CALL1_00025	Amount Added: 1.00	Units: mL	
PCBINT_00010	Amount Added: 0.01	Units: mL	Run Reagent

Report Date: 23-Sep-2019 06:50:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921906.D

Injection Date: 21-Sep-2019 09:45:33 Instrument ID: CHGC10

Lims ID: IC

Client ID:

Operator ID: ALS Bottle#: 5 Worklist Smp#: 5

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

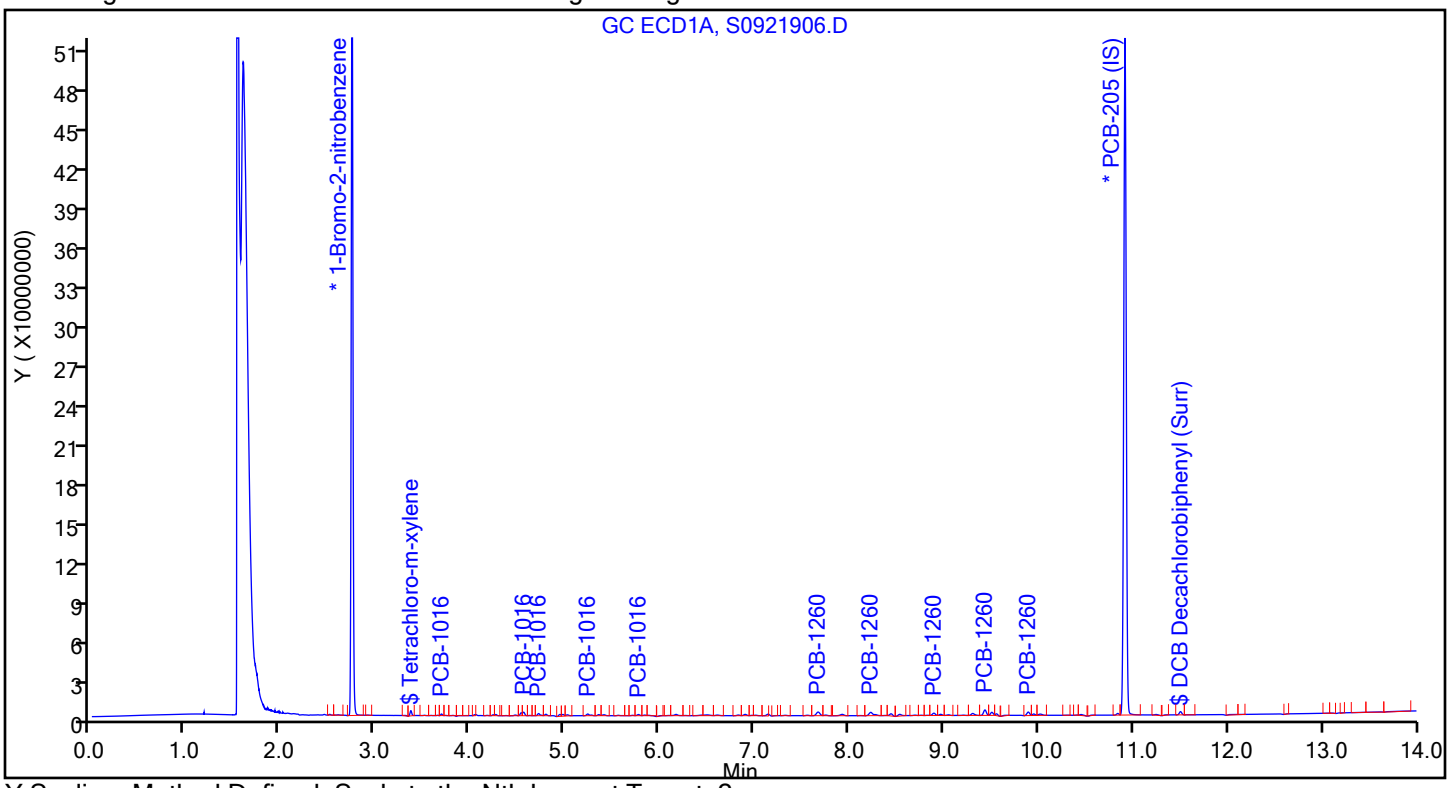

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

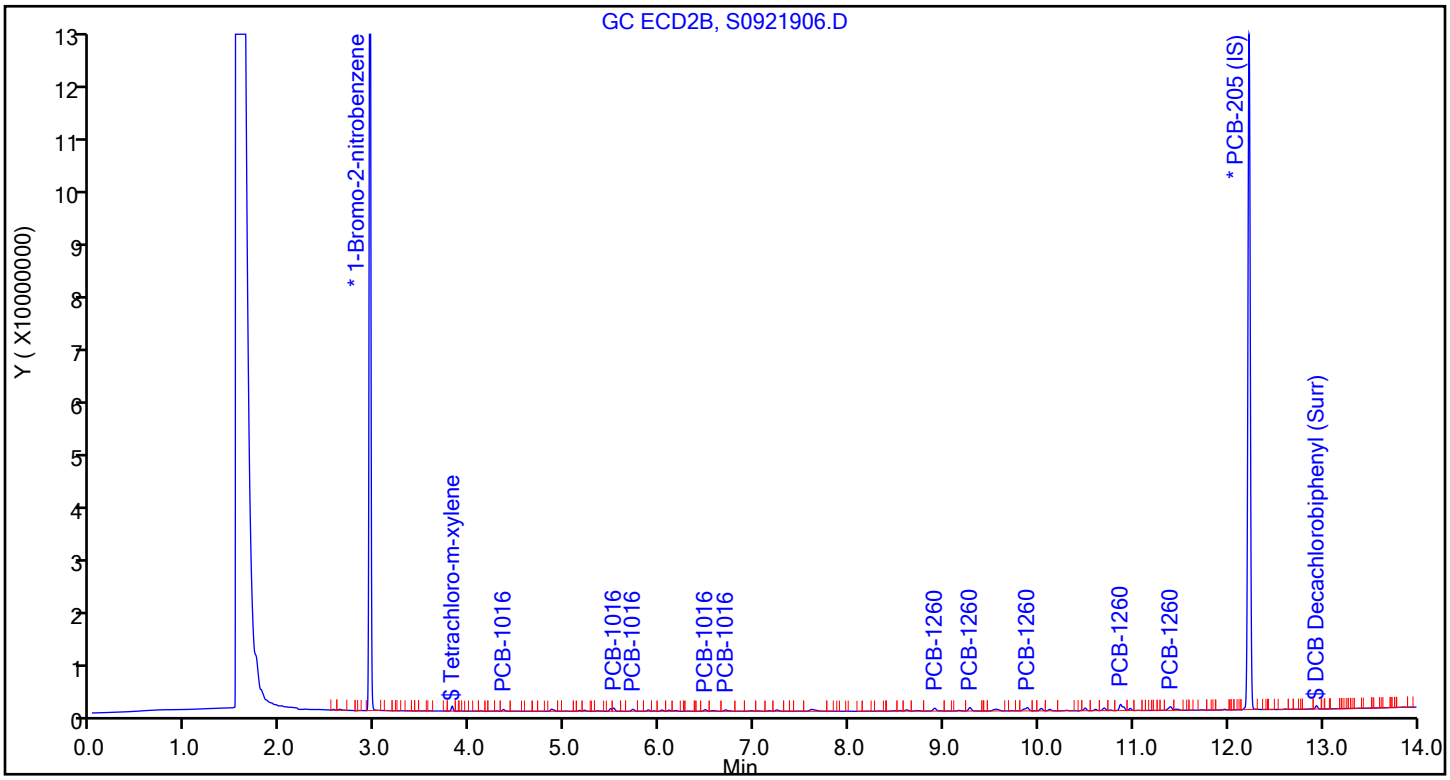

Report Date: 23-Sep-2019 06:50:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921906.D				
Injection Date:	21-Sep-2019 09:45:33	Instrument ID:	CHGC10		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		
Column:		Detector	GC ECD2B		

6 PCB-1016, CAS: 12674-11-2

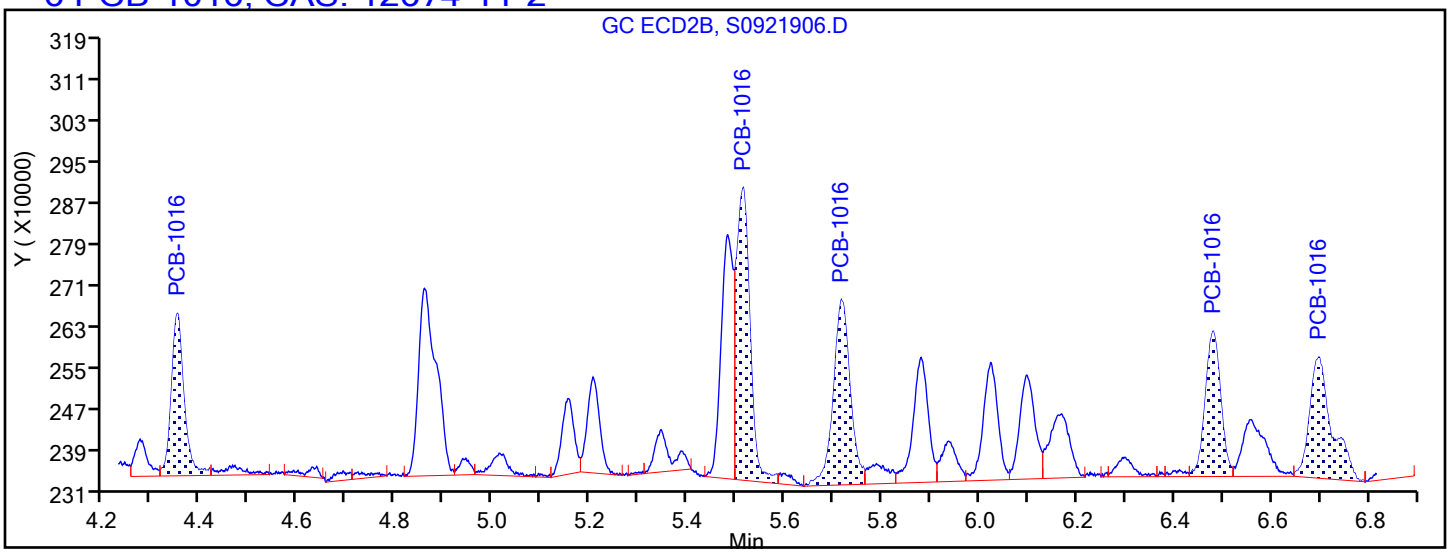

Processing Integration Results

4.350	Response = 313451
5.514	Response = 564768
5.716	Response = 357553
6.481	Response = 280459
6.698	Response = 233976

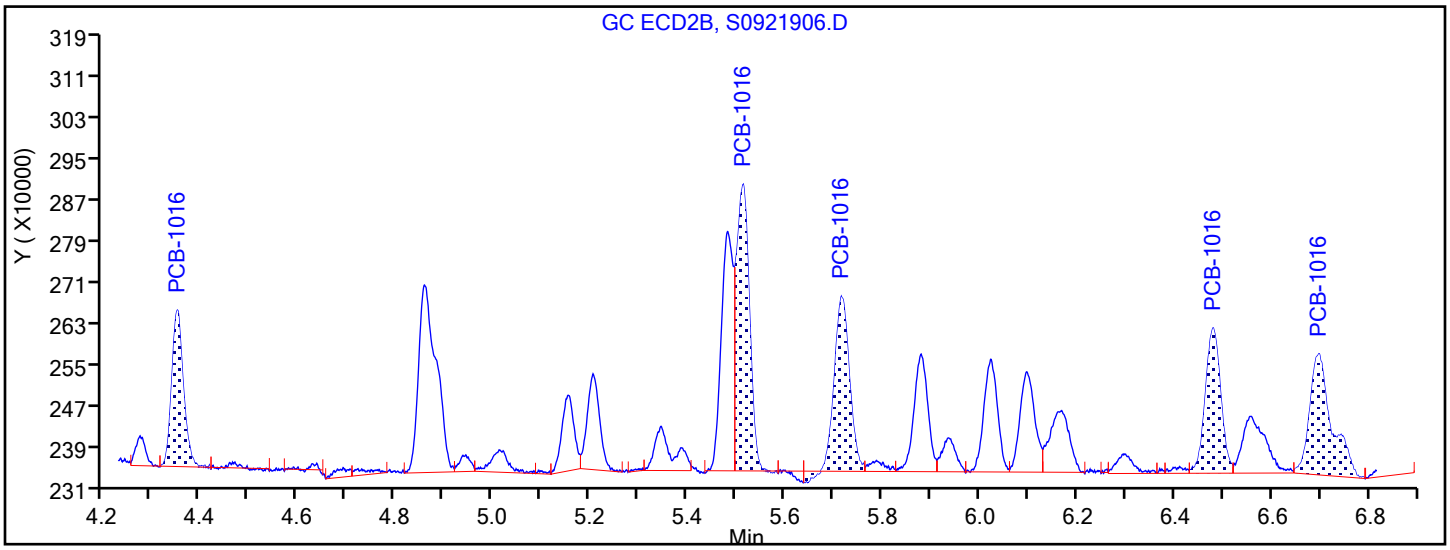

Manual Integration Results

4.350	Response = 301900	M
5.514	Response = 553018	M
5.716	Response = 337551	M
6.481	Response = 280459	
6.698	Response = 233976	

Reviewer: oravecj, 23-Sep-2019 06:42:40

Audit Action: Assigned New Baseline Audit Reason: Instrument noise

Report Date: 23-Sep-2019 06:50:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921906.D				
Injection Date:	21-Sep-2019 09:45:33	Instrument ID:	CHGC10		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		
Column:		Detector	GC ECD2B		

9 PCB-1260, CAS: 11096-82-5

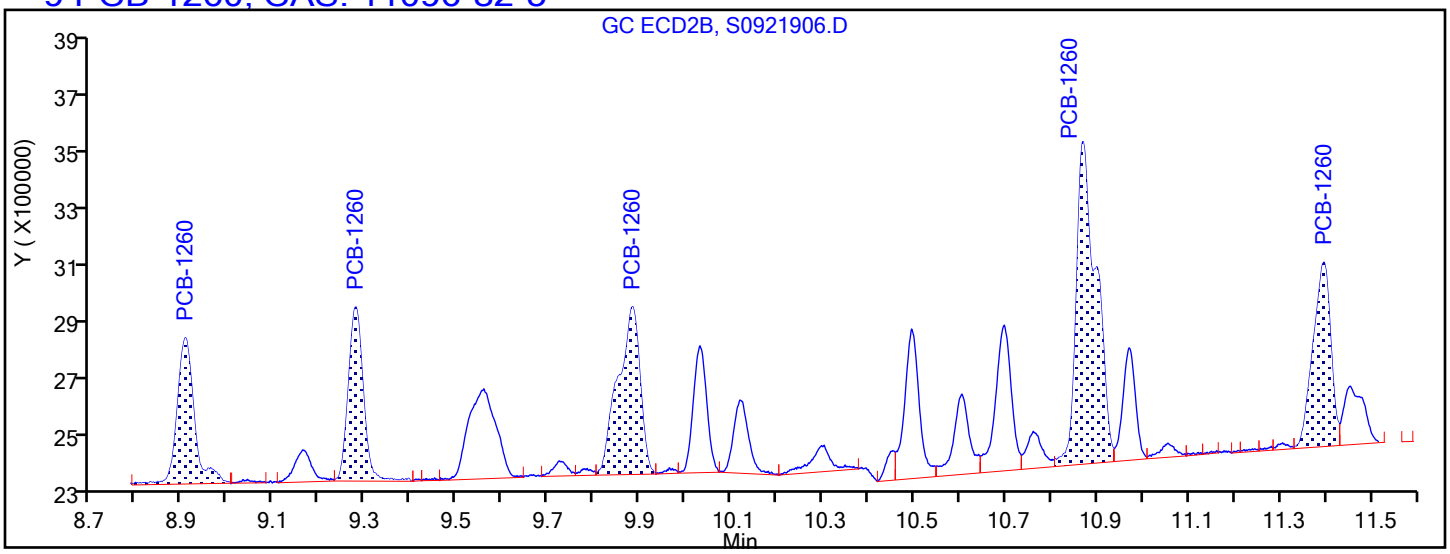

Processing Integration Results

8.905	Response = 497463
9.278	Response = 591928
9.883	Response = 570204
10.869	Response = 1097293
11.397	Response = 626880

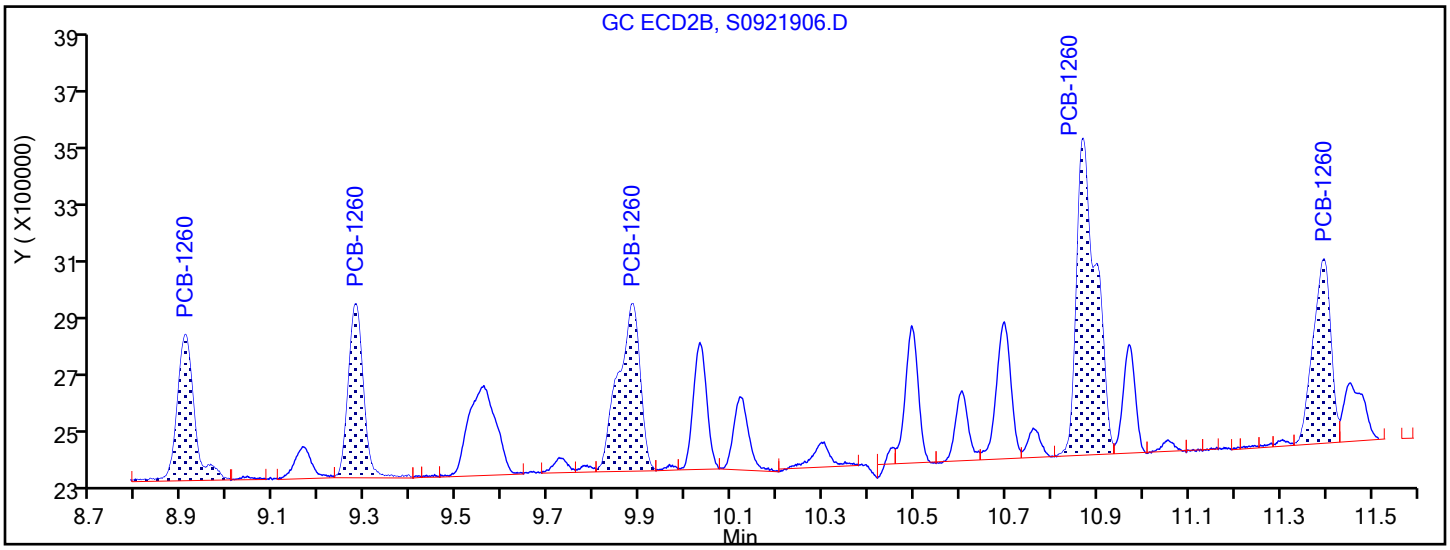

Manual Integration Results

8.905	Response = 497463	
9.278	Response = 591928	
9.883	Response = 570204	
10.869	Response = 1077919	M
11.397	Response = 626880	

Reviewer: oravecj, 23-Sep-2019 06:42:58

Audit Action: Assigned New Baseline Audit Reason: Instrument noise

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921907.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 21-Sep-2019 10:02:42 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-006
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:50:53 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

First Level Reviewer: oravecj Date: 23-Sep-2019 06:42:25

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.742	2.748	-0.006	449092696H	0.1000	0.1000	
2	2.938	2.939	-0.001	139376234H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.362	3.370	-0.008	23879978H	0.005000	0.004485	
2	3.806	3.807	-0.001	5879261H	0.005000	0.004532	
						RPD = 1.03	
6 PCB-1016							M
1	3.685	3.693	-0.008	7757348H	0.1000	0.1057	M
1	4.552	4.562	-0.010	17422255H	0.1000	0.1025	
1	4.710	4.720	-0.010	10274819H	0.1000	0.1062	
1	5.228	5.239	-0.011	8531720H	0.1000	0.1064	
1	5.764	5.775	-0.011	5904816H	0.1000	0.1115	
		Average of Peak Amounts =				0.1065	
2	4.348	4.349	-0.001	1798270H	0.1000	0.1003	
2	5.511	5.514	-0.003	3827127H	0.1000	0.0972	
2	5.715	5.717	-0.002	2248966H	0.1000	0.1001	
2	6.480	6.482	-0.002	1889754H	0.1000	0.1017	
2	6.696	6.698	-0.002	1582660H	0.1000	0.1020	
		Average of Peak Amounts =				0.1003	
						RPD = 5.98	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	7.660	7.672	-0.012	20258773H	0.1000	0.0990	
1	8.215	8.229	-0.014	18330543H	0.1000	0.0978	
1	8.885	8.897	-0.012	13389901H	0.1000	0.1007	
1	9.425	9.435	-0.010	32278171H	0.1000	0.0953	
1	9.884	9.894	-0.010	18120979H	0.1000	0.0961	
		Average of Peak Amounts =				0.0978	
2	8.903	8.905	-0.002	3637378H	0.1000	0.1041	
2	9.275	9.277	-0.002	4635055H	0.1000	0.1056	
2	9.882	9.885	-0.003	4365390H	0.1000	0.1029	
2	10.868	10.870	-0.002	8314936H	0.1000	0.1028	
2	11.396	11.397	-0.001	4741016H	0.1000	0.1031	
		Average of Peak Amounts =				0.1037	
						RPD = 5.90	
* 46 PCB-205 (IS)							
1	10.909	10.916	-0.007	476926570H	0.1000	0.1000	
2	12.225	12.227	-0.002	107577341H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.496	11.502	-0.006	17574289H	0.005000	0.004870	
2	12.938	12.940	-0.002	4231696H	0.005000	0.005214	
						RPD = 6.81	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCAR1660CALL2_00019	Amount Added: 1.00	Units: mL	
PCBINT_00010	Amount Added: 0.01	Units: mL	Run Reagent

Report Date: 23-Sep-2019 06:50:54 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921907.D				
Injection Date:	21-Sep-2019 10:02:42	Instrument ID:	CHGC10		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

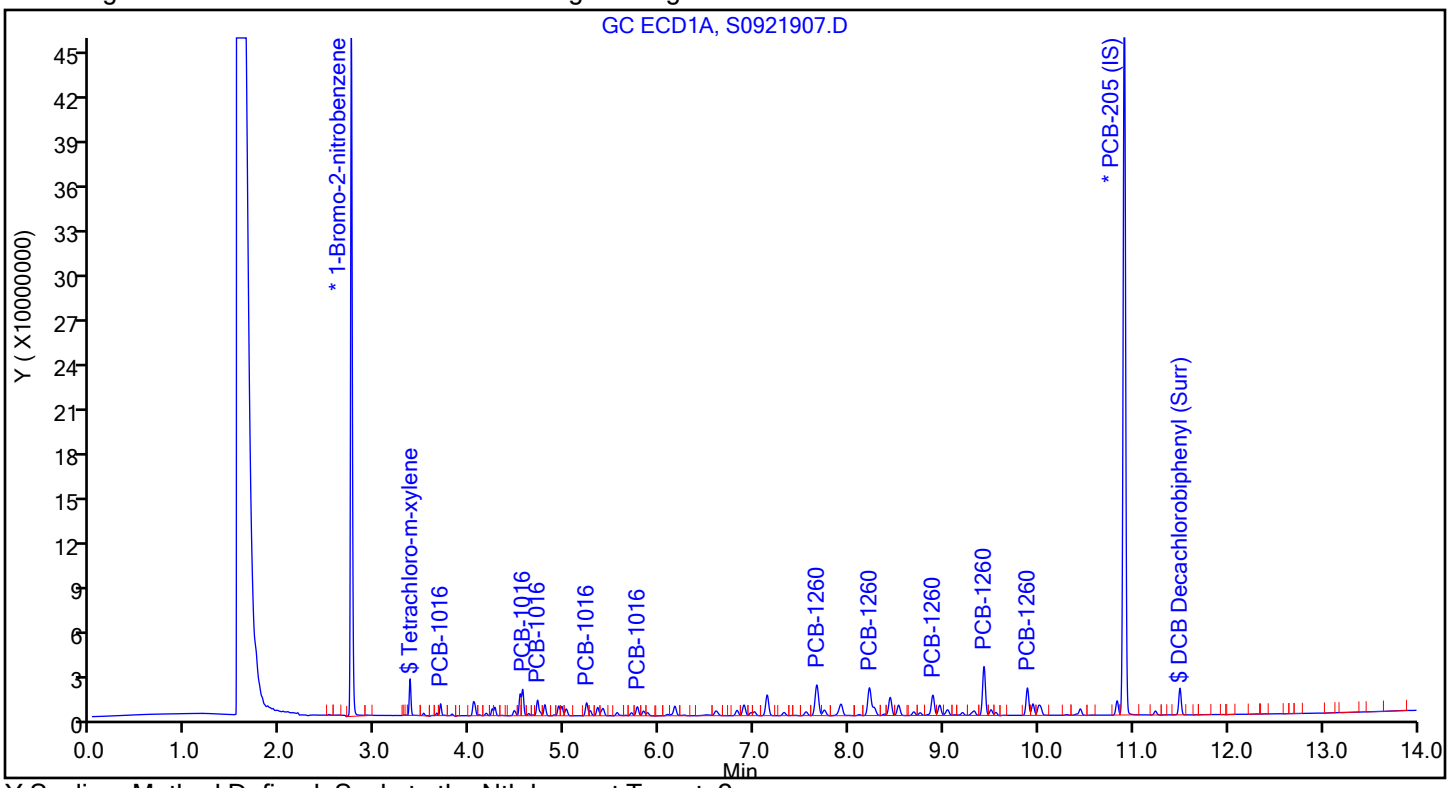

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

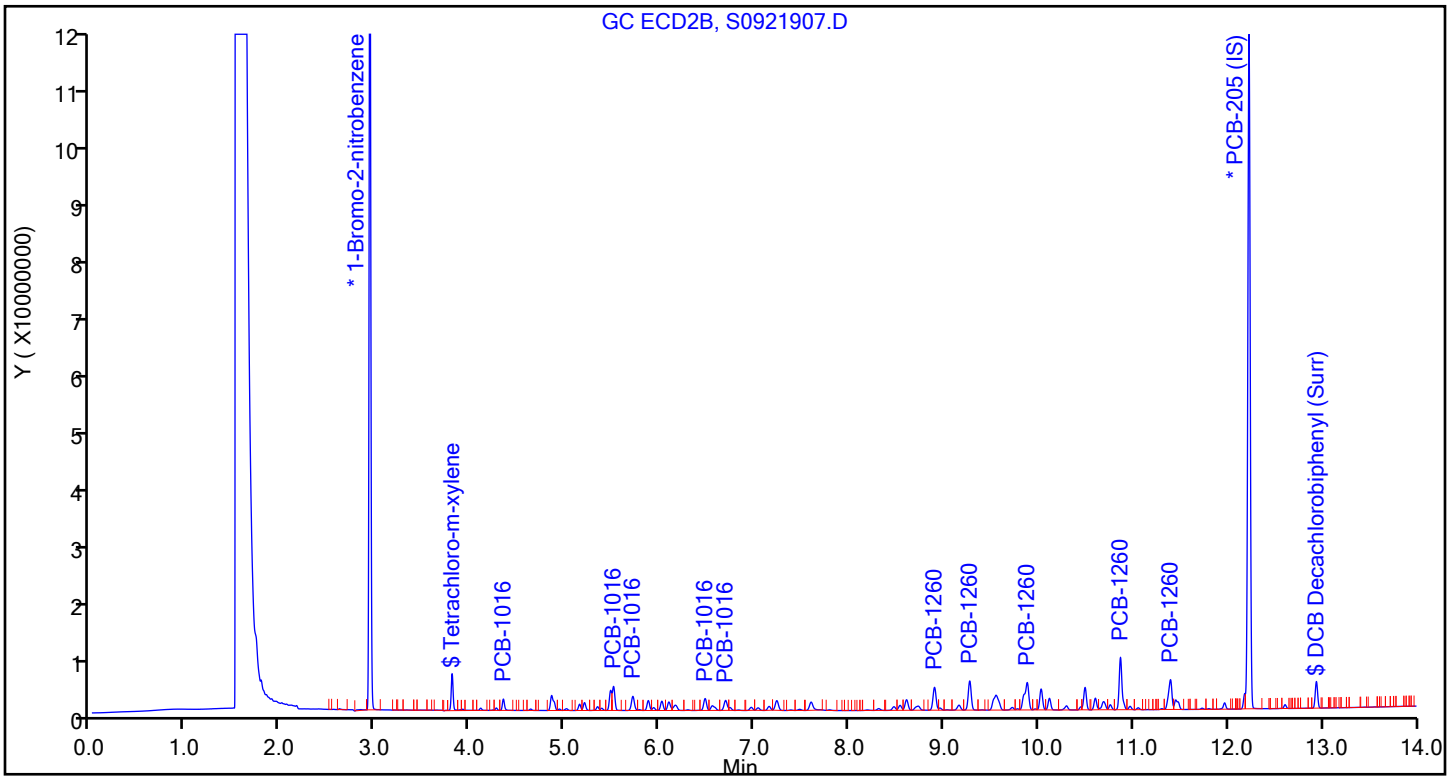

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921908.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 21-Sep-2019 10:23:00 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-007
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:50:50 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.748	2.748	-0.001	485226757H	0.1000	0.1000	
2	2.938	2.939	-0.001	150776360H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.369	3.370	-0.001	68462844H	0.0125	0.0119	
2	3.807	3.807	0.000	17364877H	0.0125	0.0124	
						RPD = 3.88	
6 PCB-1016							
1	3.693	3.693	0.000	19465012H	0.2500	0.2454	
1	4.561	4.562	-0.001	42870814H	0.2500	0.2333	
1	4.719	4.720	-0.001	24095778H	0.2500	0.2305	
1	5.239	5.239	0.000	20495624H	0.2500	0.2366	
1	5.775	5.775	0.000	13300023H	0.2500	0.2325	
		Average of Peak Amounts =				0.2357	
2	4.348	4.349	-0.001	4846849H	0.2500	0.2500	
2	5.513	5.514	-0.001	10609096H	0.2500	0.2491	
2	5.717	5.717	0.000	6125446H	0.2500	0.2520	
2	6.481	6.482	-0.001	4982408H	0.2500	0.2480	
2	6.698	6.698	0.000	4150037H	0.2500	0.2472	
		Average of Peak Amounts =				0.2492	
						RPD = 5.60	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	7.673	7.672	0.001	45464608H	0.2500	0.2312	
1	8.227	8.229	-0.002	41516910H	0.2500	0.2305	
1	8.896	8.897	-0.001	29204098H	0.2500	0.2285	
1	9.434	9.435	-0.001	75955835H	0.2500	0.2334	
1	9.893	9.894	-0.001	40995963H	0.2500	0.2263	
		Average of Peak Amounts =				0.2300	
2	8.904	8.905	-0.001	8779289H	0.2500	0.2427	
2	9.277	9.277	0.000	10972709H	0.2500	0.2415	
2	9.883	9.885	-0.002	10380019H	0.2500	0.2365	
2	10.869	10.870	-0.001	20082780H	0.2500	0.2398	
2	11.398	11.397	0.001	11525990H	0.2500	0.2422	
		Average of Peak Amounts =				0.2405	
						RPD = 4.48	
* 46 PCB-205 (IS)							
1	10.914	10.916	-0.001	458191075H	0.1000	0.1000	
2	12.227	12.227	-0.001	111349161H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.502	11.502	0.000	40763898H	0.0125	0.0118	
2	12.938	12.940	-0.002	10191748H	0.0125	0.0121	
						RPD = 3.12	

Reagents:

GCAR1660CALL3_00018 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Sep-2019 06:50:50 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921908.D				
Injection Date:	21-Sep-2019 10:23:00	Instrument ID:	CHGC10		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

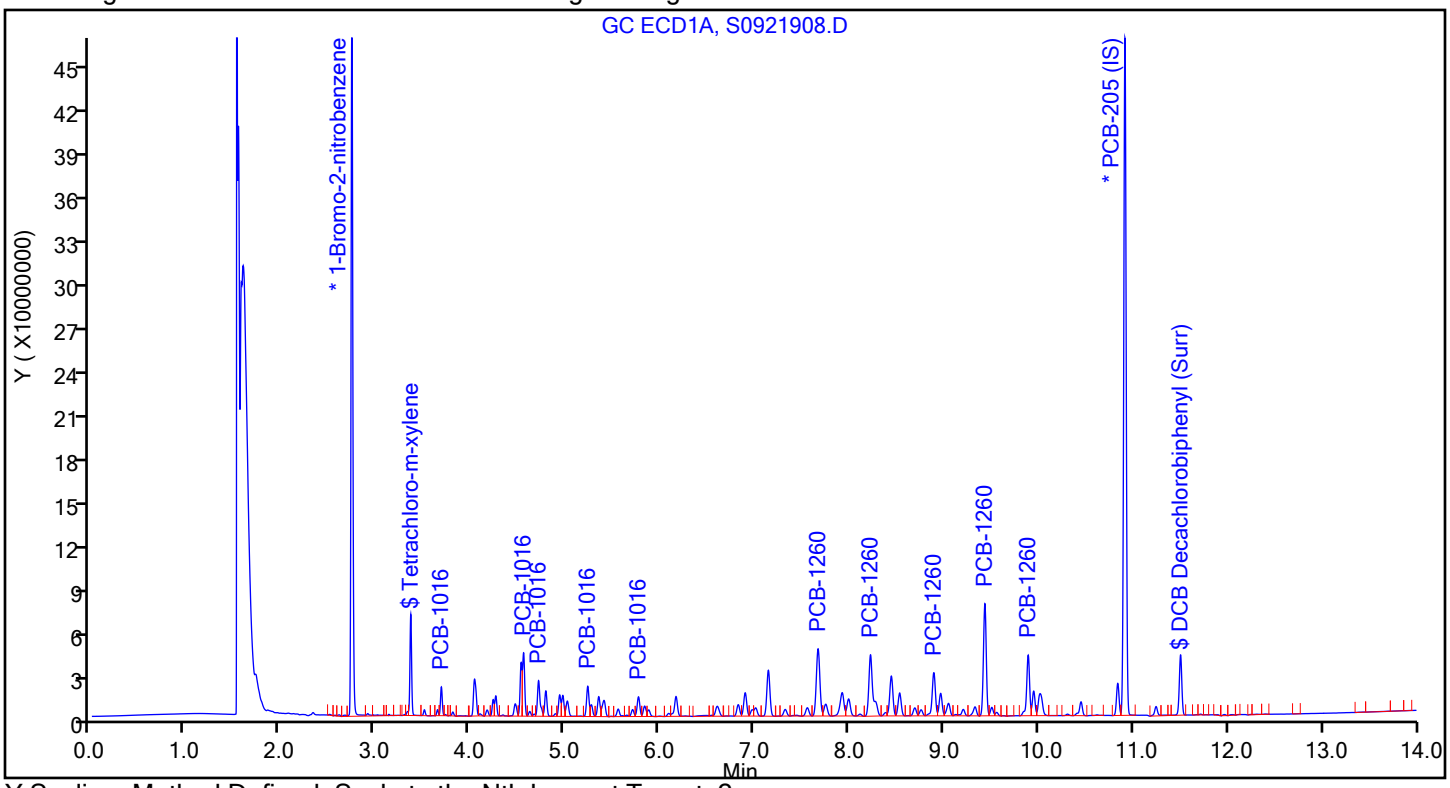

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

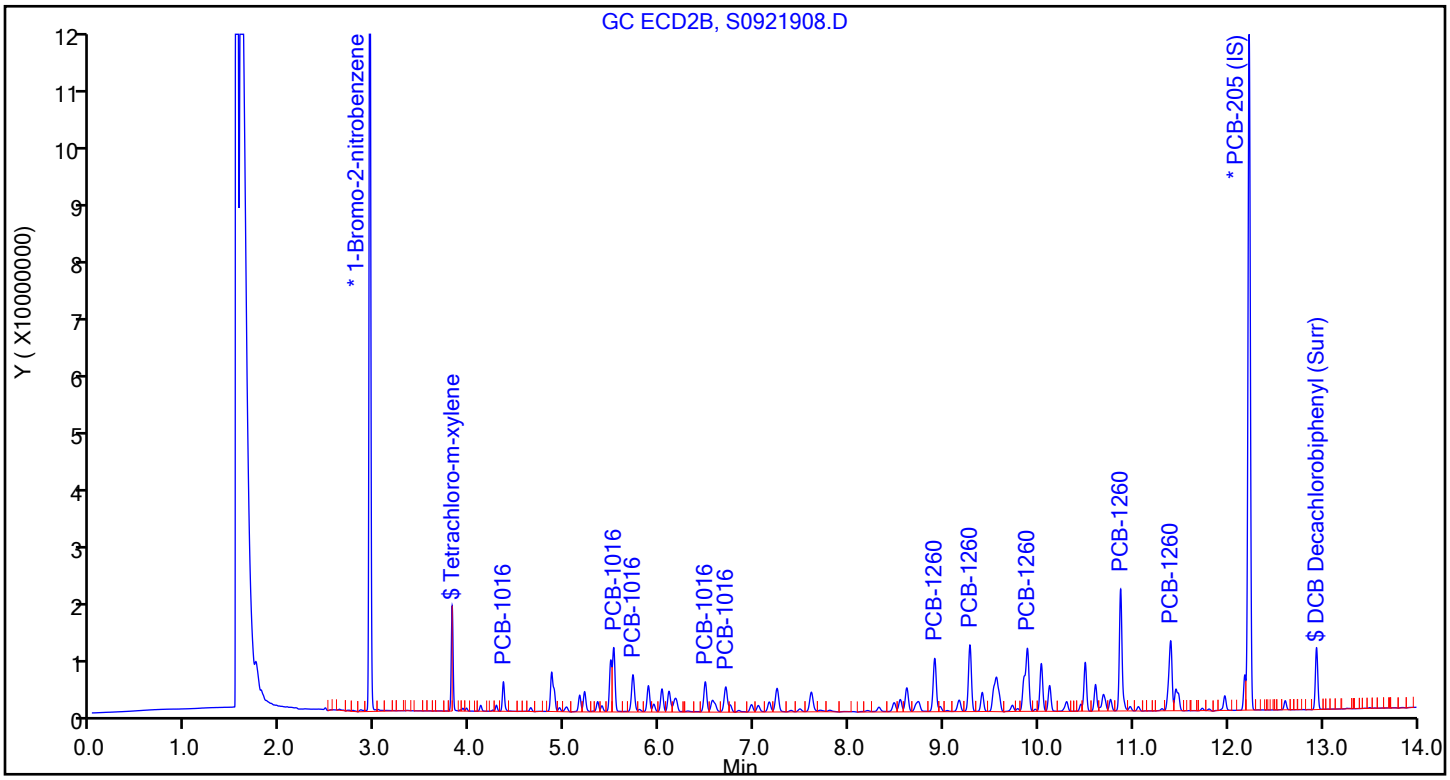

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921909.D
Lims ID: ICIS
Client ID:
Sample Type: ICIS Calib Level: 4
Inject. Date: 21-Sep-2019 10:43:16 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-008
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:50:46 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

First Level Reviewer: oravecj Date: 23-Sep-2019 06:40:31

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.748	2.748	0.000	511889197H	0.1000	0.1000	
2	2.939	2.939	0.000	164036125H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.370	3.370	0.000	157929430H	0.0250	0.0260	
2	3.807	3.807	0.000	38452543H	0.0250	0.0252	
						RPD = 3.28	
6 PCB-1016							
1	3.693	3.693	0.000	43011355H	0.5000	0.5140	
1	4.562	4.562	0.000	101479442H	0.5000	0.5236	
1	4.720	4.720	0.000	57484278H	0.5000	0.5213	
1	5.239	5.239	0.000	46231346H	0.5000	0.5058	
1	5.775	5.775	0.000	30588902H	0.5000	0.5069	
		Average of Peak Amounts =				0.5143	
2	4.349	4.349	0.000	10165005H	0.5000	0.4819	
2	5.514	5.514	0.000	22851496H	0.5000	0.4932	
2	5.717	5.717	0.000	12789537H	0.5000	0.4836	
2	6.482	6.482	0.000	10512408H	0.5000	0.4809	
2	6.698	6.698	0.000	8744313H	0.5000	0.4787	
		Average of Peak Amounts =				0.4837	
						RPD = 6.14	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	7.672	7.672	0.000	103793343H	0.5000	0.5013	
1	8.229	8.229	0.000	95246941H	0.5000	0.5021	
1	8.897	8.897	0.000	67078533H	0.5000	0.4985	
1	9.435	9.435	0.000	169586422H	0.5000	0.4949	
1	9.894	9.894	0.000	91397085H	0.5000	0.4790	
		Average of Peak Amounts =				0.4952	
2	8.905	8.905	0.000	18883129H	0.5000	0.5053	
2	9.277	9.277	0.000	23983861H	0.5000	0.5111	
2	9.885	9.885	0.000	23177185H	0.5000	0.5112	
2	10.870	10.870	0.000	43162891H	0.5000	0.4990	
2	11.397	11.397	0.000	23906070H	0.5000	0.4863	
		Average of Peak Amounts =				0.5025	
						RPD = 1.48	
* 46 PCB-205 (IS)							
1	10.916	10.916	0.000	482499706H	0.1000	0.1000	
2	12.227	12.227	0.000	115027624H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.502	11.502	0.000	84996667H	0.0250	0.0233	
2	12.940	12.940	0.000	20461165H	0.0250	0.0236	
						RPD = 1.26	

Reagents:

GCAR1660CALL4_00019 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Sep-2019 06:50:47 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921909.D

Injection Date: 21-Sep-2019 10:43:16 Instrument ID: CHGC10

Lims ID: ICIS

Client ID:

Operator ID: ALS Bottle#: 8 Worklist Smp#: 8

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

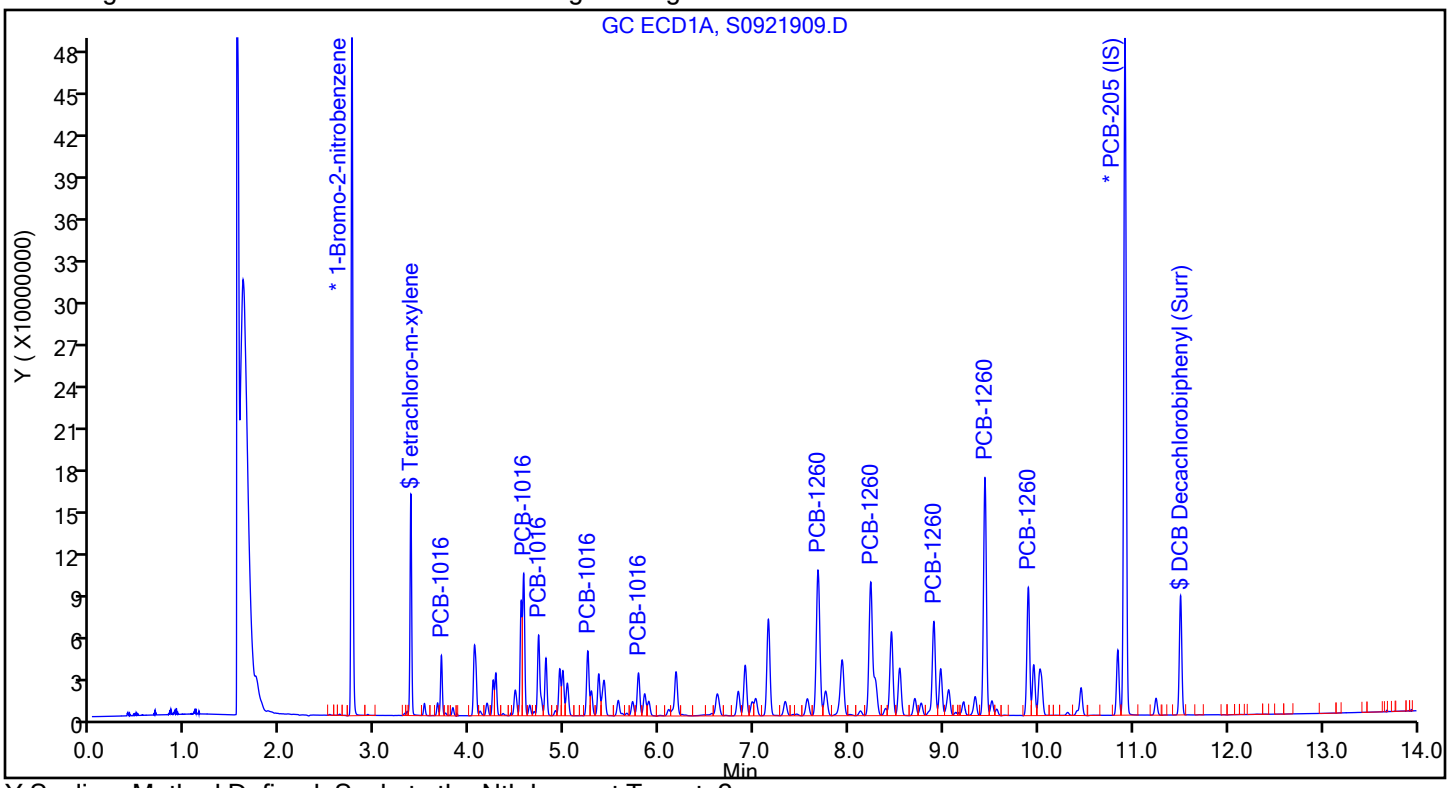

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

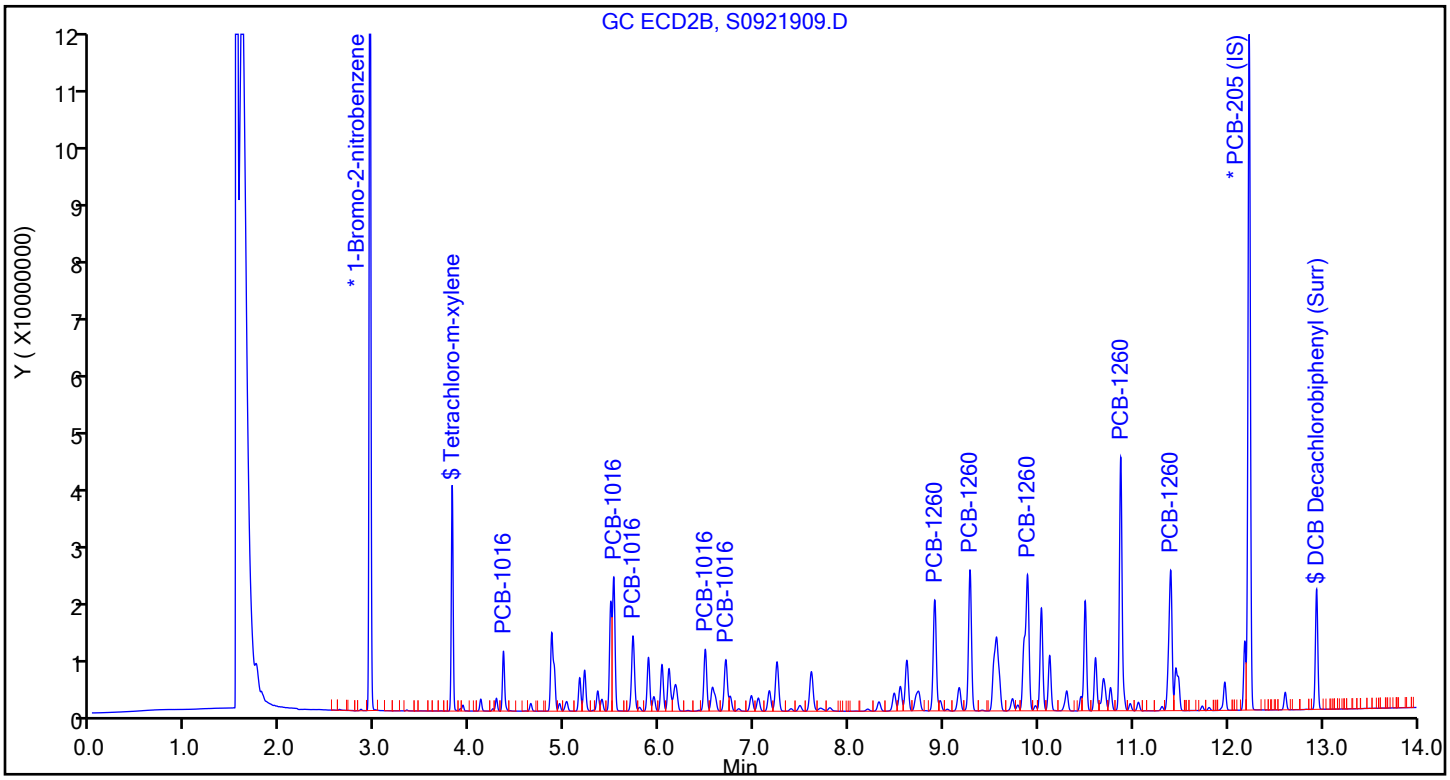

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921910.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 21-Sep-2019 11:03:44 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-009
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:50:42 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.747	2.748	-0.001	486898373H	0.1000	0.1000	
2	2.937	2.939	-0.002	145147868H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.370	3.370	0.000	265426609H	0.0500	0.0460	
2	3.806	3.807	-0.001	62757427H	0.0500	0.0464	
						RPD = 1.01	
6 PCB-1016							
1	3.693	3.693	0.000	68984311H	1.00	0.8667	
1	4.561	4.562	-0.001	169029996H	1.00	0.9169	
1	4.720	4.720	0.000	94293443H	1.00	0.8991	
1	5.239	5.239	0.000	79194729H	1.00	0.9109	
1	5.775	5.775	0.000	51382965H	1.00	0.8952	
		Average of Peak Amounts =				0.8977	
2	4.348	4.349	-0.001	16125319H	1.00	0.8640	
2	5.513	5.514	-0.001	38172898H	1.00	0.9311	
2	5.716	5.717	-0.001	21055775H	1.00	0.8997	
2	6.480	6.482	-0.002	17224077H	1.00	0.8905	
2	6.697	6.698	-0.001	14577808H	1.00	0.9020	
		Average of Peak Amounts =				0.8975	
						RPD = 0.03	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	7.673	7.672	0.001	184837813H	1.00	0.8914	
1	8.228	8.229	-0.001	171393567H	1.00	0.9022	
1	8.896	8.897	-0.001	121602077H	1.00	0.9023	
1	9.436	9.435	0.001	311148205H	1.00	0.9066	
1	9.893	9.894	-0.001	168964818H	1.00	0.8842	
		Average of Peak Amounts =				0.8973	
2	8.905	8.905	0.000	32695592H	1.00	0.8626	
2	9.276	9.277	-0.001	41407640H	1.00	0.8700	
2	9.884	9.885	-0.001	40753408H	1.00	0.8862	
2	10.869	10.870	-0.001	79749385H	1.00	0.9090	
2	11.397	11.397	0.000	44620675H	1.00	0.8949	
		Average of Peak Amounts =				0.8845	
						RPD = 1.44	
* 46 PCB-205 (IS)							
1	10.915	10.916	0.000	483249465H	0.1000	0.1000	
2	12.226	12.227	-0.001	116660848H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.502	11.502	0.000	159625471H	0.0500	0.0437	
2	12.940	12.940	0.000	38543080H	0.0500	0.0438	
						RPD = 0.30	

Reagents:

GCAR1660CALL5_00019	Amount Added: 1.00	Units: mL	
PCBINT_00010	Amount Added: 0.01	Units: mL	Run Reagent

Report Date: 23-Sep-2019 06:50:43 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921910.D

Injection Date: 21-Sep-2019 11:03:44 Instrument ID: CHGC10

Lims ID: IC

Client ID:

Operator ID: ALS Bottle#: 9 Worklist Smp#: 9

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

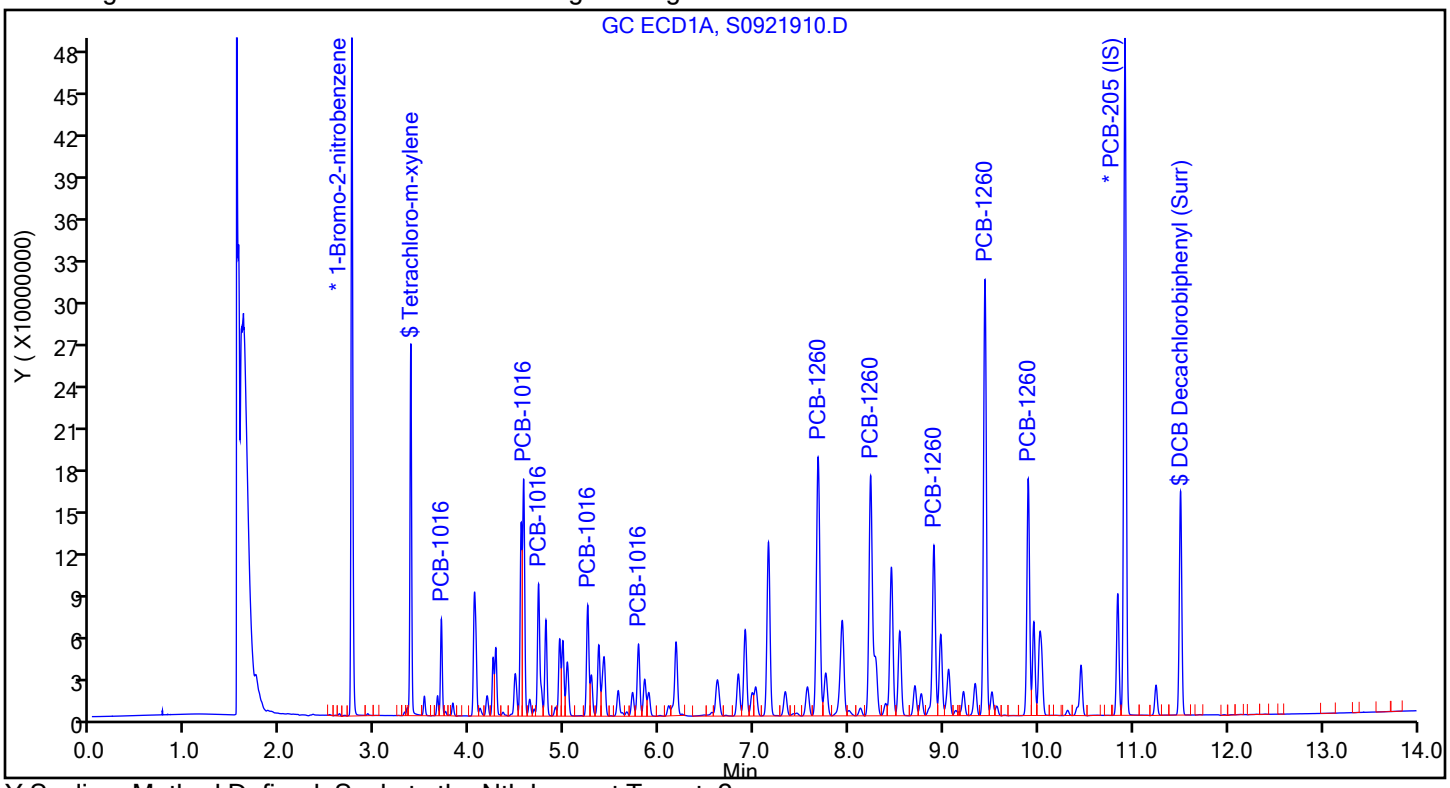

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

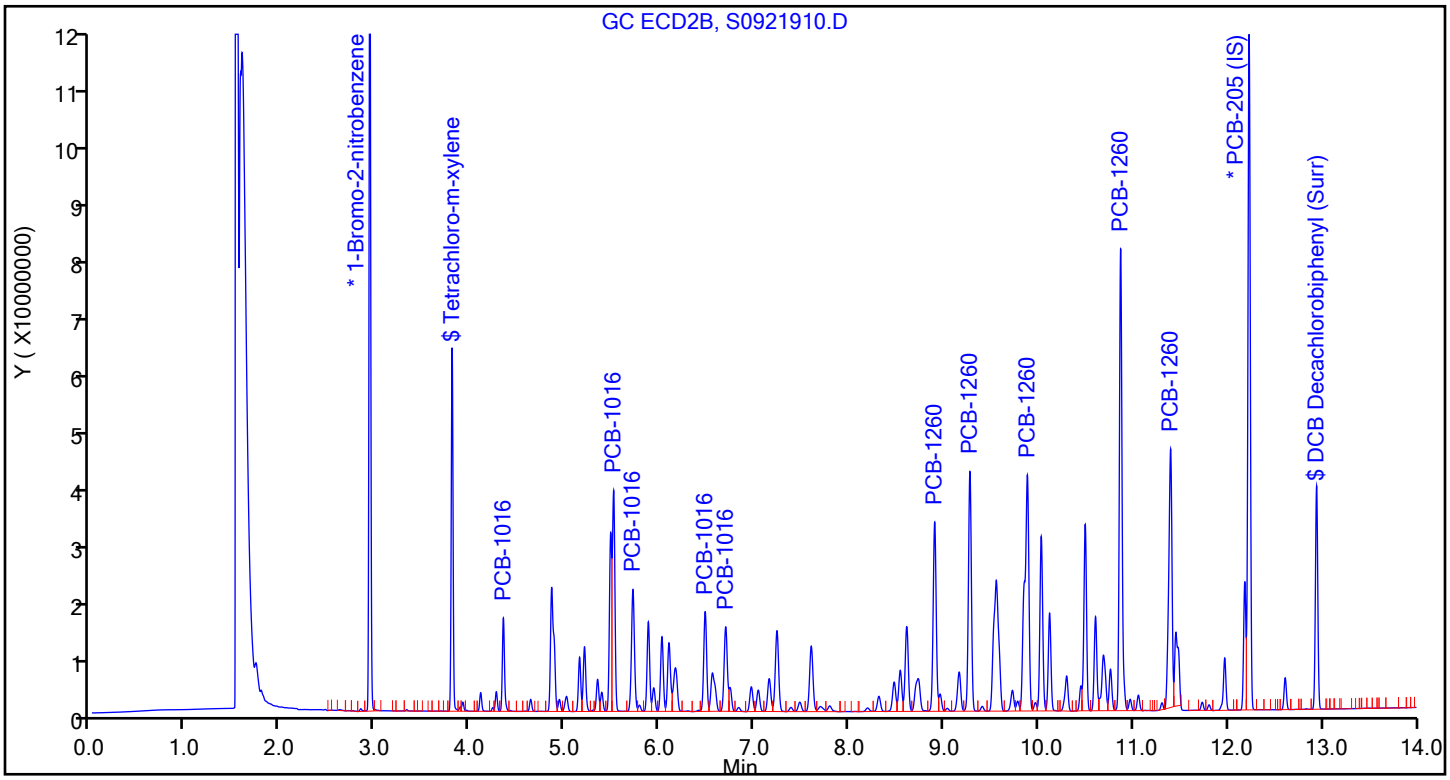

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921911.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 21-Sep-2019 11:24:03 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-010
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:50:38 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.747	2.748	-0.001	531073284H	0.1000	0.1000	
2	2.936	2.939	-0.003	147624344H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.370	3.370	0.000	593197064H	0.1000	0.0942	
2	3.805	3.807	-0.002	136871204H	0.1000	0.0996	
						RPD = 5.56	
6 PCB-1016							
1	3.693	3.693	0.000	146478286H	2.00	1.69	
1	4.560	4.562	-0.002	357879738H	2.00	1.78	
1	4.720	4.720	0.000	194331631H	2.00	1.70	
1	5.239	5.239	0.000	165919737H	2.00	1.75	
1	5.775	5.775	0.000	105686964H	2.00	1.69	
		Average of Peak Amounts =				1.72	
2	4.347	4.349	-0.002	33543708H	2.00	1.77	
2	5.512	5.514	-0.002	81726863H	2.00	1.96	
2	5.715	5.717	-0.002	44974420H	2.00	1.89	
2	6.479	6.482	-0.003	37447080H	2.00	1.90	
2	6.695	6.698	-0.003	31120155H	2.00	1.89	
		Average of Peak Amounts =				1.88	
						RPD = 8.99	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	7.671	7.672	-0.001	373471781H	2.00	1.98	
1	8.228	8.229	-0.001	335362989H	2.00	1.94	
1	8.896	8.897	-0.001	239780330H	2.00	1.96	
1	9.436	9.435	0.001	645052703H	2.00	2.07	
1	9.893	9.894	-0.001	343286798H	2.00	1.98	
		Average of Peak Amounts =				1.99	
2	8.904	8.905	-0.001	67625733H	2.00	1.80	
2	9.276	9.277	-0.001	87761388H	2.00	1.86	
2	9.883	9.885	-0.002	85146647H	2.00	1.87	
2	10.869	10.870	-0.001	157781207H	2.00	1.82	
2	11.397	11.397	0.000	91045846H	2.00	1.85	
		Average of Peak Amounts =				1.84	
						RPD = 7.63	
* 46 PCB-205 (IS)							
1	10.915	10.916	0.000	438806448H	0.1000	0.1000	
2	12.227	12.227	0.000	115386234H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.503	11.502	0.001	330247569H	0.1000	0.0995	
2	12.939	12.940	-0.001	78624611H	0.1000	0.0903	
						RPD = 9.65	

Reagents:

GCAR1660CALL6_00017 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Sep-2019 06:50:39 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921911.D

Injection Date: 21-Sep-2019 11:24:03 Instrument ID: CHGC10

Lims ID: IC

Client ID:

Operator ID: ALS Bottle#: 10 Worklist Smp#: 10

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

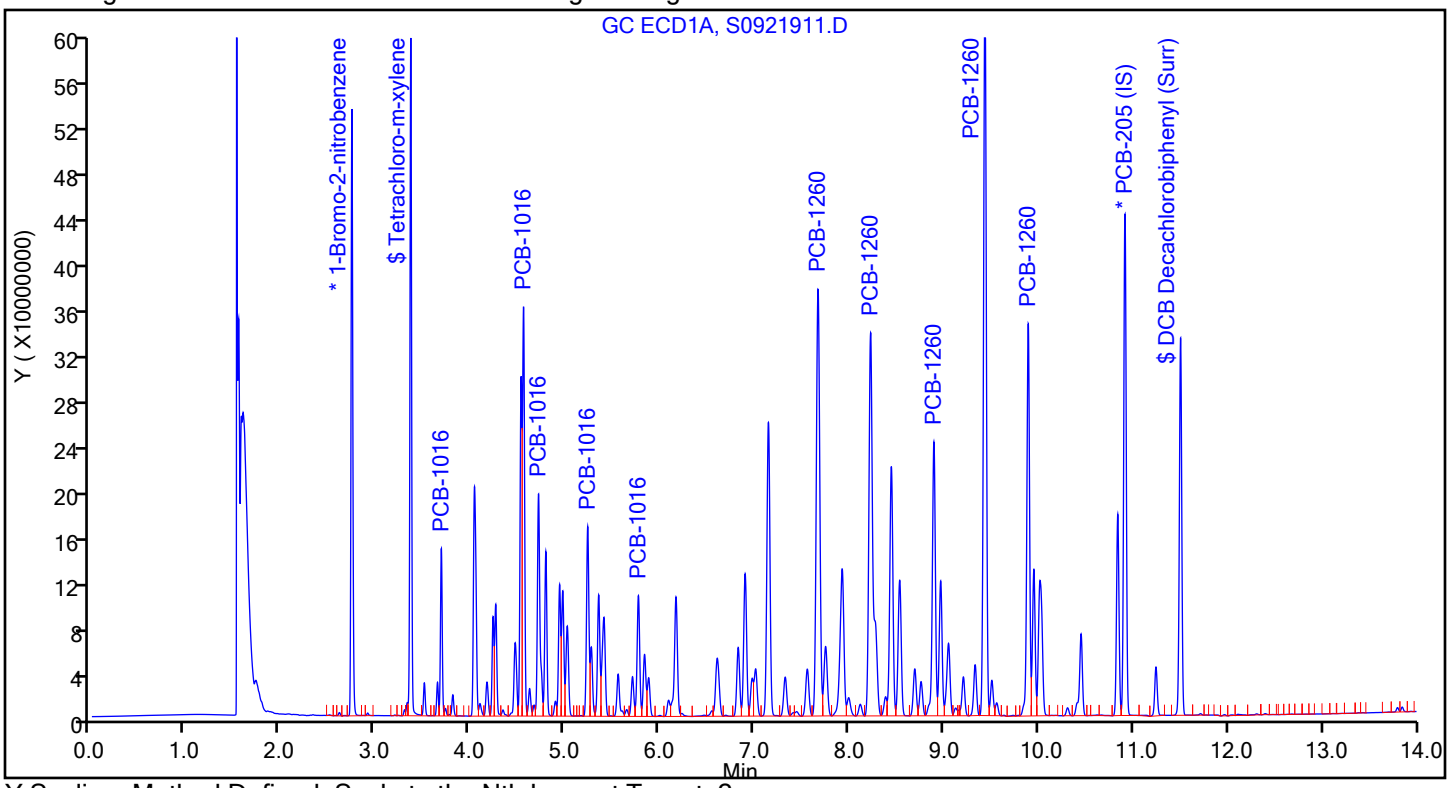

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

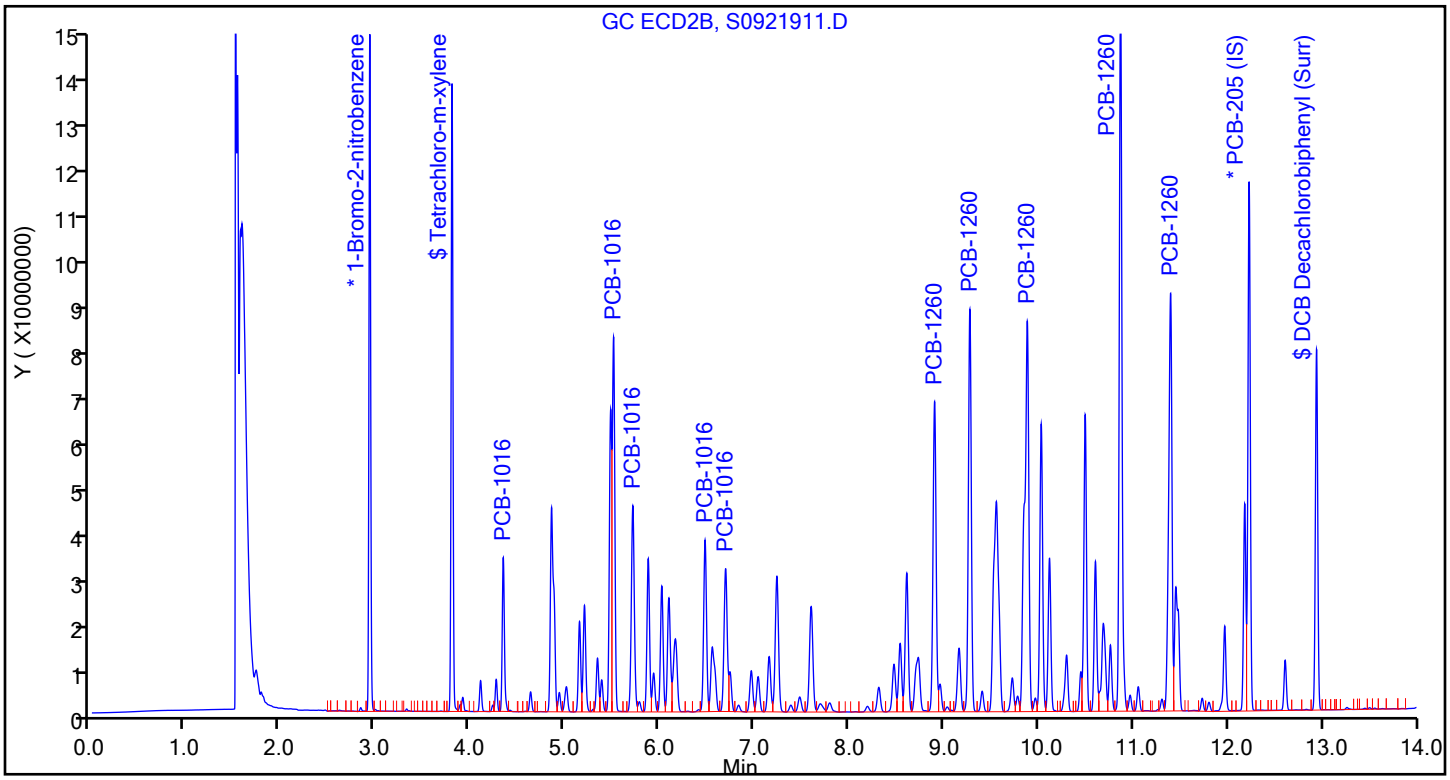

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 21-Sep-2019 11:44:24 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-011
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:50:34 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.748	2.748	0.000	484206744H	0.1000	0.1000	
2	2.938	2.939	-0.001	150217241H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.371	3.370	0.001	1265766620H	0.2000	0.2205	
2	3.808	3.807	0.001	291444322H	0.2000	0.2084	
						RPD = 5.63	
6 PCB-1016							
1	3.694	3.693	0.001	297683567H	4.00	3.76	
1	4.563	4.562	0.001	718318050H	4.00	3.92	
1	4.721	4.720	0.001	387398138H	4.00	3.71	
1	5.241	5.239	0.002	331923571H	4.00	3.84	
1	5.777	5.775	0.002	215491843H	4.00	3.77	
		Average of Peak Amounts =				3.80	
2	4.349	4.349	0.000	68504176H	4.00	3.55	
2	5.514	5.514	0.000	164277483H	4.00	3.87	
2	5.718	5.717	0.001	90339652H	4.00	3.73	
2	6.483	6.482	0.001	74715074H	4.00	3.73	
2	6.699	6.698	0.001	62476014H	4.00	3.74	
		Average of Peak Amounts =				3.72	
						RPD = 2.08	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	7.674	7.672	0.002	748697841H	4.00	3.85	
1	8.229	8.229	0.000	701106011H	4.00	3.94	
1	8.897	8.897	0.000	497713780H	4.00	3.94	
1	9.437	9.435	0.002	1358258724H	4.00	4.22	
1	9.895	9.894	0.001	712230375H	4.00	3.98	
		Average of Peak Amounts =				3.99	
2	8.906	8.905	0.001	134000871H	4.00	3.69	
2	9.278	9.277	0.001	169648913H	4.00	3.72	
2	9.885	9.885	0.000	169212213H	4.00	3.84	
2	10.871	10.870	0.001	332281068H	4.00	3.95	
2	11.399	11.397	0.002	185906716H	4.00	3.89	
		Average of Peak Amounts =				3.82	
						RPD = 4.34	
* 46 PCB-205 (IS)							
1	10.917	10.916	0.001	453013003H	0.1000	0.1000	
2	12.229	12.227	0.002	111866344H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.503	11.502	0.001	699680251H	0.2000	0.2041	
2	12.941	12.940	0.001	163998015H	0.2000	0.1943	
						RPD = 4.93	

Reagents:

GCAR1660CALL7_00018 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Sep-2019 06:50:35 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Injection Date: 21-Sep-2019 11:44:24 Instrument ID: CHGC10

Lims ID: IC

Client ID:

Operator ID: ALS Bottle#: 11 Worklist Smp#: 11

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

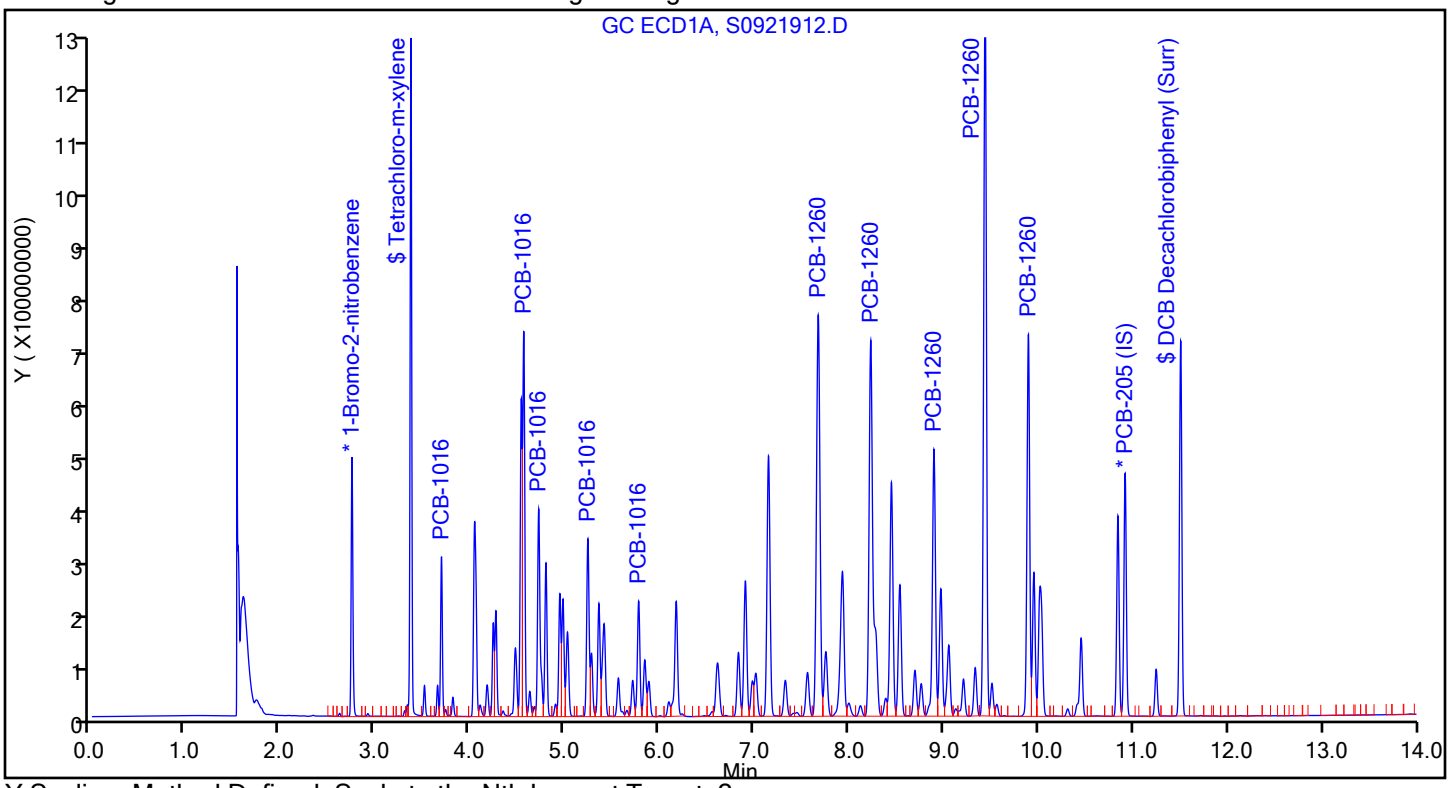

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

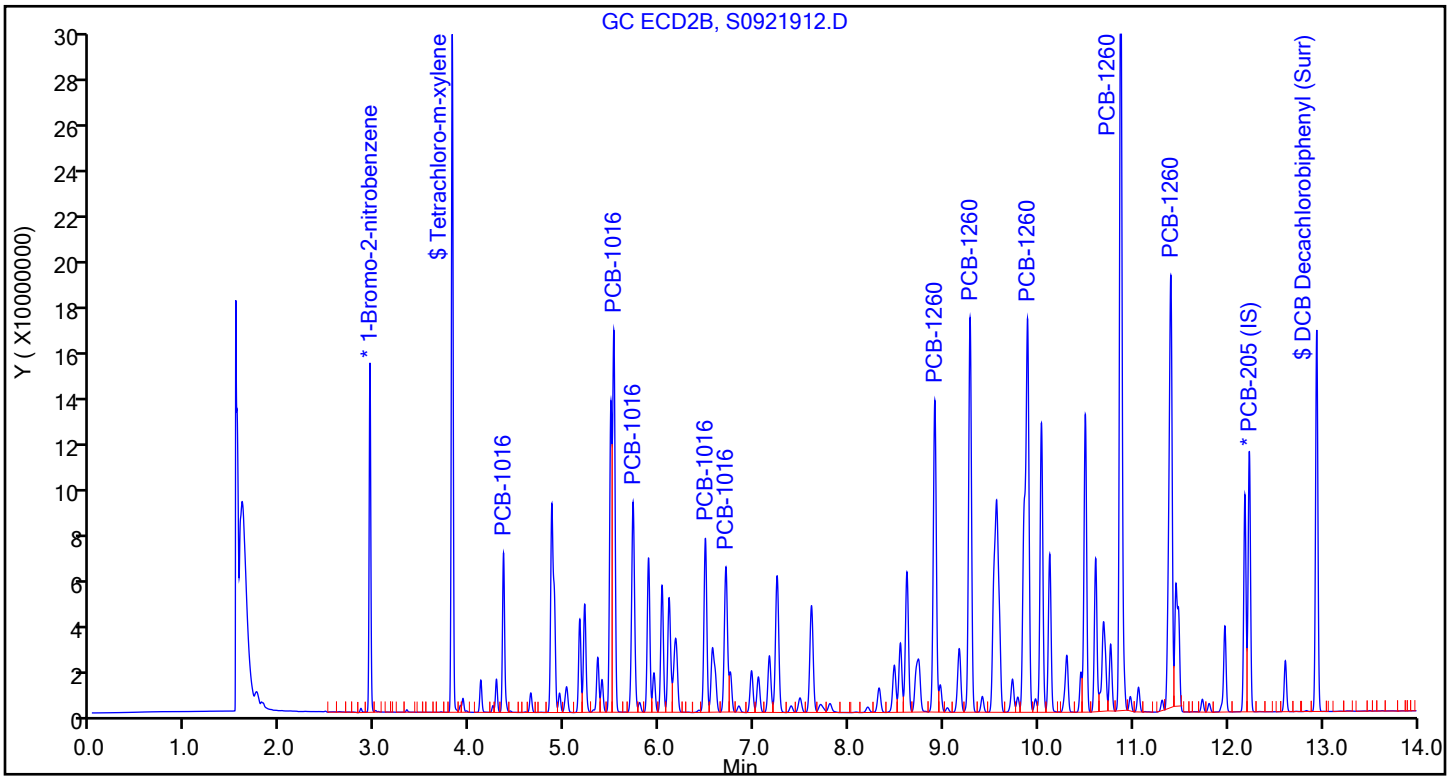

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-293170/1 Calibration Date: 09/30/2019 10:05

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 08:24

GC Column: RTX-CLP1 ID: 0.53(mm) Calib End Date: 09/21/2019 08:24

Lab File ID: S0930901.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1221 Peak 1	Ave	0.0128	0.0109		0.424	0.500	-15.3	20.0
PCB-1221 Peak 2	Ave	0.0080	0.0066		0.415	0.500	-16.9	20.0
PCB-1221 Peak 3	Ave	0.0280	0.0242		0.431	0.500	-13.8	20.0
PCB-1254 Peak 1	Ave	0.0284	0.0269		0.473	0.500	-5.4	20.0
PCB-1254 Peak 2	Ave	0.0364	0.0354		0.486	0.500	-2.9	20.0
PCB-1254 Peak 3	Ave	0.0519	0.0489		0.471	0.500	-5.7	20.0
PCB-1254 Peak 4	Ave	0.0374	0.0357		0.477	0.500	-4.6	20.0
PCB-1254 Peak 5	Ave	0.0293	0.0282		0.481	0.500	-3.8	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-293170/1 Calibration Date: 09/30/2019 10:05

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 08:24

GC Column: RTX-CLP1 ID: 0.53(mm) Calib End Date: 09/21/2019 08:24

Lab File ID: S0930901.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1221 Peak 1	3.51	3.49	3.53
PCB-1221 Peak 2	3.65	3.63	3.67
PCB-1221 Peak 3	3.69	3.67	3.71
PCB-1254 Peak 1	5.77	5.75	5.79
PCB-1254 Peak 2	6.17	6.15	6.19
PCB-1254 Peak 3	6.82	6.80	6.84
PCB-1254 Peak 4	7.32	7.30	7.34
PCB-1254 Peak 5	7.67	7.65	7.69

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930901.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 30-Sep-2019 10:05:12 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028895-001
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub21

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 01-Oct-2019 10:03:38 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: oravecj Date: 01-Oct-2019 09:42:08

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.746	2.746	0.000	469662840H	0.1000	0.1000	
2	2.931	2.931	0.000	144334399H	0.1000	0.1000	
3 PCB-1221							
1	3.511	3.511	0.000	25476975H	0.5000	0.4236	
1	3.650	3.650	0.000	15510620H	0.5000	0.4154	
1	3.690	3.690	0.000	56788260H	0.5000	0.4311	
		Average of Peak Amounts =				0.4234	
2	3.319	3.319	0.000	4890952H	0.5000	0.4673	
2	4.099	4.099	0.000	6577760H	0.5000	0.4705	
2	4.337	4.337	0.000	13781405H	0.5000	0.4813	
		Average of Peak Amounts =				0.4731	
						RPD = 11.08	
8 PCB-1254							
1	5.770	5.770	0.000	62804601H	0.5000	0.4731	
1	6.167	6.167	0.000	82545119H	0.5000	0.4857	
1	6.824	6.824	0.000	114171610H	0.5000	0.4714	
1	7.317	7.317	0.000	83263025H	0.5000	0.4768	
1	7.668	7.668	0.000	65870970H	0.5000	0.4812	
		Average of Peak Amounts =				0.4776	
2	7.223	7.223	0.000	17023807H	0.5000	0.4399	
2	8.527	8.527	0.000	30026483H	0.5000	0.4524	
2	8.950	8.950	0.000	23170821H	0.5000	0.4643	
2	9.562	9.562	0.000	17401172H	0.5000	0.4619	
2	9.874	9.874	0.000	26763661H	0.5000	0.4691	
		Average of Peak Amounts =				0.4575	
						RPD = 4.30	
* 46 PCB-205 (IS)							
1	10.909	10.909	0.000	466805509H	0.1000	0.1000	
2	12.217	12.217	0.000	122688358H	0.1000	0.1000	

Reagents:

GCAR2154CALL4_00021	Amount Added:	1.00	Units: mL	
PCBINT_00010	Amount Added:	0.01	Units: mL	Run Reagent

Report Date: 01-Oct-2019 10:03:38 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930901.D

Injection Date: 30-Sep-2019 10:05:12 Instrument ID: CHGC10

Lims ID: CCV

Client ID:

Operator ID: ALS Bottle#: 1 Worklist Smp#: 1

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

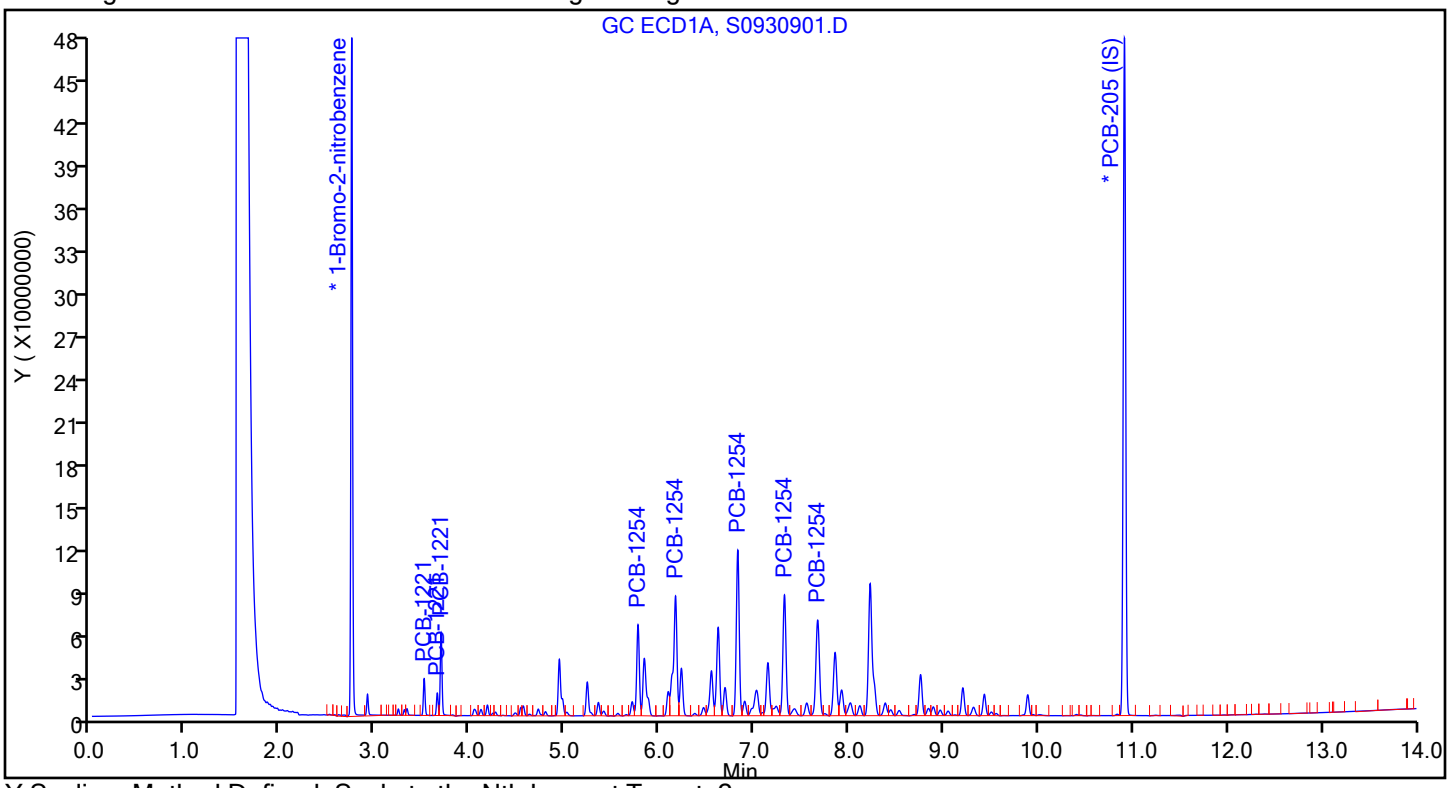

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

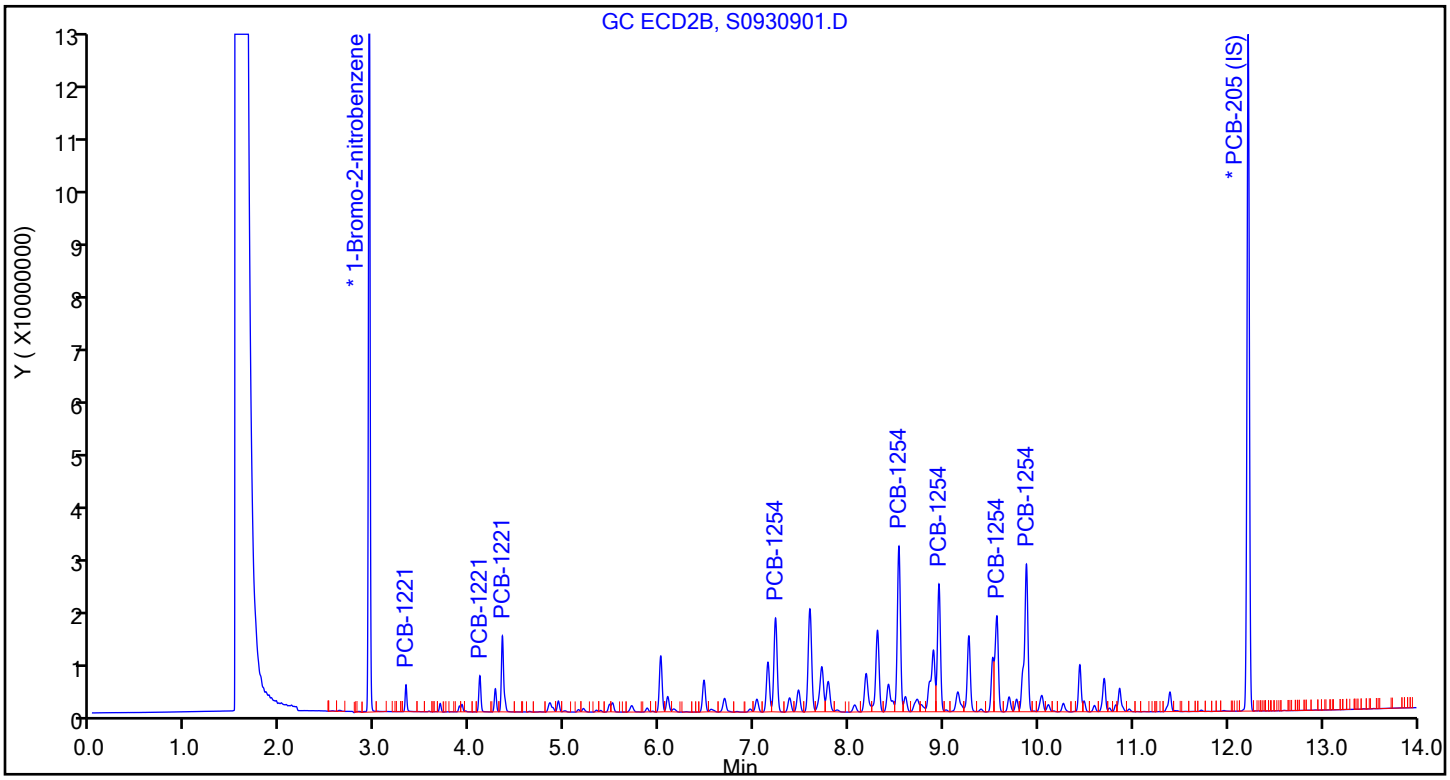

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-293170/1 Calibration Date: 09/30/2019 10:05

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 08:24

GC Column: RTX-CLP2 ID: 0.53(mm) Calib End Date: 09/21/2019 08:24

Lab File ID: S0930901.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1221 Peak 1	Ave	0.0073	0.0068		0.467	0.500	-6.5	20.0
PCB-1221 Peak 2	Ave	0.0097	0.0091		0.471	0.500	-5.9	20.0
PCB-1221 Peak 3	Ave	0.0198	0.0191		0.481	0.500	-3.7	20.0
PCB-1254 Peak 1	Ave	0.0315	0.0278		0.440	0.500	-12.0	20.0
PCB-1254 Peak 2	Ave	0.0541	0.0490		0.452	0.500	-9.5	20.0
PCB-1254 Peak 3	Ave	0.0407	0.0378		0.464	0.500	-7.1	20.0
PCB-1254 Peak 4	Ave	0.0307	0.0284		0.462	0.500	-7.6	20.0
PCB-1254 Peak 5	Ave	0.0465	0.0436		0.469	0.500	-6.2	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-293170/1 Calibration Date: 09/30/2019 10:05

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 08:24

GC Column: RTX-CLP2 ID: 0.53(mm) Calib End Date: 09/21/2019 08:24

Lab File ID: S0930901.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1221 Peak 1	3.32	3.30	3.34
PCB-1221 Peak 2	4.10	4.08	4.12
PCB-1221 Peak 3	4.34	4.32	4.36
PCB-1254 Peak 1	7.22	7.20	7.24
PCB-1254 Peak 2	8.53	8.51	8.55
PCB-1254 Peak 3	8.95	8.93	8.97
PCB-1254 Peak 4	9.56	9.54	9.58
PCB-1254 Peak 5	9.87	9.85	9.89

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930901.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 30-Sep-2019 10:05:12 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028895-001
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub21

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 01-Oct-2019 10:03:38 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: oravecj Date: 01-Oct-2019 09:42:08

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.746	2.746	0.000	469662840H	0.1000	0.1000	
2	2.931	2.931	0.000	144334399H	0.1000	0.1000	
3 PCB-1221							
1	3.511	3.511	0.000	25476975H	0.5000	0.4236	
1	3.650	3.650	0.000	15510620H	0.5000	0.4154	
1	3.690	3.690	0.000	56788260H	0.5000	0.4311	
		Average of Peak Amounts =				0.4234	
2	3.319	3.319	0.000	4890952H	0.5000	0.4673	
2	4.099	4.099	0.000	6577760H	0.5000	0.4705	
2	4.337	4.337	0.000	13781405H	0.5000	0.4813	
		Average of Peak Amounts =				0.4731	
						RPD = 11.08	
8 PCB-1254							
1	5.770	5.770	0.000	62804601H	0.5000	0.4731	
1	6.167	6.167	0.000	82545119H	0.5000	0.4857	
1	6.824	6.824	0.000	114171610H	0.5000	0.4714	
1	7.317	7.317	0.000	83263025H	0.5000	0.4768	
1	7.668	7.668	0.000	65870970H	0.5000	0.4812	
		Average of Peak Amounts =				0.4776	
2	7.223	7.223	0.000	17023807H	0.5000	0.4399	
2	8.527	8.527	0.000	30026483H	0.5000	0.4524	
2	8.950	8.950	0.000	23170821H	0.5000	0.4643	
2	9.562	9.562	0.000	17401172H	0.5000	0.4619	
2	9.874	9.874	0.000	26763661H	0.5000	0.4691	
		Average of Peak Amounts =				0.4575	
						RPD = 4.30	
* 46 PCB-205 (IS)							
1	10.909	10.909	0.000	466805509H	0.1000	0.1000	
2	12.217	12.217	0.000	122688358H	0.1000	0.1000	

Reagents:

GCAR2154CALL4_00021	Amount Added:	1.00	Units: mL	
PCBINT_00010	Amount Added:	0.01	Units: mL	Run Reagent

Report Date: 01-Oct-2019 10:03:39 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930901.D

Injection Date: 30-Sep-2019 10:05:12 Instrument ID: CHGC10

Lims ID: CCV

Client ID:

Operator ID: ALS Bottle#: 1 Worklist Smp#: 1

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

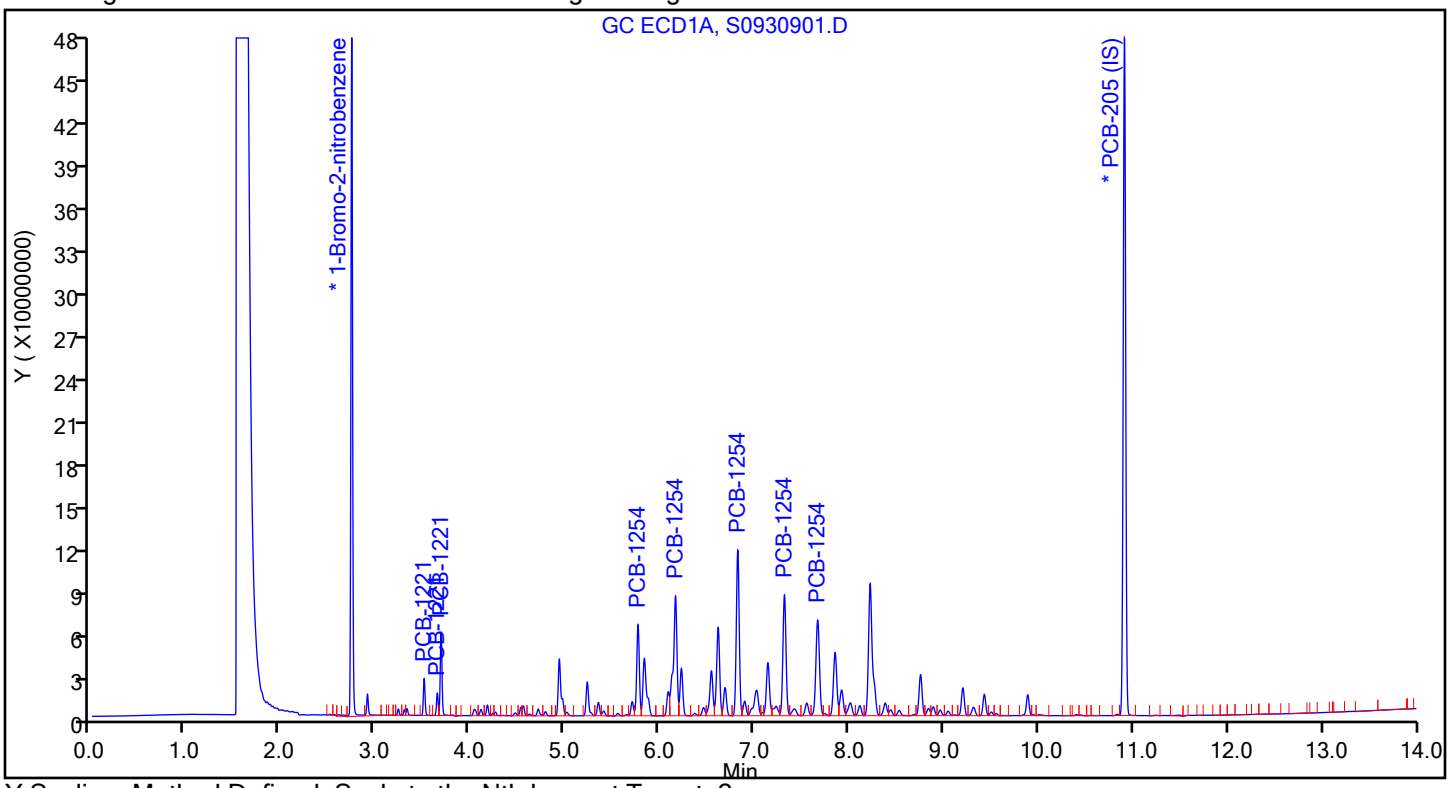

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

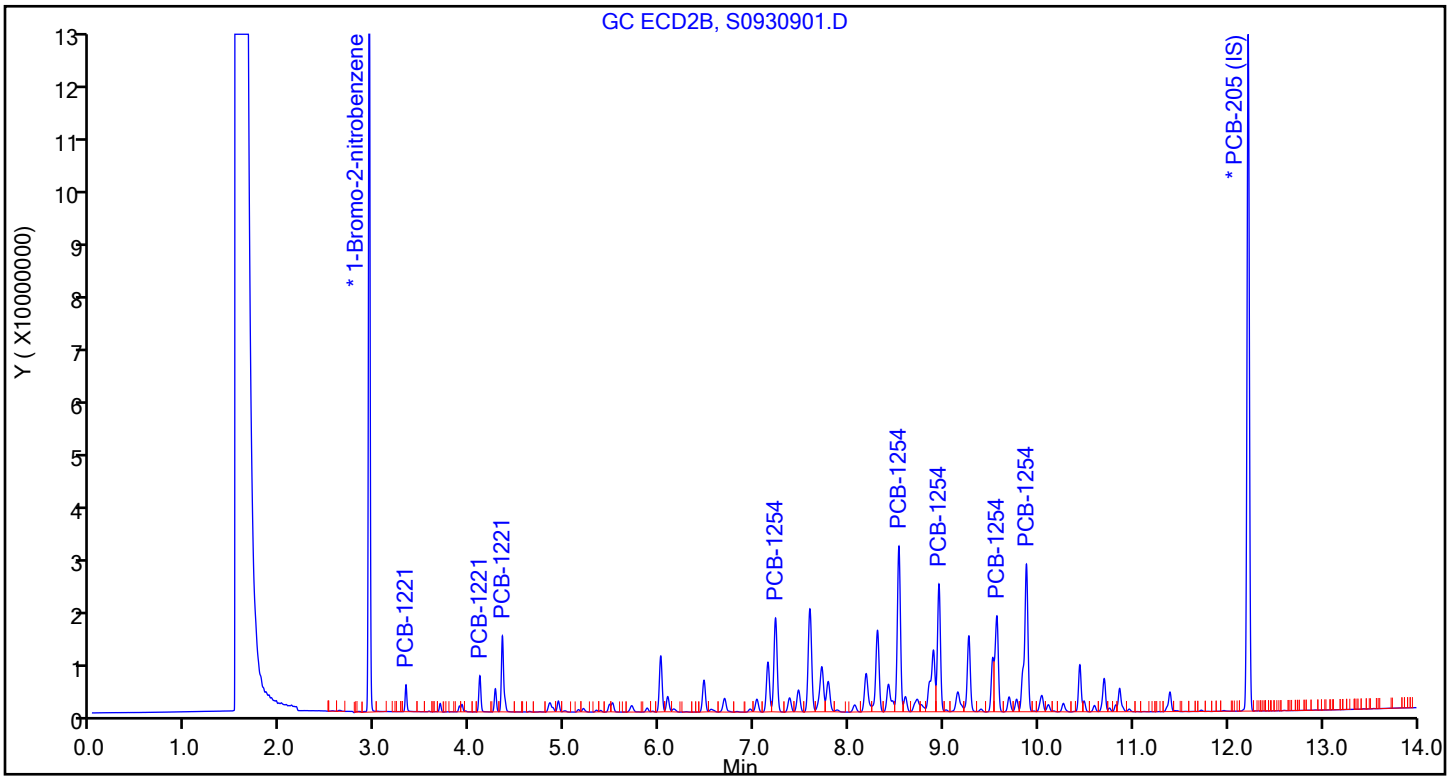

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-293170/3 Calibration Date: 09/30/2019 10:46

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 09:04

GC Column: RTX-CLP1 ID: 0.53(mm) Calib End Date: 09/21/2019 09:04

Lab File ID: S0930903.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1242 Peak 1	Ave	0.0199	0.0205		0.517	0.500	3.3	20.0
PCB-1242 Peak 2	Ave	0.0436	0.0389		0.445	0.500	-11.0	20.0
PCB-1242 Peak 3	Ave	0.0204	0.0191		0.469	0.500	-6.1	20.0
PCB-1242 Peak 4	Ave	0.0200	0.0198		0.495	0.500	-1.0	20.0
PCB-1242 Peak 5	Ave	0.0189	0.0187		0.494	0.500	-1.2	20.0
PCB-1268 Peak 1	Ave	0.1284	0.1241		0.483	0.500	-3.4	20.0
PCB-1268 Peak 2	Ave	0.1110	0.1055		0.475	0.500	-5.0	20.0
PCB-1268 Peak 3	Ave	0.1113	0.1021		0.458	0.500	-8.3	20.0
PCB-1268 Peak 4	Ave	0.3438	0.3087		0.449	0.500	-10.2	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-293170/3 Calibration Date: 09/30/2019 10:46

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 09:04

GC Column: RTX-CLP1 ID: 0.53(mm) Calib End Date: 09/21/2019 09:04

Lab File ID: S0930903.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1242 Peak 1	4.04	4.02	4.06
PCB-1242 Peak 2	4.56	4.54	4.58
PCB-1242 Peak 3	5.24	5.22	5.26
PCB-1242 Peak 4	5.84	5.82	5.86
PCB-1242 Peak 5	5.88	5.86	5.90
PCB-1268 Peak 1	9.95	9.93	9.97
PCB-1268 Peak 2	10.01	9.99	10.03
PCB-1268 Peak 3	10.31	10.29	10.33
PCB-1268 Peak 4	11.24	11.22	11.26

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930903.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 30-Sep-2019 10:46:04 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028895-003
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub23

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 01-Oct-2019 10:03:28 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: oravecj Date: 01-Oct-2019 09:42:35

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.748	2.748	0.000	391091990H	0.1000	0.1000	
2	2.932	2.932	0.000	125683854H	0.1000	0.1000	
5 PCB-1242							
1	4.043	4.043	0.000	40108798H	0.5000	0.5166	
1	4.560	4.560	0.000	75966542H	0.5000	0.4452	
1	5.237	5.237	0.000	37380435H	0.5000	0.4693	
1	5.837	5.837	0.000	38727054H	0.5000	0.4951	
1	5.881	5.881	0.000	36530331H	0.5000	0.4940	
		Average of Peak Amounts =				0.4840	
2	4.339	4.339	0.000	7384107H	0.5000	0.4768	
2	4.848	4.848	0.000	10136153H	0.5000	0.4870	
2	5.705	5.705	0.000	10393066H	0.5000	0.5217	
2	6.468	6.468	0.000	9231143H	0.5000	0.5463	
2	7.682	7.682	0.000	8039055H	0.5000	0.5840	
		Average of Peak Amounts =				0.5232	
						RPD = 7.77	
11 PCB-1268							
1	9.947	9.947	0.000	300032466H	0.5000	0.4832	
1	10.009	10.009	0.000	254939392H	0.5000	0.4750	
1	10.305	10.305	0.000	246746507H	0.5000	0.4584	
1	11.240	11.240	0.000	746265088H	0.5000	0.4489	
		Average of Peak Amounts =				0.4664	
2	11.377	11.377	0.000	80124011H	0.5000	0.4750	
2	11.442	11.442	0.000	68915621H	0.5000	0.4759	
2	11.795	11.795	0.000	67679796H	0.5000	0.4771	
2	12.600	12.600	0.000	195190135H	0.5000	0.4517	
		Average of Peak Amounts =				0.4699	
						RPD = 0.75	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 46 PCB-205 (IS)							
1	10.912	10.912	0.000	483540048H	0.1000	0.1000	
2	12.218	12.218	0.000	125753523H	0.1000	0.1000	

Reagents:

GCAR4268CALL4_00014 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 01-Oct-2019 10:03:29 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930903.D

Injection Date: 30-Sep-2019 10:46:04 Instrument ID: CHGC10

Lims ID: CCV

Client ID:

Operator ID: ALS Bottle#: 3 Worklist Smp#: 3

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

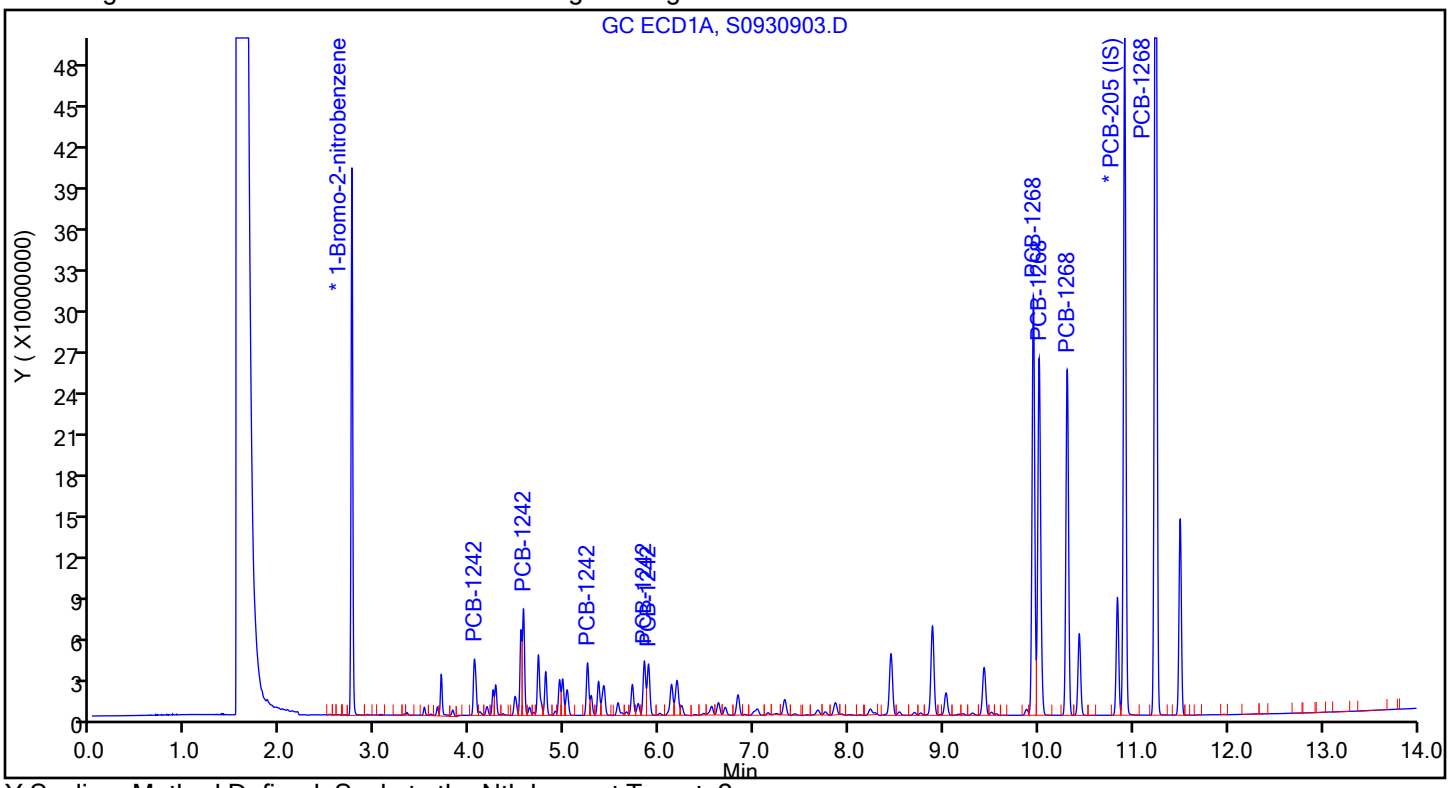

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

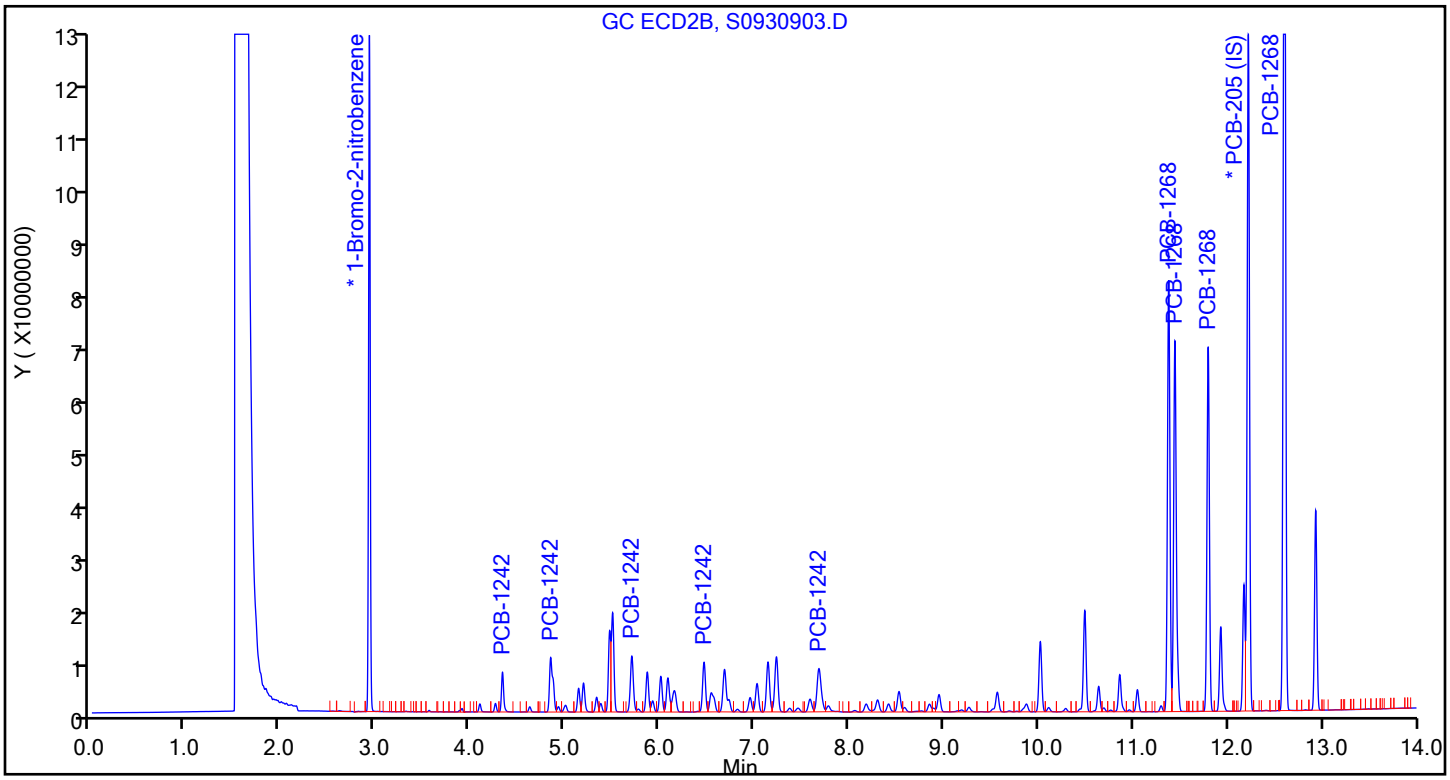

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-293170/3 Calibration Date: 09/30/2019 10:46

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 09:04

GC Column: RTX-CLP2 ID: 0.53(mm) Calib End Date: 09/21/2019 09:04

Lab File ID: S0930903.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1242 Peak 1	Ave	0.0123	0.0118		0.477	0.500	-4.6	20.0
PCB-1242 Peak 2	Ave	0.0166	0.0161		0.487	0.500	-2.6	20.0
PCB-1242 Peak 3	Ave	0.0159	0.0165		0.522	0.500	4.3	20.0
PCB-1242 Peak 4	Ave	0.0134	0.0147		0.546	0.500	9.3	20.0
PCB-1242 Peak 5	Ave	0.0110	0.0128		0.584	0.500	16.8	20.0
PCB-1268 Peak 1	Ave	0.1341	0.1274		0.475	0.500	-5.0	20.0
PCB-1268 Peak 2	Ave	0.1152	0.1096		0.476	0.500	-4.8	20.0
PCB-1268 Peak 3	Ave	0.1128	0.1076		0.477	0.500	-4.6	20.0
PCB-1268 Peak 4	Ave	0.3436	0.3104		0.452	0.500	-9.7	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-293170/3 Calibration Date: 09/30/2019 10:46

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 09:04

GC Column: RTX-CLP2 ID: 0.53(mm) Calib End Date: 09/21/2019 09:04

Lab File ID: S0930903.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1242 Peak 1	4.34	4.32	4.36
PCB-1242 Peak 2	4.85	4.83	4.87
PCB-1242 Peak 3	5.71	5.69	5.73
PCB-1242 Peak 4	6.47	6.45	6.49
PCB-1242 Peak 5	7.68	7.66	7.70
PCB-1268 Peak 1	11.38	11.36	11.40
PCB-1268 Peak 2	11.44	11.42	11.46
PCB-1268 Peak 3	11.80	11.78	11.82
PCB-1268 Peak 4	12.60	12.58	12.62

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930903.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 30-Sep-2019 10:46:04 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028895-003
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub23

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 01-Oct-2019 10:03:28 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: oravecj Date: 01-Oct-2019 09:42:35

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.748	2.748	0.000	391091990H	0.1000	0.1000	
2	2.932	2.932	0.000	125683854H	0.1000	0.1000	
5 PCB-1242							
1	4.043	4.043	0.000	40108798H	0.5000	0.5166	
1	4.560	4.560	0.000	75966542H	0.5000	0.4452	
1	5.237	5.237	0.000	37380435H	0.5000	0.4693	
1	5.837	5.837	0.000	38727054H	0.5000	0.4951	
1	5.881	5.881	0.000	36530331H	0.5000	0.4940	
		Average of Peak Amounts =				0.4840	
2	4.339	4.339	0.000	7384107H	0.5000	0.4768	
2	4.848	4.848	0.000	10136153H	0.5000	0.4870	
2	5.705	5.705	0.000	10393066H	0.5000	0.5217	
2	6.468	6.468	0.000	9231143H	0.5000	0.5463	
2	7.682	7.682	0.000	8039055H	0.5000	0.5840	
		Average of Peak Amounts =				0.5232	
						RPD = 7.77	
11 PCB-1268							
1	9.947	9.947	0.000	300032466H	0.5000	0.4832	
1	10.009	10.009	0.000	254939392H	0.5000	0.4750	
1	10.305	10.305	0.000	246746507H	0.5000	0.4584	
1	11.240	11.240	0.000	746265088H	0.5000	0.4489	
		Average of Peak Amounts =				0.4664	
2	11.377	11.377	0.000	80124011H	0.5000	0.4750	
2	11.442	11.442	0.000	68915621H	0.5000	0.4759	
2	11.795	11.795	0.000	67679796H	0.5000	0.4771	
2	12.600	12.600	0.000	195190135H	0.5000	0.4517	
		Average of Peak Amounts =				0.4699	
						RPD = 0.75	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 46 PCB-205 (IS)							
1	10.912	10.912	0.000	483540048H	0.1000	0.1000	
2	12.218	12.218	0.000	125753523H	0.1000	0.1000	

Reagents:

GCAR4268CALL4_00014 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 01-Oct-2019 10:03:30 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930903.D

Injection Date: 30-Sep-2019 10:46:04 Instrument ID: CHGC10

Lims ID: CCV

Client ID:

Operator ID: ALS Bottle#: 3 Worklist Smp#: 3

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

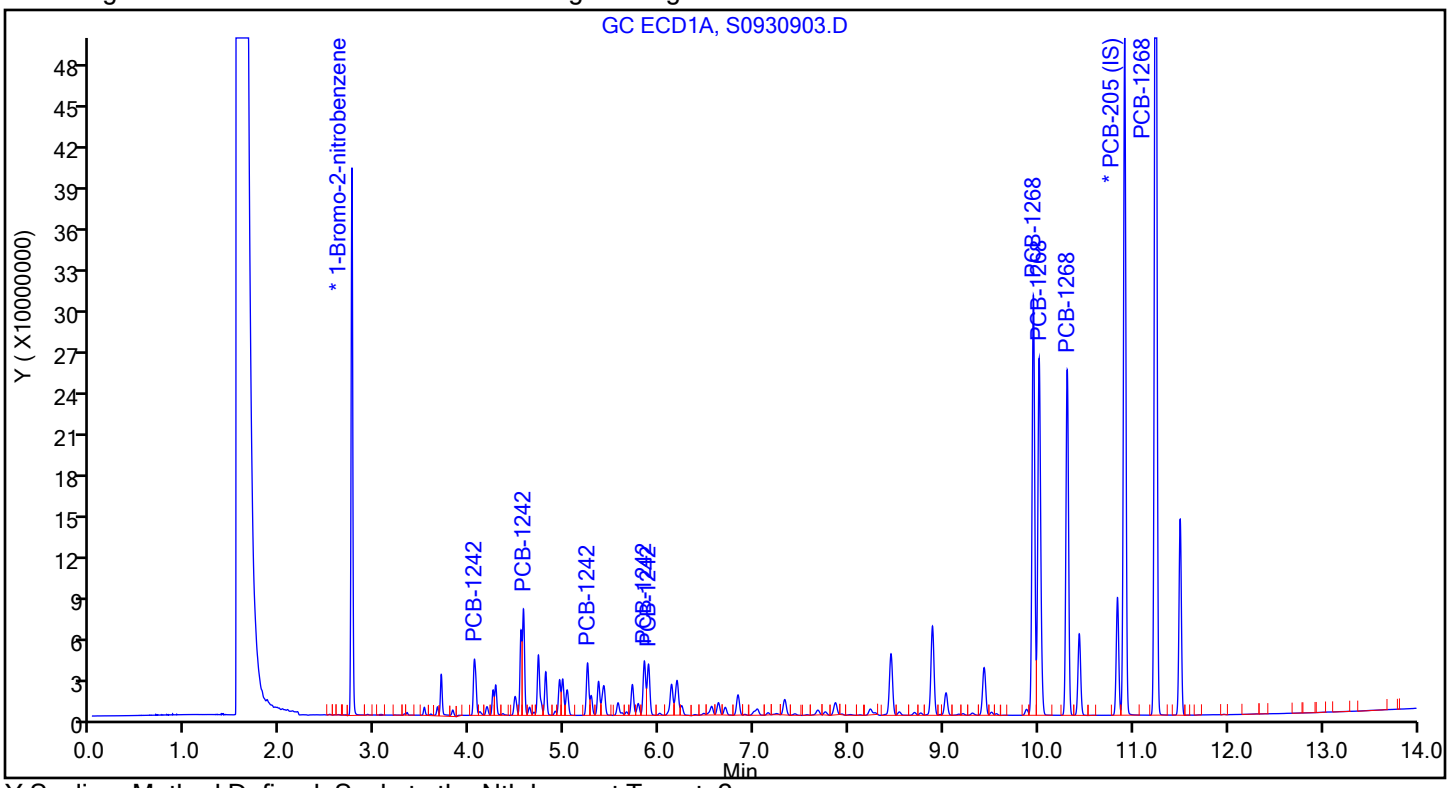

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

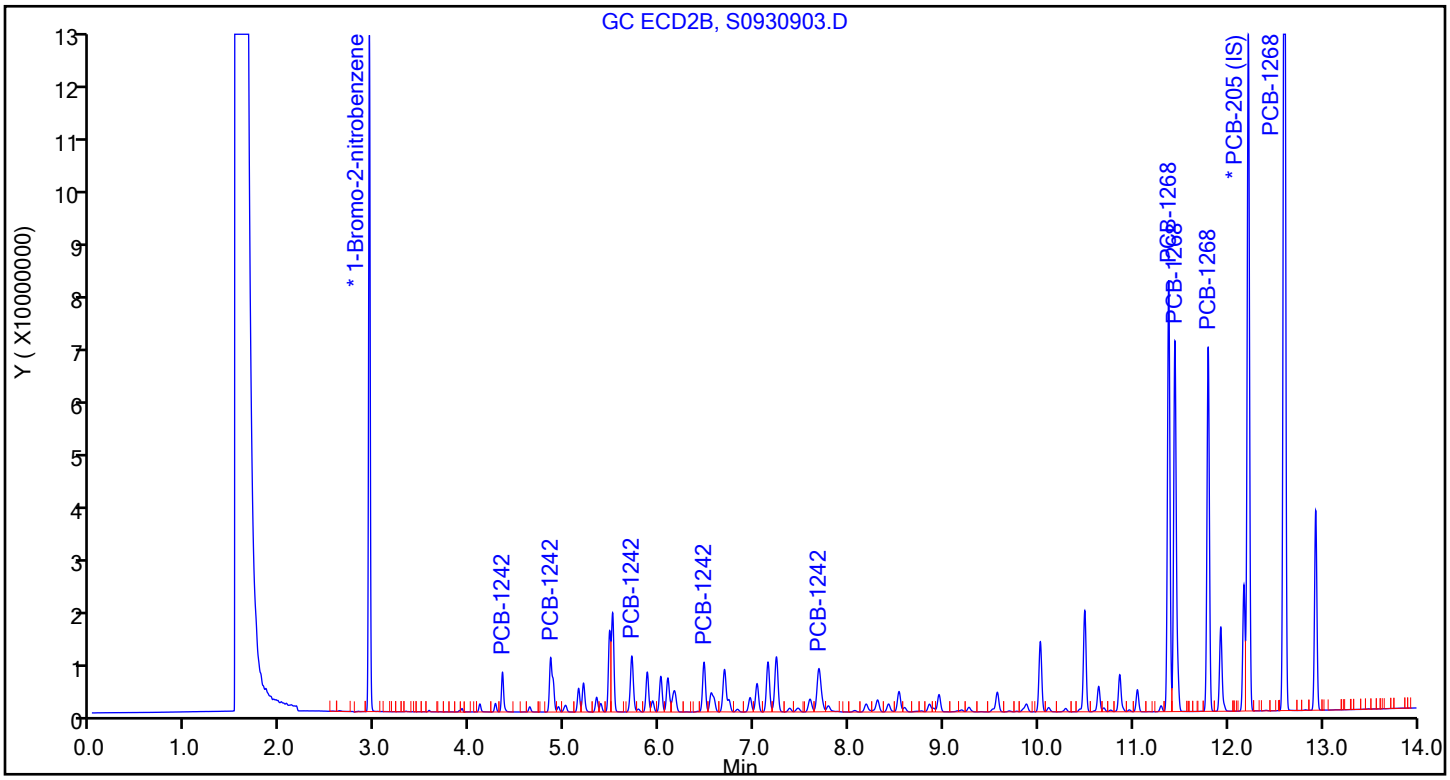

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-293170/4 Calibration Date: 09/30/2019 11:06

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 09:25

GC Column: RTX-CLP1 ID: 0.53(mm) Calib End Date: 09/21/2019 09:25

Lab File ID: S0930904.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1248 Peak 1	Ave	0.0107	0.0104		0.486	0.500	-2.7	20.0
PCB-1248 Peak 2	Ave	0.0199	0.0202		0.508	0.500	1.5	20.0
PCB-1248 Peak 3	Ave	0.0262	0.0275		0.525	0.500	5.0	20.0
PCB-1248 Peak 4	Ave	0.0289	0.0325		0.564	0.500	12.8	20.0
PCB-1248 Peak 5	Ave	0.0137	0.0159		0.580	0.500	16.1	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-293170/4 Calibration Date: 09/30/2019 11:06

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 09:25

GC Column: RTX-CLP1 ID: 0.53(mm) Calib End Date: 09/21/2019 09:25

Lab File ID: S0930904.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1248 Peak 1	4.04	4.02	4.06
PCB-1248 Peak 2	4.94	4.92	4.96
PCB-1248 Peak 3	5.24	5.22	5.26
PCB-1248 Peak 4	5.84	5.82	5.86
PCB-1248 Peak 5	6.83	6.81	6.85

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930904.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 30-Sep-2019 11:06:24 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028895-004
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub24

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 01-Oct-2019 10:03:26 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: oravecj Date: 01-Oct-2019 09:42:45

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.748	2.748	0.000	434923622H	0.1000	0.1000	
2	2.933	2.933	0.000	133769164H	0.1000	0.1000	
7 PCB-1248							
1	4.042	4.042	0.000	22667048H	0.5000	0.4863	
1	4.942	4.942	0.000	44006662H	0.5000	0.5075	
1	5.236	5.236	0.000	59749698H	0.5000	0.5251	
1	5.838	5.838	0.000	70758802H	0.5000	0.5638	
1	6.826	6.826	0.000	34596326H	0.5000	0.5803	
		Average of Peak Amounts =				0.5326	
2	4.848	4.848	0.000	5852131H	0.5000	0.5031	
2	6.011	6.011	0.000	11783742H	0.5000	0.5489	
2	6.685	6.685	0.000	12562418H	0.5000	0.5651	
2	7.232	7.232	0.000	17576542H	0.5000	0.5764	
2	7.682	7.682	0.000	12716016H	0.5000	0.5772	
		Average of Peak Amounts =				0.5541	
						RPD = 3.96	
* 46 PCB-205 (IS)							
1	10.912	10.912	0.000	477202067H	0.1000	0.1000	
2	12.218	12.218	0.000	128532573H	0.1000	0.1000	

Reagents:

GCAR1248CALL4_00022 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 01-Oct-2019 10:03:26 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930904.D

Injection Date: 30-Sep-2019 11:06:24 Instrument ID: CHGC10

Lims ID: CCV

Client ID:

Operator ID: ALS Bottle#: 4 Worklist Smp#: 4

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

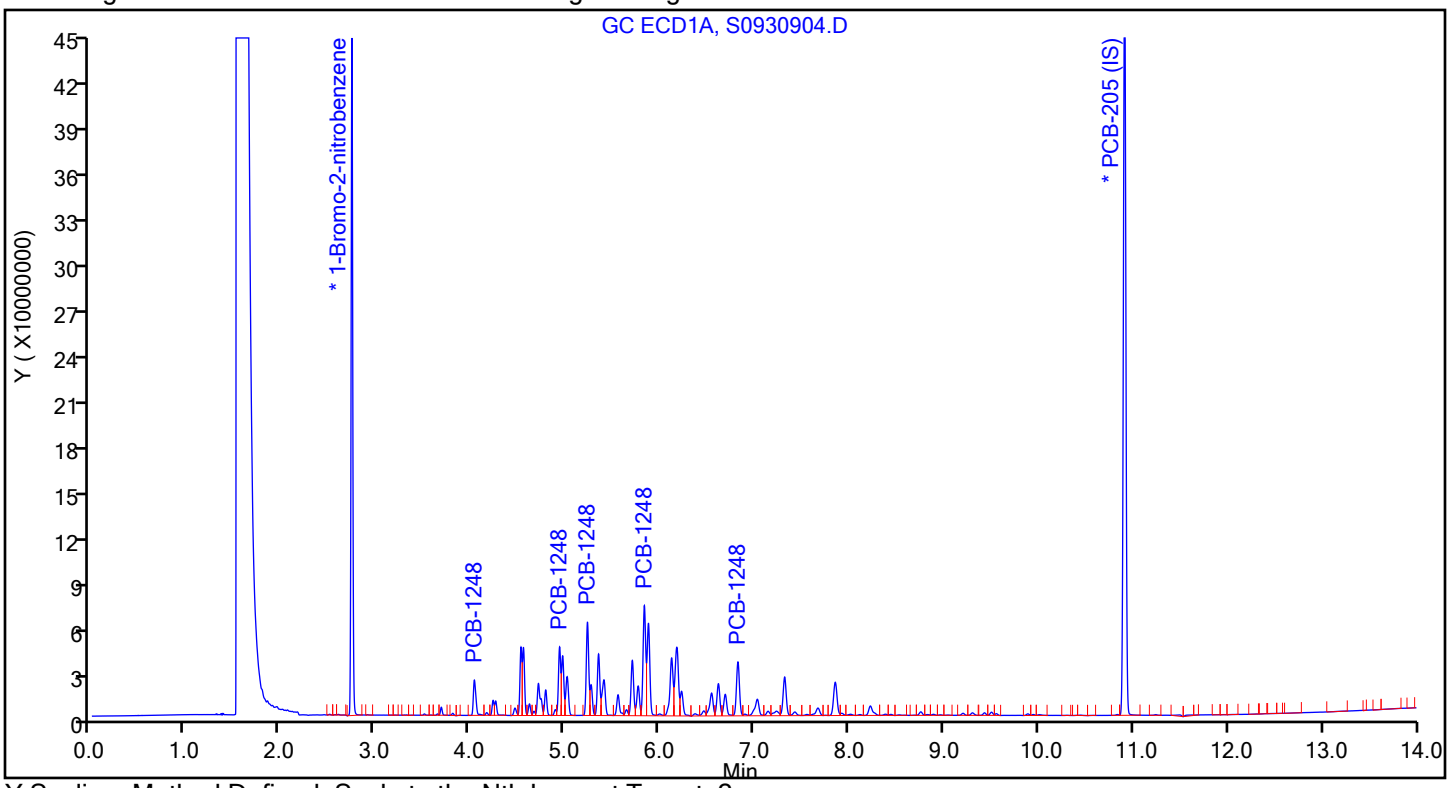

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

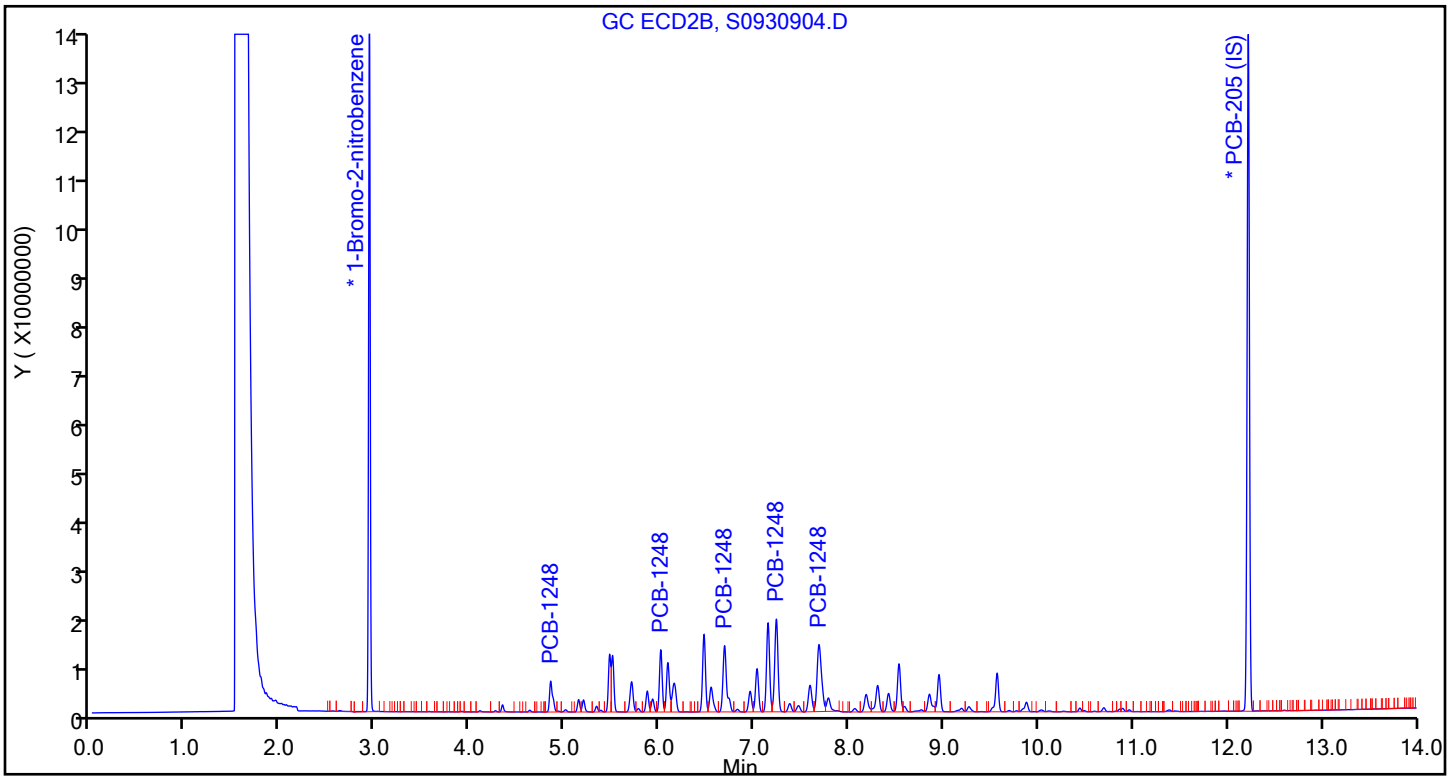

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-293170/4 Calibration Date: 09/30/2019 11:06

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 09:25

GC Column: RTX-CLP2 ID: 0.53(mm) Calib End Date: 09/21/2019 09:25

Lab File ID: S0930904.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1248 Peak 1	Ave	0.0087	0.0088		0.503	0.500	0.6	20.0
PCB-1248 Peak 2	Ave	0.0160	0.0176		0.549	0.500	9.8	20.0
PCB-1248 Peak 3	Ave	0.0166	0.0188		0.565	0.500	13.0	20.0
PCB-1248 Peak 4	Ave	0.0228	0.0263		0.576	0.500	15.3	20.0
PCB-1248 Peak 5	Ave	0.0165	0.0190		0.577	0.500	15.4	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-293170/4 Calibration Date: 09/30/2019 11:06

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 09:25

GC Column: RTX-CLP2 ID: 0.53(mm) Calib End Date: 09/21/2019 09:25

Lab File ID: S0930904.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1248 Peak 1	4.85	4.83	4.87
PCB-1248 Peak 2	6.01	5.99	6.03
PCB-1248 Peak 3	6.69	6.67	6.71
PCB-1248 Peak 4	7.23	7.21	7.25
PCB-1248 Peak 5	7.68	7.66	7.70

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930904.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 30-Sep-2019 11:06:24 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028895-004
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub24

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 01-Oct-2019 10:03:26 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: oravecj Date: 01-Oct-2019 09:42:45

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.748	2.748	0.000	434923622H	0.1000	0.1000	
2	2.933	2.933	0.000	133769164H	0.1000	0.1000	
7 PCB-1248							
1	4.042	4.042	0.000	22667048H	0.5000	0.4863	
1	4.942	4.942	0.000	44006662H	0.5000	0.5075	
1	5.236	5.236	0.000	59749698H	0.5000	0.5251	
1	5.838	5.838	0.000	70758802H	0.5000	0.5638	
1	6.826	6.826	0.000	34596326H	0.5000	0.5803	
		Average of Peak Amounts =				0.5326	
2	4.848	4.848	0.000	5852131H	0.5000	0.5031	
2	6.011	6.011	0.000	11783742H	0.5000	0.5489	
2	6.685	6.685	0.000	12562418H	0.5000	0.5651	
2	7.232	7.232	0.000	17576542H	0.5000	0.5764	
2	7.682	7.682	0.000	12716016H	0.5000	0.5772	
		Average of Peak Amounts =				0.5541	
					RPD =	3.96	
* 46 PCB-205 (IS)							
1	10.912	10.912	0.000	477202067H	0.1000	0.1000	
2	12.218	12.218	0.000	128532573H	0.1000	0.1000	

Reagents:

GCAR1248CALL4_00022 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 01-Oct-2019 10:03:27 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930904.D

Injection Date: 30-Sep-2019 11:06:24 Instrument ID: CHGC10

Lims ID: CCV

Client ID:

Operator ID: ALS Bottle#: 4 Worklist Smp#: 4

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

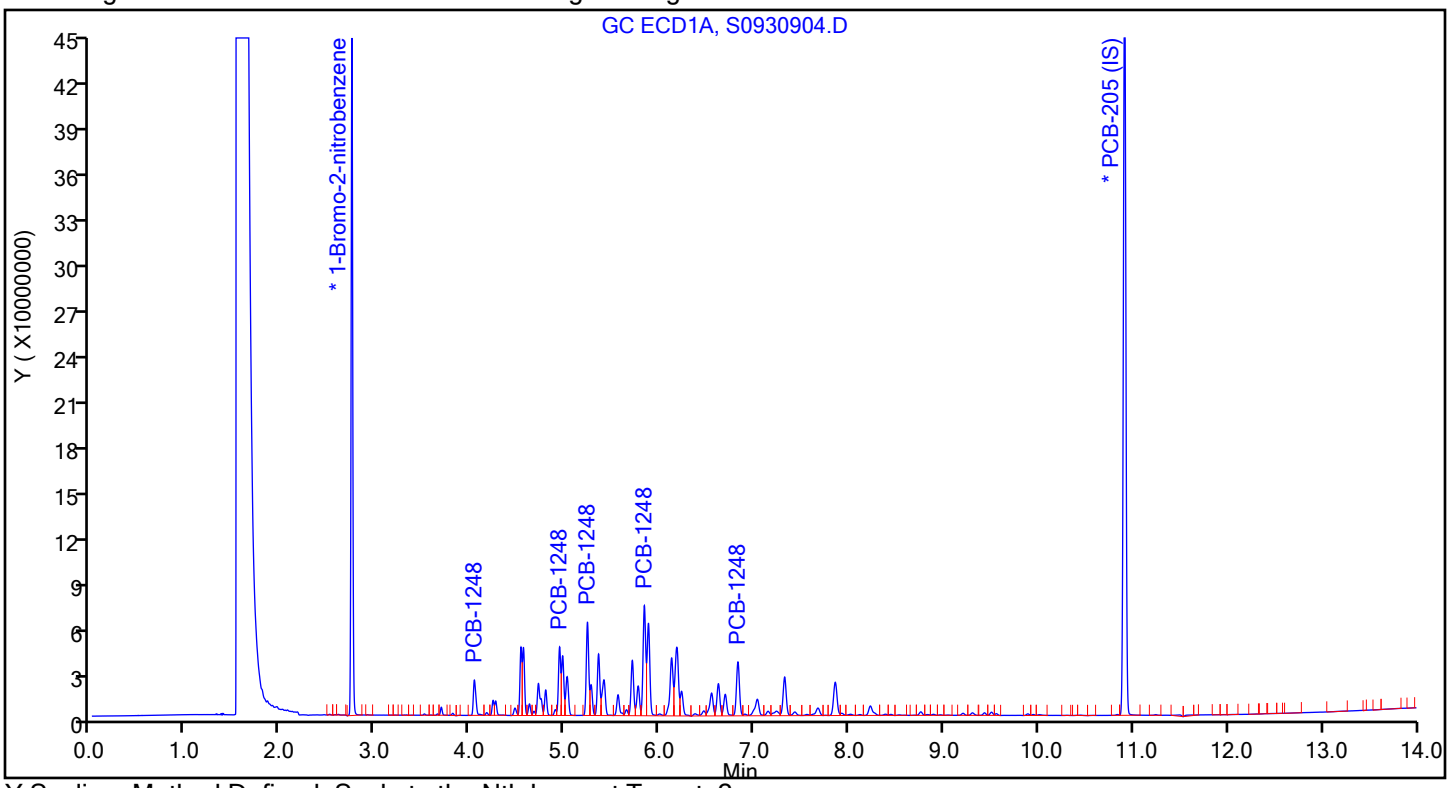

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

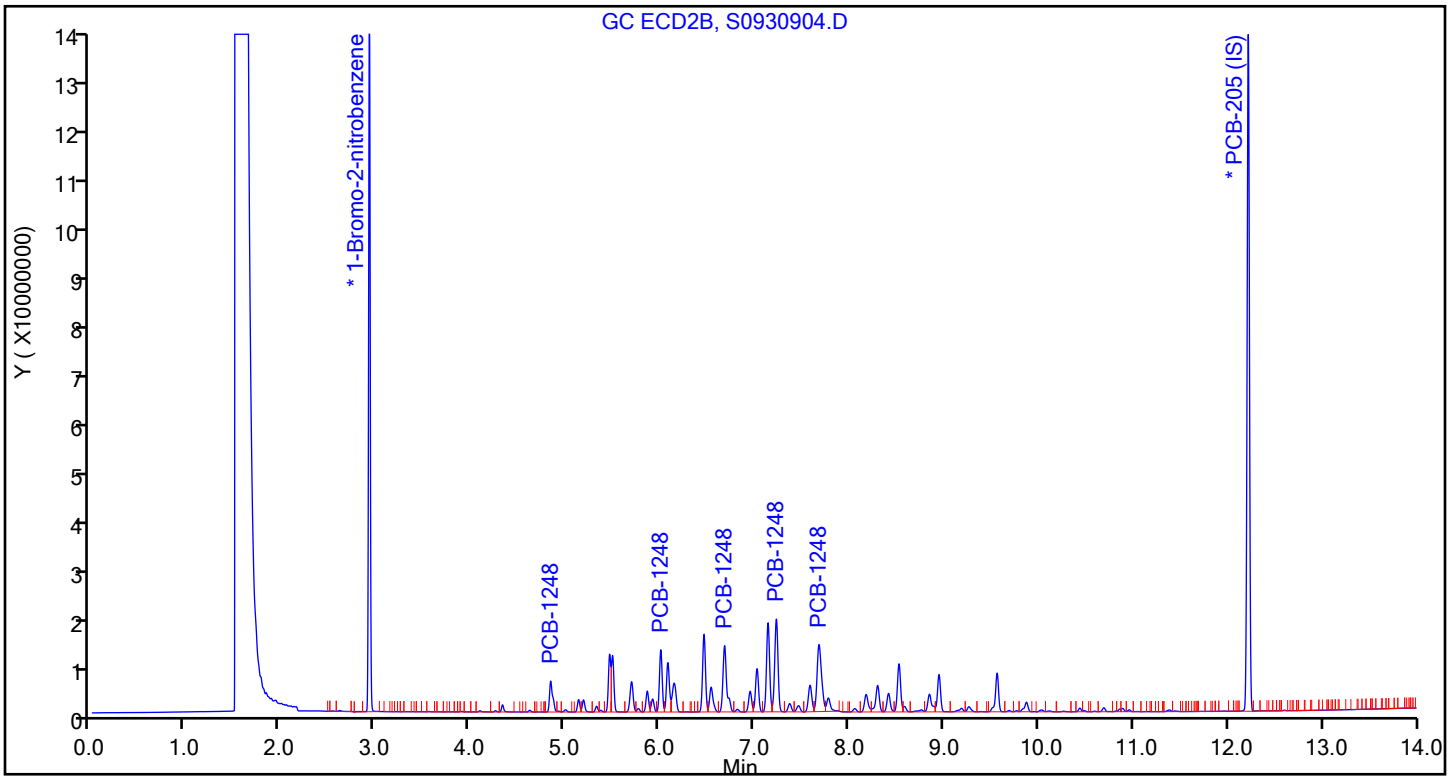

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCVIS 180-293170/5 Calibration Date: 09/30/2019 11:26

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 09:45

GC Column: RTX-CLP1 ID: 0.53(mm) Calib End Date: 09/21/2019 11:44

Lab File ID: S0930905.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Ave	0.0163	0.0136		0.416	0.500	-16.8	20.0
PCB-1016 Peak 2	Ave	0.0379	0.0323		0.427	0.500	-14.7	20.0
PCB-1016 Peak 3	Ave	0.0215	0.0185		0.429	0.500	-14.1	20.0
PCB-1016 Peak 4	Ave	0.0179	0.0155		0.433	0.500	-13.4	20.0
PCB-1016 Peak 5	Ave	0.0118	0.0105		0.446	0.500	-10.9	20.0
PCB-1260 Peak 1	Ave	0.0429	0.0352		0.410	0.500	-17.9	20.0
PCB-1260 Peak 2	Ave	0.0393	0.0329		0.419	0.500	-16.2	20.0
PCB-1260 Peak 3	Ave	0.0279	0.0234		0.420	0.500	-16.1	20.0
PCB-1260 Peak 4	Ave	0.0710	0.0637		0.448	0.500	-10.3	20.0
PCB-1260 Peak 5	Ave	0.0395	0.0331		0.418	0.500	-16.3	20.0
Tetrachloro-m-xylene (Surr)	Ave	1.186	0.9468		0.0200	0.0250	-20.1*	20.0
DCB Decachlorobiphenyl (Surr)	Ave	0.7566	0.5753		0.0190	0.0250	-24.0*	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCVIS 180-293170/5 Calibration Date: 09/30/2019 11:26

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 09:45

GC Column: RTX-CLP1 ID: 0.53(mm) Calib End Date: 09/21/2019 11:44

Lab File ID: S0930905.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	3.69	3.67	3.71
PCB-1016 Peak 2	4.56	4.54	4.58
PCB-1016 Peak 3	4.72	4.70	4.74
PCB-1016 Peak 4	5.24	5.22	5.26
PCB-1016 Peak 5	5.77	5.75	5.79
PCB-1260 Peak 1	7.67	7.65	7.69
PCB-1260 Peak 2	8.23	8.21	8.25
PCB-1260 Peak 3	8.89	8.87	8.91
PCB-1260 Peak 4	9.43	9.41	9.45
PCB-1260 Peak 5	9.89	9.87	9.91
Tetrachloro-m-xylene (Surr)	3.37	3.35	3.39
DCB Decachlorobiphenyl (Surr)	11.50	11.48	11.52

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930905.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 30-Sep-2019 11:26:44 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028895-005
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 01-Oct-2019 10:03:21 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: oravecj Date: 01-Oct-2019 09:41:45

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.747	2.747	0.000	421497630H	0.1000	0.1000	
2	2.932	2.932	0.000	134026304H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.368	3.368	0.000	99769674H	0.0250	0.0200	
2	3.798	3.798	0.000	26616815H	0.0250	0.0213	
						RPD = 6.63	
6 PCB-1016							
1	3.692	3.692	0.000	28660038H	0.5000	0.4159	
1	4.559	4.559	0.000	68081175H	0.5000	0.4266	
1	4.717	4.717	0.000	38973320H	0.5000	0.4293	
1	5.237	5.237	0.000	32570876H	0.5000	0.4328	
1	5.772	5.772	0.000	22142055H	0.5000	0.4456	
		Average of Peak Amounts =				0.4300	
2	4.338	4.338	0.000	7267585H	0.5000	0.4217	
2	5.502	5.502	0.000	17016493H	0.5000	0.4495	
2	5.705	5.705	0.000	9561554H	0.5000	0.4425	
2	6.468	6.468	0.000	8045455H	0.5000	0.4505	
2	6.684	6.684	0.000	6867530H	0.5000	0.4602	
		Average of Peak Amounts =				0.4449	
						RPD = 3.39	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							M
1	7.669	7.669	0.000	87317015H	0.5000	0.4105	
1	8.225	8.225	0.000	81643977H	0.5000	0.4189	
1	8.892	8.892	0.000	58010680H	0.5000	0.4196	
1	9.432	9.432	0.000	157821162H	0.5000	0.4483	
1	9.889	9.889	0.000	82003387H	0.5000	0.4183	
		Average of Peak Amounts =				0.4231	
2	8.893	8.893	0.000	16656736H	0.5000	0.4002	M
2	9.267	9.267	0.000	22270337H	0.5000	0.4261	M
2	9.873	9.873	0.000	21524041H	0.5000	0.4263	M
2	10.860	10.860	0.000	43724470H	0.5000	0.4539	M
2	11.387	11.387	0.000	23824402H	0.5000	0.4352	M
		Average of Peak Amounts =				0.4283	
						RPD = 1.23	
* 46 PCB-205 (IS)							M
1	10.912	10.912	0.000	495739920H	0.1000	0.1000	
2	12.218	12.218	0.000	128095599H	0.1000	0.1000	M
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.498	11.498	0.000	71299496H	0.0250	0.0190	
2	12.930	12.930	0.000	19669388H	0.0250	0.0204	
						RPD = 6.83	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCAR1660CALL4_00019 Amount Added: 1.00 Units: mL

PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 01-Oct-2019 10:03:22 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930905.D

Injection Date: 30-Sep-2019 11:26:44 Instrument ID: CHGC10

Lims ID: CCVIS

Client ID:

Operator ID: ALS Bottle#: 5 Worklist Smp#: 5

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

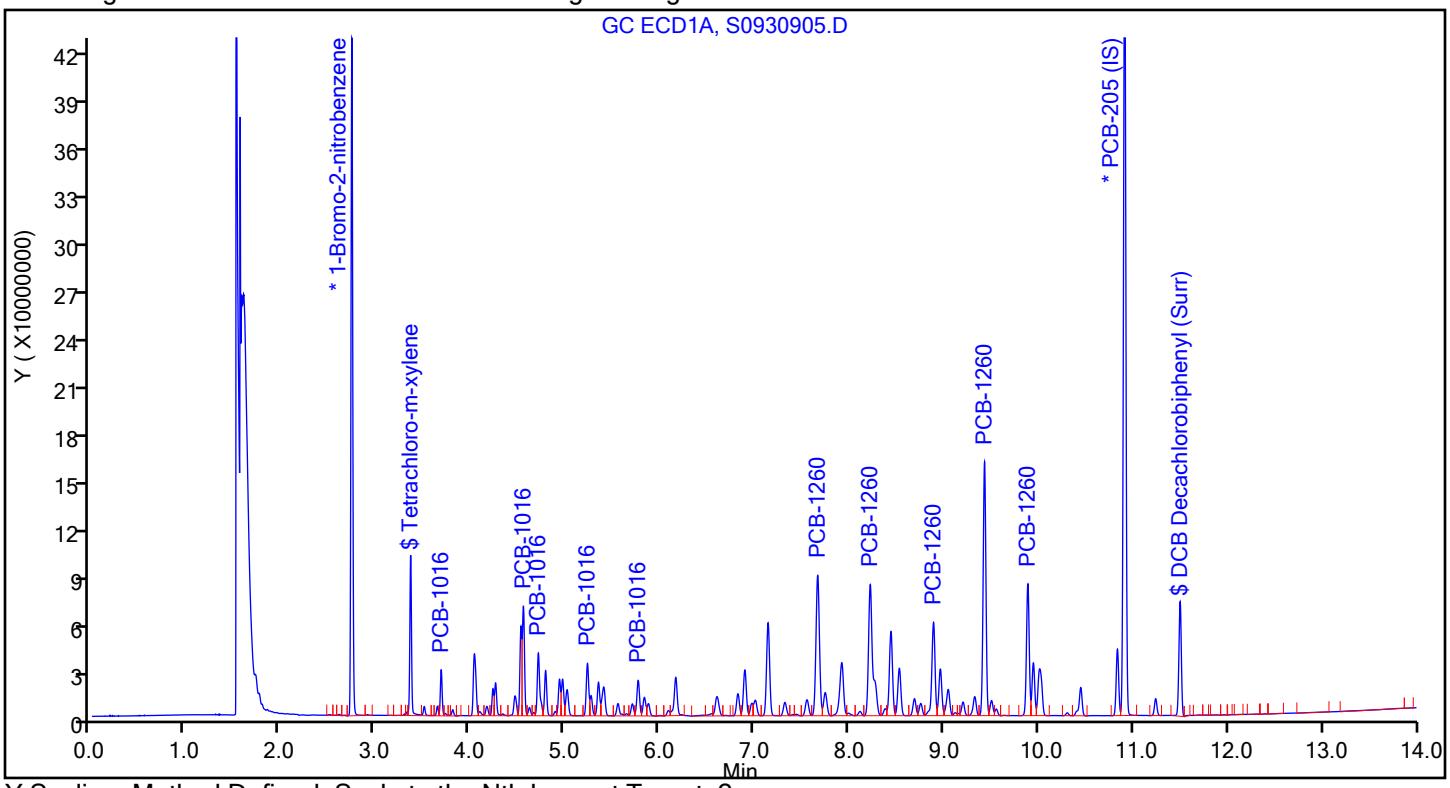

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

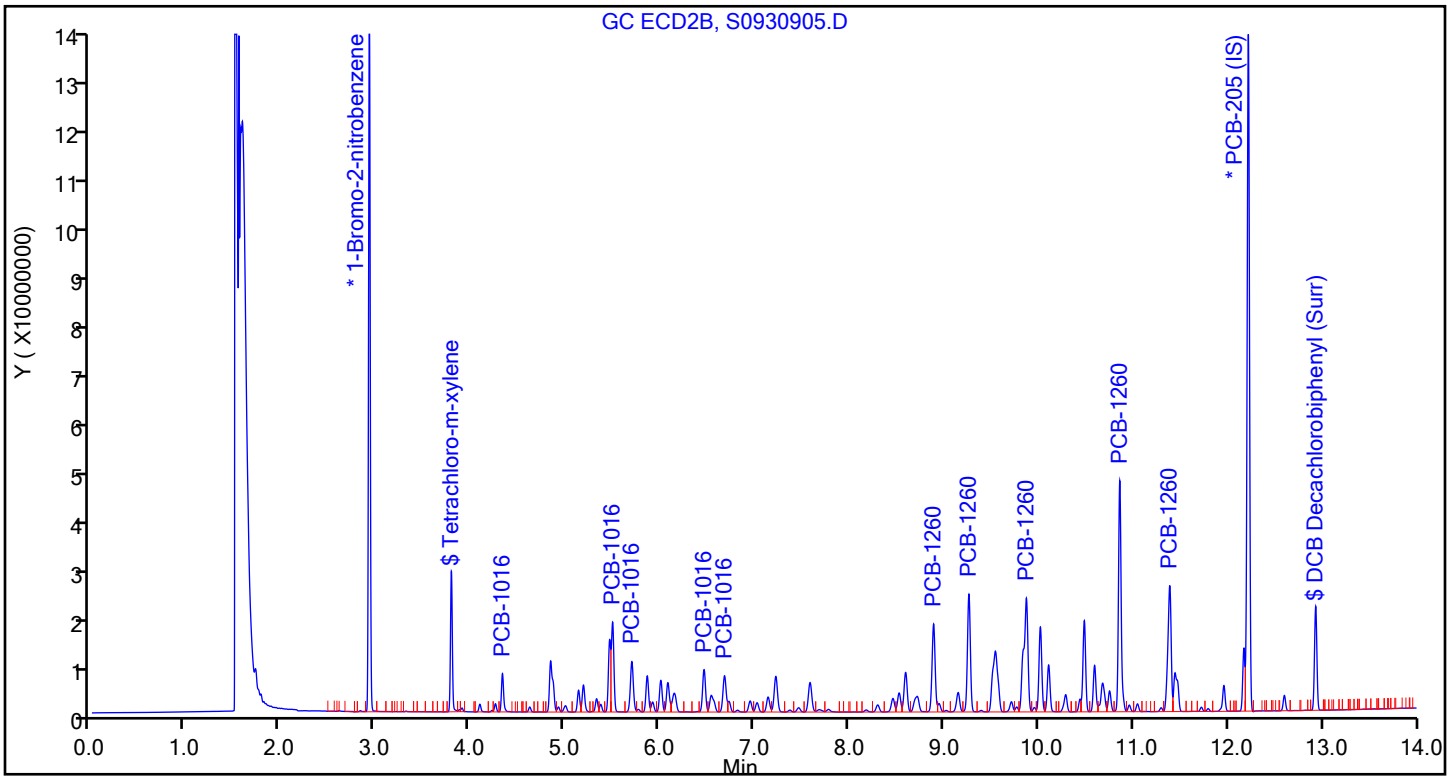

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCVIS 180-293170/5 Calibration Date: 09/30/2019 11:26

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 09:45

GC Column: RTX-CLP2 ID: 0.53(mm) Calib End Date: 09/21/2019 11:44

Lab File ID: S0930905.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Ave	0.0129	0.0109		0.422	0.500	-15.7	20.0
PCB-1016 Peak 2	Ave	0.0282	0.0254		0.449	0.500	-10.1	20.0
PCB-1016 Peak 3	Ave	0.0161	0.0143		0.442	0.500	-11.5	20.0
PCB-1016 Peak 4	Ave	0.0133	0.0120		0.450	0.500	-9.9	20.0
PCB-1016 Peak 5	Ave	0.0111	0.0103		0.460	0.500	-8.0	20.0
PCB-1260 Peak 1	Ave	0.0325	0.0260		0.400	0.500	-20.0	20.0
PCB-1260 Peak 2	Ave	0.0408	0.0348		0.426	0.500	-14.8	20.0
PCB-1260 Peak 3	Ave	0.0394	0.0336		0.426	0.500	-14.7	20.0
PCB-1260 Peak 4	Ave	0.0752	0.0683		0.454	0.500	-9.2	20.0
PCB-1260 Peak 5	Ave	0.0427	0.0372		0.435	0.500	-13.0	20.0
Tetrachloro-m-xylene (Surr)	Ave	0.9308	0.7944		0.0213	0.0250	-14.7	20.0
DCB Decachlorobiphenyl (Surr)	Ave	0.7545	0.6142		0.0204	0.0250	-18.6	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCVIS 180-293170/5 Calibration Date: 09/30/2019 11:26

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 09:45

GC Column: RTX-CLP2 ID: 0.53(mm) Calib End Date: 09/21/2019 11:44

Lab File ID: S0930905.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	4.34	4.32	4.36
PCB-1016 Peak 2	5.50	5.48	5.52
PCB-1016 Peak 3	5.71	5.69	5.73
PCB-1016 Peak 4	6.47	6.45	6.49
PCB-1016 Peak 5	6.68	6.66	6.70
PCB-1260 Peak 1	8.89	8.87	8.91
PCB-1260 Peak 2	9.27	9.25	9.29
PCB-1260 Peak 3	9.87	9.85	9.89
PCB-1260 Peak 4	10.86	10.84	10.88
PCB-1260 Peak 5	11.39	11.37	11.41
Tetrachloro-m-xylene (Surr)	3.80	3.78	3.82
DCB Decachlorobiphenyl (Surr)	12.93	12.91	12.95

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930905.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 30-Sep-2019 11:26:44 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028895-005
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 01-Oct-2019 10:03:21 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: oravecj Date: 01-Oct-2019 09:41:45

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.747	2.747	0.000	421497630H	0.1000	0.1000	
2	2.932	2.932	0.000	134026304H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.368	3.368	0.000	99769674H	0.0250	0.0200	
2	3.798	3.798	0.000	26616815H	0.0250	0.0213	
						RPD = 6.63	
6 PCB-1016							
1	3.692	3.692	0.000	28660038H	0.5000	0.4159	
1	4.559	4.559	0.000	68081175H	0.5000	0.4266	
1	4.717	4.717	0.000	38973320H	0.5000	0.4293	
1	5.237	5.237	0.000	32570876H	0.5000	0.4328	
1	5.772	5.772	0.000	22142055H	0.5000	0.4456	
		Average of Peak Amounts =				0.4300	
2	4.338	4.338	0.000	7267585H	0.5000	0.4217	
2	5.502	5.502	0.000	17016493H	0.5000	0.4495	
2	5.705	5.705	0.000	9561554H	0.5000	0.4425	
2	6.468	6.468	0.000	8045455H	0.5000	0.4505	
2	6.684	6.684	0.000	6867530H	0.5000	0.4602	
		Average of Peak Amounts =				0.4449	
						RPD = 3.39	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							M
1	7.669	7.669	0.000	87317015H	0.5000	0.4105	
1	8.225	8.225	0.000	81643977H	0.5000	0.4189	
1	8.892	8.892	0.000	58010680H	0.5000	0.4196	
1	9.432	9.432	0.000	157821162H	0.5000	0.4483	
1	9.889	9.889	0.000	82003387H	0.5000	0.4183	
		Average of Peak Amounts =				0.4231	
2	8.893	8.893	0.000	16656736H	0.5000	0.4002	M
2	9.267	9.267	0.000	22270337H	0.5000	0.4261	M
2	9.873	9.873	0.000	21524041H	0.5000	0.4263	M
2	10.860	10.860	0.000	43724470H	0.5000	0.4539	M
2	11.387	11.387	0.000	23824402H	0.5000	0.4352	M
		Average of Peak Amounts =				0.4283	
						RPD = 1.23	
* 46 PCB-205 (IS)							M
1	10.912	10.912	0.000	495739920H	0.1000	0.1000	
2	12.218	12.218	0.000	128095599H	0.1000	0.1000	M
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.498	11.498	0.000	71299496H	0.0250	0.0190	
2	12.930	12.930	0.000	19669388H	0.0250	0.0204	
						RPD = 6.83	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCAR1660CALL4_00019 Amount Added: 1.00 Units: mL

PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 01-Oct-2019 10:03:23 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930905.D				
Injection Date:	30-Sep-2019 11:26:44	Instrument ID:	CHGC10		
Lims ID:	CCVIS				
Client ID:					
Operator ID:		ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

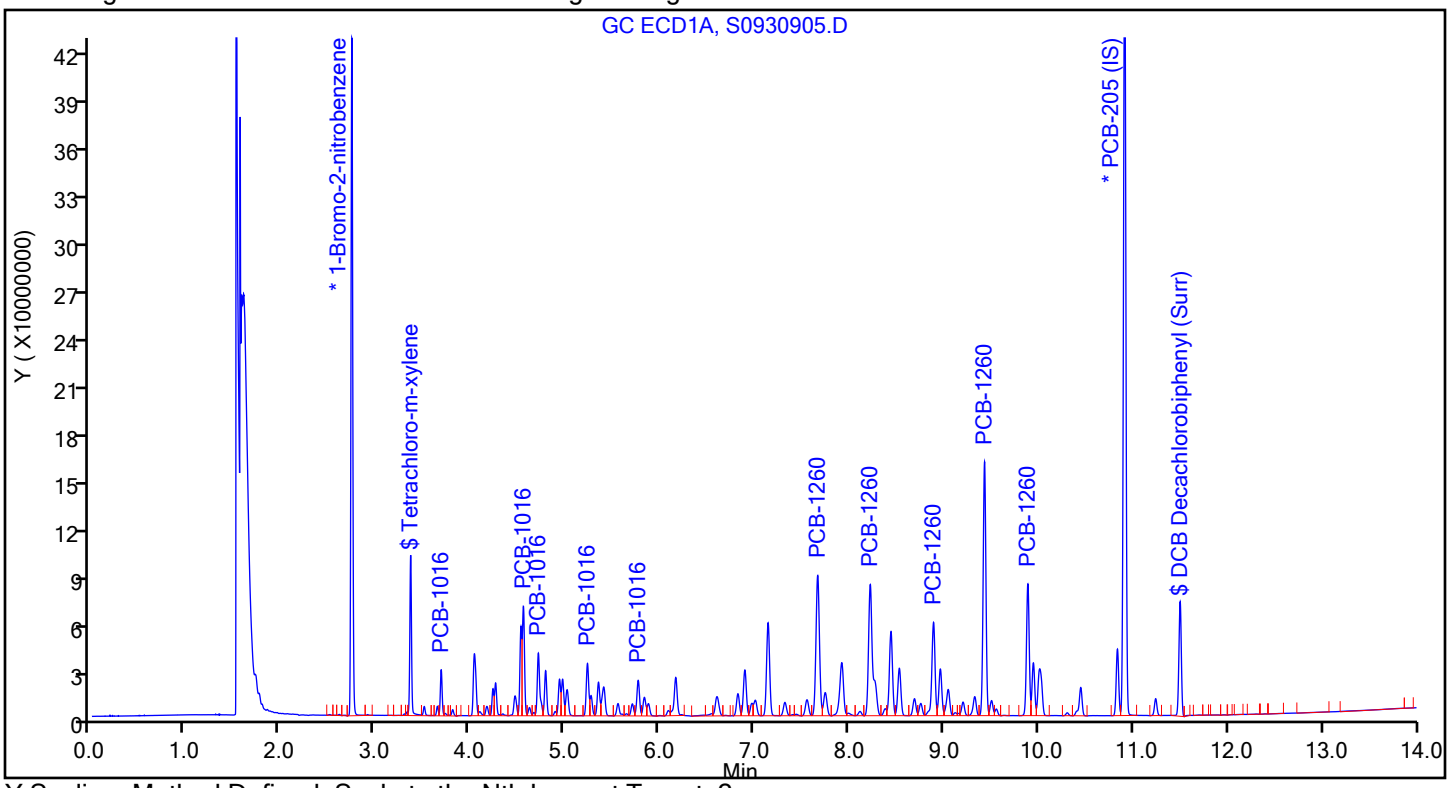

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

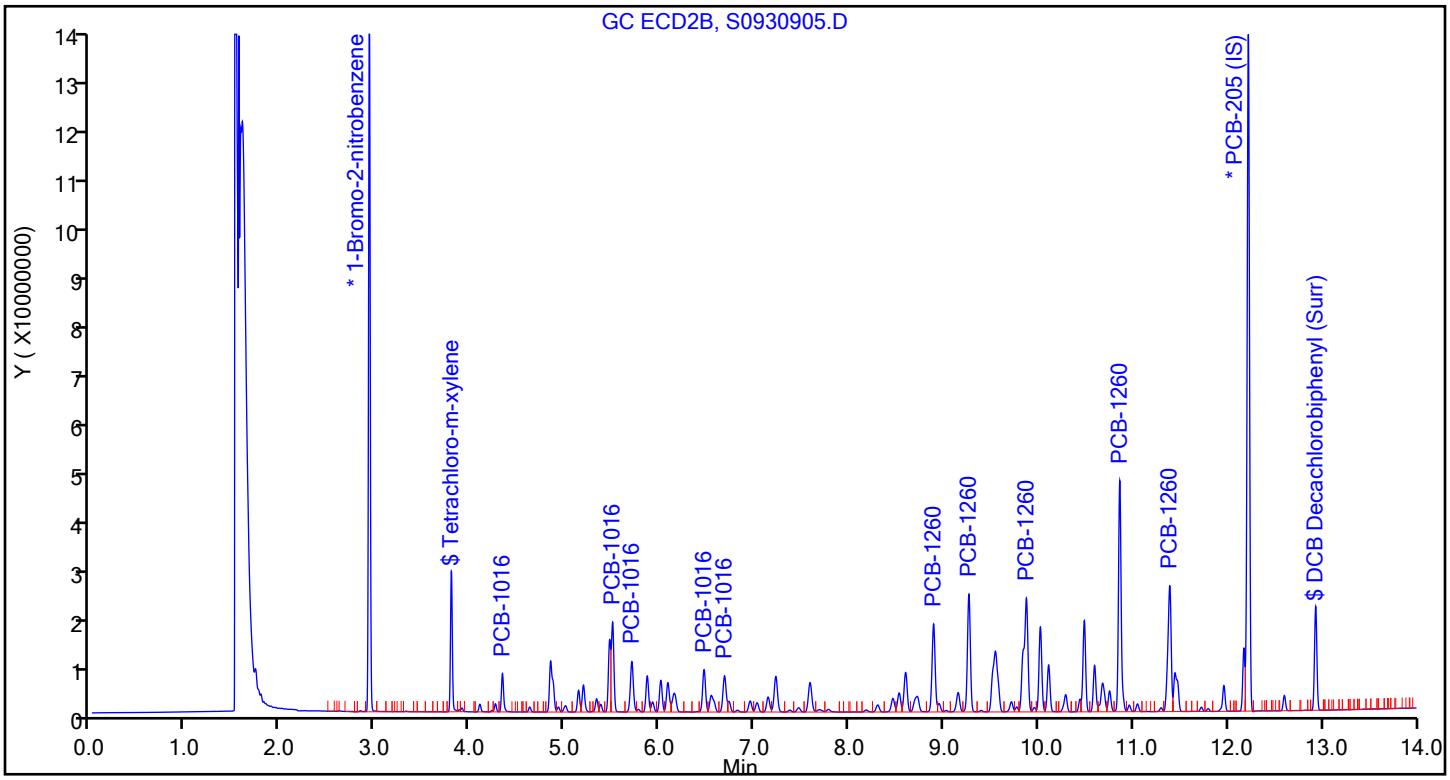

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930905.D				
Injection Date:	30-Sep-2019 11:26:44	Instrument ID:	CHGC10		
Lims ID:	CCVIS				
Client ID:					
Operator ID:		ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		
Column:		Detector	GC ECD2B		

* 46 PCB-205 (IS), CAS: 74472-53-0

Signal: 2

Processing Integration Results

RT: 12.22
Height: 128208293
Amount: 0.100000
Amount Units: ng

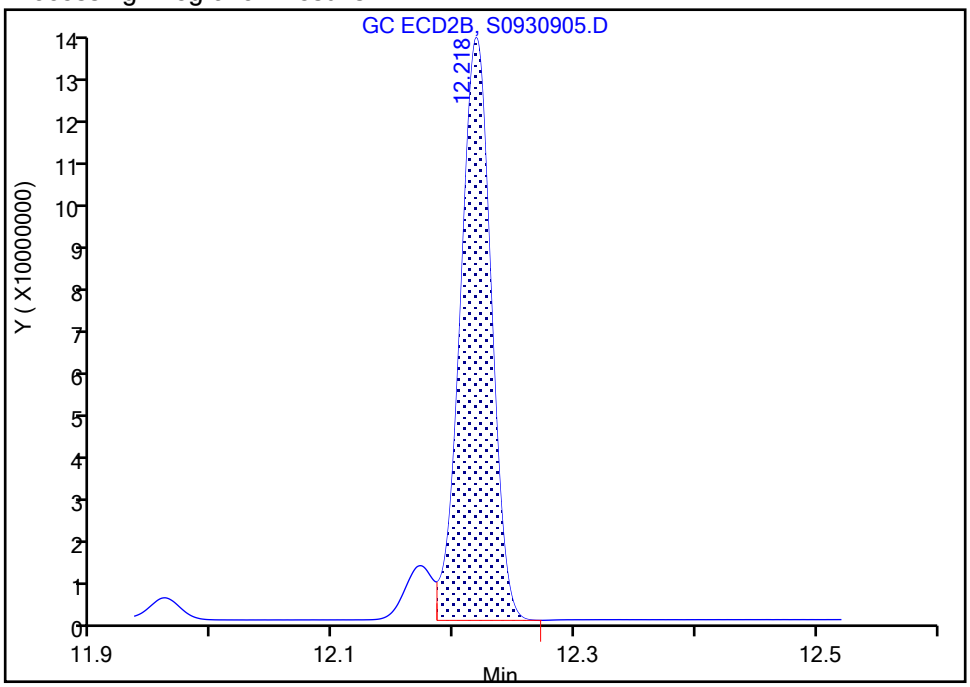

Manual Integration Results

RT: 12.22
Height: 128095599
Amount: 0.100000
Amount Units: ng

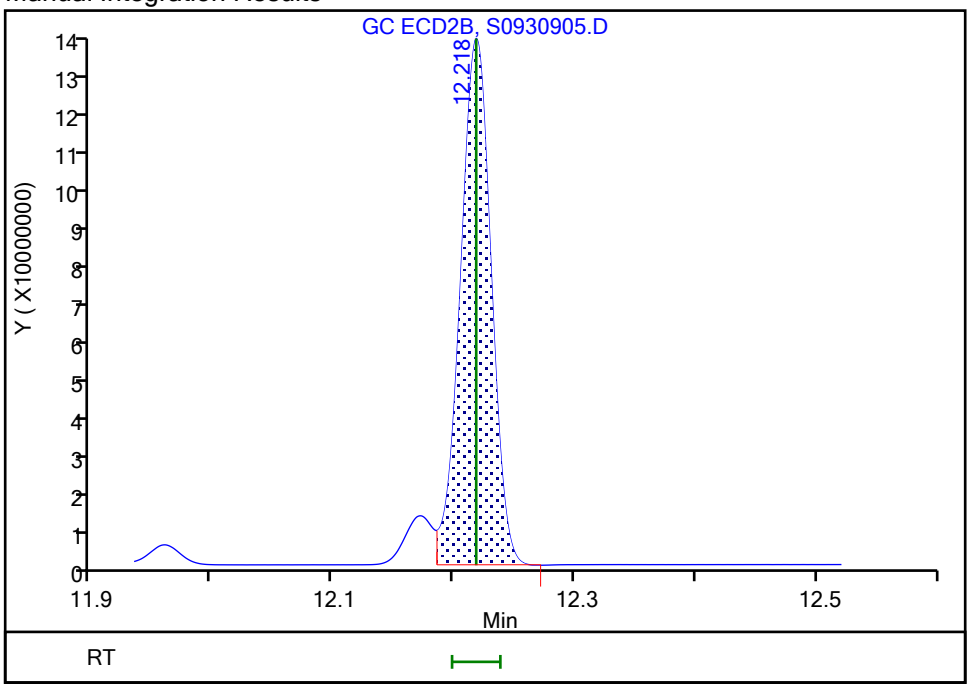

Reviewer: oravecj, 01-Oct-2019 09:41:11

Audit Action: Assigned New Baseline Audit Reason: Instrument noise

Report Date: 01-Oct-2019 10:03:23 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930905.D				
Injection Date:	30-Sep-2019 11:26:44	Instrument ID:	CHGC10		
Lims ID:	CCVIS				
Client ID:					
Operator ID:		ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		
Column:		Detector	GC ECD2B		

9 PCB-1260, CAS: 11096-82-5

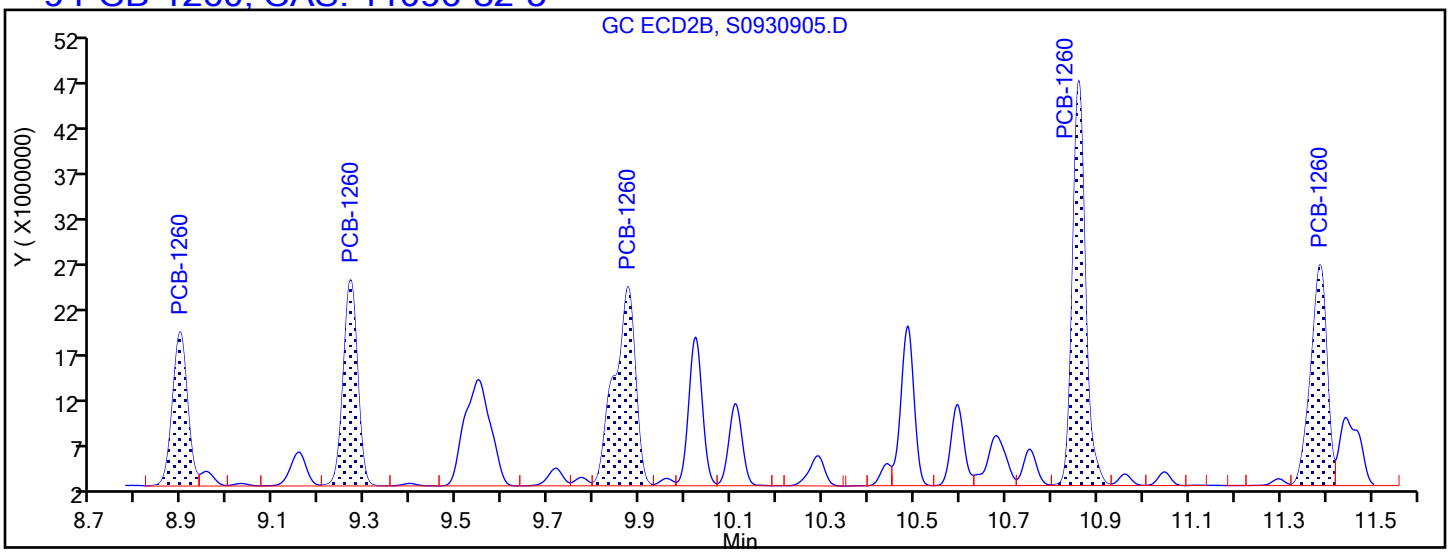

Processing Integration Results

8.893	Response = 16647095
9.267	Response = 22254779
9.873	Response = 21498866
10.860	Response = 43700276
11.387	Response = 23838114

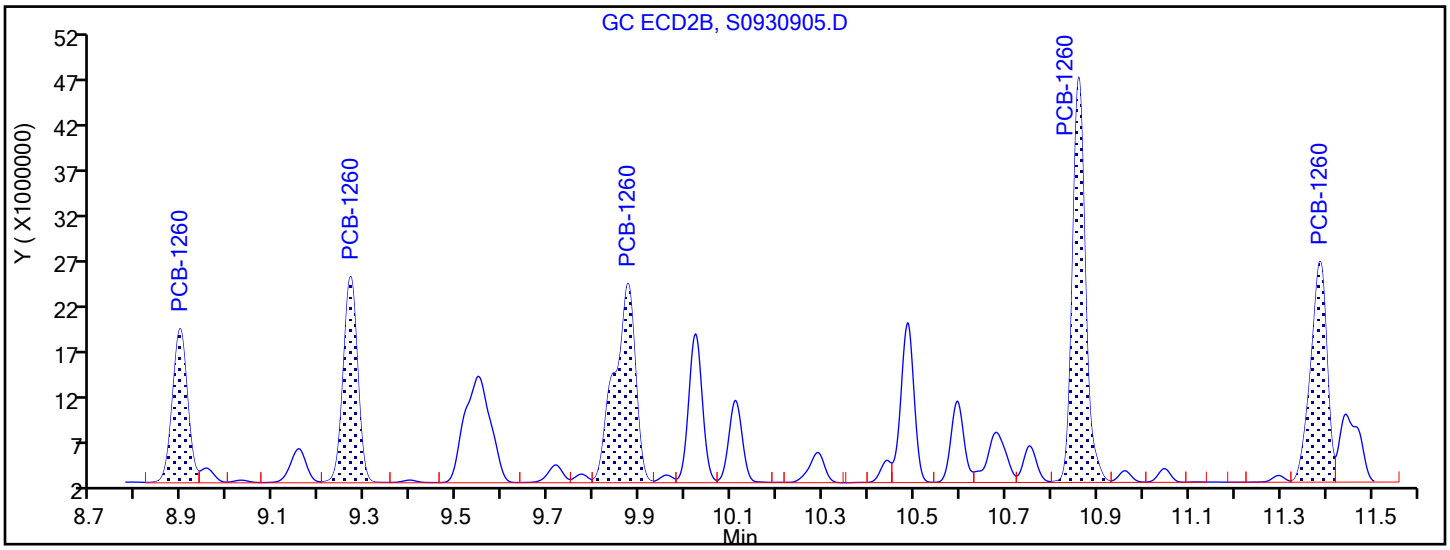

Manual Integration Results

8.893	Response = 16656736	M
9.267	Response = 22270337	M
9.873	Response = 21524041	M
10.860	Response = 43724470	M
11.387	Response = 23824402	M

Reviewer: oravecj, 01-Oct-2019 09:41:08

Audit Action: Assigned New Baseline Audit Reason: Instrument noise

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930905.D				
Injection Date:	30-Sep-2019 11:26:44	Instrument ID:	CHGC10		
Lims ID:	CCVIS				
Client ID:					
Operator ID:		ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		
Column:		Detector	GC ECD2B		

* 46 PCB-205 (IS), CAS: 74472-53-0

Signal: 2

Processing Integration Results

RT: 12.22
Height: 128208293
Amount: 0.100000
Amount Units: ng

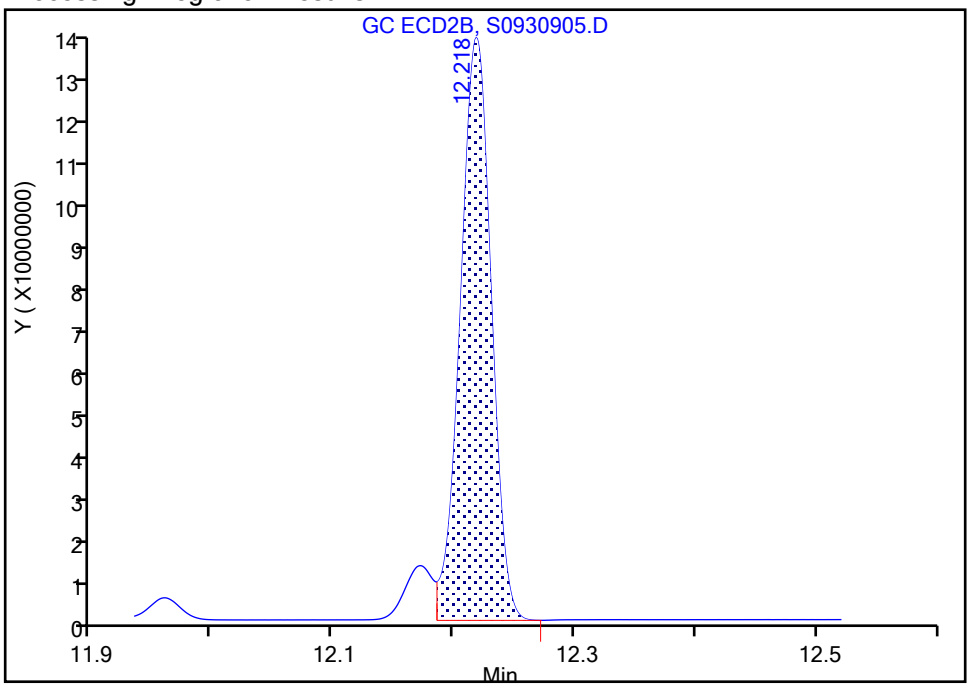

Manual Integration Results

RT: 12.22
Height: 128095599
Amount: 0.100000
Amount Units: ng

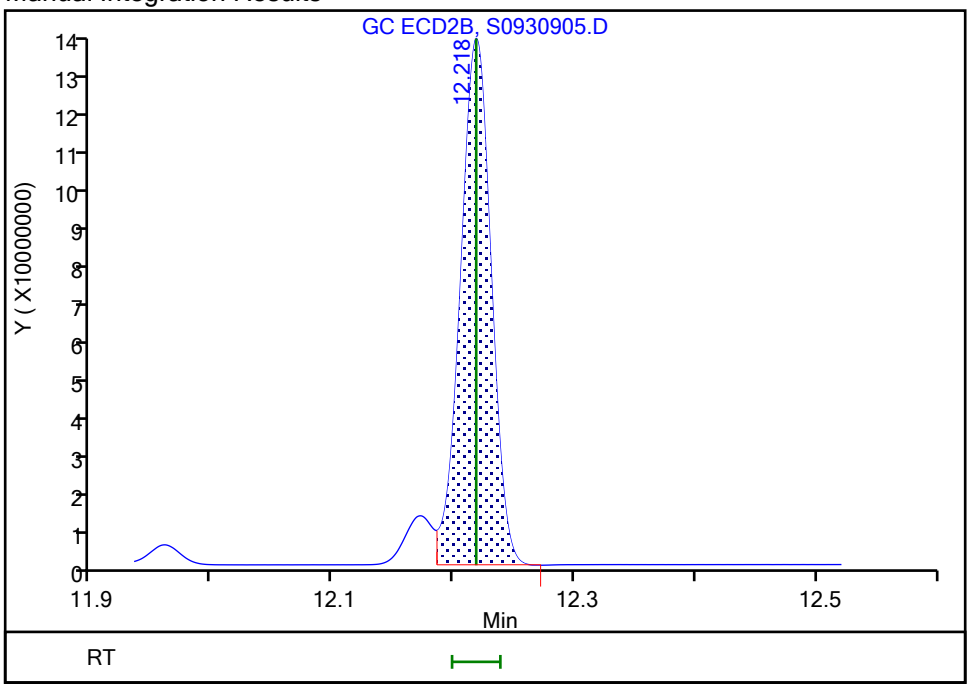

Reviewer: oravecj, 01-Oct-2019 09:41:11

Audit Action: Assigned New Baseline Audit Reason: Instrument noise

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCVIS 180-293170/26 Calibration Date: 09/30/2019 18:35

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 09:45

GC Column: RTX-CLP1 ID: 0.53(mm) Calib End Date: 09/21/2019 11:44

Lab File ID: S0930926.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Ave	0.0163	0.0154		0.469	0.500	-6.1	20.0
PCB-1016 Peak 2	Ave	0.0379	0.0372		0.491	0.500	-1.8	20.0
PCB-1016 Peak 3	Ave	0.0215	0.0209		0.484	0.500	-3.1	20.0
PCB-1016 Peak 4	Ave	0.0179	0.0176		0.493	0.500	-1.5	20.0
PCB-1016 Peak 5	Ave	0.0118	0.0120		0.508	0.500	1.7	20.0
PCB-1260 Peak 1	Ave	0.0429	0.0361		0.420	0.500	-15.9	20.0
PCB-1260 Peak 2	Ave	0.0393	0.0340		0.433	0.500	-13.4	20.0
PCB-1260 Peak 3	Ave	0.0279	0.0245		0.440	0.500	-12.0	20.0
PCB-1260 Peak 4	Ave	0.0710	0.0653		0.460	0.500	-8.1	20.0
PCB-1260 Peak 5	Ave	0.0395	0.0339		0.429	0.500	-14.2	20.0
Tetrachloro-m-xylene (Surr)	Ave	1.186	1.068		0.0225	0.0250	-9.9	20.0
DCB Decachlorobiphenyl (Surr)	Ave	0.7566	0.5958		0.0197	0.0250	-21.3*	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCVIS 180-293170/26 Calibration Date: 09/30/2019 18:35

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 09:45

GC Column: RTX-CLP1 ID: 0.53(mm) Calib End Date: 09/21/2019 11:44

Lab File ID: S0930926.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	3.69	3.67	3.71
PCB-1016 Peak 2	4.56	4.54	4.58
PCB-1016 Peak 3	4.72	4.70	4.74
PCB-1016 Peak 4	5.24	5.22	5.26
PCB-1016 Peak 5	5.78	5.76	5.80
PCB-1260 Peak 1	7.67	7.65	7.69
PCB-1260 Peak 2	8.23	8.21	8.25
PCB-1260 Peak 3	8.89	8.87	8.91
PCB-1260 Peak 4	9.43	9.41	9.45
PCB-1260 Peak 5	9.89	9.87	9.91
Tetrachloro-m-xylene (Surr)	3.37	3.35	3.39
DCB Decachlorobiphenyl (Surr)	11.50	11.48	11.52

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930926.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 30-Sep-2019 18:35:11 ALS Bottle#: 26 Worklist Smp#: 26
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028895-026
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 01-Oct-2019 10:01:47 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: oravecj Date: 01-Oct-2019 09:52:51

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.749	2.749	0.000	408118523H	0.1000	0.1000	
2	2.934	2.934	0.000	141271422H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.371	3.371	0.000	108998390H	0.0250	0.0225	
2	3.801	3.801	0.000	28548805H	0.0250	0.0217	
						RPD = 3.70	
6 PCB-1016							
1	3.693	3.693	0.000	31316319H	0.5000	0.4694	
1	4.562	4.562	0.000	75843450H	0.5000	0.4908	
1	4.720	4.720	0.000	42590528H	0.5000	0.4845	
1	5.239	5.239	0.000	35905420H	0.5000	0.4927	
1	5.775	5.775	0.000	24454166H	0.5000	0.5083	
		Average of Peak Amounts =				0.4891	
2	4.340	4.340	0.000	7773499H	0.5000	0.4279	
2	5.504	5.504	0.000	18186385H	0.5000	0.4558	
2	5.707	5.707	0.000	10127192H	0.5000	0.4446	
2	6.470	6.470	0.000	8566576H	0.5000	0.4550	
2	6.687	6.687	0.000	7262690H	0.5000	0.4617	
		Average of Peak Amounts =				0.4490	
						RPD = 8.55	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	7.673	7.673	0.000	94318193H	0.5000	0.4204	
1	8.226	8.226	0.000	88984658H	0.5000	0.4329	
1	8.893	8.893	0.000	64127922H	0.5000	0.4398	
1	9.433	9.433	0.000	170673580H	0.5000	0.4597	
1	9.890	9.890	0.000	88652904H	0.5000	0.4288	
		Average of Peak Amounts =				0.4363	
2	8.895	8.895	0.000	17718266H	0.5000	0.4052	
2	9.268	9.268	0.000	22978921H	0.5000	0.4185	
2	9.875	9.875	0.000	22252644H	0.5000	0.4195	
2	10.861	10.861	0.000	45895452H	0.5000	0.4534	
2	11.389	11.389	0.000	25510752H	0.5000	0.4435	
		Average of Peak Amounts =				0.4280	
						RPD = 1.93	
* 46 PCB-205 (IS)							
1	10.913	10.913	0.000	522821975H	0.1000	0.1000	
2	12.219	12.219	0.000	134590293H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.500	11.500	0.000	77873850H	0.0250	0.0197	
2	12.931	12.931	0.000	20888412H	0.0250	0.0206	
						RPD = 4.39	

Reagents:

GCAR1660CALL4_00019 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 01-Oct-2019 10:01:48 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930926.D

Injection Date: 30-Sep-2019 18:35:11 Instrument ID: CHGC10

Lims ID: CCVIS

Client ID:

Operator ID: ALS Bottle#: 26 Worklist Smp#: 26

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

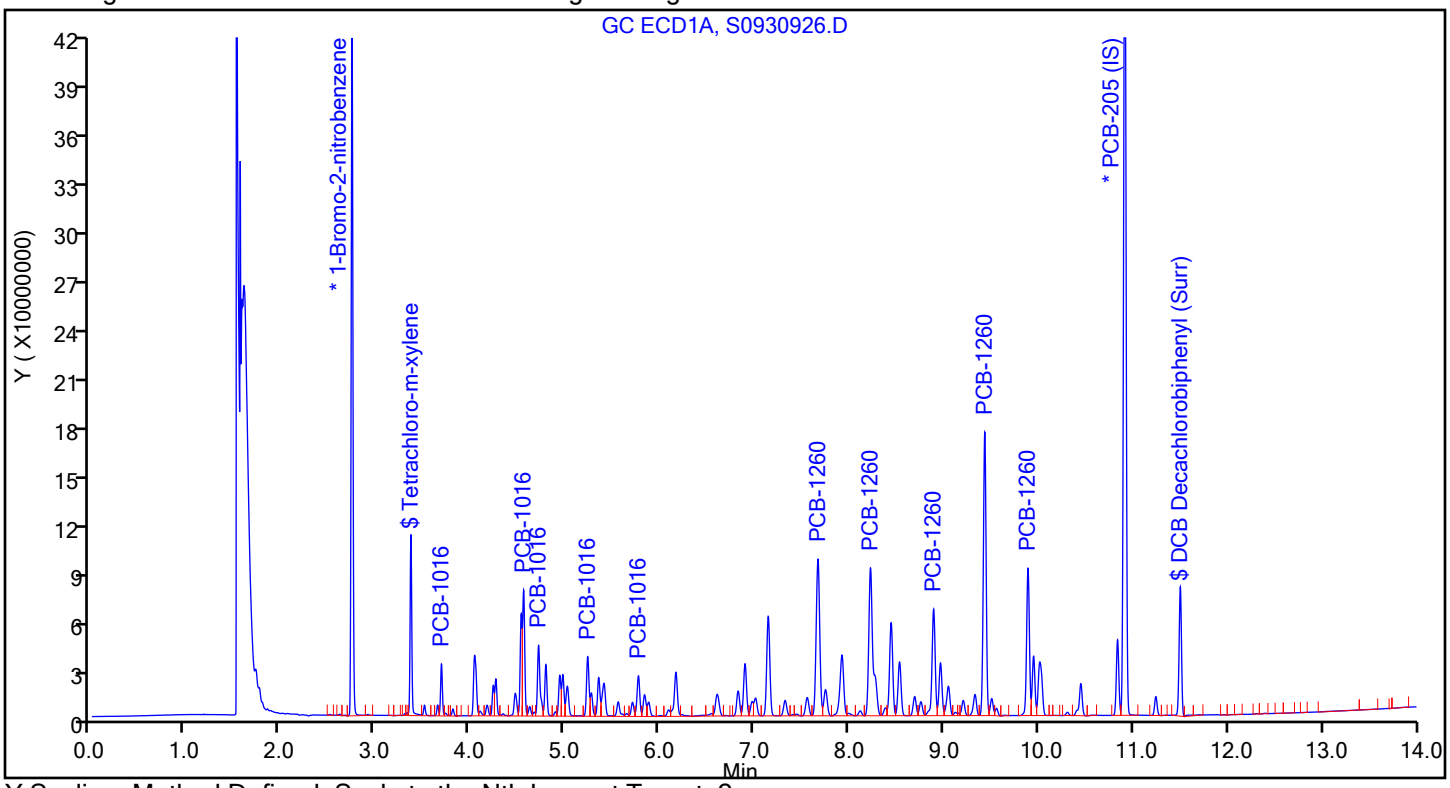

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

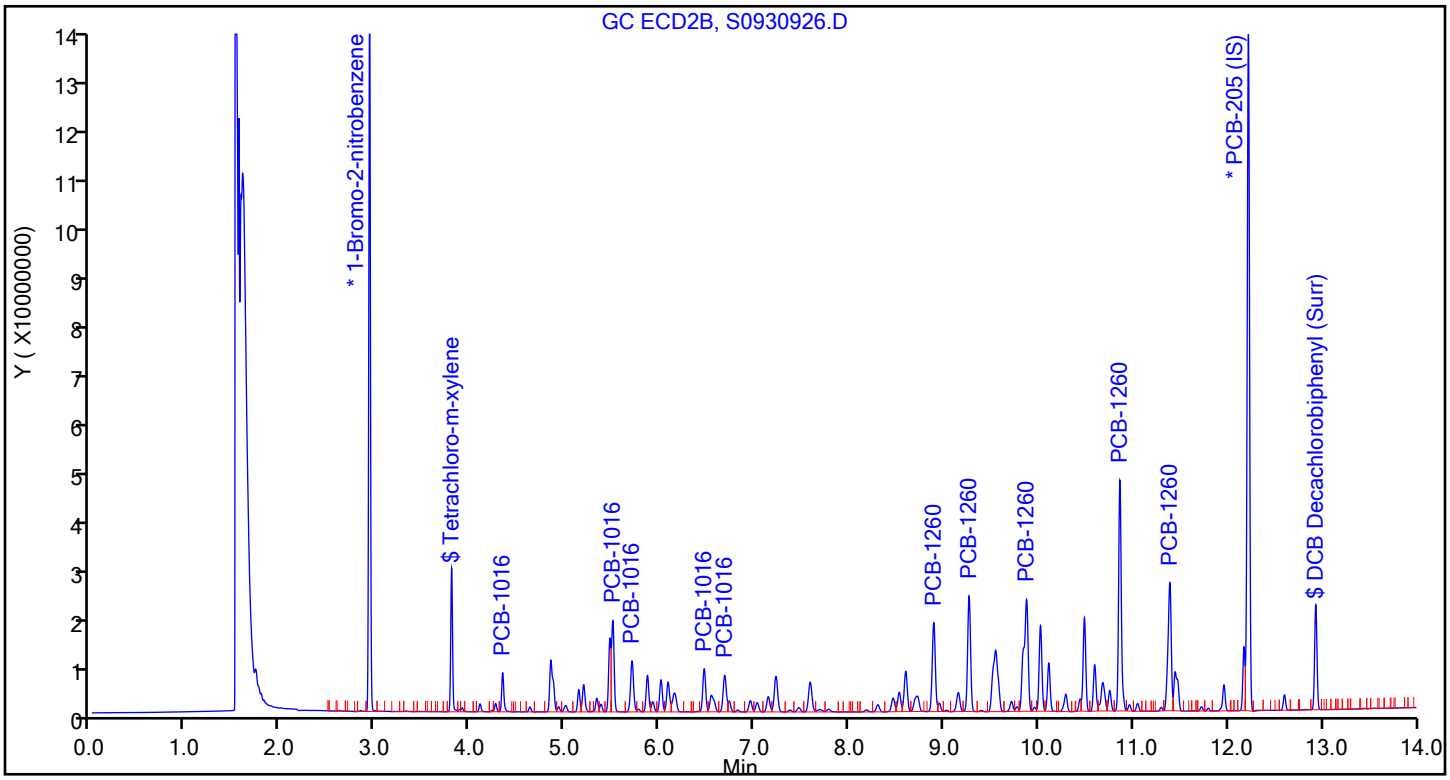

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCVIS 180-293170/26 Calibration Date: 09/30/2019 18:35

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 09:45

GC Column: RTX-CLP2 ID: 0.53(mm) Calib End Date: 09/21/2019 11:44

Lab File ID: S0930926.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Ave	0.0129	0.0110		0.428	0.500	-14.4	20.0
PCB-1016 Peak 2	Ave	0.0282	0.0258		0.456	0.500	-8.8	20.0
PCB-1016 Peak 3	Ave	0.0161	0.0143		0.445	0.500	-11.1	20.0
PCB-1016 Peak 4	Ave	0.0133	0.0121		0.455	0.500	-9.0	20.0
PCB-1016 Peak 5	Ave	0.0111	0.0103		0.462	0.500	-7.7	20.0
PCB-1260 Peak 1	Ave	0.0325	0.0263		0.405	0.500	-19.0	20.0
PCB-1260 Peak 2	Ave	0.0408	0.0342		0.418	0.500	-16.3	20.0
PCB-1260 Peak 3	Ave	0.0394	0.0331		0.419	0.500	-16.1	20.0
PCB-1260 Peak 4	Ave	0.0752	0.0682		0.453	0.500	-9.3	20.0
PCB-1260 Peak 5	Ave	0.0427	0.0379		0.443	0.500	-11.3	20.0
Tetrachloro-m-xylene (Surr)	Ave	0.9308	0.8083		0.0217	0.0250	-13.2	20.0
DCB Decachlorobiphenyl (Surr)	Ave	0.7545	0.6208		0.0206	0.0250	-17.7	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCVIS 180-293170/26 Calibration Date: 09/30/2019 18:35

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 09:45

GC Column: RTX-CLP2 ID: 0.53(mm) Calib End Date: 09/21/2019 11:44

Lab File ID: S0930926.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	4.34	4.32	4.36
PCB-1016 Peak 2	5.50	5.48	5.52
PCB-1016 Peak 3	5.71	5.69	5.73
PCB-1016 Peak 4	6.47	6.45	6.49
PCB-1016 Peak 5	6.69	6.67	6.71
PCB-1260 Peak 1	8.90	8.88	8.92
PCB-1260 Peak 2	9.27	9.25	9.29
PCB-1260 Peak 3	9.88	9.86	9.90
PCB-1260 Peak 4	10.86	10.84	10.88
PCB-1260 Peak 5	11.39	11.37	11.41
Tetrachloro-m-xylene (Surr)	3.80	3.78	3.82
DCB Decachlorobiphenyl (Surr)	12.93	12.91	12.95

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930926.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 30-Sep-2019 18:35:11 ALS Bottle#: 26 Worklist Smp#: 26
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028895-026
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 01-Oct-2019 10:01:47 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: oravecj Date: 01-Oct-2019 09:52:51

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.749	2.749	0.000	408118523H	0.1000	0.1000	
2	2.934	2.934	0.000	141271422H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.371	3.371	0.000	108998390H	0.0250	0.0225	
2	3.801	3.801	0.000	28548805H	0.0250	0.0217	
						RPD = 3.70	
6 PCB-1016							
1	3.693	3.693	0.000	31316319H	0.5000	0.4694	
1	4.562	4.562	0.000	75843450H	0.5000	0.4908	
1	4.720	4.720	0.000	42590528H	0.5000	0.4845	
1	5.239	5.239	0.000	35905420H	0.5000	0.4927	
1	5.775	5.775	0.000	24454166H	0.5000	0.5083	
		Average of Peak Amounts =				0.4891	
2	4.340	4.340	0.000	7773499H	0.5000	0.4279	
2	5.504	5.504	0.000	18186385H	0.5000	0.4558	
2	5.707	5.707	0.000	10127192H	0.5000	0.4446	
2	6.470	6.470	0.000	8566576H	0.5000	0.4550	
2	6.687	6.687	0.000	7262690H	0.5000	0.4617	
		Average of Peak Amounts =				0.4490	
						RPD = 8.55	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	7.673	7.673	0.000	94318193H	0.5000	0.4204	
1	8.226	8.226	0.000	88984658H	0.5000	0.4329	
1	8.893	8.893	0.000	64127922H	0.5000	0.4398	
1	9.433	9.433	0.000	170673580H	0.5000	0.4597	
1	9.890	9.890	0.000	88652904H	0.5000	0.4288	
		Average of Peak Amounts =				0.4363	
2	8.895	8.895	0.000	17718266H	0.5000	0.4052	
2	9.268	9.268	0.000	22978921H	0.5000	0.4185	
2	9.875	9.875	0.000	22252644H	0.5000	0.4195	
2	10.861	10.861	0.000	45895452H	0.5000	0.4534	
2	11.389	11.389	0.000	25510752H	0.5000	0.4435	
		Average of Peak Amounts =				0.4280	
						RPD = 1.93	
* 46 PCB-205 (IS)							
1	10.913	10.913	0.000	522821975H	0.1000	0.1000	
2	12.219	12.219	0.000	134590293H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.500	11.500	0.000	77873850H	0.0250	0.0197	
2	12.931	12.931	0.000	20888412H	0.0250	0.0206	
						RPD = 4.39	

Reagents:

GCAR1660CALL4_00019 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 01-Oct-2019 10:01:48 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930926.D

Injection Date: 30-Sep-2019 18:35:11 Instrument ID: CHGC10

Lims ID: CCVIS

Client ID:

Operator ID: ALS Bottle#: 26 Worklist Smp#: 26

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

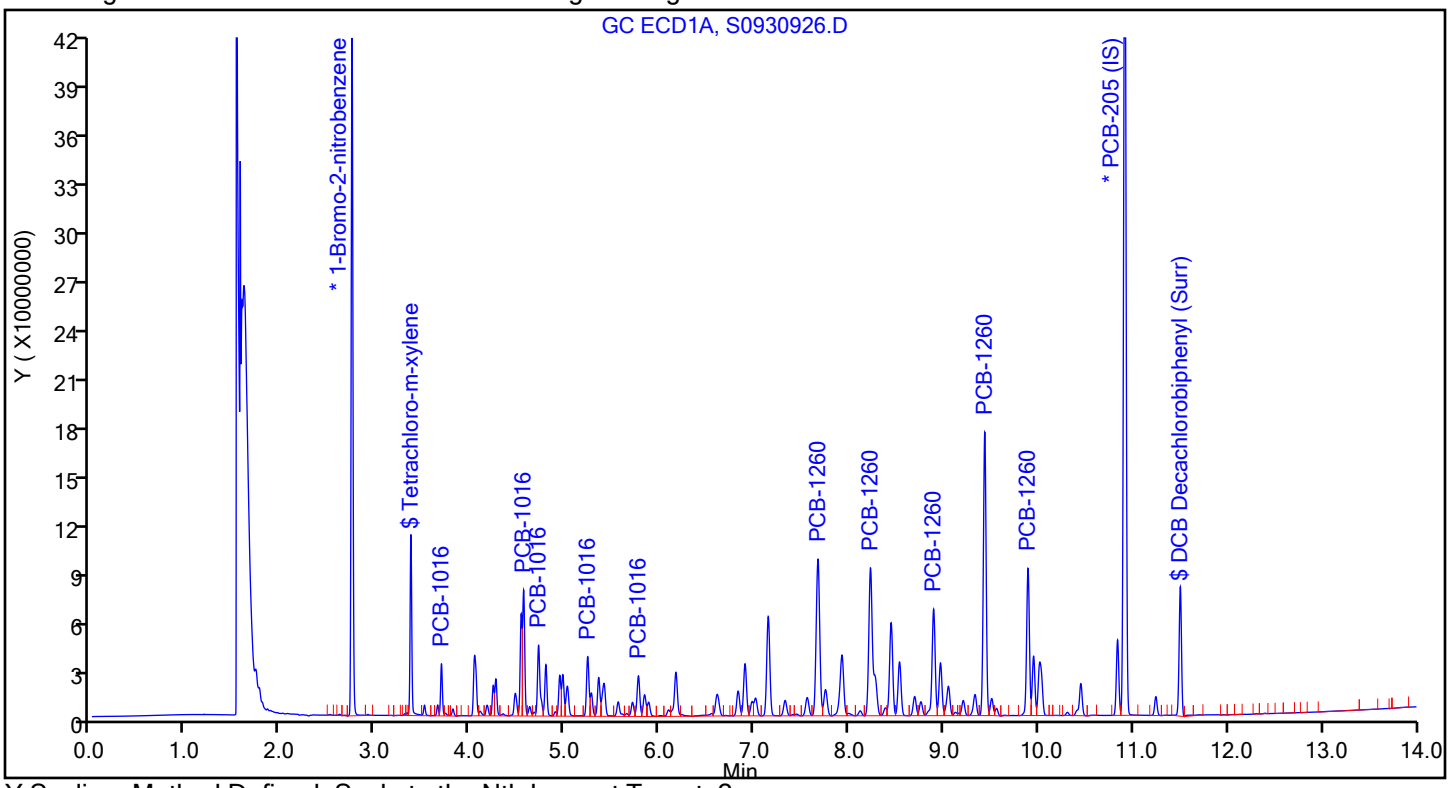

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

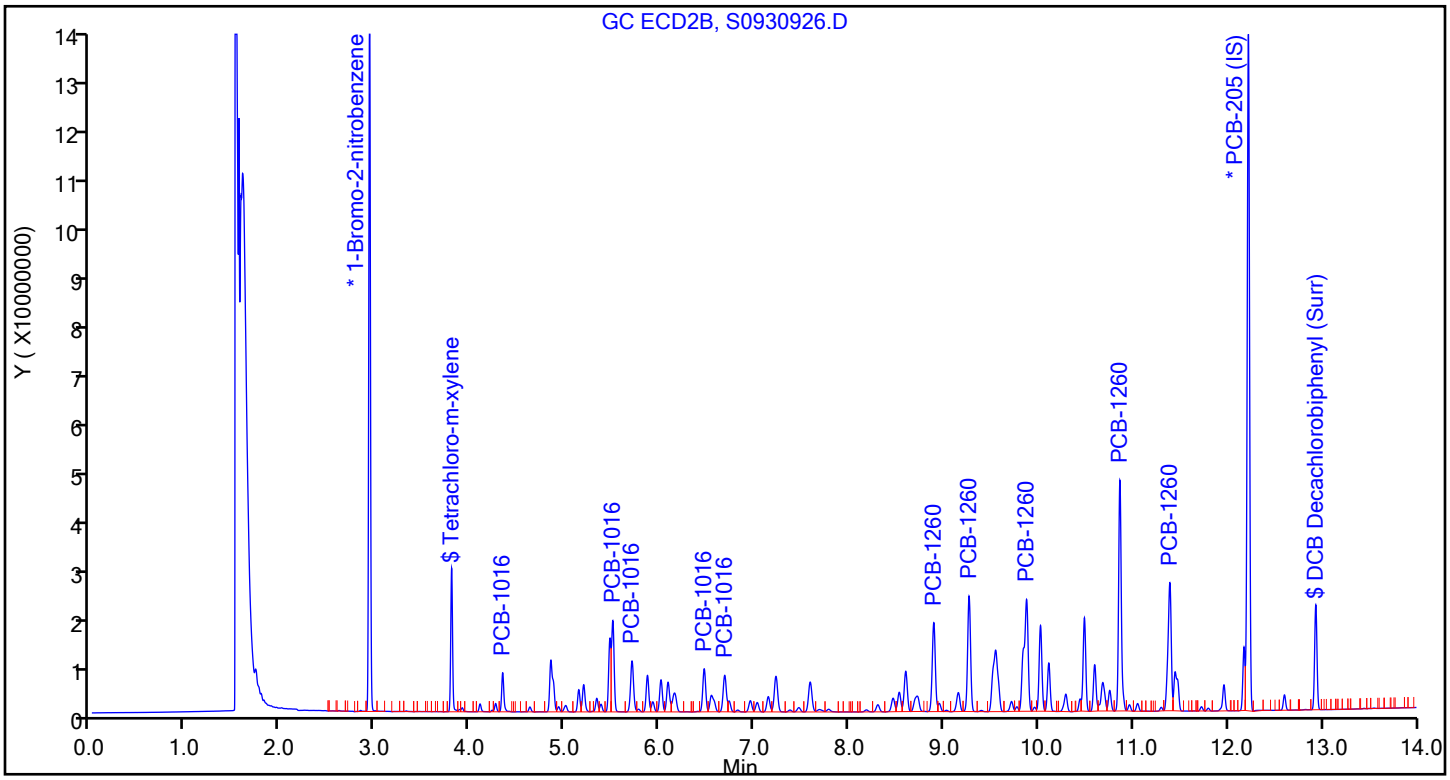

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 180-293037/1-A

Matrix: Water Lab File ID: S0930915.D

Analysis Method: EPA 8082A Date Collected:

Extraction Method: 3510C Date Extracted: 09/28/2019 04:25

Sample wt/vol: 1000(mL) Date Analyzed: 09/30/2019 14:51

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: RTX-CLP1 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 293170 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene (Surr)	96		45-133
2051-24-3	DCB Decachlorobiphenyl (Surr)	100		59-144

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930915.D
Lims ID: MB 180-293037/1-A
Client ID:
Sample Type: MB
Inject. Date: 30-Sep-2019 14:51:02 ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028895-015
Operator ID: Instrument ID: CHGC10

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 01-Oct-2019 10:01:47 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: oravecj Date: 01-Oct-2019 09:47:44

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.750	2.747	0.004	378319279H	0.1000	0.1000	
2	2.935	2.932	0.003	116975657H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.371	3.368	0.003	86031043H	0.0200	0.0192	
2	3.801	3.798	0.003	22098734H	0.0200	0.0203	
						RPD = 5.64	
3 PCB-1221							
1		3.511				ND	
1		3.650					
1		3.690					
2		3.319					
2		4.099					
2		4.337					
4 PCB-1232							
1		3.512				ND	
1		3.690					
1		4.042					
1		4.716					
1		5.235					
2		4.099					
2		4.338					
2		4.846					
2		5.501					
2		5.704					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
6 PCB-1016							
1		3.692				ND	
1		4.559					
1		4.717					
1		5.237					
1		5.772					
2		4.338					
2		5.502					
2		5.705					
2		6.468					
2		6.684					
7 PCB-1248							
1		4.042				ND	
1		4.942					
1		5.236					
1		5.838					
1		6.826					
2		4.848					
2		6.011					
2		6.685					
2		7.232					
2		7.682					
5 PCB-1242							
1		4.043				ND	
1		4.560					
1		5.237					
1		5.837					
1		5.881					
2		4.339					
2		4.848					
2		5.705					
2		6.468					
2		7.682					
8 PCB-1254							
1		5.770				ND	
1		6.167					
1		6.824					
1		7.317					
1		7.668					
2		7.223					
2		8.527					
2		8.950					
2		9.562					
2		9.874					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1		7.669				ND	
1		8.225					
1		8.892					
1		9.432					
1		9.889					
2		8.893					
2		9.267					
2		9.873					
2		10.860					
2		11.387					
10 PCB-1262							
1		8.439				ND	
1		8.890					
1		9.429					
1		9.889					
1		10.012					
2		9.265					
2		10.019					
2		10.484					
2		10.859					
2		11.380					
11 PCB-1268							
1		9.947				ND	
1		10.009					
1		10.305					
1		11.240					
2		11.377					
2		11.442					
2		11.795					
2		12.600					
* 46 PCB-205 (IS)							
1	10.913	10.912	0.002	416374119H	0.1000	0.1000	
2	12.218	12.218	0.000	113660965H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.498	11.498	0.000	62990666H	0.0200	0.0200	
2	12.931	12.930	0.001	17505178H	0.0200	0.0204	
						RPD = 2.07	
15 1260 Res 1							
1		0.000				ND	
2		0.000					
14 1260 Res 3							
1		0.000				ND	
2		0.000					
13 1260 Res 2							
1		0.000				ND	
2		0.000					

Reagents:

PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 01-Oct-2019 10:02:34 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930915.D				
Injection Date:	30-Sep-2019 14:51:02	Instrument ID:	CHGC10		
Lims ID:	MB 180-293037/1-A				
Client ID:					
Operator ID:		ALS Bottle#:	15	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

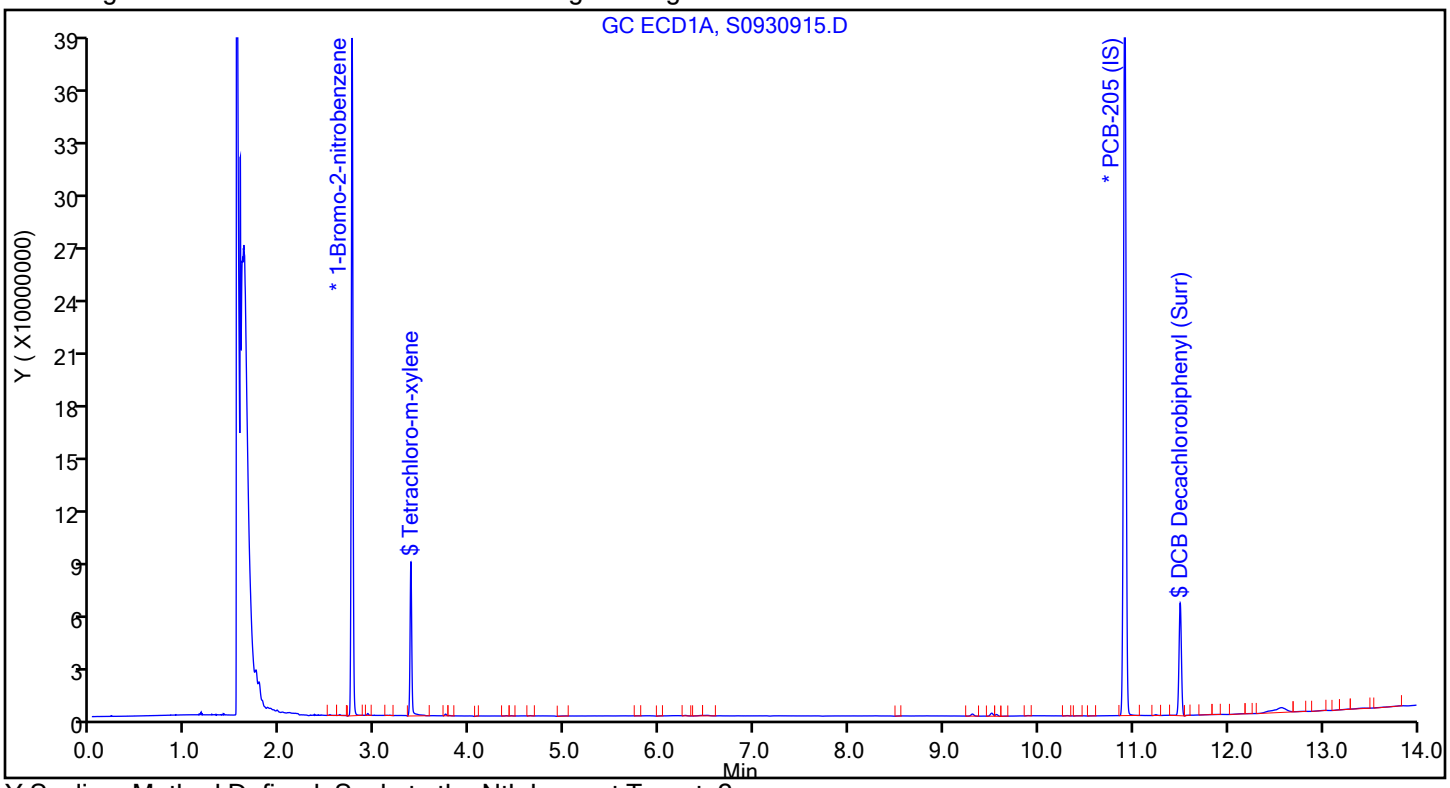

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

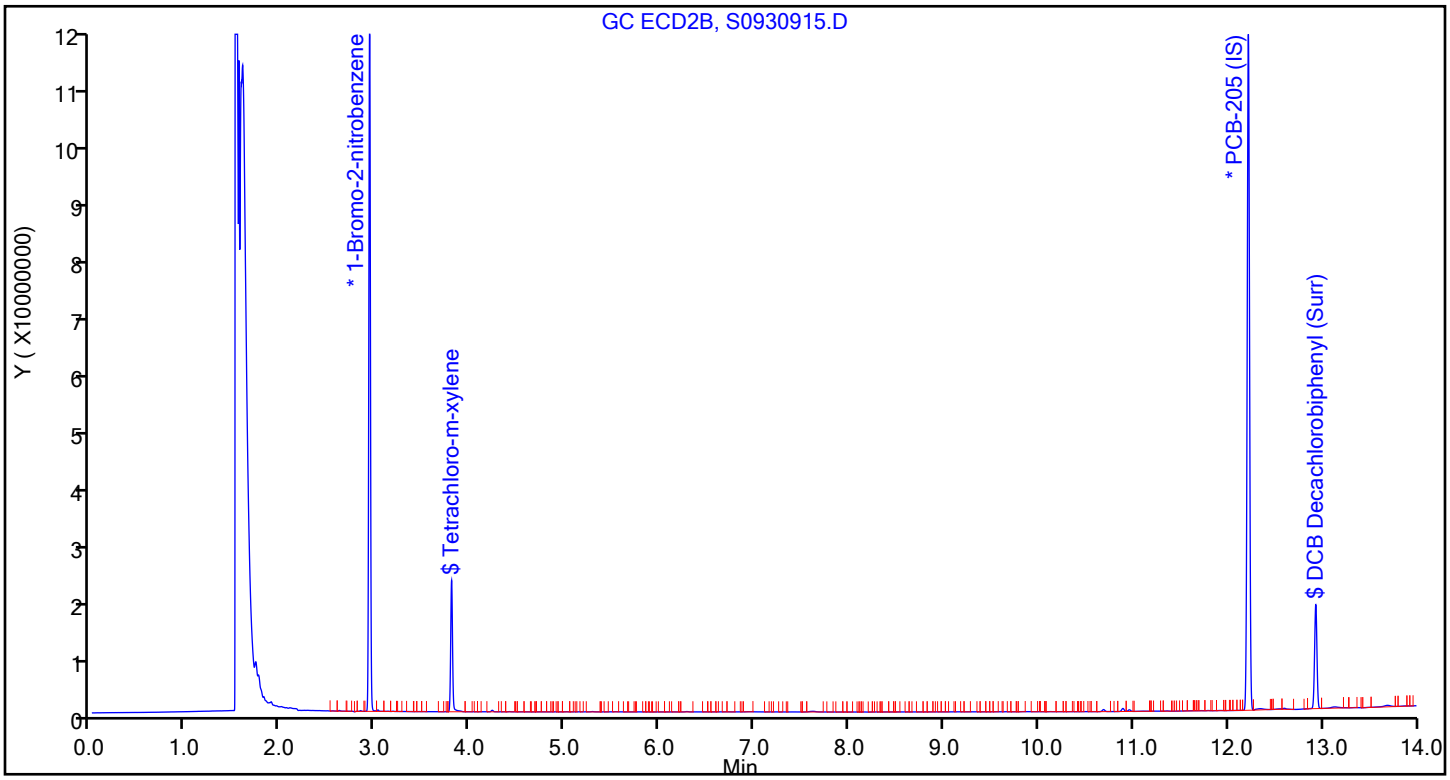

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930915.D				
Lims ID:	MB 180-293037/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	30-Sep-2019 14:51:02	ALS Bottle#:	15	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0028895-015				
Operator ID:		Instrument ID:	CHGC10		
Method:	\\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\IS PCB_CHGC10DUAL.m				
Limit Group:	GCS 8082A ICAL with IS				
Last Update:	01-Oct-2019 10:01:47	Calib Date:	21-Sep-2019 11:44:24		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D				
Column 1 :			Det: GC ECD1A		
Column 2 :			Det: GC ECD2B		
Process Host:	CTX0336				
First Level Reviewer: oravecj		Date:	01-Oct-2019 09:47:44		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0192	95.91
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0200	99.97

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0203	101.48
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0204	102.06

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 180-293037/1-A

Matrix: Water Lab File ID: S0930915.D

Analysis Method: EPA 8082A Date Collected:

Extraction Method: 3510C Date Extracted: 09/28/2019 04:25

Sample wt/vol: 1000(mL) Date Analyzed: 09/30/2019 14:51

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: RTX-CLP2 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 293170 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
12674-11-2	PCB-1016	ND		0.40	0.19
11104-28-2	PCB-1221	ND		0.40	0.23
11141-16-5	PCB-1232	ND		0.40	0.21
53469-21-9	PCB-1242	ND		0.40	0.37
12672-29-6	PCB-1248	ND		0.40	0.12
11097-69-1	PCB-1254	ND		0.40	0.38
11096-82-5	PCB-1260	ND		0.40	0.16

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene (Surr)	101		45-133
2051-24-3	DCB Decachlorobiphenyl (Surr)	102		59-144

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930915.D
Lims ID: MB 180-293037/1-A
Client ID:
Sample Type: MB
Inject. Date: 30-Sep-2019 14:51:02 ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028895-015
Operator ID: Instrument ID: CHGC10

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 01-Oct-2019 10:01:47 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: oravecj Date: 01-Oct-2019 09:47:44

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.750	2.747	0.004	378319279H	0.1000	0.1000	
2	2.935	2.932	0.003	116975657H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.371	3.368	0.003	86031043H	0.0200	0.0192	
2	3.801	3.798	0.003	22098734H	0.0200	0.0203	
						RPD = 5.64	
3 PCB-1221							
1		3.511				ND	
1		3.650					
1		3.690					
2		3.319					
2		4.099					
2		4.337					
4 PCB-1232							
1		3.512				ND	
1		3.690					
1		4.042					
1		4.716					
1		5.235					
2		4.099					
2		4.338					
2		4.846					
2		5.501					
2		5.704					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
6 PCB-1016							
1		3.692				ND	
1		4.559					
1		4.717					
1		5.237					
1		5.772					
2		4.338					
2		5.502					
2		5.705					
2		6.468					
2		6.684					
7 PCB-1248							
1		4.042				ND	
1		4.942					
1		5.236					
1		5.838					
1		6.826					
2		4.848					
2		6.011					
2		6.685					
2		7.232					
2		7.682					
5 PCB-1242							
1		4.043				ND	
1		4.560					
1		5.237					
1		5.837					
1		5.881					
2		4.339					
2		4.848					
2		5.705					
2		6.468					
2		7.682					
8 PCB-1254							
1		5.770				ND	
1		6.167					
1		6.824					
1		7.317					
1		7.668					
2		7.223					
2		8.527					
2		8.950					
2		9.562					
2		9.874					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1		7.669				ND	
1		8.225					
1		8.892					
1		9.432					
1		9.889					
2		8.893					
2		9.267					
2		9.873					
2		10.860					
2		11.387					
10 PCB-1262							
1		8.439				ND	
1		8.890					
1		9.429					
1		9.889					
1		10.012					
2		9.265					
2		10.019					
2		10.484					
2		10.859					
2		11.380					
11 PCB-1268							
1		9.947				ND	
1		10.009					
1		10.305					
1		11.240					
2		11.377					
2		11.442					
2		11.795					
2		12.600					
* 46 PCB-205 (IS)							
1	10.913	10.912	0.002	416374119H	0.1000	0.1000	
2	12.218	12.218	0.000	113660965H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.498	11.498	0.000	62990666H	0.0200	0.0200	
2	12.931	12.930	0.001	17505178H	0.0200	0.0204	
						RPD = 2.07	
15 1260 Res 1							
1		0.000				ND	
2		0.000					
14 1260 Res 3							
1		0.000				ND	
2		0.000					
13 1260 Res 2							
1		0.000				ND	
2		0.000					

Reagents:

PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 01-Oct-2019 10:02:35 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930915.D				
Injection Date:	30-Sep-2019 14:51:02	Instrument ID:	CHGC10		
Lims ID:	MB 180-293037/1-A				
Client ID:					
Operator ID:		ALS Bottle#:	15	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

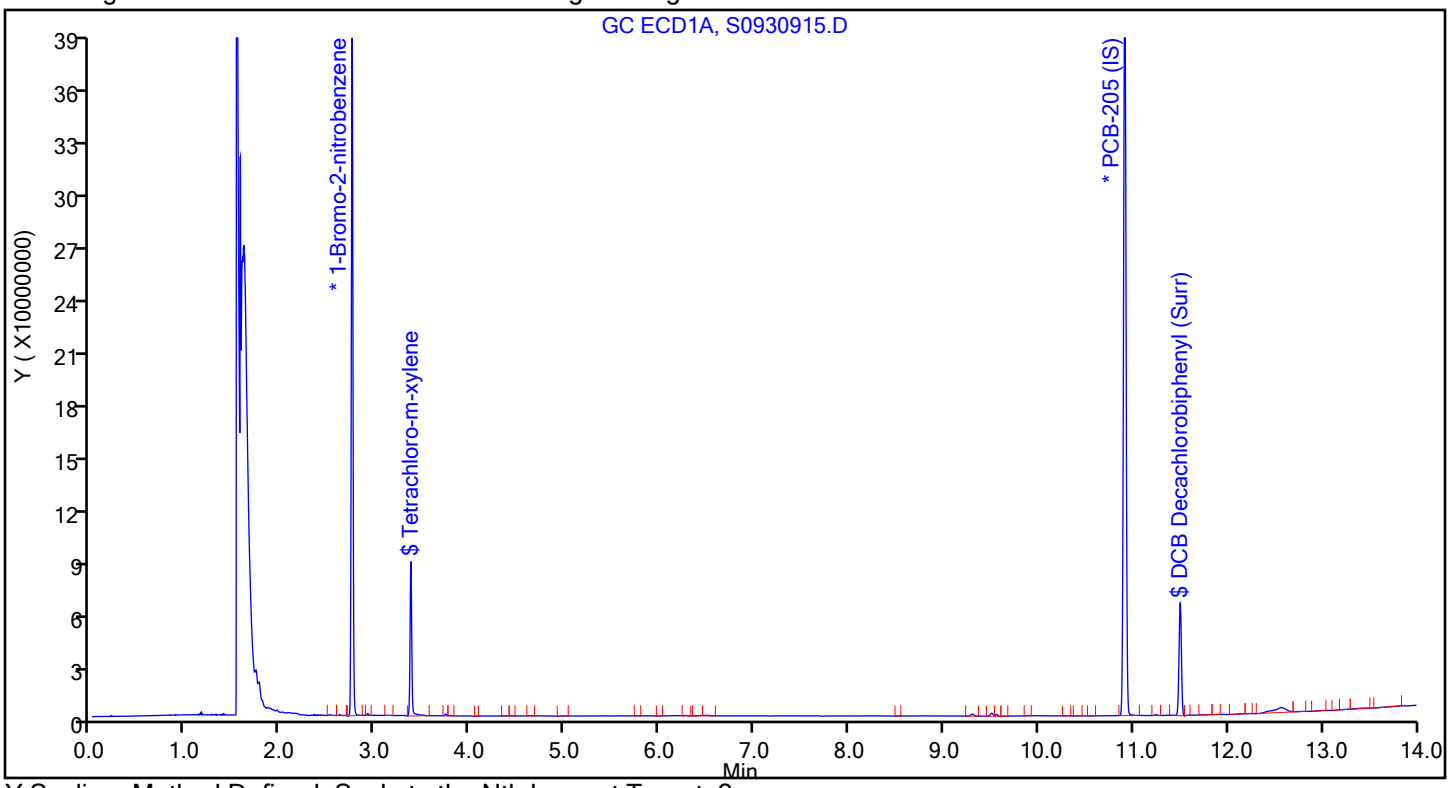

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

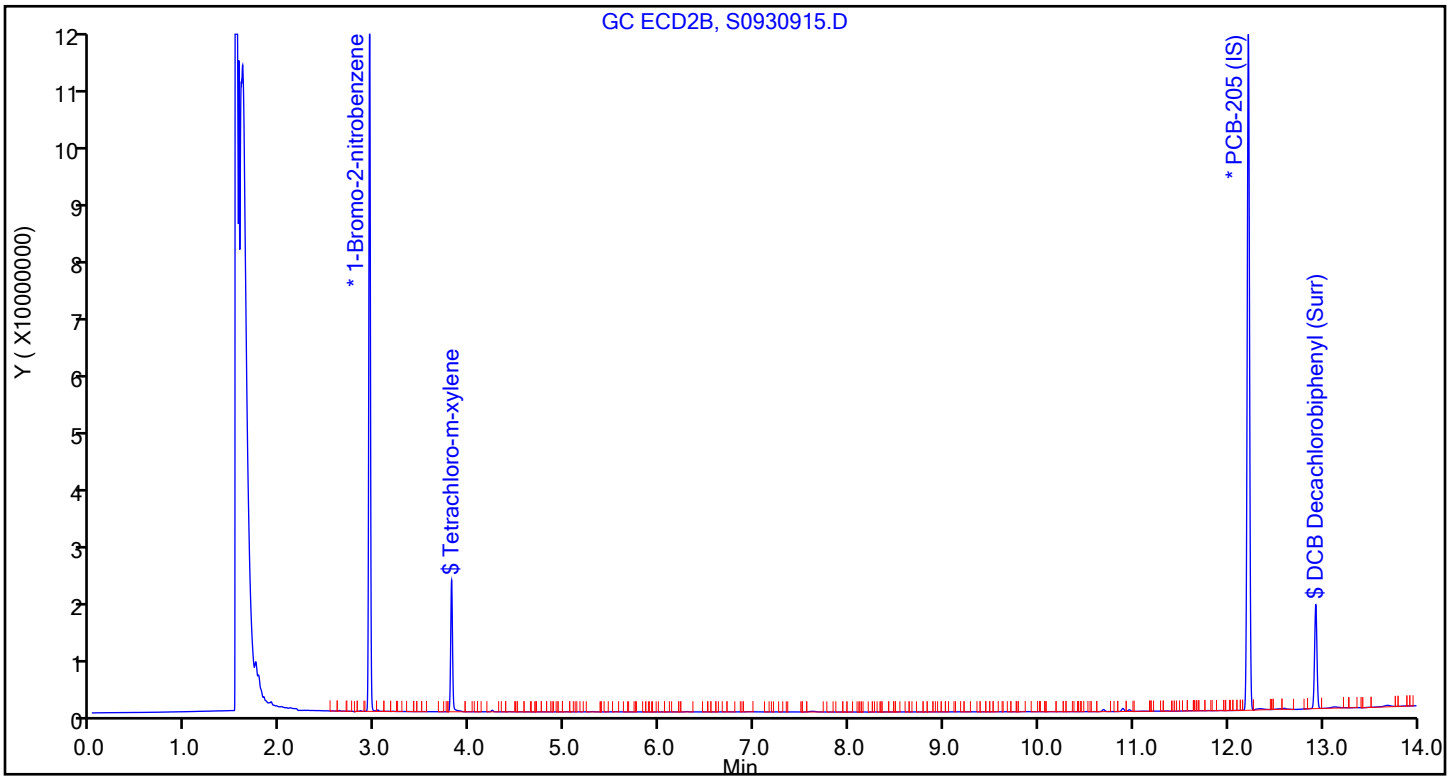

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930915.D				
Lims ID:	MB 180-293037/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	30-Sep-2019 14:51:02	ALS Bottle#:	15	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0028895-015				
Operator ID:		Instrument ID:	CHGC10		
Method:	\\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\IS PCB_CHGC10DUAL.m				
Limit Group:	GCS 8082A ICAL with IS				
Last Update:	01-Oct-2019 10:01:47	Calib Date:	21-Sep-2019 11:44:24		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D				
Column 1 :			Det: GC ECD1A		
Column 2 :			Det: GC ECD2B		
Process Host:	CTX0336				
First Level Reviewer: oravecj		Date:	01-Oct-2019 09:47:44		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0192	95.91
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0200	99.97

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0203	101.48
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0204	102.06

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 180-293037/4-A

Matrix: Water Lab File ID: S0930919.D

Analysis Method: EPA 8082A Date Collected:

Extraction Method: 3510C Date Extracted: 09/28/2019 04:25

Sample wt/vol: 1000(mL) Date Analyzed: 09/30/2019 16:12

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: RTX-CLP1 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 293170 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene (Surr)	81		45-133
2051-24-3	DCB Decachlorobiphenyl (Surr)	89		59-144

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930919.D
Lims ID: LCS 180-293037/4-A
Client ID:
Sample Type: LCS
Inject. Date: 30-Sep-2019 16:12:41 ALS Bottle#: 19 Worklist Smp#: 19
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028895-019
Operator ID: Instrument ID: CHGC10

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 01-Oct-2019 10:01:47 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: oravecj Date: 01-Oct-2019 09:51:04

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.750	2.747	0.004	425725355H	0.1000	0.1000	
2	2.935	2.932	0.003	137110408H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.371	3.368	0.003	81788243H	0.0200	0.0162	
2	3.802	3.798	0.004	21323425H	0.0200	0.0167	
						RPD = 3.06	
6 PCB-1016							
1	3.695	3.692	0.003	56668913H	1.00	0.8143	
1	4.563	4.559	0.004	148277281H	1.00	0.9199	
1	4.720	4.717	0.003	83702998H	1.00	0.9128	
1	5.239	5.237	0.002	69570548H	1.00	0.9152	
1	5.775	5.772	0.003	50760081H	1.00	1.01	
		Average of Peak Amounts =				0.9147	
2	4.341	4.338	0.003	14454962H	1.00	0.8199	
2	5.505	5.502	0.003	35332180H	1.00	0.9123	
2	5.708	5.705	0.003	19238125H	1.00	0.8703	
2	6.470	6.468	0.002	16397533H	1.00	0.8974	
2	6.686	6.684	0.002	13590950H	1.00	0.8902	
		Average of Peak Amounts =				0.8780	
						RPD = 4.09	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	7.670	7.669	0.001	190033482H	1.00	0.8964	
1	8.225	8.225	0.000	189402055H	1.00	0.9751	
1	8.894	8.892	0.002	117821111H	1.00	0.8551	
1	9.433	9.432	0.001	328543669H	1.00	0.9363	
1	9.890	9.889	0.001	178607850H	1.00	0.9142	
		Average of Peak Amounts =				0.9154	
2	8.894	8.893	0.001	34283058H	1.00	0.8065	
2	9.268	9.267	0.001	46167709H	1.00	0.8650	
2	9.875	9.873	0.002	47599388H	1.00	0.9230	
2	10.861	10.860	0.001	85153651H	1.00	0.8655	
2	11.390	11.387	0.003	47645716H	1.00	0.8521	
		Average of Peak Amounts =				0.8624	
						RPD = 5.96	
* 46 PCB-205 (IS)							
1	10.914	10.912	0.002	494079286H	0.1000	0.1000	
2	12.219	12.218	0.001	130830452H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.500	11.498	0.002	66741267H	0.0200	0.0179	
2	12.930	12.930	0.000	18185932H	0.0200	0.0184	
						RPD = 3.15	

Reagents:

PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 01-Oct-2019 10:02:21 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930919.D

Injection Date: 30-Sep-2019 16:12:41 Instrument ID: CHGC10

Lims ID: LCS 180-293037/4-A

Client ID:

Operator ID: ALS Bottle#: 19 Worklist Smp#: 19

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

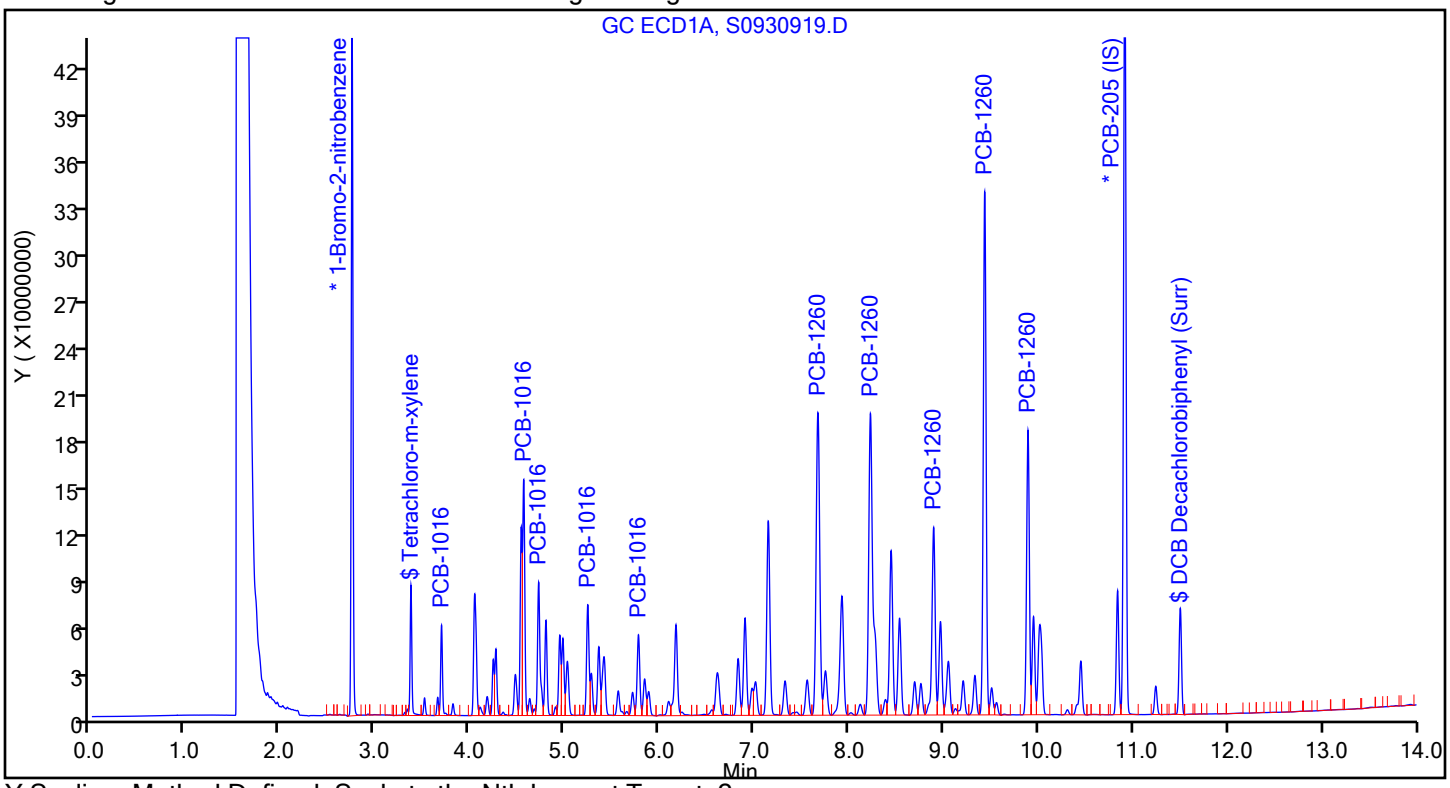

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

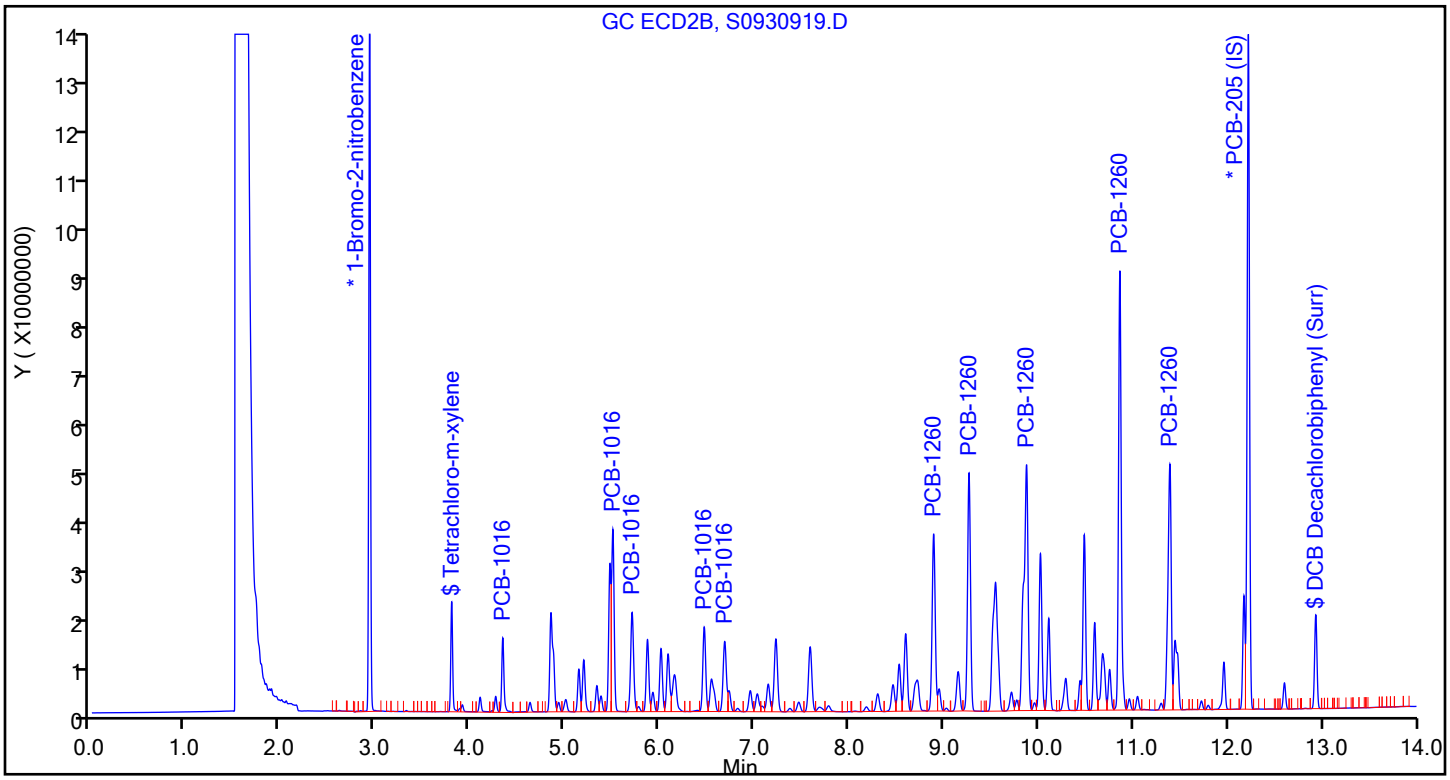

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930919.D				
Lims ID:	LCS 180-293037/4-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	30-Sep-2019 16:12:41	ALS Bottle#:	19	Worklist Smp#:	19
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0028895-019				
Operator ID:		Instrument ID:	CHGC10		
Method:	\\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\IS PCB_CHGC10DUAL.m				
Limit Group:	GCS 8082A ICAL with IS				
Last Update:	01-Oct-2019 10:01:47	Calib Date:	21-Sep-2019 11:44:24		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D				
Column 1 :			Det: GC ECD1A		
Column 2 :			Det: GC ECD2B		
Process Host:	CTX0336				
First Level Reviewer: oravecj		Date:	01-Oct-2019 09:51:04		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0162	81.02
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0179	89.26

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0167	83.54
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0184	92.12

Report Date: 01-Oct-2019 10:02:21 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930919.D				
Injection Date:	30-Sep-2019 16:12:41	Instrument ID:	CHGC10		
Lims ID:	LCS 180-293037/4-A				
Client ID:					
Operator ID:		ALS Bottle#:	19	Worklist Smp#:	19
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		
Column:		Detector	GC ECD1A		

6 PCB-1016, CAS: 12674-11-2

Calibration Sample, Level: 7

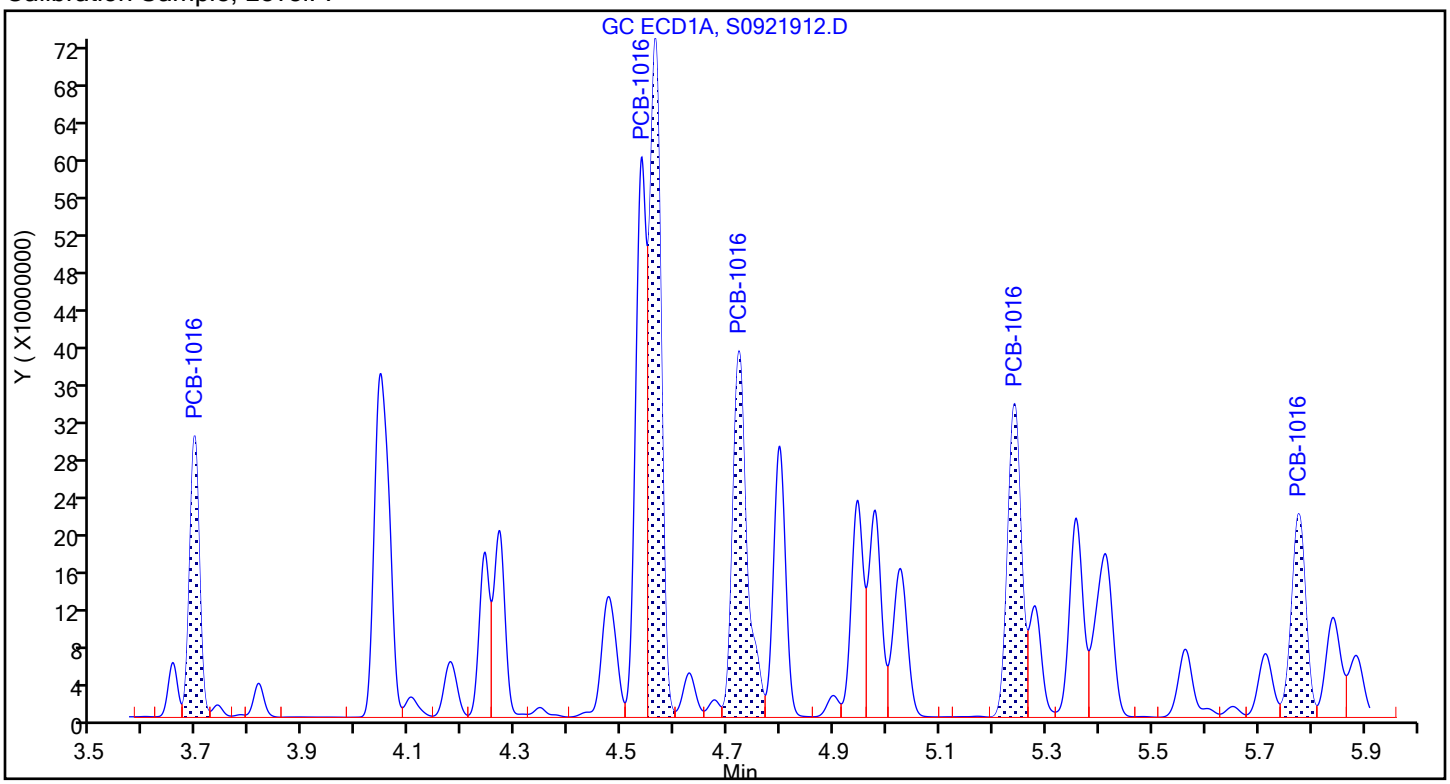

Sample

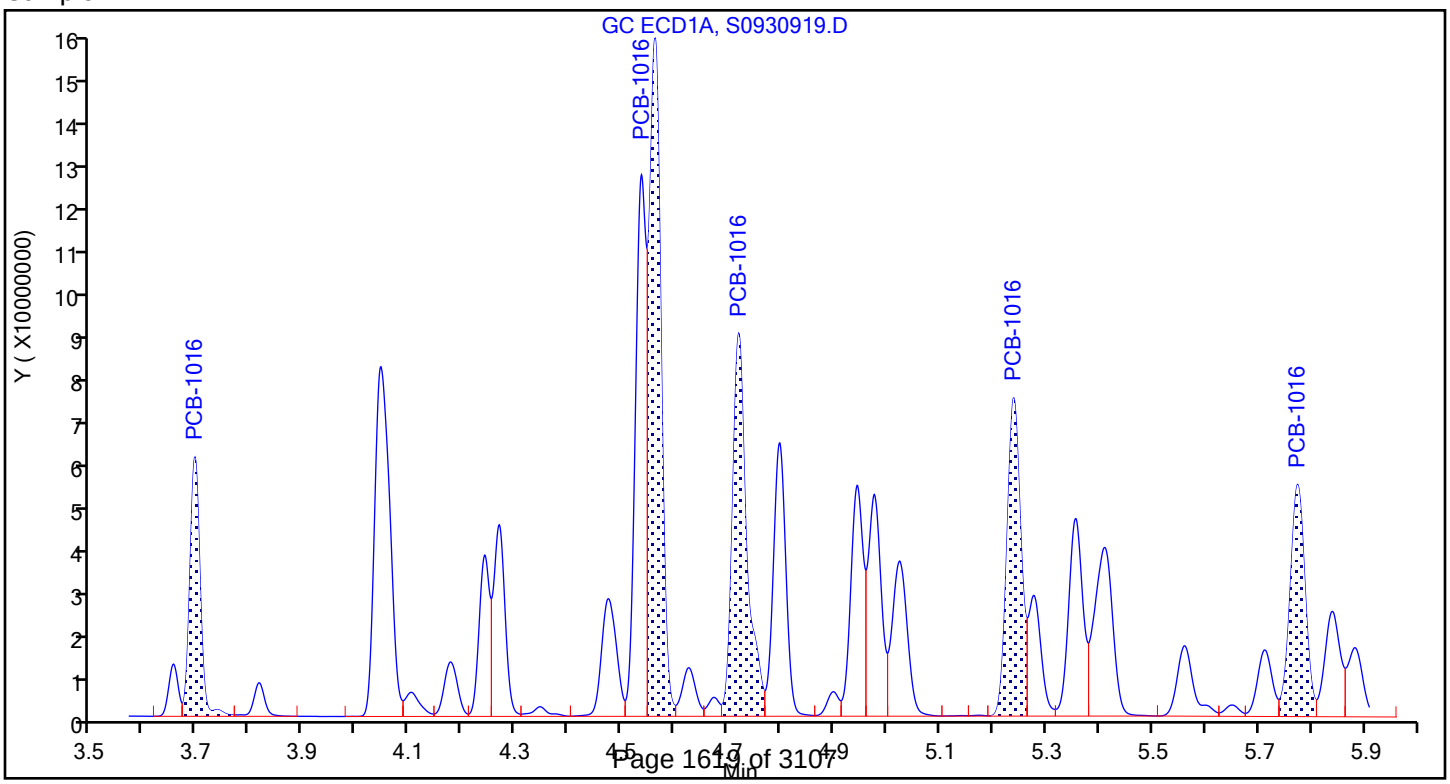

Report Date: 01-Oct-2019 10:02:21 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930919.D				
Injection Date:	30-Sep-2019 16:12:41	Instrument ID:	CHGC10		
Lims ID:	LCS 180-293037/4-A				
Client ID:					
Operator ID:		ALS Bottle#:	19	Worklist Smp#:	19
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		
Column:		Detector	GC ECD1A		

9 PCB-1260, CAS: 11096-82-5

Calibration Sample, Level: 7

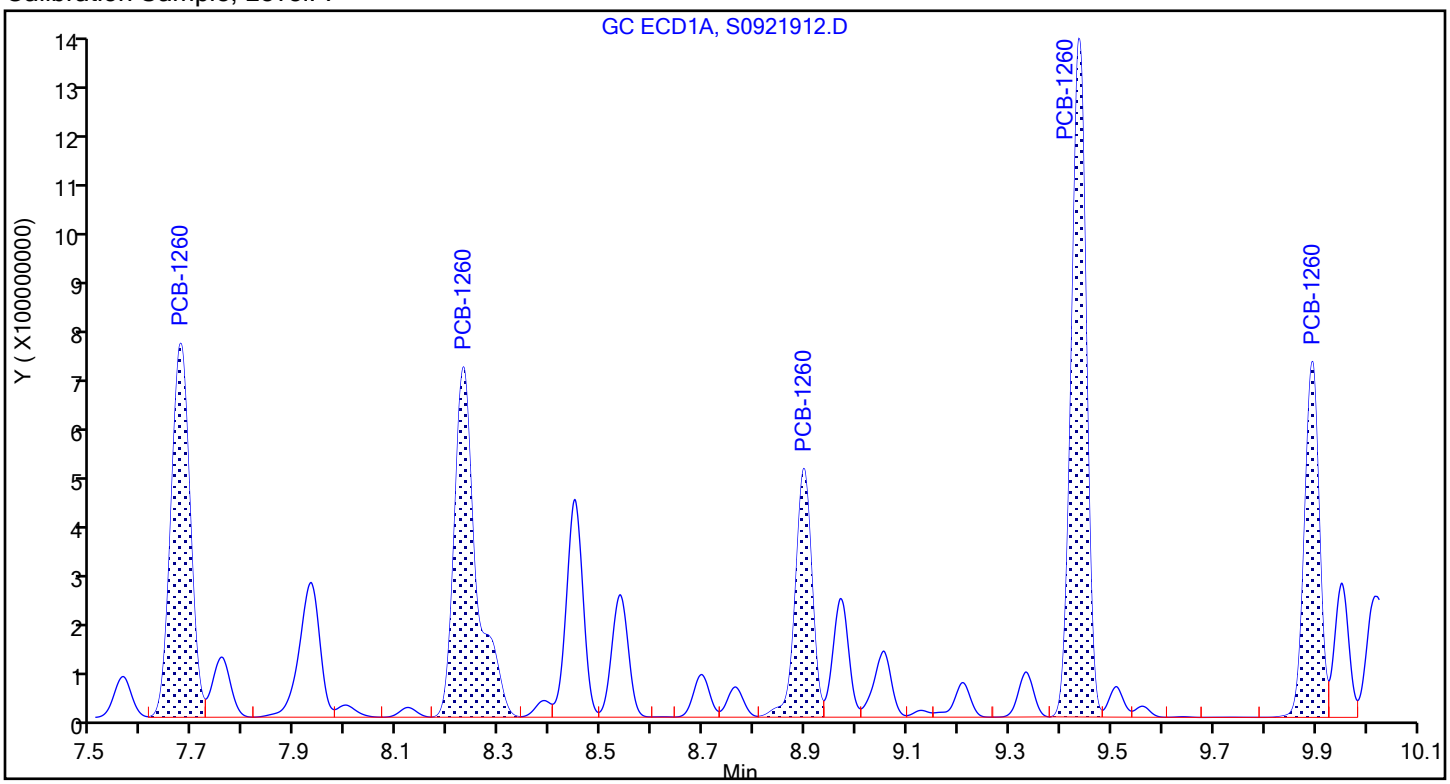

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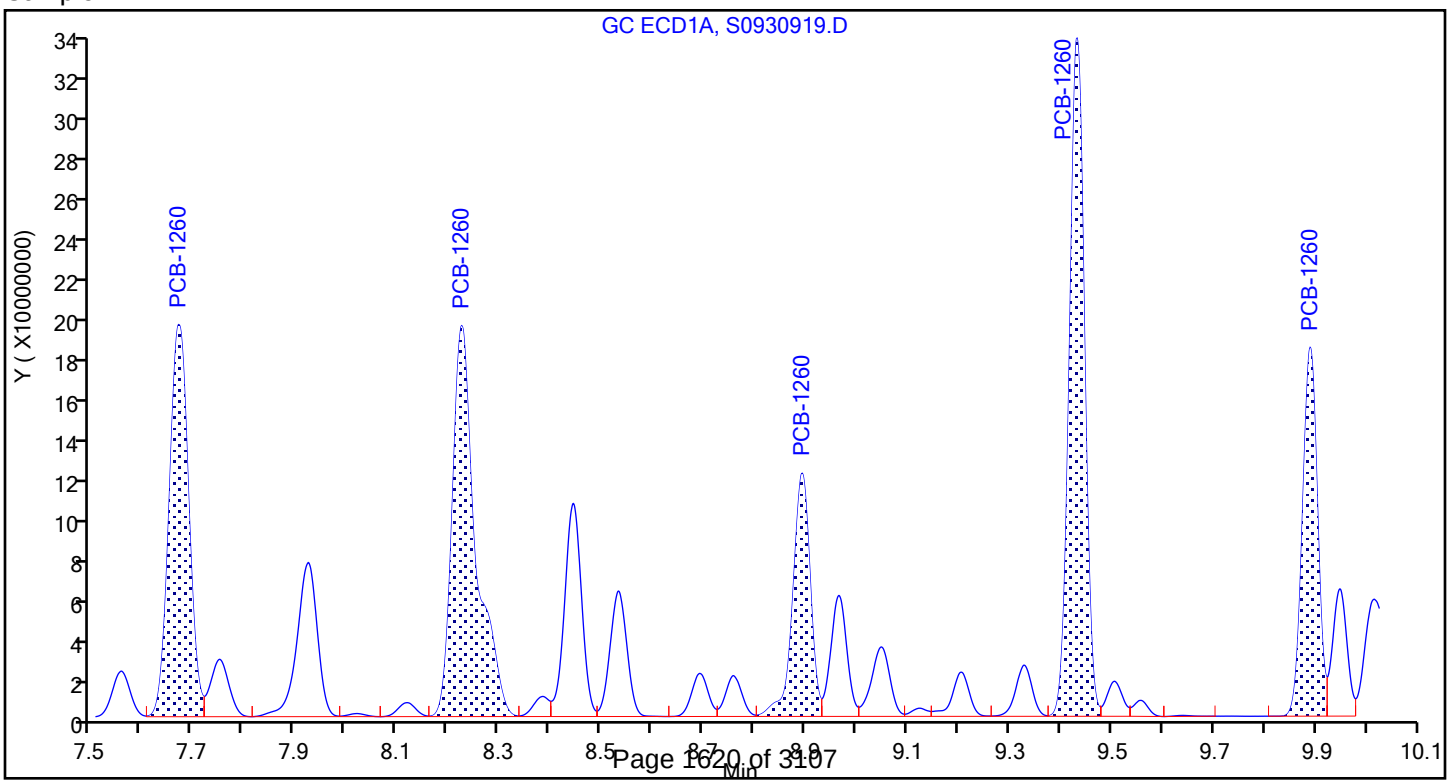

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 180-293037/4-A

Matrix: Water Lab File ID: S0930919.D

Analysis Method: EPA 8082A Date Collected:

Extraction Method: 3510C Date Extracted: 09/28/2019 04:25

Sample wt/vol: 1000(mL) Date Analyzed: 09/30/2019 16:12

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: RTX-CLP2 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 293170 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
12674-11-2	PCB-1016	35.1		0.40	0.19
11096-82-5	PCB-1260	34.5		0.40	0.16

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene (Surr)	84		45-133
2051-24-3	DCB Decachlorobiphenyl (Surr)	92		59-144

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930919.D
Lims ID: LCS 180-293037/4-A
Client ID:
Sample Type: LCS
Inject. Date: 30-Sep-2019 16:12:41 ALS Bottle#: 19 Worklist Smp#: 19
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028895-019
Operator ID: Instrument ID: CHGC10

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 01-Oct-2019 10:01:47 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: oravecj Date: 01-Oct-2019 09:51:04

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.750	2.747	0.004	425725355H	0.1000	0.1000	
2	2.935	2.932	0.003	137110408H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.371	3.368	0.003	81788243H	0.0200	0.0162	
2	3.802	3.798	0.004	21323425H	0.0200	0.0167	
						RPD = 3.06	
6 PCB-1016							
1	3.695	3.692	0.003	56668913H	1.00	0.8143	
1	4.563	4.559	0.004	148277281H	1.00	0.9199	
1	4.720	4.717	0.003	83702998H	1.00	0.9128	
1	5.239	5.237	0.002	69570548H	1.00	0.9152	
1	5.775	5.772	0.003	50760081H	1.00	1.01	
		Average of Peak Amounts =				0.9147	
2	4.341	4.338	0.003	14454962H	1.00	0.8199	
2	5.505	5.502	0.003	35332180H	1.00	0.9123	
2	5.708	5.705	0.003	19238125H	1.00	0.8703	
2	6.470	6.468	0.002	16397533H	1.00	0.8974	
2	6.686	6.684	0.002	13590950H	1.00	0.8902	
		Average of Peak Amounts =				0.8780	
						RPD = 4.09	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	7.670	7.669	0.001	190033482H	1.00	0.8964	
1	8.225	8.225	0.000	189402055H	1.00	0.9751	
1	8.894	8.892	0.002	117821111H	1.00	0.8551	
1	9.433	9.432	0.001	328543669H	1.00	0.9363	
1	9.890	9.889	0.001	178607850H	1.00	0.9142	
		Average of Peak Amounts =				0.9154	
2	8.894	8.893	0.001	34283058H	1.00	0.8065	
2	9.268	9.267	0.001	46167709H	1.00	0.8650	
2	9.875	9.873	0.002	47599388H	1.00	0.9230	
2	10.861	10.860	0.001	85153651H	1.00	0.8655	
2	11.390	11.387	0.003	47645716H	1.00	0.8521	
		Average of Peak Amounts =				0.8624	
						RPD = 5.96	
* 46 PCB-205 (IS)							
1	10.914	10.912	0.002	494079286H	0.1000	0.1000	
2	12.219	12.218	0.001	130830452H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.500	11.498	0.002	66741267H	0.0200	0.0179	
2	12.930	12.930	0.000	18185932H	0.0200	0.0184	
						RPD = 3.15	

Reagents:

PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 01-Oct-2019 10:02:21 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930919.D

Injection Date: 30-Sep-2019 16:12:41 Instrument ID: CHGC10

Lims ID: LCS 180-293037/4-A

Client ID:

Operator ID: ALS Bottle#: 19 Worklist Smp#: 19

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

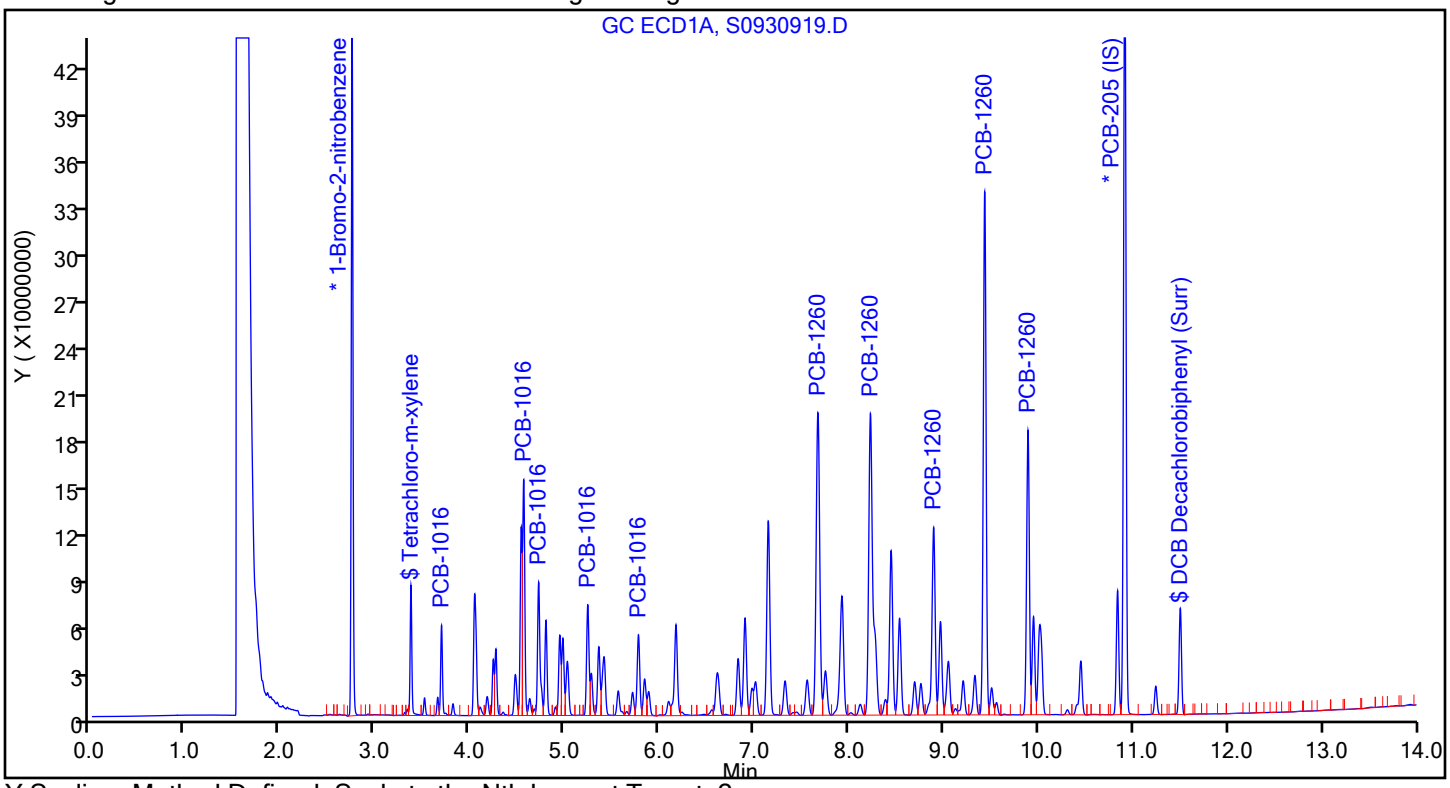

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

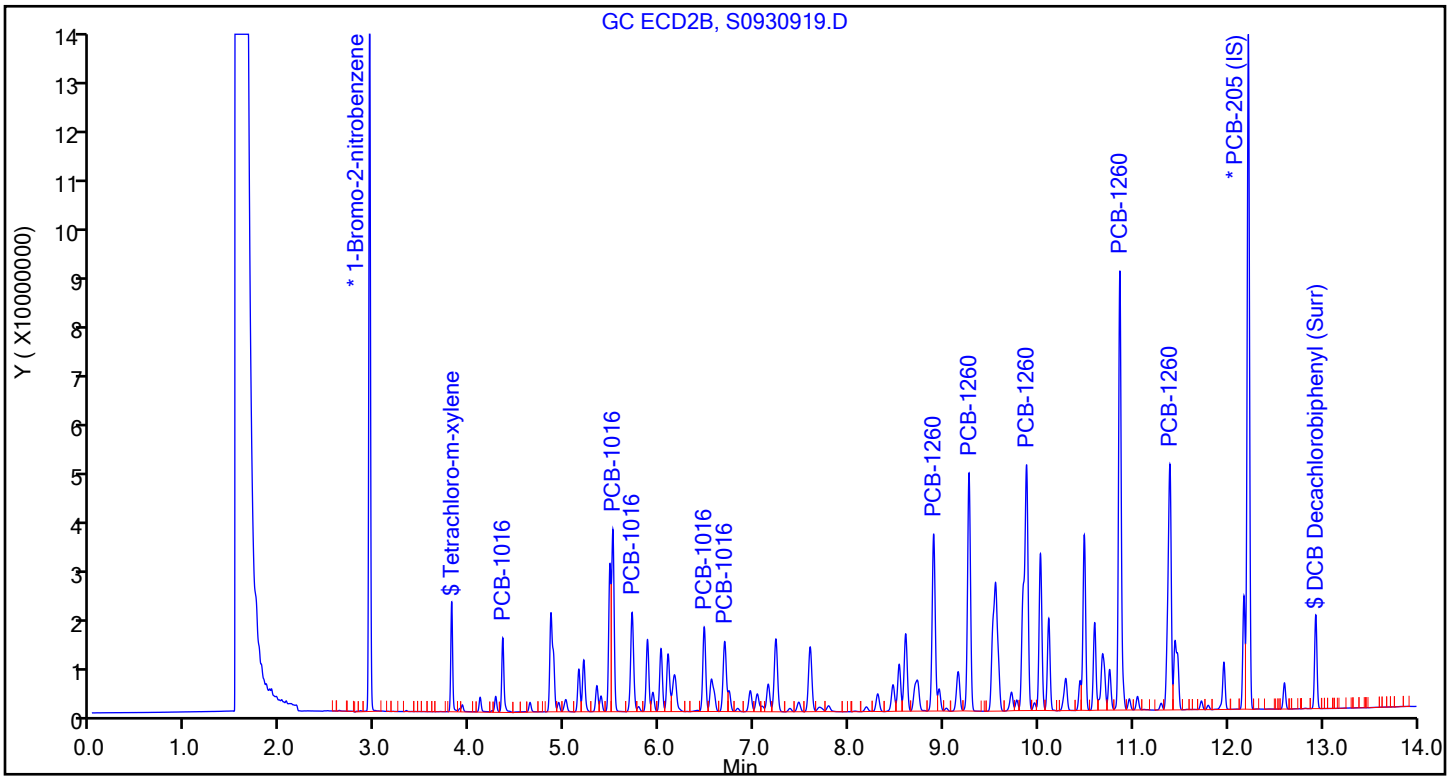

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930919.D				
Lims ID:	LCS 180-293037/4-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	30-Sep-2019 16:12:41	ALS Bottle#:	19	Worklist Smp#:	19
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0028895-019				
Operator ID:		Instrument ID:	CHGC10		
Method:	\\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\IS PCB_CHGC10DUAL.m				
Limit Group:	GCS 8082A ICAL with IS				
Last Update:	01-Oct-2019 10:01:47	Calib Date:	21-Sep-2019 11:44:24		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D				
Column 1 :			Det: GC ECD1A		
Column 2 :			Det: GC ECD2B		
Process Host:	CTX0336				
First Level Reviewer: oravecj		Date:	01-Oct-2019 09:51:04		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0162	81.02
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0179	89.26

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0167	83.54
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0184	92.12

Report Date: 01-Oct-2019 10:02:22 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930919.D				
Injection Date:	30-Sep-2019 16:12:41	Instrument ID:	CHGC10		
Lims ID:	LCS 180-293037/4-A				
Client ID:					
Operator ID:		ALS Bottle#:	19	Worklist Smp#:	19
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		
Column:		Detector	GC ECD2B		

6 PCB-1016, CAS: 12674-11-2

Calibration Sample, Level: 7

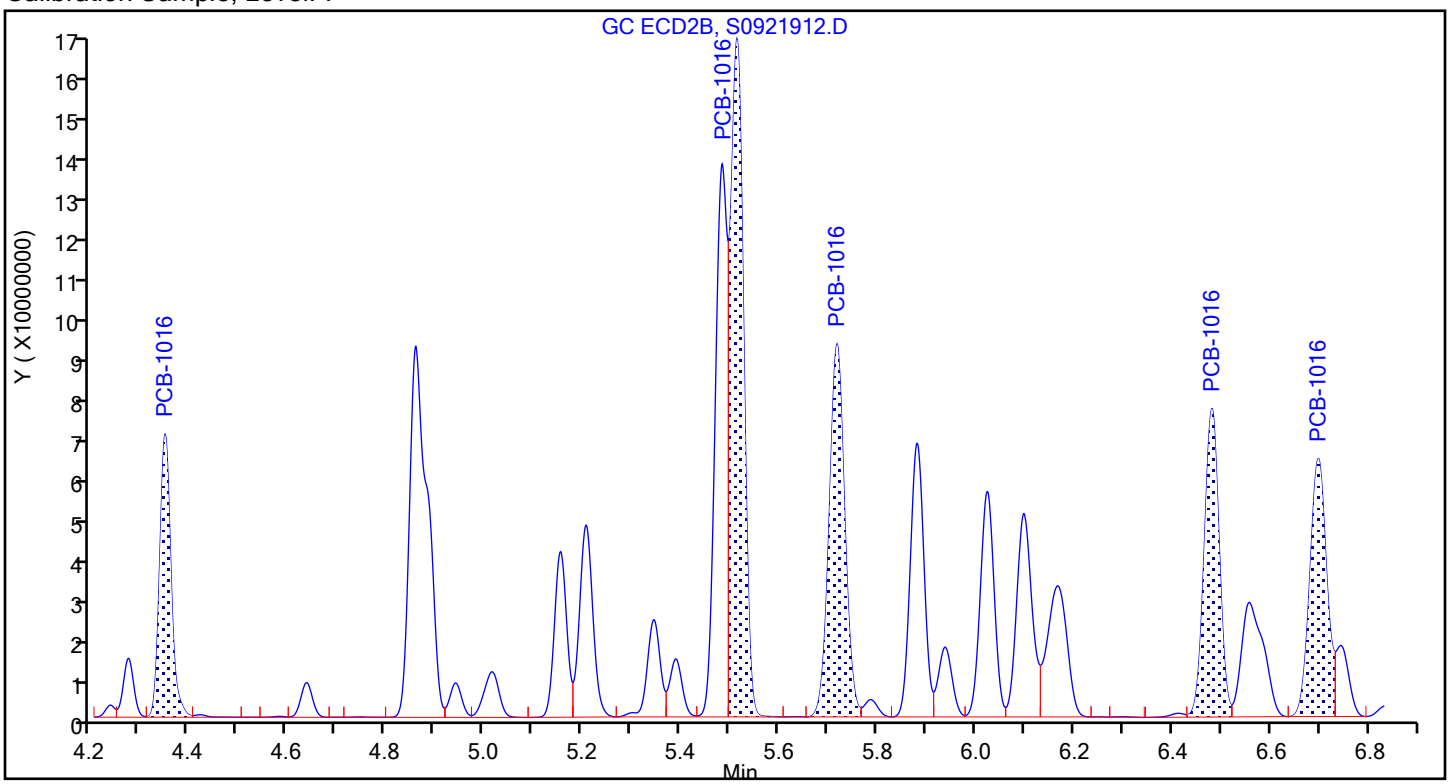

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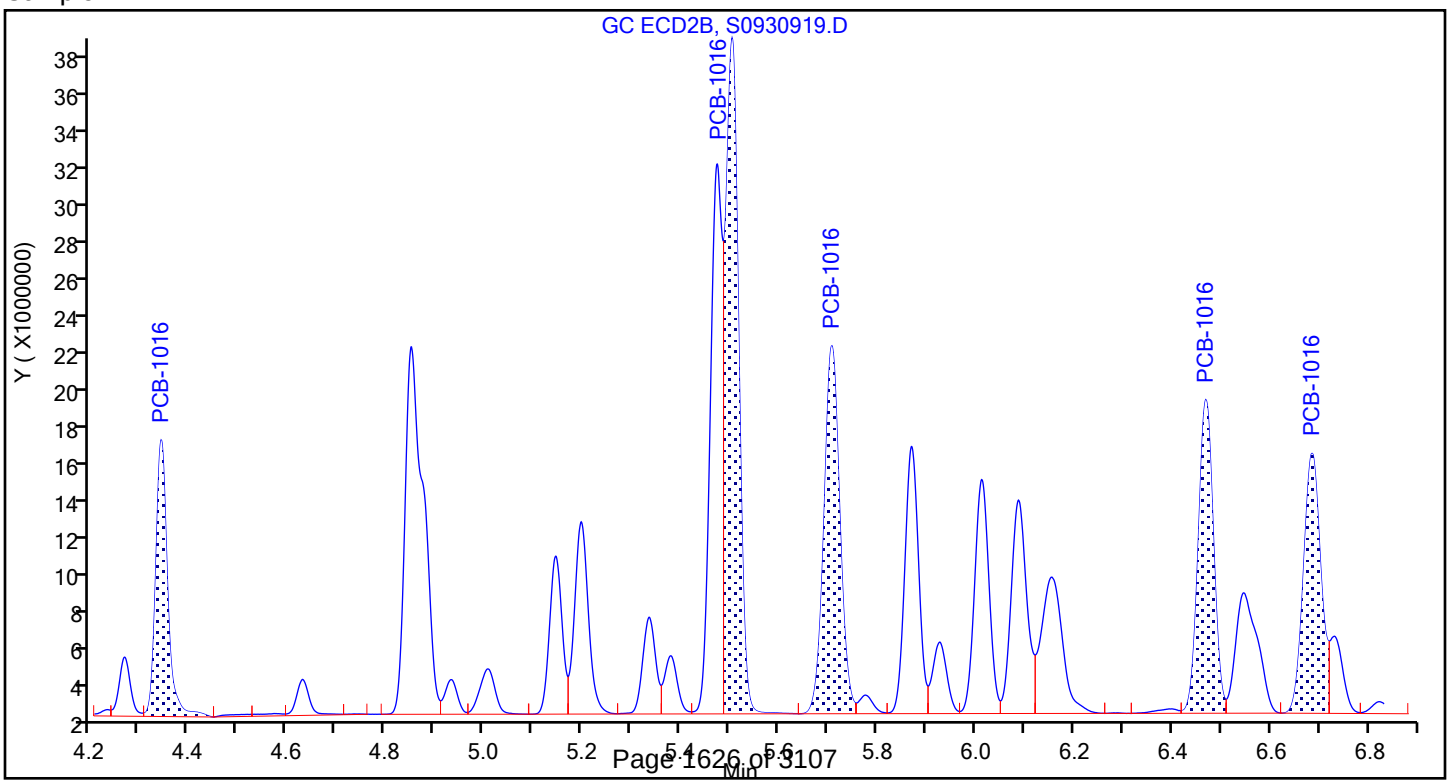

Report Date: 01-Oct-2019 10:02:22 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930919.D				
Injection Date:	30-Sep-2019 16:12:41	Instrument ID:	CHGC10		
Lims ID:	LCS 180-293037/4-A				
Client ID:					
Operator ID:		ALS Bottle#:	19	Worklist Smp#:	19
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		
Column:		Detector	GC ECD2B		

9 PCB-1260, CAS: 11096-82-5

Calibration Sample, Level: 7

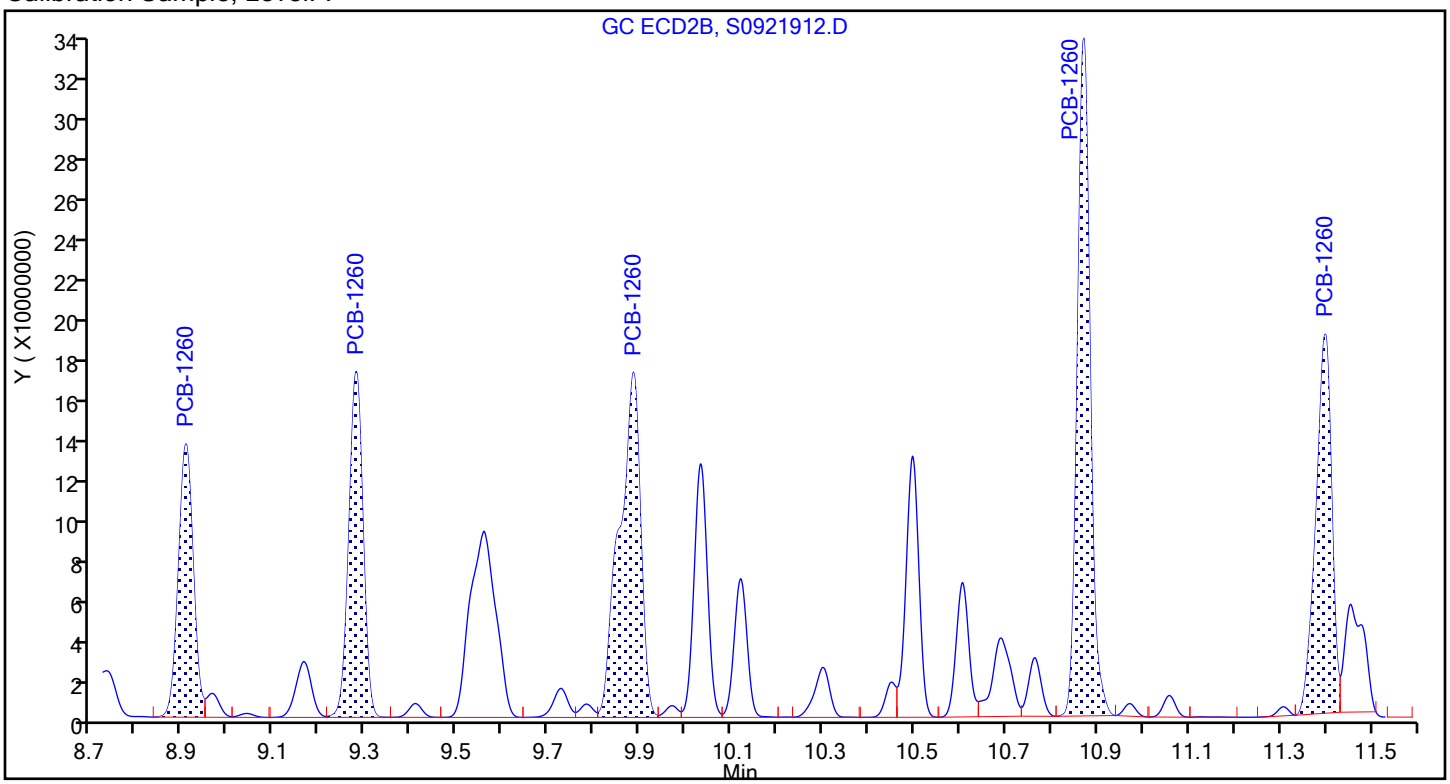

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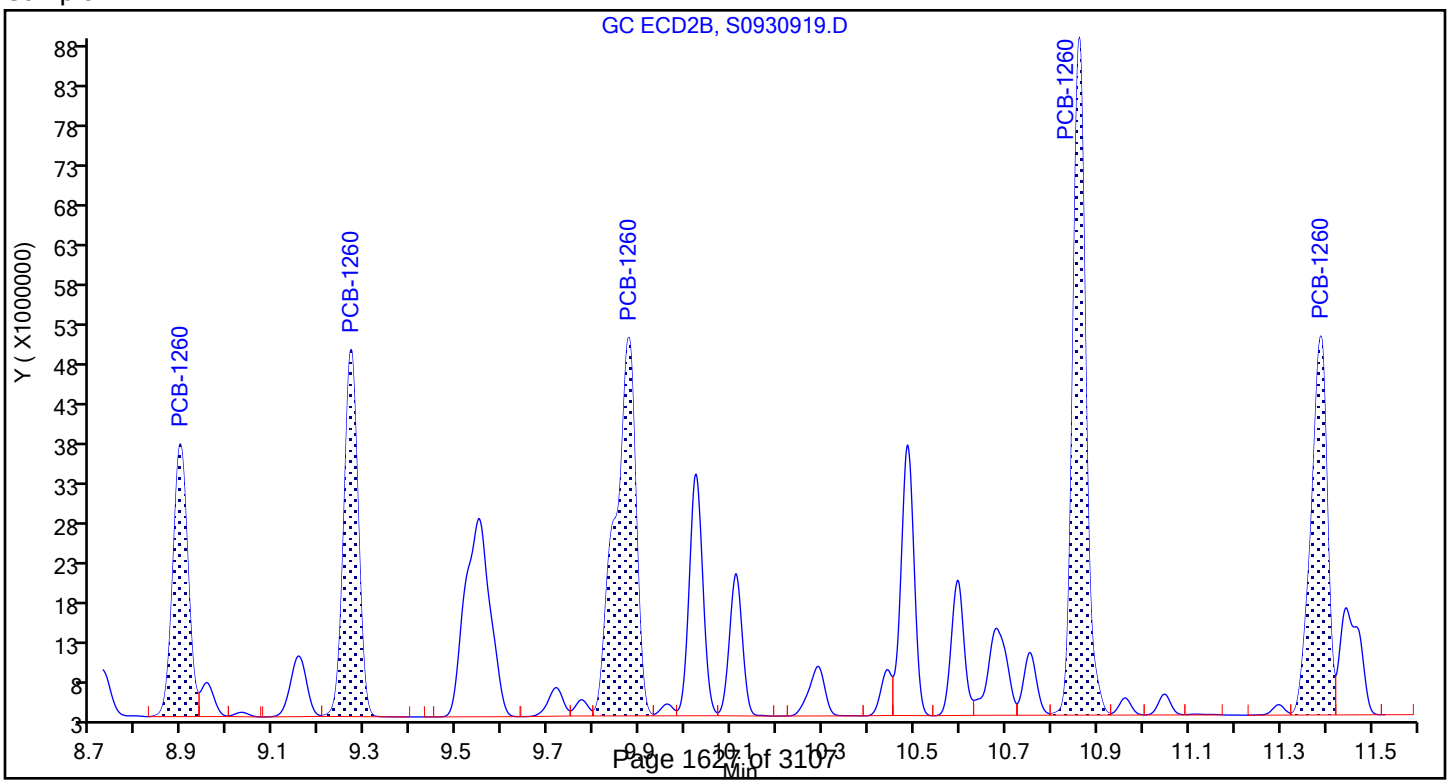

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 180-293037/5-A

Matrix: Water Lab File ID: S0930920.D

Analysis Method: EPA 8082A Date Collected:

Extraction Method: 3510C Date Extracted: 09/28/2019 04:25

Sample wt/vol: 1000(mL) Date Analyzed: 09/30/2019 16:33

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: RTX-CLP1 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 293170 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene (Surr)	81		45-133
2051-24-3	DCB Decachlorobiphenyl (Surr)	88		59-144

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930920.D
Lims ID: LCSD 180-293037/5-A
Client ID:
Sample Type: LCSD
Inject. Date: 30-Sep-2019 16:33:00 ALS Bottle#: 20 Worklist Smp#: 20
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028895-020
Operator ID: Instrument ID: CHGC10

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 01-Oct-2019 10:01:47 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: oravecj Date: 01-Oct-2019 09:51:15

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.749	2.747	0.002	436625626H	0.1000	0.1000	
2	2.935	2.932	0.002	137767613H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.370	3.368	0.002	84373346H	0.0200	0.0163	
2	3.801	3.798	0.003	22012434H	0.0200	0.0172	
						RPD = 5.17	
6 PCB-1016							
1	3.694	3.692	0.002	59217923H	1.00	0.8296	
1	4.562	4.559	0.003	150898846H	1.00	0.9128	
1	4.720	4.717	0.003	84553719H	1.00	0.8990	
1	5.239	5.237	0.002	70531925H	1.00	0.9047	
1	5.774	5.772	0.002	51245807H	1.00	1.00	
		Average of Peak Amounts =				0.9083	
2	4.340	4.338	0.002	14741697H	1.00	0.8322	
2	5.503	5.502	0.001	35446726H	1.00	0.9109	
2	5.707	5.705	0.002	19668526H	1.00	0.8855	
2	6.469	6.468	0.001	16885358H	1.00	0.9197	
2	6.686	6.684	0.002	13899972H	1.00	0.9061	
		Average of Peak Amounts =				0.8909	
						RPD = 1.94	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	7.670	7.669	0.001	196140023H	1.00	0.9178	
1	8.225	8.225	0.000	195885534H	1.00	1.00	
1	8.894	8.892	0.002	120936022H	1.00	0.8707	
1	9.432	9.432	0.000	329362205H	1.00	0.9312	
1	9.890	9.889	0.001	182949649H	1.00	0.9290	
		Average of Peak Amounts =				0.9299	
2	8.894	8.893	0.001	34592663H	1.00	0.8138	
2	9.267	9.267	0.000	47034873H	1.00	0.8812	
2	9.875	9.873	0.002	49100601H	1.00	0.9521	
2	10.860	10.860	0.000	86852058H	1.00	0.8827	
2	11.390	11.387	0.003	49042118H	1.00	0.8770	
		Average of Peak Amounts =				0.8814	
						RPD = 5.35	
* 46 PCB-205 (IS)							
1	10.913	10.912	0.001	498017490H	0.1000	0.1000	
2	12.219	12.218	0.001	130830693H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.500	11.498	0.002	66537607H	0.0200	0.0177	
2	12.931	12.930	0.001	18196230H	0.0200	0.0184	
						RPD = 4.30	

Reagents:

PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 01-Oct-2019 10:02:18 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930920.D

Injection Date: 30-Sep-2019 16:33:00 Instrument ID: CHGC10

Lims ID: LCSD 180-293037/5-A

Client ID:

Operator ID: ALS Bottle#: 20 Worklist Smp#: 20

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

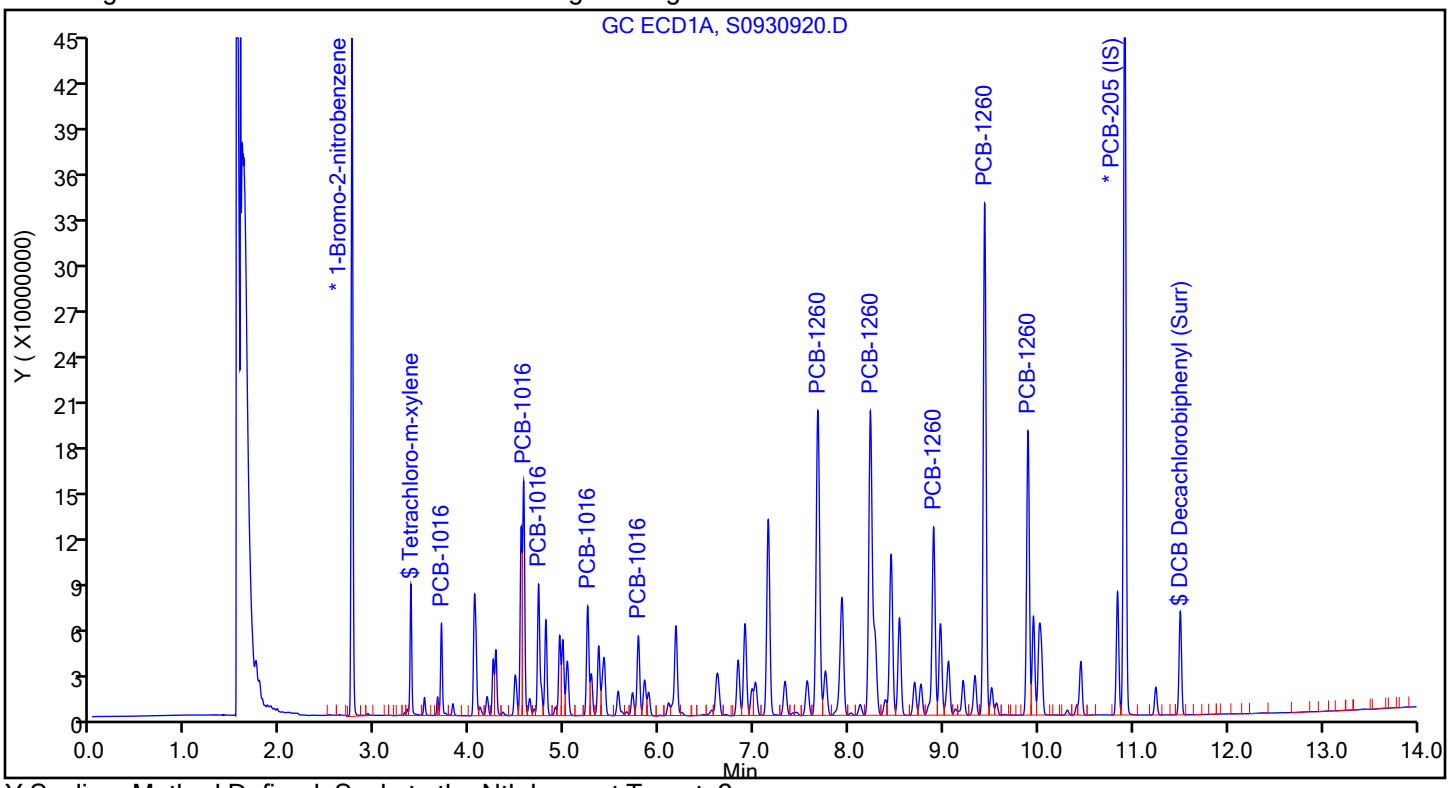

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

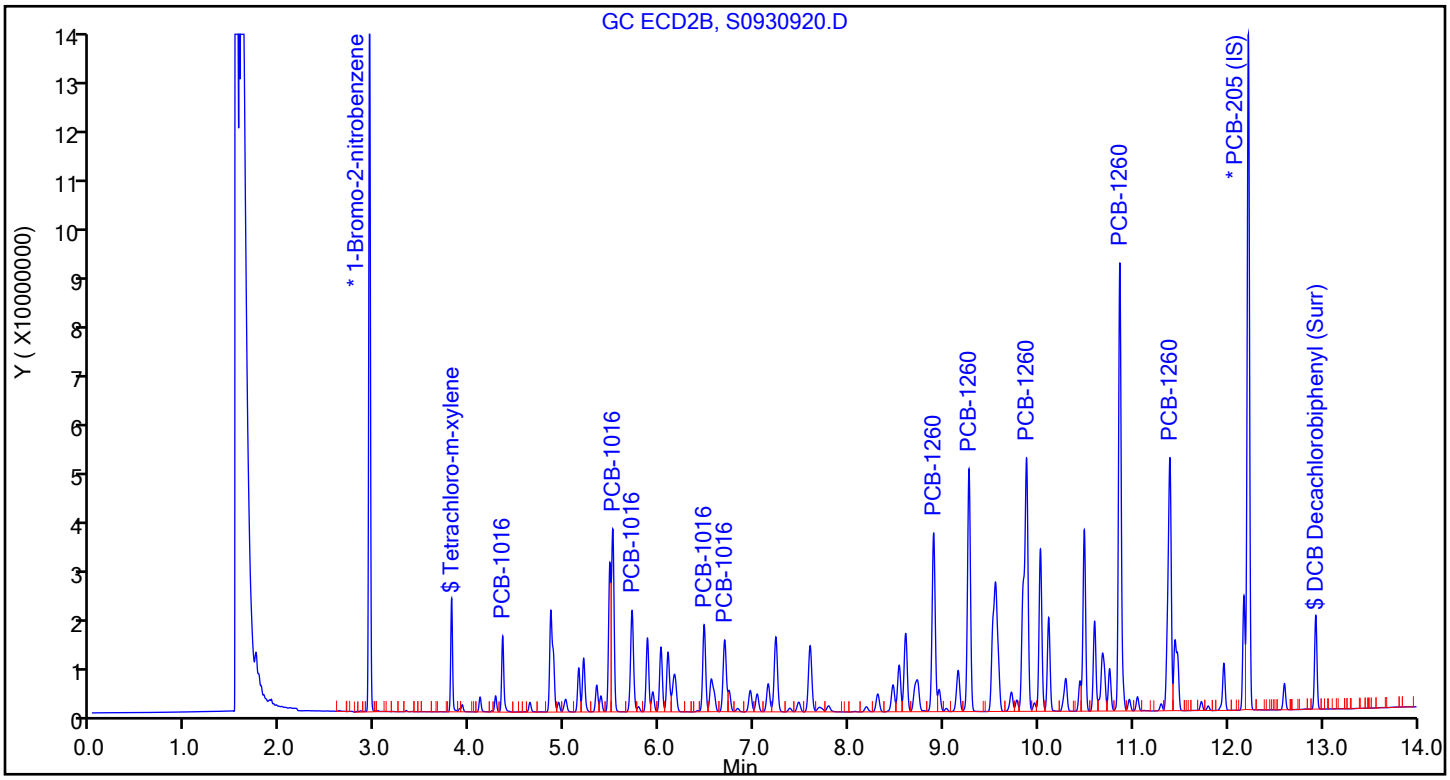

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930920.D				
Lims ID:	LCSD 180-293037/5-A				
Client ID:					
Sample Type:	LCSD				
Inject. Date:	30-Sep-2019 16:33:00	ALS Bottle#:	20	Worklist Smp#:	20
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0028895-020				
Operator ID:		Instrument ID:	CHGC10		
Method:	\\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\IS PCB_CHGC10DUAL.m				
Limit Group:	GCS 8082A ICAL with IS				
Last Update:	01-Oct-2019 10:01:47	Calib Date:	21-Sep-2019 11:44:24		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D				
Column 1 :			Det: GC ECD1A		
Column 2 :			Det: GC ECD2B		
Process Host:	CTX0336				
First Level Reviewer: oravecj		Date:	01-Oct-2019 09:51:15		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0163	81.50
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0177	88.29

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0172	85.82
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0184	92.17

Report Date: 01-Oct-2019 10:02:18 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930920.D				
Injection Date:	30-Sep-2019 16:33:00	Instrument ID:	CHGC10		
Lims ID:	LCSD 180-293037/5-A				
Client ID:					
Operator ID:		ALS Bottle#:	20	Worklist Smp#:	20
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		
Column:		Detector	GC ECD1A		

6 PCB-1016, CAS: 12674-11-2

Calibration Sample, Level: 7

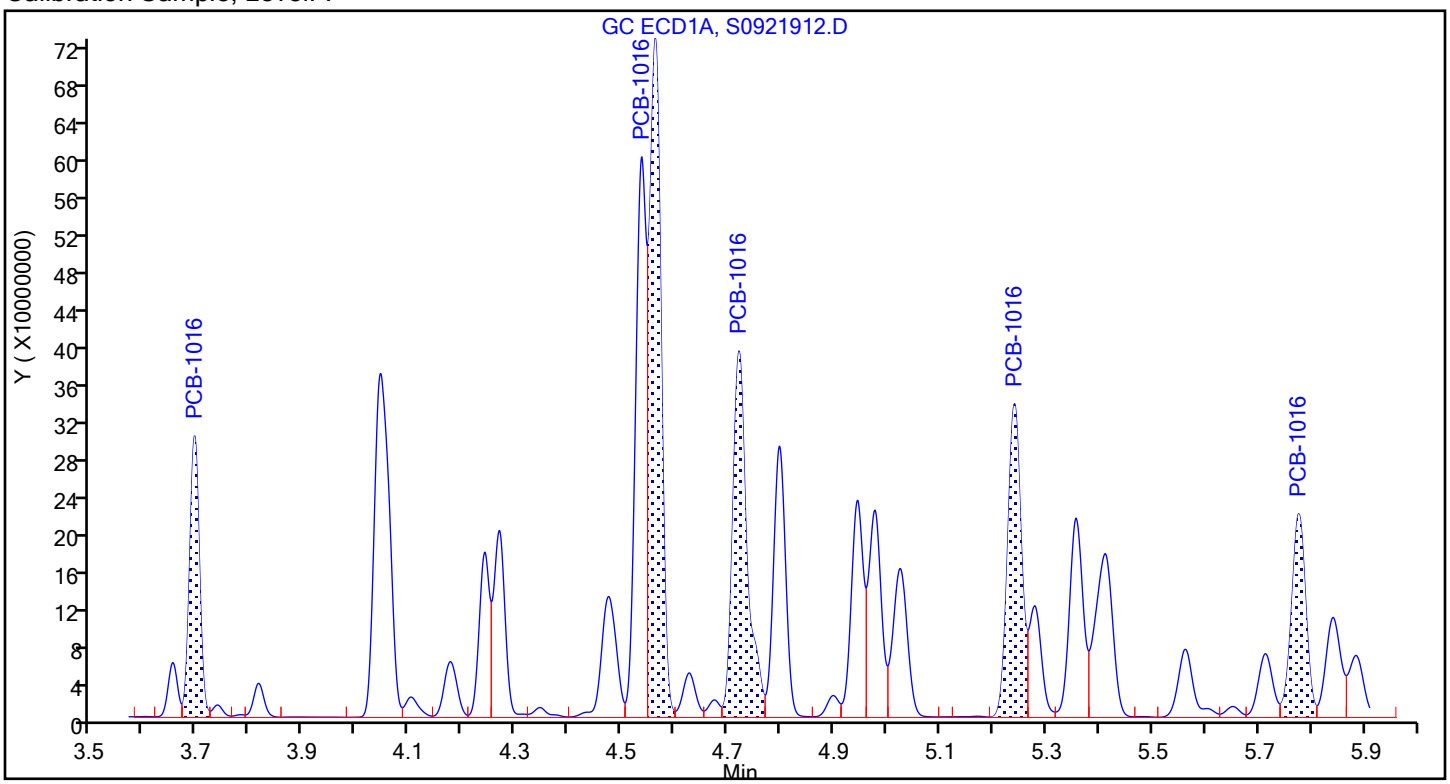

Sample

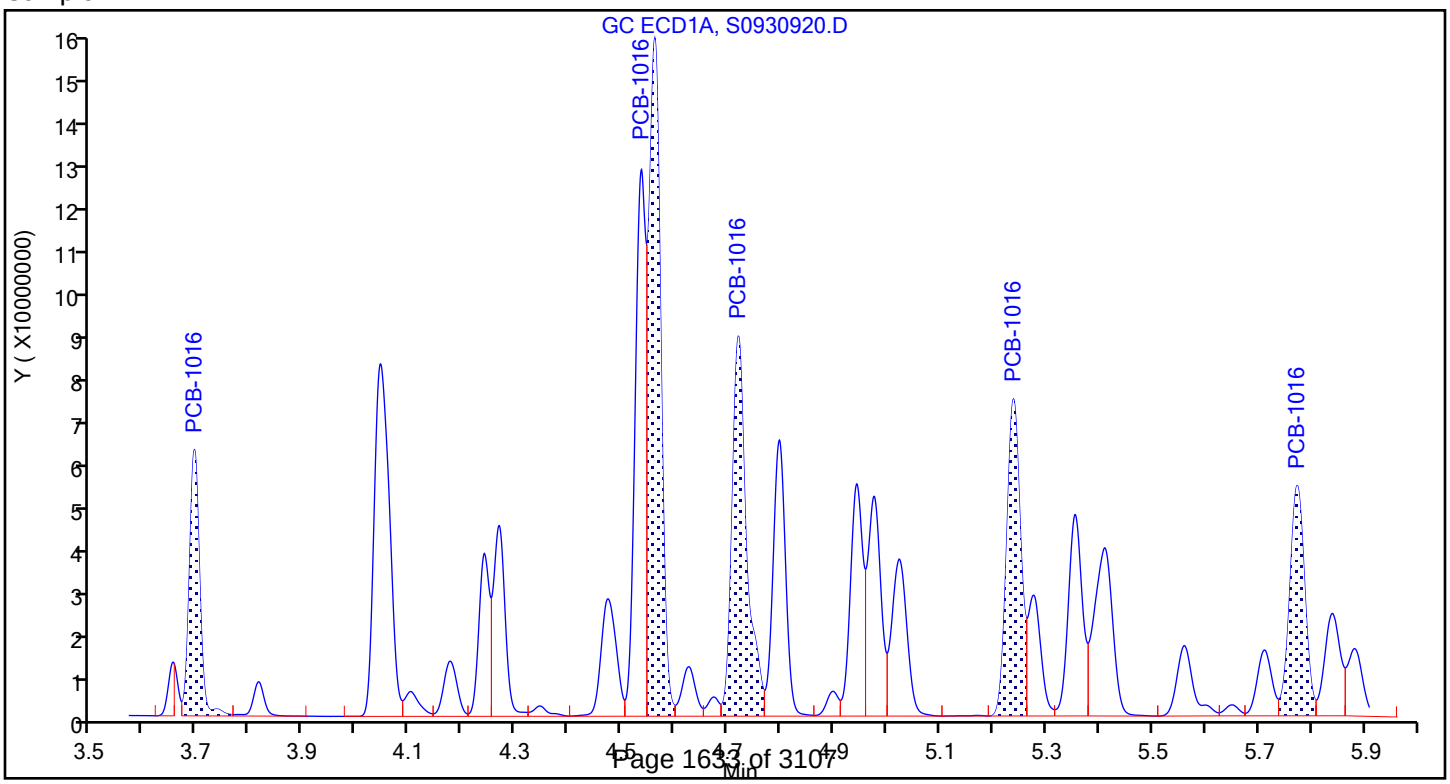

Report Date: 01-Oct-2019 10:02:18 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930920.D				
Injection Date:	30-Sep-2019 16:33:00	Instrument ID:	CHGC10		
Lims ID:	LCSD 180-293037/5-A				
Client ID:					
Operator ID:		ALS Bottle#:	20	Worklist Smp#:	20
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		
Column:		Detector	GC ECD1A		

9 PCB-1260, CAS: 11096-82-5

Calibration Sample, Level: 7

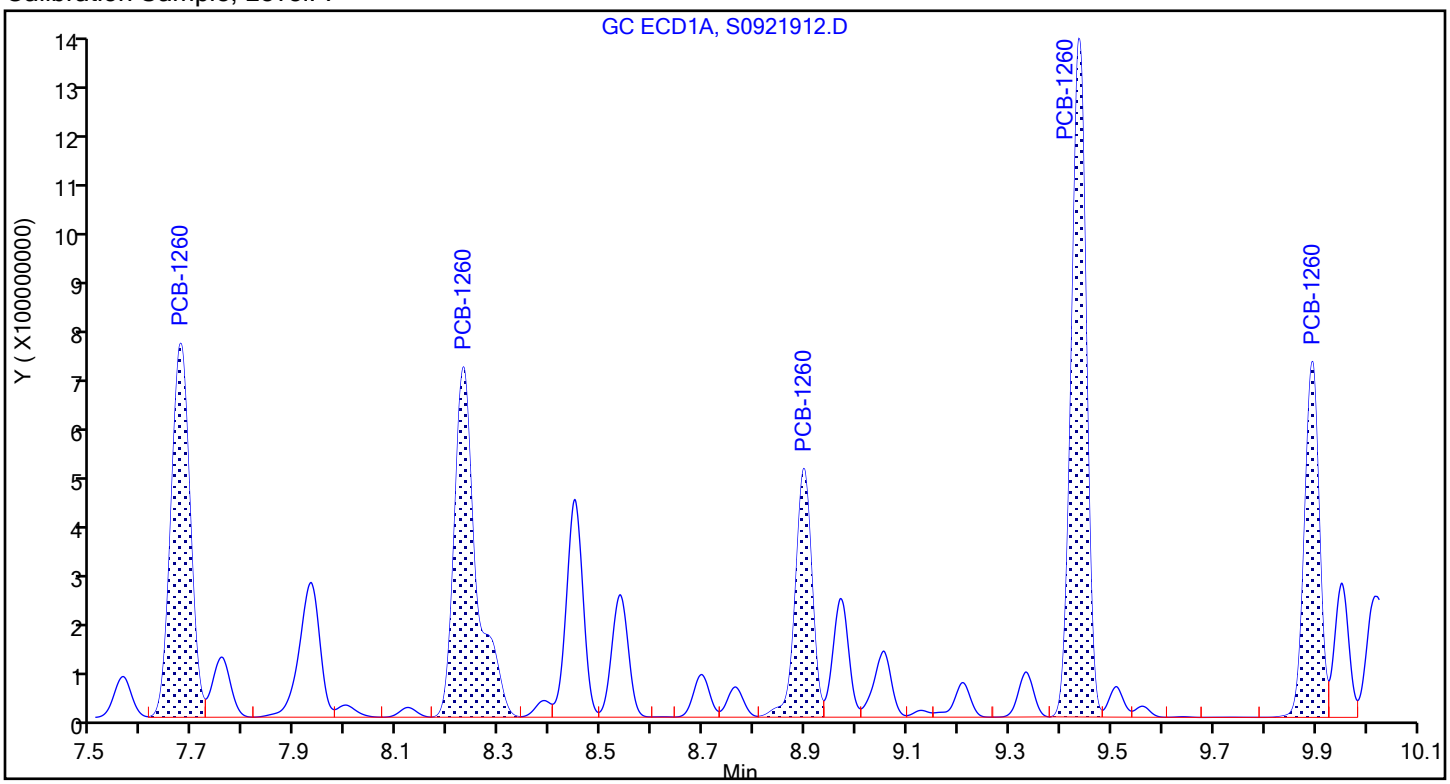

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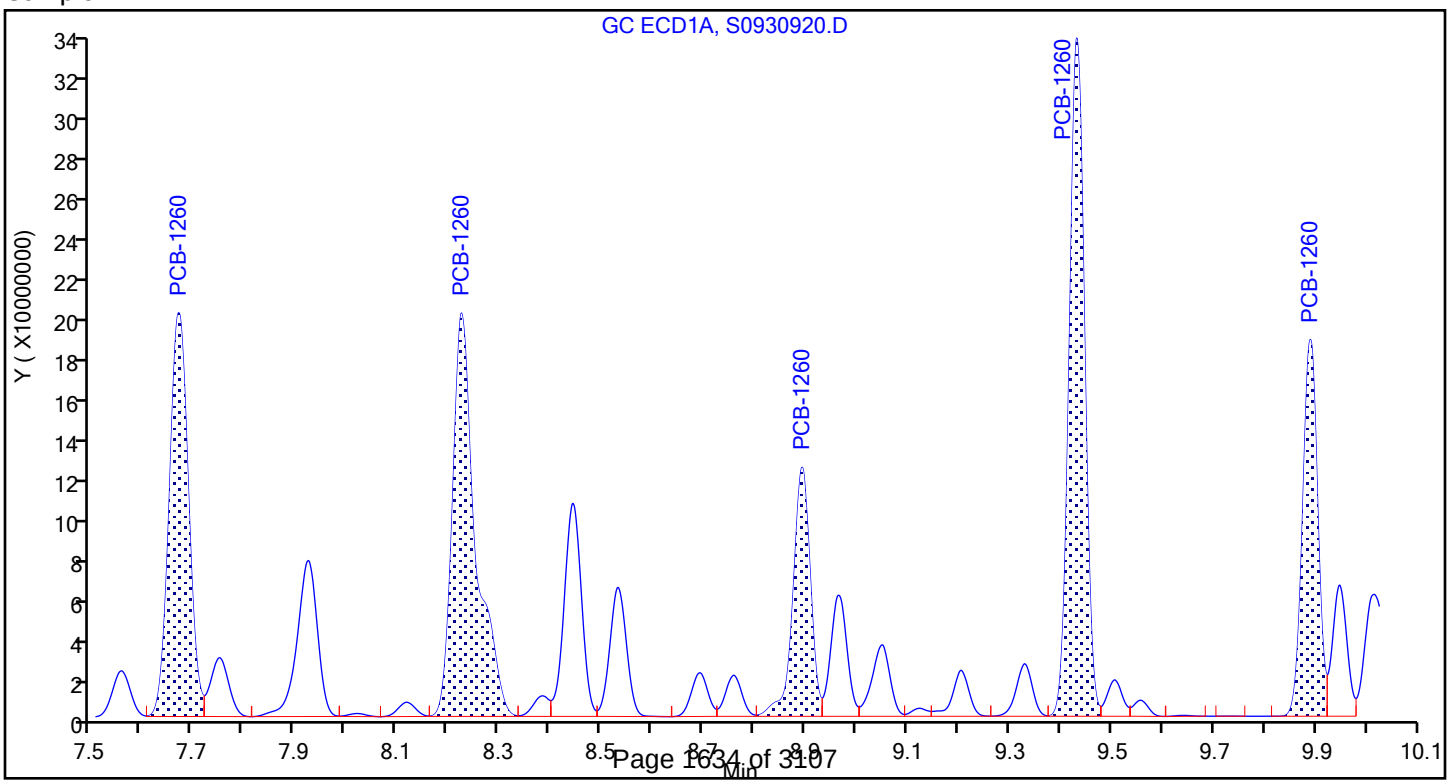

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 180-293037/5-A

Matrix: Water Lab File ID: S0930920.D

Analysis Method: EPA 8082A Date Collected:

Extraction Method: 3510C Date Extracted: 09/28/2019 04:25

Sample wt/vol: 1000(mL) Date Analyzed: 09/30/2019 16:33

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: RTX-CLP2 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 293170 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
12674-11-2	PCB-1016	35.6		0.40	0.19
11096-82-5	PCB-1260	35.3		0.40	0.16

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene (Surr)	86		45-133
2051-24-3	DCB Decachlorobiphenyl (Surr)	92		59-144

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930920.D
Lims ID: LCSD 180-293037/5-A
Client ID:
Sample Type: LCSD
Inject. Date: 30-Sep-2019 16:33:00 ALS Bottle#: 20 Worklist Smp#: 20
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028895-020
Operator ID: Instrument ID: CHGC10

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 01-Oct-2019 10:01:47 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0336

First Level Reviewer: oravecj Date: 01-Oct-2019 09:51:15

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.749	2.747	0.002	436625626H	0.1000	0.1000	
2	2.935	2.932	0.002	137767613H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.370	3.368	0.002	84373346H	0.0200	0.0163	
2	3.801	3.798	0.003	22012434H	0.0200	0.0172	
						RPD = 5.17	
6 PCB-1016							
1	3.694	3.692	0.002	59217923H	1.00	0.8296	
1	4.562	4.559	0.003	150898846H	1.00	0.9128	
1	4.720	4.717	0.003	84553719H	1.00	0.8990	
1	5.239	5.237	0.002	70531925H	1.00	0.9047	
1	5.774	5.772	0.002	51245807H	1.00	1.00	
		Average of Peak Amounts =				0.9083	
2	4.340	4.338	0.002	14741697H	1.00	0.8322	
2	5.503	5.502	0.001	35446726H	1.00	0.9109	
2	5.707	5.705	0.002	19668526H	1.00	0.8855	
2	6.469	6.468	0.001	16885358H	1.00	0.9197	
2	6.686	6.684	0.002	13899972H	1.00	0.9061	
		Average of Peak Amounts =				0.8909	
						RPD = 1.94	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	7.670	7.669	0.001	196140023H	1.00	0.9178	
1	8.225	8.225	0.000	195885534H	1.00	1.00	
1	8.894	8.892	0.002	120936022H	1.00	0.8707	
1	9.432	9.432	0.000	329362205H	1.00	0.9312	
1	9.890	9.889	0.001	182949649H	1.00	0.9290	
		Average of Peak Amounts =				0.9299	
2	8.894	8.893	0.001	34592663H	1.00	0.8138	
2	9.267	9.267	0.000	47034873H	1.00	0.8812	
2	9.875	9.873	0.002	49100601H	1.00	0.9521	
2	10.860	10.860	0.000	86852058H	1.00	0.8827	
2	11.390	11.387	0.003	49042118H	1.00	0.8770	
		Average of Peak Amounts =				0.8814	
						RPD = 5.35	
* 46 PCB-205 (IS)							
1	10.913	10.912	0.001	498017490H	0.1000	0.1000	
2	12.219	12.218	0.001	130830693H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.500	11.498	0.002	66537607H	0.0200	0.0177	
2	12.931	12.930	0.001	18196230H	0.0200	0.0184	
						RPD = 4.30	

Reagents:

PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 01-Oct-2019 10:02:18 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930920.D

Injection Date: 30-Sep-2019 16:33:00 Instrument ID: CHGC10

Lims ID: LCSD 180-293037/5-A

Client ID:

Operator ID: ALS Bottle#: 20 Worklist Smp#: 20

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

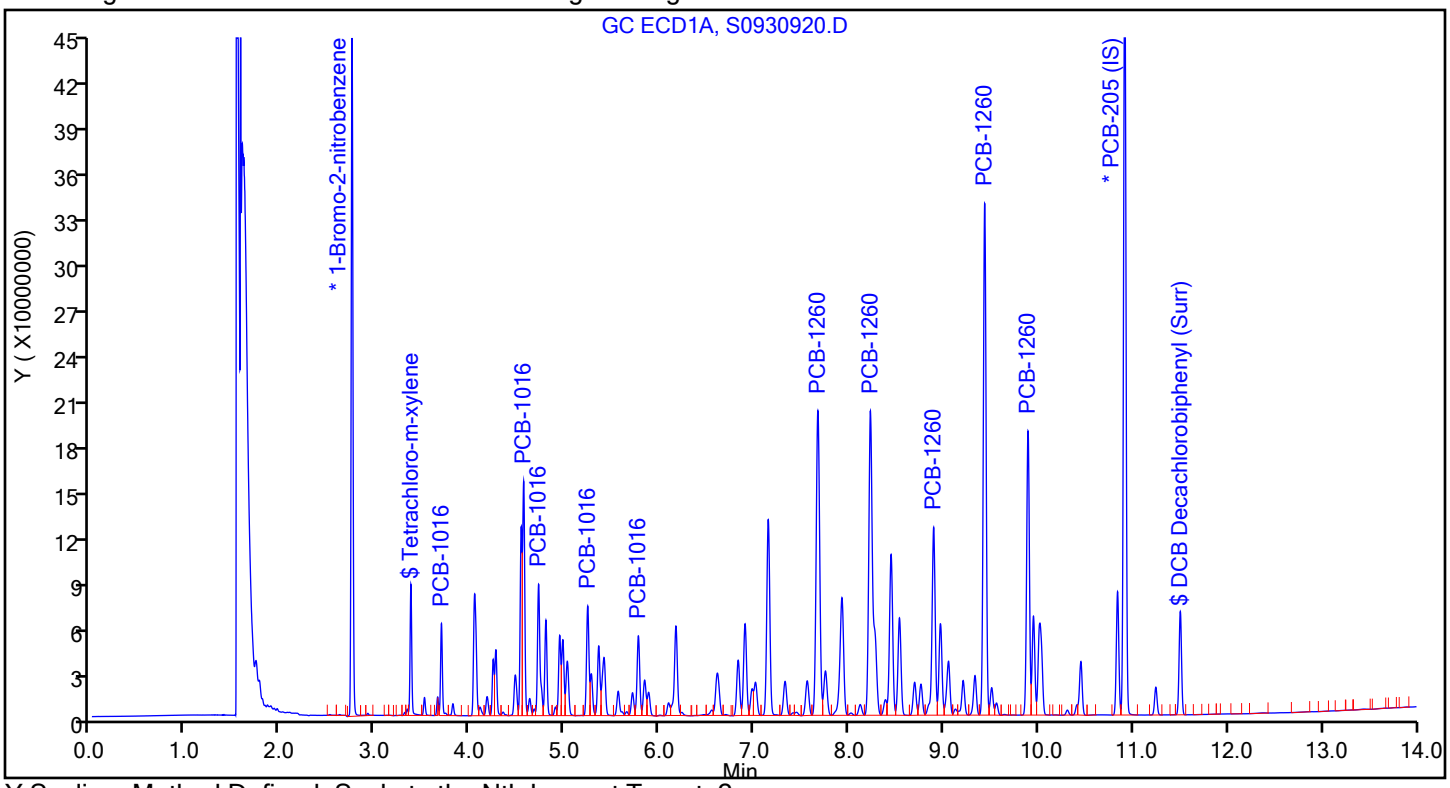

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

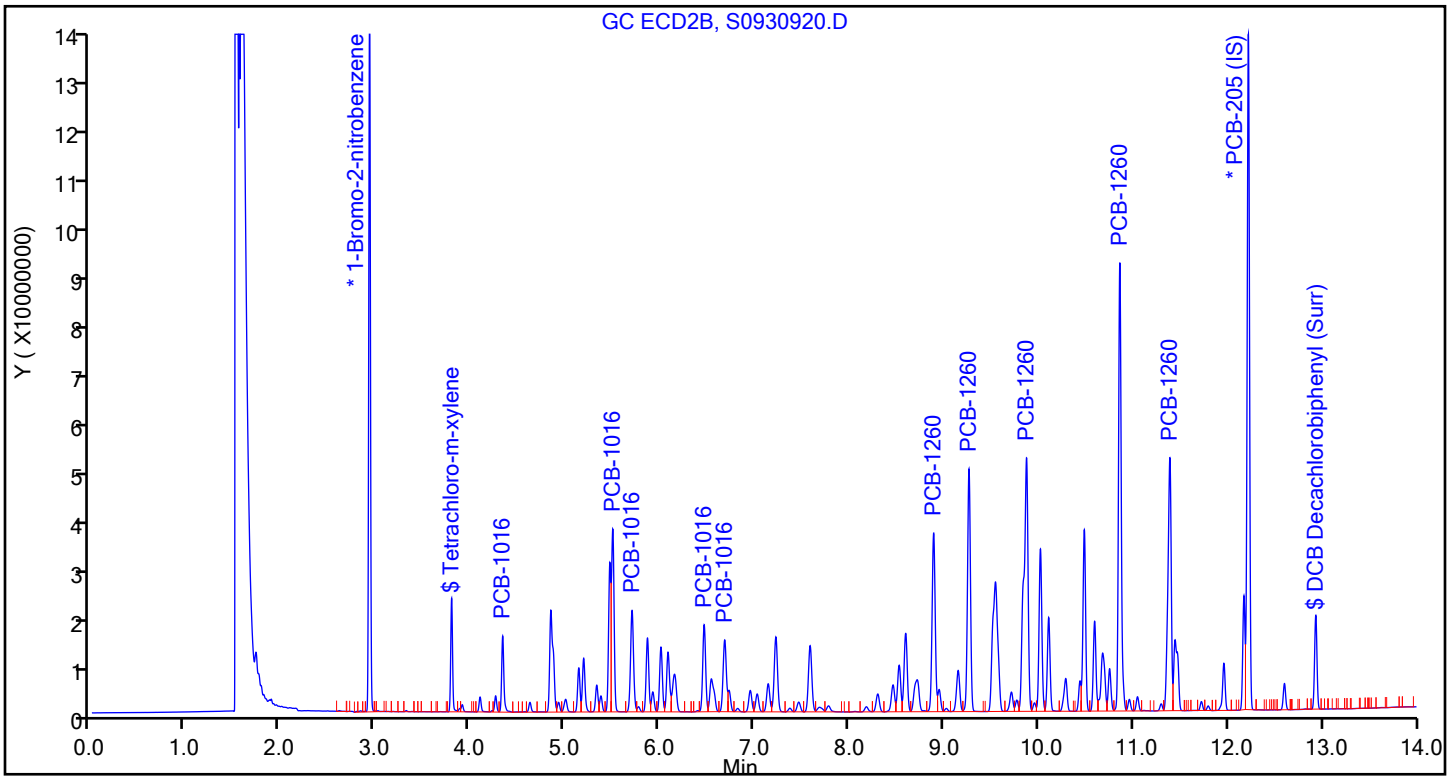

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930920.D				
Lims ID:	LCSD 180-293037/5-A				
Client ID:					
Sample Type:	LCSD				
Inject. Date:	30-Sep-2019 16:33:00	ALS Bottle#:	20	Worklist Smp#:	20
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0028895-020				
Operator ID:		Instrument ID:	CHGC10		
Method:	\\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\IS PCB_CHGC10DUAL.m				
Limit Group:	GCS 8082A ICAL with IS				
Last Update:	01-Oct-2019 10:01:47	Calib Date:	21-Sep-2019 11:44:24		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D				
Column 1 :			Det: GC ECD1A		
Column 2 :			Det: GC ECD2B		
Process Host:	CTX0336				
First Level Reviewer: oravecj		Date:	01-Oct-2019 09:51:15		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0163	81.50
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0177	88.29

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0172	85.82
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0184	92.17

Report Date: 01-Oct-2019 10:02:18 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930920.D				
Injection Date:	30-Sep-2019 16:33:00	Instrument ID:	CHGC10		
Lims ID:	LCSD 180-293037/5-A				
Client ID:					
Operator ID:		ALS Bottle#:	20	Worklist Smp#:	20
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		
Column:		Detector	GC ECD2B		

6 PCB-1016, CAS: 12674-11-2

Calibration Sample, Level: 7

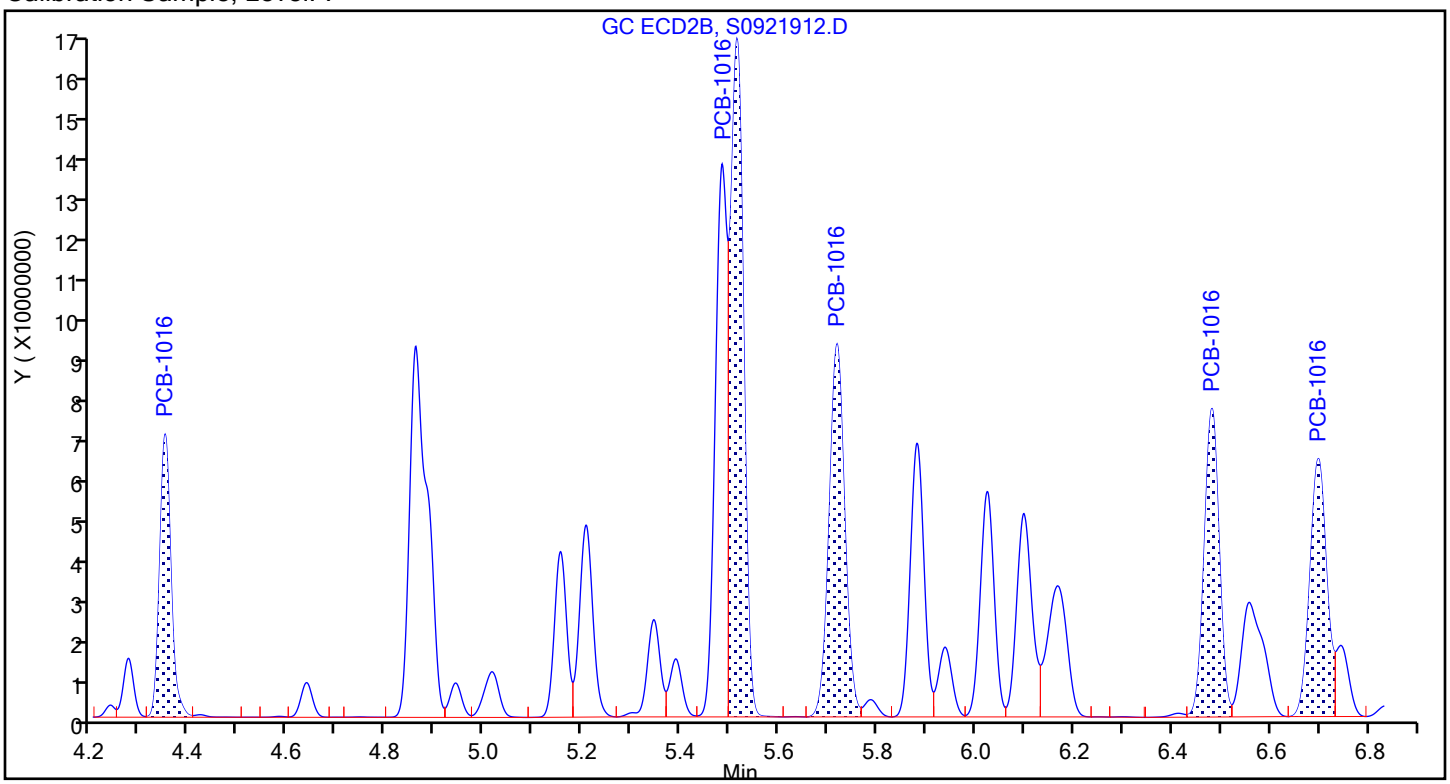

Sample

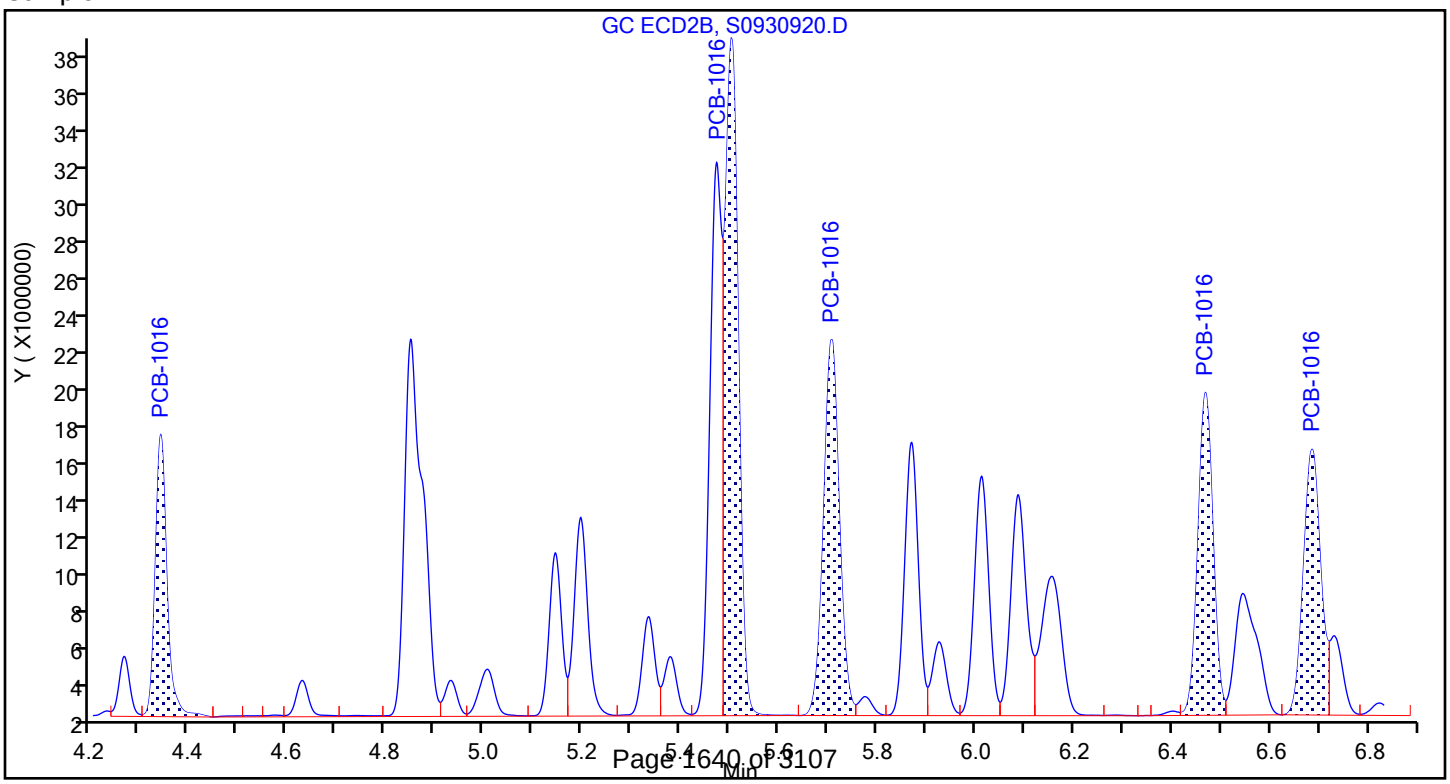

Report Date: 01-Oct-2019 10:02:18 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190930-28895.b\S0930920.D				
Injection Date:	30-Sep-2019 16:33:00	Instrument ID:	CHGC10		
Lims ID:	LCSD 180-293037/5-A				
Client ID:					
Operator ID:		ALS Bottle#:	20	Worklist Smp#:	20
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		
Column:		Detector	GC ECD2B		

9 PCB-1260, CAS: 11096-82-5

Calibration Sample, Level: 7

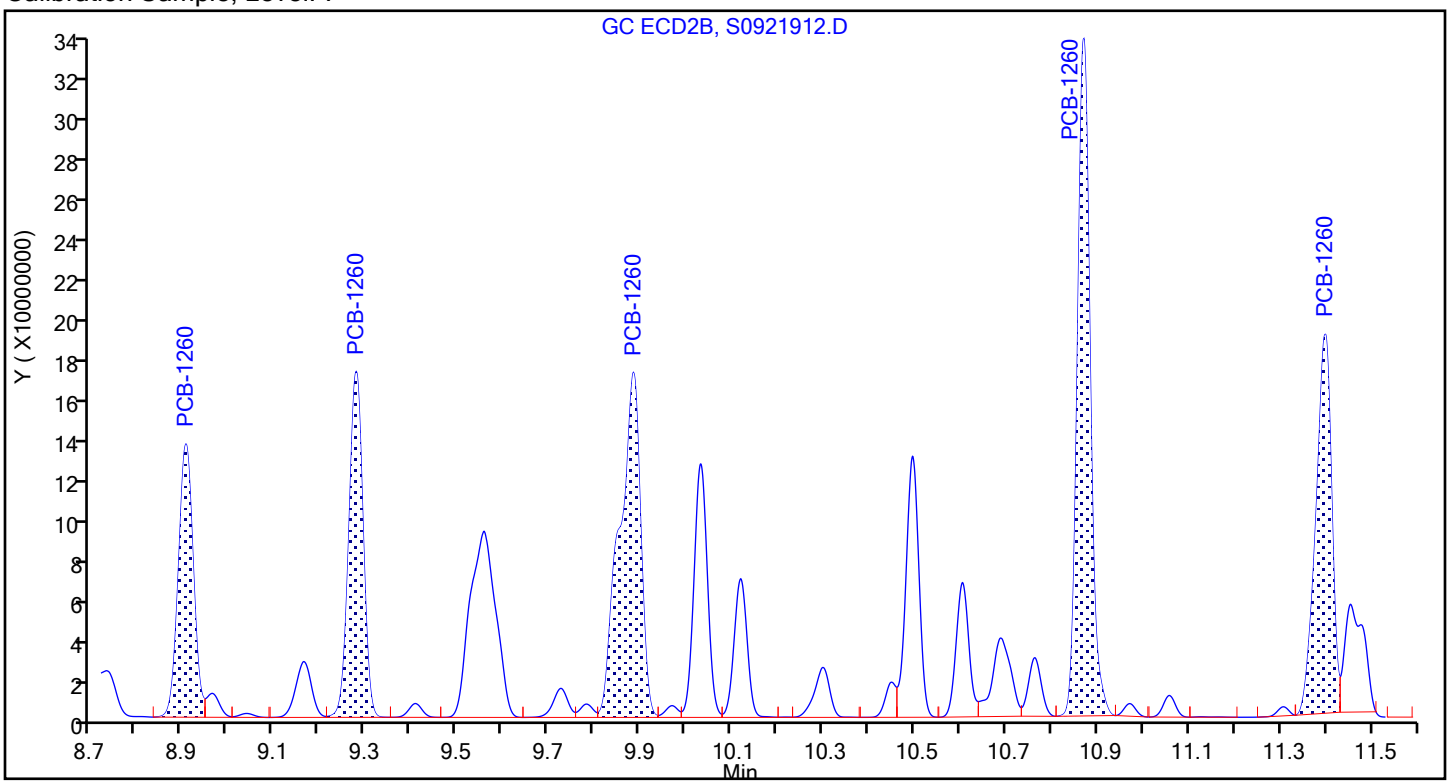

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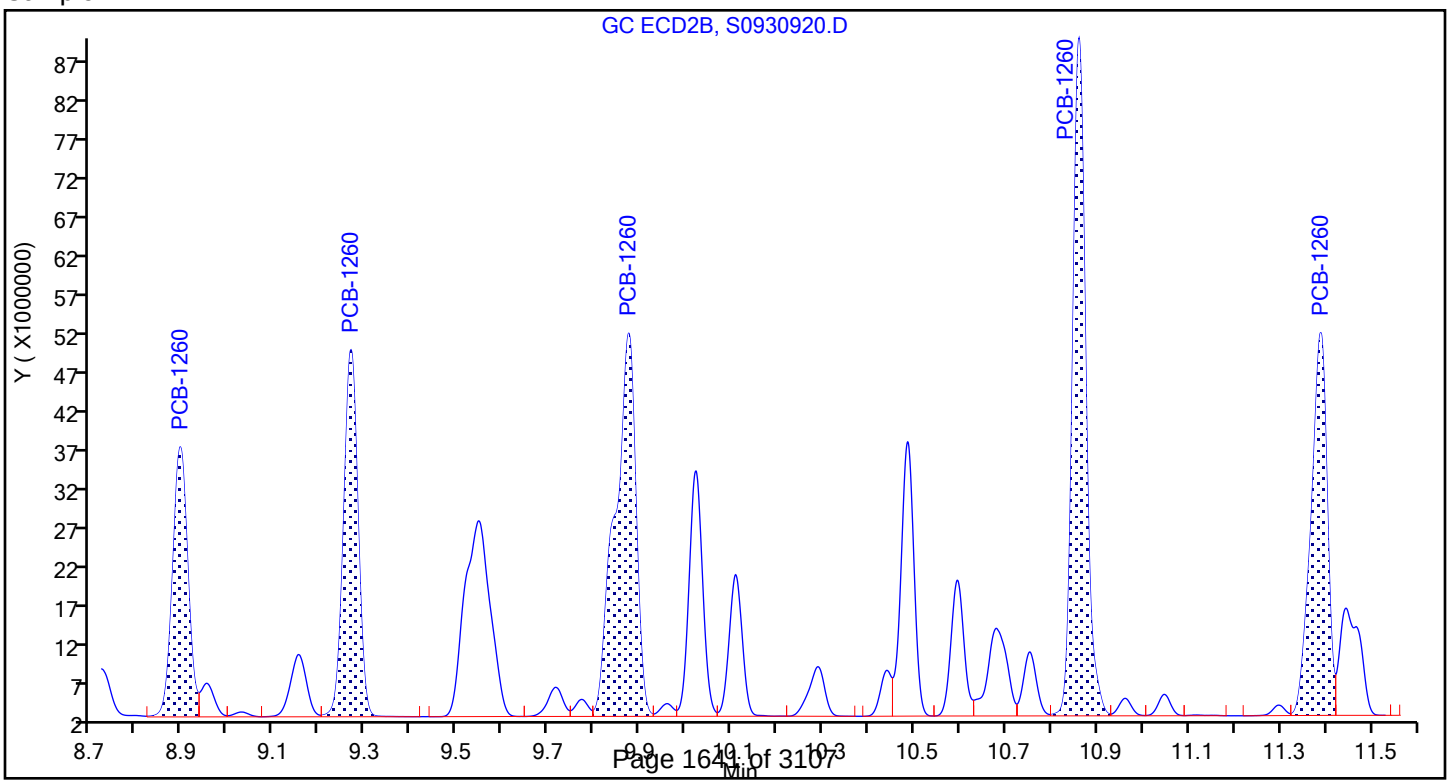

PCBS ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Instrument ID: CHGC10 Start Date: 09/21/2019 08:24

Analysis Batch Number: 292146 End Date: 09/21/2019 20:12

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 180-292146/1		09/21/2019 08:24	1	S0921902.D	RTX-CLP1 0.53(mm)
IC 180-292146/1		09/21/2019 08:24	1	S0921902.D	RTX-CLP2 0.53(mm)
IC 180-292146/2		09/21/2019 08:44	1	S0921903.D	RTX-CLP1 0.53(mm)
IC 180-292146/2		09/21/2019 08:44	1	S0921903.D	RTX-CLP2 0.53(mm)
IC 180-292146/3		09/21/2019 09:04	1	S0921904.D	RTX-CLP1 0.53(mm)
IC 180-292146/3		09/21/2019 09:04	1	S0921904.D	RTX-CLP2 0.53(mm)
IC 180-292146/4		09/21/2019 09:25	1	S0921905.D	RTX-CLP1 0.53(mm)
IC 180-292146/4		09/21/2019 09:25	1	S0921905.D	RTX-CLP2 0.53(mm)
IC 180-292146/5		09/21/2019 09:45	1	S0921906.D	RTX-CLP1 0.53(mm)
IC 180-292146/5		09/21/2019 09:45	1	S0921906.D	RTX-CLP2 0.53(mm)
IC 180-292146/6		09/21/2019 10:02	1	S0921907.D	RTX-CLP1 0.53(mm)
IC 180-292146/6		09/21/2019 10:02	1	S0921907.D	RTX-CLP2 0.53(mm)
IC 180-292146/7		09/21/2019 10:23	1	S0921908.D	RTX-CLP1 0.53(mm)
IC 180-292146/7		09/21/2019 10:23	1	S0921908.D	RTX-CLP2 0.53(mm)
ICIS 180-292146/8		09/21/2019 10:43	1	S0921909.D	RTX-CLP1 0.53(mm)
ICIS 180-292146/8		09/21/2019 10:43	1	S0921909.D	RTX-CLP2 0.53(mm)
IC 180-292146/9		09/21/2019 11:03	1	S0921910.D	RTX-CLP1 0.53(mm)
IC 180-292146/9		09/21/2019 11:03	1	S0921910.D	RTX-CLP2 0.53(mm)
IC 180-292146/10		09/21/2019 11:24	1	S0921911.D	RTX-CLP1 0.53(mm)
IC 180-292146/10		09/21/2019 11:24	1	S0921911.D	RTX-CLP2 0.53(mm)
IC 180-292146/11		09/21/2019 11:44	1	S0921912.D	RTX-CLP1 0.53(mm)
IC 180-292146/11		09/21/2019 11:44	1	S0921912.D	RTX-CLP2 0.53(mm)
ICV 180-292146/12		09/21/2019 12:04	1		RTX-CLP1 0.53(mm)
ICV 180-292146/12		09/21/2019 12:04	1		RTX-CLP2 0.53(mm)
ICV 180-292146/13		09/21/2019 12:25	1		RTX-CLP1 0.53(mm)
ICV 180-292146/13		09/21/2019 12:25	1		RTX-CLP2 0.53(mm)
ICV 180-292146/14		09/21/2019 12:45	1		RTX-CLP1 0.53(mm)
ICV 180-292146/14		09/21/2019 12:45	1		RTX-CLP2 0.53(mm)
ICV 180-292146/15		09/21/2019 13:06	1		RTX-CLP1 0.53(mm)
ICV 180-292146/15		09/21/2019 13:06	1		RTX-CLP2 0.53(mm)
ZZZZZ		09/21/2019 13:46	1		RTX-CLP1 0.53(mm)
ZZZZZ		09/21/2019 13:46	1		RTX-CLP2 0.53(mm)
ZZZZZ		09/21/2019 14:07	1		RTX-CLP1 0.53(mm)
ZZZZZ		09/21/2019 14:07	1		RTX-CLP2 0.53(mm)
ZZZZZ		09/21/2019 14:27	1		RTX-CLP1 0.53(mm)
ZZZZZ		09/21/2019 14:27	1		RTX-CLP2 0.53(mm)
ZZZZZ		09/21/2019 14:47	1		RTX-CLP1 0.53(mm)
ZZZZZ		09/21/2019 14:47	1		RTX-CLP2 0.53(mm)
ZZZZZ		09/21/2019 15:08	1		RTX-CLP1 0.53(mm)
ZZZZZ		09/21/2019 15:08	1		RTX-CLP2 0.53(mm)
ZZZZZ		09/21/2019 15:28	1		RTX-CLP1 0.53(mm)
ZZZZZ		09/21/2019 15:28	1		RTX-CLP2 0.53(mm)
ZZZZZ		09/21/2019 15:48	1		RTX-CLP1 0.53(mm)
ZZZZZ		09/21/2019 15:48	1		RTX-CLP2 0.53(mm)
ZZZZZ		09/21/2019 16:09	1		RTX-CLP1 0.53(mm)

EPA 8082A

PCBS ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Instrument ID: CHGC10 Start Date: 09/21/2019 08:24

Analysis Batch Number: 292146 End Date: 09/21/2019 20:12

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		09/21/2019 16:09	1		RTX-CLP2 0.53(mm)
ZZZZZ		09/21/2019 16:29	1		RTX-CLP1 0.53(mm)
ZZZZZ		09/21/2019 16:29	1		RTX-CLP2 0.53(mm)
ZZZZZ		09/21/2019 16:49	1		RTX-CLP1 0.53(mm)
ZZZZZ		09/21/2019 16:49	1		RTX-CLP2 0.53(mm)
ZZZZZ		09/21/2019 17:10	1		RTX-CLP1 0.53(mm)
ZZZZZ		09/21/2019 17:10	1		RTX-CLP2 0.53(mm)
ICV 180-292146/36		09/21/2019 20:12	1		RTX-CLP1 0.53(mm)
ICV 180-292146/36		09/21/2019 20:12	1		RTX-CLP2 0.53(mm)

EPA 8082A

PCBS ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Instrument ID: CHGC10 Start Date: 09/30/2019 10:05

Analysis Batch Number: 293170 End Date: 10/01/2019 00:57

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 180-293170/1		09/30/2019 10:05	1	S0930901.D	RTX-CLP1 0.53(mm)
CCV 180-293170/1		09/30/2019 10:05	1	S0930901.D	RTX-CLP2 0.53(mm)
RTC 180-293170/2		09/30/2019 10:25	1	S0930902.D	RTX-CLP1 0.53(mm)
RTC 180-293170/2		09/30/2019 10:25	1	S0930902.D	RTX-CLP2 0.53(mm)
CCV 180-293170/3		09/30/2019 10:46	1	S0930903.D	RTX-CLP1 0.53(mm)
CCV 180-293170/3		09/30/2019 10:46	1	S0930903.D	RTX-CLP2 0.53(mm)
CCV 180-293170/4		09/30/2019 11:06	1	S0930904.D	RTX-CLP1 0.53(mm)
CCV 180-293170/4		09/30/2019 11:06	1	S0930904.D	RTX-CLP2 0.53(mm)
CCVIS 180-293170/5		09/30/2019 11:26	1	S0930905.D	RTX-CLP1 0.53(mm)
CCVIS 180-293170/5		09/30/2019 11:26	1	S0930905.D	RTX-CLP2 0.53(mm)
ZZZZZ		09/30/2019 11:47	1		RTX-CLP1 0.53(mm)
ZZZZZ		09/30/2019 11:47	1		RTX-CLP2 0.53(mm)
ZZZZZ		09/30/2019 12:07	1		RTX-CLP1 0.53(mm)
ZZZZZ		09/30/2019 12:07	1		RTX-CLP2 0.53(mm)
ZZZZZ		09/30/2019 12:28	1		RTX-CLP1 0.53(mm)
ZZZZZ		09/30/2019 12:28	1		RTX-CLP2 0.53(mm)
ZZZZZ		09/30/2019 12:48	1		RTX-CLP1 0.53(mm)
ZZZZZ		09/30/2019 12:48	1		RTX-CLP2 0.53(mm)
ZZZZZ		09/30/2019 13:08	1		RTX-CLP1 0.53(mm)
ZZZZZ		09/30/2019 13:08	1		RTX-CLP2 0.53(mm)
ZZZZZ		09/30/2019 13:29	1		RTX-CLP1 0.53(mm)
ZZZZZ		09/30/2019 13:29	1		RTX-CLP2 0.53(mm)
ZZZZZ		09/30/2019 13:49	1		RTX-CLP1 0.53(mm)
ZZZZZ		09/30/2019 13:49	1		RTX-CLP2 0.53(mm)
ZZZZZ		09/30/2019 14:10	1		RTX-CLP1 0.53(mm)
ZZZZZ		09/30/2019 14:10	1		RTX-CLP2 0.53(mm)
ZZZZZ		09/30/2019 14:30	1		RTX-CLP1 0.53(mm)
ZZZZZ		09/30/2019 14:30	1		RTX-CLP2 0.53(mm)
MB 180-293037/1-A		09/30/2019 14:51	1	S0930915.D	RTX-CLP1 0.53(mm)
MB 180-293037/1-A		09/30/2019 14:51	1	S0930915.D	RTX-CLP2 0.53(mm)
180-96144-1		09/30/2019 15:11	1	S0930916.D	RTX-CLP1 0.53(mm)
180-96144-1		09/30/2019 15:11	1	S0930916.D	RTX-CLP2 0.53(mm)
ZZZZZ		09/30/2019 15:31	1		RTX-CLP1 0.53(mm)
ZZZZZ		09/30/2019 15:31	1		RTX-CLP2 0.53(mm)
ZZZZZ		09/30/2019 15:52	1		RTX-CLP1 0.53(mm)
ZZZZZ		09/30/2019 15:52	1		RTX-CLP2 0.53(mm)
LCS 180-293037/4-A		09/30/2019 16:12	1	S0930919.D	RTX-CLP1 0.53(mm)
LCS 180-293037/4-A		09/30/2019 16:12	1	S0930919.D	RTX-CLP2 0.53(mm)
LCSD 180-293037/5-A		09/30/2019 16:33	1	S0930920.D	RTX-CLP1 0.53(mm)
LCSD 180-293037/5-A		09/30/2019 16:33	1	S0930920.D	RTX-CLP2 0.53(mm)
ZZZZZ		09/30/2019 16:53	1		RTX-CLP1 0.53(mm)
ZZZZZ		09/30/2019 16:53	1		RTX-CLP2 0.53(mm)
ZZZZZ		09/30/2019 17:13	10		RTX-CLP1 0.53(mm)
ZZZZZ		09/30/2019 17:13	10		RTX-CLP2 0.53(mm)
ZZZZZ		09/30/2019 17:34	10		RTX-CLP1 0.53(mm)

EPA 8082A

PCBS ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Instrument ID: CHGC10 Start Date: 09/30/2019 10:05

Analysis Batch Number: 293170 End Date: 10/01/2019 00:57

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		09/30/2019 17:34	10		RTX-CLP2 0.53(mm)
ZZZZZ		09/30/2019 17:54	10		RTX-CLP1 0.53(mm)
ZZZZZ		09/30/2019 17:54	10		RTX-CLP2 0.53(mm)
ZZZZZ		09/30/2019 18:14	1		RTX-CLP1 0.53(mm)
ZZZZZ		09/30/2019 18:14	1		RTX-CLP2 0.53(mm)
CCVIS 180-293170/26		09/30/2019 18:35	1	S0930926.D	RTX-CLP1 0.53(mm)
CCVIS 180-293170/26		09/30/2019 18:35	1	S0930926.D	RTX-CLP2 0.53(mm)
ZZZZZ		09/30/2019 18:55	10		RTX-CLP1 0.53(mm)
ZZZZZ		09/30/2019 18:55	10		RTX-CLP2 0.53(mm)
ZZZZZ		09/30/2019 19:15	10		RTX-CLP1 0.53(mm)
ZZZZZ		09/30/2019 19:15	10		RTX-CLP2 0.53(mm)
ZZZZZ		09/30/2019 19:36	10		RTX-CLP1 0.53(mm)
ZZZZZ		09/30/2019 19:36	10		RTX-CLP2 0.53(mm)
ZZZZZ		09/30/2019 19:56	10		RTX-CLP1 0.53(mm)
ZZZZZ		09/30/2019 19:56	10		RTX-CLP2 0.53(mm)
ZZZZZ		09/30/2019 20:16	10		RTX-CLP1 0.53(mm)
ZZZZZ		09/30/2019 20:16	10		RTX-CLP2 0.53(mm)
ZZZZZ		09/30/2019 20:36	10		RTX-CLP1 0.53(mm)
ZZZZZ		09/30/2019 20:36	10		RTX-CLP2 0.53(mm)
ZZZZZ		09/30/2019 20:57	10		RTX-CLP1 0.53(mm)
ZZZZZ		09/30/2019 20:57	10		RTX-CLP2 0.53(mm)
ZZZZZ		09/30/2019 21:17	10		RTX-CLP1 0.53(mm)
ZZZZZ		09/30/2019 21:17	10		RTX-CLP2 0.53(mm)
ZZZZZ		09/30/2019 21:37	10		RTX-CLP1 0.53(mm)
ZZZZZ		09/30/2019 21:37	10		RTX-CLP2 0.53(mm)
ZZZZZ		09/30/2019 21:57	10		RTX-CLP1 0.53(mm)
ZZZZZ		09/30/2019 21:57	10		RTX-CLP2 0.53(mm)
ZZZZZ		09/30/2019 22:18	10		RTX-CLP1 0.53(mm)
ZZZZZ		09/30/2019 22:18	10		RTX-CLP2 0.53(mm)
ZZZZZ		09/30/2019 22:38	10		RTX-CLP1 0.53(mm)
ZZZZZ		09/30/2019 22:38	10		RTX-CLP2 0.53(mm)
ZZZZZ		09/30/2019 22:58	10		RTX-CLP1 0.53(mm)
ZZZZZ		09/30/2019 22:58	10		RTX-CLP2 0.53(mm)
ZZZZZ		09/30/2019 23:18	10		RTX-CLP1 0.53(mm)
ZZZZZ		09/30/2019 23:18	10		RTX-CLP2 0.53(mm)
ZZZZZ		09/30/2019 23:39	10		RTX-CLP1 0.53(mm)
ZZZZZ		09/30/2019 23:39	10		RTX-CLP2 0.53(mm)
ZZZZZ		09/30/2019 23:57	10		RTX-CLP1 0.53(mm)
ZZZZZ		09/30/2019 23:57	10		RTX-CLP2 0.53(mm)
ZZZZZ		10/01/2019 00:16	10		RTX-CLP1 0.53(mm)
ZZZZZ		10/01/2019 00:16	10		RTX-CLP2 0.53(mm)
ZZZZZ		10/01/2019 00:36	10		RTX-CLP1 0.53(mm)
ZZZZZ		10/01/2019 00:36	10		RTX-CLP2 0.53(mm)
ZZZZZ		10/01/2019 00:57	10		RTX-CLP1 0.53(mm)
ZZZZZ		10/01/2019 00:57	10		RTX-CLP2 0.53(mm)

EPA 8082A

PCBS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-96144-1

SDG No.:

Batch Number: 293037 Batch Start Date: 09/28/19 04:25 Batch Analyst: Yushinski, Charles

Batch Method: 3510C Batch End Date: 09/28/19 09:50

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ReceivedpH	GCMATRIXWORKS 00034	op-p/pcb sur 00024	AnalysisComment
MB 180-293037/1		3510C, EPA 8082A		1000 mL	40.0 mL	6 SU		1 mL	Funnel 1
LCS 180-293037/4		3510C, EPA 8082A		1000 mL	40.0 mL	6 SU	1 mL	1 mL	Funnel 4
LCSD 180-293037/5		3510C, EPA 8082A		1000 mL	40.0 mL	6 SU	1 mL	1 mL	Funnel 5
180-96144-A-1	11187072-CONTACT -INITIAL	3510C, EPA 8082A	T	1060 mL	40.0 mL	7 SU		1 mL	Funnel 6

Batch Notes	
Analyst ID - Concentration	CBY
Concentration 1 Corrected Temperature	65 Degrees C
Concentration 2 Corrected Temperature	21 Degrees C
Equipment ID - Concentration 1	water bath 1
Equipment ID - Concentration 2	1
Exchange Solvent ID	Hexane 3383237
Analyst ID - Extraction	CBY
Filter ID	16917464
Na2SO4 ID	3327433
pH Indicator ID	Ph paper HC987808
Prep Solvent ID	Methylene chloride 3384376
Prep Solvent Volume Used	180 mL
Analyst ID - Spike Analyst	CBY
Sufficient Volume for Batch QC	no
Thermometer ID - Concentration 1	water bath 1
Thermometer ID - Concentration 2	1
Concentration 1 Uncorrected Temperature	65 Degrees C
Concentration 2 Uncorrected Temperature	21 Degrees C

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Method 8151A

Herbicides (GC) by Method 8151A

FORM II
HERBICIDES SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): RTX-50 ID: 0.53(mm) GC Column (2): RTX-1701 ID: 0.53(mm)

Client Sample ID	Lab Sample ID	DCPAA1 #	DCPAA2 #
11187072-CONTACT-INITIAL	180-96144-1	54	51
	MB 180-293050/1-A	58	55
	LB 180-292822/1-E	58	55
	LCS 180-293050/2-A	72	67
	LCSD 180-293050/3-A	67	64

	QC LIMITS
DCPAA = 2,4-Dichlorophenylacetic acid	20-105

Column to be used to flag recovery values

FORM II EPA 8151A

FORM III
HERBICIDES LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 1001190000018.D

Lab ID: LCS 180-293050/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
2,4-D	20.0	14.7	73	10-100	
Silvex (2,4,5-TP)	5.00	3.56	71	23-109	

Column to be used to flag recovery and RPD values

FORM III EPA 8151A

FORM III
HERBICIDES LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 1001190000019.D

Lab ID: LCSD 180-293050/3-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
2,4-D	20.0	13.1	66	11	35	10-100	
Silvex (2,4,5-TP)	5.00	3.28	66	8	33	23-109	

Column to be used to flag recovery and RPD values

FORM III EPA 8151A

FORM IV
HERBICIDES METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: MB 180-293050/1-A

Matrix: Water Date Extracted: 09/28/2019 06:30

Lab File ID:(1) 1001190000017.D Lab File ID:(2) 1001190000017.D

Date Analyzed:(1) 10/01/2019 23:14 Date Analyzed:(2) 10/01/2019 23:14

Instrument ID:(1) CGC1 Instrument ID:(2) CGC1

GC Column:(1) RTX-50 ID: 0.53(mm) GC Column:(2) RTX-1701 ID: 0.53(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
	LCS 180-293050/2-A	10/01/2019 23:38	10/01/2019 23:38
	LCSD 180-293050/3-A	10/02/2019 00:03	10/02/2019 00:03
	LB 180-292822/1-E	10/02/2019 00:28	10/02/2019 00:28
11187072-CONTACT-INITIAL	180-96144-1	10/02/2019 01:42	10/02/2019 01:42

FORM VIII
HERBICIDES ANALYTICAL SEQUENCE

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Sample No.: CCVRT 180-293383/2 Date Analyzed: 10/01/2019 17:50

Instrument ID: CGC1 GC Column: RTX-50 ID: 0.53(mm)

Lab File ID (Standard): 1001190000004.D Heated Purge: (Y/N) N

Calibration ID: 41303

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, STANDARDS, MS/MSDs AND LCSs IS GIVEN BELOW:

				DCPAA		
				RT #		
CONTINUING CALIBRATION SURROGATE				7.95		
UPPER LIMIT				7.98		
LOWER LIMIT				7.92		
LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	LAB FILE ID			
CCVRT 180-293383/2		10/01/2019 17:50	1001190000004.D	7.95		
CCV 180-293383/13		10/01/2019 22:24	1001190000015.D	7.95		
MB 180-293050/1-A		10/01/2019 23:14	1001190000017.D	7.95		
LCS 180-293050/2-A		10/01/2019 23:38	1001190000018.D	7.95		
LCSD 180-293050/3-A		10/02/2019 00:03	1001190000019.D	7.95		
LB 180-292822/1-E		10/02/2019 00:28	1001190000020.D	7.95		
180-96144-1	11187072-CONTACT-INITIAL	10/02/2019 01:42	1001190000023.D	7.95		
CCV 180-293383/22		10/02/2019 02:06	1001190000024.D	7.95		

DCPAA = 2,4-Dichlorophenylacetic acid

DCPAA RT Limit = ± 0.03 minutes of surrogate RT

Column used to flag values outside QC limits

FORM VIII EPA 8151A

FORM VIII
HERBICIDES ANALYTICAL SEQUENCE

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Sample No.: CCVRT 180-293383/2 Date Analyzed: 10/01/2019 17:50

Instrument ID: CGC1 GC Column: RTX-1701 ID: 0.53(mm)

Lab File ID (Standard): 1001190000004.D Heated Purge: (Y/N) N

Calibration ID: 41304

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, STANDARDS, MS/MSDs AND LCSs IS GIVEN BELOW:

				DCPAA		
				RT #		
CONTINUING CALIBRATION SURROGATE				7.99		
UPPER LIMIT				8.02		
LOWER LIMIT				7.96		
LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	LAB FILE ID			
CCVRT 180-293383/2		10/01/2019 17:50	1001190000004.D	7.99		
CCV 180-293383/13		10/01/2019 22:24	1001190000015.D	7.99		
MB 180-293050/1-A		10/01/2019 23:14	1001190000017.D	7.99		
LCS 180-293050/2-A		10/01/2019 23:38	1001190000018.D	7.99		
LCSD 180-293050/3-A		10/02/2019 00:03	1001190000019.D	7.99		
LB 180-292822/1-E		10/02/2019 00:28	1001190000020.D	7.99		
180-96144-1	11187072-CONTACT-INITIAL	10/02/2019 01:42	1001190000023.D	7.99		
CCV 180-293383/22		10/02/2019 02:06	1001190000024.D	7.99		

DCPAA = 2,4-Dichlorophenylacetic acid

DCPAA RT Limit = ± 0.03 minutes of surrogate RT

Column used to flag values outside QC limits

FORM VIII EPA 8151A

FORM X
IDENTIFICATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 180-293050/2-A

Instrument ID (1): CGC1 Instrument ID (2): CGC1

Date Analyzed (1): 10/01/2019 23:38 Date Analyzed (2): 10/01/2019 23:38

GC Column (1): RTX-50 ID: 0.53(mm) GC Column (2): RTX-1701 ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
2,4-D	1		9.36	9.33	9.39	11.5		24.4
	2		9.48	9.45	9.51	14.7		
Silvex (2,4,5-TP)	1		10.04	10.01	10.07	3.51		1.4
	2		10.25	10.22	10.28	3.56		

FORM X
IDENTIFICATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 180-293050/3-A

Instrument ID (1): CGC1 Instrument ID (2): CGC1

Date Analyzed (1): 10/02/2019 00:03 Date Analyzed (2): 10/02/2019 00:03

GC Column (1): RTX-50 ID: 0.53(mm) GC Column (2): RTX-1701 ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
2,4-D	1		9.36	9.33	9.39	10.3		24.3
	2		9.48	9.45	9.51	13.1		
Silvex (2,4,5-TP)	1		10.04	10.01	10.07	3.23		1.5
	2		10.25	10.22	10.28	3.28		

FORM I
HERBICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: 11187072-CONTACT-INITIAL Lab Sample ID: 180-96144-1

Matrix: Water Lab File ID: 1001190000023.D

Analysis Method: EPA 8151A Date Collected: 09/24/2019 15:00

Extraction Method: 8151A Date Extracted: 09/28/2019 06:30

Sample wt/vol: 1060(mL) Date Analyzed: 10/02/2019 01:42

Con. Extract Vol.: 10.0(mL) Dilution Factor: 20

Injection Volume: 1(uL) GC Column: RTX-50 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 293383 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
94-75-7	2,4-D	ND		3.8	1.9
93-72-1	Silvex (2,4,5-TP)	ND		0.94	0.29

CAS NO.	SURROGATE	%REC	Q	LIMITS
19719-28-9	2,4-Dichlorophenylacetic acid	54		20-105

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000023.D				
Lims ID:	180-96144-B-1-A				
Client ID:	11187072-CONTACT-INITIAL				
Sample Type:	Client				
Inject. Date:	02-Oct-2019 01:42:02	ALS Bottle#:	20	Worklist Smp#:	21
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	180-0028922-021				
Operator ID:		Instrument ID:	CGC1		

Method:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\Herbicides_CGC1.m		
Limit Group:	GCS 8151A ICAL		
Last Update:	02-Oct-2019 14:49:46	Calib Date:	19-Aug-2019 21:09:17
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D		

Column 1 :	RTX-50 (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-1701 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0325	

First Level Reviewer: fritschj Date: 02-Oct-2019 14:45:48

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
$ 2 2,4-Dichlorophenylacetic acid						
1	7.952	7.952	0.000	2961820	H	0.0272
2	7.991	7.990	0.001	5358444	H	0.0254
					RPD =	6.89
7 2,4-D						
1		9.356			ND	
2		9.480				
9 Silvex (2,4,5-TP)						
1		10.039			ND	
2		10.249				

Report Date: 02-Oct-2019 14:50:24 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000023.D				
Injection Date:	02-Oct-2019 01:42:02	Instrument ID:	CGC1	Operator ID:	
Lims ID:	180-96144-B-1-A	Lab Sample ID:	180-96144-1	Worklist Smp#:	21
Client ID:	11187072-CONTACT-INITIAL				
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	20
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

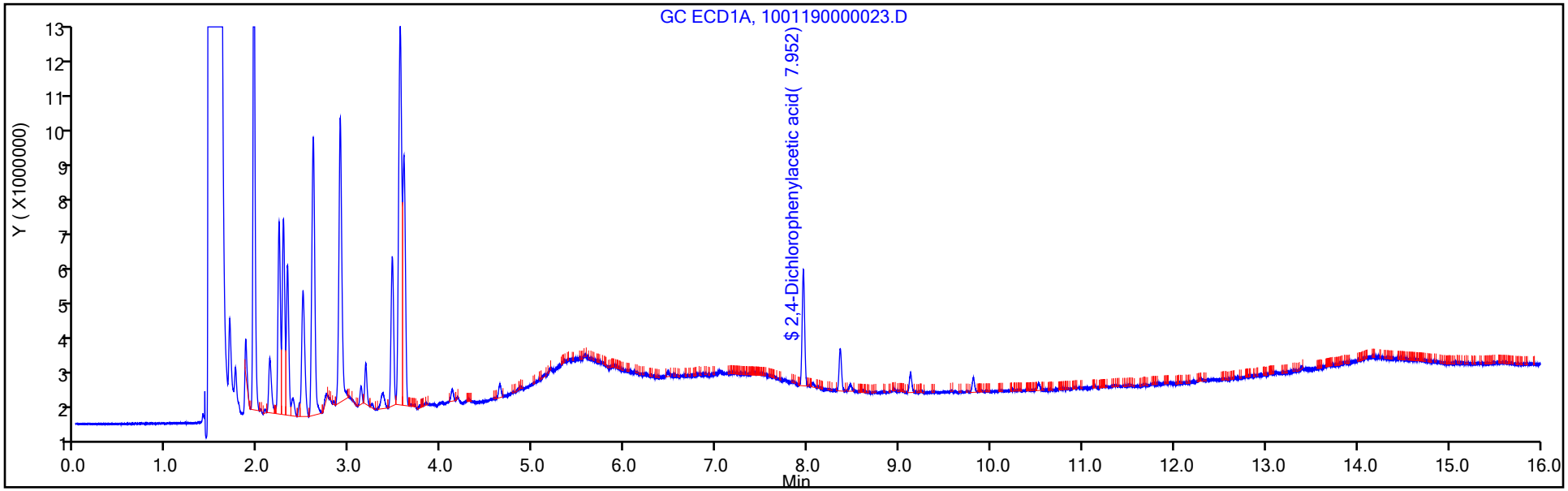

Column: RTX-1701 (0.53 mm)

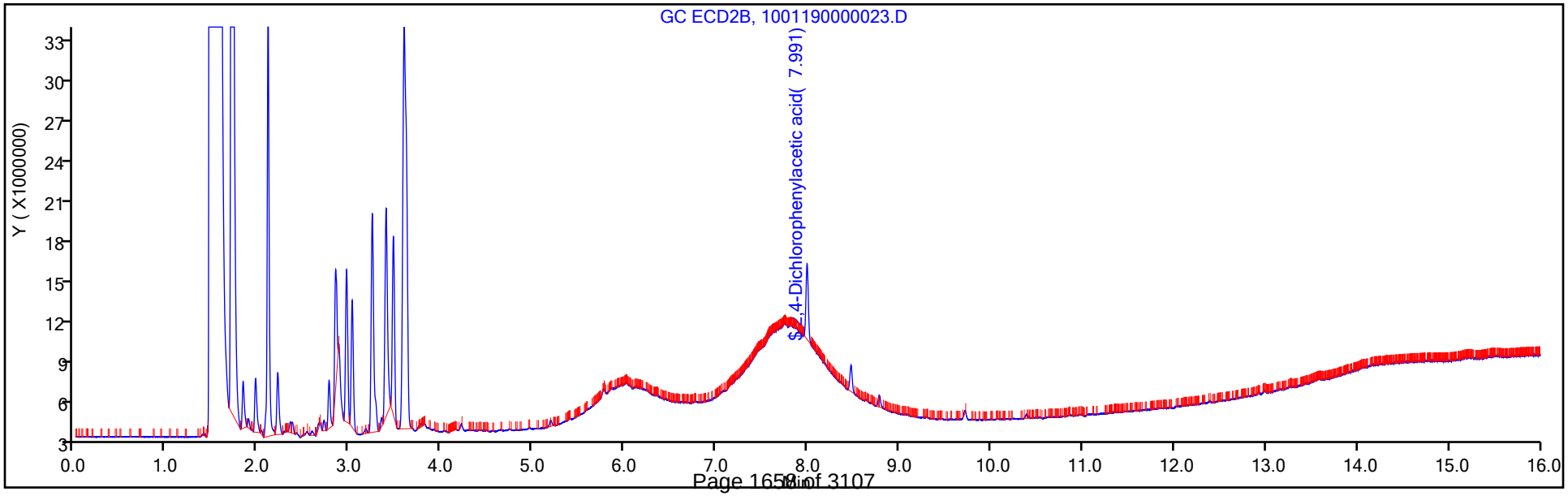

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000023.D				
Lims ID:	180-96144-B-1-A				
Client ID:	11187072-CONTACT-INITIAL				
Sample Type:	Client				
Inject. Date:	02-Oct-2019 01:42:02	ALS Bottle#:	20	Worklist Smp#:	21
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	180-0028922-021				
Operator ID:		Instrument ID:	CGC1		

Method:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\Herbicides_CGC1.m		
Limit Group:	GCS 8151A ICAL		
Last Update:	02-Oct-2019 14:49:46	Calib Date:	19-Aug-2019 21:09:17
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D		

Column 1 :	RTX-50 (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-1701 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0325	

First Level Reviewer: fritschj Date: 02-Oct-2019 14:45:48

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0272	54.44

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0254	50.81

FORM I
HERBICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: 11187072-CONTACT-INITIAL Lab Sample ID: 180-96144-1

Matrix: Water Lab File ID: 1001190000023.D

Analysis Method: EPA 8151A Date Collected: 09/24/2019 15:00

Extraction Method: 8151A Date Extracted: 09/28/2019 06:30

Sample wt/vol: 1060(mL) Date Analyzed: 10/02/2019 01:42

Con. Extract Vol.: 10.0(mL) Dilution Factor: 20

Injection Volume: 1(uL) GC Column: RTX-1701 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 293383 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
19719-28-9	2,4-Dichlorophenylacetic acid	51		20-105

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000023.D				
Lims ID:	180-96144-B-1-A				
Client ID:	11187072-CONTACT-INITIAL				
Sample Type:	Client				
Inject. Date:	02-Oct-2019 01:42:02	ALS Bottle#:	20	Worklist Smp#:	21
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	180-0028922-021				
Operator ID:		Instrument ID:	CGC1		

Method:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\Herbicides_CGC1.m		
Limit Group:	GCS 8151A ICAL		
Last Update:	02-Oct-2019 14:49:46	Calib Date:	19-Aug-2019 21:09:17
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D		

Column 1 :	RTX-50 (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-1701 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0325	

First Level Reviewer: fritschj Date: 02-Oct-2019 14:45:48

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
$ 2 2,4-Dichlorophenylacetic acid						
1	7.952	7.952	0.000	2961820	H	0.0272
2	7.991	7.990	0.001	5358444	H	0.0254
					RPD =	6.89
7 2,4-D						
1		9.356			ND	
2		9.480				
9 Silvex (2,4,5-TP)						
1		10.039			ND	
2		10.249				

Report Date: 02-Oct-2019 14:50:25 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000023.D				
Injection Date:	02-Oct-2019 01:42:02	Instrument ID:	CGC1	Operator ID:	
Lims ID:	180-96144-B-1-A	Lab Sample ID:	180-96144-1	Worklist Smp#:	21
Client ID:	11187072-CONTACT-INITIAL				
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	20
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

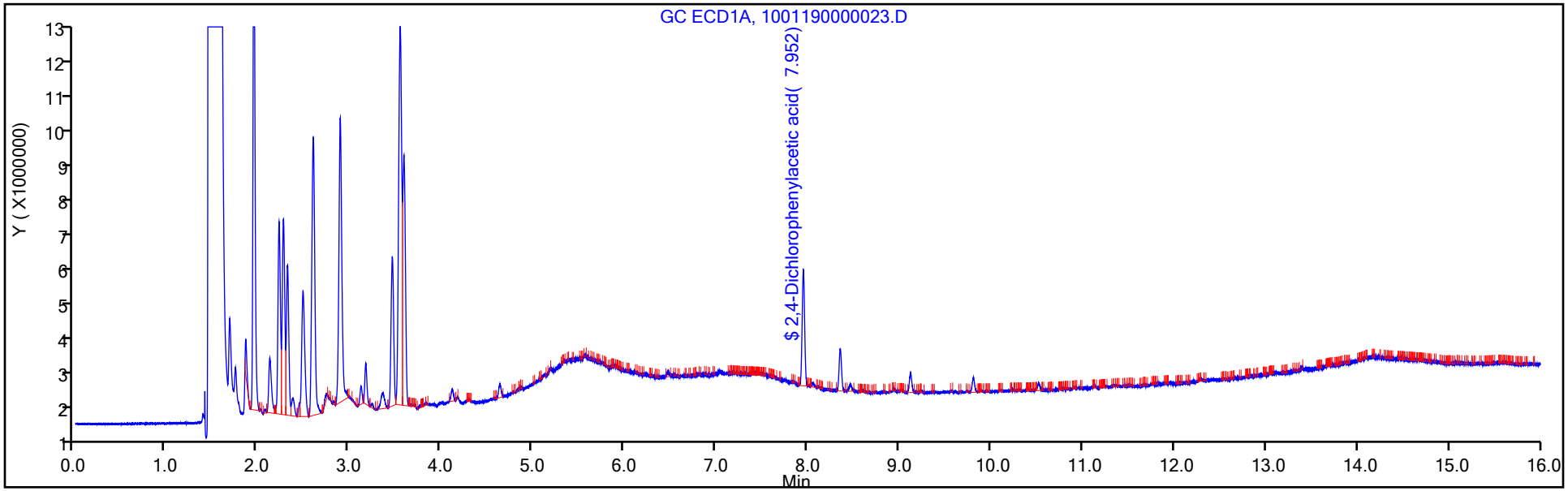

Column: RTX-1701 (0.53 mm)

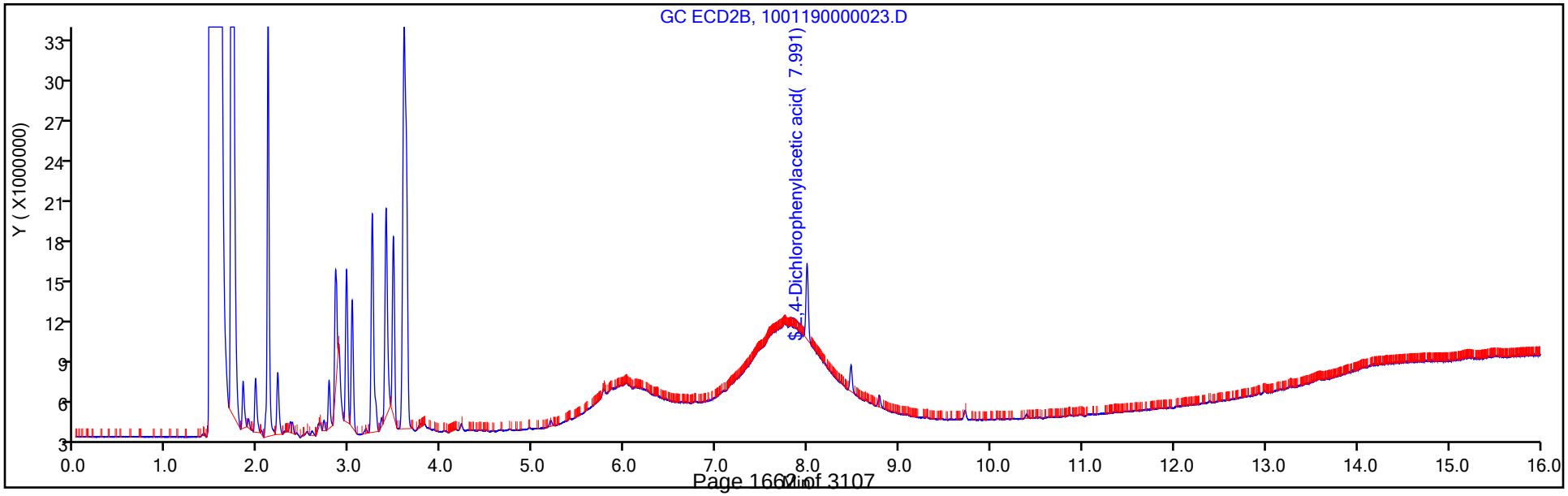

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000023.D				
Lims ID:	180-96144-B-1-A				
Client ID:	11187072-CONTACT-INITIAL				
Sample Type:	Client				
Inject. Date:	02-Oct-2019 01:42:02	ALS Bottle#:	20	Worklist Smp#:	21
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	180-0028922-021				
Operator ID:		Instrument ID:	CGC1		

Method:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\Herbicides_CGC1.m		
Limit Group:	GCS 8151A ICAL		
Last Update:	02-Oct-2019 14:49:46	Calib Date:	19-Aug-2019 21:09:17
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D		

Column 1 :	RTX-50 (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-1701 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0325	

First Level Reviewer: fritschj Date: 02-Oct-2019 14:45:48

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0272	54.44

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0254	50.81

FORM VI
HERBICIDES BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 288571

SDG No.:

Instrument ID: CGC1 GC Column: RTX-50 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/19/2019 18:39 Calibration End Date: 08/19/2019 21:09 Calibration ID: 41303

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-288571/2	0819190000015.D
Level 2	IC 180-288571/3	0819190000016.D
Level 3	IC 180-288571/4	0819190000017.D
Level 4	ICRT 180-288571/5	0819190000018.D
Level 5	IC 180-288571/6	0819190000019.D
Level 6	IC 180-288571/7	0819190000020.D
Level 7	IC 180-288571/8	0819190000021.D

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7				RT WINDOW	AVG RT
Dalapon	2.180	2.180	2.180	2.179	2.180	2.179	2.180				2.149 - 2.209	2.180
MCPP	8.246	8.247	8.245	8.246	8.245	8.245	8.246				8.216 - 8.276	8.246
Dicamba	8.328	8.325	8.325	8.326	8.325	8.327	8.327				8.296 - 8.356	8.326
MCPA	8.668	8.668	8.667	8.667	8.667	8.667	8.668				8.637 - 8.697	8.667
Dichlorprop	8.949	8.947	8.946	8.947	8.946	8.947	8.946				8.917 - 8.977	8.947
2,4-D	9.440	9.440	9.440	9.439	9.439	9.439	9.439				9.409 - 9.469	9.439
Pentachlorophenol	9.970	9.969	9.970	9.969	9.968	9.968	9.969				9.939 - 9.999	9.969
Silvex (2,4,5-TP)	10.124	10.123	10.124	10.124	10.122	10.123	10.123				10.094 - 10.154	10.123
2,4,5-T	10.673	10.672	10.673	10.673	10.672	10.672	10.672				10.643 - 10.703	10.672
Dinoseb	10.928	10.928	10.928	10.928	10.927	10.927	10.928				10.878 - 10.978	10.928
2,4-DB	11.057	11.056	11.056	11.056	11.055	11.056	11.056				11.026 - 11.086	11.056
2,4-Dichlorophenylacetic acid	8.031	8.030	8.030	8.030	8.027	8.029	8.028				8.000 - 8.060	8.029

FORM VI
HERBICIDES BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 288571

SDG No.:

Instrument ID: CGC1 GC Column: RTX-50 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/19/2019 18:39 Calibration End Date: 08/19/2019 21:09 Calibration ID: 41303

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-288571/2	0819190000015.D
Level 2	IC 180-288571/3	0819190000016.D
Level 3	IC 180-288571/4	0819190000017.D
Level 4	ICRT 180-288571/5	0819190000018.D
Level 5	IC 180-288571/6	0819190000019.D
Level 6	IC 180-288571/7	0819190000020.D
Level 7	IC 180-288571/8	0819190000021.D

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4		B	M1	M2								
Dalapon	160286600 131431331	170903900 136276659	158301550 145817422	140291188	Ave		149044093				9.7		20.0			
MCPP	341535 345395	455498 360245	447974 443949	371839	Ave		395204.933				13.0		20.0			
Dicamba	356212200 304232875	400469400 341317575	378813800 460959563	311265900	Ave		364753045				15.0		20.0			
MCPA	727075 502619	797458 531925	712791 659819	557609	Ave		641328.018				17.5		20.0			
Dichlorprop	102113700 79303013	111712550 86229731	104827675 110020338	83546638	Ave		96821949.1				13.9		20.0			
2,4-D	116153200 88240100	129138050 99128803	118457800 125038273	93229725	Ave		109912279				14.7		20.0			
Pentachlorophenol	2240999200 1923748025	2584593600 2178923663	2434617400 2763045963	1953862600	Ave		2297112921				13.7		20.0			
Silvex (2,4,5-TP)	499654800 403324200	566587400 452343438	526926600 563209406	417512350	Ave		489936885				13.7		20.0			
2,4,5-T	481588400 381033900	543877400 419470263	500321000 523603844	396153250	Ave		463721151				13.9		20.0			
Dinoseb	197126200 158552275	219559100 179837416	203051125 229113877	160240175	Ave		192497167				14.3		20.0			
2,4-DB	71888700 52353250	78670000 57642153	70412850 75359228	55251813	Ave		65939713.4				16.1		20.0			
2,4-Dichlorophenylacetic acid	106851700 91484756	125446850 97214675	117835850 127690266	95169625	Ave		108813389				13.7		20.0			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HERBICIDES BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 288571

SDG No.:

Instrument ID: CGC1 GC Column: RTX-50 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/19/2019 18:39 Calibration End Date: 08/19/2019 21:09 Calibration ID: 41303

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-288571/2	0819190000015.D
Level 2	IC 180-288571/3	0819190000016.D
Level 3	IC 180-288571/4	0819190000017.D
Level 4	ICRT 180-288571/5	0819190000018.D
Level 5	IC 180-288571/6	0819190000019.D
Level 6	IC 180-288571/7	0819190000020.D
Level 7	IC 180-288571/8	0819190000021.D

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Dalapon	Ave	1602866 43608531	3418078 93323150	6332062	11223295	21029013	0.0100 0.320	0.0200 0.640	0.0400	0.0800	0.160
MCPP	Ave	341535 11527851	910995 28412748	1791894	2974715	5526314	1.00 32.0	2.00 64.0	4.00	8.00	16.0
Dicamba	Ave	1781061 54610812	4004694 147507060	7576276	12450636	24338630	0.00500 0.160	0.0100 0.320	0.0200	0.0400	0.0800
MCPA	Ave	727075 17021609	1594916 42228426	2851165	4460869	8041901	1.00 32.0	2.00 64.0	4.00	8.00	16.0
Dichlorprop	Ave	1021137 27593514	2234251 70413016	4193107	6683731	12688482	0.0100 0.320	0.0200 0.640	0.0400	0.0800	0.160
2,4-D	Ave	1161532 31721217	2582761 80024495	4738312	7458378	14118416	0.0100 0.320	0.0200 0.640	0.0400	0.0800	0.160
Pentachlorophenol	Ave	5602498 174313893	12922968 442087354	24346174	39077252	76949921	0.00250 0.0800	0.00500 0.160	0.0100	0.0200	0.0400
Silvex (2,4,5-TP)	Ave	1249137 36187475	2832937 90113505	5269266	8350247	16132968	0.00250 0.0800	0.00500 0.160	0.0100	0.0200	0.0400
2,4,5-T	Ave	1203971 33557621	2719387 83776615	5003210	7923065	15241356	0.00250 0.0800	0.00500 0.160	0.0100	0.0200	0.0400
Dinoseb	Ave	1971262 57547973	4391182 146632881	8122045	12819214	25368364	0.0100 0.320	0.0200 0.640	0.0400	0.0800	0.160
2,4-DB	Ave	718887 18445489	1573400 48229906	2816514	4420145	8376520	0.0100 0.320	0.0200 0.640	0.0400	0.0800	0.160
2,4-Dichlorophenylacetic acid	Ave	1068517 31108696	2508937 81721770	4713434	7613570	14637561	0.0100 0.320	0.0200 0.640	0.0400	0.0800	0.160

Curve Type Legend:
Ave = Average by Height

FORM VI
HERBICIDES BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 288571

SDG No.:

Instrument ID: CGC1 GC Column: RTX-50 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/19/2019 18:39 Calibration End Date: 08/19/2019 21:09 Calibration ID: 41303

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-288571/2	0819190000015.D
Level 2	IC 180-288571/3	0819190000016.D
Level 3	IC 180-288571/4	0819190000017.D
Level 4	ICRT 180-288571/5	0819190000018.D
Level 5	IC 180-288571/6	0819190000019.D
Level 6	IC 180-288571/7	0819190000020.D
Level 7	IC 180-288571/8	0819190000021.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
Dalapon	7.5 -2.2	14.7	6.2	-5.9	-11.8	-8.6	50 30	30	30	30	30	30
MCPP	-13.6 12.3	15.3	13.4	-5.9	-12.6	-8.8	50 30	30	30	30	30	30
Dicamba	-2.3 26.4	9.8	3.9	-14.7	-16.6	-6.4	50 30	30	30	30	30	30
MCPA	13.4 2.9	24.3	11.1	-13.1	-21.6	-17.1	50 30	30	30	30	30	30
Dichlorprop	5.5 13.6	15.4	8.3	-13.7	-18.1	-10.9	50 30	30	30	30	30	30
2,4-D	5.7 13.8	17.5	7.8	-15.2	-19.7	-9.8	50 30	30	30	30	30	30
Pentachlorophenol	-2.4 20.3	12.5	6.0	-14.9	-16.3	-5.1	50 30	30	30	30	30	30
Silvex (2,4,5-TP)	2.0 15.0	15.6	7.5	-14.8	-17.7	-7.7	50 30	30	30	30	30	30
2,4,5-T	3.9 12.9	17.3	7.9	-14.6	-17.8	-9.5	50 30	30	30	30	30	30
Dinoseb	2.4 19.0	14.1	5.5	-16.8	-17.6	-6.6	50 30	30	30	30	30	30
2,4-DB	9.0 14.3	19.3	6.8	-16.2	-20.6	-12.6	50 30	30	30	30	30	30
2,4-Dichlorophenylacetic acid	-1.8 17.3	15.3	8.3	-12.5	-15.9	-10.7	50 30	30	30	30	30	30

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000015.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 19-Aug-2019 18:39:37 ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-002
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:59 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:30:51

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.180	2.179	0.001	1602866H	0.0100	0.0108	
2	2.351	2.348	0.003	3496867H	0.0100	0.0104	
						RPD = 3.17	
$ 2 2,4-Dichlorophenylacetic acid							M
1	8.031	8.030	0.001	1068517H	0.0100	0.009820	M
2	7.996	7.996	0.000	2025382H	0.0100	0.009603	M
						RPD = 2.24	
3 MCPP							M
1	8.246	8.246	0.000	341535H	1.00	0.8642	
2	8.426	8.423	0.003	702287	1.00	0.9494	M
						RPD = 9.39	
4 Dicamba							
1	8.328	8.326	0.002	1781061H	0.005000	0.004883	
2	8.266	8.265	0.001	3182091H	0.005000	0.004538	
						RPD = 7.33	
5 MCPA							M
1	8.668	8.667	0.001	727075H	1.00	1.13	M
2	8.732	8.732	0.000	1239711H	1.00	1.01	M
						RPD = 11.90	
6 Dichlorprop							
1	8.949	8.947	0.002	1021137H	0.0100	0.0105	
2	9.097	9.095	0.002	1841176H	0.0100	0.0099	
						RPD = 6.01	
7 2,4-D							
1	9.440	9.439	0.001	1161532H	0.0100	0.0106	
2	9.495	9.494	0.001	2165042H	0.0100	0.0100	
						RPD = 5.77	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.970	9.969	0.001	5602498	0.002500	0.002439	
2	9.693	9.691	0.002	5047386H	0.002500	0.002354	
						RPD = 3.55	
9 Silvex (2,4,5-TP)							
1	10.124	10.124	0.000	1249137H	0.002500	0.002550	
2	10.264	10.263	0.001	2296435H	0.002500	0.002440	
						RPD = 4.40	
10 2,4,5-T							
1	10.673	10.673	0.000	1203971H	0.002500	0.002596	
2	10.720	10.719	0.001	2235899H	0.002500	0.002467	
						RPD = 5.11	
11 Dinoseb							M
1	10.928	10.928	0.000	1971262H	0.0100	0.0102	
2	11.802	11.800	0.002	3730870H	0.0100	0.009544	M
						RPD = 7.04	
12 2,4-DB							M
1	11.057	11.056	0.001	718887H	0.0100	0.0109	
2	11.150	11.149	0.001	1190823H	0.0100	0.009653	M
						RPD = 12.15	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCHERBCALSL7_00011 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:26:00 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000015.D

Injection Date: 19-Aug-2019 18:39:37 Instrument ID: CGC1 Operator ID:

Lims ID: ic Worklist Smp#: 2

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 1

Method: Herbicides_CGC1 Limit Group: GCS 8151A ICAL

Column: RTX-50 (0.53 mm)

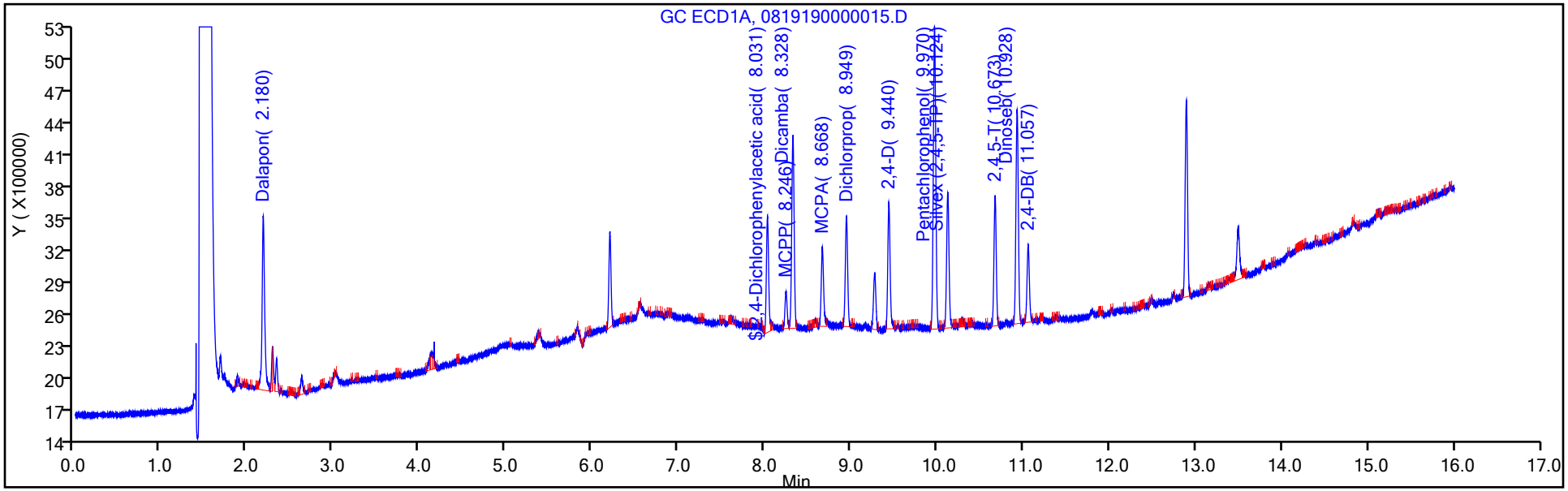

Column: RTX-1701 (0.53 mm)

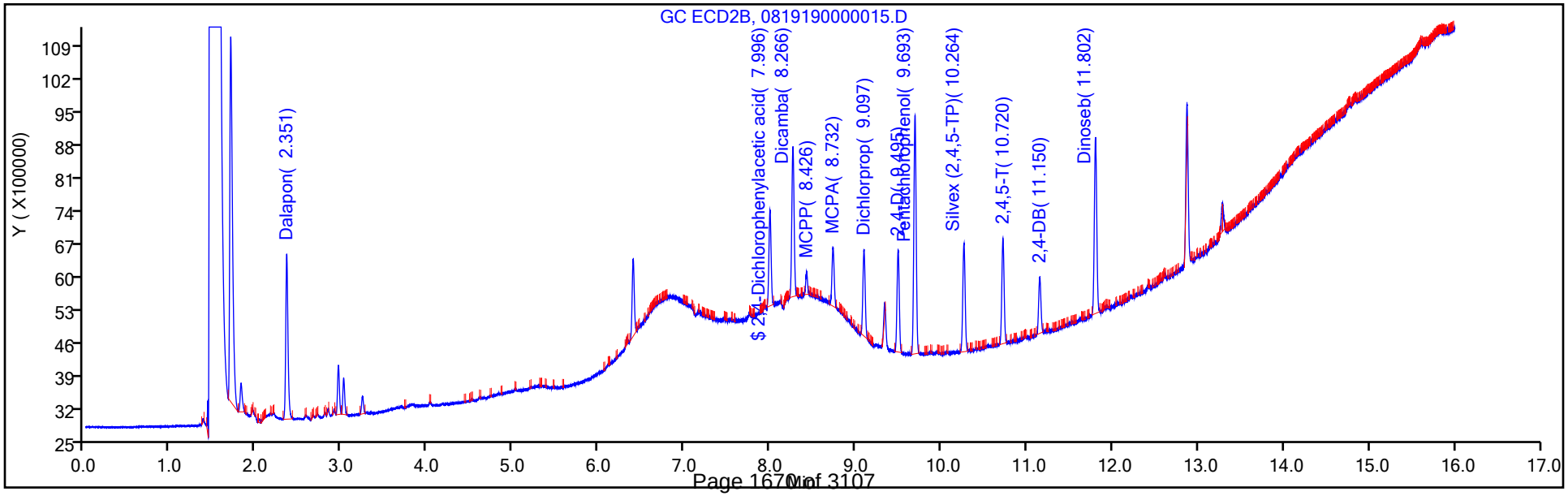

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000015.D				
Injection Date:	19-Aug-2019 18:39:37	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

$ 2 2,4-Dichlorophenylacetic acid, CAS: 19719-28-9

Signal: 1

Processing Integration Results

RT: 8.03
Height: 1045328
Amount: -0.067352
Amount Units: ng

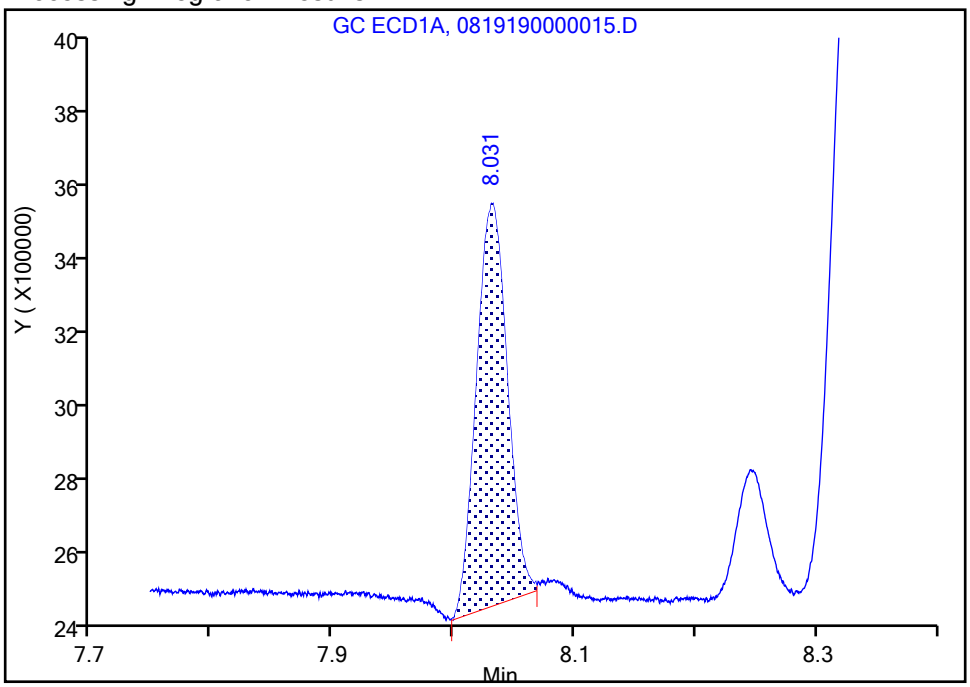

Manual Integration Results

RT: 8.03
Height: 1068517
Amount: 0.009820
Amount Units: ng

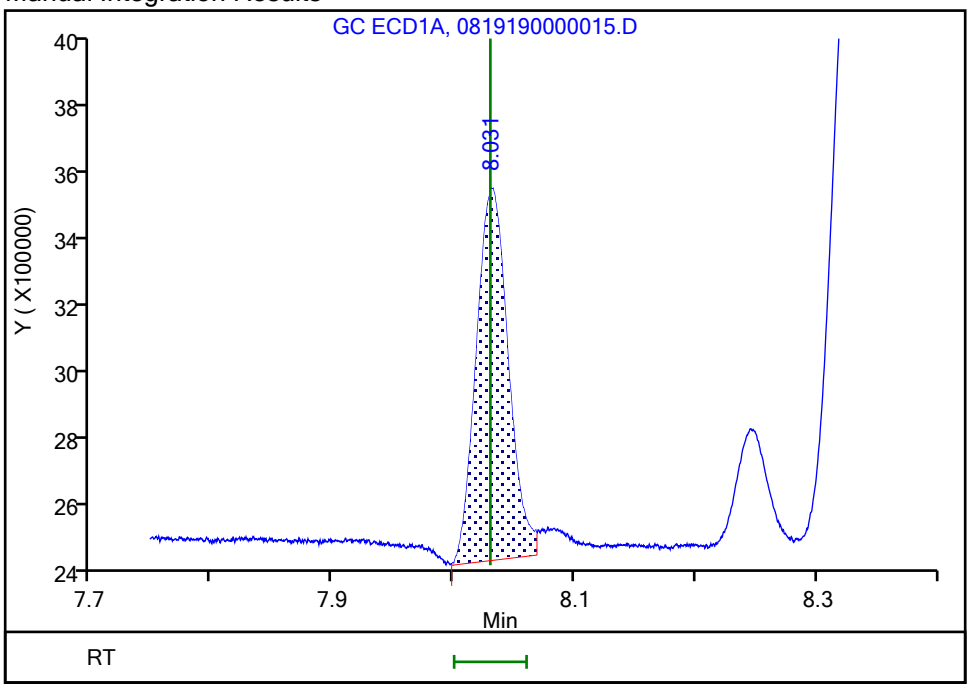

Reviewer: fritschj, 20-Aug-2019 08:28:41

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000015.D				
Injection Date:	19-Aug-2019 18:39:37	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

5 MCPA, CAS: 94-74-6

Signal: 1

Processing Integration Results

RT: 8.67
Height: 717753
Amount: 0.968753
Amount Units: ng

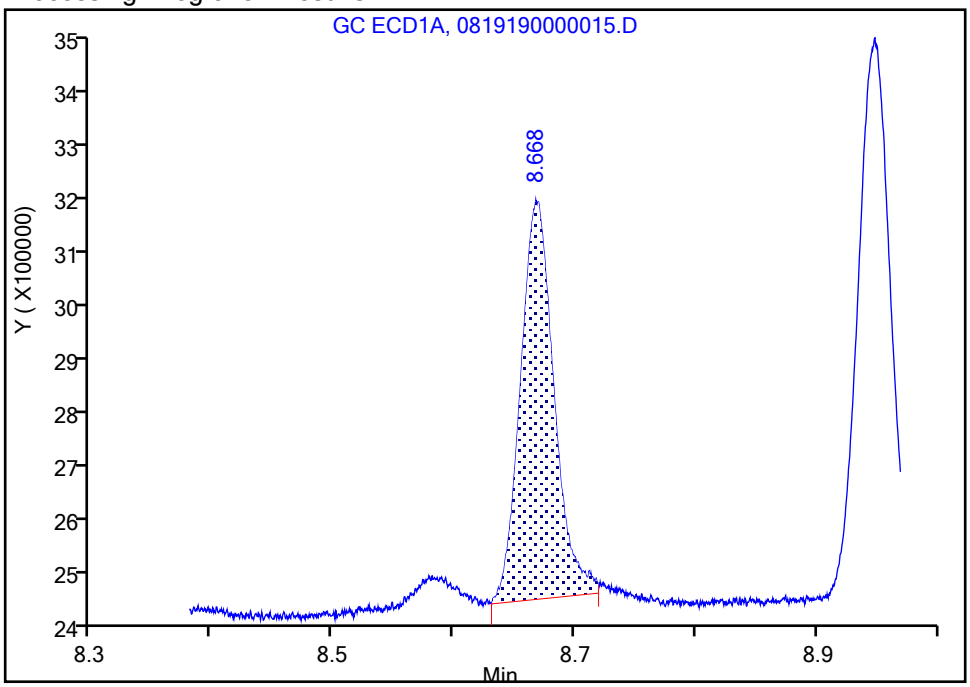

Manual Integration Results

RT: 8.67
Height: 727075
Amount: 1.133702
Amount Units: ng

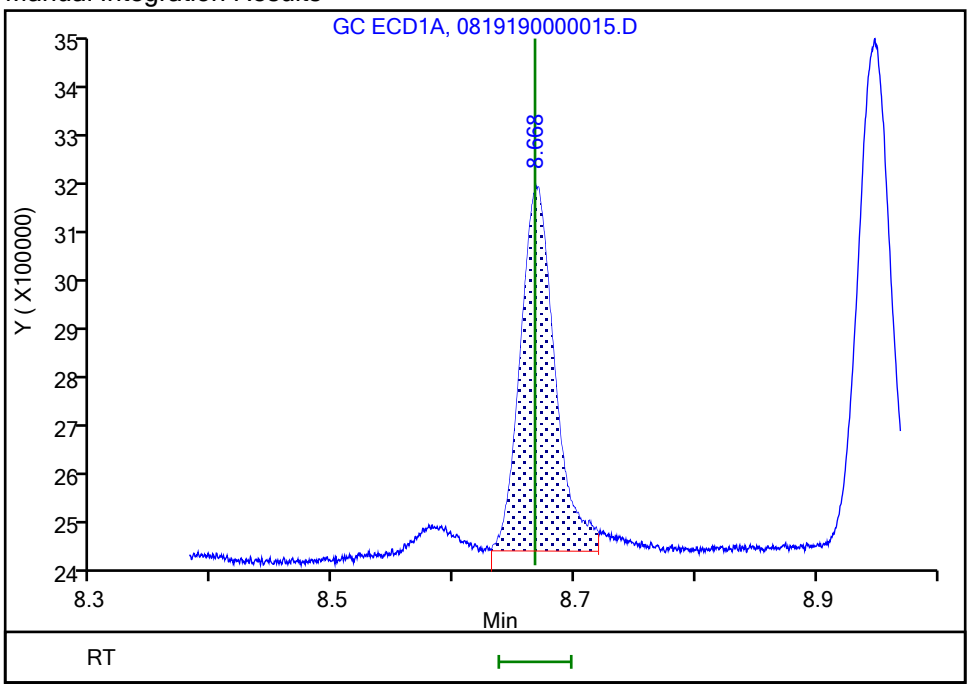

Reviewer: fritschj, 20-Aug-2019 08:30:20
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000016.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 19-Aug-2019 19:04:40 ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-003
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:54 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:33:13

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.180	2.179	0.001	3418078H	0.0200	0.0229	
2	2.351	2.348	0.003	7623859H	0.0200	0.0227	
						RPD = 0.96	
$ 2 2,4-Dichlorophenylacetic acid							M
1	8.030	8.030	0.000	2508937H	0.0200	0.0231	M
2	7.997	7.996	0.001	4812705H	0.0200	0.0228	M
						RPD = 1.04	
3 MCPP							M
1	8.247	8.246	0.001	910995H	2.00	2.31	
2	8.423	8.423	0.000	2326811	2.00	2.14	M
						RPD = 7.53	
4 Dicamba							
1	8.325	8.326	-0.001	4004694H	0.0100	0.0110	
2	8.265	8.265	0.000	7573096H	0.0100	0.0108	
						RPD = 1.66	
5 MCPA							
1	8.668	8.667	0.001	1594916H	2.00	2.49	
2	8.734	8.732	0.002	2949336H	2.00	2.39	
						RPD = 3.80	
6 Dichlorprop							
1	8.947	8.947	0.000	2234251H	0.0200	0.0231	
2	9.095	9.095	0.000	4268906H	0.0200	0.0230	
						RPD = 0.22	
7 2,4-D							
1	9.440	9.439	0.001	2582761H	0.0200	0.0235	
2	9.495	9.494	0.001	5071949H	0.0200	0.0234	
						RPD = 0.55	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.969	9.969	0.000	12922968	0.005000	0.005626	
2	9.692	9.691	0.001	11942592H	0.005000	0.005569	
						RPD = 1.01	
9 Silvex (2,4,5-TP)							
1	10.123	10.124	-0.001	2832937H	0.005000	0.005782	
2	10.263	10.263	0.000	5429675H	0.005000	0.005769	
						RPD = 0.24	
10 2,4,5-T							
1	10.672	10.673	-0.001	2719387H	0.005000	0.005864	
2	10.719	10.719	0.000	5238330H	0.005000	0.005779	
						RPD = 1.46	
11 Dinoseb							
1	10.928	10.928	0.000	4391182H	0.0200	0.0228	
2	11.801	11.800	0.001	8755118H	0.0200	0.0224	
						RPD = 1.83	
12 2,4-DB							
1	11.056	11.056	0.000	1573400H	0.0200	0.0239	
2	11.150	11.149	0.001	2842702H	0.0200	0.0230	
						RPD = 3.48	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCHERBCALSL1_00027 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:25:55 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000016.D				
Injection Date:	19-Aug-2019 19:04:40	Instrument ID:	CGC1	Operator ID:	
Lims ID:	ic			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

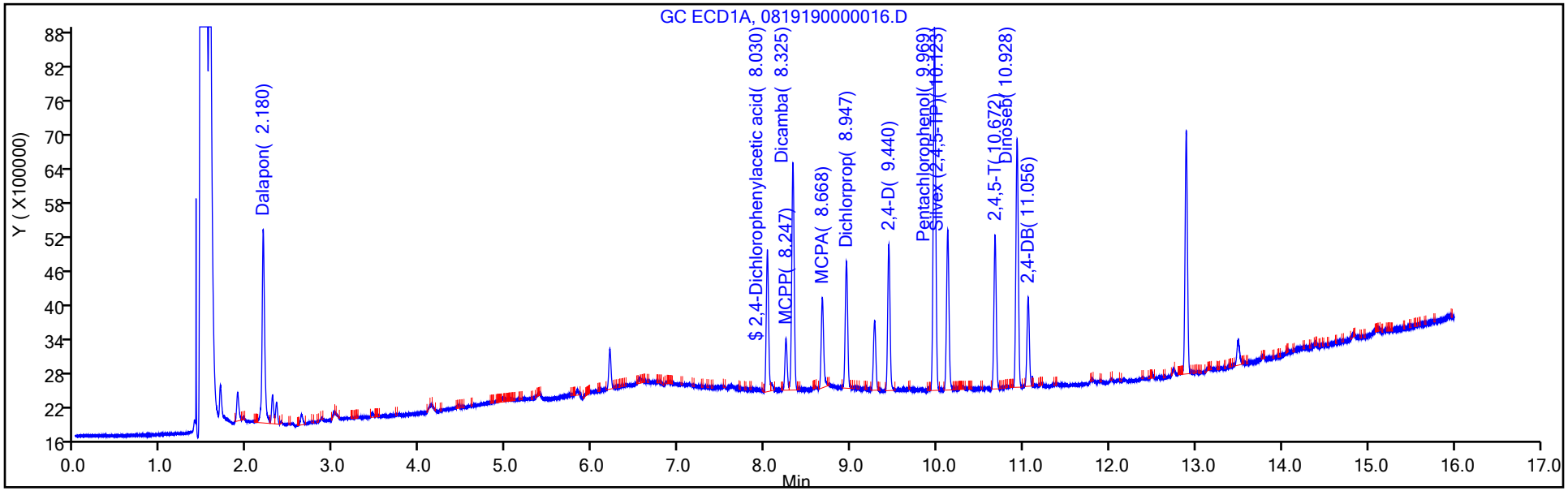

Column: RTX-1701 (0.53 mm)

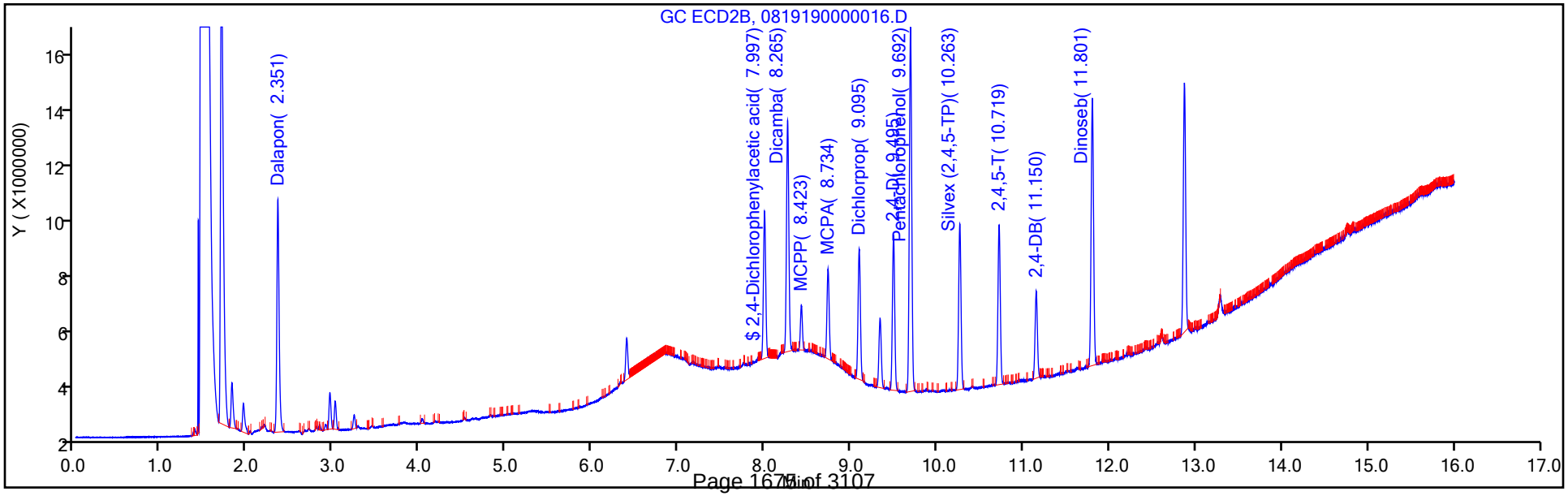

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000016.D				
Injection Date:	19-Aug-2019 19:04:40	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

$ 2 2,4-Dichlorophenylacetic acid, CAS: 19719-28-9

Signal: 1

Processing Integration Results

RT: 8.03
Height: 2498886
Amount: 0.037905
Amount Units: ng

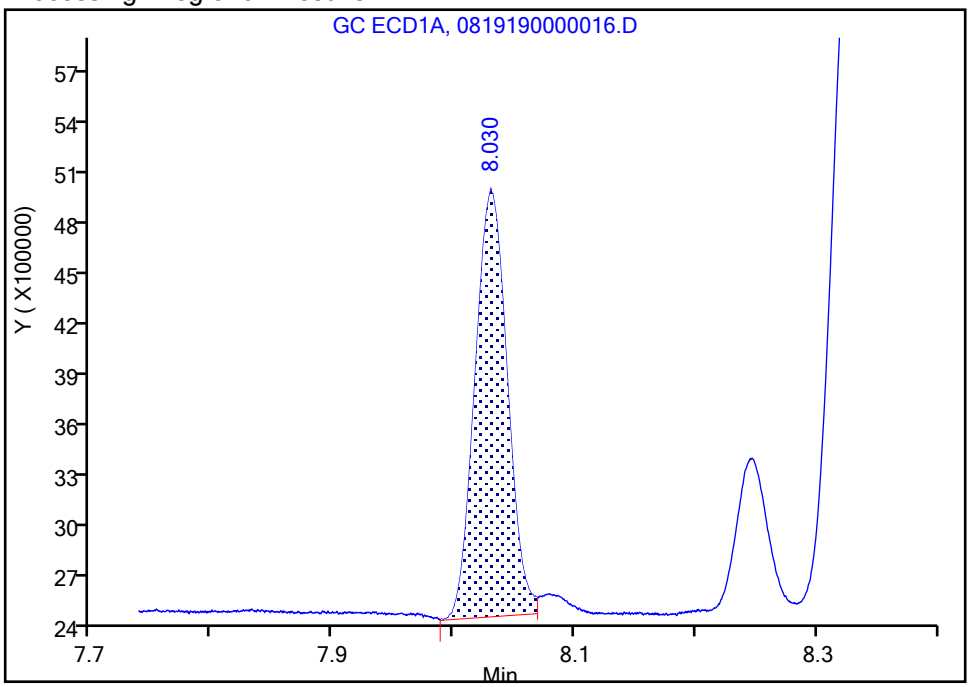

Manual Integration Results

RT: 8.03
Height: 2508937
Amount: 0.023057
Amount Units: ng

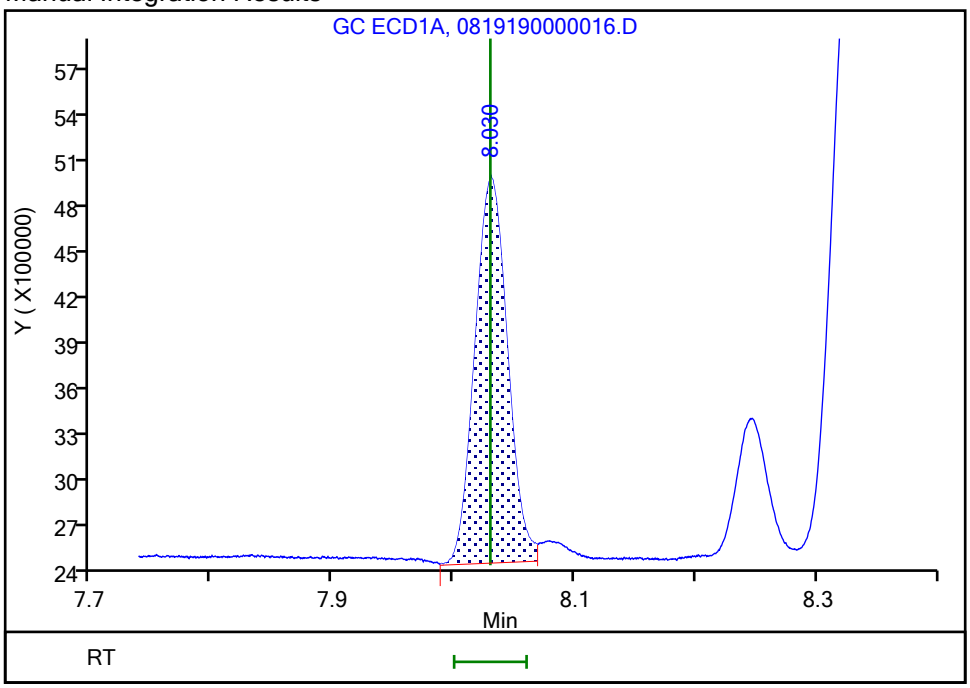

Reviewer: fritschj, 20-Aug-2019 08:32:43
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000017.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 19-Aug-2019 19:29:38 ALS Bottle#: 3 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-004
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:51 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:33:38

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.180	2.179	0.001	6332062H	0.0400	0.0425	
2	2.349	2.348	0.001	14337210H	0.0400	0.0427	
						RPD = 0.54	
$ 2 2,4-Dichlorophenylacetic acid							
1	8.030	8.030	0.000	4713434H	0.0400	0.0433	
2	7.996	7.996	0.000	9171540H	0.0400	0.0435	
						RPD = 0.38	
3 MCPP							
1	8.245	8.246	-0.001	1791894H	4.00	4.53	
2	8.424	8.423	0.001	5452918	4.00	4.43	
						RPD = 2.43	
4 Dicamba							
1	8.325	8.326	-0.001	7576276H	0.0200	0.0208	
2	8.264	8.265	-0.001	14653717H	0.0200	0.0209	
						RPD = 0.60	
5 MCPA							
1	8.667	8.667	0.000	2851165H	4.00	4.45	
2	8.733	8.732	0.001	5563689H	4.00	4.52	
						RPD = 1.58	
6 Dichlorprop							
1	8.946	8.947	-0.001	4193107H	0.0400	0.0433	
2	9.095	9.095	0.000	8138700H	0.0400	0.0439	
						RPD = 1.35	
7 2,4-D							
1	9.440	9.439	0.001	4738312H	0.0400	0.0431	
2	9.492	9.494	-0.002	9501459H	0.0400	0.0438	
						RPD = 1.54	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.970	9.969	0.001	24346174	0.0100	0.0106	
2	9.691	9.691	0.000	22869753H	0.0100	0.0107	
						RPD = 0.63	
9 Silvex (2,4,5-TP)							
1	10.124	10.124	0.000	5269266H	0.0100	0.0108	
2	10.263	10.263	0.000	10301266H	0.0100	0.0109	
						RPD = 1.74	
10 2,4,5-T							
1	10.673	10.673	0.000	5003210H	0.0100	0.0108	
2	10.719	10.719	0.000	9933044H	0.0100	0.0110	
						RPD = 1.56	
11 Dinoseb							
1	10.928	10.928	0.000	8122045H	0.0400	0.0422	
2	11.801	11.800	0.001	16720974H	0.0400	0.0428	
						RPD = 1.37	
12 2,4-DB							
1	11.056	11.056	0.000	2816514H	0.0400	0.0427	
2	11.150	11.149	0.001	5369567H	0.0400	0.0435	
						RPD = 1.89	

Reagents:

GCHERBCALSL2_00024 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:25:51 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000017.D

Injection Date: 19-Aug-2019 19:29:38 Instrument ID: CGC1 Operator ID:

Lims ID: ic Worklist Smp#: 4

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 3

Method: Herbicides_CGC1 Limit Group: GCS 8151A ICAL

Column: RTX-50 (0.53 mm)

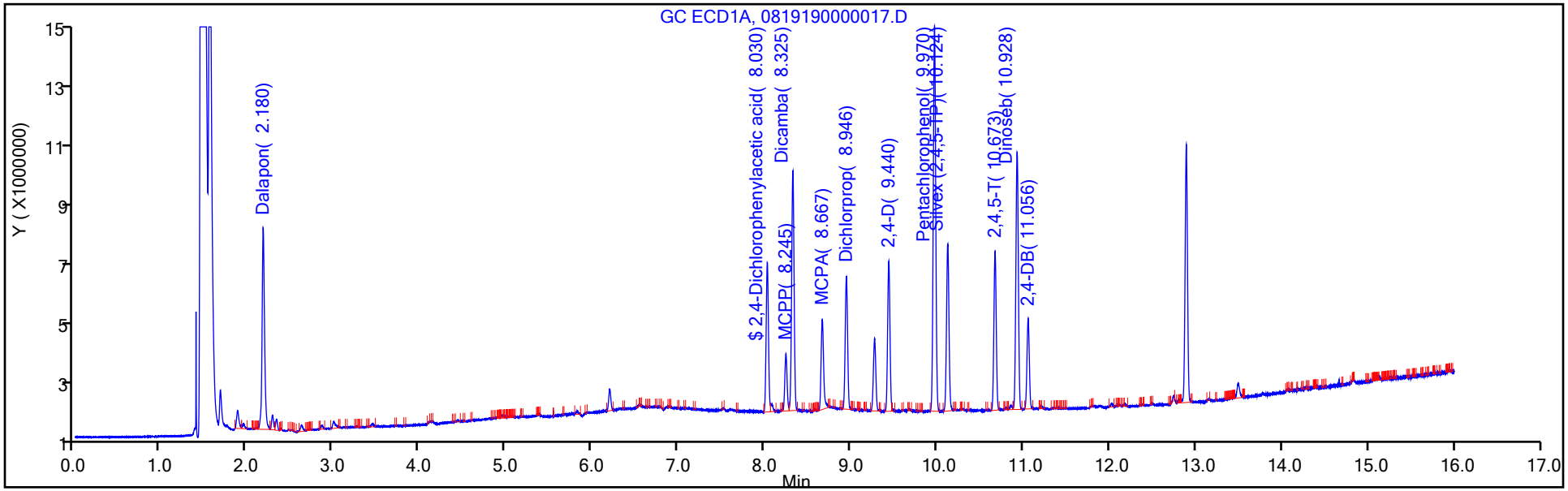

Column: RTX-1701 (0.53 mm)

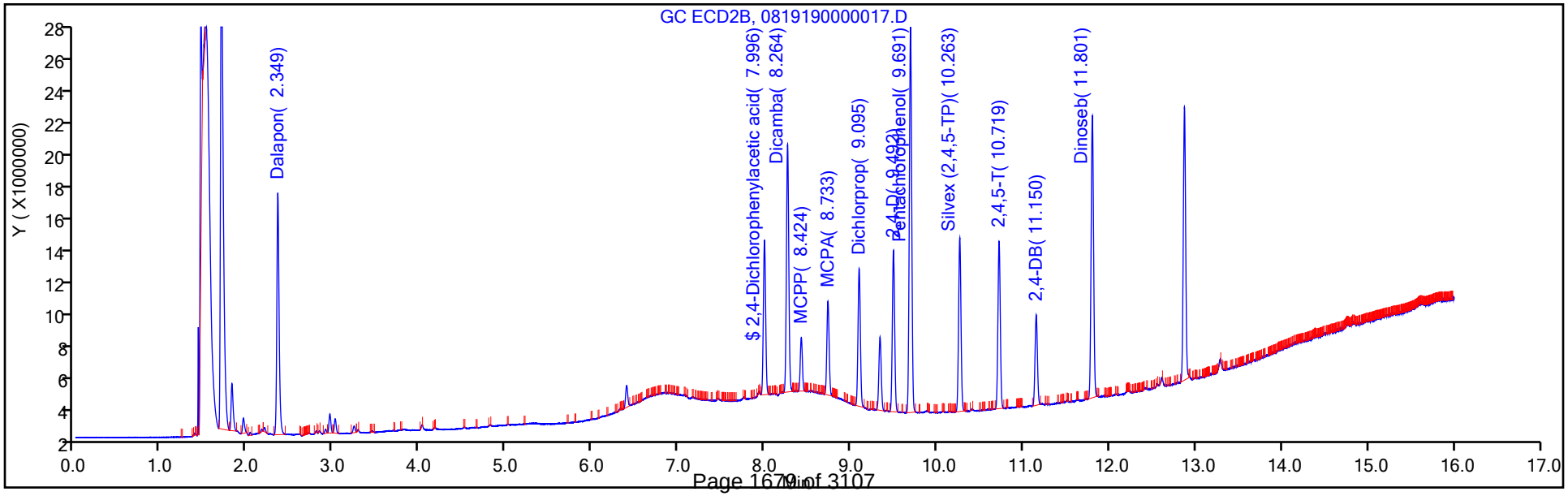

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D
Lims ID: icrt
Client ID:
Sample Type: ICRT Calib Level: 3
Inject. Date: 19-Aug-2019 19:54:39 ALS Bottle#: 4 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-005
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:45 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:28:11

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							a
1	2.179	2.179	0.000	11223295H	0.0800	0.0753	a
2	2.348	2.348	0.000	25411026H	0.0800	0.0757	a
						RPD = 0.54	
$ 2 2,4-Dichlorophenylacetic acid							a
1	8.030	8.030	0.000	7613570H	0.0800	0.0700	a
2	7.996	7.996	0.000	14765553H	0.0800	0.0700	a
						RPD = 0.05	
3 MCPP							Ma
1	8.246	8.246	0.000	2974715H	8.00	7.53	a
2	8.423	8.423	0.000	9866795	8.00	7.65	M
						RPD = 1.68	
4 Dicamba							a
1	8.326	8.326	0.000	12450636H	0.0400	0.0341	a
2	8.265	8.265	0.000	24433399H	0.0400	0.0348	a
						RPD = 2.05	
5 MCPA							a
1	8.667	8.667	0.000	4460869H	8.00	6.96	a
2	8.732	8.732	0.000	8744680H	8.00	7.10	a
						RPD = 2.04	
6 Dichlorprop							a
1	8.947	8.947	0.000	6683731H	0.0800	0.0690	a
2	9.095	9.095	0.000	13013520H	0.0800	0.0702	a
						RPD = 1.67	
7 2,4-D							a
1	9.439	9.439	0.000	7458378H	0.0800	0.0679	a
2	9.494	9.494	0.000	15308071H	0.0800	0.0705	a
						RPD = 3.86	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							a
1	9.969	9.969	0.000	39077252	0.0200	0.0170	a
2	9.691	9.691	0.000	36992114H	0.0200	0.0173	a
						RPD = 1.40	
9 Silvex (2,4,5-TP)							a
1	10.124	10.124	0.000	8350247H	0.0200	0.0170	a
2	10.263	10.263	0.000	16465579H	0.0200	0.0175	a
						RPD = 2.60	
10 2,4,5-T							a
1	10.673	10.673	0.000	7923065H	0.0200	0.0171	a
2	10.719	10.719	0.000	15848356H	0.0200	0.0175	a
						RPD = 2.31	
11 Dinoseb							a
1	10.928	10.928	0.000	12819214H	0.0800	0.0666	a
2	11.800	11.800	0.000	27183193H	0.0800	0.0695	a
						RPD = 4.33	
12 2,4-DB							a
1	11.056	11.056	0.000	4420145H	0.0800	0.0670	a
2	11.149	11.149	0.000	8459711H	0.0800	0.0686	a
						RPD = 2.28	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

GCHERBCALSL3_00028 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:25:46 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D

Injection Date: 19-Aug-2019 19:54:39 Instrument ID: CGC1 Operator ID:

Lims ID: icrt Worklist Smp#: 5

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 4

Method: Herbicides_CGC1 Limit Group: GCS 8151A ICAL

Column: RTX-50 (0.53 mm)

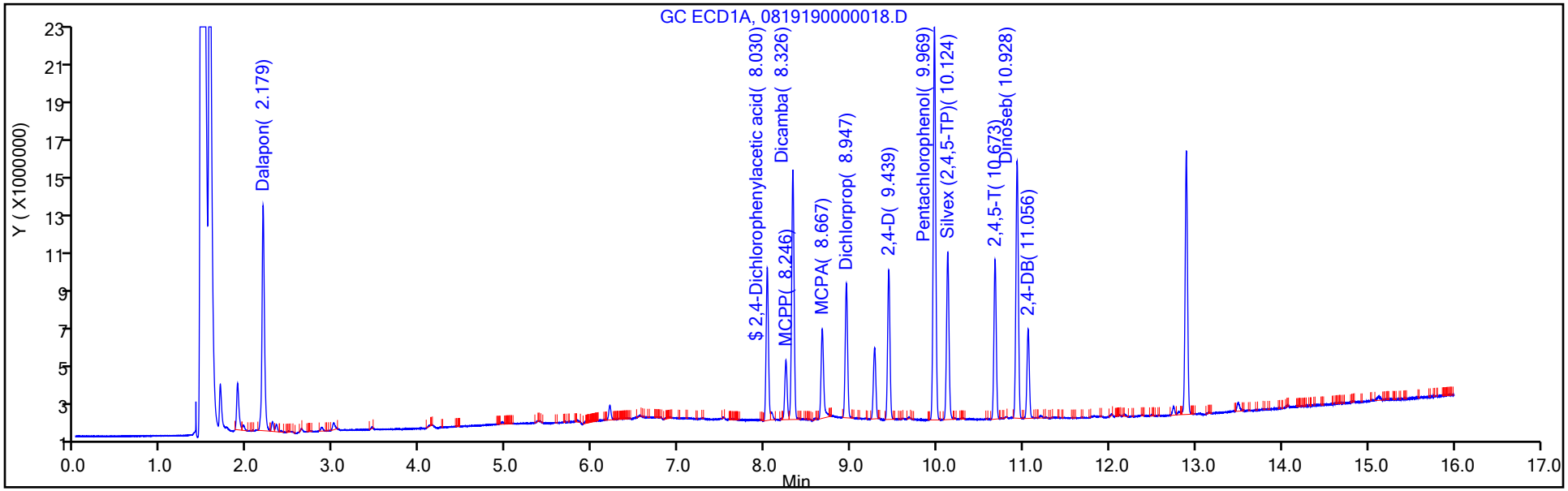

Column: RTX-1701 (0.53 mm)

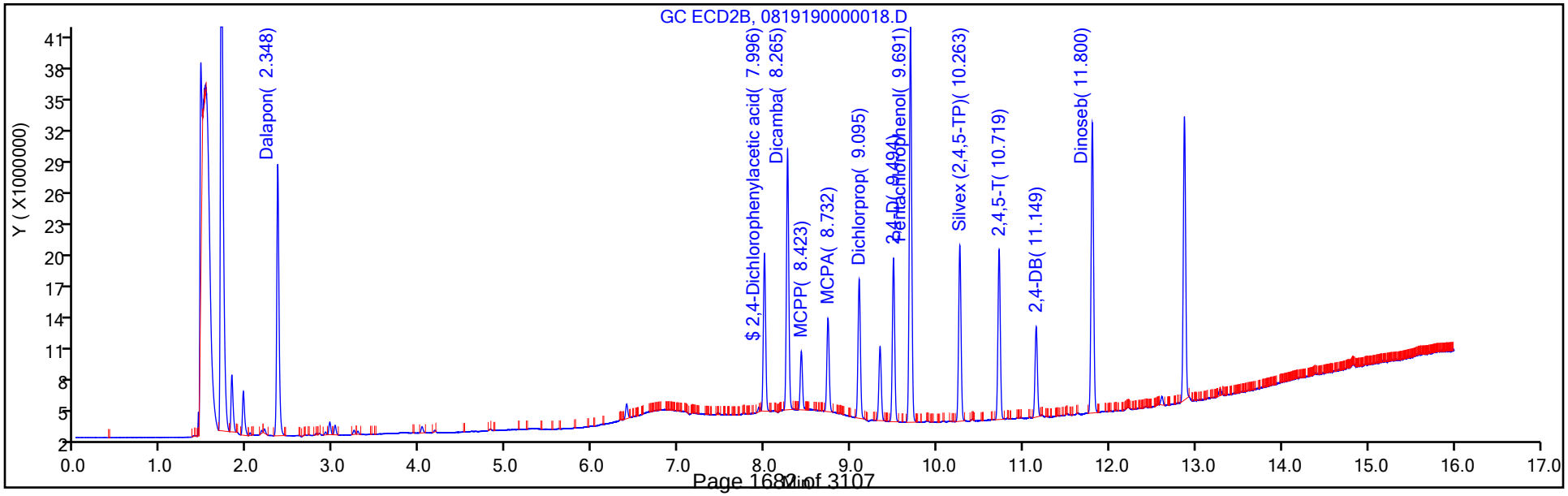

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

1 Dalapon, CAS: 75-99-0

Signal: 1

Not Detected
Expected RT: 2.18

Processing Integration Results

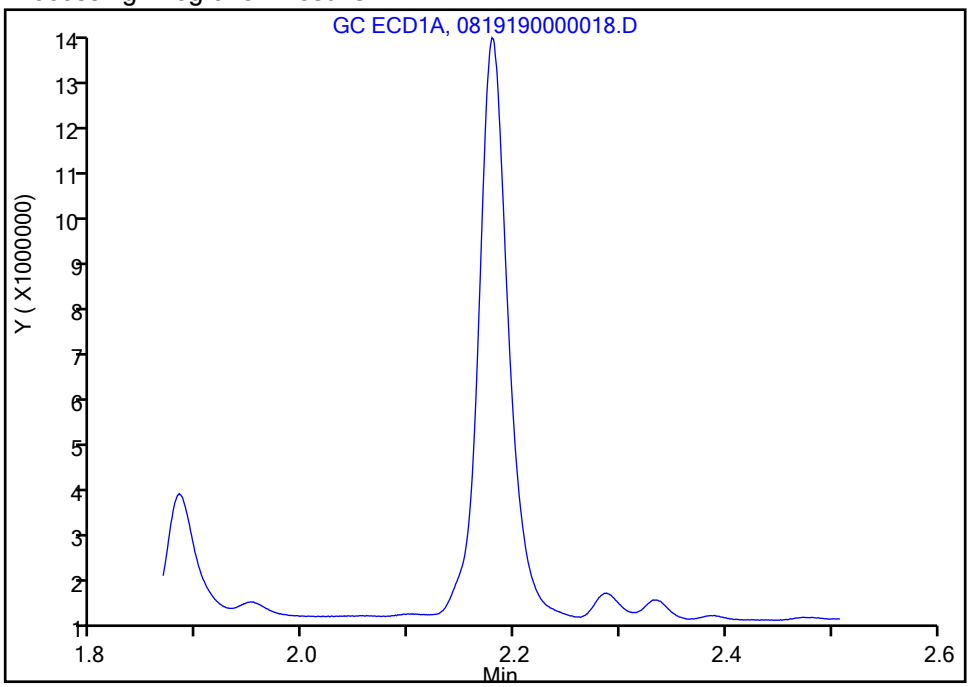

Manual Integration Results

RT: 2.18
Height: 11223295
Amount: 0.075302
Amount Units: ng

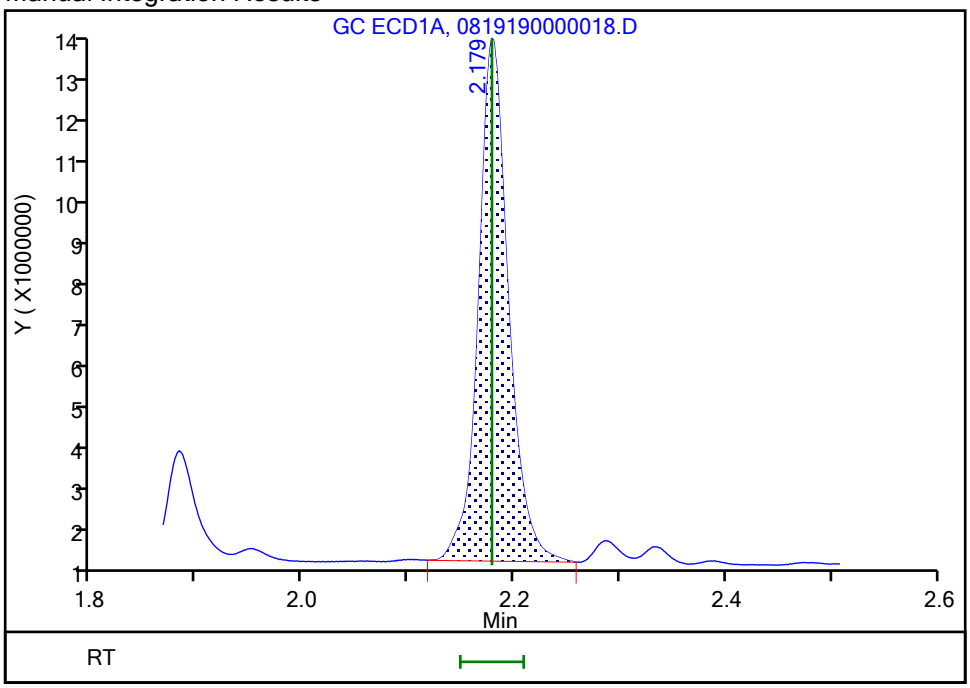

Reviewer: fritschj, 20-Aug-2019 08:15:43
Audit Action: Assigned Compound ID Audit Reason:

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

$ 2 2,4-Dichlorophenylacetic acid, CAS: 19719-28-9

Signal: 1

Processing Integration Results

RT: 8.20
Height: 97884
Amount: 0.377061
Amount Units: ng

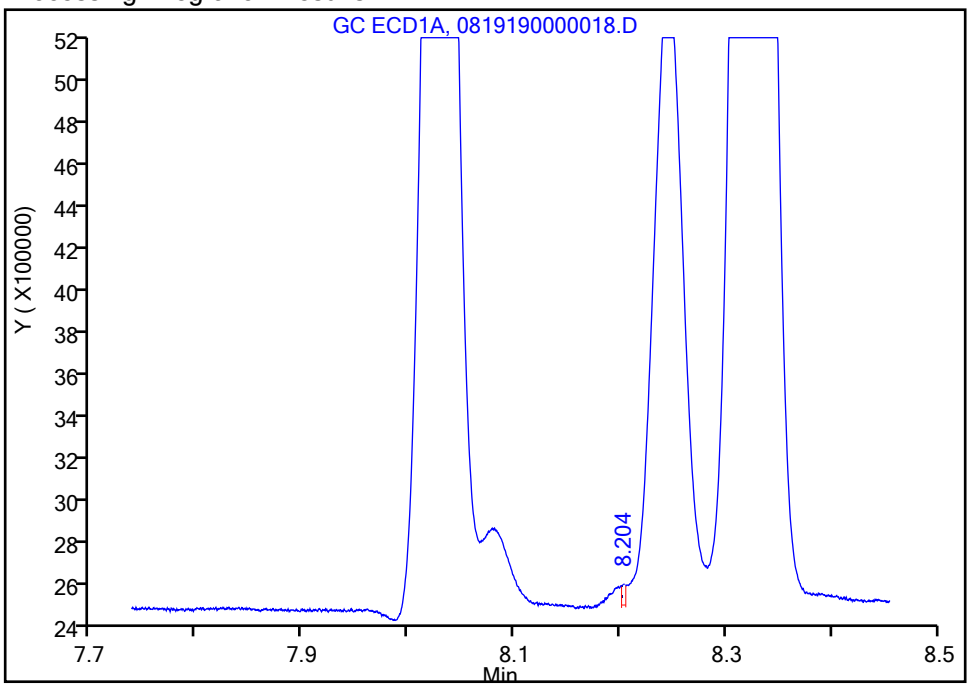

Manual Integration Results

RT: 8.03
Height: 7613570
Amount: 0.069969
Amount Units: ng

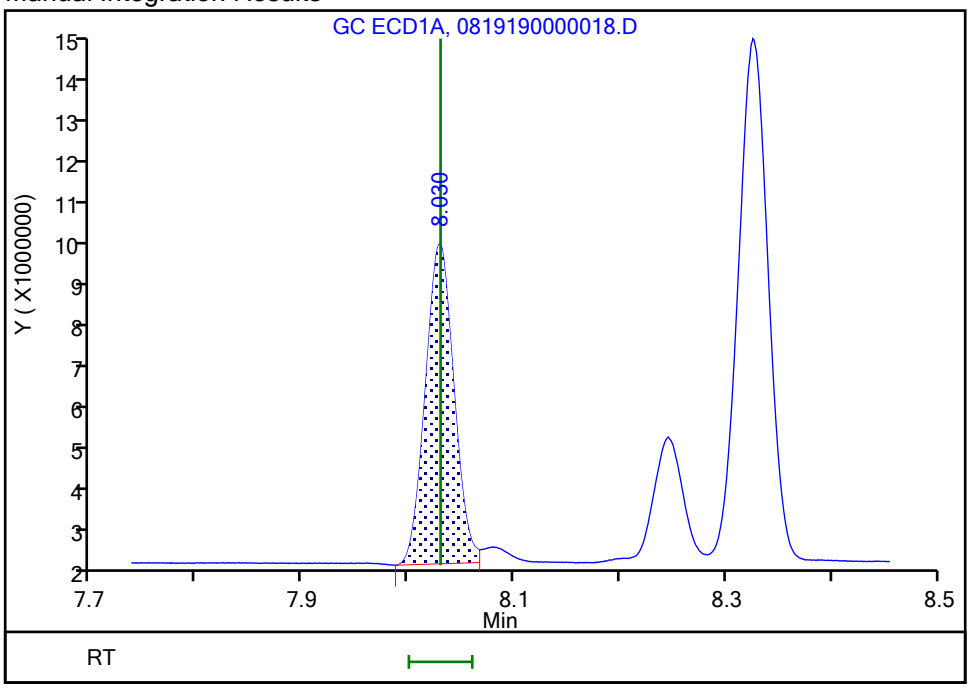

Reviewer: fritschj, 20-Aug-2019 08:15:55
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

3 MCPP, CAS: 93-65-2

Signal: 1

Processing Integration Results

RT: 8.67
Height: 4460869
Amount: 6.970161
Amount Units: ng

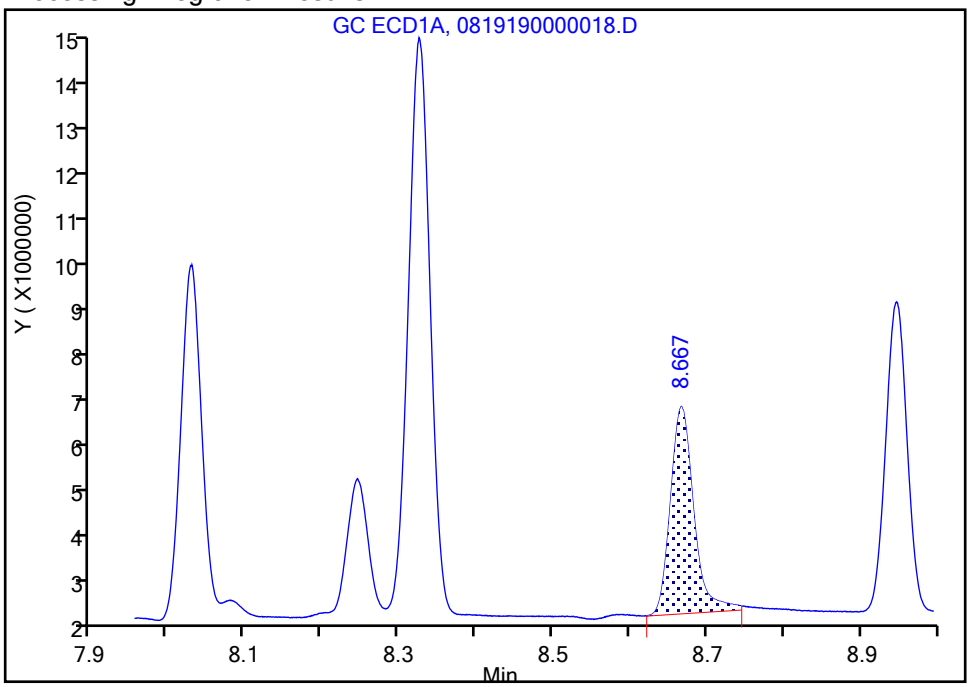

Manual Integration Results

RT: 8.25
Height: 2974715
Amount: 7.527019
Amount Units: ng

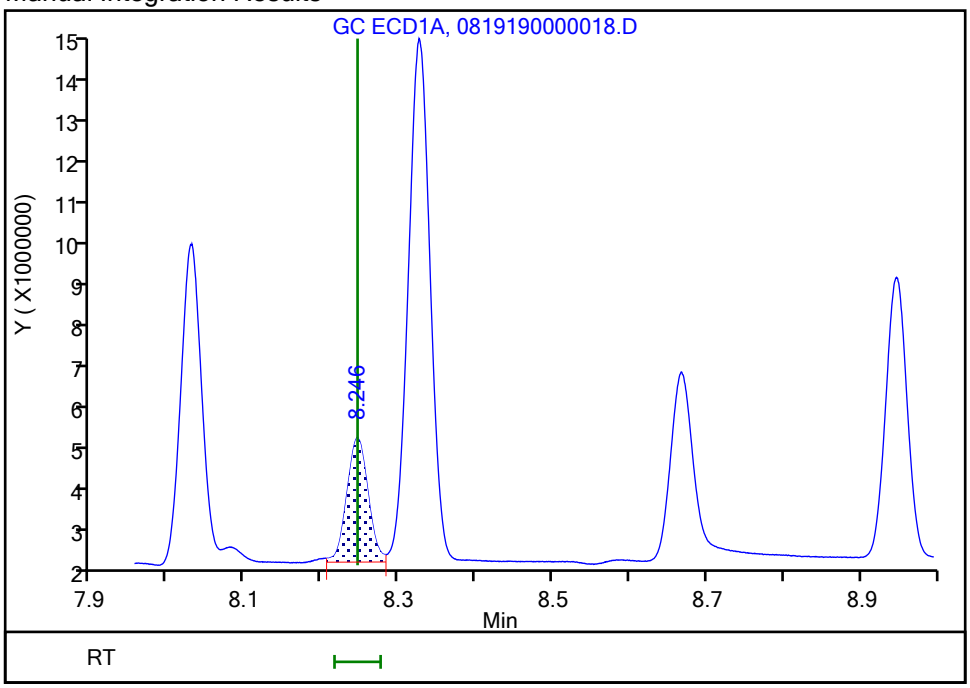

Reviewer: fritschj, 20-Aug-2019 08:17:56
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

4 Dicamba, CAS: 1918-00-9

Signal: 1

Processing Integration Results

RT: 8.49
Height: 19946
Amount: -0.082749
Amount Units: ng

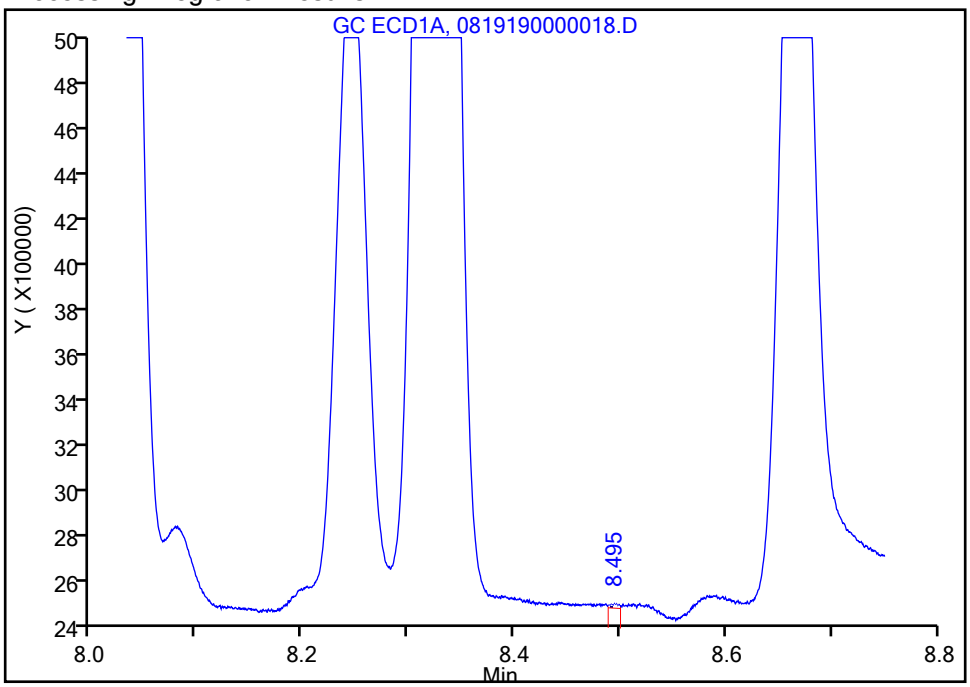

Manual Integration Results

RT: 8.33
Height: 12450636
Amount: 0.034134
Amount Units: ng

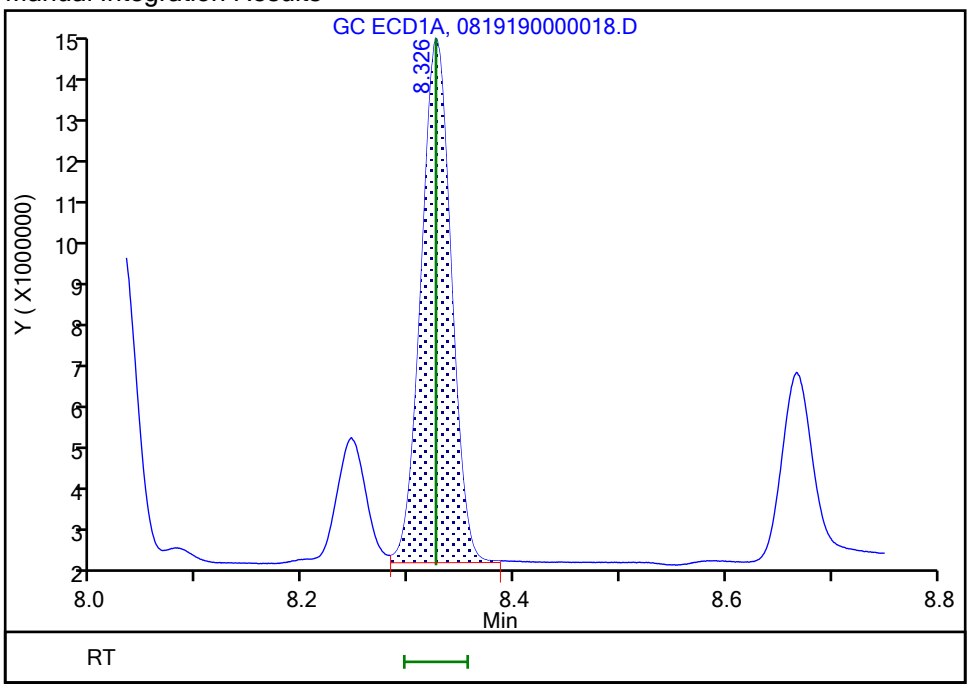

Reviewer: fritschj, 20-Aug-2019 08:18:07
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

5 MCPA, CAS: 94-74-6

Signal: 1

Not Detected
Expected RT: 8.67

Processing Integration Results

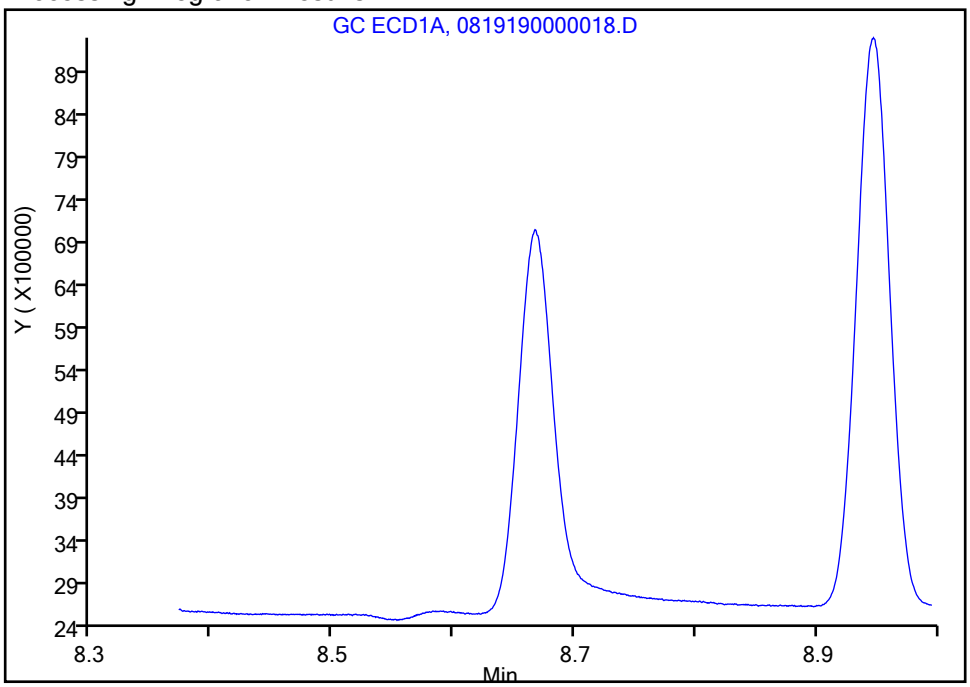

Manual Integration Results

RT: 8.67
Height: 4460869
Amount: 6.955675
Amount Units: ng

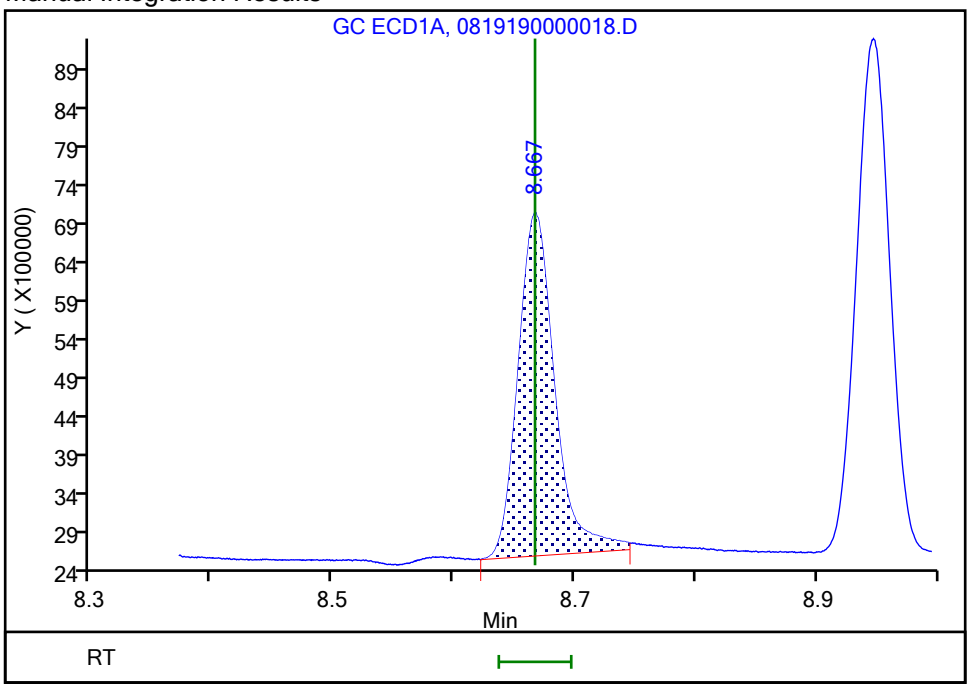

Reviewer: fritschj, 20-Aug-2019 08:18:28
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

6 Dichlorprop, CAS: 120-36-5

Signal: 1

Not Detected
Expected RT: 8.95

Processing Integration Results

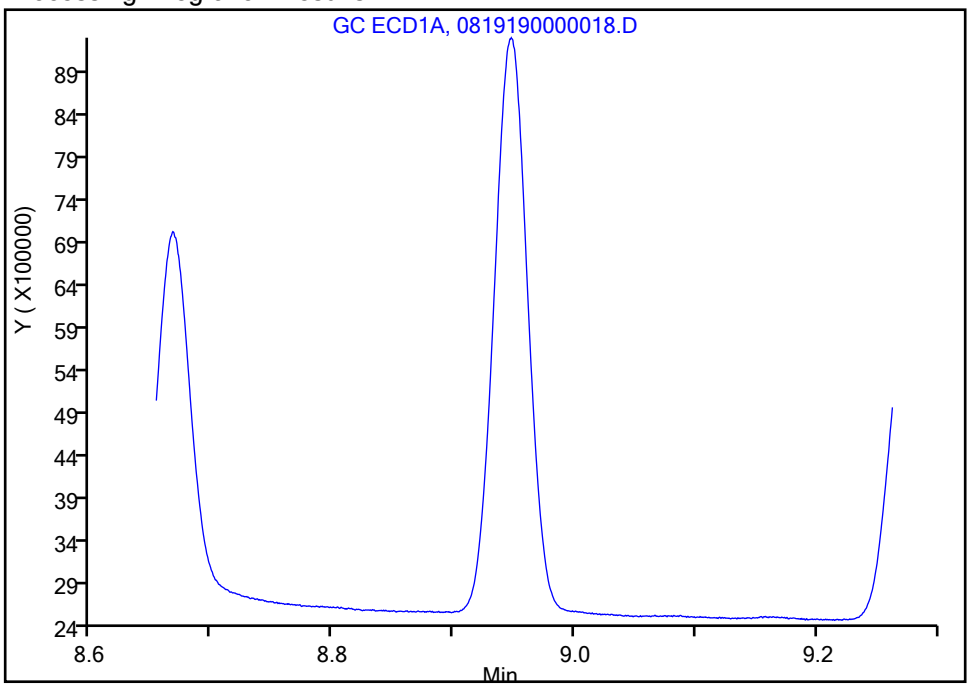

Manual Integration Results

RT: 8.95
Height: 6683731
Amount: 0.069031
Amount Units: ng

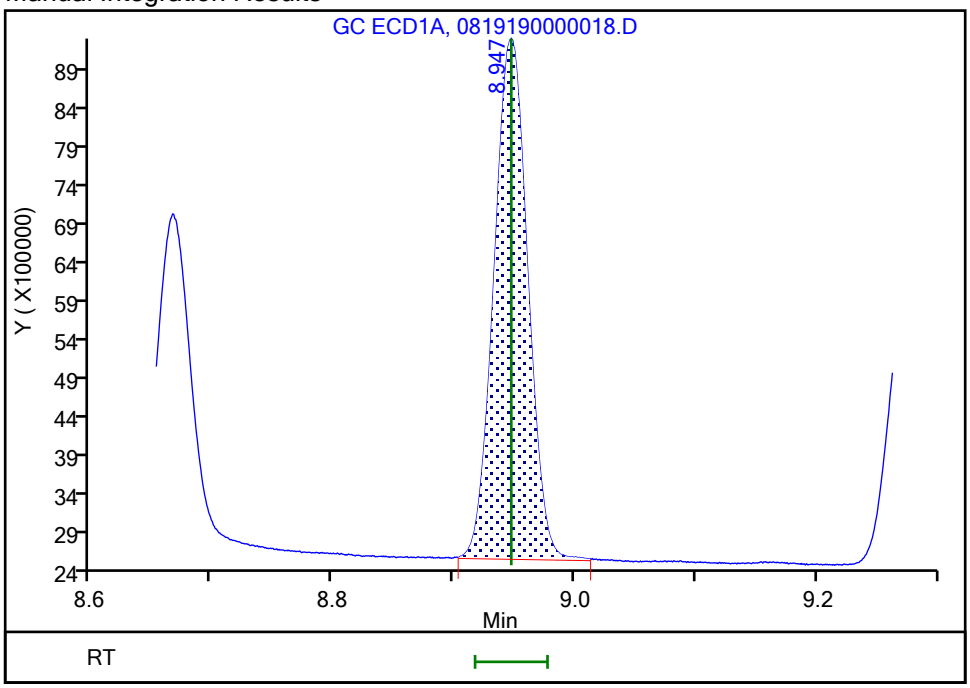

Reviewer: fritschj, 20-Aug-2019 08:19:16
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

7 2,4-D, CAS: 94-75-7

Signal: 1

Not Detected
Expected RT: 9.44

Processing Integration Results

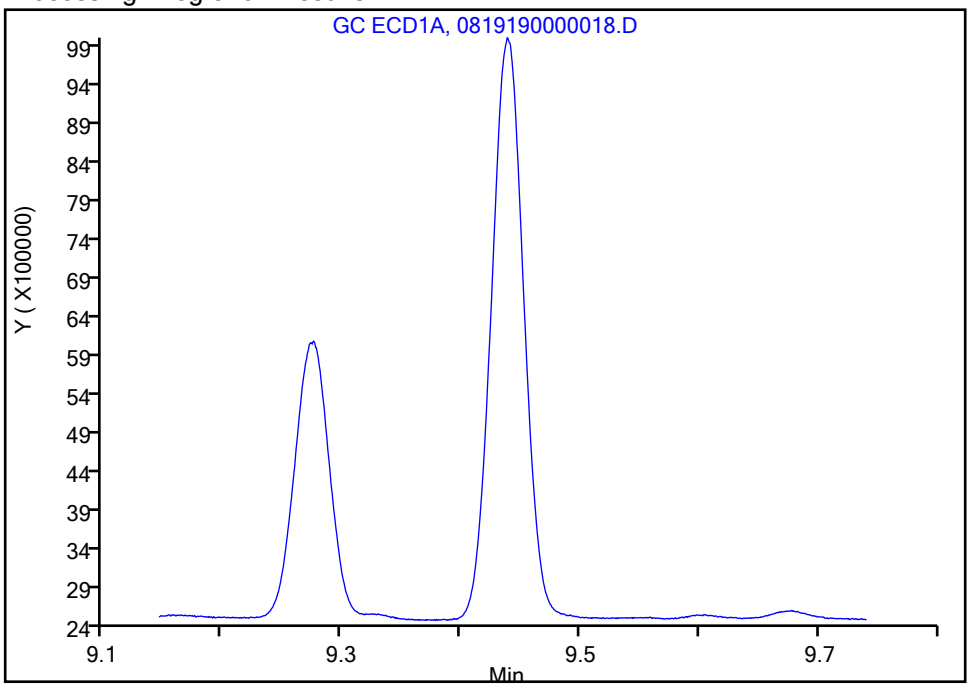

Manual Integration Results

RT: 9.44
Height: 7458378
Amount: 0.067858
Amount Units: ng

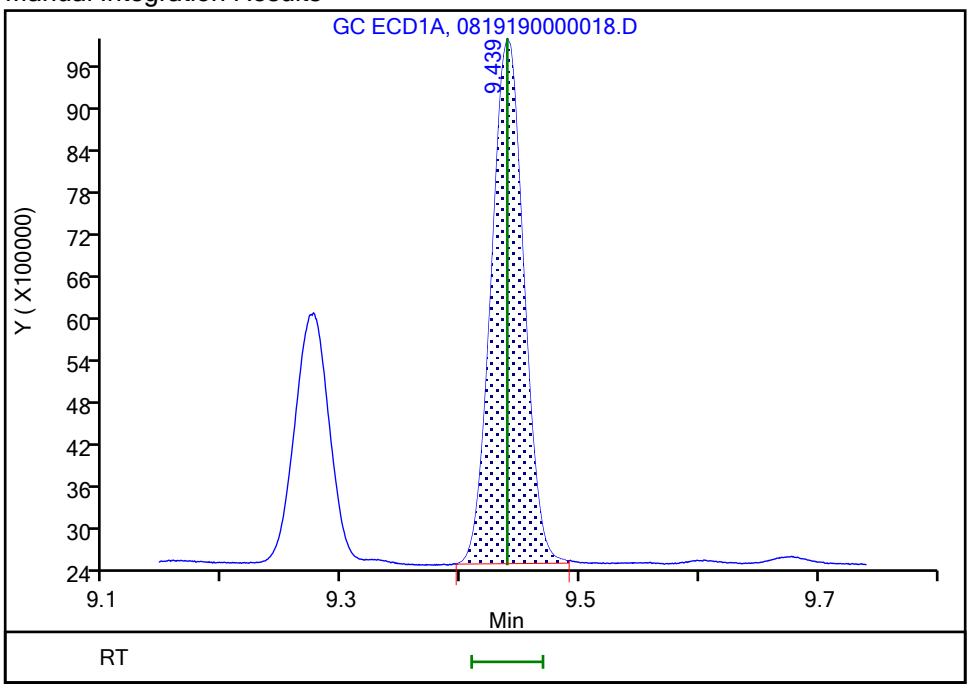

Reviewer: fritschj, 20-Aug-2019 08:19:37
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

8 Pentachlorophenol, CAS: 87-86-5

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 9.97

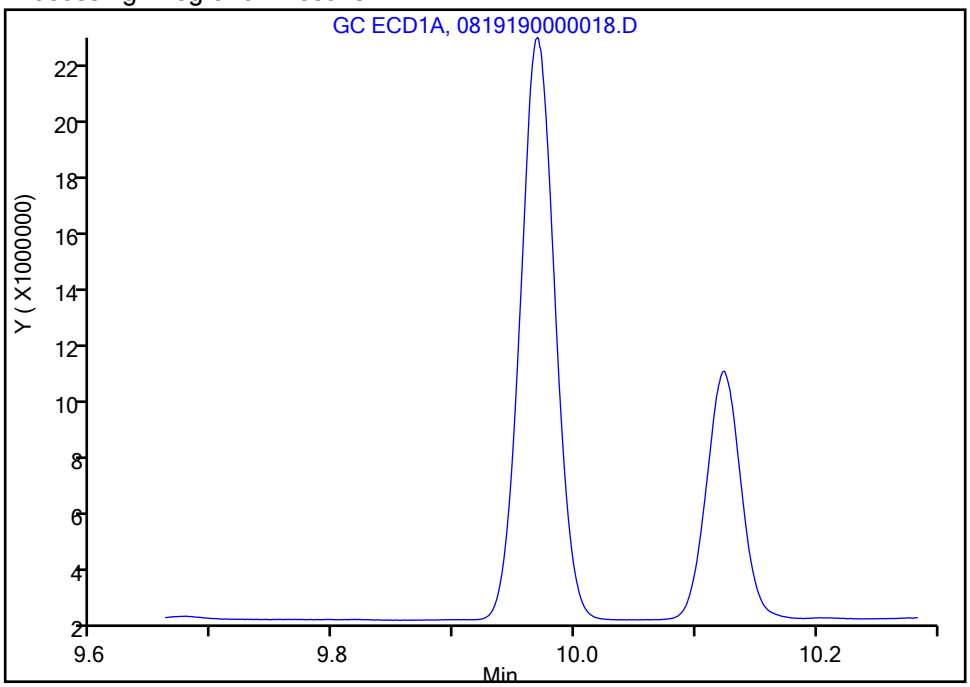

Manual Integration Results

RT: 9.97
Area: 39077252
Amount: 0.017011
Amount Units: ng

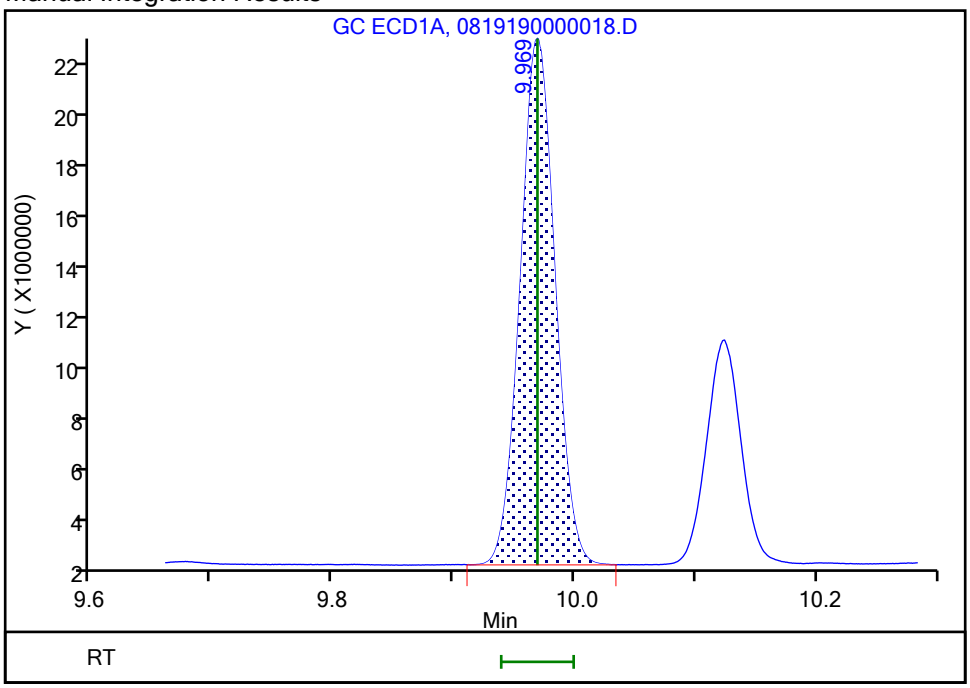

Reviewer: fritschj, 20-Aug-2019 08:21:49
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

9 Silvex (2,4,5-TP), CAS: 93-72-1

Signal: 1

Not Detected
Expected RT: 10.12

Processing Integration Results

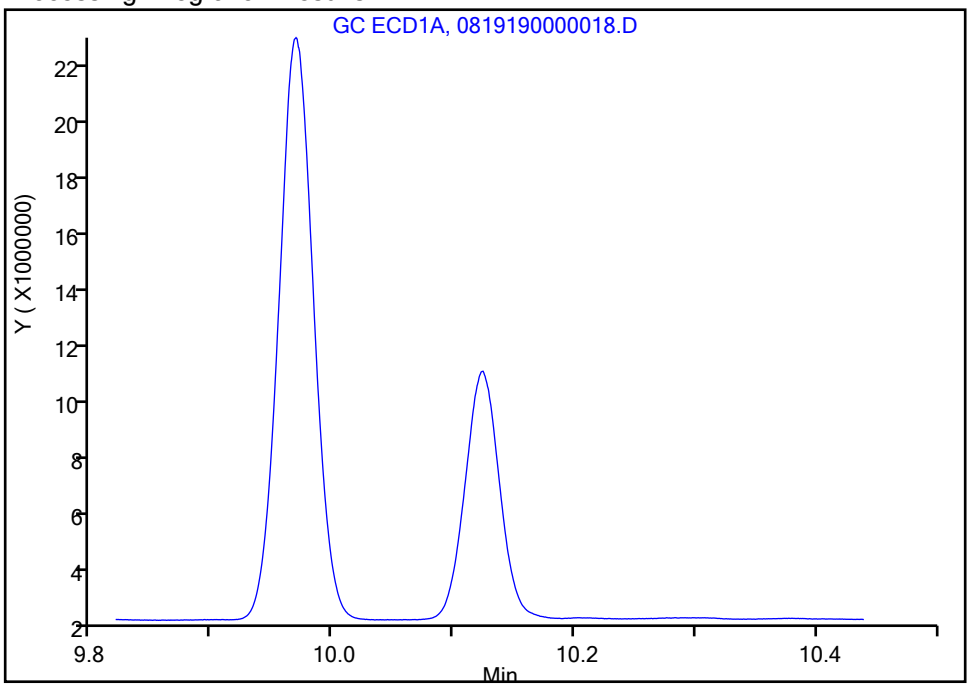

Manual Integration Results

RT: 10.12
Height: 8350247
Amount: 0.017044
Amount Units: ng

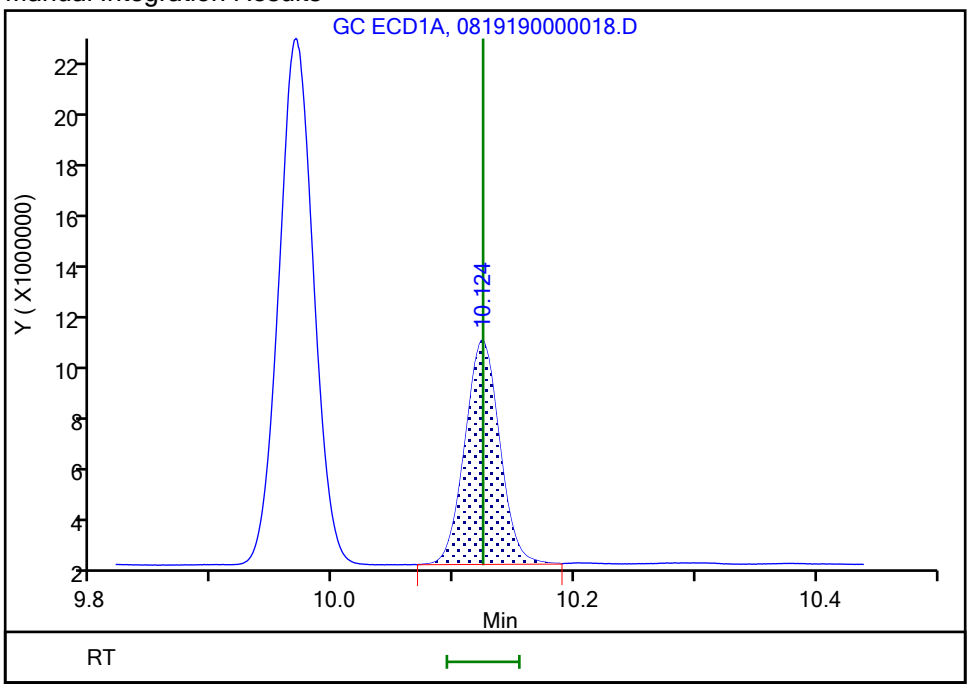

Reviewer: fritschj, 20-Aug-2019 08:22:17
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

10 2,4,5-T, CAS: 93-76-5

Signal: 1

Not Detected
Expected RT: 10.67

Processing Integration Results

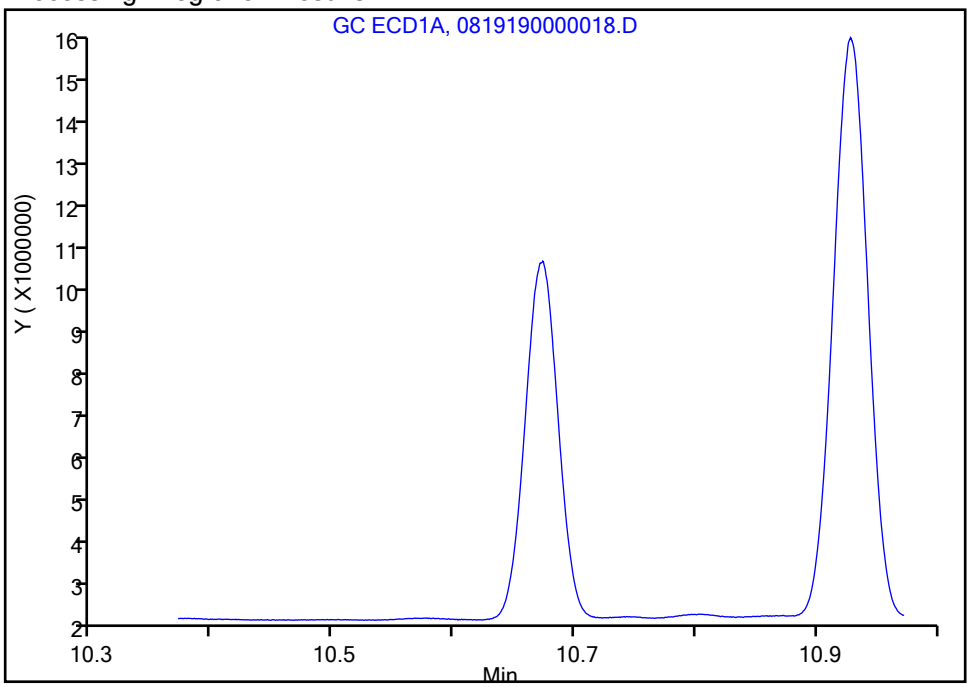

Manual Integration Results

RT: 10.67
Height: 7923065
Amount: 0.017086
Amount Units: ng

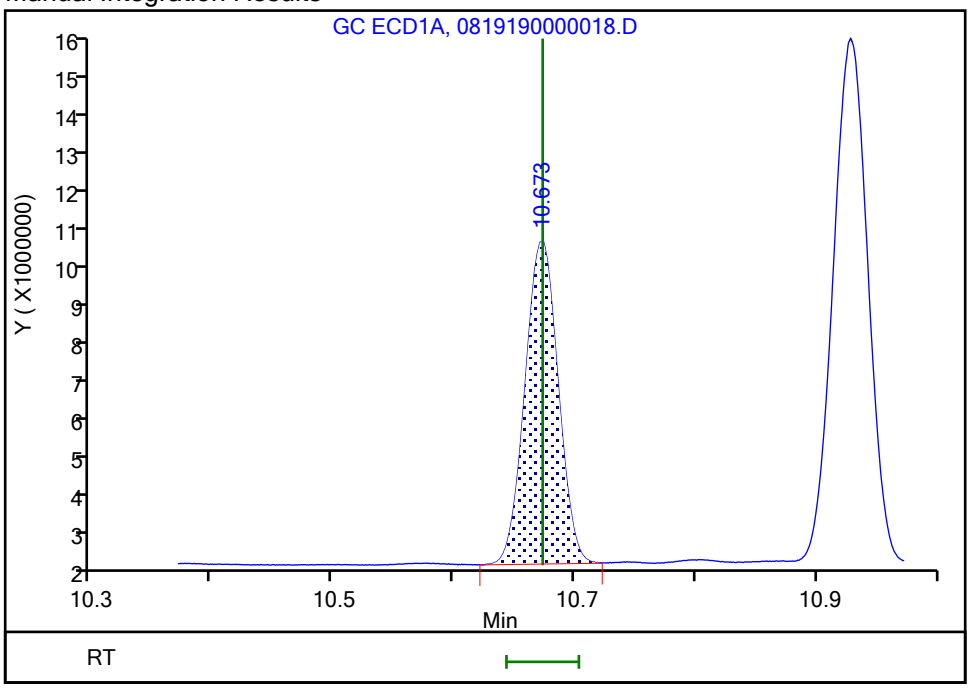

Reviewer: fritschj, 20-Aug-2019 08:23:59
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

11 Dinoseb, CAS: 88-85-7

Signal: 1

Processing Integration Results

RT: 12.07
Height: 29656
Amount: 0.035802
Amount Units: ng

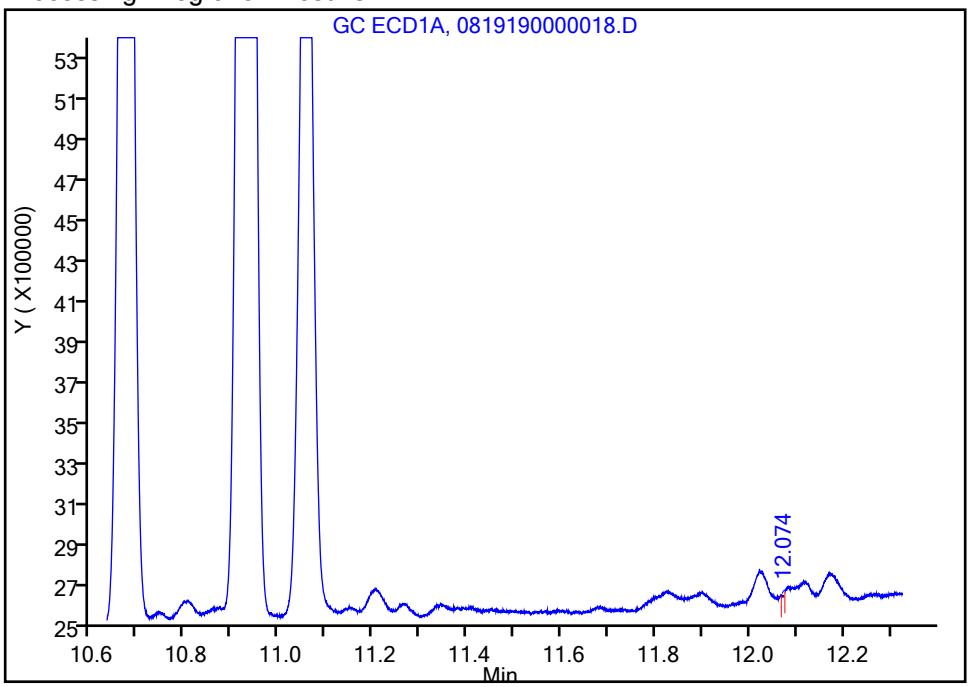

Manual Integration Results

RT: 10.93
Height: 12819214
Amount: 0.066594
Amount Units: ng

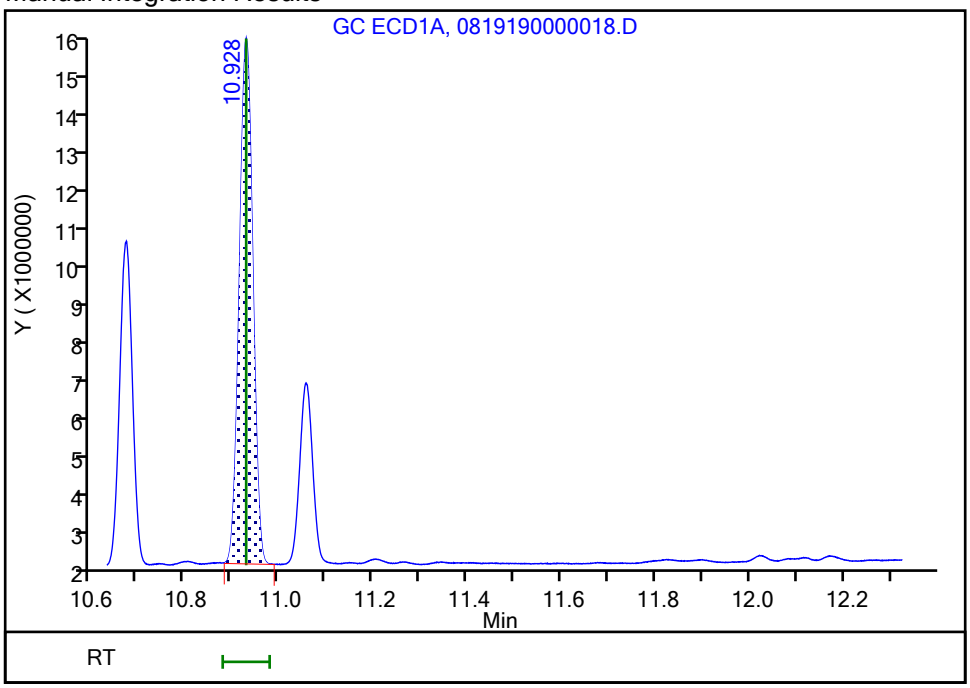

Reviewer: fritschj, 20-Aug-2019 08:24:17
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

12 2,4-DB, CAS: 94-82-6

Signal: 1

Not Detected
Expected RT: 11.06

Processing Integration Results

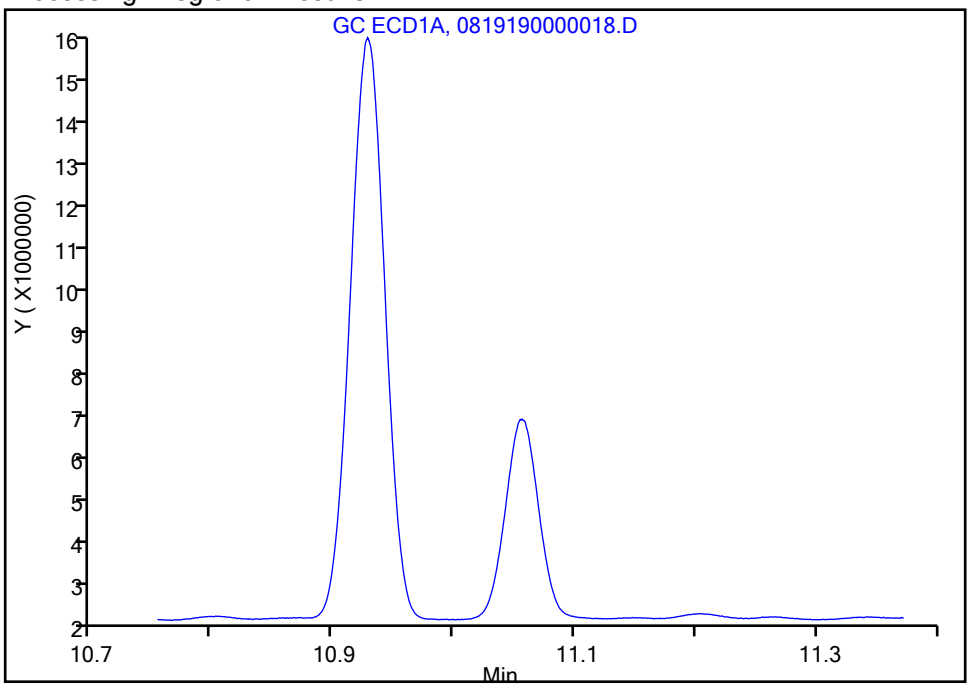

Manual Integration Results

RT: 11.06
Height: 4420145
Amount: 0.067033
Amount Units: ng

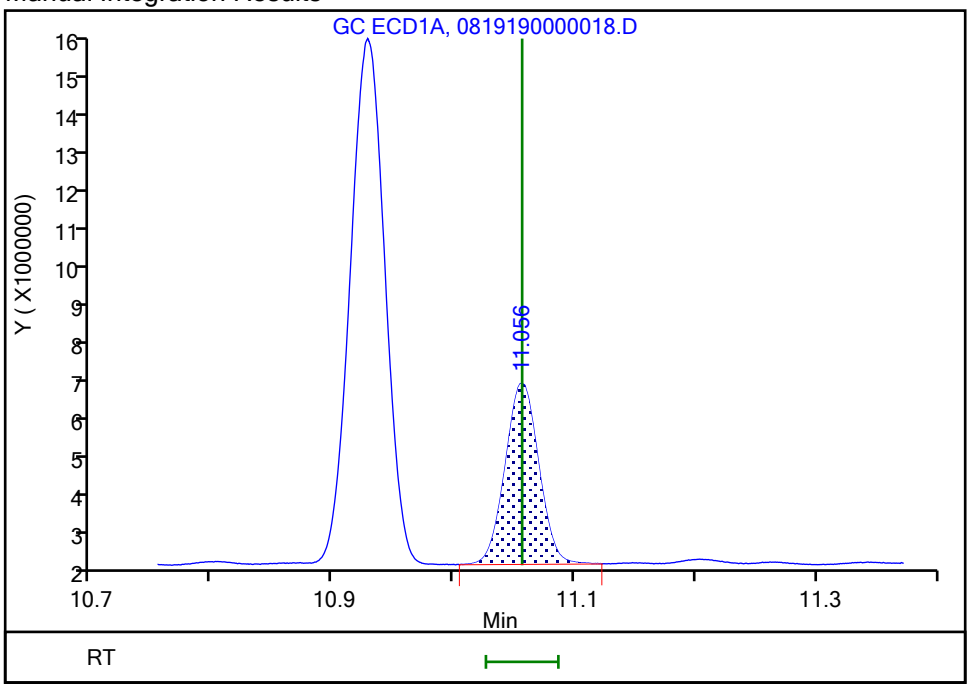

Reviewer: fritschj, 20-Aug-2019 08:24:51
Audit Action: Assigned Compound ID Audit Reason:

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000019.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 19-Aug-2019 20:19:37 ALS Bottle#: 5 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-006
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:41 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:36:14

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.180	2.179	0.001	21029013H	0.1600	0.1411	
2	2.349	2.348	0.001	47108347H	0.1600	0.1404	
						RPD = 0.53	
$ 2 2,4-Dichlorophenylacetic acid							M
1	8.027	8.030	-0.003	14637561H	0.1600	0.1345	
2	7.996	7.996	0.000	28362876H	0.1600	0.1345	M
						RPD = 0.04	
3 MCPP							M
1	8.245	8.246	-0.001	5526314H	16.0	14.0	
2	8.423	8.423	0.000	19552026	16.0	14.7	M
						RPD = 5.27	
4 Dicamba							
1	8.325	8.326	-0.001	24338630H	0.0800	0.0667	
2	8.265	8.265	0.000	48128489H	0.0800	0.0686	
						RPD = 2.81	
5 MCPA							
1	8.667	8.667	0.000	8041901H	16.0	12.5	
2	8.733	8.732	0.001	16184172H	16.0	13.1	
						RPD = 4.66	
6 Dichlorprop							
1	8.946	8.947	-0.001	12688482H	0.1600	0.1310	
2	9.095	9.095	0.000	24921509H	0.1600	0.1344	
						RPD = 2.54	
7 2,4-D							
1	9.439	9.439	0.000	14118416H	0.1600	0.1285	
2	9.493	9.494	-0.001	28835678H	0.1600	0.1329	
						RPD = 3.37	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.968	9.969	-0.001	76949921	0.0400	0.0335	
2	9.690	9.691	-0.001	72319636	0.0400	0.0337	H
						RPD = 0.68	
9 Silvex (2,4,5-TP)							
1	10.122	10.124	-0.002	16132968	0.0400	0.0329	H
2	10.262	10.263	-0.001	31885085	0.0400	0.0339	H
						RPD = 2.83	
10 2,4,5-T							
1	10.672	10.673	-0.001	15241356	0.0400	0.0329	H
2	10.717	10.719	-0.002	30784000	0.0400	0.0340	H
						RPD = 3.28	
11 Dinoseb							
1	10.927	10.928	-0.001	25368364	0.1600	0.1318	H
2	11.801	11.800	0.001	53199332	0.1600	0.1361	H
						RPD = 3.22	
12 2,4-DB							
1	11.055	11.056	-0.001	8376520	0.1600	0.1270	H
2	11.147	11.149	-0.002	16504494	0.1600	0.1338	H
						RPD = 5.18	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCHERBCALSL4_00027 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:25:42 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000019.D				
Injection Date:	19-Aug-2019 20:19:37	Instrument ID:	CGC1	Operator ID:	
Lims ID:	ic			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

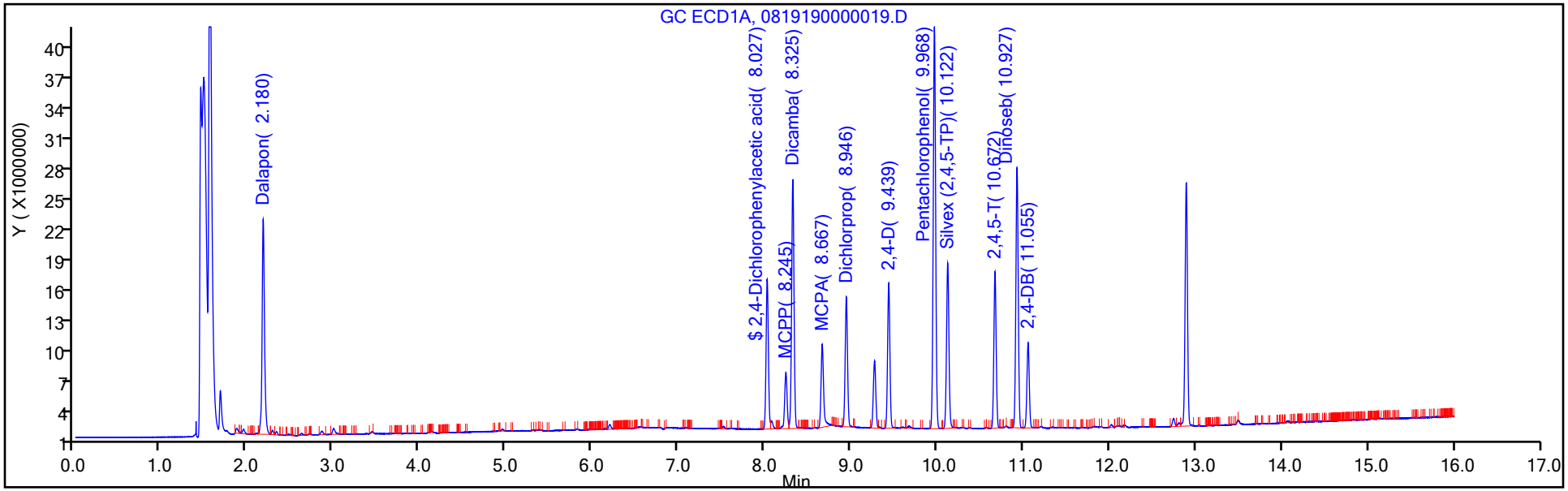

Column: RTX-1701 (0.53 mm)

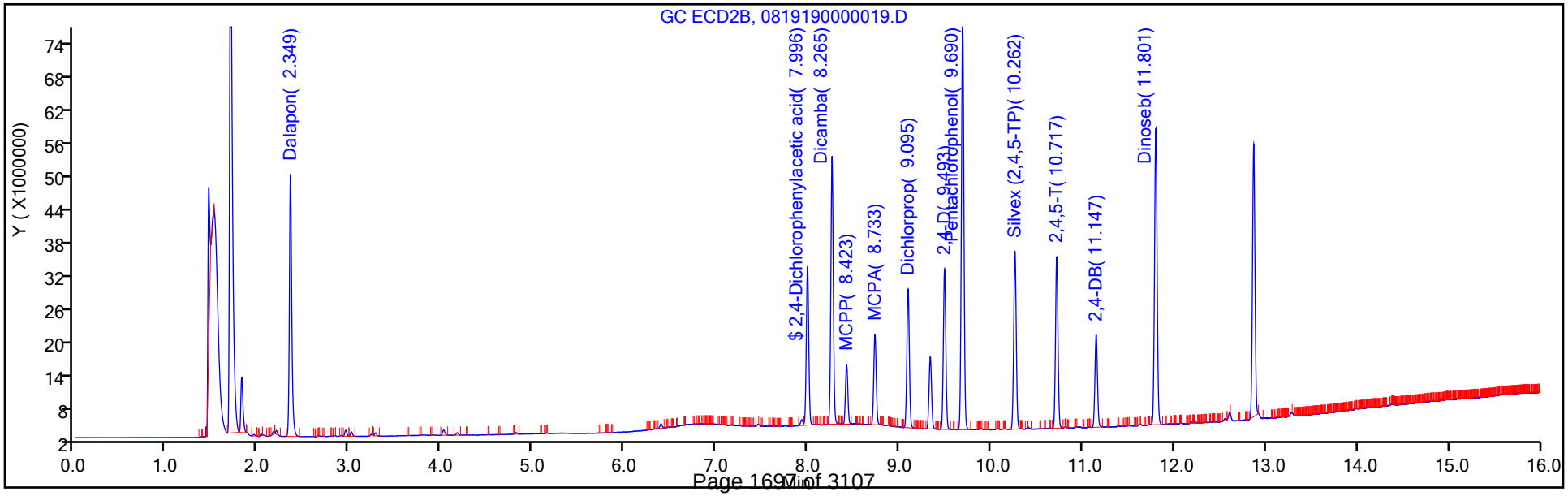

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000020.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 19-Aug-2019 20:44:28 ALS Bottle#: 6 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-007
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:36 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:39:36

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.179	2.179	0.000	43608531H	0.3200	0.2926	
2	2.348	2.348	0.000	99838456H	0.3200	0.2975	
						RPD = 1.65	
$ 2 2,4-Dichlorophenylacetic acid							M
1	8.029	8.030	-0.001	31108696H	0.3200	0.2859	
2	7.995	7.996	-0.001	61366883H	0.3200	0.2909	M
						RPD = 1.75	
3 MCPP							M
1	8.245	8.246	-0.001	11527851H	32.0	29.2	
2	8.423	8.423	0.000	43025874	32.0	31.9	M
						RPD = 8.99	
4 Dicamba							
1	8.327	8.326	0.001	54610812H	0.1600	0.1497	
2	8.264	8.265	-0.001	108308115H	0.1600	0.1544	
						RPD = 3.11	
5 MCPA							M
1	8.667	8.667	0.000	17021609H	32.0	26.5	M
2	8.732	8.732	0.000	34629475H	32.0	28.1	
						RPD = 5.75	
6 Dichlorprop							M
1	8.947	8.947	0.000	27593514H	0.3200	0.2850	M
2	9.094	9.095	-0.001	54016213H	0.3200	0.2913	
						RPD = 2.21	
7 2,4-D							
1	9.439	9.439	0.000	31721217H	0.3200	0.2886	
2	9.493	9.494	-0.001	63139895H	0.3200	0.2909	
						RPD = 0.80	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.968	9.969	-0.001	174313893	0.0800	0.0759	
2	9.690	9.691	-0.001	165194490H	0.0800	0.0770	
						RPD = 1.51	
9 Silvex (2,4,5-TP)							
1	10.123	10.124	-0.001	36187475H	0.0800	0.0739	
2	10.262	10.263	-0.001	69623321H	0.0800	0.0740	
						RPD = 0.15	
10 2,4,5-T							
1	10.672	10.673	-0.001	33557621H	0.0800	0.0724	
2	10.719	10.719	0.000	67021283H	0.0800	0.0739	
						RPD = 2.16	
11 Dinoseb							
1	10.927	10.928	-0.001	57547973H	0.3200	0.2990	
2	11.800	11.800	0.000	118949912H	0.3200	0.3043	
						RPD = 1.77	
12 2,4-DB							
1	11.056	11.056	0.000	18445489H	0.3200	0.2797	
2	11.148	11.149	-0.001	36748566H	0.3200	0.2979	
						RPD = 6.29	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCHERBCALSL5_00024 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:25:37 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000020.D				
Injection Date:	19-Aug-2019 20:44:28	Instrument ID:	CGC1	Operator ID:	
Lims ID:	ic			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

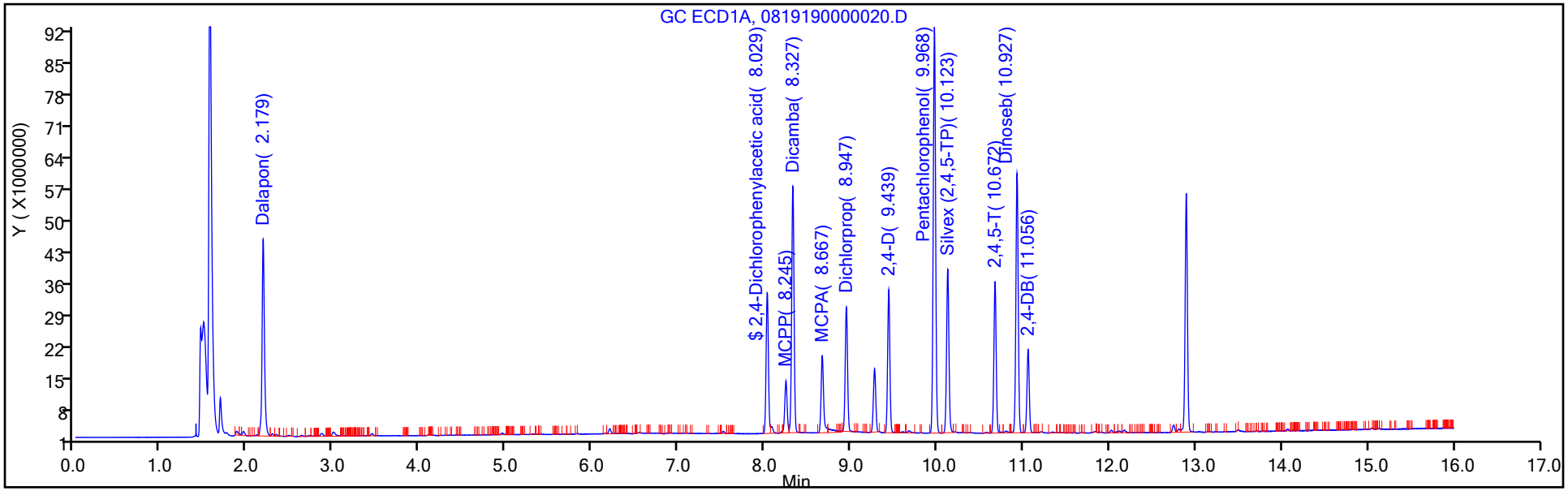

Column: RTX-1701 (0.53 mm)

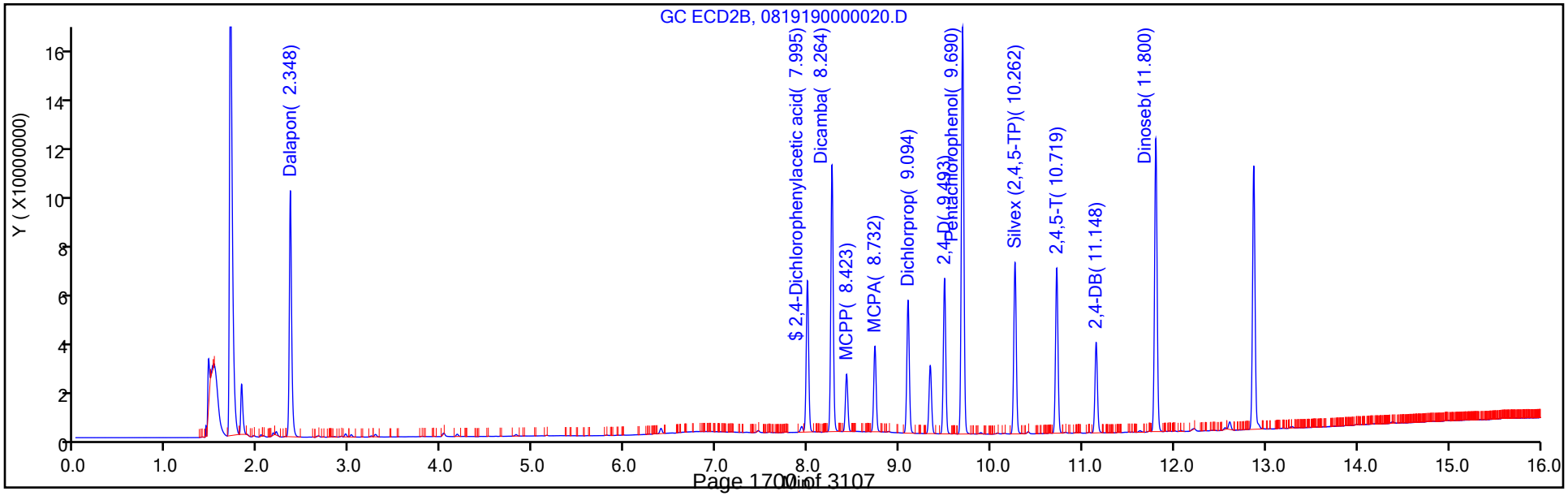

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000020.D				
Injection Date:	19-Aug-2019 20:44:28	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	6	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

5 MCPA, CAS: 94-74-6

Signal: 1

Processing Integration Results

RT: 8.67
Height: 17021582
Amount: 26.541197
Amount Units: ng

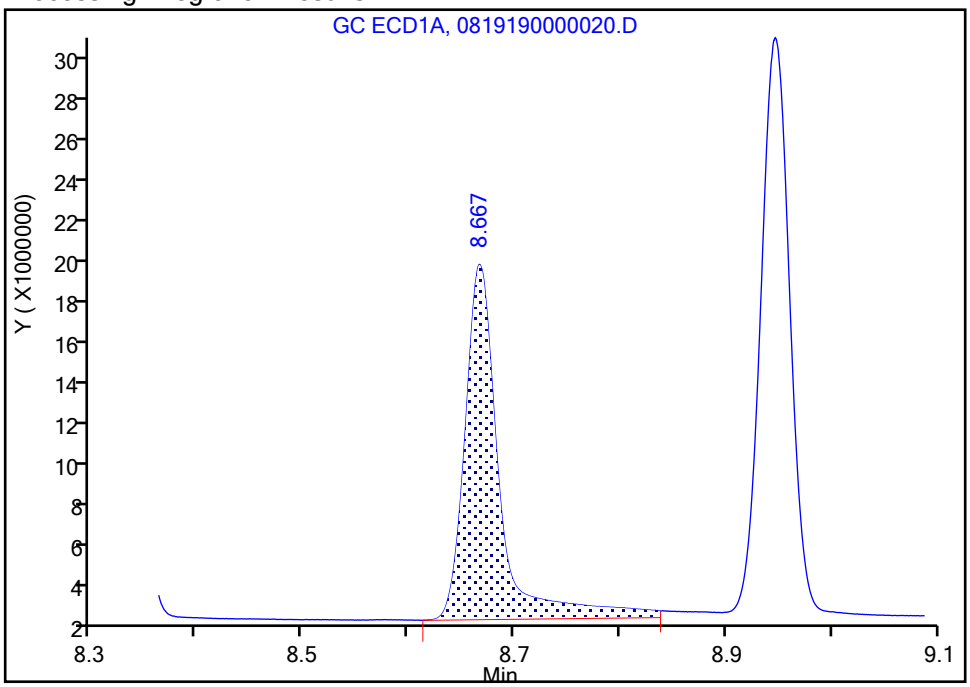

Manual Integration Results

RT: 8.67
Height: 17021609
Amount: 26.541190
Amount Units: ng

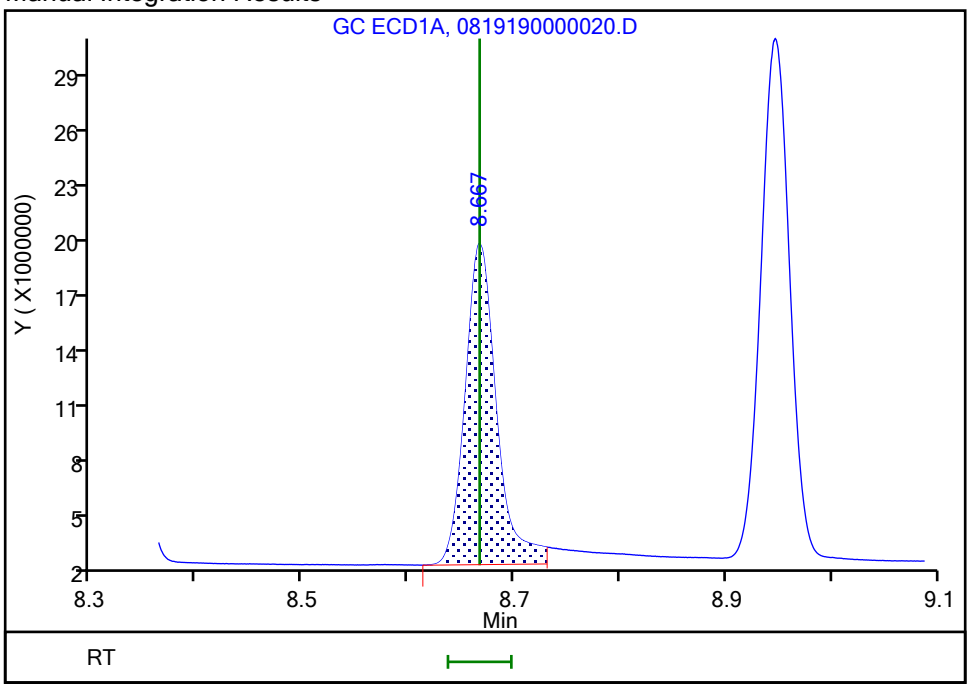

Reviewer: fritschj, 20-Aug-2019 08:39:19

Audit Action: Split an Integrated Peak Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000020.D				
Injection Date:	19-Aug-2019 20:44:28	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	6	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

6 Dichlorprop, CAS: 120-36-5

Signal: 1

Processing Integration Results

RT: 8.95
Height: 27737122
Amount: 0.286286
Amount Units: ng

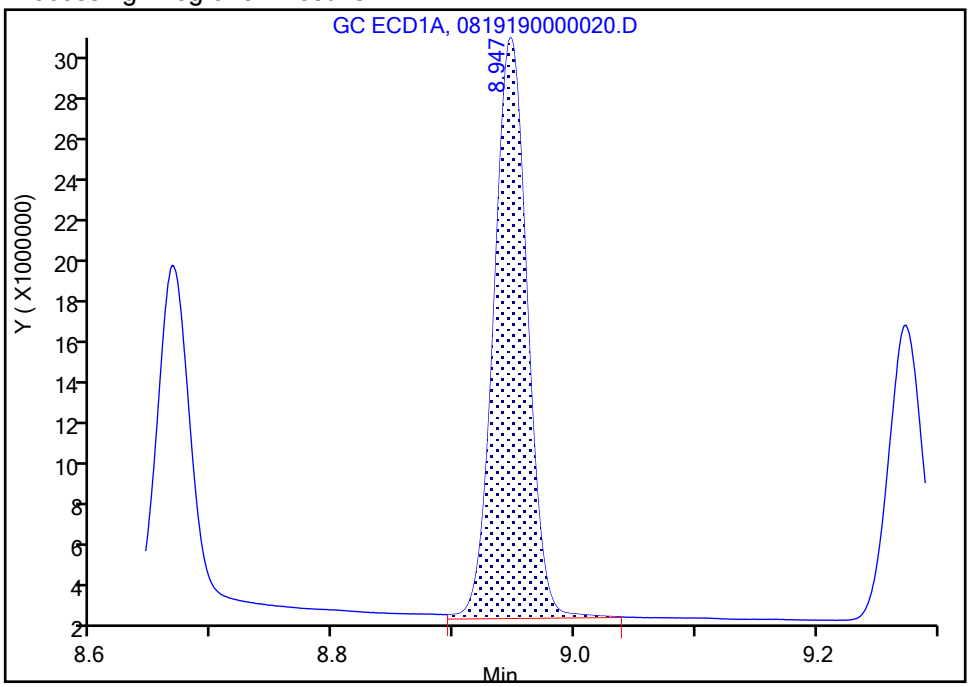

Manual Integration Results

RT: 8.95
Height: 27593514
Amount: 0.284992
Amount Units: ng

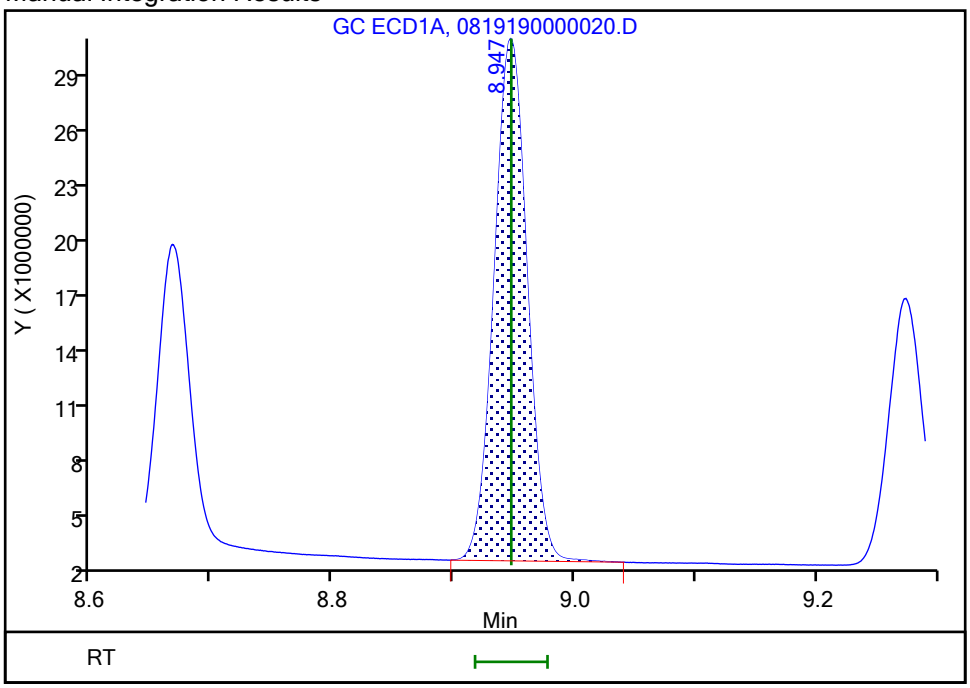

Reviewer: fritschj, 20-Aug-2019 08:39:29

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 19-Aug-2019 21:09:17 ALS Bottle#: 7 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-008
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:30 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:41:54

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.180	2.179	0.001	93323150H	0.6400	0.6261	
2	2.349	2.348	0.001	215136032H	0.6400	0.6410	
						RPD = 2.34	
$ 2 2,4-Dichlorophenylacetic acid							M
1	8.028	8.030	-0.002	81721770H	0.6400	0.7510	
2	7.995	7.996	-0.001	160232905H	0.6400	0.7597	M
						RPD = 1.15	
3 MCPP							M
1	8.246	8.246	0.000	28412748H	64.0	71.9	M
2	8.424	8.423	0.001	105028103	64.0	77.3	M
						RPD = 7.22	
4 Dicamba							
1	8.327	8.326	0.001	147507060H	0.3200	0.4044	
2	8.264	8.265	-0.001	285831491H	0.3200	0.4076	
						RPD = 0.78	
5 MCPA							M
1	8.668	8.667	0.001	42228426H	64.0	65.8	M
2	8.733	8.732	0.001	85179526H	64.0	69.1	
						RPD = 4.89	
6 Dichlorprop							
1	8.946	8.947	-0.001	70413016H	0.6400	0.7272	
2	9.095	9.095	0.000	134112070H	0.6400	0.7234	
						RPD = 0.54	
7 2,4-D							
1	9.439	9.439	0.000	80024495H	0.6400	0.7281	
2	9.492	9.494	-0.002	155353592H	0.6400	0.7158	
						RPD = 1.70	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.969	9.969	0.000	442087354	0.1600	0.1925	
2	9.690	9.691	-0.001	414942166	0.1600	0.1935	H
						RPD = 0.55	
9 Silvex (2,4,5-TP)							
1	10.123	10.124	-0.001	90113505	0.1600	0.1839	H
2	10.261	10.263	-0.002	170145013	0.1600	0.1808	H
						RPD = 1.73	
10 2,4,5-T							
1	10.672	10.673	-0.001	83776615	0.1600	0.1807	H
2	10.717	10.719	-0.002	161521889	0.1600	0.1782	H
						RPD = 1.37	
11 Dinoseb							
1	10.928	10.928	0.000	146632881	0.6400	0.7617	H
2	11.800	11.800	0.000	296590424	0.6400	0.7587	H
						RPD = 0.39	
12 2,4-DB							
1	11.056	11.056	0.000	48229906	0.6400	0.7314	H
2	11.148	11.149	-0.001	92368969	0.6400	0.7488	H
						RPD = 2.34	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCHERBCALSL6_00012 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:25:32 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D				
Injection Date:	19-Aug-2019 21:09:17	Instrument ID:	CGC1	Operator ID:	
Lims ID:	ic			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

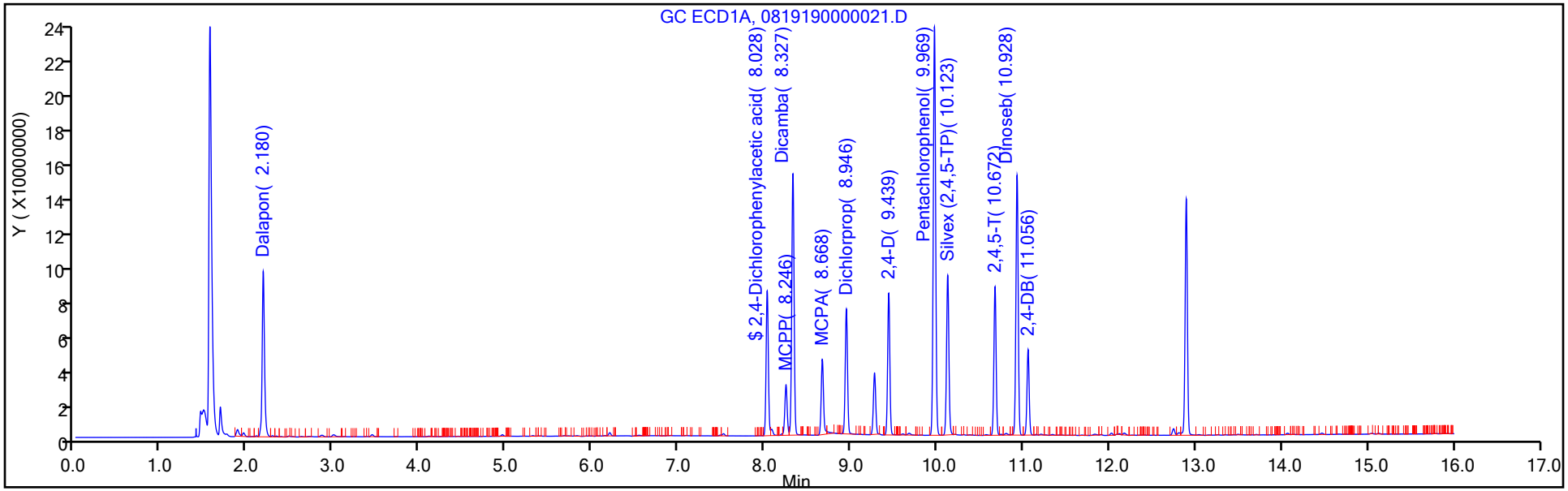

Column: RTX-1701 (0.53 mm)

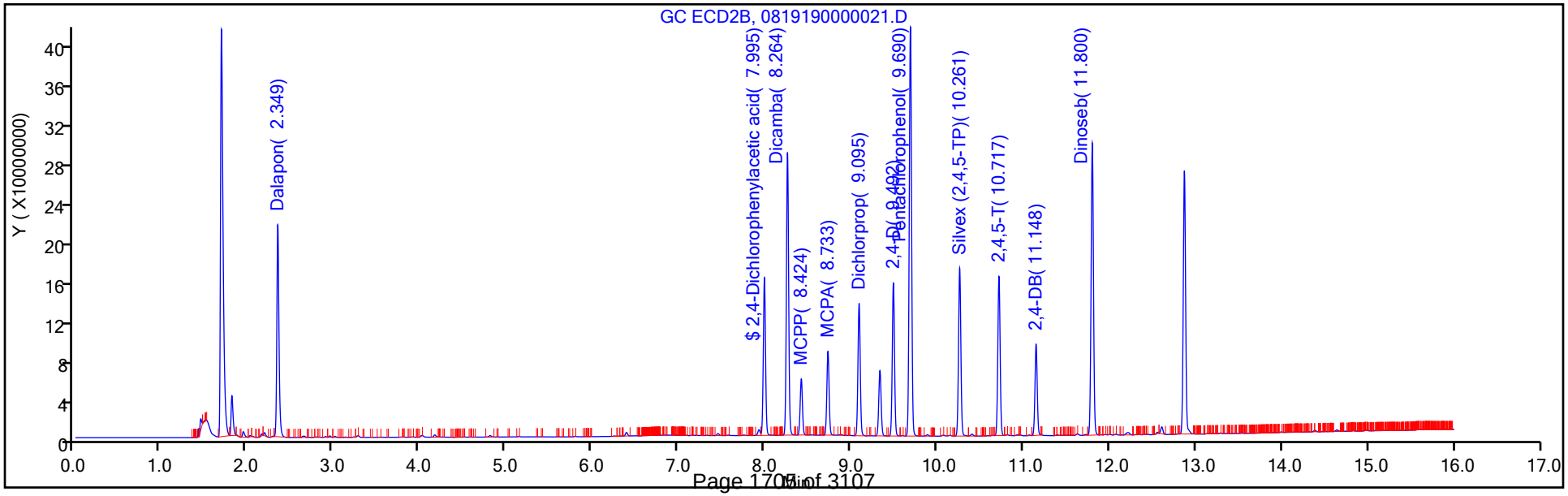

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D				
Injection Date:	19-Aug-2019 21:09:17	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	7	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

3 MCPP, CAS: 93-65-2

Signal: 1

Processing Integration Results

RT: 8.25
Height: 28412713
Amount: 71.893634
Amount Units: ng

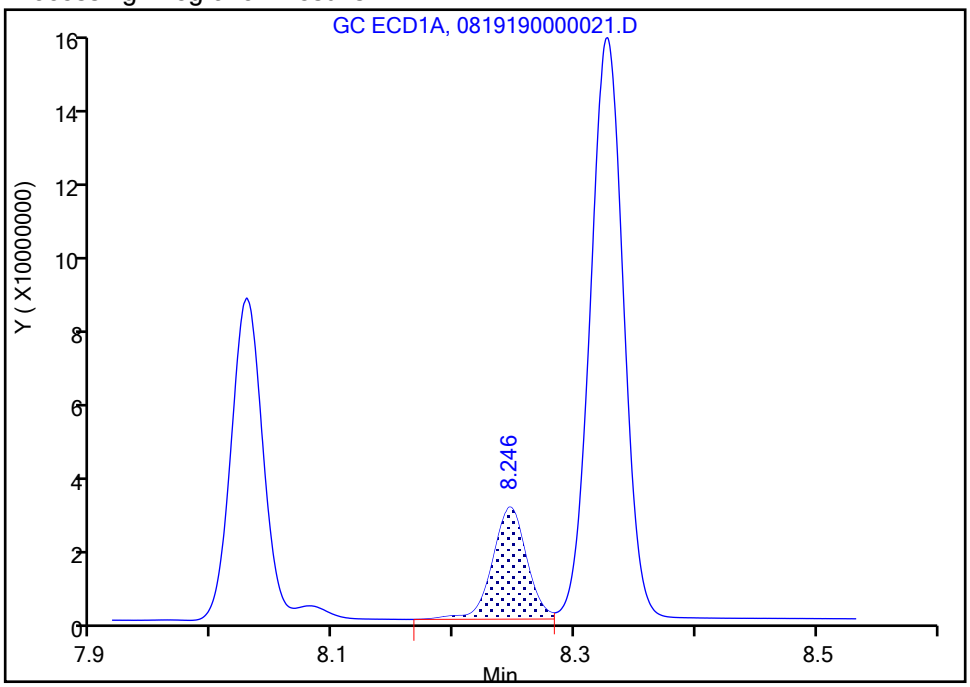

Manual Integration Results

RT: 8.25
Height: 28412748
Amount: 71.893708
Amount Units: ng

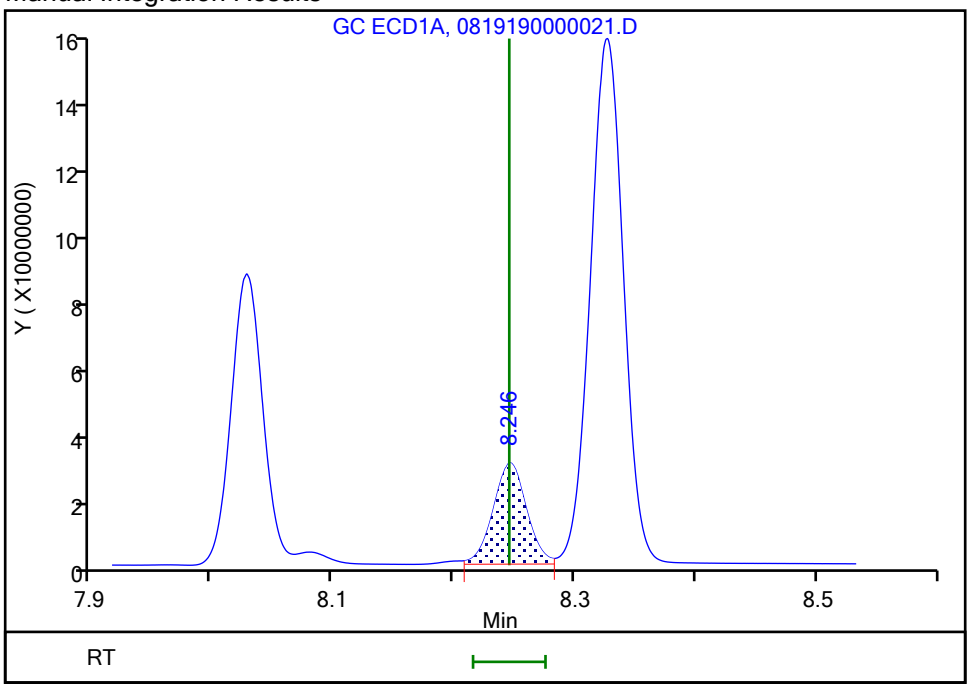

Reviewer: fritschj, 20-Aug-2019 08:40:00

Audit Action: Split an Integrated Peak Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D				
Injection Date:	19-Aug-2019 21:09:17	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	7	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

5 MCPA, CAS: 94-74-6

Signal: 1

Processing Integration Results

RT: 8.67
Height: 42227953
Amount: 65.844656
Amount Units: ng

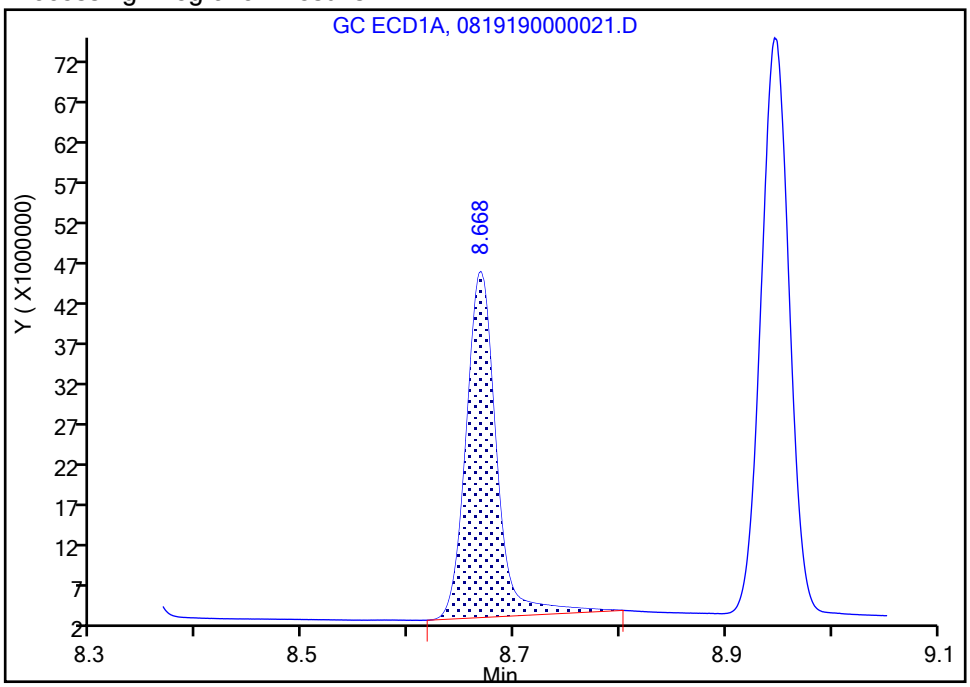

Manual Integration Results

RT: 8.67
Height: 42228426
Amount: 65.845285
Amount Units: ng

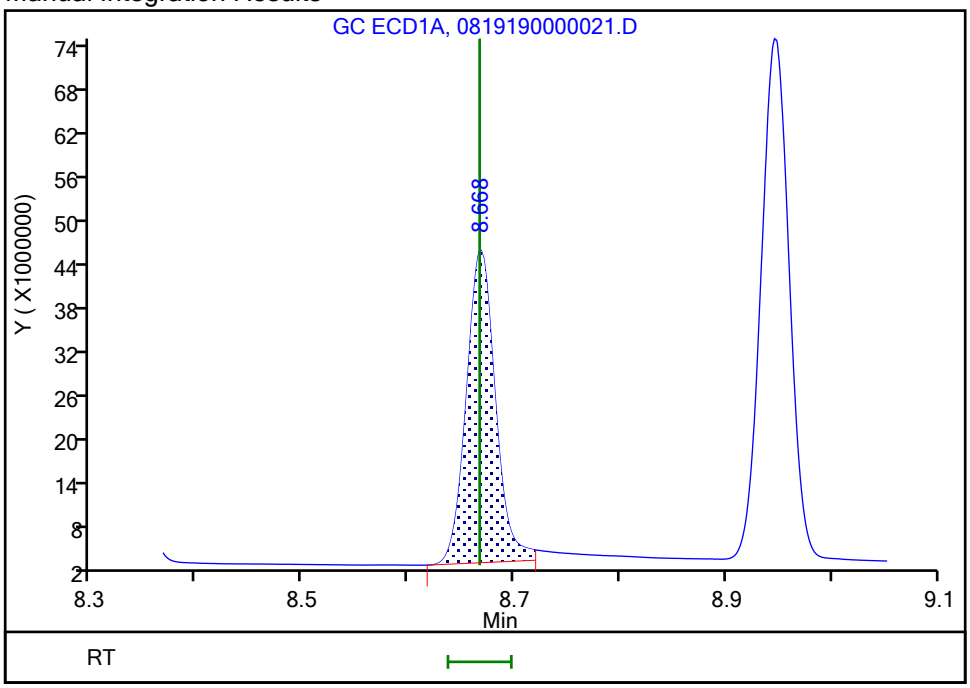

Reviewer: fritschj, 20-Aug-2019 08:40:12

Audit Action: Split an Integrated Peak Audit Reason: Baseline Smoothing

FORM VI
HERBICIDES BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 288571

SDG No.:

Instrument ID: CGC1 GC Column: RTX-1701 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/19/2019 18:39 Calibration End Date: 08/19/2019 21:09 Calibration ID: 41304

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-288571/2	0819190000015.D
Level 2	IC 180-288571/3	0819190000016.D
Level 3	IC 180-288571/4	0819190000017.D
Level 4	ICRT 180-288571/5	0819190000018.D
Level 5	IC 180-288571/6	0819190000019.D
Level 6	IC 180-288571/7	0819190000020.D
Level 7	IC 180-288571/8	0819190000021.D

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7				RT WINDOW	AVG RT
Dalapon	2.351	2.351	2.349	2.348	2.349	2.348	2.349				2.318 - 2.378	2.349
Dicamba	8.266	8.265	8.264	8.265	8.265	8.264	8.264				8.235 - 8.295	8.265
MCPP	8.426	8.423	8.424	8.423	8.423	8.423	+++++				8.393 - 8.453	8.424
MCPA	8.732	8.734	8.733	8.732	8.733	8.732	8.733				8.702 - 8.762	8.733
Dichlorprop	9.097	9.095	9.095	9.095	9.095	9.094	9.095				9.065 - 9.125	9.095
2,4-D	9.495	9.495	9.492	9.494	9.493	9.493	9.492				9.464 - 9.524	9.493
Pentachlorophenol	9.693	9.692	9.691	9.691	9.690	9.690	9.690				9.661 - 9.721	9.691
Silvex (2,4,5-TP)	10.264	10.263	10.263	10.263	10.262	10.262	10.261				10.233 - 10.293	10.263
2,4,5-T	10.720	10.719	10.719	10.719	10.717	10.719	10.717				10.689 - 10.749	10.719
2,4-DB	11.150	11.150	11.150	11.149	11.147	11.148	11.148				11.119 - 11.179	11.149
Dinoseb	11.802	11.801	11.801	11.800	11.801	11.800	11.800				11.770 - 11.830	11.801
2,4-Dichlorophenylacetic acid	7.996	7.997	7.996	7.996	7.996	7.995	7.995				7.966 - 8.026	7.996

FORM VI
HERBICIDES BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 288571

SDG No.:

Instrument ID: CGC1 GC Column: RTX-1701 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/19/2019 18:39 Calibration End Date: 08/19/2019 21:09 Calibration ID: 41304

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-288571/2	0819190000015.D
Level 2	IC 180-288571/3	0819190000016.D
Level 3	IC 180-288571/4	0819190000017.D
Level 4	ICRT 180-288571/5	0819190000018.D
Level 5	IC 180-288571/6	0819190000019.D
Level 6	IC 180-288571/7	0819190000020.D
Level 7	IC 180-288571/8	0819190000021.D

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4		B	M1	M2								
Dalapon	349686700 294427169	381192950 311995175	358430250 336150050	317637825	Ave		335645731				8.9		20.0			
Dicamba	636418200 601606113	757309600 676925719	732685850 893223409	610834975	Ave		701286267				14.7		20.0			
MCPP	702287 1222002	1163406 1344559	1363230 +++++	1233349	Lin2	-595298.44	1366804.23							0.9910		0.9900
MCPA	1239711 1011511	1474668 1082171	1390922 1330930	1093085	Ave		1231856.88				14.2		20.0			
Dichlorprop	184117600 155759431	213445300 168800666	203467500 209550109	162669000	Ave		185401372				12.8		20.0			
2,4-D	216504200 180222988	253597450 197312172	237536475 242739988	191350888	Ave		217037737				13.1		20.0			
Pentachlorophenol	2018954400 1807990900	2388518400 2064931125	2286975300 2593388538	1849605700	Ave		2144337766				13.5		20.0			
Silvex (2,4,5-TP)	918574000 797127125	1085935000 870291513	1030126600 1063406331	823278950	Ave		941248503				12.6		20.0			
2,4,5-T	894359600 769600000	1047666000 837766038	993304400 1009511806	792417800	Ave		906375092				12.3		20.0			
2,4-DB	119082300 103153088	142135100 114839269	134239175 144326514	105746388	Ave		123360262				13.7		20.0			
Dinoseb	373087000 332495825	437755900 371718475	418024350 463422538	339789913	Ave		390899143				12.7		20.0			
2,4-Dichlorophenylacetic acid	202538200 177267975	240635250 191771509	229288500 250363914	184569413	Ave		210919252				13.7		20.0			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HERBICIDES BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 288571

SDG No.:

Instrument ID: CGC1 GC Column: RTX-1701 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/19/2019 18:39 Calibration End Date: 08/19/2019 21:09 Calibration ID: 41304

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-288571/2	0819190000015.D
Level 2	IC 180-288571/3	0819190000016.D
Level 3	IC 180-288571/4	0819190000017.D
Level 4	ICRT 180-288571/5	0819190000018.D
Level 5	IC 180-288571/6	0819190000019.D
Level 6	IC 180-288571/7	0819190000020.D
Level 7	IC 180-288571/8	0819190000021.D

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Dalapon	Ave	3496867 99838456	7623859 215136032	14337210	25411026	47108347	0.0100 0.320	0.0200 0.640	0.0400	0.0800	0.160
Dicamba	Ave	3182091 108308115	7573096 285831491	14653717	24433399	48128489	0.00500 0.160	0.0100 0.320	0.0200	0.0400	0.0800
MCPP	Lin2	702287 43025874	2326811 +++++	5452918	9866795	19552026	1.00 32.0	2.00 +++++	4.00	8.00	16.0
MCPA	Ave	1239711 34629475	2949336 85179526	5563689	8744680	16184172	1.00 32.0	2.00 64.0	4.00	8.00	16.0
Dichlorprop	Ave	1841176 54016213	4268906 134112070	8138700	13013520	24921509	0.0100 0.320	0.0200 0.640	0.0400	0.0800	0.160
2,4-D	Ave	2165042 63139895	5071949 155353592	9501459	15308071	28835678	0.0100 0.320	0.0200 0.640	0.0400	0.0800	0.160
Pentachlorophenol	Ave	5047386 165194490	11942592 414942166	22869753	36992114	72319636	0.00250 0.0800	0.00500 0.160	0.0100	0.0200	0.0400
Silvex (2,4,5-TP)	Ave	2296435 69623321	5429675 170145013	10301266	16465579	31885085	0.00250 0.0800	0.00500 0.160	0.0100	0.0200	0.0400
2,4,5-T	Ave	2235899 67021283	5238330 161521889	9933044	15848356	30784000	0.00250 0.0800	0.00500 0.160	0.0100	0.0200	0.0400
2,4-DB	Ave	1190823 36748566	2842702 92368969	5369567	8459711	16504494	0.0100 0.320	0.0200 0.640	0.0400	0.0800	0.160
Dinoseb	Ave	3730870 118949912	8755118 296590424	16720974	27183193	53199332	0.0100 0.320	0.0200 0.640	0.0400	0.0800	0.160
2,4-Dichlorophenylacetic acid	Ave	2025382 61366883	4812705 160232905	9171540	14765553	28362876	0.0100 0.320	0.0200 0.640	0.0400	0.0800	0.160

Curve Type Legend:

Ave = Average by Height
Lin2 = Linear 1/conc^2

FORM VI
HERBICIDES BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 288571

SDG No.:

Instrument ID: CGC1 GC Column: RTX-1701 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/19/2019 18:39 Calibration End Date: 08/19/2019 21:09 Calibration ID: 41304

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-288571/2	0819190000015.D
Level 2	IC 180-288571/3	0819190000016.D
Level 3	IC 180-288571/4	0819190000017.D
Level 4	ICRT 180-288571/5	0819190000018.D
Level 5	IC 180-288571/6	0819190000019.D
Level 6	IC 180-288571/7	0819190000020.D
Level 7	IC 180-288571/8	0819190000021.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
Dalapon	4.2 0.2	13.6	6.8	-5.4	-12.3	-7.0	50 30	30	30	30	30	30
Dicamba	-9.2 27.4	8.0	4.5	-12.9	-14.2	-3.5	50 30	30	30	30	30	30
MCPP	-5.1 +++++	6.9	10.6	-4.3	-7.9	-0.3	50	30	30	30	30	30
MCPA	0.6 8.0	19.7	12.9	-11.3	-17.9	-12.2	50 30	30	30	30	30	30
Dichlorprop	-0.7 13.0	15.1	9.7	-12.3	-16.0	-9.0	50 30	30	30	30	30	30
2,4-D	-0.2 11.8	16.8	9.4	-11.8	-17.0	-9.1	50 30	30	30	30	30	30
Pentachlorophenol	-5.8 20.9	11.4	6.7	-13.7	-15.7	-3.7	50 30	30	30	30	30	30
Silvex (2,4,5-TP)	-2.4 13.0	15.4	9.4	-12.5	-15.3	-7.5	50 30	30	30	30	30	30
2,4,5-T	-1.3 11.4	15.6	9.6	-12.6	-15.1	-7.6	50 30	30	30	30	30	30
2,4-DB	-3.5 17.0	15.2	8.8	-14.3	-16.4	-6.9	50 30	30	30	30	30	30
Dinoseb	-4.6 18.6	12.0	6.9	-13.1	-14.9	-4.9	50 30	30	30	30	30	30
2,4-Dichlorophenylacetic acid	-4.0 18.7	14.1	8.7	-12.5	-16.0	-9.1	50 30	30	30	30	30	30

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000015.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 19-Aug-2019 18:39:37 ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-002
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:59 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:30:51

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.180	2.179	0.001	1602866H	0.0100	0.0108	
2	2.351	2.348	0.003	3496867H	0.0100	0.0104	
						RPD = 3.17	
$ 2 2,4-Dichlorophenylacetic acid							M
1	8.031	8.030	0.001	1068517H	0.0100	0.009820	M
2	7.996	7.996	0.000	2025382H	0.0100	0.009603	M
						RPD = 2.24	
3 MCPP							M
1	8.246	8.246	0.000	341535H	1.00	0.8642	
2	8.426	8.423	0.003	702287	1.00	0.9494	M
						RPD = 9.39	
4 Dicamba							
1	8.328	8.326	0.002	1781061H	0.005000	0.004883	
2	8.266	8.265	0.001	3182091H	0.005000	0.004538	
						RPD = 7.33	
5 MCPA							M
1	8.668	8.667	0.001	727075H	1.00	1.13	M
2	8.732	8.732	0.000	1239711H	1.00	1.01	M
						RPD = 11.90	
6 Dichlorprop							
1	8.949	8.947	0.002	1021137H	0.0100	0.0105	
2	9.097	9.095	0.002	1841176H	0.0100	0.0099	
						RPD = 6.01	
7 2,4-D							
1	9.440	9.439	0.001	1161532H	0.0100	0.0106	
2	9.495	9.494	0.001	2165042H	0.0100	0.0100	
						RPD = 5.77	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.970	9.969	0.001	5602498	0.002500	0.002439	
2	9.693	9.691	0.002	5047386H	0.002500	0.002354	
						RPD = 3.55	
9 Silvex (2,4,5-TP)							
1	10.124	10.124	0.000	1249137H	0.002500	0.002550	
2	10.264	10.263	0.001	2296435H	0.002500	0.002440	
						RPD = 4.40	
10 2,4,5-T							
1	10.673	10.673	0.000	1203971H	0.002500	0.002596	
2	10.720	10.719	0.001	2235899H	0.002500	0.002467	
						RPD = 5.11	
11 Dinoseb							M
1	10.928	10.928	0.000	1971262H	0.0100	0.0102	
2	11.802	11.800	0.002	3730870H	0.0100	0.009544	M
						RPD = 7.04	
12 2,4-DB							M
1	11.057	11.056	0.001	718887H	0.0100	0.0109	
2	11.150	11.149	0.001	1190823H	0.0100	0.009653	M
						RPD = 12.15	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCHERBCALSL7_00011 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:26:01 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000015.D

Injection Date: 19-Aug-2019 18:39:37 Instrument ID: CGC1 Operator ID:

Lims ID: ic Worklist Smp#: 2

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 1

Method: Herbicides_CGC1 Limit Group: GCS 8151A ICAL

Column: RTX-50 (0.53 mm)

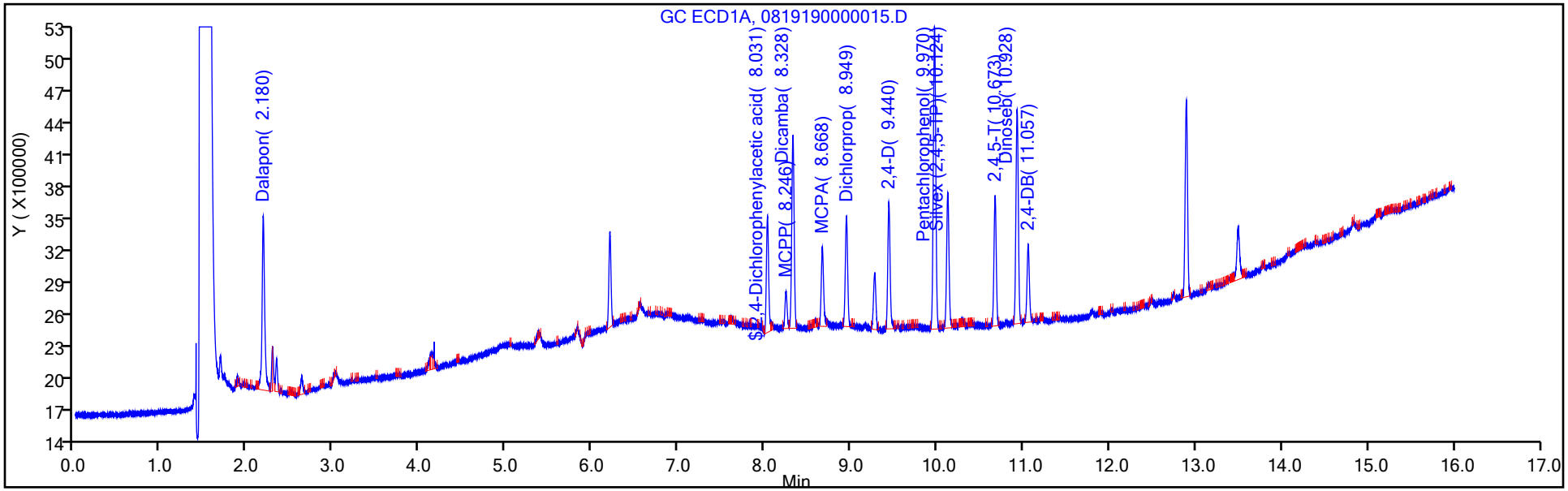

Column: RTX-1701 (0.53 mm)

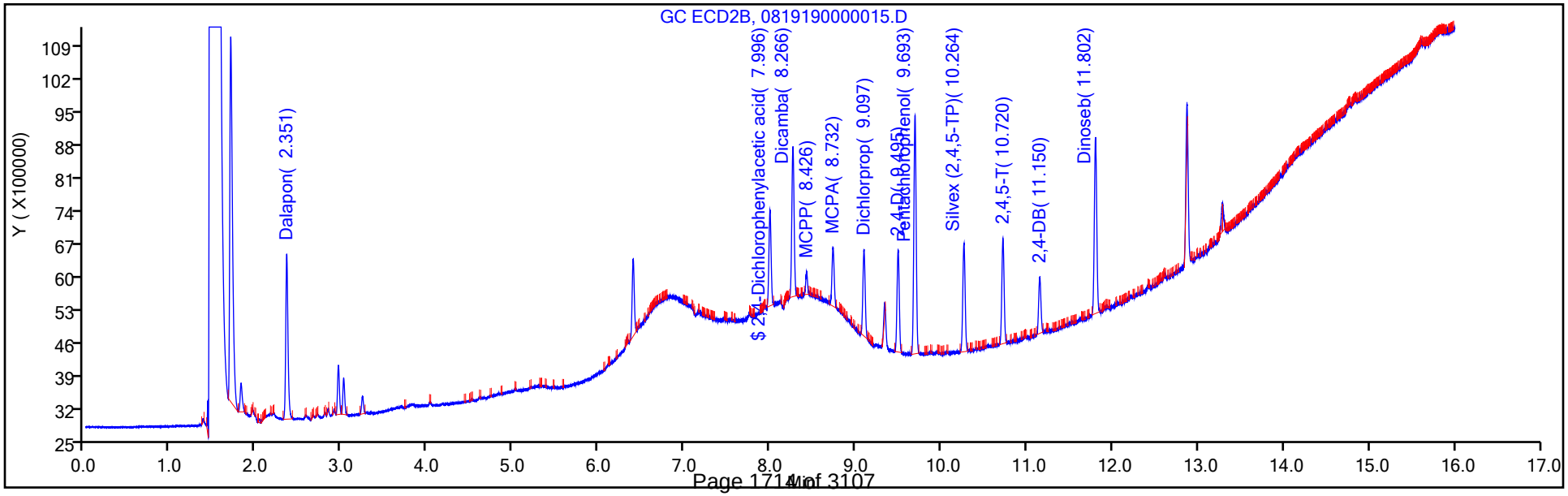

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000015.D				
Injection Date:	19-Aug-2019 18:39:37	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

$ 2 2,4-Dichlorophenylacetic acid, CAS: 19719-28-9

Signal: 2

Processing Integration Results

RT: 8.00
Height: 2033369
Amount: 0.011853
Amount Units: ng

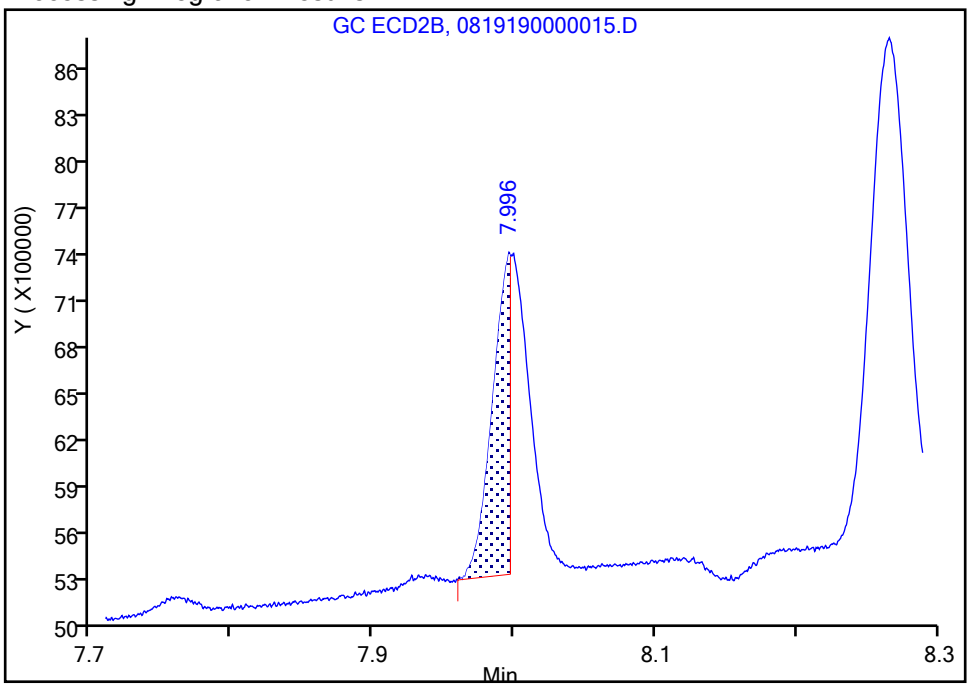

Manual Integration Results

RT: 8.00
Height: 2025382
Amount: 0.009603
Amount Units: ng

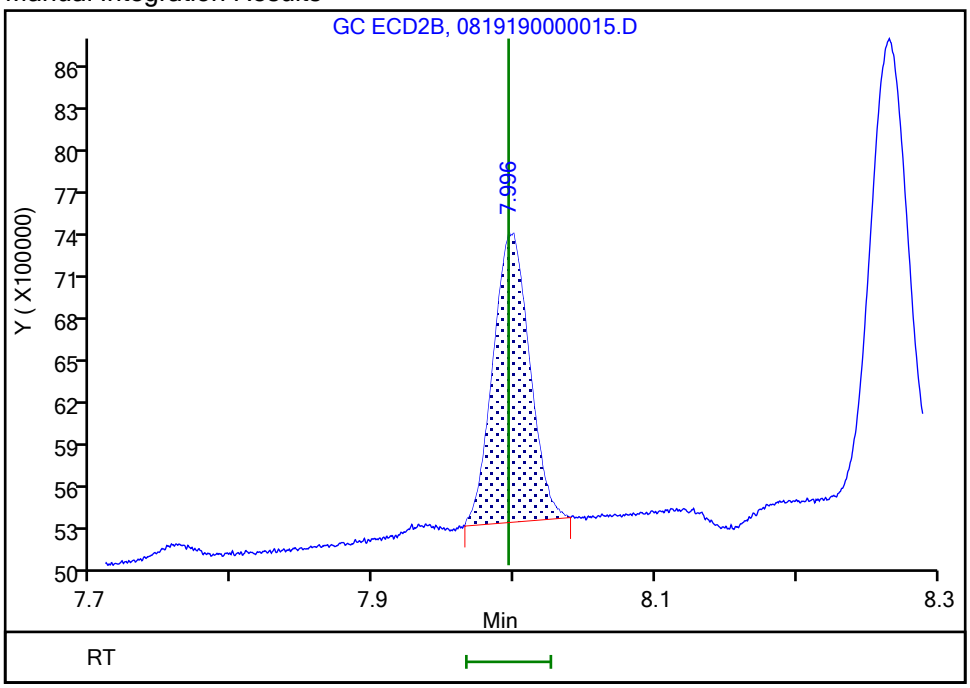

Reviewer: fritschj, 20-Aug-2019 08:28:30

Audit Action: Manually Integrated Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000015.D				
Injection Date:	19-Aug-2019 18:39:37	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

3 MCPP, CAS: 93-65-2

Signal: 2

Processing Integration Results

RT: 8.42
Area: 148086
Amount: 0.346453
Amount Units: ng

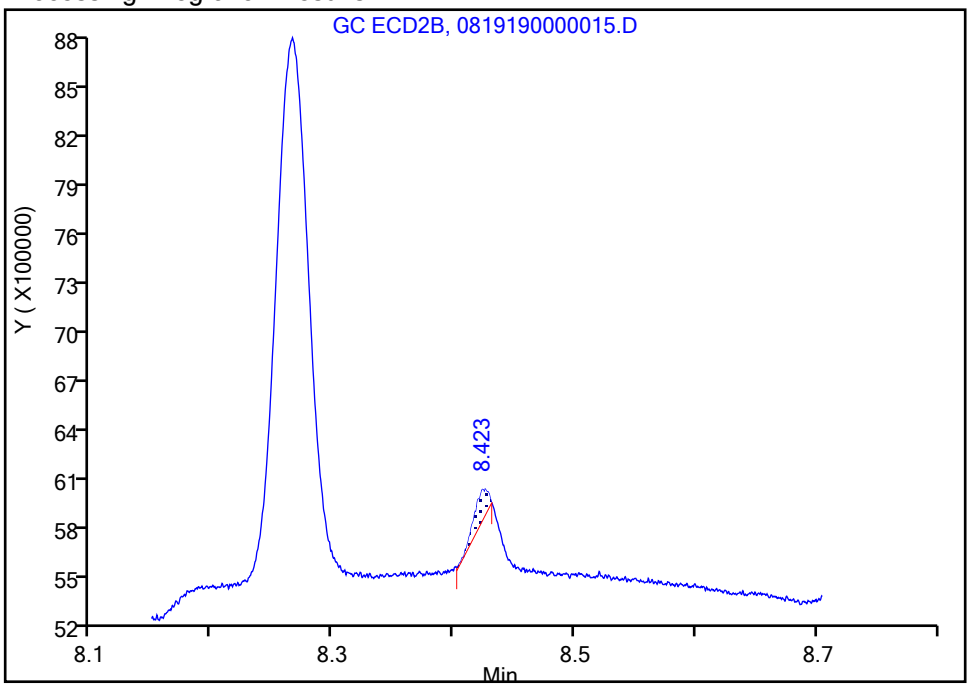

Manual Integration Results

RT: 8.43
Area: 702287
Amount: 0.949357
Amount Units: ng

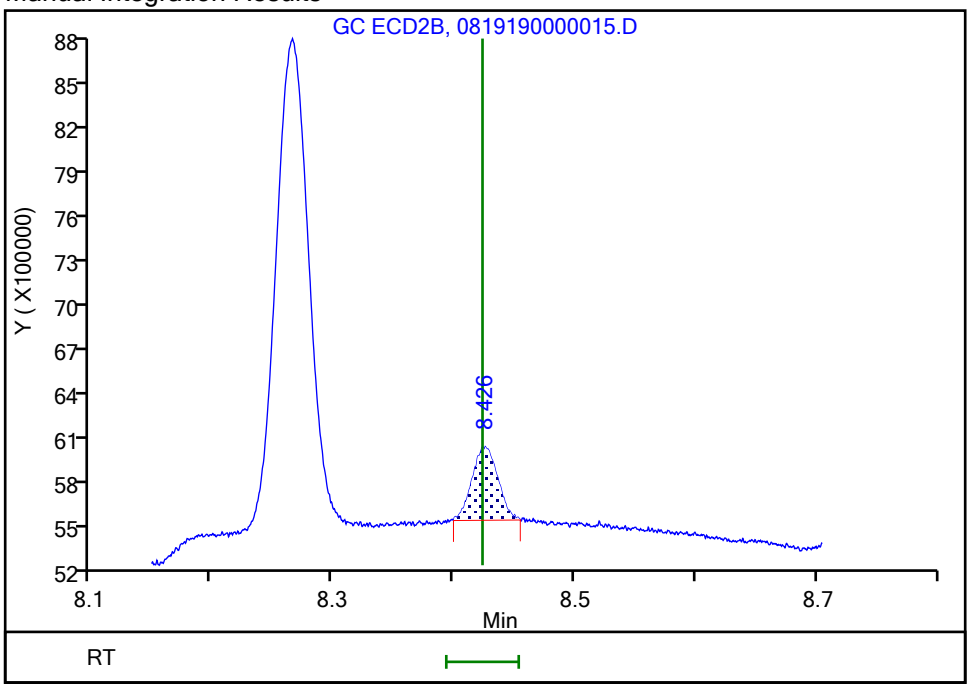

Reviewer: fritschj, 20-Aug-2019 08:28:56

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000015.D				
Injection Date:	19-Aug-2019 18:39:37	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

5 MCPA, CAS: 94-74-6

Signal: 2

Processing Integration Results

RT: 8.74
Height: 1224181
Amount: 0.804941
Amount Units: ng

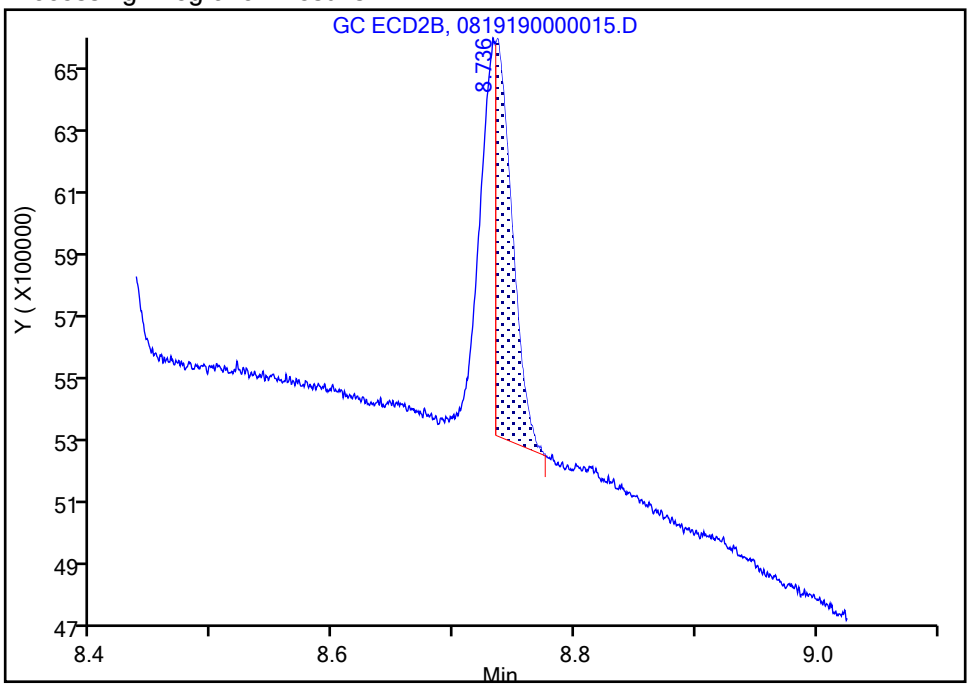

Manual Integration Results

RT: 8.73
Height: 1239711
Amount: 1.006376
Amount Units: ng

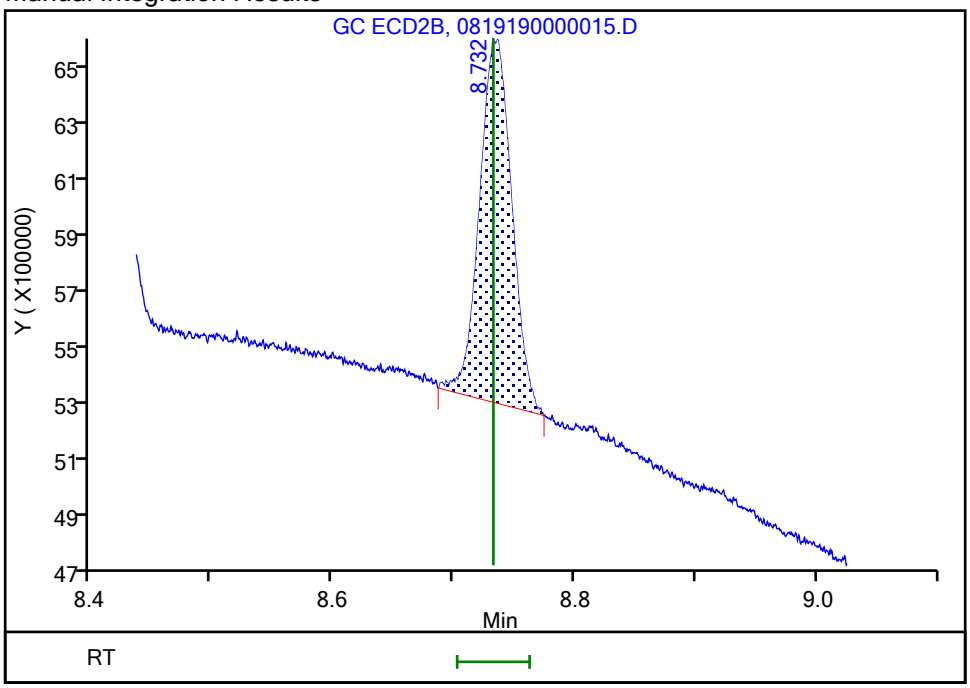

Reviewer: fritschj, 20-Aug-2019 08:29:08

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000015.D				
Injection Date:	19-Aug-2019 18:39:37	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

12 2,4-DB, CAS: 94-82-6

Signal: 2

Processing Integration Results

RT: 11.15
Height: 330938
Amount: 0.518941
Amount Units: ng

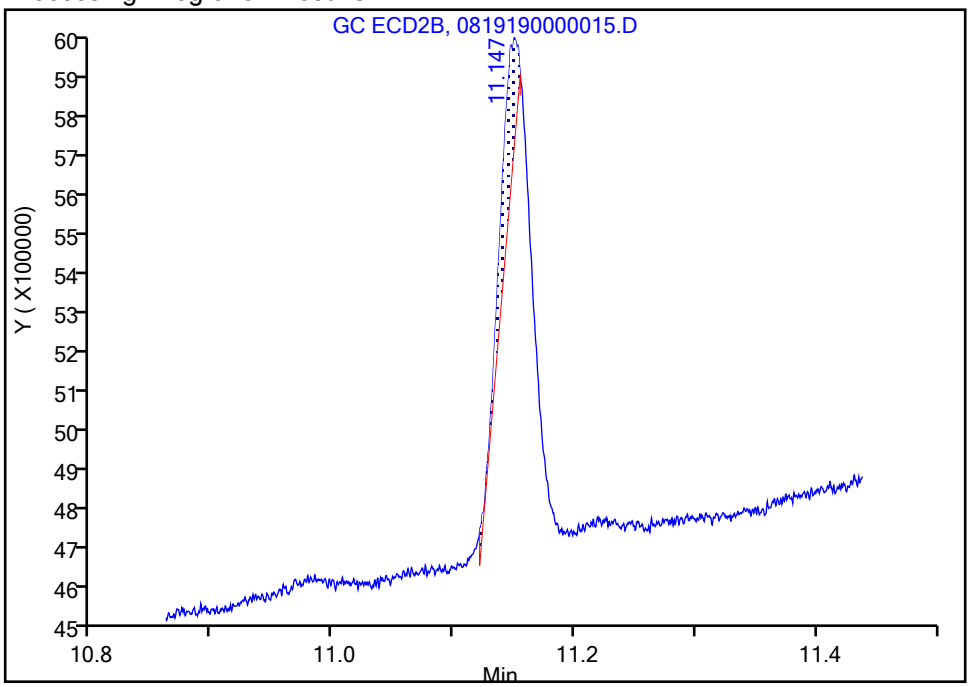

Manual Integration Results

RT: 11.15
Height: 1190823
Amount: 0.009653
Amount Units: ng

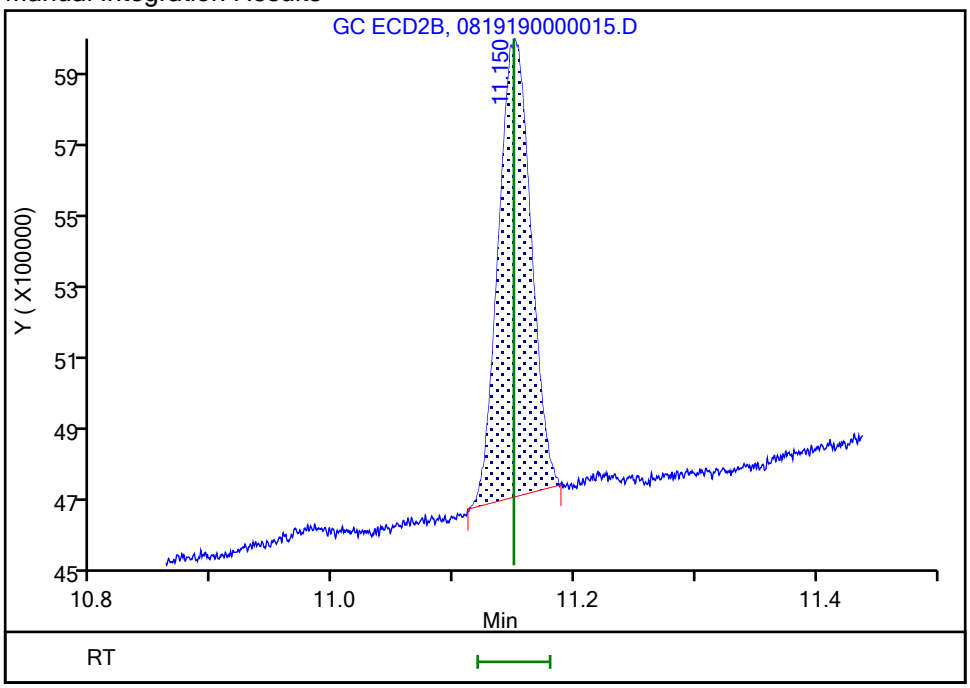

Reviewer: fritschj, 20-Aug-2019 08:30:49

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000015.D				
Injection Date:	19-Aug-2019 18:39:37	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

11 Dinoseb, CAS: 88-85-7

Signal: 2

Processing Integration Results

RT: 11.80
Height: 1022056
Amount: 0.005511
Amount Units: ng

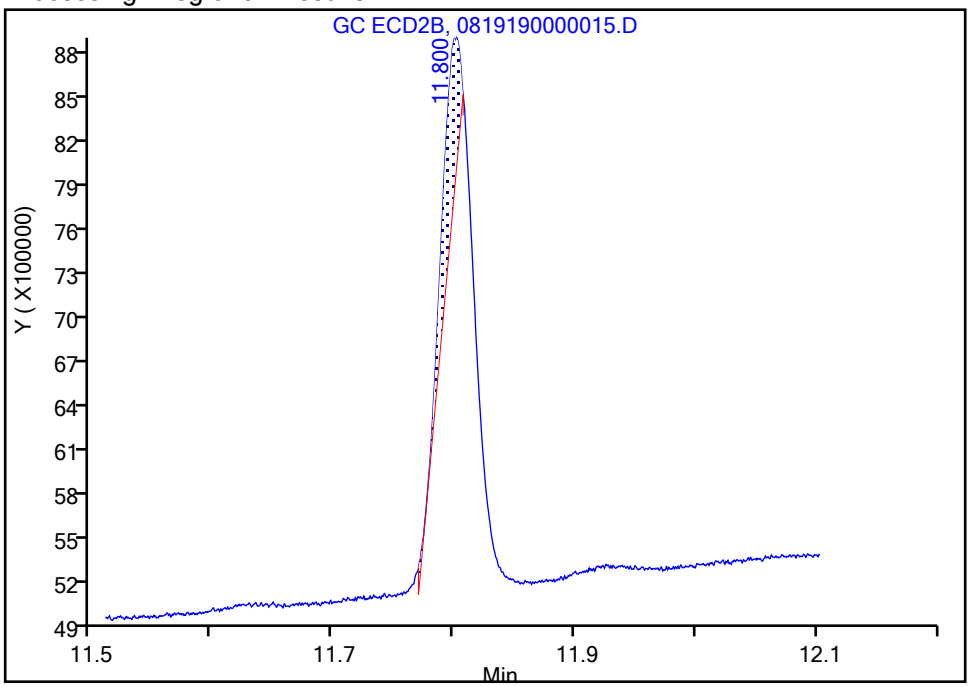

Manual Integration Results

RT: 11.80
Height: 3730870
Amount: 0.009544
Amount Units: ng

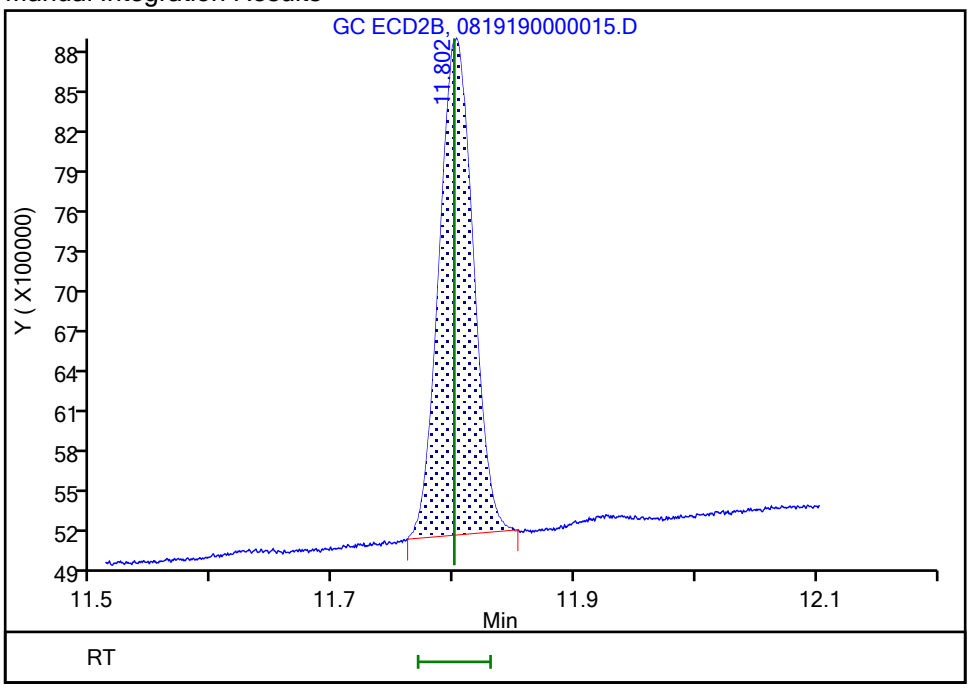

Reviewer: fritschj, 20-Aug-2019 08:30:41

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000016.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 19-Aug-2019 19:04:40 ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-003
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:54 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:33:13

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.180	2.179	0.001	3418078H	0.0200	0.0229	
2	2.351	2.348	0.003	7623859H	0.0200	0.0227	
						RPD = 0.96	
$ 2 2,4-Dichlorophenylacetic acid							M
1	8.030	8.030	0.000	2508937H	0.0200	0.0231	M
2	7.997	7.996	0.001	4812705H	0.0200	0.0228	M
						RPD = 1.04	
3 MCPP							M
1	8.247	8.246	0.001	910995H	2.00	2.31	
2	8.423	8.423	0.000	2326811	2.00	2.14	M
						RPD = 7.53	
4 Dicamba							
1	8.325	8.326	-0.001	4004694H	0.0100	0.0110	
2	8.265	8.265	0.000	7573096H	0.0100	0.0108	
						RPD = 1.66	
5 MCPA							
1	8.668	8.667	0.001	1594916H	2.00	2.49	
2	8.734	8.732	0.002	2949336H	2.00	2.39	
						RPD = 3.80	
6 Dichlorprop							
1	8.947	8.947	0.000	2234251H	0.0200	0.0231	
2	9.095	9.095	0.000	4268906H	0.0200	0.0230	
						RPD = 0.22	
7 2,4-D							
1	9.440	9.439	0.001	2582761H	0.0200	0.0235	
2	9.495	9.494	0.001	5071949H	0.0200	0.0234	
						RPD = 0.55	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.969	9.969	0.000	12922968	0.005000	0.005626	
2	9.692	9.691	0.001	11942592H	0.005000	0.005569	
						RPD = 1.01	
9 Silvex (2,4,5-TP)							
1	10.123	10.124	-0.001	2832937H	0.005000	0.005782	
2	10.263	10.263	0.000	5429675H	0.005000	0.005769	
						RPD = 0.24	
10 2,4,5-T							
1	10.672	10.673	-0.001	2719387H	0.005000	0.005864	
2	10.719	10.719	0.000	5238330H	0.005000	0.005779	
						RPD = 1.46	
11 Dinoseb							
1	10.928	10.928	0.000	4391182H	0.0200	0.0228	
2	11.801	11.800	0.001	8755118H	0.0200	0.0224	
						RPD = 1.83	
12 2,4-DB							
1	11.056	11.056	0.000	1573400H	0.0200	0.0239	
2	11.150	11.149	0.001	2842702H	0.0200	0.0230	
						RPD = 3.48	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCHERBCALSL1_00027 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:25:56 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000016.D				
Injection Date:	19-Aug-2019 19:04:40	Instrument ID:	CGC1	Operator ID:	
Lims ID:	ic			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

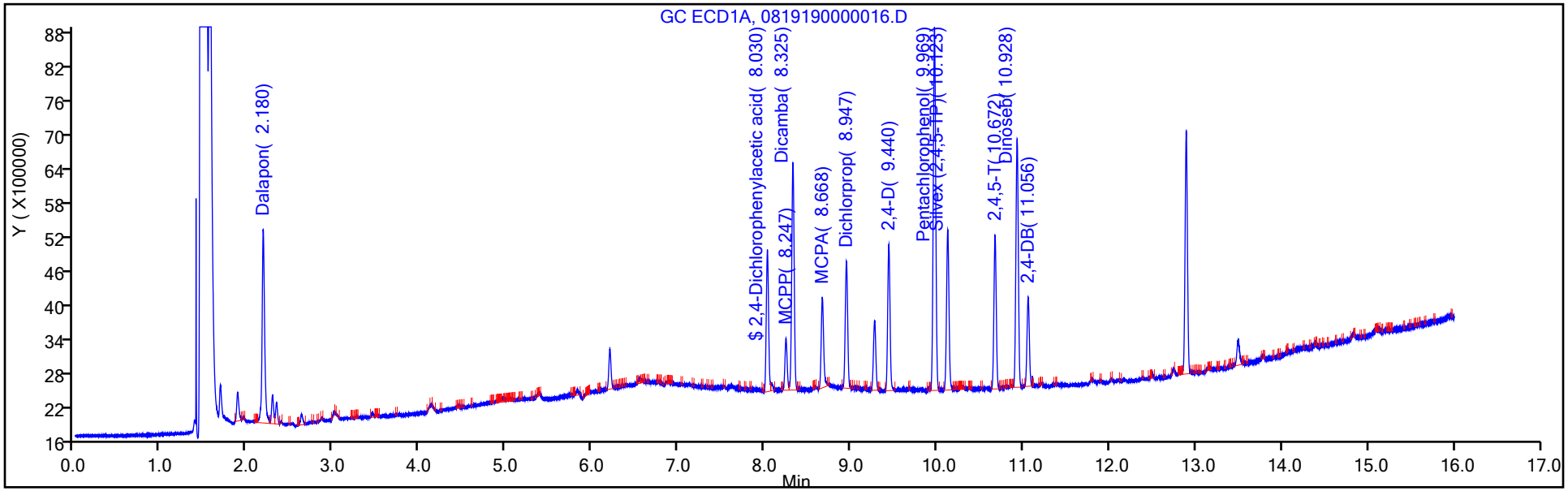

Column: RTX-1701 (0.53 mm)

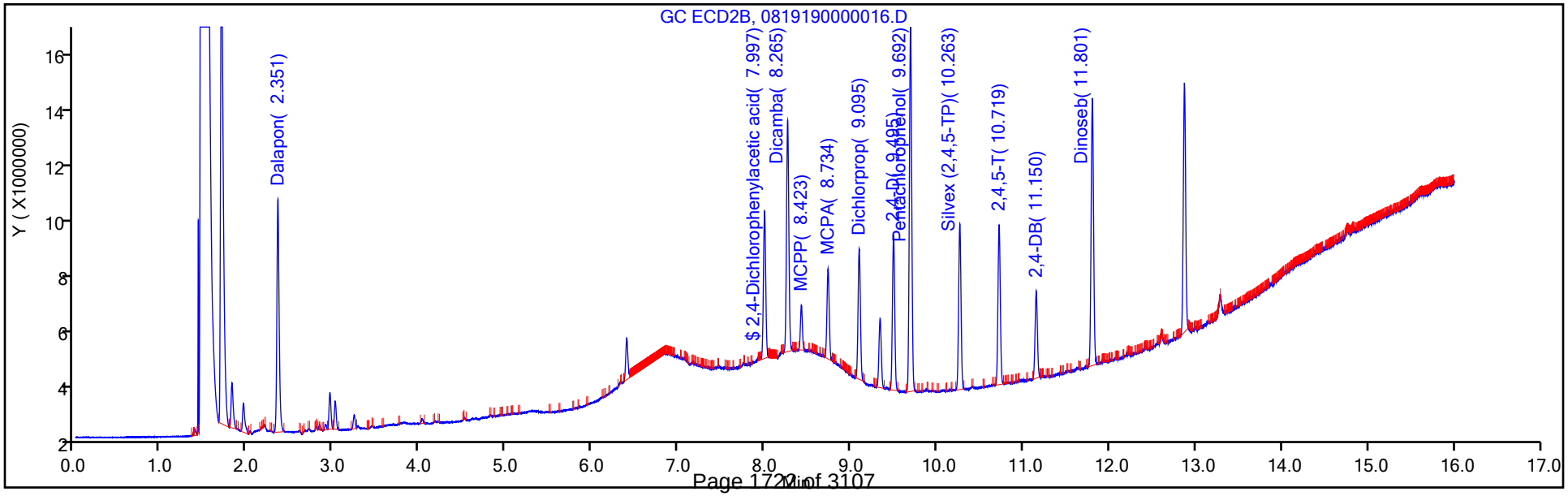

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000016.D				
Injection Date:	19-Aug-2019 19:04:40	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

$ 2 2,4-Dichlorophenylacetic acid, CAS: 19719-28-9

Signal: 2

Processing Integration Results

RT: 8.00
Height: 4807379
Amount: 0.028048
Amount Units: ng

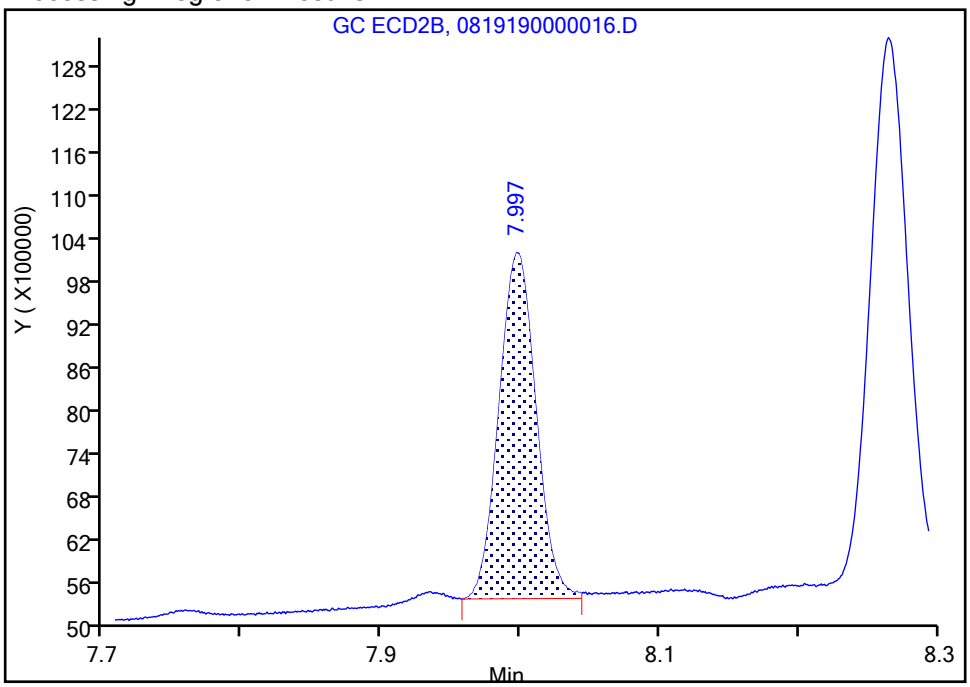

Manual Integration Results

RT: 8.00
Height: 4812705
Amount: 0.022818
Amount Units: ng

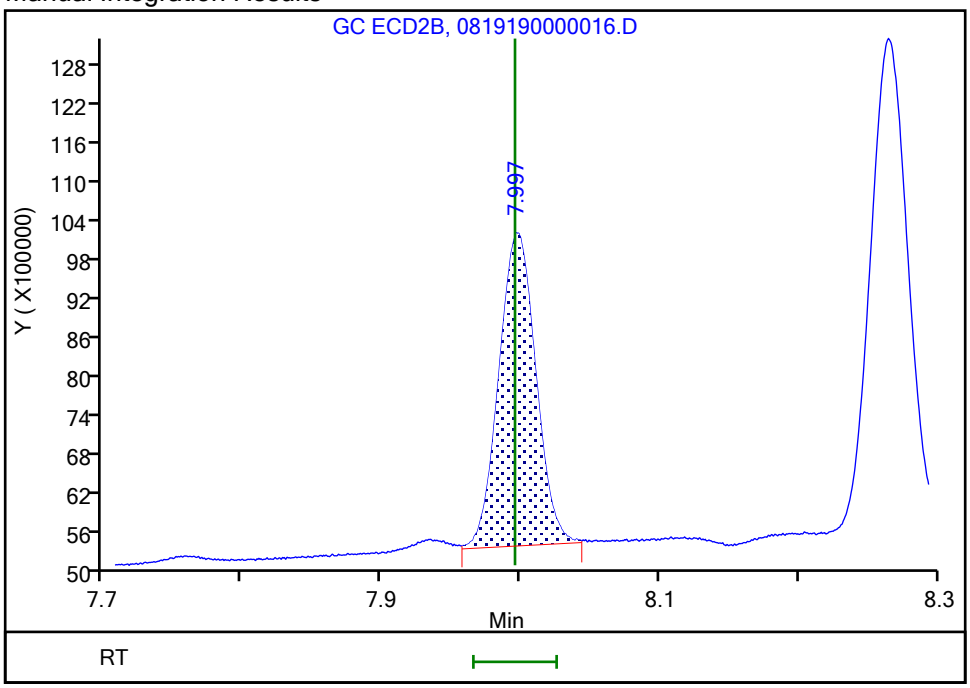

Reviewer: fritschj, 20-Aug-2019 08:32:49

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000016.D				
Injection Date:	19-Aug-2019 19:04:40	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

3 MCPP, CAS: 93-65-2

Signal: 2

Processing Integration Results

RT: 8.42
Area: 530884
Amount: 1.047922
Amount Units: ng

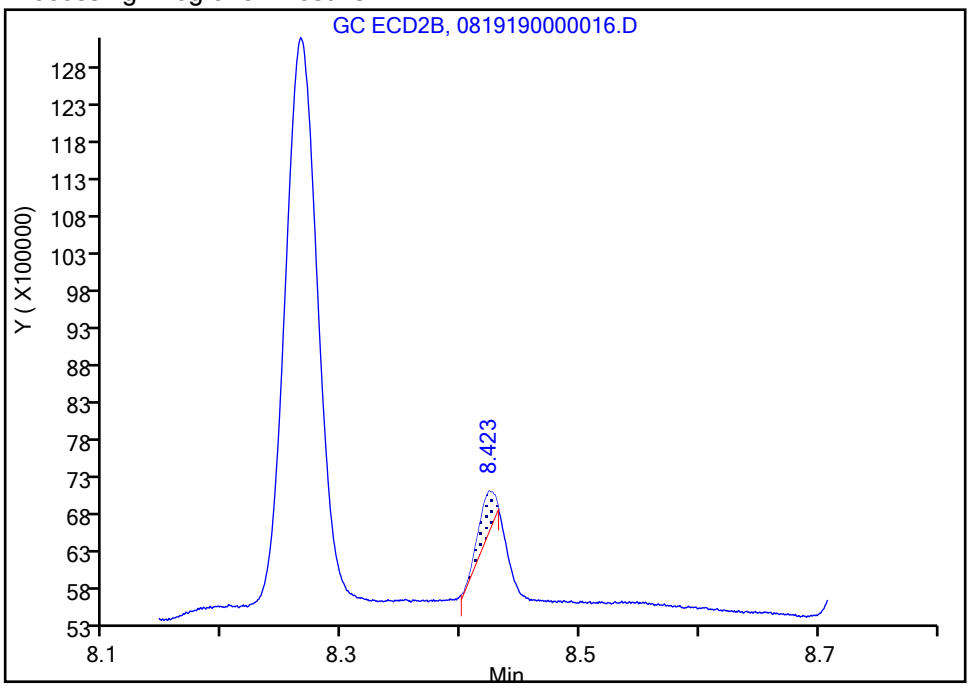

Manual Integration Results

RT: 8.42
Area: 2326811
Amount: 2.137914
Amount Units: ng

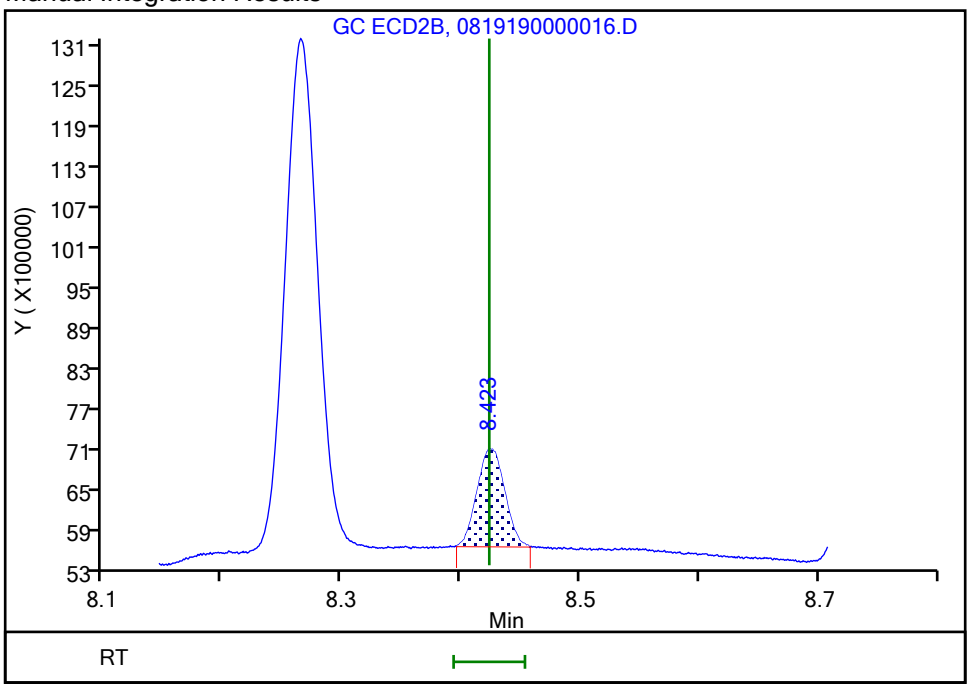

Reviewer: fritschj, 20-Aug-2019 08:33:00

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000017.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 19-Aug-2019 19:29:38 ALS Bottle#: 3 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-004
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:51 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:33:38

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.180	2.179	0.001	6332062H	0.0400	0.0425	
2	2.349	2.348	0.001	14337210H	0.0400	0.0427	
						RPD = 0.54	
$ 2 2,4-Dichlorophenylacetic acid							
1	8.030	8.030	0.000	4713434H	0.0400	0.0433	
2	7.996	7.996	0.000	9171540H	0.0400	0.0435	
						RPD = 0.38	
3 MCPP							
1	8.245	8.246	-0.001	1791894H	4.00	4.53	
2	8.424	8.423	0.001	5452918	4.00	4.43	
						RPD = 2.43	
4 Dicamba							
1	8.325	8.326	-0.001	7576276H	0.0200	0.0208	
2	8.264	8.265	-0.001	14653717H	0.0200	0.0209	
						RPD = 0.60	
5 MCPA							
1	8.667	8.667	0.000	2851165H	4.00	4.45	
2	8.733	8.732	0.001	5563689H	4.00	4.52	
						RPD = 1.58	
6 Dichlorprop							
1	8.946	8.947	-0.001	4193107H	0.0400	0.0433	
2	9.095	9.095	0.000	8138700H	0.0400	0.0439	
						RPD = 1.35	
7 2,4-D							
1	9.440	9.439	0.001	4738312H	0.0400	0.0431	
2	9.492	9.494	-0.002	9501459H	0.0400	0.0438	
						RPD = 1.54	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.970	9.969	0.001	24346174	0.0100	0.0106	
2	9.691	9.691	0.000	22869753H	0.0100	0.0107	
						RPD = 0.63	
9 Silvex (2,4,5-TP)							
1	10.124	10.124	0.000	5269266H	0.0100	0.0108	
2	10.263	10.263	0.000	10301266H	0.0100	0.0109	
						RPD = 1.74	
10 2,4,5-T							
1	10.673	10.673	0.000	5003210H	0.0100	0.0108	
2	10.719	10.719	0.000	9933044H	0.0100	0.0110	
						RPD = 1.56	
11 Dinoseb							
1	10.928	10.928	0.000	8122045H	0.0400	0.0422	
2	11.801	11.800	0.001	16720974H	0.0400	0.0428	
						RPD = 1.37	
12 2,4-DB							
1	11.056	11.056	0.000	2816514H	0.0400	0.0427	
2	11.150	11.149	0.001	5369567H	0.0400	0.0435	
						RPD = 1.89	

Reagents:

GCHERBCALSL2_00024 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:25:52 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000017.D				
Injection Date:	19-Aug-2019 19:29:38	Instrument ID:	CGC1	Operator ID:	
Lims ID:	ic			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

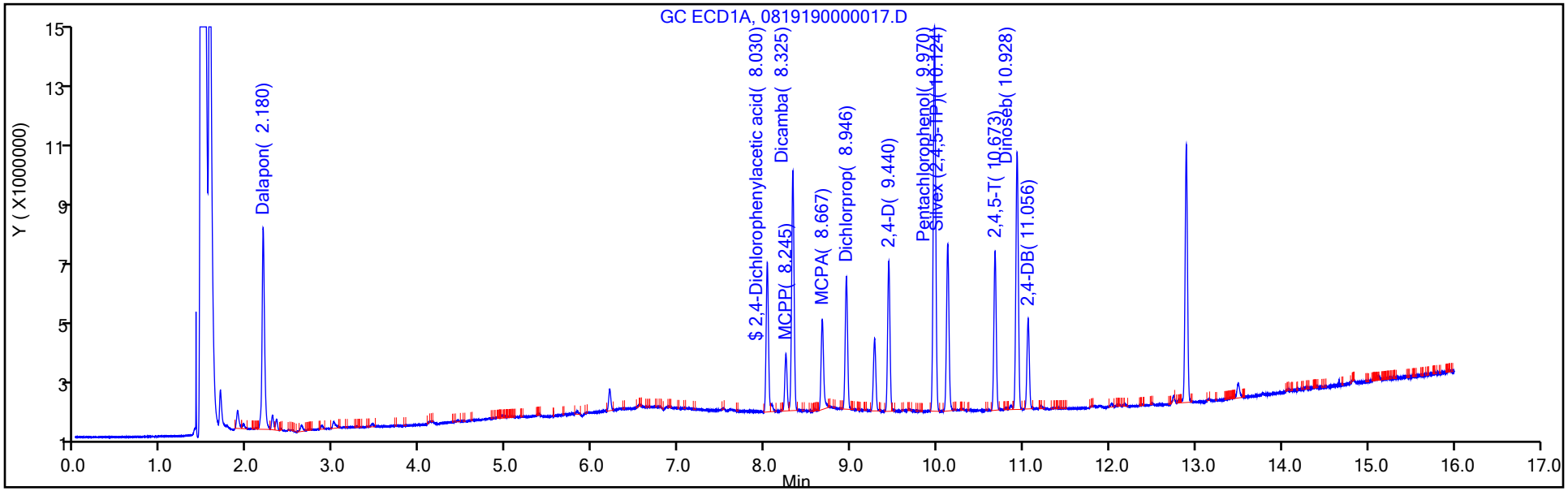

Column: RTX-1701 (0.53 mm)

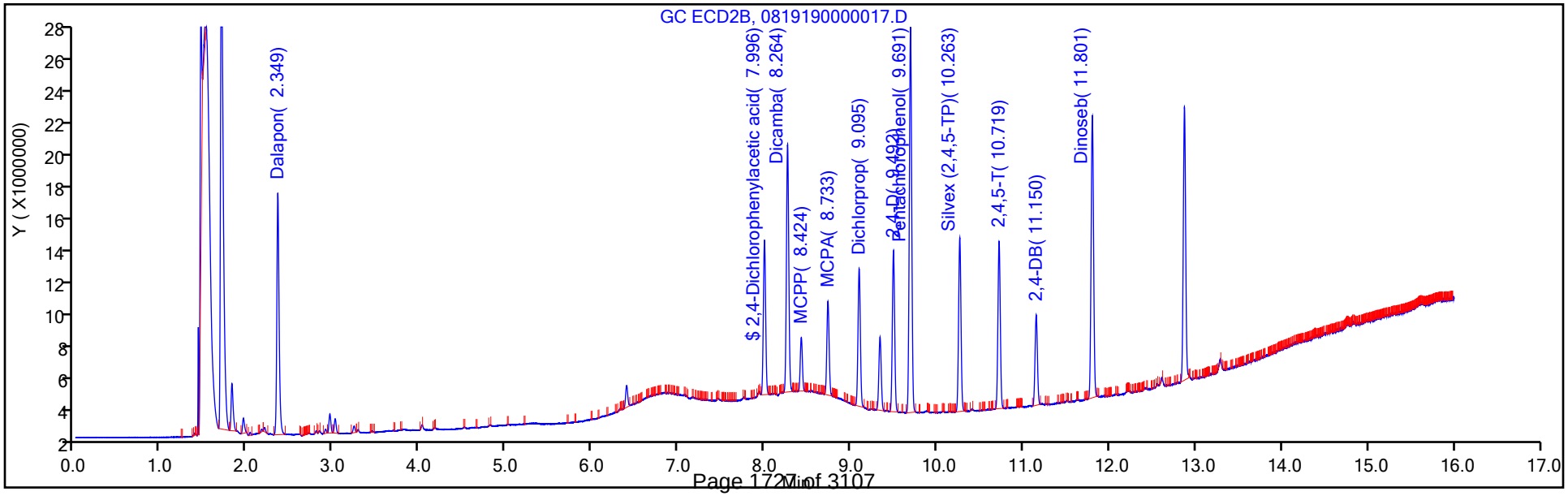

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D
Lims ID: icrt
Client ID:
Sample Type: ICRT Calib Level: 3
Inject. Date: 19-Aug-2019 19:54:39 ALS Bottle#: 4 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-005
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:45 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:28:11

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							a
1	2.179	2.179	0.000	11223295H	0.0800	0.0753	a
2	2.348	2.348	0.000	25411026H	0.0800	0.0757	a
						RPD = 0.54	
$ 2 2,4-Dichlorophenylacetic acid							a
1	8.030	8.030	0.000	7613570H	0.0800	0.0700	a
2	7.996	7.996	0.000	14765553H	0.0800	0.0700	a
						RPD = 0.05	
3 MCPP							Ma
1	8.246	8.246	0.000	2974715H	8.00	7.53	a
2	8.423	8.423	0.000	9866795	8.00	7.65	M
						RPD = 1.68	
4 Dicamba							a
1	8.326	8.326	0.000	12450636H	0.0400	0.0341	a
2	8.265	8.265	0.000	24433399H	0.0400	0.0348	a
						RPD = 2.05	
5 MCPA							a
1	8.667	8.667	0.000	4460869H	8.00	6.96	a
2	8.732	8.732	0.000	8744680H	8.00	7.10	a
						RPD = 2.04	
6 Dichlorprop							a
1	8.947	8.947	0.000	6683731H	0.0800	0.0690	a
2	9.095	9.095	0.000	13013520H	0.0800	0.0702	a
						RPD = 1.67	
7 2,4-D							a
1	9.439	9.439	0.000	7458378H	0.0800	0.0679	a
2	9.494	9.494	0.000	15308071H	0.0800	0.0705	a
						RPD = 3.86	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							a
1	9.969	9.969	0.000	39077252	0.0200	0.0170	a
2	9.691	9.691	0.000	36992114H	0.0200	0.0173	a
						RPD = 1.40	
9 Silvex (2,4,5-TP)							a
1	10.124	10.124	0.000	8350247H	0.0200	0.0170	a
2	10.263	10.263	0.000	16465579H	0.0200	0.0175	a
						RPD = 2.60	
10 2,4,5-T							a
1	10.673	10.673	0.000	7923065H	0.0200	0.0171	a
2	10.719	10.719	0.000	15848356H	0.0200	0.0175	a
						RPD = 2.31	
11 Dinoseb							a
1	10.928	10.928	0.000	12819214H	0.0800	0.0666	a
2	11.800	11.800	0.000	27183193H	0.0800	0.0695	a
						RPD = 4.33	
12 2,4-DB							a
1	11.056	11.056	0.000	4420145H	0.0800	0.0670	a
2	11.149	11.149	0.000	8459711H	0.0800	0.0686	a
						RPD = 2.28	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

GCHERBCALSL3_00028 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:25:47 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D

Injection Date: 19-Aug-2019 19:54:39 Instrument ID: CGC1 Operator ID:

Lims ID: icrt Worklist Smp#: 5

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 4

Method: Herbicides_CGC1 Limit Group: GCS 8151A ICAL

Column: RTX-50 (0.53 mm)

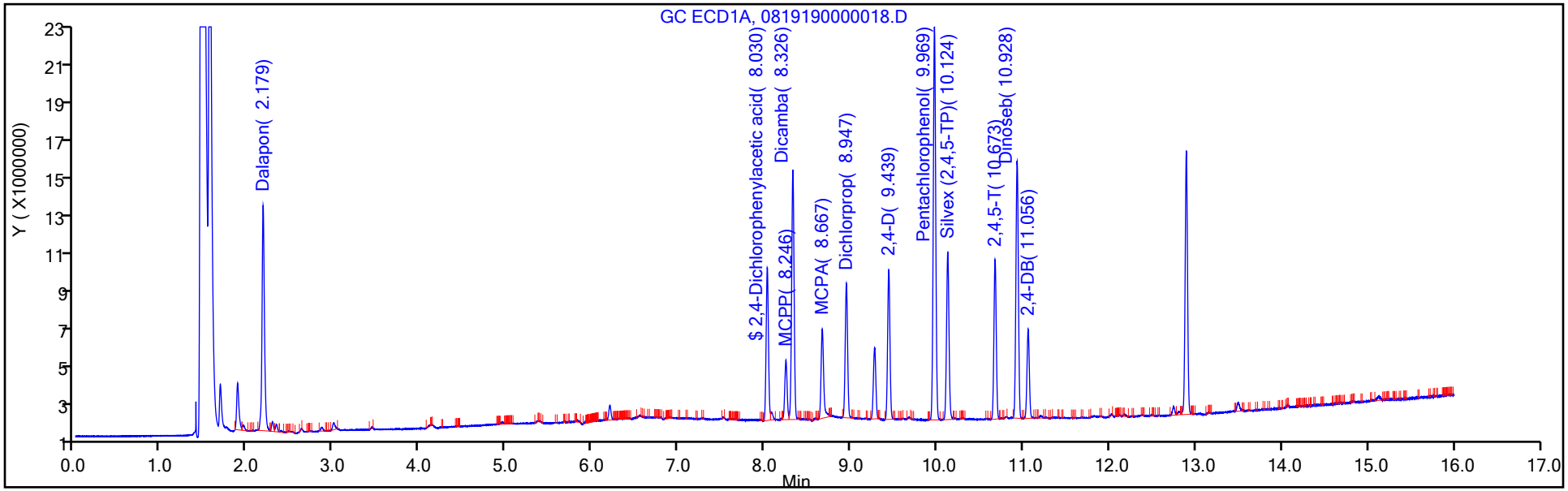

Column: RTX-1701 (0.53 mm)

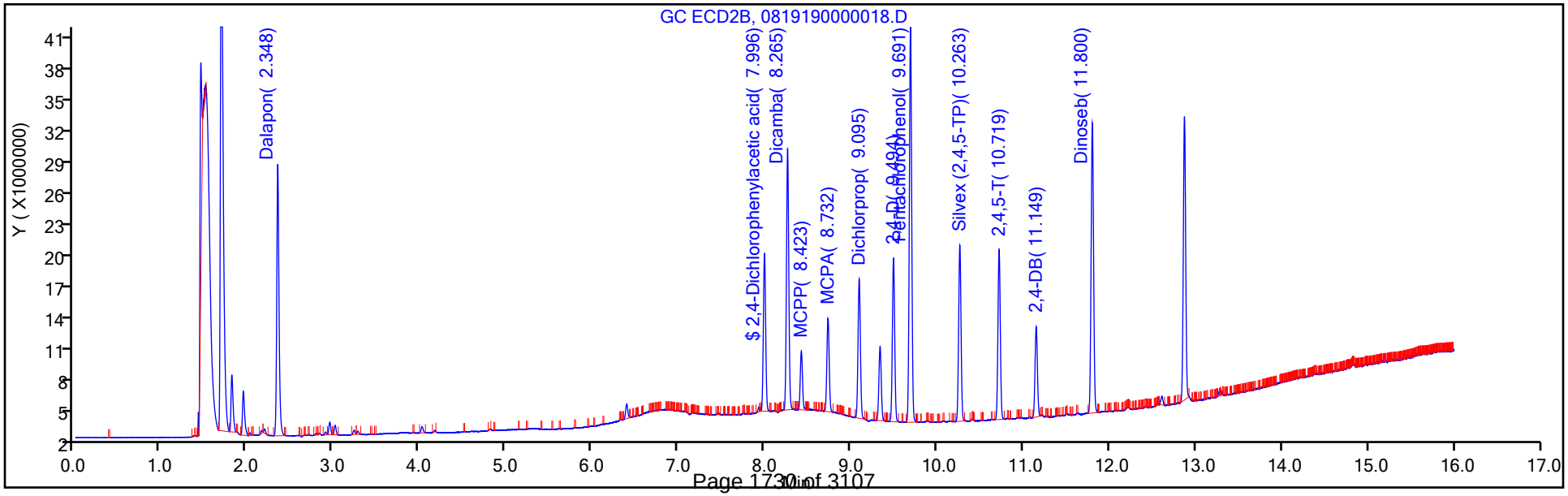

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

1 Dalapon, CAS: 75-99-0

Signal: 2

Processing Integration Results

Not Detected
Expected RT: 2.35

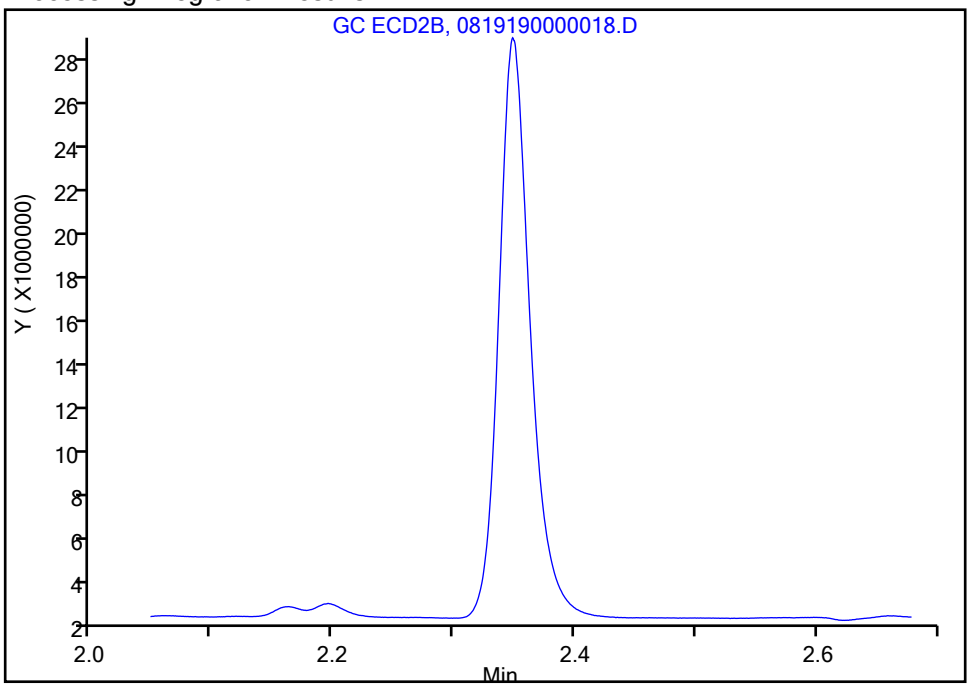

Manual Integration Results

RT: 2.35
Height: 25411026
Amount: 0.075708
Amount Units: ng

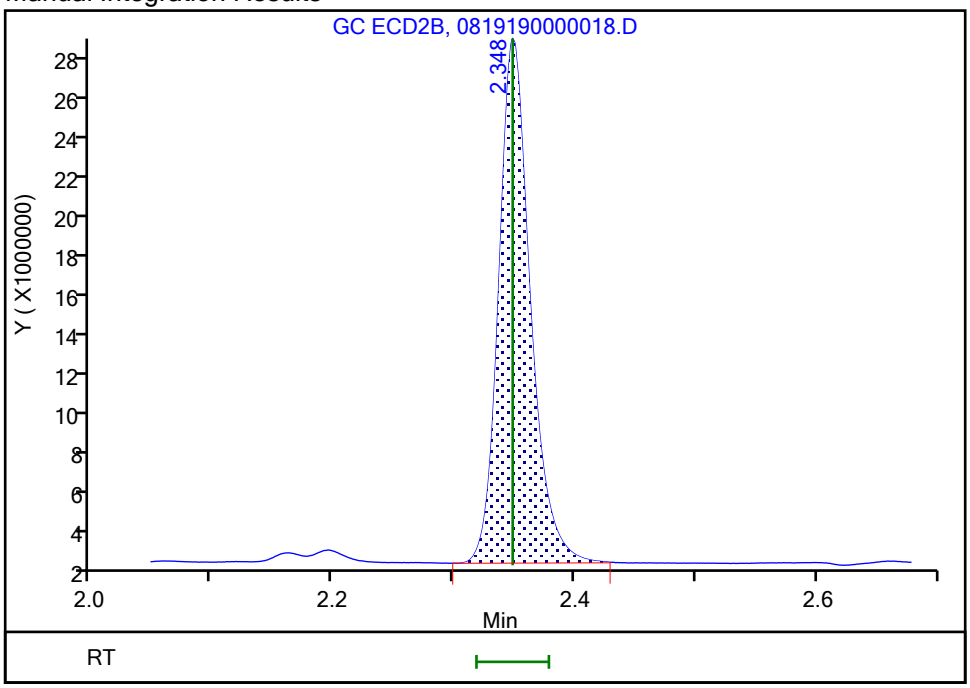

Reviewer: fritschj, 20-Aug-2019 08:15:36
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

$ 2 2,4-Dichlorophenylacetic acid, CAS: 19719-28-9

Signal: 2

Processing Integration Results

RT: 8.16
Height: 15399
Amount: 0.011043
Amount Units: ng

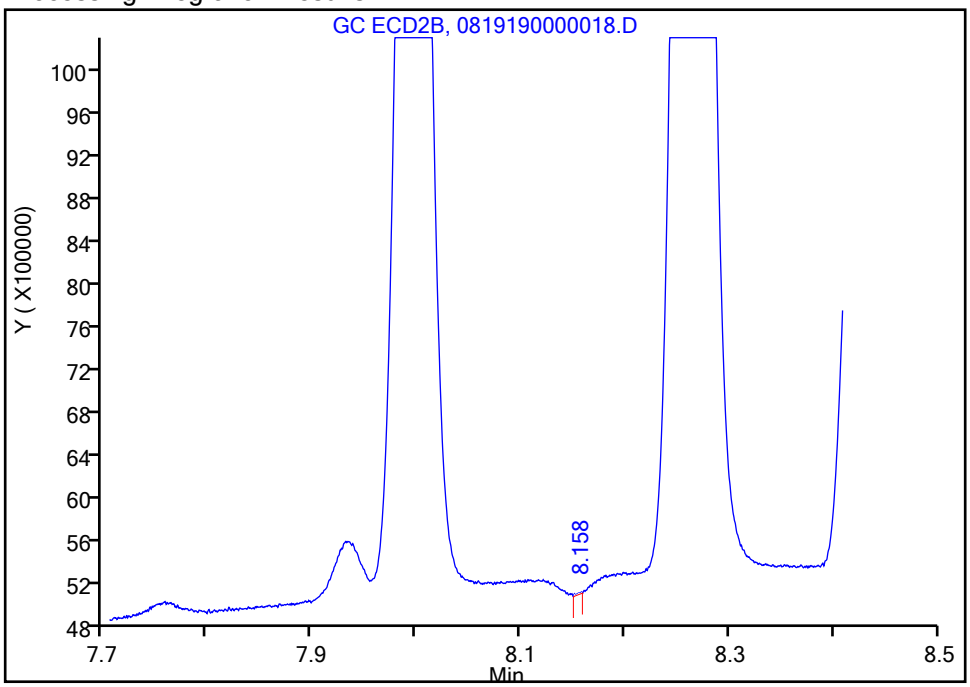

Manual Integration Results

RT: 8.00
Height: 14765553
Amount: 0.070006
Amount Units: ng

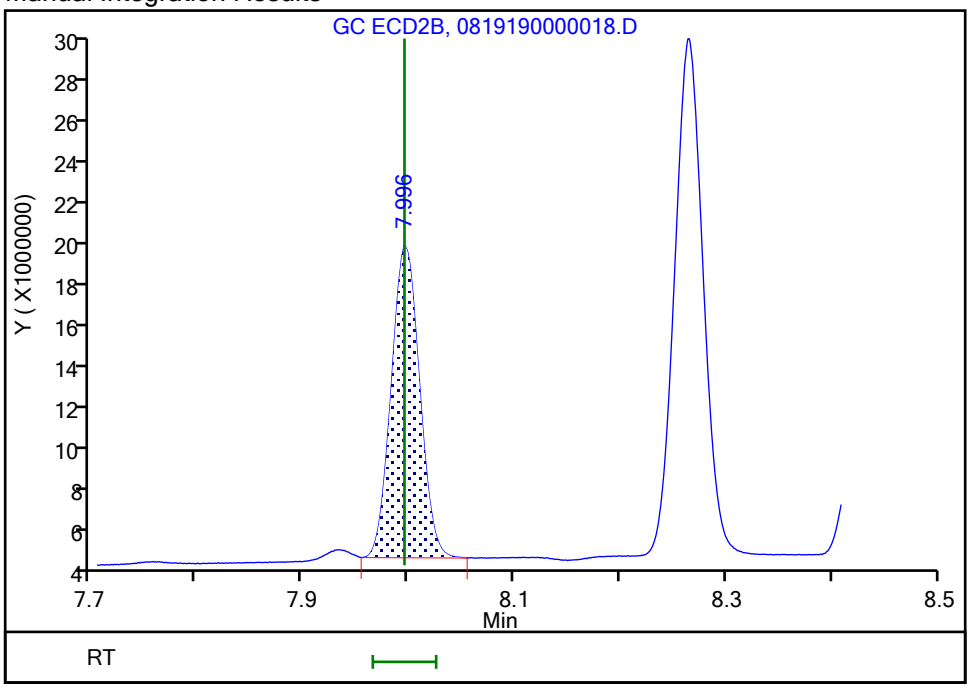

Reviewer: fritschj, 20-Aug-2019 08:16:00
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

4 Dicamba, CAS: 1918-00-9

Signal: 2

Processing Integration Results

RT: 8.48
Height: 39177
Amount: 0.030374
Amount Units: ng

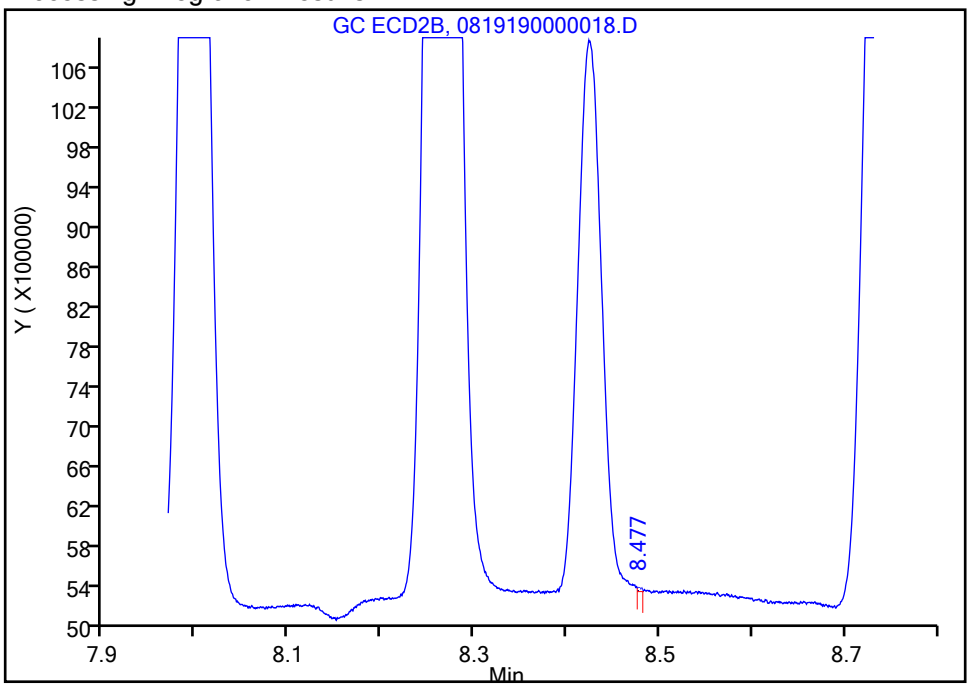

Manual Integration Results

RT: 8.26
Height: 24433399
Amount: 0.034841
Amount Units: ng

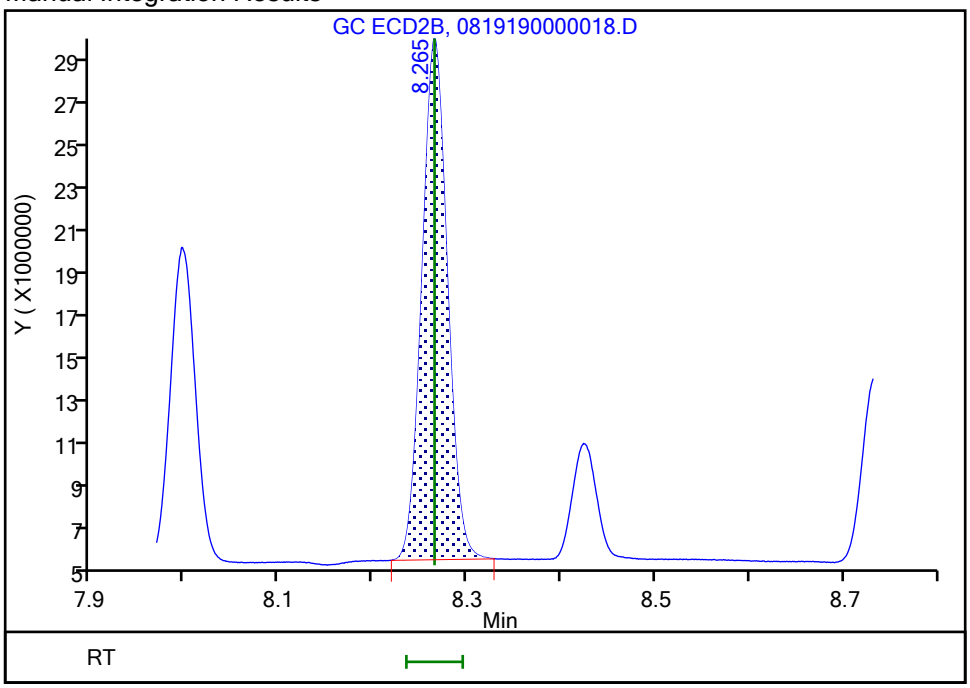

Reviewer: fritschj, 20-Aug-2019 08:18:12
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

3 MCPP, CAS: 93-65-2

Signal: 2

Processing Integration Results

RT: 8.37
Area: 6937
Amount: 3.720368
Amount Units: ng

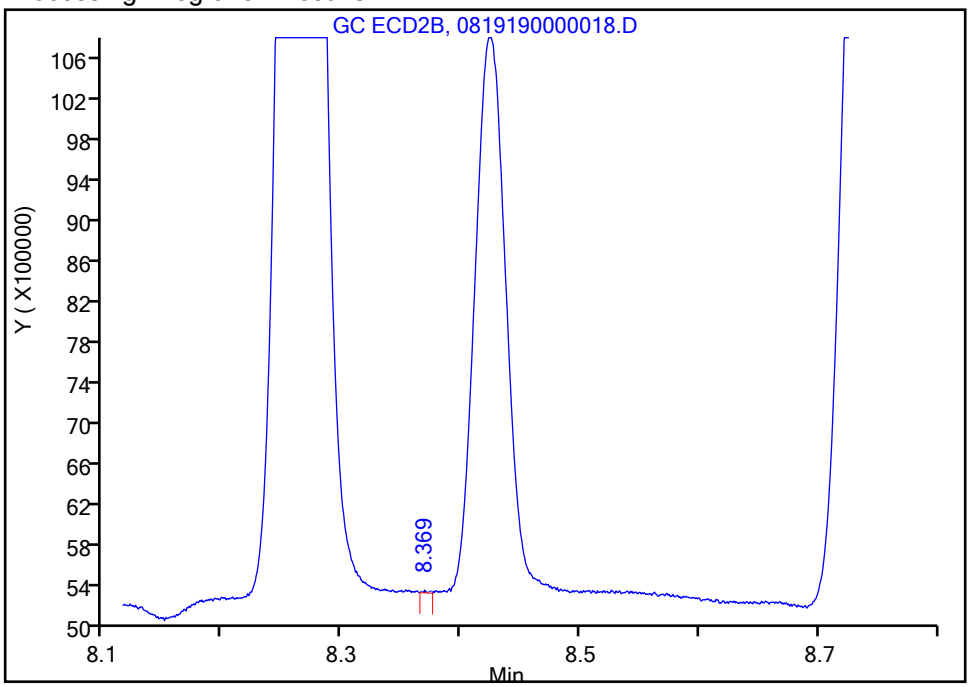

Manual Integration Results

RT: 8.42
Area: 9866795
Amount: 7.654420
Amount Units: ng

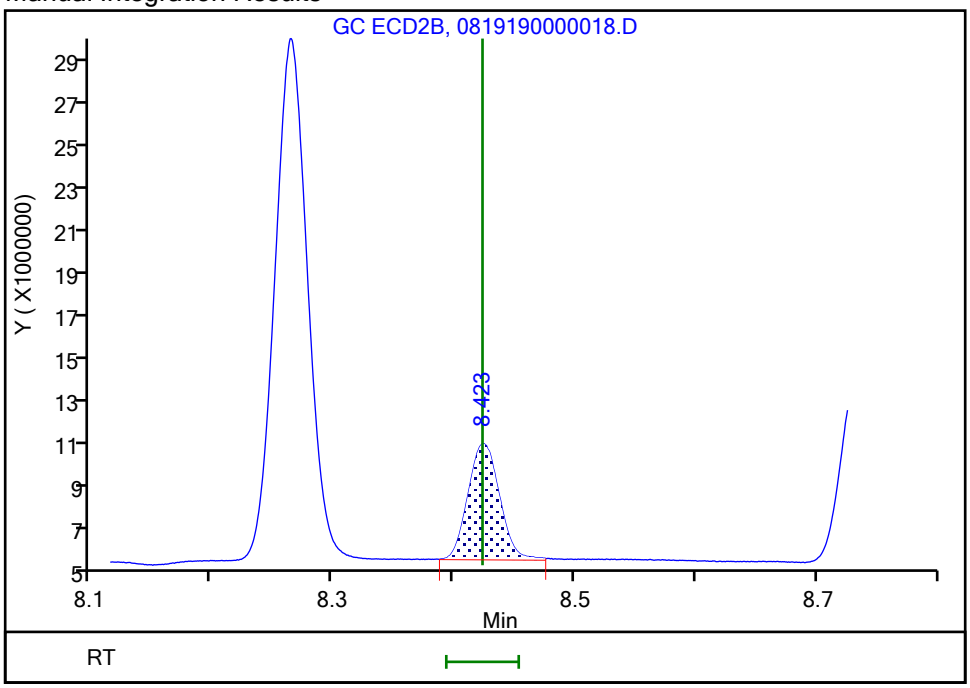

Reviewer: fritschj, 20-Aug-2019 09:09:08
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

5 MCPA, CAS: 94-74-6

Signal: 2

Processing Integration Results

Not Detected
Expected RT: 8.73

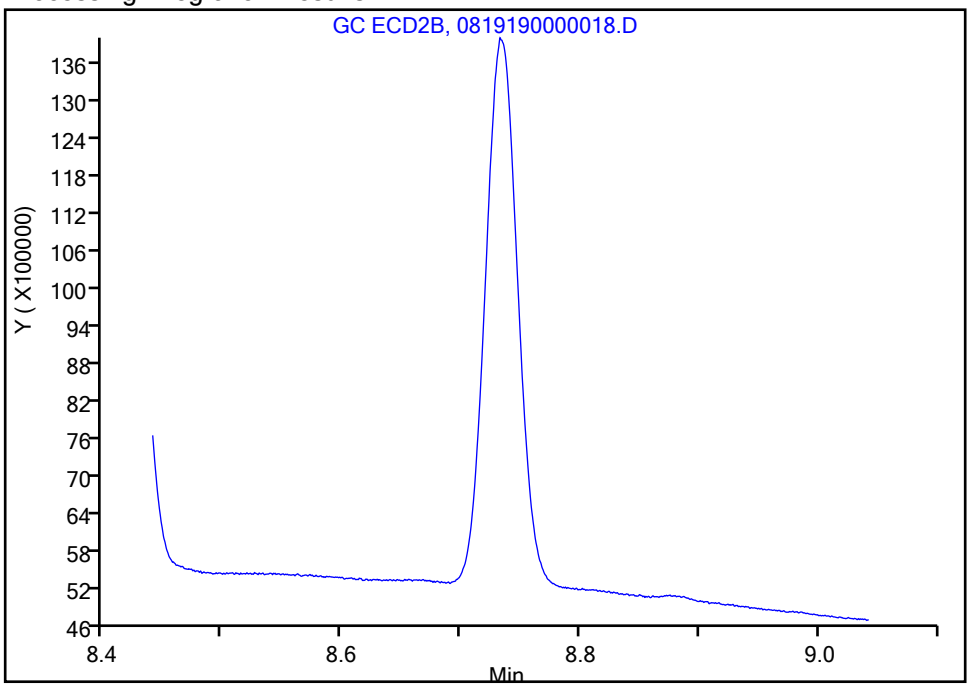

Manual Integration Results

RT: 8.73
Height: 8744680
Amount: 7.098779
Amount Units: ng

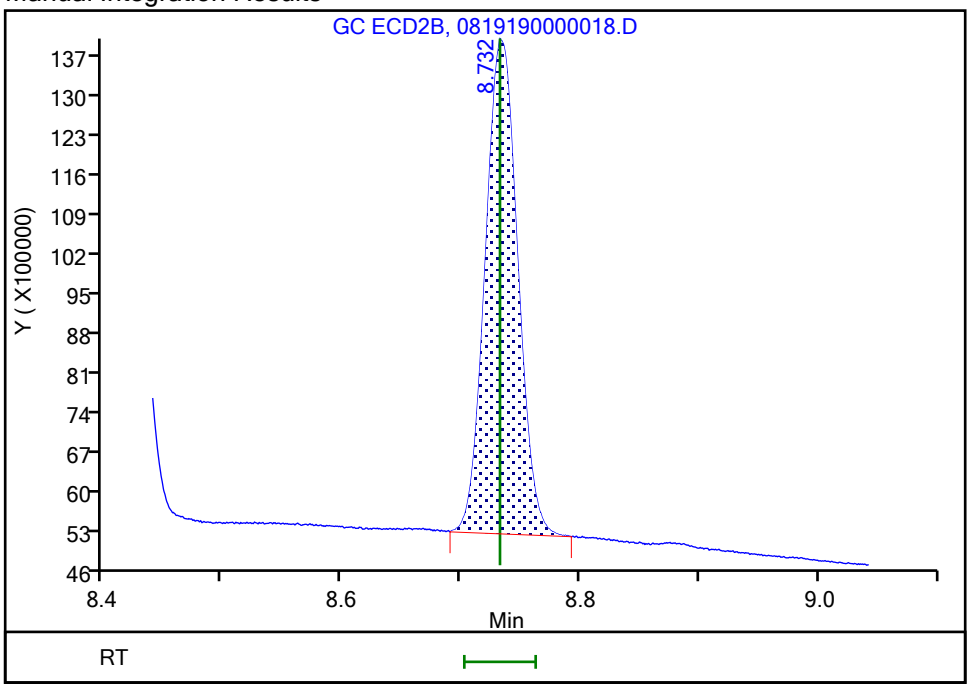

Reviewer: fritschj, 20-Aug-2019 08:18:38
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

6 Dichlorprop, CAS: 120-36-5

Signal: 2

Not Detected
Expected RT: 9.10

Processing Integration Results

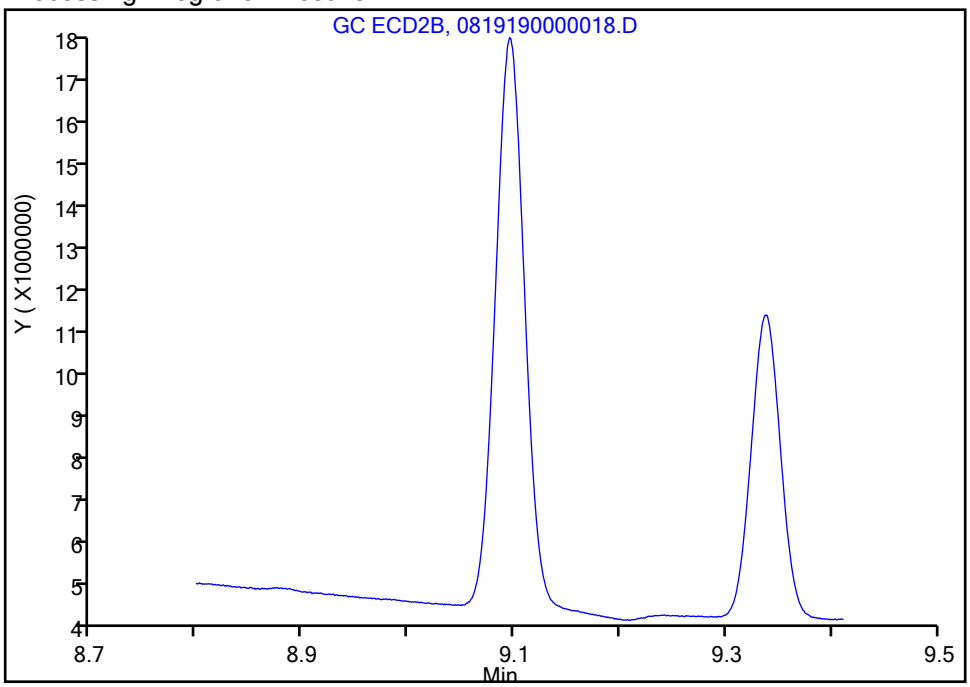

Manual Integration Results

RT: 9.10
Height: 13013520
Amount: 0.070191
Amount Units: ng

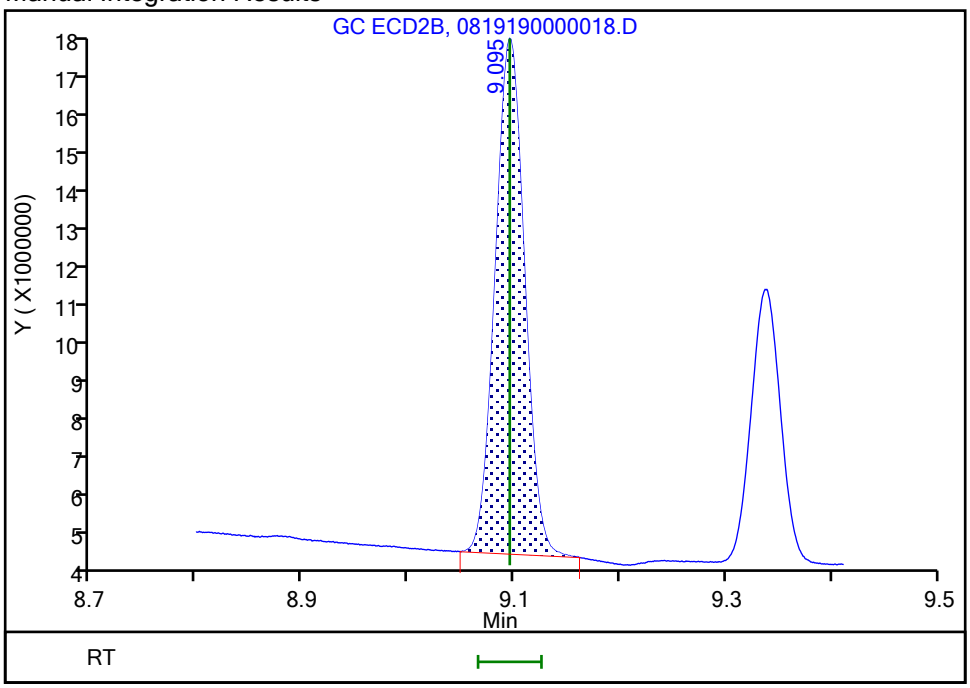

Reviewer: fritschj, 20-Aug-2019 08:19:23
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

7 2,4-D, CAS: 94-75-7

Signal: 2

Not Detected
Expected RT: 9.49

Processing Integration Results

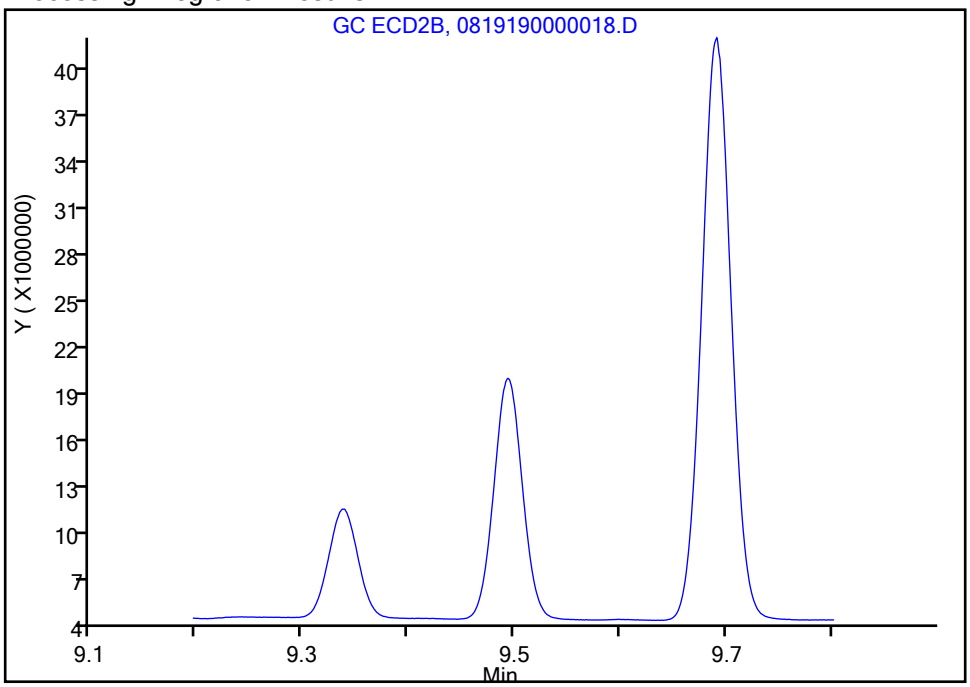

Manual Integration Results

RT: 9.49
Height: 15308071
Amount: 0.070532
Amount Units: ng

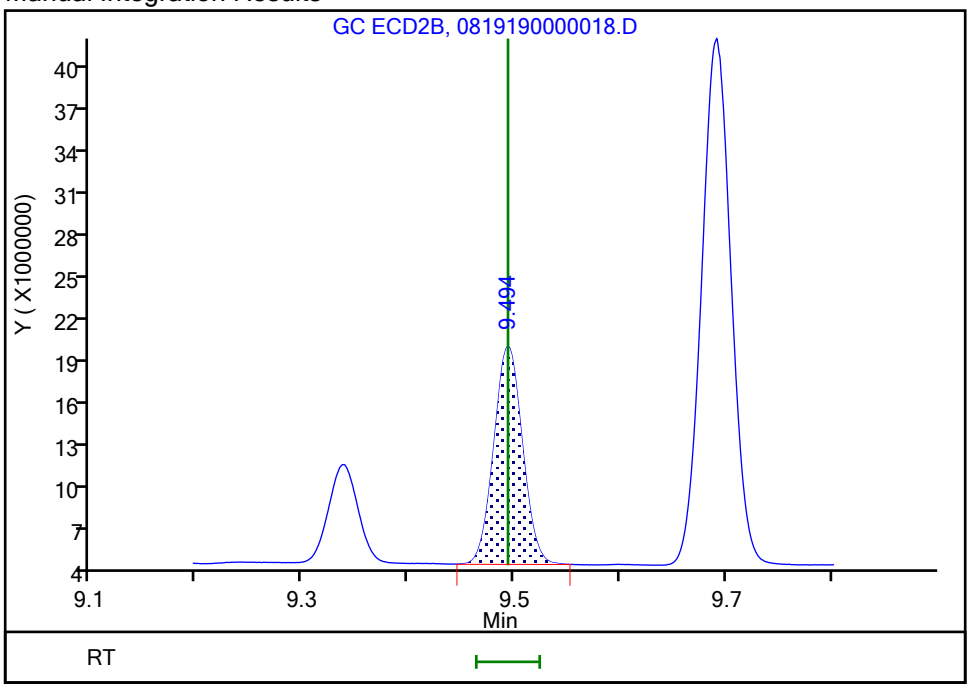

Reviewer: fritschj, 20-Aug-2019 08:19:49
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

8 Pentachlorophenol, CAS: 87-86-5

Signal: 2

Processing Integration Results

Not Detected
Expected RT: 9.69

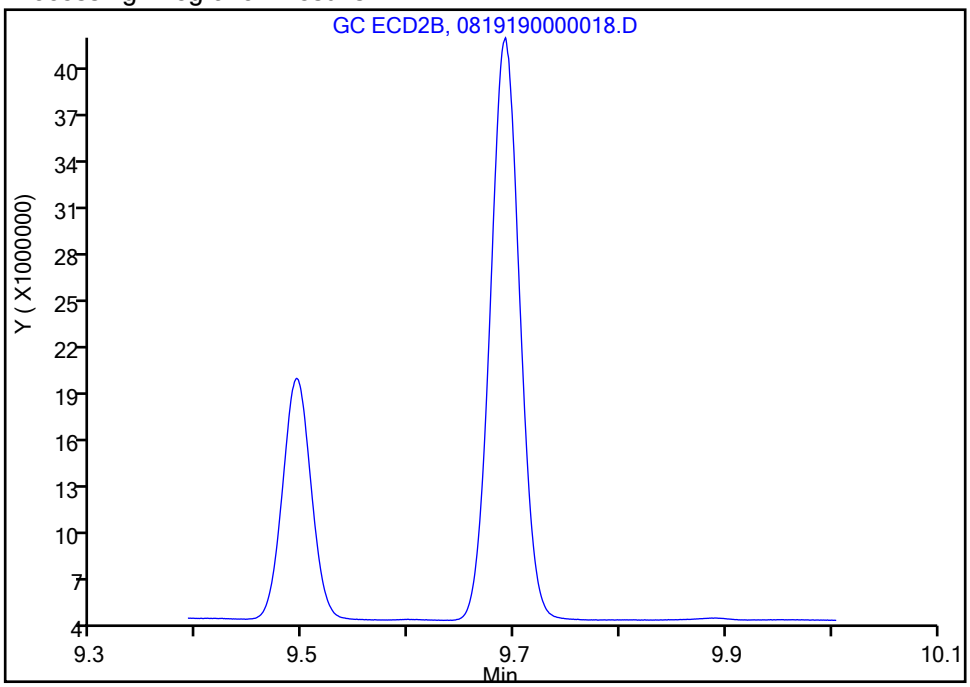

Manual Integration Results

RT: 9.69
Height: 36992114
Amount: 0.017251
Amount Units: ng

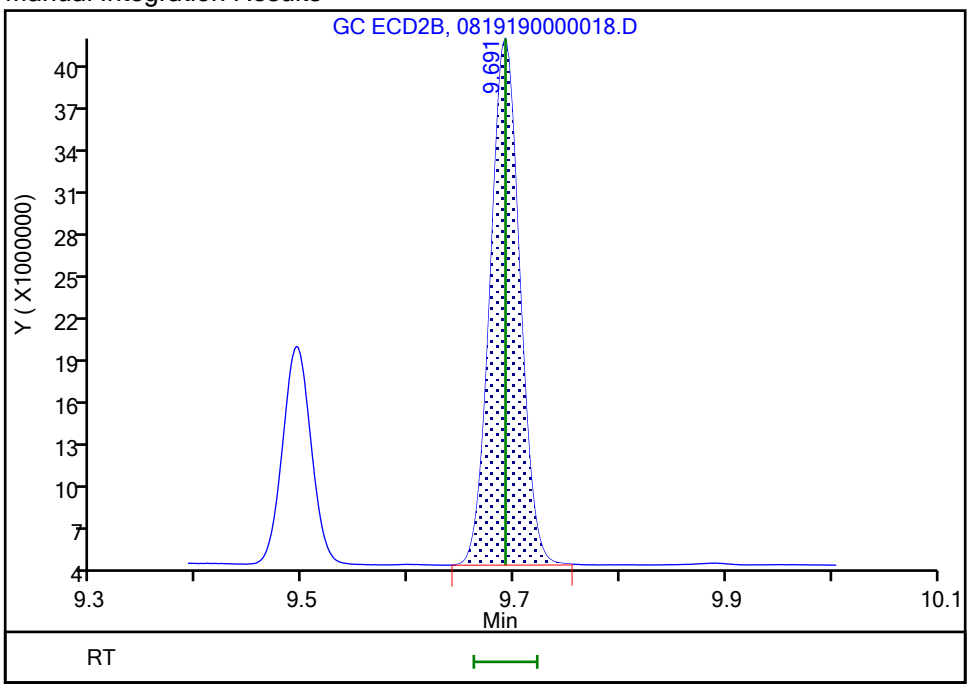

Reviewer: fritschj, 20-Aug-2019 08:22:05
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

9 Silvex (2,4,5-TP), CAS: 93-72-1

Signal: 2

Processing Integration Results

Not Detected
Expected RT: 10.26

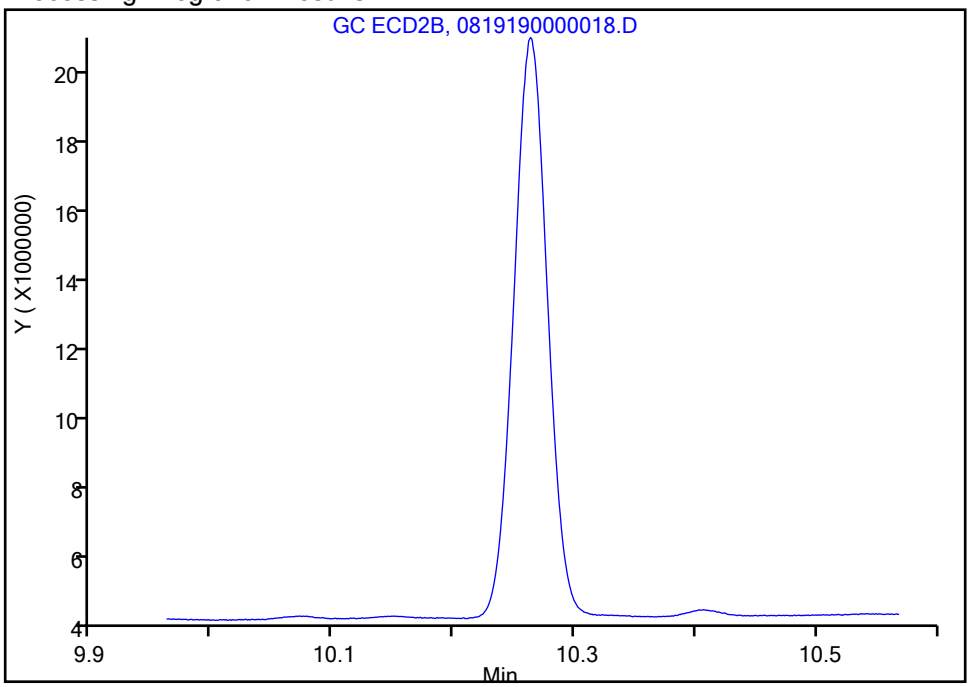

Manual Integration Results

RT: 10.26
Height: 16465579
Amount: 0.017493
Amount Units: ng

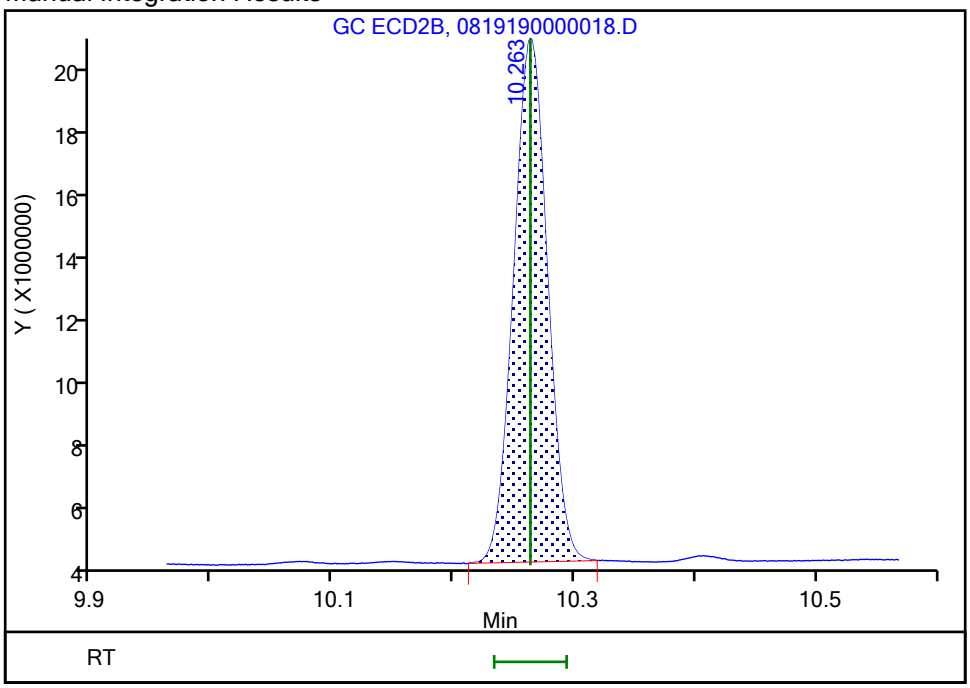

Reviewer: fritschj, 20-Aug-2019 08:22:24
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

10 2,4,5-T, CAS: 93-76-5

Signal: 2

Processing Integration Results

Not Detected
Expected RT: 10.72

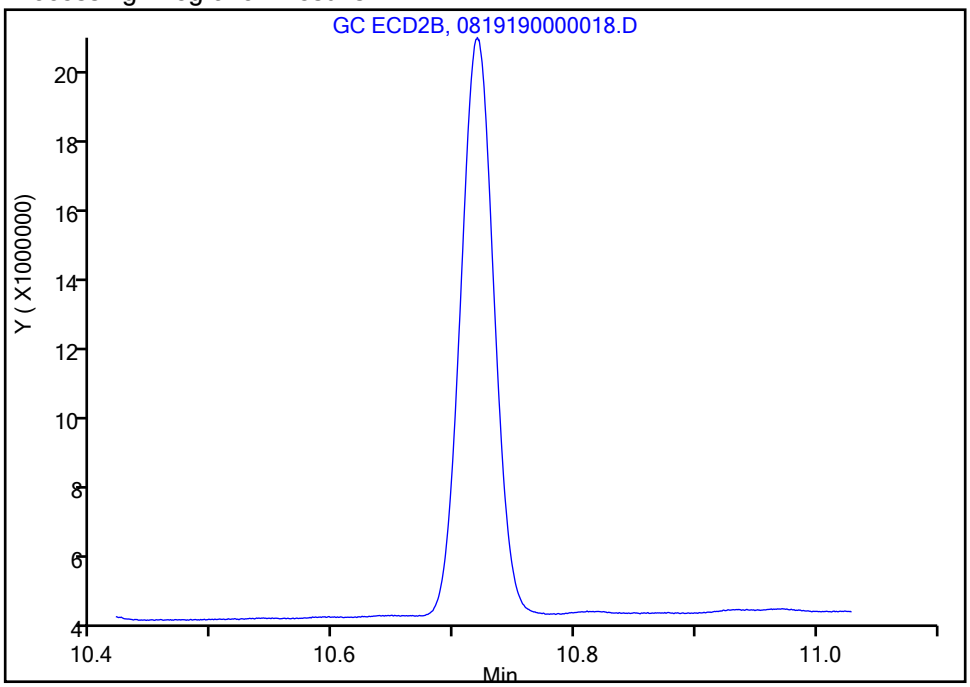

Manual Integration Results

RT: 10.72
Height: 15848356
Amount: 0.017485
Amount Units: ng

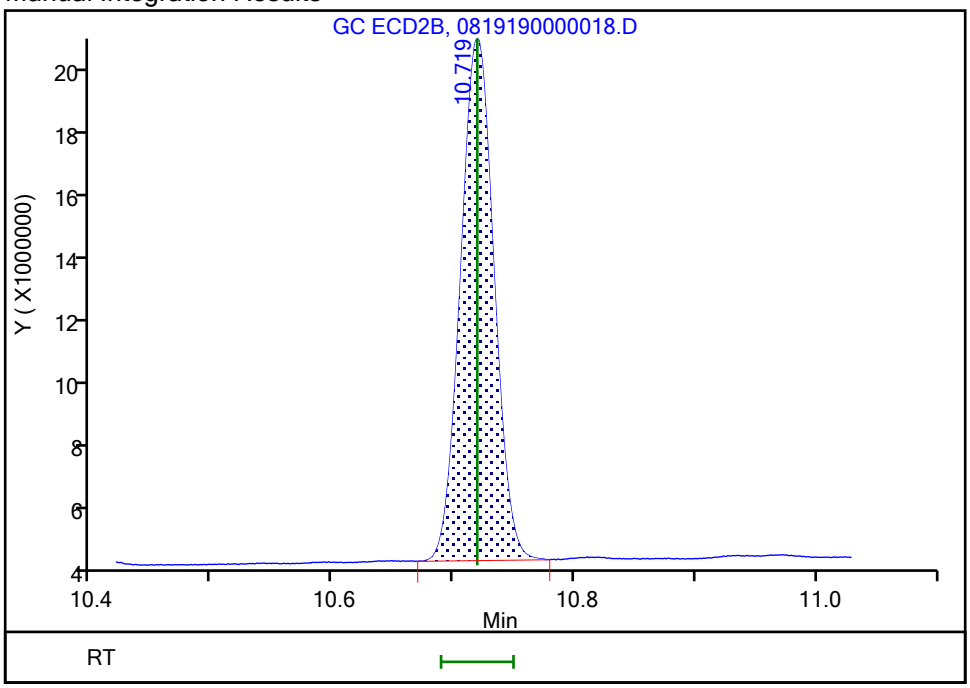

Reviewer: fritschj, 20-Aug-2019 08:23:43
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

12 2,4-DB, CAS: 94-82-6

Signal: 2

Processing Integration Results

Not Detected
Expected RT: 11.15

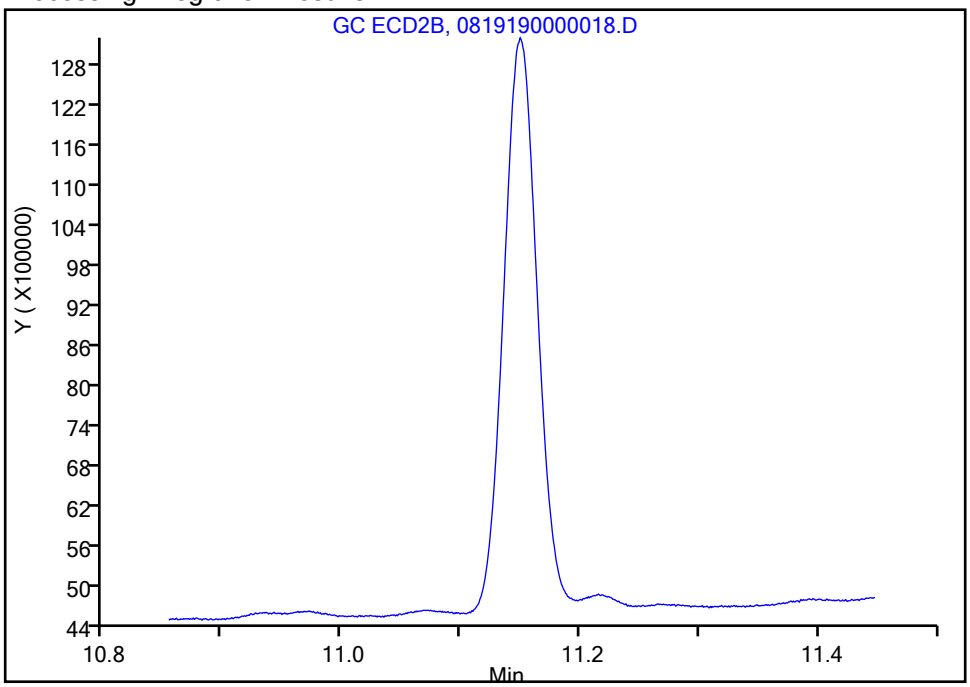

Manual Integration Results

RT: 11.15
Height: 8459711
Amount: 0.068577
Amount Units: ng

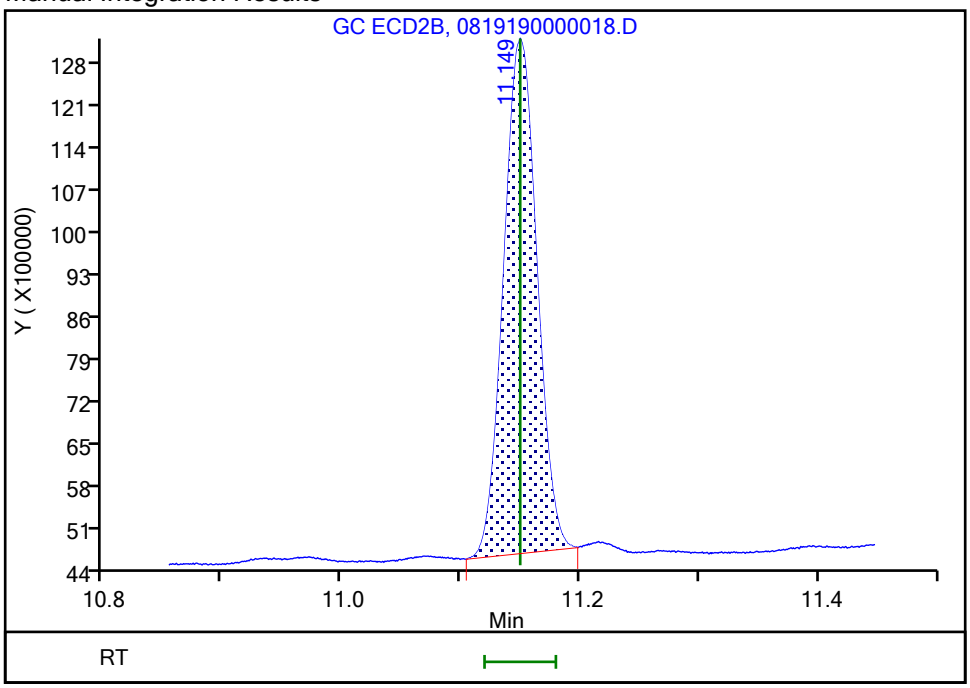

Reviewer: fritschj, 20-Aug-2019 08:24:57
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

11 Dinoseb, CAS: 88-85-7

Signal: 2

Processing Integration Results

RT: 12.99
Height: 34851
Amount: 0.039627
Amount Units: ng

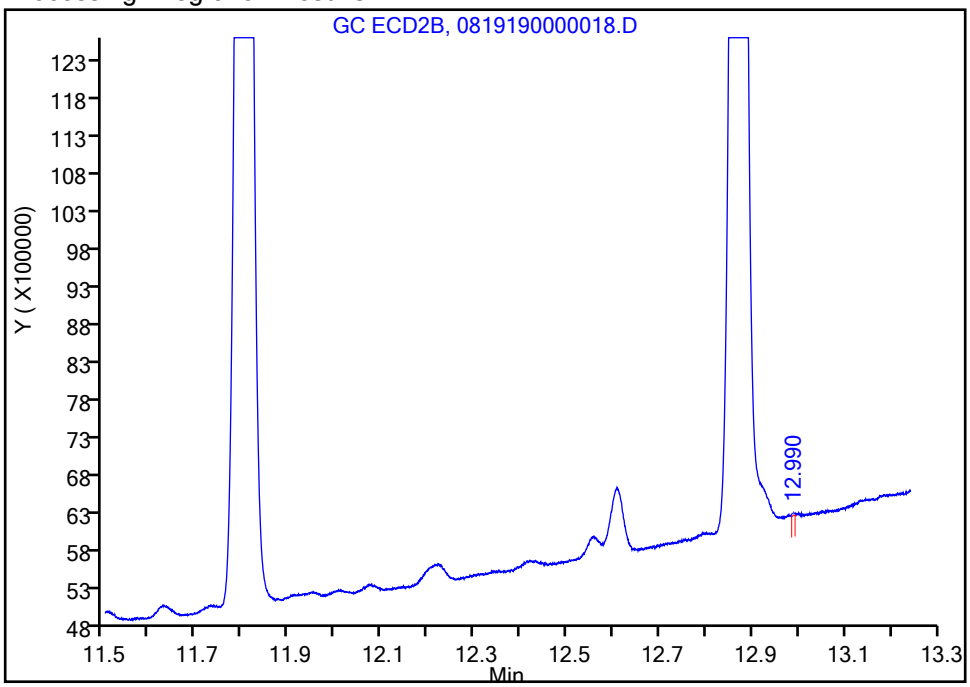

Manual Integration Results

RT: 11.80
Height: 27183193
Amount: 0.069540
Amount Units: ng

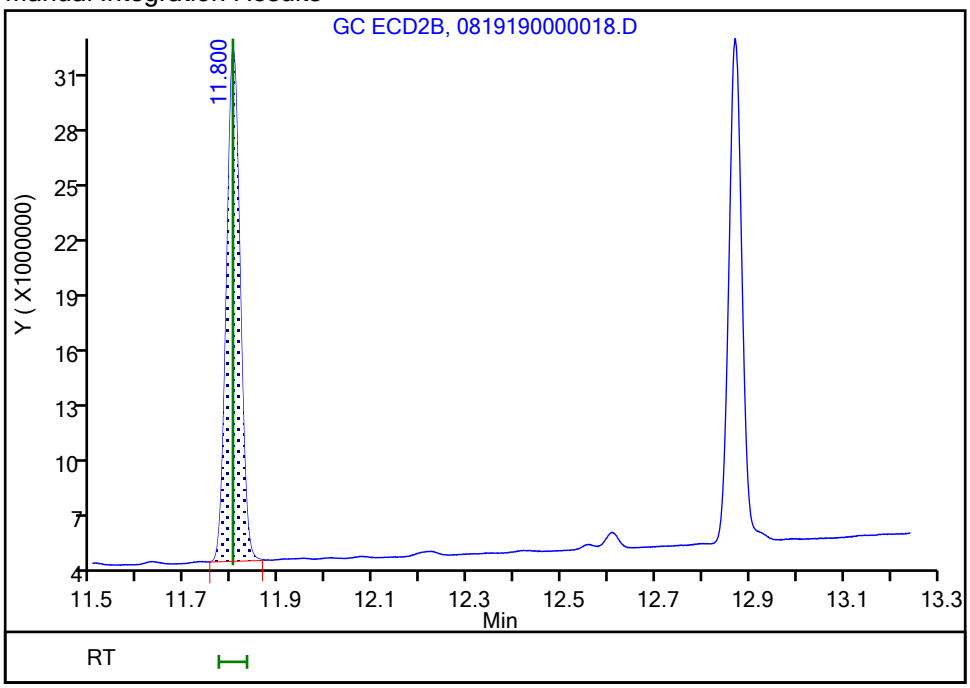

Reviewer: fritschj, 20-Aug-2019 08:24:29
Audit Action: Assigned Compound ID Audit Reason:

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000019.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 19-Aug-2019 20:19:37 ALS Bottle#: 5 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-006
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:41 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:36:14

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.180	2.179	0.001	21029013H	0.1600	0.1411	
2	2.349	2.348	0.001	47108347H	0.1600	0.1404	
						RPD = 0.53	
$ 2 2,4-Dichlorophenylacetic acid							M
1	8.027	8.030	-0.003	14637561H	0.1600	0.1345	
2	7.996	7.996	0.000	28362876H	0.1600	0.1345	M
						RPD = 0.04	
3 MCPP							M
1	8.245	8.246	-0.001	5526314H	16.0	14.0	
2	8.423	8.423	0.000	19552026	16.0	14.7	M
						RPD = 5.27	
4 Dicamba							
1	8.325	8.326	-0.001	24338630H	0.0800	0.0667	
2	8.265	8.265	0.000	48128489H	0.0800	0.0686	
						RPD = 2.81	
5 MCPA							
1	8.667	8.667	0.000	8041901H	16.0	12.5	
2	8.733	8.732	0.001	16184172H	16.0	13.1	
						RPD = 4.66	
6 Dichlorprop							
1	8.946	8.947	-0.001	12688482H	0.1600	0.1310	
2	9.095	9.095	0.000	24921509H	0.1600	0.1344	
						RPD = 2.54	
7 2,4-D							
1	9.439	9.439	0.000	14118416H	0.1600	0.1285	
2	9.493	9.494	-0.001	28835678H	0.1600	0.1329	
						RPD = 3.37	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.968	9.969	-0.001	76949921	0.0400	0.0335	
2	9.690	9.691	-0.001	72319636	0.0400	0.0337	H
						RPD = 0.68	
9 Silvex (2,4,5-TP)							
1	10.122	10.124	-0.002	16132968	0.0400	0.0329	H
2	10.262	10.263	-0.001	31885085	0.0400	0.0339	H
						RPD = 2.83	
10 2,4,5-T							
1	10.672	10.673	-0.001	15241356	0.0400	0.0329	H
2	10.717	10.719	-0.002	30784000	0.0400	0.0340	H
						RPD = 3.28	
11 Dinoseb							
1	10.927	10.928	-0.001	25368364	0.1600	0.1318	H
2	11.801	11.800	0.001	53199332	0.1600	0.1361	H
						RPD = 3.22	
12 2,4-DB							
1	11.055	11.056	-0.001	8376520	0.1600	0.1270	H
2	11.147	11.149	-0.002	16504494	0.1600	0.1338	H
						RPD = 5.18	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCHERBCALSL4_00027 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:25:43 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000019.D				
Injection Date:	19-Aug-2019 20:19:37	Instrument ID:	CGC1	Operator ID:	
Lims ID:	ic			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

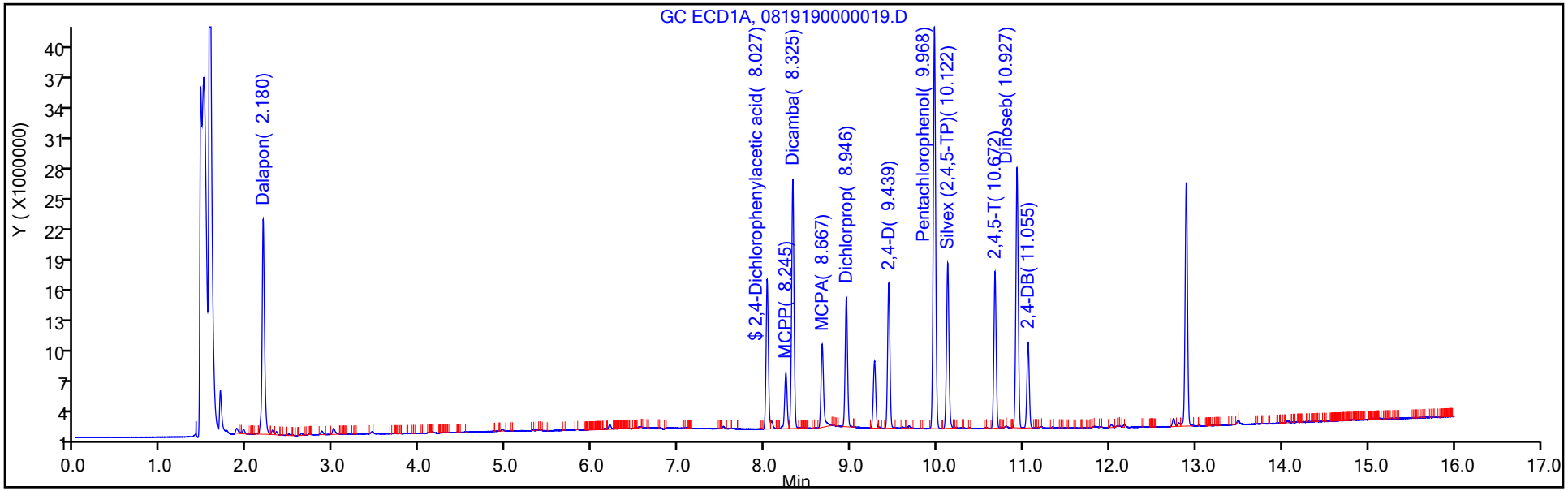

Column: RTX-1701 (0.53 mm)

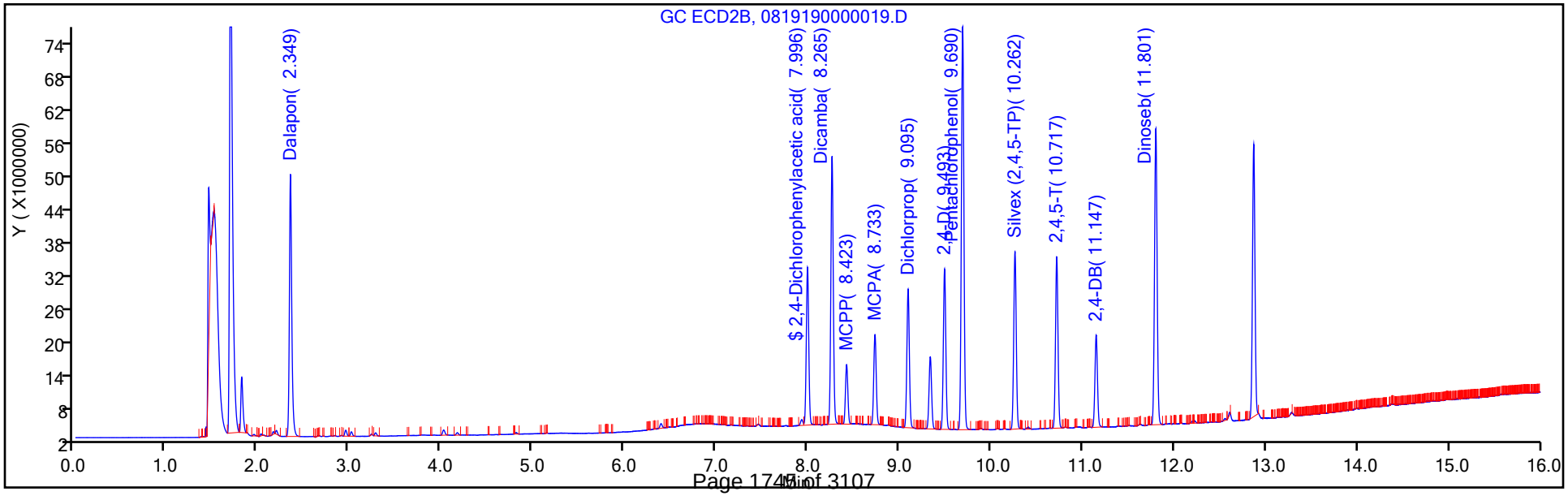

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000019.D				
Injection Date:	19-Aug-2019 20:19:37	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	5	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

$ 2 2,4-Dichlorophenylacetic acid, CAS: 19719-28-9

Signal: 2

Processing Integration Results

RT: 8.00
Height: 28190894
Amount: 0.134033
Amount Units: ng

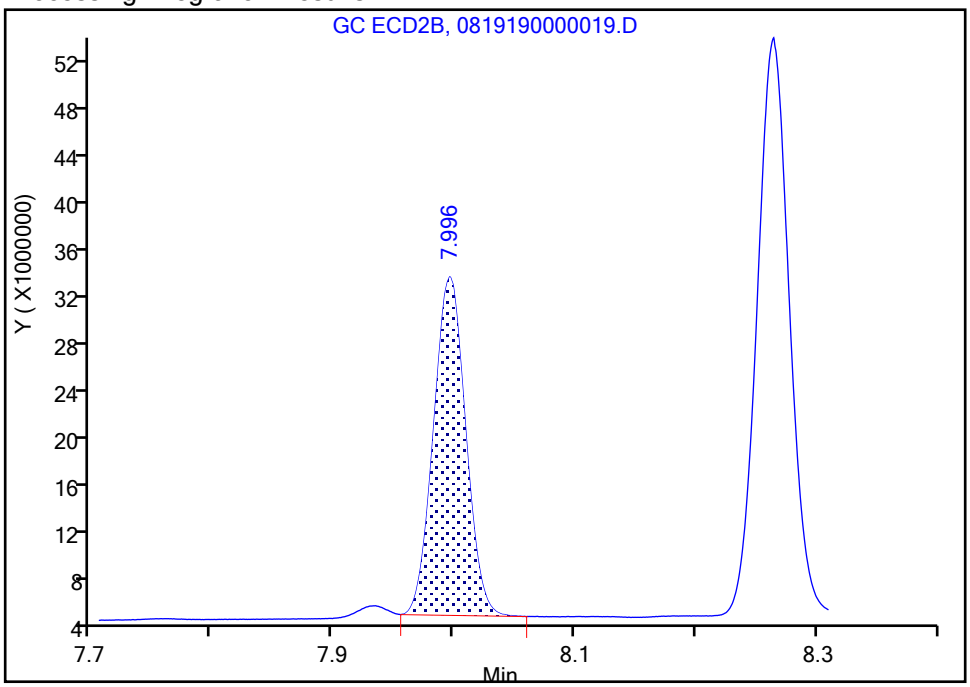

Manual Integration Results

RT: 8.00
Height: 28362876
Amount: 0.134473
Amount Units: ng

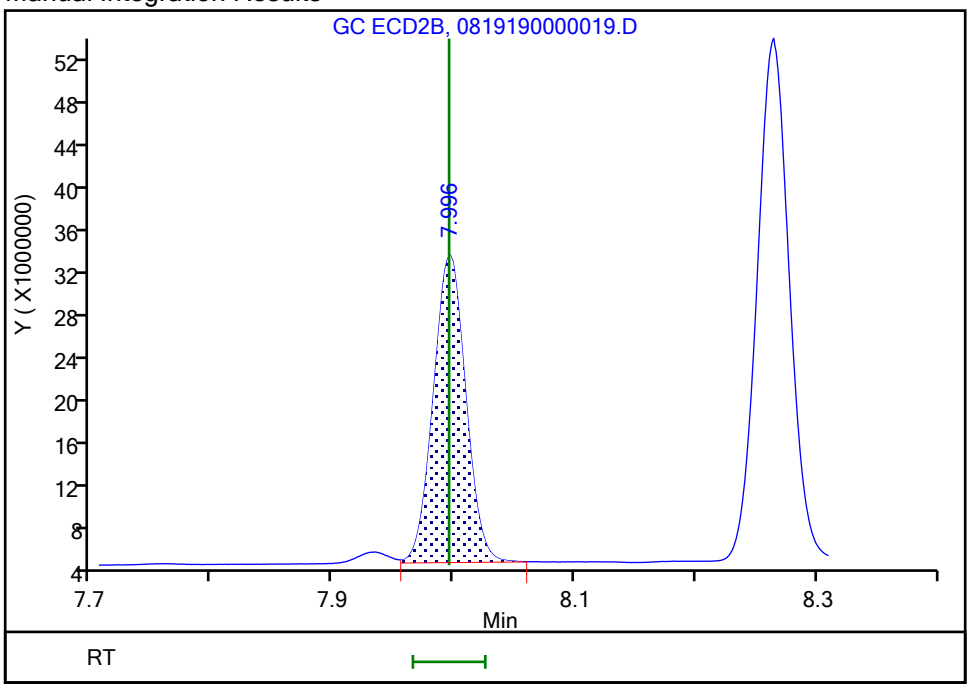

Reviewer: fritschj, 20-Aug-2019 08:38:28
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000019.D				
Injection Date:	19-Aug-2019 20:19:37	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	5	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

3 MCPP, CAS: 93-65-2

Signal: 2

Processing Integration Results

RT: 8.42
Area: 19360884
Amount: 15.027734
Amount Units: ng

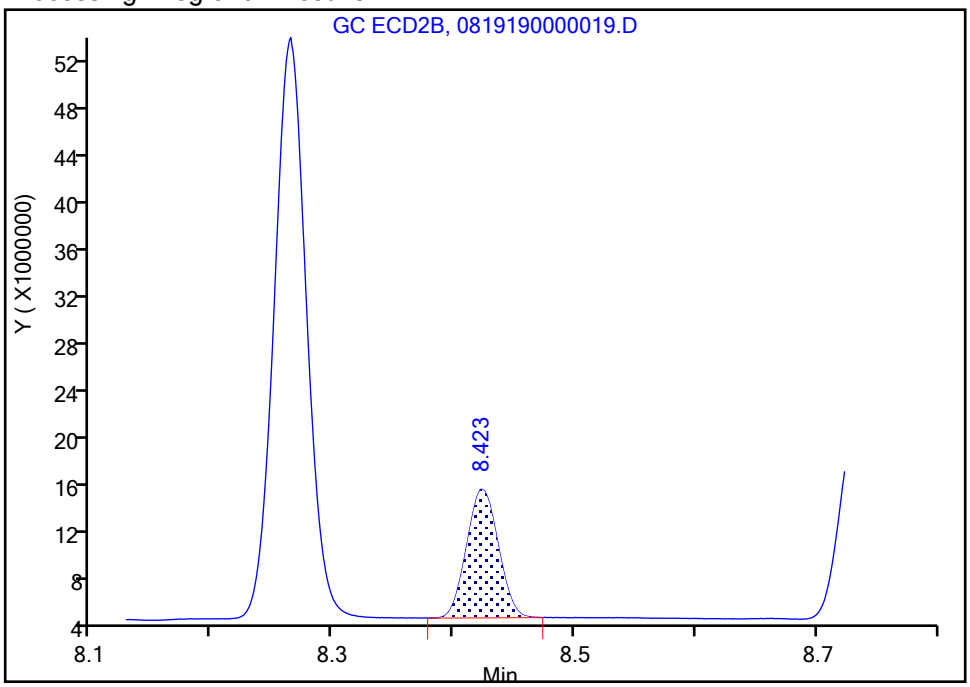

Manual Integration Results

RT: 8.42
Area: 19552026
Amount: 14.740461
Amount Units: ng

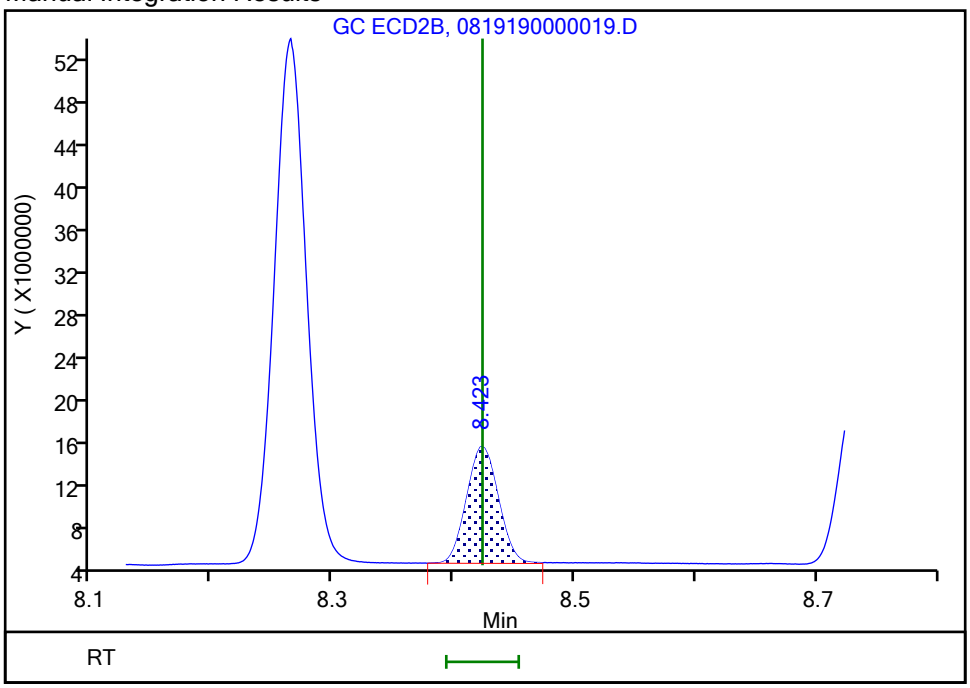

Reviewer: fritschj, 20-Aug-2019 09:01:54
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000020.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 19-Aug-2019 20:44:28 ALS Bottle#: 6 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-007
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:36 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:39:36

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.179	2.179	0.000	43608531H	0.3200	0.2926	
2	2.348	2.348	0.000	99838456H	0.3200	0.2975	
						RPD = 1.65	
$ 2 2,4-Dichlorophenylacetic acid							M
1	8.029	8.030	-0.001	31108696H	0.3200	0.2859	
2	7.995	7.996	-0.001	61366883H	0.3200	0.2909	M
						RPD = 1.75	
3 MCPP							M
1	8.245	8.246	-0.001	11527851H	32.0	29.2	
2	8.423	8.423	0.000	43025874	32.0	31.9	M
						RPD = 8.99	
4 Dicamba							
1	8.327	8.326	0.001	54610812H	0.1600	0.1497	
2	8.264	8.265	-0.001	108308115H	0.1600	0.1544	
						RPD = 3.11	
5 MCPA							M
1	8.667	8.667	0.000	17021609H	32.0	26.5	M
2	8.732	8.732	0.000	34629475H	32.0	28.1	
						RPD = 5.75	
6 Dichlorprop							M
1	8.947	8.947	0.000	27593514H	0.3200	0.2850	M
2	9.094	9.095	-0.001	54016213H	0.3200	0.2913	
						RPD = 2.21	
7 2,4-D							
1	9.439	9.439	0.000	31721217H	0.3200	0.2886	
2	9.493	9.494	-0.001	63139895H	0.3200	0.2909	
						RPD = 0.80	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.968	9.969	-0.001	174313893	0.0800	0.0759	
2	9.690	9.691	-0.001	165194490	0.0800	0.0770	H
						RPD = 1.51	
9 Silvex (2,4,5-TP)							
1	10.123	10.124	-0.001	36187475	0.0800	0.0739	H
2	10.262	10.263	-0.001	69623321	0.0800	0.0740	H
						RPD = 0.15	
10 2,4,5-T							
1	10.672	10.673	-0.001	33557621	0.0800	0.0724	H
2	10.719	10.719	0.000	67021283	0.0800	0.0739	H
						RPD = 2.16	
11 Dinoseb							
1	10.927	10.928	-0.001	57547973	0.3200	0.2990	H
2	11.800	11.800	0.000	118949912	0.3200	0.3043	H
						RPD = 1.77	
12 2,4-DB							
1	11.056	11.056	0.000	18445489	0.3200	0.2797	H
2	11.148	11.149	-0.001	36748566	0.3200	0.2979	H
						RPD = 6.29	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCHERBCALSL5_00024 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:25:38 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000020.D

Injection Date: 19-Aug-2019 20:44:28 Instrument ID: CGC1 Operator ID:

Lims ID: ic Worklist Smp#: 7

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 6

Method: Herbicides_CGC1 Limit Group: GCS 8151A ICAL

Column: RTX-50 (0.53 mm)

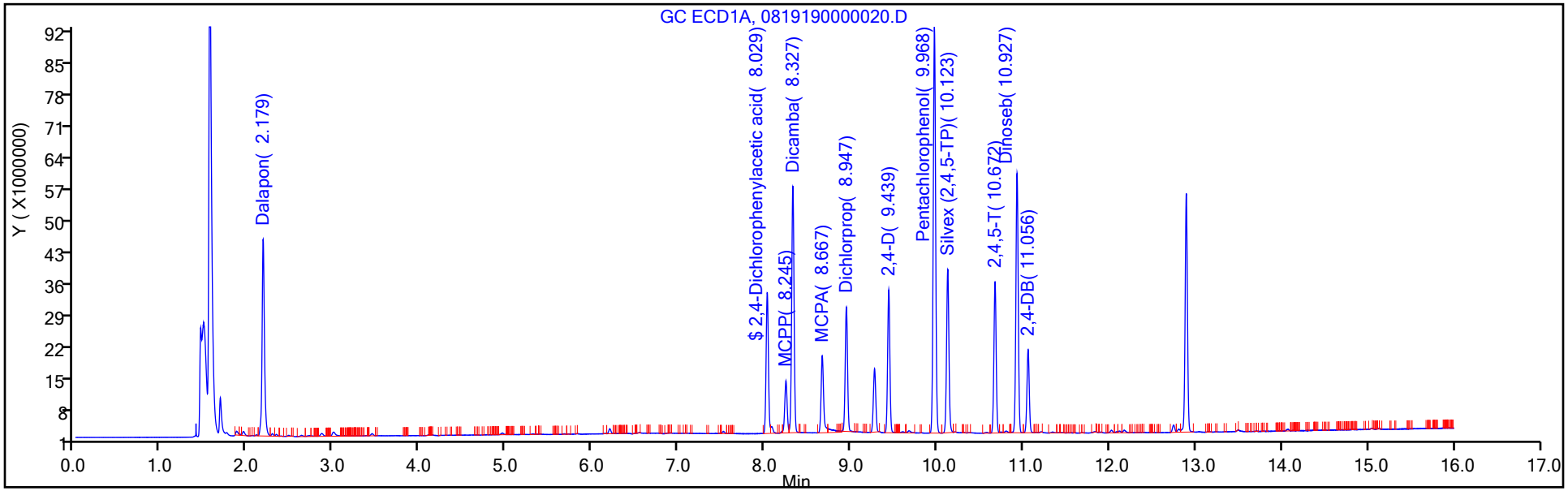

Column: RTX-1701 (0.53 mm)

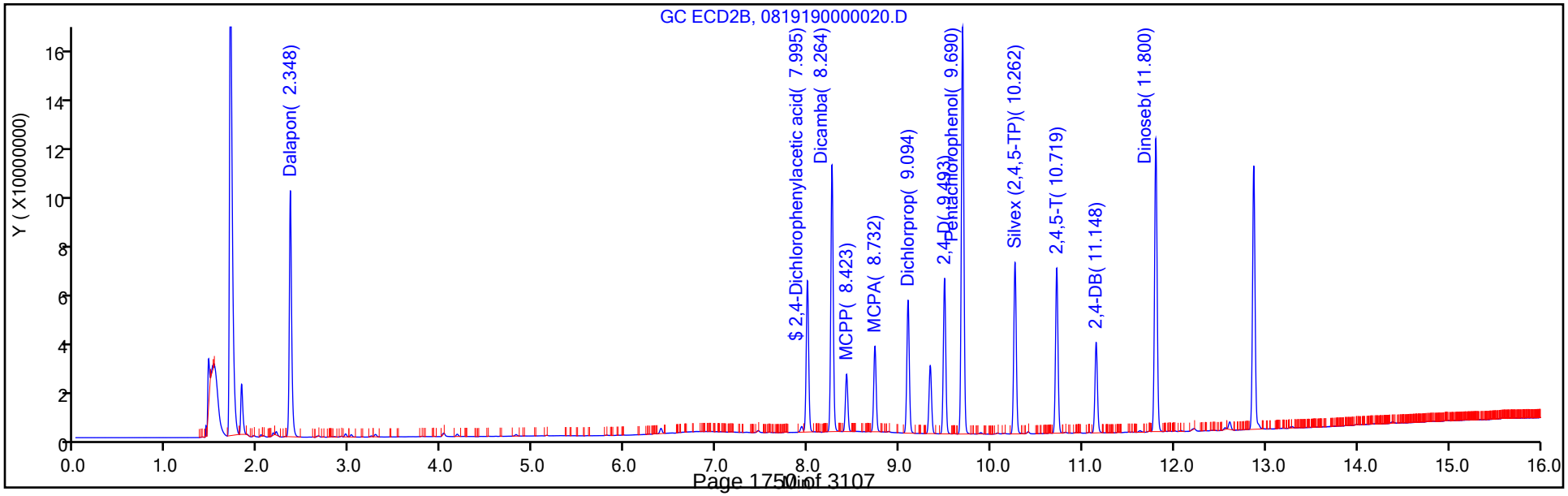

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000020.D				
Injection Date:	19-Aug-2019 20:44:28	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	6	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

$ 2 2,4-Dichlorophenylacetic acid, CAS: 19719-28-9

Signal: 2

Processing Integration Results

RT: 8.00
Height: 60948828
Amount: 0.289569
Amount Units: ng

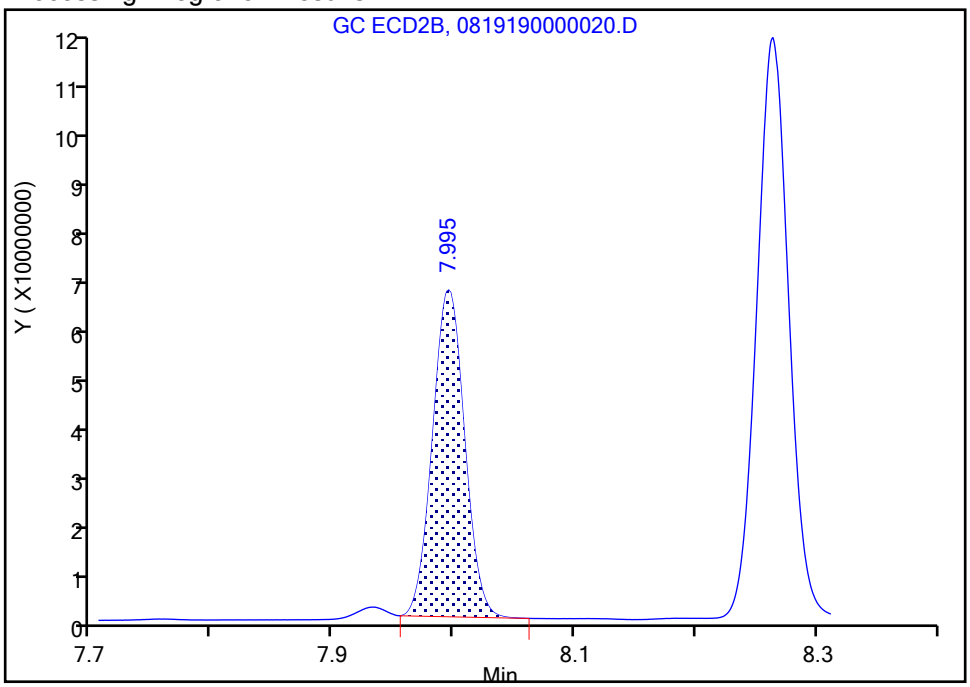

Manual Integration Results

RT: 8.00
Height: 61366883
Amount: 0.290950
Amount Units: ng

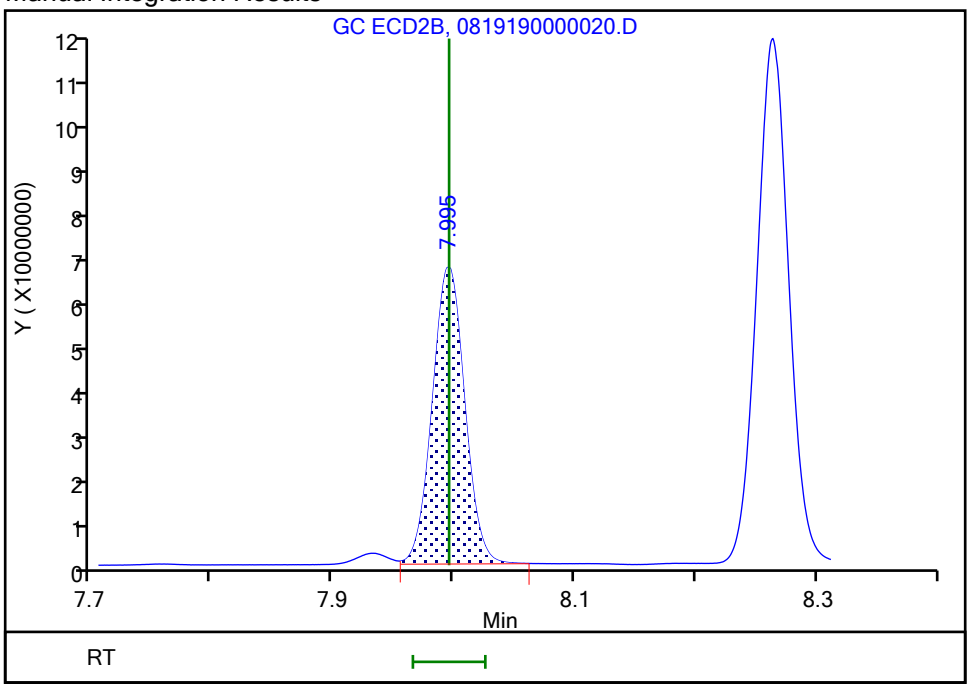

Reviewer: fritschj, 20-Aug-2019 08:39:04

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000020.D				
Injection Date:	19-Aug-2019 20:44:28	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	6	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

3 MCPP, CAS: 93-65-2

Signal: 2

Processing Integration Results

RT: 8.42
Area: 42736423
Amount: 32.786741
Amount Units: ng

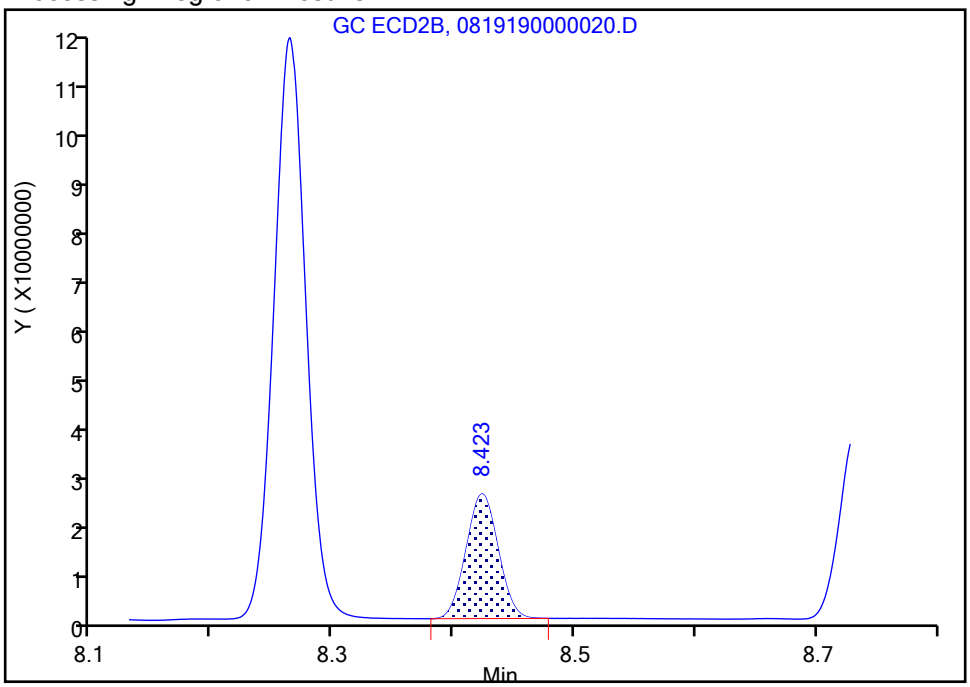

Manual Integration Results

RT: 8.42
Area: 43025874
Amount: 31.914719
Amount Units: ng

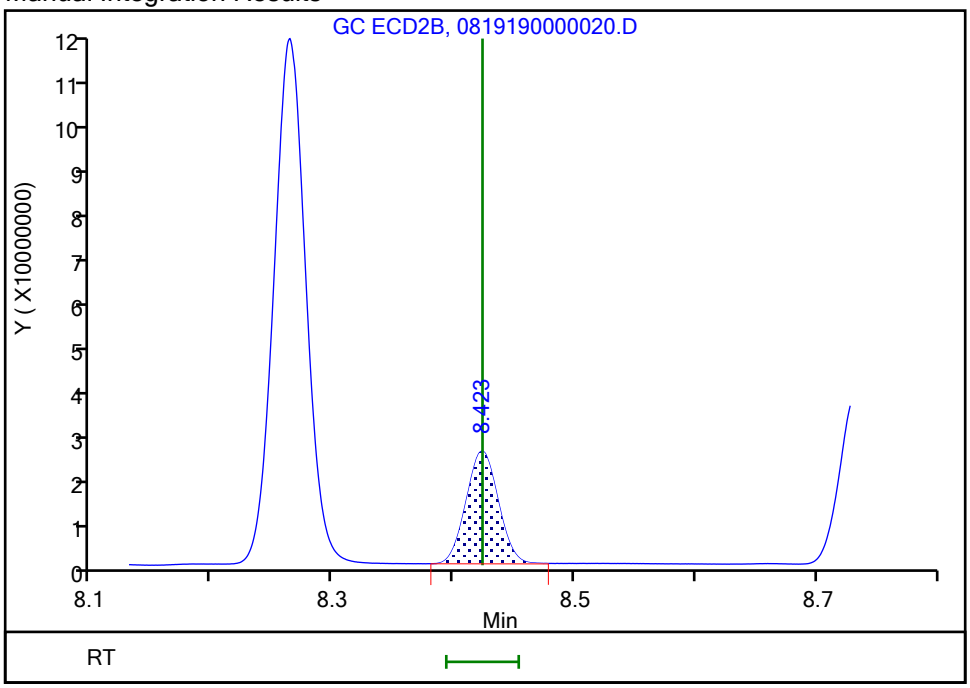

Reviewer: fritschj, 20-Aug-2019 09:01:36

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 19-Aug-2019 21:09:17 ALS Bottle#: 7 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-008
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:30 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:41:54

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.180	2.179	0.001	93323150H	0.6400	0.6261	
2	2.349	2.348	0.001	215136032H	0.6400	0.6410	
						RPD = 2.34	
$ 2 2,4-Dichlorophenylacetic acid							M
1	8.028	8.030	-0.002	81721770H	0.6400	0.7510	
2	7.995	7.996	-0.001	160232905H	0.6400	0.7597	M
						RPD = 1.15	
3 MCPP							M
1	8.246	8.246	0.000	28412748H	64.0	71.9	M
2	8.424	8.423	0.001	105028103	64.0	77.3	M
						RPD = 7.22	
4 Dicamba							
1	8.327	8.326	0.001	147507060H	0.3200	0.4044	
2	8.264	8.265	-0.001	285831491H	0.3200	0.4076	
						RPD = 0.78	
5 MCPA							M
1	8.668	8.667	0.001	42228426H	64.0	65.8	M
2	8.733	8.732	0.001	85179526H	64.0	69.1	
						RPD = 4.89	
6 Dichlorprop							
1	8.946	8.947	-0.001	70413016H	0.6400	0.7272	
2	9.095	9.095	0.000	134112070H	0.6400	0.7234	
						RPD = 0.54	
7 2,4-D							
1	9.439	9.439	0.000	80024495H	0.6400	0.7281	
2	9.492	9.494	-0.002	155353592H	0.6400	0.7158	
						RPD = 1.70	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.969	9.969	0.000	442087354	0.1600	0.1925	
2	9.690	9.691	-0.001	414942166	0.1600	0.1935	H
						RPD = 0.55	
9 Silvex (2,4,5-TP)							
1	10.123	10.124	-0.001	90113505	0.1600	0.1839	H
2	10.261	10.263	-0.002	170145013	0.1600	0.1808	H
						RPD = 1.73	
10 2,4,5-T							
1	10.672	10.673	-0.001	83776615	0.1600	0.1807	H
2	10.717	10.719	-0.002	161521889	0.1600	0.1782	H
						RPD = 1.37	
11 Dinoseb							
1	10.928	10.928	0.000	146632881	0.6400	0.7617	H
2	11.800	11.800	0.000	296590424	0.6400	0.7587	H
						RPD = 0.39	
12 2,4-DB							
1	11.056	11.056	0.000	48229906	0.6400	0.7314	H
2	11.148	11.149	-0.001	92368969	0.6400	0.7488	H
						RPD = 2.34	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCHERBCALSL6_00012 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:25:33 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Injection Date: 19-Aug-2019 21:09:17 Instrument ID: CGC1 Operator ID:

Lims ID: ic Worklist Smp#: 8

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 7

Method: Herbicides_CGC1 Limit Group: GCS 8151A ICAL

Column: RTX-50 (0.53 mm)

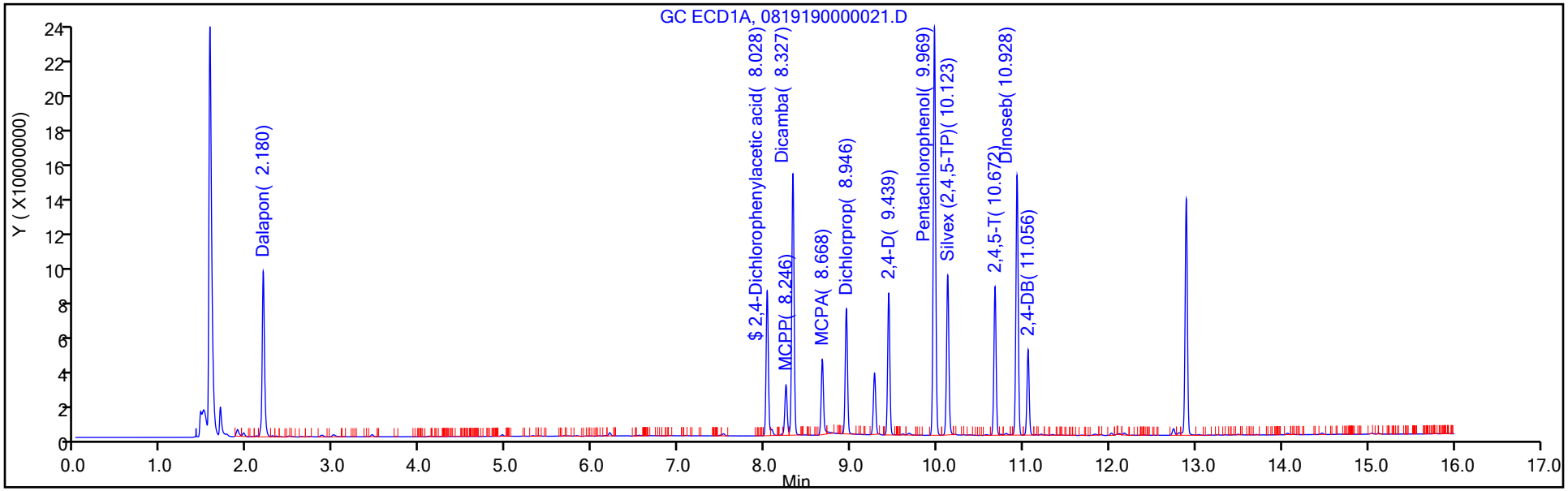

Column: RTX-1701 (0.53 mm)

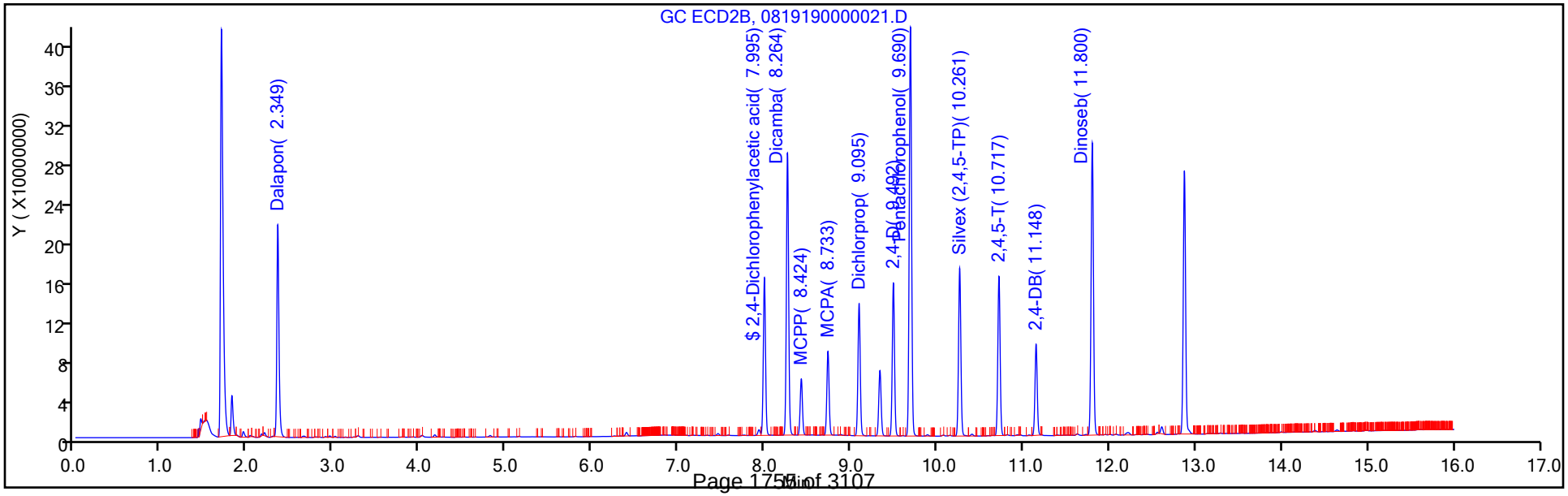

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D				
Injection Date:	19-Aug-2019 21:09:17	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	7	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

$ 2 2,4-Dichlorophenylacetic acid, CAS: 19719-28-9

Signal: 2

Processing Integration Results

RT: 8.00
Height: 159105466
Amount: 0.755244
Amount Units: ng

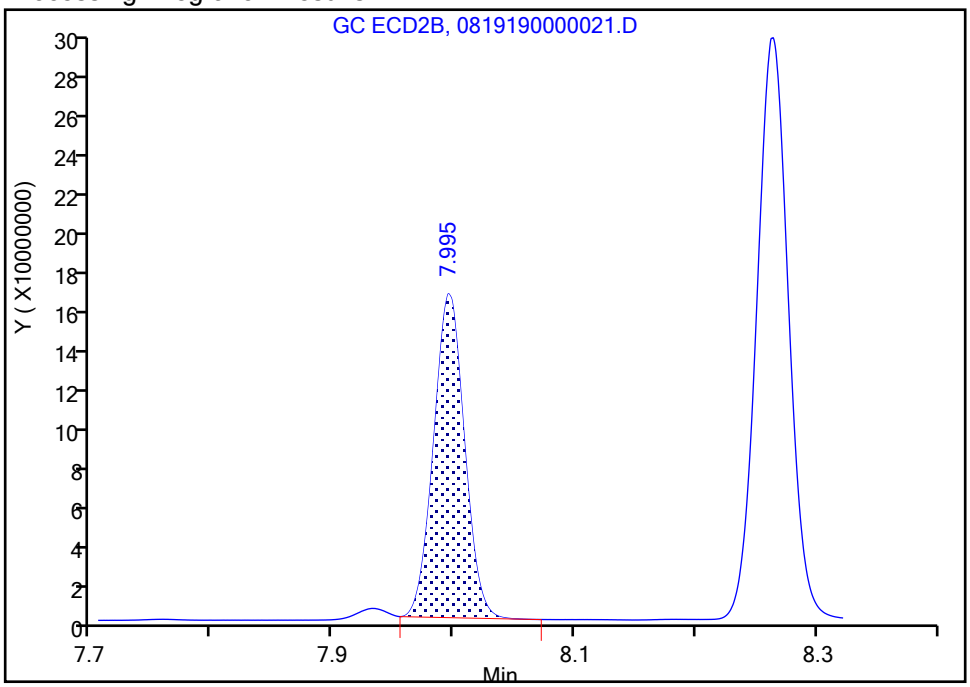

Manual Integration Results

RT: 8.00
Height: 160232905
Amount: 0.759688
Amount Units: ng

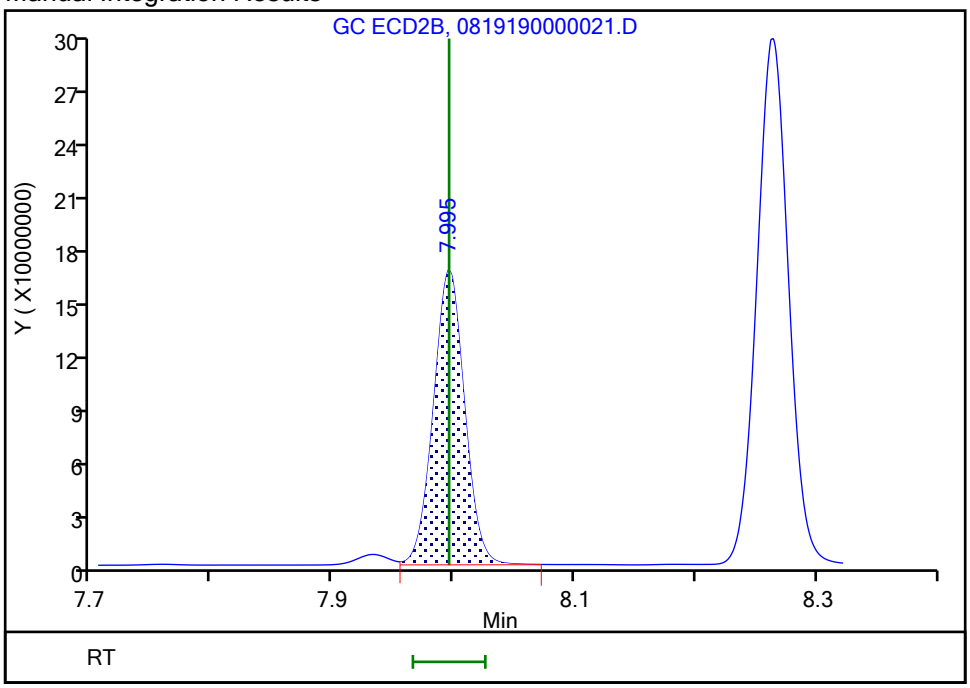

Reviewer: fritschj, 20-Aug-2019 08:39:52
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D				
Injection Date:	19-Aug-2019 21:09:17	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	7	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

3 MCPP, CAS: 93-65-2

Signal: 2

Processing Integration Results

RT: 8.42
Area: 105105493
Amount: 85.245776
Amount Units: ng

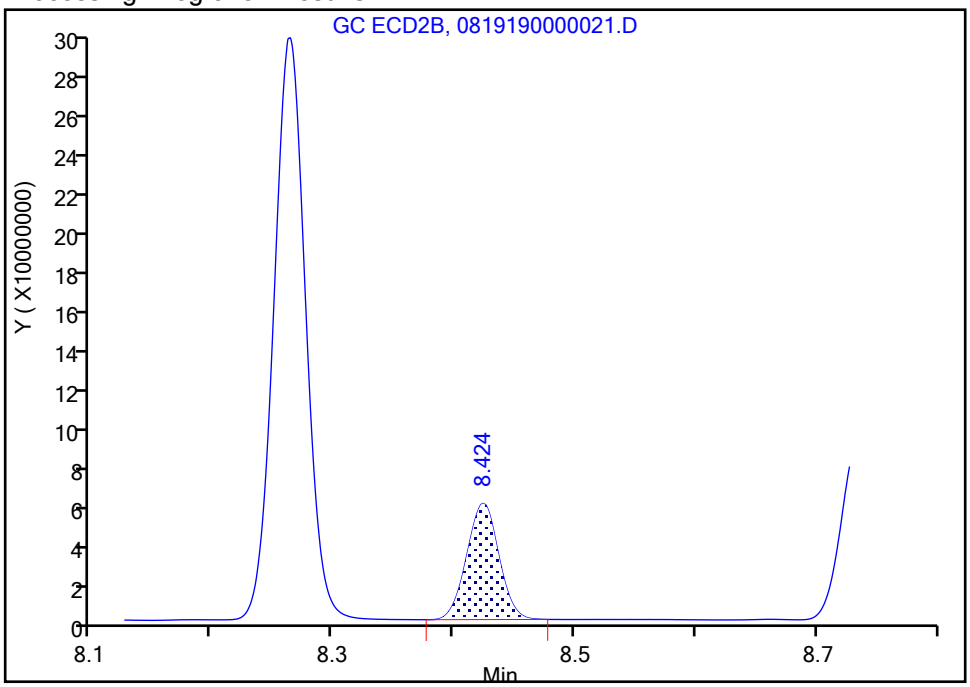

Manual Integration Results

RT: 8.42
Area: 105028103
Amount: 77.277637
Amount Units: ng

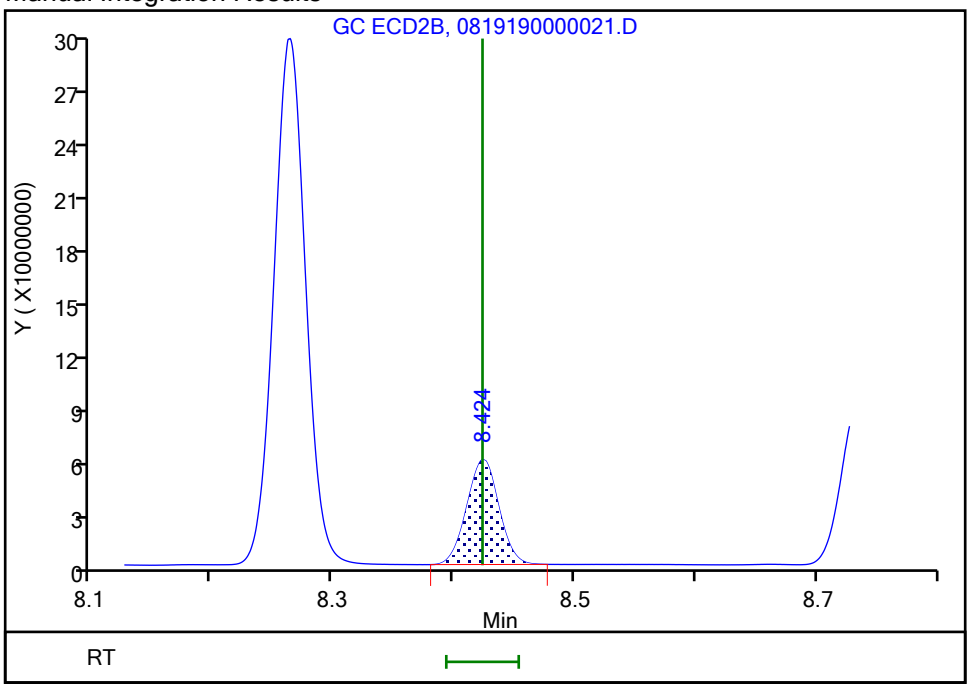

Reviewer: fritschj, 20-Aug-2019 08:59:24

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VII
HERBICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCVRT 180-293383/2 Calibration Date: 10/01/2019 17:50

Instrument ID: CGC1 Calib Start Date: 08/19/2019 18:39

GC Column: RTX-50 ID: 0.53(mm) Calib End Date: 08/19/2019 21:09

Lab File ID: 1001190000004.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dalapon	Ave	149044093	155247494		0.167	0.160	4.2	15.0
MCPP	Ave	395205	393584		15.9	16.0	-0.4	15.0
Dicamba	Ave	364753045	321070963		0.0704	0.0800	-12.0	15.0
MCPA	Ave	641328	563254		14.1	16.0	-12.2	15.0
Dichlorprop	Ave	96821949	84238406		0.139	0.160	-13.0	15.0
2,4-D	Ave	109912279	96688831		0.141	0.160	-12.0	15.0
Pentachlorophenol	Ave	2297112921	1960267950		0.0341	0.0400	-14.7	15.0
Silvex (2,4,5-TP)	Ave	489936885	435453175		0.0356	0.0400	-11.1	15.0
2,4,5-T	Ave	463721151	416312375		0.0359	0.0400	-10.2	15.0
Dinoseb	Ave	192497167	196708713		0.164	0.160	2.2	15.0
2,4-DB	Ave	65939713	55016825		0.133	0.160	-16.6*	15.0
2,4-Dichlorophenylacetic acid	Ave	108813389	97292056		0.143	0.160	-10.6	15.0

FORM VII
HERBICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCVRT 180-293383/2 Calibration Date: 10/01/2019 17:50

Instrument ID: CGC1 Calib Start Date: 08/19/2019 18:39

GC Column: RTX-50 ID: 0.53(mm) Calib End Date: 08/19/2019 21:09

Lab File ID: 1001190000004.D

Analyte	RT	RT WINDOW	
		FROM	TO
Dalapon	2.17	2.14	2.20
MCPP	8.17	8.14	8.20
Dicamba	8.25	8.22	8.28
MCPA	8.59	8.56	8.62
Dichlorprop	8.87	8.84	8.90
2,4-D	9.36	9.33	9.39
Pentachlorophenol	9.88	9.85	9.91
Silvex (2,4,5-TP)	10.04	10.01	10.07
2,4,5-T	10.59	10.56	10.62
Dinoseb	10.84	10.79	10.89
2,4-DB	10.97	10.94	11.00
2,4-Dichlorophenylacetic acid	7.95	7.92	7.98

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000004.D
Lims ID: ccvrt
Client ID:
Sample Type: CCVRT
Inject. Date: 01-Oct-2019 17:50:15 ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028922-002
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 02-Oct-2019 14:48:47 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0325

First Level Reviewer: fritschj Date: 02-Oct-2019 11:57:26

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.166	2.166	0.000	24839599H	0.1600	0.1667	
2	2.359	2.359	0.000	51405950H	0.1600	0.1532	
						RPD = 8.44	
$ 2 2,4-Dichlorophenylacetic acid							M
1	7.952	7.952	0.000	15566729H	0.1600	0.1431	M
2	7.990	7.990	0.000	28758334H	0.1600	0.1363	M
						RPD = 4.80	
3 MCPP							
1	8.167	8.167	0.000	6297346H	16.0	15.9	
2	8.412	8.412	0.000	19703154	16.0	14.9	
						RPD = 7.04	
4 Dicamba							
1	8.246	8.246	0.000	25685677H	0.0800	0.0704	
2	8.256	8.256	0.000	48252067H	0.0800	0.0688	
						RPD = 2.32	
5 MCPA							M
1	8.588	8.588	0.000	9012063H	16.0	14.1	
2	8.721	8.721	0.000	16908667H	16.0	13.7	M
						RPD = 2.35	
6 Dichlorprop							
1	8.867	8.867	0.000	13478145H	0.1600	0.1392	
2	9.083	9.083	0.000	25313773H	0.1600	0.1365	
						RPD = 1.94	
7 2,4-D							M
1	9.356	9.356	0.000	15470213H	0.1600	0.1408	
2	9.480	9.480	0.000	29512885H	0.1600	0.1360	M
						RPD = 3.45	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.879	9.879	0.000	78410718	0.0400	0.0341	
2	9.688	9.688	0.000	75490284	0.0400	0.0352	H
						RPD = 3.09	
9 Silvex (2,4,5-TP)							
1	10.039	10.039	0.000	17418127	0.0400	0.0356	H
2	10.249	10.249	0.000	32545291	0.0400	0.0346	H
						RPD = 2.78	
10 2,4,5-T							
1	10.587	10.587	0.000	16652495	0.0400	0.0359	H
2	10.704	10.704	0.000	30925792	0.0400	0.0341	H
						RPD = 5.11	
11 Dinoseb							
1	10.843	10.843	0.000	31473394	0.1600	0.1635	H
2	11.780	11.780	0.000	56245296	0.1600	0.1439	H
						RPD = 12.76	
12 2,4-DB							
1	10.970	10.970	0.000	8802692	0.1600	0.1335	H
2	11.132	11.132	0.000	16766292	0.1600	0.1359	H
						RPD = 1.79	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCHERBCALSL4_00027 Amount Added: 1.00 Units: mL

Report Date: 02-Oct-2019 14:48:48 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000004.D				
Injection Date:	01-Oct-2019 17:50:15	Instrument ID:	CGC1	Operator ID:	
Lims ID:	ccvrt			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

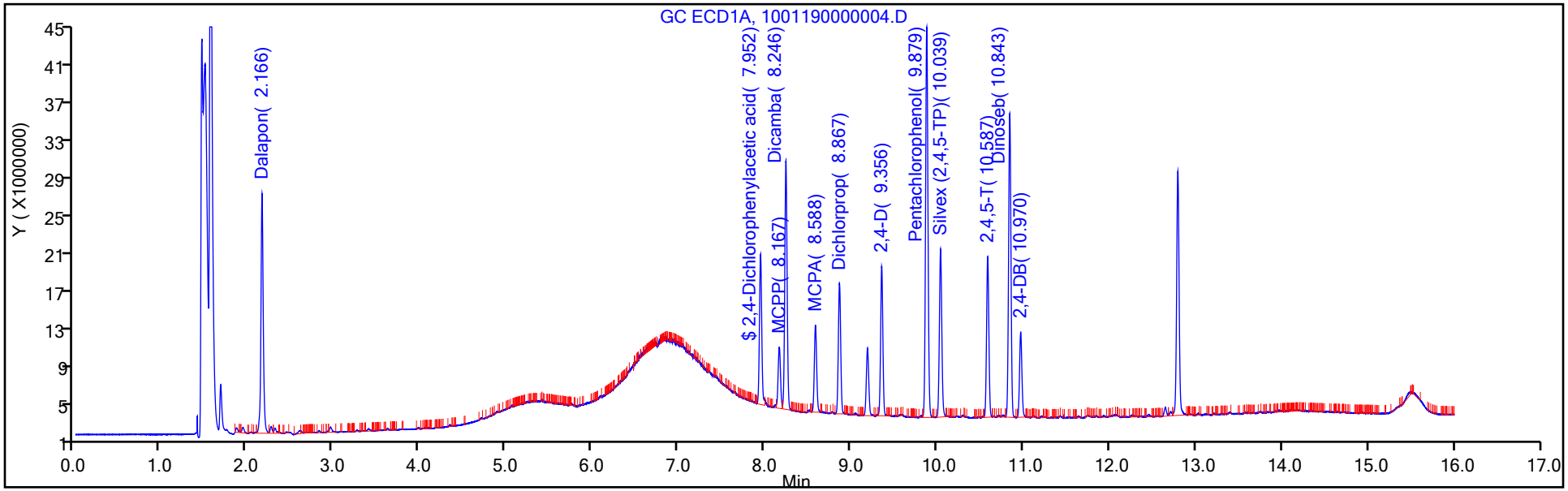

Column: RTX-1701 (0.53 mm)

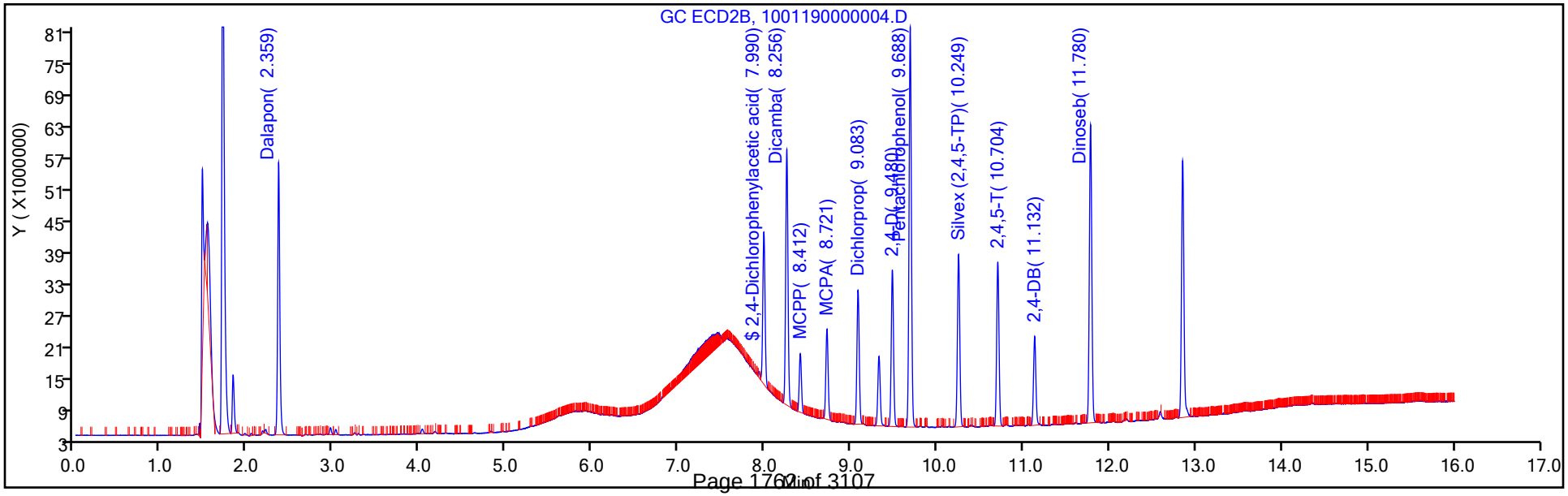

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000004.D				
Injection Date:	01-Oct-2019 17:50:15	Instrument ID:	CGC1		
Lims ID:	ccvrt				
Client ID:					
Operator ID:		ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

$ 2 2,4-Dichlorophenylacetic acid, CAS: 19719-28-9

Signal: 1

Processing Integration Results

RT: 7.95
Height: 15299925
Amount: 0.140607
Amount Units: ng

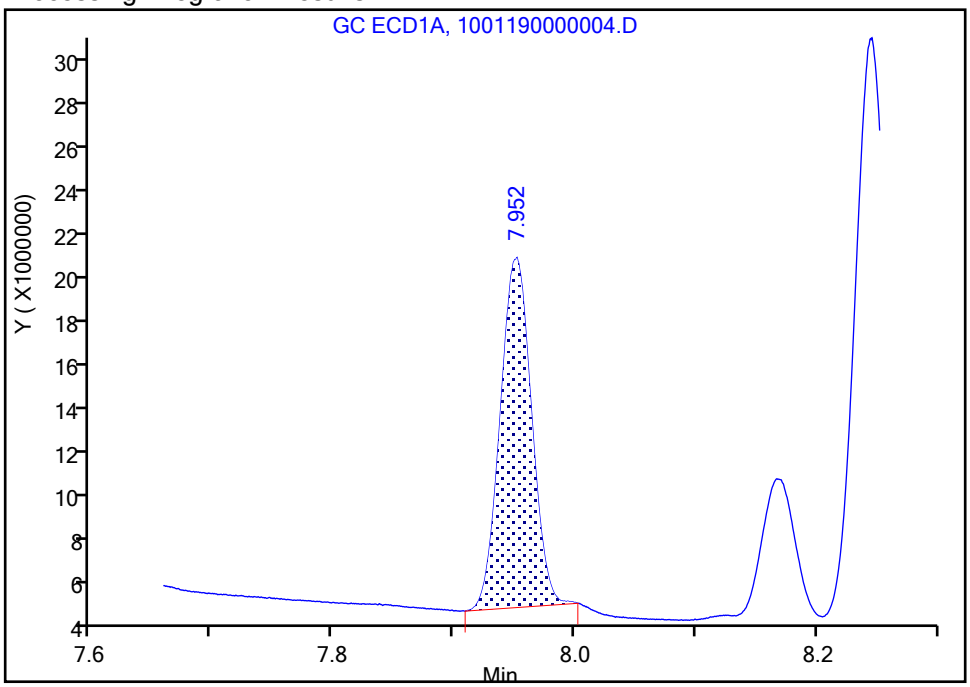

Manual Integration Results

RT: 7.95
Height: 15566729
Amount: 0.143059
Amount Units: ng

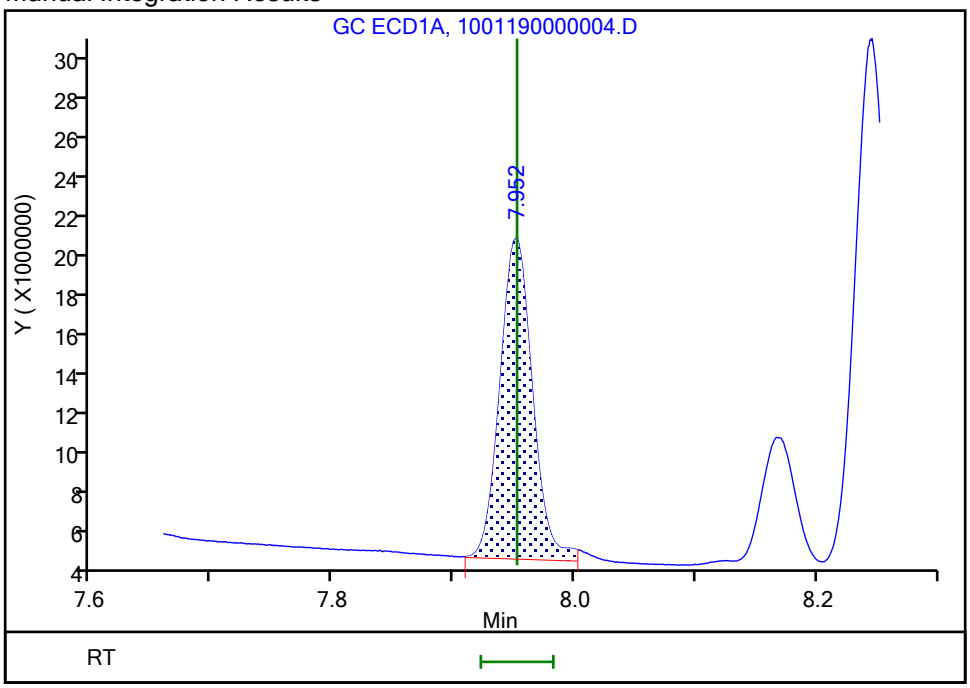

Reviewer: fritschj, 02-Oct-2019 11:56:51

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VII
HERBICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCVRT 180-293383/2 Calibration Date: 10/01/2019 17:50

Instrument ID: CGC1 Calib Start Date: 08/19/2019 18:39

GC Column: RTX-1701 ID: 0.53(mm) Calib End Date: 08/19/2019 21:09

Lab File ID: 1001190000004.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dalapon	Ave	335645731	321287188		0.153	0.160	-4.3	15.0
Dicamba	Ave	701286267	603150838		0.0688	0.0800	-14.0	15.0
MCPP	Lin2		1231447		14.9	16.0	-7.2	15.0
MCPA	Ave	1231857	1056792		13.7	16.0	-14.2	15.0
Dichlorprop	Ave	185401372	158211081		0.137	0.160	-14.7	15.0
2,4-D	Ave	217037737	184455531		0.136	0.160	-15.0	15.0
Pentachlorophenol	Ave	2144337766	1887257100		0.0352	0.0400	-12.0	15.0
Silvex (2,4,5-TP)	Ave	941248503	813632275		0.0346	0.0400	-13.6	15.0
2,4,5-T	Ave	906375092	773144800		0.0341	0.0400	-14.7	15.0
2,4-DB	Ave	123360262	104789325		0.136	0.160	-15.1*	15.0
Dinoseb	Ave	390899143	351533100		0.144	0.160	-10.1	15.0
2,4-Dichlorophenylacetic acid	Ave	210919252	179739588		0.136	0.160	-14.8	15.0

FORM VII
HERBICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCVRT 180-293383/2 Calibration Date: 10/01/2019 17:50

Instrument ID: CGC1 Calib Start Date: 08/19/2019 18:39

GC Column: RTX-1701 ID: 0.53(mm) Calib End Date: 08/19/2019 21:09

Lab File ID: 1001190000004.D

Analyte	RT	RT WINDOW	
		FROM	TO
Dalapon	2.36	2.33	2.39
Dicamba	8.26	8.23	8.29
MCPP	8.41	8.38	8.44
MCPA	8.72	8.69	8.75
Dichlorprop	9.08	9.05	9.11
2,4-D	9.48	9.45	9.51
Pentachlorophenol	9.69	9.66	9.72
Silvex (2,4,5-TP)	10.25	10.22	10.28
2,4,5-T	10.70	10.67	10.73
2,4-DB	11.13	11.10	11.16
Dinoseb	11.78	11.75	11.81
2,4-Dichlorophenylacetic acid	7.99	7.96	8.02

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000004.D
Lims ID: ccvrt
Client ID:
Sample Type: CCVRT
Inject. Date: 01-Oct-2019 17:50:15 ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028922-002
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 02-Oct-2019 14:48:47 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0325

First Level Reviewer: fritschj Date: 02-Oct-2019 11:57:26

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.166	2.166	0.000	24839599H	0.1600	0.1667	
2	2.359	2.359	0.000	51405950H	0.1600	0.1532	
						RPD = 8.44	
$ 2 2,4-Dichlorophenylacetic acid							M
1	7.952	7.952	0.000	15566729H	0.1600	0.1431	M
2	7.990	7.990	0.000	28758334H	0.1600	0.1363	M
						RPD = 4.80	
3 MCPP							
1	8.167	8.167	0.000	6297346H	16.0	15.9	
2	8.412	8.412	0.000	19703154	16.0	14.9	
						RPD = 7.04	
4 Dicamba							
1	8.246	8.246	0.000	25685677H	0.0800	0.0704	
2	8.256	8.256	0.000	48252067H	0.0800	0.0688	
						RPD = 2.32	
5 MCPA							M
1	8.588	8.588	0.000	9012063H	16.0	14.1	
2	8.721	8.721	0.000	16908667H	16.0	13.7	M
						RPD = 2.35	
6 Dichlorprop							
1	8.867	8.867	0.000	13478145H	0.1600	0.1392	
2	9.083	9.083	0.000	25313773H	0.1600	0.1365	
						RPD = 1.94	
7 2,4-D							M
1	9.356	9.356	0.000	15470213H	0.1600	0.1408	
2	9.480	9.480	0.000	29512885H	0.1600	0.1360	M
						RPD = 3.45	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.879	9.879	0.000	78410718	0.0400	0.0341	
2	9.688	9.688	0.000	75490284H	0.0400	0.0352	
						RPD = 3.09	
9 Silvex (2,4,5-TP)							
1	10.039	10.039	0.000	17418127H	0.0400	0.0356	
2	10.249	10.249	0.000	32545291H	0.0400	0.0346	
						RPD = 2.78	
10 2,4,5-T							
1	10.587	10.587	0.000	16652495H	0.0400	0.0359	
2	10.704	10.704	0.000	30925792H	0.0400	0.0341	
						RPD = 5.11	
11 Dinoseb							
1	10.843	10.843	0.000	31473394H	0.1600	0.1635	
2	11.780	11.780	0.000	56245296H	0.1600	0.1439	
						RPD = 12.76	
12 2,4-DB							
1	10.970	10.970	0.000	8802692H	0.1600	0.1335	
2	11.132	11.132	0.000	16766292H	0.1600	0.1359	
						RPD = 1.79	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCHERBCALSL4_00027 Amount Added: 1.00 Units: mL

Report Date: 02-Oct-2019 14:48:49 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000004.D				
Injection Date:	01-Oct-2019 17:50:15	Instrument ID:	CGC1	Operator ID:	
Lims ID:	ccvrt			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

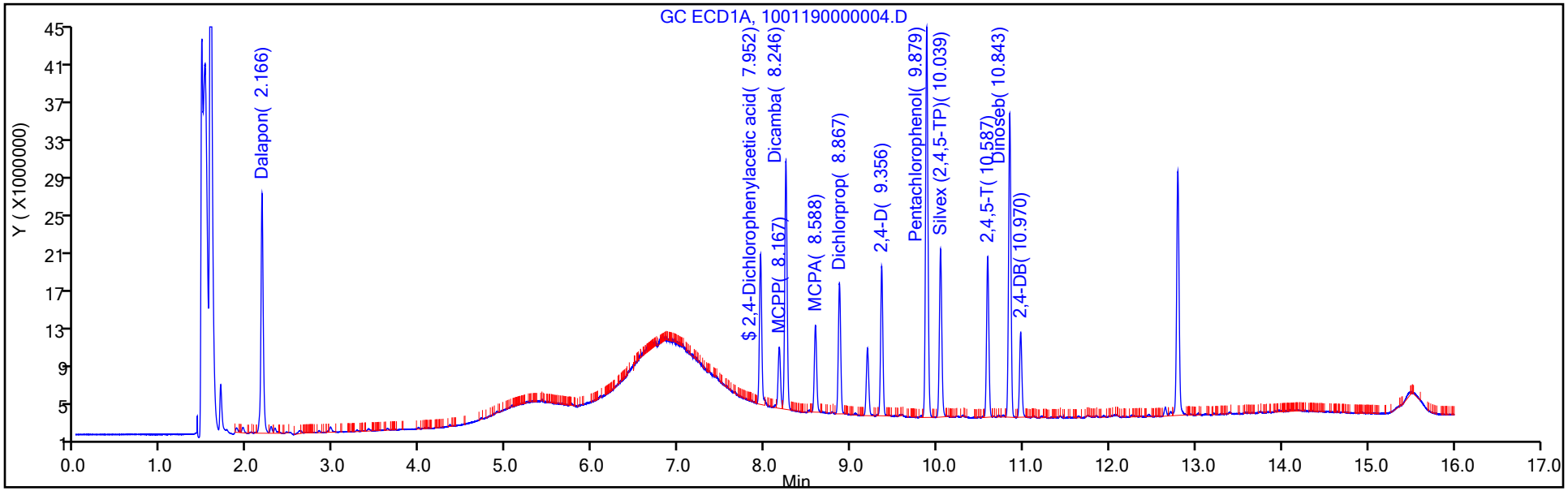

Column: RTX-1701 (0.53 mm)

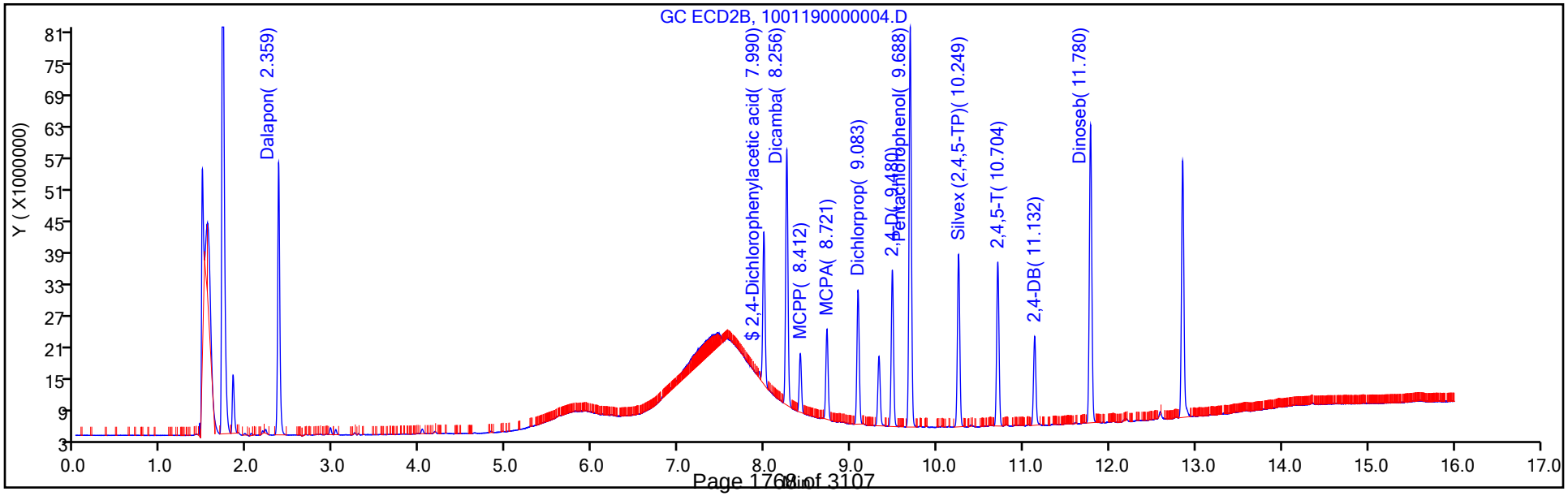

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000004.D				
Injection Date:	01-Oct-2019 17:50:15	Instrument ID:	CGC1		
Lims ID:	ccvrt				
Client ID:					
Operator ID:		ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

$ 2 2,4-Dichlorophenylacetic acid, CAS: 19719-28-9

Signal: 2

Processing Integration Results

RT: 7.99
Height: 28595079
Amount: 0.135574
Amount Units: ng

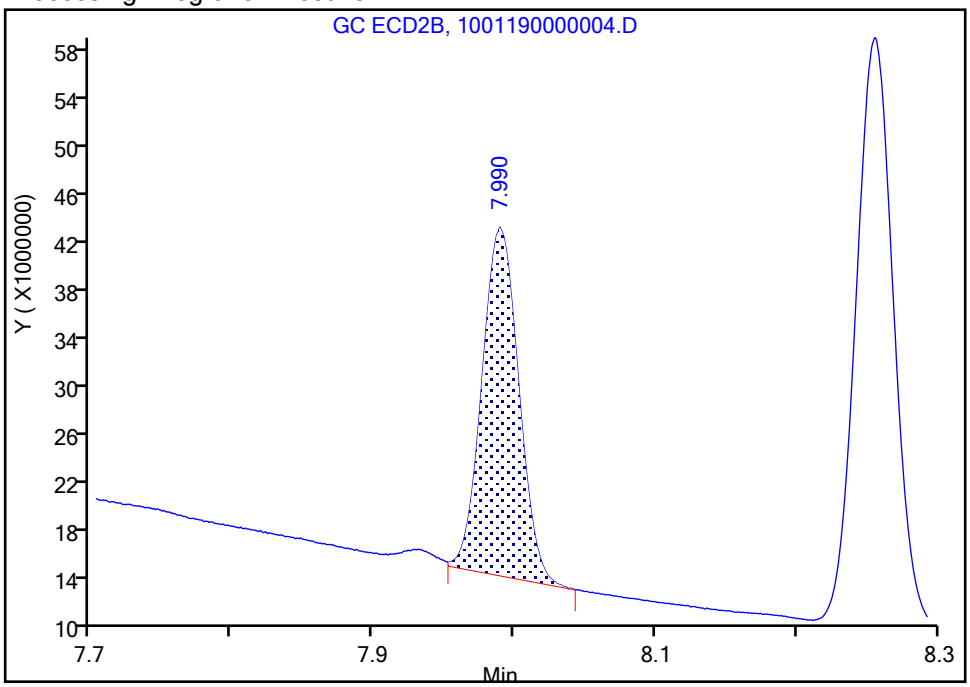

Manual Integration Results

RT: 7.99
Height: 28758334
Amount: 0.136348
Amount Units: ng

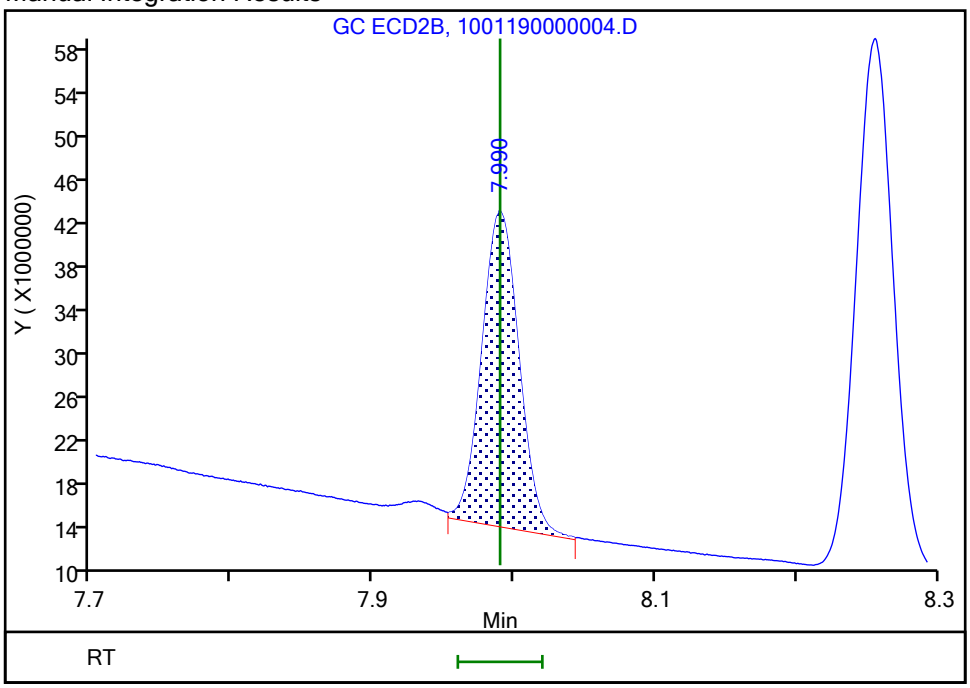

Reviewer: fritschj, 02-Oct-2019 11:56:57

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000004.D				
Injection Date:	01-Oct-2019 17:50:15	Instrument ID:	CGC1		
Lims ID:	ccvrt				
Client ID:					
Operator ID:		ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

5 MCPA, CAS: 94-74-6

Signal: 2

Processing Integration Results

RT: 8.72
Height: 5172870
Amount: 4.199246
Amount Units: ng

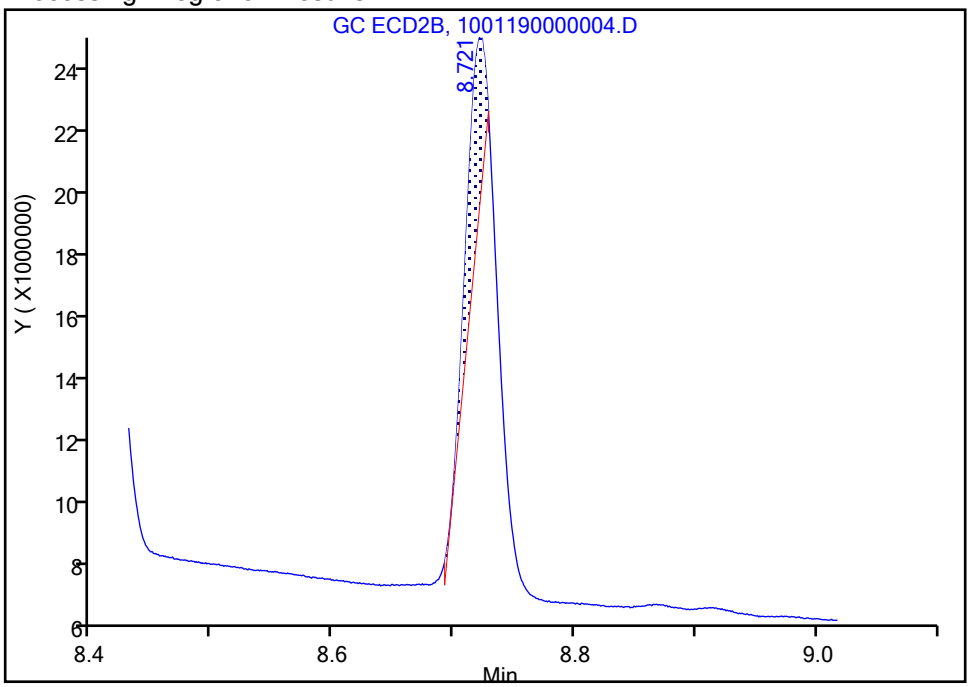

Manual Integration Results

RT: 8.72
Height: 16908667
Amount: 13.726162
Amount Units: ng

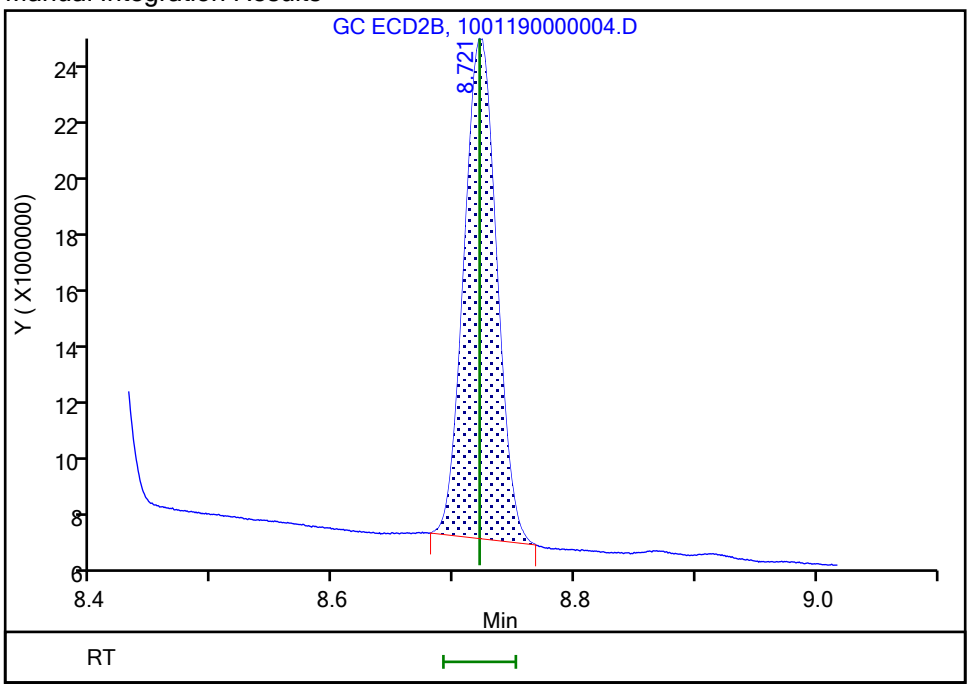

Reviewer: fritschj, 02-Oct-2019 11:57:06

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000004.D				
Injection Date:	01-Oct-2019 17:50:15	Instrument ID:	CGC1		
Lims ID:	ccvrt				
Client ID:					
Operator ID:		ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

7 2,4-D, CAS: 94-75-7

Signal: 2

Processing Integration Results

RT: 9.48
Height: 29486286
Amount: 0.135858
Amount Units: ng

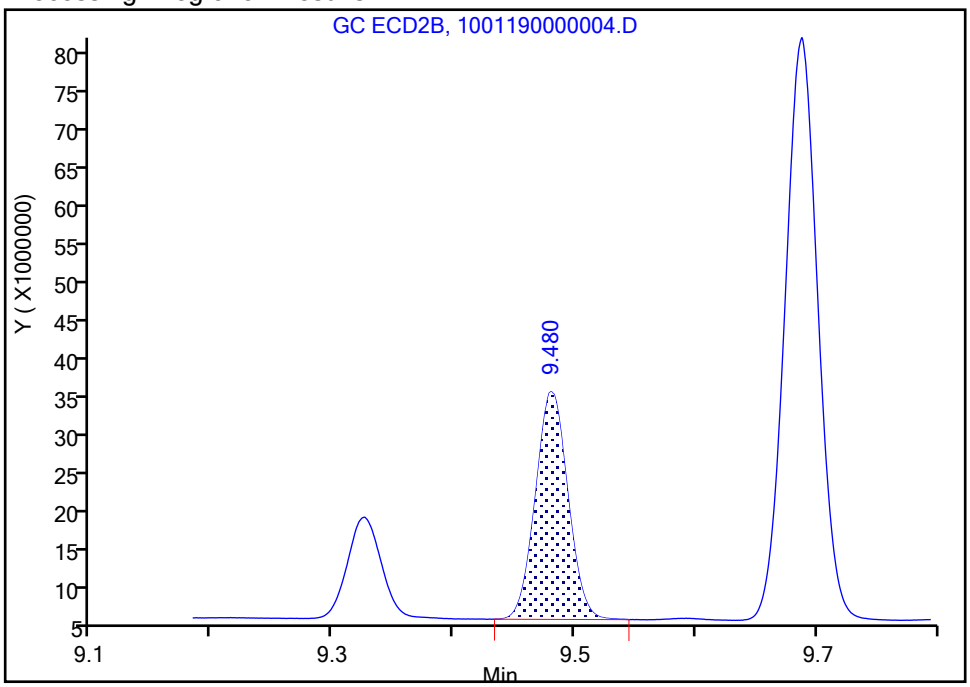

Manual Integration Results

RT: 9.48
Height: 29512885
Amount: 0.135980
Amount Units: ng

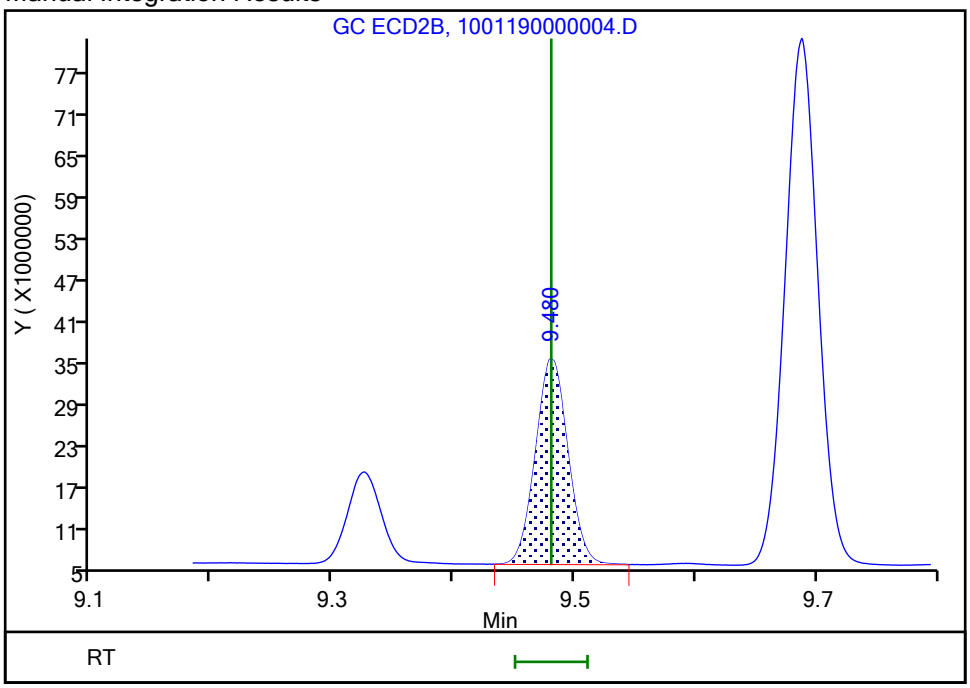

Reviewer: fritschj, 02-Oct-2019 11:57:24
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VII
HERBICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-293383/13 Calibration Date: 10/01/2019 22:24

Instrument ID: CGC1 Calib Start Date: 08/19/2019 18:39

GC Column: RTX-50 ID: 0.53(mm) Calib End Date: 08/19/2019 21:09

Lab File ID: 1001190000015.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dalapon	Ave	149044093	159508306		0.171	0.160	7.0	15.0
MCPP	Ave	395205	430733		17.4	16.0	9.0	15.0
Dicamba	Ave	364753045	333677913		0.0732	0.0800	-8.5	15.0
MCPA	Ave	641328	602167		15.0	16.0	-6.1	15.0
Dichlorprop	Ave	96821949	90151925		0.149	0.160	-6.9	15.0
2,4-D	Ave	109912279	102051438		0.149	0.160	-7.2	15.0
Pentachlorophenol	Ave	2297112921	2061130400		0.0359	0.0400	-10.3	15.0
Silvex (2,4,5-TP)	Ave	489936885	459471200		0.0375	0.0400	-6.2	15.0
2,4,5-T	Ave	463721151	440709700		0.0380	0.0400	-5.0	15.0
Dinoseb	Ave	192497167	203628388		0.169	0.160	5.8	15.0
2,4-DB	Ave	65939713	59270375		0.144	0.160	-10.1	15.0
2,4-Dichlorophenylacetic acid	Ave	108813389	100964613		0.148	0.160	-7.2	15.0

FORM VII
HERBICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-293383/13 Calibration Date: 10/01/2019 22:24

Instrument ID: CGC1 Calib Start Date: 08/19/2019 18:39

GC Column: RTX-50 ID: 0.53(mm) Calib End Date: 08/19/2019 21:09

Lab File ID: 1001190000015.D

Analyte	RT	RT WINDOW	
		FROM	TO
Dalapon	2.17	2.14	2.20
MCPP	8.17	8.14	8.20
Dicamba	8.24	8.22	8.28
MCPA	8.59	8.56	8.62
Dichlorprop	8.87	8.84	8.90
2,4-D	9.36	9.33	9.39
Pentachlorophenol	9.88	9.85	9.91
Silvex (2,4,5-TP)	10.04	10.01	10.07
2,4,5-T	10.59	10.56	10.62
Dinoseb	10.84	10.79	10.89
2,4-DB	10.97	10.94	11.00
2,4-Dichlorophenylacetic acid	7.95	7.92	7.98

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000015.D
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 01-Oct-2019 22:24:25 ALS Bottle#: 12 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028922-013
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 02-Oct-2019 14:49:46 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0325

First Level Reviewer: fritschj Date: 02-Oct-2019 14:22:50

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.165	2.166	-0.001	25521329H	0.1600	0.1712	
2	2.359	2.359	0.000	54534192H	0.1600	0.1625	
						RPD = 5.25	
$ 2 2,4-Dichlorophenylacetic acid							M
1	7.951	7.952	-0.001	16154338H	0.1600	0.1485	M
2	7.991	7.990	0.001	31025767H	0.1600	0.1471	
						RPD = 0.92	
3 MCPP							M
1	8.169	8.167	0.002	6891734H	16.0	17.4	
2	8.412	8.412	0.000	20598746	16.0	15.5	M
						RPD = 11.73	
4 Dicamba							
1	8.244	8.246	-0.002	26694233H	0.0800	0.0732	
2	8.257	8.256	0.001	53114368H	0.0800	0.0757	
						RPD = 3.43	
5 MCPA							
1	8.588	8.588	0.000	9634668H	16.0	15.0	
2	8.723	8.721	0.002	18007854H	16.0	14.6	
						RPD = 2.73	
6 Dichlorprop							
1	8.868	8.867	0.001	14424308H	0.1600	0.1490	
2	9.084	9.083	0.001	27580967H	0.1600	0.1488	
						RPD = 0.14	
7 2,4-D							
1	9.357	9.356	0.001	16328230H	0.1600	0.1486	
2	9.482	9.480	0.002	32412875H	0.1600	0.1493	
						RPD = 0.53	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.879	9.879	0.000	82445216	0.0400	0.0359	
2	9.689	9.688	0.001	81293435H	0.0400	0.0379	
						RPD = 5.47	
9 Silvex (2,4,5-TP)							
1	10.040	10.039	0.001	18378848H	0.0400	0.0375	
2	10.251	10.249	0.002	35706823H	0.0400	0.0379	
						RPD = 1.12	
10 2,4,5-T							
1	10.586	10.587	-0.001	17628388H	0.0400	0.0380	
2	10.706	10.704	0.002	33820966H	0.0400	0.0373	
						RPD = 1.86	
11 Dinoseb							
1	10.843	10.843	0.000	32580542H	0.1600	0.1693	
2	11.782	11.780	0.002	60967487H	0.1600	0.1560	
						RPD = 8.17	
12 2,4-DB							
1	10.970	10.970	0.000	9483260H	0.1600	0.1438	
2	11.132	11.132	0.000	18488228H	0.1600	0.1499	
						RPD = 4.12	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCHERBCALSL4_00027 Amount Added: 1.00 Units: mL

Report Date: 02-Oct-2019 14:49:46 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000015.D				
Injection Date:	01-Oct-2019 22:24:25	Instrument ID:	CGC1	Operator ID:	
Lims ID:	ccv			Worklist Smp#:	13
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

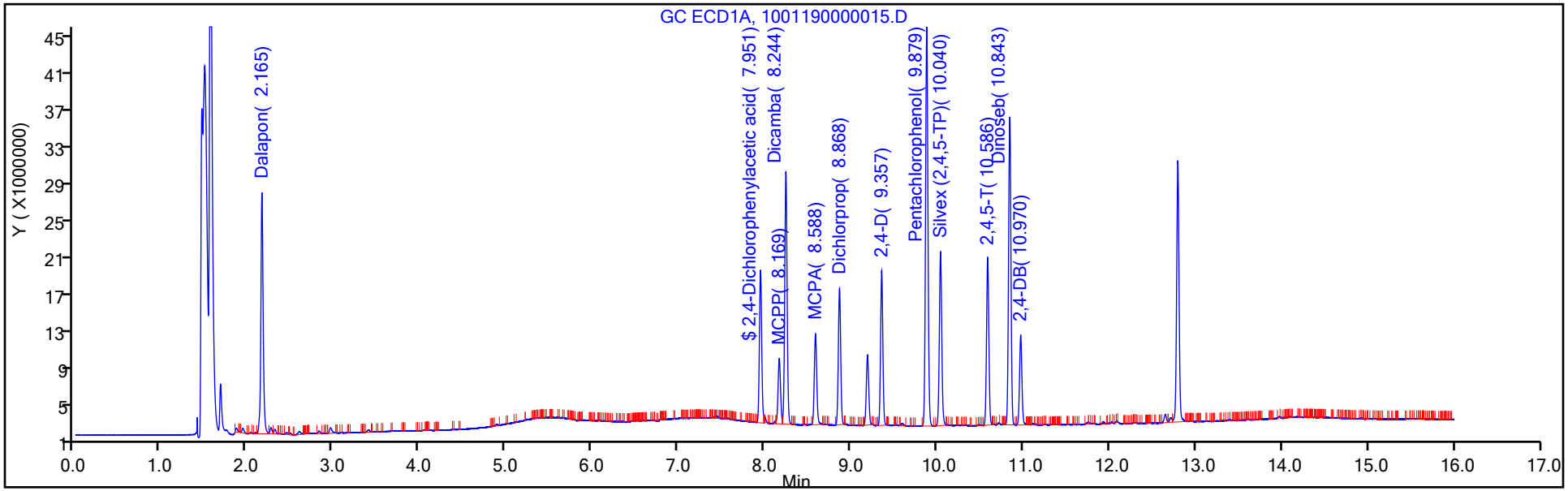

Column: RTX-1701 (0.53 mm)

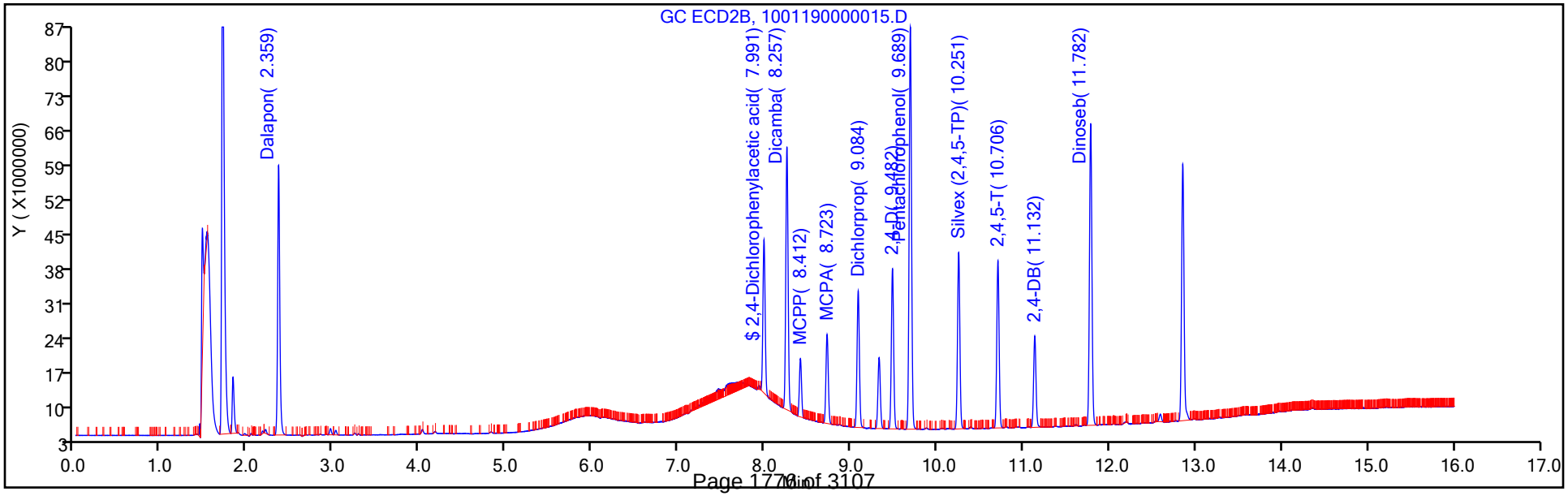

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000015.D				
Injection Date:	01-Oct-2019 22:24:25	Instrument ID:	CGC1		
Lims ID:	ccv				
Client ID:					
Operator ID:		ALS Bottle#:	12	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

$ 2 2,4-Dichlorophenylacetic acid, CAS: 19719-28-9

Signal: 1

Processing Integration Results

RT: 7.95
Height: 15867163
Amount: 0.145820
Amount Units: ng

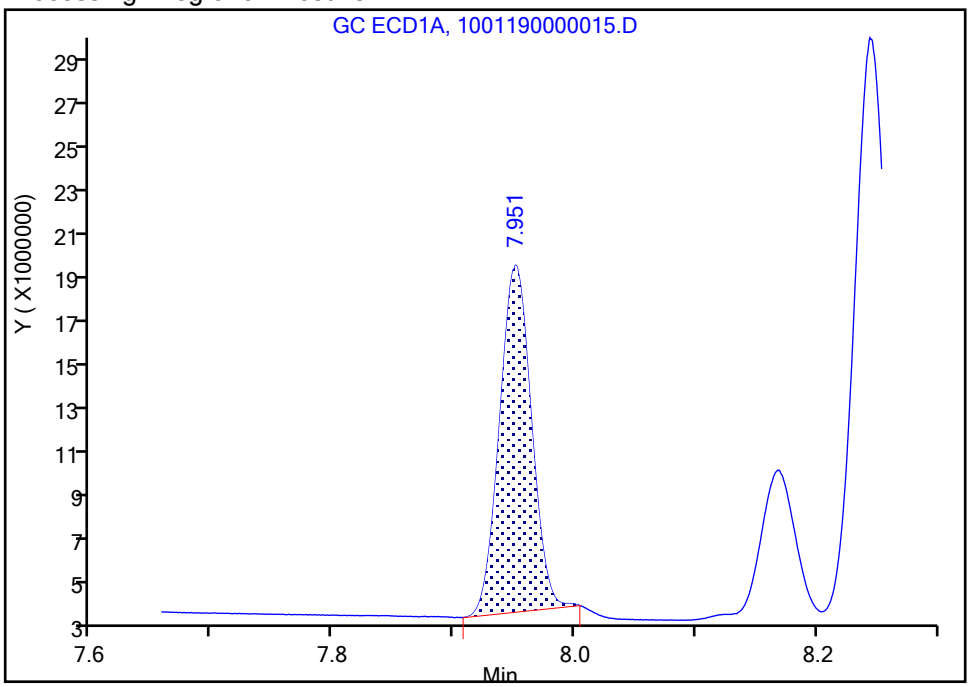

Manual Integration Results

RT: 7.95
Height: 16154338
Amount: 0.148459
Amount Units: ng

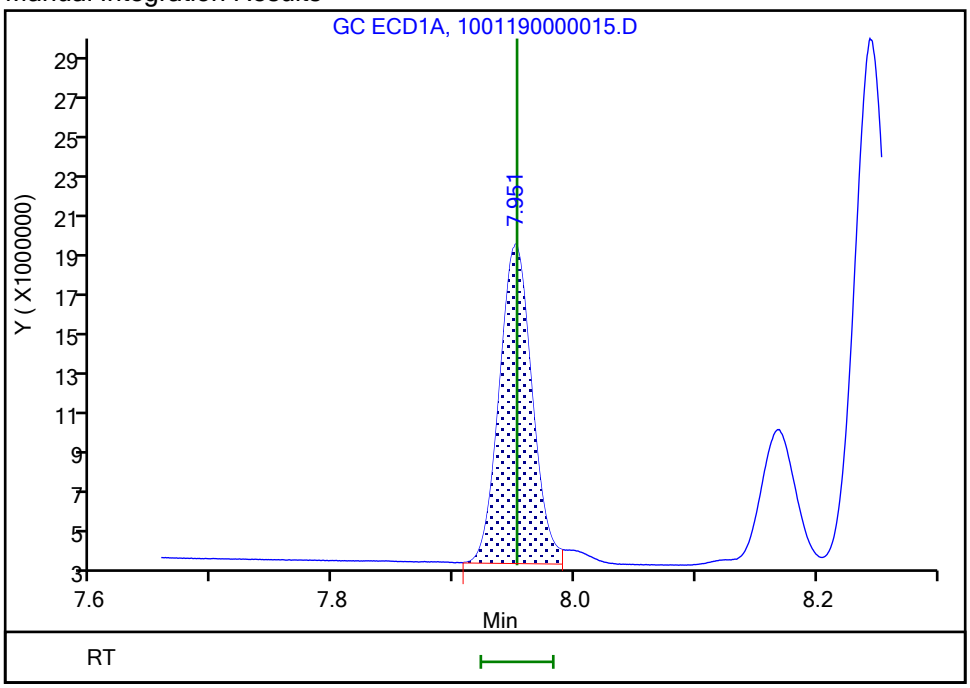

Reviewer: fritschj, 02-Oct-2019 14:22:48

Audit Action: Split an Integrated Peak Audit Reason: Baseline Smoothing

FORM VII
HERBICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-293383/13 Calibration Date: 10/01/2019 22:24

Instrument ID: CGC1 Calib Start Date: 08/19/2019 18:39

GC Column: RTX-1701 ID: 0.53(mm) Calib End Date: 08/19/2019 21:09

Lab File ID: 1001190000015.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dalapon	Ave	335645731	340838700		0.162	0.160	1.5	15.0
Dicamba	Ave	701286267	663929600		0.0757	0.0800	-5.3	15.0
MCPP	Lin2		1287422		15.5	16.0	-3.1	15.0
MCPA	Ave	1231857	1125491		14.6	16.0	-8.6	15.0
Dichlorprop	Ave	185401372	172381044		0.149	0.160	-7.0	15.0
2,4-D	Ave	217037737	202580469		0.149	0.160	-6.7	15.0
Pentachlorophenol	Ave	2144337766	2032335875		0.0379	0.0400	-5.2	15.0
Silvex (2,4,5-TP)	Ave	941248503	892670575		0.0379	0.0400	-5.2	15.0
2,4,5-T	Ave	906375092	845524150		0.0373	0.0400	-6.7	15.0
2,4-DB	Ave	123360262	115551425		0.150	0.160	-6.3	15.0
Dinoseb	Ave	390899143	381046794		0.156	0.160	-2.5	15.0
2,4-Dichlorophenylacetic acid	Ave	210919252	193911044		0.147	0.160	-8.1	15.0

FORM VII
HERBICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-293383/13 Calibration Date: 10/01/2019 22:24

Instrument ID: CGC1 Calib Start Date: 08/19/2019 18:39

GC Column: RTX-1701 ID: 0.53(mm) Calib End Date: 08/19/2019 21:09

Lab File ID: 1001190000015.D

Analyte	RT	RT WINDOW	
		FROM	TO
Dalapon	2.36	2.33	2.39
Dicamba	8.26	8.23	8.29
MCPP	8.41	8.38	8.44
MCPA	8.72	8.69	8.75
Dichlorprop	9.08	9.05	9.11
2,4-D	9.48	9.45	9.51
Pentachlorophenol	9.69	9.66	9.72
Silvex (2,4,5-TP)	10.25	10.22	10.28
2,4,5-T	10.71	10.67	10.73
2,4-DB	11.13	11.10	11.16
Dinoseb	11.78	11.75	11.81
2,4-Dichlorophenylacetic acid	7.99	7.96	8.02

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000015.D
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 01-Oct-2019 22:24:25 ALS Bottle#: 12 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028922-013
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 02-Oct-2019 14:49:46 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0325

First Level Reviewer: fritschj Date: 02-Oct-2019 14:22:50

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.165	2.166	-0.001	25521329H	0.1600	0.1712	
2	2.359	2.359	0.000	54534192H	0.1600	0.1625	
						RPD = 5.25	
$ 2 2,4-Dichlorophenylacetic acid							M
1	7.951	7.952	-0.001	16154338H	0.1600	0.1485	M
2	7.991	7.990	0.001	31025767H	0.1600	0.1471	
						RPD = 0.92	
3 MCPP							M
1	8.169	8.167	0.002	6891734H	16.0	17.4	
2	8.412	8.412	0.000	20598746	16.0	15.5	M
						RPD = 11.73	
4 Dicamba							
1	8.244	8.246	-0.002	26694233H	0.0800	0.0732	
2	8.257	8.256	0.001	53114368H	0.0800	0.0757	
						RPD = 3.43	
5 MCPA							
1	8.588	8.588	0.000	9634668H	16.0	15.0	
2	8.723	8.721	0.002	18007854H	16.0	14.6	
						RPD = 2.73	
6 Dichlorprop							
1	8.868	8.867	0.001	14424308H	0.1600	0.1490	
2	9.084	9.083	0.001	27580967H	0.1600	0.1488	
						RPD = 0.14	
7 2,4-D							
1	9.357	9.356	0.001	16328230H	0.1600	0.1486	
2	9.482	9.480	0.002	32412875H	0.1600	0.1493	
						RPD = 0.53	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.879	9.879	0.000	82445216	0.0400	0.0359	
2	9.689	9.688	0.001	81293435H	0.0400	0.0379	
						RPD = 5.47	
9 Silvex (2,4,5-TP)							
1	10.040	10.039	0.001	18378848H	0.0400	0.0375	
2	10.251	10.249	0.002	35706823H	0.0400	0.0379	
						RPD = 1.12	
10 2,4,5-T							
1	10.586	10.587	-0.001	17628388H	0.0400	0.0380	
2	10.706	10.704	0.002	33820966H	0.0400	0.0373	
						RPD = 1.86	
11 Dinoseb							
1	10.843	10.843	0.000	32580542H	0.1600	0.1693	
2	11.782	11.780	0.002	60967487H	0.1600	0.1560	
						RPD = 8.17	
12 2,4-DB							
1	10.970	10.970	0.000	9483260H	0.1600	0.1438	
2	11.132	11.132	0.000	18488228H	0.1600	0.1499	
						RPD = 4.12	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCHERBCALSL4_00027 Amount Added: 1.00 Units: mL

Report Date: 02-Oct-2019 14:49:48 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000015.D

Injection Date: 01-Oct-2019 22:24:25 Instrument ID: CGC1 Operator ID:

Lims ID: ccv Worklist Smp#: 13

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 12

Method: Herbicides_CGC1 Limit Group: GCS 8151A ICAL

Column: RTX-50 (0.53 mm)

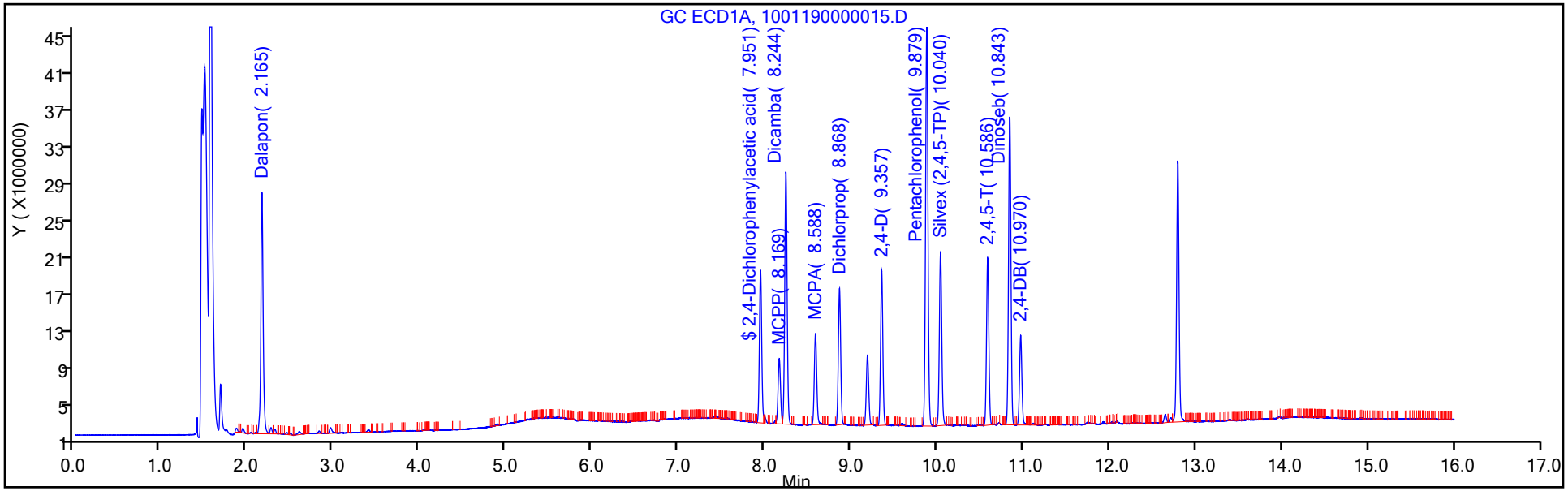

Column: RTX-1701 (0.53 mm)

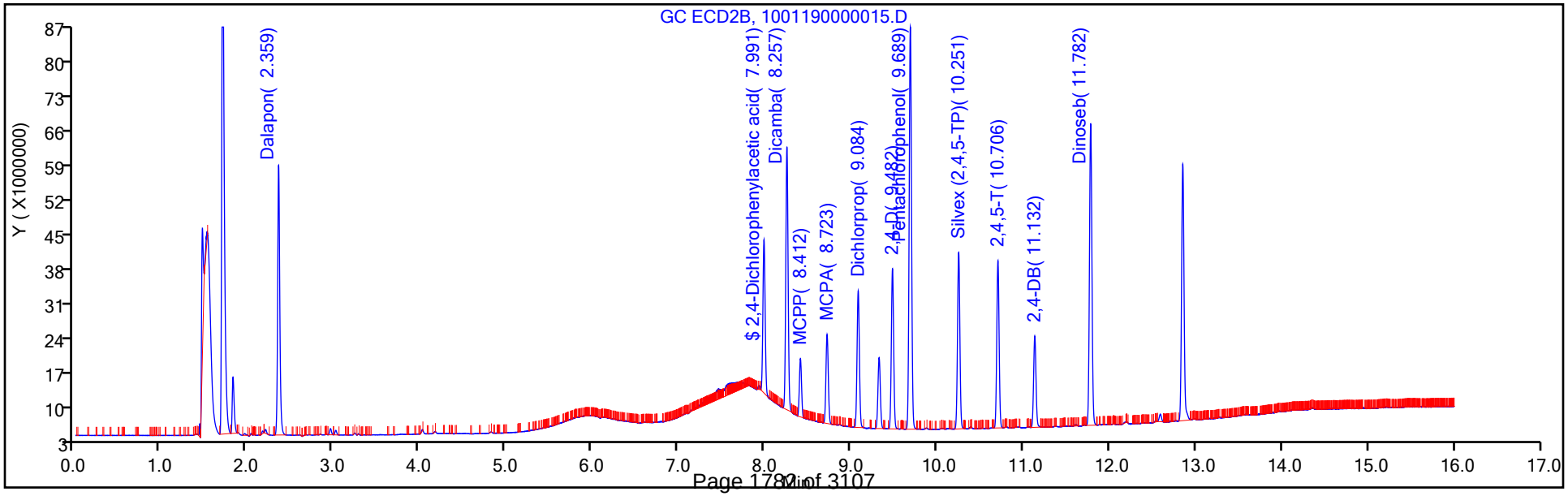

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000015.D				
Injection Date:	01-Oct-2019 22:24:25	Instrument ID:	CGC1		
Lims ID:	ccv				
Client ID:					
Operator ID:		ALS Bottle#:	12	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

3 MCPP, CAS: 93-65-2

Signal: 2

Processing Integration Results

RT: 8.41
Area: 3834371
Amount: 3.240895
Amount Units: ng

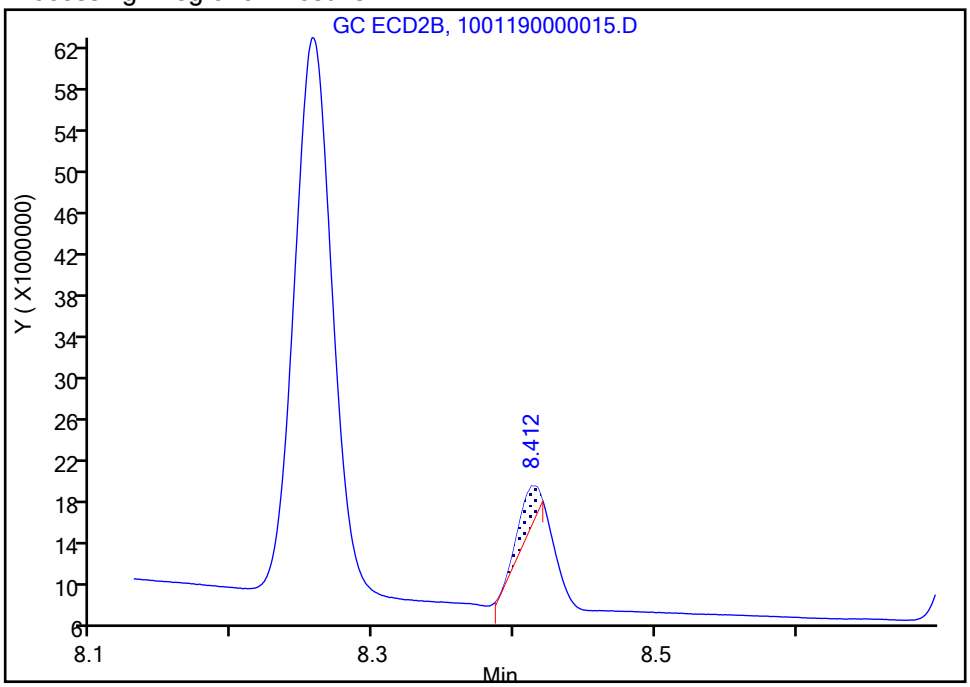

Manual Integration Results

RT: 8.41
Area: 20598746
Amount: 15.506277
Amount Units: ng

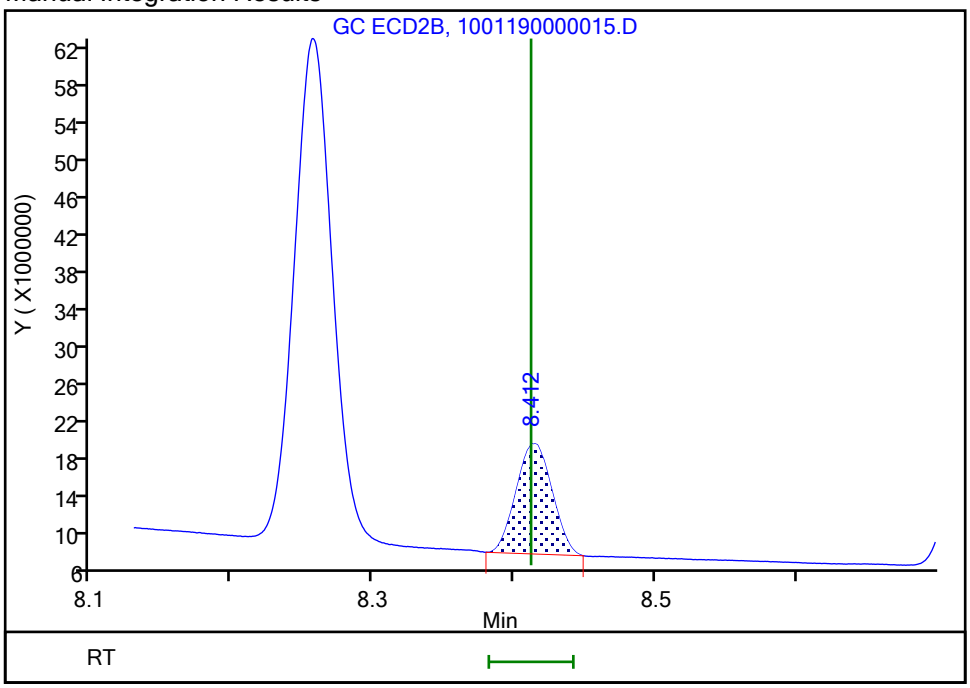

Reviewer: fritschj, 02-Oct-2019 14:22:25

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VII
HERBICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-293383/22 Calibration Date: 10/02/2019 02:06

Instrument ID: CGC1 Calib Start Date: 08/19/2019 18:39

GC Column: RTX-50 ID: 0.53(mm) Calib End Date: 08/19/2019 21:09

Lab File ID: 1001190000024.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dalapon	Ave	149044093	161776869		0.174	0.160	8.5	15.0
MCPP	Ave	395205	437018		17.7	16.0	10.6	15.0
Dicamba	Ave	364753045	330016325		0.0724	0.0800	-9.5	15.0
MCPA	Ave	641328	607927		15.2	16.0	-5.2	15.0
Dichlorprop	Ave	96821949	90295488		0.149	0.160	-6.7	15.0
2,4-D	Ave	109912279	101325019		0.147	0.160	-7.8	15.0
Pentachlorophenol	Ave	2297112921	2066231500		0.0360	0.0400	-10.1	15.0
Silvex (2,4,5-TP)	Ave	489936885	462877800		0.0378	0.0400	-5.5	15.0
2,4,5-T	Ave	463721151	440442475		0.0380	0.0400	-5.0	15.0
Dinoseb	Ave	192497167	206438519		0.172	0.160	7.2	15.0
2,4-DB	Ave	65939713	60334431		0.146	0.160	-8.5	15.0
2,4-Dichlorophenylacetic acid	Ave	108813389	101569719		0.149	0.160	-6.7	15.0

FORM VII
HERBICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-293383/22 Calibration Date: 10/02/2019 02:06

Instrument ID: CGC1 Calib Start Date: 08/19/2019 18:39

GC Column: RTX-50 ID: 0.53(mm) Calib End Date: 08/19/2019 21:09

Lab File ID: 1001190000024.D

Analyte	RT	RT WINDOW	
		FROM	TO
Dalapon	2.16	2.14	2.20
MCPP	8.17	8.14	8.20
Dicamba	8.24	8.22	8.28
MCPA	8.59	8.56	8.62
Dichlorprop	8.87	8.84	8.90
2,4-D	9.36	9.33	9.39
Pentachlorophenol	9.88	9.85	9.91
Silvex (2,4,5-TP)	10.04	10.01	10.07
2,4,5-T	10.59	10.56	10.62
Dinoseb	10.84	10.79	10.89
2,4-DB	10.97	10.94	11.00
2,4-Dichlorophenylacetic acid	7.95	7.92	7.98

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000024.D
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 02-Oct-2019 02:06:43 ALS Bottle#: 21 Worklist Smp#: 22
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028922-022
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 02-Oct-2019 14:50:28 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0325

First Level Reviewer: fritschj Date: 02-Oct-2019 14:47:43

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.164	2.166	-0.002	25884299H	0.1600	0.1737	
2	2.359	2.359	0.000	54484721H	0.1600	0.1623	
						RPD = 6.75	
$ 2 2,4-Dichlorophenylacetic acid							M
1	7.950	7.952	-0.002	16251155H	0.1600	0.1493	M
2	7.991	7.990	0.001	31067947H	0.1600	0.1473	M
						RPD = 1.38	
3 MCPP							
1	8.168	8.167	0.001	6992281H	16.0	17.7	
2	8.414	8.412	0.002	20927344	16.0	15.7	
						RPD = 11.64	
4 Dicamba							
1	8.244	8.246	-0.002	26401306H	0.0800	0.0724	
2	8.256	8.256	0.000	52327022H	0.0800	0.0746	
						RPD = 3.04	
5 MCPA							
1	8.587	8.588	-0.001	9726835H	16.0	15.2	
2	8.723	8.721	0.002	18067078H	16.0	14.7	
						RPD = 3.35	
6 Dichlorprop							
1	8.867	8.867	0.000	14447278H	0.1600	0.1492	
2	9.085	9.083	0.002	27779918H	0.1600	0.1498	
						RPD = 0.42	
7 2,4-D							
1	9.357	9.356	0.001	16212003H	0.1600	0.1475	
2	9.482	9.480	0.002	32241670H	0.1600	0.1486	
						RPD = 0.71	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.878	9.879	-0.001	82649260	0.0400	0.0360	
2	9.689	9.688	0.001	81172888H	0.0400	0.0379	
						RPD = 5.08	
9 Silvex (2,4,5-TP)							
1	10.039	10.039	0.000	18515112H	0.0400	0.0378	
2	10.250	10.249	0.001	35171611H	0.0400	0.0374	
						RPD = 1.13	
10 2,4,5-T							
1	10.586	10.587	-0.001	17617699H	0.0400	0.0380	
2	10.706	10.704	0.002	33803347H	0.0400	0.0373	
						RPD = 1.85	
11 Dinoseb							
1	10.842	10.843	-0.001	33030163H	0.1600	0.1716	
2	11.782	11.780	0.002	60592694H	0.1600	0.1550	
						RPD = 10.15	
12 2,4-DB							
1	10.968	10.970	-0.002	9653509H	0.1600	0.1464	
2	11.135	11.132	0.003	18303382H	0.1600	0.1484	
						RPD = 1.34	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCHERBCALSL4_00027 Amount Added: 1.00 Units: mL

Report Date: 02-Oct-2019 14:50:29 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000024.D

Injection Date: 02-Oct-2019 02:06:43 Instrument ID: CGC1 Operator ID:

Lims ID: ccv Worklist Smp#: 22

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 21

Method: Herbicides_CGC1 Limit Group: GCS 8151A ICAL

Column: RTX-50 (0.53 mm)

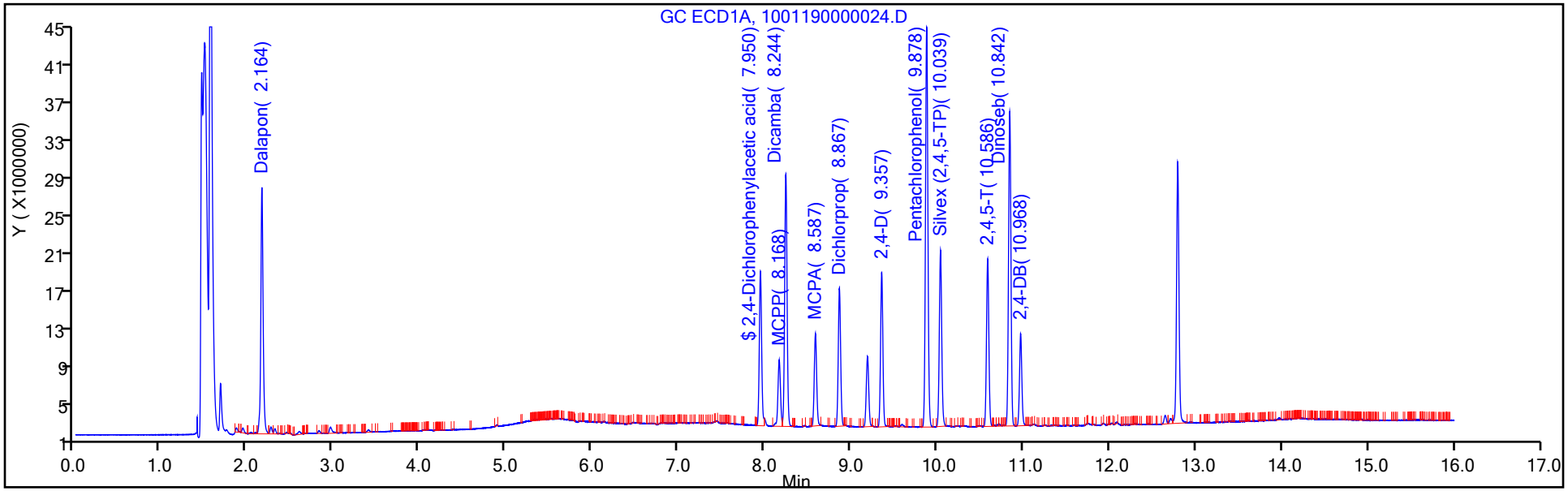

Column: RTX-1701 (0.53 mm)

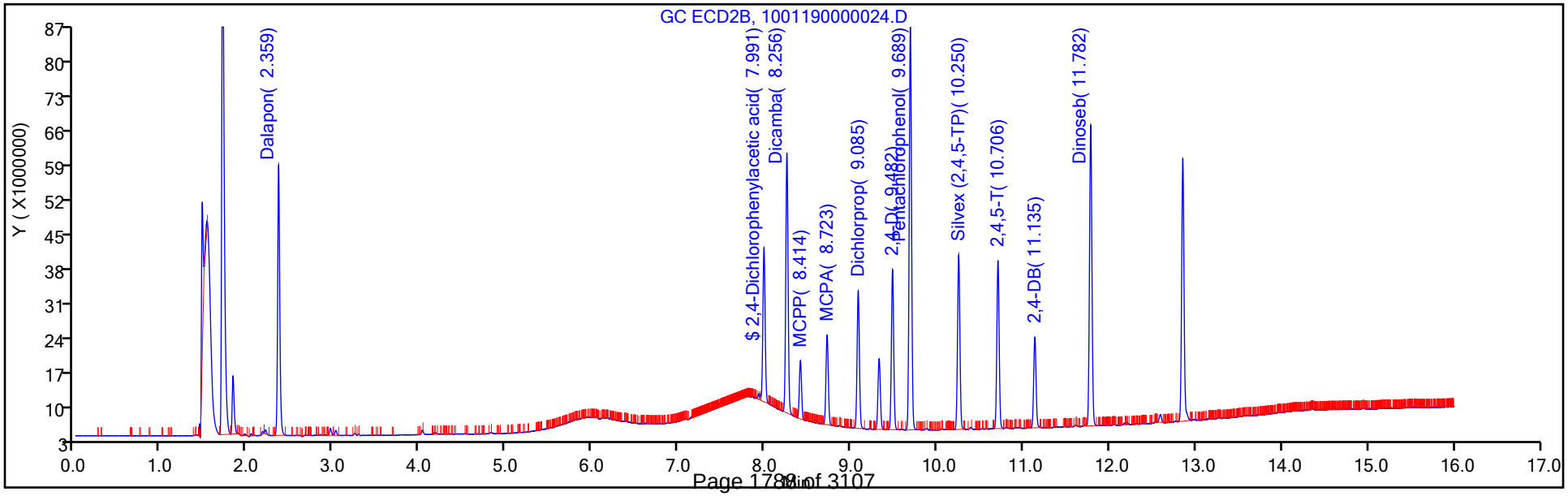

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000024.D				
Injection Date:	02-Oct-2019 02:06:43	Instrument ID:	CGC1		
Lims ID:	ccv				
Client ID:					
Operator ID:		ALS Bottle#:	21	Worklist Smp#:	22
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

$ 2 2,4-Dichlorophenylacetic acid, CAS: 19719-28-9

Signal: 1

Processing Integration Results

RT: 7.95
Height: 15882299
Amount: 0.145959
Amount Units: ng

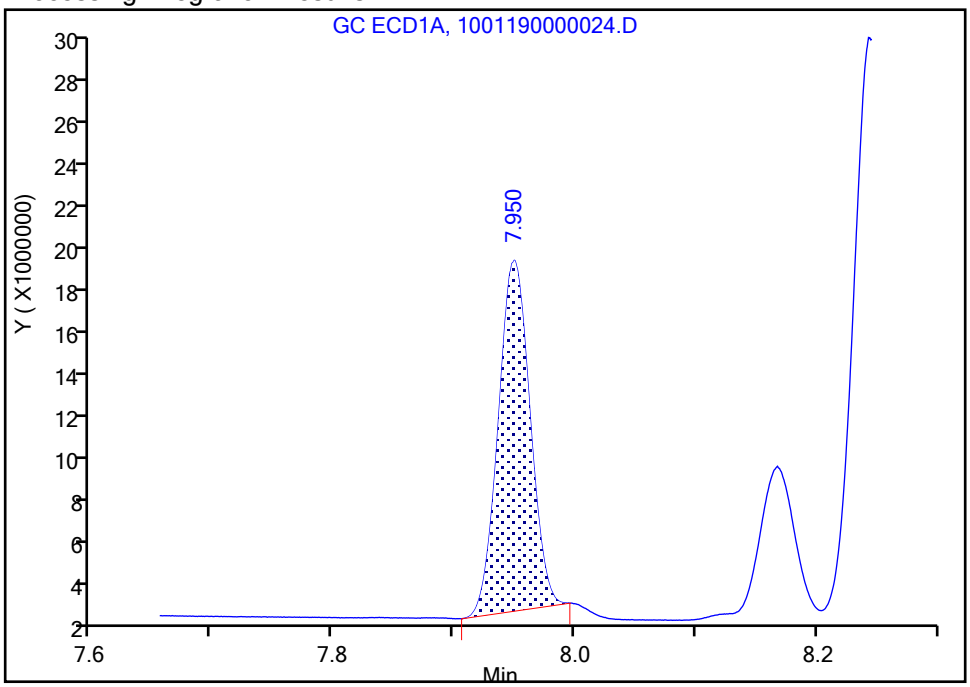

Manual Integration Results

RT: 7.95
Height: 16251155
Amount: 0.149349
Amount Units: ng

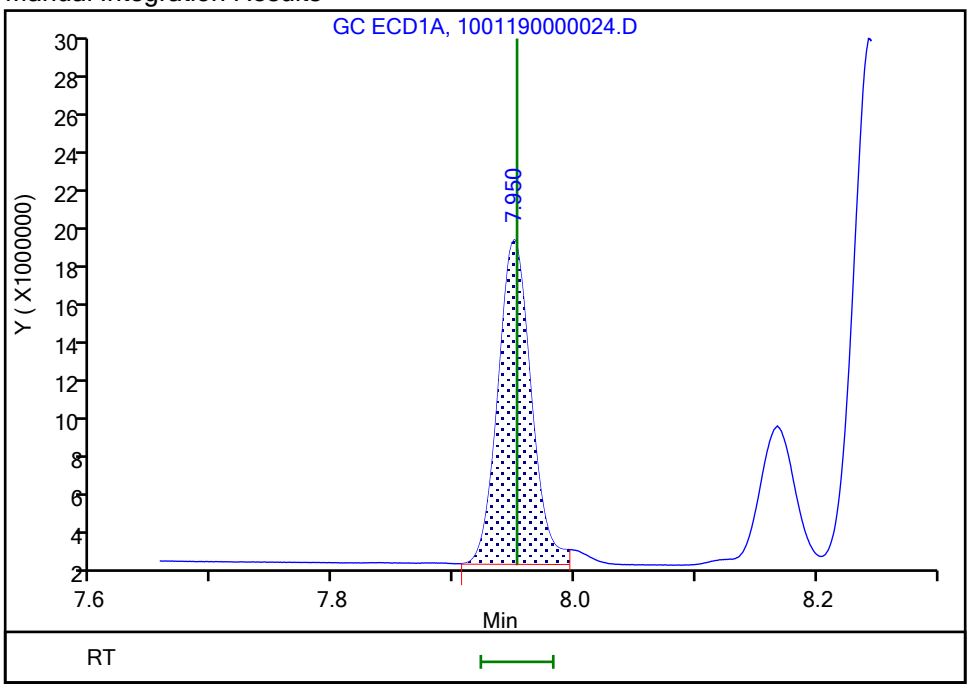

Reviewer: fritschj, 02-Oct-2019 14:47:17

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VII
HERBICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-293383/22 Calibration Date: 10/02/2019 02:06

Instrument ID: CGC1 Calib Start Date: 08/19/2019 18:39

GC Column: RTX-1701 ID: 0.53(mm) Calib End Date: 08/19/2019 21:09

Lab File ID: 1001190000024.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dalapon	Ave	335645731	340529506		0.162	0.160	1.5	15.0
Dicamba	Ave	701286267	654087775		0.0746	0.0800	-6.7	15.0
MCPP	Lin2		1307959		15.7	16.0	-1.6	15.0
MCPA	Ave	1231857	1129192		14.7	16.0	-8.3	15.0
Dichlorprop	Ave	185401372	173624488		0.150	0.160	-6.4	15.0
2,4-D	Ave	217037737	201510438		0.149	0.160	-7.2	15.0
Pentachlorophenol	Ave	2144337766	2029322200		0.0379	0.0400	-5.4	15.0
Silvex (2,4,5-TP)	Ave	941248503	879290275		0.0374	0.0400	-6.6	15.0
2,4,5-T	Ave	906375092	845083675		0.0373	0.0400	-6.8	15.0
2,4-DB	Ave	123360262	114396138		0.148	0.160	-7.3	15.0
Dinoseb	Ave	390899143	378704338		0.155	0.160	-3.1	15.0
2,4-Dichlorophenylacetic acid	Ave	210919252	194174669		0.147	0.160	-7.9	15.0

FORM VII
HERBICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-293383/22 Calibration Date: 10/02/2019 02:06

Instrument ID: CGC1 Calib Start Date: 08/19/2019 18:39

GC Column: RTX-1701 ID: 0.53(mm) Calib End Date: 08/19/2019 21:09

Lab File ID: 1001190000024.D

Analyte	RT	RT WINDOW	
		FROM	TO
Dalapon	2.36	2.33	2.39
Dicamba	8.26	8.23	8.29
MCPP	8.41	8.38	8.44
MCPA	8.72	8.69	8.75
Dichlorprop	9.09	9.05	9.11
2,4-D	9.48	9.45	9.51
Pentachlorophenol	9.69	9.66	9.72
Silvex (2,4,5-TP)	10.25	10.22	10.28
2,4,5-T	10.71	10.67	10.73
2,4-DB	11.14	11.10	11.16
Dinoseb	11.78	11.75	11.81
2,4-Dichlorophenylacetic acid	7.99	7.96	8.02

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000024.D
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 02-Oct-2019 02:06:43 ALS Bottle#: 21 Worklist Smp#: 22
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028922-022
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 02-Oct-2019 14:50:28 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0325

First Level Reviewer: fritschj Date: 02-Oct-2019 14:47:43

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.164	2.166	-0.002	25884299H	0.1600	0.1737	
2	2.359	2.359	0.000	54484721H	0.1600	0.1623	
						RPD = 6.75	
$ 2 2,4-Dichlorophenylacetic acid							M
1	7.950	7.952	-0.002	16251155H	0.1600	0.1493	M
2	7.991	7.990	0.001	31067947H	0.1600	0.1473	M
						RPD = 1.38	
3 MCPP							
1	8.168	8.167	0.001	6992281H	16.0	17.7	
2	8.414	8.412	0.002	20927344	16.0	15.7	
						RPD = 11.64	
4 Dicamba							
1	8.244	8.246	-0.002	26401306H	0.0800	0.0724	
2	8.256	8.256	0.000	52327022H	0.0800	0.0746	
						RPD = 3.04	
5 MCPA							
1	8.587	8.588	-0.001	9726835H	16.0	15.2	
2	8.723	8.721	0.002	18067078H	16.0	14.7	
						RPD = 3.35	
6 Dichlorprop							
1	8.867	8.867	0.000	14447278H	0.1600	0.1492	
2	9.085	9.083	0.002	27779918H	0.1600	0.1498	
						RPD = 0.42	
7 2,4-D							
1	9.357	9.356	0.001	16212003H	0.1600	0.1475	
2	9.482	9.480	0.002	32241670H	0.1600	0.1486	
						RPD = 0.71	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.878	9.879	-0.001	82649260	0.0400	0.0360	
2	9.689	9.688	0.001	81172888H	0.0400	0.0379	
						RPD = 5.08	
9 Silvex (2,4,5-TP)							
1	10.039	10.039	0.000	18515112H	0.0400	0.0378	
2	10.250	10.249	0.001	35171611H	0.0400	0.0374	
						RPD = 1.13	
10 2,4,5-T							
1	10.586	10.587	-0.001	17617699H	0.0400	0.0380	
2	10.706	10.704	0.002	33803347H	0.0400	0.0373	
						RPD = 1.85	
11 Dinoseb							
1	10.842	10.843	-0.001	33030163H	0.1600	0.1716	
2	11.782	11.780	0.002	60592694H	0.1600	0.1550	
						RPD = 10.15	
12 2,4-DB							
1	10.968	10.970	-0.002	9653509H	0.1600	0.1464	
2	11.135	11.132	0.003	18303382H	0.1600	0.1484	
						RPD = 1.34	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCHERBCALSL4_00027 Amount Added: 1.00 Units: mL

Report Date: 02-Oct-2019 14:50:30 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000024.D

Injection Date: 02-Oct-2019 02:06:43 Instrument ID: CGC1 Operator ID:

Lims ID: ccv Worklist Smp#: 22

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 21

Method: Herbicides_CGC1 Limit Group: GCS 8151A ICAL

Column: RTX-50 (0.53 mm)

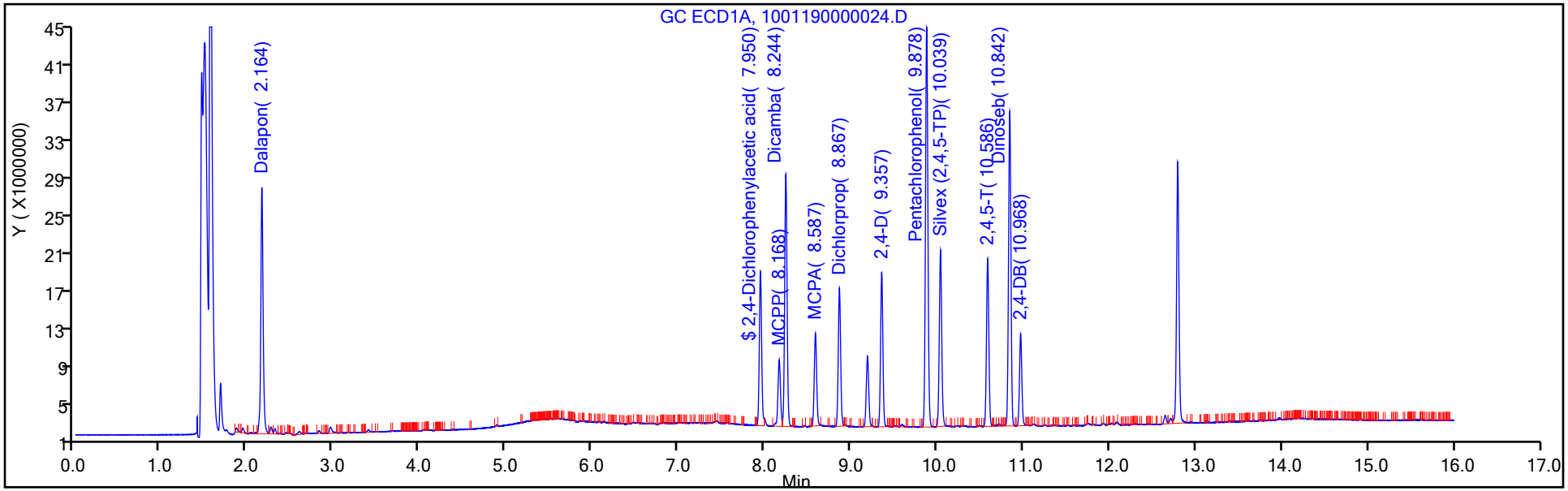

Column: RTX-1701 (0.53 mm)

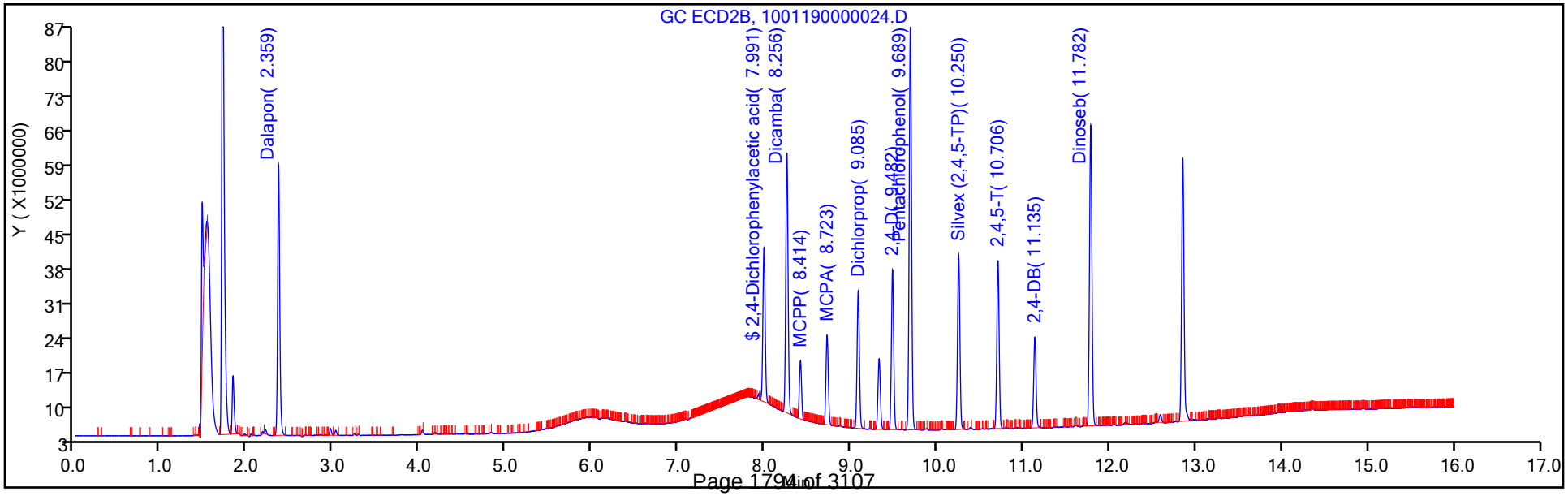

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000024.D				
Injection Date:	02-Oct-2019 02:06:43	Instrument ID:	CGC1		
Lims ID:	ccv				
Client ID:					
Operator ID:		ALS Bottle#:	21	Worklist Smp#:	22
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

$ 2 2,4-Dichlorophenylacetic acid, CAS: 19719-28-9

Signal: 2

Processing Integration Results

RT: 7.99
Height: 30685017
Amount: 0.145482
Amount Units: ng

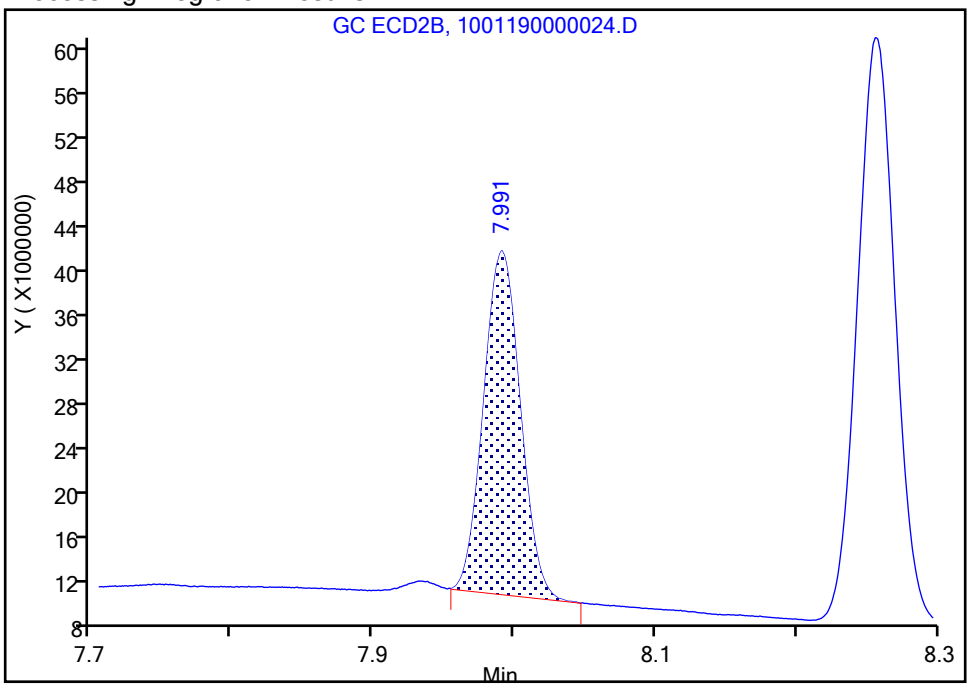

Manual Integration Results

RT: 7.99
Height: 31067947
Amount: 0.147298
Amount Units: ng

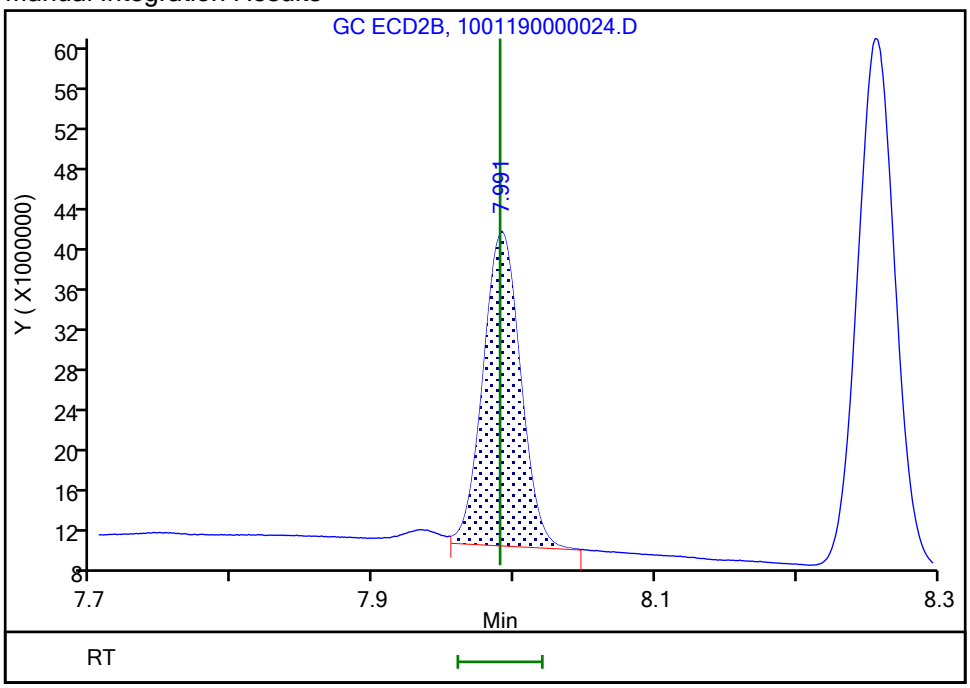

Reviewer: fritschj, 02-Oct-2019 14:47:25

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM I
HERBICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 180-293050/1-A

Matrix: Water Lab File ID: 1001190000017.D

Analysis Method: EPA 8151A Date Collected:

Extraction Method: 8151A Date Extracted: 09/28/2019 06:30

Sample wt/vol: 1000(mL) Date Analyzed: 10/01/2019 23:14

Con. Extract Vol.: 10.0(mL) Dilution Factor: 20

Injection Volume: 1(uL) GC Column: RTX-50 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 293383 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
94-75-7	2,4-D	ND		4.0	2.0
93-72-1	Silvex (2,4,5-TP)	ND		1.0	0.30

CAS NO.	SURROGATE	%REC	Q	LIMITS
19719-28-9	2,4-Dichlorophenylacetic acid	58		20-105

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000017.D
Lims ID: MB 180-293050/1-A
Client ID:
Sample Type: MB
Inject. Date: 01-Oct-2019 23:14:08 ALS Bottle#: 14 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 20.0000
Sample Info: 180-0028922-015
Operator ID: Instrument ID: CGC1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 02-Oct-2019 14:49:46 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0325

First Level Reviewer: fritschj Date: 02-Oct-2019 14:23:52

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1		2.166				ND	
2		2.359					
$ 2 2,4-Dichlorophenylacetic acid							
1	7.952	7.952	0.000	3181579H	0.0500	0.0292	
2	7.991	7.990	0.001	5766506H	0.0500	0.0273	
						RPD = 6.71	
3 MCPP							U
1		8.167				ND	
2		8.412					
4 Dicamba							
1		8.246				ND	
2		8.256					
5 MCPA							
1		8.588				ND	
2		8.721					
6 Dichlorprop							
1		8.867				ND	
2		9.083					
7 2,4-D							
1		9.356				ND	
2		9.480					
8 Pentachlorophenol							
1		9.879				ND	
2		9.688					
9 Silvex (2,4,5-TP)							
1		10.039				ND	
2		10.249					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
10 2,4,5-T							
1		10.587				ND	
2		10.704					
11 Dinoseb							
1		10.843				ND	
2		11.780					
12 2,4-DB							
1		10.970				ND	
2		11.132					

QC Flag Legend

Review Flags

U - Marked Undetected

Report Date: 02-Oct-2019 14:49:57 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000017.D				
Injection Date:	01-Oct-2019 23:14:08	Instrument ID:	CGC1	Operator ID:	
Lims ID:	MB 180-293050/1-A			Worklist Smp#:	15
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	14
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

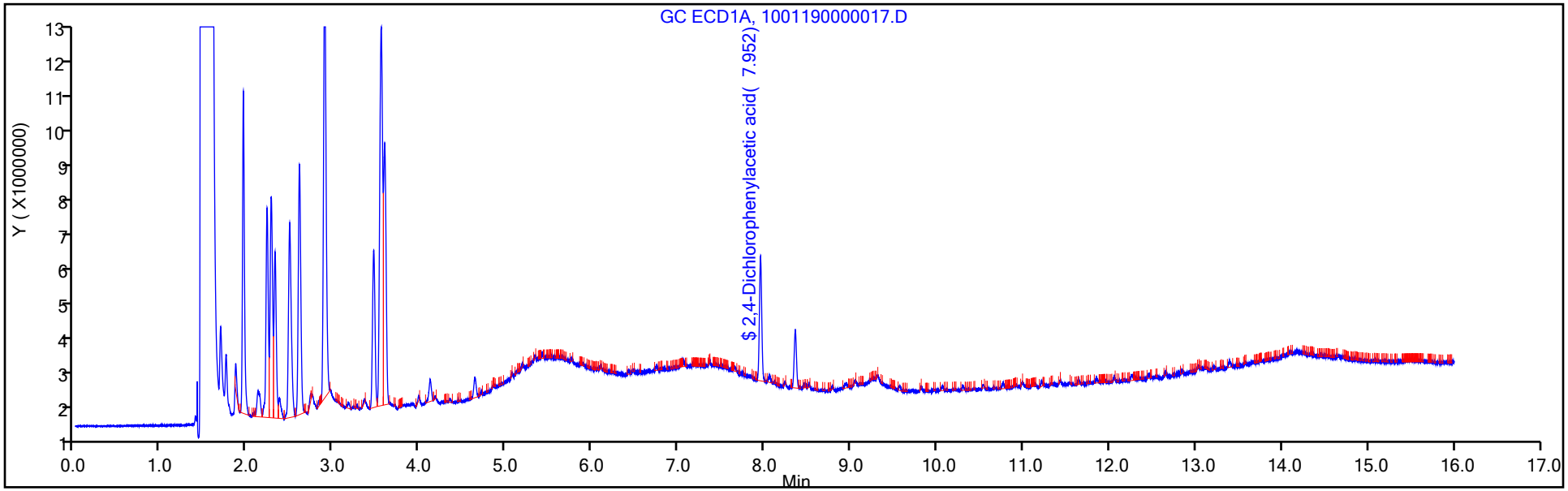

Column: RTX-1701 (0.53 mm)

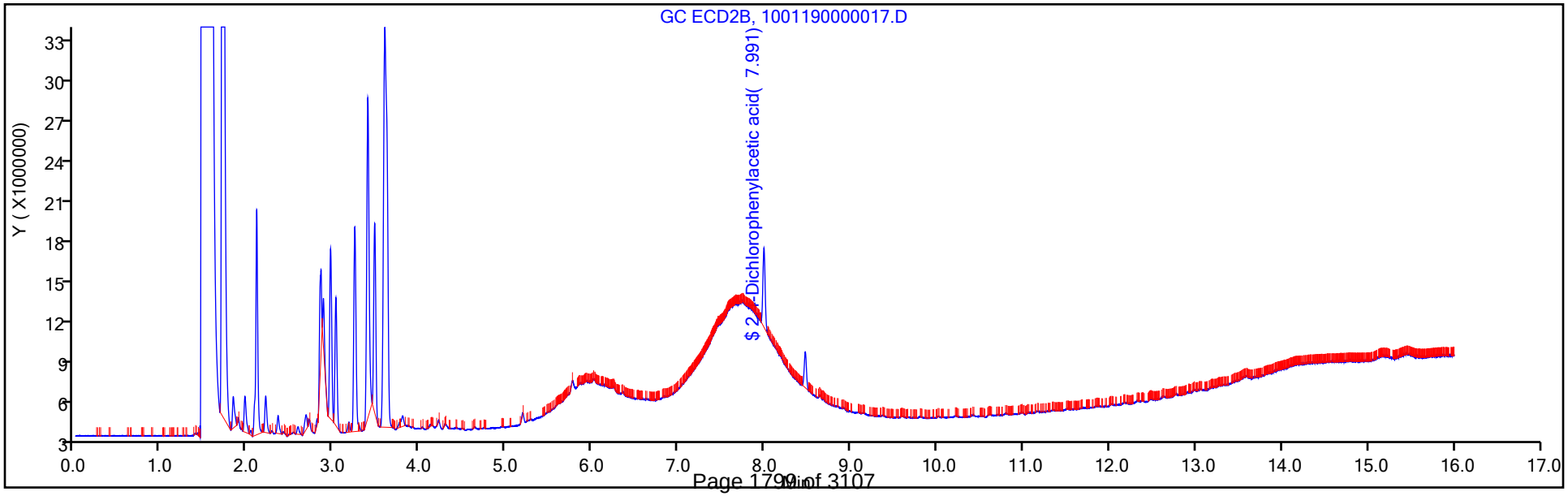

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000017.D				
Lims ID:	MB 180-293050/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	01-Oct-2019 23:14:08	ALS Bottle#:	14	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	180-0028922-015				
Operator ID:		Instrument ID:	CGC1		

Method:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\Herbicides_CGC1.m		
Limit Group:	GCS 8151A ICAL		
Last Update:	02-Oct-2019 14:49:46	Calib Date:	19-Aug-2019 21:09:17
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D		

Column 1 :	RTX-50 (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-1701 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0325	

First Level Reviewer: fritschj Date: 02-Oct-2019 14:23:52

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0292	58.48

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0273	54.68

FORM I
HERBICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 180-293050/1-A

Matrix: Water Lab File ID: 1001190000017.D

Analysis Method: EPA 8151A Date Collected:

Extraction Method: 8151A Date Extracted: 09/28/2019 06:30

Sample wt/vol: 1000(mL) Date Analyzed: 10/01/2019 23:14

Con. Extract Vol.: 10.0(mL) Dilution Factor: 20

Injection Volume: 1(uL) GC Column: RTX-1701 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 293383 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
19719-28-9	2,4-Dichlorophenylacetic acid	55		20-105

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000017.D
Lims ID: MB 180-293050/1-A
Client ID:
Sample Type: MB
Inject. Date: 01-Oct-2019 23:14:08 ALS Bottle#: 14 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 20.0000
Sample Info: 180-0028922-015
Operator ID: Instrument ID: CGC1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 02-Oct-2019 14:49:46 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0325

First Level Reviewer: fritschj Date: 02-Oct-2019 14:23:52

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1		2.166				ND	
2		2.359					
$ 2 2,4-Dichlorophenylacetic acid							
1	7.952	7.952	0.000	3181579H	0.0500	0.0292	
2	7.991	7.990	0.001	5766506H	0.0500	0.0273	
						RPD = 6.71	
3 MCPP							U
1		8.167				ND	
2		8.412					
4 Dicamba							
1		8.246				ND	
2		8.256					
5 MCPA							
1		8.588				ND	
2		8.721					
6 Dichlorprop							
1		8.867				ND	
2		9.083					
7 2,4-D							
1		9.356				ND	
2		9.480					
8 Pentachlorophenol							
1		9.879				ND	
2		9.688					
9 Silvex (2,4,5-TP)							
1		10.039				ND	
2		10.249					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
10 2,4,5-T							
1		10.587				ND	
2		10.704					
11 Dinoseb							
1		10.843				ND	
2		11.780					
12 2,4-DB							
1		10.970				ND	
2		11.132					

QC Flag Legend

Review Flags

U - Marked Undetected

Report Date: 02-Oct-2019 14:49:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000017.D				
Injection Date:	01-Oct-2019 23:14:08	Instrument ID:	CGC1	Operator ID:	
Lims ID:	MB 180-293050/1-A			Worklist Smp#:	15
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	14
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

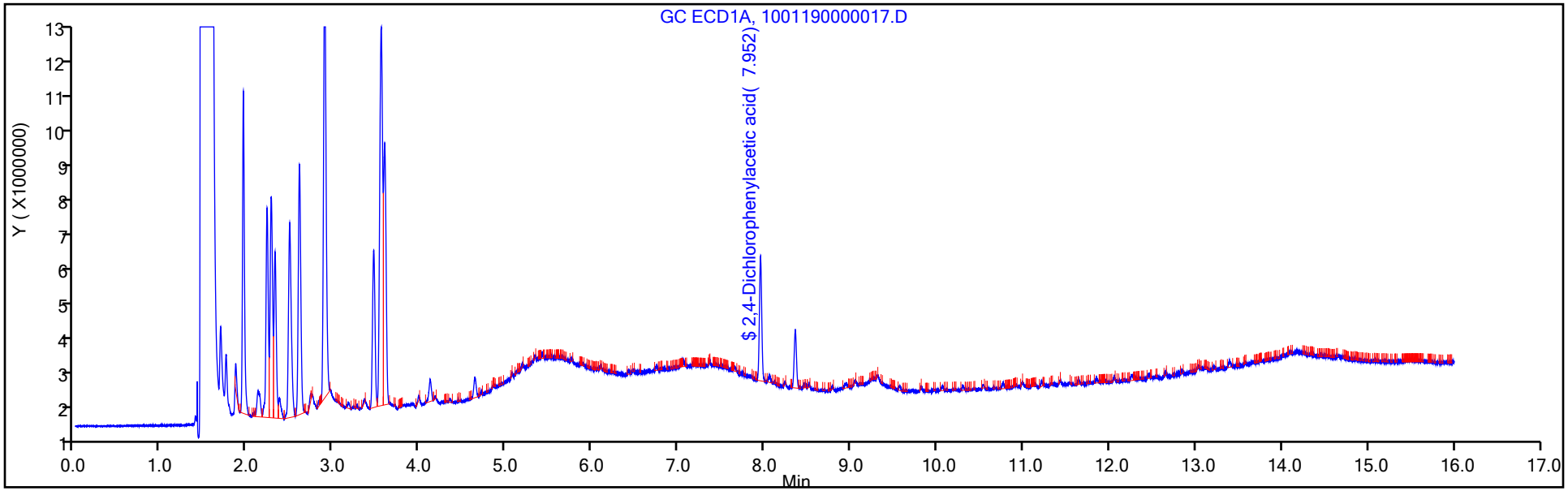

Column: RTX-1701 (0.53 mm)

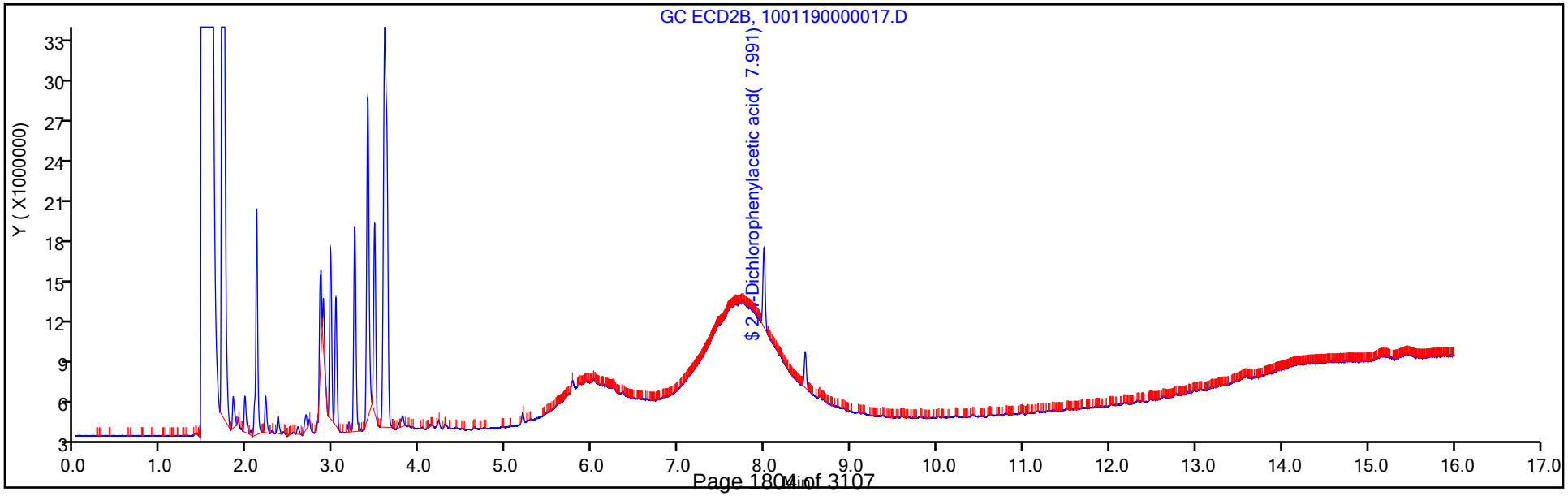

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000017.D				
Lims ID:	MB 180-293050/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	01-Oct-2019 23:14:08	ALS Bottle#:	14	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	180-0028922-015				
Operator ID:		Instrument ID:	CGC1		

Method:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\Herbicides_CGC1.m		
Limit Group:	GCS 8151A ICAL		
Last Update:	02-Oct-2019 14:49:46	Calib Date:	19-Aug-2019 21:09:17
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D		

Column 1 :	RTX-50 (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-1701 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0325	

First Level Reviewer: fritschj Date: 02-Oct-2019 14:23:52

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0292	58.48

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0273	54.68

FORM I
HERBICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: Lab Sample ID: LB 180-292822/1-E

Matrix: Water Lab File ID: 1001190000020.D

Analysis Method: EPA 8151A Date Collected:

Extraction Method: 8151A Date Extracted: 09/28/2019 06:30

Sample wt/vol: 100(mL) Date Analyzed: 10/02/2019 00:28

Con. Extract Vol.: 10.0(mL) Dilution Factor: 20

Injection Volume: 1(uL) GC Column: RTX-50 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 293383 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
94-75-7	2,4-D	ND		40	20
93-72-1	Silvex (2,4,5-TP)	ND		10	3.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
19719-28-9	2,4-Dichlorophenylacetic acid	58		20-105

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000020.D
Lims ID: LB 180-292822/1-E
Client ID:
Sample Type: LB
Inject. Date: 02-Oct-2019 00:28:13 ALS Bottle#: 17 Worklist Smp#: 18
Injection Vol: 1.0 ul Dil. Factor: 20.0000
Sample Info: 180-0028922-018
Operator ID: Instrument ID: CGC1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 02-Oct-2019 14:49:46 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0325

First Level Reviewer: fritschj Date: 02-Oct-2019 14:28:15

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1		2.166				ND	
2		2.359					
$ 2 2,4-Dichlorophenylacetic acid							
1	7.952	7.952	0.000	3153789H	0.0500	0.0290	
2	7.991	7.990	0.001	5829304H	0.0500	0.0276	
						RPD = 4.75	
3 MCPP							
1		8.167				ND	
2		8.412					
4 Dicamba							
1		8.246				ND	
2		8.256					
5 MCPA							
1		8.588				ND	
2		8.721					
6 Dichlorprop							
1		8.867				ND	
2		9.083					
7 2,4-D							
1		9.356				ND	
2		9.480					
8 Pentachlorophenol							
1		9.879				ND	
2		9.688					
9 Silvex (2,4,5-TP)							
1		10.039				ND	
2		10.249					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
10 2,4,5-T							
1		10.587				ND	
2		10.704					
11 Dinoseb							
1		10.843				ND	
2		11.780					
12 2,4-DB							
1		10.970				ND	
2		11.132					

Report Date: 02-Oct-2019 14:50:12 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000020.D				
Injection Date:	02-Oct-2019 00:28:13	Instrument ID:	CGC1	Operator ID:	
Lims ID:	LB 180-292822/1-E			Worklist Smp#:	18
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	17
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

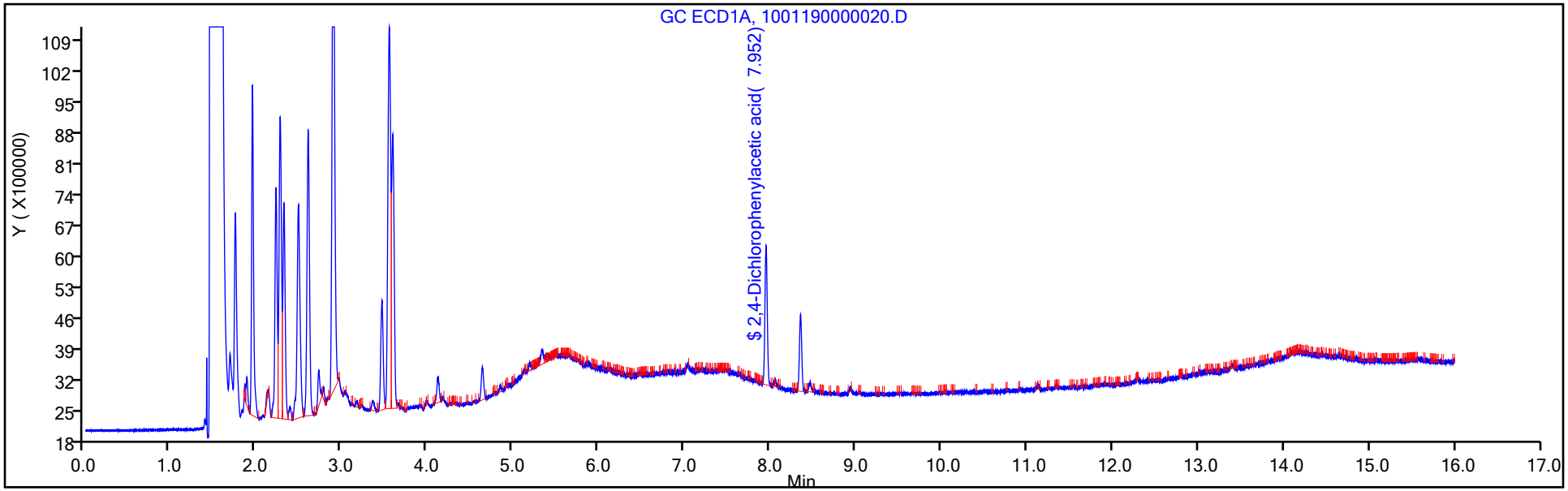

Column: RTX-1701 (0.53 mm)

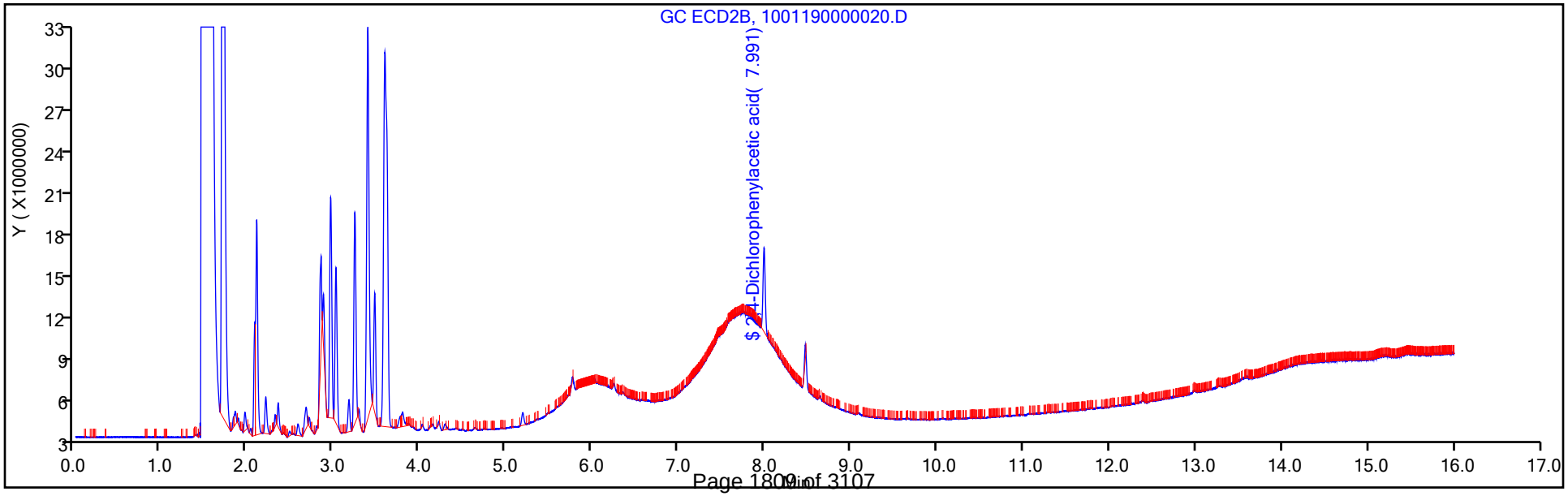

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000020.D				
Lims ID:	LB 180-292822/1-E				
Client ID:					
Sample Type:	LB				
Inject. Date:	02-Oct-2019 00:28:13	ALS Bottle#:	17	Worklist Smp#:	18
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	180-0028922-018				
Operator ID:		Instrument ID:	CGC1		

Method:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\Herbicides_CGC1.m		
Limit Group:	GCS 8151A ICAL		
Last Update:	02-Oct-2019 14:49:46	Calib Date:	19-Aug-2019 21:09:17
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D		

Column 1 :	RTX-50 (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-1701 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0325	

First Level Reviewer: fritschj Date: 02-Oct-2019 14:28:15

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0290	57.97

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0276	55.28

FORM I
HERBICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: Lab Sample ID: LB 180-292822/1-E

Matrix: Water Lab File ID: 1001190000020.D

Analysis Method: EPA 8151A Date Collected:

Extraction Method: 8151A Date Extracted: 09/28/2019 06:30

Sample wt/vol: 100(mL) Date Analyzed: 10/02/2019 00:28

Con. Extract Vol.: 10.0(mL) Dilution Factor: 20

Injection Volume: 1(uL) GC Column: RTX-1701 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 293383 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
19719-28-9	2,4-Dichlorophenylacetic acid	55		20-105

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000020.D
Lims ID: LB 180-292822/1-E
Client ID:
Sample Type: LB
Inject. Date: 02-Oct-2019 00:28:13 ALS Bottle#: 17 Worklist Smp#: 18
Injection Vol: 1.0 ul Dil. Factor: 20.0000
Sample Info: 180-0028922-018
Operator ID: Instrument ID: CGC1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 02-Oct-2019 14:49:46 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0325

First Level Reviewer: fritschj Date: 02-Oct-2019 14:28:15

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1		2.166				ND	
2		2.359					
$ 2 2,4-Dichlorophenylacetic acid							
1	7.952	7.952	0.000	3153789H	0.0500	0.0290	
2	7.991	7.990	0.001	5829304H	0.0500	0.0276	
						RPD = 4.75	
3 MCPP							
1		8.167				ND	
2		8.412					
4 Dicamba							
1		8.246				ND	
2		8.256					
5 MCPA							
1		8.588				ND	
2		8.721					
6 Dichlorprop							
1		8.867				ND	
2		9.083					
7 2,4-D							
1		9.356				ND	
2		9.480					
8 Pentachlorophenol							
1		9.879				ND	
2		9.688					
9 Silvex (2,4,5-TP)							
1		10.039				ND	
2		10.249					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
10 2,4,5-T							
1		10.587				ND	
2		10.704					
11 Dinoseb							
1		10.843				ND	
2		11.780					
12 2,4-DB							
1		10.970				ND	
2		11.132					

Report Date: 02-Oct-2019 14:50:13 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000020.D				
Injection Date:	02-Oct-2019 00:28:13	Instrument ID:	CGC1	Operator ID:	
Lims ID:	LB 180-292822/1-E			Worklist Smp#:	18
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	17
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

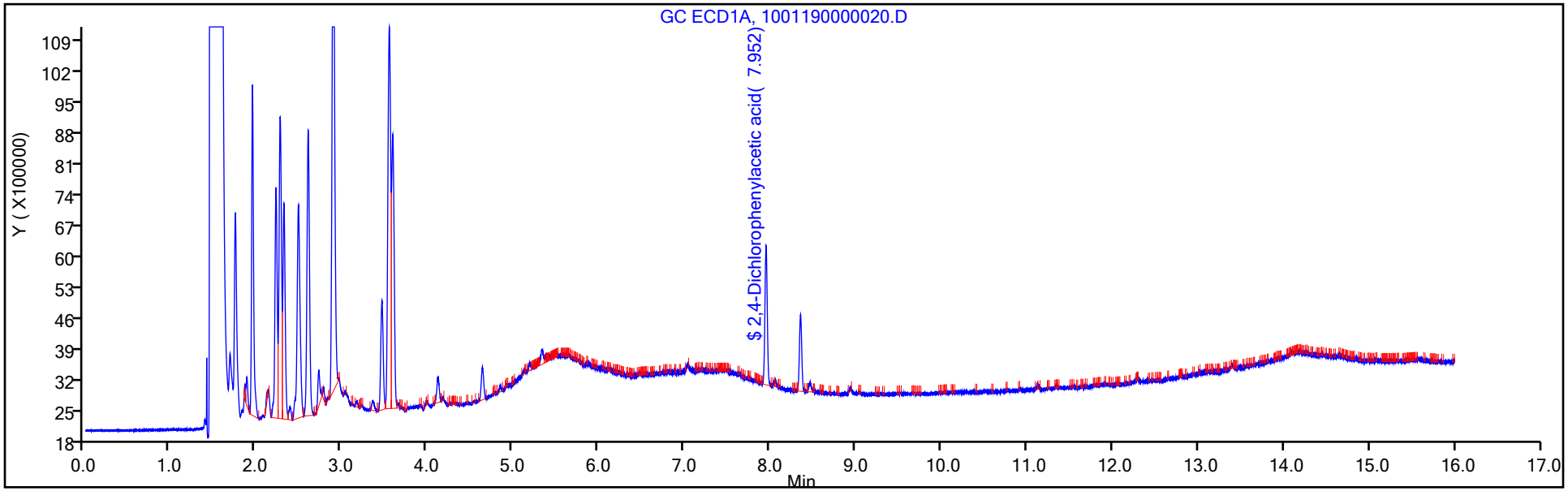

Column: RTX-1701 (0.53 mm)

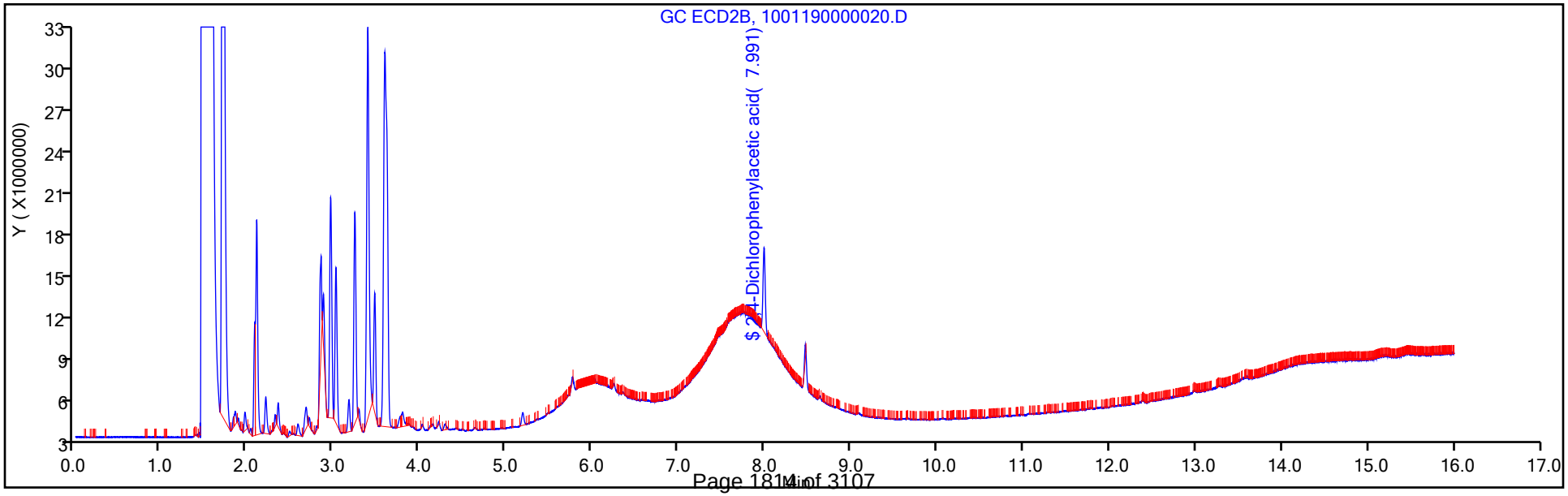

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000020.D				
Lims ID:	LB 180-292822/1-E				
Client ID:					
Sample Type:	LB				
Inject. Date:	02-Oct-2019 00:28:13	ALS Bottle#:	17	Worklist Smp#:	18
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	180-0028922-018				
Operator ID:		Instrument ID:	CGC1		

Method:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\Herbicides_CGC1.m		
Limit Group:	GCS 8151A ICAL		
Last Update:	02-Oct-2019 14:49:46	Calib Date:	19-Aug-2019 21:09:17
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D		

Column 1 :	RTX-50 (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-1701 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0325	

First Level Reviewer: fritschj Date: 02-Oct-2019 14:28:15

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0290	57.97

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0276	55.28

FORM I
HERBICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 180-293050/2-A

Matrix: Water Lab File ID: 1001190000018.D

Analysis Method: EPA 8151A Date Collected:

Extraction Method: 8151A Date Extracted: 09/28/2019 06:30

Sample wt/vol: 1000(mL) Date Analyzed: 10/01/2019 23:38

Con. Extract Vol.: 10.0(mL) Dilution Factor: 20

Injection Volume: 1(uL) GC Column: RTX-50 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 293383 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
19719-28-9	2,4-Dichlorophenylacetic acid	72		20-105

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000018.D
Lims ID: LCS 180-293050/2-A
Client ID:
Sample Type: LCS
Inject. Date: 01-Oct-2019 23:38:59 ALS Bottle#: 15 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 20.0000
Sample Info: 180-0028922-016
Operator ID: Instrument ID: CGC1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 02-Oct-2019 14:49:46 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0325

First Level Reviewer: fritschj Date: 02-Oct-2019 14:25:12

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							M
1	2.165	2.166	-0.001	10147941H	0.1000	0.0681	
2	2.358	2.359	-0.001	21264277H	0.1000	0.0634	M
						RPD = 7.20	
$ 2 2,4-Dichlorophenylacetic acid							M
1	7.951	7.952	-0.001	3898749H	0.0500	0.0358	M
2	7.991	7.990	0.001	7083003H	0.0500	0.0336	
						RPD = 6.48	
3 MCPP							
1	8.168	8.167	0.001	3231640H	10.0	8.18	
2	8.414	8.412	0.002	7942821	10.0	6.25	
						RPD = 26.77	
4 Dicamba							
1	8.245	8.246	-0.001	15652652H	0.0500	0.0429	
2	8.257	8.256	0.001	31270341H	0.0500	0.0446	
						RPD = 3.83	
5 MCPA							
1	8.588	8.588	0.000	4012989H	10.0	6.26	
2	8.722	8.721	0.001	7229547H	10.0	5.87	
						RPD = 6.41	
6 Dichlorprop							
1	8.867	8.867	0.000	6525018H	0.1000	0.0674	
2	9.084	9.083	0.001	12624934H	0.1000	0.0681	
						RPD = 1.04	
7 2,4-D							
1	9.357	9.356	0.001	6313119H	0.1000	0.0574	
2	9.480	9.480	0.000	15927509H	0.1000	0.0734	
						RPD = 24.38	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.880	9.879	0.001	46464269	0.0250	0.0202	
2	9.689	9.688	0.001	46525890H	0.0250	0.0217	
						RPD = 7.01	
9 Silvex (2,4,5-TP)							
1	10.038	10.039	-0.001	8592340H	0.0250	0.0175	
2	10.250	10.249	0.001	16734263H	0.0250	0.0178	
						RPD = 1.37	
10 2,4,5-T							
1	10.586	10.587	-0.001	7362845H	0.0250	0.0159	
2	10.705	10.704	0.001	13994072H	0.0250	0.0154	
						RPD = 2.80	
11 Dinoseb							
1	10.843	10.843	0.000	24100154H	0.1000	0.1252	
2	11.782	11.780	0.002	44805709H	0.1000	0.1146	
						RPD = 8.82	
12 2,4-DB							M
1	10.969	10.970	-0.001	4306225H	0.1000	0.0653	
2	11.134	11.132	0.002	8524165H	0.1000	0.0691	M
						RPD = 5.65	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 02-Oct-2019 14:50:02 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000018.D				
Injection Date:	01-Oct-2019 23:38:59	Instrument ID:	CGC1	Operator ID:	
Lims ID:	LCS 180-293050/2-A			Worklist Smp#:	16
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	15
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

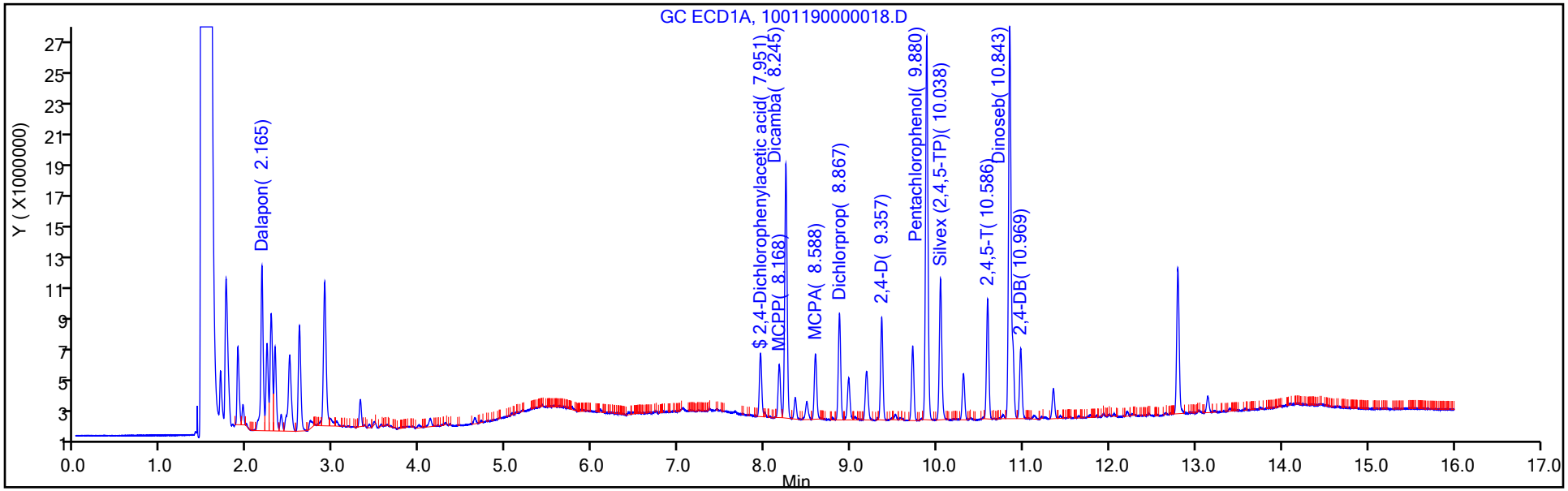

Column: RTX-1701 (0.53 mm)

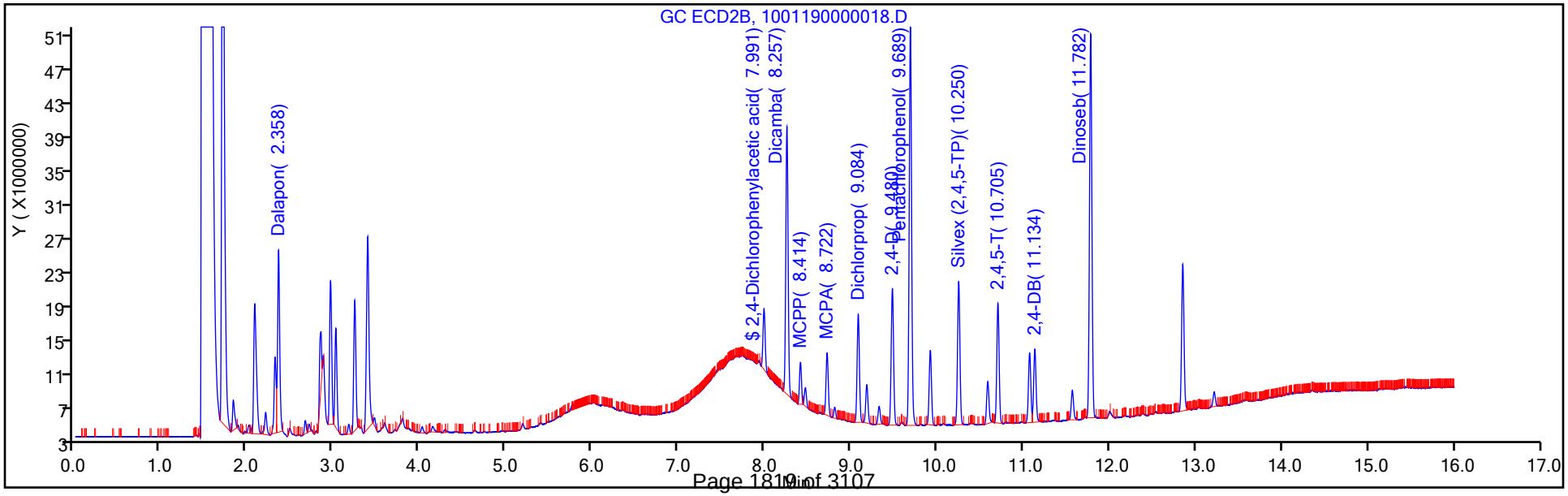

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000018.D				
Lims ID:	LCS 180-293050/2-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	01-Oct-2019 23:38:59	ALS Bottle#:	15	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	180-0028922-016				
Operator ID:		Instrument ID:	CGC1		
Method:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\Herbicides_CGC1.m				
Limit Group:	GCS 8151A ICAL				
Last Update:	02-Oct-2019 14:49:46	Calib Date:	19-Aug-2019 21:09:17		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D				
Column 1 :	RTX-50 (0.53 mm)		Det: GC ECD1A		
Column 2 :	RTX-1701 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0325				
First Level Reviewer: fritschj		Date:	02-Oct-2019 14:25:12		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0358	71.66

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0336	67.16

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000018.D				
Injection Date:	01-Oct-2019 23:38:59	Instrument ID:	CGC1		
Lims ID:	LCS 180-293050/2-A				
Client ID:					
Operator ID:		ALS Bottle#:	15	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

$ 2 2,4-Dichlorophenylacetic acid, CAS: 19719-28-9

Signal: 1

Processing Integration Results

RT: 7.95
Height: 3802937
Amount: 0.034949
Amount Units: ng

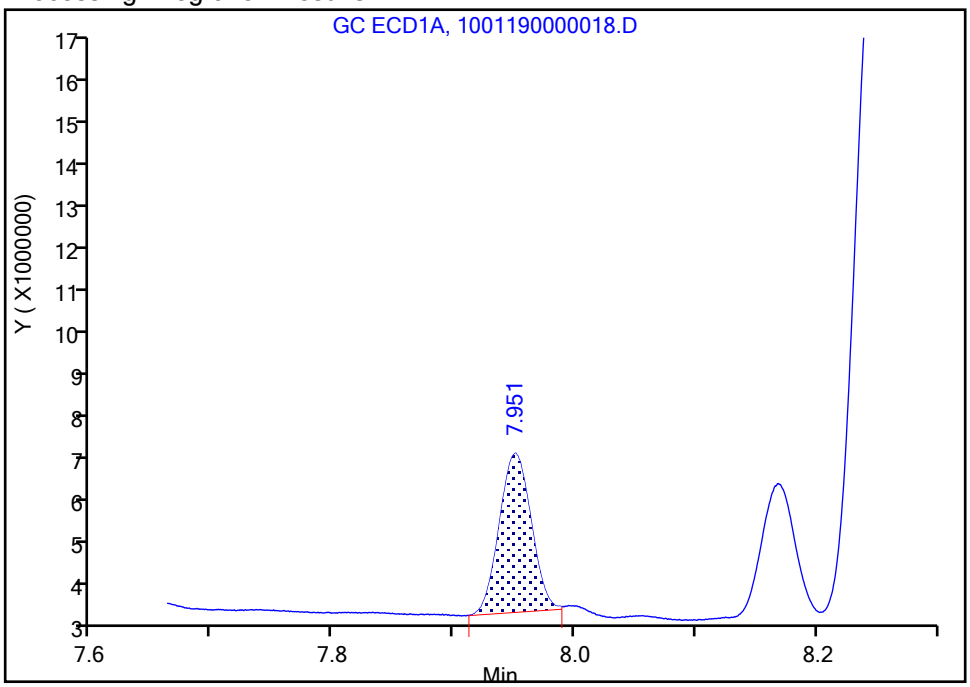

Manual Integration Results

RT: 7.95
Height: 3898749
Amount: 0.035830
Amount Units: ng

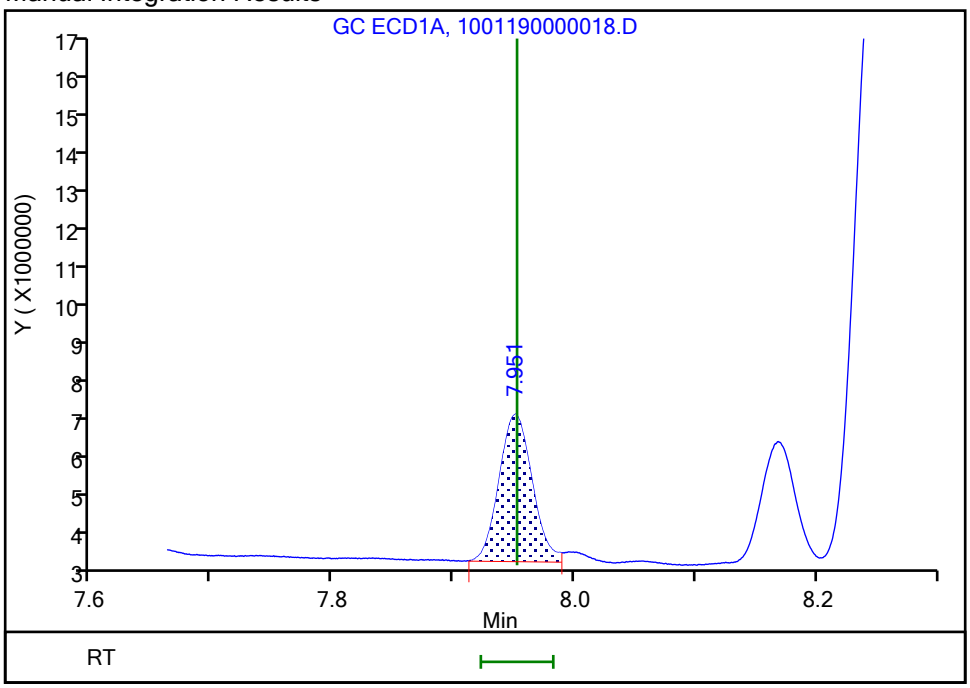

Reviewer: fritschj, 02-Oct-2019 14:24:56
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM I
HERBICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 180-293050/2-A

Matrix: Water Lab File ID: 1001190000018.D

Analysis Method: EPA 8151A Date Collected:

Extraction Method: 8151A Date Extracted: 09/28/2019 06:30

Sample wt/vol: 1000(mL) Date Analyzed: 10/01/2019 23:38

Con. Extract Vol.: 10.0(mL) Dilution Factor: 20

Injection Volume: 1(uL) GC Column: RTX-1701 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 293383 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
94-75-7	2,4-D	14.7		4.0	2.0
93-72-1	Silvex (2,4,5-TP)	3.56		1.0	0.30

CAS NO.	SURROGATE	%REC	Q	LIMITS
19719-28-9	2,4-Dichlorophenylacetic acid	67		20-105

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000018.D
Lims ID: LCS 180-293050/2-A
Client ID:
Sample Type: LCS
Inject. Date: 01-Oct-2019 23:38:59 ALS Bottle#: 15 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 20.0000
Sample Info: 180-0028922-016
Operator ID: Instrument ID: CGC1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 02-Oct-2019 14:49:46 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0325

First Level Reviewer: fritschj Date: 02-Oct-2019 14:25:12

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							M
1	2.165	2.166	-0.001	10147941H	0.1000	0.0681	
2	2.358	2.359	-0.001	21264277H	0.1000	0.0634	M
						RPD = 7.20	
$ 2 2,4-Dichlorophenylacetic acid							M
1	7.951	7.952	-0.001	3898749H	0.0500	0.0358	M
2	7.991	7.990	0.001	7083003H	0.0500	0.0336	
						RPD = 6.48	
3 MCPP							
1	8.168	8.167	0.001	3231640H	10.0	8.18	
2	8.414	8.412	0.002	7942821	10.0	6.25	
						RPD = 26.77	
4 Dicamba							
1	8.245	8.246	-0.001	15652652H	0.0500	0.0429	
2	8.257	8.256	0.001	31270341H	0.0500	0.0446	
						RPD = 3.83	
5 MCPA							
1	8.588	8.588	0.000	4012989H	10.0	6.26	
2	8.722	8.721	0.001	7229547H	10.0	5.87	
						RPD = 6.41	
6 Dichlorprop							
1	8.867	8.867	0.000	6525018H	0.1000	0.0674	
2	9.084	9.083	0.001	12624934H	0.1000	0.0681	
						RPD = 1.04	
7 2,4-D							
1	9.357	9.356	0.001	6313119H	0.1000	0.0574	
2	9.480	9.480	0.000	15927509H	0.1000	0.0734	
						RPD = 24.38	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.880	9.879	0.001	46464269	0.0250	0.0202	
2	9.689	9.688	0.001	46525890H	0.0250	0.0217	
						RPD = 7.01	
9 Silvex (2,4,5-TP)							
1	10.038	10.039	-0.001	8592340H	0.0250	0.0175	
2	10.250	10.249	0.001	16734263H	0.0250	0.0178	
						RPD = 1.37	
10 2,4,5-T							
1	10.586	10.587	-0.001	7362845H	0.0250	0.0159	
2	10.705	10.704	0.001	13994072H	0.0250	0.0154	
						RPD = 2.80	
11 Dinoseb							
1	10.843	10.843	0.000	24100154H	0.1000	0.1252	
2	11.782	11.780	0.002	44805709H	0.1000	0.1146	
						RPD = 8.82	
12 2,4-DB							M
1	10.969	10.970	-0.001	4306225H	0.1000	0.0653	
2	11.134	11.132	0.002	8524165H	0.1000	0.0691	M
						RPD = 5.65	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 02-Oct-2019 14:50:04 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000018.D				
Injection Date:	01-Oct-2019 23:38:59	Instrument ID:	CGC1	Operator ID:	
Lims ID:	LCS 180-293050/2-A			Worklist Smp#:	16
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	15
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

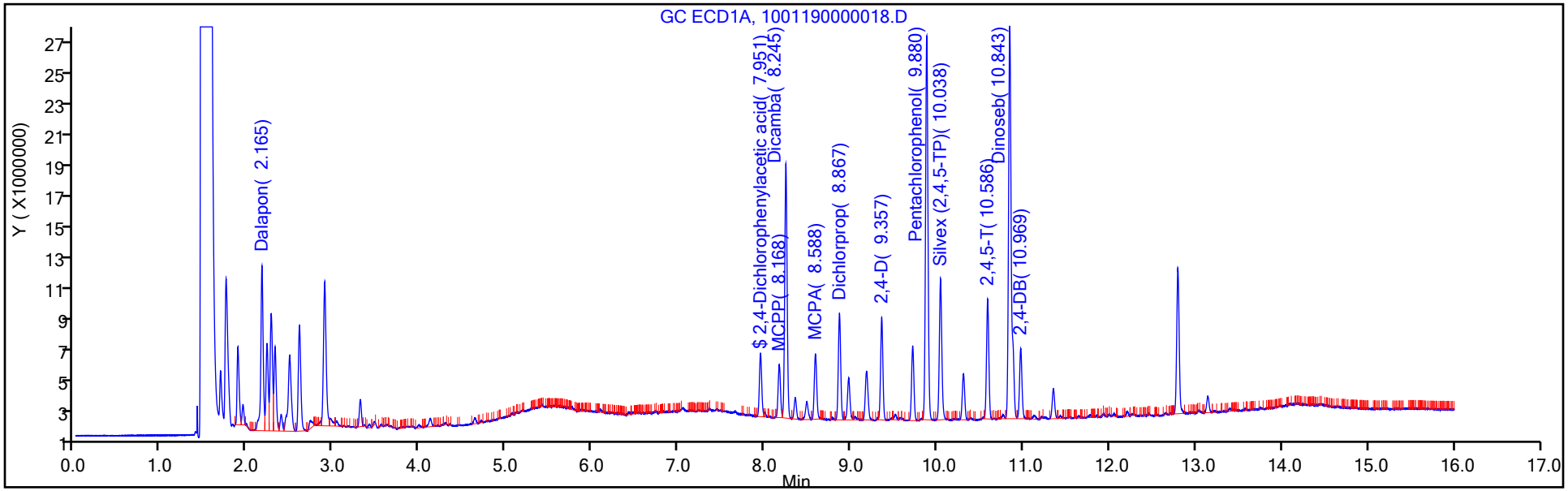

Column: RTX-1701 (0.53 mm)

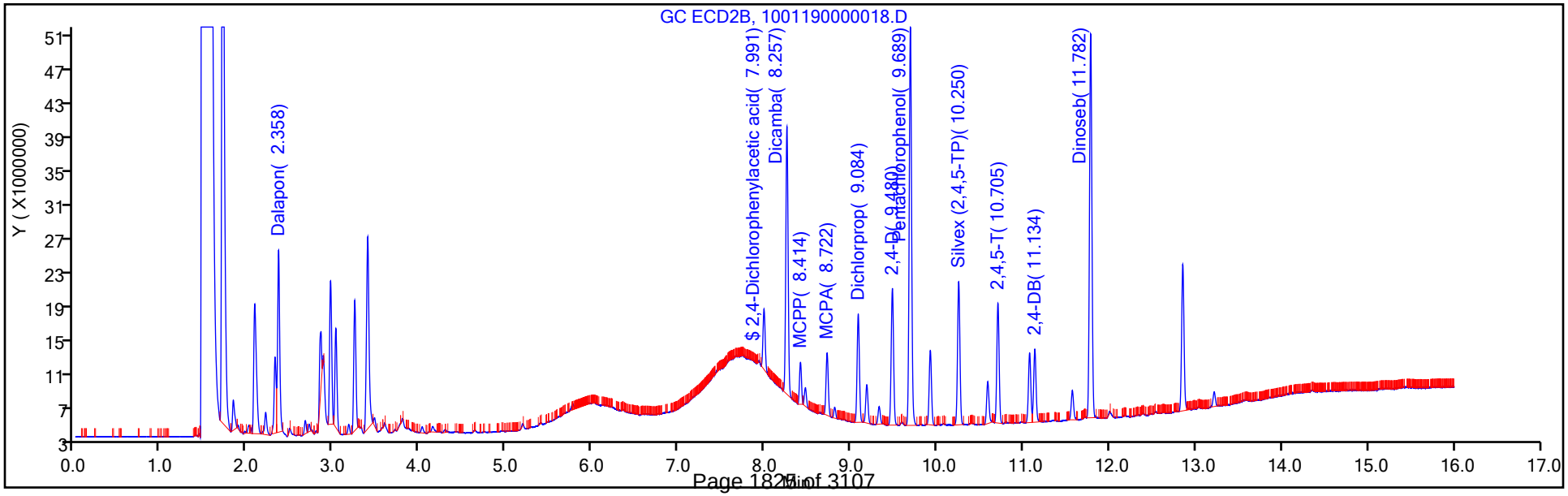

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000018.D				
Lims ID:	LCS 180-293050/2-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	01-Oct-2019 23:38:59	ALS Bottle#:	15	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	180-0028922-016				
Operator ID:		Instrument ID:	CGC1		

Method:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\Herbicides_CGC1.m		
Limit Group:	GCS 8151A ICAL		
Last Update:	02-Oct-2019 14:49:46	Calib Date:	19-Aug-2019 21:09:17
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D		

Column 1 :	RTX-50 (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-1701 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0325	

First Level Reviewer: fritschj Date: 02-Oct-2019 14:25:12

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0358	71.66

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0336	67.16

FORM I
HERBICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 180-293050/3-A

Matrix: Water Lab File ID: 1001190000019.D

Analysis Method: EPA 8151A Date Collected:

Extraction Method: 8151A Date Extracted: 09/28/2019 06:30

Sample wt/vol: 1000(mL) Date Analyzed: 10/02/2019 00:03

Con. Extract Vol.: 10.0(mL) Dilution Factor: 20

Injection Volume: 1(uL) GC Column: RTX-50 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 293383 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
19719-28-9	2,4-Dichlorophenylacetic acid	67		20-105

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000019.D
Lims ID: LCSD 180-293050/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 02-Oct-2019 00:03:36 ALS Bottle#: 16 Worklist Smp#: 17
Injection Vol: 1.0 ul Dil. Factor: 20.0000
Sample Info: 180-0028922-017
Operator ID: Instrument ID: CGC1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 02-Oct-2019 14:49:46 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0325

First Level Reviewer: fritschj Date: 02-Oct-2019 14:28:02

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.165	2.166	-0.001	9719618H	0.1000	0.0652	
2	2.358	2.359	-0.001	20280944H	0.1000	0.0604	
						RPD = 7.62	
$ 2 2,4-Dichlorophenylacetic acid							
1	7.951	7.952	-0.001	3640782H	0.0500	0.0335	
2	7.991	7.990	0.001	6764549H	0.0500	0.0321	
						RPD = 4.23	
3 MCPP							
1	8.167	8.167	0.000	3160747H	10.0	8.00	
2	8.413	8.412	0.001	7557873	10.0	5.97	
						RPD = 29.11	
4 Dicamba							
1	8.244	8.246	-0.002	14903510H	0.0500	0.0409	
2	8.257	8.256	0.001	29736408H	0.0500	0.0424	
						RPD = 3.71	
5 MCPA							
1	8.588	8.588	0.000	3982820H	10.0	6.21	
2	8.723	8.721	0.002	7012185H	10.0	5.69	
						RPD = 8.70	
6 Dichlorprop							
1	8.866	8.867	-0.001	6052027H	0.1000	0.0625	
2	9.085	9.083	0.002	11606986H	0.1000	0.0626	
						RPD = 0.16	
7 2,4-D							
1	9.357	9.356	0.001	5660603H	0.1000	0.0515	
2	9.481	9.480	0.001	14269414H	0.1000	0.0657	
						RPD = 24.30	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.880	9.879	0.001	46104512	0.0250	0.0201	
2	9.690	9.688	0.002	45611296H	0.0250	0.0213	
						RPD = 5.81	
9 Silvex (2,4,5-TP)							
1	10.039	10.039	0.000	7906421H	0.0250	0.0161	
2	10.251	10.249	0.002	15420646H	0.0250	0.0164	
						RPD = 1.51	
10 2,4,5-T							
1	10.588	10.587	0.001	6665537H	0.0250	0.0144	
2	10.706	10.704	0.002	12750398H	0.0250	0.0141	
						RPD = 2.16	
11 Dinoseb							
1	10.844	10.843	0.001	22142242H	0.1000	0.1150	
2	11.782	11.780	0.002	41209644H	0.1000	0.1054	
						RPD = 8.71	
12 2,4-DB							
1	10.971	10.970	0.001	3951597H	0.1000	0.0599	
2	11.135	11.132	0.003	7082323H	0.1000	0.0574	
						RPD = 4.29	

Report Date: 02-Oct-2019 14:50:08 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000019.D				
Injection Date:	02-Oct-2019 00:03:36	Instrument ID:	CGC1	Operator ID:	
Lims ID:	LCSD 180-293050/3-A			Worklist Smp#:	17
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	16
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

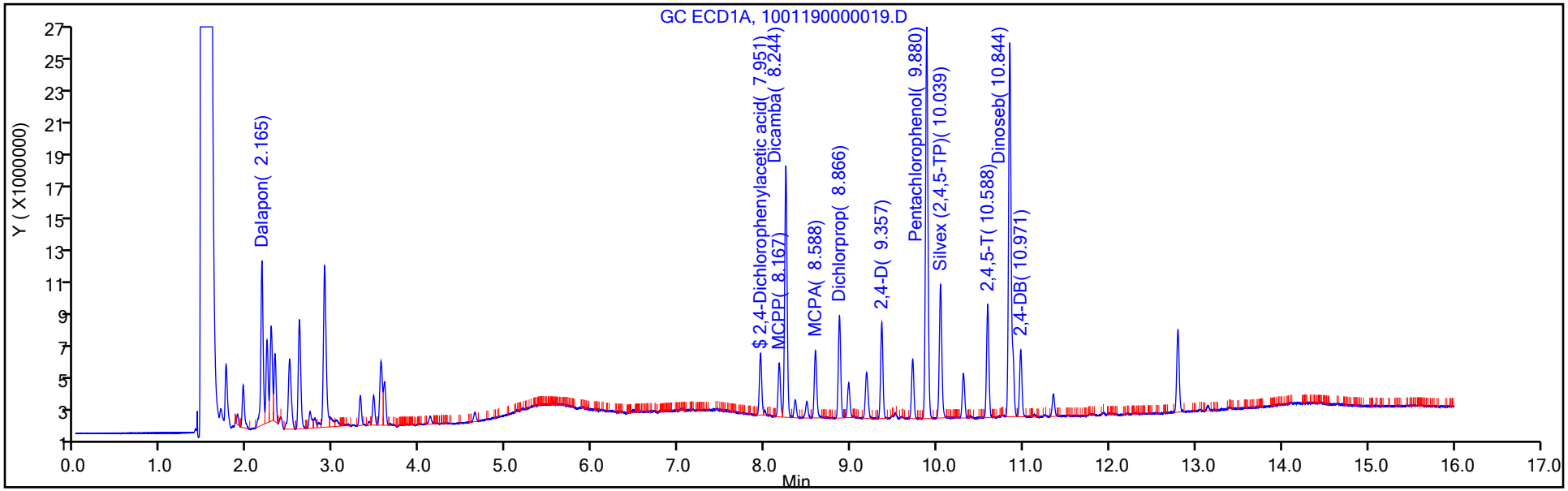

Column: RTX-1701 (0.53 mm)

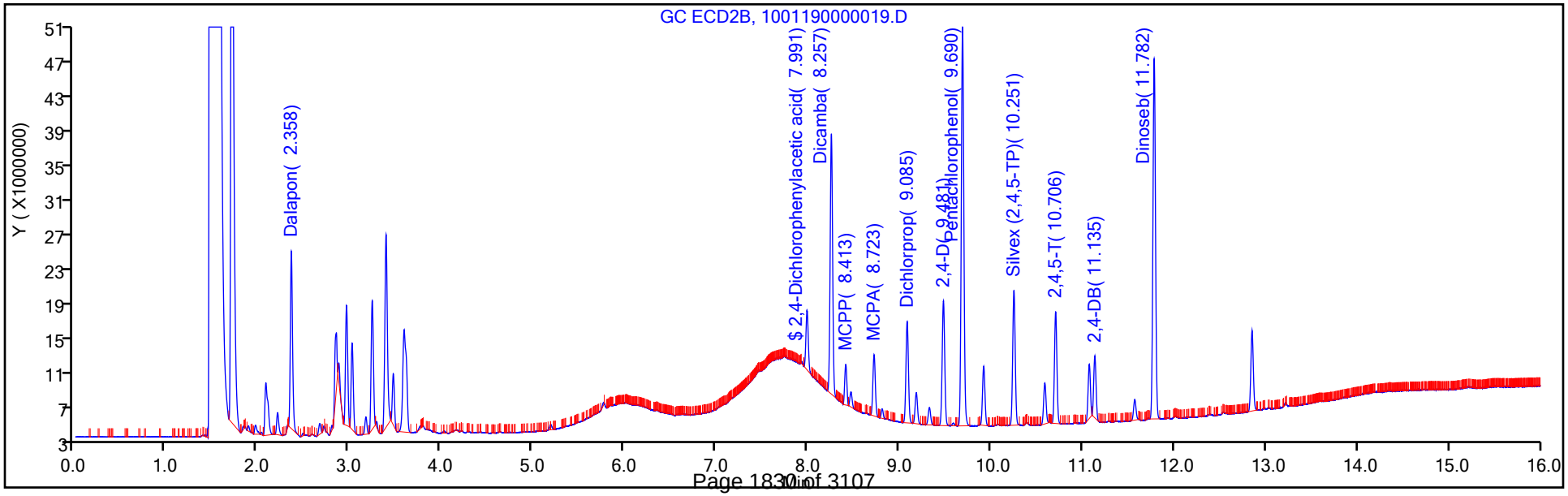

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000019.D				
Lims ID:	LCSD 180-293050/3-A				
Client ID:					
Sample Type:	LCSD				
Inject. Date:	02-Oct-2019 00:03:36	ALS Bottle#:	16	Worklist Smp#:	17
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	180-0028922-017				
Operator ID:		Instrument ID:	CGC1		
Method:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\Herbicides_CGC1.m				
Limit Group:	GCS 8151A ICAL				
Last Update:	02-Oct-2019 14:49:46	Calib Date:	19-Aug-2019 21:09:17		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D				
Column 1 :	RTX-50 (0.53 mm)		Det: GC ECD1A		
Column 2 :	RTX-1701 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0325				
First Level Reviewer: fritschj		Date:	02-Oct-2019 14:28:02		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0335	66.92

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0321	64.14

FORM I
HERBICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-96144-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCSD 180-293050/3-A
Matrix: Water
Lab File ID: 1001190000019.D
Analysis Method: EPA 8151A
Date Collected:
Extraction Method: 8151A
Date Extracted: 09/28/2019 06:30
Sample wt/vol: 1000(mL)
Date Analyzed: 10/02/2019 00:03
Con. Extract Vol.: 10.0(mL)
Dilution Factor: 20
Injection Volume: 1(uL)
GC Column: RTX-1701 ID: 0.53(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 293383
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
94-75-7	2,4-D	13.1		4.0	2.0
93-72-1	Silvex (2,4,5-TP)	3.28		1.0	0.30

CAS NO.	SURROGATE	%REC	Q	LIMITS
19719-28-9	2,4-Dichlorophenylacetic acid	64		20-105

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000019.D
Lims ID: LCSD 180-293050/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 02-Oct-2019 00:03:36 ALS Bottle#: 16 Worklist Smp#: 17
Injection Vol: 1.0 ul Dil. Factor: 20.0000
Sample Info: 180-0028922-017
Operator ID: Instrument ID: CGC1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 02-Oct-2019 14:49:46 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0325

First Level Reviewer: fritschj Date: 02-Oct-2019 14:28:02

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.165	2.166	-0.001	9719618H	0.1000	0.0652	
2	2.358	2.359	-0.001	20280944H	0.1000	0.0604	
						RPD = 7.62	
$ 2 2,4-Dichlorophenylacetic acid							
1	7.951	7.952	-0.001	3640782H	0.0500	0.0335	
2	7.991	7.990	0.001	6764549H	0.0500	0.0321	
						RPD = 4.23	
3 MCPP							
1	8.167	8.167	0.000	3160747H	10.0	8.00	
2	8.413	8.412	0.001	7557873	10.0	5.97	
						RPD = 29.11	
4 Dicamba							
1	8.244	8.246	-0.002	14903510H	0.0500	0.0409	
2	8.257	8.256	0.001	29736408H	0.0500	0.0424	
						RPD = 3.71	
5 MCPA							
1	8.588	8.588	0.000	3982820H	10.0	6.21	
2	8.723	8.721	0.002	7012185H	10.0	5.69	
						RPD = 8.70	
6 Dichlorprop							
1	8.866	8.867	-0.001	6052027H	0.1000	0.0625	
2	9.085	9.083	0.002	11606986H	0.1000	0.0626	
						RPD = 0.16	
7 2,4-D							
1	9.357	9.356	0.001	5660603H	0.1000	0.0515	
2	9.481	9.480	0.001	14269414H	0.1000	0.0657	
						RPD = 24.30	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.880	9.879	0.001	46104512	0.0250	0.0201	
2	9.690	9.688	0.002	45611296H	0.0250	0.0213	
						RPD = 5.81	
9 Silvex (2,4,5-TP)							
1	10.039	10.039	0.000	7906421H	0.0250	0.0161	
2	10.251	10.249	0.002	15420646H	0.0250	0.0164	
						RPD = 1.51	
10 2,4,5-T							
1	10.588	10.587	0.001	6665537H	0.0250	0.0144	
2	10.706	10.704	0.002	12750398H	0.0250	0.0141	
						RPD = 2.16	
11 Dinoseb							
1	10.844	10.843	0.001	22142242H	0.1000	0.1150	
2	11.782	11.780	0.002	41209644H	0.1000	0.1054	
						RPD = 8.71	
12 2,4-DB							
1	10.971	10.970	0.001	3951597H	0.1000	0.0599	
2	11.135	11.132	0.003	7082323H	0.1000	0.0574	
						RPD = 4.29	

Report Date: 02-Oct-2019 14:50:09 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000019.D				
Injection Date:	02-Oct-2019 00:03:36	Instrument ID:	CGC1	Operator ID:	
Lims ID:	LCSD 180-293050/3-A			Worklist Smp#:	17
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	16
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

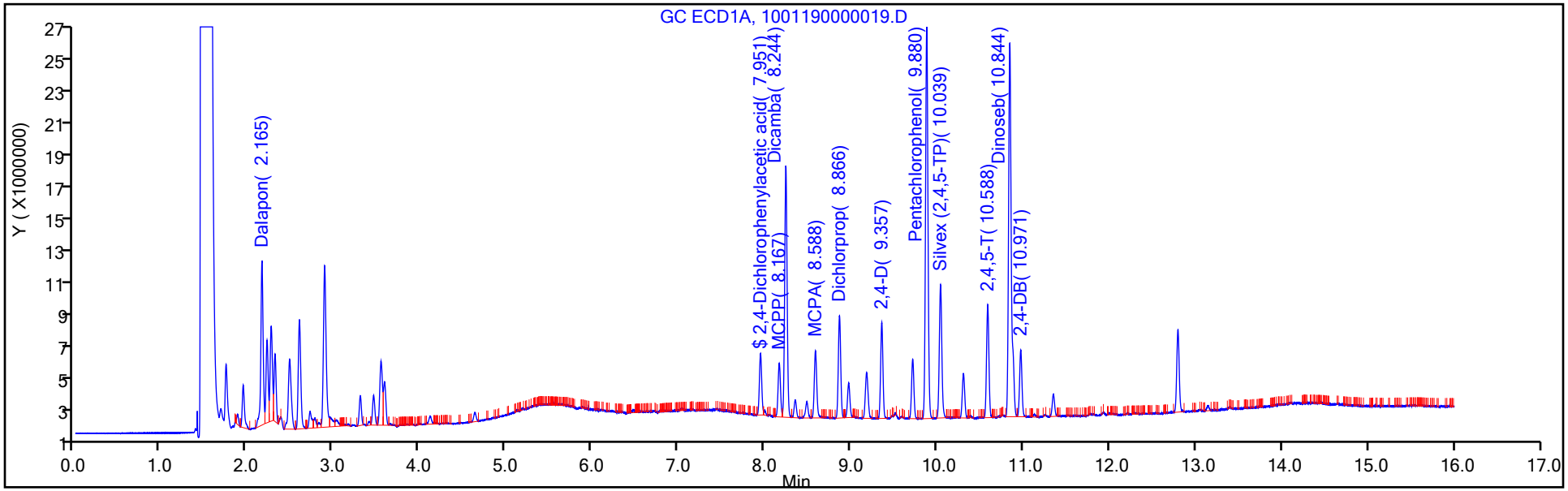

Column: RTX-1701 (0.53 mm)

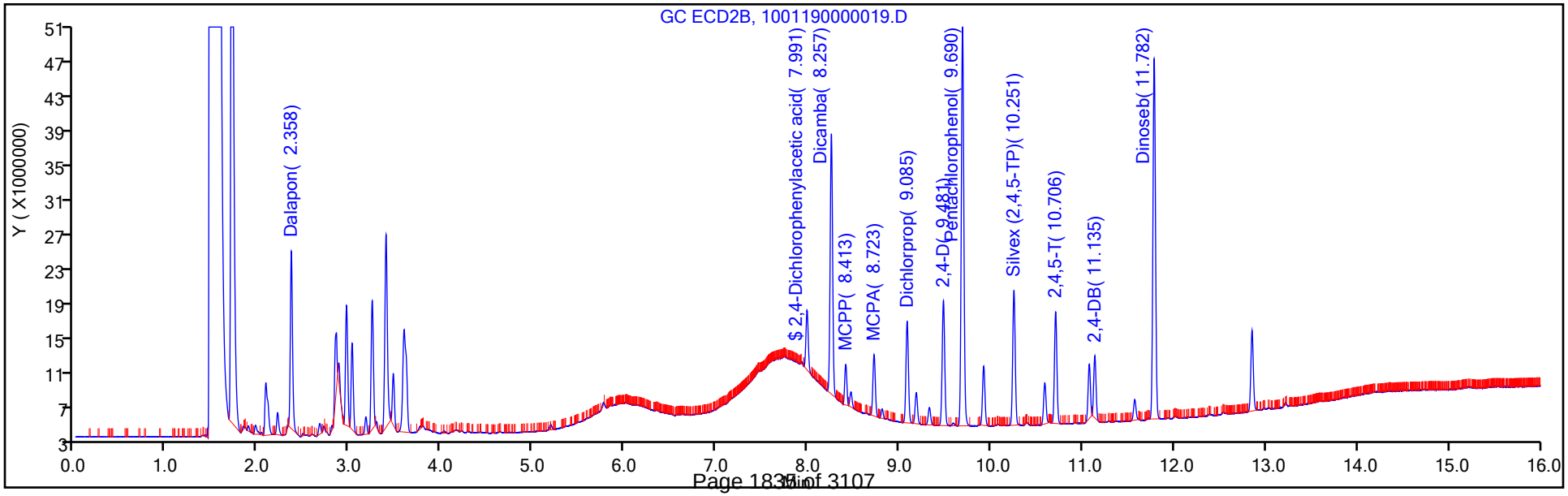

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\1001190000019.D				
Lims ID:	LCSD 180-293050/3-A				
Client ID:					
Sample Type:	LCSD				
Inject. Date:	02-Oct-2019 00:03:36	ALS Bottle#:	16	Worklist Smp#:	17
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	180-0028922-017				
Operator ID:		Instrument ID:	CGC1		
Method:	\\chromna\Pittsburgh\ChromData\CGC1\20191001-28922.b\Herbicides_CGC1.m				
Limit Group:	GCS 8151A ICAL				
Last Update:	02-Oct-2019 14:49:46	Calib Date:	19-Aug-2019 21:09:17		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D				
Column 1 :	RTX-50 (0.53 mm)		Det: GC ECD1A		
Column 2 :	RTX-1701 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0325				
First Level Reviewer: fritschj		Date:	02-Oct-2019 14:28:02		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0335	66.92

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0321	64.14

HERBICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Instrument ID: CGC1 Start Date: 08/19/2019 16:32

Analysis Batch Number: 288571 End Date: 08/20/2019 17:22

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
RINSE 180-288571/1		08/19/2019 16:32	1		RTX-50 0.53(mm)
RINSE 180-288571/1		08/19/2019 16:32	1		RTX-1701 0.53(mm)
IC 180-288571/2		08/19/2019 18:39	1	0819190000015.D	RTX-50 0.53(mm)
IC 180-288571/2		08/19/2019 18:39	1	0819190000015.D	RTX-1701 0.53(mm)
IC 180-288571/3		08/19/2019 19:04	1	0819190000016.D	RTX-50 0.53(mm)
IC 180-288571/3		08/19/2019 19:04	1	0819190000016.D	RTX-1701 0.53(mm)
IC 180-288571/4		08/19/2019 19:29	1	0819190000017.D	RTX-50 0.53(mm)
IC 180-288571/4		08/19/2019 19:29	1	0819190000017.D	RTX-1701 0.53(mm)
ICRT 180-288571/5		08/19/2019 19:54	1	0819190000018.D	RTX-50 0.53(mm)
ICRT 180-288571/5		08/19/2019 19:54	1	0819190000018.D	RTX-1701 0.53(mm)
IC 180-288571/6		08/19/2019 20:19	1	0819190000019.D	RTX-50 0.53(mm)
IC 180-288571/6		08/19/2019 20:19	1	0819190000019.D	RTX-1701 0.53(mm)
IC 180-288571/7		08/19/2019 20:44	1	0819190000020.D	RTX-50 0.53(mm)
IC 180-288571/7		08/19/2019 20:44	1	0819190000020.D	RTX-1701 0.53(mm)
IC 180-288571/8		08/19/2019 21:09	1	0819190000021.D	RTX-50 0.53(mm)
IC 180-288571/8		08/19/2019 21:09	1	0819190000021.D	RTX-1701 0.53(mm)
ICV 180-288571/9		08/19/2019 21:34	1		RTX-50 0.53(mm)
ICV 180-288571/9		08/19/2019 21:34	1		RTX-1701 0.53(mm)
CCV 180-288571/10		08/19/2019 21:58	1		RTX-50 0.53(mm)
CCV 180-288571/10		08/19/2019 21:58	1		RTX-1701 0.53(mm)
ZZZZZ		08/19/2019 22:23	1		RTX-50 0.53(mm)
ZZZZZ		08/19/2019 22:23	1		RTX-1701 0.53(mm)
ZZZZZ		08/19/2019 22:48	1		RTX-50 0.53(mm)
ZZZZZ		08/19/2019 22:48	1		RTX-1701 0.53(mm)
ZZZZZ		08/19/2019 23:13	20		RTX-50 0.53(mm)
ZZZZZ		08/19/2019 23:13	20		RTX-1701 0.53(mm)
ZZZZZ		08/19/2019 23:38	20		RTX-50 0.53(mm)
ZZZZZ		08/19/2019 23:38	20		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 00:03	20		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 00:03	20		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 00:28	20		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 00:28	20		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 00:53	20		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 00:53	20		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 01:17	20		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 01:17	20		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 01:42	20		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 01:42	20		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 02:07	20		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 02:07	20		RTX-1701 0.53(mm)
CCV 180-288571/21		08/20/2019 02:32	1		RTX-50 0.53(mm)
CCV 180-288571/21		08/20/2019 02:32	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 02:57	20		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 02:57	20		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 03:21	20		RTX-50 0.53(mm)

EPA 8151A

HERBICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Instrument ID: CGC1 Start Date: 08/19/2019 16:32

Analysis Batch Number: 288571 End Date: 08/20/2019 17:22

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		08/20/2019 03:21	20		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 03:46	20		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 03:46	20		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 04:11	20		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 04:11	20		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 04:36	20		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 04:36	20		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 05:01	20		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 05:01	20		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 05:25	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 05:25	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 05:50	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 05:50	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 06:15	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 06:15	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 06:40	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 06:40	1		RTX-1701 0.53(mm)
CCV 180-288571/32		08/20/2019 07:05	1		RTX-50 0.53(mm)
CCV 180-288571/32		08/20/2019 07:05	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 07:30	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 07:30	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 07:55	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 07:55	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 08:20	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 08:20	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 08:47	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 08:47	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 09:13	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 09:13	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 09:40	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 09:40	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 10:07	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 10:07	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 10:35	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 10:35	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 11:01	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 11:01	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 11:29	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 11:29	1		RTX-1701 0.53(mm)
CCV 180-288571/43		08/20/2019 11:56	1		RTX-50 0.53(mm)
CCV 180-288571/43		08/20/2019 11:56	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 12:23	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 12:23	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 12:50	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 12:50	1		RTX-1701 0.53(mm)

EPA 8151A

HERBICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Instrument ID: CGC1 Start Date: 08/19/2019 16:32

Analysis Batch Number: 288571 End Date: 08/20/2019 17:22

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		08/20/2019 13:16	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 13:16	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 13:43	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 13:43	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 14:10	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 14:10	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 14:38	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 14:38	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 15:05	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 15:05	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 15:32	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 15:32	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 16:00	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 16:00	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 16:28	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 16:28	1		RTX-1701 0.53(mm)
CCV 180-288571/54		08/20/2019 16:55	1		RTX-50 0.53(mm)
CCV 180-288571/54		08/20/2019 16:55	1		RTX-1701 0.53(mm)
CCVL 180-288571/55		08/20/2019 17:22	1		RTX-50 0.53(mm)
CCVL 180-288571/55		08/20/2019 17:22	1		RTX-1701 0.53(mm)

EPA 8151A

HERBICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Instrument ID: CGC1 Start Date: 10/01/2019 17:50

Analysis Batch Number: 293383 End Date: 10/02/2019 02:06

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVRT 180-293383/2		10/01/2019 17:50	1	1001190000004.D	RTX-50 0.53(mm)
CCVRT 180-293383/2		10/01/2019 17:50	1	1001190000004.D	RTX-1701 0.53(mm)
ZZZZZ		10/01/2019 18:15	1		RTX-50 0.53(mm)
ZZZZZ		10/01/2019 18:15	1		RTX-1701 0.53(mm)
ZZZZZ		10/01/2019 18:40	1		RTX-50 0.53(mm)
ZZZZZ		10/01/2019 18:40	1		RTX-1701 0.53(mm)
ZZZZZ		10/01/2019 19:05	1		RTX-50 0.53(mm)
ZZZZZ		10/01/2019 19:05	1		RTX-1701 0.53(mm)
ZZZZZ		10/01/2019 19:30	1		RTX-50 0.53(mm)
ZZZZZ		10/01/2019 19:30	1		RTX-1701 0.53(mm)
ZZZZZ		10/01/2019 19:55	1		RTX-50 0.53(mm)
ZZZZZ		10/01/2019 19:55	1		RTX-1701 0.53(mm)
ZZZZZ		10/01/2019 20:19	1		RTX-50 0.53(mm)
ZZZZZ		10/01/2019 20:19	1		RTX-1701 0.53(mm)
ZZZZZ		10/01/2019 20:44	1		RTX-50 0.53(mm)
ZZZZZ		10/01/2019 20:44	1		RTX-1701 0.53(mm)
ZZZZZ		10/01/2019 21:09	1		RTX-50 0.53(mm)
ZZZZZ		10/01/2019 21:09	1		RTX-1701 0.53(mm)
ZZZZZ		10/01/2019 21:34	1		RTX-50 0.53(mm)
ZZZZZ		10/01/2019 21:34	1		RTX-1701 0.53(mm)
ZZZZZ		10/01/2019 21:59	1		RTX-50 0.53(mm)
ZZZZZ		10/01/2019 21:59	1		RTX-1701 0.53(mm)
CCV 180-293383/13		10/01/2019 22:24	1	1001190000015.D	RTX-50 0.53(mm)
CCV 180-293383/13		10/01/2019 22:24	1	1001190000015.D	RTX-1701 0.53(mm)
ZZZZZ		10/01/2019 22:49	1		RTX-50 0.53(mm)
ZZZZZ		10/01/2019 22:49	1		RTX-1701 0.53(mm)
MB 180-293050/1-A		10/01/2019 23:14	20	1001190000017.D	RTX-50 0.53(mm)
MB 180-293050/1-A		10/01/2019 23:14	20	1001190000017.D	RTX-1701 0.53(mm)
LCS 180-293050/2-A		10/01/2019 23:38	20	1001190000018.D	RTX-50 0.53(mm)
LCS 180-293050/2-A		10/01/2019 23:38	20	1001190000018.D	RTX-1701 0.53(mm)
LCSD 180-293050/3-A		10/02/2019 00:03	20	1001190000019.D	RTX-50 0.53(mm)
LCSD 180-293050/3-A		10/02/2019 00:03	20	1001190000019.D	RTX-1701 0.53(mm)
LB 180-292822/1-E		10/02/2019 00:28	20	1001190000020.D	RTX-50 0.53(mm)
LB 180-292822/1-E		10/02/2019 00:28	20	1001190000020.D	RTX-1701 0.53(mm)
ZZZZZ		10/02/2019 00:52	20		RTX-50 0.53(mm)
ZZZZZ		10/02/2019 00:52	20		RTX-1701 0.53(mm)
ZZZZZ		10/02/2019 01:17	20		RTX-50 0.53(mm)
ZZZZZ		10/02/2019 01:17	20		RTX-1701 0.53(mm)
180-96144-1		10/02/2019 01:42	20	1001190000023.D	RTX-50 0.53(mm)
180-96144-1		10/02/2019 01:42	20	1001190000023.D	RTX-1701 0.53(mm)
CCV 180-293383/22		10/02/2019 02:06	1	1001190000024.D	RTX-50 0.53(mm)
CCV 180-293383/22		10/02/2019 02:06	1	1001190000024.D	RTX-1701 0.53(mm)

EPA 8151A

HERBICIDES BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-96144-1

SDG No.:

Batch Number: 292822 Batch Start Date: 09/26/19 14:00 Batch Analyst: Stundon, Jeremy A

Batch Method: 1311 Batch End Date: 09/26/19 14:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	FiltCompDate	FiltCompTime				
LB 180-292822/1		1311, 8151A, EPA 8151A		09/26/19	1430				

Batch Notes	
Filter ID	2792433

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

HERBICIDES BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-96144-1

SDG No.:

Batch Number: 293050 Batch Start Date: 09/28/19 06:30 Batch Analyst: Yushinski, Charles

Batch Method: 8151A Batch End Date: 09/30/19 15:40

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ReceivedpH	FirstAdjustpH	SecondAdjustpH	Herb(RTS)spk 00009
MB 180-293050/1		8151A, EPA 8151A		1000 mL	10.0 mL	6 SU	12 SU	2	
LCS 180-293050/2		8151A, EPA 8151A		1000 mL	10.0 mL	6 SU	12 SU	2	1 mL
LCSD 180-293050/3		8151A, EPA 8151A		1000 mL	10.0 mL	6 SU	12 SU	2	1 mL
LB 180-292822/1-A		8151A, EPA 8151A		100 mL	10.0 mL	5 SU	12 SU	2	
180-96144-B-1	11187072-CONTACT -INITIAL	8151A, EPA 8151A	T	1060 mL	10.0 mL	7 SU	12 SU	2	

Lab Sample ID	Client Sample ID	Method Chain	Basis	OPHERBRTSSURR 00010	AnalysisComment				
MB 180-293050/1		8151A, EPA 8151A		1 mL	Funnel 11				
LCS 180-293050/2		8151A, EPA 8151A		1 mL	Funnel 12				
LCSD 180-293050/3		8151A, EPA 8151A		1 mL	Funnel 13				
LB 180-292822/1-A		8151A, EPA 8151A		1 mL	Funnel 14				
180-96144-B-1	11187072-CONTACT -INITIAL	8151A, EPA 8151A	T	1 mL	Funnel 17				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

HERBICIDES BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-96144-1

SDG No.:

Batch Number: 293050 Batch Start Date: 09/28/19 06:30 Batch Analyst: Yushinski, Charles

Batch Method: 8151A Batch End Date: 09/30/19 15:40

Batch Notes	
Acid Used for pH Adjustment ID	3363493
Base Used to Adjust pH ID	2843181
Concentration 1 Equipment ID	water bath 2
Concentration 1 Thermometer ID	water bath 2 CF 2.0
Concentration 2 Equipment ID	1
Concentration 2 Thermometer ID	1 CF 0.0
Analyst ID - Concentration	CBY
Concentration 1 Corrected Temperature	67 Degrees C
Concentration 2 Corrected Temperature	21 Degrees C
Diethyl Ether ID	3371481
Analyst ID - Extraction	CBY
Sulfuric Acid Lot Number	3363493
MeCL2 ID	3384376
Acidified Na2SO4 ID	2976468
NaCl ID	3328945
pH Indicator ID	Ph paper HC987808
Silica Gel ID	2532189
Analyst ID - Spike Analyst	CBY
Sufficient Volume for Batch QC	no
TMSDM ID	3361759
Concentration 1 Uncorrected Temperature	65 Degrees C
Concentration 2 Uncorrected Temperature	21 Degrees C

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Method 300.0

Anions (IC) by Method 300.0

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Matrix: Water Level: Low Lab File ID: A-ICS2100 A 10-08-2019-5.d

Lab ID: LCS 180-294038/5 Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
Bromide	5.00	4.91	98	90-110	
Chloride	25.0	24.3	97	90-110	
Sulfate	25.0	24.1	96	90-110	

Column to be used to flag recovery and RPD values

FORM III EPA 300.0 R2.1

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab File ID: A-ICS2100 A 10-08-2019-6.d Lab Sample ID: MB 180-294038/6

Matrix: Water Date Extracted:

Instrument ID: CHIC2100A Date Analyzed: 10/08/2019 04:56

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	CCB 180-294038/4	A-ICS2100 A 10-08-2019-4.d	10/08/2019 04:25
	LCS 180-294038/5	A-ICS2100 A 10-08-2019-5.d	10/08/2019 04:40
	CCB 180-294038/16	A-ICS2100 A 10-08-2019-16.d	10/08/2019 09:02
11187072-CONTACT-INITIAL	180-96144-1	A-ICS2100 A 10-08-2019-25.d	10/08/2019 11:22
11187072-CONTACT-INITIAL	180-96144-1	A-ICS2100 A 10-08-2019-26.d	10/08/2019 11:37
	CCB 180-294038/28	A-ICS2100 A 10-08-2019-28.d	10/08/2019 12:07

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: 11187072-CONTACT-INITIAL Lab Sample ID: 180-96144-1

Matrix: Water Lab File ID: A-ICS2100 A 10-08-2019-25.d

Analysis Method: EPA 300.0 R2.1 Date Collected: 09/24/2019 15:00

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 10/08/2019 11:22

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 10(uL) GC Column: AS-18 ID:

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 294038 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	1.5		0.50	0.087
14808-79-8	Sulfate	8.7		1.0	0.38

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191008-29006.b\A-ICS2100 A 10-08-2019-25.d
Lims ID: 180-96144-J-1
Client ID: 11187072-CONTACT-INITIAL
Sample Type: Client
Inject. Date: 08-Oct-2019 11:22:00 ALS Bottle#: 0 Worklist Smp#: 25
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029006-025
Misc. Info.: 25 180-96144-j-1
Operator ID: Instrument ID: CHIC2100A

Method: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191008-29006.b\300_9056_CHIC2100A.m
Limit Group: GC Anions ICAL
Last Update: 09-Oct-2019 04:29:59 Calib Date: 01-Oct-2019 12:15:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\A-ICS2100 A 10-01-2019-10.d

Column 1 : Det: 0008
Process Host: CTX0336

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
2 Chloride	4.058	4.083	-0.025	8330052154	388.0	E
3 Sulfate	5.575	5.550	0.025	142399751	8.73	
4 Bromide	6.292	6.275	0.017	1227768H	1.47	

QC Flag Legend

Processing Flags
E - Exceeded Maximum Amount
H - Response Measured by Height

Report Date: 09-Oct-2019 04:30:14 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHIC2100A\20191008-29006.b\A-ICS2100 A 10-08-2019-25.d				
Injection Date:	08-Oct-2019 11:22:00	Instrument ID:	CHIC2100A	Operator ID:	
Lims ID:	180-96144-J-1	Lab Sample ID:	180-96144-1	Worklist Smp#:	25
Client ID:	11187072-CONTACT-INITIAL				
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9056_CHIC2100A	Limit Group:	GC Anions ICAL		

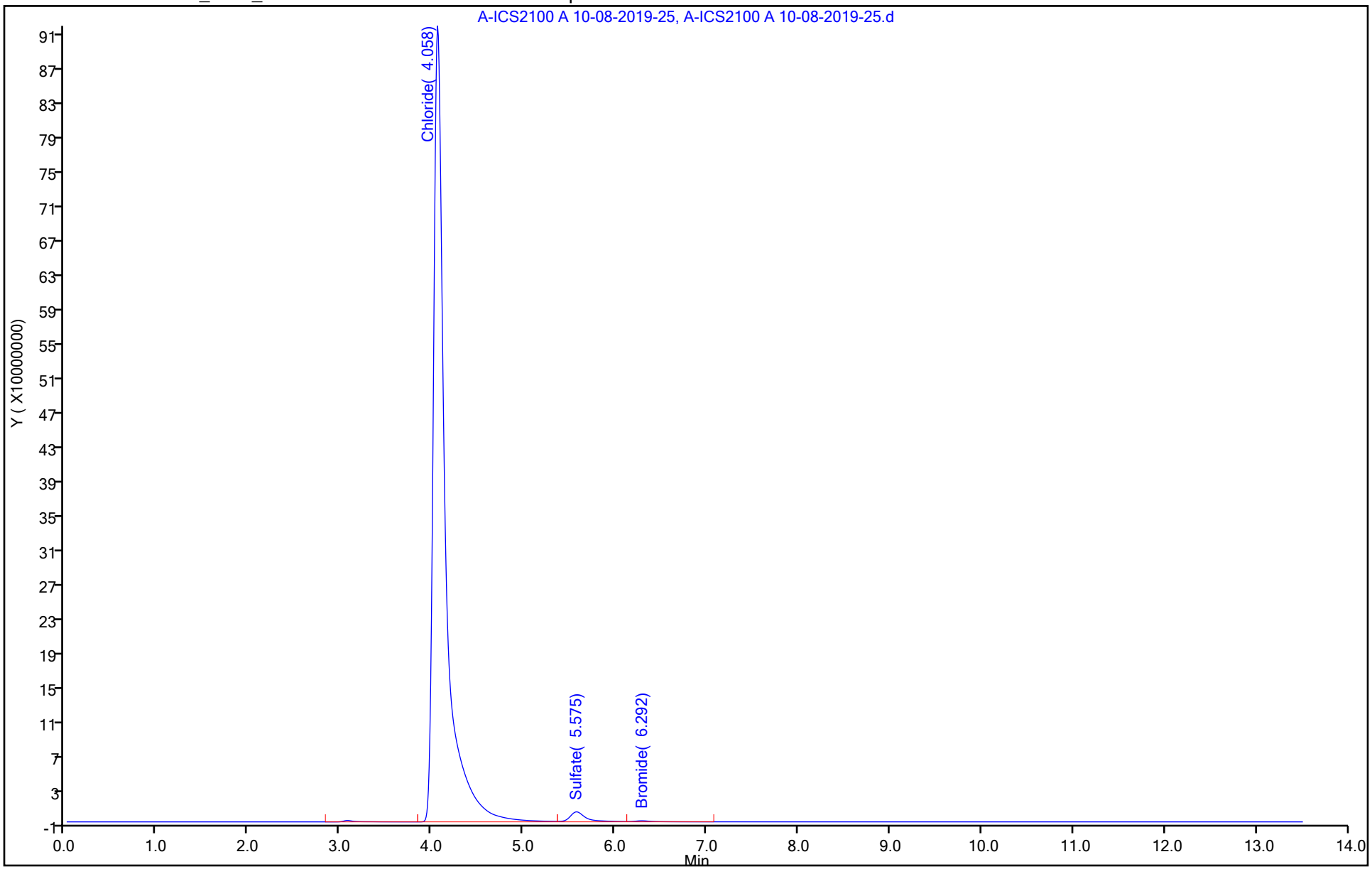

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: 11187072-CONTACT-INITIAL Lab Sample ID: 180-96144-1

Matrix: Water Lab File ID: A-ICS2100 A 10-08-2019-26.d

Analysis Method: EPA 300.0 R2.1 Date Collected: 09/24/2019 15:00

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 10/08/2019 11:37

Con. Extract Vol.: Dilution Factor: 10

Injection Volume: 10(uL) GC Column: AS-18 ID:

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 294038 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
16887-00-6	Chloride	400		10	7.1

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191008-29006.b\A-ICS2100 A 10-08-2019-26.d
Lims ID: 180-96144-J-1
Client ID: 11187072-CONTACT-INITIAL
Sample Type: Client
Inject. Date: 08-Oct-2019 11:37:00 ALS Bottle#: 0 Worklist Smp#: 26
Injection Vol: 10.0 ul Dil. Factor: 10.0000
Sample Info: 180-0029006-026
Misc. Info.: 26 180-96144-j-1 10
Operator ID: Instrument ID: CHIC2100A

Method: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191008-29006.b\300_9056_CHIC2100A.m
Limit Group: GC Anions ICAL
Last Update: 09-Oct-2019 04:29:59 Calib Date: 01-Oct-2019 12:15:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\A-ICS2100 A 10-01-2019-10.d

Column 1 : Det: 0008
Process Host: CTX0336

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
2 Chloride	4.083	4.083	0.000	857596135	40.0	
3 Sulfate	5.608	5.550	0.058	18492041	0.8729	
4 Bromide	6.292	6.275	0.017	91308H	0.1682	

Report Date: 09-Oct-2019 04:30:15 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHIC2100A\20191008-29006.b\A-ICS2100 A 10-08-2019-26.d				
Injection Date:	08-Oct-2019 11:37:00	Instrument ID:	CHIC2100A	Operator ID:	
Lims ID:	180-96144-J-1	Lab Sample ID:	180-96144-1	Worklist Smp#:	26
Client ID:	11187072-CONTACT-INITIAL				
Injection Vol:	10.0 ul	Dil. Factor:	10.0000	ALS Bottle#:	0
Method:	300_9056_CHIC2100A	Limit Group:	GC Anions ICAL		

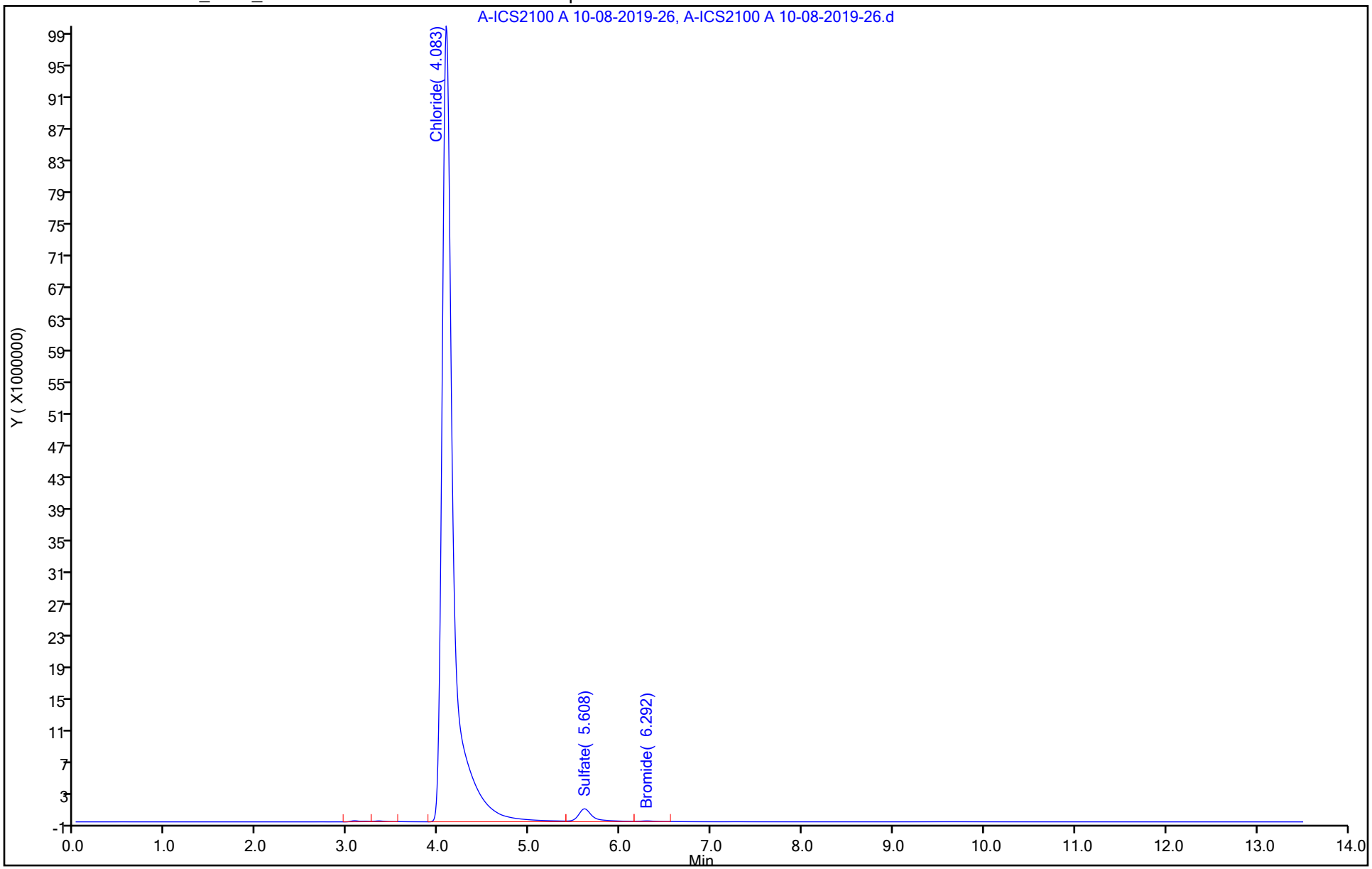

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 293302

SDG No.:

Instrument ID: CHIC2100A GC Column: AS-18 ID: Heated Purge: (Y/N) N

Calibration Start Date: 10/01/2019 10:12 Calibration End Date: 10/01/2019 12:15 Calibration ID: 41685

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-293302/2	A-ICS2100 A 10-01-2019-2.d
Level 2	IC 180-293302/3	A-ICS2100 A 10-01-2019-3.d
Level 3	IC 180-293302/4	A-ICS2100 A 10-01-2019-4.d
Level 4	IC 180-293302/5	A-ICS2100 A 10-01-2019-5.d
Level 5	IC 180-293302/6	A-ICS2100 A 10-01-2019-6.d
Level 6	IC 180-293302/7	A-ICS2100 A 10-01-2019-7.d
Level 7	IC 180-293302/8	A-ICS2100 A 10-01-2019-8.d
Level 8	IC 180-293302/9	A-ICS2100 A 10-01-2019-9.d
Level 9	IC 180-293302/10	A-ICS2100 A 10-01-2019-10.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7	LVL 8	LVL 9		RT WINDOW	AVG RT
Fluoride	3.083	3.083	3.092	3.092	3.092	3.092	3.092	3.092	+++++		2.742 - 3.442	3.090
Chloride	4.100	4.092	4.100	4.100	4.100	4.092	4.092	4.083	+++++		3.750 - 4.450	4.095
Sulfate	5.633	5.625	5.625	5.617	5.575	5.542	5.517	5.475	+++++		5.217 - 5.917	5.576
Bromide	6.317	6.317	6.325	6.325	6.308	6.292	6.283	6.267	+++++		5.958 - 6.658	6.304

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 293302

SDG No.:

Instrument ID: CHIC2100A GC Column: AS-18 ID: Heated Purge: (Y/N) N

Calibration Start Date: 10/01/2019 10:12 Calibration End Date: 10/01/2019 12:15 Calibration ID: 41685

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-293302/2	A-ICS2100 A 10-01-2019-2.d
Level 2	IC 180-293302/3	A-ICS2100 A 10-01-2019-3.d
Level 3	IC 180-293302/4	A-ICS2100 A 10-01-2019-4.d
Level 4	IC 180-293302/5	A-ICS2100 A 10-01-2019-5.d
Level 5	IC 180-293302/6	A-ICS2100 A 10-01-2019-6.d
Level 6	IC 180-293302/7	A-ICS2100 A 10-01-2019-7.d
Level 7	IC 180-293302/8	A-ICS2100 A 10-01-2019-8.d
Level 8	IC 180-293302/9	A-ICS2100 A 10-01-2019-9.d
Level 9	IC 180-293302/10	A-ICS2100 A 10-01-2019-10.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5 LVL 9	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2								
Fluoride	3425560 4400648 +++++	4295668 4383311	4682442 4407816	4582344 4086053	Lin2	-49265.031	4455407.95							0.9980		0.9950
Chloride	19720812 20988180 +++++	21227519 21186629	21673964 22060900	20787390 21711253	Lin2	-1728149.6	21472007.1							1.0000		0.9950
Sulfate	20633178 15618299 +++++	16099879 15903729	16241087 16516172	15718997 16101413	Lin2	4719494.84	15778182.6							0.9990		0.9950
Bromide	597030 849707 +++++	808072 867984	867341 901765	850197 874858	Lin2	-56088.891	876197.142							1.0000		0.9950

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 293302

SDG No.:

Instrument ID: CHIC2100A GC Column: AS-18 ID: Heated Purge: (Y/N) N

Calibration Start Date: 10/01/2019 10:12 Calibration End Date: 10/01/2019 12:15 Calibration ID: 41685

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-293302/2	A-ICS2100 A 10-01-2019-2.d
Level 2	IC 180-293302/3	A-ICS2100 A 10-01-2019-3.d
Level 3	IC 180-293302/4	A-ICS2100 A 10-01-2019-4.d
Level 4	IC 180-293302/5	A-ICS2100 A 10-01-2019-5.d
Level 5	IC 180-293302/6	A-ICS2100 A 10-01-2019-6.d
Level 6	IC 180-293302/7	A-ICS2100 A 10-01-2019-7.d
Level 7	IC 180-293302/8	A-ICS2100 A 10-01-2019-8.d
Level 8	IC 180-293302/9	A-ICS2100 A 10-01-2019-9.d
Level 9	IC 180-293302/10	A-ICS2100 A 10-01-2019-10.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
Fluoride	Lin2	171278 16437418	1073917 22039081	2341221 30645398	4582344 +++++	11001620	0.0500 3.75	0.250 5.00	0.500 7.50	1.00 +++++	2.50
Chloride	Lin2	19720812 1588997189	106137593 2206090035	216739638 3256687884	415747801 +++++	1049409021	1.00 75.0	5.00 100	10.0 150	20.0 +++++	50.0
Sulfate	Lin2	20633178 1192779673	80499393 1651617162	162410872 2415211946	314379944 +++++	780914945	1.00 75.0	5.00 100	10.0 150	20.0 +++++	50.0
Bromide	Lin2	119406 13019764	808072 18035301	1734682 26245750	3400789 +++++	8497070	0.200 15.0	1.00 20.0	2.00 30.0	4.00 +++++	10.0

Curve Type Legend:

Lin2 = Linear 1/conc^2 by height

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1 Analy Batch No.: 293302

SDG No.:

Instrument ID: CHIC2100A GC Column: AS-18 ID: Heated Purge: (Y/N) N

Calibration Start Date: 10/01/2019 10:12 Calibration End Date: 10/01/2019 12:15 Calibration ID: 41685

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-293302/2	A-ICS2100 A 10-01-2019-2.d
Level 2	IC 180-293302/3	A-ICS2100 A 10-01-2019-3.d
Level 3	IC 180-293302/4	A-ICS2100 A 10-01-2019-4.d
Level 4	IC 180-293302/5	A-ICS2100 A 10-01-2019-5.d
Level 5	IC 180-293302/6	A-ICS2100 A 10-01-2019-6.d
Level 6	IC 180-293302/7	A-ICS2100 A 10-01-2019-7.d
Level 7	IC 180-293302/8	A-ICS2100 A 10-01-2019-8.d
Level 8	IC 180-293302/9	A-ICS2100 A 10-01-2019-9.d
Level 9	IC 180-293302/10	A-ICS2100 A 10-01-2019-10.d

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 # LVL 9 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3 LVL 9	LVL 4	LVL 5	LVL 6
Fluoride	-1.0 -0.8	0.8 -8.1	7.3 +++++	4.0	-0.8	-1.3	50 20	20 20	20	20	20	20
Chloride	-0.1 2.8	0.5 1.2	1.7 +++++	-2.8	-2.1	-1.2	50 20	20 20	20	20	20	20
Sulfate	0.9 4.4	-3.9 1.8	-0.1 +++++	-1.9	-1.6	0.4	50 20	20 20	20	20	20	20
Bromide	0.1 3.2	-1.4 0.1	2.2 +++++	-1.4	-2.4	-0.5	50 20	20 20	20	20	20	20

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\A-ICS2100 A 10-01-2019-2.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 01-Oct-2019 10:12:00 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028918-002
Misc. Info.: 2 ic L2
Operator ID: Instrument ID: CHIC2100A
Sublist: chrom-300_9056_CHIC2100A*sub3

Method: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\300_9056_CHIC2100A.m
Limit Group: GC Anions ICAL
Last Update: 02-Oct-2019 06:03:12 Calib Date: 01-Oct-2019 12:15:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\A-ICS2100 A 10-01-2019-10.d

Column 1 : Det: 0008
Process Host: CTX0307

First Level Reviewer: reaglec Date: 01-Oct-2019 16:47:35

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	3.083	3.092	-0.009	171278H	0.0500	0.0495	
2 Chloride	4.100	4.100	0.000	19720812	1.00	1.00	
7 Nitrite as N	4.783	4.783	0.000	3211109	0.0500	0.0490	
3 Sulfate	5.633	5.567	0.066	20633178	1.00	1.01	
4 Bromide	6.317	6.308	0.009	119406H	0.2000	0.2003	
5 Nitrate as N	7.325	7.275	0.050	137862H	0.0500	0.0496	
6 Orthophosphate as P		10.283			ND	ND	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND
H - Response Measured by Height

Reagents:

ICSTDL2_00423 Amount Added: 1.00 Units: mL

Report Date: 02-Oct-2019 06:03:13 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\A-ICS2100 A 10-01-2019-2.d				
Injection Date:	01-Oct-2019 10:12:00	Instrument ID:	CHIC2100A	Operator ID:	
Lims ID:	IC			Worklist Smp#:	2
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9056_CHIC2100A	Limit Group:	GC Anions ICAL		

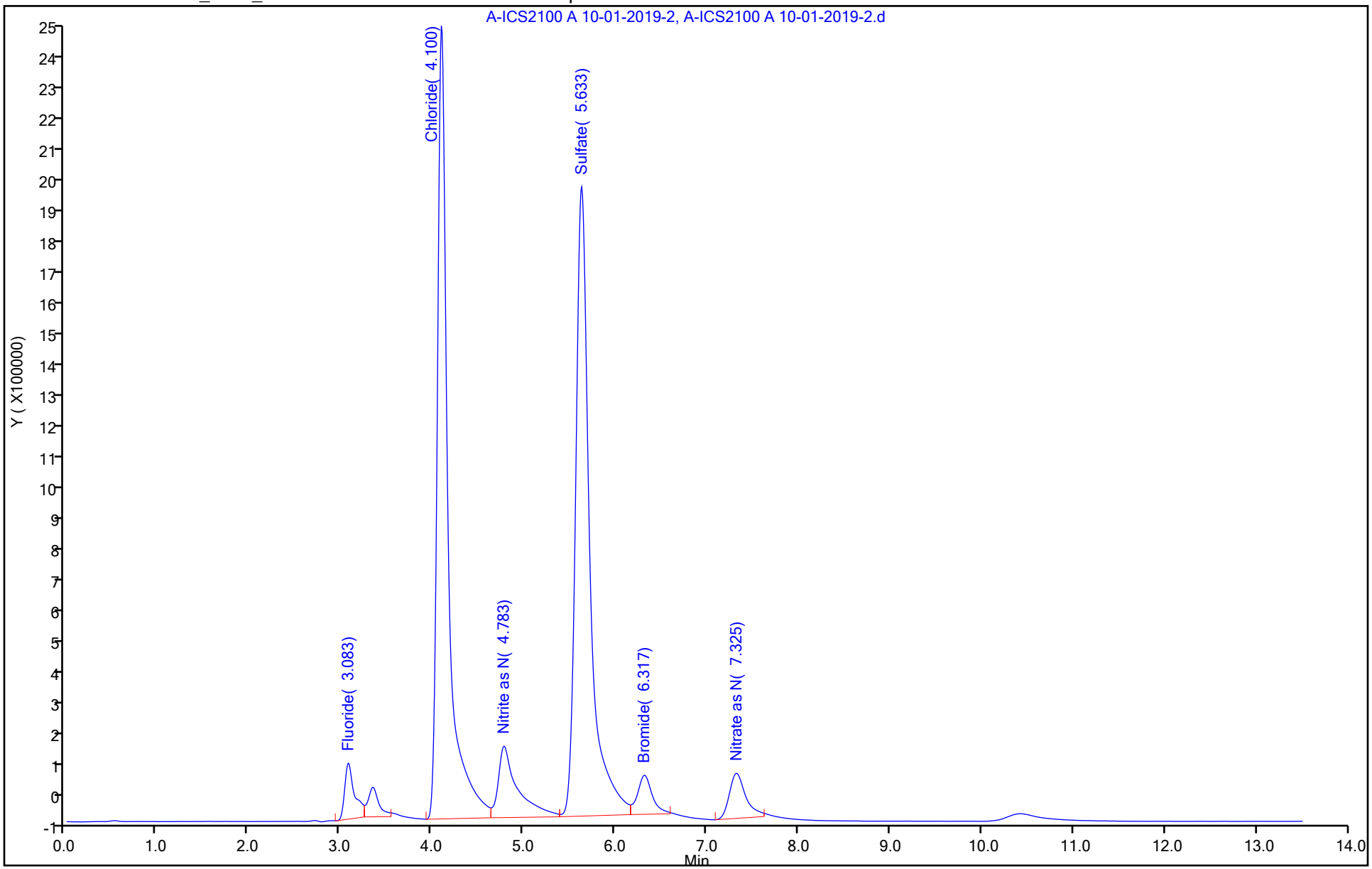

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\A-ICS2100 A 10-01-2019-3.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 01-Oct-2019 10:28:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028918-003
Misc. Info.: 3 ic L3
Operator ID: Instrument ID: CHIC2100A
Sublist: chrom-300_9056_CHIC2100A*sub3

Method: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\300_9056_CHIC2100A.m
Limit Group: GC Anions ICAL
Last Update: 02-Oct-2019 06:03:15 Calib Date: 01-Oct-2019 12:15:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\A-ICS2100 A 10-01-2019-10.d

Column 1 : Det: 0008
Process Host: CTX0307

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	3.083	3.092	-0.009	1073917H	0.2500	0.2521	
2 Chloride	4.092	4.100	-0.008	106137593	5.00	5.02	
7 Nitrite as N	4.775	4.783	-0.008	14182580	0.2500	0.2629	
3 Sulfate	5.625	5.567	0.058	80499393	5.00	4.80	
4 Bromide	6.317	6.308	0.009	808072H	1.00	0.9863	
5 Nitrate as N	7.317	7.275	0.042	910329H	0.2500	0.2542	
6 Orthophosphate as P	10.425	10.283	0.142	2624007	0.2500	0.2775	

Reagents:

ICSTDL3_00495 Amount Added: 1.00 Units: mL

Report Date: 02-Oct-2019 06:03:16 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\A-ICS2100 A 10-01-2019-3.d				
Injection Date:	01-Oct-2019 10:28:00	Instrument ID:	CHIC2100A	Operator ID:	
Lims ID:	IC			Worklist Smp#:	3
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9056_CHIC2100A	Limit Group:	GC Anions ICAL		

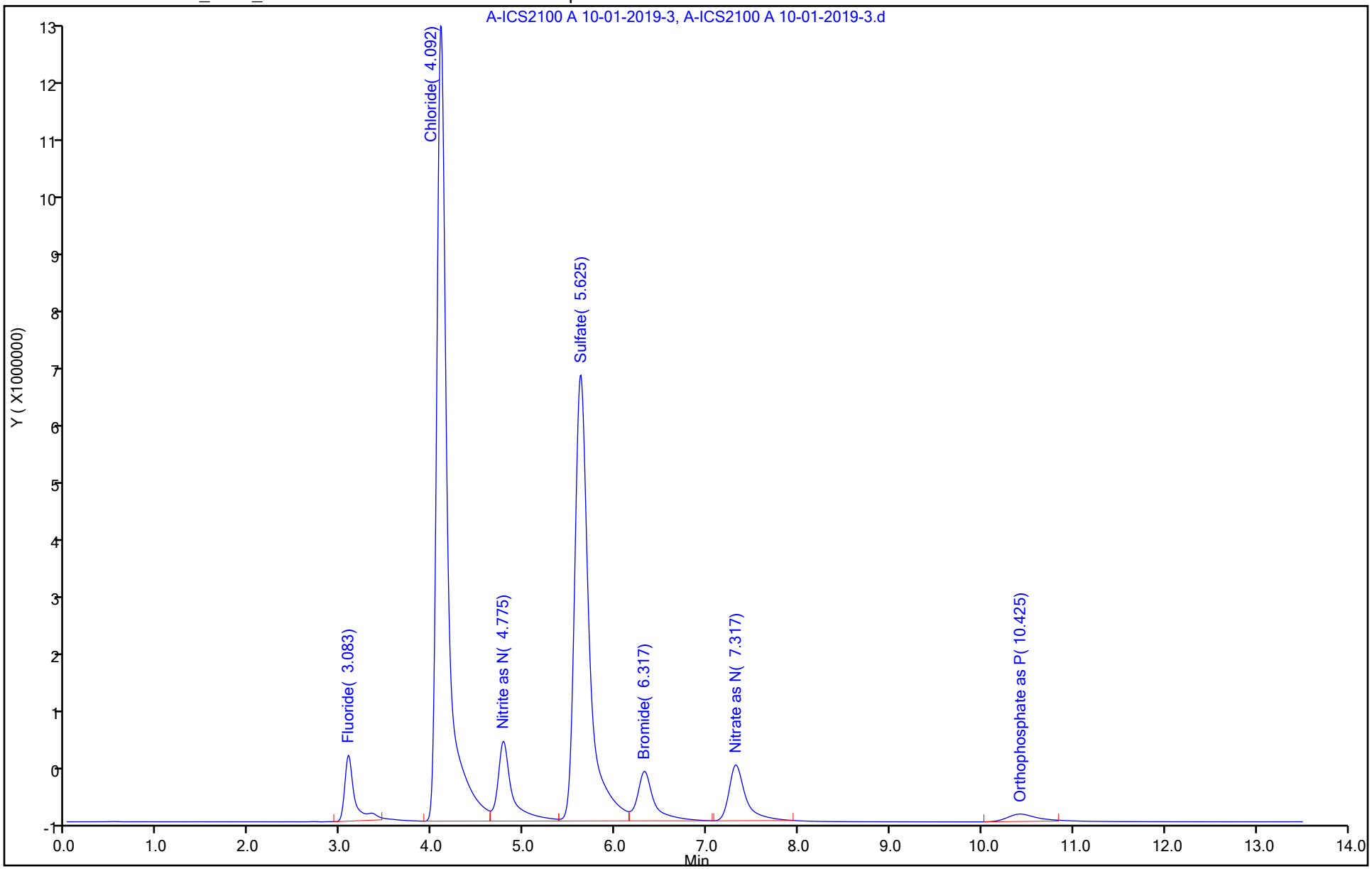

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\A-ICS2100 A 10-01-2019-4.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 01-Oct-2019 10:43:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028918-004
Misc. Info.: 4 ic L4
Operator ID: Instrument ID: CHIC2100A
Sublist: chrom-300_9056_CHIC2100A*sub3

Method: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\300_9056_CHIC2100A.m
Limit Group: GC Anions ICAL
Last Update: 02-Oct-2019 06:03:18 Calib Date: 01-Oct-2019 12:15:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\A-ICS2100 A 10-01-2019-10.d

Column 1 : Det: 0008
Process Host: CTX0307

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	3.092	3.092	0.000	2341221H	0.5000	0.5365	
2 Chloride	4.100	4.100	0.000	216739638	10.0	10.2	
7 Nitrite as N	4.783	4.783	0.000	28655755	0.5000	0.5450	
3 Sulfate	5.625	5.625	0.000	162410872	10.0	10.0	
4 Bromide	6.325	6.325	0.000	1734682H	2.00	2.04	
5 Nitrate as N	7.317	7.317	0.000	1941684H	0.5000	0.5275	
6 Orthophosphate as P	10.425	10.425	0.000	7004158	0.5000	0.5129	

Reagents:

ICSTDL4_00328 Amount Added: 1.00 Units: mL

Report Date: 02-Oct-2019 06:03:19 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\A-ICS2100 A 10-01-2019-4.d				
Injection Date:	01-Oct-2019 10:43:00	Instrument ID:	CHIC2100A	Operator ID:	
Lims ID:	IC			Worklist Smp#:	4
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9056_CHIC2100A	Limit Group:	GC Anions ICAL		

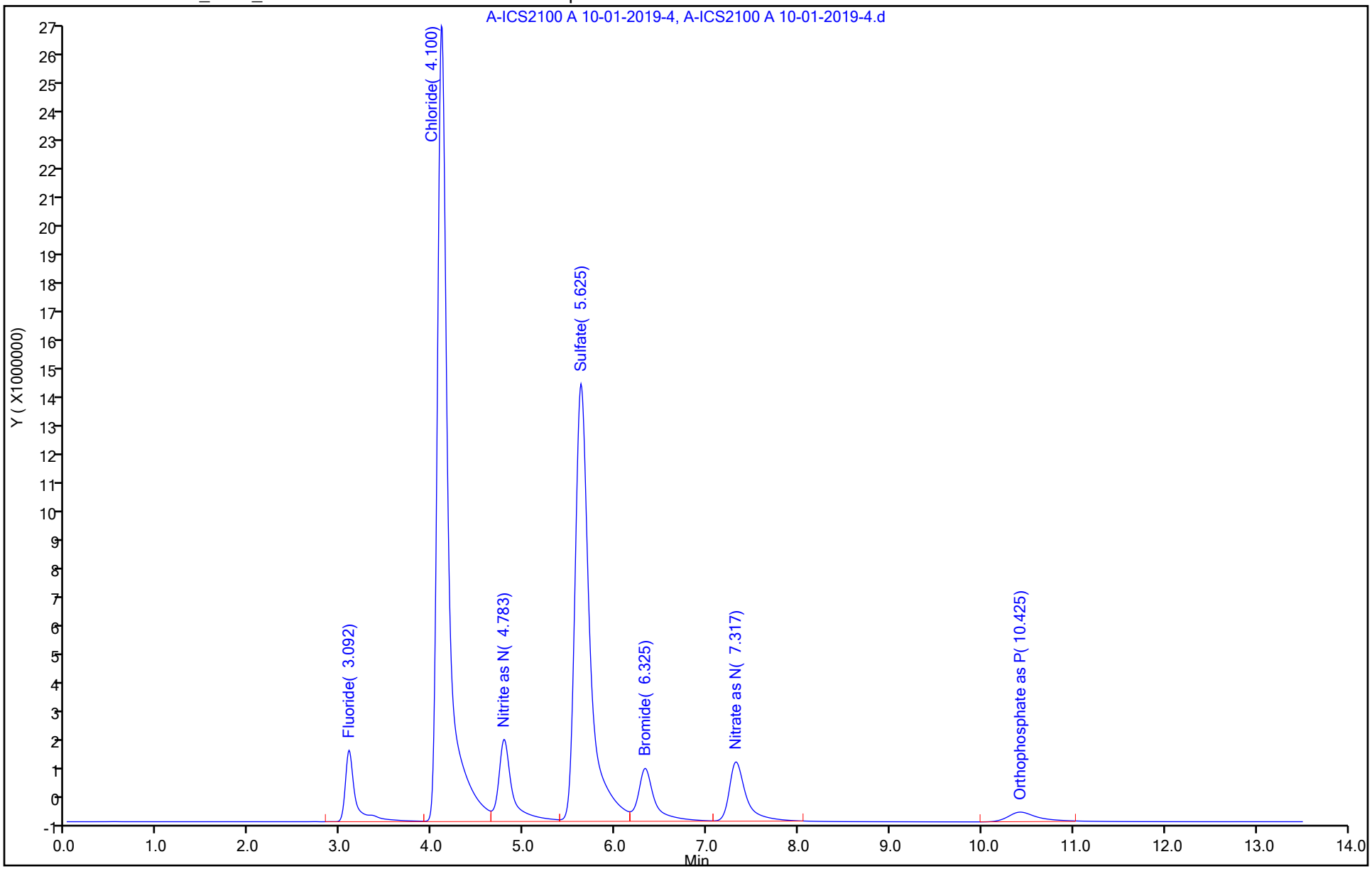

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\A-ICS2100 A 10-01-2019-5.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 01-Oct-2019 10:58:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028918-005
Misc. Info.: 5 ic L5
Operator ID: Instrument ID: CHIC2100A
Sublist: chrom-300_9056_CHIC2100A*sub3

Method: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\300_9056_CHIC2100A.m
Limit Group: GC Anions ICAL
Last Update: 02-Oct-2019 06:03:20 Calib Date: 01-Oct-2019 12:15:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\A-ICS2100 A 10-01-2019-10.d

Column 1 : Det: 0008
Process Host: CTX0307

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	3.092	3.092	0.000	4582344H	1.00	1.04	
2 Chloride	4.100	4.100	0.000	415747801	20.0	19.4	
7 Nitrite as N	4.783	4.783	0.000	53398771	1.00	1.03	
3 Sulfate	5.617	5.617	0.000	314379944	20.0	19.6	
4 Bromide	6.325	6.325	0.000	3400789H	4.00	3.95	
5 Nitrate as N	7.308	7.308	0.000	3777069H	1.00	1.01	
6 Orthophosphate as P	10.392	10.392	0.000	15214135	1.00	0.9539	

Reagents:

ICSTDL5_00324 Amount Added: 1.00 Units: mL

Report Date: 02-Oct-2019 06:03:20 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\A-ICS2100 A 10-01-2019-5.d				
Injection Date:	01-Oct-2019 10:58:00	Instrument ID:	CHIC2100A	Operator ID:	
Lims ID:	IC			Worklist Smp#:	5
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9056_CHIC2100A	Limit Group:	GC Anions ICAL		

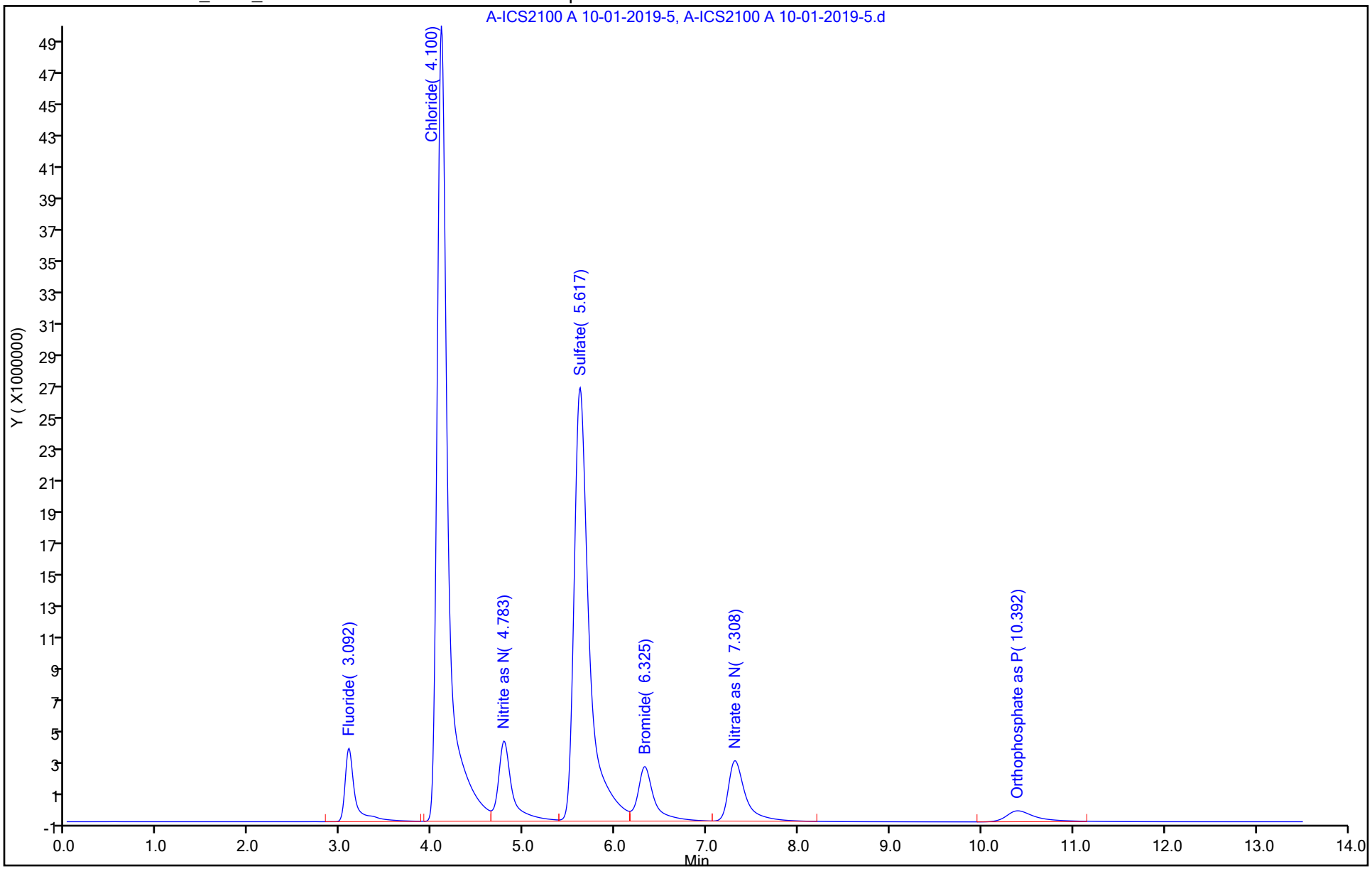

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\A-ICS2100 A 10-01-2019-6.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 01-Oct-2019 11:14:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028918-006
Misc. Info.: 6 ic L6
Operator ID: Instrument ID: CHIC2100A
Sublist: chrom-300_9056_CHIC2100A*sub3

Method: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\300_9056_CHIC2100A.m
Limit Group: GC Anions ICAL
Last Update: 02-Oct-2019 06:03:21 Calib Date: 01-Oct-2019 12:15:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\A-ICS2100 A 10-01-2019-10.d

Column 1 : Det: 0008
Process Host: CTX0307

First Level Reviewer: reaglec Date: 01-Oct-2019 16:42:37

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	3.092	3.092	0.000	11001620H	2.50	2.48	
2 Chloride	4.100	4.100	0.000	1049409021	50.0	49.0	
7 Nitrite as N	4.783	4.783	0.000	126587445	2.50	2.45	
3 Sulfate	5.575	5.617	-0.042	780914945	50.0	49.2	
4 Bromide	6.308	6.325	-0.017	8497070H	10.0	9.76	
5 Nitrate as N	7.275	7.308	-0.033	9285113H	2.50	2.47	
6 Orthophosphate as P	10.300	10.392	-0.092	42013127	2.50	2.39	

Reagents:

ICSTDL6_00526 Amount Added: 1.00 Units: mL

Report Date: 02-Oct-2019 06:03:21 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\A-ICS2100 A 10-01-2019-6.d				
Injection Date:	01-Oct-2019 11:14:00	Instrument ID:	CHIC2100A	Operator ID:	
Lims ID:	IC			Worklist Smp#:	6
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9056_CHIC2100A	Limit Group:	GC Anions ICAL		

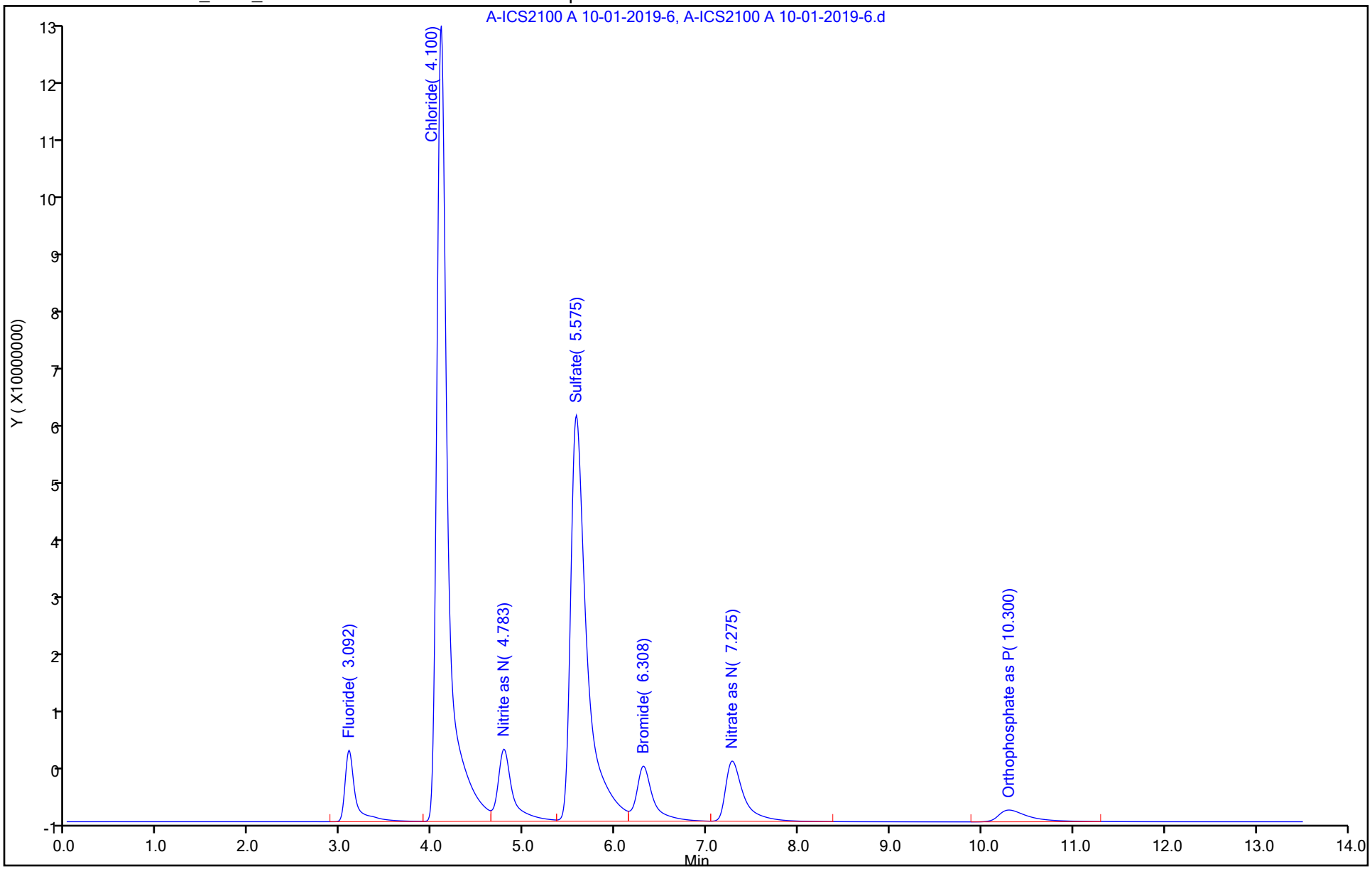

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\A-ICS2100 A 10-01-2019-7.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 01-Oct-2019 11:29:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028918-007
Misc. Info.: 7 ic L7
Operator ID: Instrument ID: CHIC2100A
Sublist: chrom-300_9056_CHIC2100A*sub3

Method: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\300_9056_CHIC2100A.m
Limit Group: GC Anions ICAL
Last Update: 02-Oct-2019 06:03:22 Calib Date: 01-Oct-2019 12:15:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\A-ICS2100 A 10-01-2019-10.d

Column 1 : Det: 0008
Process Host: CTX0307

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	3.092	3.092	0.000	16437418H	3.75	3.70	
2 Chloride	4.092	4.100	-0.008	1588997189	75.0	74.1	
7 Nitrite as N	4.775	4.783	-0.008	187593012	3.75	3.64	
3 Sulfate	5.542	5.617	-0.075	1192779673	75.0	75.3	
4 Bromide	6.292	6.325	-0.033	13019764H	15.0	14.9	
5 Nitrate as N	7.258	7.308	-0.050	13932312H	3.75	3.70	
6 Orthophosphate as P	10.250	10.392	-0.142	67160307	3.75	3.74	

Reagents:

ICSTDL7_00328 Amount Added: 1.00 Units: mL

Report Date: 02-Oct-2019 06:03:23 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\A-ICS2100 A 10-01-2019-7.d				
Injection Date:	01-Oct-2019 11:29:00	Instrument ID:	CHIC2100A	Operator ID:	
Lims ID:	IC			Worklist Smp#:	7
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9056_CHIC2100A	Limit Group:	GC Anions ICAL		

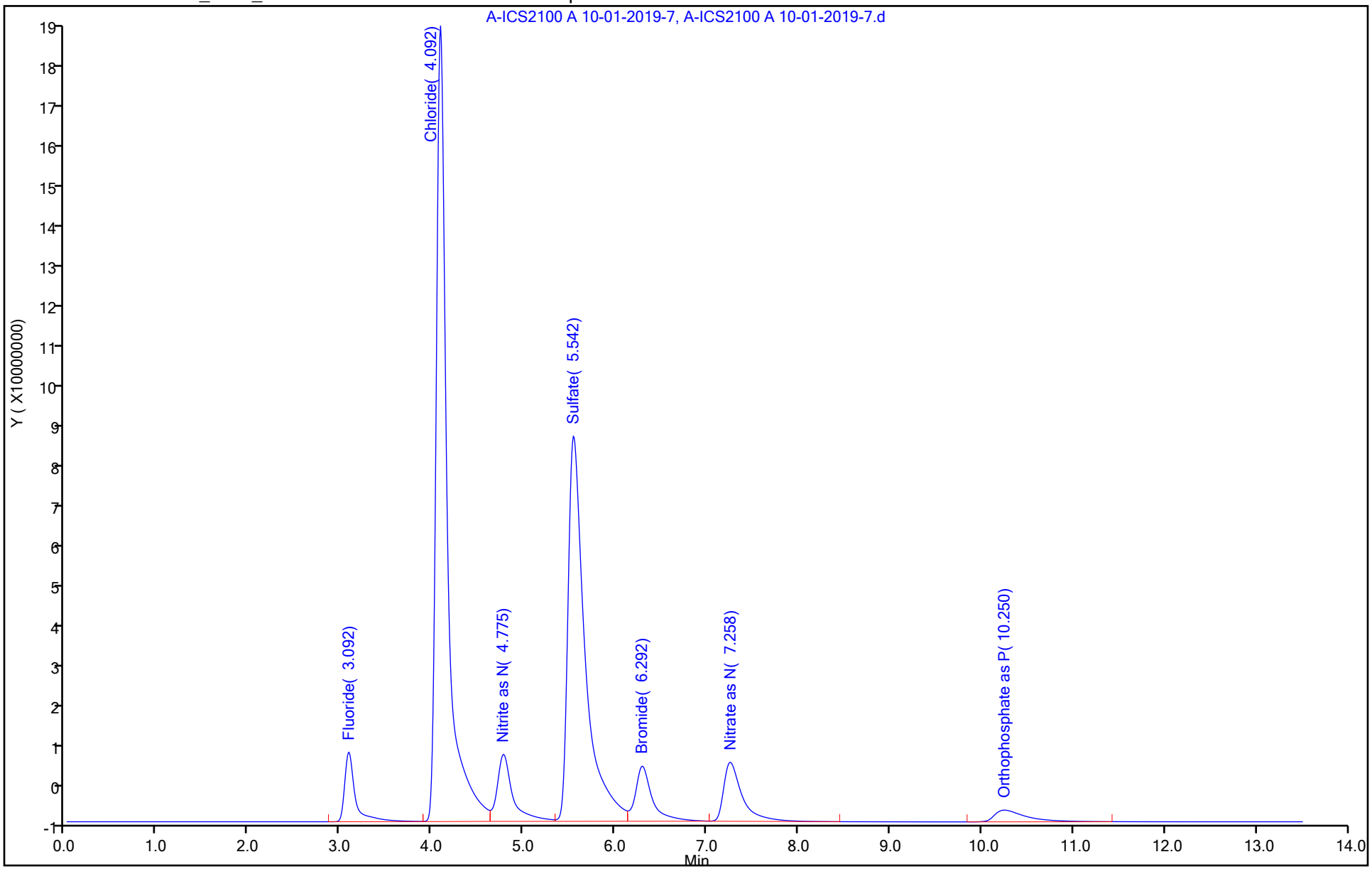

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\A-ICS2100 A 10-01-2019-8.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 01-Oct-2019 11:44:00 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028918-008
Misc. Info.: 8 ic L8
Operator ID: Instrument ID: CHIC2100A
Sublist: chrom-300_9056_CHIC2100A*sub3

Method: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\300_9056_CHIC2100A.m
Limit Group: GC Anions ICAL
Last Update: 02-Oct-2019 06:03:24 Calib Date: 01-Oct-2019 12:15:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\A-ICS2100 A 10-01-2019-10.d

Column 1 : Det: 0008
Process Host: CTX0307

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	3.092	3.092	0.000	22039081H	5.00	4.96	
2 Chloride	4.092	4.100	-0.008	2206090035	100.0	102.8	
7 Nitrite as N	4.783	4.783	0.000	252316300	5.00	4.90	
3 Sulfate	5.517	5.617	-0.100	1651617162	100.0	104.4	
4 Bromide	6.283	6.325	-0.042	18035301H	20.0	20.6	
5 Nitrate as N	7.233	7.308	-0.075	18838417H	5.00	5.00	
6 Orthophosphate as P	10.175	10.392	-0.217	95375490	5.00	5.26	

Reagents:

ICSTDL8_00267 Amount Added: 1.00 Units: mL

Report Date: 02-Oct-2019 06:03:24 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\A-ICS2100 A 10-01-2019-8.d				
Injection Date:	01-Oct-2019 11:44:00	Instrument ID:	CHIC2100A	Operator ID:	
Lims ID:	IC			Worklist Smp#:	8
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9056_CHIC2100A	Limit Group:	GC Anions ICAL		

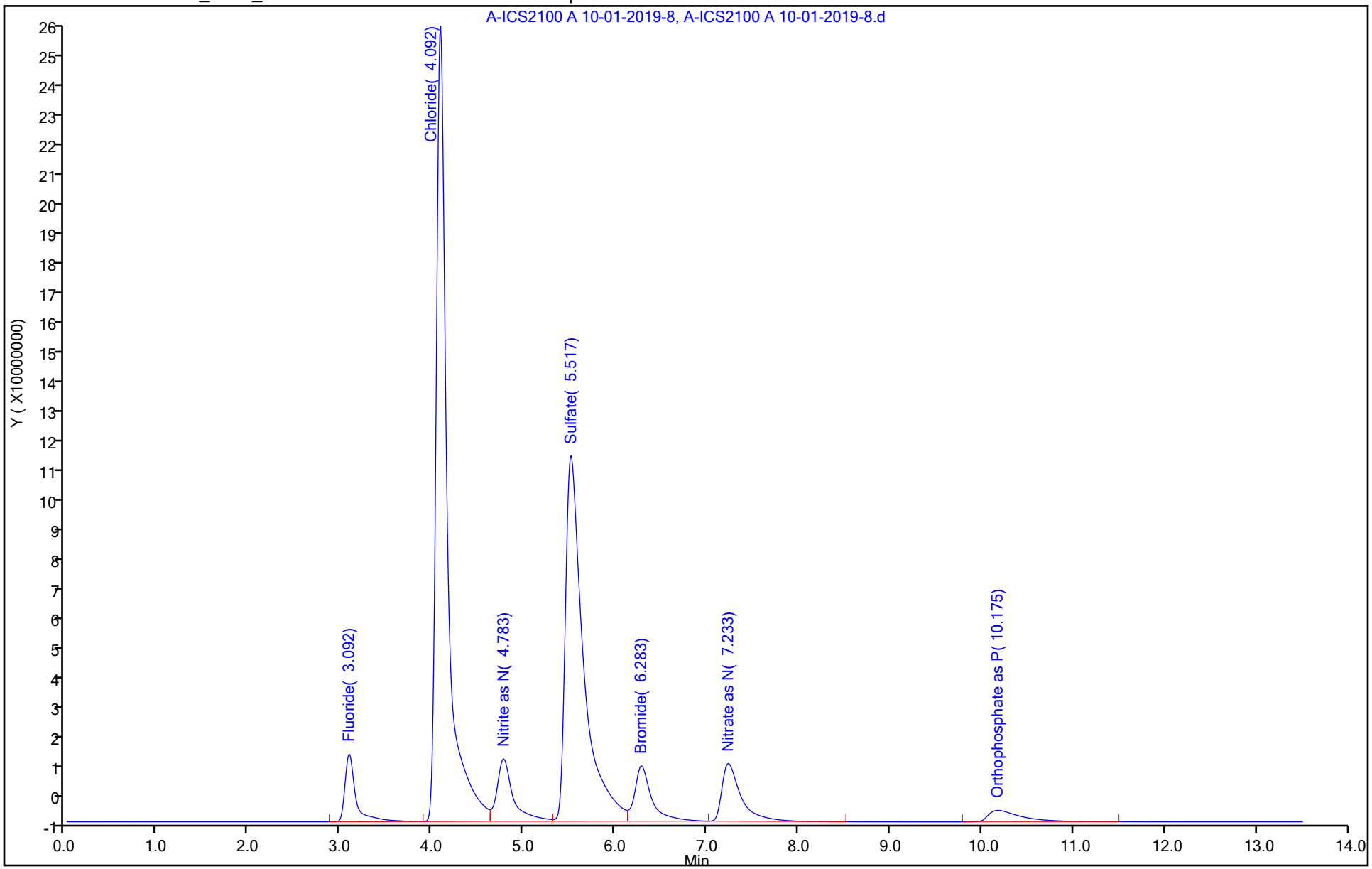

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\A-ICS2100 A 10-01-2019-9.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 9
Inject. Date: 01-Oct-2019 12:00:00 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028918-009
Misc. Info.: 9 ic L9
Operator ID: Instrument ID: CHIC2100A
Sublist: chrom-300_9056_CHIC2100A*sub3

Method: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\300_9056_CHIC2100A.m
Limit Group: GC Anions ICAL
Last Update: 02-Oct-2019 06:03:26 Calib Date: 01-Oct-2019 12:15:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\A-ICS2100 A 10-01-2019-10.d

Column 1 : Det: 0008
Process Host: CTX0307

First Level Reviewer: reaglec Date: 01-Oct-2019 16:45:29

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	3.092	3.092	0.000	30645398H	7.50	6.89	
2 Chloride	4.083	4.100	-0.017	3256687884	150.0	151.8	
7 Nitrite as N	4.775	4.783	-0.008	353209028	7.50	6.87	
3 Sulfate	5.475	5.617	-0.142	2415211946	150.0	152.8	
4 Bromide	6.267	6.325	-0.058	26245750H	30.0	30.0	
5 Nitrate as N	7.200	7.308	-0.108	26717963H	7.50	7.09	
6 Orthophosphate as P	10.083	10.392	-0.309	138773603	7.50	7.59	a

QC Flag Legend

Review Flags
a - User Assigned ID

Reagents:

ICSTDL9_00248 Amount Added: 1.00 Units: mL

Report Date: 02-Oct-2019 06:03:27 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\A-ICS2100 A 10-01-2019-9.d				
Injection Date:	01-Oct-2019 12:00:00	Instrument ID:	CHIC2100A	Operator ID:	
Lims ID:	IC			Worklist Smp#:	9
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9056_CHIC2100A	Limit Group:	GC Anions ICAL		

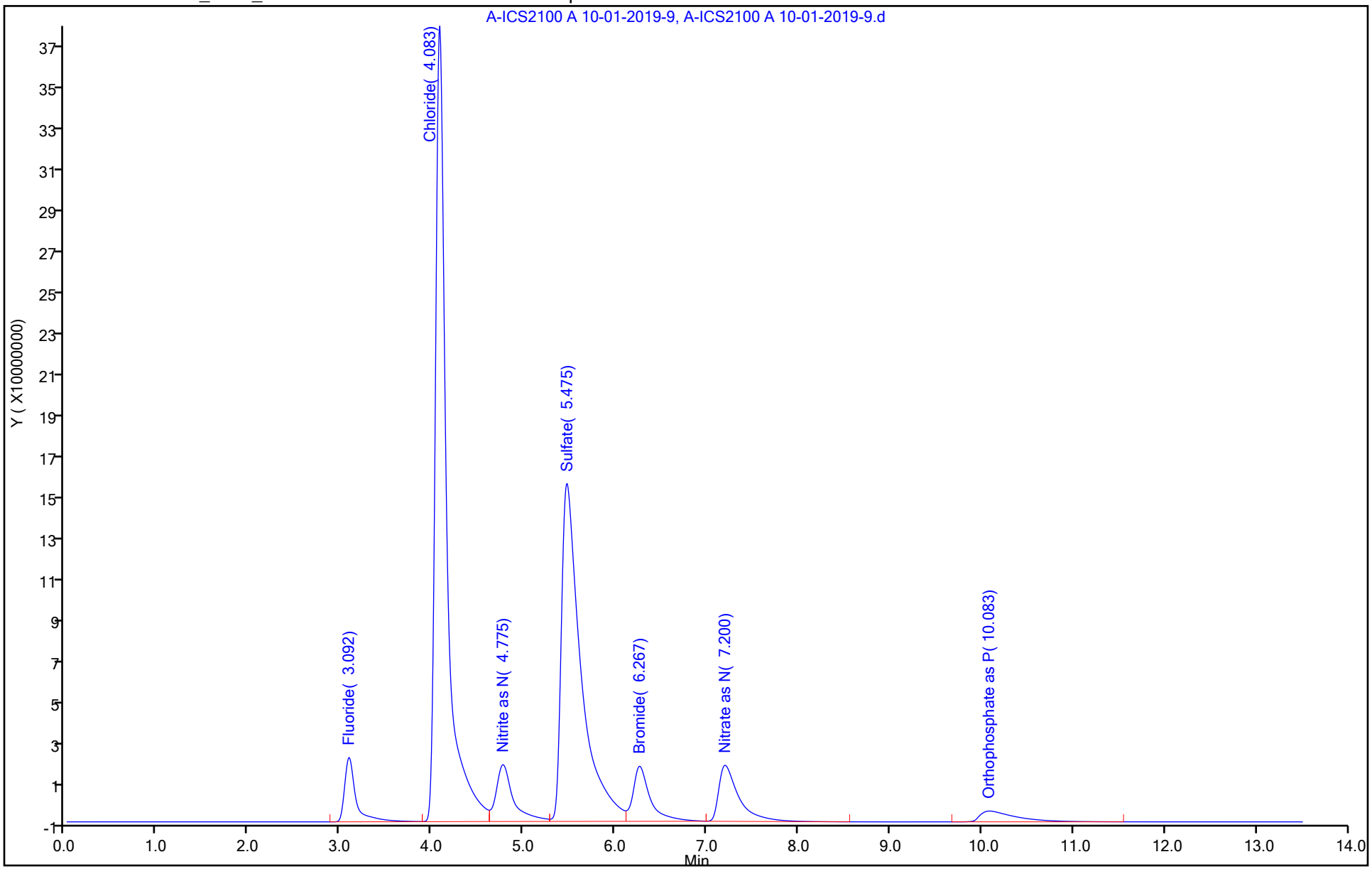

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\A-ICS2100 A 10-01-2019-10.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 10
Inject. Date: 01-Oct-2019 12:15:00 ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028918-010
Misc. Info.: 10 ic L10
Operator ID: Instrument ID: CHIC2100A
Sublist: chrom-300_9056_CHIC2100A*sub3

Method: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\300_9056_CHIC2100A.m
Limit Group: GC Anions ICAL
Last Update: 02-Oct-2019 06:03:29 Calib Date: 01-Oct-2019 12:15:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\A-ICS2100 A 10-01-2019-10.d

Column 1 : Det: 0008
Process Host: CTX0307

First Level Reviewer: reaglec Date: 01-Oct-2019 16:45:36

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	3.100	3.092	0.008	38734602H	10.0	8.70	
2 Chloride	4.083	4.100	-0.017	4370245700	200.0	203.6	
7 Nitrite as N	4.775	4.783	-0.008	447489080	10.0	8.71	
3 Sulfate	5.433	5.617	-0.184	3236780144	200.0	204.8	
4 Bromide	6.250	6.325	-0.075	34496670H	40.0	39.4	
5 Nitrate as N	7.175	7.308	-0.133	34233750H	10.0	9.08	
6 Orthophosphate as P	10.000	10.392	-0.392	189214195	10.0	10.3	a

QC Flag Legend

Review Flags
a - User Assigned ID

Reagents:

ICSTDL10_00057 Amount Added: 1.00 Units: mL

Report Date: 02-Oct-2019 06:03:29 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\A-ICS2100 A 10-01-2019-10.d				
Injection Date:	01-Oct-2019 12:15:00	Instrument ID:	CHIC2100A	Operator ID:	
Lims ID:	IC			Worklist Smp#:	10
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9056_CHIC2100A	Limit Group:	GC Anions ICAL		

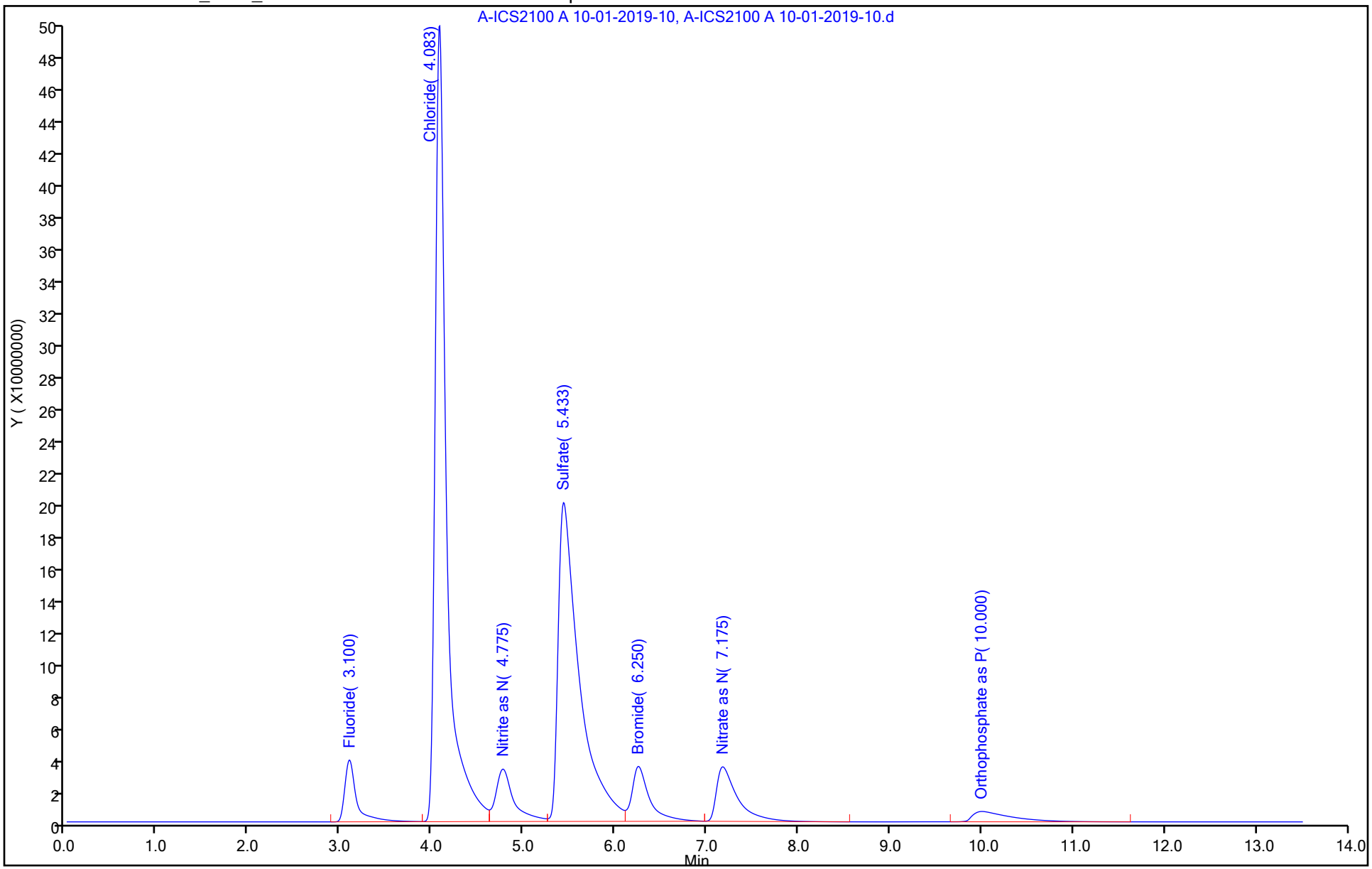

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: ICV 180-294038/2 Calibration Date: 10/08/2019 03:53

Instrument ID: CHIC2100A Calib Start Date: 10/01/2019 10:12

GC Column: AS-18 ID: Calib End Date: 10/01/2019 12:15

Lab File ID: A-ICS2100 A 10-08-2019-2.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin2		4490666		3.03	3.00	1.2	10.0
Chloride	Lin2		21794511		61.0	60.0	1.6	10.0
Sulfate	Lin2		15815142		59.8	60.0	-0.3	10.0
Bromide	Lin2		879038		12.1	12.0	0.9	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: ICV 180-294038/2 Calibration Date: 10/08/2019 03:53

Instrument ID: CHIC2100A Calib Start Date: 10/01/2019 10:12

GC Column: AS-18 ID: Calib End Date: 10/01/2019 12:15

Lab File ID: A-ICS2100 A 10-08-2019-2.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	3.08	2.73	3.43
Chloride	4.08	3.73	4.43
Sulfate	5.53	5.20	5.90
Bromide	6.28	5.93	6.63

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191008-29006.b\A-ICS2100 A 10-08-2019-2.d
Lims ID: icv
Client ID:
Sample Type: ICV
Inject. Date: 08-Oct-2019 03:53:00 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029006-002
Misc. Info.: 2 icv
Operator ID: Instrument ID: CHIC2100A
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191008-29006.b\300_9056_CHIC2100A.m
Limit Group: GC Anions ICAL
Last Update: 08-Oct-2019 16:28:25 Calib Date: 01-Oct-2019 12:15:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\A-ICS2100 A 10-01-2019-10.d

Column 1 : Det: 0008
Process Host: CTX0336

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	3.083	3.083	0.000	13471998H	3.00	3.03	
2 Chloride	4.083	4.083	0.000	1307670643	60.0	61.0	
7 Nitrite as N	4.758	4.767	-0.009	161042439	3.00	3.13	
3 Sulfate	5.533	5.550	-0.017	948908527	60.0	59.8	
4 Bromide	6.275	6.275	0.000	10548456H	12.0	12.1	
5 Nitrate as N	7.233	7.242	-0.009	11468681H	3.00	3.05	
6 Orthophosphate as P	10.175	10.233	-0.058	57063897	3.00	3.20	

Reagents:

icicv_02534 Amount Added: 1.00 Units: mL

Report Date: 09-Oct-2019 04:29:52 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHIC2100A\20191008-29006.b\A-ICS2100 A 10-08-2019-2.d				
Injection Date:	08-Oct-2019 03:53:00	Instrument ID:	CHIC2100A	Operator ID:	
Lims ID:	icv			Worklist Smp#:	2
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9056_CHIC2100A	Limit Group:	GC Anions ICAL		

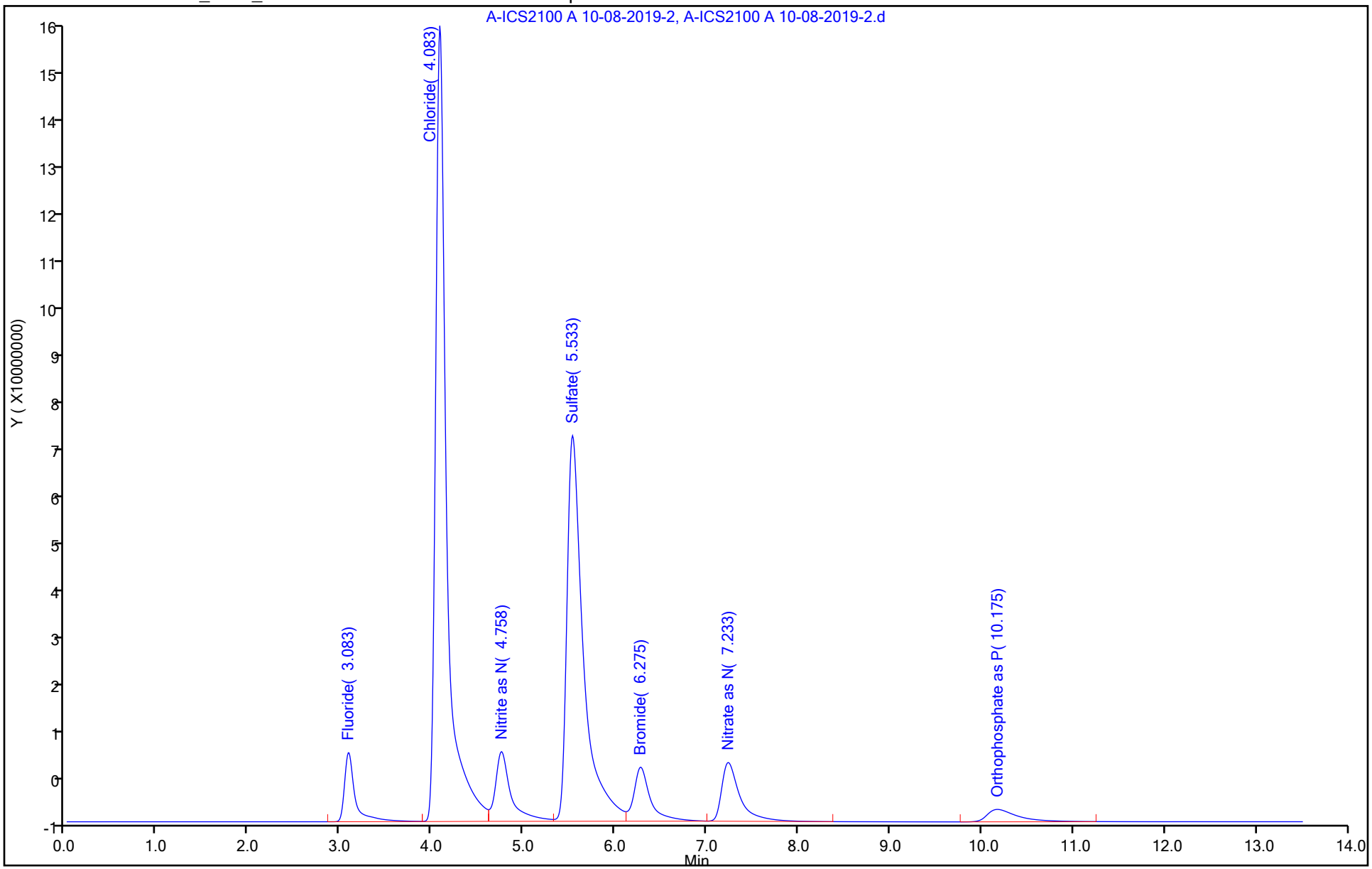

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-294038/3 Calibration Date: 10/08/2019 04:09

Instrument ID: CHIC2100A Calib Start Date: 10/01/2019 10:12

GC Column: AS-18 ID: Calib End Date: 10/01/2019 12:15

Lab File ID: A-ICS2100 A 10-08-2019-3.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin2		4406748		2.48	2.50	-0.6	10.0
Chloride	Lin2		20906520		48.8	50.0	-2.5	10.0
Sulfate	Lin2		15433691		48.6	50.0	-2.8	10.0
Bromide	Lin2		855114		9.82	10.0	-1.8	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-294038/3 Calibration Date: 10/08/2019 04:09

Instrument ID: CHIC2100A Calib Start Date: 10/01/2019 10:12

GC Column: AS-18 ID: Calib End Date: 10/01/2019 12:15

Lab File ID: A-ICS2100 A 10-08-2019-3.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	3.08	2.73	3.43
Chloride	4.08	3.73	4.43
Sulfate	5.55	5.20	5.90
Bromide	6.28	5.93	6.63

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191008-29006.b\A-ICS2100 A 10-08-2019-3.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 08-Oct-2019 04:09:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029006-003
Misc. Info.: 3 ccv
Operator ID: Instrument ID: CHIC2100A
Sublist: chrom-300_9056_CHIC2100A*sub3

Method: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191008-29006.b\300_9056_CHIC2100A.m
Limit Group: GC Anions ICAL
Last Update: 09-Oct-2019 04:29:52 Calib Date: 01-Oct-2019 12:15:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\A-ICS2100 A 10-01-2019-10.d

Column 1 : Det: 0008
Process Host: CTX0336

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	3.083	3.083	0.000	11016869H	2.50	2.48	
2 Chloride	4.083	4.083	0.000	1045325975	50.0	48.8	
7 Nitrite as N	4.767	4.767	0.000	131139354	2.50	2.54	
3 Sulfate	5.550	5.550	0.000	771684556	50.0	48.6	
4 Bromide	6.275	6.275	0.000	8551140H	10.0	9.82	
5 Nitrate as N	7.242	7.242	0.000	9401646H	2.50	2.50	
6 Orthophosphate as P	10.233	10.233	0.000	40995421	2.50	2.34	

Reagents:

icccv_02500 Amount Added: 1.00 Units: mL

Report Date: 09-Oct-2019 04:29:52 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHIC2100A\20191008-29006.b\A-ICS2100 A 10-08-2019-3.d				
Injection Date:	08-Oct-2019 04:09:00	Instrument ID:	CHIC2100A	Operator ID:	
Lims ID:	ccv			Worklist Smp#:	3
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9056_CHIC2100A	Limit Group:	GC Anions ICAL		

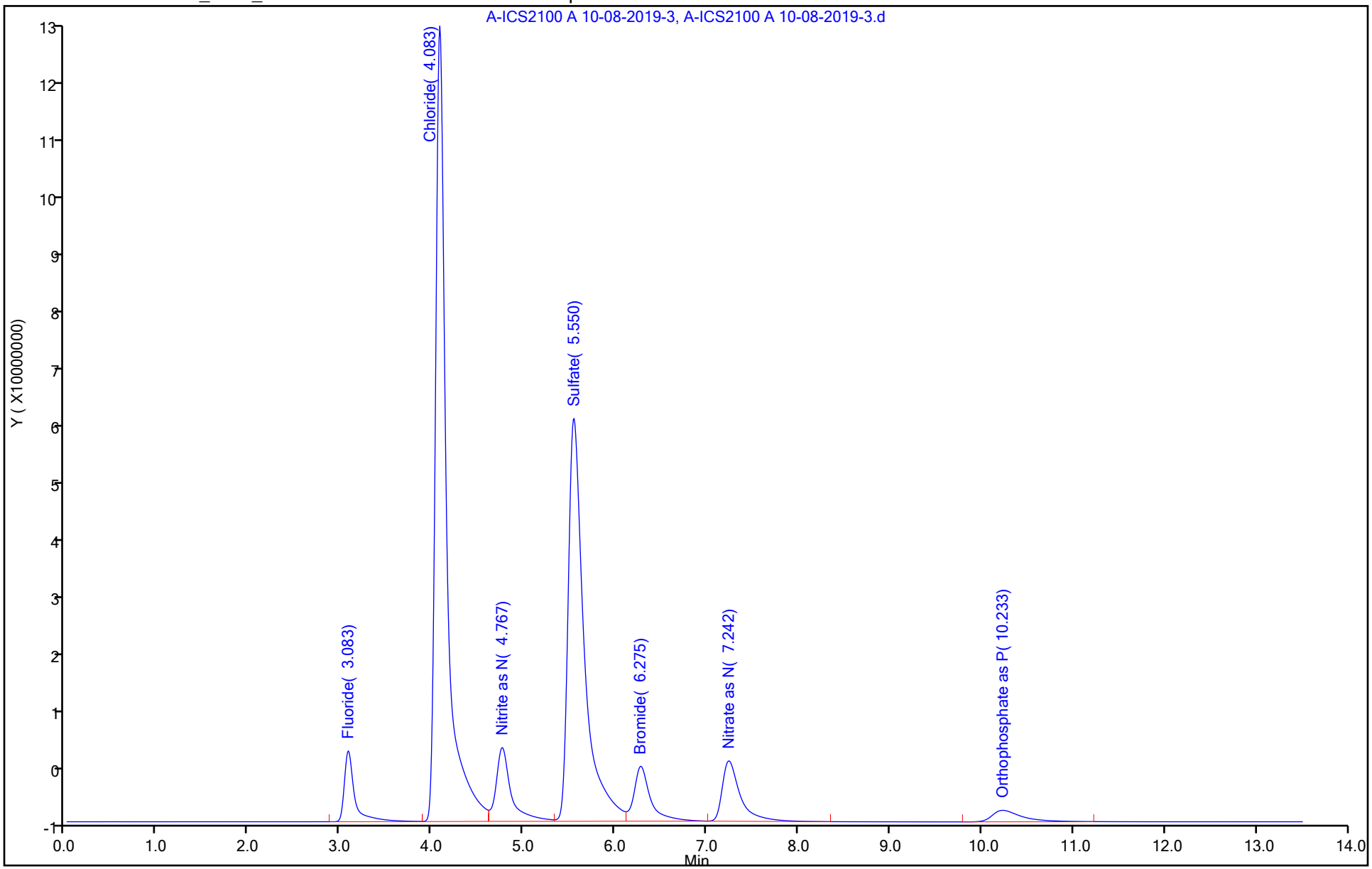

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-294038/15 Calibration Date: 10/08/2019 08:46

Instrument ID: CHIC2100A Calib Start Date: 10/01/2019 10:12

GC Column: AS-18 ID: Calib End Date: 10/01/2019 12:15

Lab File ID: A-ICS2100 A 10-08-2019-15.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin2		4474576		2.52	2.50	0.9	10.0
Chloride	Lin2		20869994		48.7	50.0	-2.6	10.0
Sulfate	Lin2		15473794		48.7	50.0	-2.5	10.0
Bromide	Lin2		861292		9.89	10.0	-1.1	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-294038/15 Calibration Date: 10/08/2019 08:46

Instrument ID: CHIC2100A Calib Start Date: 10/01/2019 10:12

GC Column: AS-18 ID: Calib End Date: 10/01/2019 12:15

Lab File ID: A-ICS2100 A 10-08-2019-15.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	3.08	2.73	3.43
Chloride	4.08	3.73	4.43
Sulfate	5.54	5.20	5.90
Bromide	6.28	5.93	6.63

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191008-29006.b\A-ICS2100 A 10-08-2019-15.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 08-Oct-2019 08:46:00 ALS Bottle#: 0 Worklist Smp#: 15
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029006-015
Misc. Info.: 15 ccv
Operator ID: Instrument ID: CHIC2100A
Sublist: chrom-300_9056_CHIC2100A*sub3

Method: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191008-29006.b\300_9056_CHIC2100A.m
Limit Group: GC Anions ICAL
Last Update: 09-Oct-2019 04:29:59 Calib Date: 01-Oct-2019 12:15:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\A-ICS2100 A 10-01-2019-10.d

Column 1 : Det: 0008
Process Host: CTX0336

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	3.083	3.083	0.000	11186439H	2.50	2.52	
2 Chloride	4.083	4.083	0.000	1043499704	50.0	48.7	
7 Nitrite as N	4.758	4.767	-0.009	130810334	2.50	2.54	
3 Sulfate	5.542	5.550	-0.008	773689706	50.0	48.7	
4 Bromide	6.275	6.275	0.000	8612924H	10.0	9.89	
5 Nitrate as N	7.233	7.242	-0.009	9420275H	2.50	2.51	
6 Orthophosphate as P	10.225	10.233	-0.008	40129400	2.50	2.29	

Reagents:

icccv_02500 Amount Added: 1.00 Units: mL

Report Date: 09-Oct-2019 04:29:59 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHIC2100A\20191008-29006.b\A-ICS2100 A 10-08-2019-15.d				
Injection Date:	08-Oct-2019 08:46:00	Instrument ID:	CHIC2100A	Operator ID:	
Lims ID:	ccv			Worklist Smp#:	15
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9056_CHIC2100A	Limit Group:	GC Anions ICAL		

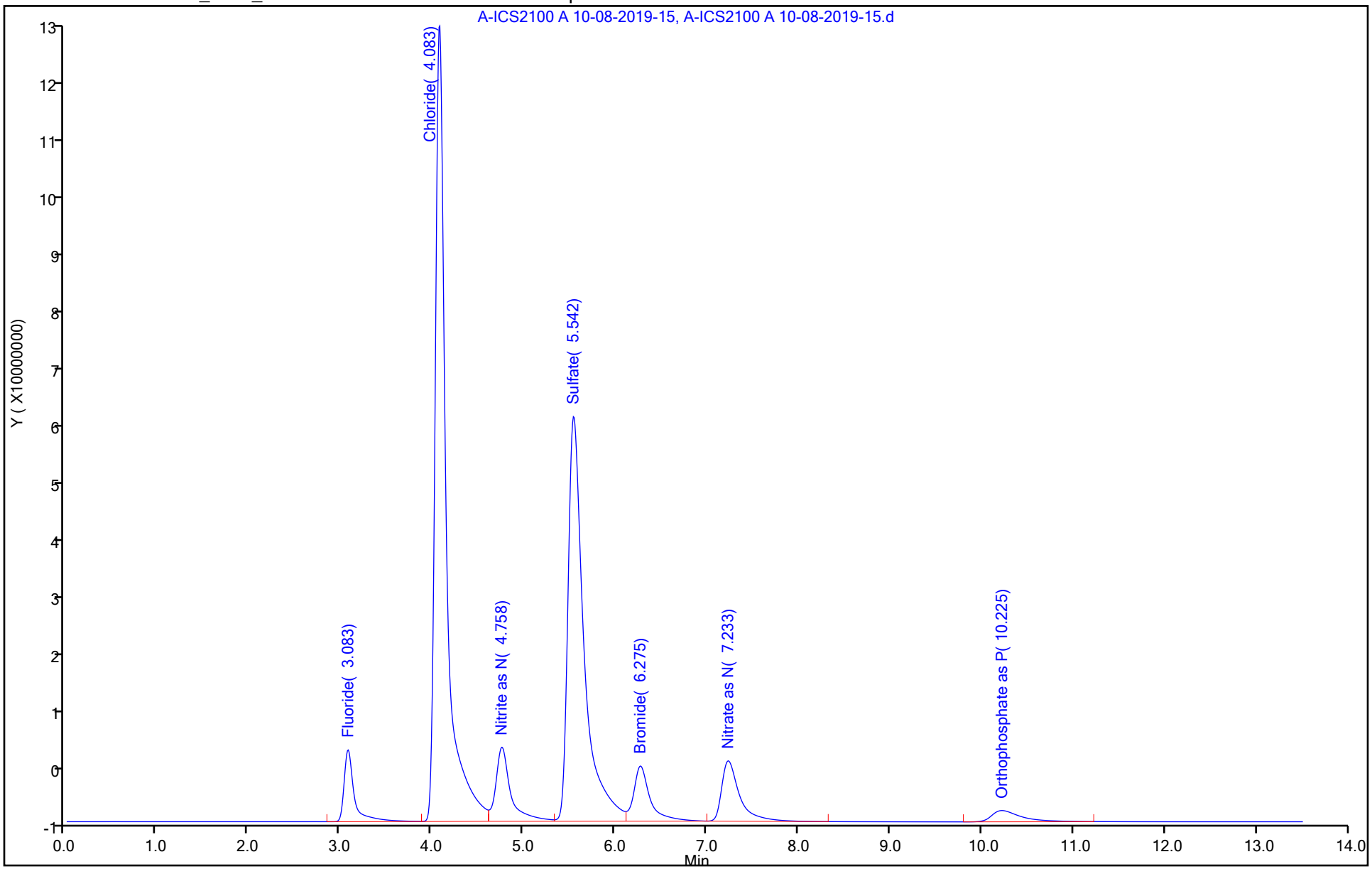

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-294038/27 Calibration Date: 10/08/2019 11:52

Instrument ID: CHIC2100A Calib Start Date: 10/01/2019 10:12

GC Column: AS-18 ID: Calib End Date: 10/01/2019 12:15

Lab File ID: A-ICS2100 A 10-08-2019-27.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin2		4566992		2.57	2.50	2.9	10.0
Chloride	Lin2		21511107		50.2	50.0	0.3	10.0
Sulfate	Lin2		16106215		50.7	50.0	1.5	10.0
Bromide	Lin2		883196		10.1	10.0	1.4	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 180-294038/27 Calibration Date: 10/08/2019 11:52

Instrument ID: CHIC2100A Calib Start Date: 10/01/2019 10:12

GC Column: AS-18 ID: Calib End Date: 10/01/2019 12:15

Lab File ID: A-ICS2100 A 10-08-2019-27.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	3.08	2.73	3.43
Chloride	4.08	3.73	4.43
Sulfate	5.54	5.20	5.90
Bromide	6.28	5.93	6.63

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191008-29006.b\A-ICS2100 A 10-08-2019-27.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 08-Oct-2019 11:52:00 ALS Bottle#: 0 Worklist Smp#: 27
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029006-027
Misc. Info.: 27 ccv
Operator ID: Instrument ID: CHIC2100A
Sublist: chrom-300_9056_CHIC2100A*sub3

Method: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191008-29006.b\300_9056_CHIC2100A.m
Limit Group: GC Anions ICAL
Last Update: 09-Oct-2019 04:30:15 Calib Date: 01-Oct-2019 12:15:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\A-ICS2100 A 10-01-2019-10.d

Column 1 : Det: 0008
Process Host: CTX0336

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	3.075	3.083	-0.008	11417481H	2.50	2.57	
2 Chloride	4.075	4.083	-0.008	1075555361	50.0	50.2	
7 Nitrite as N	4.758	4.767	-0.009	134714077	2.50	2.61	
3 Sulfate	5.542	5.550	-0.008	805310727	50.0	50.7	
4 Bromide	6.275	6.275	0.000	8831955H	10.0	10.1	
5 Nitrate as N	7.233	7.242	-0.009	9769170H	2.50	2.60	
6 Orthophosphate as P	10.233	10.233	0.000	39766353	2.50	2.27	

Reagents:

icccv_02500 Amount Added: 1.00 Units: mL

Report Date: 09-Oct-2019 04:30:15 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHIC2100A\20191008-29006.b\A-ICS2100 A 10-08-2019-27.d				
Injection Date:	08-Oct-2019 11:52:00	Instrument ID:	CHIC2100A	Operator ID:	
Lims ID:	ccv			Worklist Smp#:	27
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9056_CHIC2100A	Limit Group:	GC Anions ICAL		

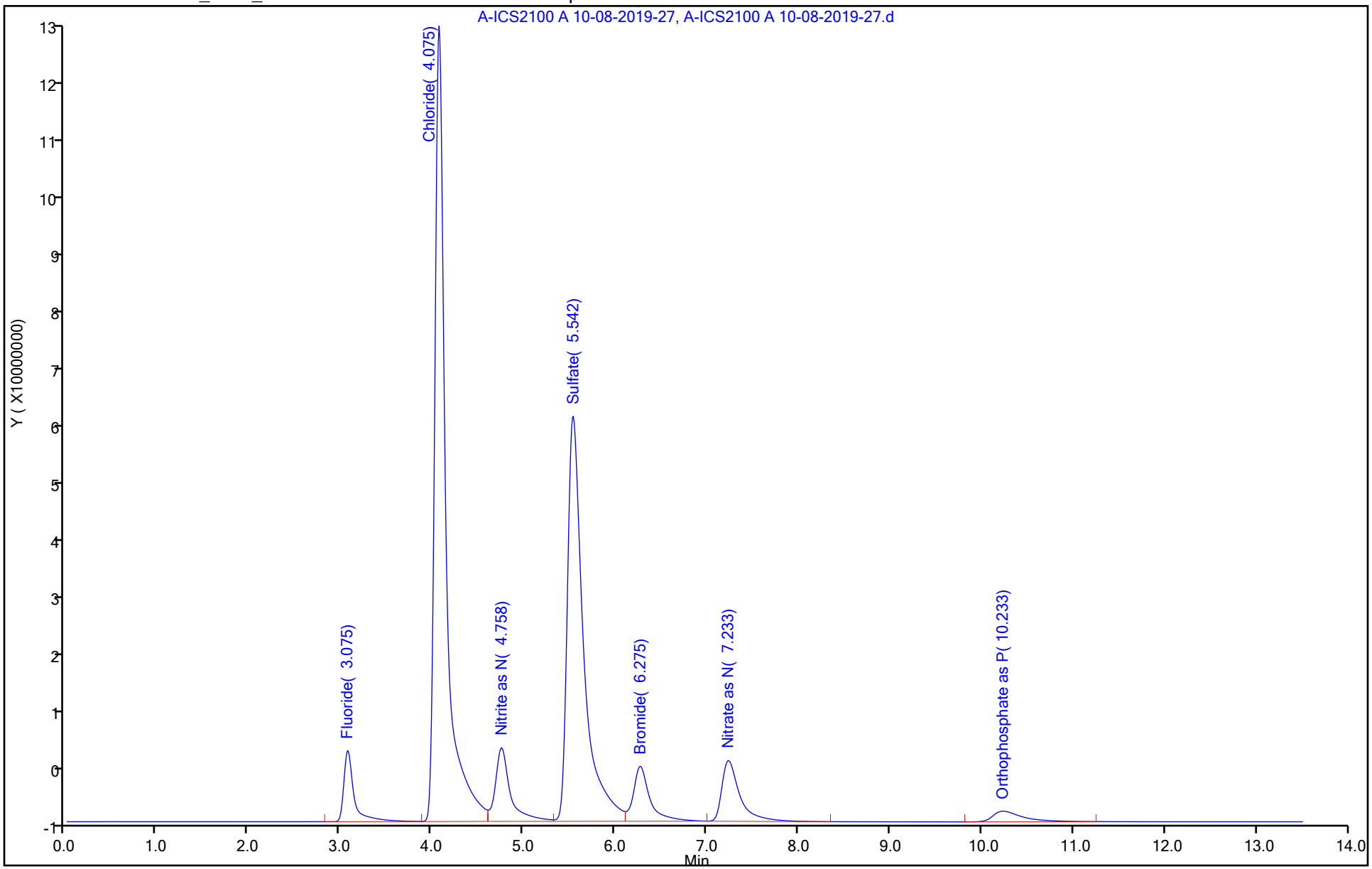

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 180-294038/6

Matrix: Water Lab File ID: A-ICS2100 A 10-08-2019-6.d

Analysis Method: EPA 300.0 R2.1 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 10/08/2019 04:56

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 10(uL) GC Column: AS-18 ID:

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 294038 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.50	0.087
16887-00-6	Chloride	ND		1.0	0.71
14808-79-8	Sulfate	ND		1.0	0.38

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File:	\\chromna\Pittsburgh\ChromData\CHIC2100A\20191008-29006.b\A-ICS2100 A 10-08-2019-6.d				
Lims ID:	mb				
Client ID:					
Sample Type:	MB				
Inject. Date:	08-Oct-2019 04:56:00	ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	10.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0029006-006				
Misc. Info.:	6 mb				
Operator ID:		Instrument ID:	CHIC2100A		
Method:	\\chromna\Pittsburgh\ChromData\CHIC2100A\20191008-29006.b\300_9056_CHIC2100A.m				
Limit Group:	GC Anions ICAL				
Last Update:	09-Oct-2019 04:29:52	Calib Date:	01-Oct-2019 12:15:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\A-ICS2100 A 10-01-2019-10.d				
Column 1 :			Det: 0008		
Process Host:	CTX0336				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride		3.083				ND	
2 Chloride	4.083	4.083	0.000	216509		0.0906	
7 Nitrite as N	4.825	4.767	0.058	561036		-0.002616	
3 Sulfate		5.550				ND	
4 Bromide		6.275				ND	
5 Nitrate as N		7.242				ND	
6 Orthophosphate as P		10.233				ND	

Report Date: 09-Oct-2019 04:29:54 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHIC2100A\20191008-29006.b\A-ICS2100 A 10-08-2019-6.d				
Injection Date:	08-Oct-2019 04:56:00	Instrument ID:	CHIC2100A	Operator ID:	
Lims ID:	mb			Worklist Smp#:	6
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9056_CHIC2100A	Limit Group:	GC Anions ICAL		

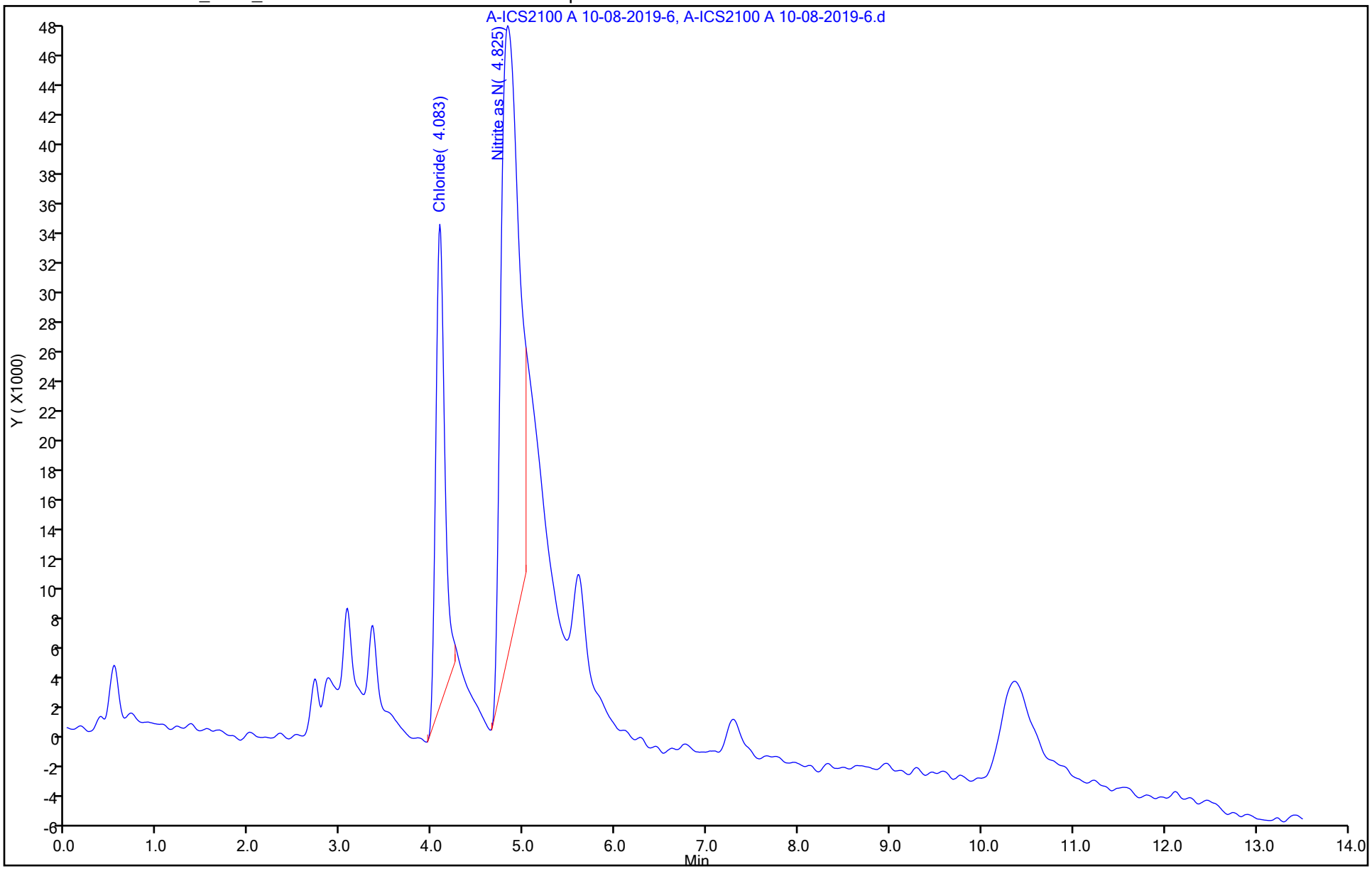

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: Lab Sample ID: CCB 180-294038/4

Matrix: Water Lab File ID: A-ICS2100 A 10-08-2019-4.d

Analysis Method: EPA 300.0 R2.1 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 10/08/2019 04:25

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 10(uL) GC Column: AS-18 ID:

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 294038 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.20	0.087
16887-00-6	Chloride	ND		1.0	0.71
14808-79-8	Sulfate	ND		1.0	0.38

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191008-29006.b\A-ICS2100 A 10-08-2019-4.d
Lims ID: ccb
Client ID:
Sample Type: CCB
Inject. Date: 08-Oct-2019 04:25:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029006-004
Misc. Info.: 4 ccb
Operator ID: Instrument ID: CHIC2100A

Method: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191008-29006.b\300_9056_CHIC2100A.m
Limit Group: GC Anions ICAL
Last Update: 09-Oct-2019 04:29:52 Calib Date: 01-Oct-2019 12:15:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\A-ICS2100 A 10-01-2019-10.d

Column 1 : Det: 0008
Process Host: CTX0336

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride		3.083				ND	
2 Chloride	4.083	4.083	0.000	318268		0.0953	
7 Nitrite as N	4.825	4.767	0.058	323592		-0.007245	
3 Sulfate		5.550				ND	
4 Bromide		6.275				ND	
5 Nitrate as N		7.242				ND	
6 Orthophosphate as P		10.233				ND	

Report Date: 09-Oct-2019 04:29:53 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHIC2100A\20191008-29006.b\A-ICS2100 A 10-08-2019-4.d				
Injection Date:	08-Oct-2019 04:25:00	Instrument ID:	CHIC2100A	Operator ID:	
Lims ID:	ccb			Worklist Smp#:	4
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9056_CHIC2100A	Limit Group:	GC Anions ICAL		

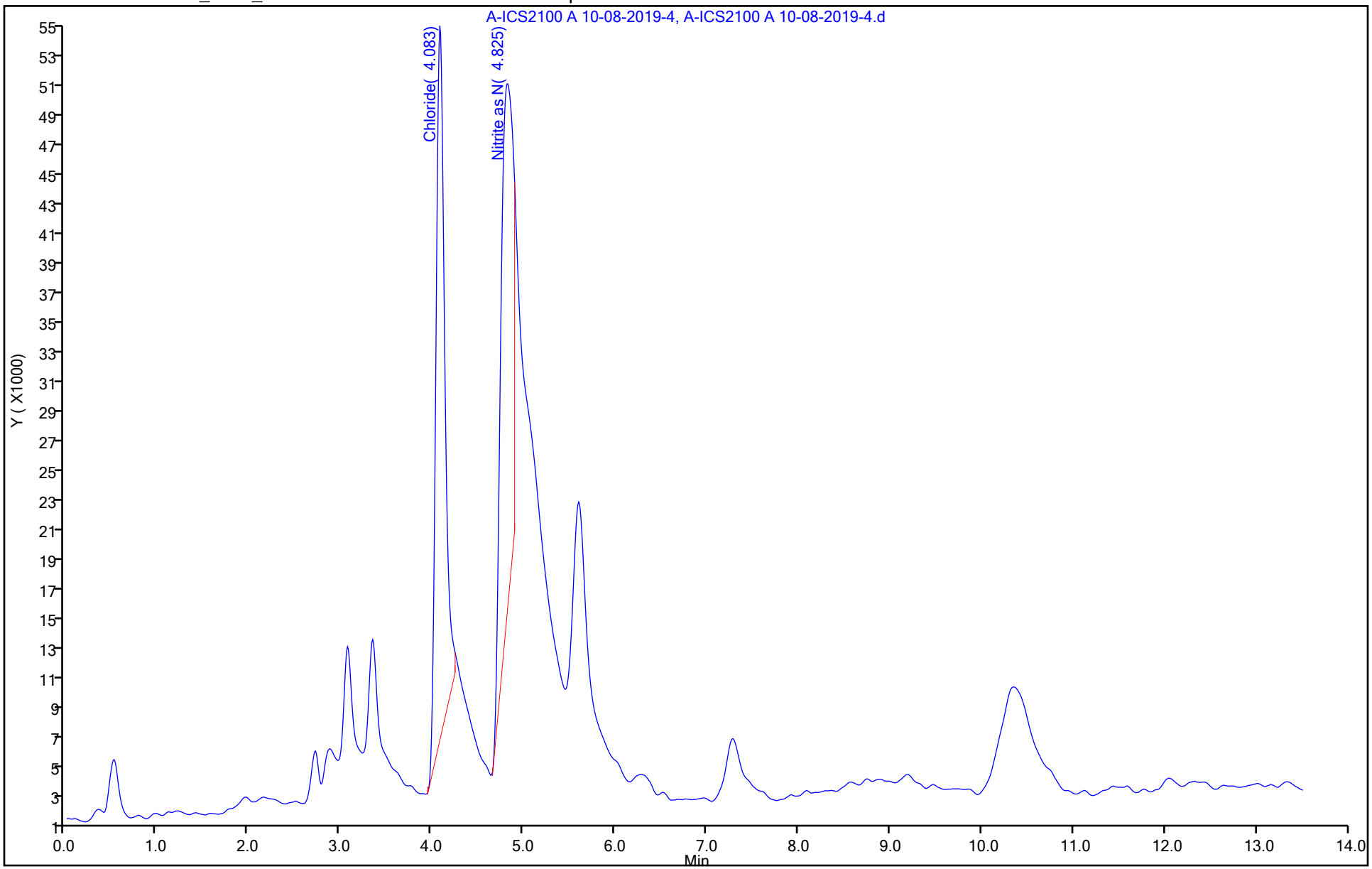

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: Lab Sample ID: CCB 180-294038/16

Matrix: Water Lab File ID: A-ICS2100 A 10-08-2019-16.d

Analysis Method: EPA 300.0 R2.1 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 10/08/2019 09:02

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 10(uL) GC Column: AS-18 ID:

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 294038 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.20	0.087
16887-00-6	Chloride	ND		1.0	0.71
14808-79-8	Sulfate	ND		1.0	0.38

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191008-29006.b\A-ICS2100 A 10-08-2019-16.d
Lims ID: ccb
Client ID:
Sample Type: CCB
Inject. Date: 08-Oct-2019 09:02:00 ALS Bottle#: 0 Worklist Smp#: 16
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029006-016
Misc. Info.: 16 ccb
Operator ID: Instrument ID: CHIC2100A

Method: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191008-29006.b\300_9056_CHIC2100A.m
Limit Group: GC Anions ICAL
Last Update: 09-Oct-2019 04:29:59 Calib Date: 01-Oct-2019 12:15:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\A-ICS2100 A 10-01-2019-10.d

Column 1 : Det: 0008
Process Host: CTX0336

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	3.075	3.083	-0.008	10770H		0.0135	
2 Chloride	4.083	4.083	0.000	846197		0.1199	
7 Nitrite as N	4.808	4.767	0.041	655019		-0.000784	
3 Sulfate	5.608	5.550	0.058	446008		-0.2708	
4 Bromide		6.275				ND	
5 Nitrate as N		7.242				ND	
6 Orthophosphate as P		10.233				ND	

Report Date: 09-Oct-2019 04:30:00 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHIC2100A\20191008-29006.b\A-ICS2100 A 10-08-2019-16.d				
Injection Date:	08-Oct-2019 09:02:00	Instrument ID:	CHIC2100A	Operator ID:	
Lims ID:	ccb			Worklist Smp#:	16
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9056_CHIC2100A	Limit Group:	GC Anions ICAL		

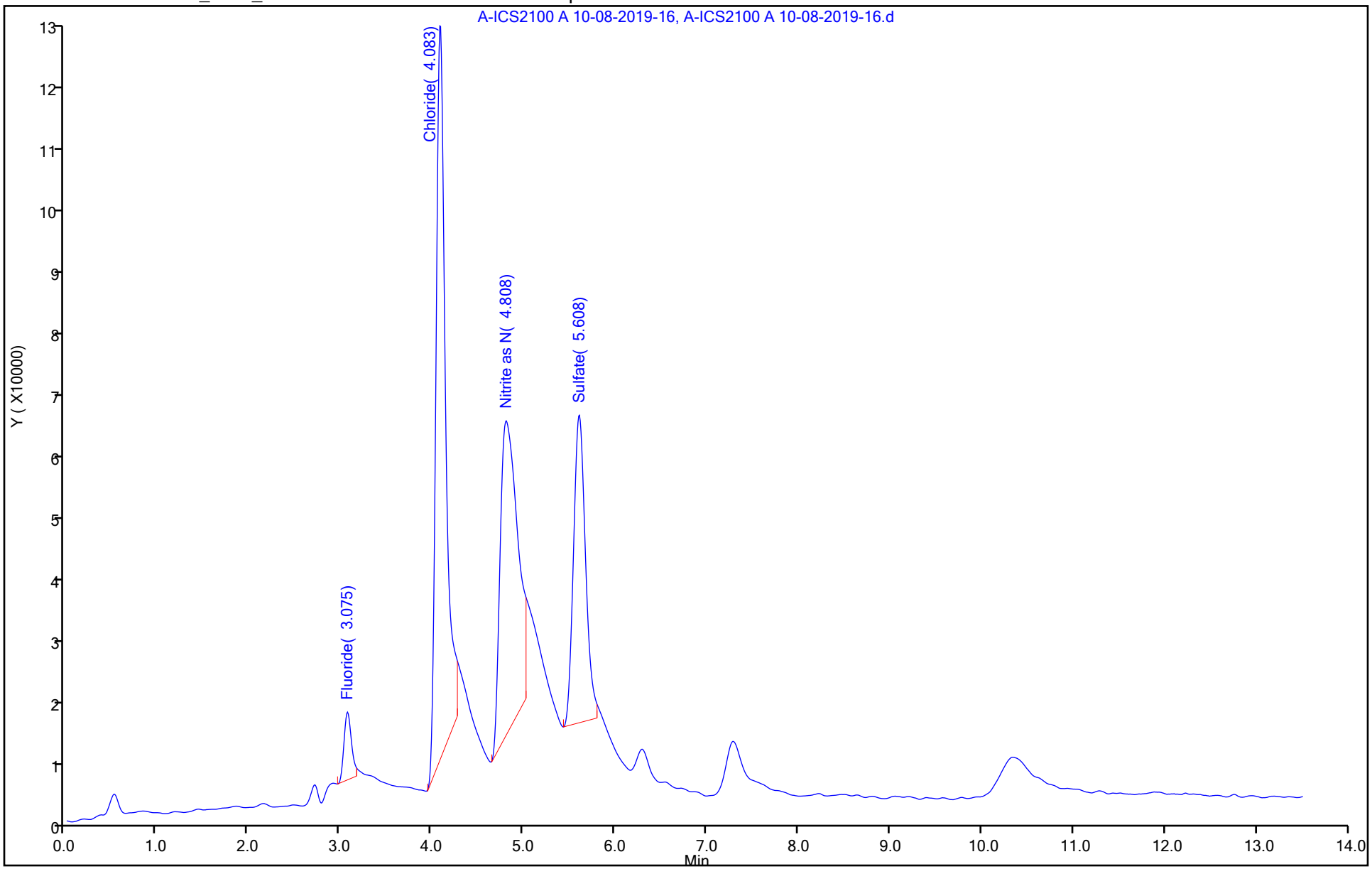

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: Lab Sample ID: CCB 180-294038/28

Matrix: Water Lab File ID: A-ICS2100 A 10-08-2019-28.d

Analysis Method: EPA 300.0 R2.1 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 10/08/2019 12:07

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 10(uL) GC Column: AS-18 ID:

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 294038 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.20	0.087
16887-00-6	Chloride	ND		1.0	0.71
14808-79-8	Sulfate	ND		1.0	0.38

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191008-29006.b\A-ICS2100 A 10-08-2019-28.d
Lims ID: ccb
Client ID:
Sample Type: CCB
Inject. Date: 08-Oct-2019 12:07:00 ALS Bottle#: 0 Worklist Smp#: 28
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029006-028
Misc. Info.: 28 ccb
Operator ID: Instrument ID: CHIC2100A

Method: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191008-29006.b\300_9056_CHIC2100A.m
Limit Group: GC Anions ICAL
Last Update: 09-Oct-2019 04:30:15 Calib Date: 01-Oct-2019 12:15:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\A-ICS2100 A 10-01-2019-10.d

Column 1 : Det: 0008
Process Host: CTX0336

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride		3.083				ND	
2 Chloride	4.083	4.083	0.000	651147		0.1108	
7 Nitrite as N	4.817	4.767	0.050	639708		-0.001083	
3 Sulfate	5.608	5.550	0.058	167934		-0.2885	
4 Bromide		6.275				ND	
5 Nitrate as N	7.292	7.242	0.050	50870H		0.0265	
6 Orthophosphate as P		10.233				ND	

Report Date: 09-Oct-2019 04:30:17 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHIC2100A\20191008-29006.b\A-ICS2100 A 10-08-2019-28.d				
Injection Date:	08-Oct-2019 12:07:00	Instrument ID:	CHIC2100A	Operator ID:	
Lims ID:	ccb			Worklist Smp#:	28
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9056_CHIC2100A	Limit Group:	GC Anions ICAL		

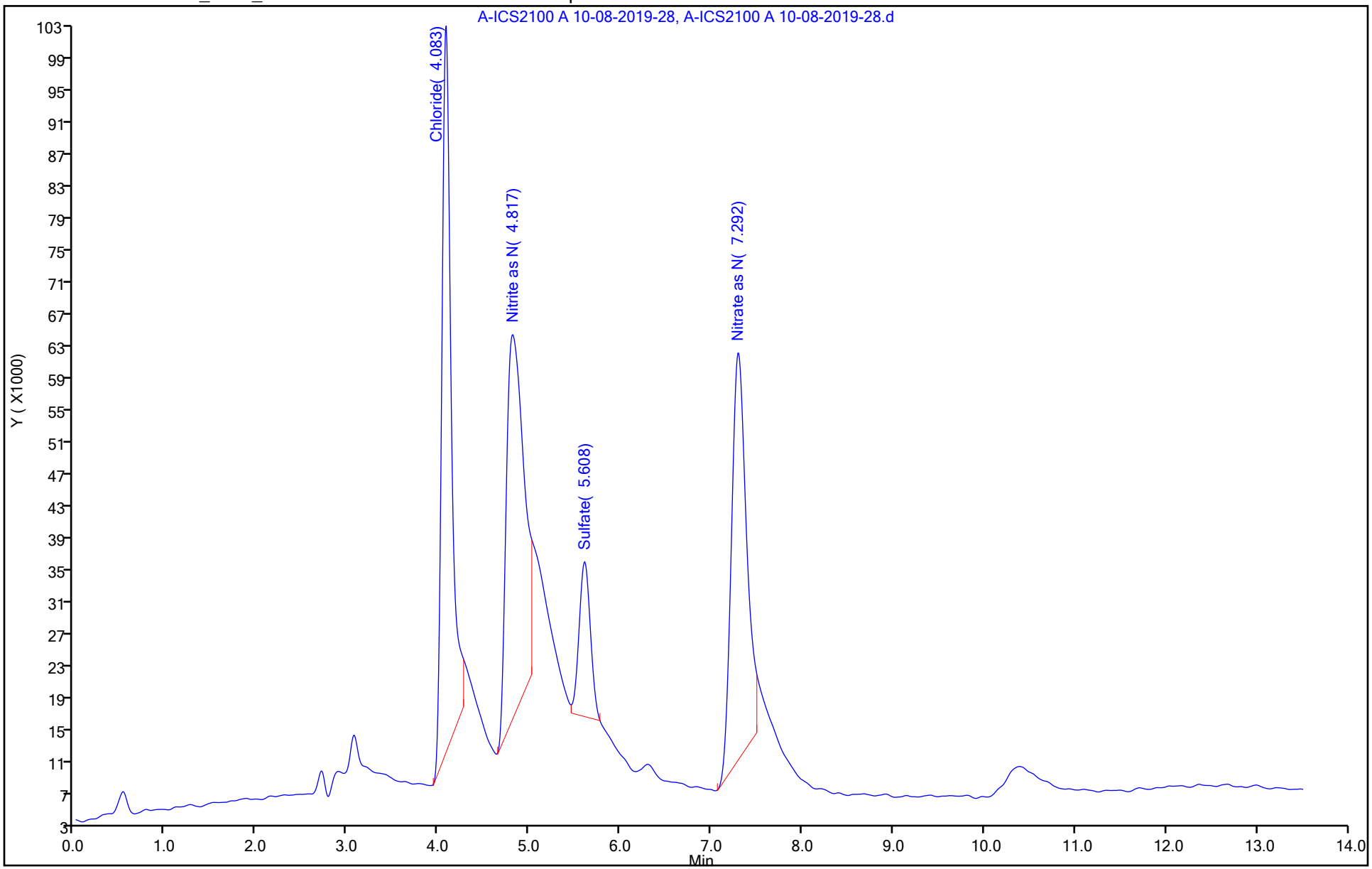

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 180-294038/5

Matrix: Water Lab File ID: A-ICS2100 A 10-08-2019-5.d

Analysis Method: EPA 300.0 R2.1 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 10/08/2019 04:40

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 10(uL) GC Column: AS-18 ID:

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 294038 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	4.91		0.50	0.087
16887-00-6	Chloride	24.3		1.0	0.71
14808-79-8	Sulfate	24.1		1.0	0.38

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191008-29006.b\A-ICS2100 A 10-08-2019-5.d
Lims ID: lcs
Client ID:
Sample Type: LCS
Inject. Date: 08-Oct-2019 04:40:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029006-005
Misc. Info.: 5 lcs
Operator ID: Instrument ID: CHIC2100A

Method: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191008-29006.b\300_9056_CHIC2100A.m
Limit Group: GC Anions ICAL
Last Update: 09-Oct-2019 04:29:52 Calib Date: 01-Oct-2019 12:15:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHIC2100A\20191001-28918.b\A-ICS2100 A 10-01-2019-10.d

Column 1 : Det: 0008
Process Host: CTX0336

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	3.083	3.083	0.000	5551140H	1.25	1.26	
2 Chloride	4.092	4.083	0.009	521091722	25.0	24.3	
7 Nitrite as N	4.767	4.767	0.000	67874532	1.25	1.31	
3 Sulfate	5.575	5.550	0.025	385344814	25.0	24.1	
4 Bromide	6.292	6.275	0.017	4248991H	5.00	4.91	
5 Nitrate as N	7.258	7.242	0.016	4758140H	1.25	1.27	
6 Orthophosphate as P	10.283	10.233	0.050	17838701	1.25	1.09	

Reagents:

iclcs_00720 Amount Added: 1.00 Units: mL

Report Date: 09-Oct-2019 04:29:53 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHIC2100A\20191008-29006.b\A-ICS2100 A 10-08-2019-5.d				
Injection Date:	08-Oct-2019 04:40:00	Instrument ID:	CHIC2100A	Operator ID:	
Lims ID:	lcs			Worklist Smp#:	5
Client ID:					
Injection Vol:	10.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_9056_CHIC2100A	Limit Group:	GC Anions ICAL		

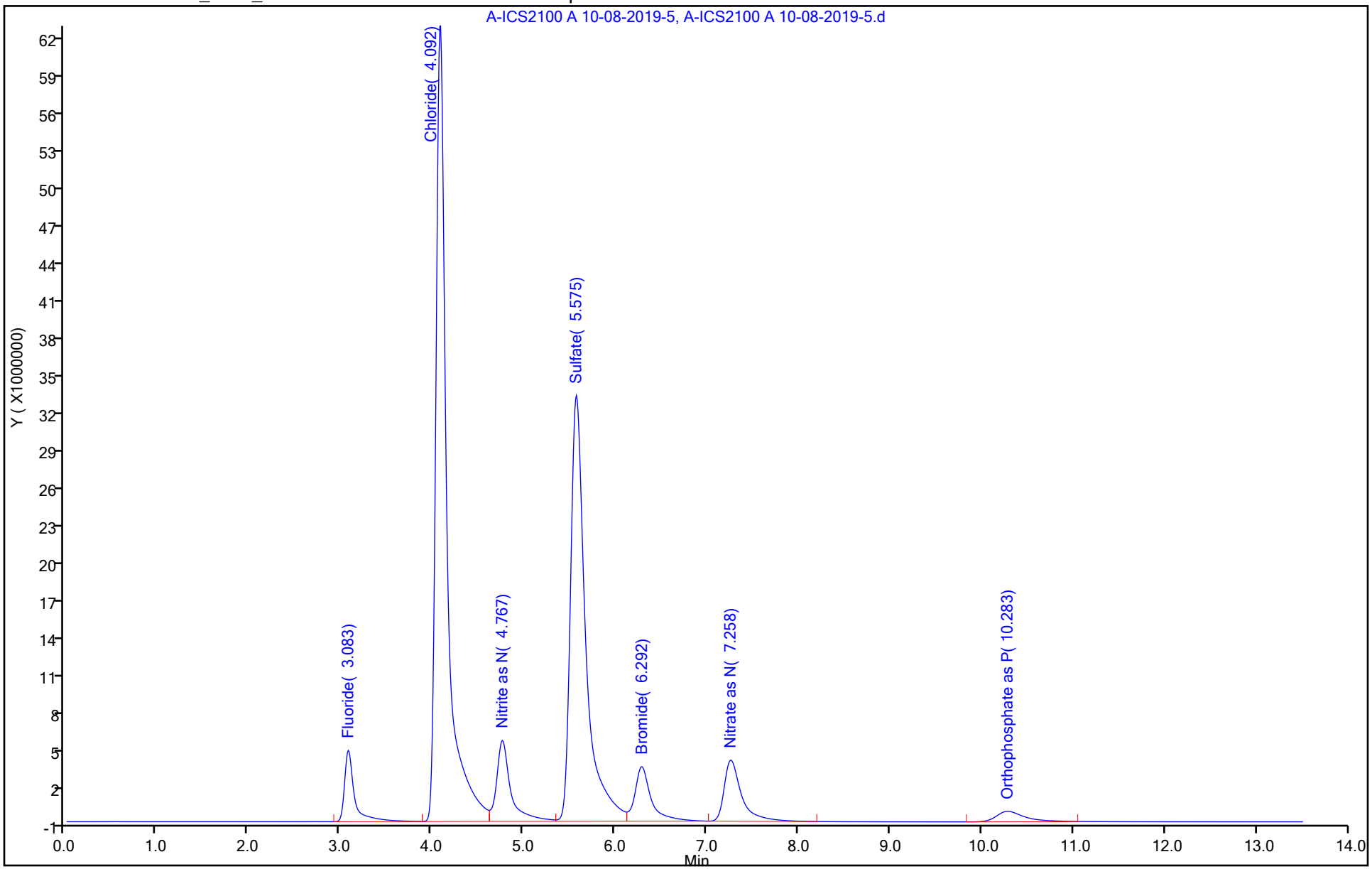

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Instrument ID: CHIC2100A Start Date: 10/01/2019 10:12

Analysis Batch Number: 293302 End Date: 10/01/2019 22:52

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 180-293302/2		10/01/2019 10:12	1	A-ICS2100 A 10-01-2019-2.d	AS-18
IC 180-293302/3		10/01/2019 10:28	1	A-ICS2100 A 10-01-2019-3.d	AS-18
IC 180-293302/4		10/01/2019 10:43	1	A-ICS2100 A 10-01-2019-4.d	AS-18
IC 180-293302/5		10/01/2019 10:58	1	A-ICS2100 A 10-01-2019-5.d	AS-18
IC 180-293302/6		10/01/2019 11:14	1	A-ICS2100 A 10-01-2019-6.d	AS-18
IC 180-293302/7		10/01/2019 11:29	1	A-ICS2100 A 10-01-2019-7.d	AS-18
IC 180-293302/8		10/01/2019 11:44	1	A-ICS2100 A 10-01-2019-8.d	AS-18
IC 180-293302/9		10/01/2019 12:00	1	A-ICS2100 A 10-01-2019-9.d	AS-18
IC 180-293302/10		10/01/2019 12:15	1	A-ICS2100 A 10-01-2019-10.d	AS-18
RINSE 180-293302/11		10/01/2019 12:30	1		AS-18
ZZZZZ		10/01/2019 12:46	1		AS-18
ZZZZZ		10/01/2019 13:01	1		AS-18
ICV 180-293302/14		10/01/2019 13:16	1		AS-18
CCV 180-293302/15		10/01/2019 13:31	1		AS-18
CCB 180-293302/16		10/01/2019 13:47	1		AS-18
ZZZZZ		10/01/2019 14:02	1		AS-18
ZZZZZ		10/01/2019 14:18	1		AS-18
CCVL 180-293302/19		10/01/2019 14:33	1		AS-18
ZZZZZ		10/01/2019 14:48	1		AS-18
ZZZZZ		10/01/2019 15:04	1		AS-18
CCV 180-293302/22		10/01/2019 15:19	1		AS-18
CCB 180-293302/23		10/01/2019 15:34	1		AS-18
ZZZZZ		10/01/2019 17:06	2.5		AS-18
ZZZZZ		10/01/2019 17:22	25		AS-18
ZZZZZ		10/01/2019 17:37	2.5		AS-18
ZZZZZ		10/01/2019 17:52	25		AS-18
ZZZZZ		10/01/2019 18:08	2.5		AS-18
ZZZZZ		10/01/2019 18:23	25		AS-18
ZZZZZ		10/01/2019 18:39	2.5		AS-18
ZZZZZ		10/01/2019 18:55	25		AS-18
ZZZZZ		10/01/2019 19:11	25		AS-18
ZZZZZ		10/01/2019 19:27	25		AS-18
CCV 180-293302/34		10/01/2019 19:42	1		AS-18
CCB 180-293302/35		10/01/2019 19:58	1		AS-18
ZZZZZ		10/01/2019 20:14	1		AS-18
ZZZZZ		10/01/2019 20:30	1		AS-18
ZZZZZ		10/01/2019 20:46	1		AS-18
ZZZZZ		10/01/2019 21:02	1		AS-18
ZZZZZ		10/01/2019 21:17	1		AS-18
ZZZZZ		10/01/2019 21:33	1		AS-18
ZZZZZ		10/01/2019 21:49	10		AS-18

EPA 300.0 R2.1

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Instrument ID: CHIC2100A Start Date: 10/01/2019 10:12

Analysis Batch Number: 293302 End Date: 10/01/2019 22:52

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		10/01/2019 22:05	1		AS-18
CCV 180-293302/44		10/01/2019 22:21	1		AS-18
CCB 180-293302/45		10/01/2019 22:37	1		AS-18
CCVL 180-293302/46		10/01/2019 22:52	1		AS-18

EPA 300.0 R2.1

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Instrument ID: CHIC2100A Start Date: 10/08/2019 03:36

Analysis Batch Number: 294038 End Date: 10/08/2019 18:11

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
RINSE 180-294038/1		10/08/2019 03:36	1		AS-18
ICV 180-294038/2		10/08/2019 03:53	1	A-ICS2100 A 10-08-2019-2.d	AS-18
CCV 180-294038/3		10/08/2019 04:09	1	A-ICS2100 A 10-08-2019-3.d	AS-18
CCB 180-294038/4		10/08/2019 04:25	1	A-ICS2100 A 10-08-2019-4.d	AS-18
LCS 180-294038/5		10/08/2019 04:40	1	A-ICS2100 A 10-08-2019-5.d	AS-18
MB 180-294038/6		10/08/2019 04:56	1	A-ICS2100 A 10-08-2019-6.d	AS-18
ZZZZZ		10/08/2019 05:28	25		AS-18
ZZZZZ		10/08/2019 05:49	1		AS-18
ZZZZZ		10/08/2019 06:05	2.5		AS-18
ZZZZZ		10/08/2019 06:54	1		AS-18
ZZZZZ		10/08/2019 07:09	1		AS-18
ZZZZZ		10/08/2019 07:24	1		AS-18
ZZZZZ		10/08/2019 08:15	25		AS-18
ZZZZZ		10/08/2019 08:31	250		AS-18
CCV 180-294038/15		10/08/2019 08:46	1	A-ICS2100 A 10-08-2019-15.d	AS-18
CCB 180-294038/16		10/08/2019 09:02	1	A-ICS2100 A 10-08-2019-16.d	AS-18
ZZZZZ		10/08/2019 09:18	50		AS-18
ZZZZZ		10/08/2019 09:34	500		AS-18
ZZZZZ		10/08/2019 09:50	50		AS-18
ZZZZZ		10/08/2019 10:05	500		AS-18
ZZZZZ		10/08/2019 10:20	5		AS-18
ZZZZZ		10/08/2019 10:36	50		AS-18
ZZZZZ		10/08/2019 10:51	10		AS-18
ZZZZZ		10/08/2019 11:06	100		AS-18
180-96144-1		10/08/2019 11:22	1	A-ICS2100 A 10-08-2019-25.d	AS-18
180-96144-1		10/08/2019 11:37	10	A-ICS2100 A 10-08-2019-26.d	AS-18
CCV 180-294038/27		10/08/2019 11:52	1	A-ICS2100 A 10-08-2019-27.d	AS-18
CCB 180-294038/28		10/08/2019 12:07	1	A-ICS2100 A 10-08-2019-28.d	AS-18
ZZZZZ		10/08/2019 12:23	1		AS-18
ZZZZZ		10/08/2019 12:38	1		AS-18
ZZZZZ		10/08/2019 12:56	1		AS-18
ZZZZZ		10/08/2019 13:12	1		AS-18
ZZZZZ		10/08/2019 13:28	10		AS-18
ZZZZZ		10/08/2019 13:43	50		AS-18
ZZZZZ		10/08/2019 13:59	1		AS-18
ZZZZZ		10/08/2019 14:15	5		AS-18
ZZZZZ		10/08/2019 14:31	1		AS-18
ZZZZZ		10/08/2019 14:47	5		AS-18
CCV 180-294038/39		10/08/2019 15:03	1		AS-18
CCB 180-294038/40		10/08/2019 15:18	1		AS-18

EPA 300.0 R2.1

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Instrument ID: CHIC2100A Start Date: 10/08/2019 03:36

Analysis Batch Number: 294038 End Date: 10/08/2019 18:11

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		10/08/2019 15:34	1		AS-18
ZZZZZ		10/08/2019 15:50	1		AS-18
ZZZZZ		10/08/2019 16:06	5		AS-18
ZZZZZ		10/08/2019 16:22	1		AS-18
ZZZZZ		10/08/2019 16:37	5		AS-18
ZZZZZ		10/08/2019 16:53	1		AS-18
ZZZZZ		10/08/2019 17:09	5		AS-18
ZZZZZ		10/08/2019 17:25	1		AS-18
ZZZZZ		10/08/2019 17:40	1		AS-18
CCV 180-294038/50		10/08/2019 17:55	1		AS-18
CCB 180-294038/51		10/08/2019 18:11	1		AS-18

EPA 300.0 R2.1

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-96144-1

SDG No.:

Batch Number: 294038 Batch Start Date: 10/08/19 03:36 Batch Analyst: Hartman, Matthew

Batch Method: EPA 300.0 R2.1 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	icccv 02500	icicv 02534	iclcs 00720		
ICV 180-294038/2		EPA 300.0 R2.1		1 mL		1 mL			
CCV 180-294038/3		EPA 300.0 R2.1		1 mL	1 mL				
CCB 180-294038/4		EPA 300.0 R2.1		1 mL					
LCS 180-294038/5		EPA 300.0 R2.1		1 mL			1 mL		
MB 180-294038/6		EPA 300.0 R2.1		1 mL					
CCV 180-294038/15		EPA 300.0 R2.1		1 mL	1 mL				
CCB 180-294038/16		EPA 300.0 R2.1		1 mL					
180-96144-J-1	11187072-CONTACT -INITIAL	EPA 300.0 R2.1	T	1 mL					
180-96144-J-1	11187072-CONTACT -INITIAL	EPA 300.0 R2.1	T	1 mL					
CCV 180-294038/27		EPA 300.0 R2.1		1 mL	1 mL				
CCB 180-294038/28		EPA 300.0 R2.1		1 mL					

Batch Notes	
Eluent 1 ID	190400852012
Filter ID	3409758

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

1613B

Dioxins and Furans (HRGC/HRMS)

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCDF #	TCDD #	37TCDD #	PeCDF #	PeCF #	PeCDD #	HxCDF #	HxDF #
	LCS 320-327320/2-A	52	65	109	62	69	59	65	69
	LCSD 320-327320/3-A	44	46	97	48	53	52	62	59

	QC LIMITS
TCDF = 13C-2,3,7,8-TCDF	22-152
TCDD = 13C-2,3,7,8-TCDD	20-175
37TCDD = 37Cl4-2,3,7,8-TCDD	31-191
PeCDF = 13C-1,2,3,7,8-PeCDF	21-192
PeCF = 13C-2,3,4,7,8-PeCDF	13-328
PeCDD = 13C-1,2,3,7,8-PeCDD	21-227
HxCDF = 13C-1,2,3,4,7,8-HxCDF	19-202
HxDF = 13C-1,2,3,6,7,8-HxCDF	21-159

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	13CHxCF #	HxCDD #	HxDD #	HxCF #	HpCDF #	HpCDD #	HpCDF2 #	OCDD #
	LCS 320-327320/2-A	69	68	65	63	55	60	61	51
	LCSD 320-327320/3-A	54	57	62	54	54	53	56	44

	QC LIMITS
13CHxCF = 13C-2,3,4,6,7,8-HxCDF	22-176
HxCDD = 13C-1,2,3,4,7,8-HxCDD	21-193
HxDD = 13C-1,2,3,6,7,8-HxCDD	25-163
HxCF = 13C-1,2,3,7,8,9-HxCDF	17-205
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF	21-158
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD	26-166
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF	20-186
OCDD = 13C-OCDD	13-199

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-225 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCDF #	37TCDD #
11187072-CONTACT-INITIAL RA	180-96144-1 RA	53	107

	QC LIMITS
TCDF = 13C-2,3,7,8-TCDF	24-169
37TCDD = 37Cl4-2,3,7,8-TCDD	35-197

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCDF #	TCDD #	37TCDD #	PeCDF #	PeCF #	PeCDD #	HxCDF #	HxDF #
11187072-CONTACT-INITIAL	180-96144-1	43	48	105	41	42	41	44	41
	MB 320-327320/1-A	46	52	111	49	51	49	60	57

	QC LIMITS
TCDF = 13C-2,3,7,8-TCDF	24-169
TCDD = 13C-2,3,7,8-TCDD	25-164
37TCDD = 37Cl4-2,3,7,8-TCDD	35-197
PeCDF = 13C-1,2,3,7,8-PeCDF	24-185
PeCF = 13C-2,3,4,7,8-PeCDF	21-178
PeCDD = 13C-1,2,3,7,8-PeCDD	25-181
HxCDF = 13C-1,2,3,4,7,8-HxCDF	26-152
HxDF = 13C-1,2,3,6,7,8-HxCDF	26-123

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	13CHxCF #	HxCDD #	HxDD #	HxCF #	HpCDF #	HpCDD #	HpCDF2 #	OCDD #
11187072-CONTACT-INITIAL	180-96144-1	41	41	43	43	32	33	35	25
	MB 320-327320/1-A	55	58	57	54	48	48	47	36

	QC LIMITS
13CHxCF = 13C-2,3,4,6,7,8-HxCDF	28-136
HxCDD = 13C-1,2,3,4,7,8-HxCDD	32-141
HxDD = 13C-1,2,3,6,7,8-HxCDD	28-130
HxCF = 13C-1,2,3,7,8,9-HxCDF	29-147
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF	28-143
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD	23-140
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF	26-138
OCDD = 13C-OCDD	17-157

Column to be used to flag recovery values

FORM II 1613B

FORM III
DIOXIN LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 03OC1910D5_17.d

Lab ID: LCS 320-327320/2-A Client ID:

COMPOUND	SPIKE ADDED (pg/L)	LCS CONCENTRATION (pg/L)	LCS % REC	QC LIMITS REC	#
2,3,7,8-TCDD	200	201	101	67-158	
2,3,7,8-TCDF	200	216	108	75-158	
1,2,3,7,8-PeCDD	1000	1150	115	70-142	
1,2,3,7,8-PeCDF	1000	1060	106	80-134	
2,3,4,7,8-PeCDF	1000	1010	101	68-160	
1,2,3,4,7,8-HxCDD	1000	1060	106	70-164	
1,2,3,6,7,8-HxCDD	1000	1060	106	76-134	
1,2,3,7,8,9-HxCDD	1000	1010	101	64-162	
1,2,3,4,7,8-HxCDF	1000	1050	105	72-134	
1,2,3,6,7,8-HxCDF	1000	1100	110	84-130	
1,2,3,7,8,9-HxCDF	1000	1050	105	78-130	
2,3,4,6,7,8-HxCDF	1000	1100	110	70-156	
1,2,3,4,6,7,8-HpCDD	1000	1080	108	70-140	
1,2,3,4,6,7,8-HpCDF	1000	1050	105	82-122	
1,2,3,4,7,8,9-HpCDF	1000	1010	101	78-138	
OCDD	2000	2000	100	78-144	
OCDF	2000	2090	104	63-170	
13C-2,3,7,8-TCDD	2000	1300	65	20-175	
13C-2,3,7,8-TCDF	2000	1030	52	22-152	
13C-1,2,3,7,8-PeCDD	2000	1190	59	21-227	
13C-1,2,3,7,8-PeCDF	2000	1230	62	21-192	
13C-2,3,4,7,8-PeCDF	2000	1370	69	13-328	
13C-1,2,3,4,7,8-HxCDD	2000	1350	68	21-193	
13C-1,2,3,6,7,8-HxCDD	2000	1290	65	25-163	
13C-1,2,3,4,7,8-HxCDF	2000	1310	65	19-202	
13C-1,2,3,6,7,8-HxCDF	2000	1380	69	21-159	
13C-1,2,3,7,8,9-HxCDF	2000	1260	63	17-205	
13C-2,3,4,6,7,8-HxCDF	2000	1370	69	22-176	
13C-1,2,3,4,6,7,8-HpCDD	2000	1190	60	26-166	
13C-1,2,3,4,6,7,8-HpCDF	2000	1110	55	21-158	
13C-1,2,3,4,7,8,9-HpCDF	2000	1220	61	20-186	
13C-OCDD	4000	2020	51	13-199	

Column to be used to flag recovery and RPD values

FORM III 1613B

FORM III
DIOXIN LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 03OC1910D5_18.d

Lab ID: LCSD 320-327320/3-A Client ID:

COMPOUND	SPIKE ADDED (pg/L)	LCSD CONCENTRATION (pg/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
2,3,7,8-TCDD	200	190	95	6	50	67-158	
2,3,7,8-TCDF	200	218	109	1	50	75-158	
1,2,3,7,8-PeCDD	1000	1120	112	2	50	70-142	
1,2,3,7,8-PeCDF	1000	1050	105	1	50	80-134	
2,3,4,7,8-PeCDF	1000	1010	101	0	50	68-160	
1,2,3,4,7,8-HxCDD	1000	1060	106	0	50	70-164	
1,2,3,6,7,8-HxCDD	1000	1070	107	2	50	76-134	
1,2,3,7,8,9-HxCDD	1000	977	98	4	50	64-162	
1,2,3,4,7,8-HxCDF	1000	1030	103	2	50	72-134	
1,2,3,6,7,8-HxCDF	1000	1060	106	4	50	84-130	
1,2,3,7,8,9-HxCDF	1000	1050	105	1	50	78-130	
2,3,4,6,7,8-HxCDF	1000	1050	105	4	50	70-156	
1,2,3,4,6,7,8-HpCDD	1000	1090	109	1	50	70-140	
1,2,3,4,6,7,8-HpCDF	1000	1030	103	2	50	82-122	
1,2,3,4,7,8,9-HpCDF	1000	1000	100	1	50	78-138	
OCDD	2000	2060	103	3	50	78-144	
OCDF	2000	2190	110	5	50	63-170	
13C-2,3,7,8-TCDD	2000	920	46			20-175	
13C-2,3,7,8-TCDF	2000	872	44			22-152	
13C-1,2,3,7,8-PeCDD	2000	1030	52			21-227	
13C-1,2,3,7,8-PeCDF	2000	958	48			21-192	
13C-2,3,4,7,8-PeCDF	2000	1060	53			13-328	
13C-1,2,3,4,7,8-HxCDD	2000	1140	57			21-193	
13C-1,2,3,6,7,8-HxCDD	2000	1230	62			25-163	
13C-1,2,3,4,7,8-HxCDF	2000	1250	62			19-202	
13C-1,2,3,6,7,8-HxCDF	2000	1180	59			21-159	
13C-1,2,3,7,8,9-HxCDF	2000	1090	54			17-205	
13C-2,3,4,6,7,8-HxCDF	2000	1080	54			22-176	
13C-1,2,3,4,6,7,8-HpCDD	2000	1050	53			26-166	
13C-1,2,3,4,6,7,8-HpCDF	2000	1070	54			21-158	
13C-1,2,3,4,7,8,9-HpCDF	2000	1130	56			20-186	
13C-OCDD	4000	1770	44			13-199	

Column to be used to flag recovery and RPD values

FORM III 1613B

FORM IV
DIOXIN METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Lab File ID: 03OC1910D5_16.d Lab Sample ID: MB 320-327320/1-A

Matrix: Water Date Extracted: 09/30/2019 11:45

Instrument ID: 10D5 Date Analyzed: 10/03/2019 23:48

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 320-327320/2-A	03OC1910D5_17.d	10/04/2019 00:34
	LCSD 320-327320/3-A	03OC1910D5_18.d	10/04/2019 01:20
11187072-CONTACT-INITIAL	180-96144-1	03OC1910D5_19.d	10/04/2019 02:06
11187072-CONTACT-INITIAL RA	180-96144-1 RA	10OC1911D2_013.d	10/10/2019 21:13

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 180-96144-1
SDG No.:
Client Sample ID: 11187072-CONTACT-INITIAL
Lab Sample ID: 180-96144-1
Matrix: Water
Lab File ID: 03OC1910D5_19.d
Analysis Method: 1613B
Date Collected: 09/24/2019 15:00
Extract. Method: 1613B
Date Extracted: 09/30/2019 11:45
Sample wt/vol: 1045(mL)
Date Analyzed: 10/04/2019 02:06
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 328202
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	1500		9.6	6.0
40321-76-4	1,2,3,7,8-PeCDD	18	J B	48	1.8
57117-41-6	1,2,3,7,8-PeCDF	200	B	48	2.8
57117-31-4	2,3,4,7,8-PeCDF	110	B	48	3.0
39227-28-6	1,2,3,4,7,8-HxCDD	2.8	J B	48	2.0
57653-85-7	1,2,3,6,7,8-HxCDD	4.1	J B	48	1.9
19408-74-3	1,2,3,7,8,9-HxCDD	ND		48	1.8
70648-26-9	1,2,3,4,7,8-HxCDF	410	B	48	3.6
57117-44-9	1,2,3,6,7,8-HxCDF	110	B	48	4.1
72918-21-9	1,2,3,7,8,9-HxCDF	4.2	J B q	48	2.4
60851-34-5	2,3,4,6,7,8-HxCDF	12	J B	48	2.8
35822-46-9	1,2,3,4,6,7,8-HpCDD	150	B	48	5.4
67562-39-4	1,2,3,4,6,7,8-HpCDF	160	B	48	2.8
55673-89-7	1,2,3,4,7,8,9-HpCDF	58	B	48	3.2
3268-87-9	OCDD	3300	B	96	8.3
39001-02-0	OCDF	130		96	3.2
41903-57-5	Total TCDD	1600		9.6	6.0
30402-14-3	Total TCDF	8100	G	27	27
36088-22-9	Total PeCDD	20	J B q	48	1.8
30402-15-4	Total PeCDF	490	B q	48	2.9
34465-46-8	Total HxCDD	35	J B q	48	1.9
55684-94-1	Total HxCDF	620	B q	48	3.2
37871-00-4	Total HpCDD	370	B	48	5.4
38998-75-3	Total HpCDF	280	B	48	3.0

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Client Sample ID: 11187072-CONTACT-INITIAL Lab Sample ID: 180-96144-1

Matrix: Water Lab File ID: 03OC1910D5_19.d

Analysis Method: 1613B Date Collected: 09/24/2019 15:00

Extract. Method: 1613B Date Extracted: 09/30/2019 11:45

Sample wt/vol: 1045(mL) Date Analyzed: 10/04/2019 02:06

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 328202 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	48		25-164
89059-46-1	13C-2,3,7,8-TCDF	43		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	41		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	41		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	42		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	41		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	43		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	44		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	41		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	43		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	41		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	33		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	32		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	35		26-138
114423-97-1	13C-OCDD	25		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	105		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_19.d
Lims ID: 180-96144-C-1-A
Client ID: 11187072-CONTACT-INITIAL
Sample Type: Client
Inject. Date: 04-Oct-2019 02:06:41 ALS Bottle#: 18 Worklist Smp#: 19
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-96144-C-1-A 180-96144-C-1-A
Misc. Info.: 03OC1910D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 07-Oct-2019 08:58:26 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0322

First Level Reviewer: shardaa Date: 04-Oct-2019 11:54:49

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	16.837	90686162	0.79	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.353	55529893	0.78	1.4384	42.6	42.6	0.1909	0.1909	42.57	
2,3,7,8-TCDF	16.368	140870763	0.79	1.0507	241.4	241.4	1.432	1.432		E
A Non-2,3,7,8-sub-TCDF	16.058	107369606	0.78	1.0507	184.0	184.0	1.432	104.5		Ma
S Total TCDF					425.5	425.5	1.432	1.432		
D 13C-2,3,7,8-TCDD	17.018	41440928	0.79	0.9533	47.9	47.9	0.2763	0.2763	47.93	
2,3,7,8-TCDD	17.034	36523565	0.78	1.1064	79.7	79.7	0.3112	0.3112		
$ 37Cl4-2,3,7,8-TCDD	17.034	46567583		1.2224	42.0	42.0	0.0880	0.0880	105	
A Non-2,3,7,8-sub-TCDD	16.482	2679399	0.77	1.1064	5.844	5.844	0.3112	5.844		
S Total TCDD					85.5	85.5	0.3112	0.3112		
D 13C-1,2,3,7,8-PeCDF	20.983	38229721	1.53	1.0286	41.0	41.0	0.1307	0.1307	40.98	
1,2,3,7,8-PeCDF	20.997	4393104	1.57	1.0822	10.6	10.6	0.1466	0.1466		M
D 13C-2,3,4,7,8-PeCDF	22.211	37578312	1.58	0.9827	42.2	42.2	0.1368	0.1368	42.17	
2,3,4,7,8-PeCDF	22.238	2364956	1.69	1.1032	5.705	5.705	0.1558	0.1558		
A F1 PeCDFs	18.727	50763	1.55	1.0927	0.1513	0.1226	0.0544	0.1226		RQM
A Non-2,3,7,8-sub-PeCDF	21.612	3857164	1.53	1.0927	9.313	9.313	0.1510	4.052		Ma
S Total PeCDF					25.8	25.8	0.1512	0.1512		RQ
D 13C-1,2,3,7,8-PeCDD	22.879	27955799	1.58	0.7481	41.2	41.2	0.1002	0.1002	41.21	
1,2,3,7,8-PeCDD	22.920	239570	1.75	0.9050	0.9469	0.9469	0.0915	0.0915		M
A Non-2,3,7,8-sub-PeCDD	21.843	28161	1.55	0.9050	0.1987	0.1113	0.0915	0.1113		RQ
S Total PeCDD					1.146	1.058	0.0915	0.0915		RQ
D 13C-1,2,3,4,7,8-HxCDF	28.736	30395906	0.53	1.1520	44.4	44.4	0.3433	0.3433	44.40	
1,2,3,4,7,8-HxCDF	28.762	7870624	1.27	1.1973	21.6	21.6	0.1895	0.1895		
D 13C-1,2,3,6,7,8-HxCDF	29.042	30120580	0.52	1.2434	40.8	40.8	0.3181	0.3181	40.76	
1,2,3,6,7,8-HxCDF	29.068	2136002	1.33	1.1807	6.006	6.006	0.2138	0.2138		
D 13C-2,3,4,6,7,8-HxCDF	30.493	28699587	0.52	1.1720	41.2	41.2	0.3375	0.3375	41.21	
2,3,4,6,7,8-HxCDF	30.506	224380	1.15	1.2116	0.6453	0.6453	0.1459	0.1459		M
D 13C-1,2,3,7,8,9-HxCDF	31.558	27103664	0.51	1.0655	42.8	42.8	0.3712	0.3712	42.80	
1,2,3,7,8,9-HxCDF	31.571	73648	1.24	1.2451	0.2747	0.2182	0.1238	0.1238		RQ
A Non-2,3,7,8-sub-HxCDF	28.849	1305094	1.27	1.2087	3.713	3.713	0.1613	1.556		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					32.3	32.2	0.1682	0.1682		RQ
* 13C-1,2,3,7,8,9-HxCDD	31.344	59430531	1.25	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	30.759	18876864	1.25	0.7812	40.7	40.7	0.3863	0.3863	40.66	
1,2,3,4,7,8-HxCDD	30.799	31020	1.30	1.1088	0.1482	0.1482	0.1068	0.1068		Ma
D 13C-1,2,3,6,7,8-HxCDD	30.905	23295689	1.24	0.9175	42.7	42.7	0.3289	0.3289	42.72	
1,2,3,6,7,8-HxCDD	30.932	53868	1.15	1.0814	0.2138	0.2138	0.0993	0.0993		Ma
1,2,3,7,8,9-HxCDD	31.358						0.0929	0.0929		
A Non-2,3,7,8-sub-HxCDD	29.375	355013	1.24	1.1342	1.549	1.484	0.0993	1.017		RQMa
S Total HxCDD					1.911	1.846	0.0997	0.0997		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	33.231	16210021	0.43	0.8628	31.6	31.6	0.9334	0.9334	31.61	
1,2,3,4,6,7,8-HpCDF	33.244	2062281	1.06	1.5555	8.179	8.179	0.1437	0.1437		M
D 13C-1,2,3,4,7,8,9-HpCDF	34.277	16435784	0.43	0.7991	34.6	34.6	1.008	1.008	34.61	
1,2,3,4,7,8,9-HpCDF	34.289	689573	1.02	1.3862	3.027	3.027	0.1652	0.1652		
A Non-2,3,7,8-sub-HpCDF	33.742	857951	1.08	1.4709	3.573	3.573	0.1538	3.573		
S Total HpCDF					14.8	14.8	0.1545	0.1545		
D 13C-1,2,3,4,6,7,8-HpCDD	34.009	16887693	1.01	0.8739	32.5	32.5	0.4194	0.4194	32.52	
1,2,3,4,6,7,8-HpCDD	34.021	1245981	0.97	0.9316	7.920	7.920	0.2799	0.2799		
A Non-2,3,7,8-sub-HpCDD	33.889	1794689	0.95	0.9316	11.4	11.4	0.2799	11.4		
S Total HpCDD					19.3	19.3	0.2799	0.2799		
D 13C-OCDD	36.235	22949004	0.88	0.7744	49.9	49.9	0.2601	0.2601	24.93	
OCDF	36.331	983976	0.91	1.2596	6.808	6.808	0.1692	0.1692		M
OCDD	36.247	21076231	0.89	1.0621	172.9	172.9	0.4335	0.4335		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- E - Exceeded Maximum Amount
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_19.d
Lims ID: 180-96144-C-1-A
Client ID: 11187072-CONTACT-INITIAL
Sample Type: Client
Inject. Date: 04-Oct-2019 02:06:41 ALS Bottle#: 18 Worklist Smp#: 19
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-96144-C-1-A 180-96144-C-1-A
Misc. Info.: 03OC1910D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 07-Oct-2019 08:58:26 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0322

First Level Reviewer: shardaa Date: 04-Oct-2019 11:54:49

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	16.837	16.792	3		39981345	10597664	12068	30170	878		
333.9339	16.837	16.792	3		50704817	13342053	13154	32885	1014	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.353	16.323	2	0.971	24329587	6331284	13269	33172	477		
317.9389	16.353	16.323	2	0.971	31200306	8094188	13024	32560	621	0.78(0.65-0.89)	
2,3,7,8-TCDF											E
303.9016	16.368	16.338	2	1.001	62038347	15227004	38074	95185	400		
305.8987	16.368	16.338	2	1.001	78832416	19367209	48753	121882	397	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											Ma
303.9016	14.826	16.058	-74	0.907	410713	125624	38074	95185	3		M
305.8987	14.826	16.058	-74	0.907	535218	165385	48753	121882	3	0.77(0.65-0.89)	M
303.9016	15.068	16.058	-59	0.921	1798260	523538	38074	95185	14		
305.8987	15.068	16.058	-59	0.921	2374436	687784	48753	121882	14	0.76(0.65-0.89)	
303.9016	15.325	16.058	-44	0.937	2803472	635039	38074	95185	17		M
305.8987	15.325	16.058	-44	0.937	3503294	802999	48753	121882	16	0.80(0.65-0.89)	
303.9016	15.537	16.058	-31	0.950	2210619	607474	38074	95185	16		M
305.8987	15.537	16.058	-31	0.950	2749288	745386	48753	121882	15	0.80(0.65-0.89)	
303.9016	15.764	16.058	-18	0.964	2932312	682650	38074	95185	18		
305.8987	15.748	16.058	-19	0.963	3924053	922454	48753	121882	19	0.75(0.65-0.89)	
303.9016	16.021	16.058	-2	0.980	26857926	7451223	38074	95185	196		
305.8987	16.021	16.058	-2	0.980	34134791	9420718	48753	121882	193	0.79(0.65-0.89)	
303.9016	16.217	16.058	10	0.992	1162791	297048	38074	95185	8		
305.8987	16.217	16.058	10	0.992	1561133	386857	48753	121882	8	0.74(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
303.9016	16.777	16.058	43	1.026	4222641	1039410	38074	95185	27		
305.8987	16.777	16.058	43	1.026	5394586	1323909	48753	121882	27	0.78(0.65-0.89)	
303.9016	17.003	16.058	57	1.040	972505	222560	38074	95185	6		
305.8987	17.003	16.058	57	1.040	1214885	276775	48753	121882	6	0.80(0.65-0.89)	
303.9016	18.062	16.058	120	1.104	3753048	894932	38074	95185	24		
305.8987	18.047	16.058	119	1.104	4853635	1161184	48753	121882	24	0.77(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.018	16.973	3	1.011	18265311	4389030	12068	30170	364		
333.9339	17.018	16.973	3	1.011	23175617	5569677	13154	32885	423	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.034	16.988	3	1.001	16029250	3977371	7629	19072	521		
321.8936	17.034	16.988	3	1.001	20494315	5024277	6085	15212	826	0.78(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.034	16.988	3	1.012	46567583	11404874	10300	25750	1107		
A Non-2,3,7,8-sub-TCDD											
319.8965	17.366	16.482	53	1.020	1162247	254350	7629	19072	33		
321.8936	17.366	16.482	53	1.020	1517152	325509	6085	15212	53	0.77(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	20.983	20.929	3	1.246	23134127	4280528	7544	18860	567		
353.8970	20.983	20.929	3	1.246	15095594	2768113	5328	13320	520	1.53(1.32-1.78)	
1,2,3,7,8-PeCDF											M
339.8597	20.997	20.956	2	1.001	2684457	478136	2263	5657	211		M
341.8567	20.997	20.956	2	1.001	1708647	301090	2211	5527	136	1.57(1.32-1.78)	M
13C-2,3,4,7,8-PeCDF											
351.9000	22.211	22.170	2	1.319	23031815	3916442	7544	18860	519		
353.8970	22.211	22.170	2	1.319	14546497	2591271	5328	13320	486	1.58(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.238	22.184	3	1.001	1485822	257503	2263	5657	114		
341.8567	22.238	22.184	3	1.001	879134	162227	2211	5527	73	1.69(1.32-1.78)	
A F1 PeCDFs											RQM
339.8597	18.334	18.727	-24	0.874	30856	7641	620	1550	12		M
341.8567	18.319	18.727	-24	0.873	31812	5788	992	2480	6	0.97(1.32-1.78)	M
	Empc Correction				19907	4929	992	2480	5		
A Non-2,3,7,8-sub-PeCDF											Ma
339.8597	19.756	21.612	-111	0.942	1018837	211265	2263	5657	93		
341.8567	19.756	21.612	-111	0.942	659594	140356	2211	5527	63	1.54(1.32-1.78)	
339.8597	20.875	21.612	-44	0.995	154598	40585	2263	5657	18		M
341.8567	20.888	21.612	-43	0.995	111949	30020	2211	5527	14	1.38(1.32-1.78)	
339.8597	21.488	21.612	-7	1.024	767769	139530	2263	5657	62		
341.8567	21.488	21.612	-7	1.024	506495	90854	2211	5527	41	1.52(1.32-1.78)	
339.8597	22.552	21.612	56	1.075	391263	61085	2263	5657	27		
341.8567	22.552	21.612	56	1.075	246659	37796	2211	5527	17	1.59(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	22.879	22.825	3	1.359	17109678	2814298	3962	9905	710		
369.8919	22.879	22.825	3	1.359	10846121	1775131	3218	8045	552	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDD											M
355.8546	22.920	22.852	4	1.002	152503	24193	993	2482	24		
357.8516	22.906	22.852	3	1.001	87067	12960	528	1320	25	1.75(1.32-1.78)	M
A Non-2,3,7,8-sub-PeCDD											RQ
355.8546	19.934	21.843	-114	0.871	17118	4048	993	2482	4		
357.8516	19.988	21.843	-111	0.874	33149	6019	528	1320	11	0.52(1.32-1.78)	
	Empc Correction				11043	2611	528	1320	5		
13C-1,2,3,4,7,8-HxCDF											
383.8639	28.736	28.669	4	0.917	10495259	1315952	7100	17750	185		
385.8610	28.736	28.669	4	0.917	19900647	2392008	11231	28077	213	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	28.762	28.696	4	1.001	4410019	532409	1935	4837	275		
375.8178	28.762	28.696	4	1.001	3460605	416992	1430	3575	292	1.27(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.042	28.975	4	0.927	10281447	1111803	7100	17750	157		
385.8610	29.042	28.975	4	0.927	19839133	2220836	11231	28077	198	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	29.068	29.002	4	1.001	1217899	131883	1935	4837	68		
375.8178	29.068	29.002	4	1.001	918103	95058	1430	3575	66	1.33(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	30.493	30.439	3	0.973	9861698	1658556	7100	17750	234		
385.8610	30.479	30.439	2	0.972	18837889	3100992	11231	28077	276	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											M
373.8208	30.506	30.453	3	1.000	119939	21675	1935	4837	11		
375.8178	30.506	30.453	3	1.000	104441	17190	1430	3575	12	1.15(1.05-1.43)	M
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.558	31.517	2	1.007	9173805	1828544	7100	17750	258		
385.8610	31.558	31.517	2	1.007	17929859	3626740	11231	28077	323	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											RQ
373.8208	31.571	31.544	2	1.000	59822	17875	1935	4837	9		
	Empc Correction				40769	12112	1935	4837	6		
375.8178	31.571	31.544	2	1.000	32879	9768	1430	3575	7	1.82(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	26.473	28.849	-142	0.921	295114	39052	1935	4837	20		
375.8178	26.446	28.849	-144	0.920	251770	34174	1430	3575	24	1.17(1.05-1.43)	
373.8208	27.684	28.849	-70	0.963	174522	21703	1935	4837	11		
375.8178	27.684	28.849	-70	0.963	126719	18180	1430	3575	13	1.38(1.05-1.43)	
373.8208	31.691	28.849	170	1.103	261297	56870	1935	4837	29		
375.8178	31.677	28.849	169	1.102	195672	42960	1430	3575	30	1.34(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.344	31.305	2		32962864	6460206	7844	19610	824		
403.8529	31.331	31.305	2		26467667	5126806	6142	15355	835	1.25(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	30.759	30.719	2	0.981	10505734	2091399	7844	19610	267		
403.8529	30.772	30.719	3	0.982	8371130	1642669	6142	15355	267	1.25(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,7,8-HxCDD											Ma
389.8157	30.799	30.746	3	1.001	17551	4115	979	2447	4		M
391.8127	30.772	30.746	2	1.000	13469	3481	790	1975	4	1.30(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	30.905	30.865	2	0.986	12893615	2259074	7844	19610	288		
403.8529	30.905	30.865	2	0.986	10402074	1859842	6142	15355	303	1.24(1.05-1.43)	
1,2,3,6,7,8-HxCDD											Ma
389.8157	30.932	30.892	2	1.001	28871	6508	979	2447	7		M
391.8127	30.932	30.892	2	1.001	24997	4195	790	1975	5	1.15(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.318						979	2447			
391.8127	31.318						790	1975			
A Non-2,3,7,8-sub-HxCDD											RQMa
389.8157	27.538	29.375	-110	0.891	127314	17079	979	2447	17		
391.8127	27.564	29.375	-108	0.892	115999	16158	790	1975	20	1.10(1.05-1.43)	
389.8157	29.547	29.375	10	0.956	61834	7519	979	2447	8		M
391.8127	29.601	29.375	14	0.958	65317	6793	790	1975	9	0.95(1.05-1.43)	
	Empc Correction				49866	6063	790	1975	8		
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.231	33.207	1	1.060	4884962	1305991	12182	30455	107		
419.8220	33.231	33.207	1	1.060	11325059	3027271	25144	62860	120	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											M
407.7818	33.244	33.207	2	1.000	1061053	284209	2503	6257	114		M
409.7789	33.231	33.207	1	1.000	1001228	279400	1372	3430	204	1.06(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.277	34.252	1	1.094	4952682	1292116	12182	30455	106		
419.8220	34.277	34.252	1	1.094	11483102	2936892	25144	62860	117	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.289	34.264	1	1.000	348606	84162	2503	6257	34		
409.7789	34.289	34.264	1	1.000	340967	91353	1372	3430	67	1.02(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.535	33.742	-12	1.009	444776	118916	2503	6257	48		
409.7789	33.535	33.742	-12	1.009	413175	108570	1372	3430	79	1.08(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.009	33.985	1	1.085	8472477	2198900	7871	19677	279		
437.8140	34.009	33.985	1	1.085	8415216	2121145	9115	22787	233	1.01(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.021	33.997	1	1.000	612088	152373	2298	5745	66		
425.7737	34.021	33.997	1	1.000	633893	149426	2208	5520	68	0.97(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.487	33.889	-24	0.985	876474	250617	2298	5745	109		
425.7737	33.487	33.889	-24	0.985	918215	252960	2208	5520	115	0.95(0.88-1.20)	
13C-OCDD											
469.7779	36.235	36.211	1	1.156	10739815	2258871	4959	12397	456		
471.7750	36.235	36.211	1	1.156	12209189	2572371	4376	10940	588	0.88(0.76-1.02)	

Report Date: 07-Oct-2019 08:58:36 Chrom Revision: 2.3 17-Sep-2019 16:19:08
Data File: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_19.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
OCDF											M
441.7428	36.331	36.306	1	1.003	469398	105043	774	1935	136		M
443.7399	36.331	36.306	1	1.003	514578	114750	1285	3212	89	0.91(0.76-1.02)	
OCDD											
457.7377	36.247	36.223	1	1.000	9944025	2123747	2318	5795	916		
459.7348	36.247	36.223	1	1.000	11132206	2385321	2131	5327	1119	0.89(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

E - Exceeded Maximum Amount

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_19.d
Lims ID: 180-96144-C-1-A
Client ID: 11187072-CONTACT-INITIAL
Inject. Date: 04-Oct-2019 02:06:41 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 328202 Lims Sample ID: 19

Non-2,3,7,8-sub-TCDF, RT: 16.058

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.051	D 13C-2,3,7,8-TCDF	100.000	55529893	14425472

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.051		100.000	55529893	14425472

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
14.826	410713	125624	535218	165385	1.62	0.77	M
15.068	1798260	523538	2374436	687784	7.15	0.76	
15.325	2803472	635039	3503294	802999	10.8	0.80	Ma
15.537	2210619	607474	2749288	745386	8.50	0.80	M
15.764	2932312	682650	3924053	922454	11.8	0.75	
16.021	26857926	7451223	34134791	9420718	104.5	0.79	
16.217	1162791	297048	1561133	386857	4.67	0.74	
16.777	4222641	1039410	5394586	1323909	16.5	0.78	
17.003	972505	222560	1214885	276775	3.75	0.80	
18.062	3753048	894932	4853635	1161184	14.8	0.77	
Signal Totals:							
	47124287	12479498	60245319	15893451			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	107369606	28372949				0.78	Ma

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 184.019 = (107369606 * 100.000) / (55529893 * 1.051)

QC Flag Legend

Review Flags
M - Manually Integrated
a - User Assigned ID

Report Date: 07-Oct-2019 08:58:37 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_19.d
Lims ID: 180-96144-C-1-A
Client ID: 11187072-CONTACT-INITIAL
Inject. Date: 04-Oct-2019 02:06:41 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 328202 Lims Sample ID: 19

Non-2,3,7,8-sub-TCDD, RT: 16.482

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.106	D 13C-2,3,7,8-TCDD	100.000	41440928	9958707

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.106		100.000	41440928	9958707

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
17.366	1162247	254350	1517152	325509	5.84	0.77	
Signal Totals:							
	1162247	254350	1517152	325509			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2679399	579859				0.77	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 5.844 = (2679399 * 100.000) / (41440928 * 1.106)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_19.d
Lims ID: 180-96144-C-1-A
Client ID: 11187072-CONTACT-INITIAL
Inject. Date: 04-Oct-2019 02:06:41 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 328202 Lims Sample ID: 19

F1 PeCDFs, RT: 18.727

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.082	D 13C-1,2,3,7,8-PeCDF	100.000	38229721	7048641
2,3,4,7,8-PeCDF	1.103	D 13C-2,3,4,7,8-PeCDF	100.000	37578312	6507713

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.093		100.000	37904016	6778177

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
18.334	30856	7641	31812	5788	0.1513	0.97	RQM
18.334	30856	7641	19907	4929	0.1226		Empc Correction
Signal Totals:							
	30856	7641	19907	4929			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	62668	13429				0.97	RQM
	50763	12570					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.1513 = (62668 * 100.000) / (37904016 * 1.093)
Empc Amount: 0.1226 = (50763 * 100.000) / (37904016 * 1.093)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

Report Date: 07-Oct-2019 08:58:37 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_19.d
Lims ID: 180-96144-C-1-A
Client ID: 11187072-CONTACT-INITIAL
Inject. Date: 04-Oct-2019 02:06:41 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 328202 Lims Sample ID: 19

Non-2,3,7,8-sub-PeCDF, RT: 21.612

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.082	D 13C-1,2,3,7,8-PeCDF	100.000	38229721	7048641
2,3,4,7,8-PeCDF	1.103	D 13C-2,3,4,7,8-PeCDF	100.000	37578312	6507713

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.093		100.000	37904016	6778177

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
19.756	1018837	211265	659594	140356	4.05	1.54	
20.875	154598	40585	111949	30020	0.6435	1.38	Ma
21.488	767769	139530	506495	90854	3.08	1.52	
22.552	391263	61085	246659	37796	1.54	1.59	
Signal Totals:							
	2332467	452465	1524697	299026			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	3857164	751491				1.53	Ma

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 9.313 = (3857164 * 100.000) / (37904016 * 1.093)

QC Flag Legend

Review Flags
M - Manually Integrated
a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_19.d
Lims ID: 180-96144-C-1-A
Client ID: 11187072-CONTACT-INITIAL
Inject. Date: 04-Oct-2019 02:06:41 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 328202 Lims Sample ID: 19

Non-2,3,7,8-sub-PeCDD, RT: 21.843

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDD	0.905	D 13C-1,2,3,7,8-PeCDD	100.000	27955799	4589429

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.905		100.000	27955799	4589429

Sum the Uncalibrated Results

RT	355.8546 Area	355.8546 Height	357.8516 Area	357.8516 Height	Amount	Ratio	Flags
19.934	17118	4048	33149	6019	0.1987	0.52	RQ
19.934	17118	4048	11043	2611	0.1113		Empc Correction
Signal Totals:							
	17118	4048	11043	2611			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	50267	10067				0.52	RQ
	28161	6659					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.1987 = (50267 * 100.000) / (27955799 * 0.905)
Empc Amount: 0.1113 = (28161 * 100.000) / (27955799 * 0.905)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_19.d
Lims ID: 180-96144-C-1-A
Client ID: 11187072-CONTACT-INITIAL
Inject. Date: 04-Oct-2019 02:06:41 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 328202 Lims Sample ID: 19

Non-2,3,7,8-sub-HxCDF, RT: 28.849

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.197	D 13C-1,2,3,4,7,8-HxCDF	100.000	30395906	3707960
1,2,3,6,7,8-HxCDF	1.181	D 13C-1,2,3,6,7,8-HxCDF	100.000	30120580	3332639
2,3,4,6,7,8-HxCDF	1.212	D 13C-2,3,4,6,7,8-HxCDF	100.000	28699587	4759548
1,2,3,7,8,9-HxCDF	1.245	D 13C-1,2,3,7,8,9-HxCDF	100.000	27103664	5455284

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.209		100.000	29079934	4313857

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
26.473	295114	39052	251770	34174	1.56	1.17	
27.684	174522	21703	126719	18180	0.8571	1.38	
31.691	261297	56870	195672	42960	1.30	1.34	
Signal Totals:							
	730933	117625	574161	95314			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1305094	212939				1.27	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 3.713 = (1305094 * 100.000) / (29079934 * 1.209)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_19.d
Lims ID: 180-96144-C-1-A
Client ID: 11187072-CONTACT-INITIAL
Inject. Date: 04-Oct-2019 02:06:41 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 328202 Lims Sample ID: 19

Non-2,3,7,8-sub-HxCDD, RT: 29.375

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.109	D 13C-1,2,3,4,7,8-HxCDD	100.000	18876864	3734068
1,2,3,6,7,8-HxCDD	1.081	D 13C-1,2,3,6,7,8-HxCDD	100.000	23295689	4118916
1,2,3,7,8,9-HxCDD	1.212				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.134		100.000	21086276	3926492

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
27.538	127314	17079	115999	16158	1.02	1.10	
29.547	61834	7519	65317	6793	0.5317	0.95	RQMa
29.547	61834	7519	49866	6063	0.4671		Empc Correction
Signal Totals:							
	189148	24598	165865	22221			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	370464	47549				1.04	RQMa
	355013	46819					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.549 = (370464 * 100.000) / (21086276 * 1.134)
Empc Amount: 1.484 = (355013 * 100.000) / (21086276 * 1.134)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated
a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_19.d
Lims ID: 180-96144-C-1-A
Client ID: 11187072-CONTACT-INITIAL
Inject. Date: 04-Oct-2019 02:06:41 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 328202 Lims Sample ID: 19

Non-2,3,7,8-sub-HpCDF, RT: 33.742

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.556	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	16210021	4333262
1,2,3,4,7,8,9-HpCDF	1.386	D 13C-1,2,3,4,7,8,9-HpCDF	100.000	16435784	4229008

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.471		100.000	16322902	4281135

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
33.535	444776	118916	413175	108570	3.57	1.08	
Signal Totals:							
	444776	118916	413175	108570			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	857951	227486				1.08	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 3.573 = (857951 * 100.000) / (16322902 * 1.471)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_19.d
Lims ID: 180-96144-C-1-A
Client ID: 11187072-CONTACT-INITIAL
Inject. Date: 04-Oct-2019 02:06:41 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 328202 Lims Sample ID: 19

Non-2,3,7,8-sub-HpCDD, RT: 33.889

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.932	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	16887693	4320045

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.932		100.000	16887693	4320045

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
33.487	876474	250617	918215	252960	11.4	0.95	
Signal Totals:							
	876474	250617	918215	252960			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1794689	503577				0.95	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 11.407 = (1794689 * 100.000) / (16887693 * 0.932)

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_19.d				
Injection Date:	04-Oct-2019 02:06:41	Instrument ID:	10D5		
Lims ID:	180-96144-C-1-A	Lab Sample ID:	320-96144-1		
Client ID:	11187072-CONTACT-INITIAL				
Operator ID:	AJS	ALS Bottle#:	18	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

Non-2,3,7,8-sub-TCDF, Signal: 1, m/z: 303.9016, RT: (14.07- 18.05)

Signal: 1

Processing Integration Results

Not Detected
RT: 14.07- 18.05

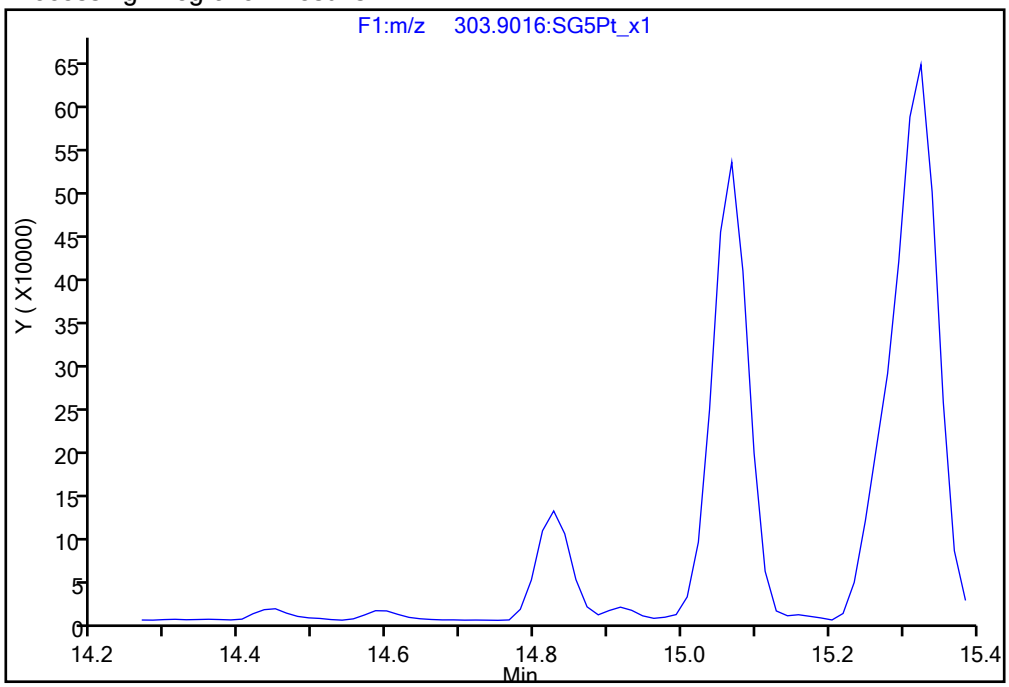

Manual Integration Results

RT = 14.826 Area = 410713 M

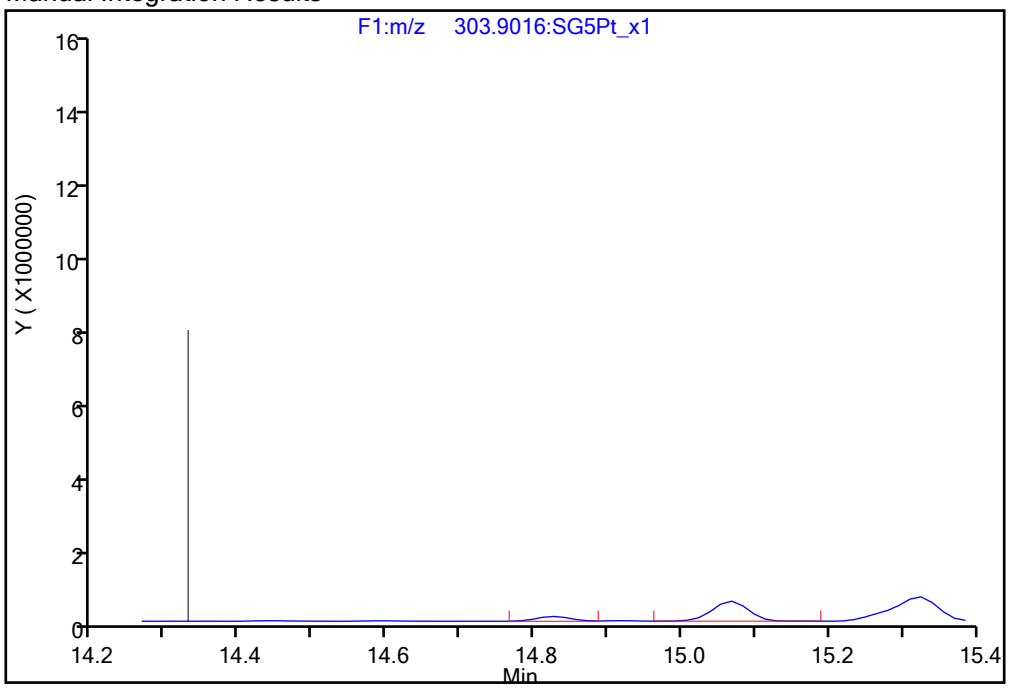

Reviewer: dadunj, 07-Oct-2019 08:52:50

Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_19.d				
Injection Date:	04-Oct-2019 02:06:41	Instrument ID:	10D5		
Lims ID:	180-96144-C-1-A	Lab Sample ID:	320-96144-1		
Client ID:	11187072-CONTACT-INITIAL				
Operator ID:	AJS	ALS Bottle#:	18	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

Non-2,3,7,8-sub-TCDF, Signal: 2, m/z: 305.8987, RT: (14.07- 18.05)

Signal: 2

Processing Integration Results

Not Detected

RT: 14.07- 18.05

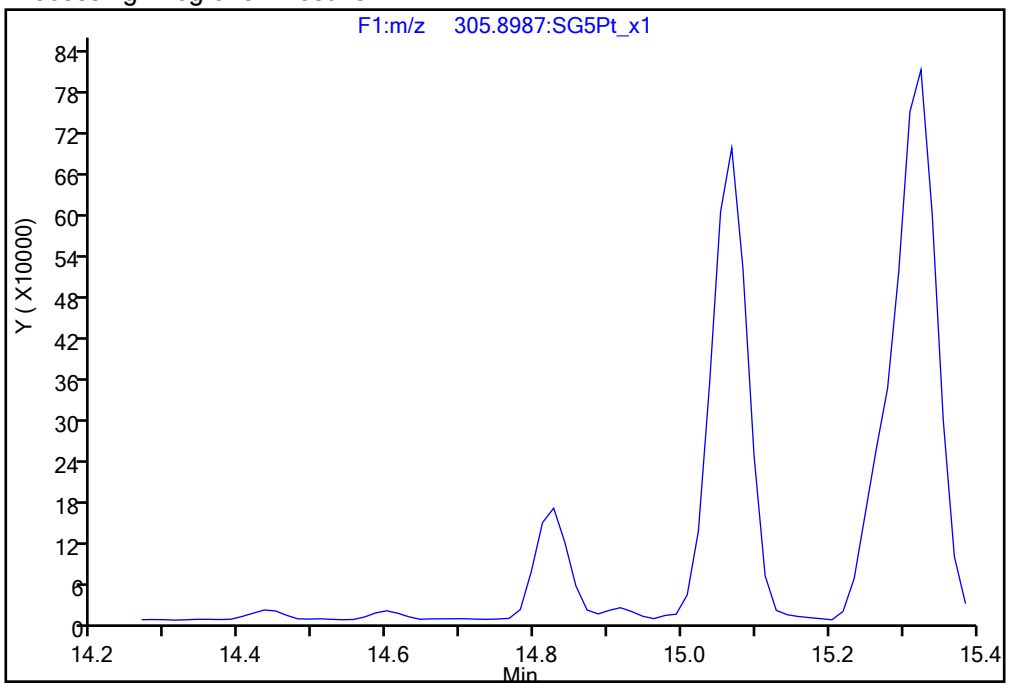

Manual Integration Results

RT = 14.826 Area = 535218 M

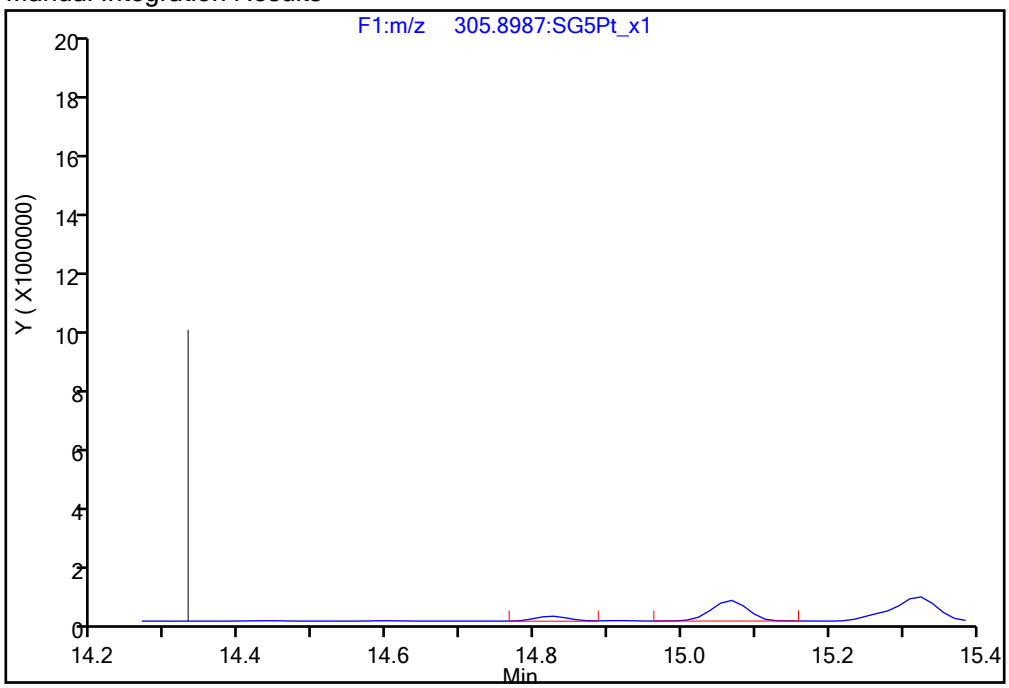

Reviewer: dadunj, 07-Oct-2019 08:52:59

Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_19.d				
Injection Date:	04-Oct-2019 02:06:41	Instrument ID:	10D5		
Lims ID:	180-96144-C-1-A	Lab Sample ID:	320-96144-1		
Client ID:	11187072-CONTACT-INITIAL				
Operator ID:	AJS	ALS Bottle#:	18	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

Non-2,3,7,8-sub-TCDF, Signal: 1, m/z: 303.9016, RT: (14.07- 18.05)

Signal: 1

Processing Integration Results

RT = 15.325 Area = 2799762

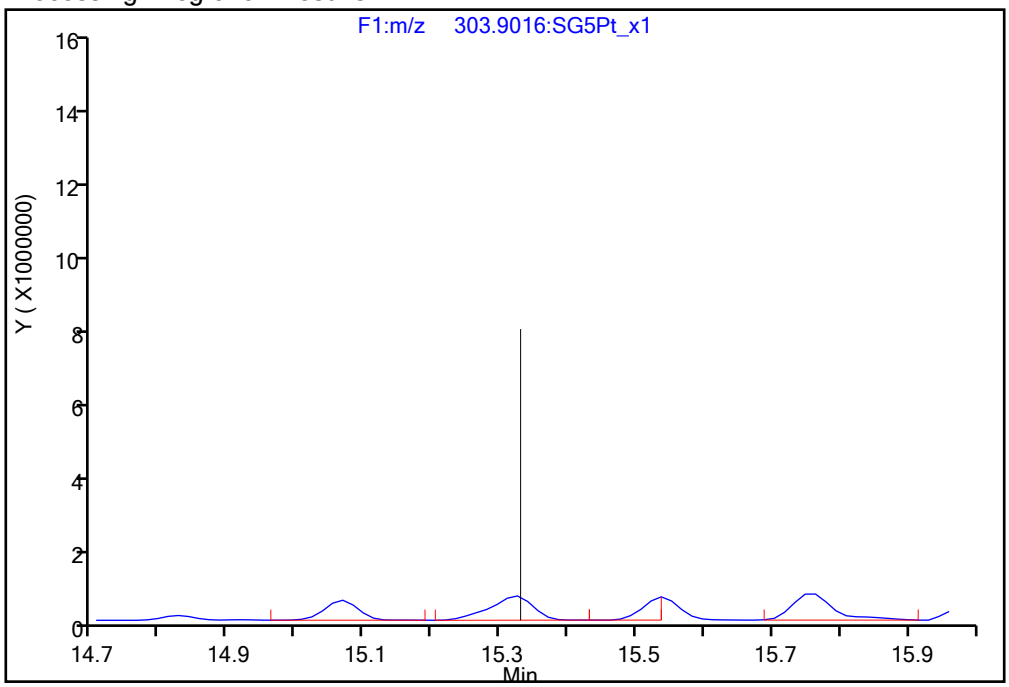

Manual Integration Results

RT = 15.325 Area = 2803472 M

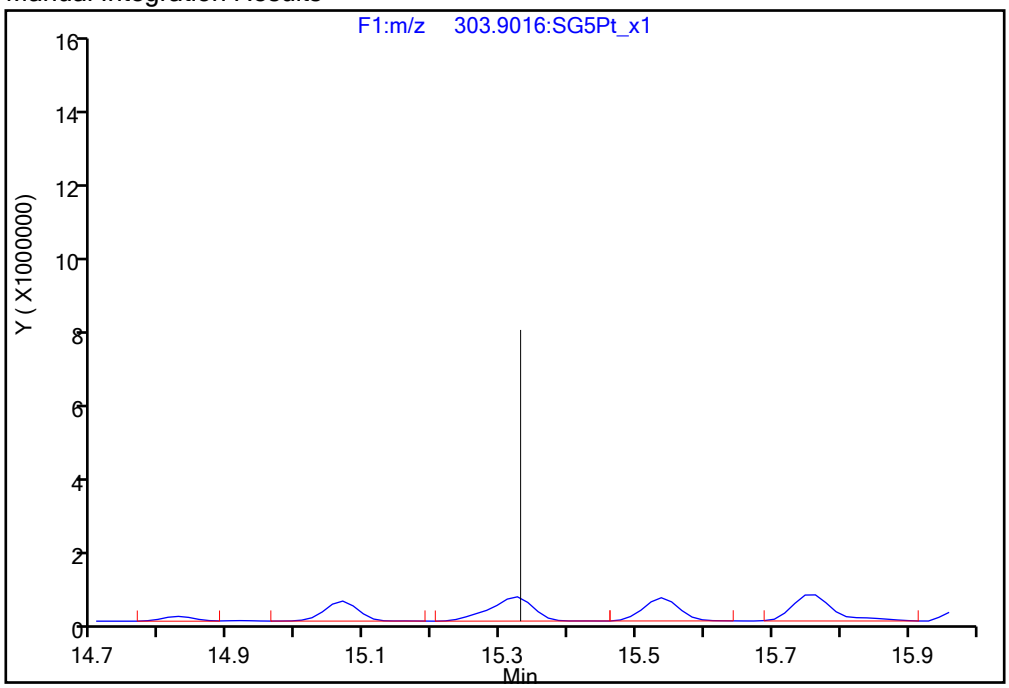

Reviewer: dadunj, 07-Oct-2019 08:52:50

Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_19.d				
Injection Date:	04-Oct-2019 02:06:41	Instrument ID:	10D5		
Lims ID:	180-96144-C-1-A	Lab Sample ID:	320-96144-1		
Client ID:	11187072-CONTACT-INITIAL				
Operator ID:	AJS	ALS Bottle#:	18	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

Non-2,3,7,8-sub-TCDF, Signal: 1, m/z: 303.9016, RT: (14.07- 18.05)

Signal: 1

Processing Integration Results

RT = 15.522 Area = 1108295

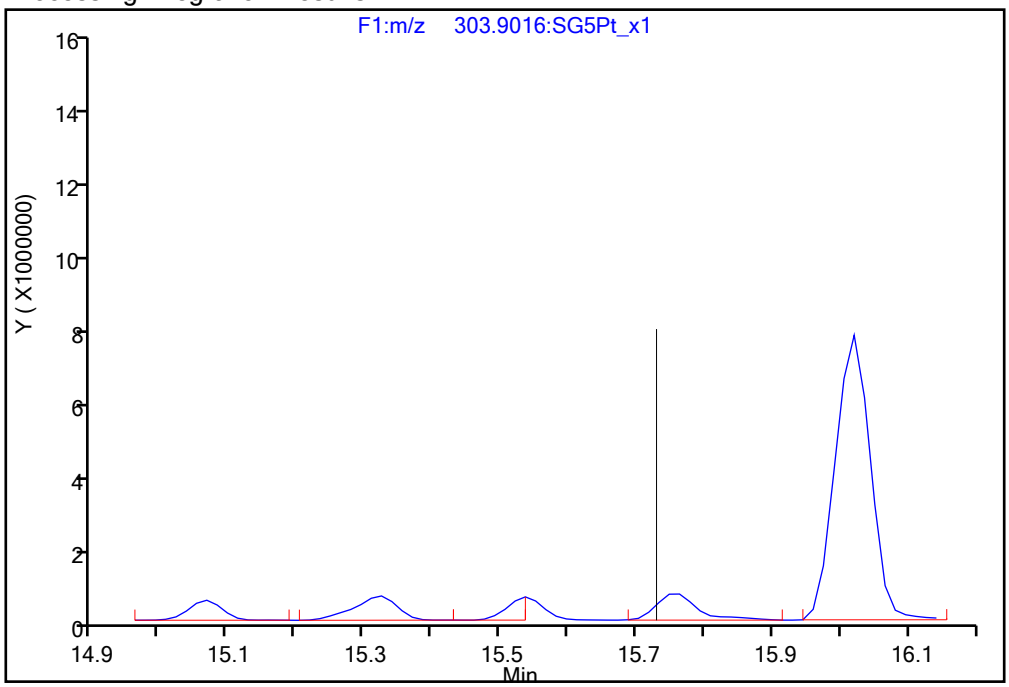

Manual Integration Results

RT = 15.537 Area = 2210619 M

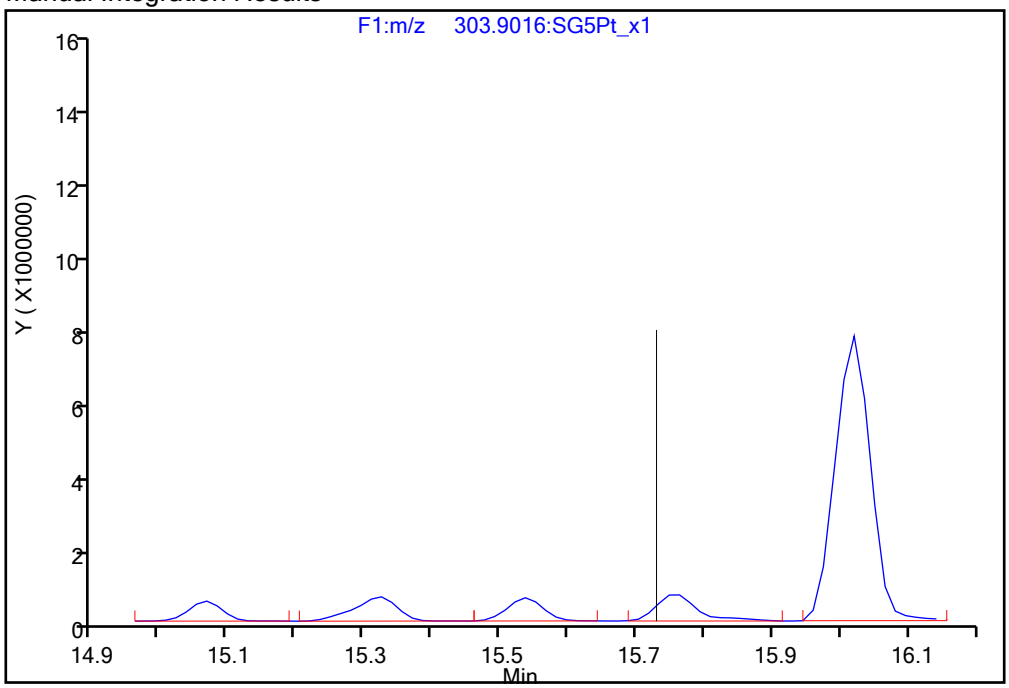

Reviewer: dadunj, 07-Oct-2019 08:52:50

Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_19.d				
Injection Date:	04-Oct-2019 02:06:41	Instrument ID:	10D5		
Lims ID:	180-96144-C-1-A	Lab Sample ID:	320-96144-1		
Client ID:	11187072-CONTACT-INITIAL				
Operator ID:	AJS	ALS Bottle#:	18	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

1,2,3,7,8-PeCDF, CAS: 57117-41-6

Signal: 1

Processing Integration Results

RT: 21.00
Area: 2880116
Amount: 11.159874
Amount Units: pg/ul

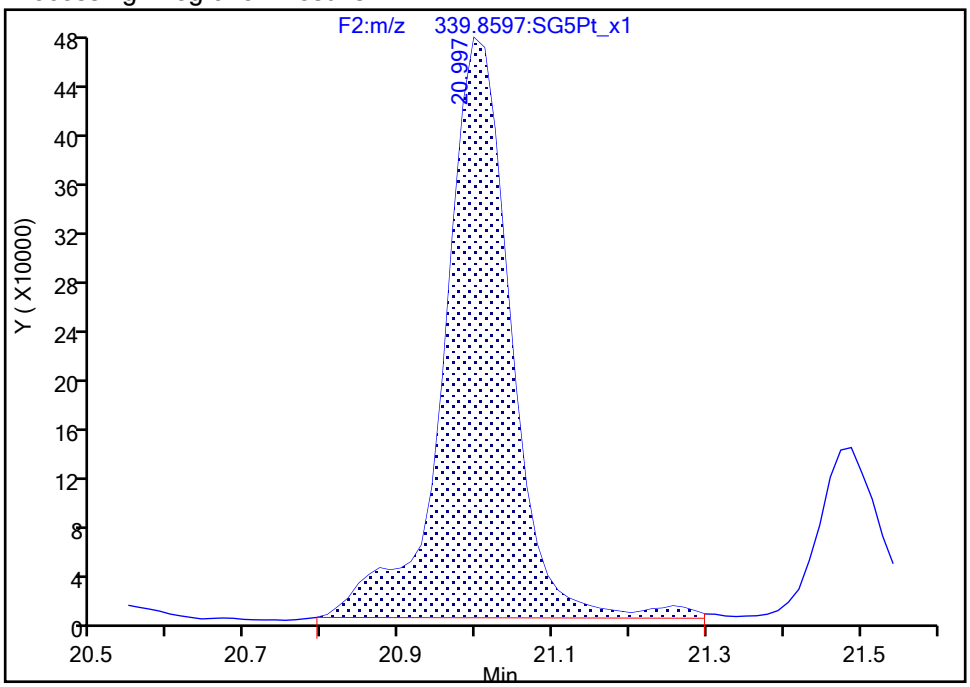

Manual Integration Results

RT: 21.00
Area: 2684457
Amount: 10.618052
Amount Units: pg/ul

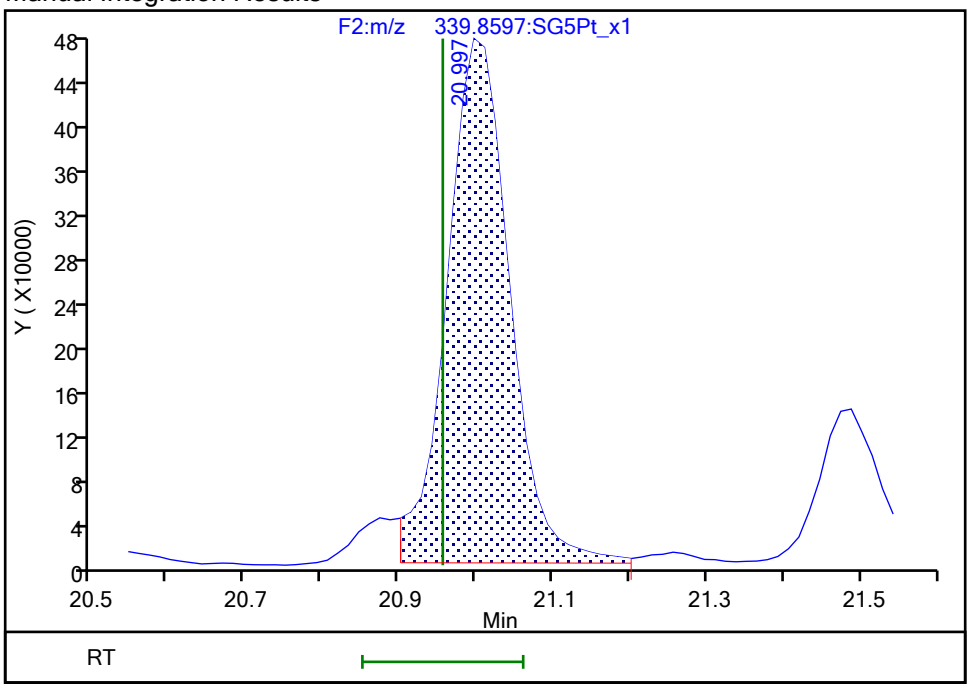

Reviewer: dadunj, 07-Oct-2019 08:53:34

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_19.d				
Injection Date:	04-Oct-2019 02:06:41	Instrument ID:	10D5		
Lims ID:	180-96144-C-1-A	Lab Sample ID:	320-96144-1		
Client ID:	11187072-CONTACT-INITIAL				
Operator ID:	AJS	ALS Bottle#:	18	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

1,2,3,7,8-PeCDF, CAS: 57117-41-6

Signal: 2

Processing Integration Results

RT: 21.00
Area: 1737161
Amount: 11.159874
Amount Units: pg/ul

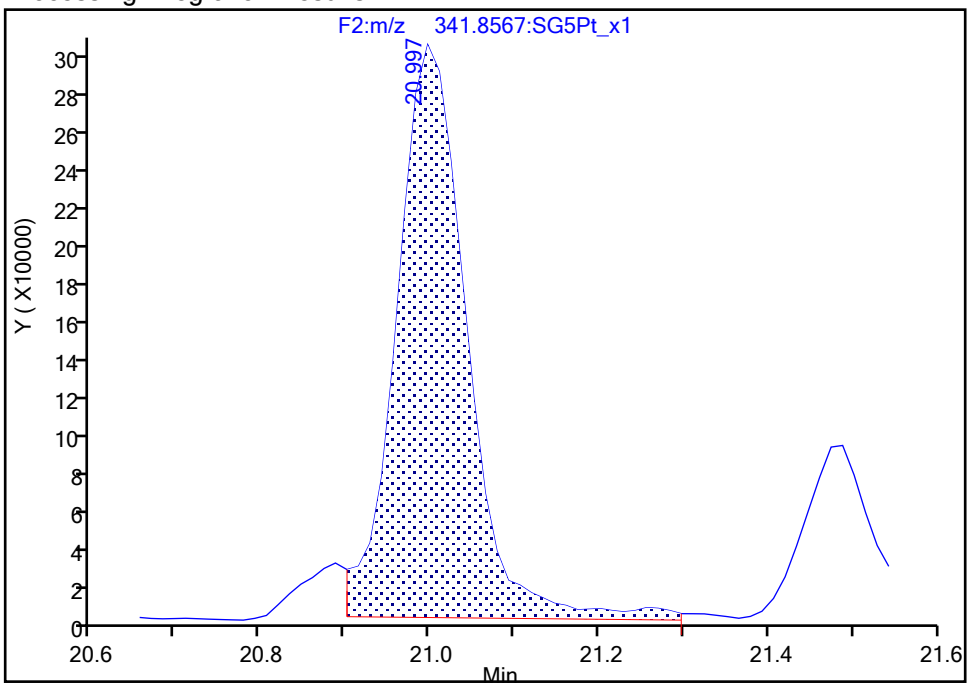

Manual Integration Results

RT: 21.00
Area: 1708647
Amount: 10.618052
Amount Units: pg/ul

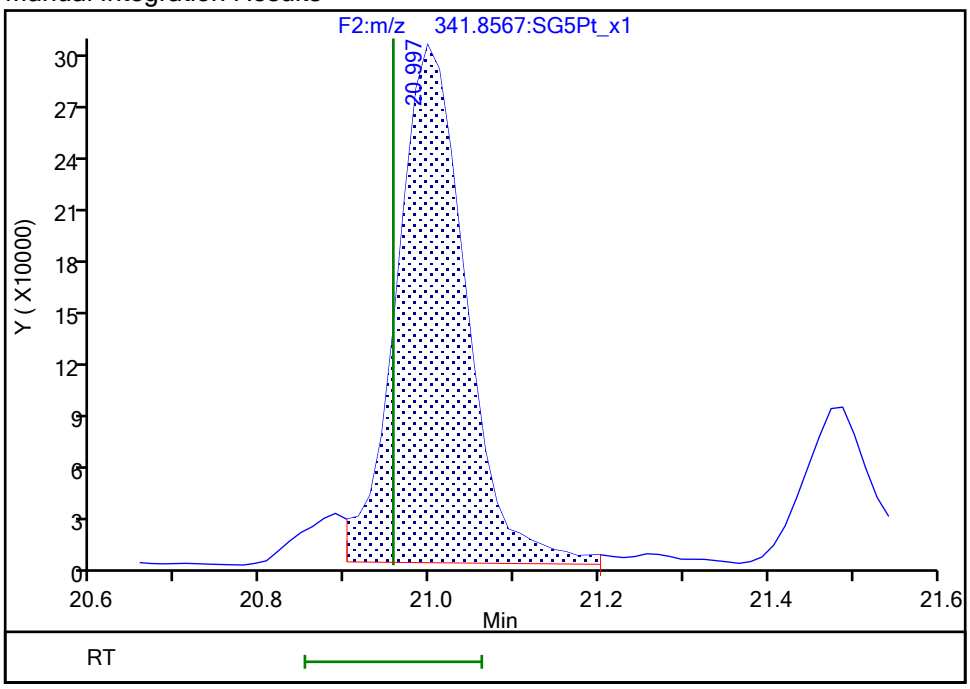

Reviewer: dadunj, 07-Oct-2019 08:53:36

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_19.d				
Injection Date:	04-Oct-2019 02:06:41	Instrument ID:	10D5		
Lims ID:	180-96144-C-1-A	Lab Sample ID:	320-96144-1		
Client ID:	11187072-CONTACT-INITIAL				
Operator ID:	AJS	ALS Bottle#:	18	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

F1 PeCDFs, Signal: 1, m/z: 339.8597, RT: (18.24- 19.21)

Signal: 1

Processing Integration Results

RT = 18.334 Area = 35522

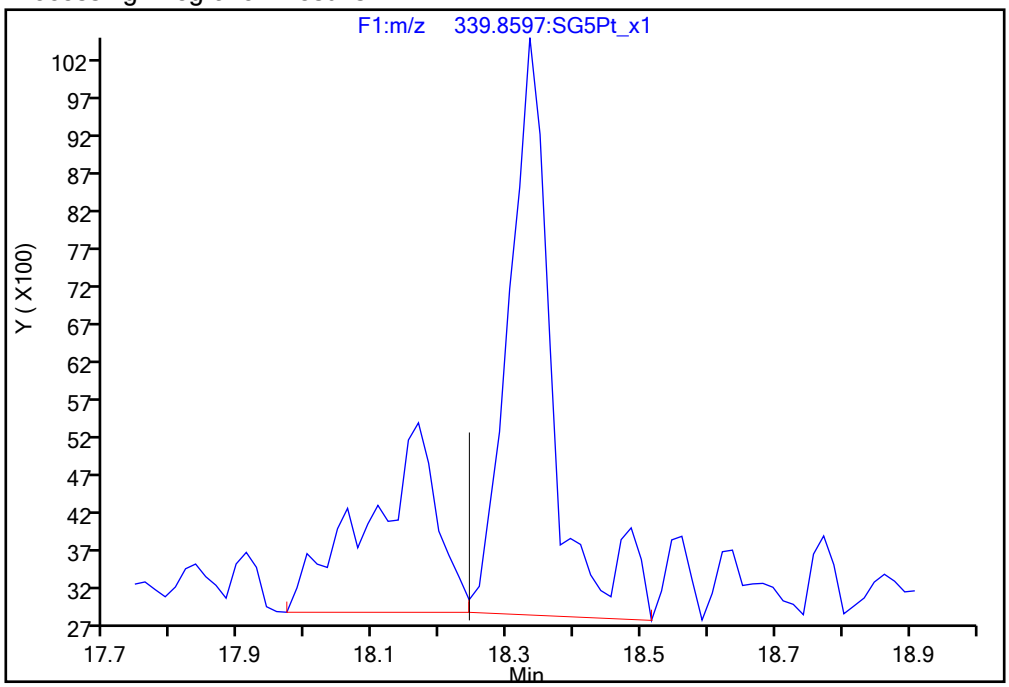

Manual Integration Results

RT = 18.334 Area = 30856 M

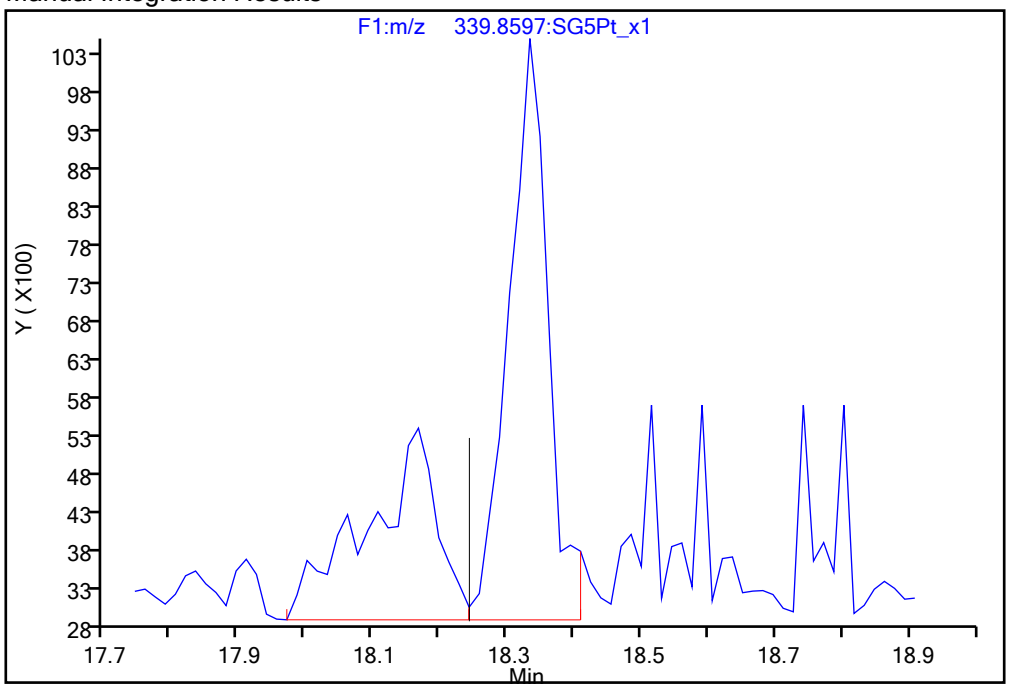

Reviewer: dadunj, 07-Oct-2019 08:54:03

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_19.d				
Injection Date:	04-Oct-2019 02:06:41	Instrument ID:	10D5		
Lims ID:	180-96144-C-1-A	Lab Sample ID:	320-96144-1		
Client ID:	11187072-CONTACT-INITIAL				
Operator ID:	AJS	ALS Bottle#:	18	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

F1 PeCDFs, Signal: 2, m/z: 341.8567, RT: (18.24- 19.21)

Signal: 2

Processing Integration Results

RT = 18.319 Area = 25969

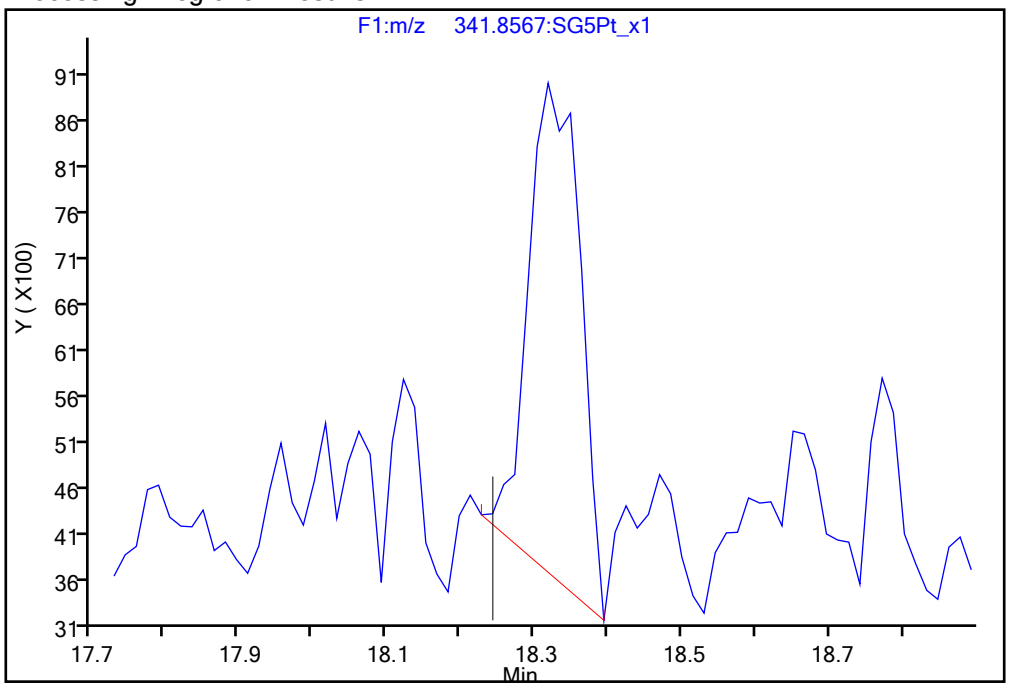

Manual Integration Results

RT = 18.319 Area = 31812 M

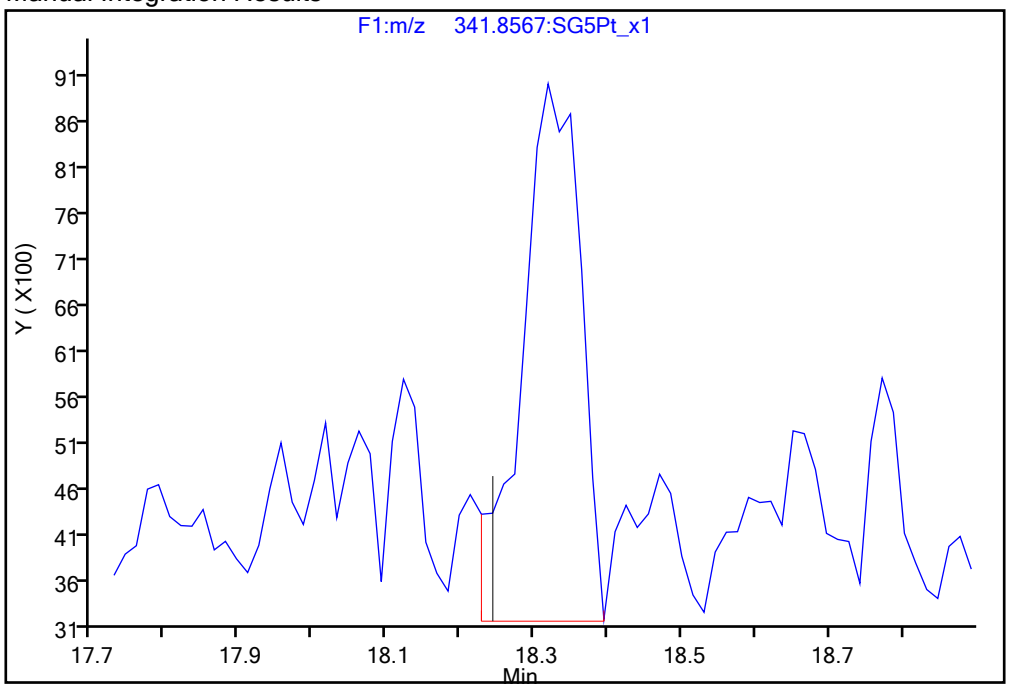

Reviewer: dadunj, 07-Oct-2019 08:53:52

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_19.d				
Injection Date:	04-Oct-2019 02:06:41	Instrument ID:	10D5		
Lims ID:	180-96144-C-1-A	Lab Sample ID:	320-96144-1		
Client ID:	11187072-CONTACT-INITIAL				
Operator ID:	AJS	ALS Bottle#:	18	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

Non-2,3,7,8-sub-PeCDF, Signal: 1, m/z: 339.8597, RT: (19.22- 24.00)

Signal: 1

Not Detected
RT: 19.22- 24.00

Processing Integration Results

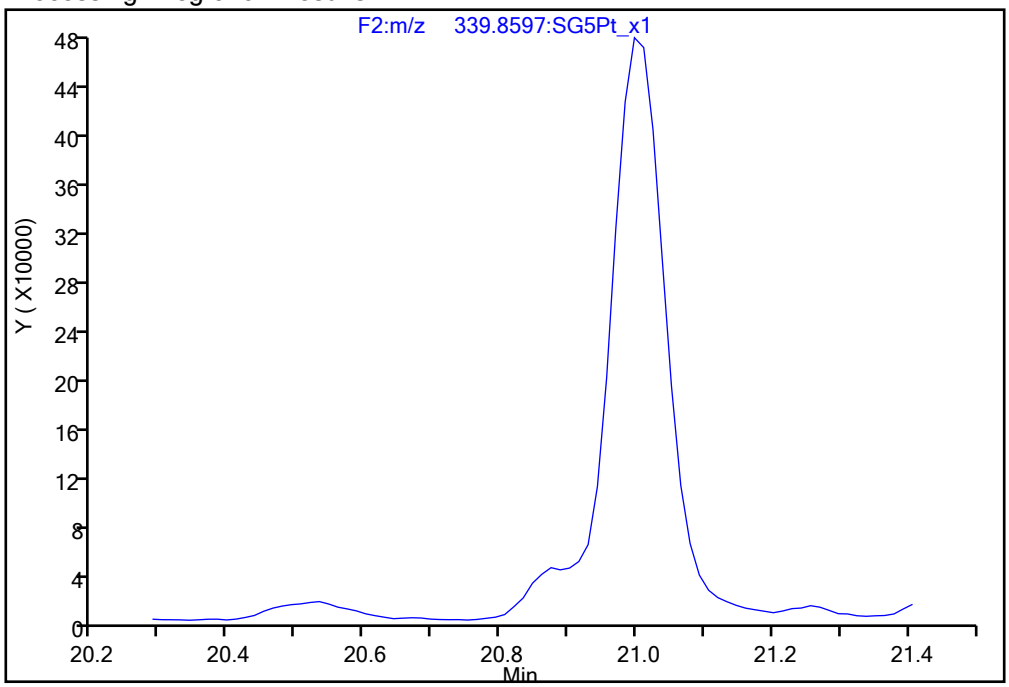

RT = 20.875 Area = 154598 M

Manual Integration Results

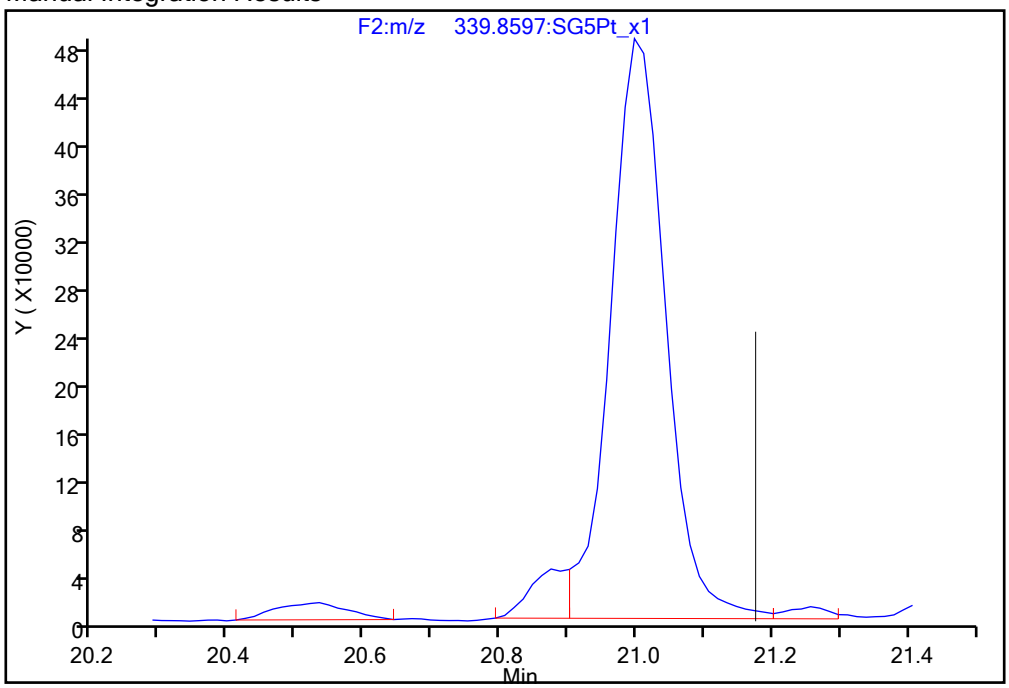

Reviewer: dadunj, 07-Oct-2019 08:54:11

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_19.d				
Injection Date:	04-Oct-2019 02:06:41	Instrument ID:	10D5		
Lims ID:	180-96144-C-1-A	Lab Sample ID:	320-96144-1		
Client ID:	11187072-CONTACT-INITIAL				
Operator ID:	AJS	ALS Bottle#:	18	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

1,2,3,7,8-PeCDD, CAS: 40321-76-4

Signal: 2

Processing Integration Results

RT: 22.91
Area: 85202
Amount: 0.939505
Amount Units: pg/ul

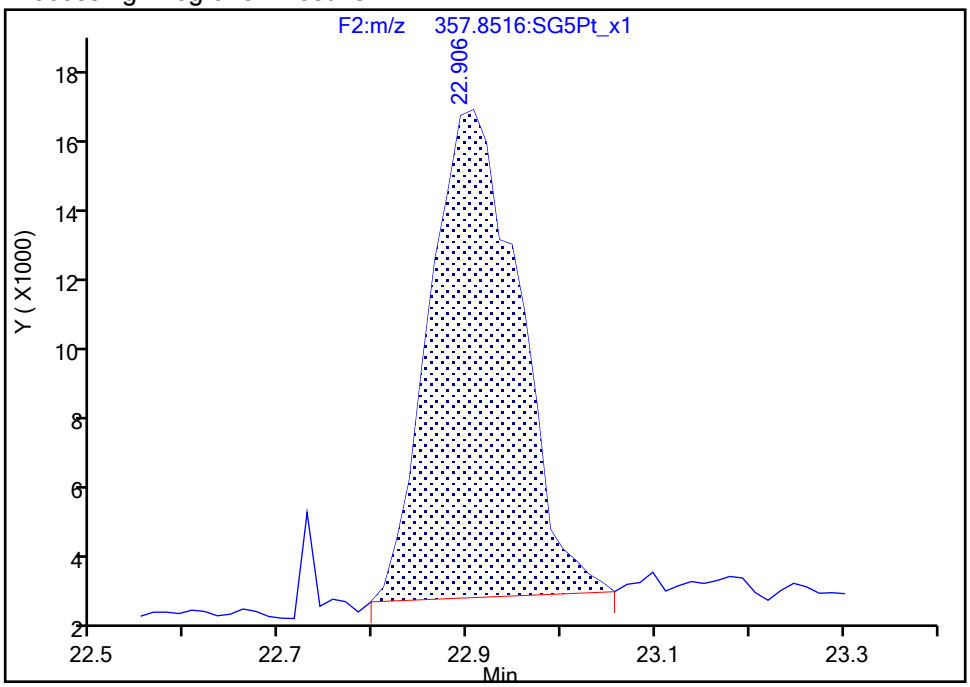

Manual Integration Results

RT: 22.91
Area: 87067
Amount: 0.946876
Amount Units: pg/ul

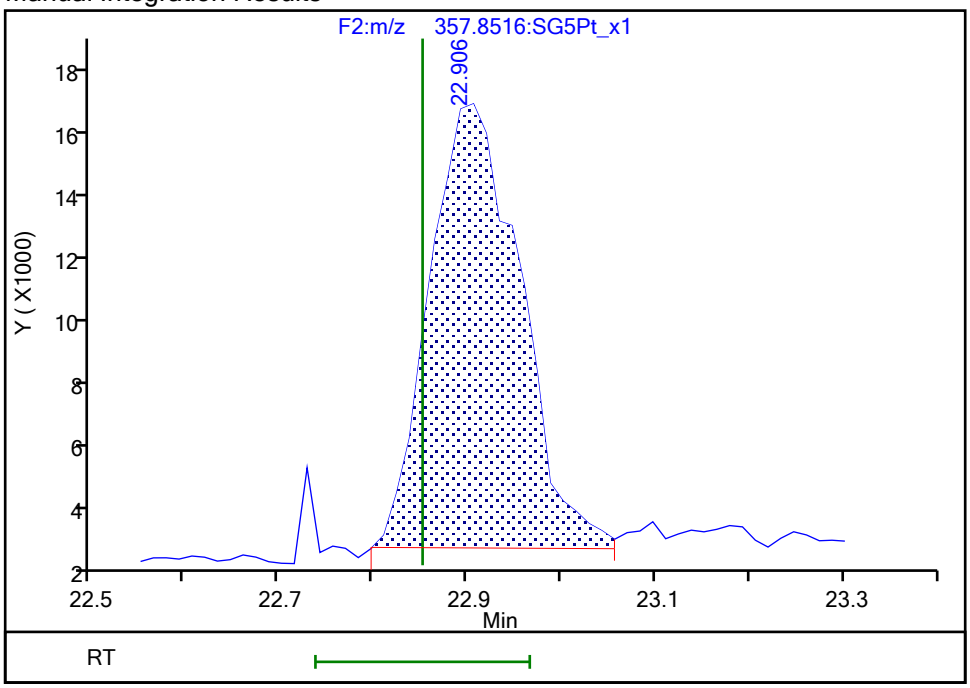

Reviewer: dadunj, 07-Oct-2019 08:54:39

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_19.d				
Injection Date:	04-Oct-2019 02:06:41	Instrument ID:	10D5		
Lims ID:	180-96144-C-1-A	Lab Sample ID:	320-96144-1		
Client ID:	11187072-CONTACT-INITIAL				
Operator ID:	AJS	ALS Bottle#:	18	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

2,3,4,6,7,8-HxCDF, CAS: 60851-34-5

Signal: 2

Processing Integration Results

RT: 30.51
Area: 164942
Amount: 0.819283
Amount Units: pg/ul

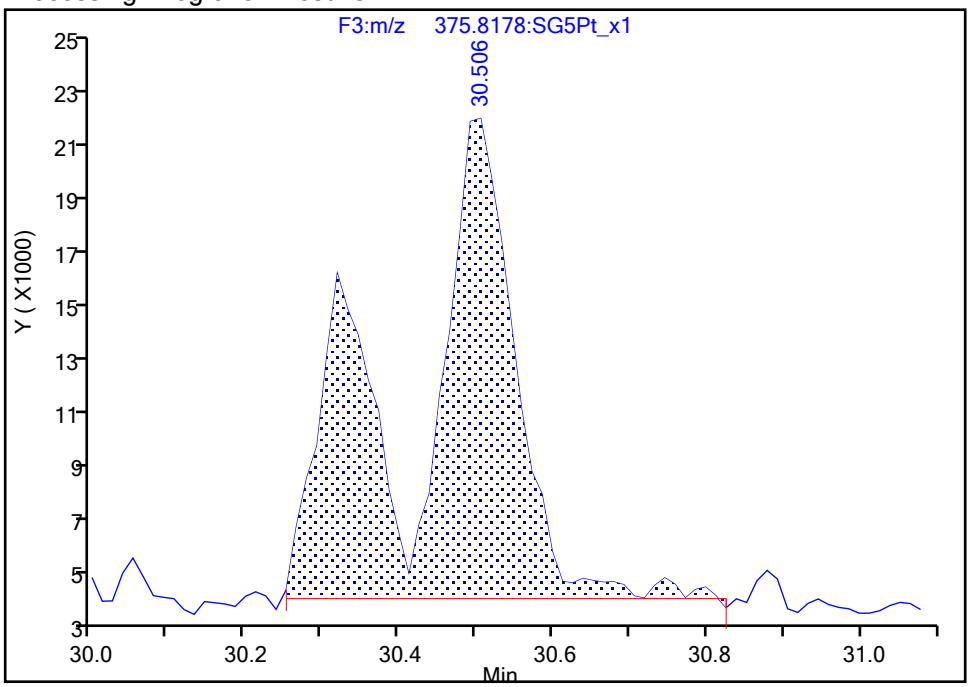

Manual Integration Results

RT: 30.51
Area: 104441
Amount: 0.645289
Amount Units: pg/ul

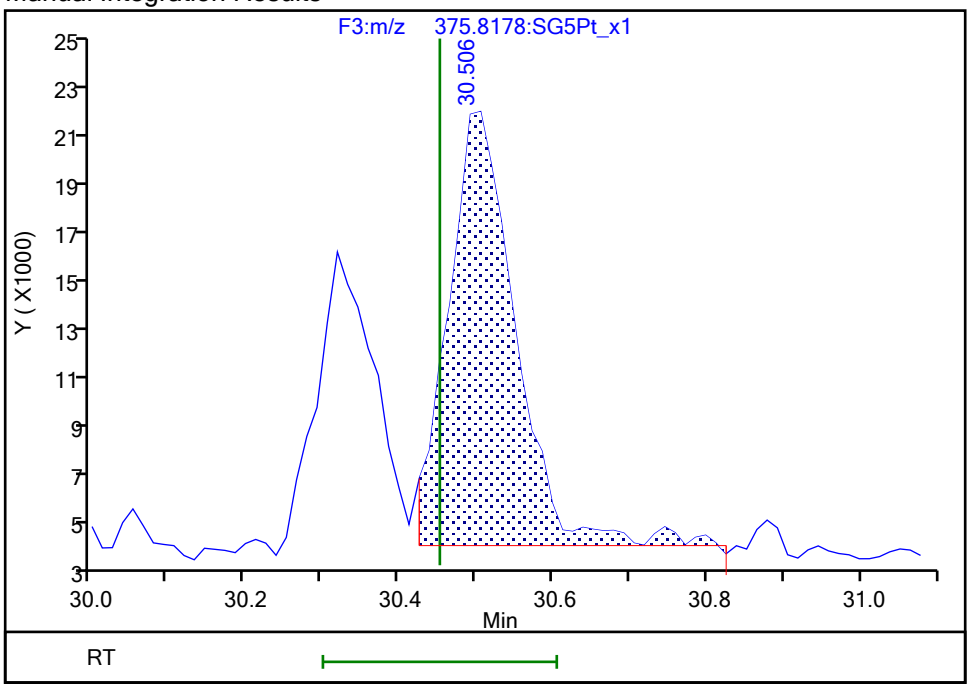

Reviewer: dadunj, 07-Oct-2019 08:55:06

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_19.d				
Injection Date:	04-Oct-2019 02:06:41	Instrument ID:	10D5		
Lims ID:	180-96144-C-1-A	Lab Sample ID:	320-96144-1		
Client ID:	11187072-CONTACT-INITIAL				
Operator ID:	AJS	ALS Bottle#:	18	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 2

Processing Integration Results

RT: 30.93
Area: 38474
Amount: 0.321753
Amount Units: pg/ul

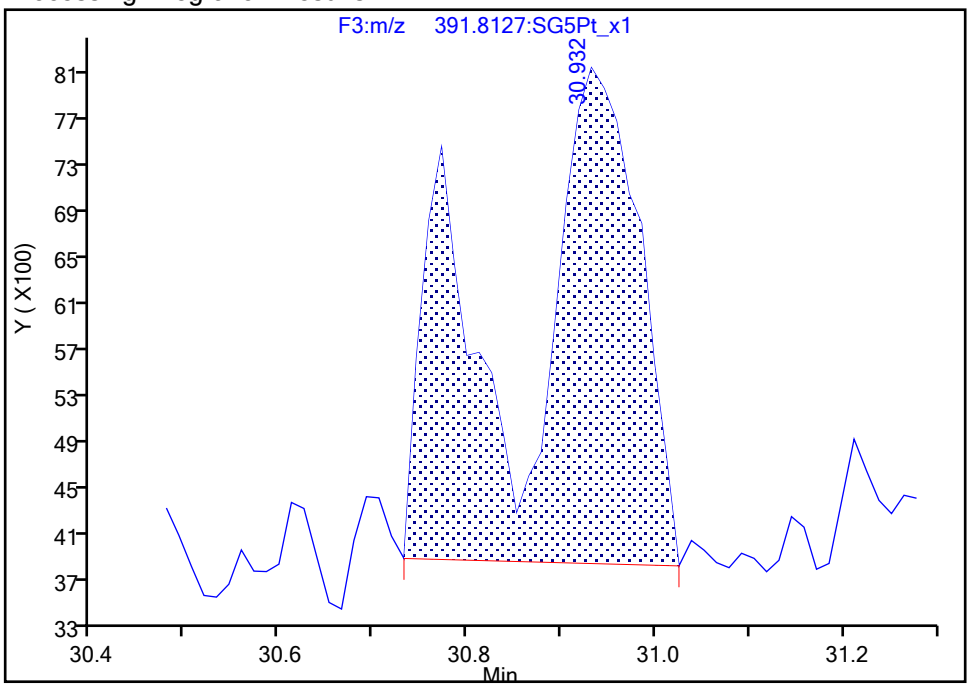

Manual Integration Results

RT: 30.77
Area: 13469
Amount: 0.148204
Amount Units: pg/ul

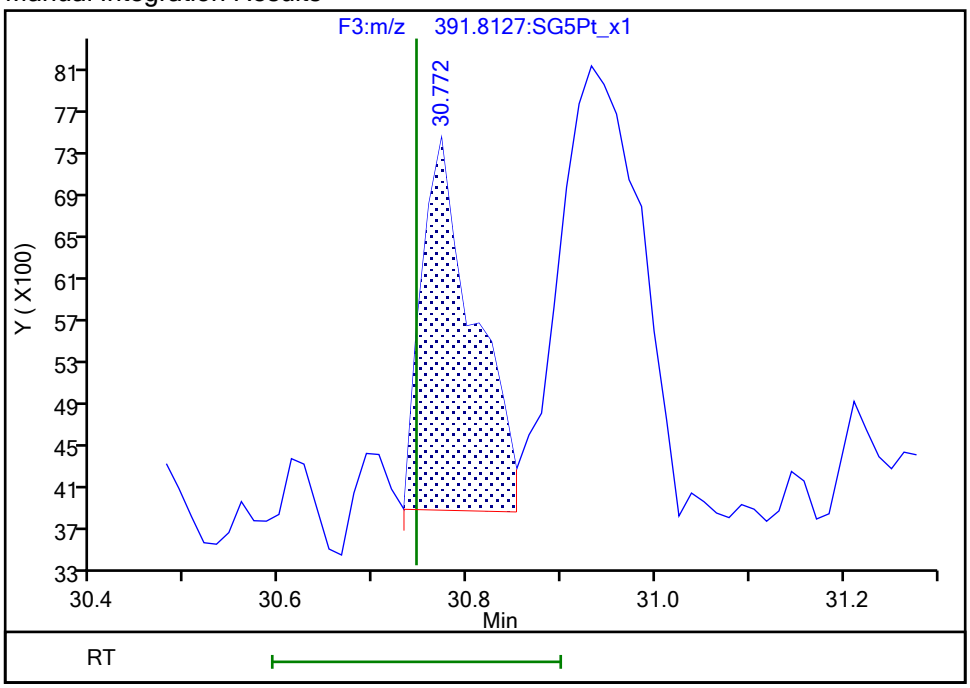

Reviewer: dadunj, 07-Oct-2019 08:55:40

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_19.d				
Injection Date:	04-Oct-2019 02:06:41	Instrument ID:	10D5		
Lims ID:	180-96144-C-1-A	Lab Sample ID:	320-96144-1		
Client ID:	11187072-CONTACT-INITIAL				
Operator ID:	AJS	ALS Bottle#:	18	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 3

RT: 30.93
Area: 67345
Amount: 0.321753
Amount Units: pg/ul

Processing Integration Results

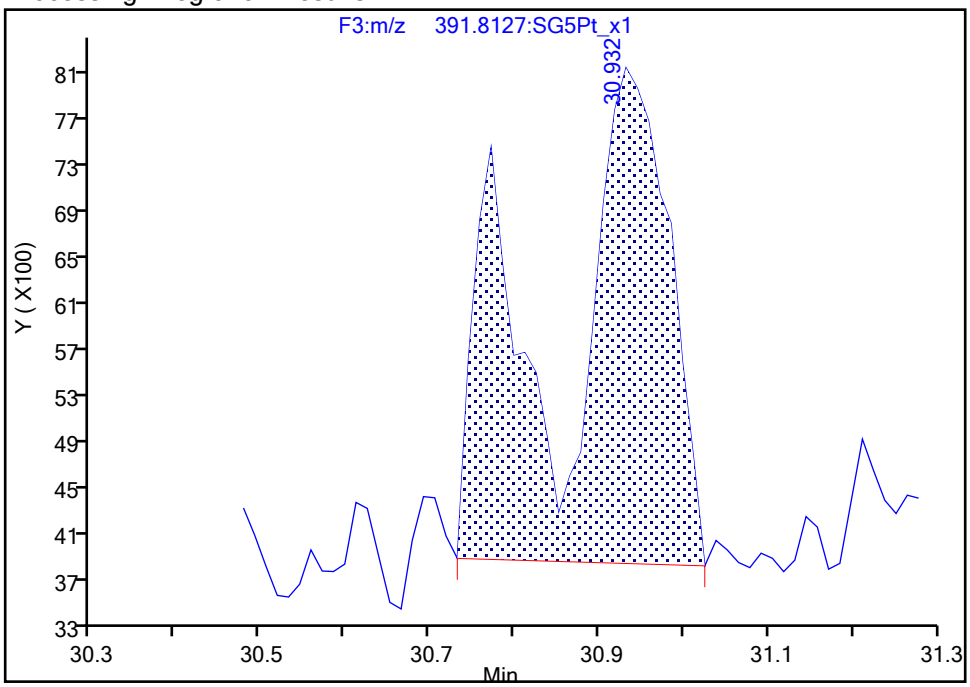

Manual Integration Results

RT: 30.80
Area: 31020
Amount: 0.148204
Amount Units: pg/ul
Reviewer: dadunj, 07-Oct-2019 08:55:40
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_19.d				
Injection Date:	04-Oct-2019 02:06:41	Instrument ID:	10D5		
Lims ID:	180-96144-C-1-A	Lab Sample ID:	320-96144-1		
Client ID:	11187072-CONTACT-INITIAL				
Operator ID:	AJS	ALS Bottle#:	18	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 1

Processing Integration Results

RT: 30.93
Area: 28871
Amount: 0.321753
Amount Units: pg/ul

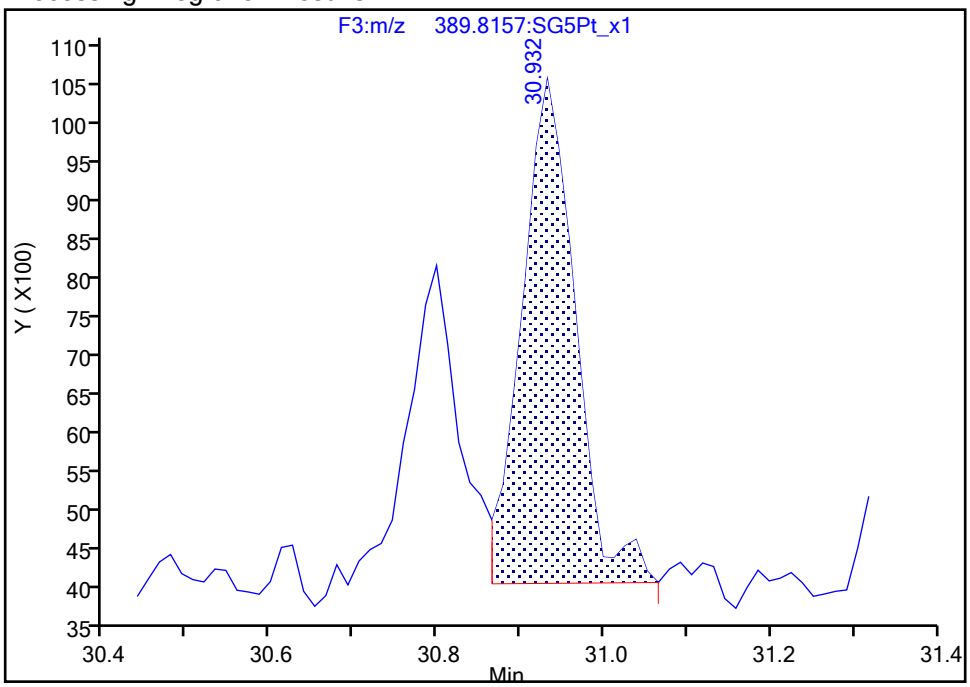

Manual Integration Results

RT: 30.80
Area: 17551
Amount: 0.148204
Amount Units: pg/ul

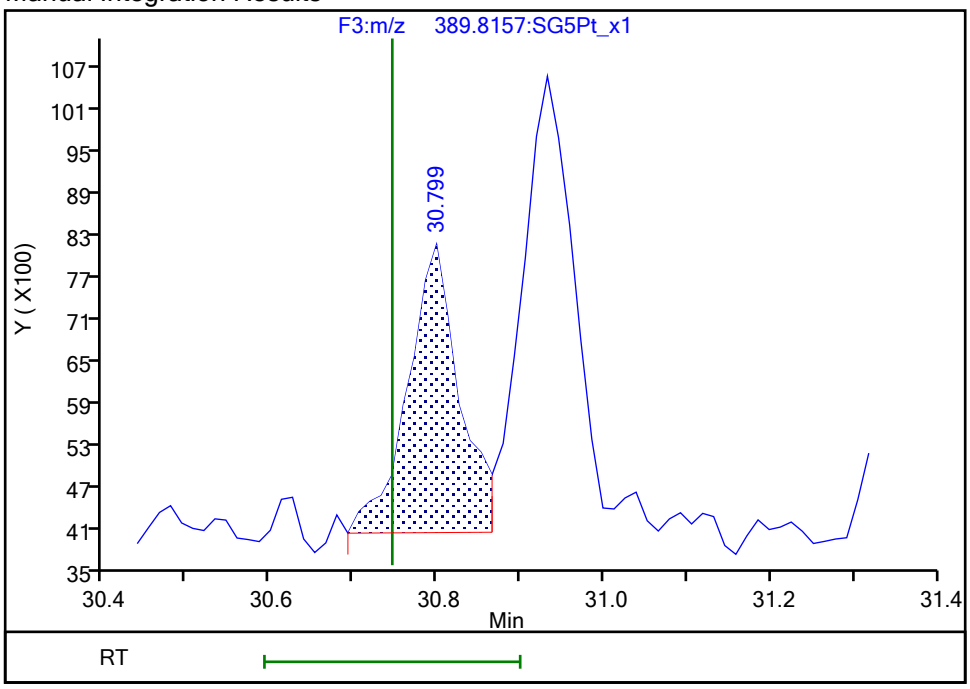

Reviewer: dadunj, 07-Oct-2019 08:55:41

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_19.d				
Injection Date:	04-Oct-2019 02:06:41	Instrument ID:	10D5		
Lims ID:	180-96144-C-1-A	Lab Sample ID:	320-96144-1		
Client ID:	11187072-CONTACT-INITIAL				
Operator ID:	AJS	ALS Bottle#:	18	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 2

Processing Integration Results

RT: 30.93
Area: 38474
Amount: 0.267324
Amount Units: pg/ul

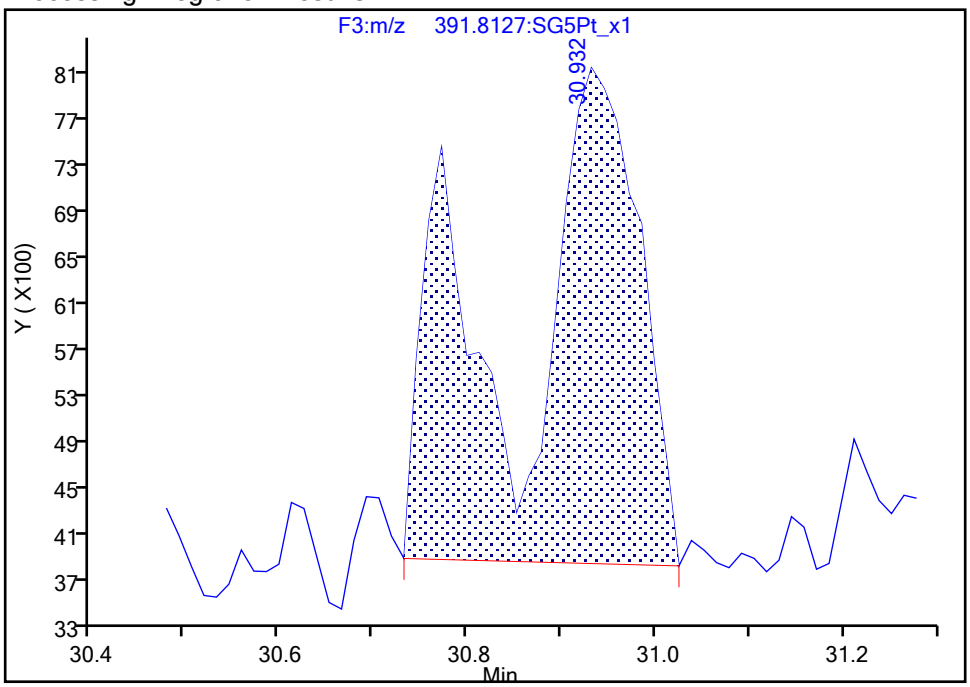

Manual Integration Results

RT: 30.93
Area: 24997
Amount: 0.213827
Amount Units: pg/ul

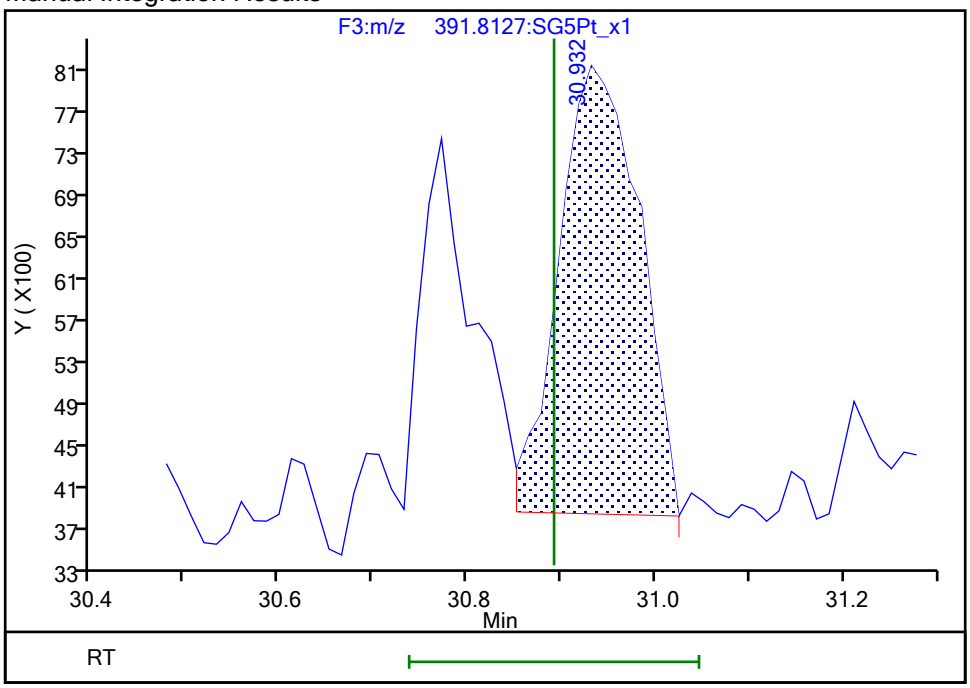

Reviewer: dadunj, 07-Oct-2019 08:55:51

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_19.d				
Injection Date:	04-Oct-2019 02:06:41	Instrument ID:	10D5		
Lims ID:	180-96144-C-1-A	Lab Sample ID:	320-96144-1		
Client ID:	11187072-CONTACT-INITIAL				
Operator ID:	AJS	ALS Bottle#:	18	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 3

RT: 30.93
Area: 67345
Amount: 0.267324
Amount Units: pg/ul

Processing Integration Results

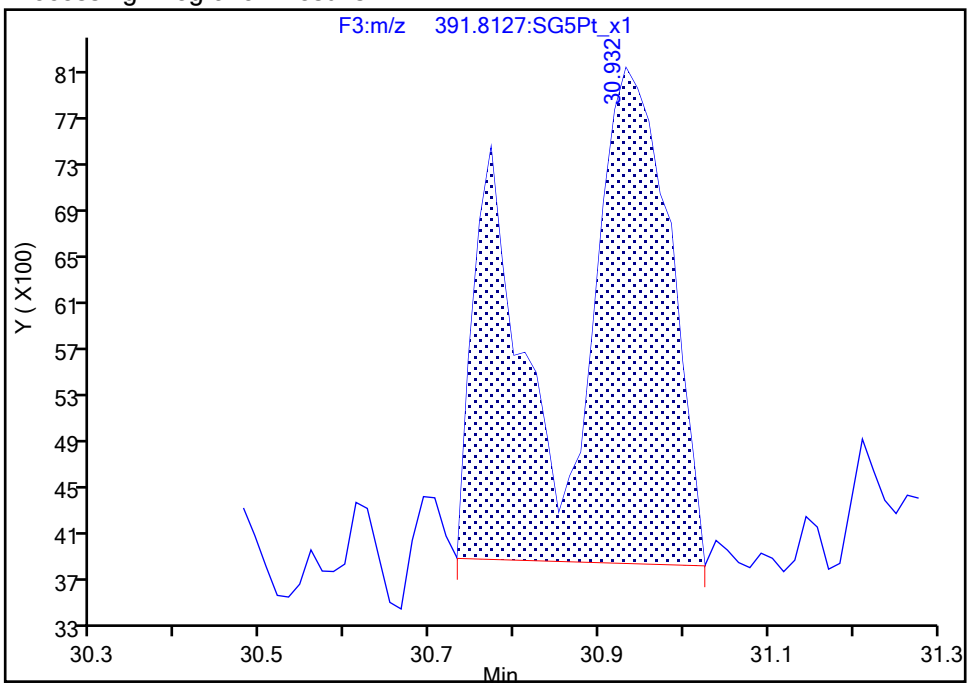

Manual Integration Results

RT: 30.93
Area: 53868
Amount: 0.213827
Amount Units: pg/ul
Reviewer: dadunj, 07-Oct-2019 08:55:51
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_19.d				
Injection Date:	04-Oct-2019 02:06:41	Instrument ID:	10D5		
Lims ID:	180-96144-C-1-A	Lab Sample ID:	320-96144-1		
Client ID:	11187072-CONTACT-INITIAL				
Operator ID:	AJS	ALS Bottle#:	18	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 1

Processing Integration Results

RT: 30.93
Area: 28871
Amount: 0.267324
Amount Units: pg/ul

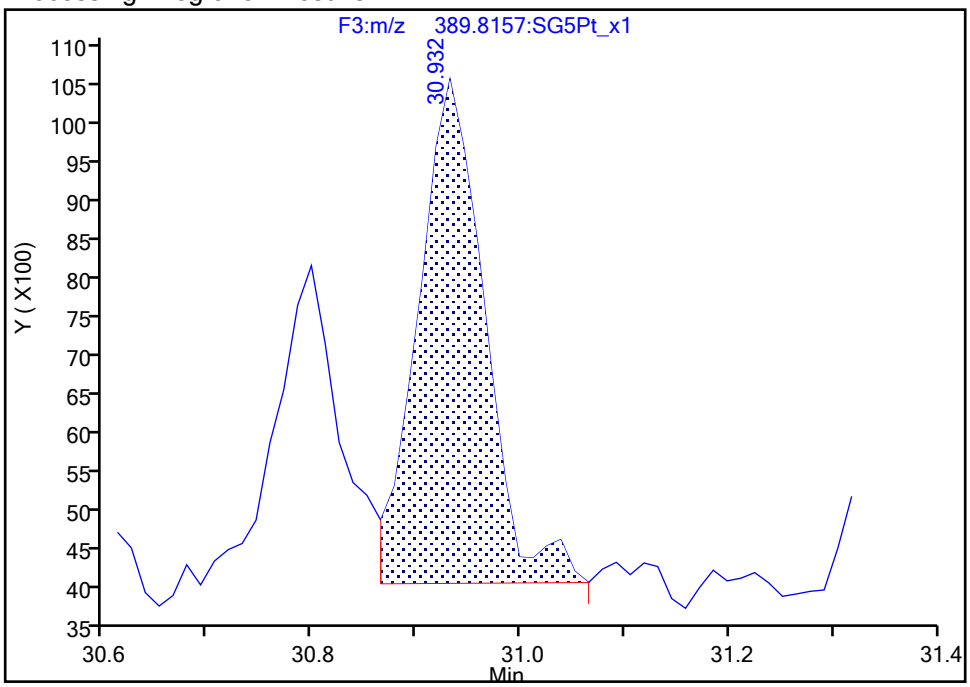

Manual Integration Results

RT: 30.93
Area: 28871
Amount: 0.213827
Amount Units: pg/ul

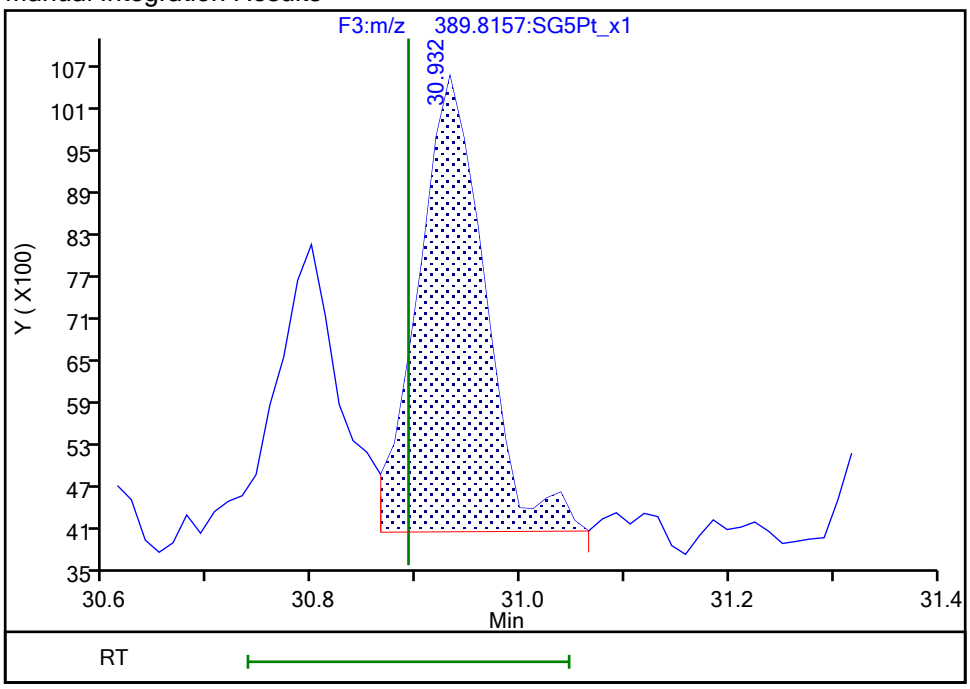

Reviewer: dadunj, 07-Oct-2019 08:55:52

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_19.d				
Injection Date:	04-Oct-2019 02:06:41	Instrument ID:	10D5		
Lims ID:	180-96144-C-1-A	Lab Sample ID:	320-96144-1		
Client ID:	11187072-CONTACT-INITIAL				
Operator ID:	AJS	ALS Bottle#:	18	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

Non-2,3,7,8-sub-HxCDD, Signal: 1, m/z: 389.8157, RT: (27.45- 31.29)

Signal: 1

Processing Integration Results

RT = 29.547 Area = 61834

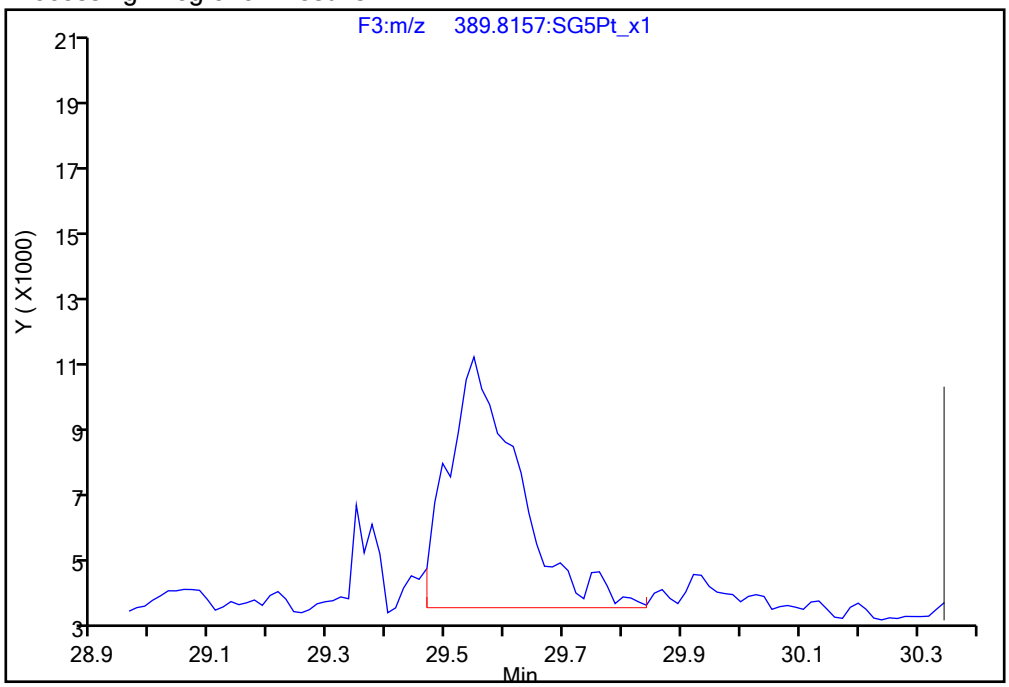

Manual Integration Results

RT = 29.547 Area = 61834

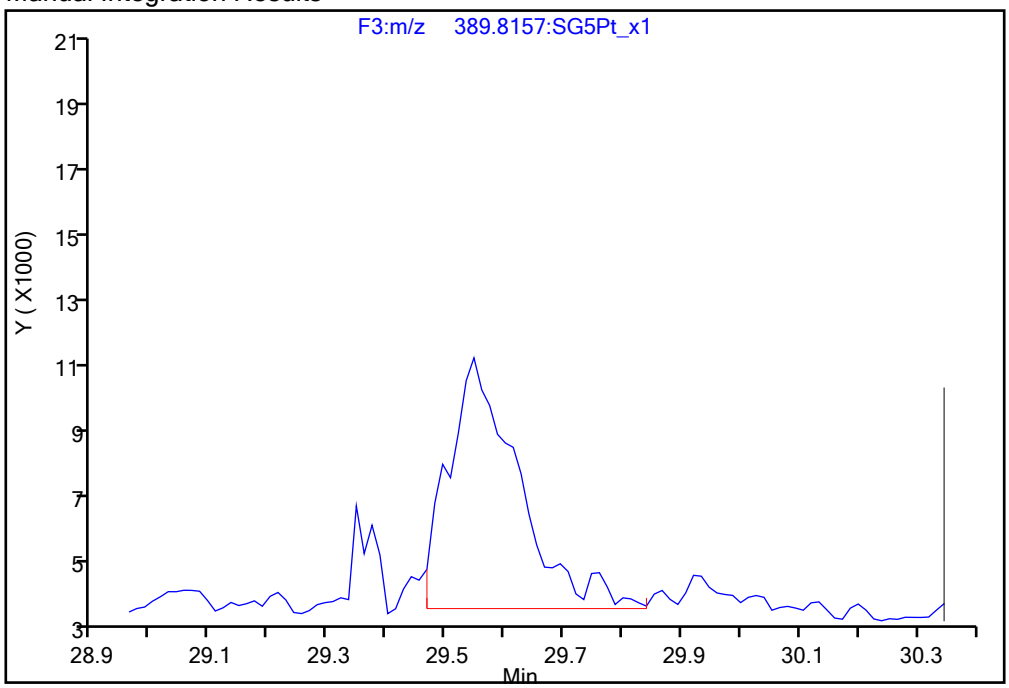

Reviewer: dadunj, 07-Oct-2019 08:56:22

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_19.d				
Injection Date:	04-Oct-2019 02:06:41	Instrument ID:	10D5		
Lims ID:	180-96144-C-1-A	Lab Sample ID:	320-96144-1		
Client ID:	11187072-CONTACT-INITIAL				
Operator ID:	AJS	ALS Bottle#:	18	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 1

Processing Integration Results

RT: 33.24
Area: 1081812
Amount: 8.260952
Amount Units: pg/ul

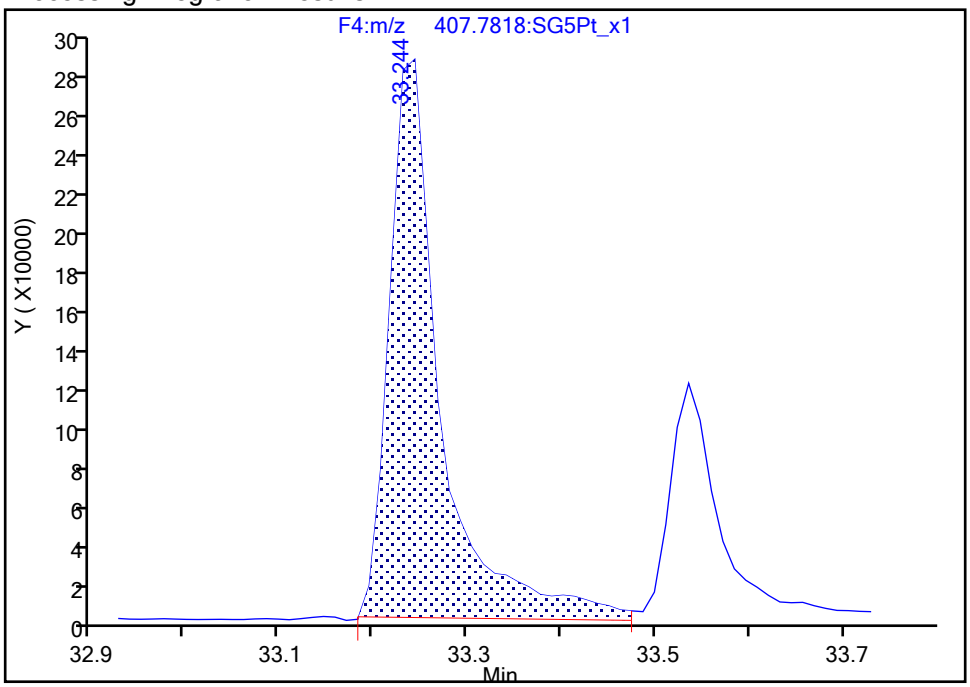

Manual Integration Results

RT: 33.24
Area: 1061053
Amount: 8.178625
Amount Units: pg/ul

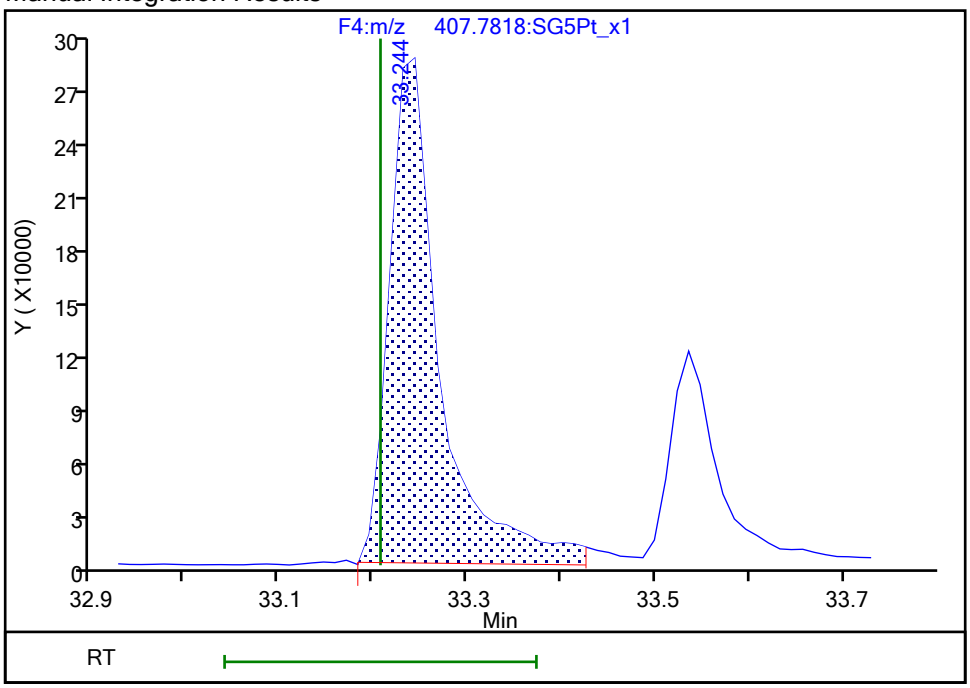

Reviewer: dadunj, 07-Oct-2019 08:56:37

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_19.d				
Injection Date:	04-Oct-2019 02:06:41	Instrument ID:	10D5		
Lims ID:	180-96144-C-1-A	Lab Sample ID:	320-96144-1		
Client ID:	11187072-CONTACT-INITIAL				
Operator ID:	AJS	ALS Bottle#:	18	Worklist Smp#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5:HRSIR		

OCDF, CAS: 39001-02-0

Signal: 1

Processing Integration Results

RT: 36.33
Area: 501235
Amount: 7.028324
Amount Units: pg/ul

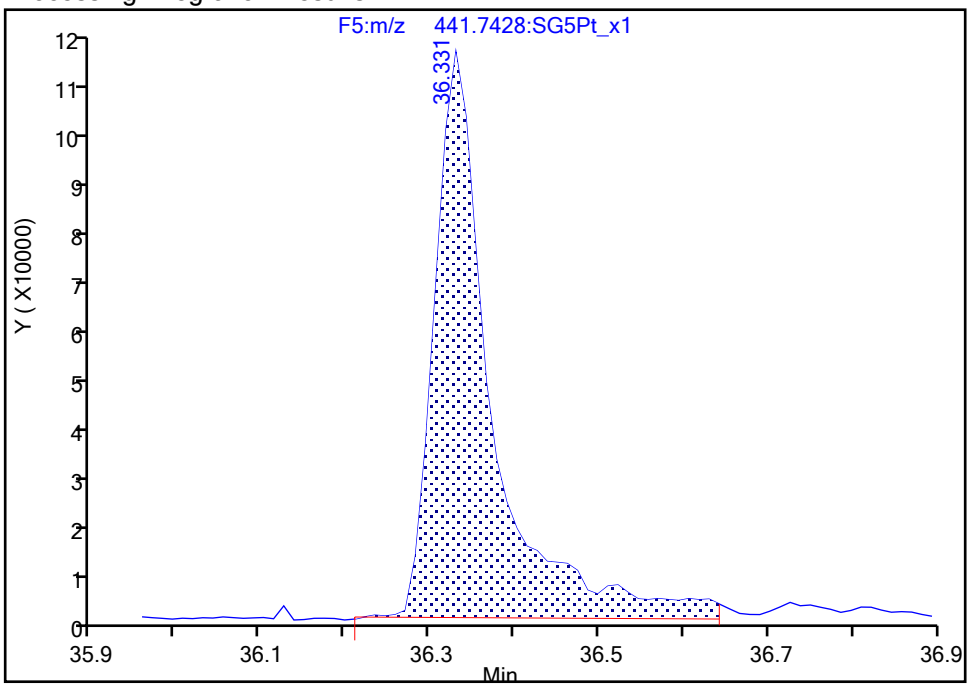

Manual Integration Results

RT: 36.33
Area: 469398
Amount: 6.808047
Amount Units: pg/ul

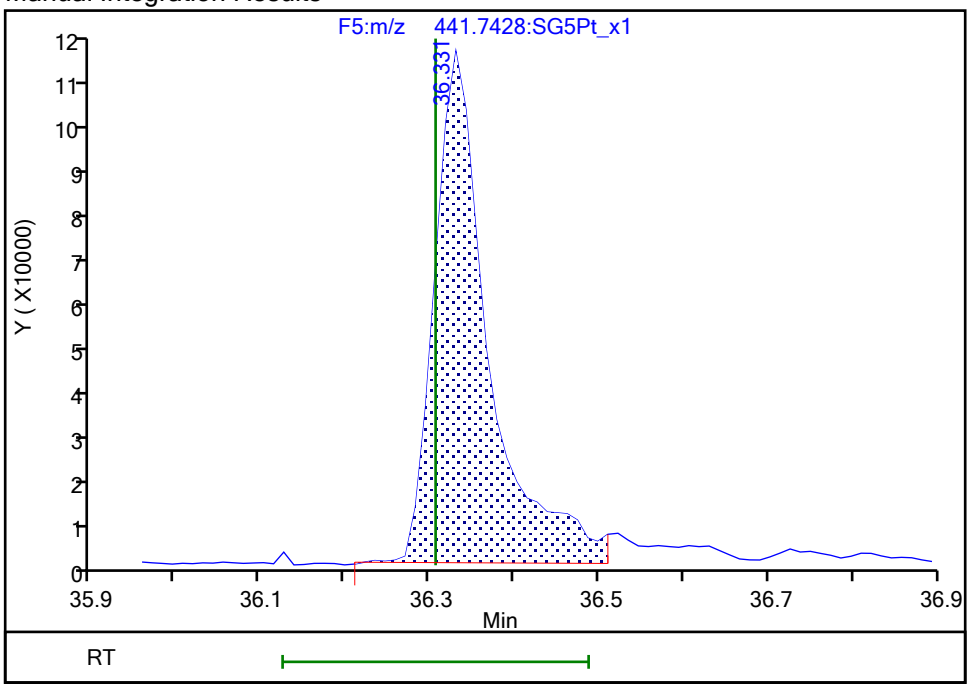

Reviewer: dadunj, 07-Oct-2019 08:56:52

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 07-Oct-2019 08:58:40 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_19.d		
Injection Date:	04-Oct-2019 02:06:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-CONTACT-INITIAL		
Worklist#:	328202	Sample Line#:	19
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

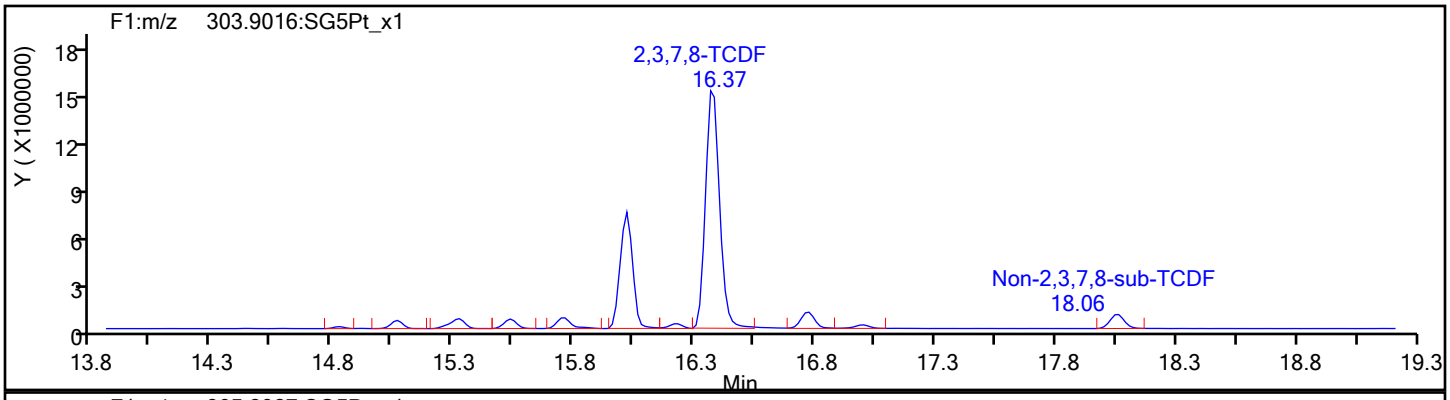

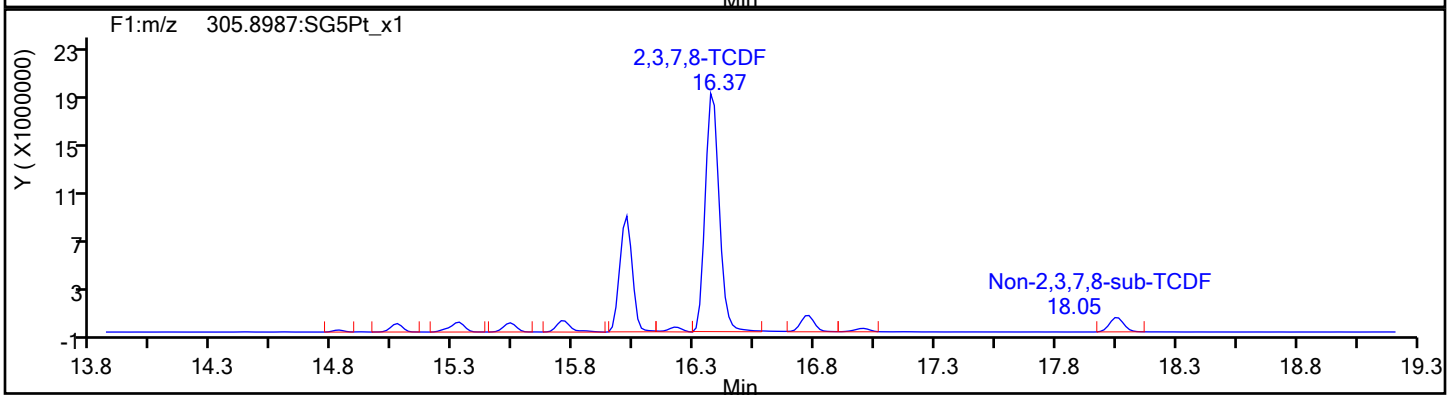

TCDF Standards

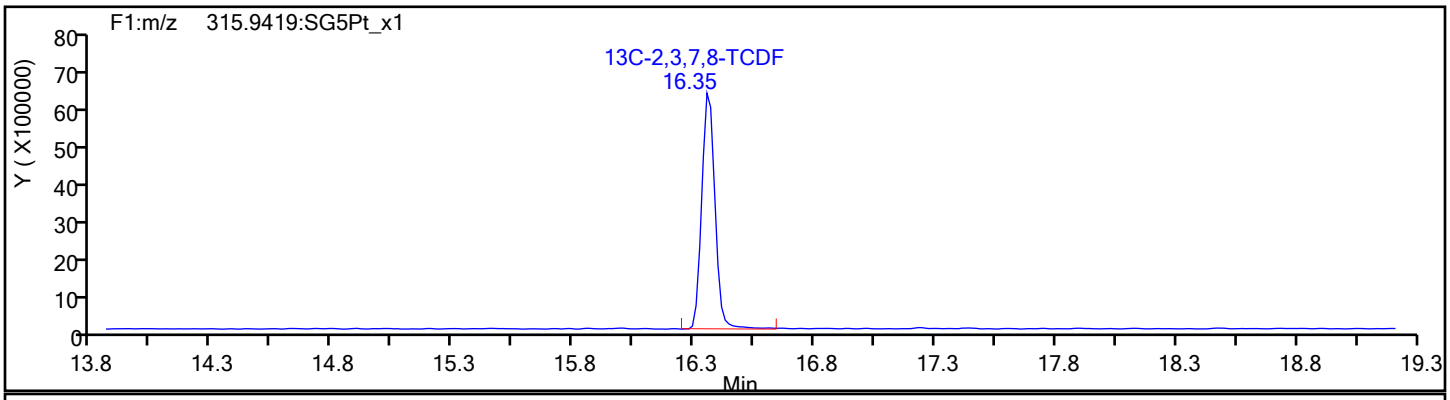

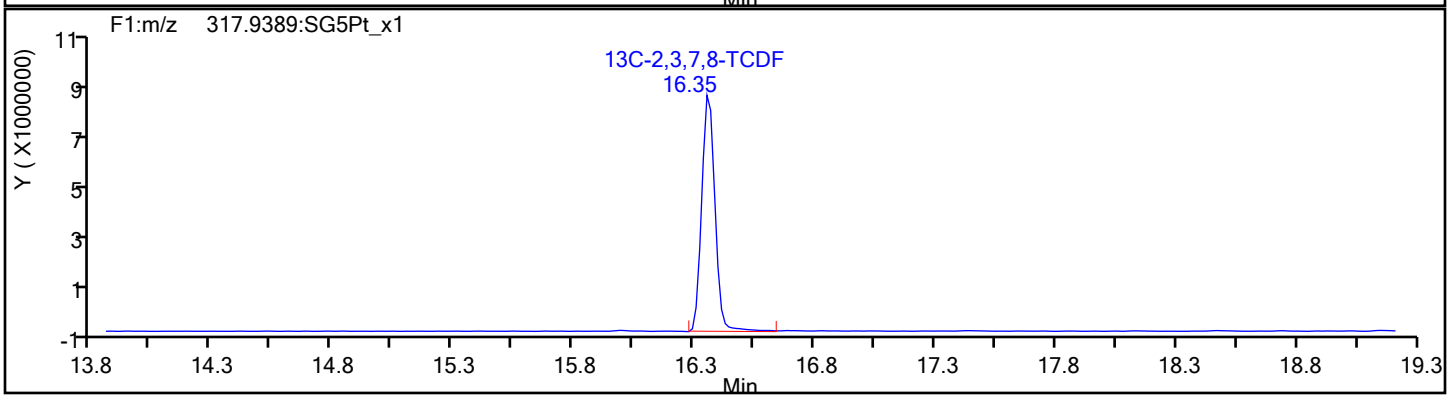

Report Date: 07-Oct-2019 08:58:40 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_19.d		
Injection Date:	04-Oct-2019 02:06:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-CONTACT-INITIAL		
Worklist#:	328202	Sample Line#:	19
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

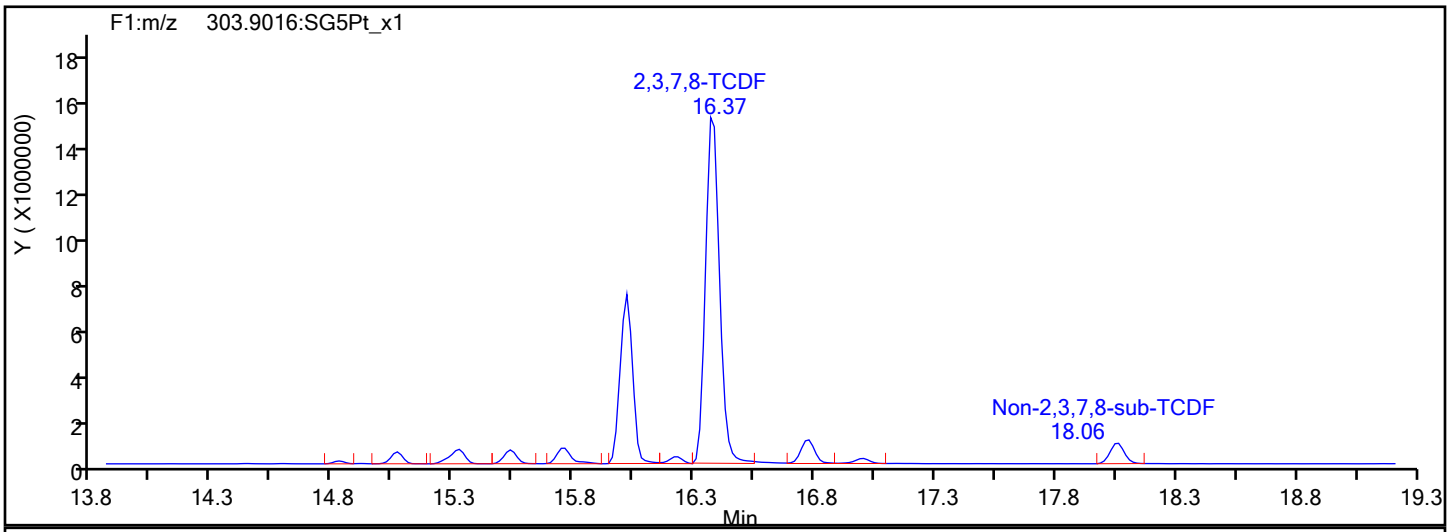

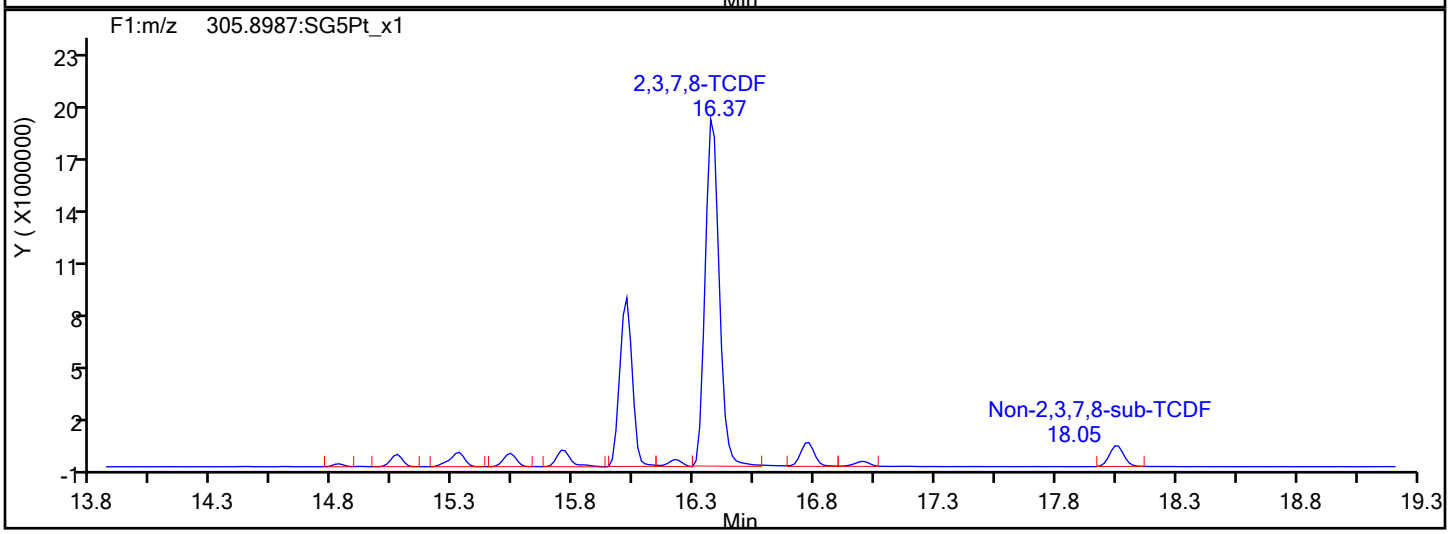

TCDF Interference Mass

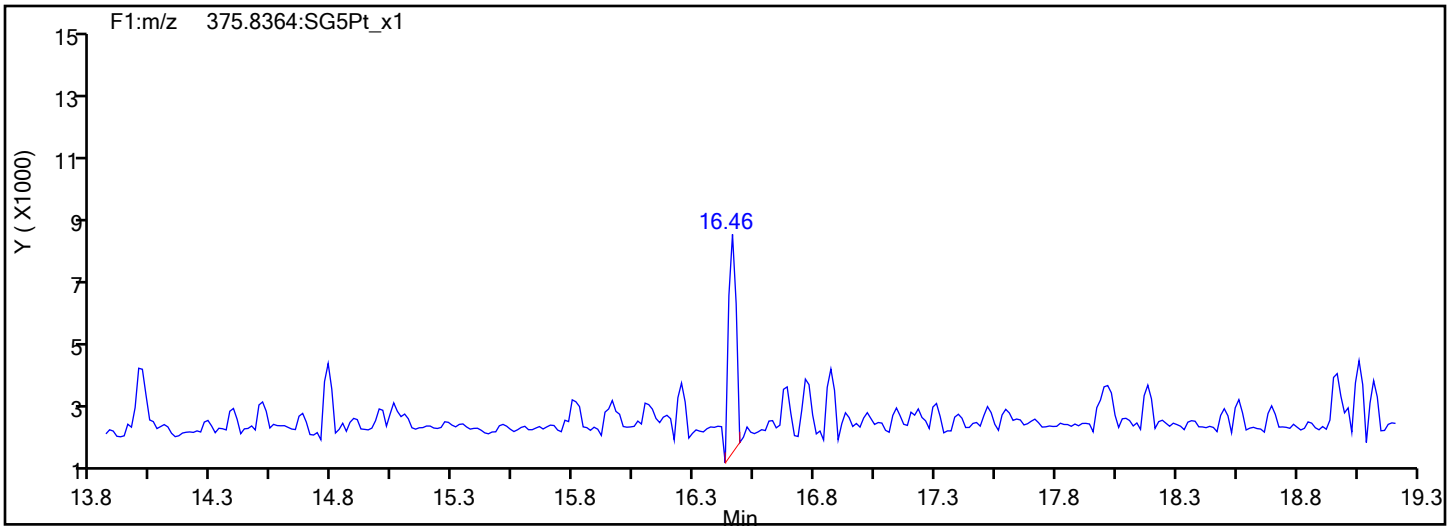

Report Date: 07-Oct-2019 08:58:40 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_19.d		
Injection Date:	04-Oct-2019 02:06:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-CONTACT-INITIAL		
Worklist#:	328202	Sample Line#:	19
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

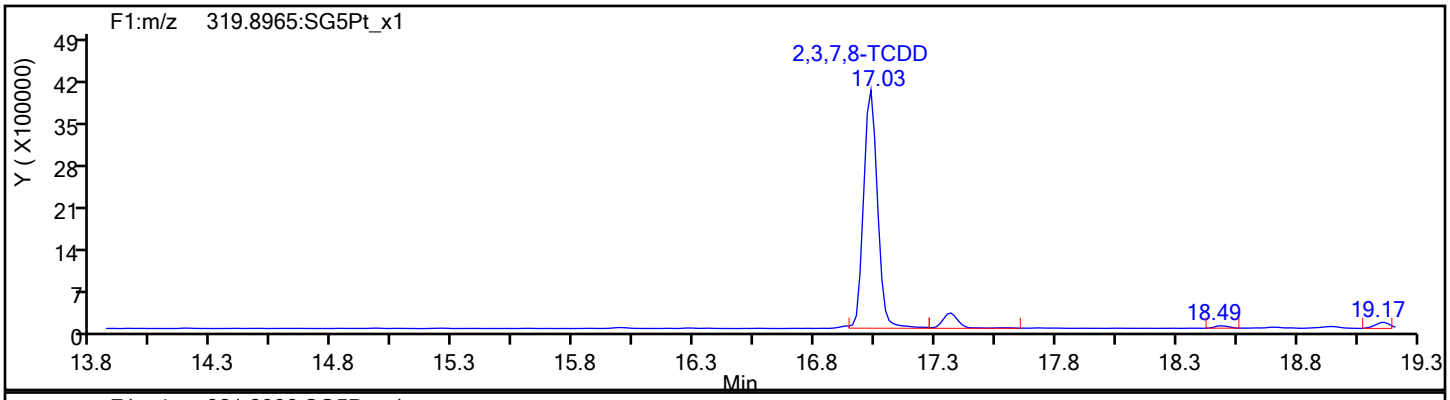

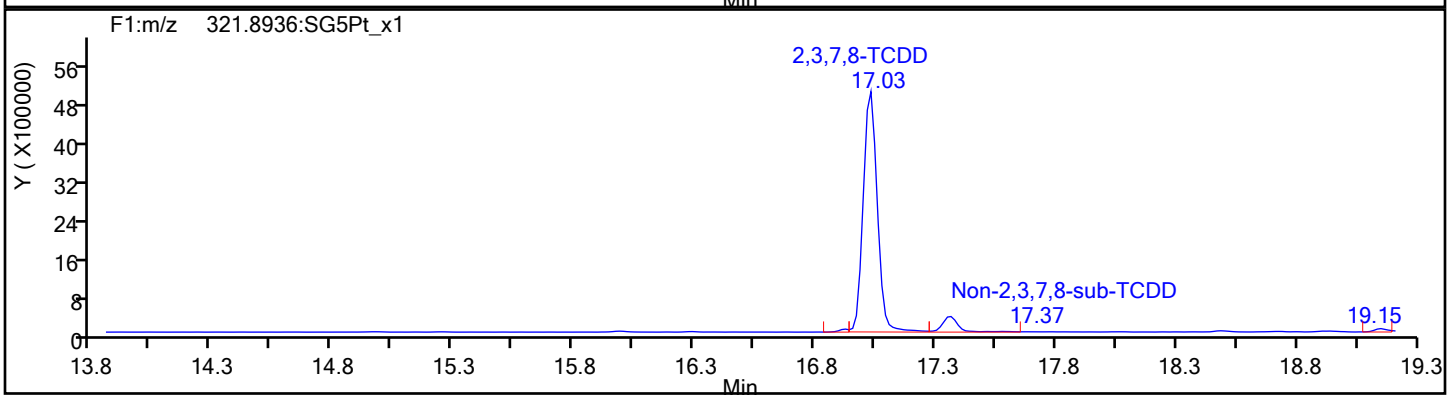

TCDD Standards

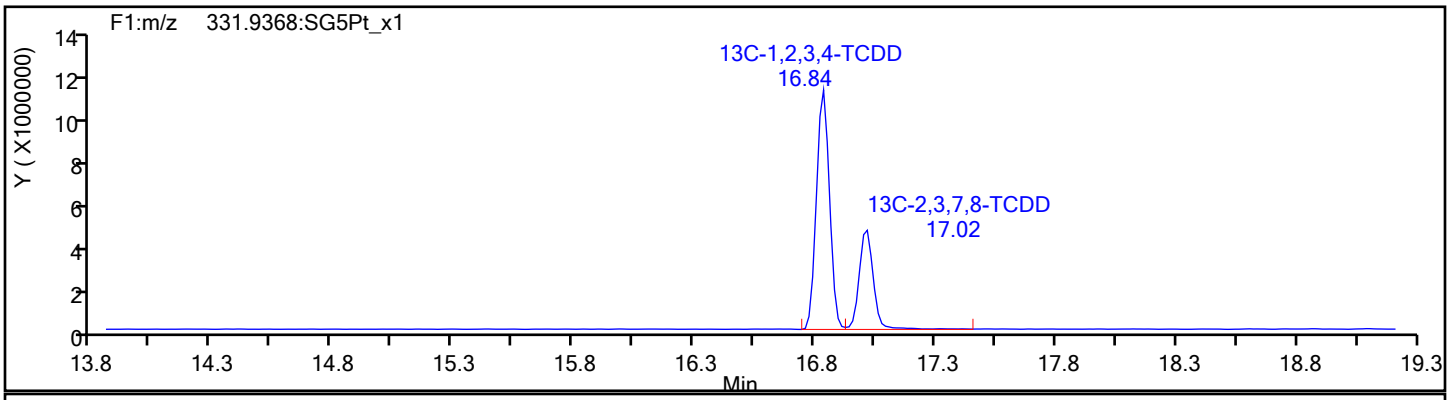

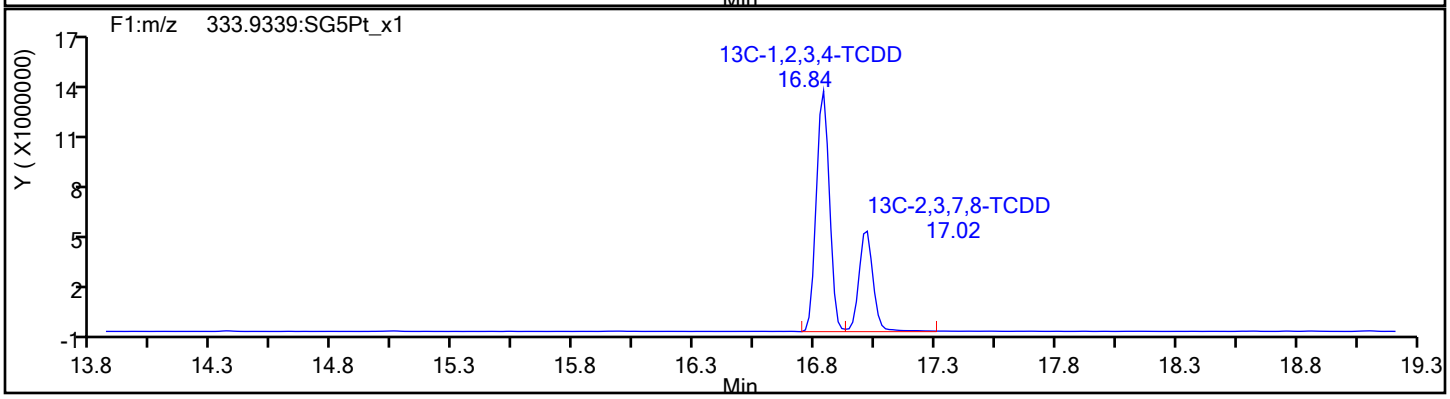

Report Date: 07-Oct-2019 08:58:40 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_19.d		
Injection Date:	04-Oct-2019 02:06:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-CONTACT-INITIAL		
Worklist#:	328202	Sample Line#:	19
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

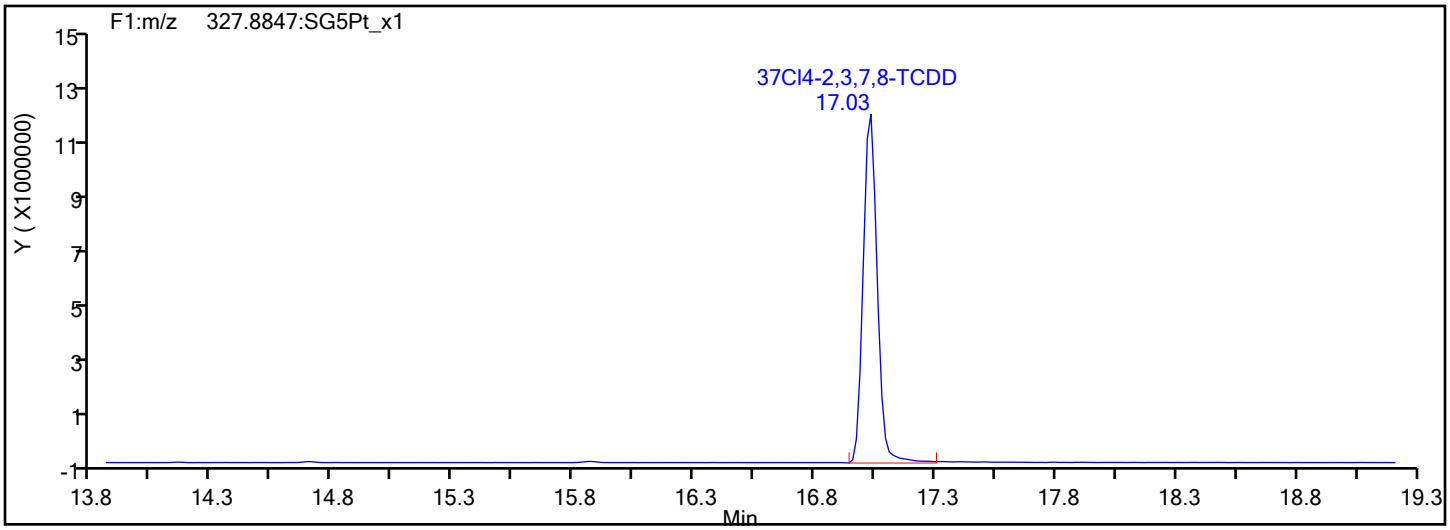

37Cl4-TCDD Standards

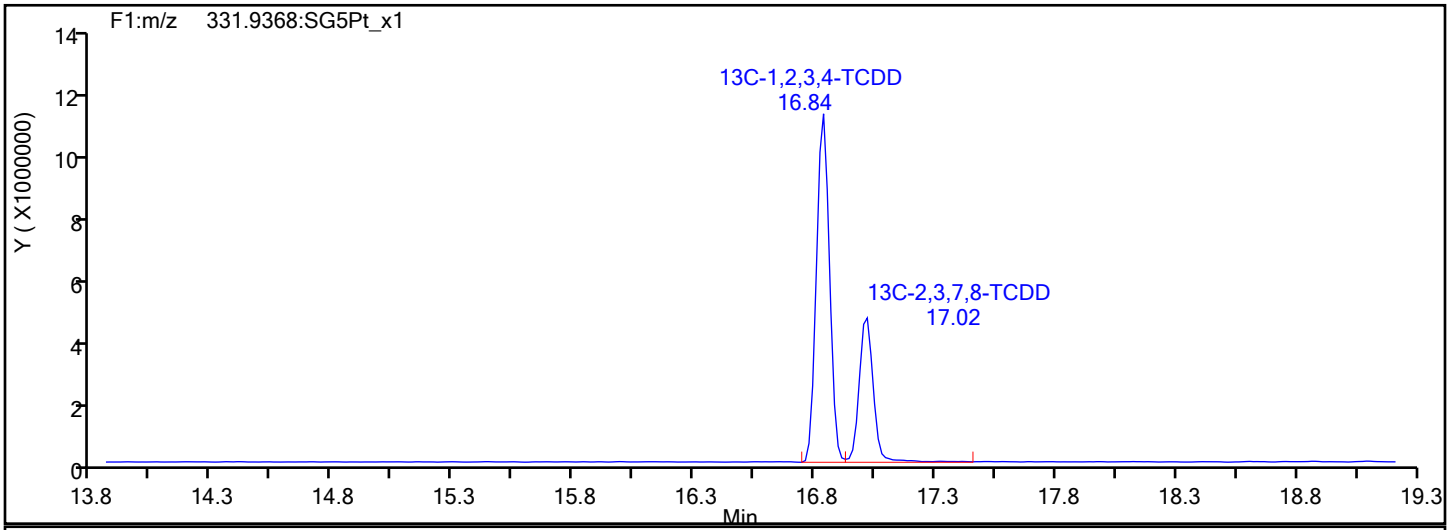

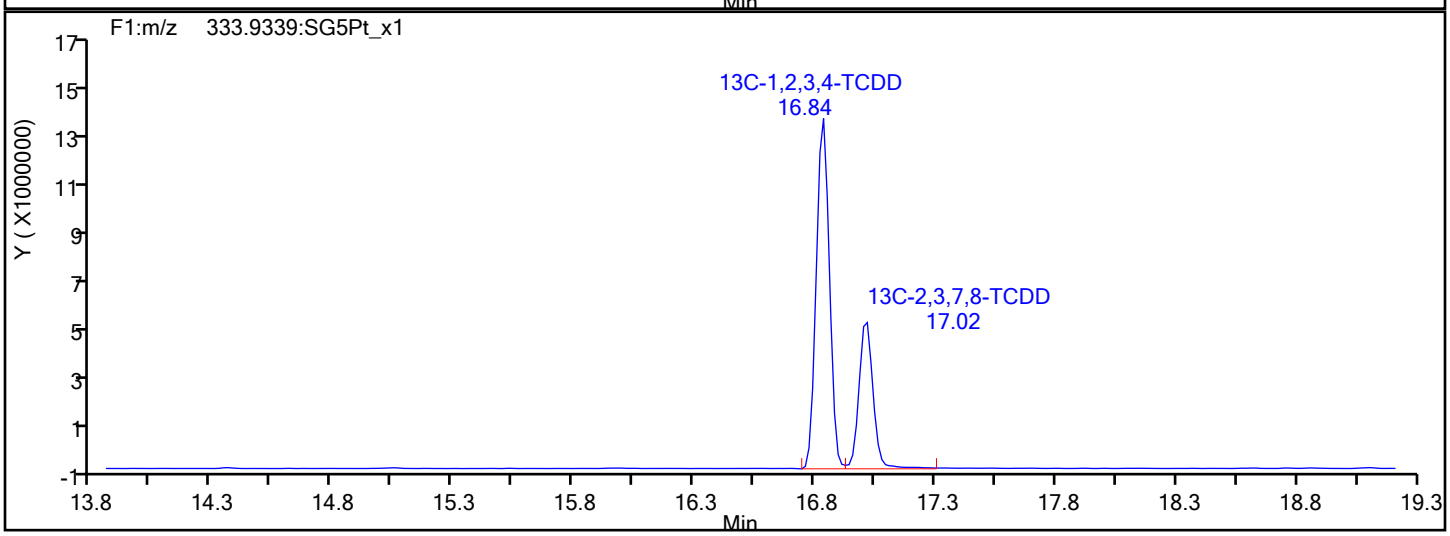

Report Date: 07-Oct-2019 08:58:41 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_19.d		
Injection Date:	04-Oct-2019 02:06:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-CONTACT-INITIAL		
Worklist#:	328202	Sample Line#:	19
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

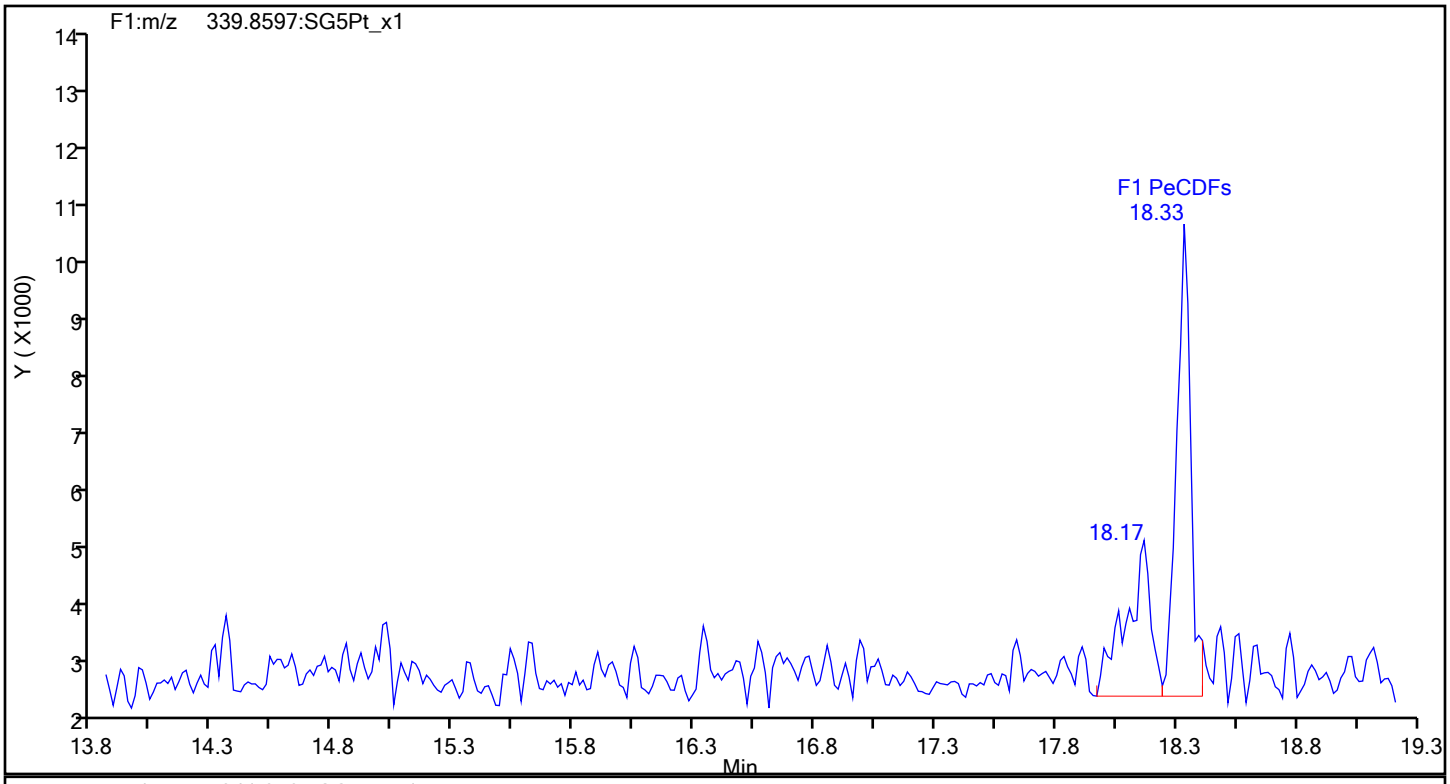

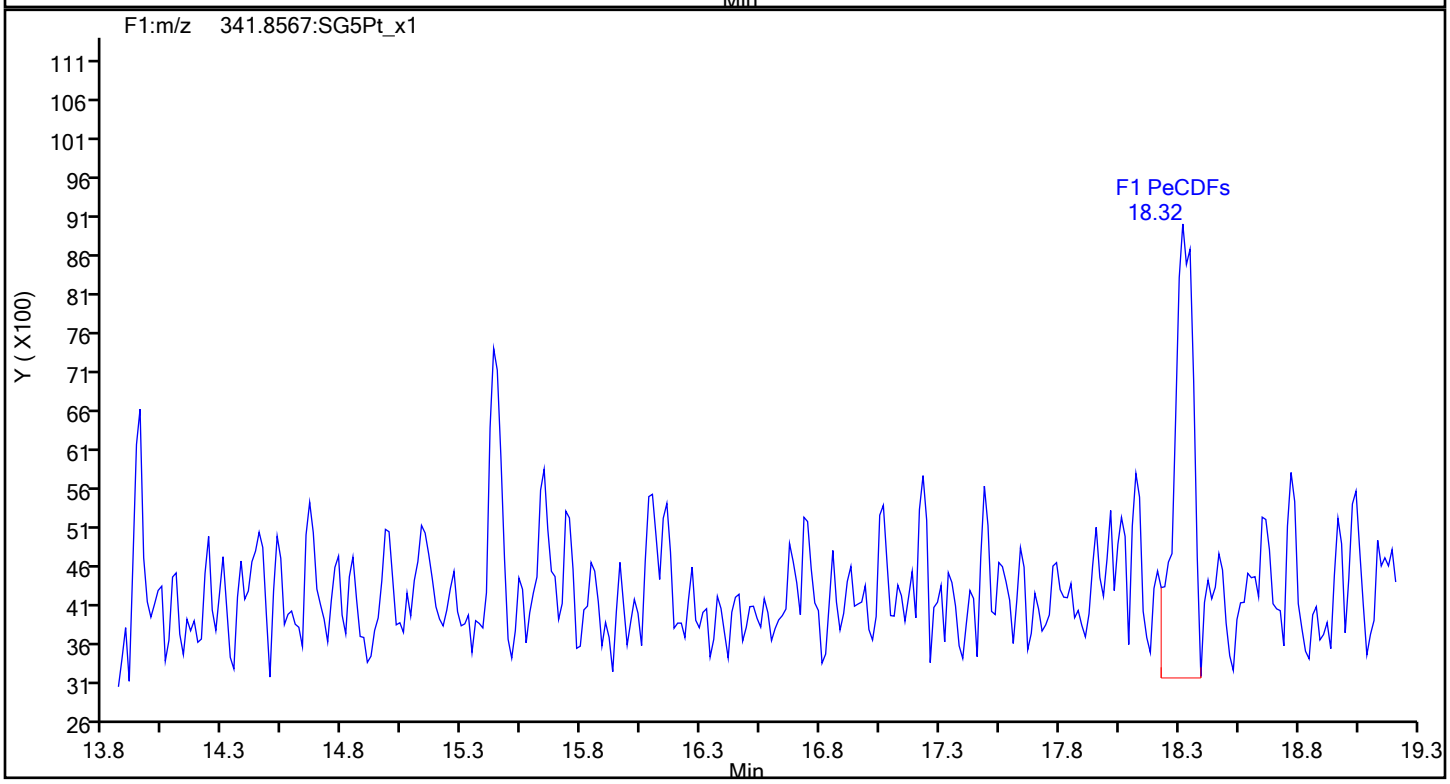

Report Date: 07-Oct-2019 08:58:41 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_19.d		
Injection Date:	04-Oct-2019 02:06:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-CONTACT-INITIAL		
Worklist#:	328202	Sample Line#:	19
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

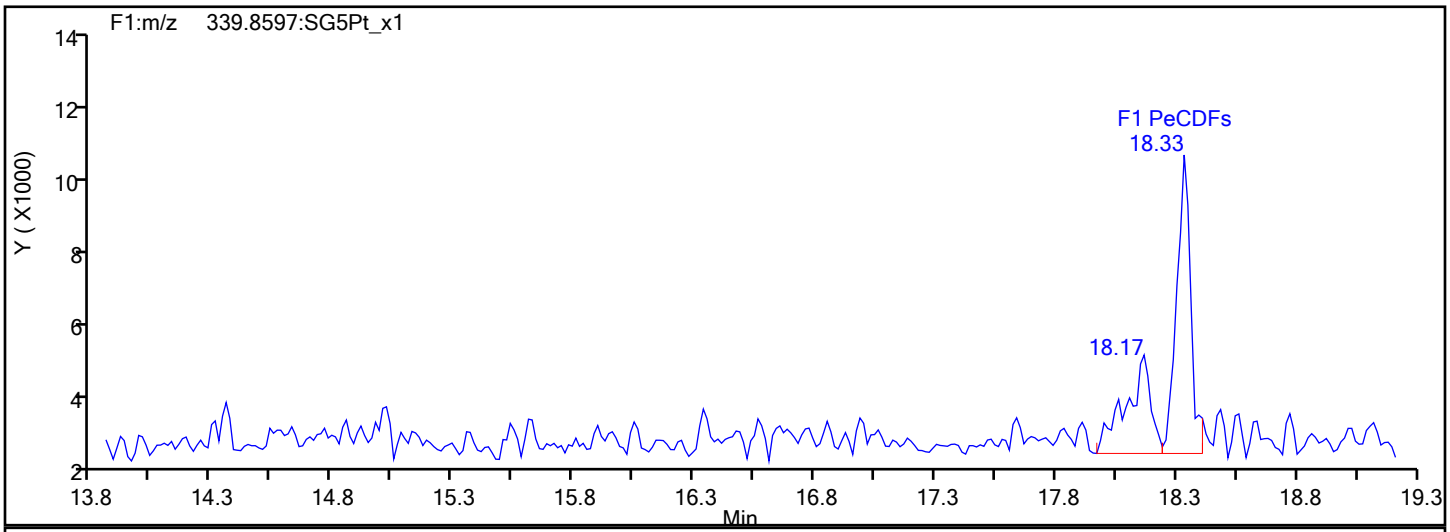

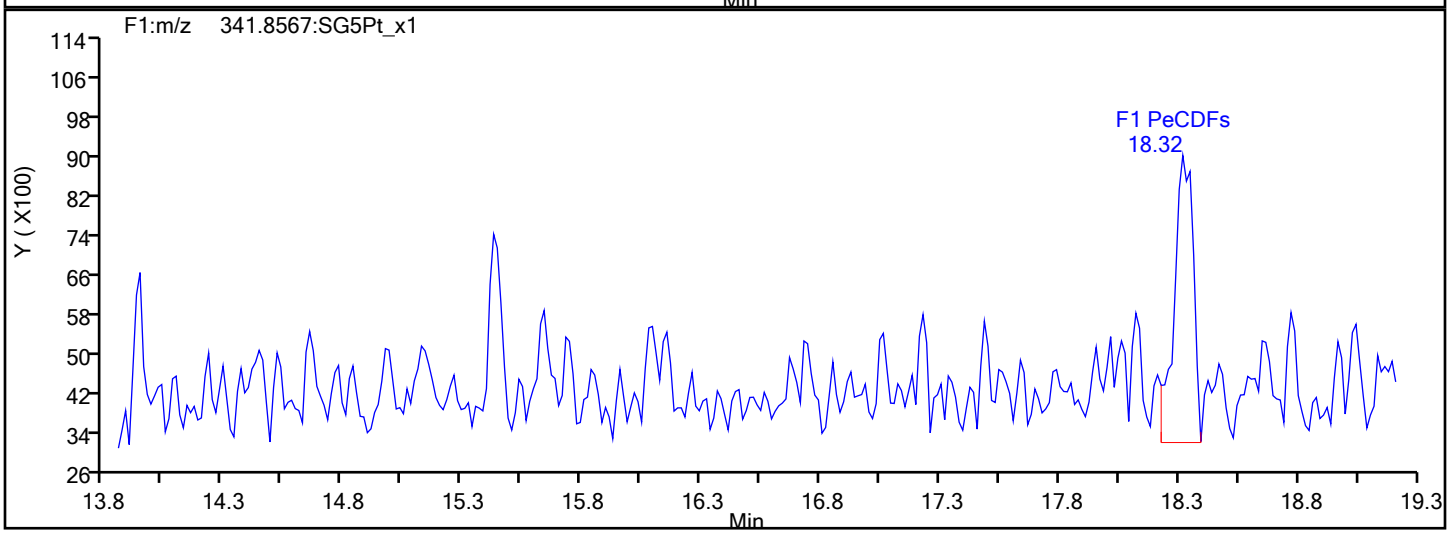

F1 PeCDFs Interference Mass

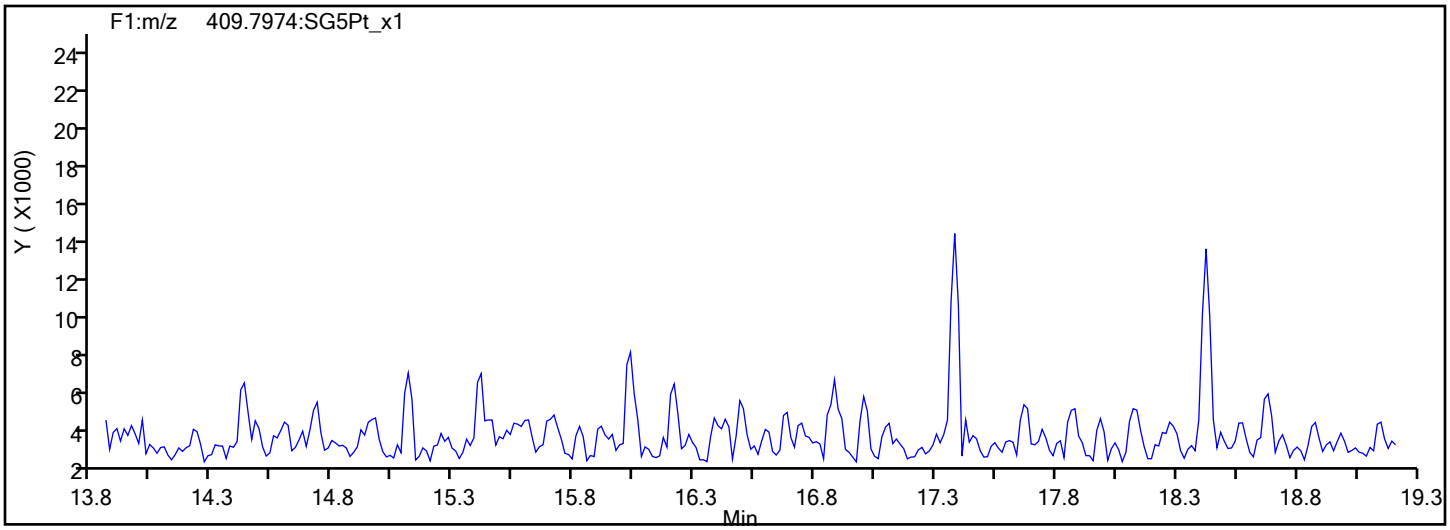

Report Date: 07-Oct-2019 08:58:41 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_19.d		
Injection Date:	04-Oct-2019 02:06:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-CONTACT-INITIAL		
Worklist#:	328202	Sample Line#:	19
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

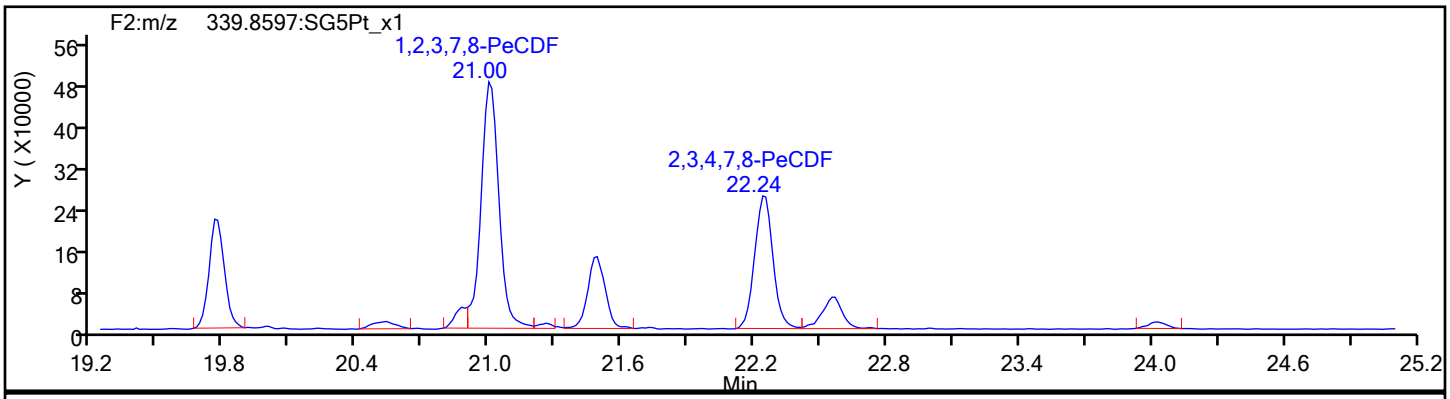

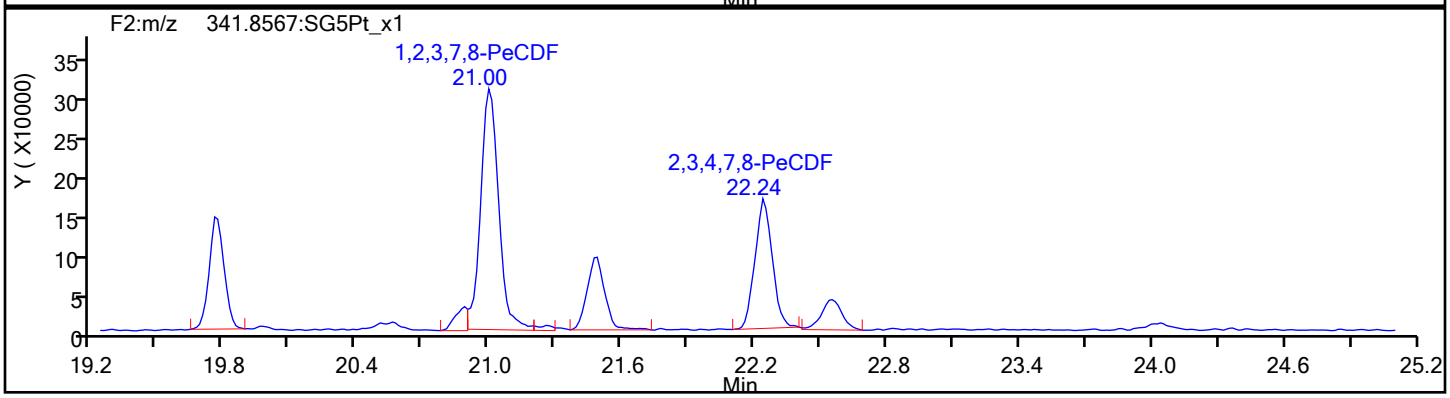

PeCDF Standards

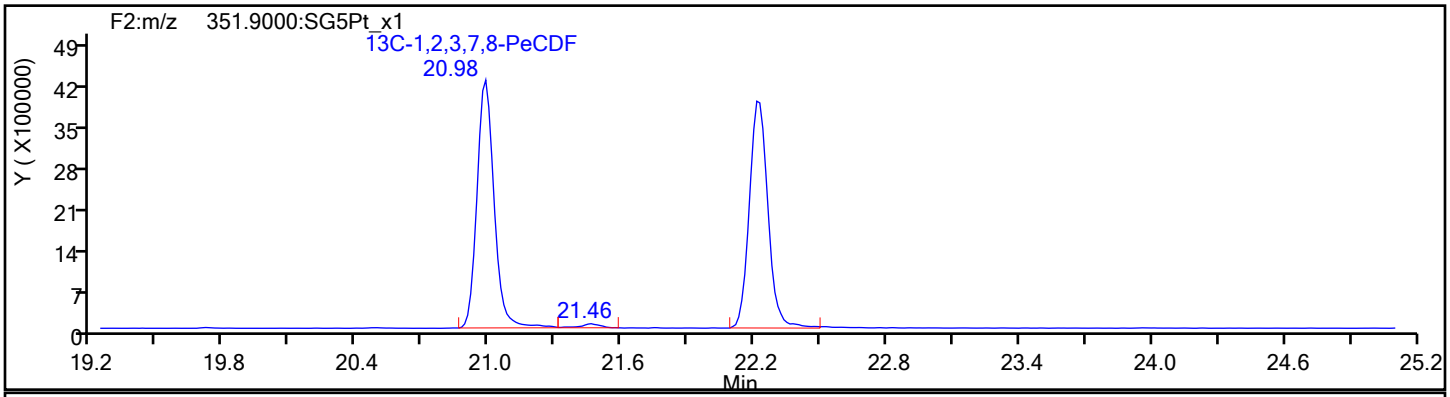

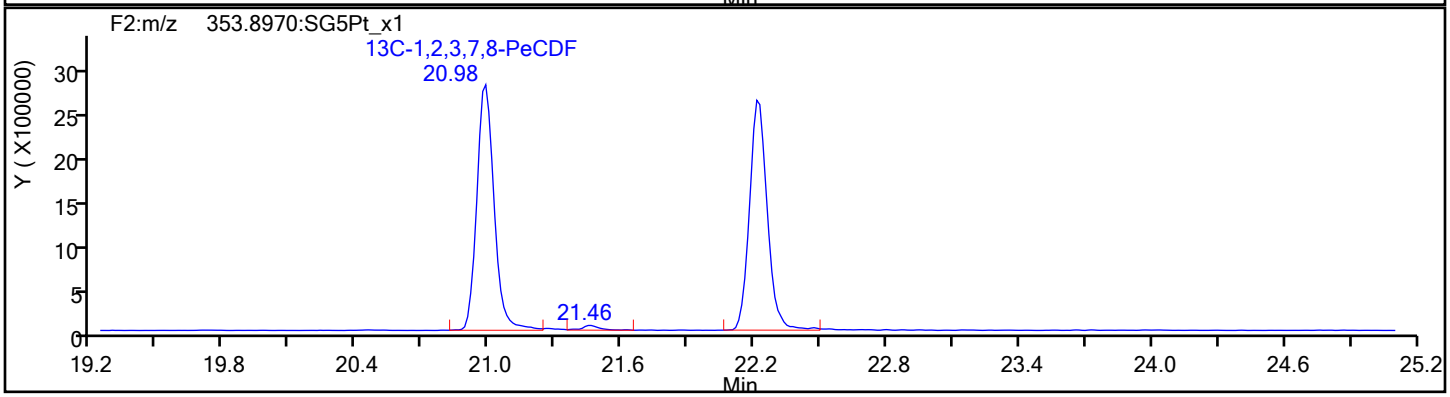

Report Date: 07-Oct-2019 08:58:41 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_19.d		
Injection Date:	04-Oct-2019 02:06:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-CONTACT-INITIAL		
Worklist#:	328202	Sample Line#:	19
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

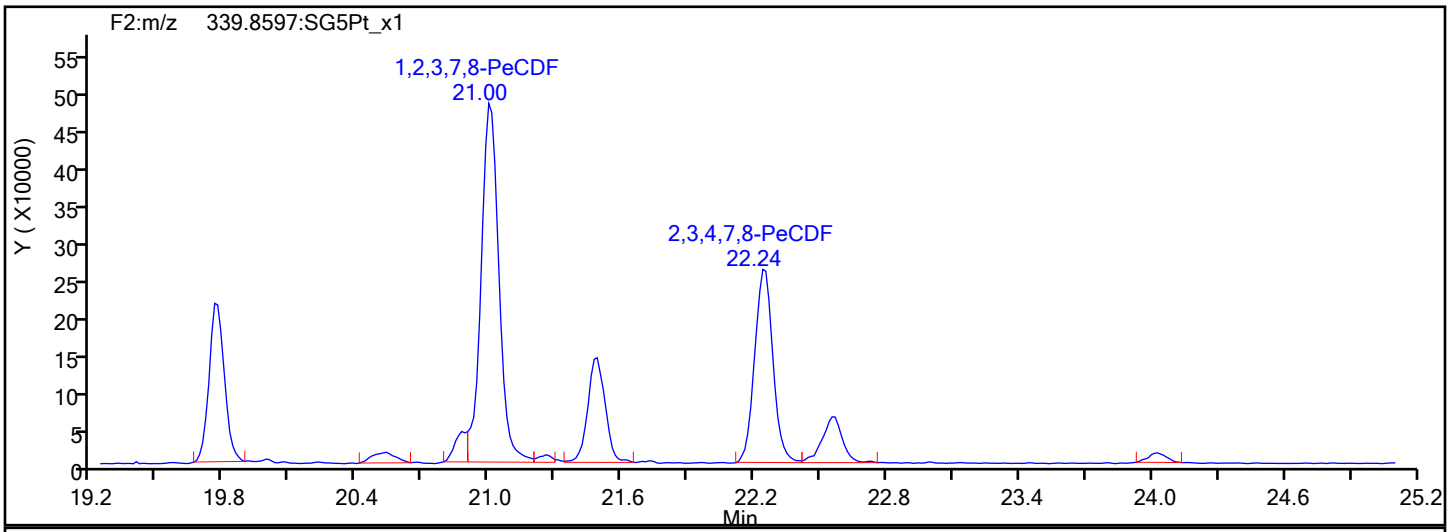

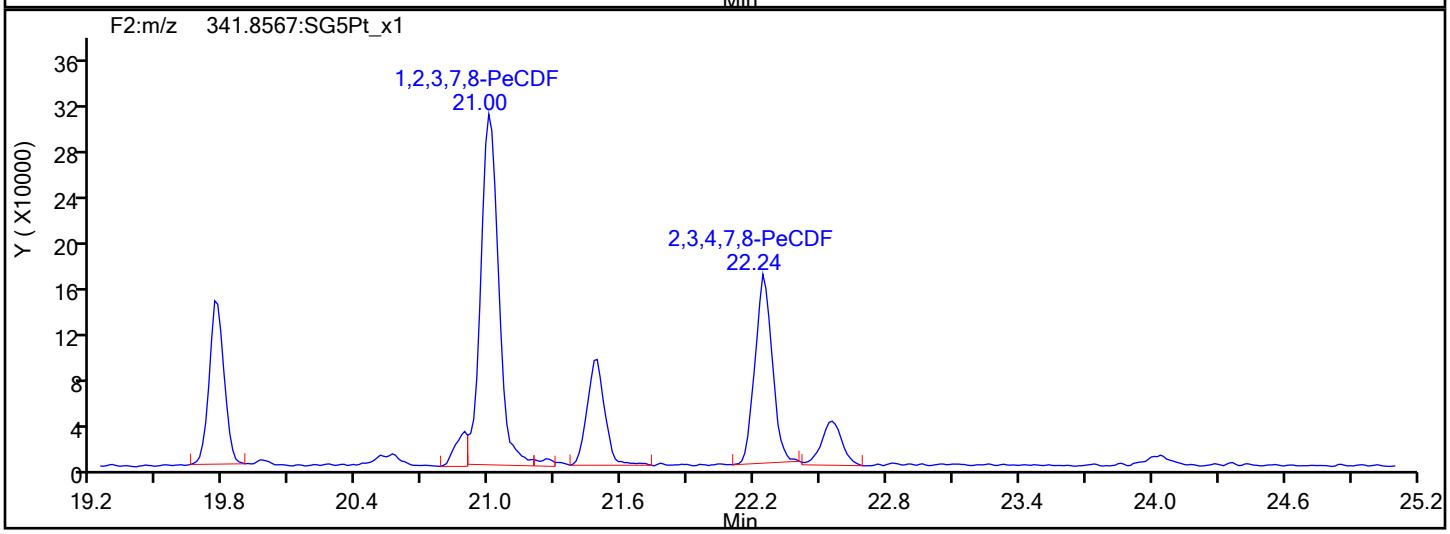

PeCDF Interference Mass

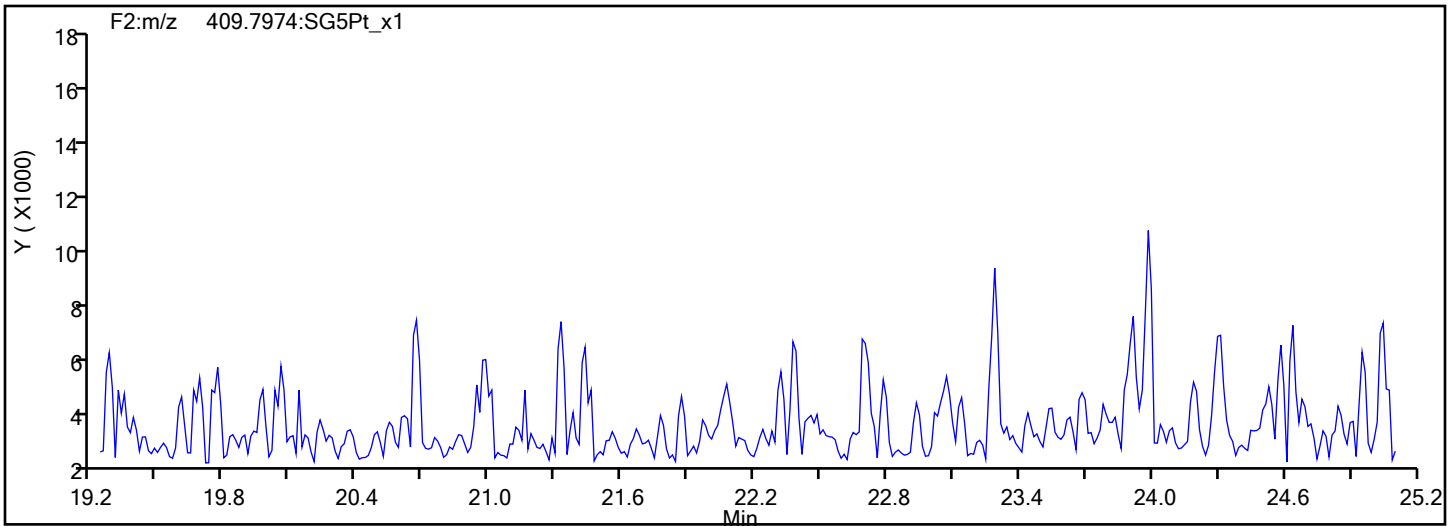

Report Date: 07-Oct-2019 08:58:41 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_19.d		
Injection Date:	04-Oct-2019 02:06:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-CONTACT-INITIAL		
Worklist#:	328202	Sample Line#:	19
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

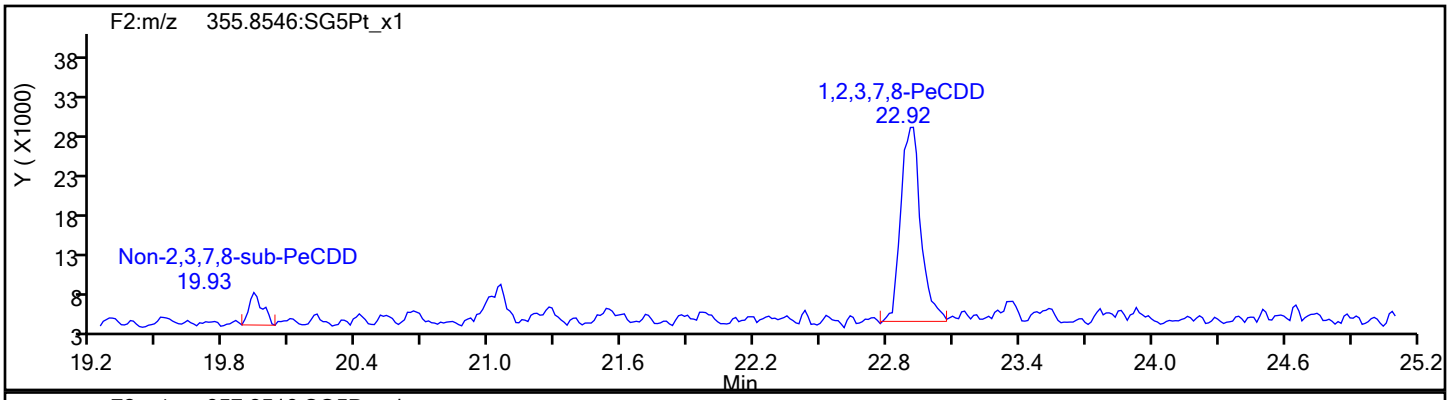

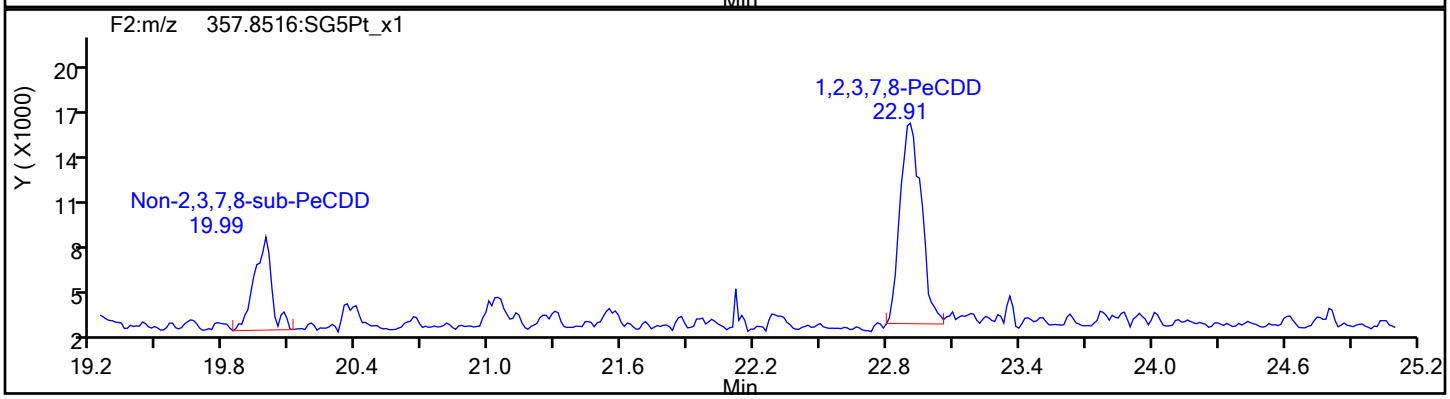

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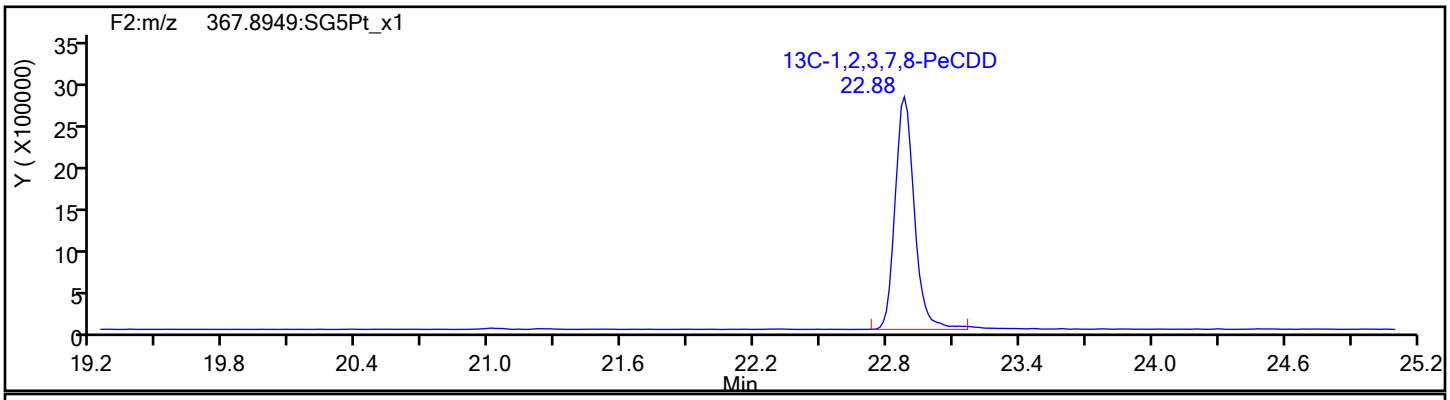

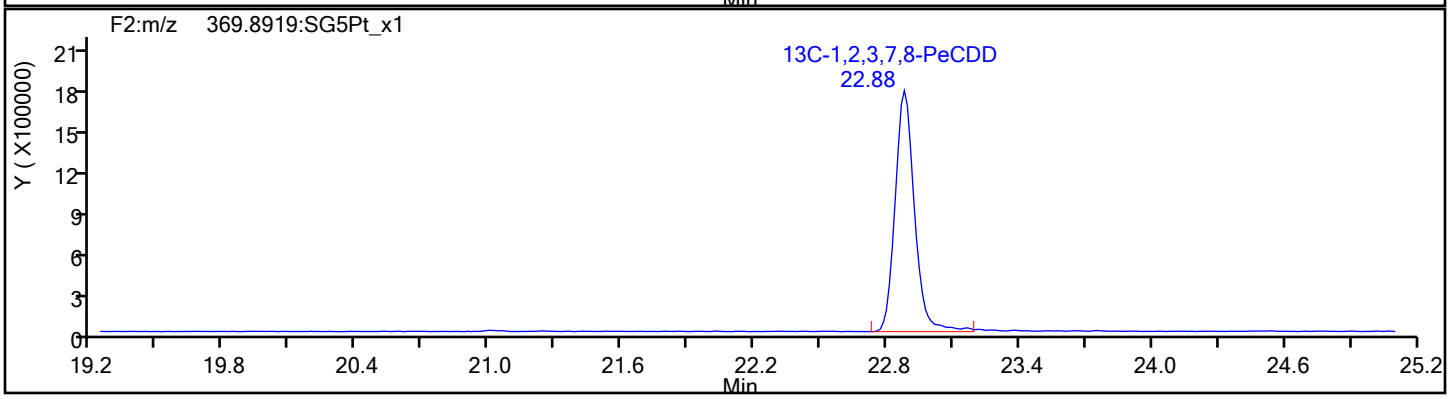

Report Date: 07-Oct-2019 08:58:41 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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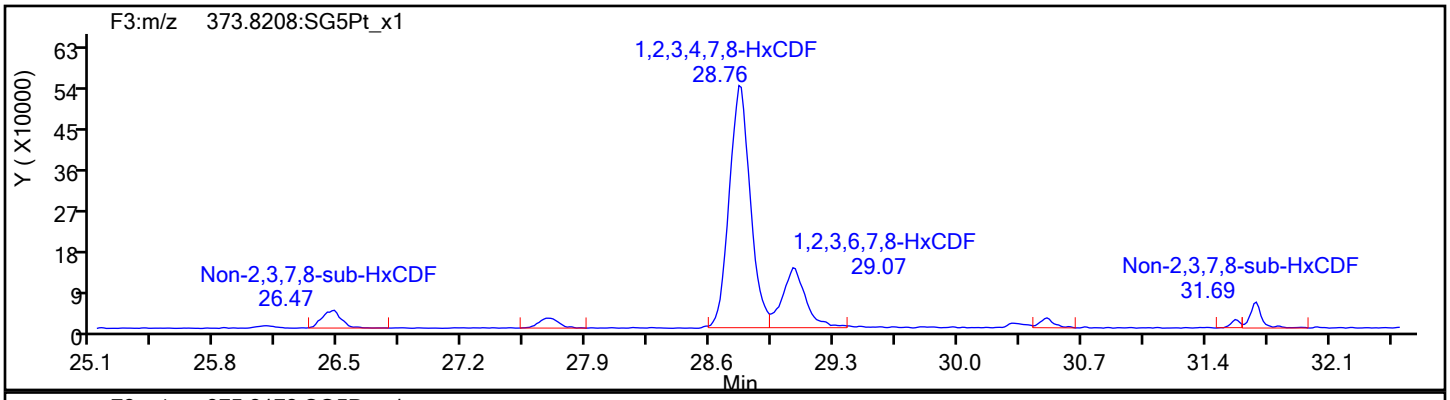

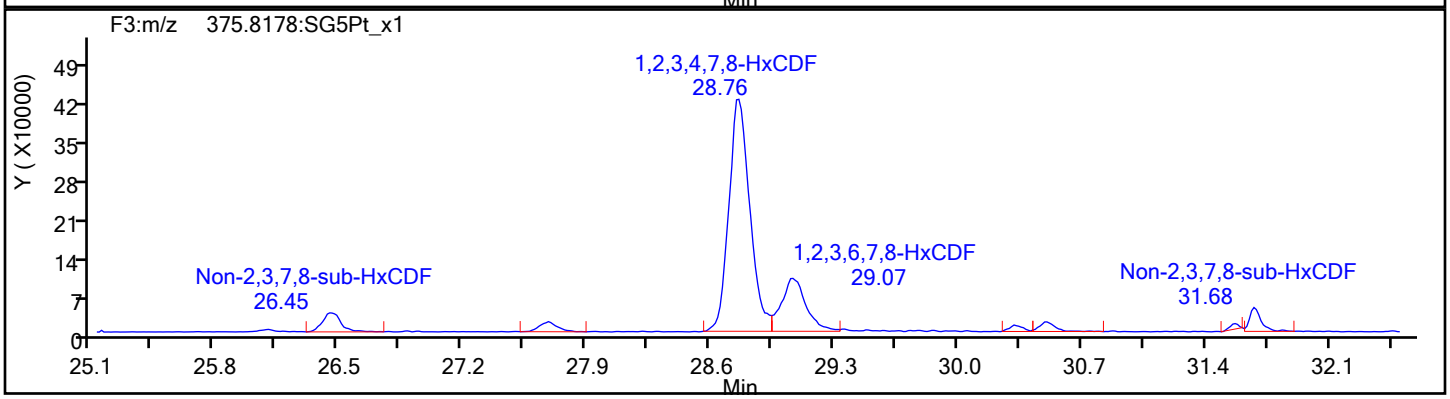

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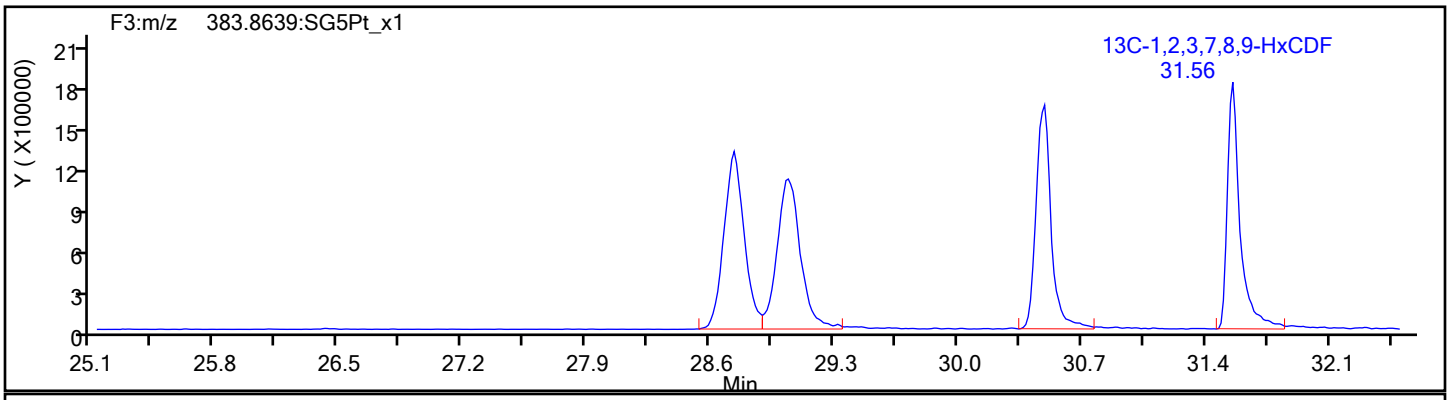

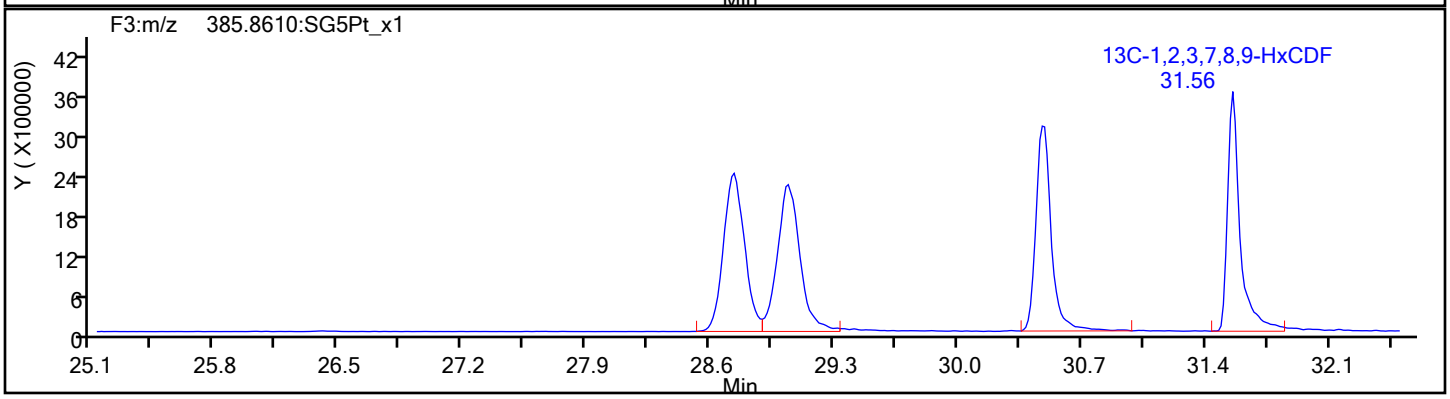

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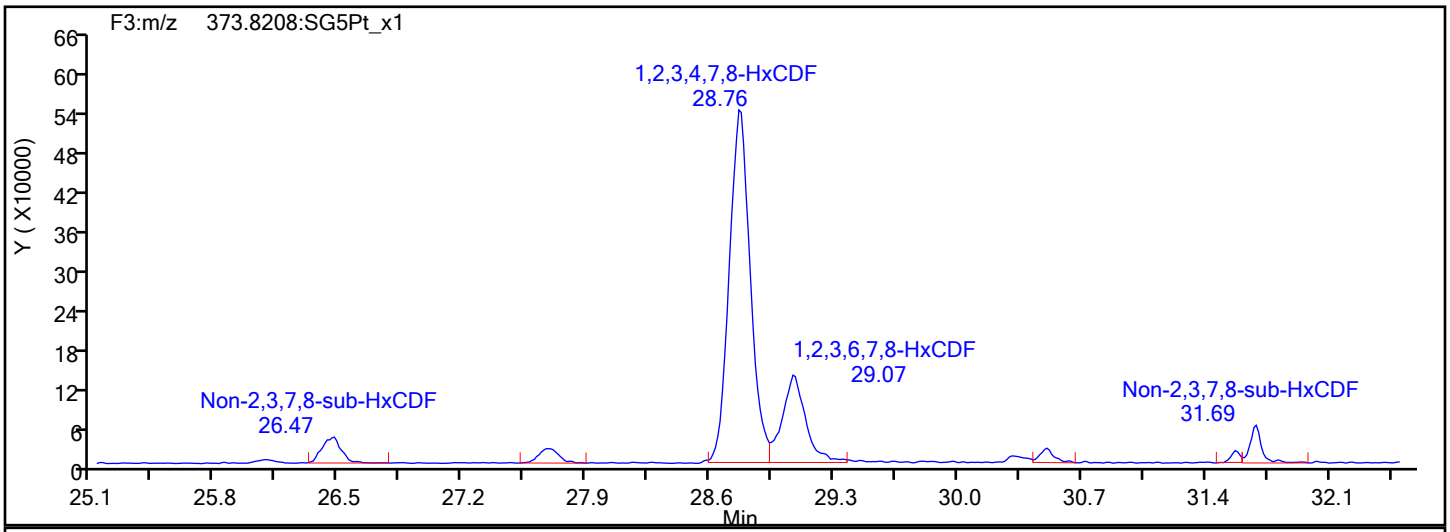

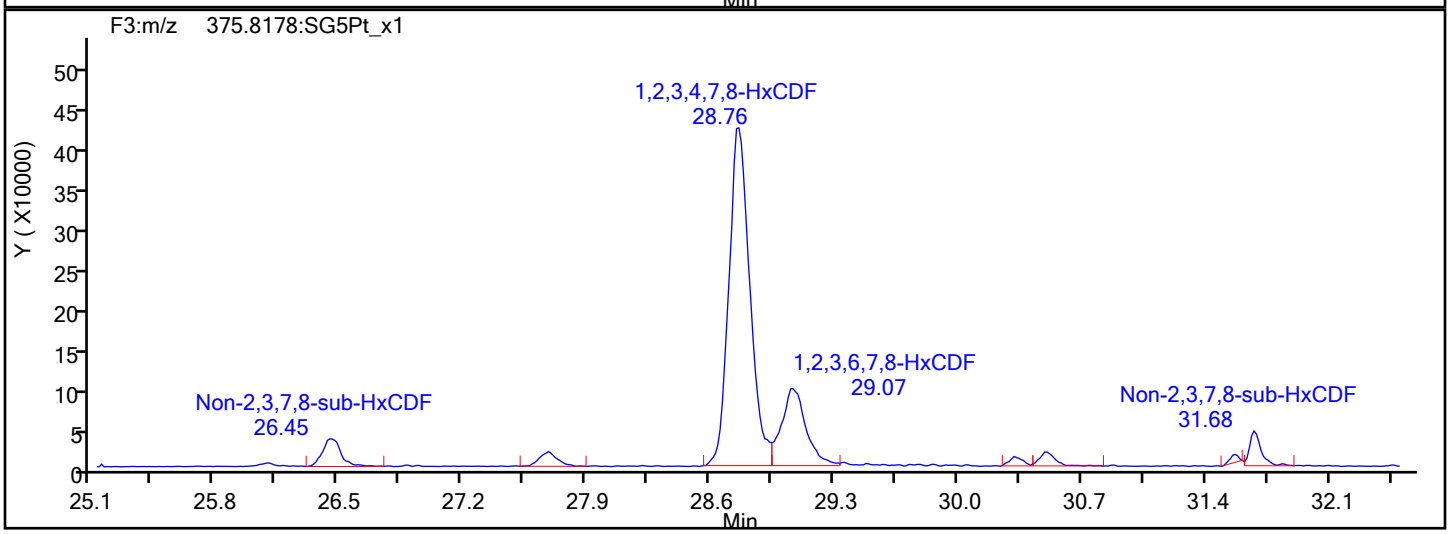

HxCDF Interference Mass

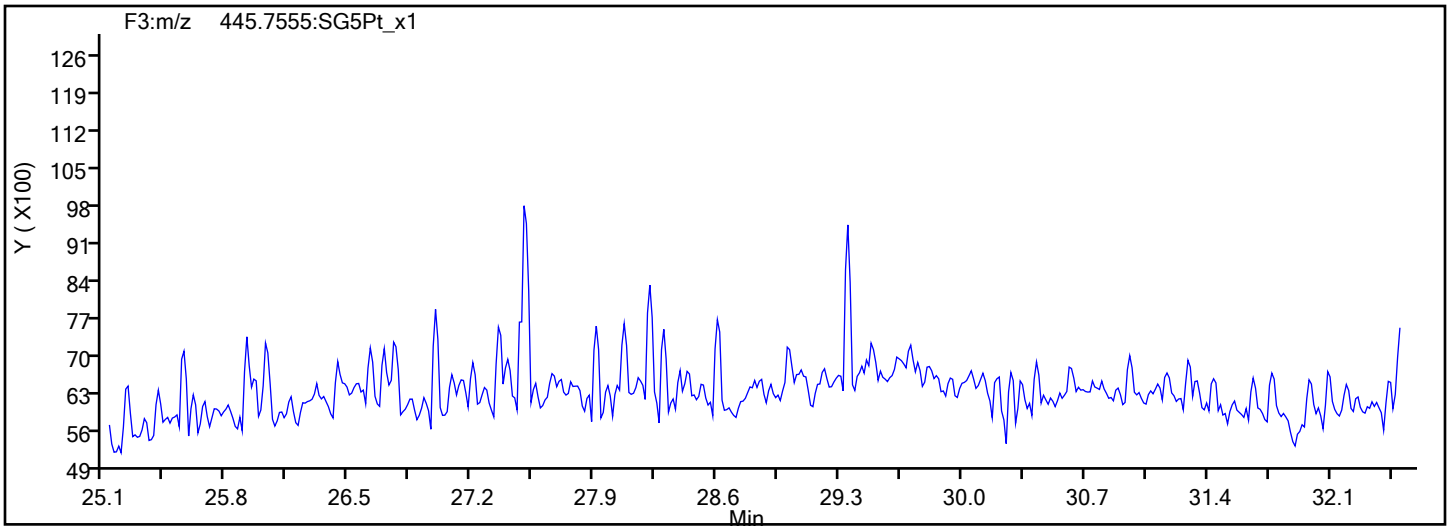

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Eurofins TestAmerica, Sacramento

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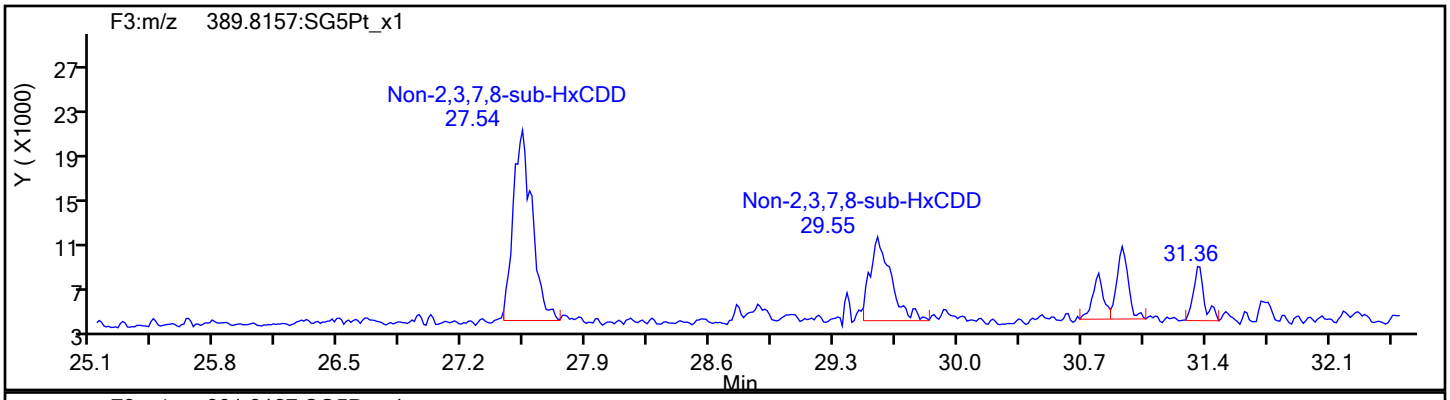

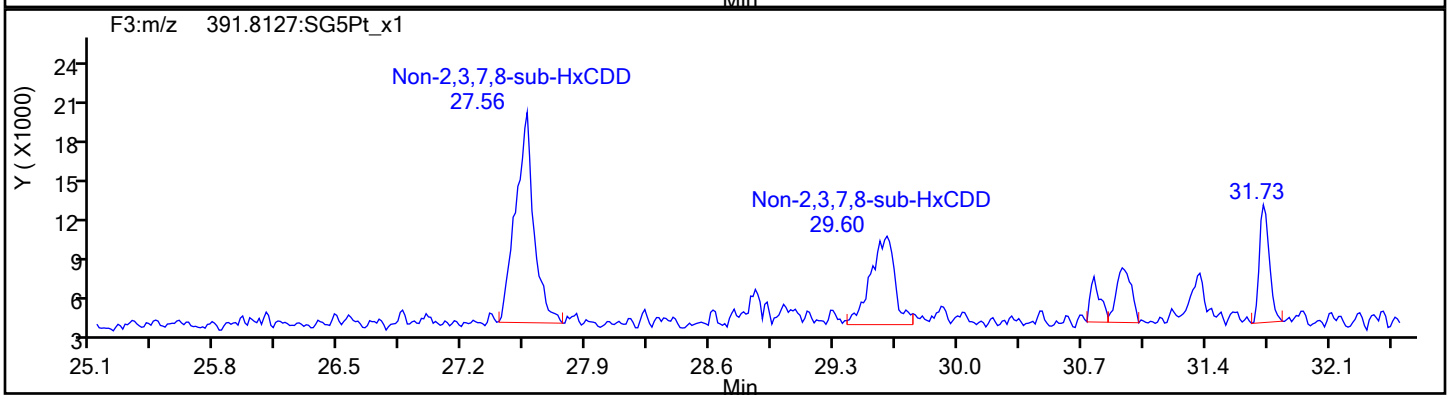

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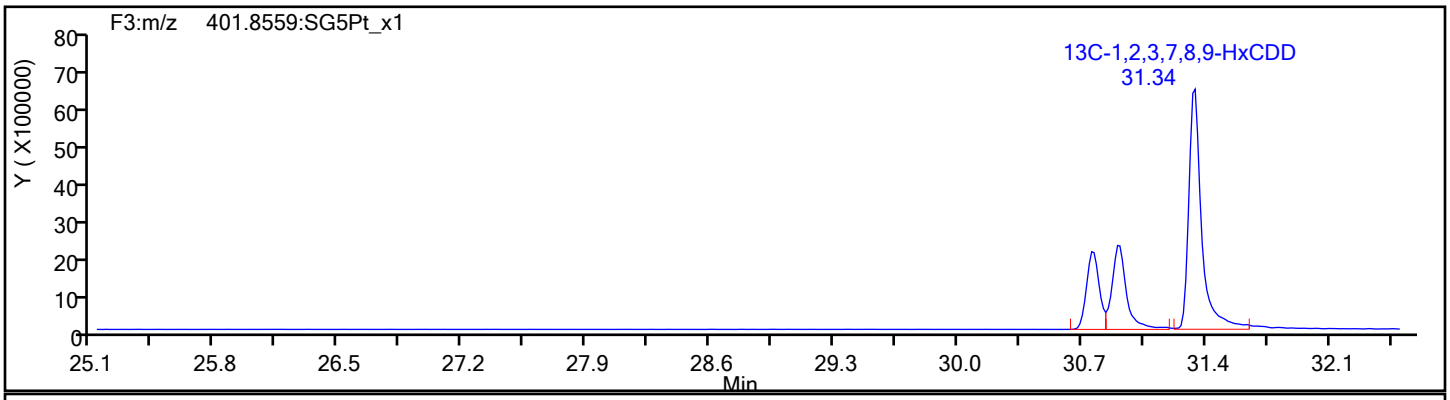

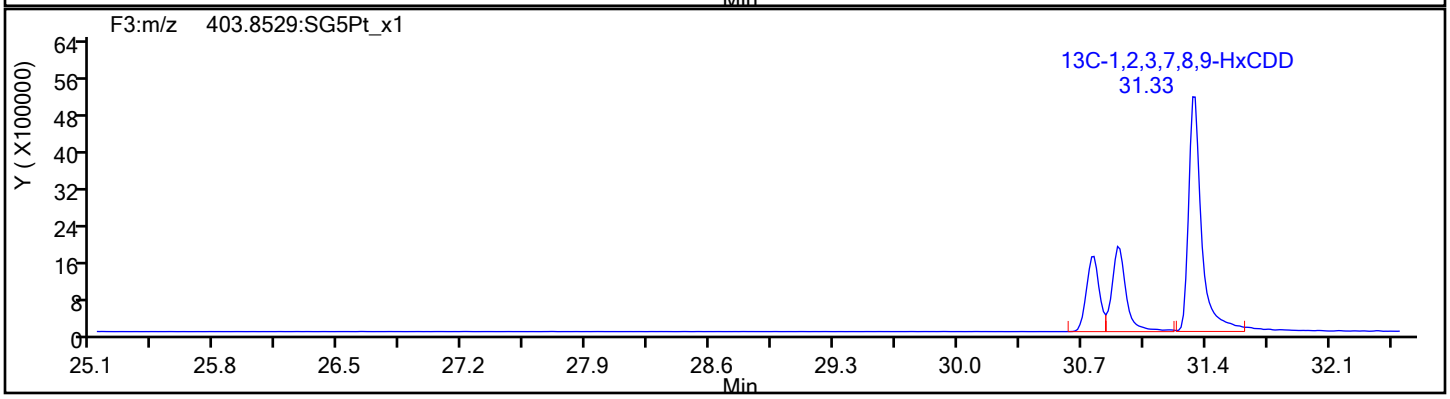

Report Date: 07-Oct-2019 08:58:42 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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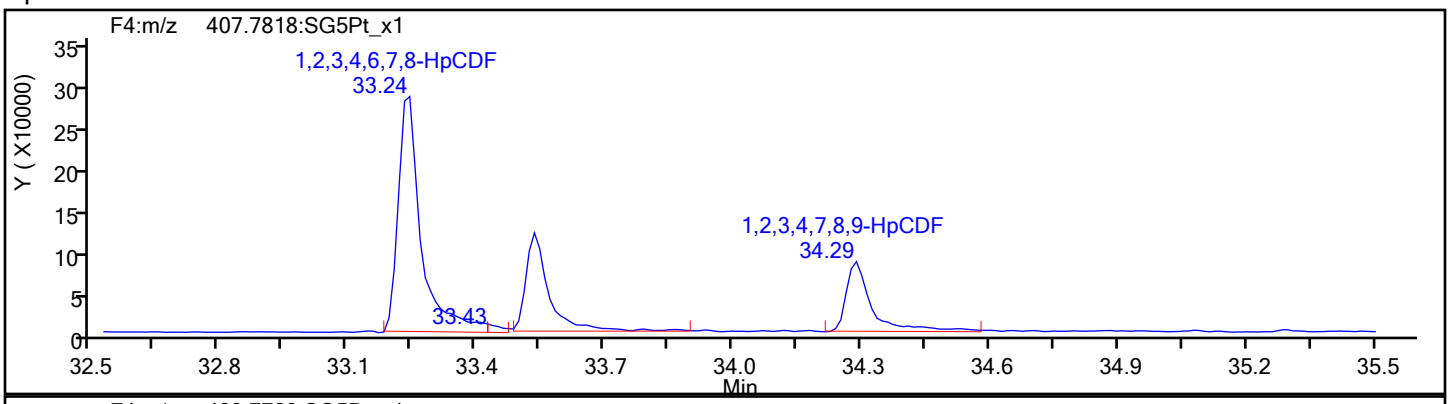

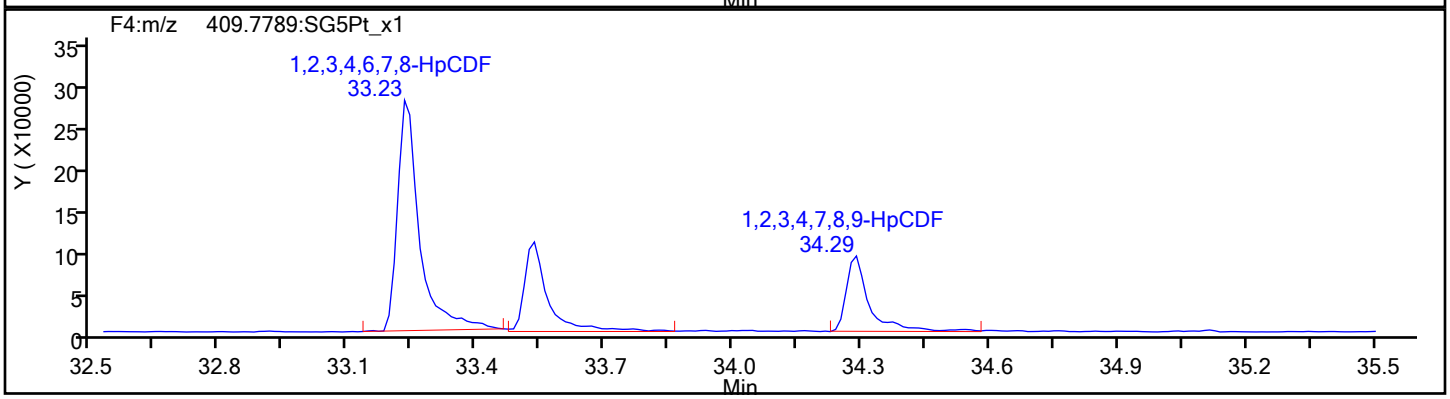

HpCDF Standards

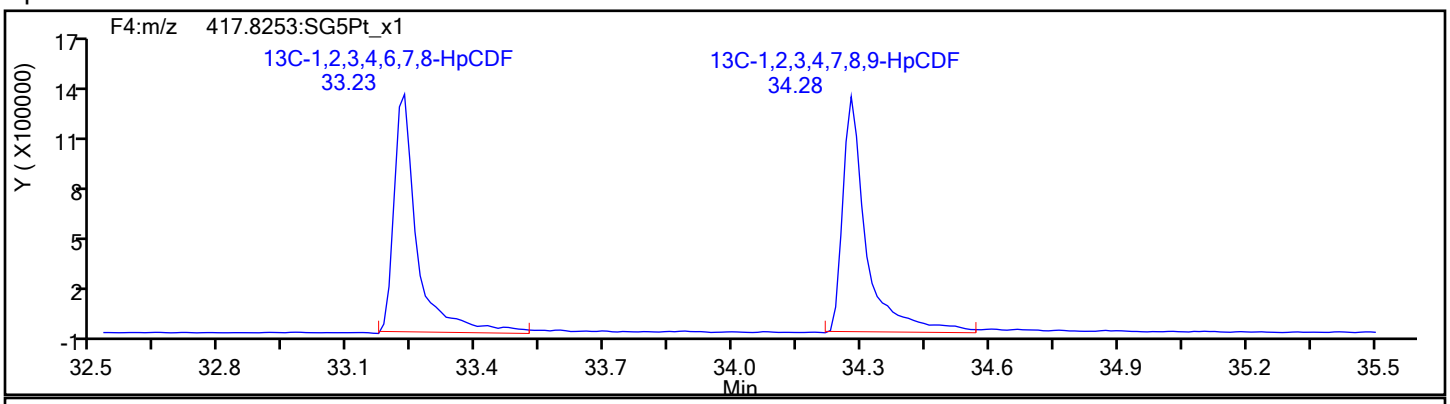

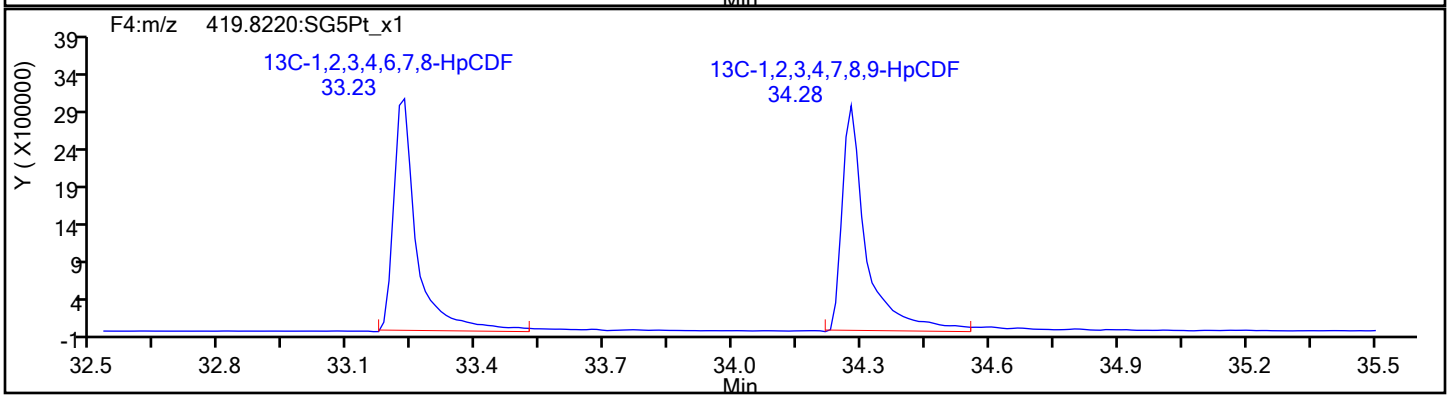

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Eurofins TestAmerica, Sacramento

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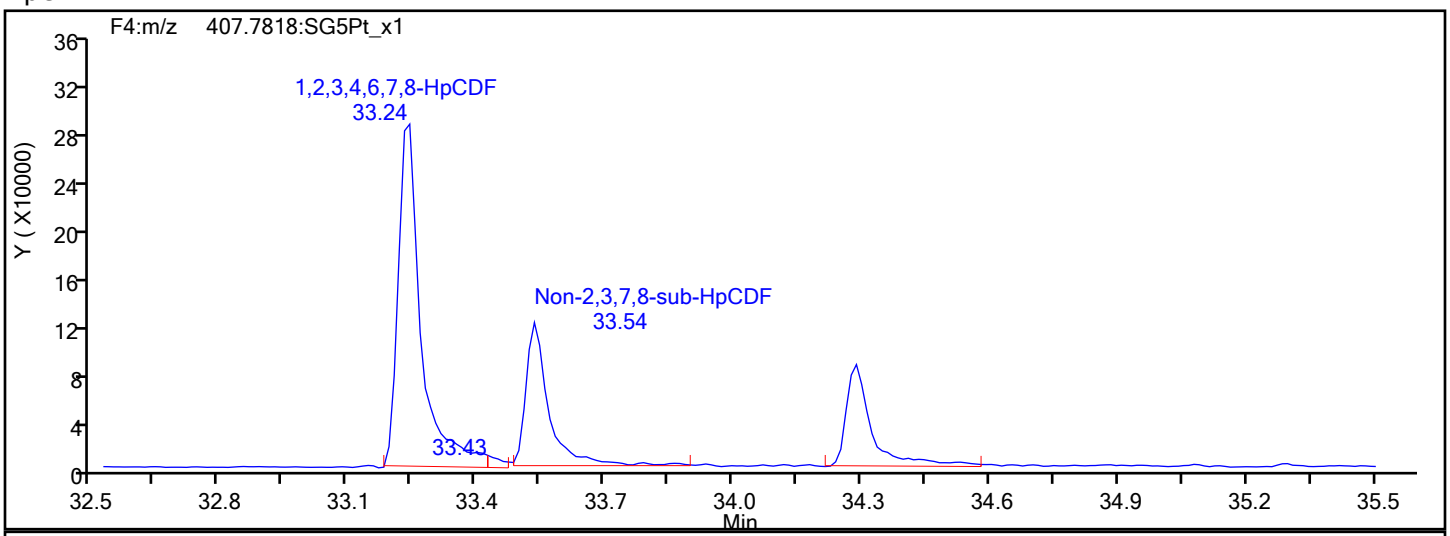

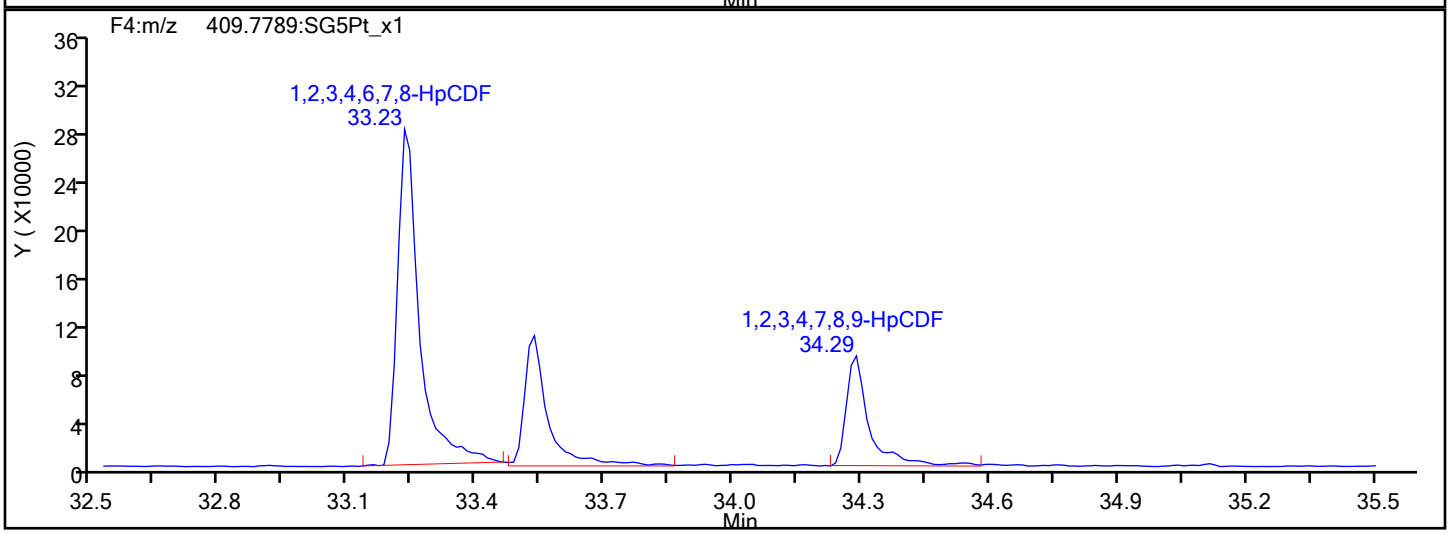

HpCDF Interference Mass

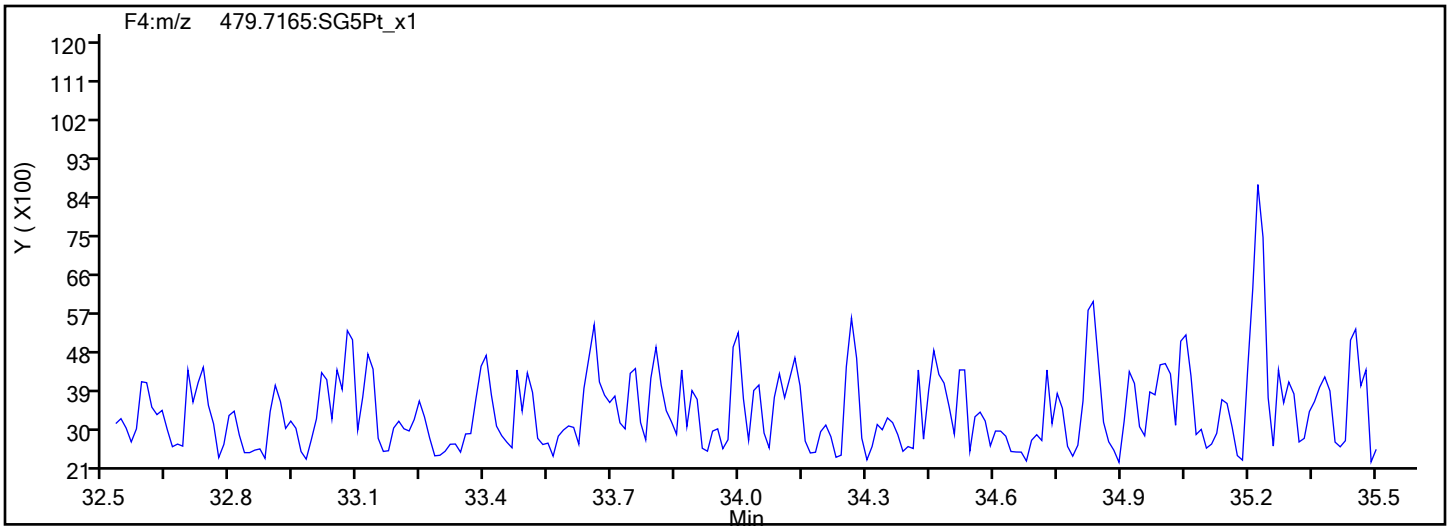

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Eurofins TestAmerica, Sacramento

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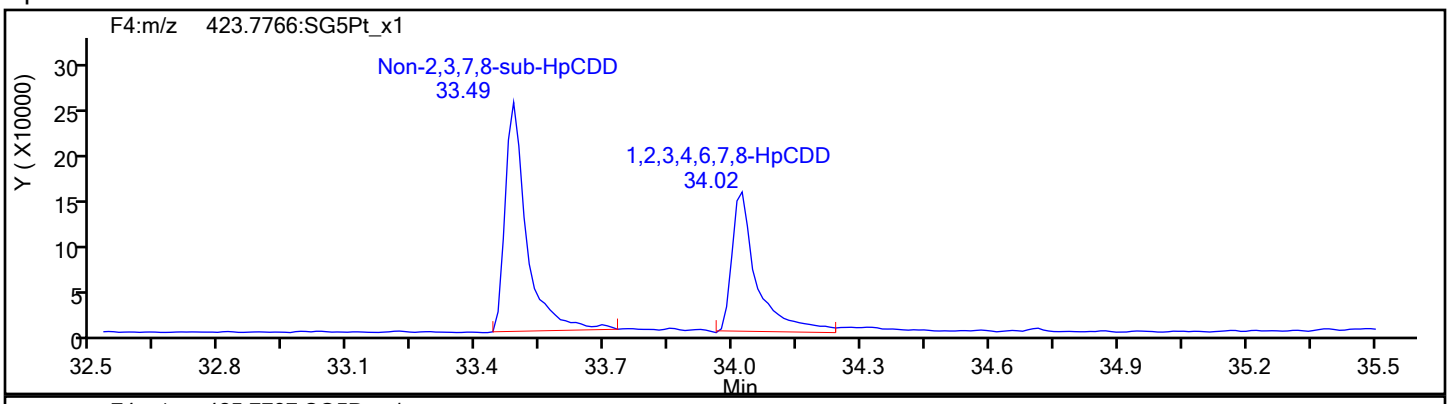

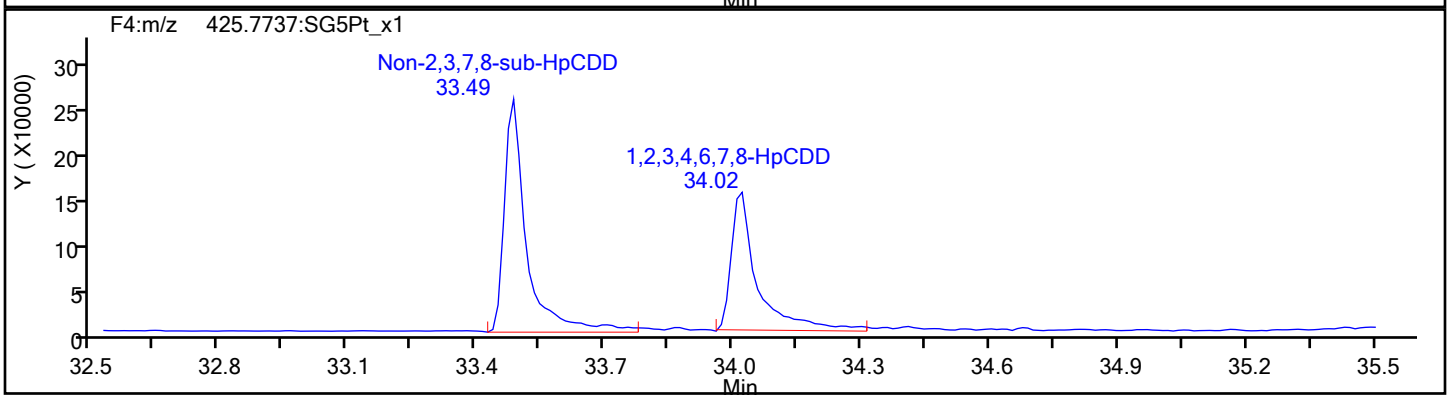

HpCDD Standards

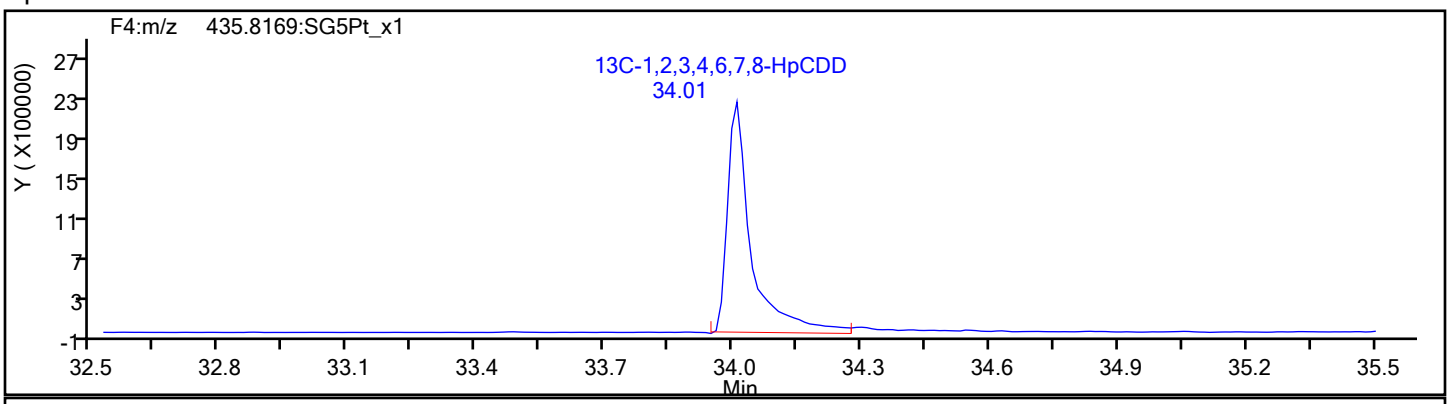

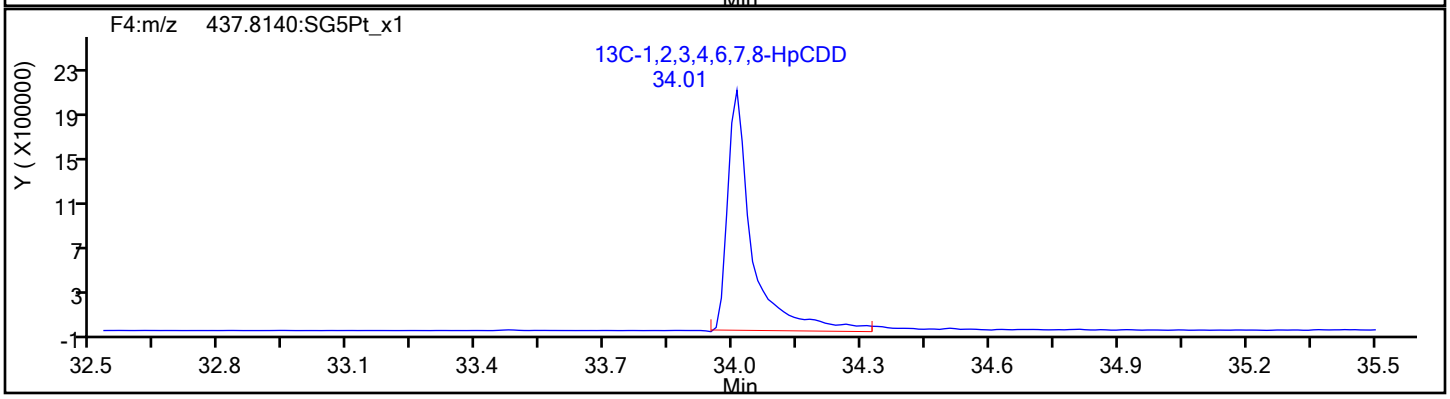

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Eurofins TestAmerica, Sacramento

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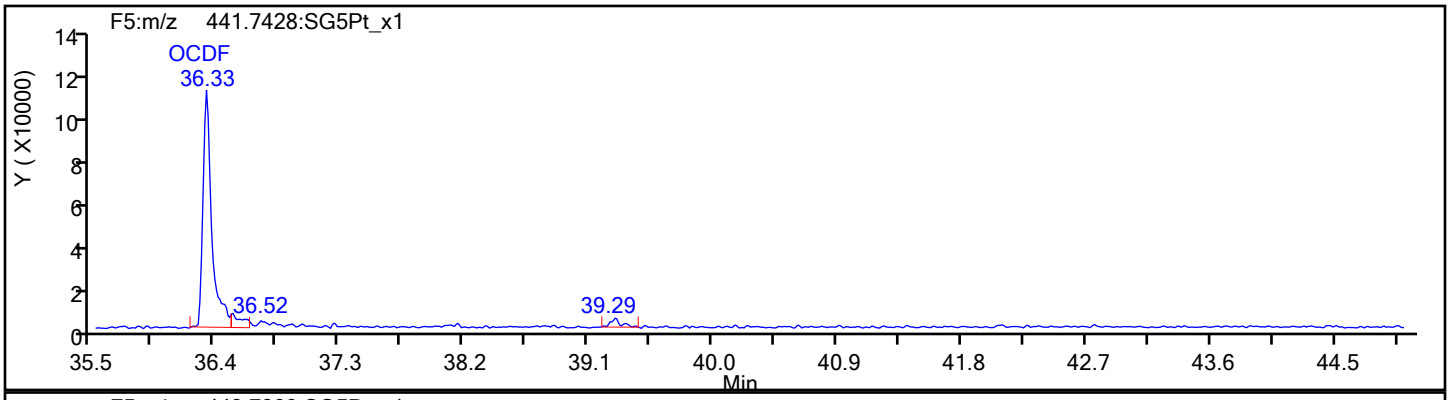

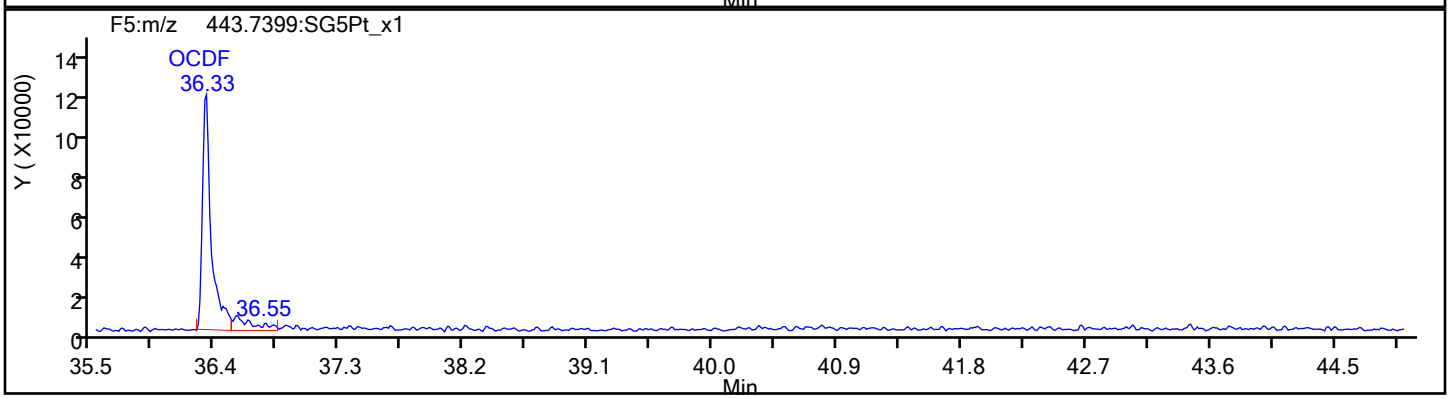

OCDF Standards

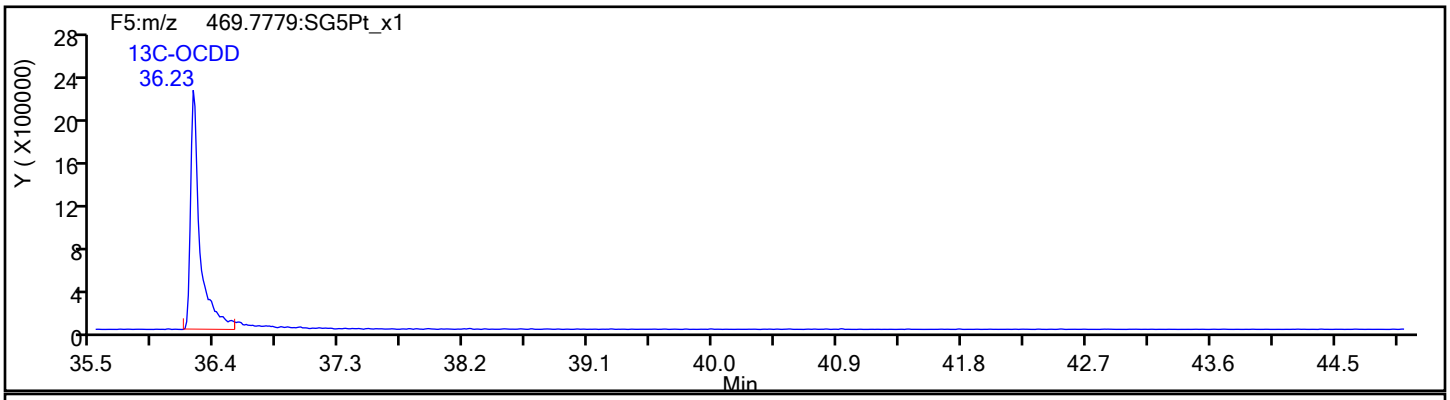

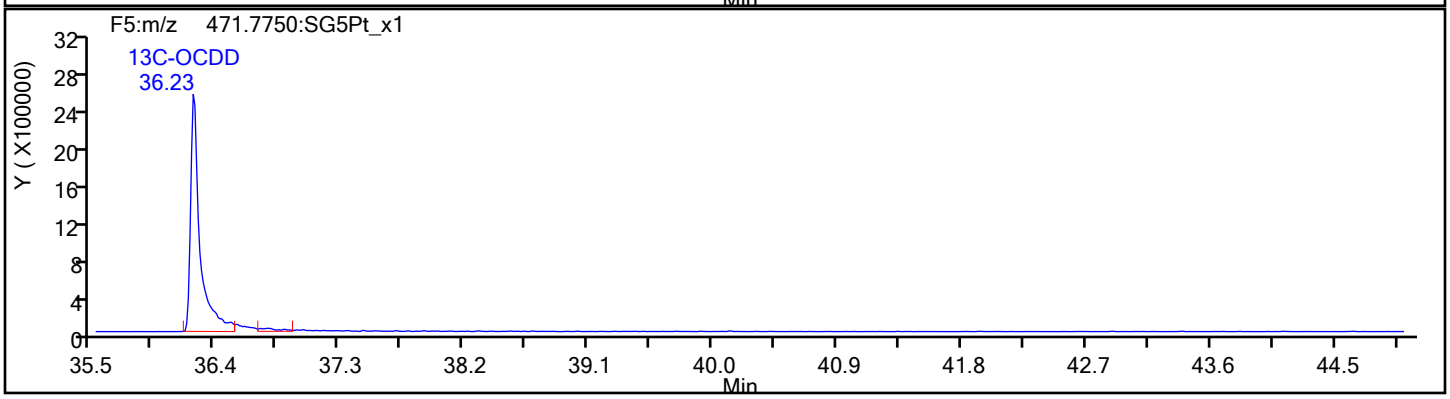

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Eurofins TestAmerica, Sacramento

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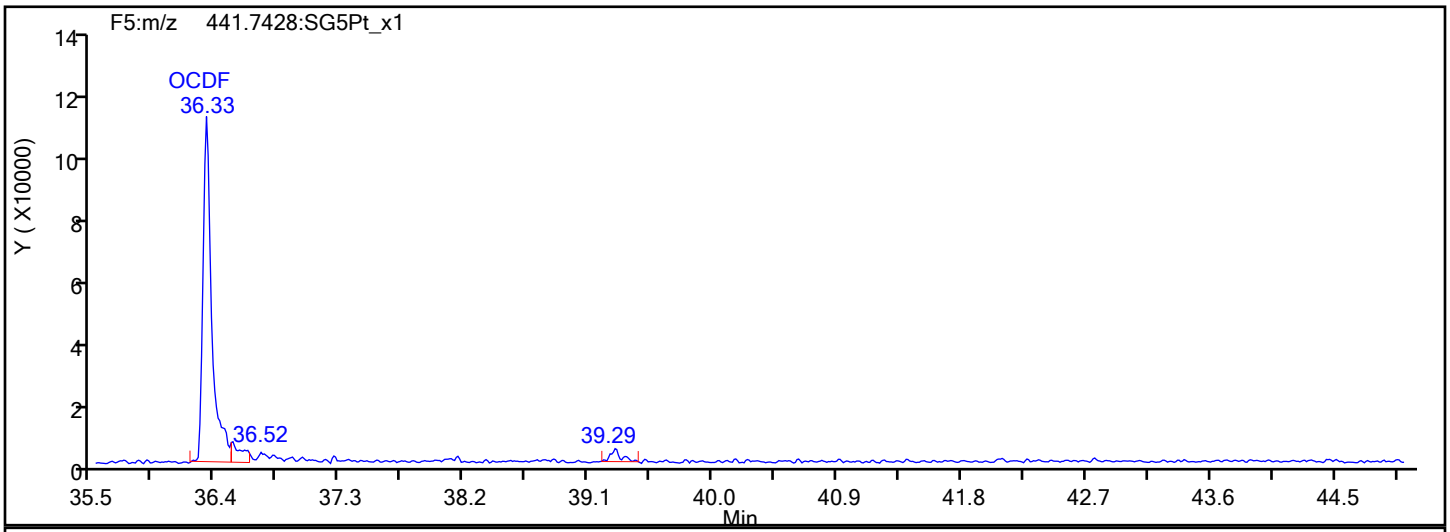

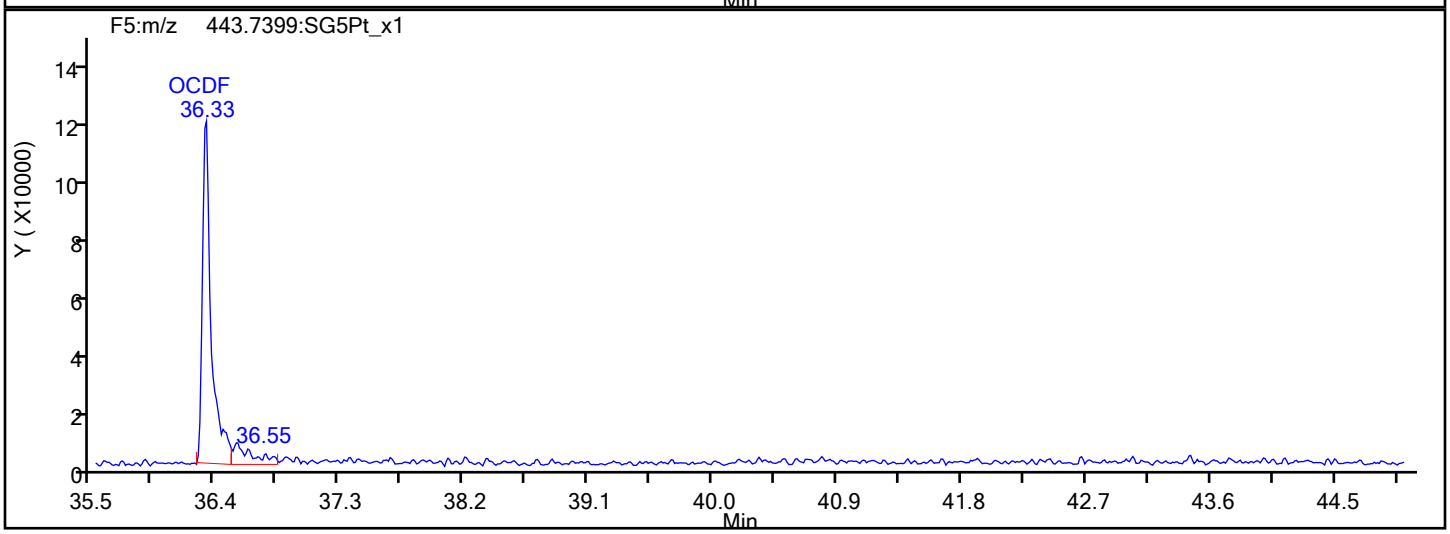

OCDF Interference Mass

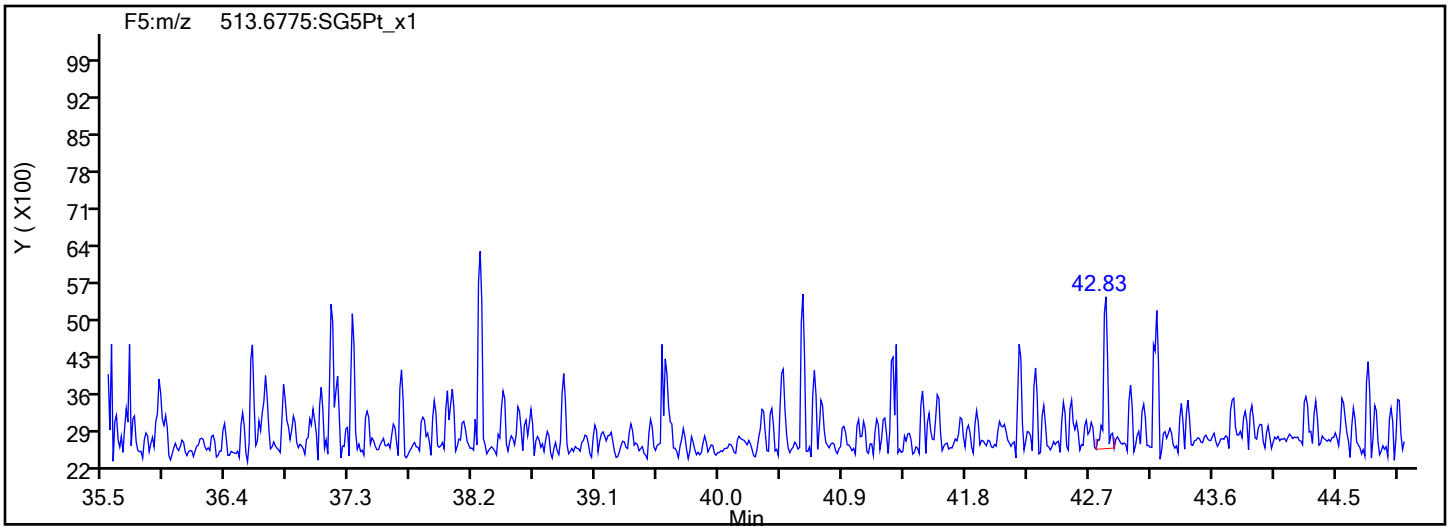

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Eurofins TestAmerica, Sacramento

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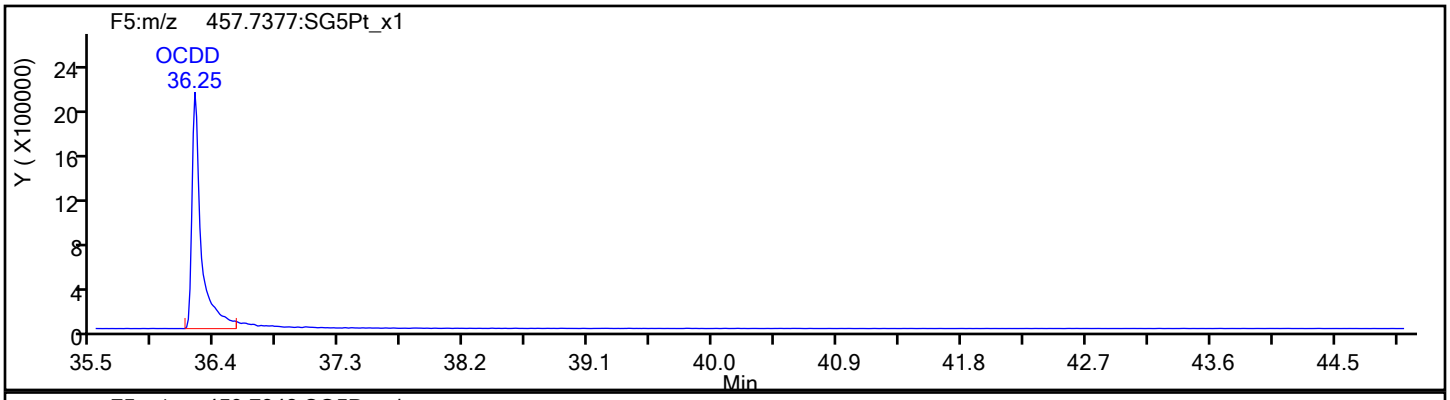

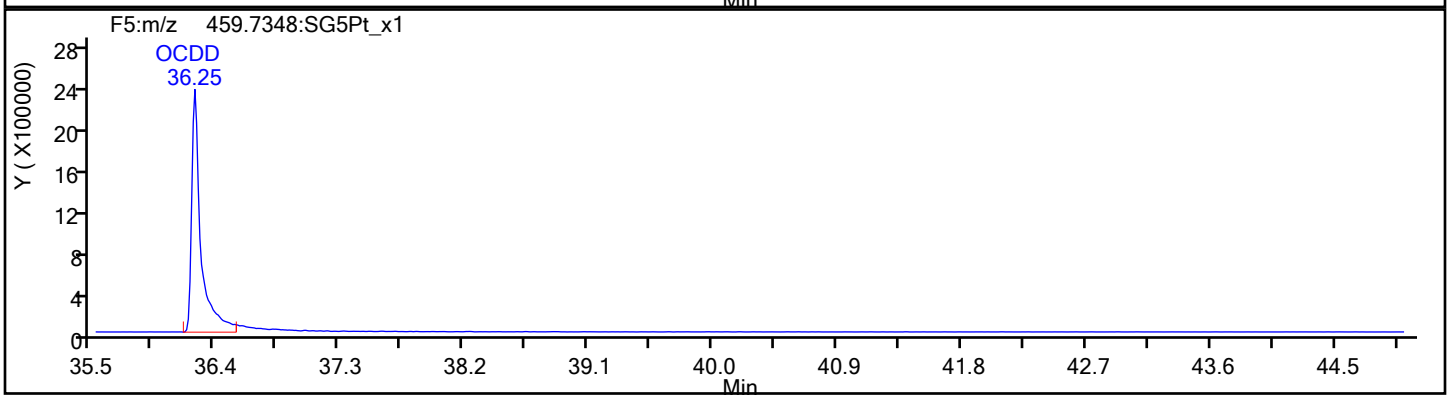

OCDD Standards

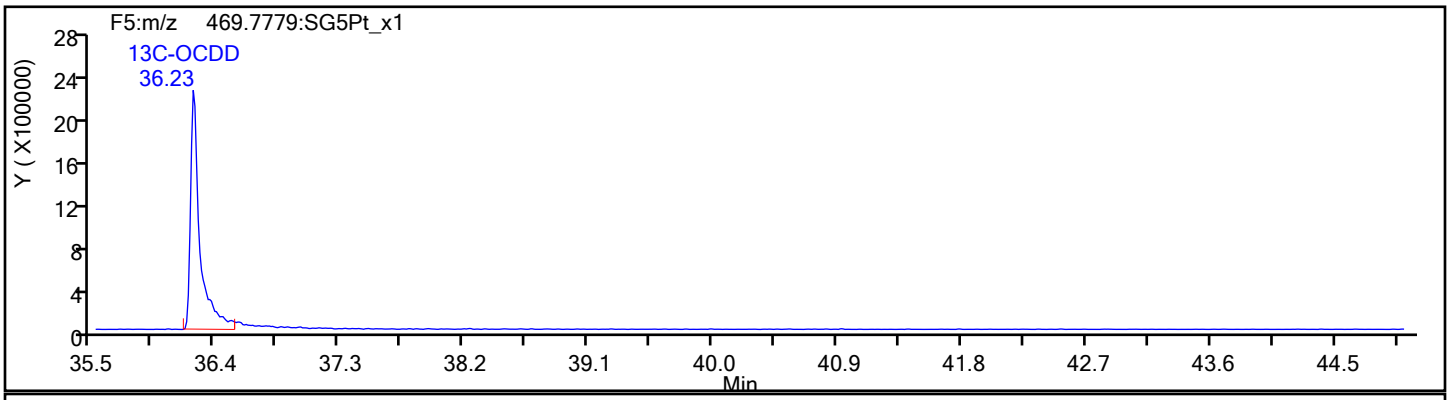

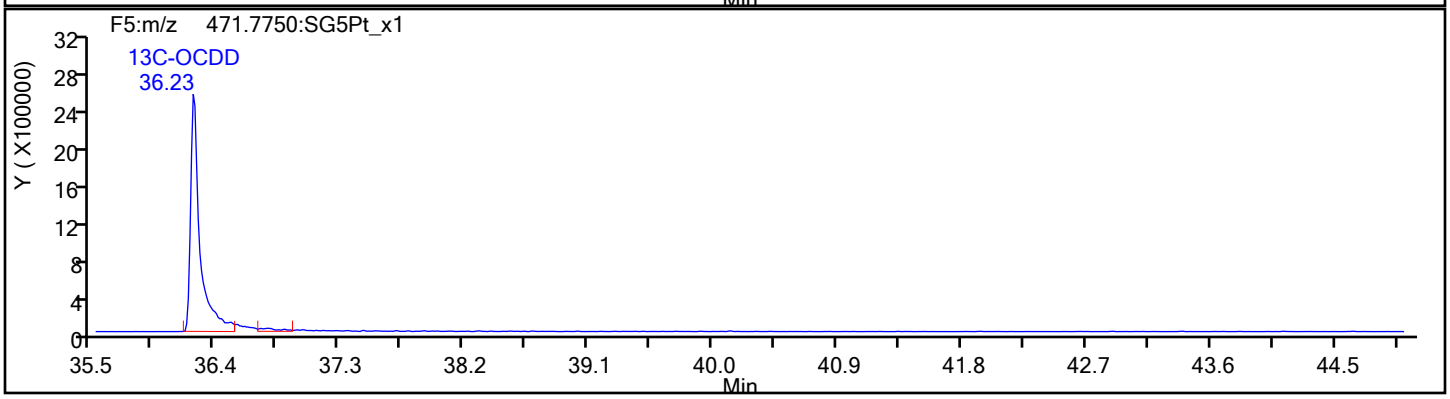

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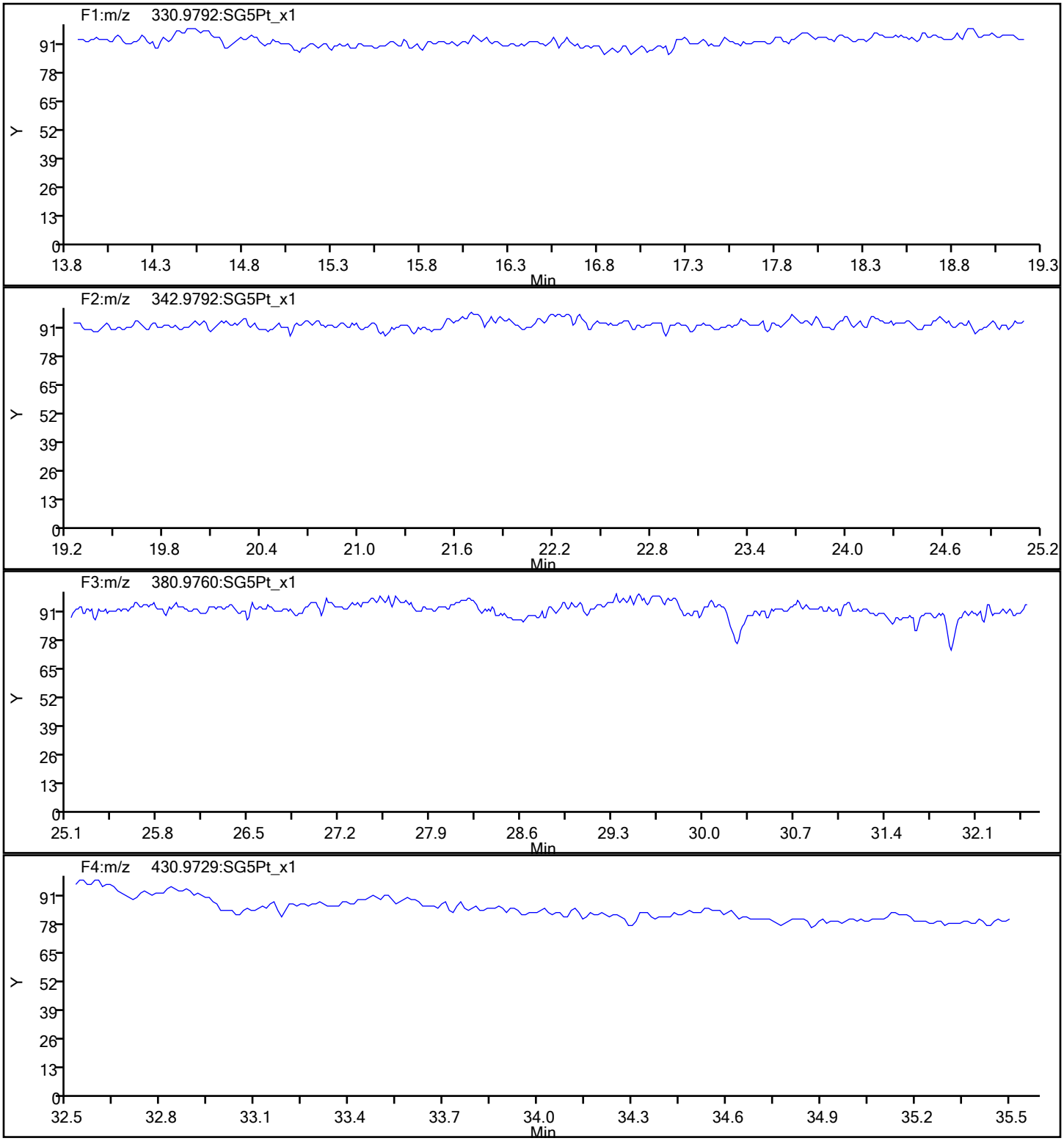

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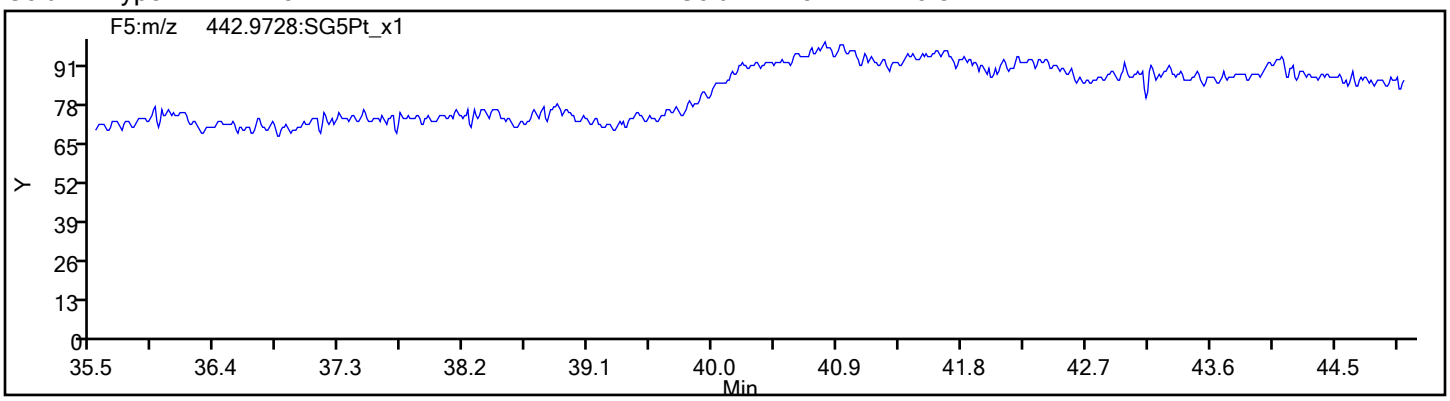

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 180-96144-1
SDG No.:
Client Sample ID: 11187072-CONTACT-INITIAL RA
Lab Sample ID: 180-96144-1 RA
Matrix: Water
Lab File ID: 10OC1911D2_013.d
Analysis Method: 1613B
Date Collected: 09/24/2019 15:00
Extract. Method: 1613B
Date Extracted: 09/30/2019 11:45
Sample wt/vol: 1045(mL)
Date Analyzed: 10/10/2019 21:13
Con. Extract Vol.: 20(uL)
Dilution Factor: 2
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 330101
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
51207-31-9	2,3,7,8-TCDF	3900		19	6.4

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
89059-46-1	13C-2,3,7,8-TCDF	53		24-169

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	107		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20191010-84713.b\10OC1911D2_013.d
Lims ID: 180-96144-C-1-A
Client ID: 11187072-CONTACT-INITIAL
Sample Type: Client
Inject. Date: 10-Oct-2019 21:13:25 ALS Bottle#: 0 Worklist Smp#: 13
Injection Vol: 2.0 ul Dil. Factor: 2.0000
Sample Info: 180-96144-C-1-A 2X
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20191010-84713.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 11-Oct-2019 13:41:53 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0340

First Level Reviewer: shardaa Date: 11-Oct-2019 13:40:48

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.271	51829803	0.74	1.1E+06	50.0	50.0				
D 13C-2,3,7,8-TCDF	16.437	36890954	0.77	1.3379	26.6	26.6	0.3437	0.3437	53.20	
2,3,7,8-TCDF	16.451	63267869	0.79	0.8389	102.2	102.2	0.1668	0.1668		
D 13C-2,3,7,8-TCDD	15.038	20944003	0.76	0.9388	21.5	21.5	1.410	1.410	43.04	
2,3,7,8-TCDD	15.051	22696909	0.78	1.1538	47.0	47.0	0.2688	0.2688		
$ 37Cl4-2,3,7,8-TCDD	15.051	26159034		1.1816	21.4	21.4	0.0556	0.0556	107	
S Total 2378-Chlorinated							0.000100	0.000100		

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20191010-84713.b\10OC1911D2_013.d
Lims ID: 180-96144-C-1-A
Client ID: 11187072-CONTACT-INITIAL
Sample Type: Client
Inject. Date: 10-Oct-2019 21:13:25 ALS Bottle#: 0 Worklist Smp#: 13
Injection Vol: 2.0 ul Dil. Factor: 2.0000
Sample Info: 180-96144-C-1-A 2X
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20191010-84713.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 11-Oct-2019 13:41:53 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0340

First Level Reviewer: shardaa Date: 11-Oct-2019 13:40:48

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.271	15.284	-1		22112866	4996120	79551	198877	63		
333.9339	15.271	15.284	-1		29716937	6601563	43283	108207	153	0.74(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.437	16.450	-1	1.076	16004415	3290951	23309	58272	141		
317.9389	16.437	16.450	-1	1.076	20886539	4074336	19356	48390	210	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.451	16.477	-2	1.001	27851584	5452796	3835	9587	1422		
305.8987	16.451	16.477	-2	1.001	35416285	7167356	4409	11022	1626	0.79(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.038	15.037	0	0.985	9022760	2081307	79551	198877	26		
333.9339	15.038	15.037	0	0.985	11921243	2621822	43283	108207	61	0.76(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.051	15.064	-1	1.001	9923963	2173481	7623	19057	285		
321.8936	15.051	15.064	-1	1.001	12772946	2898955	4048	10120	716	0.78(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.051	15.064	-1	0.986	26159034	5909613	6101	15252	969		

Total 2378-Chlorinated Dioxins & Furans
0.0 0

Report Date: 11-Oct-2019 13:42:02 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191010-84713.b\10OC1911D2_013.d		
Injection Date:	10-Oct-2019 21:13:25	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-CONTACT-INITIAL		
Worklist#:	330101	Sample Line#:	13
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

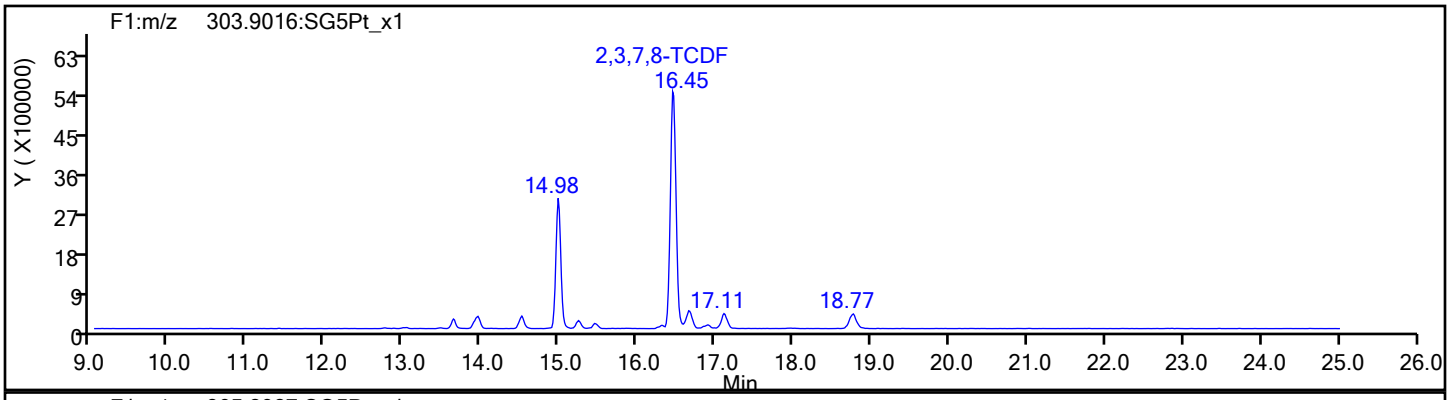

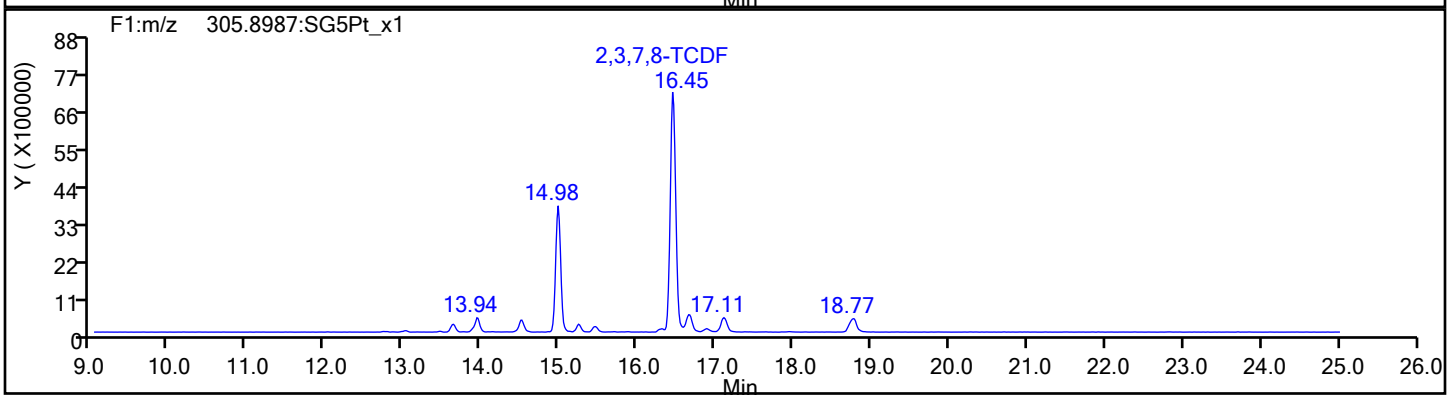

TCDF Standards

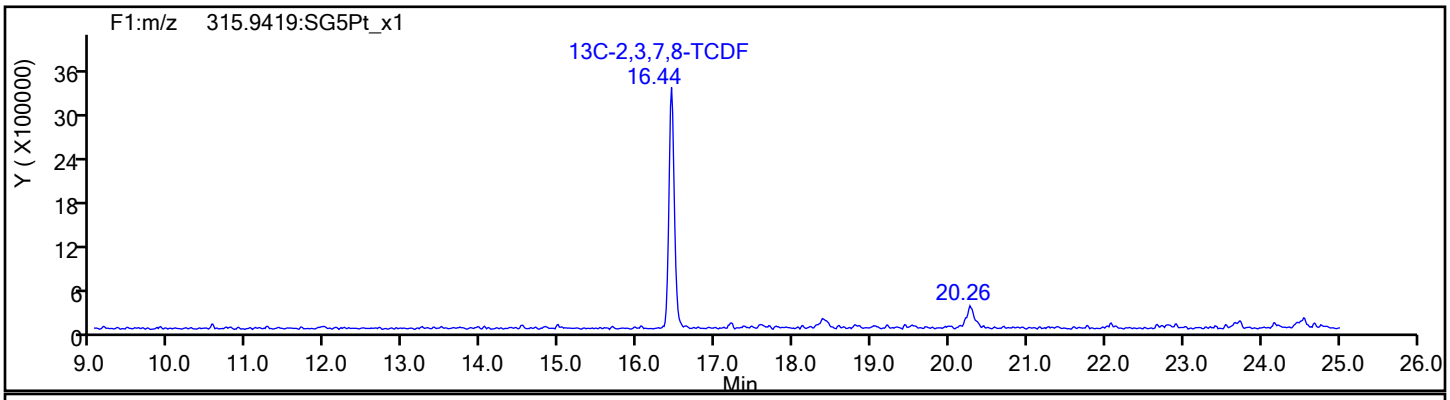

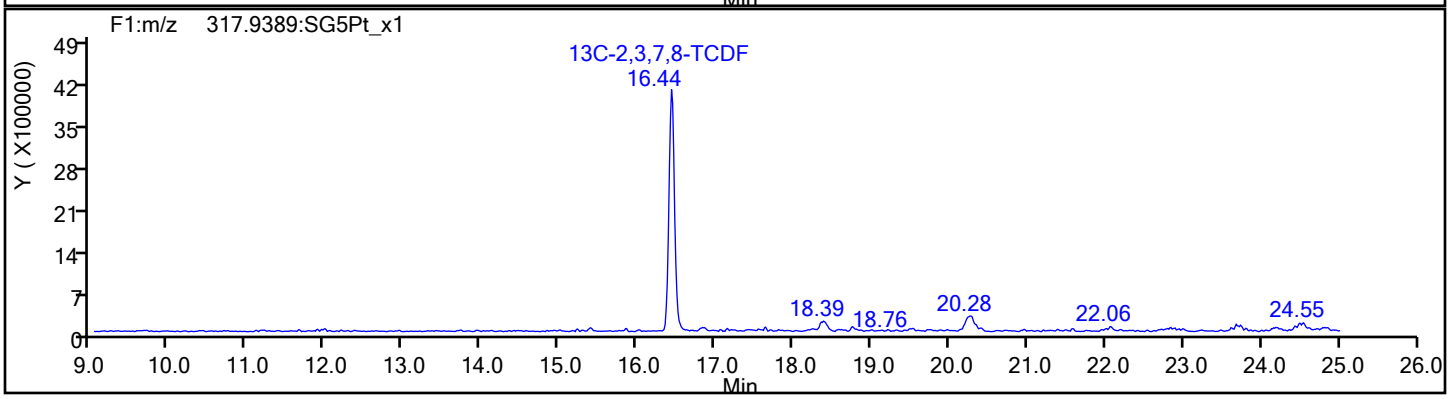

Report Date: 11-Oct-2019 13:42:02 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191010-84713.b\10OC1911D2_013.d		
Injection Date:	10-Oct-2019 21:13:25	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-CONTACT-INITIAL		
Worklist#:	330101	Sample Line#:	13
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

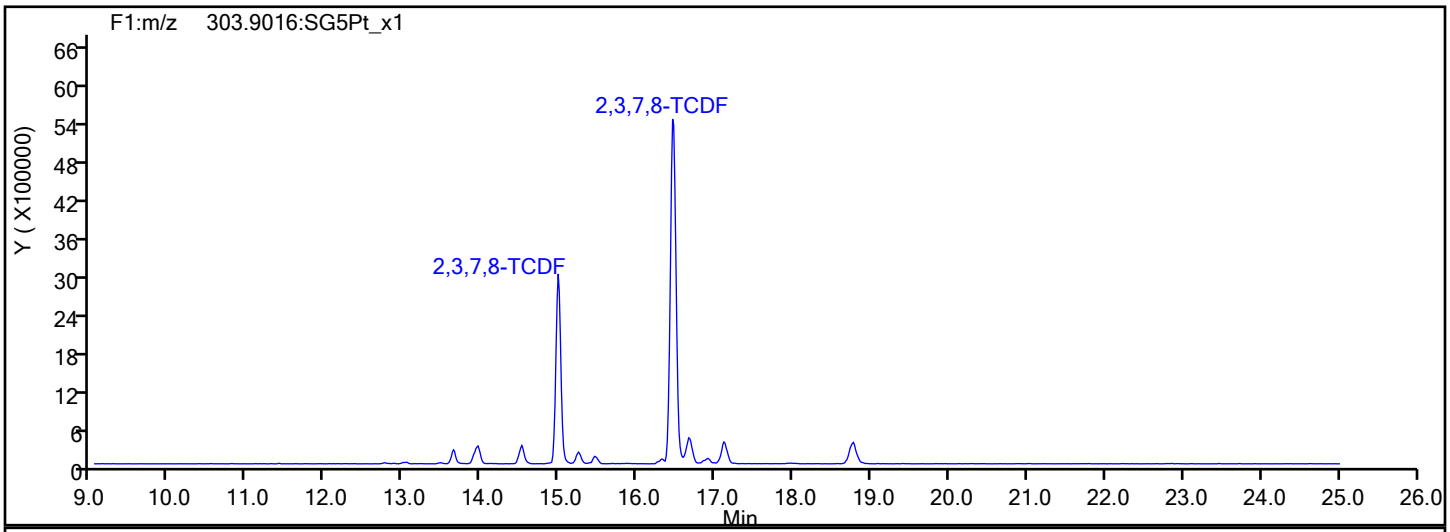

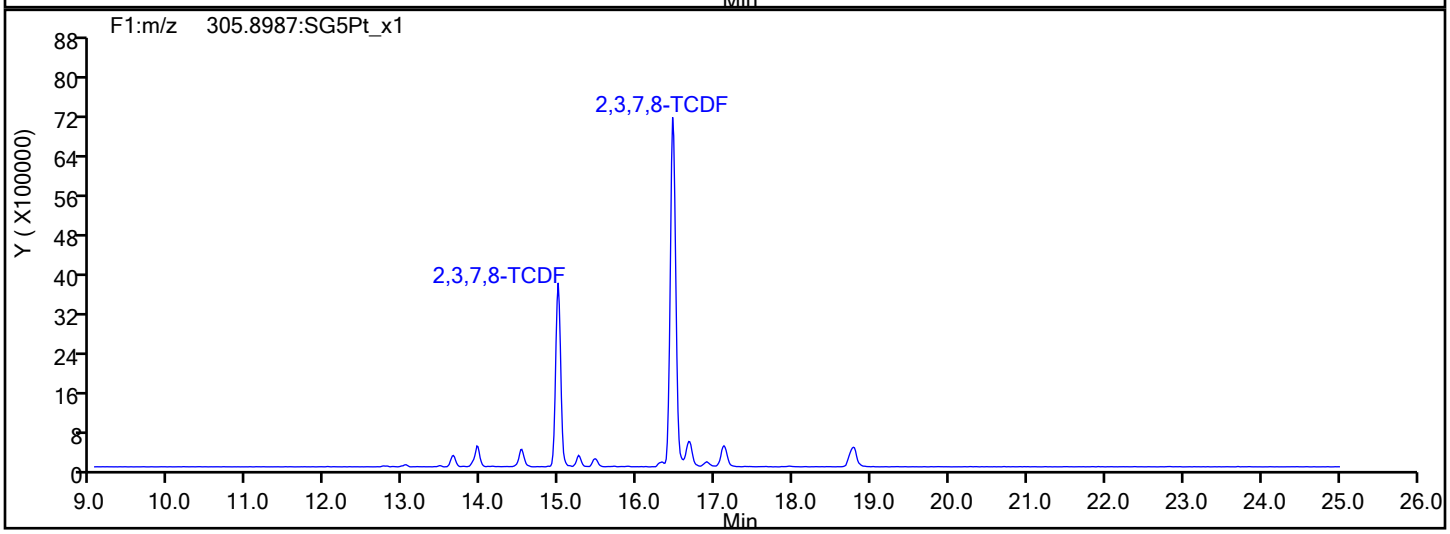

TCDF Interference Mass

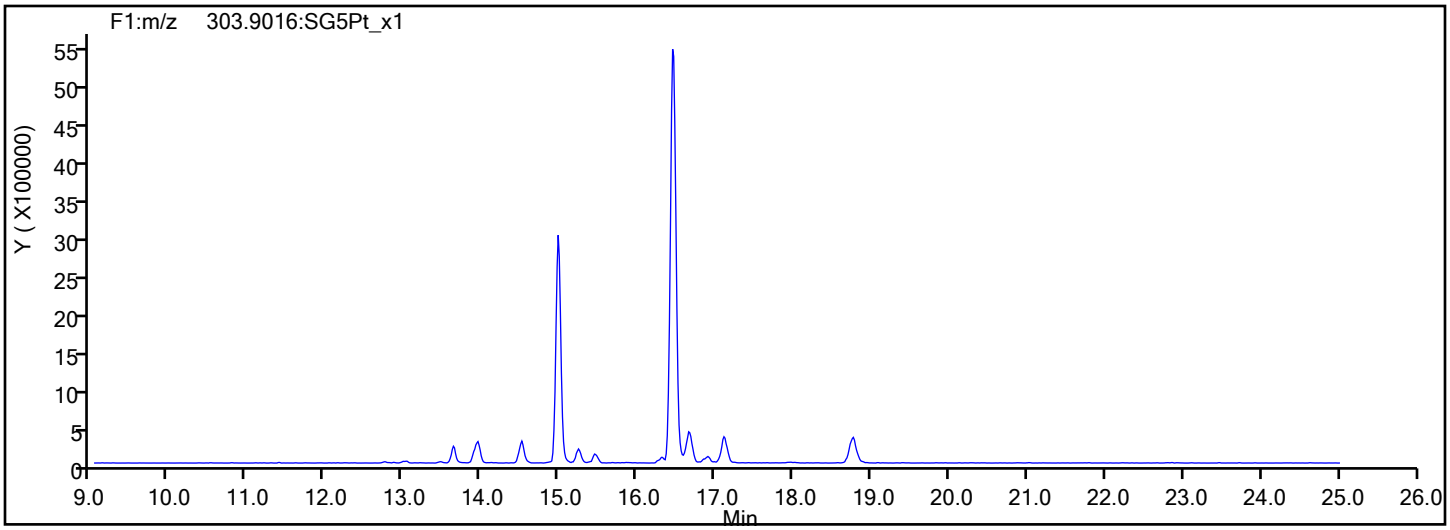

Report Date: 11-Oct-2019 13:42:02 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191010-84713.b\10OC1911D2_013.d		
Injection Date:	10-Oct-2019 21:13:25	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-CONTACT-INITIAL		
Worklist#:	330101	Sample Line#:	13
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

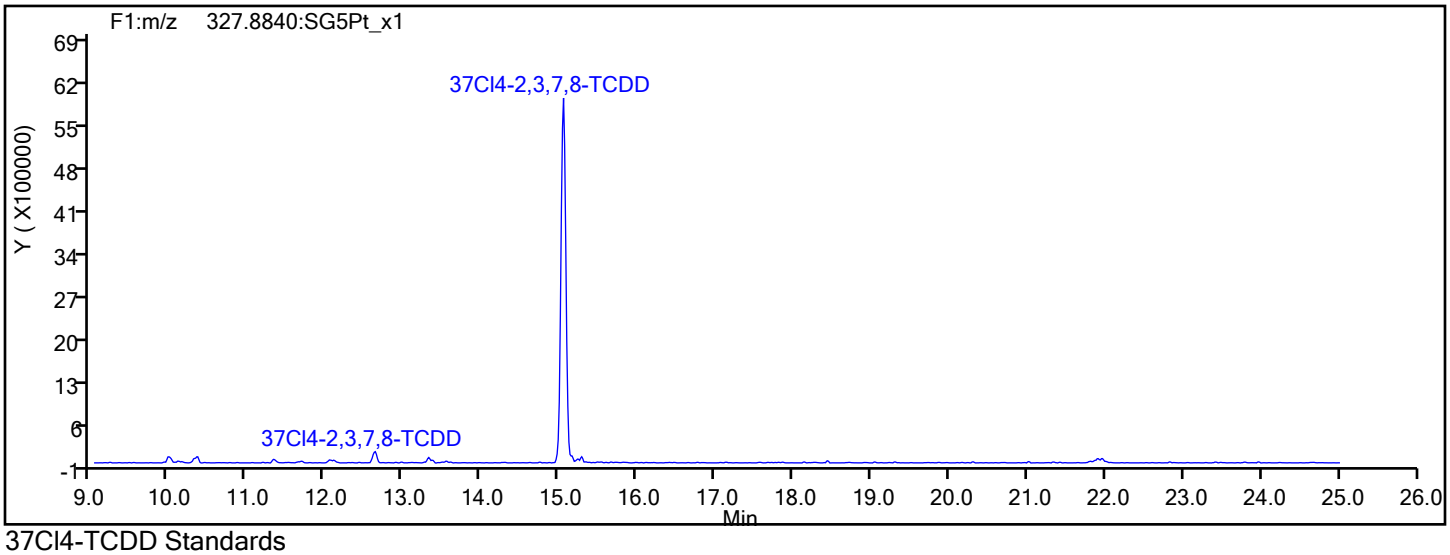

37Cl4-TCDD Standards

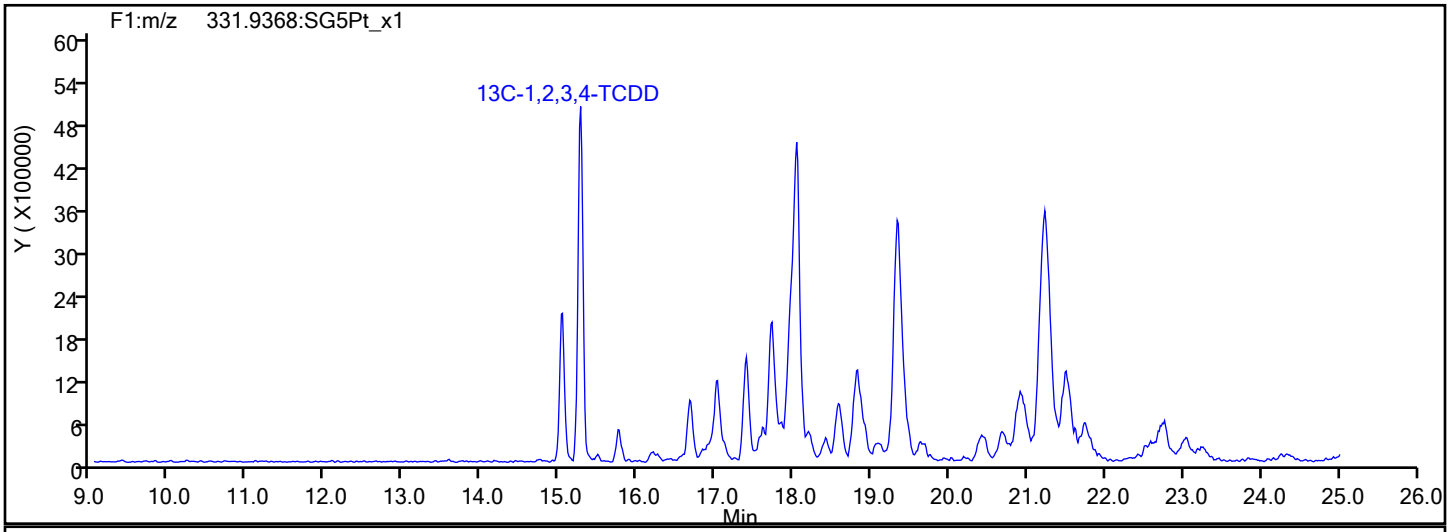

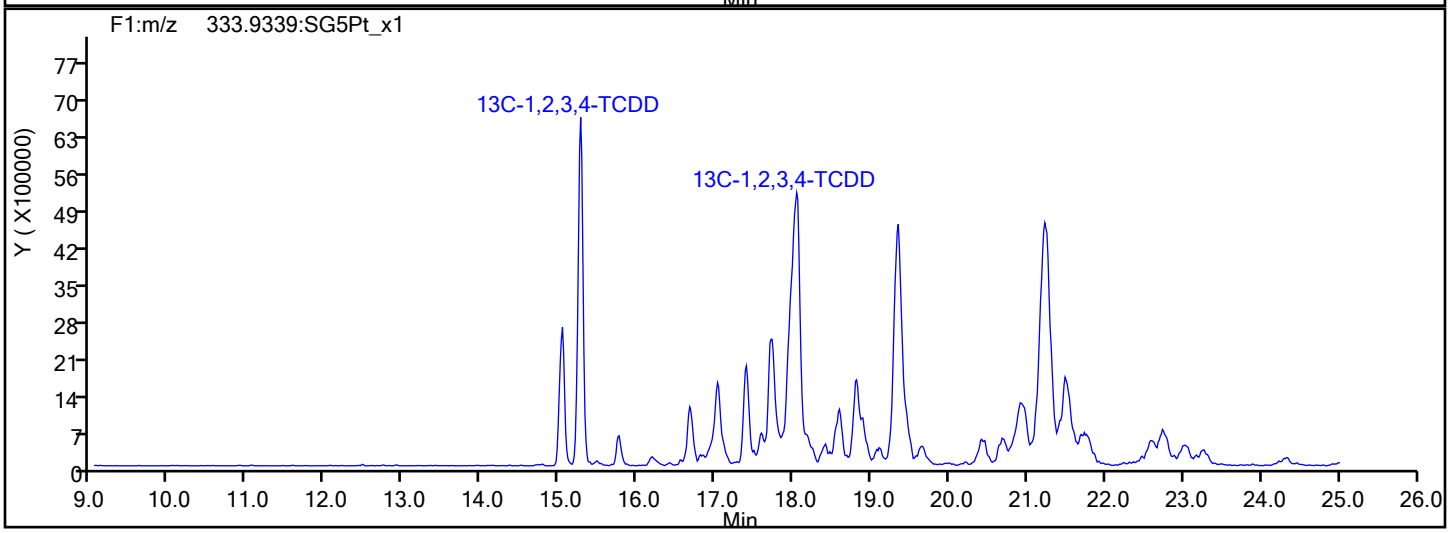

Report Date: 11-Oct-2019 13:42:02 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191010-84713.b\10OC1911D2_013.d		
Injection Date:	10-Oct-2019 21:13:25	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-CONTACT-INITIAL		
Worklist#:	330101	Sample Line#:	13
Column Type:	DB-225	Column Dia:	0.32 mm

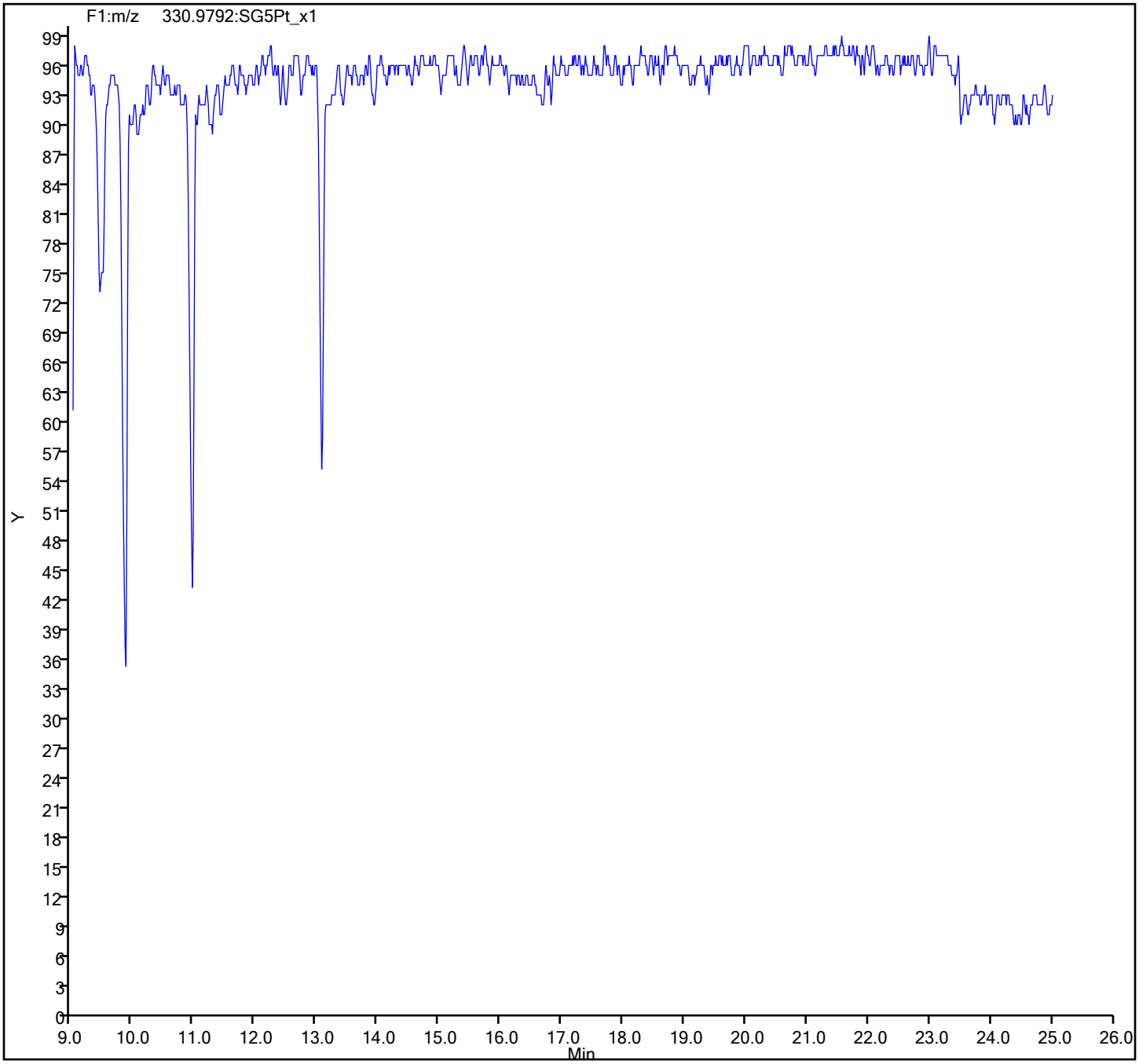

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1 Analy Batch No.: 324128

SDG No.:

Instrument ID: 10D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 13:03 Calibration End Date: 09/17/2019 16:55 Calibration ID: 47423

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-324128/3	17SE1910D5_3.d
Level 2	IC 320-324128/4	17SE1910D5_4.d
Level 3	IC 320-324128/7	17SE1910D5_7.d
Level 4	IC 320-324128/6	17SE1910D5_6.d
Level 5	IC 320-324128/8	17SE1910D5_8.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
2,3,7,8-TCDF	1.0712	1.1022	0.9929	1.0616	1.0257	AveID		1.0507				4.0		20.0			
2,3,7,8-TCDD	1.1677	1.1266	1.0239	1.1261	1.0877	AveID		1.1064				4.9		20.0			
1,2,3,7,8-PeCDF	1.0011	1.1601	1.0432	1.1331	1.0737	AveID		1.0822				6.0		20.0			
2,3,4,7,8-PeCDF	0.9626	1.1888	1.0864	1.1728	1.1054	AveID		1.1032				8.1		20.0			
1,2,3,7,8-PeCDD	0.8594	0.9576	0.8670	0.9410	0.9001	AveID		0.9050				4.8		20.0			
1,2,3,4,7,8-HxCDF	1.1004	1.2643	1.1561	1.2645	1.2013	AveID		1.1973				5.9		20.0			
1,2,3,6,7,8-HxCDF	1.0669	1.2704	1.1534	1.2334	1.1792	AveID		1.1807				6.6		20.0			
2,3,4,6,7,8-HxCDF	1.1327	1.2683	1.1855	1.2657	1.2056	AveID		1.2116				4.7		20.0			
1,2,3,4,7,8-HxCDD	1.0497	1.1313	1.0762	1.1585	1.1282	AveID		1.1088				4.0		20.0			
1,2,3,6,7,8-HxCDD	1.0225	1.1526	1.0496	1.1177	1.0648	AveID		1.0814				4.9		20.0			
1,2,3,7,8,9-HxCDD	1.1542	1.3138	1.1887	1.2433	1.1615	AveID		1.2123				5.5		20.0			
1,2,3,7,8,9-HxCDF	1.2253	1.2976	1.2100	1.2716	1.2212	AveID		1.2451				3.0		20.0			
1,2,3,4,6,7,8-HpCDF	1.5175	1.6415	1.5201	1.5867	1.5119	AveID		1.5555				3.7		20.0			
1,2,3,4,6,7,8-HpCDD	0.8498	0.9887	0.9182	0.9754	0.9258	AveID		0.9316				5.9		20.0			
1,2,3,4,7,8,9-HpCDF	1.2548	1.4796	1.3480	1.4704	1.3785	AveID		1.3862				6.7		20.0			
OCDD	0.9991	1.1715	1.0189	1.0914	1.0295	AveID		1.0621				6.6		20.0			
OCDF	1.1420	1.3314	1.2399	1.3172	1.2675	AveID		1.2596				6.0		20.0			
13C-2,3,7,8-TCDF	1.4608	1.4445	1.4059	1.4451	1.4357	Ave		1.4384				1.4		35.0			
13C-2,3,7,8-TCDD	0.9625	0.9452	0.9420	0.9578	0.9591	Ave		0.9533				1.0		35.0			
13C-1,2,3,7,8-PeCDF	1.0011	0.9736	1.0018	1.0725	1.0941	Ave		1.0286				5.0		35.0			
13C-2,3,4,7,8-PeCDF	0.9468	0.9409	0.9284	1.0290	1.0682	Ave		0.9827				6.3		35.0			
13C-1,2,3,7,8-PeCDD	0.7126	0.6892	0.7253	0.7912	0.8222	Ave		0.7481				7.5		35.0			
13C-1,2,3,4,7,8-HxCDF	1.1695	1.1696	1.1139	1.1554	1.1519	Ave		1.1520				2.0		35.0			
13C-1,2,3,6,7,8-HxCDF	1.2574	1.2360	1.2152	1.2646	1.2439	Ave		1.2434				1.6		35.0			
13C-2,3,4,6,7,8-HxCDF	1.1808	1.1525	1.1326	1.1890	1.2049	Ave		1.1720				2.5		35.0			
13C-1,2,3,4,7,8-HxCDD	0.7524	0.7624	0.7637	0.8053	0.8223	Ave		0.7812				3.9		35.0			
13C-1,2,3,6,7,8-HxCDD	0.8902	0.8874	0.9034	0.9518	0.9544	Ave		0.9175				3.6		35.0			
13C-1,2,3,7,8,9-HxCDF	1.0743	1.0692	1.0512	1.0728	1.0598	Ave		1.0655				0.9		35.0			
13C-1,2,3,4,6,7,8-HpCDF	0.8693	0.8034	0.8768	0.8898	0.8745	Ave		0.8628				3.9		35.0			
13C-1,2,3,4,6,7,8-HpCDD	0.8645	0.8231	0.8669	0.9030	0.9118	Ave		0.8739				4.0		35.0			
13C-1,2,3,4,7,8,9-HpCDF	0.8125	0.7593	0.7819	0.8143	0.8272	Ave		0.7991				3.5		35.0			
13C-OCDD	0.7944	0.6967	0.7385	0.7965	0.8457	Ave		0.7744				7.4		35.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1 Analy Batch No.: 324128

SDG No.:

Instrument ID: 10D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 13:03 Calibration End Date: 09/17/2019 16:55 Calibration ID: 47423

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
37Cl4-2,3,7,8-TCDD	1.1192	1.2125	1.2082	1.2900	1.2821	Ave		1.2224				5.7					

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1 Analy Batch No.: 324128

SDG No.:

Instrument ID: 10D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 13:03 Calibration End Date: 09/17/2019 16:55 Calibration ID: 47423

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-324128/3	17SE1910D5_3.d
Level 2	IC 320-324128/4	17SE1910D5_4.d
Level 3	IC 320-324128/7	17SE1910D5_7.d
Level 4	IC 320-324128/6	17SE1910D5_6.d
Level 5	IC 320-324128/8	17SE1910D5_8.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (PG/UL)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
2,3,7,8-TCDF		AveID	172042	1529056	16312729	83942362	462672519	0.500	2.00	10.0	40.0	200
2,3,7,8-TCDD		AveID	123575	1022744	11272193	59019056	327747086	0.500	2.00	10.0	40.0	200
1,2,3,7,8-PeCDF		AveID	550940	5424212	61060330	332470884	1845377073	2.50	10.0	50.0	200	1000
2,3,4,7,8-PeCDF		AveID	501008	5371777	58935693	330153847	1854754260	2.50	10.0	50.0	200	1000
1,2,3,7,8-PeCDD		AveID	336661	3169429	36740998	203688899	1162563715	2.50	10.0	50.0	200	1000
1,2,3,4,7,8-HxCDF		AveID	452083	4604517	51431784	291651831	1688948701	2.50	10.0	50.0	200	1000
1,2,3,6,7,8-HxCDF		AveID	471238	4889511	55977084	311373058	1790437956	2.50	10.0	50.0	200	1000
2,3,4,6,7,8-HxCDF		AveID	469856	4551517	53626165	300428448	1773083873	2.50	10.0	50.0	200	1000
1,2,3,4,7,8-HxCDD		AveID	277444	2685740	32825472	186227471	1132407299	2.50	10.0	50.0	200	1000
1,2,3,6,7,8-HxCDD		AveID	319747	3184984	37867080	212361866	1240444751	2.50	10.0	50.0	200	1000
1,2,3,7,8,9-HxCDD		AveID	333001	3374687	39571199	218049333	1259477463	2.50	10.0	50.0	200	1000
1,2,3,7,8,9-HxCDF		AveID	462420	4319986	50802364	272303395	1579646001	2.50	10.0	50.0	200	1000
1,2,3,4,6,7,8-HpCDF		AveID	463407	4106440	53230505	281845286	1613842335	2.50	10.0	50.0	200	1000
1,2,3,4,6,7,8-HpCDD		AveID	258090	2534205	31792117	175833007	1030391820	2.50	10.0	50.0	200	1000
1,2,3,4,7,8,9-HpCDF		AveID	358162	3498041	42098592	239010564	1391884877	2.50	10.0	50.0	200	1000
OCDD		AveID	557610	5082981	60102277	347055077	2125514466	5.00	20.0	100	400	2000
OCDF		AveID	637327	5776792	73138090	418862104	2616959337	5.00	20.0	100	400	2000
13C-2,3,7,8-TCDF	13CTC	Ave	32121801	69364385	164292495	197671153	225533576	100	100	100	100	100
13C-2,3,7,8-TCDD	13CTC	Ave	21165335	45389691	110088290	131023361	150666513	100	100	100	100	100
13C-1,2,3,7,8-PeCDF	13CTC	Ave	22013977	46755351	117067384	146707284	171862914	100	100	100	100	100
13C-2,3,4,7,8-PeCDF	13CTC	Ave	20818900	45184985	108494277	140755634	167797734	100	100	100	100	100
13C-1,2,3,7,8-PeCDD	13CTC	Ave	15668897	33098301	84755636	108225317	129152474	100	100	100	100	100
13C-1,2,3,4,7,8-HxCDF	13CHx	Ave	16433122	36418536	88972191	115322048	140595624	100	100	100	100	100
13C-1,2,3,6,7,8-HxCDF	13CHx	Ave	17668349	38486861	97064883	126224651	151833452	100	100	100	100	100
13C-2,3,4,6,7,8-HxCDF	13CHx	Ave	16591902	35886090	90467566	118677202	147071003	100	100	100	100	100
13C-1,2,3,4,7,8-HxCDD	13CHx	Ave	10572054	23739455	61001305	80372897	100374877	100	100	100	100	100
13C-1,2,3,6,7,8-HxCDD	13CHx	Ave	12508423	27633426	72157657	95002970	116499868	100	100	100	100	100
13C-1,2,3,7,8,9-HxCDF	13CHx	Ave	15096147	33293009	83967924	107073331	129353689	100	100	100	100	100
13C-1,2,3,4,6,7,8-HpCDF	13CHx	Ave	12214839	25015698	70034446	88816288	106743815	100	100	100	100	100
13C-1,2,3,4,6,7,8-HpCDD	13CHx	Ave	12148019	25630510	69249272	90130025	111298169	100	100	100	100	100
13C-1,2,3,4,7,8,9-HpCDF	13CHx	Ave	11417456	23641905	62459777	81274920	100973962	100	100	100	100	100
13C-OCDD	13CHx	Ave	22323676	43388861	117978202	158997965	206464776	200	200	200	200	200
37Cl4-2,3,7,8-TCDD	13CTC	Ave	123050	1164531	11295580	70585275	402794059	0.500	2.00	8.00	40.0	200

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1 Analy Batch No.: 324128

SDG No.:

Instrument ID: 10D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 13:03 Calibration End Date: 09/17/2019 16:55 Calibration ID: 47423

Curve Type Legend:

Ave = Average ISTD
AveID = Average isotope dilution

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #
1	17SE1910D5_1	WDM HRDXNCP_00038	WDM 091719	Tray01:1	---	
2	17SE1910D5_2	Solvent Blank C-14	SB 091719	Tray01:3	---	
3	17SE1910D5_3	CS-2 HRDXNL2_00027	IC 091719	Tray01:4	Dioxin	
4	17SE1910D5_4	CS-3 HRDXNL3_00025	IC 091719A	Tray01:5	Dioxin	
5	17SE1910D5_5	Mis-inject (wrong standard)	Mis-inject (wrong standard)	Tray01:2	Dioxin	
6	17SE1910D5_6	CS-5 HRDXNL5_00028	IC 091719C	Tray01:6	Dioxin	
7	17SE1910D5_7	CS-4 HRDXNL4_00084	IC 091719B	Tray01:2	Dioxin	
8	17SE1910D5_8	CS-6 HRDXNL6_00024	IC 091719D	Tray01:7	Dioxin	
9	17SE1910D5_9	Solvent Blank C-14	SB 091719A	Tray01:3	---	
10	17SE1910D5_10	ICV HRDXNIC_00042	ICV 091719	Tray01:8	Dioxin	
11	17SE1910D5_11	Solvent Blank C-14	SB 091619A	Tray01:3	---	
12	17SE1910D5_12	WDM HRDXNCP_00038	WDM 091719A	Tray01:1	---	
13	17SE1910D5_13	CS-4 HRDXNL4_00084	CCV 091719	Tray01:2	Dioxin	
14	17SE1910D5_14	Solvent Blank C-14	SB 091719B	Tray01:3	---	
15	17SE1910D5_15	MB 320-521530/1-A	MB 320-521530/1-A	Tray01:15	8290/Solid	50
16	17SE1910D5_16	LCS 320-521530/2-A	LCS 320-521530/2-A	Tray01:16	8290/Solid	
17	17SE1910D5_17	320-53987-E-2-A	320-53987-E-2-A	Tray01:17	8290/Solid	
18	17SE1910D5_18	320-53987-E-3-A	320-53987-E-3-A	Tray01:18	8290/Solid	
19	17SE1910D5_19	320-53988-E-2-A	320-53988-E-2-A	Tray01:19	8290/Solid	
20	17SE1910D5_20	320-53989-E-2-A	320-53989-E-2-A	Tray01:20	8290/Solid	
21	17SE1910D5_21	320-53989-E-3-A	320-53989-E-3-A	Tray01:21	8290/Solid	
22	17SE1910D5_22	320-53989-E-4-A	320-53989-E-4-A	Tray01:22	8290/Solid	
23	17SE1910D5_23	320-53989-E-5-A	320-53989-E-5-A	Tray01:23	8290/Solid	
24	17SE1910D5_24	Solvent Blank C-14	SB 091619C	Tray01:3	---	
25	17SE1910D5_25	CS-4 HRDXNL4_00084	CCV 091719A	Tray01:2	Dioxin	
26	17SE1910D5_26	WDM HRDXNCP_00038	WDM 091719B	Tray01:1	---	
27	17SE1910D5_27	Solvent Blank C-14	SB 091719D	Tray01:3	---	
28	17SE1910D5_28	320-53989-E-6-A	320-53989-E-6-A	Tray01:29	8290/Solid	50
29	17SE1910D5_29	320-53989-E-7-A	320-53989-E-7-A	Tray01:30	8290/Solid	
30	17SE1910D5_30	320-53989-E-8-A	320-53989-E-8-A	Tray01:31	8290/Solid	
31	17SE1910D5_31	320-53989-E-9-A	320-53989-E-9-A	Tray01:32	8290/Solid	
32	17SE1910D5_32	320-53989-E-10-A	320-53989-E-10-A	Tray01:33	8290/Solid	
33	17SE1910D5_33	320-53989-E-11-A	320-53989-E-11-A	Tray01:34	8290/Solid	
34	17SE1910D5_34	320-53989-E-12-A	320-53989-E-12-A	Tray01:35	8290/Solid	
35	17SE1910D5_35	320-53989-E-13-A	320-53989-E-13-A	Tray01:36	8290/Solid	
36	17SE1910D5_36	320-53989-E-14-A	320-53989-E-14-A	Tray01:37	8290/Solid	
37	17SE1910D5_37	Solvent Blank C-14	SB 091619E	Tray01:3	---	
38	17SE1910D5_38	CS-4 HRDXNL4_00084	CCV 091719B	Tray01:2	Dioxin	
39	17SE1910D5_39	WDM HRDXNCP_00038	WDM 091719C	Tray01:1	---	
40	17SE1910D5_40	Solvent Blank C-14	SB 091719F	Tray01:3	---	

Logfile checked
09/18/19 SMA

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed: Tuesday, September 17, 2019 11:25:01 Pacific Daylight Time

M 292.9824 R 12824

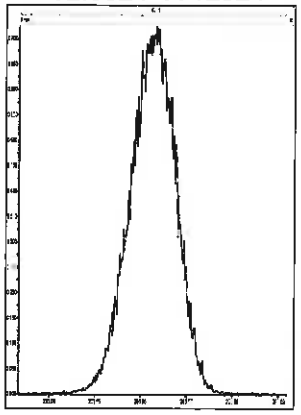

M 304.9824 R 13022

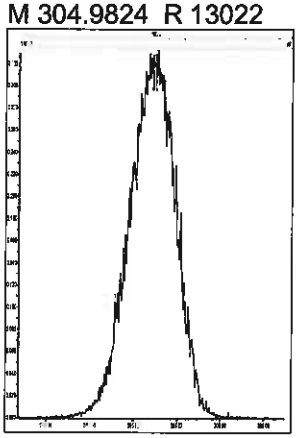

M 318.9792 R 12690

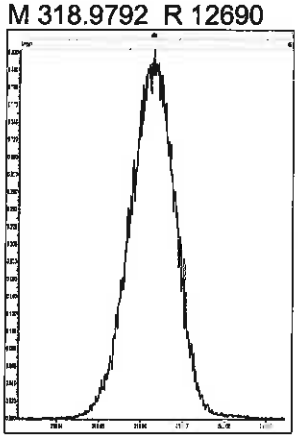

M 330.9792 R 12694

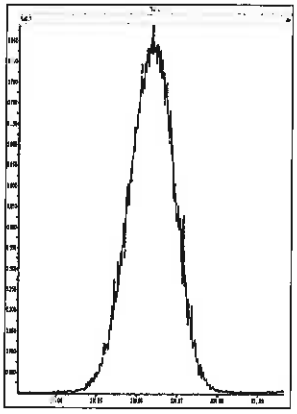

M 342.9792 R 13090

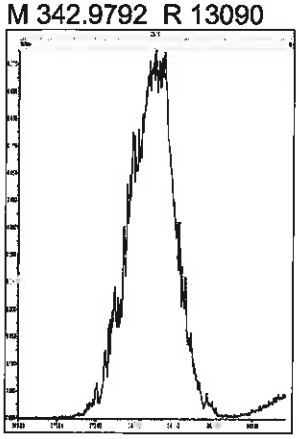

M 354.9792 R 12499

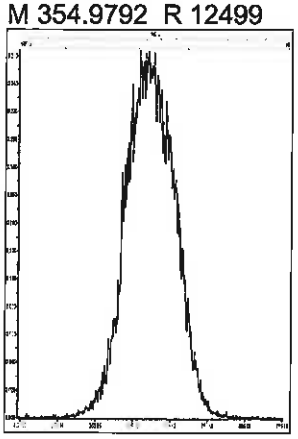

M 366.9792 R 11902

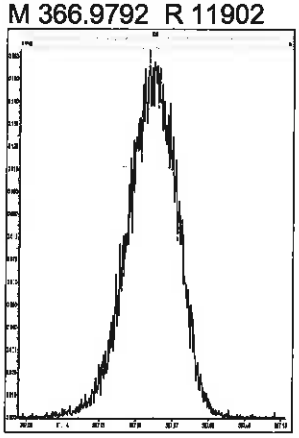

M 380.9760 R 11789

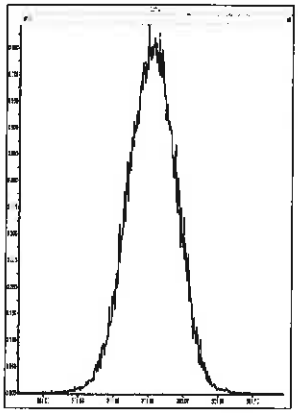

M 392.9760 R 12018

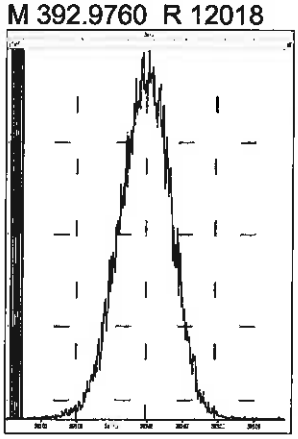

M 404.9760 R 11626

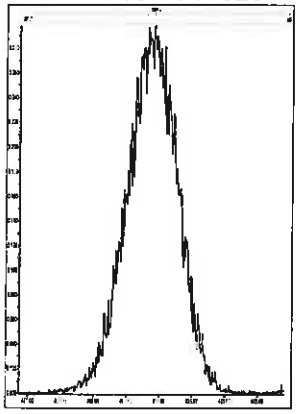

M 416.9760 R 11958

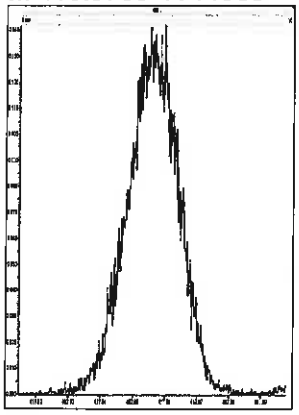

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 2 @ 200 (ppm)

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M 318.9792 R 13513

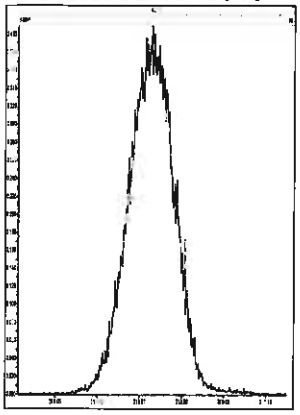

M 330.9792 R 12694

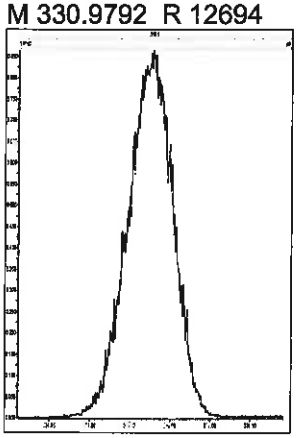

M 342.9792 R 12949

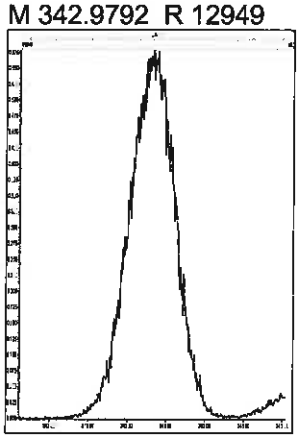

M 354.9792 R 13021

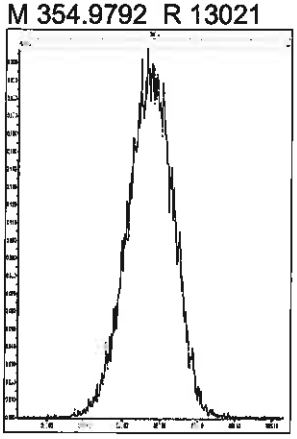

M 366.9792 R 12824

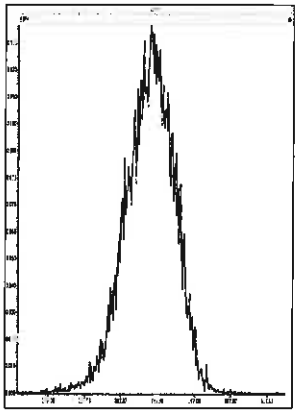

M 380.9760 R 12687

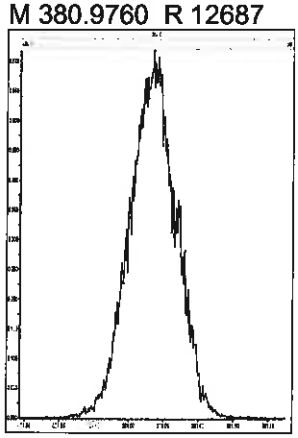

M 392.9760 R 12558

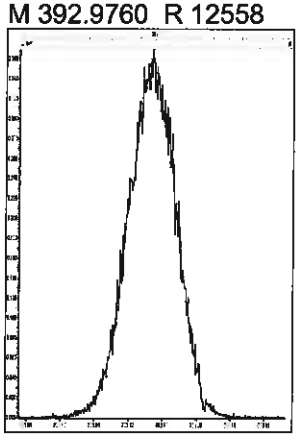

M 404.9760 R 11740

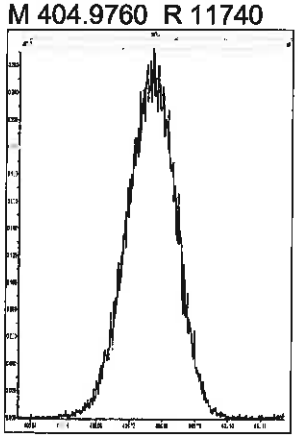

M 416.9760 R 11906

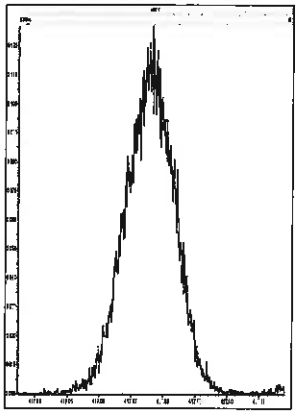

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

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M 366.9792 R 13089

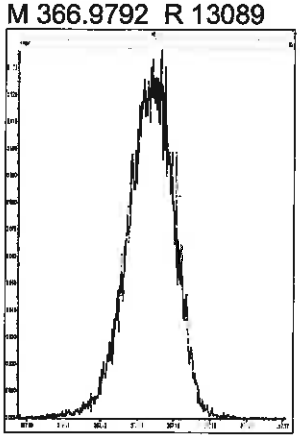

M 380.9760 R 12561

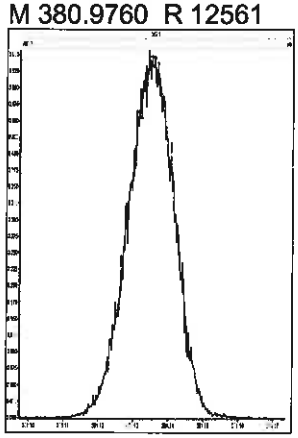

M 392.9760 R 12497

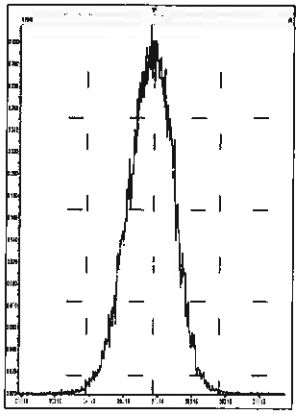

M 404.9760 R 12690

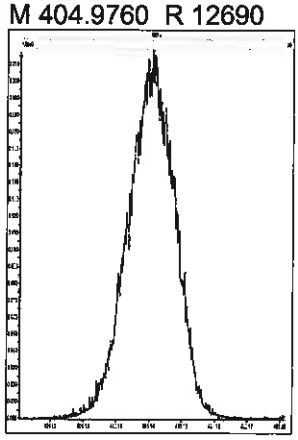

M 416.9760 R 12689

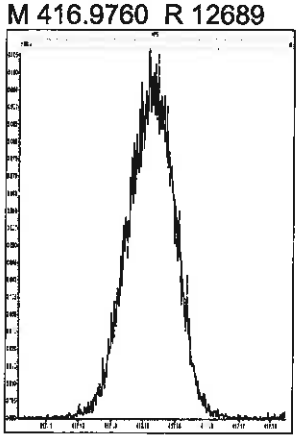

M 430.9728 R 12197

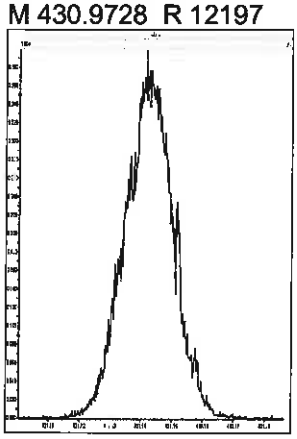

M 442.9728 R 12132

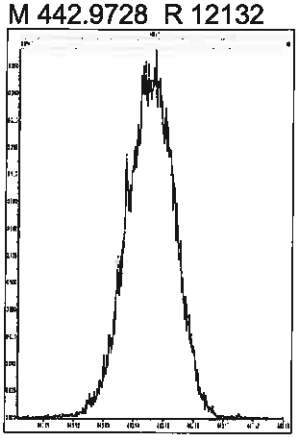

M 454.9728 R 12194

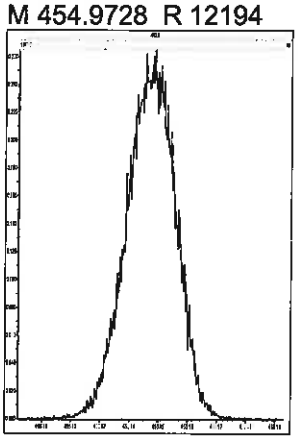

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 4 @ 200 (ppm)

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M 380.9760 R 12621

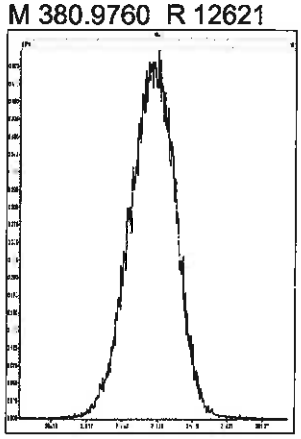

M 392.9760 R 12561

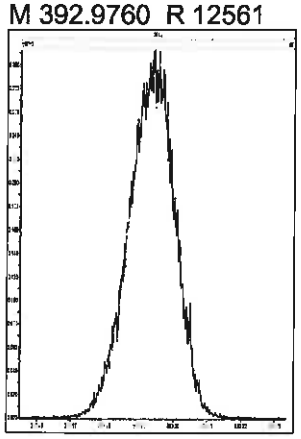

M 404.9760 R 12950

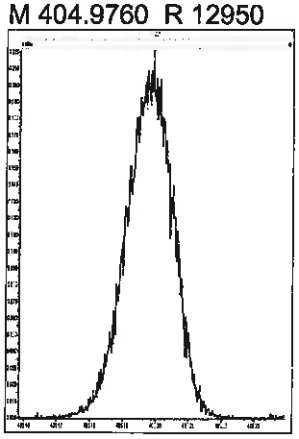

M 416.9760 R 12887

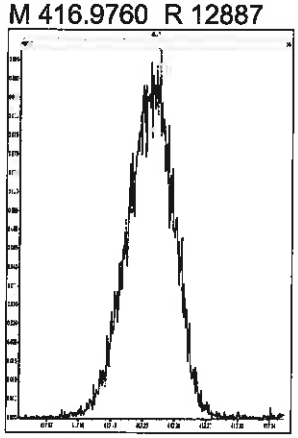

M 430.9728 R 11961

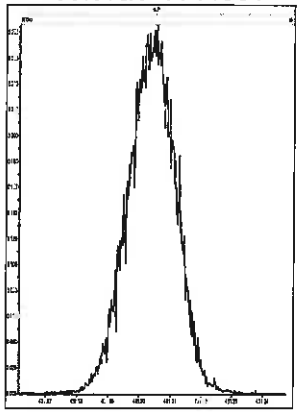

M 442.9728 R 12134

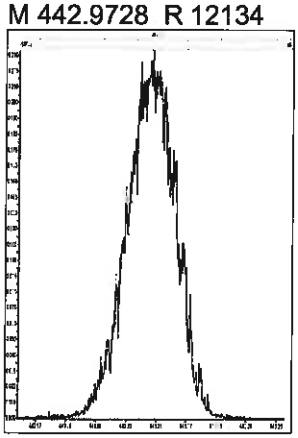

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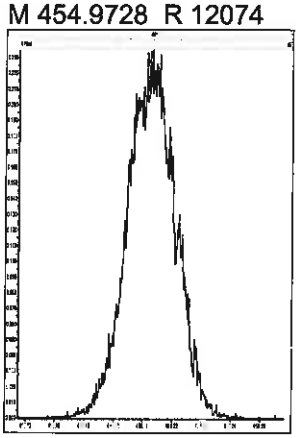

M 466.9728 R 12254

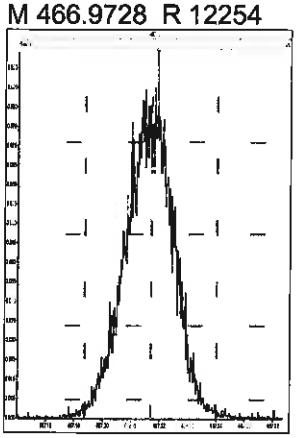

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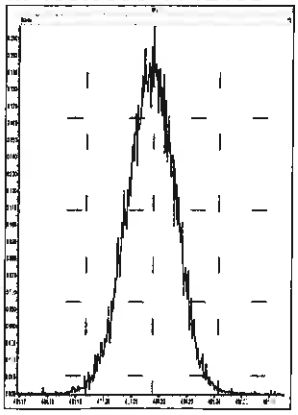

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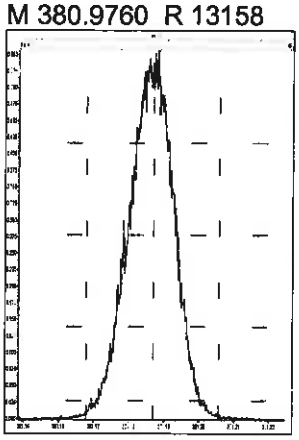

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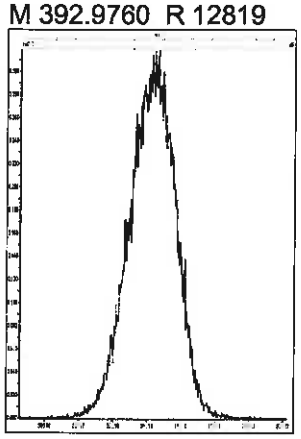

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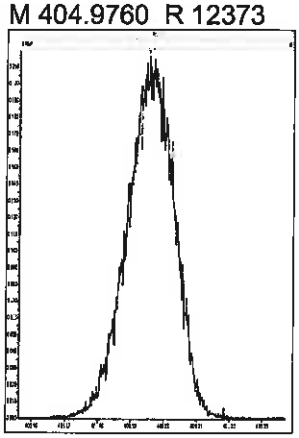

M 416.9760 R 12563

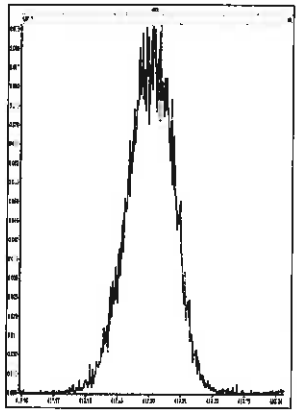

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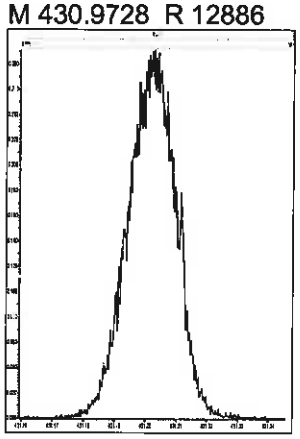

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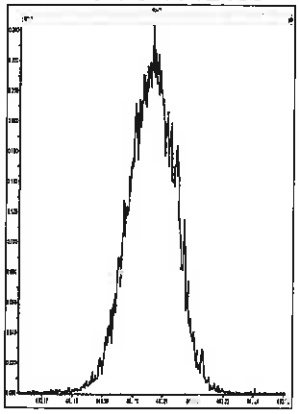

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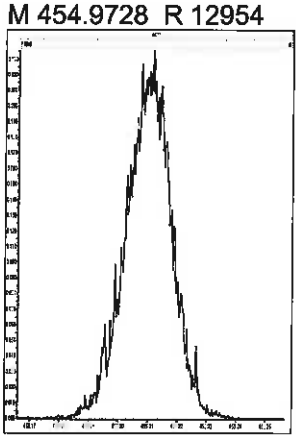

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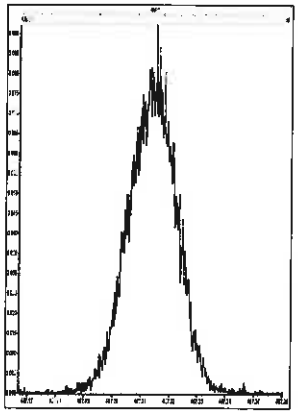

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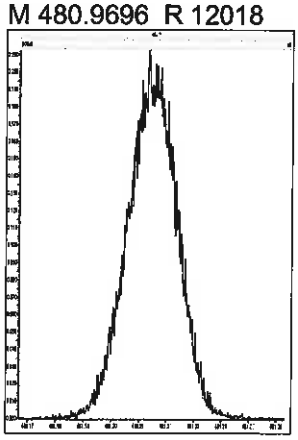

M 492.9696 R 11738

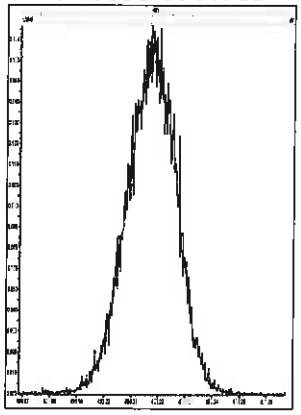

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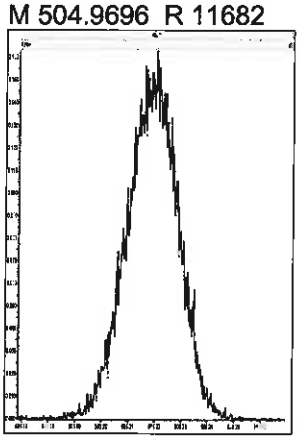

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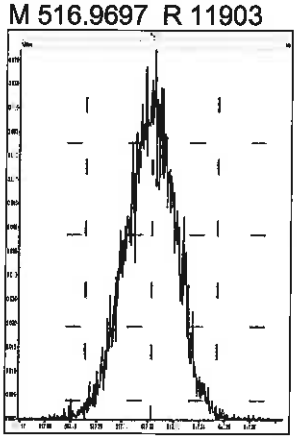

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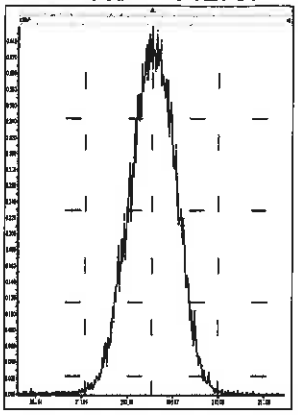

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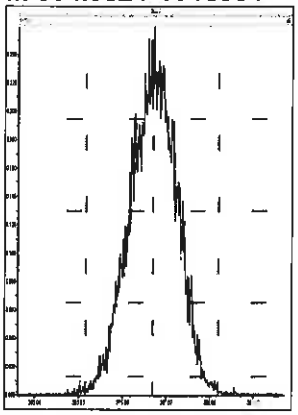

M 318.9792 R 12440

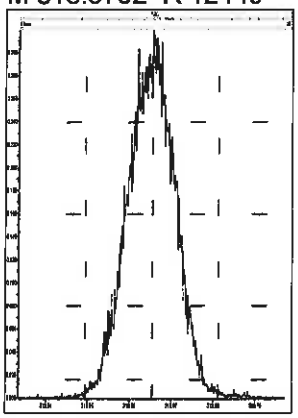

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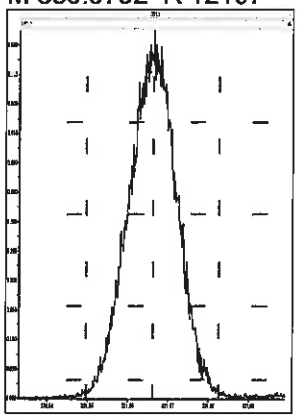

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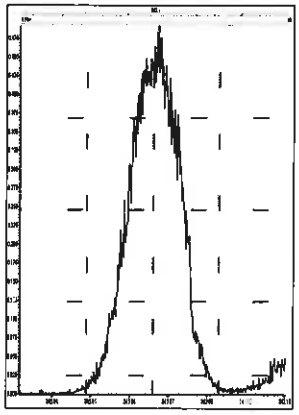

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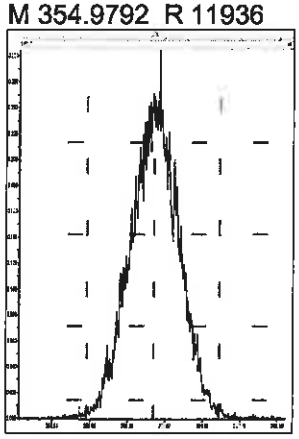

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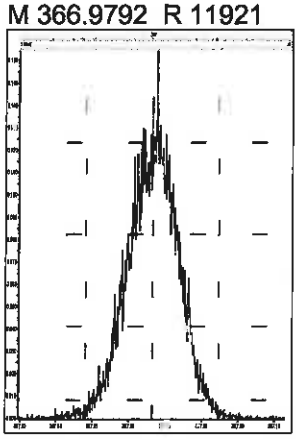

M 380.9760 R 11363

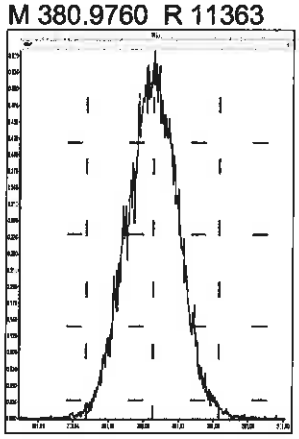

M 392.9760 R 11063

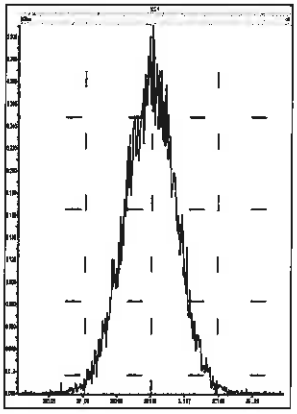

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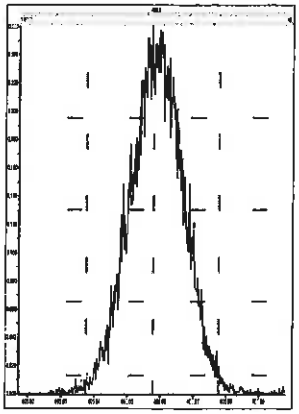

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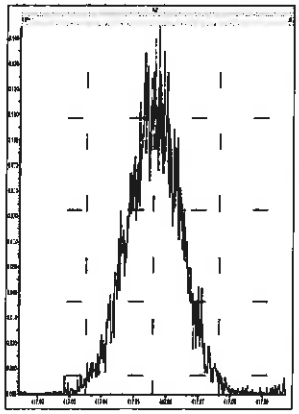

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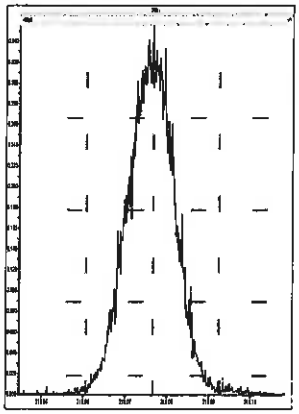

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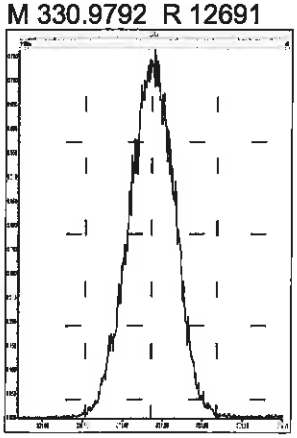

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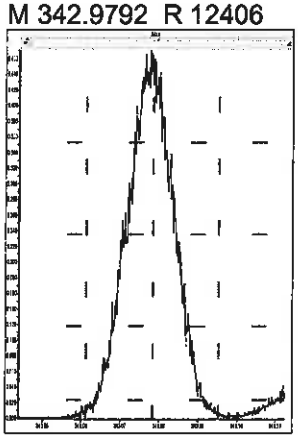

M 354.9792 R 12194

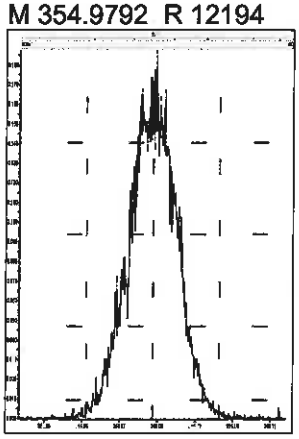

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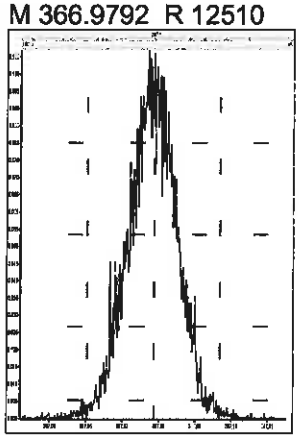

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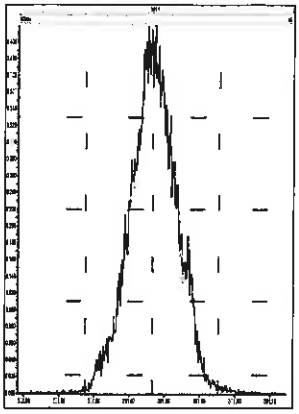

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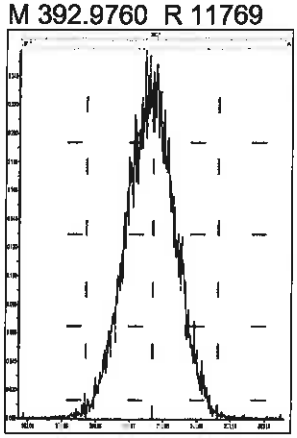

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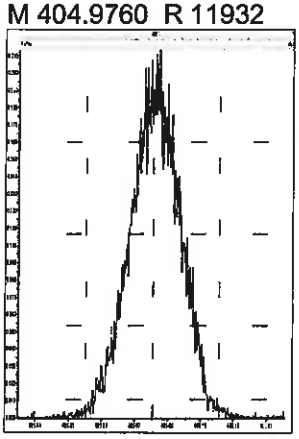

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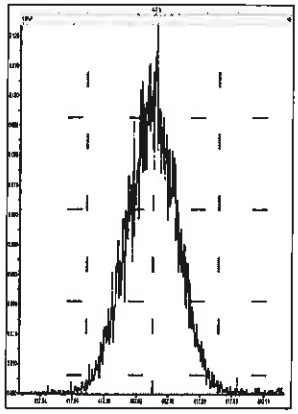

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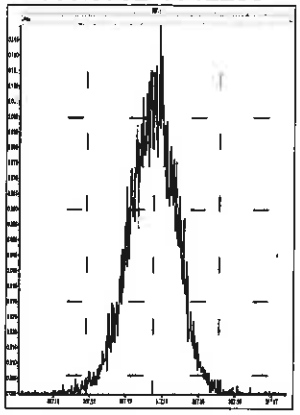

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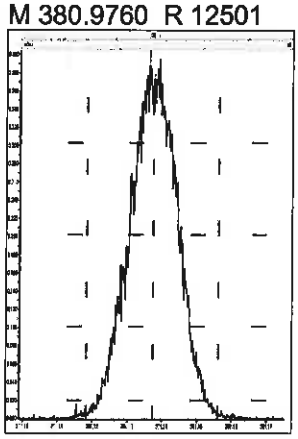

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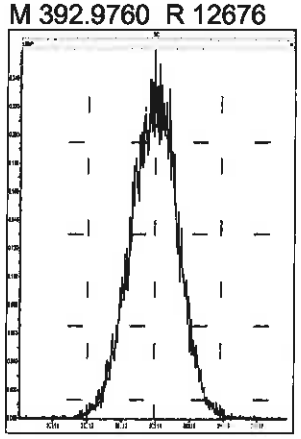

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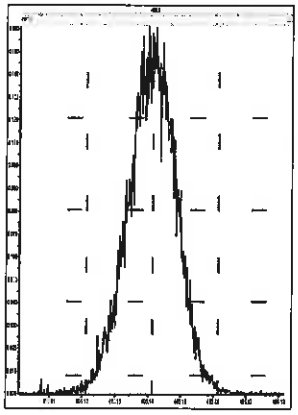

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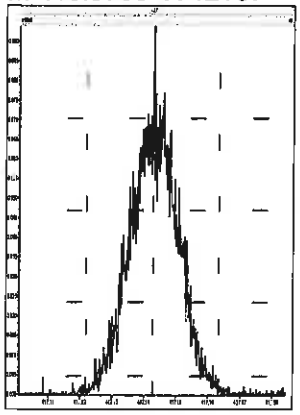

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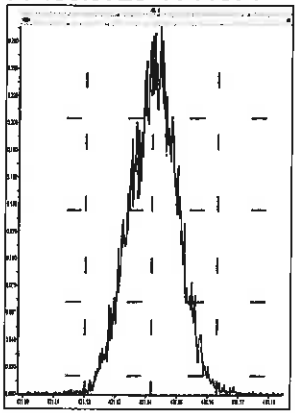

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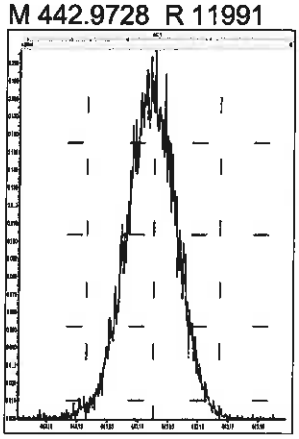

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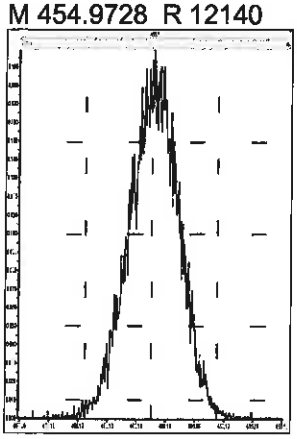

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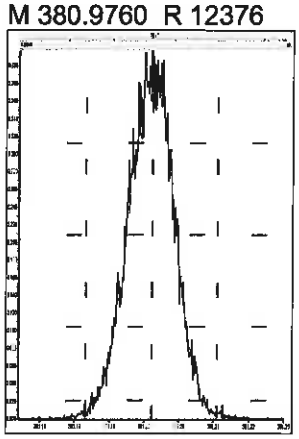

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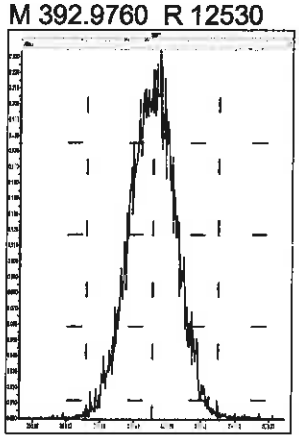

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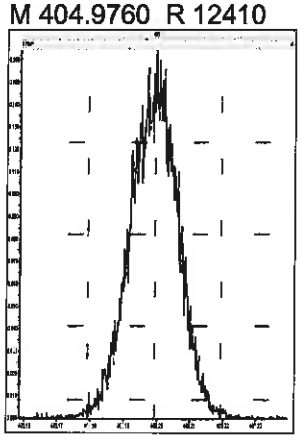

M 416.9760 R 13257

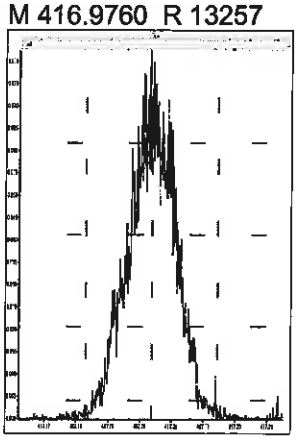

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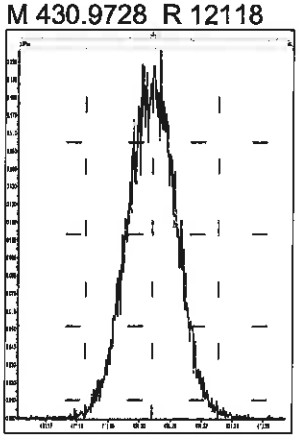

M 442.9728 R 12408

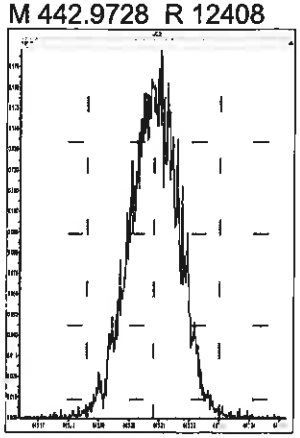

M 454.9728 R 12564

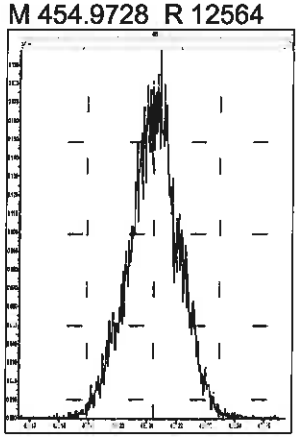

M 466.9728 R 13333

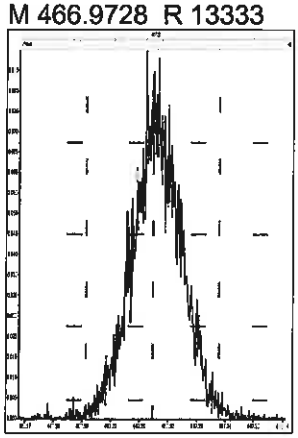

M 480.9696 R 11886

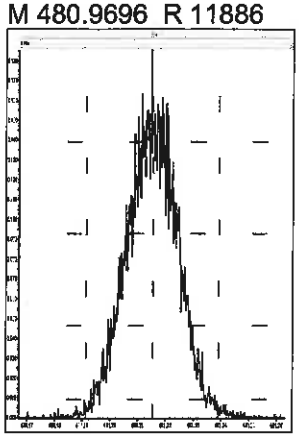

M 380.9760 R 12531

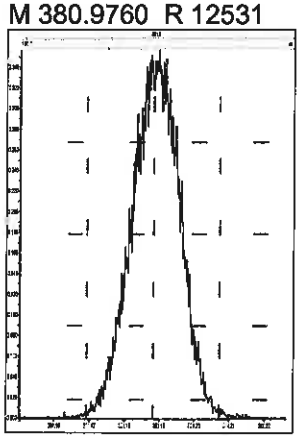

M 392.9760 R 12445

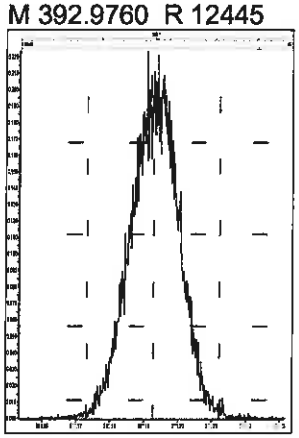

M 404.9760 R 12577

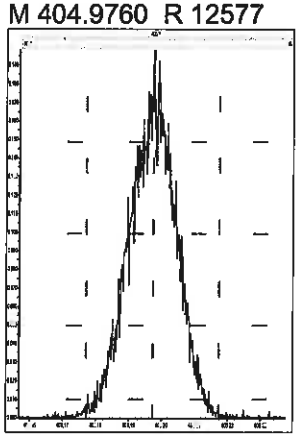

M 416.9760 R 12658

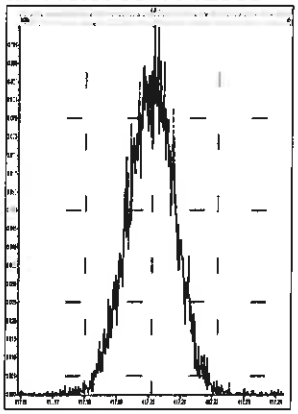

M 430.9728 R 12167

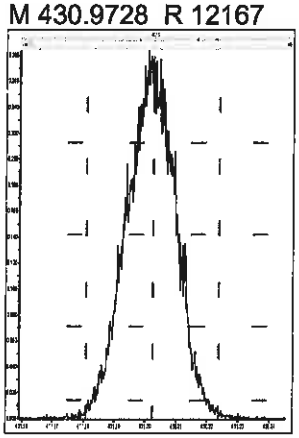

M 442.9728 R 12199

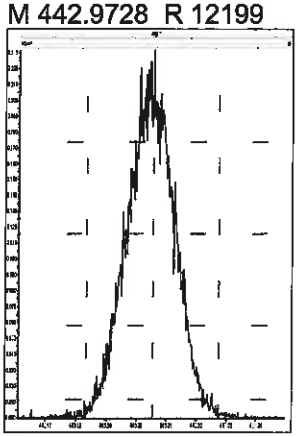

M 454.9728 R 12347

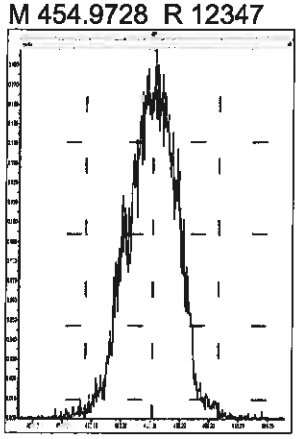

M 466.9728 R 12105

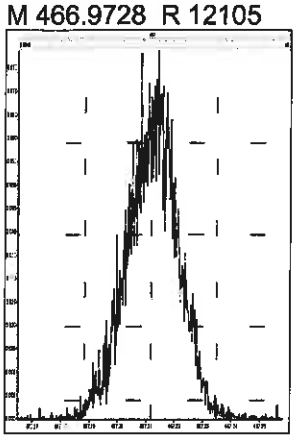

M 480.9696 R 11712

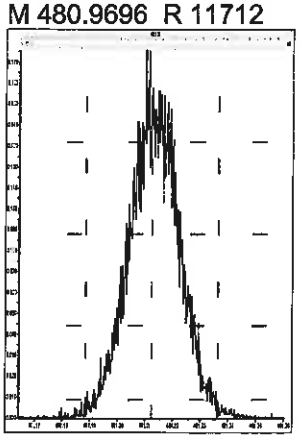

M 492.9696 R 11769

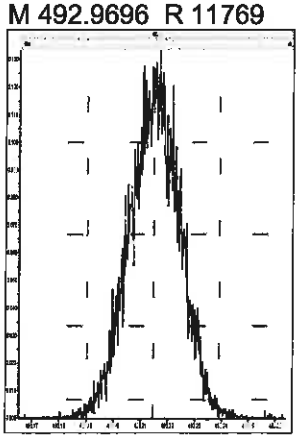

M 504.9696 R 11683

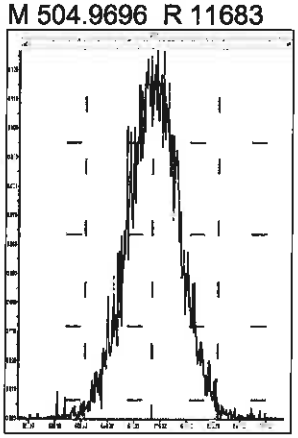

Printed: Tuesday, September 17, 2019 19:23:28 Pacific Daylight Time

M 516.9697 R 12766

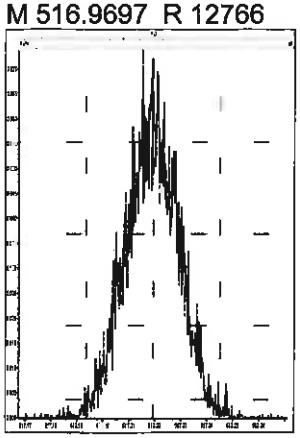

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 17-Sep-2019 13:03:20 ALS Bottle#: 4 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719 CS-2 HRDXNL2_00027
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:08 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:04:52

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.300	21989821	0.79	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.801	32121801	0.77	1.4384	101.6	101.6	0.4773	0.4773	102	
2,3,7,8-TCDF	16.816	172042	0.74	1.0507	0.5097	0.5097	0.0449	0.0449	102	
S Total TCDF					0.5097	0.5097	0.0449	0.0449		
D 13C-2,3,7,8-TCDD	17.481	21165335	0.76	0.9533	101.0	101.0	0.3928	0.3928	101	
$ 37Cl4-2,3,7,8-TCDD	17.496	123050		1.2224	0.4578	0.4578	0.0312	0.0312	91.55	
2,3,7,8-TCDD	17.481	123575	0.80	1.1064	0.5277	0.5277	0.0804	0.0804	106	n
S Total TCDD					0.5277	0.5277	0.0804	0.0804		
D 13C-1,2,3,7,8-PeCDF	21.631	22013977	1.60	1.0286	97.3	97.3	0.2946	0.2946	97.33	
1,2,3,7,8-PeCDF	21.659	550940	1.70	1.0822	2.312	2.312	0.0703	0.0703	92.50	
D 13C-2,3,4,7,8-PeCDF	22.927	20818900	1.62	0.9827	96.3	96.3	0.3084	0.3084	96.35	
2,3,4,7,8-PeCDF	22.940	501008	1.61	1.1032	2.181	2.181	0.0759	0.0759	87.26	
S Total PeCDF					4.494	4.494	0.0731	0.0731		
D 13C-1,2,3,7,8-PeCDD	23.622	15668897	1.56	0.7481	95.3	95.3	0.2373	0.2373	95.25	
1,2,3,7,8-PeCDD	23.649	336661	1.69	0.9050	2.374	2.374	0.1036	0.1036	94.96	
S Total PeCDD					2.374	2.374	0.1036	0.1036		
D 13C-1,2,3,4,7,8-HxCDF	29.749	16433122	0.52	1.1520	101.5	101.5	0.6239	0.6239	102	
1,2,3,4,7,8-HxCDF	29.789	452083	1.14	1.1973	2.298	2.298	0.1101	0.1101	91.91	
D 13C-1,2,3,6,7,8-HxCDF	30.015	17668349	0.51	1.2434	101.1	101.1	0.5781	0.5781	101	
1,2,3,6,7,8-HxCDF	30.028	471238	1.23	1.1807	2.259	2.259	0.0922	0.0922	90.36	
D 13C-2,3,4,6,7,8-HxCDF	31.040	16591902	0.51	1.1720	100.8	100.8	0.6133	0.6133	101	
2,3,4,6,7,8-HxCDF	31.053	469856	1.22	1.2116	2.337	2.337	0.0626	0.0626	93.49	
D 13C-1,2,3,7,8,9-HxCDF	31.932	15096147	0.51	1.0655	100.8	100.8	0.6746	0.6746	101	
1,2,3,7,8,9-HxCDF	31.945	462420	1.18	1.2451	2.460	2.460	0.0606	0.0606	98.40	
S Total HxCDF					9.354	9.354	0.0814	0.0814		
* 13C-1,2,3,7,8,9-HxCDD	31.745	14051438	1.31	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.253	10572054	1.29	0.7812	96.3	96.3	0.6394	0.6394	96.31	
1,2,3,4,7,8-HxCDD	31.266	277444	1.10	1.1088	2.367	2.367	0.0800	0.0800	94.67	
D 13C-1,2,3,6,7,8-HxCDD	31.372	12508423	1.30	0.9175	97.0	97.0	0.5444	0.5444	97.03	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.399	319747	1.23	1.0814	2.364	2.364	0.0780	0.0780	94.55	
1,2,3,7,8,9-HxCDD	31.758	333001	1.05	1.2123	2.380	2.380	0.0713	0.0713	95.21	a
S Total HxCDD					7.111	7.111	0.0764	0.0764		
D 13C-1,2,3,4,6,7,8-HpCDF	33.447	12214839	0.45	0.8628	100.8	100.8	2.432	2.432	101	
1,2,3,4,6,7,8-HpCDF	33.459	463407	1.08	1.5555	2.439	2.439	0.0665	0.0665	97.56	
D 13C-1,2,3,4,7,8,9-HpCDF	34.492	11417456	0.43	0.7991	101.7	101.7	2.626	2.626	102	
1,2,3,4,7,8,9-HpCDF	34.504	358162	1.15	1.3862	2.263	2.263	0.0888	0.0888	90.52	
S Total HpCDF					4.702	4.702	0.0776	0.0776		
D 13C-1,2,3,4,6,7,8-HpCDD	34.225	12148019	1.04	0.8739	98.9	98.9	1.265	1.265	98.93	
1,2,3,4,6,7,8-HpCDD	34.225	258090	1.02	0.9316	2.281	2.281	0.0675	0.0675	91.22	
S Total HpCDD					2.281	2.281	0.0675	0.0675		
D 13C-OCDD	36.481	22323676	0.90	0.7744	205.2	205.2	0.5053	0.5053	103	
OCDF	36.576	637327	0.85	1.2596	4.533	4.533	0.0809	0.0809	90.66	
OCDD	36.493	557610	0.87	1.0621	4.704	4.704	0.0841	0.0841	94.07	

QC Flag Legend

Processing Flags
n - Failed Sig-To-Noise Test
Review Flags
a - User Assigned ID

Reagents:

HRDXNL2_00027 Amount Added: 1.00 Units: mL

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 17-Sep-2019 13:03:20 ALS Bottle#: 4 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719 CS-2 HRDXNL2_00027
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:08 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:04:52

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.300	17.303	0		9690887	2505804	5138	12845	488		
333.9339	17.300	17.303	0		12298934	3113659	3280	8200	949	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.801	16.810	-1	0.971	14016338	3733692	11470	28675	326		
317.9389	16.801	16.810	-1	0.971	18105463	4683284	3963	9907	1182	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.816	16.825	-1	1.001	73063	16422	605	1512	27		
305.8987	16.816	16.825	-1	1.001	98979	22949	985	2462	23	0.74(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.481	17.490	-1	1.010	9130723	2237743	5138	12845	436		
333.9339	17.481	17.490	-1	1.010	12034612	3027581	3280	8200	923	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.496	17.505	-1	1.011	123050	30762	856	2140	36		
2,3,7,8-TCDD											n
319.8965	17.481	17.505	-1	1.000	55077	9940	1181	2952	8		
321.8936	17.496	17.505	-1	1.001	68498	15008	693	1732	22	0.80(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	21.631	21.637	0	1.250	13538943	2446204	3736	9340	655		
353.8970	21.631	21.637	0	1.250	8475034	1535096	3076	7690	499	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.659	21.661	0	1.001	346537	63107	477	1192	132		
341.8567	21.659	21.661	0	1.001	204403	36937	734	1835	50	1.70(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	22.927	22.932	0	1.325	12876171	2247350	3736	9340	602		
353.8970	22.927	22.932	0	1.325	7942729	1369022	3076	7690	445	1.62(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.940	22.954	-1	1.001	309291	49872	477	1192	105		
341.8567	22.940	22.954	-1	1.001	191717	32344	734	1835	44	1.61(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.622	23.625	0	1.365	9559667	1575307	2284	5710	690		
369.8919	23.622	23.625	0	1.365	6109230	995410	1706	4265	583	1.56(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.649	23.649	0	1.001	211682	31533	616	1540	51		
357.8516	23.636	23.649	-1	1.001	124979	21165	348	870	61	1.69(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.749	29.754	0	0.937	5613748	749447	3310	8275	226		
385.8610	29.749	29.754	0	0.937	10819374	1402669	5959	14897	235	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.789	29.789	0	1.001	240484	35863	546	1365	66		
375.8178	29.762	29.789	-2	1.000	211599	28700	589	1472	49	1.14(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.015	30.015	0	0.945	5969557	865919	3310	8275	262		
385.8610	30.002	30.015	-1	0.945	11698792	1738856	5959	14897	292	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.028	30.039	-1	1.000	259918	40834	546	1365	75		
375.8178	30.028	30.039	-1	1.000	211320	30654	589	1472	52	1.23(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.040	31.043	0	0.978	5612853	1245433	3310	8275	376		
385.8610	31.040	31.043	0	0.978	10979049	2494852	5959	14897	419	0.51(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.053	31.059	0	1.000	257999	59556	546	1365	109		
375.8178	31.053	31.059	0	1.000	211857	47785	589	1472	81	1.22(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.932	31.942	-1	1.006	5127023	1276569	3310	8275	386		
385.8610	31.932	31.942	-1	1.006	9969124	2483754	5959	14897	417	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.945	31.956	-1	1.000	250582	59386	546	1365	109		
375.8178	31.945	31.956	-1	1.000	211838	48028	589	1472	82	1.18(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.745	31.748	0		7962026	1846184	3652	9130	506		
403.8529	31.745	31.748	0		6089412	1377609	2789	6972	494	1.31(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.253	31.261	0	0.984	5953058	1483942	3652	9130	406		
403.8529	31.253	31.261	0	0.984	4618996	1187991	2789	6972	426	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.266	31.280	-1	1.000	145178	36647	426	1065	86		
391.8127	31.266	31.280	-1	1.000	132266	35409	522	1305	68	1.10(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.372	31.383	-1	0.988	7061273	1582952	3652	9130	433		
403.8529	31.372	31.383	-1	0.988	5447150	1228199	2789	6972	440	1.30(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.399	31.402	0	1.001	176287	43996	426	1065	103		
391.8127	31.399	31.402	0	1.001	143460	32388	522	1305	62	1.23(1.05-1.43)	
1,2,3,7,8,9-HxCDD											a
389.8157	31.758	31.761	0	1.016	170841	43295	426	1065	102		a
391.8127	31.745	31.761	-1	1.016	162160	33233	522	1305	64	1.05(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.447	33.457	-1	1.054	3779241	1261566	6785	16962	186		
419.8220	33.447	33.457	-1	1.054	8435598	2721447	20272	50680	134	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.459	33.469	-1	1.000	240121	76906	736	1840	104		
409.7789	33.459	33.469	-1	1.000	223286	71700	913	2282	79	1.08(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.492	34.502	-1	1.087	3454300	1028385	6785	16962	152		
419.8220	34.492	34.502	-1	1.087	7963156	2321827	20272	50680	115	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.504	34.509	0	1.000	191761	54375	736	1840	74		
409.7789	34.504	34.509	0	1.000	166401	51183	913	2282	56	1.15(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.225	34.227	0	1.078	6191349	1869122	6907	17267	271		
437.8140	34.213	34.227	-1	1.078	5956670	1788163	7344	18360	243	1.04(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.225	34.235	-1	1.000	130161	41792	539	1347	78		
425.7737	34.225	34.235	-1	1.000	127929	39414	381	952	103	1.02(0.88-1.20)	
13C-OCDD											
469.7779	36.481	36.486	0	1.149	10560642	2745879	1937	4842	1418		
471.7750	36.481	36.486	0	1.149	11763034	3056374	3109	7772	983	0.90(0.76-1.02)	
OCDF											
441.7428	36.576	36.581	0	1.003	292923	77485	428	1070	181		
443.7399	36.564	36.581	-1	1.002	344404	90221	754	1885	120	0.85(0.76-1.02)	
OCDD											
457.7377	36.493	36.497	0	1.000	259867	66125	554	1385	119		
459.7348	36.481	36.497	-1	1.000	297743	73262	482	1205	152	0.87(0.76-1.02)	

QC Flag Legend

Processing Flags

n - Failed Sig-To-Noise Test

Review Flags

a - User Assigned ID

Reagents:

HRDXNL2_00027 Amount Added: 1.00 Units: mL

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d				
Injection Date:	17-Sep-2019 13:03:20	Instrument ID:	10D5		
Lims ID:	IC				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 2

Processing Integration Results

RT: 31.75
Area: 162160
Amount: 2.380231
Amount Units: pg/ul

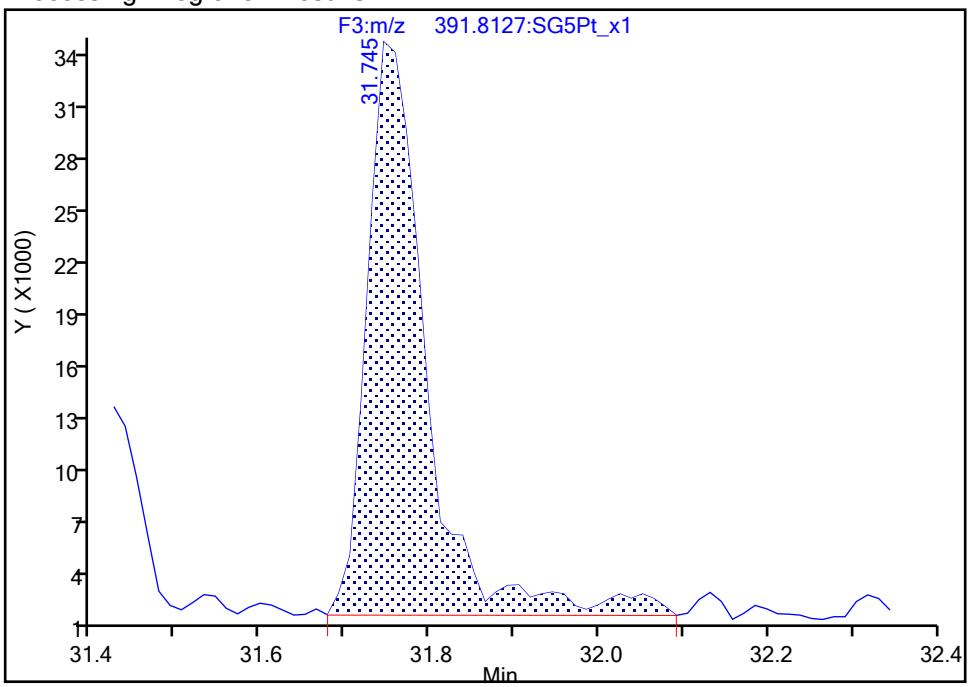

Manual Integration Results

RT: 31.75
Area: 162160
Amount: 2.380231
Amount Units: pg/ul

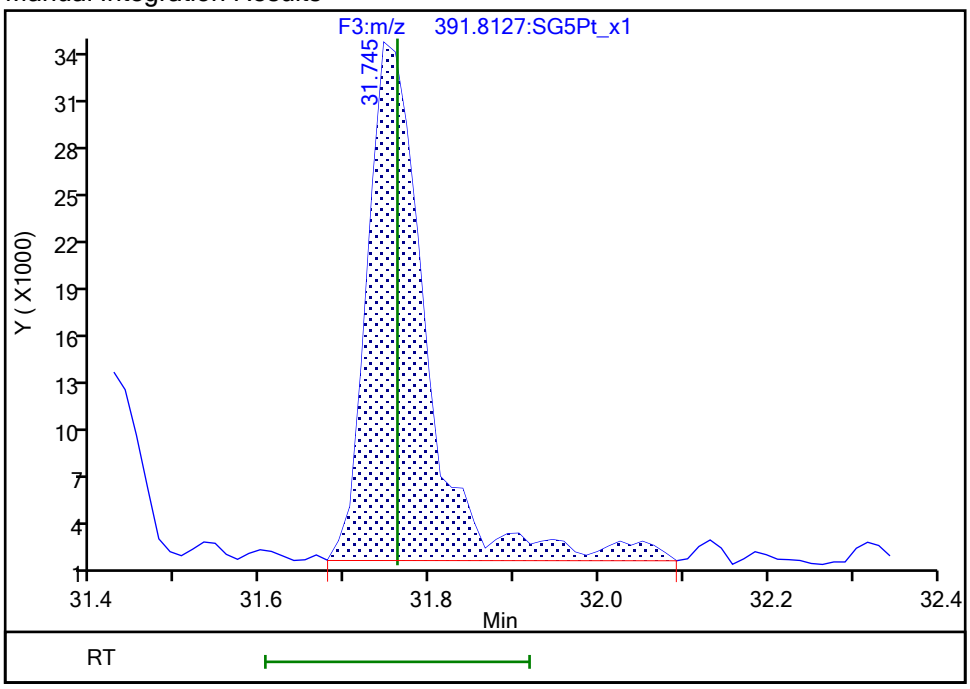

Reviewer: shardaa, 17-Sep-2019 18:02:41

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d				
Injection Date:	17-Sep-2019 13:03:20	Instrument ID:	10D5		
Lims ID:	IC				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 3

Processing Integration Results

RT: 31.76
Area: 333001
Amount: 2.380231
Amount Units: pg/ul

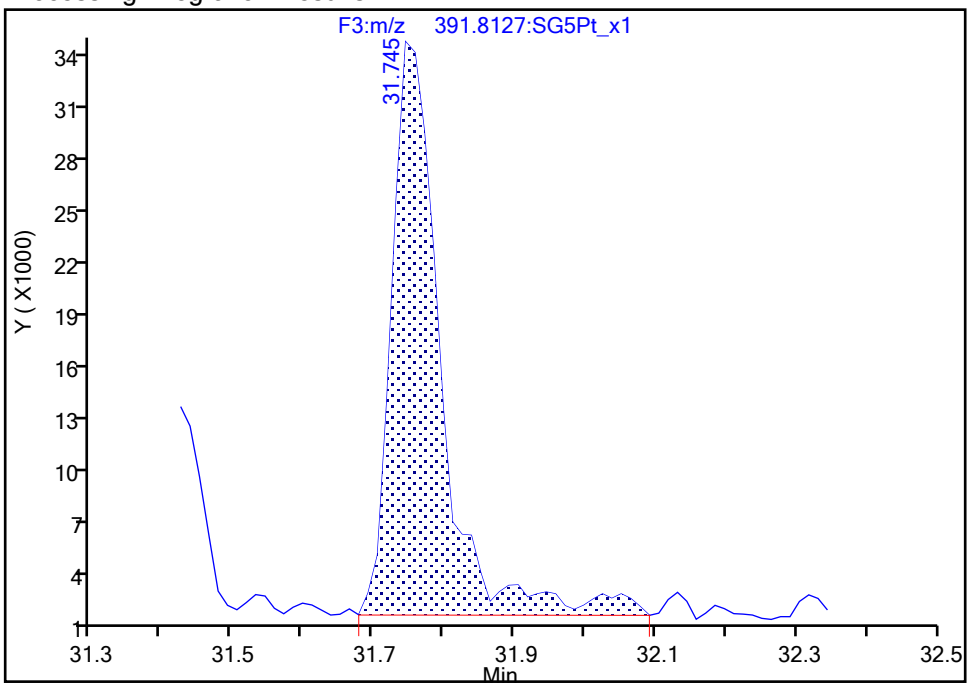

Manual Integration Results

RT: 31.76
Area: 333001
Amount: 2.380231
Amount Units: pg/ul
Reviewer: shardaa, 17-Sep-2019 18:02:41
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d				
Injection Date:	17-Sep-2019 13:03:20	Instrument ID:	10D5		
Lims ID:	IC				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 1

Processing Integration Results

RT: 31.76
Area: 170841
Amount: 2.380231
Amount Units: pg/ul

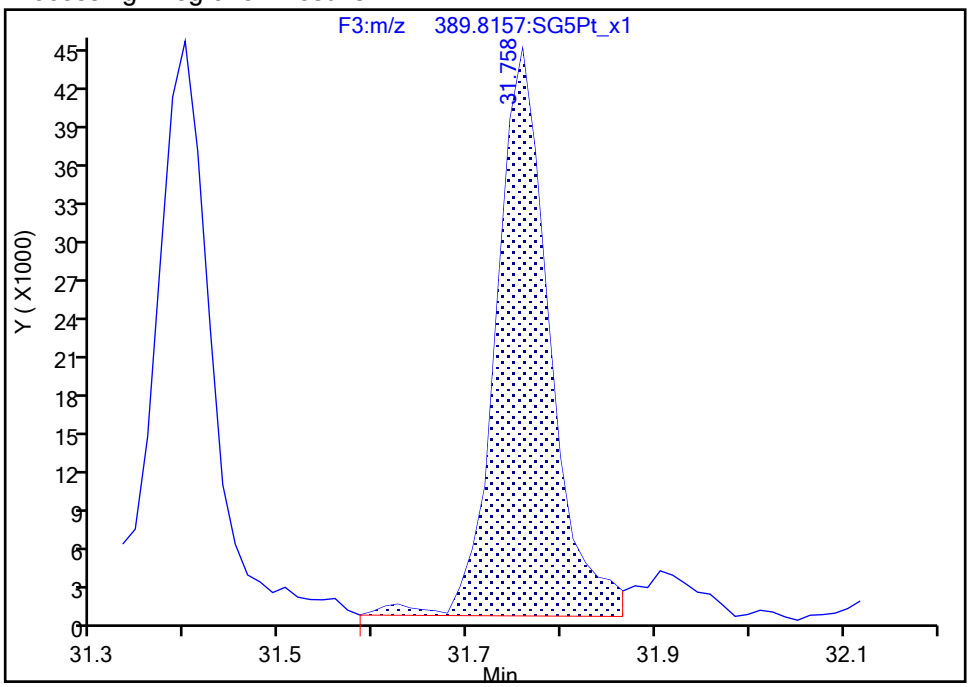

Manual Integration Results

RT: 31.76
Area: 170841
Amount: 2.380231
Amount Units: pg/ul

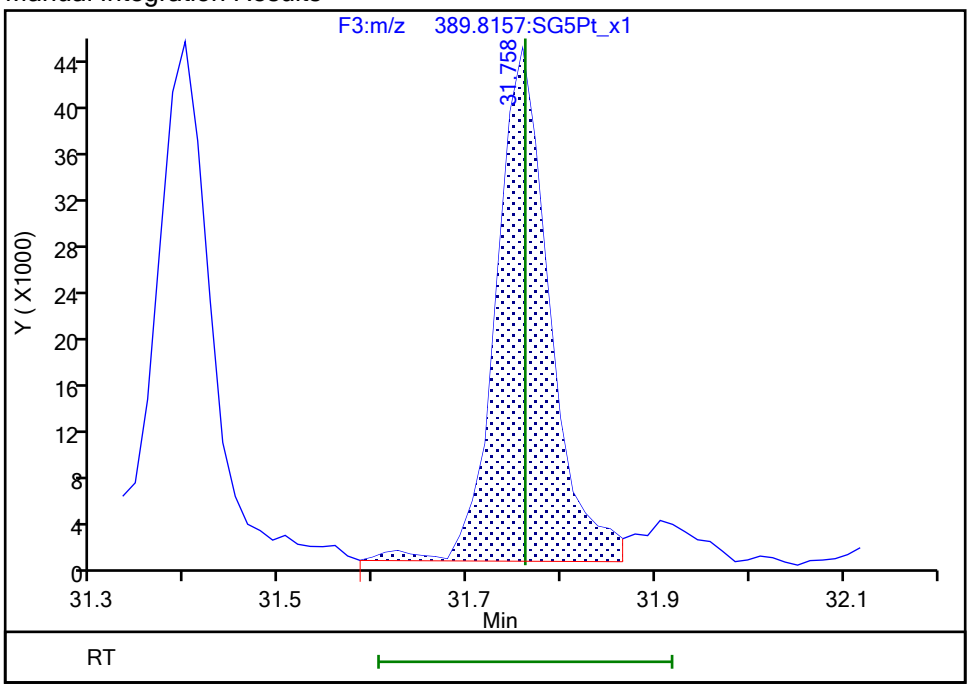

Reviewer: shardaa, 17-Sep-2019 18:02:44

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
Injection Date:	17-Sep-2019 13:03:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

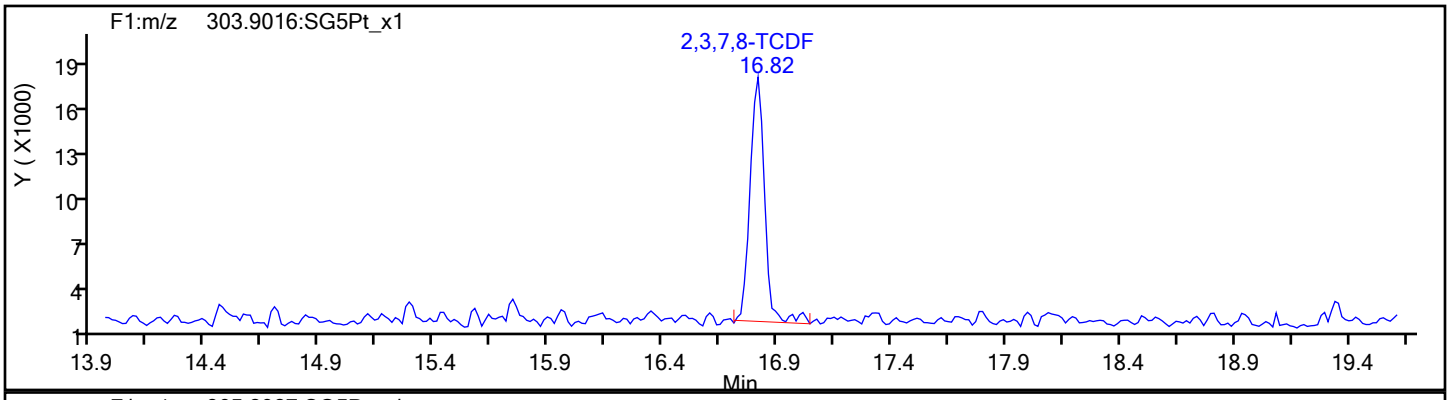

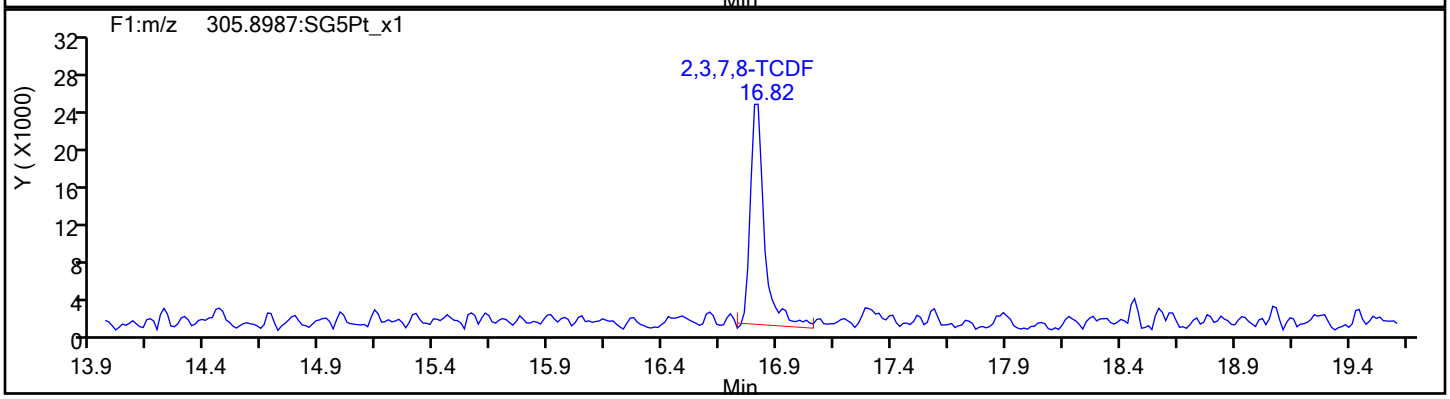

TCDF Standards

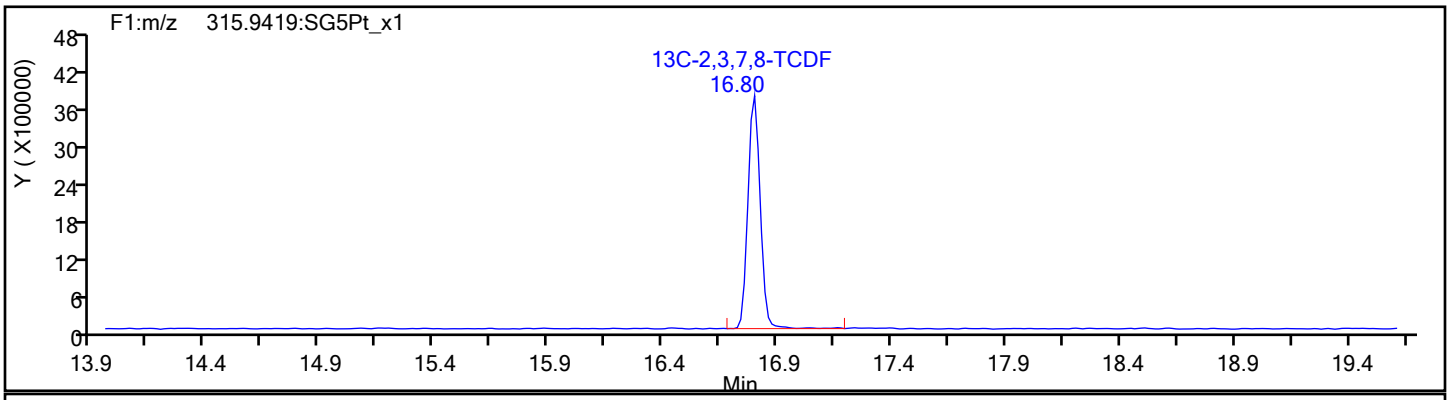

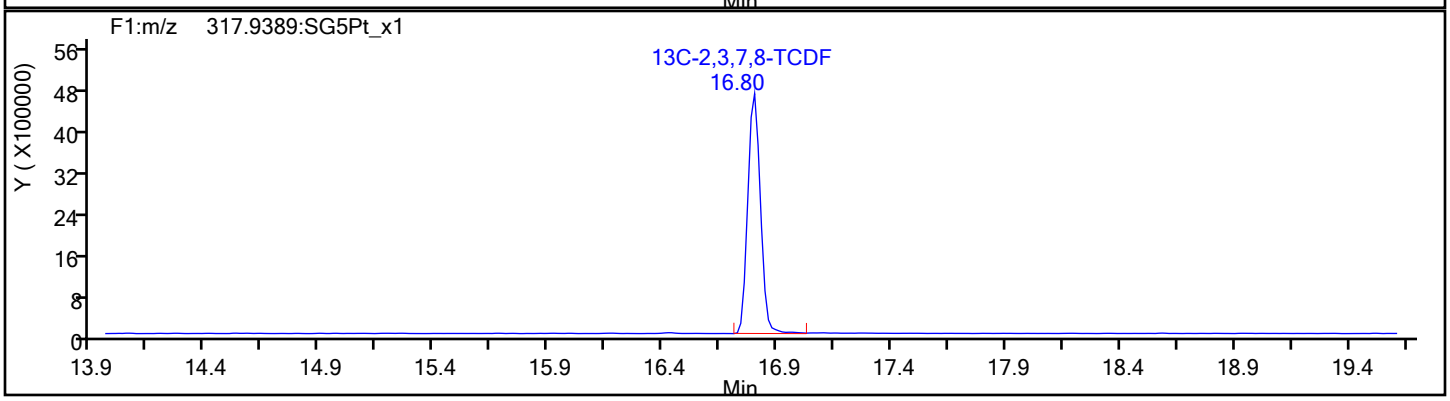

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
Injection Date:	17-Sep-2019 13:03:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

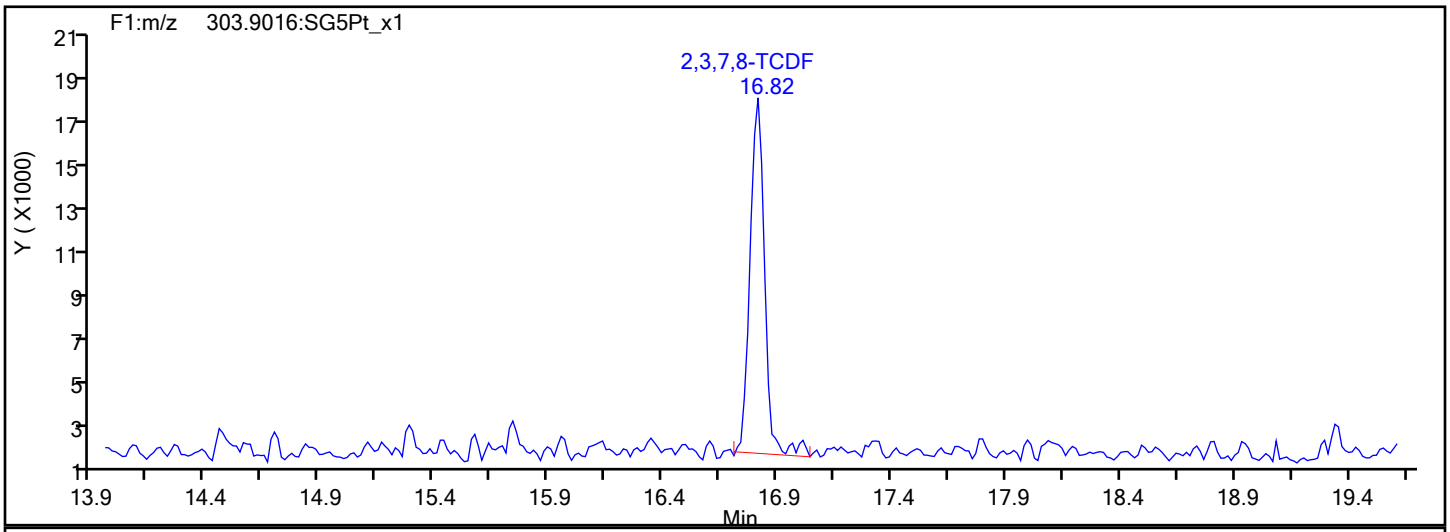

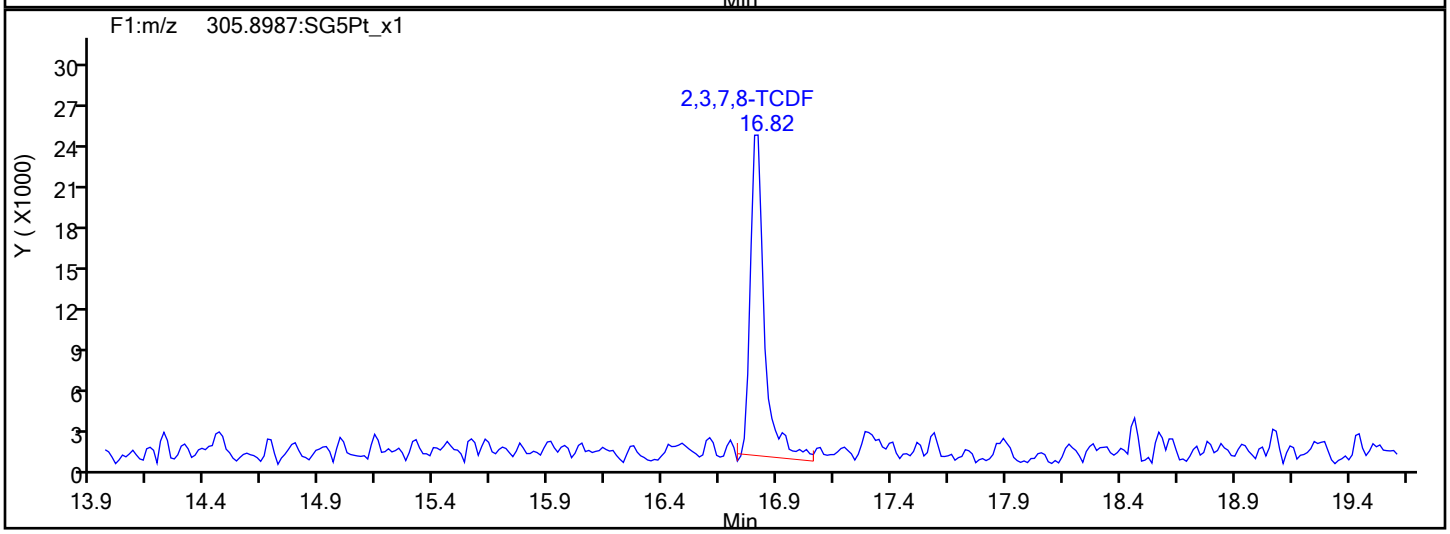

TCDF Interference Mass

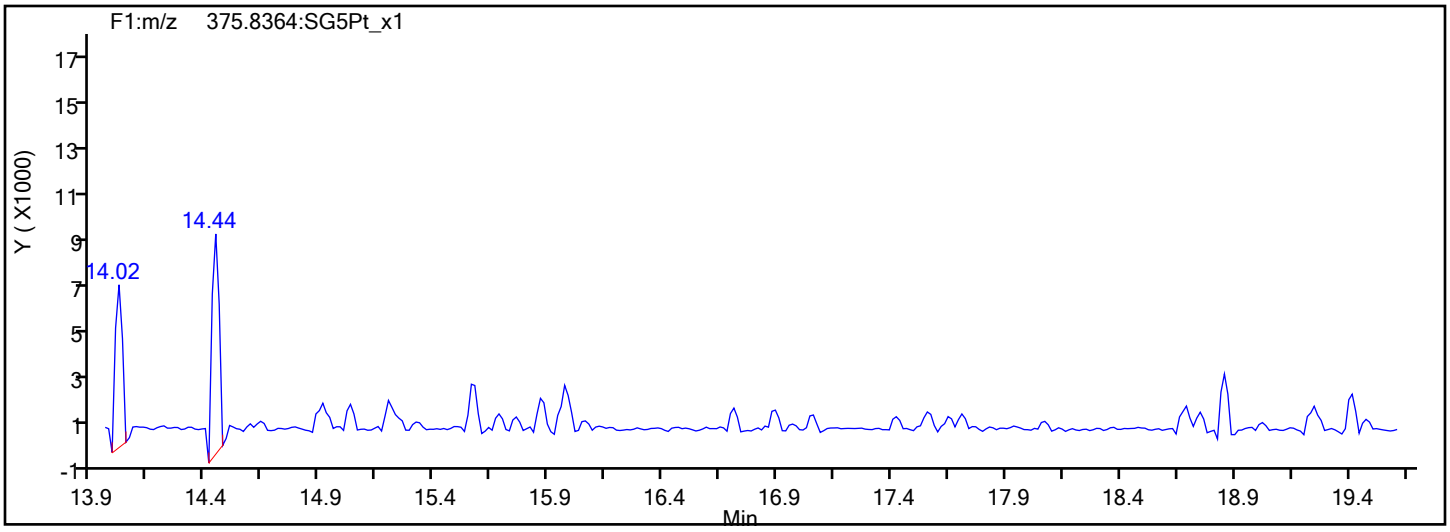

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
Injection Date:	17-Sep-2019 13:03:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

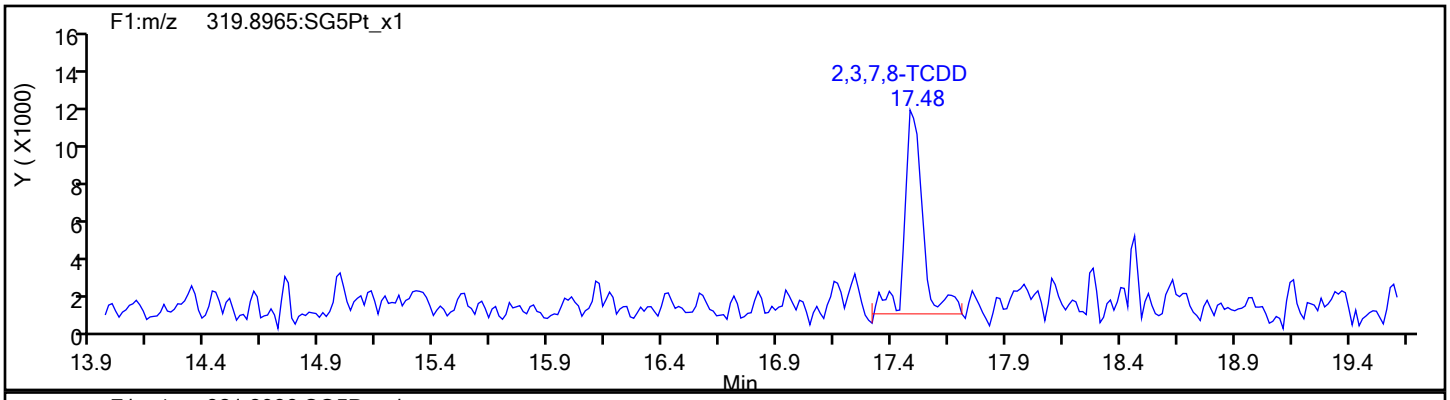

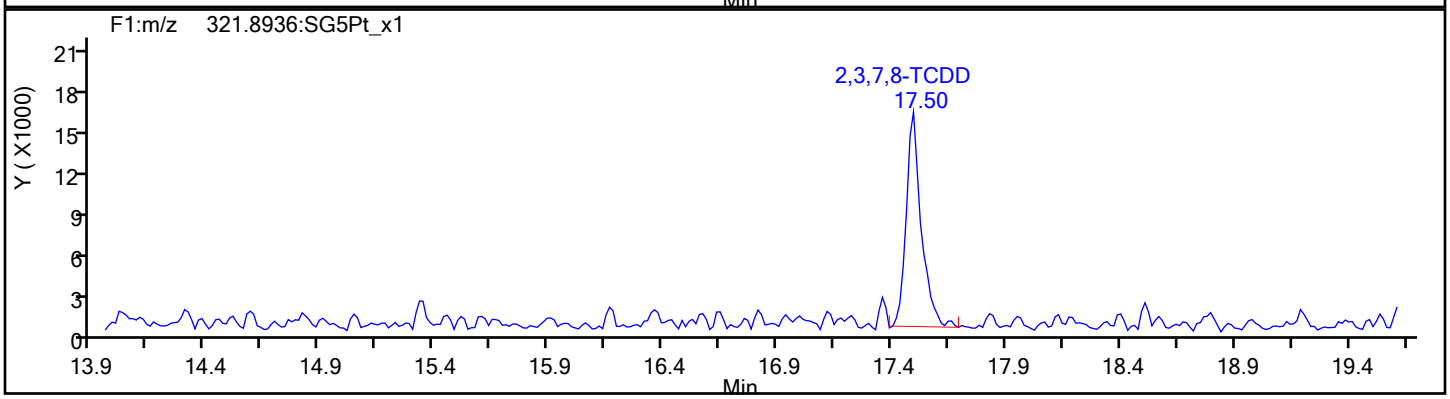

TCDD Standards

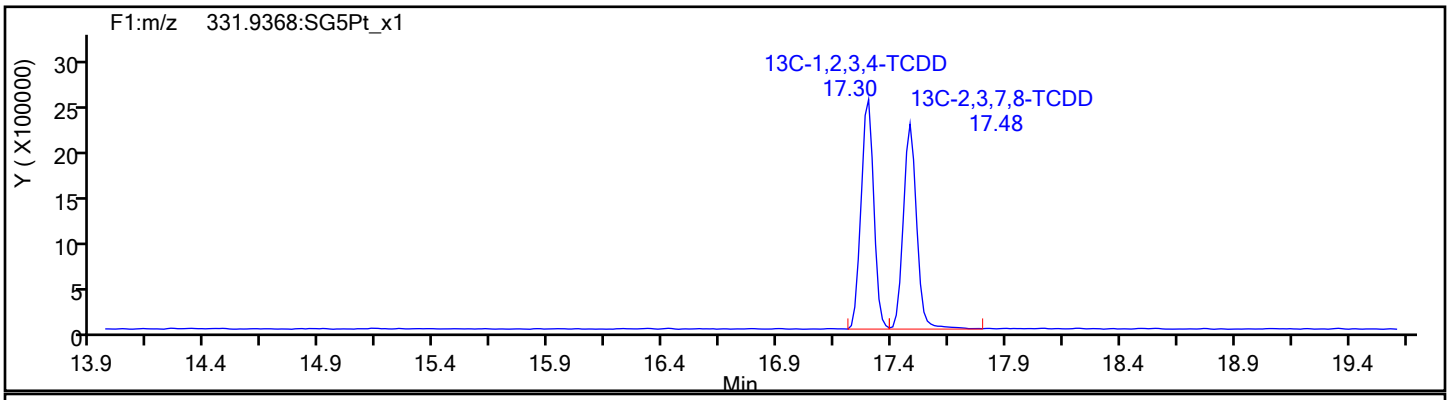

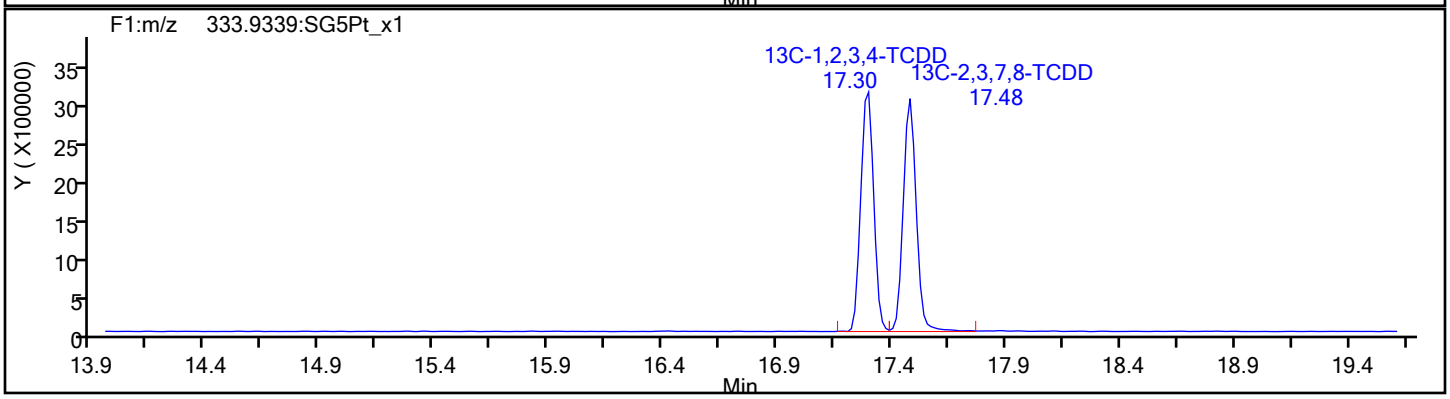

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

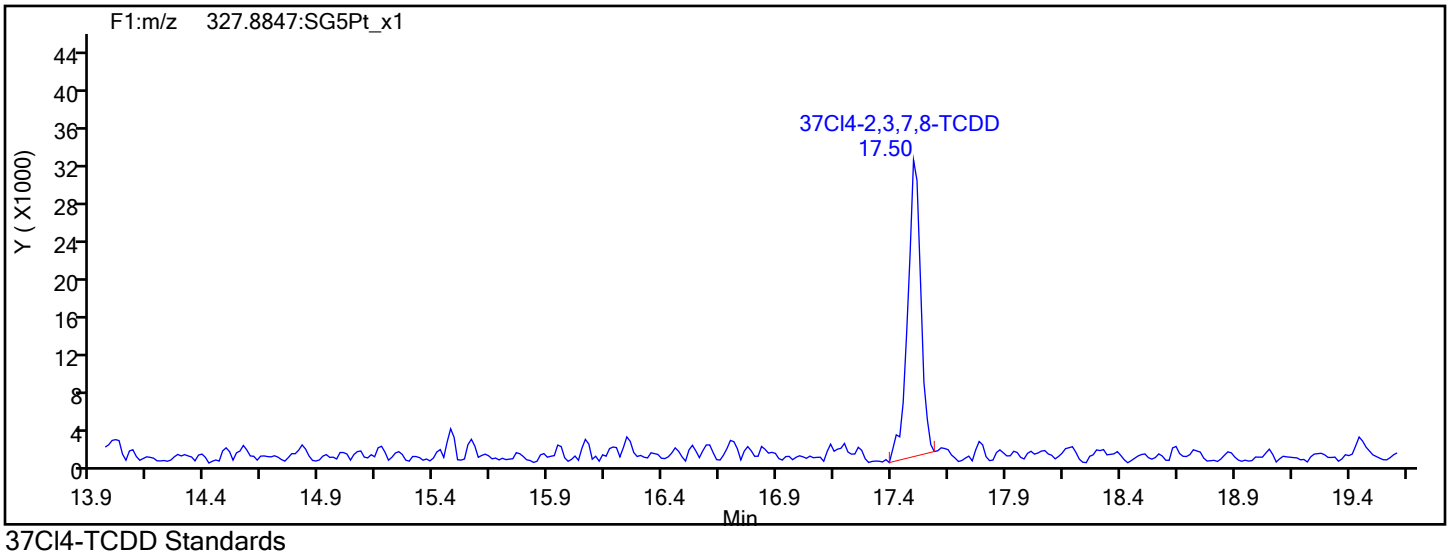

37Cl4-TCDD Standards

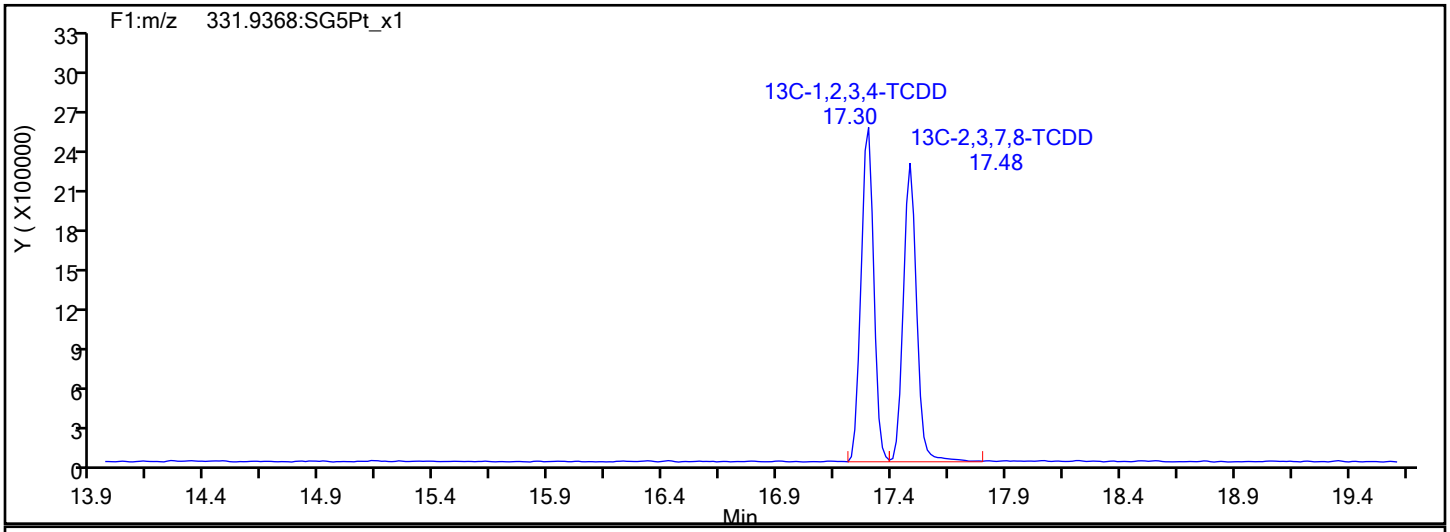

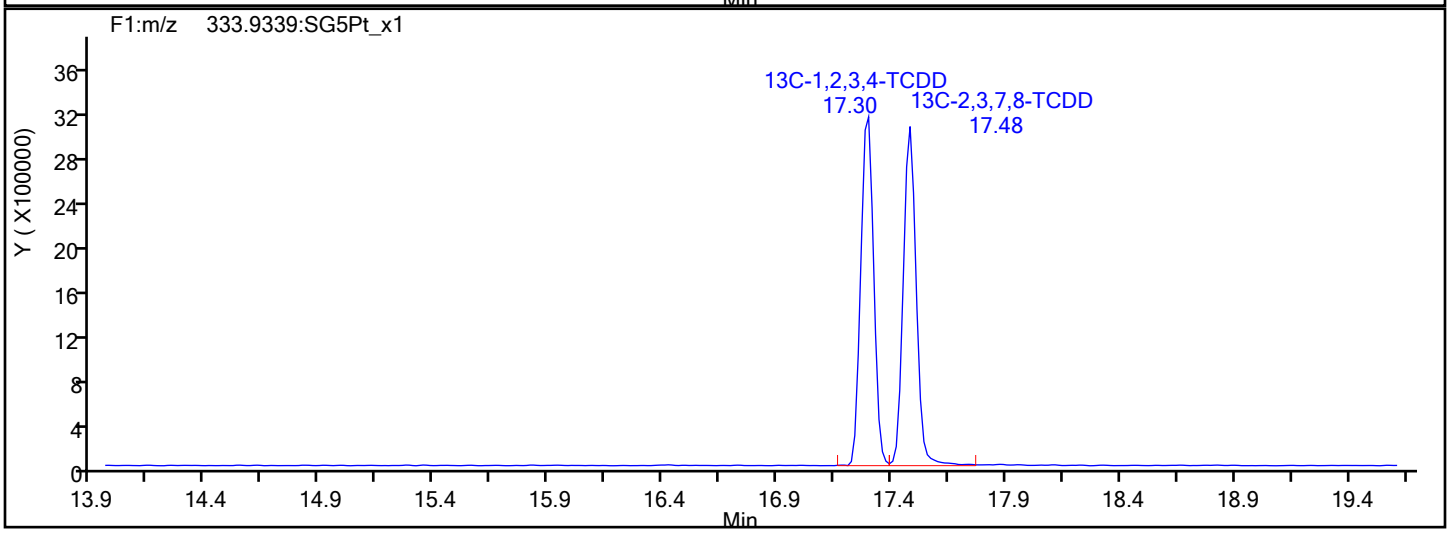

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
Injection Date:	17-Sep-2019 13:03:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

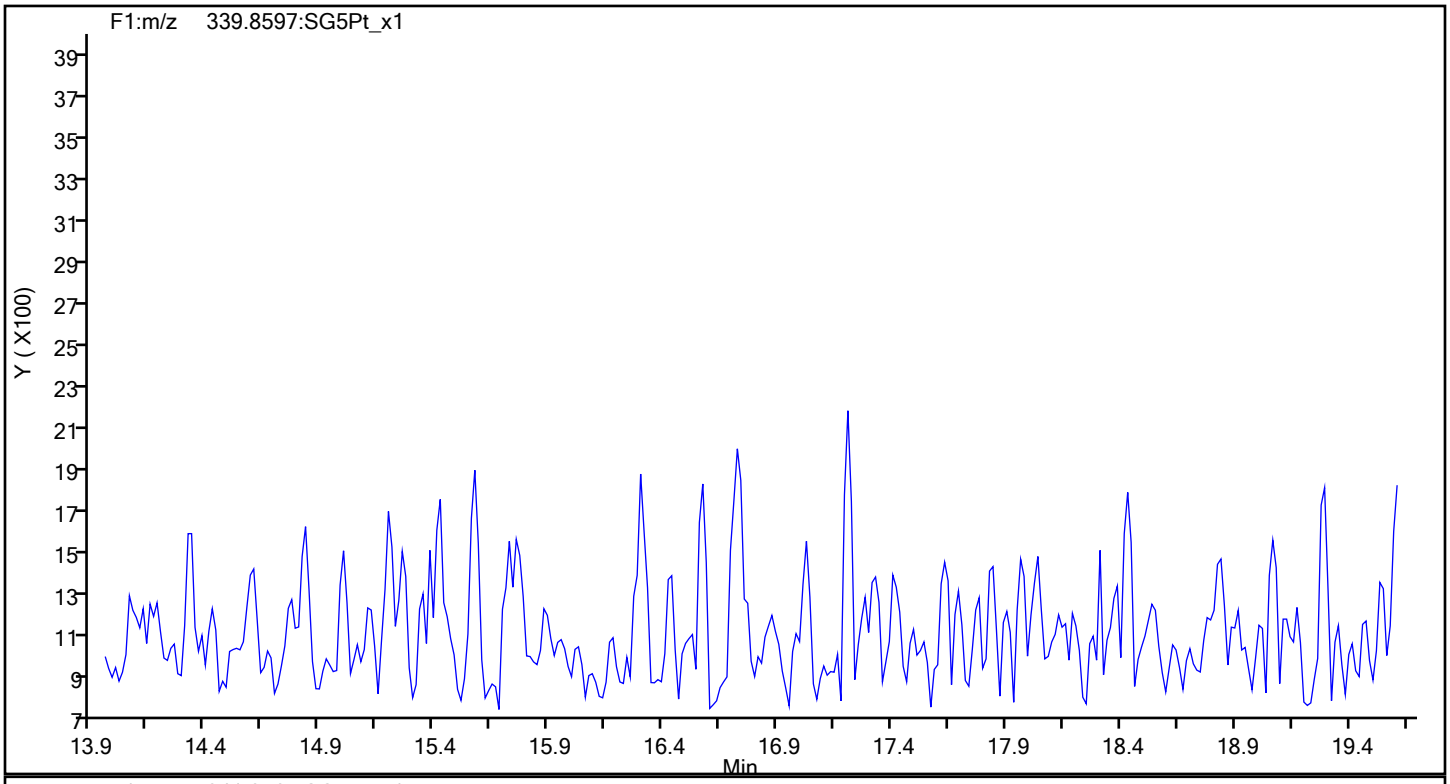

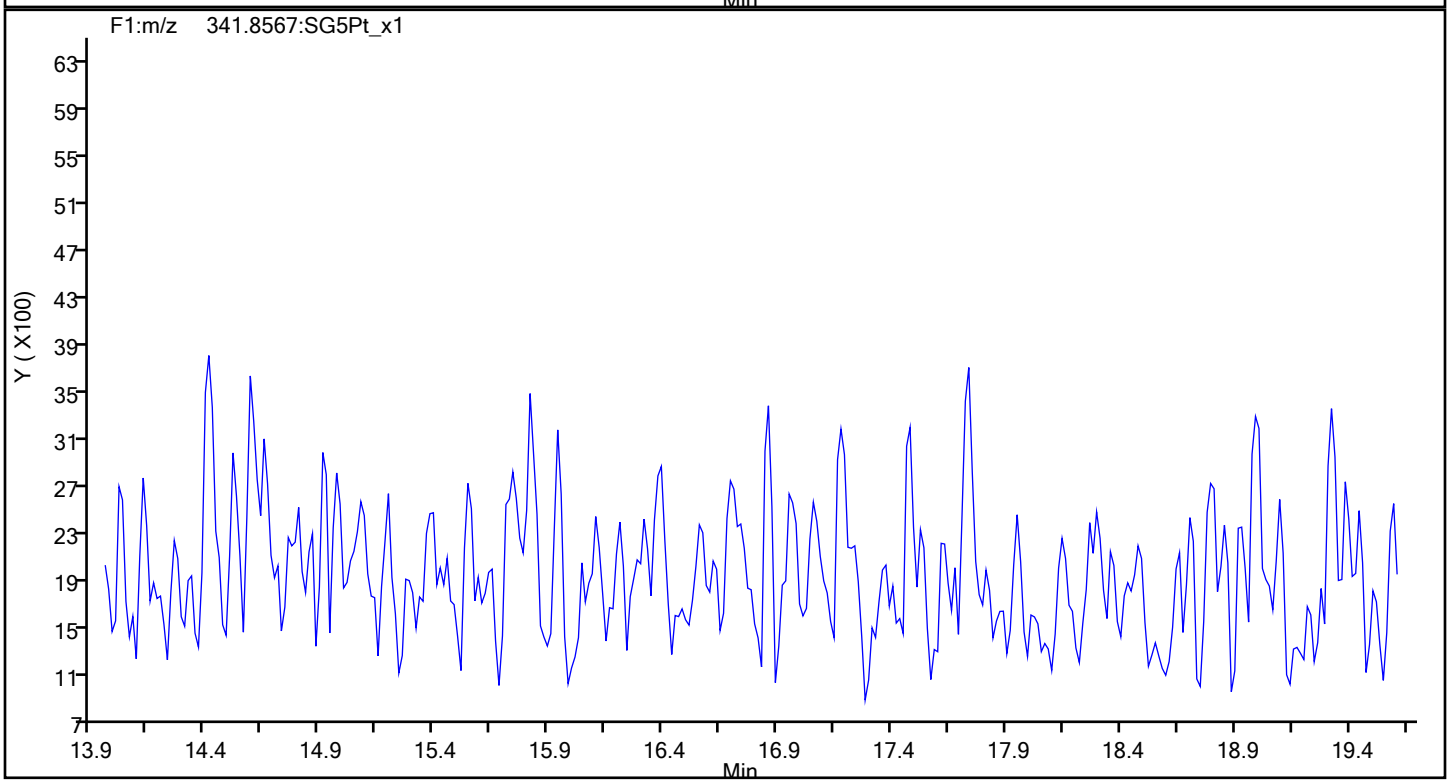

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
Injection Date:	17-Sep-2019 13:03:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

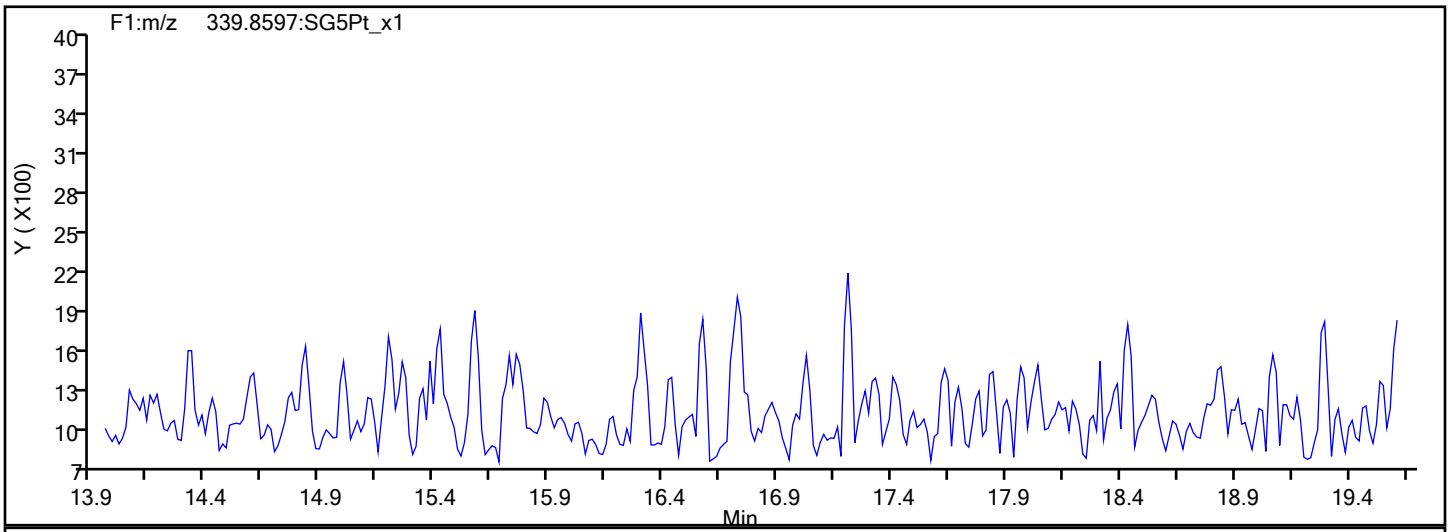

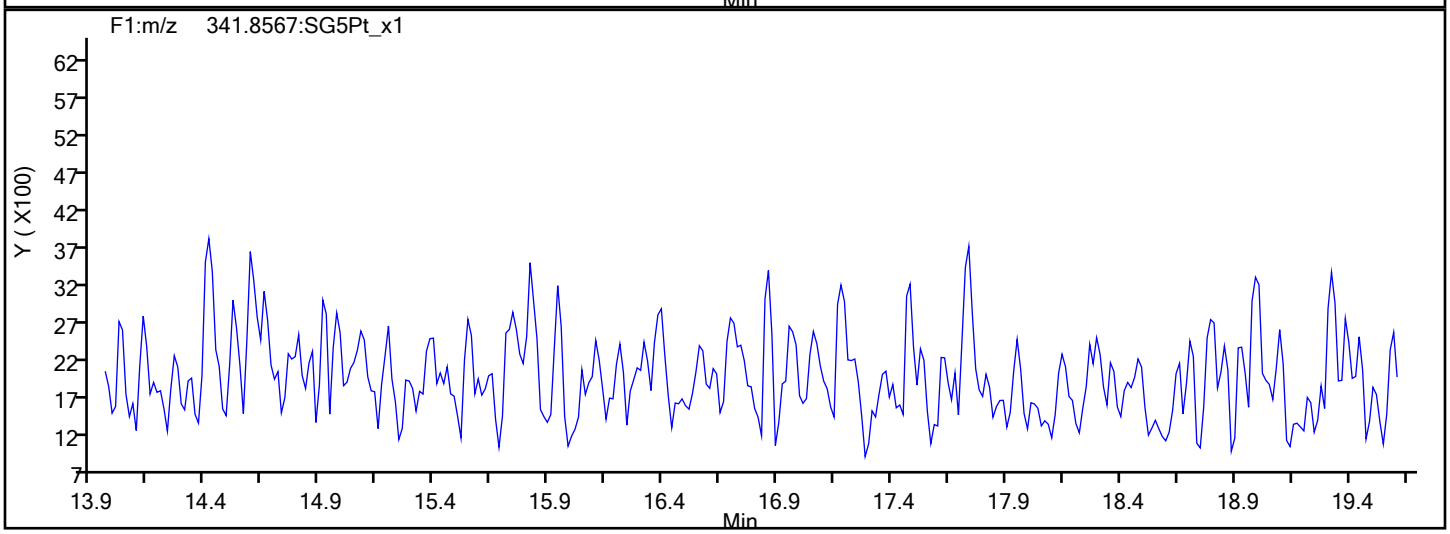

F1 PeCDFs Interference Mass

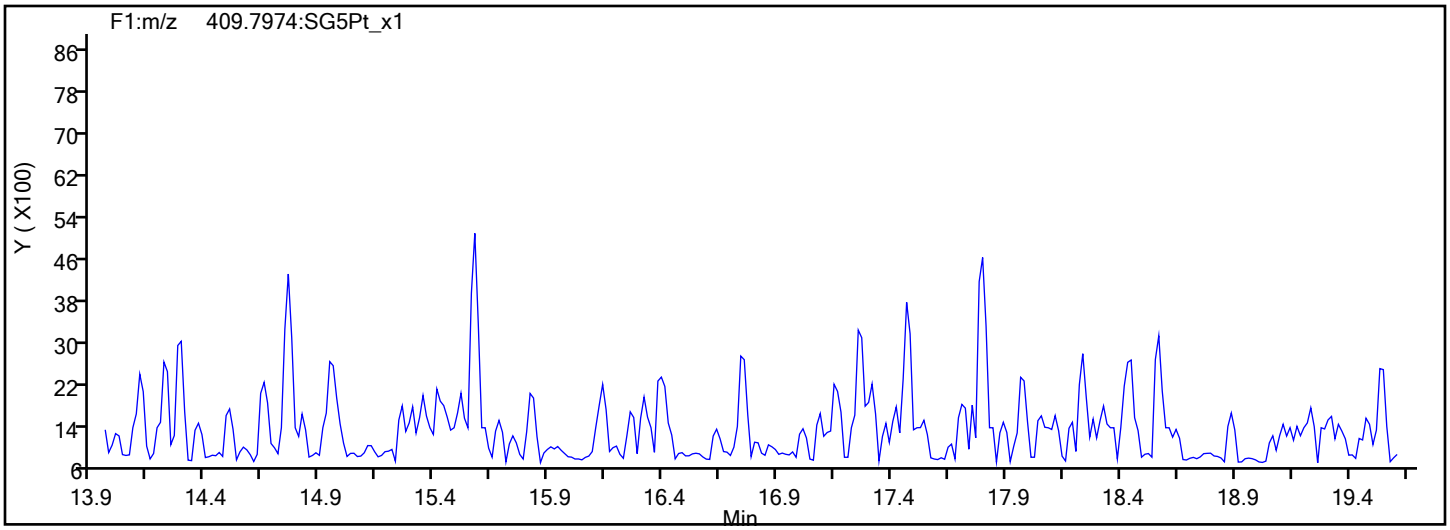

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
Injection Date:	17-Sep-2019 13:03:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

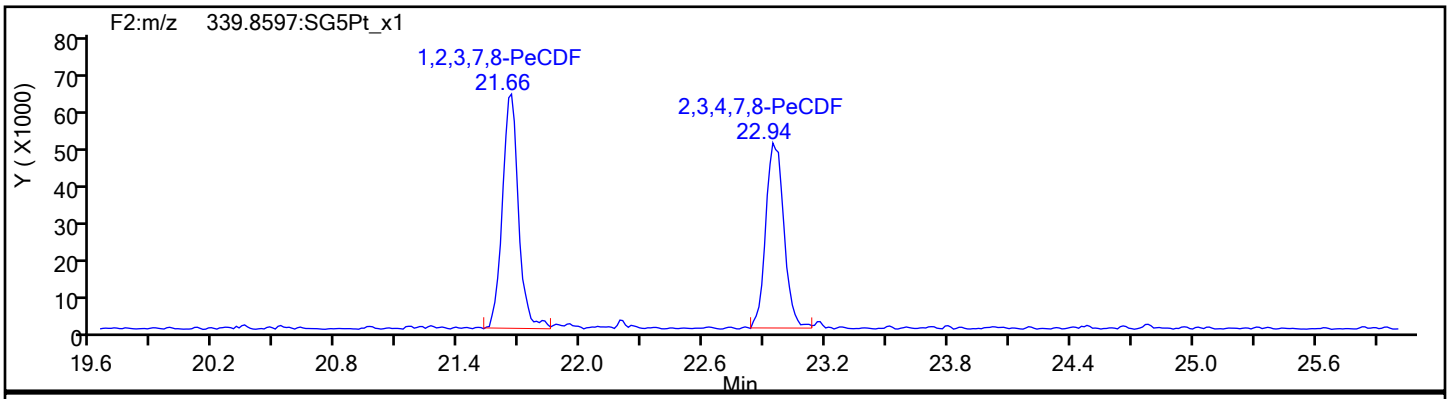

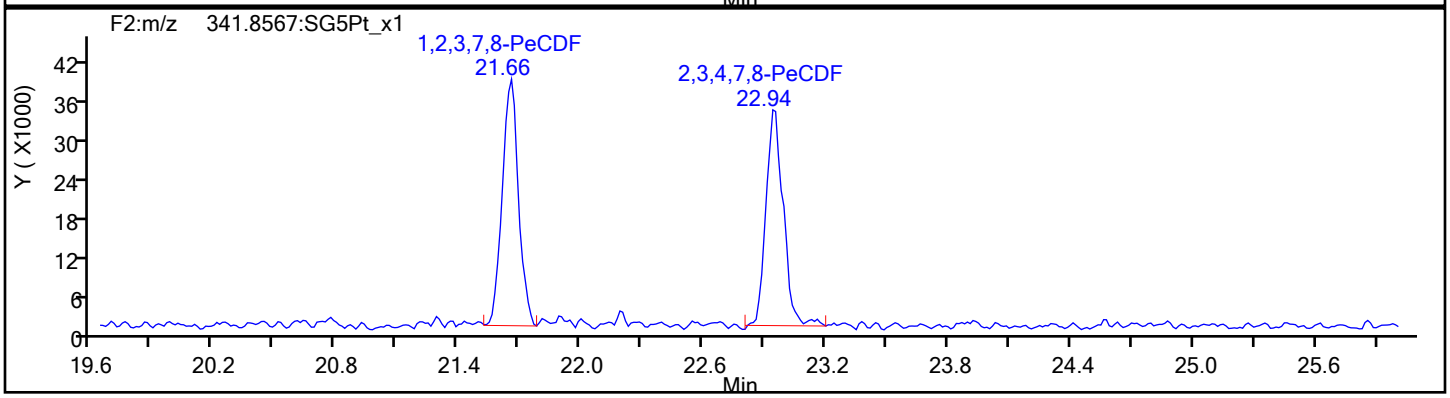

PeCDF Standards

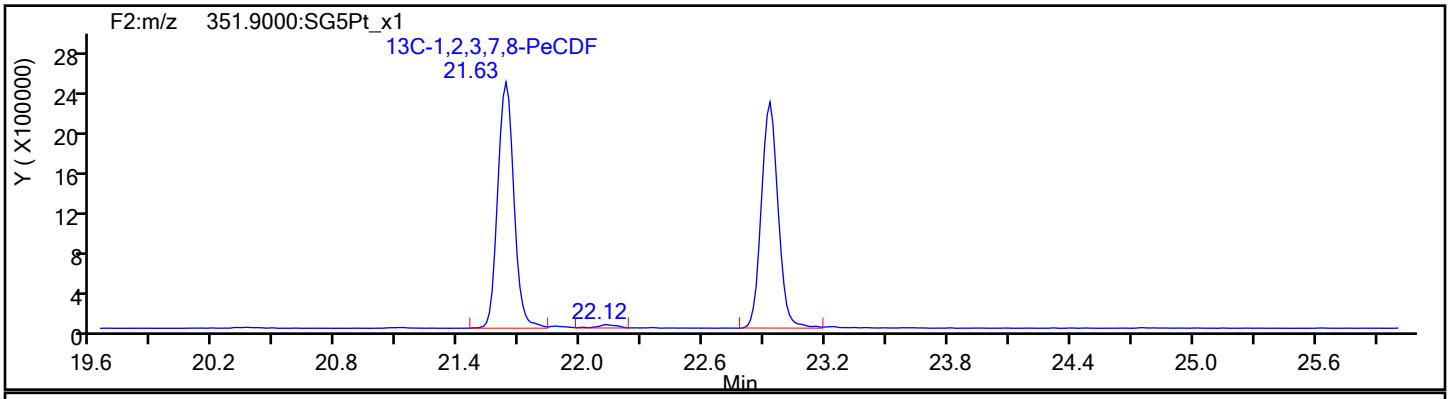

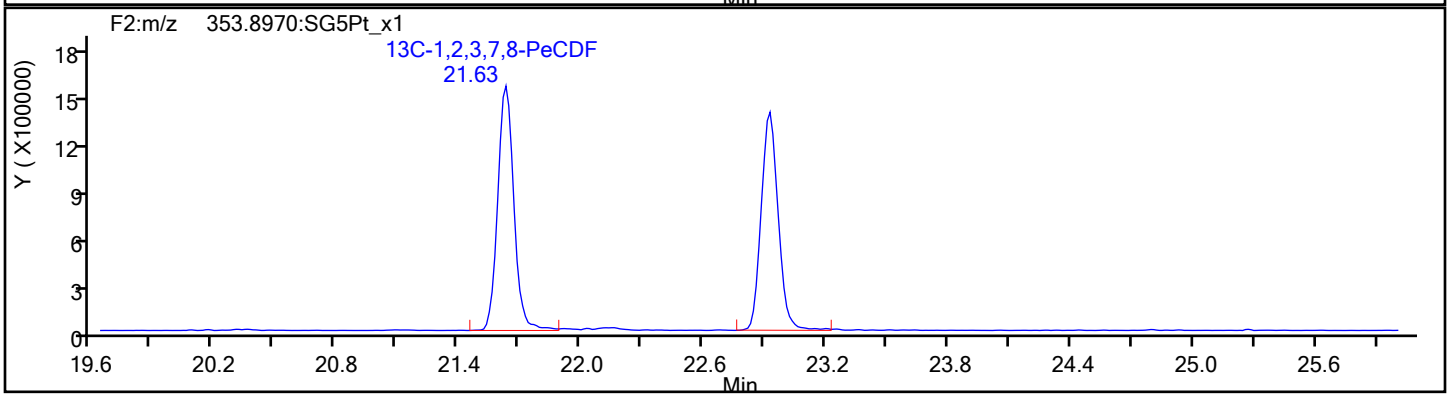

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

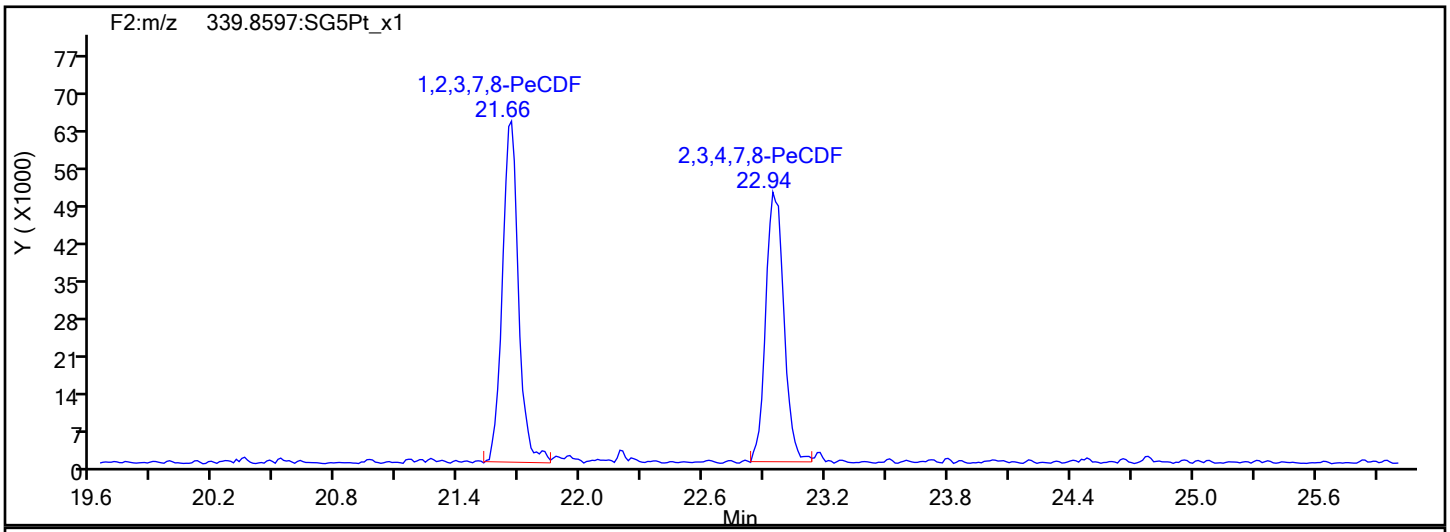

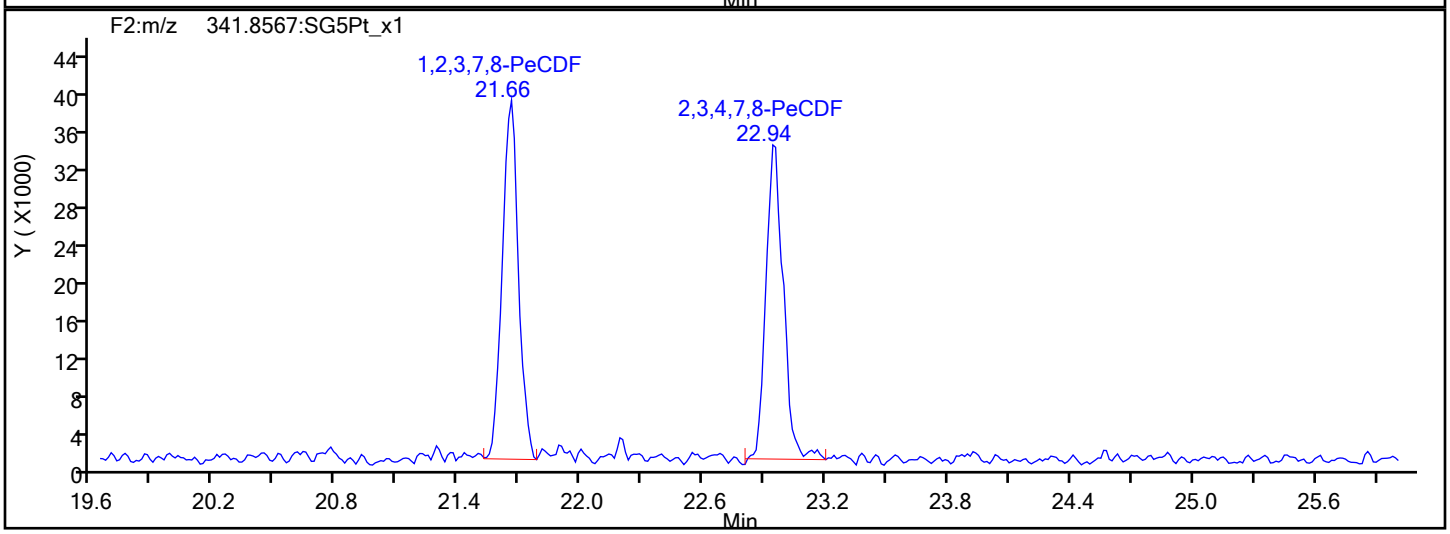

PeCDF Interference Mass

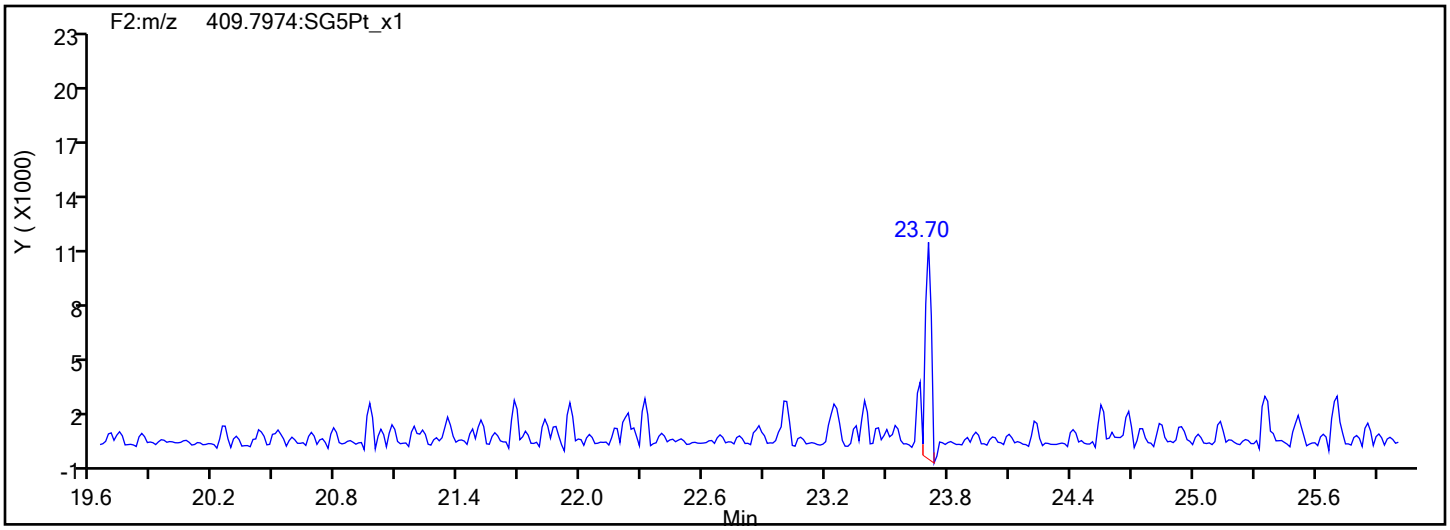

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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PeCDD

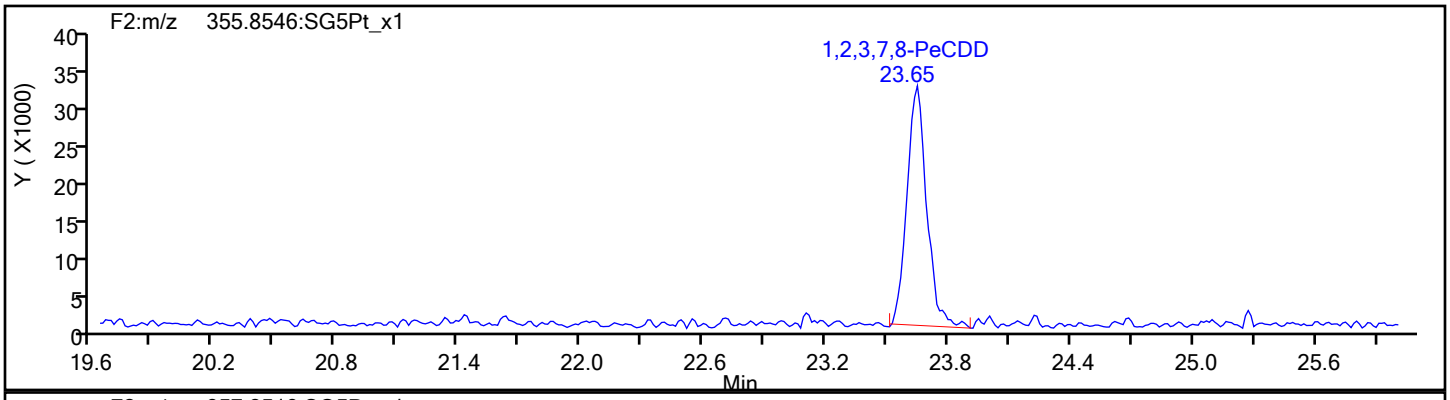

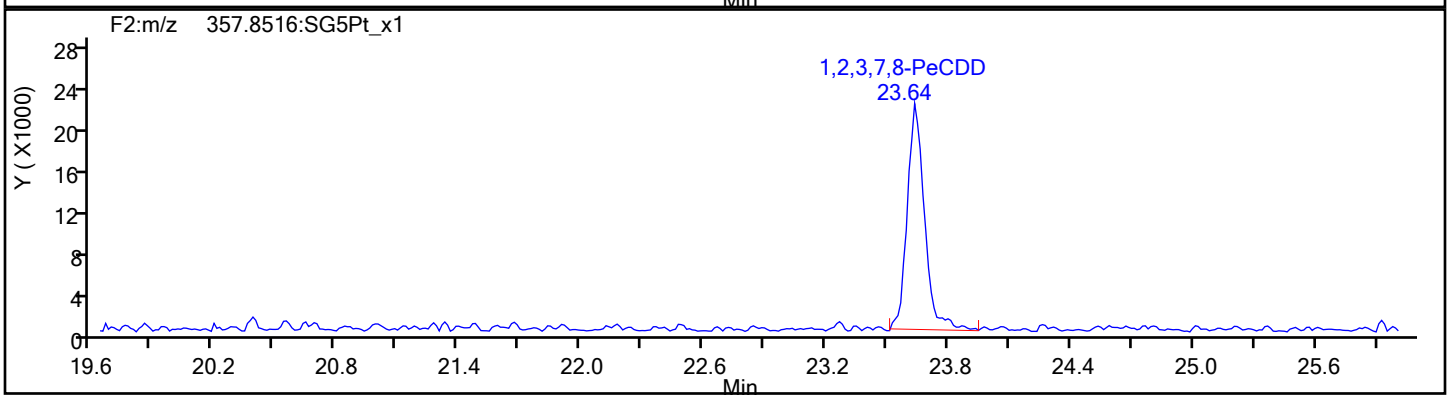

PeCDD Standards

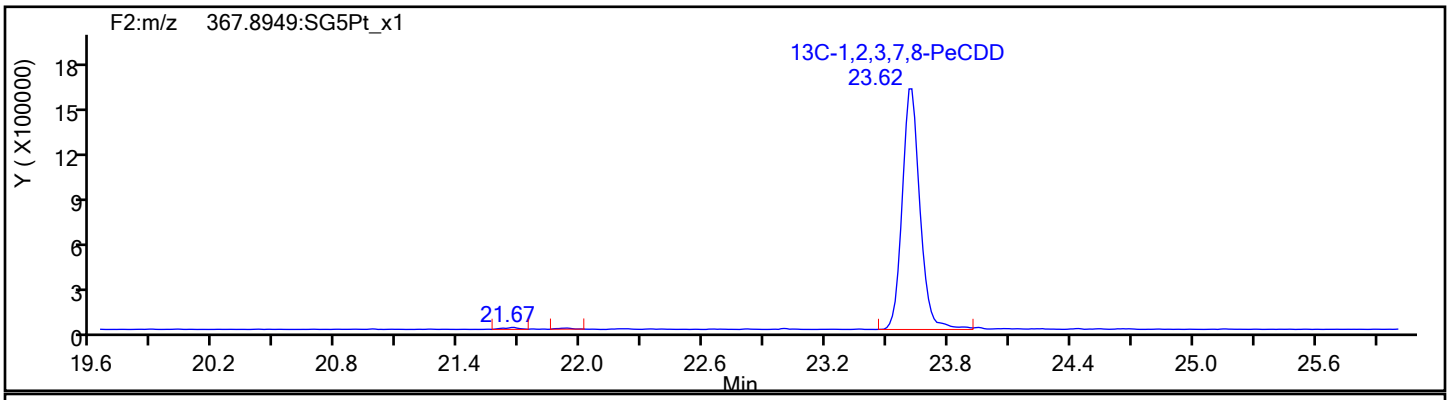

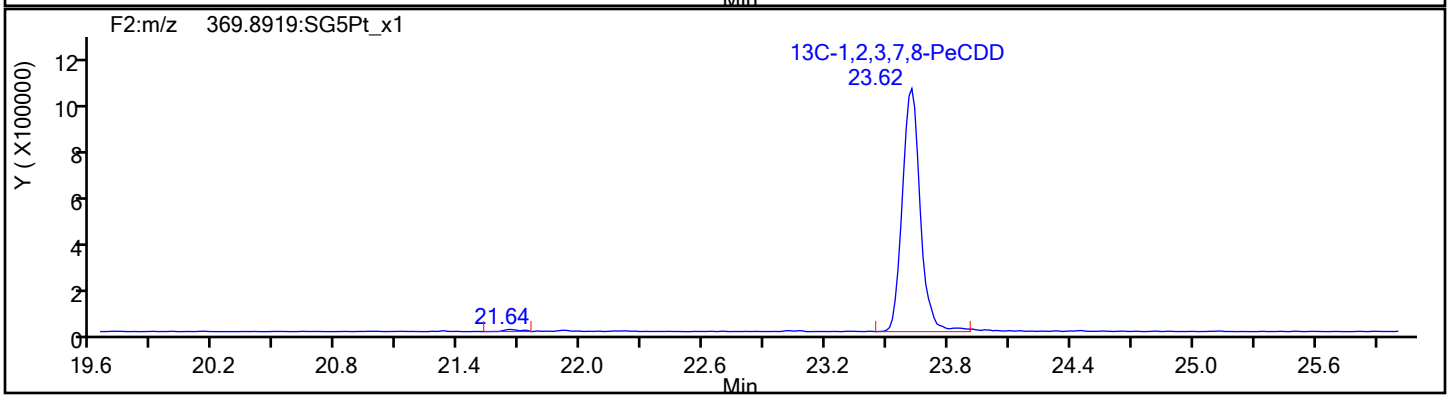

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Eurofins TestAmerica, Sacramento

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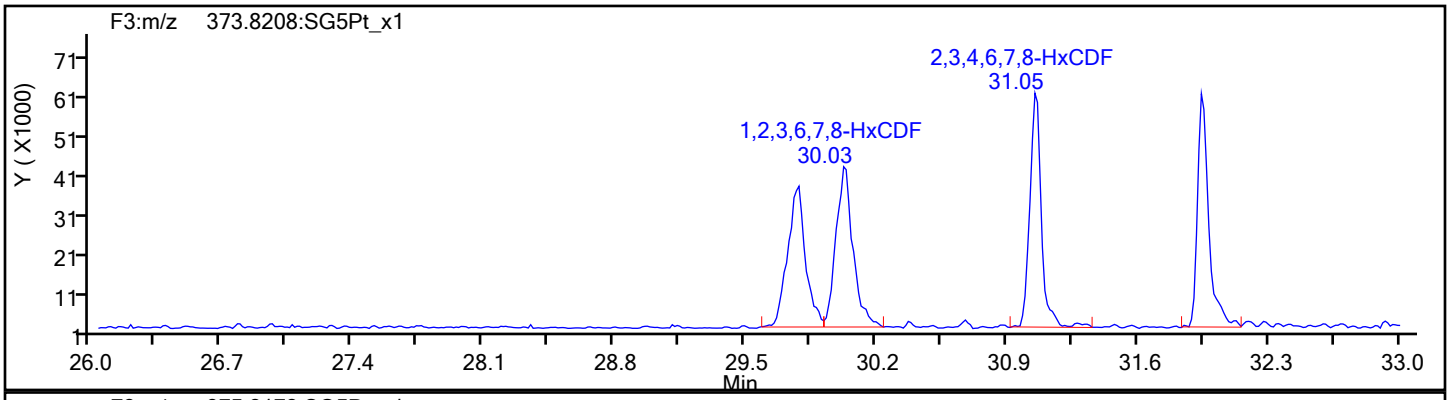

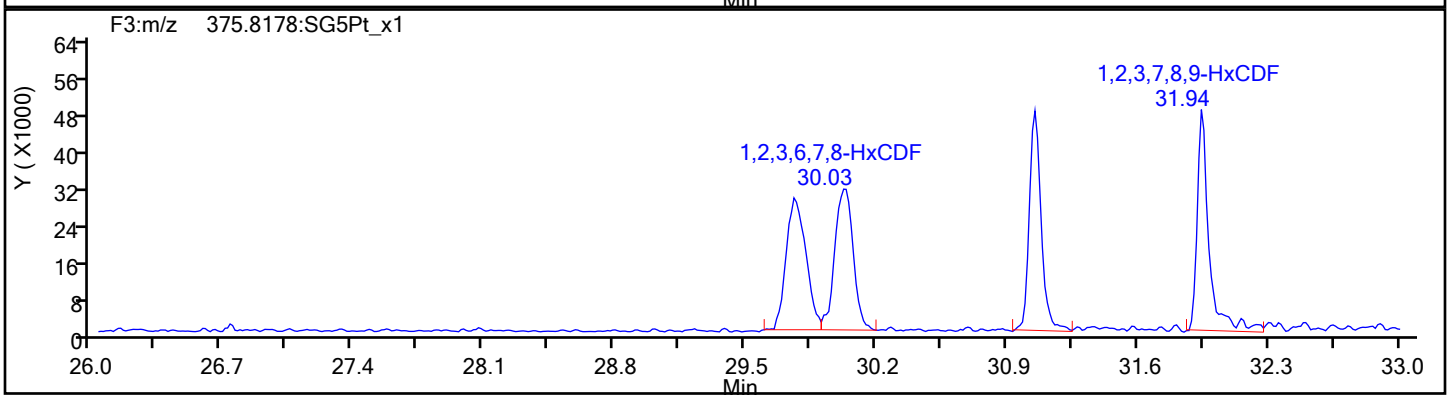

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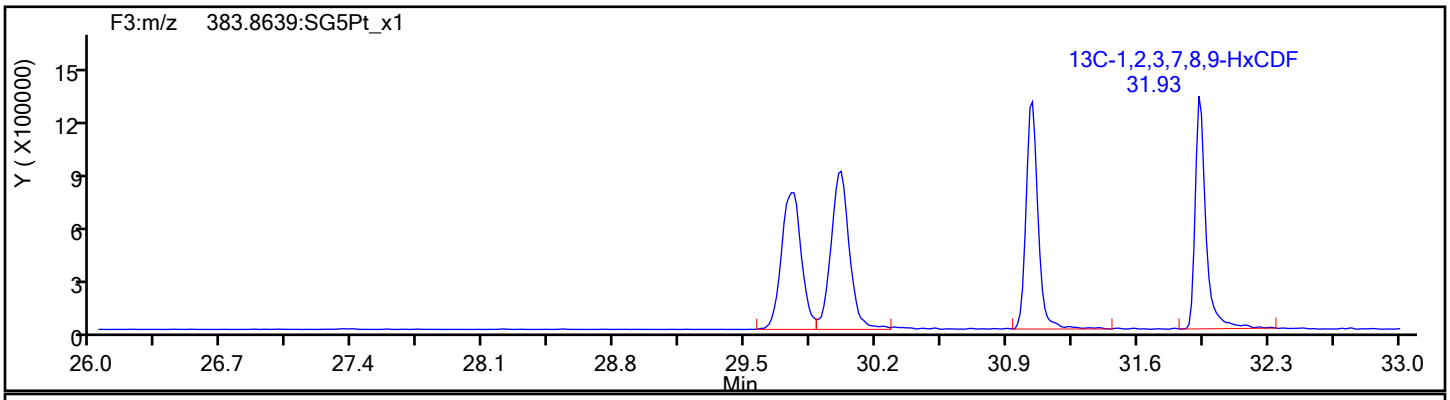

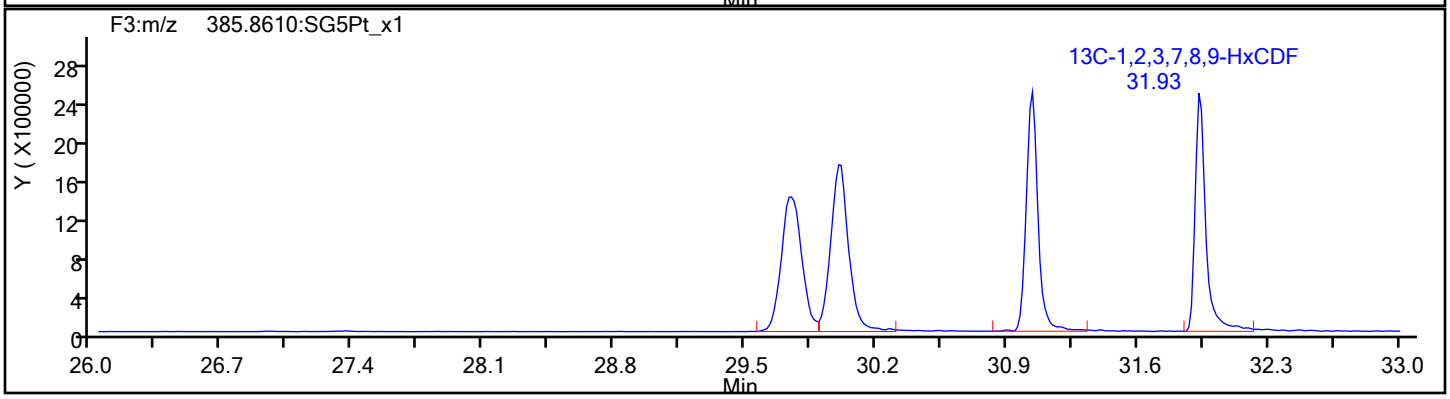

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Eurofins TestAmerica, Sacramento

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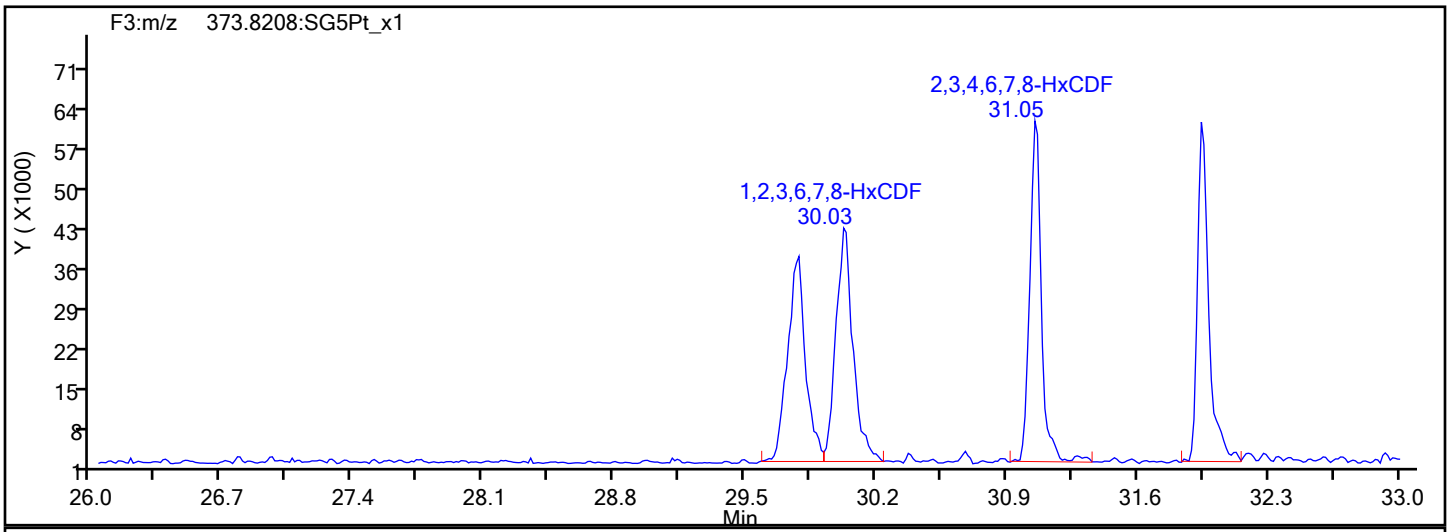

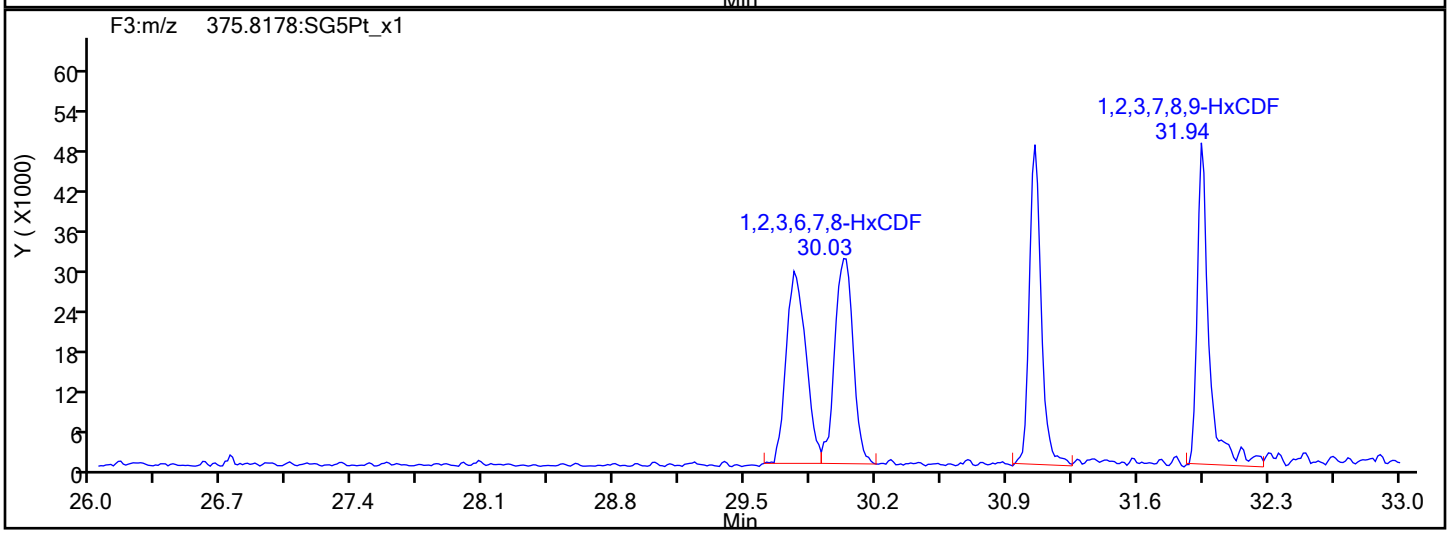

HxCDF Interference Mass

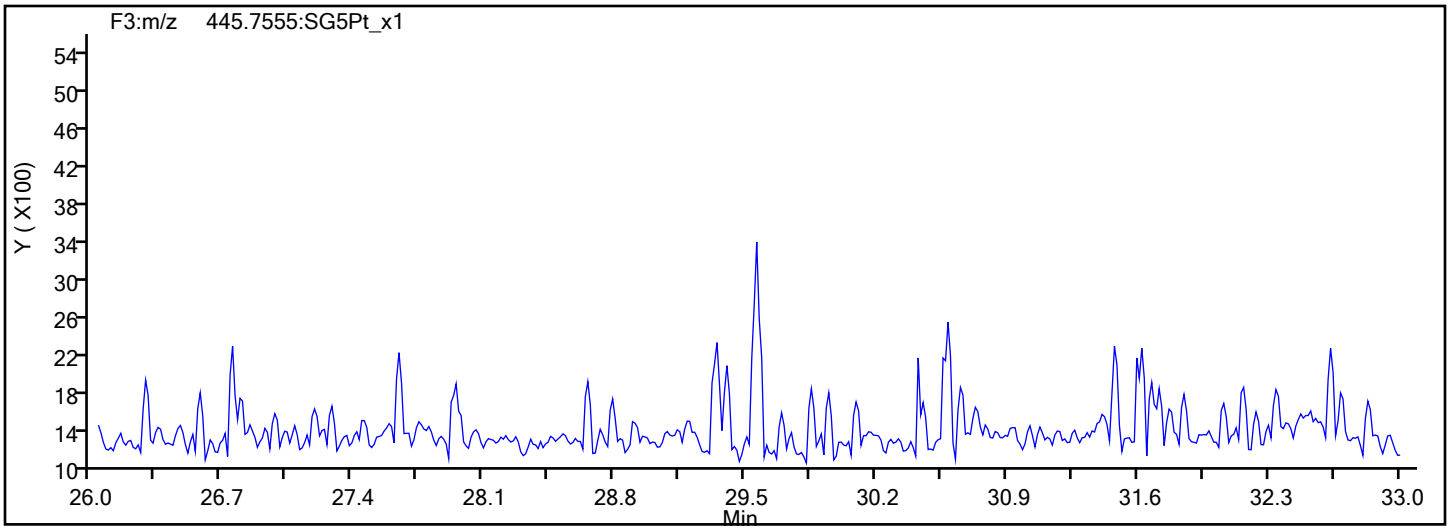

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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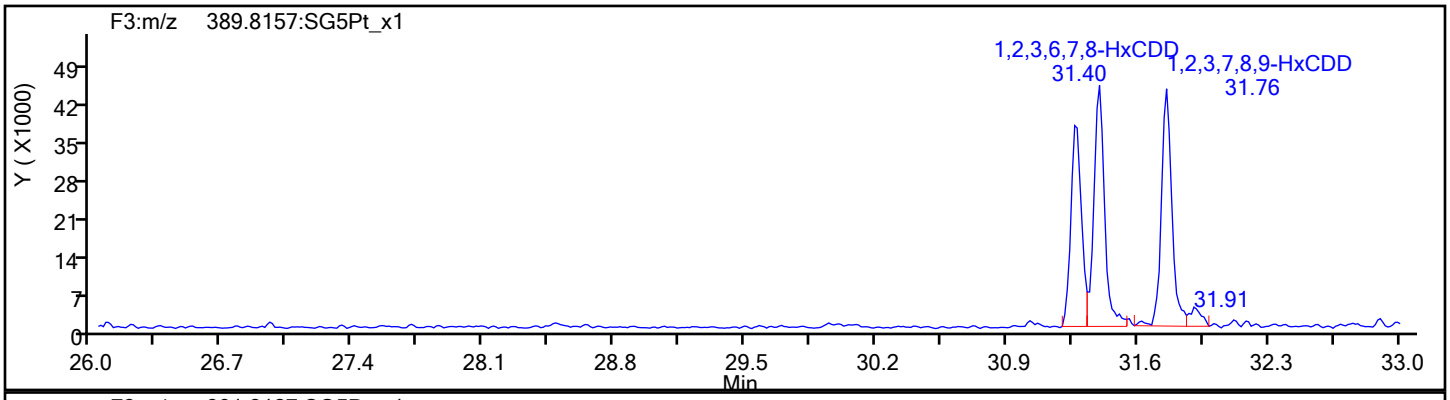

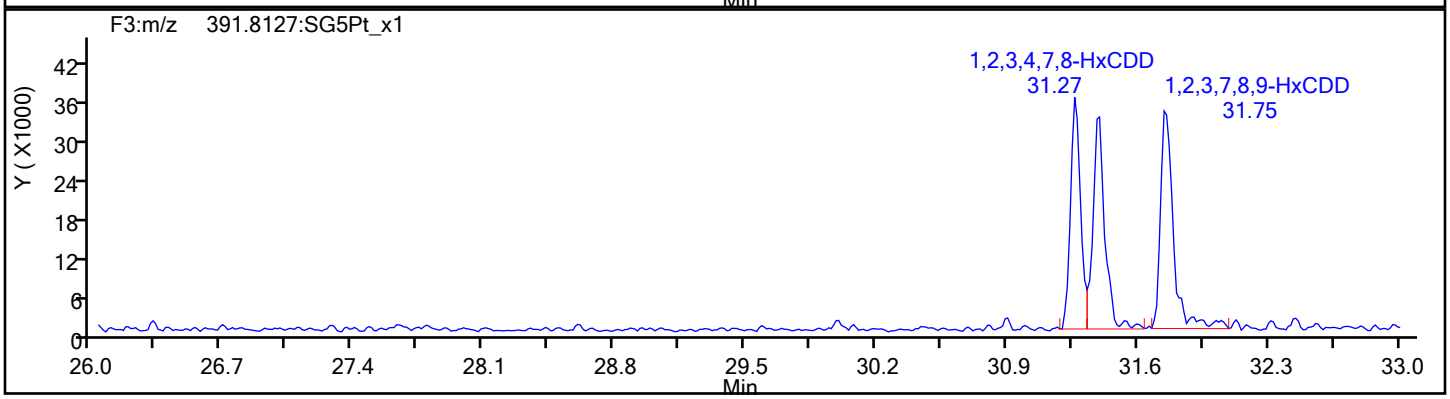

HxCDD Standards

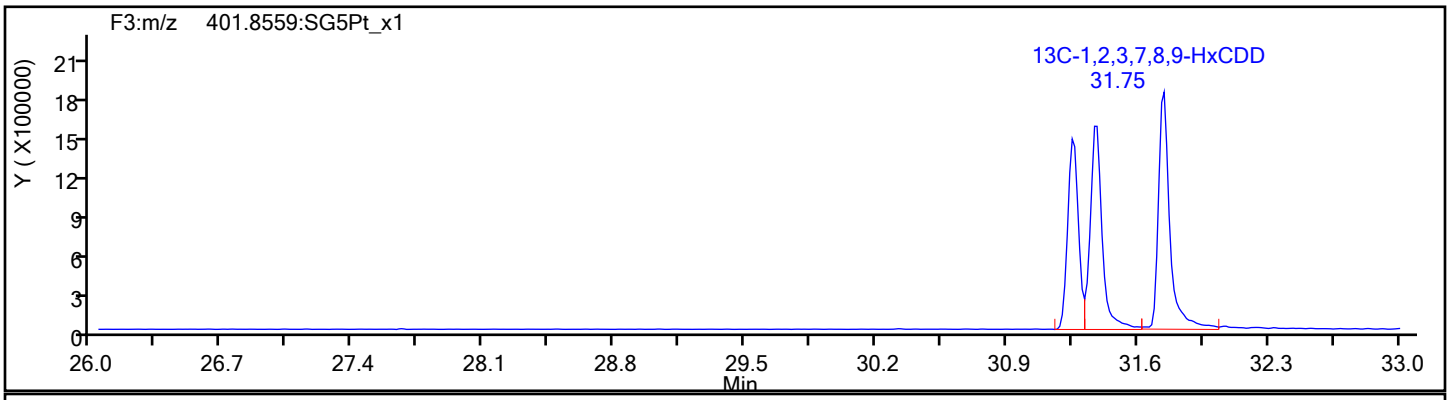

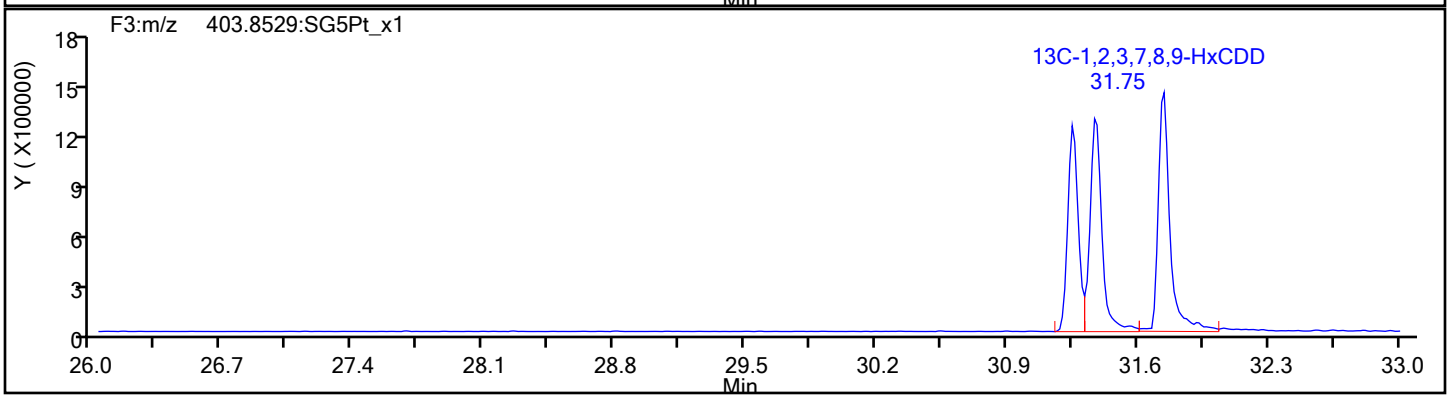

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Eurofins TestAmerica, Sacramento

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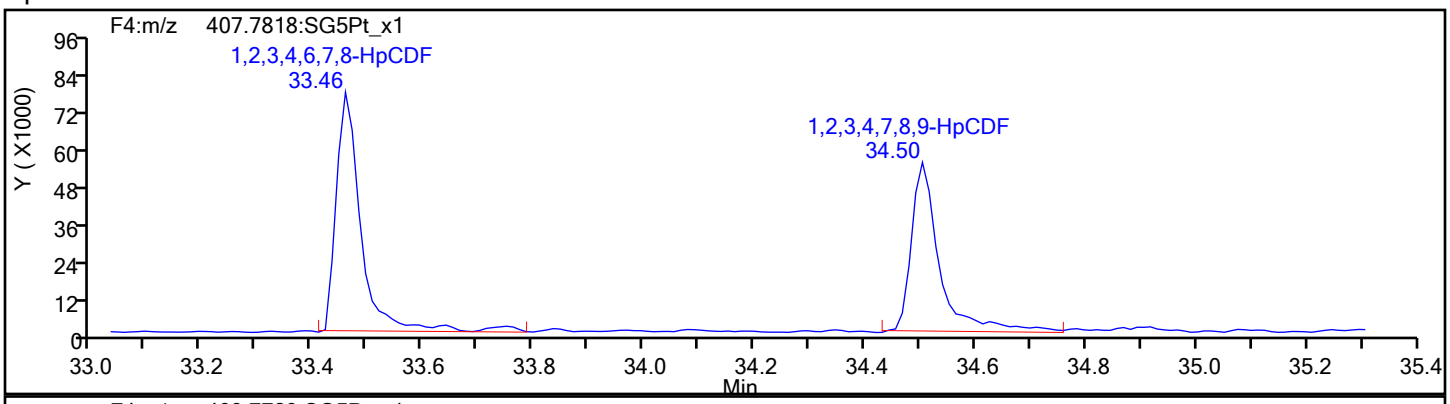

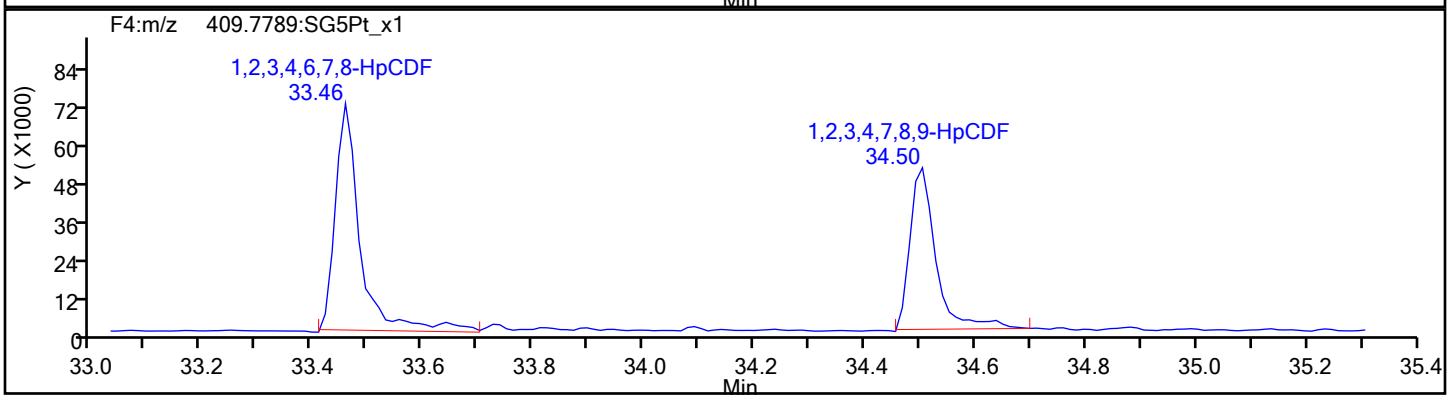

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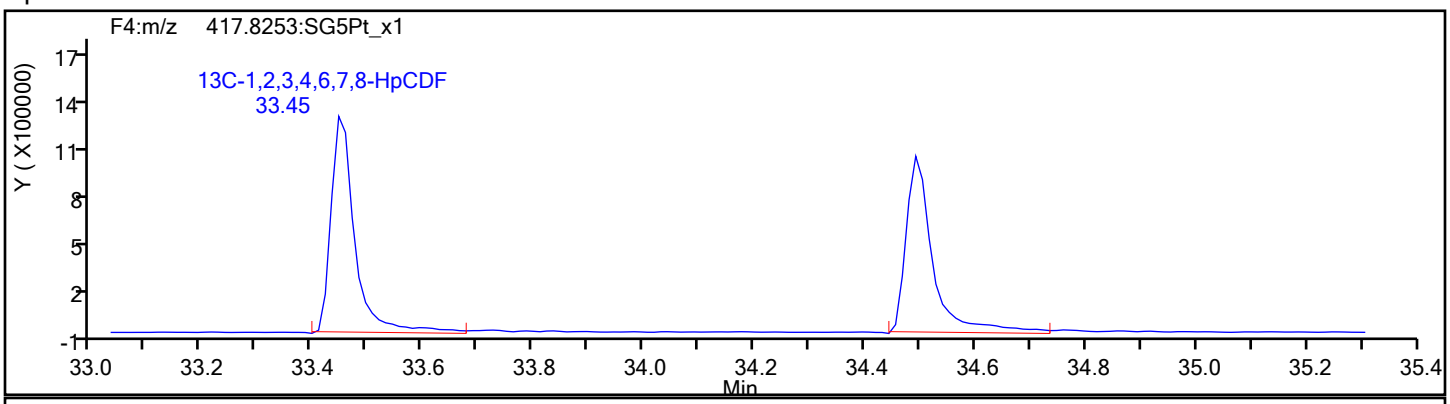

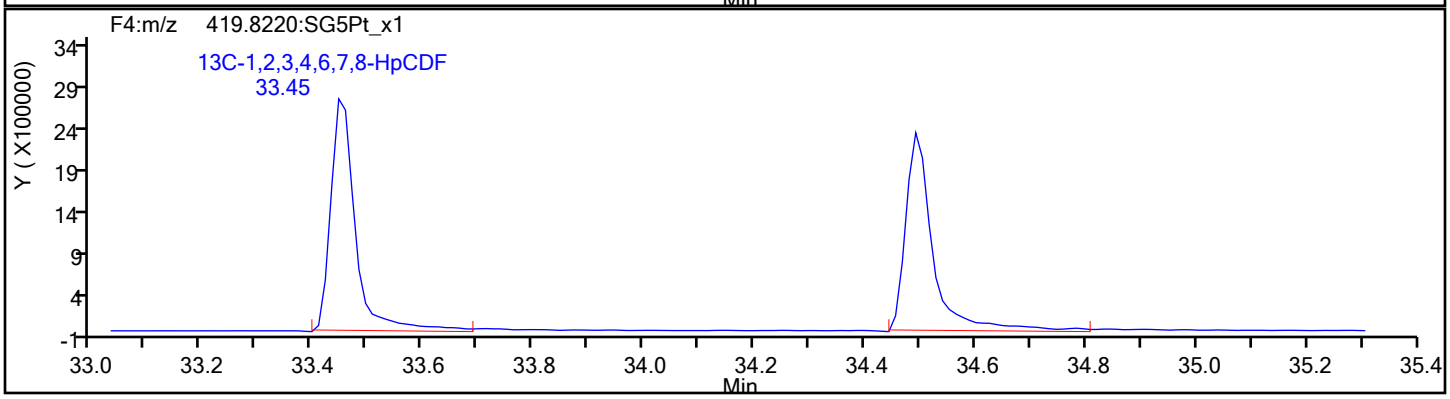

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Eurofins TestAmerica, Sacramento

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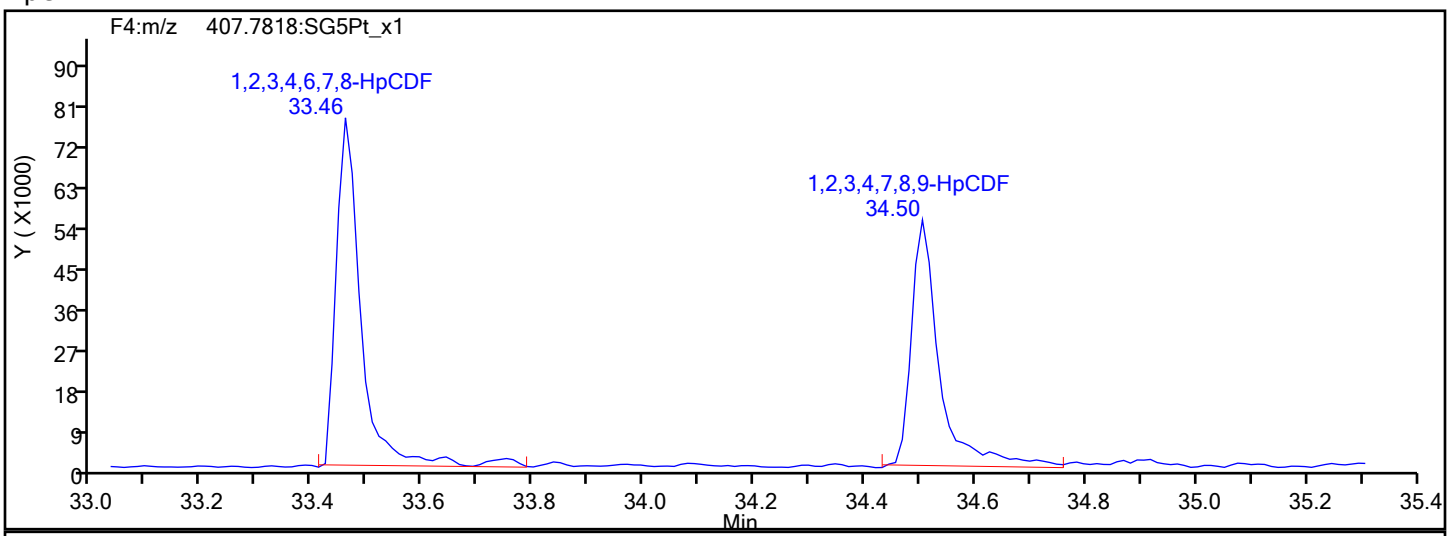

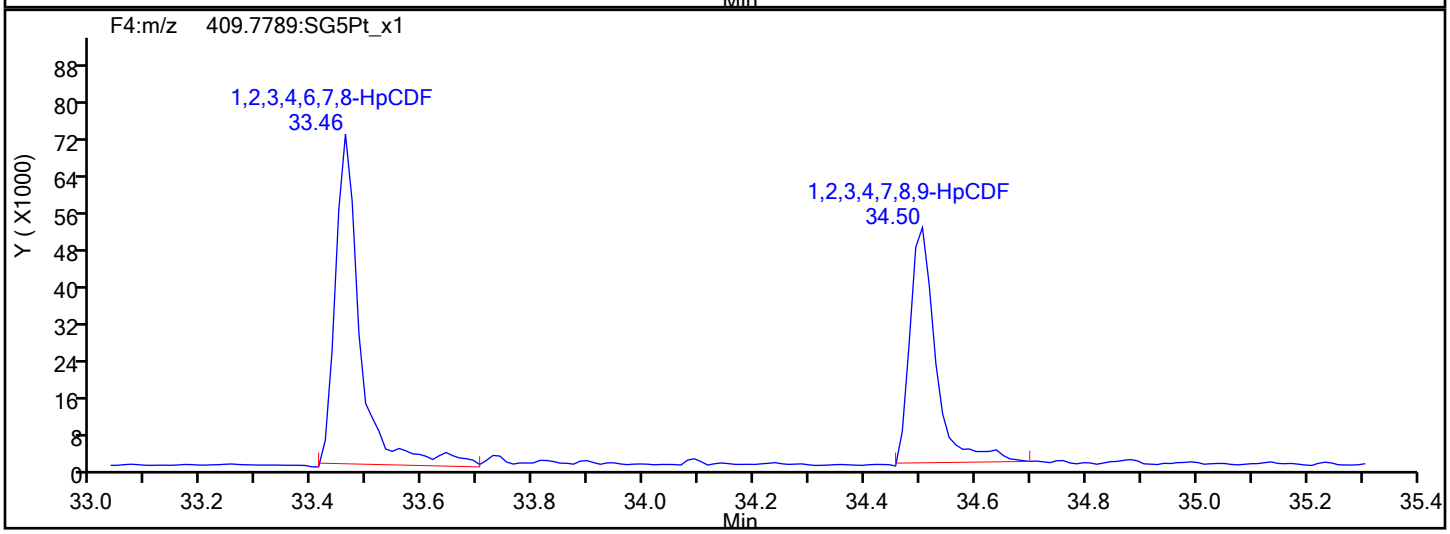

HpCDF Interference Mass

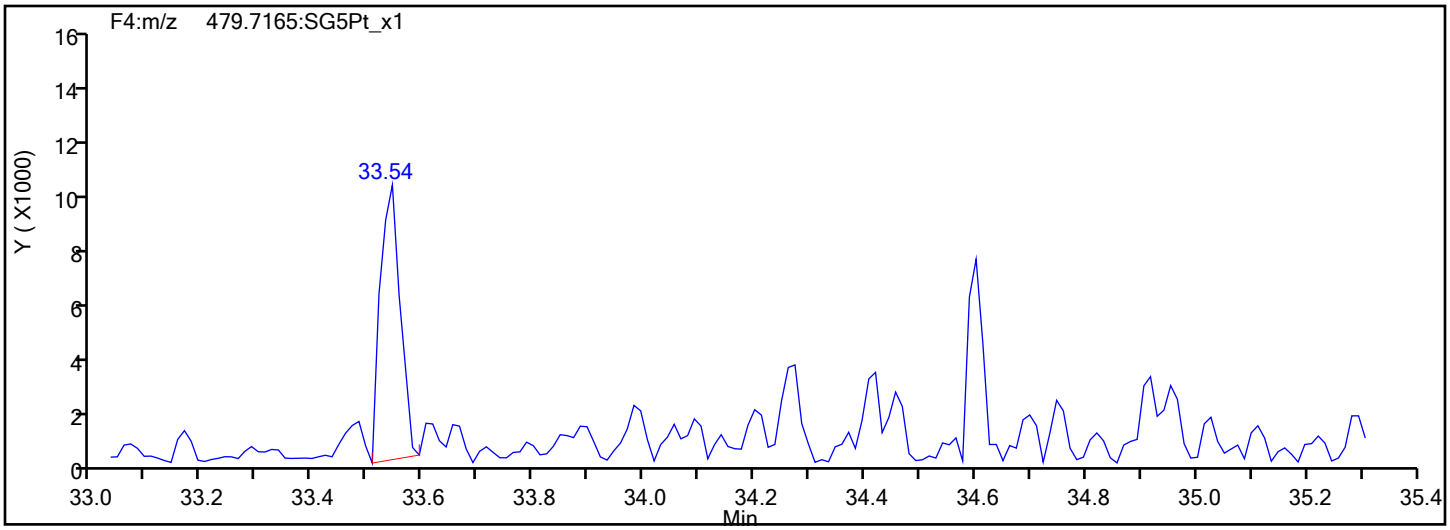

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Eurofins TestAmerica, Sacramento

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HpCDD

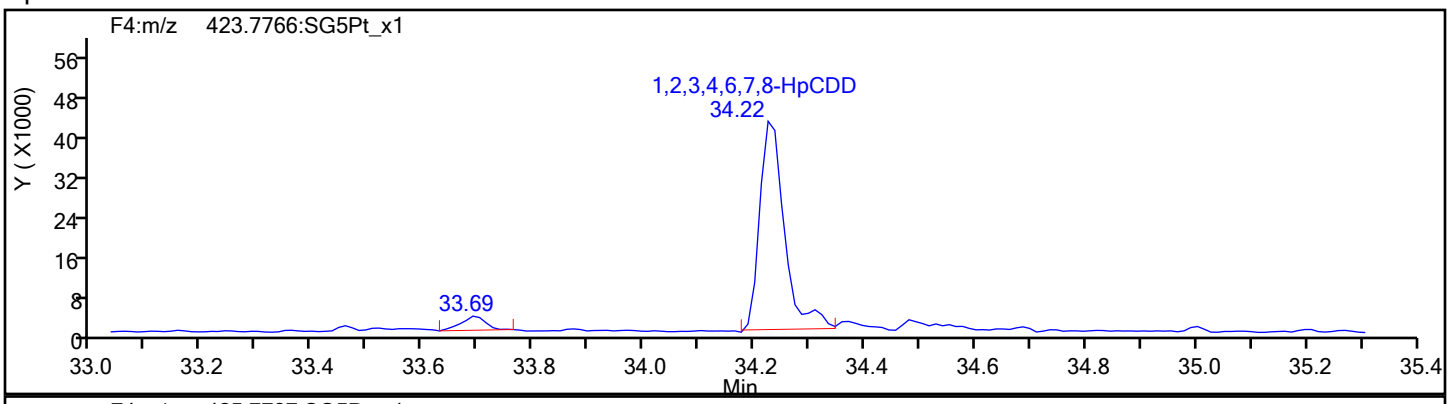

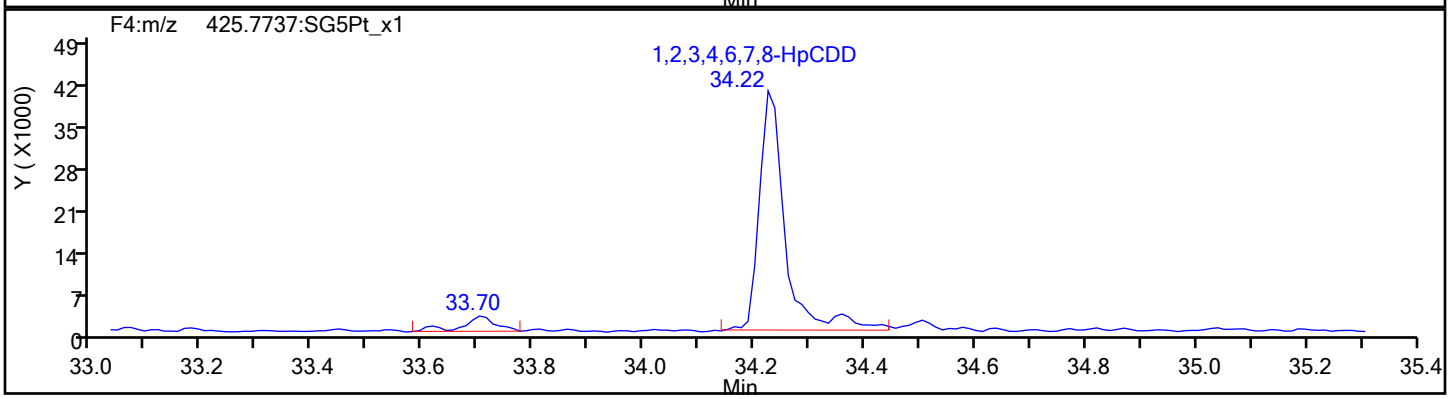

HpCDD Standards

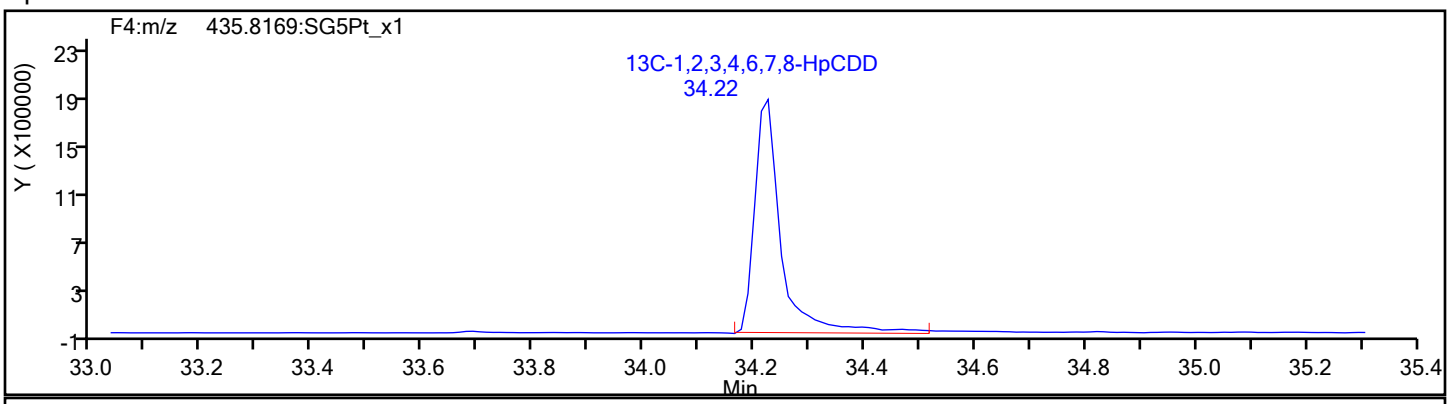

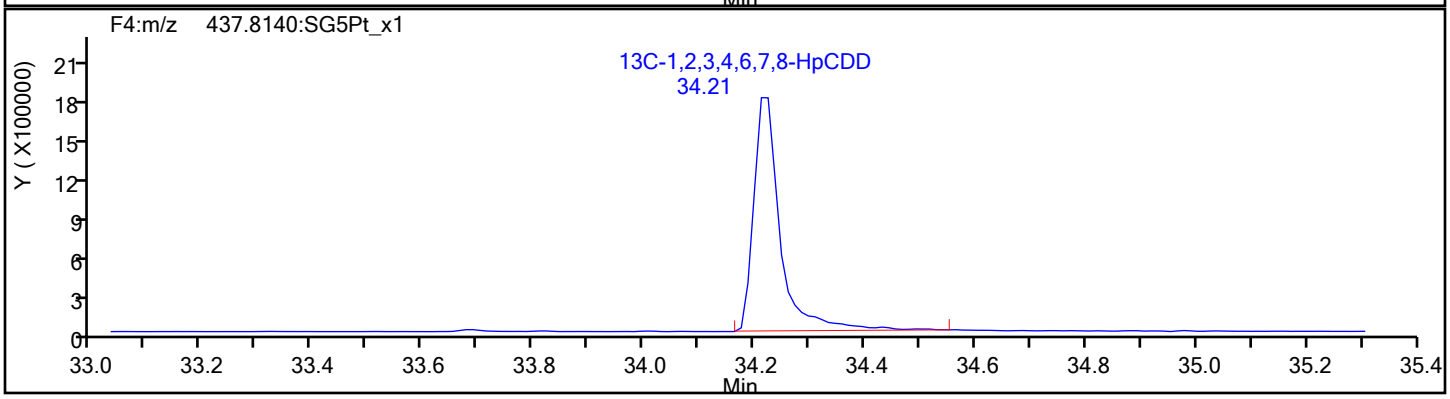

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Eurofins TestAmerica, Sacramento

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OCDF

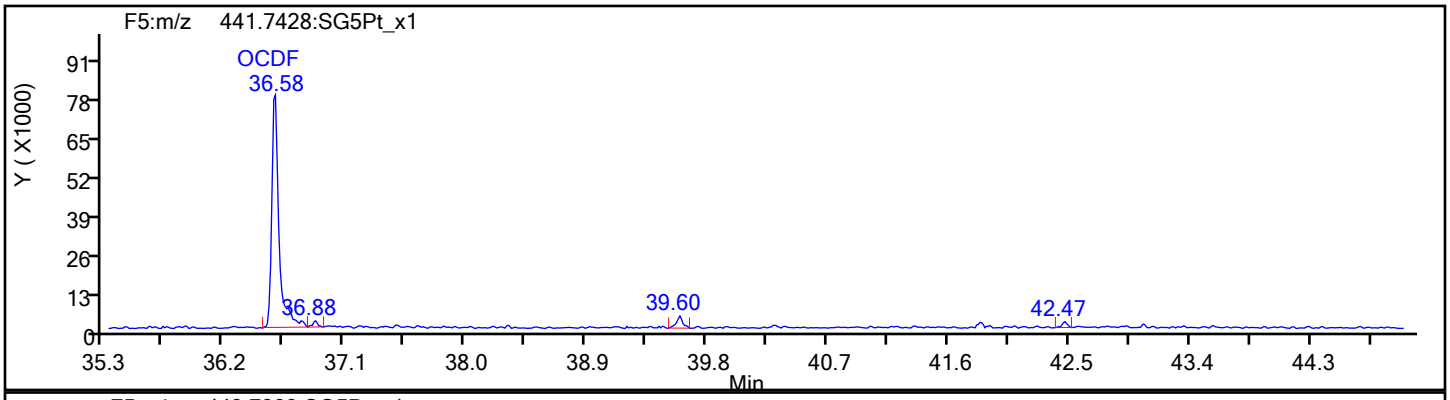

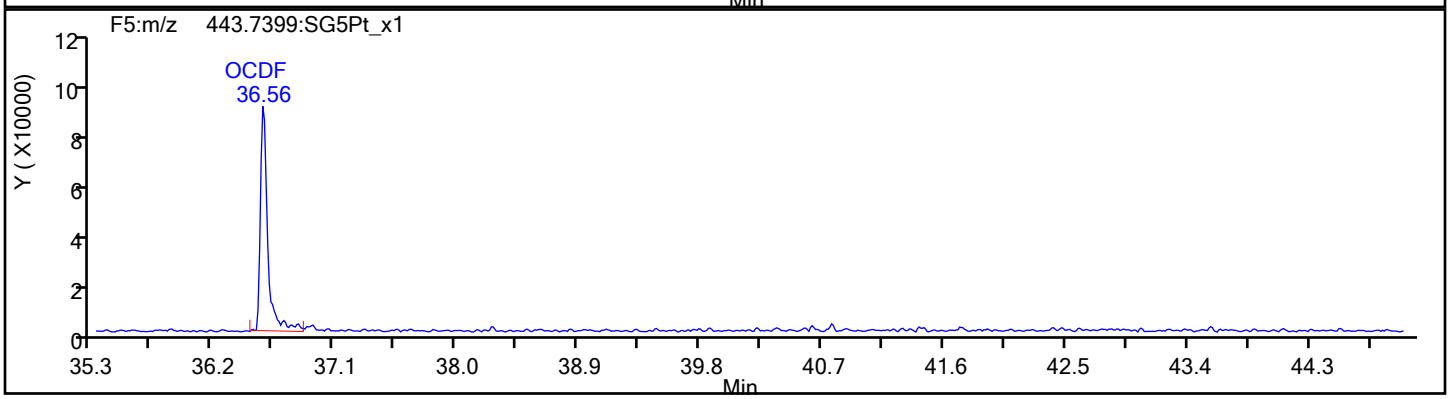

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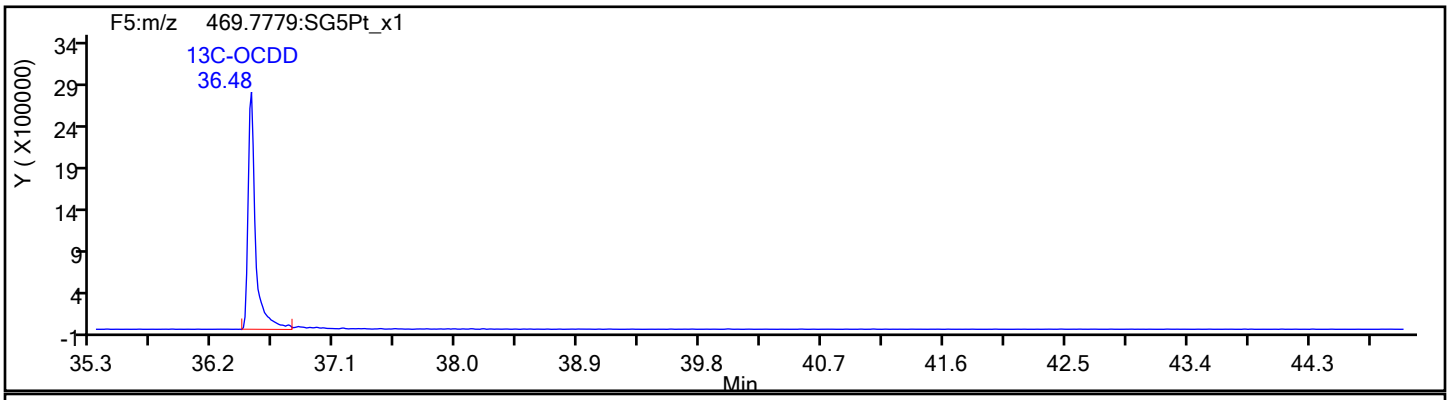

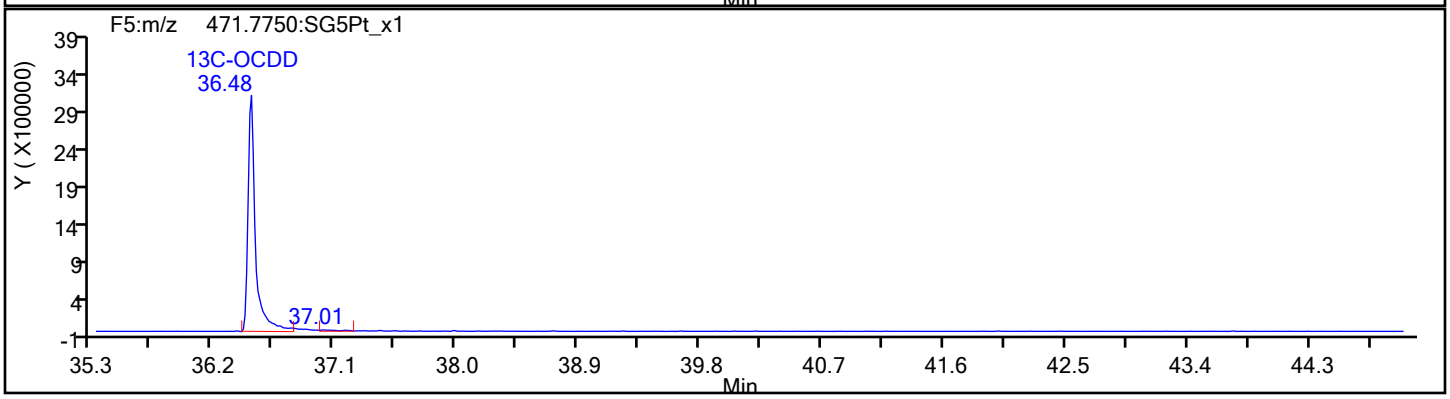

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Eurofins TestAmerica, Sacramento

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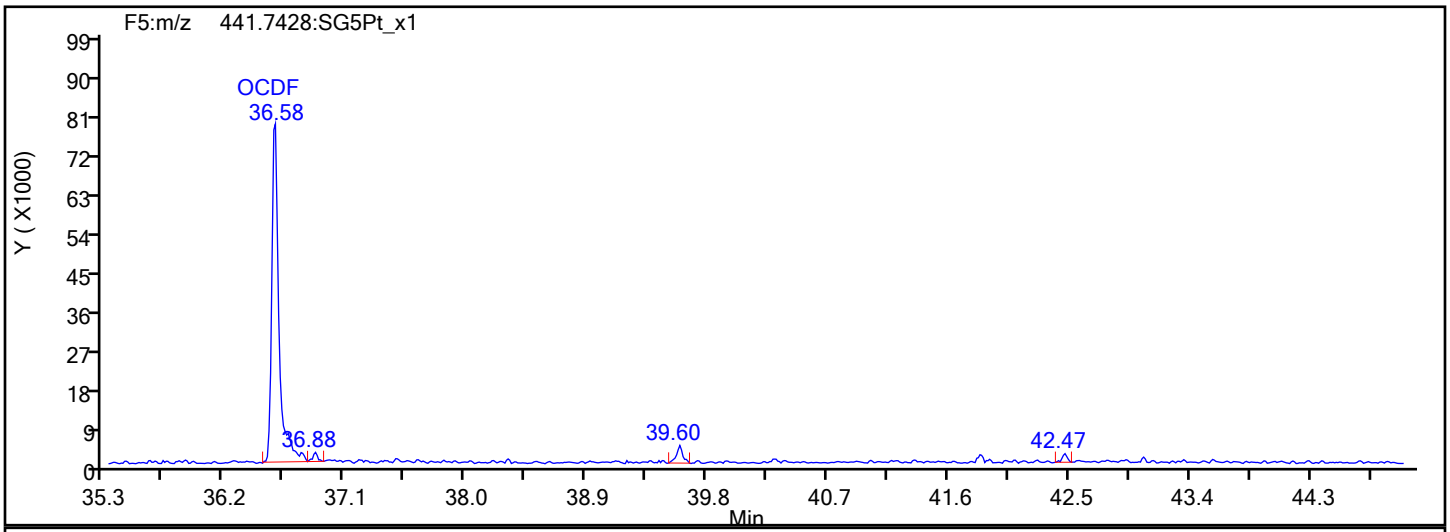

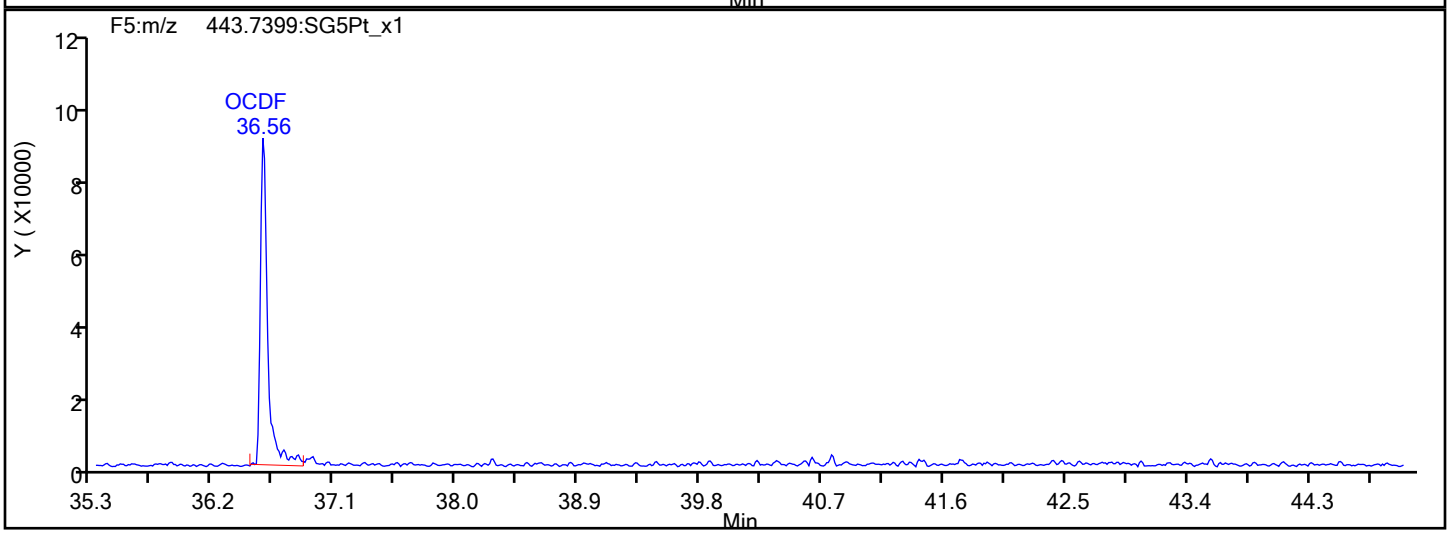

OCDF Interference Mass

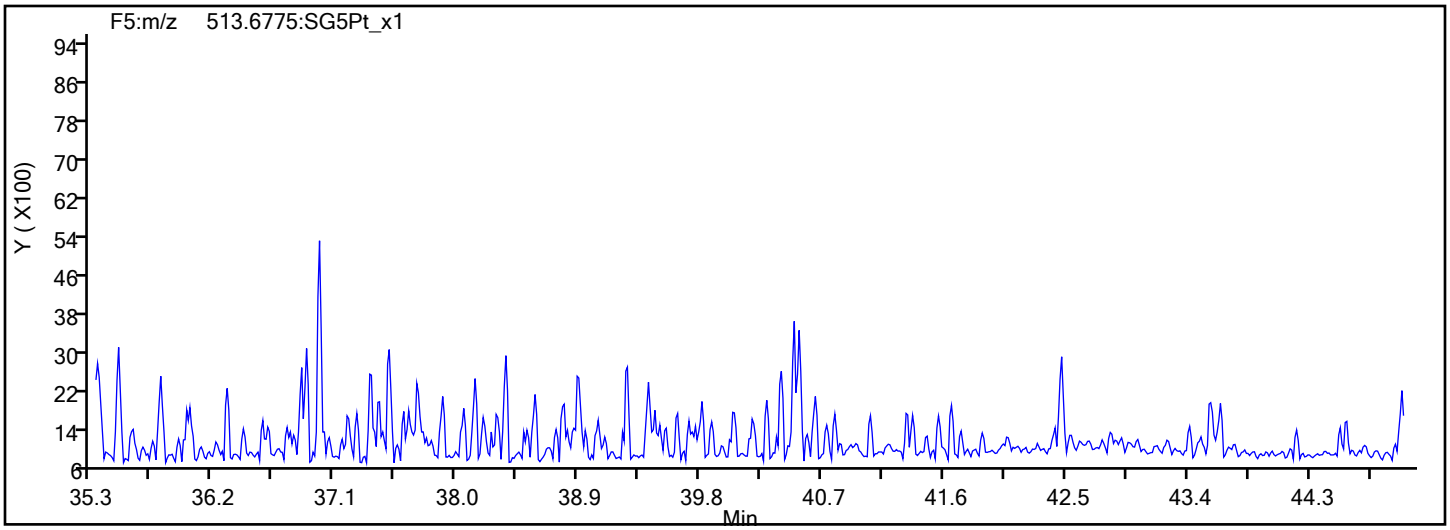

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Eurofins TestAmerica, Sacramento

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OCDD

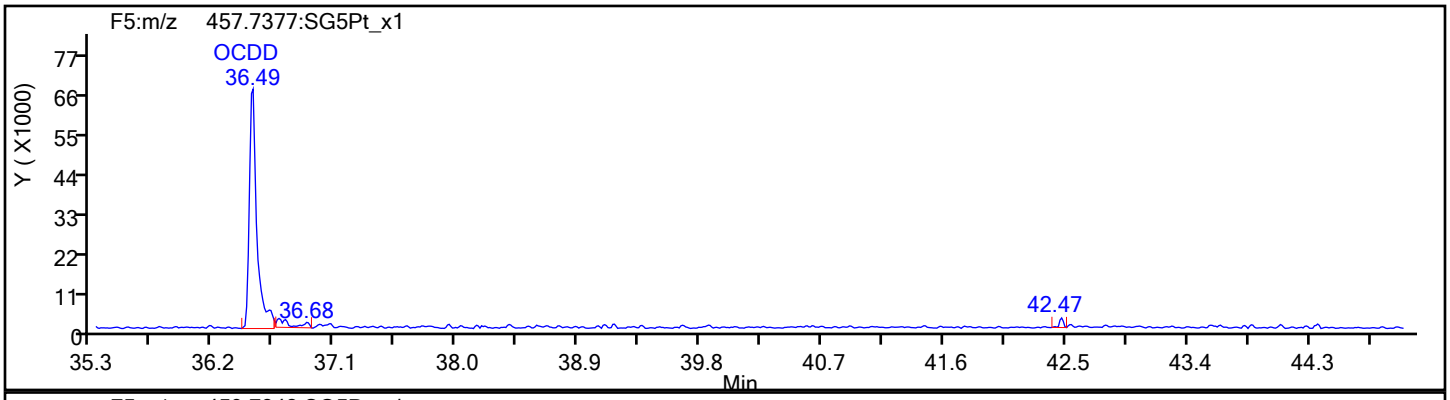

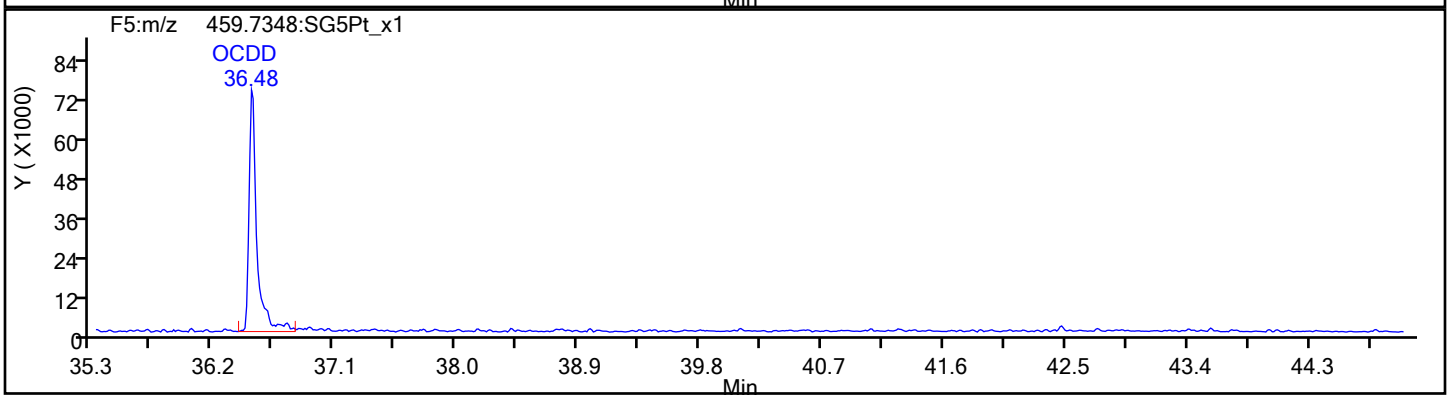

OCDD Standards

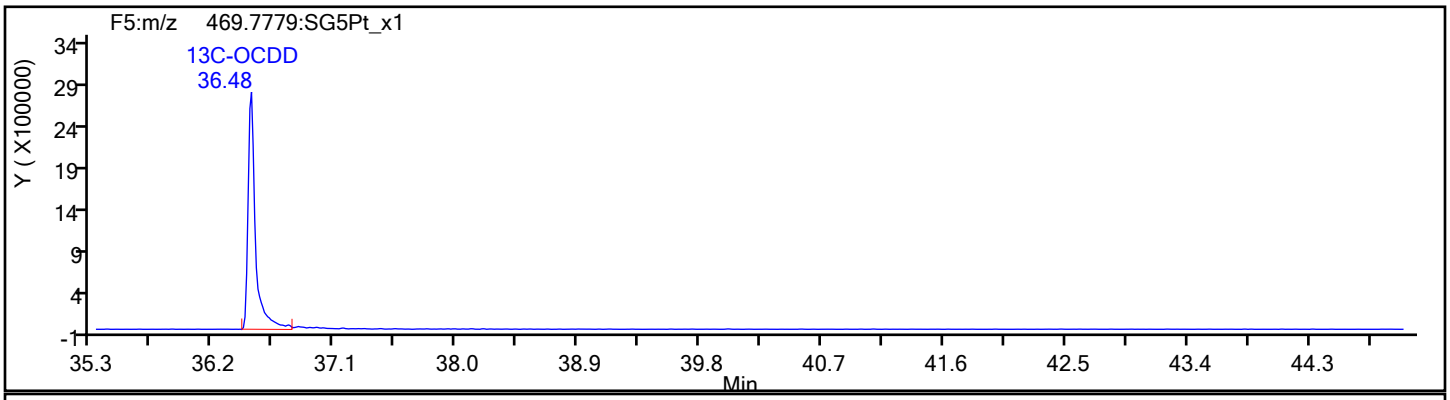

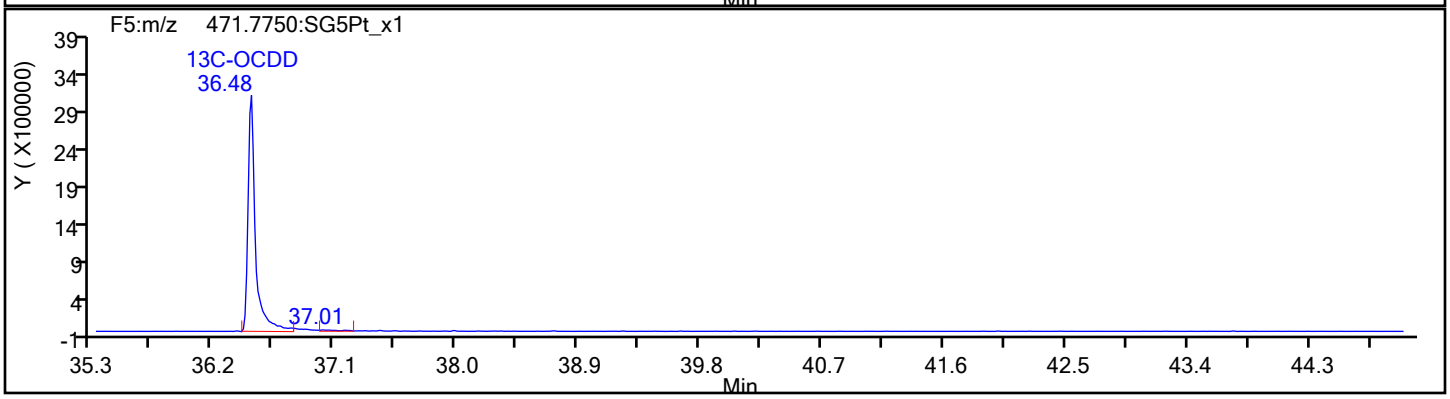

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Eurofins TestAmerica, Sacramento

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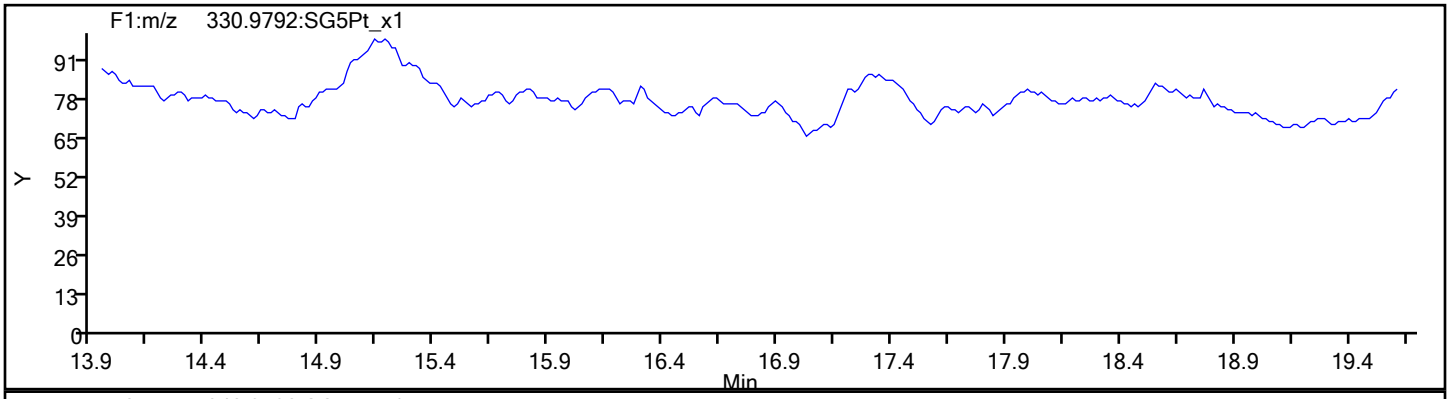

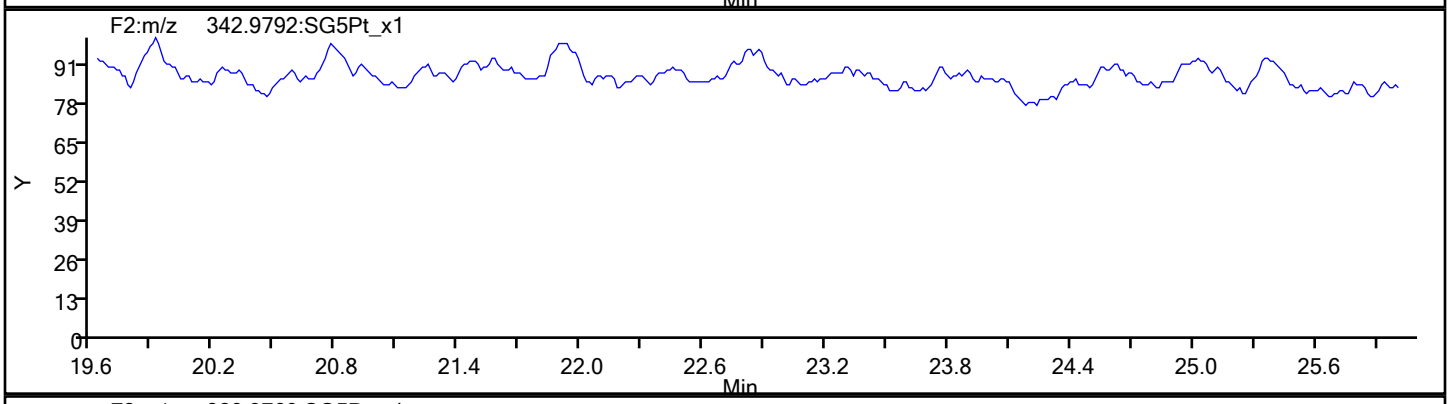

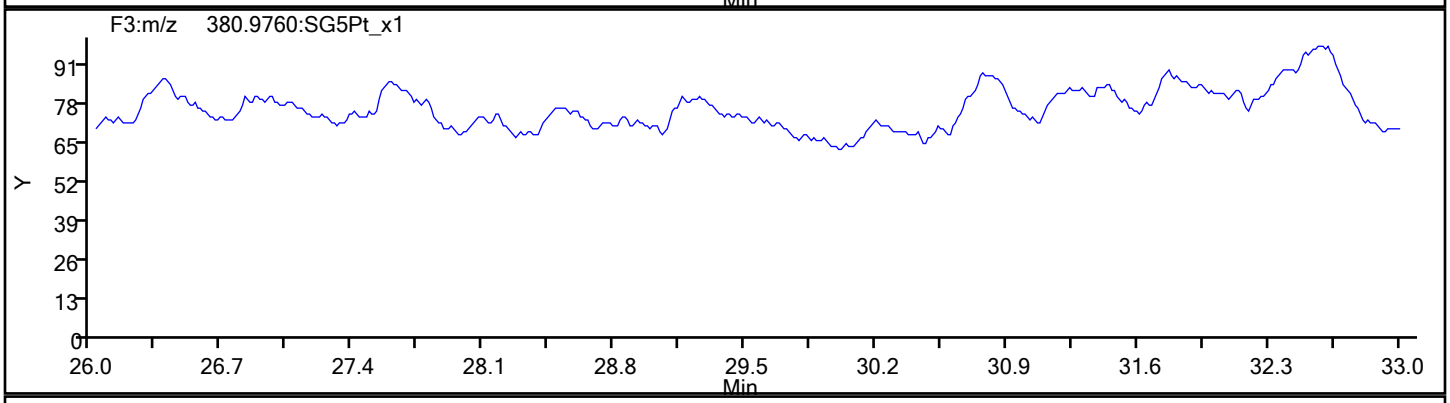

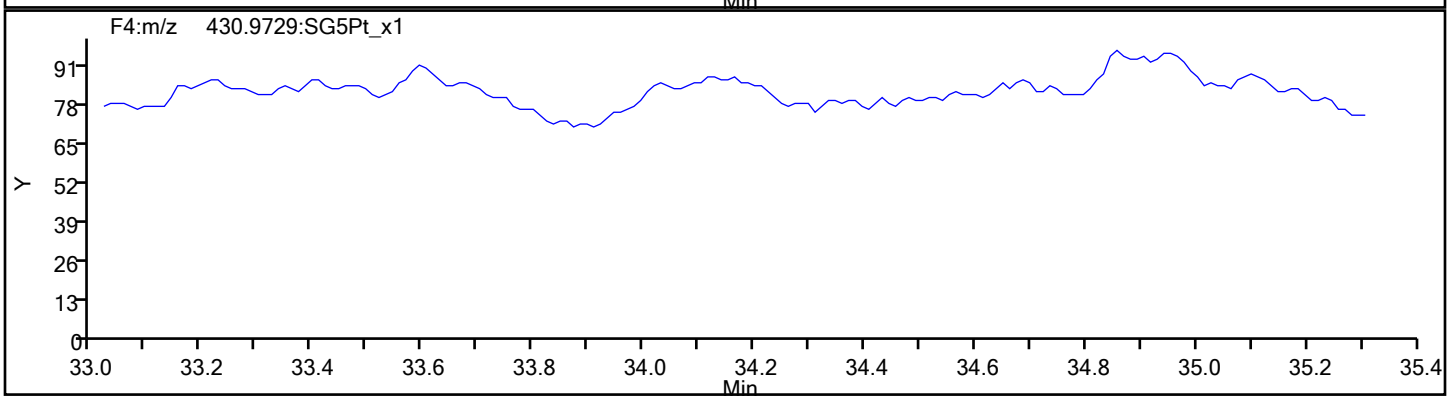

Report Date: 18-Sep-2019 10:22:16 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
Injection Date:	17-Sep-2019 13:03:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

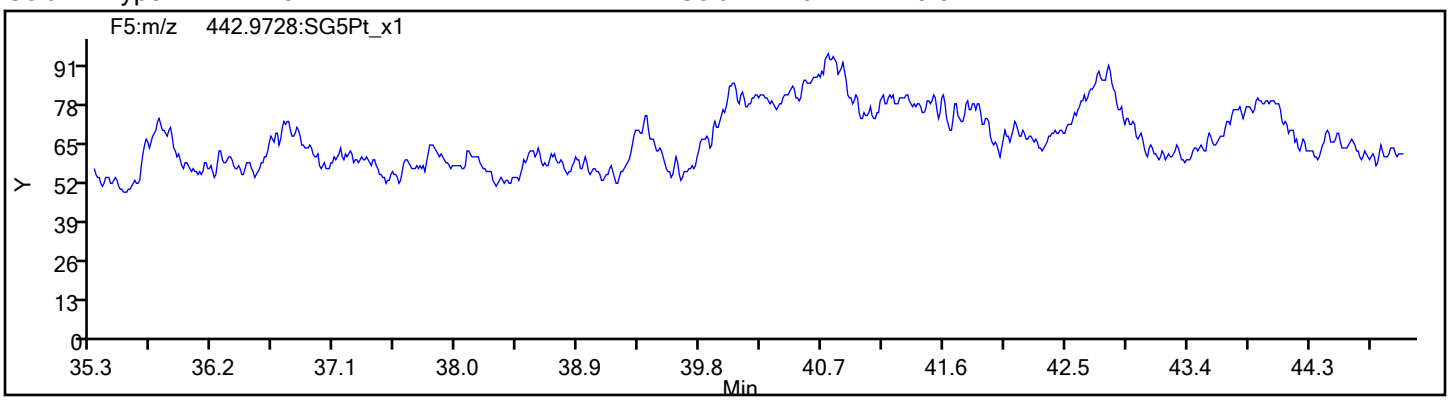

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 17-Sep-2019 13:49:24 ALS Bottle#: 5 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719A CS-3 HRDXNL3_00025
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:19 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:05:30

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.300	48020971	0.78	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.816	69364385	0.79	1.4384	100.4	100.4	0.2642	0.2642	100	
2,3,7,8-TCDF	16.831	1529056	0.76	1.0507	2.098	2.098	0.0285	0.0285	105	
S Total TCDF					2.098	2.098	0.0285	0.0285		
D 13C-2,3,7,8-TCDD	17.497	45389691	0.78	0.9533	99.1	99.1	0.2368	0.2368	99.15	
$ 37Cl4-2,3,7,8-TCDD	17.511	1164531		1.2224	1.984	1.984	0.0211	0.0211	99.19	
2,3,7,8-TCDD	17.511	1022744	0.76	1.1064	2.037	2.037	0.0433	0.0433	102	
S Total TCDD					2.037	2.037	0.0433	0.0433		
D 13C-1,2,3,7,8-PeCDF	21.631	46755351	1.61	1.0286	94.7	94.7	0.2555	0.2555	94.66	
1,2,3,7,8-PeCDF	21.659	5424212	1.59	1.0822	10.7	10.7	0.0895	0.0895	107	
D 13C-2,3,4,7,8-PeCDF	22.927	45184985	1.62	0.9827	95.8	95.8	0.2675	0.2675	95.76	
2,3,4,7,8-PeCDF	22.954	5371777	1.62	1.1032	10.8	10.8	0.0948	0.0948	108	
S Total PeCDF					21.5	21.5	0.0922	0.0922		
D 13C-1,2,3,7,8-PeCDD	23.622	33098301	1.55	0.7481	92.1	92.1	0.1767	0.1767	92.14	
1,2,3,7,8-PeCDD	23.636	3169429	1.60	0.9050	10.6	10.6	0.0951	0.0951	106	
S Total PeCDD					10.6	10.6	0.0951	0.0951		
D 13C-1,2,3,4,7,8-HxCDF	29.736	36418536	0.52	1.1520	101.5	101.5	0.5052	0.5052	102	
1,2,3,4,7,8-HxCDF	29.775	4604517	1.28	1.1973	10.6	10.6	0.1137	0.1137	106	
D 13C-1,2,3,6,7,8-HxCDF	30.002	38486861	0.53	1.2434	99.4	99.4	0.4681	0.4681	99.40	
1,2,3,6,7,8-HxCDF	30.028	4889511	1.24	1.1807	10.8	10.8	0.0994	0.0994	108	
D 13C-2,3,4,6,7,8-HxCDF	31.040	35886090	0.52	1.1720	98.3	98.3	0.4966	0.4966	98.34	
2,3,4,6,7,8-HxCDF	31.053	4551517	1.24	1.2116	10.5	10.5	0.0696	0.0696	105	
D 13C-1,2,3,7,8,9-HxCDF	31.945	33293009	0.51	1.0655	100.4	100.4	0.5463	0.5463	100	
1,2,3,7,8,9-HxCDF	31.958	4319986	1.26	1.2451	10.4	10.4	0.0644	0.0644	104	
S Total HxCDF					42.2	42.2	0.0868	0.0868		
* 13C-1,2,3,7,8,9-HxCDD	31.746	31138249	1.26	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.253	23739455	1.30	0.7812	97.6	97.6	0.5185	0.5185	97.59	
1,2,3,4,7,8-HxCDD	31.280	2685740	1.29	1.1088	10.2	10.2	0.0768	0.0768	102	
D 13C-1,2,3,6,7,8-HxCDD	31.386	27633426	1.27	0.9175	96.7	96.7	0.4415	0.4415	96.73	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.399	3184984	1.24	1.0814	10.7	10.7	0.0746	0.0746	107	
1,2,3,7,8,9-HxCDD	31.759	3374687	1.23	1.2123	10.8	10.8	0.0684	0.0684	108	
S Total HxCDD					31.7	31.7	0.0733	0.0733		
D 13C-1,2,3,4,6,7,8-HpCDF	33.459	25015698	0.45	0.8628	93.1	93.1	1.693	1.693	93.12	
1,2,3,4,6,7,8-HpCDF	33.472	4106440	1.02	1.5555	10.6	10.6	0.1585	0.1585	106	
D 13C-1,2,3,4,7,8,9-HpCDF	34.505	23641905	0.45	0.7991	95.0	95.0	1.828	1.828	95.02	
1,2,3,4,7,8,9-HpCDF	34.517	3498041	1.02	1.3862	10.7	10.7	0.2064	0.2064	107	
S Total HpCDF					21.2	21.2	0.1824	0.1824		
D 13C-1,2,3,4,6,7,8-HpCDD	34.225	25630510	1.05	0.8739	94.2	94.2	0.7704	0.7704	94.19	
1,2,3,4,6,7,8-HpCDD	34.237	2534205	1.08	0.9316	10.6	10.6	0.1098	0.1098	106	
S Total HpCDD					10.6	10.6	0.1098	0.1098		
D 13C-OCDD	36.481	43388861	0.89	0.7744	179.9	179.9	0.3226	0.3226	89.97	
OCDF	36.576	5776792	0.88	1.2596	21.1	21.1	0.0659	0.0659	106	
OCDD	36.493	5082981	0.91	1.0621	22.1	22.1	0.0435	0.0435	110	

Reagents:

HRDXNL3_00025 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 17-Sep-2019 13:49:24 ALS Bottle#: 5 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719A CS-3 HRDXNL3_00025
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:19 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:05:30

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.300	17.303	0		20974964	5440414	6907	17267	788		
333.9339	17.300	17.303	0		27046007	7081542	4401	11002	1609	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.816	16.810	0	0.972	30651979	7996237	9530	23825	839		
317.9389	16.816	16.810	0	0.972	38712406	9934901	9507	23767	1045	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.831	16.825	0	1.001	662231	175822	896	2240	196		
305.8987	16.816	16.825	-1	1.000	866825	219868	1254	3135	175	0.76(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.497	17.490	0	1.011	19932104	4784387	6907	17267	693		
333.9339	17.497	17.490	0	1.011	25457587	6033501	4401	11002	1371	0.78(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.511	17.505	0	1.012	1164531	282528	1292	3230	219		
2,3,7,8-TCDD											
319.8965	17.511	17.505	0	1.001	441524	105506	1328	3320	79		
321.8936	17.511	17.505	0	1.001	581220	143982	745	1862	193	0.76(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	21.631	21.637	0	1.250	28830075	5337132	7805	19512	684		
353.8970	21.631	21.637	0	1.250	17925276	3287495	5360	13400	613	1.61(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.659	21.661	0	1.001	3332281	606608	1384	3460	438		
341.8567	21.659	21.661	0	1.001	2091931	384200	1956	4890	196	1.59(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	22.927	22.932	0	1.325	27936496	4963352	7805	19512	636		
353.8970	22.927	22.932	0	1.325	17248489	3016941	5360	13400	563	1.62(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.954	22.954	0	1.001	3318716	579906	1384	3460	419		
341.8567	22.954	22.954	0	1.001	2053061	350098	1956	4890	179	1.62(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.622	23.625	0	1.365	20140801	3312973	3677	9192	901		
369.8919	23.622	23.625	0	1.365	12957500	2145657	2944	7360	729	1.55(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.636	23.649	-1	1.001	1948199	306163	1167	2917	262		
357.8516	23.636	23.649	-1	1.001	1221230	203548	713	1782	285	1.60(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.736	29.754	-1	0.937	12434463	1670692	6140	15350	272		
385.8610	29.736	29.754	-1	0.937	23984073	3285602	11505	28762	286	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.775	29.789	-1	1.001	2582089	364887	1448	3620	252		
375.8178	29.775	29.789	-1	1.001	2022428	279399	1250	3125	224	1.28(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.002	30.015	-1	0.945	13305598	1990616	6140	15350	324		
385.8610	30.002	30.015	-1	0.945	25181263	3755911	11505	28762	326	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.028	30.039	-1	1.001	2703771	385416	1448	3620	266		
375.8178	30.028	30.039	-1	1.001	2185740	311020	1250	3125	249	1.24(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.040	31.043	0	0.978	12200251	2715531	6140	15350	442		
385.8610	31.040	31.043	0	0.978	23685839	5277600	11505	28762	459	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.053	31.059	0	1.000	2519385	561452	1448	3620	388		
375.8178	31.053	31.059	0	1.000	2032132	450929	1250	3125	361	1.24(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.945	31.942	0	1.006	11294314	2854603	6140	15350	465		
385.8610	31.945	31.942	0	1.006	21998695	5560445	11505	28762	483	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.958	31.956	0	1.000	2410054	592393	1448	3620	409		
375.8178	31.958	31.956	0	1.000	1909932	473961	1250	3125	379	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.746	31.748	0		17348498	4270052	6927	17317	616		
403.8529	31.746	31.748	0		13789751	3309146	5354	13385	618	1.26(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.253	31.261	0	0.984	13398901	3308138	6927	17317	478		
403.8529	31.266	31.261	0	0.985	10340554	2572354	5354	13385	480	1.30(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.280	31.280	0	1.001	1512390	375482	976	2440	385		
391.8127	31.280	31.280	0	1.001	1173350	295553	1027	2567	288	1.29(1.05-1.43)	

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24
Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.386	31.383	0	0.989	15440618	3468444	6927	17317	501		
403.8529	31.386	31.383	0	0.989	12192808	2735657	5354	13385	511	1.27(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.399	31.402	0	1.000	1761134	403725	976	2440	414		
391.8127	31.399	31.402	0	1.000	1423850	307508	1027	2567	299	1.24(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.759	31.761	0	1.016	1859918	455161	976	2440	466		
391.8127	31.759	31.761	0	1.016	1514769	367872	1027	2567	358	1.23(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.459	33.457	0	1.054	7716742	2566124	14405	36012	178		
419.8220	33.459	33.457	0	1.054	17298956	5707303	29871	74677	191	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.472	33.469	0	1.000	2075359	698893	3992	9980	175		
409.7789	33.472	33.469	0	1.000	2031081	642835	4168	10420	154	1.02(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.505	34.502	0	1.087	7363985	2239195	14405	36012	155		
419.8220	34.505	34.502	0	1.087	16277920	4892131	29871	74677	164	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.517	34.509	0	1.000	1766633	514034	3992	9980	129		
409.7789	34.505	34.509	0	1.000	1731408	520165	4168	10420	125	1.02(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.225	34.227	0	1.078	13114345	4054784	9475	23687	428		
437.8140	34.225	34.227	0	1.078	12516165	3859079	10936	27340	353	1.05(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.237	34.235	0	1.000	1317899	403714	1570	3925	257		
425.7737	34.237	34.235	0	1.000	1216306	375677	1669	4172	225	1.08(0.88-1.20)	
13C-OCDD											
469.7779	36.481	36.486	0	1.149	20384484	5322735	3975	9937	1339		
471.7750	36.481	36.486	0	1.149	23004377	6112123	3599	8997	1698	0.89(0.76-1.02)	
OCDF											
441.7428	36.576	36.581	0	1.003	2698881	719825	815	2037	883		
443.7399	36.576	36.581	0	1.003	3077911	834185	1083	2707	770	0.88(0.76-1.02)	
OCDD											
457.7377	36.493	36.497	0	1.000	2421846	617373	541	1352	1141		
459.7348	36.493	36.497	0	1.000	2661135	682611	516	1290	1323	0.91(0.76-1.02)	

Reagents:

HRDXNL3_00025 Amount Added: 1.00 Units: mL

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d		
Injection Date:	17-Sep-2019 13:49:24	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

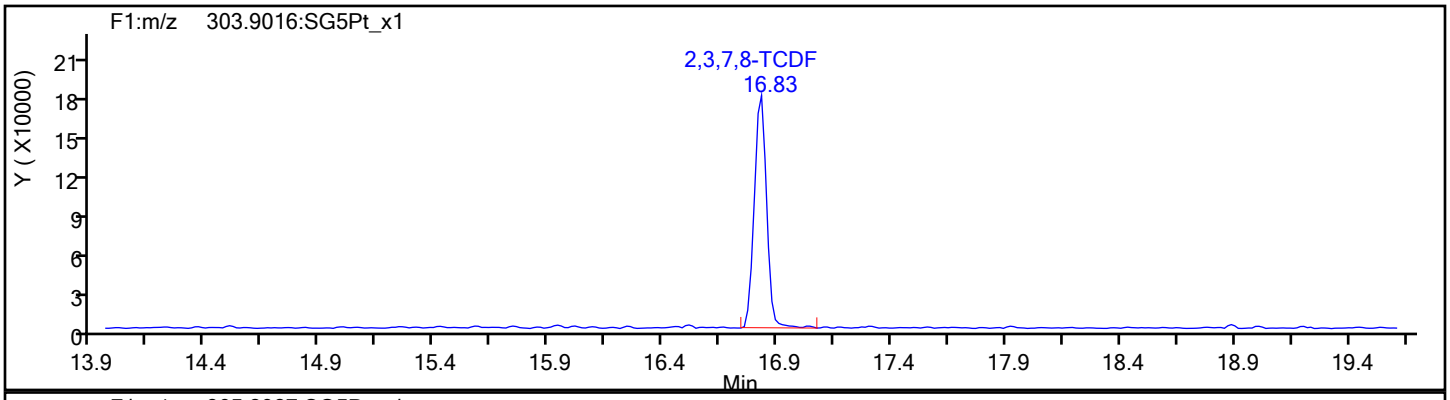

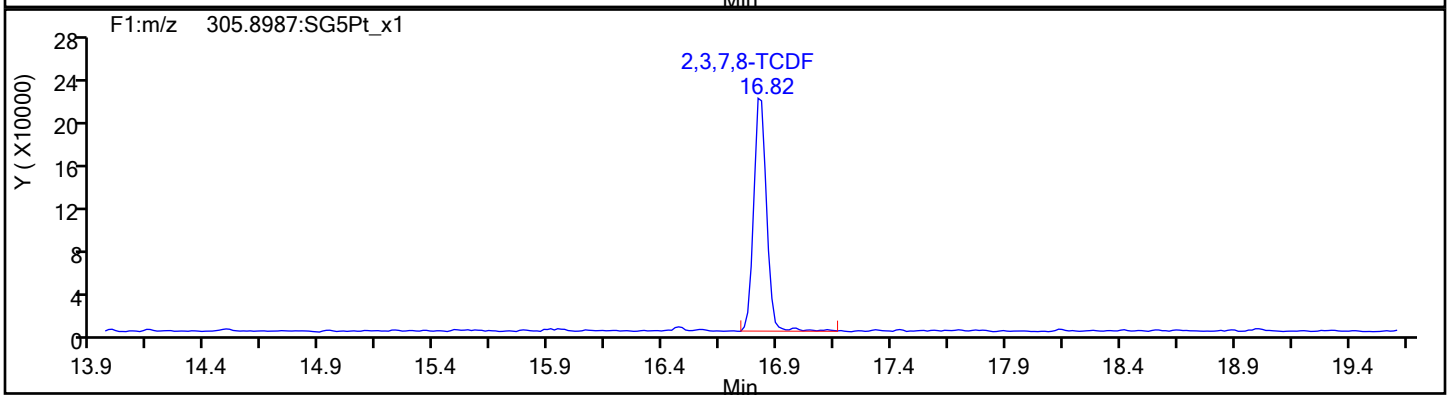

TCDF Standards

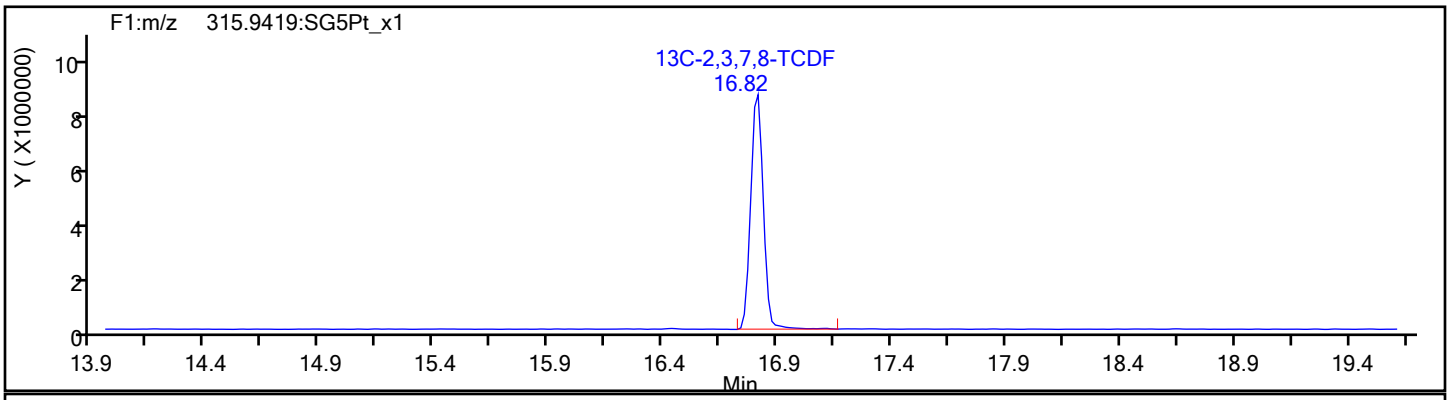

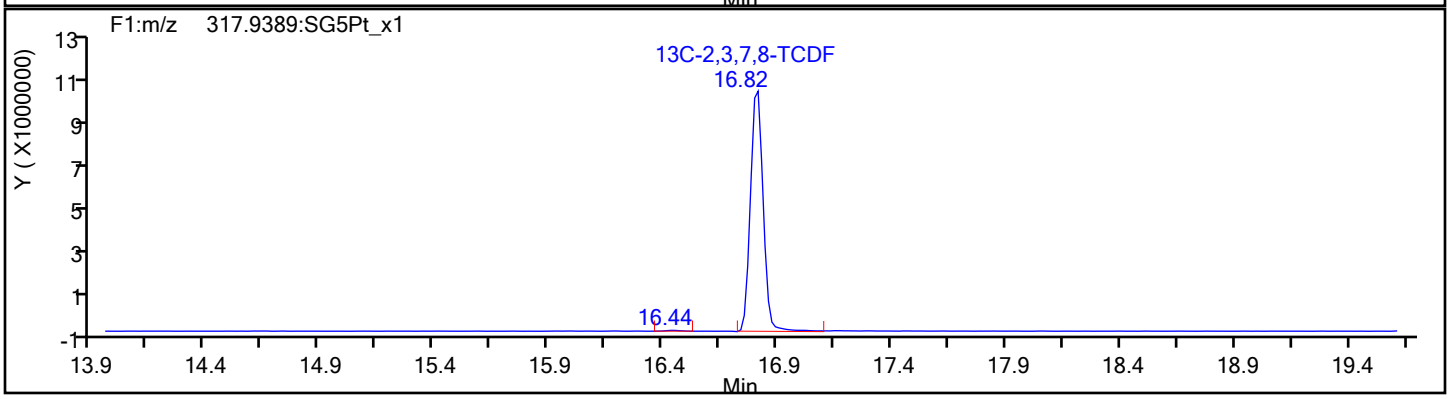

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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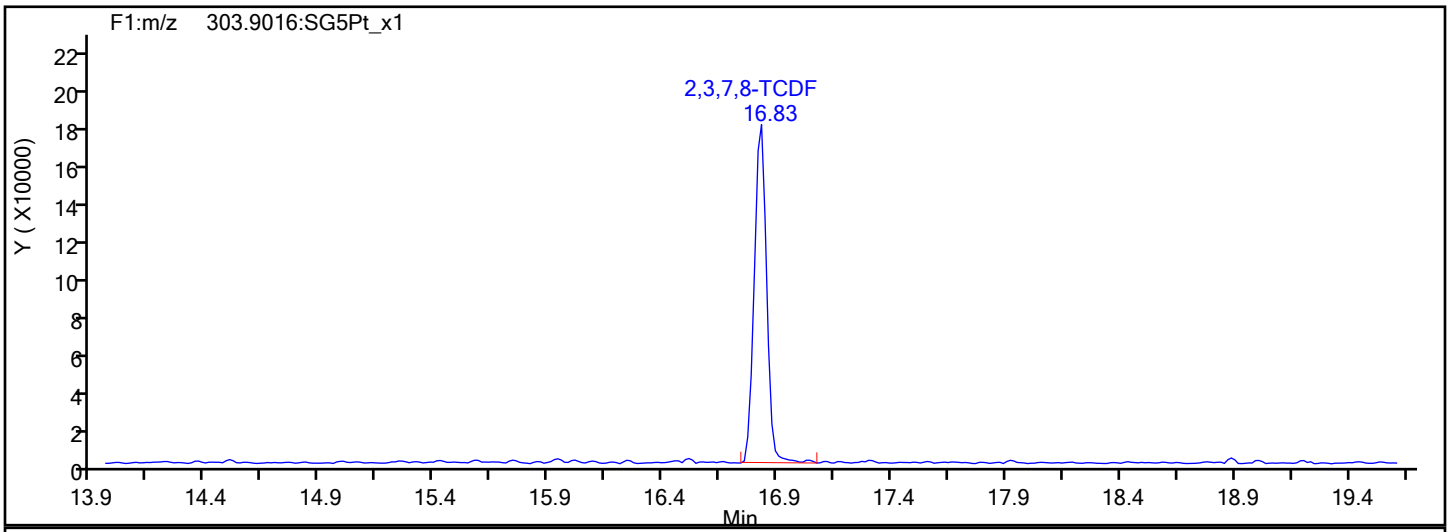

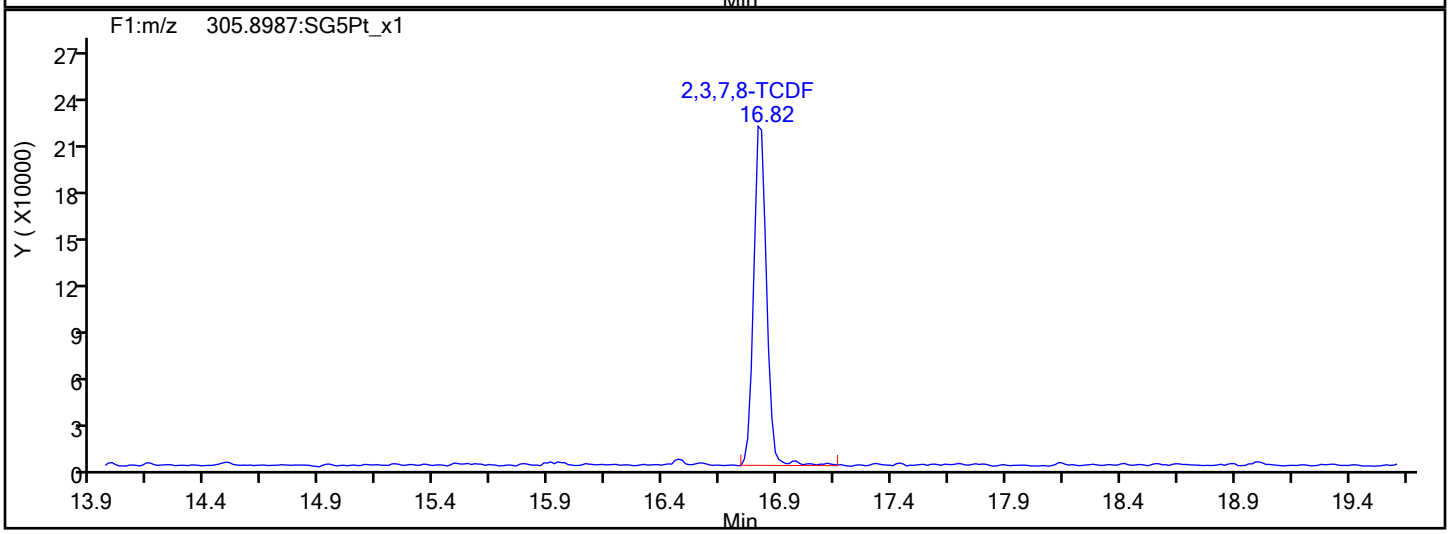

TCDF Interference Mass

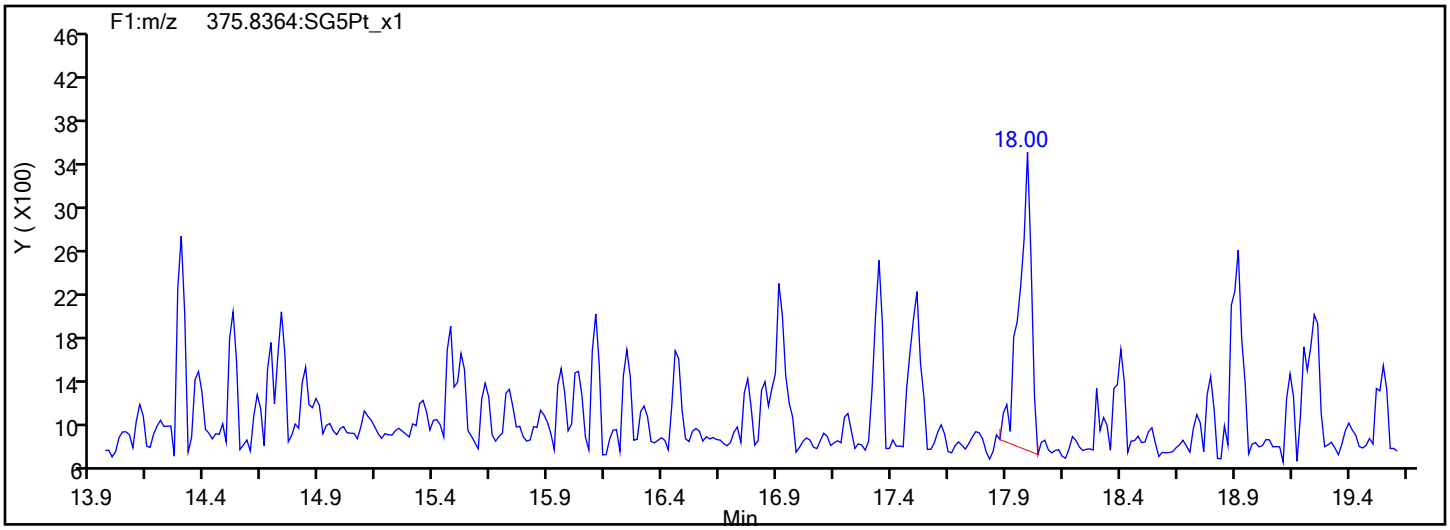

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Eurofins TestAmerica, Sacramento

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TCDD

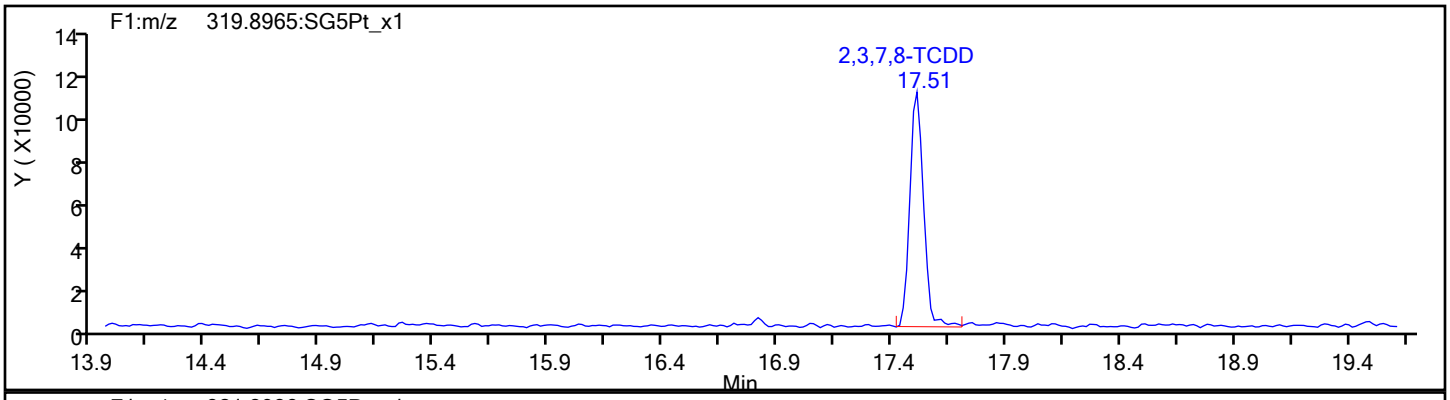

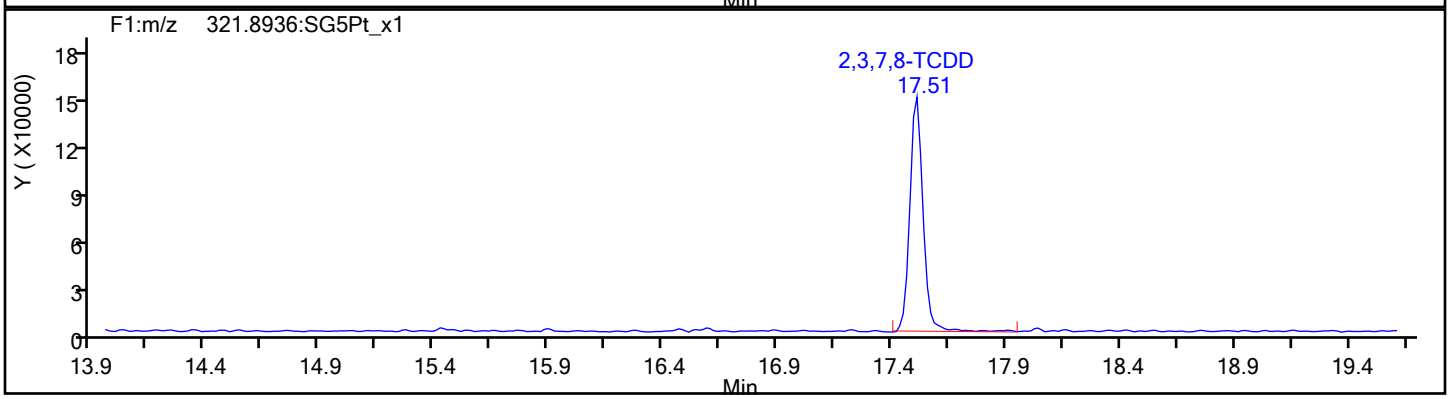

TCDD Standards

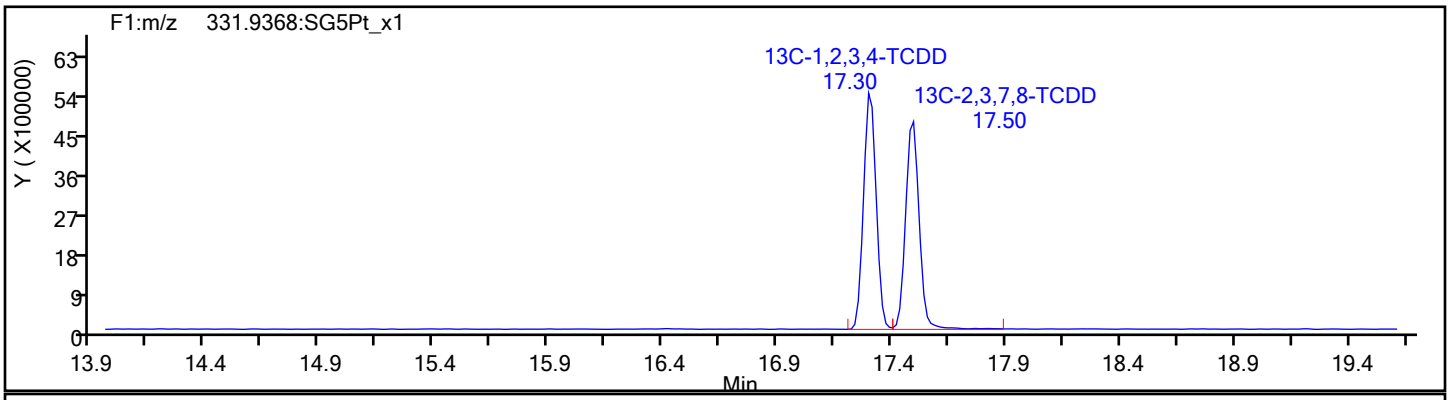

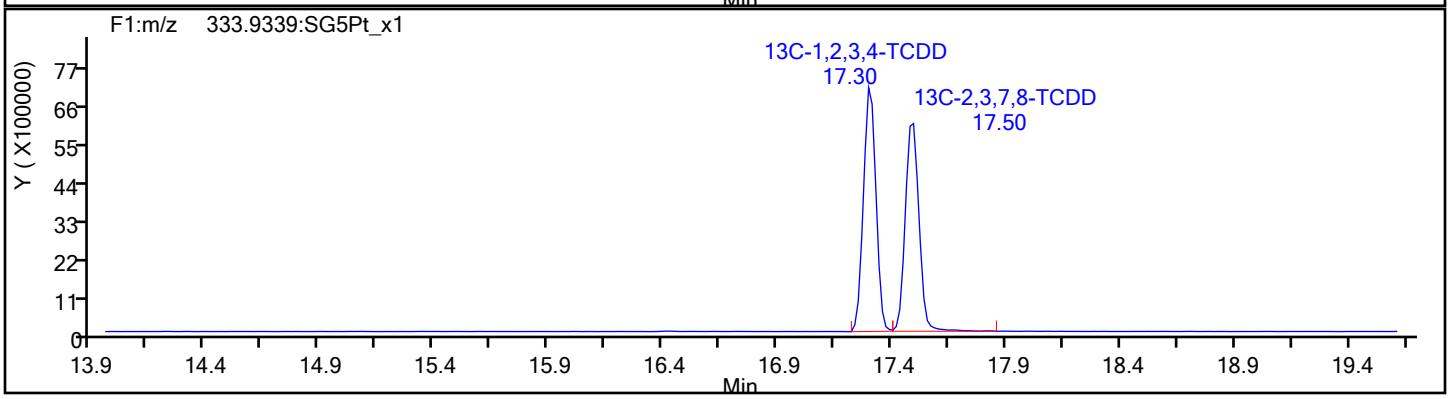

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

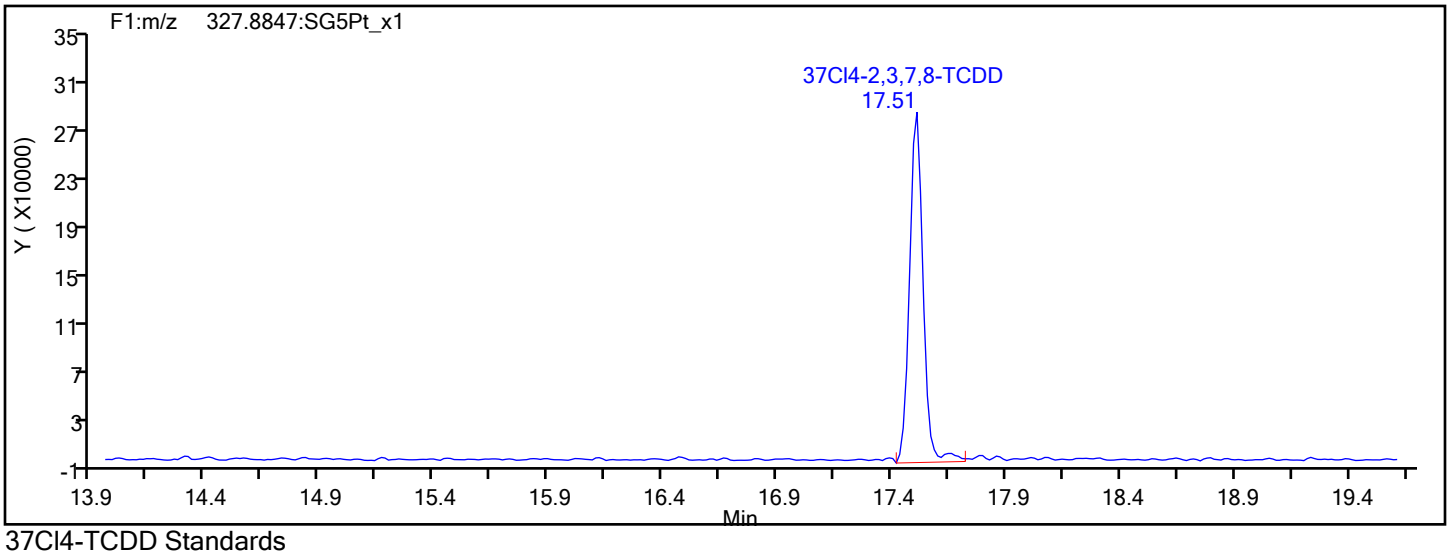

37Cl4-TCDD Standards

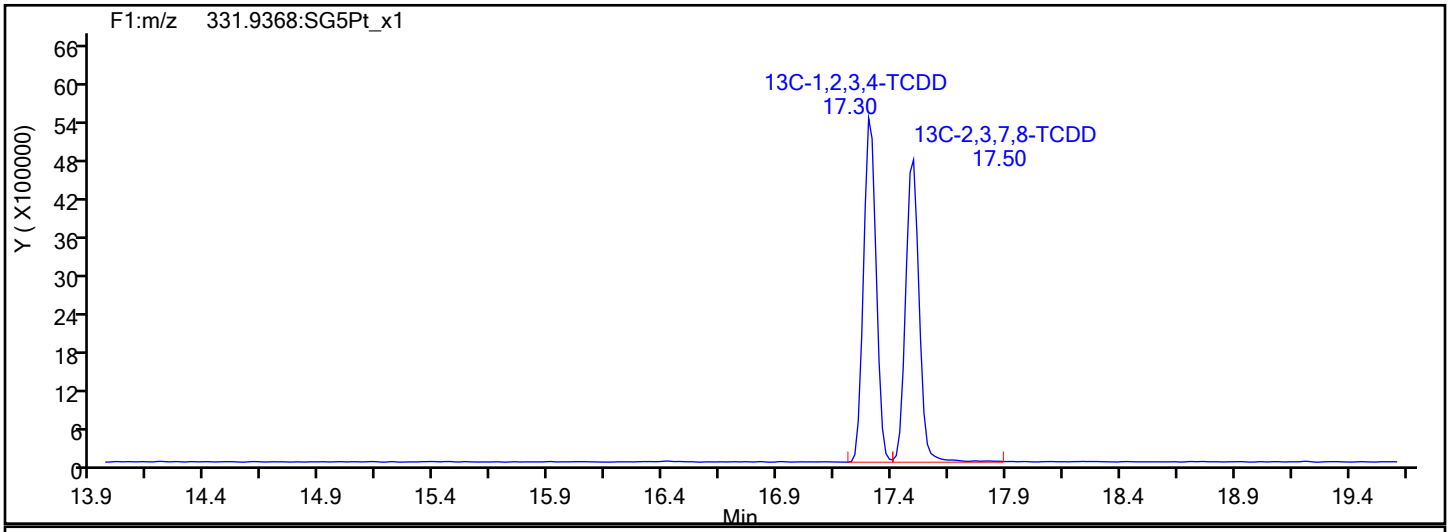

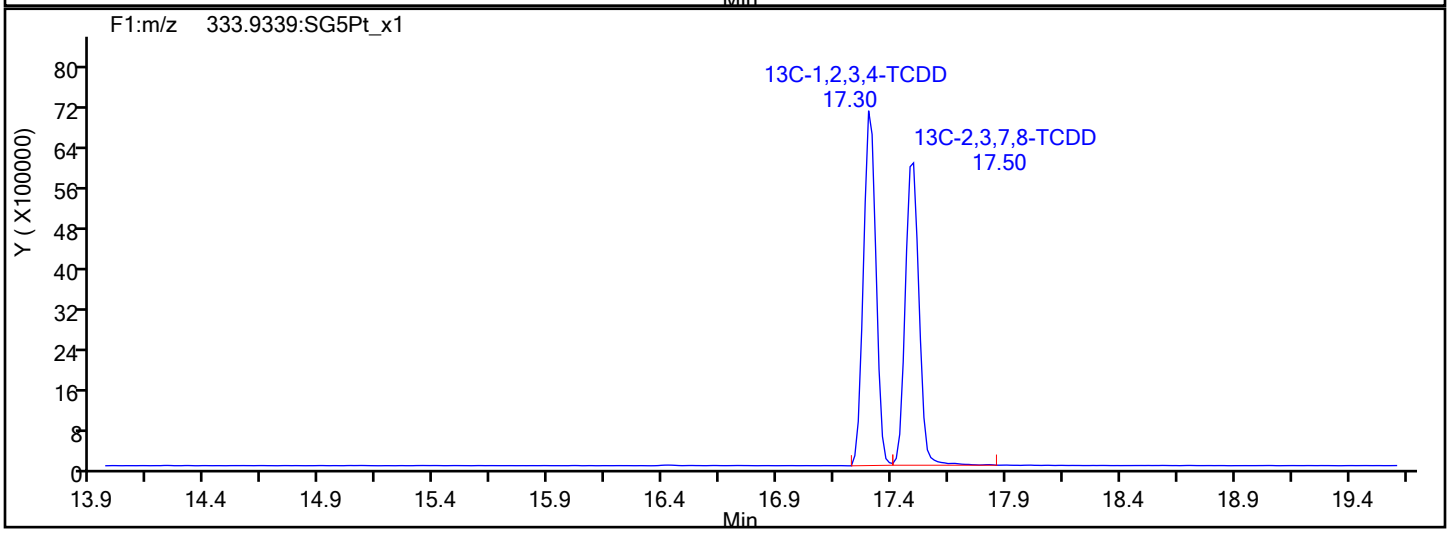

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

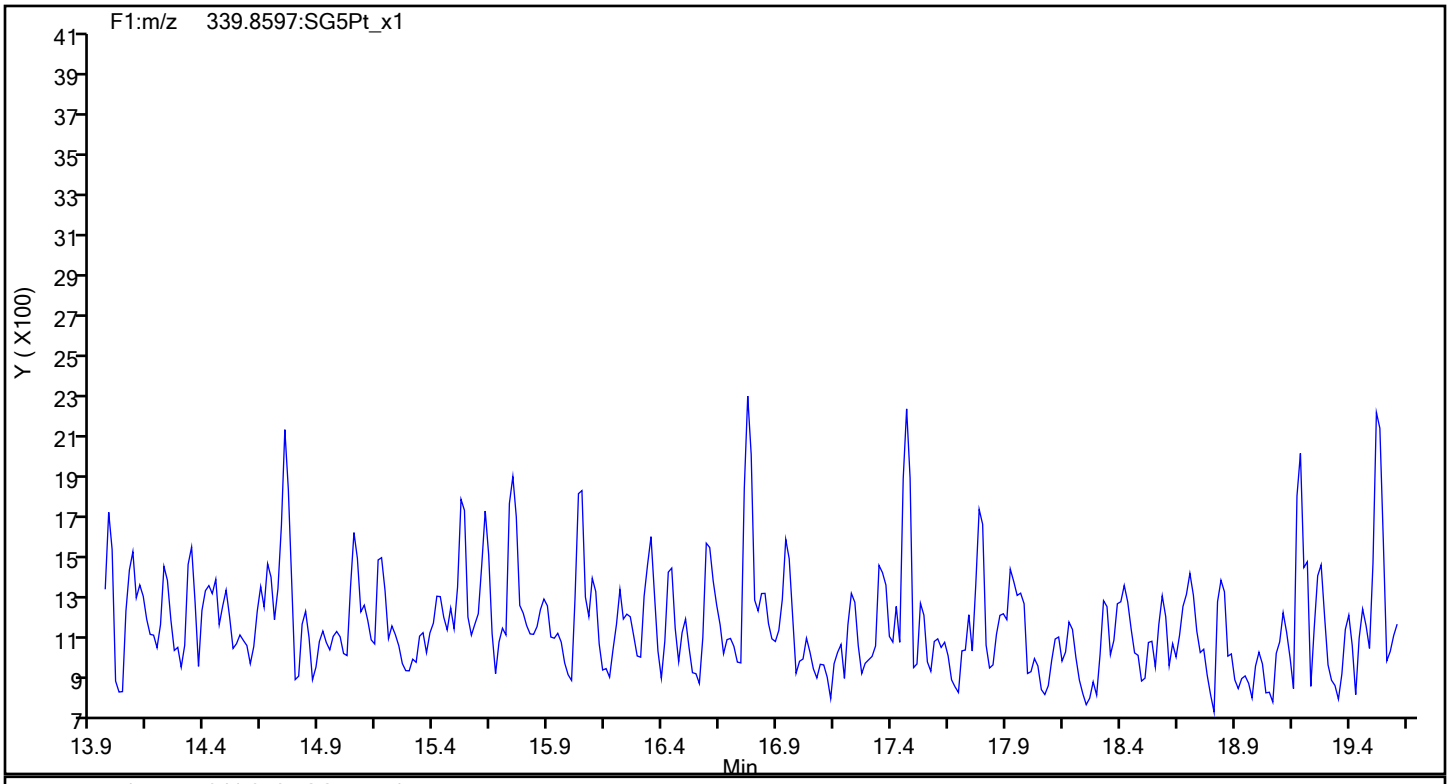

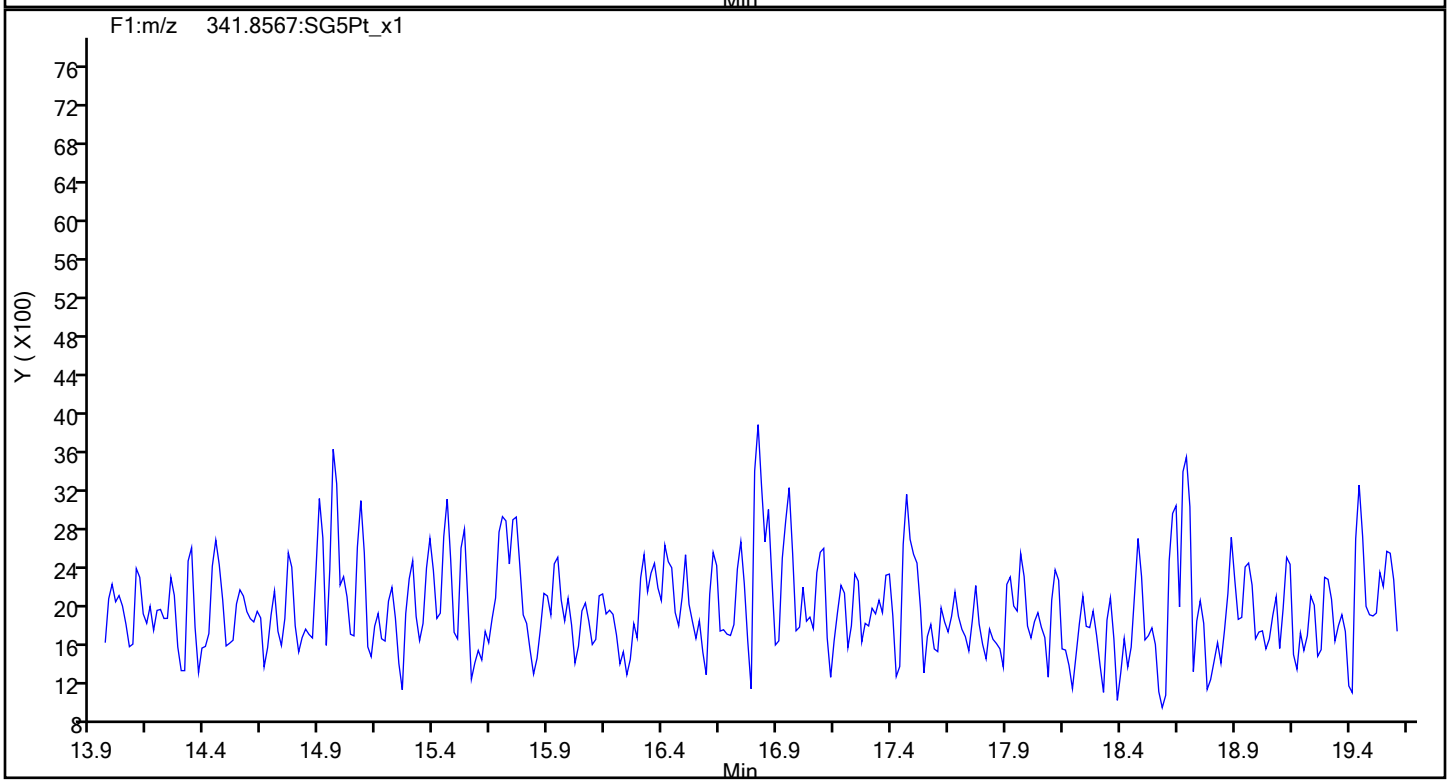

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

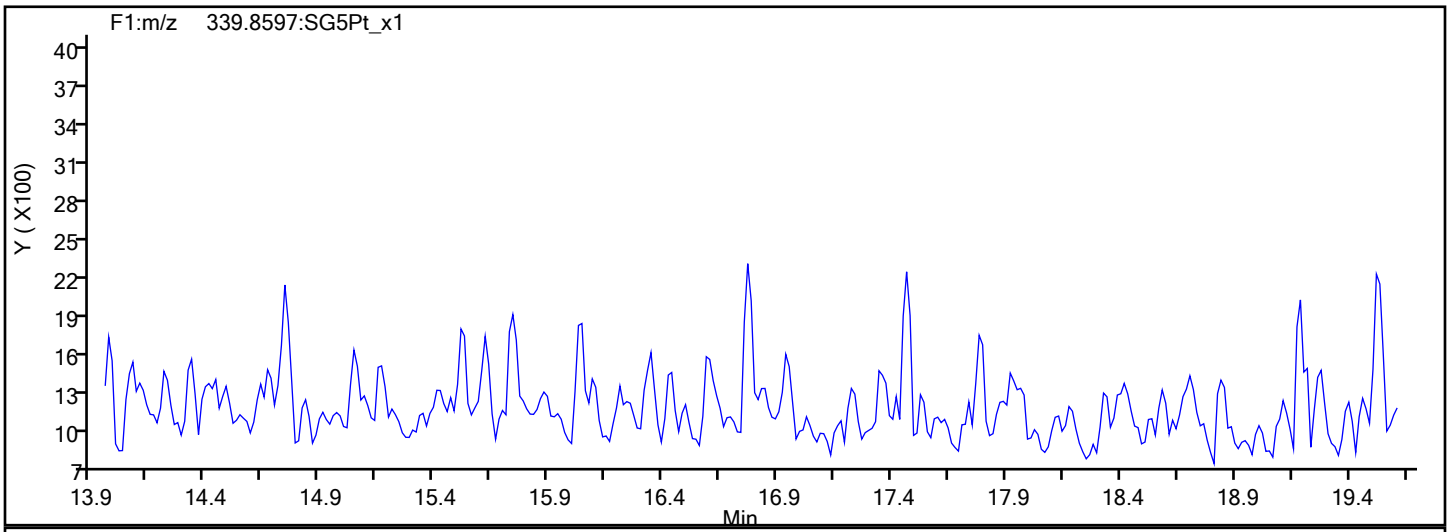

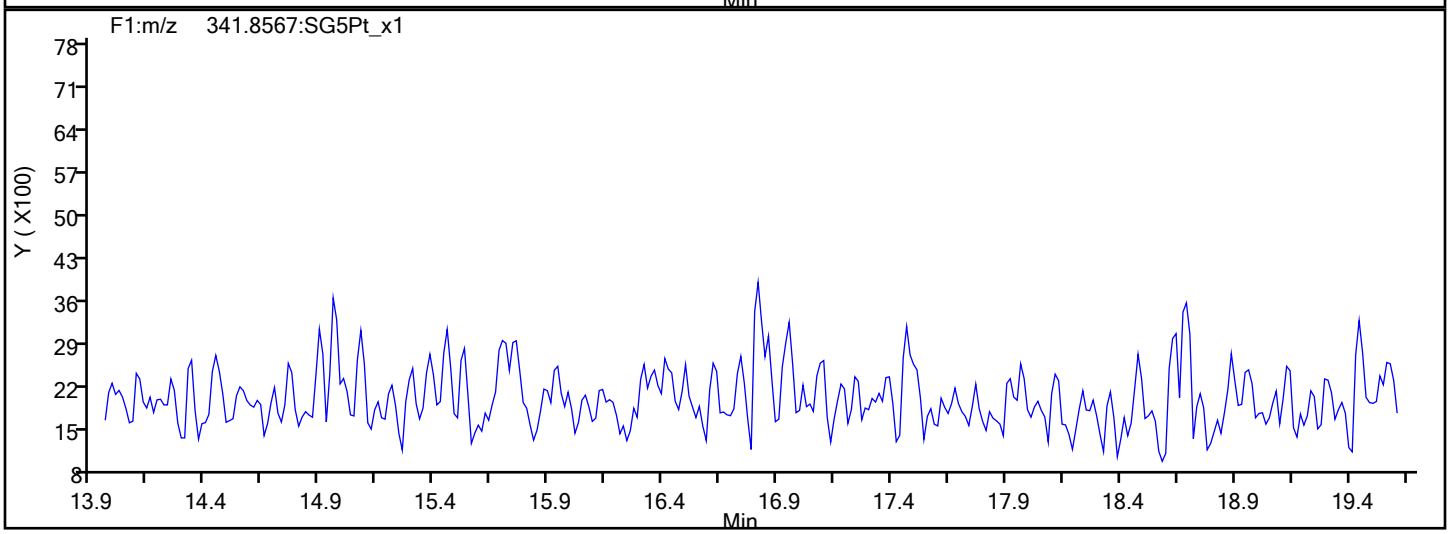

F1 PeCDFs Interference Mass

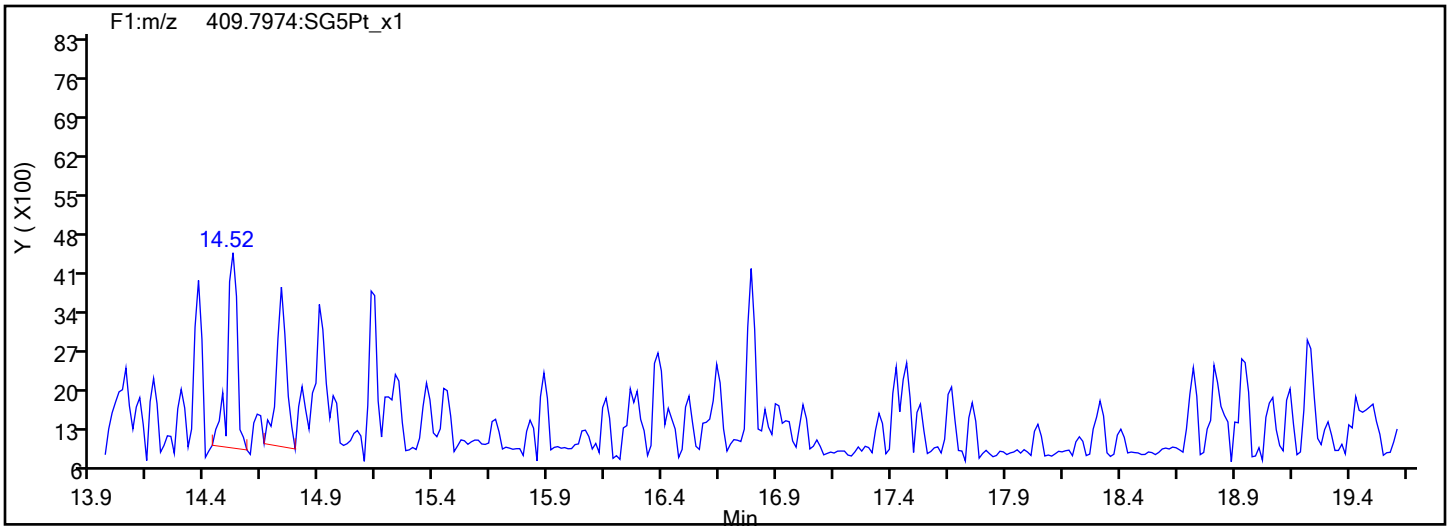

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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PeCDF

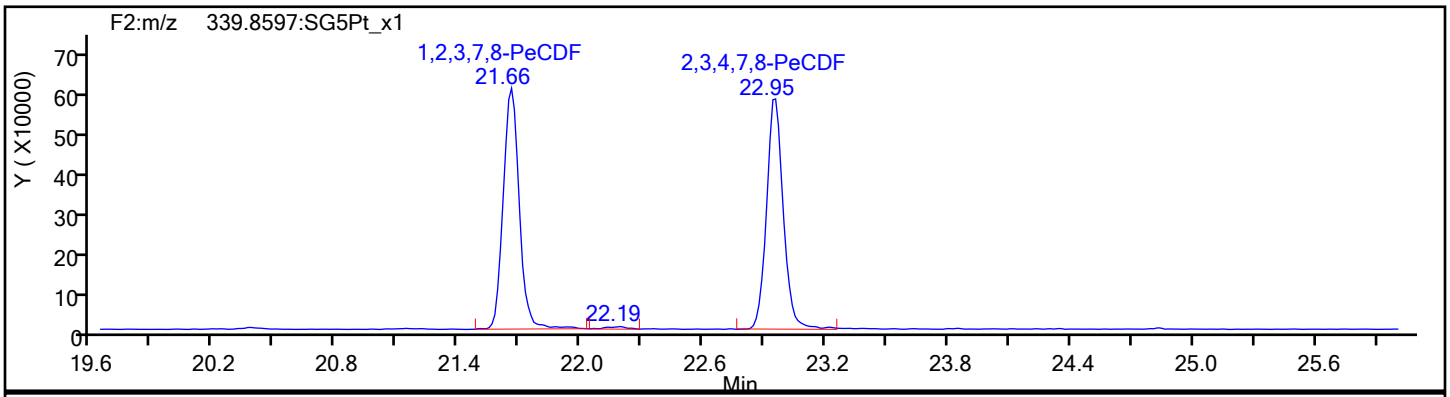

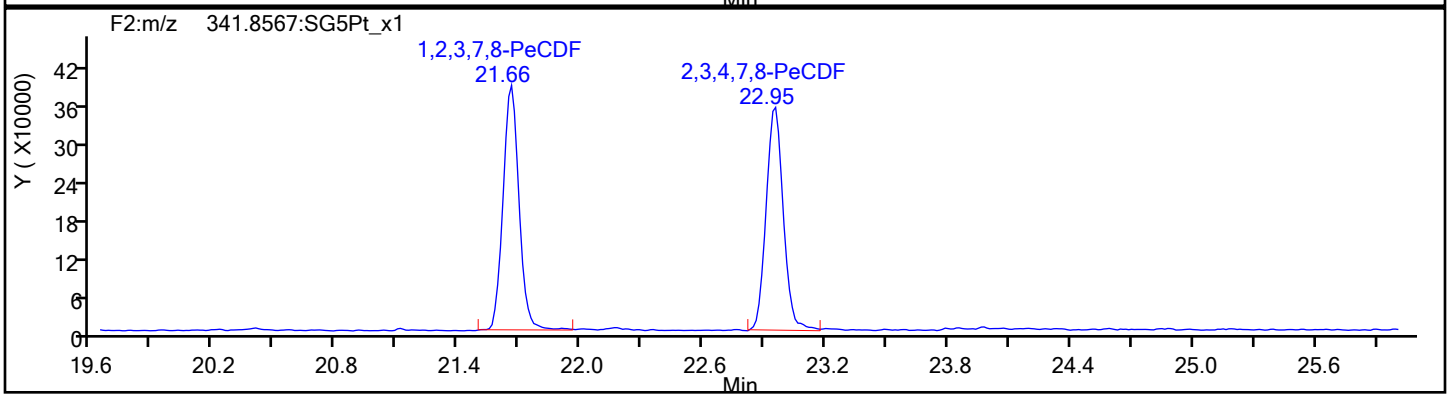

PeCDF Standards

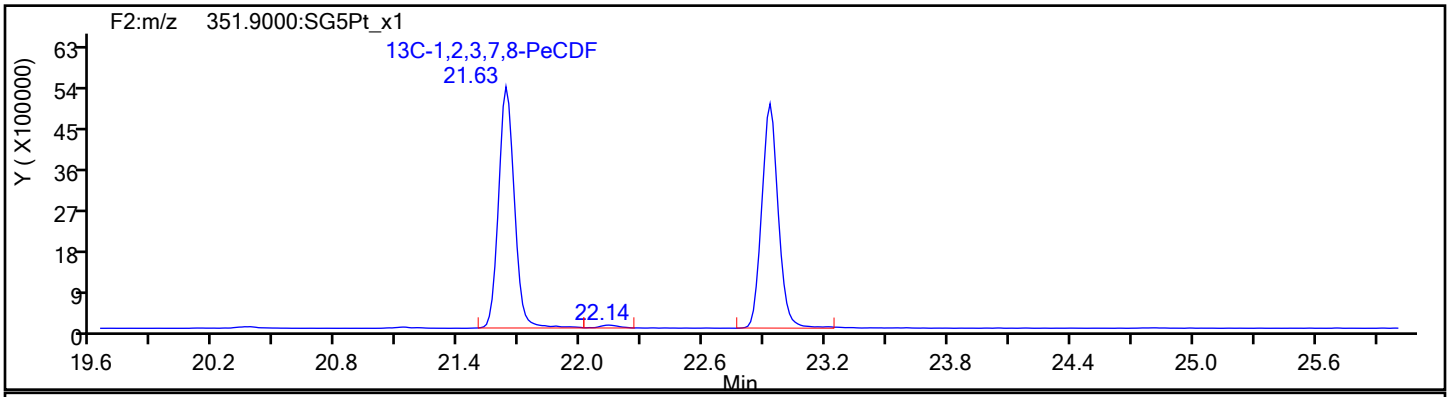

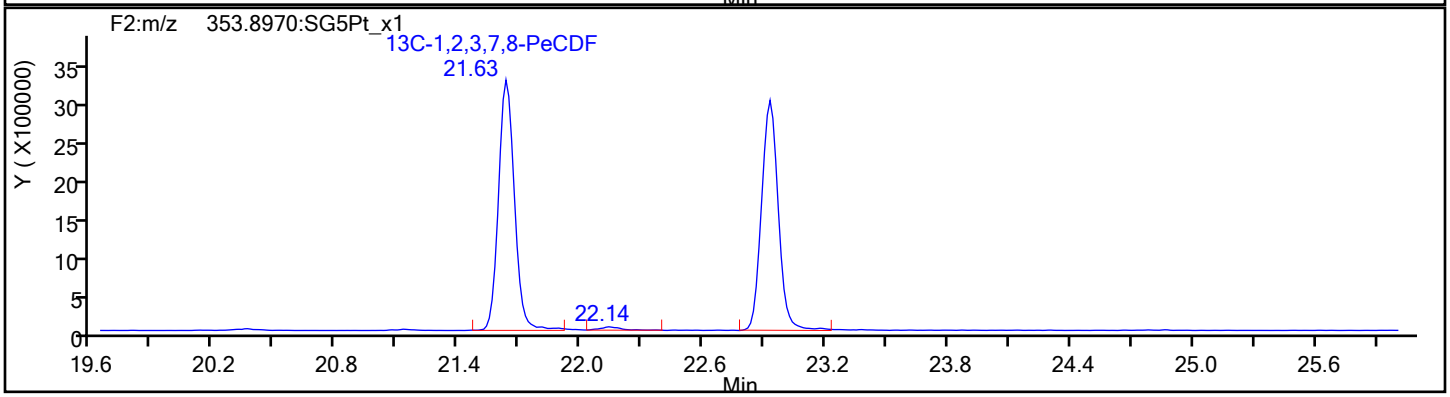

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Eurofins TestAmerica, Sacramento

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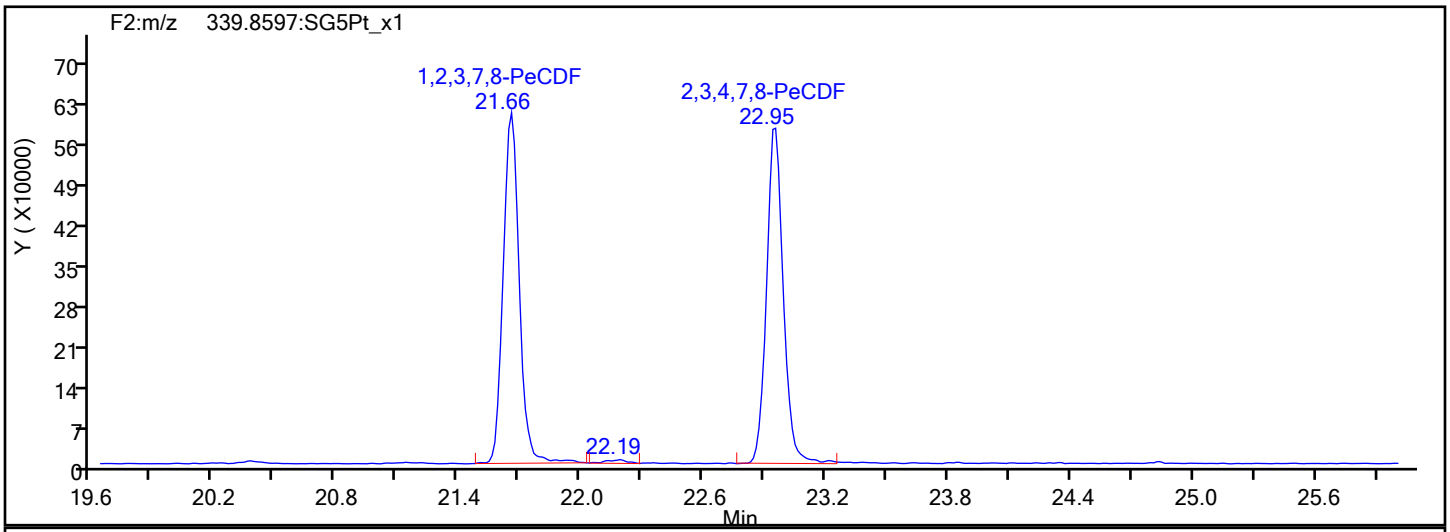

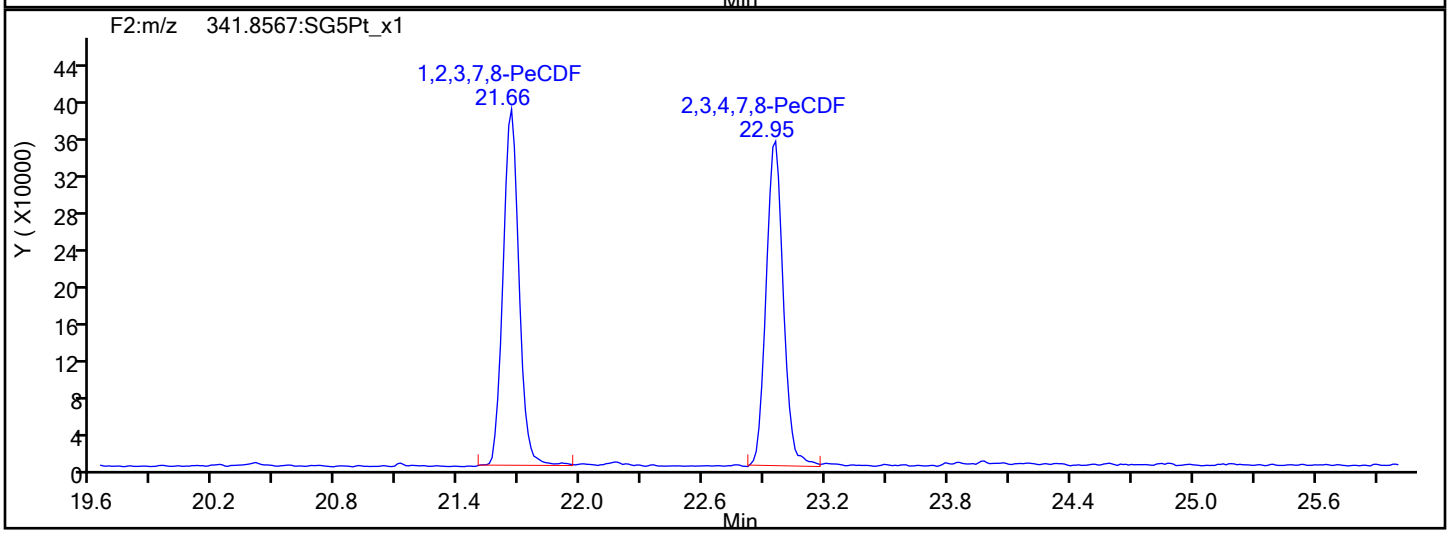

PeCDF Interference Mass

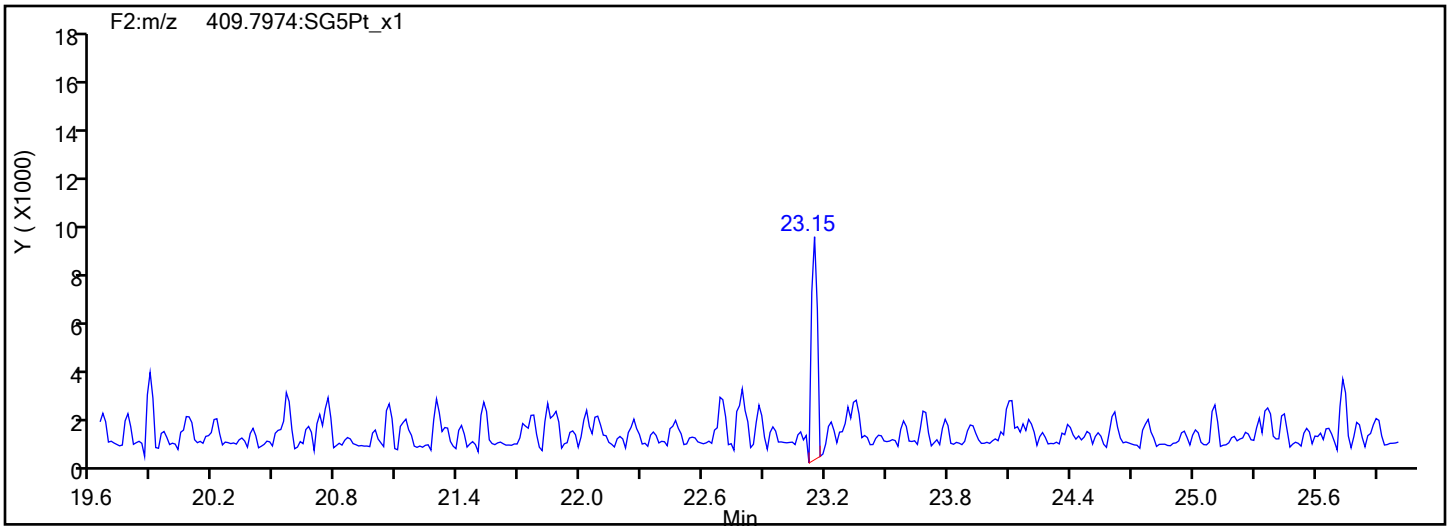

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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PeCDD

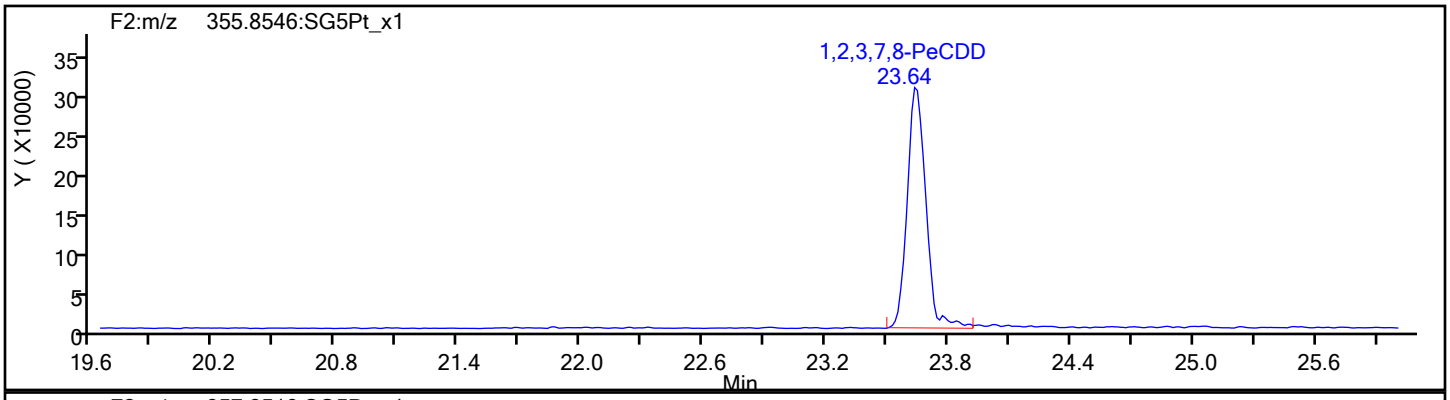

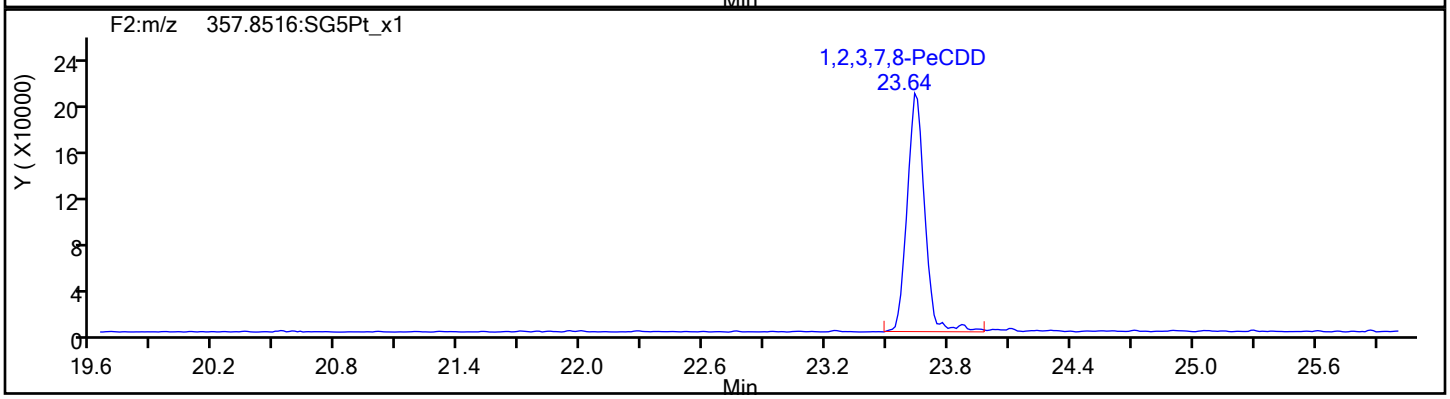

PeCDD Standards

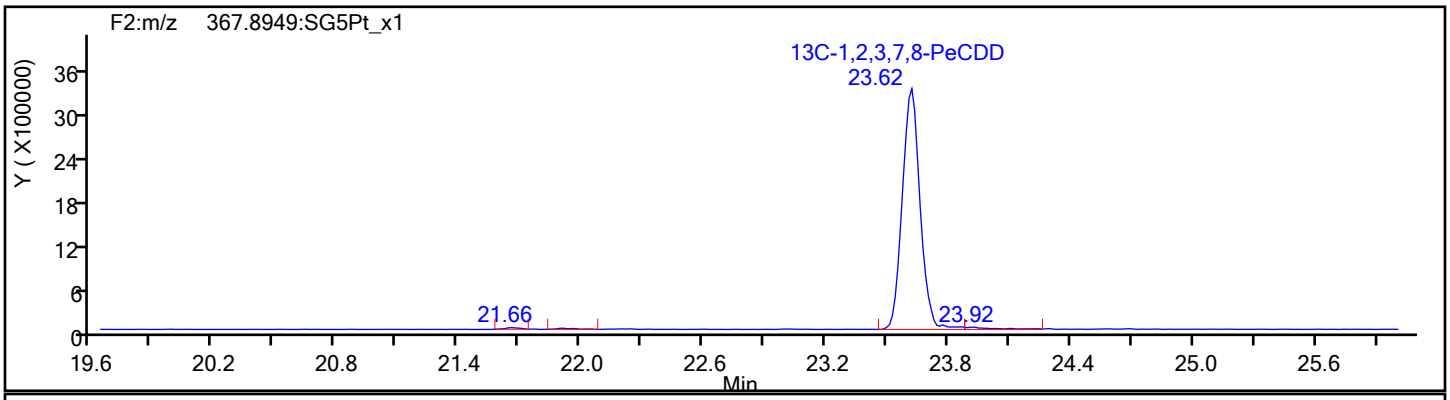

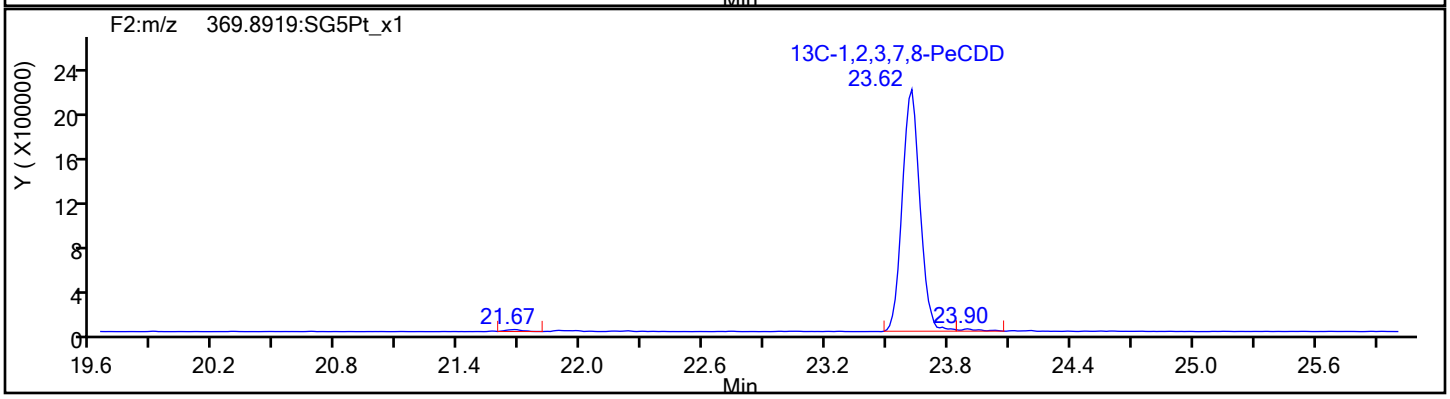

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Eurofins TestAmerica, Sacramento

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HxCDF

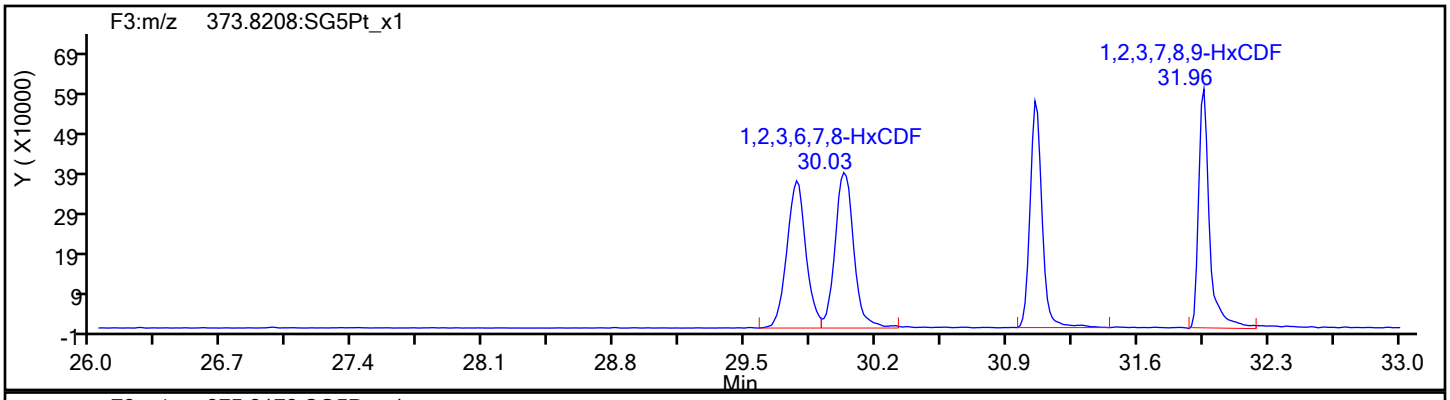

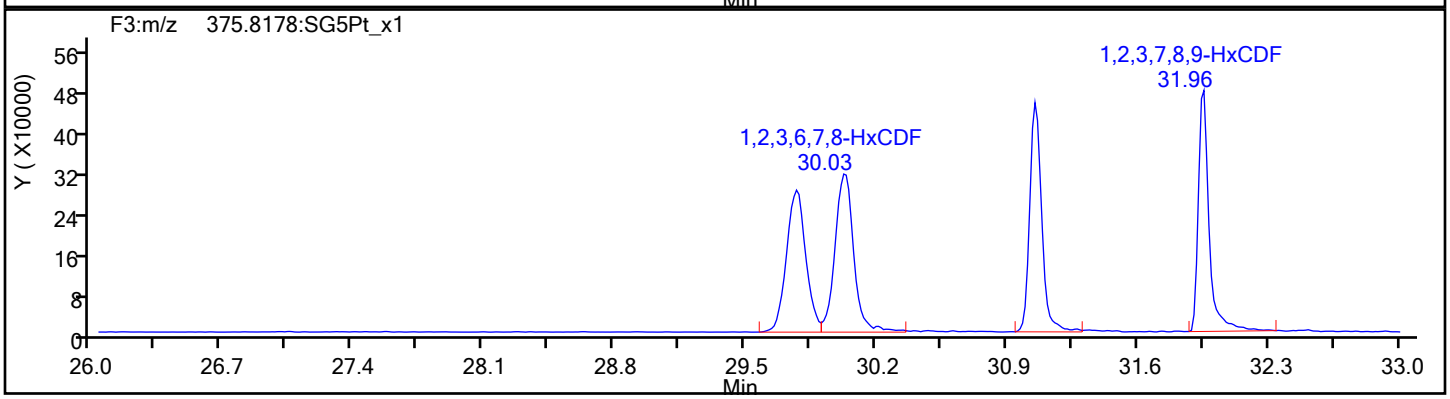

HxCDF Standards

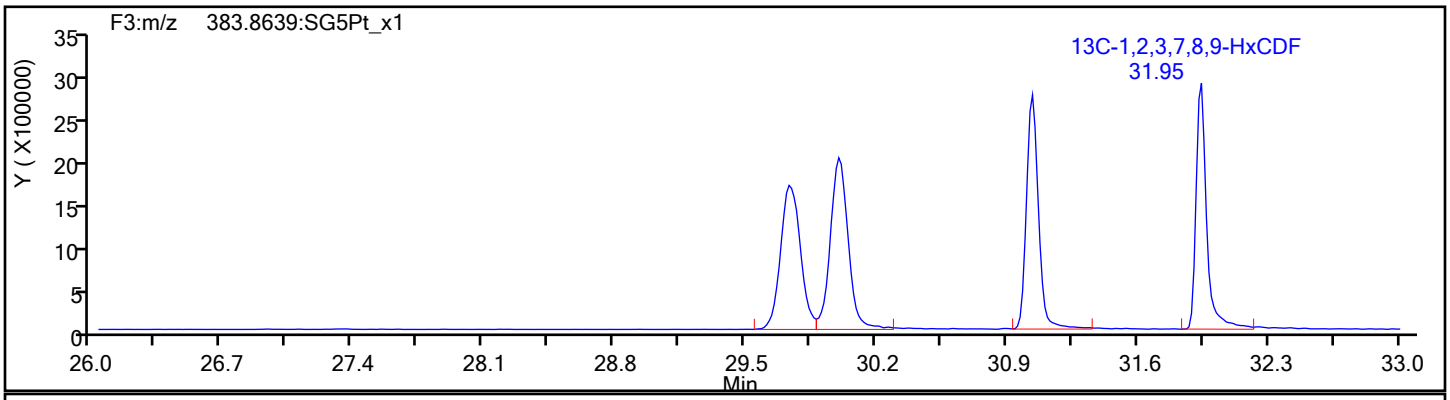

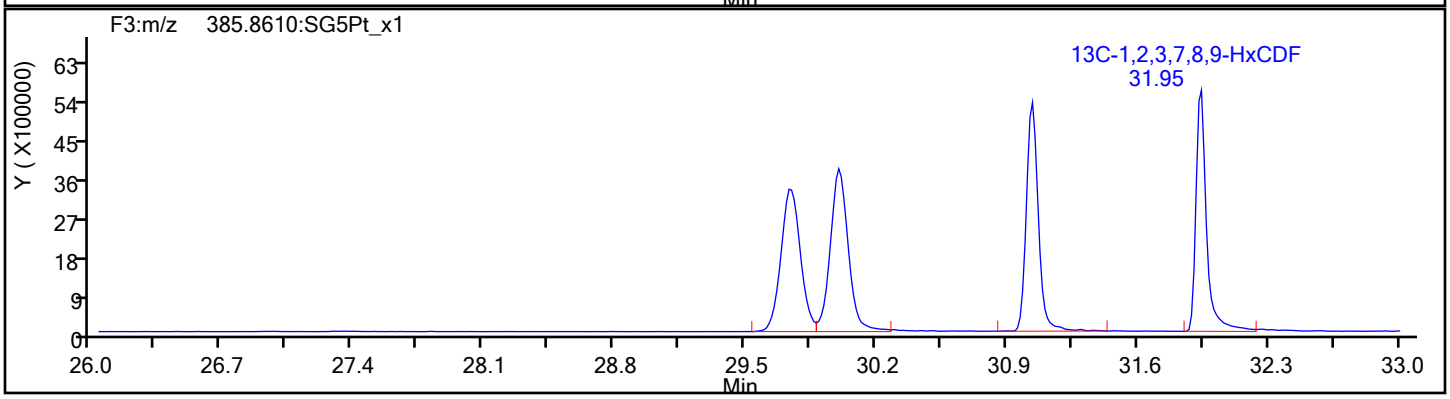

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Eurofins TestAmerica, Sacramento

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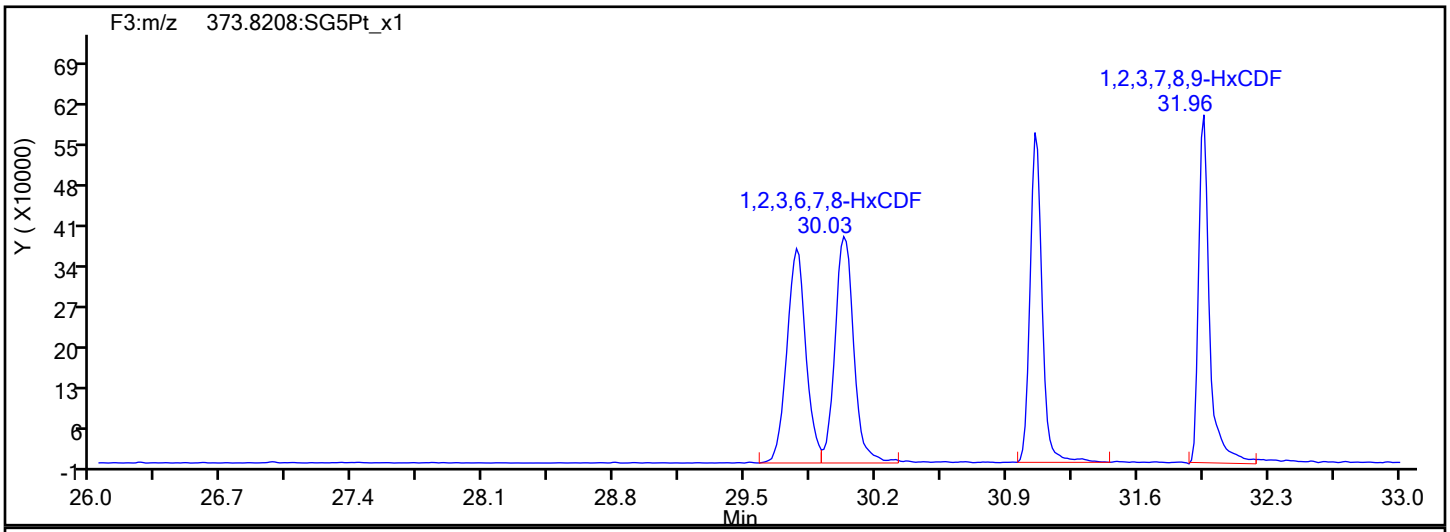

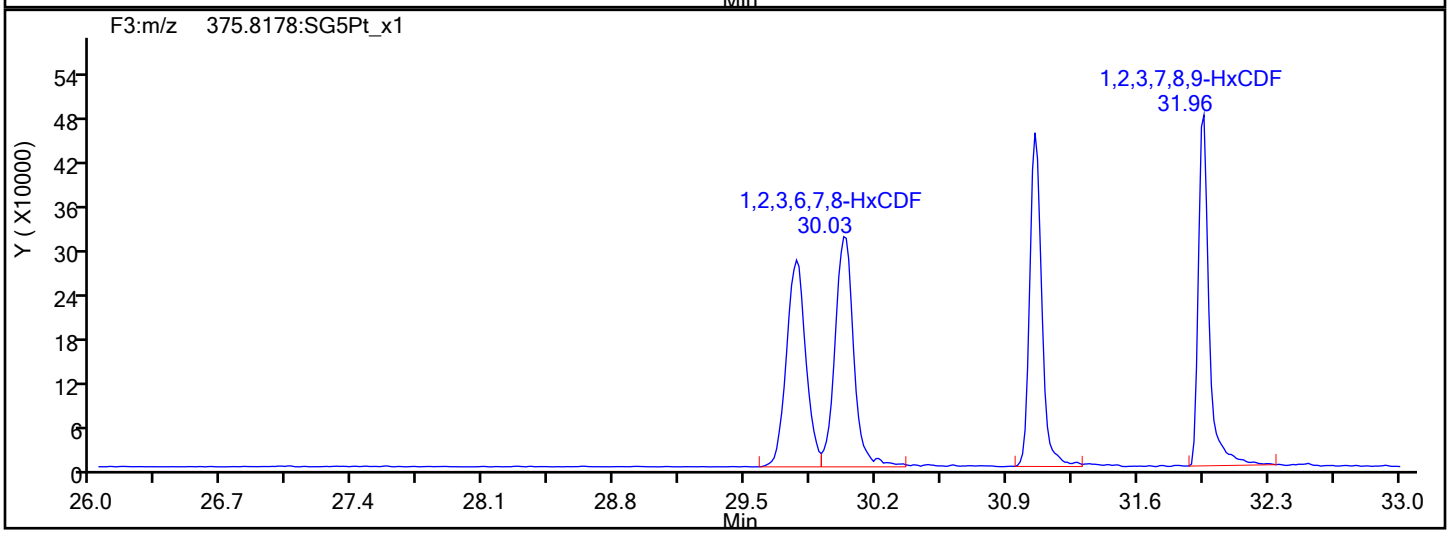

HxCDF Interference Mass

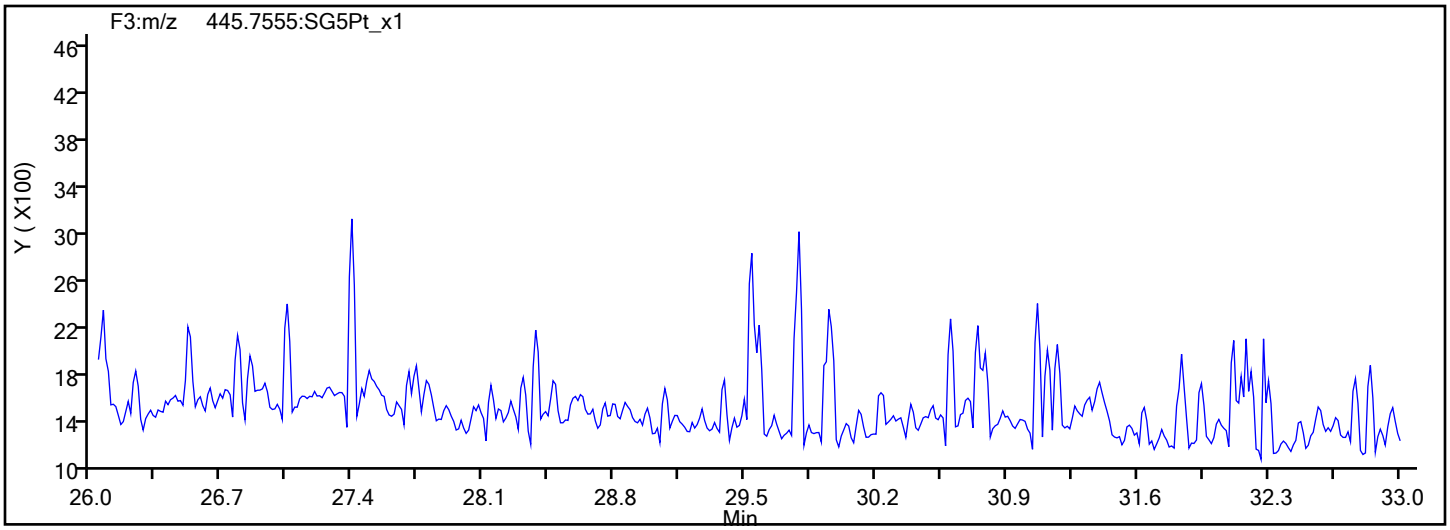

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Eurofins TestAmerica, Sacramento

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HxCDD

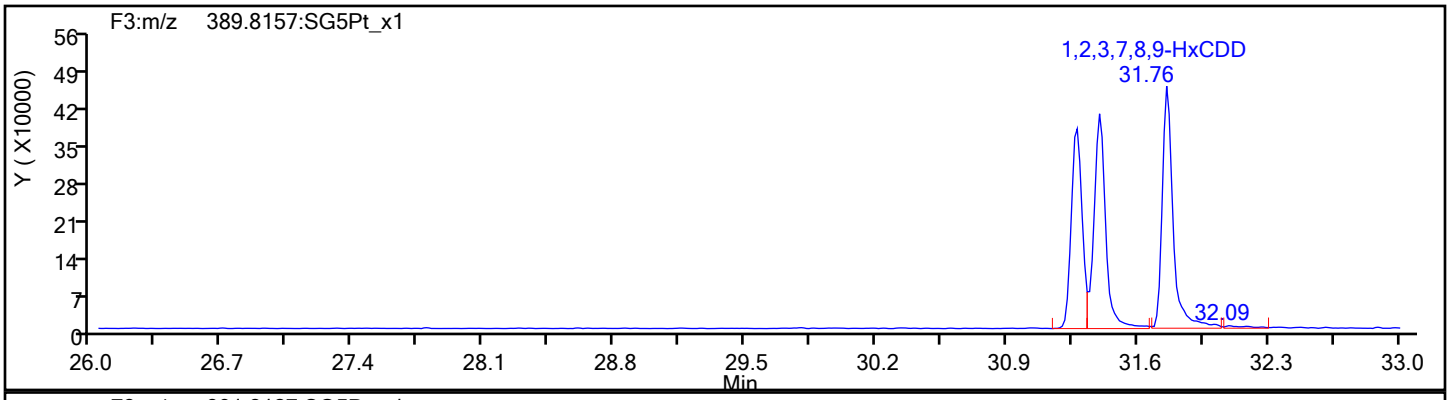

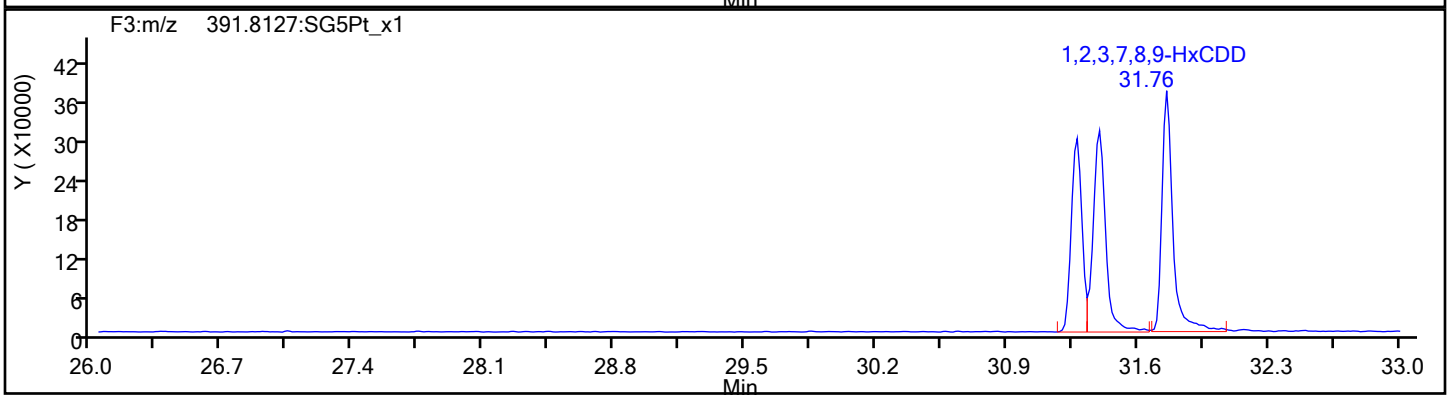

HxCDD Standards

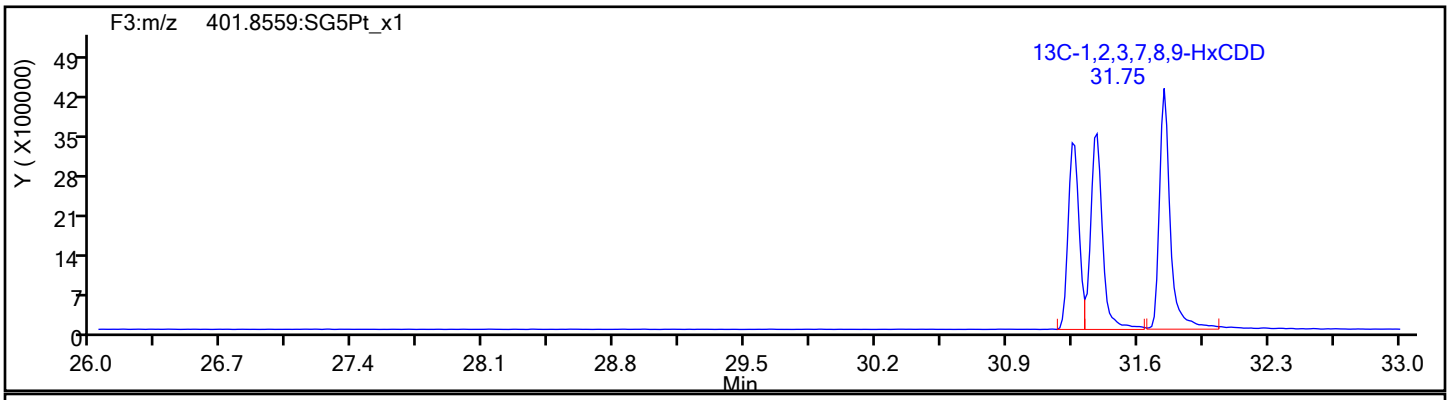

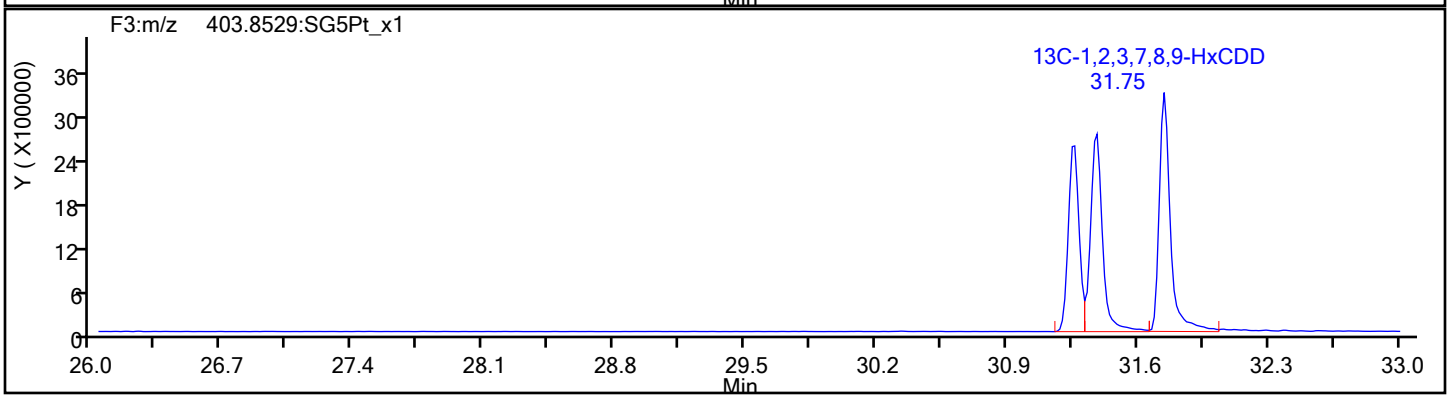

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d		
Injection Date:	17-Sep-2019 13:49:24	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

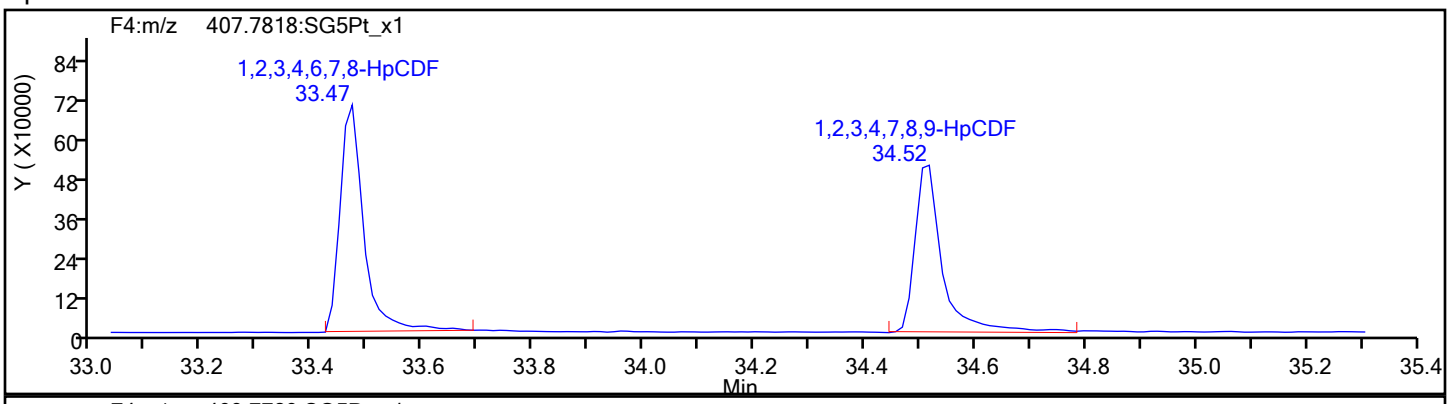

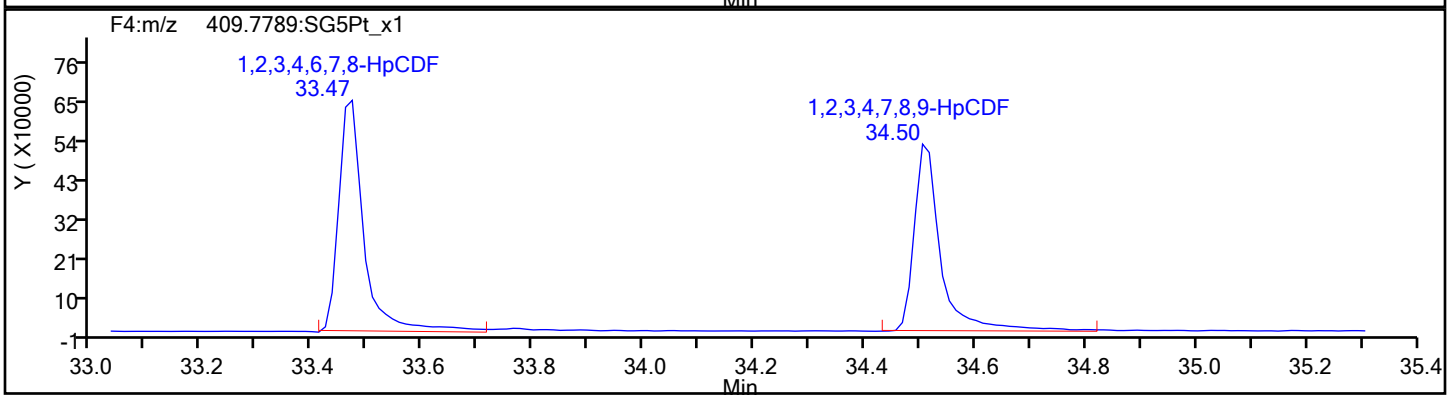

HpCDF Standards

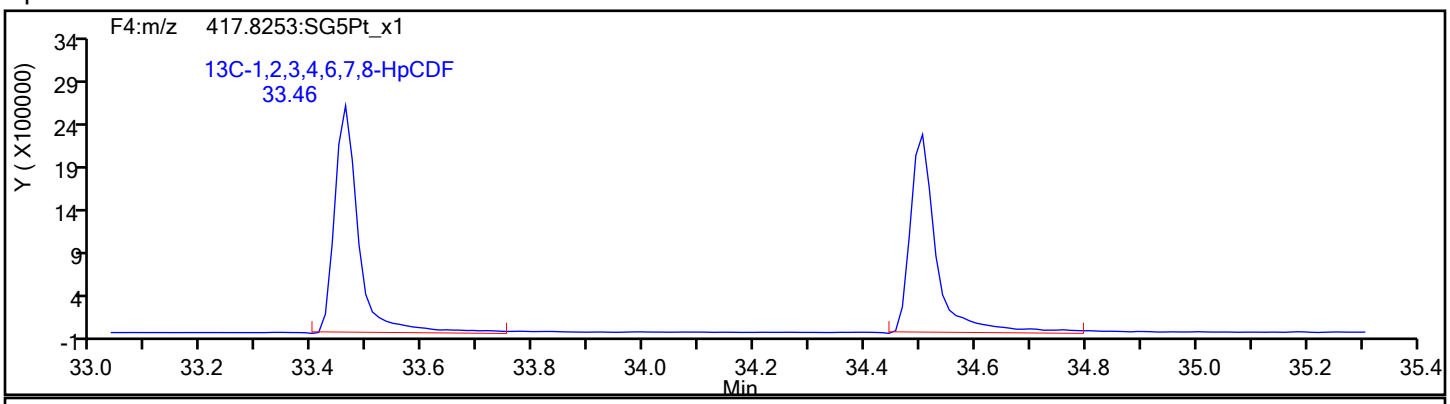

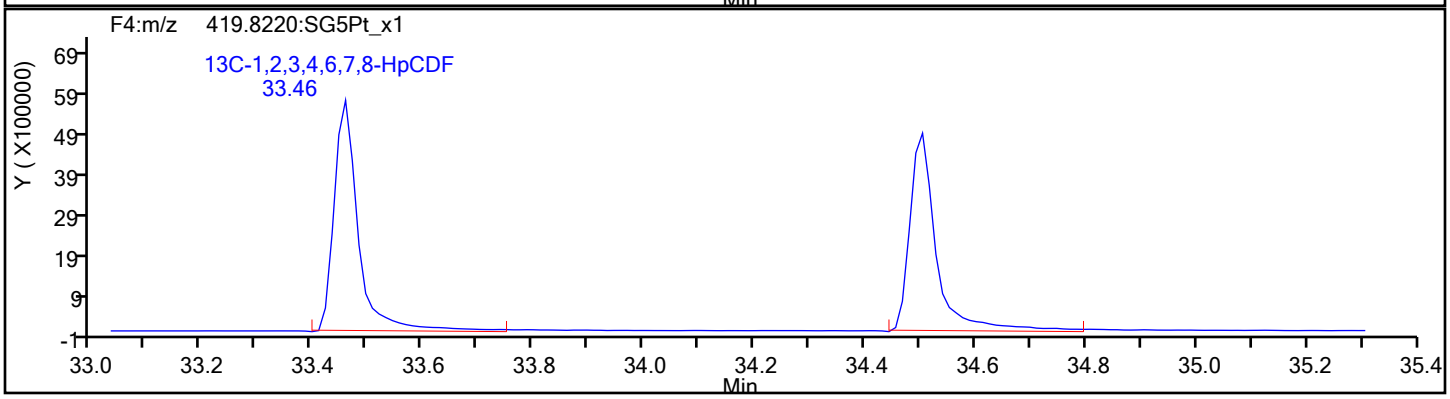

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d		
Injection Date:	17-Sep-2019 13:49:24	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

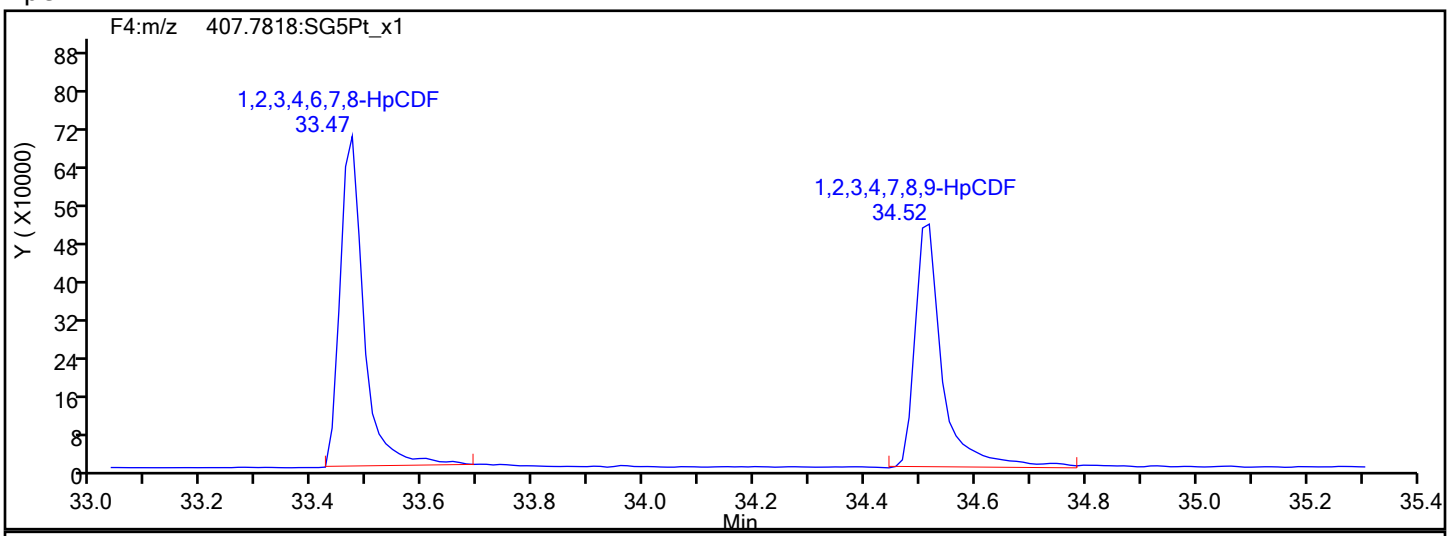

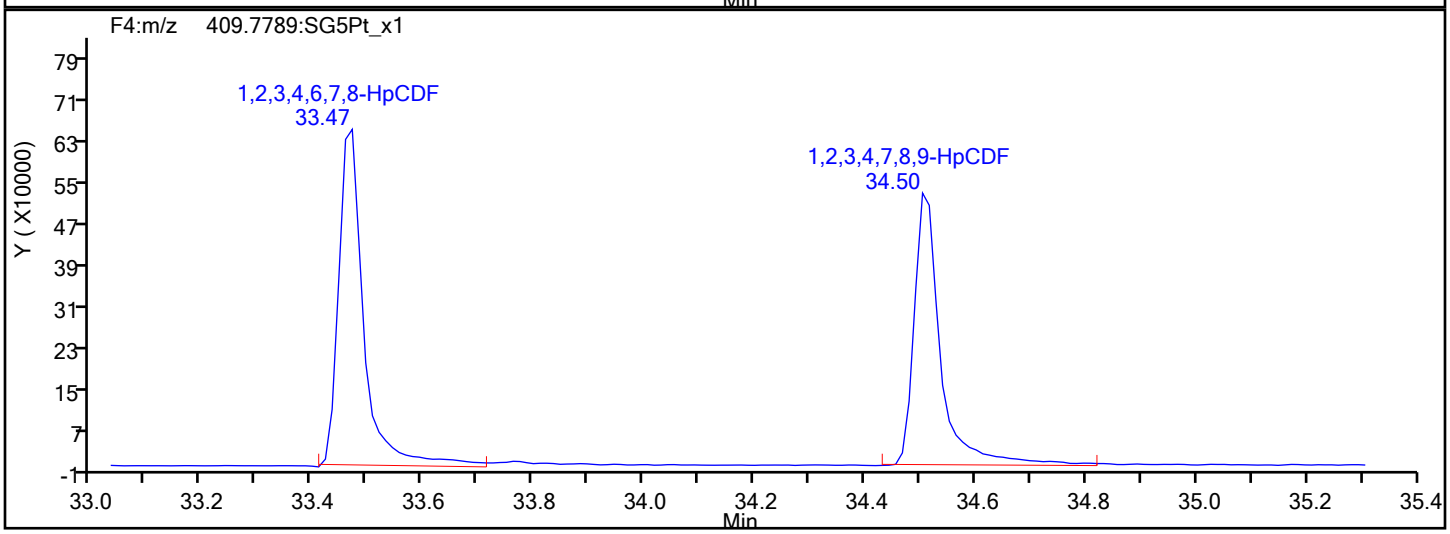

HpCDF Interference Mass

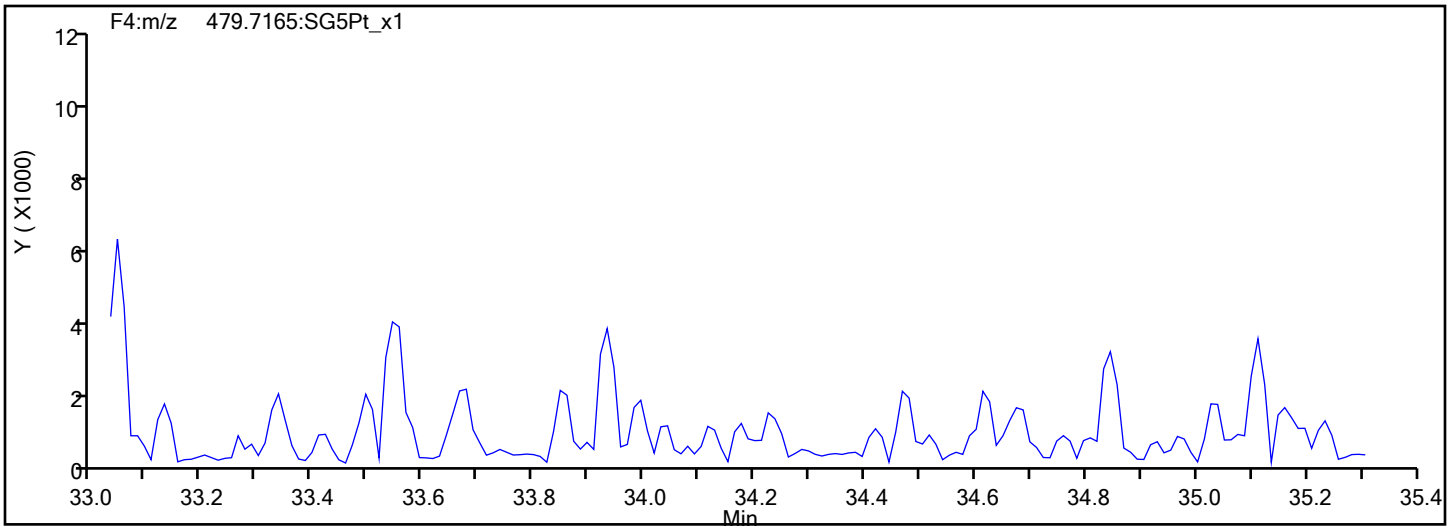

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d		
Injection Date:	17-Sep-2019 13:49:24	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

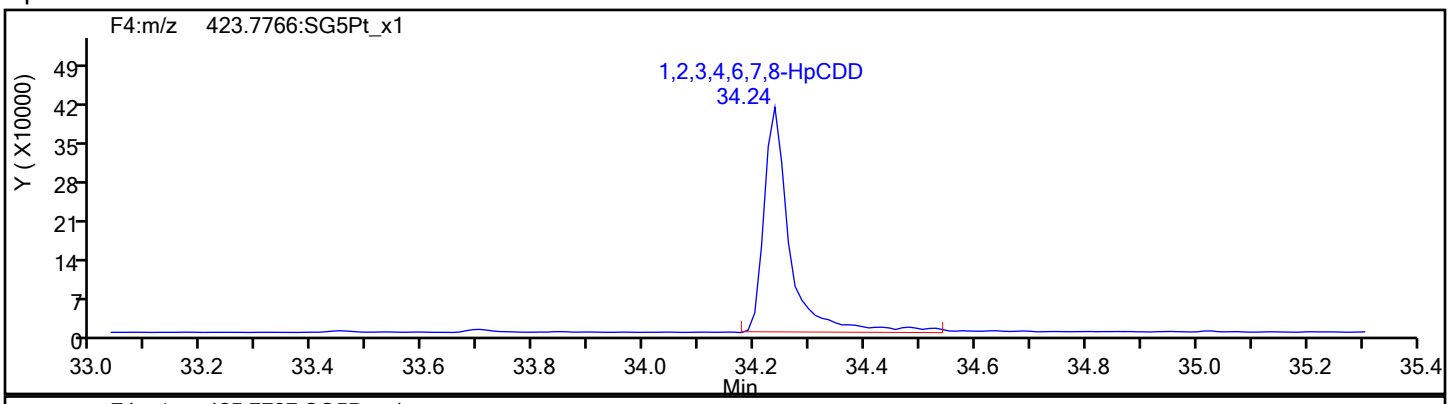

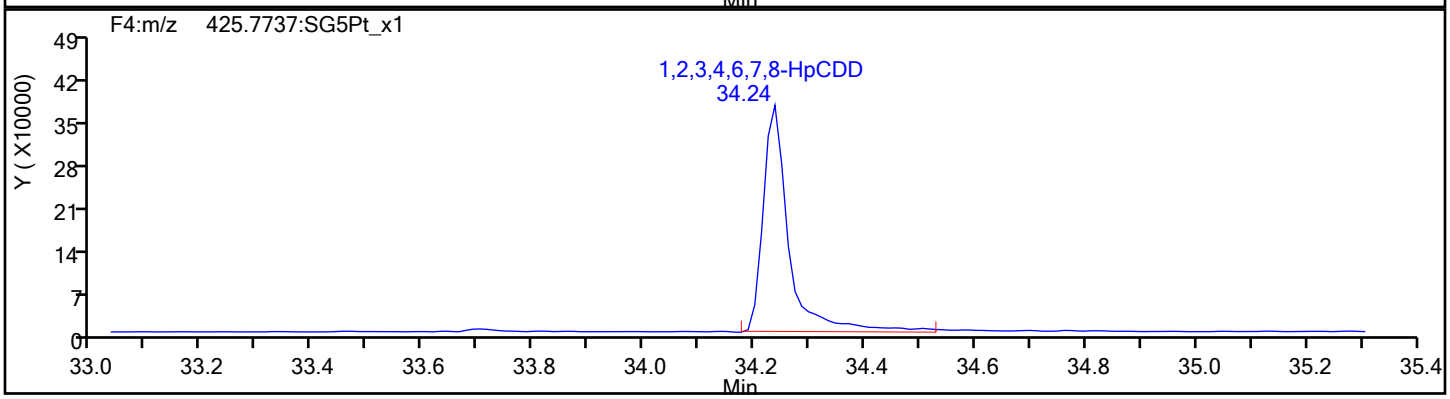

HpCDD Standards

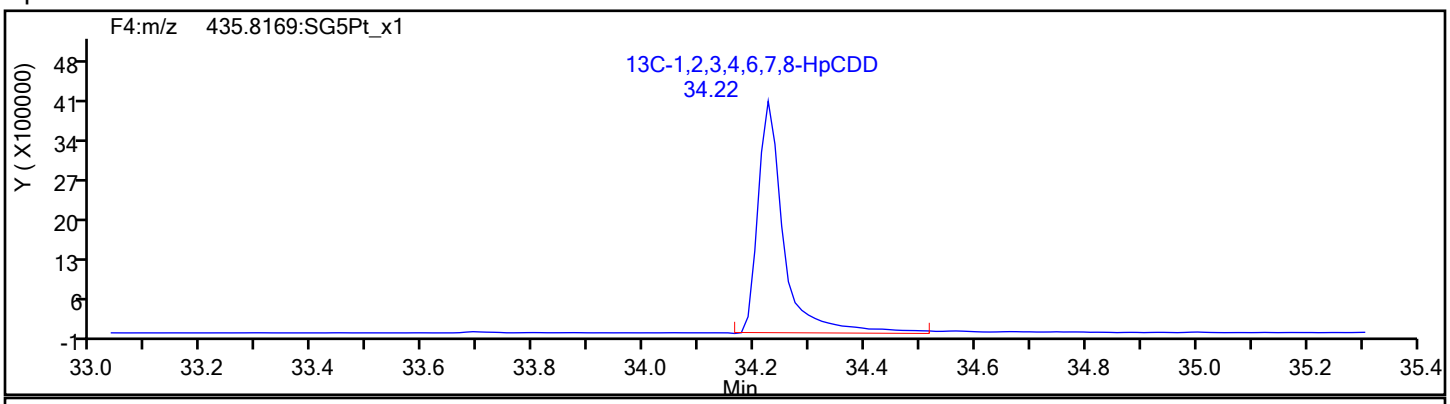

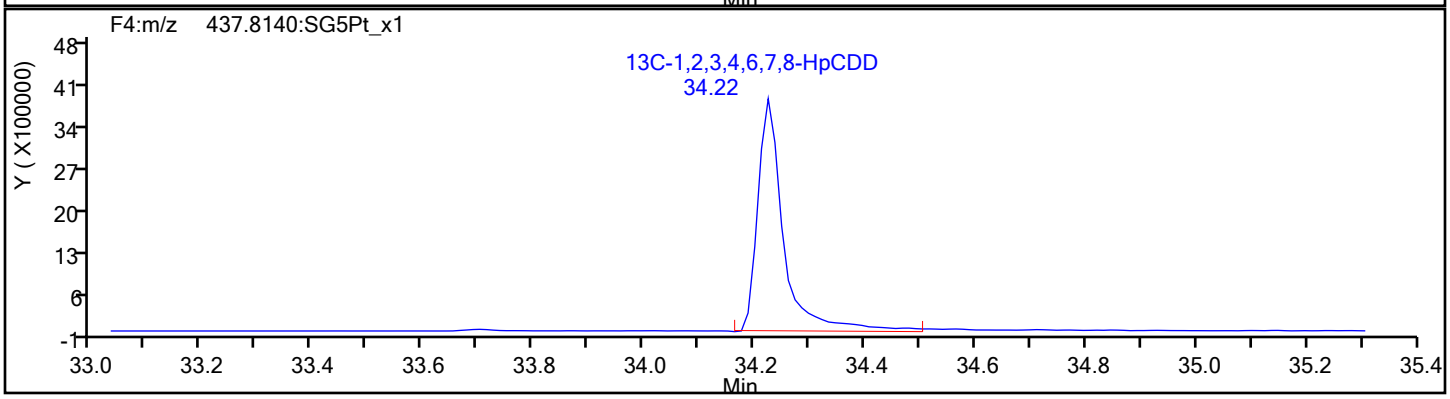

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d		
Injection Date:	17-Sep-2019 13:49:24	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

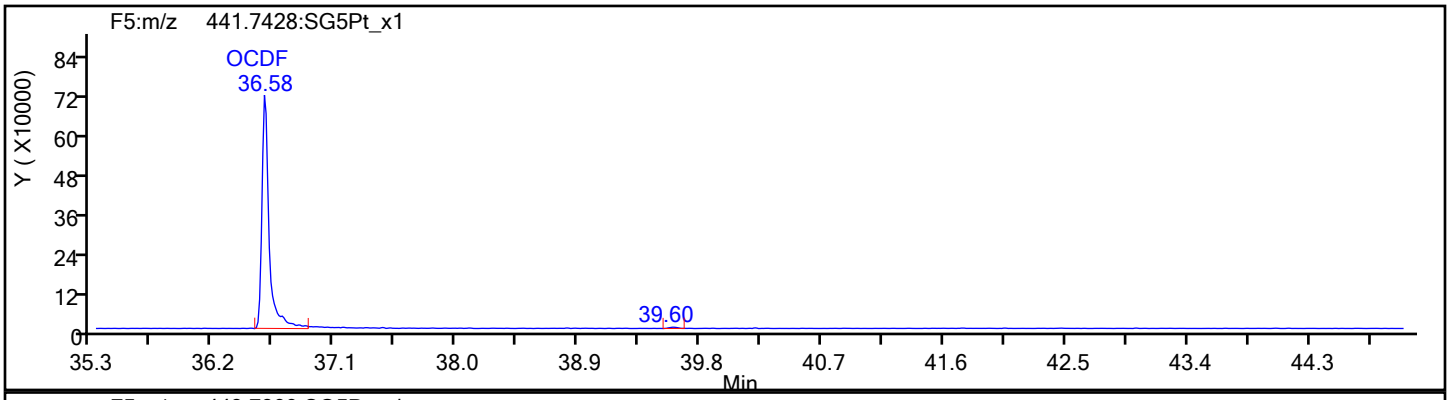

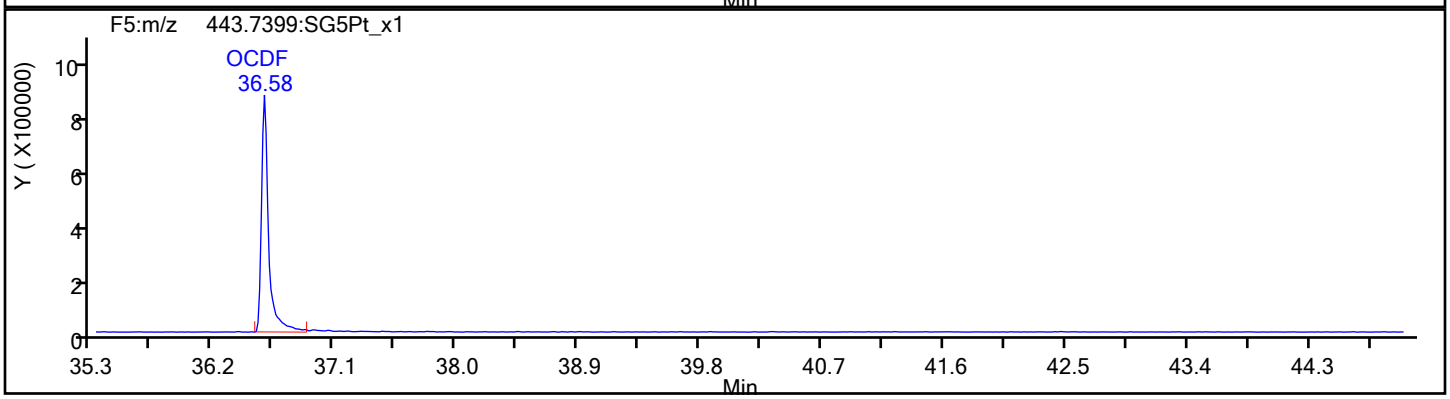

OCDF Standards

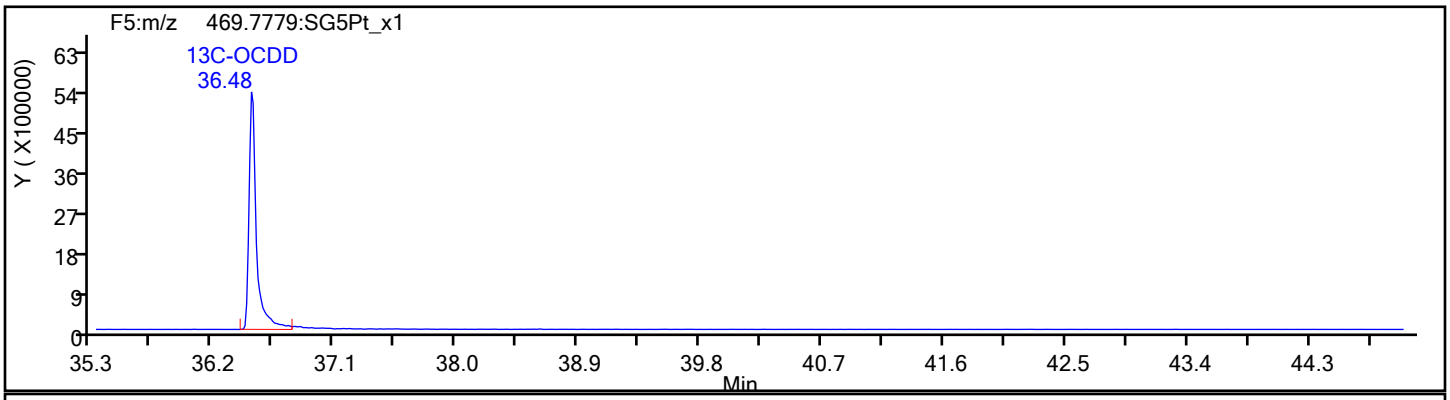

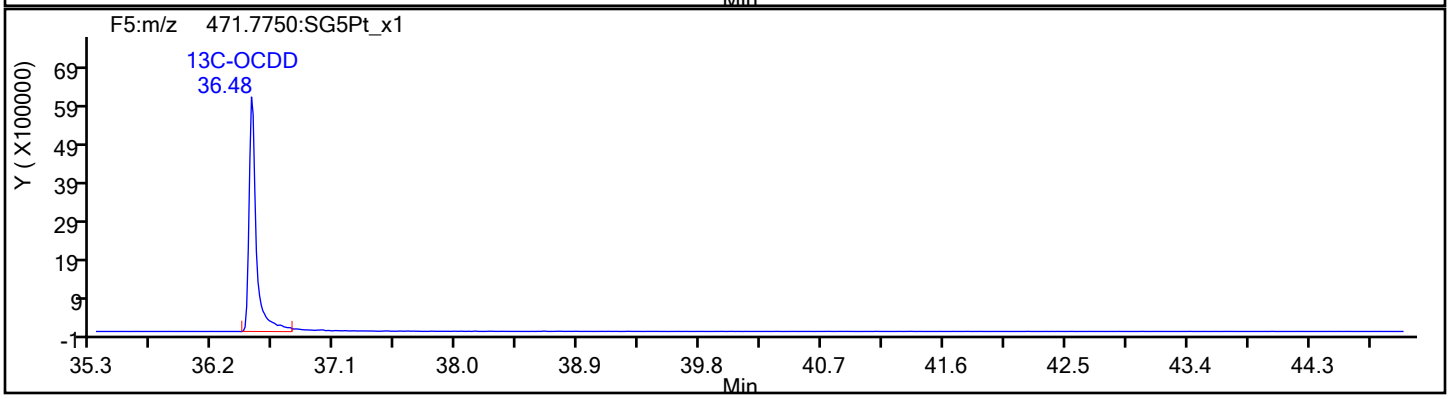

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d		
Injection Date:	17-Sep-2019 13:49:24	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

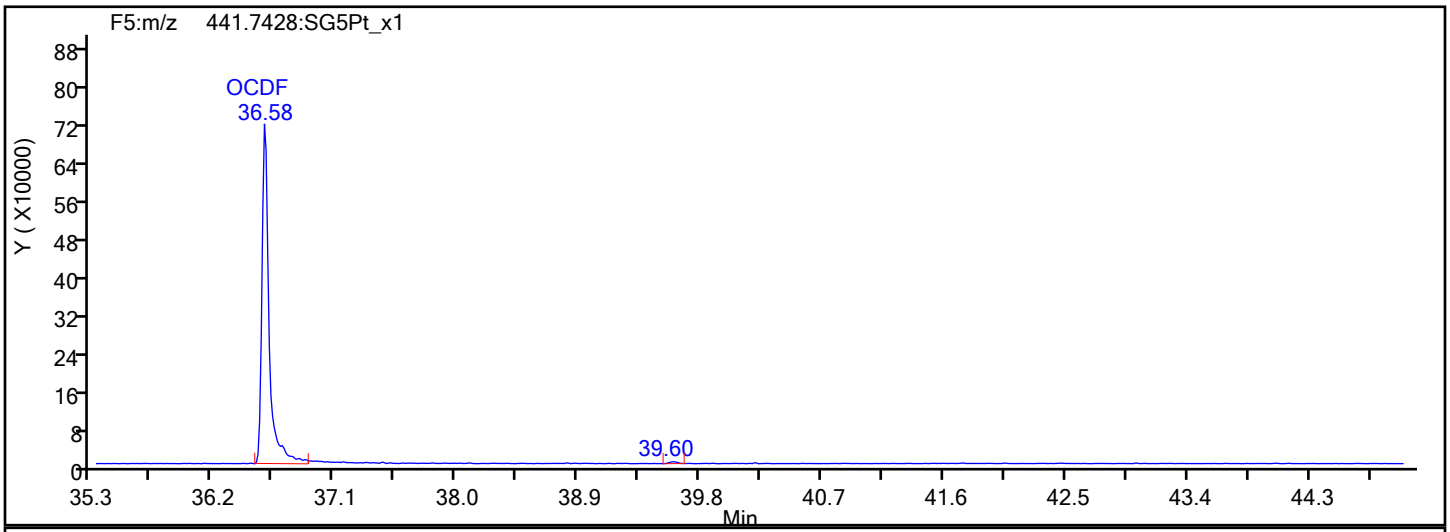

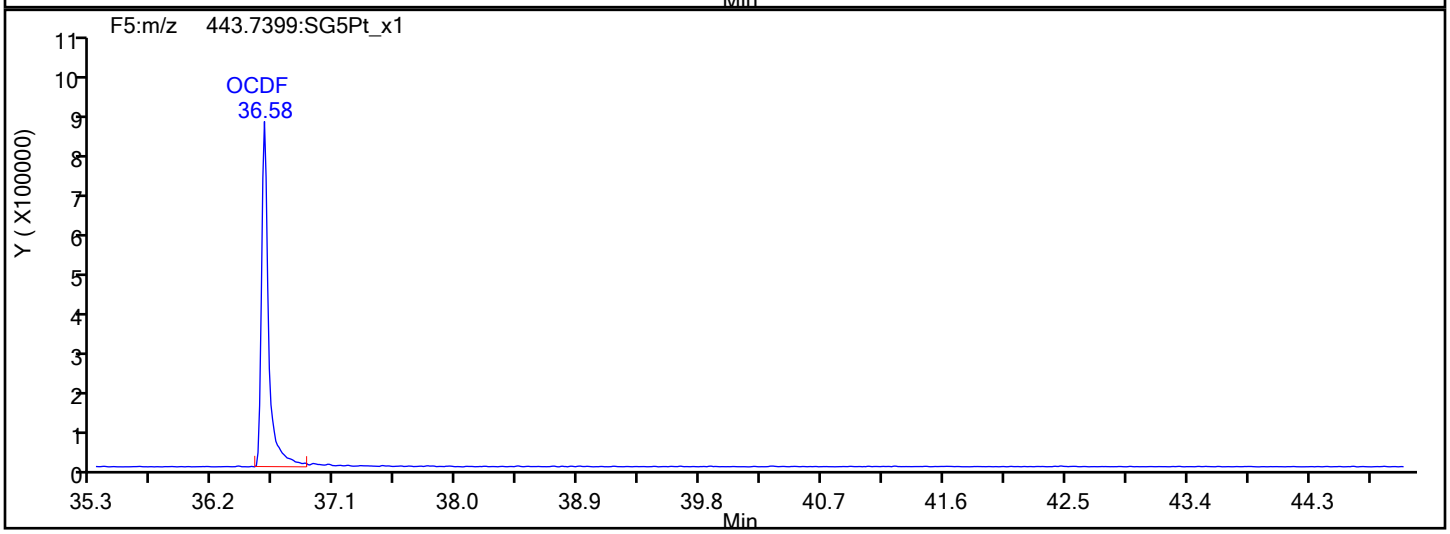

OCDF Interference Mass

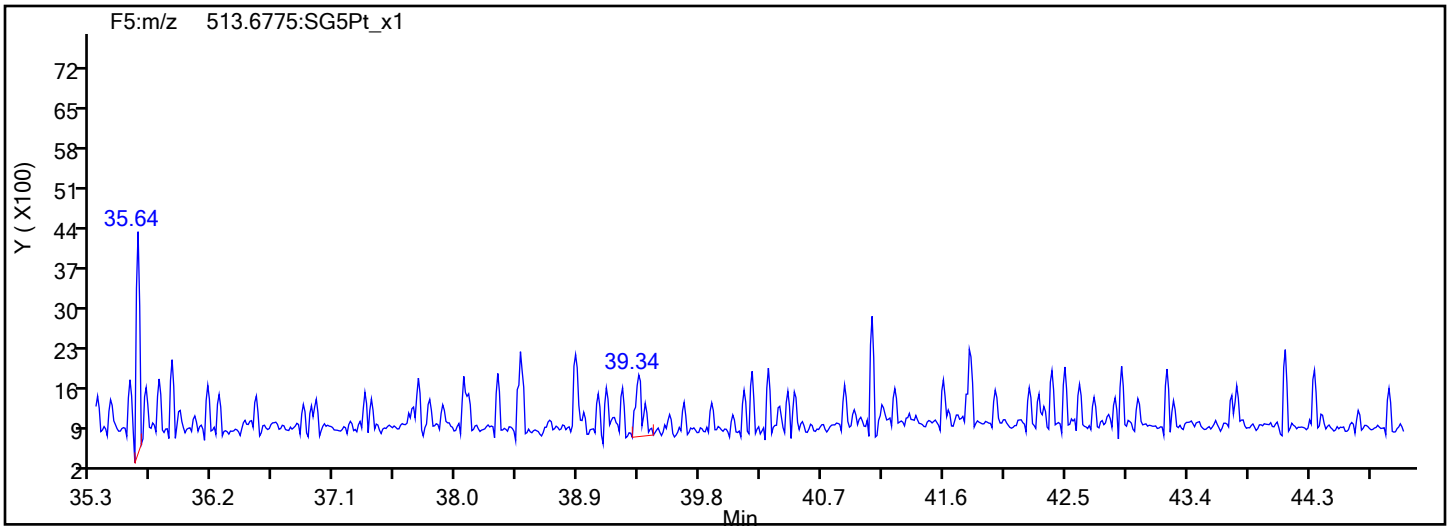

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

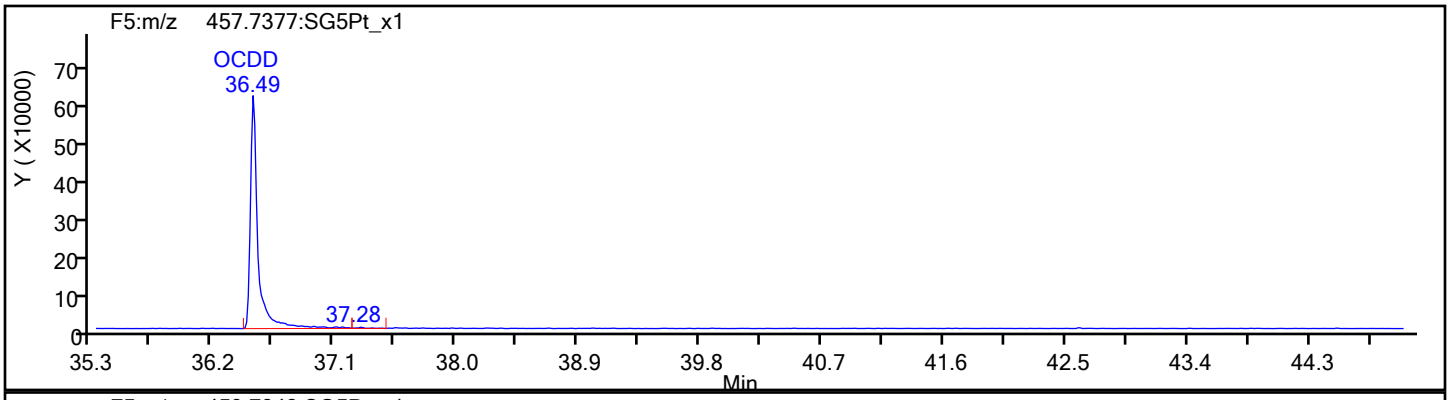

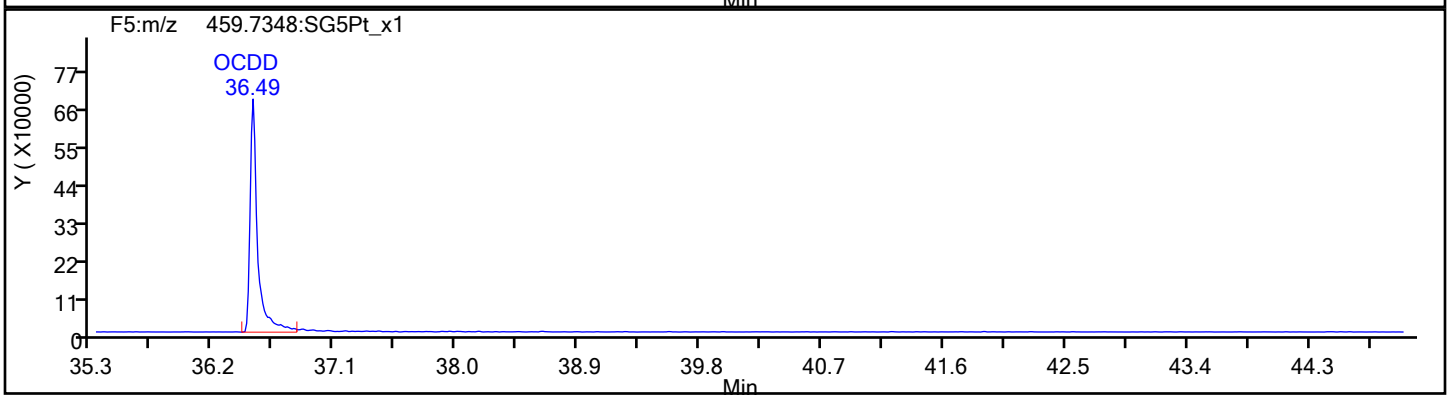

OCDD Standards

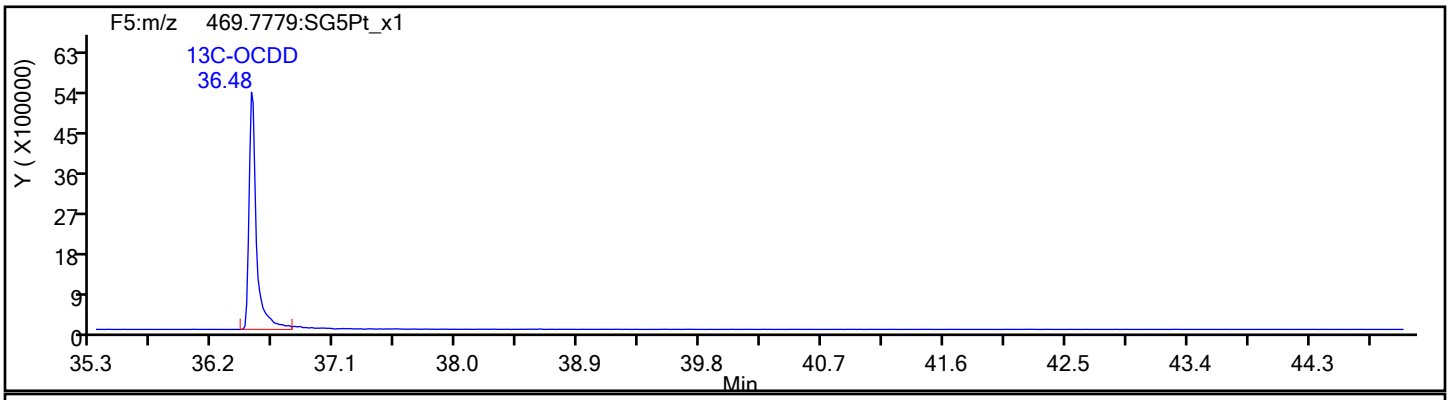

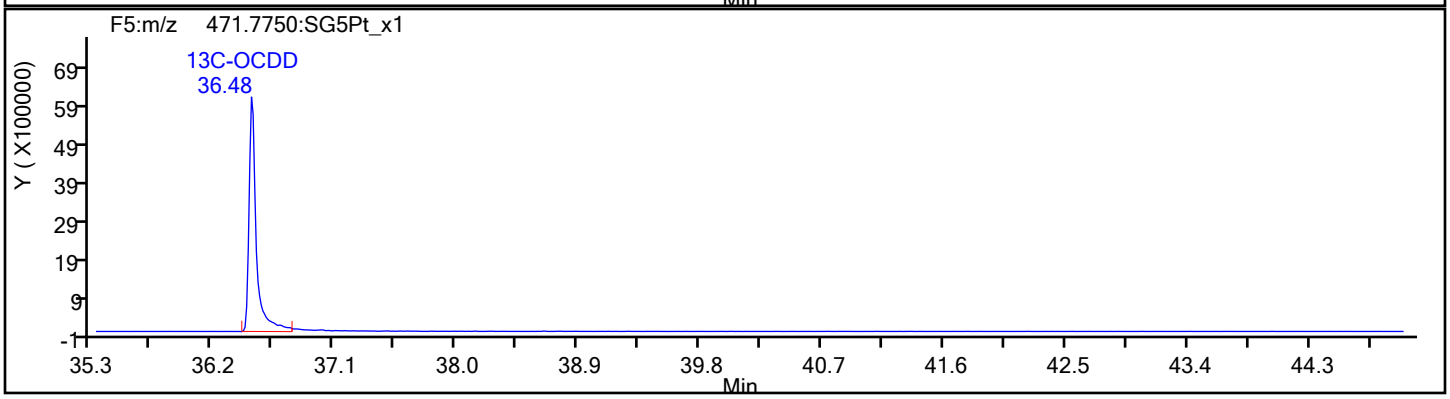

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d		
Injection Date:	17-Sep-2019 13:49:24	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

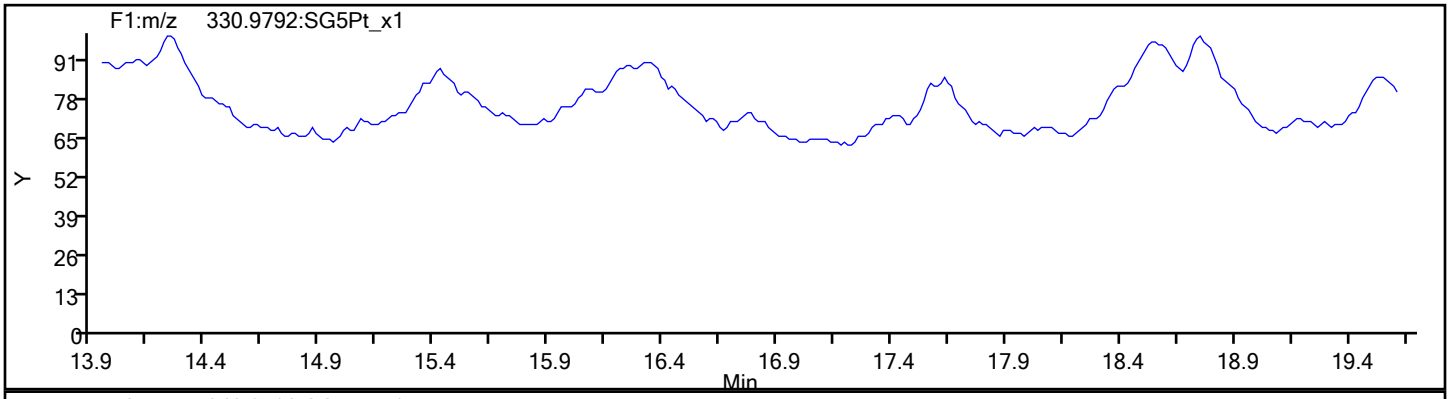

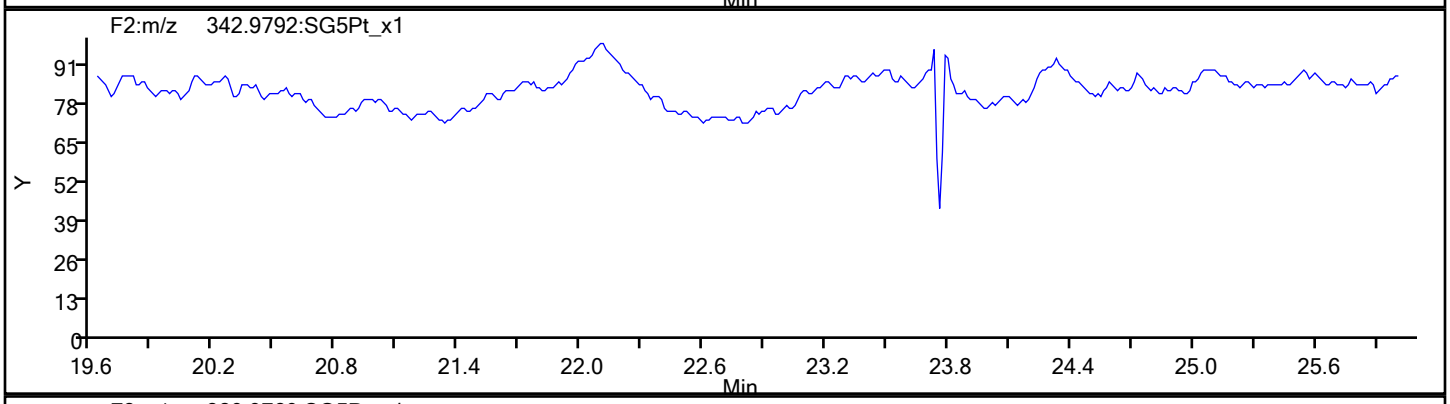

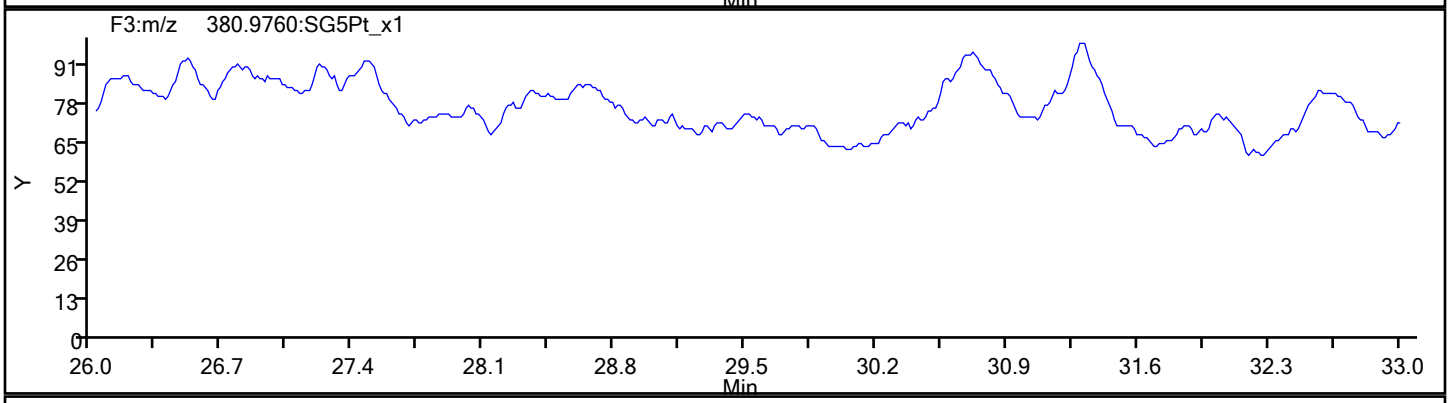

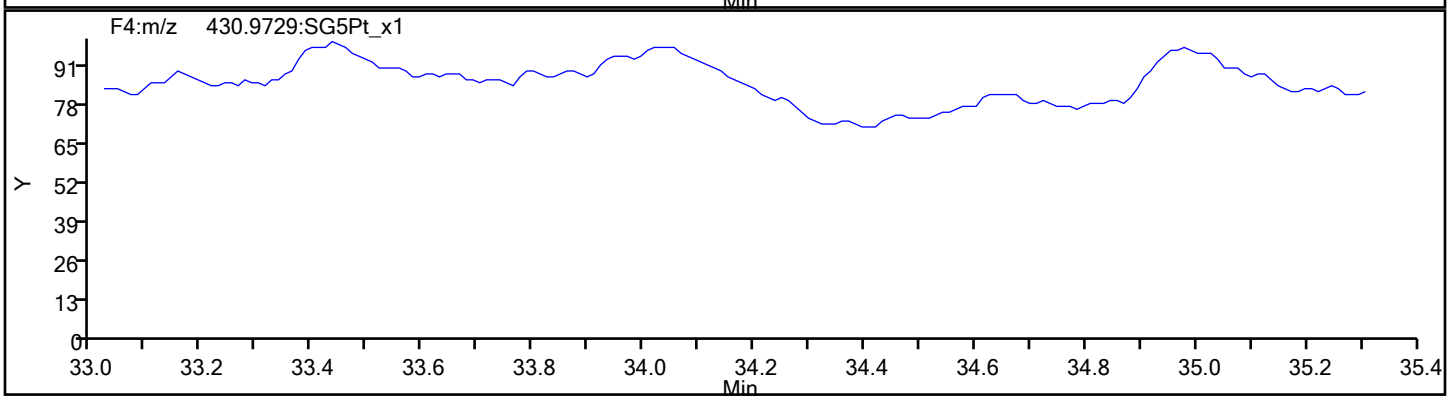

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

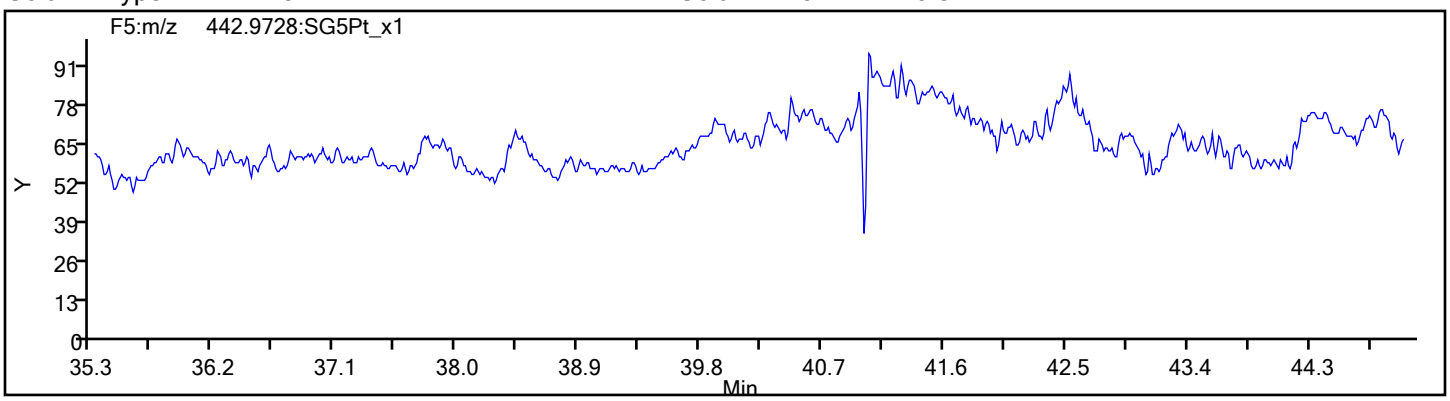

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_6.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 17-Sep-2019 15:21:22 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719C CS-5 HRDXNL5_00028
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:28 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:06:18

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.315	136791650	0.77	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.816	197671153	0.80	1.4384	100.5	100.5	0.1444	0.1444	100	
2,3,7,8-TCDF	16.831	83942362	0.79	1.0507	40.4	40.4	0.0684	0.0684	101	
S Total TCDF					40.4	40.4	0.0684	0.0684		
D 13C-2,3,7,8-TCDD	17.496	131023361	0.76	0.9533	100.5	100.5	0.1754	0.1754	100	
$ 37Cl4-2,3,7,8-TCDD	17.511	70585275		1.2224	42.2	42.2	0.0502	0.0502	106	
2,3,7,8-TCDD	17.511	59019056	0.79	1.1064	40.7	40.7	0.0423	0.0423	102	
S Total TCDD					40.7	40.7	0.0423	0.0423		
D 13C-1,2,3,7,8-PeCDF	21.645	146707284	1.60	1.0286	104.3	104.3	0.2271	0.2271	104	
1,2,3,7,8-PeCDF	21.672	332470884	1.58	1.0822	209.4	209.4	0.5823	0.5823	105	
D 13C-2,3,4,7,8-PeCDF	22.940	140755634	1.62	0.9827	104.7	104.7	0.2377	0.2377	105	
2,3,4,7,8-PeCDF	22.968	330153847	1.57	1.1032	212.6	212.6	0.6510	0.6510	106	
S Total PeCDF					422.0	422.0	0.6166	0.6166		
D 13C-1,2,3,7,8-PeCDD	23.636	108225317	1.55	0.7481	105.8	105.8	0.1282	0.1282	106	
1,2,3,7,8-PeCDD	23.663	203688899	1.58	0.9050	208.0	208.0	0.2341	0.2341	104	
S Total PeCDD					208.0	208.0	0.2341	0.2341		
D 13C-1,2,3,4,7,8-HxCDF	29.762	115322048	0.51	1.1520	100.3	100.3	0.4565	0.4565	100	
1,2,3,4,7,8-HxCDF	29.802	291651831	1.26	1.1973	211.2	211.2	1.539	1.539	106	
D 13C-1,2,3,6,7,8-HxCDF	30.028	126224651	0.53	1.2434	101.7	101.7	0.4229	0.4229	102	
1,2,3,6,7,8-HxCDF	30.055	311373058	1.26	1.1807	208.9	208.9	1.338	1.338	104	
D 13C-2,3,4,6,7,8-HxCDF	31.053	118677202	0.52	1.1720	101.5	101.5	0.4487	0.4487	101	
2,3,4,6,7,8-HxCDF	31.067	300428448	1.26	1.2116	208.9	208.9	0.9123	0.9123	104	
D 13C-1,2,3,7,8,9-HxCDF	31.945	107073331	0.52	1.0655	100.7	100.7	0.4935	0.4935	101	
1,2,3,7,8,9-HxCDF	31.958	272303395	1.26	1.2451	204.2	204.2	0.8892	0.8892	102	
S Total HxCDF					833.3	833.3	1.170	1.170		
* 13C-1,2,3,7,8,9-HxCDD	31.759	99810625	1.29	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.266	80372897	1.29	0.7812	103.1	103.1	0.3822	0.3822	103	
1,2,3,4,7,8-HxCDD	31.293	186227471	1.26	1.1088	209.0	209.0	0.6104	0.6104	104	
D 13C-1,2,3,6,7,8-HxCDD	31.386	95002970	1.27	0.9175	103.7	103.7	0.3254	0.3254	104	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.413	212361866	1.27	1.0814	206.7	206.7	0.5785	0.5785	103	
1,2,3,7,8,9-HxCDD	31.772	218049333	1.25	1.2123	205.1	205.1	0.5363	0.5363	103	
S Total HxCDD					620.8	620.8	0.5751	0.5751		
D 13C-1,2,3,4,6,7,8-HpCDF	33.459	88816288	0.46	0.8628	103.1	103.1	2.079	2.079	103	
1,2,3,4,6,7,8-HpCDF	33.472	281845286	1.05	1.5555	204.0	204.0	3.635	3.635	102	
D 13C-1,2,3,4,7,8,9-HpCDF	34.504	81274920	0.45	0.7991	101.9	101.9	2.245	2.245	102	
1,2,3,4,7,8,9-HpCDF	34.516	239010564	1.05	1.3862	212.1	212.1	4.800	4.800	106	
S Total HpCDF					416.1	416.1	4.218	4.218		
D 13C-1,2,3,4,6,7,8-HpCDD	34.237	90130025	1.04	0.8739	103.3	103.3	1.148	1.148	103	
1,2,3,4,6,7,8-HpCDD	34.237	175833007	1.05	0.9316	209.4	209.4	2.167	2.167	105	
S Total HpCDD					209.4	209.4	2.167	2.167		
D 13C-OCDD	36.493	158997965	0.88	0.7744	205.7	205.7	0.3551	0.3551	103	
OCDF	36.589	418862104	0.89	1.2596	418.3	418.3	0.4537	0.4537	105	
OCDD	36.505	347055077	0.89	1.0621	411.0	411.0	0.6571	0.6571	103	

Reagents:

HRDXNL5_00028 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_6.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 17-Sep-2019 15:21:22 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719C CS-5 HRDXNL5_00028
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:28 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:06:18

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.315	17.303	1		59594664	15287135	9225	23062	1657		
333.9339	17.315	17.303	1		77196986	19734133	14193	35482	1390	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.816	16.810	0	0.971	87712948	23127802	13754	34385	1682		
317.9389	16.816	16.810	0	0.971	109958205	28845594	15339	38347	1881	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.831	16.825	0	1.001	36949180	9674667	6043	15107	1601		
305.8987	16.831	16.825	0	1.001	46993182	12302542	8902	22255	1382	0.79(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.496	17.490	0	1.010	56708135	13975530	9225	23062	1515		
333.9339	17.496	17.490	0	1.010	74315226	18338786	14193	35482	1292	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.511	17.505	0	1.011	70585275	17605066	8592	21480	2049		
2,3,7,8-TCDD											
319.8965	17.511	17.505	0	1.001	26067676	6503532	2993	7482	2173		
321.8936	17.511	17.505	0	1.001	32951380	8185513	3053	7632	2681	0.79(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	21.645	21.637	0	1.250	90246004	16955643	19974	49935	849		
353.8970	21.645	21.637	0	1.250	56461280	10556577	12749	31872	828	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.672	21.661	1	1.001	203793856	37432282	42262	105655	886		
341.8567	21.672	21.661	1	1.001	128677028	23626725	27084	67710	872	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	22.940	22.932	0	1.325	87007765	14859467	19974	49935	744		
353.8970	22.940	22.932	0	1.325	53747869	9280455	12749	31872	728	1.62(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.968	22.954	1	1.001	201570262	34626412	42262	105655	819		
341.8567	22.968	22.954	1	1.001	128583585	22276079	27084	67710	822	1.57(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.636	23.625	1	1.365	65730378	10862933	7904	19760	1374		
369.8919	23.636	23.625	1	1.365	42494939	6954914	5526	13815	1259	1.55(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.663	23.649	1	1.001	124750517	20269910	9274	23185	2186		
357.8516	23.663	23.649	1	1.001	78938382	12735405	5825	14562	2186	1.58(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.762	29.754	0	0.937	39196947	5461495	18152	45380	301		
385.8610	29.762	29.754	0	0.937	76125101	10409265	31962	79905	326	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.802	29.789	1	1.001	162403041	22433624	65844	164610	341		
375.8178	29.789	29.789	0	1.001	129248790	17859839	51149	127872	349	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.028	30.015	1	0.946	43639188	6387099	18152	45380	352		
385.8610	30.028	30.015	1	0.946	82585463	12130808	31962	79905	380	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.055	30.039	1	1.001	173687895	26264182	65844	164610	399		
375.8178	30.055	30.039	1	1.001	137685163	20987234	51149	127872	410	1.26(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.053	31.043	1	0.978	40788407	9120663	18152	45380	502		
385.8610	31.053	31.043	1	0.978	77888795	17340792	31962	79905	543	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.067	31.059	0	1.000	167309786	37576842	65844	164610	571		
375.8178	31.067	31.059	0	1.000	133118662	29904554	51149	127872	585	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.945	31.942	0	1.006	36791830	9139865	18152	45380	504		
385.8610	31.945	31.942	0	1.006	70281501	17276995	31962	79905	541	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.958	31.956	0	1.000	151855406	36977671	65844	164610	562		
375.8178	31.958	31.956	0	1.000	120447989	30006929	51149	127872	587	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.759	31.748	1		56270617	13452314	14607	36517	921		
403.8529	31.759	31.748	1		43540008	10372903	13848	34620	749	1.29(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.266	31.261	0	0.984	45227277	11150175	14607	36517	763		
403.8529	31.266	31.261	0	0.984	35145620	8735365	13848	34620	631	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.293	31.280	1	1.001	103691748	26080947	29902	74755	872		
391.8127	31.279	31.280	0	1.000	82535723	20584143	23933	59832	860	1.26(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.386	31.383	0	0.988	53174636	12056504	14607	36517	825		
403.8529	31.386	31.383	0	0.988	41828334	9455739	13848	34620	683	1.27(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.413	31.402	1	1.001	118924223	27338827	29902	74755	914		
391.8127	31.413	31.402	1	1.001	93437643	21365407	23933	59832	893	1.27(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.772	31.761	1	1.016	121151996	28954994	29902	74755	968		
391.8127	31.772	31.761	1	1.016	96897337	23073240	23933	59832	964	1.25(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.459	33.457	0	1.054	28029452	9006809	51228	128070	176		
419.8220	33.459	33.457	0	1.054	60786836	19574017	119701	299252	164	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.472	33.469	0	1.000	144194629	47922295	320097	800242	150		
409.7789	33.472	33.469	0	1.000	137650657	45921753	326367	815917	141	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.504	34.502	0	1.086	25205698	7508483	51228	128070	147		
419.8220	34.504	34.502	0	1.086	56069222	16780818	119701	299252	140	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.516	34.509	0	1.000	122343291	36942029	320097	800242	115		
409.7789	34.516	34.509	0	1.000	116667273	34848749	326367	815917	107	1.05(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.237	34.227	1	1.078	45952113	13244990	41516	103790	319		
437.8140	34.225	34.227	0	1.078	44177912	12813430	54131	135327	237	1.04(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.237	34.235	0	1.000	90154256	26778982	103826	259565	258		
425.7737	34.237	34.235	0	1.000	85678751	25940196	106590	266475	243	1.05(0.88-1.20)	
13C-OCDD											
469.7779	36.493	36.486	0	1.149	74572520	18801270	9864	24660	1906		
471.7750	36.493	36.486	0	1.149	84425445	21269549	16343	40857	1301	0.88(0.76-1.02)	
OCDF											
441.7428	36.589	36.581	0	1.003	197544150	51410039	20935	52337	2456		
443.7399	36.589	36.581	0	1.003	221317954	56864509	24864	62160	2287	0.89(0.76-1.02)	
OCDD											
457.7377	36.505	36.497	0	1.000	163350934	40607331	33690	84225	1205		
459.7348	36.505	36.497	0	1.000	183704143	44957614	22242	55605	2021	0.89(0.76-1.02)	

Reagents:

HRDXNL5_00028 Amount Added: 1.00 Units: mL

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_6.d		
Injection Date:	17-Sep-2019 15:21:22	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

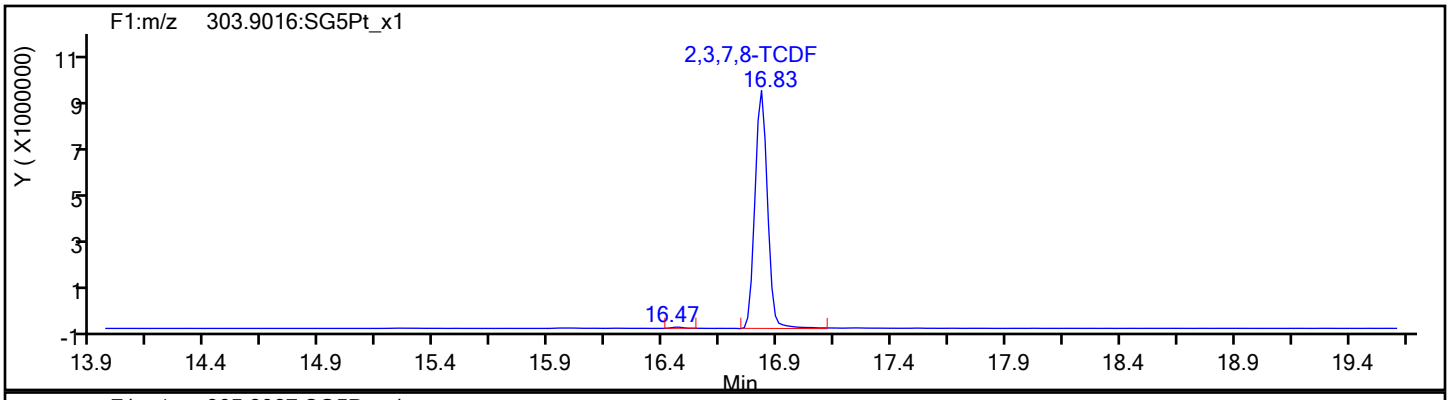

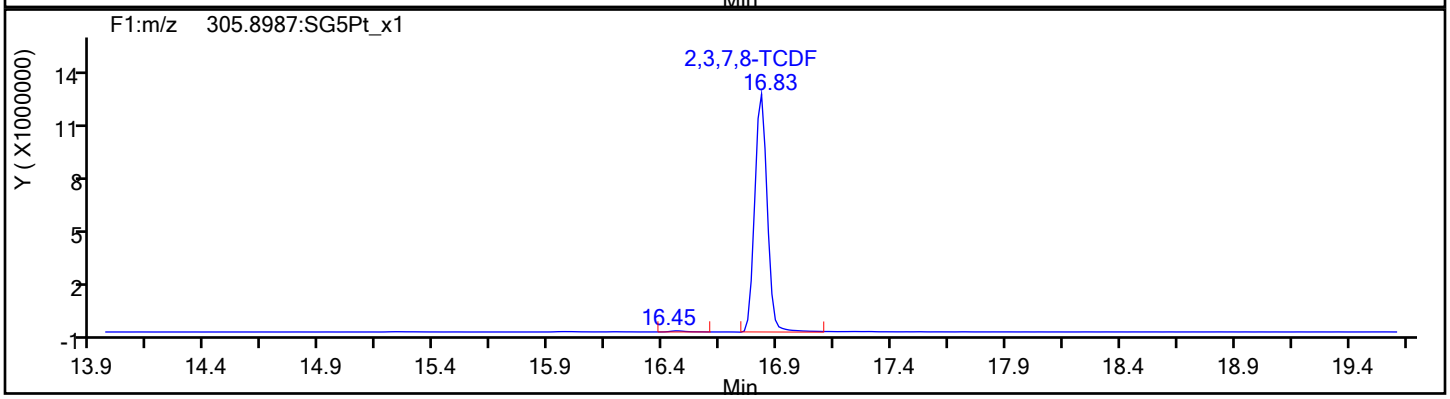

TCDF Standards

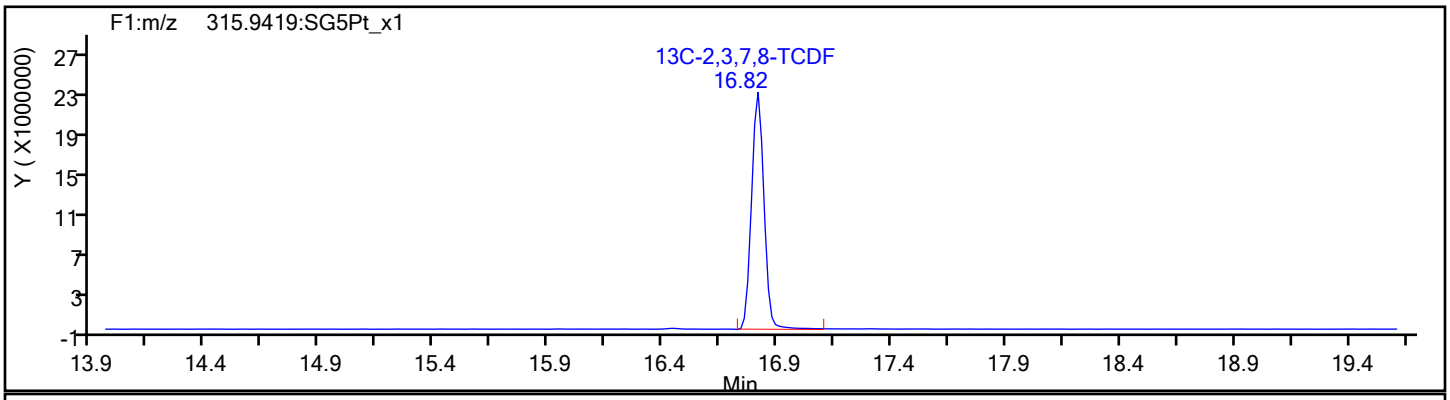

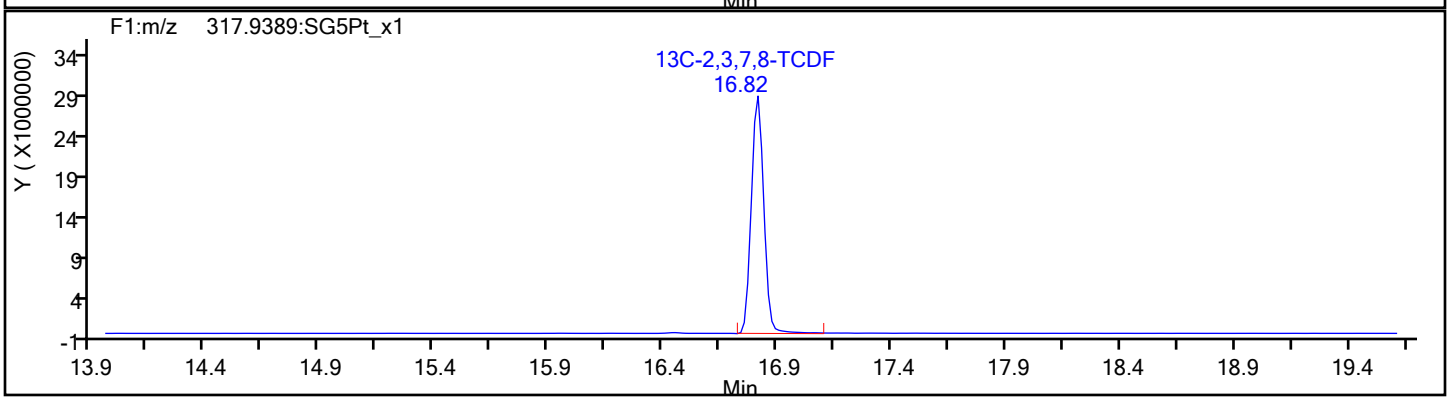

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_6.d		
Injection Date:	17-Sep-2019 15:21:22	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

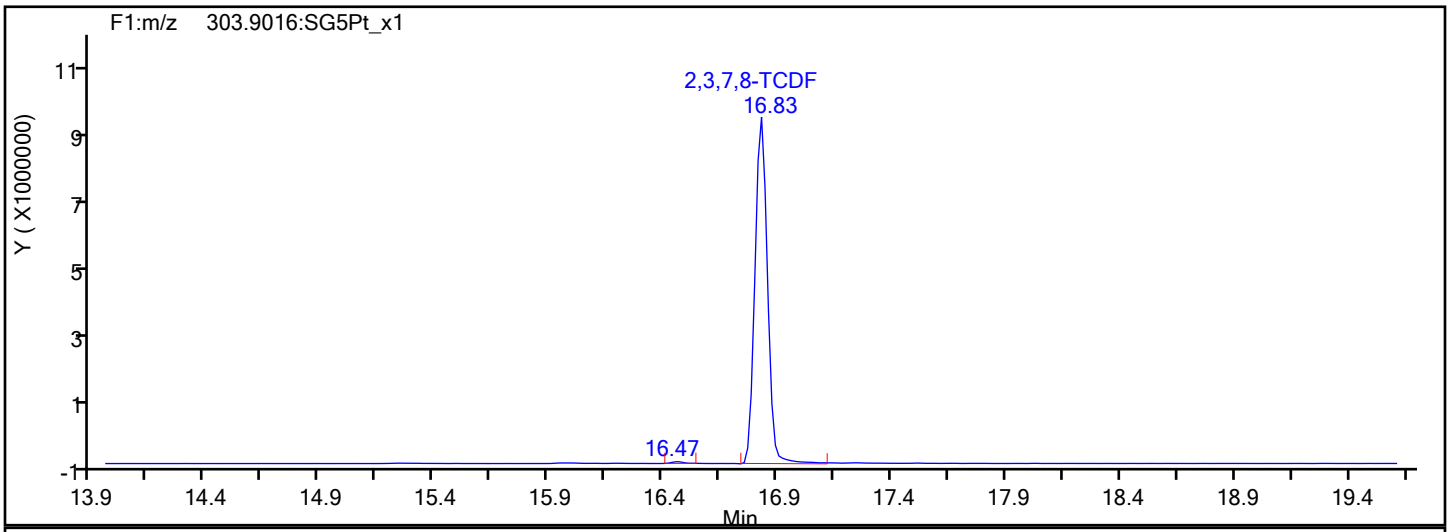

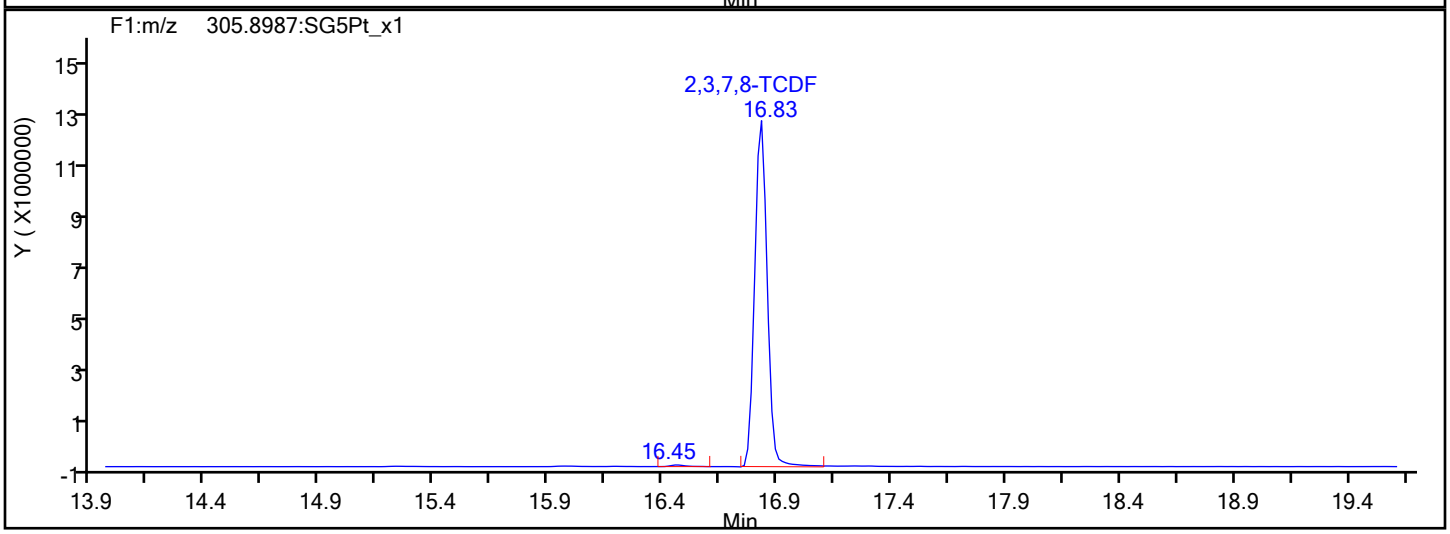

TCDF Interference Mass

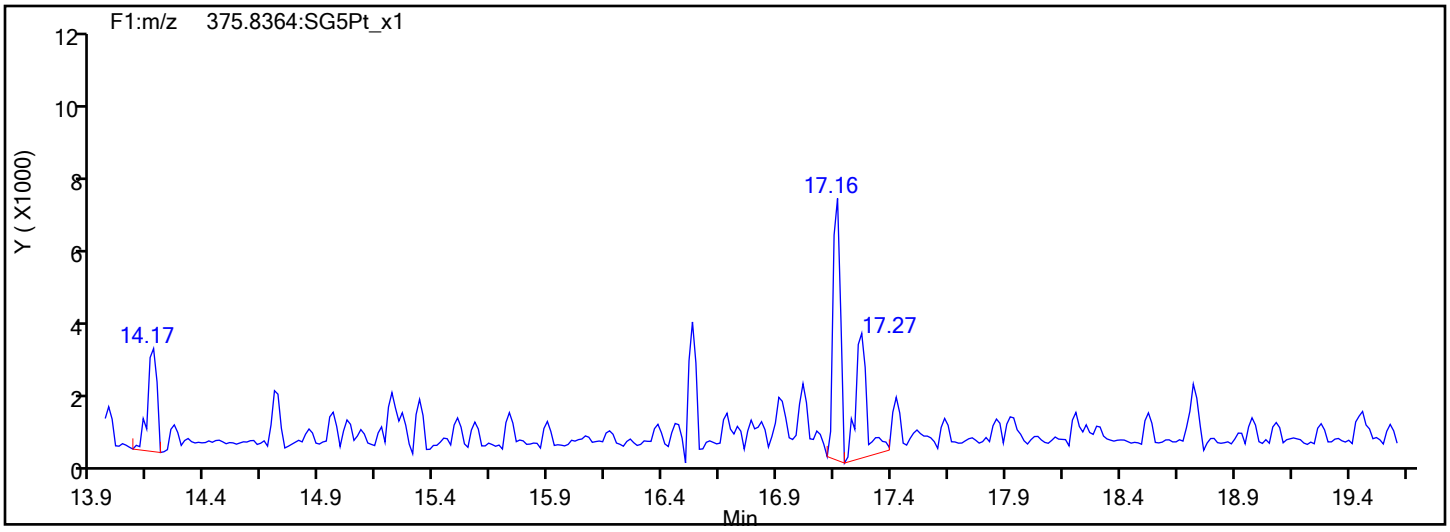

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_6.d		
Injection Date:	17-Sep-2019 15:21:22	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

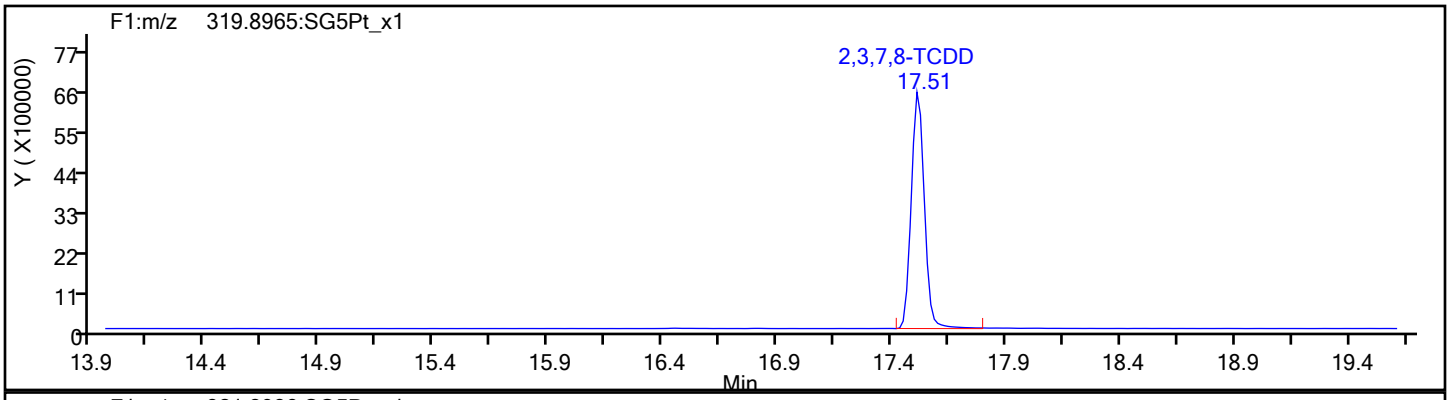

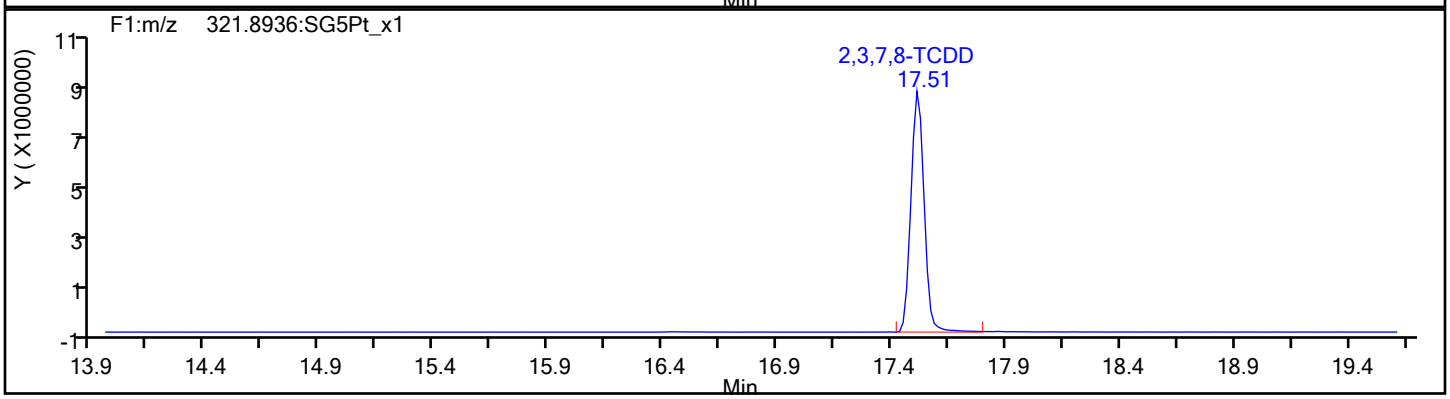

TCDD Standards

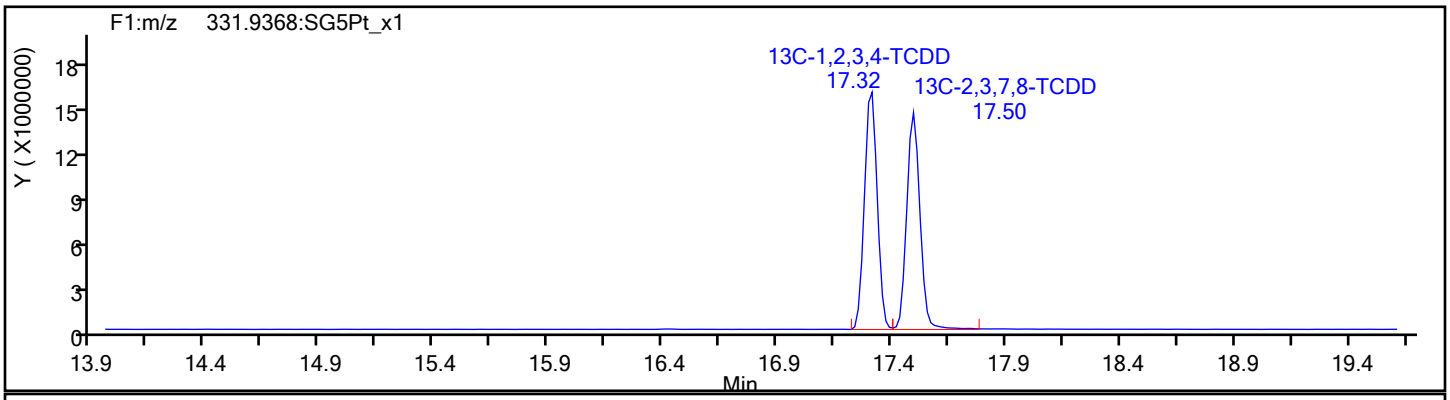

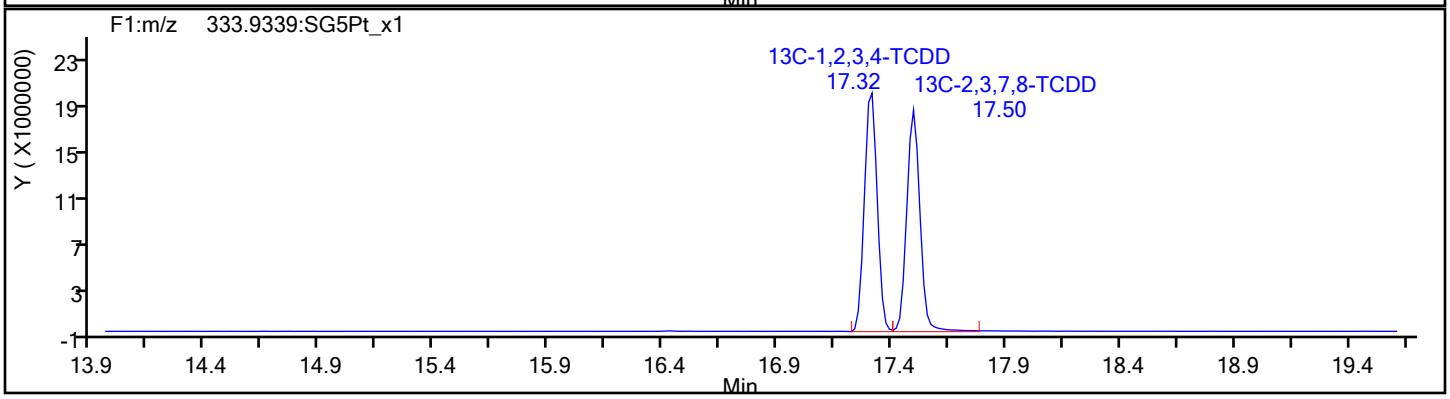

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

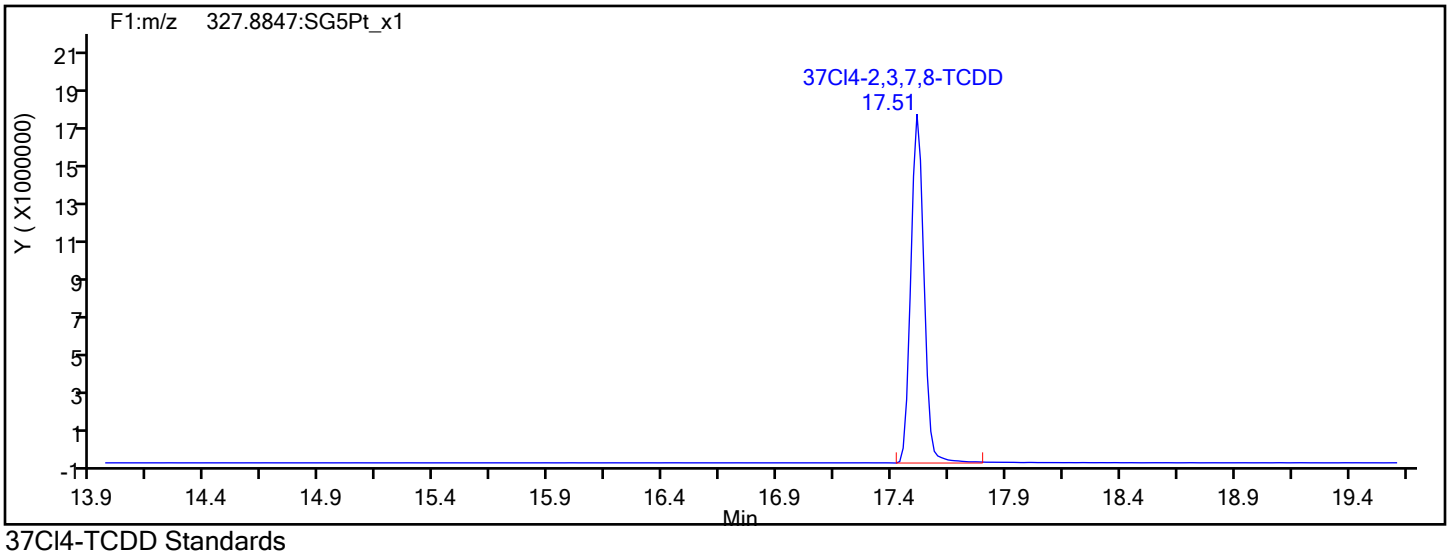

37Cl4-TCDD Standards

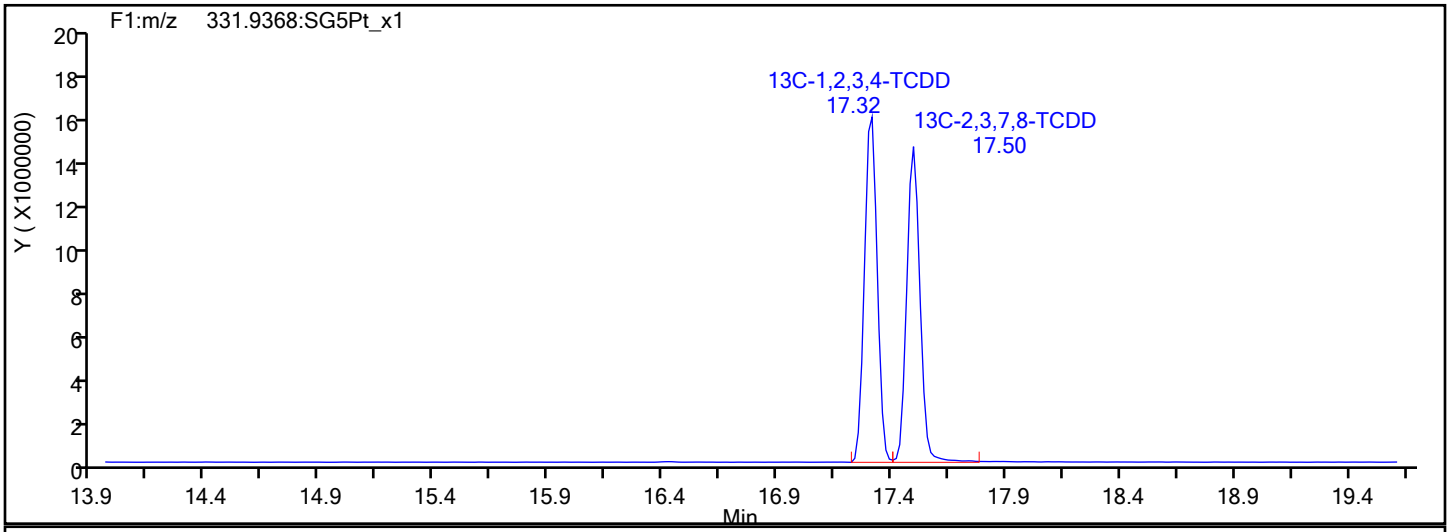

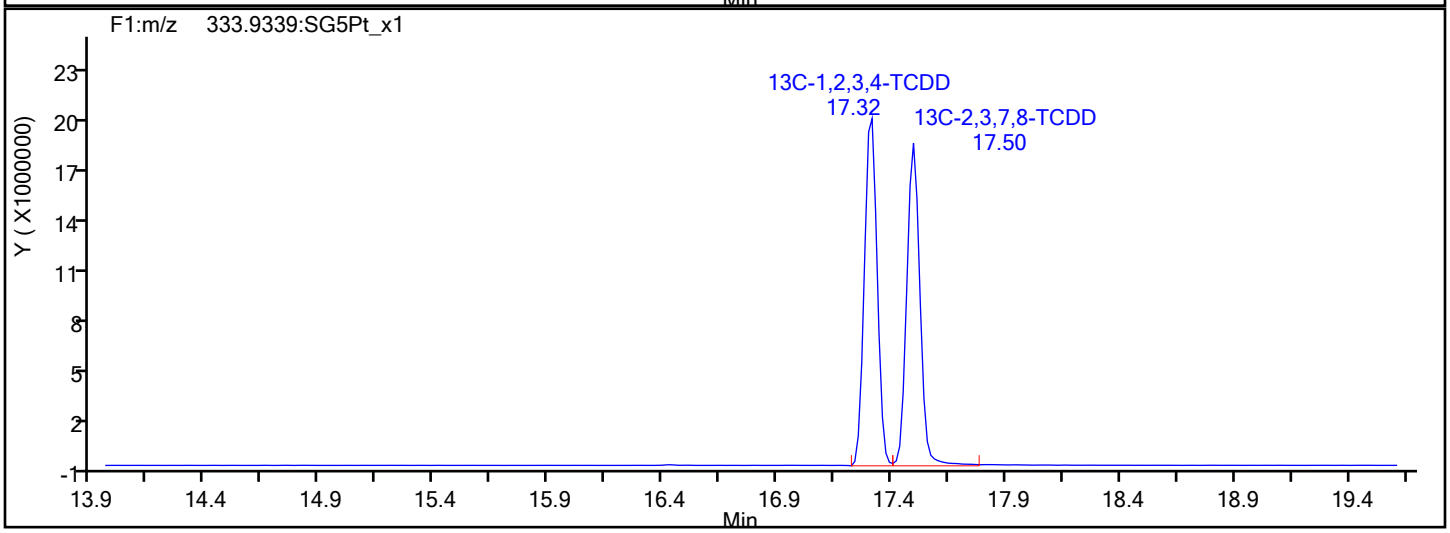

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_6.d		
Injection Date:	17-Sep-2019 15:21:22	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

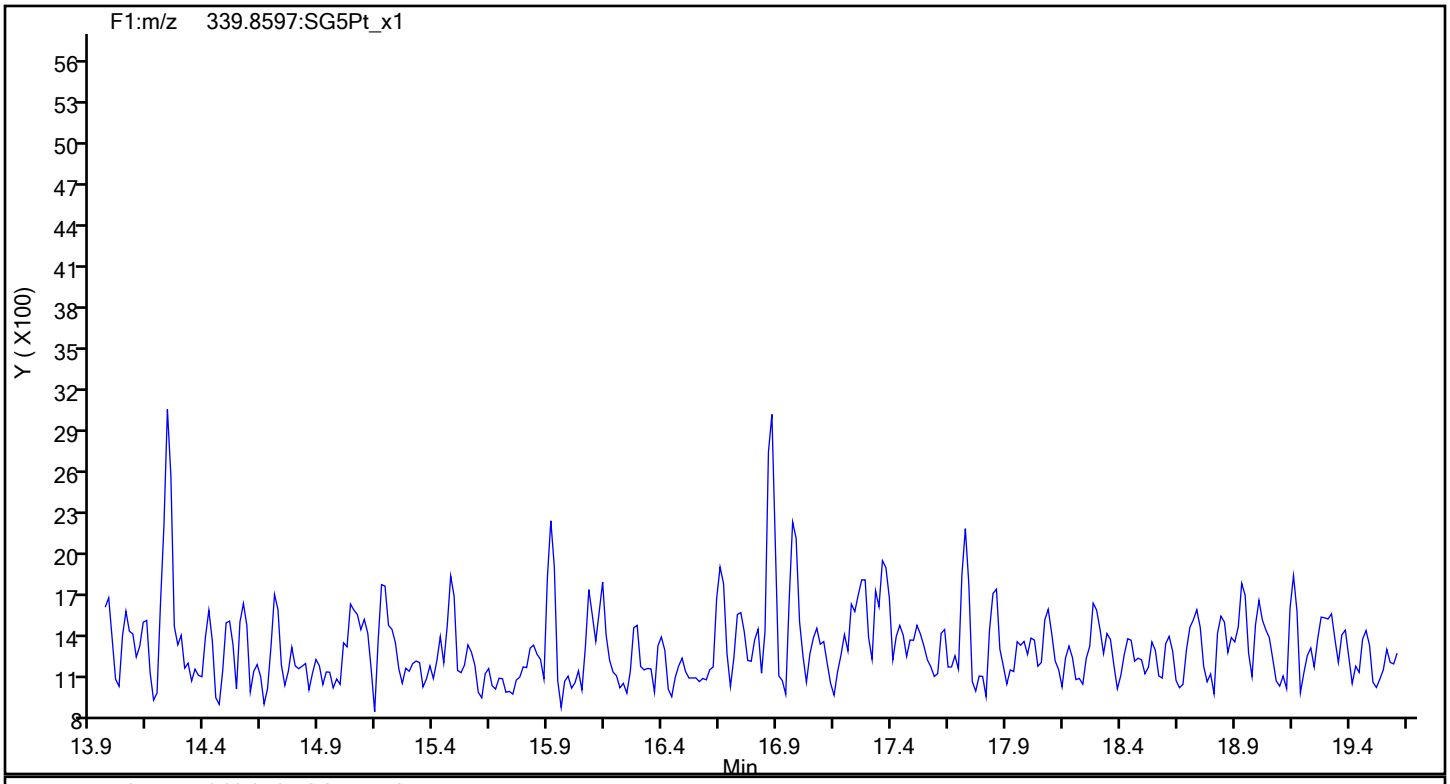

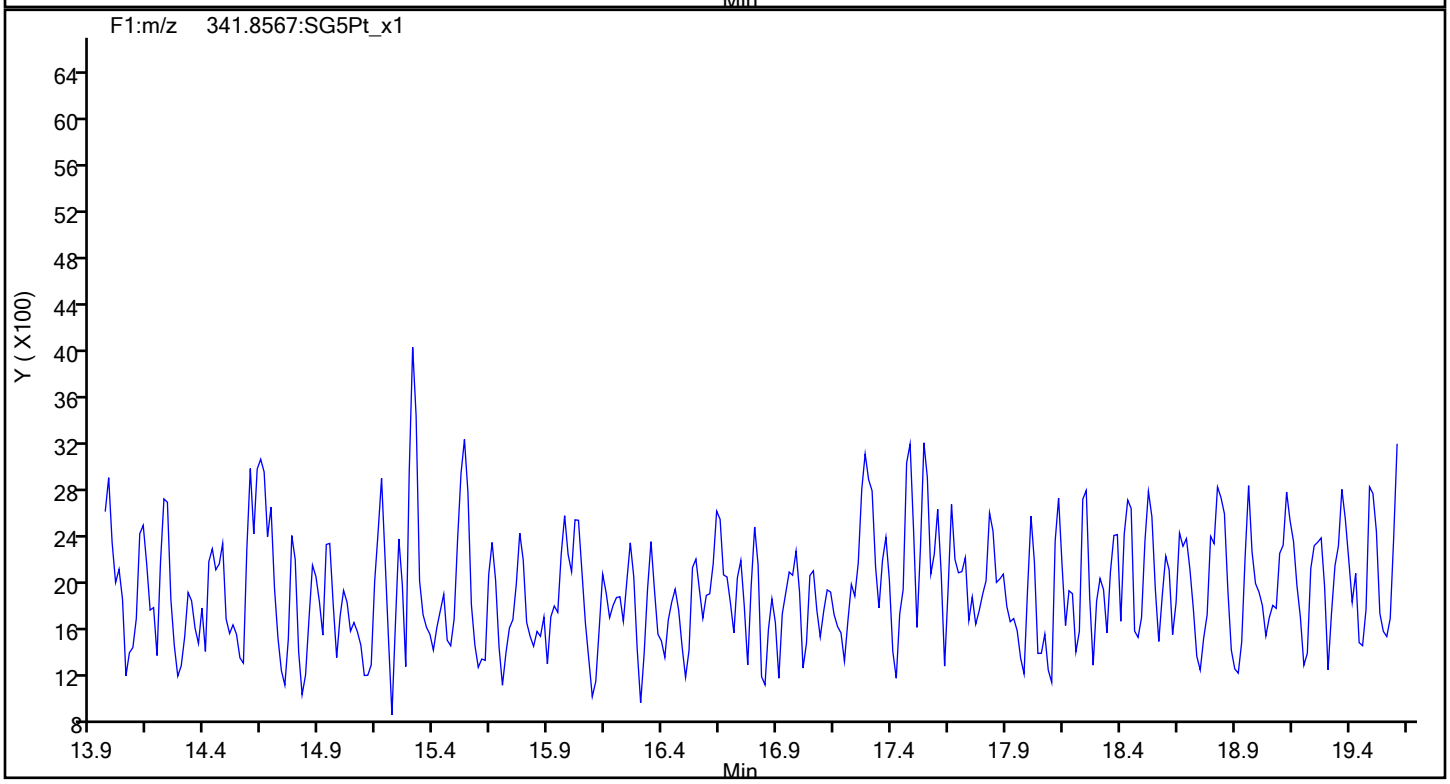

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_6.d		
Injection Date:	17-Sep-2019 15:21:22	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

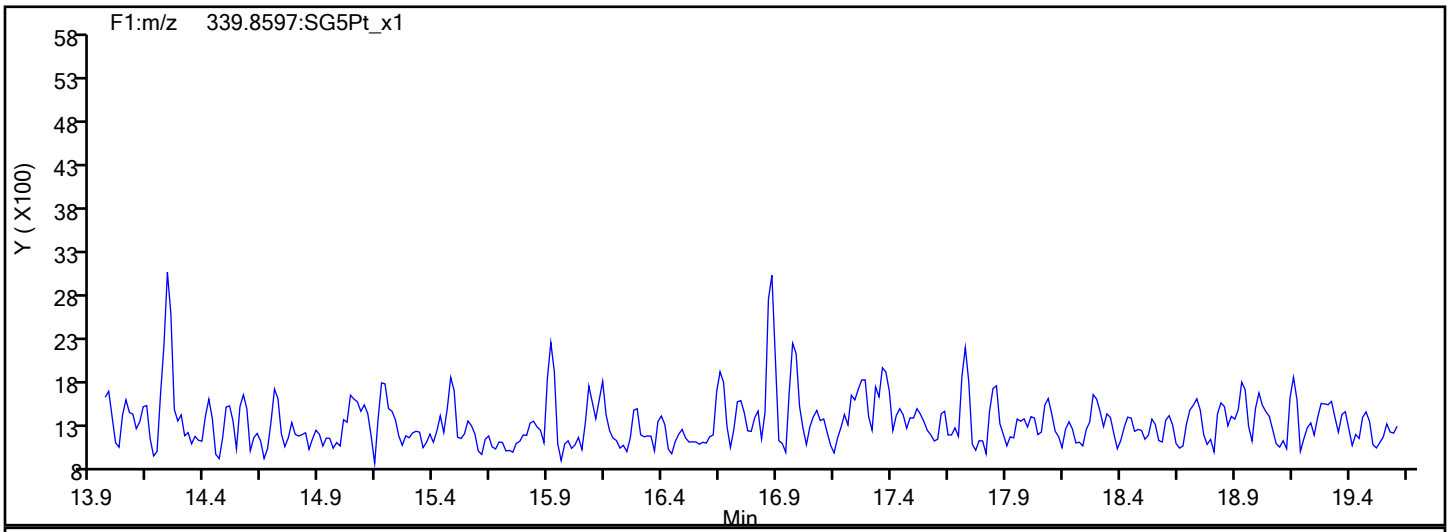

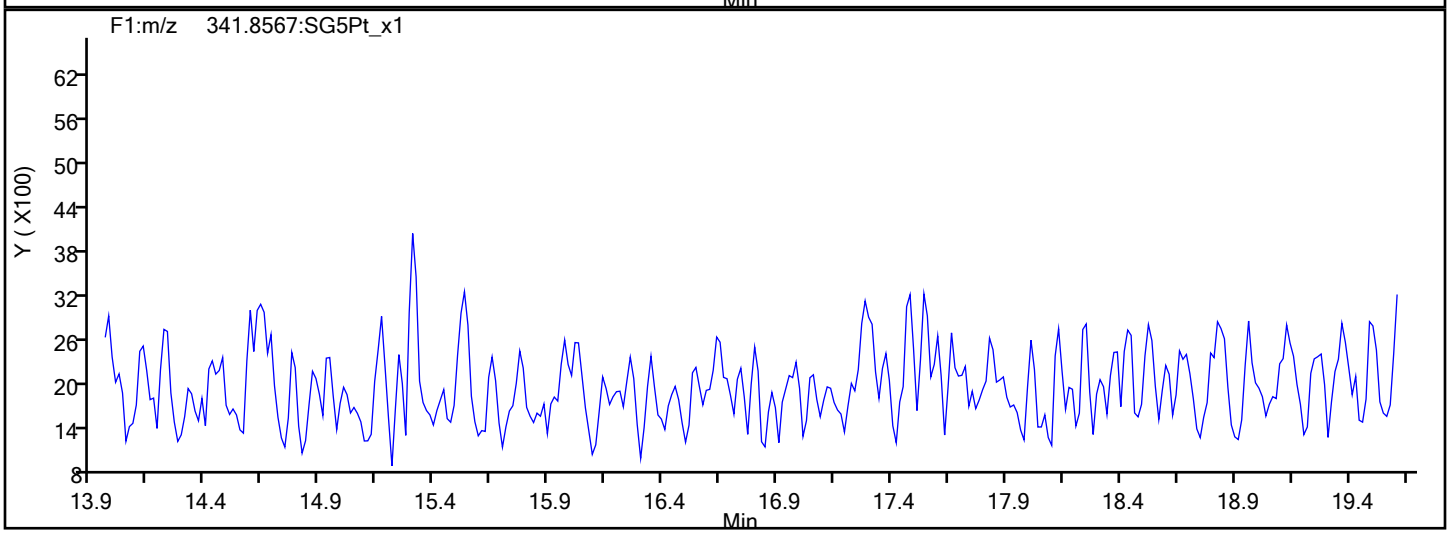

F1 PeCDFs Interference Mass

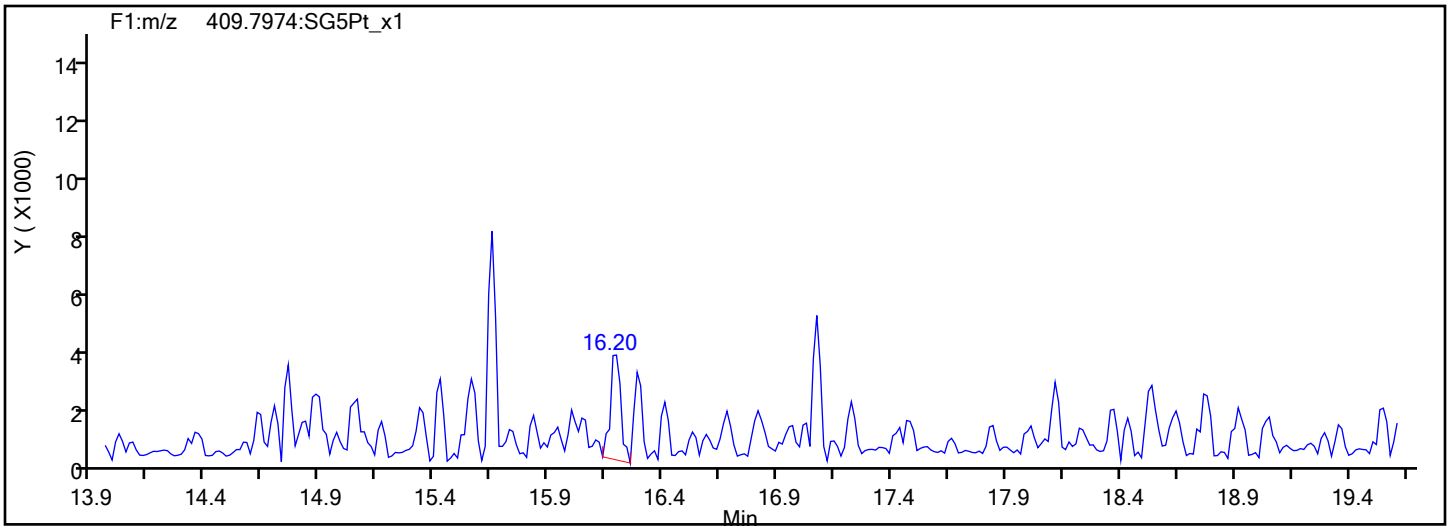

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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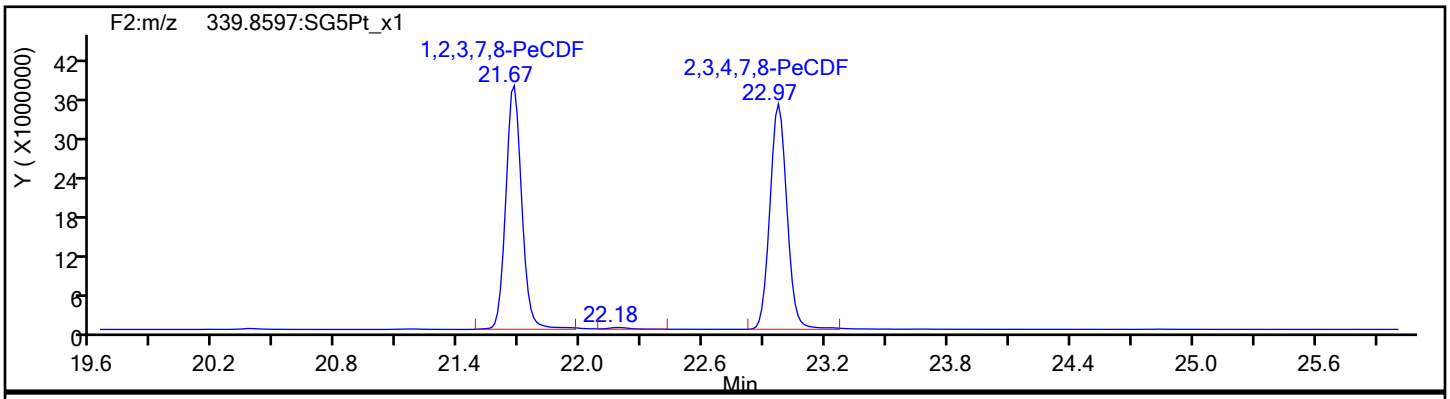

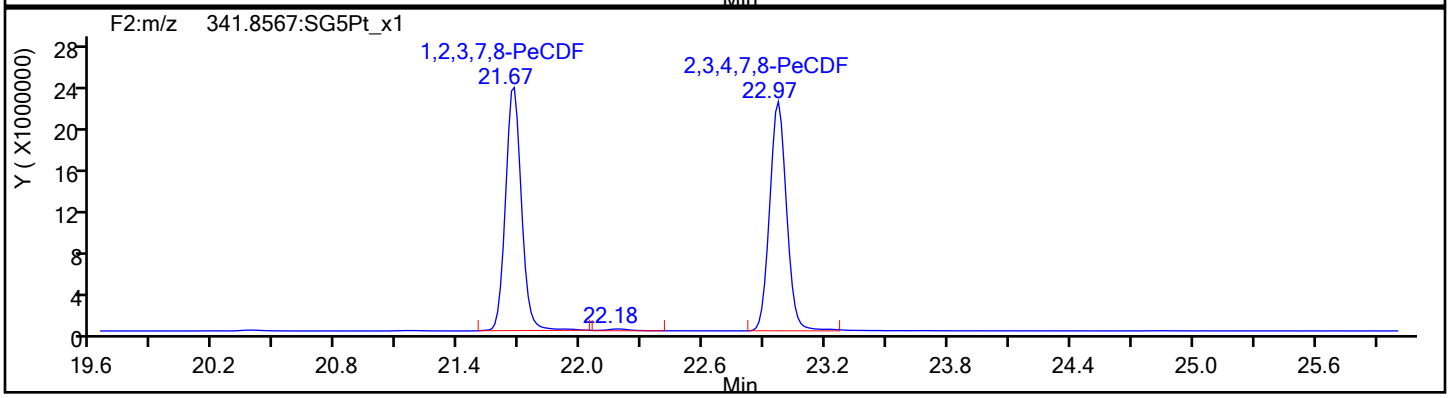

PeCDF Standards

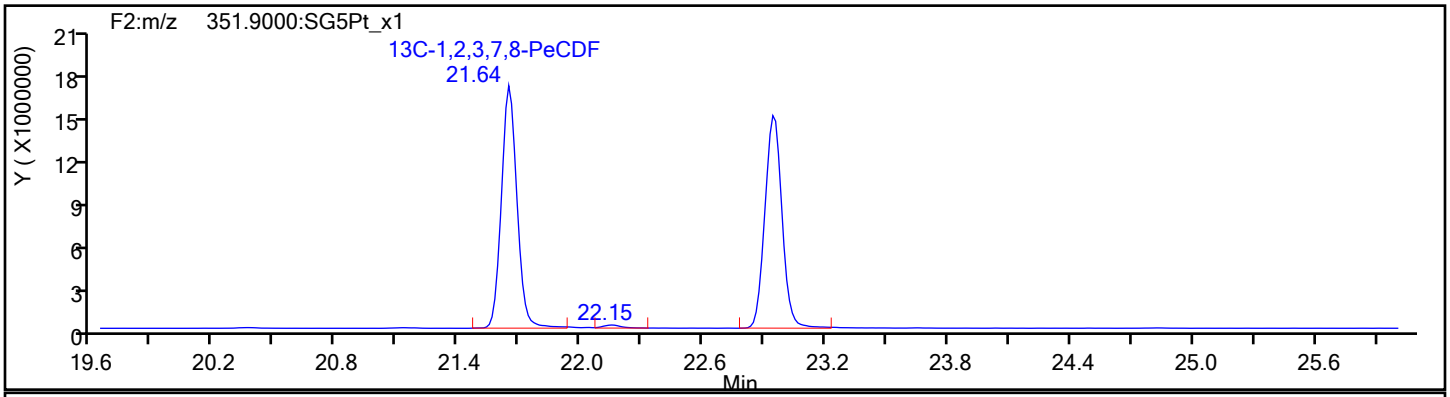

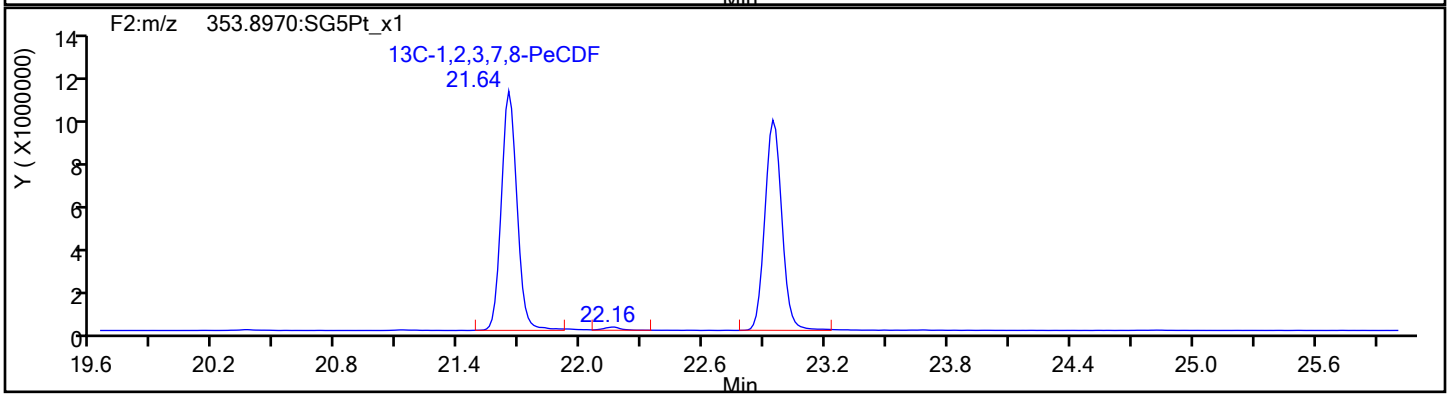

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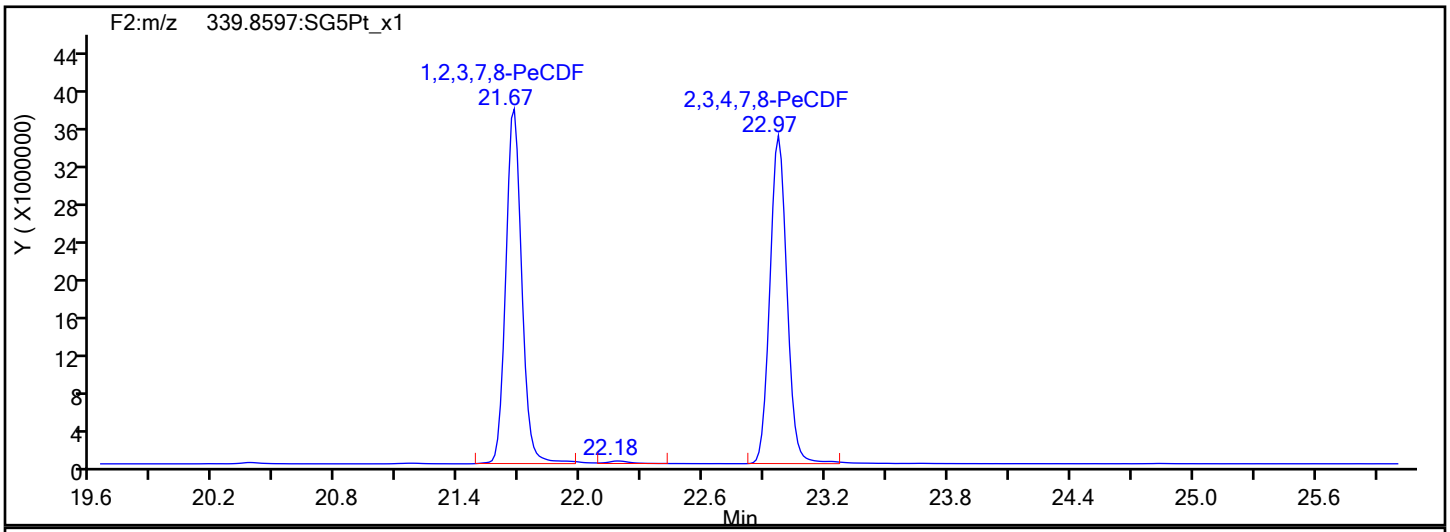

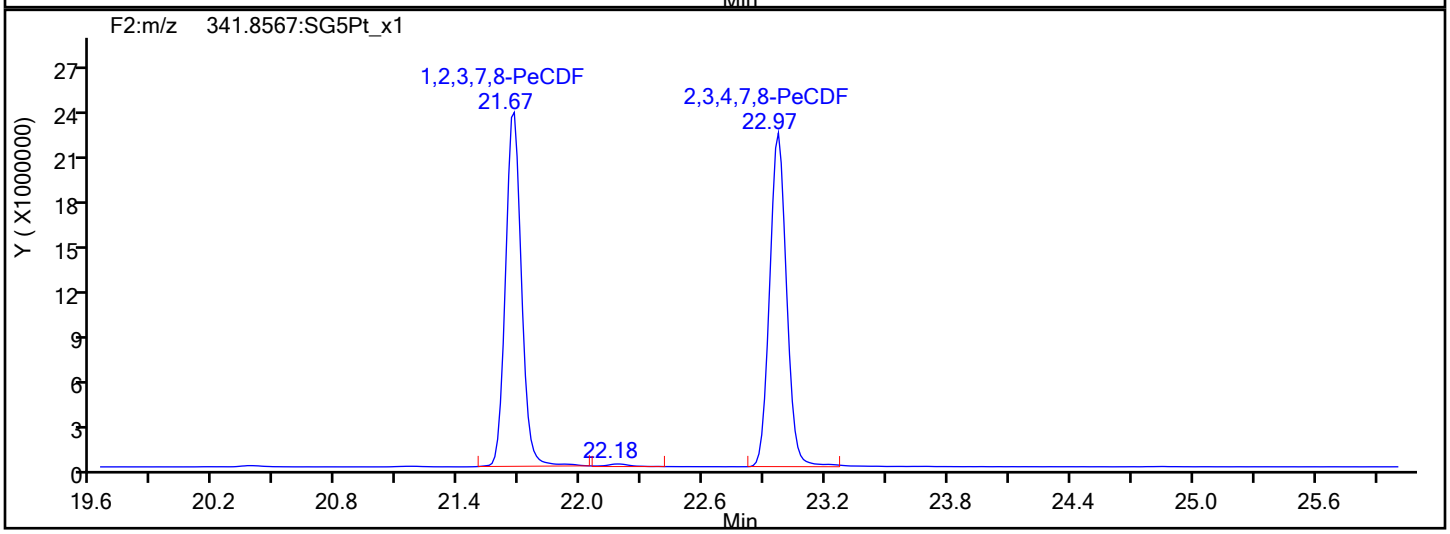

PeCDF Interference Mass

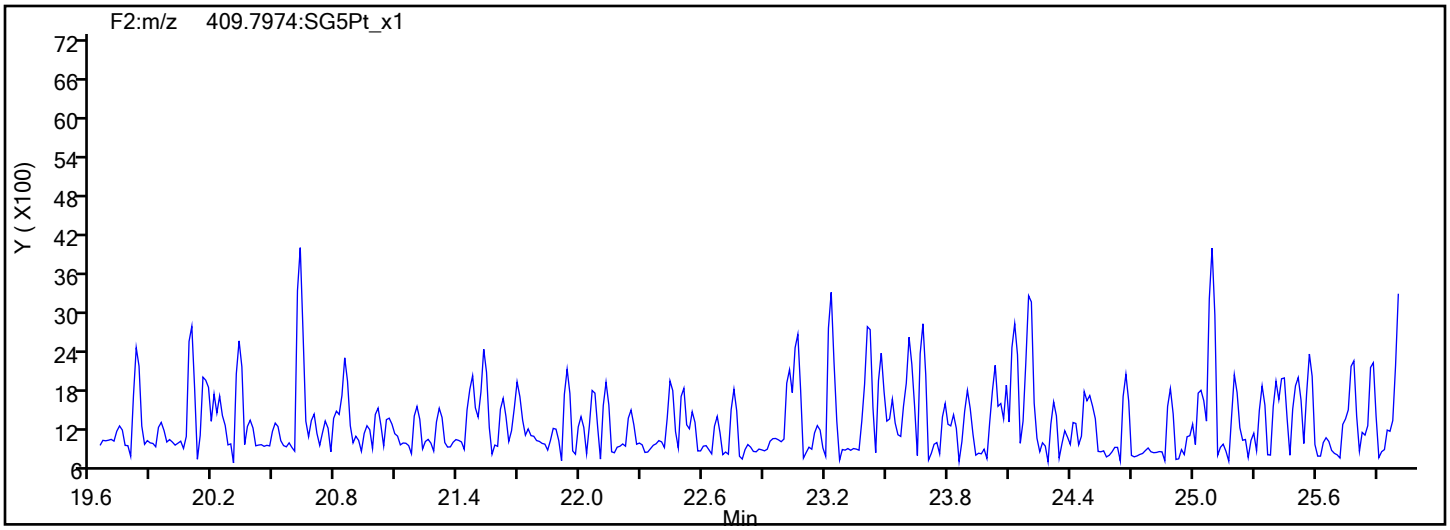

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Eurofins TestAmerica, Sacramento

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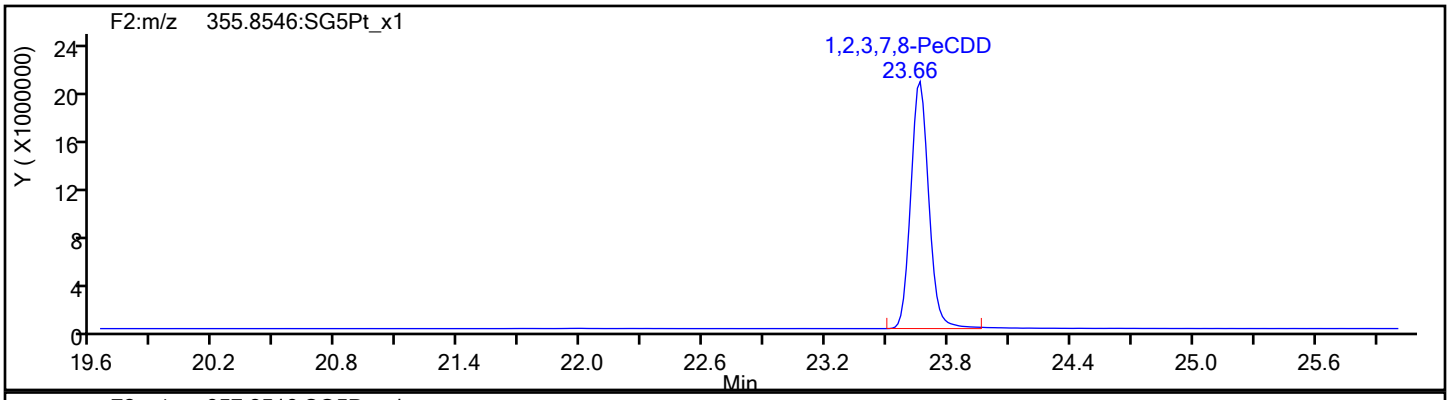

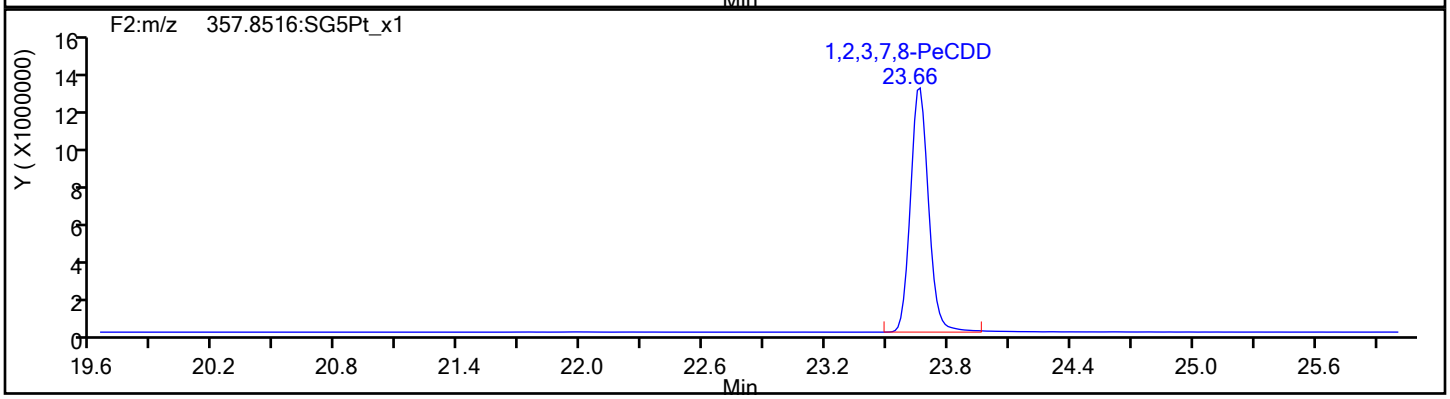

PeCDD Standards

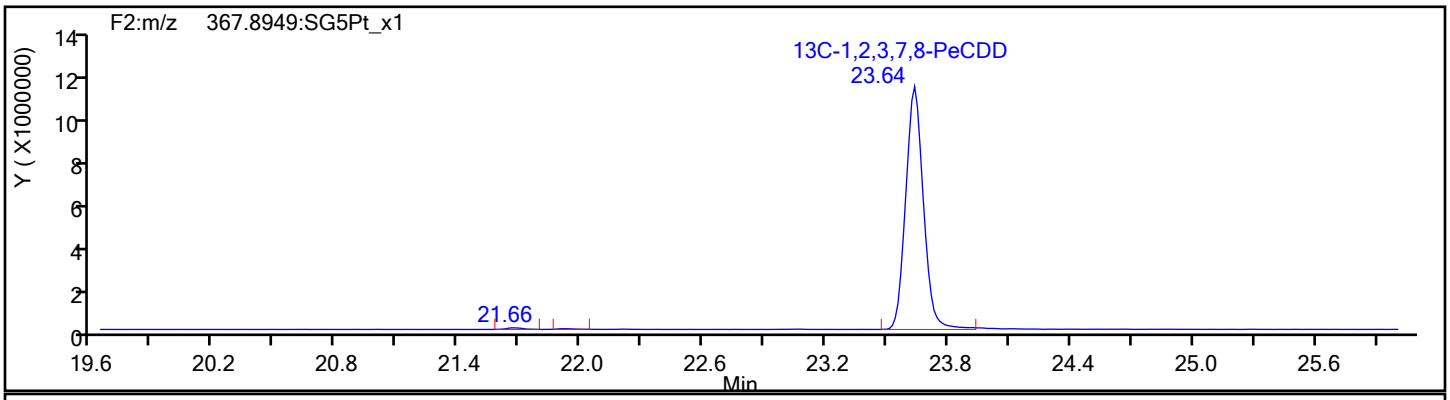

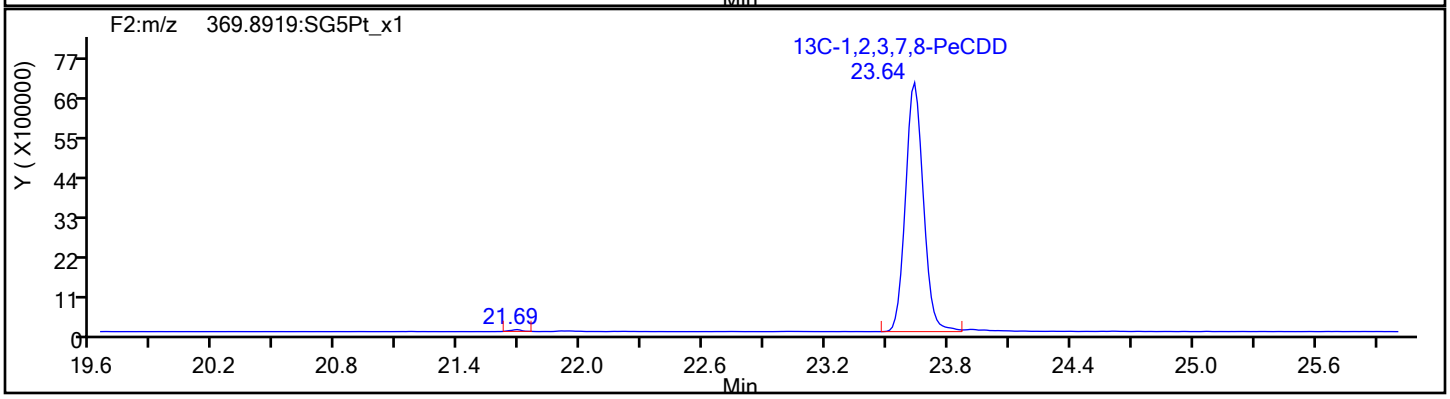

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Eurofins TestAmerica, Sacramento

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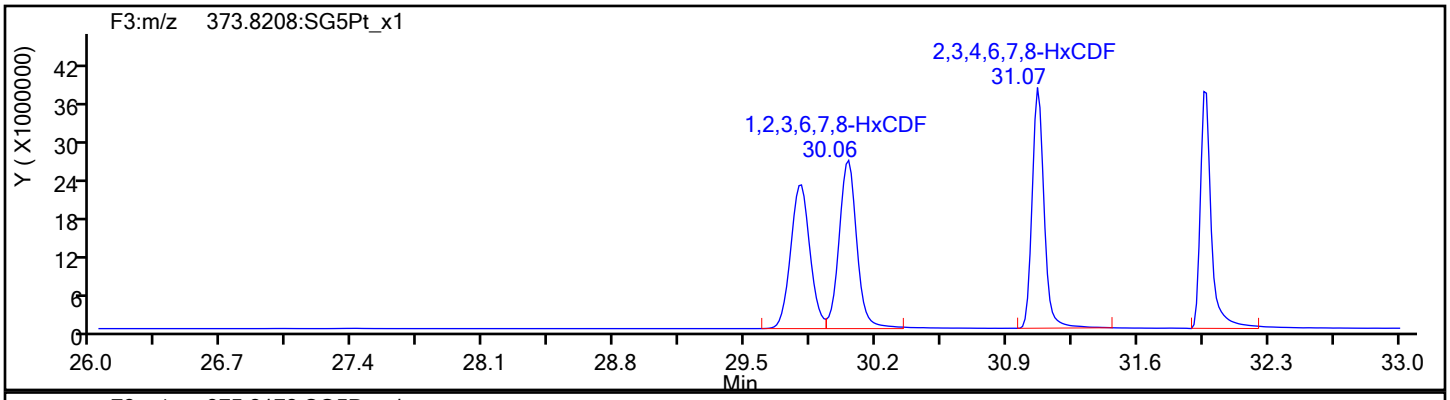

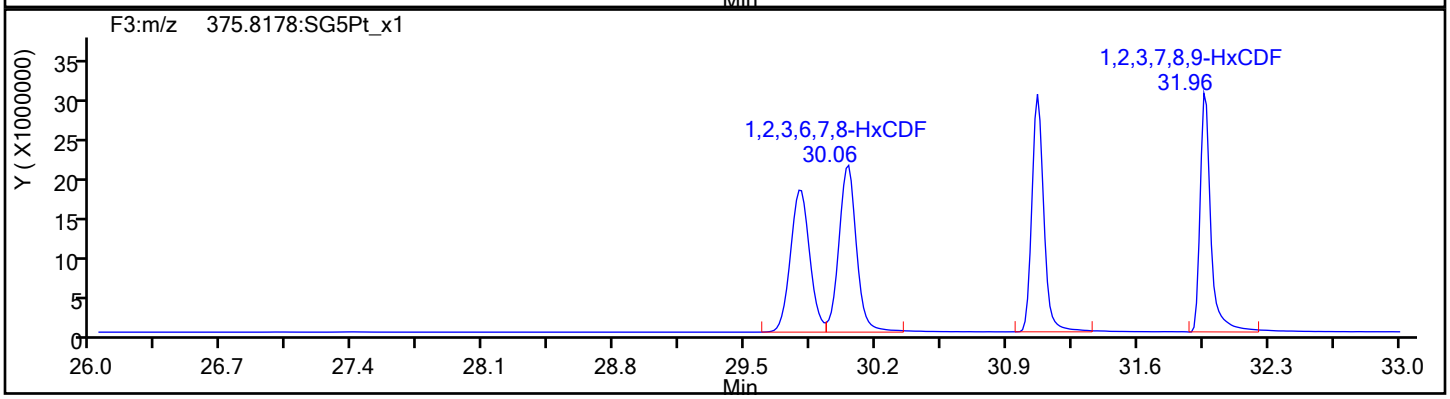

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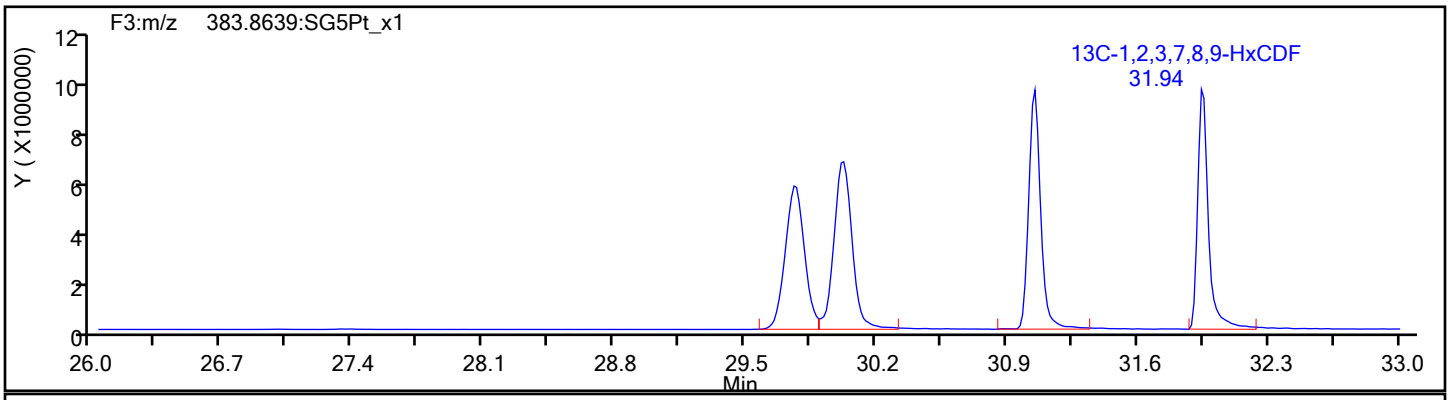

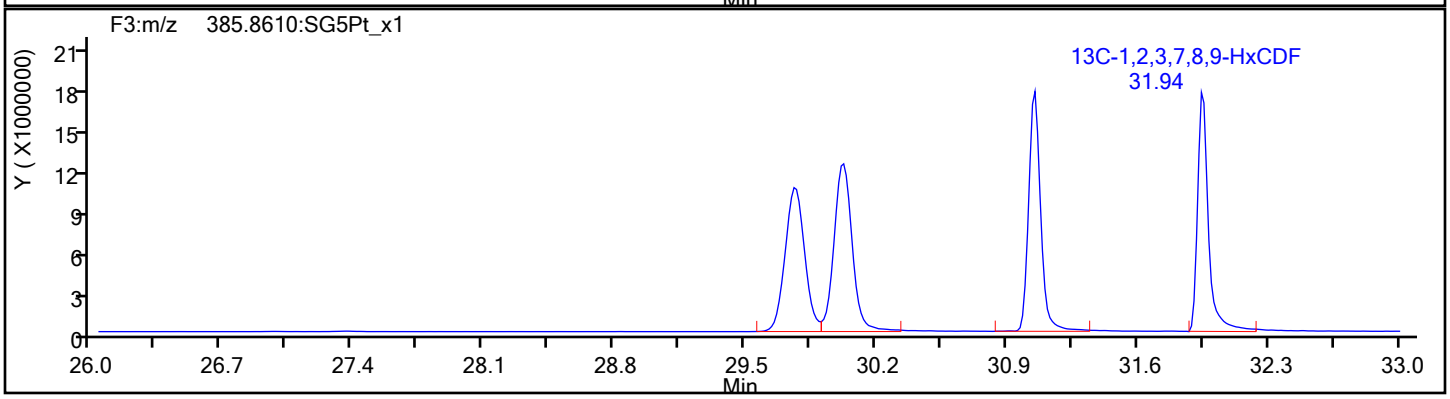

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Eurofins TestAmerica, Sacramento

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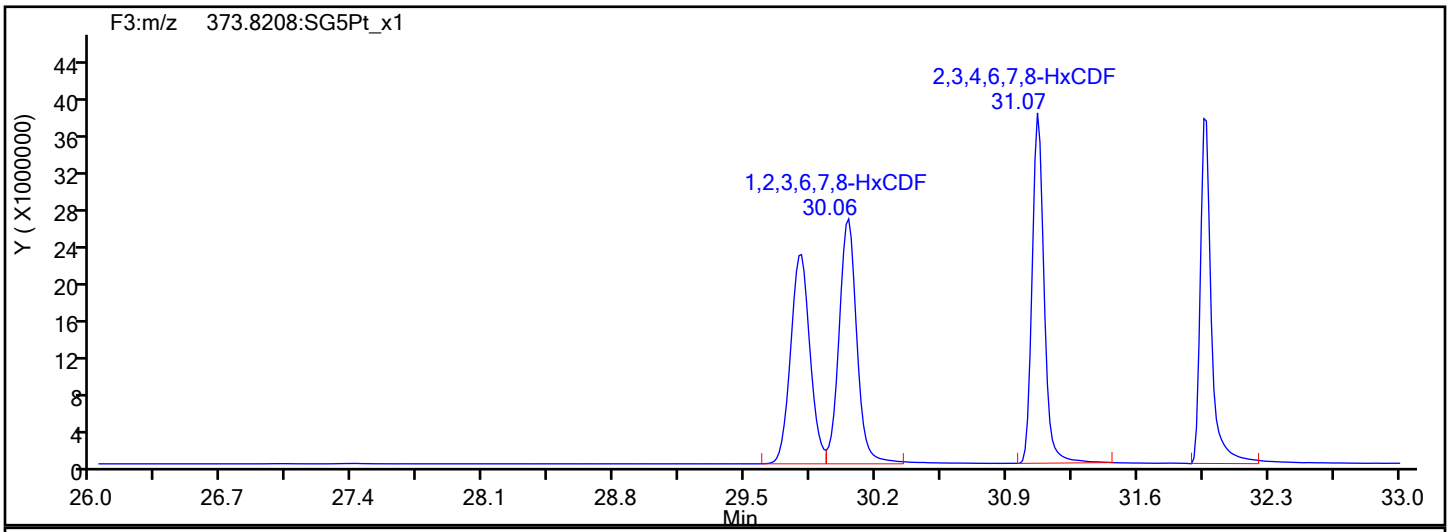

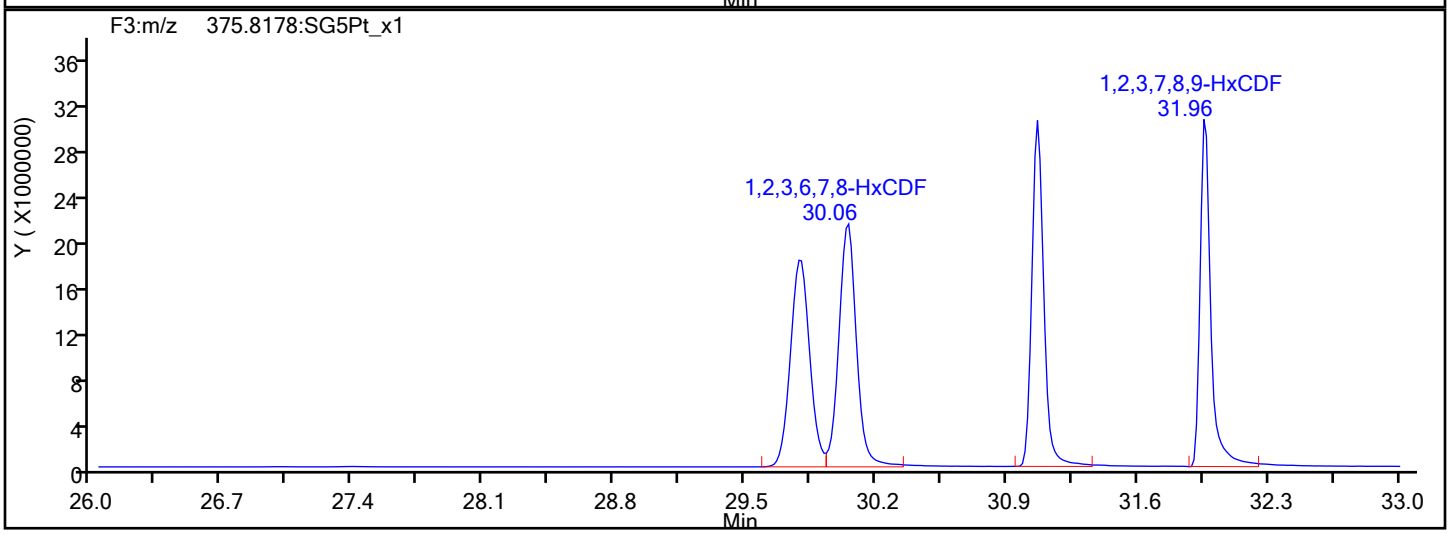

HxCDF Interference Mass

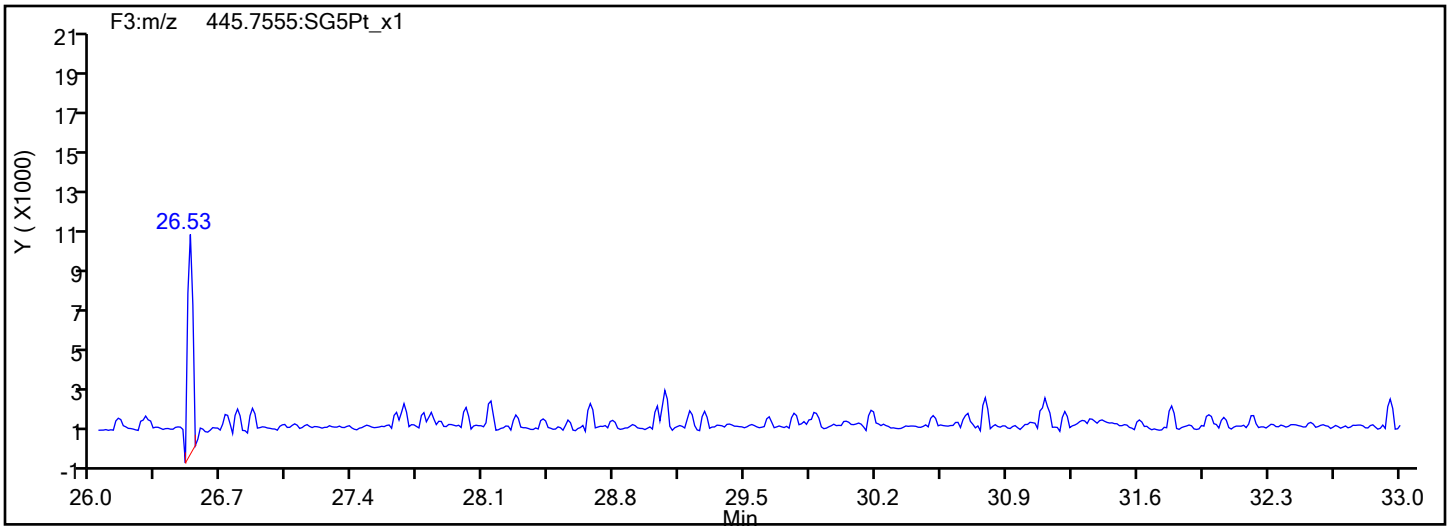

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Eurofins TestAmerica, Sacramento

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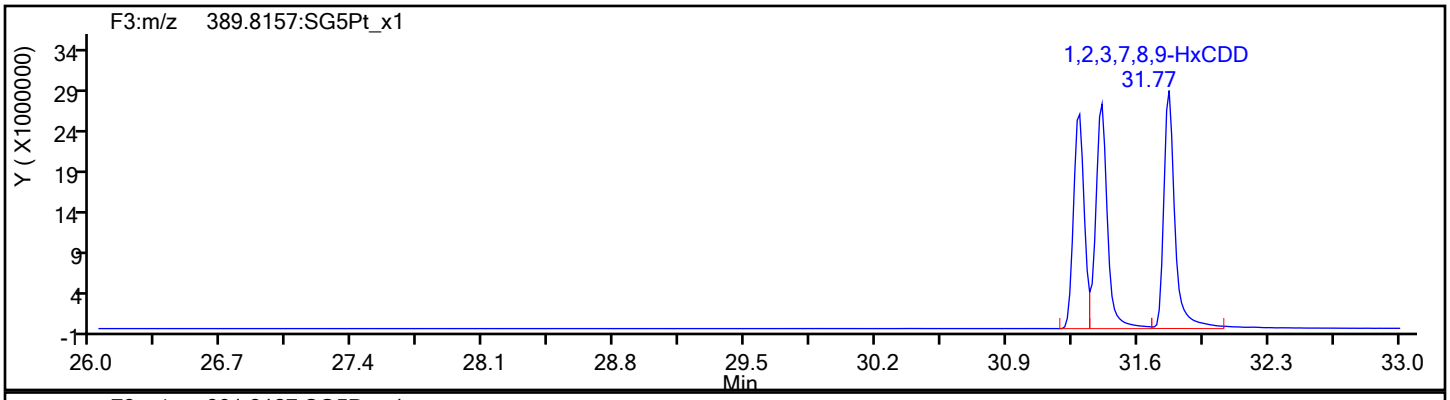

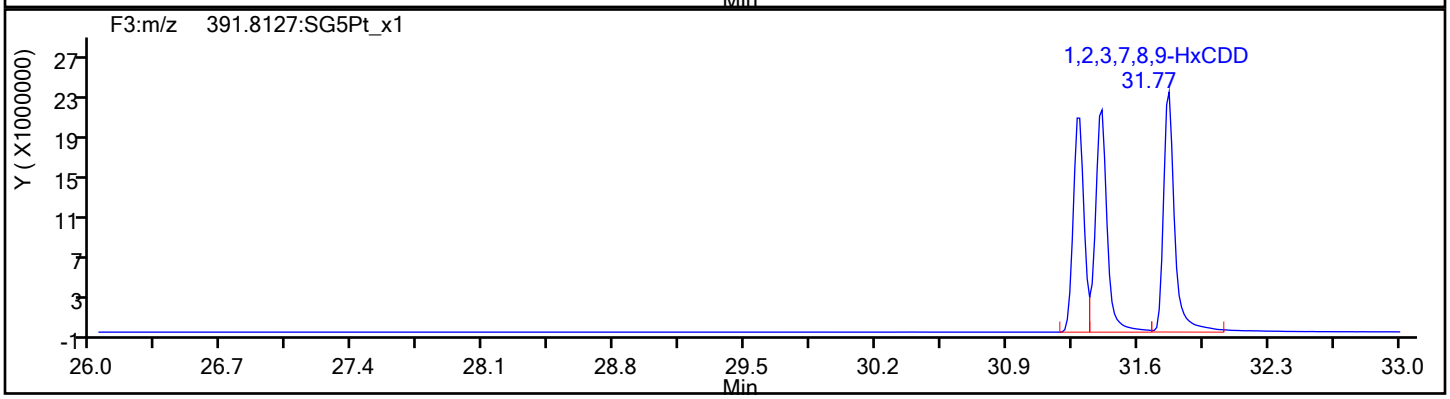

HxCDD Standards

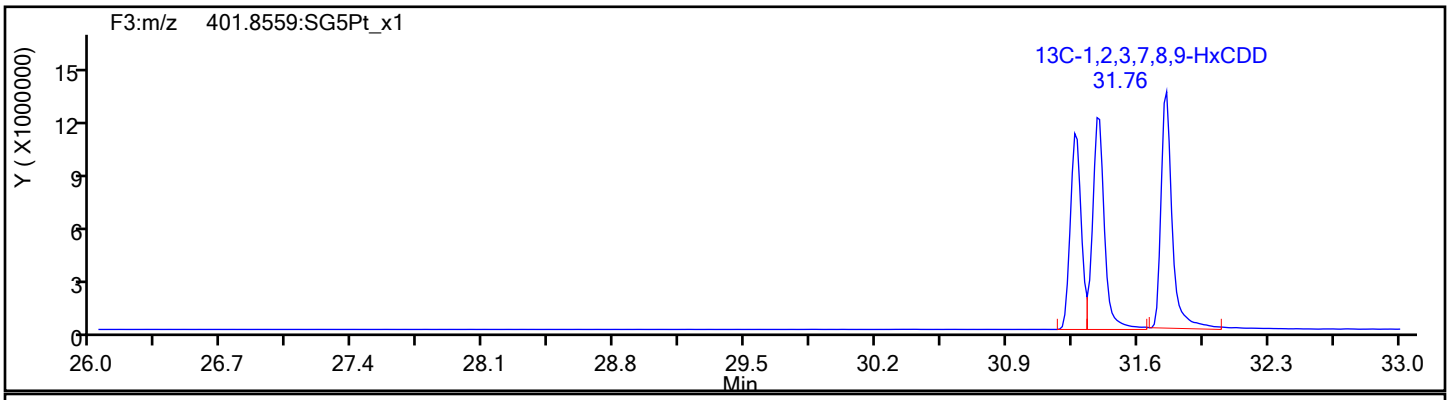

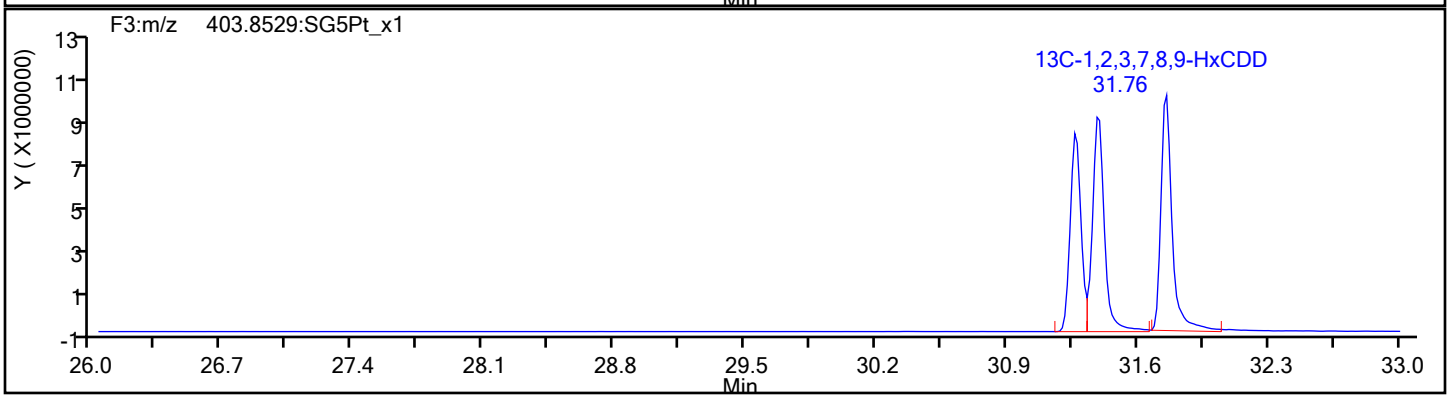

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Eurofins TestAmerica, Sacramento

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HpCDF

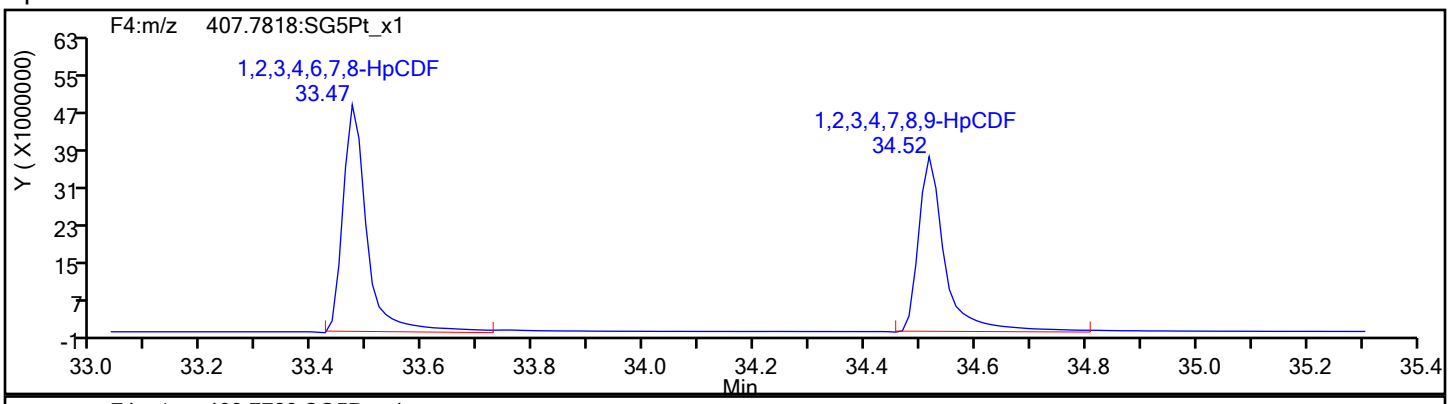

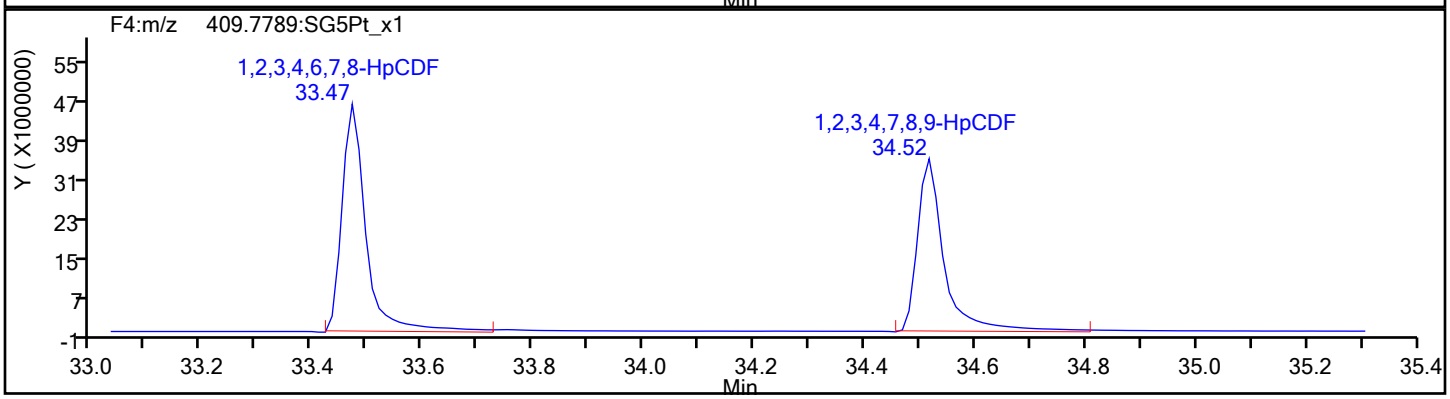

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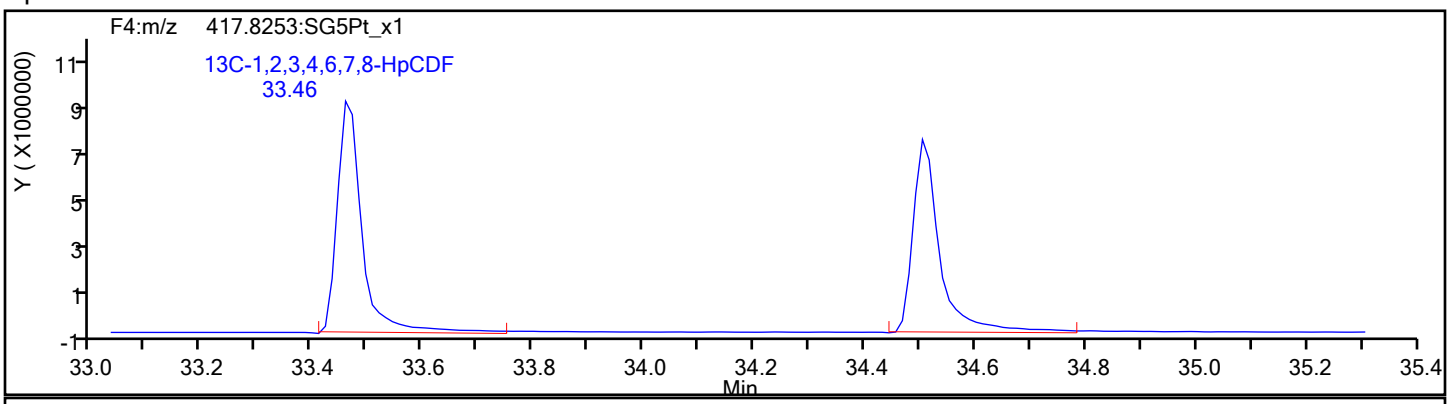

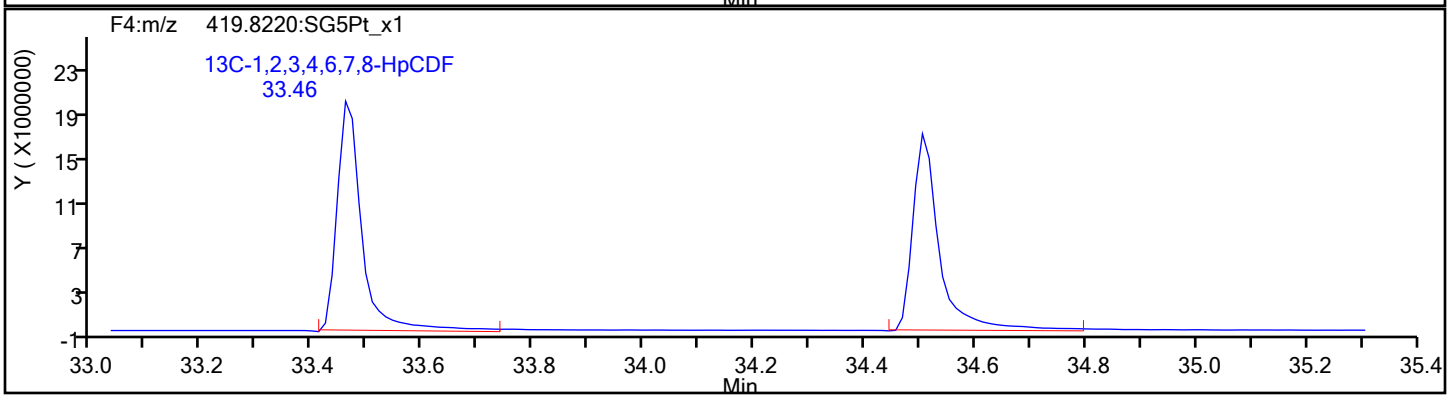

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Eurofins TestAmerica, Sacramento

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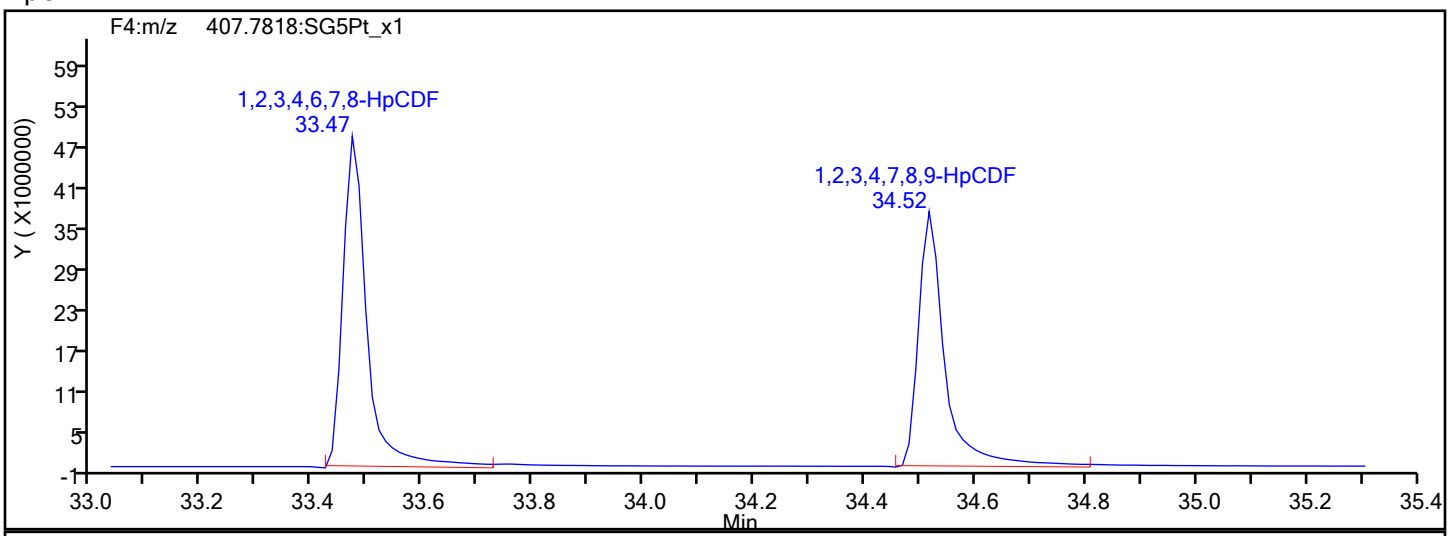

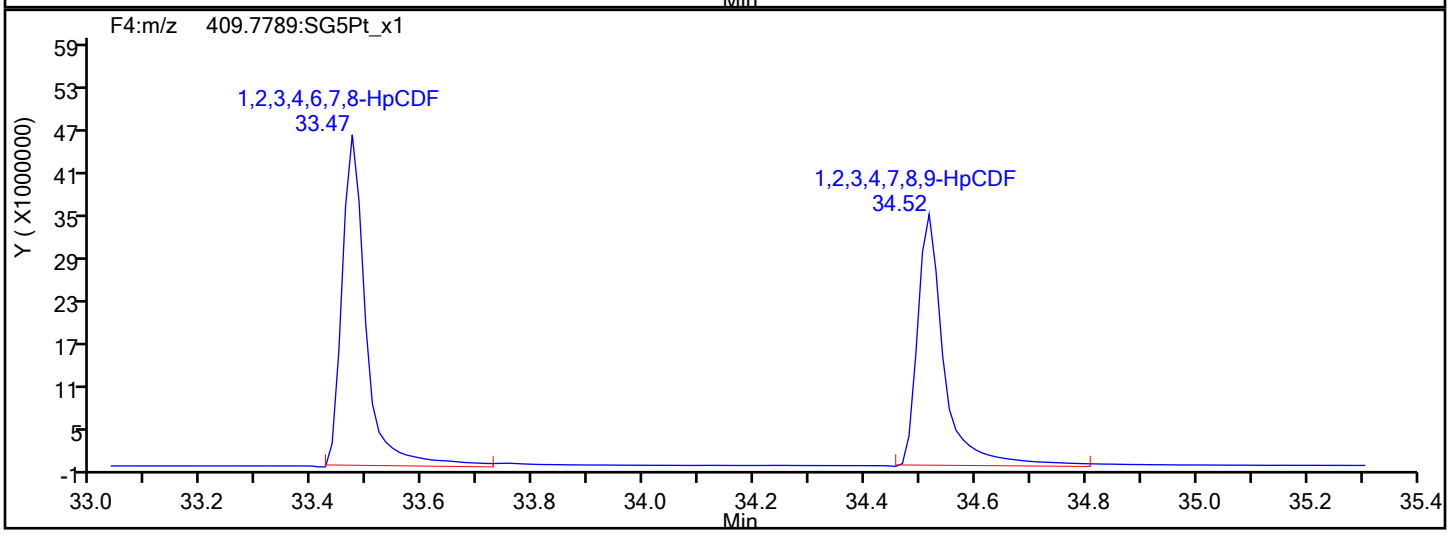

HpCDF Interference Mass

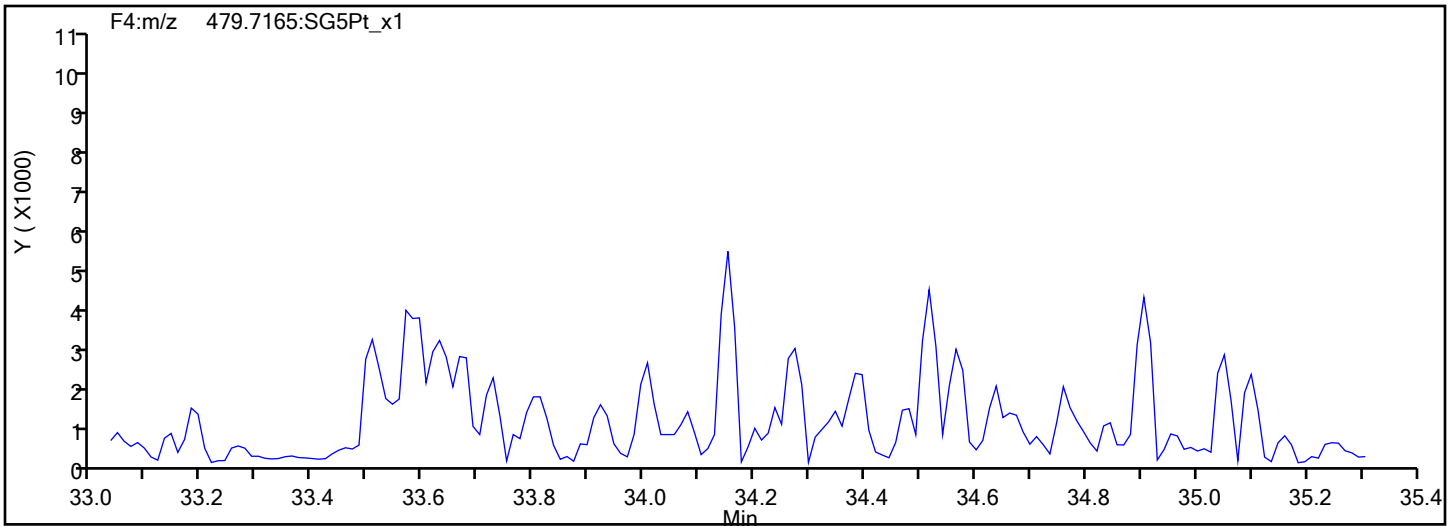

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Eurofins TestAmerica, Sacramento

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HpCDD

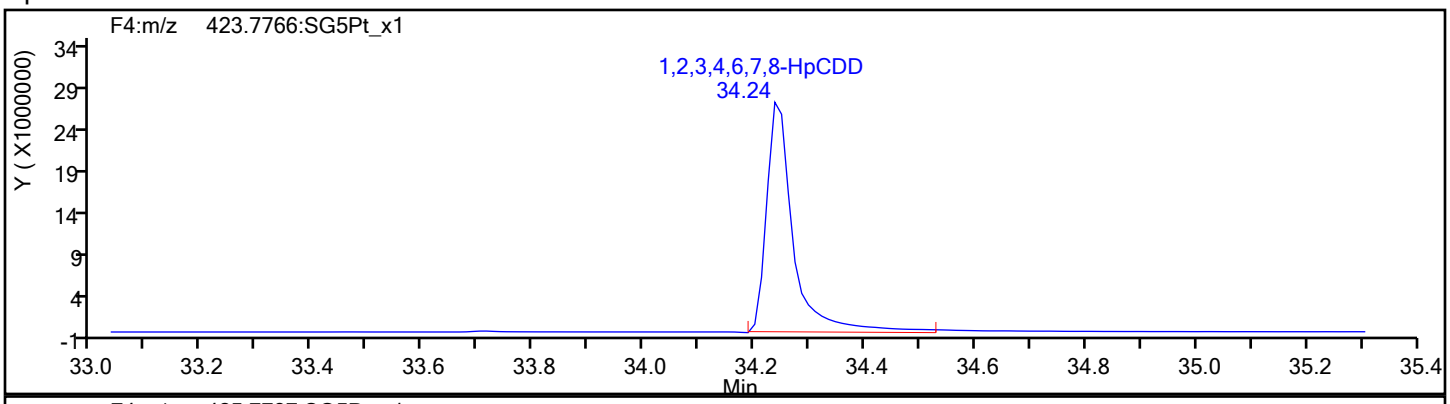

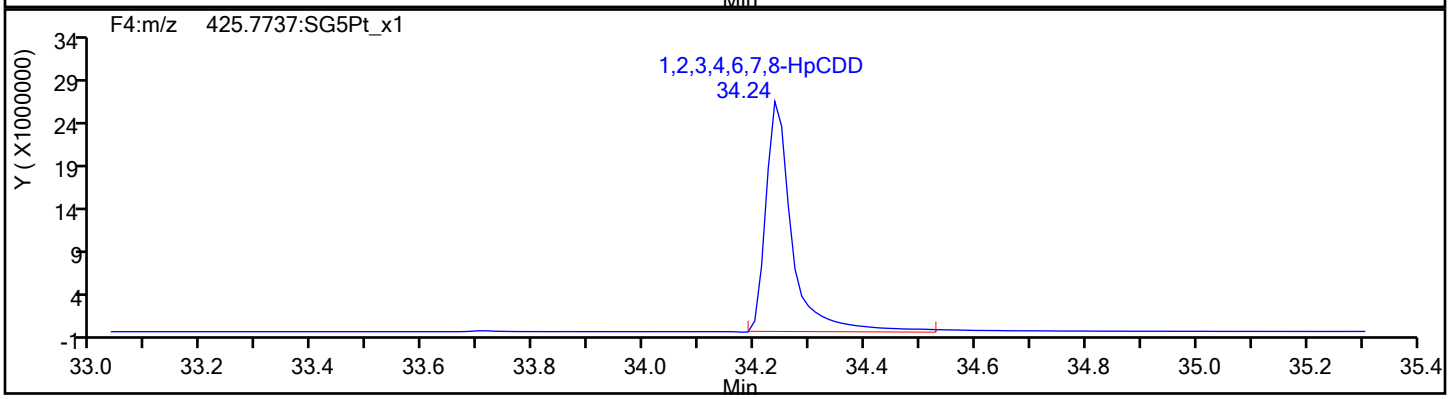

HpCDD Standards

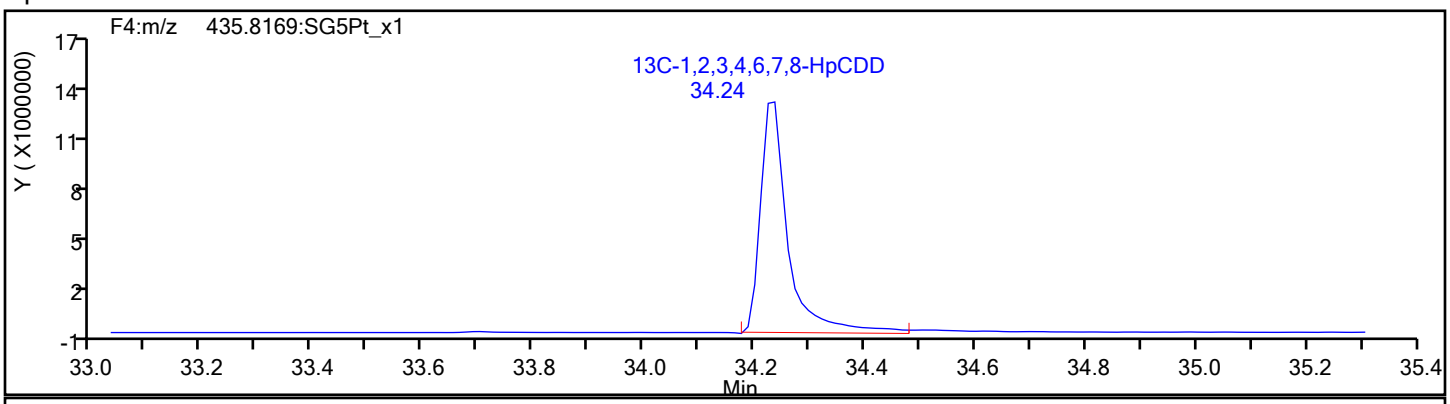

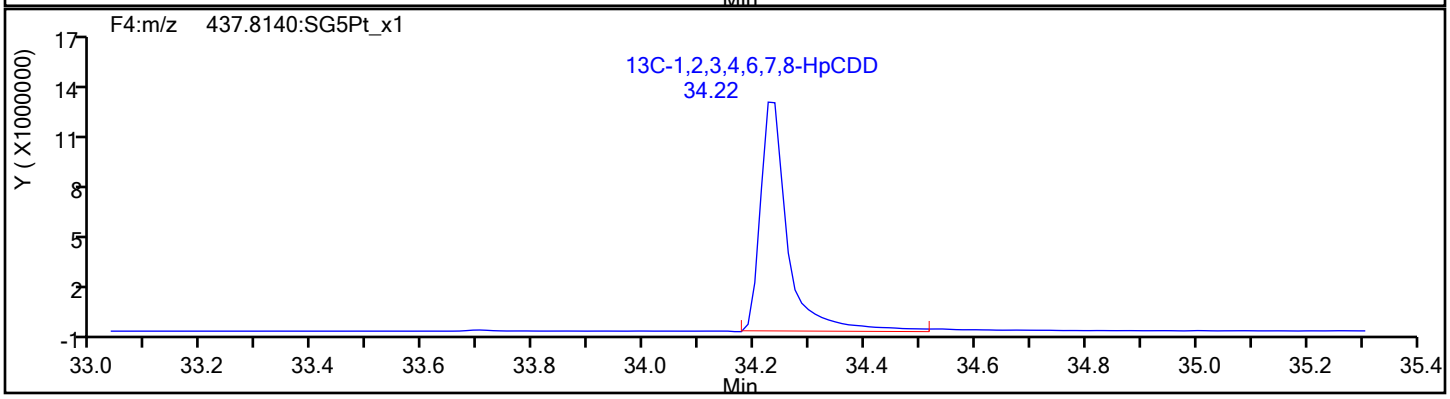

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Eurofins TestAmerica, Sacramento

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OCDF

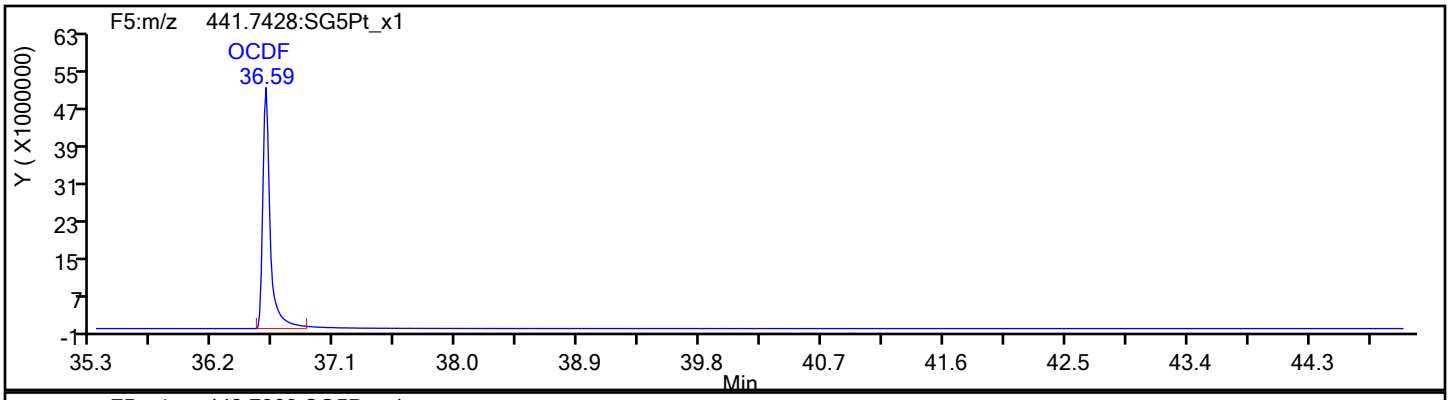

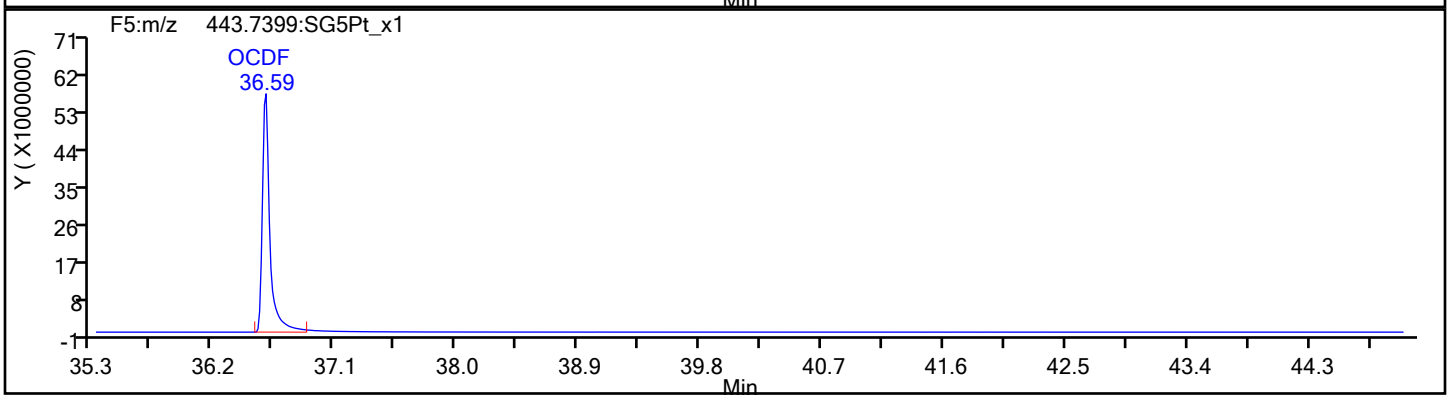

OCDF Standards

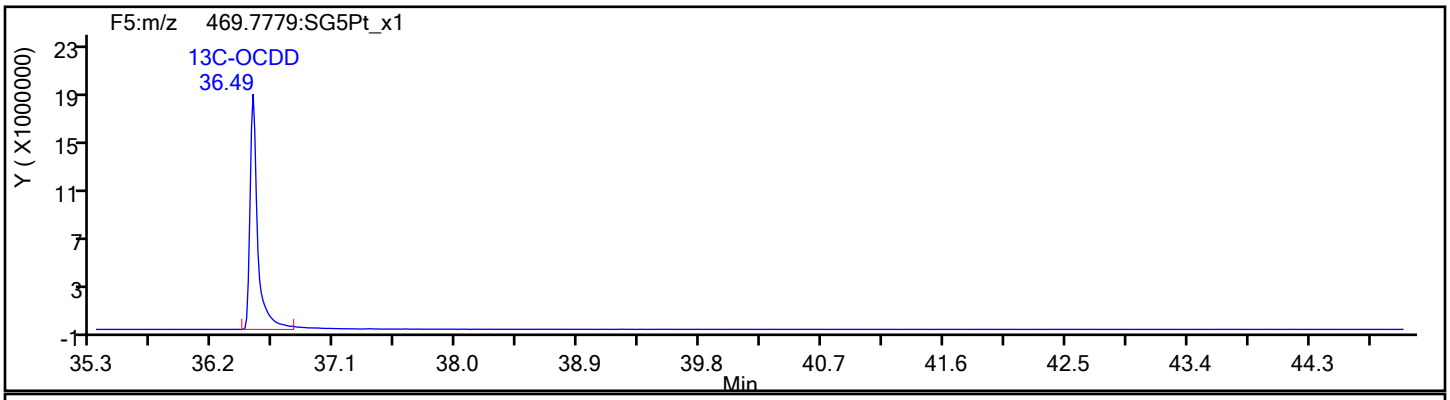

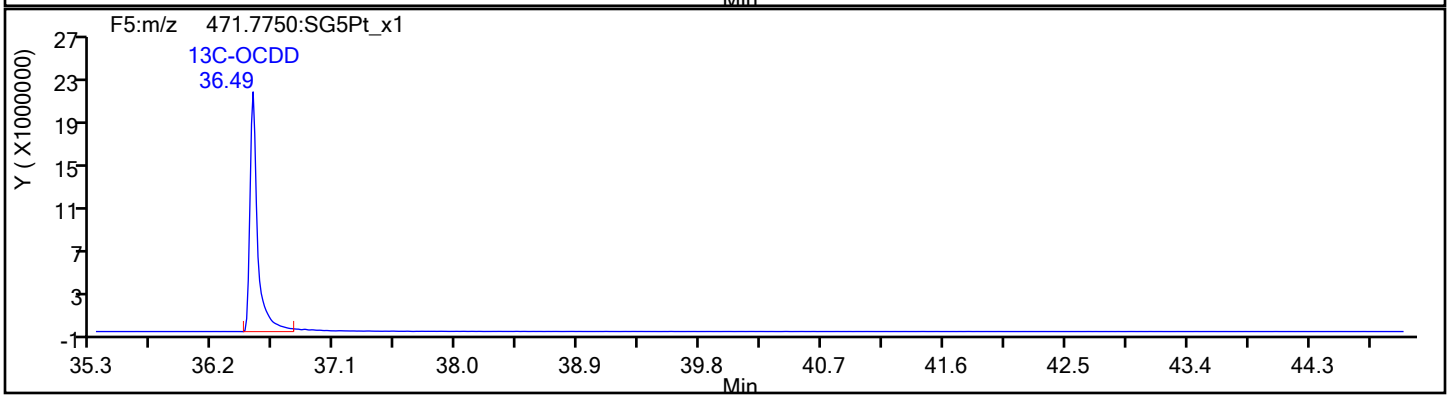

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Eurofins TestAmerica, Sacramento

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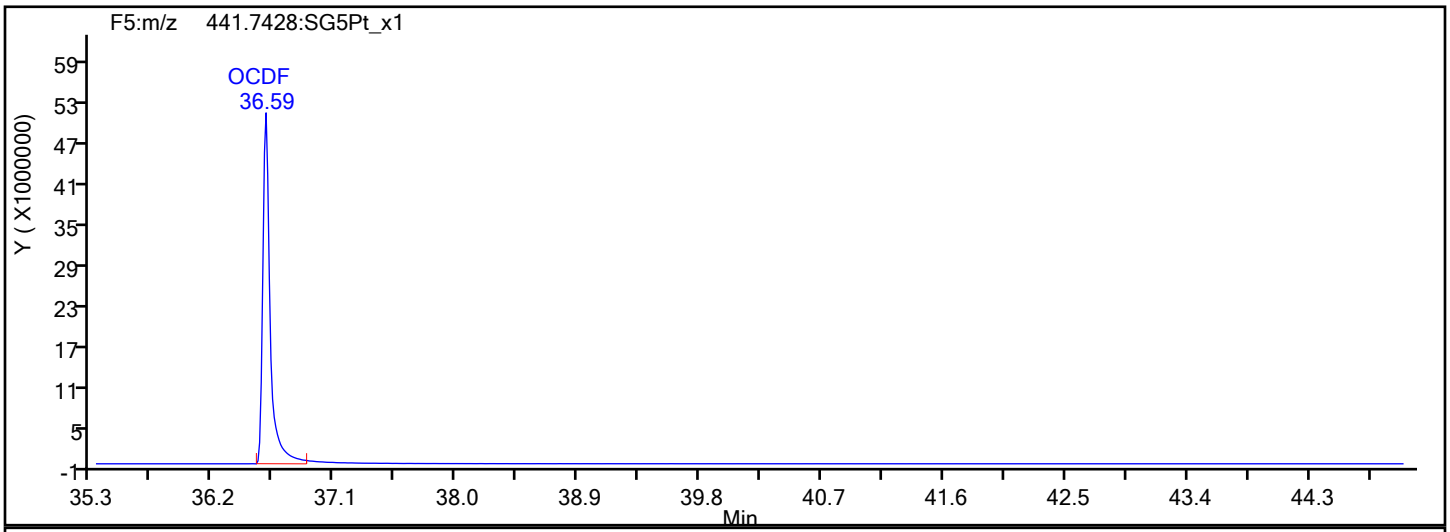

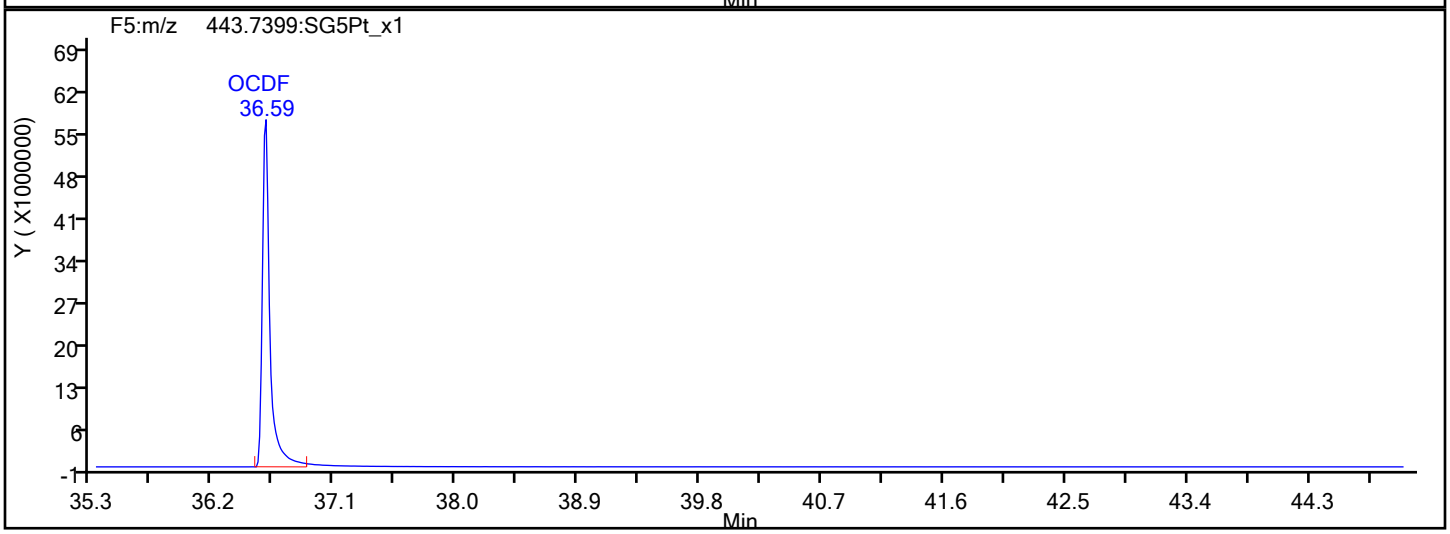

OCDF Interference Mass

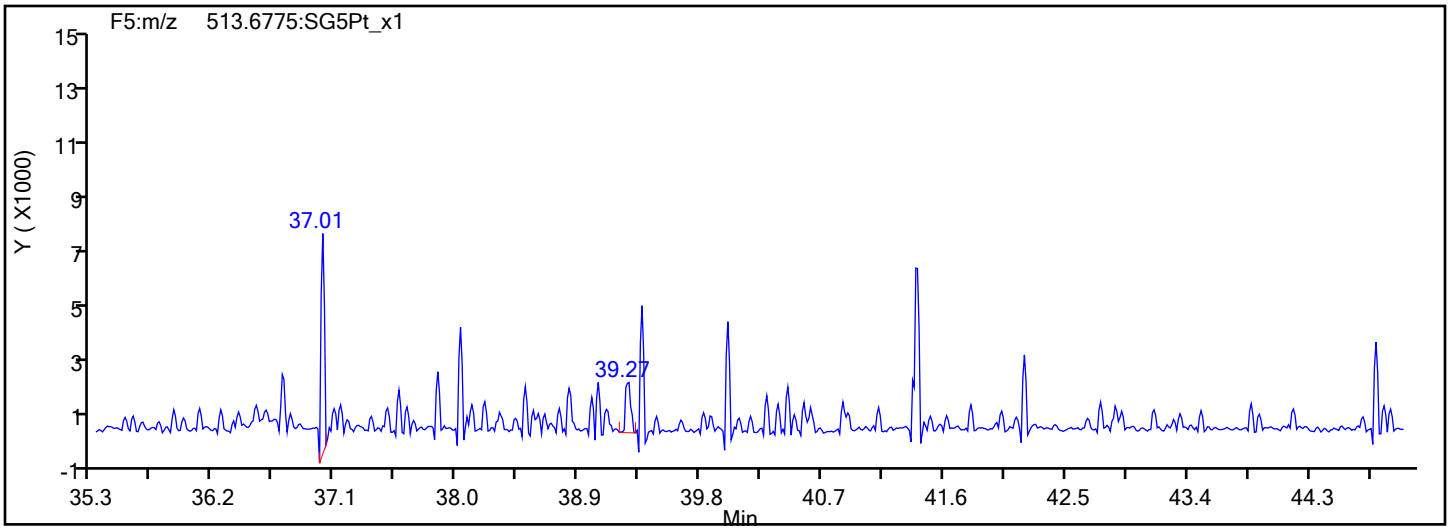

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_6.d		
Injection Date:	17-Sep-2019 15:21:22	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

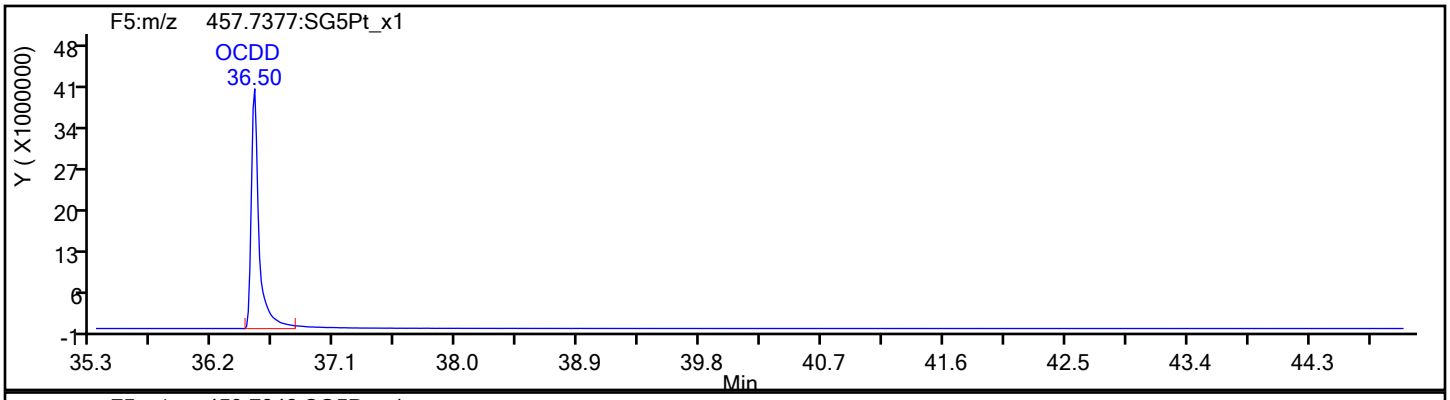

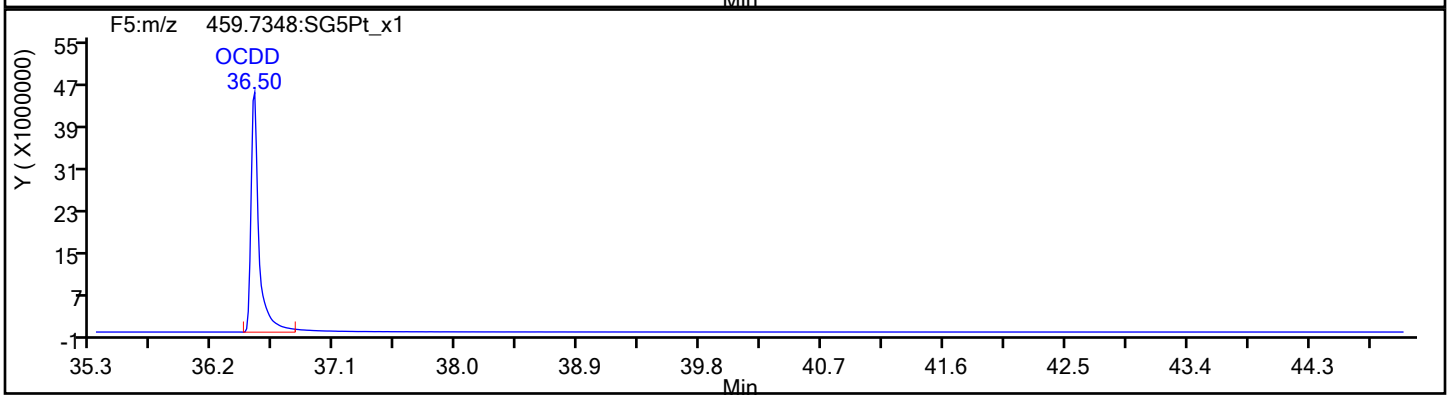

OCDD Standards

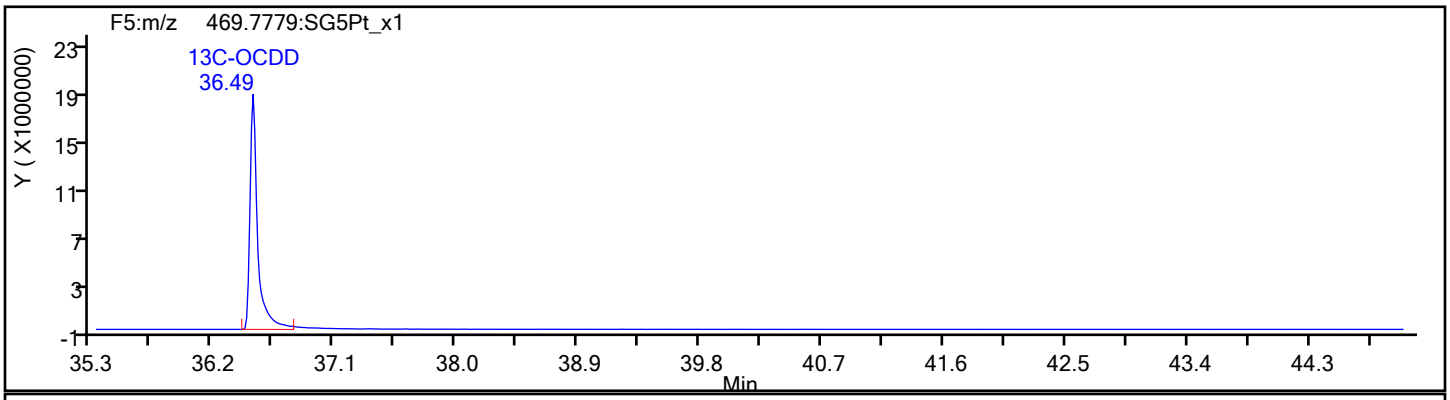

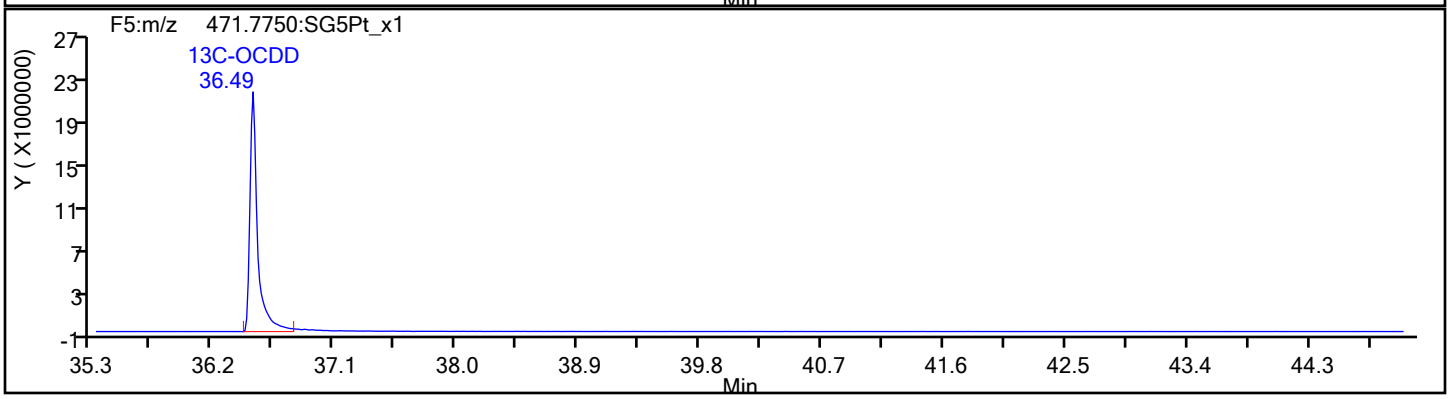

Report Date: 18-Sep-2019 10:22:35 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_6.d		
Injection Date:	17-Sep-2019 15:21:22	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

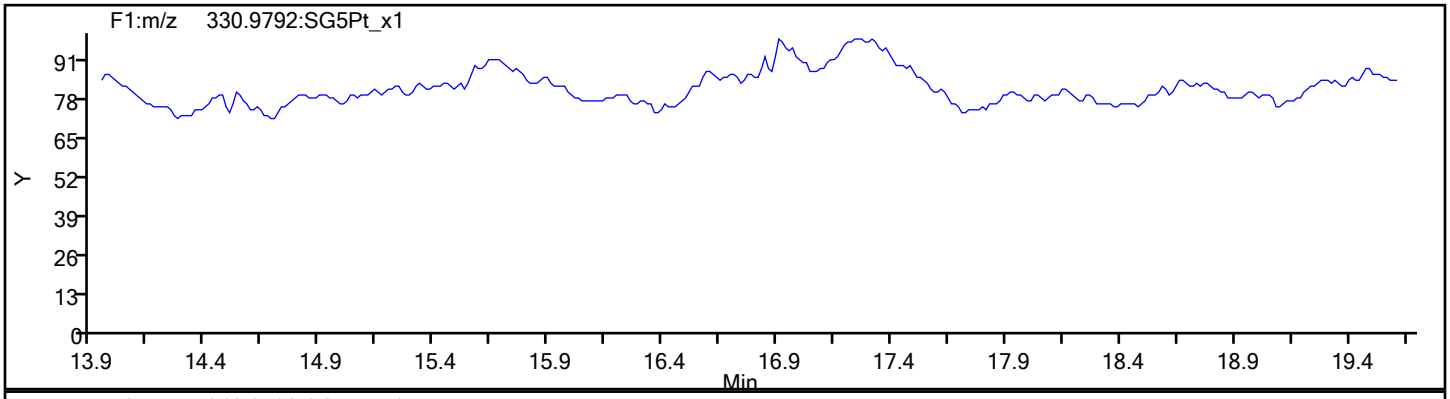

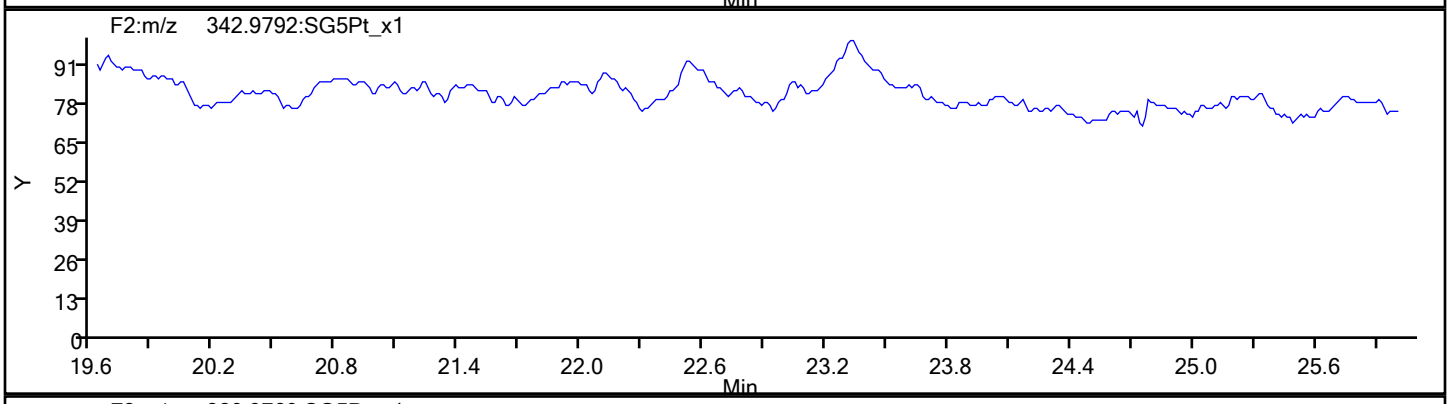

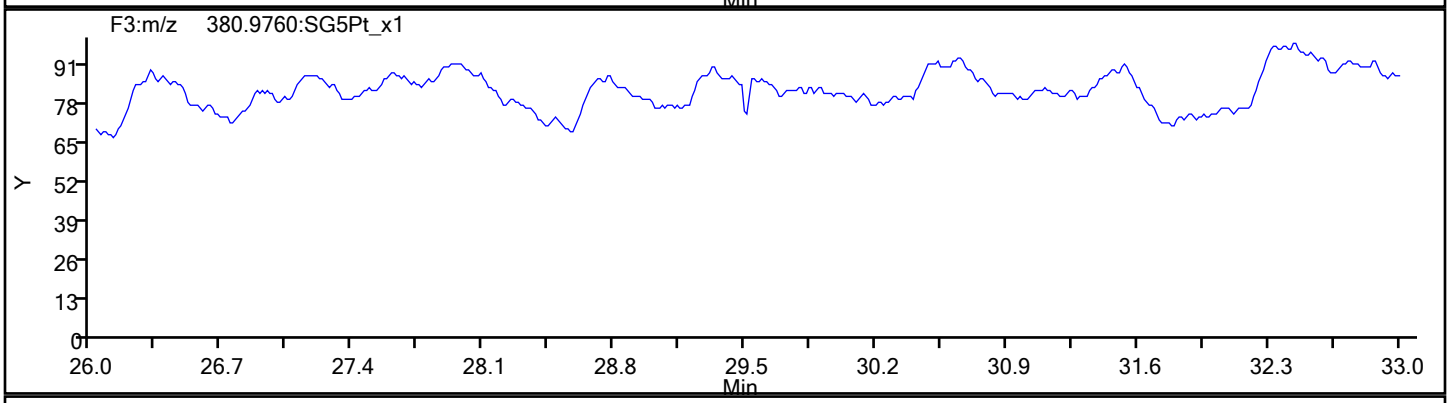

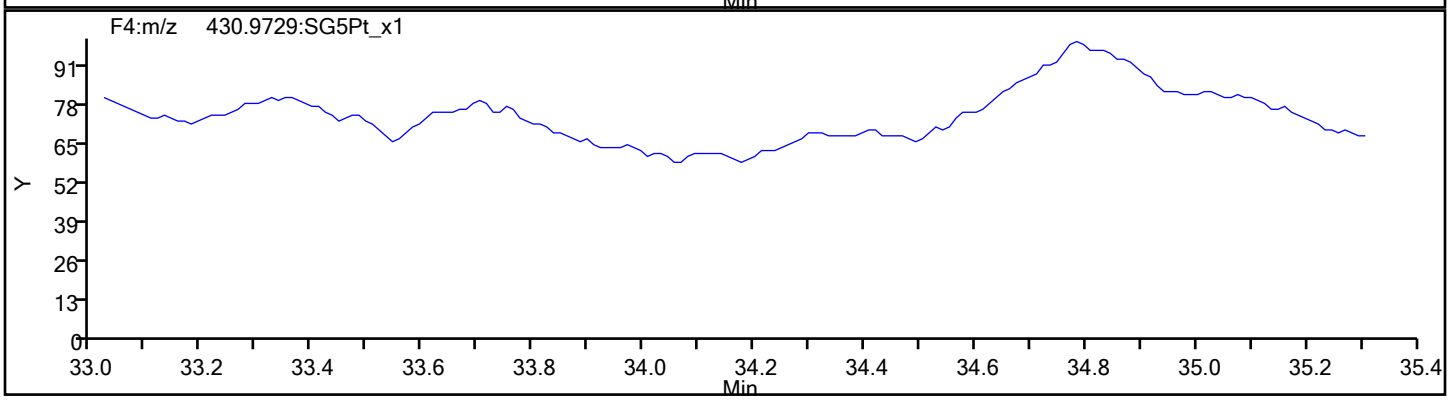

Report Date: 18-Sep-2019 10:22:35 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_6.d		
Injection Date:	17-Sep-2019 15:21:22	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

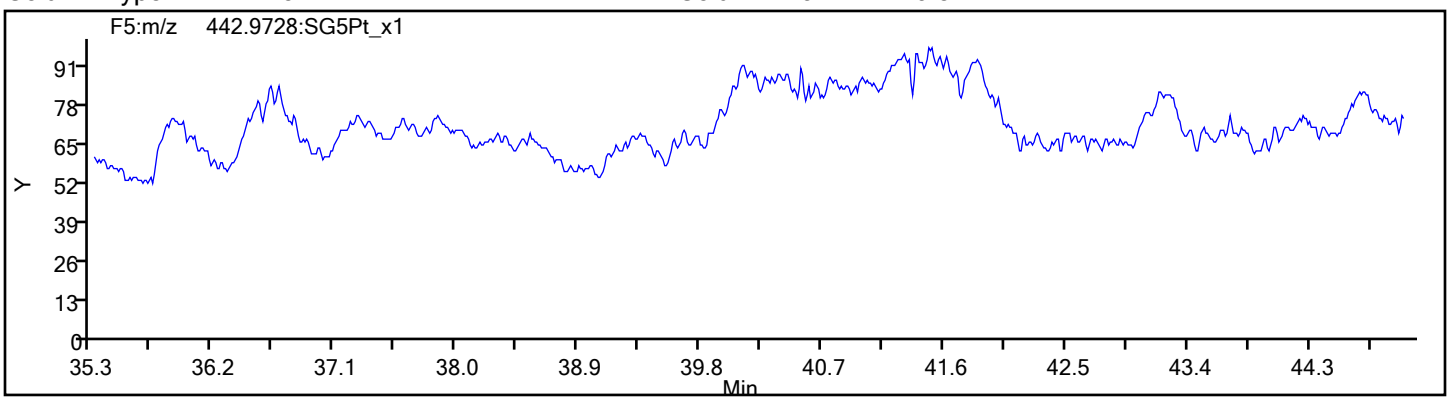

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 17-Sep-2019 16:09:27 ALS Bottle#: 2 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719B CS-4 HRDXNL4_00084
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:37 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:03:31

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.300	116862140	0.78	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.816	164292495	0.81	1.4384	97.7	97.7	0.2030	0.2030	97.74	
2,3,7,8-TCDF	16.831	16312729	0.78	1.0507	9.450	9.450	0.0288	0.0288	94.50	
S Total TCDF					9.450	9.450	0.0288	0.0288		
D 13C-2,3,7,8-TCDD	17.497	110088290	0.77	0.9533	98.8	98.8	0.1811	0.1811	98.81	
$ 37Cl4-2,3,7,8-TCDD	17.511	11295580		1.2224	7.907	7.907	0.0161	0.0161	98.84	
2,3,7,8-TCDD	17.511	11272193	0.80	1.1064	9.254	9.254	0.0249	0.0249	92.54	
S Total TCDD					9.254	9.254	0.0249	0.0249		
D 13C-1,2,3,7,8-PeCDF	21.632	117067384	1.60	1.0286	97.4	97.4	0.2355	0.2355	97.39	
1,2,3,7,8-PeCDF	21.659	61060330	1.61	1.0822	48.2	48.2	0.1753	0.1753	96.39	
D 13C-2,3,4,7,8-PeCDF	22.927	108494277	1.59	0.9827	94.5	94.5	0.2465	0.2465	94.48	
2,3,4,7,8-PeCDF	22.954	58935693	1.60	1.1032	49.2	49.2	0.1981	0.1981	98.48	
S Total PeCDF					97.4	97.4	0.1867	0.1867		
D 13C-1,2,3,7,8-PeCDD	23.622	84755636	1.56	0.7481	96.9	96.9	0.1346	0.1346	96.95	
1,2,3,7,8-PeCDD	23.650	36740998	1.60	0.9050	47.9	47.9	0.0846	0.0846	95.80	
S Total PeCDD					47.9	47.9	0.0846	0.0846		
D 13C-1,2,3,4,7,8-HxCDF	29.749	88972191	0.52	1.1520	96.7	96.7	0.5009	0.5009	96.69	
1,2,3,4,7,8-HxCDF	29.776	51431784	1.25	1.1973	48.3	48.3	0.4285	0.4285	96.56	
D 13C-1,2,3,6,7,8-HxCDF	30.015	97064883	0.52	1.2434	97.7	97.7	0.4641	0.4641	97.73	
1,2,3,6,7,8-HxCDF	30.042	55977084	1.25	1.1807	48.8	48.8	0.3660	0.3660	97.69	
D 13C-2,3,4,6,7,8-HxCDF	31.040	90467566	0.52	1.1720	96.6	96.6	0.4924	0.4924	96.64	
2,3,4,6,7,8-HxCDF	31.053	53626165	1.26	1.2116	48.9	48.9	0.2565	0.2565	97.85	
D 13C-1,2,3,7,8,9-HxCDF	31.945	83967924	0.52	1.0655	98.7	98.7	0.5416	0.5416	98.66	
1,2,3,7,8,9-HxCDF	31.958	50802364	1.28	1.2451	48.6	48.6	0.2521	0.2521	97.18	
S Total HxCDF					194.6	194.6	0.3258	0.3258		
* 13C-1,2,3,7,8,9-HxCDD	31.746	79877165	1.26	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.266	61001305	1.29	0.7812	97.8	97.8	0.4169	0.4169	97.76	
1,2,3,4,7,8-HxCDD	31.280	32825472	1.25	1.1088	48.5	48.5	0.1882	0.1882	97.06	
D 13C-1,2,3,6,7,8-HxCDD	31.386	72157657	1.29	0.9175	98.5	98.5	0.3550	0.3550	98.46	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.399	37867080	1.26	1.0814	48.5	48.5	0.1789	0.1789	97.05	
1,2,3,7,8,9-HxCDD	31.759	39571199	1.26	1.2123	49.0	49.0	0.1656	0.1656	98.05	
S Total HxCDD					146.1	146.1	0.1776	0.1776		
D 13C-1,2,3,4,6,7,8-HpCDF	33.460	70034446	0.45	0.8628	101.6	101.6	1.887	1.887	102	
1,2,3,4,6,7,8-HpCDF	33.472	53230505	1.05	1.5555	48.9	48.9	0.7328	0.7328	97.72	
D 13C-1,2,3,4,7,8,9-HpCDF	34.505	62459777	0.45	0.7991	97.9	97.9	2.038	2.038	97.86	
1,2,3,4,7,8,9-HpCDF	34.505	42098592	1.05	1.3862	48.6	48.6	1.030	1.030	97.24	
S Total HpCDF					97.5	97.5	0.8815	0.8815		
D 13C-1,2,3,4,6,7,8-HpCDD	34.225	69249272	1.01	0.8739	99.2	99.2	0.8707	0.8707	99.21	
1,2,3,4,6,7,8-HpCDD	34.237	31792117	1.05	0.9316	49.3	49.3	0.3574	0.3574	98.56	
S Total HpCDD					49.3	49.3	0.3574	0.3574		
D 13C-OCDD	36.481	117978202	0.90	0.7744	190.7	190.7	0.3164	0.3164	95.37	
OCDF	36.577	73138090	0.89	1.2596	98.4	98.4	0.0928	0.0928	98.43	
OCDD	36.493	60102277	0.88	1.0621	95.9	95.9	0.1528	0.1528	95.93	

Reagents:

HRDXNL4_00084 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 17-Sep-2019 16:09:27 ALS Bottle#: 2 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719B CS-4 HRDXNL4_00084
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:37 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:03:31

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.300	17.303	0		51188431	13221592	10308	25770	1283		
333.9339	17.300	17.303	0		65673709	17067918	10612	26530	1608	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.816	16.810	0	0.972	73273257	18643279	16682	41705	1118		
317.9389	16.816	16.810	0	0.972	91019238	23348376	18701	46752	1249	0.81(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.831	16.825	0	1.001	7146505	1866474	1748	4370	1068		
305.8987	16.831	16.825	0	1.001	9166224	2309204	3335	8337	692	0.78(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.497	17.490	0	1.011	47890197	11504119	10308	25770	1116		
333.9339	17.497	17.490	0	1.011	62198093	14897345	10612	26530	1404	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.511	17.505	0	1.012	11295580	2759721	2389	5972	1155		
2,3,7,8-TCDD											
319.8965	17.511	17.505	0	1.001	5006379	1229603	1679	4197	732		
321.8936	17.511	17.505	0	1.001	6265814	1552760	1232	3080	1260	0.80(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	21.632	21.637	0	1.250	72085037	13290906	17975	44937	739		
353.8970	21.632	21.637	0	1.250	44982347	8135550	11370	28425	716	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.659	21.661	0	1.001	37645378	6988113	9632	24080	726		
341.8567	21.659	21.661	0	1.001	23414952	4333779	6628	16570	654	1.61(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	22.927	22.932	0	1.325	66667406	11411081	17975	44937	635		
353.8970	22.927	22.932	0	1.325	41826871	7189733	11370	28425	632	1.59(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.954	22.954	0	1.001	36249920	6246701	9632	24080	649		
341.8567	22.954	22.954	0	1.001	22685773	3975349	6628	16570	600	1.60(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.622	23.625	0	1.365	51615468	8403431	7024	17560	1196		
369.8919	23.622	23.625	0	1.365	33140168	5441011	5174	12935	1052	1.56(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.650	23.649	0	1.001	22616992	3684612	2542	6355	1449		
357.8516	23.650	23.649	0	1.001	14124006	2284855	1697	4242	1346	1.60(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.749	29.754	0	0.937	30622454	4262368	15646	39115	272		
385.8610	29.749	29.754	0	0.937	58349737	7978660	27510	68775	290	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.776	29.789	-1	1.001	28572669	3966552	14037	35092	283		
375.8178	29.776	29.789	-1	1.001	22859115	3184716	11085	27712	287	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.015	30.015	0	0.945	33334673	4974859	15646	39115	318		
385.8610	30.015	30.015	0	0.945	63730210	9557829	27510	68775	347	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.042	30.039	0	1.001	31100201	4648576	14037	35092	331		
375.8178	30.028	30.039	-1	1.000	24876883	3736483	11085	27712	337	1.25(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.040	31.043	0	0.978	31041442	6949049	15646	39115	444		
385.8610	31.040	31.043	0	0.978	59426124	13257904	27510	68775	482	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.053	31.059	0	1.000	29867122	6669756	14037	35092	475		
375.8178	31.053	31.059	0	1.000	23759043	5329537	11085	27712	481	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.945	31.942	0	1.006	28810187	6889378	15646	39115	440		
385.8610	31.945	31.942	0	1.006	55157737	13121620	27510	68775	477	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.958	31.956	0	1.000	28484868	6927852	14037	35092	494		
375.8178	31.958	31.956	0	1.000	22317496	5417368	11085	27712	489	1.28(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.746	31.748	0		44590033	10388597	13953	34882	745		
403.8529	31.746	31.748	0		35287132	8307576	10402	26005	799	1.26(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.266	31.261	0	0.985	34418121	8538114	13953	34882	612		
403.8529	31.253	31.261	0	0.984	26583184	6542155	10402	26005	629	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.280	31.280	0	1.000	18210328	4676373	6796	16990	688		
391.8127	31.280	31.280	0	1.000	14615144	3685627	5791	14477	636	1.25(1.05-1.43)	

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24
Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.386	31.383	0	0.989	40713057	9165140	13953	34882	657		
403.8529	31.386	31.383	0	0.989	31444600	7098259	10402	26005	682	1.29(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.399	31.402	0	1.000	21129707	4810731	6796	16990	708		
391.8127	31.399	31.402	0	1.000	16737373	3882456	5791	14477	670	1.26(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.759	31.761	0	1.016	22036967	5199355	6796	16990	765		
391.8127	31.759	31.761	0	1.016	17534232	4154993	5791	14477	717	1.26(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.460	33.457	0	1.054	21694702	6802754	38569	96422	176		
419.8220	33.460	33.457	0	1.054	48339744	14980925	83187	207967	180	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.472	33.469	0	1.000	27303098	8321332	48031	120077	173		
409.7789	33.460	33.469	-1	1.000	25927407	8013389	51301	128252	156	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.505	34.502	0	1.087	19495147	5459139	38569	96422	142		
419.8220	34.505	34.502	0	1.087	42964630	11931602	83187	207967	143	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.505	34.509	0	1.000	21594067	6125765	48031	120077	128		
409.7789	34.505	34.509	0	1.000	20504525	5997687	51301	128252	117	1.05(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.225	34.227	0	1.078	34873988	10385149	28867	72167	360		
437.8140	34.225	34.227	0	1.078	34375284	10126378	28038	70095	361	1.01(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.237	34.235	0	1.000	16297283	4845800	14038	35095	345		
425.7737	34.237	34.235	0	1.000	15494834	4492519	13280	33200	338	1.05(0.88-1.20)	
13C-OCDD											
469.7779	36.481	36.486	0	1.149	55925656	13683141	9939	24847	1377		
471.7750	36.481	36.486	0	1.149	62052546	15254711	8386	20965	1819	0.90(0.76-1.02)	
OCDF											
441.7428	36.577	36.581	0	1.003	34484063	8952540	3122	7805	2868		
443.7399	36.577	36.581	0	1.003	38654027	9970777	3641	9102	2738	0.89(0.76-1.02)	
OCDD											
457.7377	36.493	36.497	0	1.000	28100552	7029079	3330	8325	2111		
459.7348	36.493	36.497	0	1.000	32001725	7995829	6061	15152	1319	0.88(0.76-1.02)	

Reagents:

HRDXNL4_00084 Amount Added: 1.00 Units: mL

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

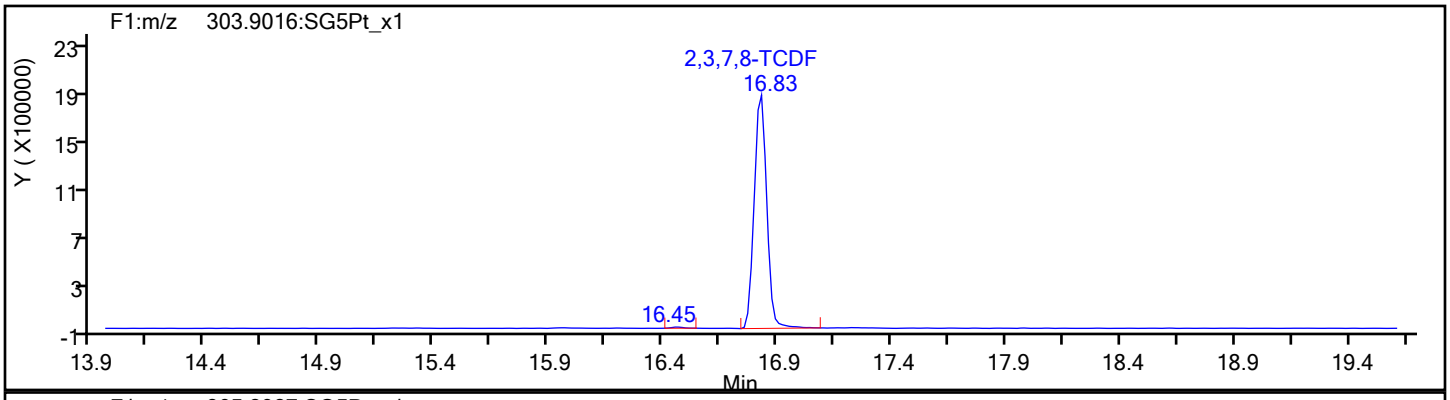

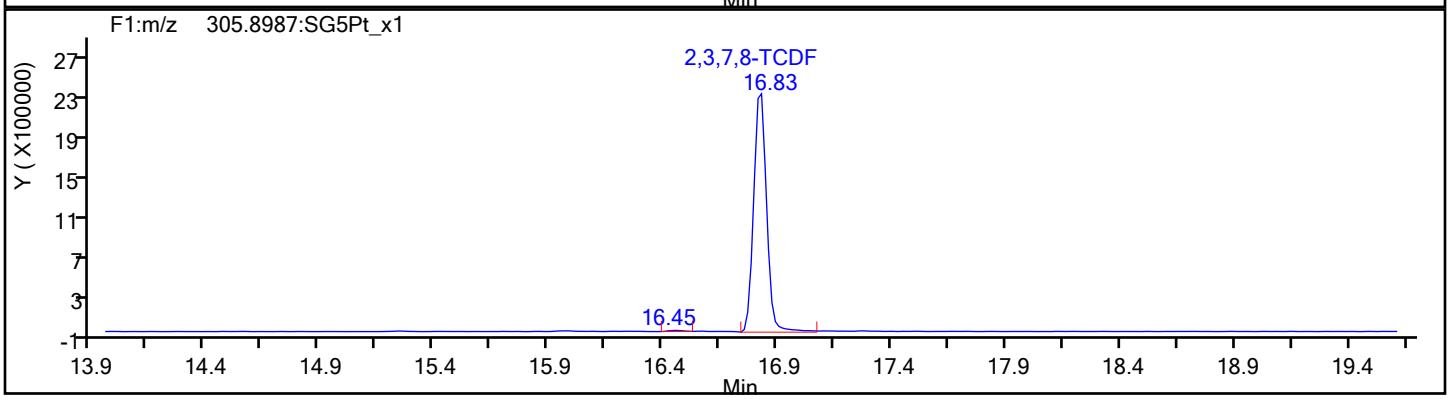

TCDF Standards

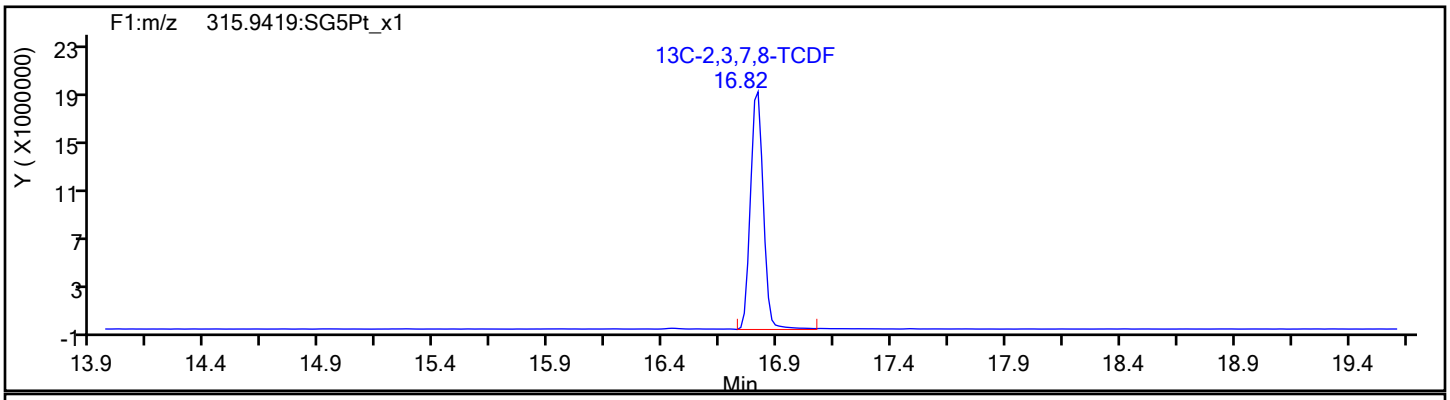

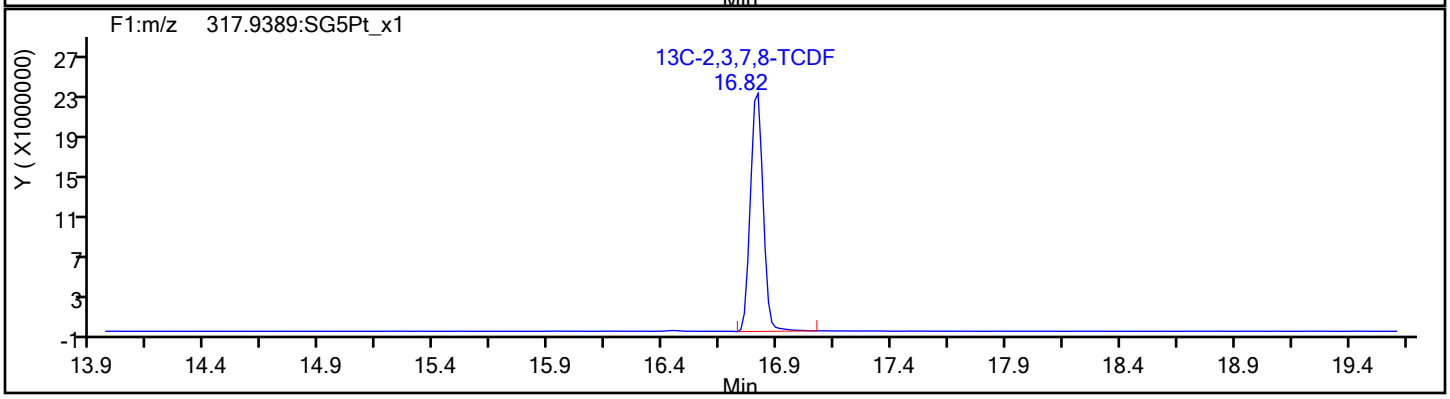

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Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

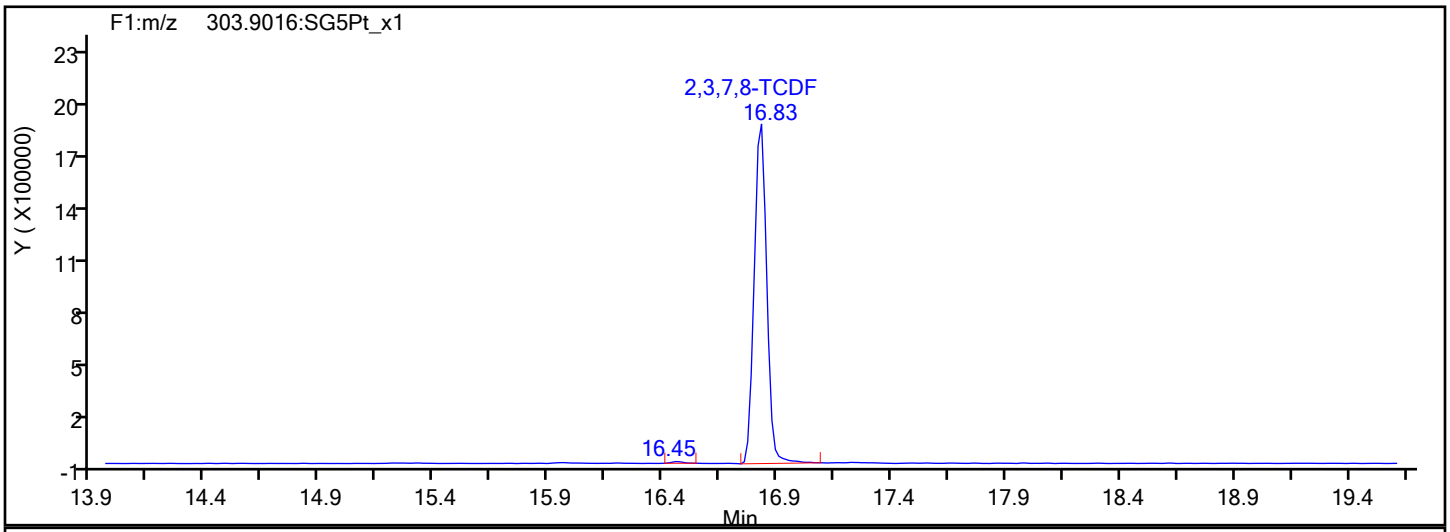

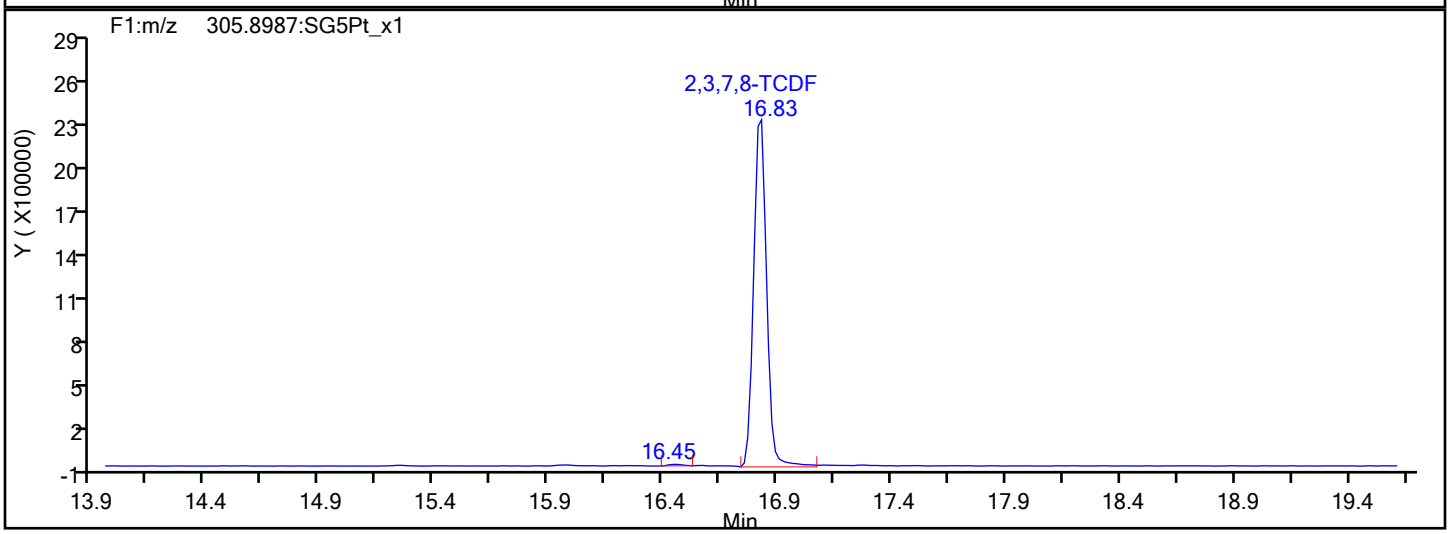

TCDF Interference Mass

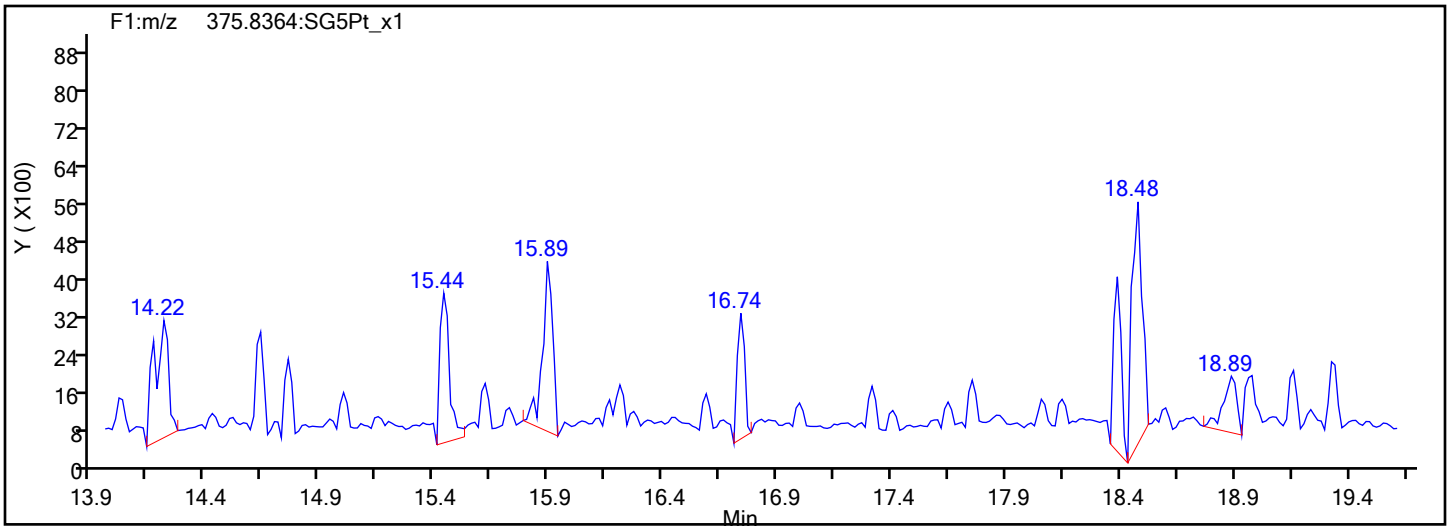

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Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

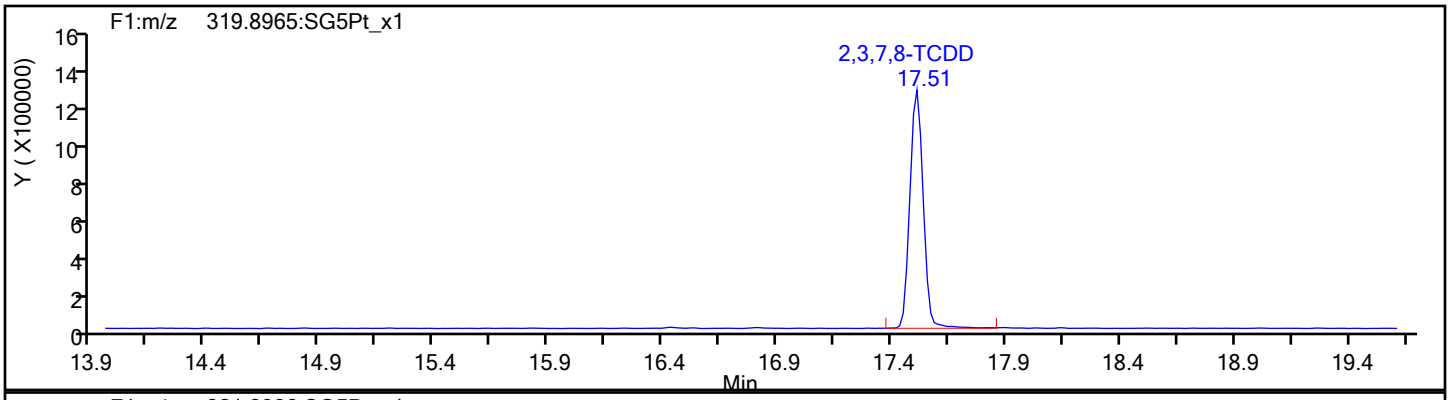

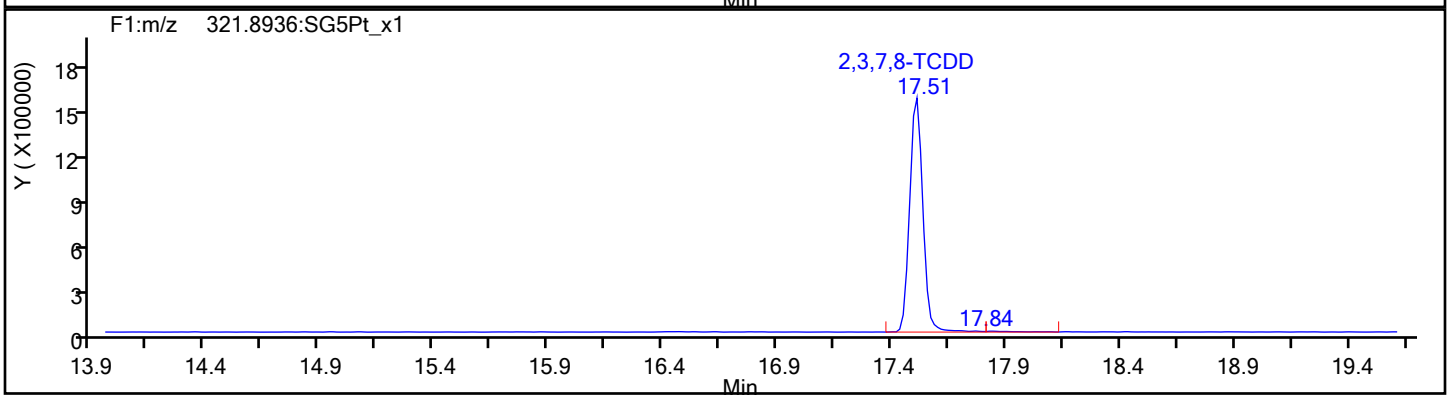

TCDD Standards

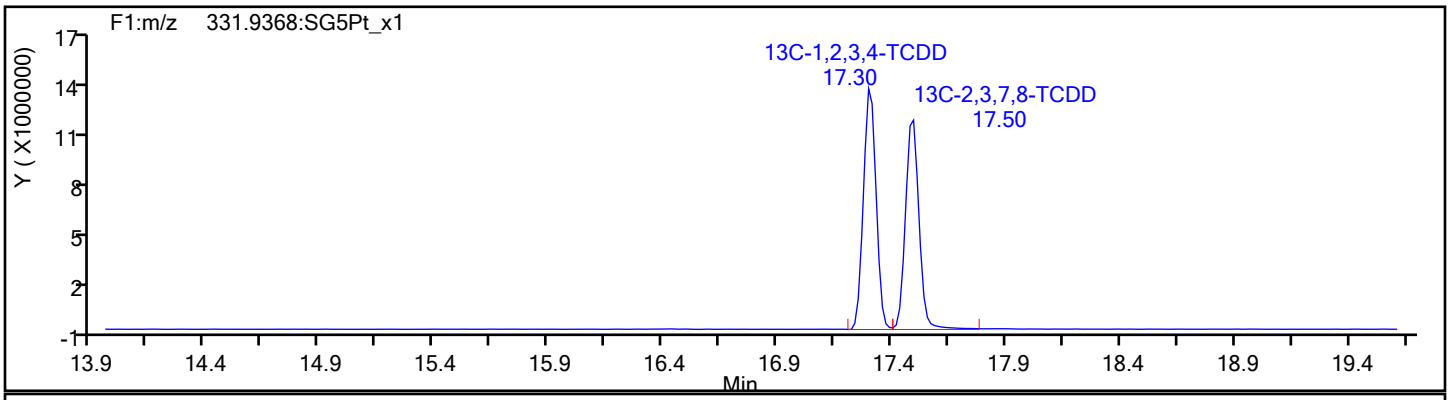

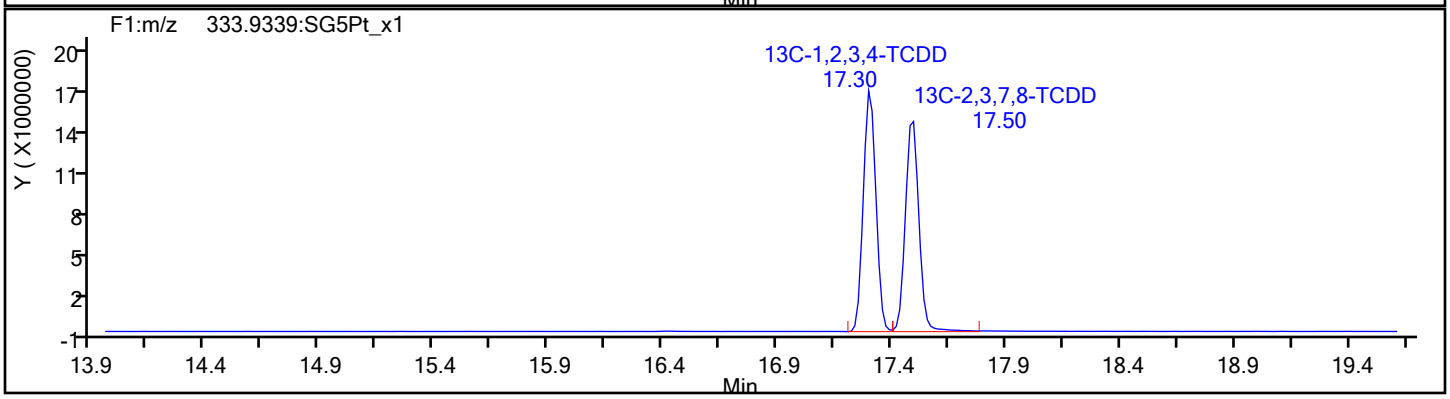

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

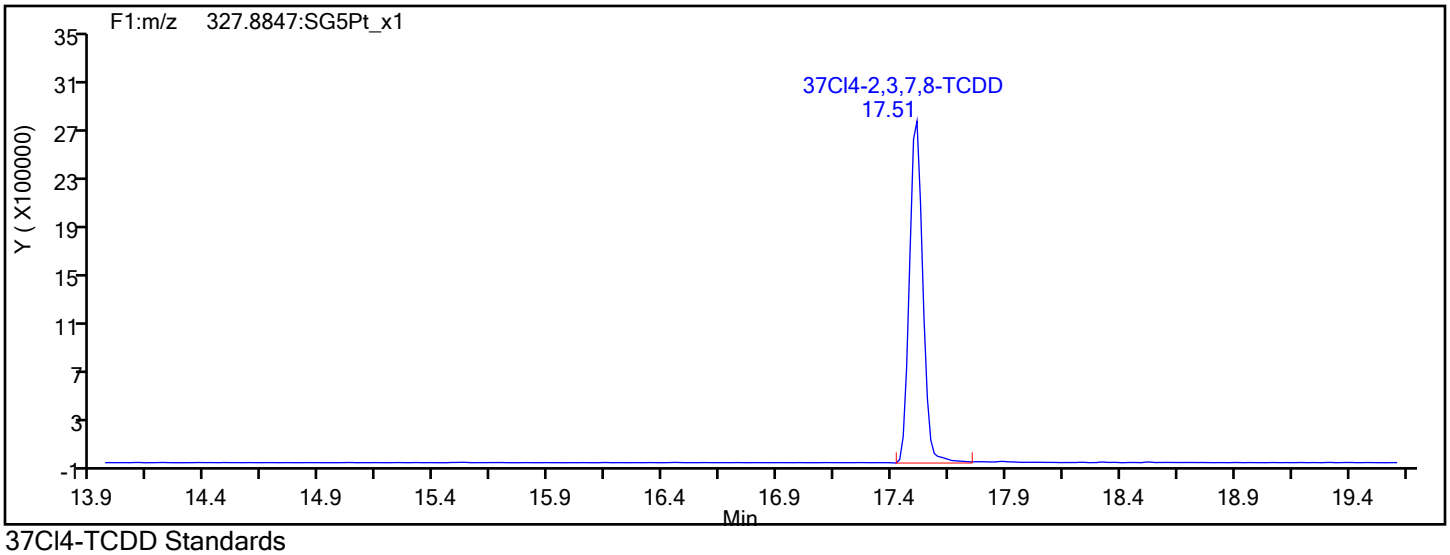

37Cl4-TCDD Standards

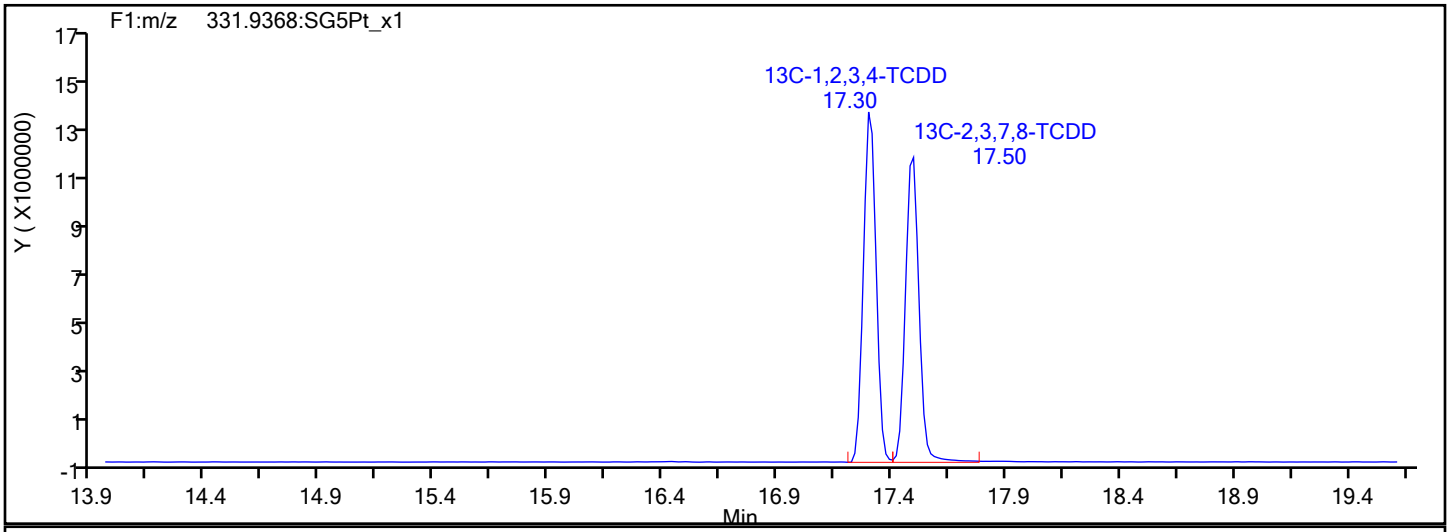

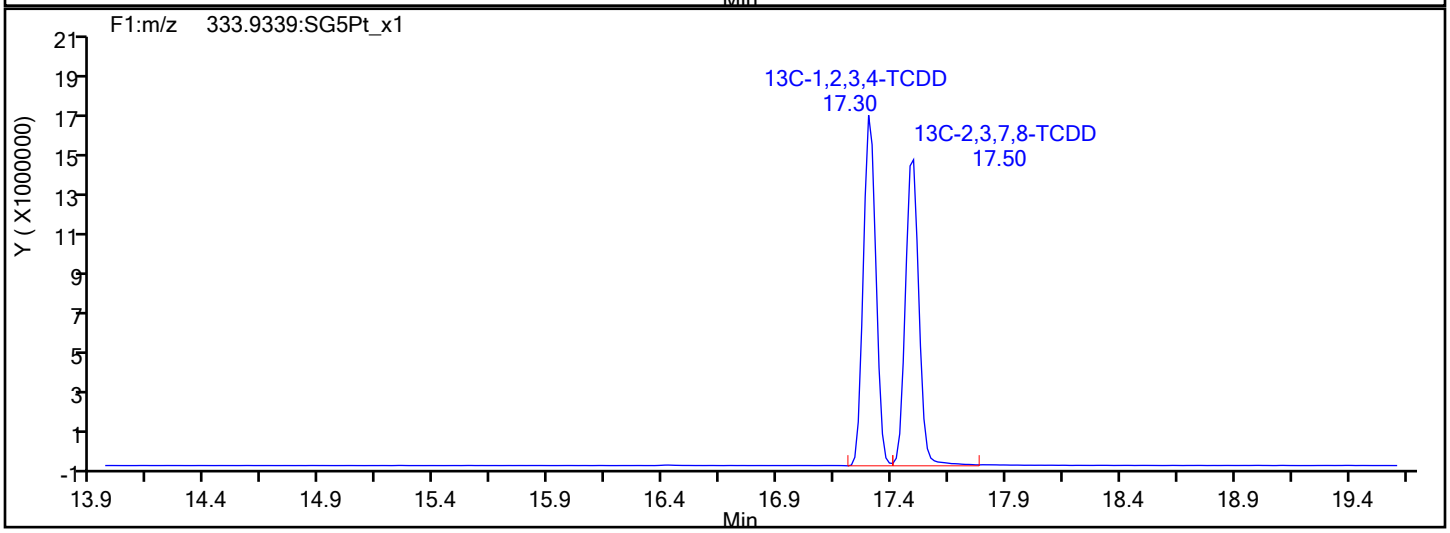

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

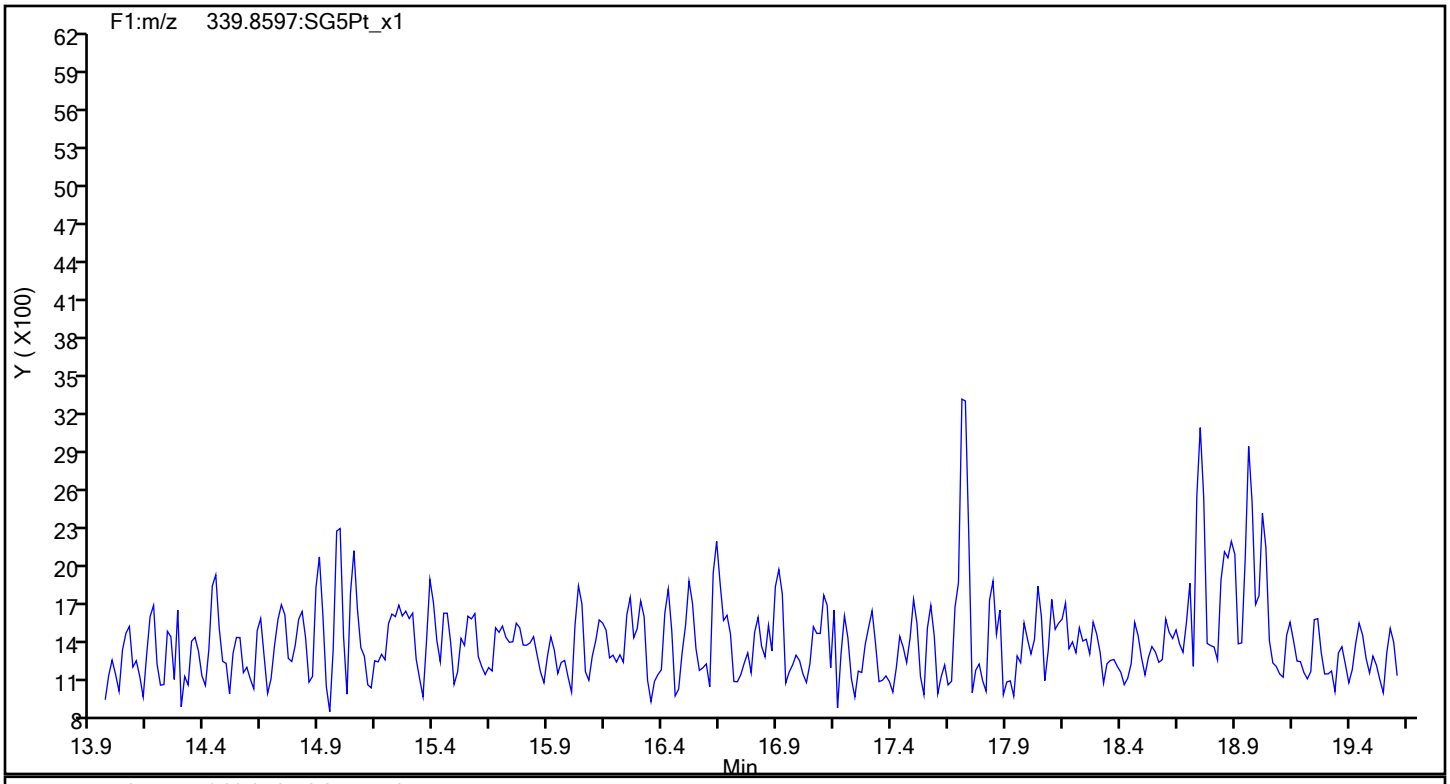

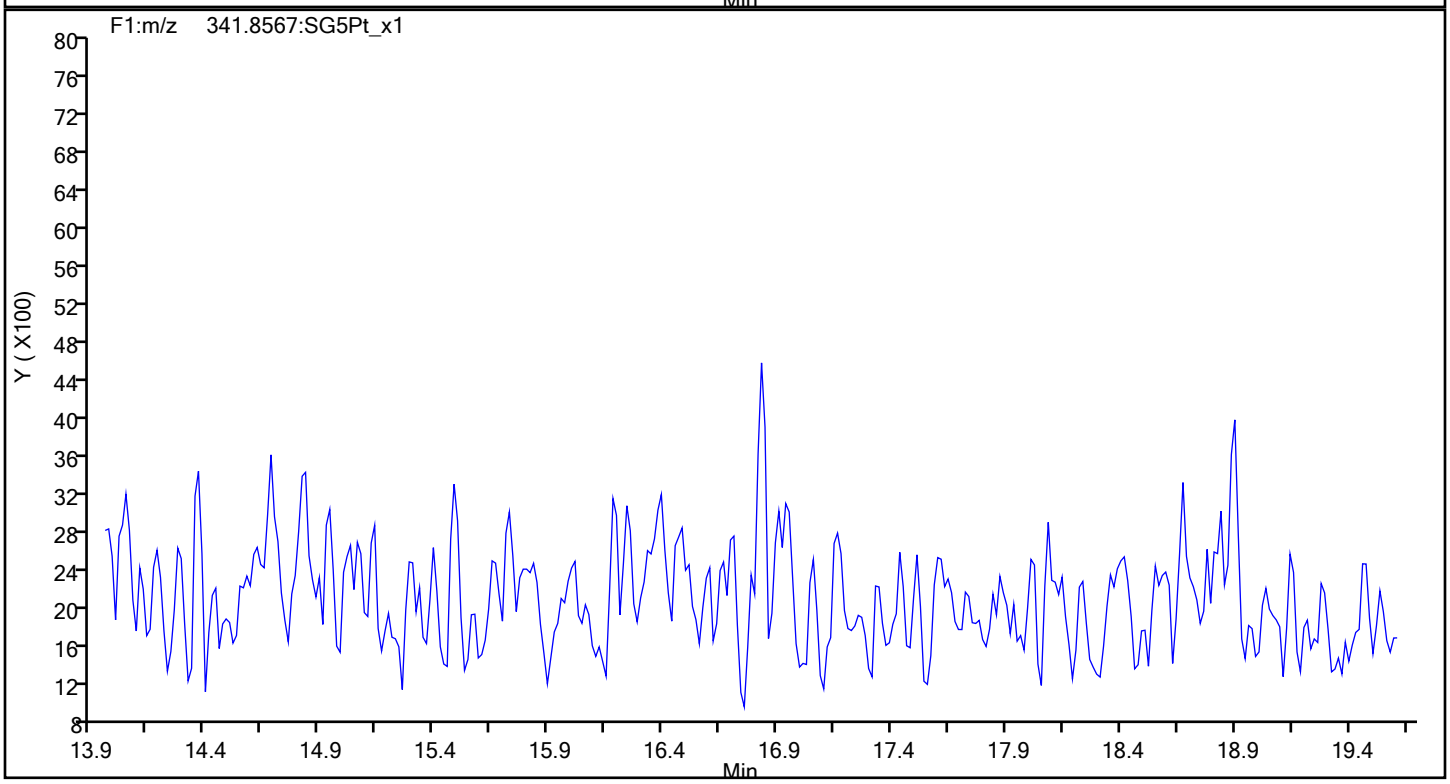

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

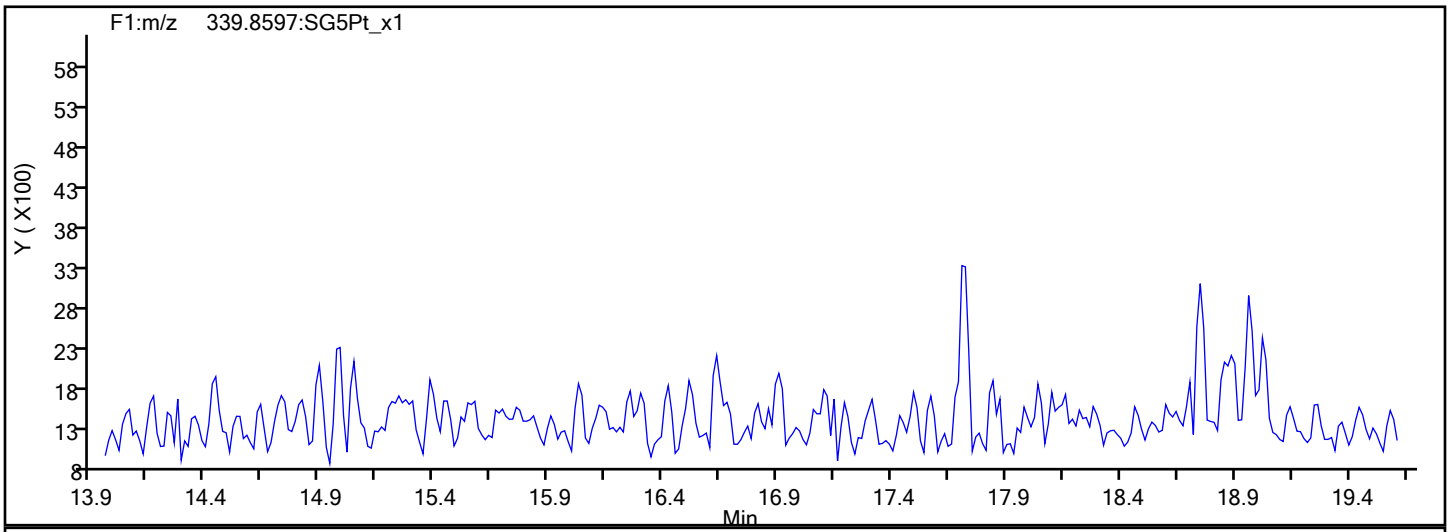

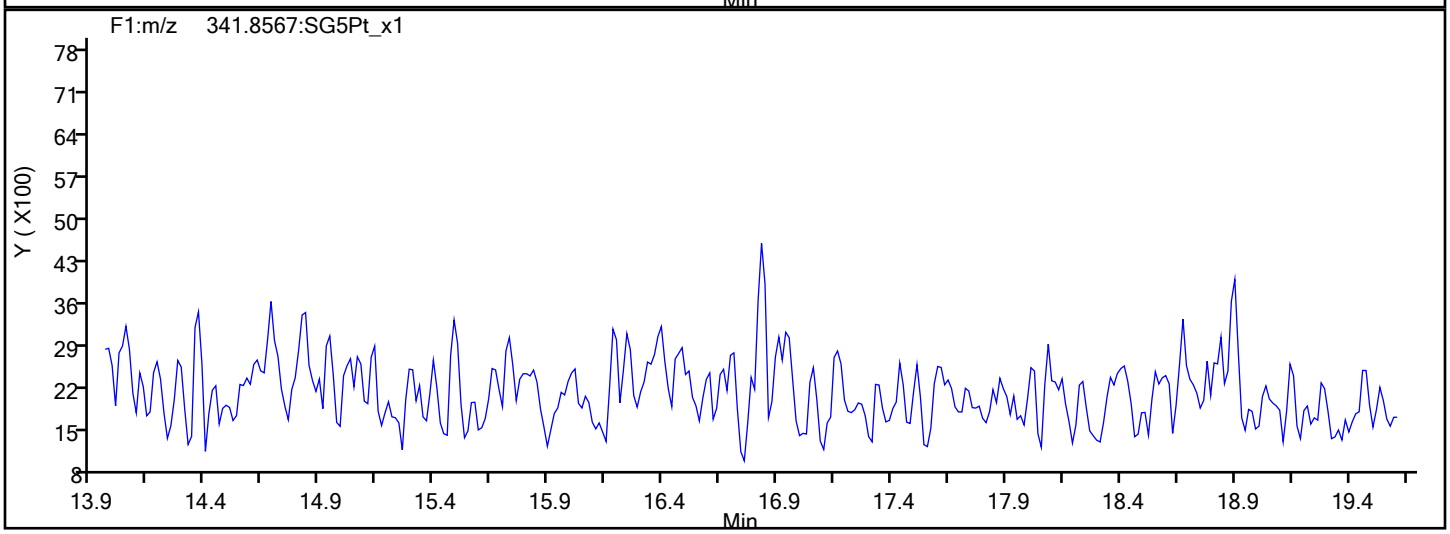

F1 PeCDFs Interference Mass

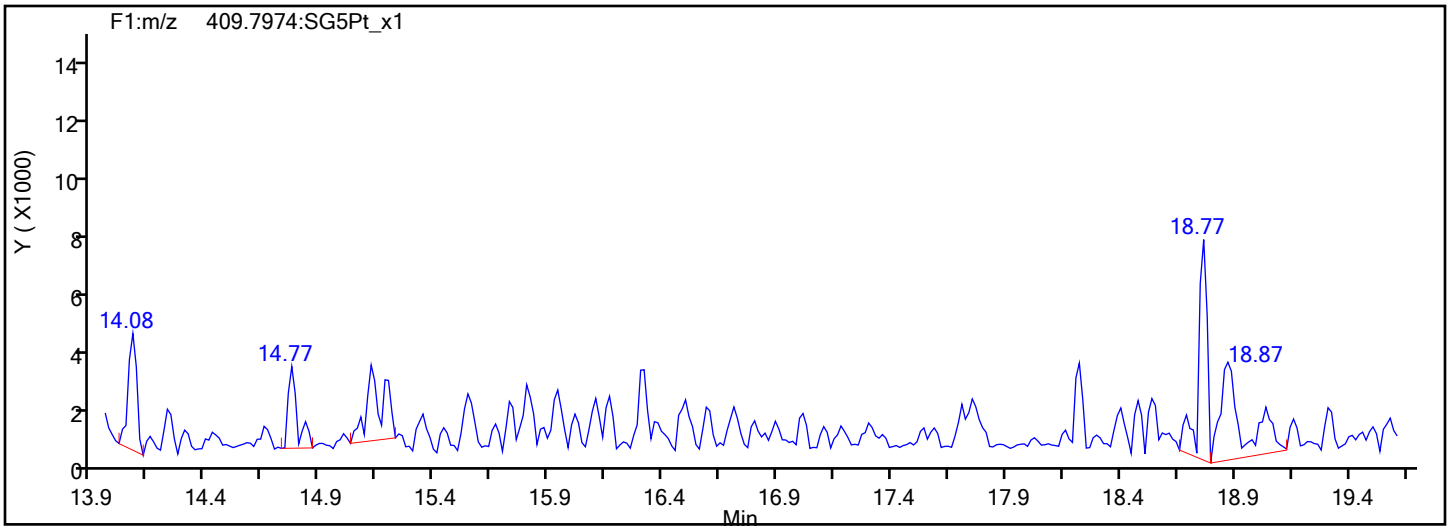

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Eurofins TestAmerica, Sacramento

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PeCDF

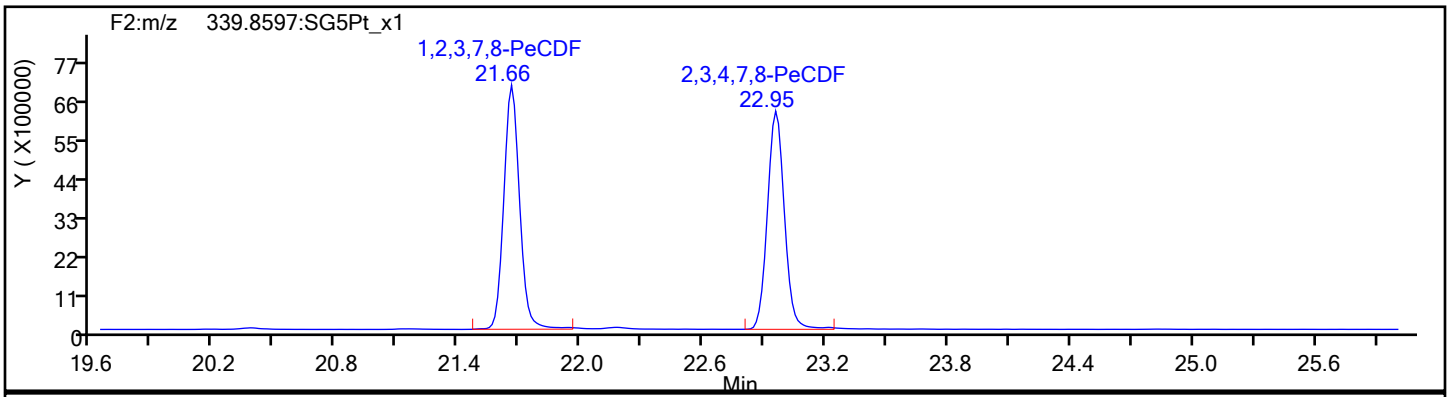

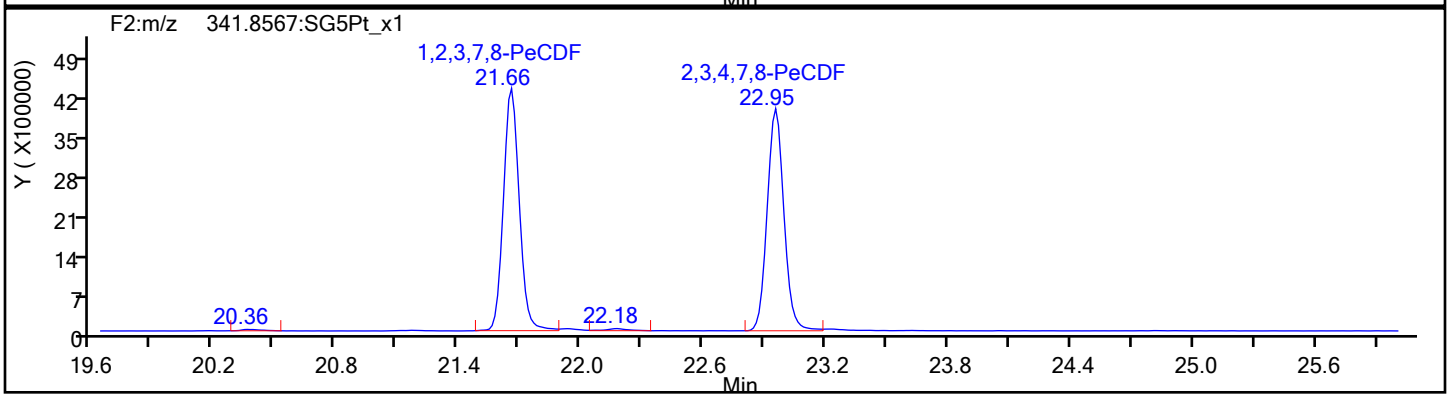

PeCDF Standards

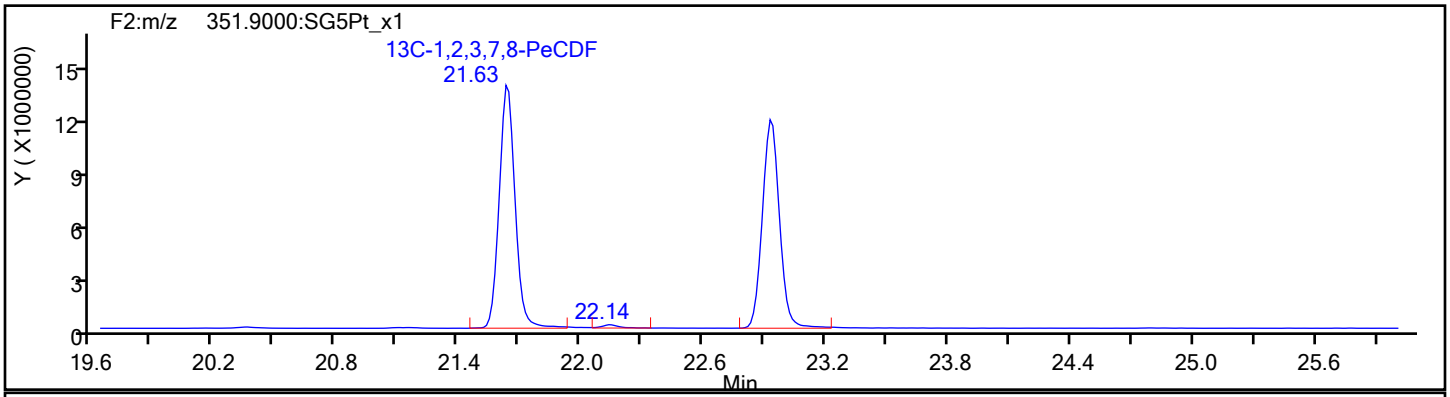

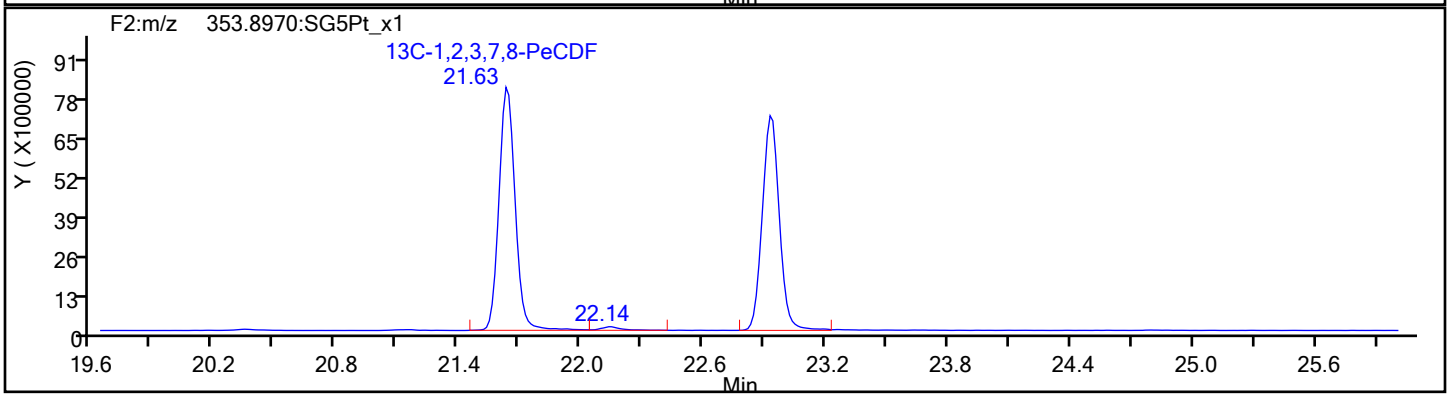

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Eurofins TestAmerica, Sacramento

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PeCDF

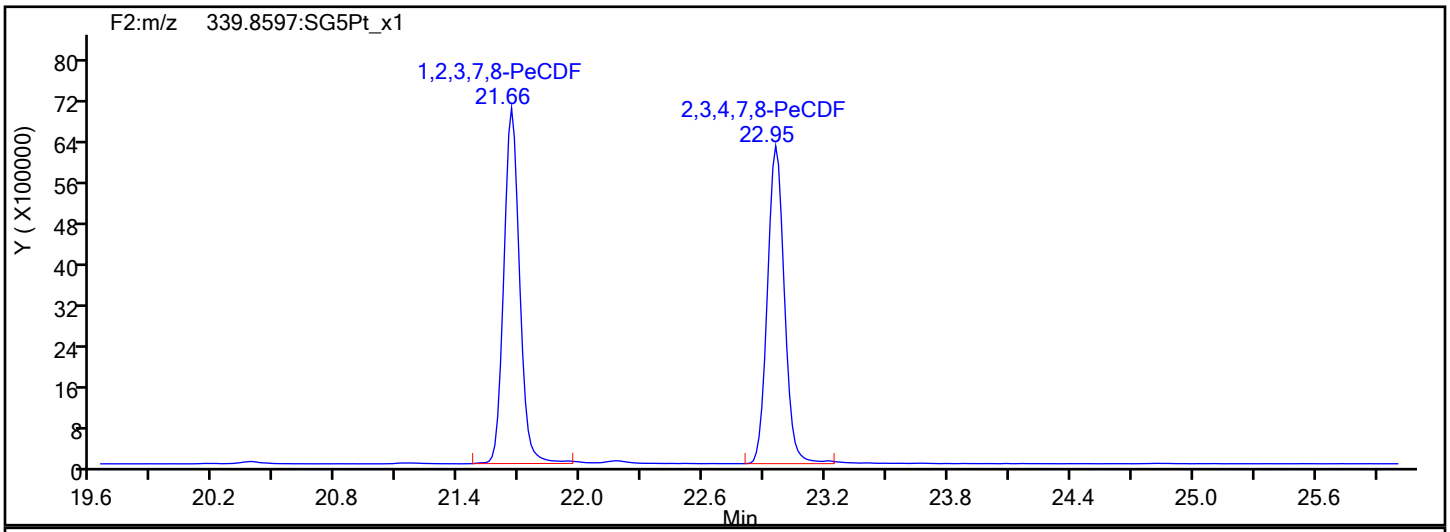

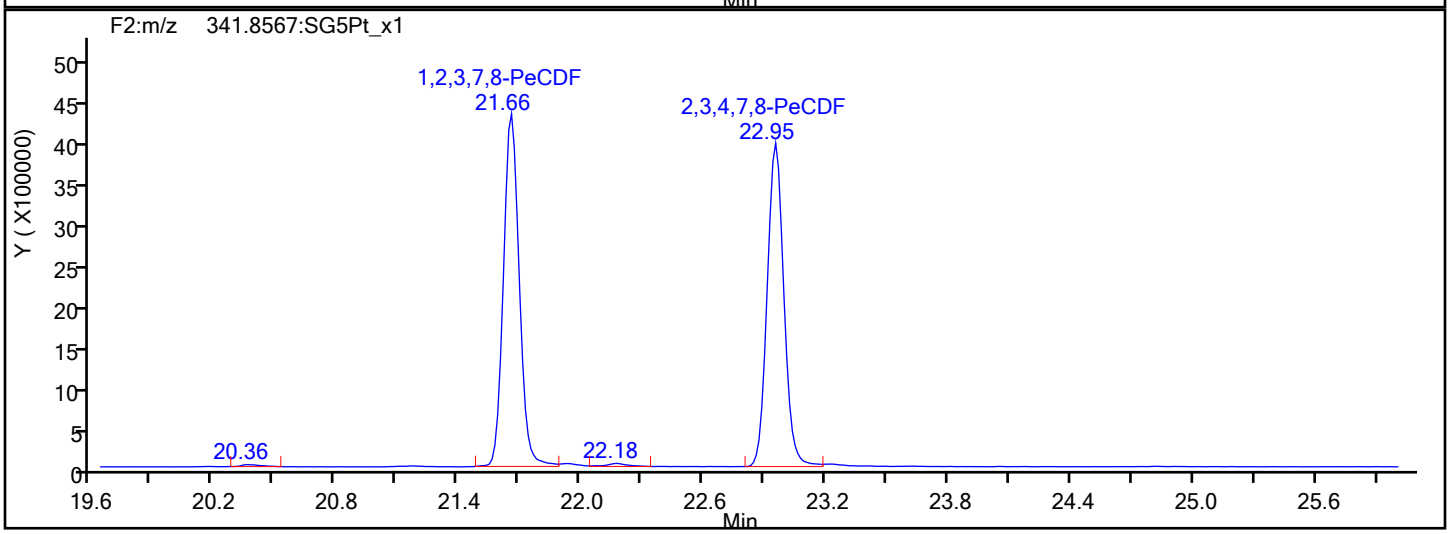

PeCDF Interference Mass

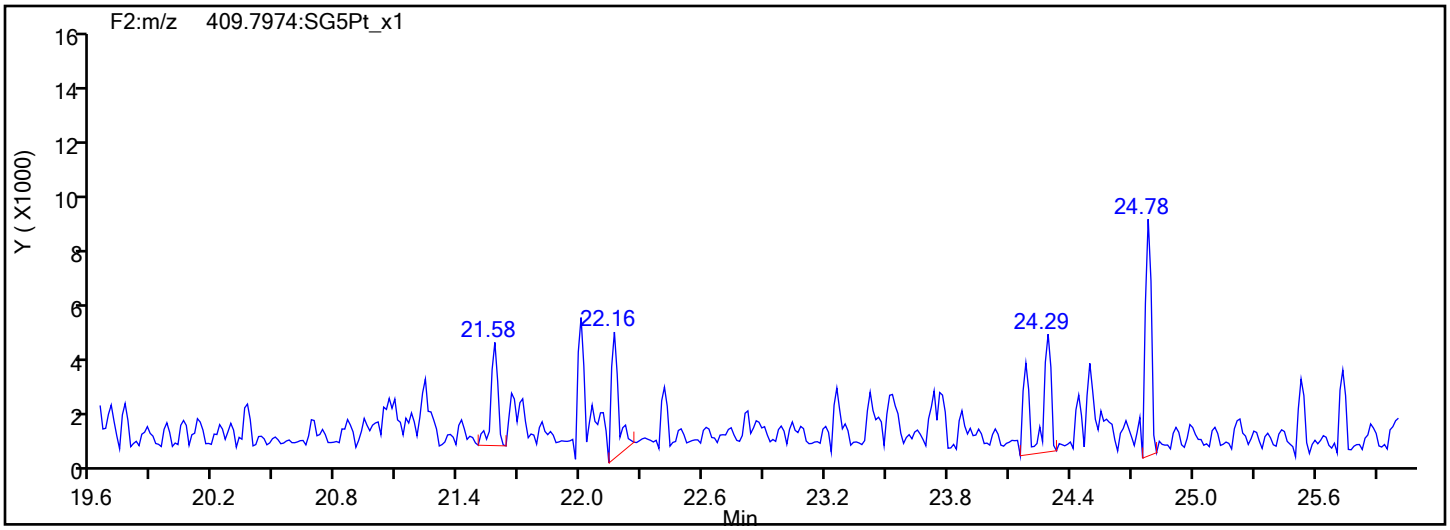

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Eurofins TestAmerica, Sacramento

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PeCDD

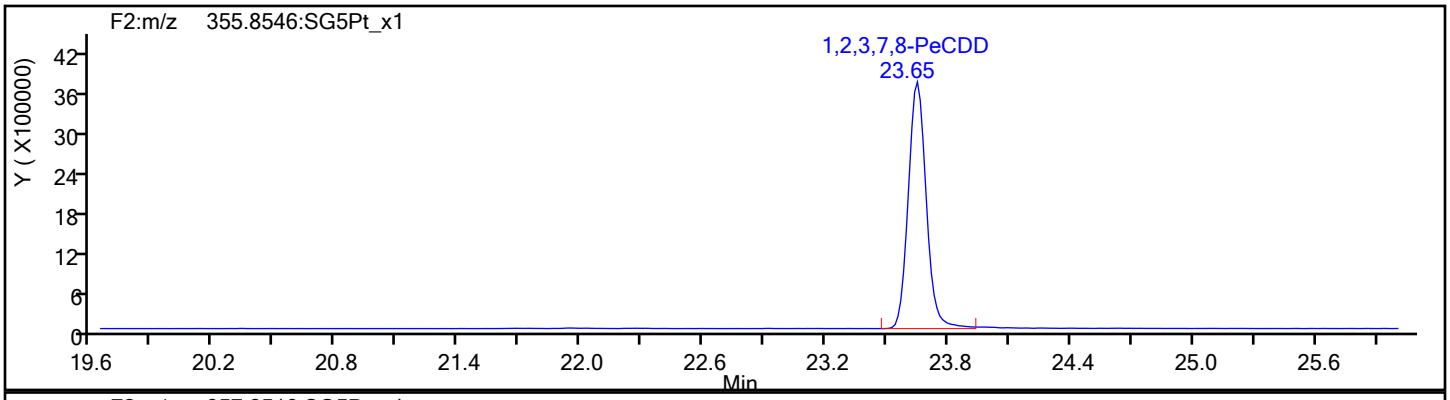

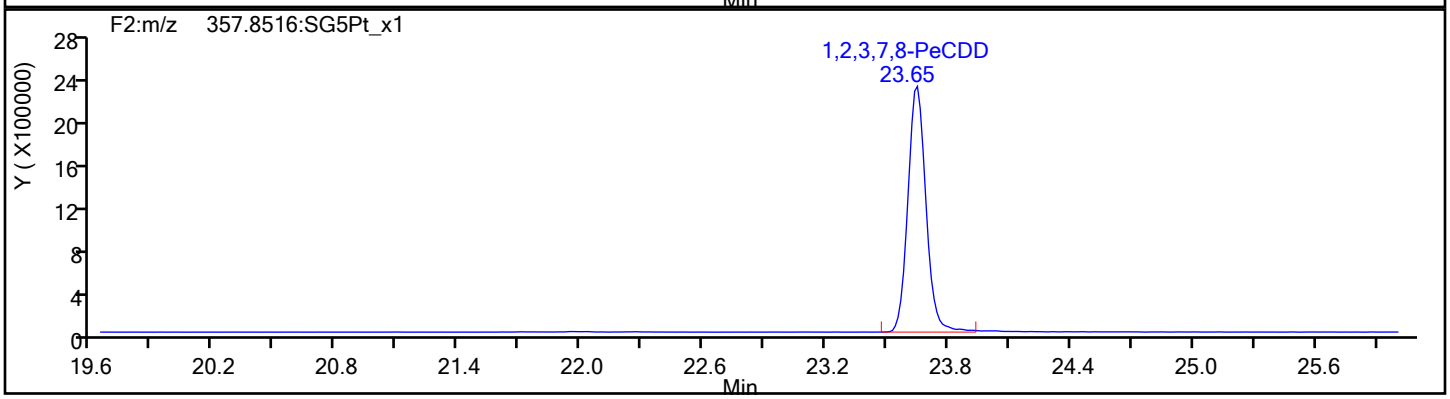

PeCDD Standards

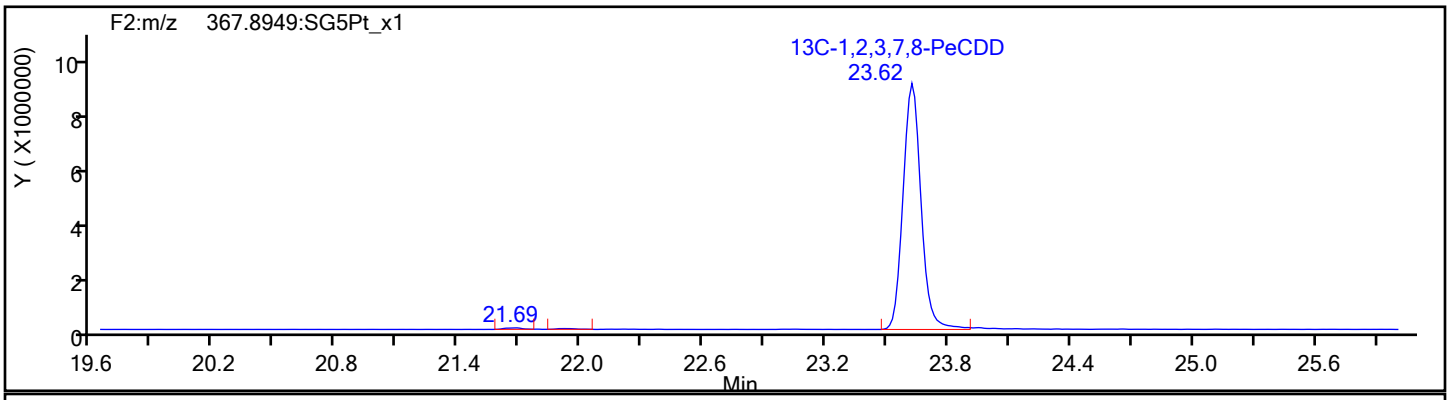

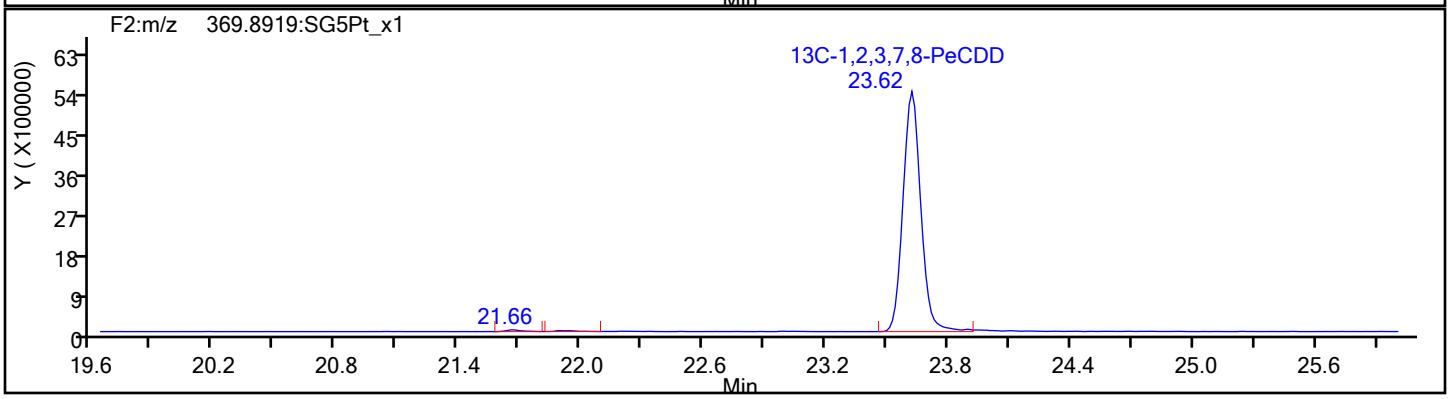

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HxCDF

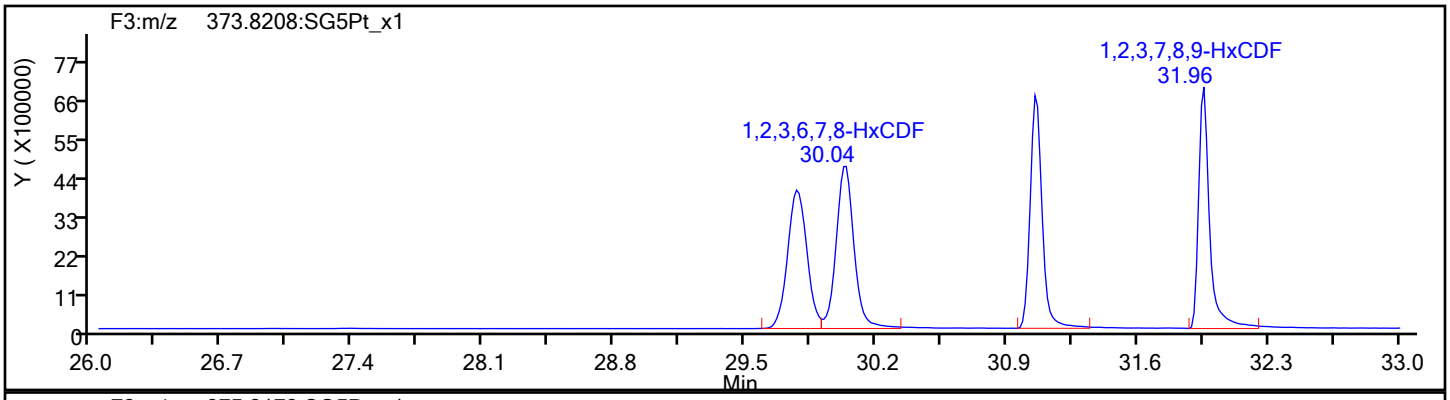

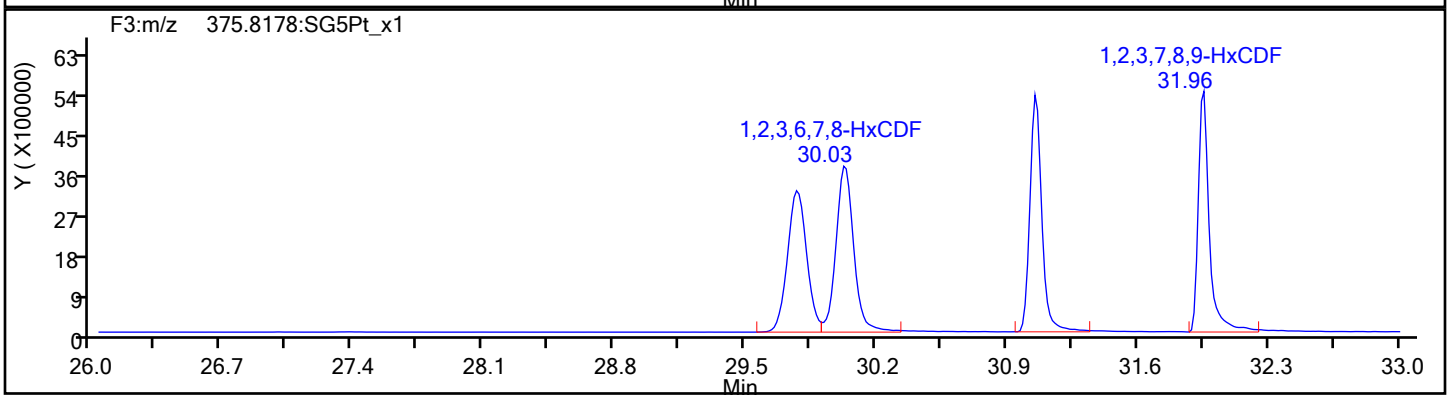

HxCDF Standards

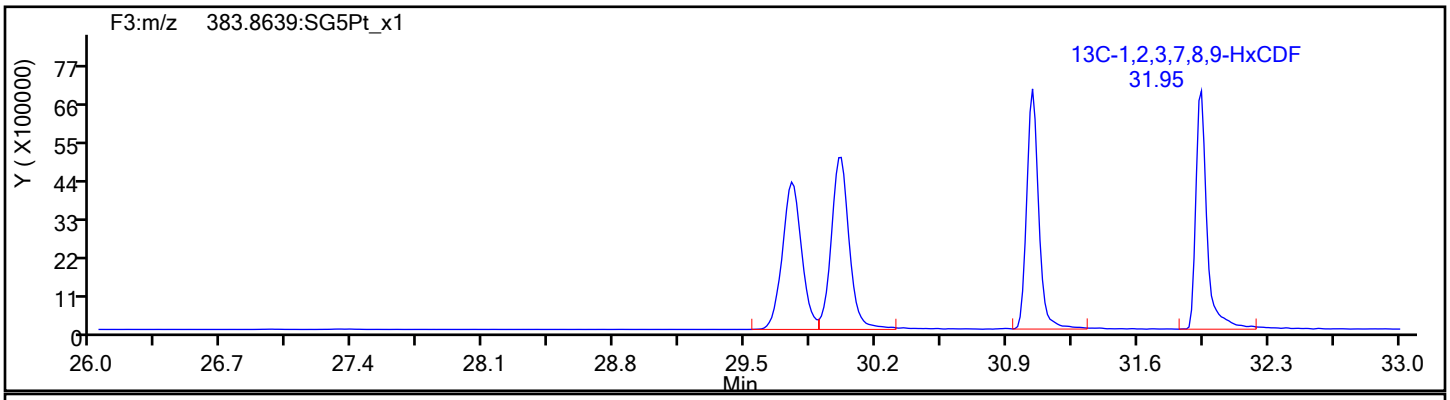

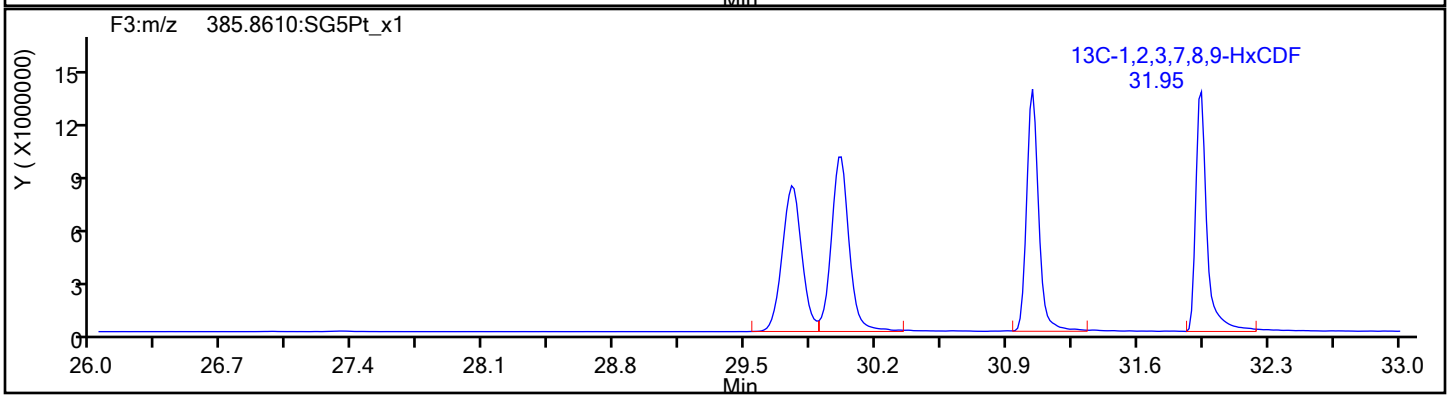

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

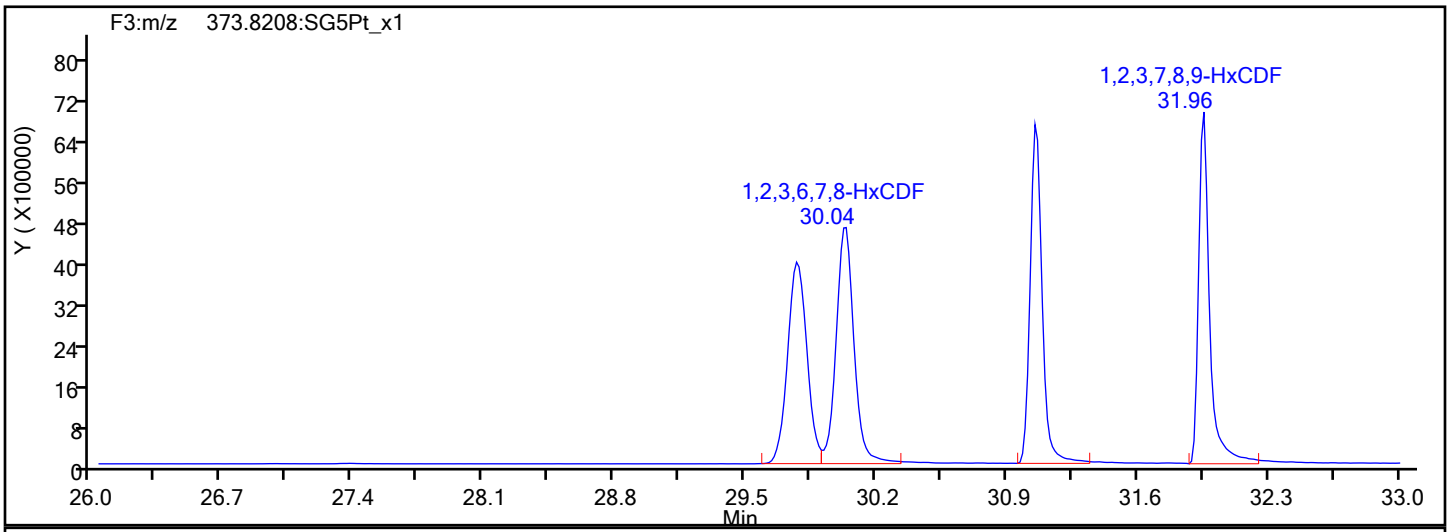

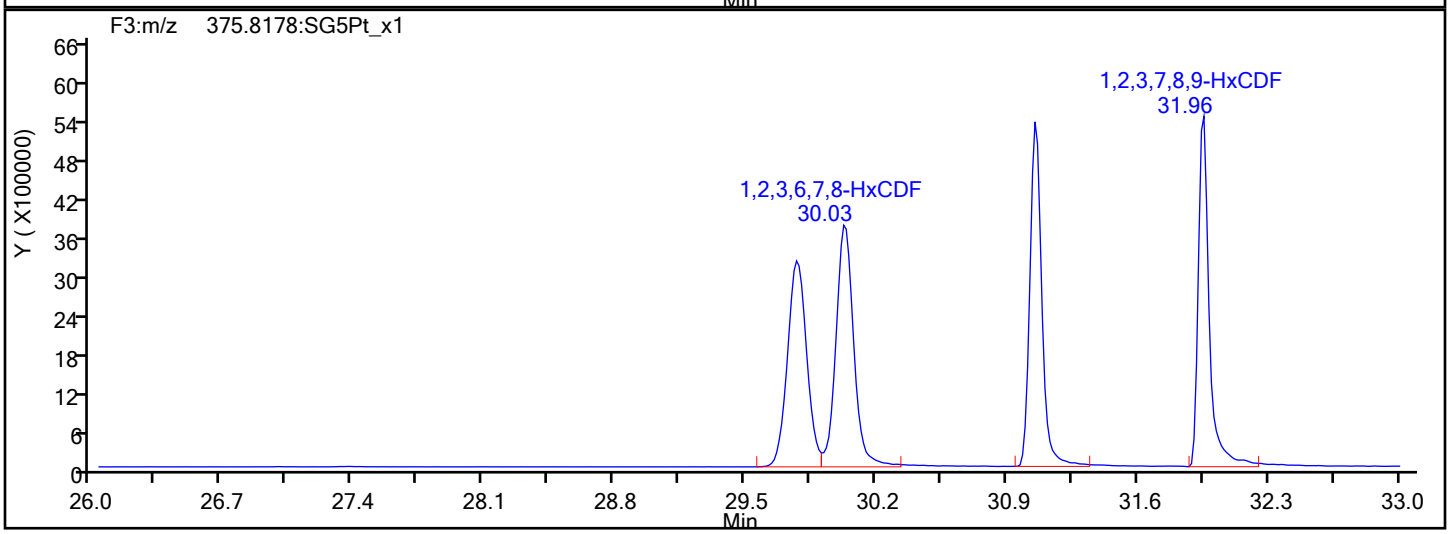

HxCDF Interference Mass

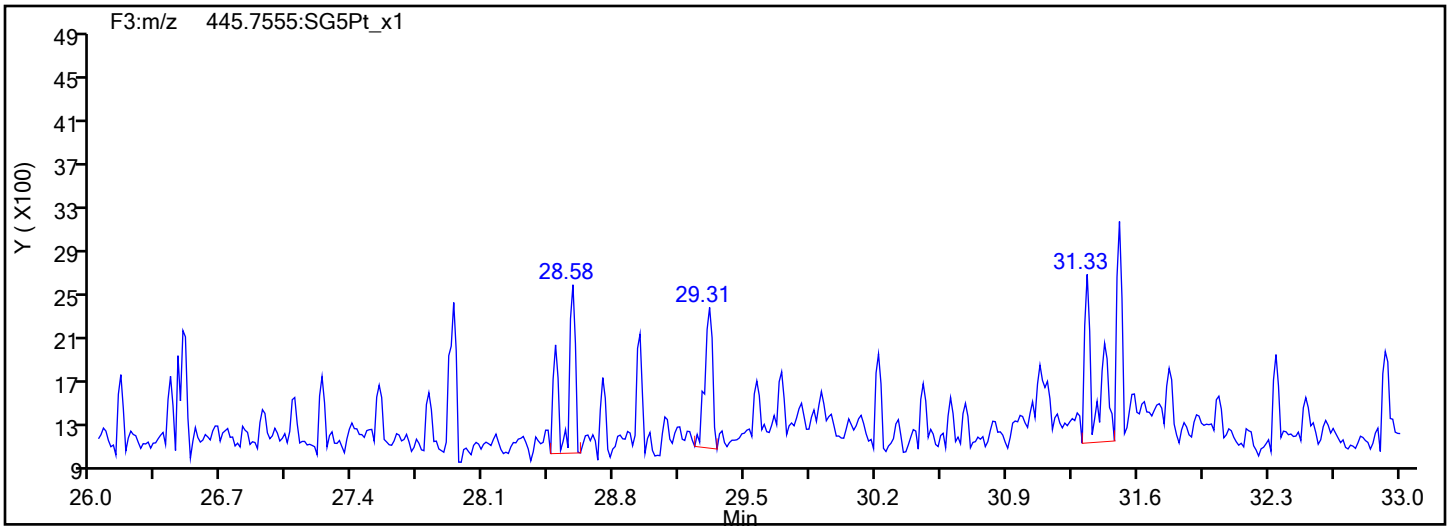

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDD

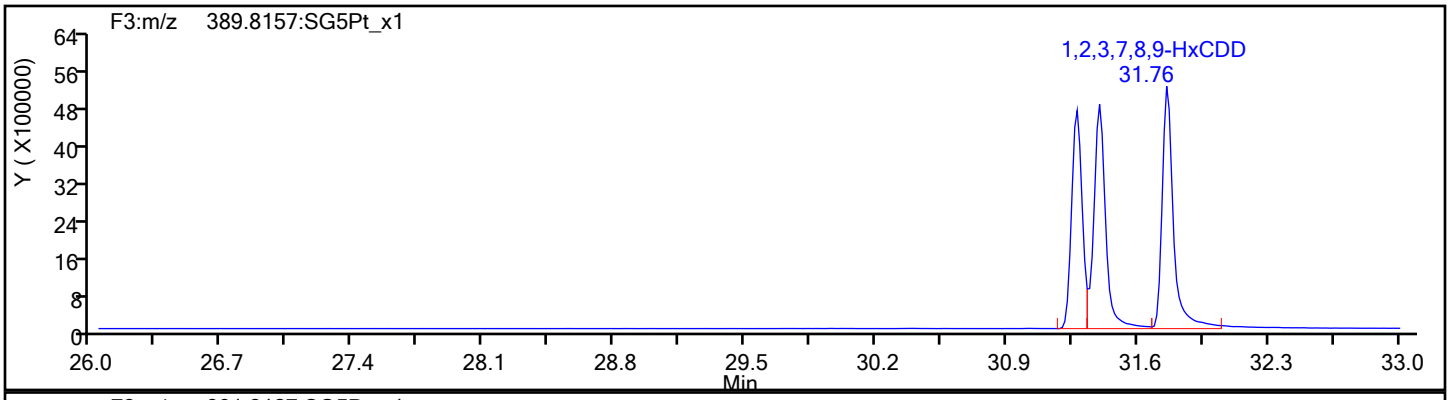

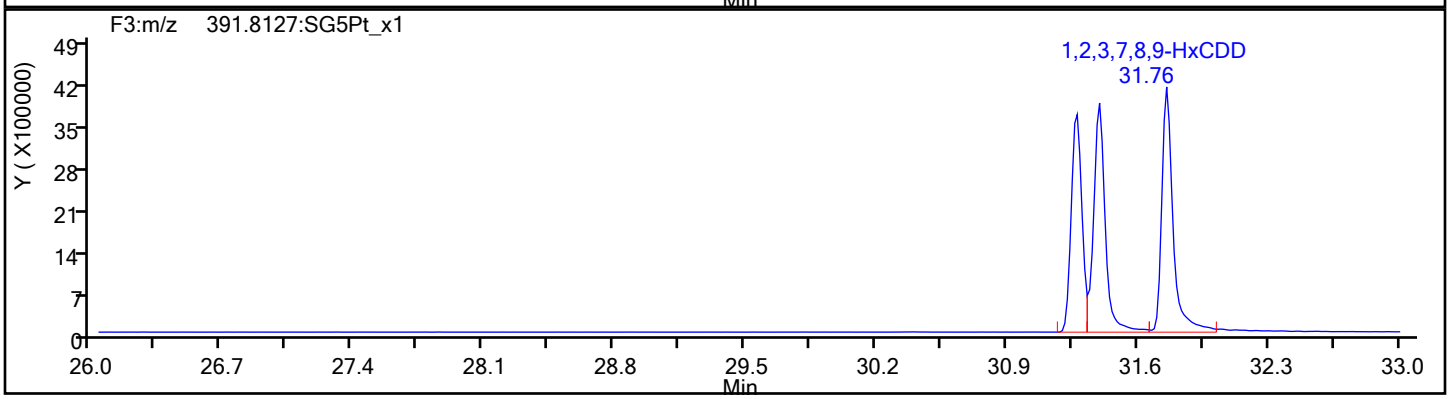

HxCDD Standards

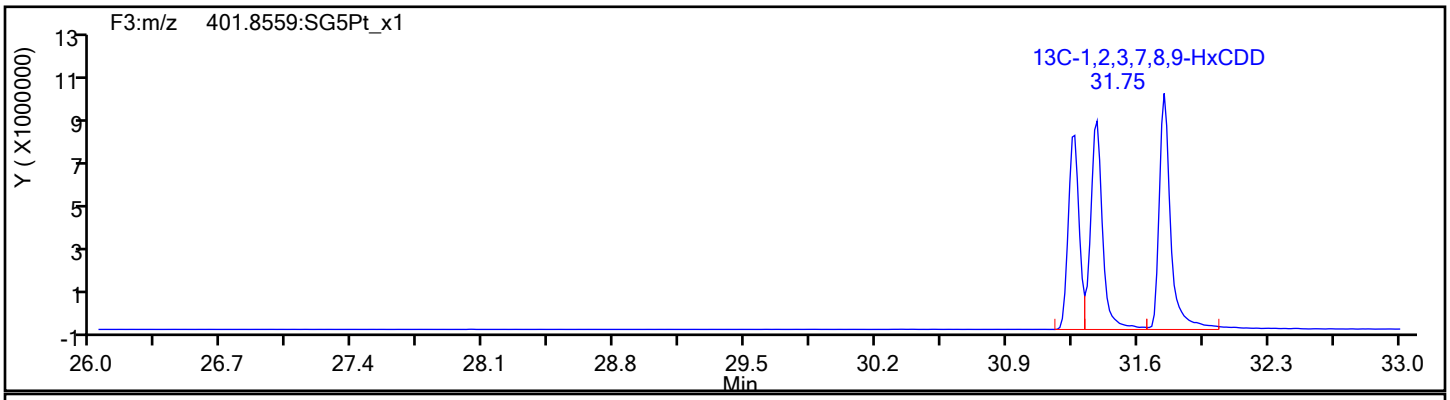

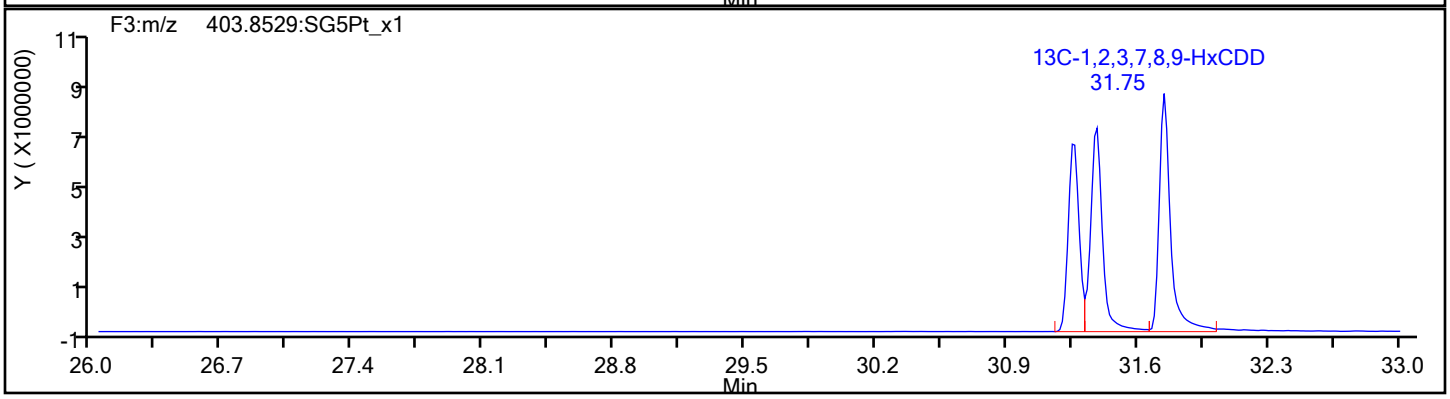

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
Injection Date:	17-Sep-2019 16:09:27	Injection Vol:	2.0 ul
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

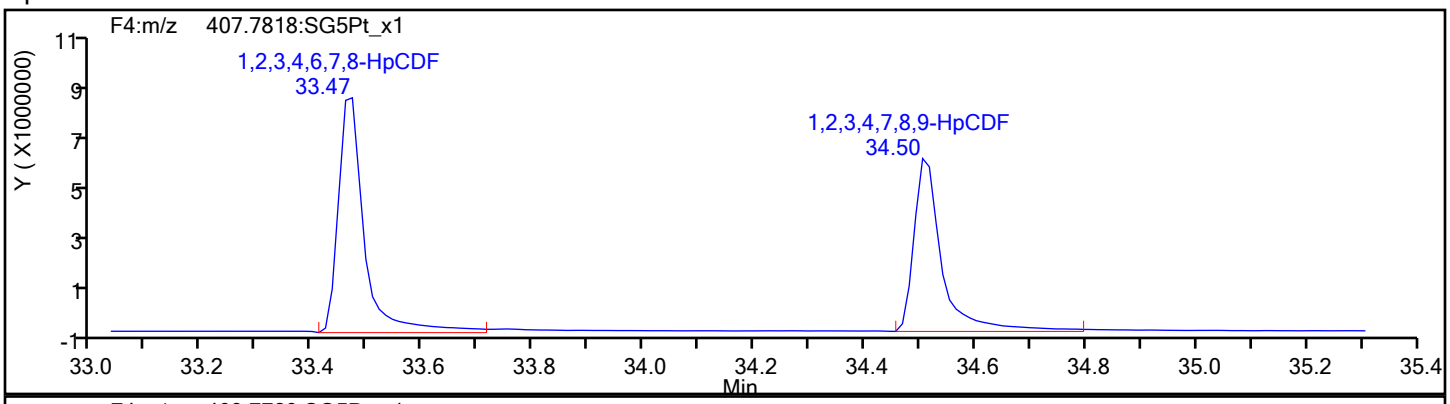

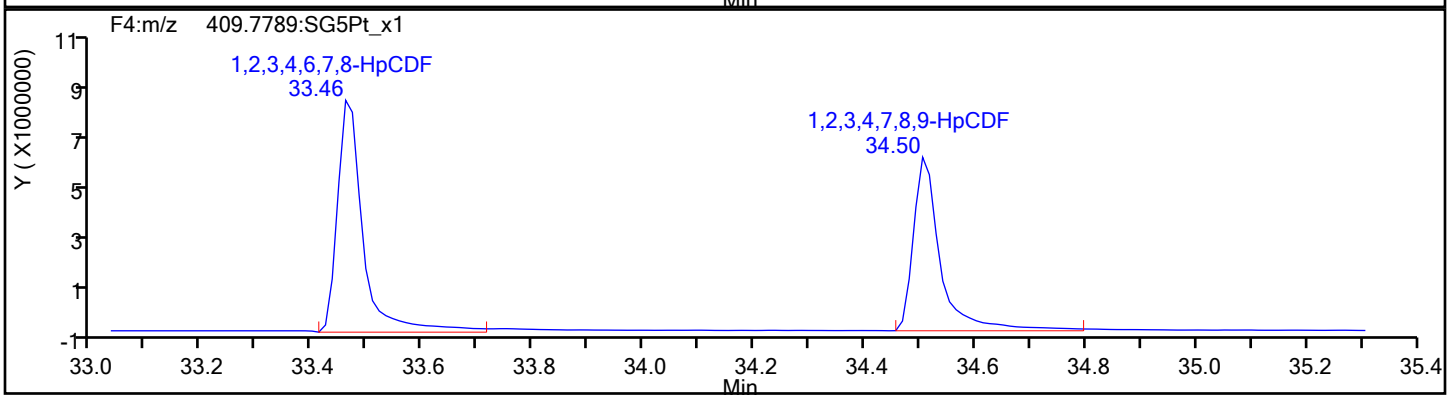

HpCDF Standards

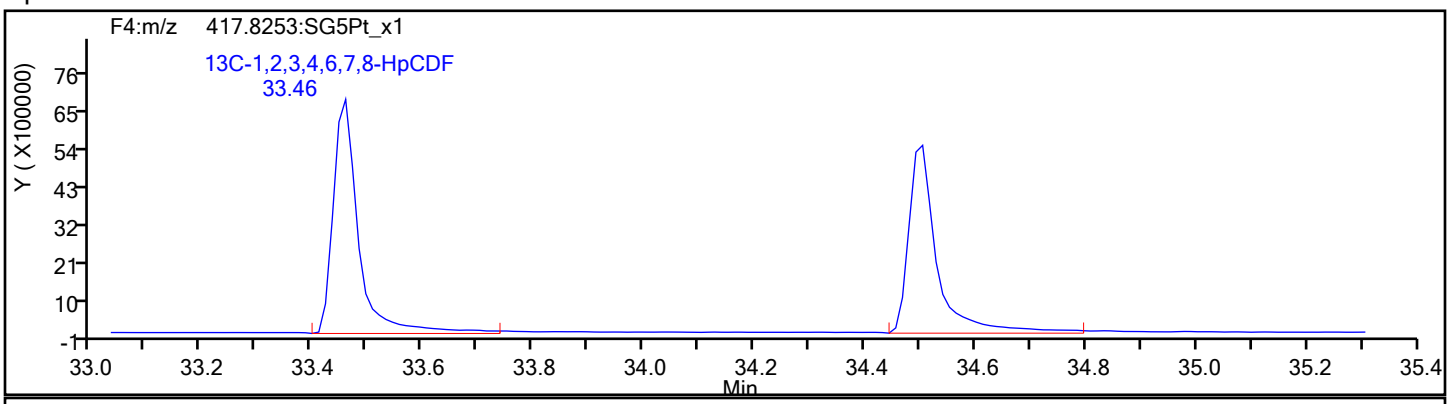

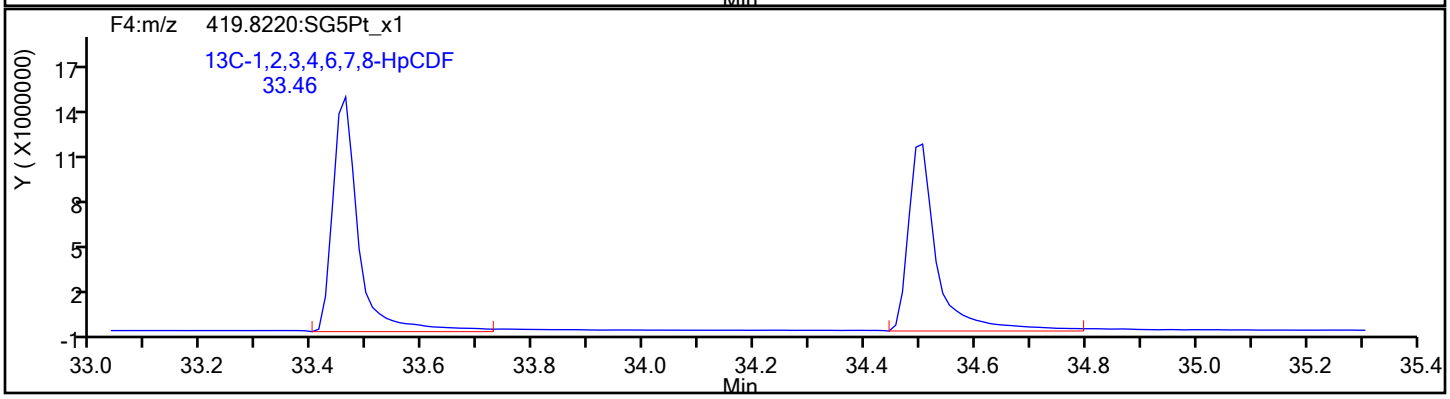

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

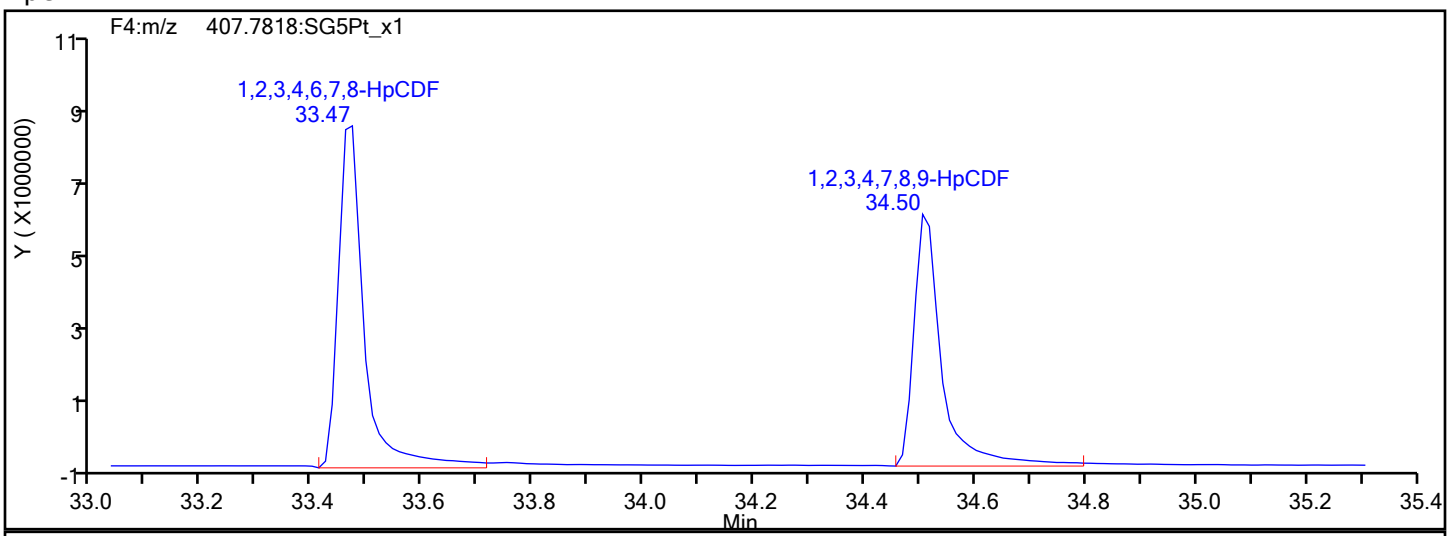

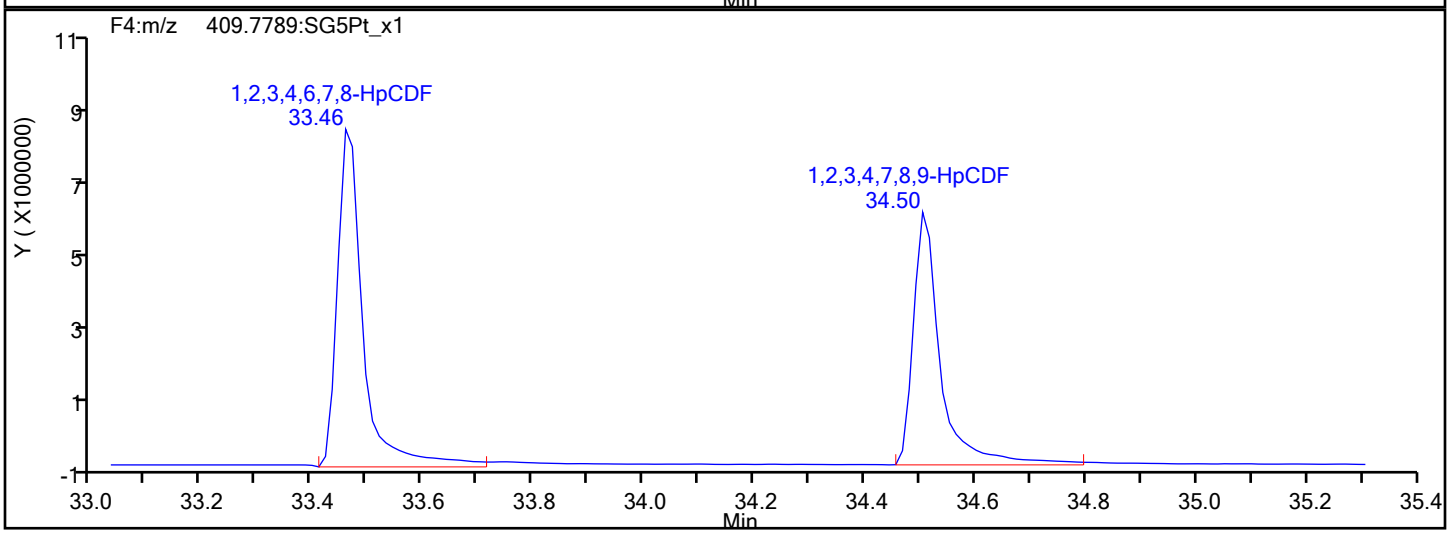

HpCDF Interference Mass

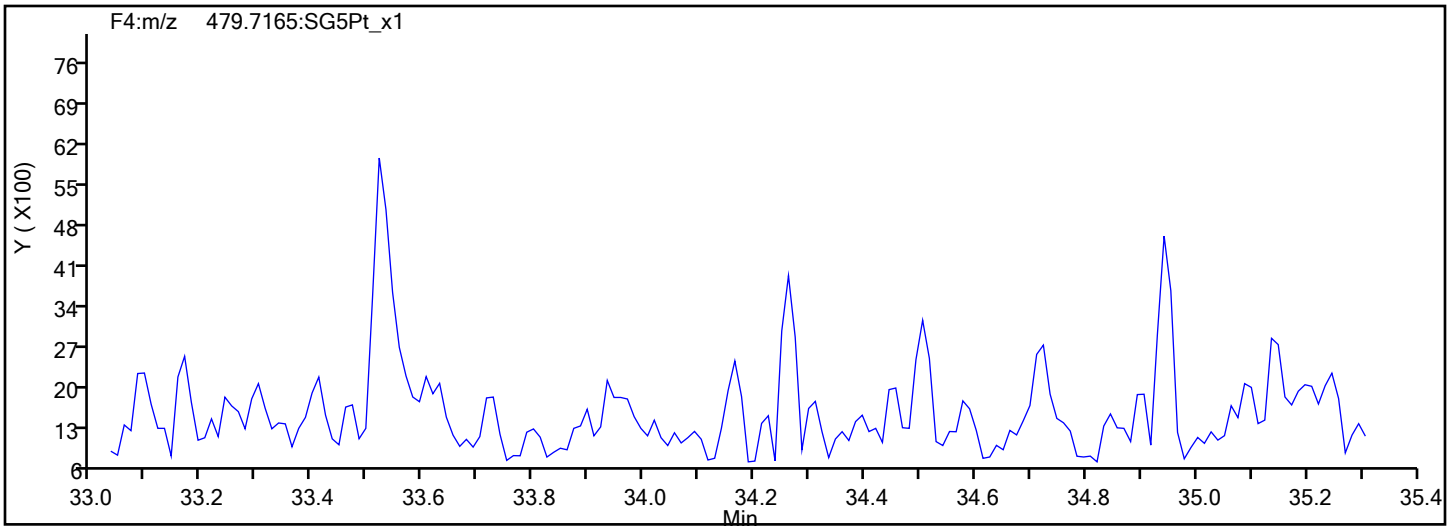

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
Injection Date:	17-Sep-2019 16:09:27	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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HpCDD

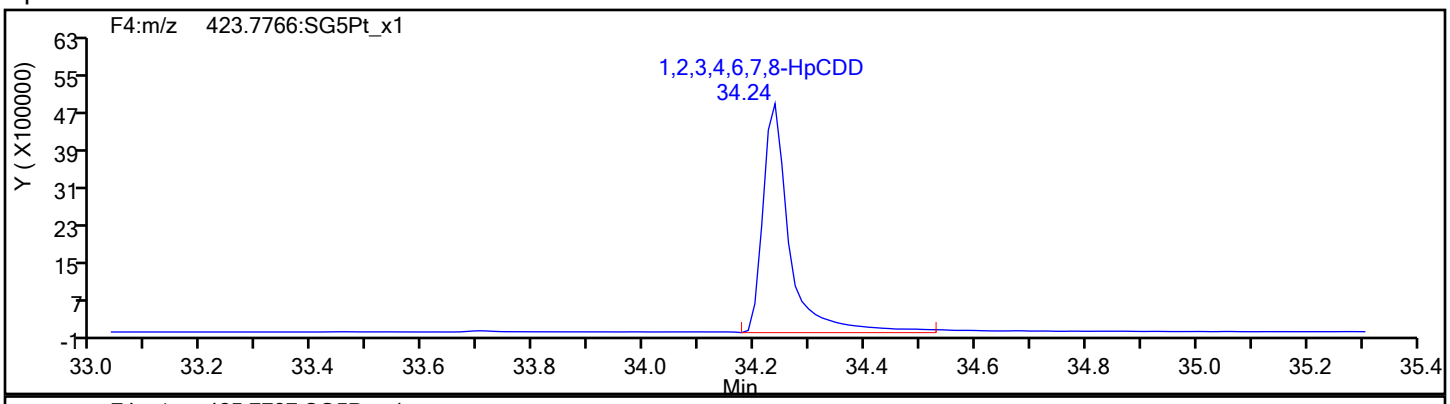

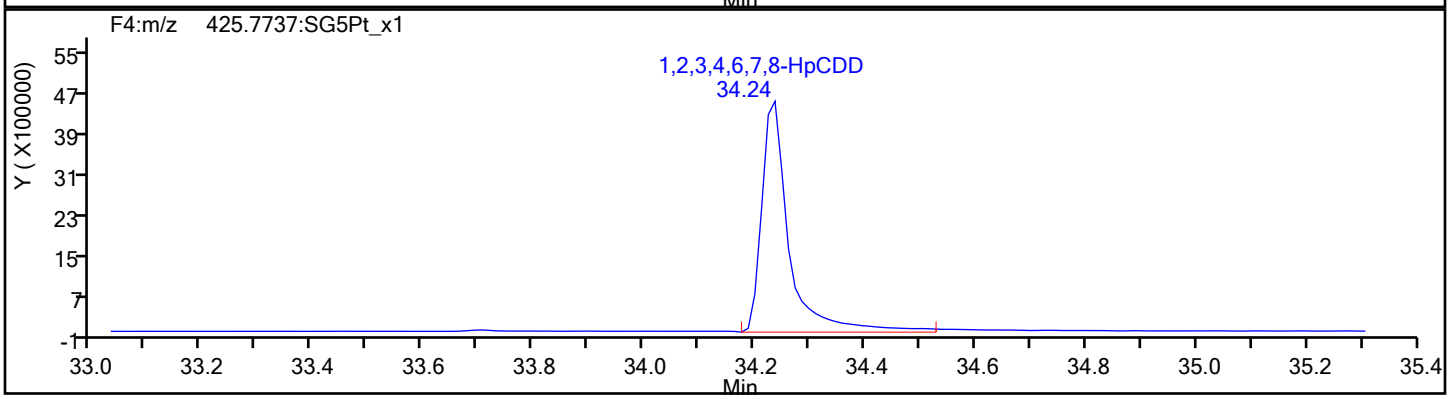

HpCDD Standards

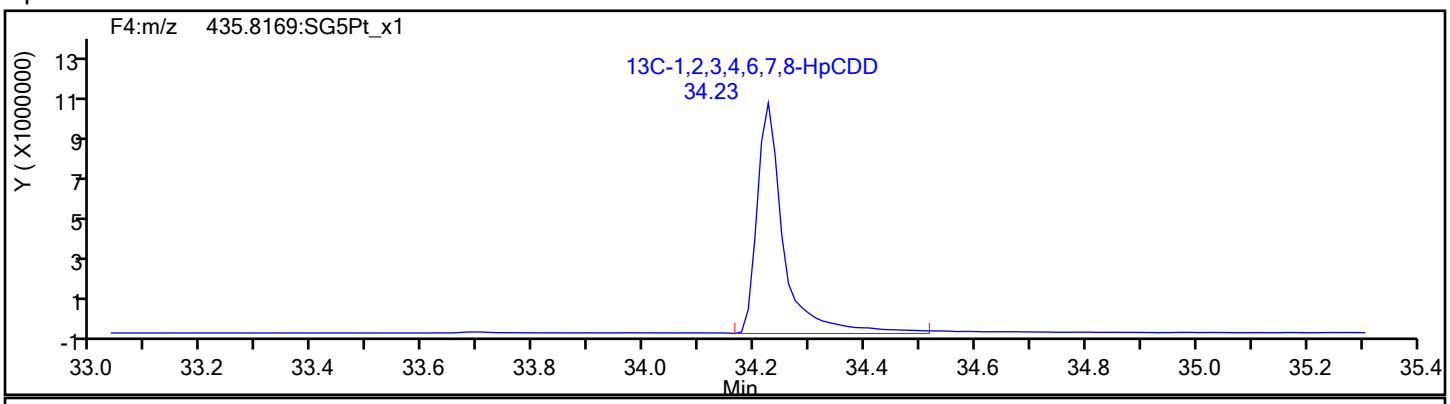

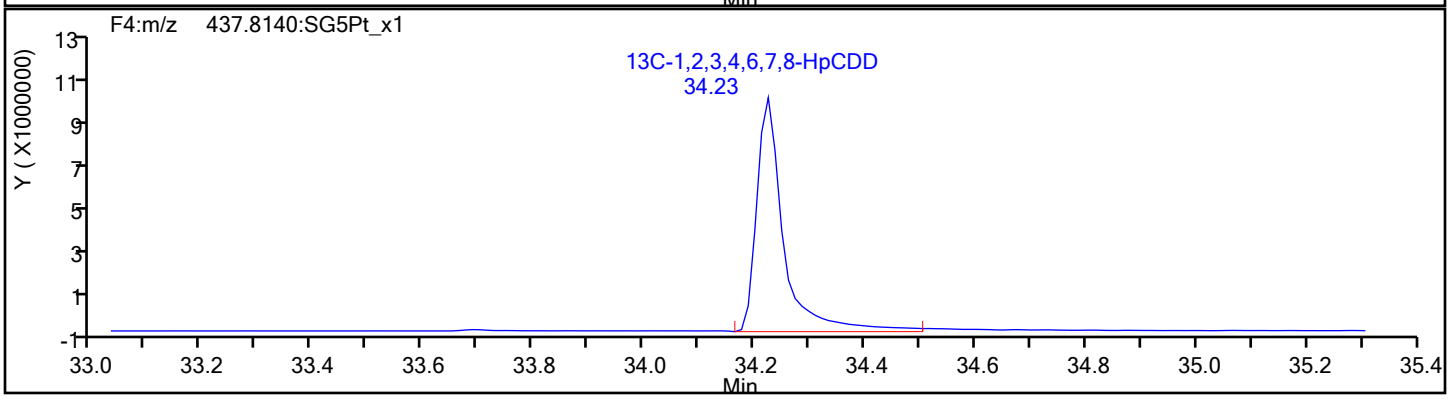

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

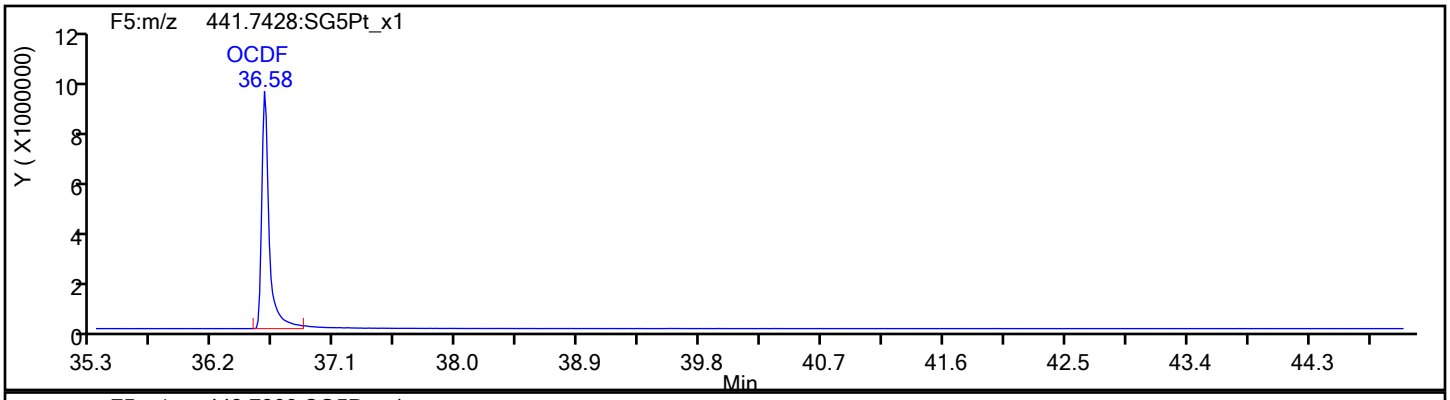

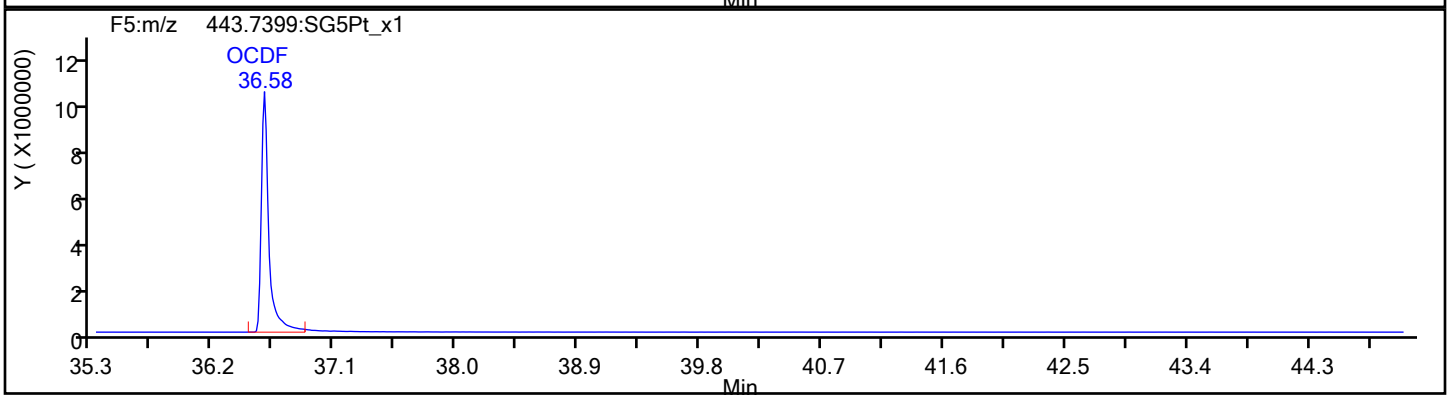

OCDF Standards

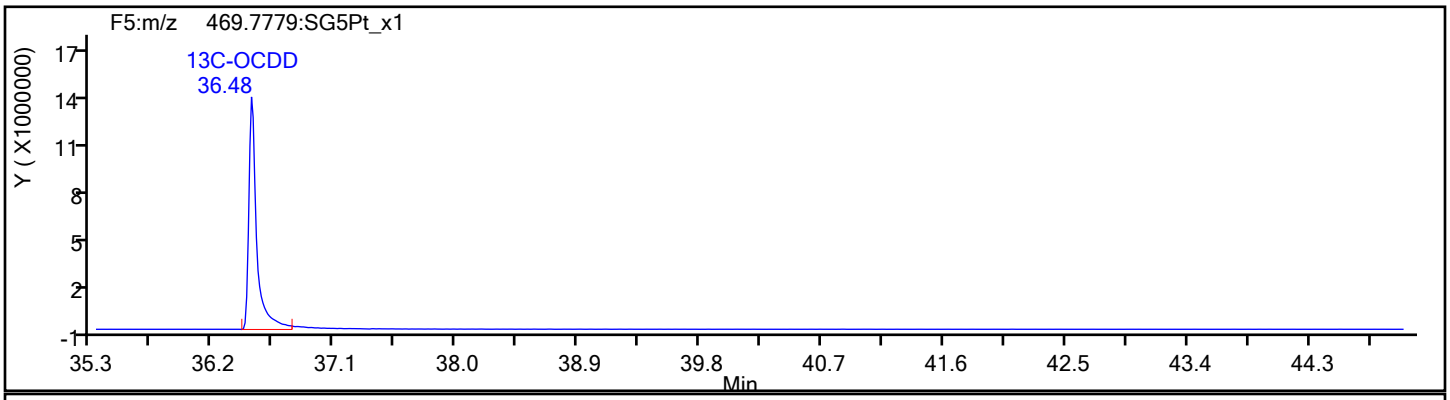

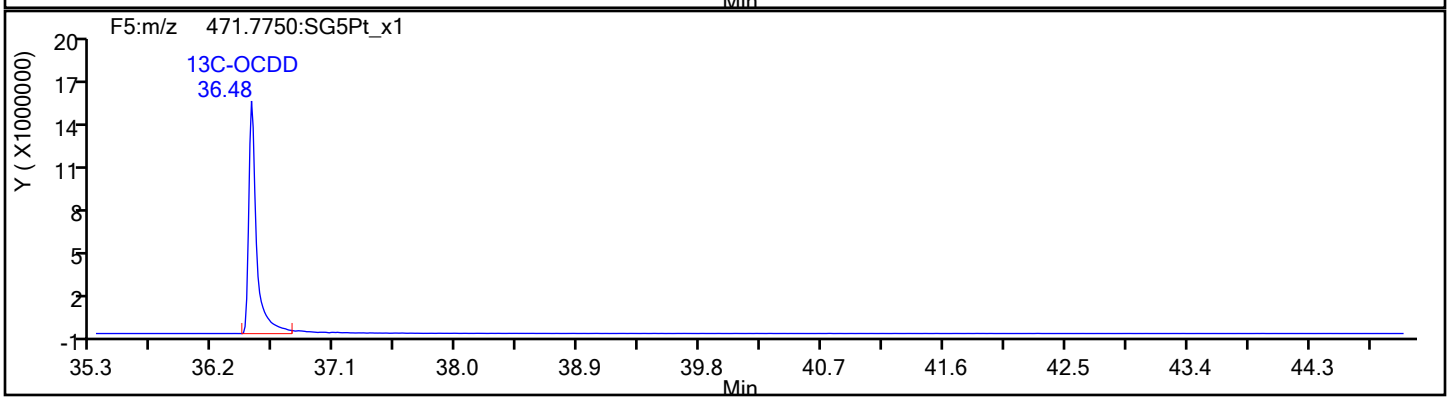

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

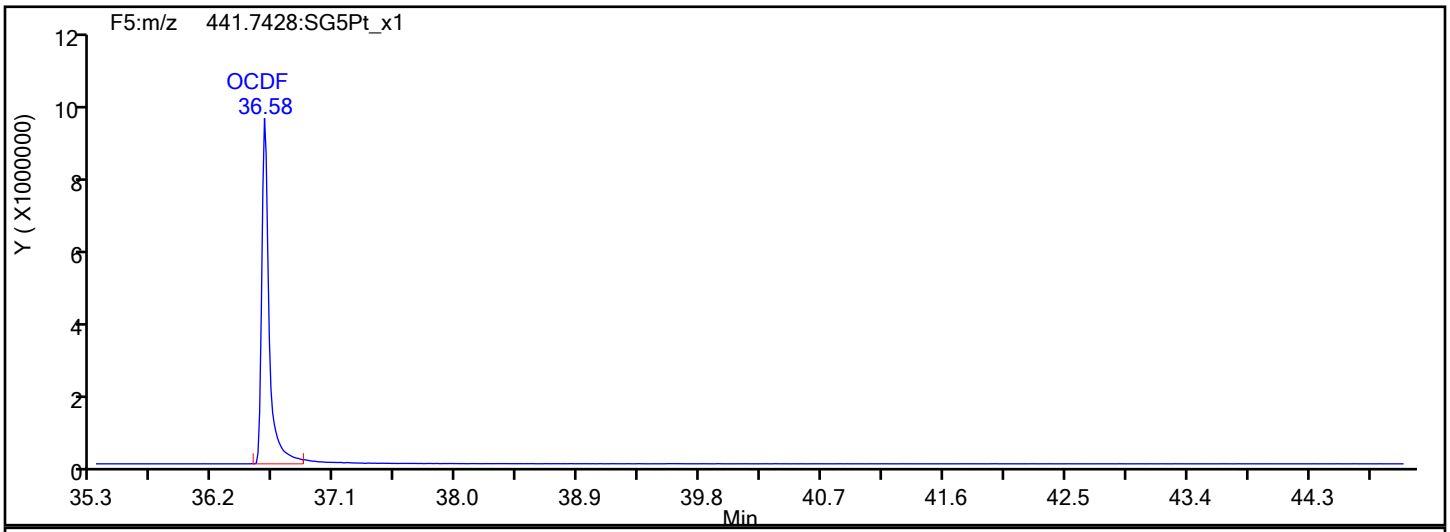

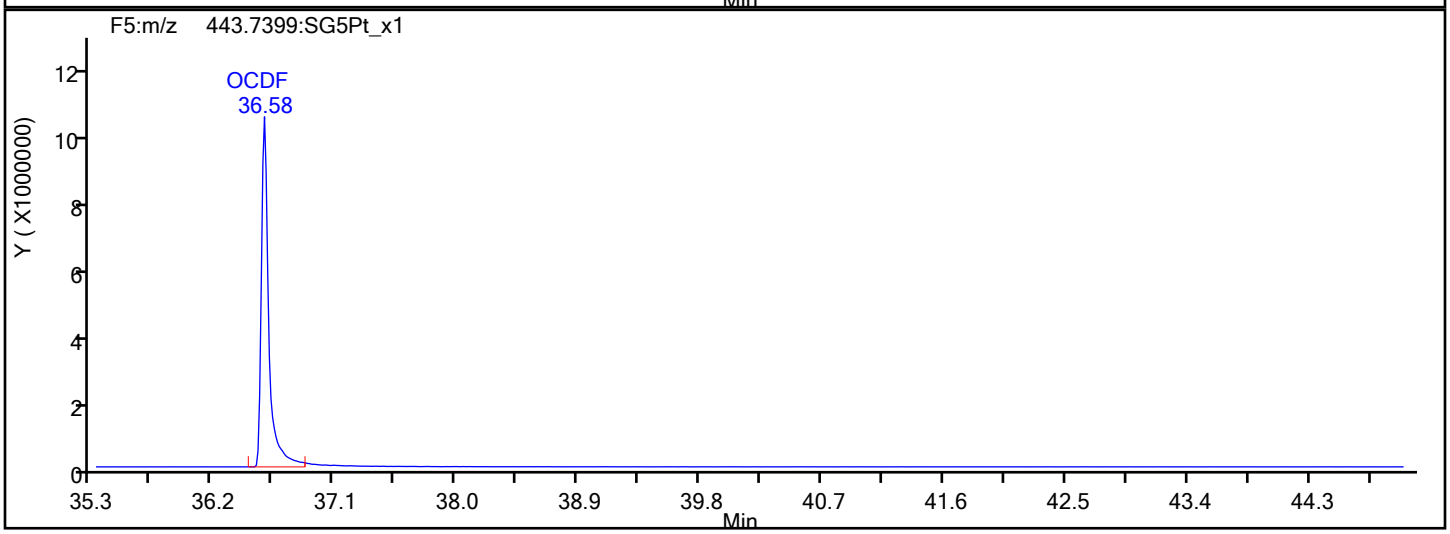

OCDF Interference Mass

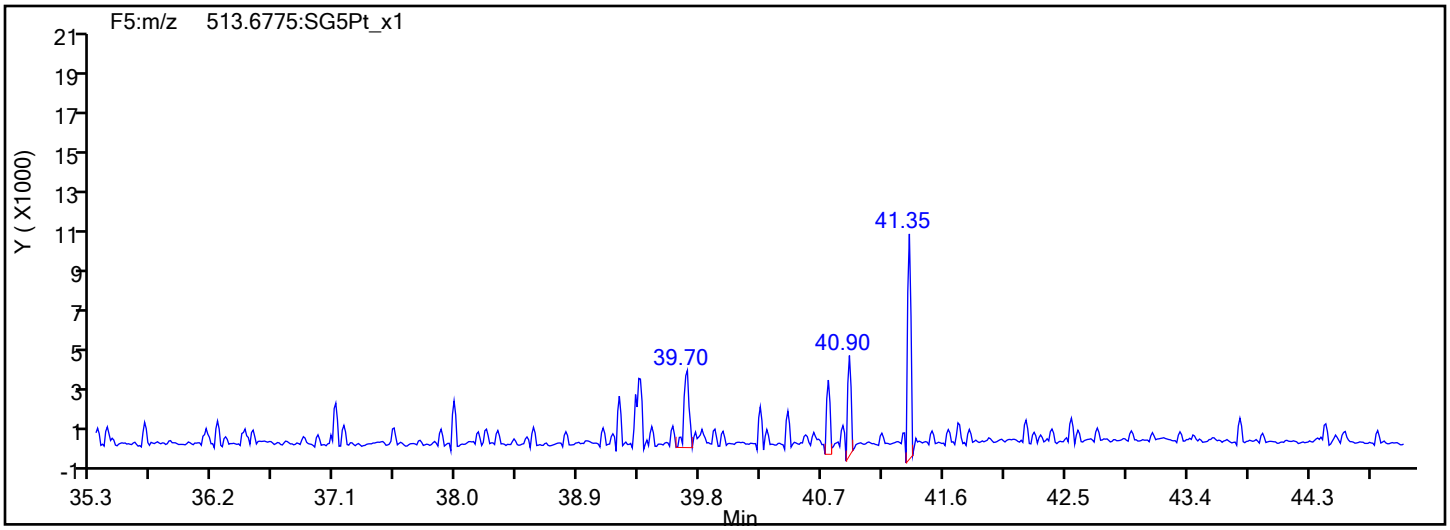

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

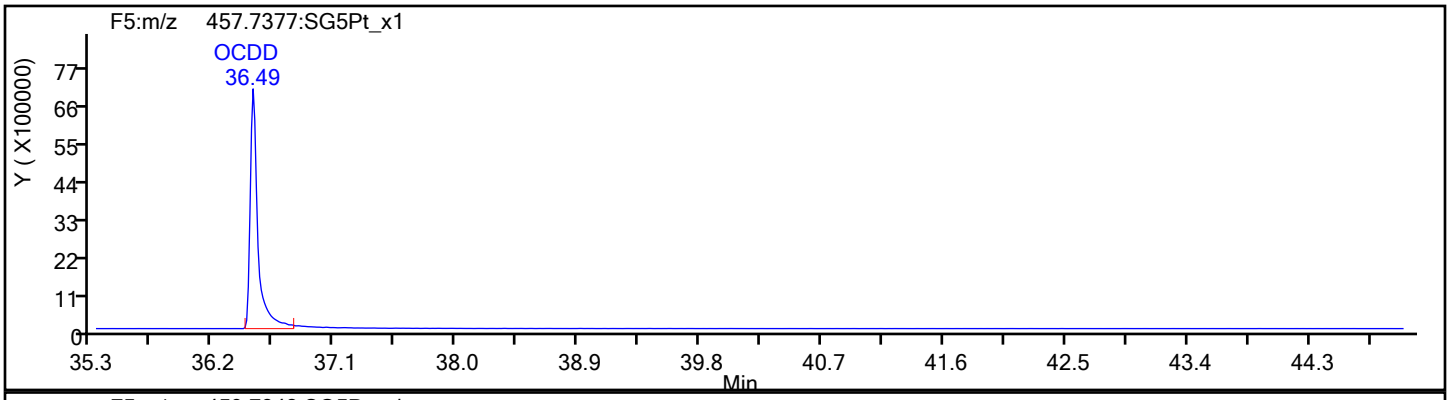

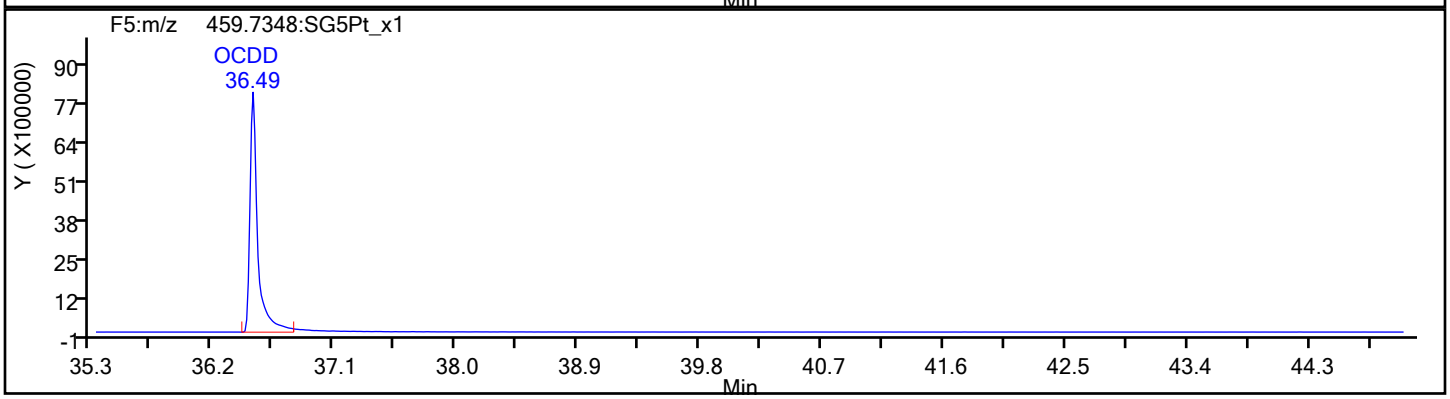

OCDD Standards

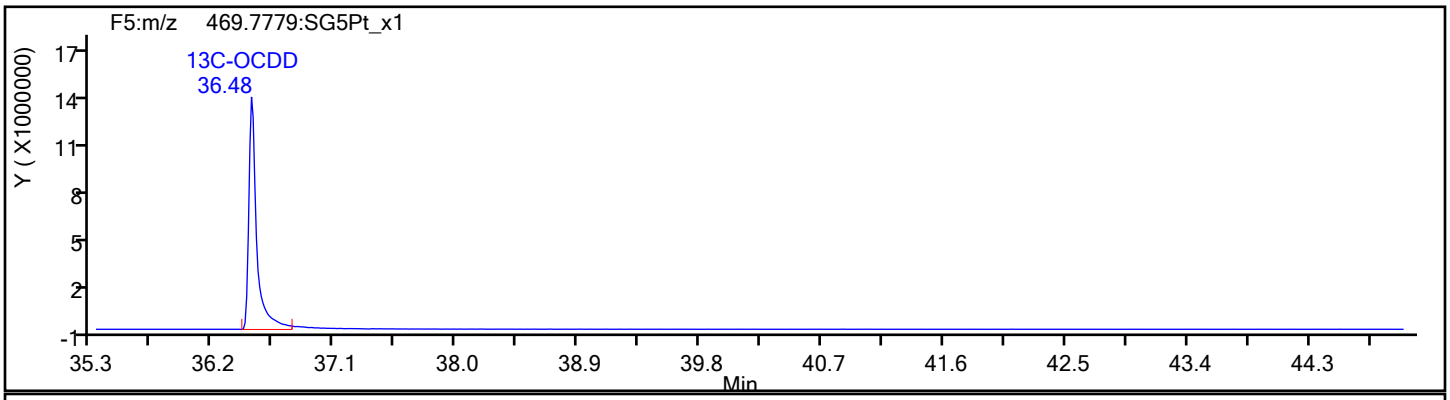

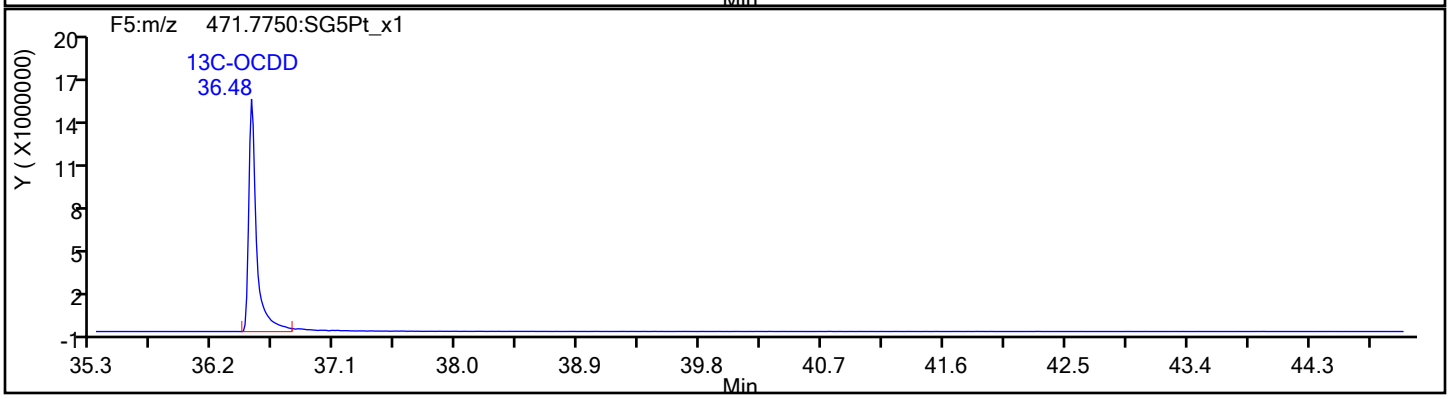

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
Injection Date:	17-Sep-2019 16:09:27	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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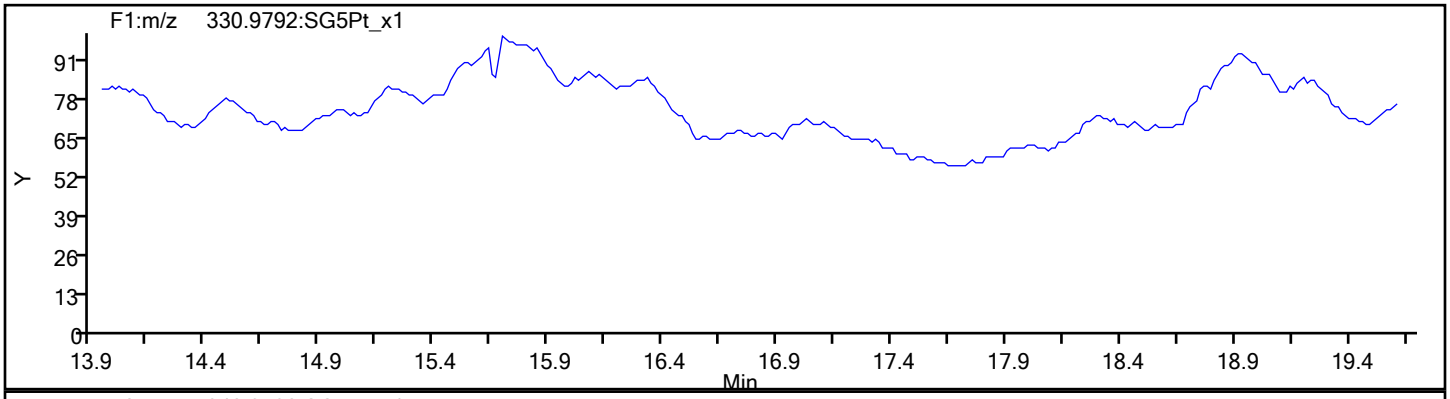

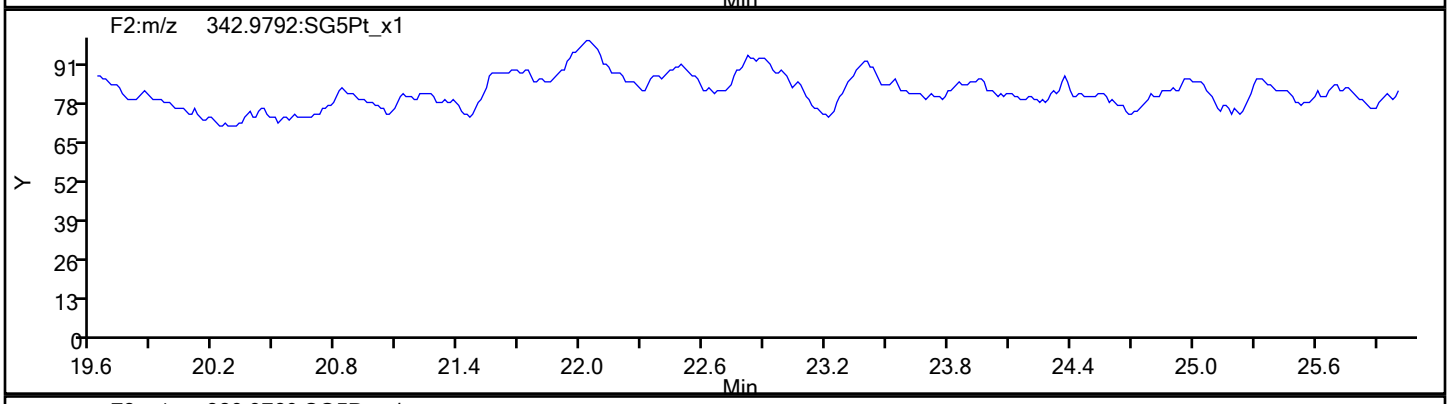

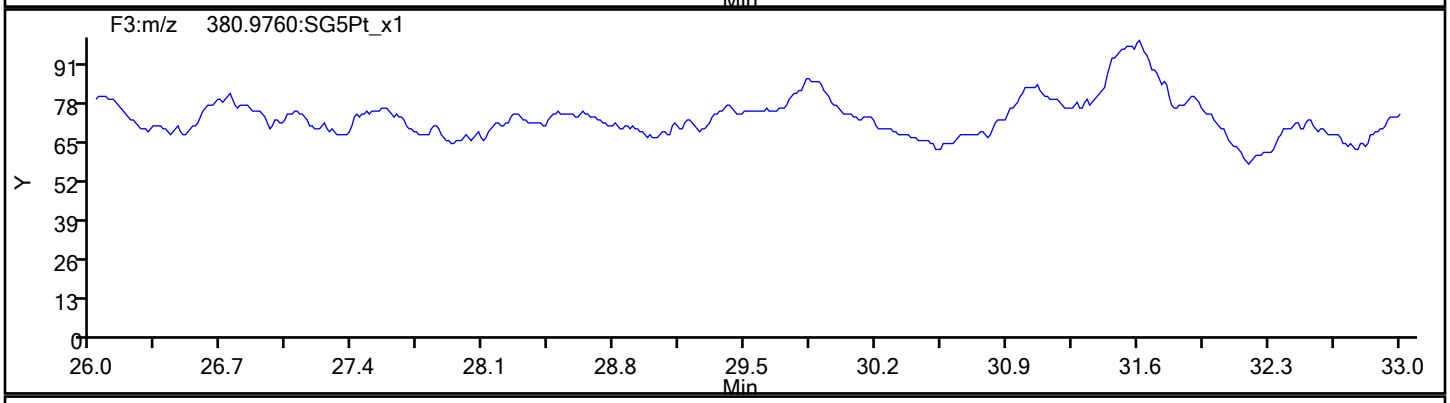

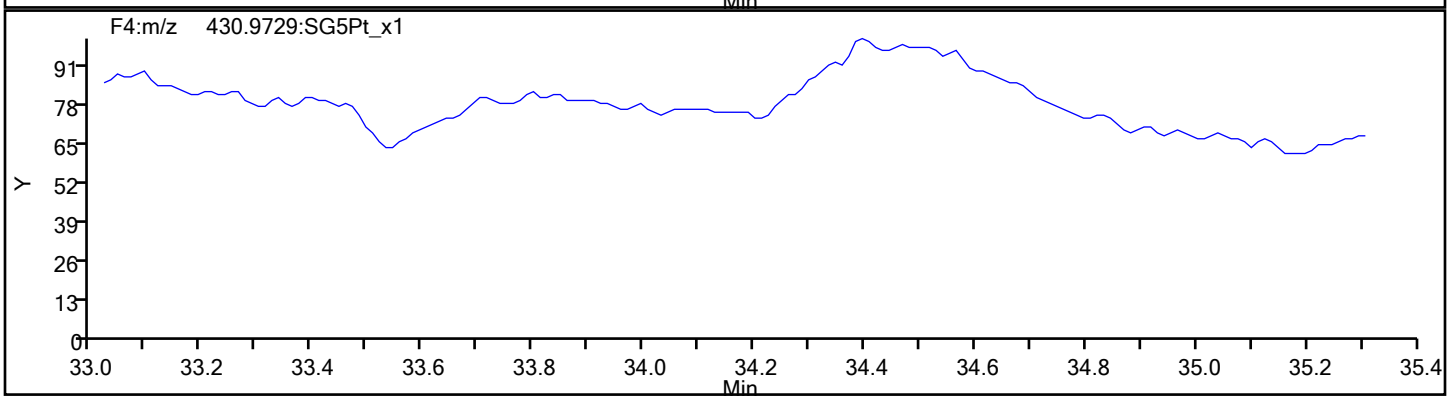

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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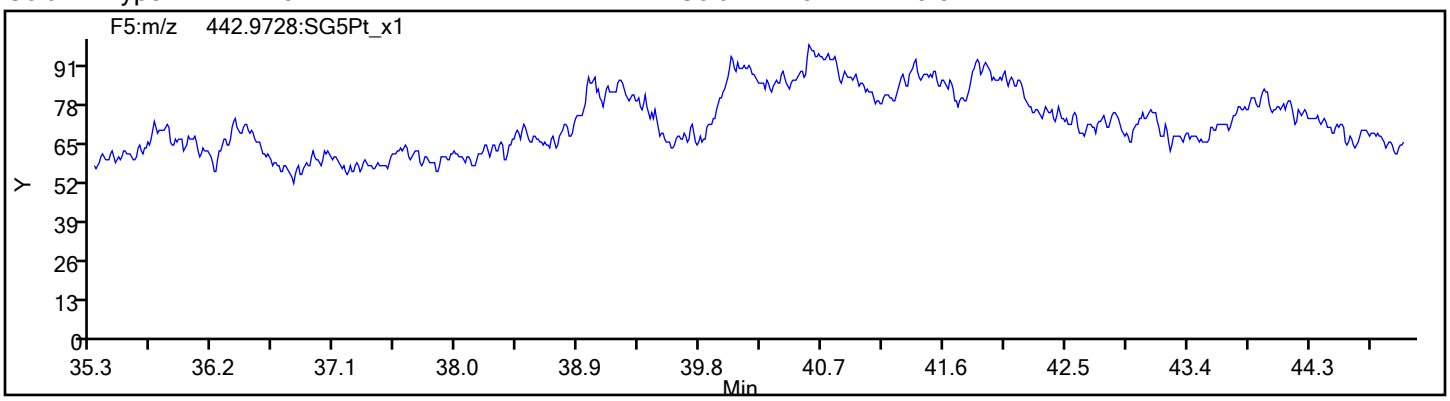

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 17-Sep-2019 16:55:33 ALS Bottle#: 7 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719D CS-6 HRDXNL6_00024
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:47 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:54:56

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.300	157084773	0.78	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.801	225533576	0.80	1.4384	99.8	99.8	0.1407	0.1407	99.82	
2,3,7,8-TCDF	16.816	462672519	0.79	1.0507	195.2	195.2	0.2682	0.2682	97.62	
S Total TCDF					195.2	195.2	0.2682	0.2682		
D 13C-2,3,7,8-TCDD	17.481	150666513	0.77	0.9533	100.6	100.6	0.1699	0.1699	101	
$ 37Cl4-2,3,7,8-TCDD	17.496	402794059		1.2224	209.8	209.8	0.1859	0.1859	105	
2,3,7,8-TCDD	17.511	327747086	0.80	1.1064	196.6	196.6	0.1471	0.1471	98.31	
S Total TCDD					196.6	196.6	0.1471	0.1471		
D 13C-1,2,3,7,8-PeCDF	21.645	171862914	1.60	1.0286	106.4	106.4	0.2163	0.2163	106	
1,2,3,7,8-PeCDF	21.659	1845377073	1.58	1.0822	992.2	992.2	2.737	2.737	99.22	
D 13C-2,3,4,7,8-PeCDF	22.940	167797734	1.58	0.9827	108.7	108.7	0.2264	0.2264	109	
2,3,4,7,8-PeCDF	22.954	1854754260	1.57	1.1032	1001.9	1001.9	2.942	2.942	100	
S Total PeCDF					1994.1	1994.1	2.839	2.839		
D 13C-1,2,3,7,8-PeCDD	23.622	129152474	1.52	0.7481	109.9	109.9	0.1201	0.1201	110	
1,2,3,7,8-PeCDD	23.649	1162563715	1.58	0.9050	994.6	994.6	1.041	1.041	99.46	
S Total PeCDD					994.6	994.6	1.041	1.041		
D 13C-1,2,3,4,7,8-HxCDF	29.775	140595624	0.52	1.1520	100.0	100.0	0.4225	0.4225	99.98	
1,2,3,4,7,8-HxCDF	29.802	1688948701	1.26	1.1973	1003.3	1003.3	7.472	7.472	100	
D 13C-1,2,3,6,7,8-HxCDF	30.015	151833452	0.53	1.2434	100.0	100.0	0.3914	0.3914	100	
1,2,3,6,7,8-HxCDF	30.042	1790437956	1.26	1.1807	998.8	998.8	6.340	6.340	99.88	
D 13C-2,3,4,6,7,8-HxCDF	31.040	147071003	0.53	1.1720	102.8	102.8	0.4153	0.4153	103	
2,3,4,6,7,8-HxCDF	31.066	1773083873	1.25	1.2116	995.1	995.1	4.324	4.324	99.51	
D 13C-1,2,3,7,8,9-HxCDF	31.945	129353689	0.52	1.0655	99.5	99.5	0.4568	0.4568	99.46	
1,2,3,7,8,9-HxCDF	31.958	1579646001	1.26	1.2451	980.8	980.8	4.155	4.155	98.08	
S Total HxCDF					3977.9	3977.9	5.573	5.573		
* 13C-1,2,3,7,8,9-HxCDD	31.745	122060377	1.25	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.266	100374877	1.33	0.7812	105.3	105.3	0.3579	0.3579	105	
1,2,3,4,7,8-HxCDD	31.279	1132407299	1.25	1.1088	1017.5	1017.5	3.102	3.102	102	
D 13C-1,2,3,6,7,8-HxCDD	31.386	116499868	1.24	0.9175	104.0	104.0	0.3048	0.3048	104	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.399	1240444751	1.26	1.0814	984.6	984.6	2.882	2.882	98.46	
1,2,3,7,8,9-HxCDD	31.759	1259477463	1.26	1.2123	958.1	958.1	2.697	2.697	95.81	
S Total HxCDD					2960.2	2960.2	2.894	2.894		
D 13C-1,2,3,4,6,7,8-HpCDF	33.459	106743815	0.46	0.8628	101.4	101.4	1.713	1.713	101	
1,2,3,4,6,7,8-HpCDF	33.472	1613842335	1.05	1.5555	971.9	971.9	14.1	14.1	97.19	
D 13C-1,2,3,4,7,8,9-HpCDF	34.504	100973962	0.46	0.7991	103.5	103.5	1.849	1.849	104	
1,2,3,4,7,8,9-HpCDF	34.504	1391884877	1.05	1.3862	994.4	994.4	18.7	18.7	99.44	
S Total HpCDF					1966.3	1966.3	16.4	16.4		
D 13C-1,2,3,4,6,7,8-HpCDD	34.225	111298169	1.03	0.8739	104.3	104.3	0.8846	0.8846	104	
1,2,3,4,6,7,8-HpCDD	34.237	1030391820	1.05	0.9316	993.8	993.8	7.238	7.238	99.38	
S Total HpCDD					993.8	993.8	7.238	7.238		
D 13C-OCDD	36.493	206464776	0.88	0.7744	218.4	218.4	0.2420	0.2420	109	
OCDF	36.589	2616959337	0.90	1.2596	2012.6	2012.6	1.498	1.498	101	
OCDD	36.505	2125514466	0.89	1.0621	1938.6	1938.6	2.038	2.038	96.93	

Reagents:

HRDXNL6_00024 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 17-Sep-2019 16:55:33 ALS Bottle#: 7 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719D CS-6 HRDXNL6_00024
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:47 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:54:56

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.300	17.303	0		68656888	17703152	11871	29677	1491		
333.9339	17.300	17.303	0		88427885	22923443	14450	36125	1586	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.801	16.810	-1	0.971	100473796	26202504	17815	44537	1471		
317.9389	16.801	16.810	-1	0.971	125059780	32860085	15076	37690	2180	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.816	16.825	-1	1.001	203968881	53426825	28090	70225	1902		
305.8987	16.816	16.825	-1	1.001	258703638	67905008	38497	96242	1764	0.79(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.481	17.490	-1	1.010	65699125	16108883	11871	29677	1357		
333.9339	17.481	17.490	-1	1.010	84967388	20783333	14450	36125	1438	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.496	17.505	-1	1.011	402794059	97947785	36924	92310	2653		
2,3,7,8-TCDD											
319.8965	17.511	17.505	0	1.002	145759899	35006474	11020	27550	3177		
321.8936	17.496	17.505	-1	1.001	181987187	44378051	13000	32500	3414	0.80(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	21.645	21.637	0	1.251	105769386	19380532	21442	53605	904		
353.8970	21.645	21.637	0	1.251	66093528	12006776	14706	36765	816	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.659	21.661	0	1.001	1128987918	207786620	228337	570842	910		
341.8567	21.659	21.661	0	1.001	716389155	132705026	143597	358992	924	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	22.940	22.932	0	1.326	102870411	17592993	21442	53605	820		
353.8970	22.940	22.932	0	1.326	64927323	11060126	14706	36765	752	1.58(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.954	22.954	0	1.001	1134203044	192648194	228337	570842	844		
341.8567	22.954	22.954	0	1.001	720551216	123114818	143597	358992	857	1.57(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.622	23.625	0	1.365	77891431	12413727	9204	23010	1349		
369.8919	23.622	23.625	0	1.365	51261043	8286162	5391	13477	1537	1.52(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.649	23.649	0	1.001	712114532	115586755	47770	119425	2420		
357.8516	23.649	23.649	0	1.001	450449183	73672225	30241	75602	2436	1.58(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.775	29.754	1	0.938	48283336	6569879	20357	50892	323		
385.8610	29.775	29.754	1	0.938	92312288	12535842	37224	93060	337	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.802	29.789	1	1.001	940997687	133250334	383917	959792	347		
375.8178	29.802	29.789	1	1.001	747951014	105366191	299807	749517	351	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.015	30.015	0	0.945	52450288	7974033	20357	50892	392		
385.8610	30.015	30.015	0	0.945	99383164	14861268	37224	93060	399	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.042	30.039	0	1.001	997571168	151931057	383917	959792	396		
375.8178	30.042	30.039	0	1.001	792866788	120963468	299807	749517	403	1.26(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.040	31.043	0	0.978	50759518	11236785	20357	50892	552		
385.8610	31.040	31.043	0	0.978	96311485	21393821	37224	93060	575	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.066	31.059	0	1.001	985093633	220162965	383917	959792	573		
375.8178	31.066	31.059	0	1.001	787990240	173863815	299807	749517	580	1.25(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.945	31.942	0	1.006	44455247	11339049	20357	50892	557		
385.8610	31.945	31.942	0	1.006	84898442	21704283	37224	93060	583	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.958	31.956	0	1.000	881417801	228486168	383917	959792	595		
375.8178	31.958	31.956	0	1.000	698228200	180413640	299807	749517	602	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.745	31.748	0		67929723	16429699	18251	45627	900		
403.8529	31.745	31.748	0		54130654	13145642	14828	37070	887	1.25(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.266	31.261	0	0.985	57329166	14082357	18251	45627	772		
403.8529	31.266	31.261	0	0.985	43045711	11050859	14828	37070	745	1.33(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.279	31.280	0	1.000	629831633	158465261	197312	493280	803		
391.8127	31.279	31.280	0	1.000	502575666	126972690	148417	371042	856	1.25(1.05-1.43)	

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24
Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.386	31.383	0	0.989	64540443	15691585	18251	45627	860		
403.8529	31.386	31.383	0	0.989	51959425	12036727	14828	37070	812	1.24(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.399	31.402	0	1.000	692132021	165495989	197312	493280	839		
391.8127	31.399	31.402	0	1.000	548312730	133657431	148417	371042	901	1.26(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.759	31.761	0	1.016	702952771	169150562	197312	493280	857		
391.8127	31.759	31.761	0	1.016	556524692	136362240	148417	371042	919	1.26(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.459	33.457	0	1.054	33673507	11080194	54234	135585	204		
419.8220	33.459	33.457	0	1.054	73070308	23803007	120568	301420	197	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.472	33.469	0	1.000	828352693	264674315	15239773	809942	174		
409.7789	33.459	33.469	-1	1.000	785489642	258152347	15359593	839897	168	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.504	34.502	0	1.087	31611144	9286341	54234	135585	171		
419.8220	34.504	34.502	0	1.087	69362818	20149549	120568	301420	167	0.46(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.504	34.509	0	1.000	711389911	208533041	15239773	809942	137		
409.7789	34.504	34.509	0	1.000	680494966	202816426	15359593	839897	132	1.05(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.225	34.227	0	1.078	56576314	17187295	46326	115815	371		
437.8140	34.225	34.227	0	1.078	54721855	16668841	45125	112812	369	1.03(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.237	34.235	0	1.000	528198445	160615442	456142	1140355	352		
425.7737	34.237	34.235	0	1.000	502193375	149899801	457044	1142610	328	1.05(0.88-1.20)	
13C-OCDD											
469.7779	36.493	36.486	0	1.150	96929202	24000709	8587	21467	2795		
471.7750	36.493	36.486	0	1.150	109535574	26795340	13585	33962	1972	0.88(0.76-1.02)	
OCDF											
441.7428	36.589	36.581	0	1.003	1236830988	325979490	105711	264277	3084		
443.7399	36.589	36.581	0	1.003	1380128349	358207842	85997	214992	4165	0.90(0.76-1.02)	
OCDD											
457.7377	36.505	36.497	0	1.000	1001000005	251130559	122617	306542	2048		
459.7348	36.505	36.497	0	1.000	1124514461	278735720	97234	243085	2867	0.89(0.76-1.02)	

Reagents:

HRDXNL6_00024 Amount Added: 1.00 Units: mL

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

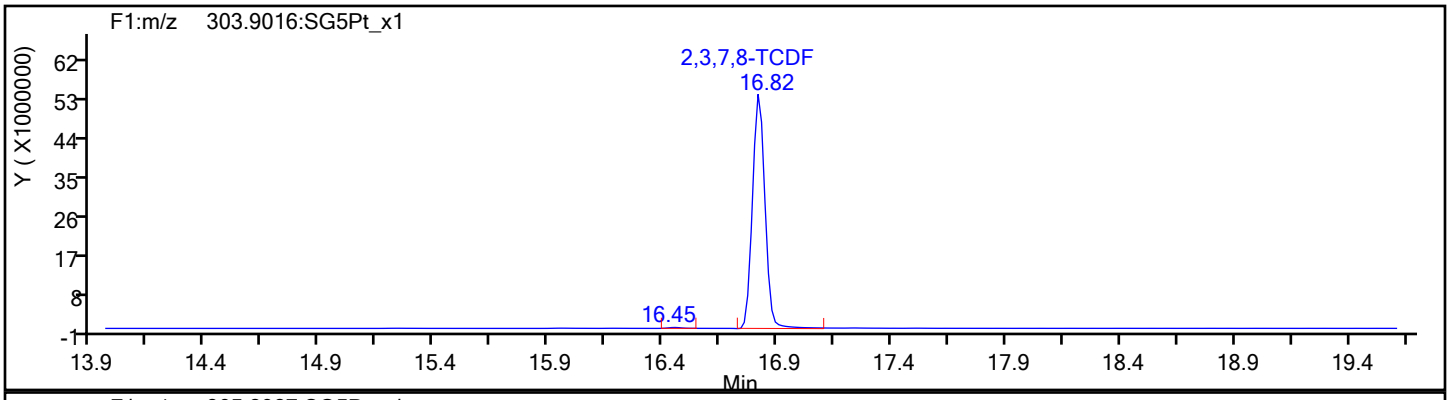

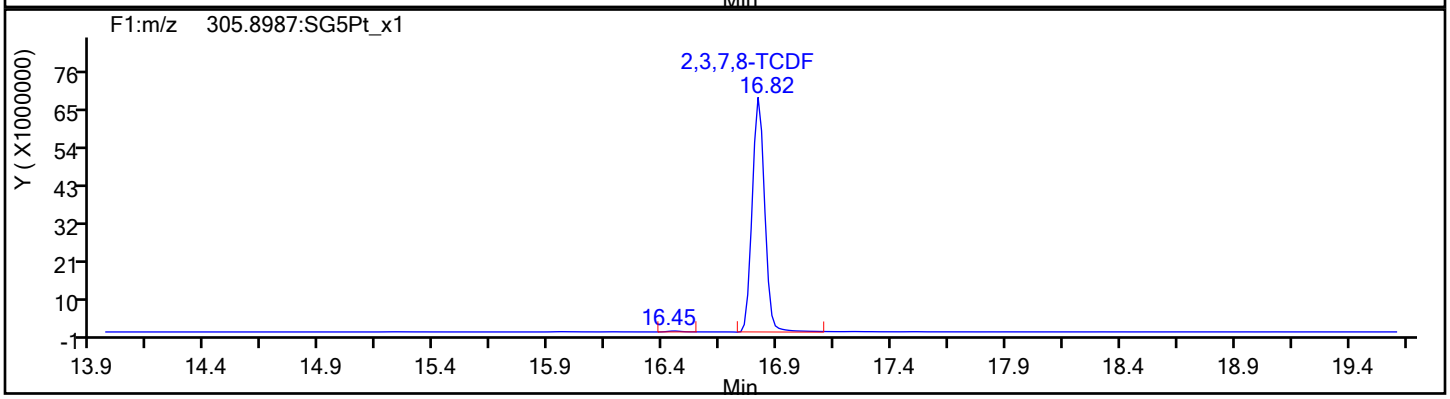

TCDF Standards

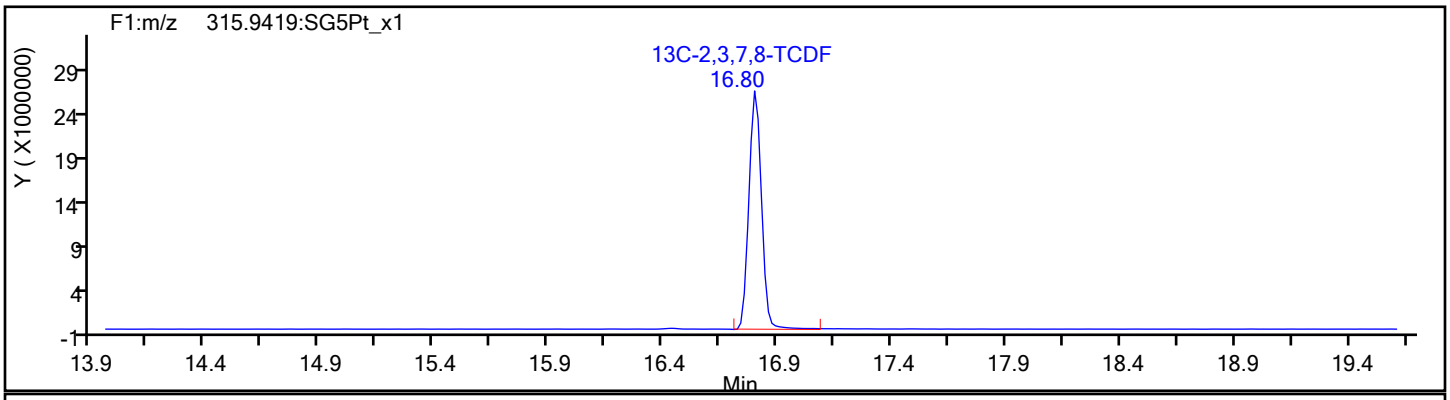

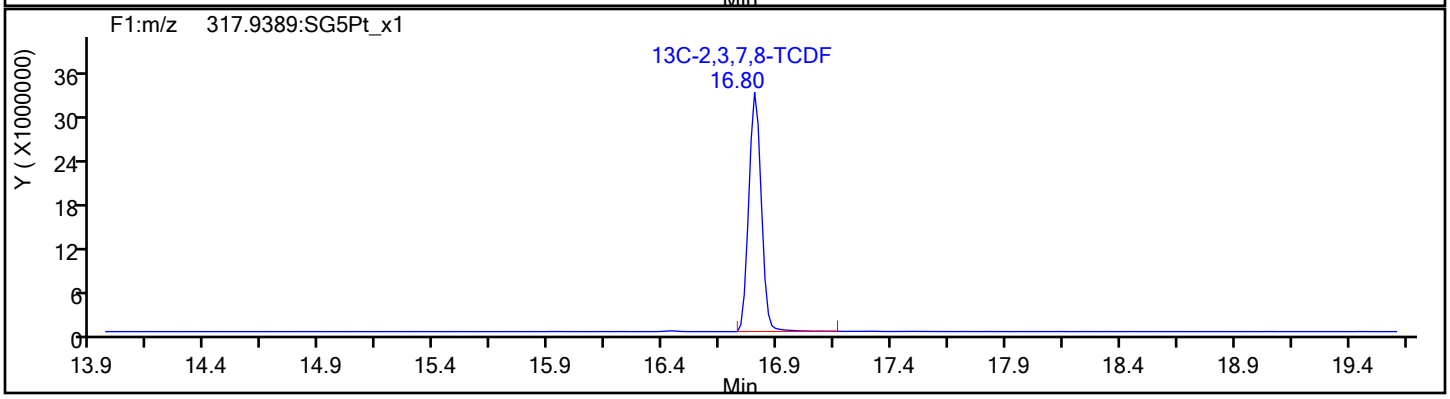

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d		
Injection Date:	17-Sep-2019 16:55:33	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

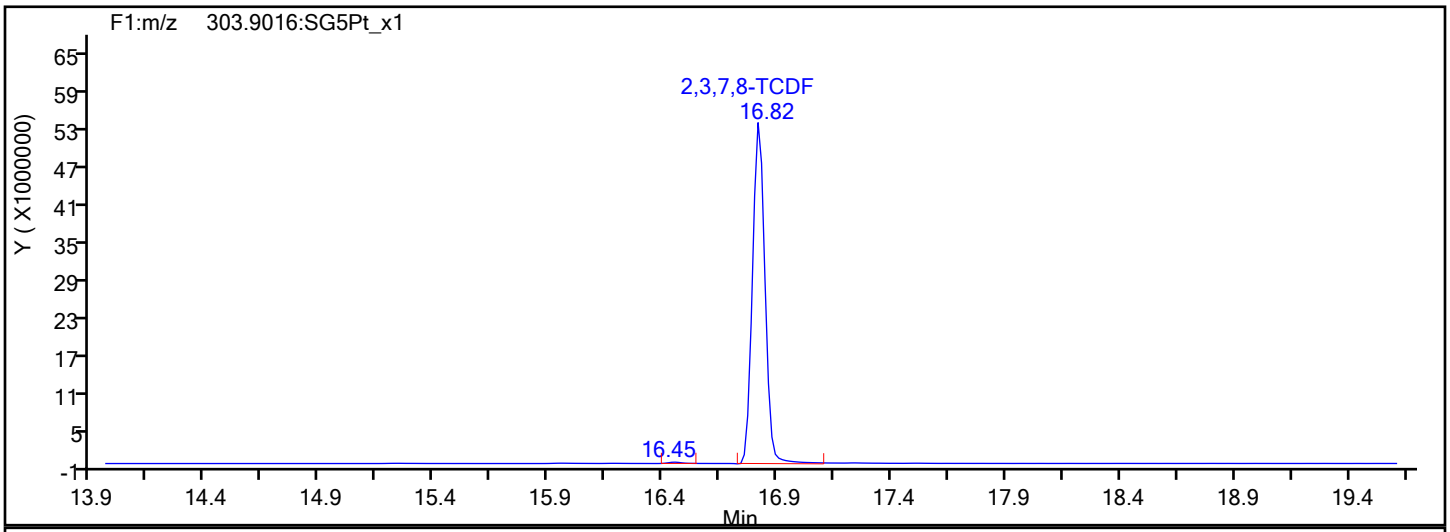

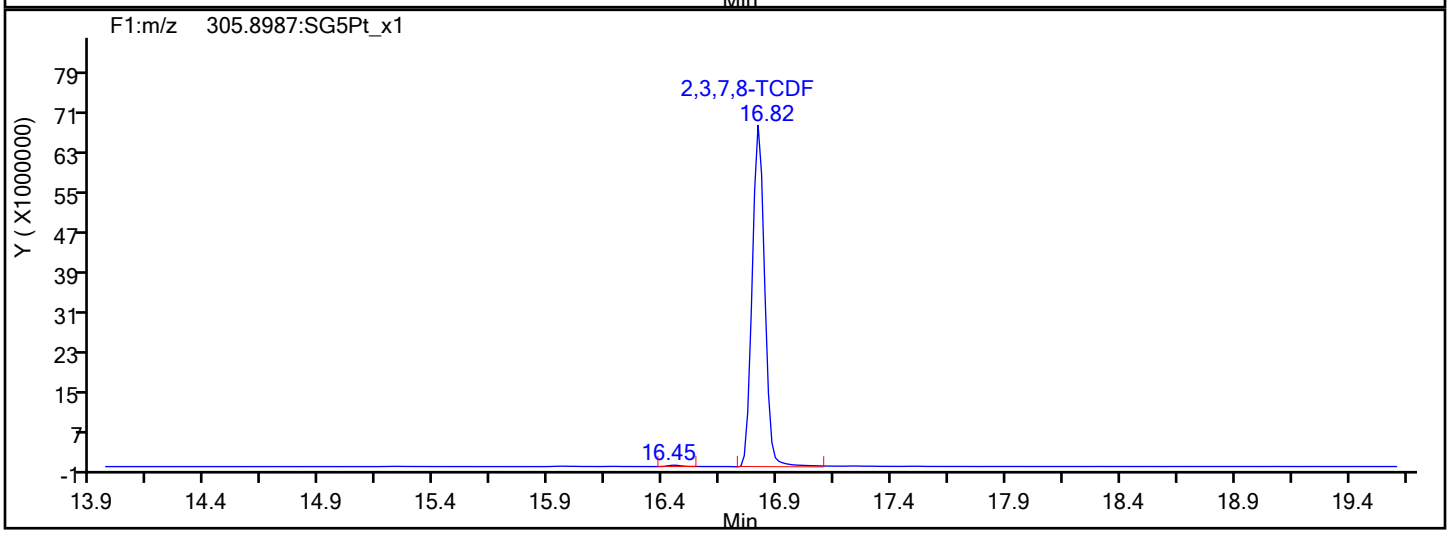

TCDF Interference Mass

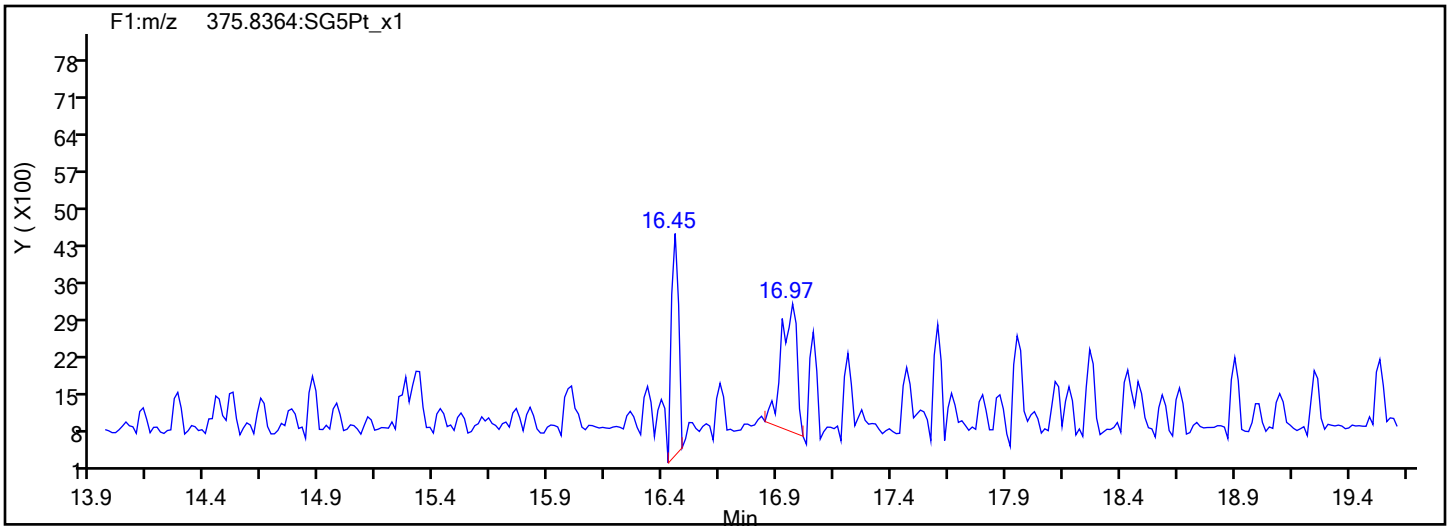

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d		
Injection Date:	17-Sep-2019 16:55:33	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

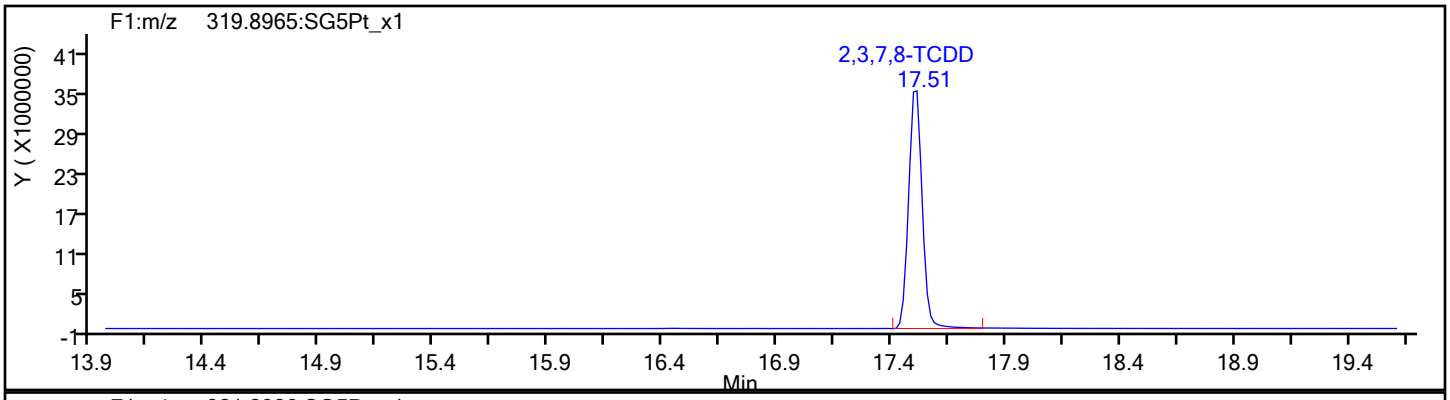

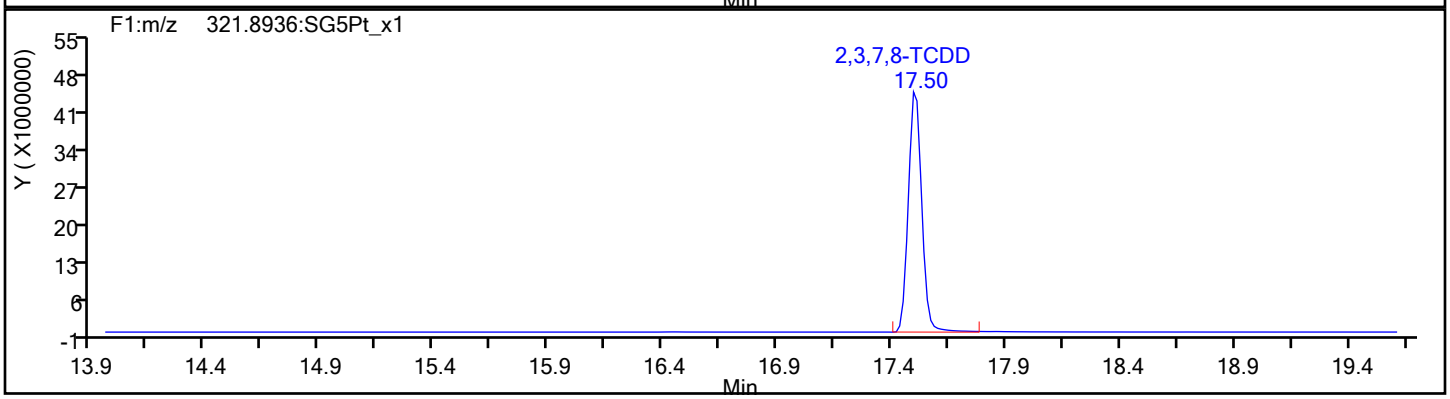

TCDD Standards

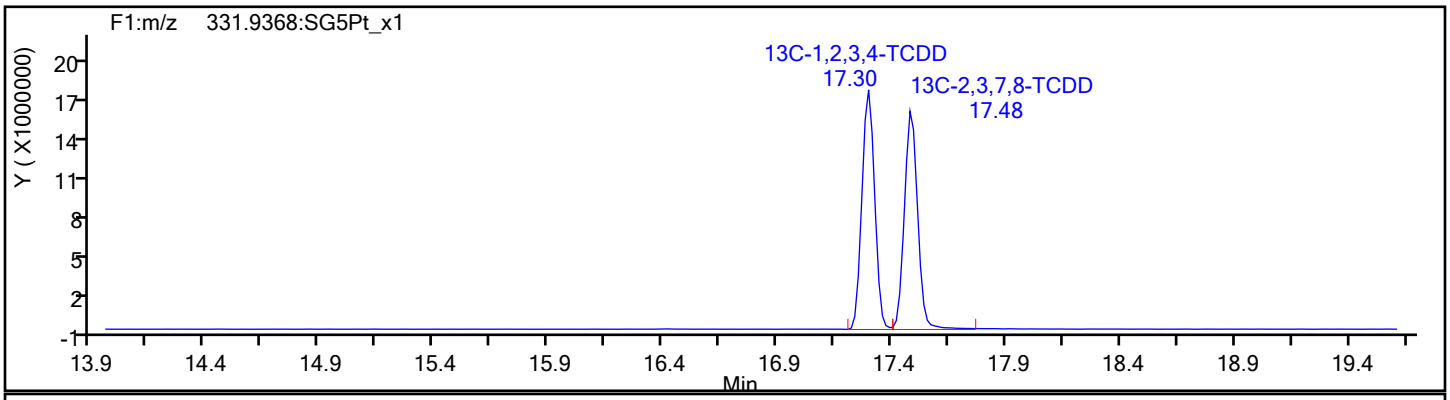

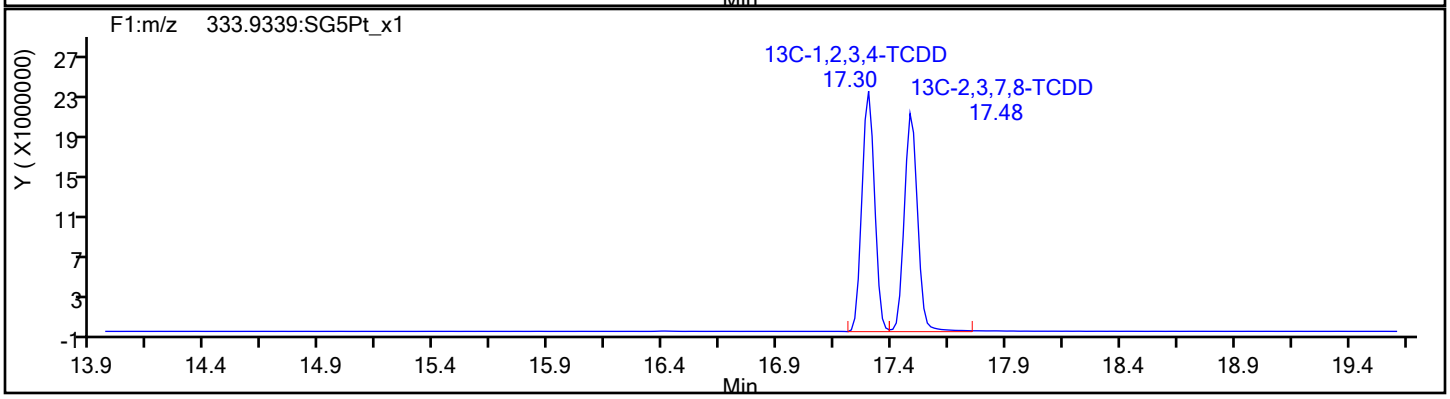

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d		
Injection Date:	17-Sep-2019 16:55:33	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

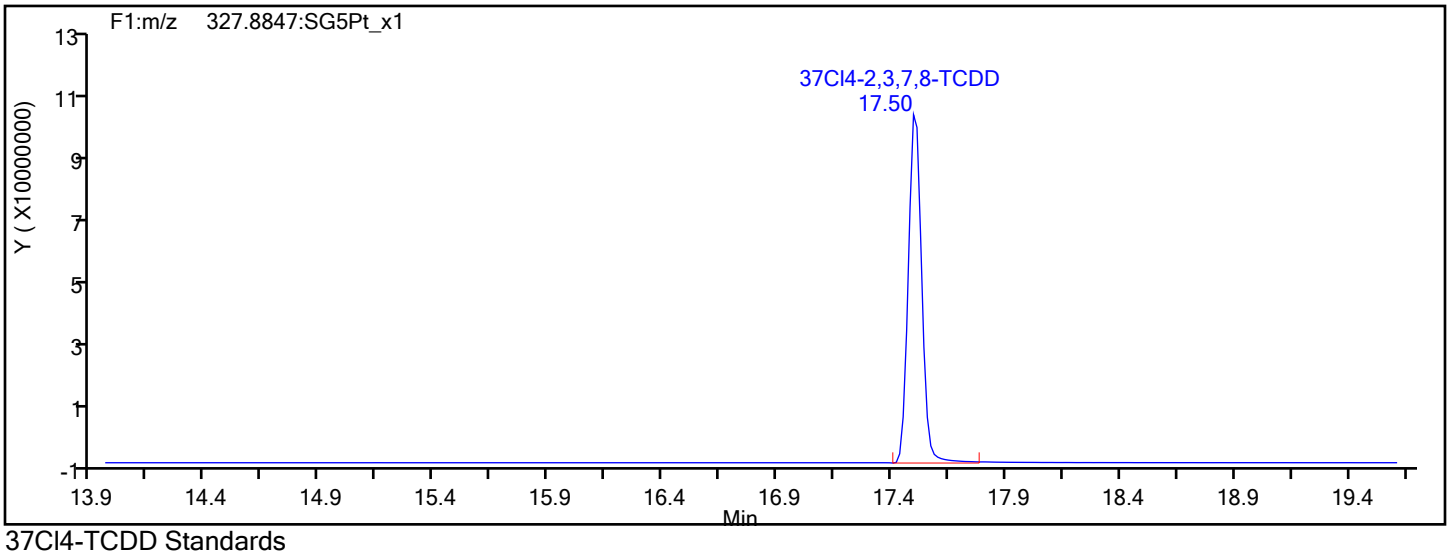

37Cl4-TCDD Standards

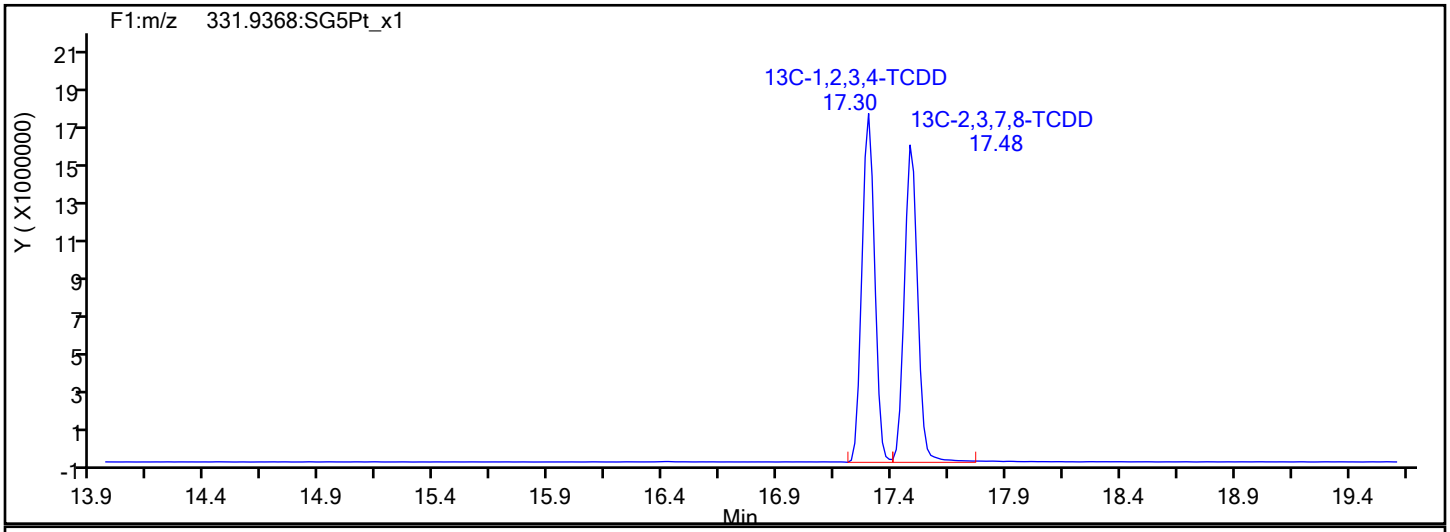

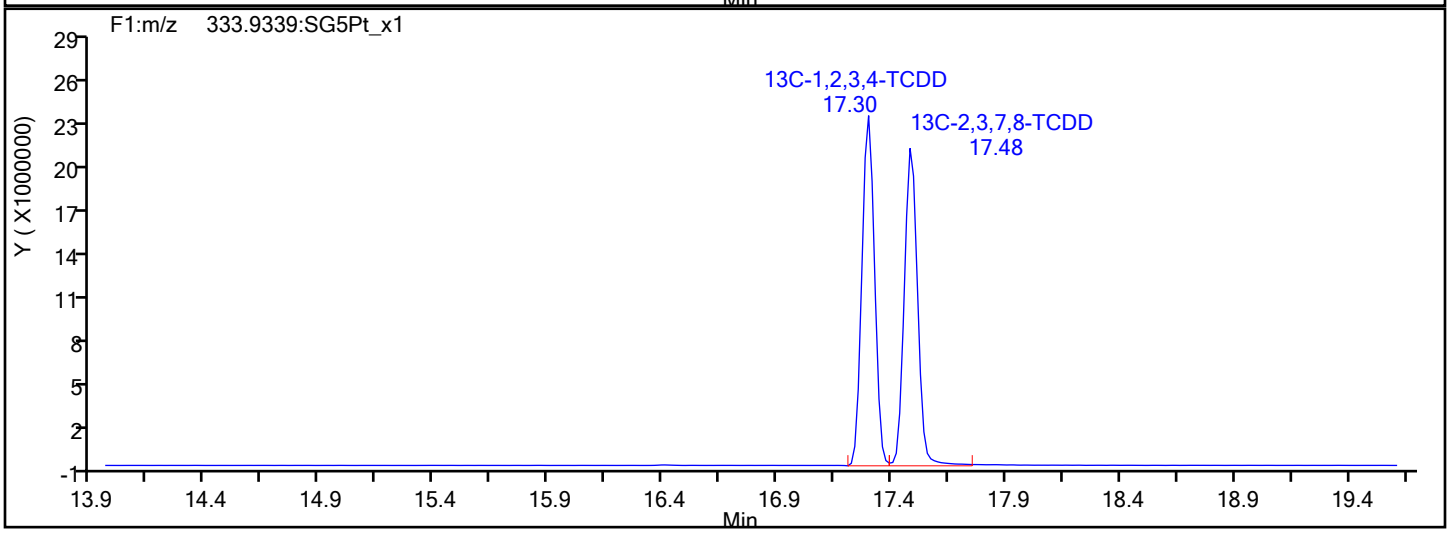

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

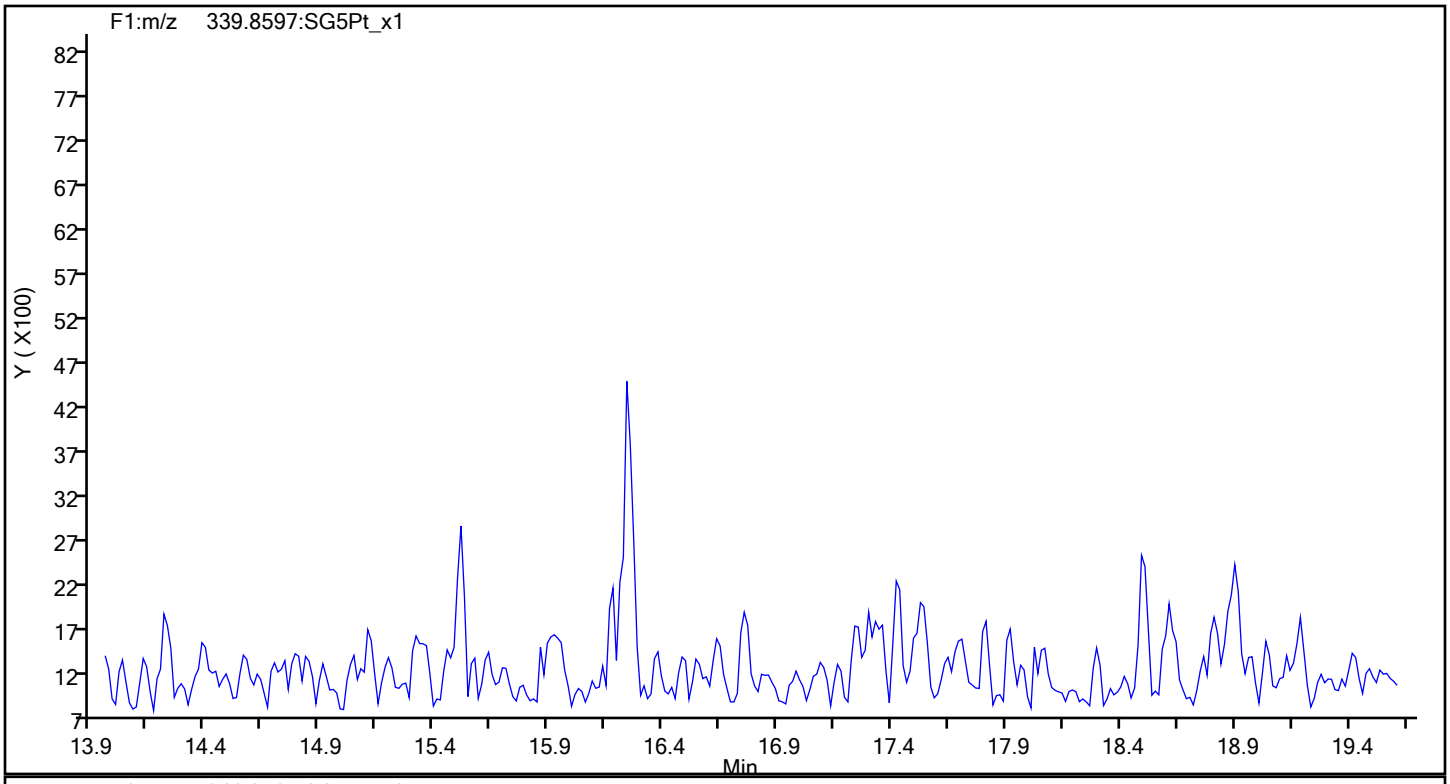

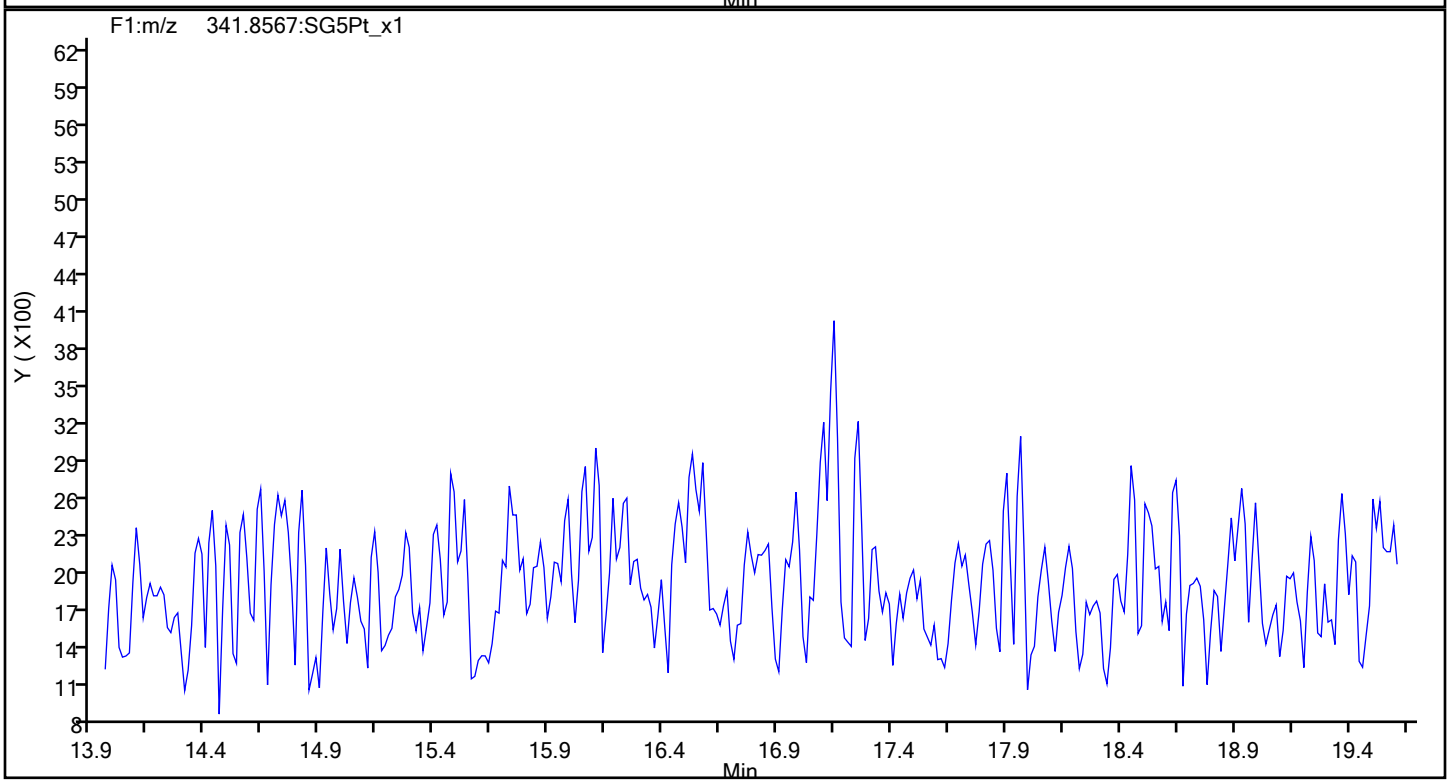

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

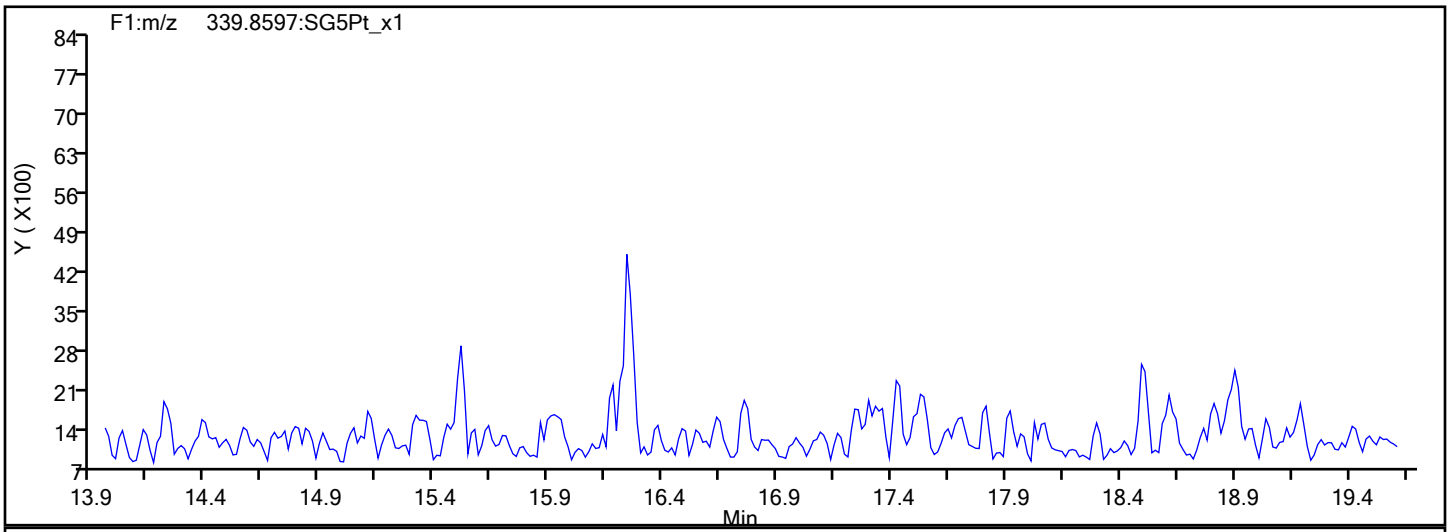

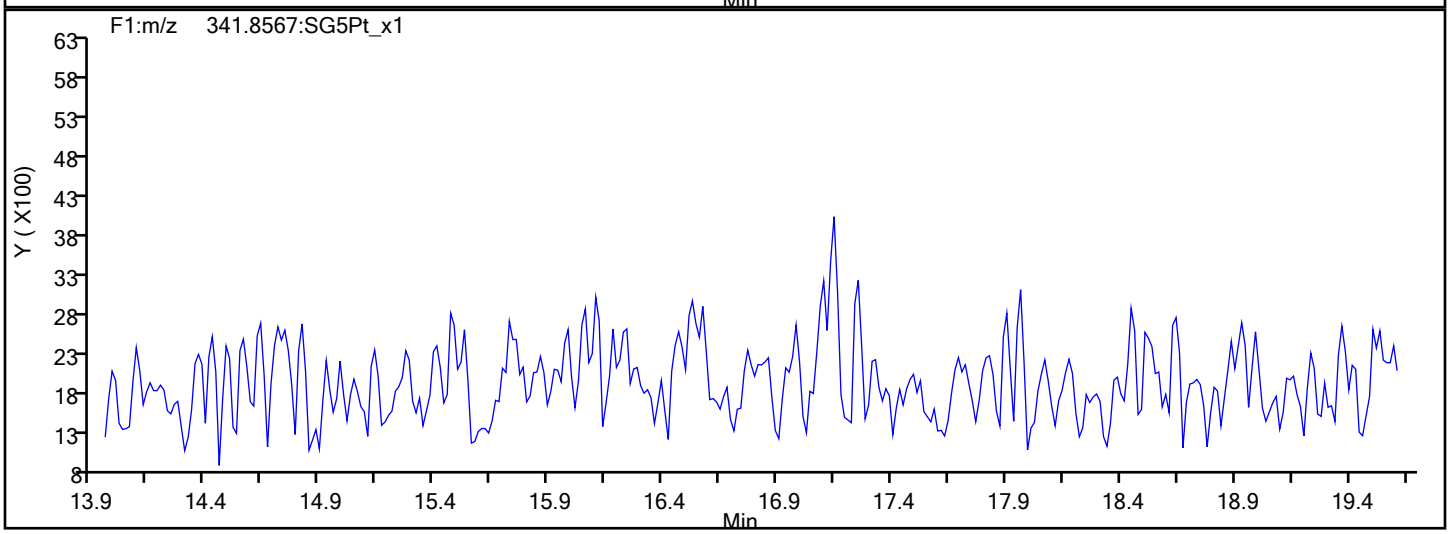

F1 PeCDFs Interference Mass

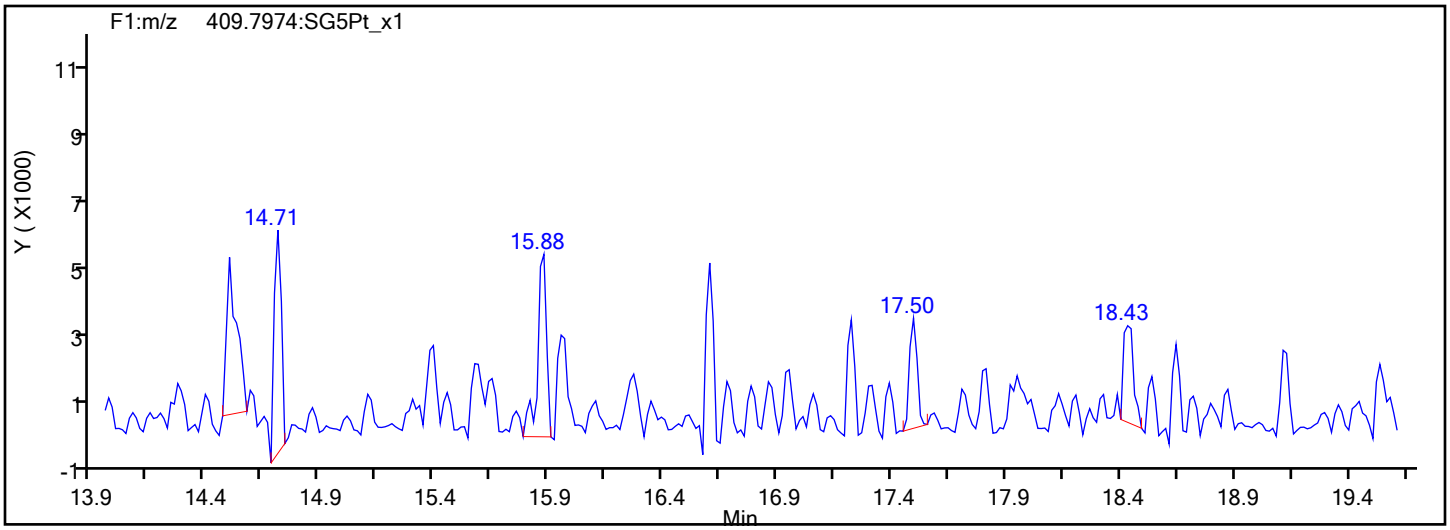

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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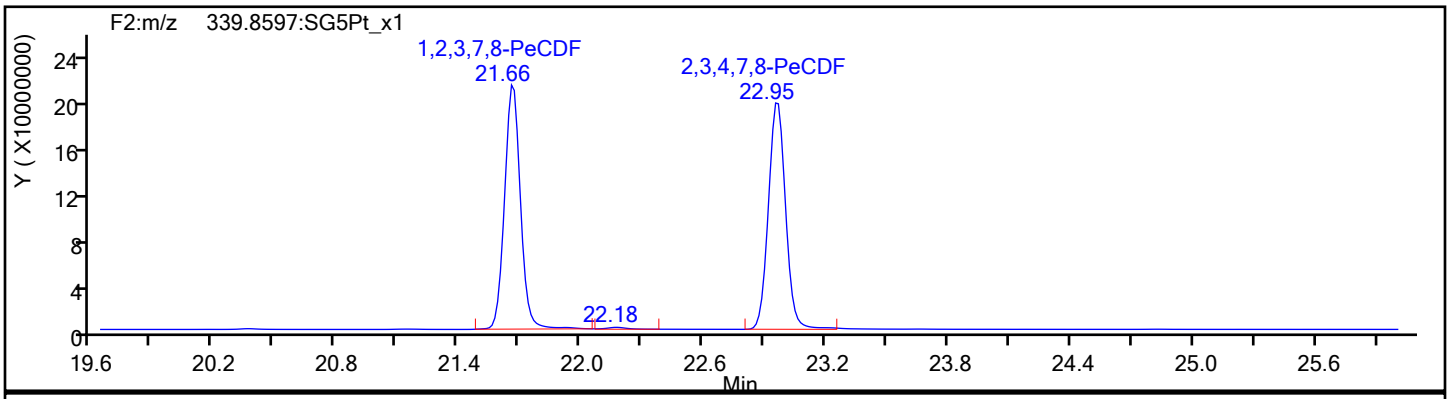

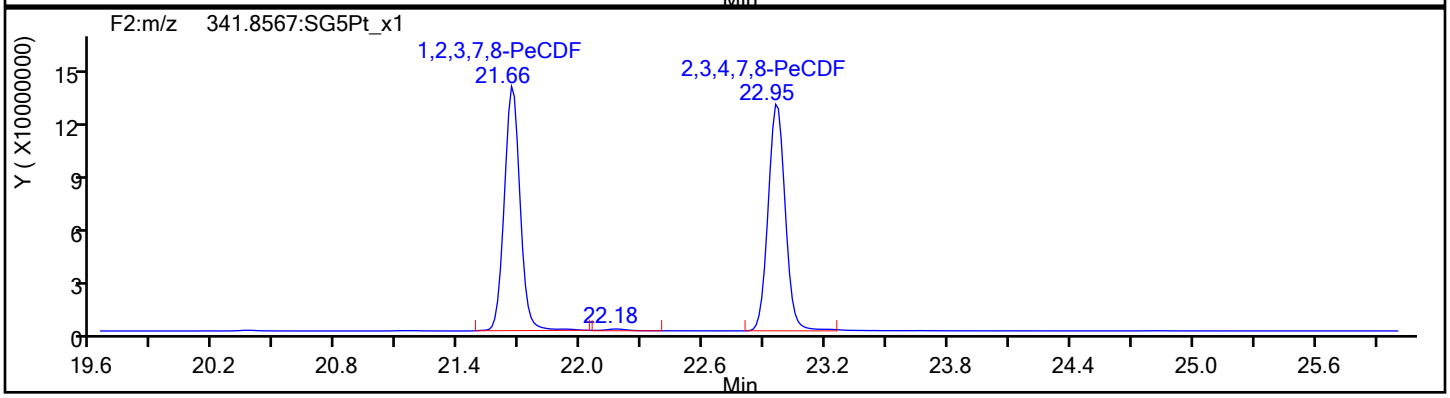

PeCDF Standards

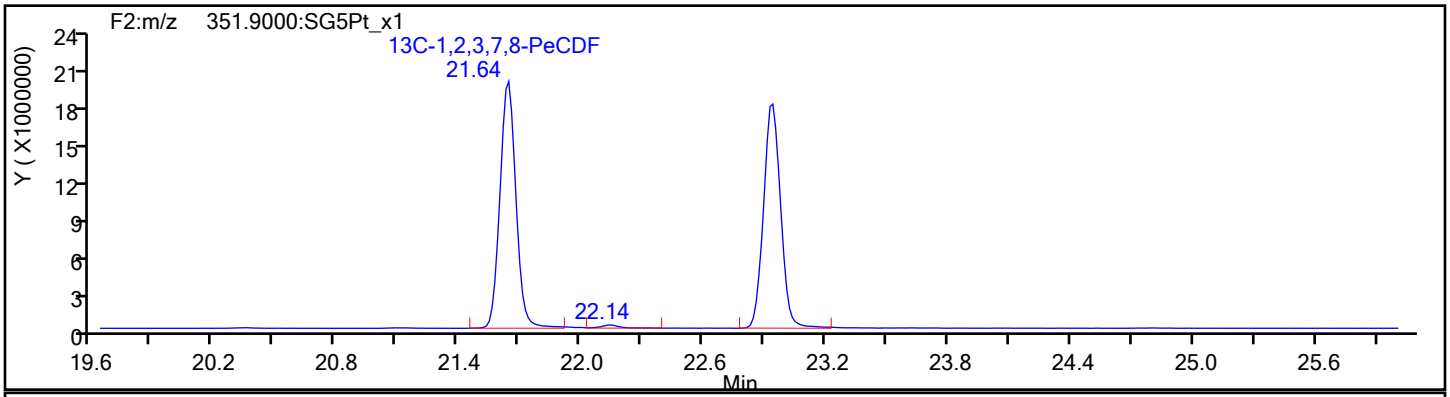

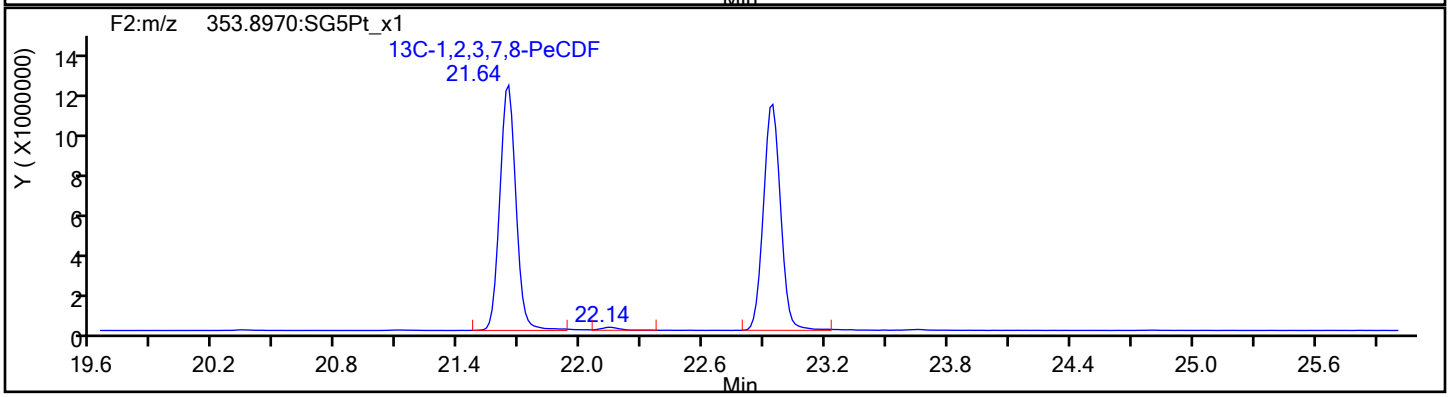

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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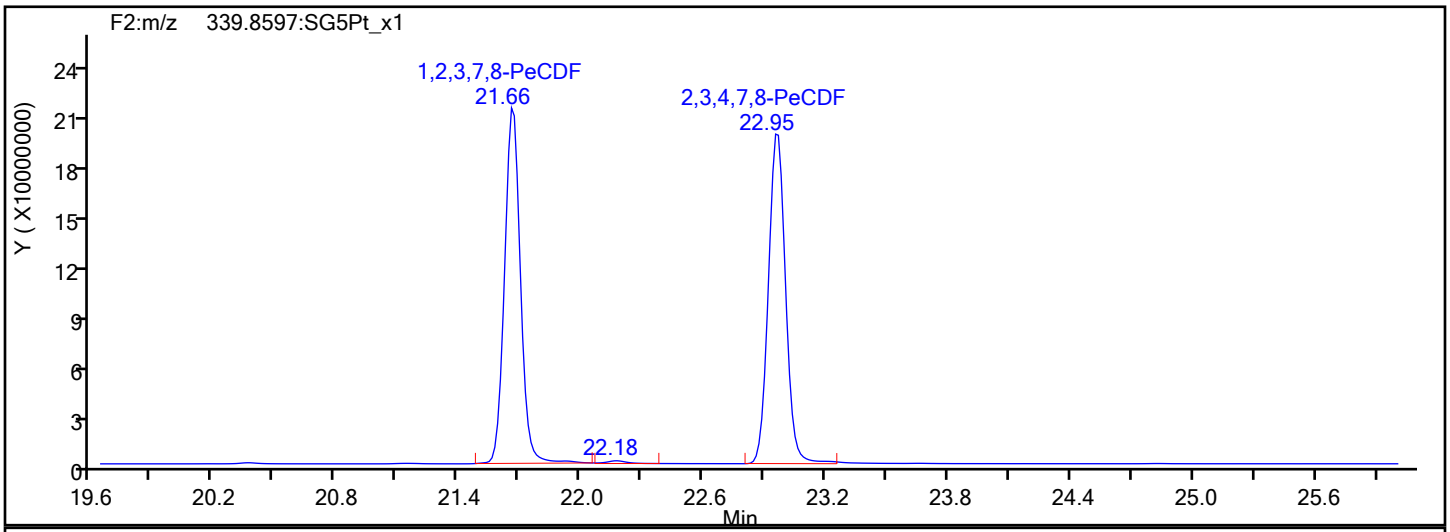

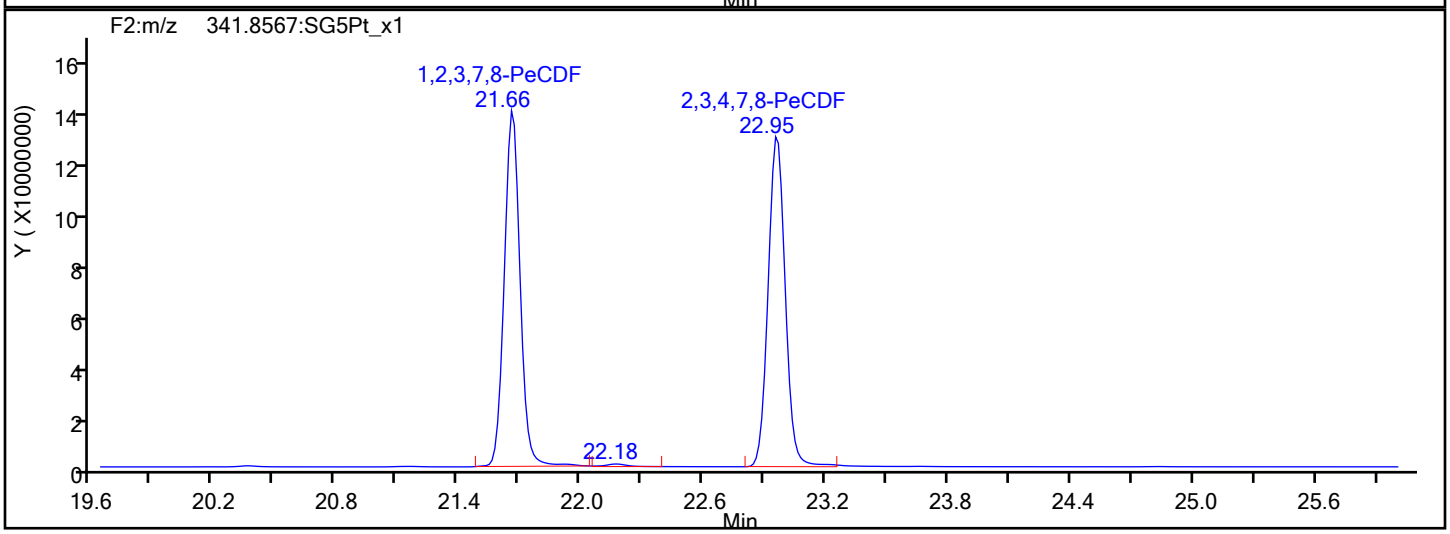

PeCDF Interference Mass

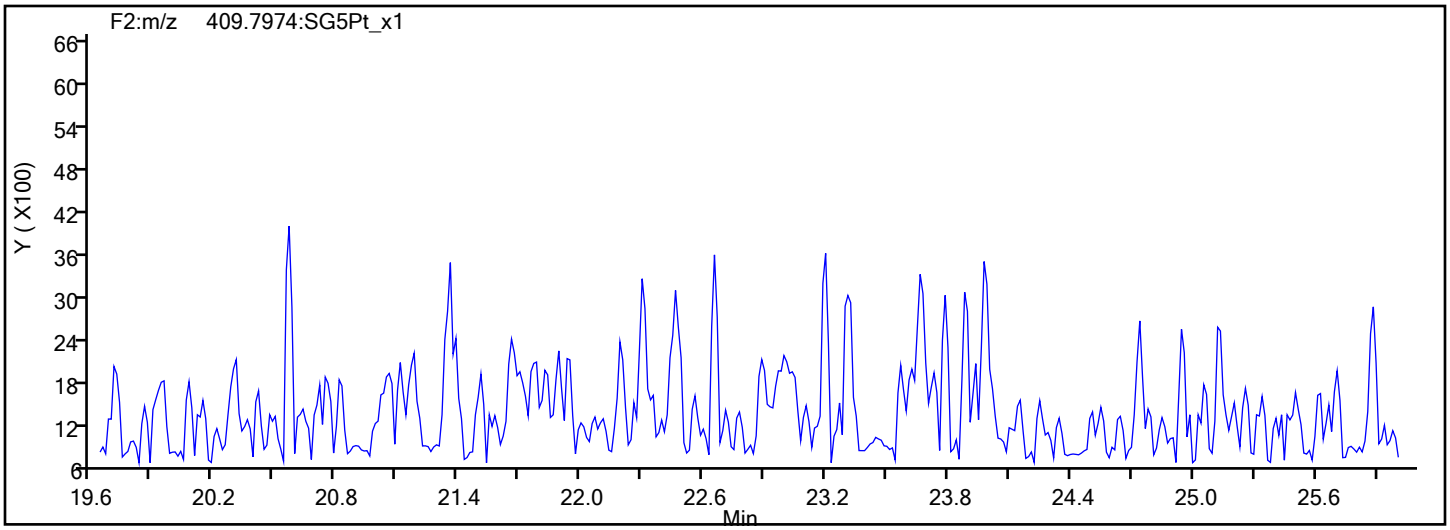

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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PeCDD

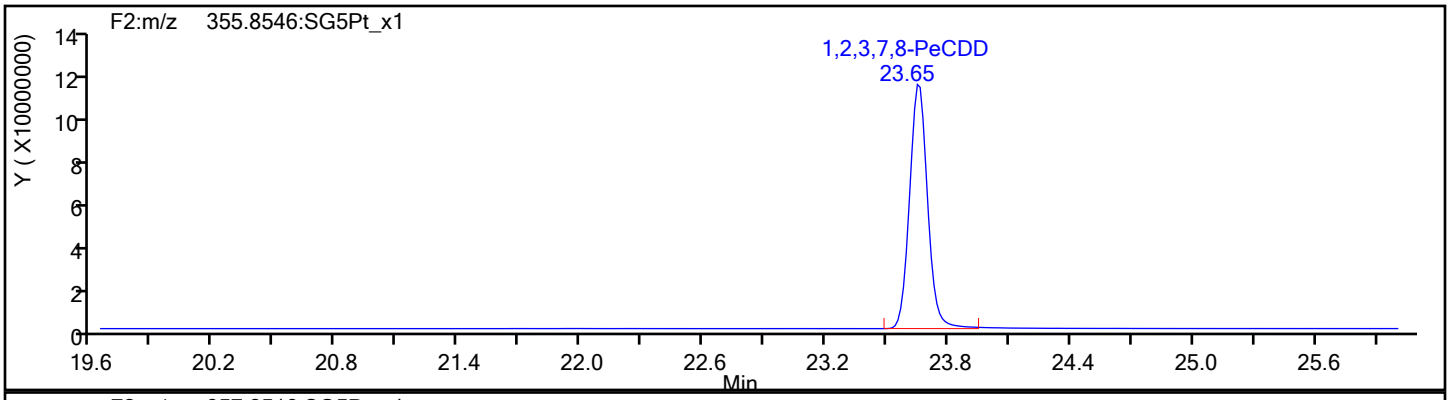

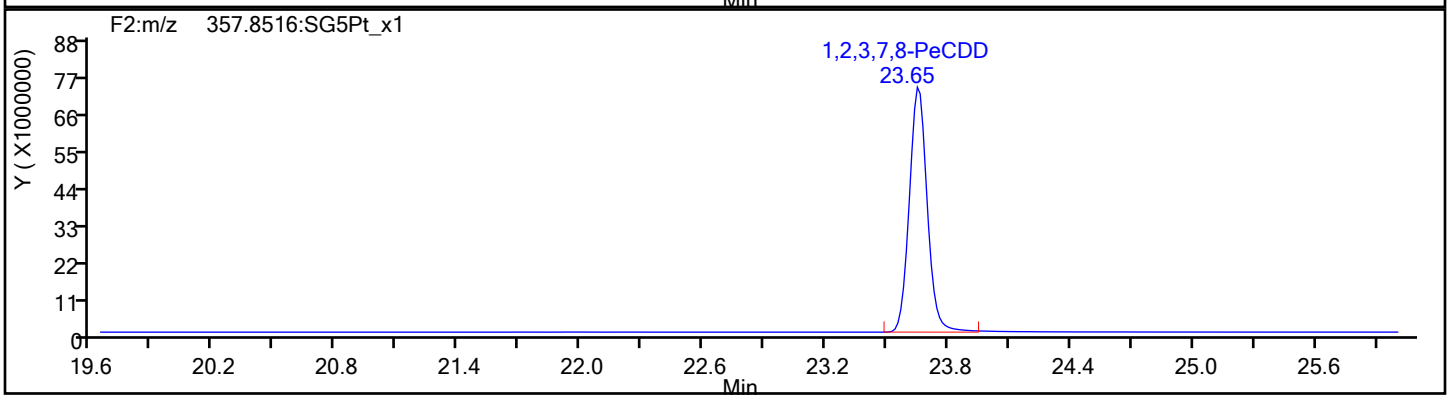

PeCDD Standards

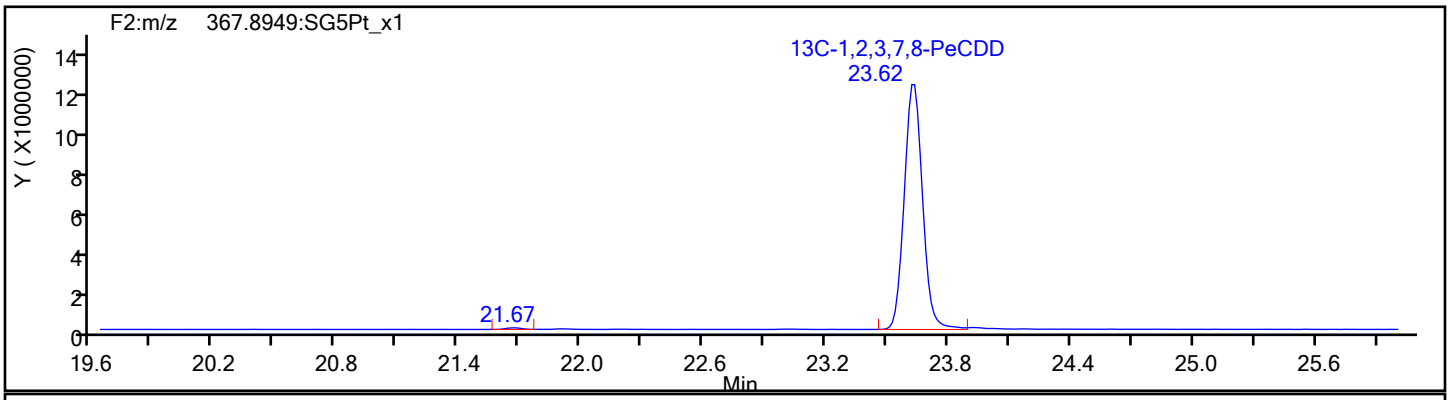

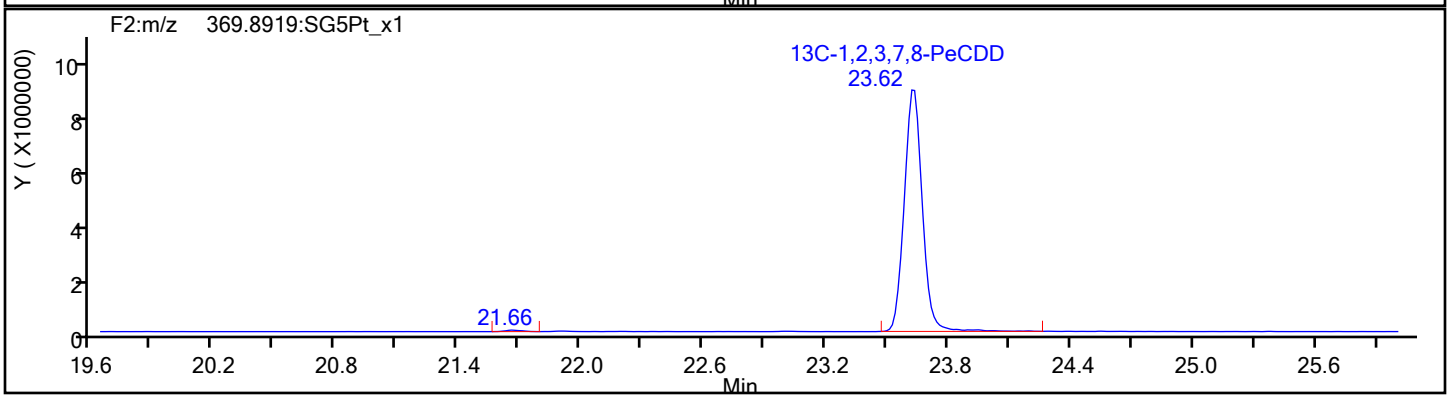

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Eurofins TestAmerica, Sacramento

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HxCDF

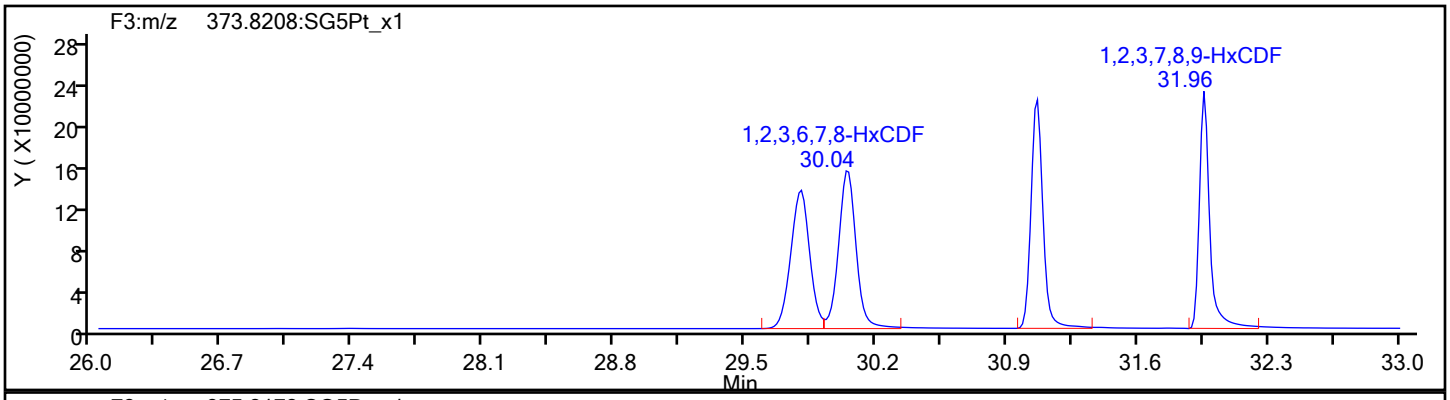

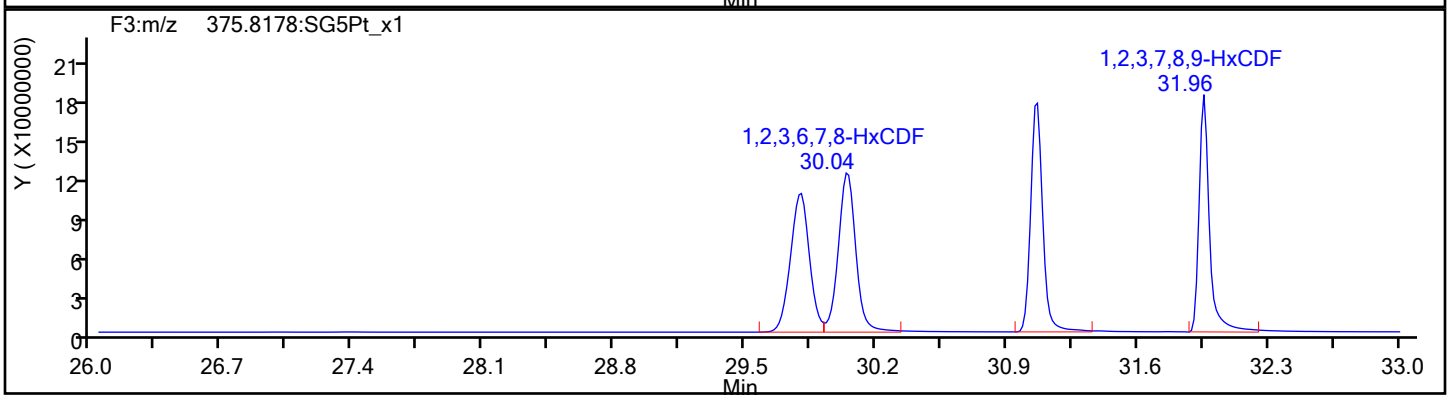

HxCDF Standards

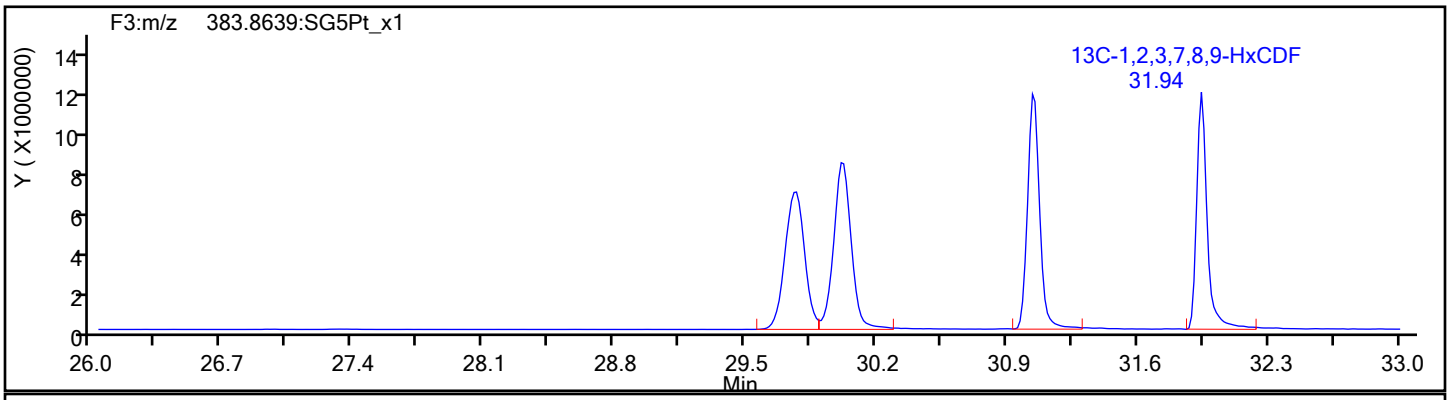

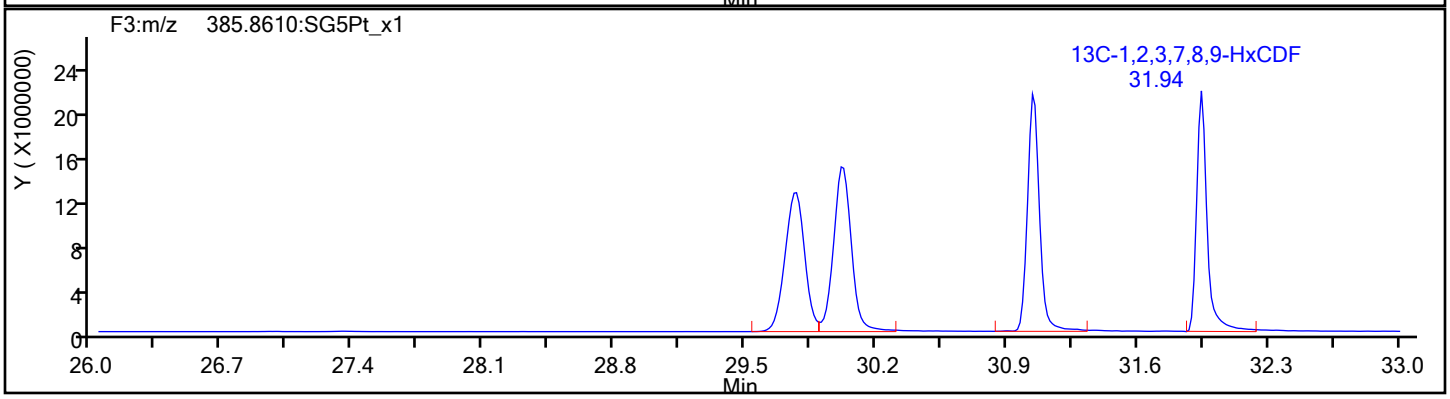

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Eurofins TestAmerica, Sacramento

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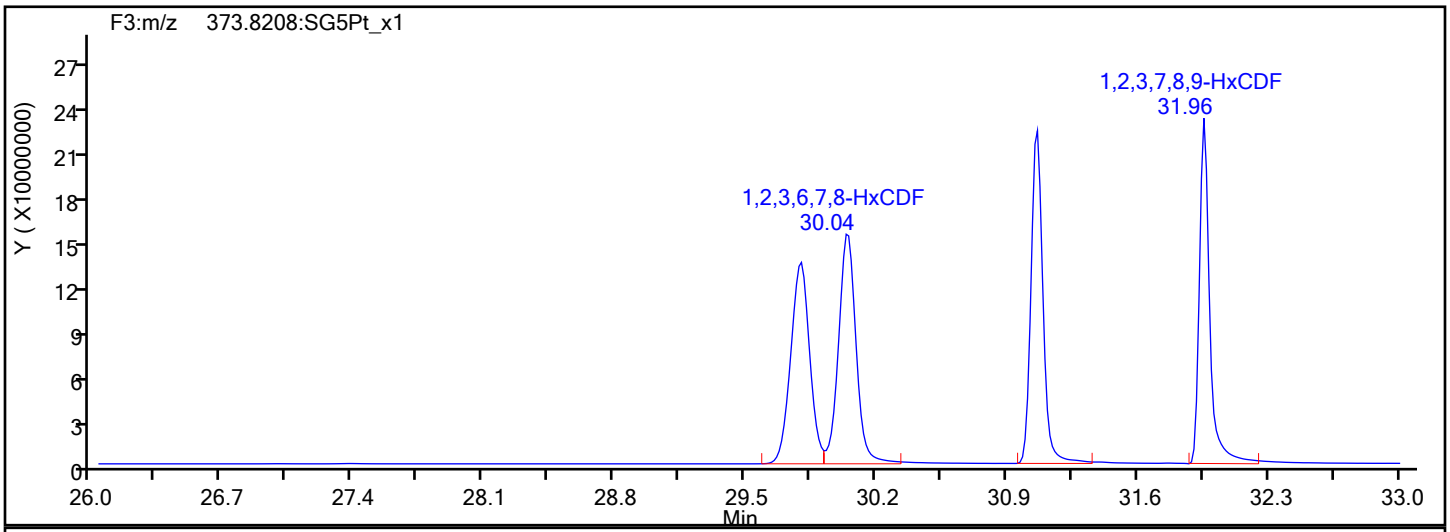

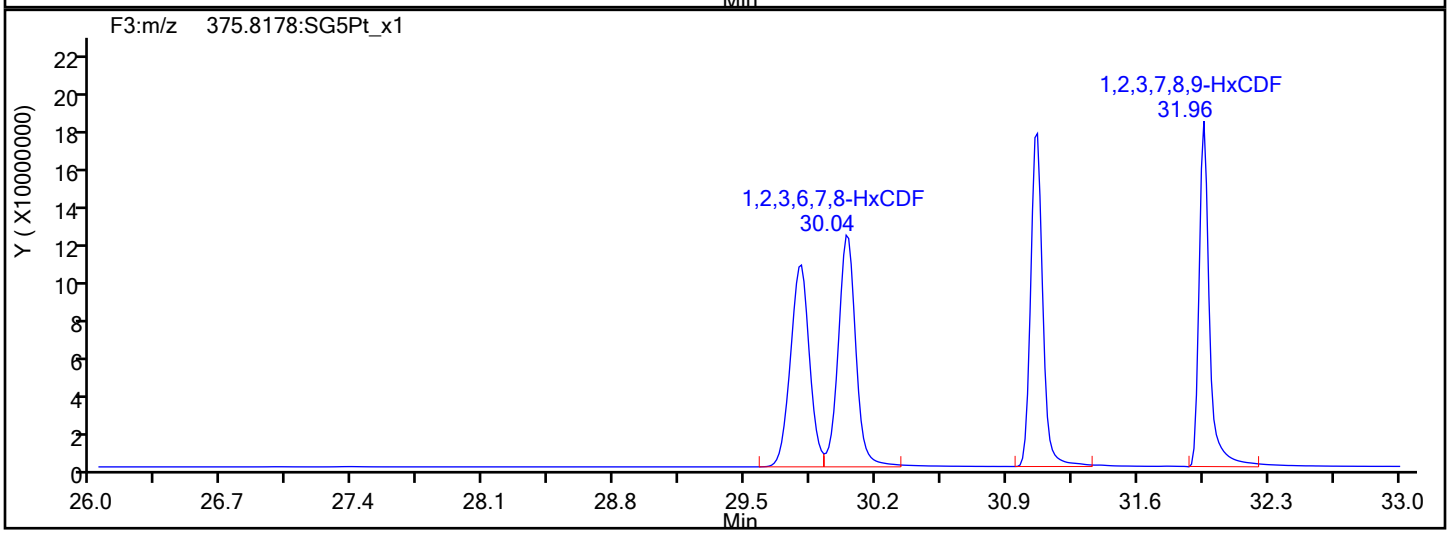

HxCDF Interference Mass

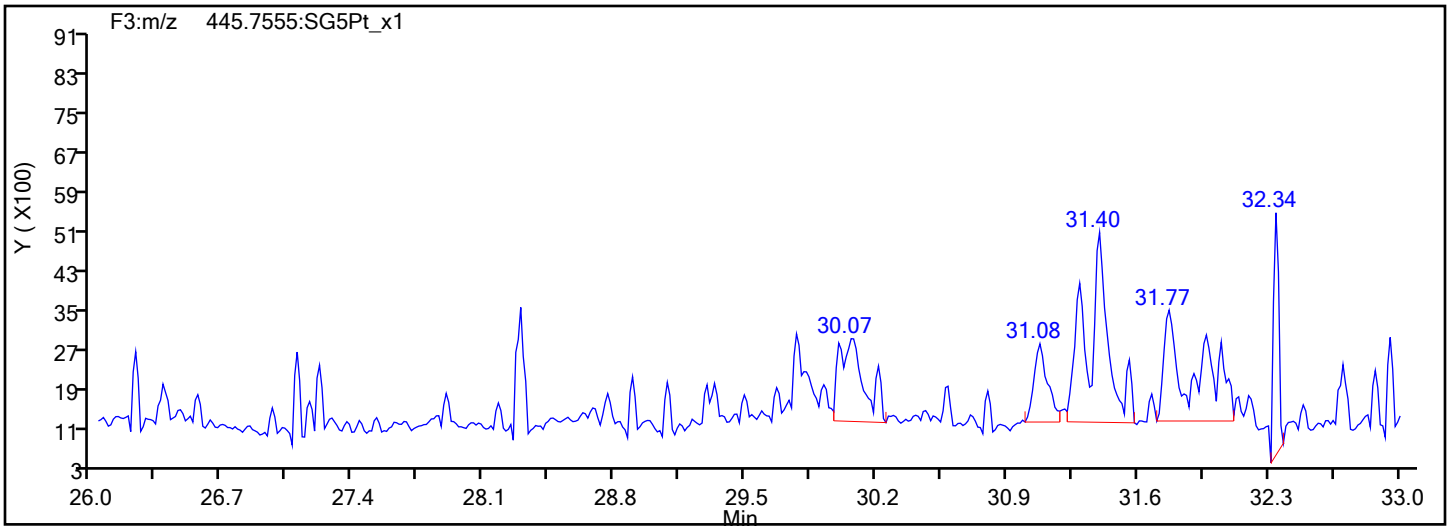

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Eurofins TestAmerica, Sacramento

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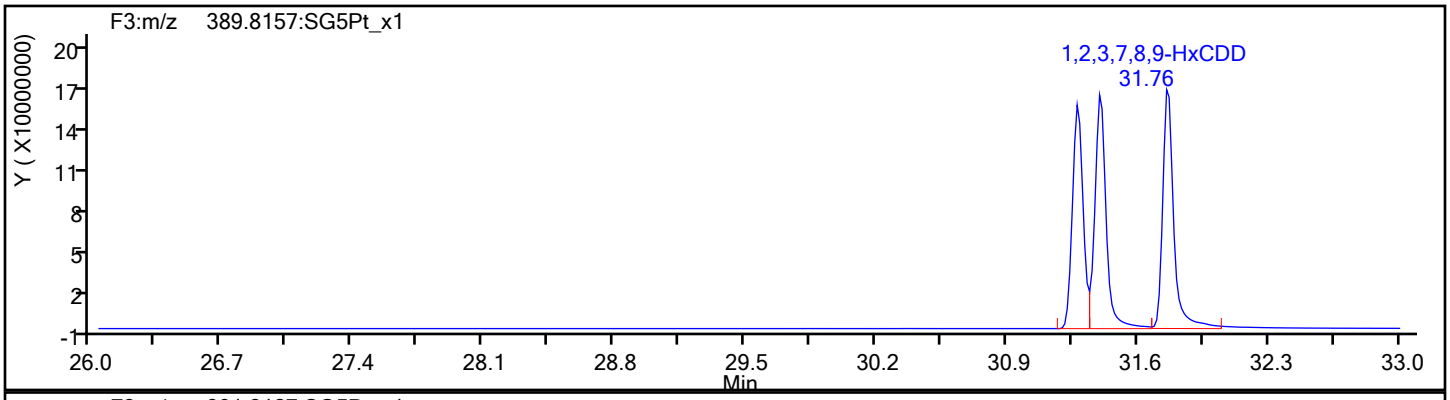

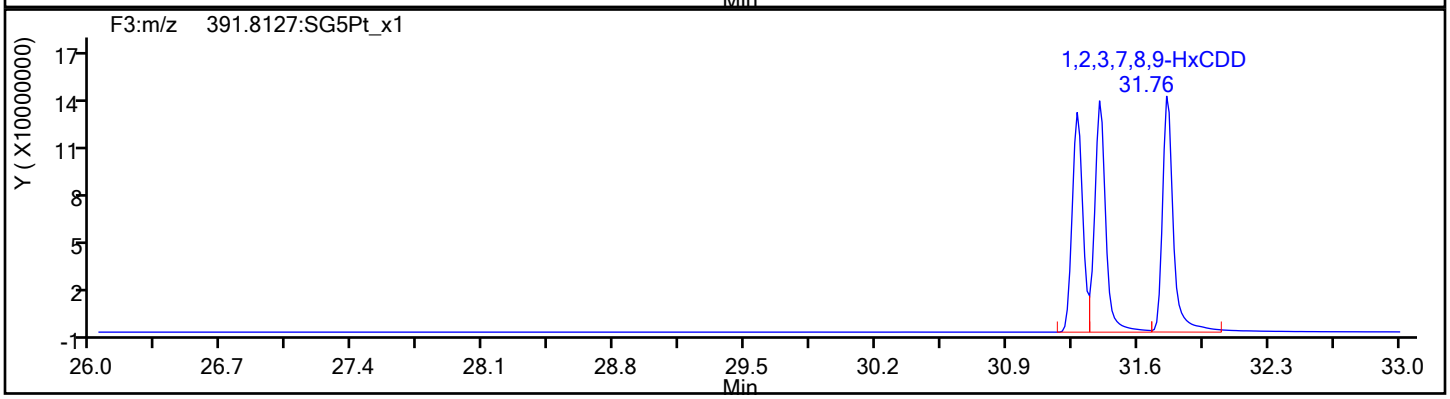

HxCDD Standards

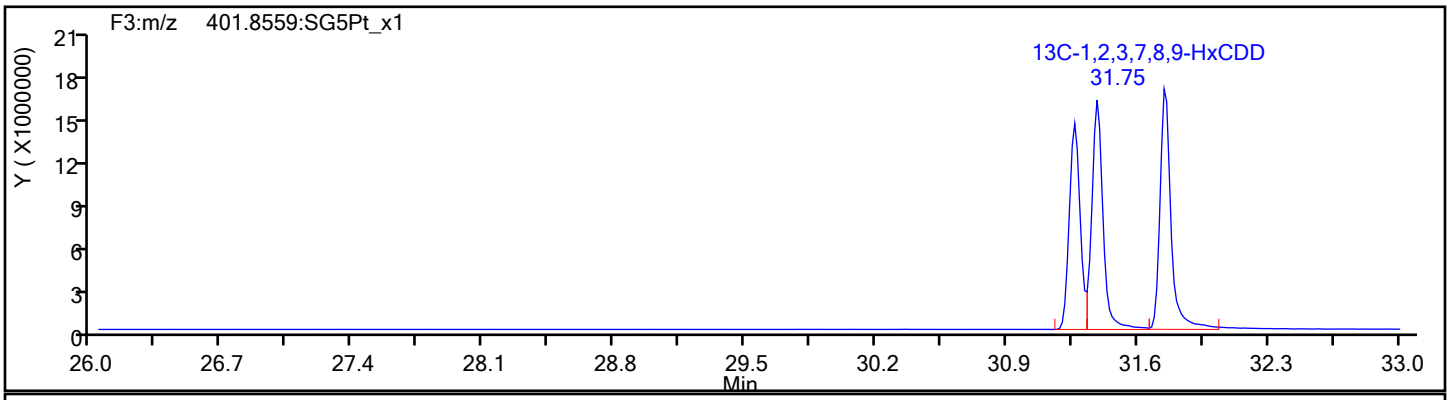

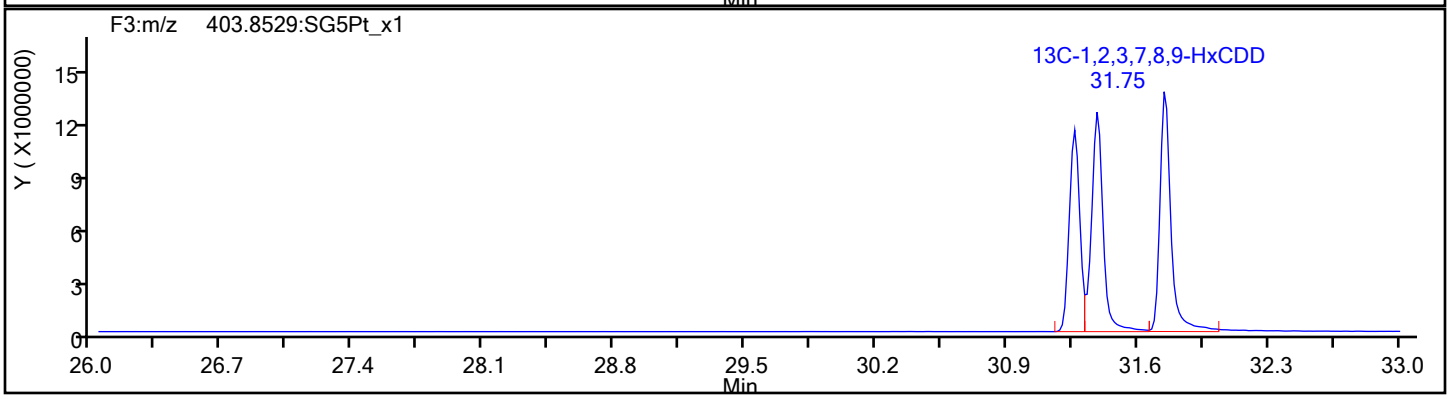

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Eurofins TestAmerica, Sacramento

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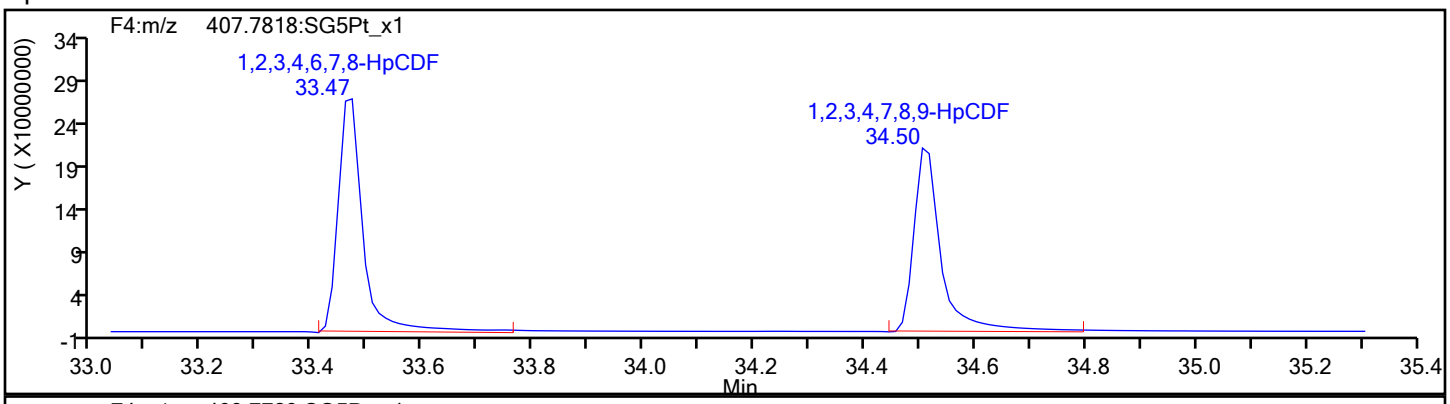

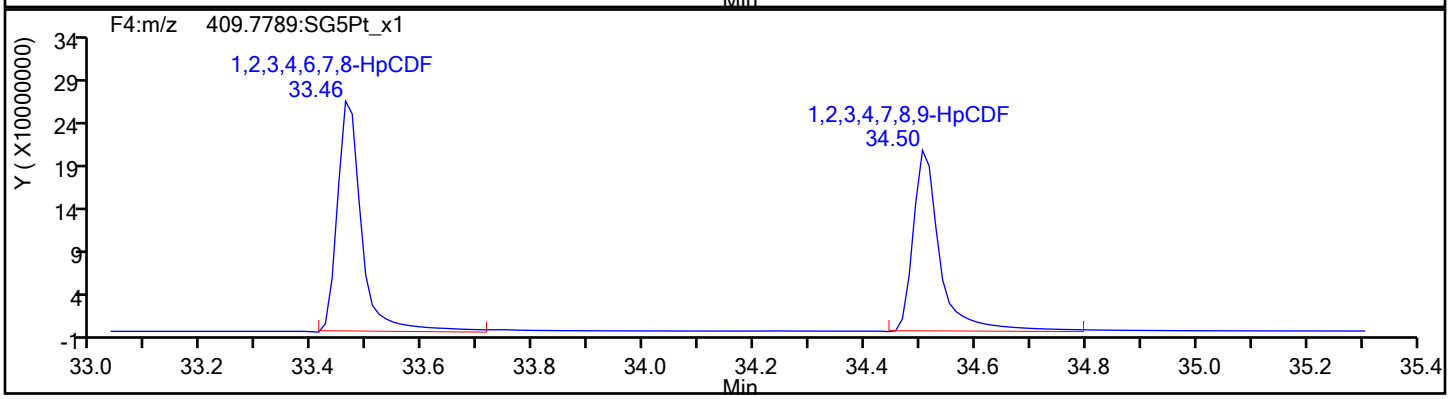

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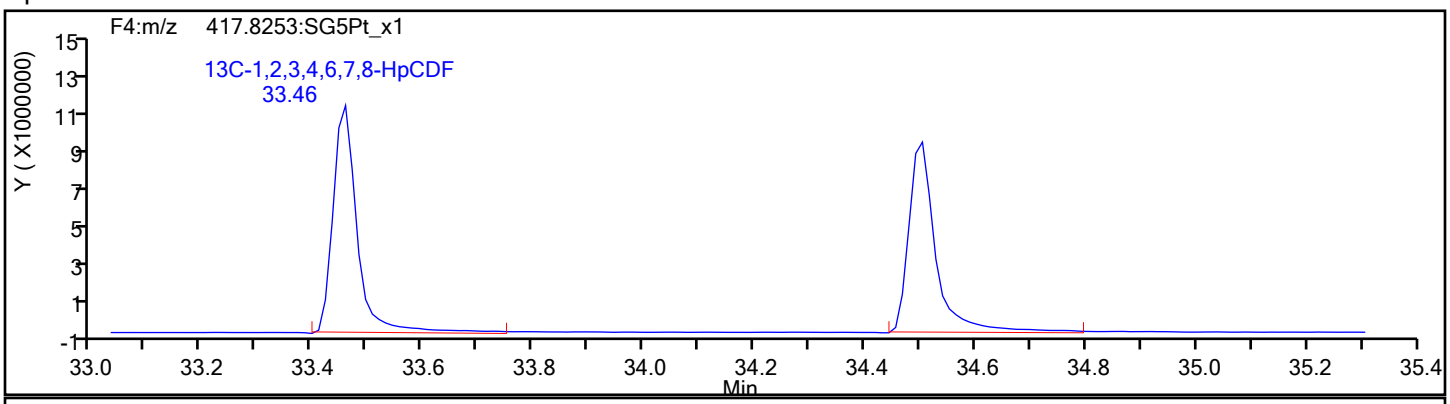

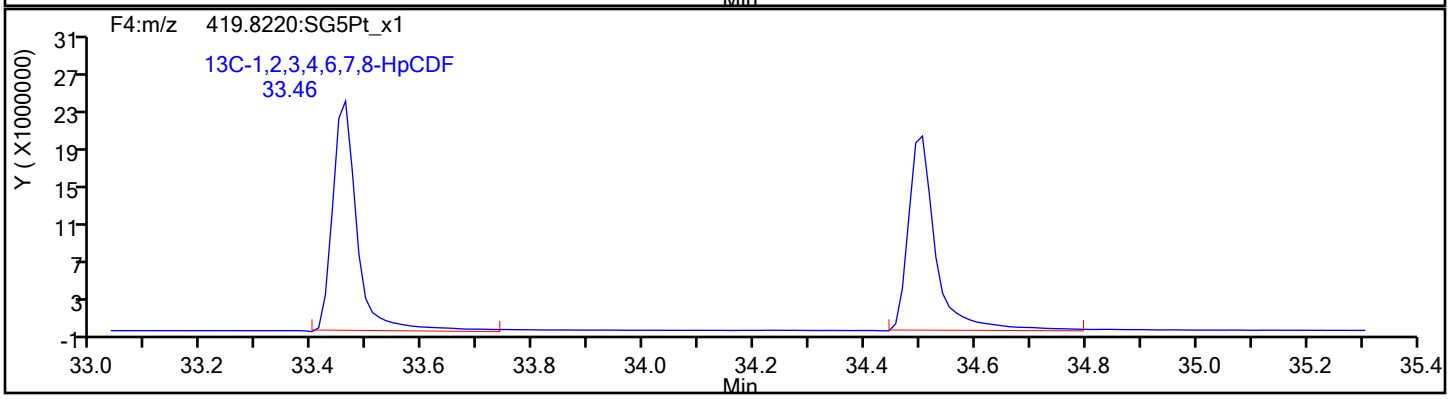

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Eurofins TestAmerica, Sacramento

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HpCDF

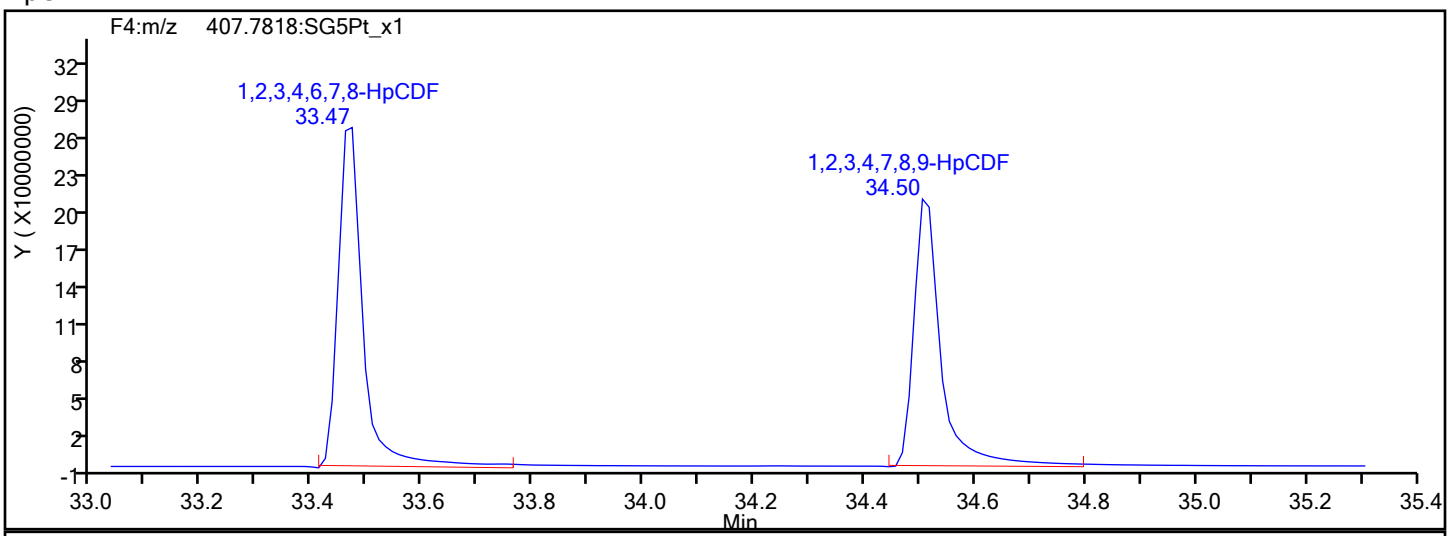

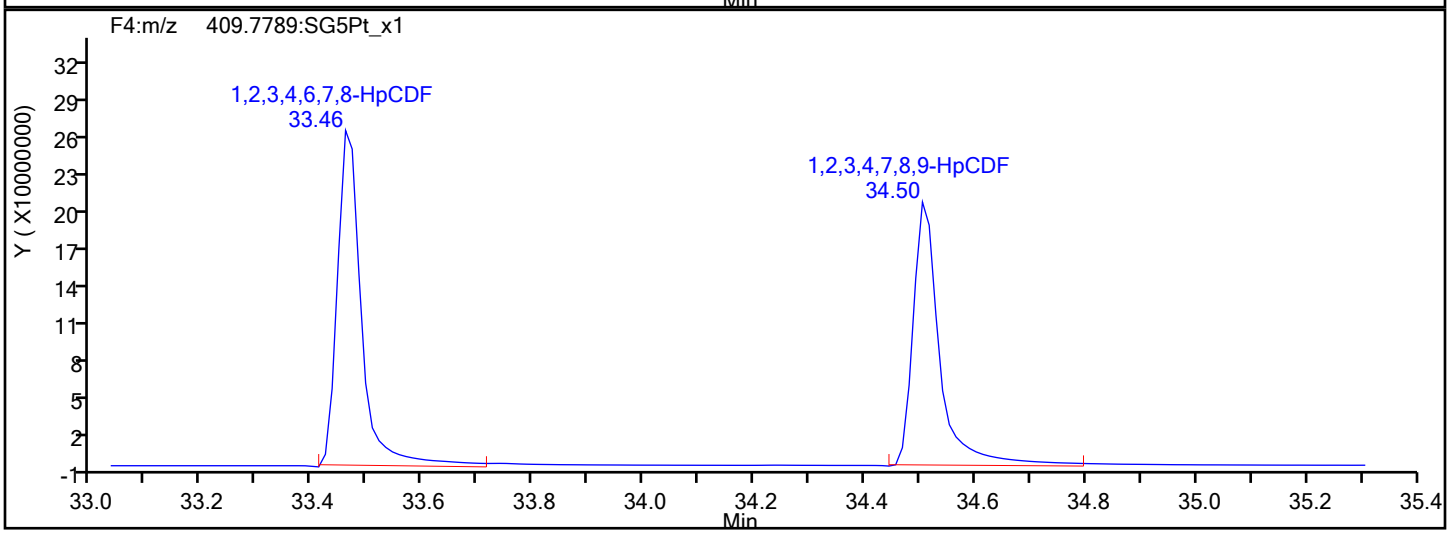

HpCDF Interference Mass

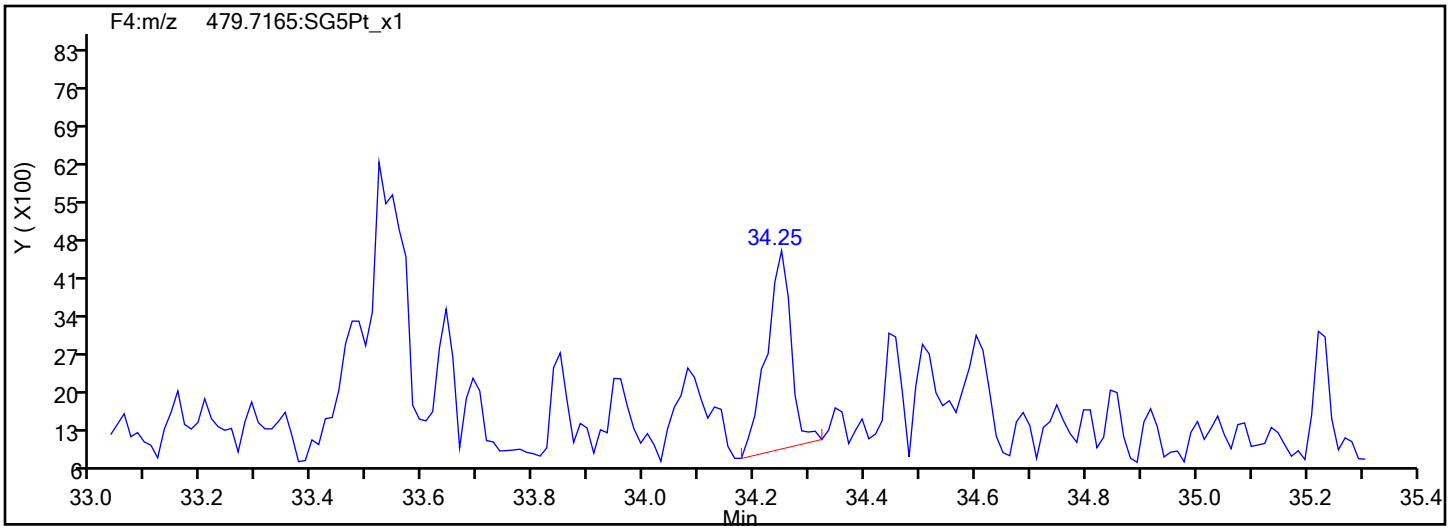

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Eurofins TestAmerica, Sacramento

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HpCDD

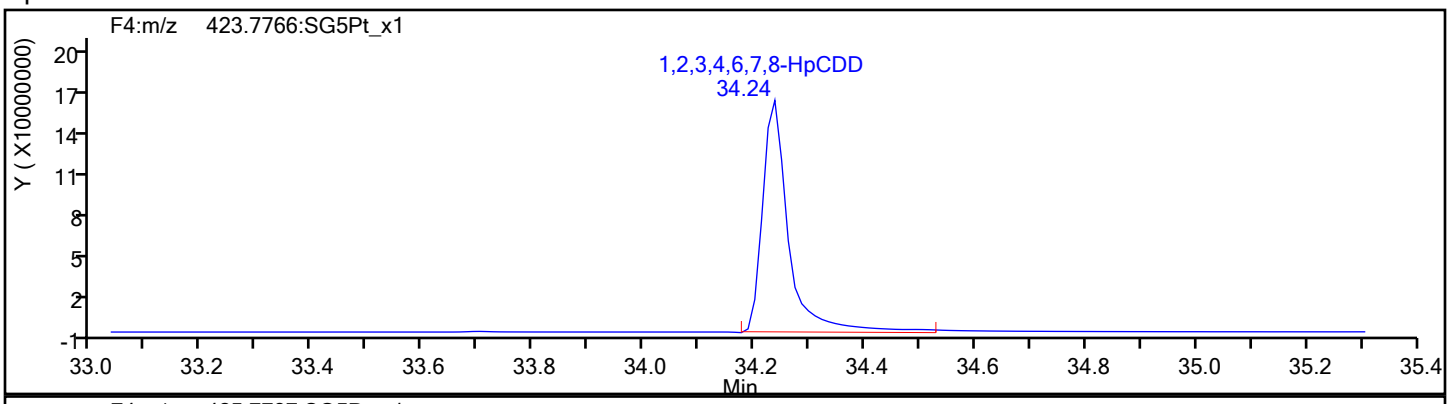

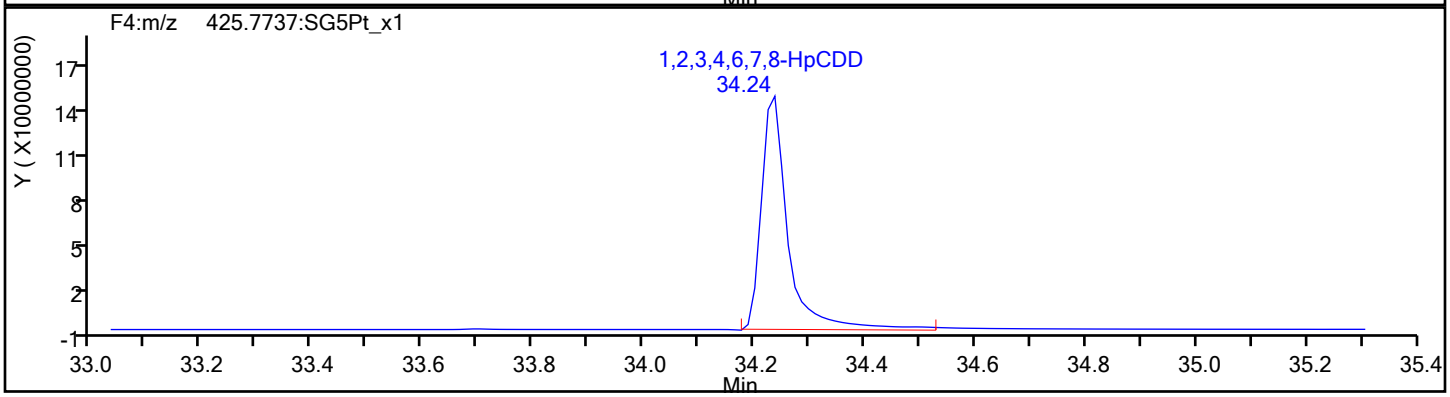

HpCDD Standards

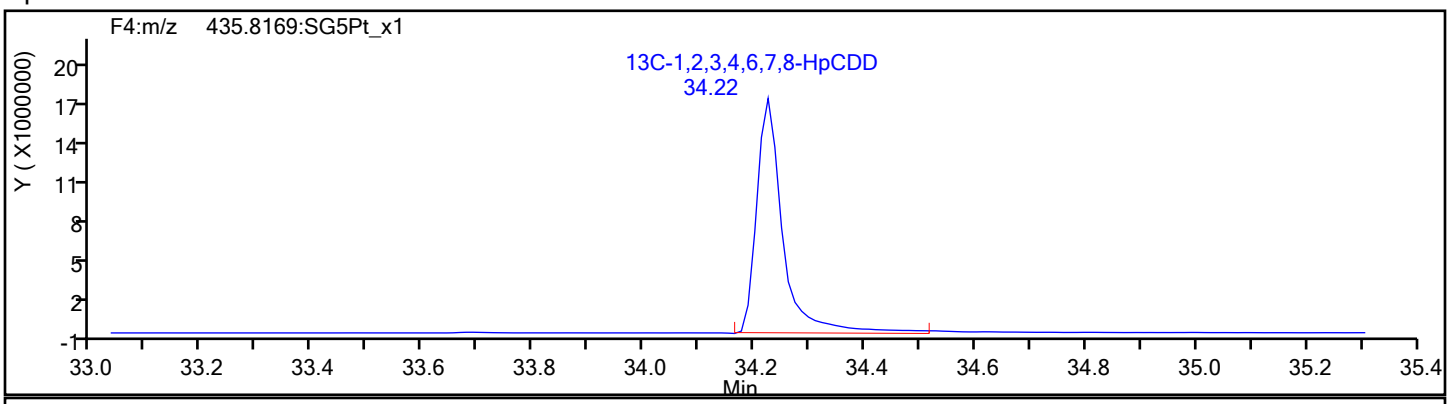

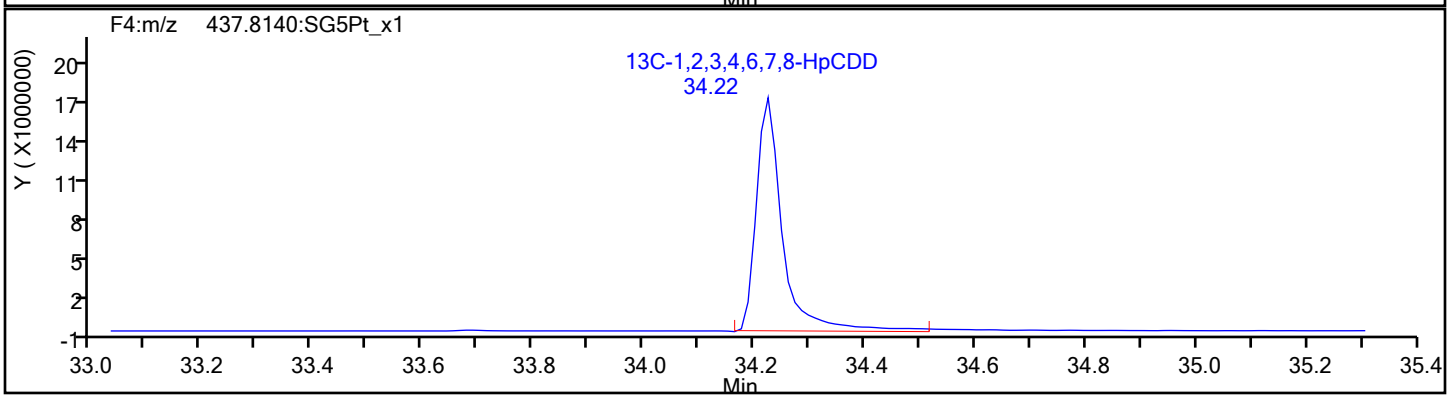

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d		
Injection Date:	17-Sep-2019 16:55:33	Injection Vol:	2.0 ul
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

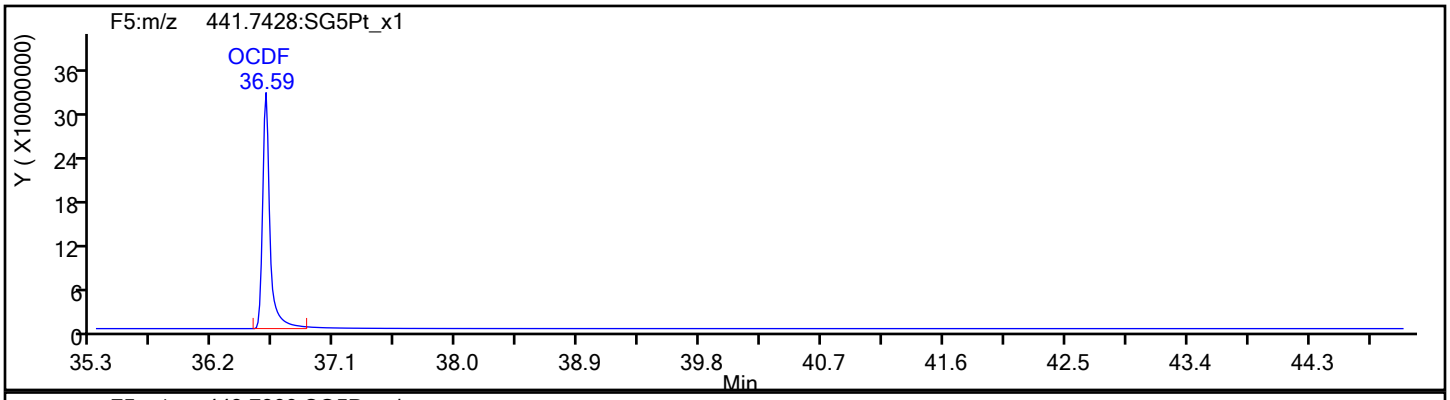

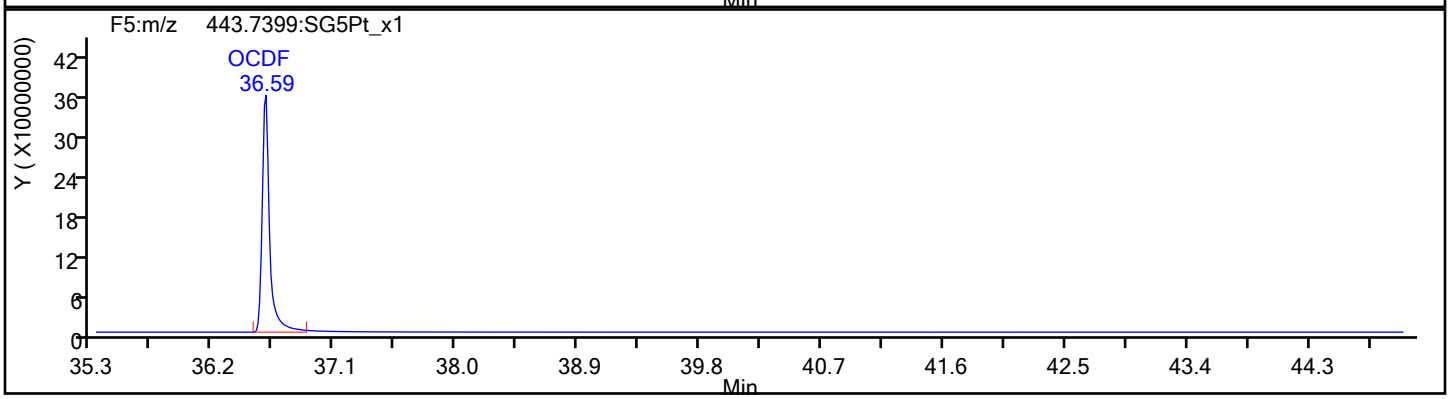

OCDF Standards

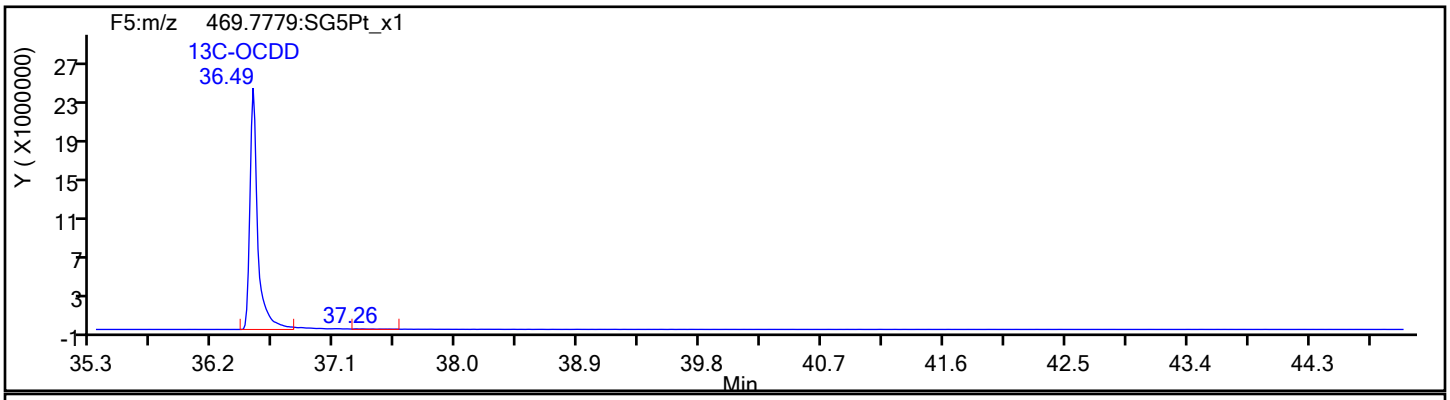

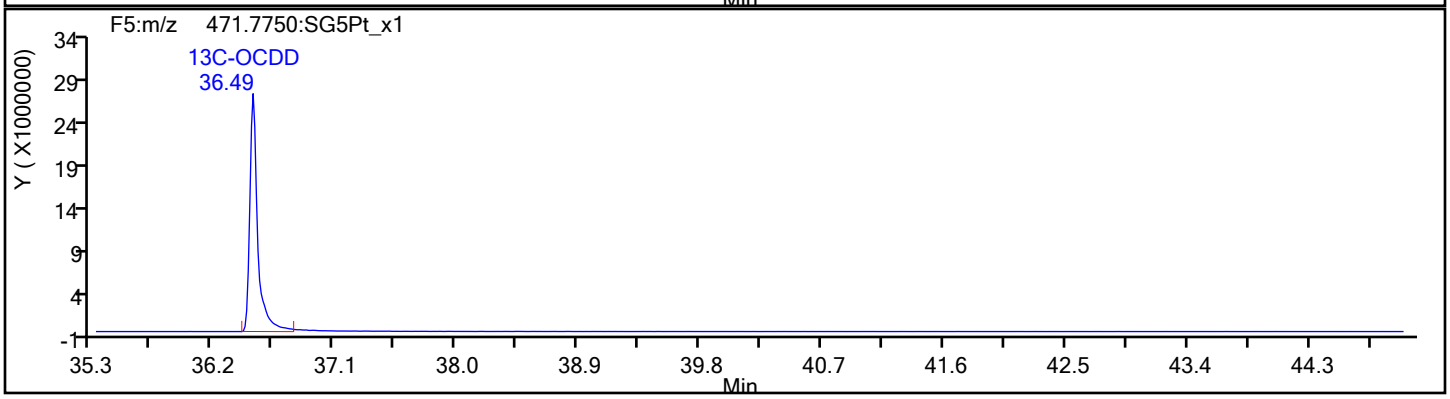

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d		
Injection Date:	17-Sep-2019 16:55:33	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

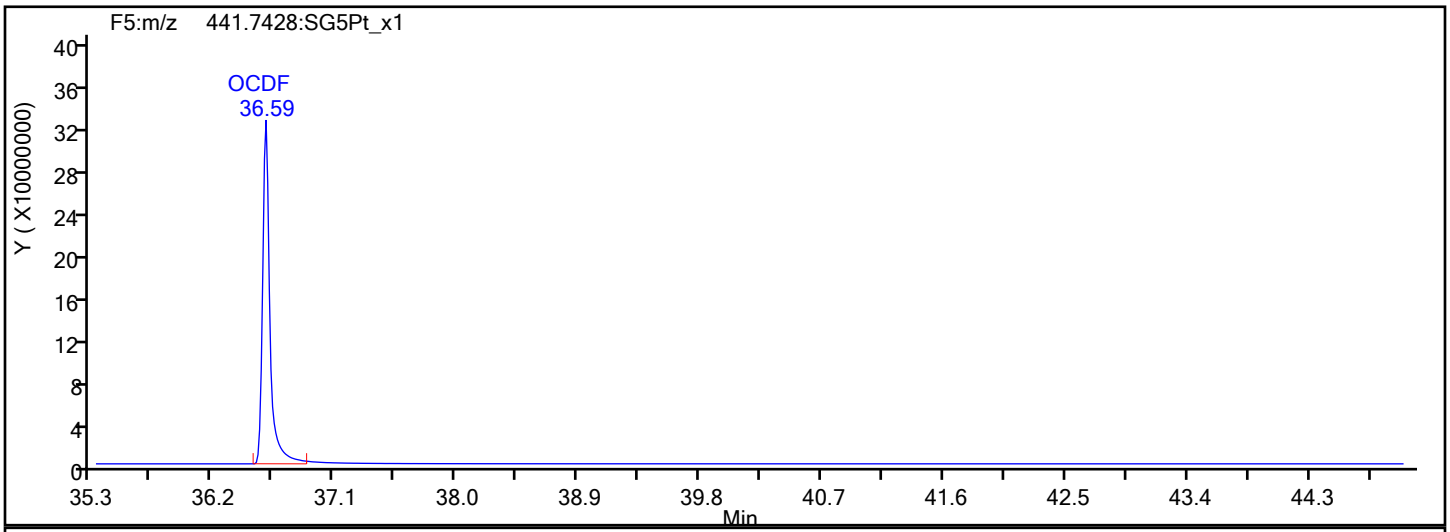

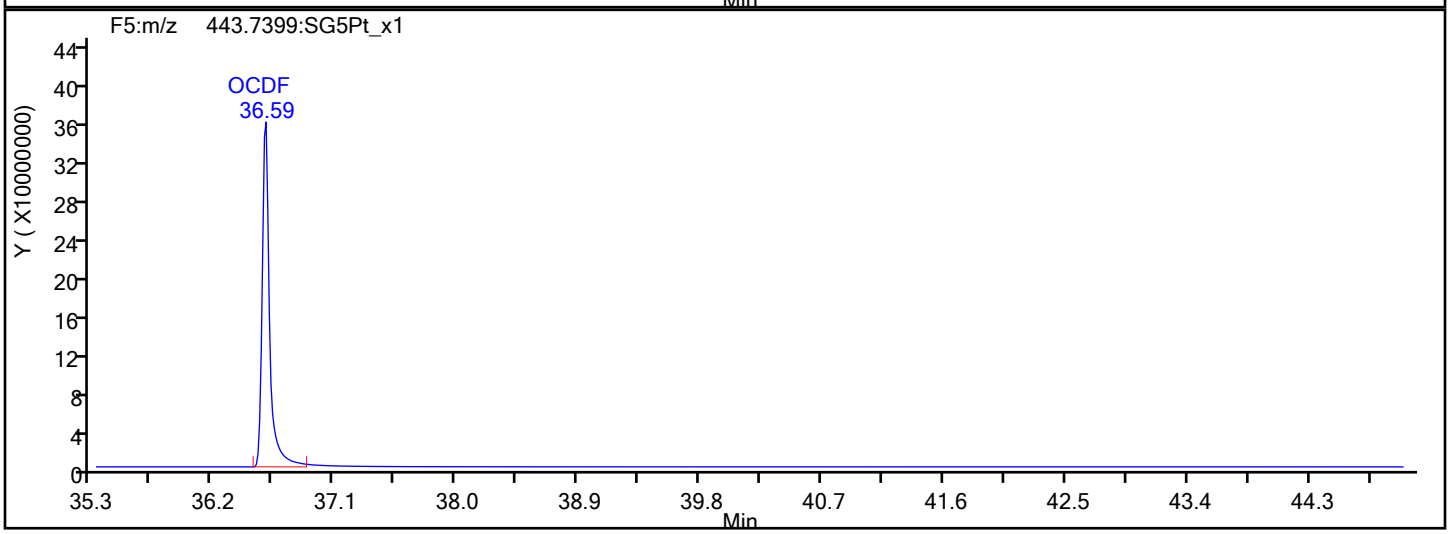

OCDF Interference Mass

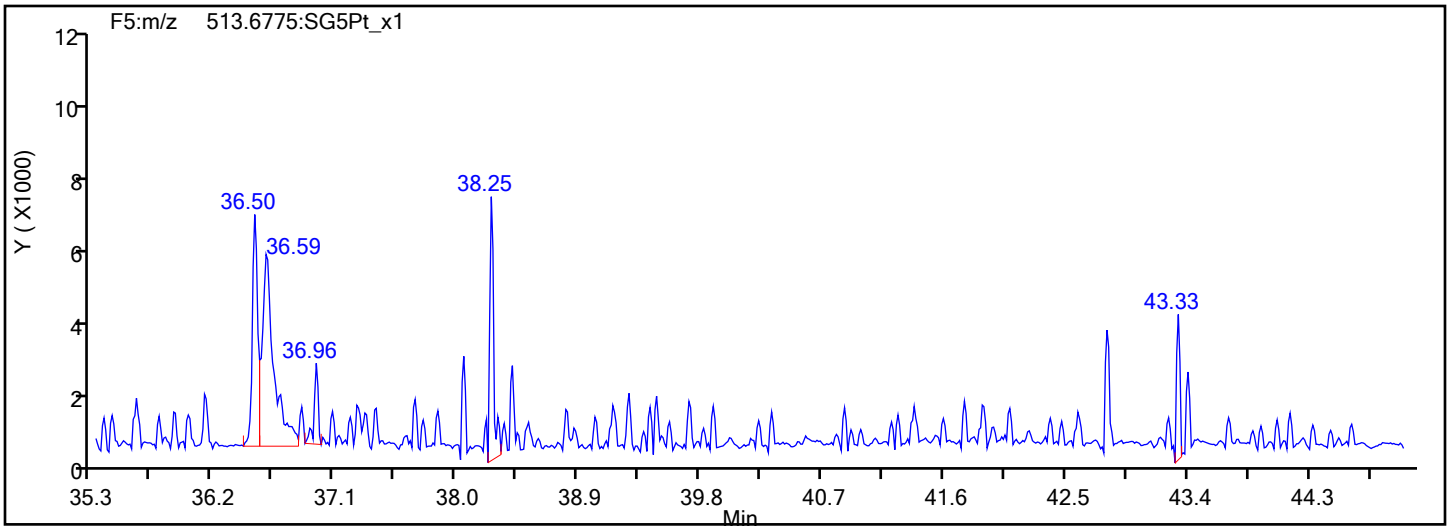

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d		
Injection Date:	17-Sep-2019 16:55:33	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

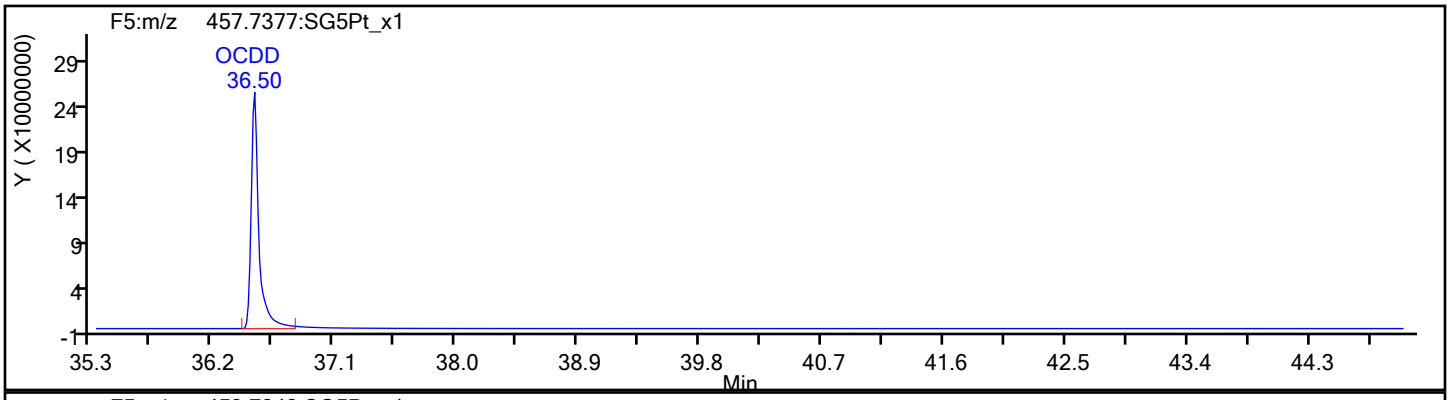

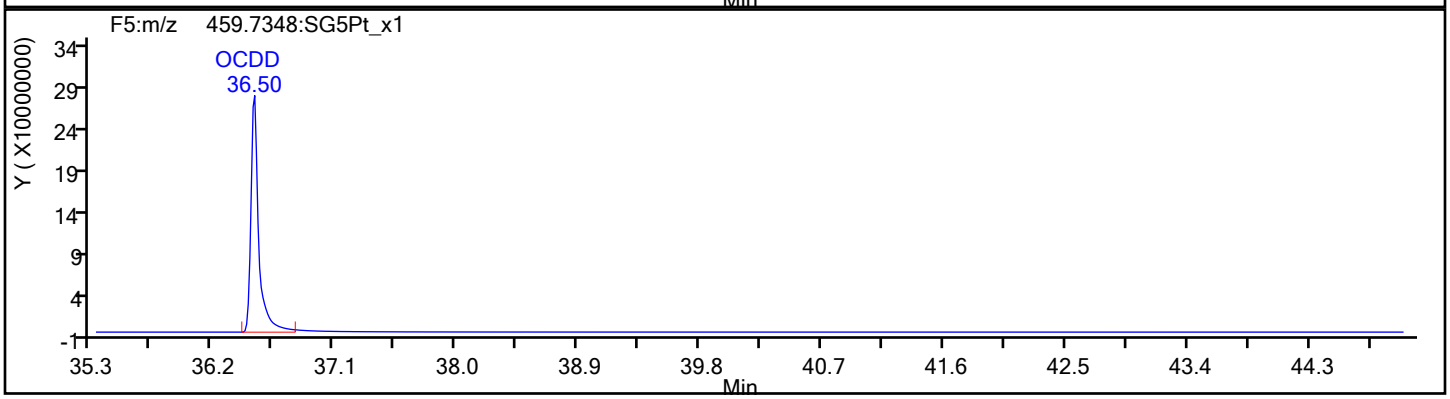

OCDD Standards

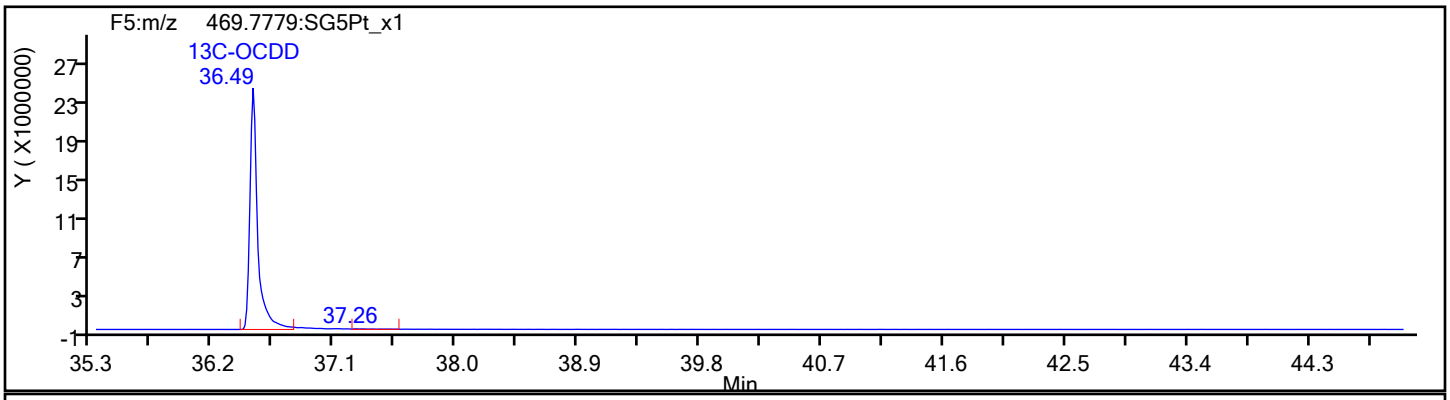

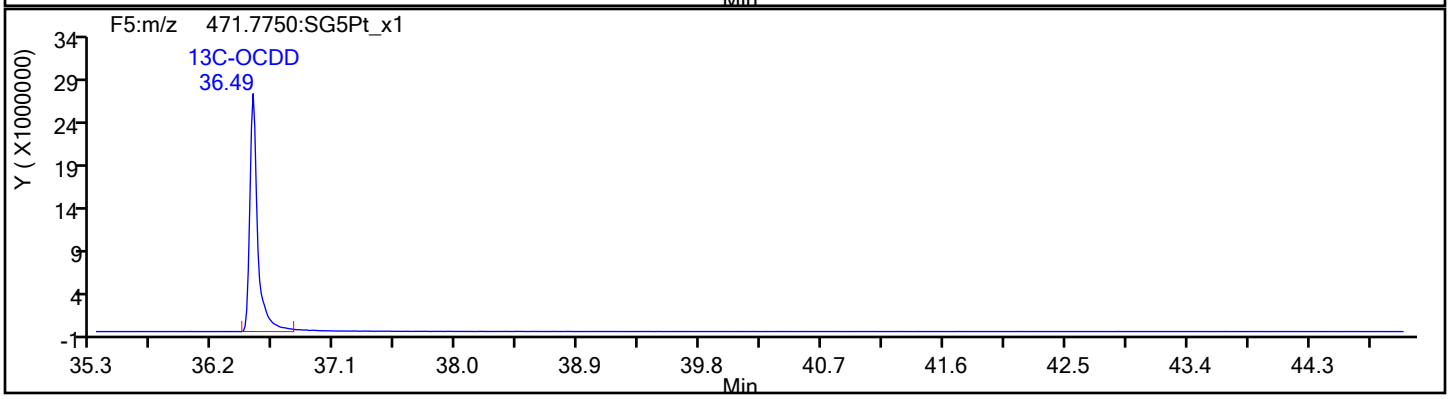

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Injection Date:	17-Sep-2019 16:55:33	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

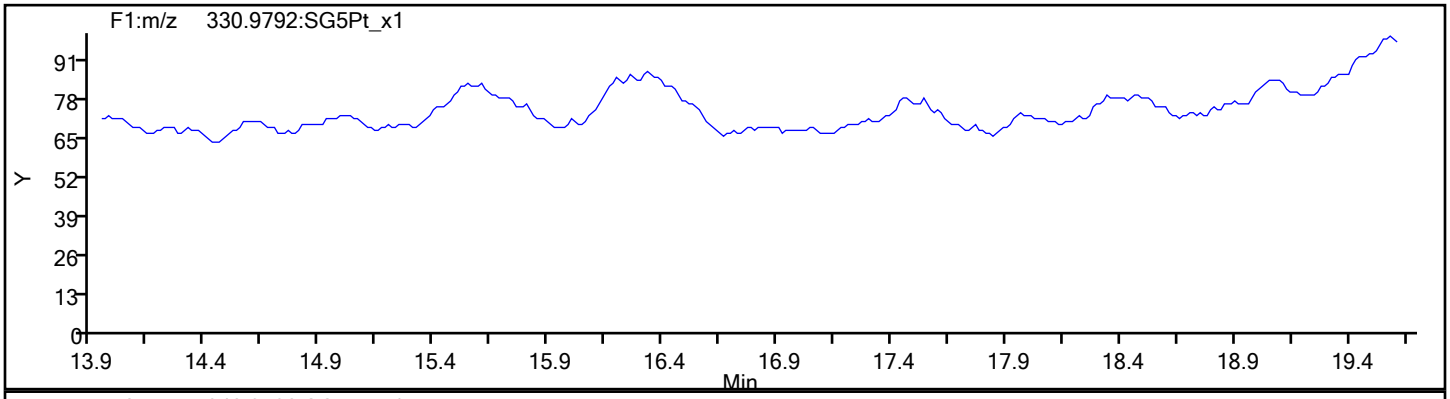

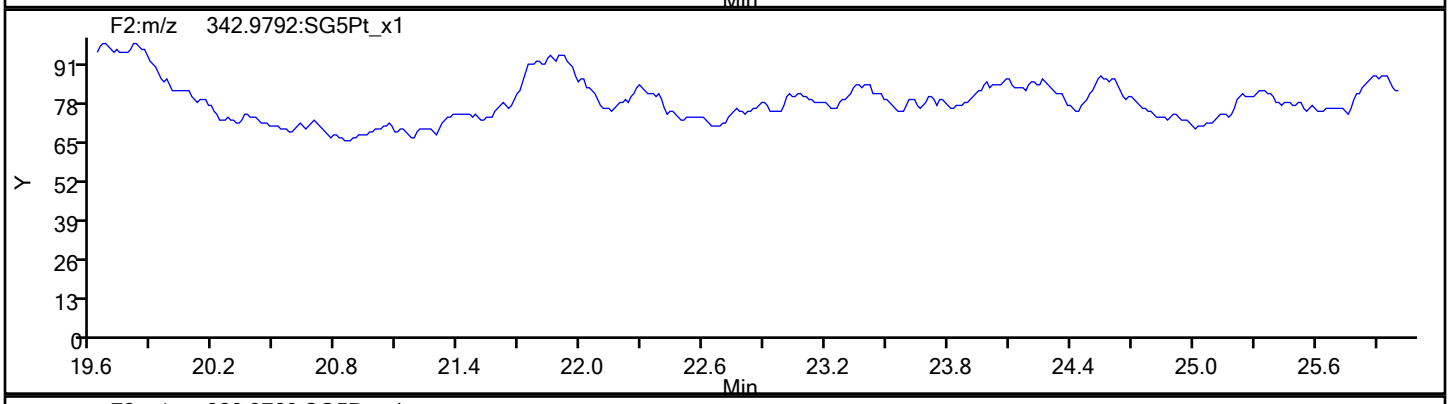

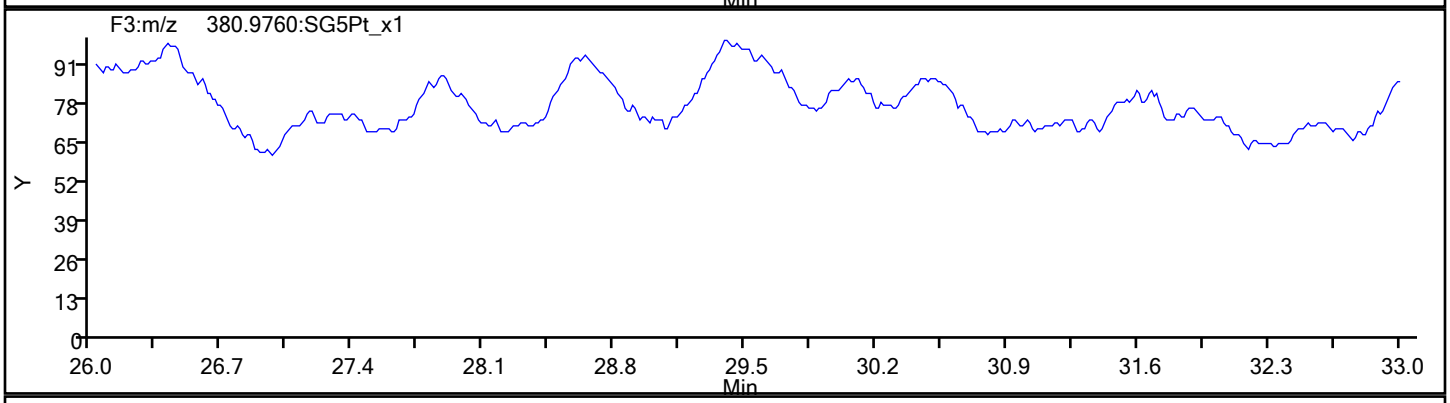

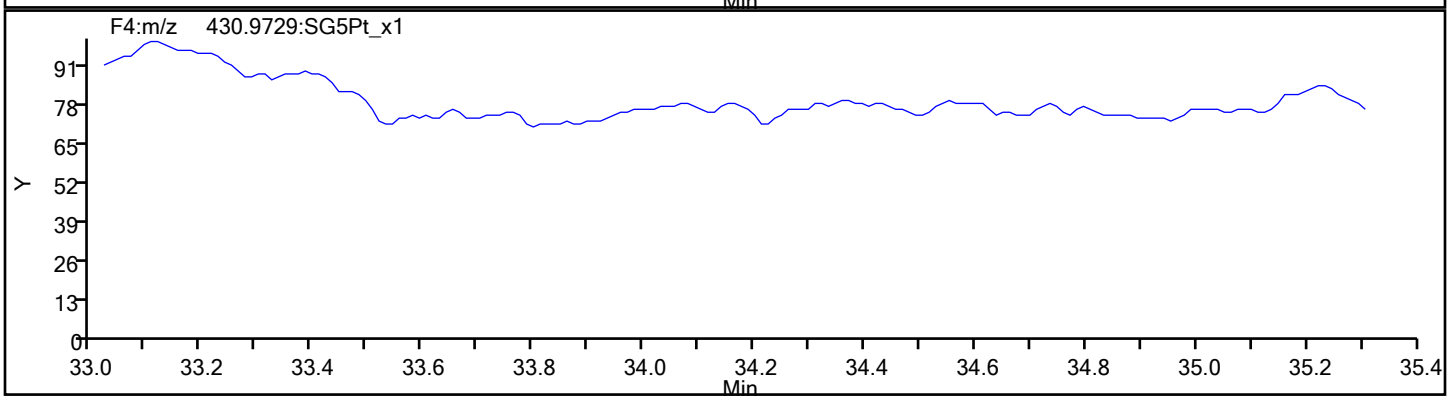

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d		
Injection Date:	17-Sep-2019 16:55:33	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

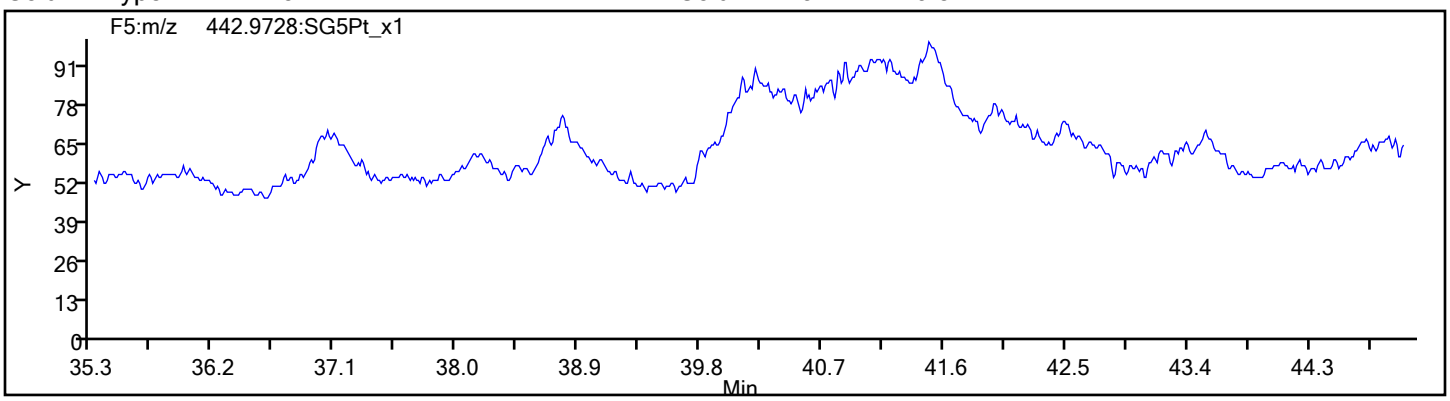

Calibration / 1,2,3,4,6,7,8-HpCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.9316

Error Coefficients

Standard Error:	523000000
Relative Standard Error:	5.9
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.124544	100.0	12148019.0	0.849818	Y
2	IC 320-324128/4	10.0	9.887454	100.0	25630510.0	0.988745	Y
3	IC 320-324128/7	50.0	45.909677	100.0	69249272.0	0.918194	Y
4	IC 320-324128/6	200.0	195.08816	100.0	90130025.0	0.975441	Y
5	IC 320-324128/8	1000.0	925.794044	100.0	111298169.0	0.925794	Y

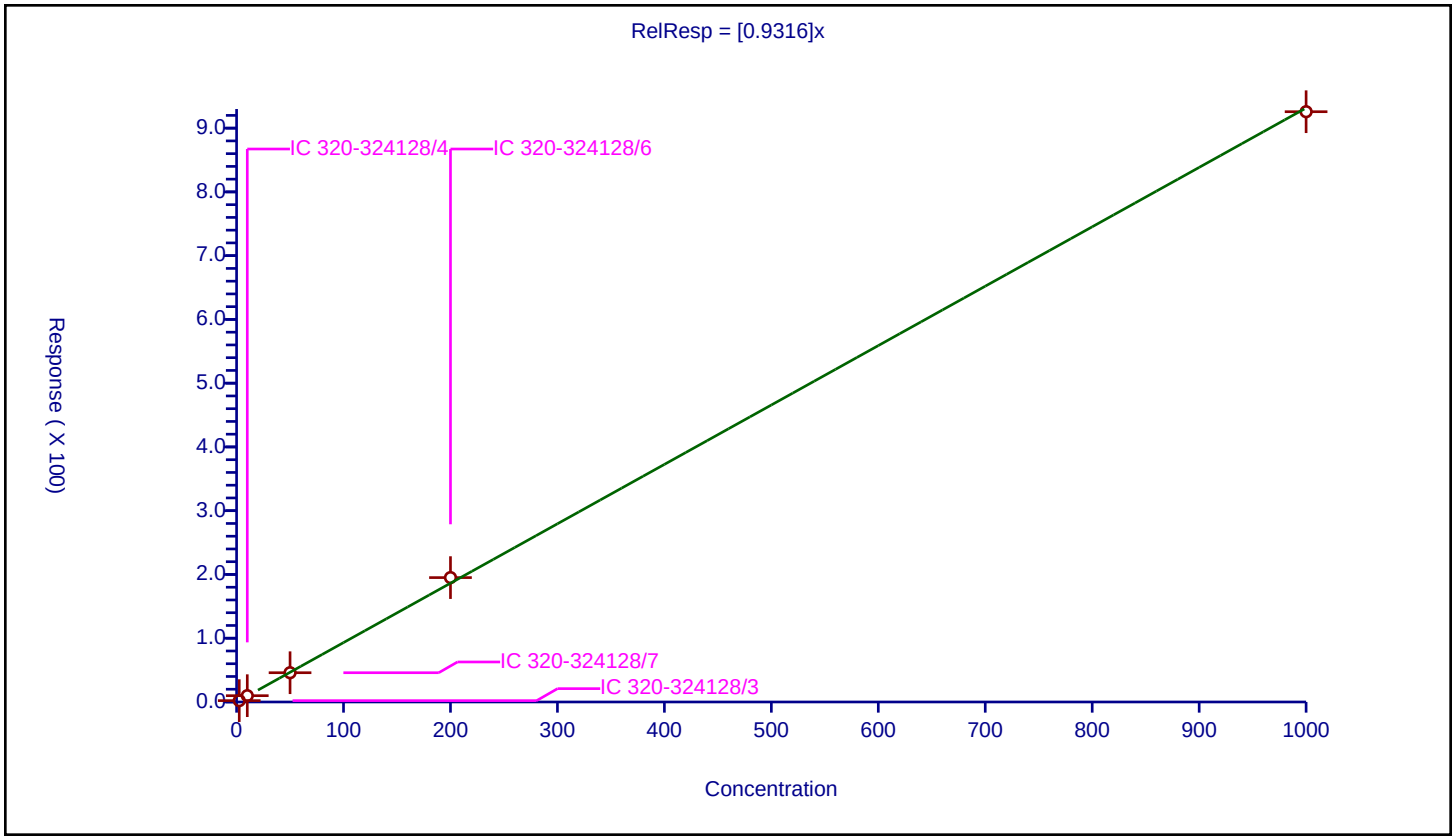

Calibration / 1,2,3,4,6,7,8-HpCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.556

Error Coefficients

Standard Error:	820000000
Relative Standard Error:	3.7
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	3.793804	100.0	12214839.0	1.517521	Y
2	IC 320-324128/4	10.0	16.415452	100.0	25015698.0	1.641545	Y
3	IC 320-324128/7	50.0	76.006177	100.0	70034446.0	1.520124	Y
4	IC 320-324128/6	200.0	317.335133	100.0	88816288.0	1.586676	Y
5	IC 320-324128/8	1000.0	1511.883696	100.0	106743815.0	1.511884	Y

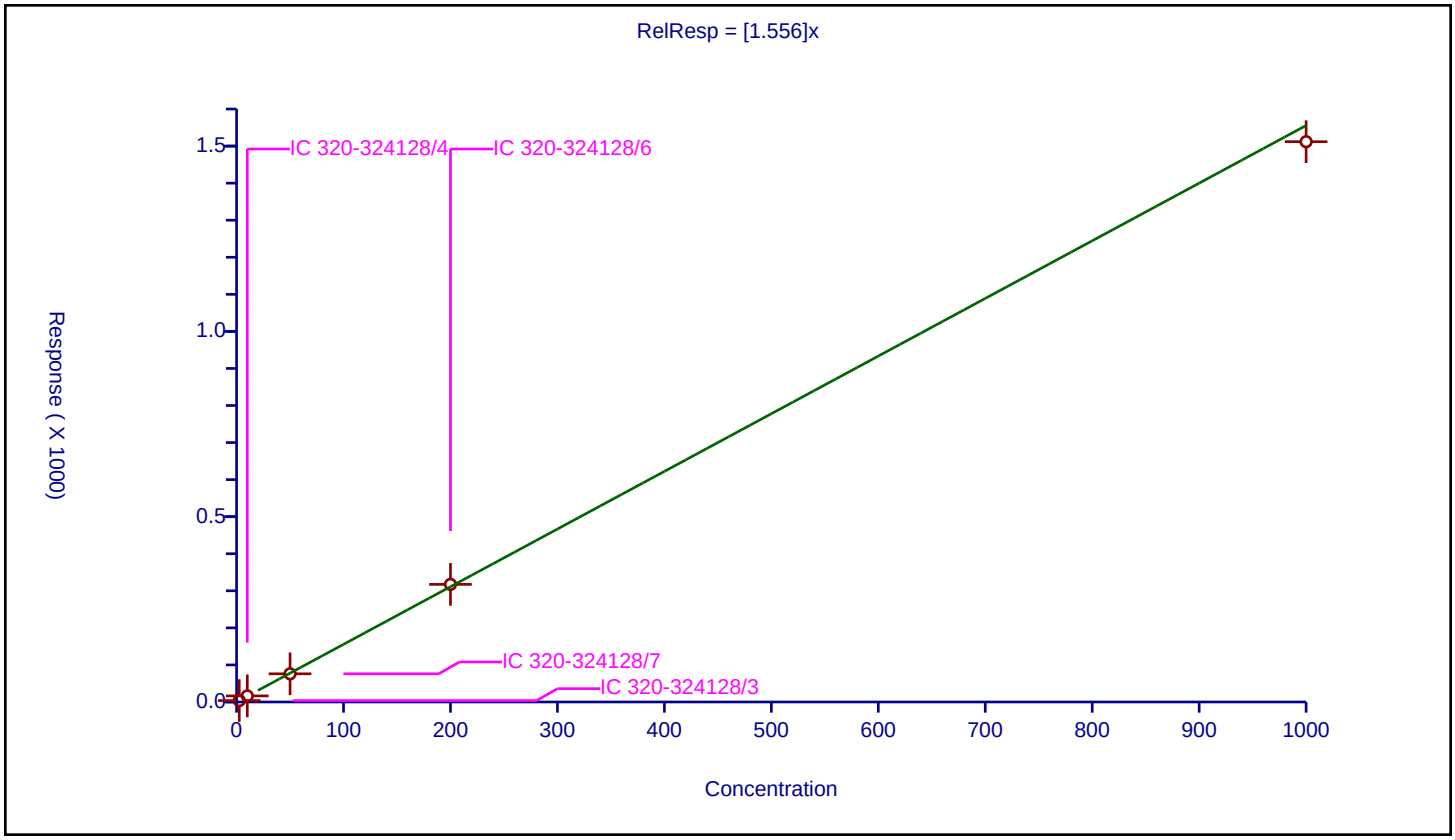

Calibration / 1,2,3,4,7,8,9-HpCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.386

Error Coefficients

Standard Error:	706000000
Relative Standard Error:	6.7
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	3.136969	100.0	11417456.0	1.254787	Y
2	IC 320-324128/4	10.0	14.795935	100.0	23641905.0	1.479594	Y
3	IC 320-324128/7	50.0	67.401124	100.0	62459777.0	1.348022	Y
4	IC 320-324128/6	200.0	294.076652	100.0	81274920.0	1.470383	Y
5	IC 320-324128/8	1000.0	1378.459208	100.0	100973962.0	1.378459	Y

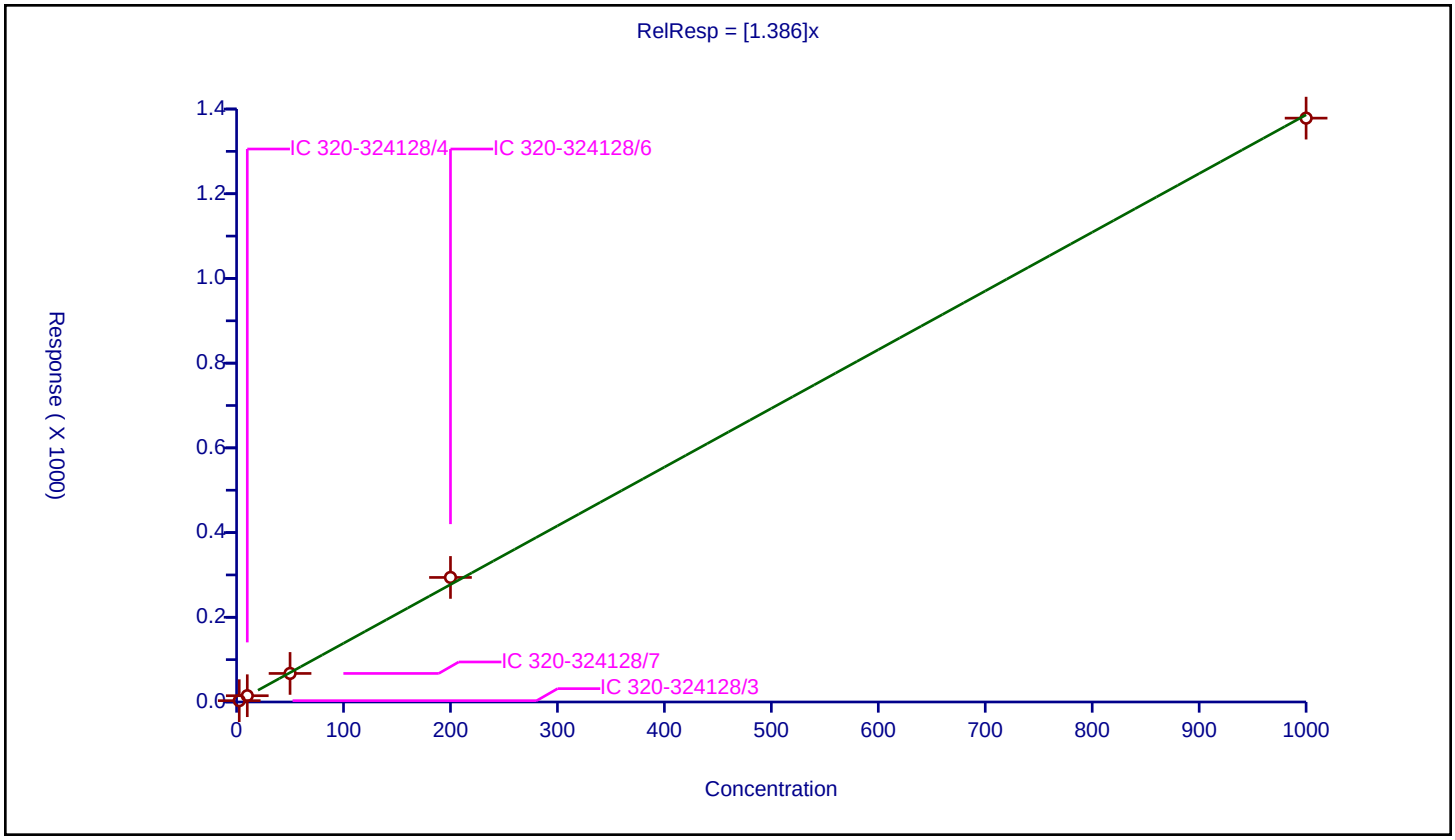

Calibration / 1,2,3,4,7,8-HxCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.109

Error Coefficients

Standard Error:	574000000
Relative Standard Error:	4.0
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.624315	100.0	10572054.0	1.049726	Y
2	IC 320-324128/4	10.0	11.313402	100.0	23739455.0	1.13134	Y
3	IC 320-324128/7	50.0	53.811098	100.0	61001305.0	1.076222	Y
4	IC 320-324128/6	200.0	231.704316	100.0	80372897.0	1.158522	Y
5	IC 320-324128/8	1000.0	1128.178019	100.0	100374877.0	1.128178	Y

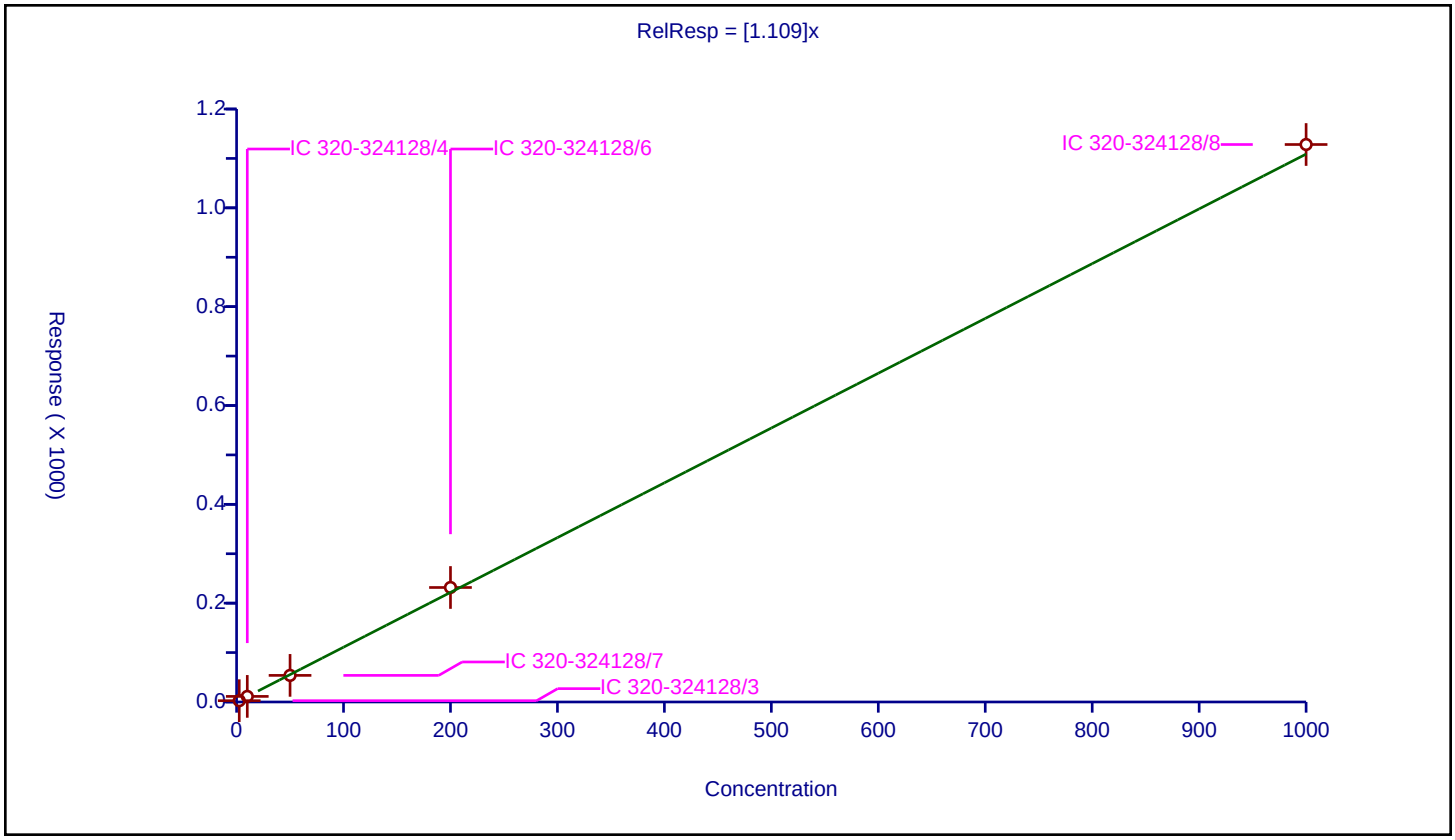

Calibration / 1,2,3,4,7,8-HxCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.197

Error Coefficients

Standard Error:	857000000
Relative Standard Error:	5.9
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.751048	100.0	16433122.0	1.100419	Y
2	IC 320-324128/4	10.0	12.643334	100.0	36418536.0	1.264333	Y
3	IC 320-324128/7	50.0	57.806584	100.0	88972191.0	1.156132	Y
4	IC 320-324128/6	200.0	252.902057	100.0	115322048.0	1.26451	Y
5	IC 320-324128/8	1000.0	1201.28113	100.0	140595624.0	1.201281	Y

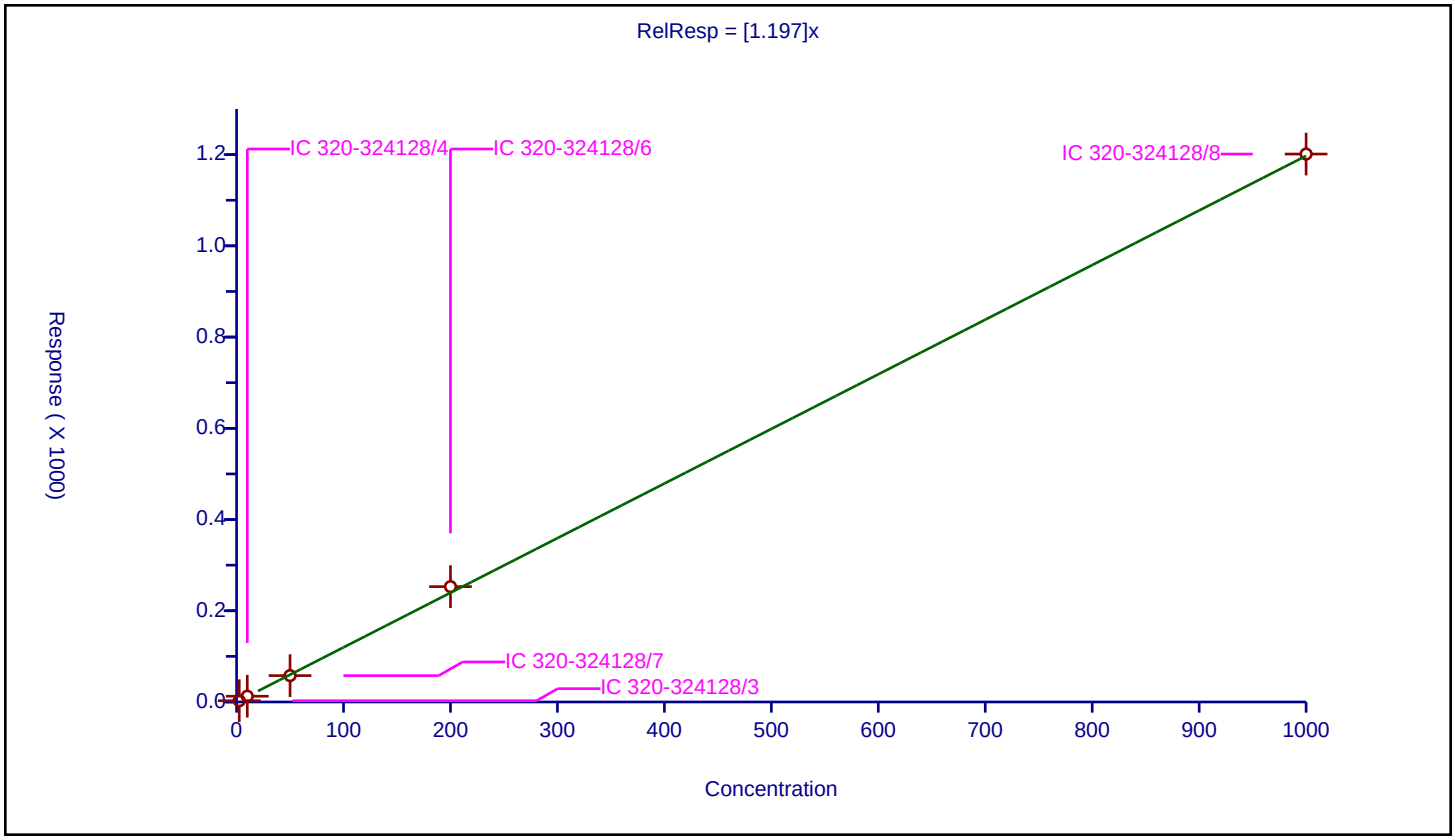

Calibration / 1,2,3,6,7,8-HxCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.081

Error Coefficients

Standard Error:	630000000
Relative Standard Error:	4.9
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.556253	100.0	12508423.0	1.022501	Y
2	IC 320-324128/4	10.0	11.525838	100.0	27633426.0	1.152584	Y
3	IC 320-324128/7	50.0	52.478256	100.0	72157657.0	1.049565	Y
4	IC 320-324128/6	200.0	223.531818	100.0	95002970.0	1.117659	Y
5	IC 320-324128/8	1000.0	1064.760649	100.0	116499868.0	1.064761	Y

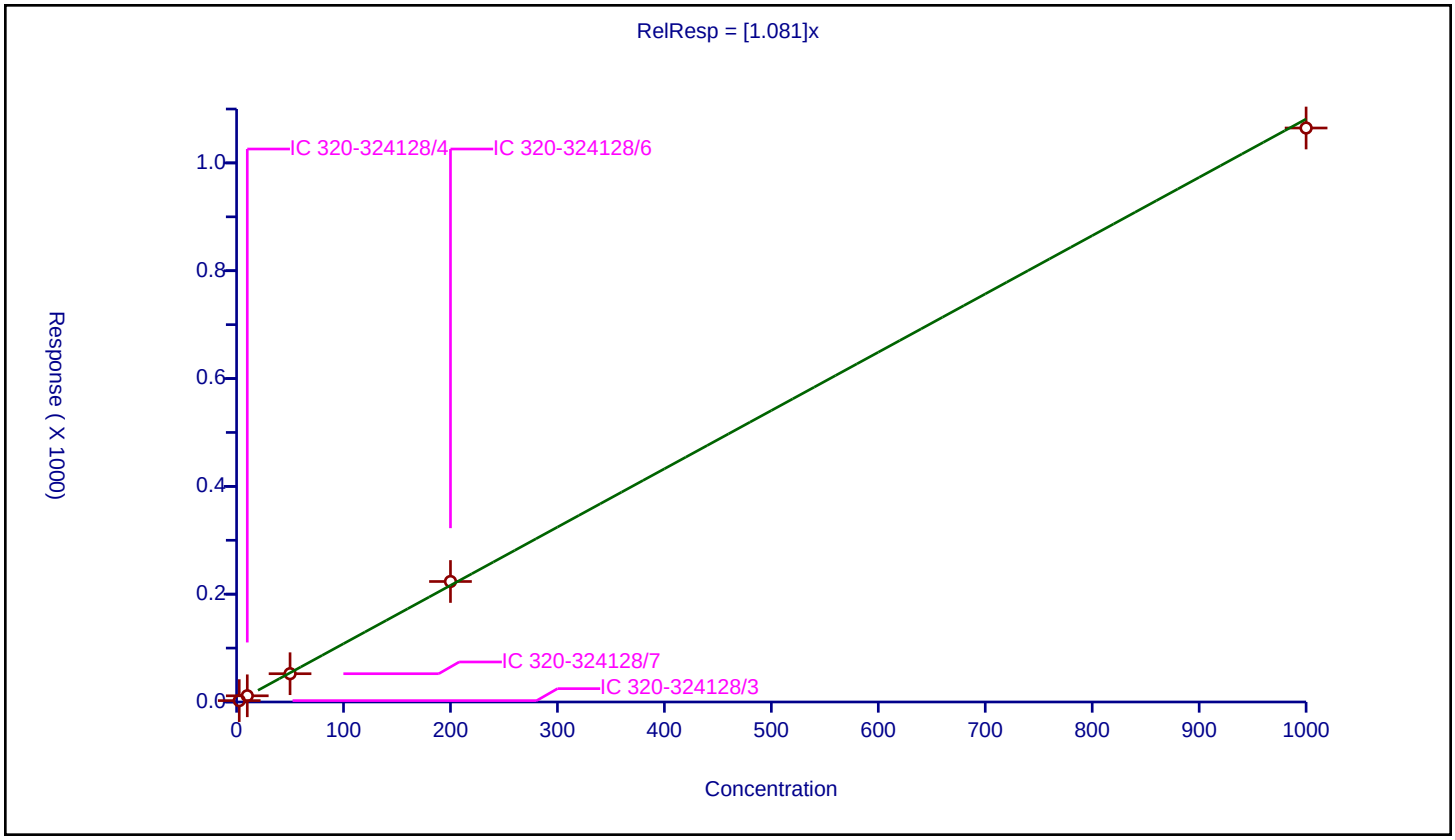

Calibration / 1,2,3,6,7,8-HxCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.181

Error Coefficients

Standard Error:	909000000
Relative Standard Error:	6.6
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.667131	100.0	17668349.0	1.066852	Y
2	IC 320-324128/4	10.0	12.704364	100.0	38486861.0	1.270436	Y
3	IC 320-324128/7	50.0	57.669759	100.0	97064883.0	1.153395	Y
4	IC 320-324128/6	200.0	246.681655	100.0	126224651.0	1.233408	Y
5	IC 320-324128/8	1000.0	1179.211783	100.0	151833452.0	1.179212	Y

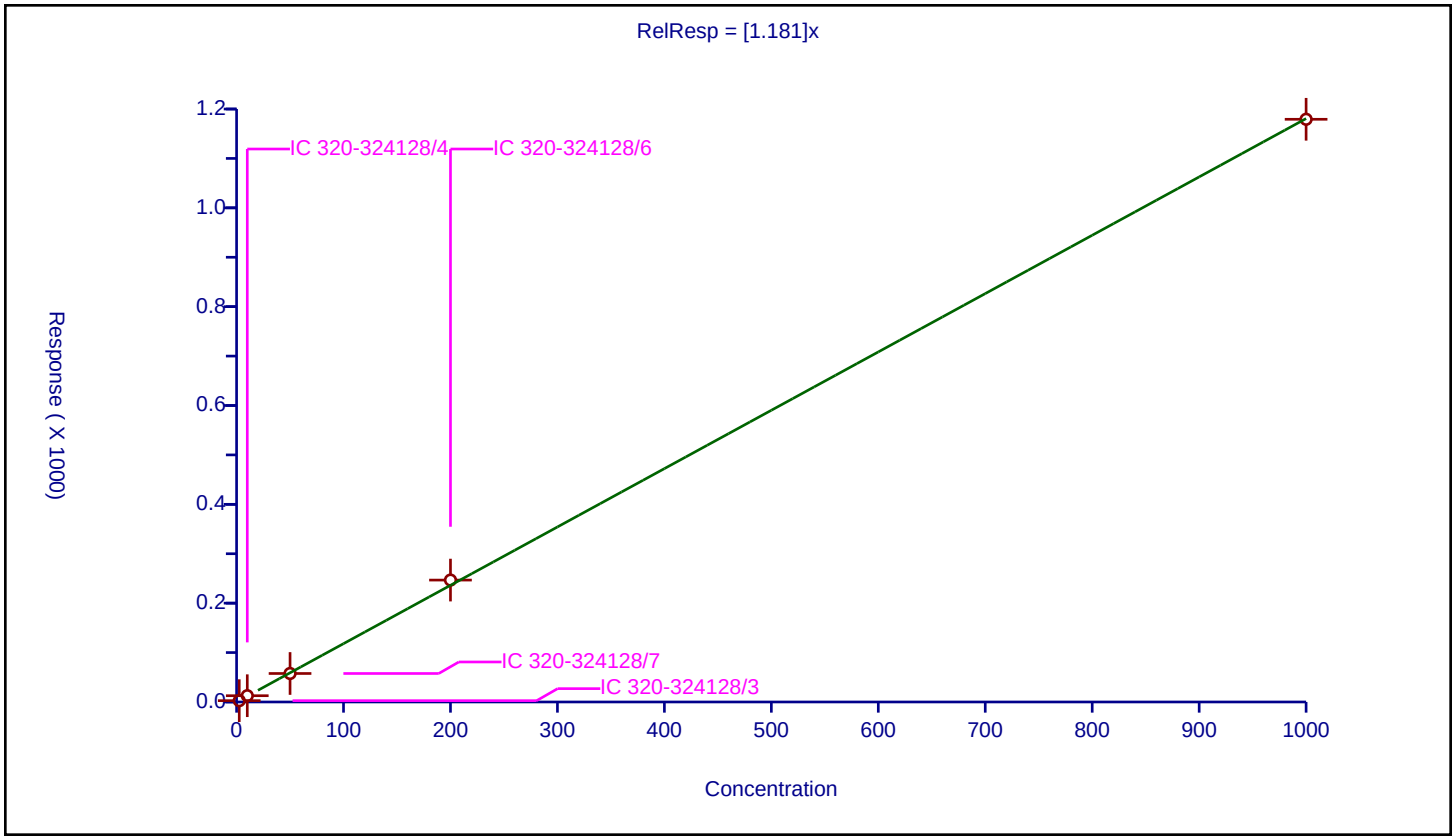

Calibration / 1,2,3,7,8,9-HxCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.318

Error Coefficients

Standard Error:	639000000
Relative Standard Error:	5.4
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	3.149823	100.0	10572054.0	1.259929	Y
2	IC 320-324128/4	10.0	14.21552	100.0	23739455.0	1.421552	Y
3	IC 320-324128/7	50.0	64.86943	100.0	61001305.0	1.297389	Y
4	IC 320-324128/6	200.0	271.297093	100.0	80372897.0	1.356485	Y
5	IC 320-324128/8	1000.0	1254.773605	100.0	100374877.0	1.254774	Y

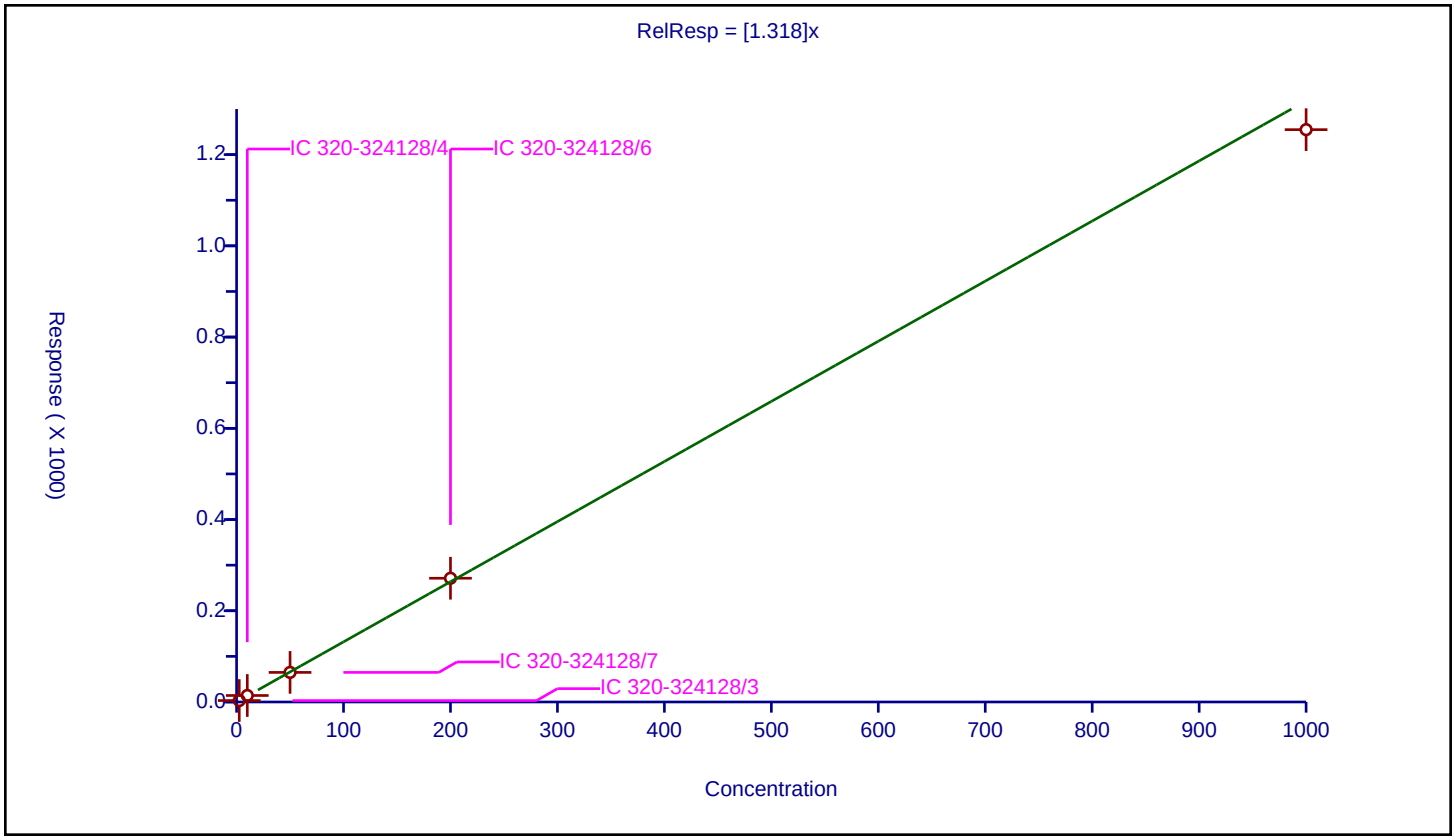

Calibration / 1,2,3,7,8,9-HxCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.245

Error Coefficients

Standard Error:	802000000
Relative Standard Error:	3.0
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	3.063166	100.0	15096147.0	1.225266	Y
2	IC 320-324128/4	10.0	12.975655	100.0	33293009.0	1.297566	Y
3	IC 320-324128/7	50.0	60.502108	100.0	83967924.0	1.210042	Y
4	IC 320-324128/6	200.0	254.314863	100.0	107073331.0	1.271574	Y
5	IC 320-324128/8	1000.0	1221.183573	100.0	129353689.0	1.221184	Y

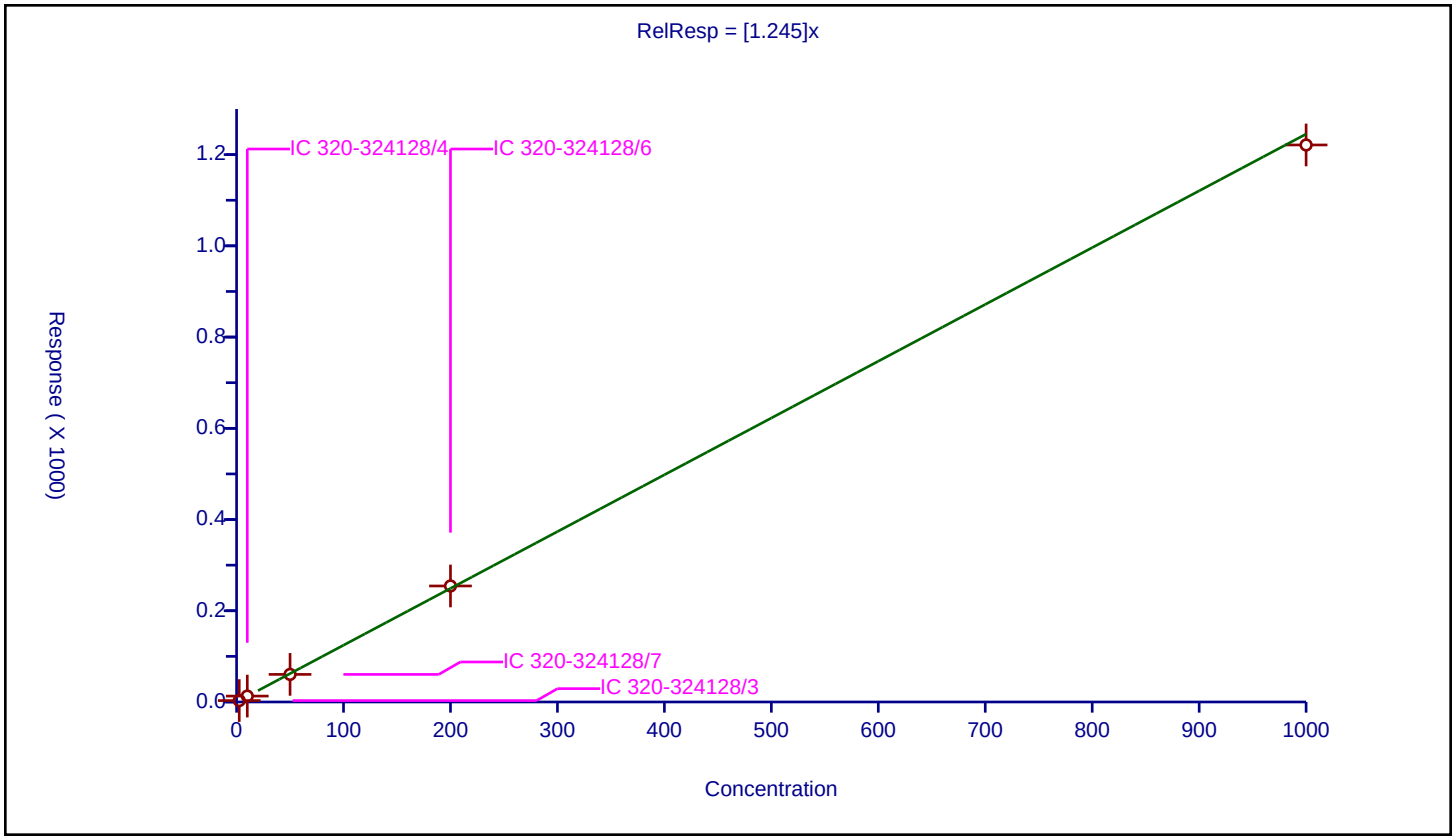

Calibration / 1,2,3,7,8-PeCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.905

Error Coefficients

Standard Error:	590000000
Relative Standard Error:	4.8
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.148594	100.0	15668897.0	0.859438	Y
2	IC 320-324128/4	10.0	9.575806	100.0	33098301.0	0.957581	Y
3	IC 320-324128/7	50.0	43.349327	100.0	84755636.0	0.866987	Y
4	IC 320-324128/6	200.0	188.20818	100.0	108225317.0	0.941041	Y
5	IC 320-324128/8	1000.0	900.148235	100.0	129152474.0	0.900148	Y

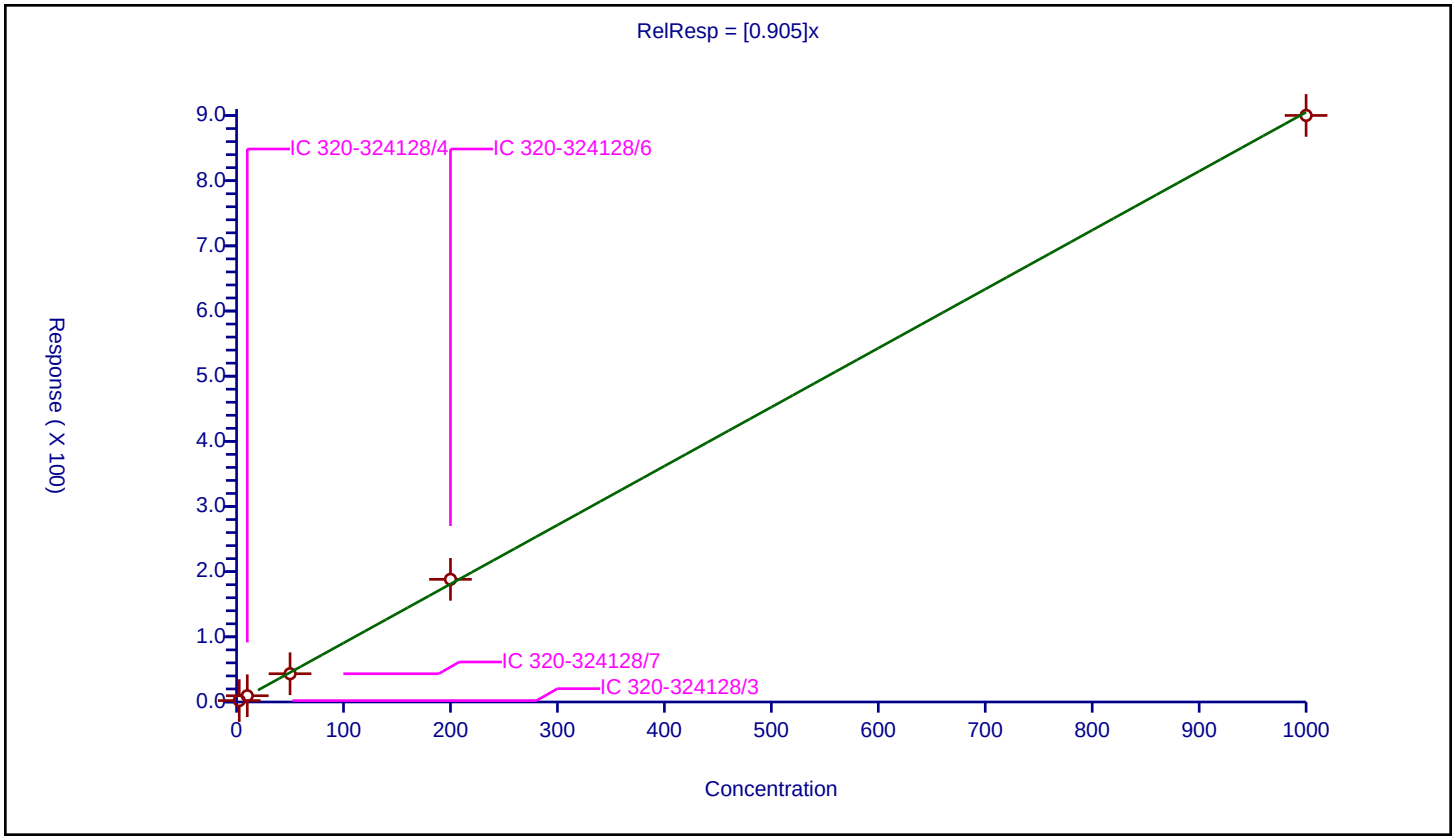

Calibration / 1,2,3,7,8-PeCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.082

Error Coefficients

Standard Error:	938000000
Relative Standard Error:	6.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.502683	100.0	22013977.0	1.001073	Y
2	IC 320-324128/4	10.0	11.601265	100.0	46755351.0	1.160126	Y
3	IC 320-324128/7	50.0	52.158277	100.0	117067384.0	1.043166	Y
4	IC 320-324128/6	200.0	226.621934	100.0	146707284.0	1.13311	Y
5	IC 320-324128/8	1000.0	1073.749438	100.0	171862914.0	1.073749	Y

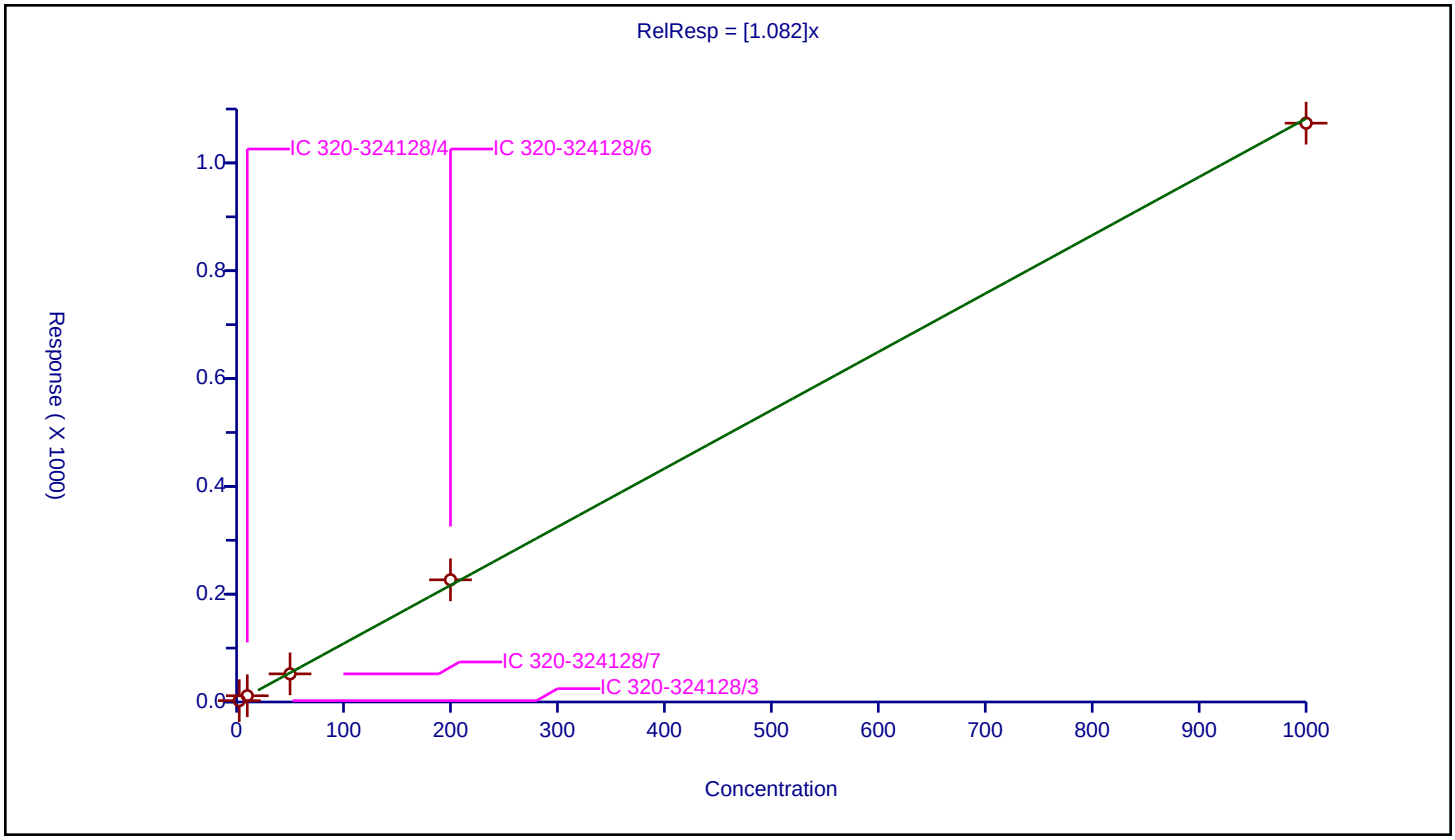

Calibration / 2,3,4,6,7,8-HxCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.212

Error Coefficients

Standard Error:	900000000
Relative Standard Error:	4.7
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.831839	100.0	16591902.0	1.132736	Y
2	IC 320-324128/4	10.0	12.683235	100.0	35886090.0	1.268323	Y
3	IC 320-324128/7	50.0	59.276675	100.0	90467566.0	1.185533	Y
4	IC 320-324128/6	200.0	253.147566	100.0	118677202.0	1.265738	Y
5	IC 320-324128/8	1000.0	1205.597186	100.0	147071003.0	1.205597	Y

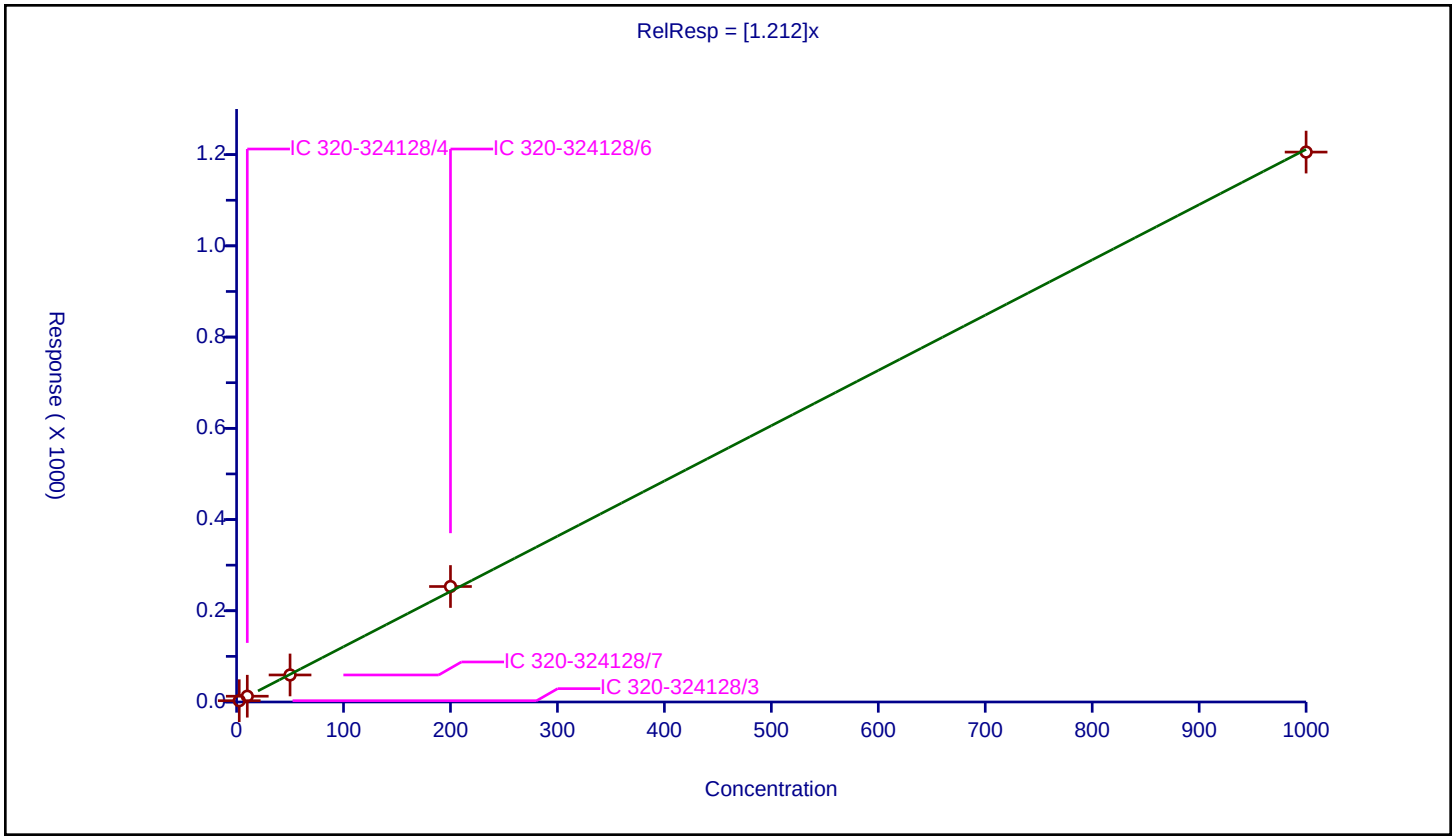

Calibration / 2,3,4,7,8-PeCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.103

Error Coefficients

Standard Error:	942000000
Relative Standard Error:	8.1
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.406506	100.0	20818900.0	0.962602	Y
2	IC 320-324128/4	10.0	11.888412	100.0	45184985.0	1.188841	Y
3	IC 320-324128/7	50.0	54.321476	100.0	108494277.0	1.08643	Y
4	IC 320-324128/6	200.0	234.558175	100.0	140755634.0	1.172791	Y
5	IC 320-324128/8	1000.0	1105.351196	100.0	167797734.0	1.105351	Y

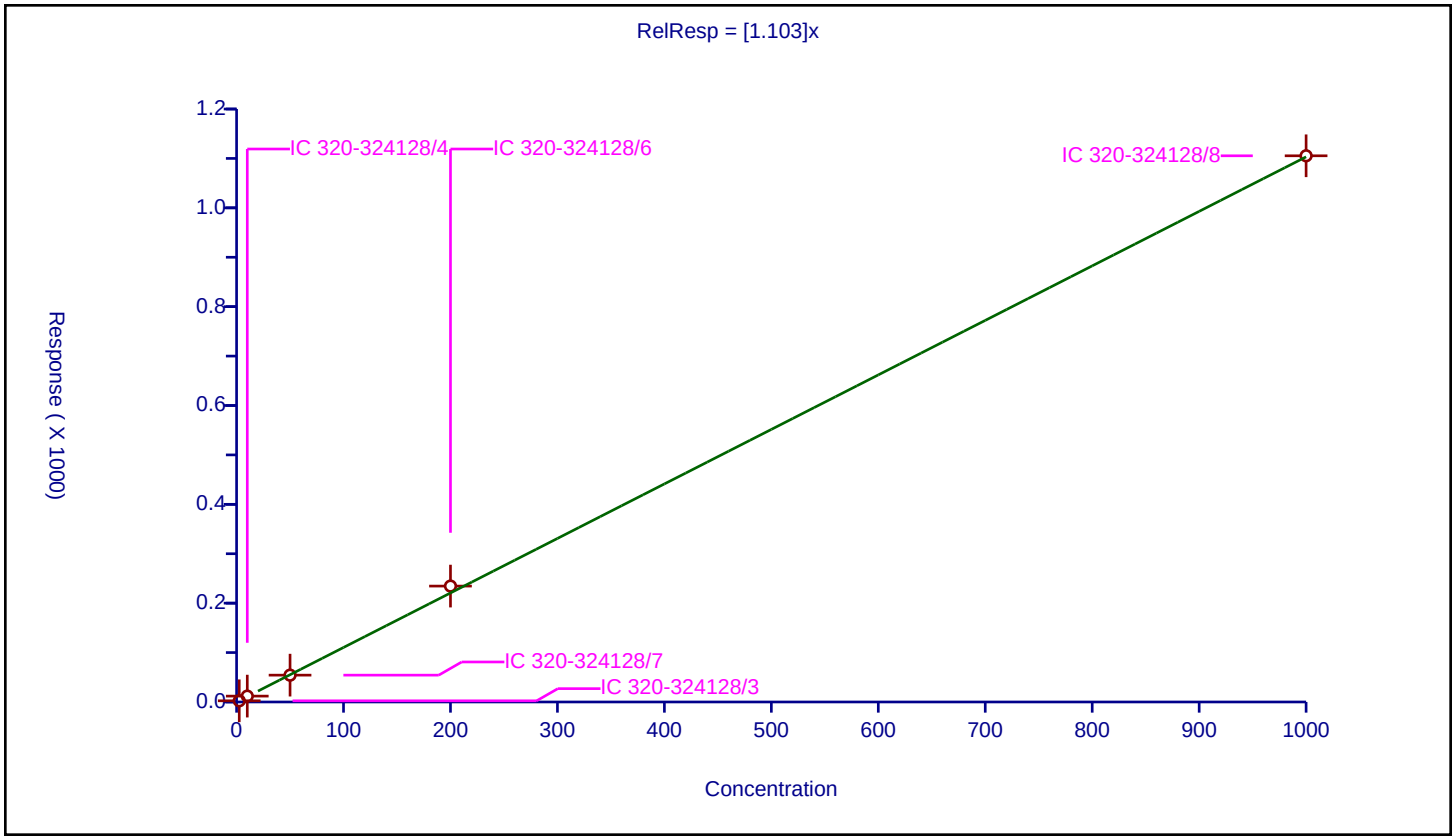

Calibration / 2,3,7,8-TCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.106

Error Coefficients

Standard Error:	167000000
Relative Standard Error:	4.9
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	0.5	0.583856	100.0	21165335.0	1.167711	Y
2	IC 320-324128/4	2.0	2.253252	100.0	45389691.0	1.126626	Y
3	IC 320-324128/7	10.0	10.23923	100.0	110088290.0	1.023923	Y
4	IC 320-324128/6	40.0	45.044682	100.0	131023361.0	1.126117	Y
5	IC 320-324128/8	200.0	217.531474	100.0	150666513.0	1.087657	Y

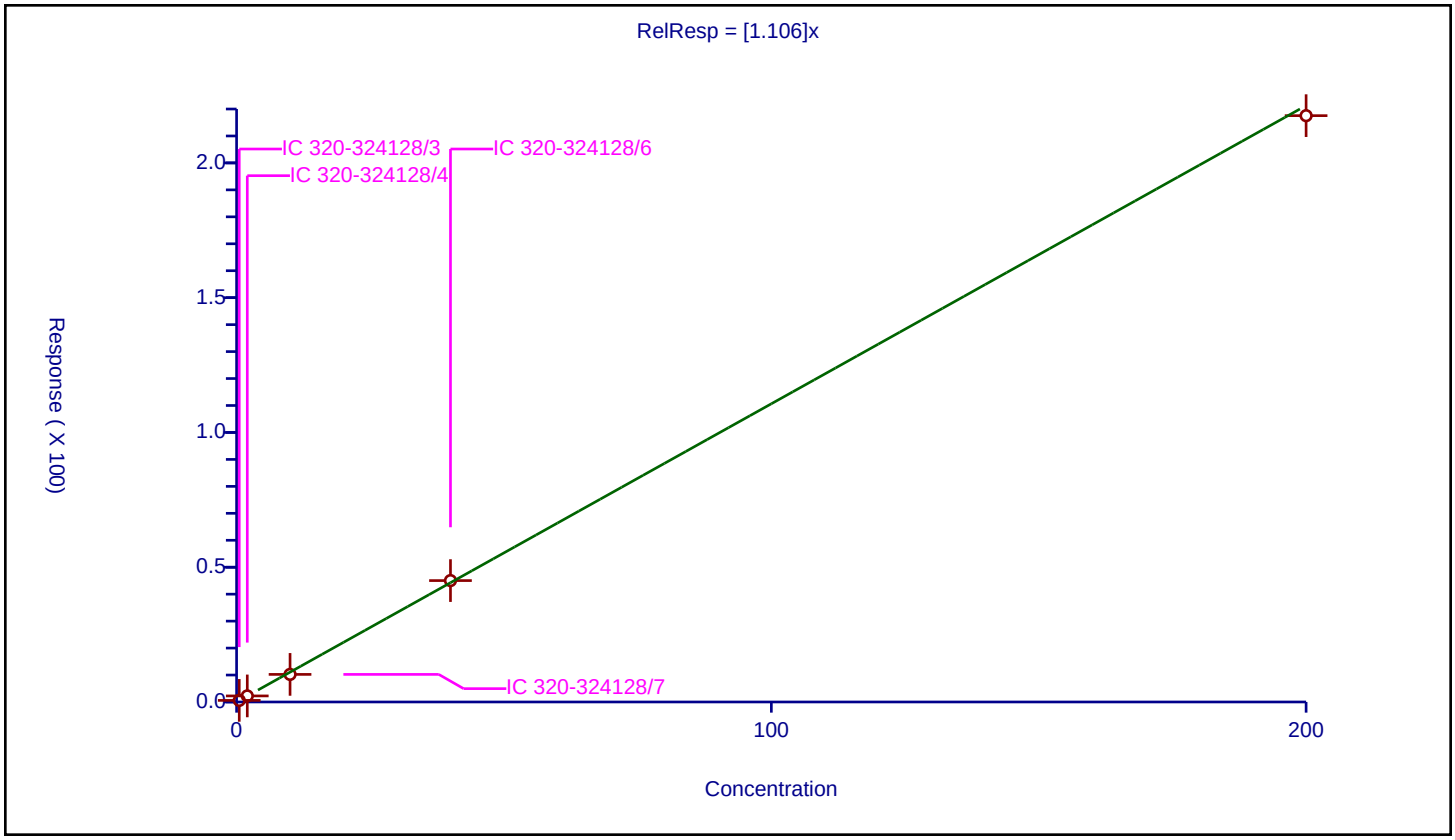

Calibration / 2,3,7,8-TCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.051

Error Coefficients

Standard Error:	235000000
Relative Standard Error:	4.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	0.5	0.535593	100.0	32121801.0	1.071185	Y
2	IC 320-324128/4	2.0	2.204382	100.0	69364385.0	1.102191	Y
3	IC 320-324128/7	10.0	9.929077	100.0	164292495.0	0.992908	Y
4	IC 320-324128/6	40.0	42.465661	100.0	197671153.0	1.061642	Y
5	IC 320-324128/8	200.0	205.145738	100.0	225533576.0	1.025729	Y

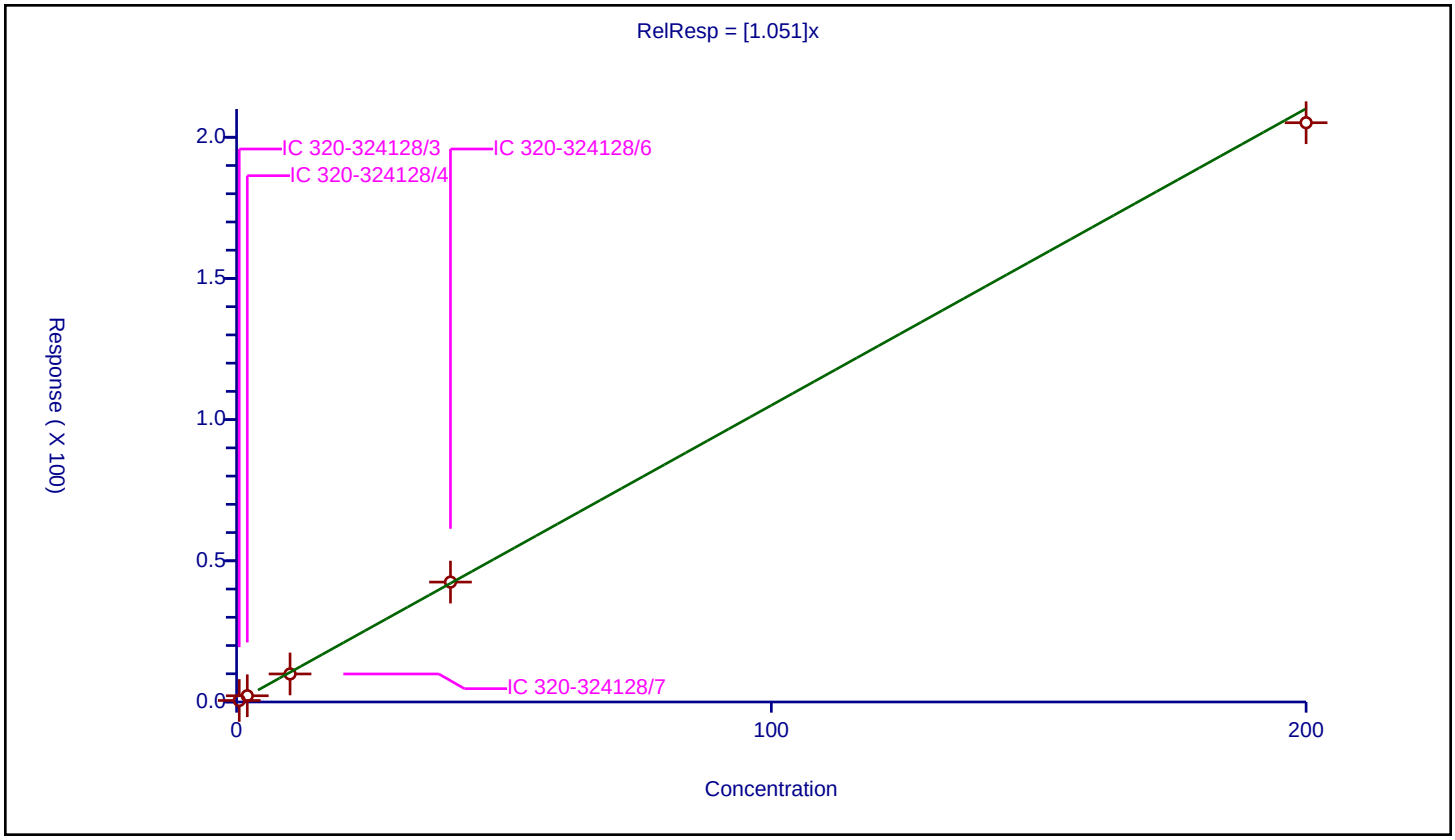

Calibration / 37Cl4-2,3,7,8-TCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.222

Error Coefficients

Standard Error:	205000000
Relative Standard Error:	5.7
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	0.5	0.559577	100.0	21989821.0	1.119154	Y
2	IC 320-324128/4	2.0	2.425047	100.0	48020971.0	1.212523	Y
3	IC 320-324128/7	8.0	9.665731	100.0	116862140.0	1.208216	Y
4	IC 320-324128/6	40.0	51.600573	100.0	136791650.0	1.290014	Y
5	IC 320-324128/8	200.0	256.418271	100.0	157084773.0	1.282091	Y

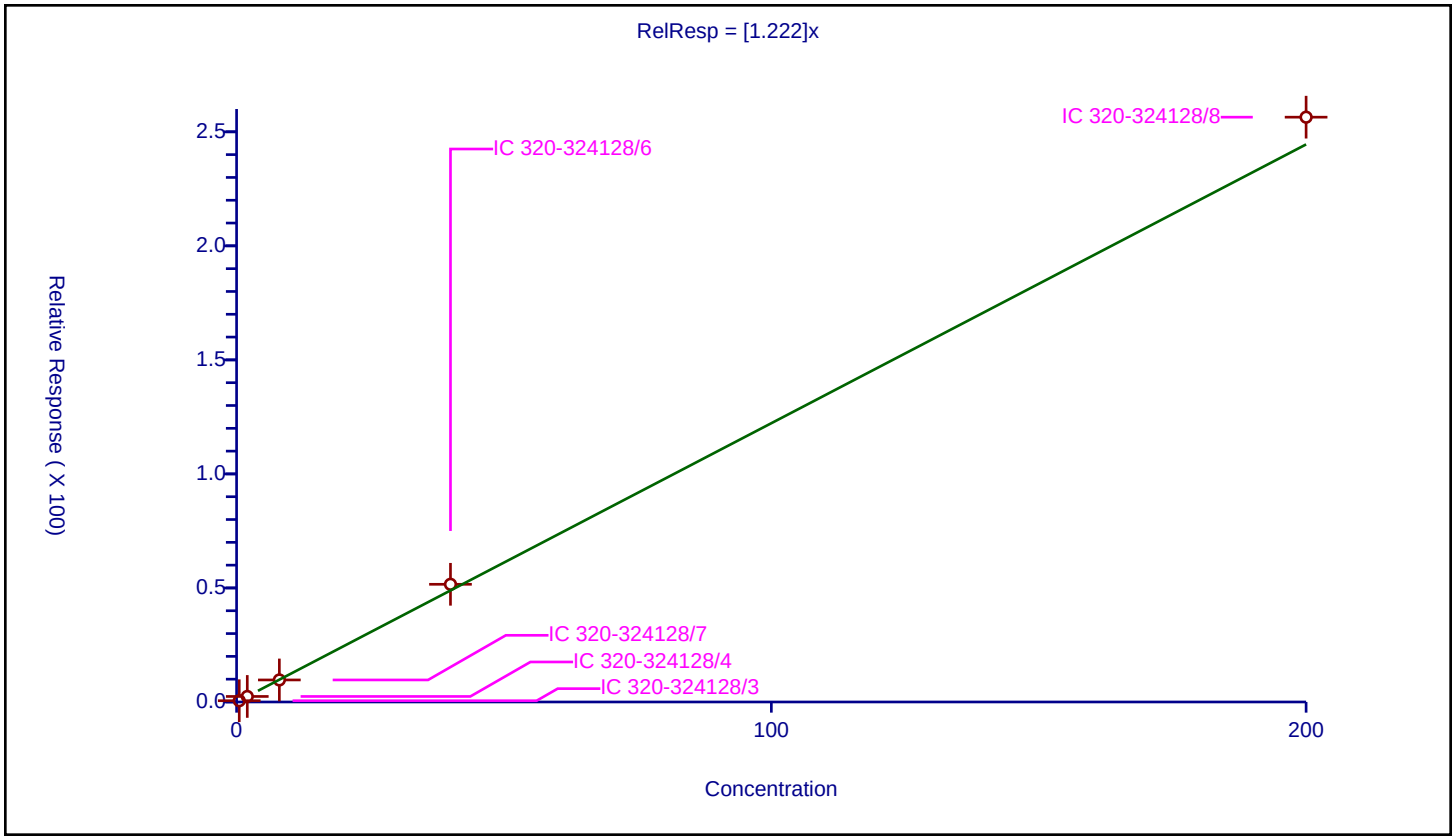

Calibration / OCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.062

Error Coefficients

Standard Error:	1080000000
Relative Standard Error:	6.6
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	5.0	4.995683	200.0	22323676.0	0.999137	Y
2	IC 320-324128/4	20.0	23.429889	200.0	43388861.0	1.171494	Y
3	IC 320-324128/7	100.0	101.887088	200.0	117978202.0	1.018871	Y
4	IC 320-324128/6	400.0	436.552854	200.0	158997965.0	1.091382	Y
5	IC 320-324128/8	2000.0	2058.960862	200.0	206464776.0	1.02948	Y

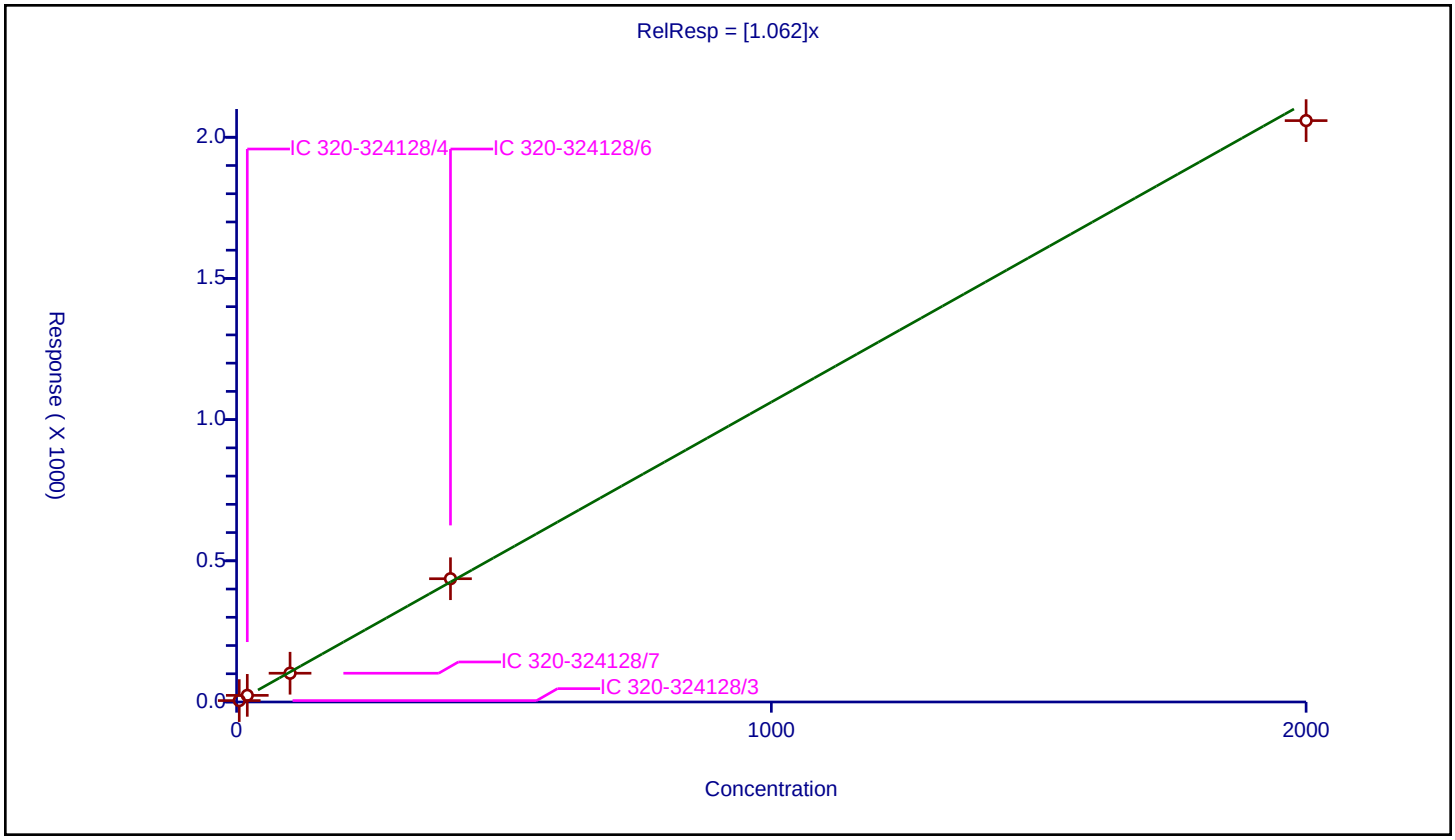

Calibration / OCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.26

Error Coefficients

Standard Error:	1330000000
Relative Standard Error:	6.0
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	5.0	5.709875	200.0	22323676.0	1.141975	Y
2	IC 320-324128/4	20.0	26.627996	200.0	43388861.0	1.3314	Y
3	IC 320-324128/7	100.0	123.985768	200.0	117978202.0	1.239858	Y
4	IC 320-324128/6	400.0	526.877314	200.0	158997965.0	1.317193	Y
5	IC 320-324128/8	2000.0	2535.017728	200.0	206464776.0	1.267509	Y

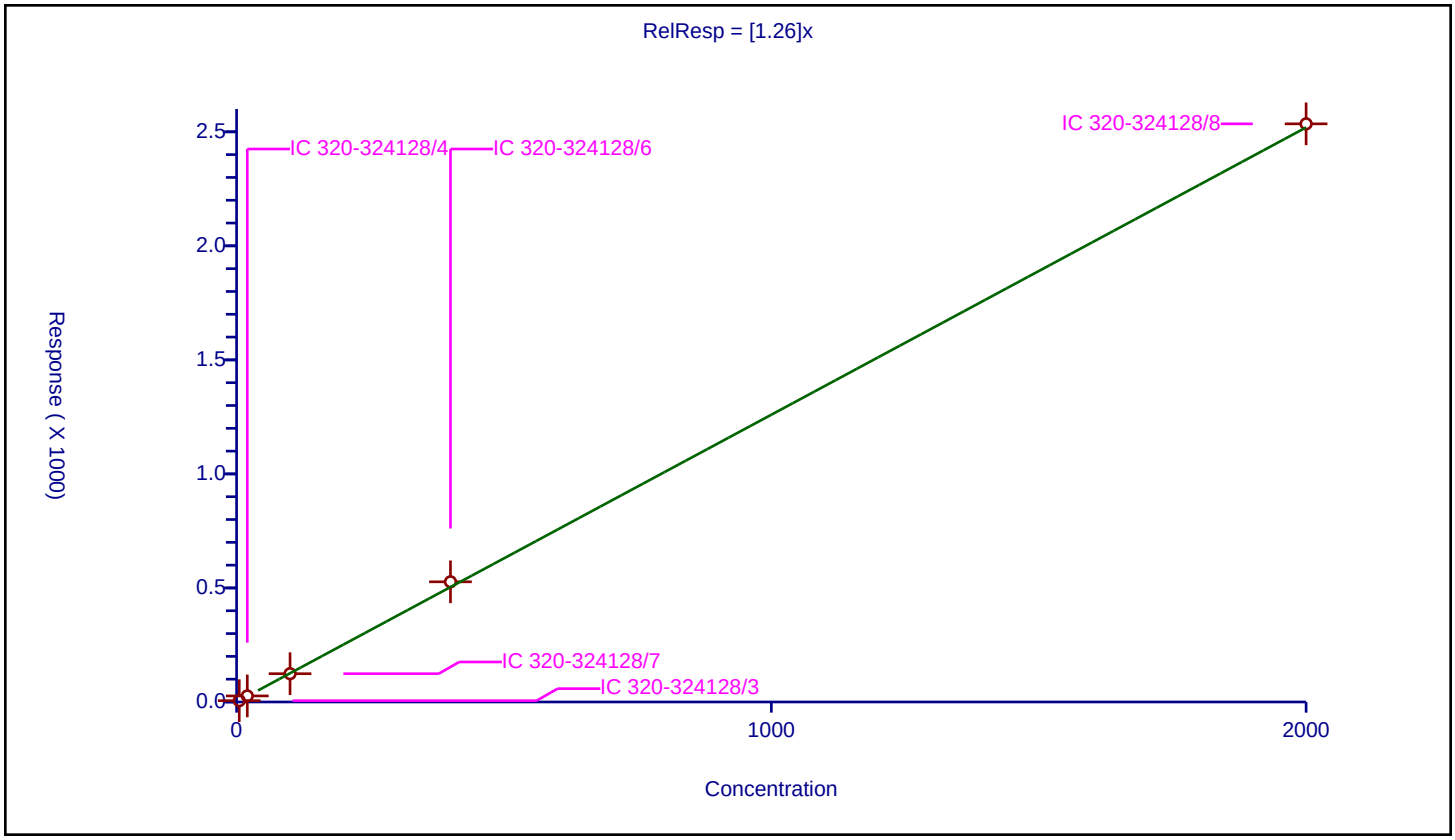

FORM VI
DIOXIN BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1 Analy Batch No.: 312067

SDG No.:

Instrument ID: 11D2 GC Column: DB-225 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/02/2019 02:52 Calibration End Date: 08/02/2019 05:25 Calibration ID: 46494

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-312067/3	02AU1911D2_003.d
Level 2	IC 320-312067/4	02AU1911D2_004.d
Level 3	IC 320-312067/5	02AU1911D2_005.d
Level 4	IC 320-312067/6	02AU1911D2_006.d
Level 5	IC 320-312067/7	02AU1911D2_007.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
2,3,7,8-TCDD	1.4072	1.1517	0.9928	1.1253	1.0921	AveID		1.1538				13.3		20.0			
2,3,7,8-TCDF	0.9508	0.8634	0.7802	0.8060	0.7939	AveID		0.8389				8.4		20.0			
13C-2,3,7,8-TCDD	0.9860	0.9016	0.9603	0.9300	0.9162	Ave		0.9388				3.6		35.0			
13C-2,3,7,8-TCDF	1.4126	1.2992	1.3548	1.2560	1.3671	Ave		1.3379				4.6		35.0			
37Cl4-2,3,7,8-TCDD	1.2464	1.0504	1.1674	1.2313	1.2128	Ave		1.1816				6.7					

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
DIOXIN BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1 Analy Batch No.: 312067

SDG No.:

Instrument ID: 11D2 GC Column: DB-225 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/02/2019 02:52 Calibration End Date: 08/02/2019 05:25 Calibration ID: 46494

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-312067/3	02AU1911D2_003.d
Level 2	IC 320-312067/4	02AU1911D2_004.d
Level 3	IC 320-312067/5	02AU1911D2_005.d
Level 4	IC 320-312067/6	02AU1911D2_006.d
Level 5	IC 320-312067/7	02AU1911D2_007.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (PG/UL)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
2,3,7,8-TCDD		AveID	766838	2408989	10136940	48146783	221171643	0.500	2.00	10.0	40.0	200
2,3,7,8-TCDF		AveID	742351	2602621	11238394	46575552	239921851	0.500	2.00	10.0	40.0	200
13C-2,3,7,8-TCDD	13CTC	Ave	108987233	104587968	102100937	106968299	101263855	100	100	100	100	100
13C-2,3,7,8-TCDF	13CTC	Ave	156147949	150712836	144041178	144459393	151101344	100	100	100	100	100
37Cl4-2,3,7,8-TCDD	13CTC	Ave	688870	2436945	9929024	56650769	268090229	0.500	2.00	8.00	40.0	200

Curve Type Legend:

Ave = Average ISTD
AveID = Average isotope dilution

Data file	Smp	Work Order	Sample ID	FV-uL	Method/Matrix	Box	Size	U
02AU1911D2	1	CPS 080219	CPS HRDXNCP_00038		Dioxin		1.00000	
02AU1911D2	2	SB 080219	SB Solvent Blank C-14				1.00000	
02AU1911D2	3	IC 080219	CS-2 HRDXNL2_00027		Dioxin		1.00000	
02AU1911D2	4	IC 080219A	CS-3 HRDXNL3_00025		Dioxin		1.00000	
02AU1911D2	5	IC 080219B	CS-4 HRDXNL4_00084		Dioxin		1.00000	
02AU1911D2	6	IC 080219C	CS-5 HRDXNL5_00028		Dioxin		1.00000	
02AU1911D2	7	IC 080219D	CS-6 HRDXNL6_00024		Dioxin		1.00000	
02AU1911D2	8	ICV 080219	ICV HRDXNIC_00042		Dioxin		1.00000	
02AU1911D2	9						1.00000	
02AU1911D2	10						1.00000	
02AU1911D2	11						1.00000	
02AU1911D2	12						1.00000	
02AU1911D2	13						1.00000	
02AU1911D2	14						1.00000	
02AU1911D2	15						1.00000	
02AU1911D2	16						1.00000	
02AU1911D2	17		ALM 08-02-19				1.00000	
02AU1911D2	18						1.00000	

Logfile checked
08/02/19 SMA

Peak Locate Examination: 2-AUG-2019:01:33 File:02AU1911D2
Experiment:DB225RES Function:1 Reference:PFK

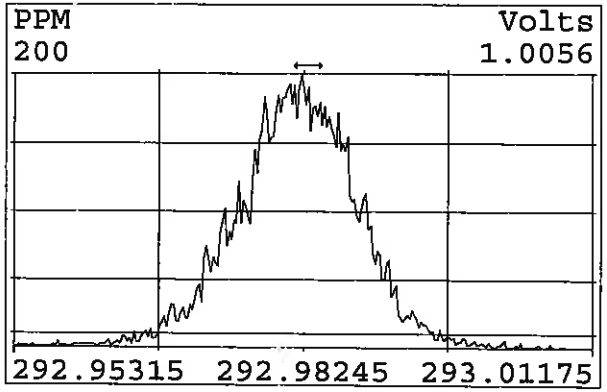

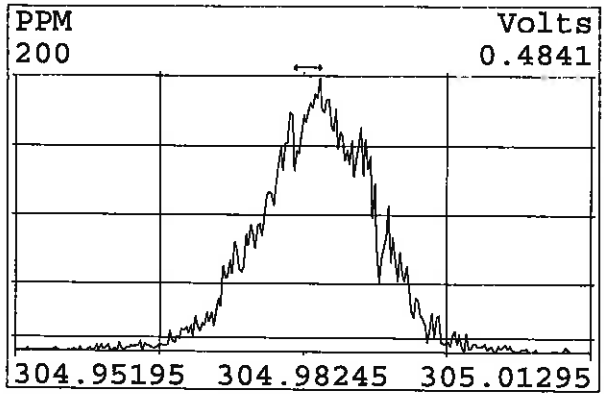

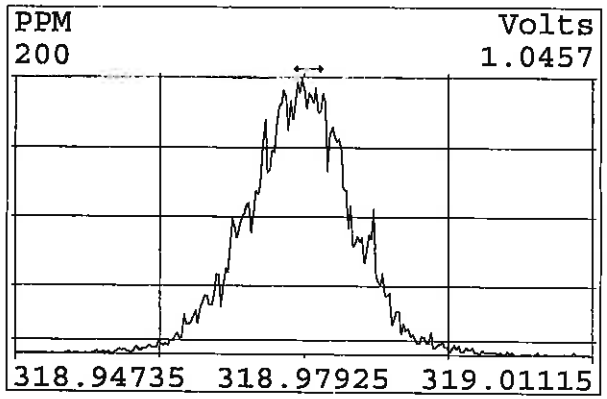

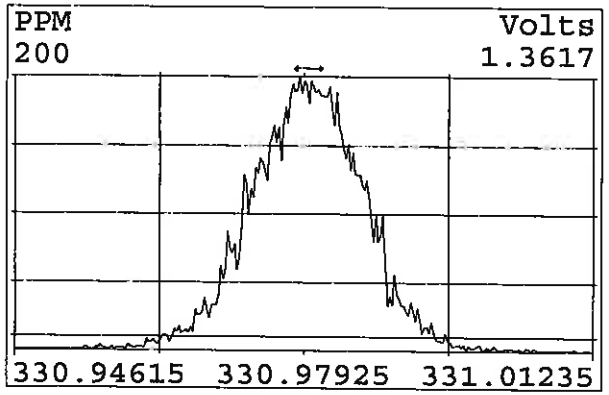

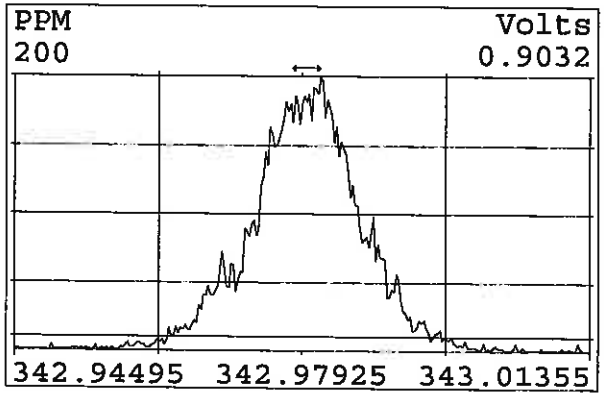

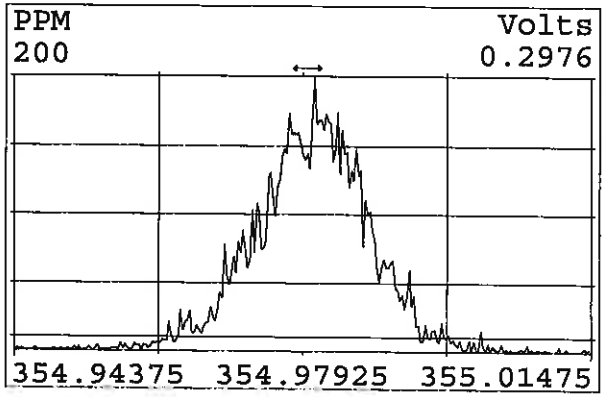

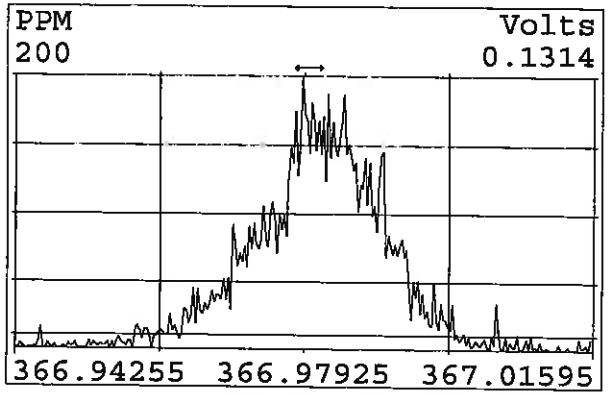

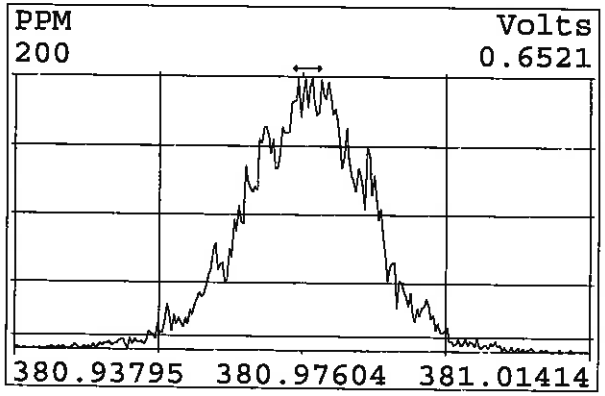

Peak Locate Examination: 2-AUG-2019:07:38 File:RESCHECK11D2
Experiment:DB225RES Function:1 Reference:PFK

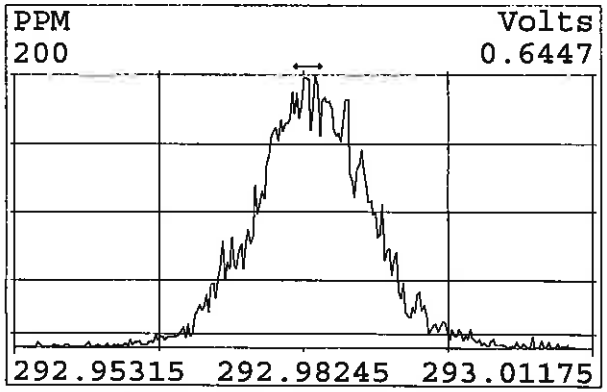

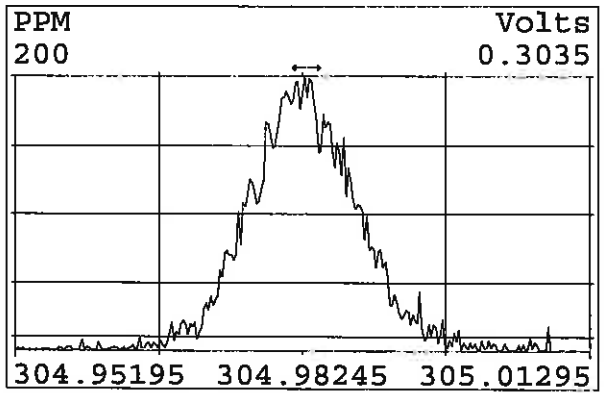

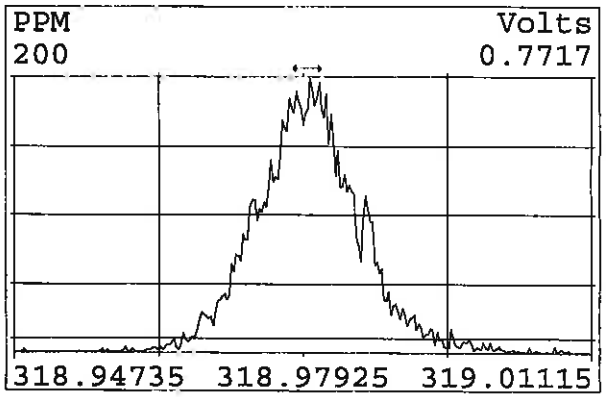

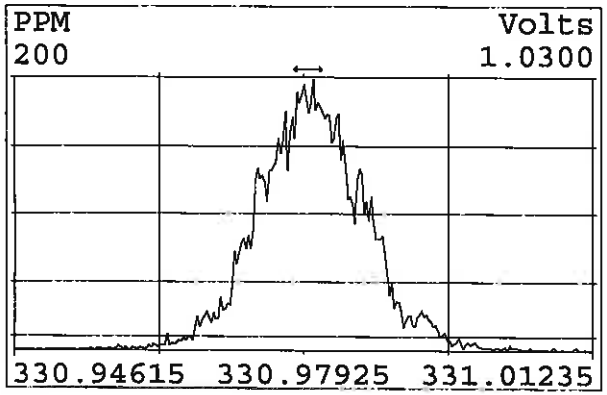

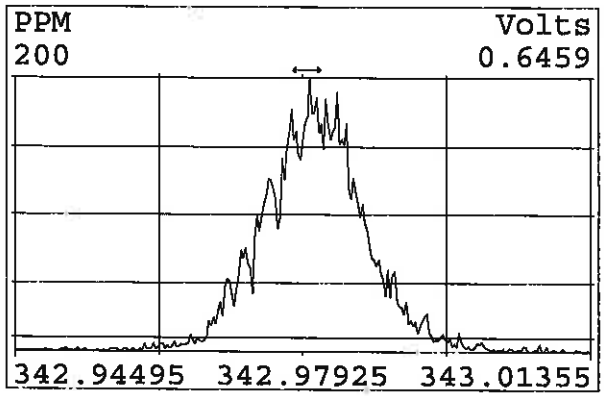

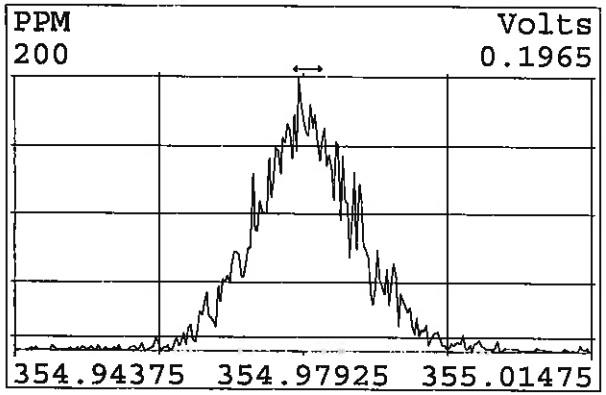

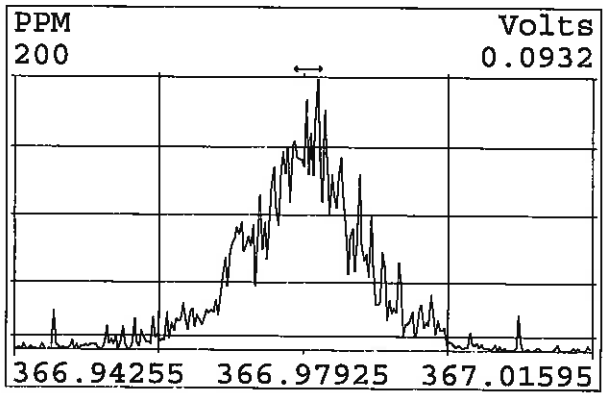

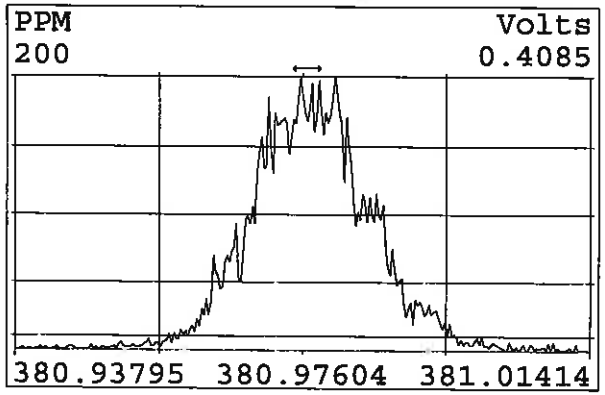

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_003.d
Lims ID: IC 2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 02-Aug-2019 02:52:03 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-2 HRDXNL2_00027
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:50:46 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:43:34

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.424	110538697	0.80	1.1E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.591	156147949	0.76	1.3379	105.6	105.6	0.5565	0.5565	106	
2,3,7,8-TCDF	16.618	742351	0.68	0.8389	0.5667	0.5667	0.0601	0.0601	113	
D 13C-2,3,7,8-TCDD	15.150	108987233	0.78	0.9388	105.0	105.0	0.3029	0.3029	105	
2,3,7,8-TCDD	15.164	766838	0.66	1.1538	0.6098	0.6098	0.1272	0.1272	122	n
$ 37Cl4-2,3,7,8-TCDD	15.177	688870		1.1816	0.5274	0.5274	0.0799	0.0799	105	
S Total 2378-Chlorinated							0.000100	0.000100		

QC Flag Legend

Processing Flags
n - Failed Sig-To-Noise Test

Reagents:

HRDXNL2_00027 Amount Added: 1.00 Units: mL

Report Date: 02-Aug-2019 11:50:56 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_003.d
Lims ID: IC 2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 02-Aug-2019 02:52:03 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-2 HRDXNL2_00027
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:50:46 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:43:34

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.424	15.416	0		49211451	11686880	18543	46357	630		
333.9339	15.424	15.416	0		61327246	14873725	11665	29162	1275	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.591	16.580	1	1.076	67180120	14400770	53937	134842	267		
317.9389	16.591	16.580	1	1.076	88967829	19171242	25172	62930	762	0.76(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.618	16.599	1	1.002	300768	58292	2710	6775	22		
305.8987	16.604	16.599	0	1.001	441583	80440	4062	10155	20	0.68(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.150	15.136	1	0.982	47916340	11905033	18543	46357	642		
333.9339	15.150	15.136	1	0.982	61070893	14985948	11665	29162	1285	0.78(0.65-0.89)	
2,3,7,8-TCDD											n
319.8965	15.164	15.156	0	1.001	304053	63475	6504	16260	10		
321.8936	15.177	15.156	1	1.002	462785	92174	9277	23192	10	0.66(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.177	15.158	1	0.984	688870	148959	10036	25090	15		

Total 2378-Chlorinated Dioxins & Furans
0.0 0

QC Flag Legend

Processing Flags
n - Failed Sig-To-Noise Test

Reagents:

HRDXNL2_00027 Amount Added: 1.00 Units: mL

Report Date: 02-Aug-2019 11:50:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_003.d		
Injection Date:	02-Aug-2019 02:52:03	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	3
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

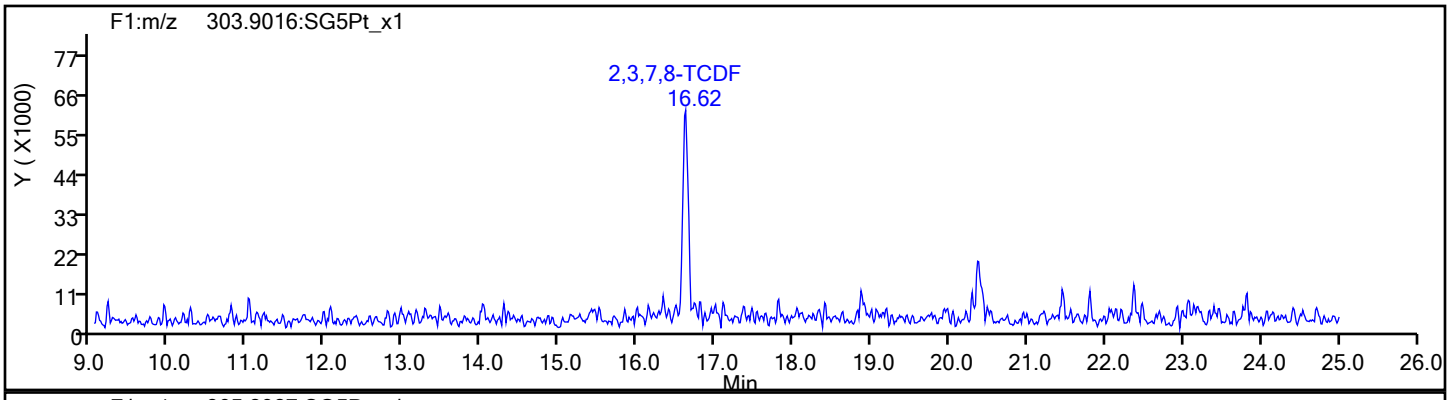

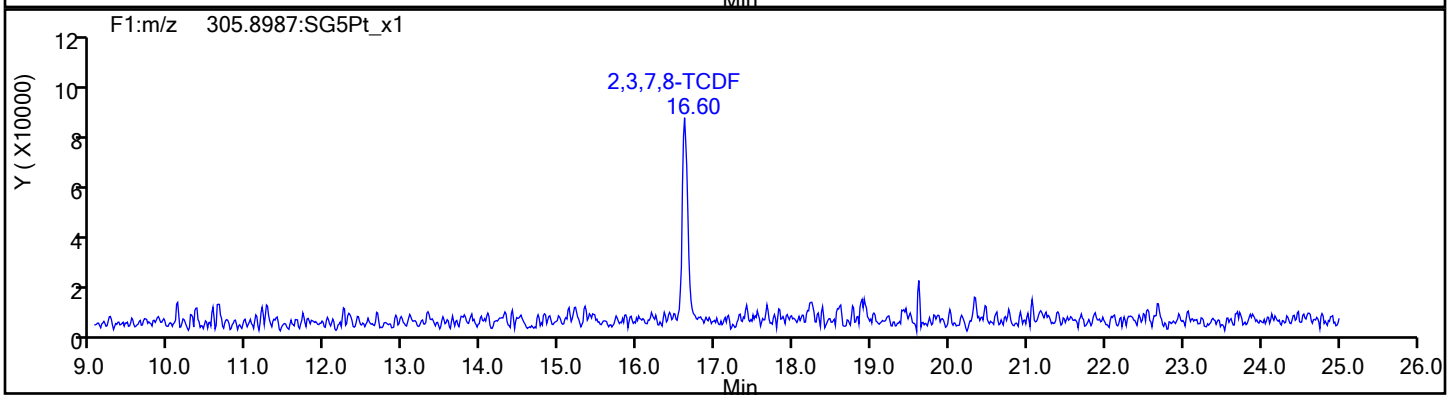

TCDF Standards

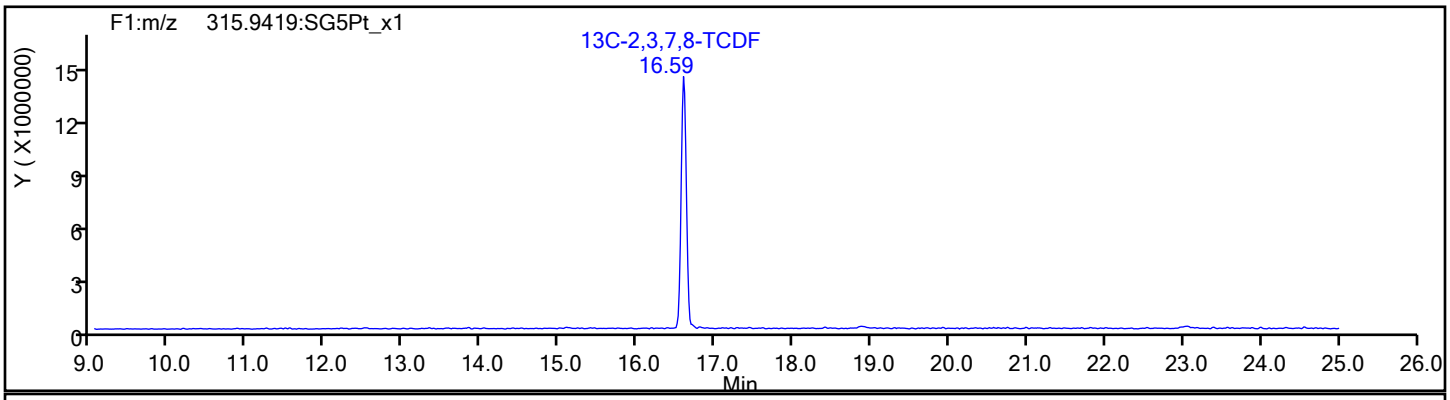

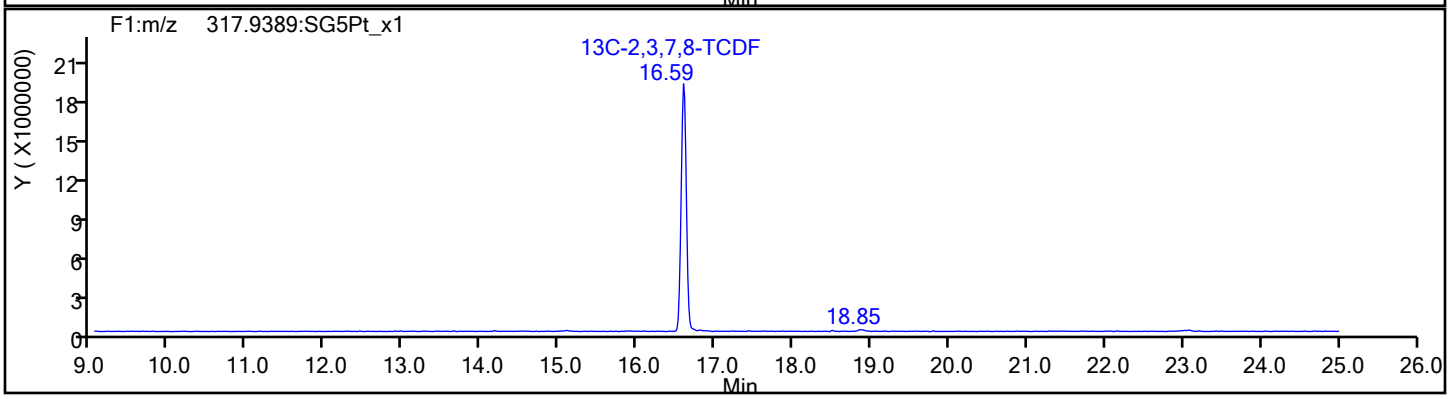

Report Date: 02-Aug-2019 11:50:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_003.d		
Injection Date:	02-Aug-2019 02:52:03	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	3
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

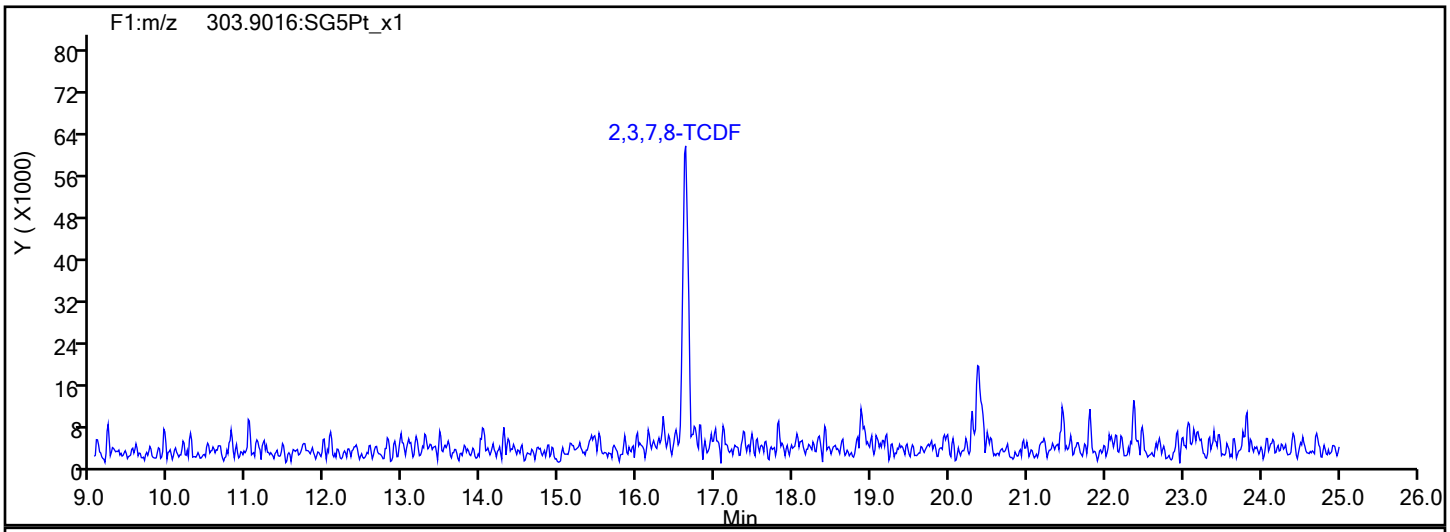

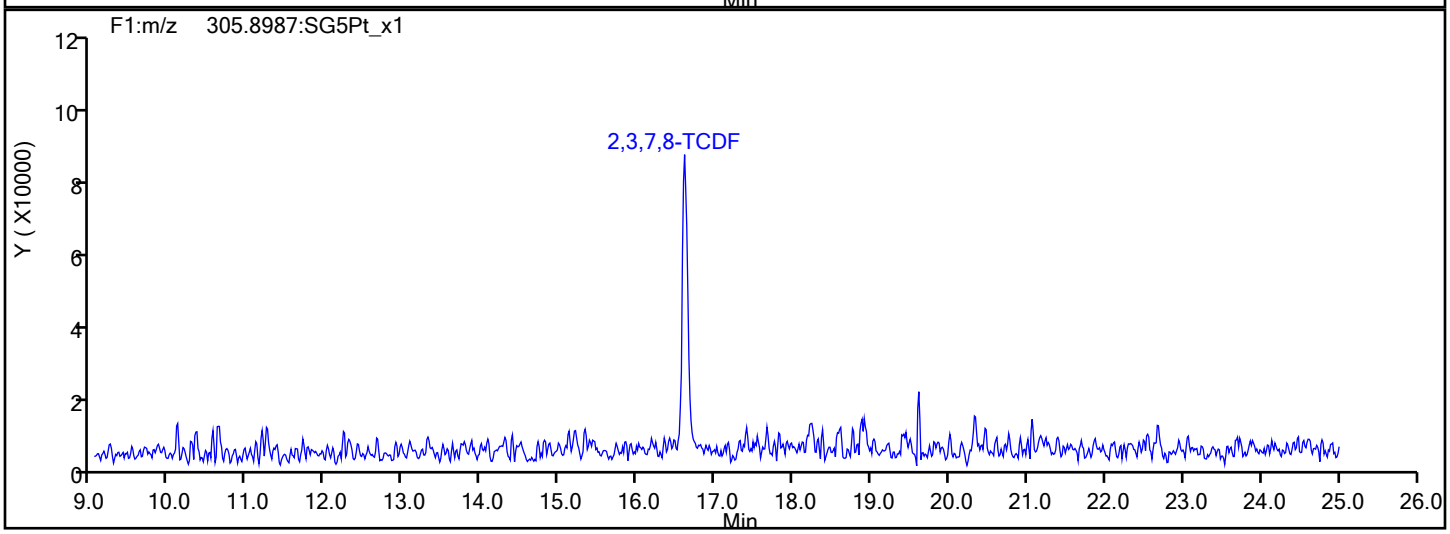

TCDF Interference Mass

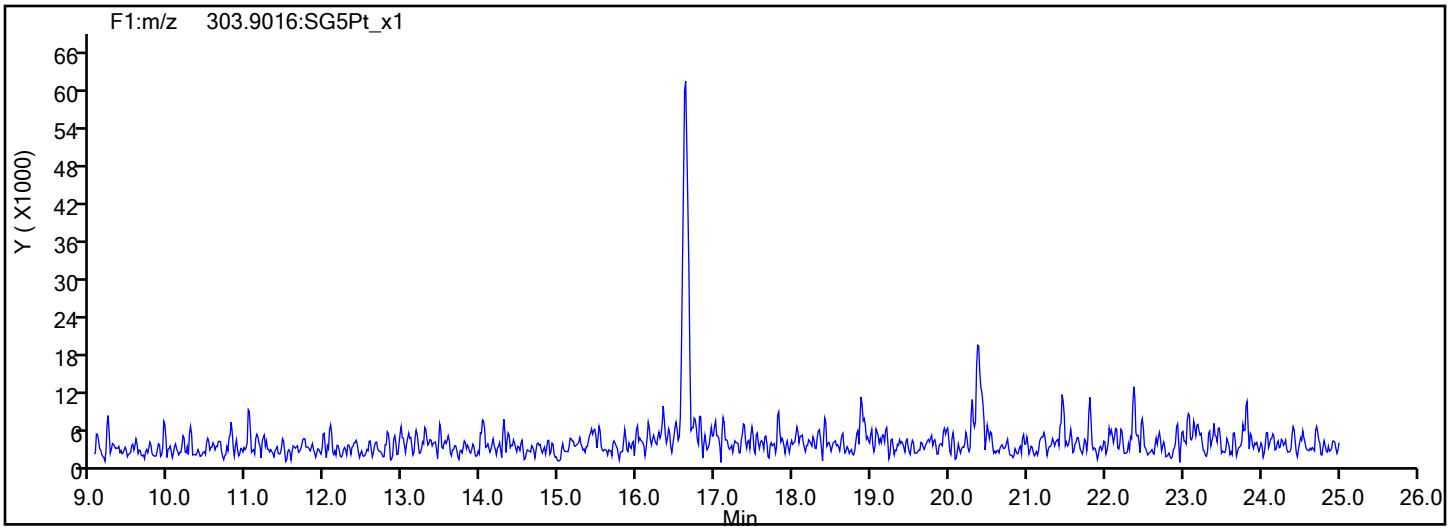

Report Date: 02-Aug-2019 11:50:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_003.d		
Injection Date:	02-Aug-2019 02:52:03	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	3
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

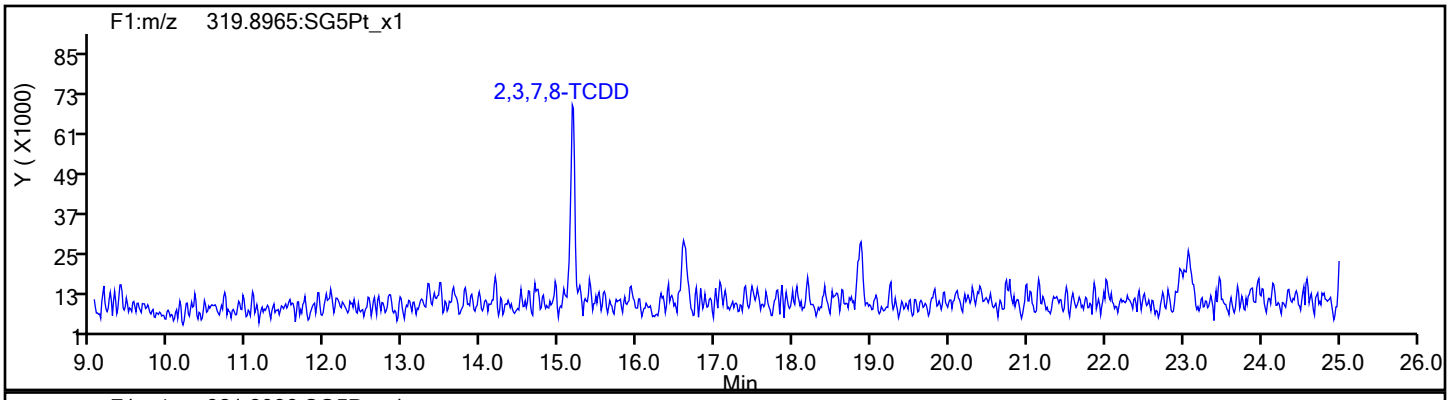

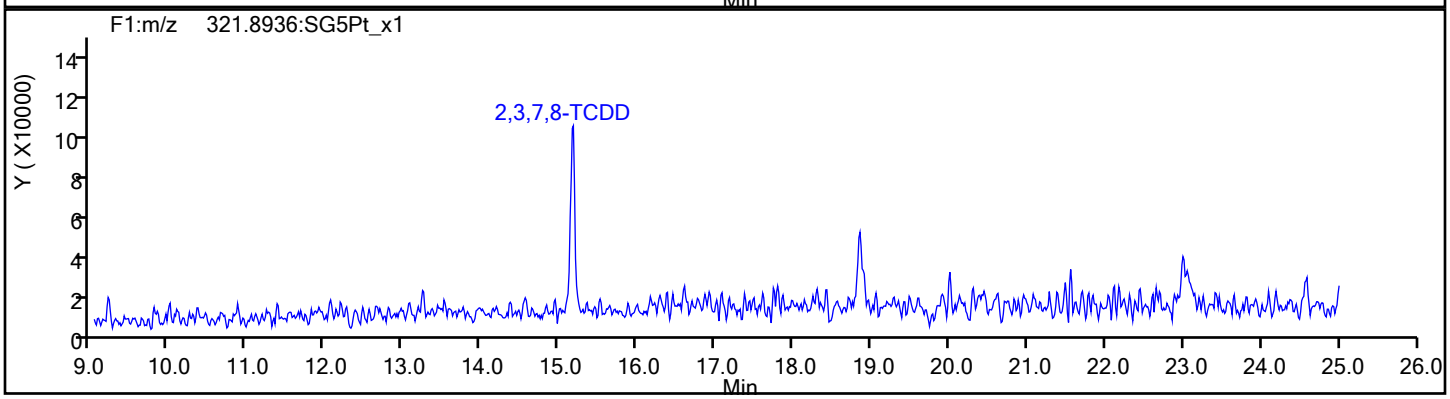

TCDD Standards

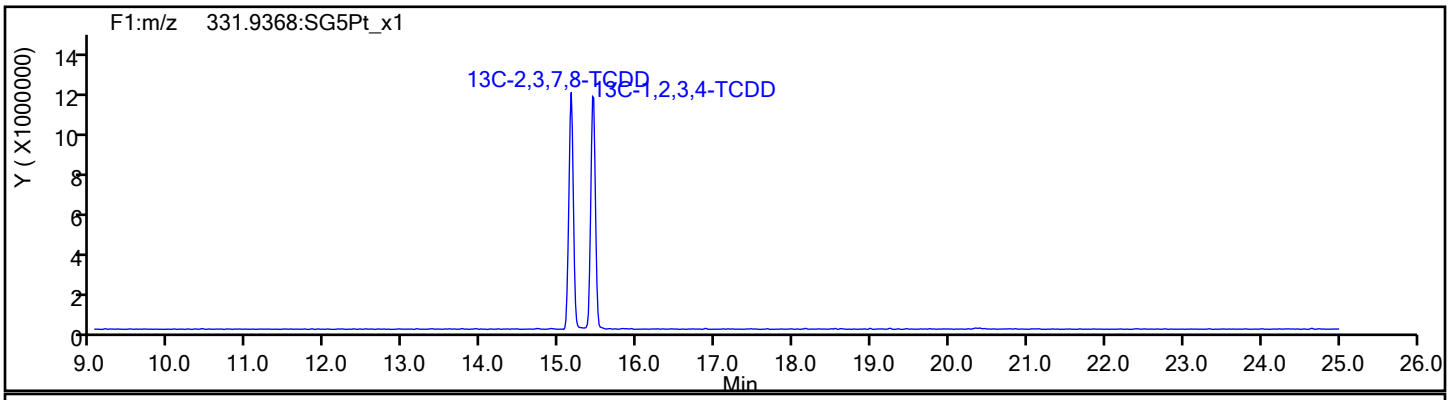

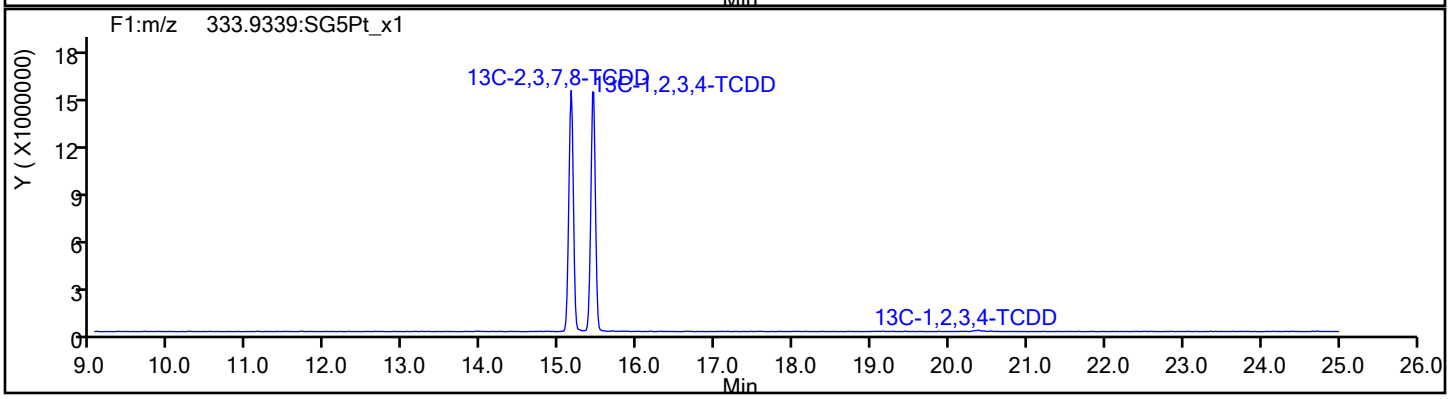

Report Date: 02-Aug-2019 11:50:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_003.d		
Injection Date:	02-Aug-2019 02:52:03	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	3
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

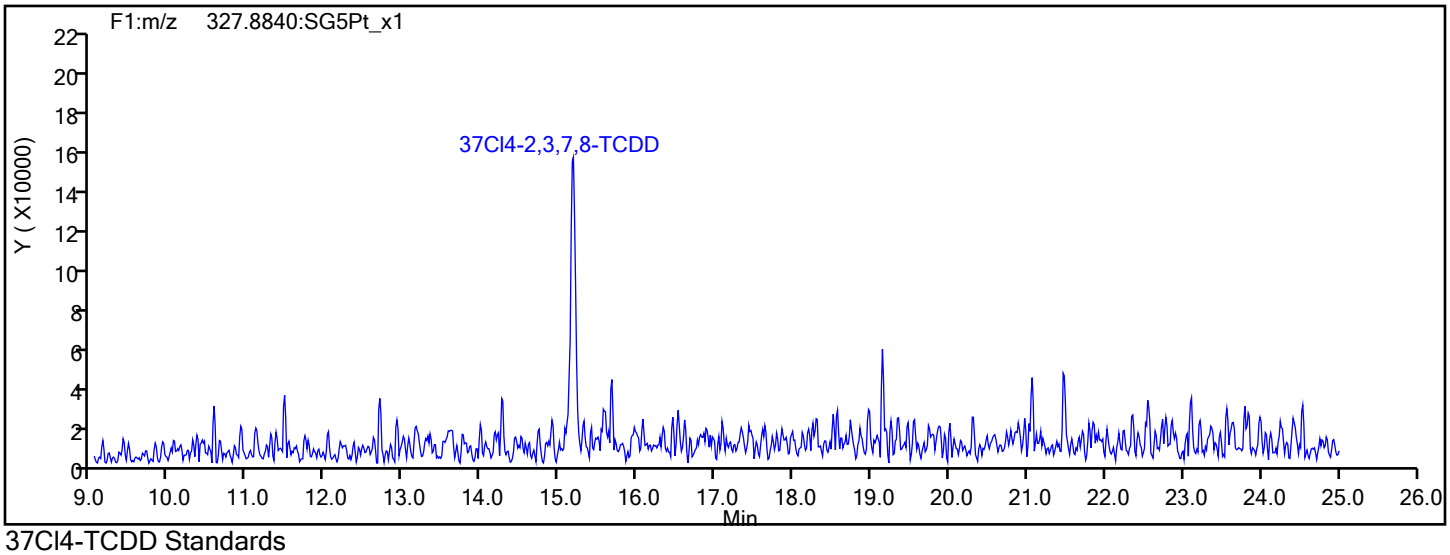

37Cl4-TCDD Standards

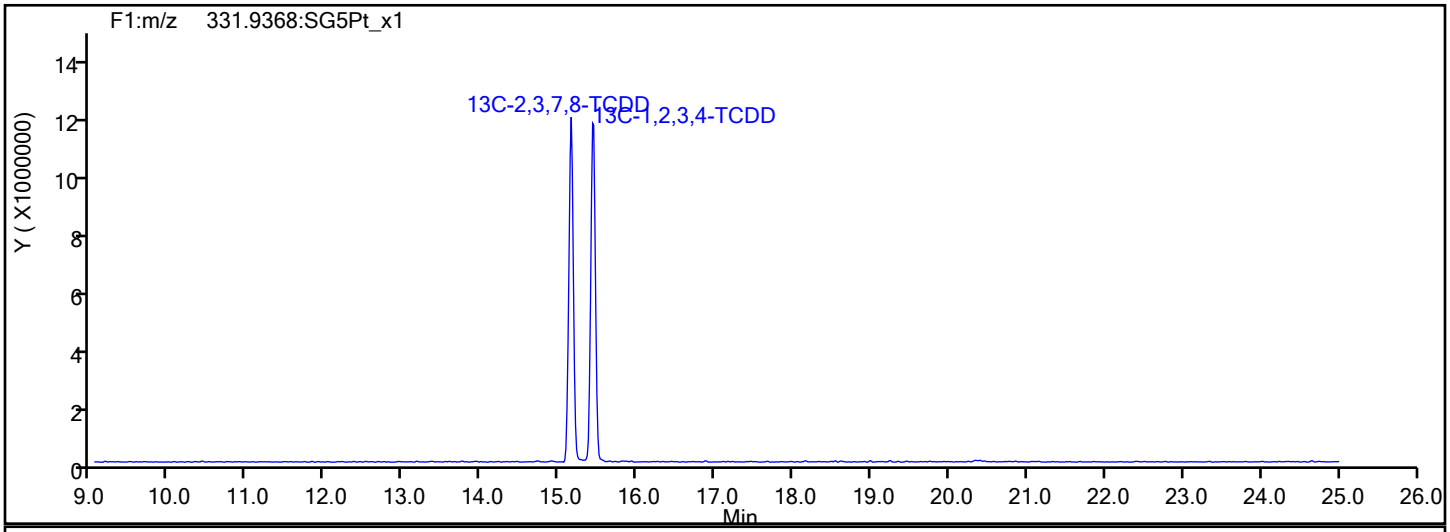

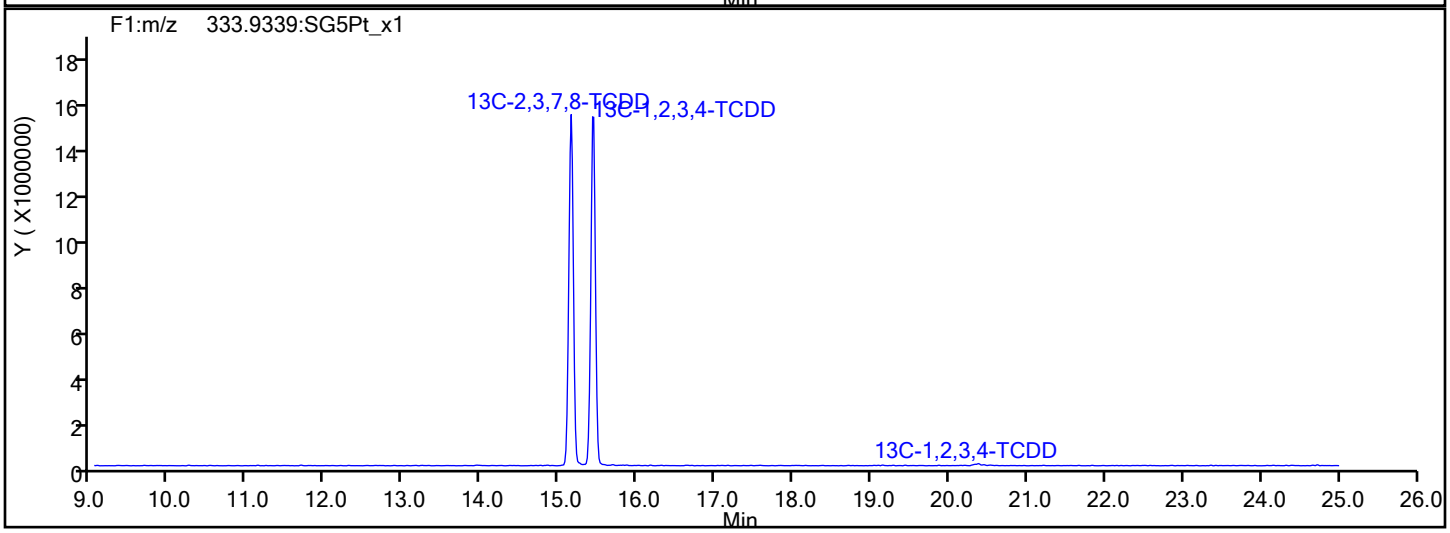

Report Date: 02-Aug-2019 11:50:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_003.d		
Injection Date:	02-Aug-2019 02:52:03	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	3
Column Type:	DB-225	Column Dia:	0.32 mm

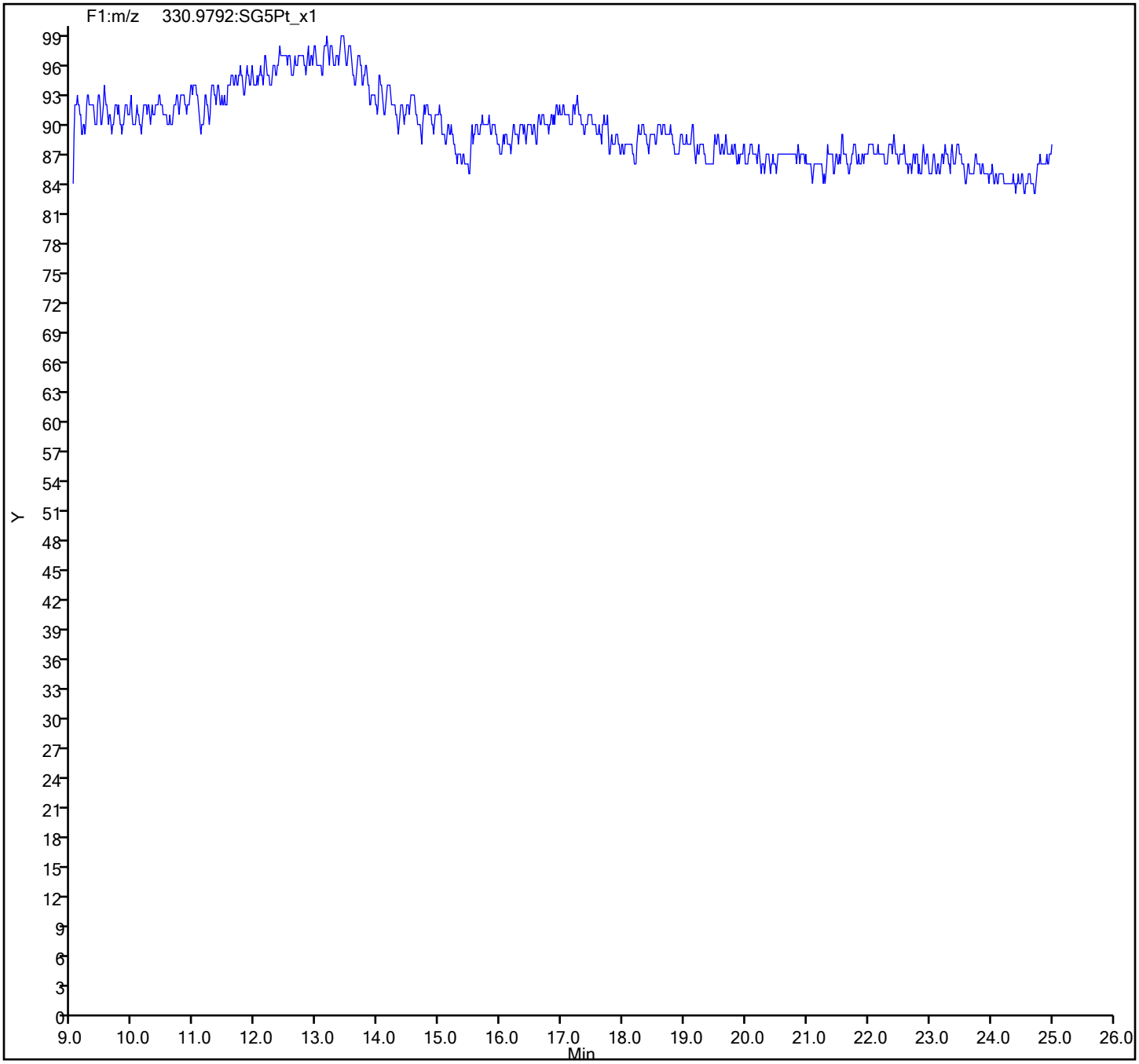

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_004.d
Lims ID: IC 3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 02-Aug-2019 03:30:21 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-3 HRDXNL3_00025
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:51:18 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:43:45

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.422	116003371	0.79	1.1E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.588	150712836	0.76	1.3379	97.1	97.1	0.5017	0.5017	97.11	
2,3,7,8-TCDF	16.602	2602621	0.77	0.8389	2.059	2.059	0.0697	0.0697	103	
D 13C-2,3,7,8-TCDD	15.134	104587968	0.77	0.9388	96.0	96.0	0.2954	0.2954	96.04	
2,3,7,8-TCDD	15.161	2408989	0.76	1.1538	1.996	1.996	0.1402	0.1402	99.81	
$ 37Cl4-2,3,7,8-TCDD	15.161	2436945		1.1816	1.778	1.778	0.0697	0.0697	88.89	
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNL3_00025 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_004.d
Lims ID: IC 3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 02-Aug-2019 03:30:21 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-3 HRDXNL3_00025
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:51:18 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:43:45

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.422	15.416	0		51108109	12518707	19618	49045	638		
333.9339	15.422	15.416	0		64895262	16017022	12040	30100	1330	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.588	16.580	0	1.076	65303459	13590544	55233	138082	246		
317.9389	16.588	16.580	0	1.076	85409377	18139250	21388	53470	848	0.76(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.602	16.599	0	1.001	1128784	210338	2933	7332	72		
305.8987	16.602	16.599	0	1.001	1473837	306111	4488	11220	68	0.77(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.134	15.136	0	0.981	45657518	11153304	19618	49045	569		
333.9339	15.134	15.136	0	0.981	58930450	14086226	12040	30100	1170	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.161	15.156	0	1.002	1042745	248740	6492	16230	38		
321.8936	15.161	15.156	0	1.002	1366244	315049	9844	24610	32	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.161	15.158	0	0.983	2436945	572005	9406	23515	61		

Total 2378-Chlorinated Dioxins & Furans
0.0 0

Reagents:

HRDXNL3_00025 Amount Added: 1.00 Units: mL

Report Date: 02-Aug-2019 11:51:36 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_004.d		
Injection Date:	02-Aug-2019 03:30:21	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

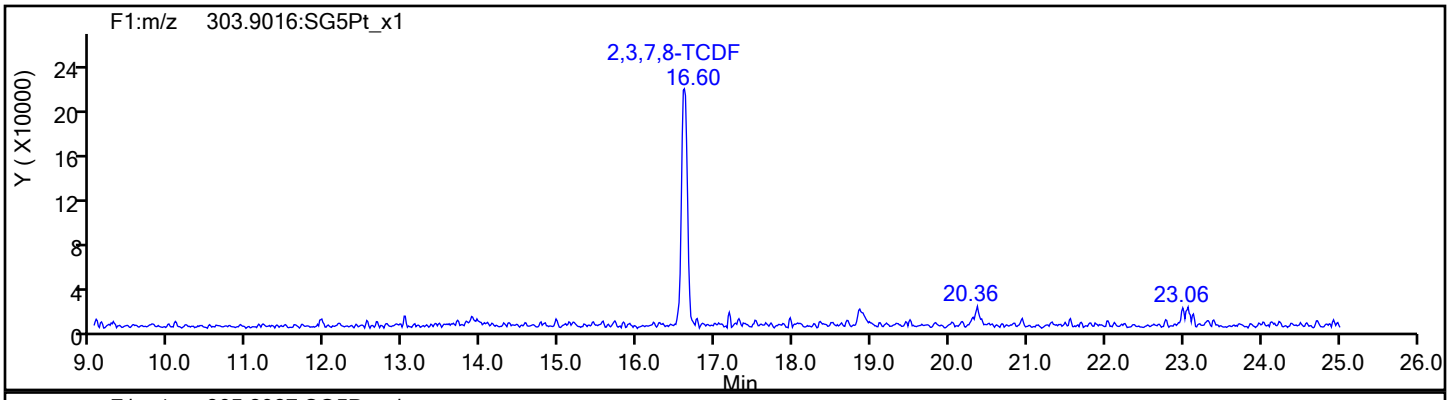

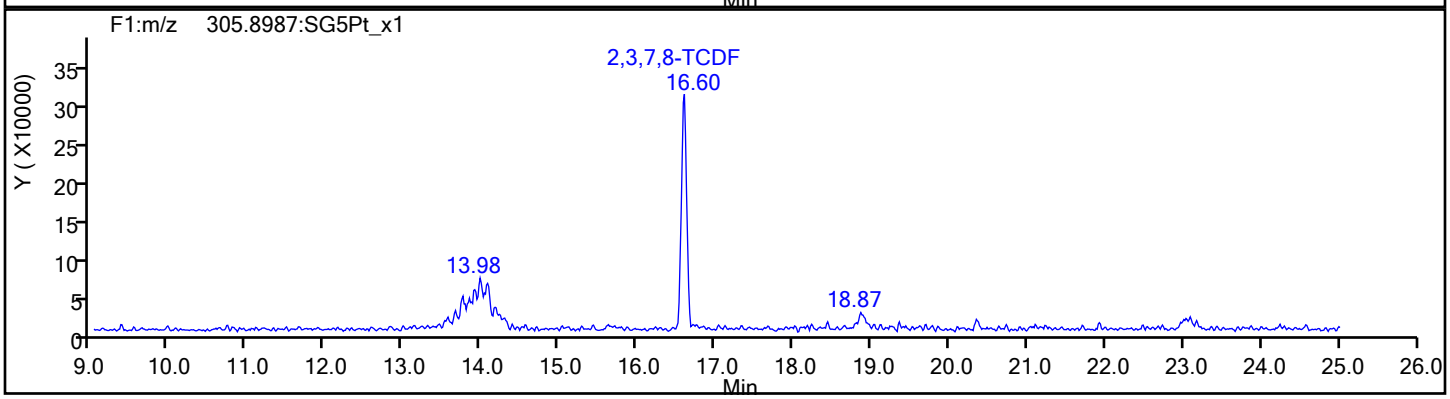

TCDF Standards

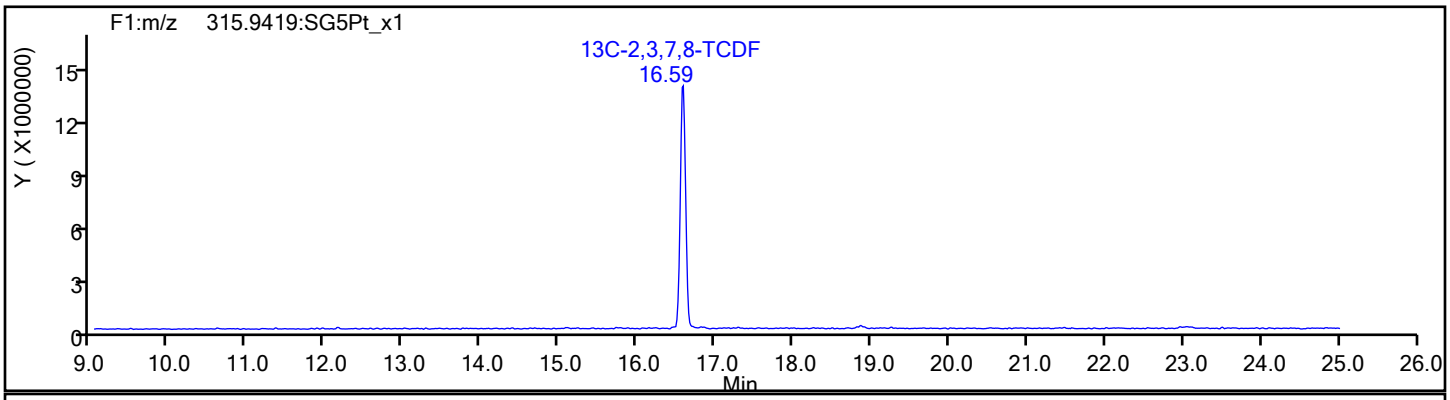

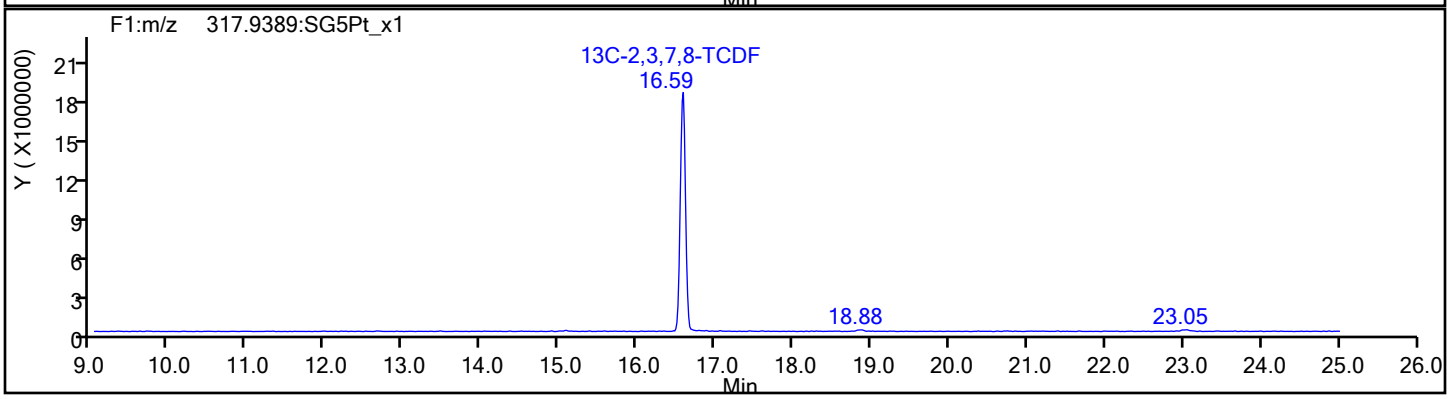

Report Date: 02-Aug-2019 11:51:36 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_004.d		
Injection Date:	02-Aug-2019 03:30:21	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

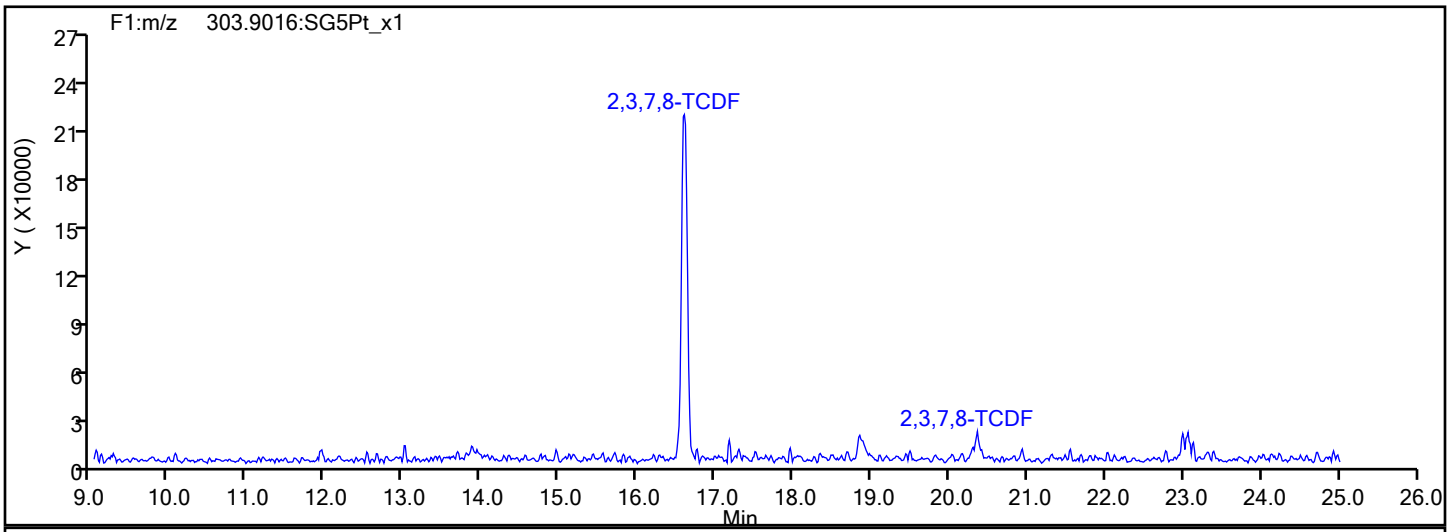

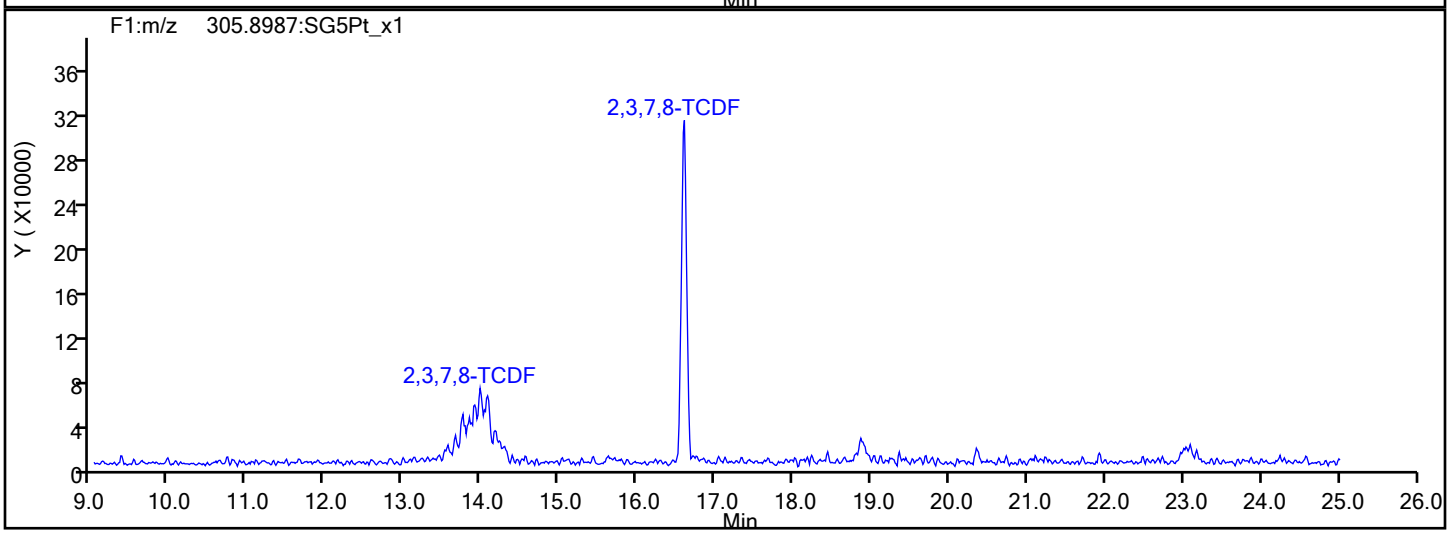

TCDF Interference Mass

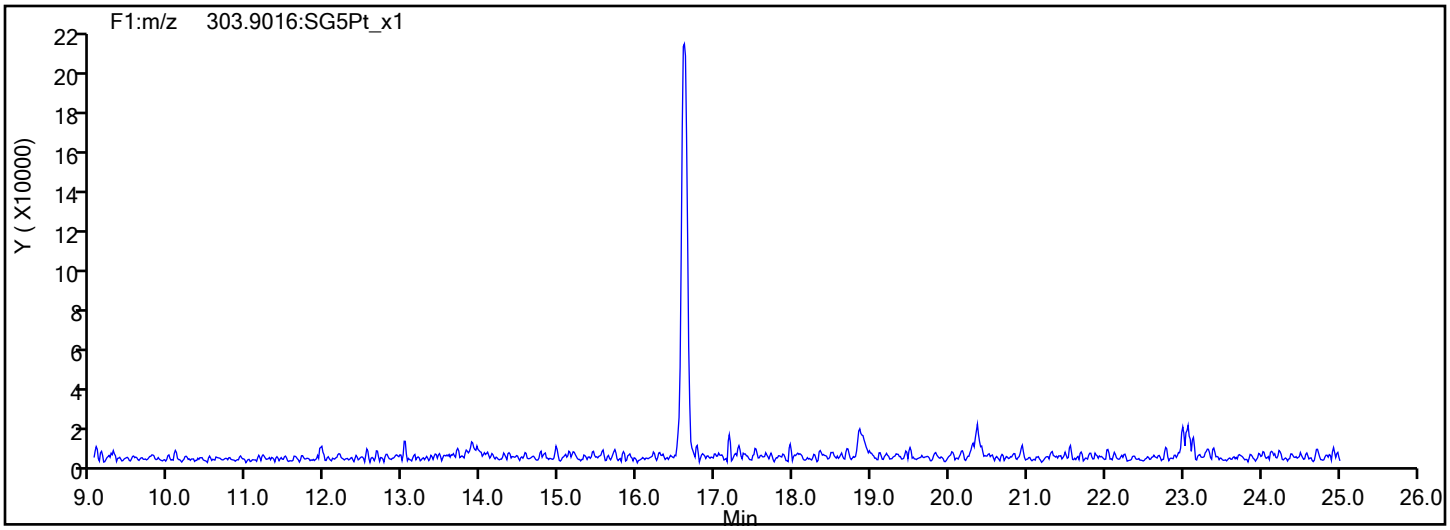

Report Date: 02-Aug-2019 11:51:36 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_004.d		
Injection Date:	02-Aug-2019 03:30:21	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

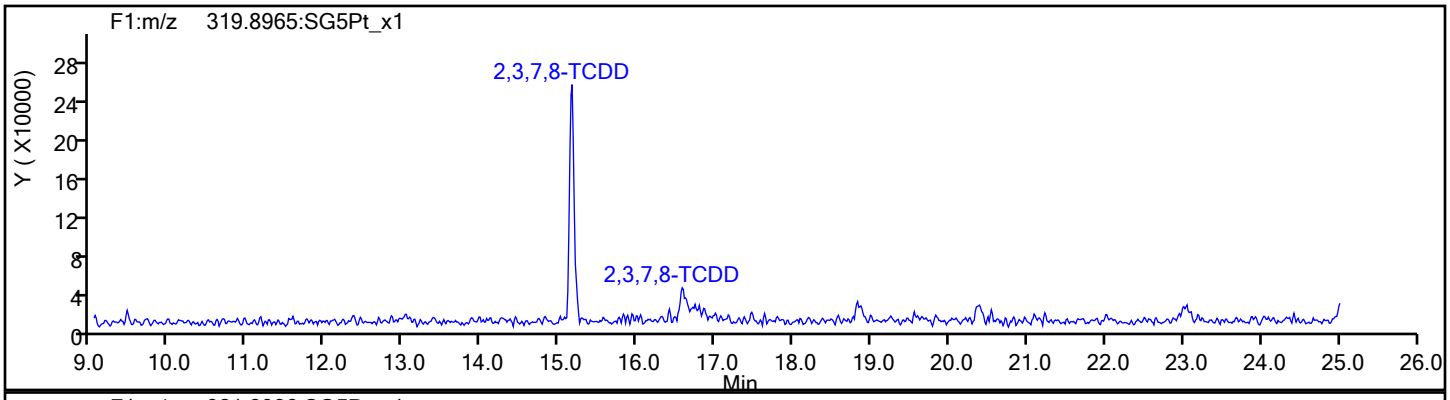

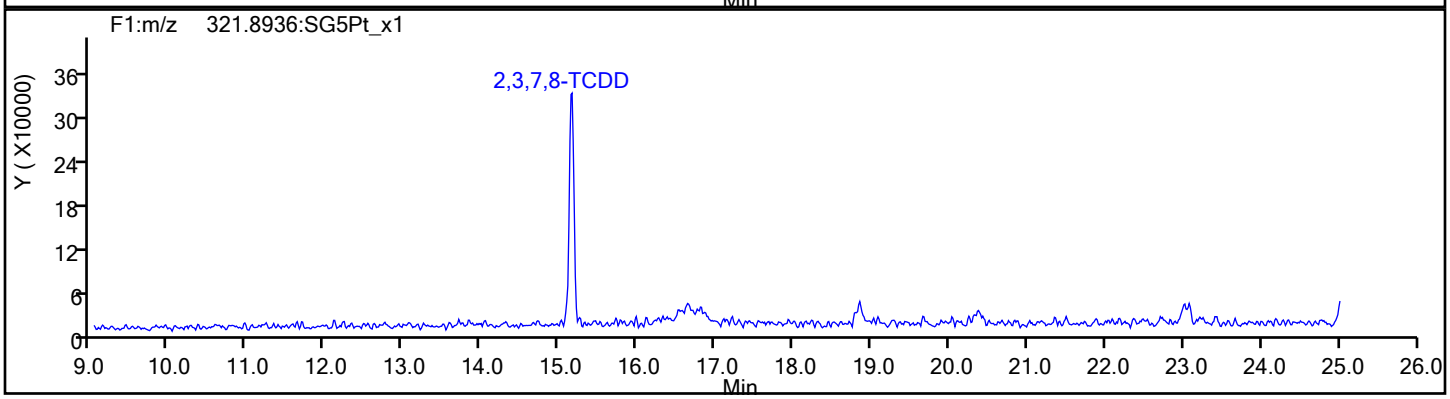

TCDD Standards

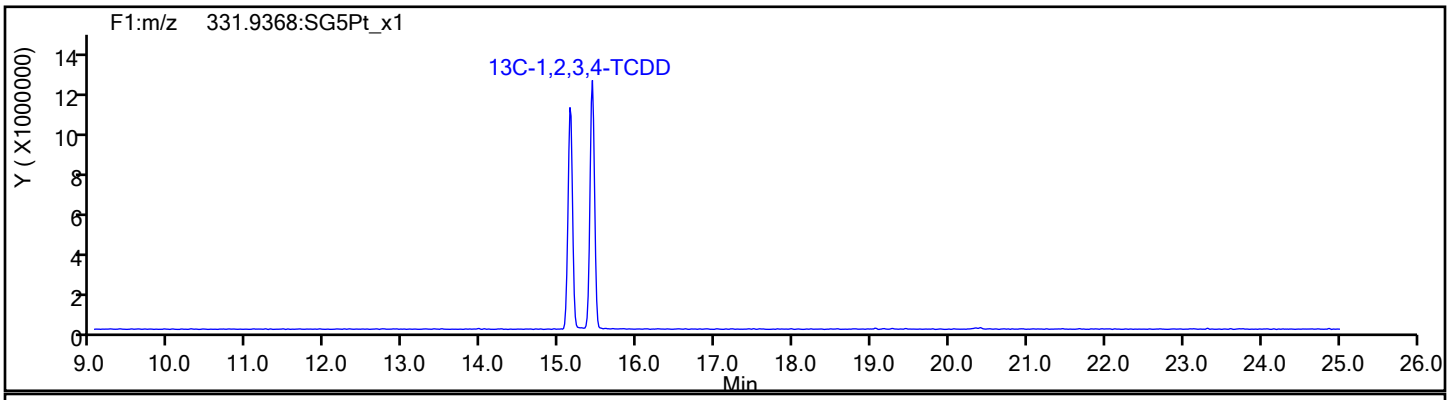

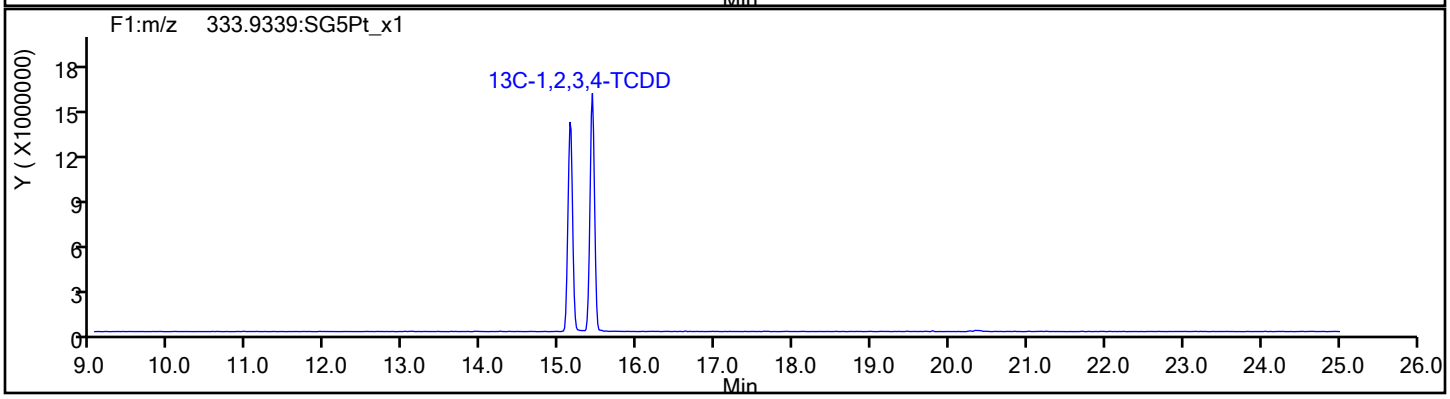

Report Date: 02-Aug-2019 11:51:36 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_004.d		
Injection Date:	02-Aug-2019 03:30:21	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

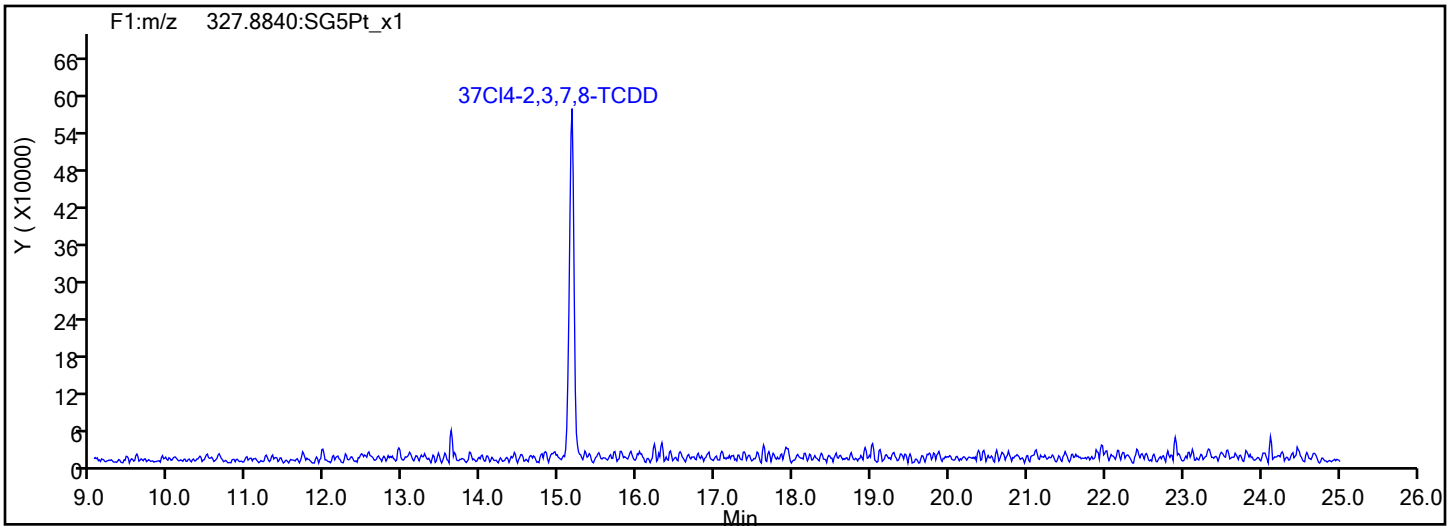

37Cl4-TCDD Standards

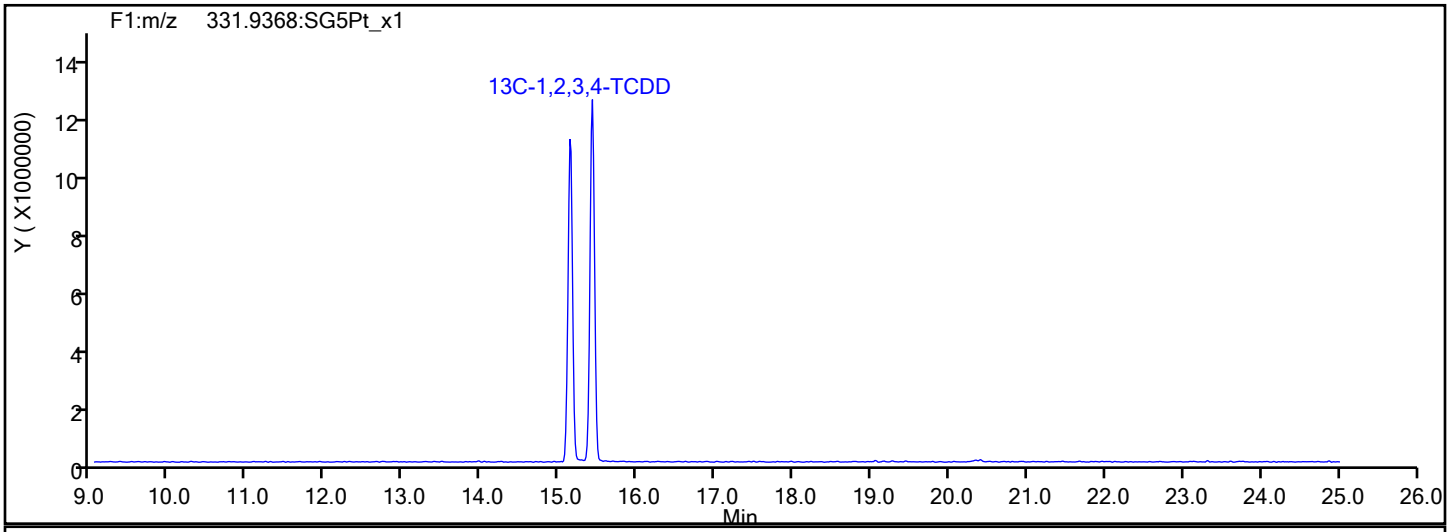

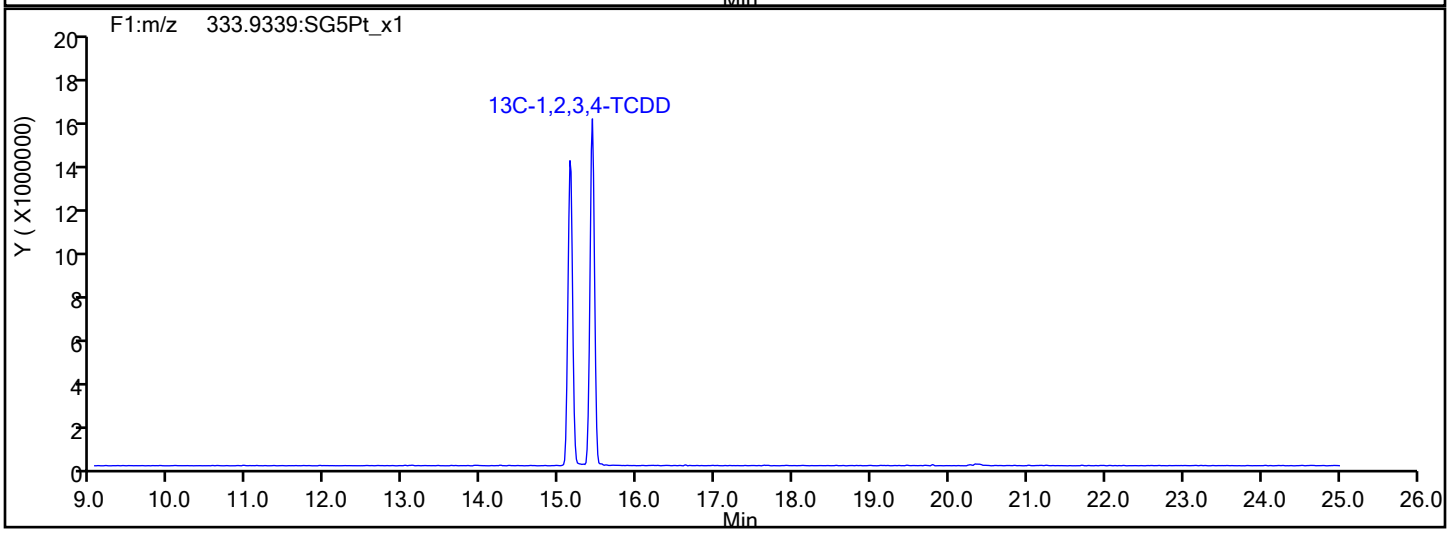

Report Date: 02-Aug-2019 11:51:37 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_004.d		
Injection Date:	02-Aug-2019 03:30:21	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm

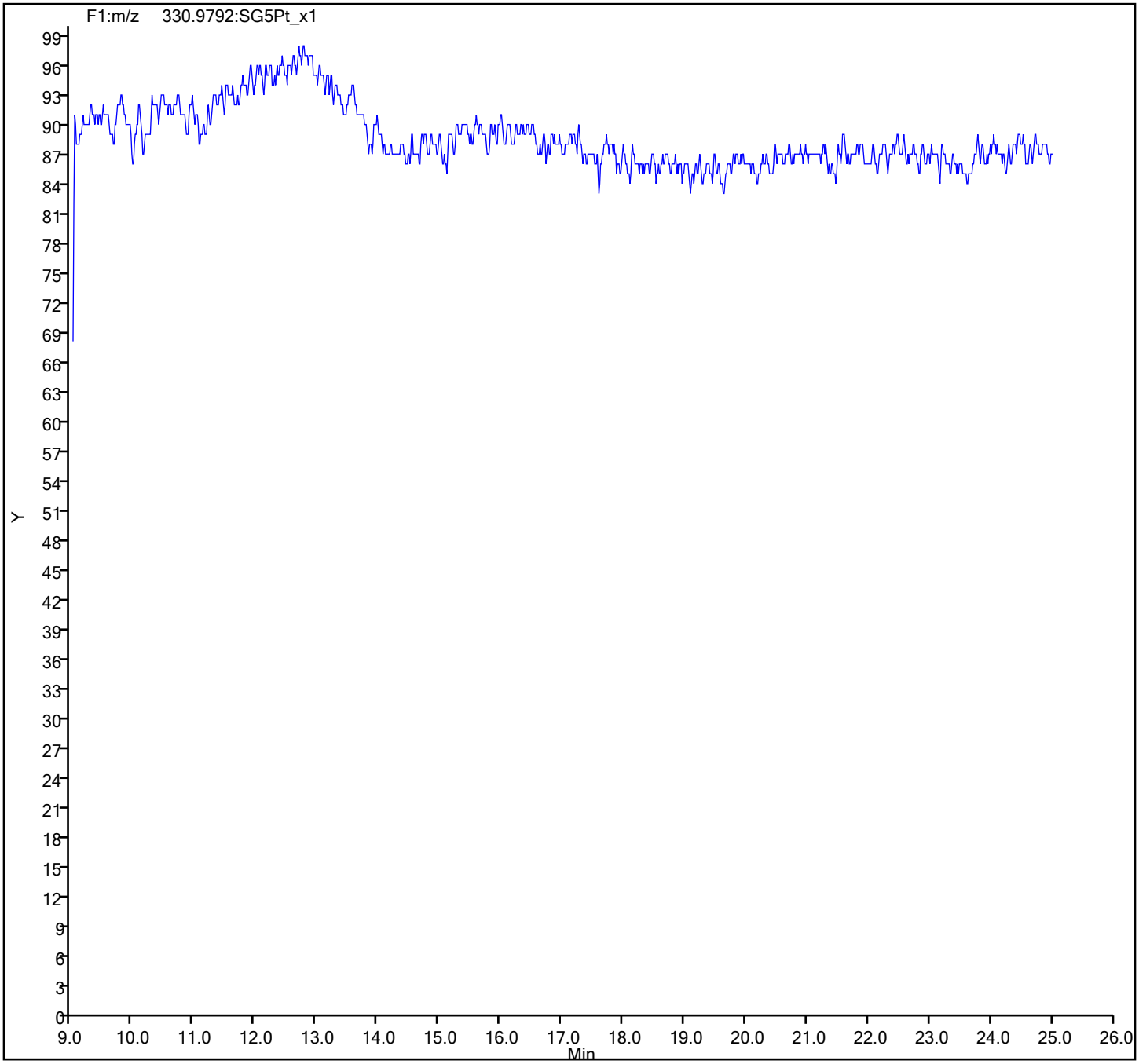

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_005.d
Lims ID: IC 4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 02-Aug-2019 04:08:39 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-4 HRDXNL4_00084
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:50:13 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 11:50:13

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.424	106319859	0.78	1.1E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.591	144041178	0.79	1.3379	101.3	101.3	0.5534	0.5534	101	
2,3,7,8-TCDF	16.604	11238394	0.76	0.8389	9.301	9.301	0.0827	0.0827	93.01	
D 13C-2,3,7,8-TCDD	15.136	102100937	0.77	0.9388	102.3	102.3	0.2809	0.2809	102	
2,3,7,8-TCDD	15.164	10136940	0.76	1.1538	8.605	8.605	0.1498	0.1498	86.05	
$ 37Cl4-2,3,7,8-TCDD	15.164	9929024		1.1816	7.903	7.903	0.1068	0.1068	98.79	
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNL4_00084 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_005.d
Lims ID: IC 4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 02-Aug-2019 04:08:39 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-4 HRDXNL4_00084
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:50:13 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 11:50:13

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.424	15.416	0		46708197	10977681	16216	40540	677		
333.9339	15.424	15.416	0		59611662	14687691	10856	27140	1353	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.591	16.580	1	1.076	63548576	13720043	50935	127337	269		
317.9389	16.591	16.580	1	1.076	80492602	17728003	25076	62690	707	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.604	16.599	0	1.001	4865871	1034824	3394	8485	305		
305.8987	16.604	16.599	0	1.001	6372523	1366111	5328	13320	256	0.76(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.136	15.136	0	0.981	44311856	10806558	16216	40540	666		
333.9339	15.136	15.136	0	0.981	57789081	13912119	10856	27140	1282	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.164	15.156	0	1.002	4381105	1087501	6755	16887	161		
321.8936	15.164	15.156	0	1.002	5755835	1373692	10330	25825	133	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.164	15.158	0	0.983	9929024	2303011	12961	32402	178		
Total 2378-Chlorinated Dioxins & Furans											
		0.0	0								

Reagents:

HRDXNL4_00084 Amount Added: 1.00 Units: mL

Report Date: 02-Aug-2019 11:50:37 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_005.d		
Injection Date:	02-Aug-2019 04:08:39	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

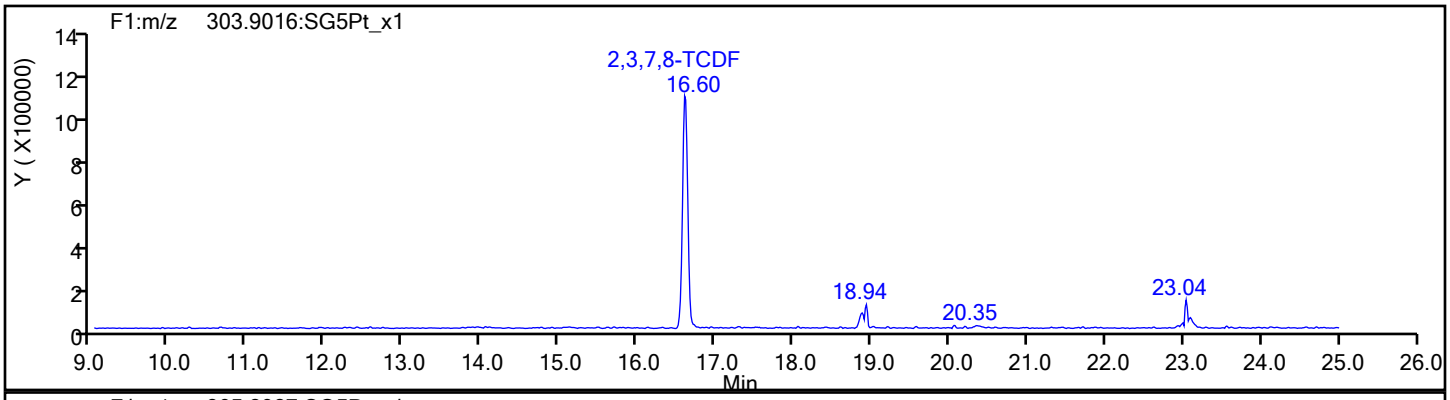

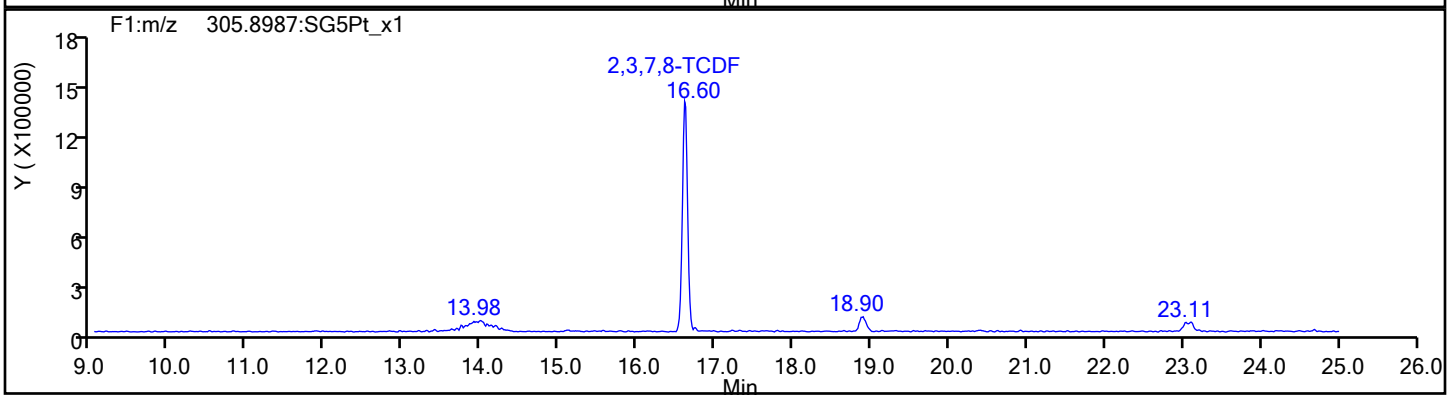

TCDF Standards

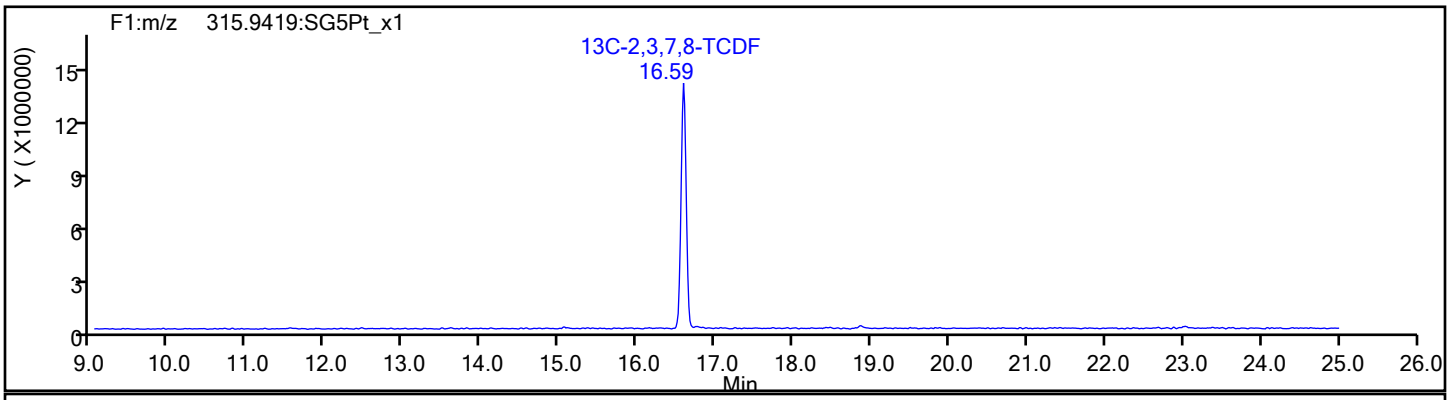

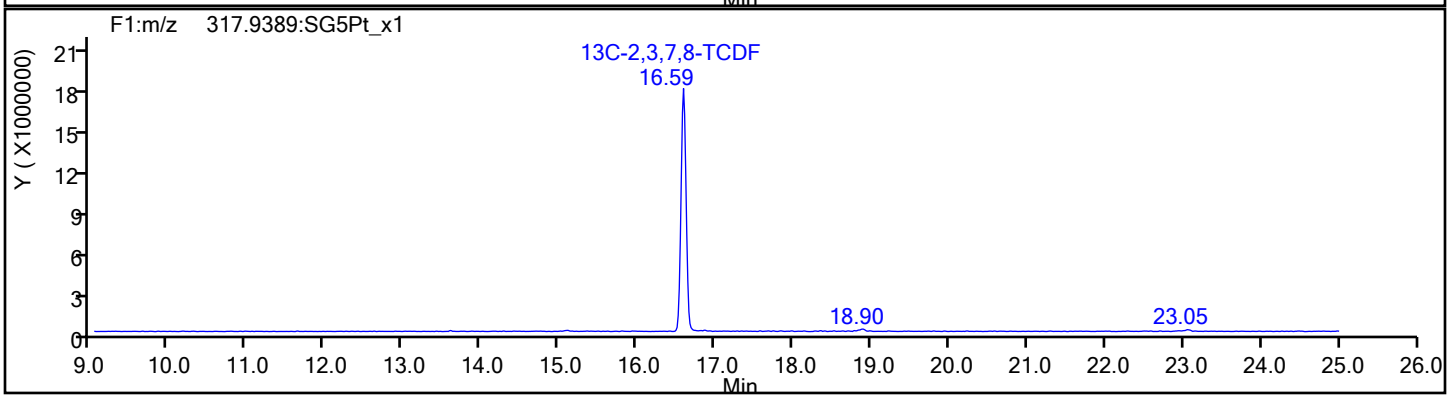

Report Date: 02-Aug-2019 11:50:37 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_005.d		
Injection Date:	02-Aug-2019 04:08:39	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

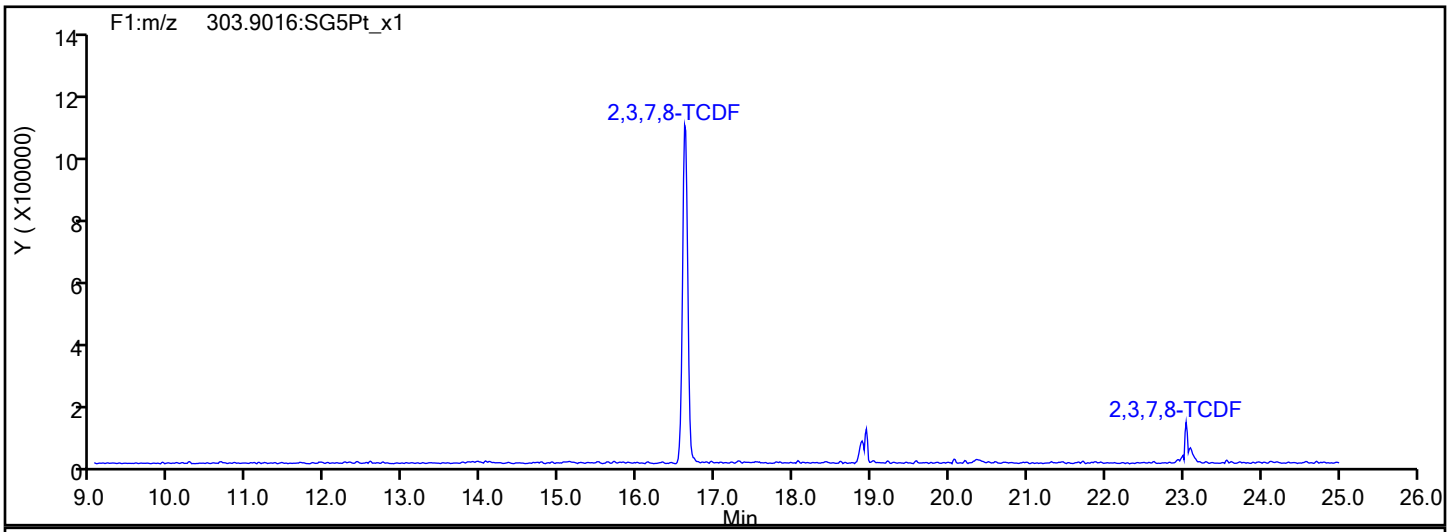

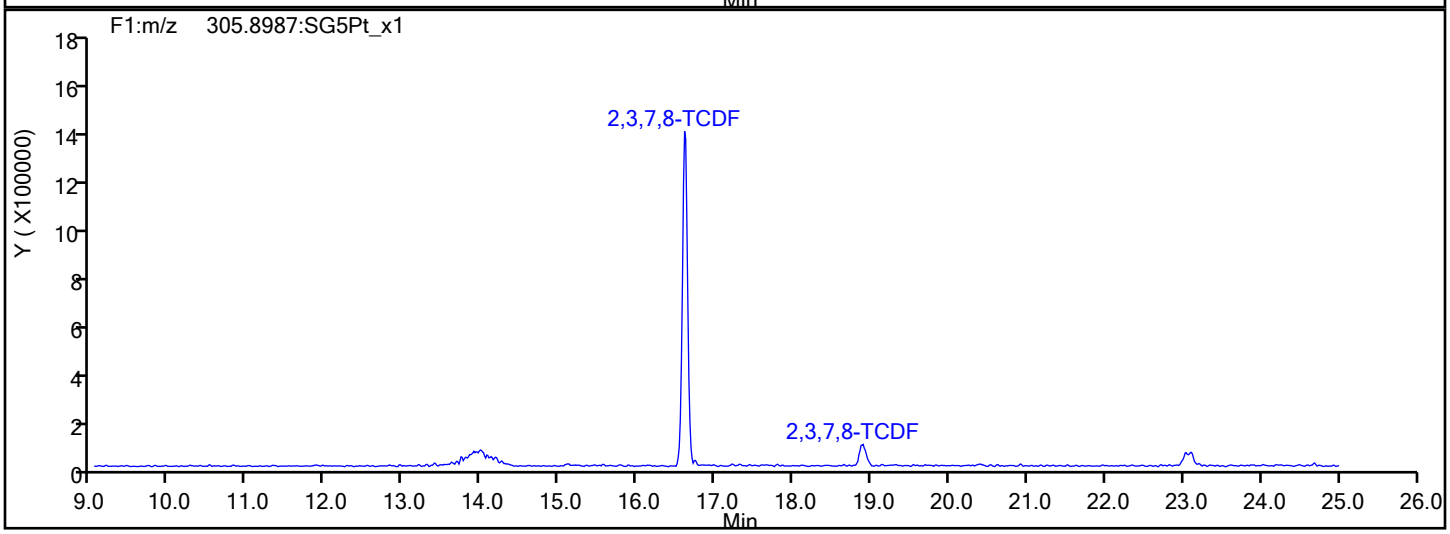

TCDF Interference Mass

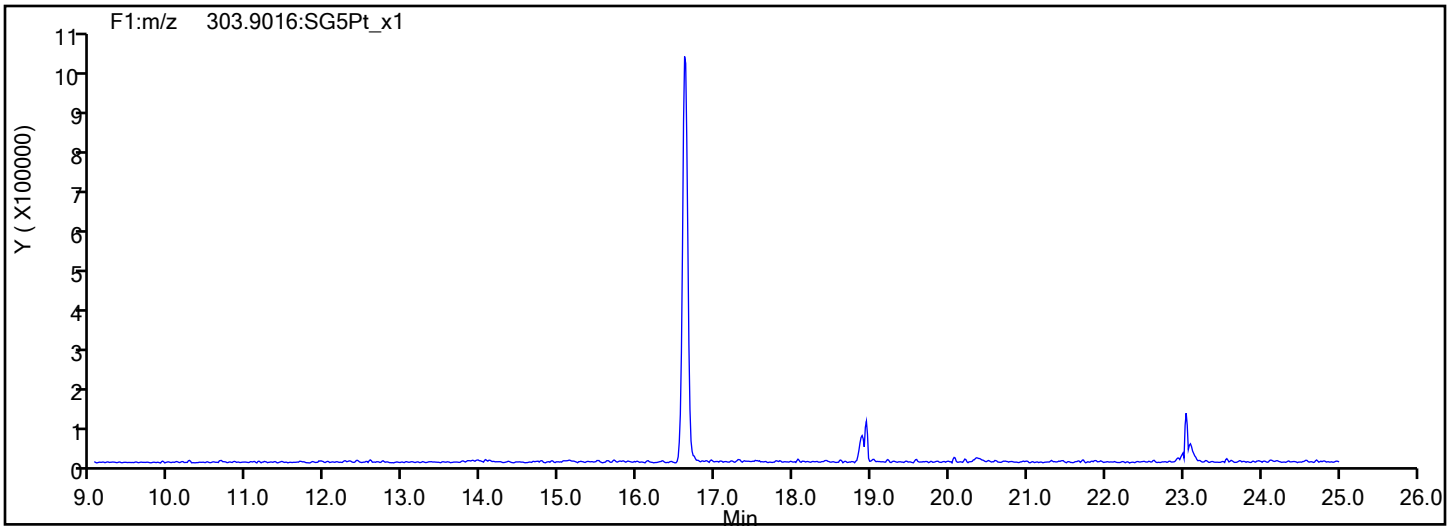

Report Date: 02-Aug-2019 11:50:37 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_005.d		
Injection Date:	02-Aug-2019 04:08:39	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

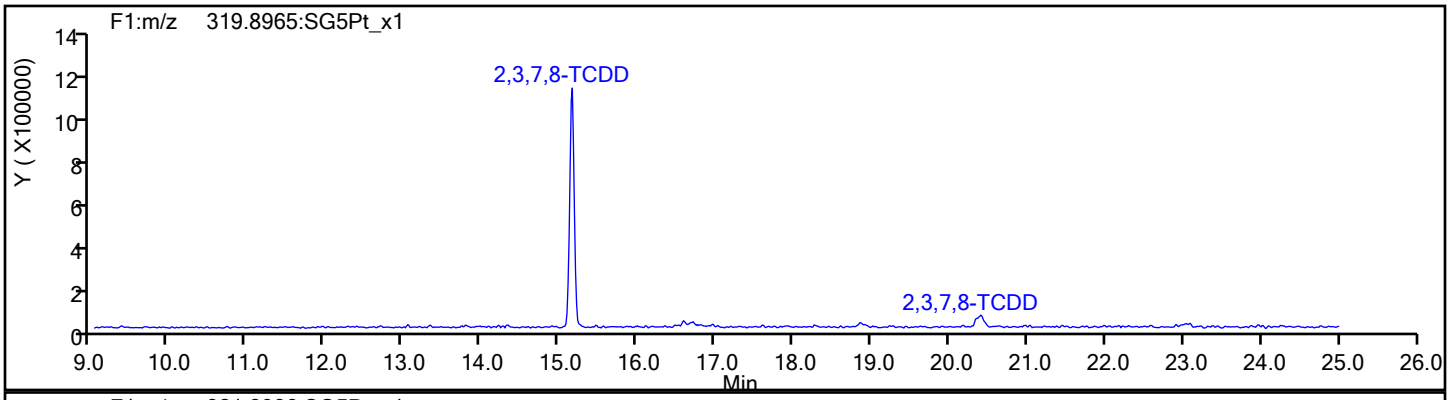

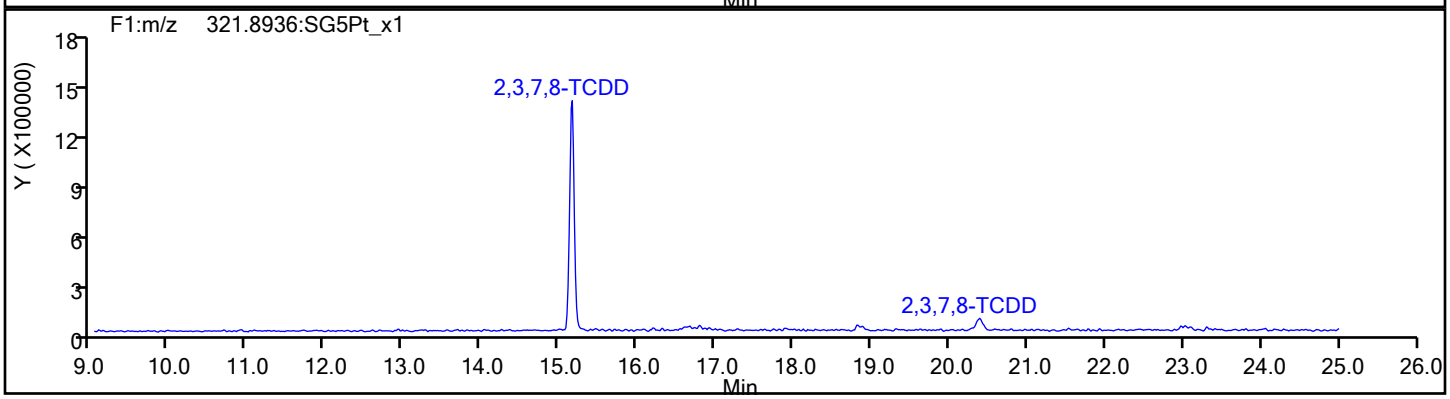

TCDD Standards

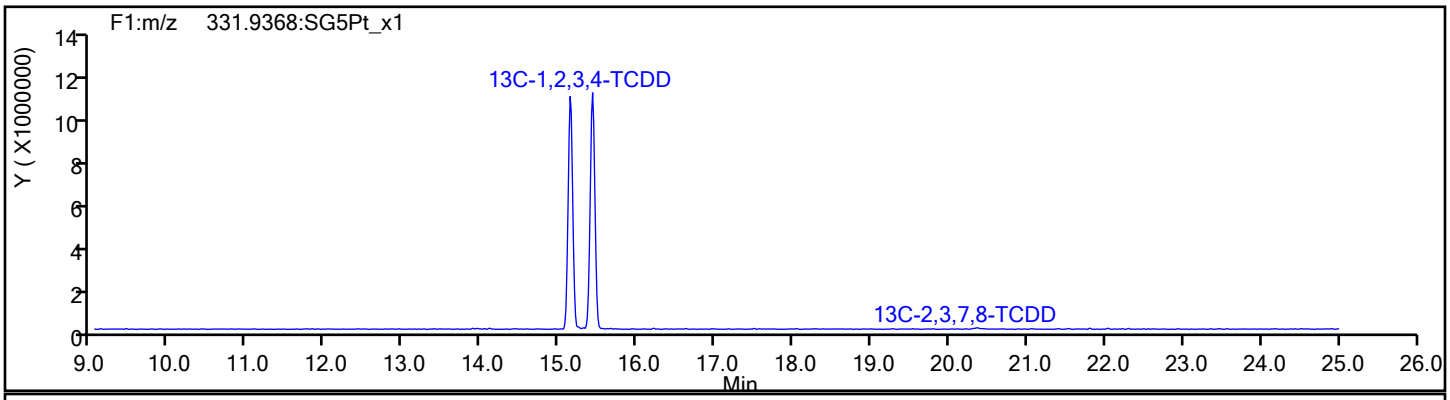

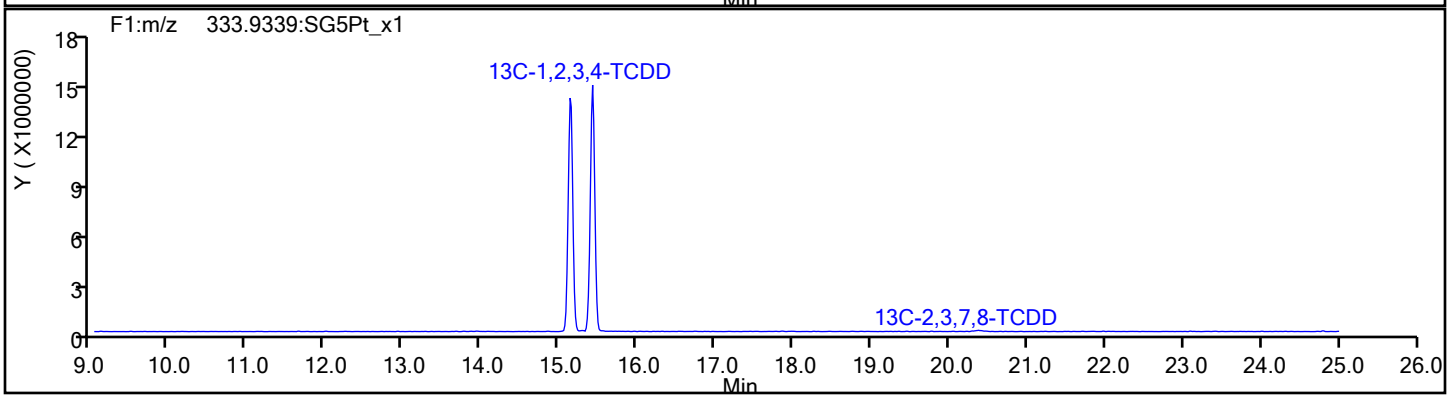

Report Date: 02-Aug-2019 11:50:37 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_005.d		
Injection Date:	02-Aug-2019 04:08:39	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

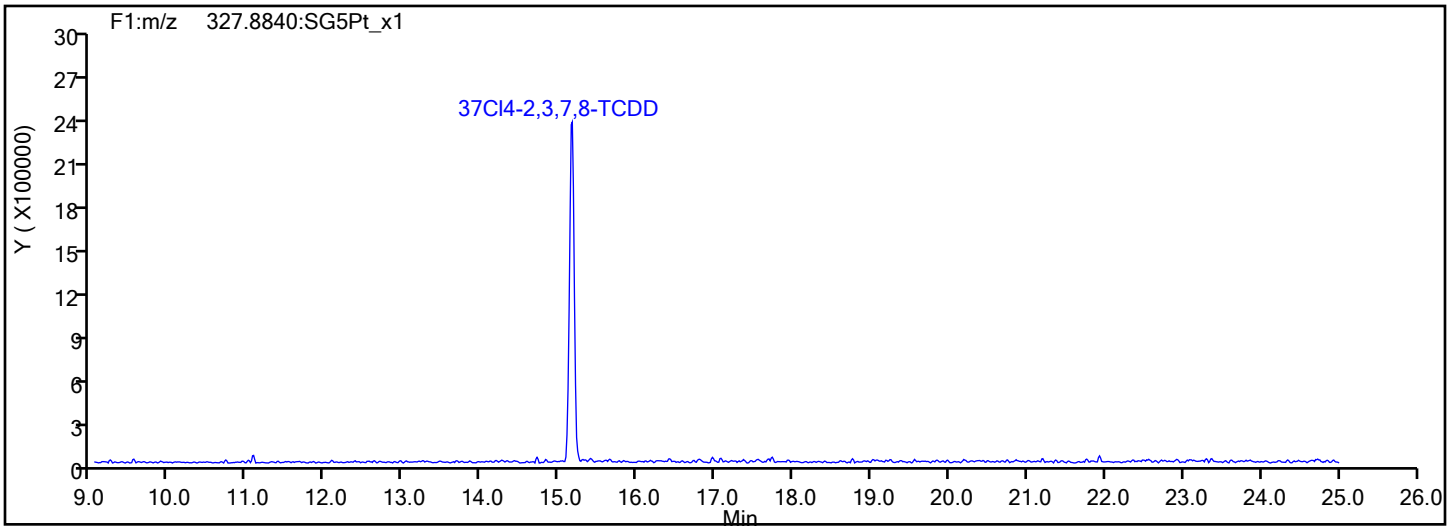

37Cl4-TCDD Standards

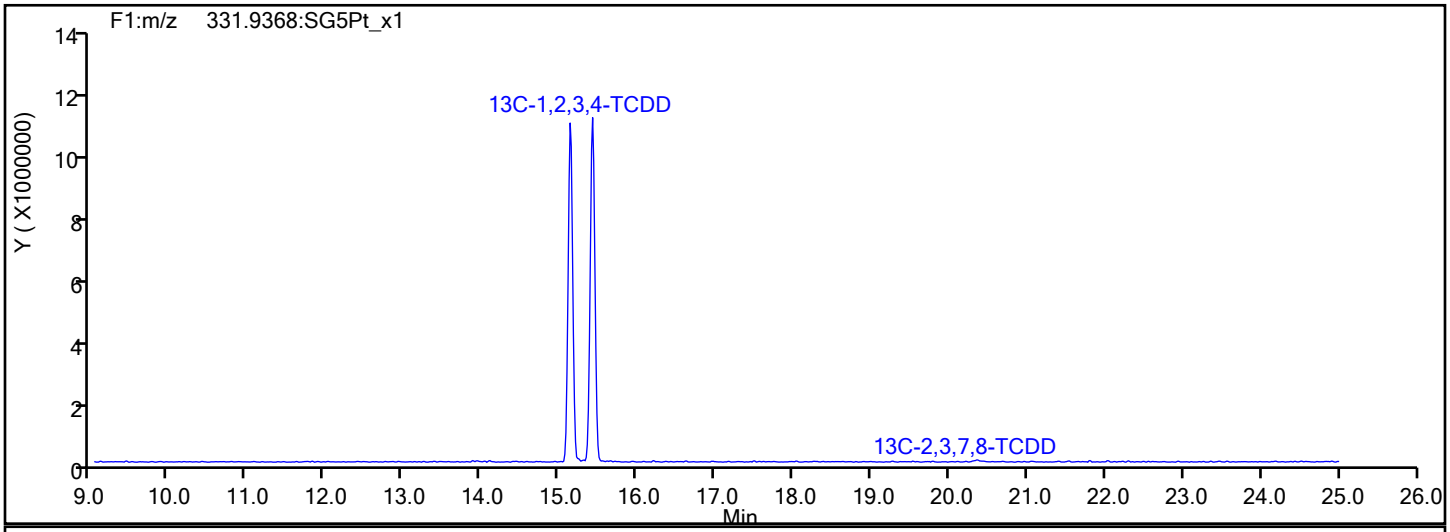

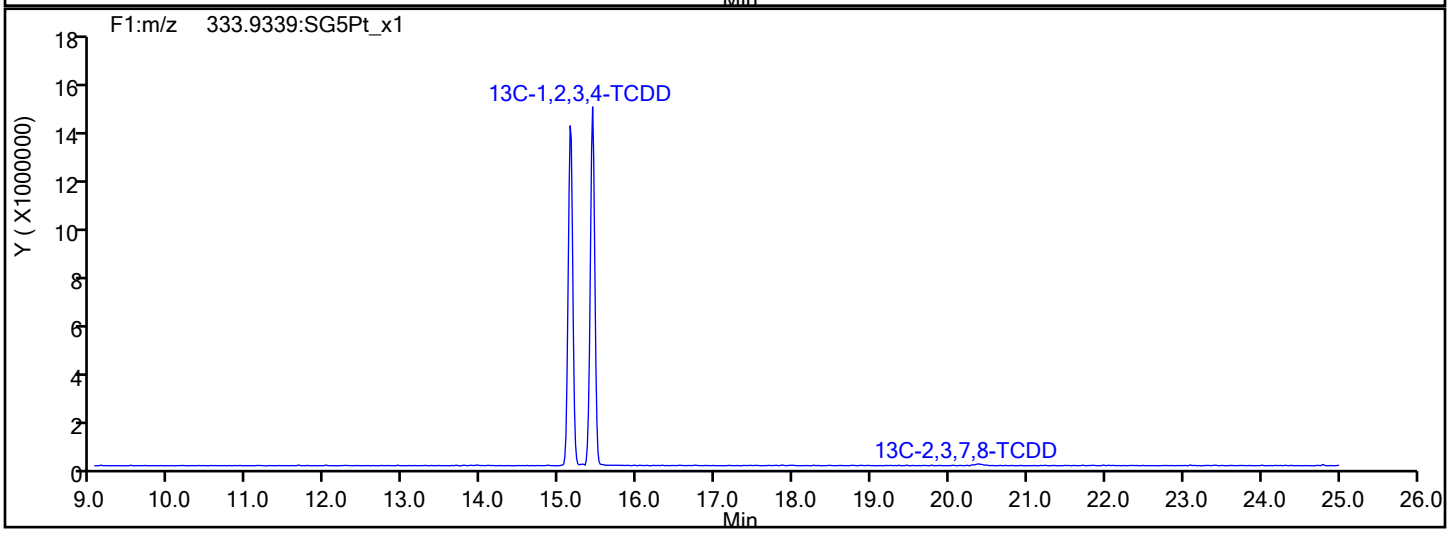

Report Date: 02-Aug-2019 11:50:37 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_005.d		
Injection Date:	02-Aug-2019 04:08:39	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

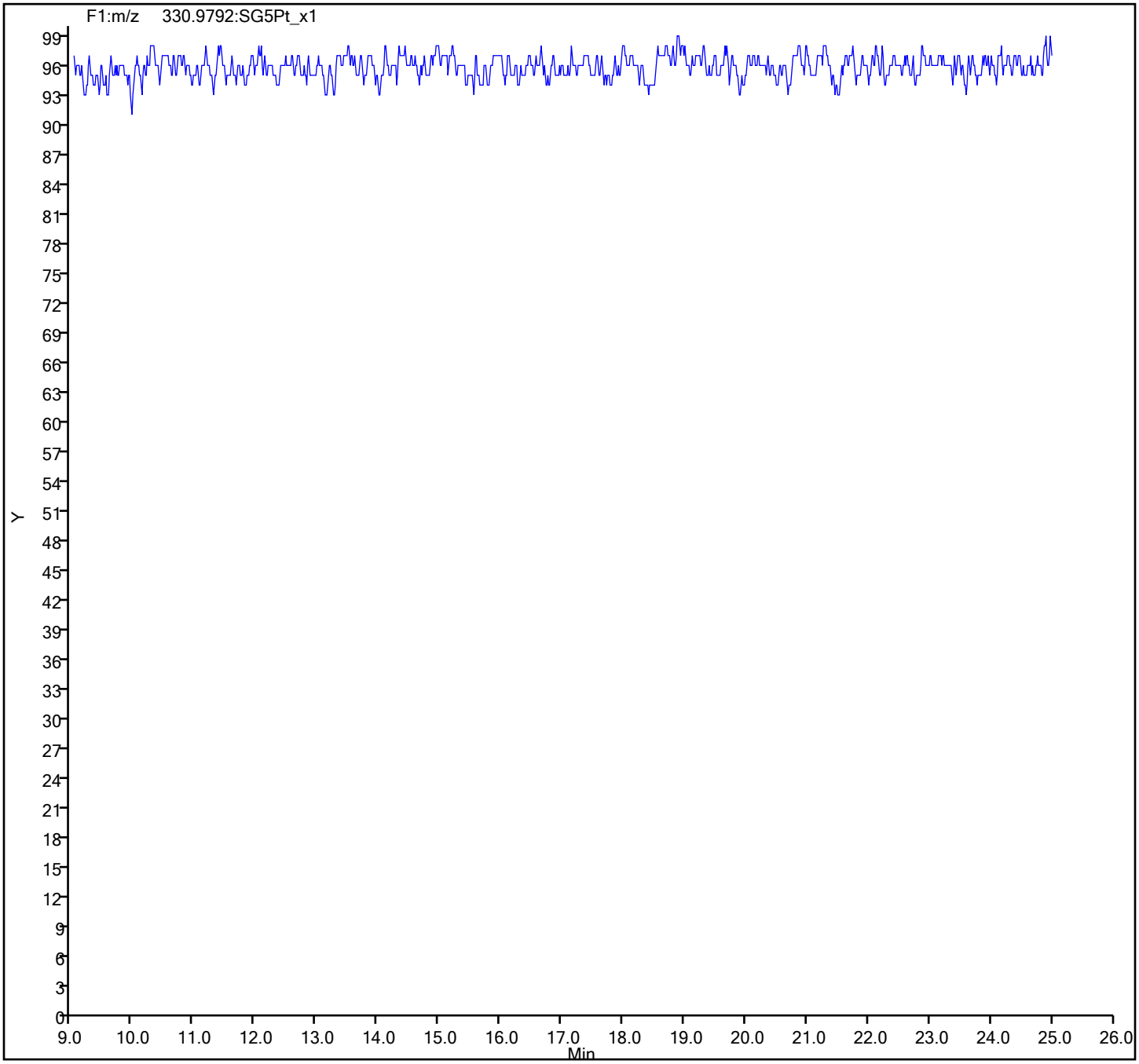

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_006.d
Lims ID: IC 5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 02-Aug-2019 04:46:57 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-5 HRDXNL5_00028
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:52:00 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:44:08

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.407	115018689	0.78	1.1E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.573	144459393	0.77	1.3379	93.9	93.9	0.5274	0.5274	93.87	
2,3,7,8-TCDF	16.586	46575552	0.77	0.8389	38.4	38.4	0.1167	0.1167	96.08	
D 13C-2,3,7,8-TCDD	15.132	106968299	0.77	0.9388	99.1	99.1	0.2830	0.2830	99.06	
2,3,7,8-TCDD	15.146	48146783	0.76	1.1538	39.0	39.0	0.1640	0.1640	97.53	
$ 37Cl4-2,3,7,8-TCDD	15.146	56650769		1.1816	41.7	41.7	0.0894	0.0894	104	
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNL5_00028 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_006.d
Lims ID: IC 5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 02-Aug-2019 04:46:57 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-5 HRDXNL5_00028
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:52:00 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:44:08

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.407	15.416	-1		50351038	12128425	19106	47765	635		
333.9339	15.407	15.416	-1		64667651	15935590	10721	26802	1486	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.573	16.580	0	1.076	62832695	14048507	53452	133630	263		
317.9389	16.573	16.580	0	1.076	81626698	17801662	25764	64410	691	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.586	16.599	-1	1.001	20335382	4486199	5024	12560	893		
305.8987	16.586	16.599	-1	1.001	26240170	5630982	7452	18630	756	0.77(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.132	15.136	0	0.982	46501097	11086056	19106	47765	580		
333.9339	15.118	15.136	-1	0.981	60467202	14396233	10721	26802	1343	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.146	15.156	-1	1.001	20863773	5196689	8344	20860	623		
321.8936	15.146	15.156	-1	1.001	27283010	6610856	10939	27347	604	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.146	15.158	-1	0.983	56650769	13763841	11857	29642	1161		
Total 2378-Chlorinated Dioxins & Furans											
		0.0	0								

Reagents:

HRDXNL5_00028 Amount Added: 1.00 Units: mL

Report Date: 02-Aug-2019 11:52:18 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_006.d		
Injection Date:	02-Aug-2019 04:46:57	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

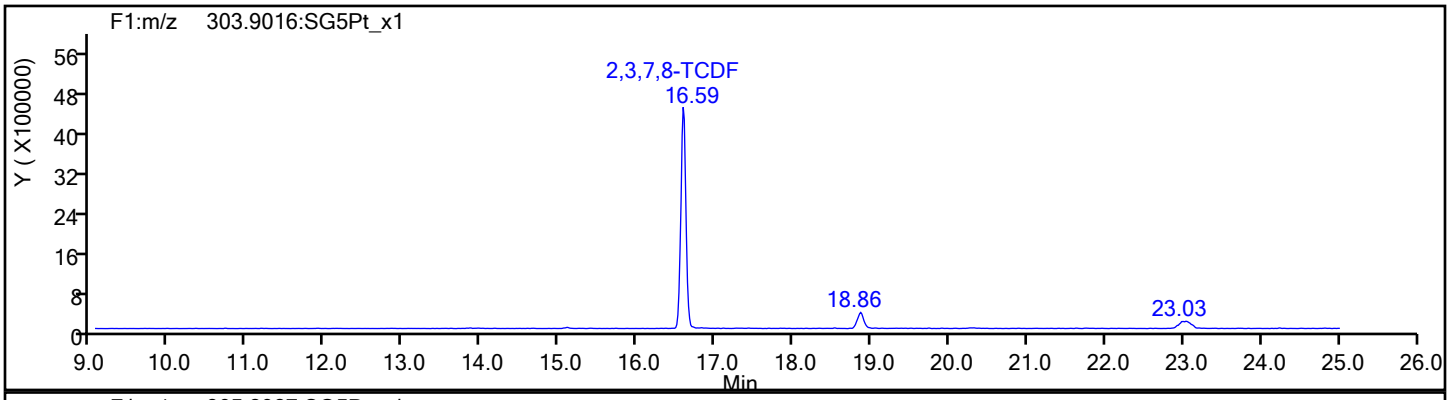

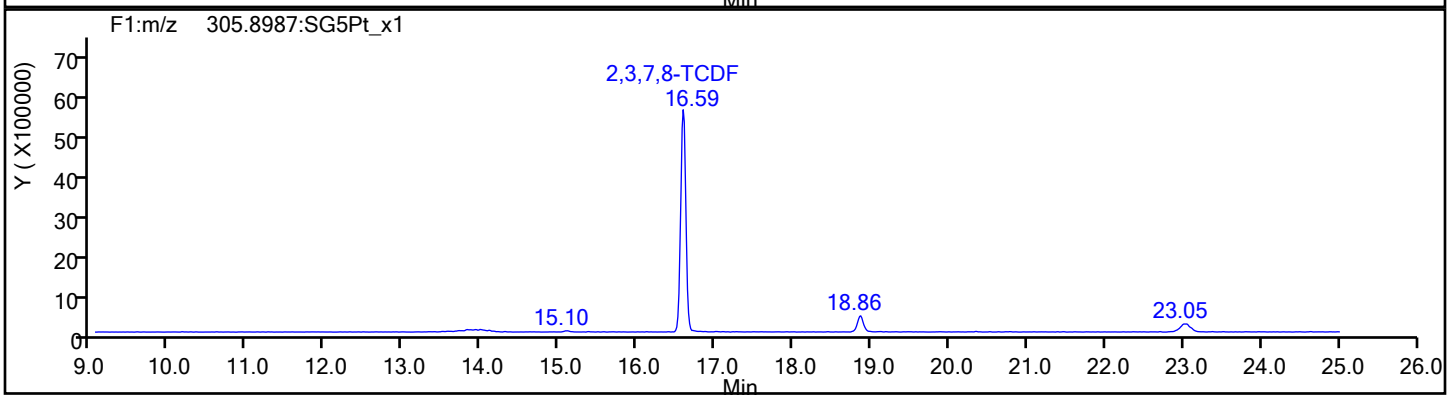

TCDF Standards

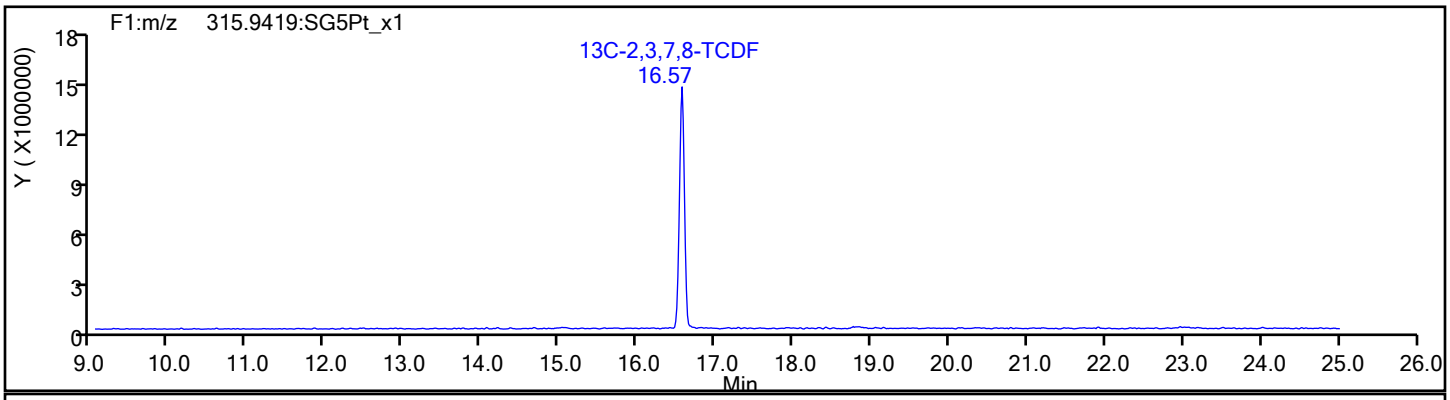

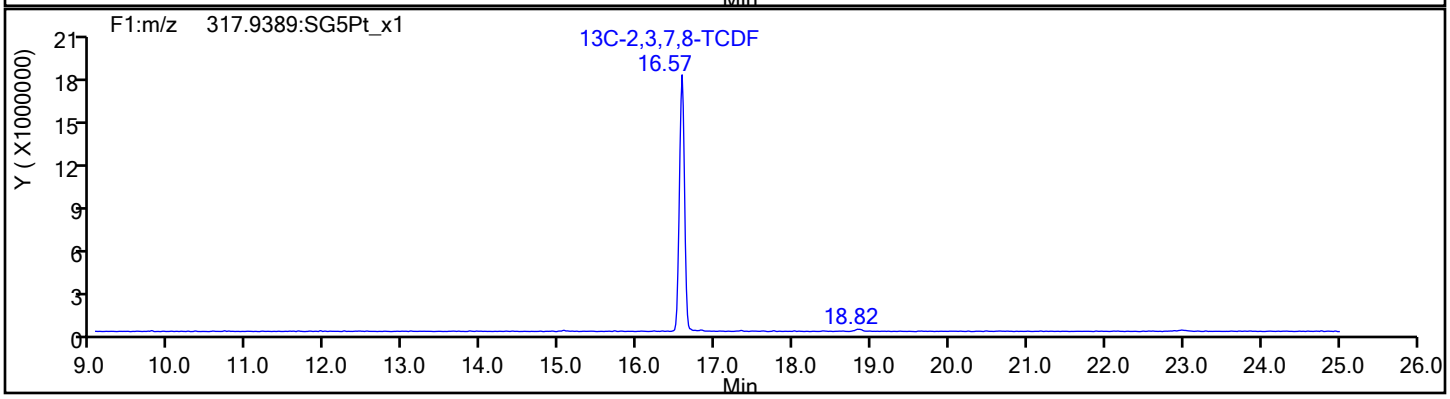

Report Date: 02-Aug-2019 11:52:18 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_006.d		
Injection Date:	02-Aug-2019 04:46:57	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

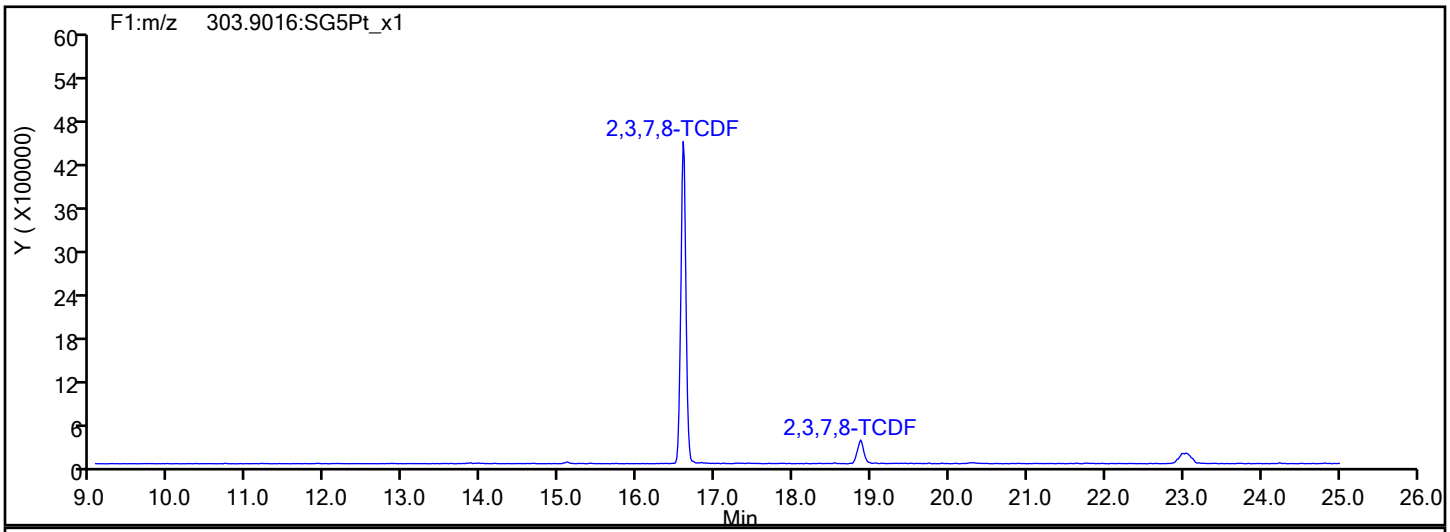

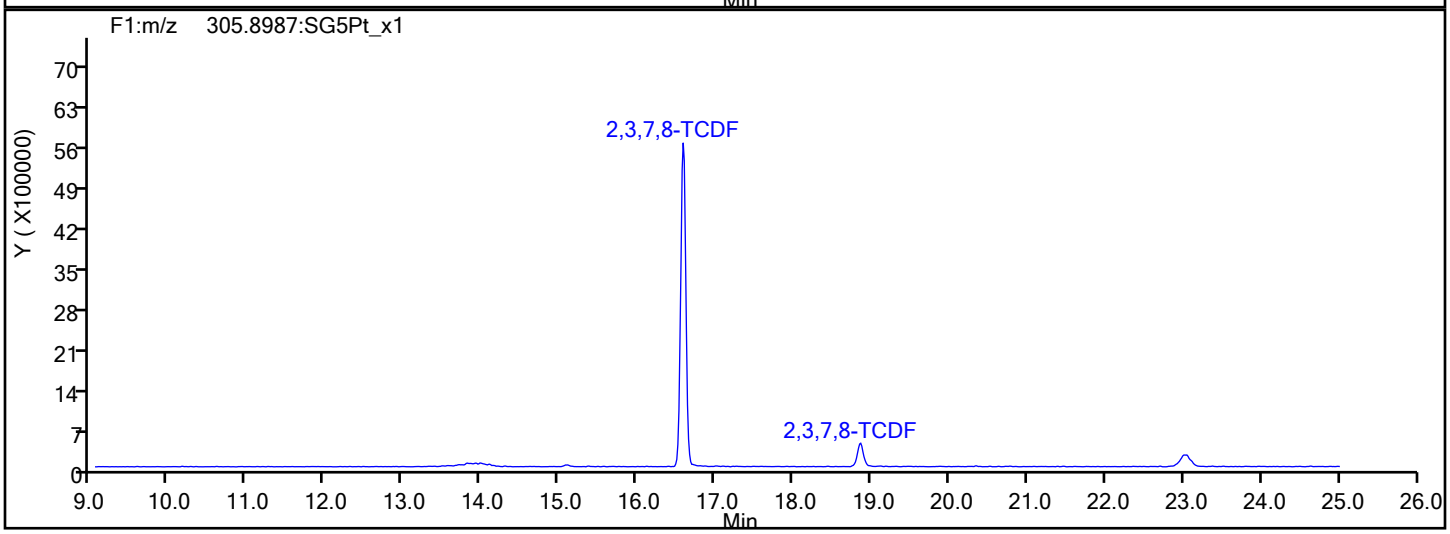

TCDF Interference Mass

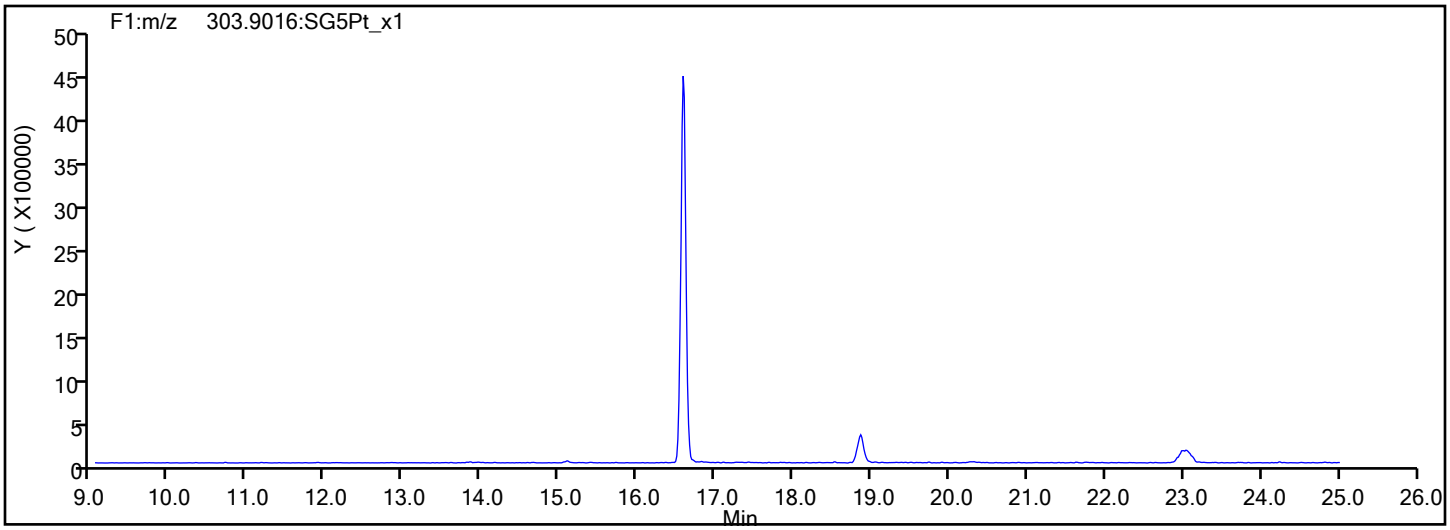

Report Date: 02-Aug-2019 11:52:18 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_006.d		
Injection Date:	02-Aug-2019 04:46:57	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

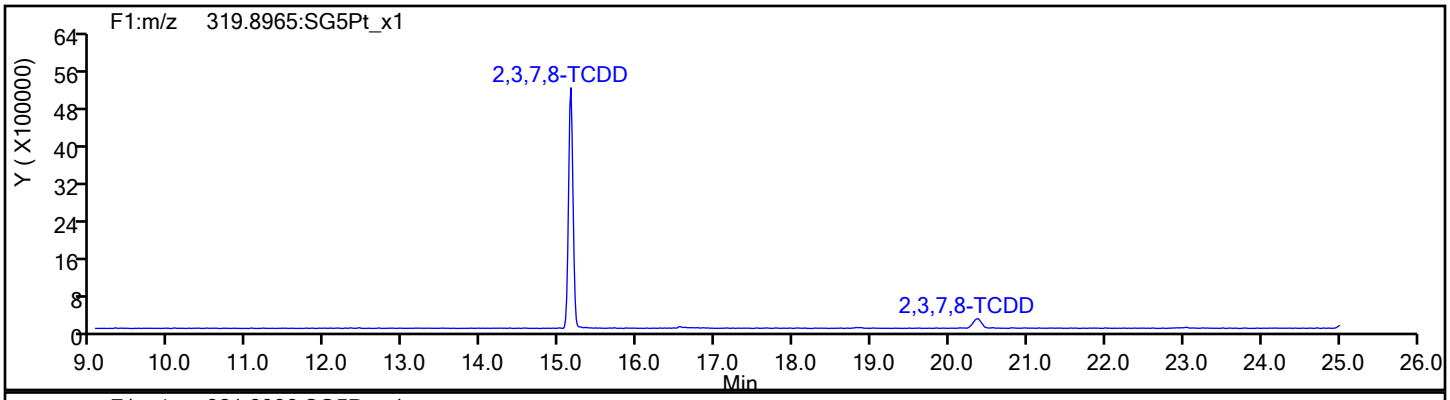

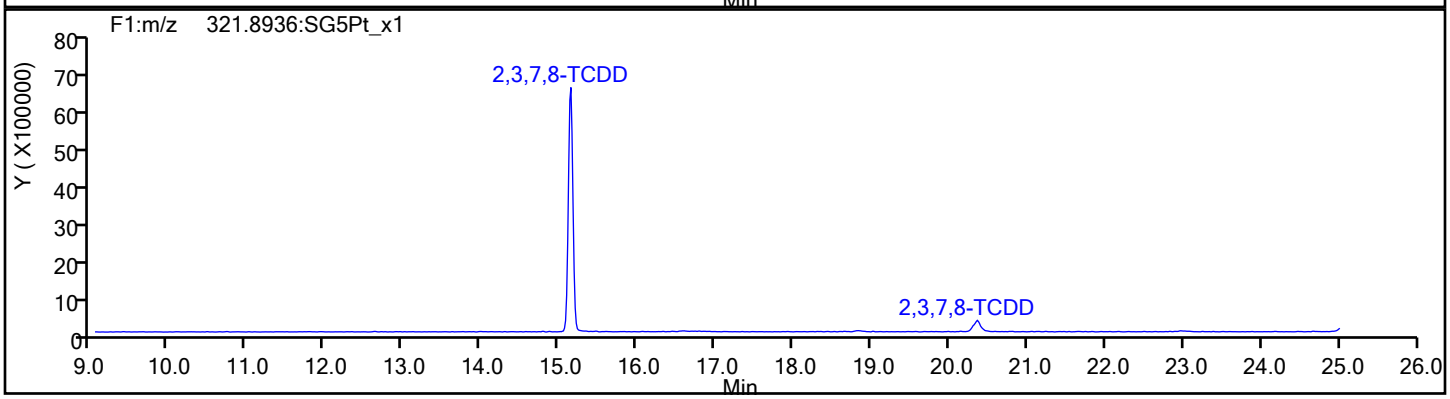

TCDD Standards

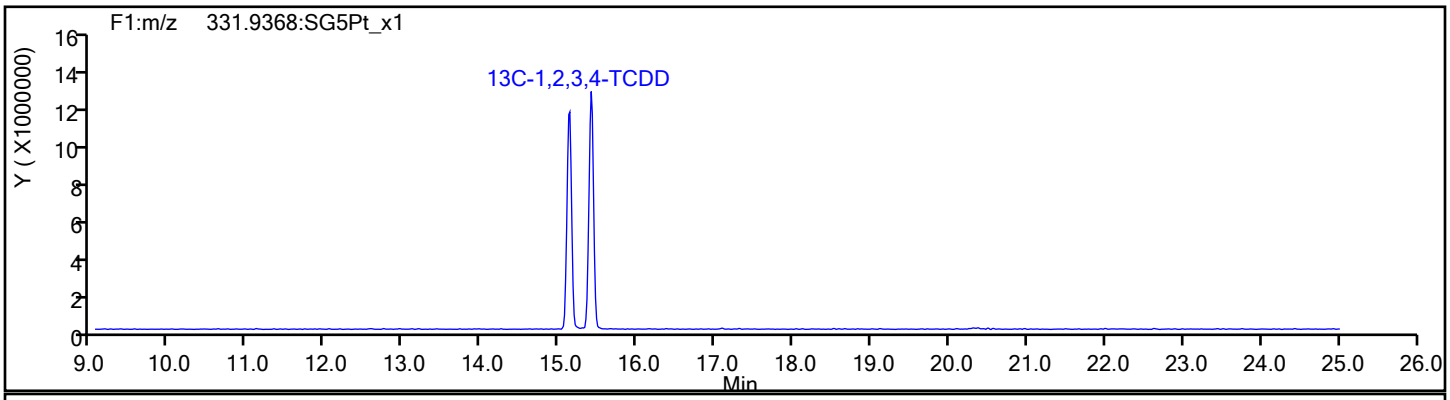

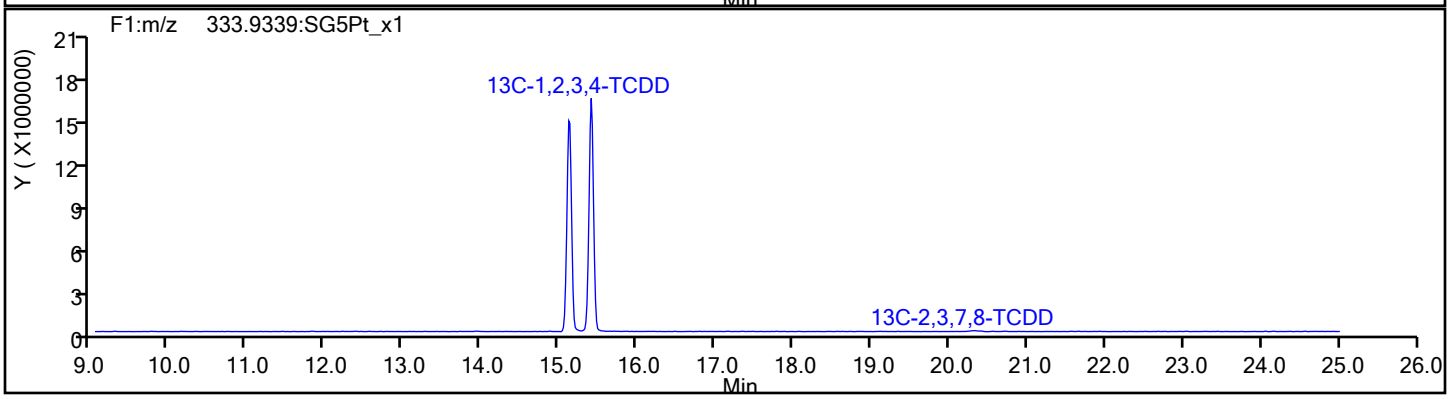

Report Date: 02-Aug-2019 11:52:18 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_006.d		
Injection Date:	02-Aug-2019 04:46:57	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

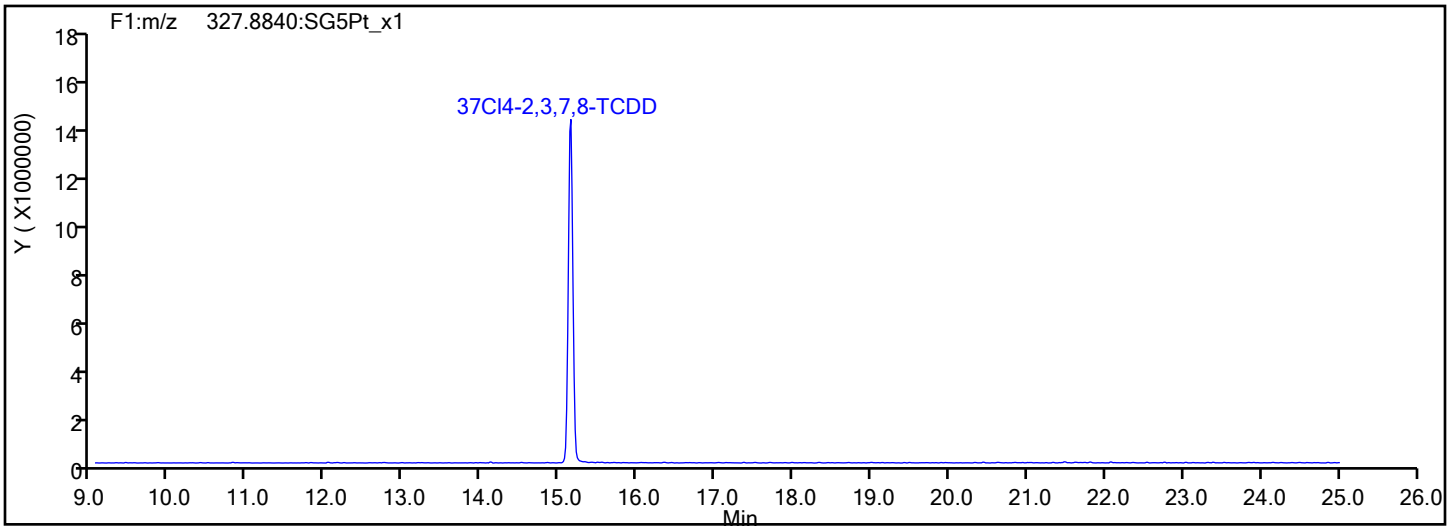

37Cl4-TCDD Standards

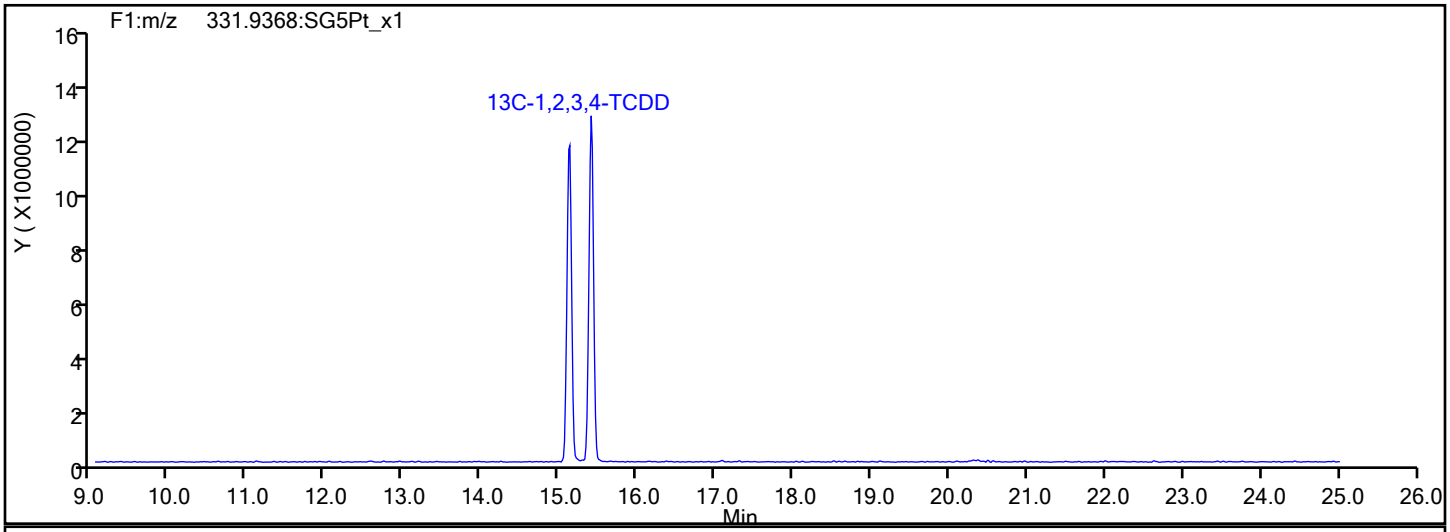

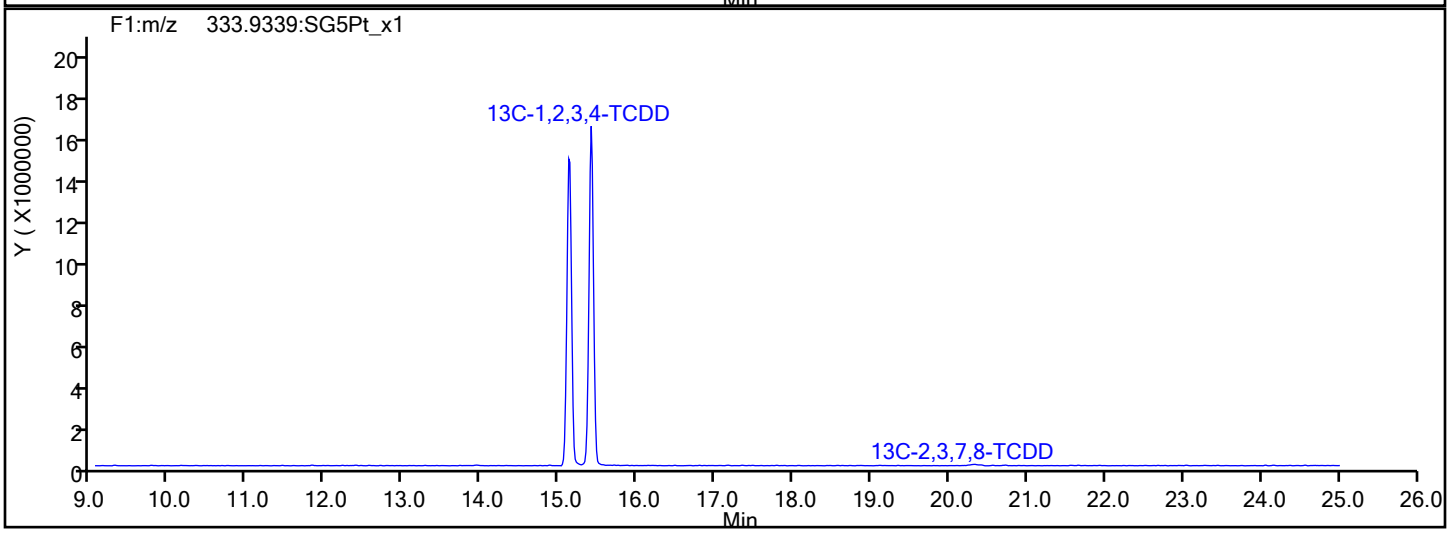

Report Date: 02-Aug-2019 11:52:19 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_006.d		
Injection Date:	02-Aug-2019 04:46:57	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

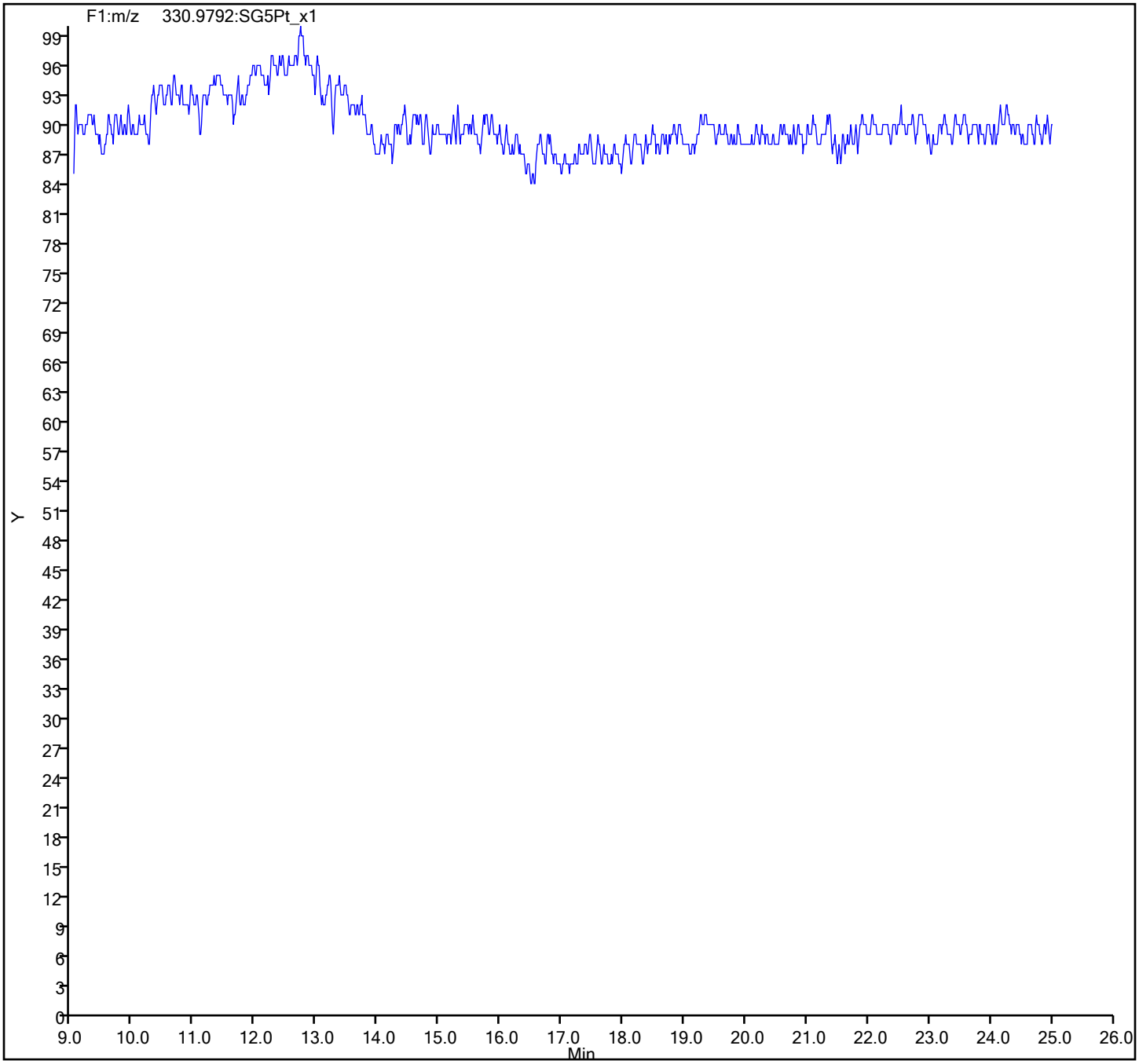

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d
Lims ID: IC 6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 02-Aug-2019 05:25:19 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-6 HRDXNL6_00024
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:52:36 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:44:20

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.404	110526038	0.77	1.1E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.556	151101344	0.75	1.3379	102.2	102.2	0.5415	0.5415	102	
2,3,7,8-TCDF	16.584	239921851	0.78	0.8389	189.3	189.3	0.1707	0.1707	94.64	
D 13C-2,3,7,8-TCDD	15.130	101263855	0.79	0.9388	97.6	97.6	0.2909	0.2909	97.59	
2,3,7,8-TCDD	15.143	221171643	0.78	1.1538	189.3	189.3	0.2031	0.2031	94.65	
$ 37Cl4-2,3,7,8-TCDD	15.143	268090229		1.1816	205.3	205.3	0.1091	0.1091	103	
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNL6_00024 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d
Lims ID: IC 6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 02-Aug-2019 05:25:19 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-6 HRDXNL6_00024
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:52:36 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:44:20

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.404	15.416	-1		48112289	11729044	18185	45462	645		
333.9339	15.404	15.416	-1		62413749	15576756	11642	29105	1338	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.556	16.580	-1	1.075	64986610	14150118	57009	142522	248		
317.9389	16.556	16.580	-1	1.075	86114734	18279234	22119	55297	826	0.75(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.584	16.599	-1	1.002	104966823	22470376	8972	22430	2505		
305.8987	16.584	16.599	-1	1.002	134955028	28495262	9607	24017	2966	0.78(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.130	15.136	0	0.982	44673635	10986883	18185	45462	604		
333.9339	15.130	15.136	0	0.982	56590220	13637893	11642	29105	1171	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.143	15.156	-1	1.001	96586623	23829881	9066	22665	2628		
321.8936	15.143	15.156	-1	1.001	124585020	30700236	14012	35030	2191	0.78(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.143	15.158	-1	0.983	268090229	64785114	14075	35187	4603		

Total 2378-Chlorinated Dioxins & Furans
0.0 0

Reagents:

HRDXNL6_00024 Amount Added: 1.00 Units: mL

Report Date: 02-Aug-2019 11:52:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d		
Injection Date:	02-Aug-2019 05:25:19	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

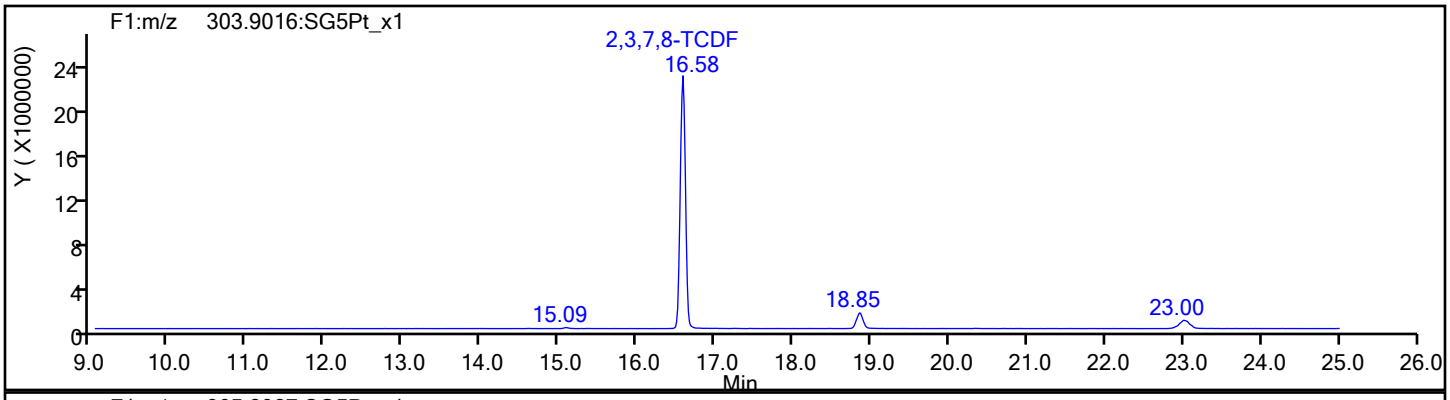

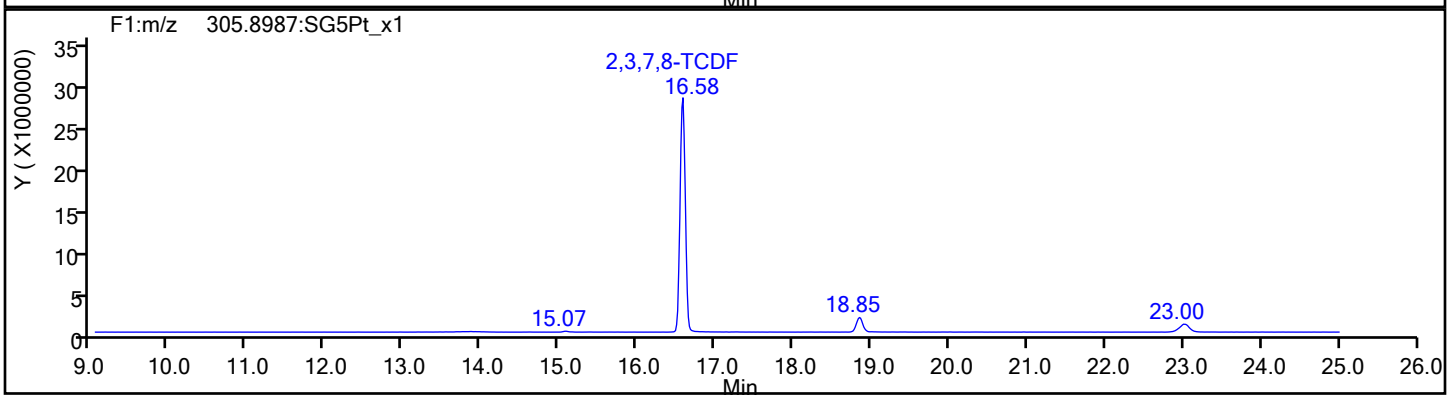

TCDF Standards

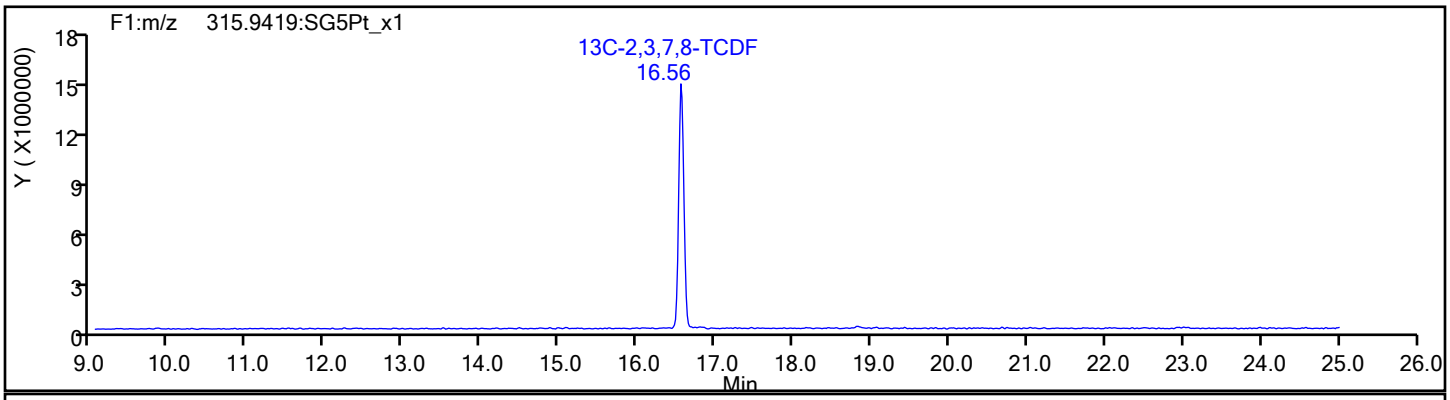

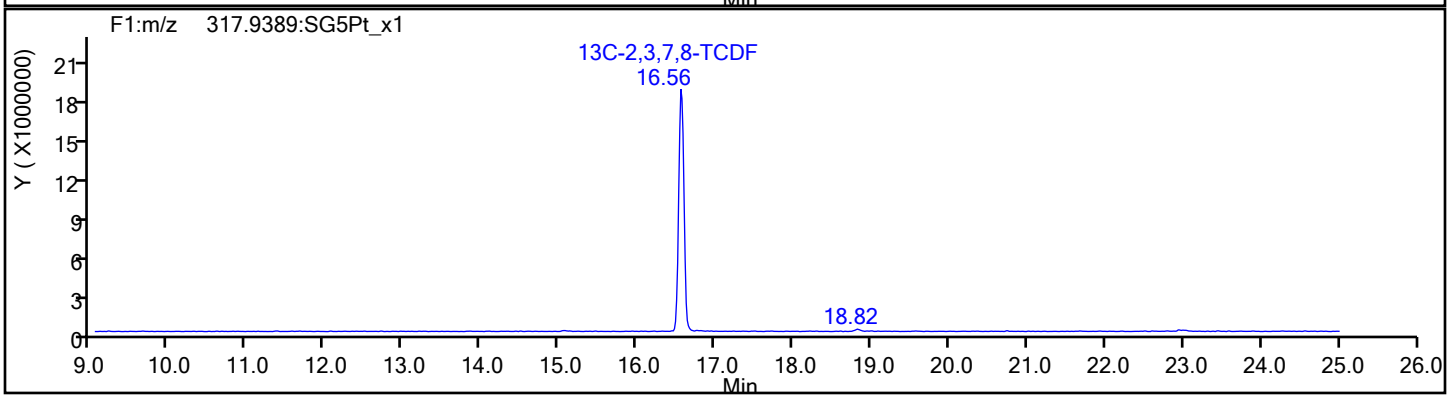

Report Date: 02-Aug-2019 11:52:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d		
Injection Date:	02-Aug-2019 05:25:19	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

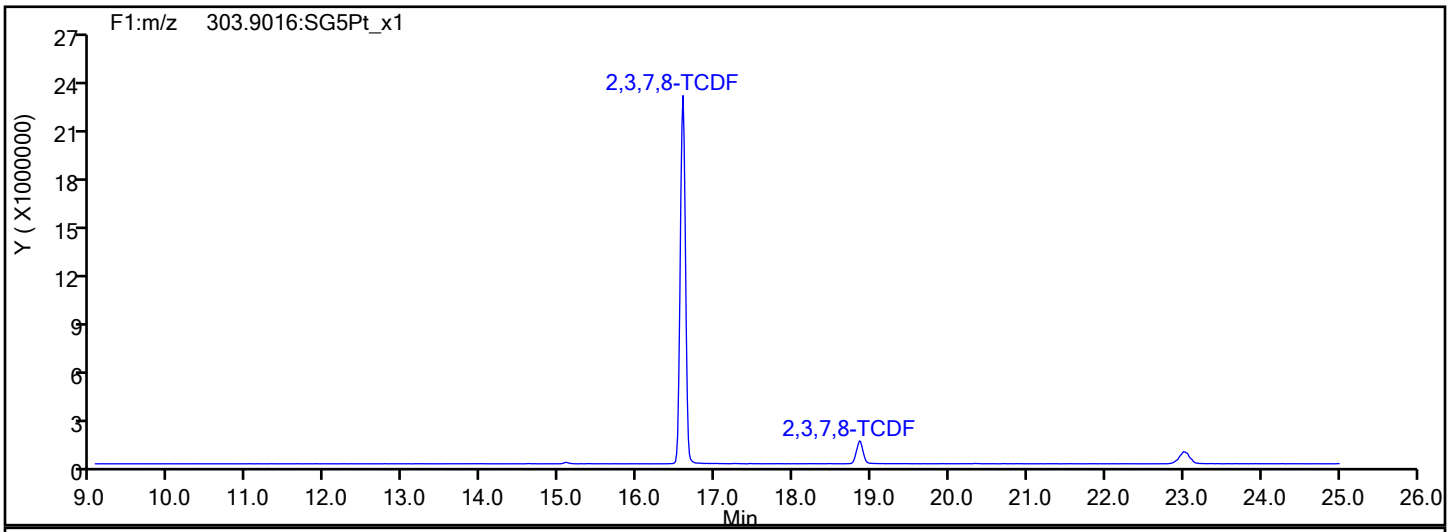

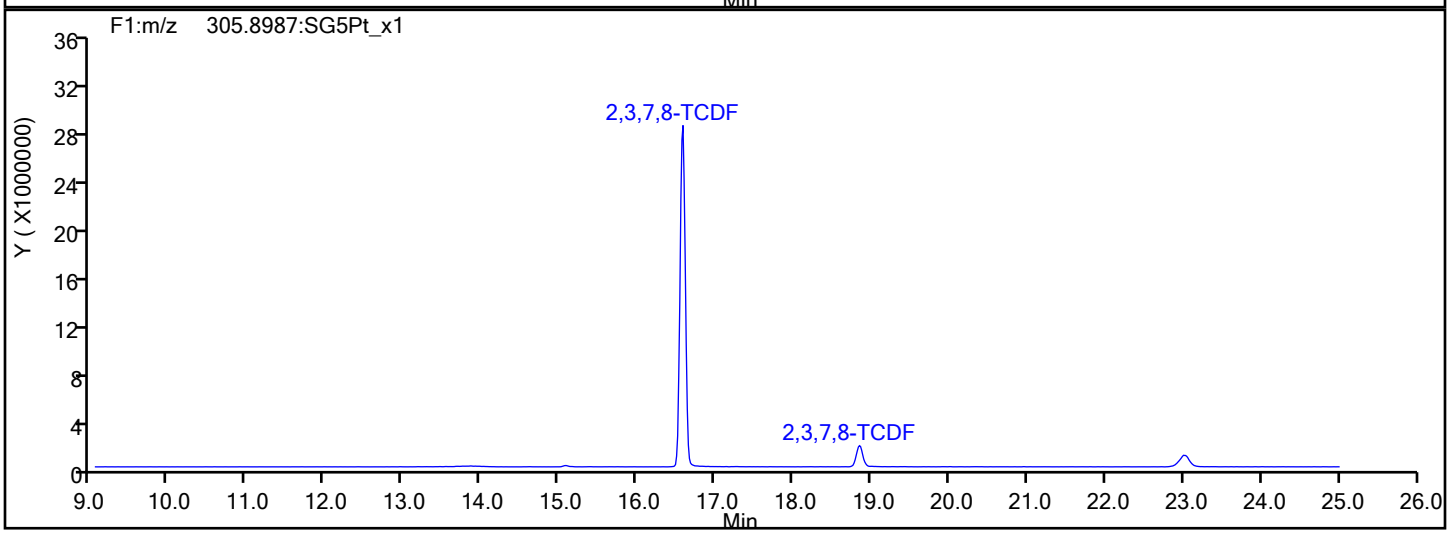

TCDF Interference Mass

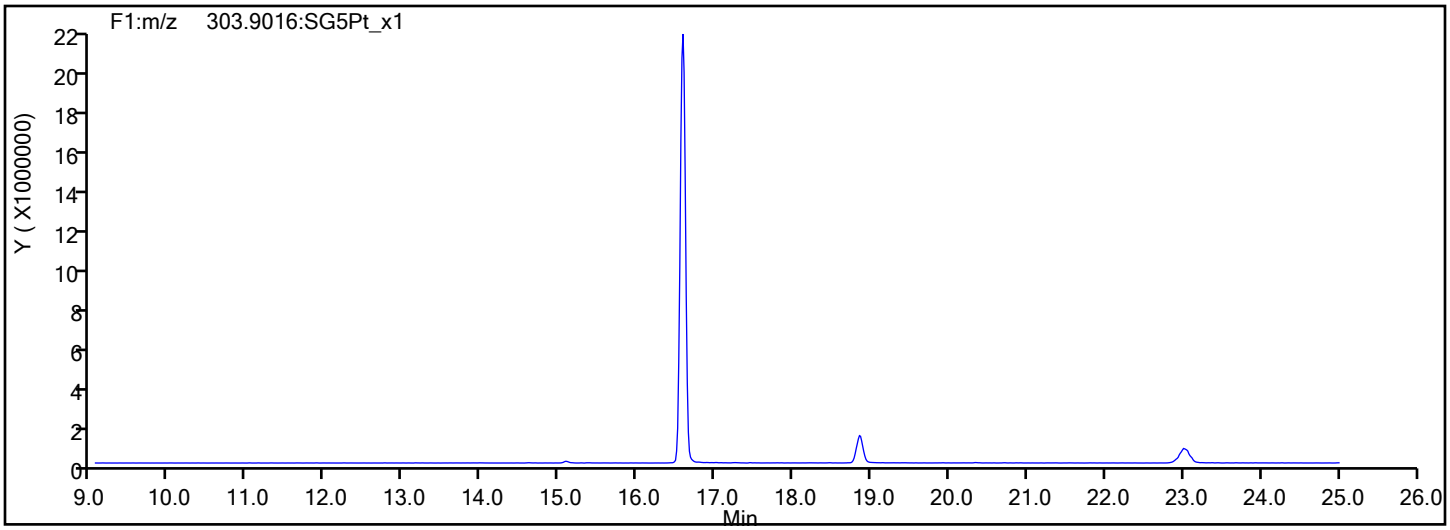

Report Date: 02-Aug-2019 11:52:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d		
Injection Date:	02-Aug-2019 05:25:19	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

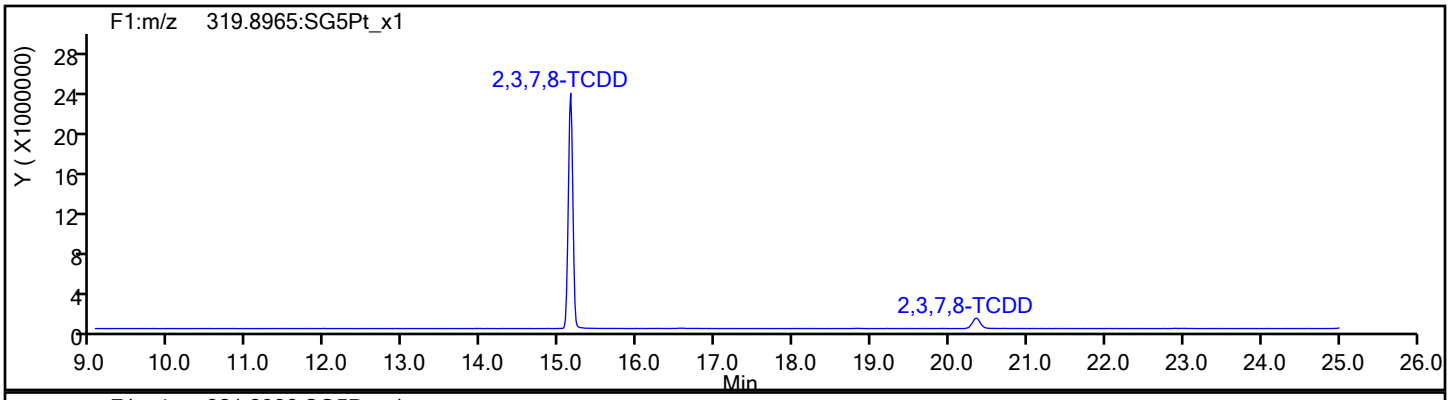

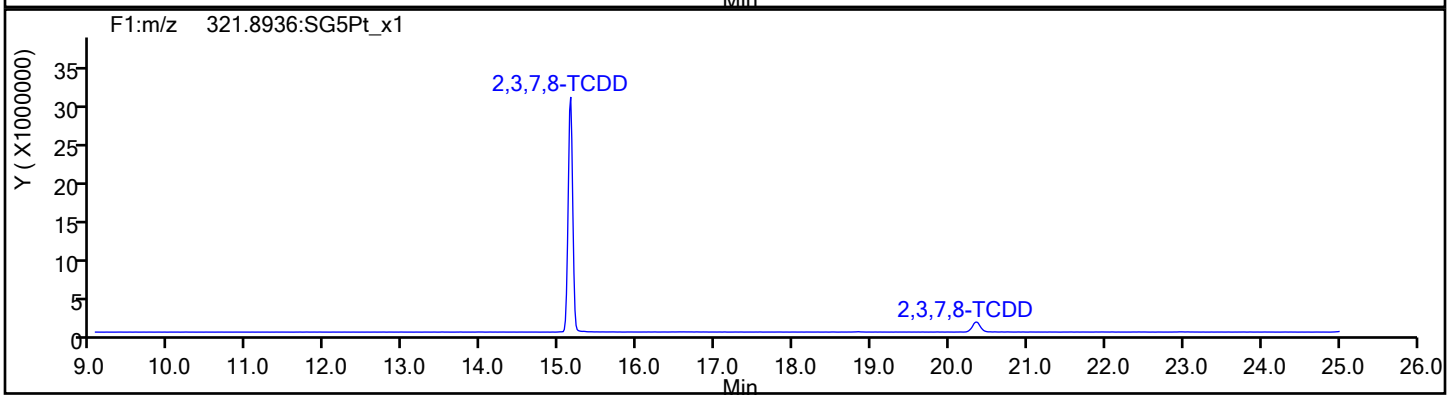

TCDD Standards

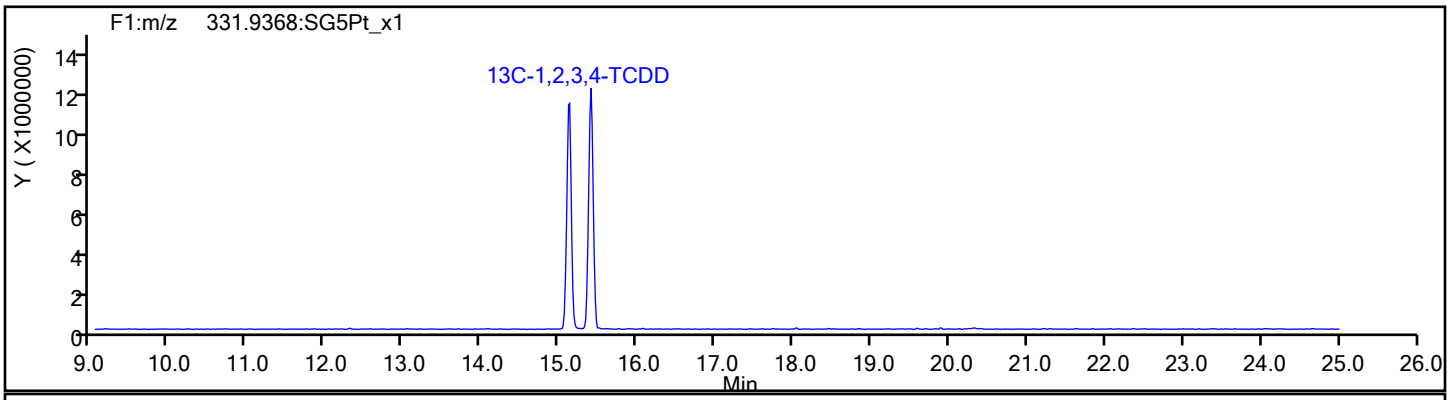

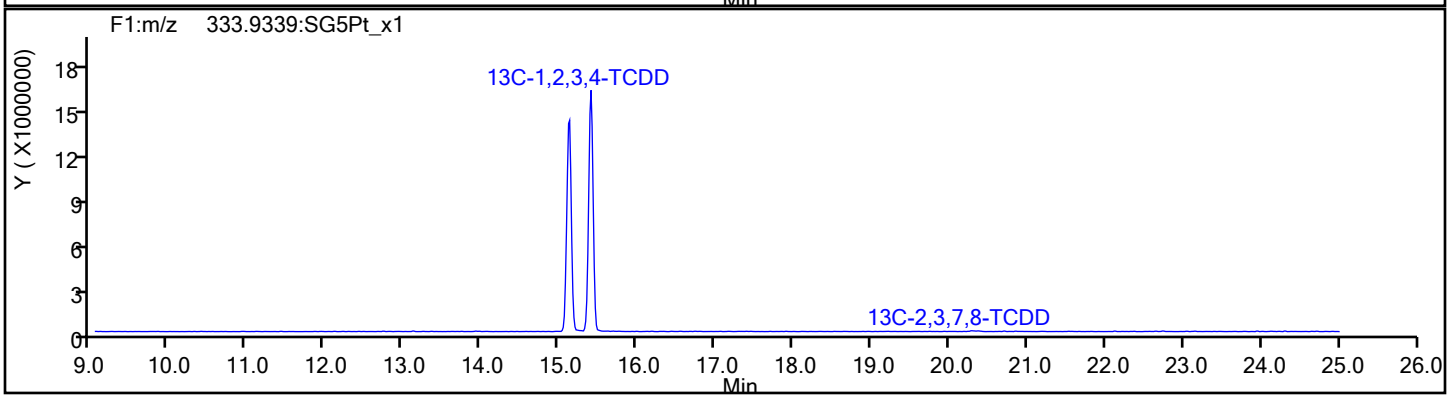

Report Date: 02-Aug-2019 11:52:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d		
Injection Date:	02-Aug-2019 05:25:19	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

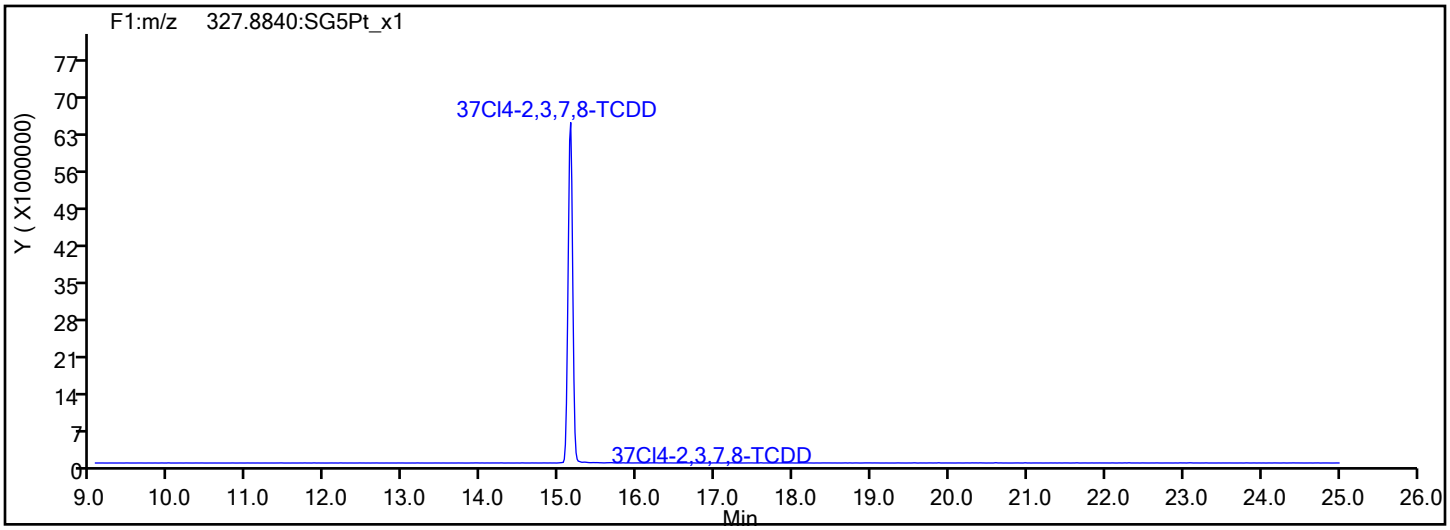

37Cl4-TCDD Standards

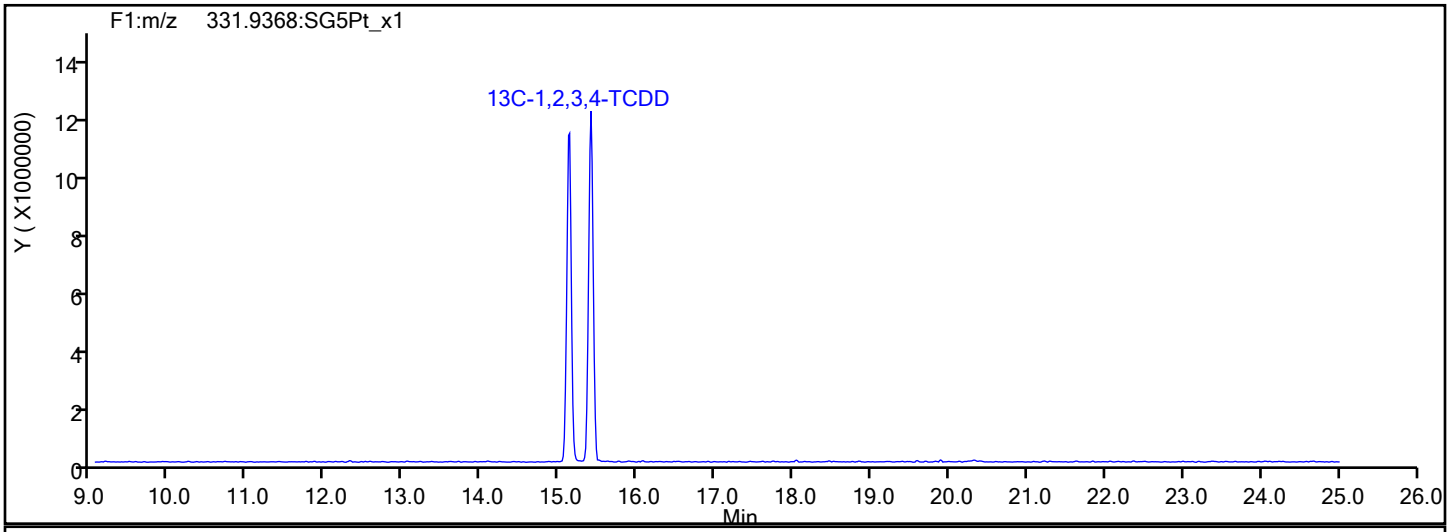

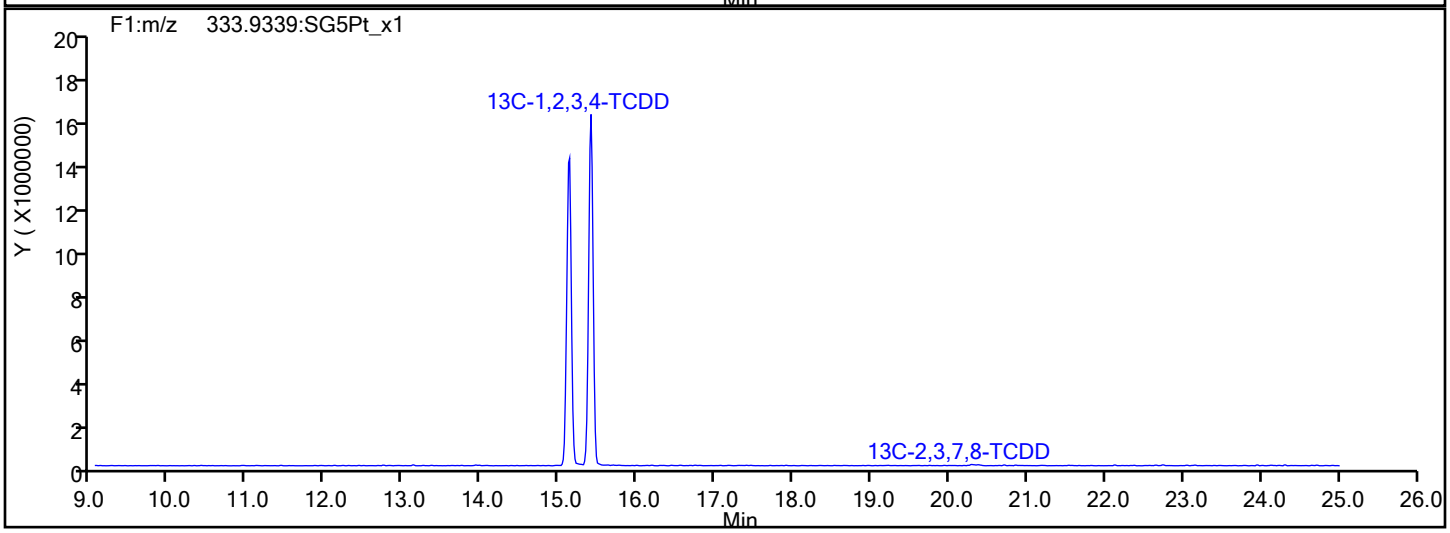

Report Date: 02-Aug-2019 11:52:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d		
Injection Date:	02-Aug-2019 05:25:19	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

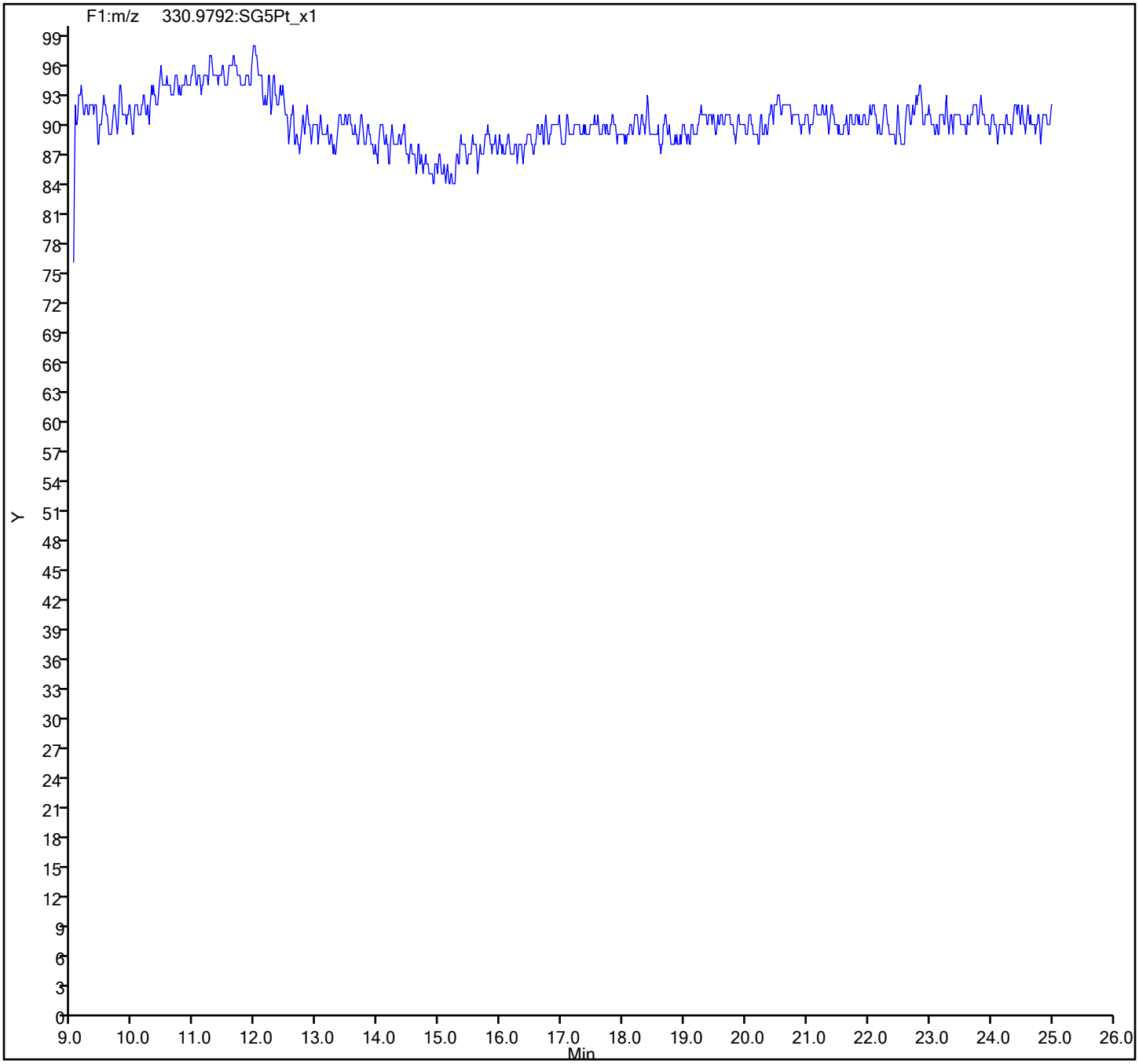

FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Lab Sample ID (1): CPS 320-312067/1 Instrument ID (1): 11D2

GC Column (1): DB-225 ID: 0.32(mm) Date Analyzed (1): 08/02/2019 01:35

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDF	16.64	13

Resolution Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_001.d				
Injection Date:	02-Aug-2019 01:35:28	Instrument ID:	11D2		
Lims ID:	CPS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	2.0 ul	Column:	DB-225 (0.32 mm)		
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL		

2,3,7,8-TCDF

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 944750
H (Peak Height) = 7515097

%R = 13 <= 25
Passed

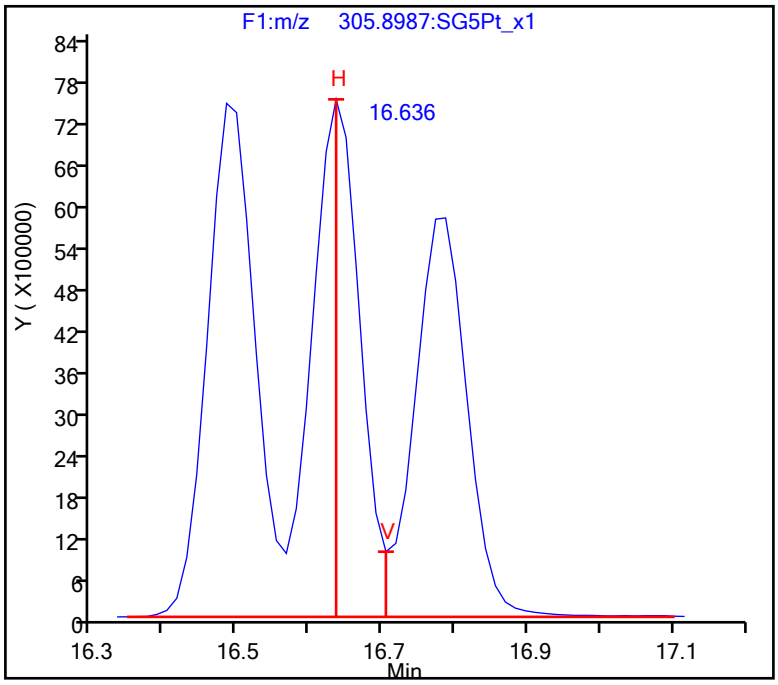

Resolution Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_001.d				
Injection Date:	02-Aug-2019 01:35:28	Instrument ID:	11D2		
Lims ID:	CPS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	2.0 ul	Column:	DB-225 (0.32 mm)		
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL		

FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Lab Sample ID (1): WDM 320-324128/1 Instrument ID (1): 10D5

GC Column (1): DB-5 ID: 0.32(mm) Date Analyzed (1): 09/17/2019 11:28

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDD	17.51	22

Resolution Report

Eurofins TestAmerica, Sacramento

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d
Injection Date: 17-Sep-2019 11:28:41 Instrument ID: 10D5
Lims ID: WDM
Client ID:
Operator ID: AJS ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Column: DB-5 (0.32 mm)
Method: Dioxin_10D5 Limit Group: HR - 1613B - ICAL

2,3,7,8-TCDD

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 1464421
H (Peak Height) = 6639771

%R = 22 <= 25
Passed

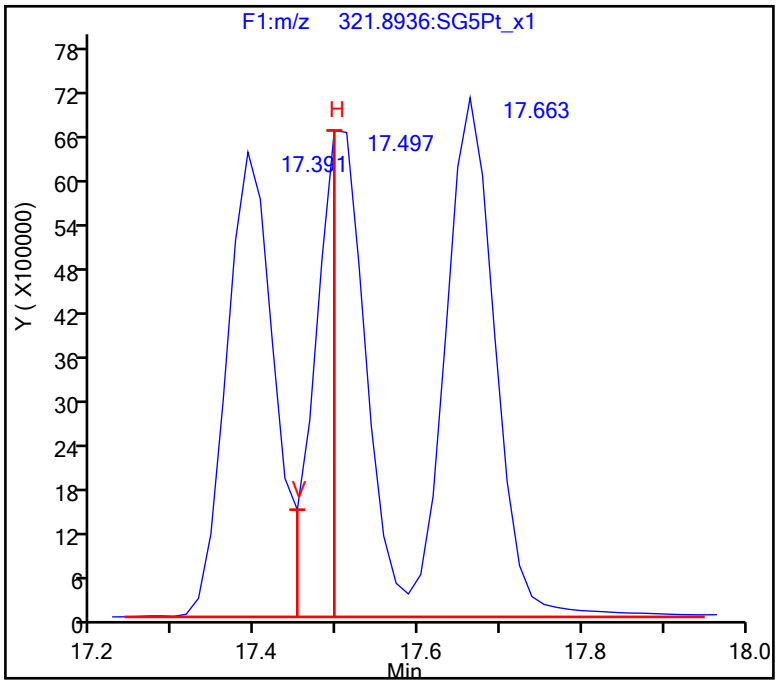

FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Lab Sample ID (1): WDM 320-328202/14 Instrument ID (1): 10D5

GC Column (1): DB-5 ID: 0.32(mm) Date Analyzed (1): 10/03/2019 21:59

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDD	17.03	24

Resolution Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_14.d				
Injection Date:	03-Oct-2019 21:59:47	Instrument ID:	10D5		
Lims ID:	WDM				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	1	Worklist Smp#:	14
Injection Vol:	2.0 ul	Column:	DB-5 (0.32 mm)		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		

2,3,7,8-TCDD

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 2713528
H (Peak Height) = 11104383

%R = 24 <= 25
Passed

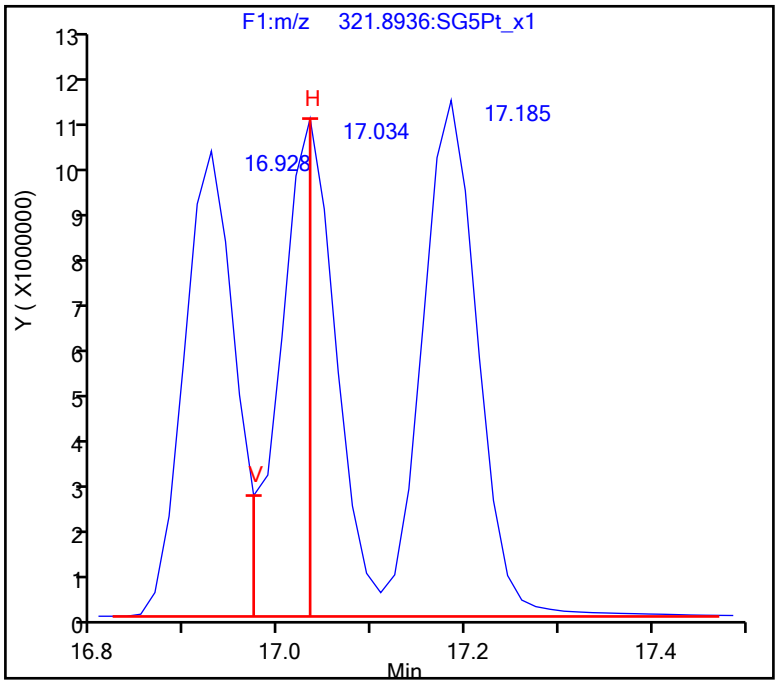

FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Lab Sample ID (1): CPS 320-330101/1 Instrument ID (1): 11D2

GC Column (1): DB-225 ID: 0.32(mm) Date Analyzed (1): 10/10/2019 13:33

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDF	16.48	22

Resolution Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191010-84713.b\10OC1911D2_001.d				
Injection Date:	10-Oct-2019 13:33:22	Instrument ID:	11D2		
Lims ID:	CPS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	2.0 ul	Column:	DB-225 (0.32 mm)		
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL		

2,3,7,8-TCDF

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 2648656
H (Peak Height) = 12130543

%R = 22 <= 25
Passed

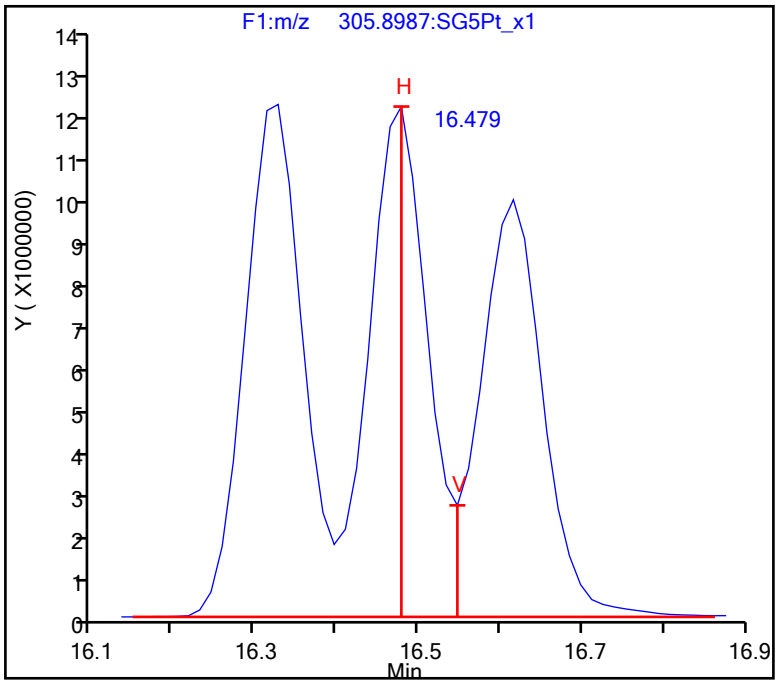

Resolution Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191010-84713.b\10OC1911D2_001.d				
Injection Date:	10-Oct-2019 13:33:22	Instrument ID:	11D2		
Lims ID:	CPS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	2.0 ul	Column:	DB-225 (0.32 mm)		
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL		

FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Lab Sample ID: ICV 320-324128/10 Calibration Date: 09/17/2019 18:27

Instrument ID: 10D5 Calib Start Date: 09/17/2019 13:03

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 09/17/2019 16:55

Lab File ID: 17SE1910D5_10.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
2,3,7,8-TCDF	AveID	1.051	1.063		40.5	40.0	101	70-130
2,3,7,8-TCDD	AveID	1.106	1.174		42.4	40.0	106	70-130
1,2,3,7,8-PeCDF	AveID	1.082	1.106		204	200	102	70-130
2,3,4,7,8-PeCDF	AveID	1.103	1.244		225	200	113	70-130
1,2,3,7,8-PeCDD	AveID	0.9050	0.8964		198	200	99	70-130
1,2,3,4,7,8-HxCDF	AveID	1.197	1.255		210	200	105	70-130
1,2,3,6,7,8-HxCDF	AveID	1.181	1.257		213	200	106	70-130
2,3,4,6,7,8-HxCDF	AveID	1.212	1.320		218	200	109	70-130
1,2,3,4,7,8-HxCDD	AveID	1.109	1.145		207	200	103	70-130
1,2,3,6,7,8-HxCDD	AveID	1.081	1.184		219	200	110	70-130
1,2,3,7,8,9-HxCDD	AveID	1.212	1.218		201	200	100	70-130
1,2,3,7,8,9-HxCDF	AveID	1.245	1.236		199	200	99	70-130
1,2,3,4,6,7,8-HpCDF	AveID	1.556	1.657		213	200	107	70-130
1,2,3,4,6,7,8-HpCDD	AveID	0.9316	0.998		214	200	107	70-130
1,2,3,4,7,8,9-HpCDF	AveID	1.386	1.411		204	200	102	70-130
OCDD	AveID	1.062	1.127		424	400	106	70-130
OCDF	AveID	1.260	1.349		428	400	107	70-130
13C-2,3,7,8-TCDF	Ave	1.438	1.425		99.1	100	99	71-140
13C-2,3,7,8-TCDD	Ave	0.9533	0.9336		97.9	100	98	82-121
13C-1,2,3,7,8-PeCDF	Ave	1.029	0.9861		95.9	100	96	76-130
13C-2,3,4,7,8-PeCDF	Ave	0.9827	0.9562		97.3	100	97	77-130
13C-1,2,3,7,8-PeCDD	Ave	0.7481	0.7047		94.2	100	94	62-160
13C-1,2,3,4,7,8-HxCDF	Ave	1.152	1.159		101	100	101	76-131
13C-1,2,3,6,7,8-HxCDF	Ave	1.243	1.240		99.7	100	100	70-143
13C-2,3,4,6,7,8-HxCDF	Ave	1.172	1.154		98.5	100	98	73-137
13C-1,2,3,4,7,8-HxCDD	Ave	0.7812	0.7992		102	100	102	85-117
13C-1,2,3,6,7,8-HxCDD	Ave	0.9175	0.9192		100	100	100	85-118
13C-1,2,3,7,8,9-HxCDF	Ave	1.065	1.109		104	100	104	74-135
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.8628	0.8505		98.6	100	99	78-129
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.8739	0.8563		98.0	100	98	72-138
13C-1,2,3,4,7,8,9-HpCDF	Ave	0.7991	0.8106		101	100	101	77-129
13C-OCDD	Ave	0.7744	0.7279		188	200	94	48-208
37Cl4-2,3,7,8-TCDD	Ave	1.222	1.294		42.3	40.0	106	79-127

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 17-Sep-2019 18:27:31 ALS Bottle#: 8 Worklist Smp#: 10
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ICV 091719 ICV HRDXNIC_00042
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:45:36 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 18-Sep-2019 10:13:21

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.300	67370901	0.78	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.801	96014490	0.79	1.4384	99.1	99.1	0.1729	0.1729	99.08	
2,3,7,8-TCDF	16.816	40836689	0.78	1.0507	40.5	40.5	0.0773	0.0773	101	
A Non-2,3,7,8-sub-TCDF	16.536	382036	0.65	1.0507	0.3787	0.3787	0.0773	0.3787		
S Total TCDF					40.9	40.9	0.0773	0.0773		
D 13C-2,3,7,8-TCDD	17.481	62894294	0.76	0.9533	97.9	97.9	0.2237	0.2237	97.92	
$ 37Cl4-2,3,7,8-TCDD	17.496	34873369		1.2224	42.3	42.3	0.0461	0.0461	106	
2,3,7,8-TCDD	17.496	29522708	0.80	1.1064	42.4	42.4	0.0612	0.0612	106	
A Non-2,3,7,8-sub-TCDD	16.967	525494	0.73	1.1064	0.7552	0.7552	0.0612	0.7552		
S Total TCDD					43.2	43.2	0.0612	0.0612		
D 13C-1,2,3,7,8-PeCDF	21.631	66432578	1.62	1.0286	95.9	95.9	0.2311	0.2311	95.86	
1,2,3,7,8-PeCDF	21.659	146883848	1.58	1.0822	204.3	204.3	0.8368	0.8368	102	
D 13C-2,3,4,7,8-PeCDF	22.927	64416378	1.60	0.9827	97.3	97.3	0.2419	0.2419	97.30	
2,3,4,7,8-PeCDF	22.954	160234857	1.58	1.1032	225.5	225.5	0.8770	0.8770	113	
A F1 PeCDFs	19.213						0.0389	0.0389		
A Non-2,3,7,8-sub-PeCDF	22.240	3672840	1.54	1.0927	5.137	5.137	0.8562	5.137		
S Total PeCDF					434.9	434.9	0.8569	0.8569		
D 13C-1,2,3,7,8-PeCDD	23.622	47479187	1.52	0.7481	94.2	94.2	0.1489	0.1489	94.21	
1,2,3,7,8-PeCDD	23.649	85119562	1.59	0.9050	198.1	198.1	0.2925	0.2925	99.04	
A Non-2,3,7,8-sub-PeCDD	22.586						0.2925	0.2925		
S Total PeCDD					198.1	198.1	0.2925	0.2925		
D 13C-1,2,3,4,7,8-HxCDF	29.749	49457191	0.51	1.1520	100.6	100.6	0.4713	0.4713	101	
1,2,3,4,7,8-HxCDF	29.789	124121058	1.25	1.1973	209.6	209.6	1.675	1.675	105	
D 13C-1,2,3,6,7,8-HxCDF	30.015	52922376	0.52	1.2434	99.7	99.7	0.4366	0.4366	99.75	
1,2,3,6,7,8-HxCDF	30.042	133083395	1.26	1.1807	213.0	213.0	1.419	1.419	106	
D 13C-2,3,4,6,7,8-HxCDF	31.040	49241959	0.52	1.1720	98.5	98.5	0.4633	0.4633	98.47	
2,3,4,6,7,8-HxCDF	31.053	129960147	1.26	1.2116	217.8	217.8	0.991	0.991	109	
D 13C-1,2,3,7,8,9-HxCDF	31.945	47302373	0.52	1.0655	104.0	104.0	0.5096	0.5096	104	
1,2,3,7,8,9-HxCDF	31.958	116914998	1.26	1.2451	198.5	198.5	0.9326	0.9326	99.25	

Report Date: 18-Sep-2019 10:45:43 Chrom Revision: 2.3 16-Sep-2019 16:29:24
Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
A Non-2,3,7,8-sub-HxCDF	29.523						1.186	1.186		
S Total HxCDF					838.9	838.9	1.254	1.254		
* 13C-1,2,3,7,8,9-HxCDD	31.746	42668857	1.30	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.253	34098921	1.27	0.7812	102.3	102.3	0.4071	0.4071	102	
1,2,3,4,7,8-HxCDD	31.280	78082823	1.25	1.1088	206.5	206.5	0.6584	0.6584	103	
D 13C-1,2,3,6,7,8-HxCDD	31.386	39221134	1.28	0.9175	100.2	100.2	0.3466	0.3466	100	
1,2,3,6,7,8-HxCDD	31.399	92914323	1.26	1.0814	219.1	219.1	0.6428	0.6428	110	
1,2,3,7,8,9-HxCDD	31.759	89269632	1.25	1.2123	200.9	200.9	0.5874	0.5874	100	
A Non-2,3,7,8-sub-HxCDD	30.122						0.6279	0.6279		
S Total HxCDD					626.4	626.4	0.6295	0.6295		
D 13C-1,2,3,4,6,7,8-HpCDF	33.447	36291011	0.44	0.8628	98.6	98.6	1.994	1.994	98.58	
1,2,3,4,6,7,8-HpCDF	33.459	120291721	1.05	1.5555	213.1	213.1	3.639	3.639	107	
D 13C-1,2,3,4,7,8,9-HpCDF	34.492	34587656	0.46	0.7991	101.4	101.4	2.153	2.153	101	
1,2,3,4,7,8,9-HpCDF	34.505	97615037	1.05	1.3862	203.6	203.6	4.551	4.551	102	
A Non-2,3,7,8-sub-HpCDF	33.994						4.057	4.057		
S Total HpCDF					416.7	416.7	4.095	4.095		
D 13C-1,2,3,4,6,7,8-HpCDD	34.225	36539034	1.04	0.8739	98.0	98.0	1.031	1.031	97.99	
1,2,3,4,6,7,8-HpCDD	34.237	72937959	1.06	0.9316	214.3	214.3	1.992	1.992	107	
A Non-2,3,7,8-sub-HpCDD	34.747						1.992	1.992		
S Total HpCDD					214.3	214.3	1.992	1.992		
D 13C-OCDD	36.481	62112704	0.88	0.7744	188.0	188.0	0.2936	0.2936	93.99	
OCDF	36.577	167539399	0.89	1.2596	428.3	428.3	0.3535	0.3535	107	
OCDD	36.493	139967536	0.89	1.0621	424.3	424.3	0.7084	0.7084	106	

Reagents:

HRDXNIC_00042 Amount Added: 1.00 Units: mL

Report Date: 18-Sep-2019 10:45:43 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 17-Sep-2019 18:27:31 ALS Bottle#: 8 Worklist Smp#: 10
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ICV 091719 ICV HRDXNIC_00042
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:45:36 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 18-Sep-2019 10:13:21

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.300	17.303	0		29455042	7639810	8241	20602	927		
333.9339	17.300	17.303	0		37915859	9845728	6678	16695	1474	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.801	16.810	-1	0.971	42465138	11244673	10966	27415	1025		
317.9389	16.801	16.810	-1	0.971	53549352	14070507	6431	16077	2188	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.816	16.825	-1	1.001	17881787	4687286	3306	8265	1418		
305.8987	16.816	16.825	-1	1.001	22954902	6067198	4917	12292	1234	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.181	16.536	-21	0.963	150479	42137	3306	8265	13		
305.8987	16.181	16.536	-21	0.963	231557	66065	4917	12292	13	0.65(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.481	17.490	-1	1.010	27226687	6700376	8241	20602	813		
333.9339	17.481	17.490	-1	1.010	35667607	8761174	6678	16695	1312	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.496	17.505	-1	1.011	34873369	8455974	3941	9852	2146		
2,3,7,8-TCDD											
319.8965	17.496	17.505	-1	1.001	13120222	3217297	2237	5592	1438		
321.8936	17.496	17.505	-1	1.001	16402486	4023041	1952	4880	2061	0.80(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.390	16.967	25	0.995	222164	64639	2237	5592	29		
321.8936	17.390	16.967	25	0.995	303330	90345	1952	4880	46	0.73(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	21.631	21.637	0	1.250	41083226	7478063	9807	24517	763		
353.8970	21.631	21.637	0	1.250	25349352	4675180	6821	17052	685	1.62(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.659	21.661	0	1.001	89907564	16611935	26800	67000	620		
341.8567	21.659	21.661	0	1.001	56976284	10456656	17226	43065	607	1.58(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	22.927	22.932	0	1.325	39631399	6951299	9807	24517	709		
353.8970	22.927	22.932	0	1.325	24784979	4425218	6821	17052	649	1.60(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.954	22.954	0	1.001	98027709	17129852	26800	67000	639		
341.8567	22.954	22.954	0	1.001	62207148	10879372	17226	43065	632	1.58(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.213						668	1670			
341.8567	19.213						1335	3337			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.163	22.240	-5	1.025	2224818	397069	26800	67000	15		
341.8567	22.163	22.240	-5	1.025	1448022	262924	17226	43065	15	1.54(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.622	23.625	0	1.365	28638297	4704684	4809	12022	978		
369.8919	23.622	23.625	0	1.365	18840890	3127045	2980	7450	1049	1.52(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.649	23.649	0	1.001	52211902	8528858	5129	12822	1663		
357.8516	23.649	23.649	0	1.001	32907660	5353813	3165	7912	1692	1.59(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.586						5129	12822			
357.8516	22.586						3165	7912			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.749	29.754	0	0.937	16783019	2305975	8392	20980	275		
385.8610	29.749	29.754	0	0.937	32674172	4470351	14587	36467	306	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.789	29.789	0	1.001	69045128	9453733	30387	75967	311		
375.8178	29.775	29.789	-1	1.001	55075930	7523990	23973	59932	314	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.015	30.015	0	0.945	18211588	2742205	8392	20980	327		
385.8610	30.015	30.015	0	0.945	34710788	5371147	14587	36467	368	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.042	30.039	0	1.001	74259363	11344582	30387	75967	373		
375.8178	30.042	30.039	0	1.001	58824032	8990409	23973	59932	375	1.26(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.040	31.043	0	0.978	16769047	3887903	8392	20980	463		
385.8610	31.040	31.043	0	0.978	32472912	7433271	14587	36467	510	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.053	31.059	0	1.000	72528944	16377855	30387	75967	539		
375.8178	31.053	31.059	0	1.000	57431203	13006467	23973	59932	543	1.26(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.945	31.942	0	1.006	16145070	4056563	8392	20980	483		
385.8610	31.932	31.942	-1	1.006	31157303	7646982	14587	36467	524	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.958	31.956	0	1.000	65143100	16181388	30387	75967	533		
375.8178	31.945	31.956	-1	1.000	51771898	12593354	23973	59932	525	1.26(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.523						30387	75967			
375.8178	29.523						23973	59932			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.746	31.748	0		24093370	5996349	7373	18432	813		
403.8529	31.746	31.748	0		18575487	4584542	6087	15217	753	1.30(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.253	31.261	0	0.984	19067739	4877709	7373	18432	662		
403.8529	31.253	31.261	0	0.984	15031182	3764902	6087	15217	619	1.27(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.280	31.280	0	1.001	43405983	11110603	13706	34265	811		
391.8127	31.280	31.280	0	1.001	34676840	8762067	11530	28825	760	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.386	31.383	0	0.989	22009497	5092252	7373	18432	691		
403.8529	31.386	31.383	0	0.989	17211637	3983328	6087	15217	654	1.28(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.399	31.402	0	1.000	51803707	12059771	13706	34265	880		
391.8127	31.399	31.402	0	1.000	41110616	9596745	11530	28825	832	1.26(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.759	31.761	0	1.016	49558046	12233722	13706	34265	893		
391.8127	31.759	31.761	0	1.016	39711586	9800201	11530	28825	850	1.25(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.122						13706	34265			
391.8127	30.122						11530	28825			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.447	33.457	-1	1.054	11153017	3493417	22598	56495	155		
419.8220	33.447	33.457	-1	1.054	25137994	7912988	50198	125495	158	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.459	33.469	-1	1.000	61596095	19963137	127078	317695	157		
409.7789	33.459	33.469	-1	1.000	58695626	19415847	131220	328050	148	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.492	34.502	-1	1.087	10832835	3186792	22598	56495	141		
419.8220	34.492	34.502	-1	1.087	23754821	7049867	50198	125495	140	0.46(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.505	34.509	0	1.000	49933667	15052745	127078	317695	118		
409.7789	34.505	34.509	0	1.000	47681370	14419271	131220	328050	110	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.994						127078	317695			
409.7789	33.994						131220	328050			

Report Date: 18-Sep-2019 10:45:43 Chrom Revision: 2.3 16-Sep-2019 16:29:24
Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.225	34.227	0	1.078	18596591	5512324	17647	44117	312		
437.8140	34.225	34.227	0	1.078	17942443	5332324	20497	51242	260	1.04(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.237	34.235	0	1.000	37482197	10854741	40264	100660	270		
425.7737	34.225	34.235	-1	1.000	35455762	10447161	40249	100622	260	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.747						40264	100660			
425.7737	34.747						40249	100622			
13C-OCDD											
469.7779	36.481	36.486	0	1.149	29137548	7503938	4581	11452	1638		
471.7750	36.481	36.486	0	1.149	32975156	8356787	5042	12605	1657	0.88(0.76-1.02)	
OCDF											
441.7428	36.577	36.581	0	1.003	78967974	20796742	6473	16182	3213		
443.7399	36.577	36.581	0	1.003	88571425	23028045	7652	19130	3009	0.89(0.76-1.02)	
OCDD											
457.7377	36.493	36.497	0	1.000	66062365	16751505	9012	22530	1859		
459.7348	36.493	36.497	0	1.000	73905171	18415996	14853	37132	1240	0.89(0.76-1.02)	

Reagents:

HRDXNIC_00042 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d
Lims ID: ICV
Client ID:
Inject. Date: 17-Sep-2019 18:27:31 Dil. Factor: 1.0000
Sample Type: ICV, ICal Verification
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 324128 Lims Sample ID: 10
Sublist: chrom-Dioxin_10D5*sub1

Non-2,3,7,8-sub-TCDF, RT: 16.536

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.051	D 13C-2,3,7,8-TCDF	100.000	96014490	25315180

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.051		100.000	96014490	25315180

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
16.181	150479	42137	231557	66065	0.3787	0.65	
Signal Totals:							
	150479	42137	231557	66065			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	382036	108202				0.65	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.3787 = (382036 * 100.000) / (96014490 * 1.051)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d
Lims ID: ICV
Client ID:
Inject. Date: 17-Sep-2019 18:27:31 Dil. Factor: 1.0000
Sample Type: ICV, ICal Verification
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 324128 Lims Sample ID: 10
Sublist: chrom-Dioxin_10D5*sub1

Non-2,3,7,8-sub-TCDD, RT: 16.967

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.106	D 13C-2,3,7,8-TCDD	100.000	62894294	15461550

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.106		100.000	62894294	15461550

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
17.390	222164	64639	303330	90345	0.7552	0.73	
Signal Totals:							
	222164	64639	303330	90345			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	525494	154984				0.73	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.7552 = (525494 * 100.000) / (62894294 * 1.106)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d
Lims ID: ICV
Client ID:
Inject. Date: 17-Sep-2019 18:27:31 Dil. Factor: 1.0000
Sample Type: ICV, ICal Verification
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 324128 Lims Sample ID: 10
Sublist: chrom-Dioxin_10D5*sub1

Non-2,3,7,8-sub-PeCDF, RT: 22.240

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.082	D 13C-1,2,3,7,8-PeCDF	100.000	66432578	12153243
2,3,4,7,8-PeCDF	1.103	D 13C-2,3,4,7,8-PeCDF	100.000	64416378	11376517

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.093		100.000	65424478	11764880

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
22.163	2224818	397069	1448022	262924	5.14	1.54	
Signal Totals:							
	2224818	397069	1448022	262924			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	3672840	659993				1.54	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 5.137 = (3672840 * 100.000) / (65424478 * 1.093)

Report Date: 18-Sep-2019 10:45:43 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d		
Injection Date:	17-Sep-2019 18:27:31	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

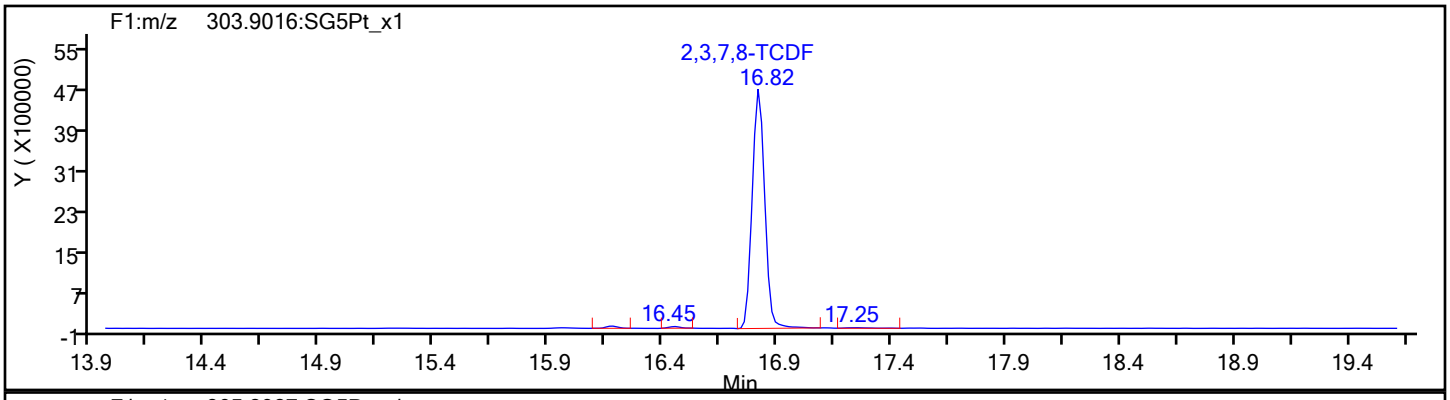

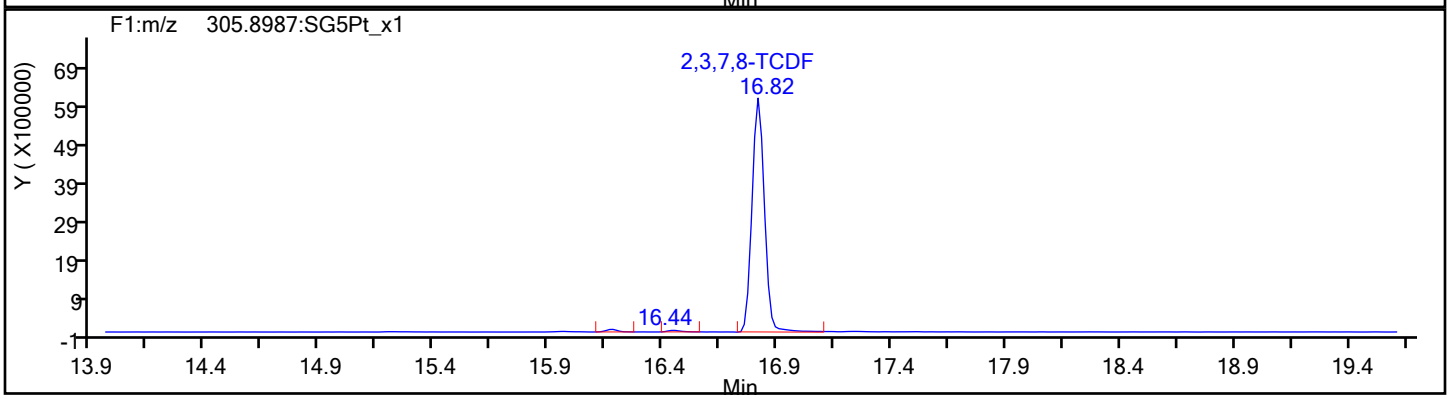

TCDF Standards

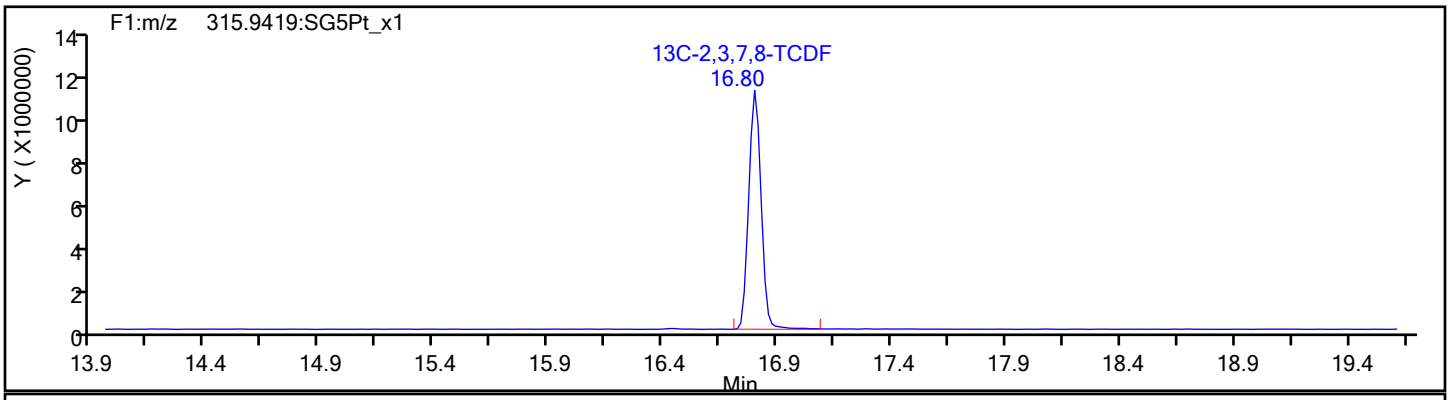

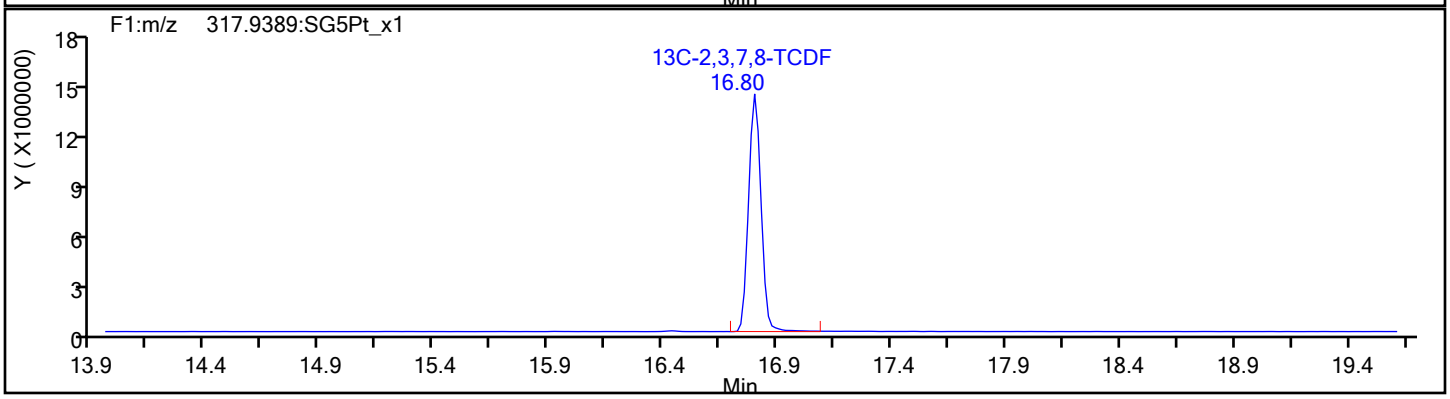

Report Date: 18-Sep-2019 10:45:43 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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TCDF

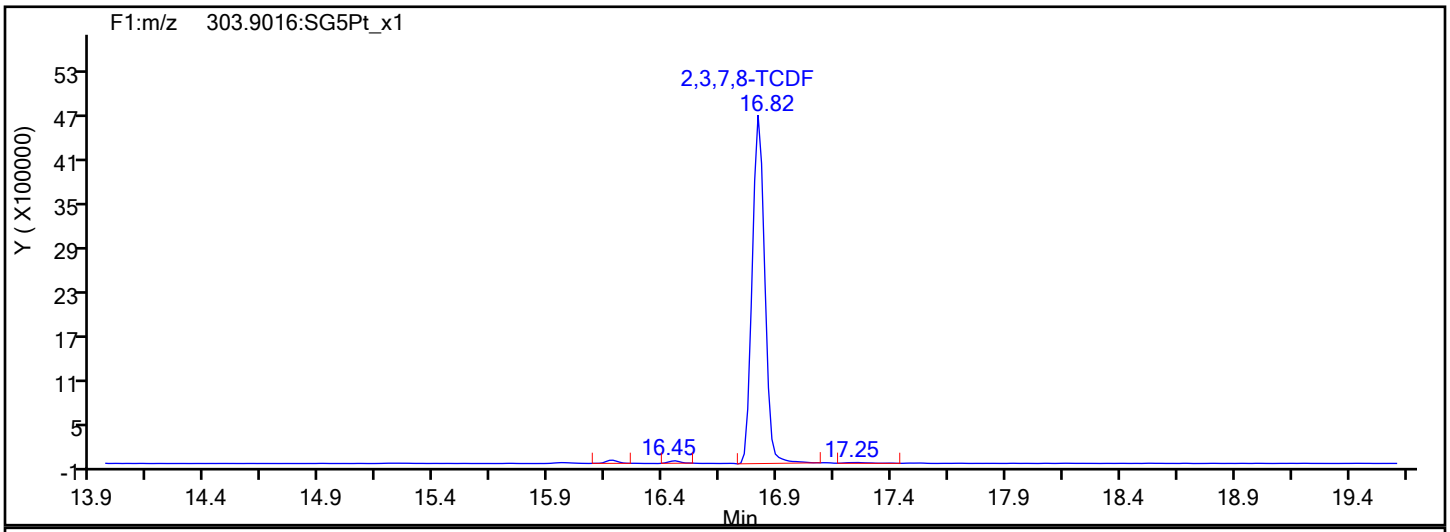

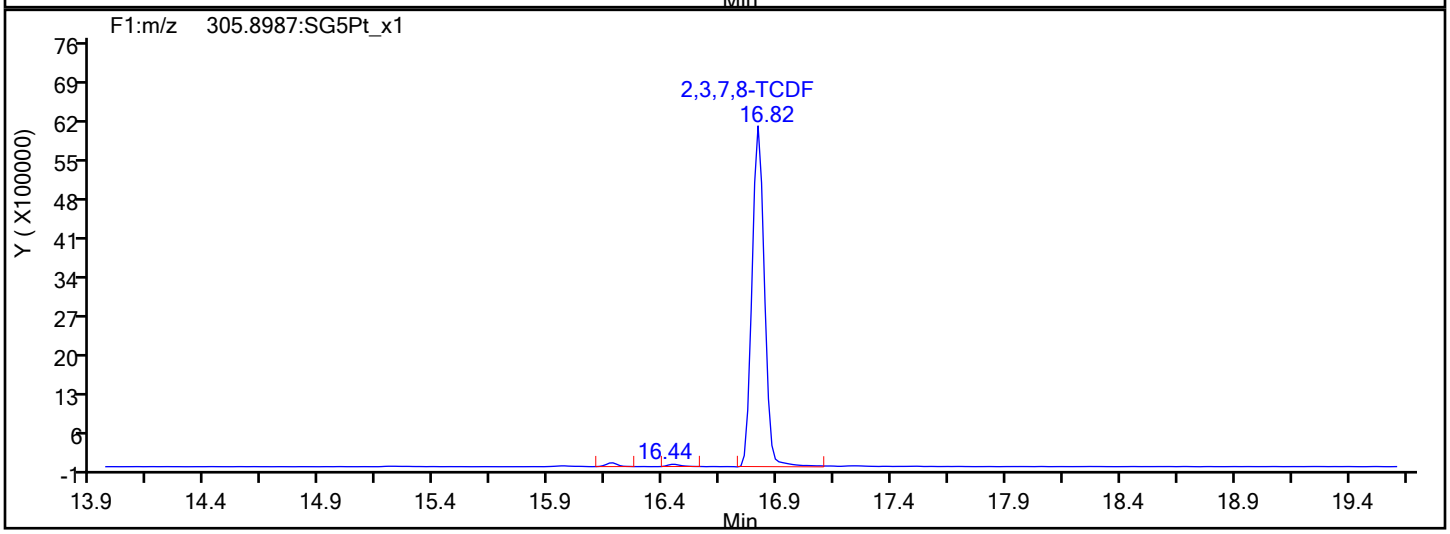

TCDF Interference Mass

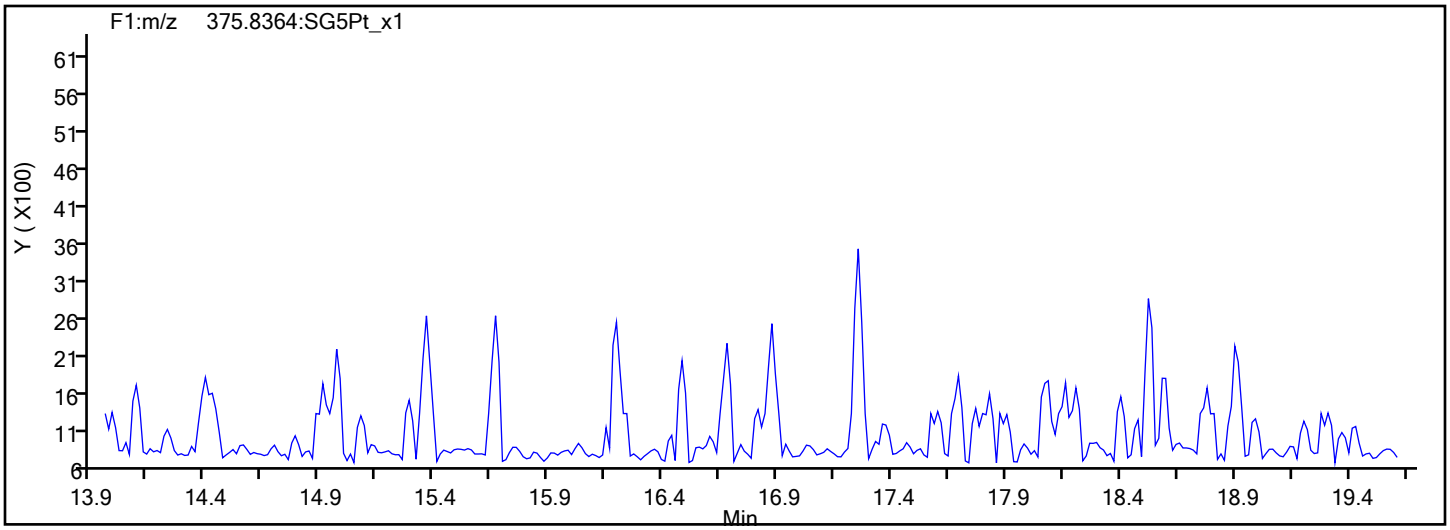

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Eurofins TestAmerica, Sacramento

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TCDD

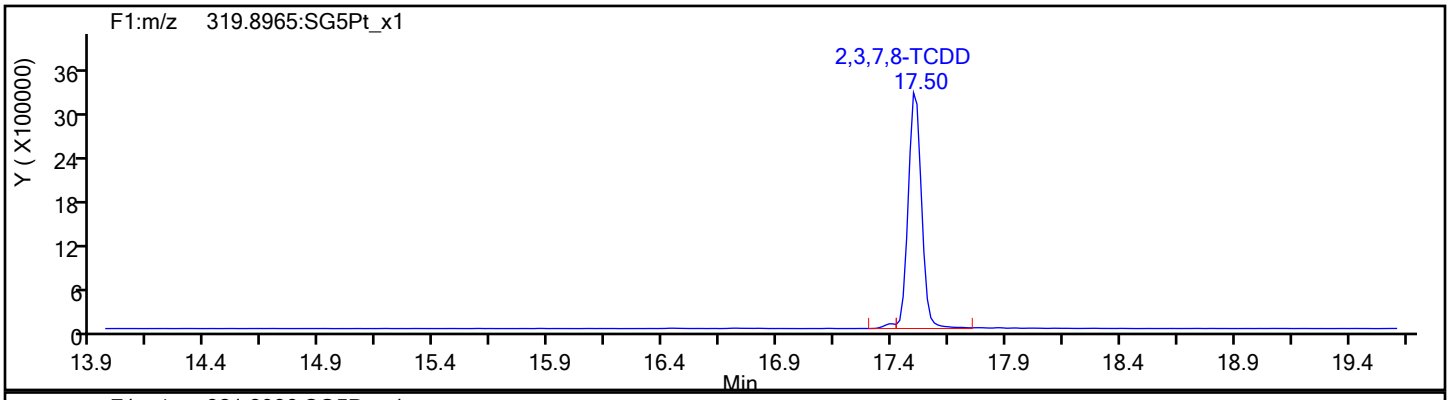

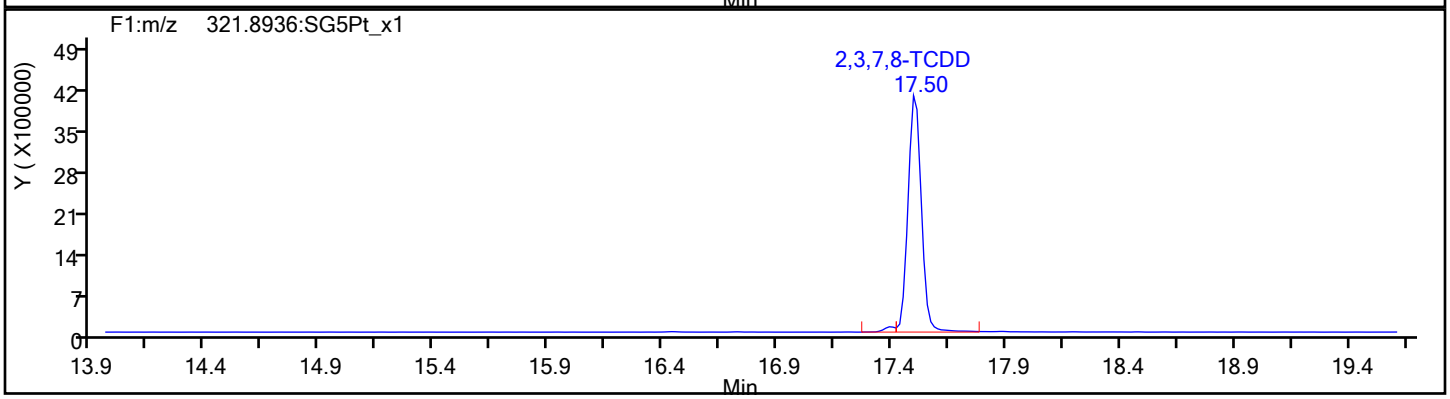

TCDD Standards

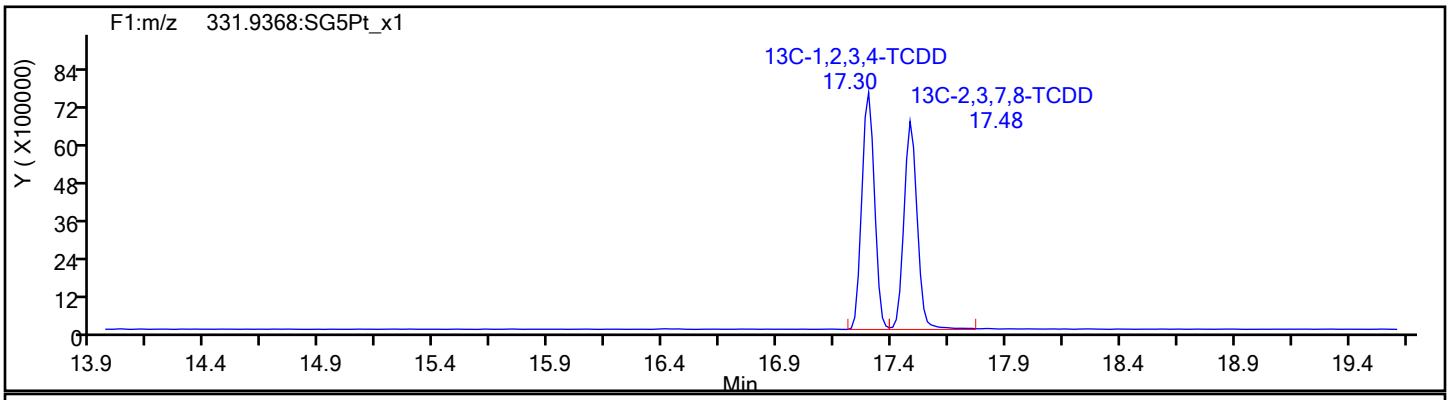

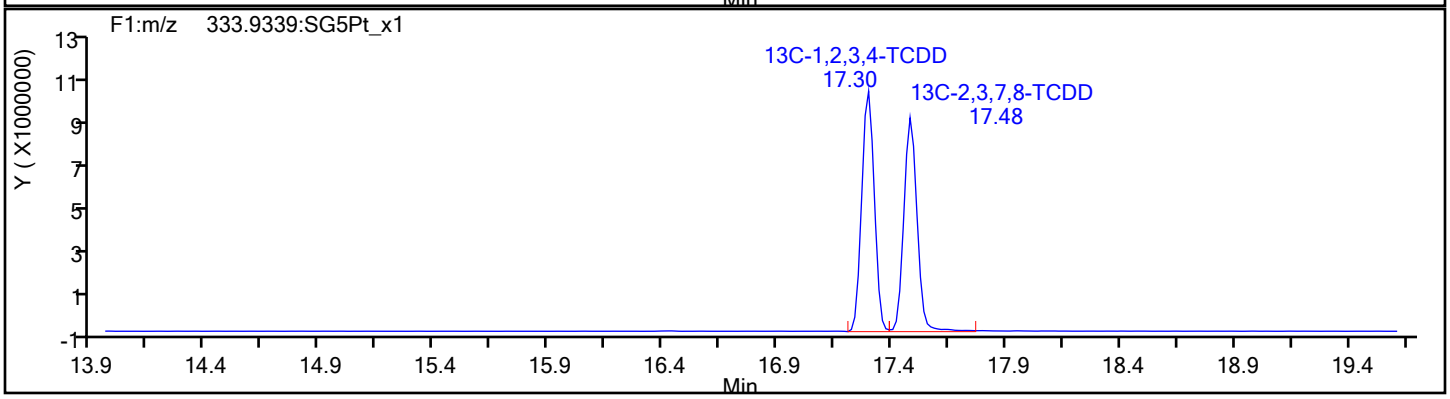

Report Date: 18-Sep-2019 10:45:43 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

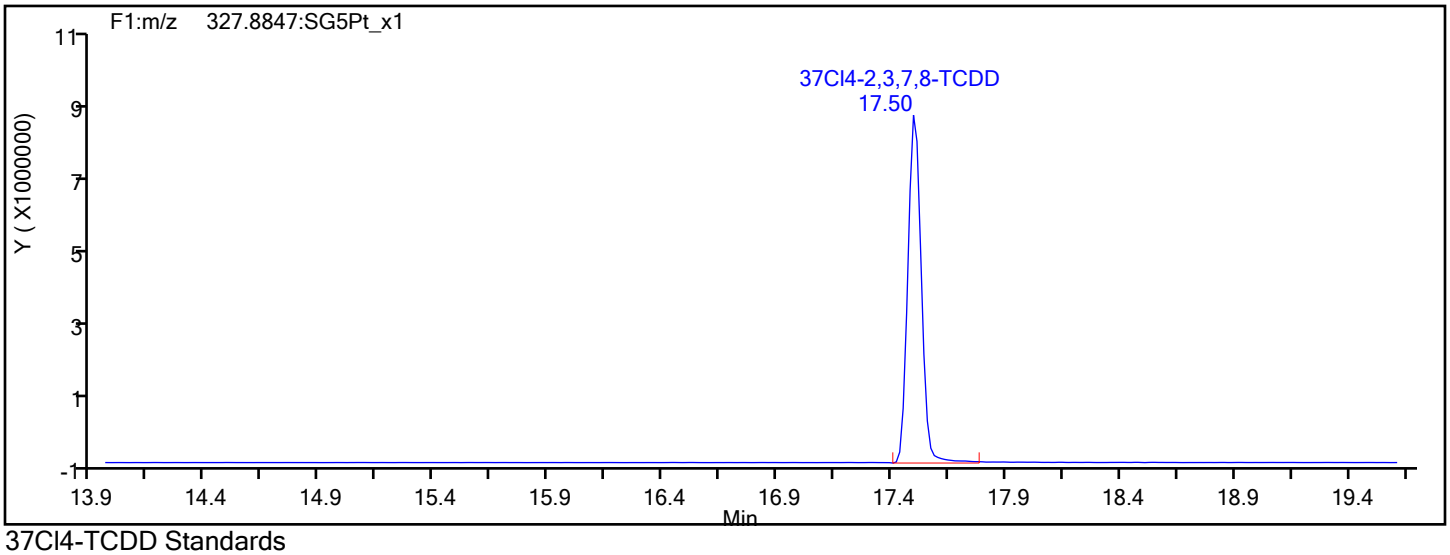

37Cl4-TCDD Standards

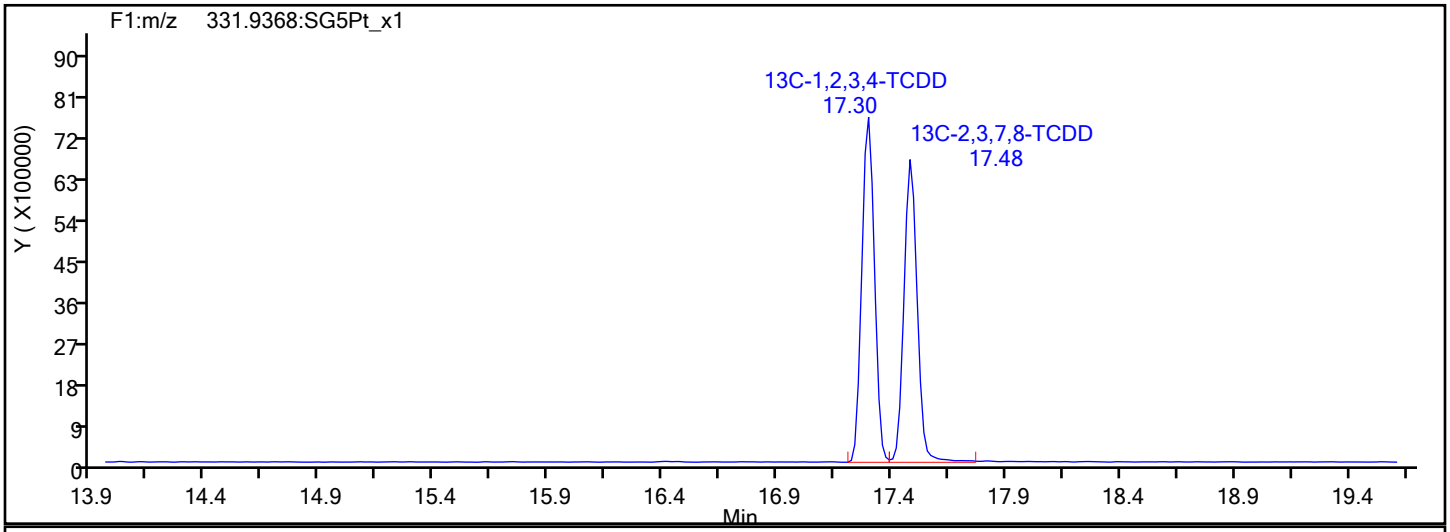

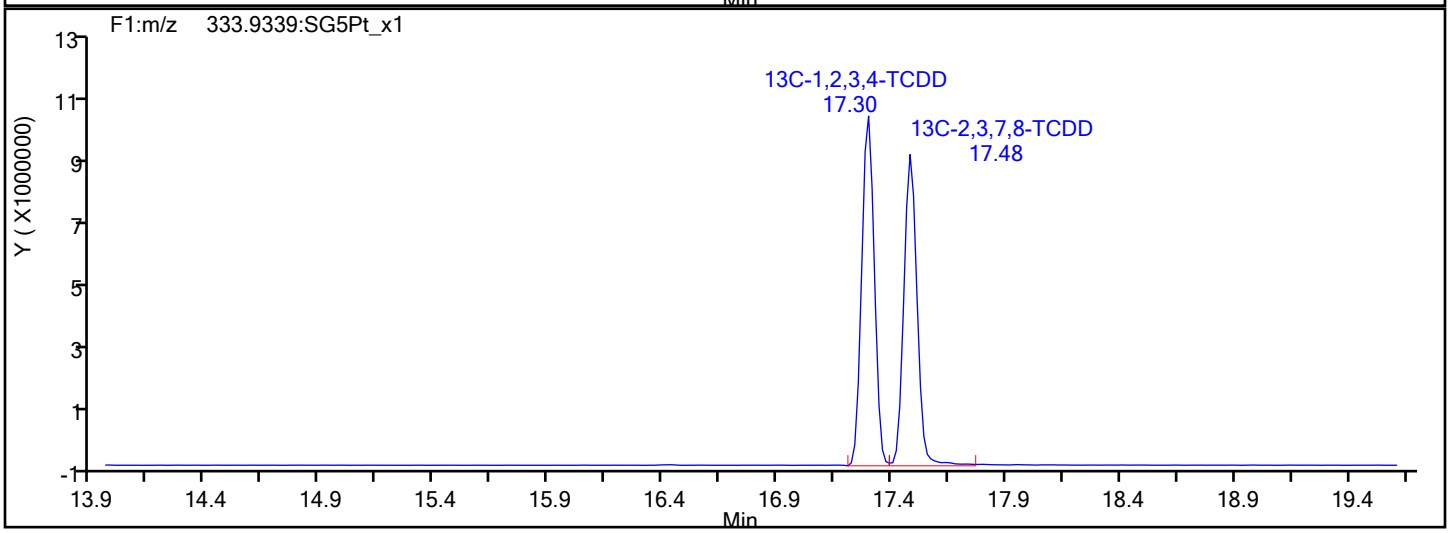

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

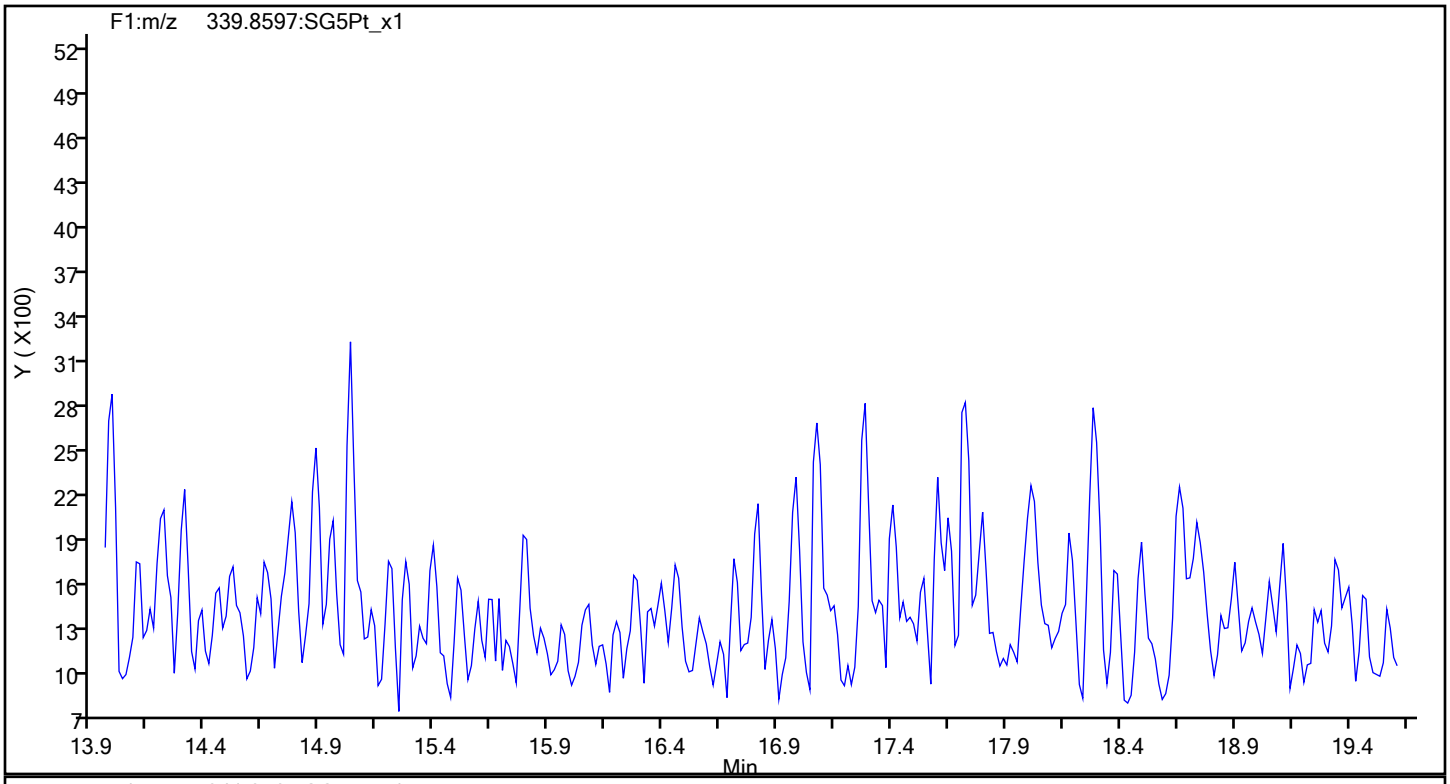

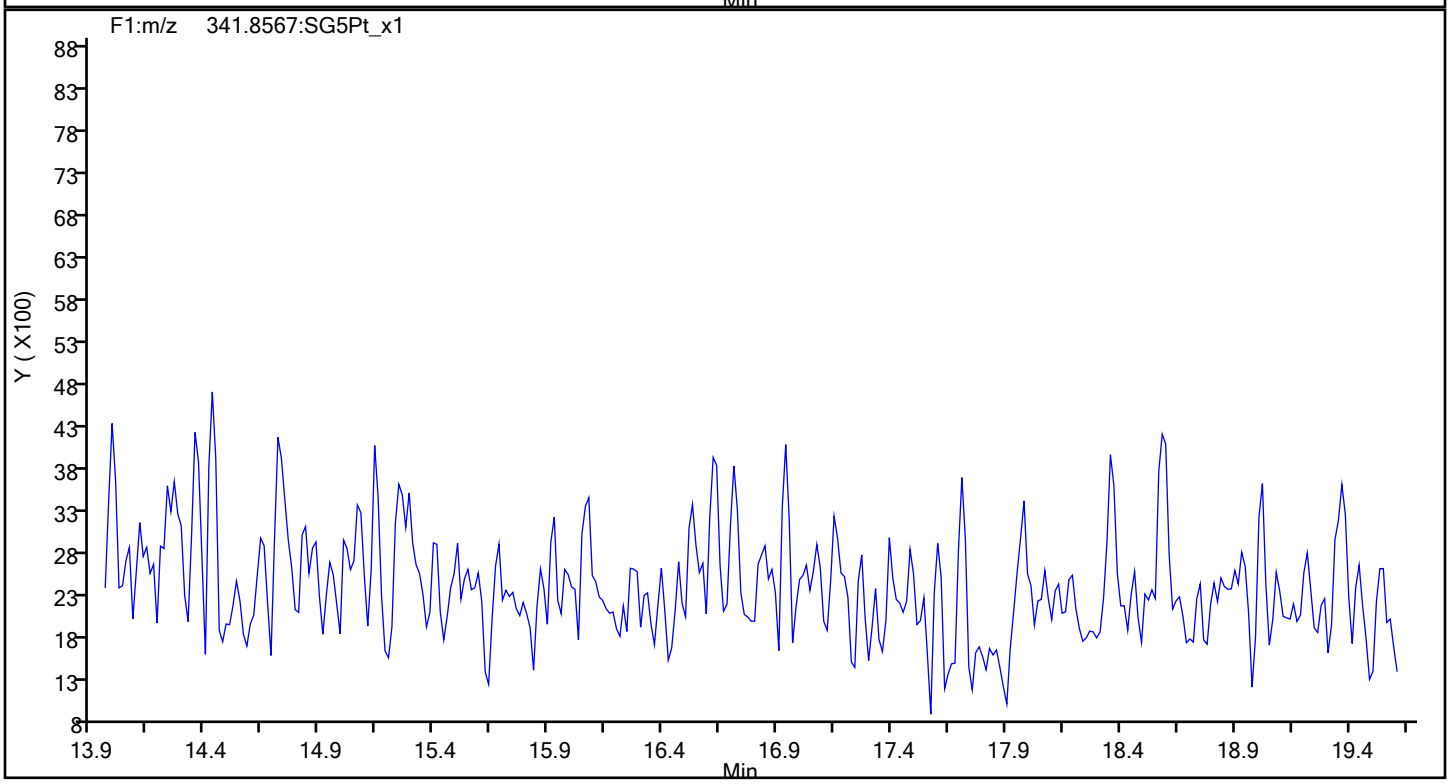

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

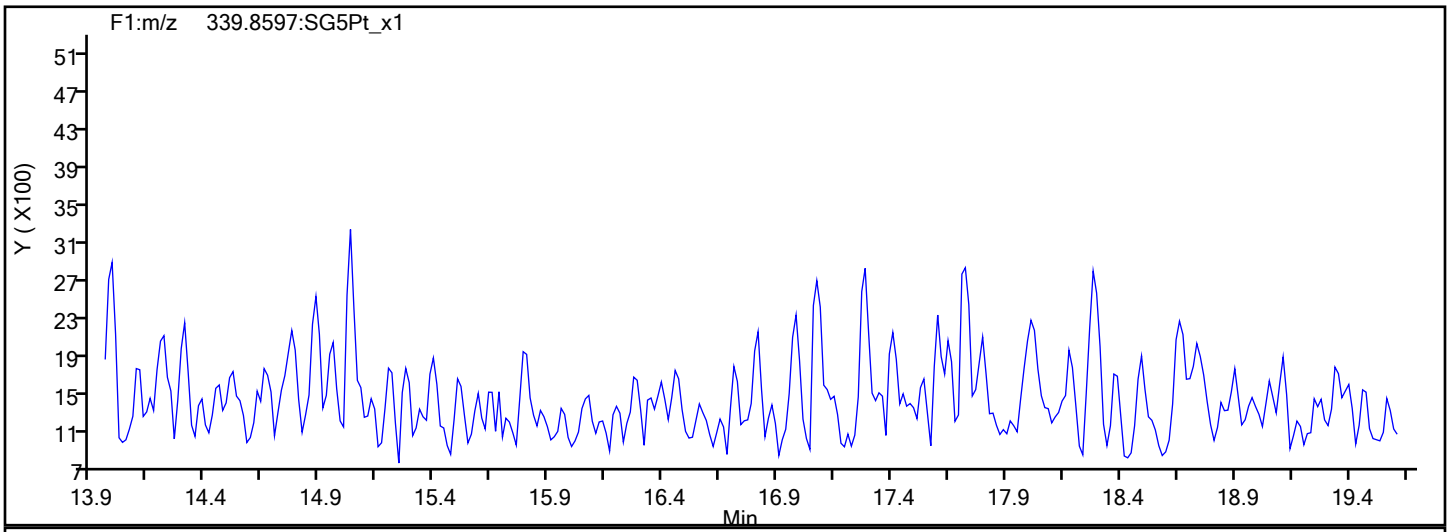

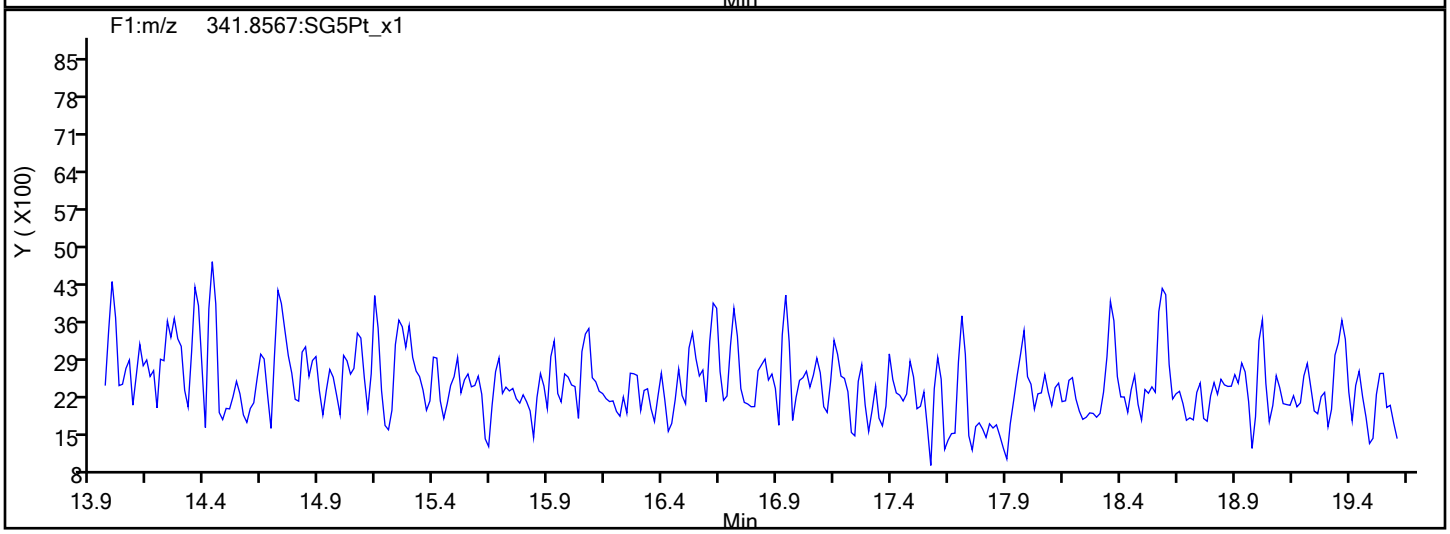

F1 PeCDFs Interference Mass

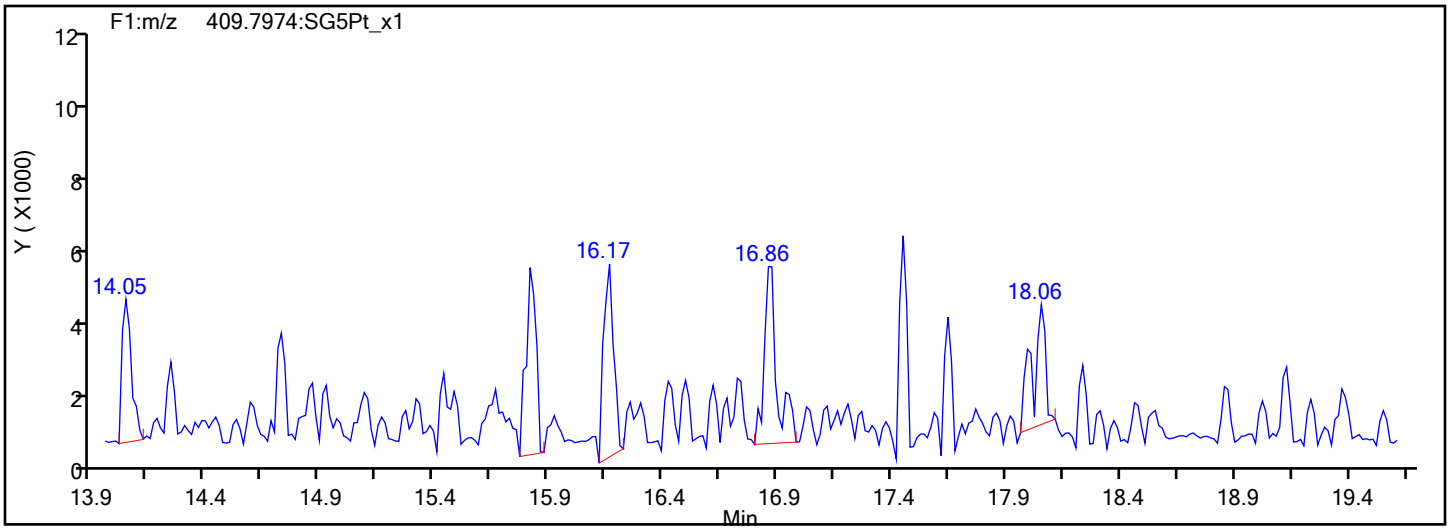

Report Date: 18-Sep-2019 10:45:43 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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PeCDF

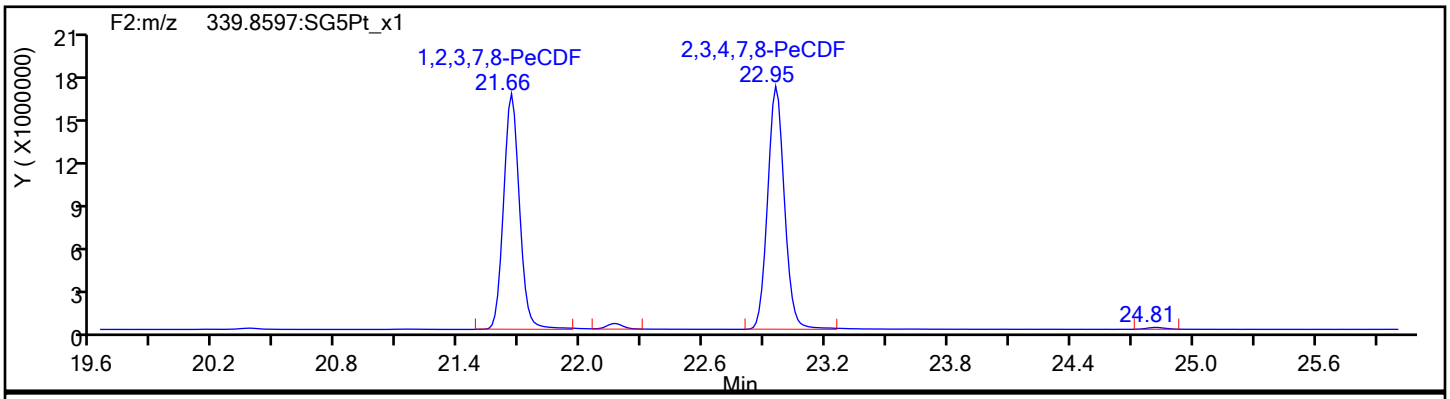

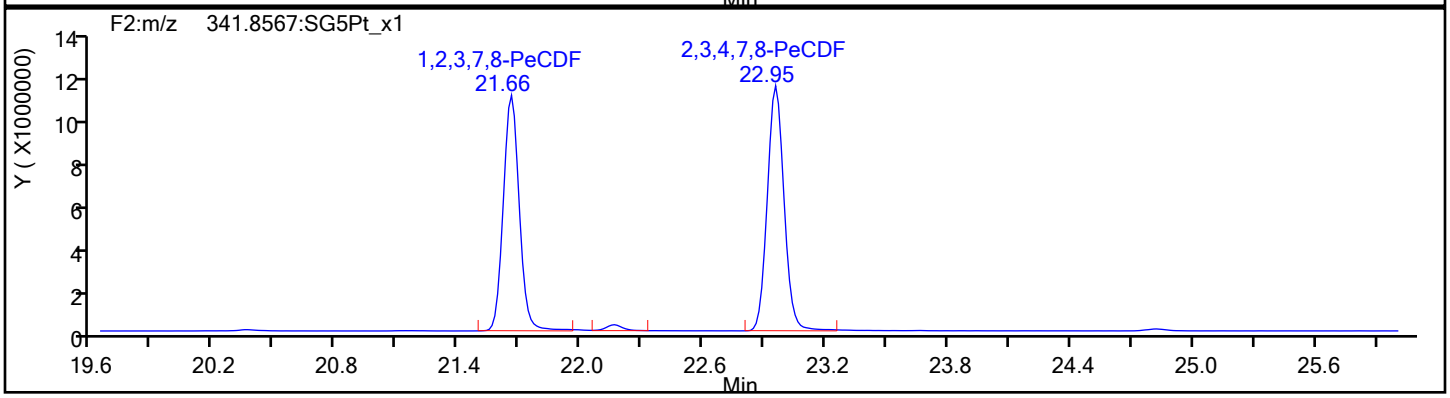

PeCDF Standards

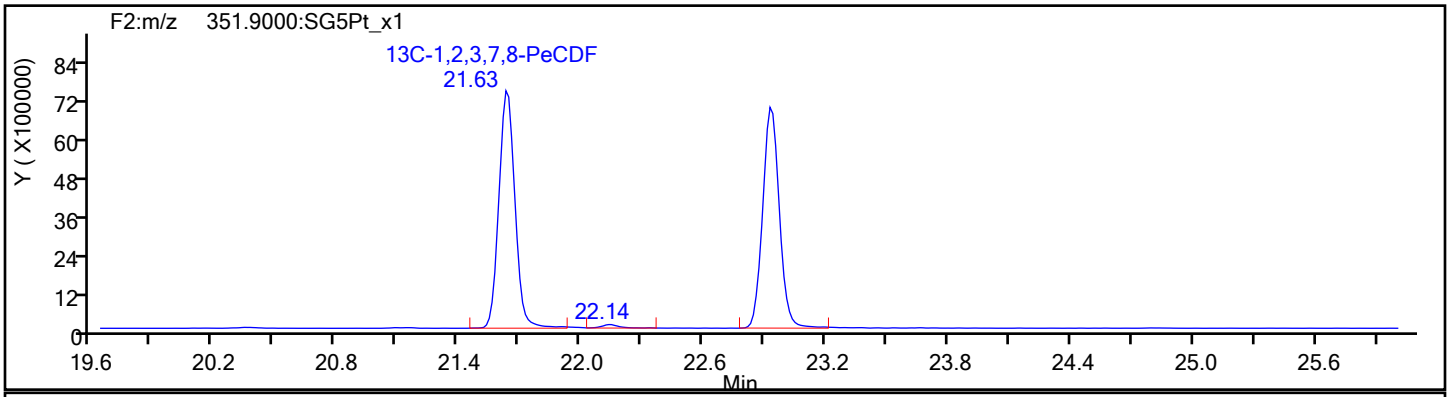

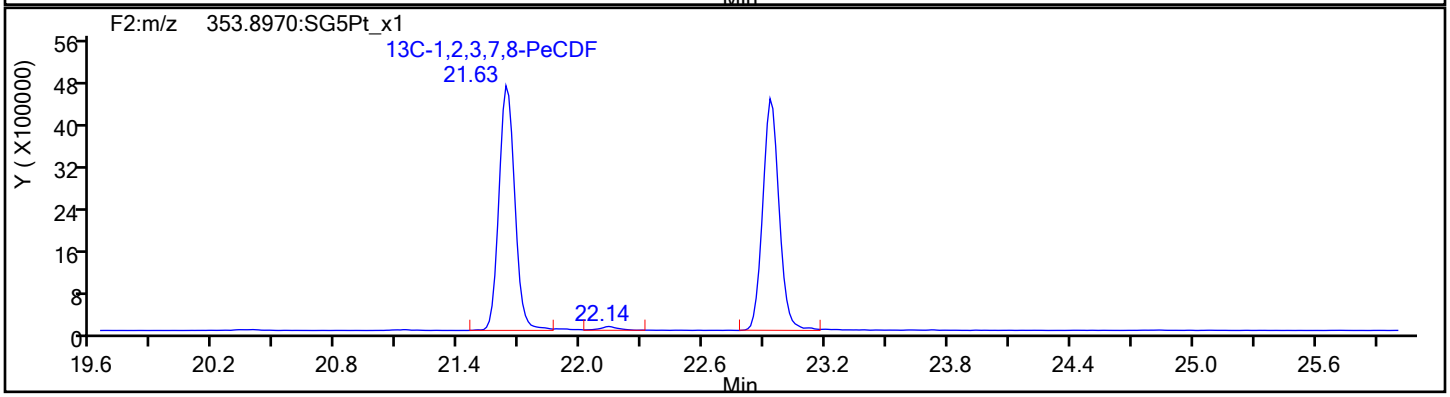

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Eurofins TestAmerica, Sacramento

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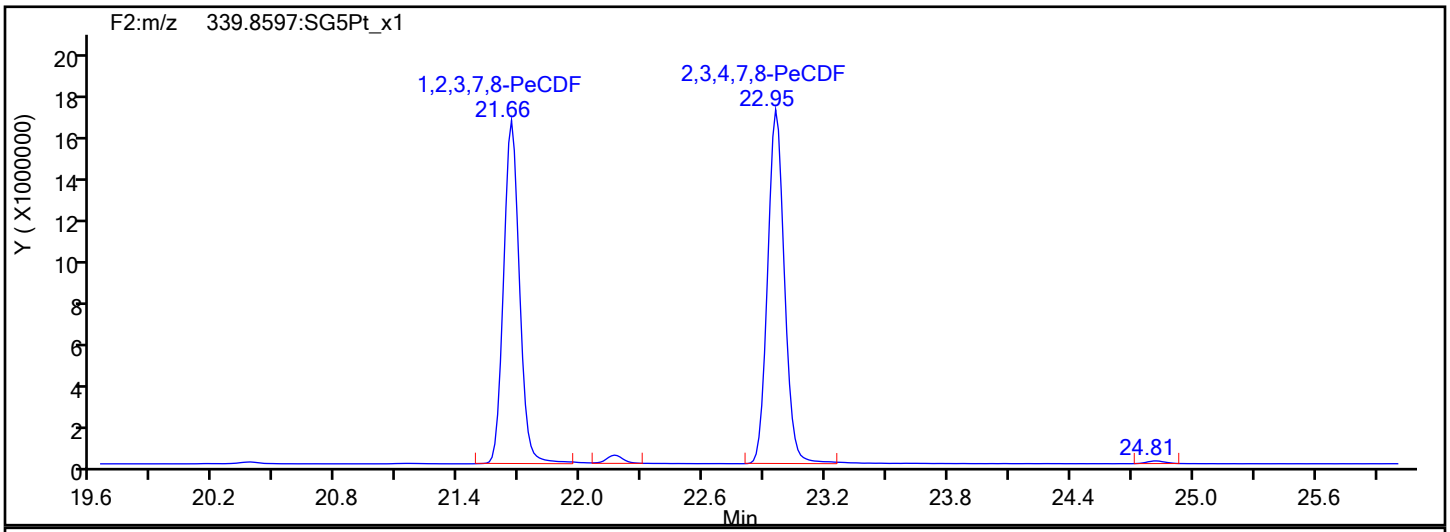

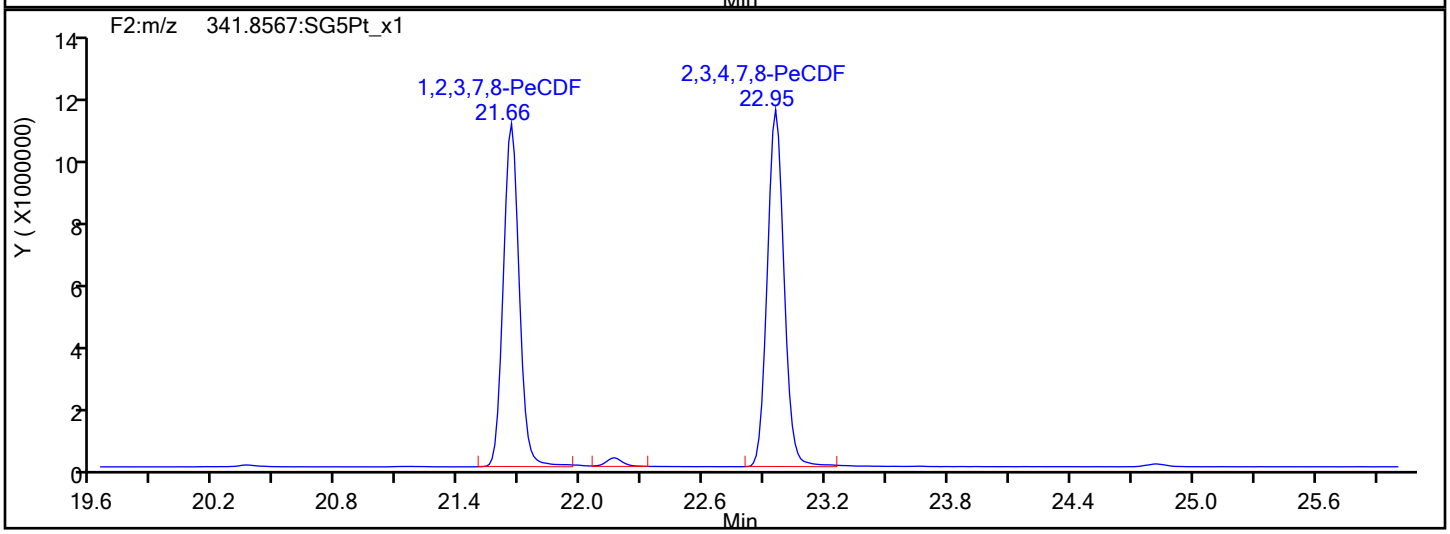

PeCDF Interference Mass

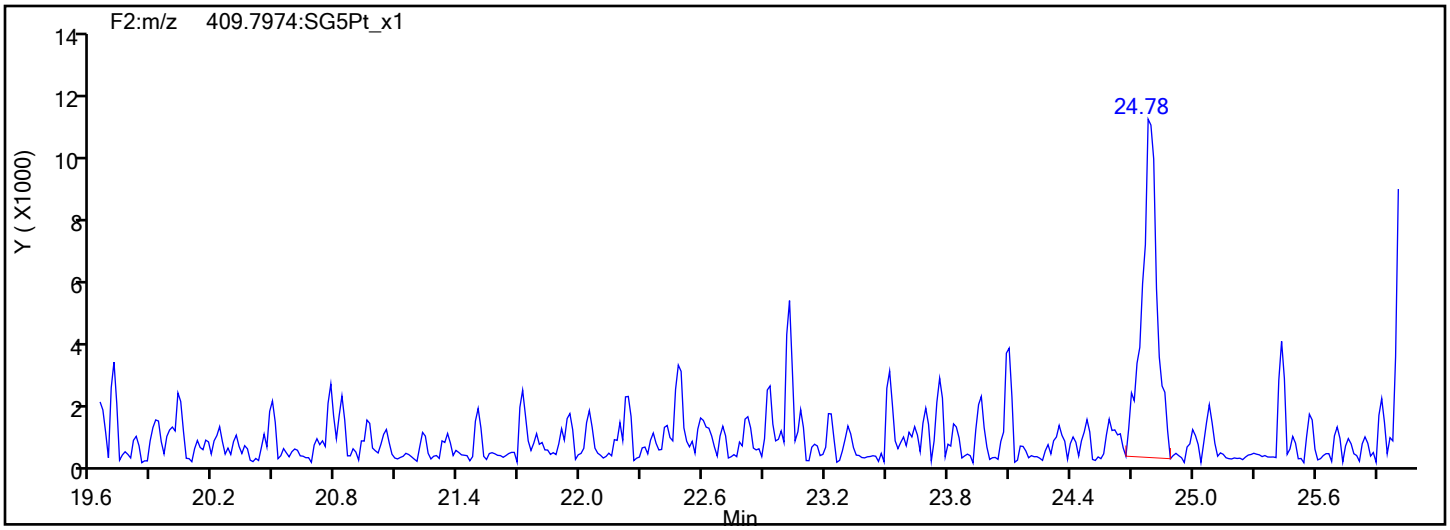

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Eurofins TestAmerica, Sacramento

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PeCDD

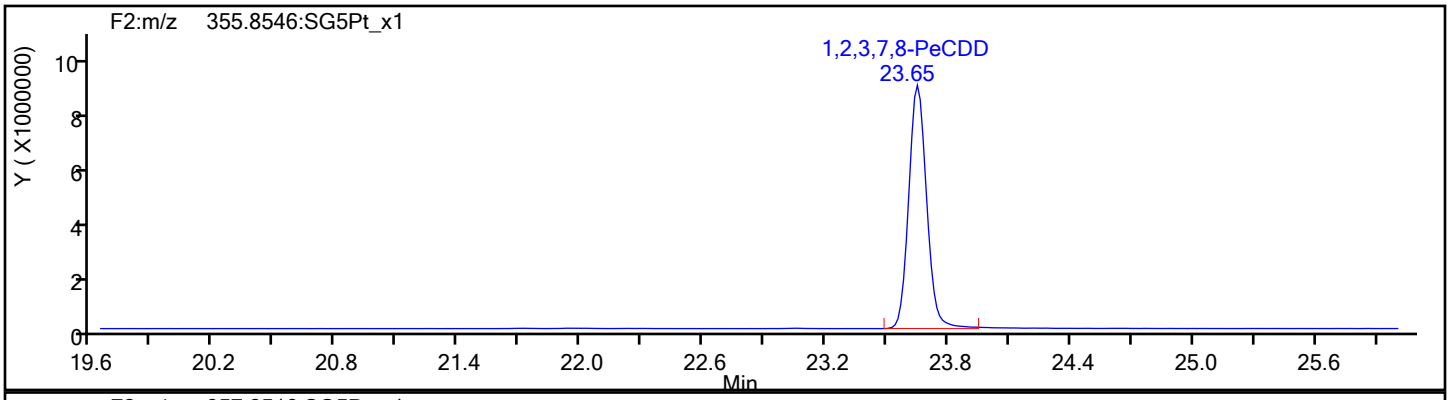

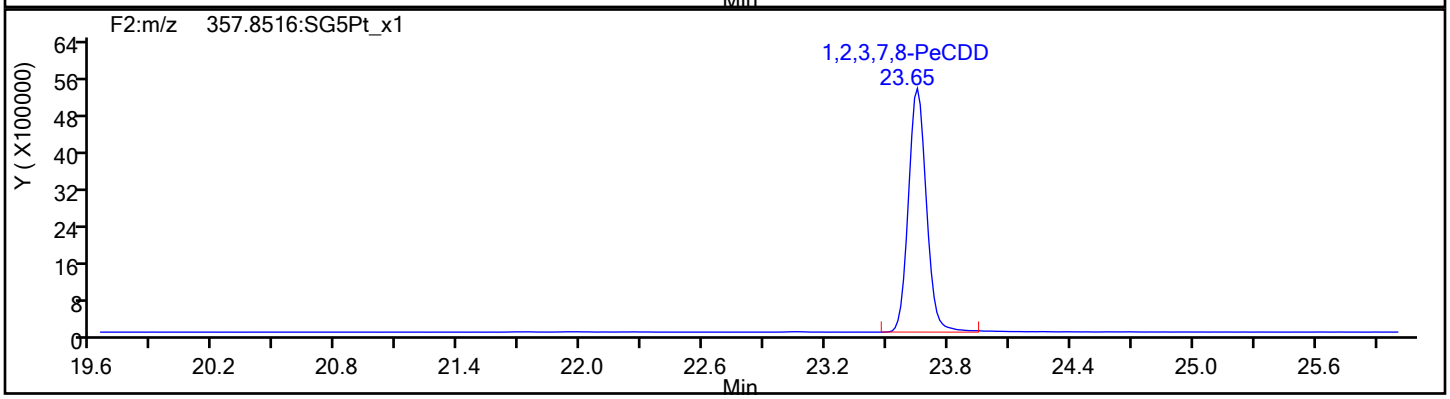

PeCDD Standards

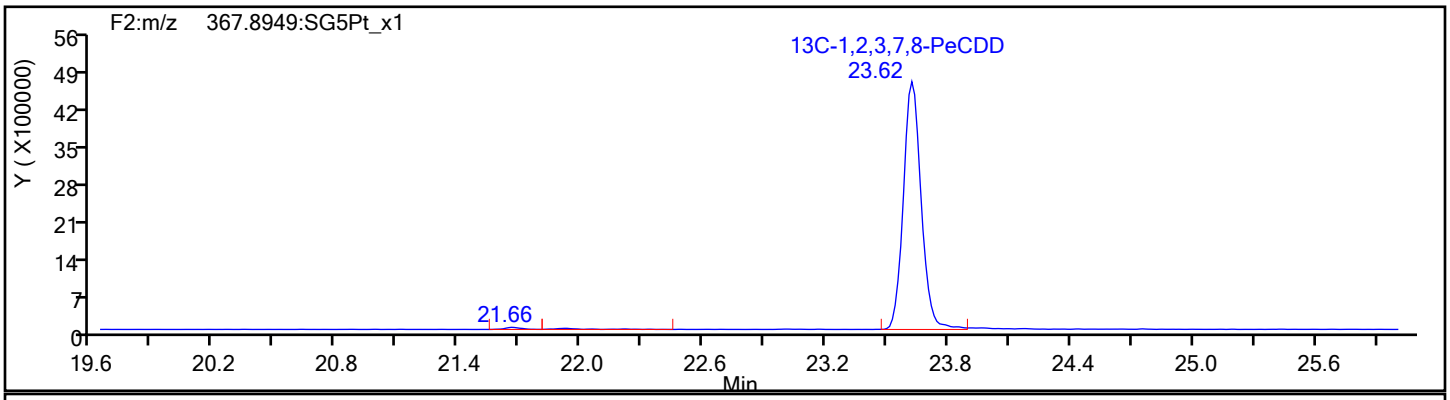

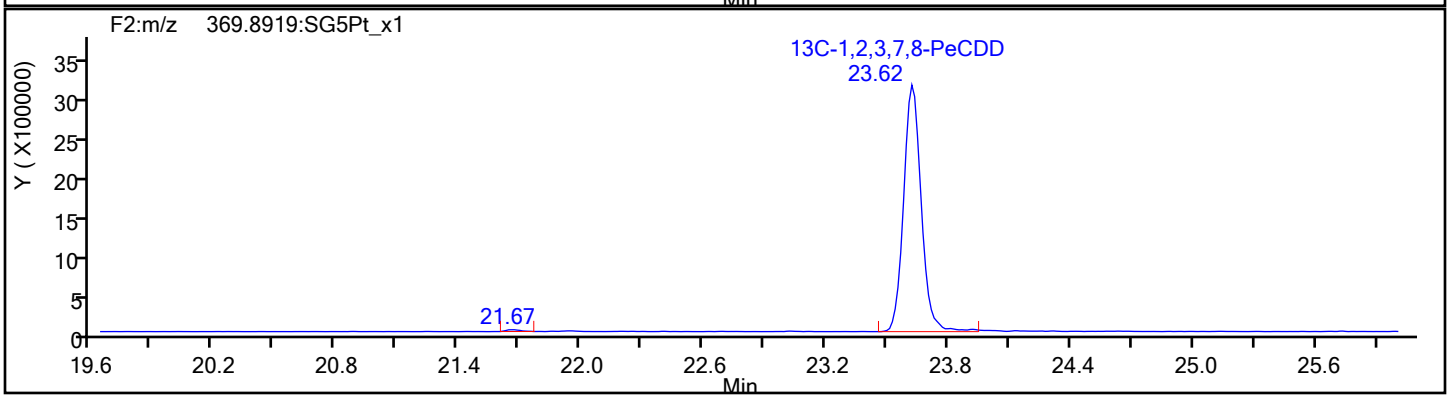

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Eurofins TestAmerica, Sacramento

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HxCDF

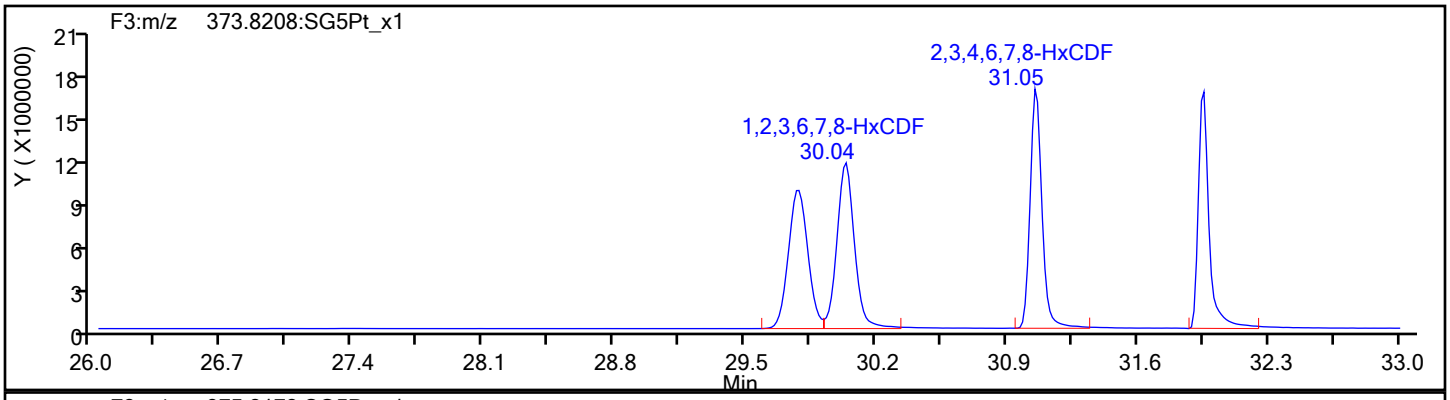

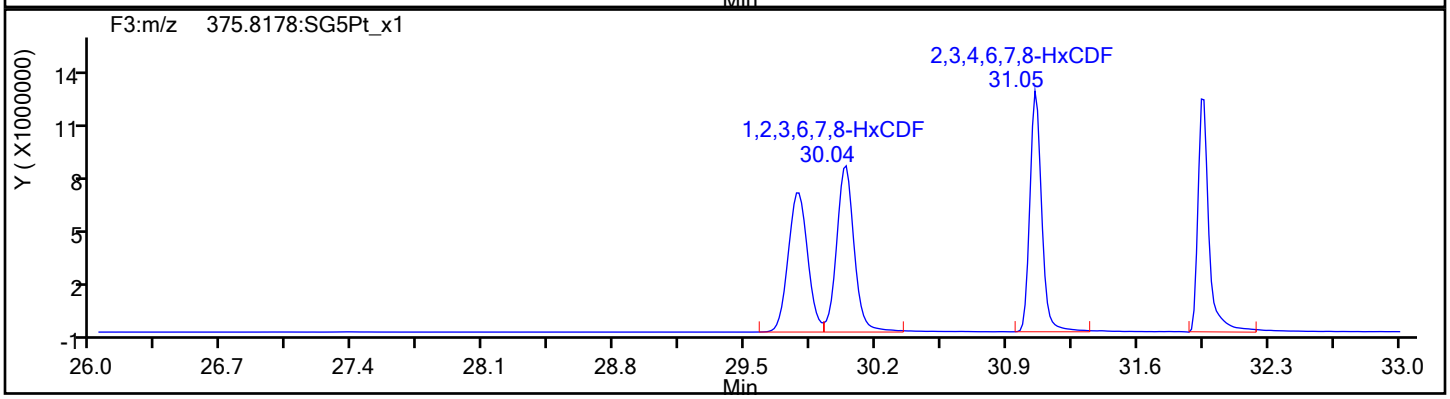

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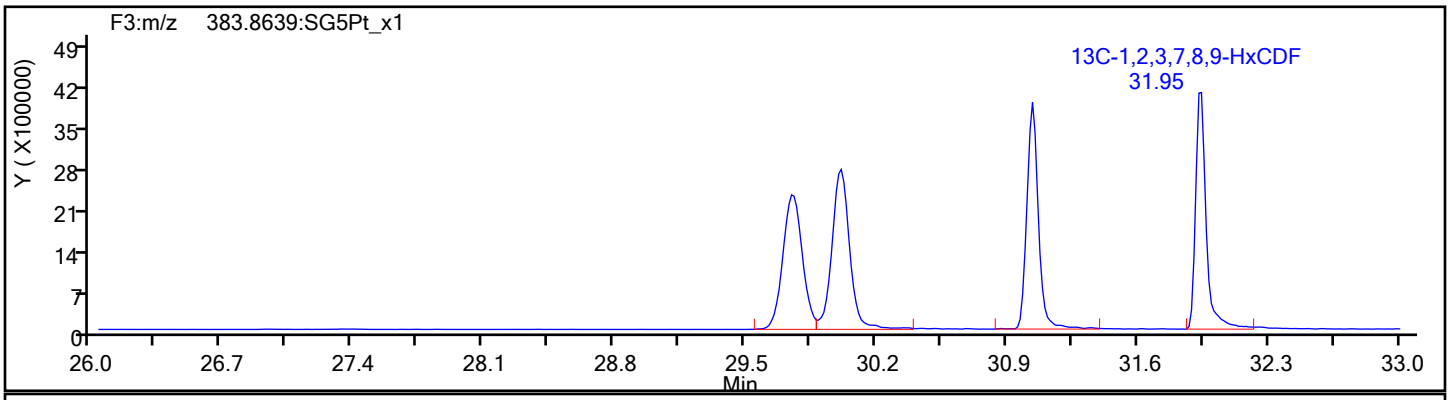

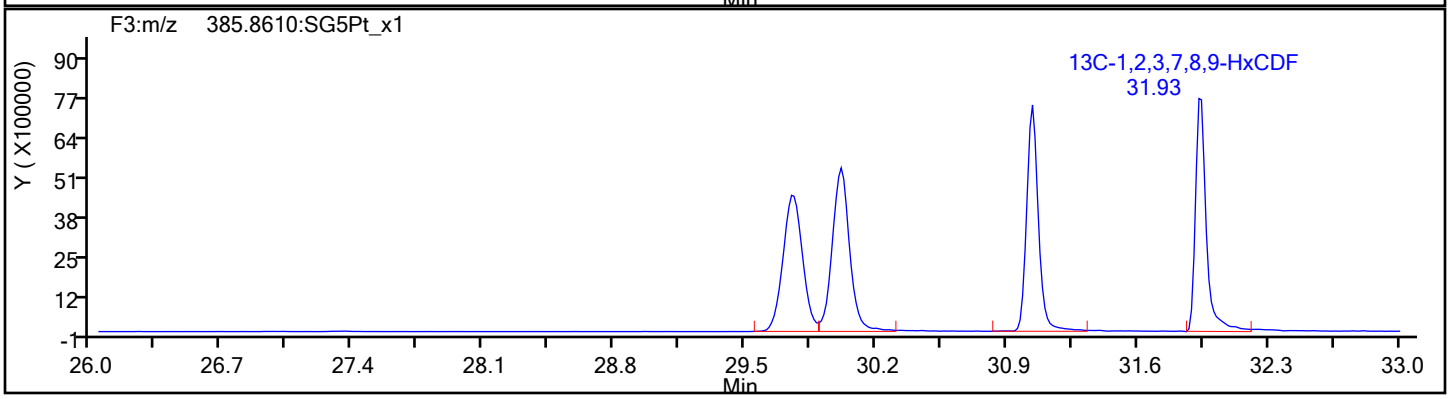

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Eurofins TestAmerica, Sacramento

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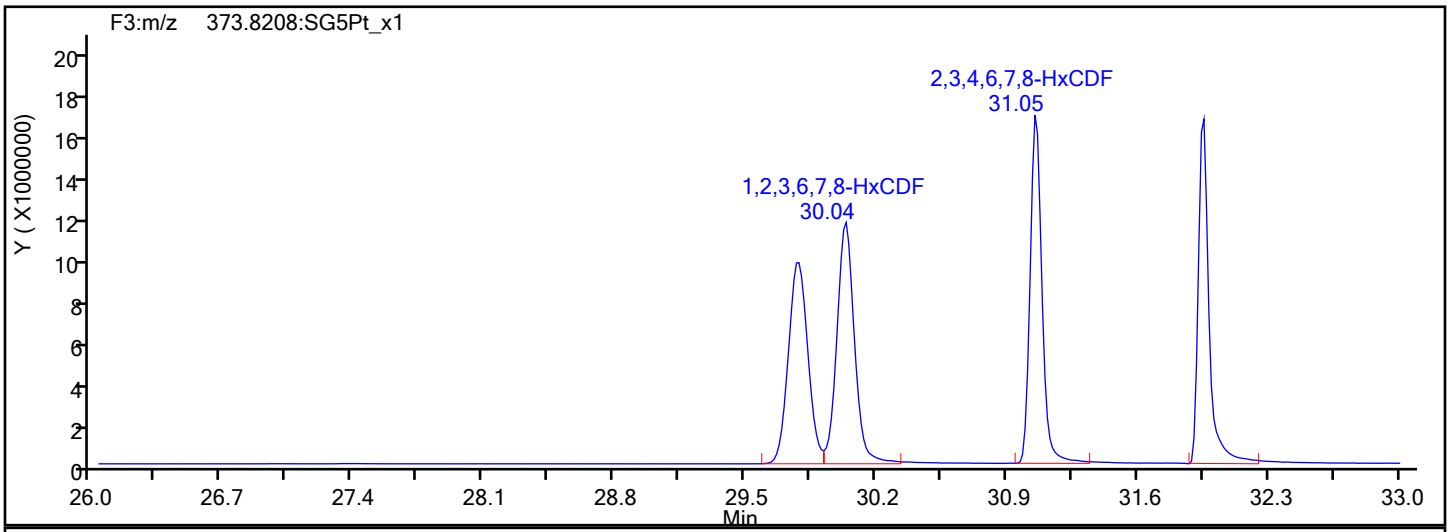

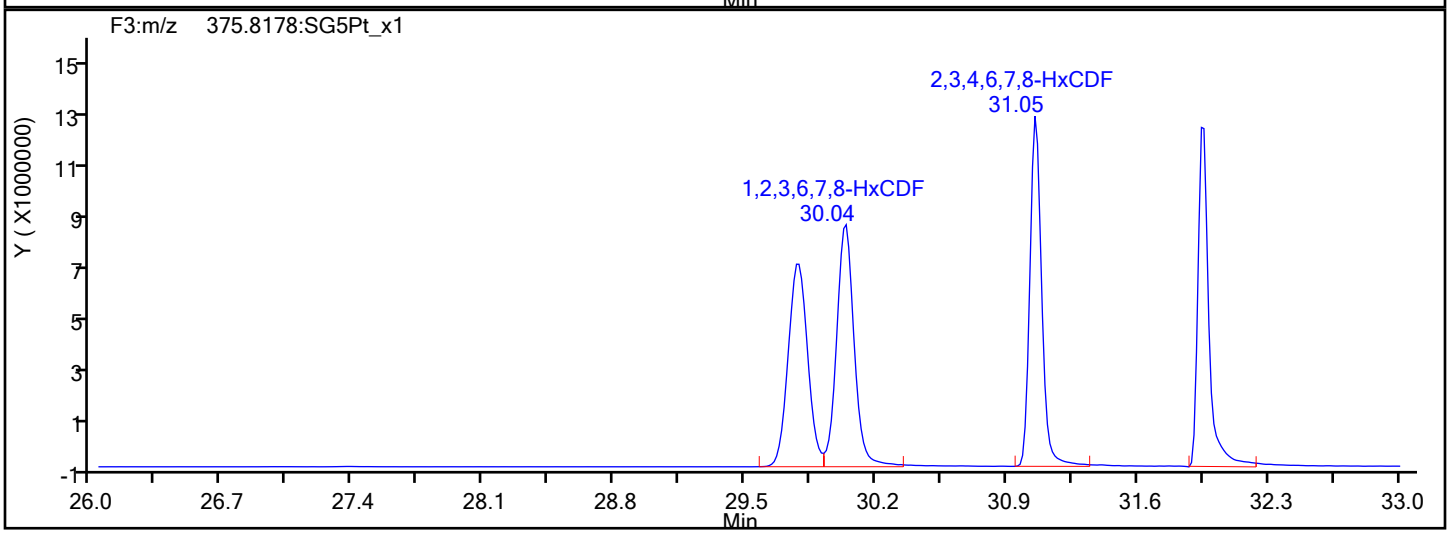

HxCDF Interference Mass

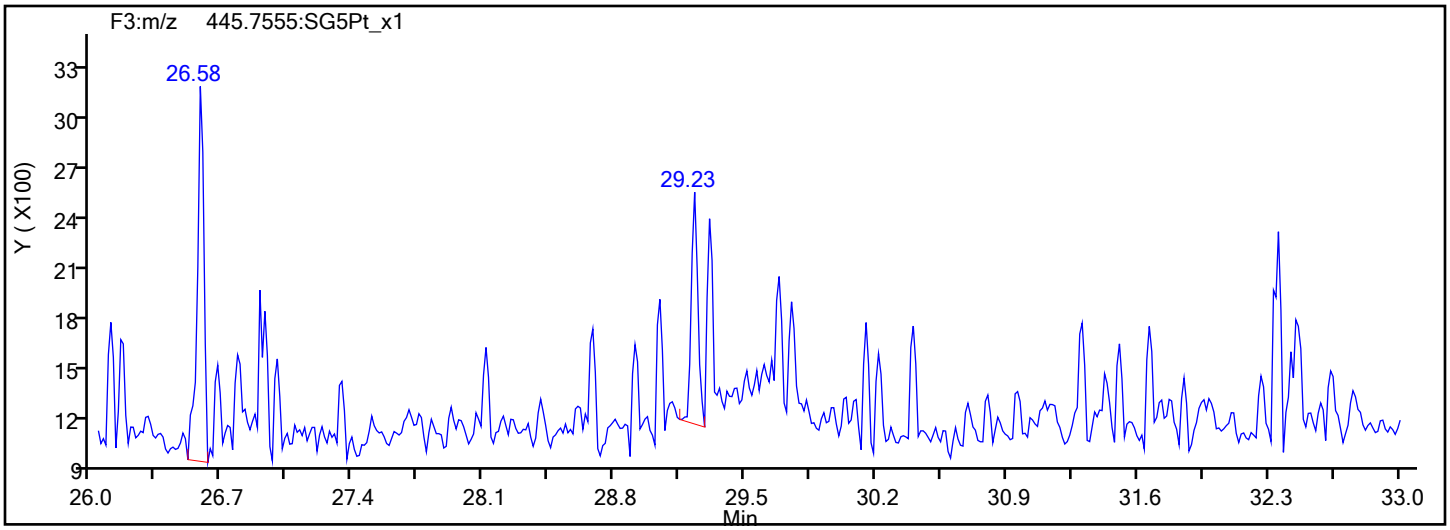

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Eurofins TestAmerica, Sacramento

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HxCDD

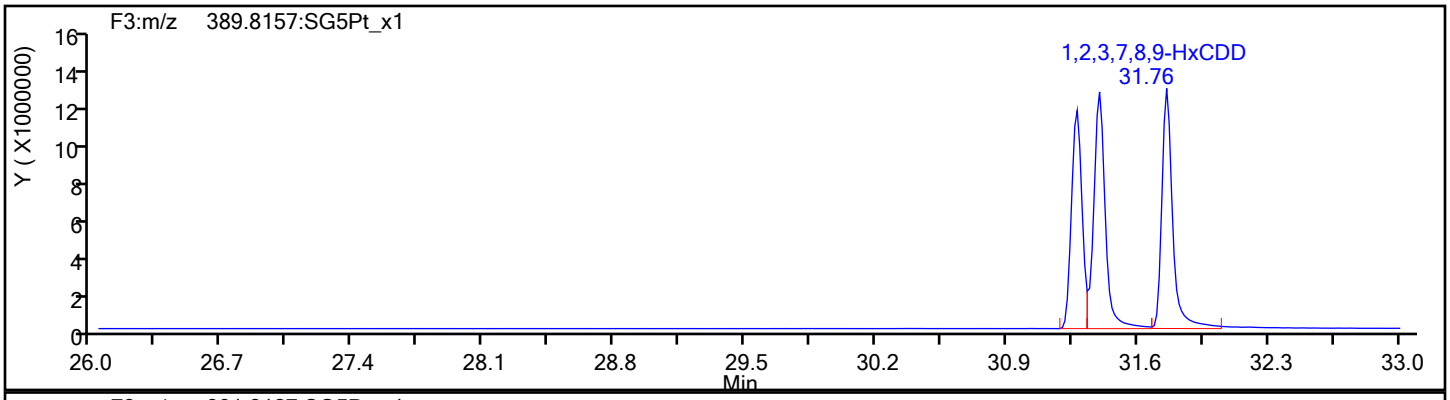

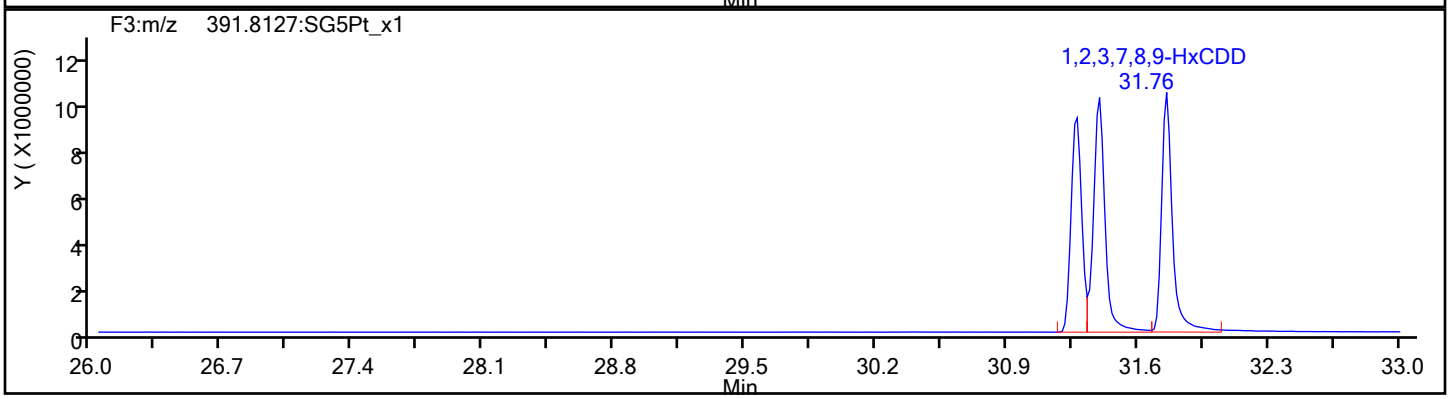

HxCDD Standards

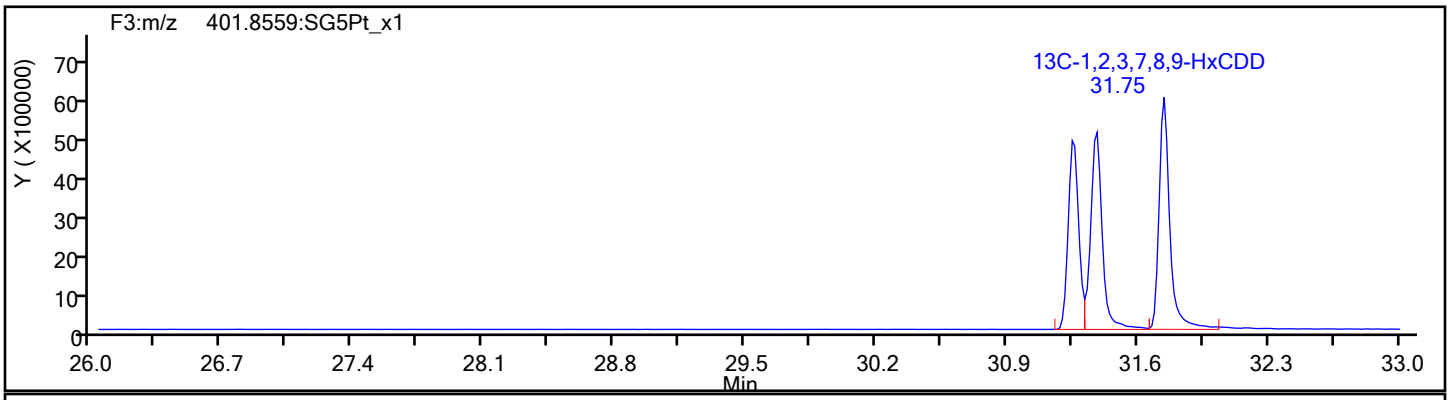

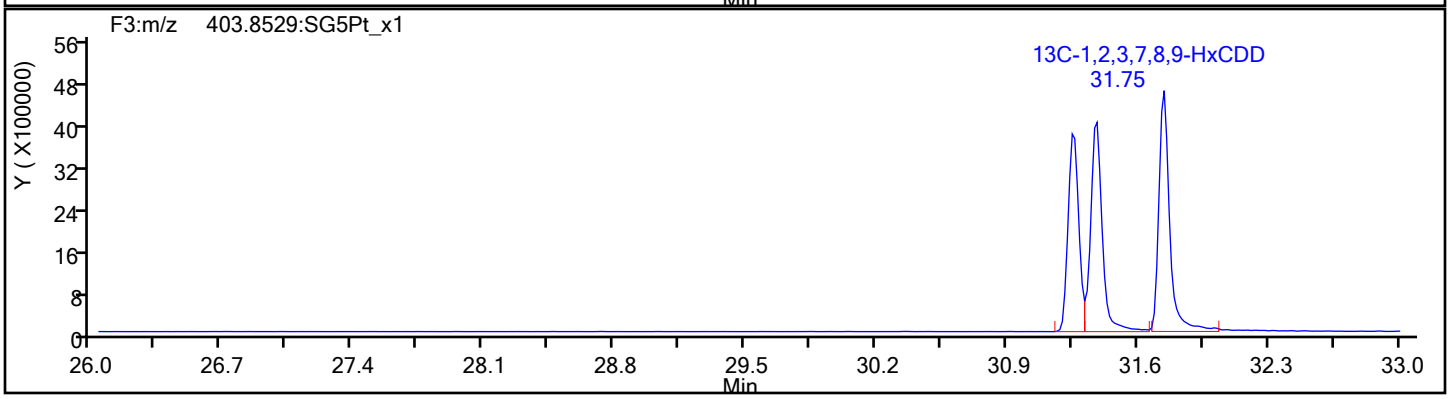

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Eurofins TestAmerica, Sacramento

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HpCDF

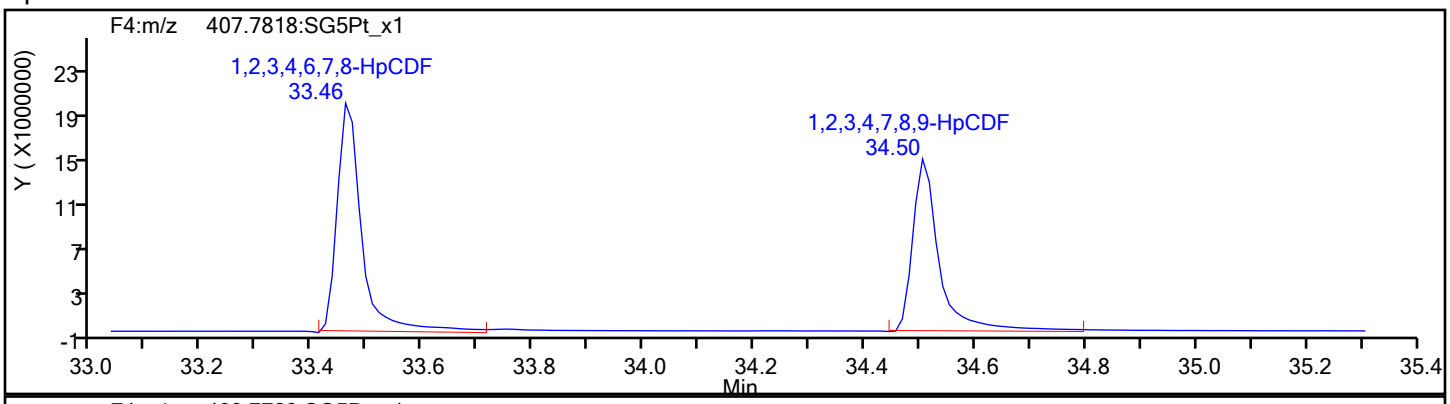

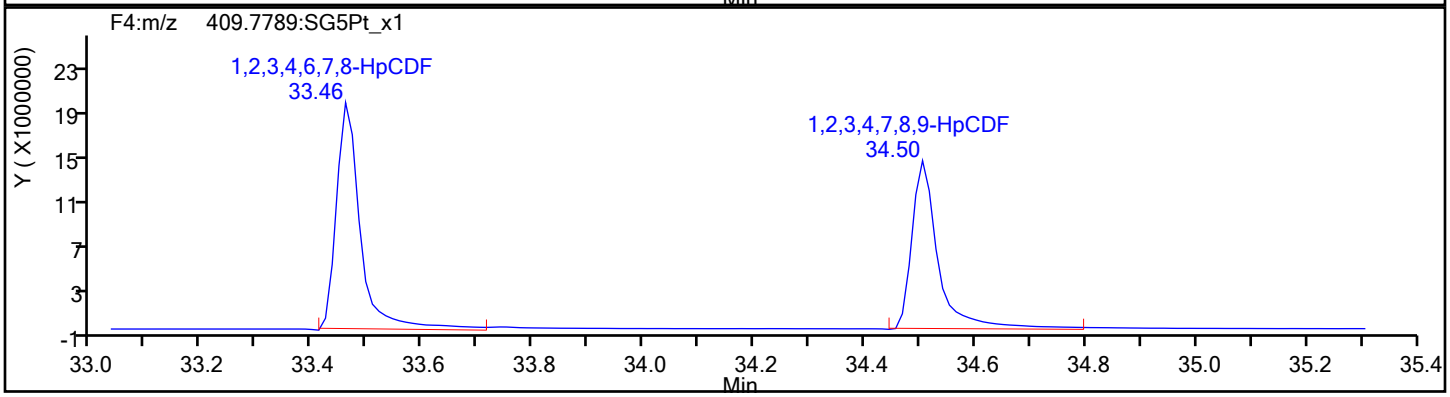

HpCDF Standards

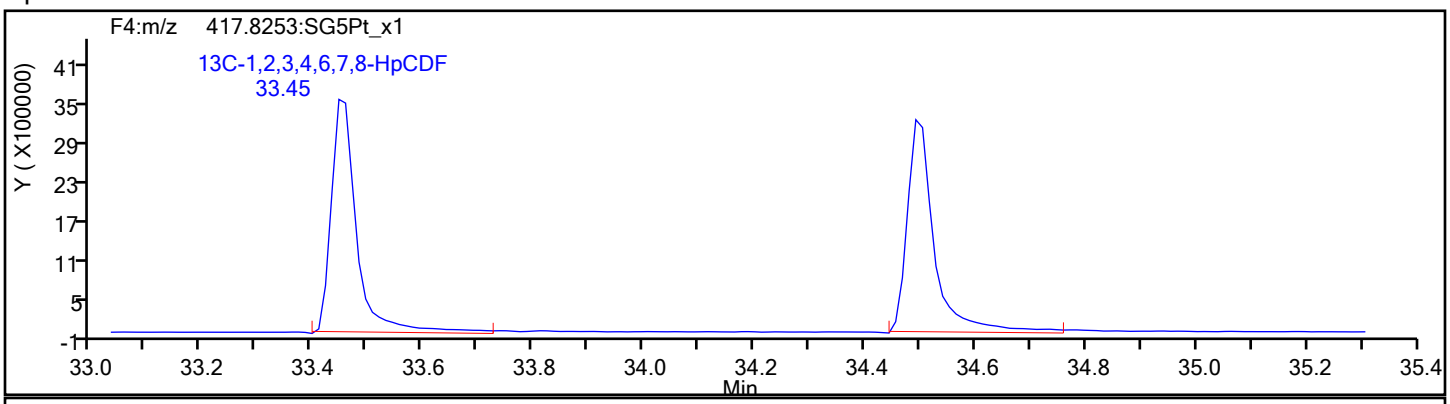

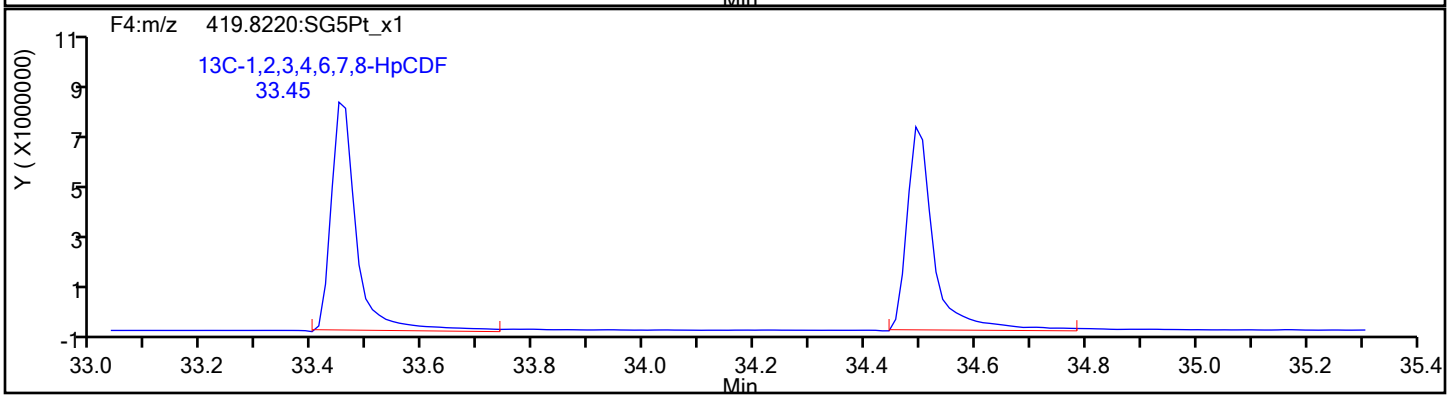

Report Date: 18-Sep-2019 10:45:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

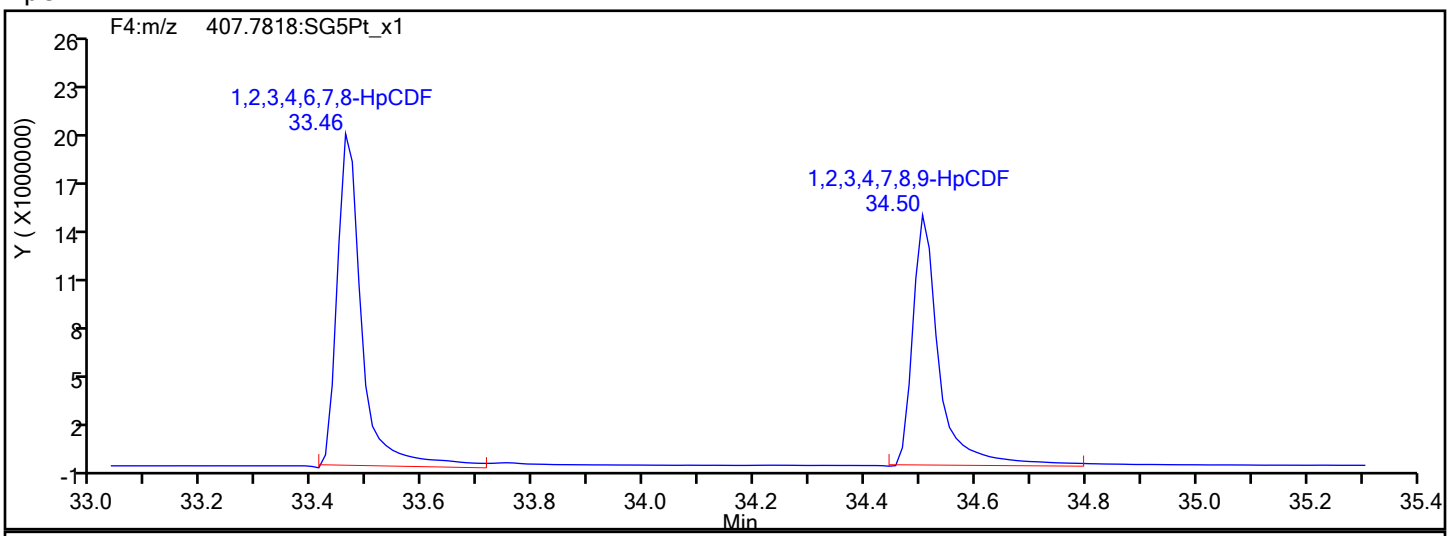

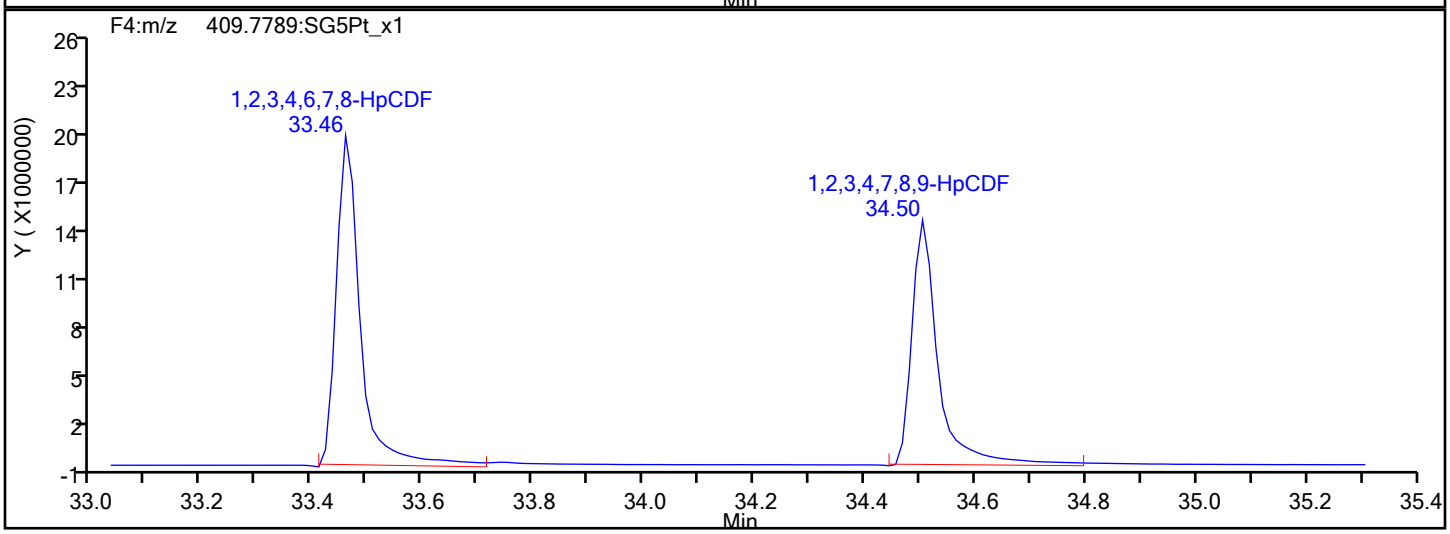

HpCDF Interference Mass

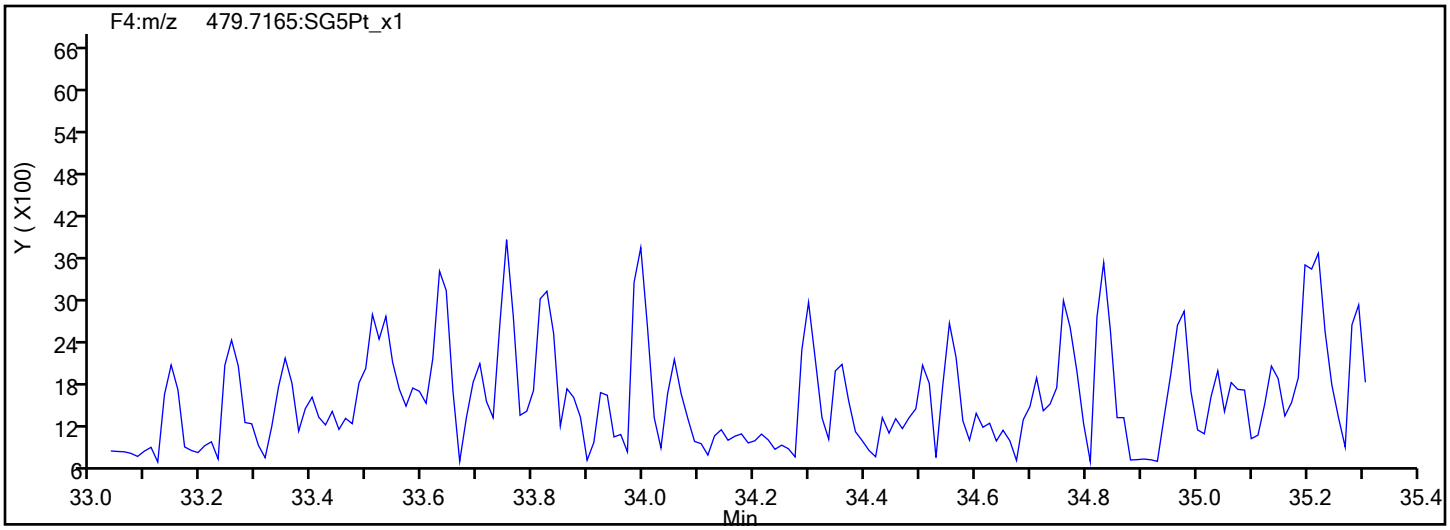

Report Date: 18-Sep-2019 10:45:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d		
Injection Date:	17-Sep-2019 18:27:31	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

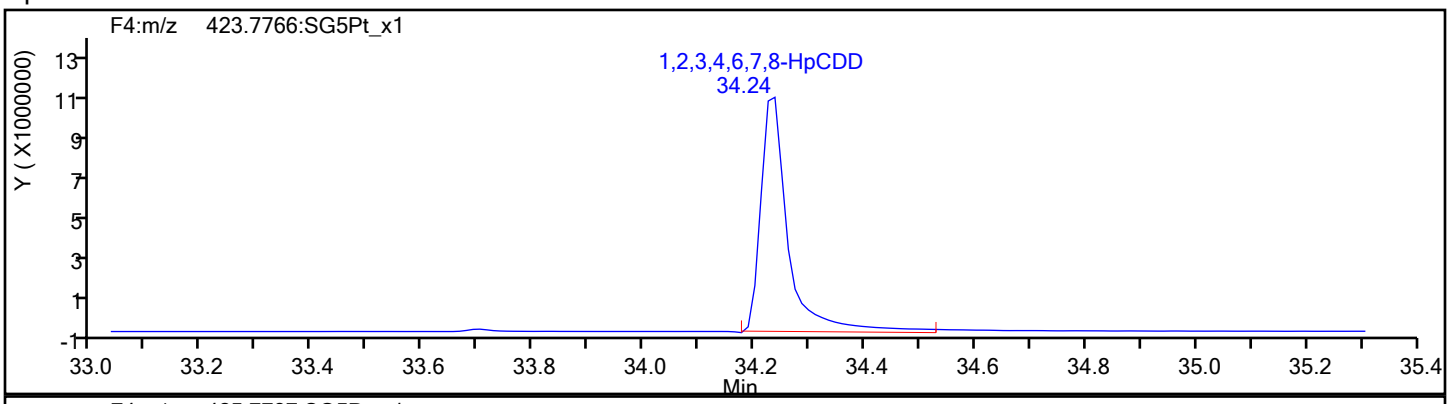

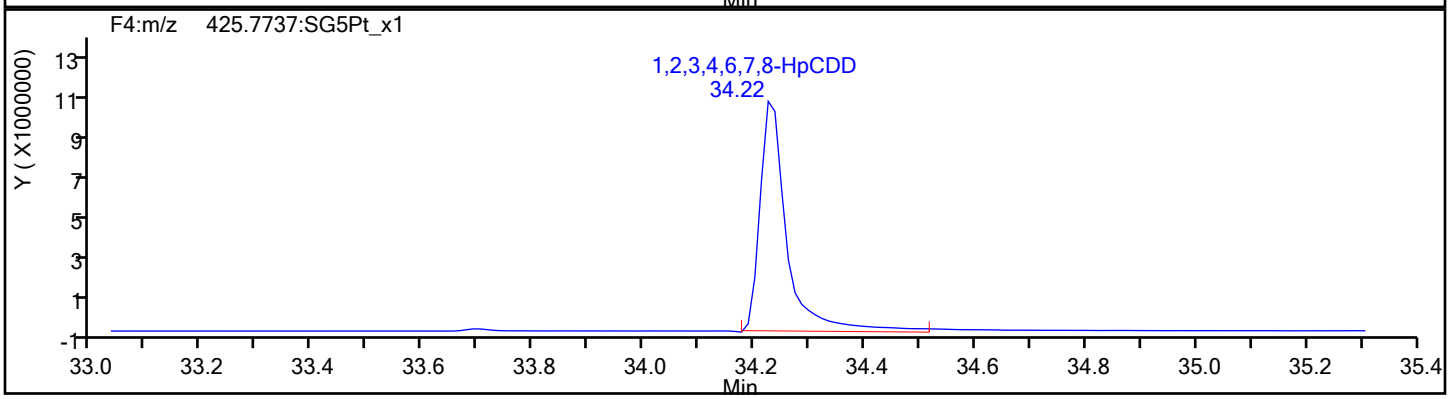

HpCDD Standards

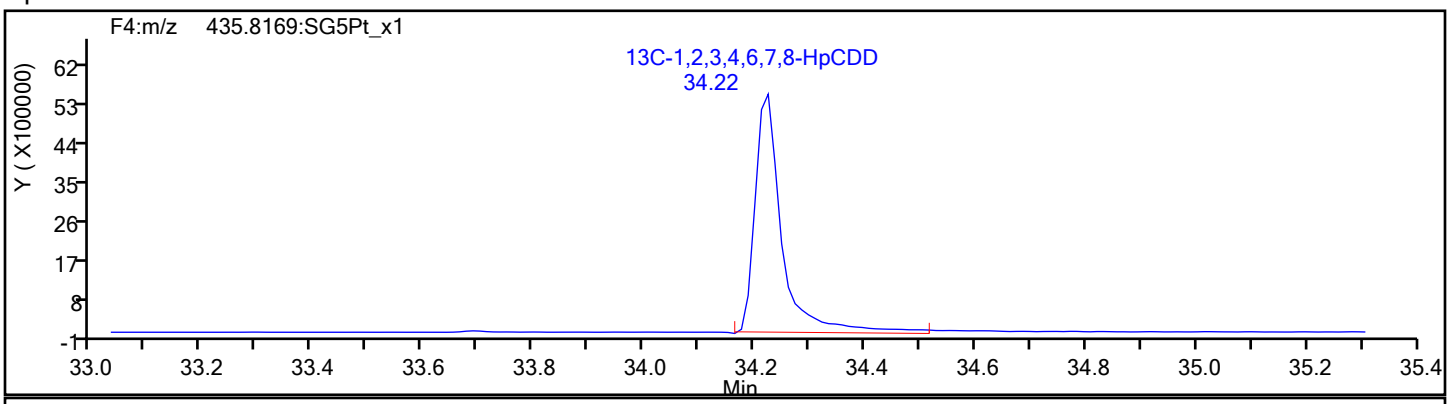

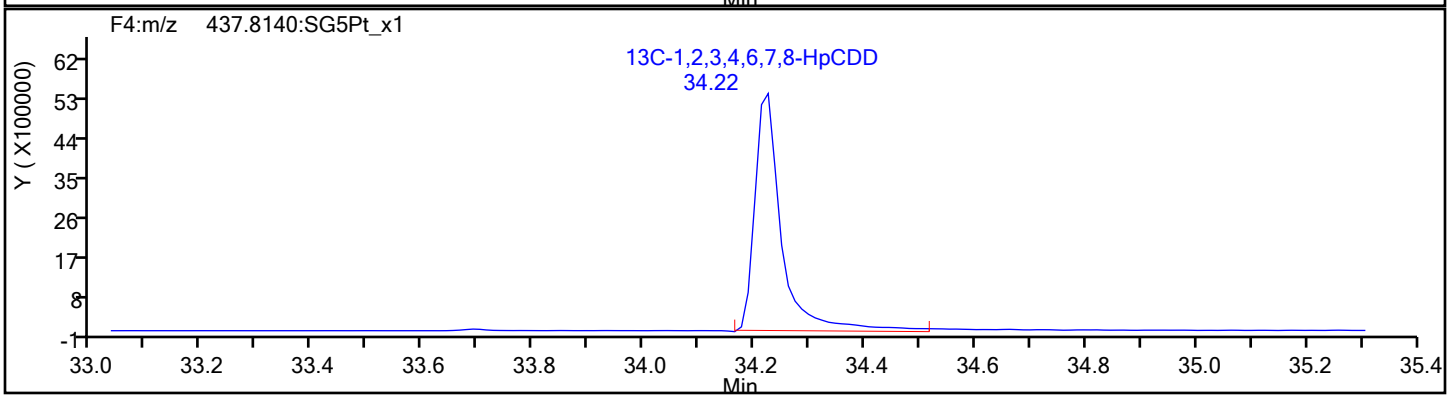

Report Date: 18-Sep-2019 10:45:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

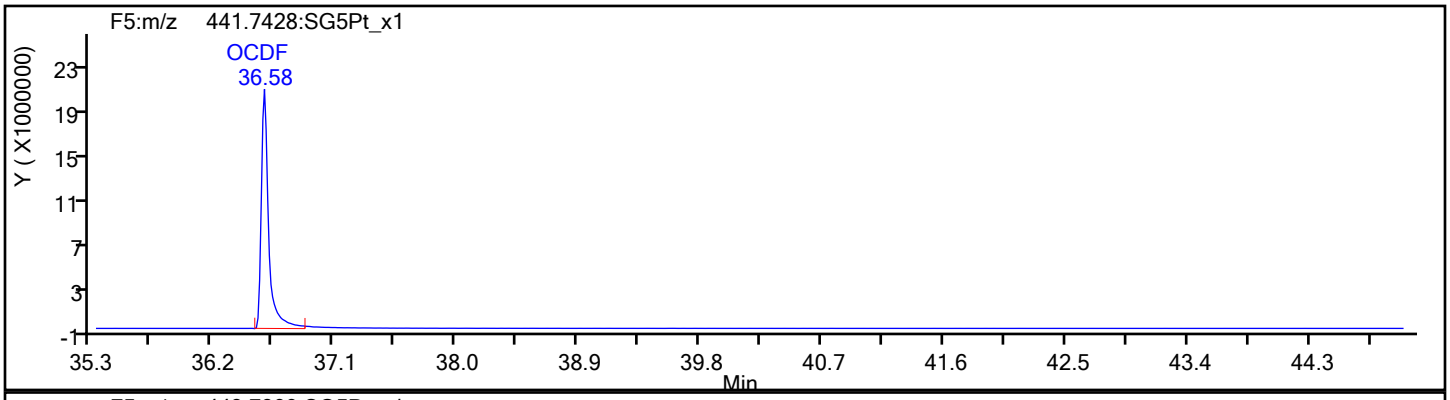

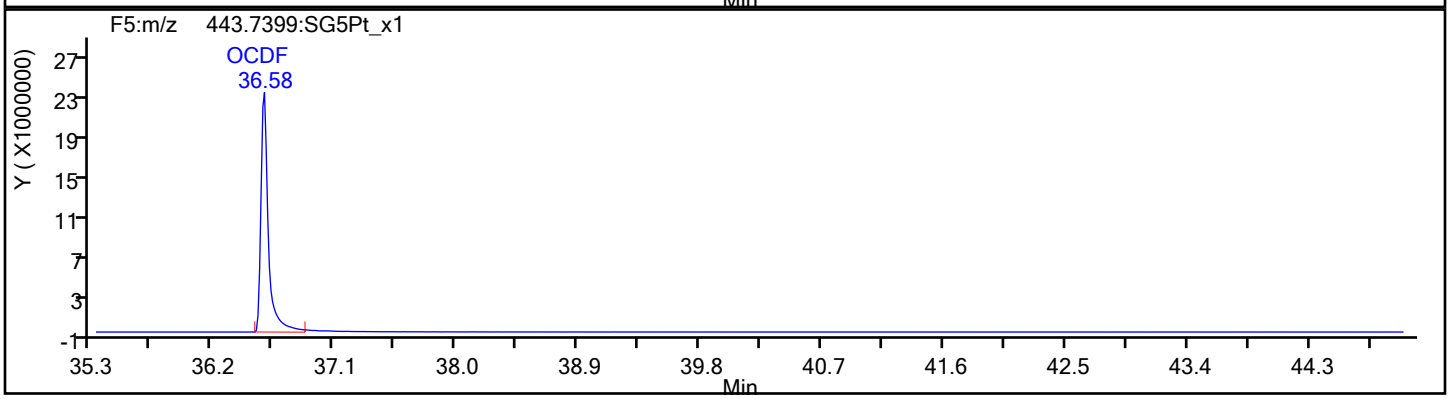

OCDF Standards

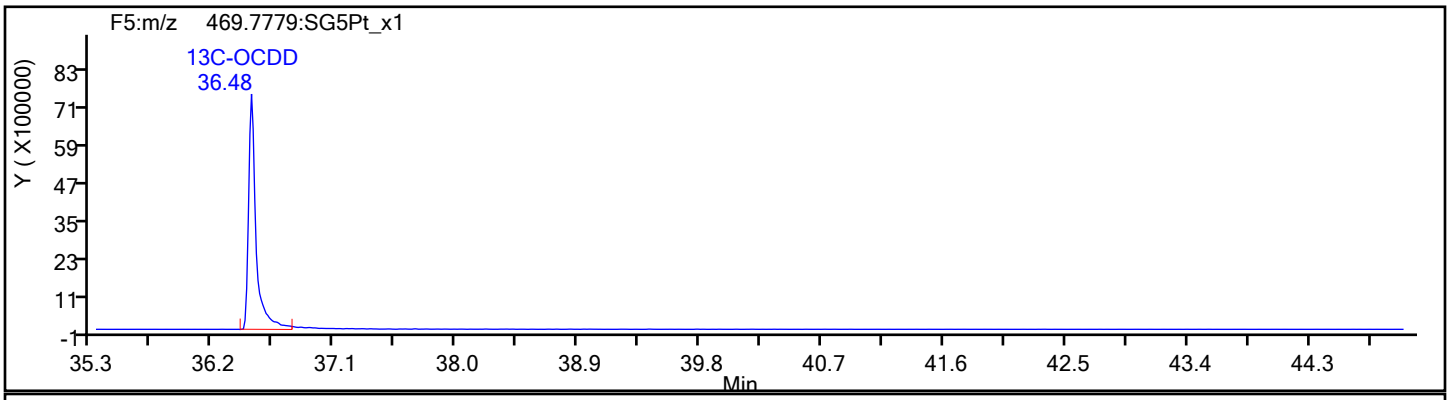

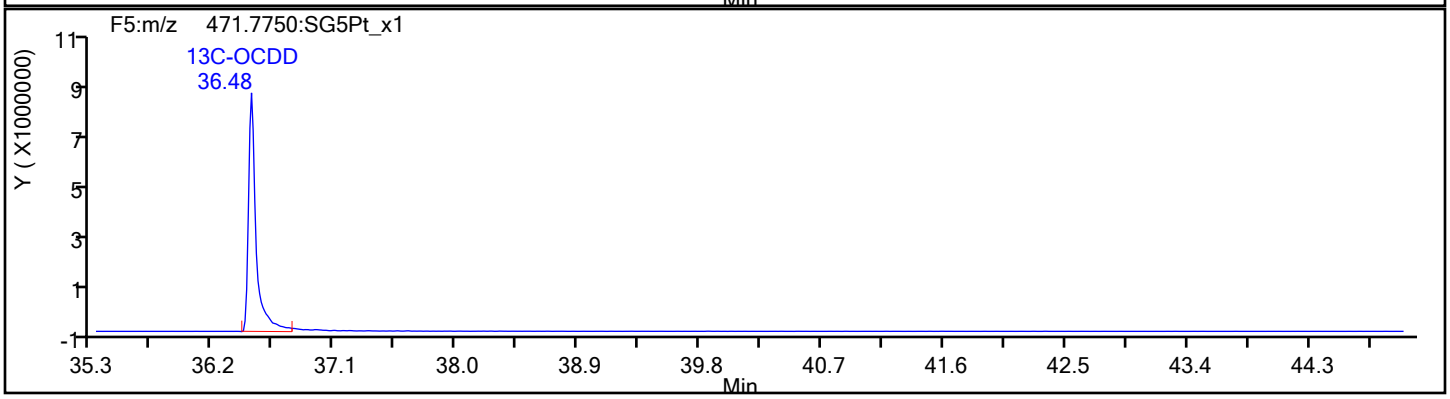

Report Date: 18-Sep-2019 10:45:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d		
Injection Date:	17-Sep-2019 18:27:31	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

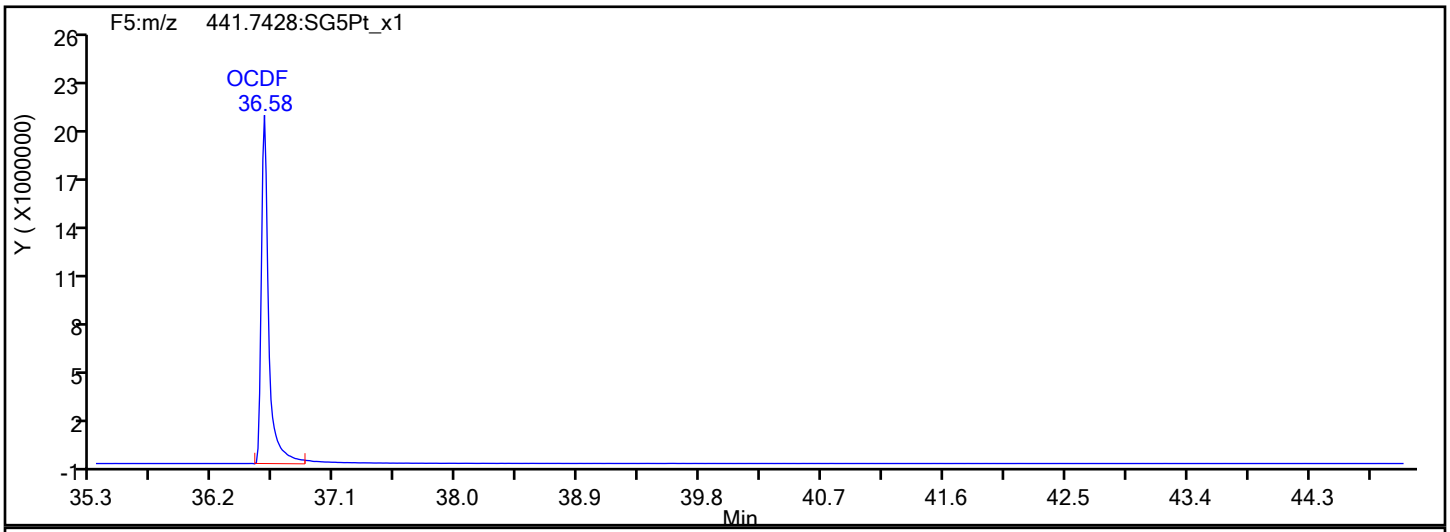

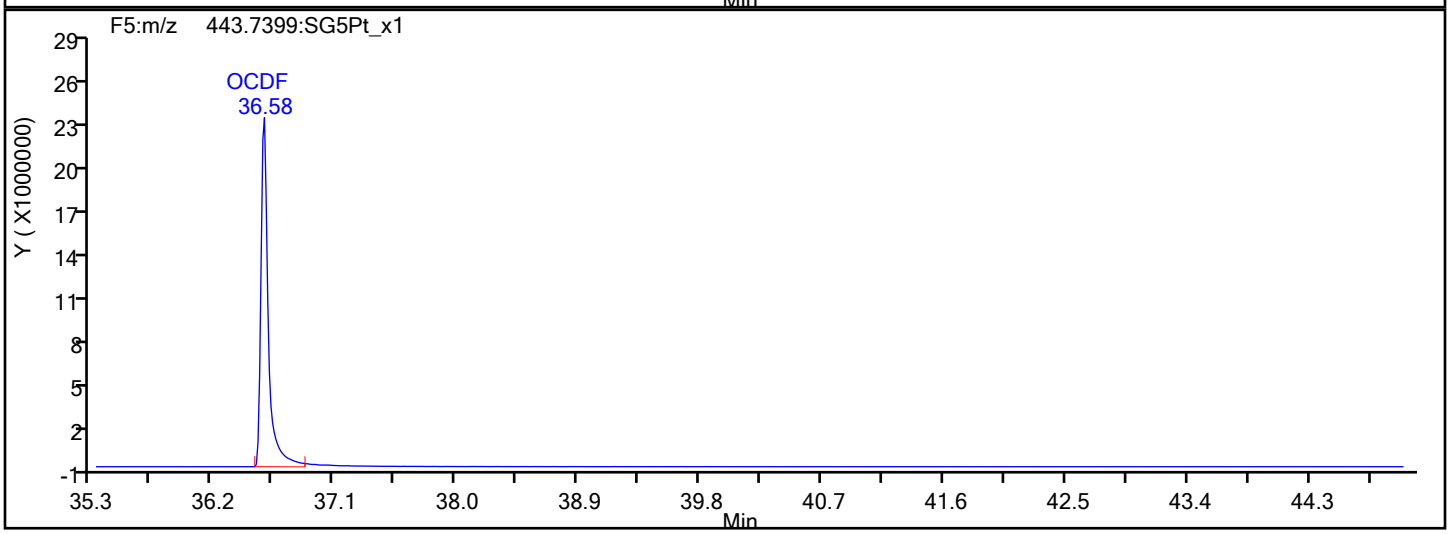

OCDF Interference Mass

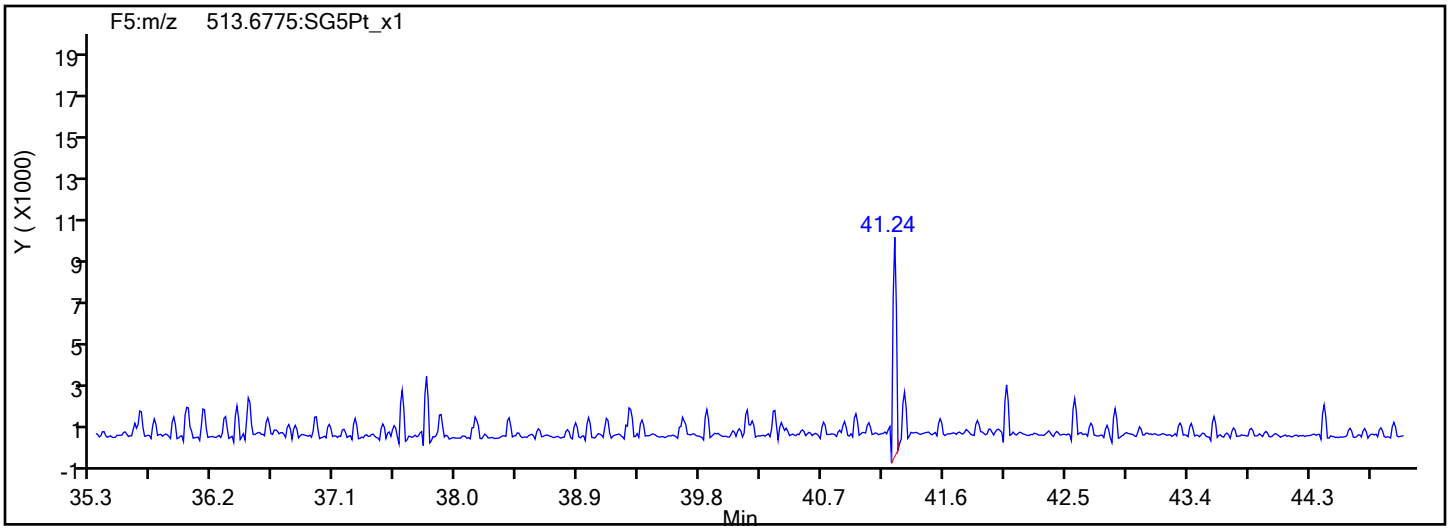

Report Date: 18-Sep-2019 10:45:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

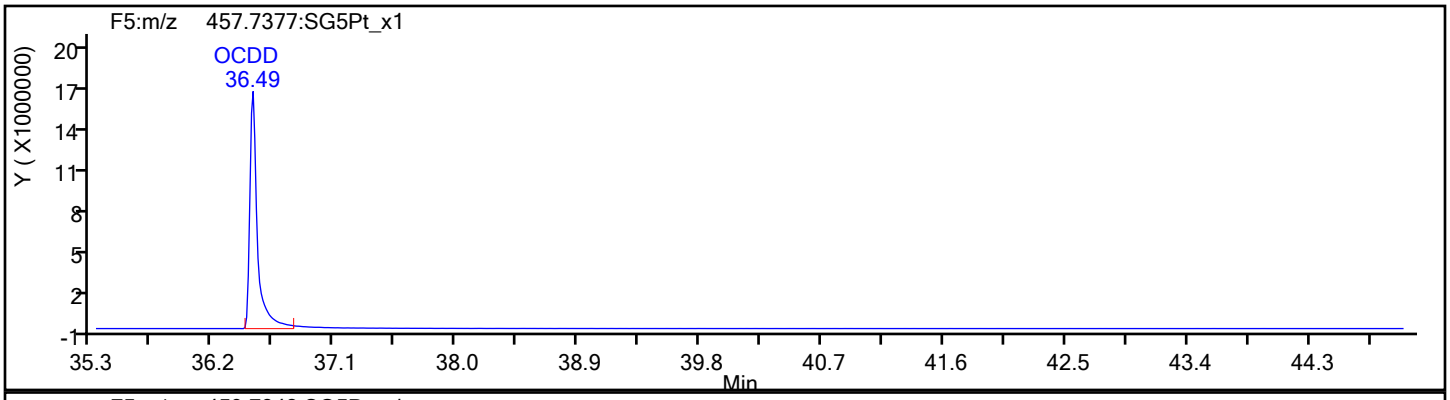

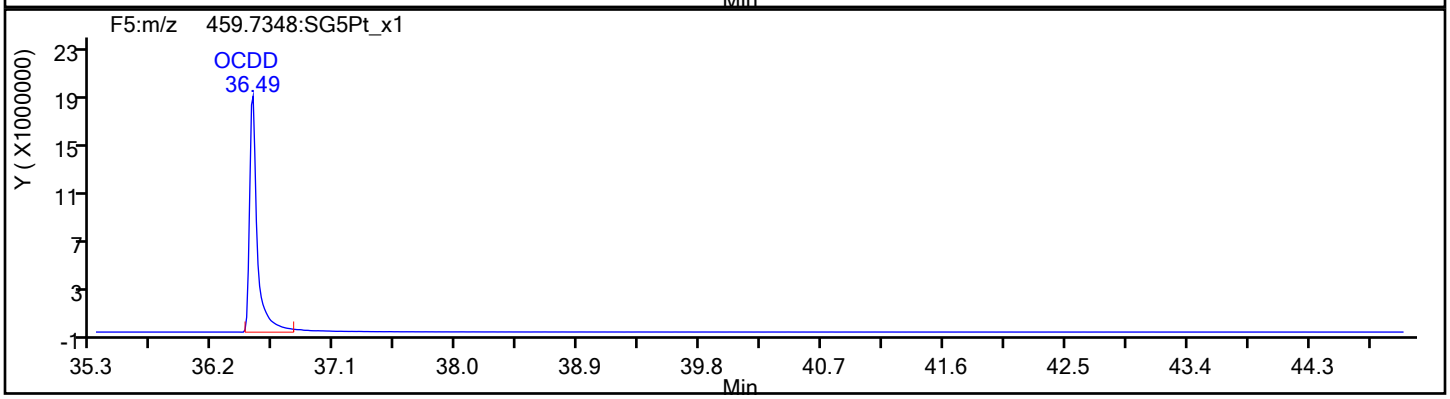

OCDD Standards

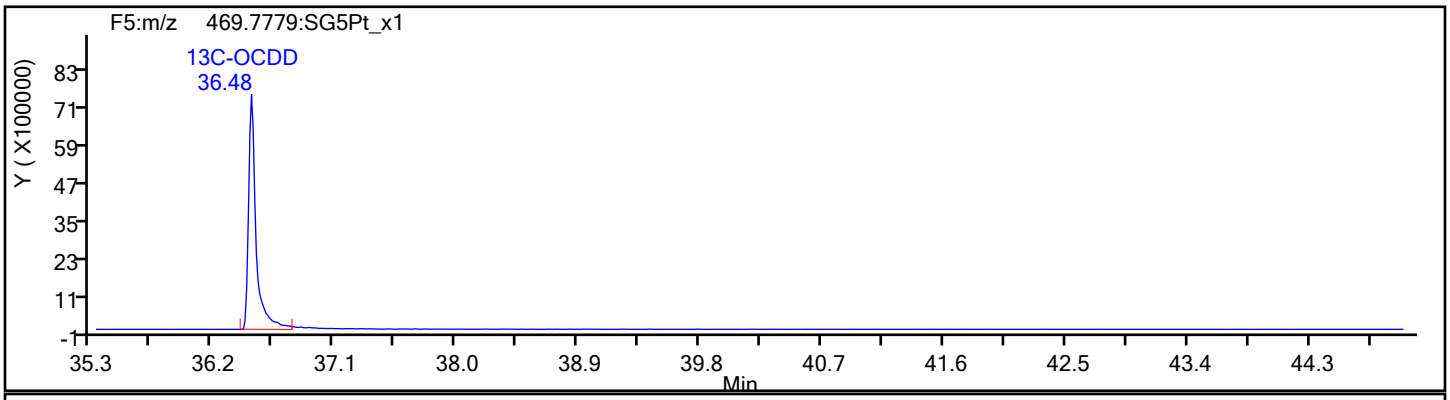

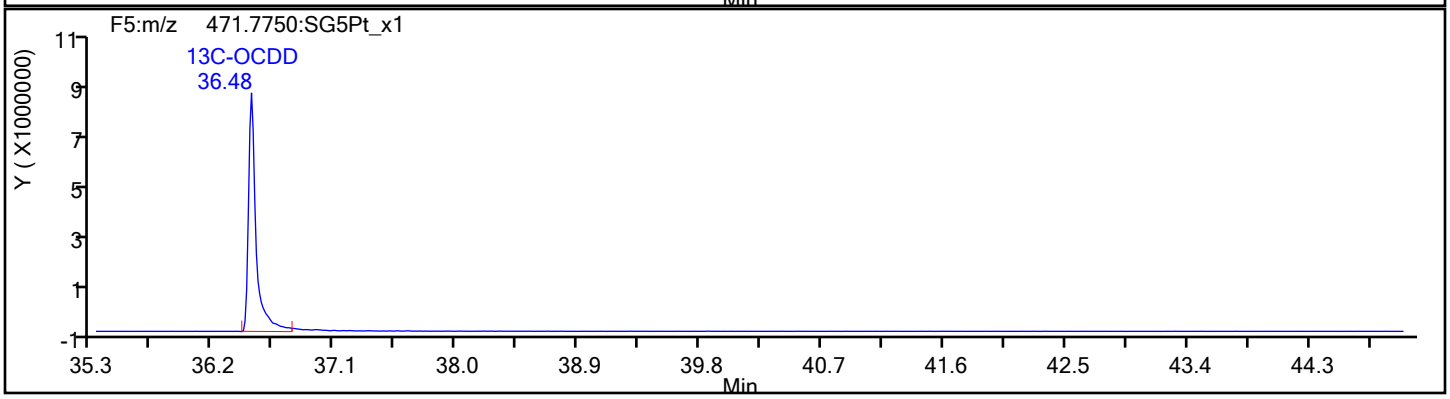

Report Date: 18-Sep-2019 10:45:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

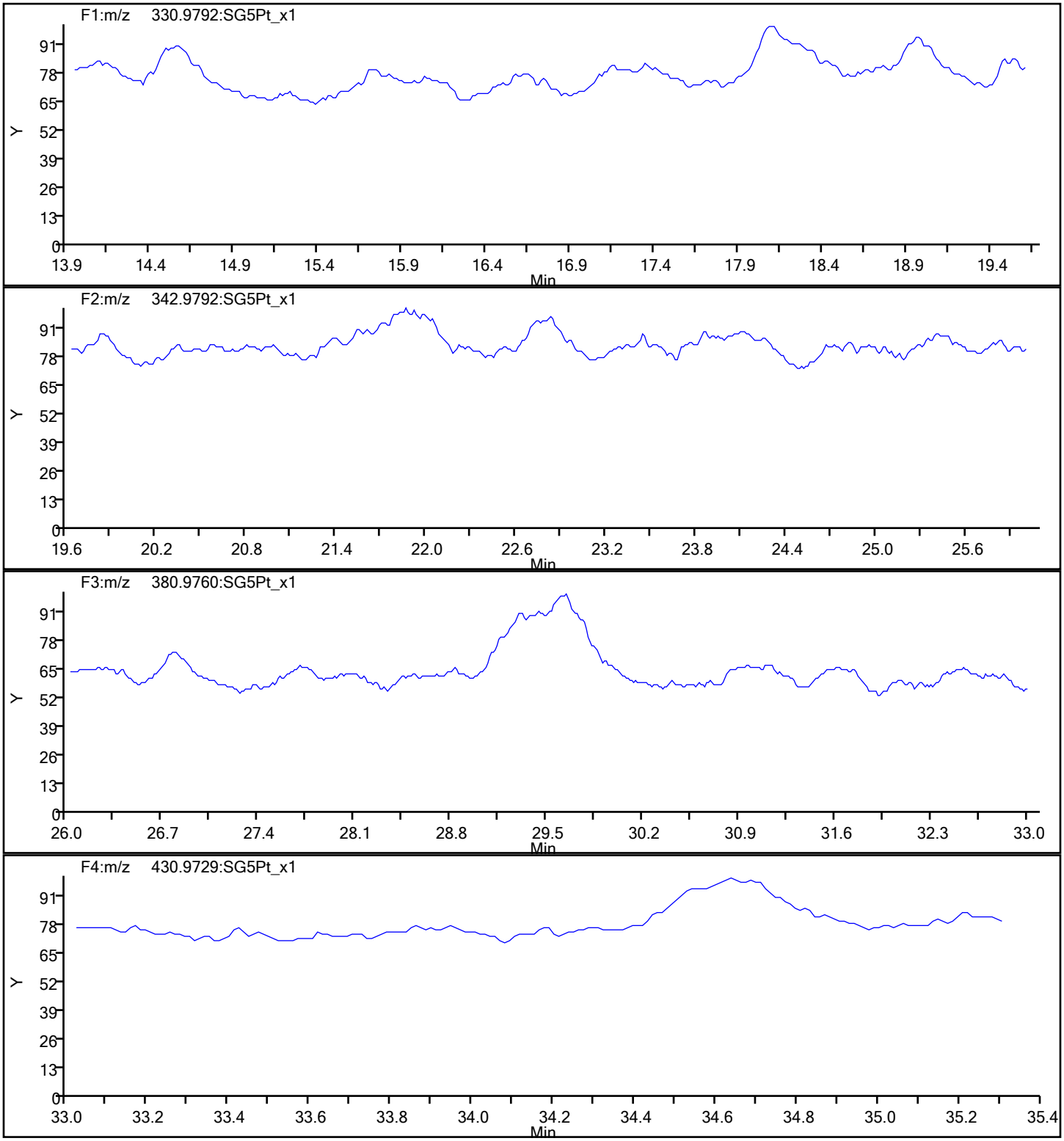

Report Date: 18-Sep-2019 10:45:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d		
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Instrument ID:	10D5	Operator ID:	AJS
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Client ID:			
Worklist#:	324128	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

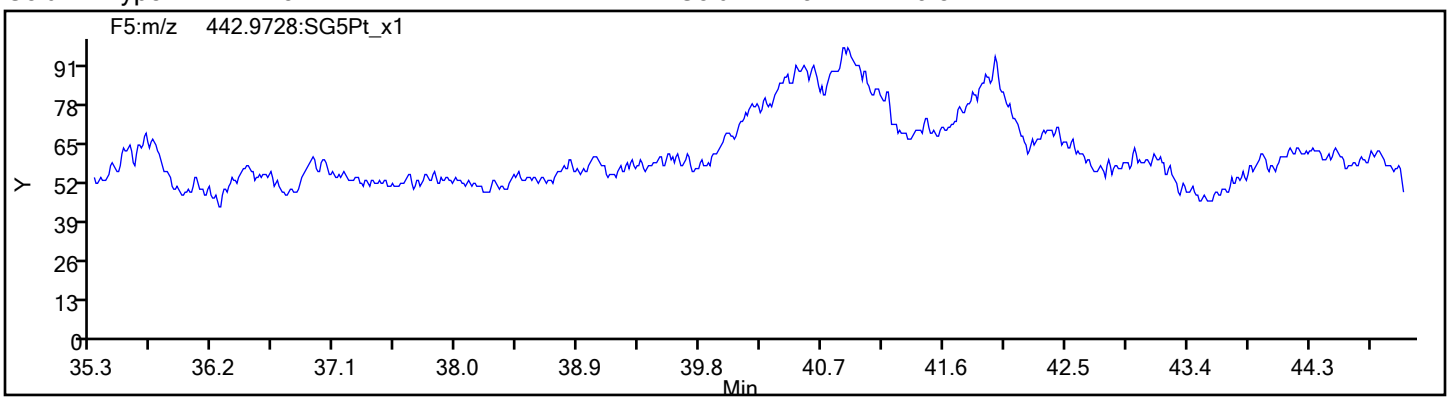

FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 320-328202/13 Calibration Date: 10/03/2019 21:01

Instrument ID: 10D5 Calib Start Date: 09/17/2019 13:03

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 09/17/2019 16:55

Lab File ID: 03OC1910D5_13.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
2,3,7,8-TCDF	AveID	1.051	1.017		9.67	10.0	97	84-120
2,3,7,8-TCDD	AveID	1.106	1.000		9.03	10.0	90	78-129
1,2,3,7,8-PeCDF	AveID	1.082	1.045		48.3	50.0	97	82-120
2,3,4,7,8-PeCDF	AveID	1.103	1.066		48.3	50.0	97	82-122
1,2,3,7,8-PeCDD	AveID	0.9050	0.9389		51.9	50.0	104	78-130
1,2,3,4,7,8-HxCDF	AveID	1.197	1.164		48.6	50.0	97	90-112
1,2,3,6,7,8-HxCDF	AveID	1.181	1.154		48.9	50.0	98	88-114
2,3,4,6,7,8-HxCDF	AveID	1.212	1.180		48.7	50.0	97	88-114
1,2,3,4,7,8-HxCDD	AveID	1.109	1.105		49.8	50.0	100	78-128
1,2,3,6,7,8-HxCDD	AveID	1.081	1.052		48.6	50.0	97	78-128
1,2,3,7,8,9-HxCDD	AveID	1.212	1.131		46.6	50.0	93	82-122
1,2,3,7,8,9-HxCDF	AveID	1.245	1.194		47.9	50.0	96	90-112
1,2,3,4,6,7,8-HpCDF	AveID	1.556	1.479		47.5	50.0	95	90-110
1,2,3,4,6,7,8-HpCDD	AveID	0.9316	0.9410		50.5	50.0	101	86-116
1,2,3,4,7,8,9-HpCDF	AveID	1.386	1.347		48.6	50.0	97	86-116
OCDD	AveID	1.062	1.026		96.6	100	97	79-126
OCDF	AveID	1.260	1.261		100	100	100	63-159
13C-2,3,7,8-TCDF	Ave	1.438	1.264		87.9	100	88	71-140
13C-2,3,7,8-TCDD	Ave	0.9533	0.9421		98.8	100	99	82-121
13C-1,2,3,7,8-PeCDF	Ave	1.029	0.996		96.8	100	97	76-130
13C-2,3,4,7,8-PeCDF	Ave	0.9827	0.9793		99.7	100	100	77-130
13C-1,2,3,7,8-PeCDD	Ave	0.7481	0.7397		98.9	100	99	62-160
13C-1,2,3,4,7,8-HxCDF	Ave	1.152	1.200		104	100	104	76-131
13C-1,2,3,6,7,8-HxCDF	Ave	1.243	1.287		103	100	103	70-143
13C-2,3,4,6,7,8-HxCDF	Ave	1.172	1.208		103	100	103	73-137
13C-1,2,3,4,7,8-HxCDD	Ave	0.7812	0.7930		102	100	102	85-117
13C-1,2,3,6,7,8-HxCDD	Ave	0.9175	0.9496		104	100	104	85-118
13C-1,2,3,7,8,9-HxCDF	Ave	1.065	1.078		101	100	101	74-135
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.8628	0.7969		92.4	100	92	78-129
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.8739	0.7707		88.2	100	88	72-138
13C-1,2,3,4,7,8,9-HpCDF	Ave	0.7991	0.6929		86.7	100	87	77-129
13C-OCDD	Ave	0.7744	0.5862		151	200	76	48-208
37Cl4-2,3,7,8-TCDD	Ave	1.222	1.216		7.96	8.00	99	79-127

Sample List Report **MassLynx 4.1**

Sample List: C:\MassLynx\DATA 2019.PRO\SampleDB\03OC1910D5.SPL
Last Modified: Friday, October 04, 2019 10:28:53 Pacific Daylight Time
Printed: Friday, October 04, 2019 10:28:56 Pacific Daylight Time

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #
1	03OC1910D5_1	WDM HRDXNCP_00038	WDM 100319	Tray01:1	Dioxin	
2	03OC1910D5_2	CS-4 HRDXNL4_00084	CCV 100319	Tray01:2	Dioxin	
3	03OC1910D5_3	Solvent Blank C-14	SB 100319	Tray01:3	---	
4	03OC1910D5_4	MB 320-325823/1-A	MB 320-325823/1-A	Tray01:4	8290/Solid	52
5	03OC1910D5_5	320-52496-A-59-C MDLV 47	320-52496-A-59-C MDLV	Tray01:5	8290/Solid	
6	03OC1910D5_6	320-52496-A-60-C MDLV 48	320-52496-A-60-C MDLV	Tray01:6	8290/Solid	
7	03OC1910D5_7	320-52496-A-61-C MDLV 49	320-52496-A-61-C MDLV	Tray01:7	8290/Solid	
8	03OC1910D5_8	320-52496-A-62-C LOQV 50	320-52496-A-62-C LOQV	Tray01:8	8290/Solid	
9	03OC1910D5_9	320-54408-G-1-A RA	320-54408-G-1-A RA	Tray01:9	8290/Water	D96
10	03OC1910D5_10	320-54361-E-1-A (25X)	320-54361-E-1-A (25X)	Tray01:10	8290/Water	
11	03OC1910D5_11	QC Eluent 65% #1 1761449	QC Eluent 65% 1761449	Tray01:11	1613B/8290	Q82
12	03OC1910D5_12	QC Eluent 65% #2 1761450	QC Eluent 65% 1761450	Tray01:12	1613B/8290	
13	03OC1910D5_13	CS-4 HRDXNL4_00084	CCV 100319A	Tray01:2	Dioxin	
14	03OC1910D5_14	WDM HRDXNCP_00038	WDM 100319A	Tray01:1	Dioxin	
15	03OC1910D5_15	Solvent Blank C-14	SB 100319A	Tray01:3	---	
16	03OC1910D5_16	MB 320-327320/1-A	MB 320-327320/1-A	Tray01:15	1613B(T)/Water	52
17	03OC1910D5_17	LCS 320-327320/2-A	LCS 320-327320/2-A	Tray01:16	1613B(T)/Water	
18	03OC1910D5_18	LCSD 320-327320/3-A	LCSD 320-327320/3-A	Tray01:17	1613B(T)/Water	
19	03OC1910D5_19	180-96144-C-1-A	180-96144-C-1-A	Tray01:18	1613B/Water	
20	03OC1910D5_20	440-250525-O-1-A	440-250525-O-1-A	Tray01:19	1613B_T/Water	
21	03OC1910D5_21	440-250525-O-2-A	440-250525-O-2-A	Tray01:20	1613B_T/Water	
22	03OC1910D5_22	440-250525-N-3-A	440-250525-N-3-A	Tray01:21	1613B_T/Water	
23	03OC1910D5_23	440-250525-O-4-A	440-250525-O-4-A	Tray01:22	1613B_T/Water	
24	03OC1910D5_24	440-250525-O-5-A	440-250525-O-5-A	Tray01:23	1613B_T/Water	
25	03OC1910D5_25	320-54816-A-1-A	320-54816-A-1-A	Tray01:24	1613B/Water	
26	03OC1910D5_26	Solvent Blank C-14	SB 100319B	Tray01:3	---	
27	03OC1910D5_27	WDM HRDXNCP_00038	WDM 100319B	Tray01:1	Dioxin	
28	03OC1910D5_28	CS-4 HRDXNL4_00084	CCV 100319B	Tray01:2	Dioxin	
29	03OC1910D5_29	Solvent Blank C-14	SB 100319C	Tray01:3	---	
30	03OC1910D5_30	MB 320-327572/1-A	MB 320-327572/1-A	Tray01:29	8290A_D5/Solid	D97
31	03OC1910D5_31	LCS 320-327572/2-A	LCS 320-327572/2-A	Tray01:30	8290A_D5/Solid	
32	03OC1910D5_32	LCSD 320-327572/3-A	LCSD 320-327572/3-A	Tray01:31	8290A_D5/Solid	
33	03OC1910D5_33	160-35778-C-4-D	160-35778-C-4-D	Tray01:32	8290A_D5/Solid	
34	03OC1910D5_34	160-35778-C-4-E MS	160-35778-C-4-E MS	Tray01:33	8290A_D5/Solid	
35	03OC1910D5_35	160-35778-C-4-F MSD	160-35778-C-4-F MSD	Tray01:34	8290A_D5/Solid	
36	03OC1910D5_36	Solvent Blank C-14	SB 100319D	Tray01:3	---	
37	03OC1910D5_37	CS-4 HRDXNL4_00084	CCV 100319C	Tray01:2	Dioxin	

Logfile checked
10/04/19 SMA

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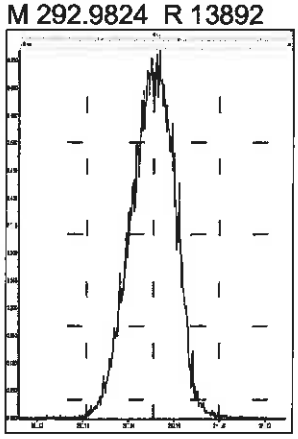

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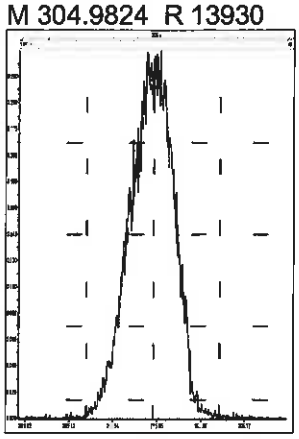

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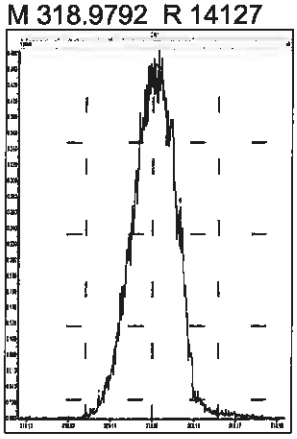

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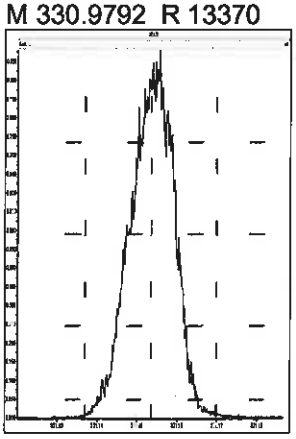

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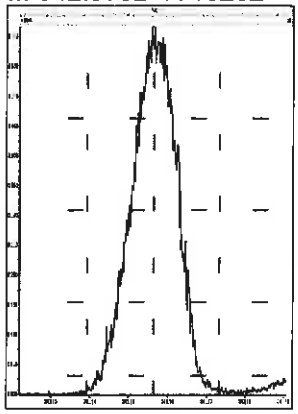

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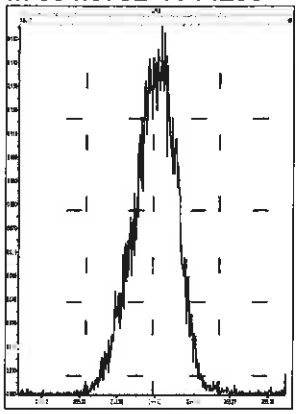

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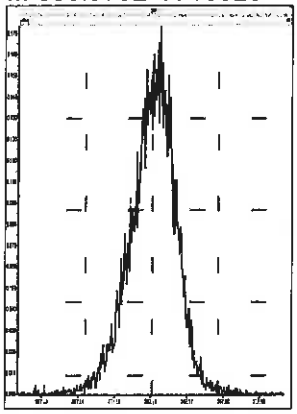

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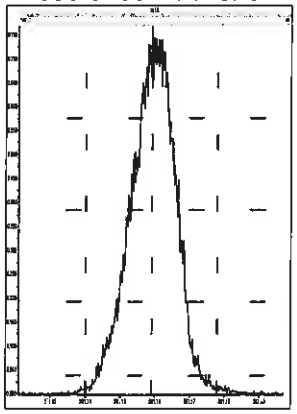

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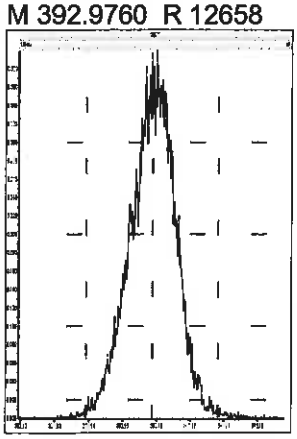

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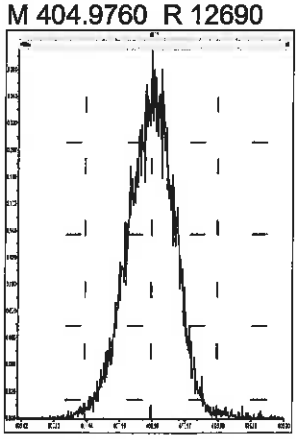

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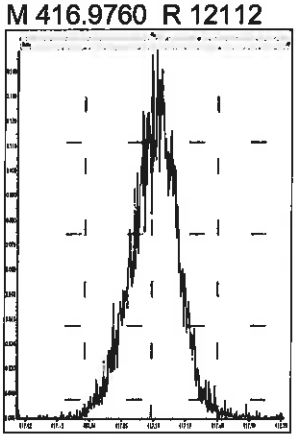

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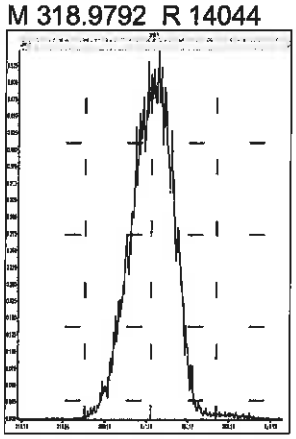

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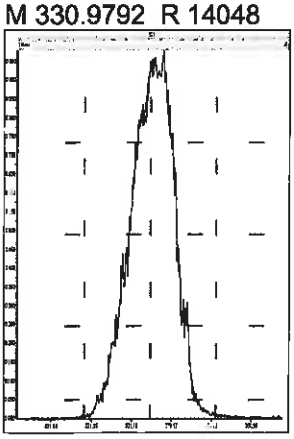

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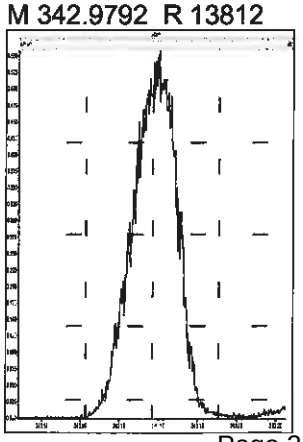

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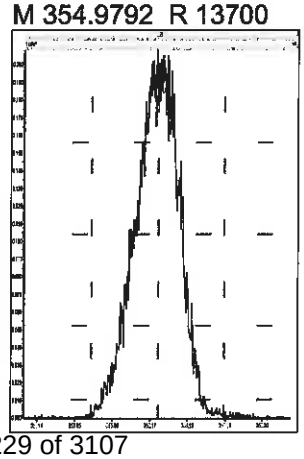

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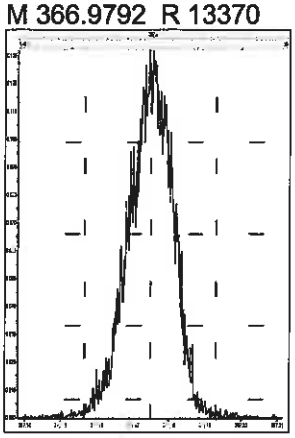

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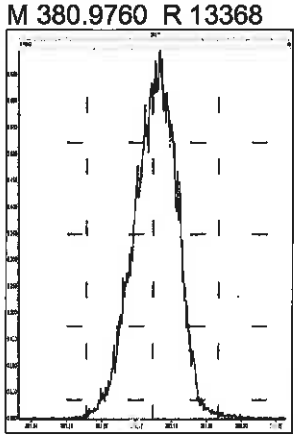

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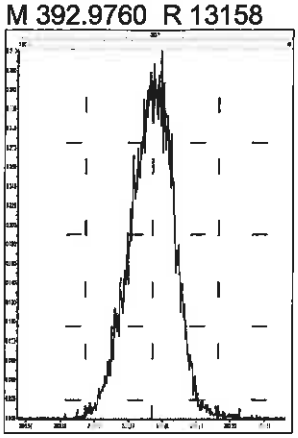

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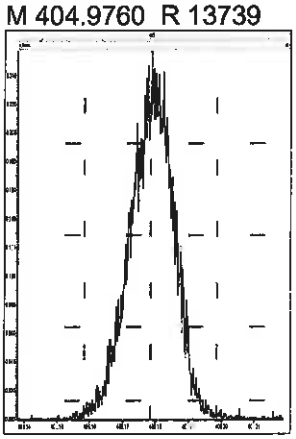

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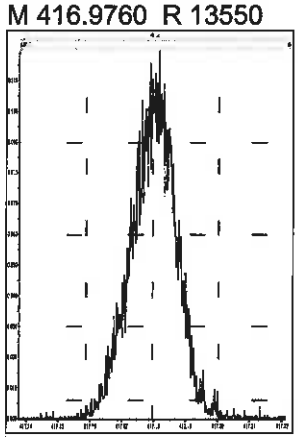

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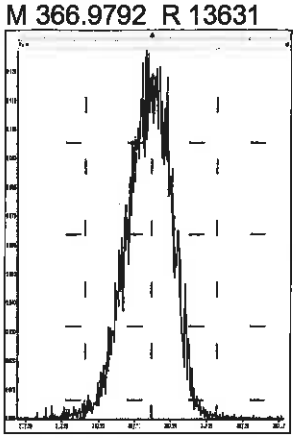

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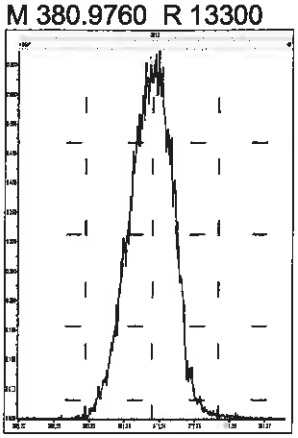

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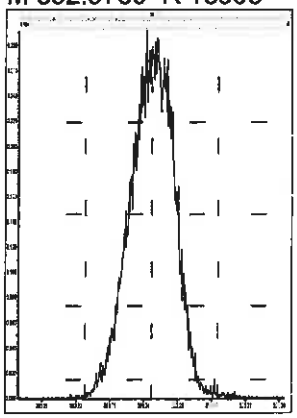

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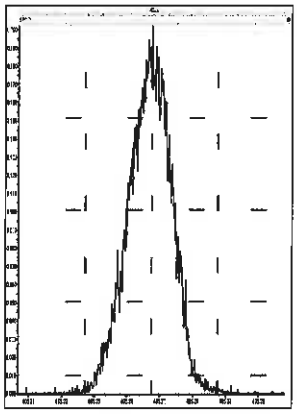

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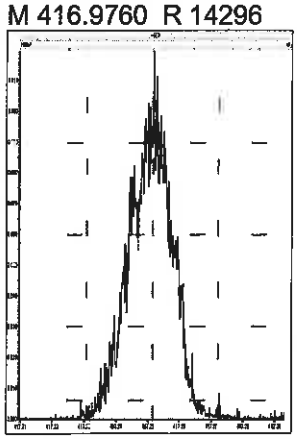

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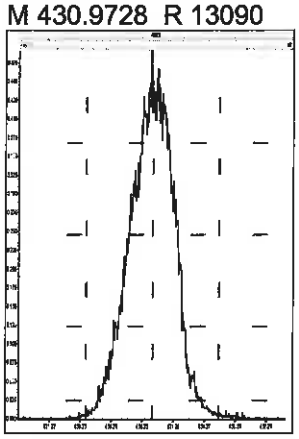

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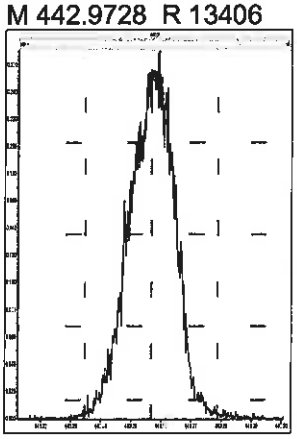

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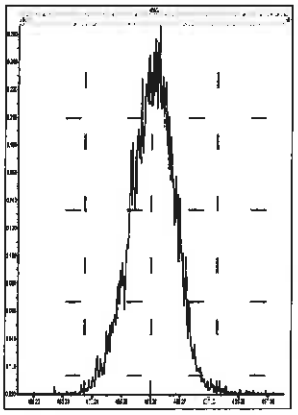

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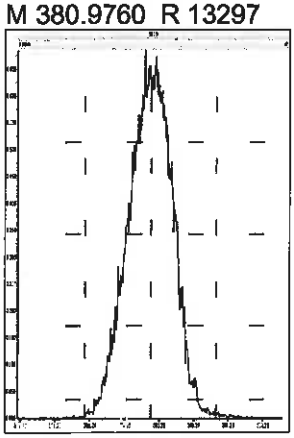

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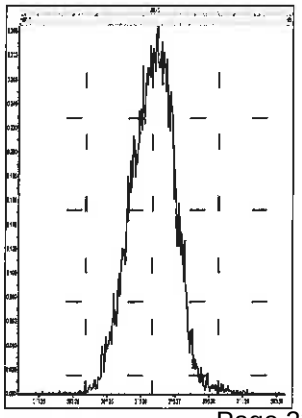

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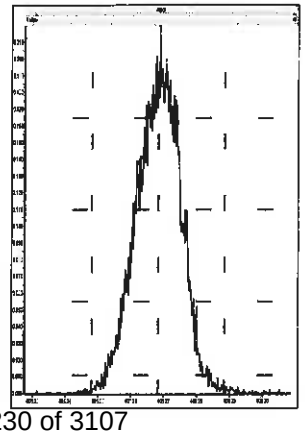

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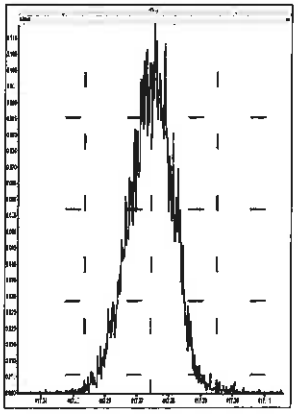

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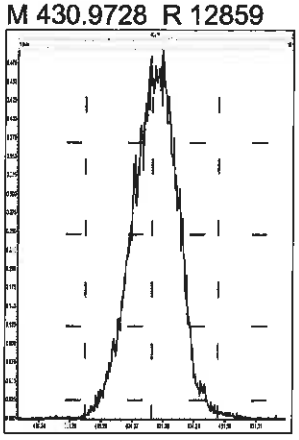

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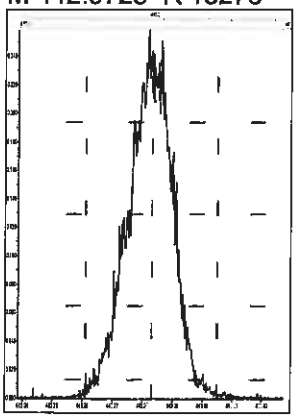

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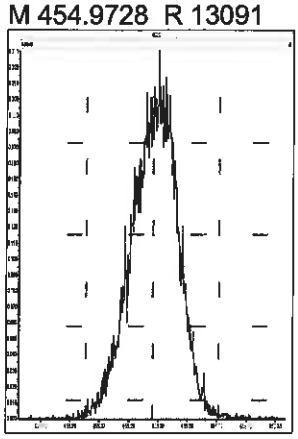

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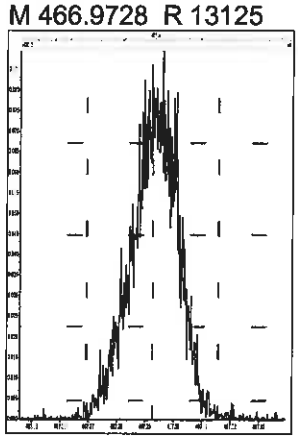

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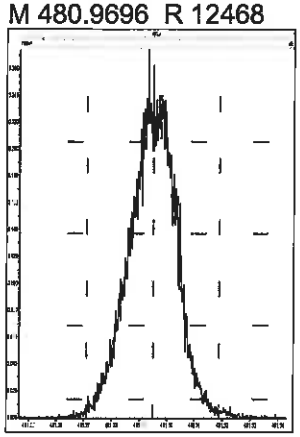

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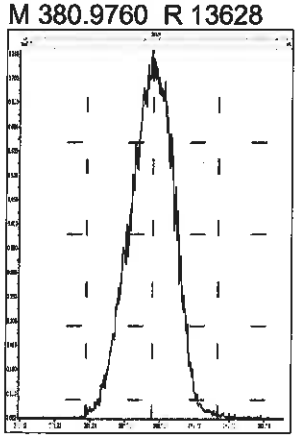

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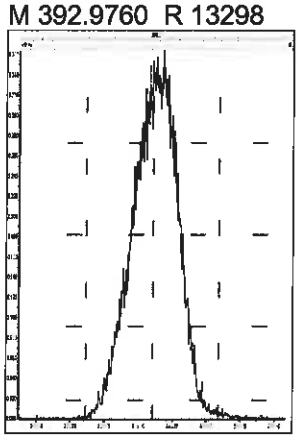

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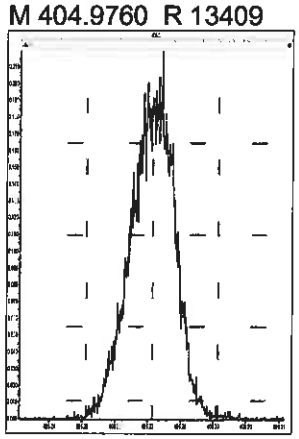

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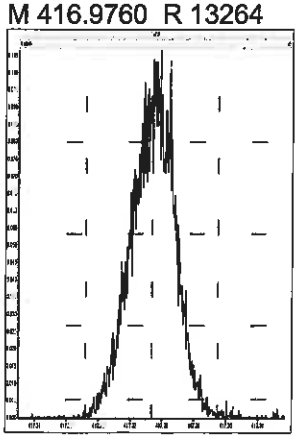

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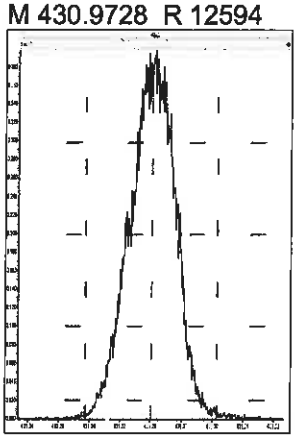

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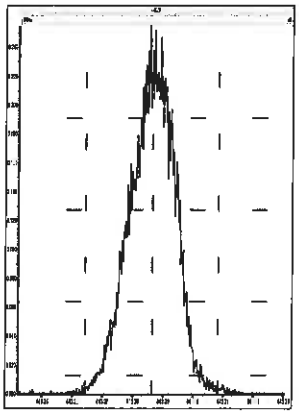

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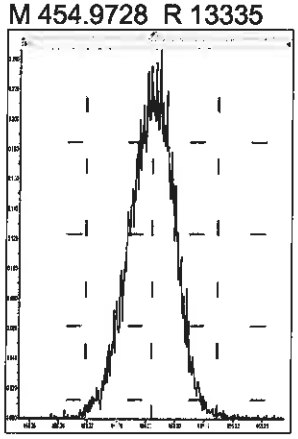

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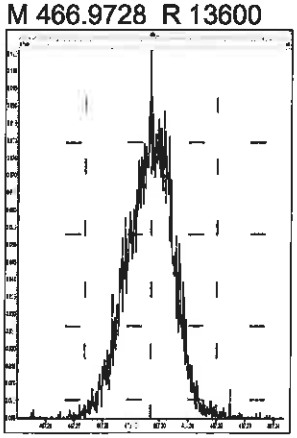

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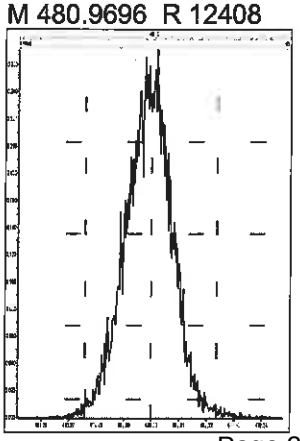

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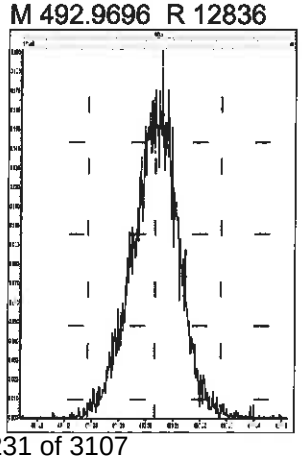

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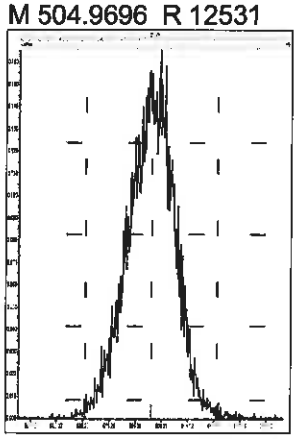

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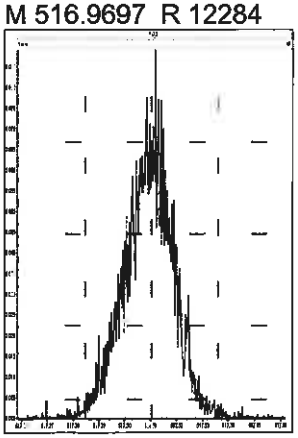

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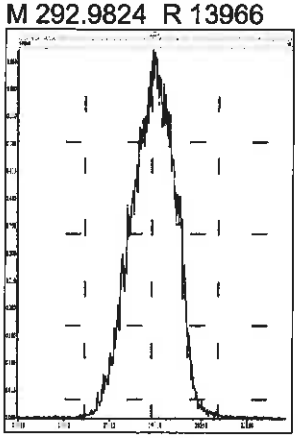

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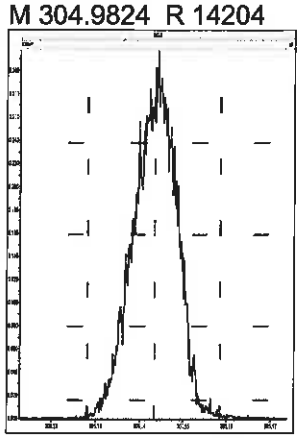

M 318.9792 R 13699

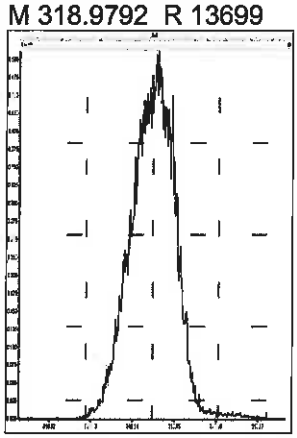

M 330.9792 R 13661

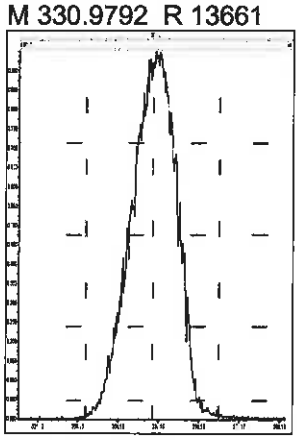

M 342.9792 R 13774

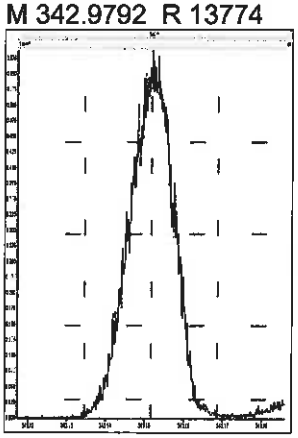

M 354.9792 R 14166

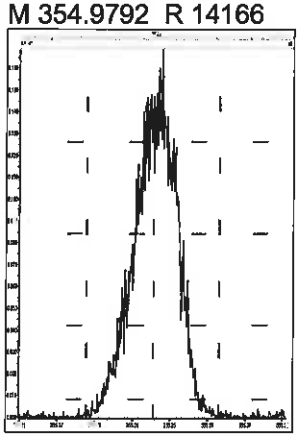

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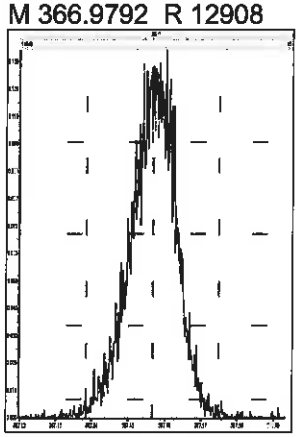

M 380.9760 R 13054

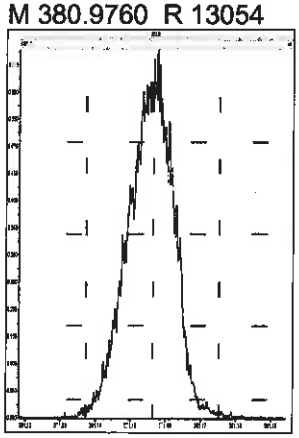

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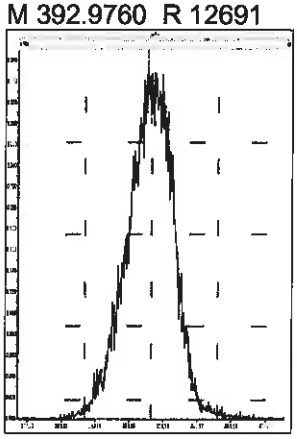

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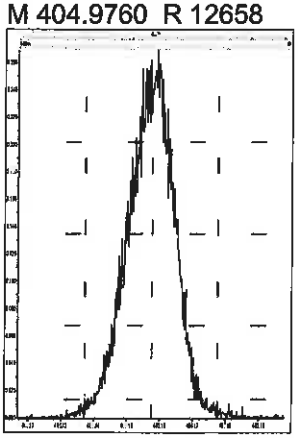

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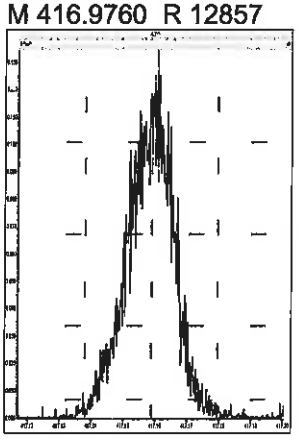

M 318.9792 R 13850

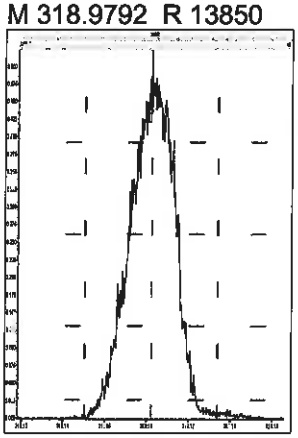

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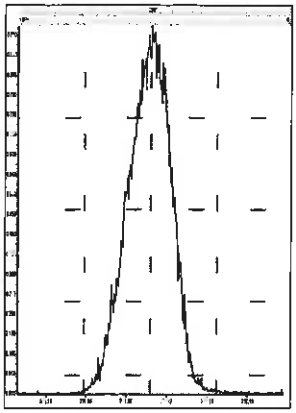

M 342.9792 R 13812

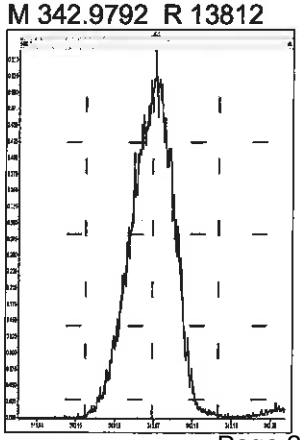

M 354.9792 R 14454

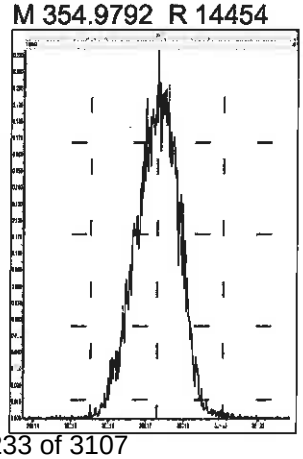

M 366.9792 R 13838

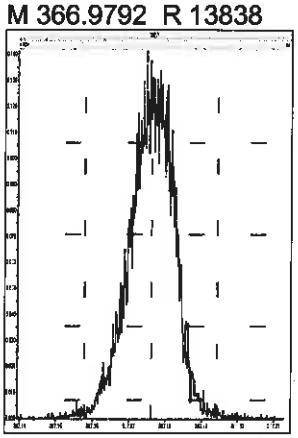

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M 380.9760 R 13550

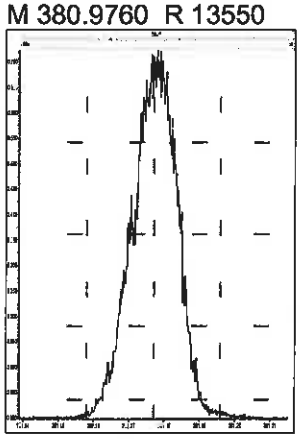

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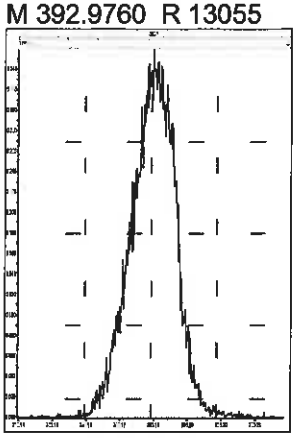

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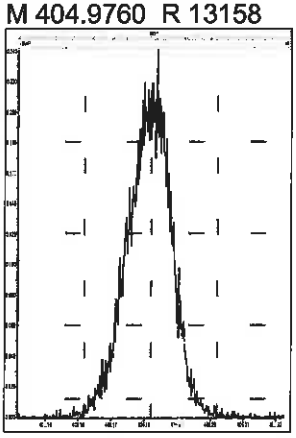

M 416.9760 R 13232

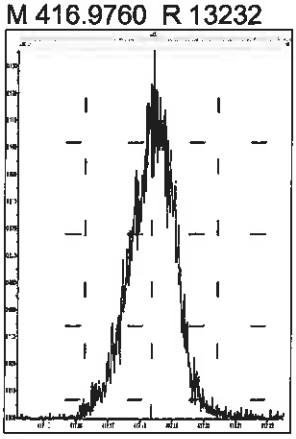

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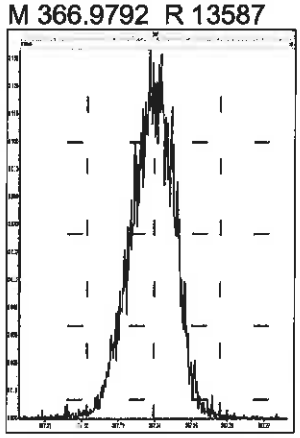

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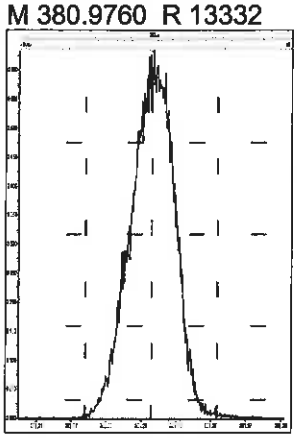

M 392.9760 R 13405

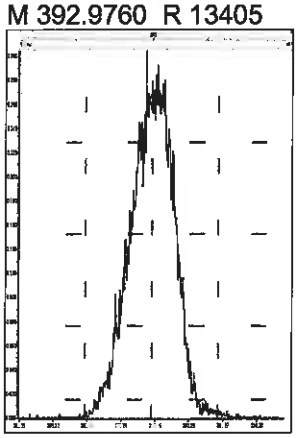

M 404.9760 R 13020

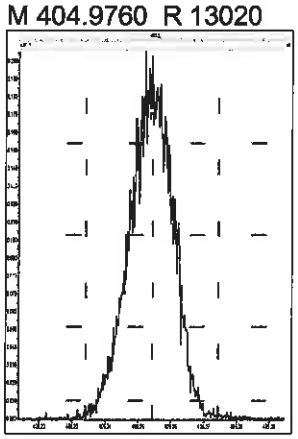

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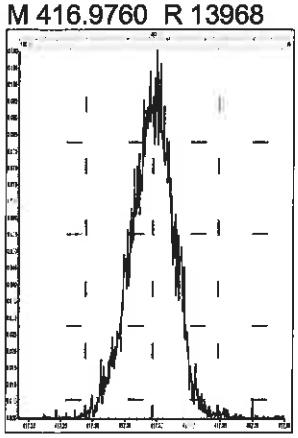

M 430.9728 R 13227

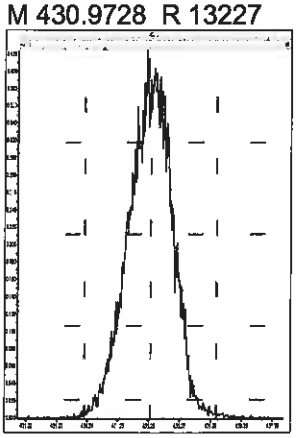

M 442.9728 R 13020

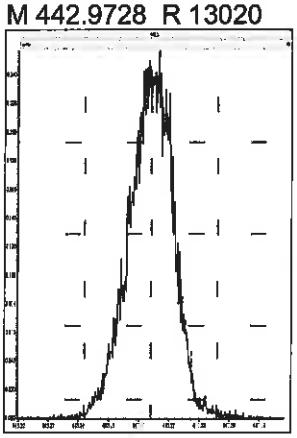

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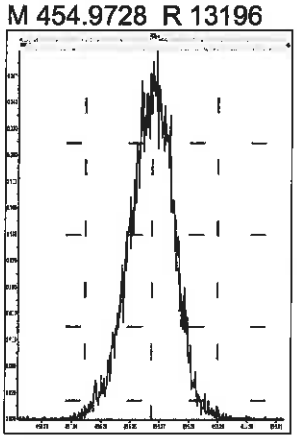

M 380.9760 R 13477

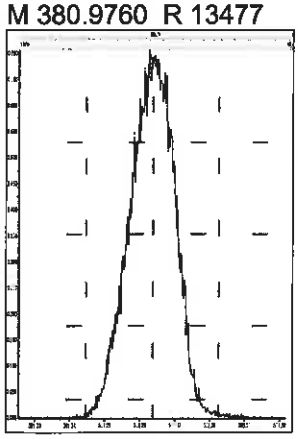

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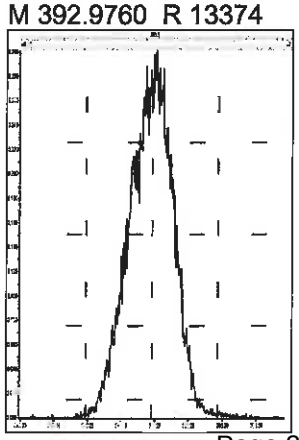

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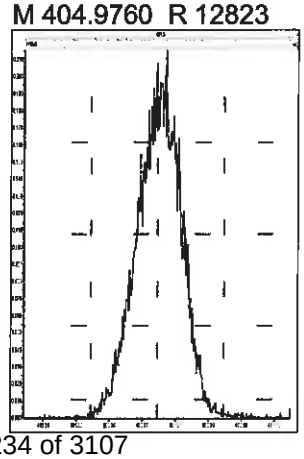

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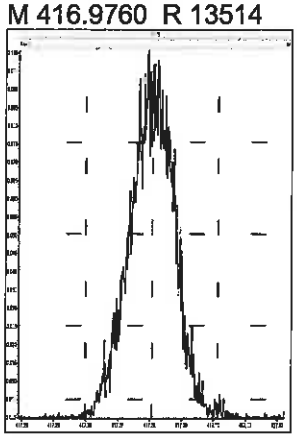

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M 430.9728 R 13020

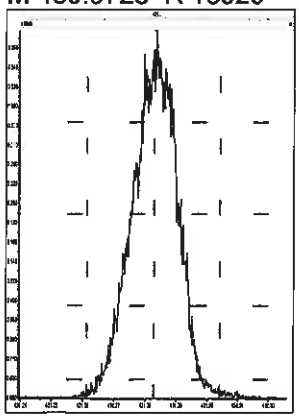

M 442.9728 R 13160

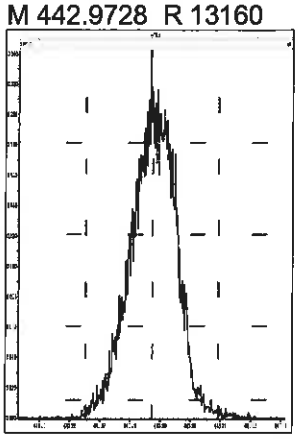

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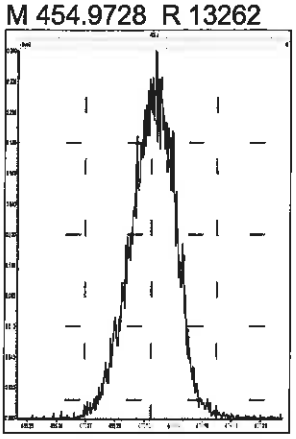

M 466.9728 R 13127

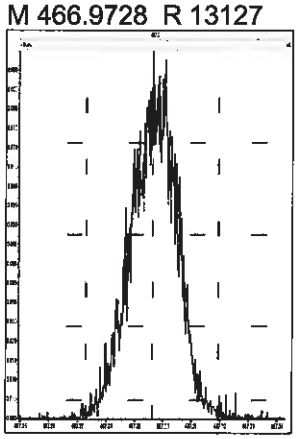

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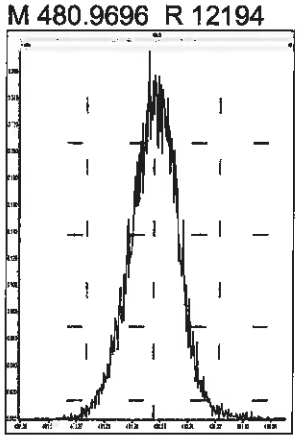

M 380.9760 R 13855

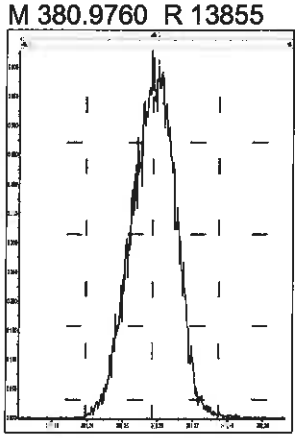

M 392.9760 R 13631

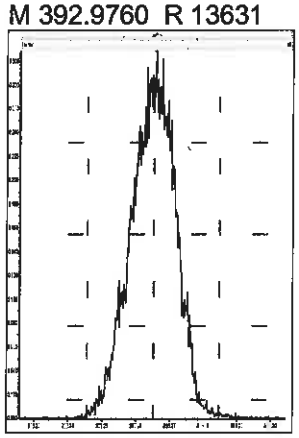

M 404.9760 R 13405

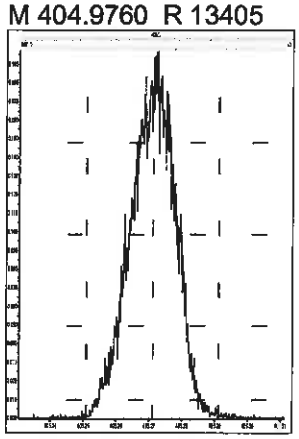

M 416.9760 R 13409

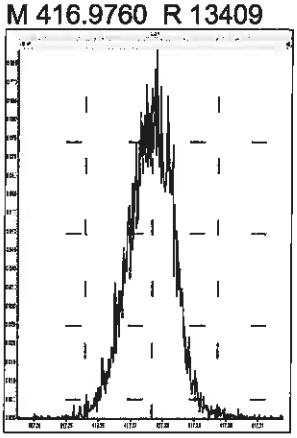

M 430.9728 R 12726

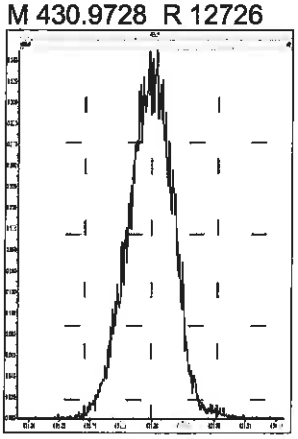

M 442.9728 R 12502

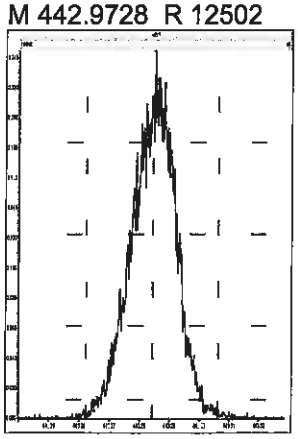

M 454.9728 R 13307

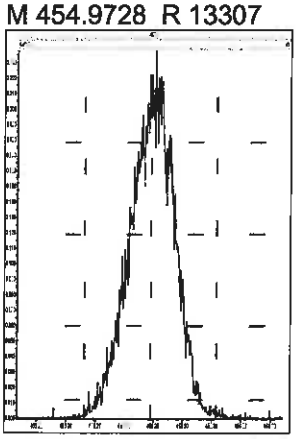

M 466.9728 R 13262

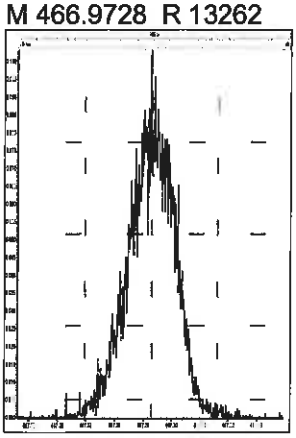

M 480.9696 R 12438

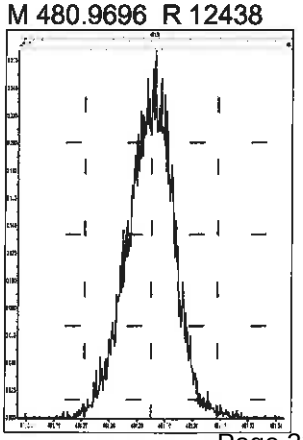

M 492.9696 R 12502

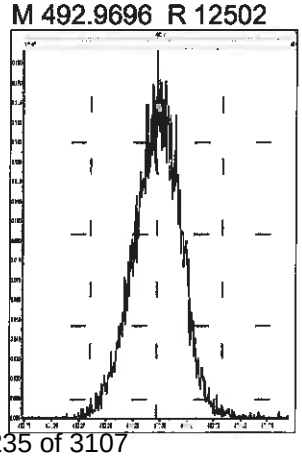

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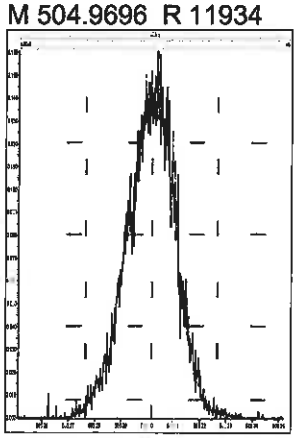

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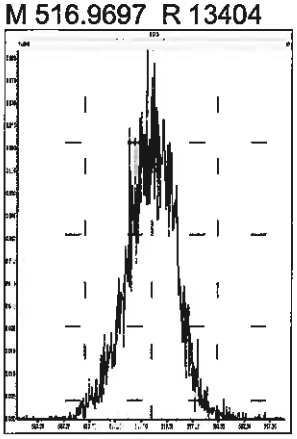

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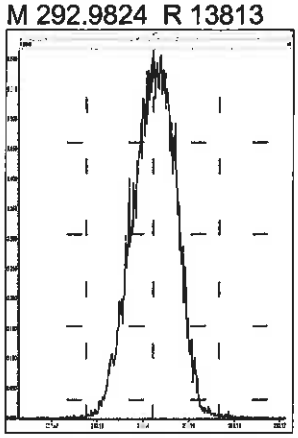

M 304.9824 R 14048

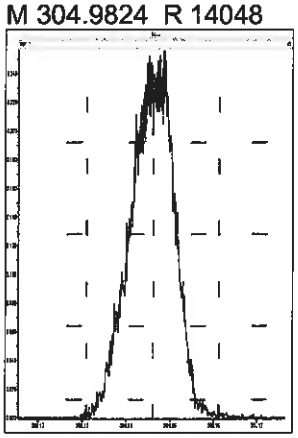

M 318.9792 R 13552

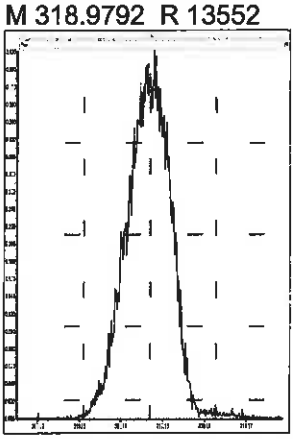

M 330.9792 R 13737

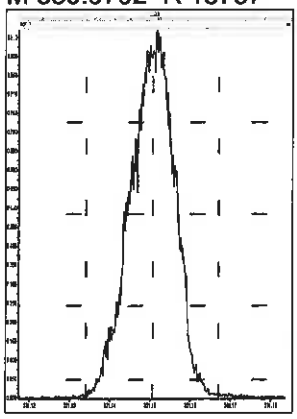

M 342.9792 R 13588

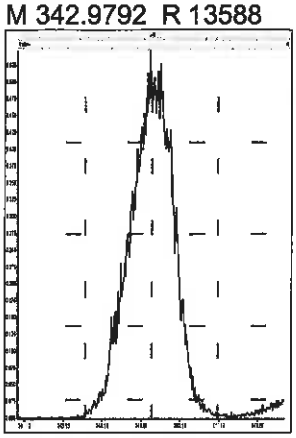

M 354.9792 R 13736

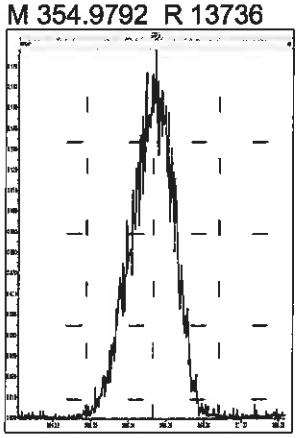

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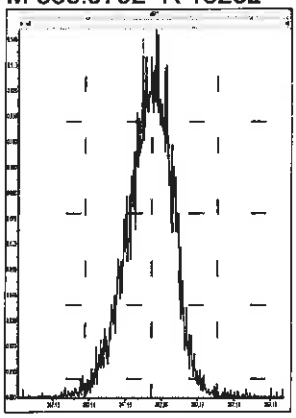

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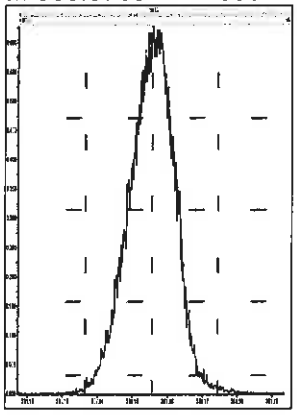

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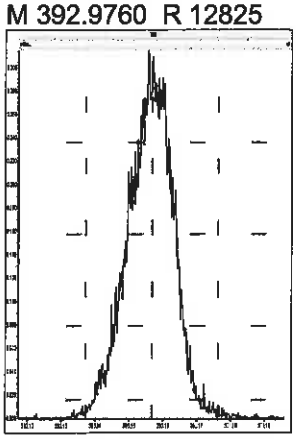

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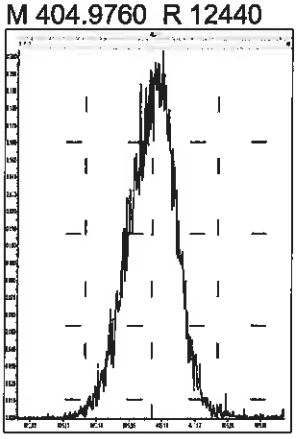

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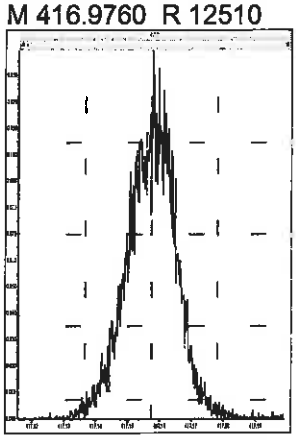

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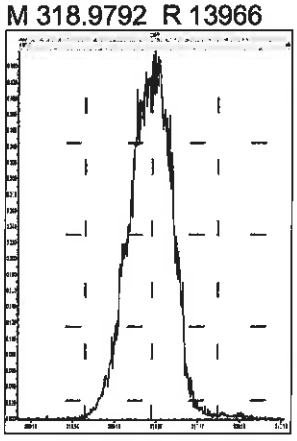

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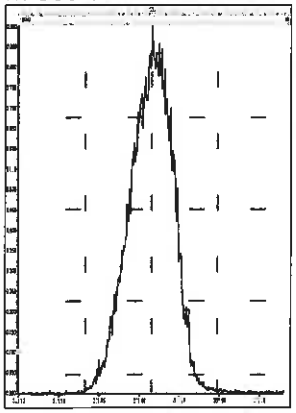

M 342.9792 R 13736

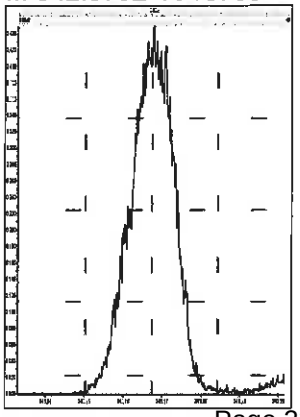

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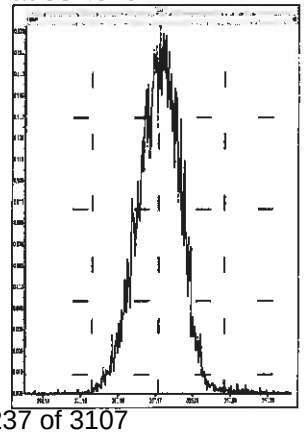

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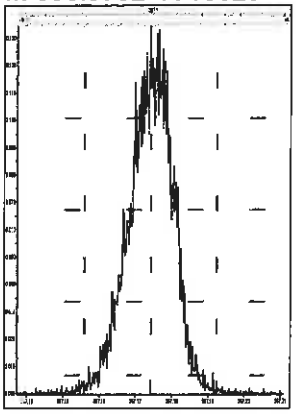

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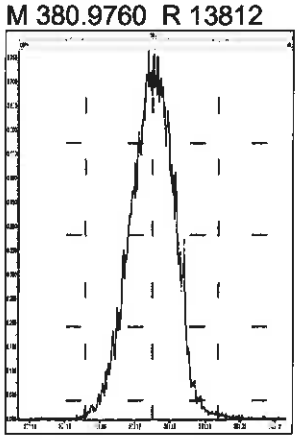

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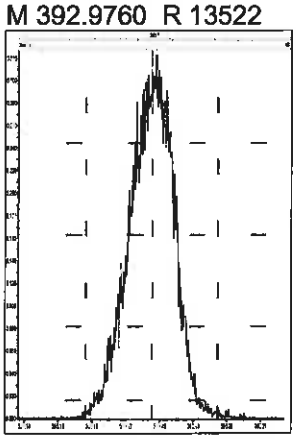

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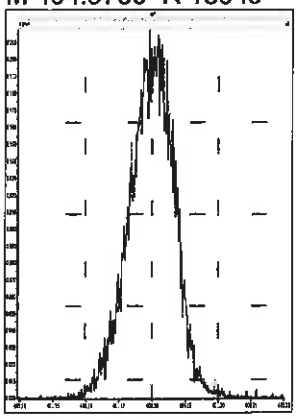

M 416.9760 R 13776

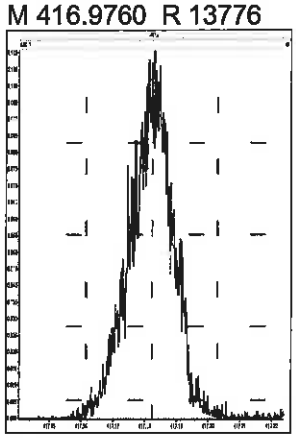

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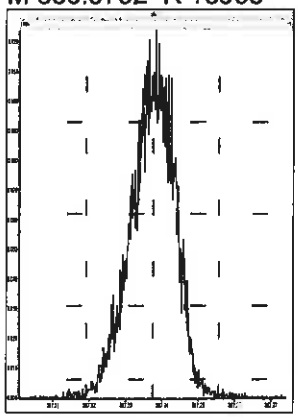

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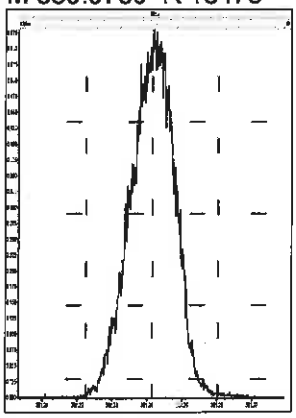

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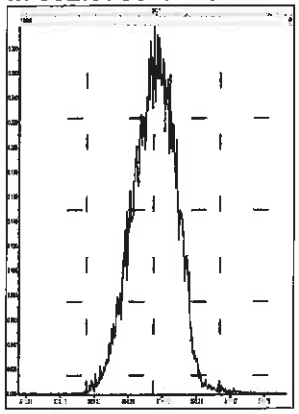

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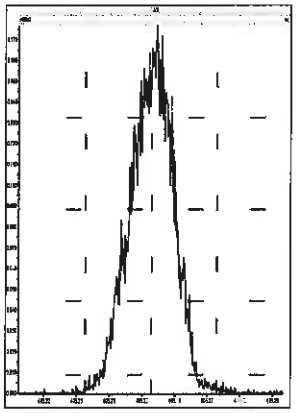

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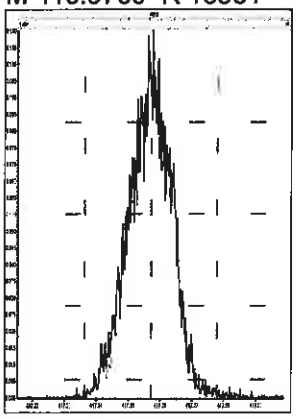

M 430.9728 R 13374

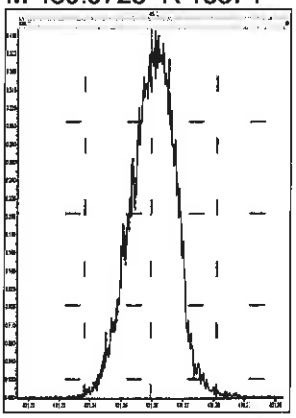

M 442.9728 R 13444

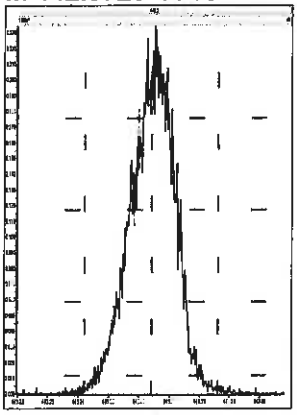

M 454.9728 R 13055

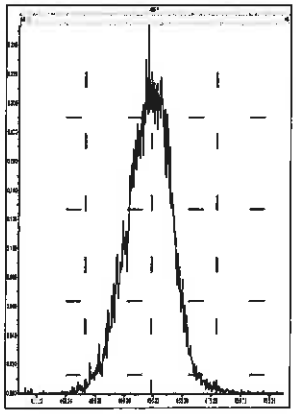

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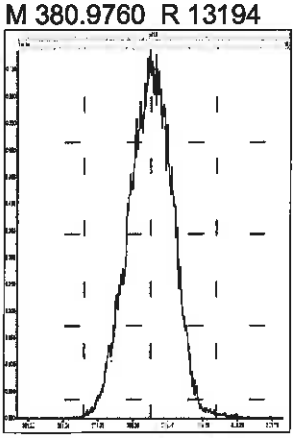

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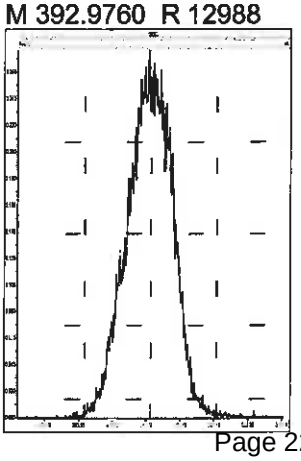

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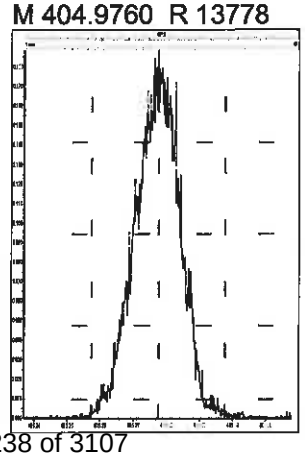

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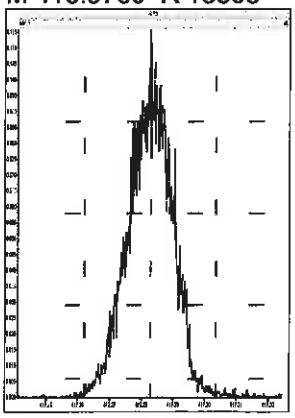

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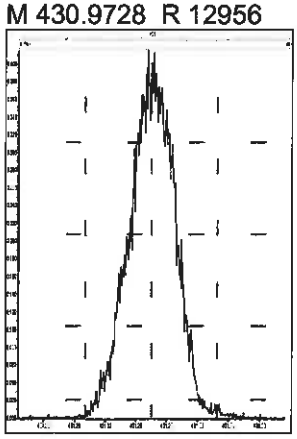

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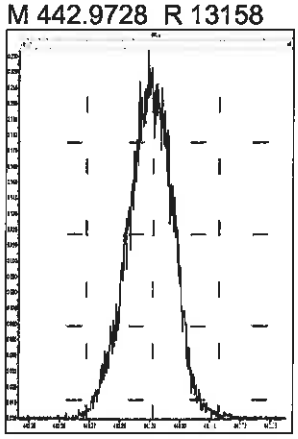

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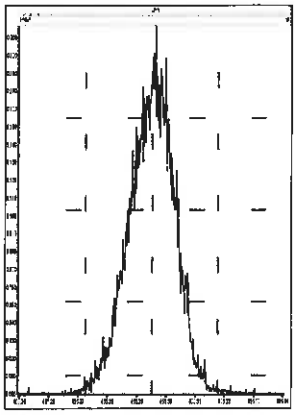

M 466.9728 R 13479

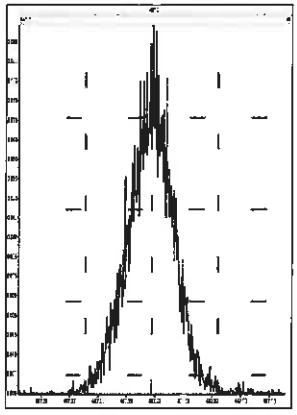

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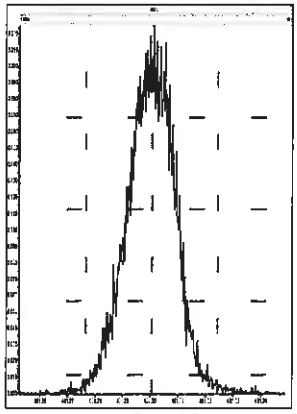

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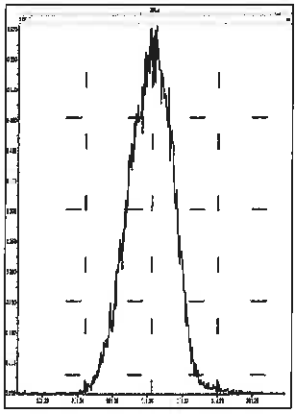

M 392.9760 R 13736

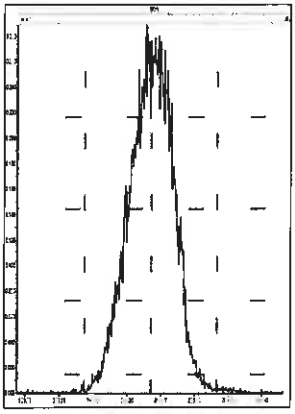

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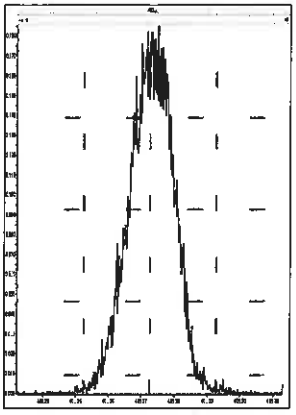

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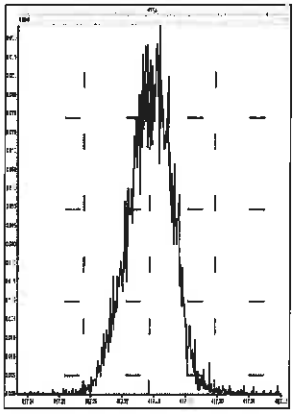

M 430.9728 R 12821

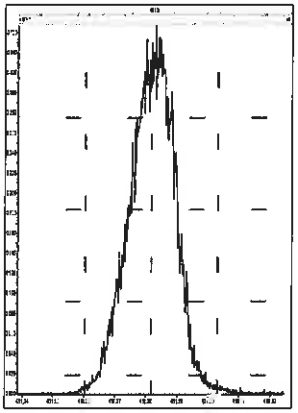

M 442.9728 R 13298

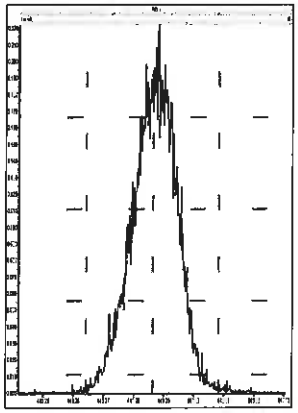

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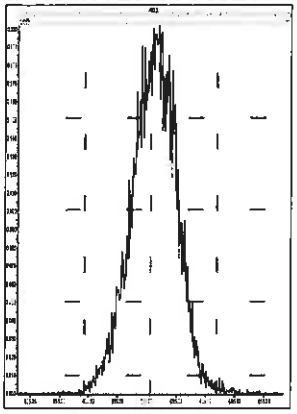

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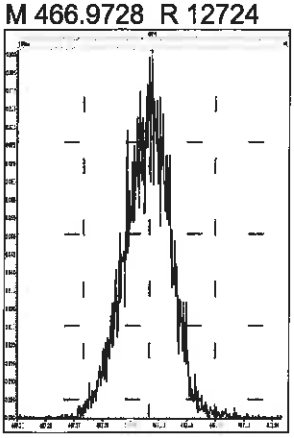

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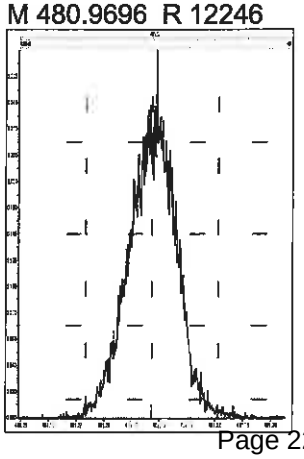

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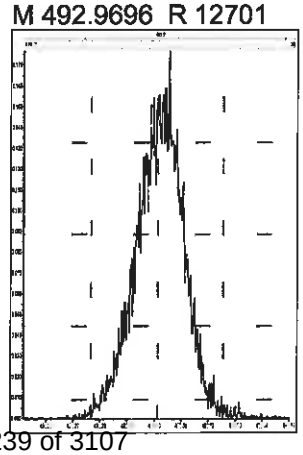

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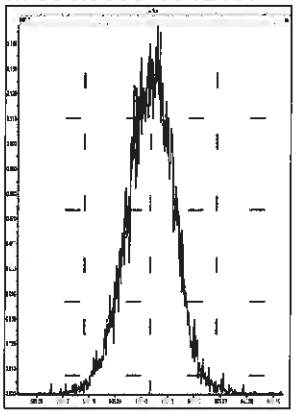

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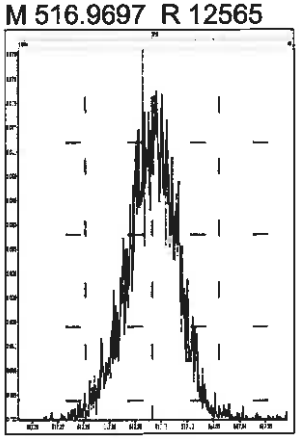

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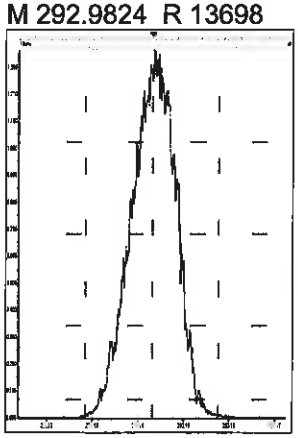

M 304.9824 R 13332

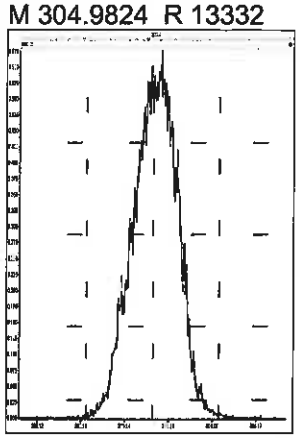

M 318.9792 R 13516

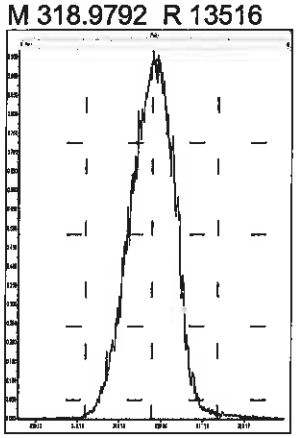

M 330.9792 R 12953

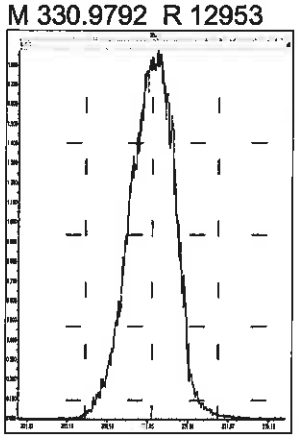

M 342.9792 R 13635

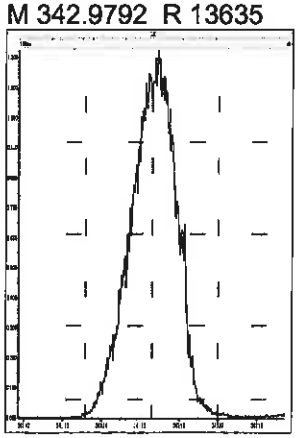

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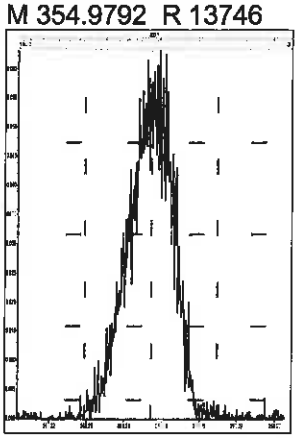

M 366.9792 R 11749

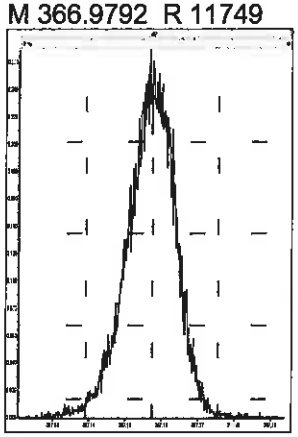

M 380.9760 R 12468

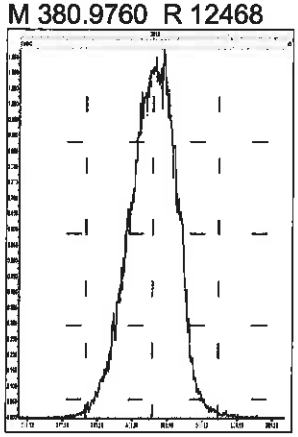

M 392.9760 R 12019

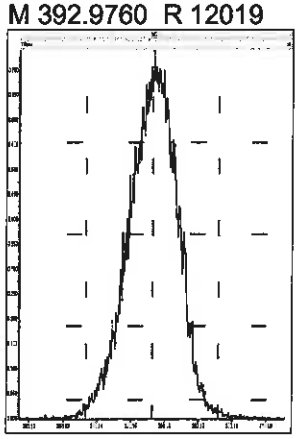

M 404.9760 R 11848

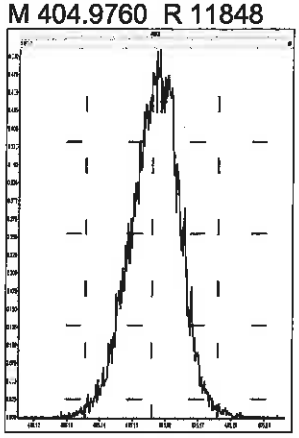

M 416.9760 R 11852

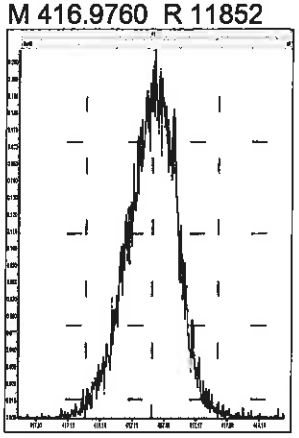

M 318.9792 R 14205

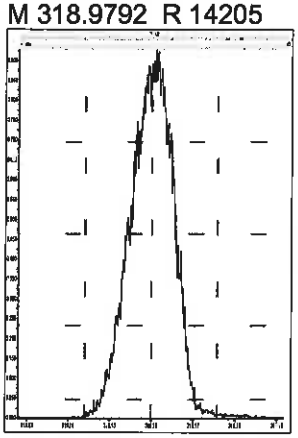

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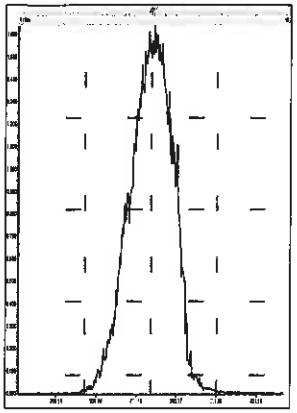

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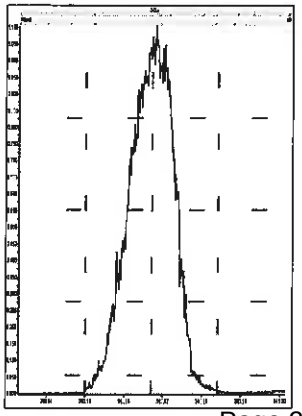

M 354.9792 R 14135

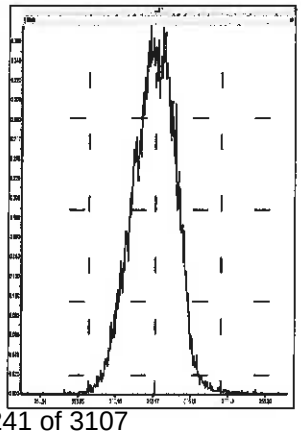

M 366.9792 R 12991

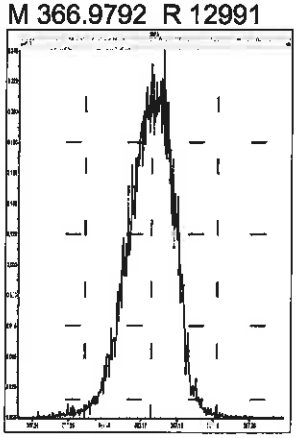

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M 380.9760 R 13333

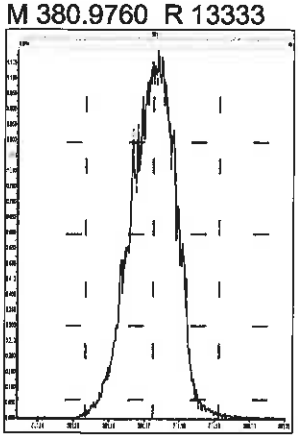

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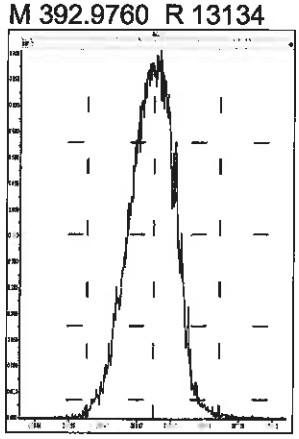

M 404.9760 R 12759

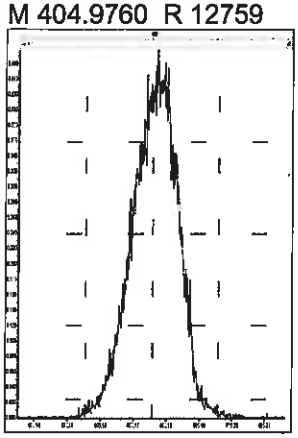

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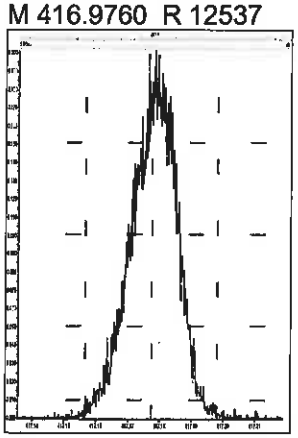

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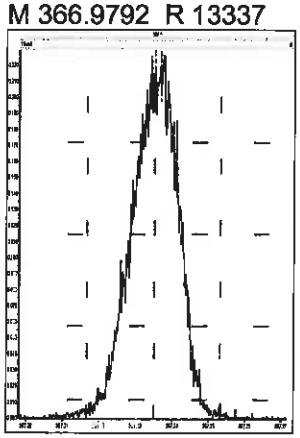

M 380.9760 R 13588

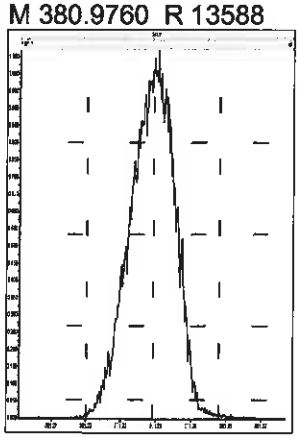

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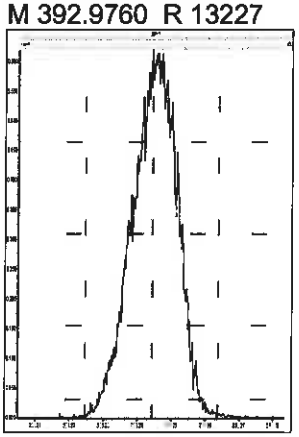

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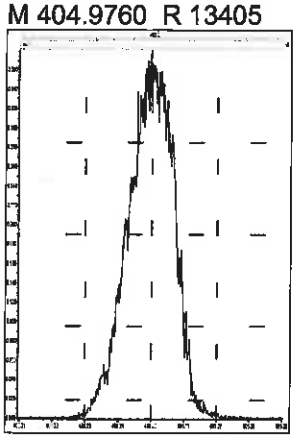

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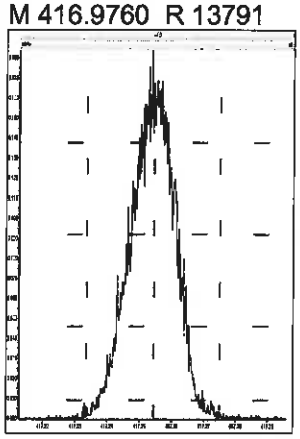

M 430.9728 R 12953

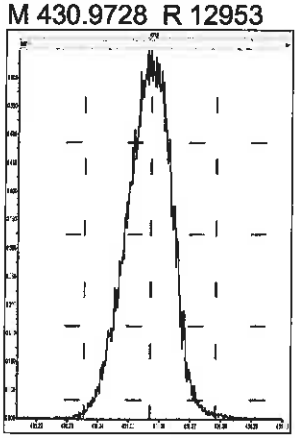

M 442.9728 R 12756

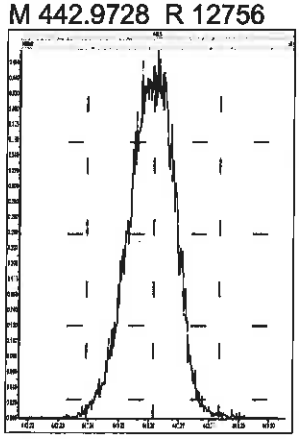

M 454.9728 R 12975

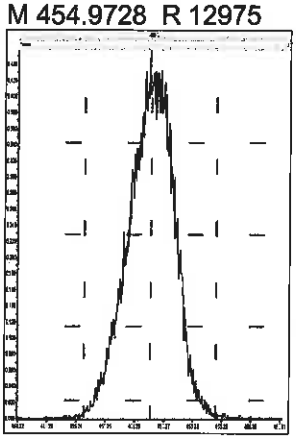

M 380.9760 R 13125

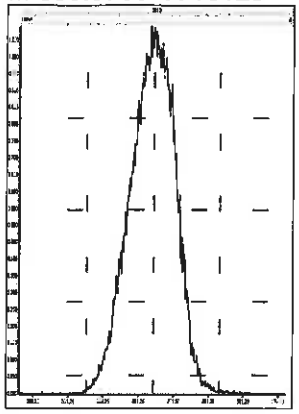

M 392.9760 R 13227

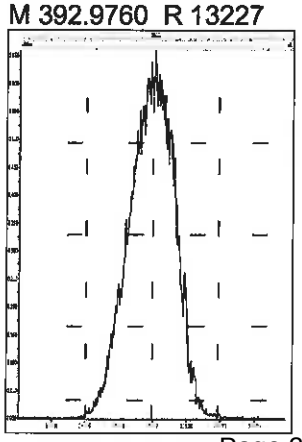

M 404.9760 R 13123

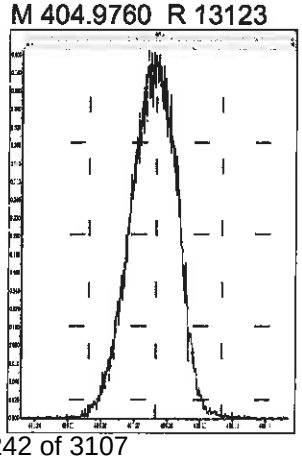

M 416.9760 R 13199

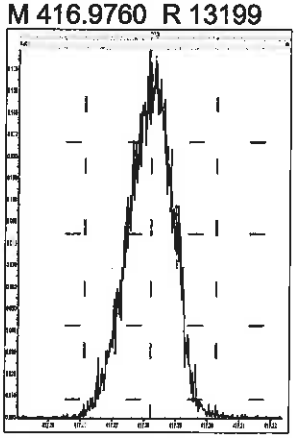

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M 430.9728 R 12836

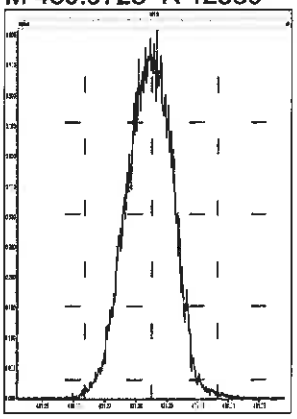

M 442.9728 R 12726

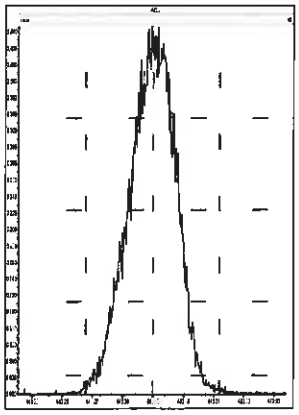

M 454.9728 R 12690

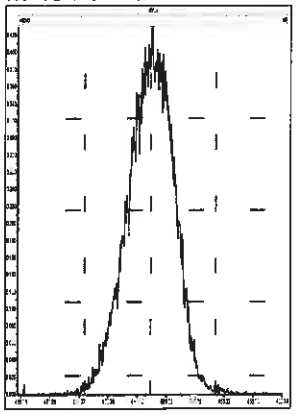

M 466.9728 R 13199

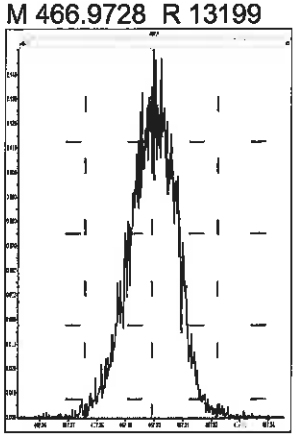

M 480.9696 R 12032

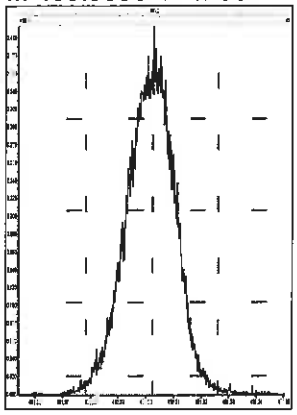

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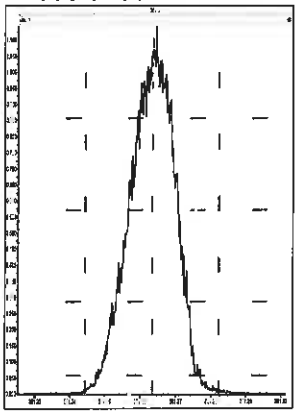

M 392.9760 R 13130

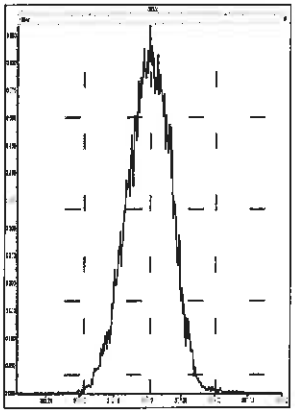

M 404.9760 R 13157

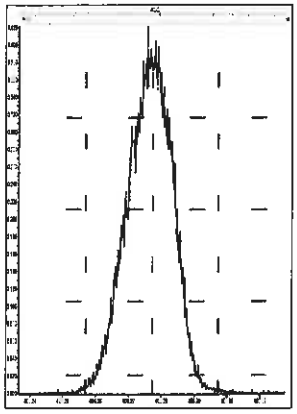

M 416.9760 R 13194

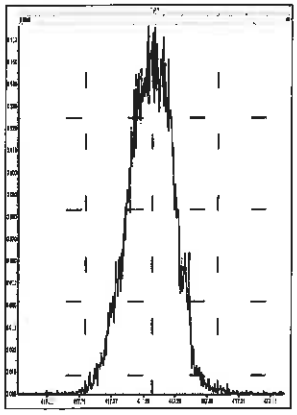

M 430.9728 R 13054

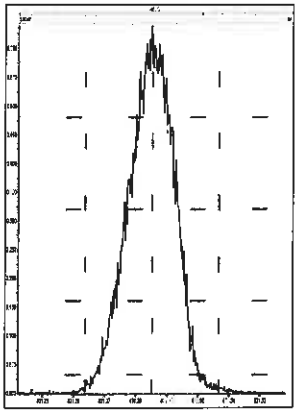

M 442.9728 R 12894

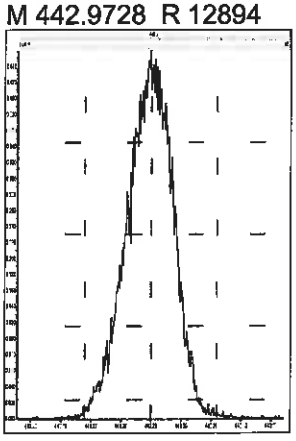

M 454.9728 R 12345

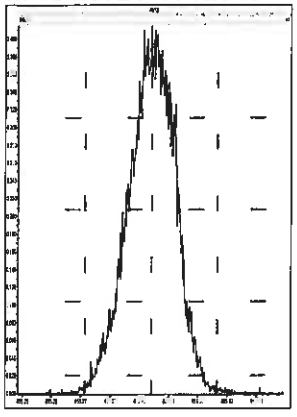

M 466.9728 R 12107

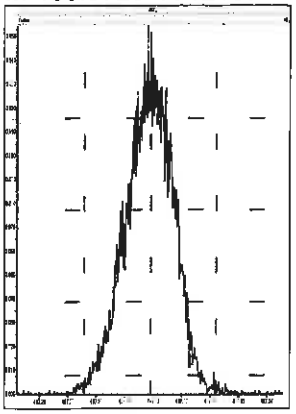

M 480.9696 R 11849

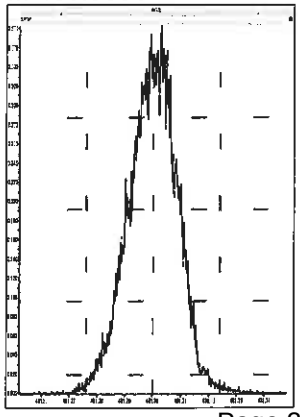

M 492.9696 R 12376

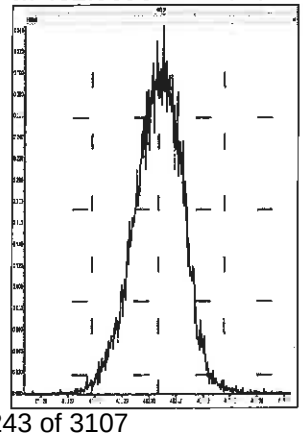

M 504.9696 R 11691

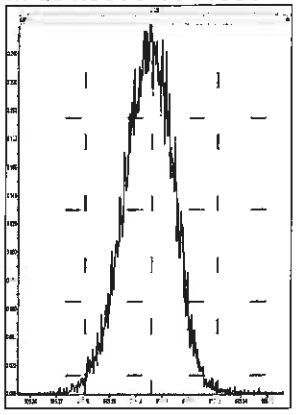

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M 516.9697 R 12259

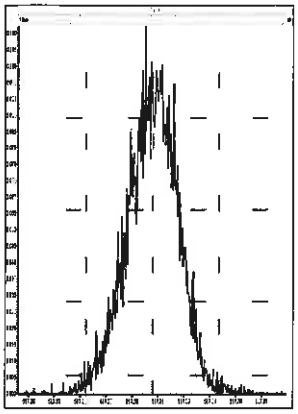

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_13.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 03-Oct-2019 21:01:04 ALS Bottle#: 2 Worklist Smp#: 13
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 100319A CS-4 HRDXNL4_00084
Misc. Info.: 03OC1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 08-Oct-2019 12:59:14 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	16.822	178116321	0.80	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.353	225105585	0.80	1.4384	87.9	87.9	0.1345	0.1345	87.86	
2,3,7,8-TCDF	16.368	22882610	0.78	1.0507	9.674	9.674	0.0214	0.0214	96.74	
A Non-2,3,7,8-sub-TCDF	16.096						0.0214	0.0214		n
S Total TCDF					9.674	9.674	0.0214	0.0214		
D 13C-2,3,7,8-TCDD	17.003	167802234	0.77	0.9533	98.8	98.8	0.2639	0.2639	98.82	
2,3,7,8-TCDD	17.018	16771864	0.79	1.1064	9.034	9.034	0.0198	0.0198	90.34	
$ 37Cl4-2,3,7,8-TCDD	17.018	17329316		1.2224	7.959	7.959	0.0117	0.0117	99.49	
A Non-2,3,7,8-sub-TCDD	16.890						0.0198	0.0198		
S Total TCDD					9.034	9.034	0.0198	0.0198		
D 13C-1,2,3,7,8-PeCDF	20.984	177337987	1.55	1.0286	96.8	96.8	0.2778	0.2778	96.79	
1,2,3,7,8-PeCDF	20.997	92652024	1.59	1.0822	48.3	48.3	0.2073	0.2073	96.55	
D 13C-2,3,4,7,8-PeCDF	22.225	174426244	1.56	0.9827	99.7	99.7	0.2908	0.2908	99.66	
2,3,4,7,8-PeCDF	22.238	93002940	1.59	1.1032	48.3	48.3	0.2138	0.2138	96.66	
A F1 PeCDFs	19.120						0.0119	0.0119		
A Non-2,3,7,8-sub-PeCDF	22.119						0.2104	0.2104		
S Total PeCDF					96.6	96.6	0.2105	0.2105		
D 13C-1,2,3,7,8-PeCDD	22.879	131759532	1.57	0.7481	98.9	98.9	0.1373	0.1373	98.88	
1,2,3,7,8-PeCDD	22.906	61853710	1.57	0.9050	51.9	51.9	0.0939	0.0939	104	
A Non-2,3,7,8-sub-PeCDD	22.465						0.0939	0.0939		
S Total PeCDD					51.9	51.9	0.0939	0.0939		
D 13C-1,2,3,4,7,8-HxCDF	28.749	144738918	0.53	1.1520	104.1	104.1	0.6400	0.6400	104	
1,2,3,4,7,8-HxCDF	28.776	84205159	1.25	1.1973	48.6	48.6	0.4922	0.4922	97.18	
D 13C-1,2,3,6,7,8-HxCDF	29.055	155277994	0.52	1.2434	103.5	103.5	0.5930	0.5930	103	
1,2,3,6,7,8-HxCDF	29.082	89628331	1.25	1.1807	48.9	48.9	0.4836	0.4836	97.78	
D 13C-2,3,4,6,7,8-HxCDF	30.480	145795388	0.53	1.1720	103.1	103.1	0.6292	0.6292	103	
2,3,4,6,7,8-HxCDF	30.506	86037366	1.26	1.2116	48.7	48.7	0.3354	0.3354	97.41	
D 13C-1,2,3,7,8,9-HxCDF	31.558	130126088	0.52	1.0655	101.2	101.2	0.6921	0.6921	101	
1,2,3,7,8,9-HxCDF	31.571	77671674	1.26	1.2451	47.9	47.9	0.3047	0.3047	95.88	
A Non-2,3,7,8-sub-HxCDF	29.429						0.3873	0.3873		
S Total HxCDF					194.1	194.1	0.4040	0.4040		

Report Date: 08-Oct-2019 12:59:19 Chrom Revision: 2.3 07-Oct-2019 09:11:46
Data File: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_13.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.345	120659138	1.26	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	30.759	95679320	1.26	0.7812	101.5	101.5	0.4642	0.4642	102	
1,2,3,4,7,8-HxCDD	30.786	52852741	1.31	1.1088	49.8	49.8	0.2057	0.2057	99.64	
D 13C-1,2,3,6,7,8-HxCDD	30.919	114583233	1.24	0.9175	103.5	103.5	0.3953	0.3953	104	
1,2,3,6,7,8-HxCDD	30.932	60263700	1.24	1.0814	48.6	48.6	0.1946	0.1946	97.27	
1,2,3,7,8,9-HxCDD	31.358	59439301	1.26	1.2123	46.6	46.6	0.1806	0.1806	93.27	
A Non-2,3,7,8-sub-HxCDD	30.008						0.1930	0.1930		
S Total HxCDD					145.1	145.1	0.1936	0.1936		
D 13C-1,2,3,4,6,7,8-HpCDF	33.220	96147193	0.45	0.8628	92.4	92.4	1.779	1.779	92.36	
1,2,3,4,6,7,8-HpCDF	33.232	71094326	1.04	1.5555	47.5	47.5	0.6673	0.6673	95.07	
D 13C-1,2,3,4,7,8,9-HpCDF	34.277	83602175	0.44	0.7991	86.7	86.7	1.921	1.921	86.71	
1,2,3,4,7,8,9-HpCDF	34.277	56325368	1.05	1.3862	48.6	48.6	0.9498	0.9498	97.20	
A Non-2,3,7,8-sub-HpCDF	33.973						0.7892	0.7892		
S Total HpCDF					96.1	96.1	0.8086	0.8086		
D 13C-1,2,3,4,6,7,8-HpCDD	33.997	92986897	1.05	0.8739	88.2	88.2	1.281	1.281	88.19	
1,2,3,4,6,7,8-HpCDD	34.009	43750223	1.05	0.9316	50.5	50.5	0.5250	0.5250	101	
A Non-2,3,7,8-sub-HpCDD	34.747						0.5250	0.5250		
S Total HpCDD					50.5	50.5	0.5250	0.5250		
D 13C-OCDD	36.235	141458682	0.89	0.7744	151.4	151.4	0.3601	0.3601	75.70	
OCDF	36.319	89197953	0.89	1.2596	100.1	100.1	0.1234	0.1234	100	
OCDD	36.247	72547751	0.89	1.0621	96.6	96.6	0.1848	0.1848	96.58	

Reagents:

HRDXNL4_00084 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_13.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 03-Oct-2019 21:01:04 ALS Bottle#: 2 Worklist Smp#: 13
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 100319A CS-4 HRDXNL4_00084
Misc. Info.: 03OC1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 08-Oct-2019 12:59:14 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	16.822	16.822	0		78994348	20939443	13416	33540	1561		
333.9339	16.822	16.822	0		99121973	26599574	34420	86050	773	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.353	16.353	0	0.972	99710745	25933305	16380	40950	1583		
317.9389	16.353	16.353	0	0.972	125394840	32309635	20408	51020	1583	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.368	16.368	0	1.001	10057395	2618496	2075	5187	1262		
305.8987	16.368	16.368	0	1.001	12825215	3284109	3175	7937	1034	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.021	16.459	-26	0.980	44272	11742	2075	5187	6		
305.8987	16.021	16.459	-26	0.980	57219	15644	3175	7937	5	0.77(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.003	17.003	0	1.011	73028753	18216014	13416	33540	1358		
333.9339	17.003	17.003	0	1.011	94773481	23477603	34420	86050	682	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.018	17.018	0	1.001	7393019	1822200	1880	4700	969		
321.8936	17.018	17.018	0	1.001	9378845	2354644	1774	4435	1327	0.79(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.018	17.018	0	1.012	17329316	4302718	2711	6777	1587		
A Non-2,3,7,8-sub-TCDD											
319.8965	16.890						1880	4700			
321.8936	16.890						1774	4435			
13C-1,2,3,7,8-PeCDF											
351.9000	20.984	20.984	0	1.247	107843850	19430695	32763	81907	593		
353.8970	20.984	20.984	0	1.247	69494137	12517785	21582	53955	580	1.55(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	20.997	20.997	0	1.001	56940289	10329336	17142	42855	603		
341.8567	20.997	20.997	0	1.001	35711735	6447377	11522	28805	560	1.59(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	22.225	22.225	0	1.321	106390859	18564859	32763	81907	567		
353.8970	22.225	22.225	0	1.321	68035385	11819442	21582	53955	548	1.56(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.238	22.238	0	1.001	57081512	9830058	17142	42855	573		
341.8567	22.238	22.238	0	1.001	35921428	6292906	11522	28805	546	1.59(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.120						475	1187			
341.8567	19.120						1140	2850			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.119						17142	42855			
341.8567	22.119						11522	28805			
13C-1,2,3,7,8-PeCDD											
367.8949	22.879	22.879	0	1.360	80558053	13199505	11740	29350	1124		
369.8919	22.879	22.879	0	1.360	51201479	8477337	7797	19492	1087	1.57(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	22.906	22.906	0	1.001	37797683	6242175	4480	11200	1393		
357.8516	22.906	22.906	0	1.001	24056027	3980800	2885	7212	1380	1.57(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.465						4480	11200			
357.8516	22.465						2885	7212			
13C-1,2,3,4,7,8-HxCDF											
383.8639	28.749	28.749	0	0.917	49886504	6085471	24008	60020	253		
385.8610	28.749	28.749	0	0.917	94852414	11463011	46692	116730	246	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	28.776	28.776	0	1.001	46818837	5638558	23033	57582	245		
375.8178	28.776	28.776	0	1.001	37386322	4541367	18333	45832	248	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.055	29.055	0	0.927	53337912	6256756	24008	60020	261		
385.8610	29.055	29.055	0	0.927	101940082	11854168	46692	116730	254	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	29.082	29.082	0	1.001	49841958	5709150	23033	57582	248		
375.8178	29.082	29.082	0	1.001	39786373	4538698	18333	45832	248	1.25(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	30.480	30.480	0	0.972	50323798	8796505	24008	60020	366		
385.8610	30.480	30.480	0	0.972	95471590	16651205	46692	116730	357	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	30.506	30.506	0	1.001	47929613	8436834	23033	57582	366		
375.8178	30.506	30.506	0	1.001	38107753	6739632	18333	45832	368	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.558	31.558	0	1.007	44639107	9313156	24008	60020	388		
385.8610	31.558	31.558	0	1.007	85486981	17941276	46692	116730	384	0.52(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	31.571	31.571	0	1.000	43278518	9232933	23033	57582	401		
375.8178	31.571	31.571	0	1.000	34393156	7279369	18333	45832	397	1.26(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.429						23033	57582			
375.8178	29.429						18333	45832			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.345	31.345	0		67269210	13233883	18335	45837	722		
403.8529	31.345	31.345	0		53389928	10736939	16436	41090	653	1.26(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	30.759	30.759	0	0.981	53315645	10909138	18335	45837	595		
403.8529	30.759	30.759	0	0.981	42363675	8837931	16436	41090	538	1.26(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	30.786	30.786	0	1.001	30007304	6089566	10059	25147	605		
391.8127	30.786	30.786	0	1.001	22845437	4792794	7956	19890	602	1.31(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	30.919	30.919	0	0.986	63370181	11774655	18335	45837	642		
403.8529	30.919	30.919	0	0.986	51213052	9627359	16436	41090	586	1.24(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	30.932	30.932	0	1.000	33359519	6500608	10059	25147	646		
391.8127	30.932	30.932	0	1.000	26904181	5037279	7956	19890	633	1.24(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.358	31.358	0	1.019	33086277	6828694	10059	25147	679		
391.8127	31.358	31.358	0	1.019	26353024	5436671	7956	19890	683	1.26(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.008						10059	25147			
391.8127	30.008						7956	19890			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.220	33.220	0	1.060	29726668	8507868	54387	135967	156		
419.8220	33.220	33.220	0	1.060	66420525	18857992	92818	232045	203	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.232	33.232	0	1.000	36253364	10476095	58110	145275	180		
409.7789	33.232	33.232	0	1.000	34840962	9918940	55515	138787	179	1.04(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.277	34.277	0	1.094	25558451	6686691	54387	135967	123		
419.8220	34.277	34.277	0	1.094	58043724	14886803	92818	232045	160	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.277	34.277	0	1.000	28822173	7640483	58110	145275	131		
409.7789	34.277	34.277	0	1.000	27503195	7417415	55515	138787	134	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.973						58110	145275			
409.7789	33.973						55515	138787			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	33.997	33.997	0	1.085	47685299	12364888	50861	127152	243		
437.8140	33.997	33.997	0	1.085	45301598	11853598	56507	141267	210	1.05(0.88-1.20)	

Report Date: 08-Oct-2019 12:59:19 Chrom Revision: 2.3 07-Oct-2019 09:11:46
Data File: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_13.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.009	34.009	0	1.000	22404433	6011400	30864	77160	195		
425.7737	34.009	34.009	0	1.000	21345790	5829590	16513	41282	353	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.747						30864	77160			
425.7737	34.747						16513	41282			
13C-OCDD											
469.7779	36.235	36.235	0	1.156	66432240	14630800	11372	28430	1287		
471.7750	36.235	36.235	0	1.156	75026442	16358344	15368	38420	1064	0.89(0.76-1.02)	
OCDF											
441.7428	36.319	36.319	0	1.002	41994423	9430805	4490	11225	2100		
443.7399	36.319	36.319	0	1.002	47203530	10776500	5142	12855	2096	0.89(0.76-1.02)	
OCDD											
457.7377	36.247	36.247	0	1.000	34065796	7509349	6736	16840	1115		
459.7348	36.247	36.247	0	1.000	38481955	8348387	5426	13565	1539	0.89(0.76-1.02)	

Reagents:

HRDXNL4_00084 Amount Added: 1.00 Units: mL

Report Date: 08-Oct-2019 12:59:19 Chrom Revision: 2.3 07-Oct-2019 09:11:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_13.d		
Injection Date:	03-Oct-2019 21:01:04	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

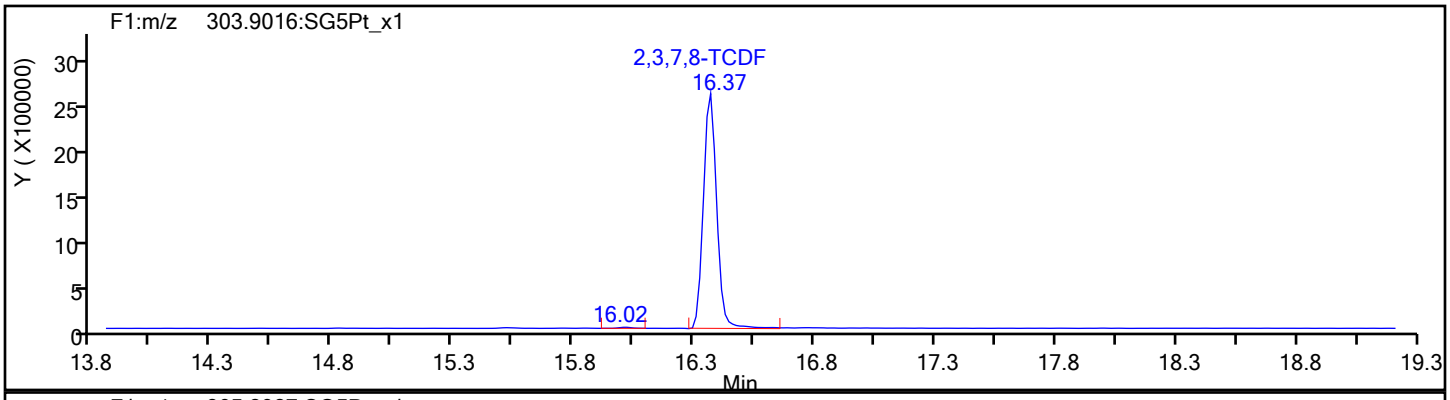

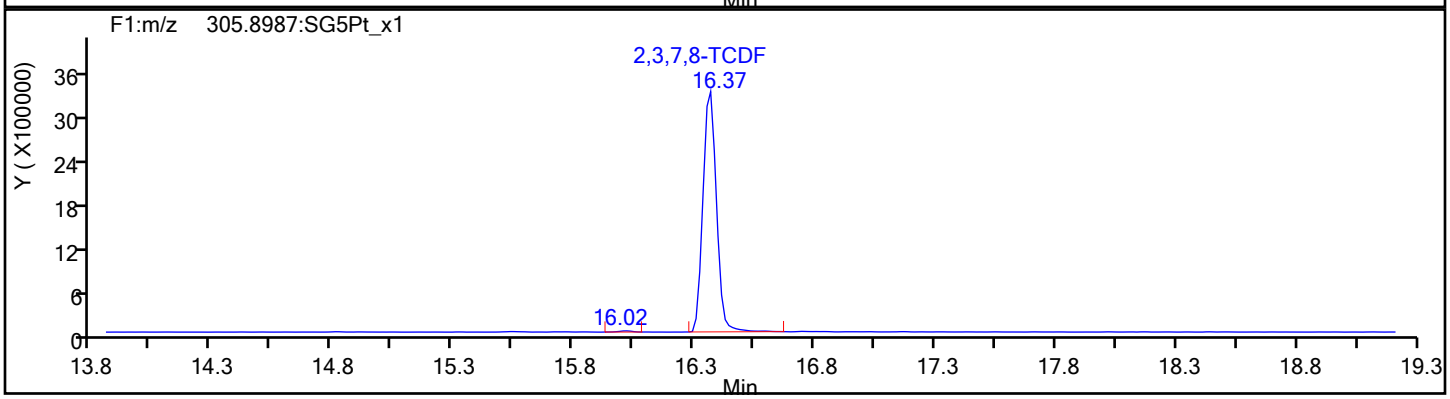

TCDF Standards

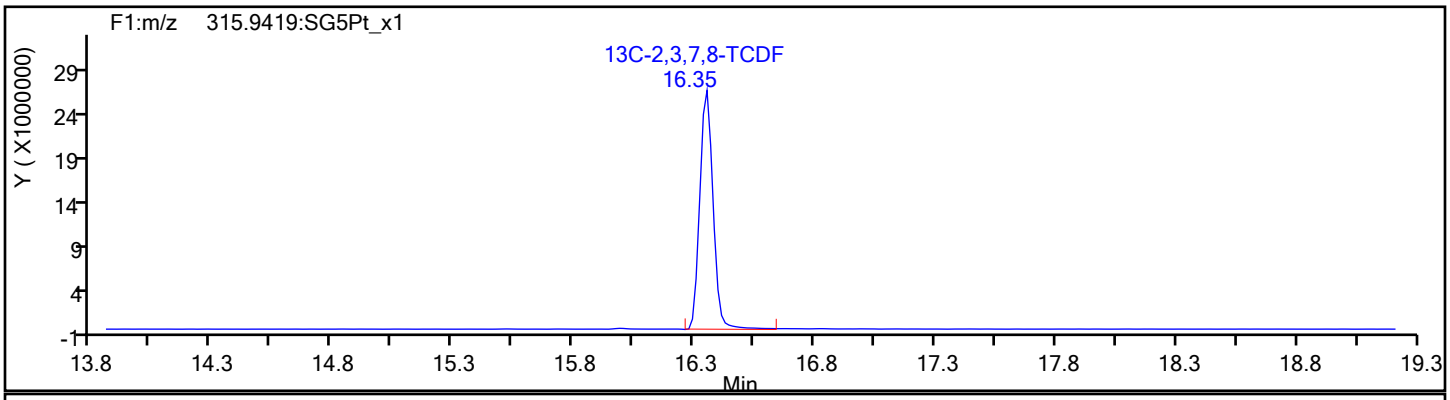

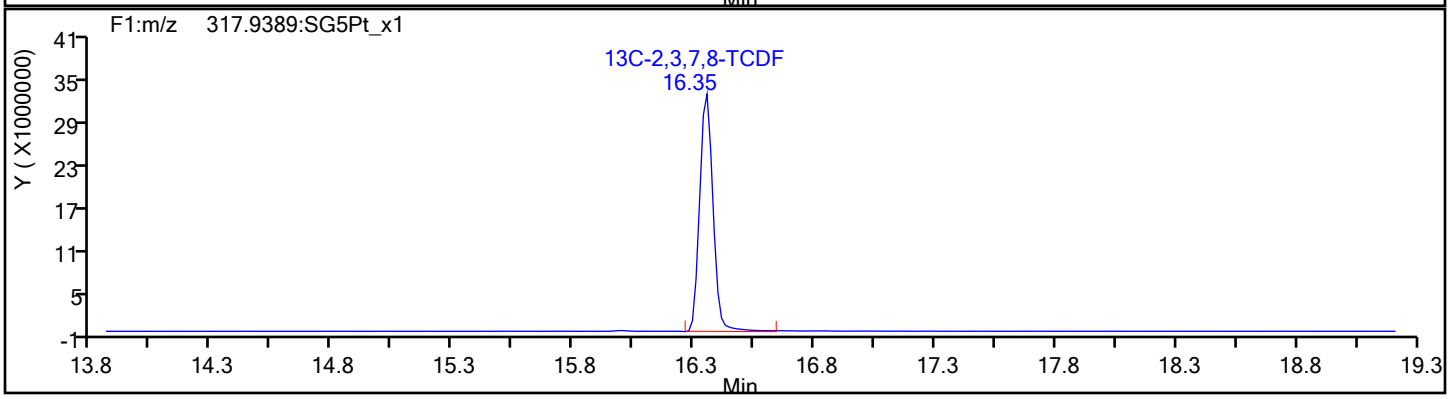

Report Date: 08-Oct-2019 12:59:19 Chrom Revision: 2.3 07-Oct-2019 09:11:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_13.d		
Injection Date:	03-Oct-2019 21:01:04	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

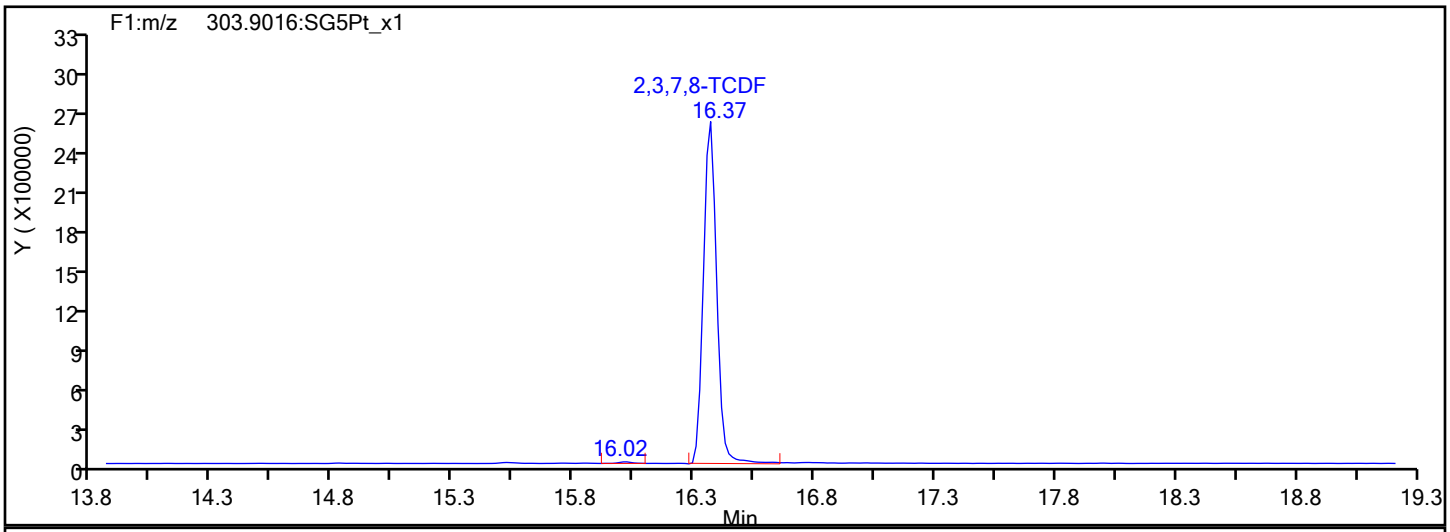

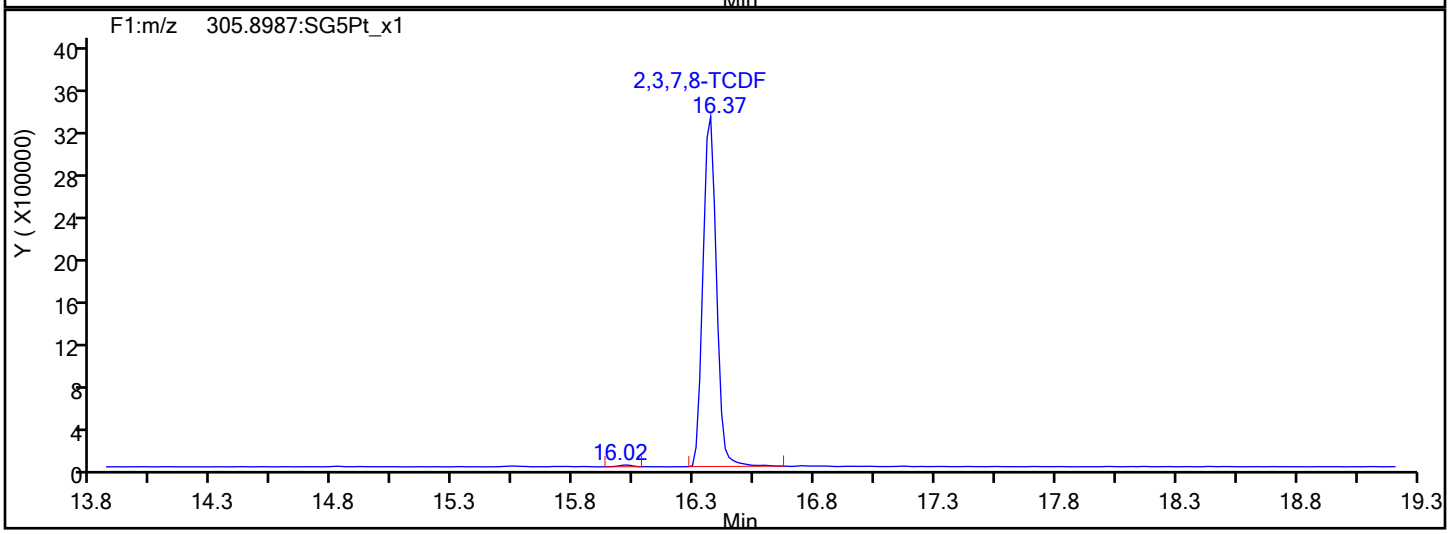

TCDF Interference Mass

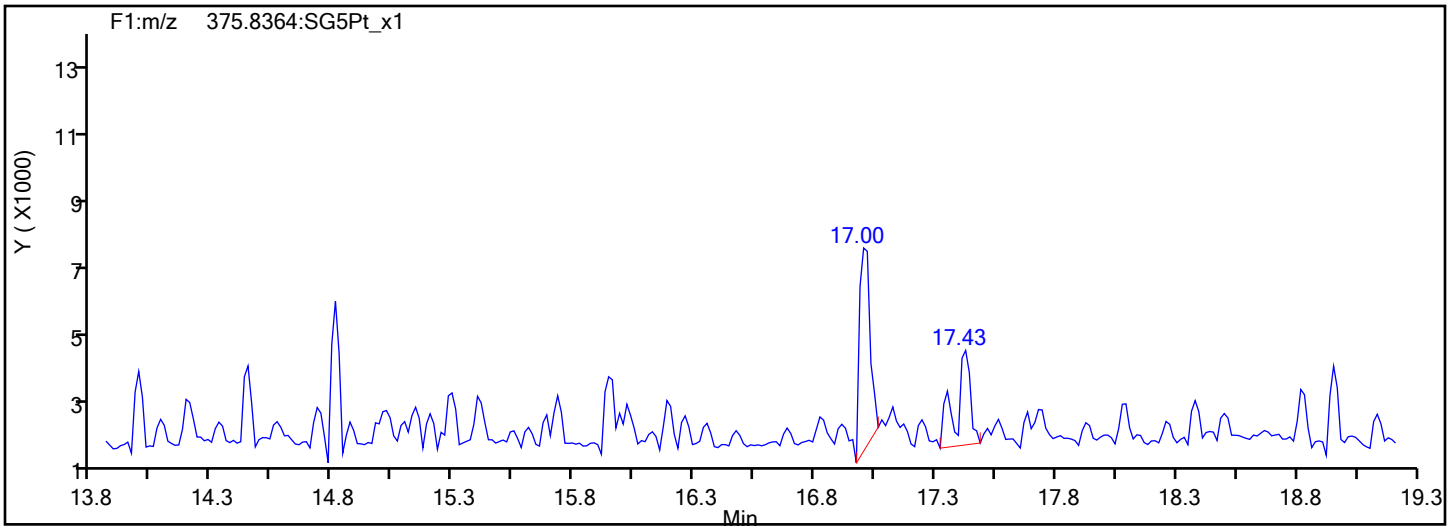

Report Date: 08-Oct-2019 12:59:19 Chrom Revision: 2.3 07-Oct-2019 09:11:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_13.d		
Injection Date:	03-Oct-2019 21:01:04	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

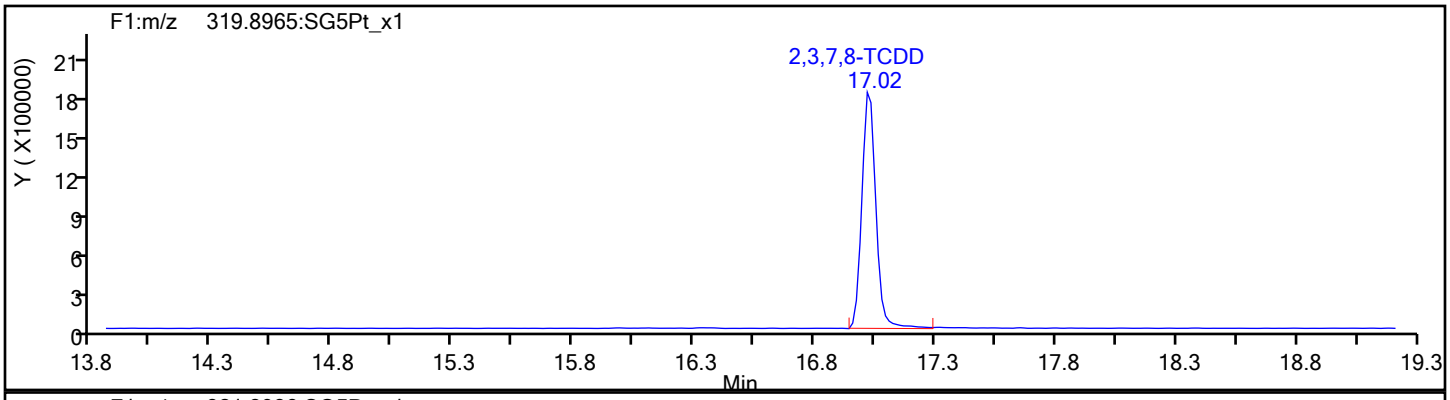

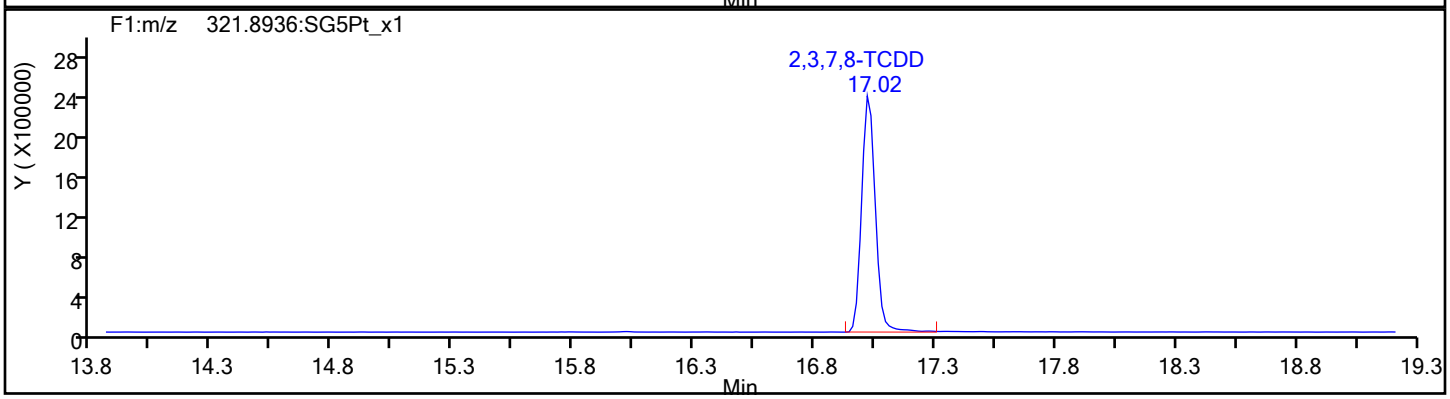

TCDD Standards

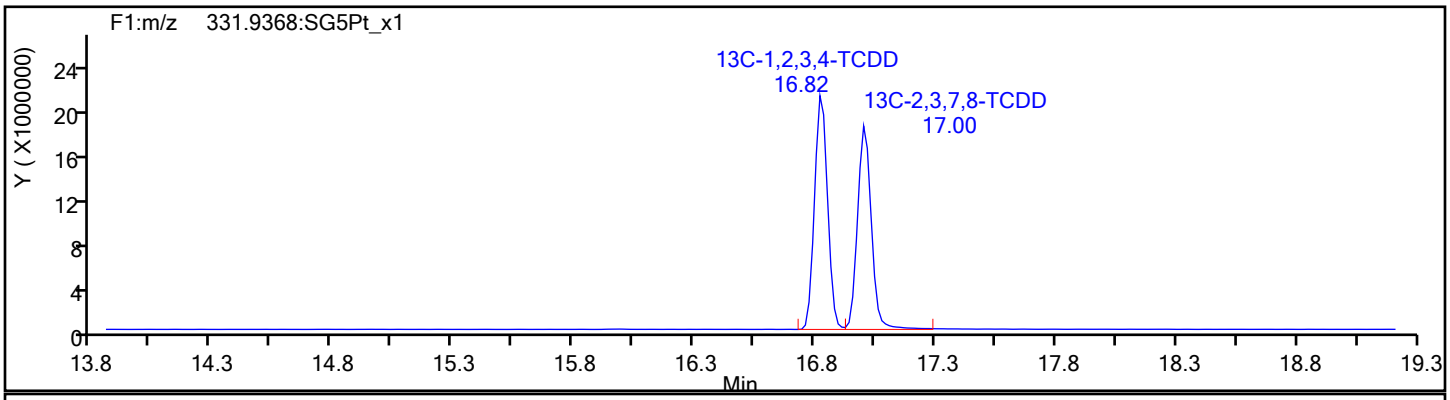

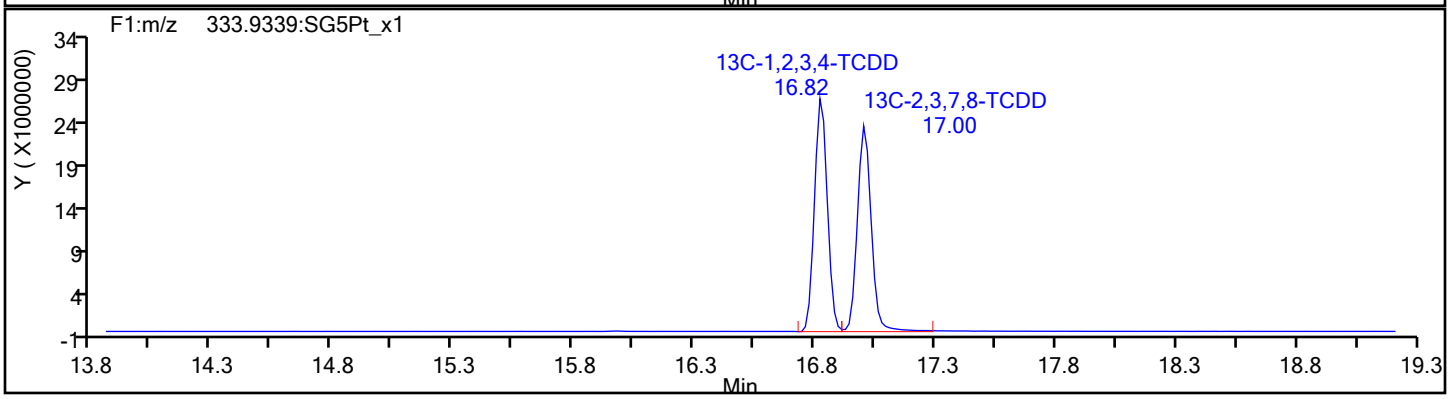

Report Date: 08-Oct-2019 12:59:19 Chrom Revision: 2.3 07-Oct-2019 09:11:46

Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

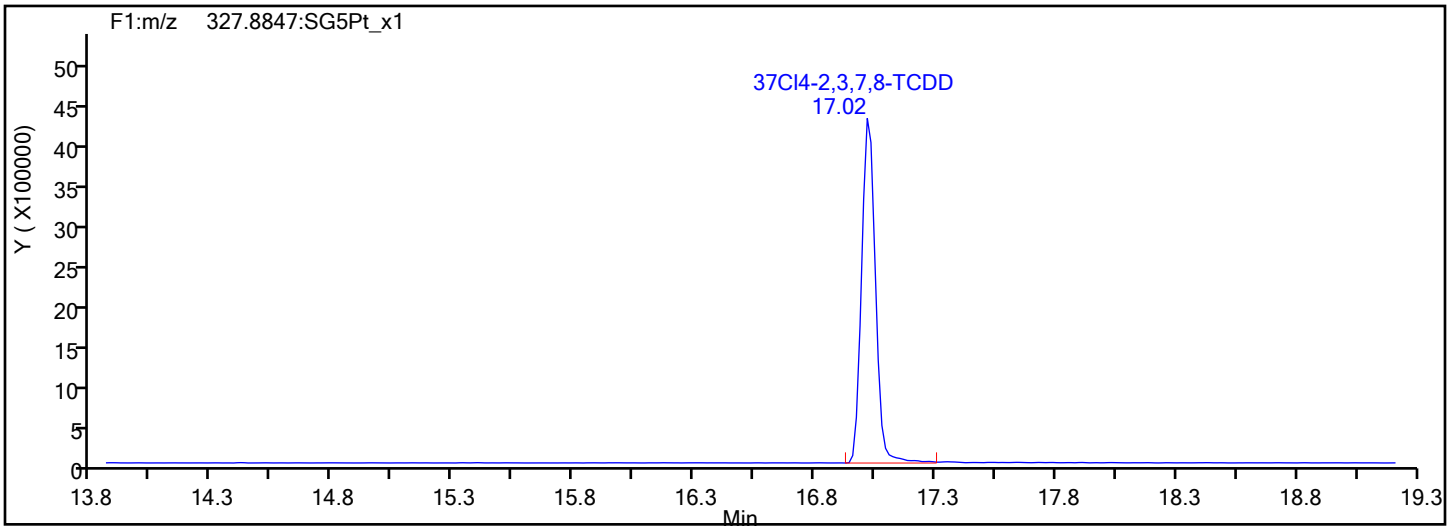

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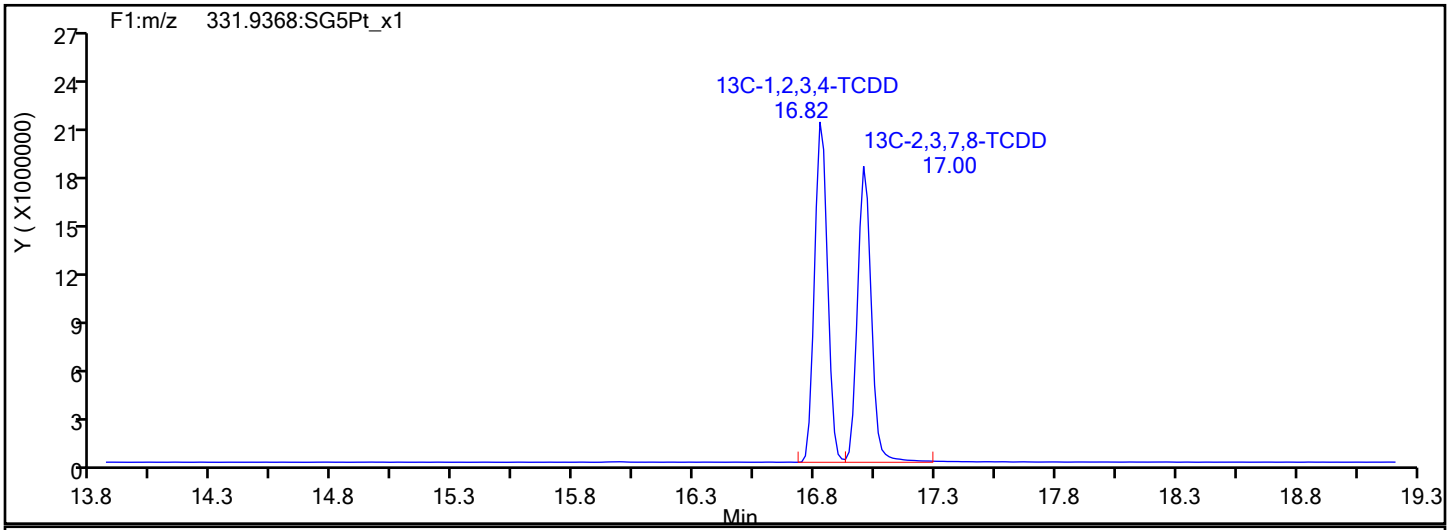

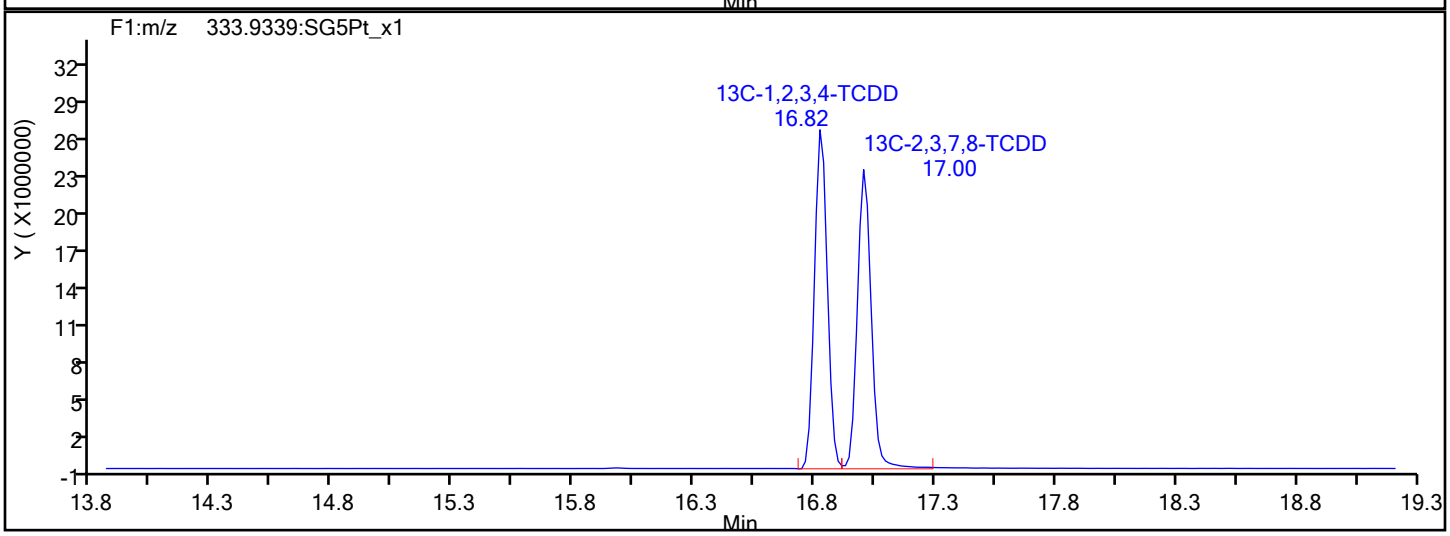

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F1 PeCDFs

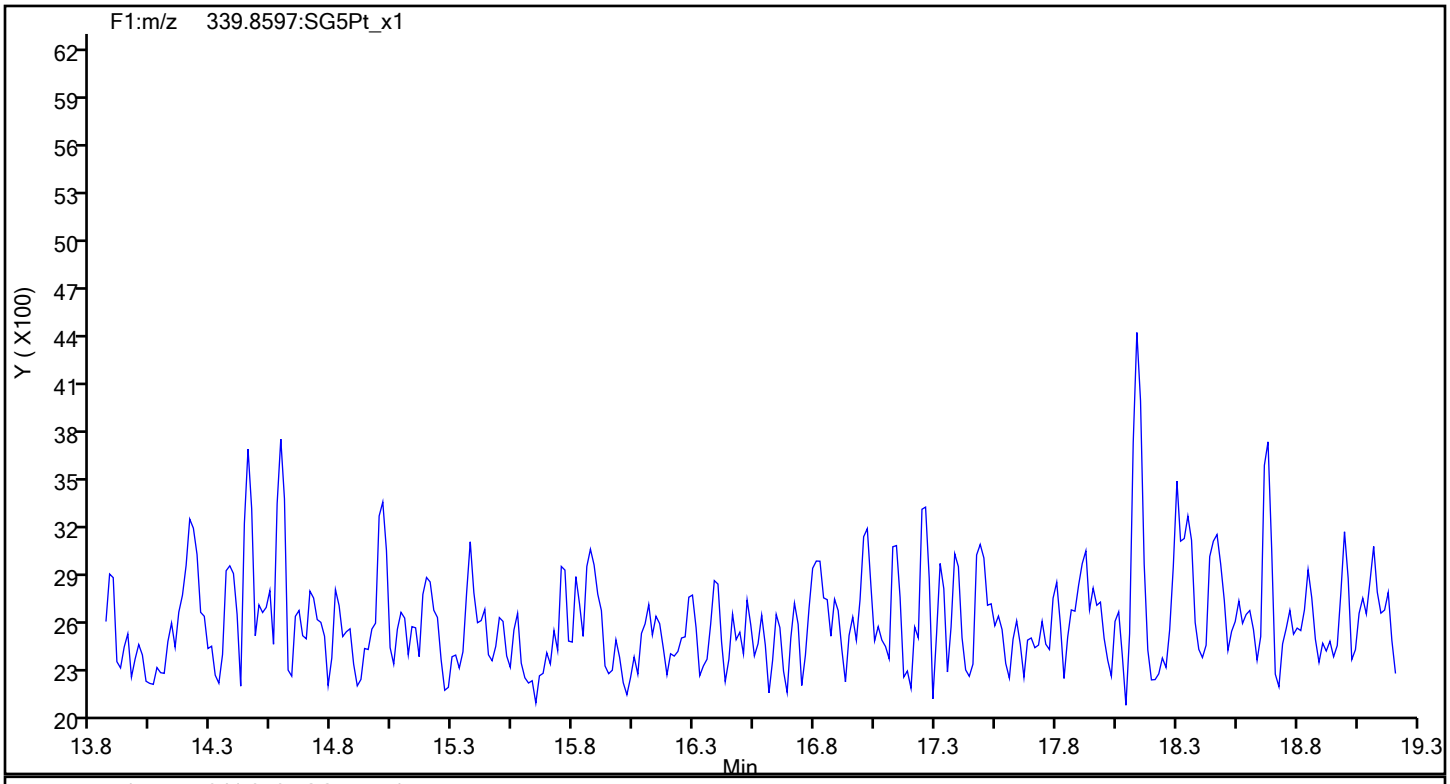

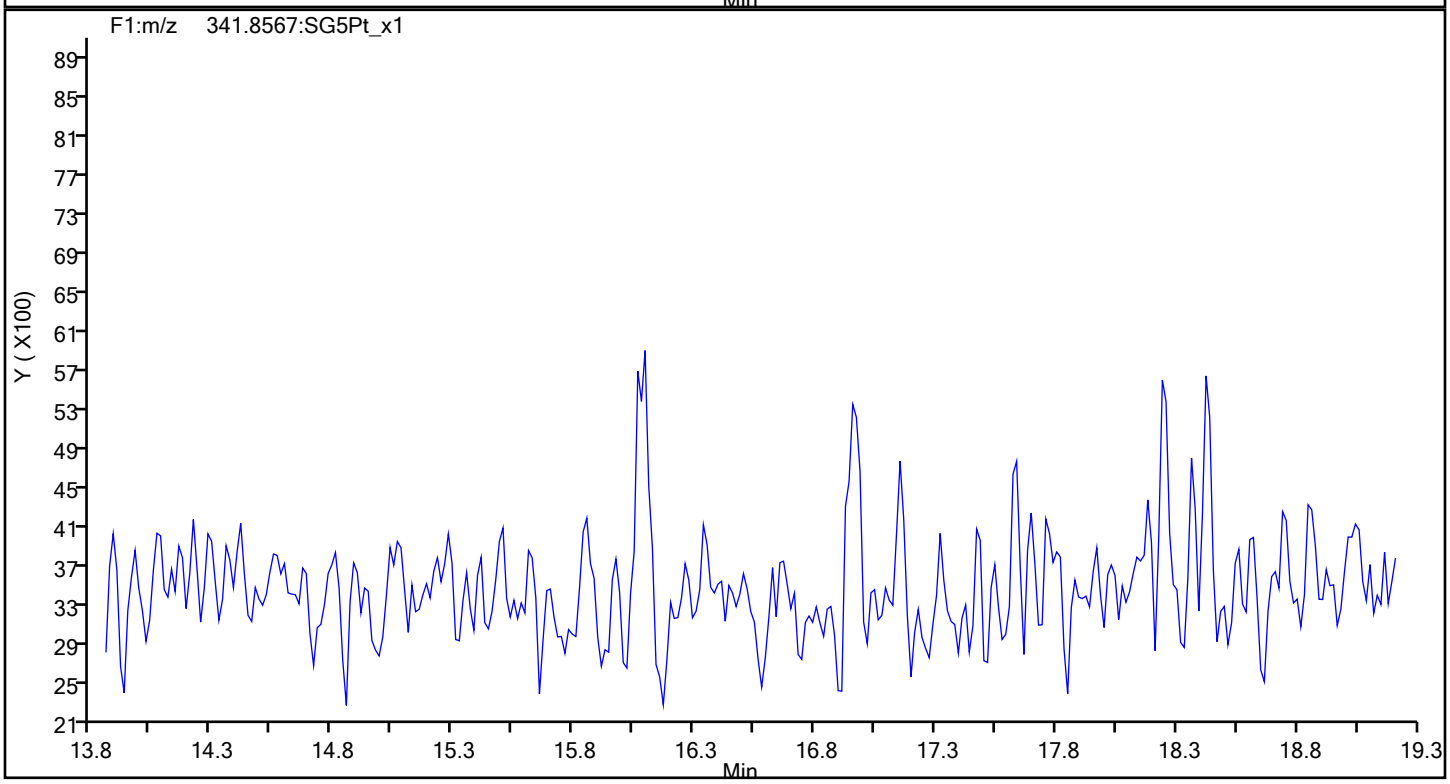

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

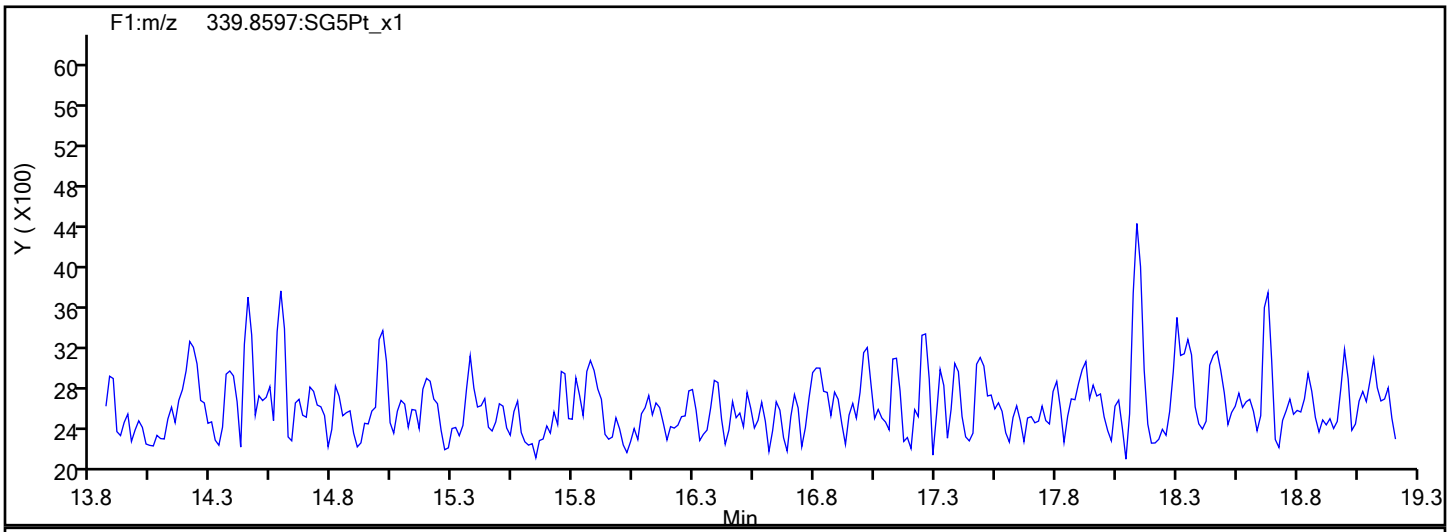

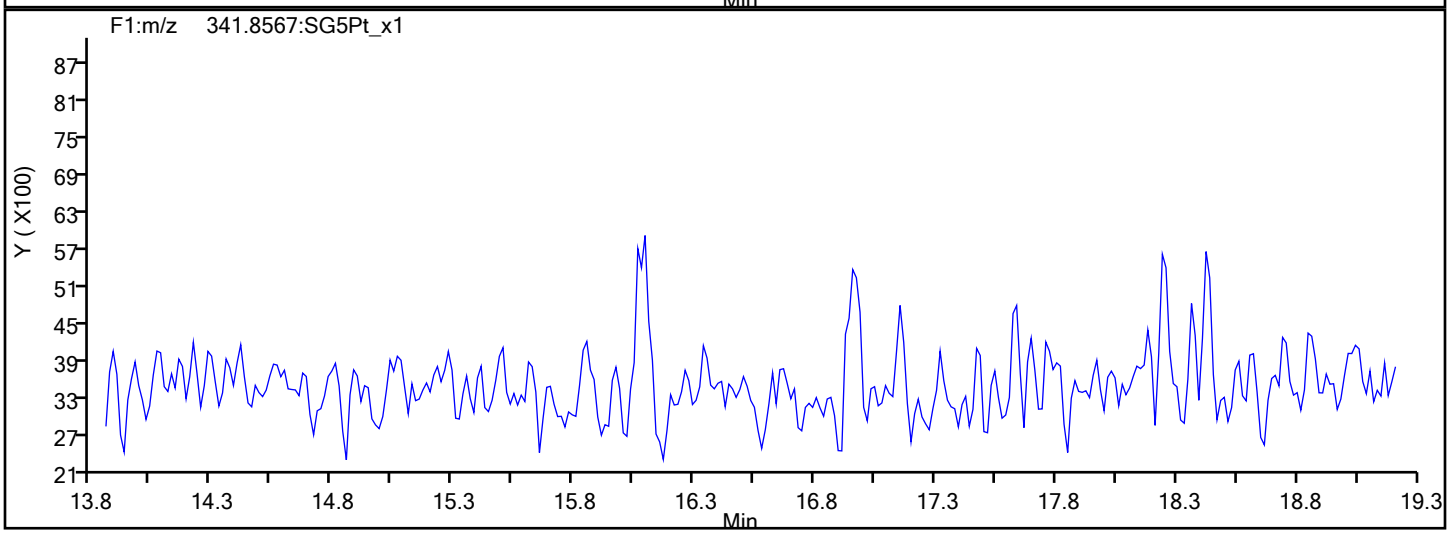

F1 PeCDFs Interference Mass

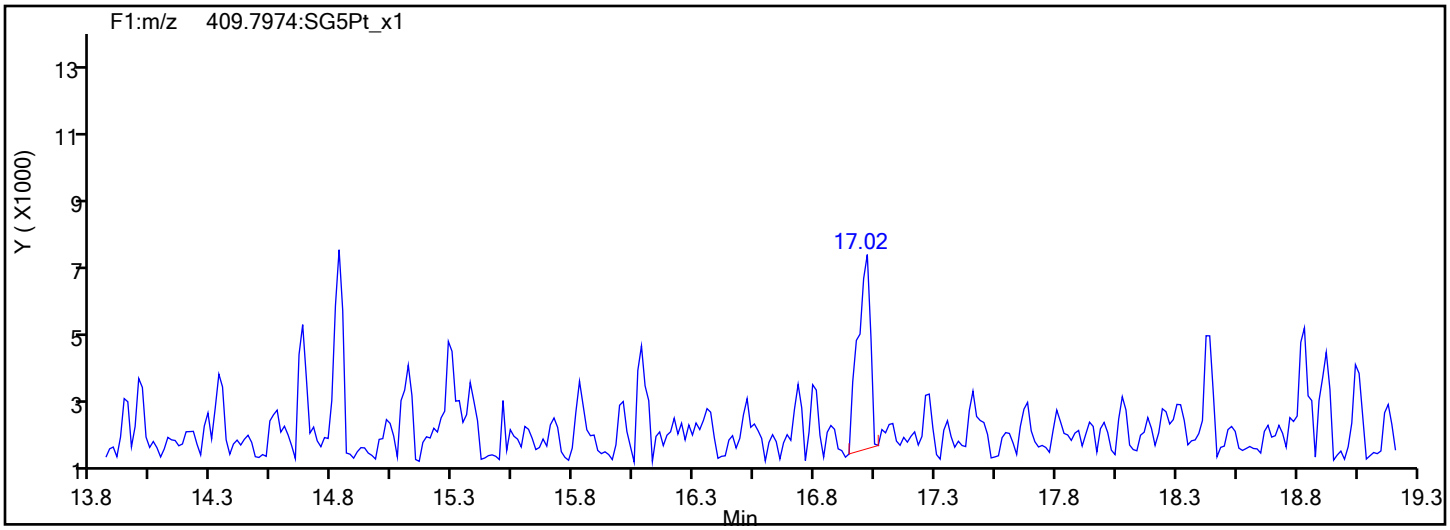

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Eurofins TestAmerica, Sacramento

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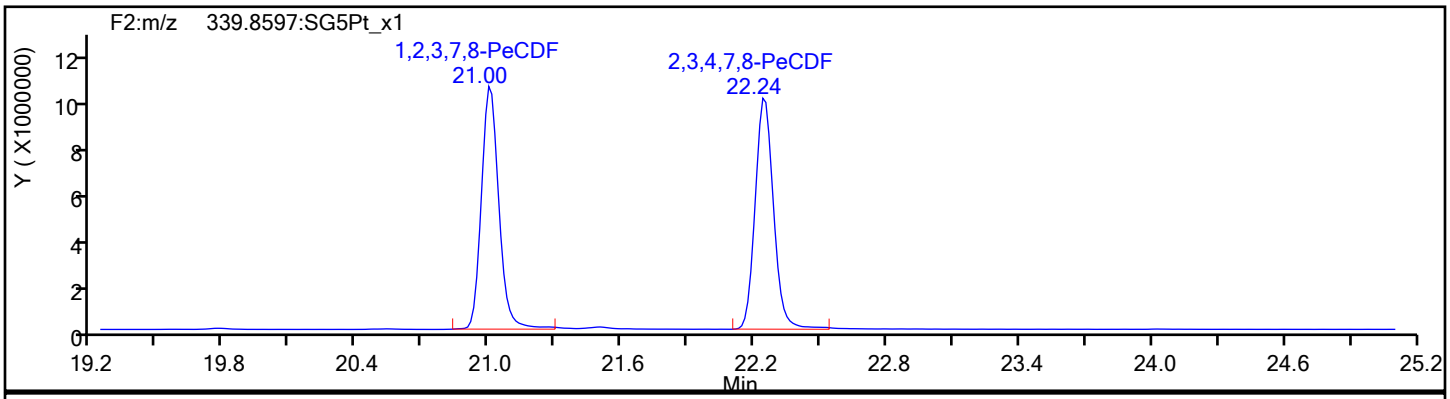

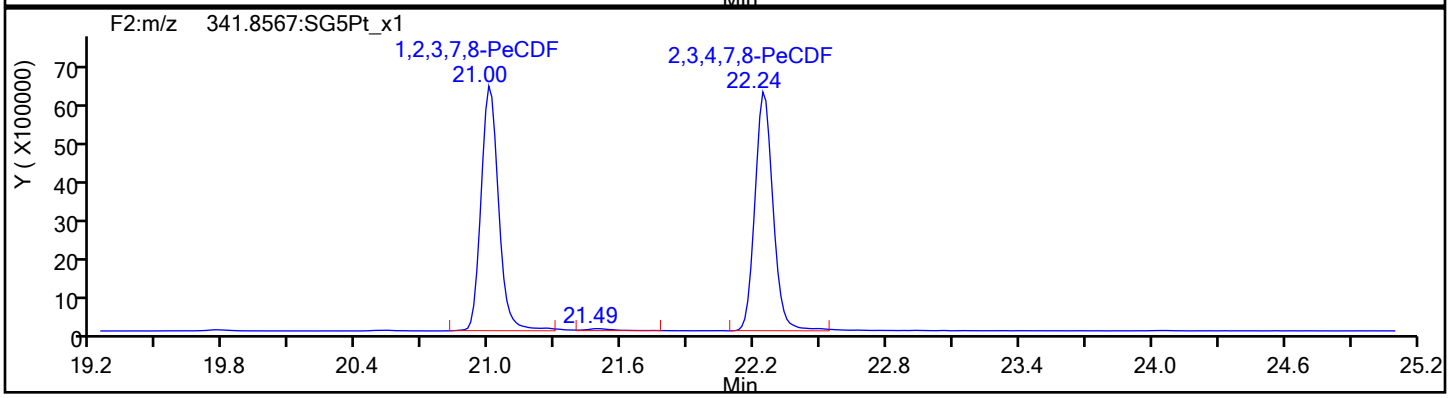

PeCDF Standards

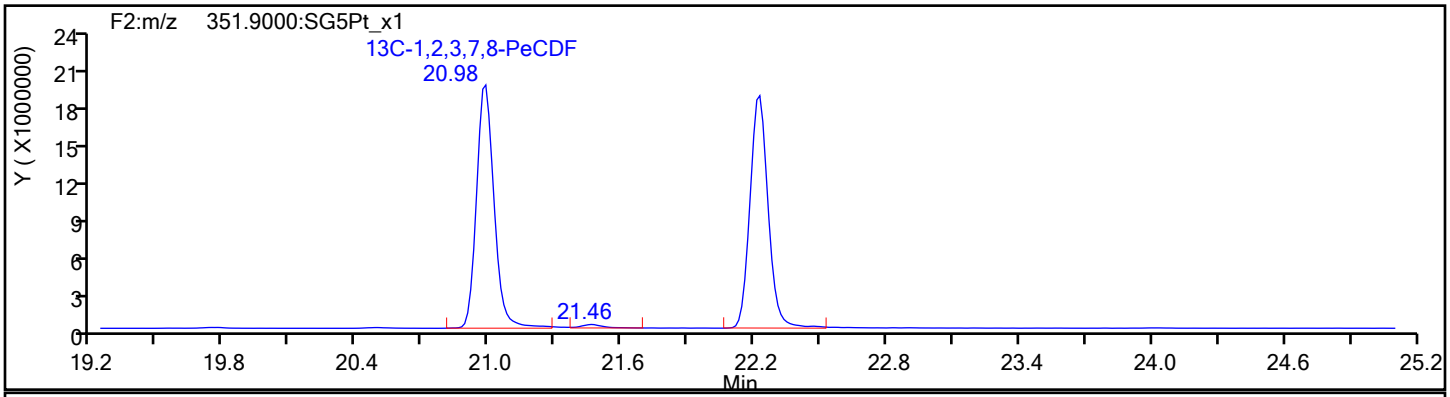

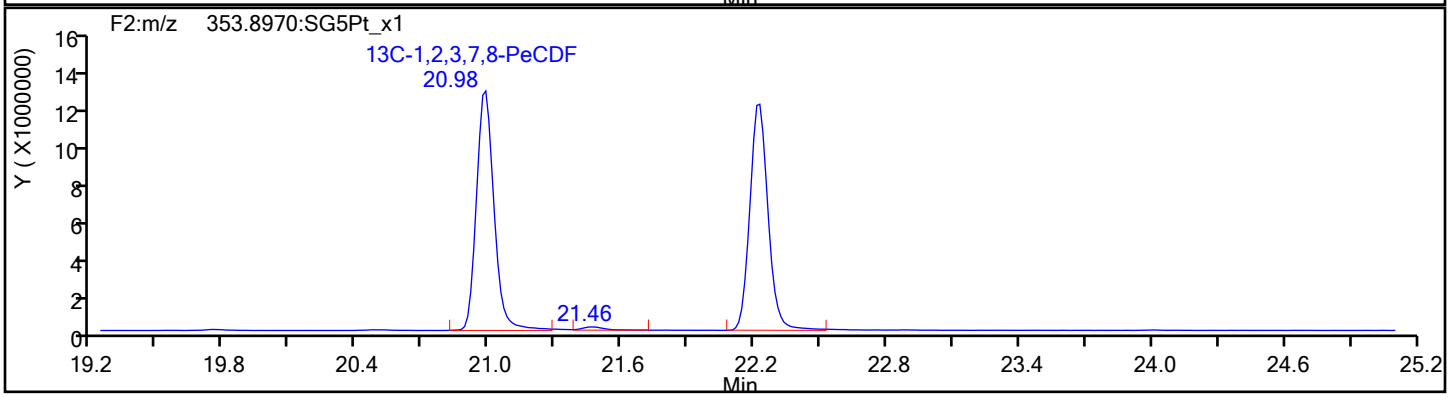

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Eurofins TestAmerica, Sacramento

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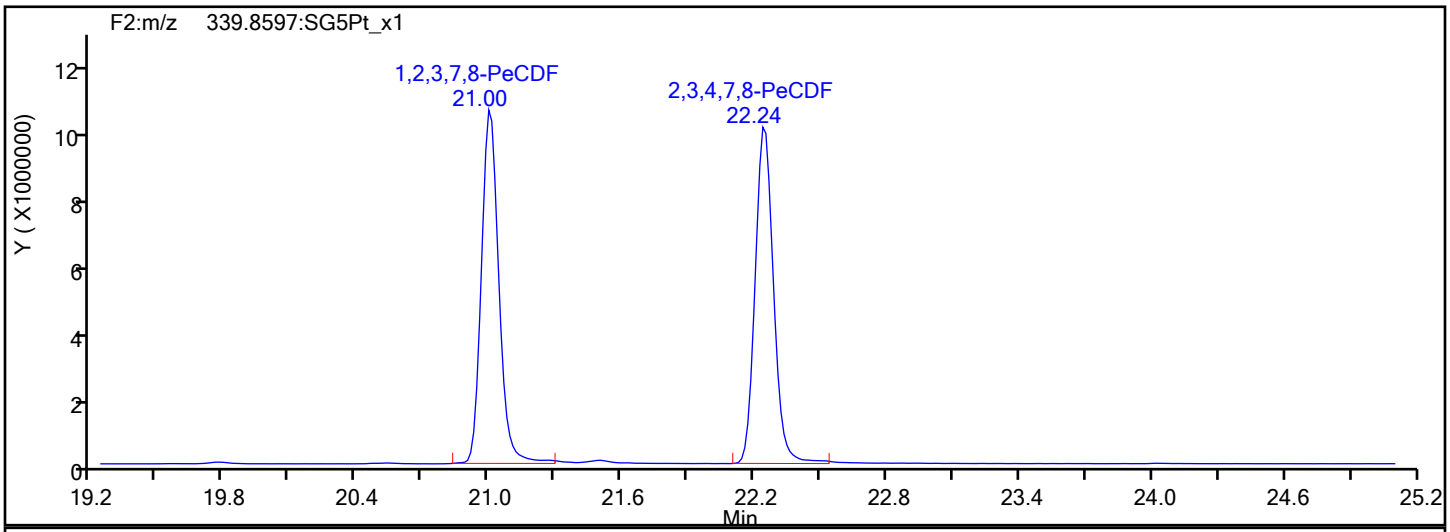

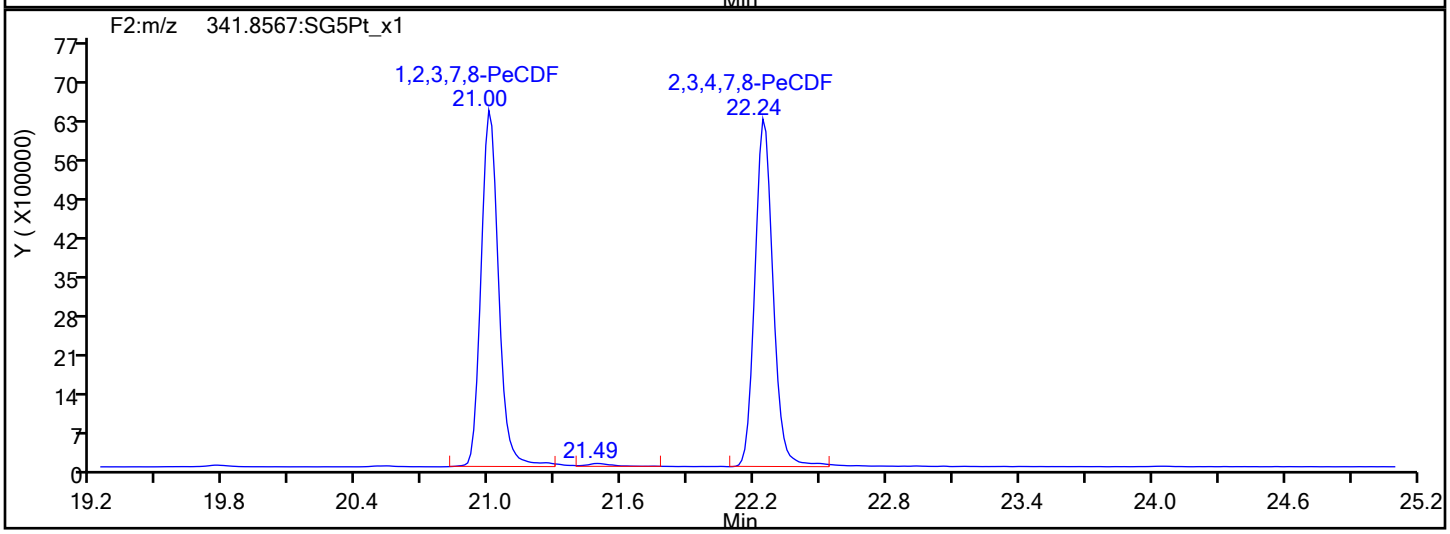

PeCDF Interference Mass

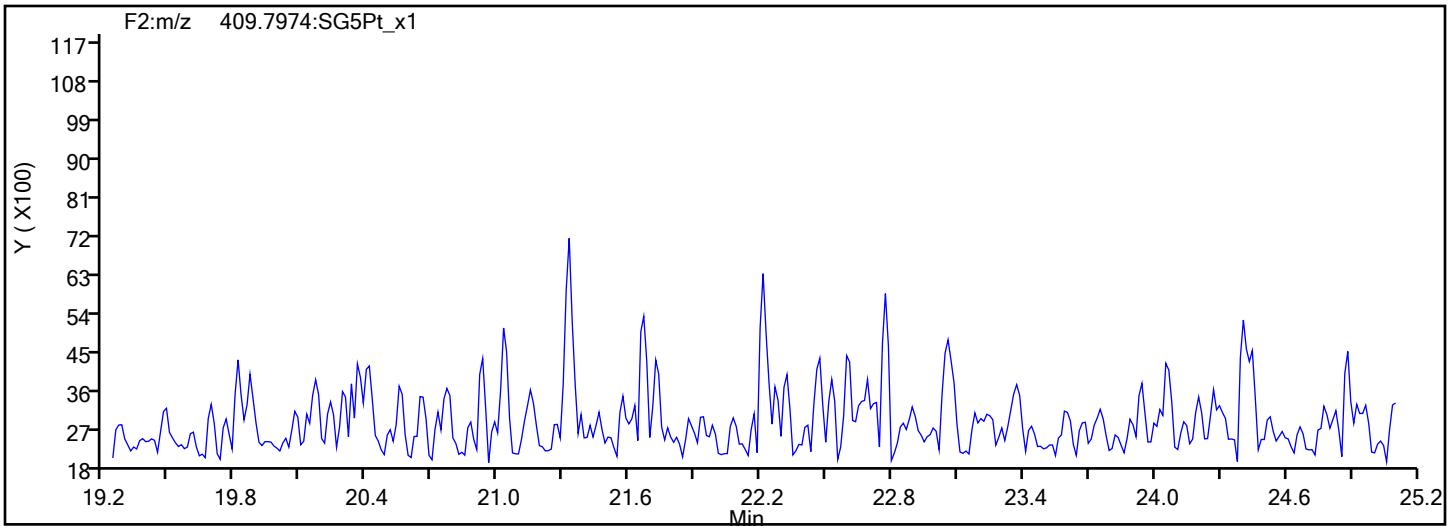

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Eurofins TestAmerica, Sacramento

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PeCDD

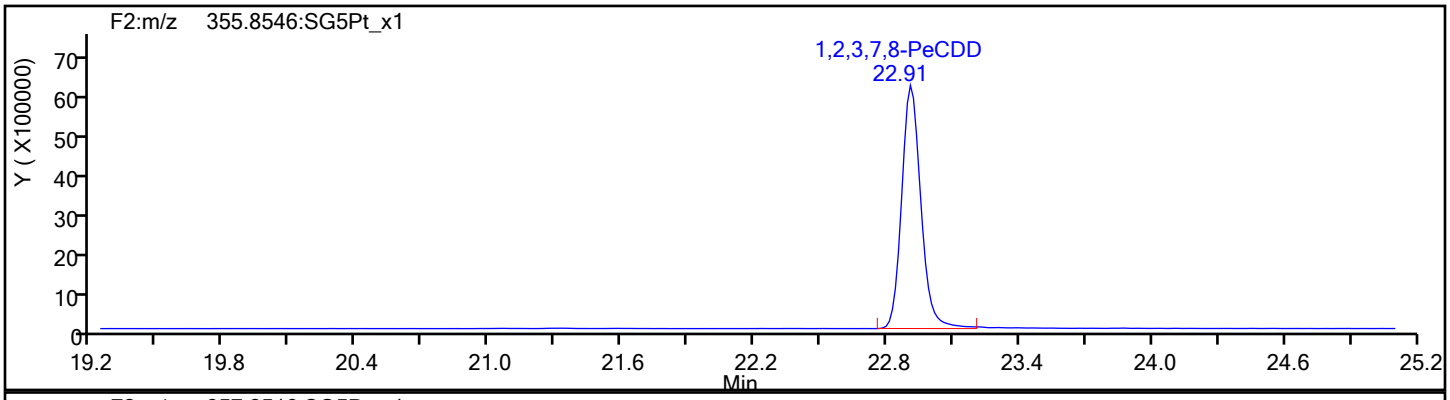

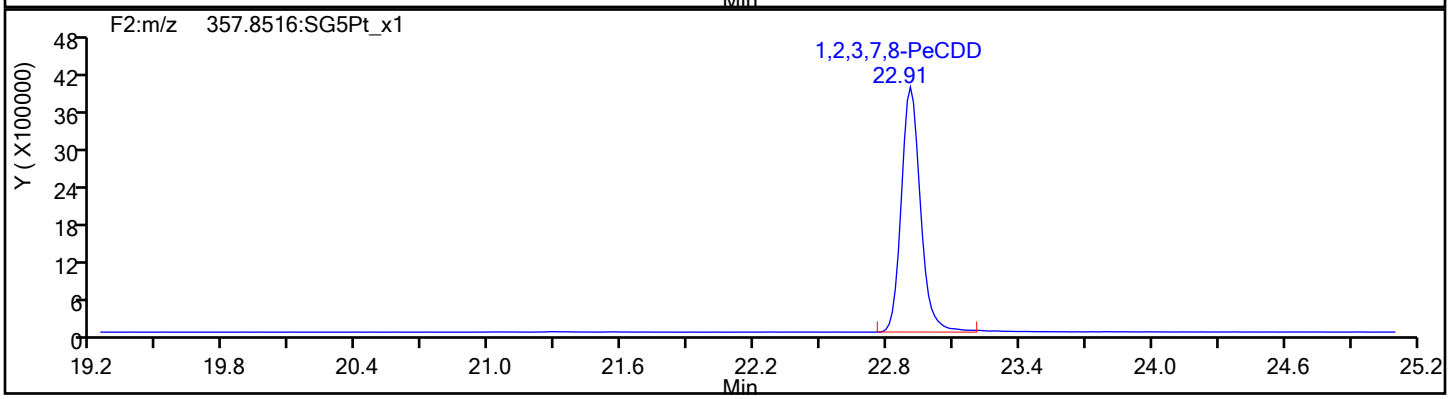

PeCDD Standards

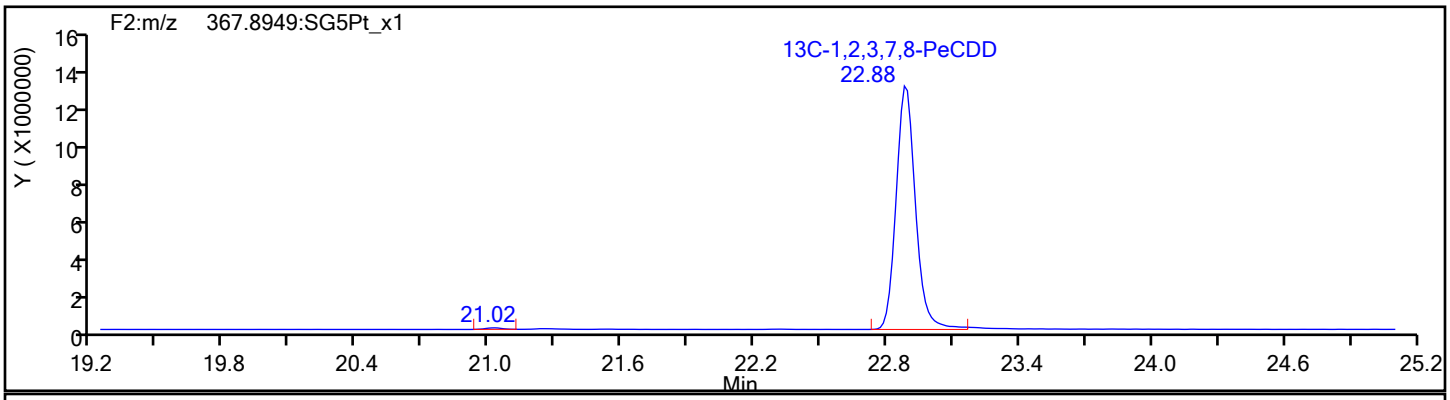

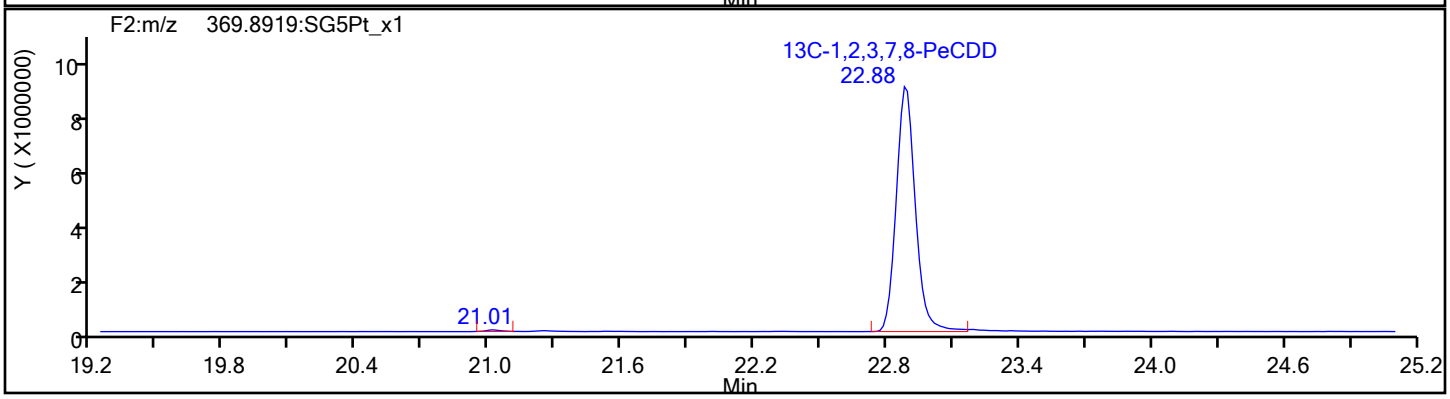

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HxCDF

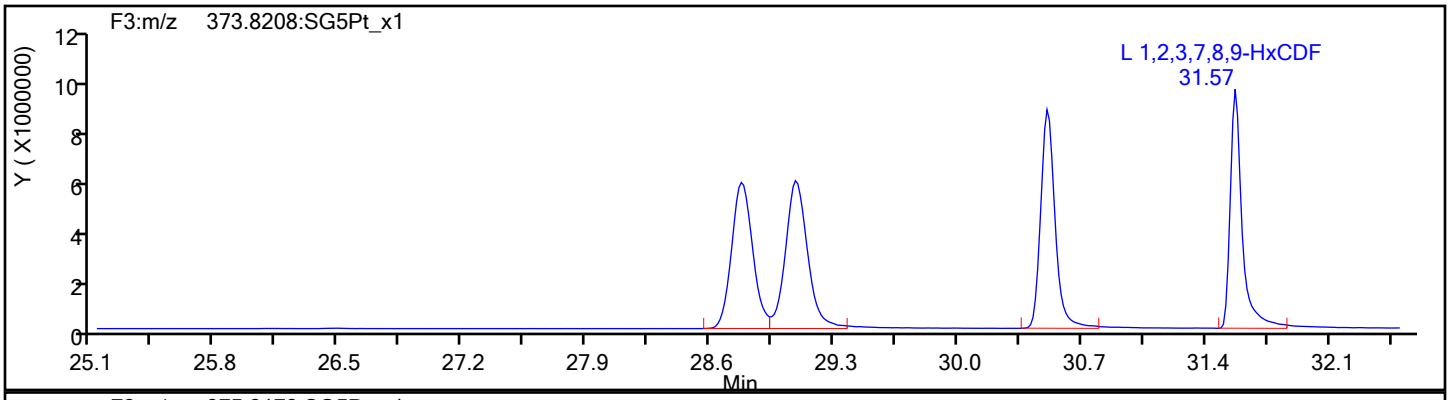

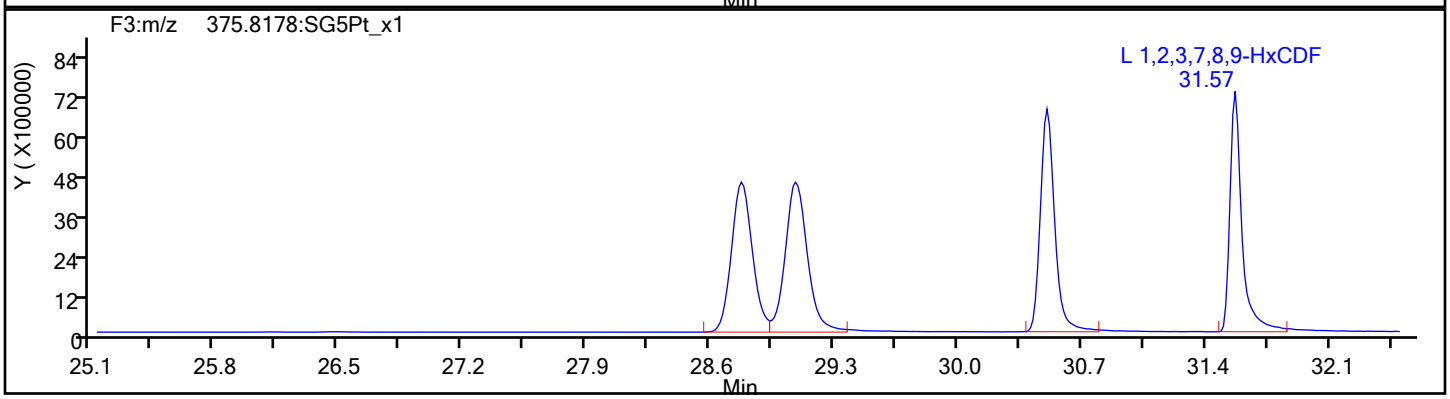

HxCDF Standards

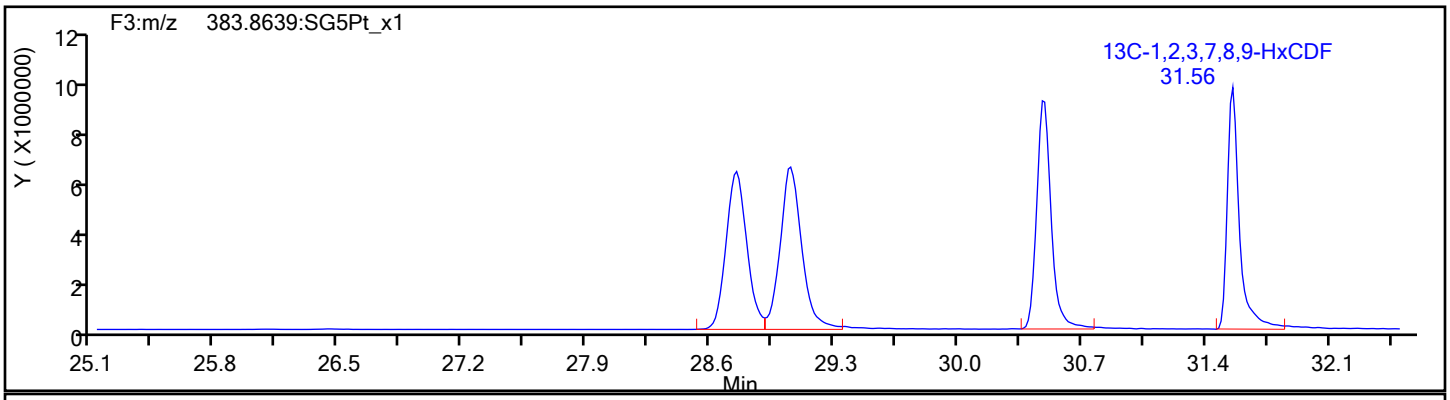

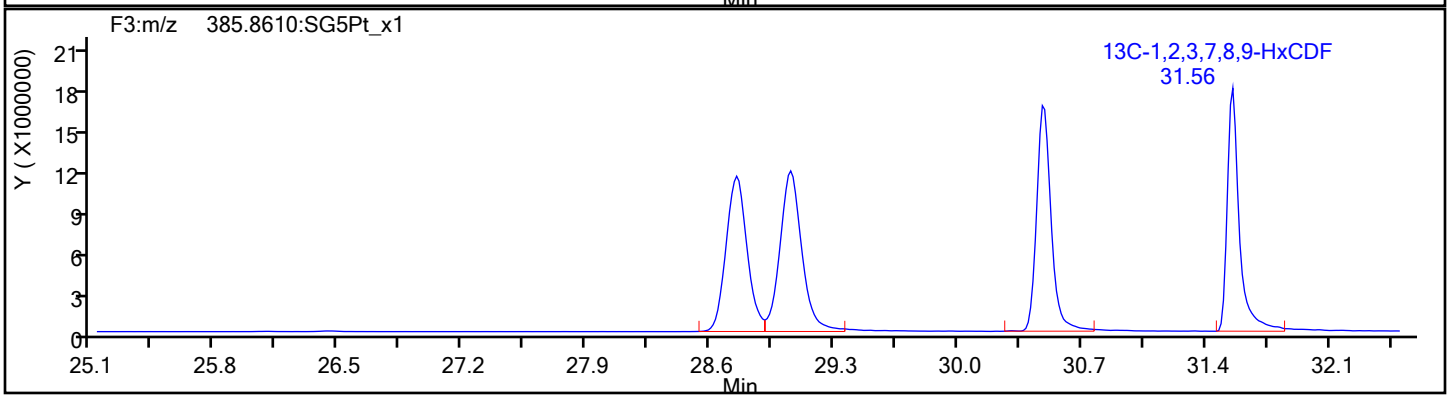

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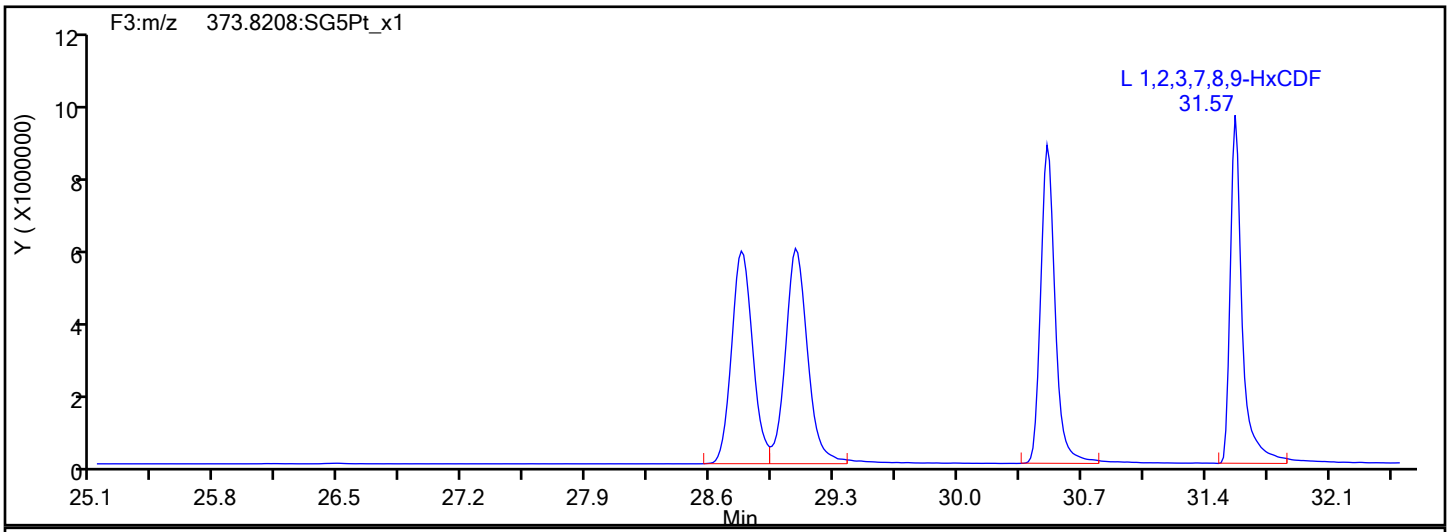

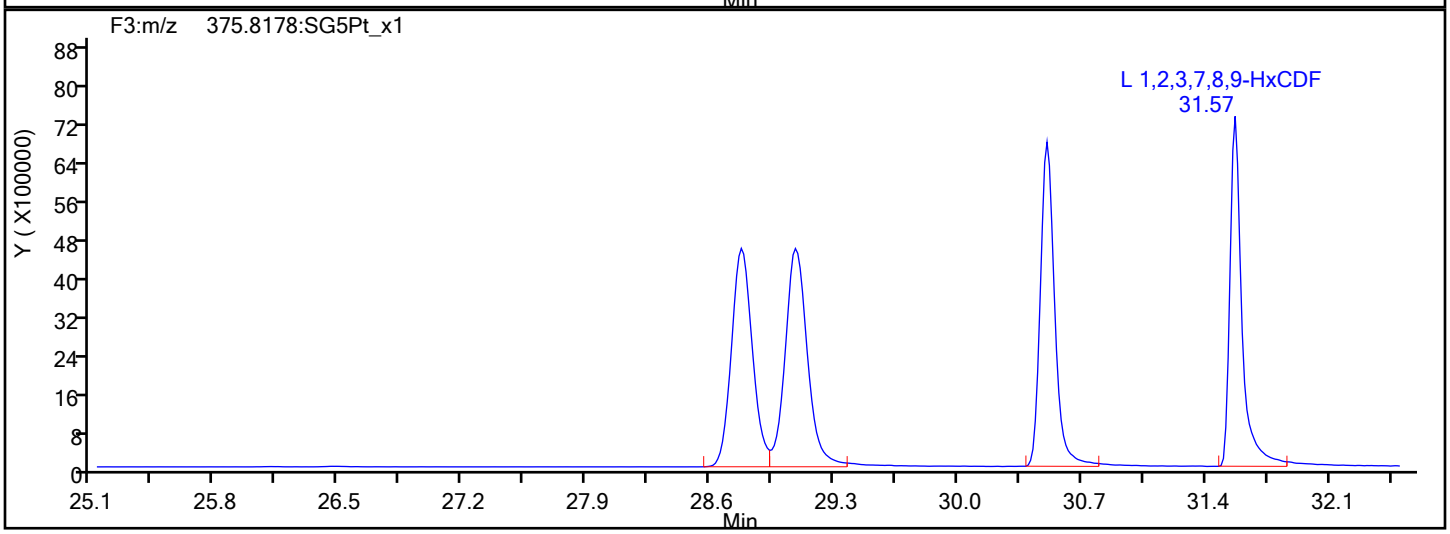

HxCDF Interference Mass

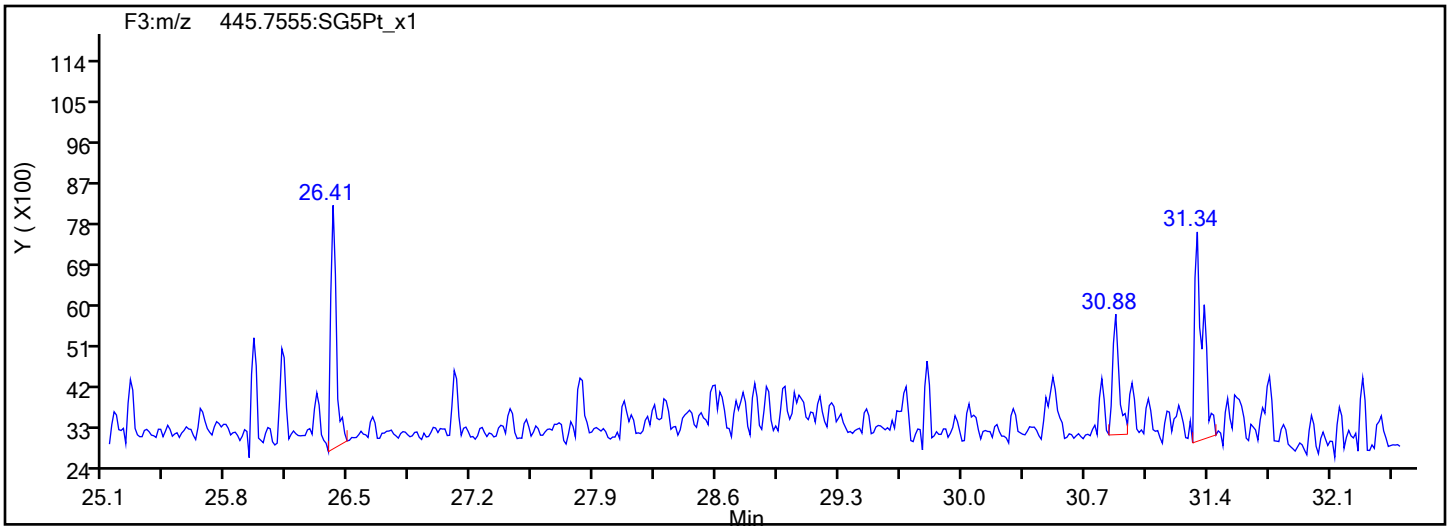

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HxCDD

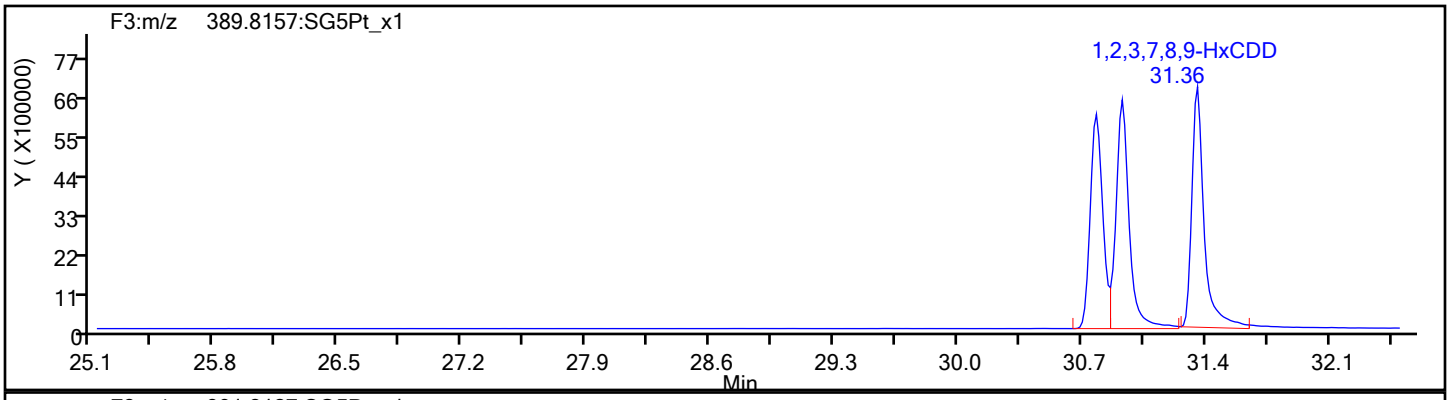

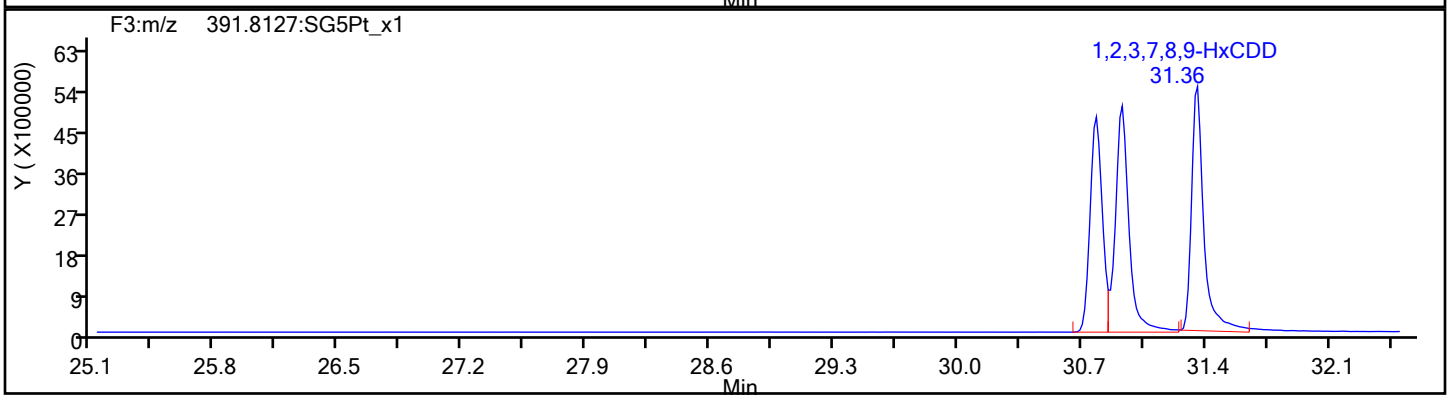

HxCDD Standards

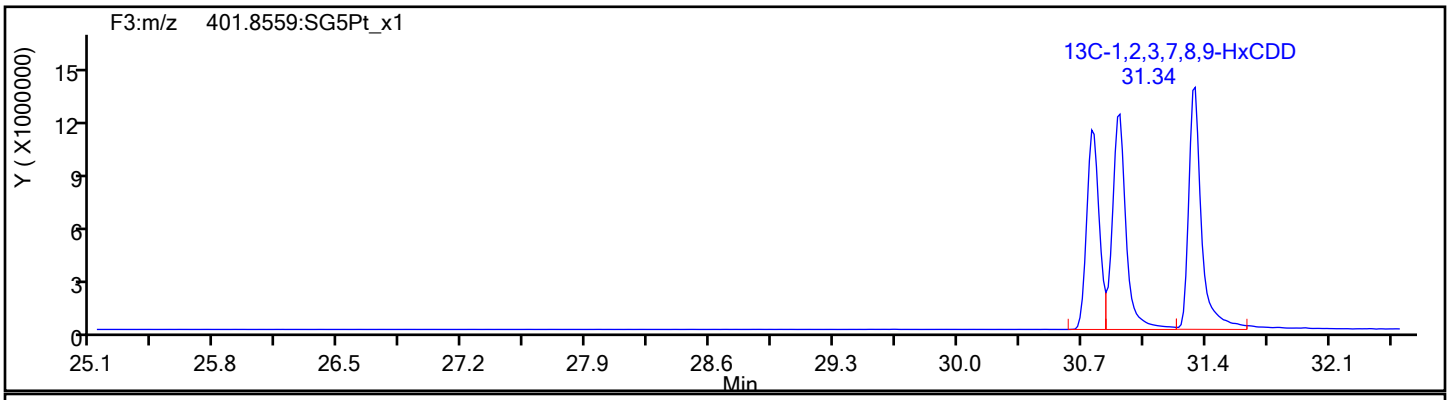

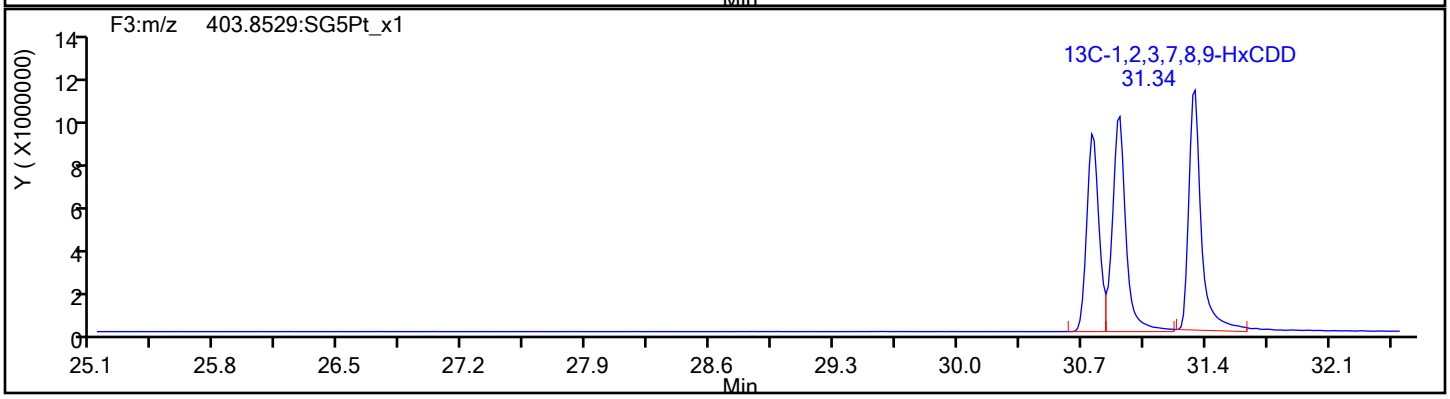

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HpCDF

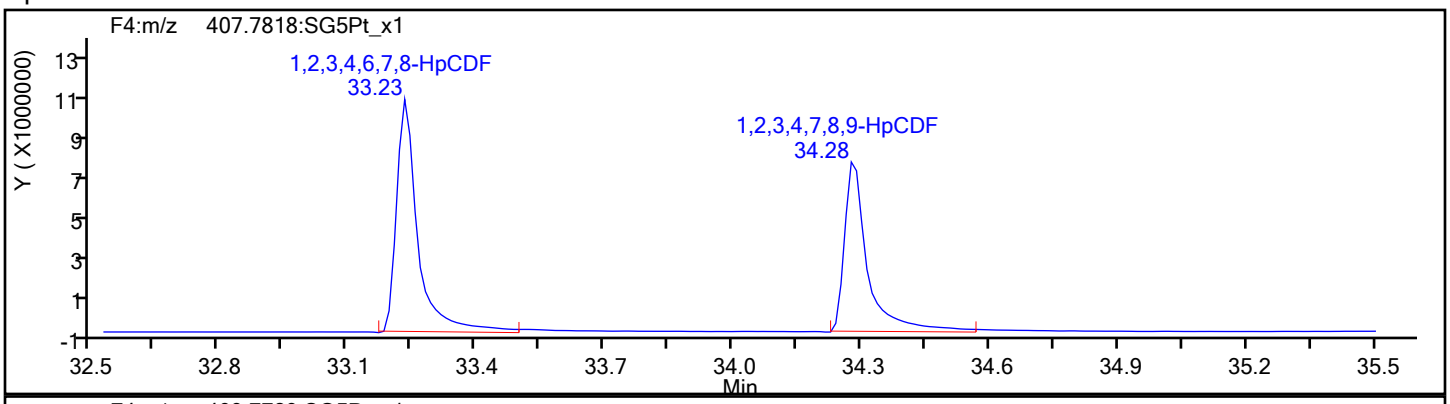

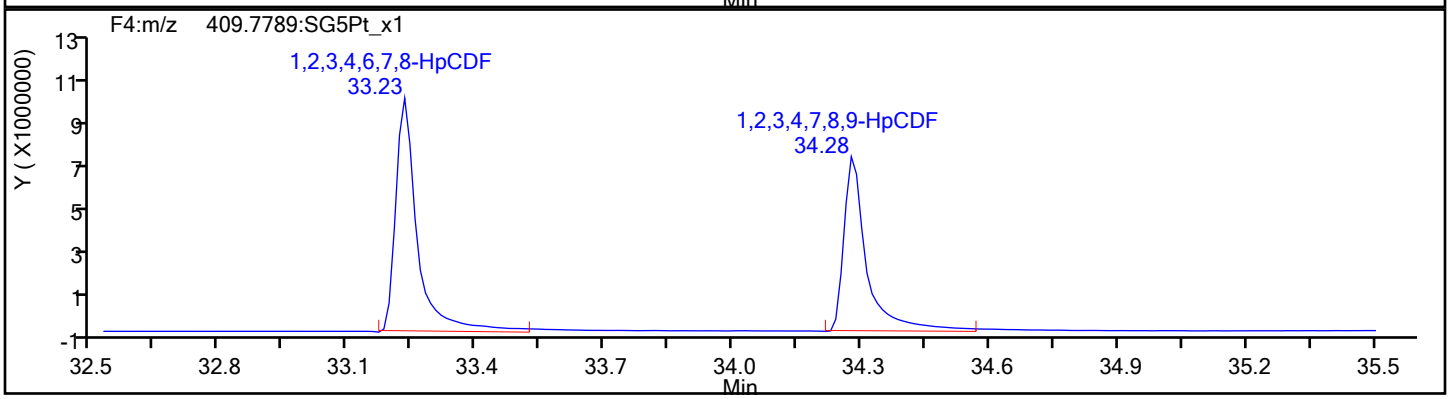

HpCDF Standards

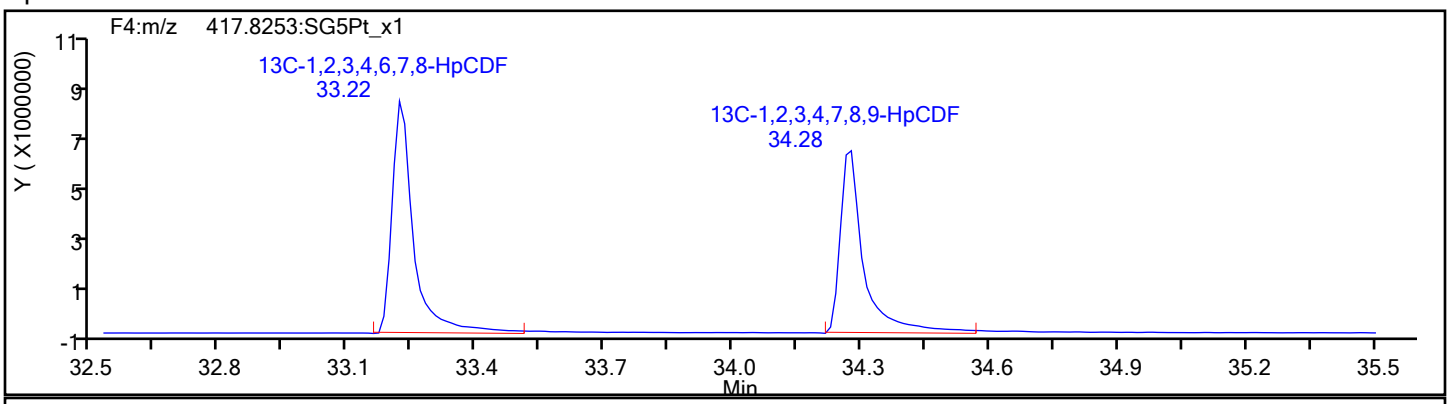

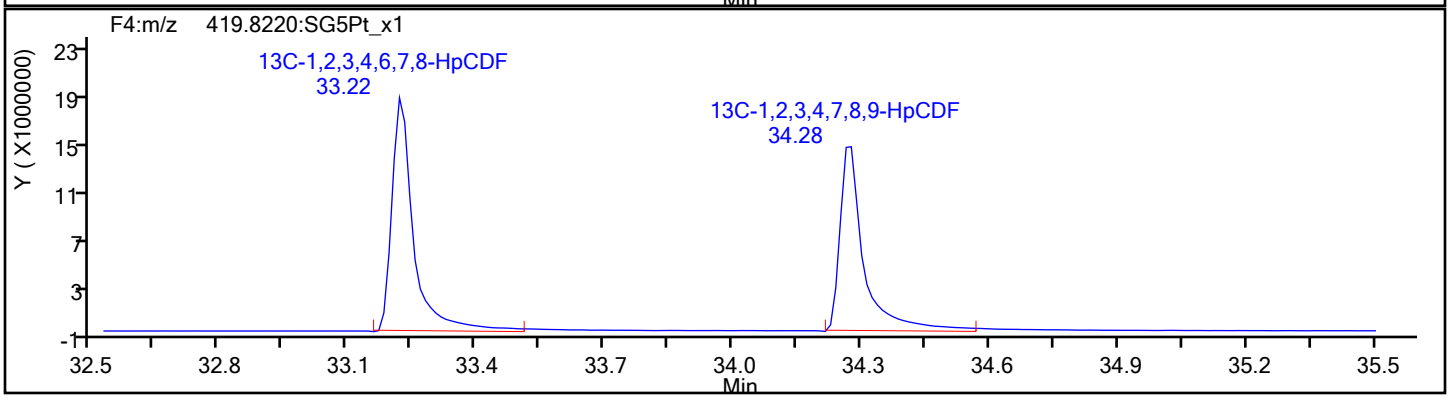

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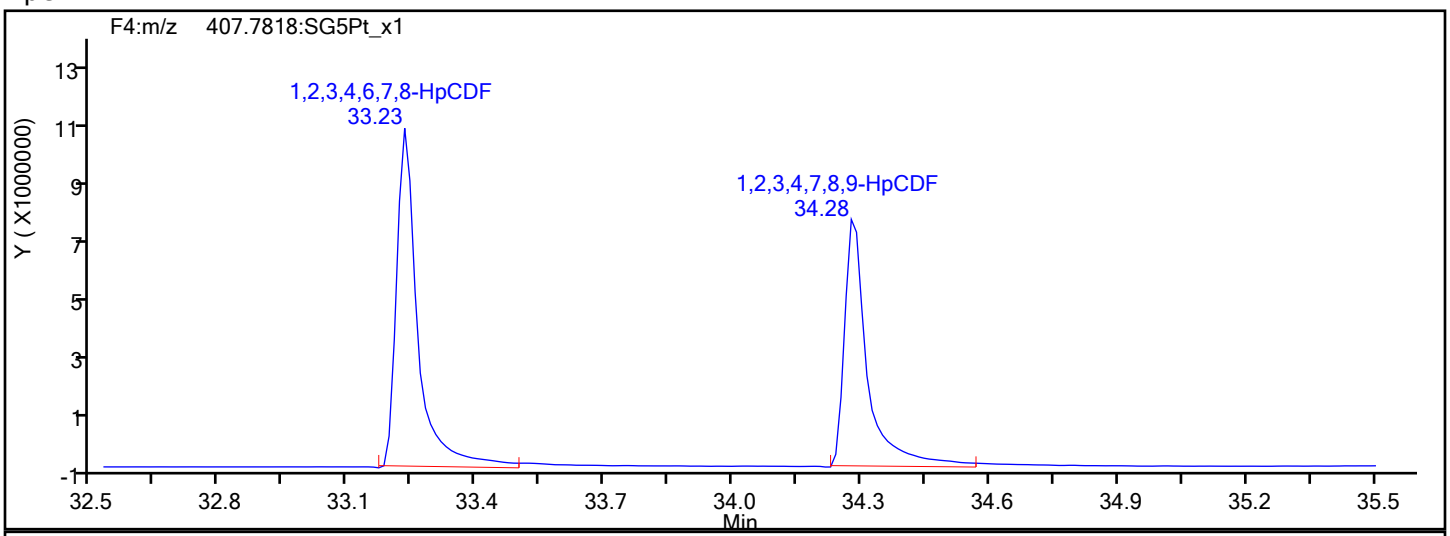

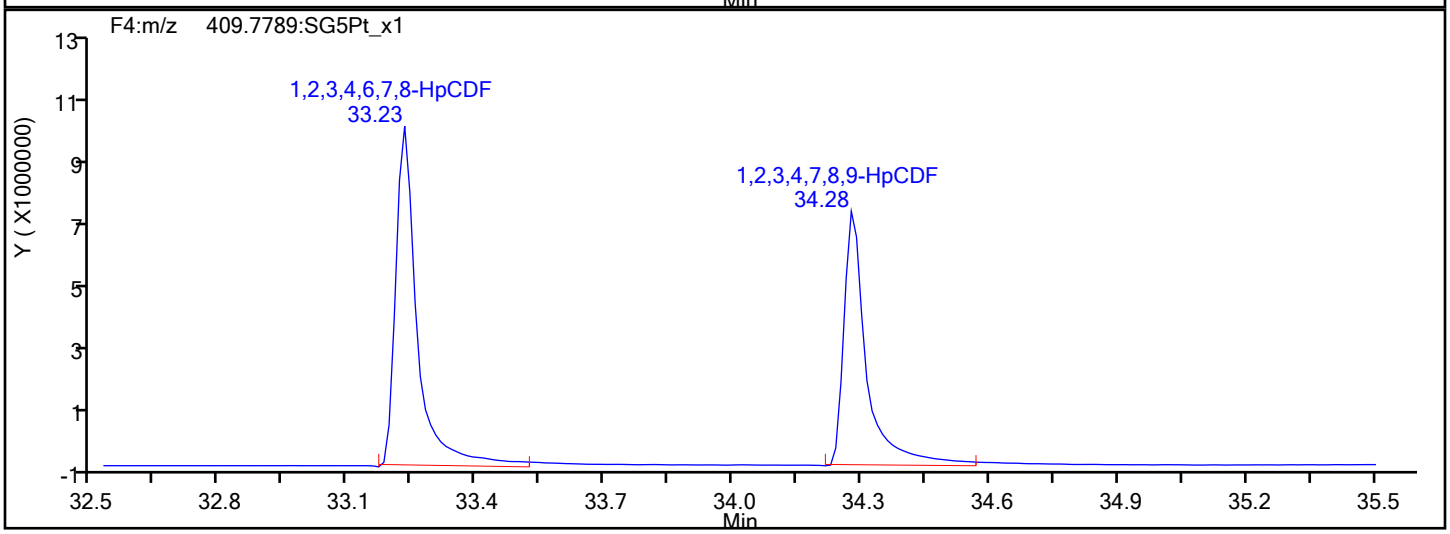

HpCDF Interference Mass

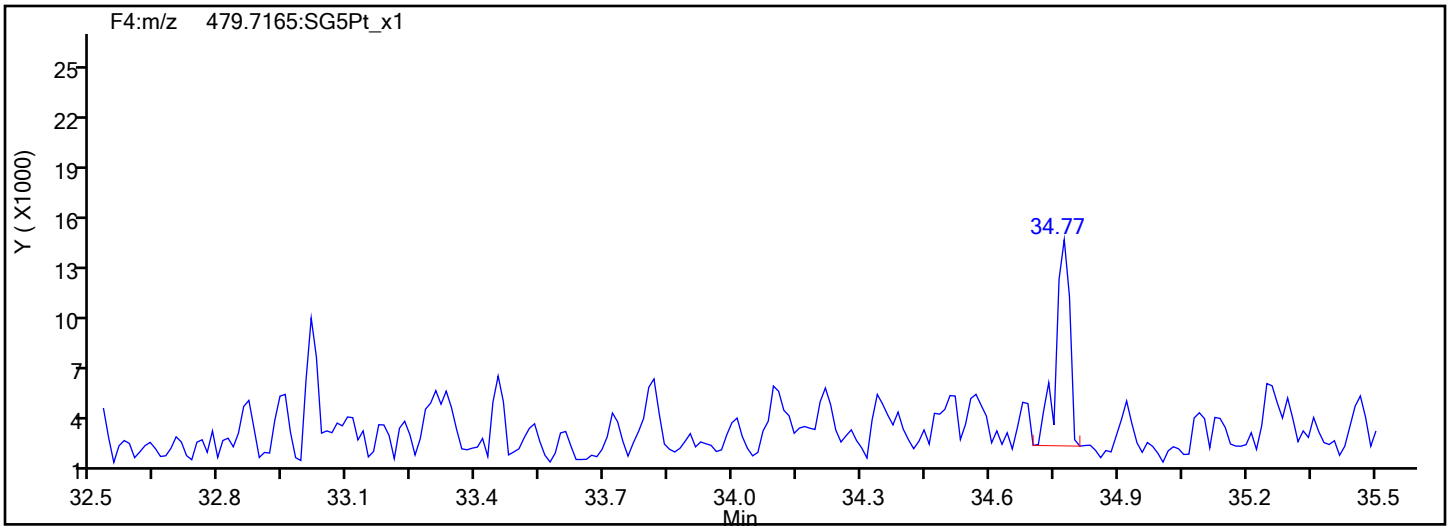

Report Date: 08-Oct-2019 12:59:19 Chrom Revision: 2.3 07-Oct-2019 09:11:46

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_13.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

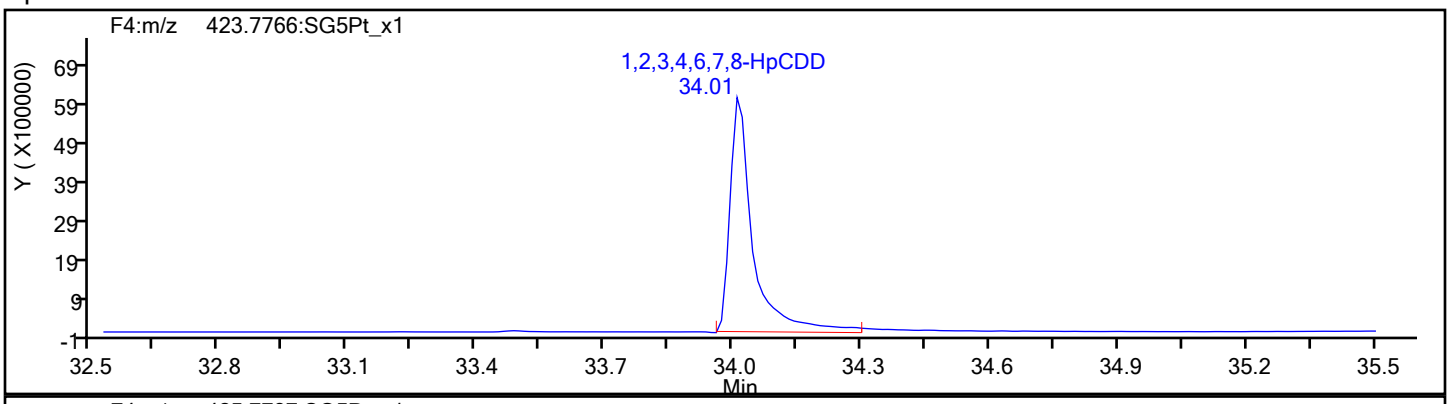

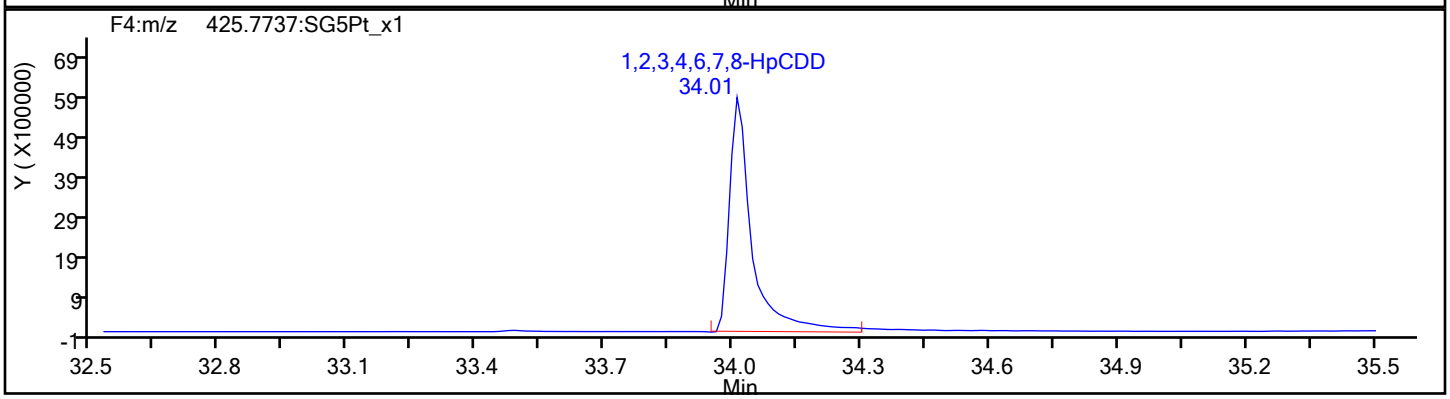

HpCDD Standards

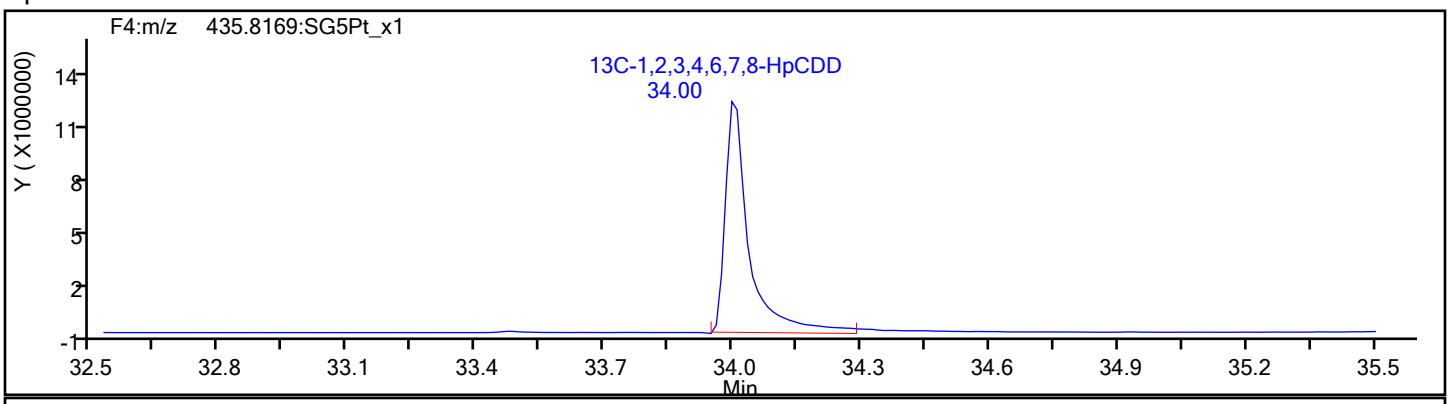

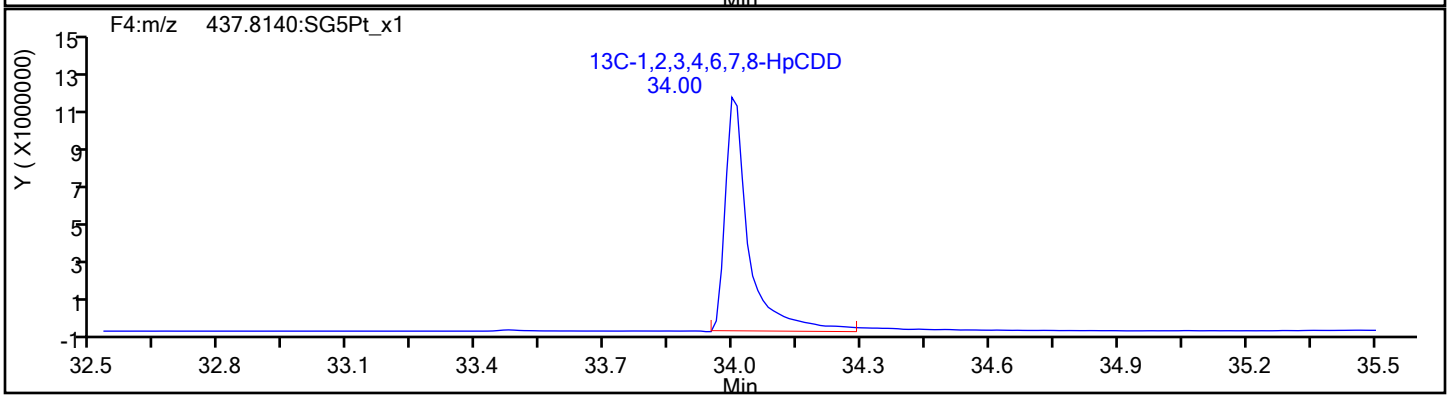

Report Date: 08-Oct-2019 12:59:19 Chrom Revision: 2.3 07-Oct-2019 09:11:46

Eurofins TestAmerica, Sacramento

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Client ID:			
Worklist#:	328202	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

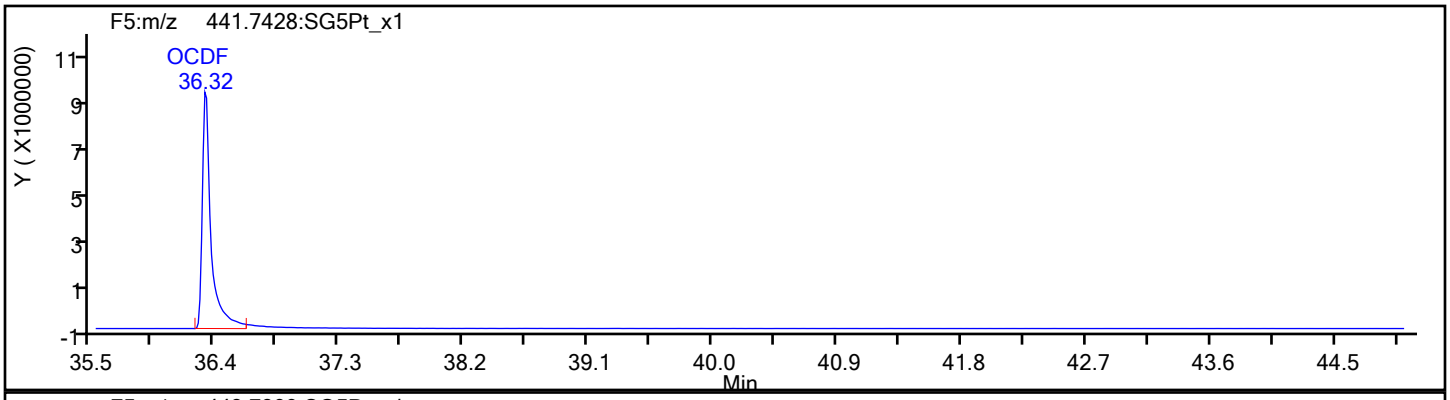

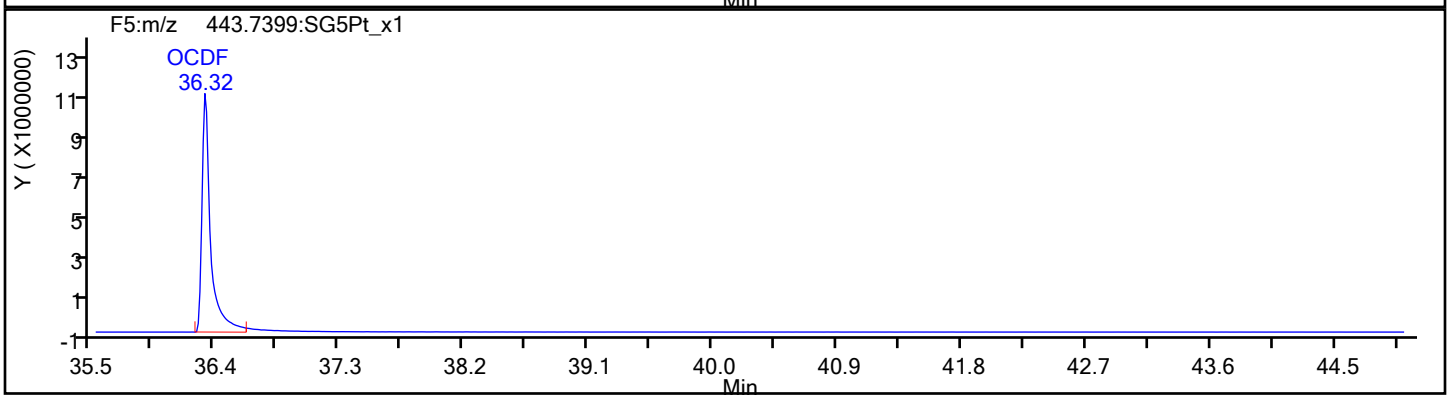

OCDF Standards

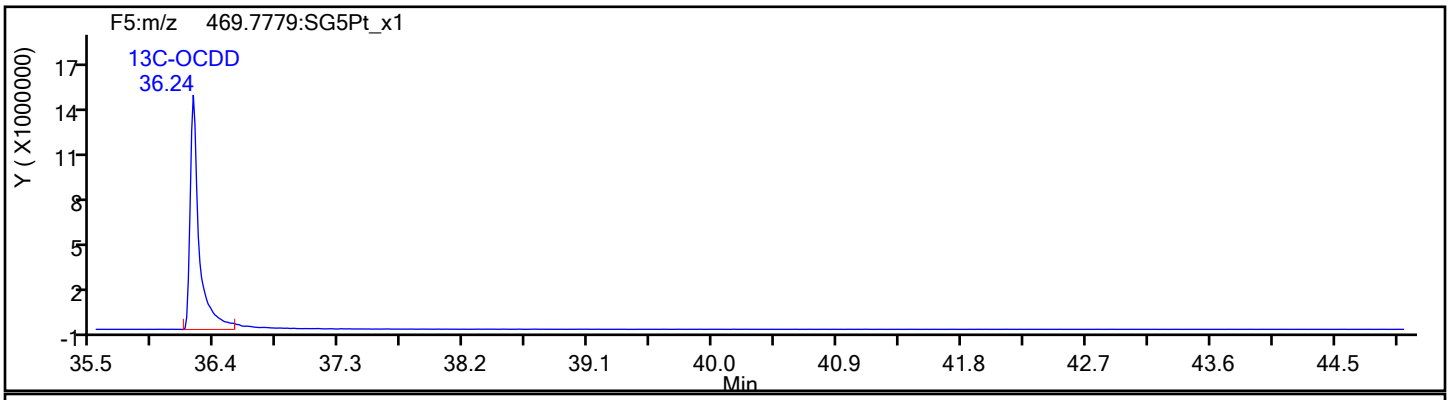

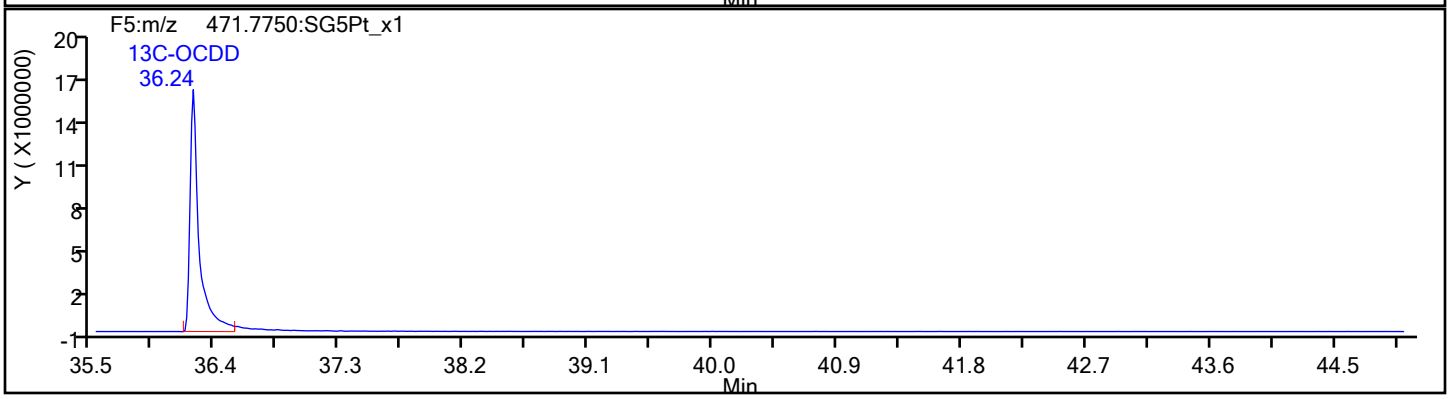

Report Date: 08-Oct-2019 12:59:19 Chrom Revision: 2.3 07-Oct-2019 09:11:46

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Worklist#:	328202	Sample Line#:	13
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OCDF

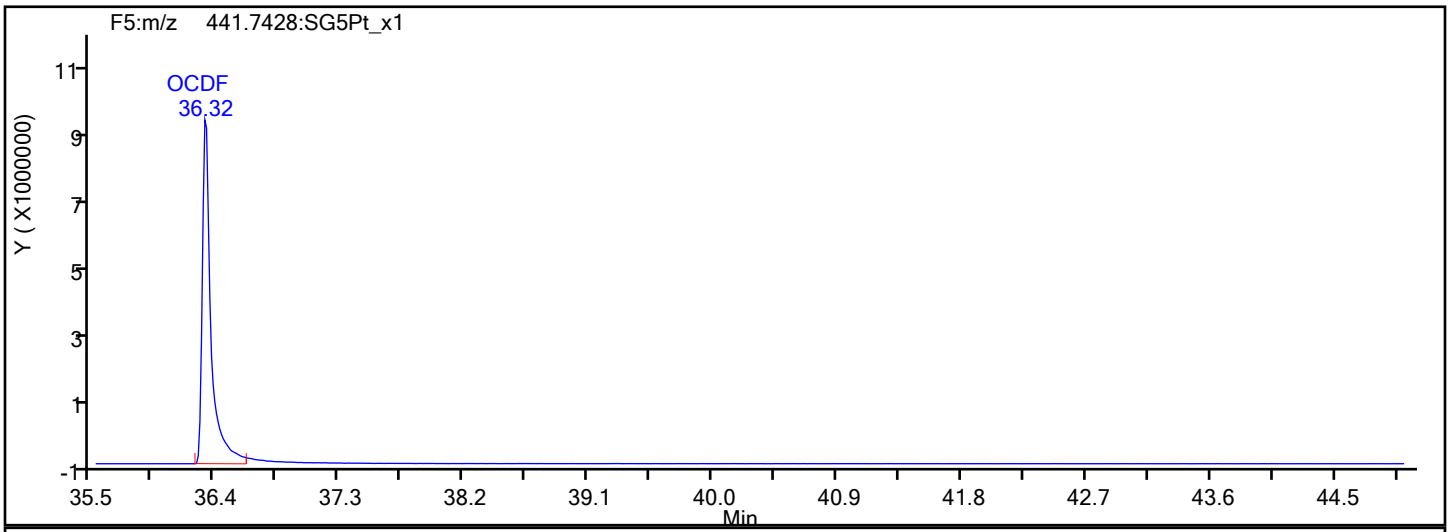

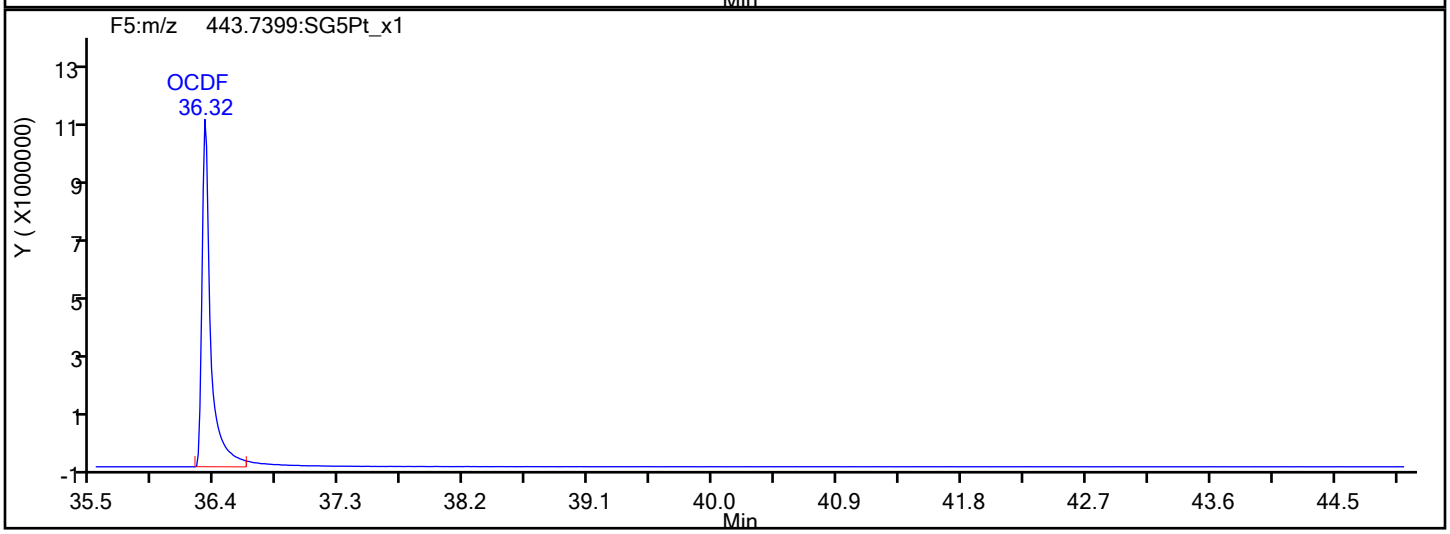

OCDF Interference Mass

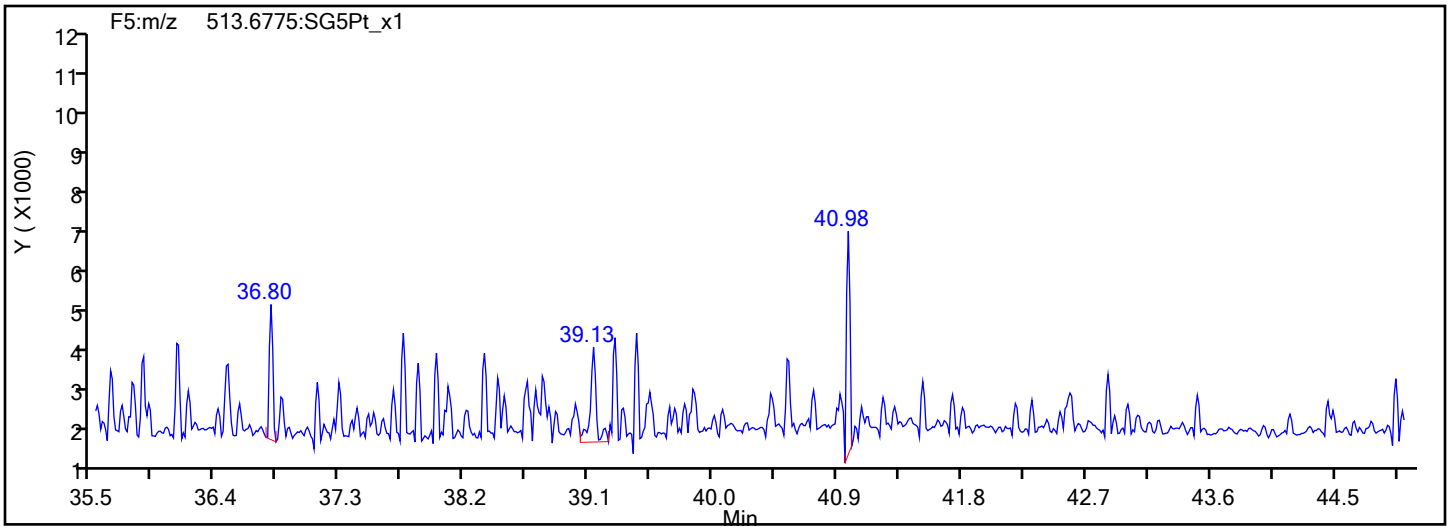

Report Date: 08-Oct-2019 12:59:19 Chrom Revision: 2.3 07-Oct-2019 09:11:46

Eurofins TestAmerica, Sacramento

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Injection Date:	03-Oct-2019 21:01:04	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

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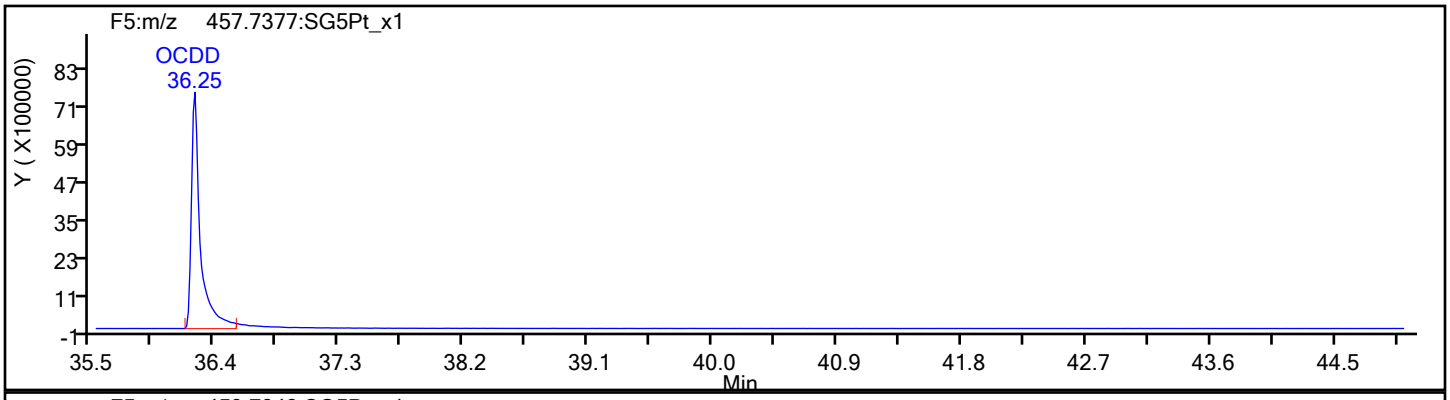

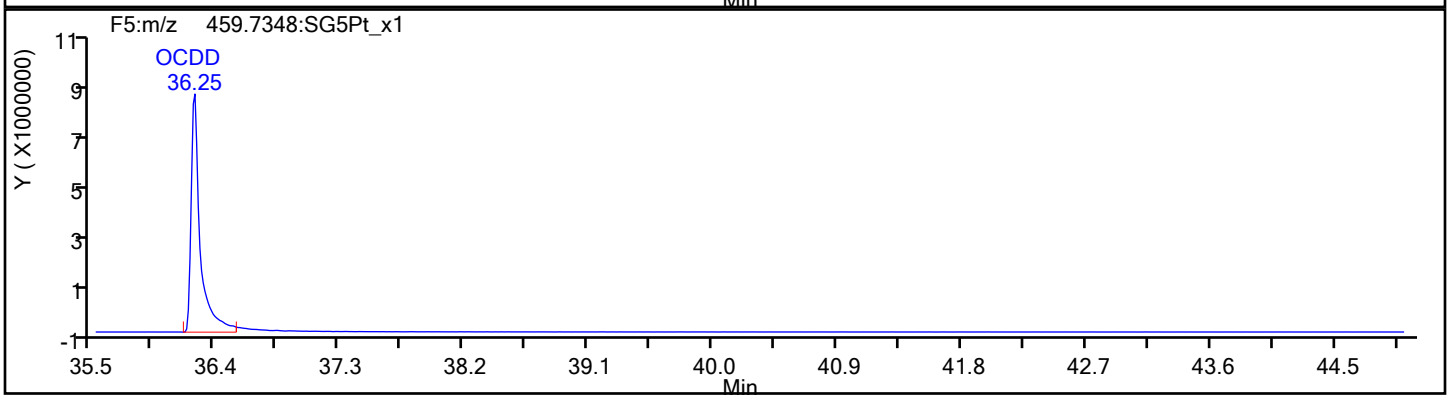

OCDD Standards

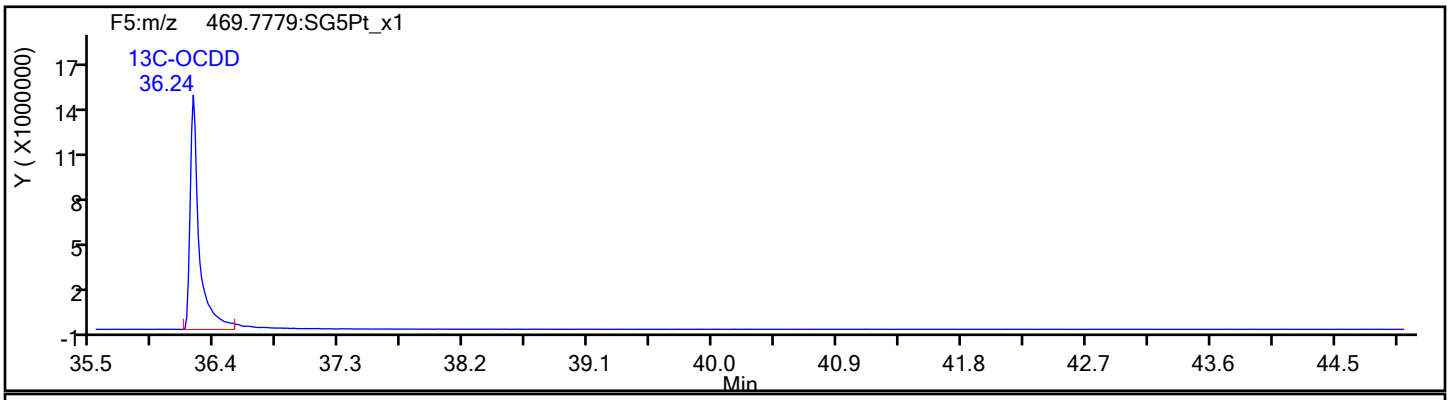

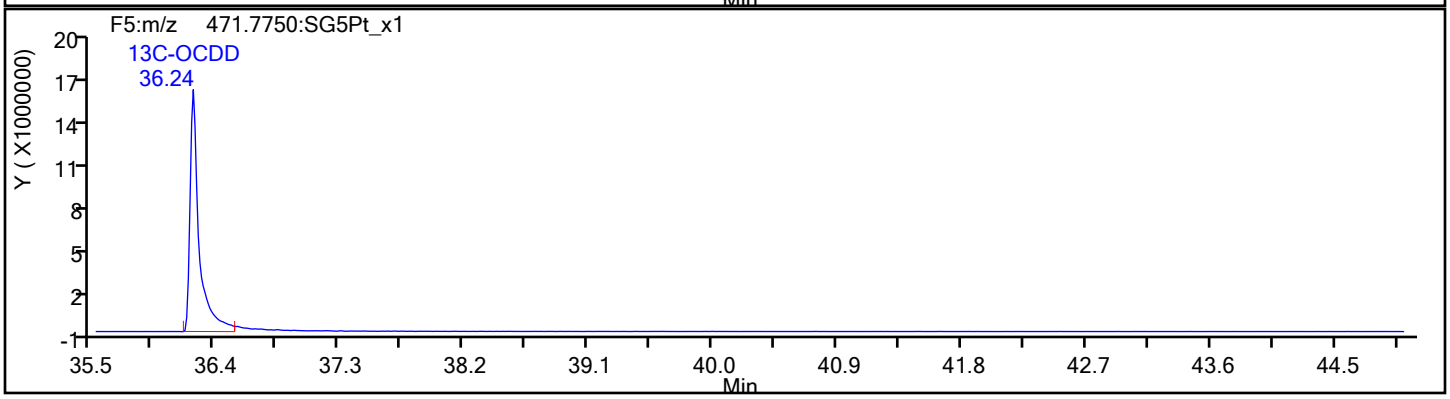

Report Date: 08-Oct-2019 12:59:19 Chrom Revision: 2.3 07-Oct-2019 09:11:46

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

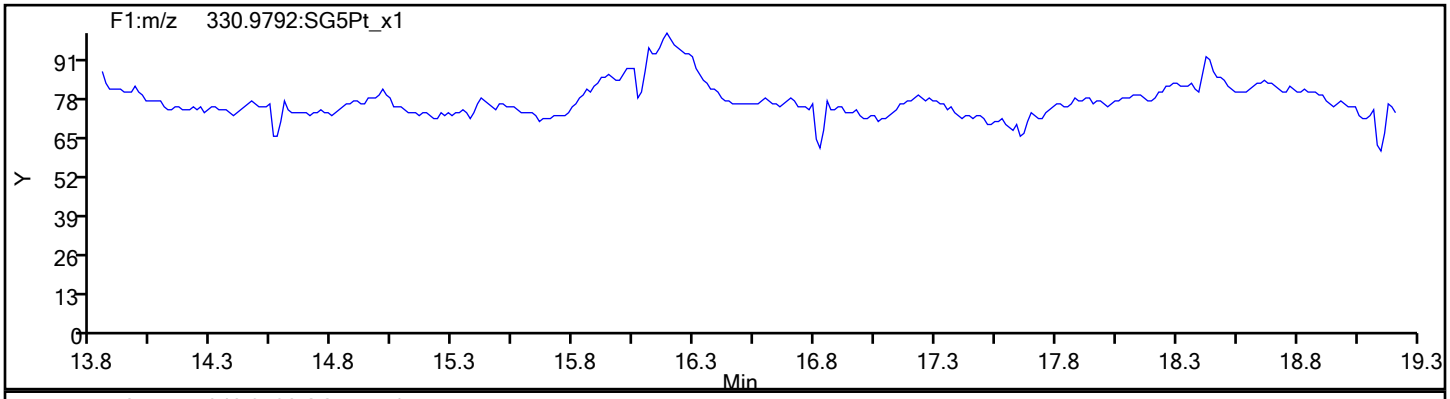

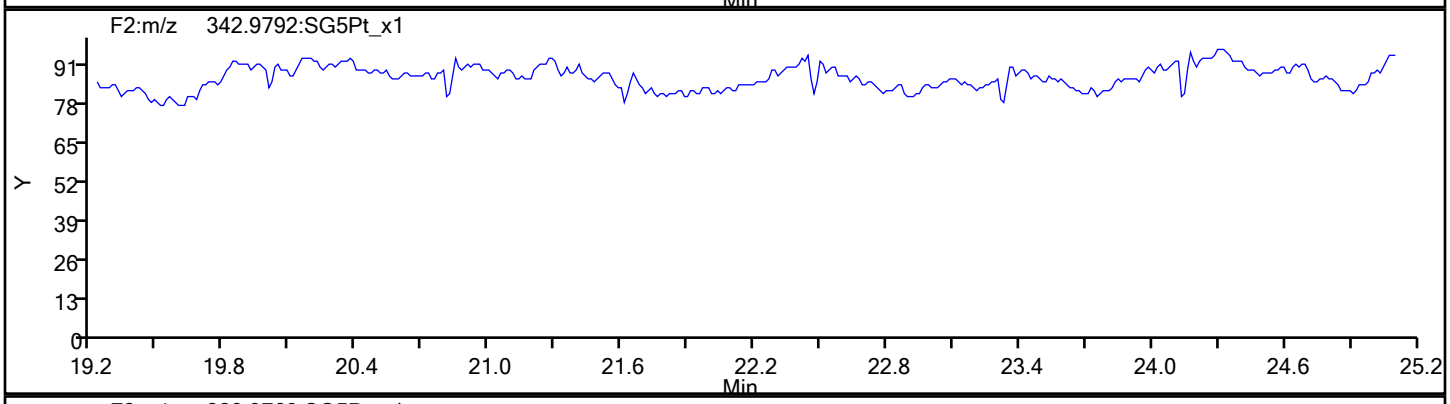

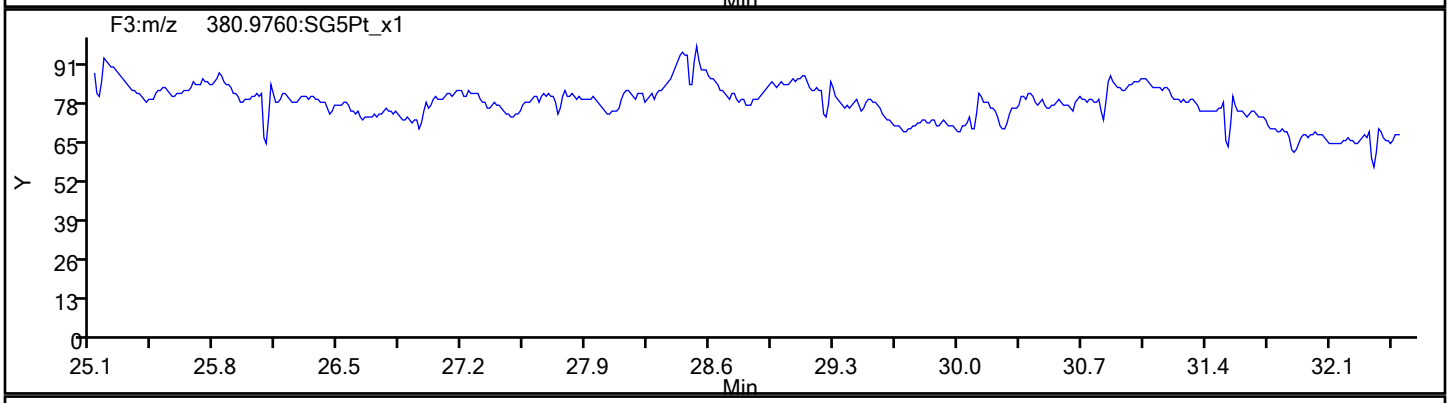

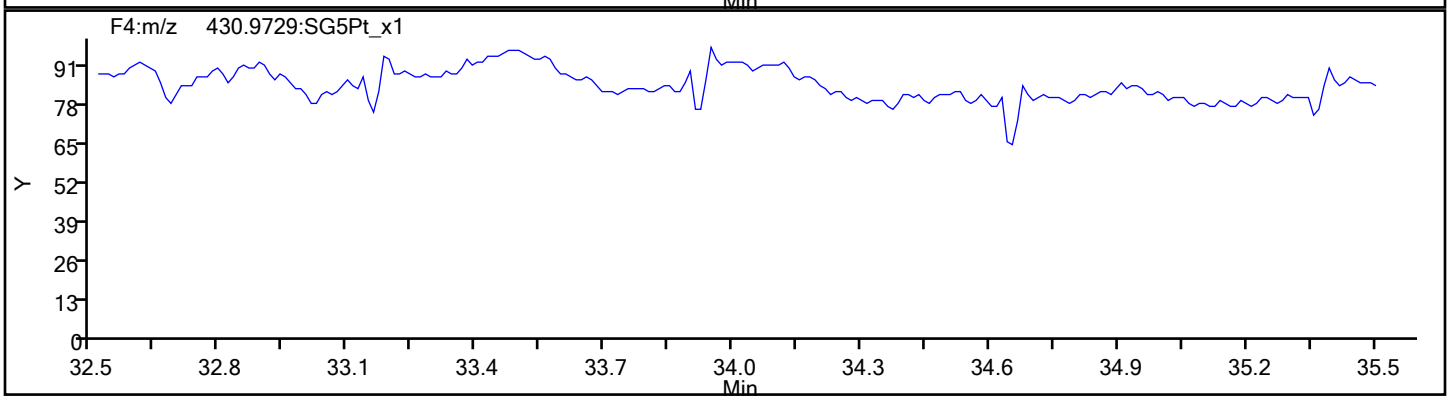

Report Date: 08-Oct-2019 12:59:19 Chrom Revision: 2.3 07-Oct-2019 09:11:46

Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	13
Column Type:	DB-5	Column Dia:	0.32 mm

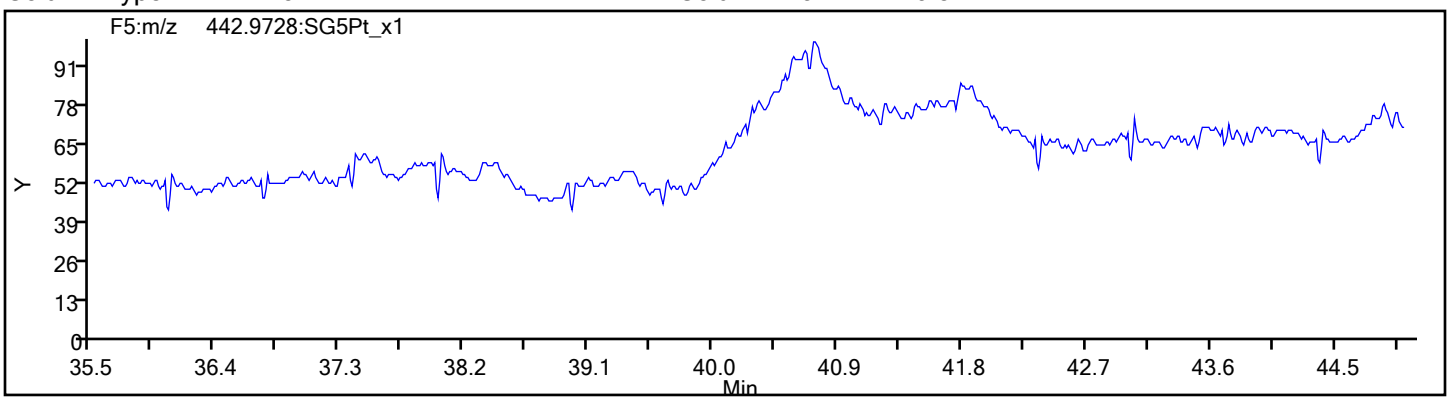

FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Lab Sample ID: ICV 320-312067/8 Calibration Date: 08/02/2019 06:03

Instrument ID: 11D2 Calib Start Date: 08/02/2019 02:52

GC Column: DB-225 ID: 0.32(mm) Calib End Date: 08/02/2019 05:25

Lab File ID: 02AU1911D2_008.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
2,3,7,8-TCDD	AveID	1.154	1.135		39.4	40.0	98	70-130
2,3,7,8-TCDF	AveID	0.8389	0.7719		36.8	40.0	92	70-130
13C-2,3,7,8-TCDD	Ave	0.9388	0.8798		93.7	100	94	82-121
13C-2,3,7,8-TCDF	Ave	1.338	1.270		94.9	100	95	71-140
37Cl4-2,3,7,8-TCDD	Ave	1.182	1.222		41.4	40.0	103	79-127

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_008.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 02-Aug-2019 06:03:41 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ICV HRDXNIC_00042
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist:

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:56:54 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:47:16

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.394	97001968	0.78	1.1E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.547	123207943	0.74	1.3379	94.9	94.9	0.6094	0.6094	94.93	
2,3,7,8-TCDF	16.574	38039883	0.78	0.8389	36.8	36.8	0.1052	0.1052	92.01	
D 13C-2,3,7,8-TCDD	15.106	85337698	0.79	0.9388	93.7	93.7	0.3453	0.3453	93.71	
2,3,7,8-TCDD	15.120	38758960	0.76	1.1538	39.4	39.4	0.1979	0.1979	98.41	
$ 37Cl4-2,3,7,8-TCDD	15.120	47417283		1.1816	41.4	41.4	0.1032	0.1032	103	
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNIC_00042 Amount Added: 1.00 Units: mL

Report Date: 02-Aug-2019 11:57:05 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_008.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 02-Aug-2019 06:03:41 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ICV HRDXNIC_00042
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist:

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:56:54 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:47:16

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.394	15.416	-1		42407295	9957761	17234	43085	578		
333.9339	15.394	15.416	-1		54594673	12831179	12314	30785	1042	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.547	16.580	-2	1.075	52595032	11688678	51826	129565	226		
317.9389	16.547	16.580	-2	1.075	70612911	15460441	22495	56237	687	0.74(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.574	16.599	-1	1.002	16681516	3535451	3682	9205	960		
305.8987	16.574	16.599	-1	1.002	21358367	4522824	5899	14747	767	0.78(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.106	15.136	-2	0.981	37657541	9362808	17234	43085	543		
333.9339	15.106	15.136	-2	0.981	47680157	11686095	12314	30785	949	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.120	15.156	-2	1.001	16757833	4095456	8475	21187	483		
321.8936	15.120	15.156	-2	1.001	22001127	5354648	10746	26865	498	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.120	15.158	-2	0.982	47417283	11432123	11111	27777	1029		

Total 2378-Chlorinated Dioxins & Furans
0.0 0

Reagents:

HRDXNIC_00042 Amount Added: 1.00 Units: mL

Report Date: 02-Aug-2019 11:57:05 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_008.d		
Injection Date:	02-Aug-2019 06:03:41	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

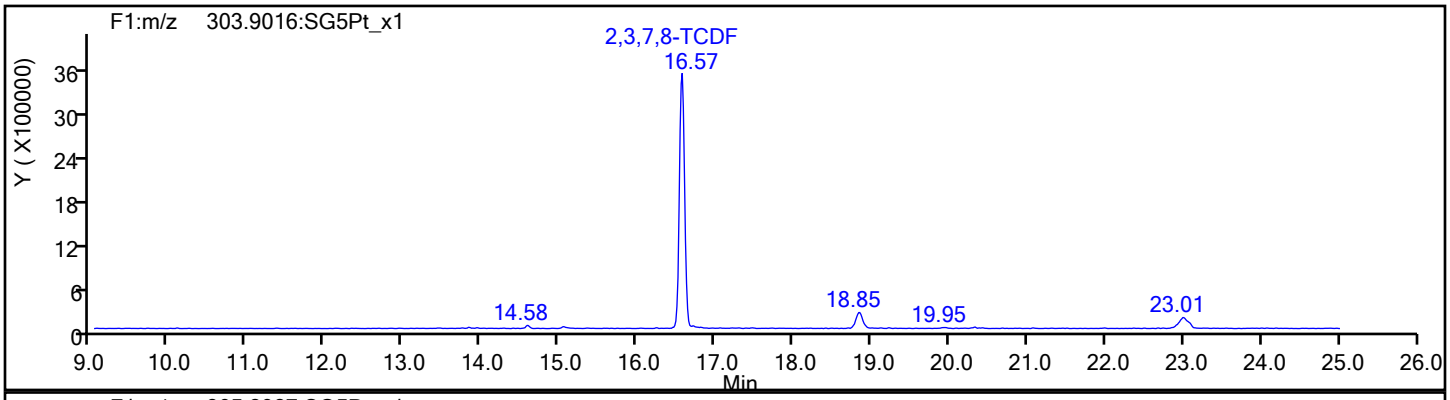

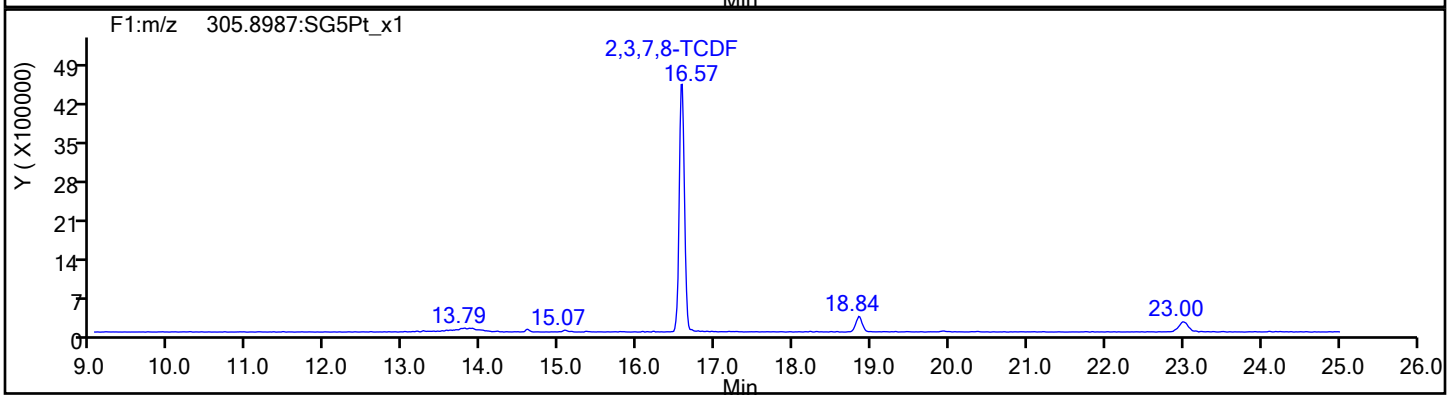

TCDF Standards

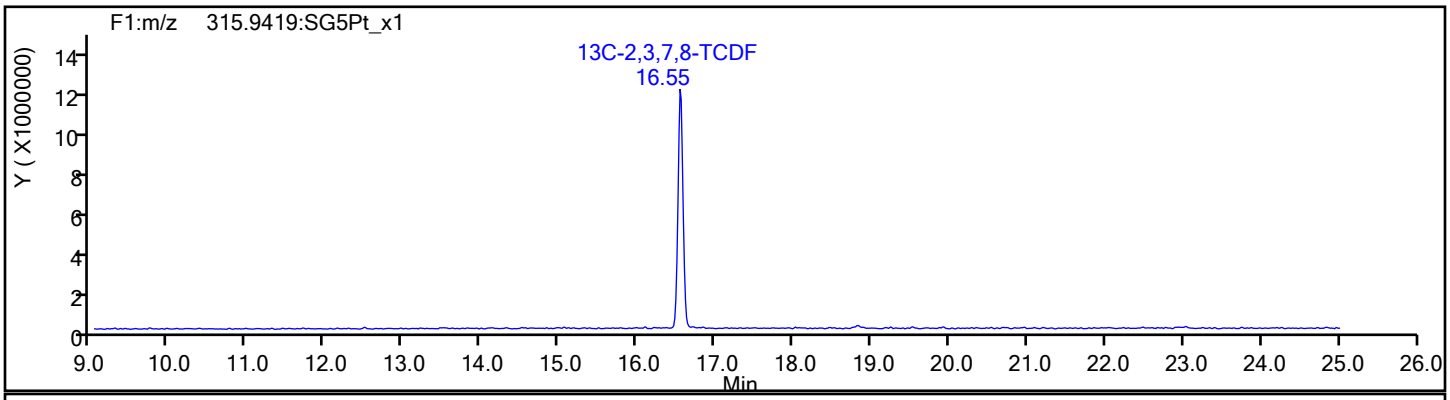

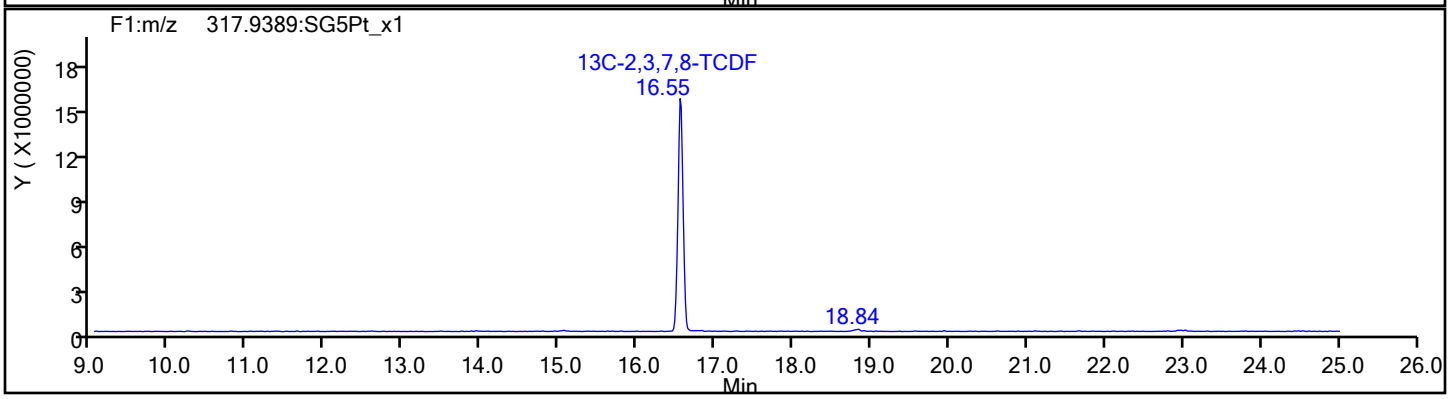

Report Date: 02-Aug-2019 11:57:05 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

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Injection Date:	02-Aug-2019 06:03:41	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	8
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

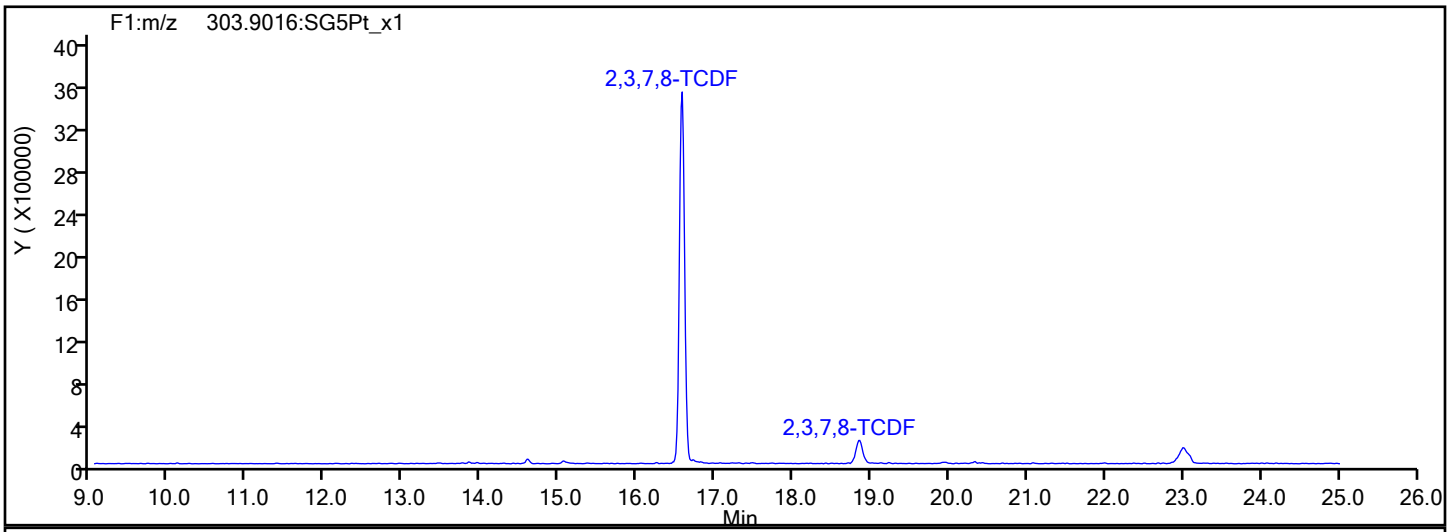

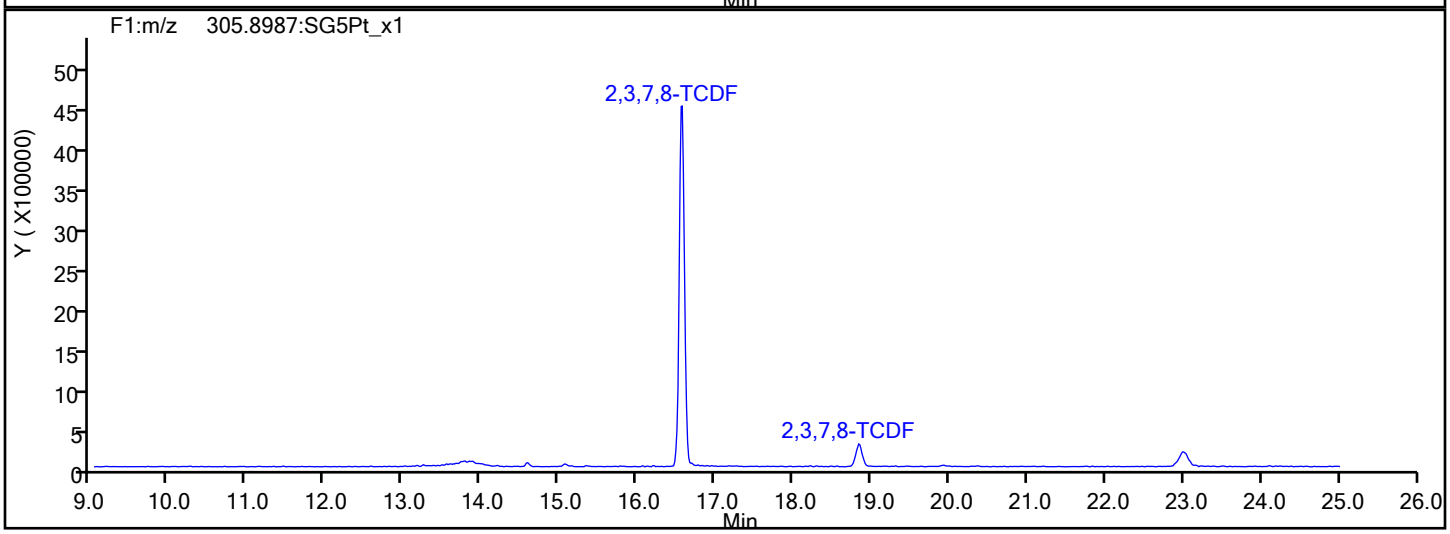

TCDF Interference Mass

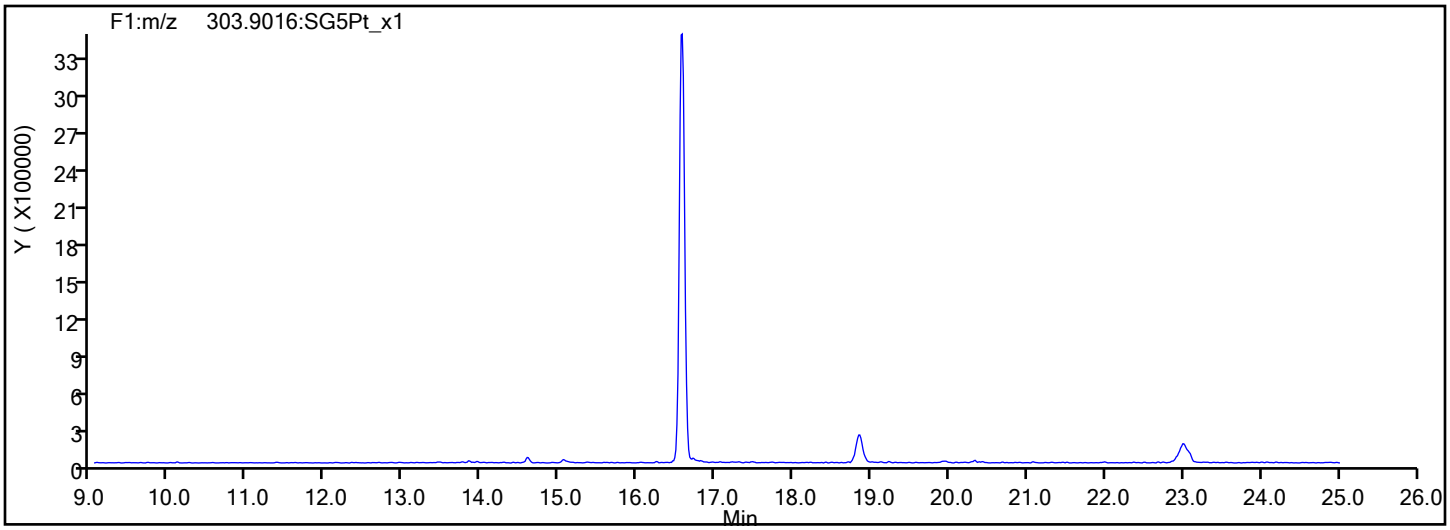

Report Date: 02-Aug-2019 11:57:05 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_008.d		
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Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	8
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

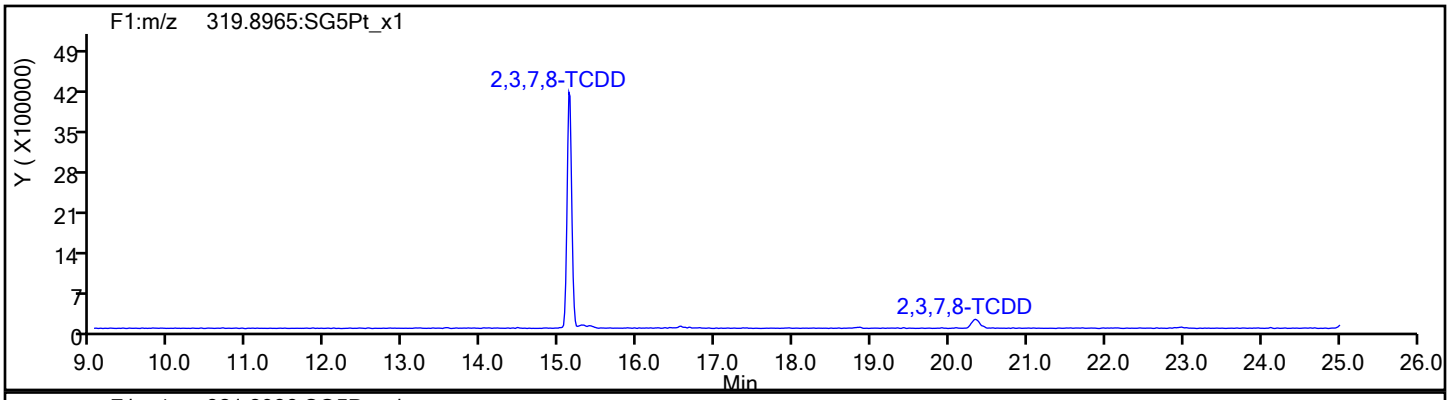

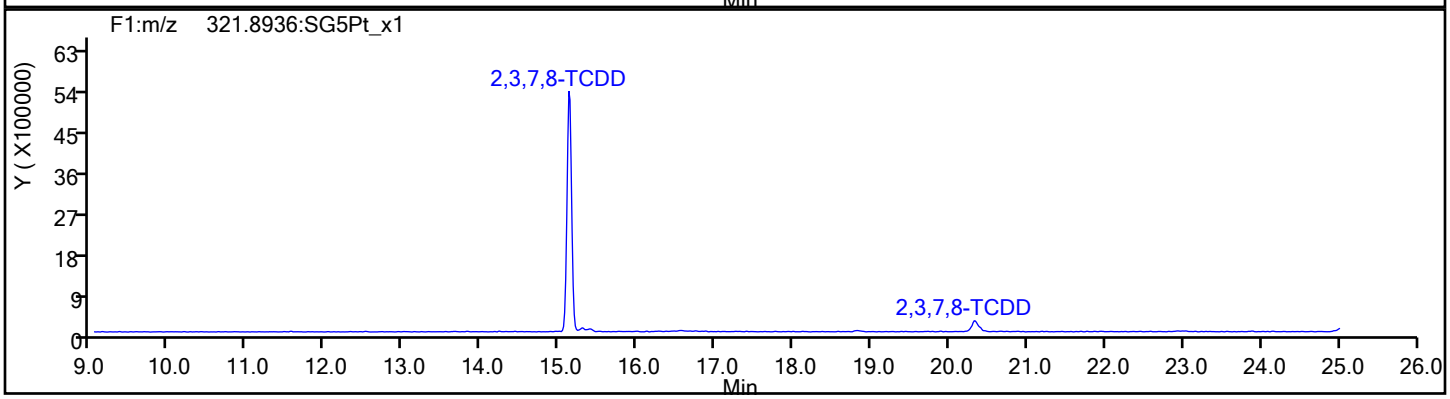

TCDD Standards

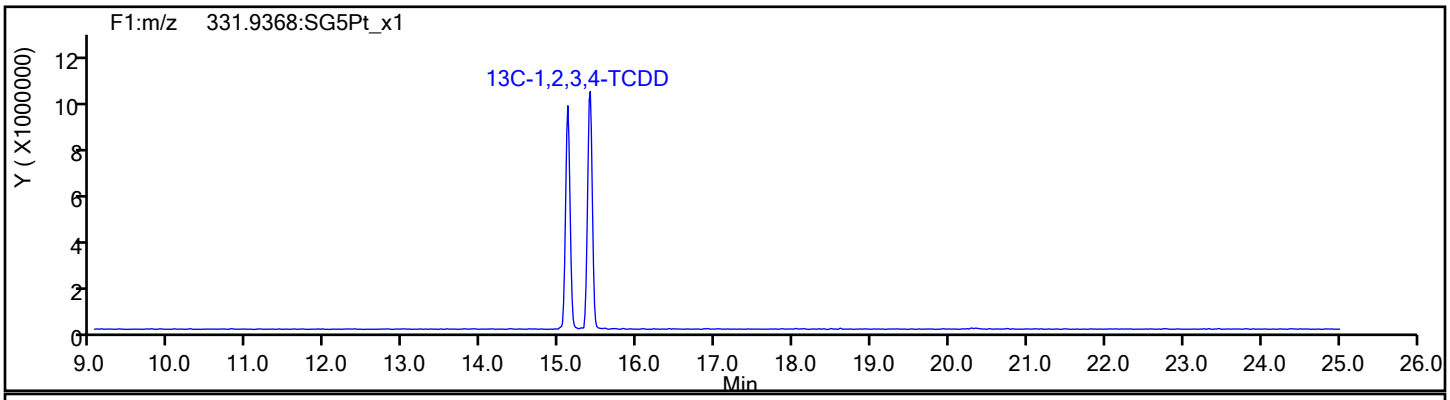

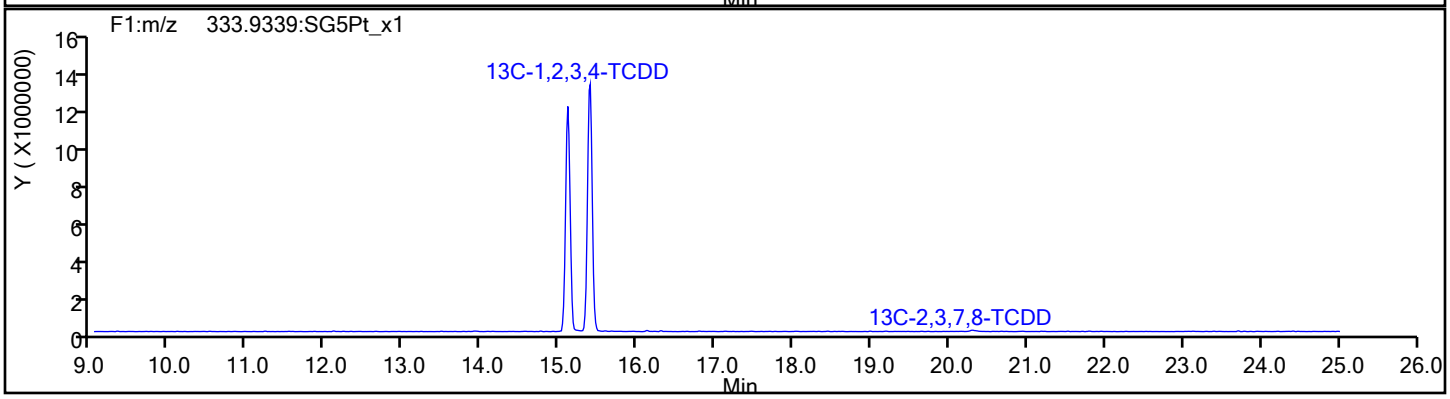

Report Date: 02-Aug-2019 11:57:05 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_008.d		
Injection Date:	02-Aug-2019 06:03:41	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	8
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

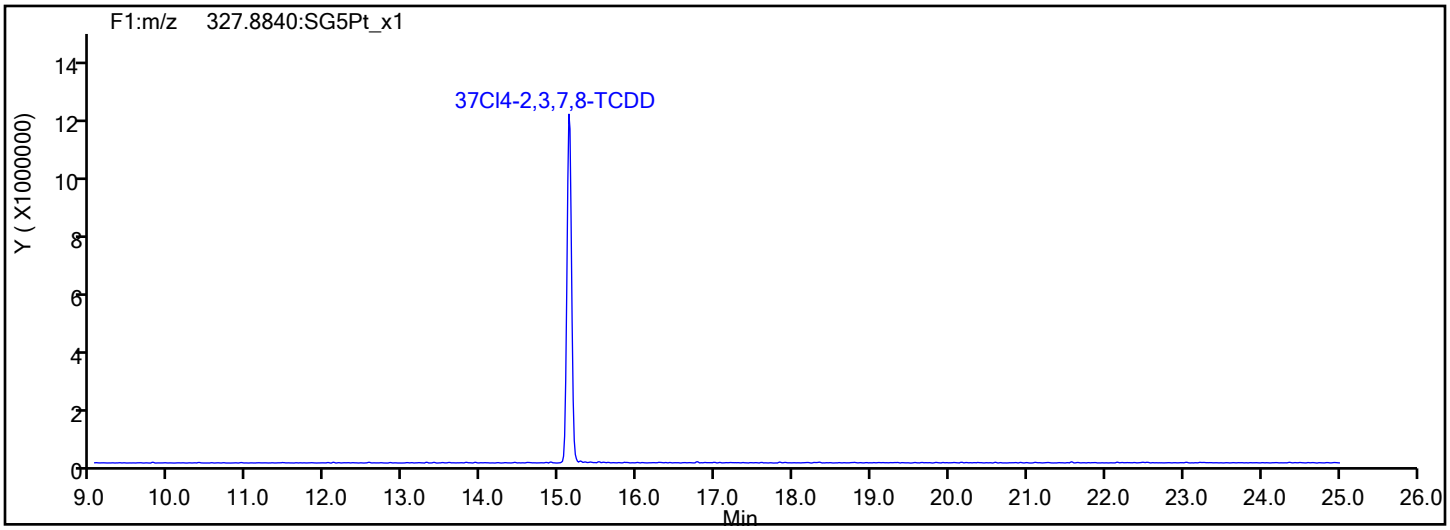

37Cl4-TCDD Standards

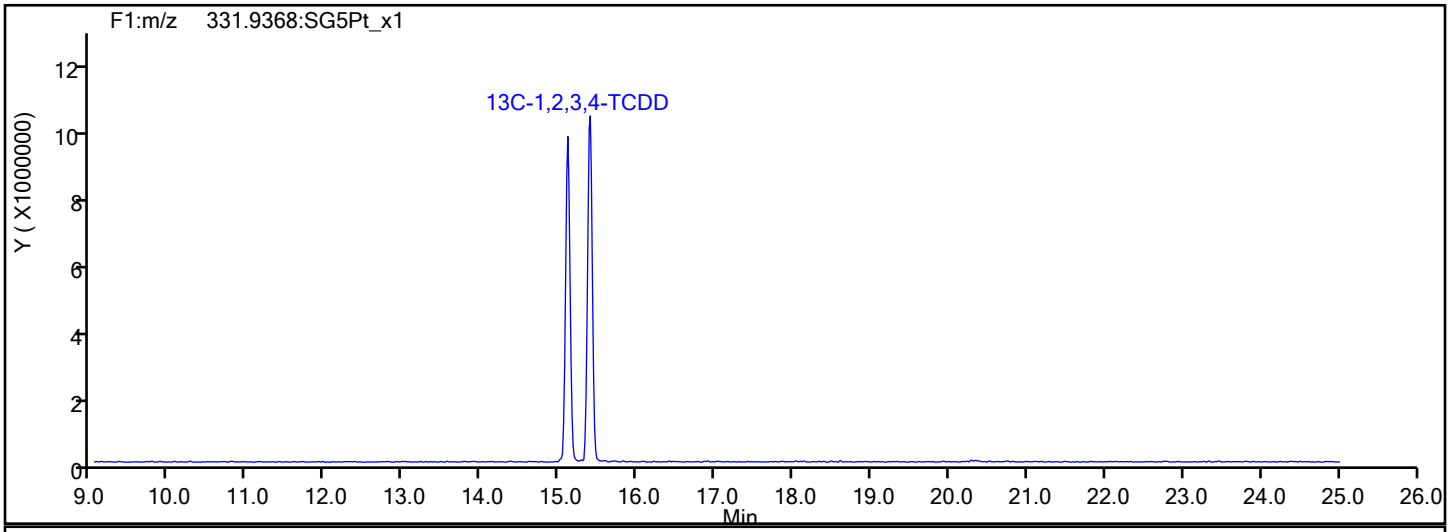

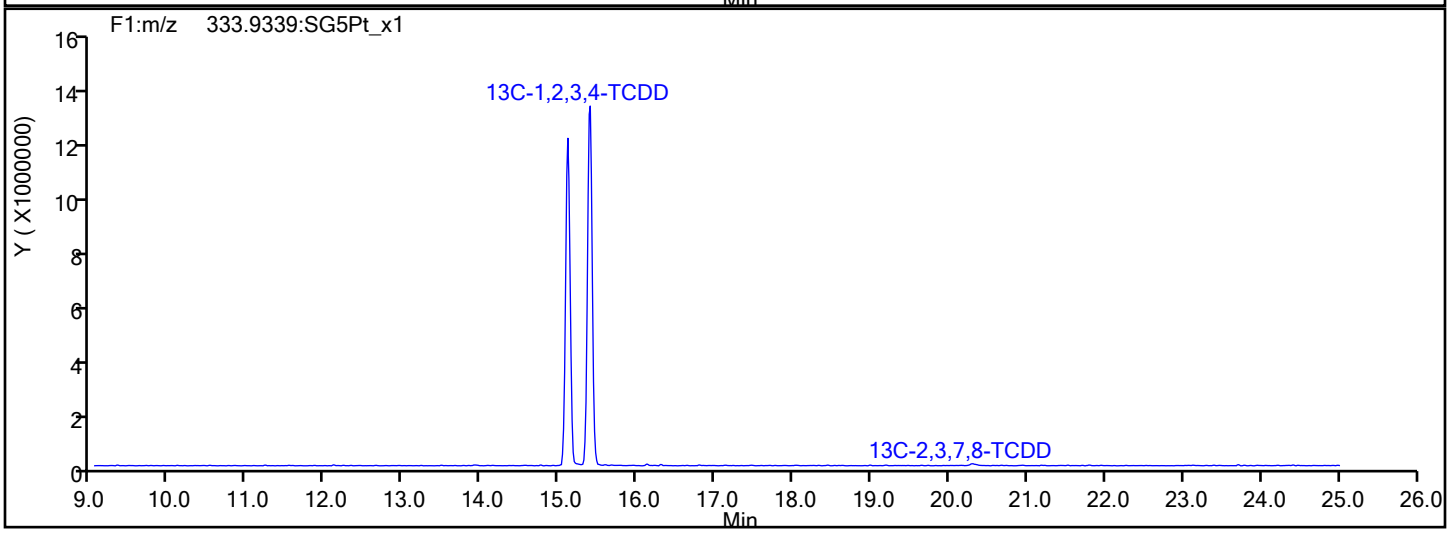

Report Date: 02-Aug-2019 11:57:05 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_008.d		
Injection Date:	02-Aug-2019 06:03:41	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	8
Column Type:	DB-225	Column Dia:	0.32 mm

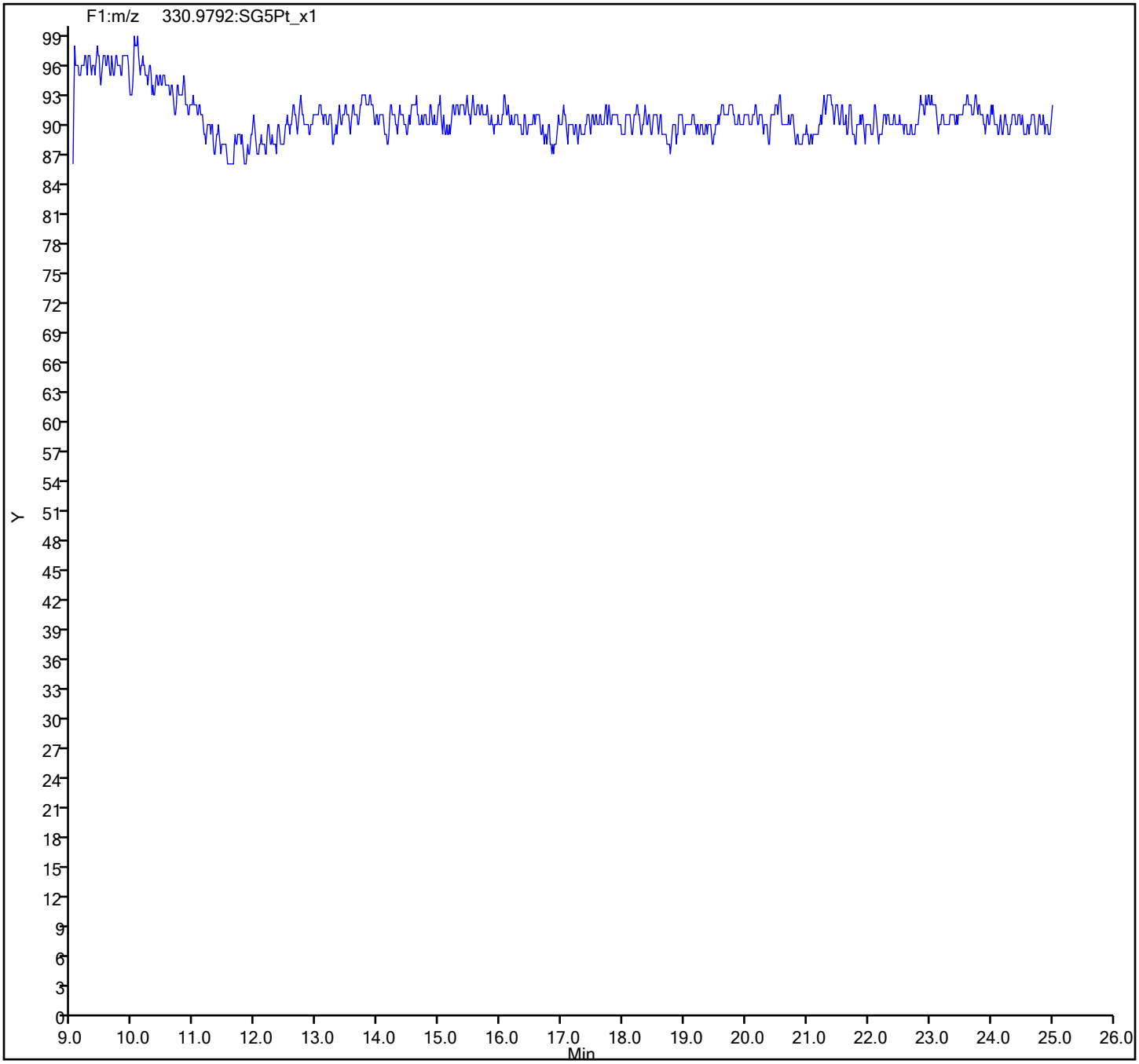

FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Lab Sample ID: CCV 320-330101/2 Calibration Date: 10/10/2019 14:11

Instrument ID: 11D2 Calib Start Date: 08/02/2019 02:52

GC Column: DB-225 ID: 0.32(mm) Calib End Date: 08/02/2019 05:25

Lab File ID: 10OC1911D2_002.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
2,3,7,8-TCDD	AveID	1.154	1.061		9.19	10.0	92	78-129
2,3,7,8-TCDF	AveID	0.8389	0.8999		10.7	10.0	107	84-120
13C-2,3,7,8-TCDD	Ave	0.9388	0.8875		94.5	100	95	82-121
13C-2,3,7,8-TCDF	Ave	1.338	1.425		107	100	107	71-140
37Cl4-2,3,7,8-TCDD	Ave	1.182	1.072		7.25	8.00	91	79-127

Data file	Smp	Work Order	Sample ID	FV-uL	Method/Matrix	Box	Size	U
10OC1911D2	1	CPS 101019	CPS HRDXNCP_00040				1.00000	
10OC1911D2	2	CCV 101019	CCV CS-4 HRDXNL4_00084				1.00000	
10OC1911D2	3	SB 101019	SB Solvent Blank C-14				1.00000	
10OC1911D2	4	320-327774	320-54830-A-7-A	20	8290/Solid	53	10.00000	g
10OC1911D2	5	320-327774	320-54830-A-8-A	20	8290/Solid		10.00000	g
10OC1911D2	6	320-327774	320-54830-A-9-A	20	8290/Solid		10.00000	g
10OC1911D2	7	320-327774	320-54830-A-10-A	20	8290/Solid		10.00000	g
10OC1911D2	8	320-327774	320-54830-A-12-A	20	8290/Solid		10.00000	g
10OC1911D2	9	320-327774	320-54830-A-13-A	20	8290/Solid		10.00000	g
10OC1911D2	10	320-327774	320-54830-A-14-A	20	8290/Solid		10.00000	g
10OC1911D2	11	320-327774	320-54830-A-15-A	20	8290/Solid		10.00000	g
10OC1911D2	12	320-327774	320-54830-A-16-A	20	8290/Solid		10.00000	g
10OC1911D2	13	320-327320	180-96144-C-1-A 2X	20	1613B/Water	D96	1.00000	L
10OC1911D2	14	320-327320	320-54816-A-1-A 2X	20	1613B/Water		1.00000	L
10OC1911D2	15	SB 101019A	SB Solvent Blank C-14				1.00000	
10OC1911D2	16	CCV 101019A	CCV CS-4 HRDXNL4_00084				1.00000	
10OC1911D2	17						1.00000	
10OC1911D2	18						1.00000	
10OC1911D2	19						1.00000	
10OC1911D2	20						1.00000	
10OC1911D2	21						1.00000	
10OC1911D2	22						1.00000	
10OC1911D2	23		AJS 10-10-19				1.00000	
10OC1911D2	24						1.00000	

Logfile ✓ id
10/11/19
KSS

Peak Locate Examination:10-OCT-2019:13:32 File:10OC1911D2
Experiment:DB225RES Function:1 Reference:PFK

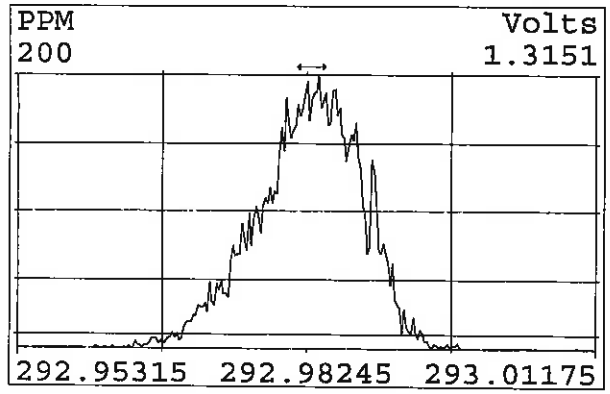

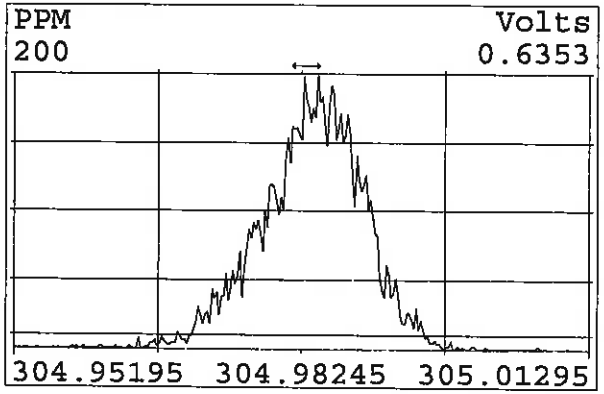

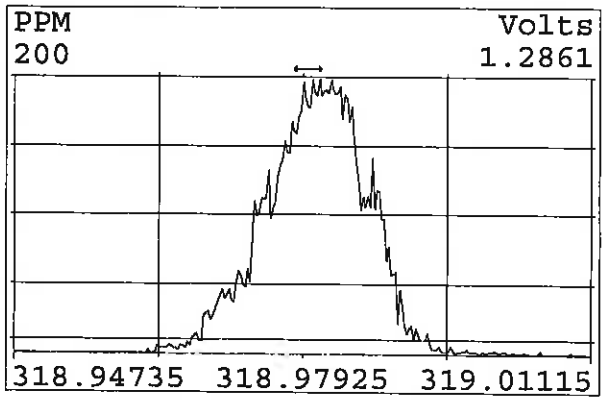

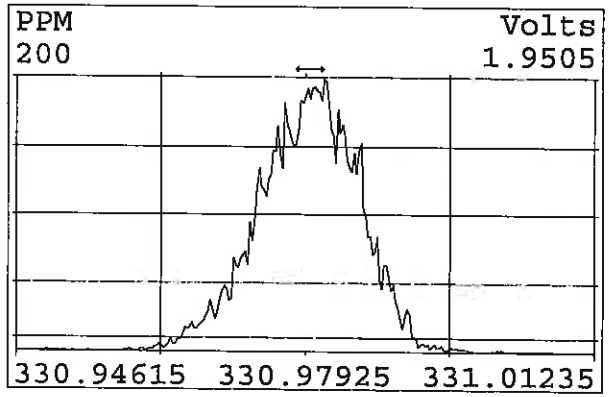

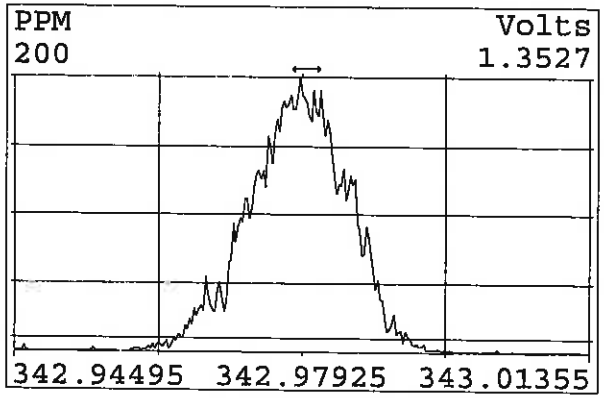

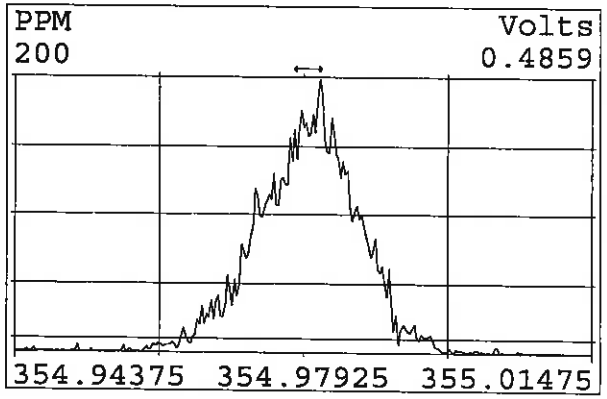

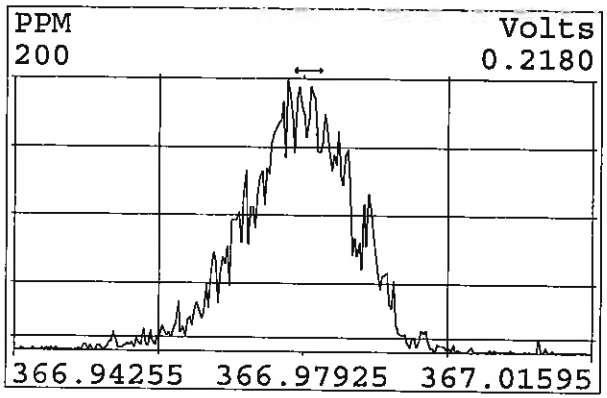

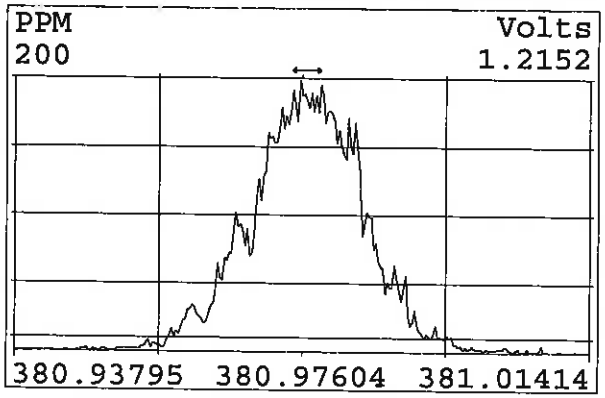

Peak Locate Examination:11-OCT-2019:00:28 File:RESCHECK11D2
Experiment:DB225RES Function:1 Reference:PFK

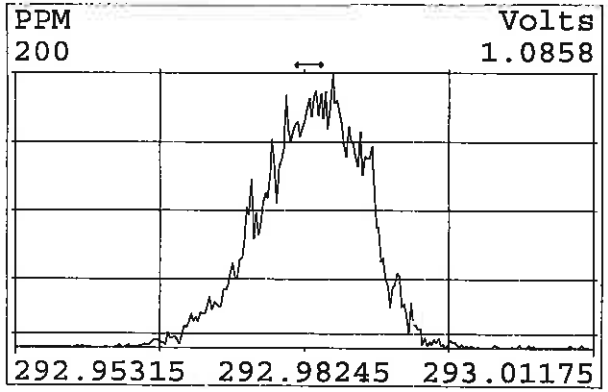

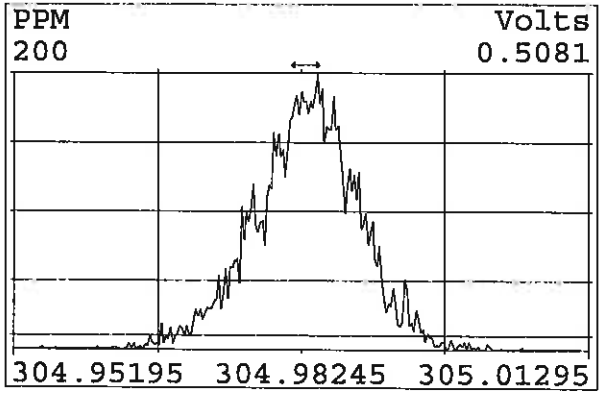

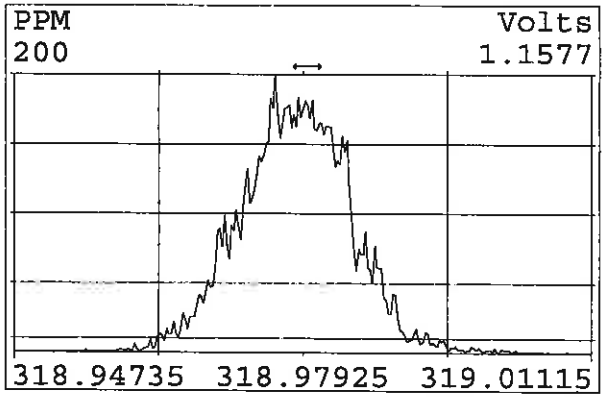

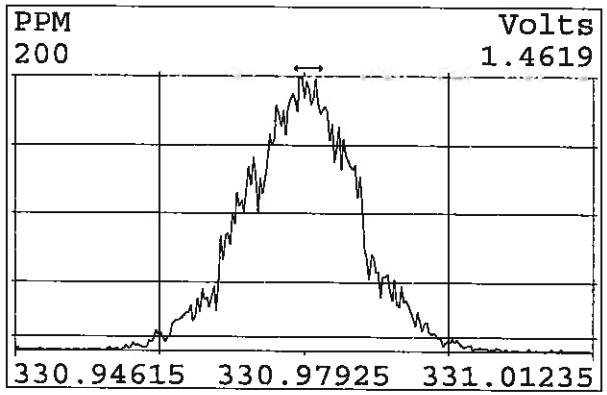

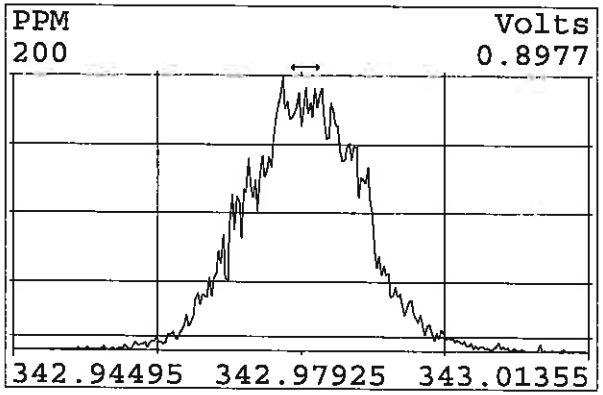

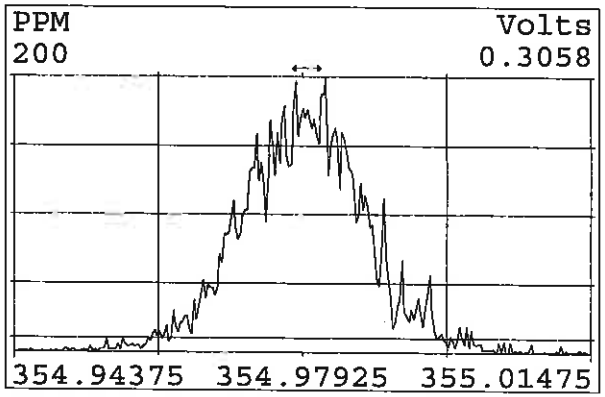

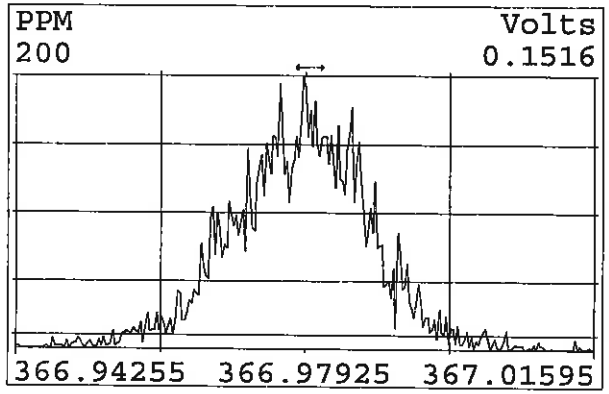

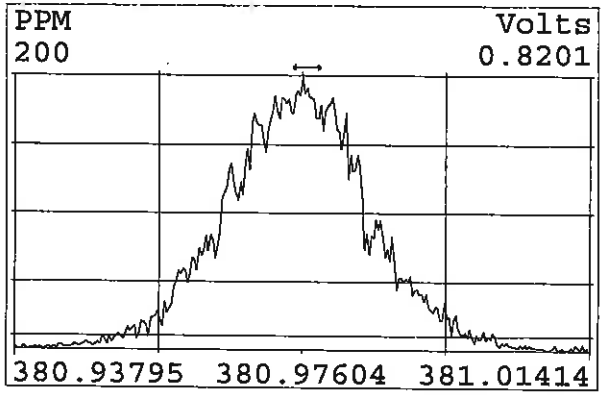

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20191010-84713.b\10OC1911D2_002.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 10-Oct-2019 14:11:39 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV CS-4 HRDXNL4_00084
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20191010-84713.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 11-Oct-2019 13:41:53 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0340

First Level Reviewer: shardaa Date: 11-Oct-2019 13:39:29

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.284	156760039	0.78	1.1E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.450	223399647	0.79	1.3379	106.5	106.5	0.2294	0.2294	107	
2,3,7,8-TCDF	16.477	20104555	0.79	0.8389	10.7	10.7	0.0372	0.0372	107	
D 13C-2,3,7,8-TCDD	15.037	139117422	0.77	0.9388	94.5	94.5	0.1981	0.1981	94.53	
2,3,7,8-TCDD	15.064	14755397	0.79	1.1538	9.193	9.193	0.0591	0.0591	91.93	
$ 37Cl4-2,3,7,8-TCDD	15.064	13437415		1.1816	7.254	7.254	0.0428	0.0428	90.68	
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNL4_00084 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20191010-84713.b\10OC1911D2_002.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 10-Oct-2019 14:11:39 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV CS-4 HRDXNL4_00084
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20191010-84713.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 11-Oct-2019 13:41:53 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0340

First Level Reviewer: shardaa Date: 11-Oct-2019 13:39:29

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.284	15.284	0		68891042	15171573	15224	38060	997		
333.9339	15.284	15.284	0		87868997	19876807	10847	27117	1832	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.450	16.450	0	1.076	98272015	19363816	25304	63260	765		
317.9389	16.450	16.450	0	1.076	125127632	24271066	17729	44322	1369	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.477	16.477	0	1.002	8879593	1706670	1745	4362	978		
305.8987	16.477	16.477	0	1.002	11224962	2166642	3709	9272	584	0.79(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.037	15.037	0	0.984	60307864	13333120	15224	38060	876		
333.9339	15.037	15.037	0	0.984	78809558	17632776	10847	27117	1626	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.064	15.064	0	1.002	6509436	1380208	5300	13250	260		
321.8936	15.064	15.064	0	1.002	8245961	1840764	3144	7860	585	0.79(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.064	15.064	0	0.986	13437415	2889608	7086	17715	408		
Total 2378-Chlorinated Dioxins & Furans											
		0.0	0								

Reagents:

HRDXNL4_00084 Amount Added: 2.00 Units: uL

Report Date: 11-Oct-2019 13:41:54 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191010-84713.b\10OC1911D2_002.d		
Injection Date:	10-Oct-2019 14:11:39	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330101	Sample Line#:	2
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

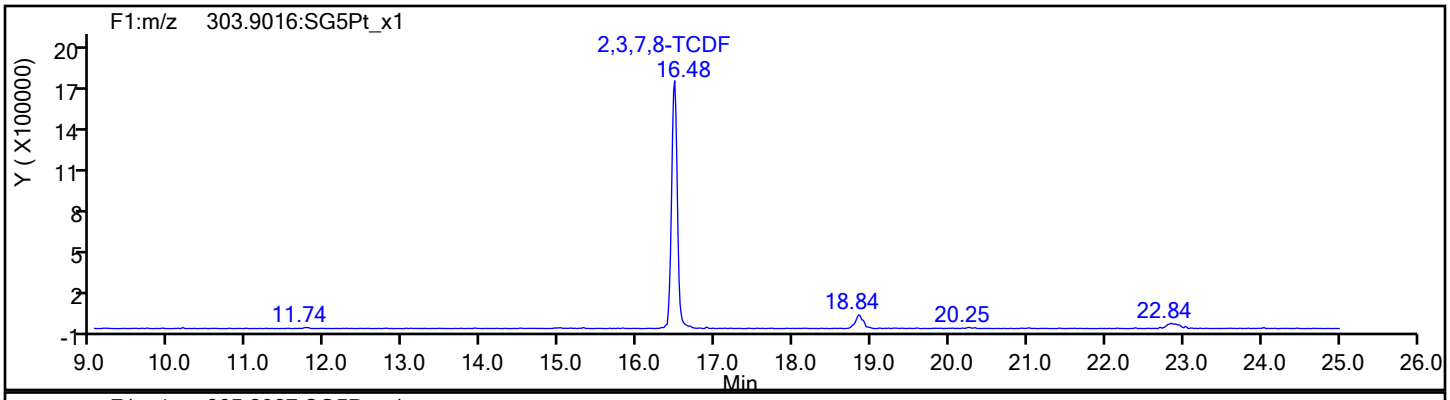

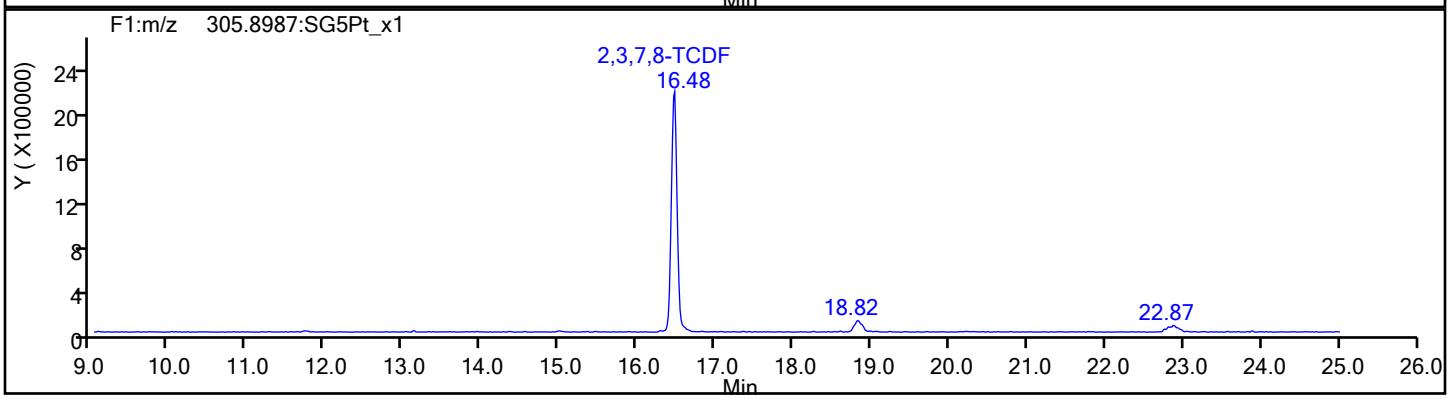

TCDF Standards

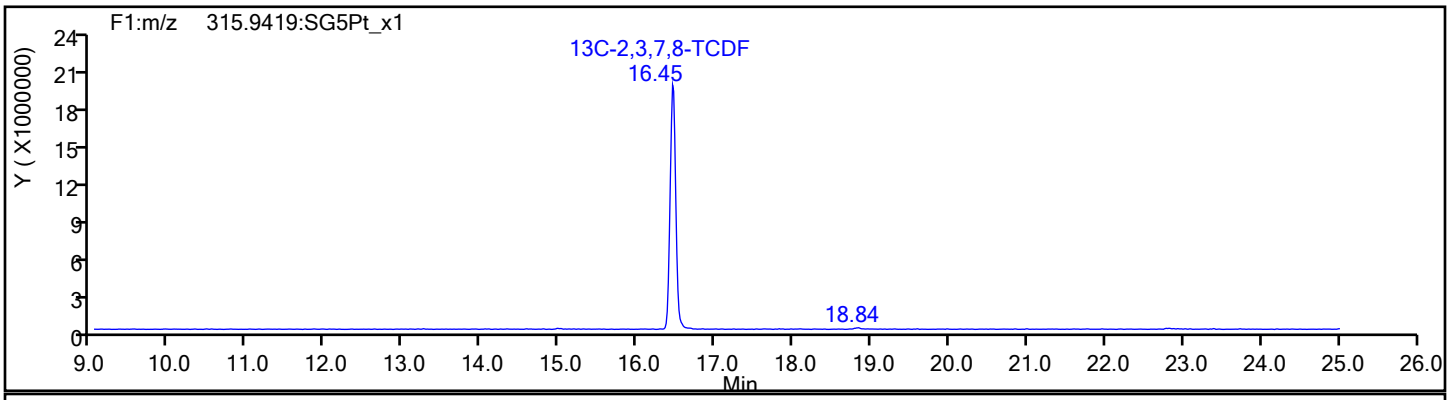

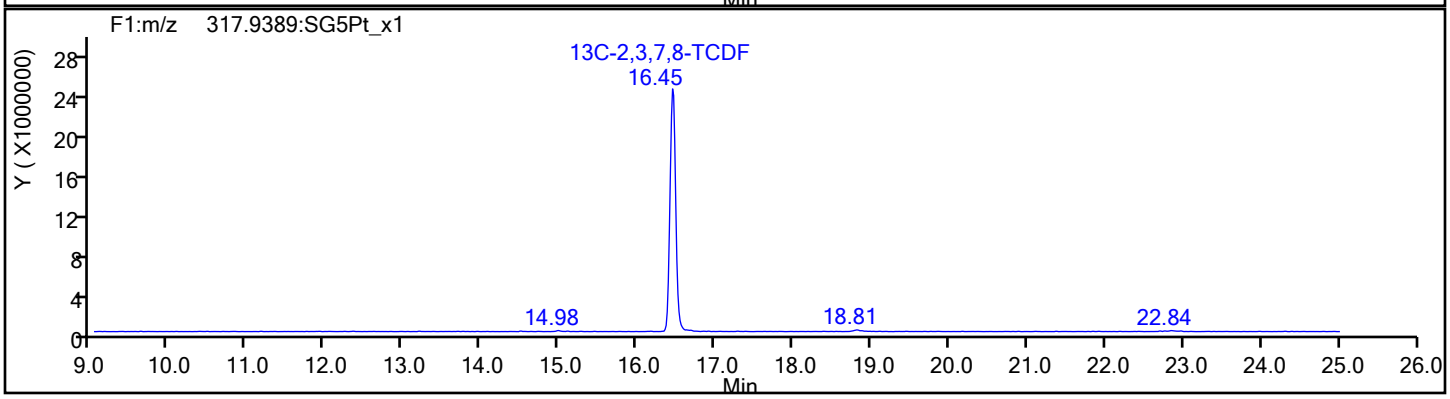

Report Date: 11-Oct-2019 13:41:54 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191010-84713.b\10OC1911D2_002.d		
Injection Date:	10-Oct-2019 14:11:39	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330101	Sample Line#:	2
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

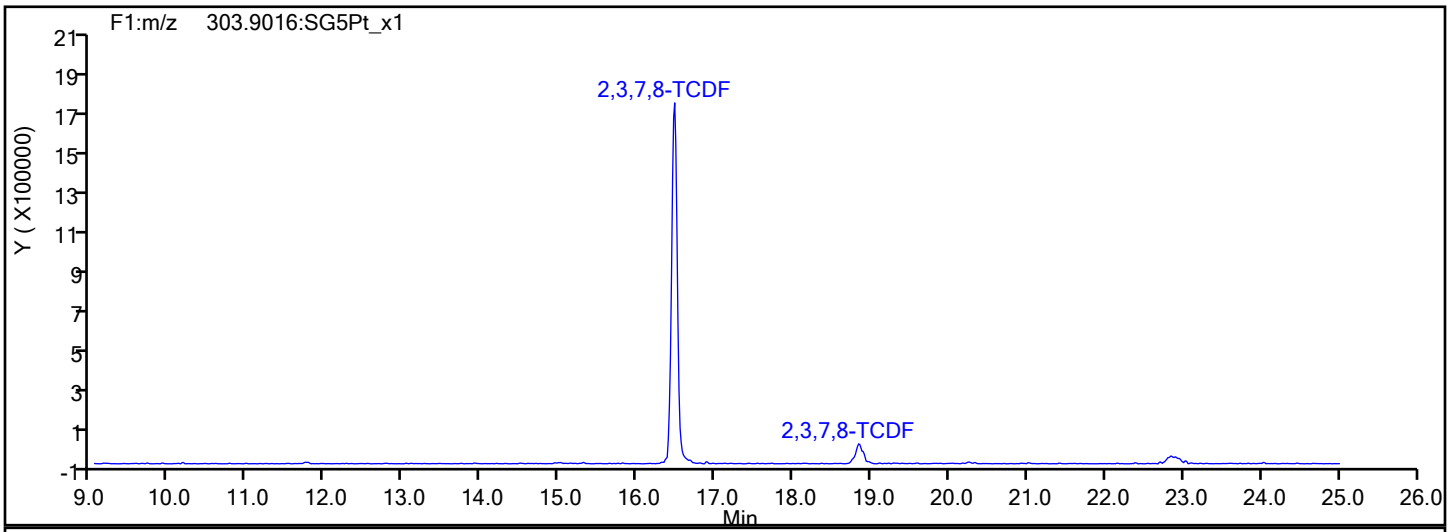

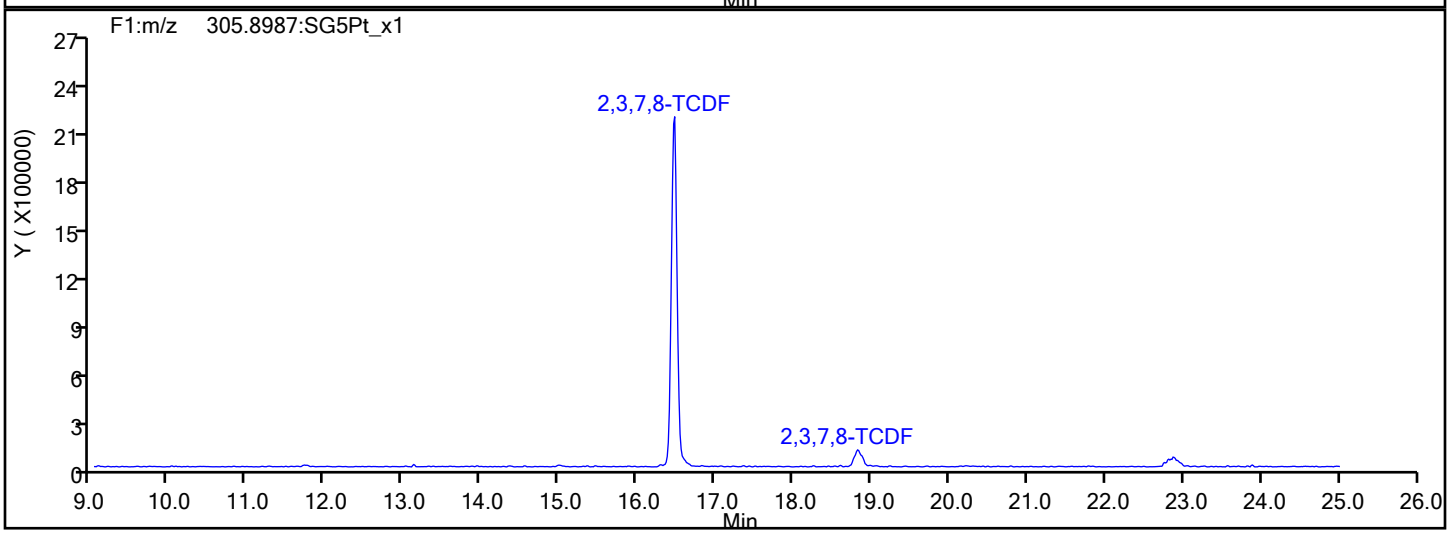

TCDF Interference Mass

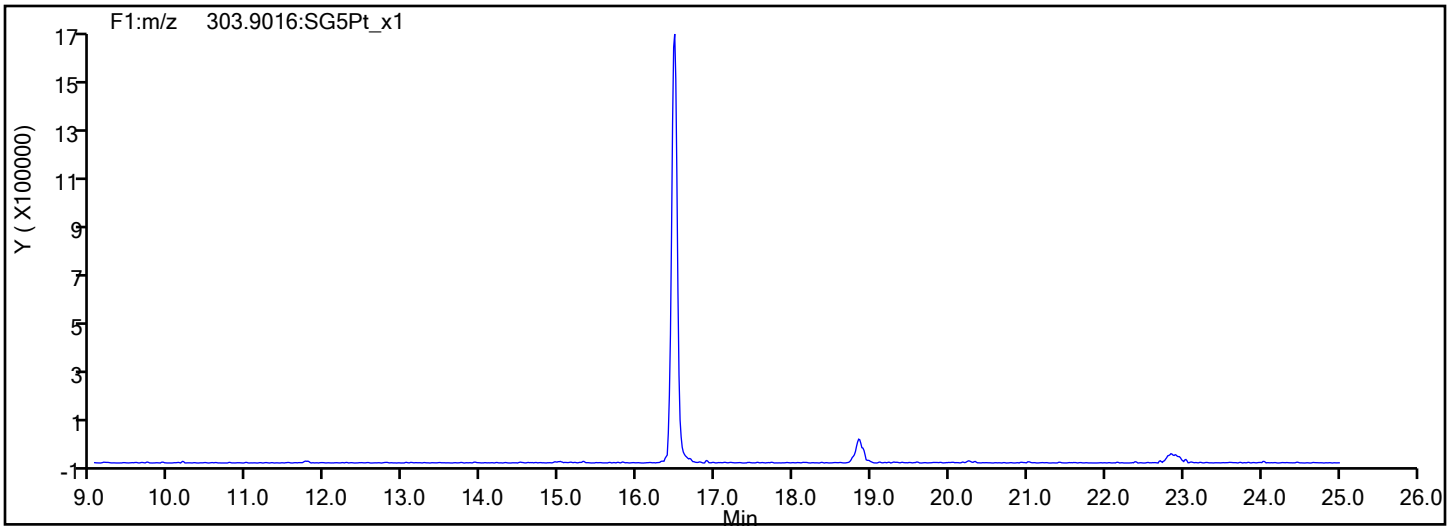

Report Date: 11-Oct-2019 13:41:54 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191010-84713.b\10OC1911D2_002.d		
Injection Date:	10-Oct-2019 14:11:39	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330101	Sample Line#:	2
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

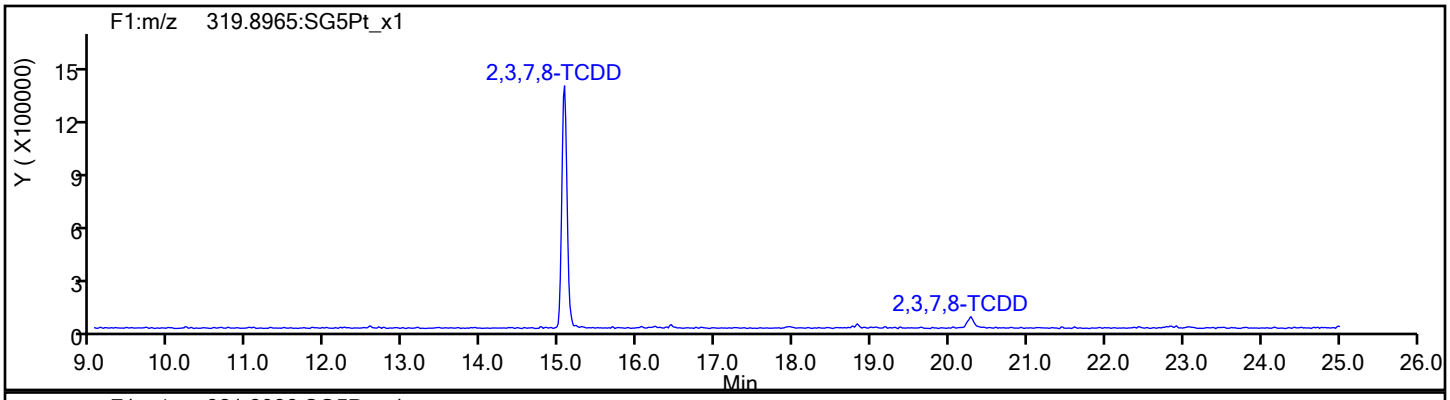

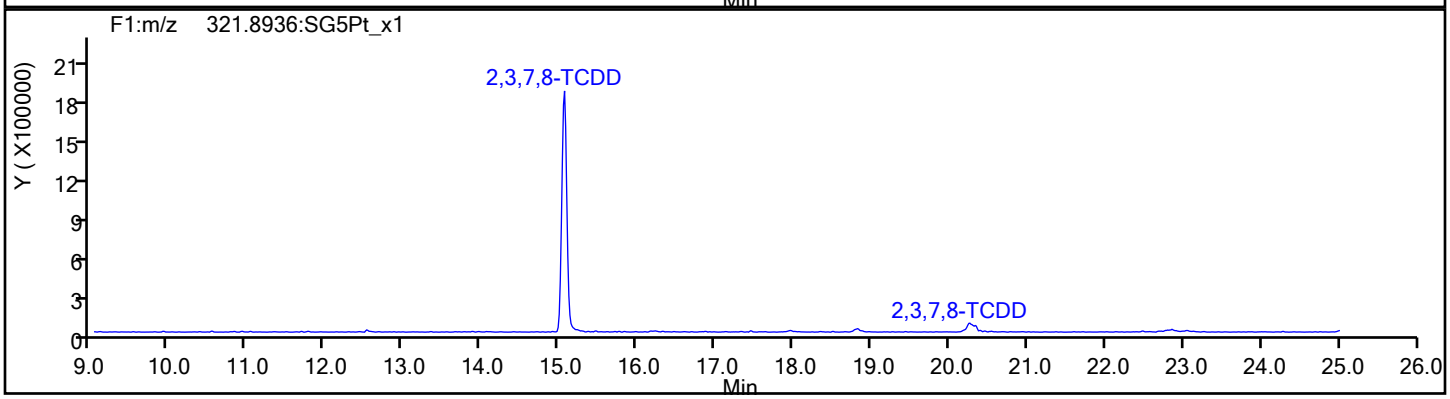

TCDD Standards

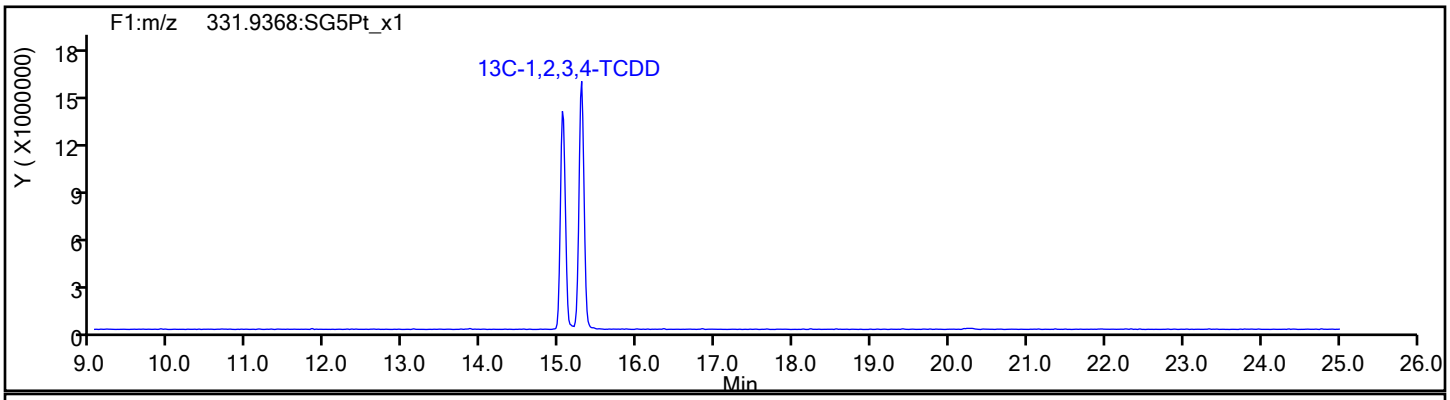

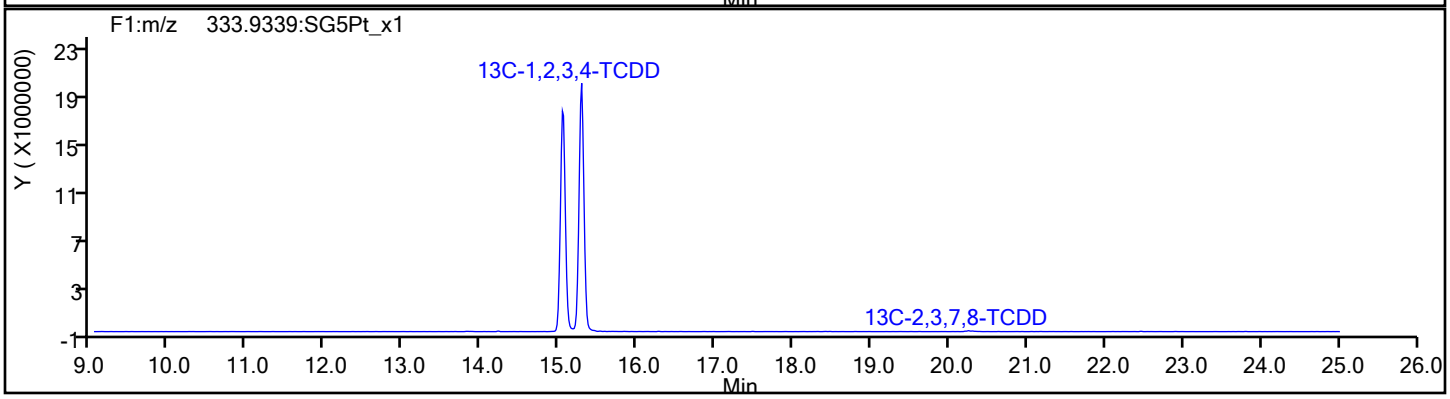

Report Date: 11-Oct-2019 13:41:54 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191010-84713.b\10OC1911D2_002.d		
Injection Date:	10-Oct-2019 14:11:39	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330101	Sample Line#:	2
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

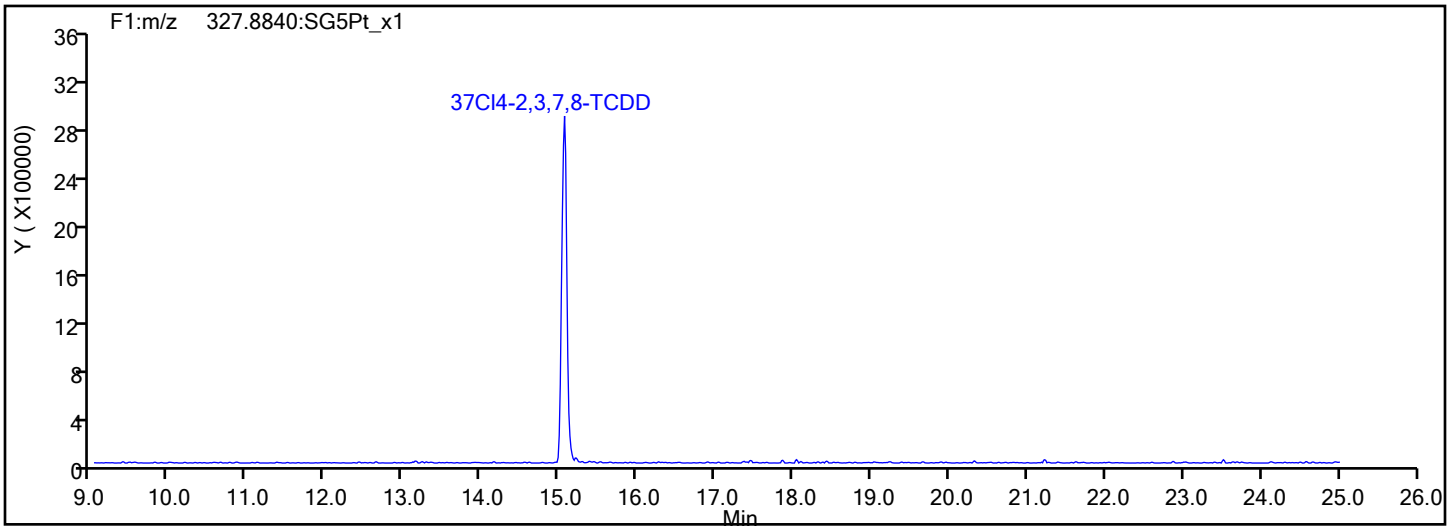

37Cl4-TCDD Standards

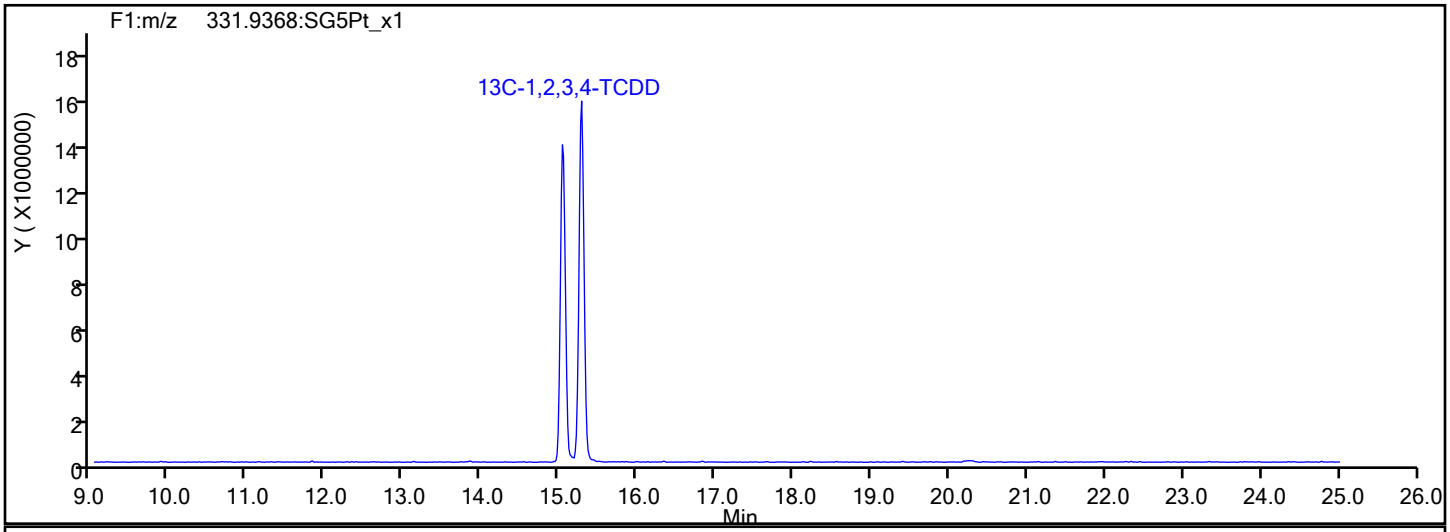

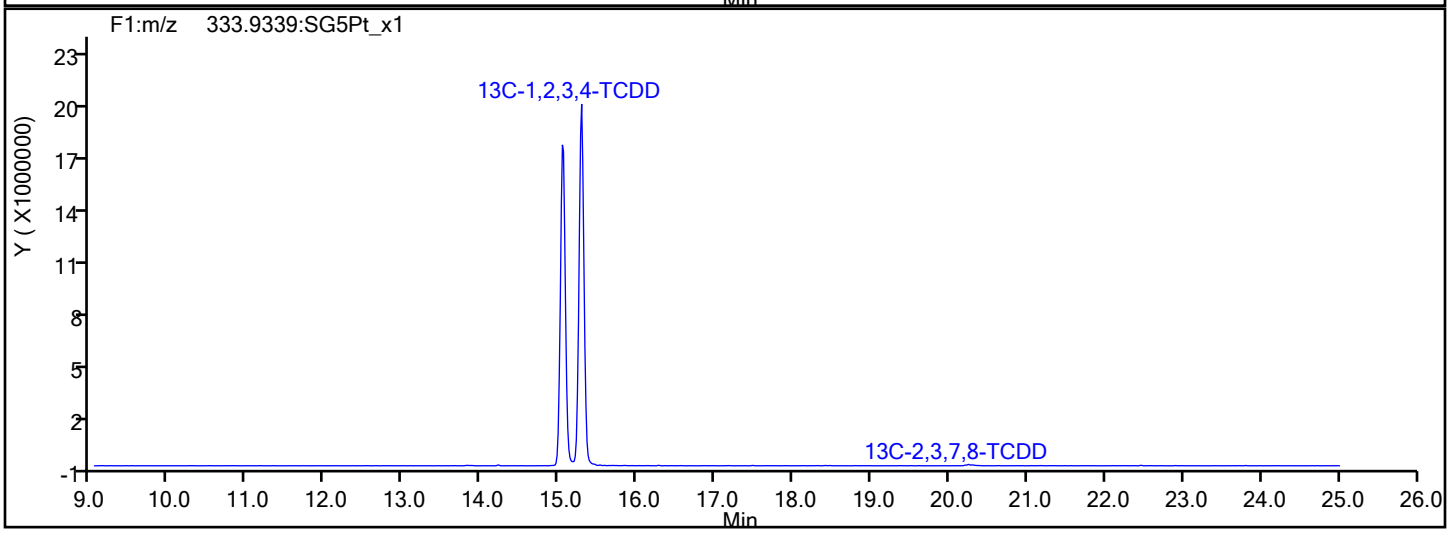

Report Date: 11-Oct-2019 13:41:54 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191010-84713.b\10OC1911D2_002.d		
Injection Date:	10-Oct-2019 14:11:39	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330101	Sample Line#:	2
Column Type:	DB-225	Column Dia:	0.32 mm

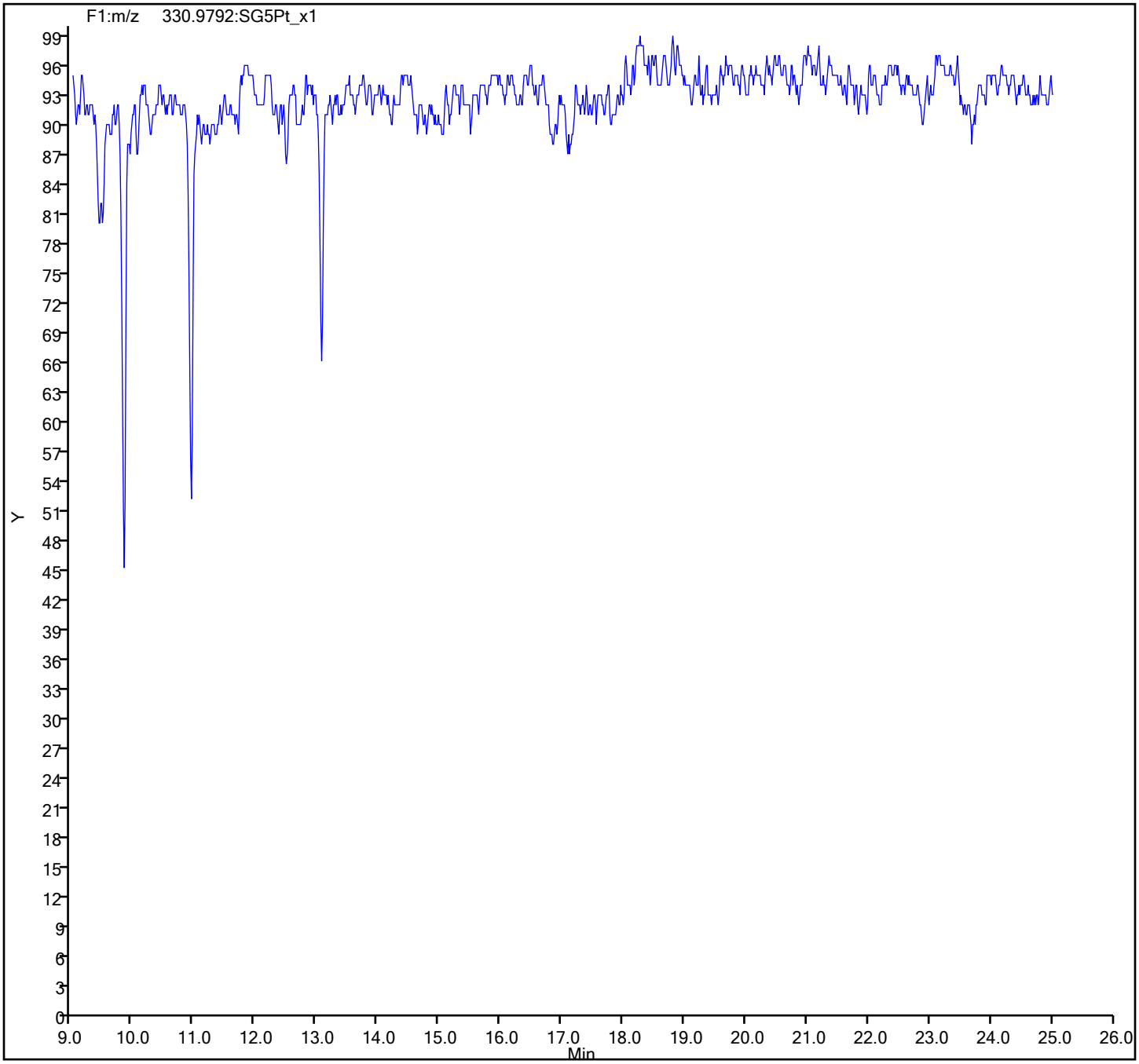

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 17-Sep-2019 11:28:41 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 091719 WDM HRDXNCP_00038
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:18:43 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 18-Sep-2019 10:13:54

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	16.801	74367795	0.80	1.4384					0.00	
2,3,7,8-TCDF	16.831	156834377	0.79	1.0507	80.3	80.3	0.2541	0.2541		
A Non-2,3,7,8-sub-TCDF	16.536	2055813	0.78	1.0507	1.052	1.052	0.2541	1.052		
S Total TCDF					81.3	81.3	0.2541	0.2541		
D 13C-2,3,7,8-TCDD	17.481	45805066	0.76	0.9533					0.00	
2,3,7,8-TCDD	17.512	50150496	0.80	1.1064	39.6	39.6	0.2281	0.2281		
A Non-2,3,7,8-sub-TCDD	16.967						0.2281	0.2281		
S Total TCDD					39.6	39.6	0.2281	0.2281		
A F1 PeCDFs	19.213						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	22.240	1178726	1.55	0.0000						RQ
S Total PeCDF										RQ
A Non-2,3,7,8-sub-PeCDD	22.586						0.0	0.0		
S Total PeCDD										
A Non-2,3,7,8-sub-HxCDF	29.523	507819	1.21	0.0000						
S Total HxCDF										
A Non-2,3,7,8-sub-HxCDD	30.122						0.0	0.0		
S Total HxCDD										
1,2,3,4,6,7,8-HpCDF	33.472	47694823	1.04	1.5555						
1,2,3,4,7,8,9-HpCDF	34.517	39534106	1.05	1.3862						
A Non-2,3,7,8-sub-HpCDF	33.994						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	34.237	29636099	1.06	0.9316						
A Non-2,3,7,8-sub-HpCDD	34.747						0.0	0.0		
S Total HpCDD										
1,3,6,8-TCDF	14.488	89161286	0.78							
1,3,6,8-TCDD	15.365	54383612	0.79							
2,3,4,7-TCDF	16.831	156834377	0.79							
1,2,3,7-TCDD	17.391	45444920	0.79							
1,2,3,9-TCDF	17.663	66087659	0.78							
1,2,3,9-TCDD	17.663	54421114	0.81							

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,8,9-TCDD	18.570	21836286								
1,2,8,9-TCDF	18.585	68251653	0.79							
1,3,4,6,8-PeCDF	18.842	74458412	1.55							
1,2,4,7,9-PeCDD	20.554	39318036	1.57							
1,2,3,8,9-PeCDD	24.618	35221850	1.59							
1,2,3,8,9-PeCDF	24.822	48913515	1.59							
1,2,3,4,6,8-HxCDF	26.994	55295494	1.27							
1,2,4,6,7,9-HxCDD	28.524	38980760	1.26							
1,2,3,4,6,7-HxCDD	31.719	36577416	1.24							
1,2,3,4,8,9-HxCDF	32.052	45645713	1.26							
1,2,3,4,6,7,9-HpCDD	33.703	34402979	1.05							

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNCP_00040 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 17-Sep-2019 11:28:41 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 091719 WDM HRDXNCP_00038
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:18:43 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 18-Sep-2019 10:13:54

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	16.801	16.810	-1	1.000	33117024	8540569	9349	23372	914		
317.9389	16.801	16.810	-1	1.000	41250771	10559691	5760	14400	1833	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.831	16.825	0	1.002	69083696	16415981	20767	51917	790		
305.8987	16.831	16.825	0	1.002	87750681	20749596	30221	75552	687	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	18.857	16.536	139	1.122	898473	190404	20767	51917	9		
305.8987	18.857	16.536	139	1.122	1157340	261558	30221	75552	9	0.78(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.481	17.490	-1	1.000	19801343	4630824	8865	22162	522		
333.9339	17.481	17.490	-1	1.000	26003723	6181636	6015	15037	1028	0.76(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.512	17.505	0	1.002	22347514	5318193	11305	28262	470		
321.8936	17.497	17.505	-1	1.001	27802982	6639771	15982	39955	415	0.80(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	16.967						11305	28262			
321.8936	16.967						15982	39955			
A F1 PeCDFs											
339.8597	19.213						2693	6732			
341.8567	19.213						2089	5222			
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	21.113	22.240	-67	1.000	202355	35160	5300	13250	7		
341.8567	21.113	22.240	-67	1.000	114927	17891	3855	9637	5	1.76(1.32-1.78)	
339.8597	21.645	22.240	-36	1.000	239041	34085	5300	13250	6		
341.8567	21.659	22.240	-35	1.000	131189	19977	3855	9637	5	1.82(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
339.8597	22.191	22.240	-3	1.000	315658	51688	5300	13250	10		
341.8567	22.177	22.240	-4	1.000	211255	31694	3855	9637	8	1.49(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.586						4581	11452			
357.8516	22.586						3055	7637			
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.028	29.523	30	1.000	278236	49481	8176	20440	6		
375.8178	30.042	29.523	31	1.000	229583	36177	6671	16677	5	1.21(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.122						5433	13582			
391.8127	30.122						6604	16510			
1,2,3,4,6,7,8-HpCDF											
407.7818	33.472	33.469	0	1.000	24299928	7730426	61070	152675	127		
409.7789	33.472	33.469	0	1.000	23394895	7311037	39924	99810	183	1.04(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.517	34.509	0	1.000	20253287	5933051	61070	152675	97		
409.7789	34.517	34.509	0	1.000	19280819	5509190	39924	99810	138	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.994						61070	152675			
409.7789	33.994						39924	99810			
1,2,3,4,6,7,8-HpCDD											
423.7766	34.237	34.235	0	1.000	15256366	4663971	35304	88260	132		
425.7737	34.237	34.235	0	1.000	14379733	4409600	34613	86532	127	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.747						35304	88260			
425.7737	34.747						34613	86532			
1,3,6,8-TCDF											
303.9016	14.488	14.488	0		39118253	12838055	20767	51917	618		
305.8987	14.488	14.488	0		50043033	16128115	30221	75552	534	0.78(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	15.365	15.365	0		24059145	7321607	11305	28262	648		
321.8936	15.365	15.365	0		30324467	9231636	15982	39955	578	0.79(0.65-0.89)	
2,3,4,7-TCDF											
303.9016	16.831	16.831	0		69083696	16415981	20767	51917	790		
305.8987	16.831	16.831	0		87750681	20749596	30221	75552	687	0.79(0.65-0.89)	
1,2,3,7-TCDD											
319.8965	17.391	17.391	0		20069259	5099643	11305	28262	451		
321.8936	17.391	17.391	0		25375661	6343382	15982	39955	397	0.79(0.65-0.89)	
1,2,3,9-TCDF											
303.9016	17.663	17.663	0		29002988	7032027	20767	51917	339		
305.8987	17.663	17.663	0		37084671	8886704	30221	75552	294	0.78(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	17.663	17.663	0		24424977	5852364	11305	28262	518		
321.8936	17.663	17.663	0		29996137	7085191	15982	39955	443	0.81(0.65-0.89)	
1,2,8,9-TCDD											
319.8965	18.570	18.570	0		21836286	4950341	11305	28262	438		

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24
Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,8,9-TCDF											
303.9016	18.585	18.585	0		30191180	6742364	20767	51917	325		
305.8987	18.570	18.585	-1		38060473	8553075	30221	75552	283	0.79(0.65-0.89)	
1,3,4,6,8-PeCDF											
339.8597	18.842	18.842	0		45288053	10371829	2693	6732	3851		
341.8567	18.842	18.842	0		29170359	6722620	2089	5222	3218	1.55(1.32-1.78)	
1,2,4,7,9-PeCDD											
355.8546	20.554	20.554	0		24016179	4397141	4581	11452	960		
357.8516	20.554	20.554	0		15301857	2775727	3055	7637	909	1.57(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	24.618	24.618	0		21631397	3212377	4581	11452	701		
357.8516	24.604	24.618	-1		13590453	2031351	3055	7637	665	1.59(1.32-1.78)	
1,2,3,8,9-PeCDF											
339.8597	24.822	24.822	0		30054464	4482222	5300	13250	846		
341.8567	24.822	24.822	0		18859051	2839059	3855	9637	736	1.59(1.32-1.78)	
1,2,3,4,6,8-HxCDF											
373.8208	26.994	26.994	0		30936266	4258539	8176	20440	521		
375.8178	26.994	26.994	0		24359228	3386340	6671	16677	508	1.27(1.05-1.43)	
1,2,4,6,7,9-HxCDD											
389.8157	28.524	28.524	0		21762419	2707092	5433	13582	498		
391.8127	28.511	28.524	-1		17218341	2108446	6604	16510	319	1.26(1.05-1.43)	
1,2,3,4,6,7-HxCDD											
389.8157	31.719	31.719	0		20281545	5118478	5433	13582	942		
391.8127	31.719	31.719	0		16295871	4102330	6604	16510	621	1.24(1.05-1.43)	
1,2,3,4,8,9-HxCDF											
373.8208	32.052	32.052	0		25462999	6697653	8176	20440	819		
375.8178	32.052	32.052	0		20182714	5358635	6671	16677	803	1.26(1.05-1.43)	
1,2,3,4,6,7,9-HpCDD											
423.7766	33.703	33.703	0		17582544	5481736	35304	88260	155		
425.7737	33.703	33.703	0		16820435	5298193	34613	86532	153	1.05(0.88-1.20)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Reagents:

HRDXNCP_00040 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d
Lims ID: WDM
Client ID:
Inject. Date: 17-Sep-2019 11:28:41 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 324128 Lims Sample ID: 1

Non-2,3,7,8-sub-TCDF, RT: 16.536

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.051	D 13C-2,3,7,8-TCDF	40.000	74367795	19100260

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.051		40.000	74367795	19100260

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
18.857	898473	190404	1157340	261558	1.05	0.78	
Signal Totals:							
	898473	190404	1157340	261558			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2055813	451962				0.78	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.052 = (2055813 * 40.000) / (74367795 * 1.051)

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d
Lims ID: WDM
Client ID:
Inject. Date: 17-Sep-2019 11:28:41 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 324128 Lims Sample ID: 1

Non-2,3,7,8-sub-PeCDF, RT: 22.240

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.082				
2,3,4,7,8-PeCDF	1.103				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
21.113	202355	35160	114927	17891		1.76	
21.645	239041	34085	131189	19977		1.82	R
22.191	315658	51688	211255	31694		1.49	
Signal Totals:							
	757054	120933	457371	69562			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1214425	190495				1.66	RQ
	1178726	187374					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (1214425 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (1178726 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d
Lims ID: WDM
Client ID:
Inject. Date: 17-Sep-2019 11:28:41 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 324128 Lims Sample ID: 1

Non-2,3,7,8-sub-HxCDF, RT: 29.523

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.197				
1,2,3,6,7,8-HxCDF	1.181				
2,3,4,6,7,8-HxCDF	1.212				
1,2,3,7,8,9-HxCDF	1.245				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
30.028	278236	49481	229583	36177		1.21	
Signal Totals:							
	278236	49481	229583	36177			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	507819	85658				1.21	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (507819 * 0.0) / (0 * 0.000)

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d		
Injection Date:	17-Sep-2019 11:28:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

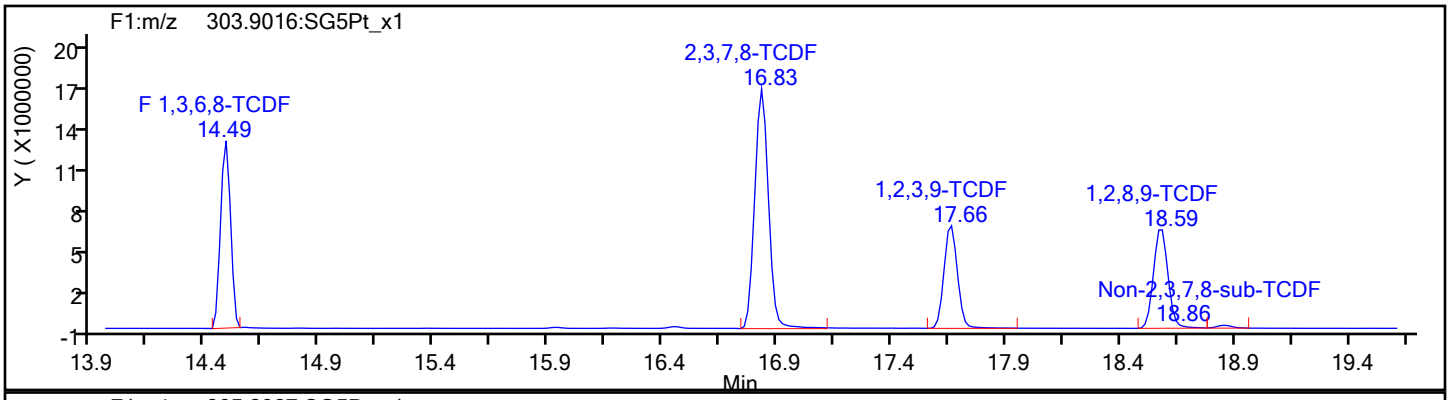

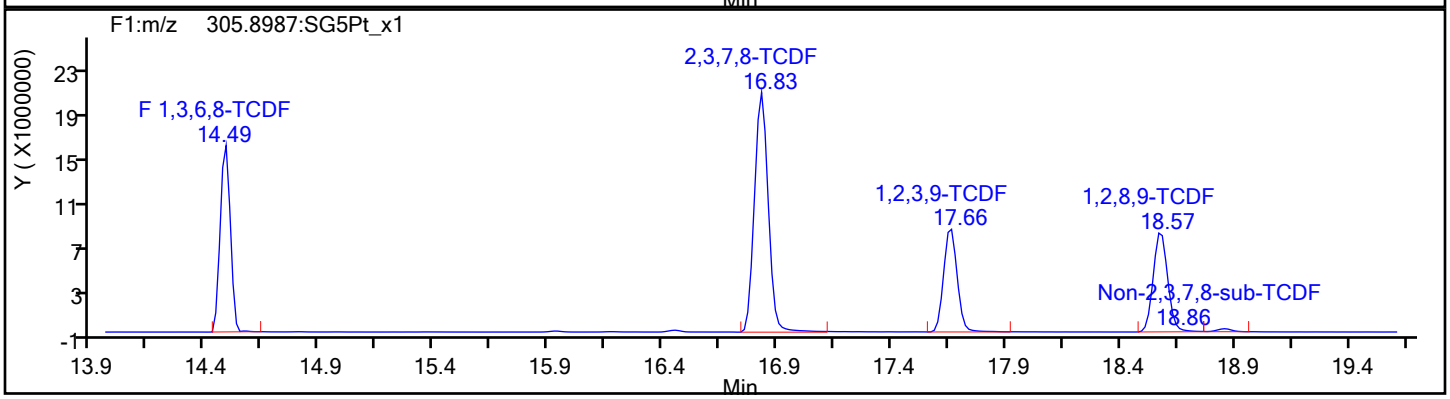

TCDF Standards

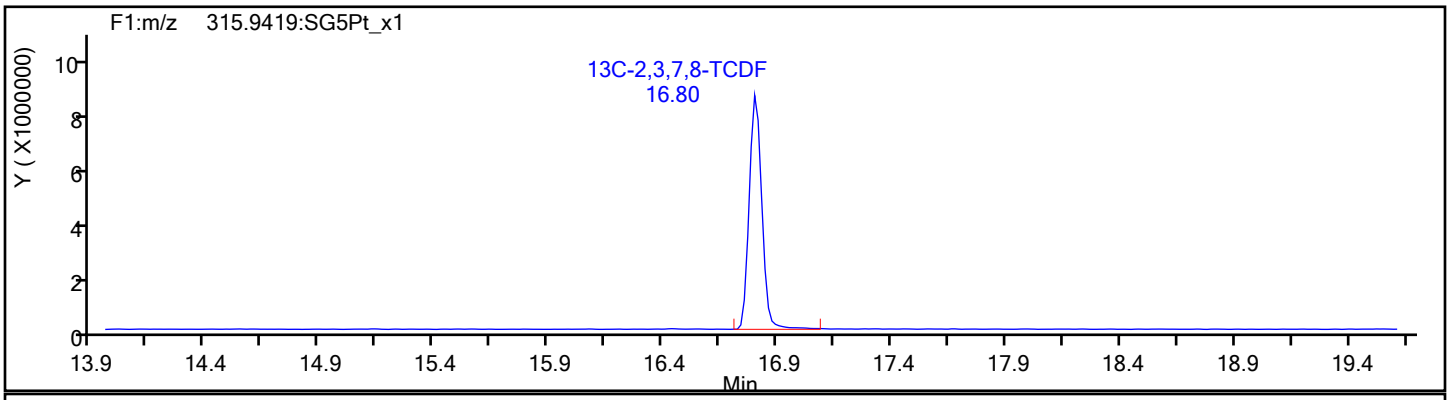

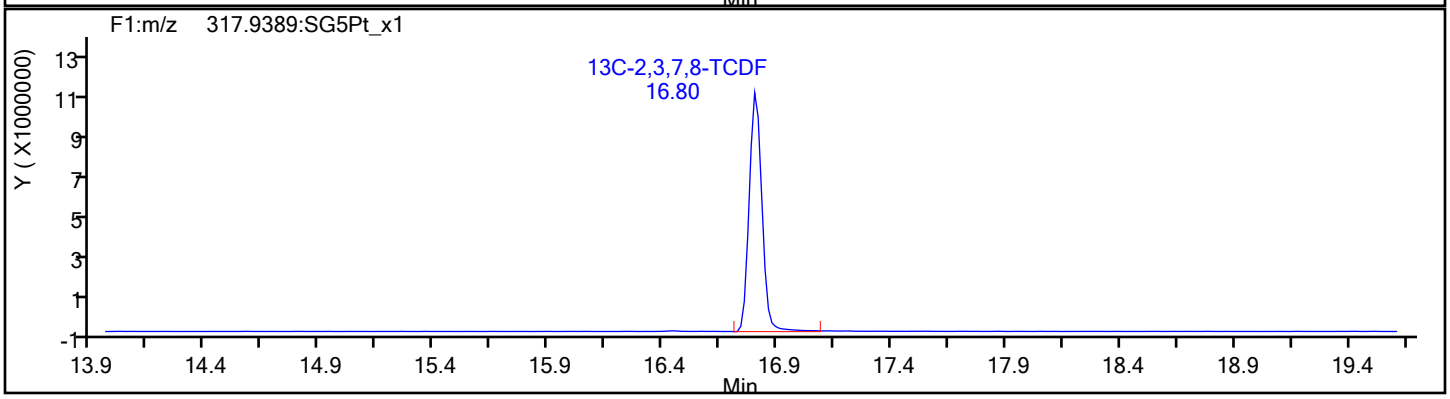

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

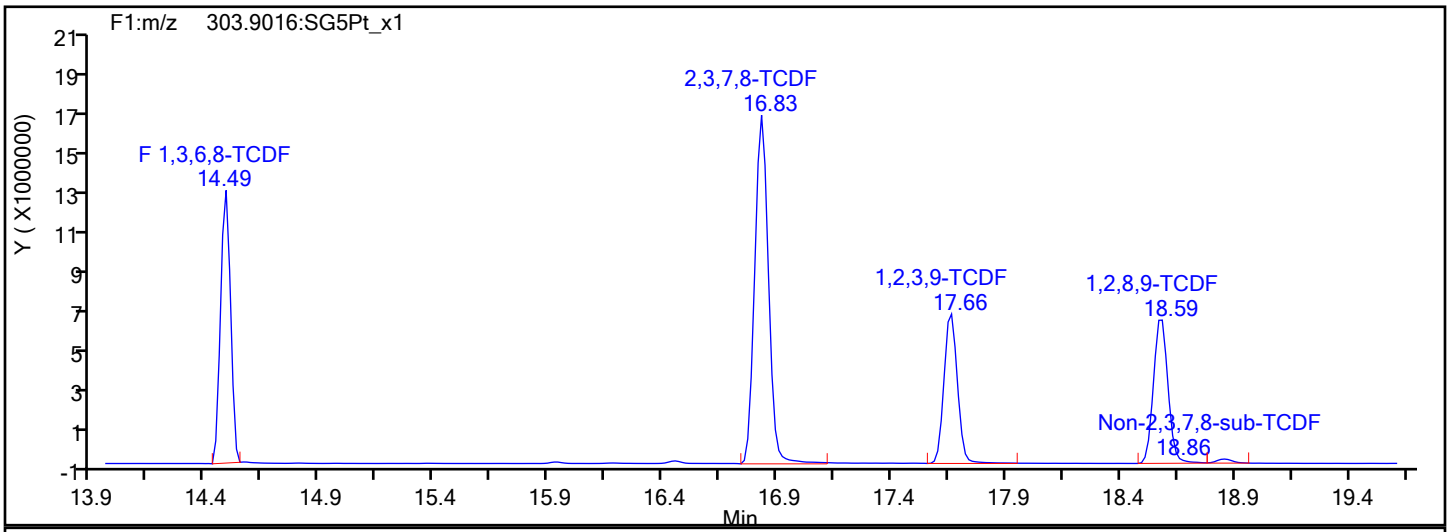

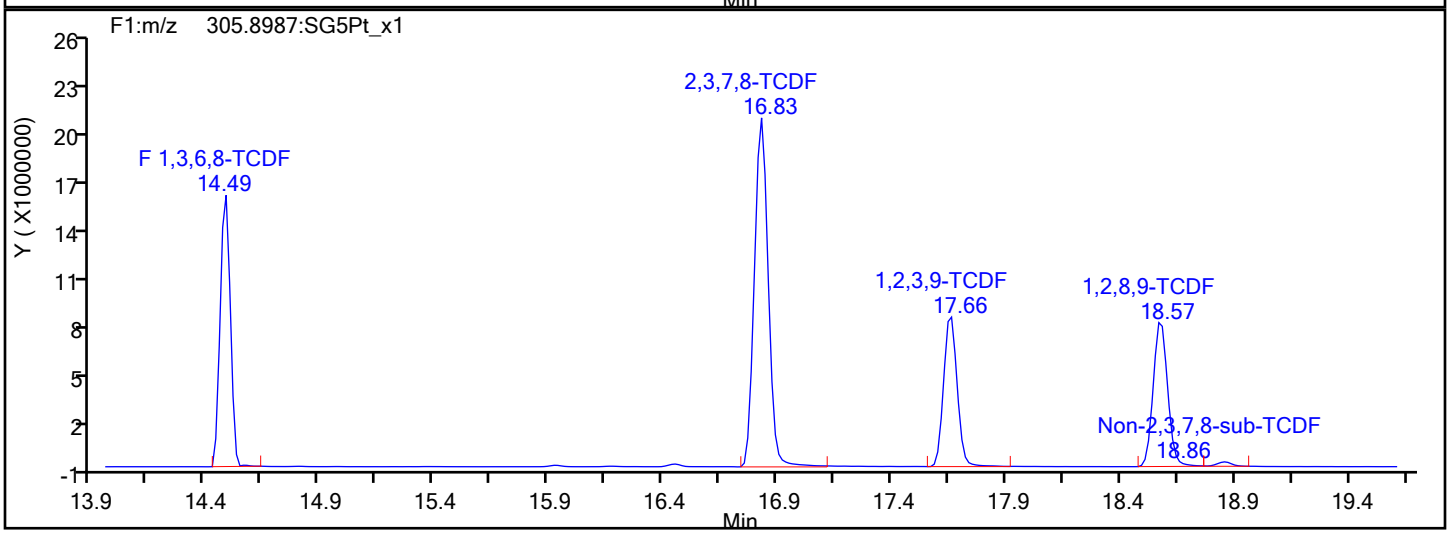

TCDF Interference Mass

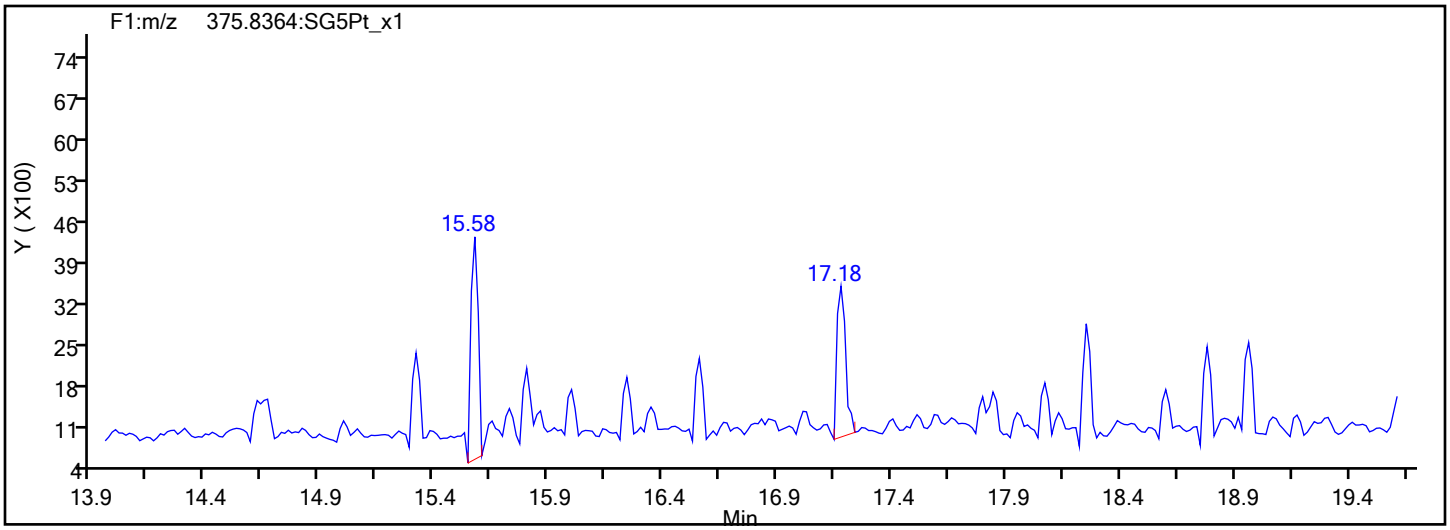

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

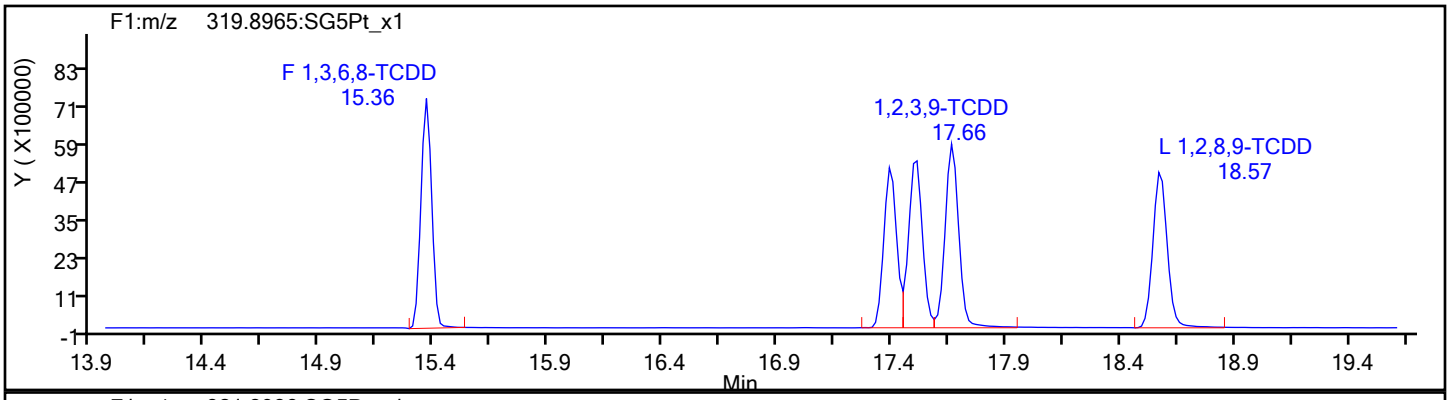

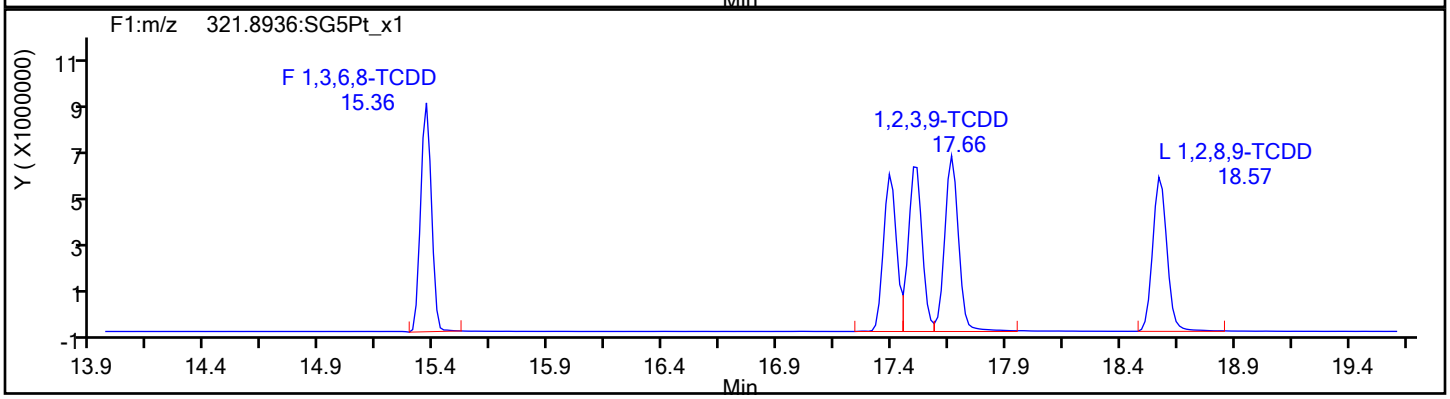

TCDD Standards

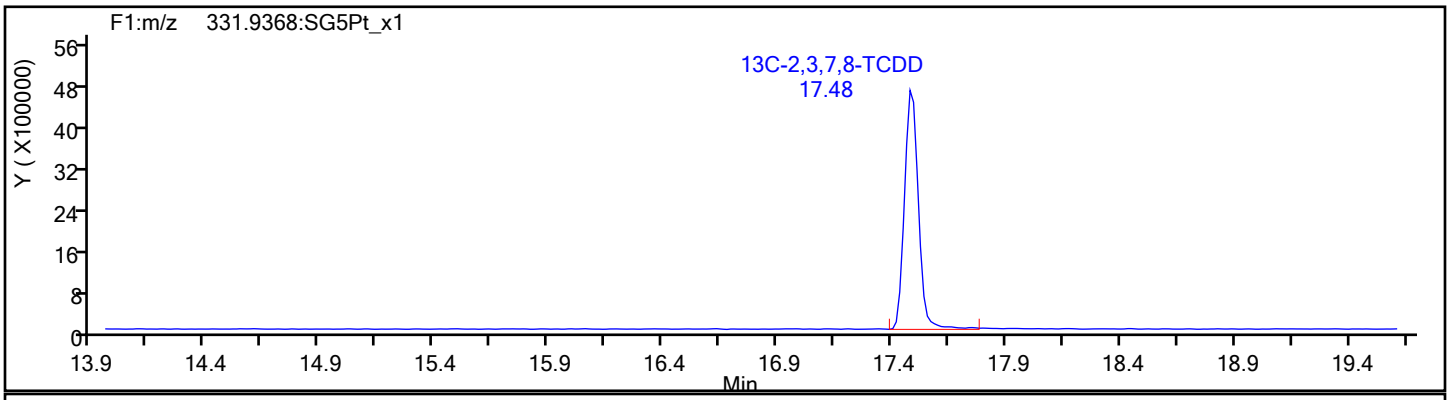

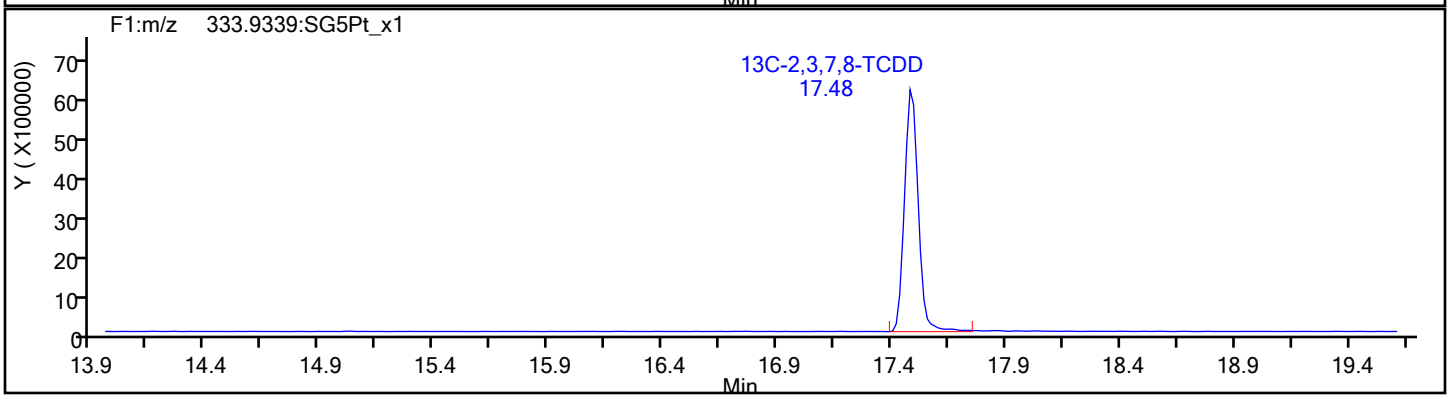

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

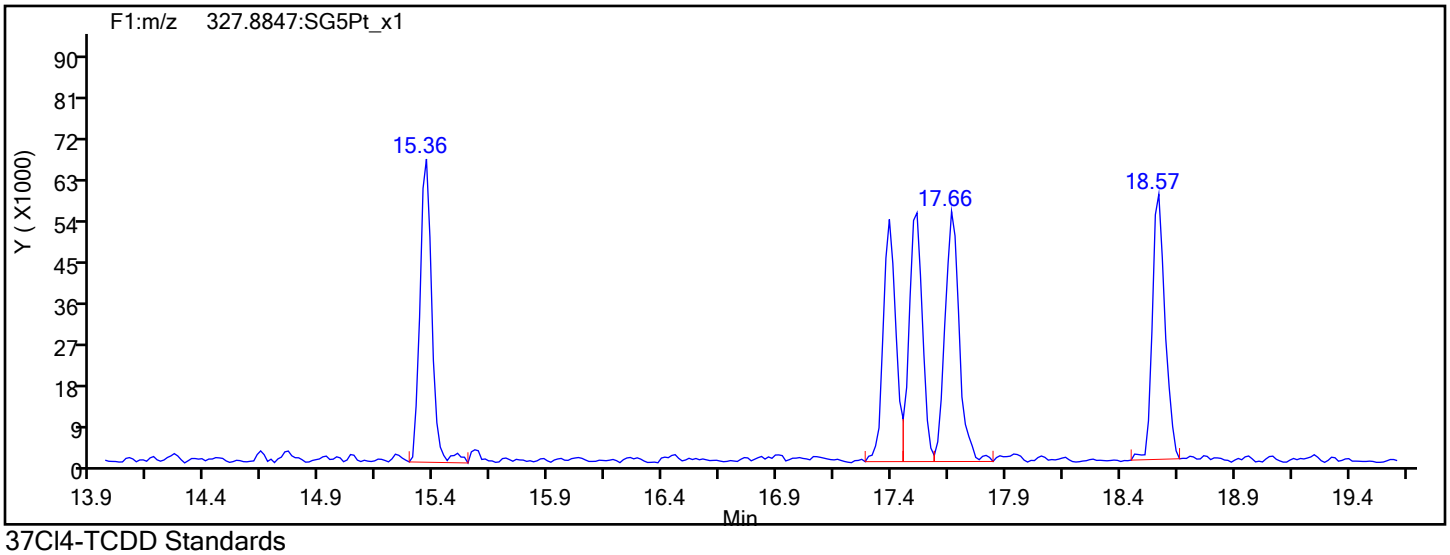

37Cl4-TCDD Standards

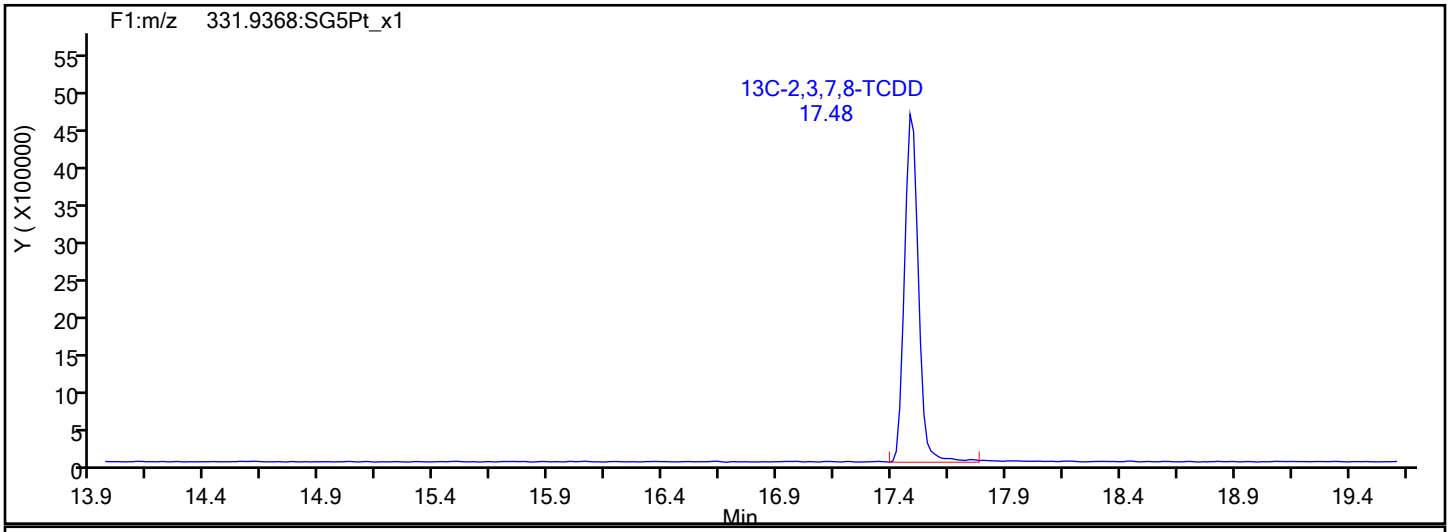

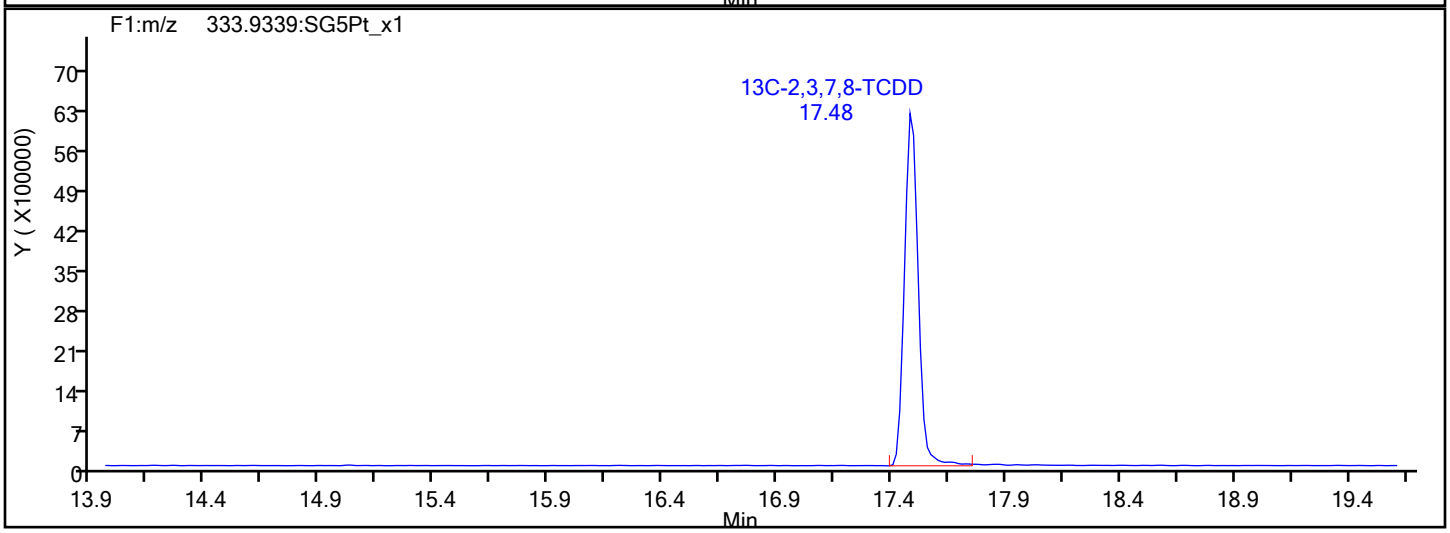

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d		
Injection Date:	17-Sep-2019 11:28:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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F1 PeCDFs

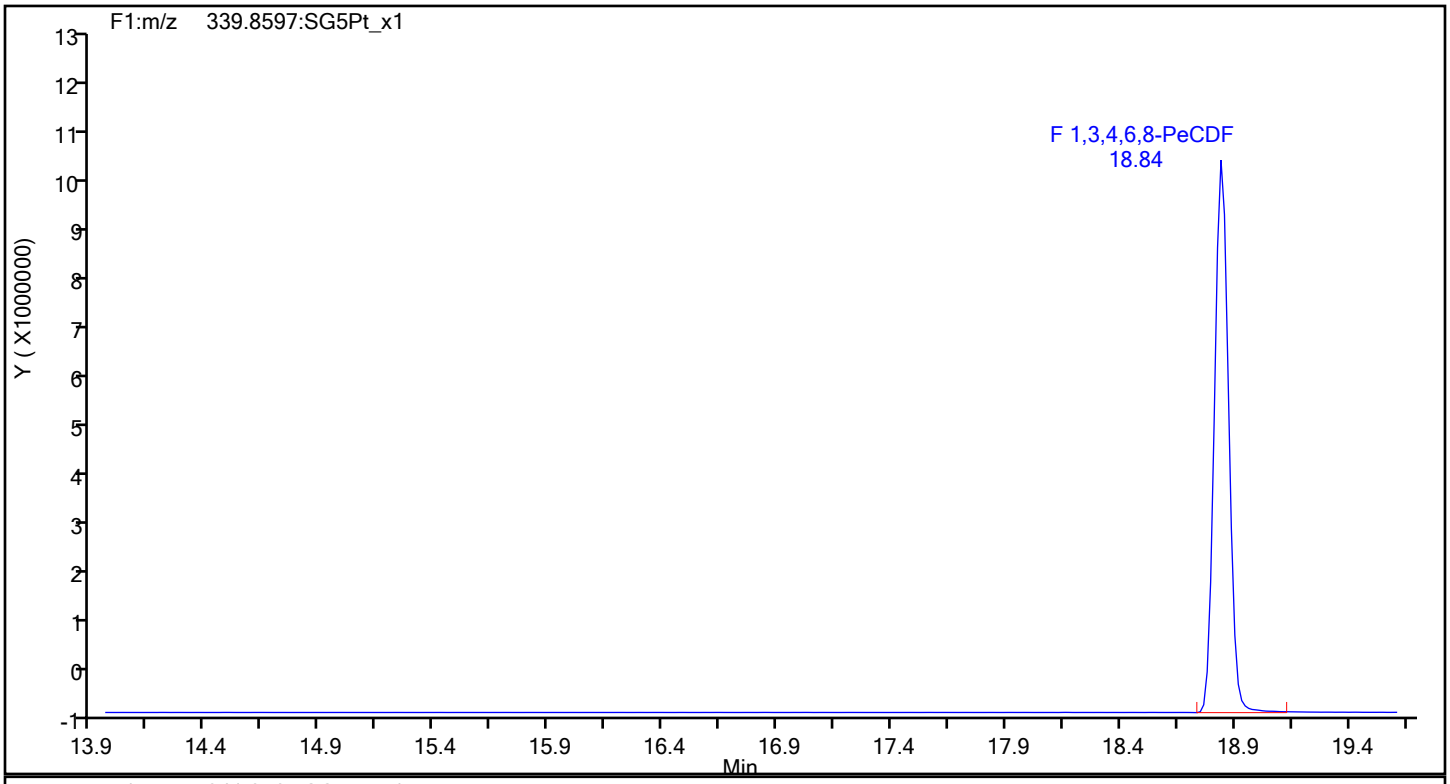

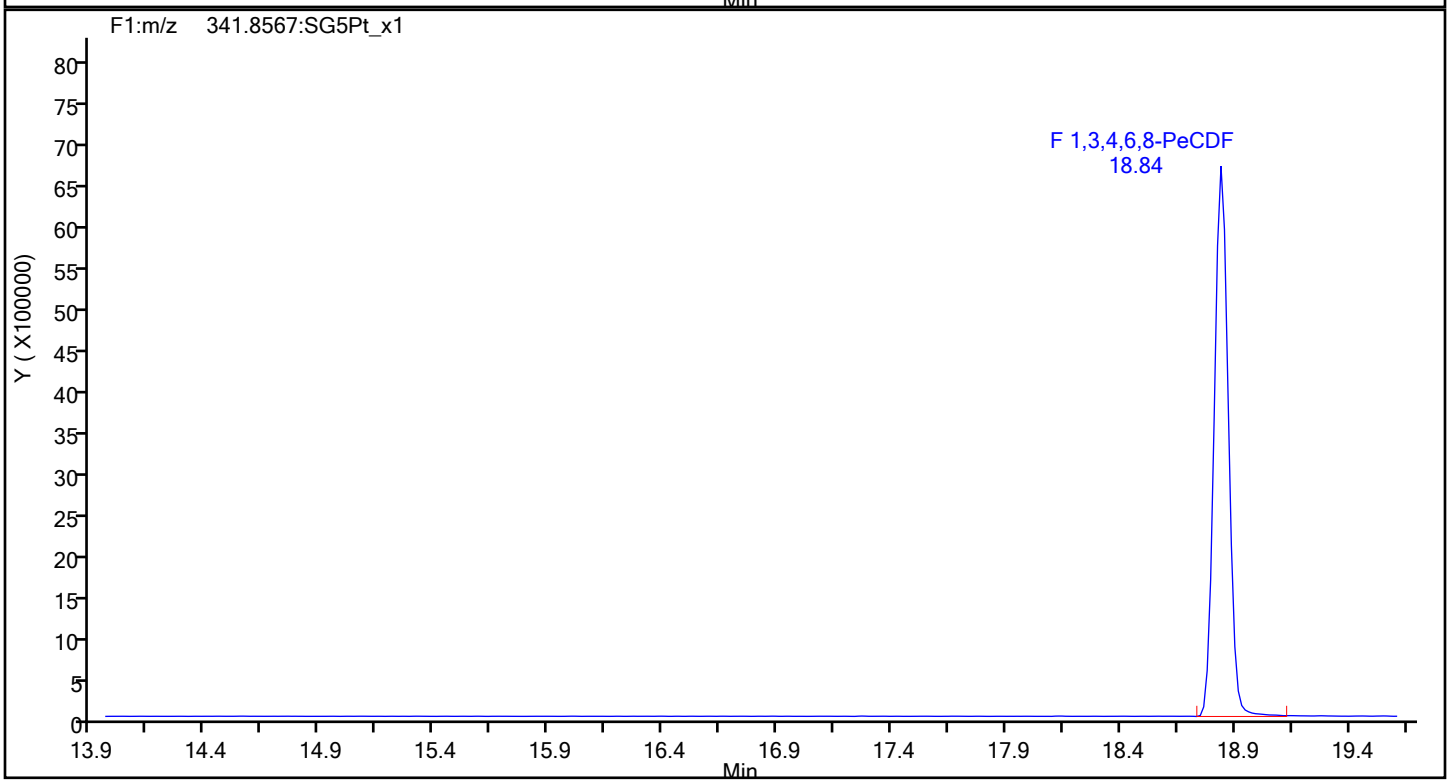

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d		
Injection Date:	17-Sep-2019 11:28:41	Injection Vol:	2.0 ul
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

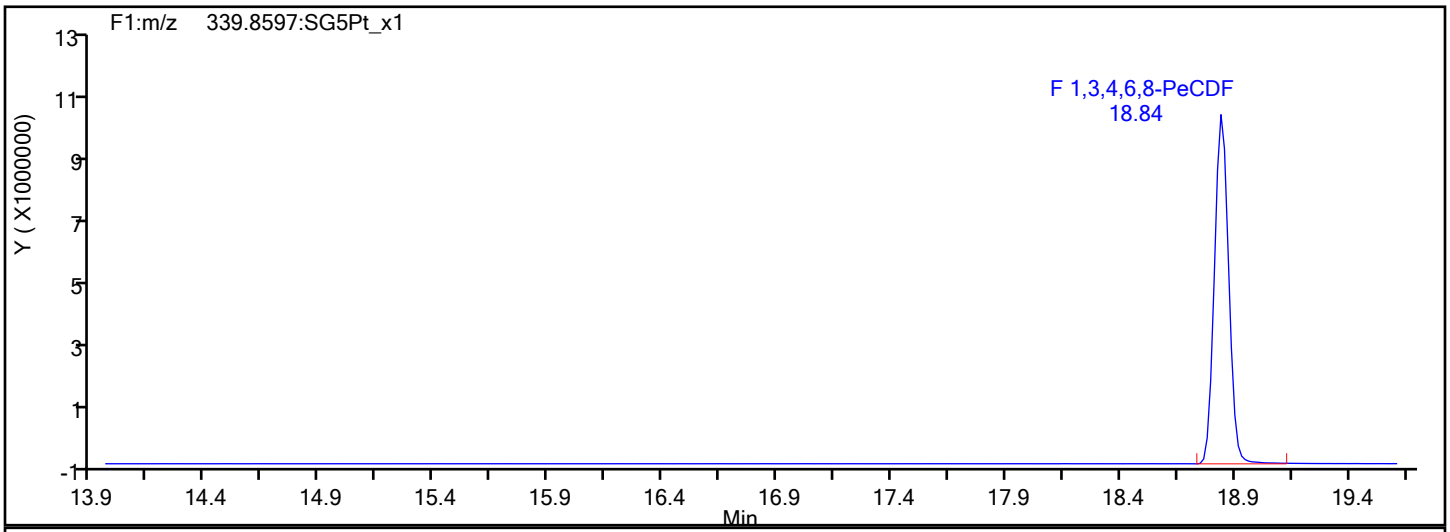

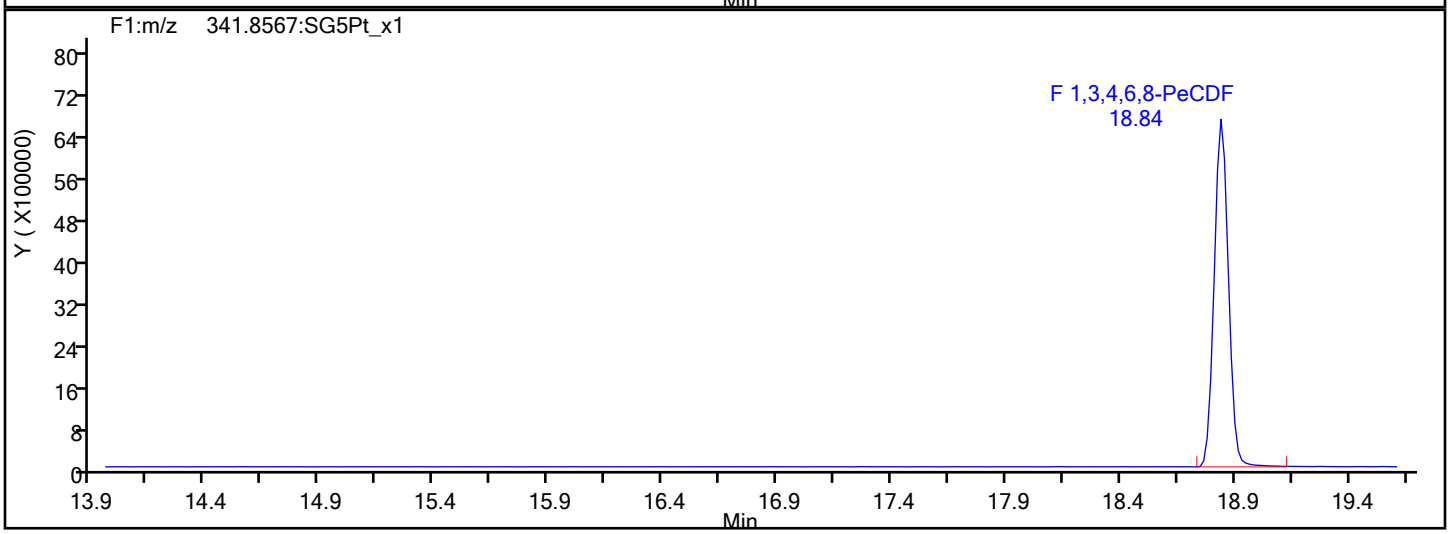

F1 PeCDFs Interference Mass

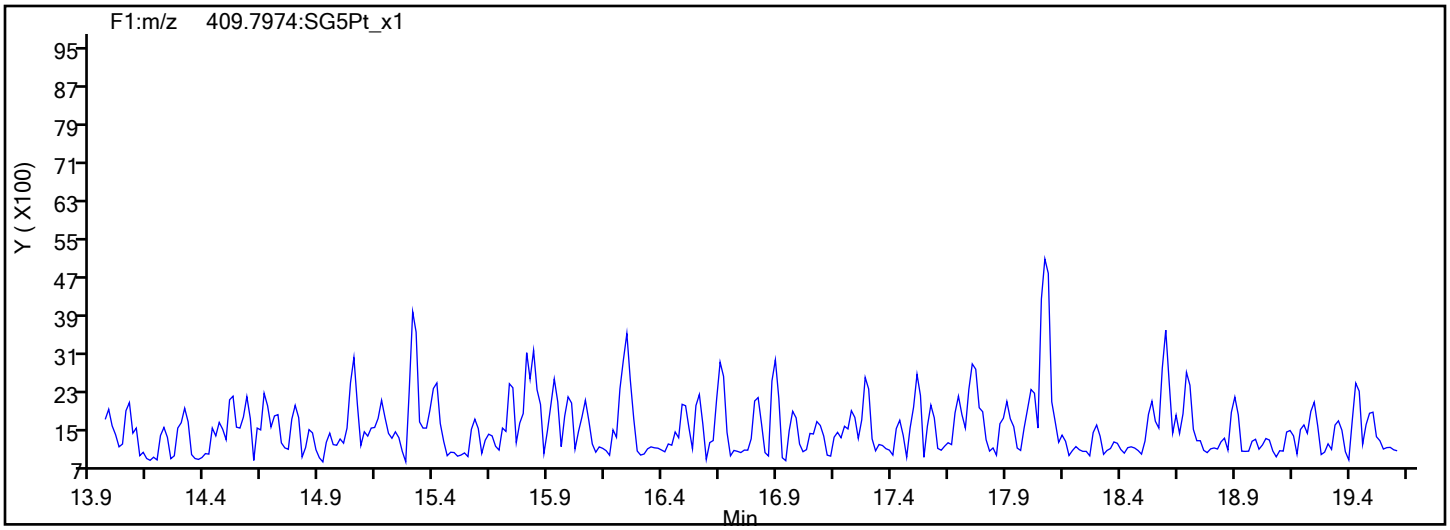

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d		
Injection Date:	17-Sep-2019 11:28:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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PeCDF

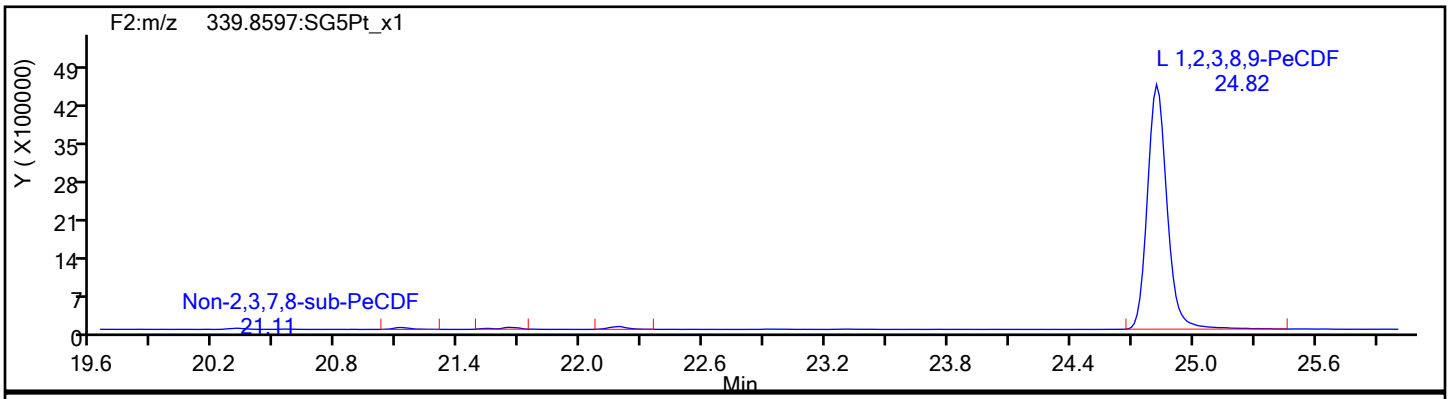

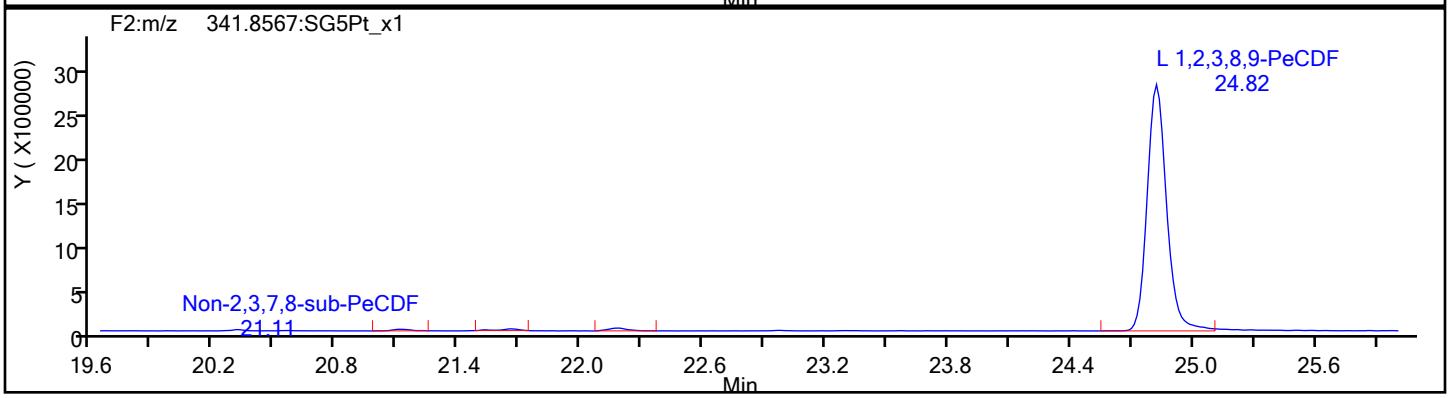

PeCDF Standards

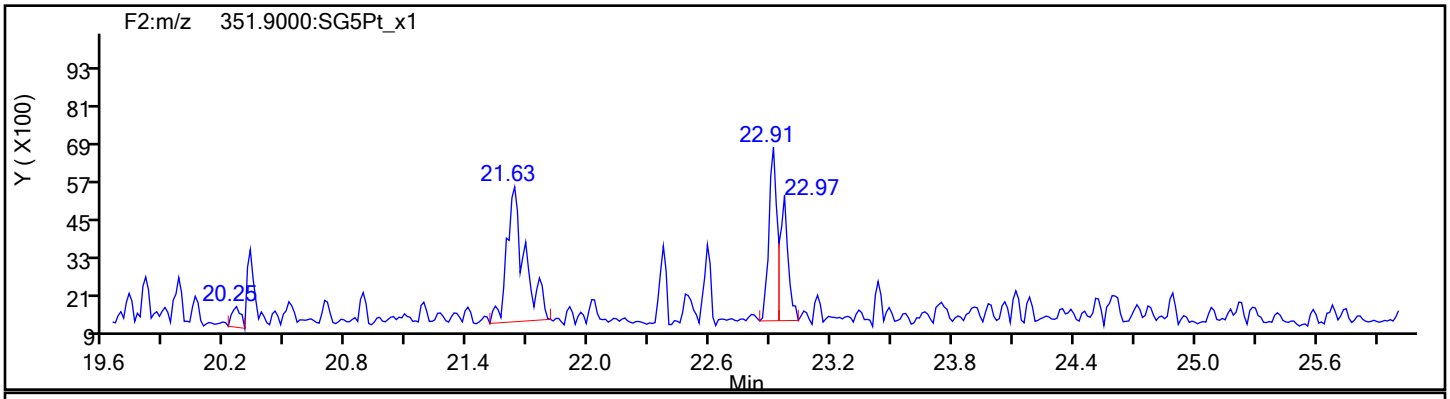

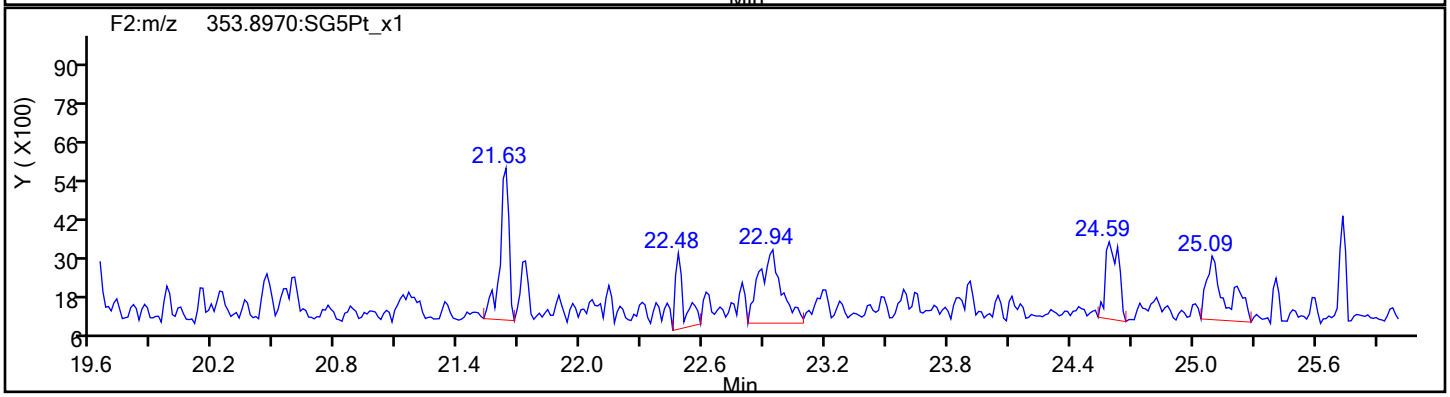

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d		
Injection Date:	17-Sep-2019 11:28:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
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PeCDF

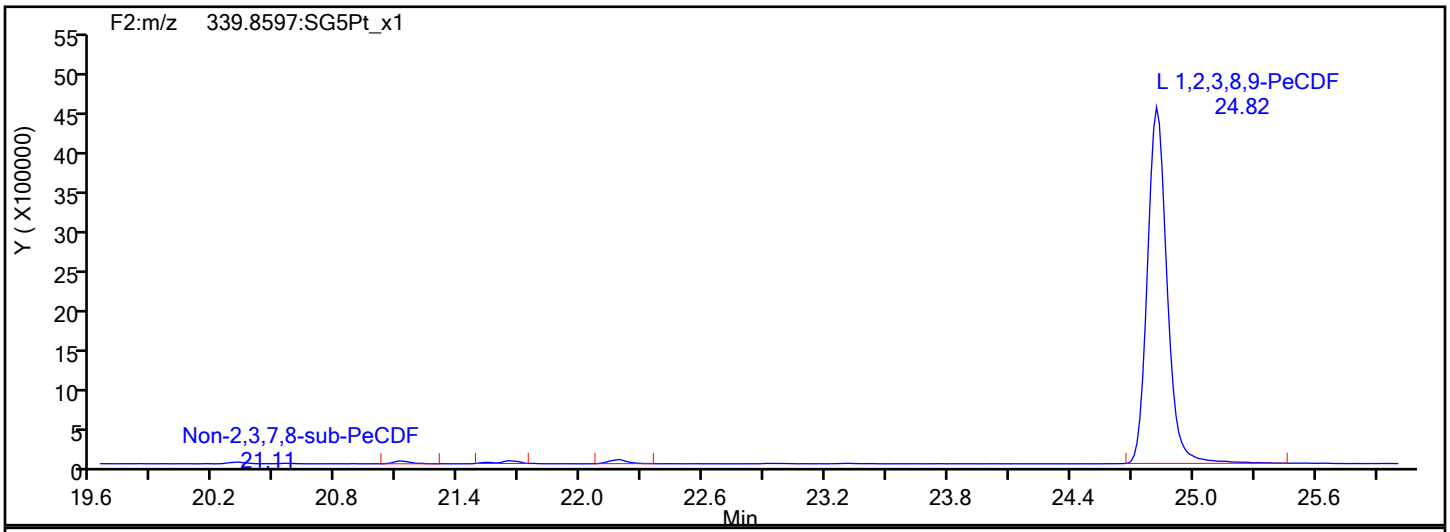

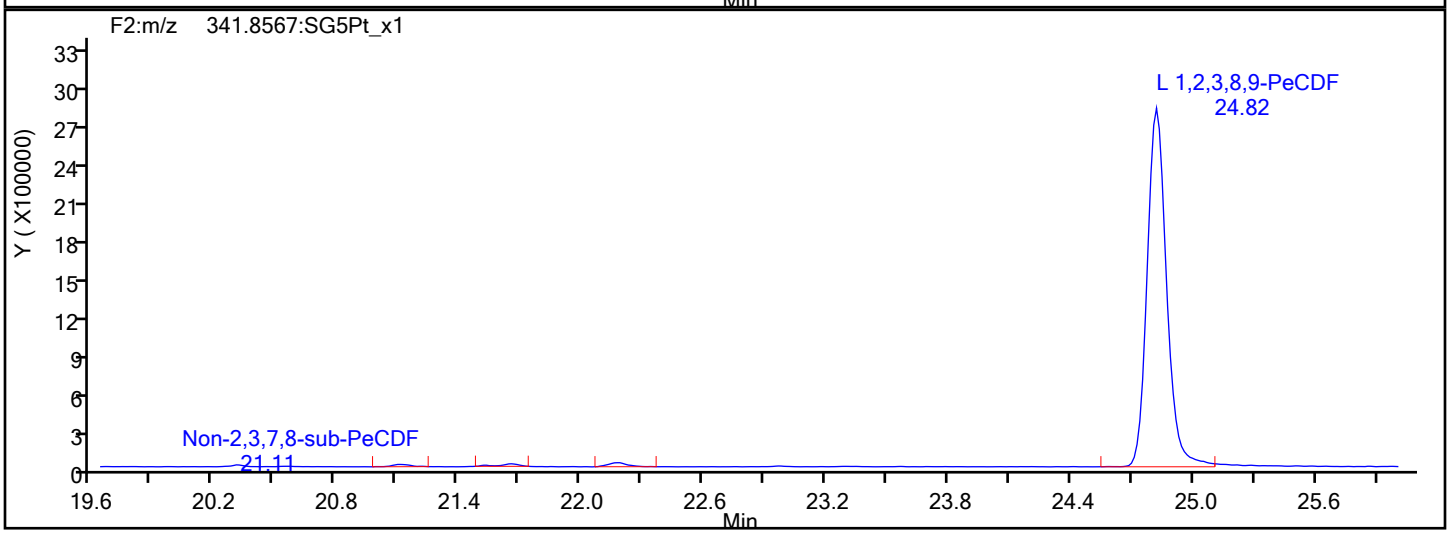

PeCDF Interference Mass

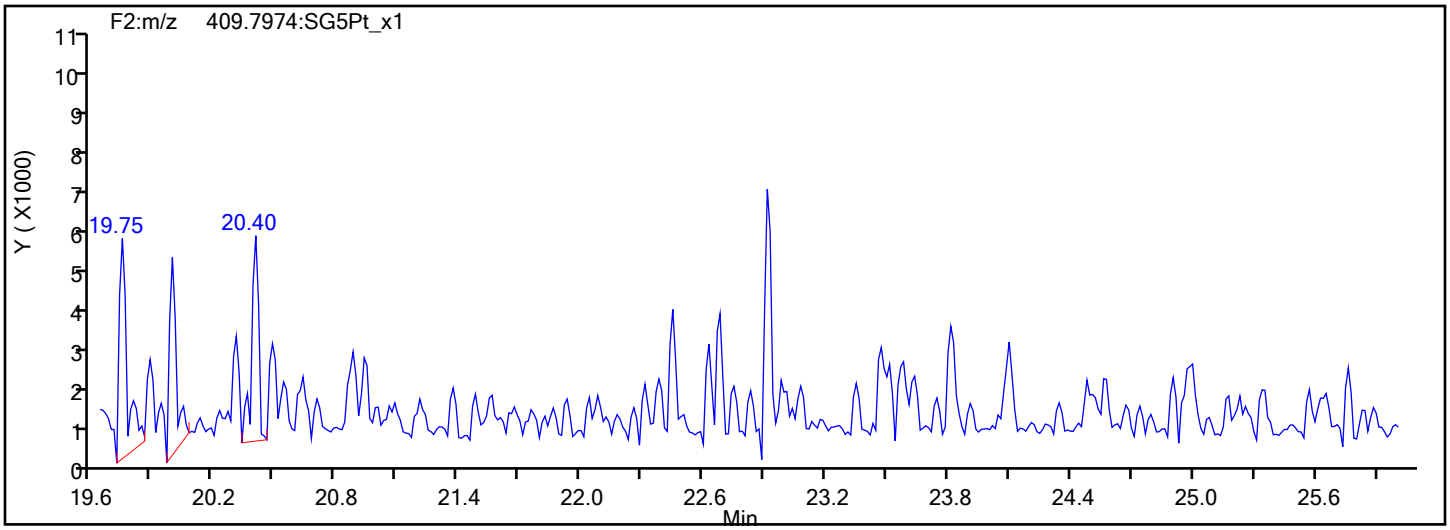

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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PeCDD

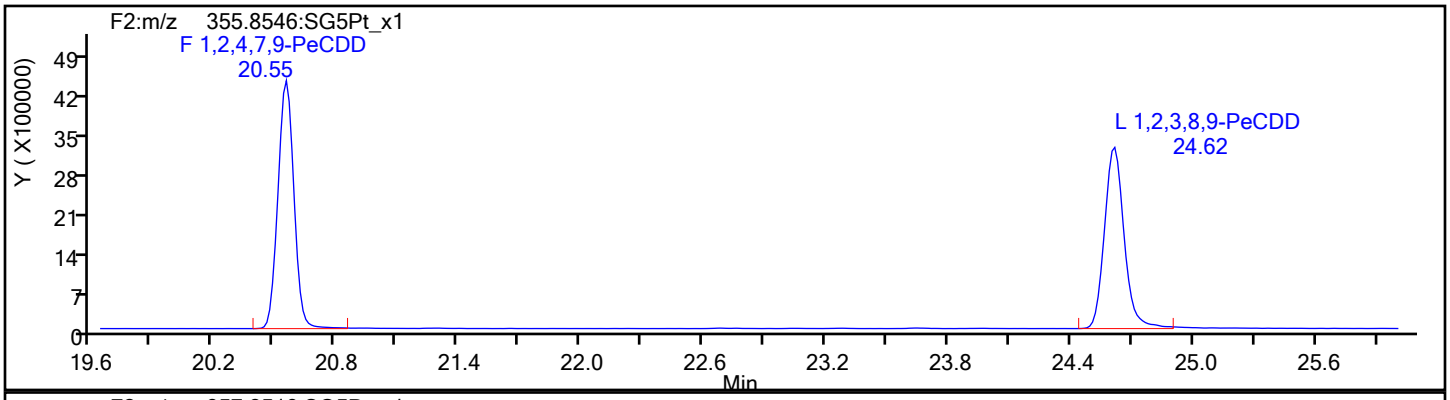

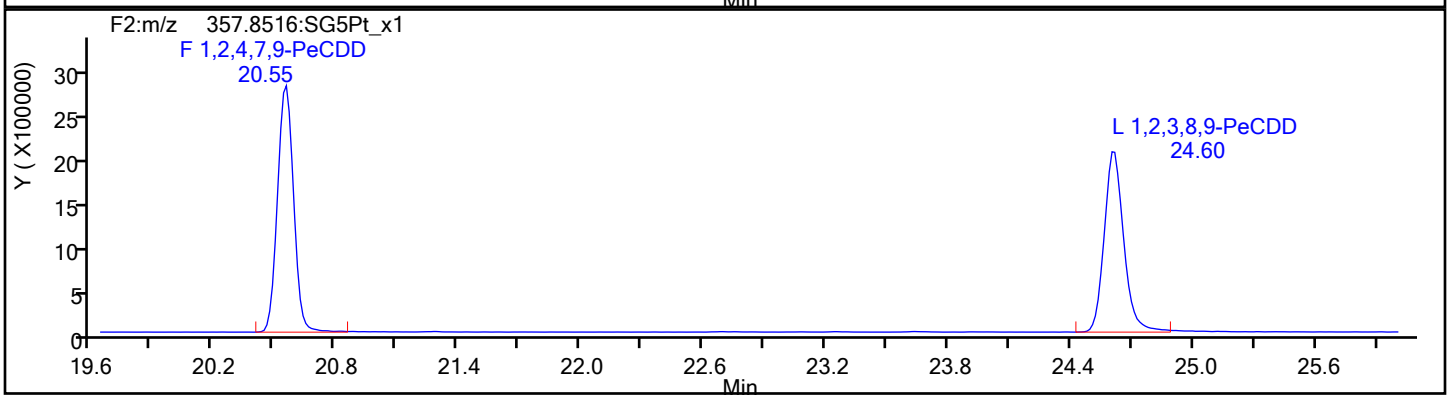

PeCDD Standards

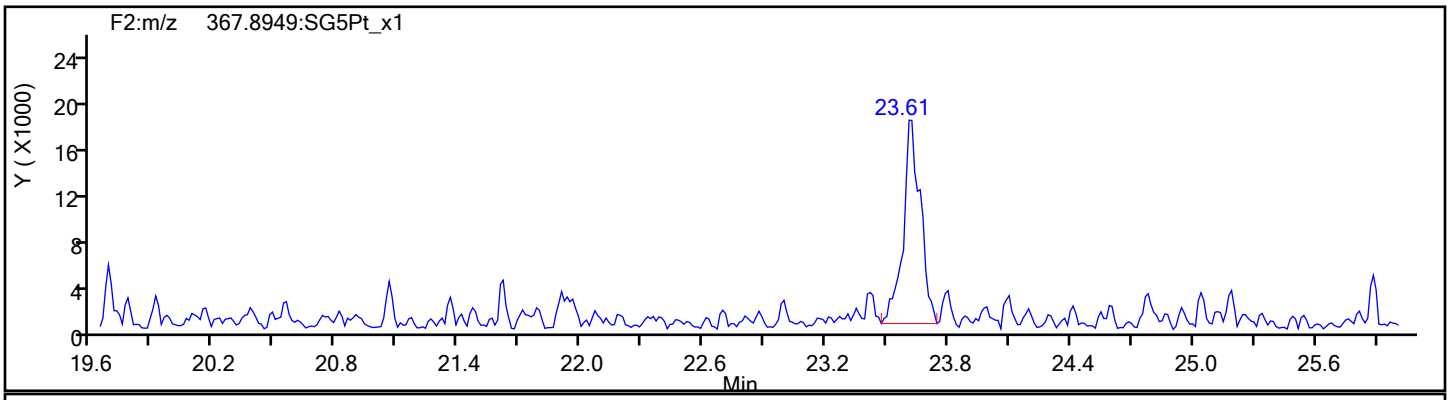

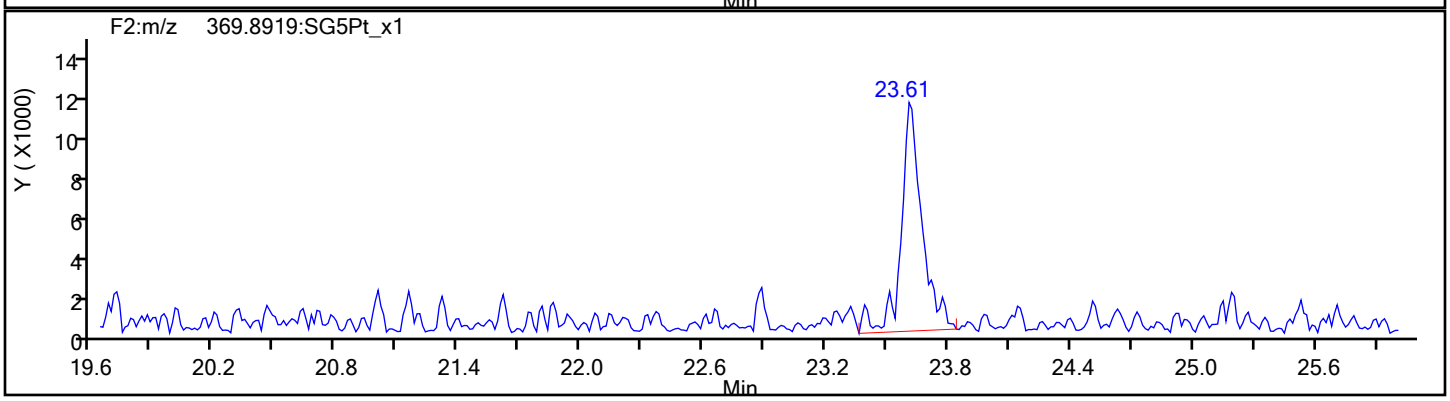

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Injection Date:	17-Sep-2019 11:28:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

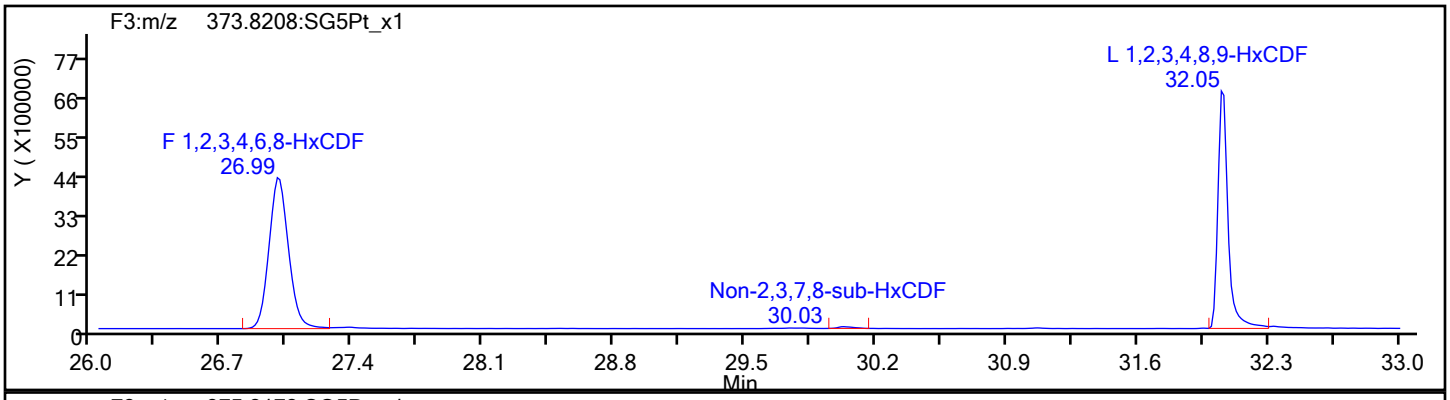

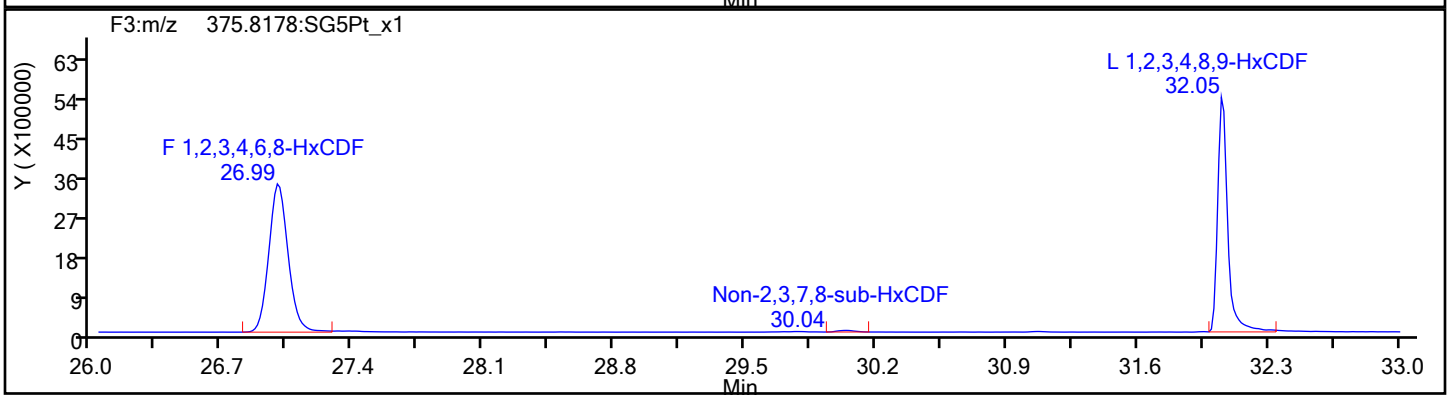

HxCDF Standards

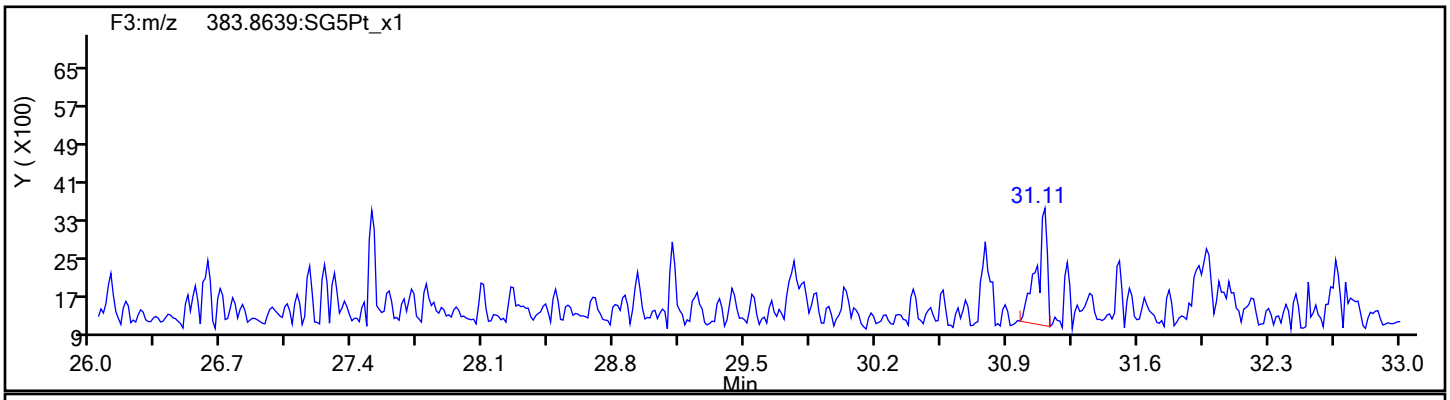

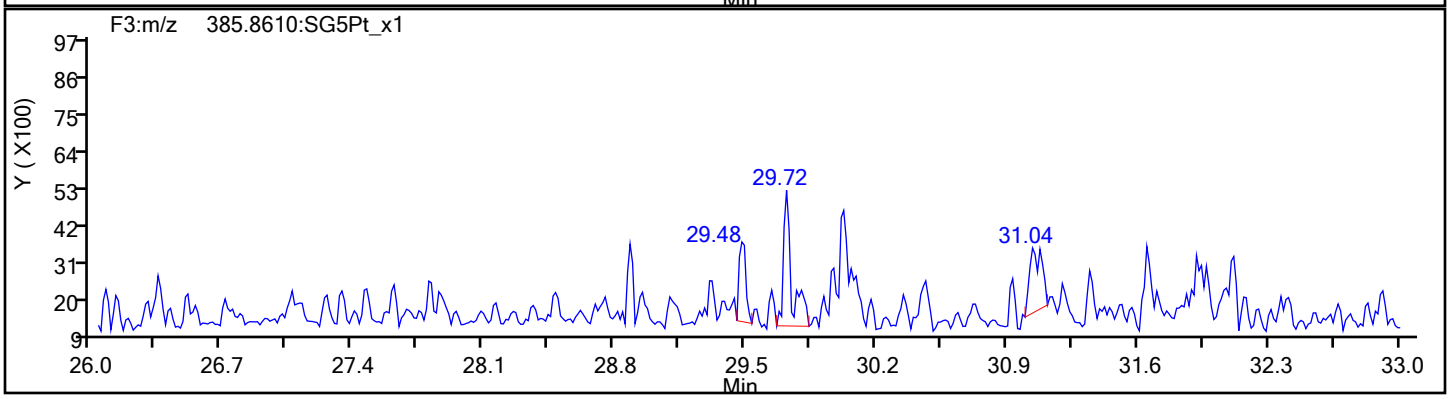

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d		
Injection Date:	17-Sep-2019 11:28:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

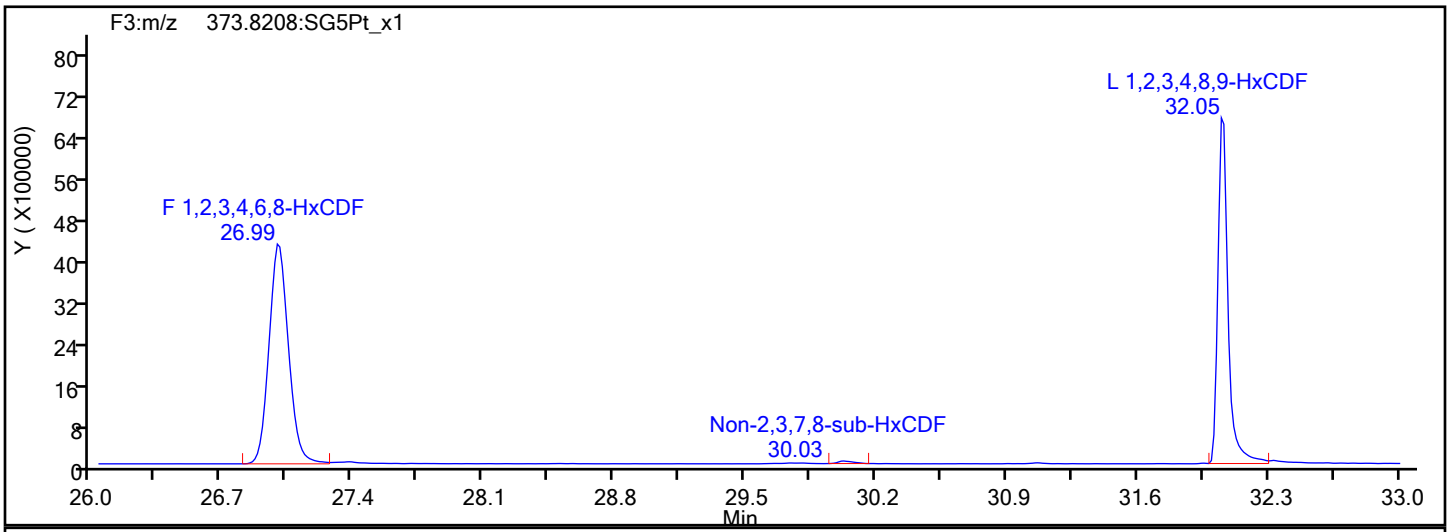

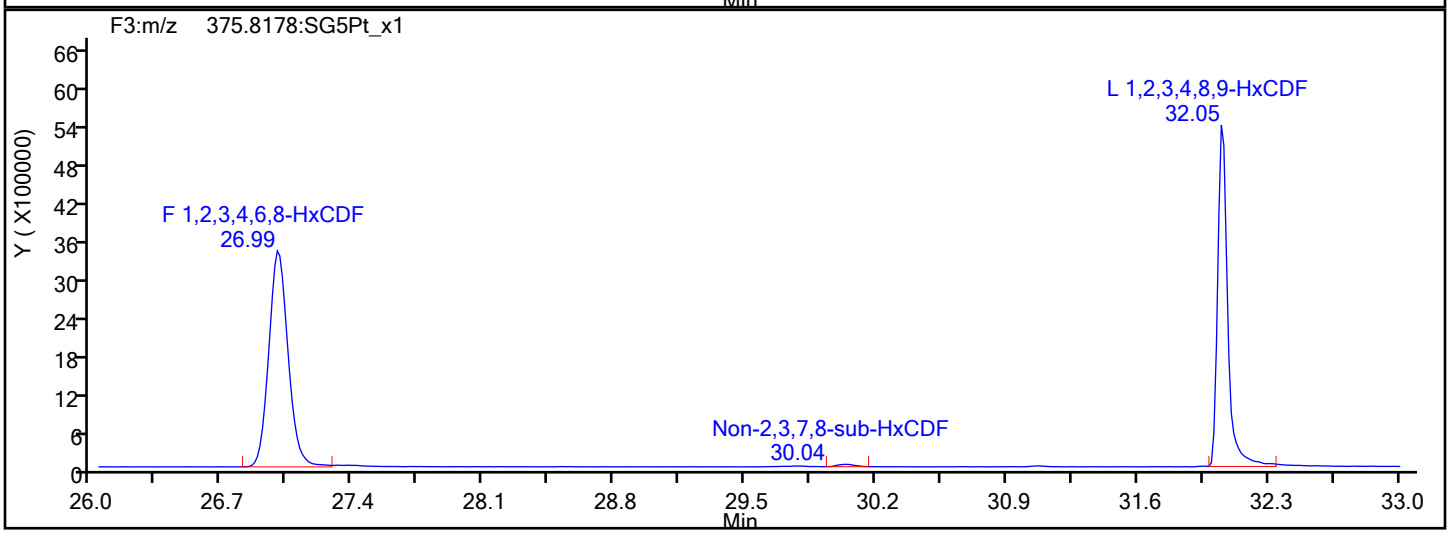

HxCDF Interference Mass

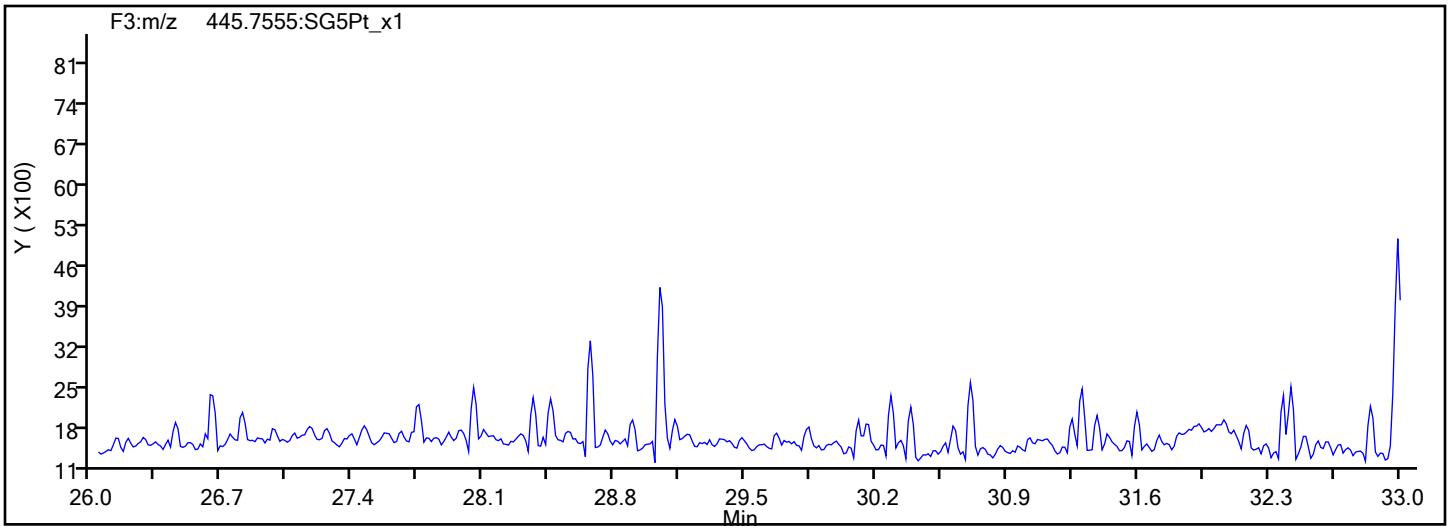

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d		
Injection Date:	17-Sep-2019 11:28:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDD

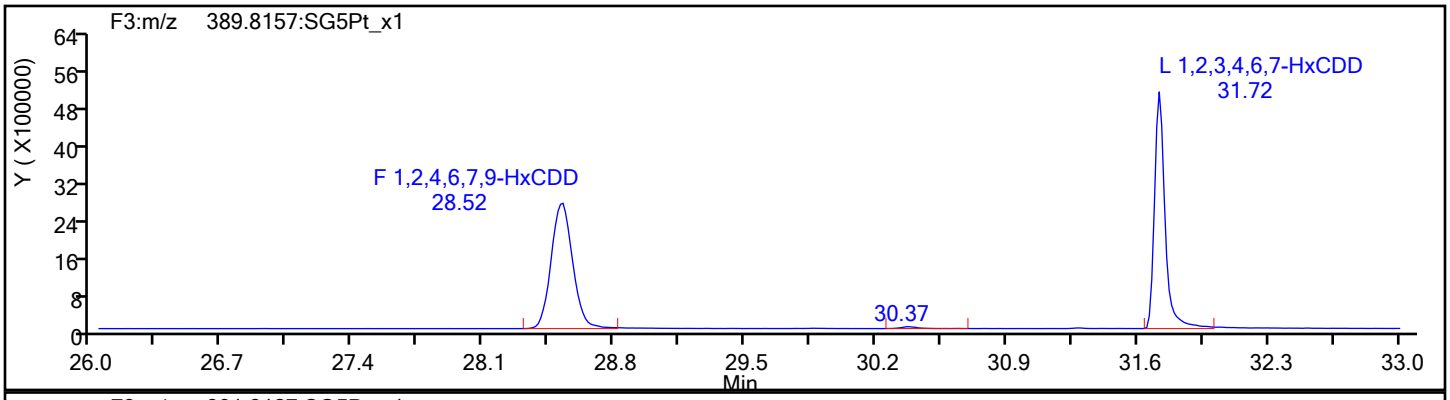

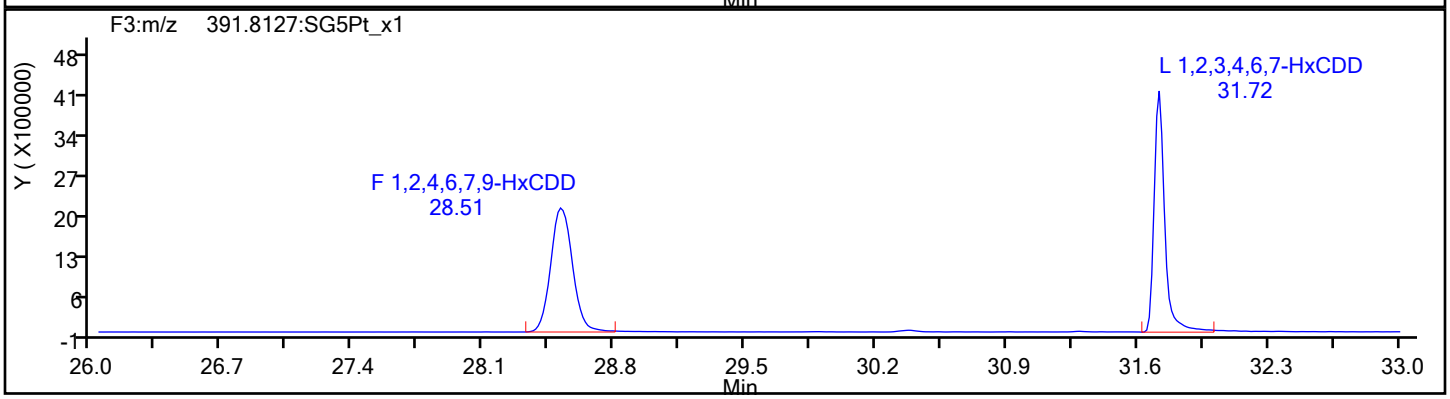

HxCDD Standards

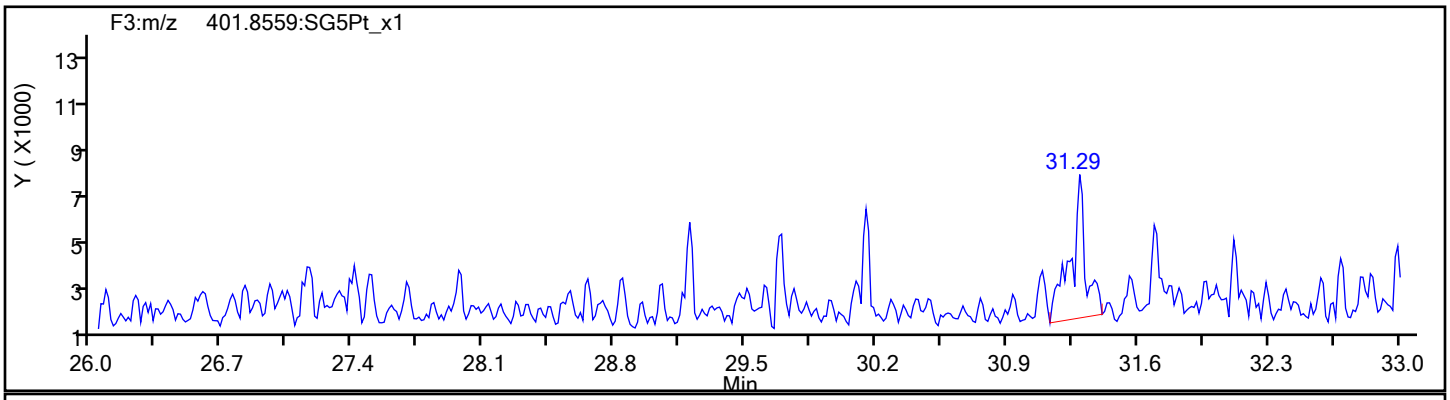

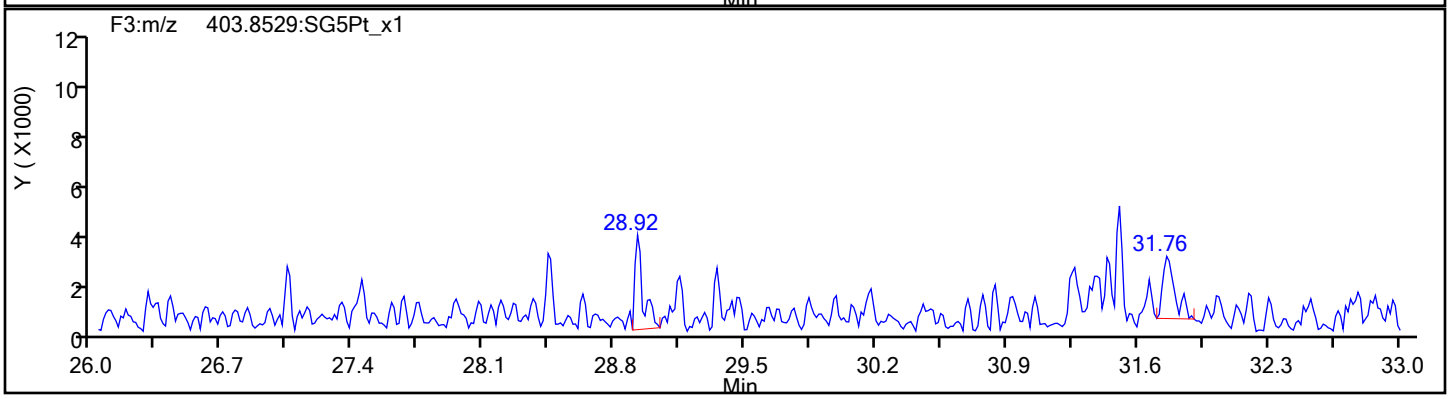

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d		
Injection Date:	17-Sep-2019 11:28:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

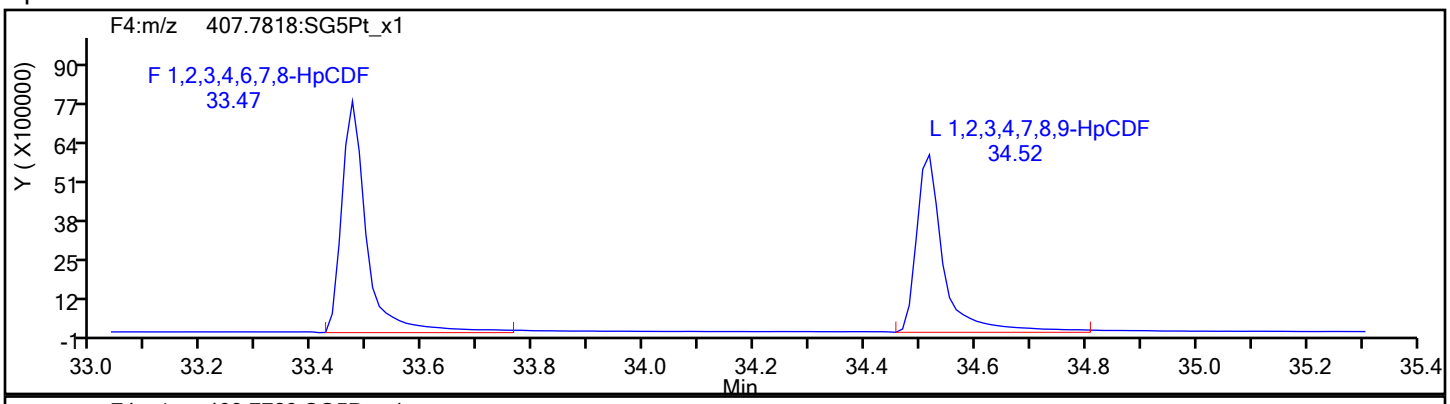

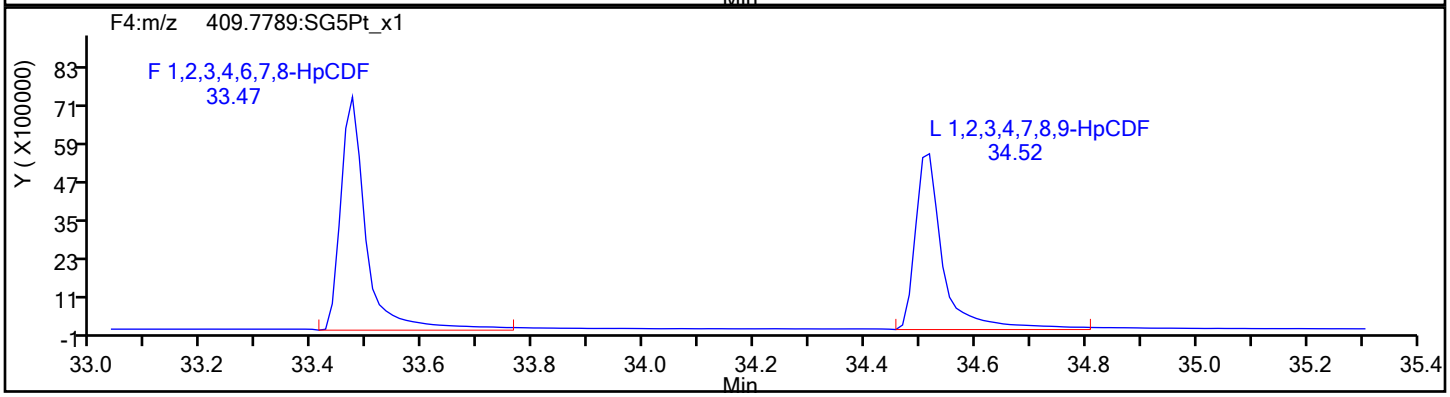

HpCDF Standards

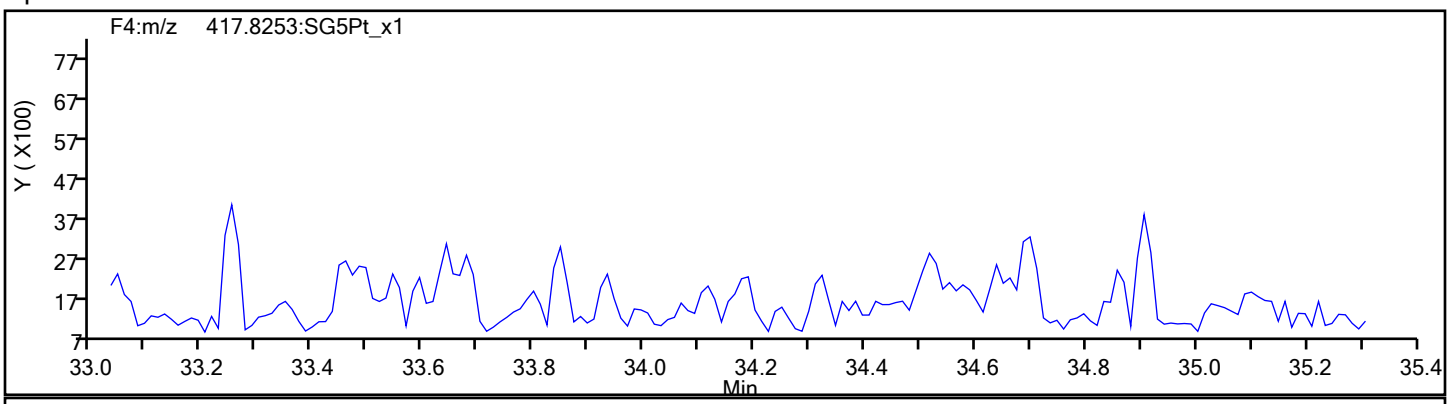

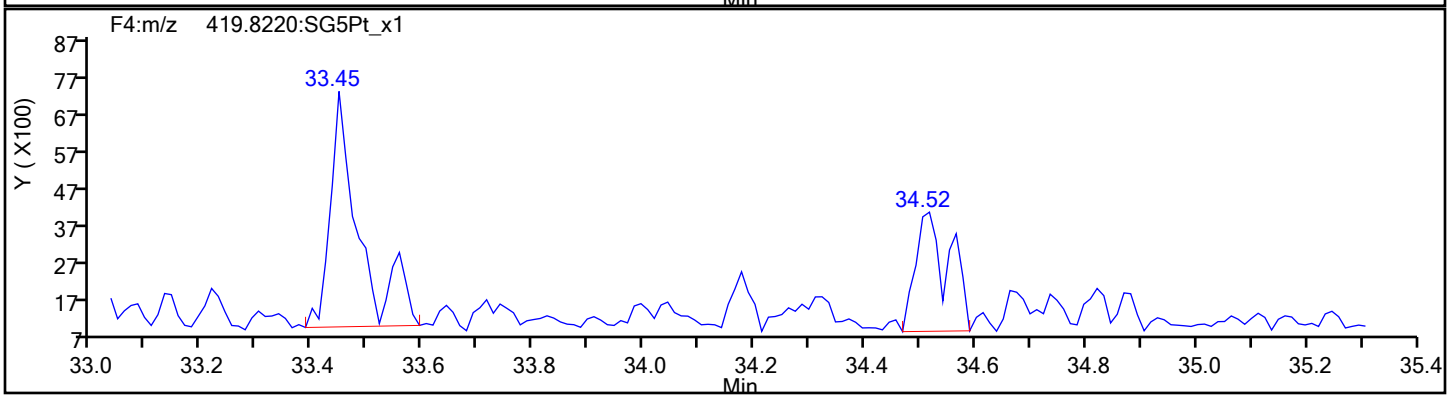

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d		
Injection Date:	17-Sep-2019 11:28:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

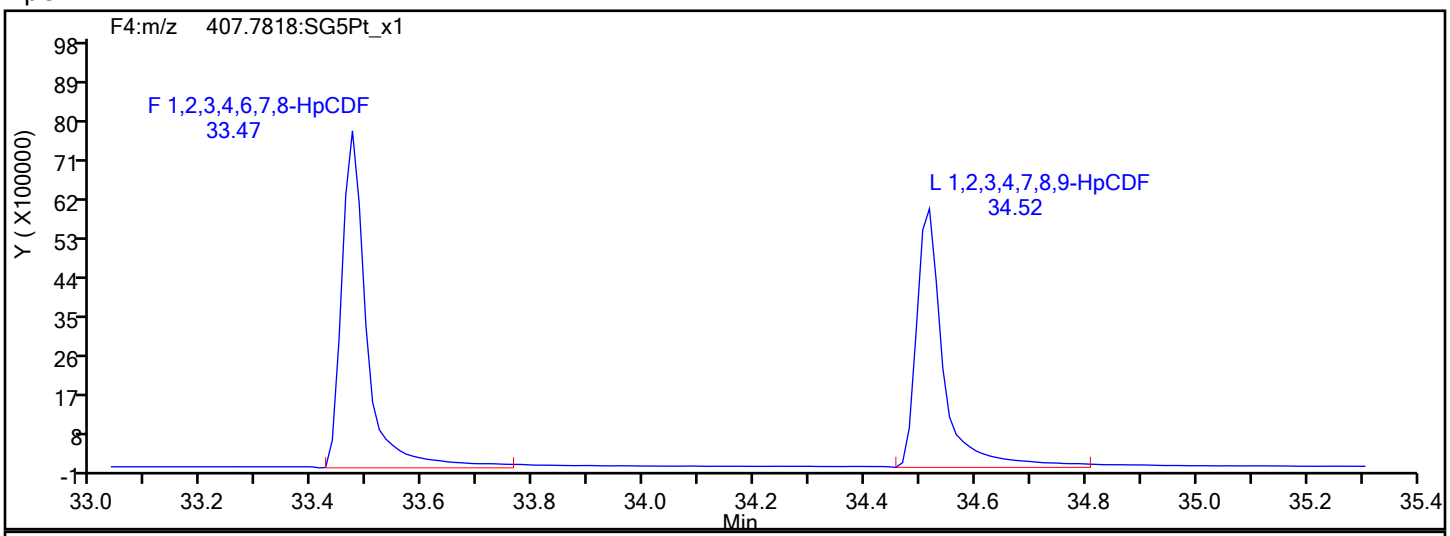

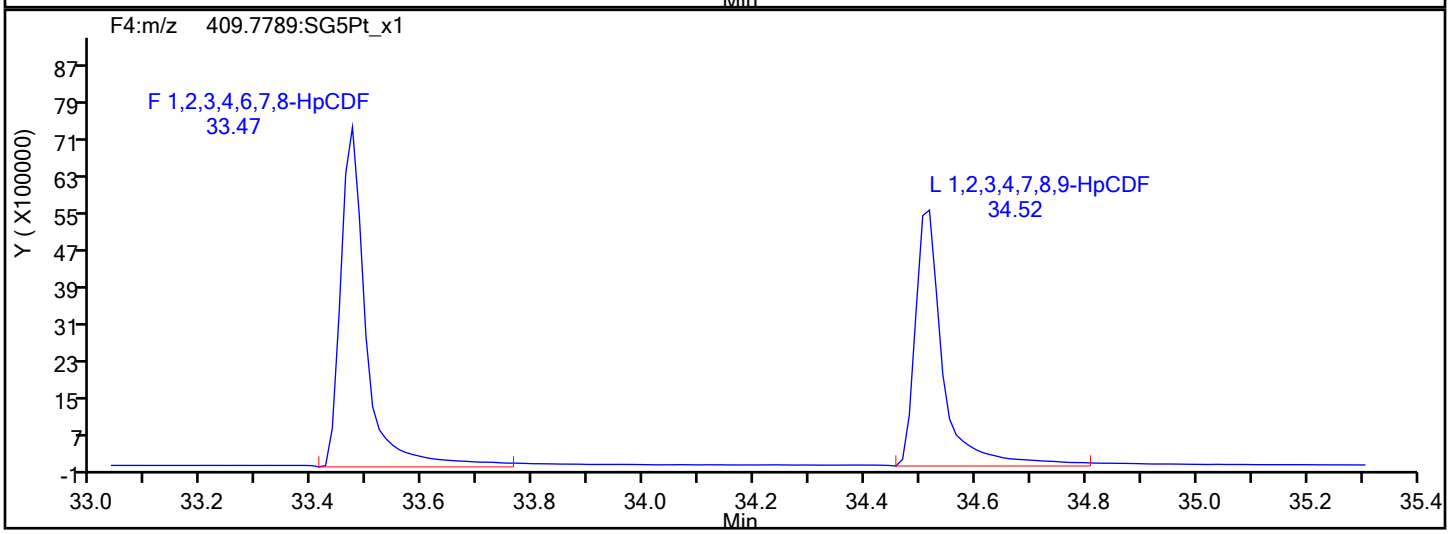

HpCDF Interference Mass

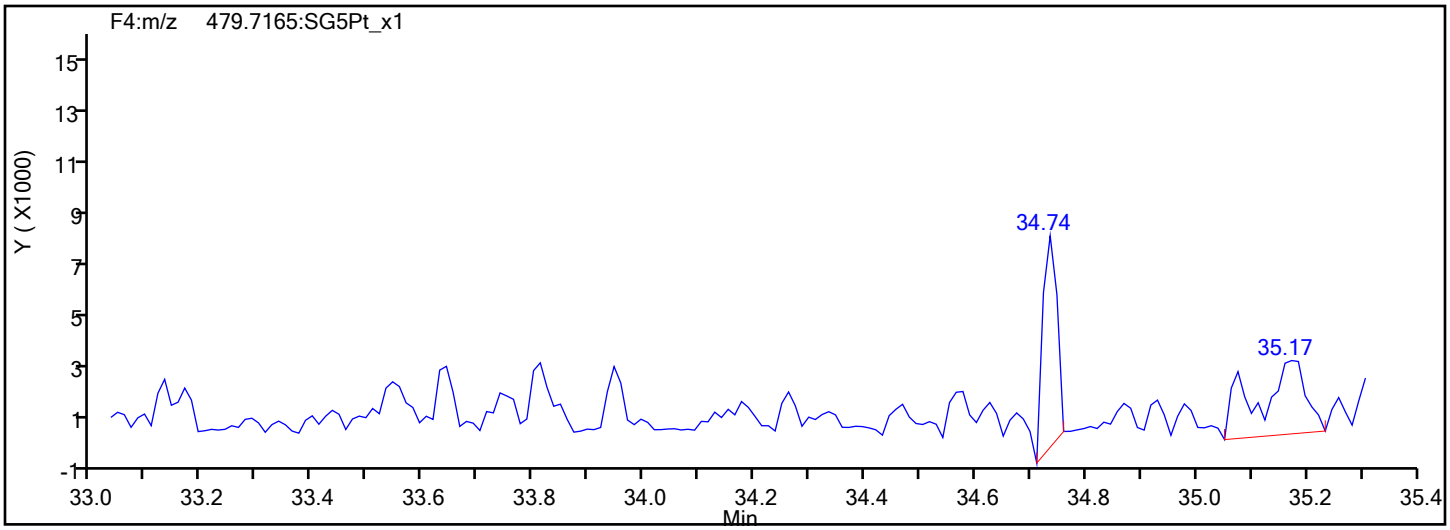

Report Date: 18-Sep-2019 10:18:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d		
Injection Date:	17-Sep-2019 11:28:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

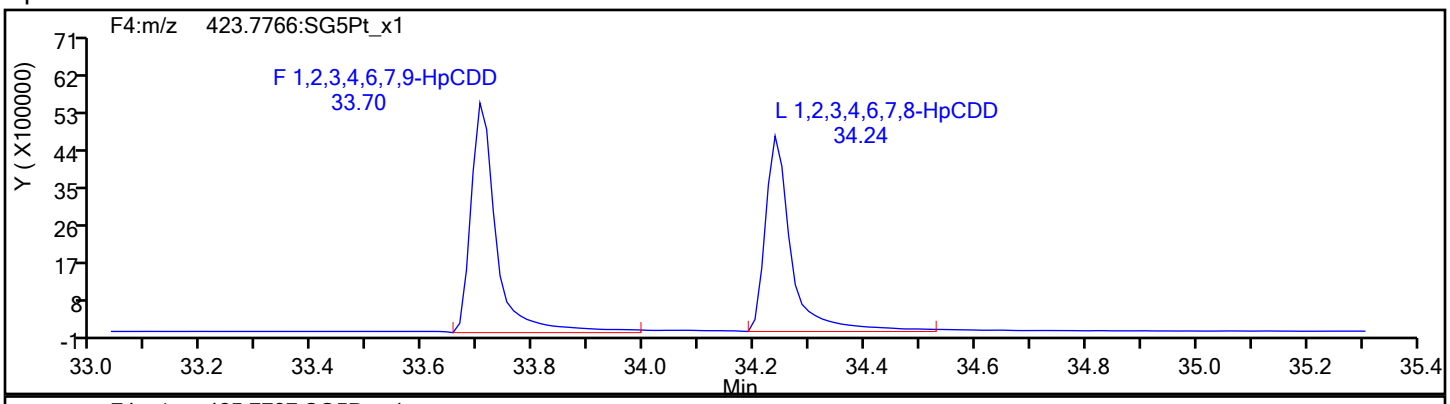

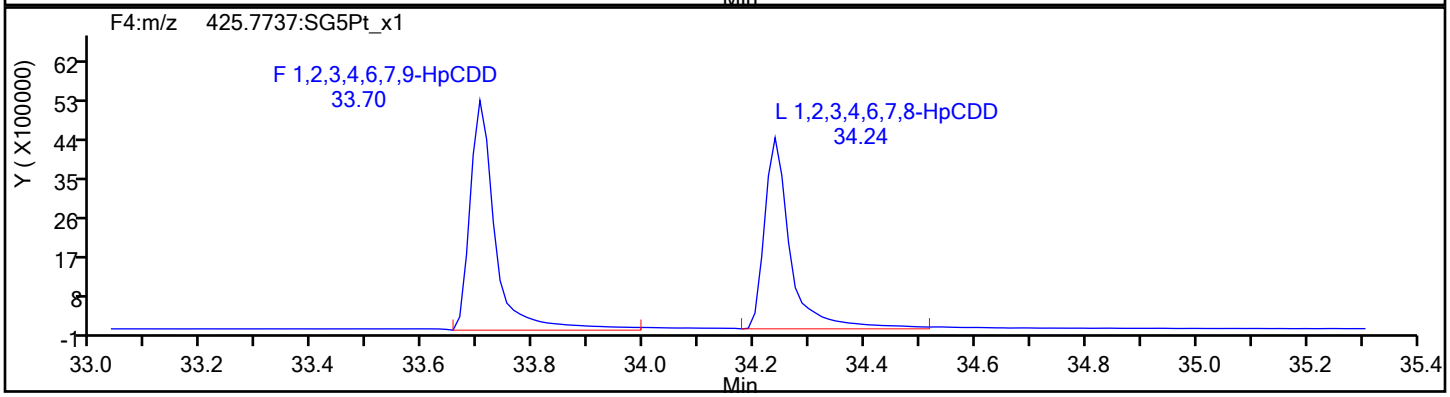

HpCDD Standards

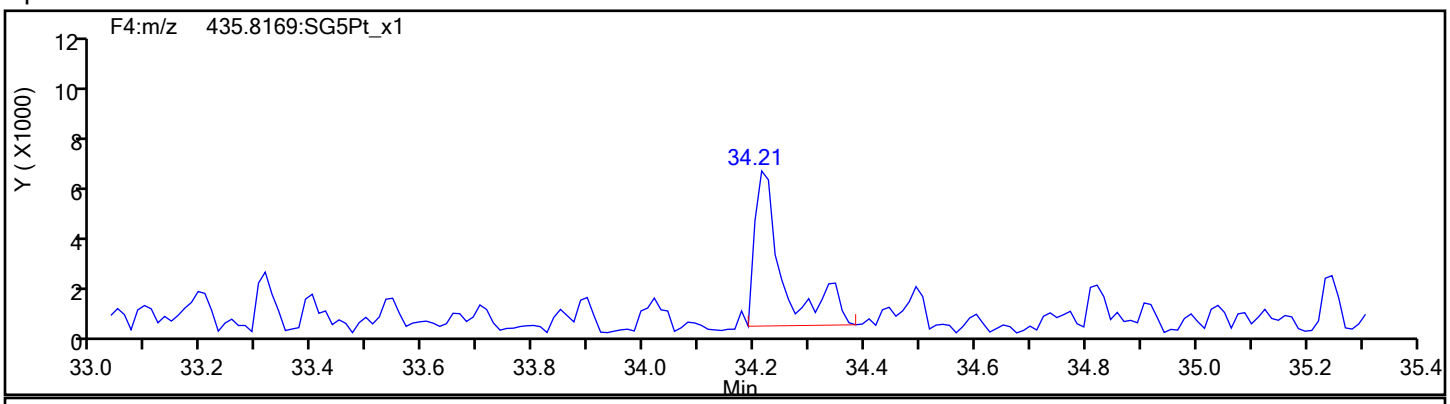

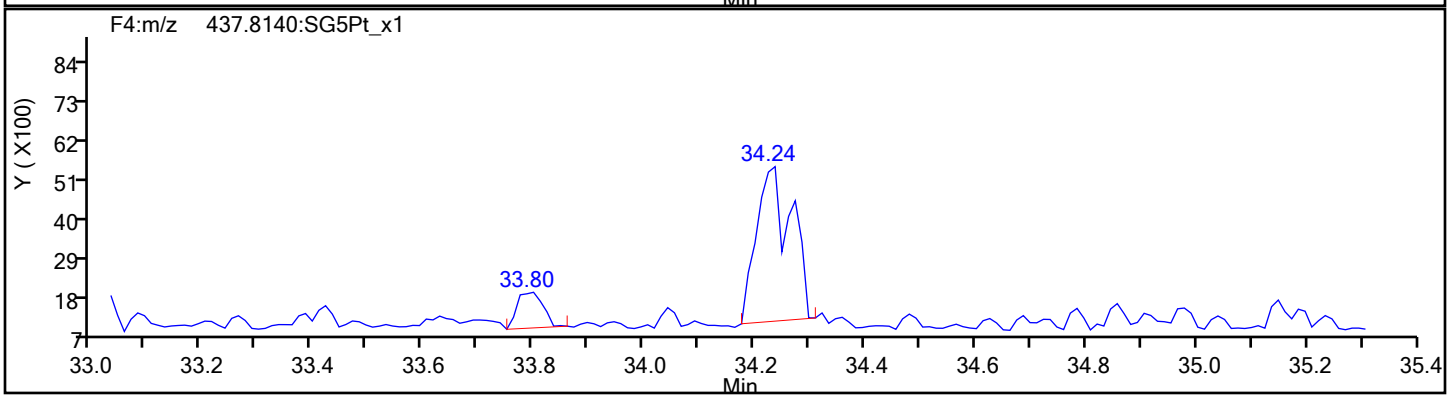

Report Date: 18-Sep-2019 10:18:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d		
Injection Date:	17-Sep-2019 11:28:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

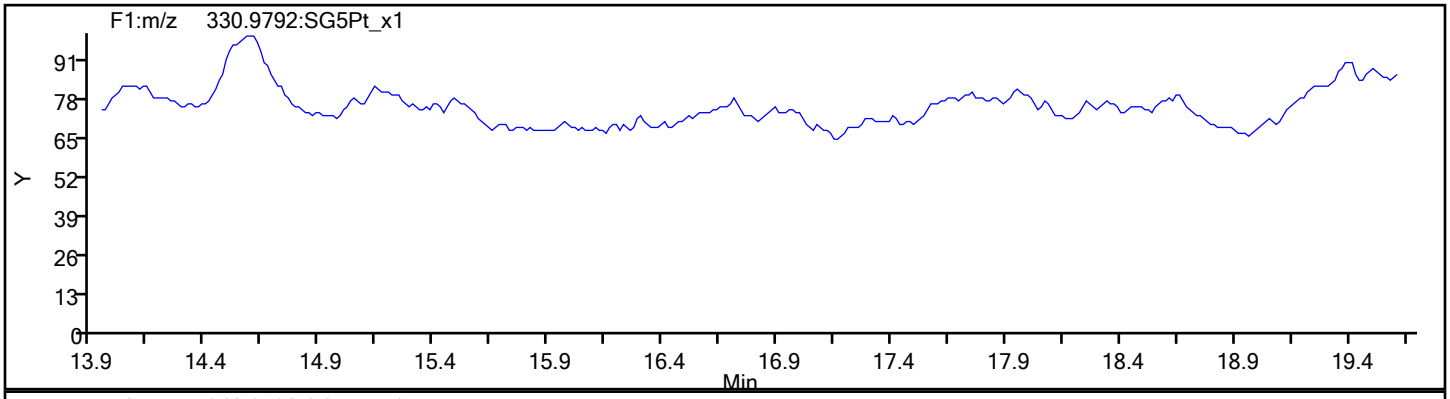

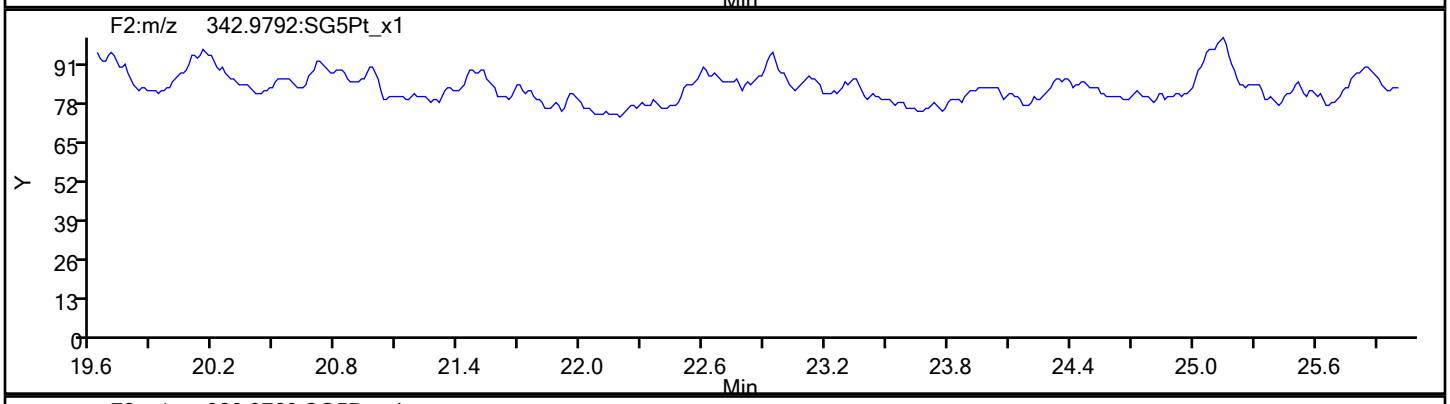

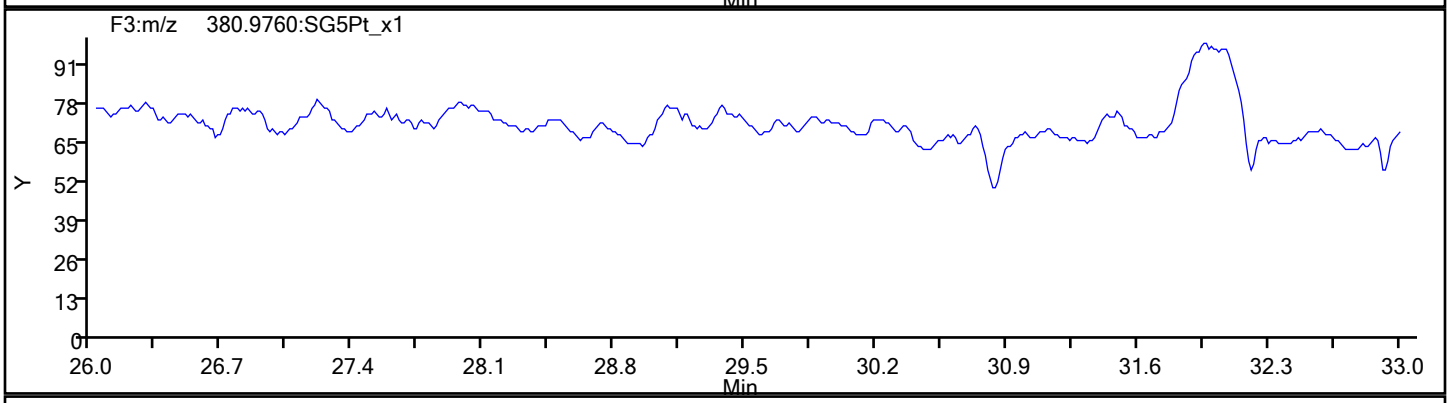

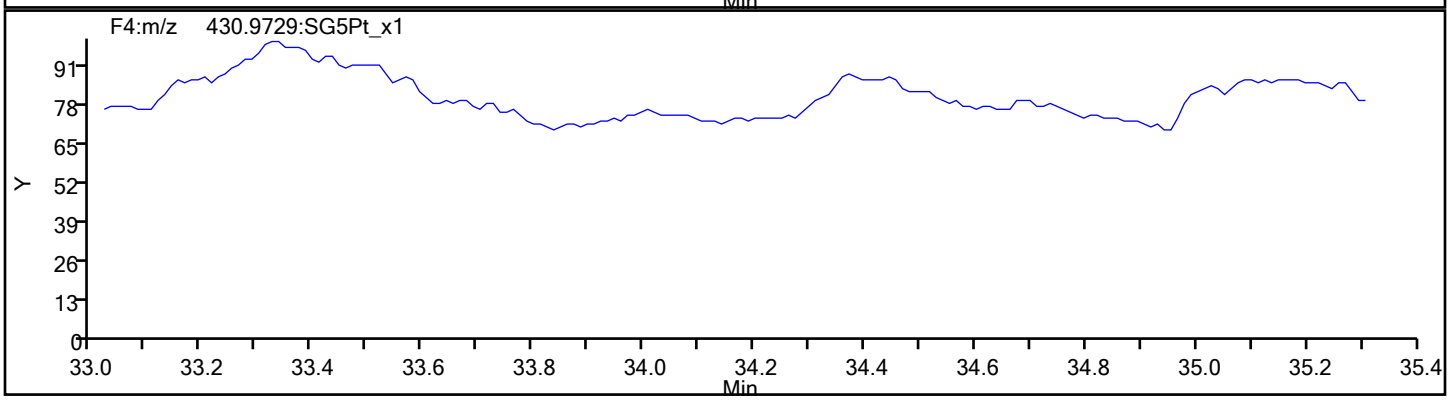

Report Date: 18-Sep-2019 10:18:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d		
Injection Date:	17-Sep-2019 11:28:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

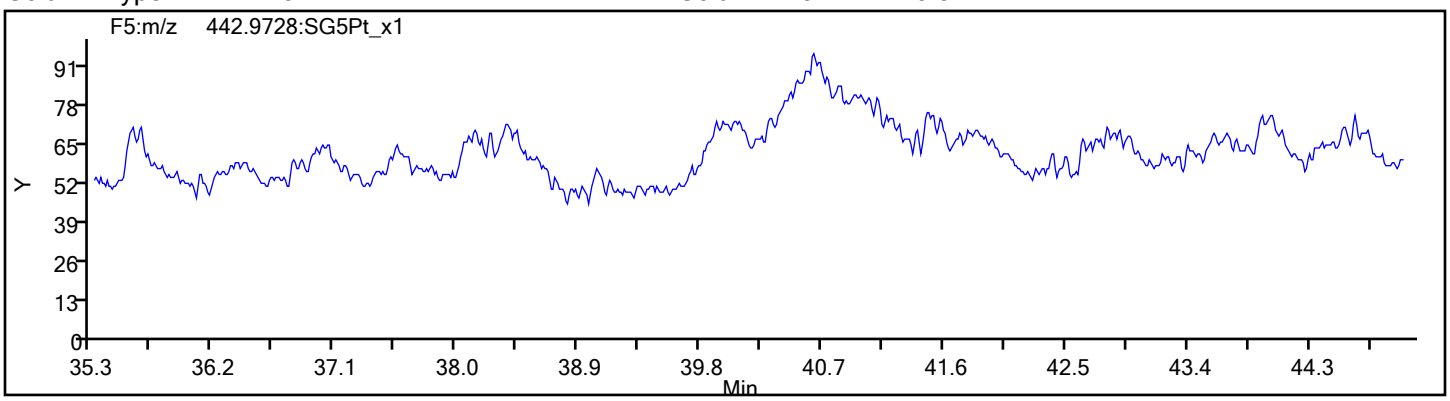

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_14.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 03-Oct-2019 21:59:47 ALS Bottle#: 1 Worklist Smp#: 14
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 100319 WDM HRDXNCP_00038
Misc. Info.: 03OC1910D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 04-Oct-2019 11:56:56 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0324

First Level Reviewer: shardaa Date: 04-Oct-2019 11:52:40

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	16.353	112341744	0.79	1.4384					0.00	
2,3,7,8-TCDF	16.383	241881476	0.78	1.0507	82.0	82.0	0.6288	0.6288		
A Non-2,3,7,8-sub-TCDF	16.096	3189806	0.77	1.0507	1.315	1.081	0.6288	1.081		RQ
S Total TCDF					83.3	83.0	0.6288	0.6288		RQ
D 13C-2,3,7,8-TCDD	17.018	74898428	0.77	0.9533					0.00	
2,3,7,8-TCDD	17.034	81032973	0.79	1.1064	39.1	39.1	0.1755	0.1755		
A Non-2,3,7,8-sub-TCDD	16.519						0.1755	0.1755		
S Total TCDD					39.1	39.1	0.1755	0.1755		
A F1 PeCDFs	18.750						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	21.639	1526401	1.55	0.0000						RQ
S Total PeCDF										RQ
A Non-2,3,7,8-sub-PeCDD	21.890						0.0	0.0		
S Total PeCDD										
A Non-2,3,7,8-sub-HxCDF	28.902						0.0	0.0		
S Total HxCDF										
A Non-2,3,7,8-sub-HxCDD	29.427						0.0	0.0		
S Total HxCDD										
1,2,3,4,6,7,8-HpCDF	33.243	68348989	1.04	1.5555						
1,2,3,4,7,8,9-HpCDF	34.288	52302378	1.04	1.3862						
A Non-2,3,7,8-sub-HpCDF	33.766						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	34.021	41601606	1.04	0.9316						
A Non-2,3,7,8-sub-HpCDD	33.889						0.0	0.0		
S Total HpCDD										
1,3,6,8-TCDF	14.131	136415553	0.78							
1,3,6,8-TCDD	14.977	80695854	0.79							
2,3,4,7-TCDF	16.383	241881476	0.78							
1,2,3,7-TCDD	16.928	68948896	0.78							
1,2,3,9-TCDF	17.170	103376547	0.77							
1,2,3,9-TCDD	17.185	85900490	0.79							

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,8,9-TCDF	18.062	108704659	0.77							
1,2,8,9-TCDD	18.062	34583574								
1,3,4,6,8-PeCDF	18.319	117388500	1.54							
1,2,4,7,9-PeCDD	19.947	68261698	1.54							
1,2,3,8,9-PeCDD	23.833	63815874	1.56							
1,2,3,8,9-PeCDF	24.024	82675368	1.60							
1,2,3,4,6,8-HxCDF	26.113	93436863	1.27							
1,2,4,6,7,9-HxCDD	27.551	67056742	1.27							
1,2,3,4,6,7-HxCDD	31.304	60566025	1.27							
1,2,3,4,8,9-HxCDF	31.690	78323626	1.26							
1,2,3,4,6,7,9-HpCDD	33.499	50494931	1.04							

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNCP_00038 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_14.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 03-Oct-2019 21:59:47 ALS Bottle#: 1 Worklist Smp#: 14
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 100319 WDM HRDXNCP_00038
Misc. Info.: 03OC1910D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 04-Oct-2019 11:56:56 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0324

First Level Reviewer: shardaa Date: 04-Oct-2019 11:52:40

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	16.353	16.353	0	1.000	49712838	12739666	10532	26330	1210		
317.9389	16.353	16.353	0	1.000	62628906	16132591	15248	38120	1058	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.383	16.383	0	1.002	106032043	25938933	78607	196517	330		
305.8987	16.383	16.383	0	1.002	135849433	33211917	112163	280407	296	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											RQ
303.9016	18.334	16.096	134	1.121	1387656	323695	78607	196517	4		
305.8987	18.319	16.096	133	1.120	2493096	430041	112163	280407	4	0.56(0.65-0.89)	
	Empc Correction				1802150	420383	112163	280407	4		
13C-2,3,7,8-TCDD											
331.9368	17.018	17.018	0	1.000	32648375	7994912	9375	23437	853		
333.9339	17.018	17.018	0	1.000	42250053	10353364	5679	14197	1823	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.034	17.034	0	1.001	35734118	8773522	15863	39657	553		
321.8936	17.034	17.034	0	1.001	45298855	11100108	19758	49395	562	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	16.519						15863	39657			
321.8936	16.519						19758	49395			
A F1 PeCDFs											
339.8597	18.750						5634	14085			
341.8567	18.750						2783	6957			
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	21.011	21.639	-38	1.000	418215	63000	10187	25467	6		
341.8567	21.011	21.639	-38	1.000	293571	41301	7470	18675	6	1.42(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
339.8597	21.502	21.639	-8	1.000	588474	89997	10187	25467	9		
341.8567	21.502	21.639	-8	1.000	319457	55345	7470	18675	7	1.84(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	21.890						8695	21737			
357.8516	21.890						5849	14622			
A Non-2,3,7,8-sub-HxCDF											
373.8208	28.902						13232	33080			
375.8178	28.902						10057	25142			
A Non-2,3,7,8-sub-HxCDD											
389.8157	29.427						8407	21017			
391.8127	29.427						7088	17720			
1,2,3,4,6,7,8-HpCDF											
407.7818	33.243	33.243	0	1.000	34838612	9637618	56744	141860	170		
409.7789	33.243	33.243	0	1.000	33510377	9221227	56987	142467	162	1.04(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.288	34.288	0	1.000	26713868	6985005	56744	141860	123		
409.7789	34.288	34.288	0	1.000	25588510	6709051	56987	142467	118	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.766						56744	141860			
409.7789	33.766						56987	142467			
1,2,3,4,6,7,8-HpCDD											
423.7766	34.021	34.021	0	1.000	21229228	5669917	41759	104397	136		
425.7737	34.021	34.021	0	1.000	20372378	5506294	46140	115350	119	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.889						41759	104397			
425.7737	33.889						46140	115350			
1,3,6,8-TCDF											
303.9016	14.131	14.131	0		59866369	19753575	78607	196517	251		
305.8987	14.131	14.131	0		76549184	25278288	112163	280407	225	0.78(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	14.977	14.977	0		35636616	11087125	15863	39657	699		
321.8936	14.977	14.977	0		45059238	14033097	19758	49395	710	0.79(0.65-0.89)	
2,3,4,7-TCDF											
303.9016	16.383	16.383	0		106032043	25938933	78607	196517	330		
305.8987	16.383	16.383	0		135849433	33211917	112163	280407	296	0.78(0.65-0.89)	
1,2,3,7-TCDD											
319.8965	16.928	16.928	0		30183478	8153747	15863	39657	514		
321.8936	16.928	16.928	0		38765418	10379973	19758	49395	525	0.78(0.65-0.89)	
1,2,3,9-TCDF											
303.9016	17.170	17.170	0		44937100	10964021	78607	196517	139		
305.8987	17.170	17.170	0		58439447	14369042	112163	280407	128	0.77(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	17.185	17.185	0		37906466	9057852	15863	39657	571		
321.8936	17.185	17.185	0		47994024	11510159	19758	49395	583	0.79(0.65-0.89)	
1,2,8,9-TCDF											
303.9016	18.062	18.062	0		47345495	11219372	78607	196517	143		
305.8987	18.062	18.062	0		61359164	14197378	112163	280407	127	0.77(0.65-0.89)	

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Data File: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_14.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,8,9-TCDD											
319.8965	18.062	18.062	0		34583574	7905546	15863	39657	498		
1,3,4,6,8-PeCDF											
339.8597	18.319	18.319	0		71153836	16596291	5634	14085	2946		
341.8567	18.319	18.319	0		46234664	10668072	2783	6957	3833	1.54(1.32-1.78)	
1,2,4,7,9-PeCDD											
355.8546	19.947	19.947	0		41397982	7651908	8695	21737	880		
357.8516	19.947	19.947	0		26863716	5065777	5849	14622	866	1.54(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	23.833	23.833	0		38912248	5944892	8695	21737	684		
357.8516	23.833	23.833	0		24903626	3783697	5849	14622	647	1.56(1.32-1.78)	
1,2,3,8,9-PeCDF											
339.8597	24.024	24.024	0		50902217	7608584	10187	25467	747		
341.8567	24.024	24.024	0		31773151	4804304	7470	18675	643	1.60(1.32-1.78)	
1,2,3,4,6,8-HxCDF											
373.8208	26.113	26.113	0		52199857	7261246	13232	33080	549		
375.8178	26.113	26.113	0		41237006	5709940	10057	25142	568	1.27(1.05-1.43)	
1,2,4,6,7,9-HxCDD											
389.8157	27.551	27.551	0		37476141	4794798	8407	21017	570		
391.8127	27.551	27.551	0		29580601	3791172	7088	17720	535	1.27(1.05-1.43)	
1,2,3,4,6,7-HxCDD											
389.8157	31.304	31.304	0		33833788	7067388	8407	21017	841		
391.8127	31.304	31.304	0		26732237	5666488	7088	17720	799	1.27(1.05-1.43)	
1,2,3,4,8,9-HxCDF											
373.8208	31.690	31.690	0		43694372	10313168	13232	33080	779		
375.8178	31.690	31.690	0		34629254	8160201	10057	25142	811	1.26(1.05-1.43)	
1,2,3,4,6,7,9-HpCDD											
423.7766	33.499	33.499	0		25764235	6845892	41759	104397	164		
425.7737	33.486	33.499	-1		24730696	6806019	46140	115350	148	1.04(0.88-1.20)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNCP_00038 Amount Added: 1.00 Units: mL

Report Date: 04-Oct-2019 11:56:57 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_14.d
Lims ID: WDM
Client ID:
Inject. Date: 03-Oct-2019 21:59:47 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 328202 Lims Sample ID: 14

Non-2,3,7,8-sub-TCDF, RT: 16.096

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.051	D 13C-2,3,7,8-TCDF	40.000	112341744	28872257

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.051		40.000	112341744	28872257

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
18.334	1387656	323695	2493096	430041	1.32	0.56	RQ
18.334	1387656	323695	1802150	420383	1.08		Empc Correction
Signal Totals:							
	1387656	323695	1802150	420383			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	3880752	753736				0.56	RQ
	3189806	744078					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.315 = (3880752 * 40.000) / (112341744 * 1.051)
Empc Amount: 1.081 = (3189806 * 40.000) / (112341744 * 1.051)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_14.d
Lims ID: WDM
Client ID:
Inject. Date: 03-Oct-2019 21:59:47 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 328202 Lims Sample ID: 14

Non-2,3,7,8-sub-PeCDF, RT: 21.639

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.082				
2,3,4,7,8-PeCDF	1.103				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
21.011	418215	63000	293571	41301		1.42	
21.502	588474	89997	319457	55345		1.84	R
Signal Totals:							
	1006689	152997	613028	96646			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1619717	249643				1.64	RQ
	1526401	245430					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (1619717 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (1526401 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Report Date: 04-Oct-2019 11:56:57 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_14.d		
Injection Date:	03-Oct-2019 21:59:47	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	14
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

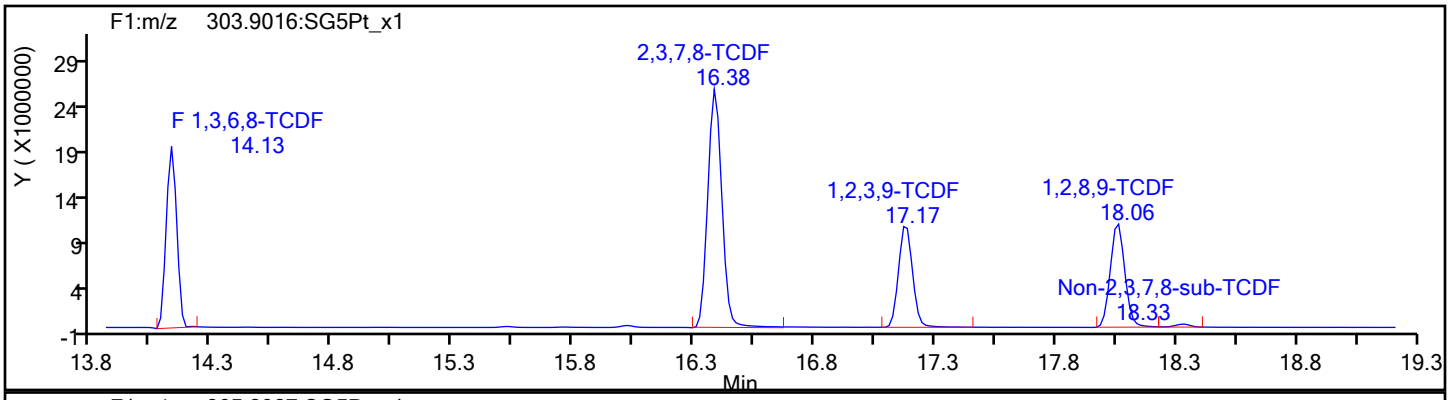

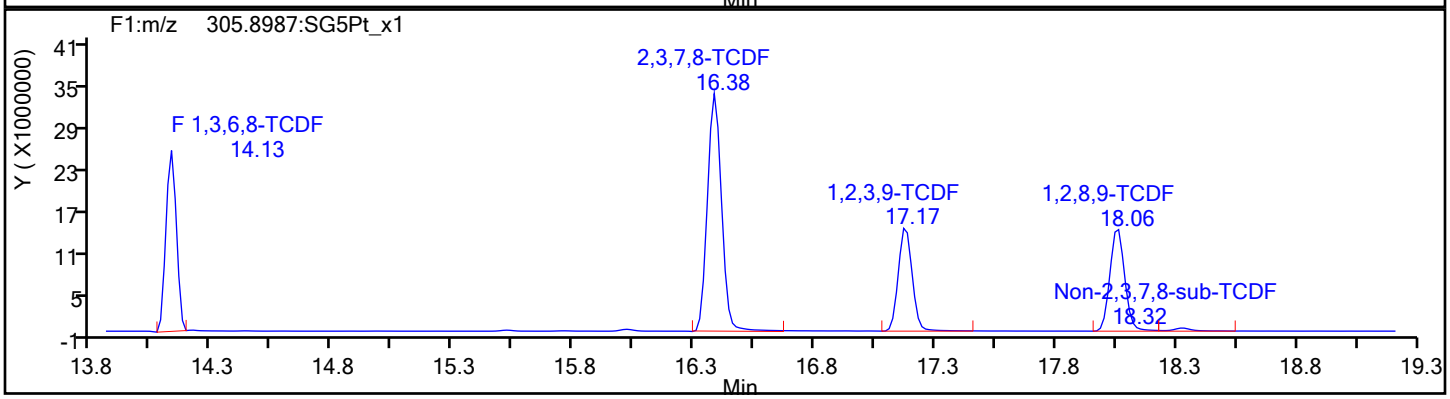

TCDF Standards

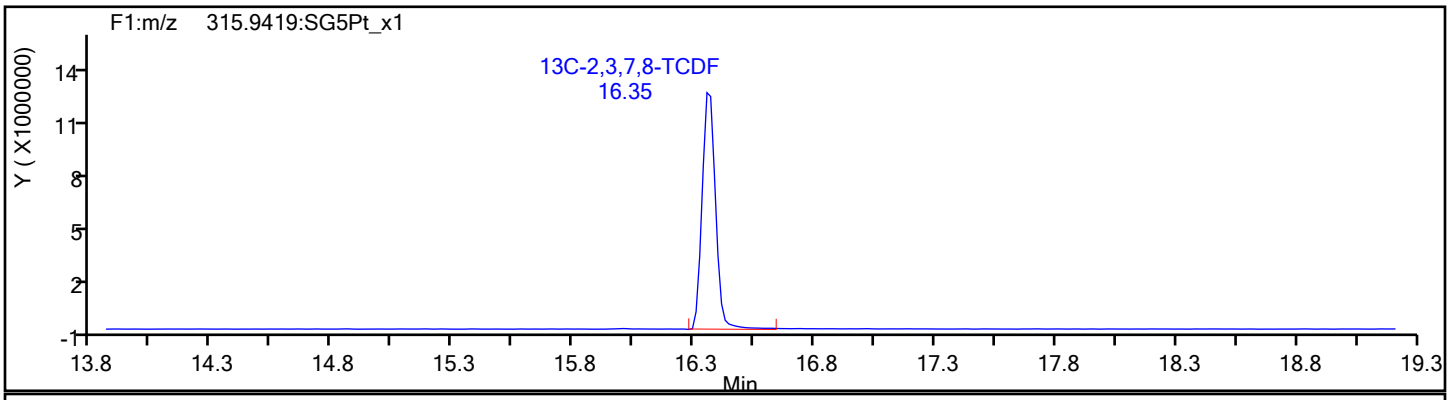

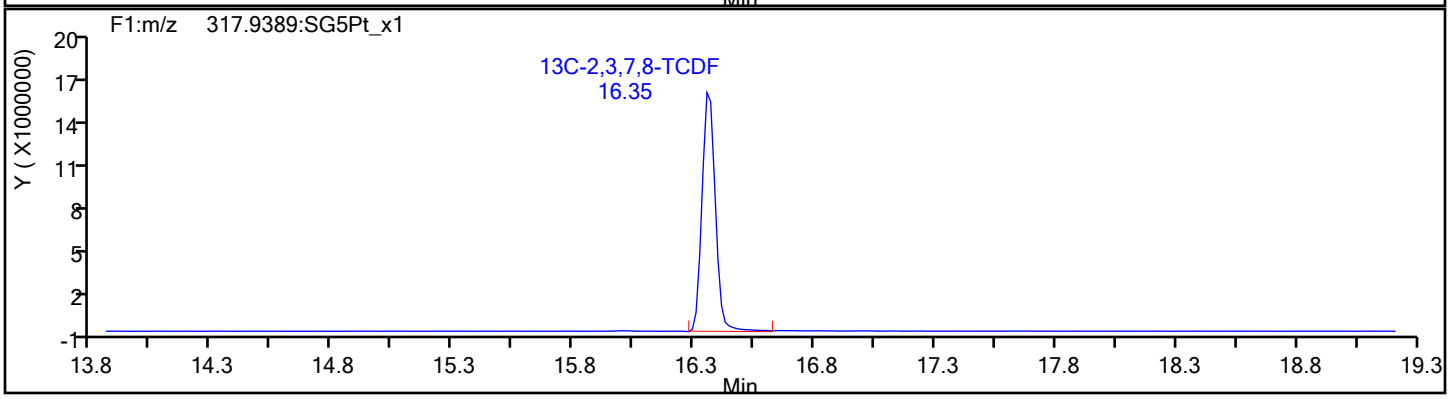

Report Date: 04-Oct-2019 11:56:57 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_14.d		
Injection Date:	03-Oct-2019 21:59:47	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	14
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

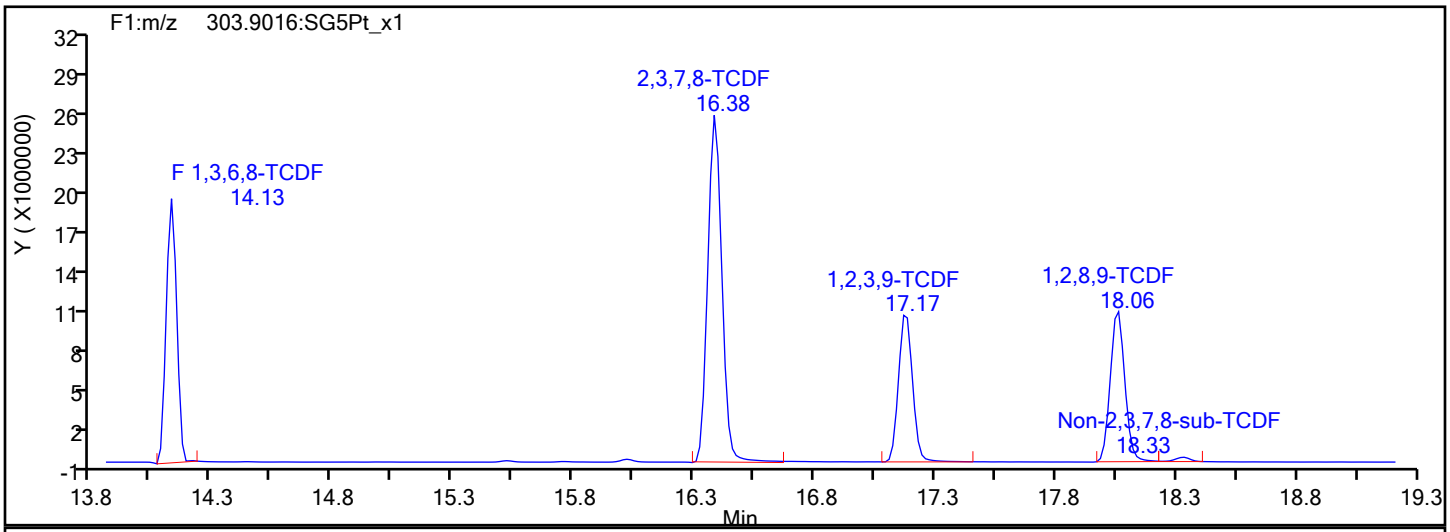

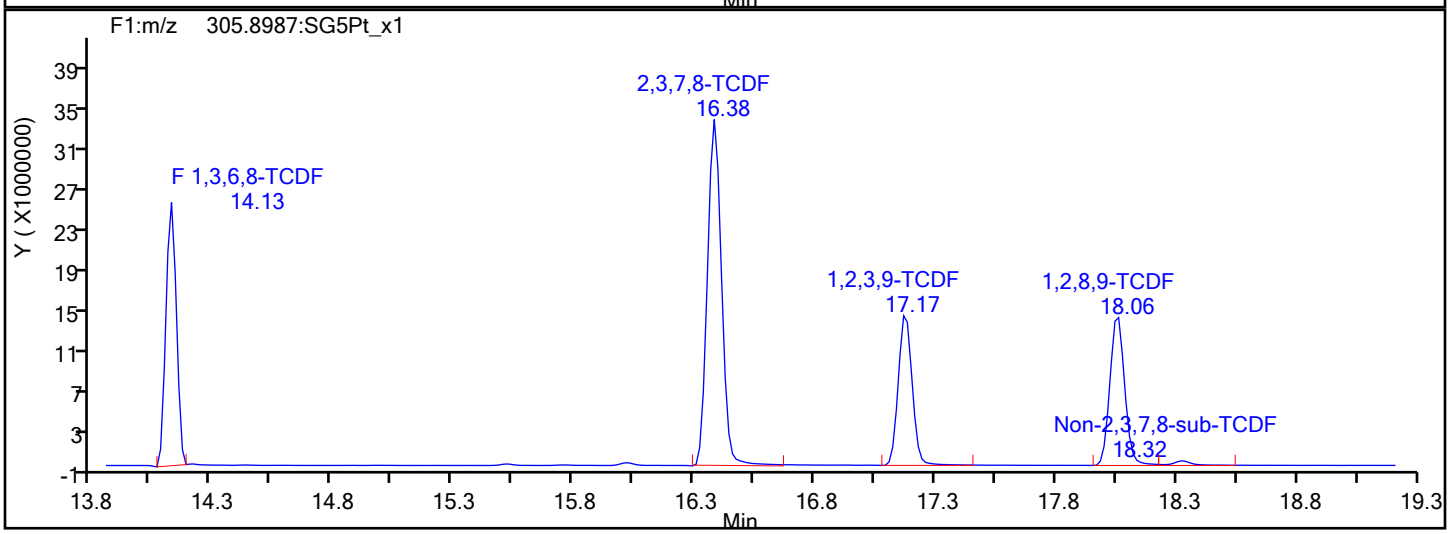

TCDF Interference Mass

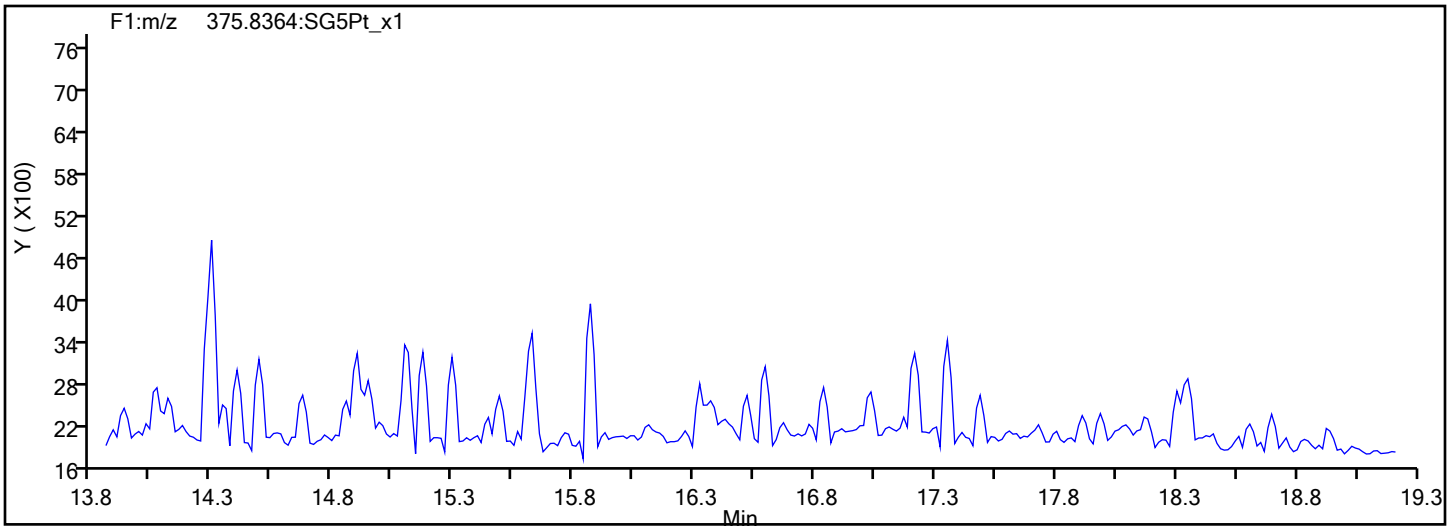

Report Date: 04-Oct-2019 11:56:57 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_14.d		
Injection Date:	03-Oct-2019 21:59:47	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	14
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

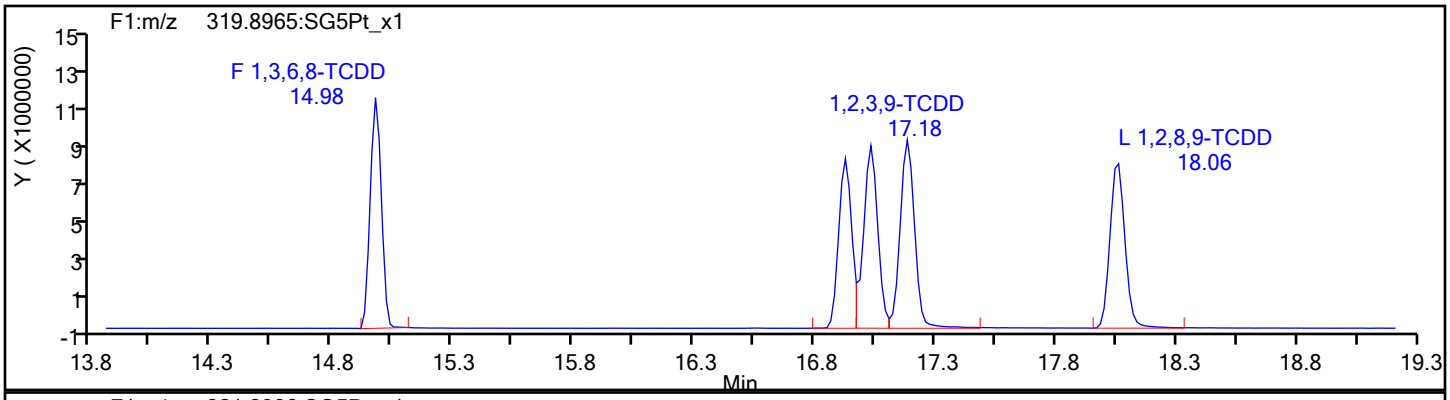

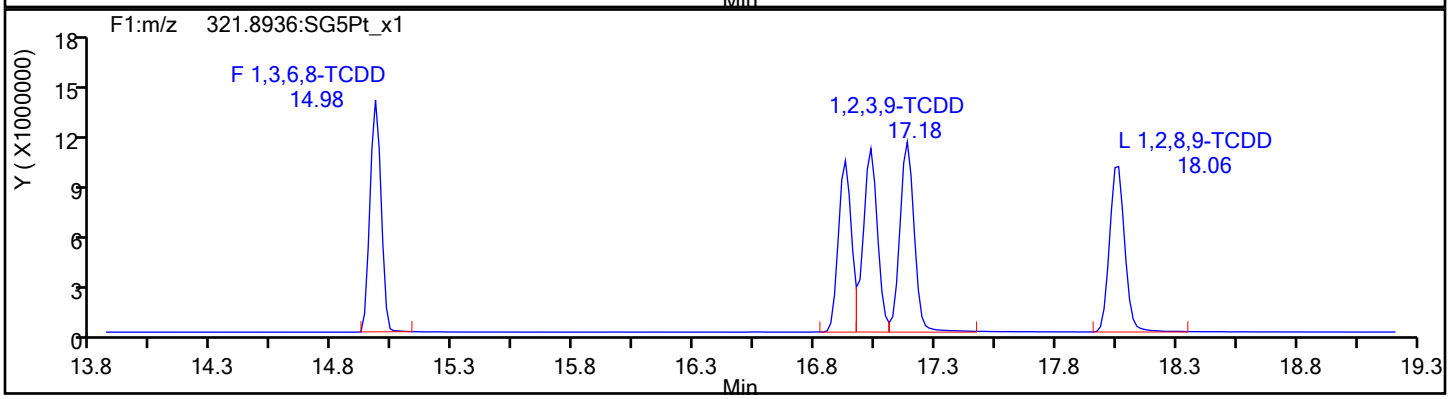

TCDD Standards

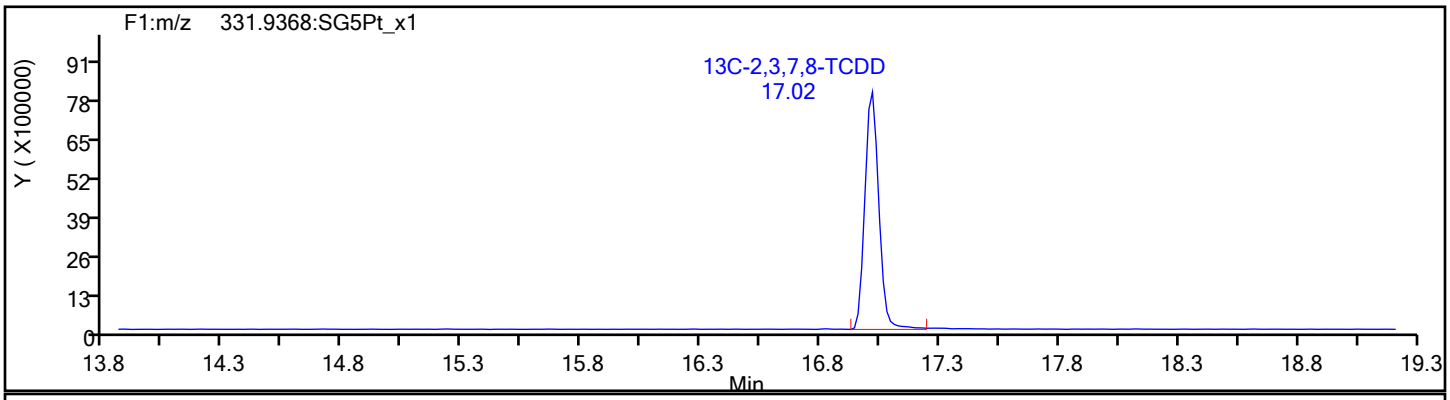

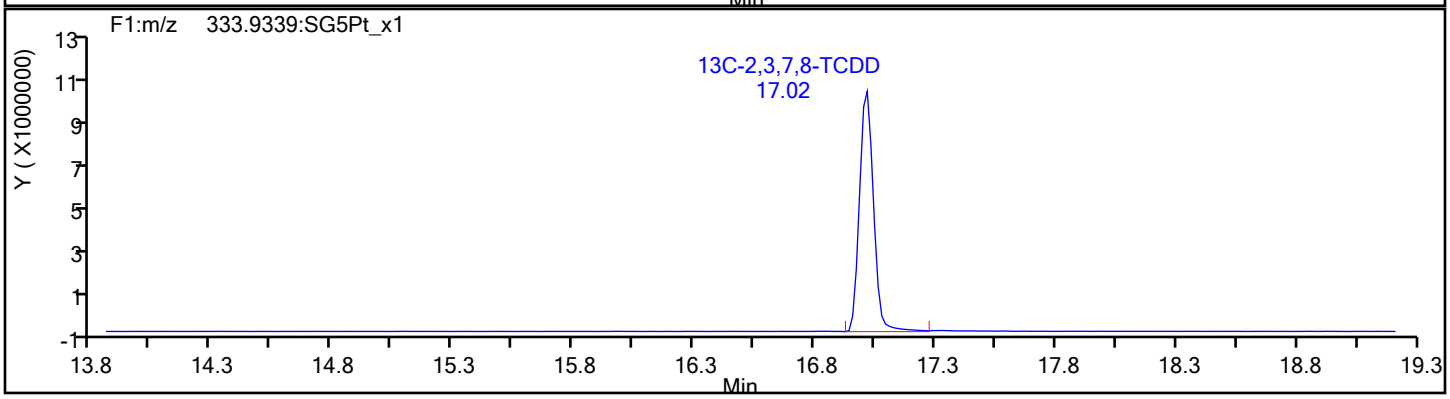

Report Date: 04-Oct-2019 11:56:57 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_14.d		
Injection Date:	03-Oct-2019 21:59:47	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	14
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

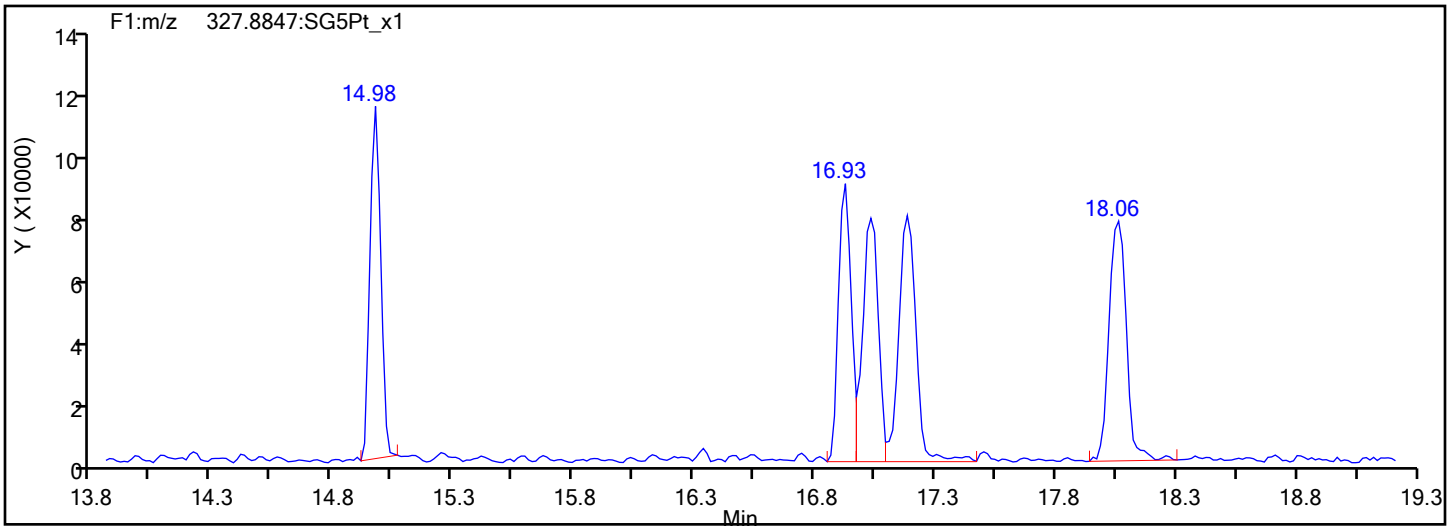

37Cl4-TCDD Standards

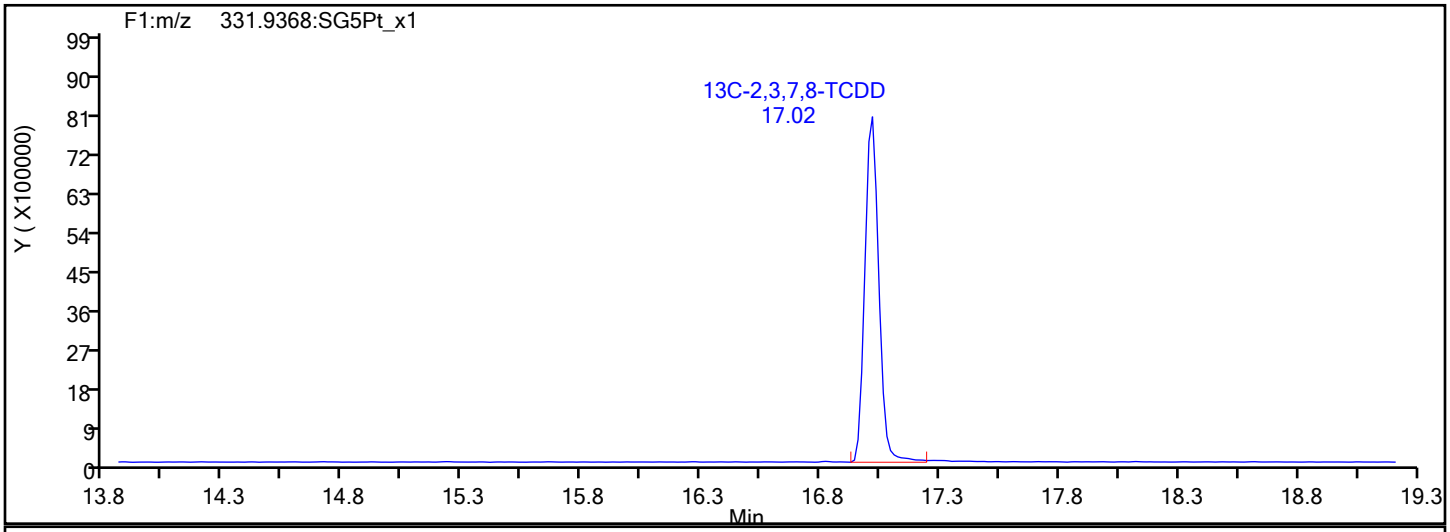

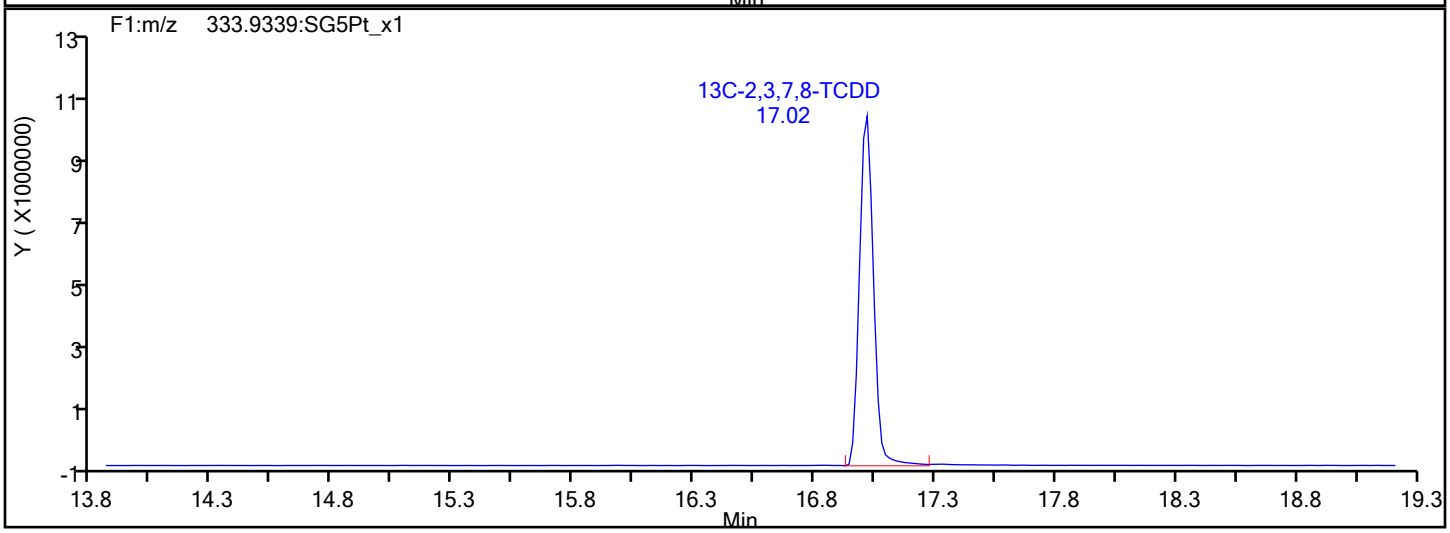

Report Date: 04-Oct-2019 11:56:57 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_14.d		
Injection Date:	03-Oct-2019 21:59:47	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	14
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

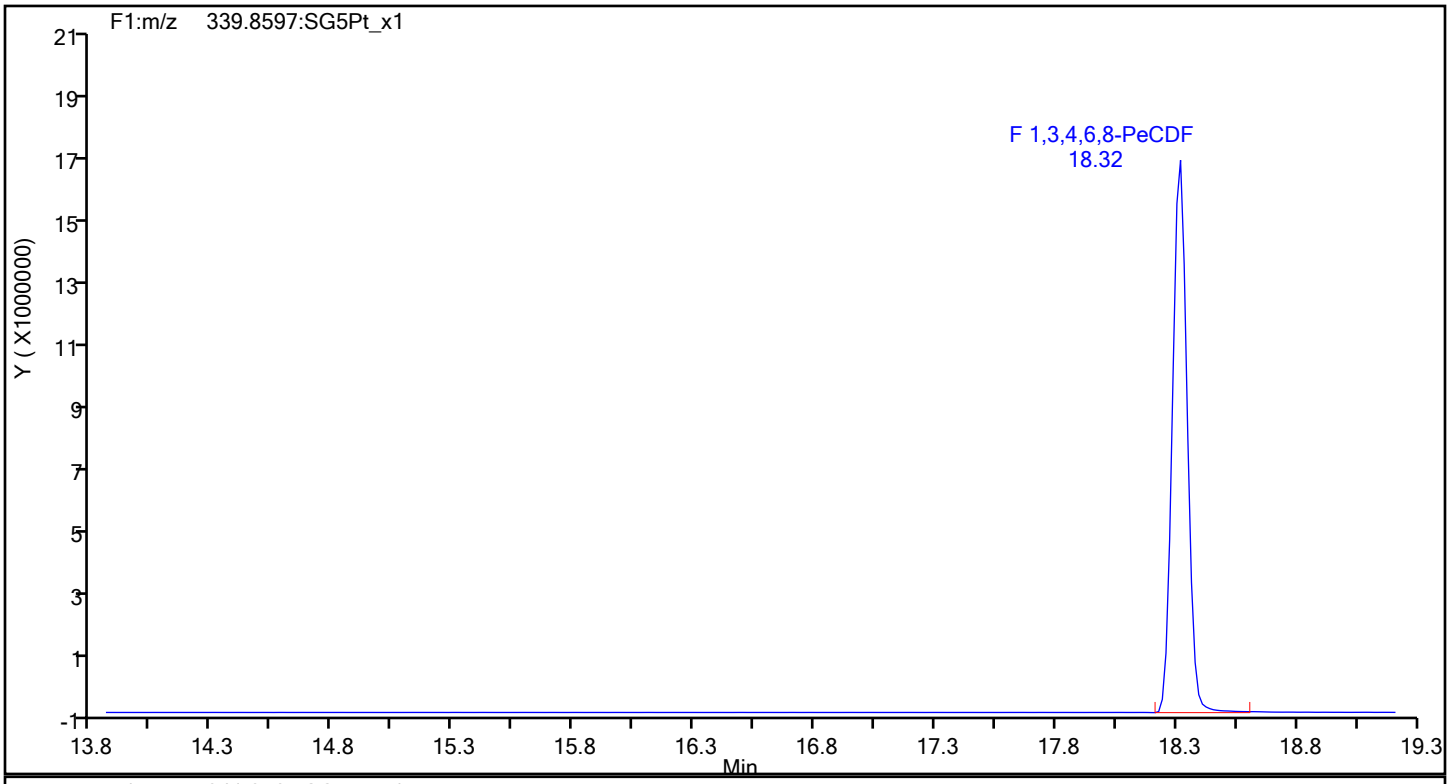

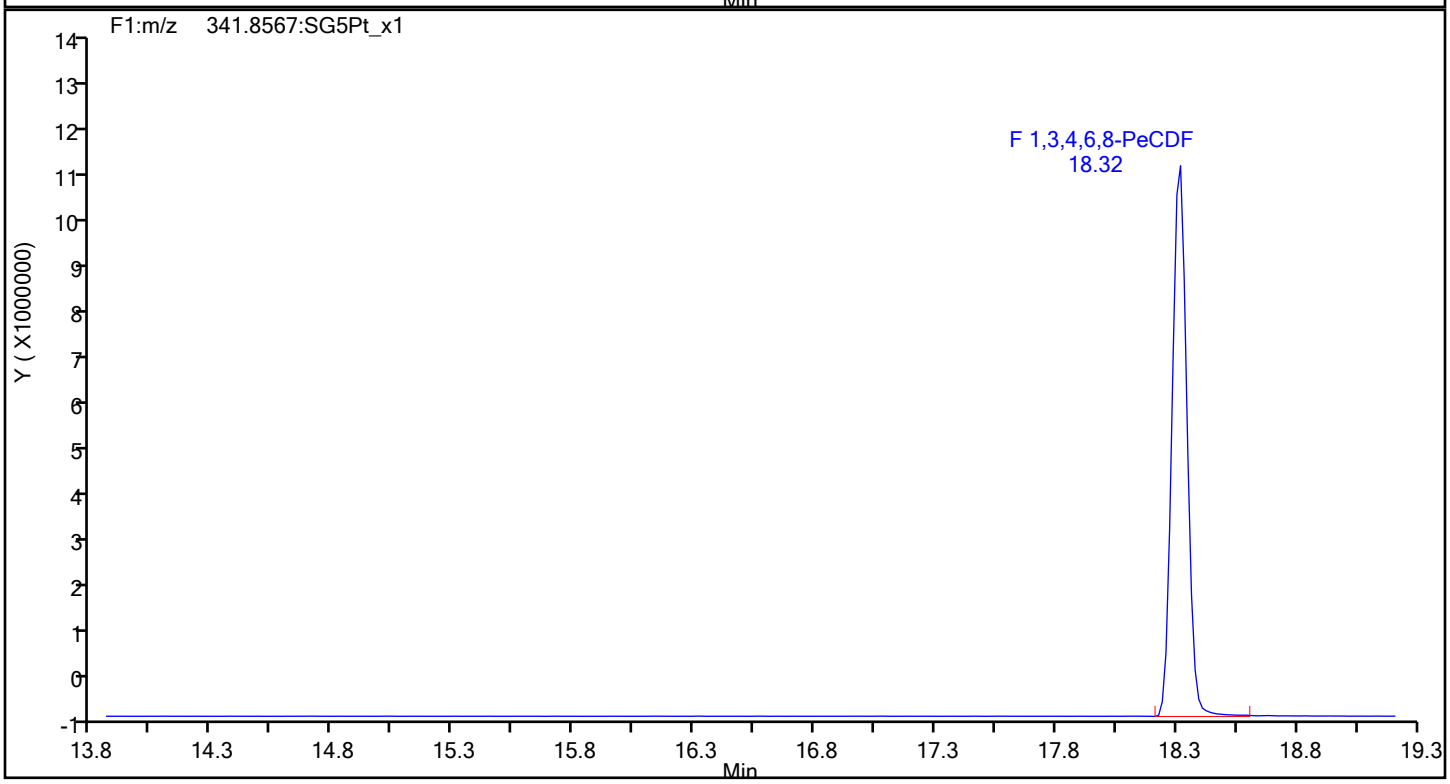

Report Date: 04-Oct-2019 11:56:57 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_14.d		
Injection Date:	03-Oct-2019 21:59:47	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	14
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

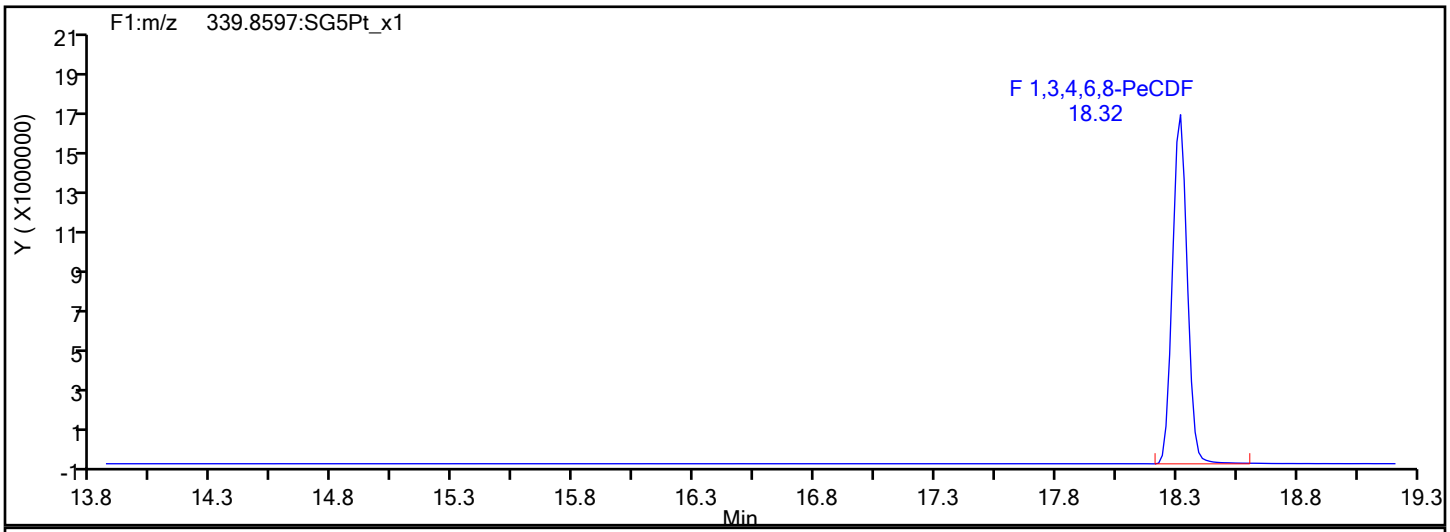

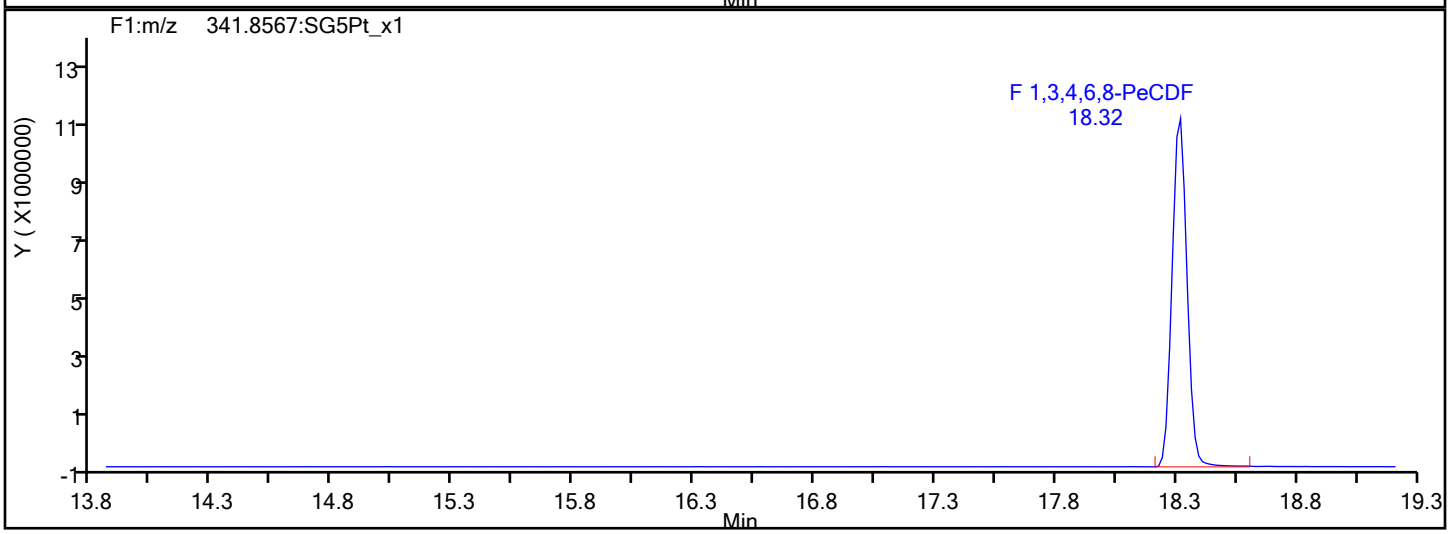

F1 PeCDFs Interference Mass

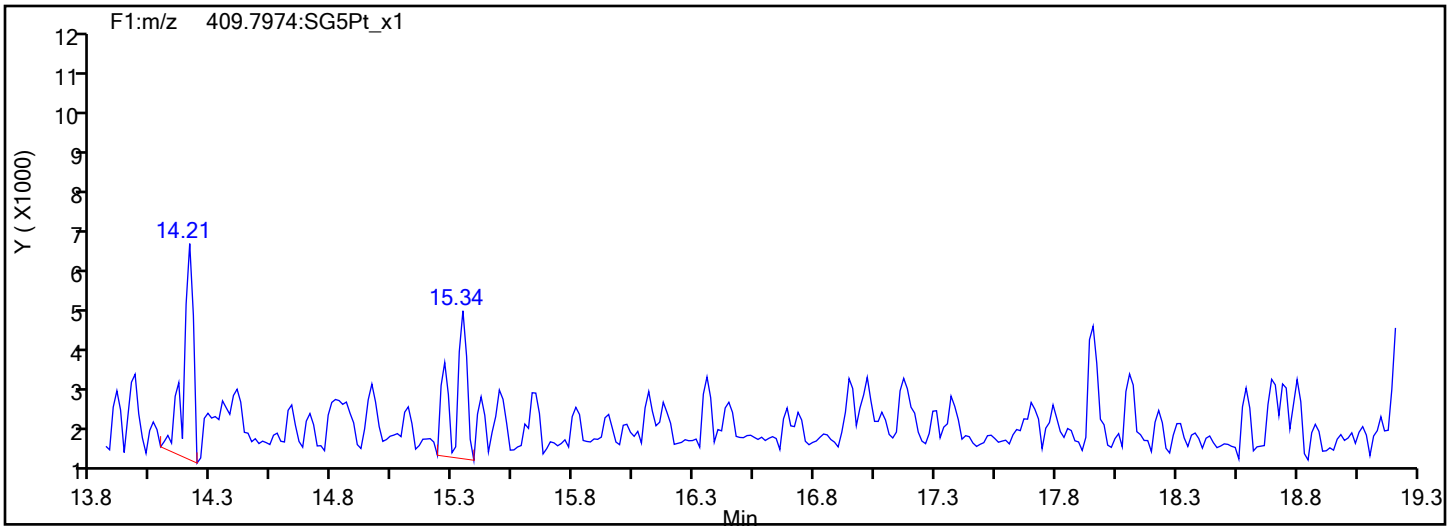

Report Date: 04-Oct-2019 11:56:57 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_14.d		
Injection Date:	03-Oct-2019 21:59:47	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	14
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

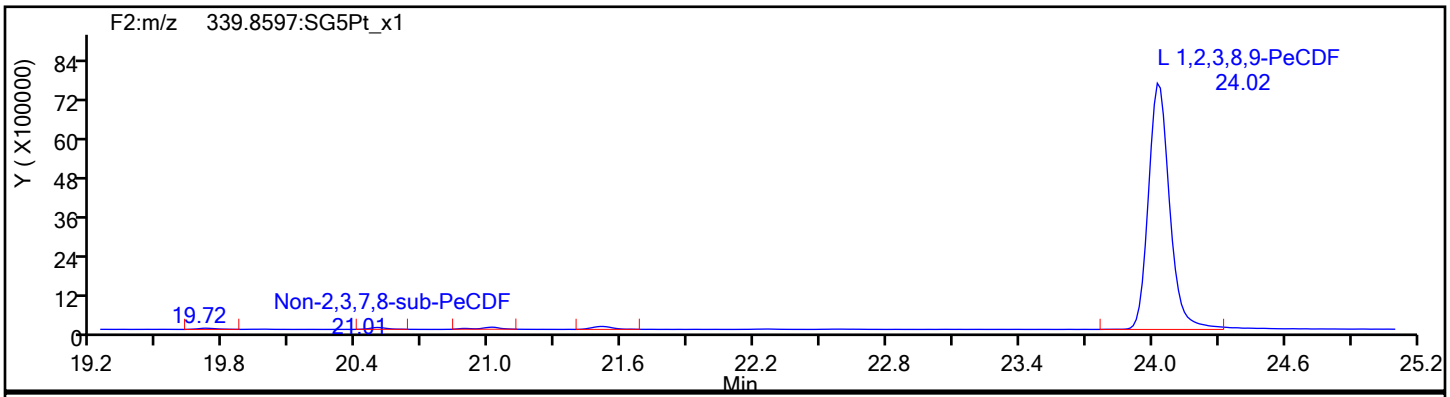

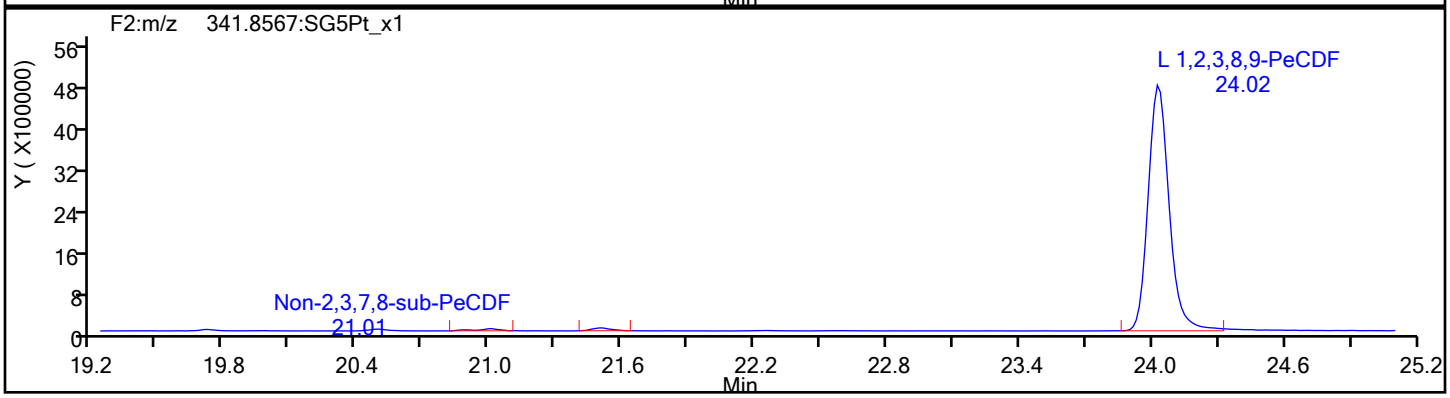

PeCDF Standards

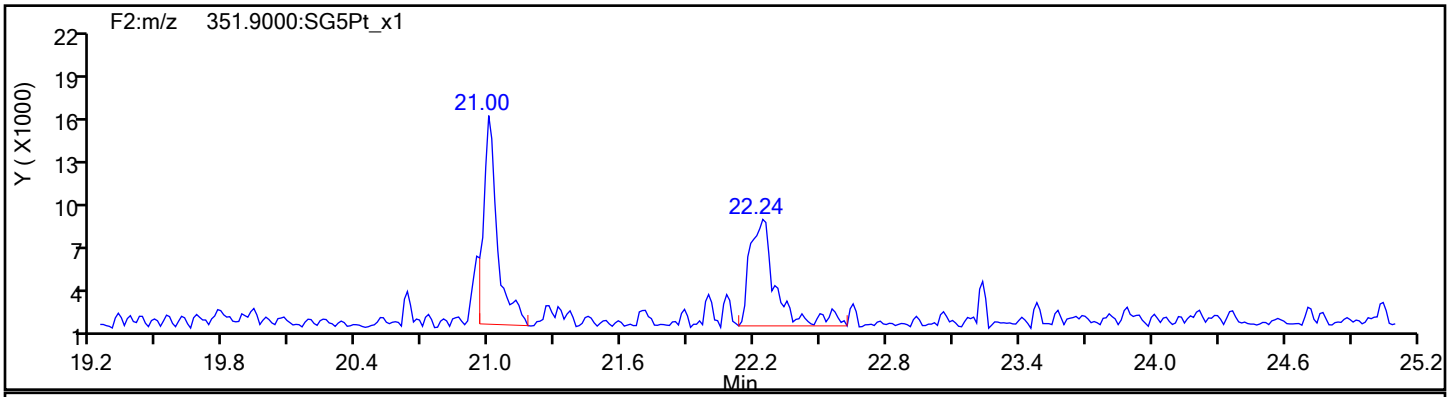

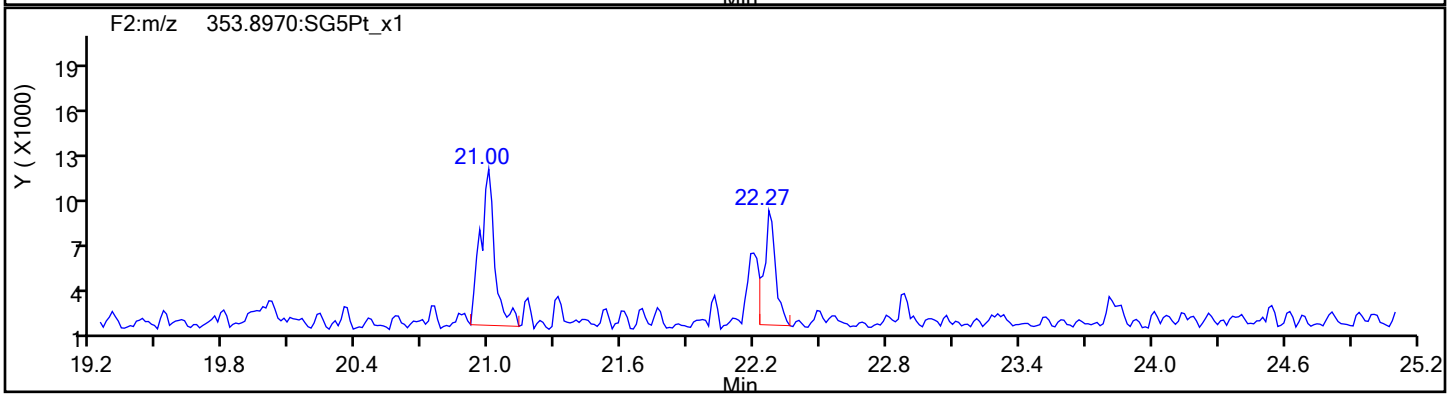

Report Date: 04-Oct-2019 11:56:57 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_14.d		
Injection Date:	03-Oct-2019 21:59:47	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	14
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

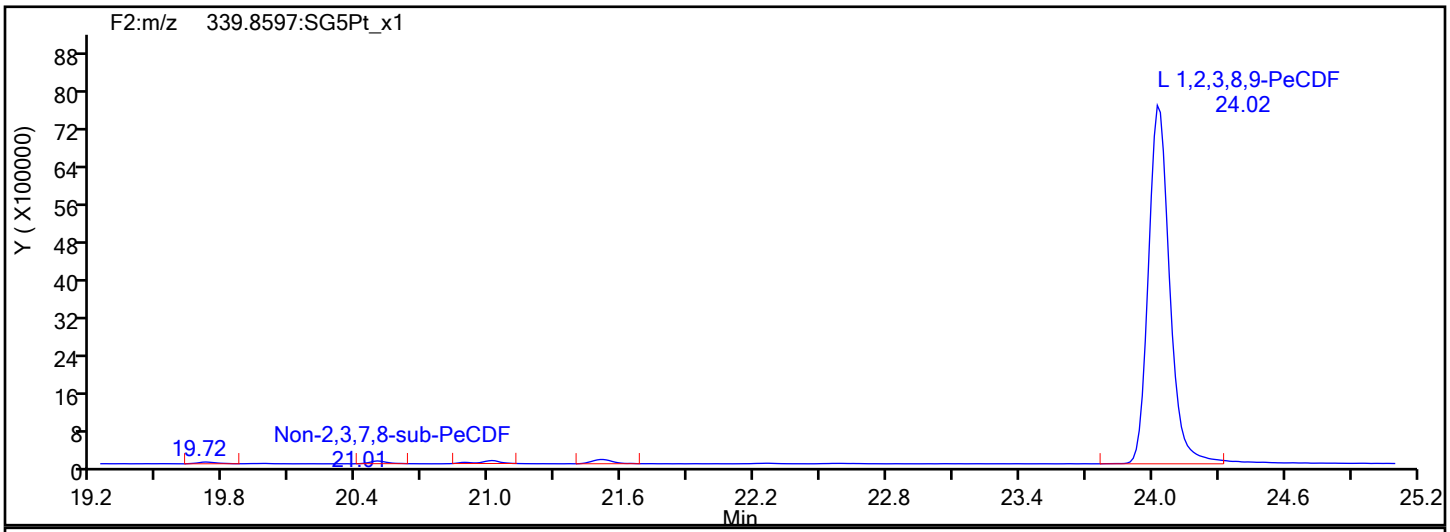

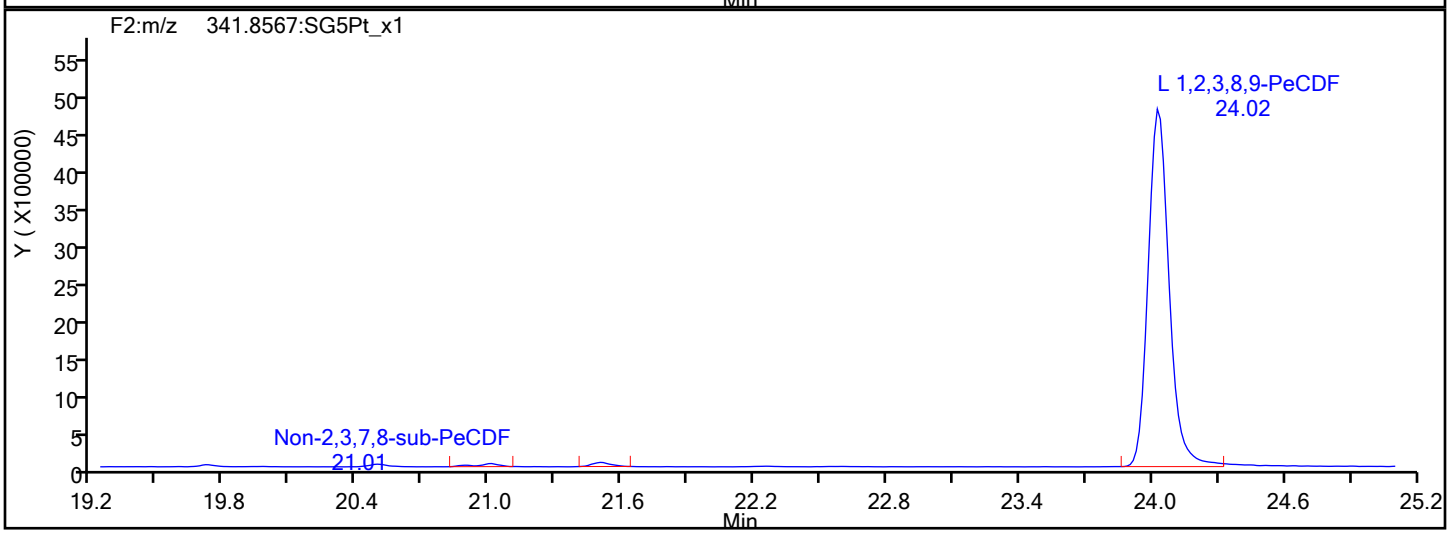

PeCDF Interference Mass

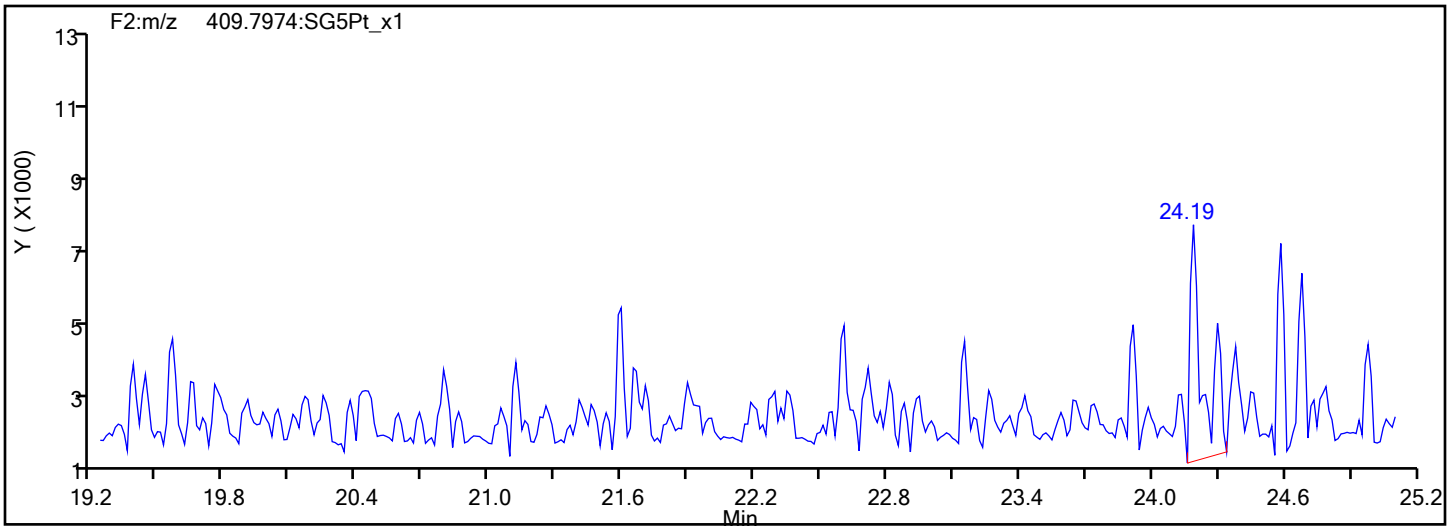

Report Date: 04-Oct-2019 11:56:57 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_14.d		
Injection Date:	03-Oct-2019 21:59:47	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	14
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

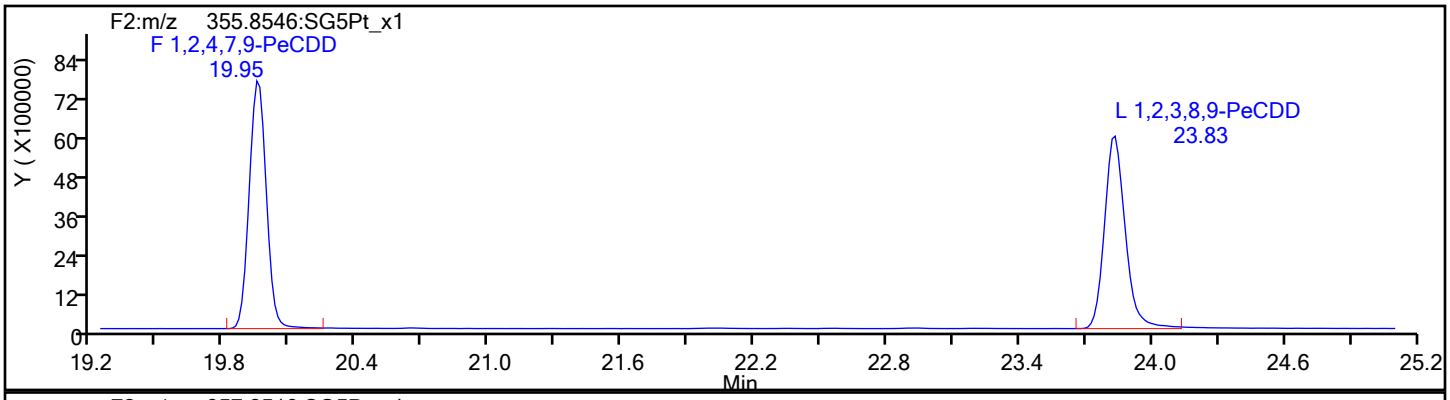

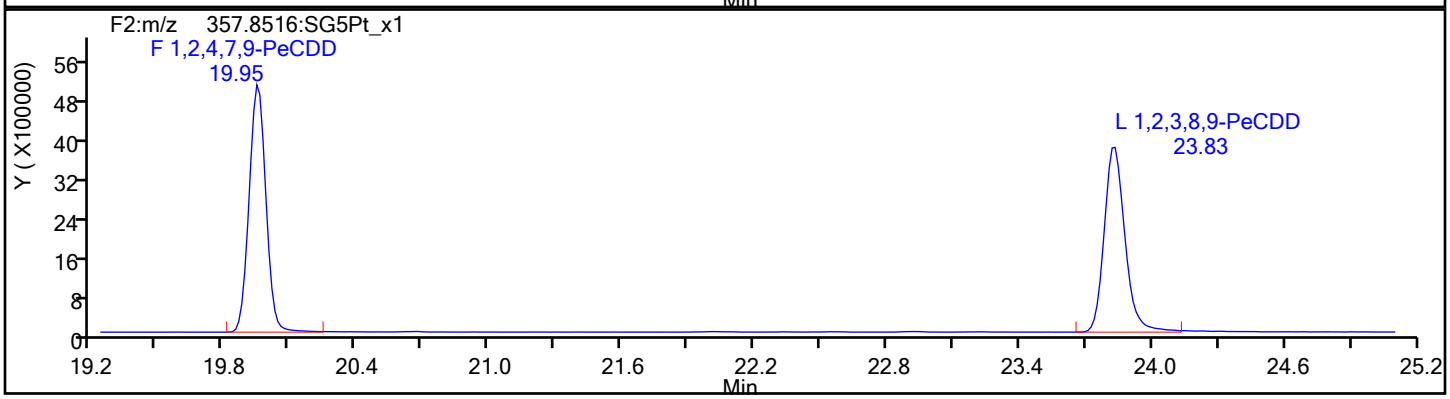

PeCDD Standards

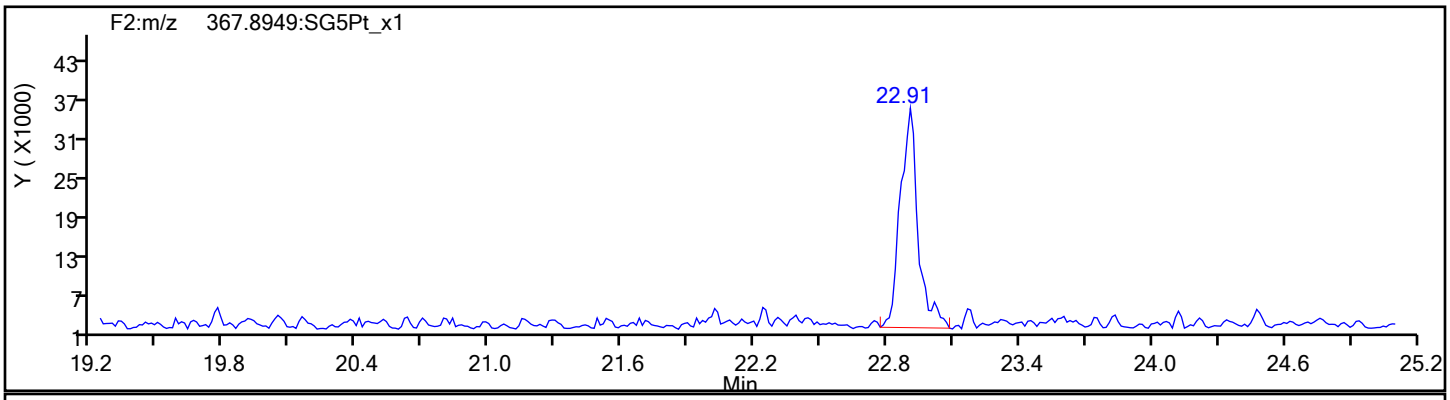

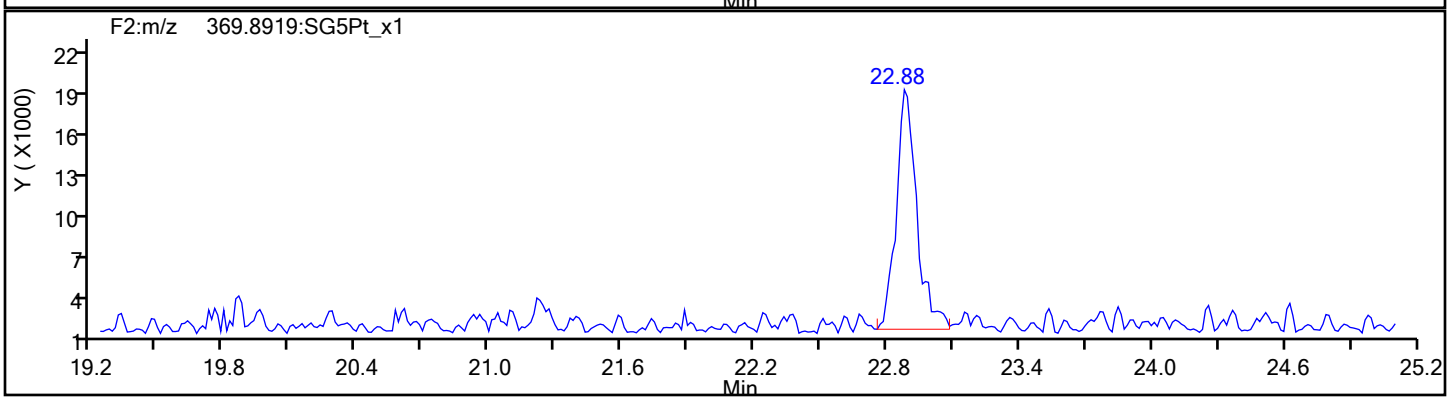

Report Date: 04-Oct-2019 11:56:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_14.d		
Injection Date:	03-Oct-2019 21:59:47	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	14
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

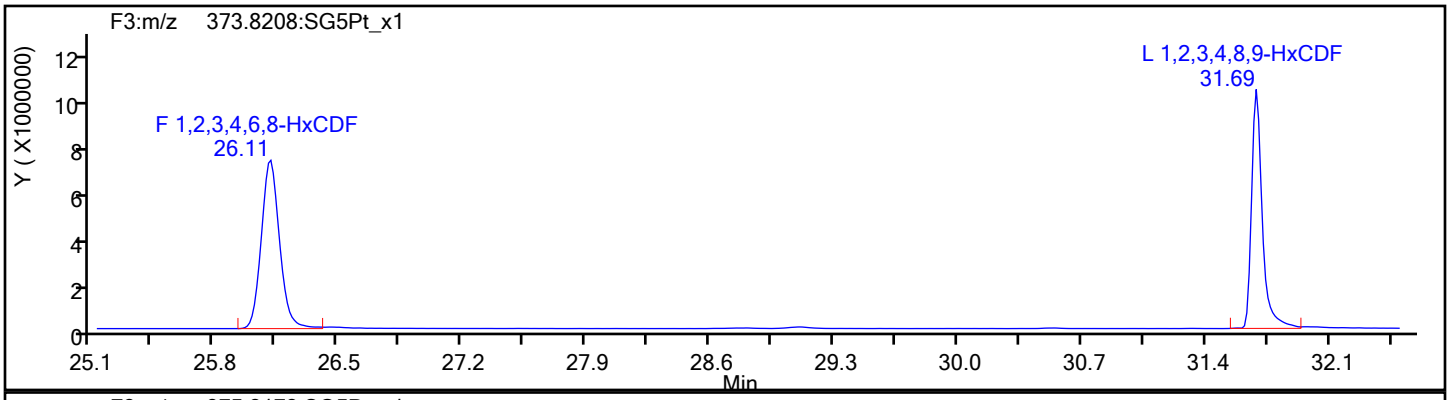

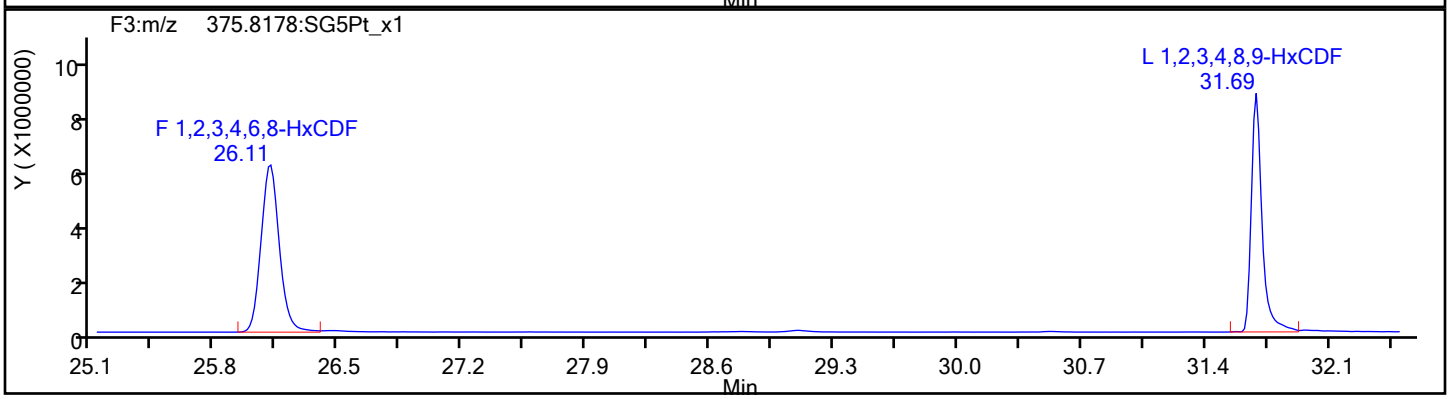

HxCDF Standards

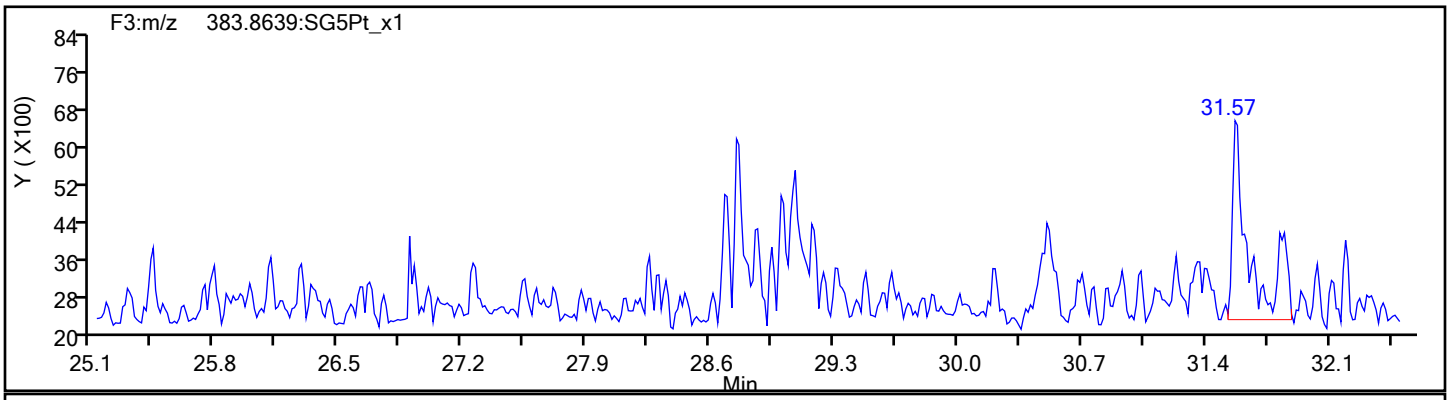

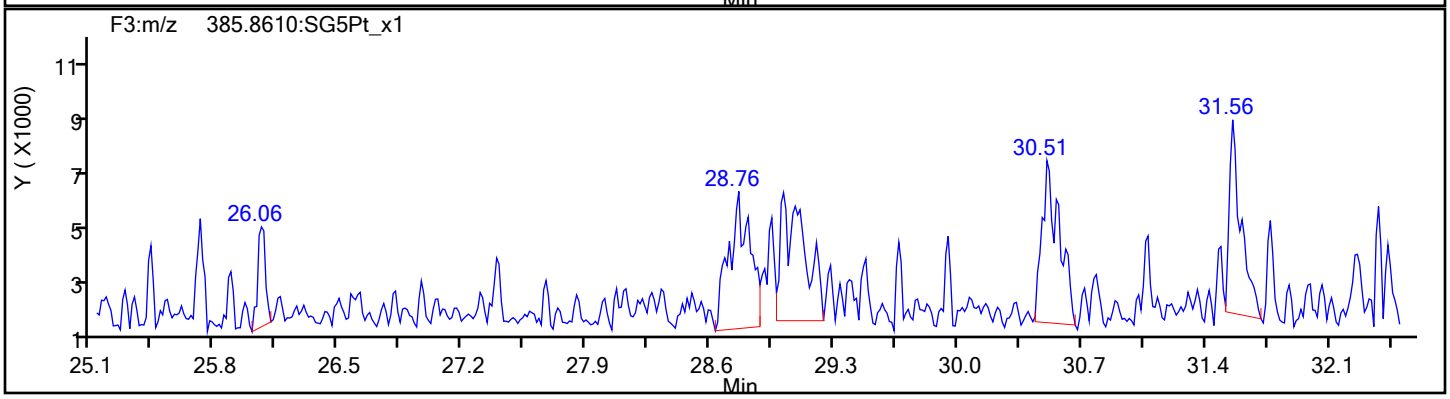

Report Date: 04-Oct-2019 11:56:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_14.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	14
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

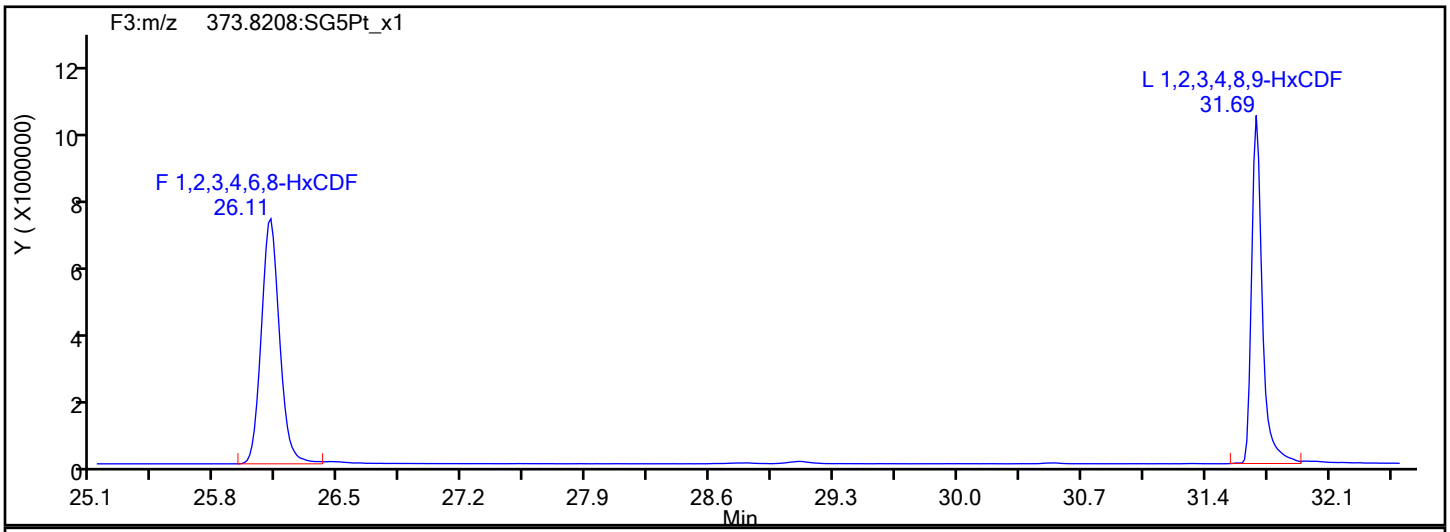

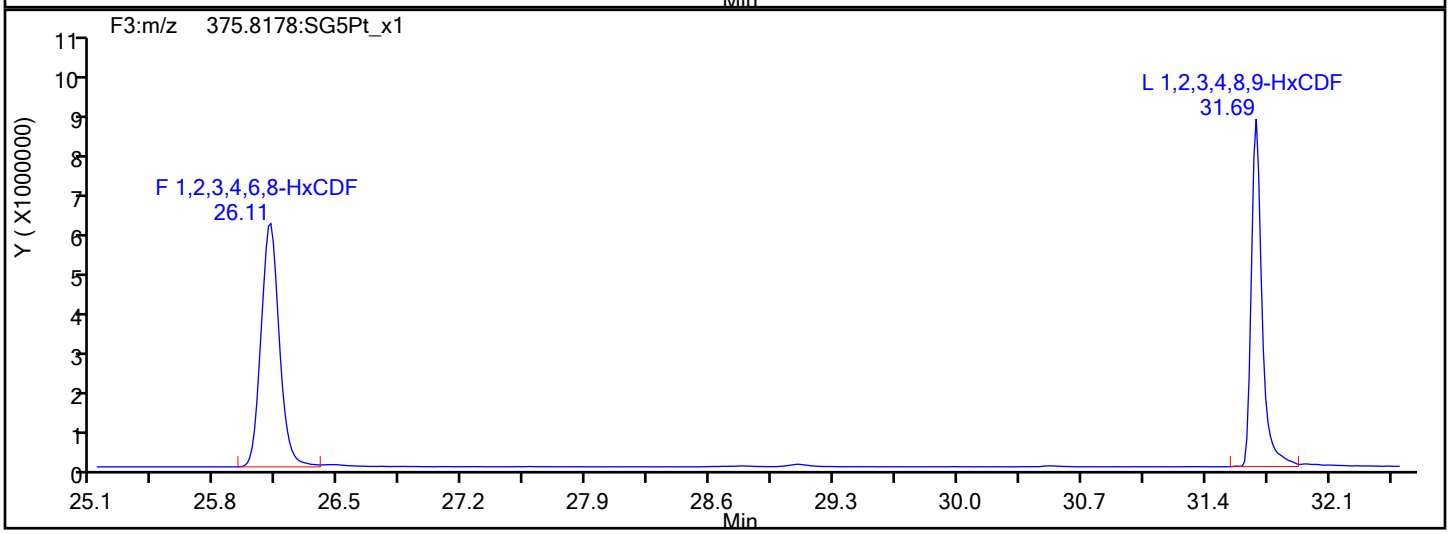

HxCDF Interference Mass

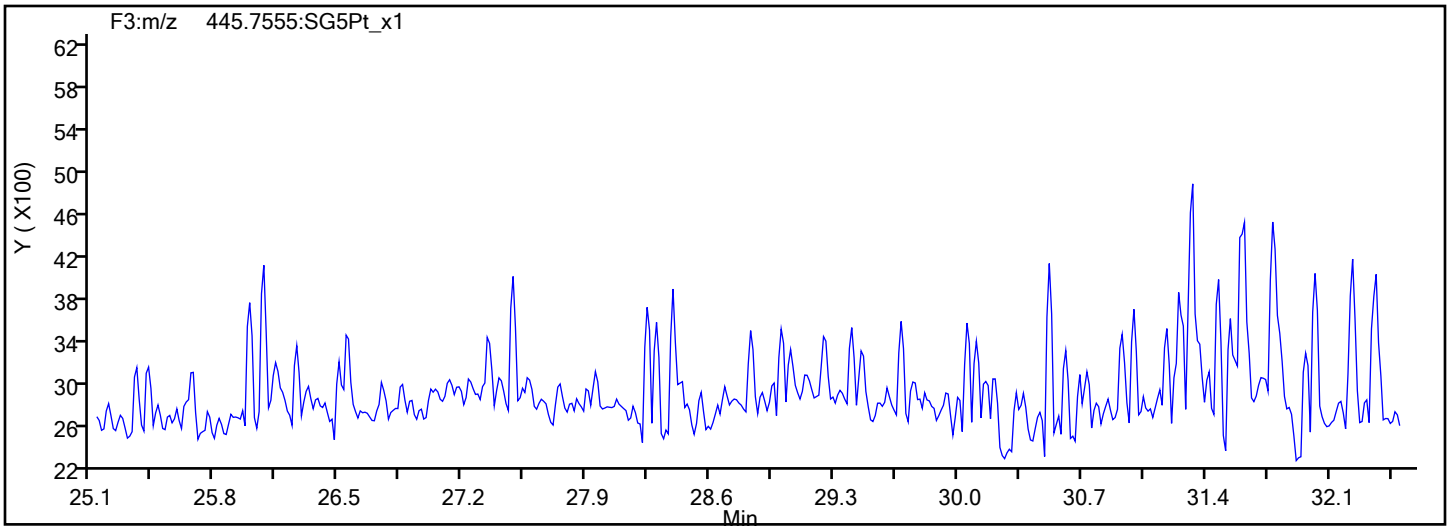

Report Date: 04-Oct-2019 11:56:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_14.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	14
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDD

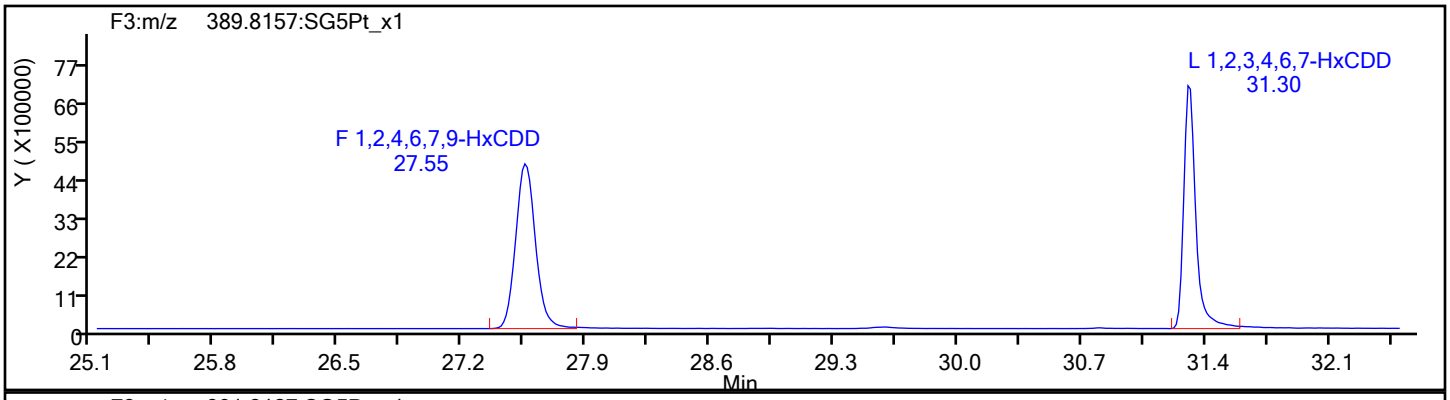

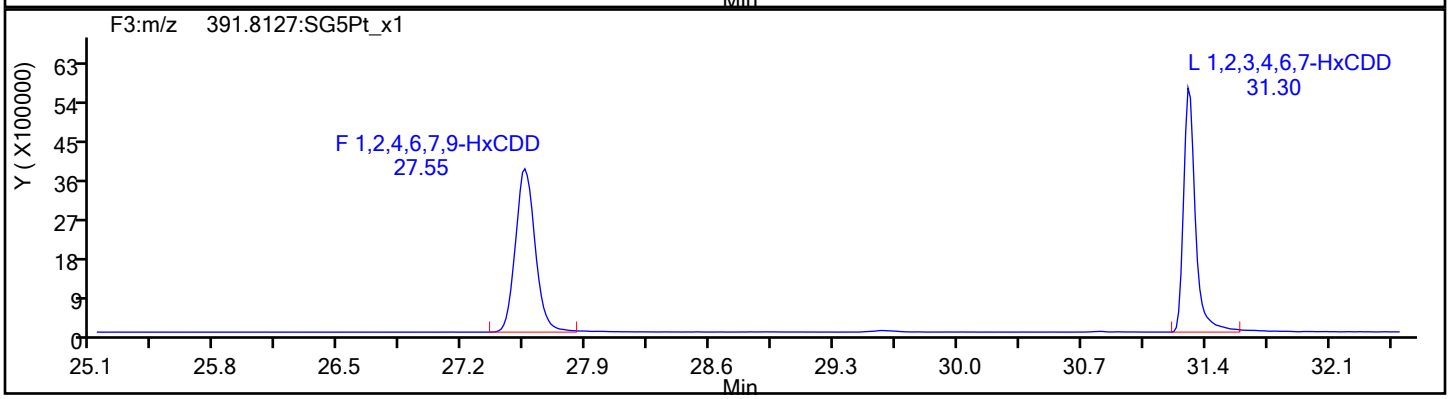

HxCDD Standards

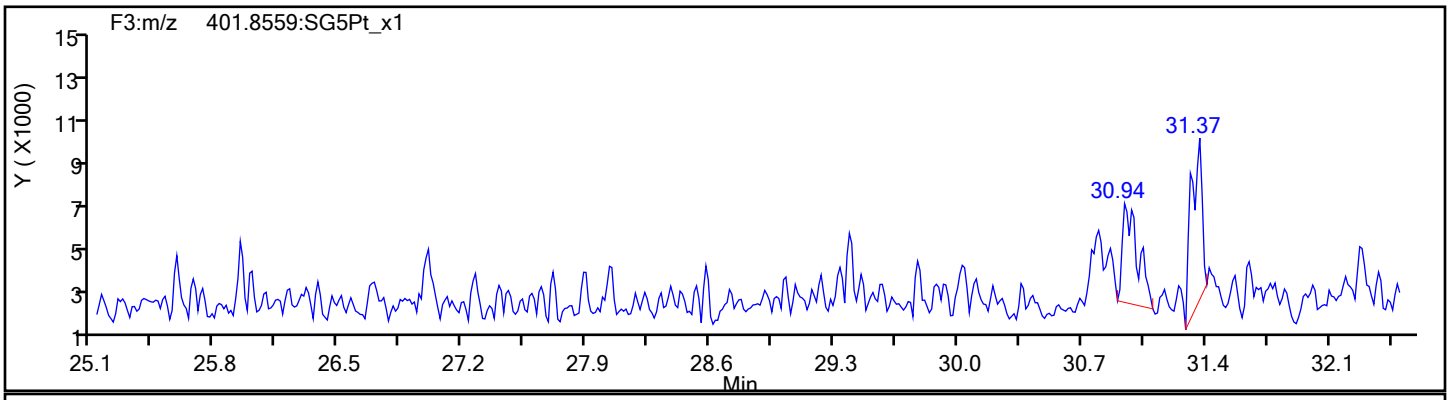

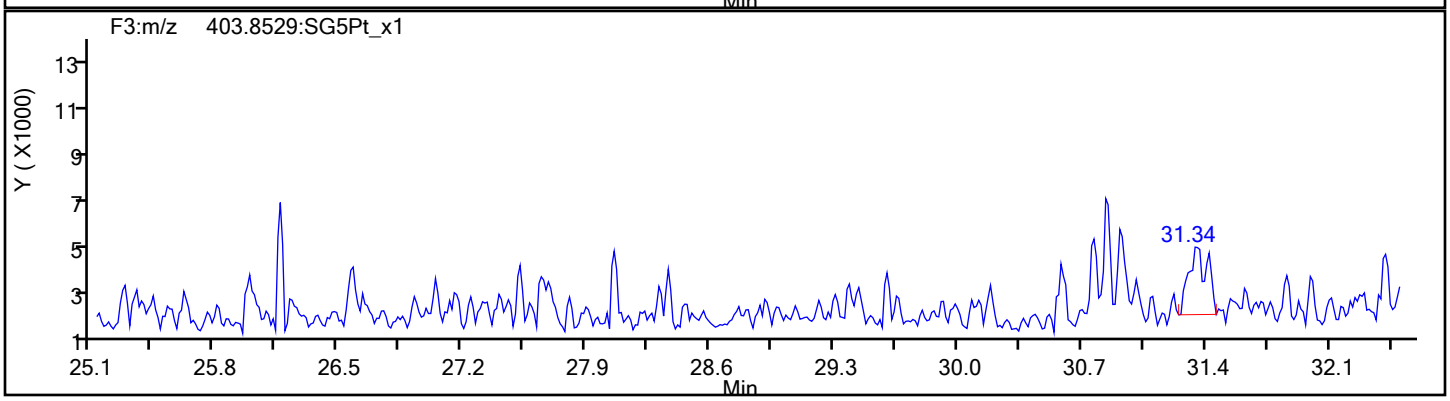

Report Date: 04-Oct-2019 11:56:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_14.d		
Injection Date:	03-Oct-2019 21:59:47	Injection Vol:	2.0 ul
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

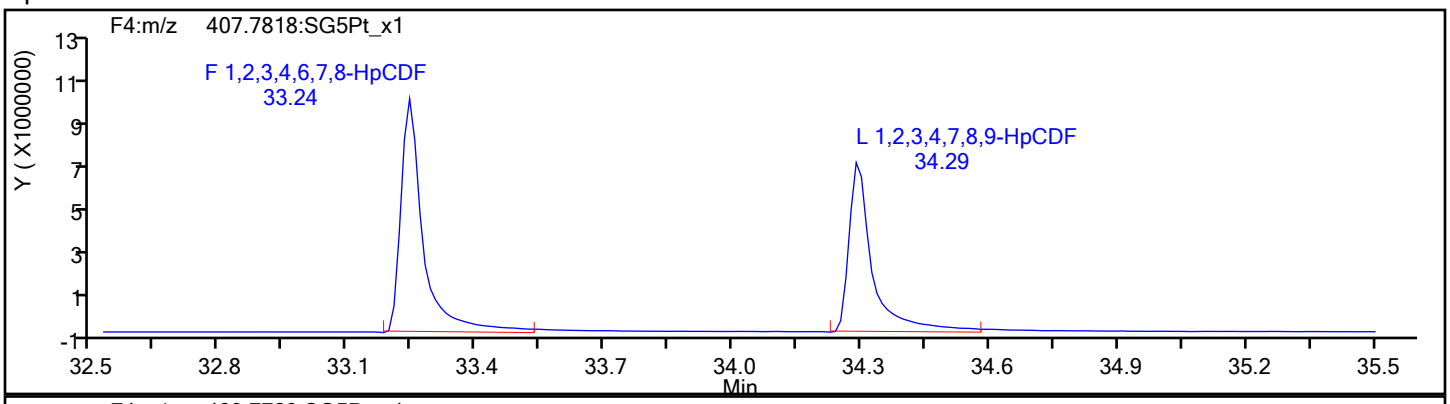

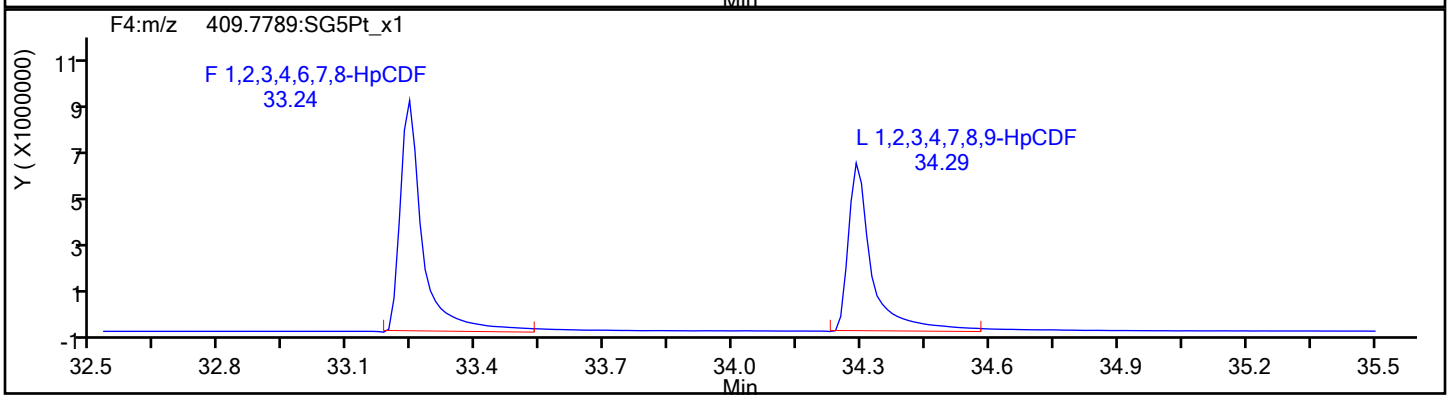

HpCDF Standards

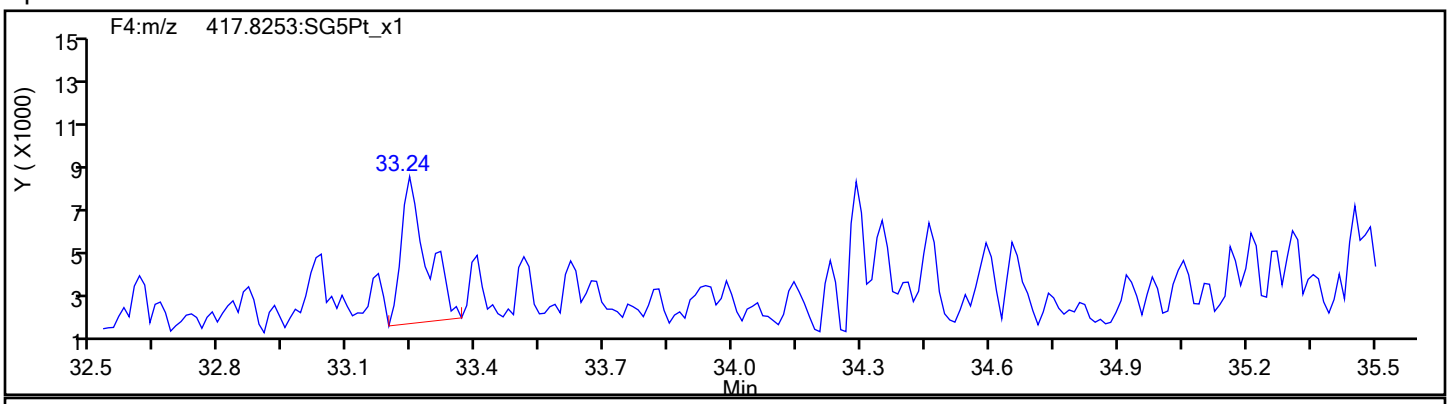

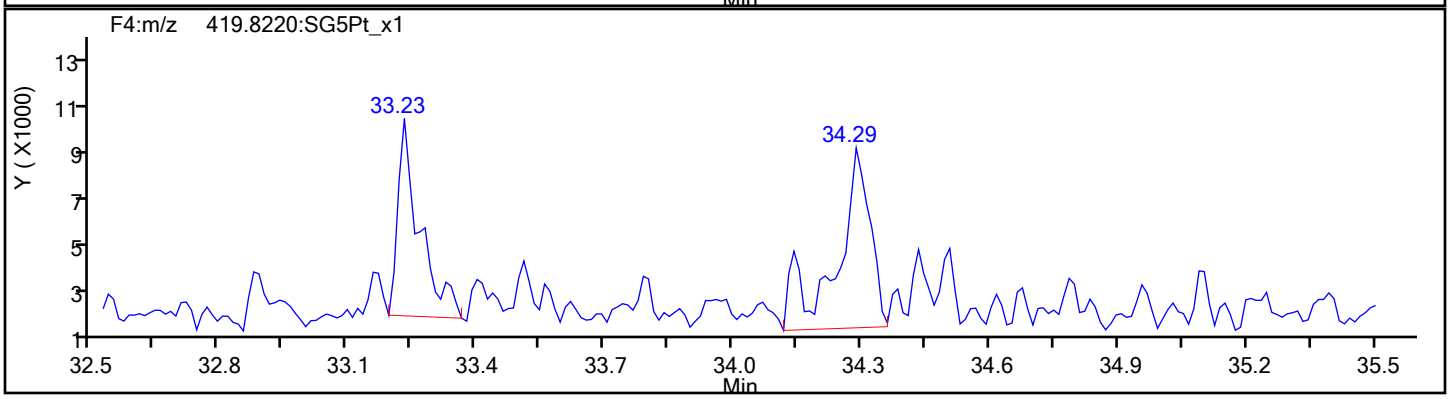

Report Date: 04-Oct-2019 11:56:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_14.d		
Injection Date:	03-Oct-2019 21:59:47	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	14
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

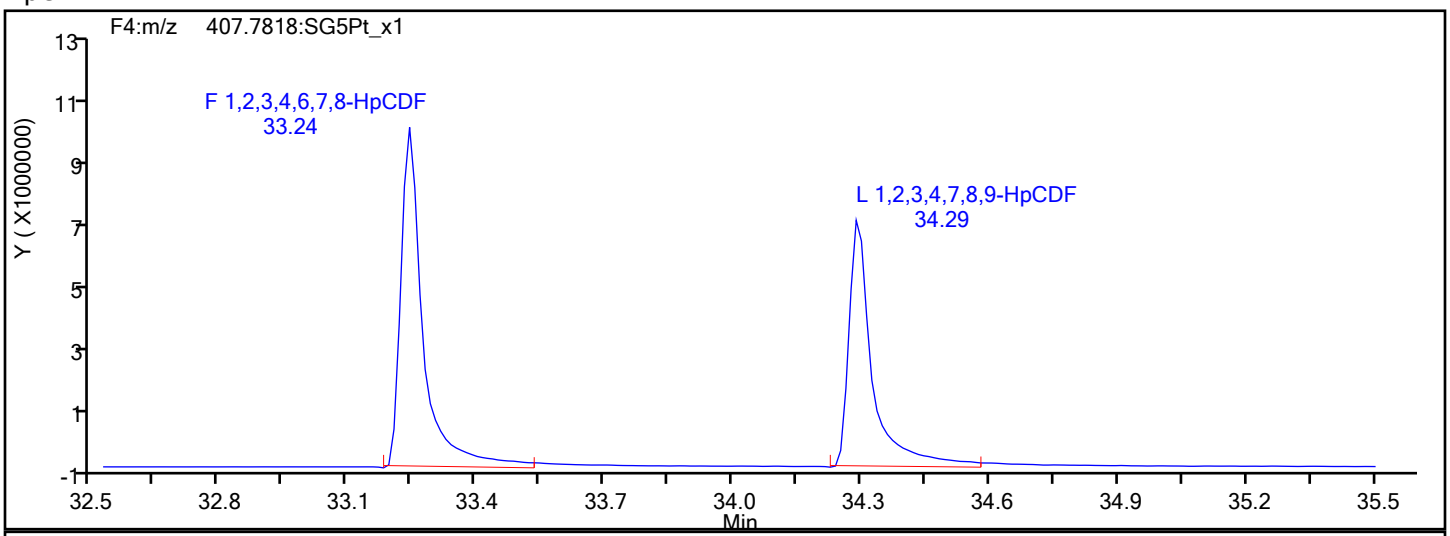

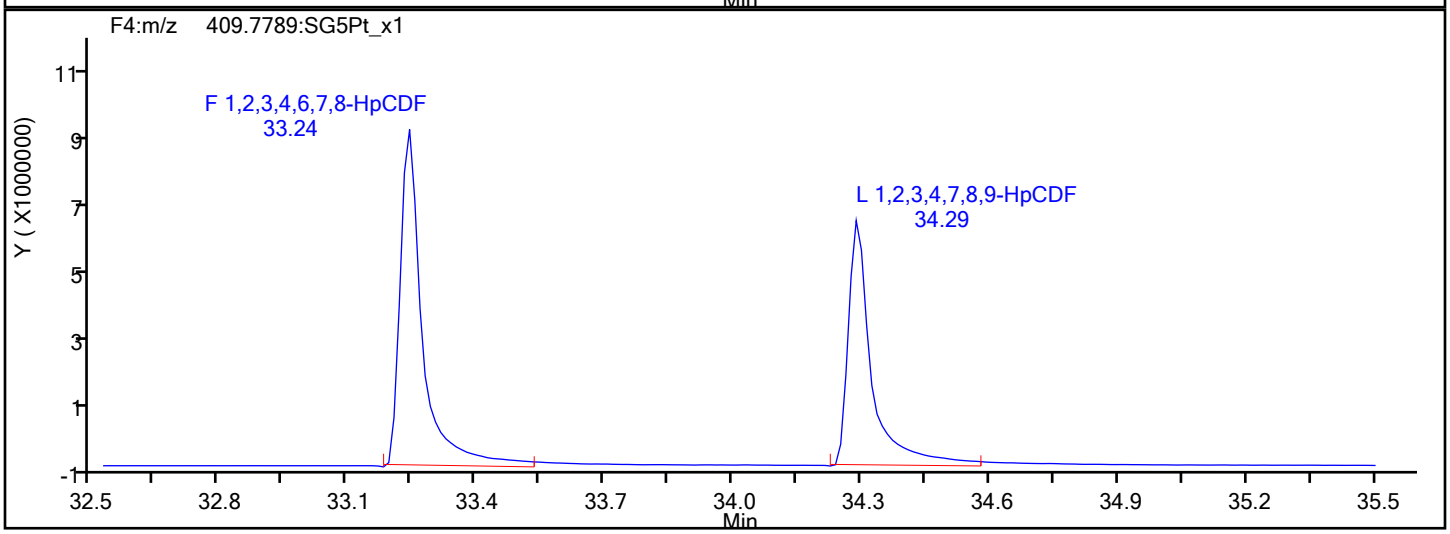

HpCDF Interference Mass

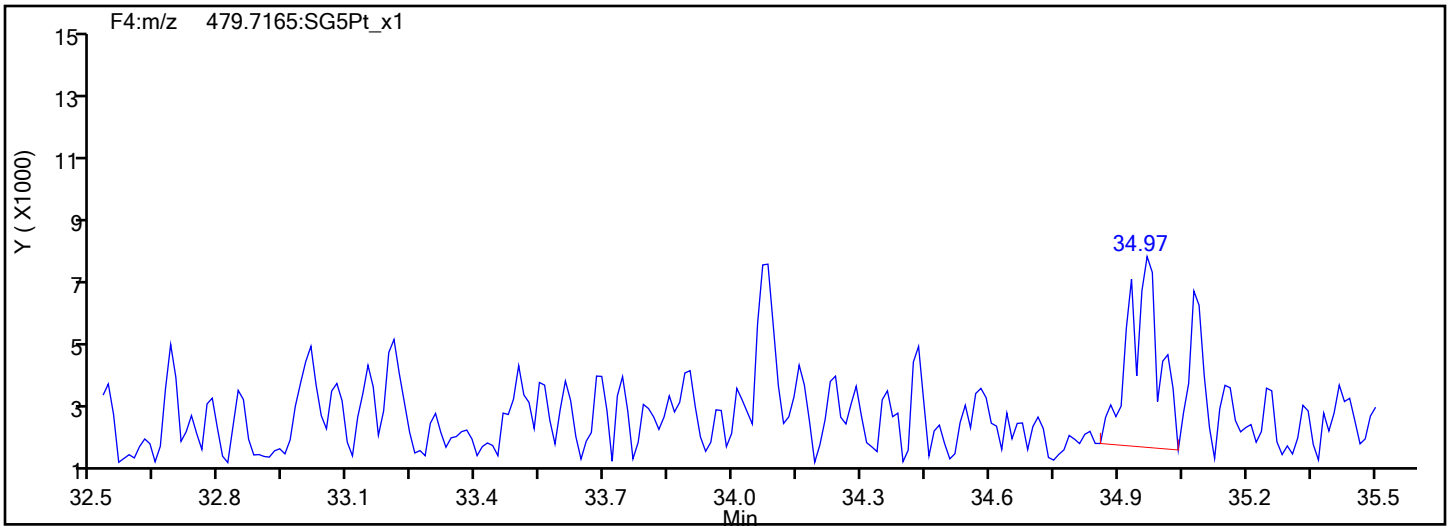

Report Date: 04-Oct-2019 11:56:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_14.d		
Injection Date:	03-Oct-2019 21:59:47	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	14
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

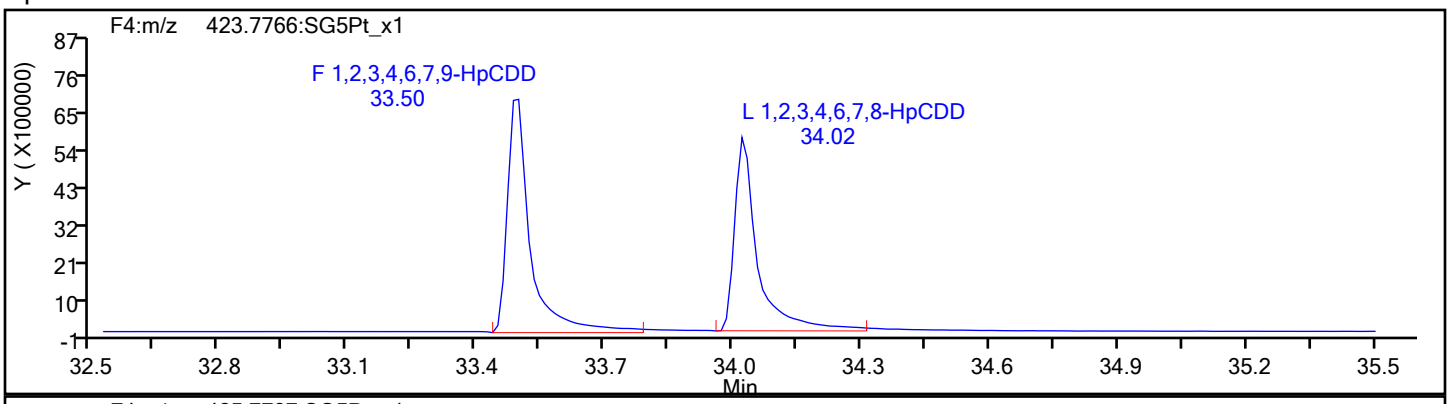

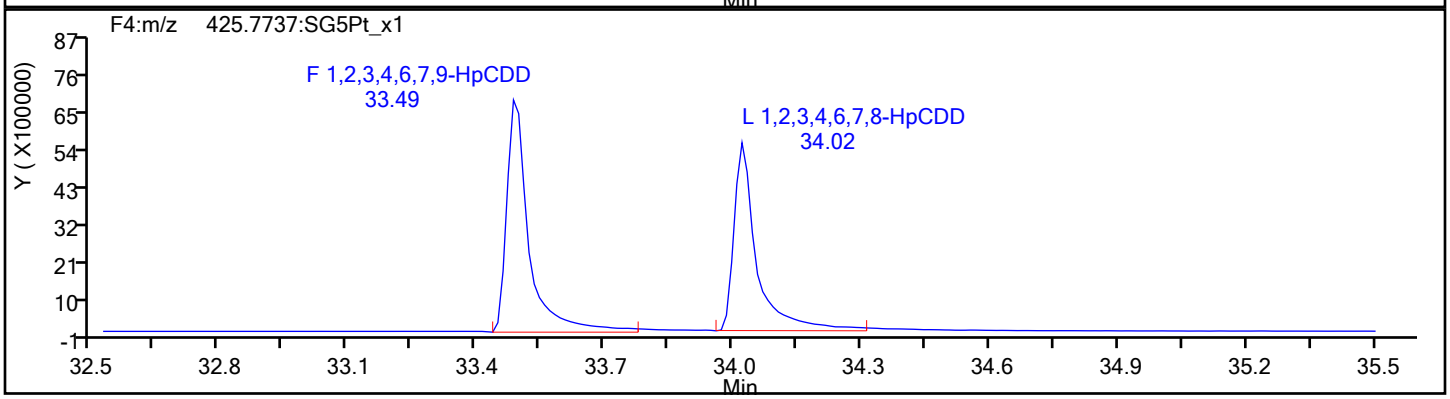

HpCDD Standards

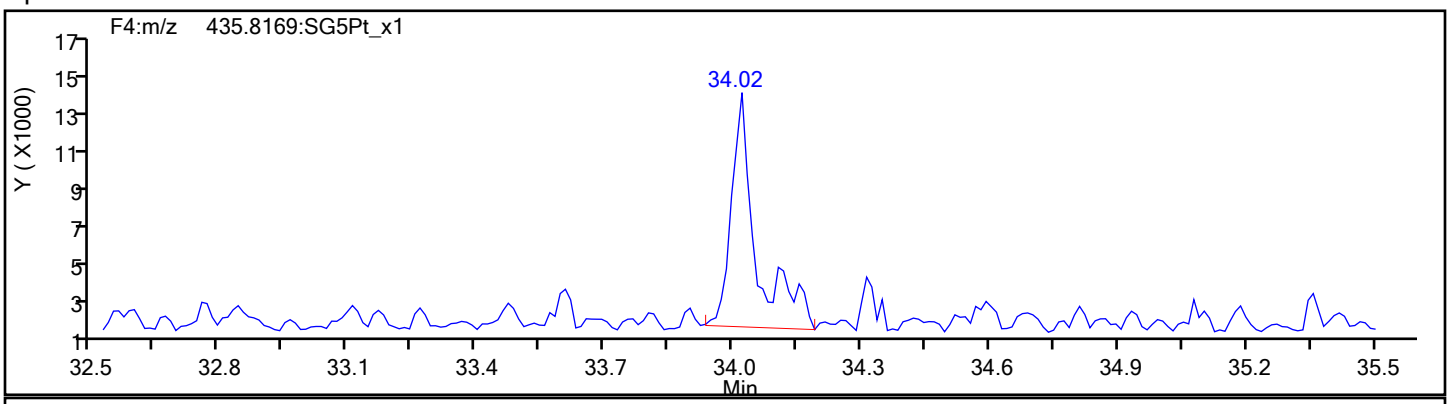

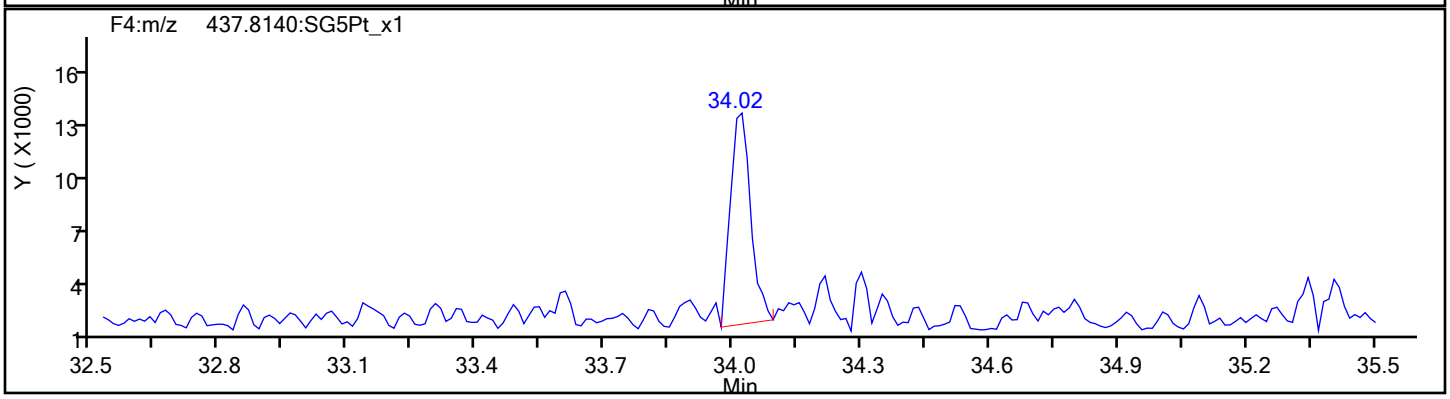

Report Date: 04-Oct-2019 11:56:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_14.d		
Injection Date:	03-Oct-2019 21:59:47	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	14
Column Type:	DB-5	Column Dia:	0.32 mm

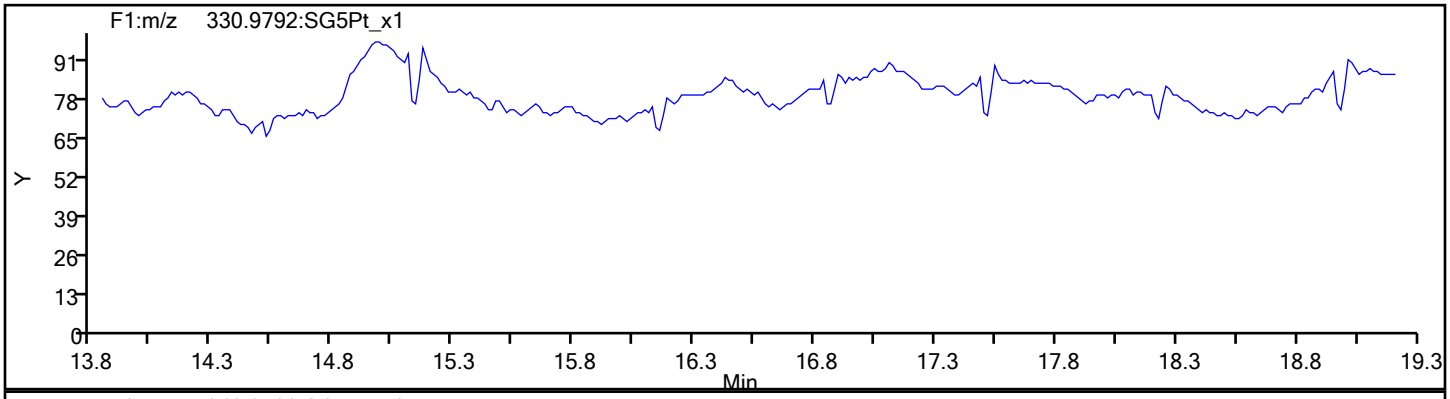

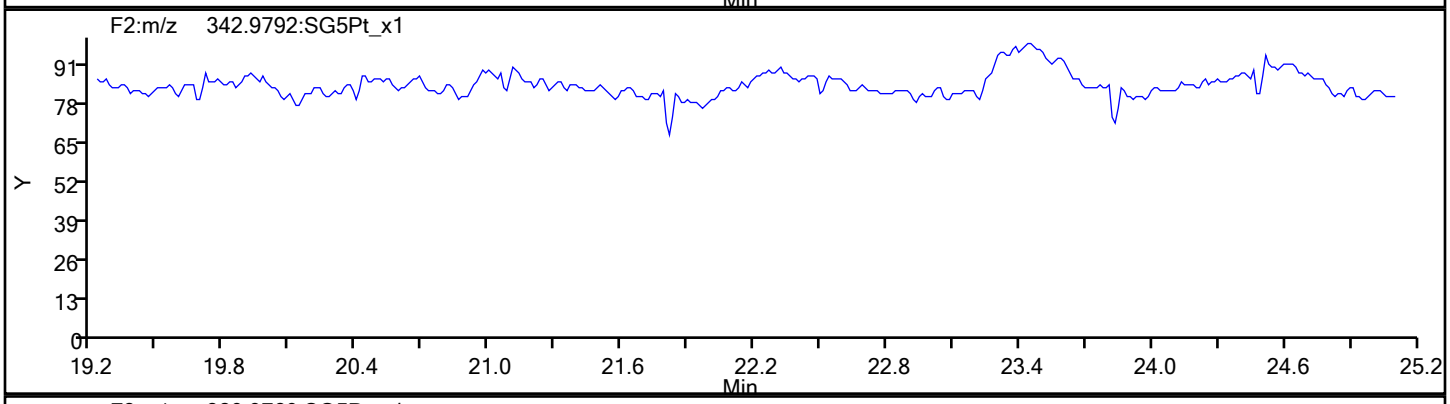

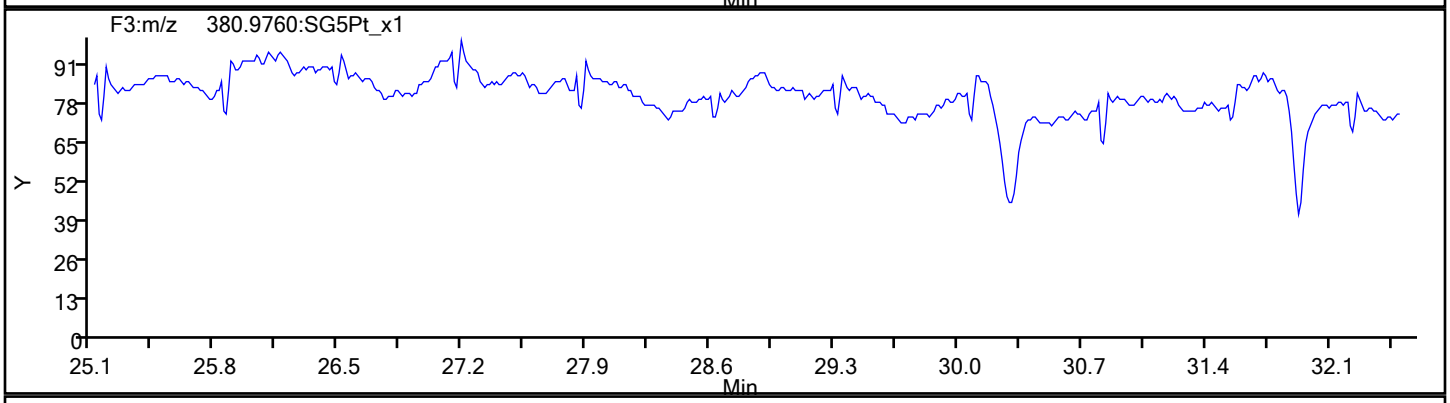

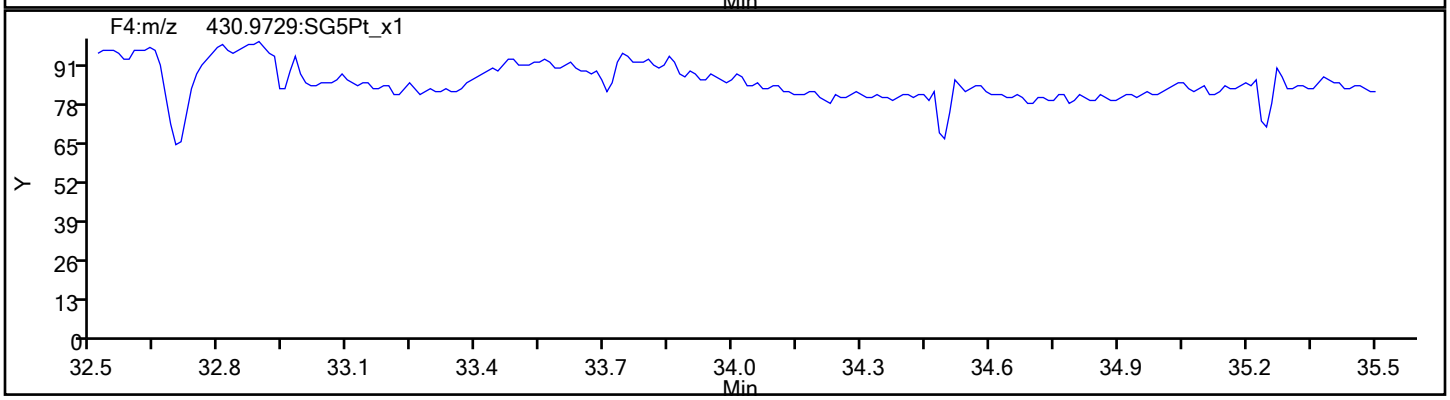

Report Date: 04-Oct-2019 11:56:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_14.d		
Injection Date:	03-Oct-2019 21:59:47	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	14
Column Type:	DB-5	Column Dia:	0.32 mm

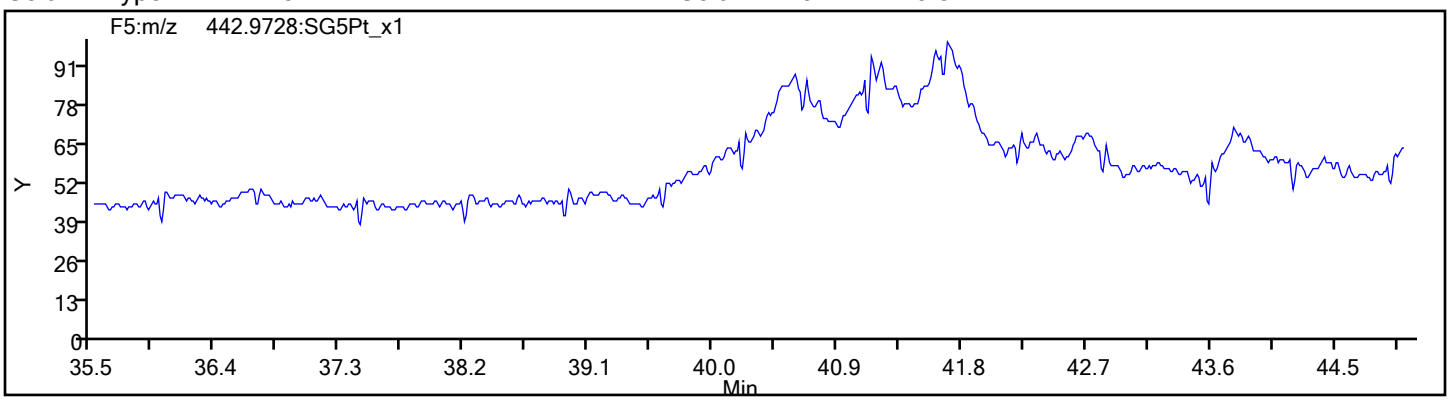

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_001.d
Lims ID: CPS
Client ID:
Sample Type: CPS
Inject. Date: 02-Aug-2019 01:35:28 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info:
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:55:43 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:42:14

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	16.622	61074380	0.81	1.3379					0.00	
2,3,7,8-TCDF	16.636	61037608	0.79	0.8389	47.7	47.7	0.1209	0.1209		
D 13C-2,3,7,8-TCDD	15.154	40433427	0.78	0.9388					0.00	
2,3,7,8-TCDD	15.182	44564745	0.76	1.1538	38.2	38.2	0.1633	0.1633		
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNCP_00038 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_001.d
Lims ID: CPS
Client ID:
Sample Type: CPS
Inject. Date: 02-Aug-2019 01:35:28 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info:
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:55:43 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:42:14

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	16.622	16.580	3	1.000	27419709	5797675	45703	114257	127		
317.9389	16.622	16.580	3	1.000	33654671	7331370	15961	39902	459	0.81(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.636	16.599	2	1.001	26963677	5682254	5764	14410	986		
305.8987	16.636	16.599	2	1.001	34073931	7516270	7547	18867	996	0.79(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.154	15.136	1	1.000	17780107	4066450	14178	35445	287		
333.9339	15.154	15.136	1	1.000	22653320	5347910	7990	19975	669	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.182	15.156	2	1.002	19294731	4574819	7190	17975	636		
321.8936	15.182	15.156	2	1.002	25270014	5985037	10548	26370	567	0.76(0.65-0.89)	
Total 2378-Chlorinated Dioxins & Furans											
		0.0	0								

Reagents:

HRDXNCP_00038 Amount Added: 1.00 Units: mL

Report Date: 02-Aug-2019 11:55:58 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_001.d		
Injection Date:	02-Aug-2019 01:35:28	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

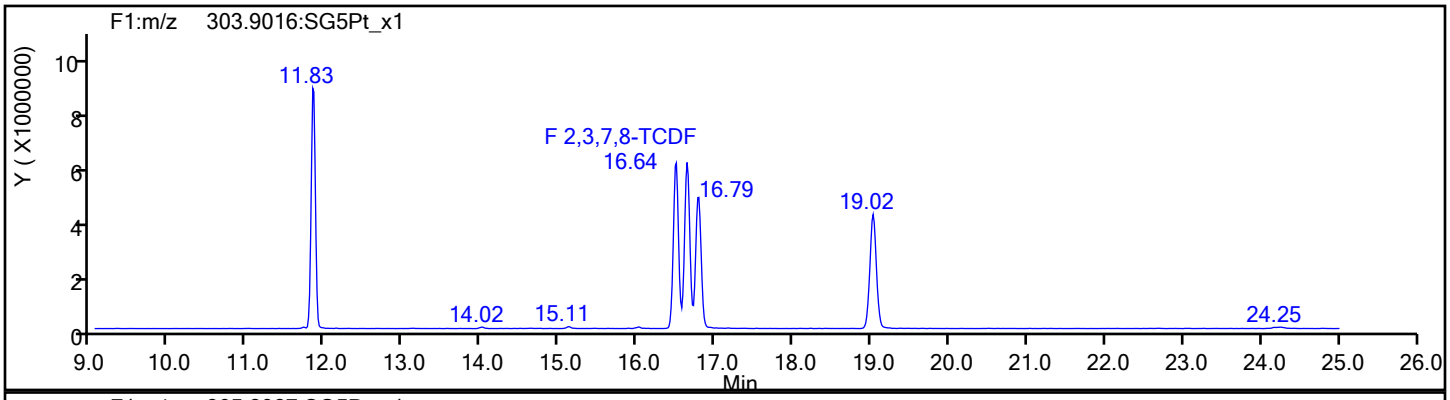

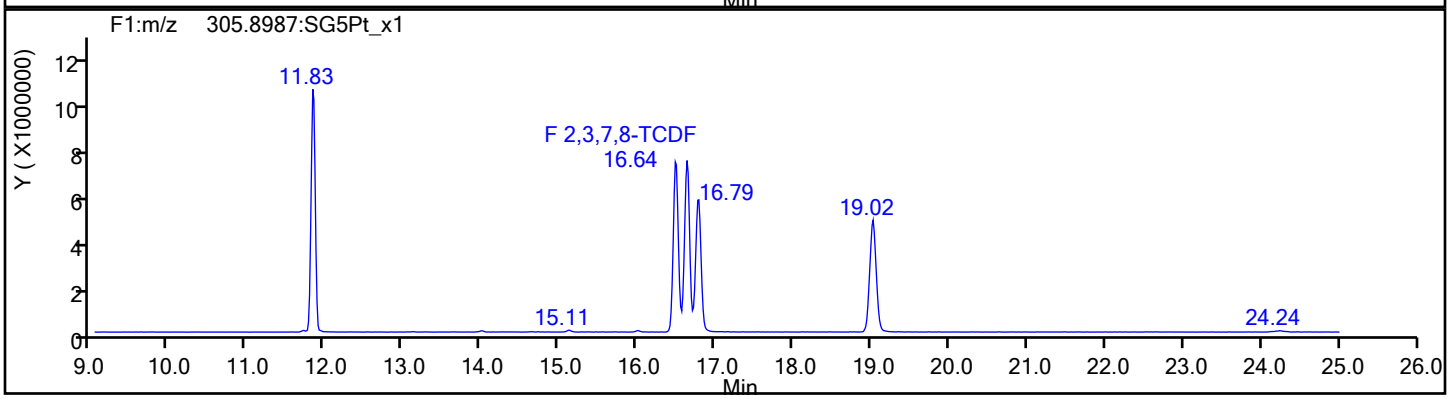

TCDF Standards

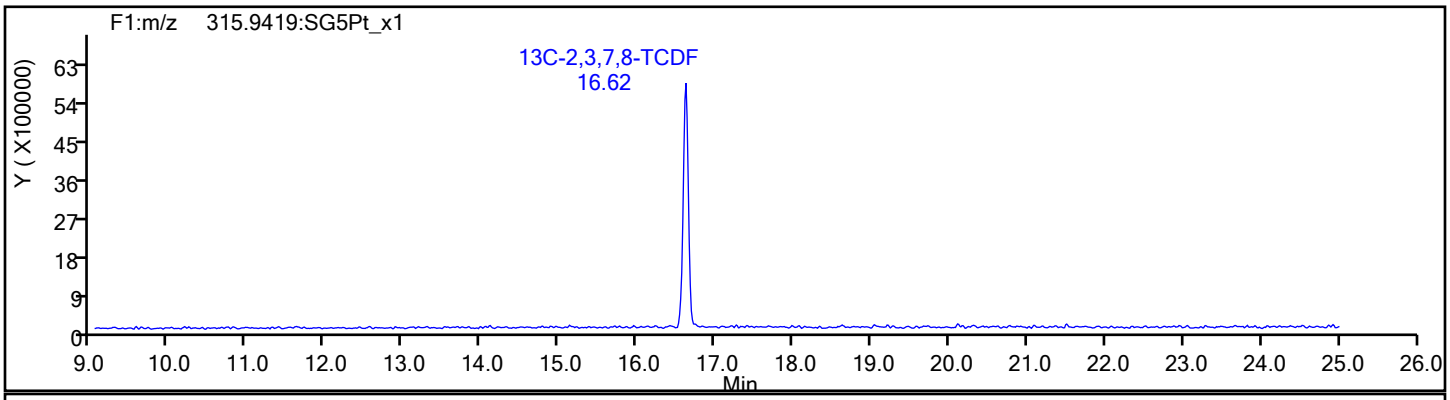

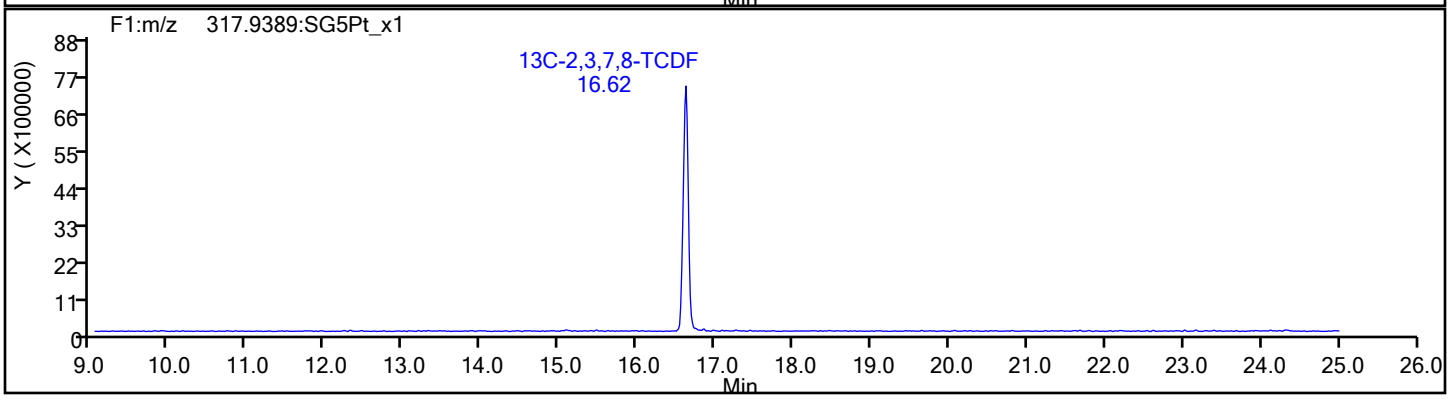

Report Date: 02-Aug-2019 11:55:58 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_001.d		
Injection Date:	02-Aug-2019 01:35:28	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

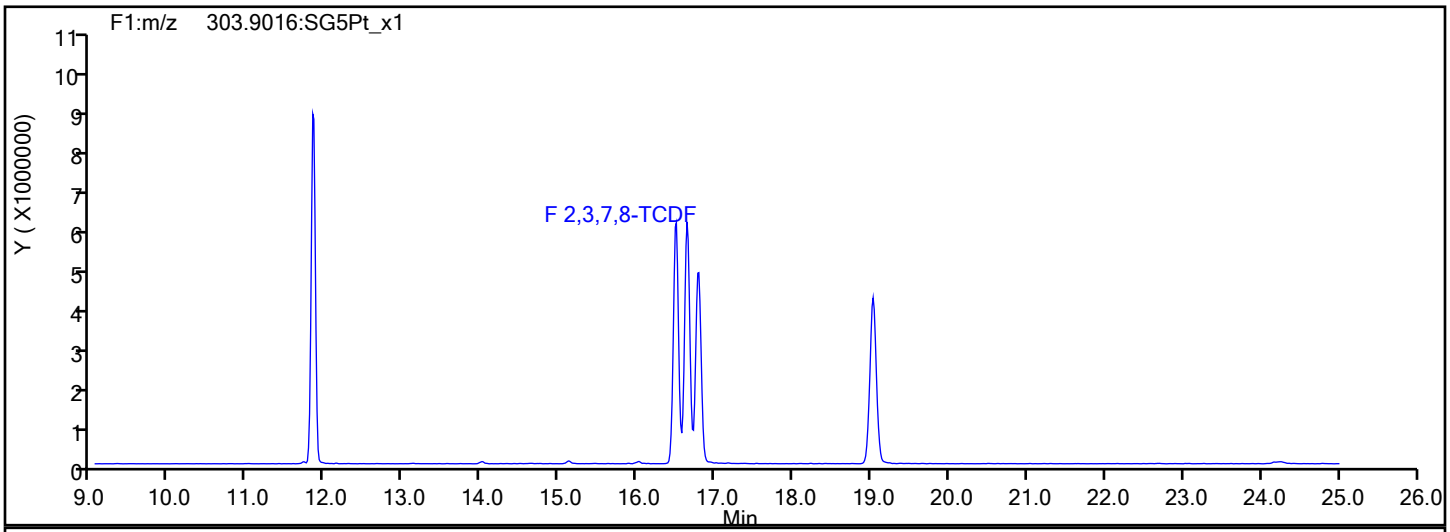

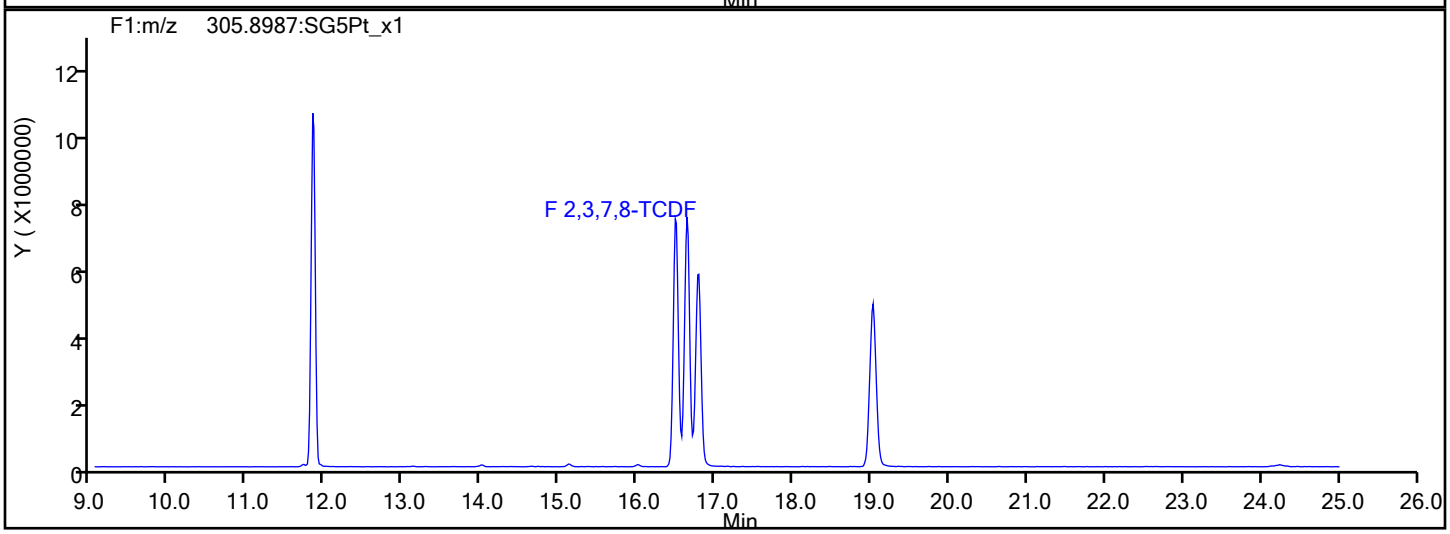

TCDF Interference Mass

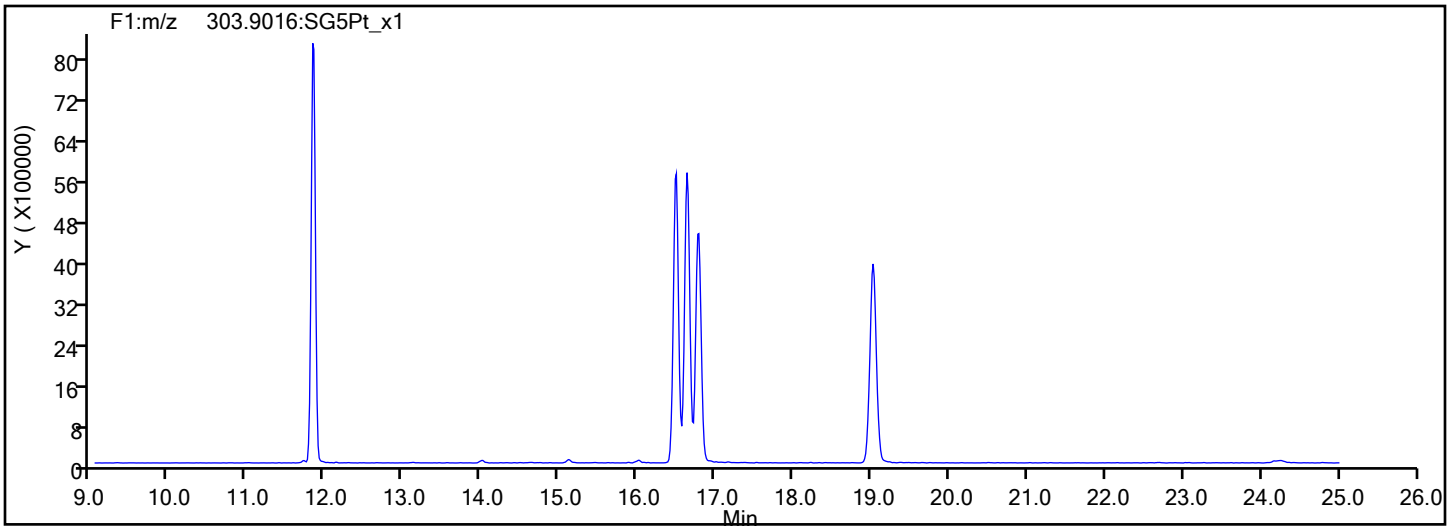

Report Date: 02-Aug-2019 11:55:58 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_001.d		
Injection Date:	02-Aug-2019 01:35:28	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

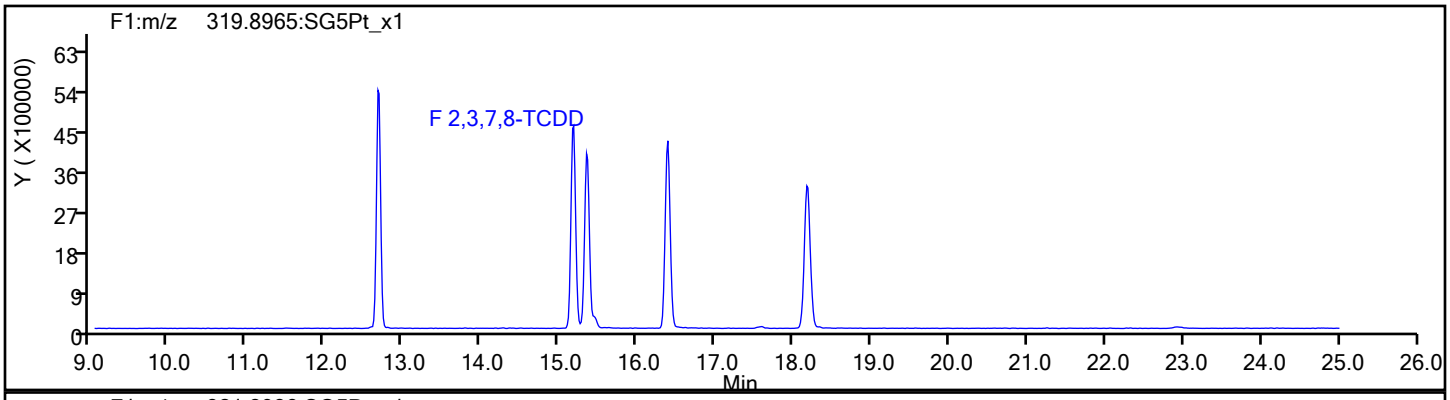

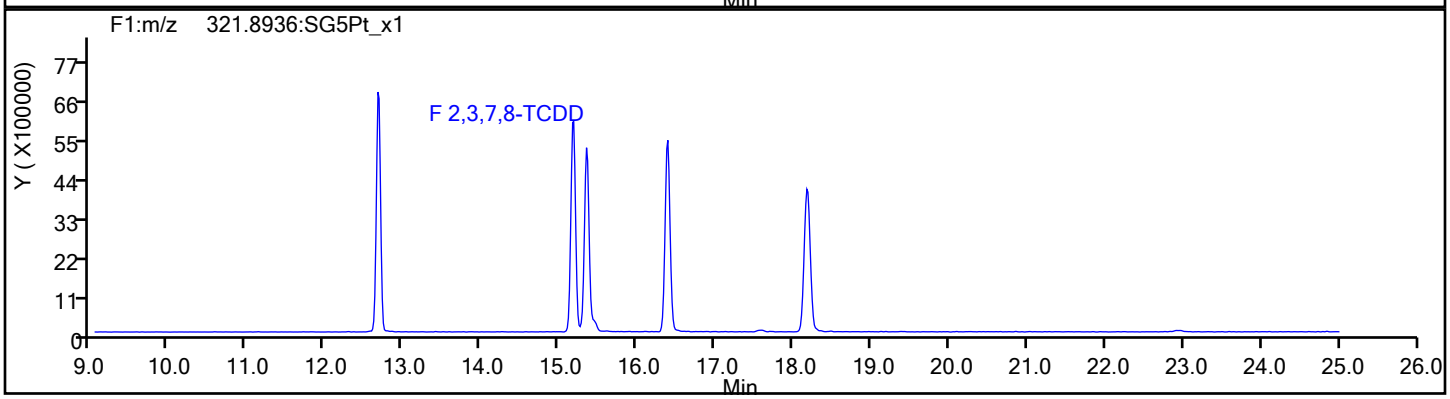

TCDD Standards

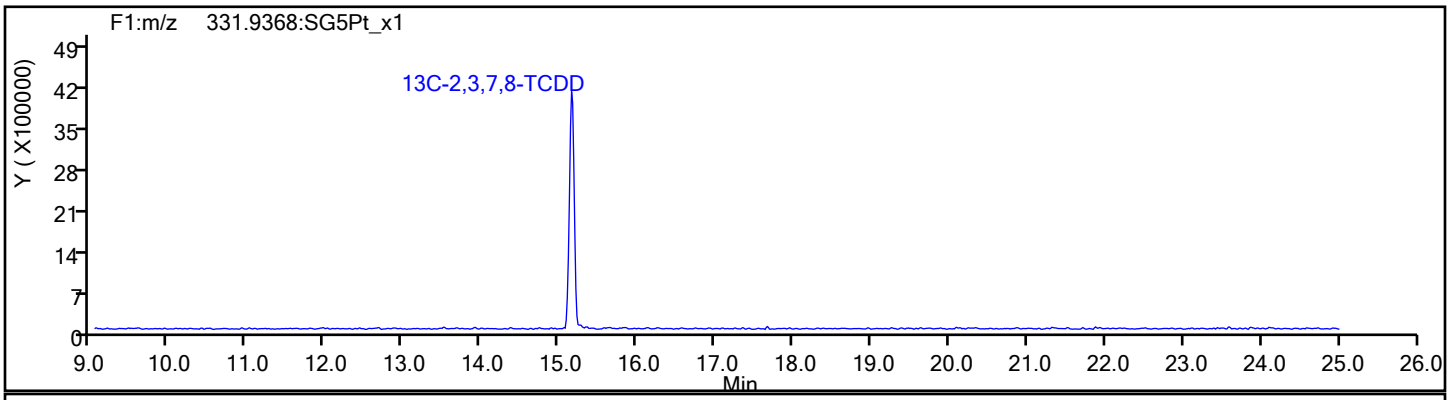

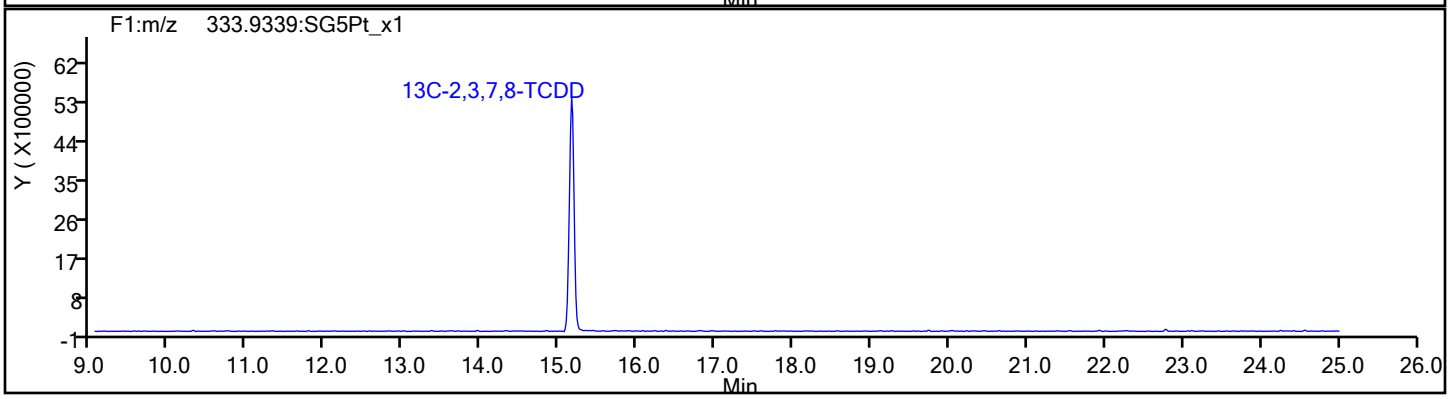

Report Date: 02-Aug-2019 11:55:58 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_001.d		
Injection Date:	02-Aug-2019 01:35:28	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

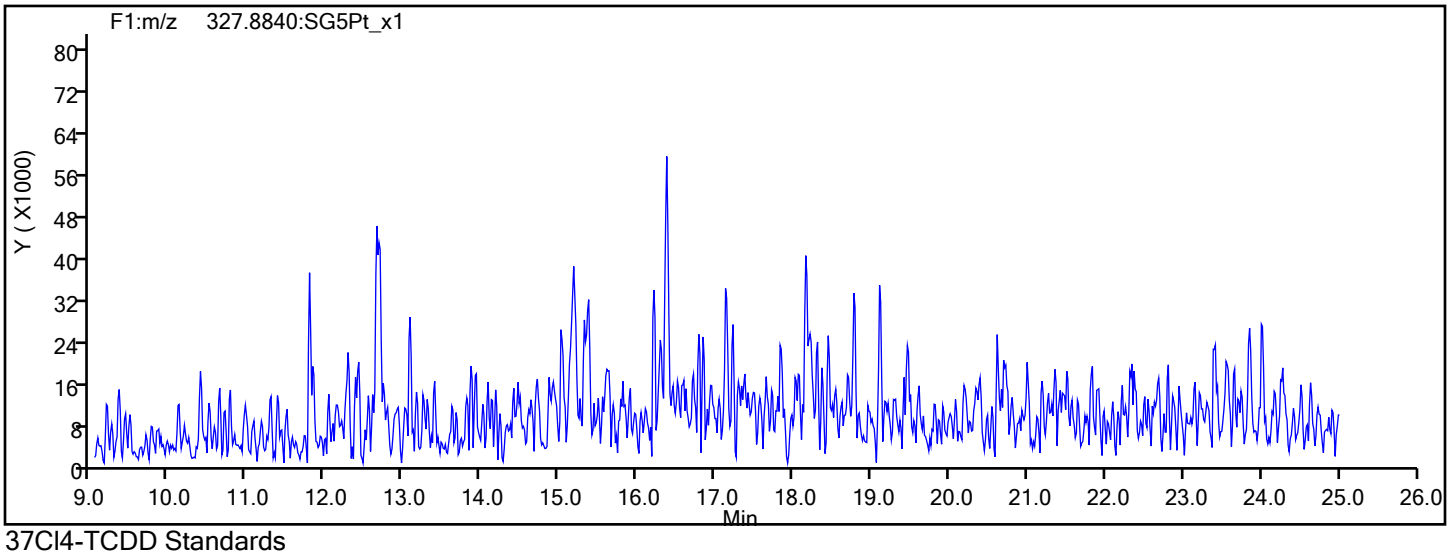

37Cl4-TCDD Standards

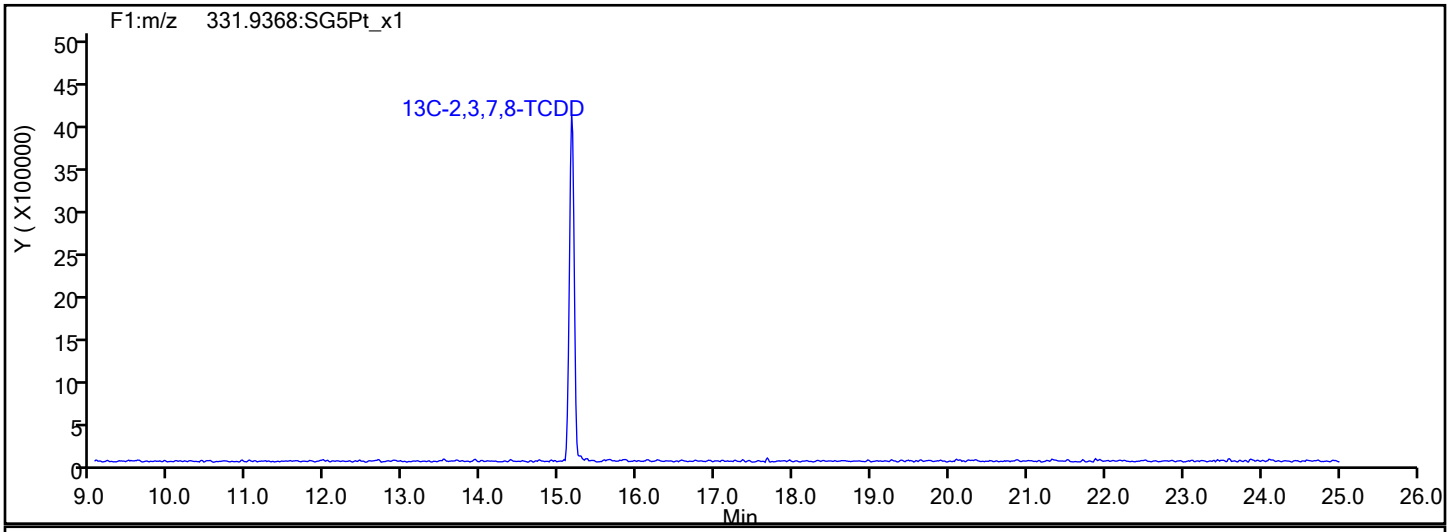

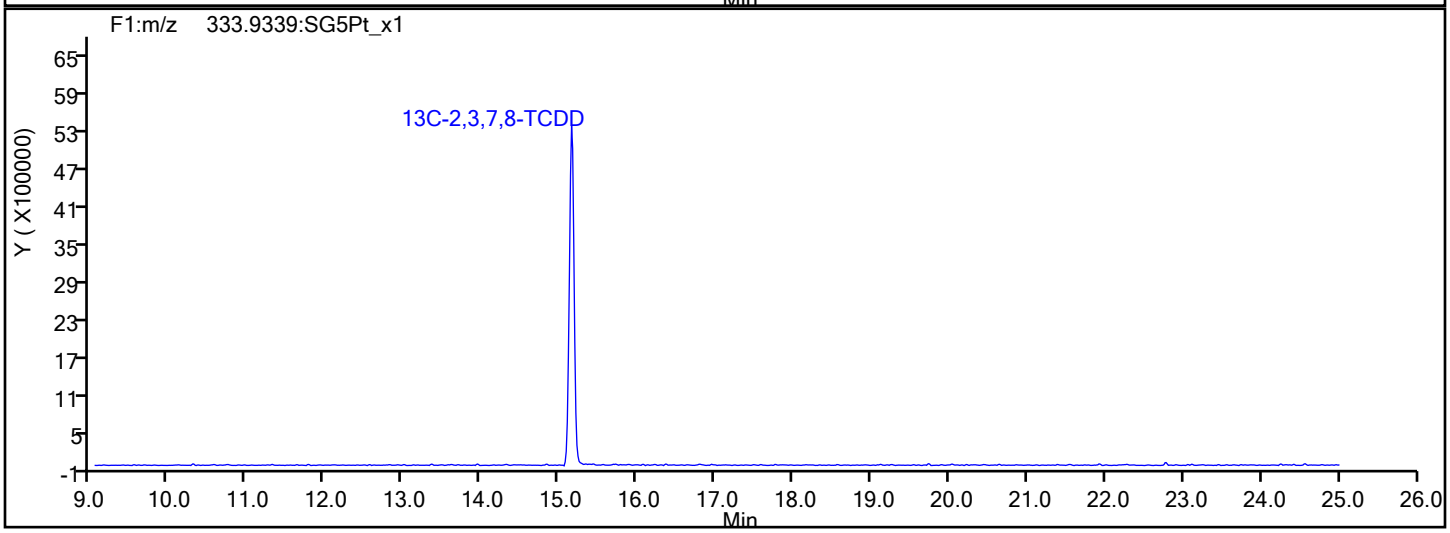

Report Date: 02-Aug-2019 11:55:58 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_001.d		
Injection Date:	02-Aug-2019 01:35:28	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

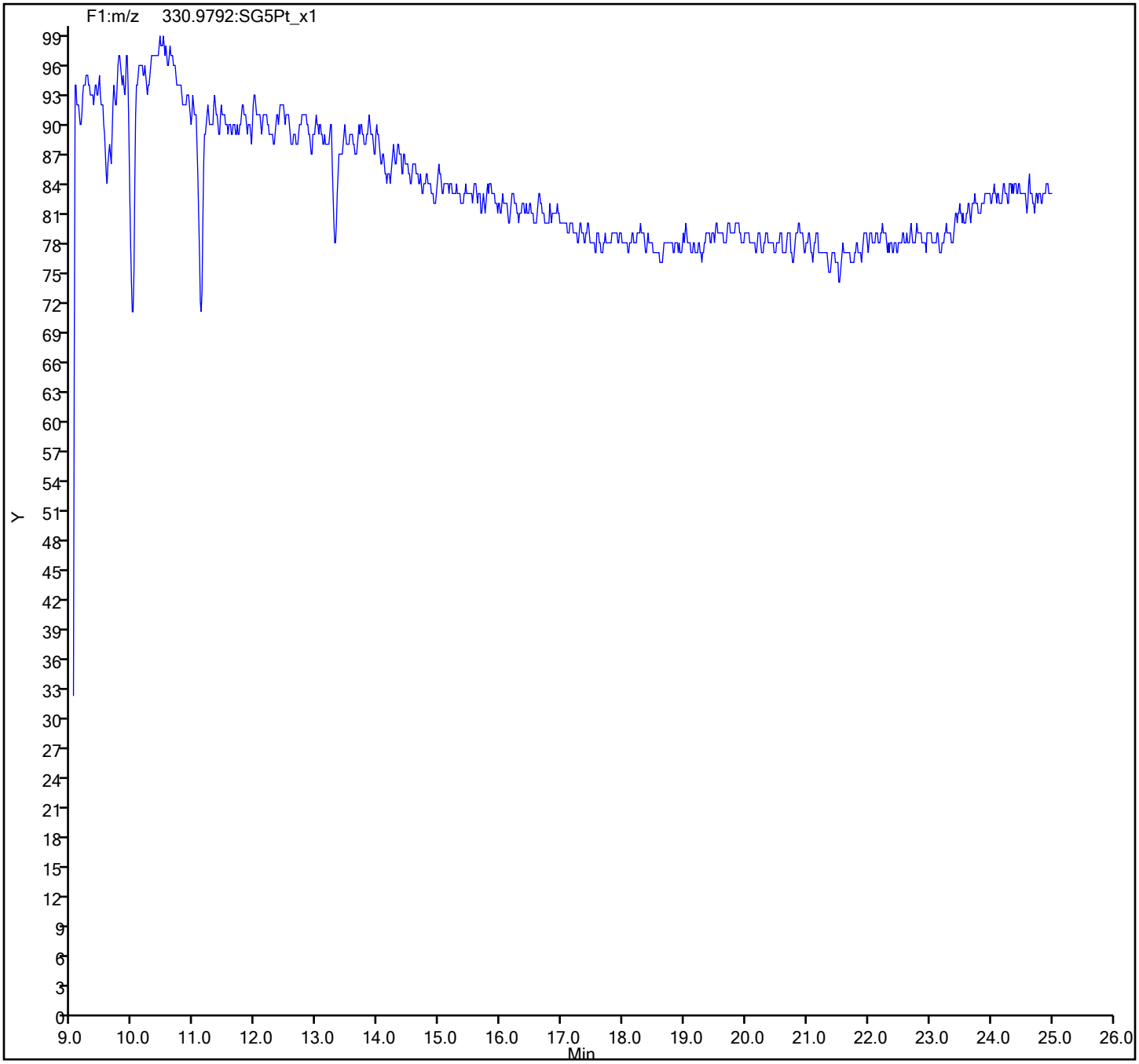

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20191010-84713.b\10OC1911D2_001.d
Lims ID: CPS
Client ID:
Sample Type: CPS
Inject. Date: 10-Oct-2019 13:33:22 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info:
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20191010-84713.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 11-Oct-2019 13:41:52 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0340

First Level Reviewer: shardaa Date: 11-Oct-2019 13:39:24

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	16.465	108277292	0.80	1.3379					0.00	
2,3,7,8-TCDF	16.479	107336204	0.78	0.8389	47.3	47.3	0.0746	0.0746		
D 13C-2,3,7,8-TCDD	15.038	67099599	0.82	0.9388					0.00	
2,3,7,8-TCDD	15.066	76192770	0.78	1.1538	39.4	39.4	0.0753	0.0753		
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNCP_00040 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20191010-84713.b\10OC1911D2_001.d
Lims ID: CPS
Client ID:
Sample Type: CPS
Inject. Date: 10-Oct-2019 13:33:22 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info:
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20191010-84713.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 11-Oct-2019 13:41:52 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0340

First Level Reviewer: shardaa Date: 11-Oct-2019 13:39:24

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	16.465	16.465	0	1.000	48238179	9688531	24676	61690	393		
317.9389	16.451	16.465	-1	1.000	60039113	11897745	15652	39130	760	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.479	16.479	0	1.001	47002585	9376016	5535	13837	1694		
305.8987	16.479	16.479	0	1.001	60333619	12132507	7967	19917	1523	0.78(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.038	15.038	0	1.000	30303552	6722651	16157	40392	416		
333.9339	15.038	15.038	0	1.000	36796047	8334522	5251	13127	1587	0.82(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.066	15.066	0	1.002	33456532	7525184	7252	18130	1038		
321.8936	15.066	15.066	0	1.002	42736238	9632180	5828	14570	1653	0.78(0.65-0.89)	
Total 2378-Chlorinated Dioxins & Furans											
		0.0	0								

Reagents:

HRDXNCP_00040 Amount Added: 2.00 Units: uL

Report Date: 11-Oct-2019 13:41:52 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191010-84713.b\10OC1911D2_001.d		
Injection Date:	10-Oct-2019 13:33:22	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330101	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

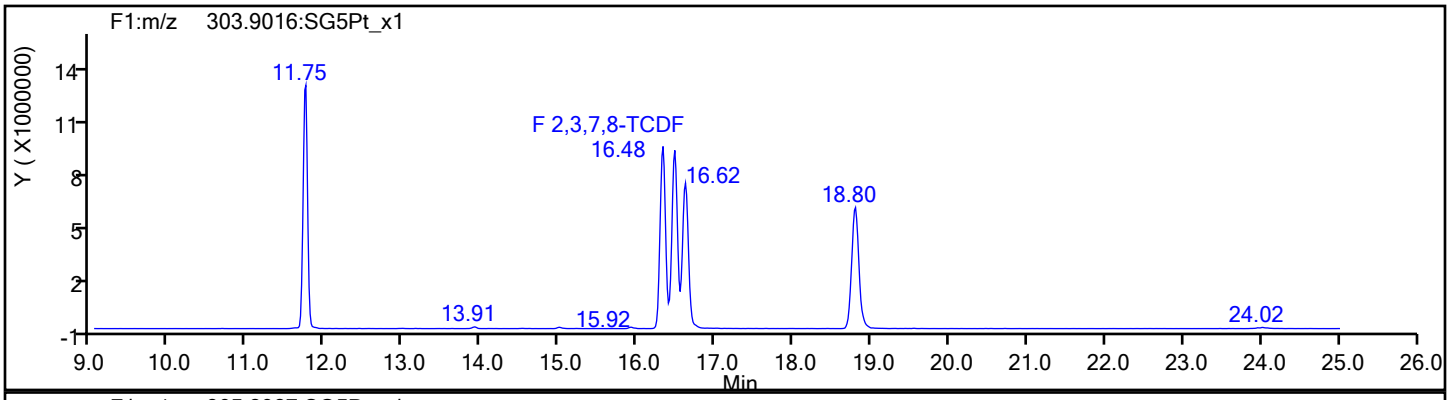

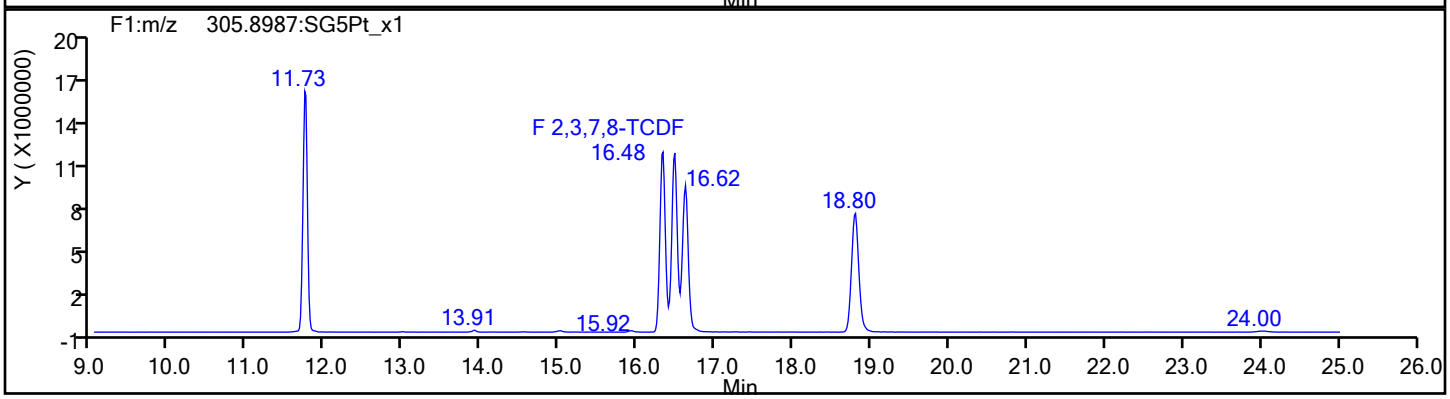

TCDF Standards

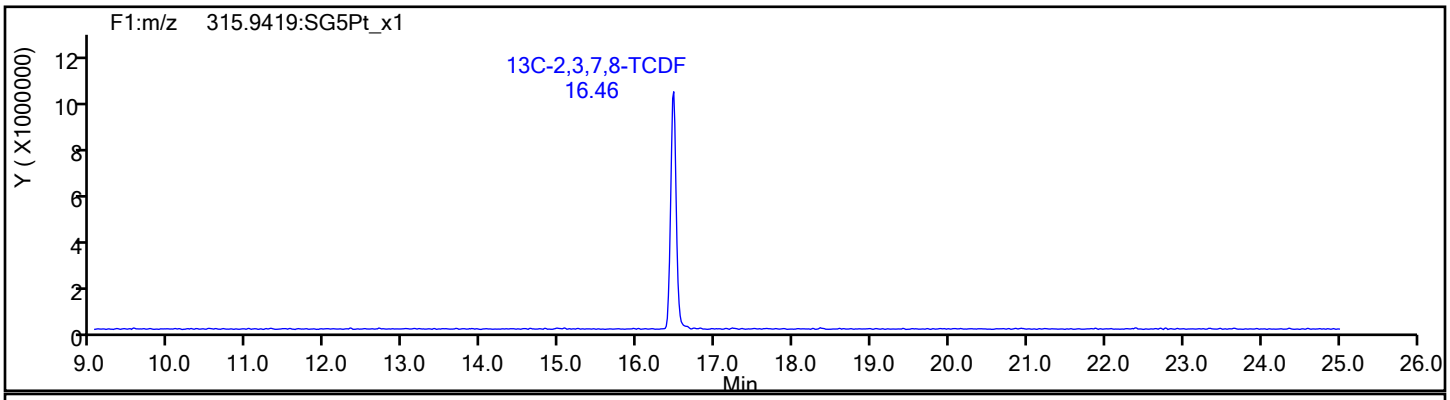

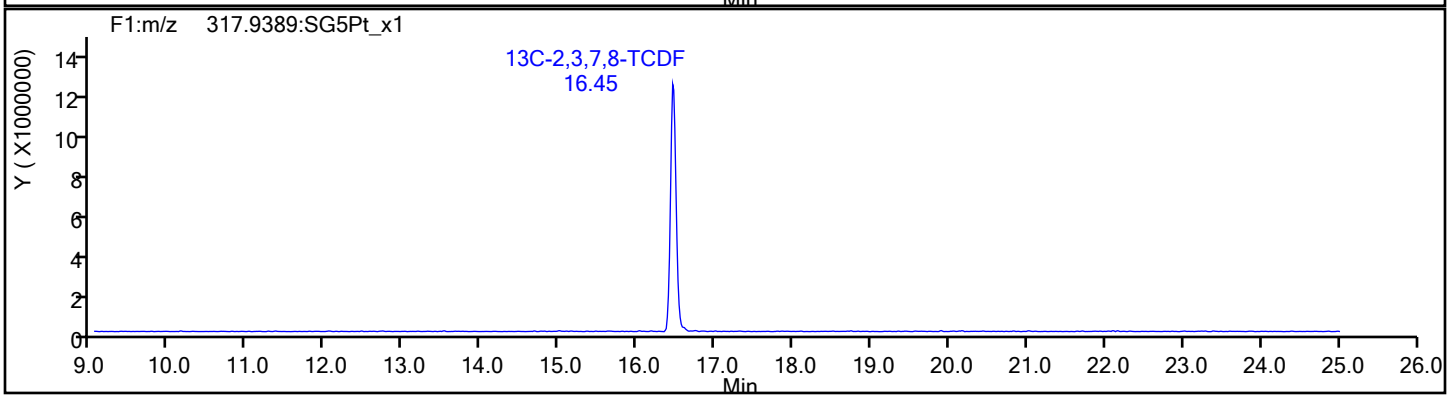

Report Date: 11-Oct-2019 13:41:52 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191010-84713.b\10OC1911D2_001.d		
Injection Date:	10-Oct-2019 13:33:22	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330101	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

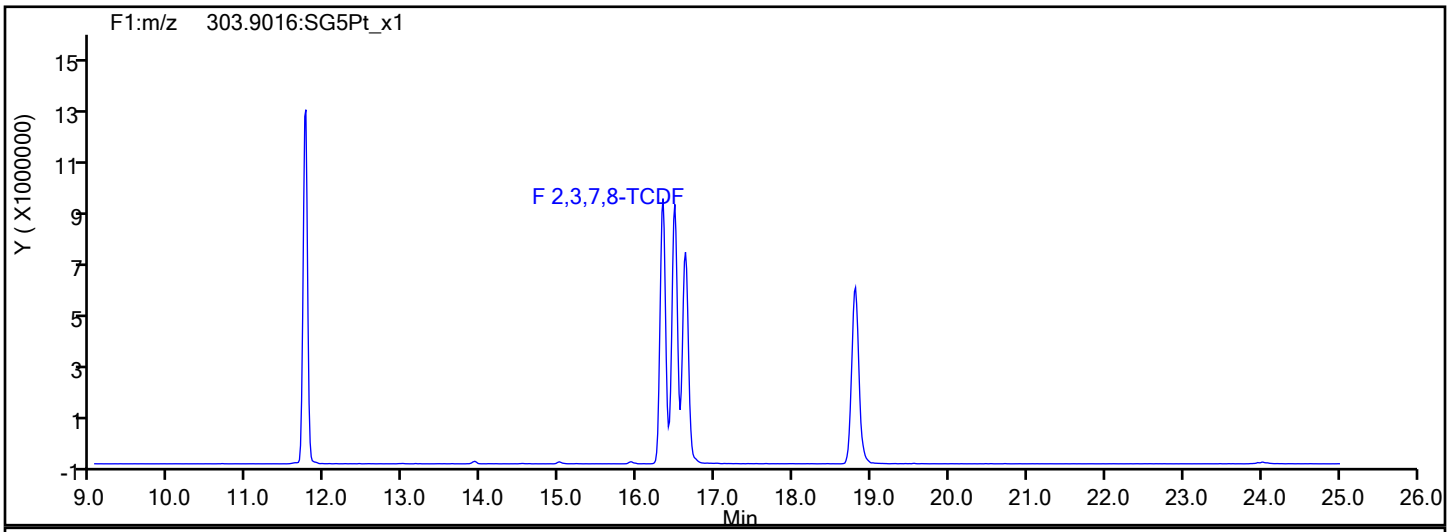

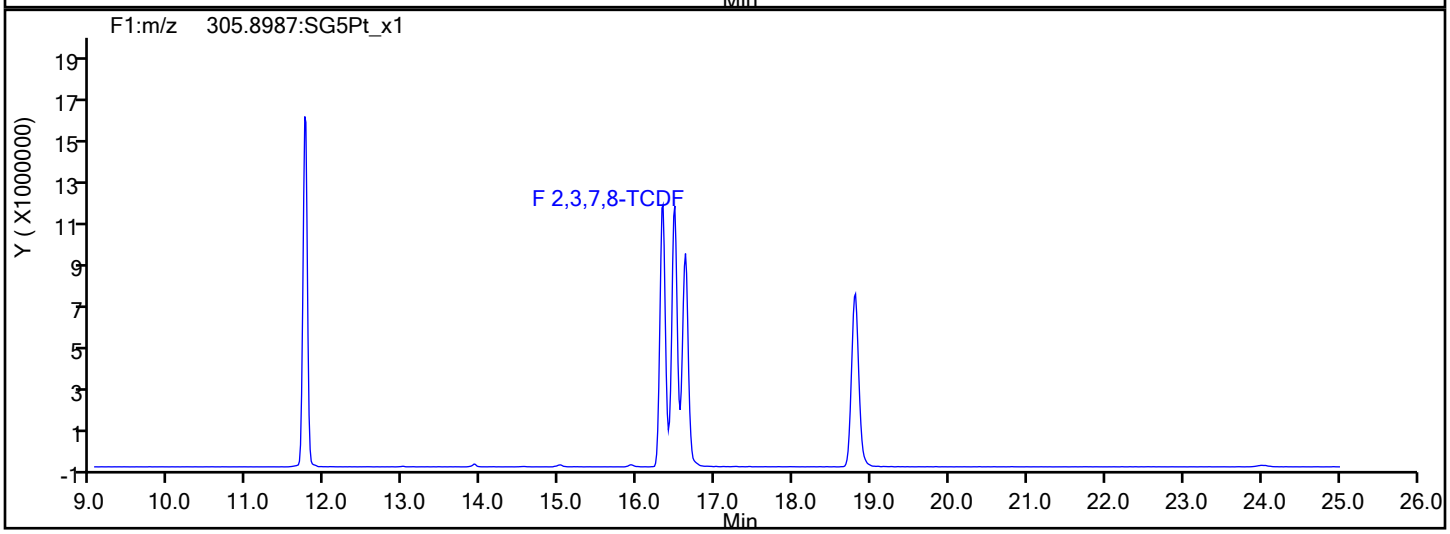

TCDF Interference Mass

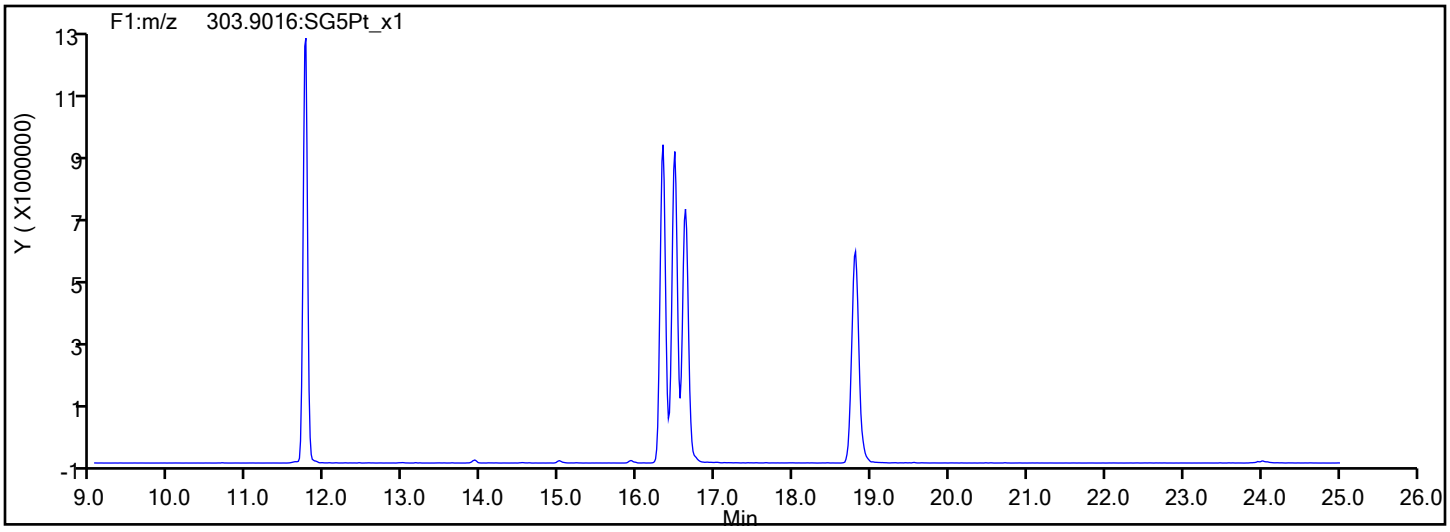

Report Date: 11-Oct-2019 13:41:53 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191010-84713.b\10OC1911D2_001.d		
Injection Date:	10-Oct-2019 13:33:22	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330101	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

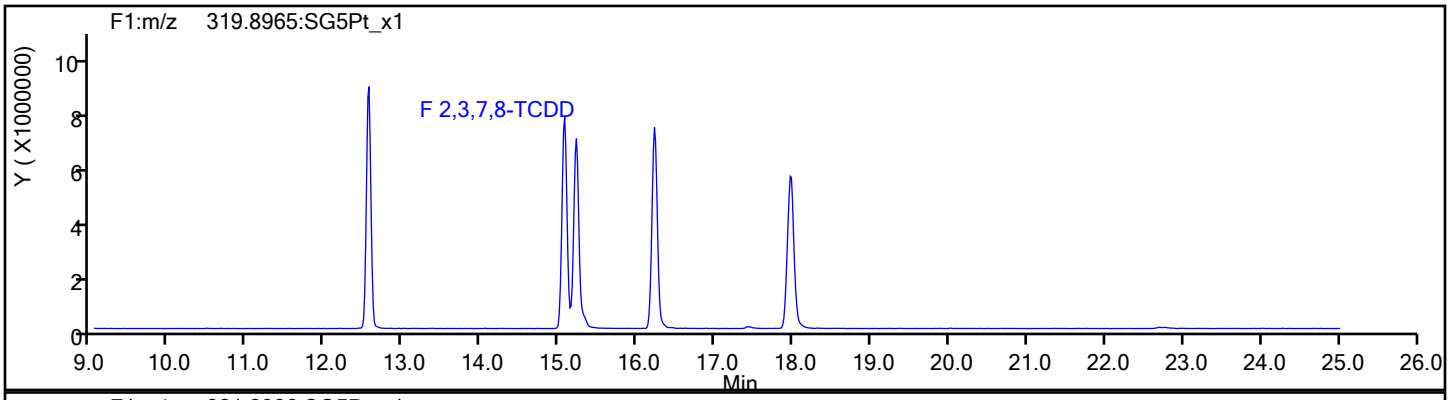

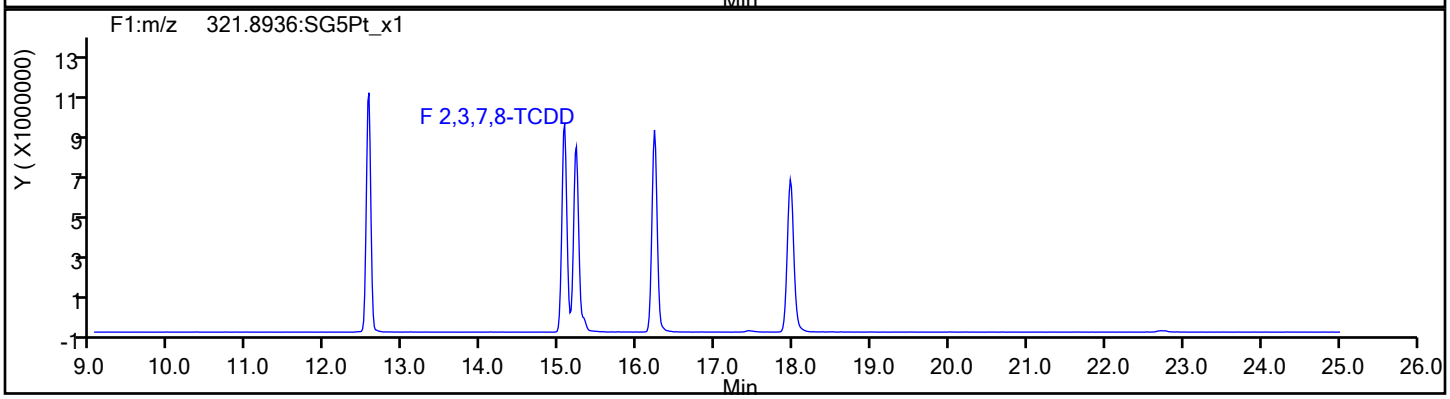

TCDD Standards

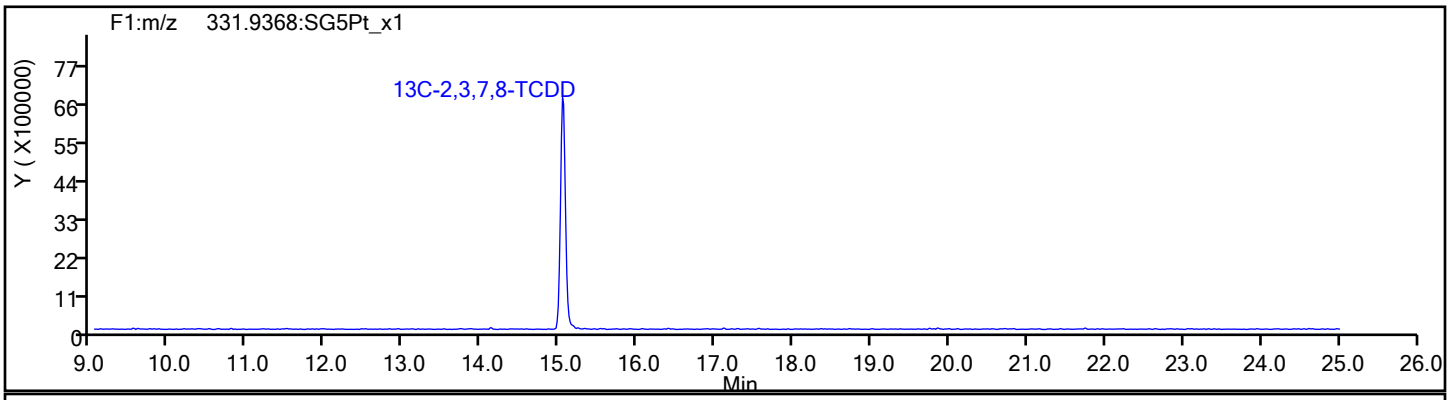

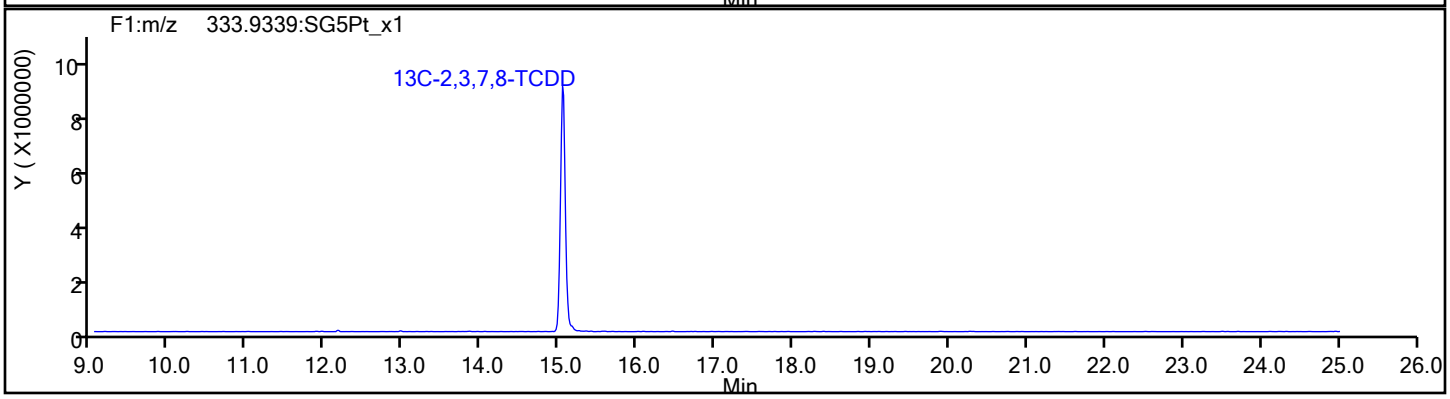

Report Date: 11-Oct-2019 13:41:53 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

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Injection Date:	10-Oct-2019 13:33:22	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330101	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

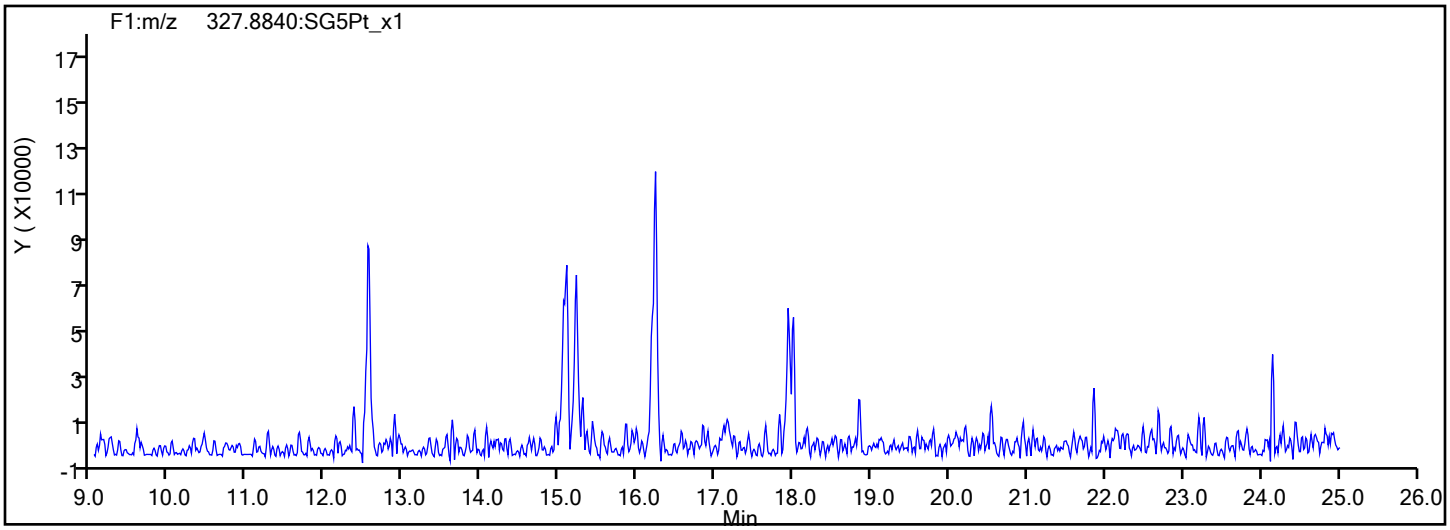

37Cl4-TCDD Standards

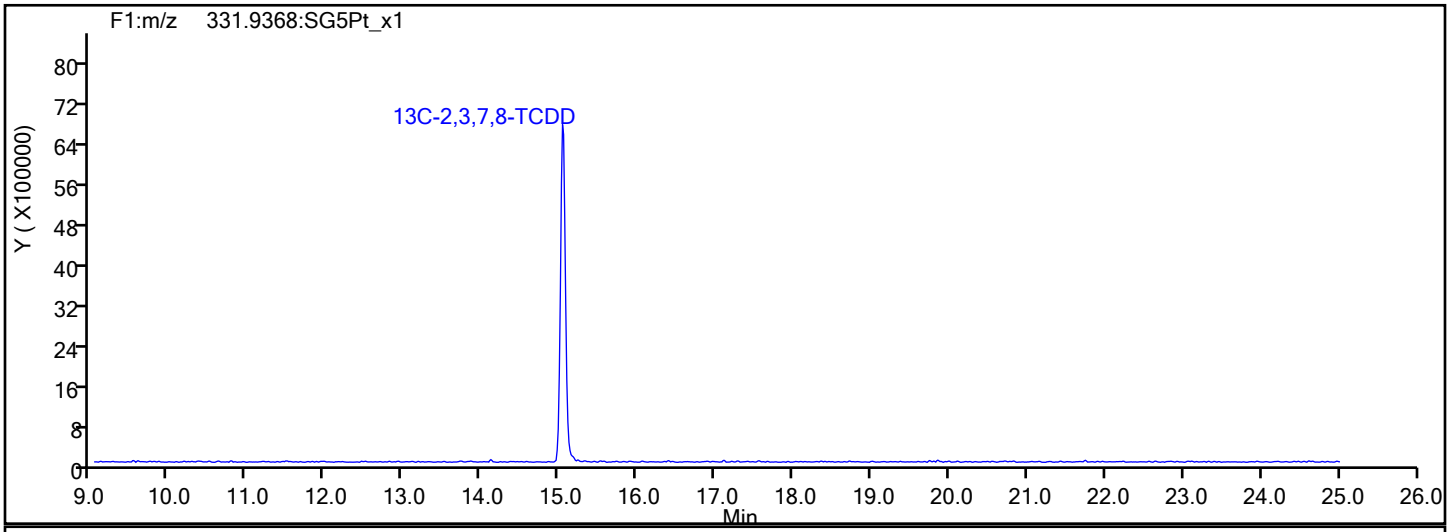

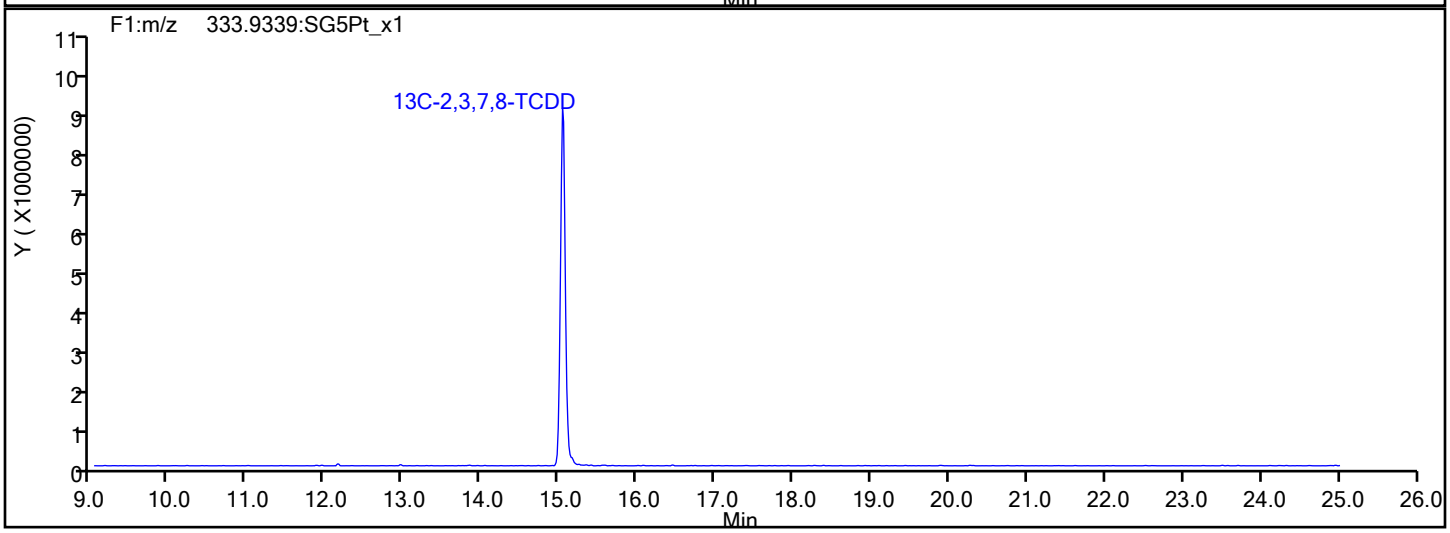

Report Date: 11-Oct-2019 13:41:53 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20191010-84713.b\10OC1911D2_001.d		
Injection Date:	10-Oct-2019 13:33:22	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	330101	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

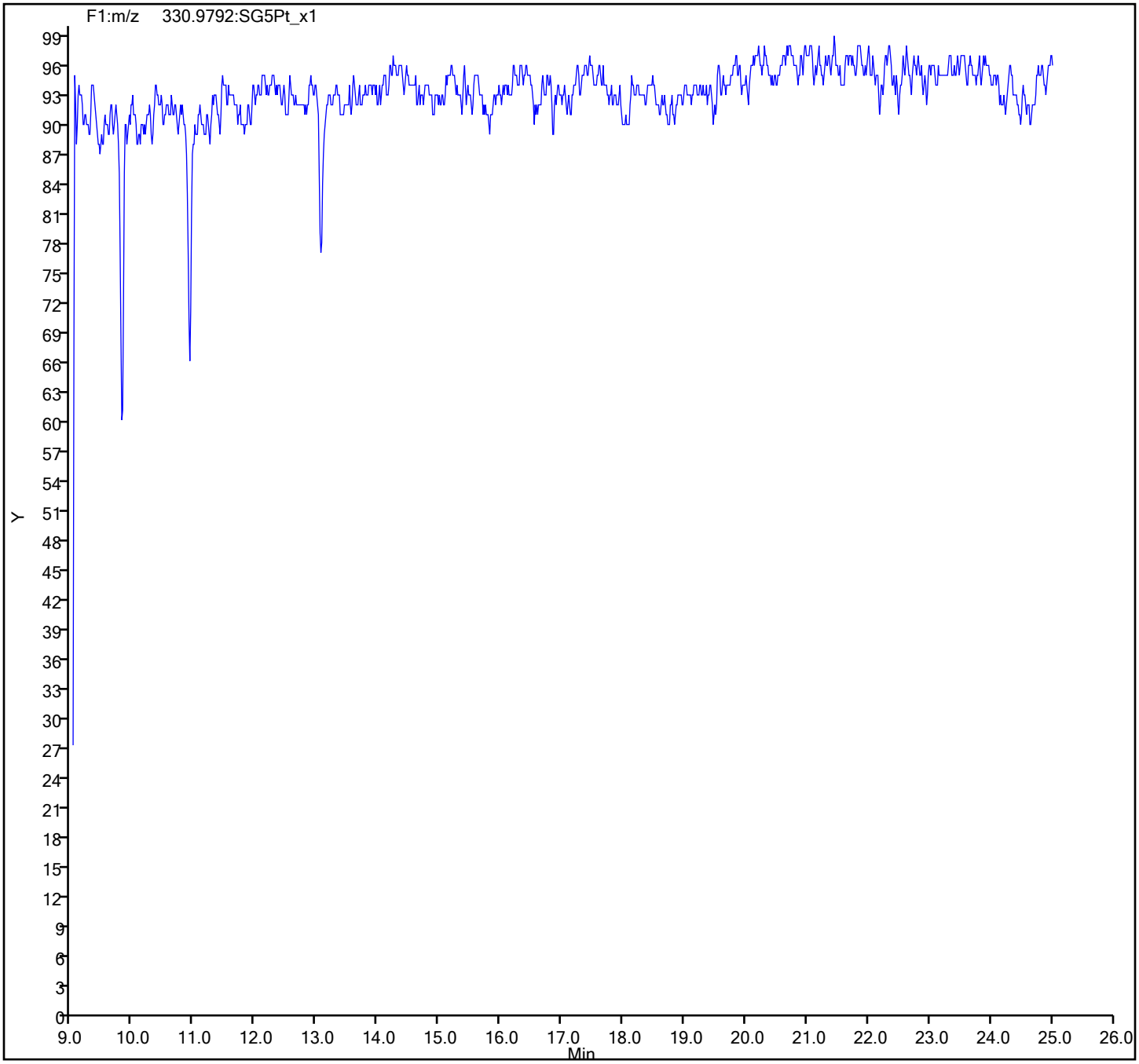

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 180-96144-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 320-327320/1-A
Matrix: Water
Lab File ID: 03OC1910D5_16.d
Analysis Method: 1613B
Date Collected:
Extract. Method: 1613B
Date Extracted: 09/30/2019 11:45
Sample wt/vol: 1000(mL)
Date Analyzed: 10/03/2019 23:48
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 328202
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		10	1.5
51207-31-9	2,3,7,8-TCDF	ND		10	1.2
40321-76-4	1,2,3,7,8-PeCDD	7.71	J	50	1.6
57117-41-6	1,2,3,7,8-PeCDF	5.15	J	50	1.0
57117-31-4	2,3,4,7,8-PeCDF	6.08	J	50	1.1
39227-28-6	1,2,3,4,7,8-HxCDD	8.56	J	50	1.6
57653-85-7	1,2,3,6,7,8-HxCDD	6.29	J	50	1.5
19408-74-3	1,2,3,7,8,9-HxCDD	6.76	J	50	1.4
70648-26-9	1,2,3,4,7,8-HxCDF	5.98	J	50	2.7
57117-44-9	1,2,3,6,7,8-HxCDF	7.51	J	50	2.8
72918-21-9	1,2,3,7,8,9-HxCDF	6.32	J	50	1.9
60851-34-5	2,3,4,6,7,8-HxCDF	5.51	J	50	2.0
35822-46-9	1,2,3,4,6,7,8-HpCDD	5.78	J	50	1.0
67562-39-4	1,2,3,4,6,7,8-HpCDF	7.05	J	50	0.79
55673-89-7	1,2,3,4,7,8,9-HpCDF	5.84	J	50	1.1
3268-87-9	OCDD	16.0	J	100	1.7
39001-02-0	OCDF	ND		100	2.5
41903-57-5	Total TCDD	ND		10	1.5
30402-14-3	Total TCDF	ND		10	1.2
36088-22-9	Total PeCDD	7.71	J	50	1.6
30402-15-4	Total PeCDF	11.2	J	50	1.1
34465-46-8	Total HxCDD	21.6	J	50	1.5
55684-94-1	Total HxCDF	25.3	J	50	2.4
37871-00-4	Total HpCDD	5.78	J	50	1.0
38998-75-3	Total HpCDF	12.9	J	50	0.93

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 320-327320/1-A

Matrix: Water Lab File ID: 03OC1910D5_16.d

Analysis Method: 1613B Date Collected:

Extract. Method: 1613B Date Extracted: 09/30/2019 11:45

Sample wt/vol: 1000(mL) Date Analyzed: 10/03/2019 23:48

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 328202 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	52		25-164
89059-46-1	13C-2,3,7,8-TCDF	46		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	49		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	49		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	51		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	58		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	57		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	60		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	57		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	54		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	55		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	48		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	48		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	47		26-138
114423-97-1	13C-OCDD	36		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	111		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_16.d
Lims ID: MB 320-327320/1-A
Client ID:
Sample Type: MB
Inject. Date: 03-Oct-2019 23:48:49 ALS Bottle#: 15 Worklist Smp#: 16
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: MB 320-327320/1-A MB 320-327320/1-A
Misc. Info.: 03OC1910D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 07-Oct-2019 08:49:34 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0322

First Level Reviewer: dadunj Date: 07-Oct-2019 08:49:34

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	16.822	71472818	0.79	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.353	47103811	0.80	1.4384	45.8	45.8	0.2248	0.2248	45.82	
2,3,7,8-TCDF	16.338						0.0609	0.0609		
A Non-2,3,7,8-sub-TCDF	16.058						0.0609	0.0609		
S Total TCDF							0.0609	0.0609		
D 13C-2,3,7,8-TCDD	17.003	35646249	0.78	0.9533	52.3	52.3	0.3016	0.3016	52.31	
2,3,7,8-TCDD	16.988						0.0734	0.0734		
$ 37Cl4-2,3,7,8-TCDD	17.018	38850341		1.2224	44.5	44.5	0.0540	0.0540	111	
A Non-2,3,7,8-sub-TCDD	16.482						0.0734	0.0734		
S Total TCDD							0.0734	0.0734		
D 13C-1,2,3,7,8-PeCDF	20.970	36095506	1.58	1.0286	49.1	49.1	0.1902	0.1902	49.10	
1,2,3,7,8-PeCDF	20.983	100580	1.51	1.0822	0.2575	0.2575	0.0516	0.0516		M
D 13C-2,3,4,7,8-PeCDF	22.197	36155465	1.58	0.9827	51.5	51.5	0.1990	0.1990	51.48	
2,3,4,7,8-PeCDF	22.224	121164	1.63	1.1032	0.3038	0.3038	0.0549	0.0549		M
A F1 PeCDFs	18.727						0.0651	0.0651		
A Non-2,3,7,8-sub-PeCDF	21.612						0.0531	0.0531		U
S Total PeCDF					0.5612	0.5612	0.0532	0.0532		
D 13C-1,2,3,7,8-PeCDD	22.865	25972874	1.63	0.7481	48.6	48.6	0.1666	0.1666	48.58	
1,2,3,7,8-PeCDD	22.893	90565	1.78	0.9050	0.3853	0.3853	0.0807	0.0807		
A Non-2,3,7,8-sub-PeCDD	21.843						0.0807	0.0807		
S Total PeCDD					0.3853	0.3853	0.0807	0.0807		
D 13C-1,2,3,4,7,8-HxCDF	28.722	31695355	0.52	1.1520	59.9	59.9	0.4681	0.4681	59.87	
1,2,3,4,7,8-HxCDF	28.802	113437	1.24	1.1973	0.3497	0.2989	0.1371	0.1371		RQ
D 13C-1,2,3,6,7,8-HxCDF	29.028	32807068	0.52	1.2434	57.4	57.4	0.4337	0.4337	57.42	
1,2,3,6,7,8-HxCDF	29.108	145368	1.08	1.1807	0.3753	0.3753	0.1419	0.1419		Ma
D 13C-2,3,4,6,7,8-HxCDF	30.479	29511798	0.53	1.1720	54.8	54.8	0.4602	0.4602	54.80	
2,3,4,6,7,8-HxCDF	30.506	98552	1.24	1.2116	0.3161	0.2756	0.1018	0.1018		RQM
D 13C-1,2,3,7,8,9-HxCDF	31.544	26312161	0.51	1.0655	53.7	53.7	0.5062	0.5062	53.74	
1,2,3,7,8,9-HxCDF	31.571	103564	1.09	1.2451	0.3161	0.3161	0.0951	0.0951		M
A Non-2,3,7,8-sub-HxCDF	28.849						0.1157	0.1157		
S Total HxCDF					1.357	1.266	0.1190	0.1190		RQ

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.331	45953133	1.27	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	30.759	20781807	1.23	0.7812	57.9	57.9	0.4895	0.4895	57.89	
1,2,3,4,7,8-HxCDD	30.785	98600	1.35	1.1088	0.4279	0.4279	0.0790	0.0790		M
D 13C-1,2,3,6,7,8-HxCDD	30.905	24023211	1.23	0.9175	57.0	57.0	0.4168	0.4168	56.98	
1,2,3,6,7,8-HxCDD	30.905	81688	1.07	1.0814	0.3144	0.3144	0.0736	0.0736		Ma
1,2,3,7,8,9-HxCDD	31.344	91864	1.22	1.2123	0.3382	0.3382	0.0688	0.0688		M
A Non-2,3,7,8-sub-HxCDD	29.375						0.0735	0.0735		
S Total HxCDD					1.081	1.081	0.0738	0.0738		
D 13C-1,2,3,4,6,7,8-HpCDF	33.220	18946212	0.43	0.8628	47.8	47.8	1.153	1.153	47.79	
1,2,3,4,6,7,8-HpCDF	33.232	103926	0.98	1.5555	0.3526	0.3526	0.0394	0.0394		M
D 13C-1,2,3,4,7,8,9-HpCDF	34.277	17214610	0.45	0.7991	46.9	46.9	1.245	1.245	46.88	
1,2,3,4,7,8,9-HpCDF	34.277	69636	0.89	1.3862	0.2918	0.2918	0.0534	0.0534		M
A Non-2,3,7,8-sub-HpCDF	33.742						0.0456	0.0456		U
S Total HpCDF					0.6444	0.6444	0.0464	0.0464		
D 13C-1,2,3,4,6,7,8-HpCDD	33.997	19376901	1.03	0.8739	48.3	48.3	0.7752	0.7752	48.25	
1,2,3,4,6,7,8-HpCDD	34.009	52170	1.05	0.9316	0.2890	0.2890	0.0520	0.0520		M
A Non-2,3,7,8-sub-HpCDD	33.889						0.0520	0.0520		U
S Total HpCDD					0.2890	0.2890	0.0520	0.0520		
D 13C-OCDD	36.235	25799958	0.94	0.7744	72.5	72.5	0.2857	0.2857	36.25	
OCDF	36.319						0.1257	0.1257		
OCDD	36.247	109583	0.92	1.0621	0.7998	0.7998	0.0830	0.0830		M

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_16.d
Lims ID: MB 320-327320/1-A
Client ID:
Sample Type: MB
Inject. Date: 03-Oct-2019 23:48:49 ALS Bottle#: 15 Worklist Smp#: 16
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: MB 320-327320/1-A MB 320-327320/1-A
Misc. Info.: 03OC1910D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 07-Oct-2019 08:49:34 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0322

First Level Reviewer: dadunj Date: 07-Oct-2019 08:49:34

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	16.822	16.792	2		31628648	8171321	9820	24550	832		
333.9339	16.822	16.792	2		39844170	10349954	11479	28697	902	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.353	16.323	2	0.972	20886357	5533570	15689	39222	353		
317.9389	16.353	16.323	2	0.972	26217454	6950126	8264	20660	841	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.338						1287	3217			
305.8987	16.338						1906	4765			
A Non-2,3,7,8-sub-TCDF											
303.9016	16.058						1287	3217			
305.8987	16.058						1906	4765			
13C-2,3,7,8-TCDD											
331.9368	17.003	16.973	2	1.011	15570715	3787383	9820	24550	386		
333.9339	17.003	16.973	2	1.011	20075534	4940850	11479	28697	430	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	16.988						1645	4112			
321.8936	16.988						1192	2980			
37Cl4-2,3,7,8-TCDD											
327.8847	17.018	16.988	2	1.012	38850341	9580154	4892	12230	1958		
A Non-2,3,7,8-sub-TCDD											
319.8965	16.482						1645	4112			
321.8936	16.482						1192	2980			
13C-1,2,3,7,8-PeCDF											
351.9000	20.970	20.929	2	1.247	22098075	4135931	8649	21622	478		
353.8970	20.970	20.929	2	1.247	13997431	2534776	5842	14605	434	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											M
339.8597	20.983	20.956	2	1.001	60495	10826	466	1165	23		
341.8567	20.983	20.956	2	1.001	40085	7468	1023	2557	7	1.51(1.32-1.78)	M
13C-2,3,4,7,8-PeCDF											
351.9000	22.197	22.170	2	1.320	22119182	3780453	8649	21622	437		
353.8970	22.197	22.170	2	1.320	14036283	2366892	5842	14605	405	1.58(1.32-1.78)	
2,3,4,7,8-PeCDF											M
339.8597	22.224	22.184	2	1.001	75126	11957	466	1165	26		M
341.8567	22.224	22.184	2	1.001	46038	8471	1023	2557	8	1.63(1.32-1.78)	M
A F1 PeCDFs											
339.8597	18.727						590	1475			
341.8567	18.727						1234	3085			
A Non-2,3,7,8-sub-PeCDF											U
339.8597	21.612						466	1165			
341.8567	21.612						1023	2557			
13C-1,2,3,7,8-PeCDD											
367.8949	22.865	22.825	2	1.359	16106694	2638803	5315	13287	496		
369.8919	22.865	22.825	2	1.359	9866180	1663125	3918	9795	424	1.63(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	22.893	22.852	2	1.001	57984	9479	973	2432	10		
357.8516	22.879	22.852	2	1.001	32581	5306	284	710	19	1.78(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	21.843						973	2432			
357.8516	21.843						284	710			
13C-1,2,3,4,7,8-HxCDF											
383.8639	28.722	28.669	3	0.917	10779975	1306385	6421	16052	203		
385.8610	28.722	28.669	3	0.917	20915380	2481395	13202	33005	188	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											RQ
373.8208	28.802	28.696	6	1.003	62796	7834	1521	3802	5		
375.8178	28.762	28.696	4	1.001	69907	8035	967	2417	8	0.90(1.05-1.43)	
	Empc Correction				50641	6317	967	2417	7		
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.028	28.975	3	0.927	11275848	1277264	6421	16052	199		
385.8610	29.028	28.975	3	0.927	21531220	2435562	13202	33005	184	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											Ma
373.8208	29.108	29.002	6	1.003	75430	8391	1521	3802	6		M
375.8178	29.082	29.002	5	1.002	69938	8216	967	2417	8	1.08(1.05-1.43)	a
13C-2,3,4,6,7,8-HxCDF											
383.8639	30.479	30.439	2	0.973	10195591	1688544	6421	16052	263		
385.8610	30.466	30.439	2	0.972	19316207	3352480	13202	33005	254	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											RQM
373.8208	30.506	30.453	3	1.001	54556	10387	1521	3802	7		M
375.8178	30.479	30.453	2	1.000	58463	11325	967	2417	12	0.93(1.05-1.43)	M
	Empc Correction				43996	8376	967	2417	9		
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.544	31.517	2	1.007	8872842	1775114	6421	16052	276		
385.8610	31.544	31.517	2	1.007	17439319	3477363	13202	33005	263	0.51(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											M
373.8208	31.571	31.544	2	1.001	54038	11452	1521	3802	8		M
375.8178	31.558	31.544	1	1.000	49526	12229	967	2417	13	1.09(1.05-1.43)	M
A Non-2,3,7,8-sub-HxCDF											
373.8208	28.849						1521	3802			
375.8178	28.849						967	2417			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.331	31.305	2		25728509	5054690	7884	19710	641		
403.8529	31.331	31.305	2		20224624	4041578	6031	15077	670	1.27(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	30.759	30.719	2	0.982	11458672	2211257	7884	19710	280		
403.8529	30.759	30.719	2	0.982	9323135	1802276	6031	15077	299	1.23(1.05-1.43)	
1,2,3,4,7,8-HxCDD											M
389.8157	30.785	30.746	2	1.001	56639	11460	595	1487	19		
391.8127	30.785	30.746	2	1.001	41961	8246	811	2027	10	1.35(1.05-1.43)	M
13C-1,2,3,6,7,8-HxCDD											
401.8559	30.905	30.865	2	0.986	13260551	2428836	7884	19710	308		
403.8529	30.905	30.865	2	0.986	10762660	1988474	6031	15077	330	1.23(1.05-1.43)	
1,2,3,6,7,8-HxCDD											Ma
389.8157	30.905	30.892	1	1.000	42259	8705	595	1487	15		M
391.8127	30.919	30.892	2	1.000	39429	8251	811	2027	10	1.07(1.05-1.43)	M
1,2,3,7,8,9-HxCDD											M
389.8157	31.344	31.318	2	1.019	50541	9970	595	1487	17		
391.8127	31.344	31.318	2	1.019	41323	8230	811	2027	10	1.22(1.05-1.43)	M
A Non-2,3,7,8-sub-HxCDD											
389.8157	29.375						595	1487			
391.8127	29.375						811	2027			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.220	33.207	1	1.060	5701348	1546929	10508	26270	147		
419.8220	33.220	33.207	1	1.060	13244864	3731721	25677	64192	145	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											M
407.7818	33.232	33.207	1	1.000	51526	14381	776	1940	19		M
409.7789	33.232	33.207	1	1.000	52400	15133	518	1295	29	0.98(0.88-1.20)	M
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.277	34.252	1	1.094	5306773	1349486	10508	26270	128		
419.8220	34.277	34.252	1	1.094	11907837	3019426	25677	64192	118	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											M
407.7818	34.277	34.264	1	1.000	32853	8891	776	1940	11		M
409.7789	34.277	34.264	1	1.000	36783	9046	518	1295	17	0.89(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											U
407.7818	33.742						776	1940			
409.7789	33.742						518	1295			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	33.997	33.985	1	1.085	9854544	2485481	13826	34565	180		
437.8140	33.997	33.985	1	1.085	9522357	2475947	10823	27057	229	1.03(0.88-1.20)	

Report Date: 07-Oct-2019 08:49:37 Chrom Revision: 2.3 17-Sep-2019 16:19:08
Data File: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_16.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											M
423.7766	34.009	33.997	1	1.000	26674	7654	590	1475	13		M
425.7737	34.021	33.997	1	1.001	25496	7348	371	927	20	1.05(0.88-1.20)	M
A Non-2,3,7,8-sub-HpCDD											U
423.7766	33.889						590	1475			
425.7737	33.889						371	927			
13C-OCDD											
469.7779	36.235	36.211	1	1.157	12532903	2624673	3005	7512	873		
471.7750	36.235	36.211	1	1.157	13267055	2936419	5044	12610	582	0.94(0.76-1.02)	
OCDF											
441.7428	36.306						628	1570			
443.7399	36.306						1133	2832			
OCDD											M
457.7377	36.247	36.223	1	1.000	52498	11654	494	1235	24		M
459.7348	36.247	36.223	1	1.000	57085	10752	486	1215	22	0.92(0.76-1.02)	M

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_16.d
Lims ID: MB 320-327320/1-A
Client ID:
Inject. Date: 03-Oct-2019 23:48:49 Dil. Factor: 1.0000
Sample Type: MB, Method Blank
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 328202 Lims Sample ID: 16

Non-2,3,7,8-sub-PeCDF, RT: 21.612

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.082	D 13C-1,2,3,7,8-PeCDF	100.000	36095506	6670707
2,3,4,7,8-PeCDF	1.103	D 13C-2,3,4,7,8-PeCDF	100.000	36155465	6147345

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.093		100.000	36125485	6409026

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags

Compound is Marked ND

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_16.d
Lims ID: MB 320-327320/1-A
Client ID:
Inject. Date: 03-Oct-2019 23:48:49 Dil. Factor: 1.0000
Sample Type: MB, Method Blank
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 328202 Lims Sample ID: 16

Non-2,3,7,8-sub-HpCDF, RT: 33.742

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.556	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	18946212	5278650
1,2,3,4,7,8,9-HpCDF	1.386	D 13C-1,2,3,4,7,8,9-HpCDF	100.000	17214610	4368912

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.471		100.000	18080411	4823781

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags

Compound is Marked ND

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_16.d
Lims ID: MB 320-327320/1-A
Client ID:
Inject. Date: 03-Oct-2019 23:48:49 Dil. Factor: 1.0000
Sample Type: MB, Method Blank
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 328202 Lims Sample ID: 16

Non-2,3,7,8-sub-HpCDD, RT: 33.889

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.932	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	19376901	4961428

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.932		100.000	19376901	4961428

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags

Compound is Marked ND

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_16.d				
Injection Date:	03-Oct-2019 23:48:49	Instrument ID:	10D5		
Lims ID:	MB 320-327320/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	15	Worklist Smp#:	16
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

1,2,3,7,8-PeCDF, CAS: 57117-41-6

Signal: 2

Processing Integration Results

RT: 20.98
Area: 45630
Amount: 0.271668
Amount Units: pg/ul

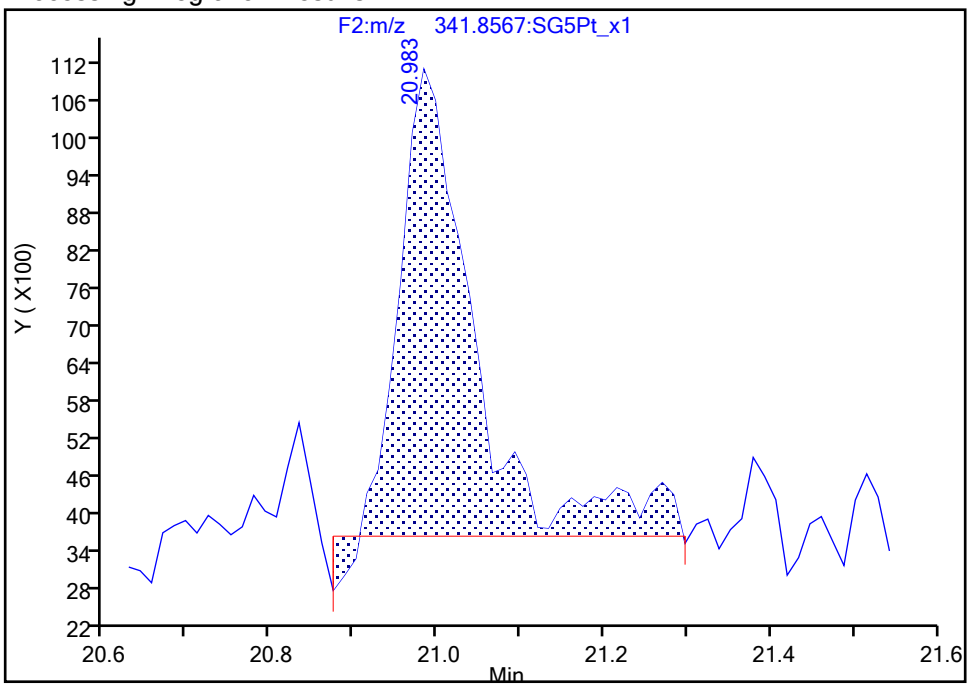

Manual Integration Results

RT: 20.98
Area: 40085
Amount: 0.257474
Amount Units: pg/ul

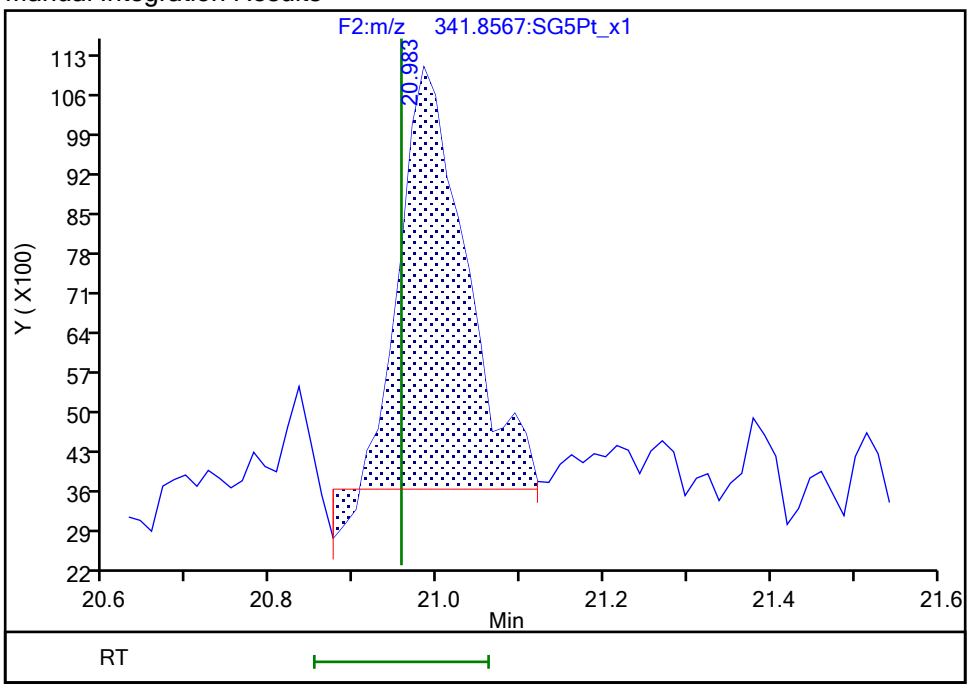

Reviewer: dadunj, 07-Oct-2019 08:45:16

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_16.d				
Injection Date:	03-Oct-2019 23:48:49	Instrument ID:	10D5		
Lims ID:	MB 320-327320/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	15	Worklist Smp#:	16
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

2,3,4,7,8-PeCDF, CAS: 57117-31-4

Signal: 1

Processing Integration Results

RT: 22.22
Area: 78153
Amount: 0.324651
Amount Units: pg/ul

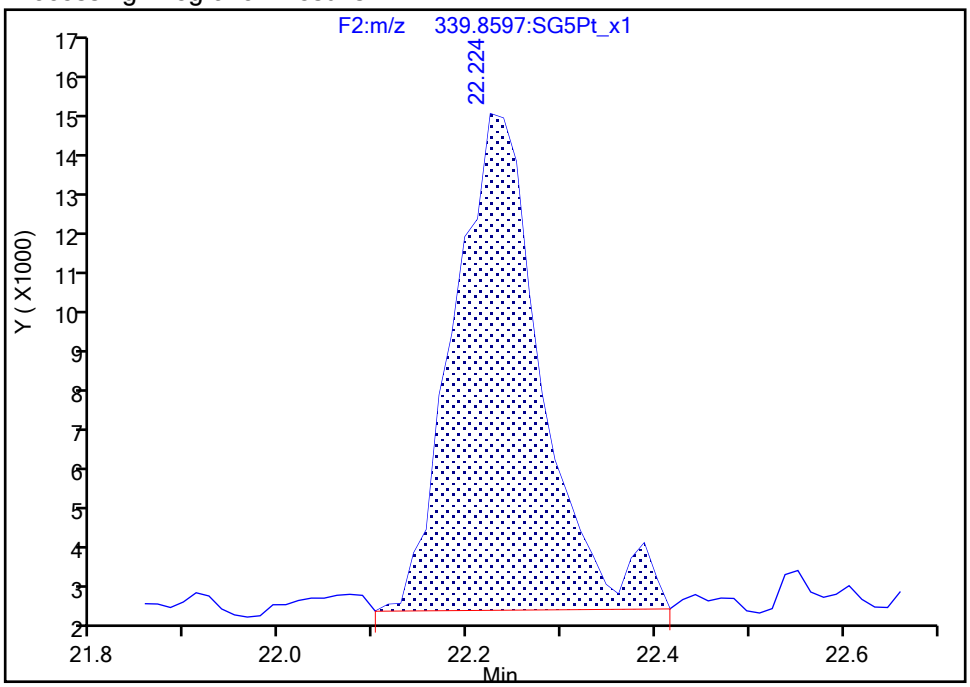

Manual Integration Results

RT: 22.22
Area: 75126
Amount: 0.303770
Amount Units: pg/ul

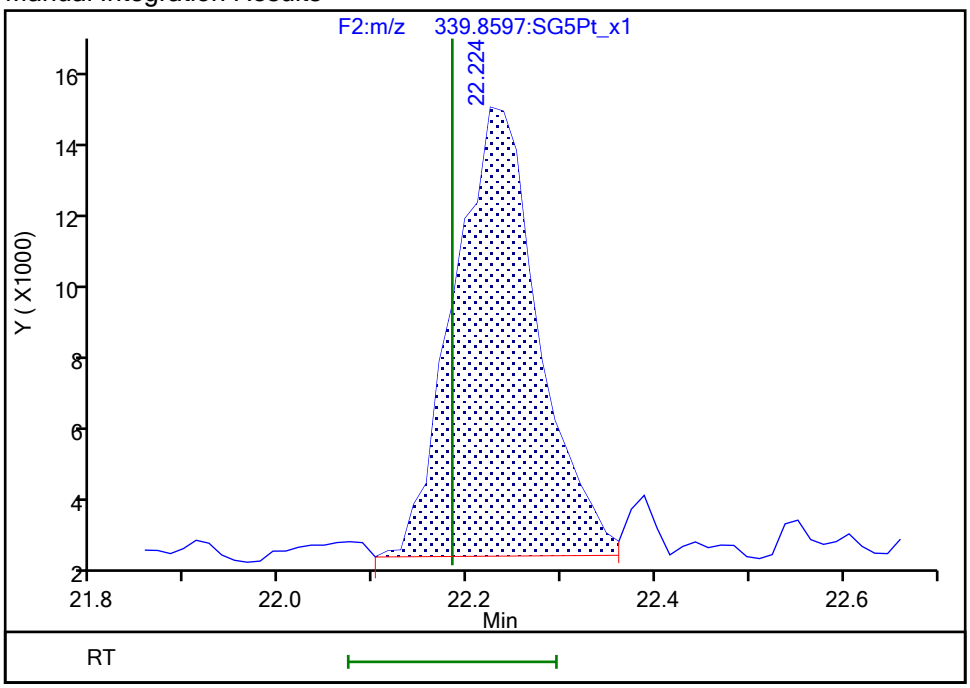

Reviewer: dadunj, 07-Oct-2019 08:45:37

Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_16.d				
Injection Date:	03-Oct-2019 23:48:49	Instrument ID:	10D5		
Lims ID:	MB 320-327320/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	15	Worklist Smp#:	16
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

2,3,4,7,8-PeCDF, CAS: 57117-31-4

Signal: 2

Processing Integration Results

RT: 22.22
Area: 51340
Amount: 0.324651
Amount Units: pg/ul

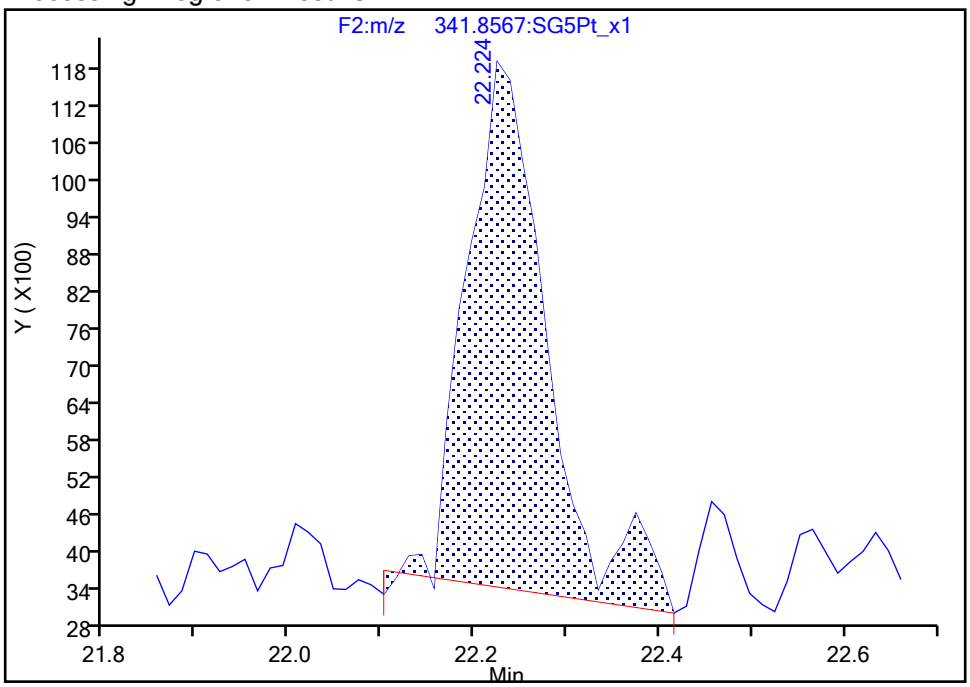

Manual Integration Results

RT: 22.22
Area: 46038
Amount: 0.303770
Amount Units: pg/ul

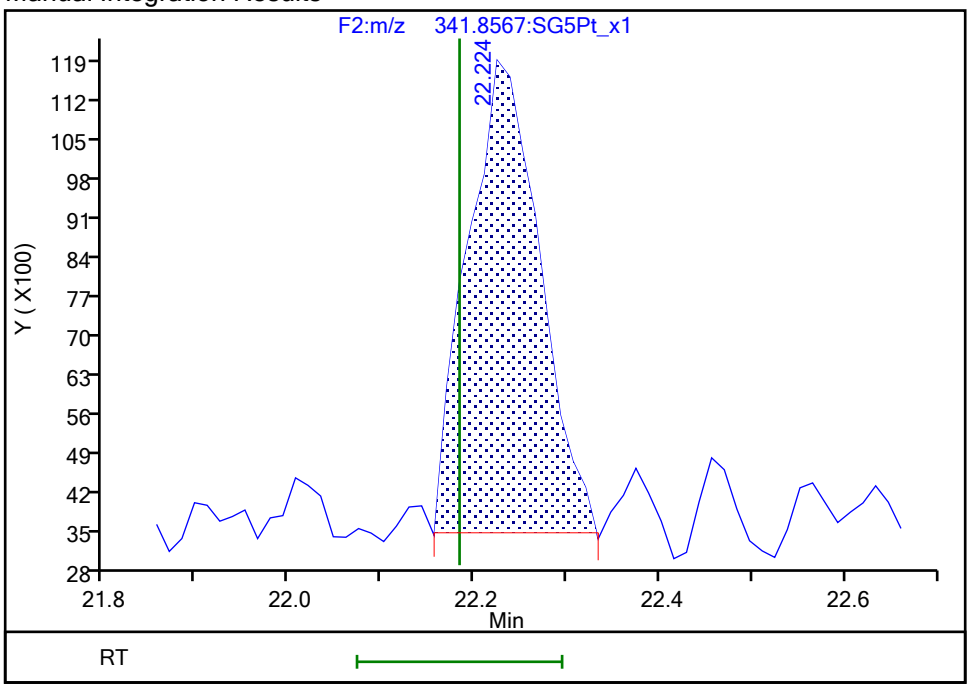

Reviewer: dadunj, 07-Oct-2019 08:45:39

Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_16.d				
Injection Date:	03-Oct-2019 23:48:49	Instrument ID:	10D5		
Lims ID:	MB 320-327320/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	15	Worklist Smp#:	16
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDF, CAS: 57117-44-9

Signal: 2

Not Detected
Expected RT: 29.00

Processing Integration Results

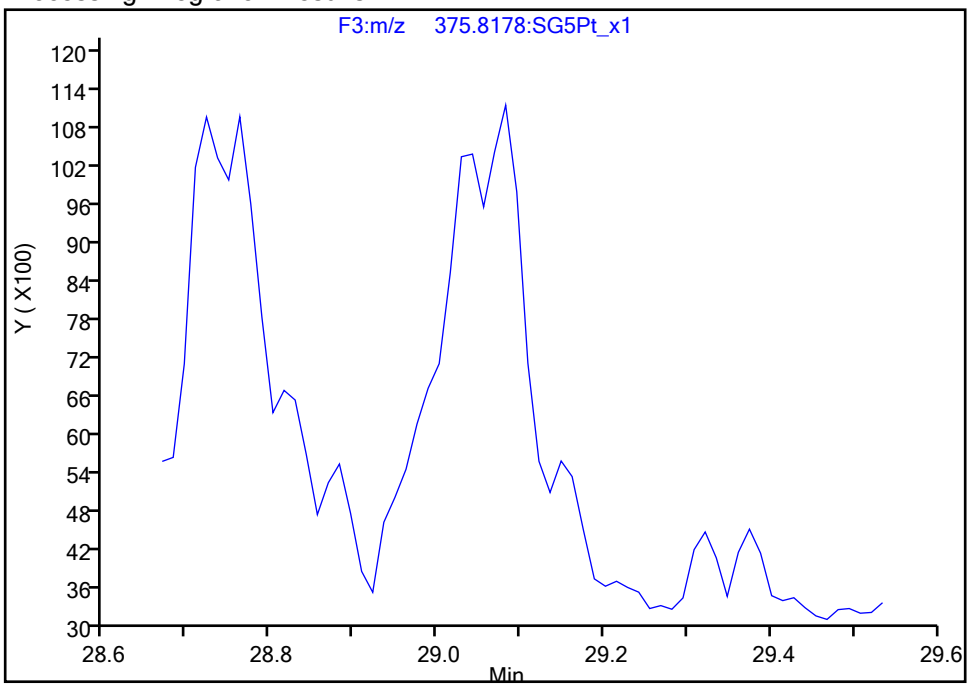

RT: 29.08
Area: 69938
Amount: 0.375298
Amount Units: pg/ul

Manual Integration Results

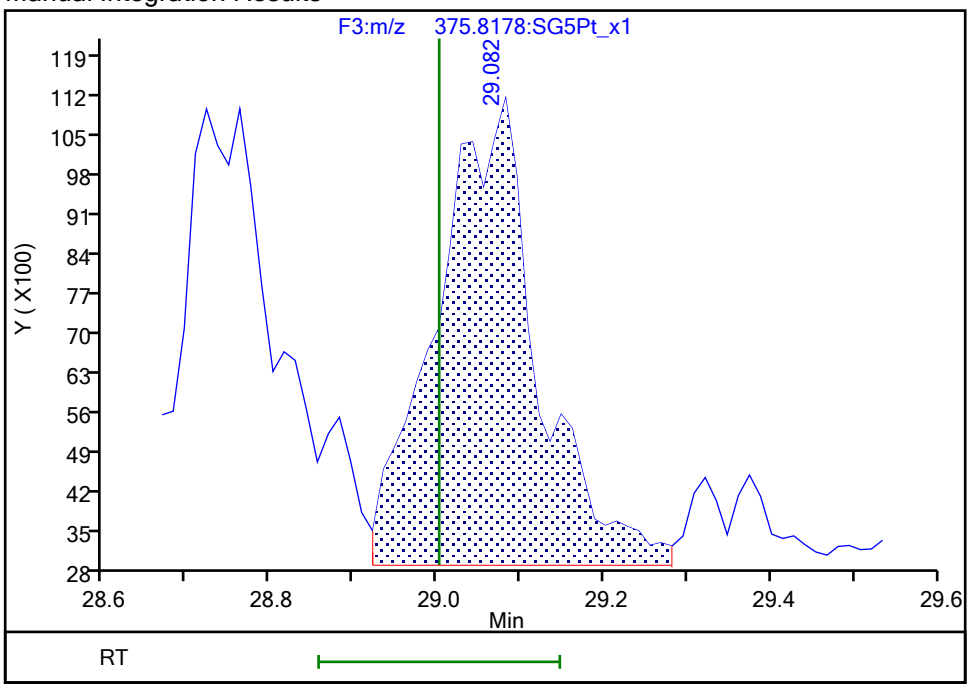

Reviewer: dadunj, 07-Oct-2019 08:46:17
Audit Action: Assigned Compound ID Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_16.d				
Injection Date:	03-Oct-2019 23:48:49	Instrument ID:	10D5		
Lims ID:	MB 320-327320/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	15	Worklist Smp#:	16
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDF, CAS: 57117-44-9

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 29.00

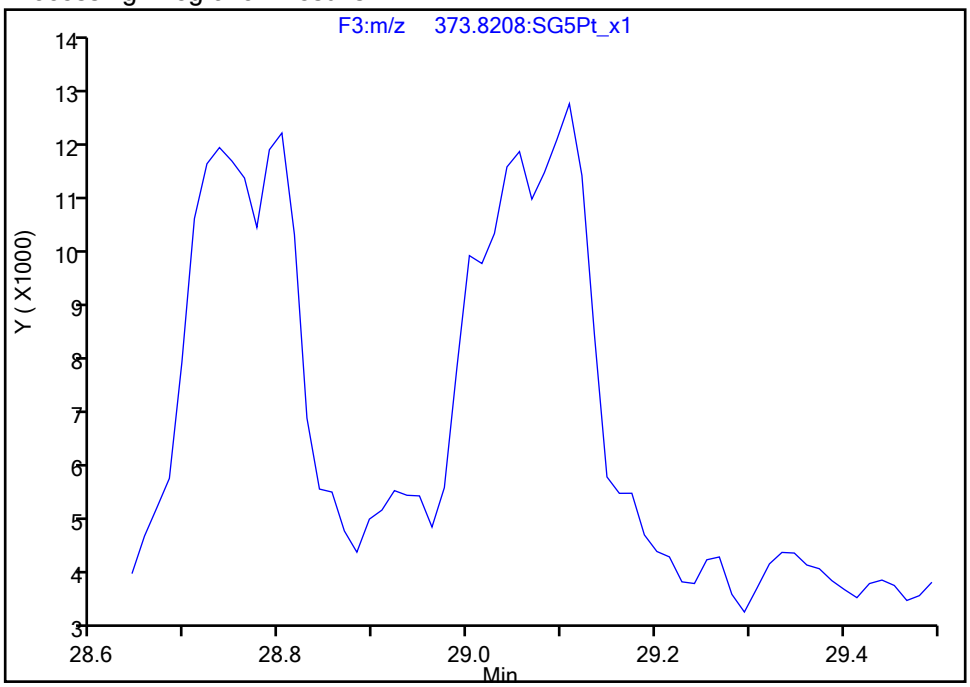

Manual Integration Results

RT: 29.11
Area: 75430
Amount: 0.375298
Amount Units: pg/ul

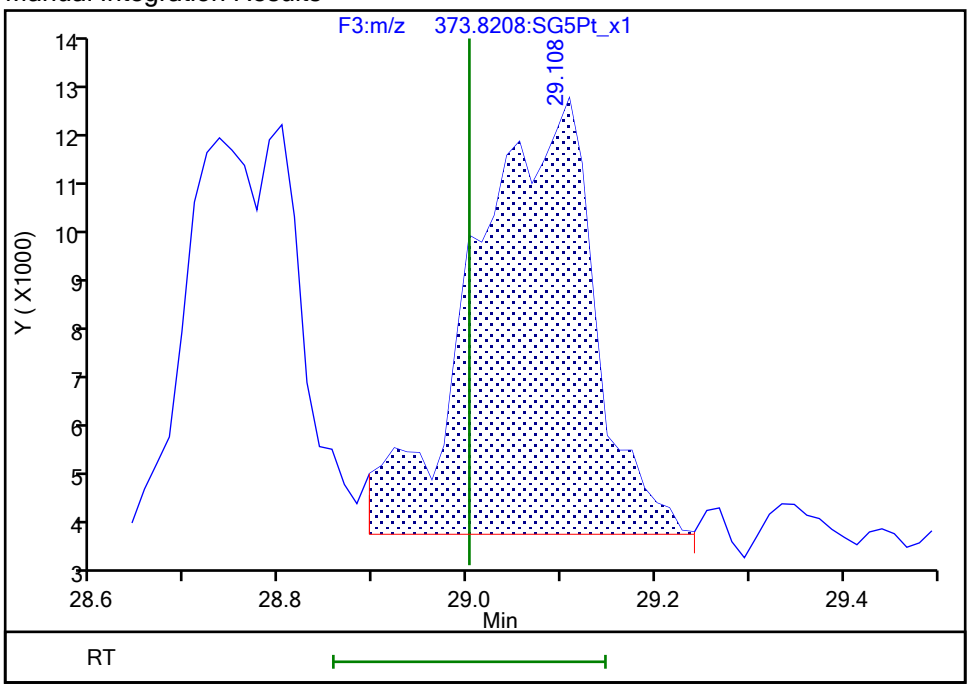

Reviewer: dadunj, 07-Oct-2019 08:46:17
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_16.d				
Injection Date:	03-Oct-2019 23:48:49	Instrument ID:	10D5		
Lims ID:	MB 320-327320/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	15	Worklist Smp#:	16
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

2,3,4,6,7,8-HxCDF, CAS: 60851-34-5

Signal: 1

Processing Integration Results

RT: 30.51
Area: 53057
Amount: 0.338393
Amount Units: pg/ul

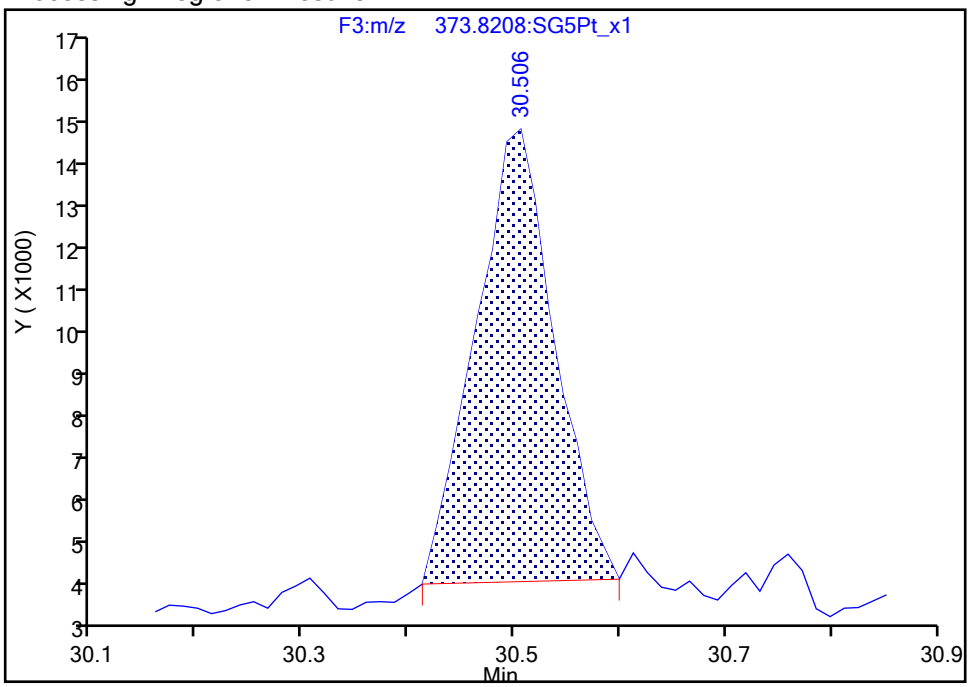

Manual Integration Results

RT: 30.51
Area: 54556
Amount: 0.316083
Amount Units: pg/ul

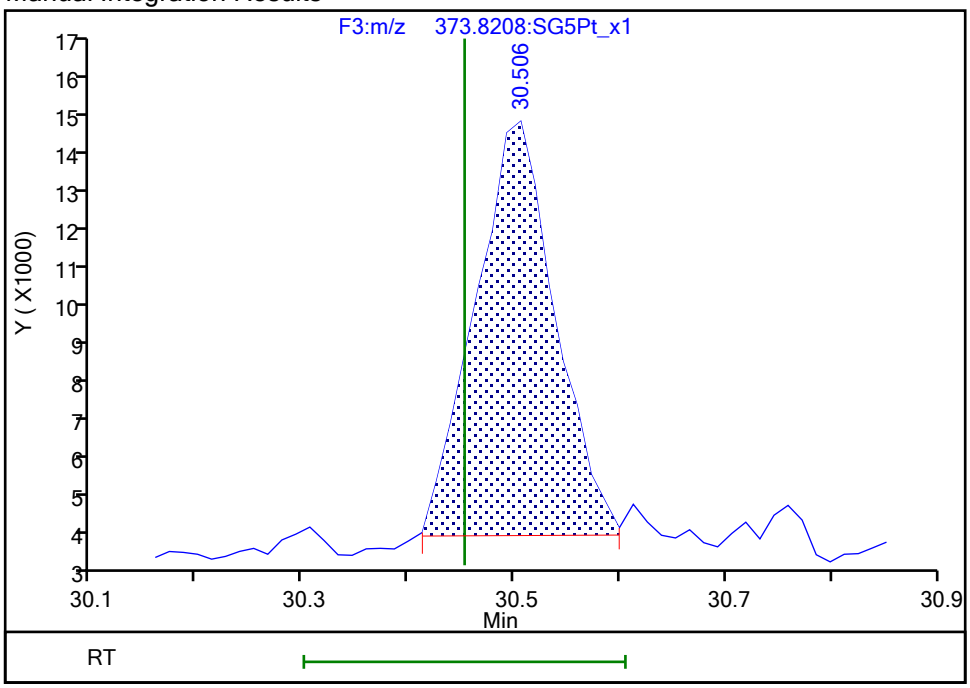

Reviewer: dadunj, 07-Oct-2019 08:46:32

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_16.d				
Injection Date:	03-Oct-2019 23:48:49	Instrument ID:	10D5		
Lims ID:	MB 320-327320/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	15	Worklist Smp#:	16
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

2,3,4,6,7,8-HxCDF, CAS: 60851-34-5

Signal: 2

Processing Integration Results

RT: 30.48
Area: 67939
Amount: 0.338393
Amount Units: pg/ul

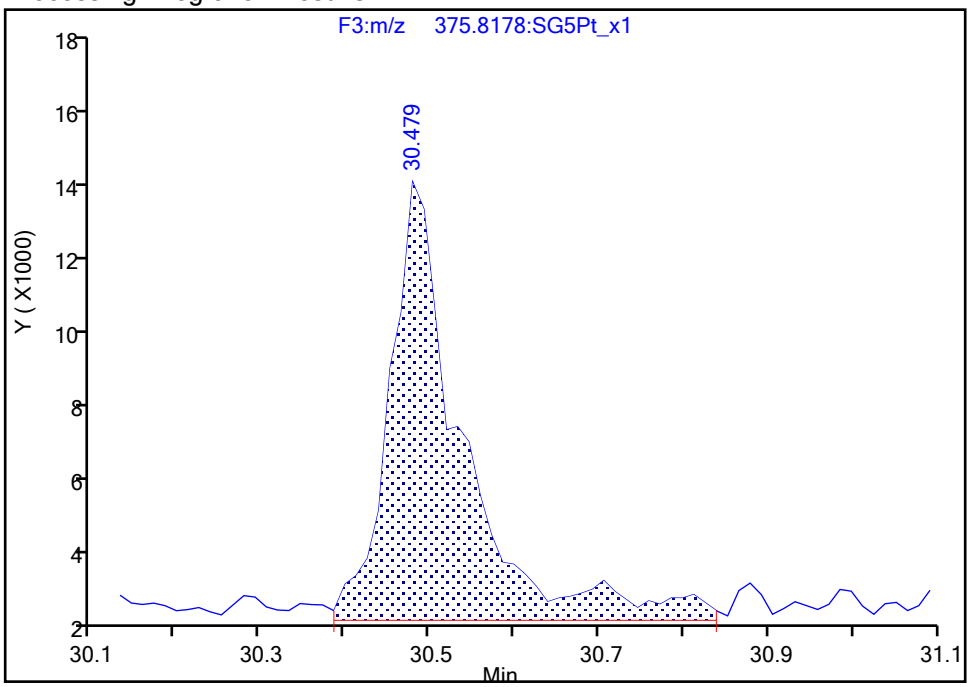

Manual Integration Results

RT: 30.48
Area: 58463
Amount: 0.316083
Amount Units: pg/ul

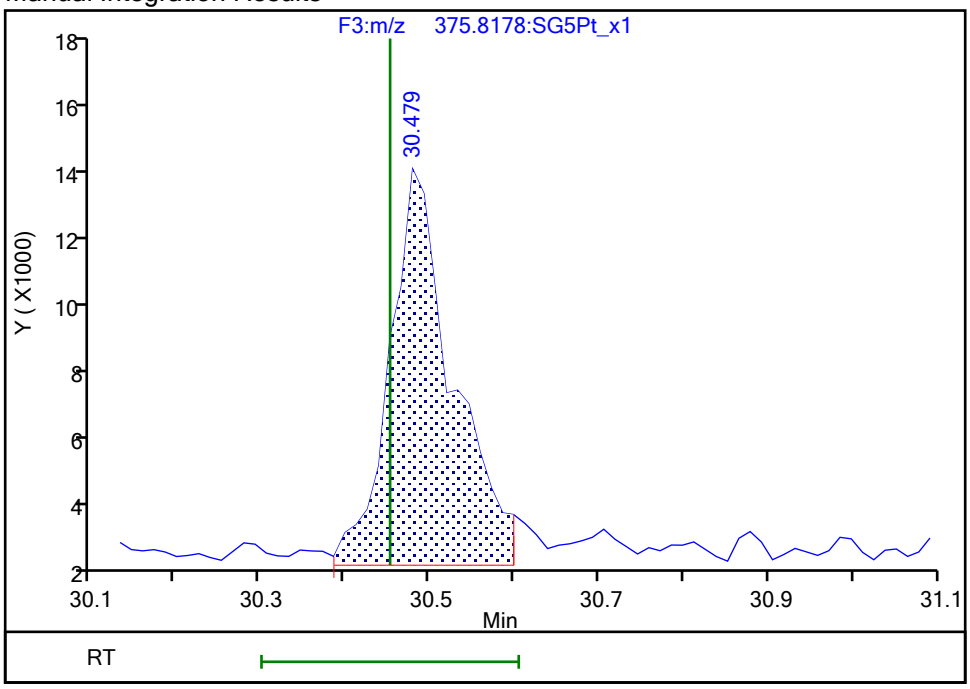

Reviewer: dadunj, 07-Oct-2019 08:46:36

Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_16.d				
Injection Date:	03-Oct-2019 23:48:49	Instrument ID:	10D5		
Lims ID:	MB 320-327320/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	15	Worklist Smp#:	16
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 2

Processing Integration Results

RT: 31.56
Area: 65135
Amount: 0.373470
Amount Units: pg/ul

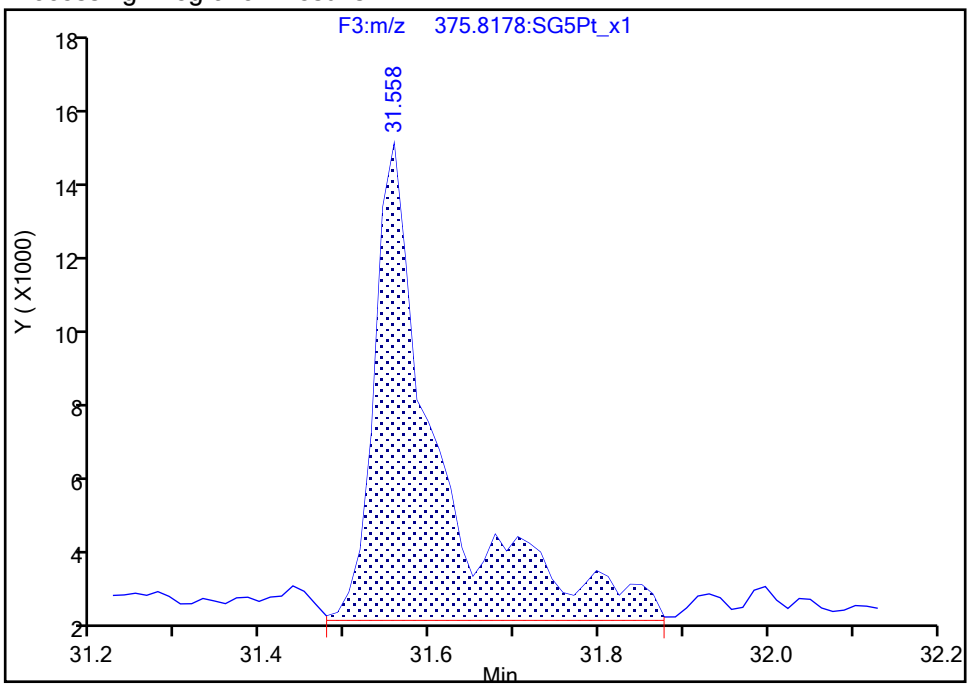

Manual Integration Results

RT: 31.56
Area: 49526
Amount: 0.316110
Amount Units: pg/ul

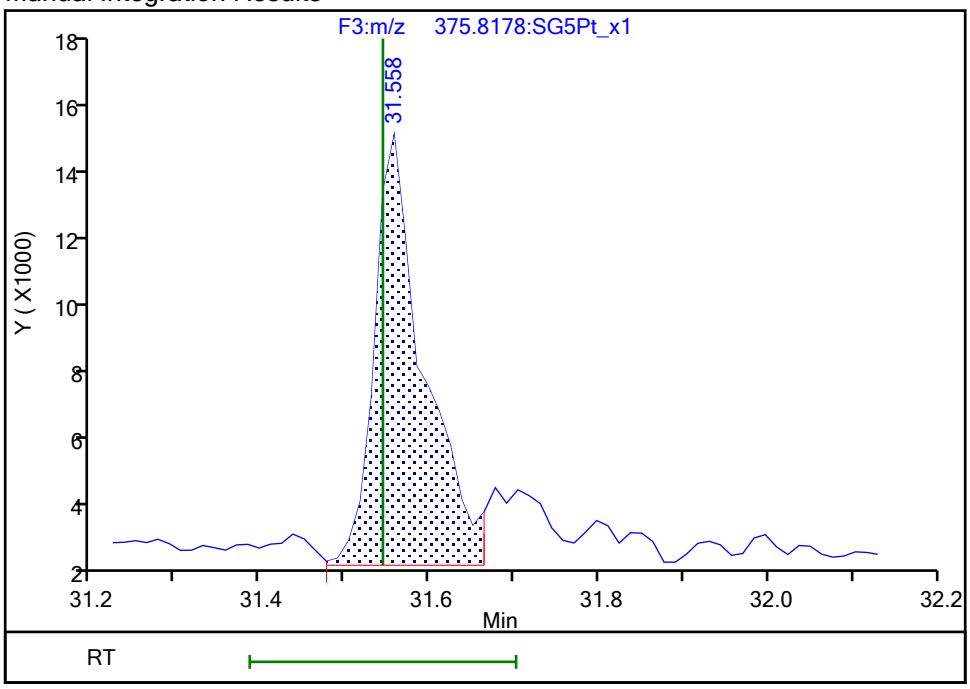

Reviewer: dadunj, 07-Oct-2019 08:47:08

Audit Action: Manually Integrated Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_16.d				
Injection Date:	03-Oct-2019 23:48:49	Instrument ID:	10D5		
Lims ID:	MB 320-327320/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	15	Worklist Smp#:	16
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 1

Processing Integration Results

RT: 31.57
Area: 57221
Amount: 0.373470
Amount Units: pg/ul

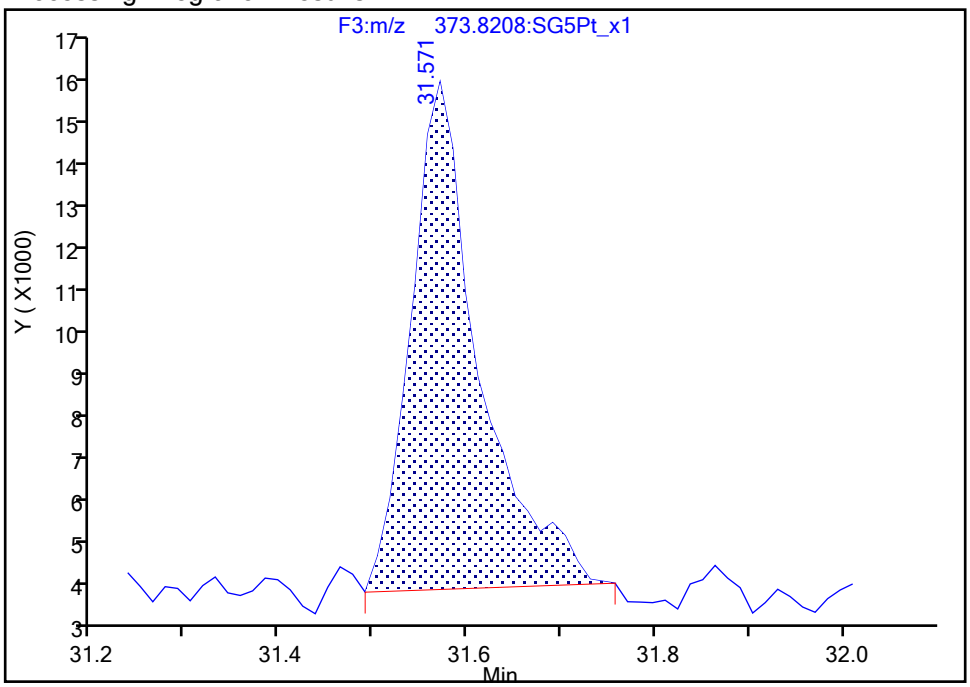

Manual Integration Results

RT: 31.57
Area: 54038
Amount: 0.316110
Amount Units: pg/ul

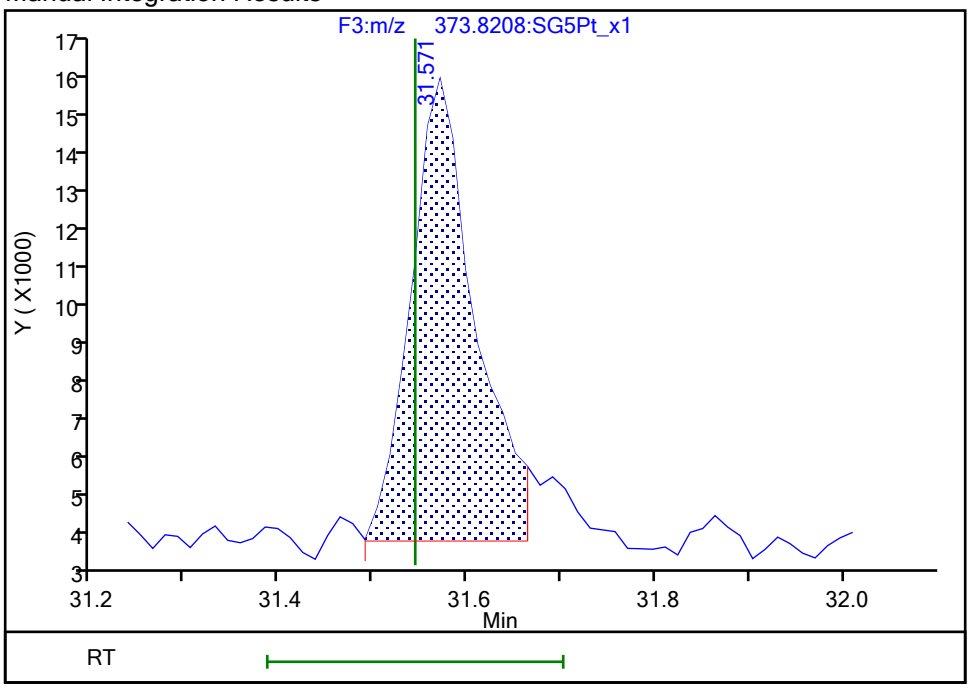

Reviewer: dadunj, 07-Oct-2019 08:47:12

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_16.d				
Injection Date:	03-Oct-2019 23:48:49	Instrument ID:	10D5		
Lims ID:	MB 320-327320/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	15	Worklist Smp#:	16
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 2

Processing Integration Results

RT: 30.79
Area: 88617
Amount: 0.630374
Amount Units: pg/ul

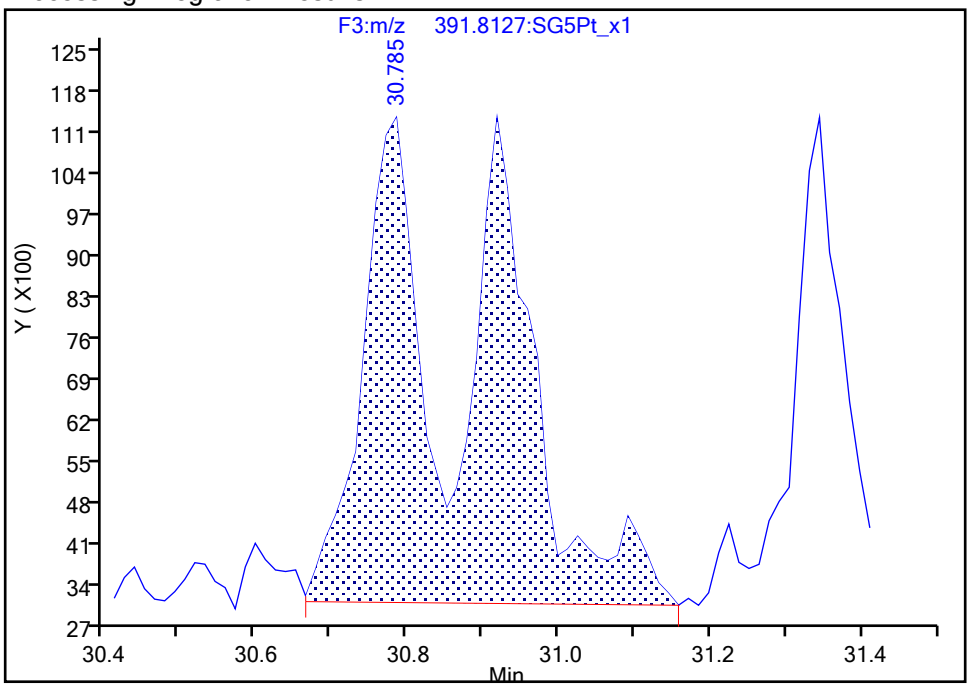

Manual Integration Results

RT: 30.79
Area: 41961
Amount: 0.427899
Amount Units: pg/ul

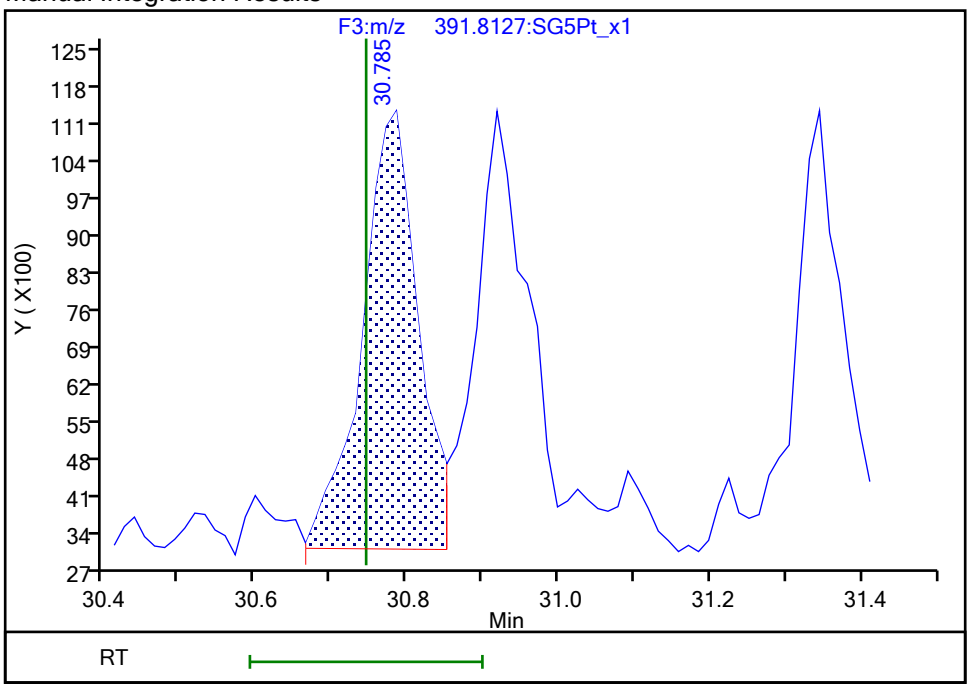

Reviewer: dadunj, 07-Oct-2019 08:47:29

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_16.d				
Injection Date:	03-Oct-2019 23:48:49	Instrument ID:	10D5		
Lims ID:	MB 320-327320/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	15	Worklist Smp#:	16
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 1

Processing Integration Results

RT: 30.79
Area: 56639
Amount: 0.559128
Amount Units: pg/ul

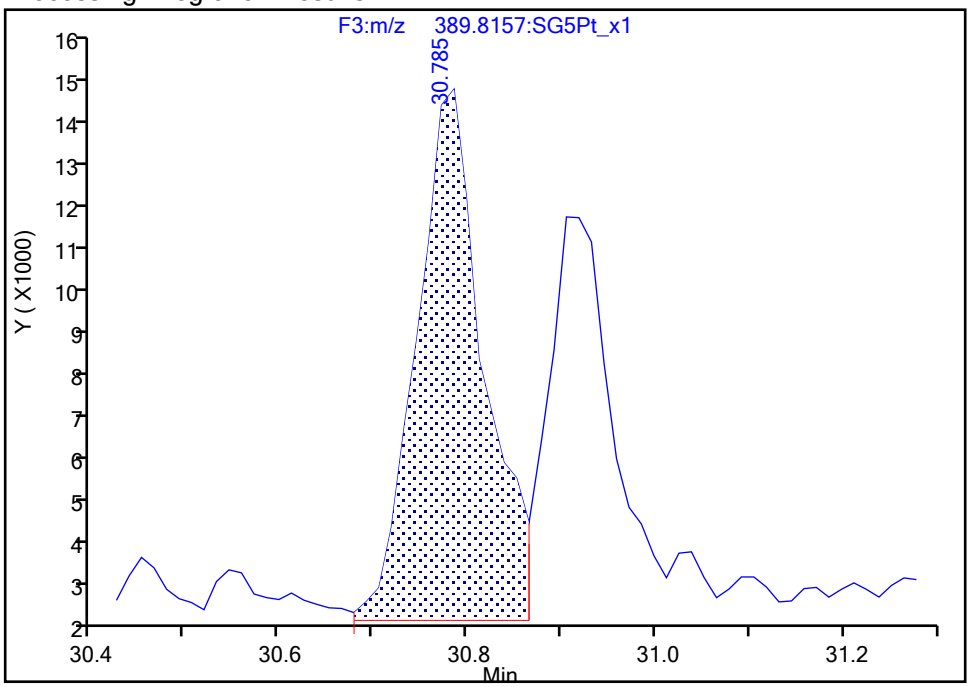

Manual Integration Results

RT: 30.91
Area: 42259
Amount: 0.314438
Amount Units: pg/ul

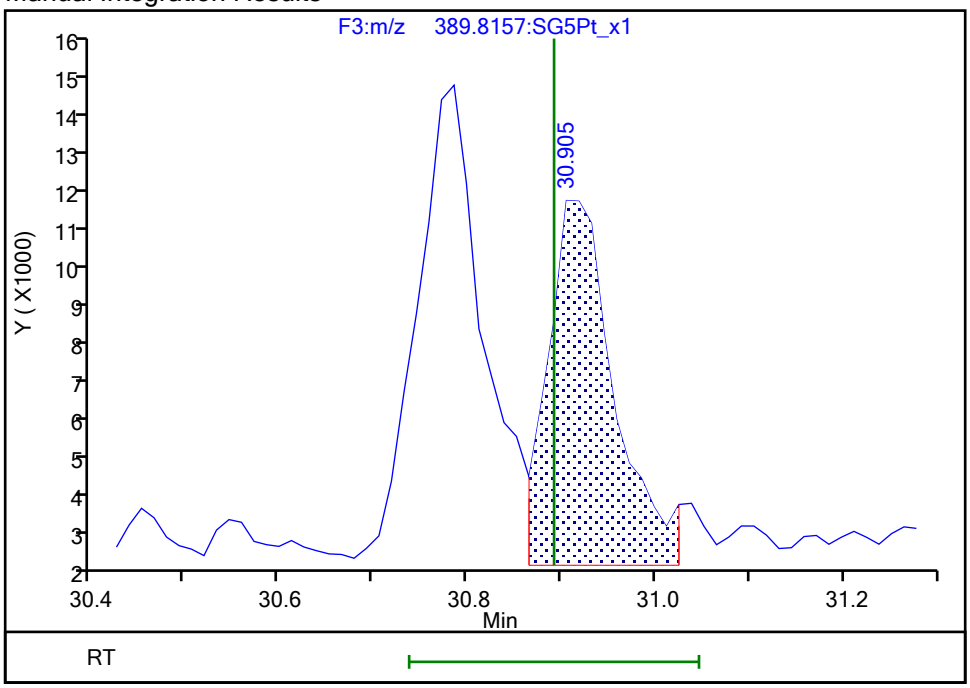

Reviewer: dadunj, 07-Oct-2019 08:47:41

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_16.d				
Injection Date:	03-Oct-2019 23:48:49	Instrument ID:	10D5		
Lims ID:	MB 320-327320/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	15	Worklist Smp#:	16
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 2

Processing Integration Results

RT: 30.79
Area: 88617
Amount: 0.559128
Amount Units: pg/ul

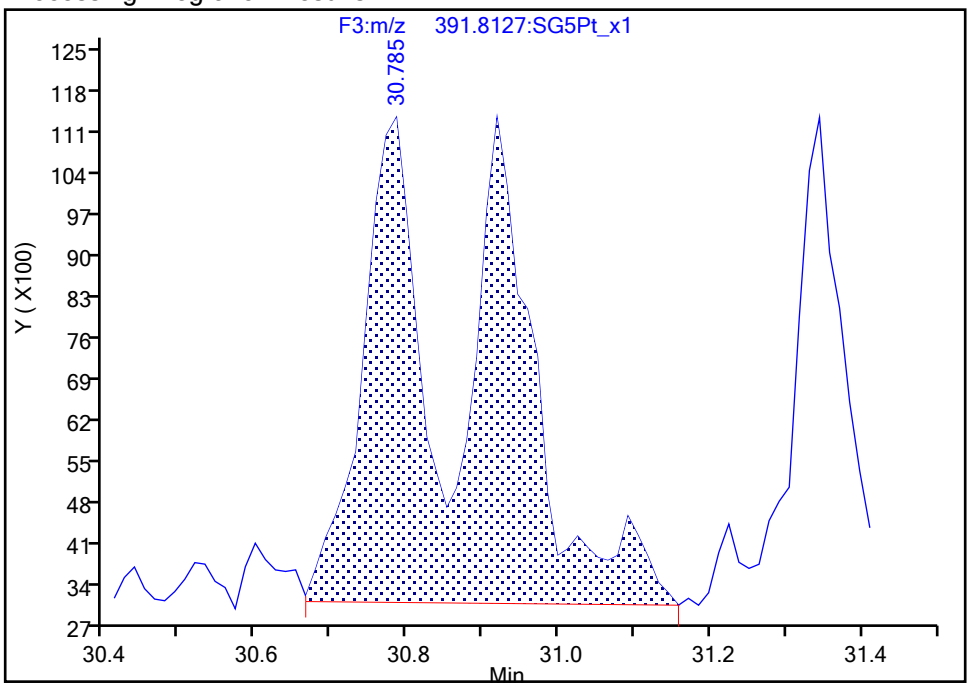

Manual Integration Results

RT: 30.92
Area: 39429
Amount: 0.314438
Amount Units: pg/ul

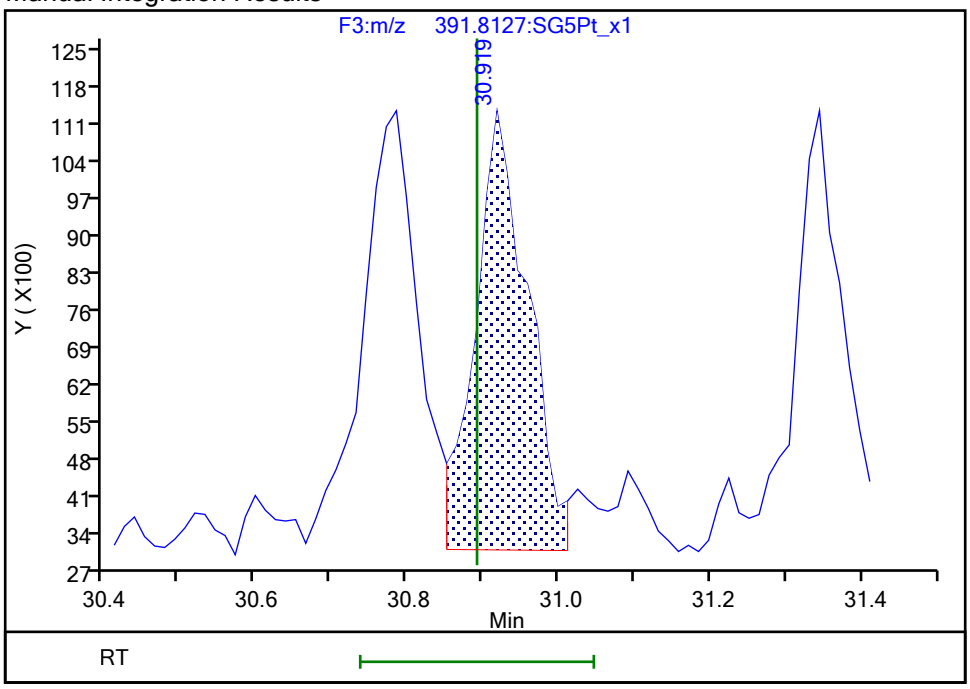

Reviewer: dadunj, 07-Oct-2019 08:47:45

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_16.d				
Injection Date:	03-Oct-2019 23:48:49	Instrument ID:	10D5		
Lims ID:	MB 320-327320/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	15	Worklist Smp#:	16
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 2

Processing Integration Results

RT: 31.34
Area: 50828
Amount: 0.373247
Amount Units: pg/ul

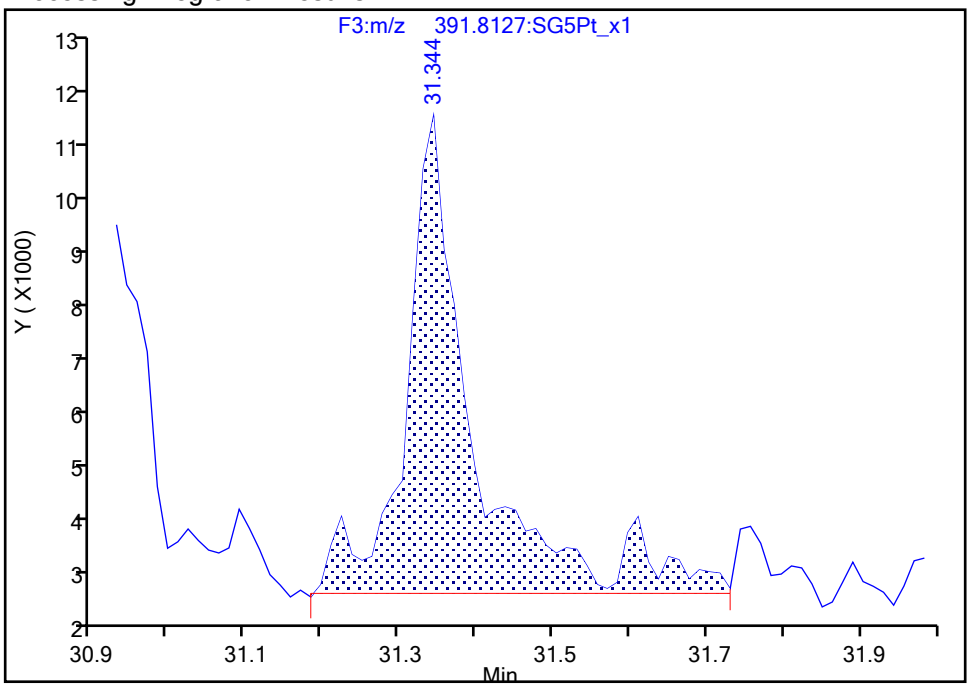

Manual Integration Results

RT: 31.34
Area: 41323
Amount: 0.338249
Amount Units: pg/ul

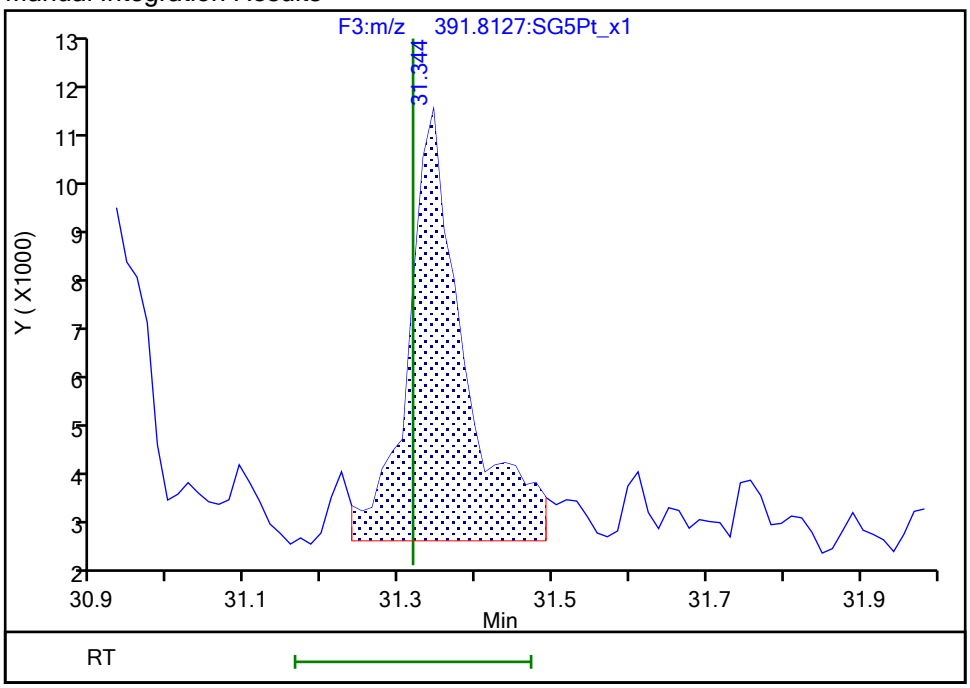

Reviewer: dadunj, 07-Oct-2019 08:47:51

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_16.d				
Injection Date:	03-Oct-2019 23:48:49	Instrument ID:	10D5		
Lims ID:	MB 320-327320/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	15	Worklist Smp#:	16
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 1

Processing Integration Results

RT: 33.23
Area: 58689
Amount: 0.411977
Amount Units: pg/ul

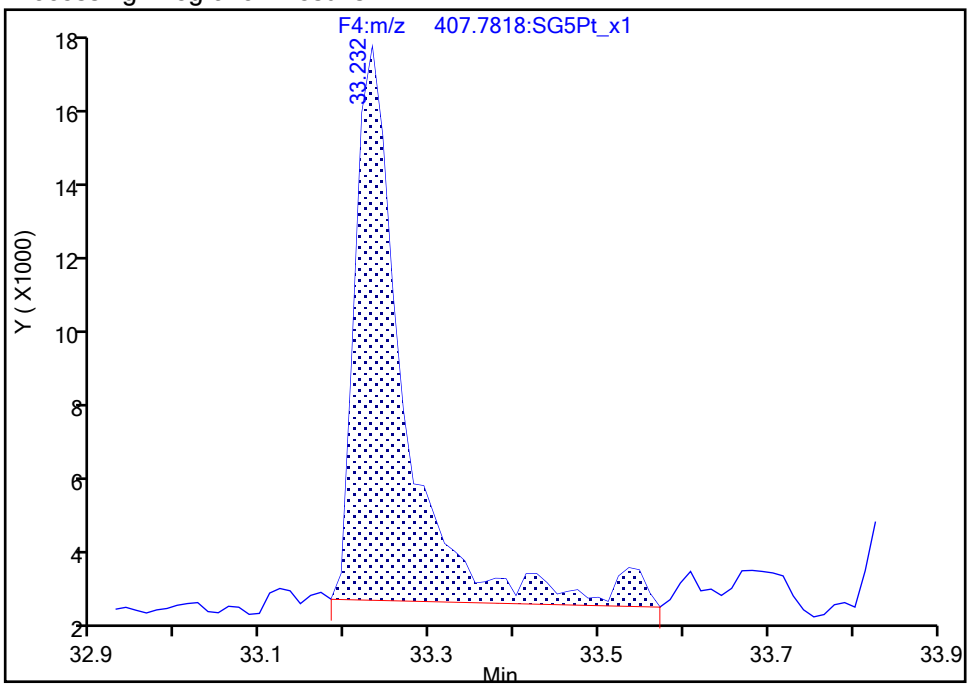

Manual Integration Results

RT: 33.23
Area: 51526
Amount: 0.352629
Amount Units: pg/ul

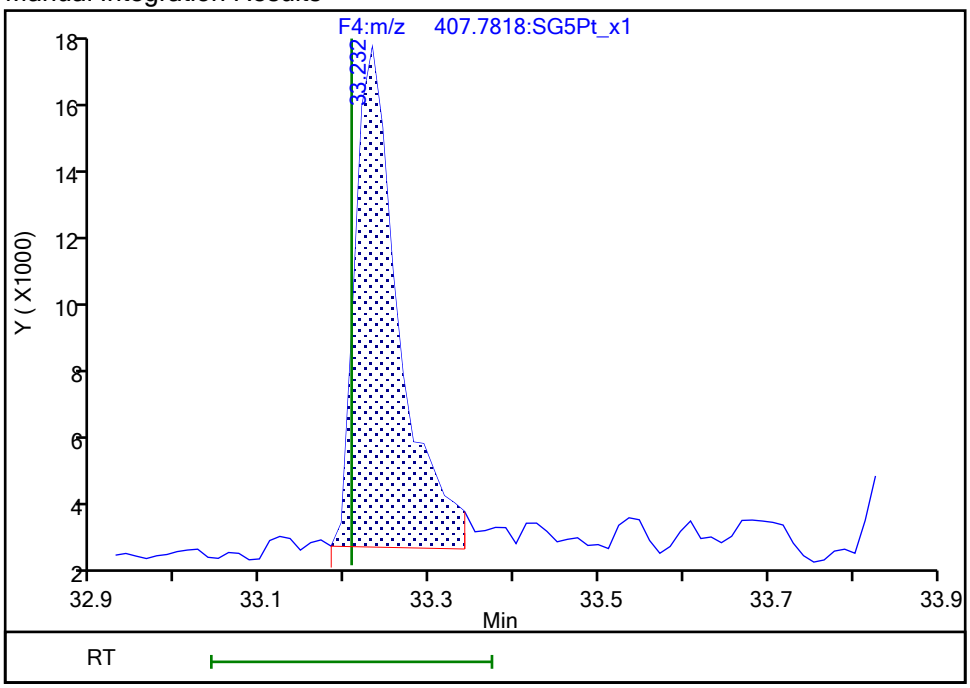

Reviewer: dadunj, 07-Oct-2019 08:48:01

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_16.d				
Injection Date:	03-Oct-2019 23:48:49	Instrument ID:	10D5		
Lims ID:	MB 320-327320/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	15	Worklist Smp#:	16
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 2

Processing Integration Results

RT: 33.23
Area: 62728
Amount: 0.411977
Amount Units: pg/ul

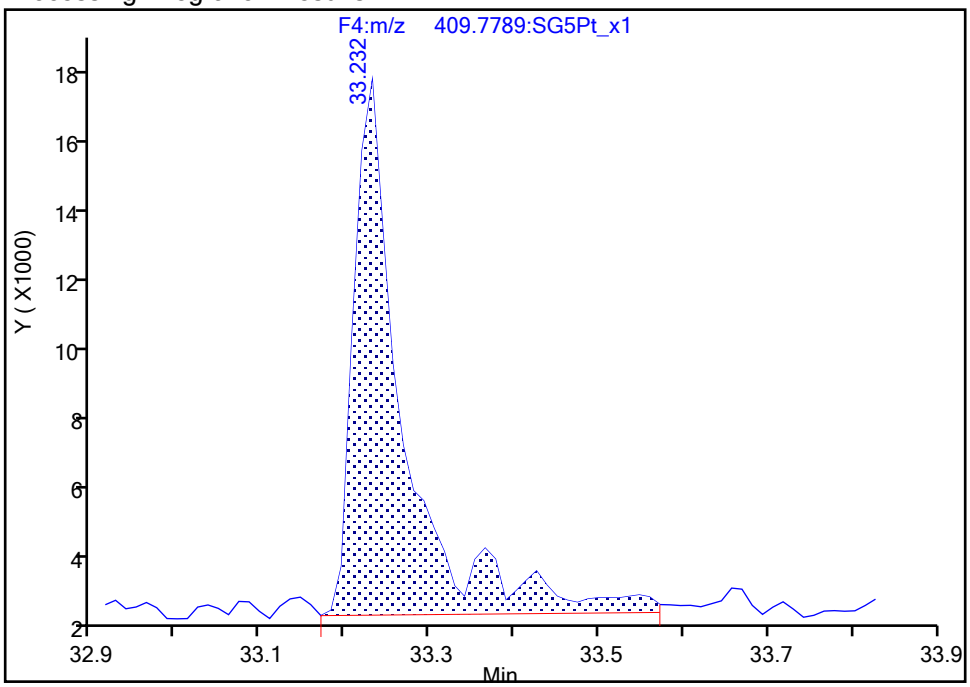

Manual Integration Results

RT: 33.23
Area: 52400
Amount: 0.352629
Amount Units: pg/ul

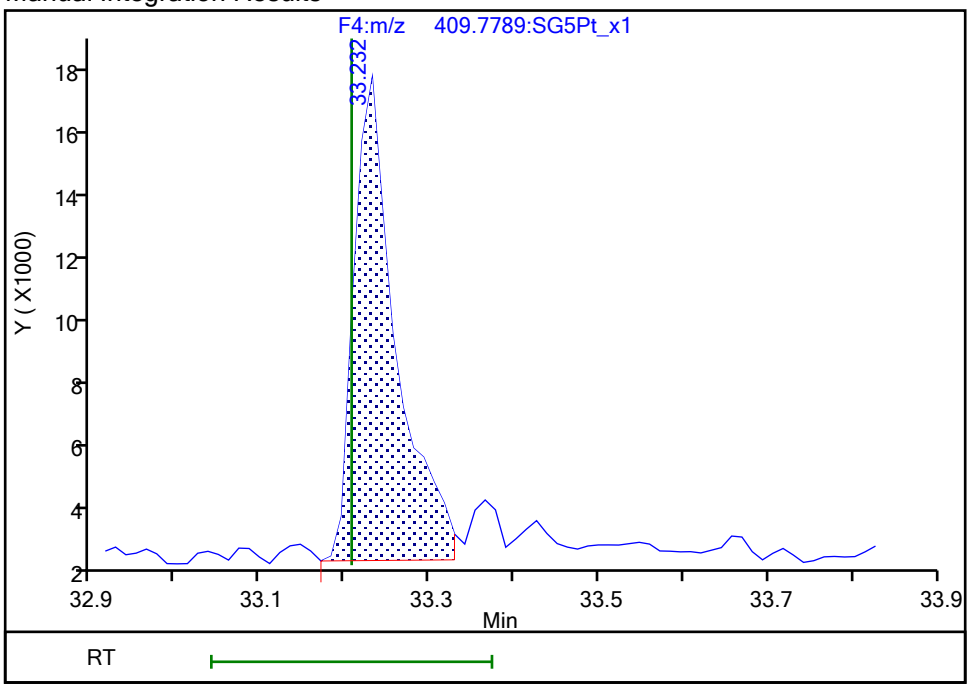

Reviewer: dadunj, 07-Oct-2019 08:48:05

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_16.d				
Injection Date:	03-Oct-2019 23:48:49	Instrument ID:	10D5		
Lims ID:	MB 320-327320/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	15	Worklist Smp#:	16
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,7,8,9-HpCDF, CAS: 55673-89-7

Signal: 1

Processing Integration Results

RT: 34.28
Area: 40389
Amount: 0.323386
Amount Units: pg/ul

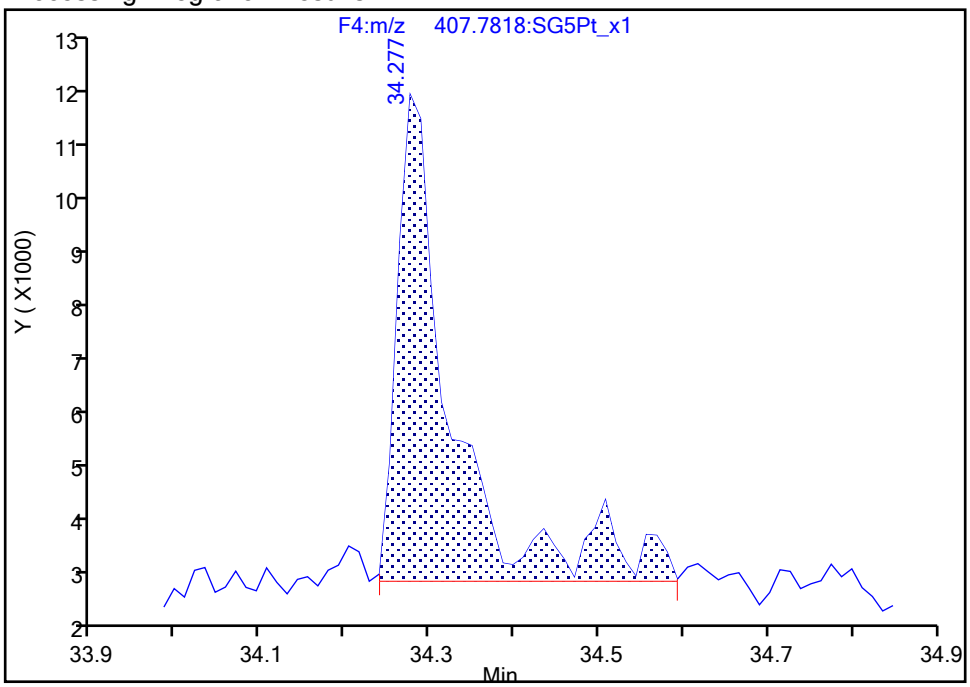

Manual Integration Results

RT: 34.28
Area: 32853
Amount: 0.291807
Amount Units: pg/ul

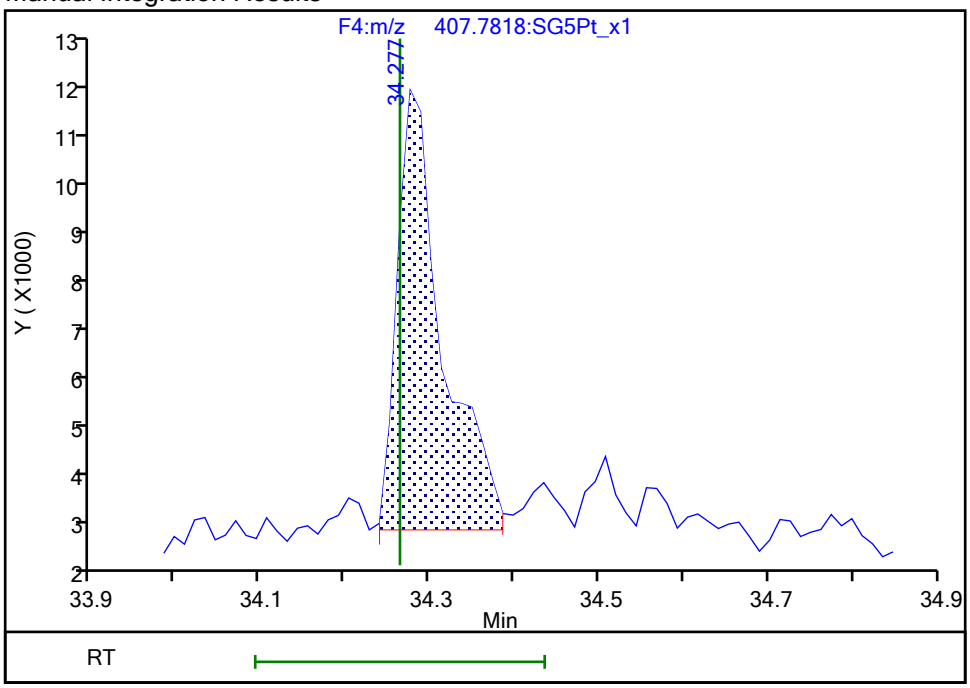

Reviewer: dadunj, 07-Oct-2019 08:48:09

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_16.d				
Injection Date:	03-Oct-2019 23:48:49	Instrument ID:	10D5		
Lims ID:	MB 320-327320/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	15	Worklist Smp#:	16
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 1

Processing Integration Results

RT: 34.01
Area: 30681
Amount: 0.356730
Amount Units: pg/ul

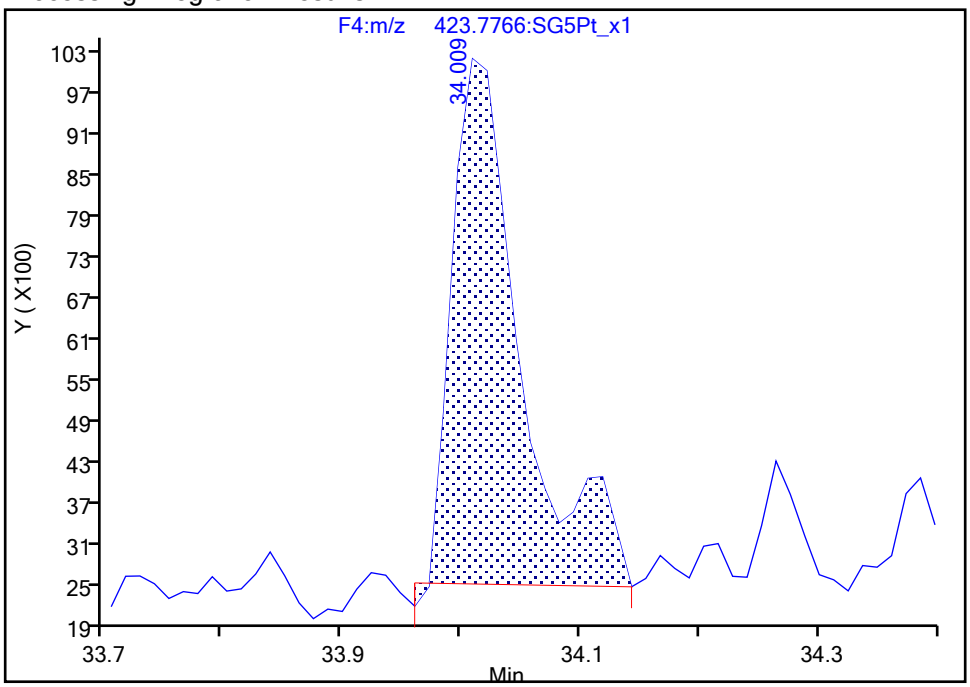

Manual Integration Results

RT: 34.01
Area: 26674
Amount: 0.289007
Amount Units: pg/ul

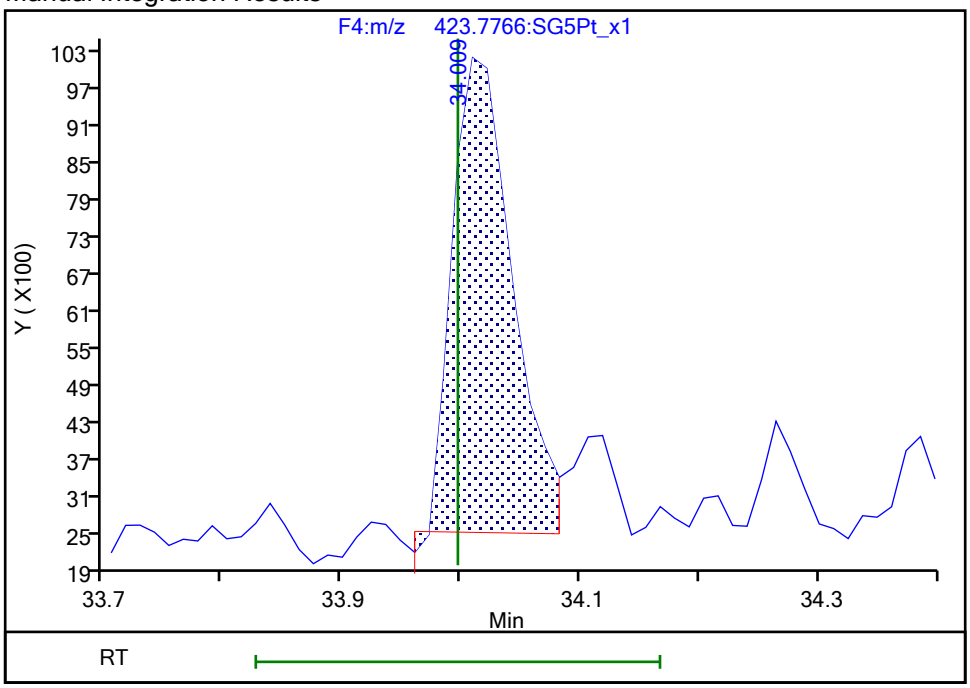

Reviewer: dadunj, 07-Oct-2019 08:48:19

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_16.d				
Injection Date:	03-Oct-2019 23:48:49	Instrument ID:	10D5		
Lims ID:	MB 320-327320/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	15	Worklist Smp#:	16
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 2

Processing Integration Results

RT: 34.02
Area: 33714
Amount: 0.356730
Amount Units: pg/ul

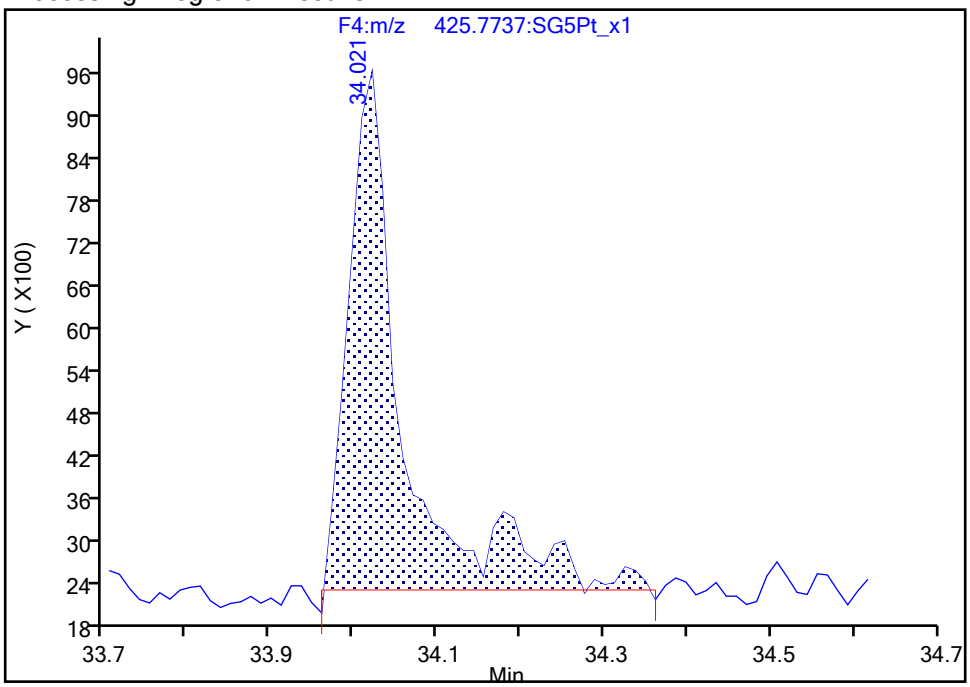

Manual Integration Results

RT: 34.02
Area: 25496
Amount: 0.289007
Amount Units: pg/ul

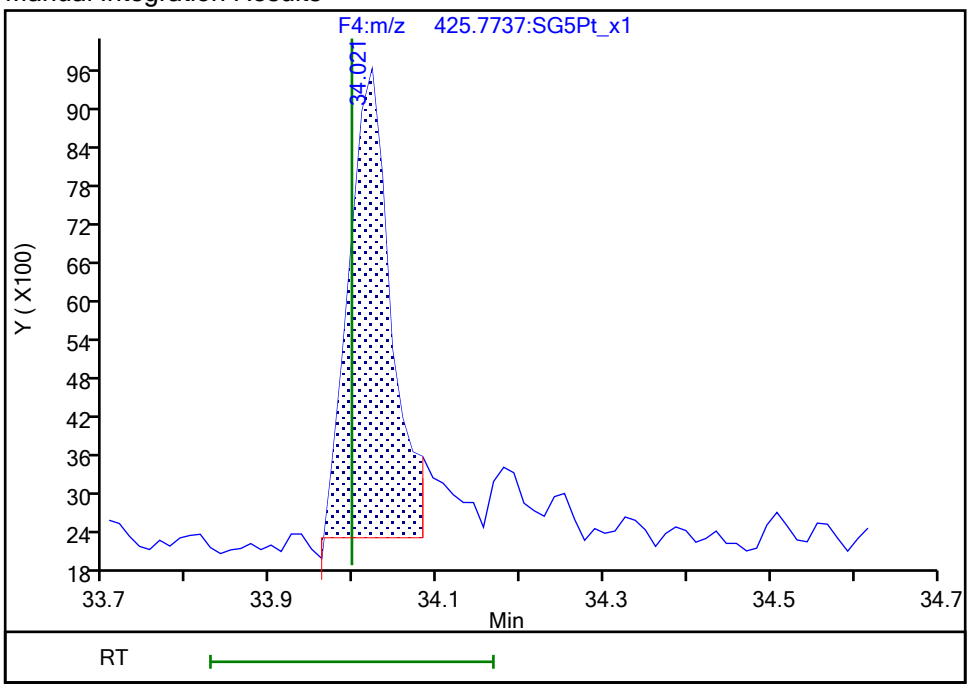

Reviewer: dadunj, 07-Oct-2019 08:48:23

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_16.d				
Injection Date:	03-Oct-2019 23:48:49	Instrument ID:	10D5		
Lims ID:	MB 320-327320/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	15	Worklist Smp#:	16
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5:HRSIR		

OCDD, CAS: 3268-87-9

Signal: 1

Processing Integration Results

RT: 36.25
Area: 59911
Amount: 0.866268
Amount Units: pg/ul

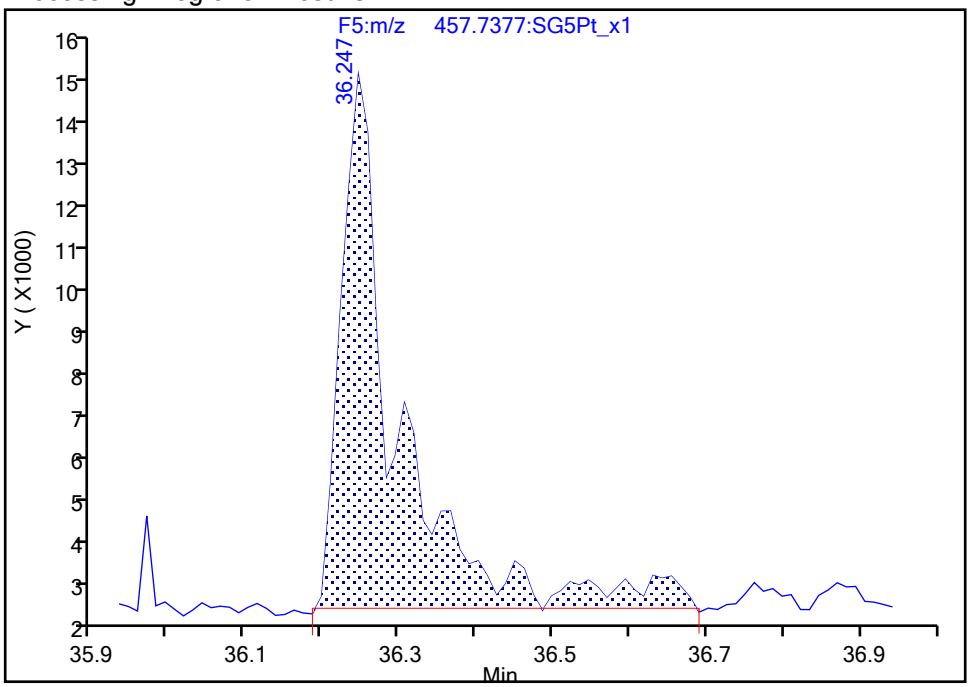

Manual Integration Results

RT: 36.25
Area: 52498
Amount: 0.799834
Amount Units: pg/ul

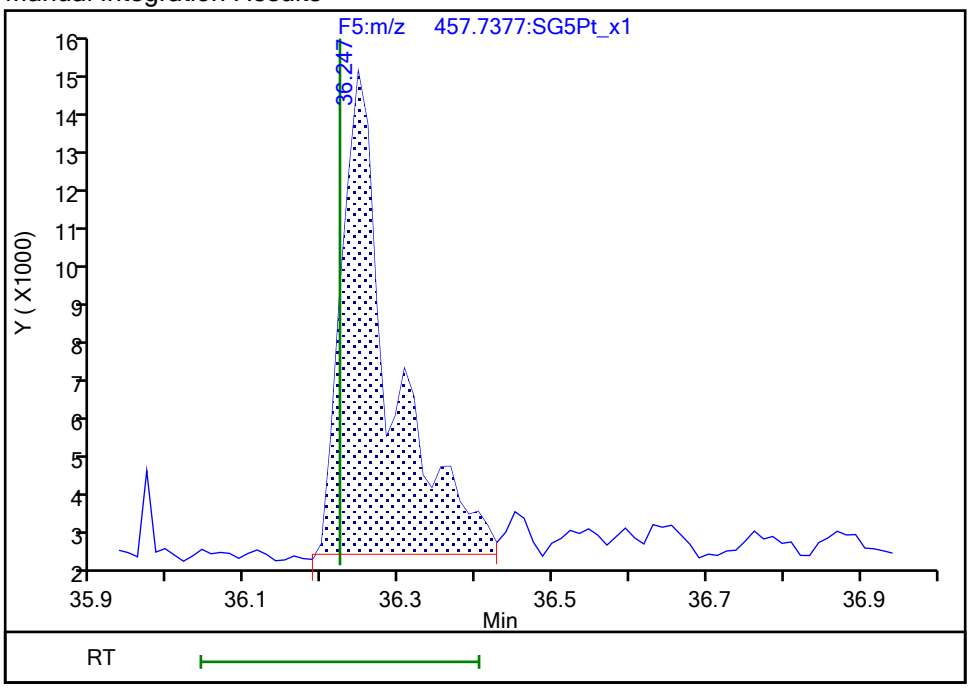

Reviewer: dadunj, 07-Oct-2019 08:48:36

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_16.d				
Injection Date:	03-Oct-2019 23:48:49	Instrument ID:	10D5		
Lims ID:	MB 320-327320/1-A				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	15	Worklist Smp#:	16
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5:HRSIR		

OCDD, CAS: 3268-87-9

Signal: 2

Processing Integration Results

RT: 36.25
Area: 58774
Amount: 0.866268
Amount Units: pg/ul

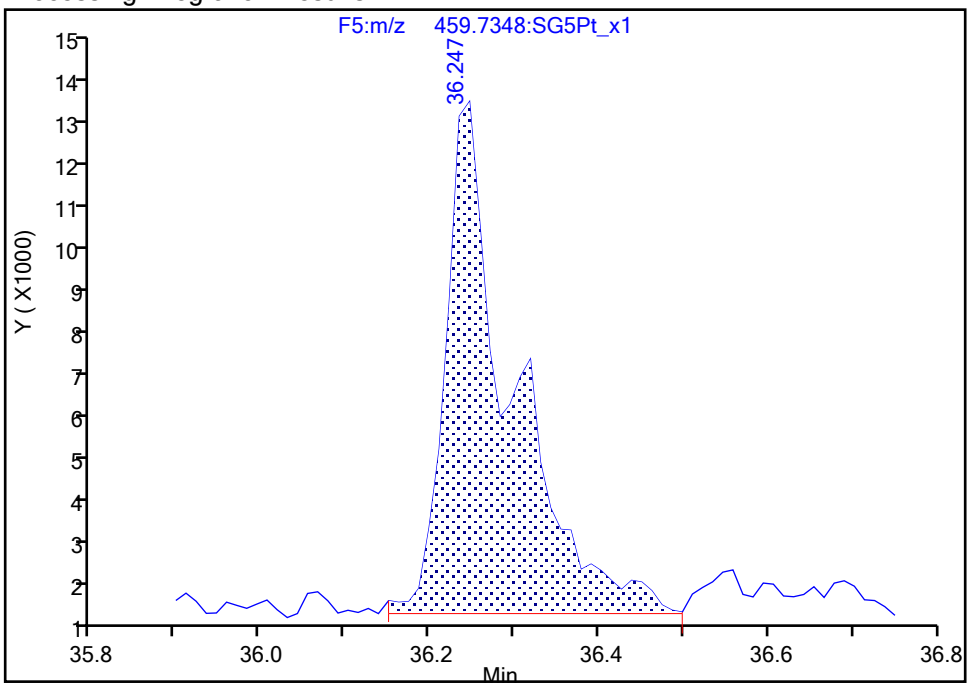

Manual Integration Results

RT: 36.25
Area: 57085
Amount: 0.799834
Amount Units: pg/ul

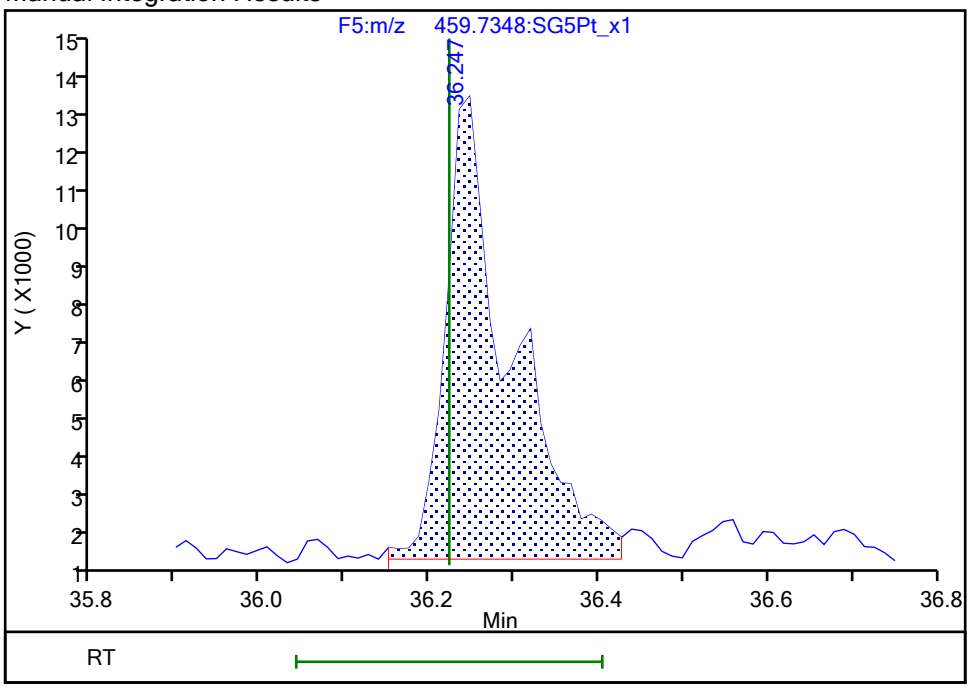

Reviewer: dadunj, 07-Oct-2019 08:48:39

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 07-Oct-2019 08:49:38 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_16.d		
Injection Date:	03-Oct-2019 23:48:49	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	16
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

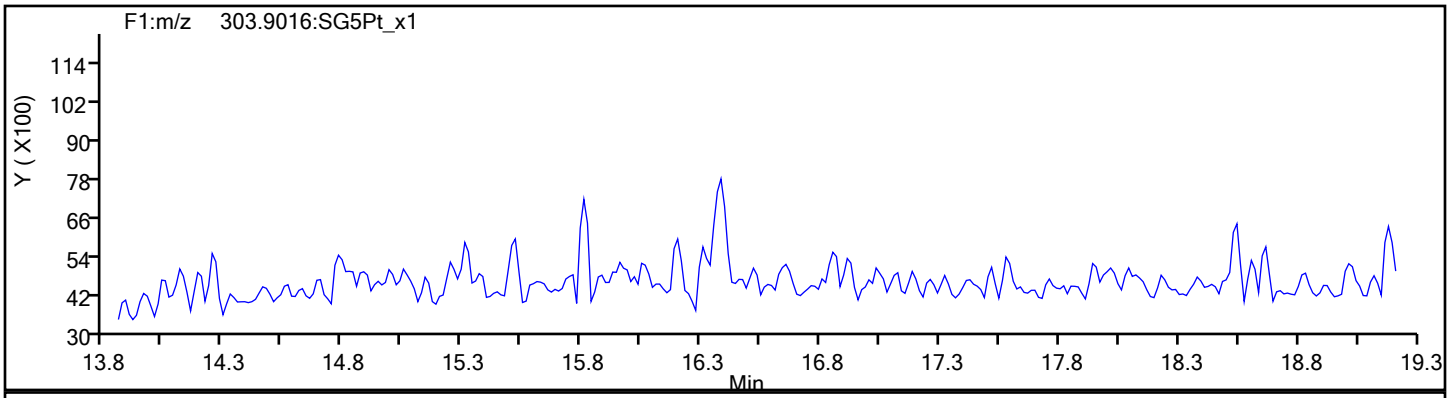

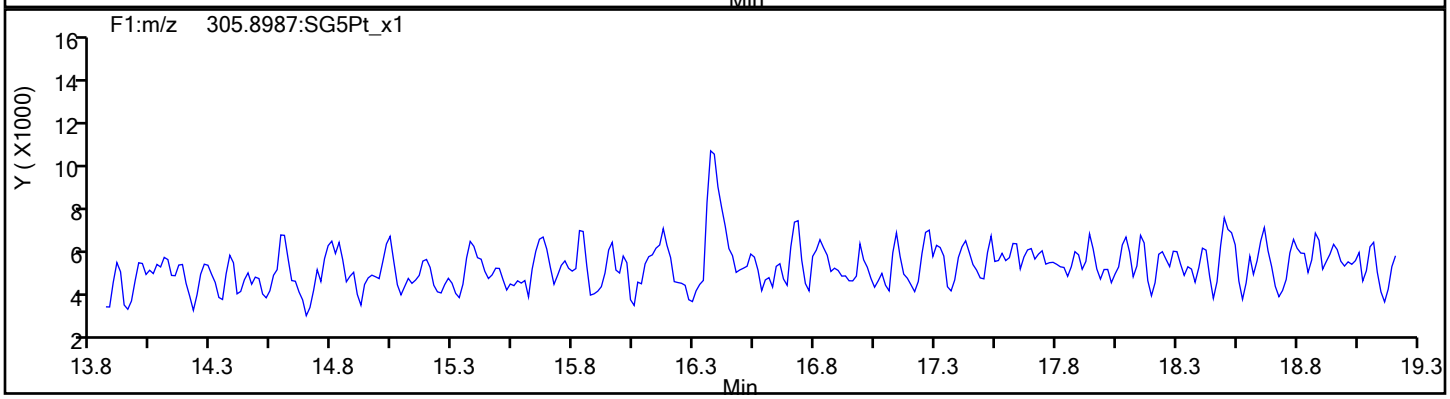

TCDF Standards

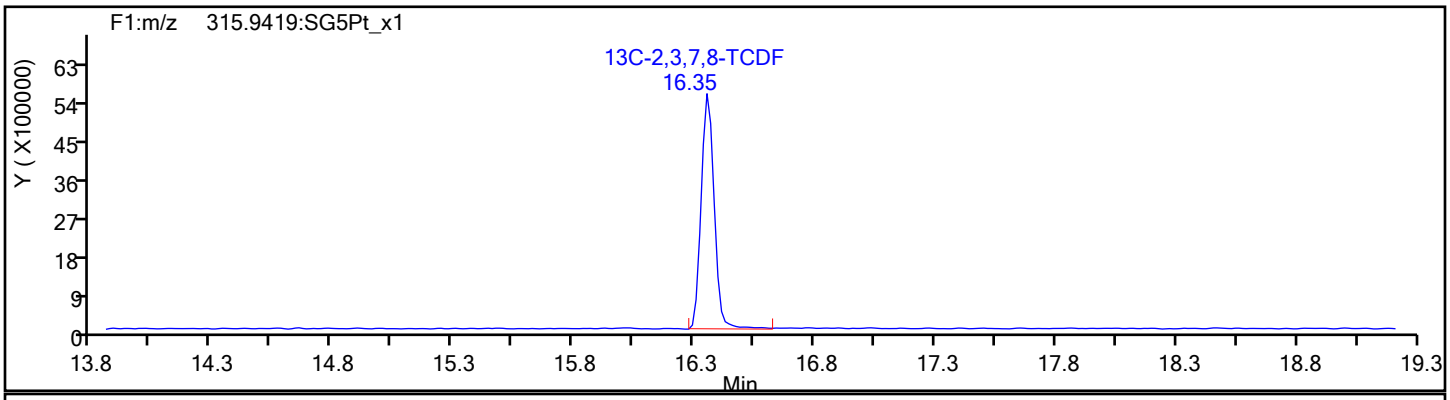

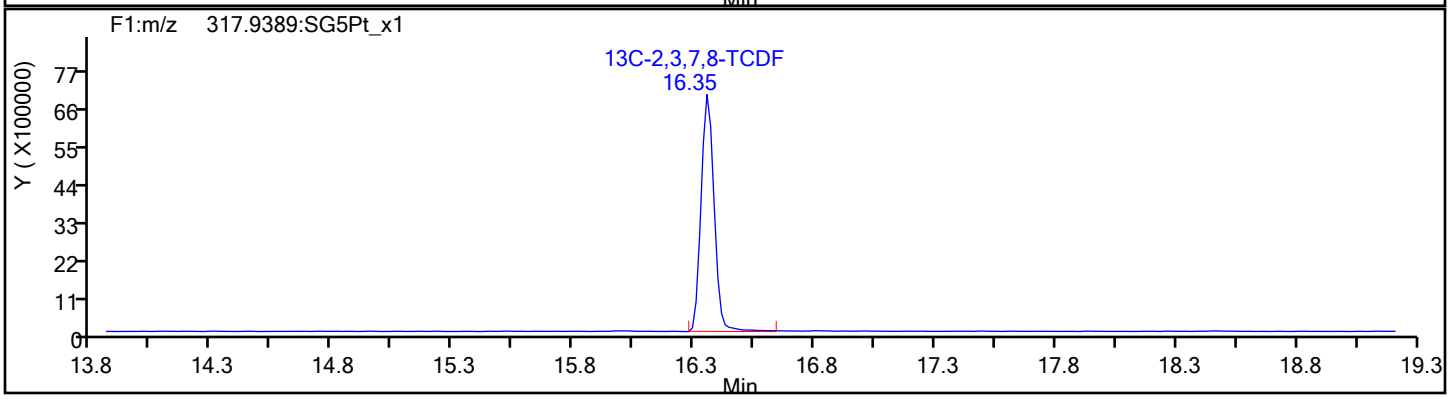

Report Date: 07-Oct-2019 08:49:38 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_16.d		
Injection Date:	03-Oct-2019 23:48:49	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	16
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

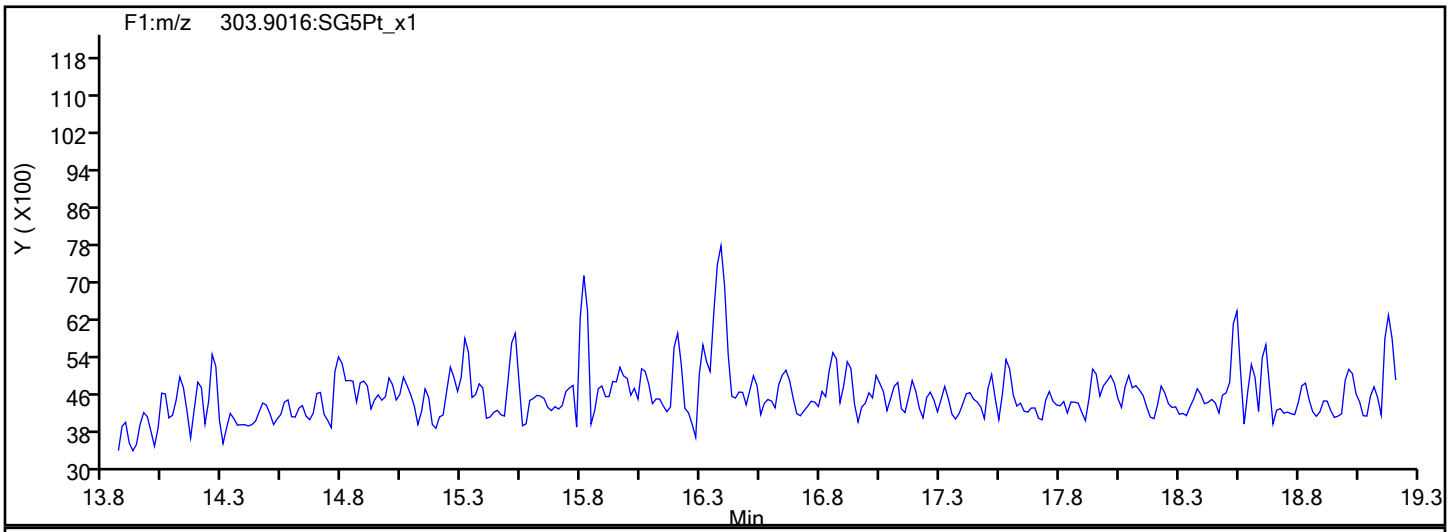

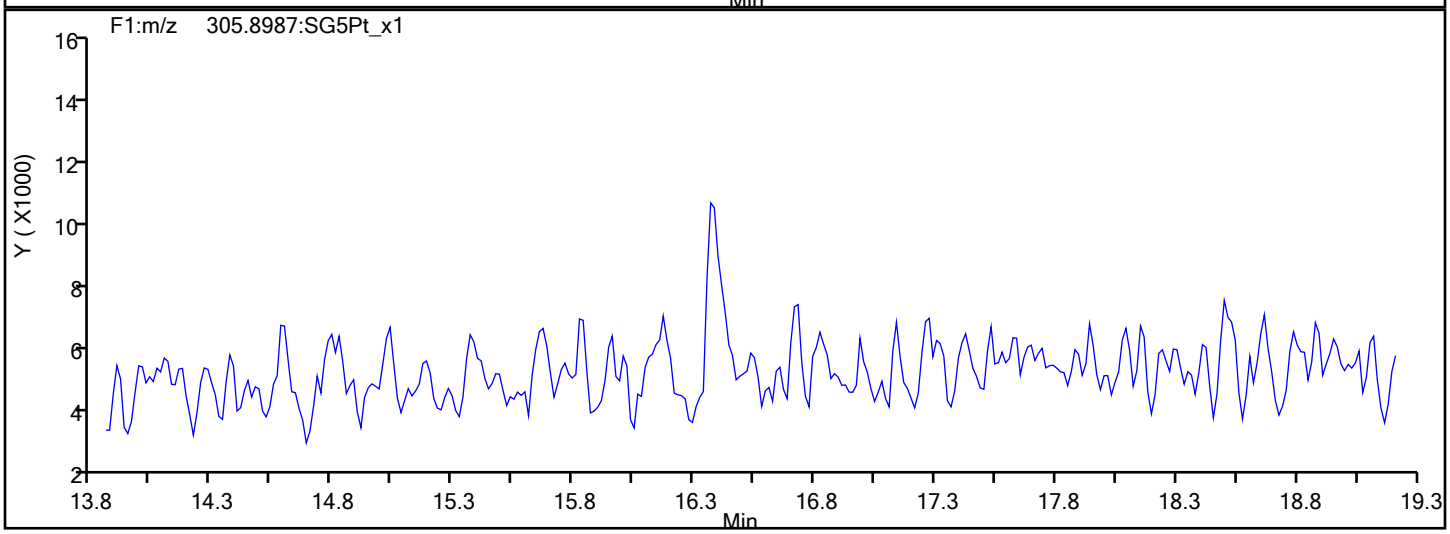

TCDF Interference Mass

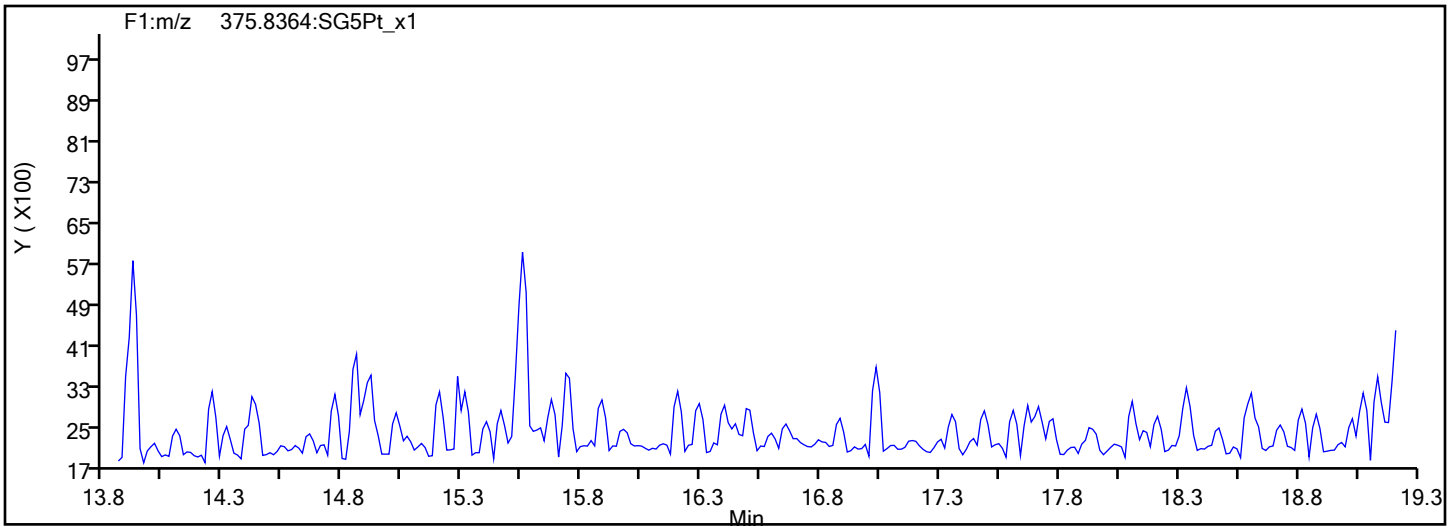

Report Date: 07-Oct-2019 08:49:38 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_16.d		
Injection Date:	03-Oct-2019 23:48:49	Injection Vol:	2.0 ul
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	16
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

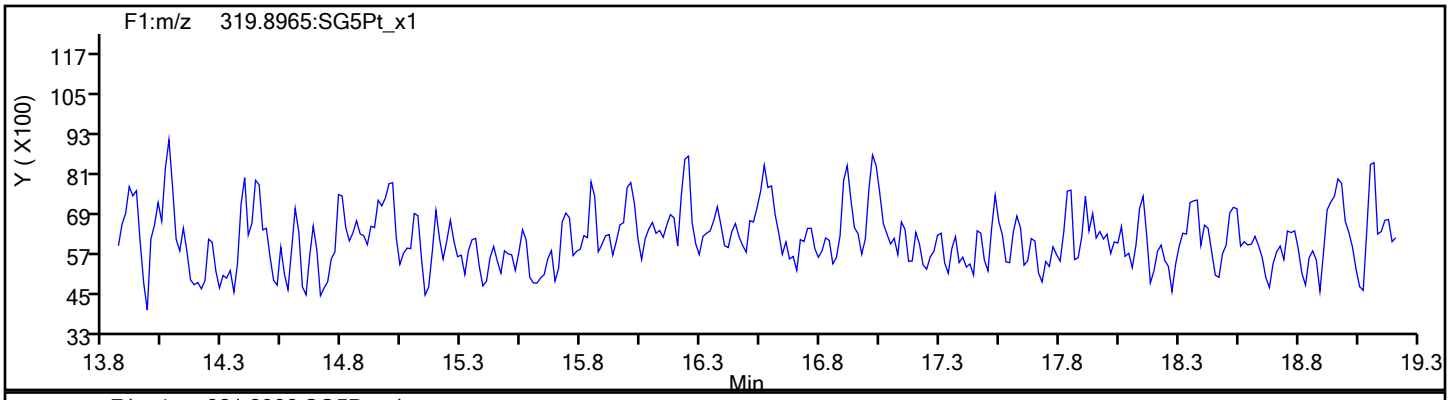

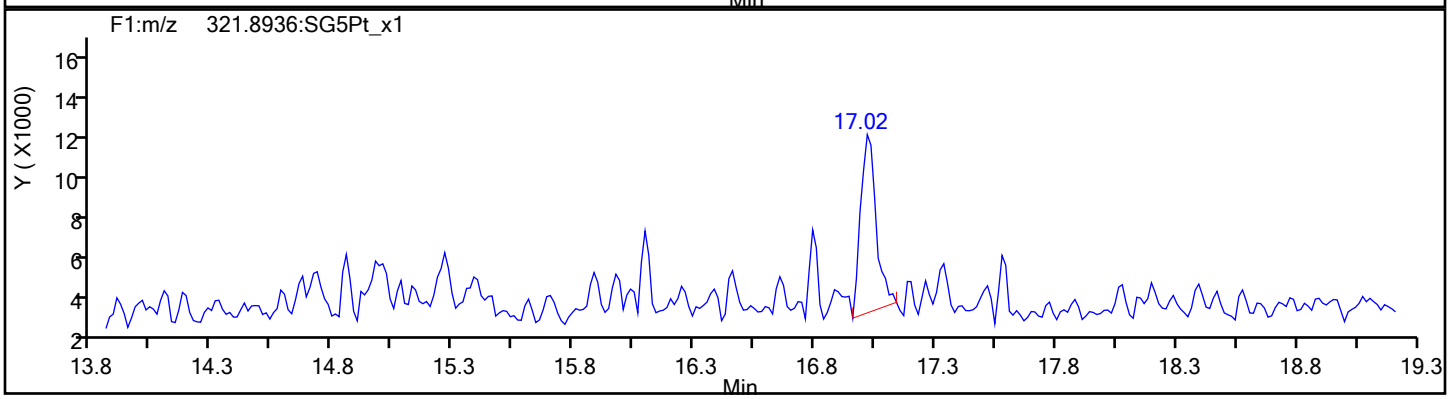

TCDD Standards

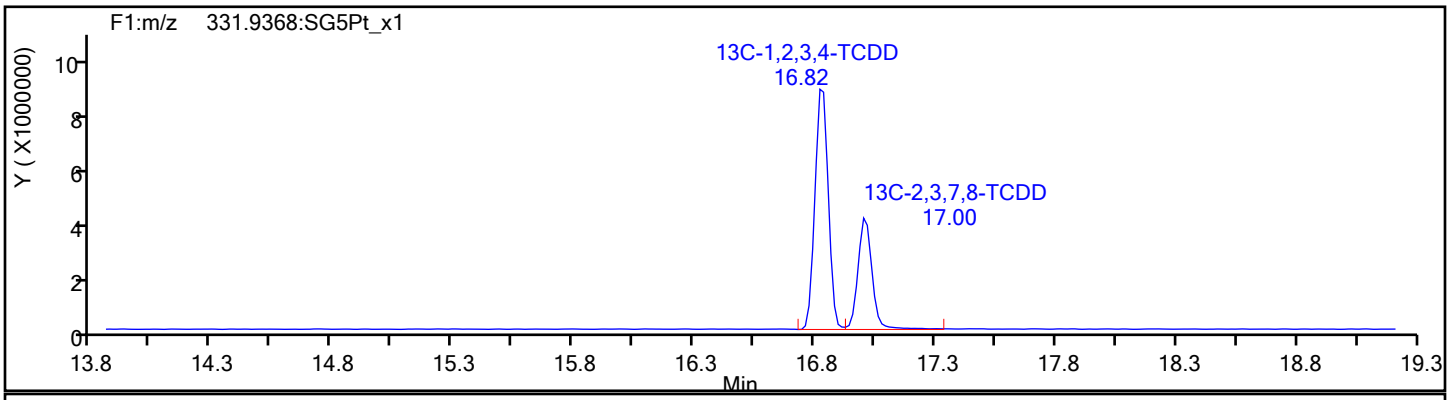

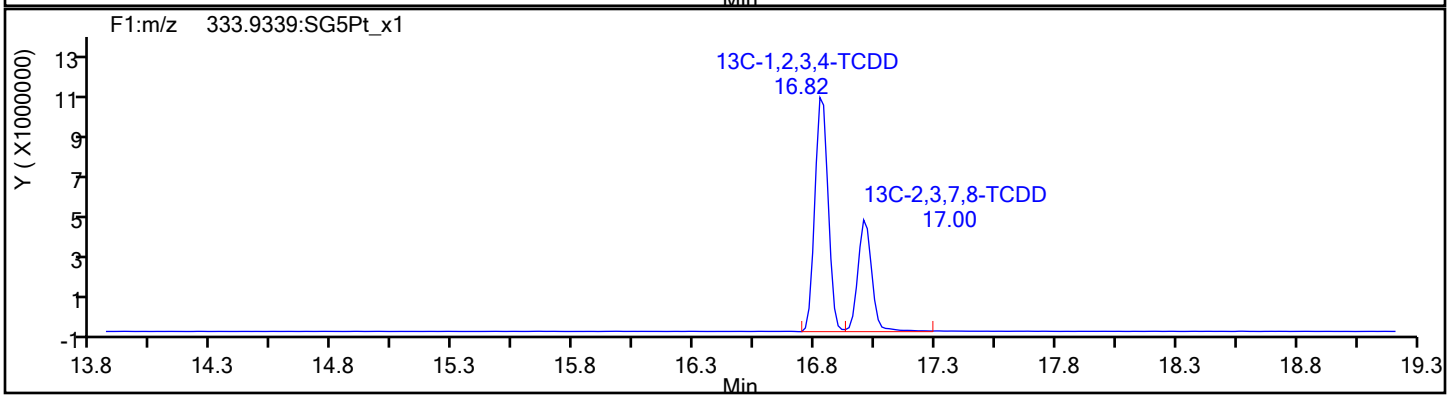

Report Date: 07-Oct-2019 08:49:38 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

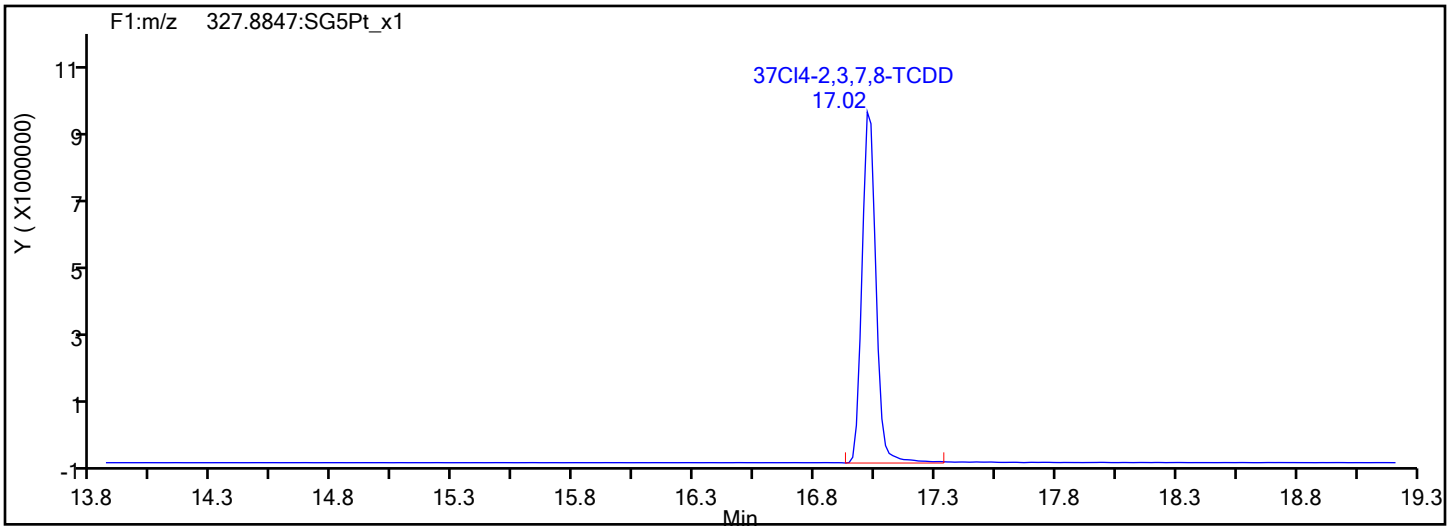

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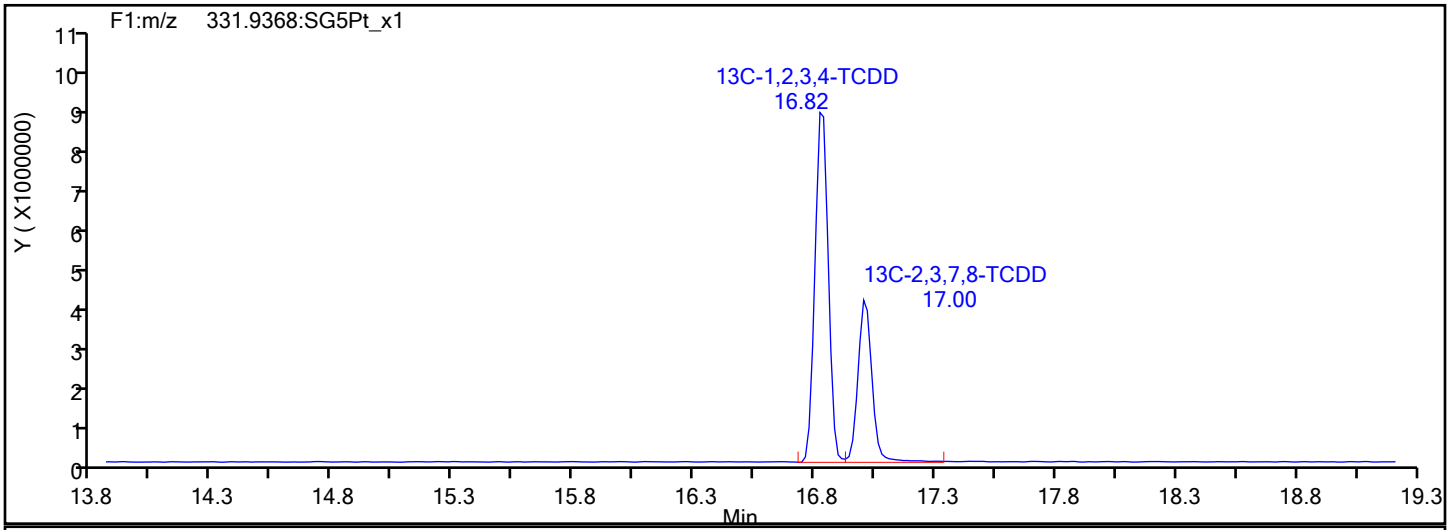

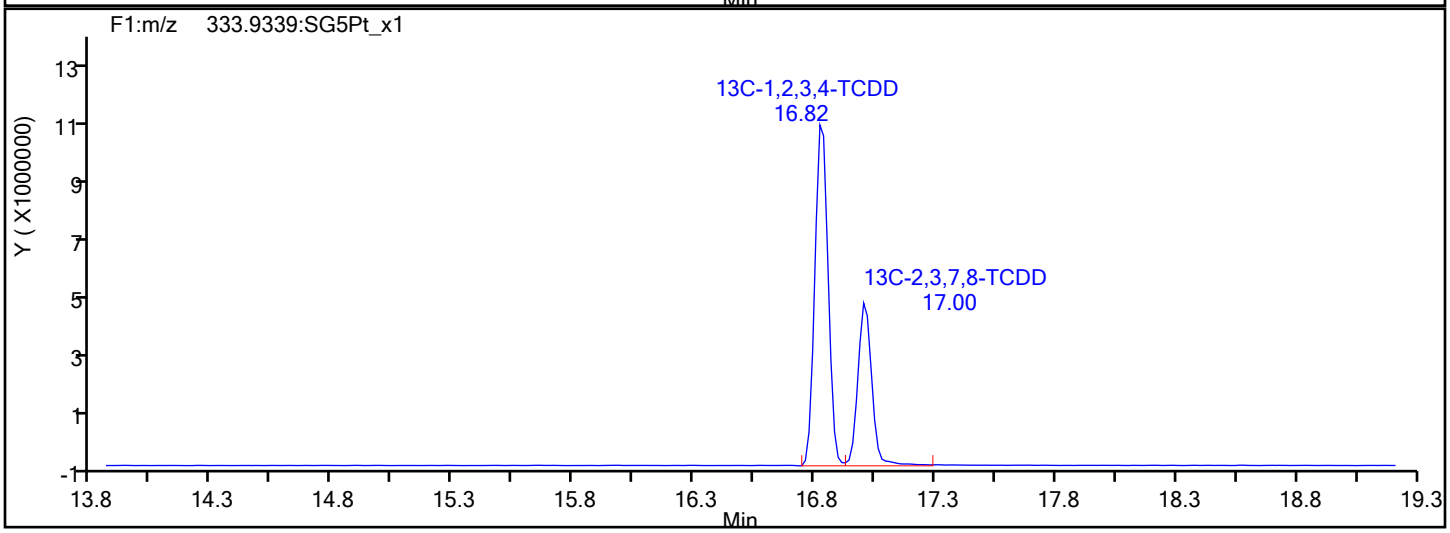

Report Date: 07-Oct-2019 08:49:38 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

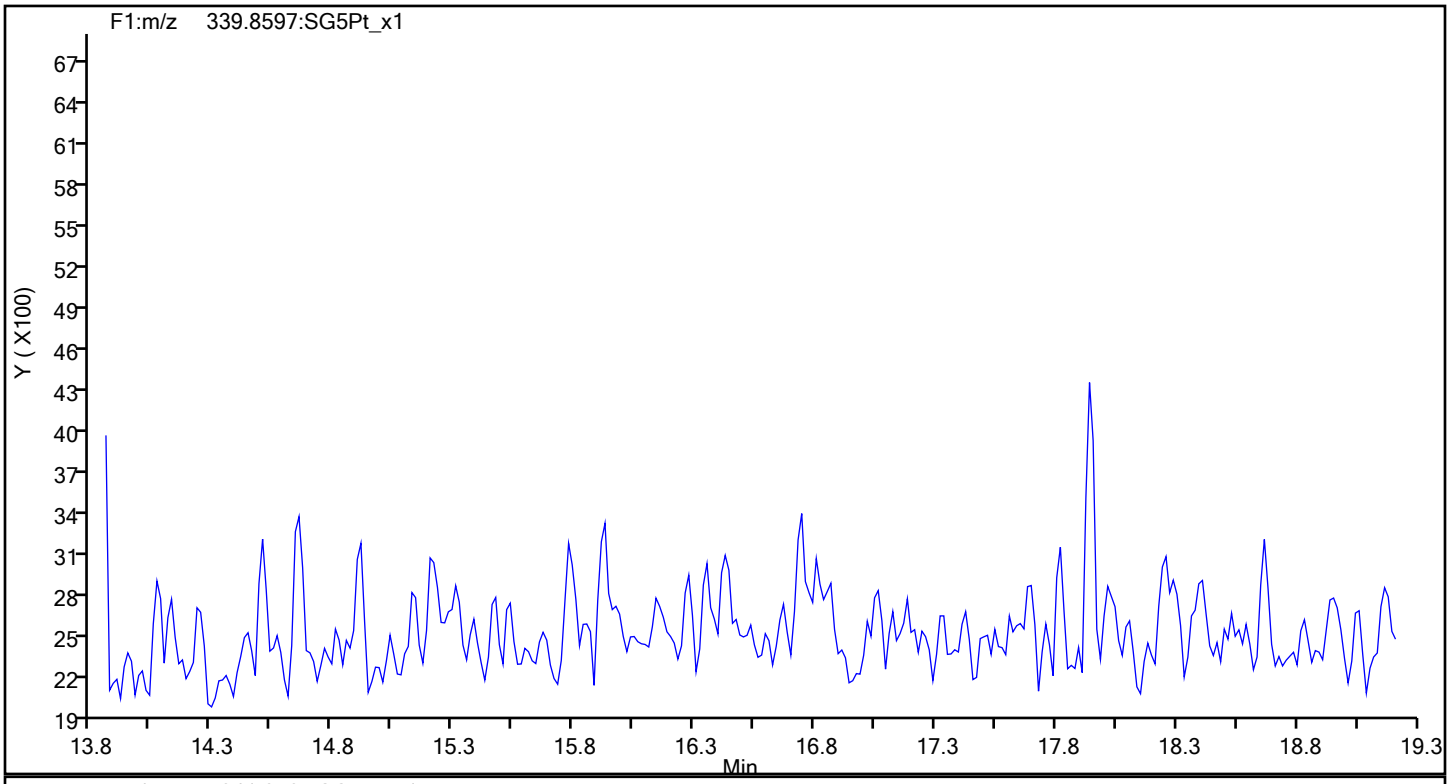

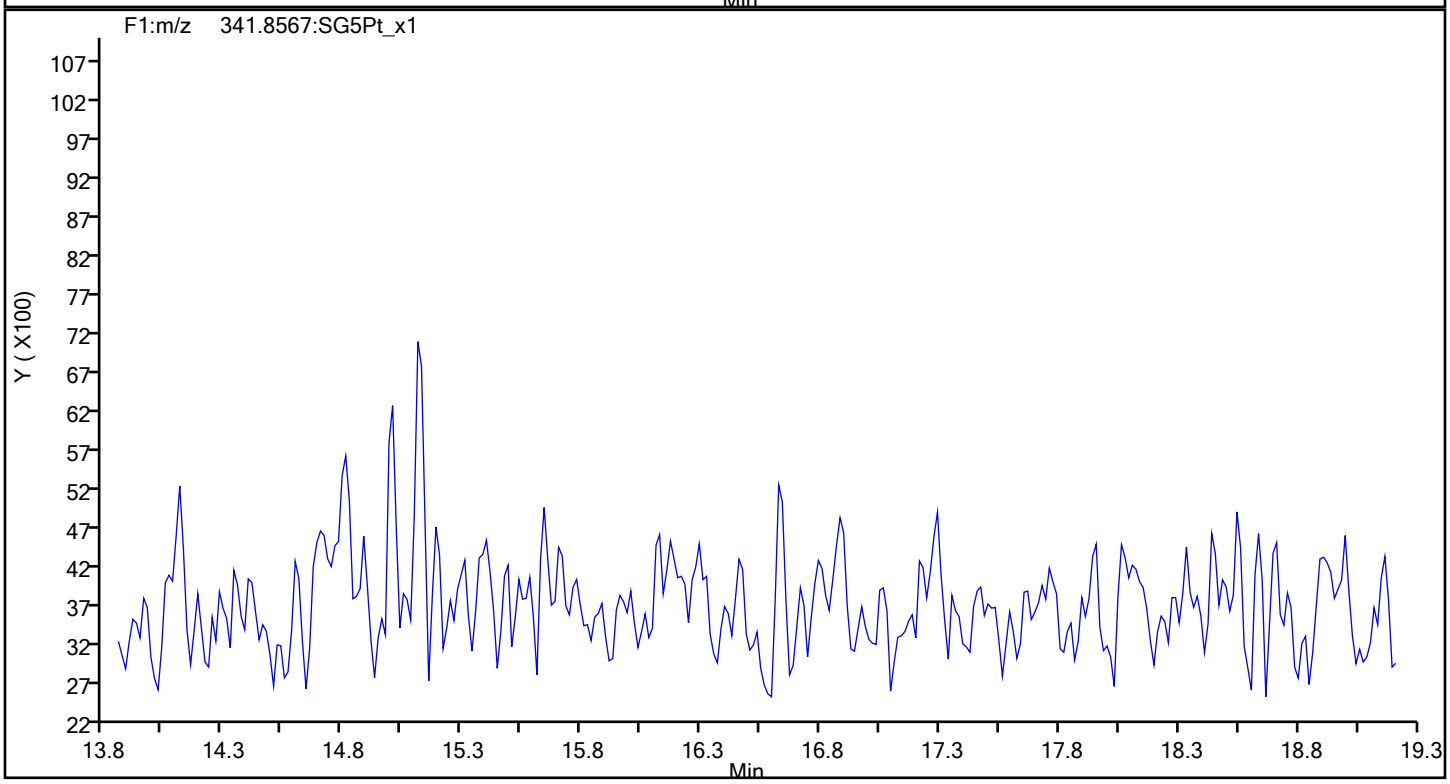

Report Date: 07-Oct-2019 08:49:38 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

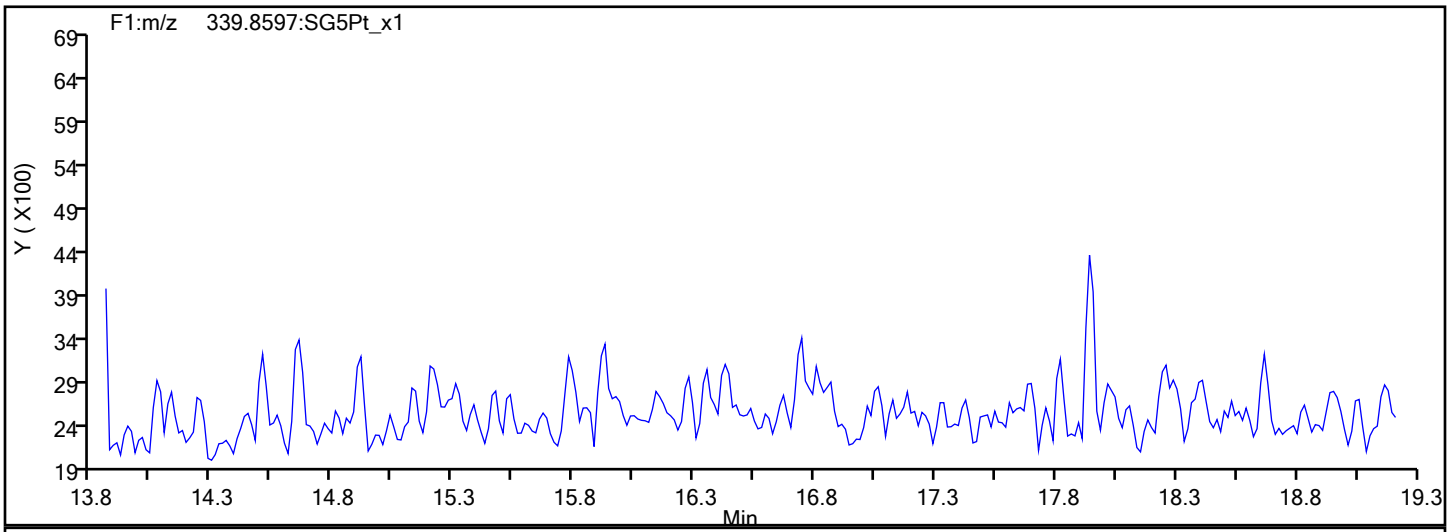

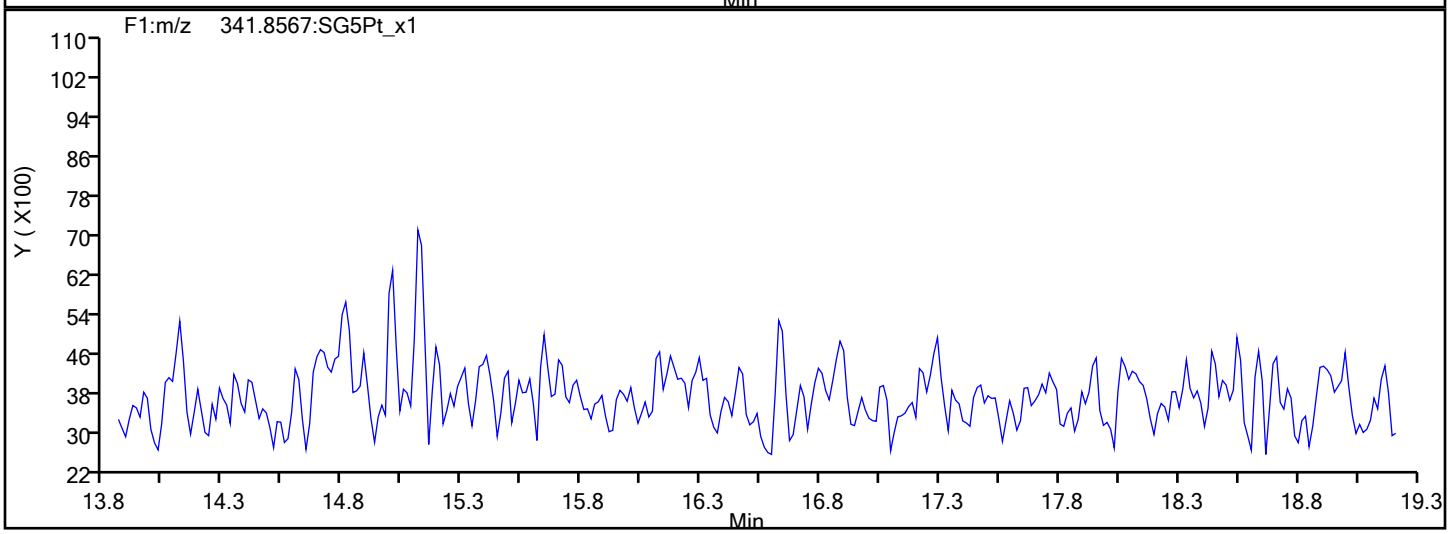

F1 PeCDFs Interference Mass

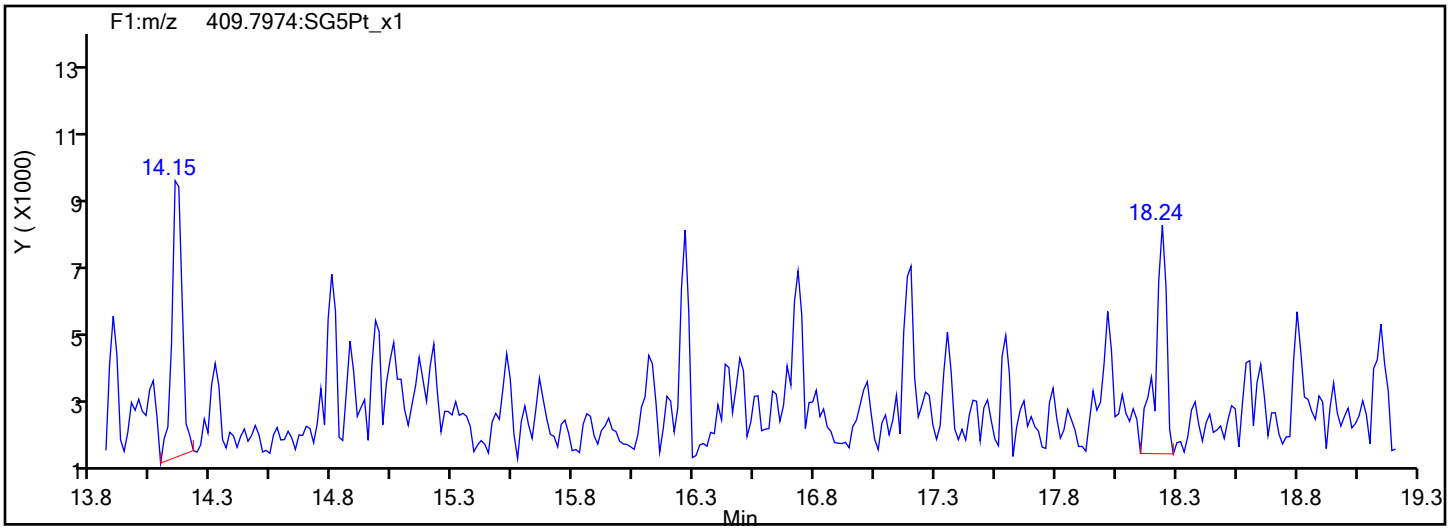

Report Date: 07-Oct-2019 08:49:38 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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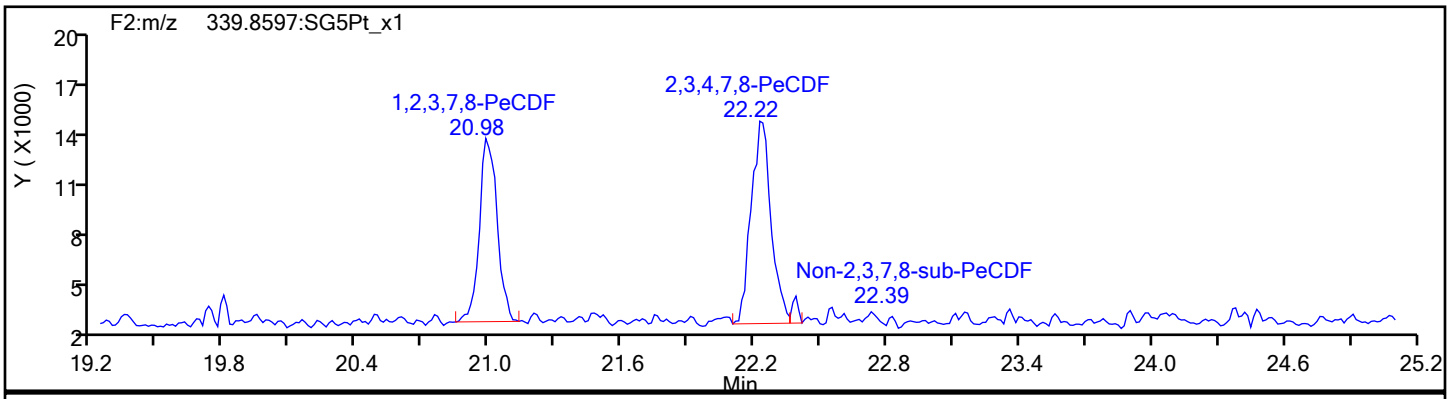

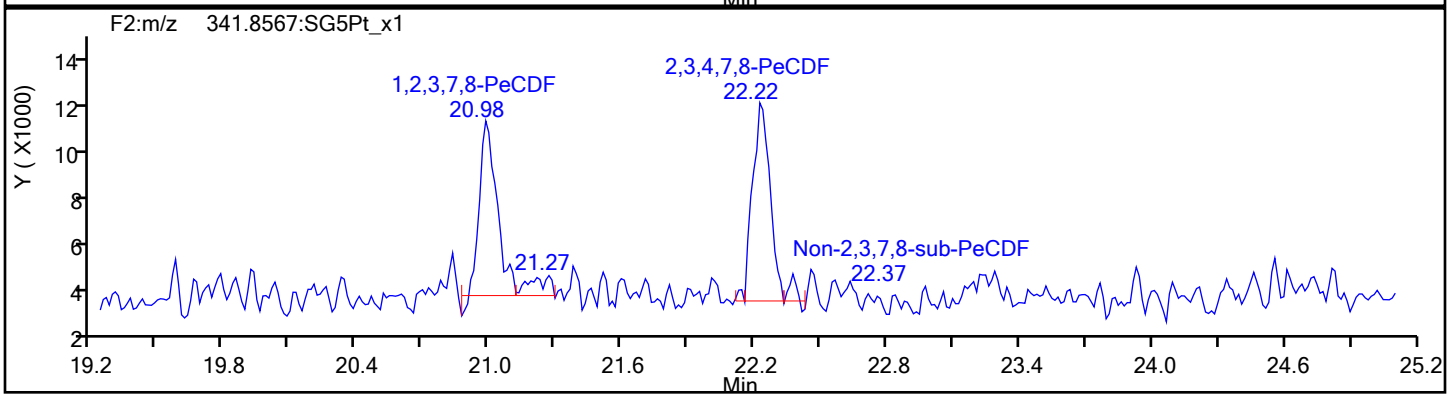

PeCDF Standards

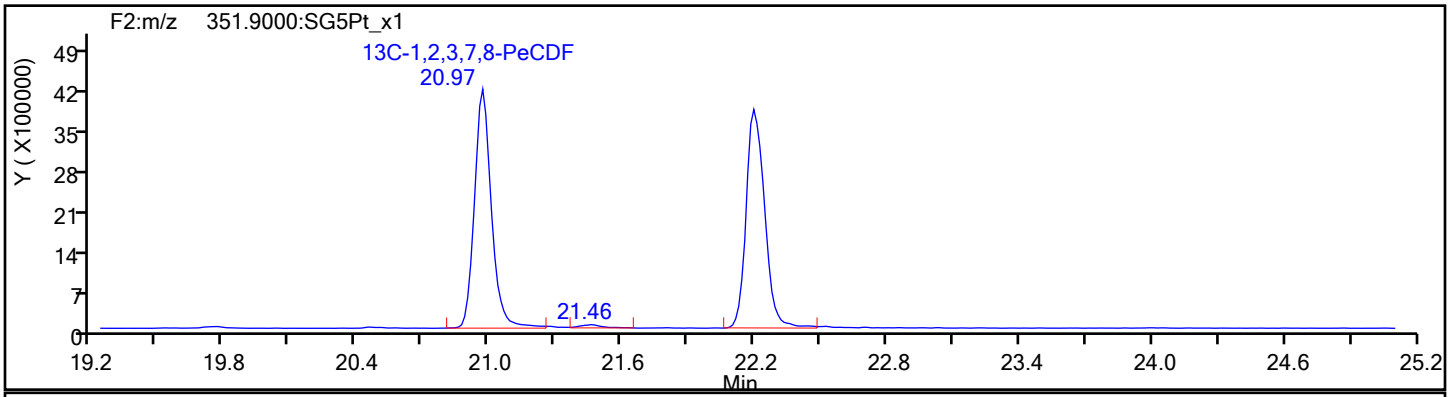

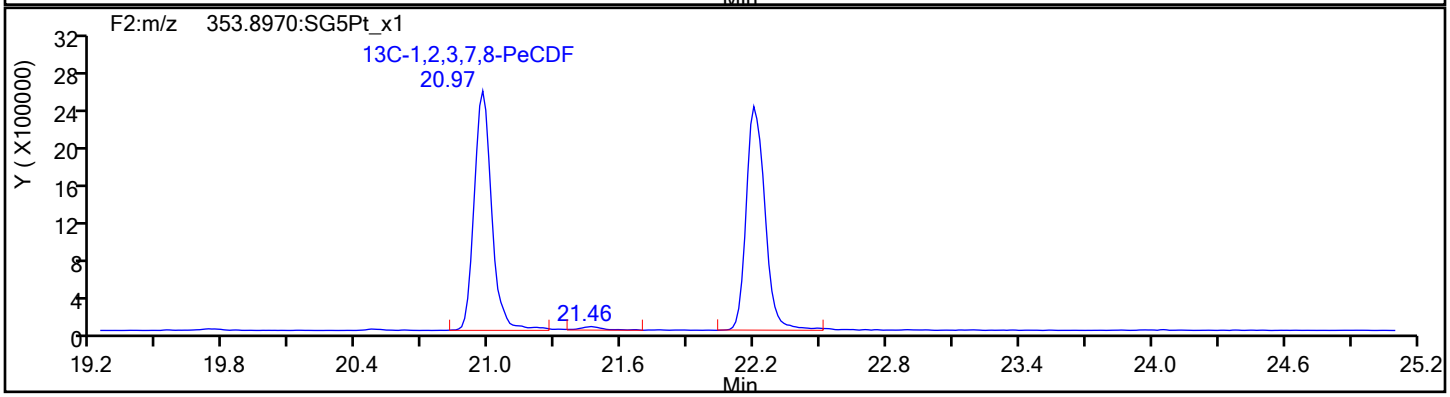

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Eurofins TestAmerica, Sacramento

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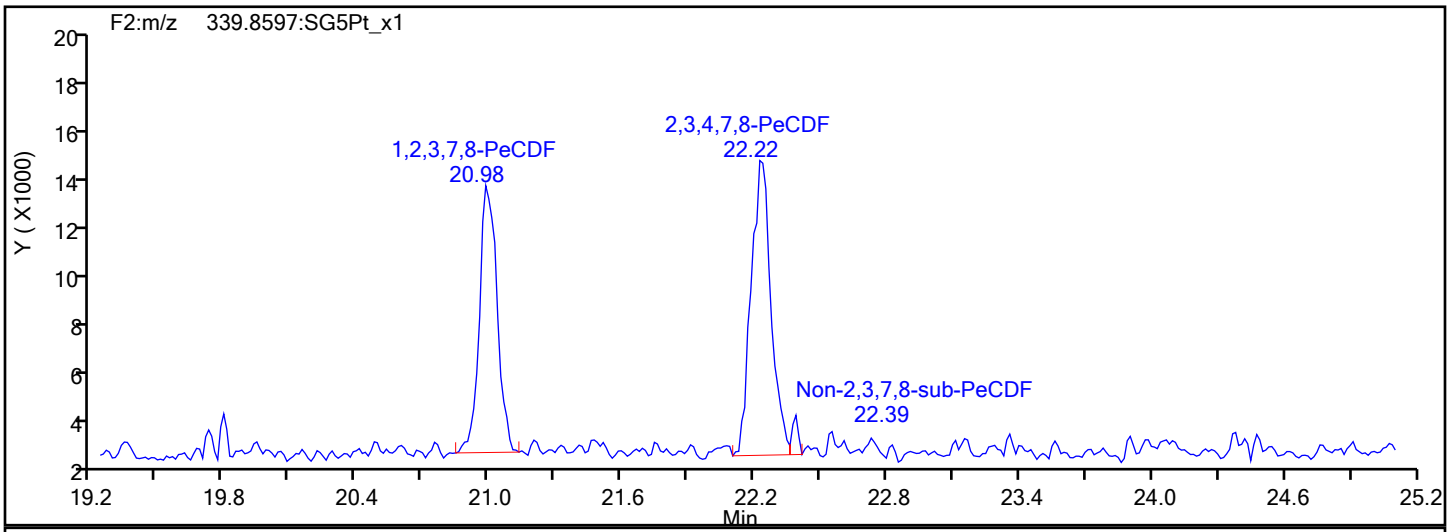

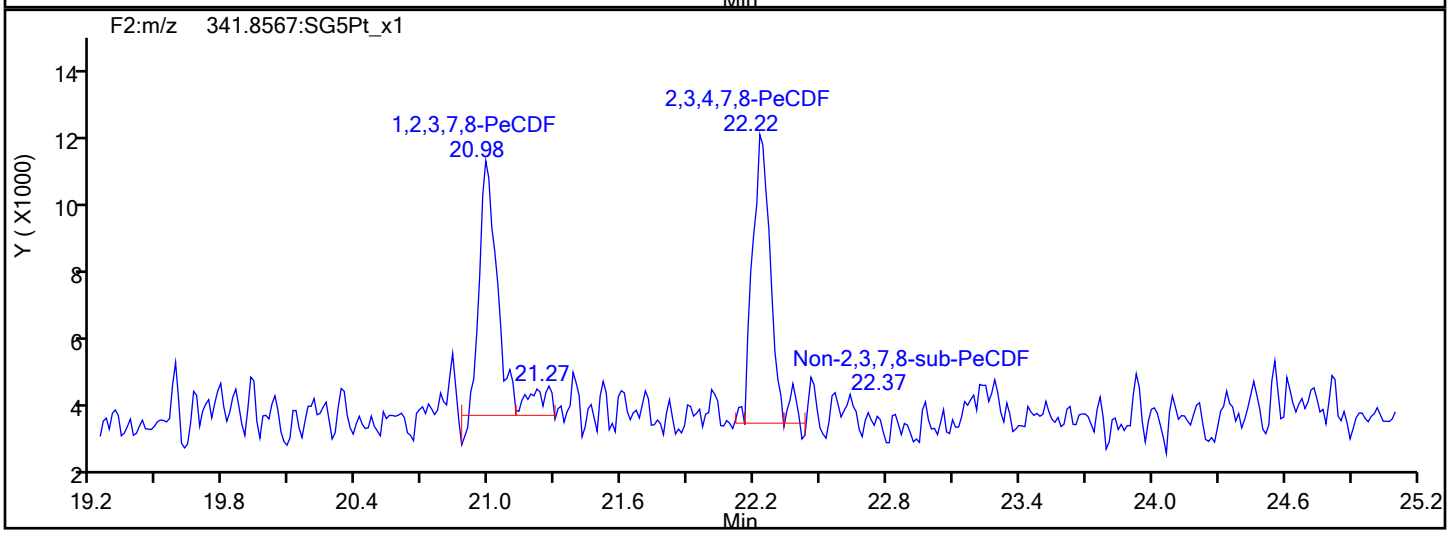

PeCDF Interference Mass

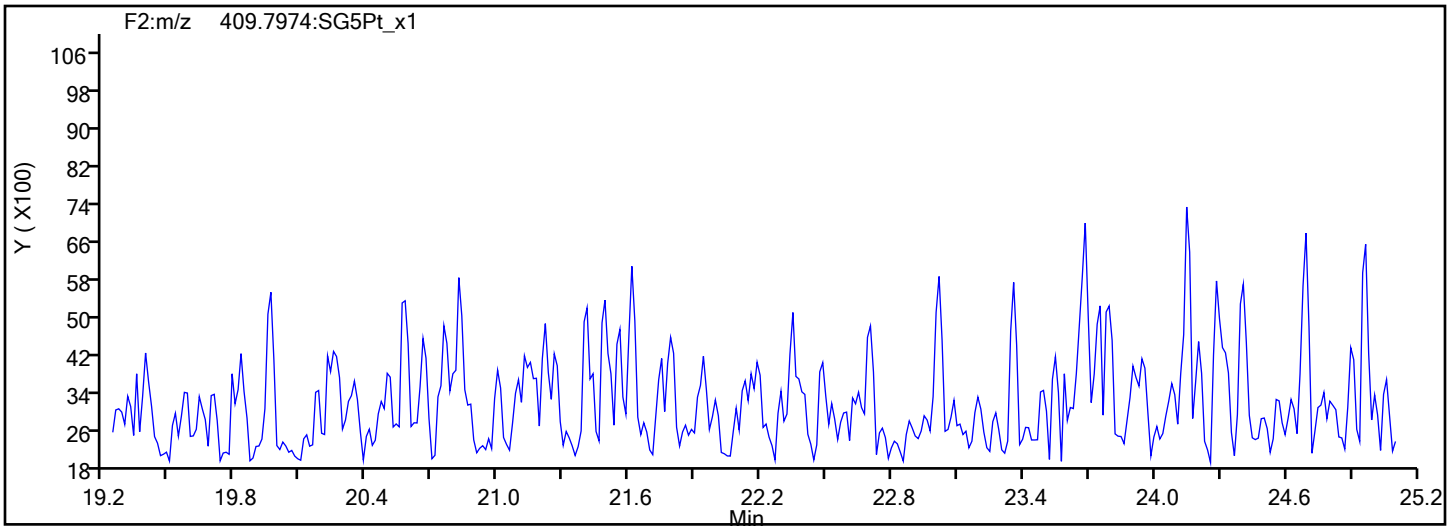

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Eurofins TestAmerica, Sacramento

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PeCDD

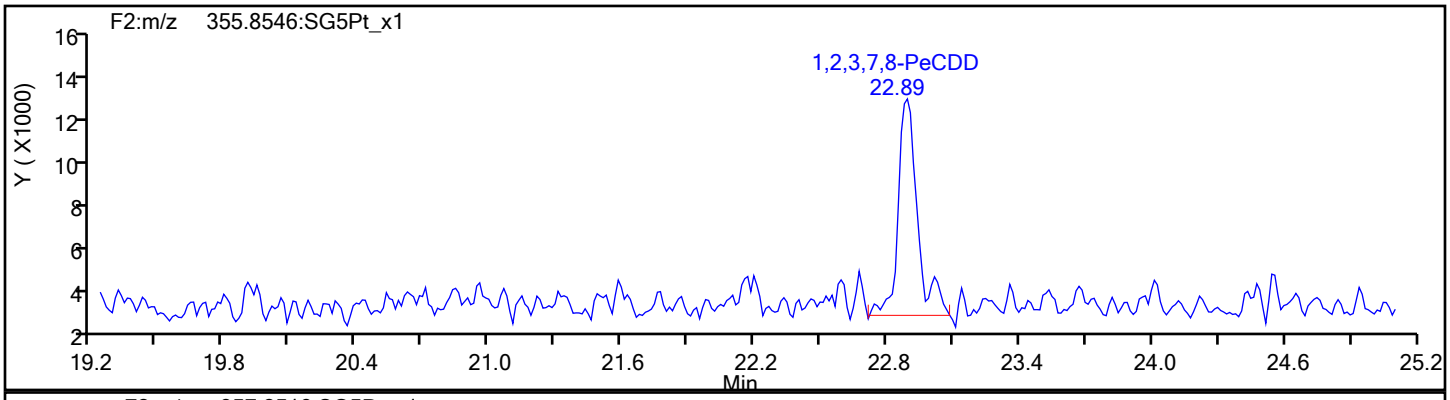

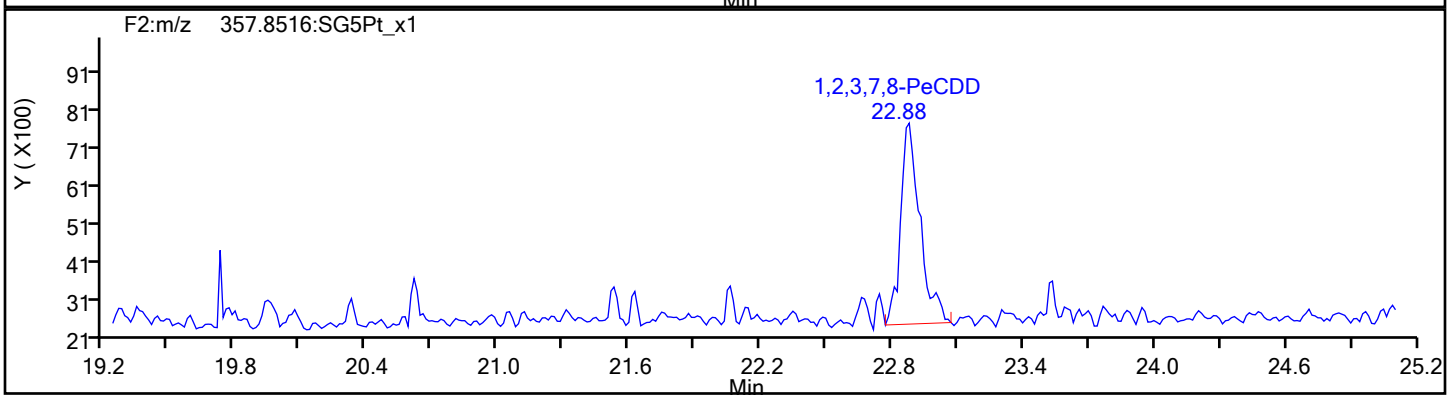

PeCDD Standards

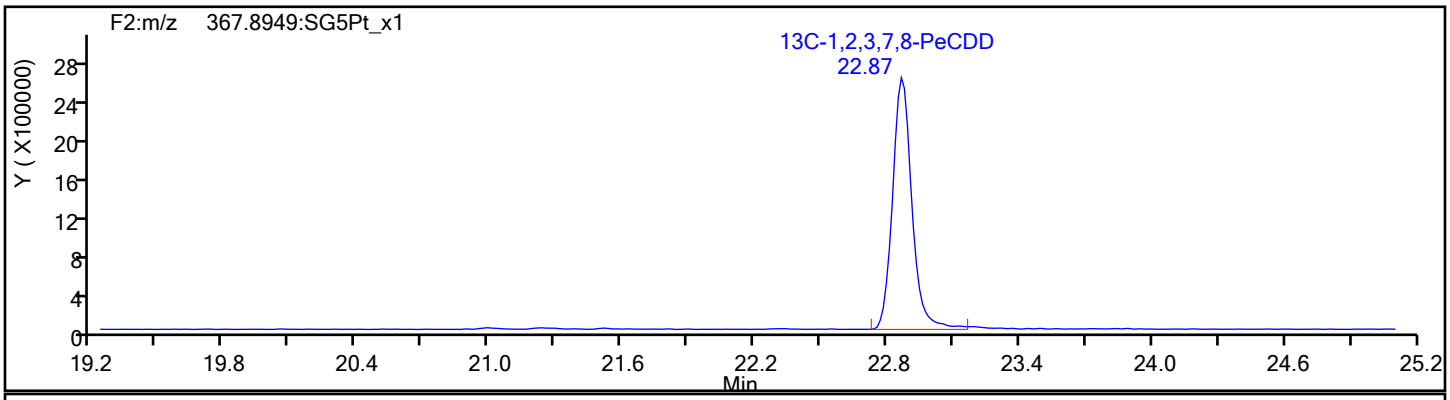

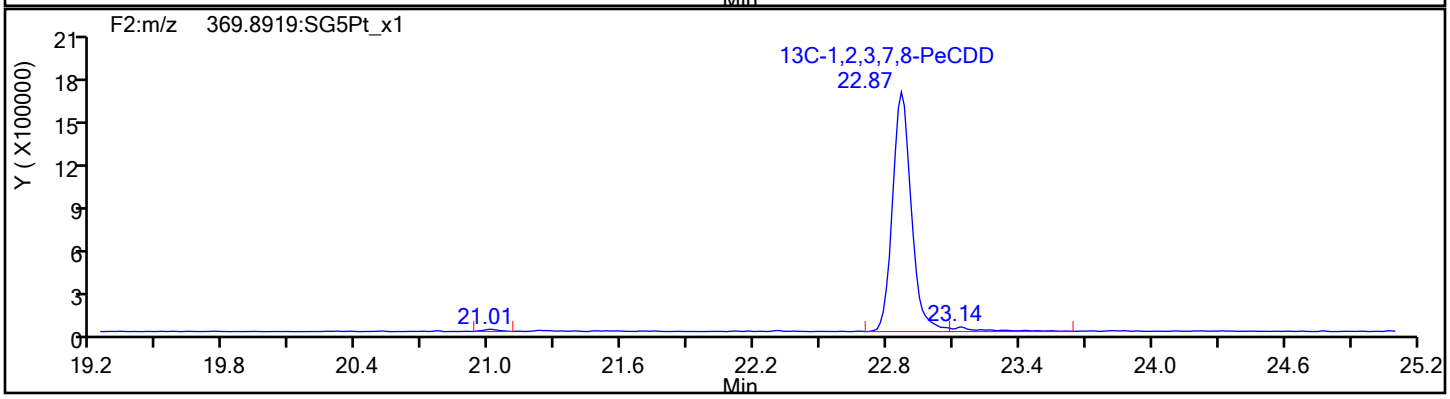

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HxCDF

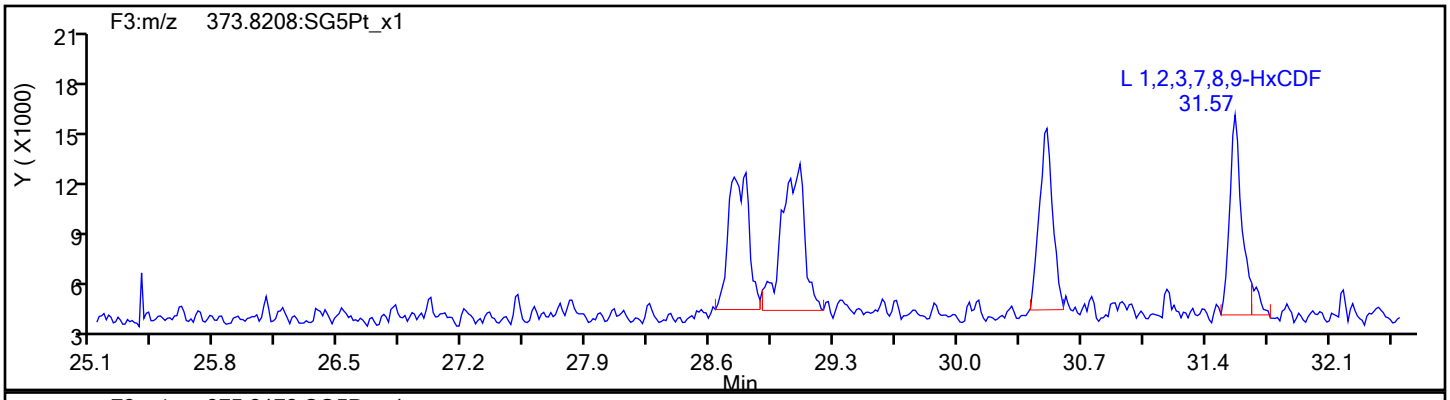

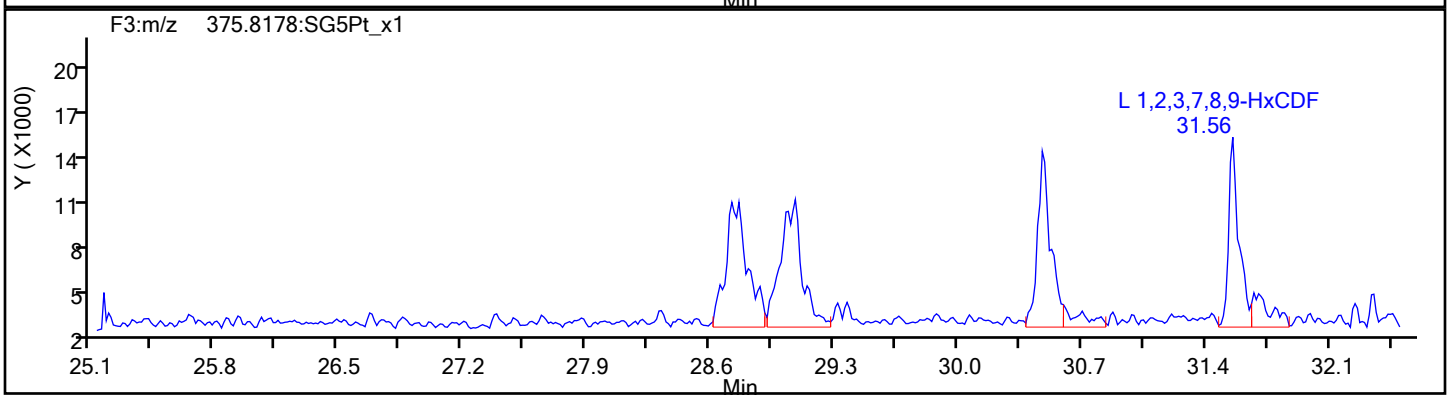

HxCDF Standards

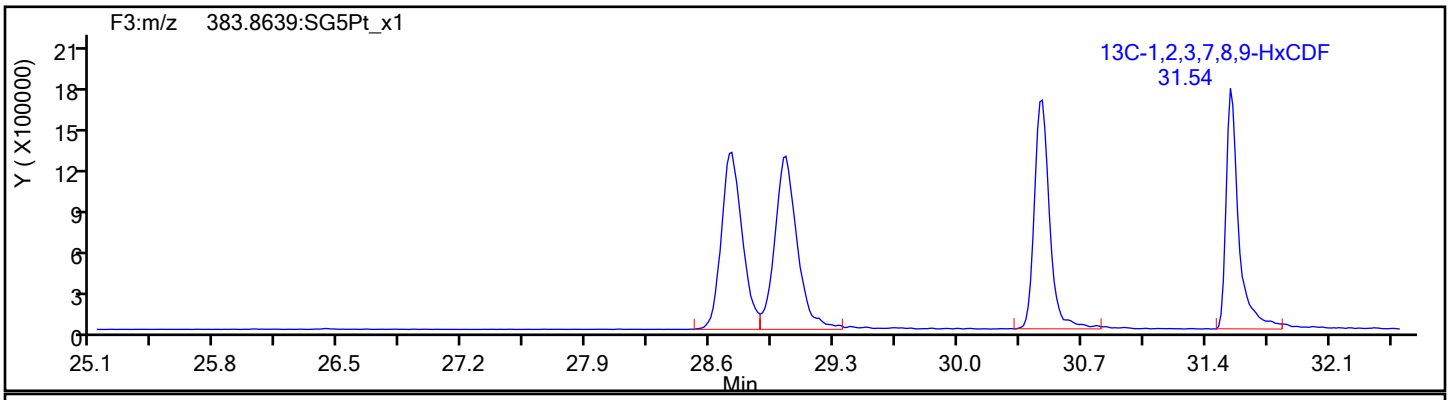

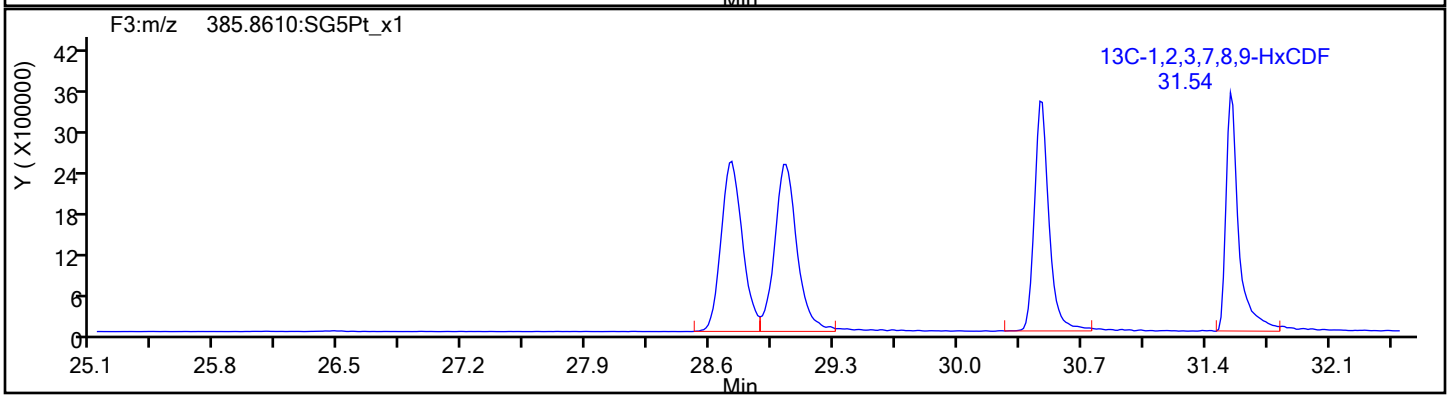

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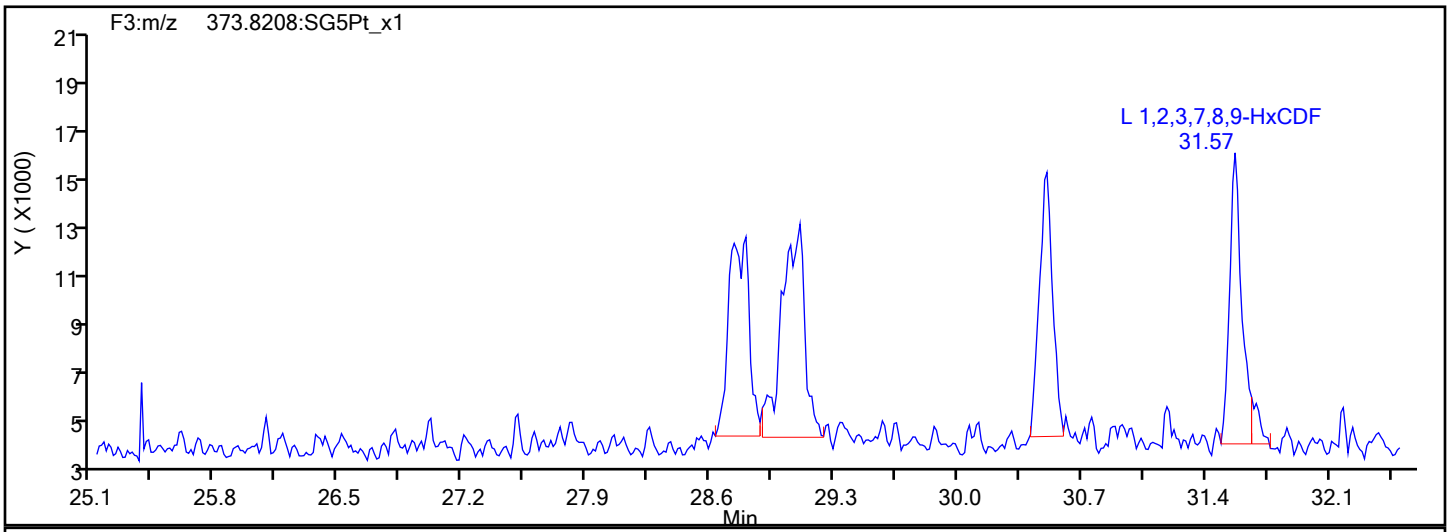

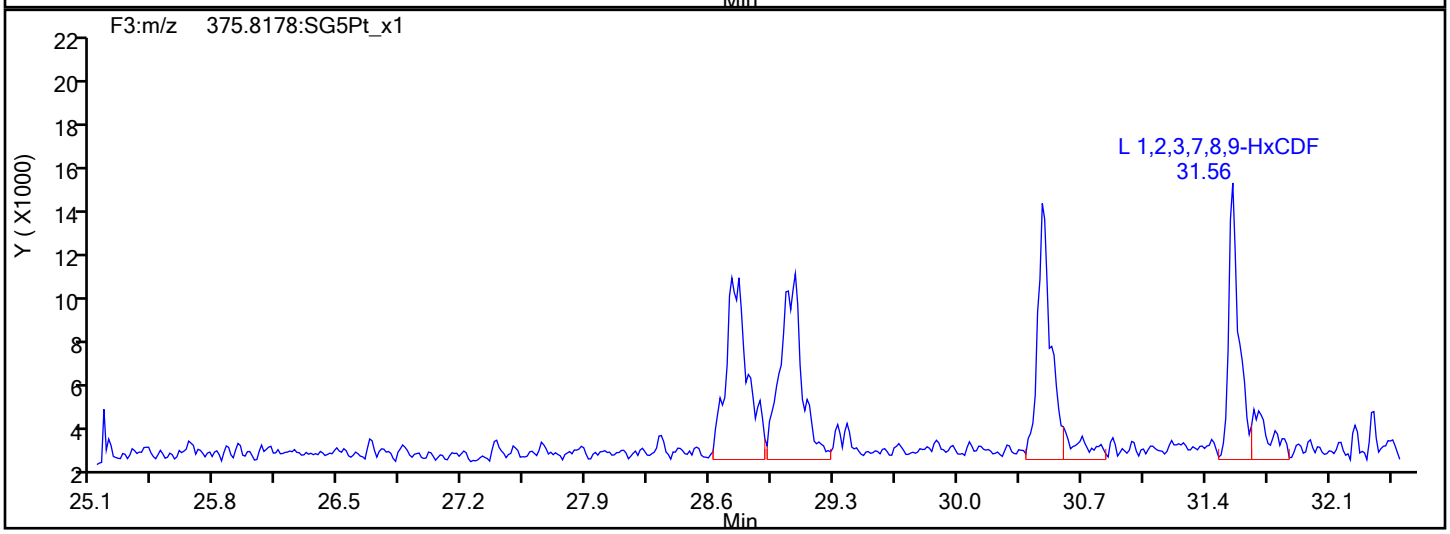

HxCDF Interference Mass

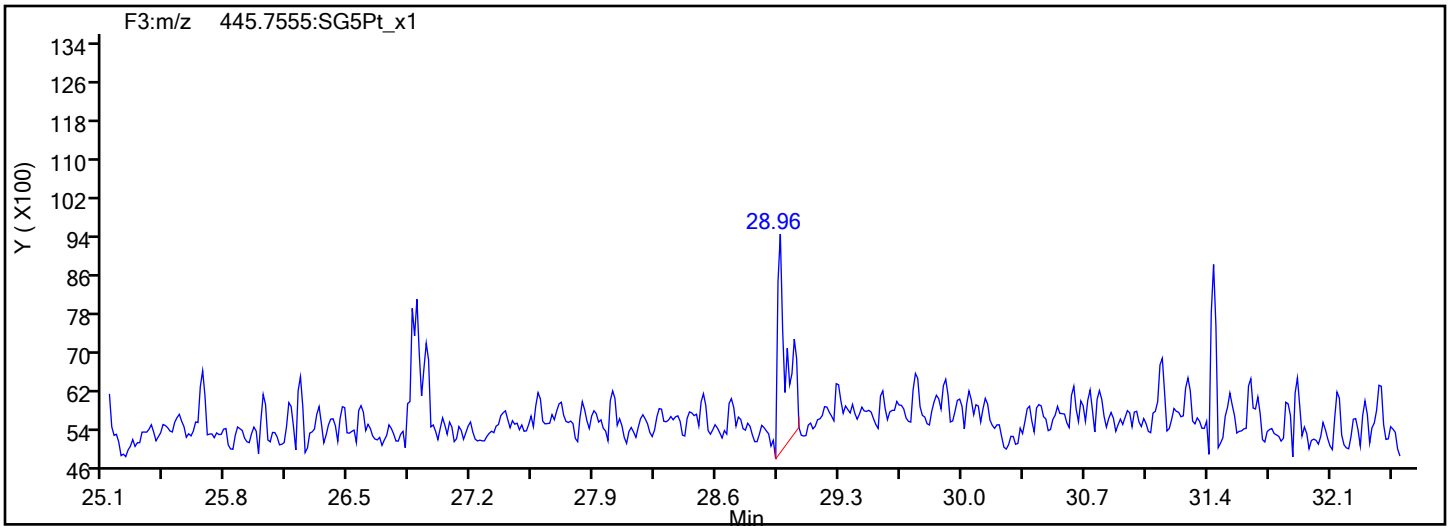

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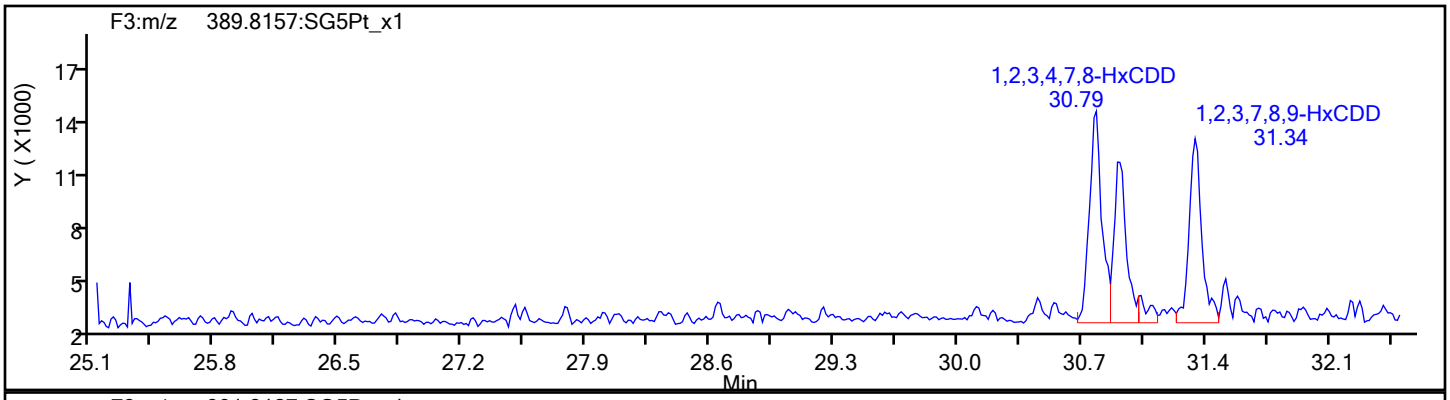

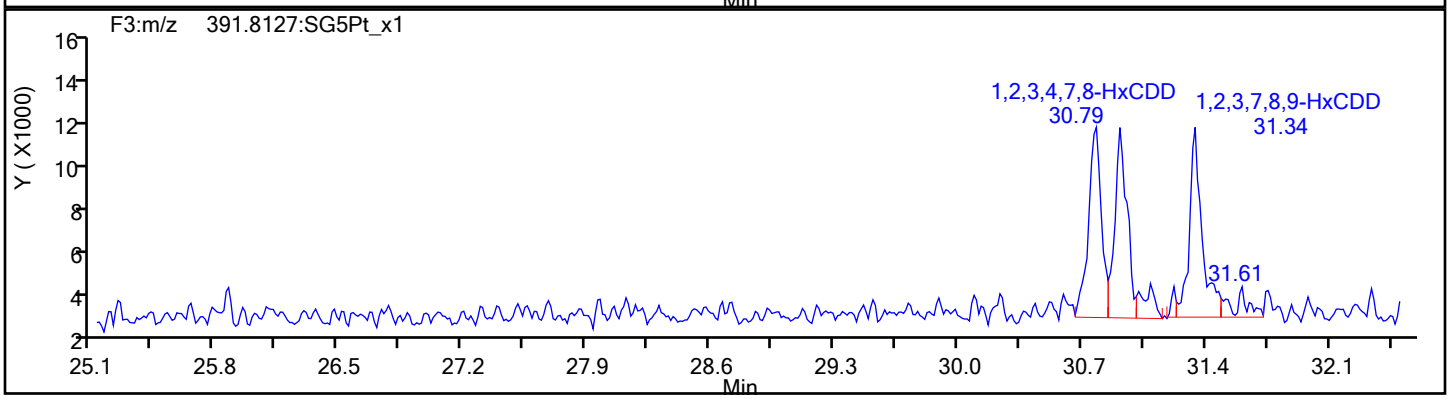

HxCDD Standards

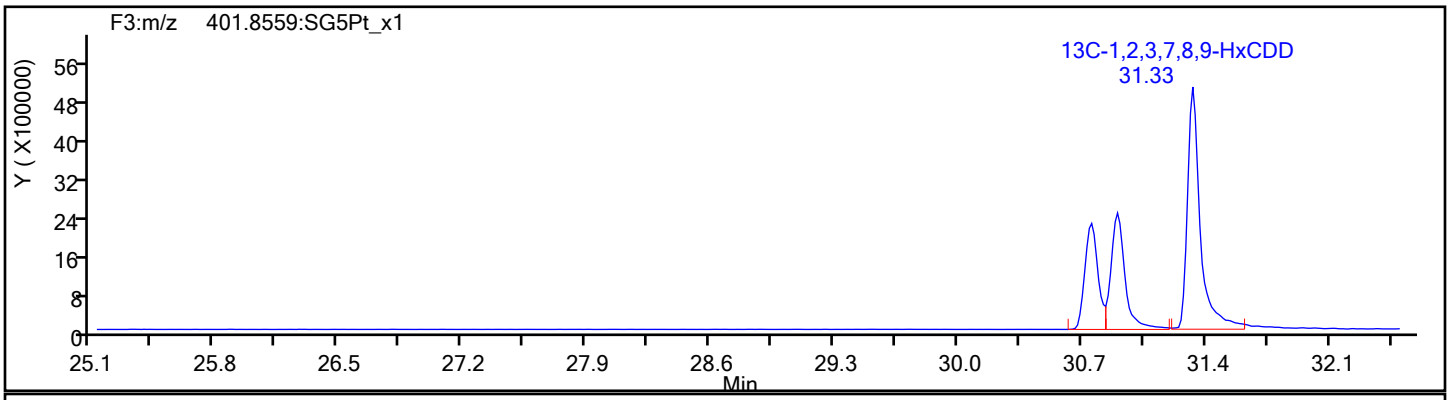

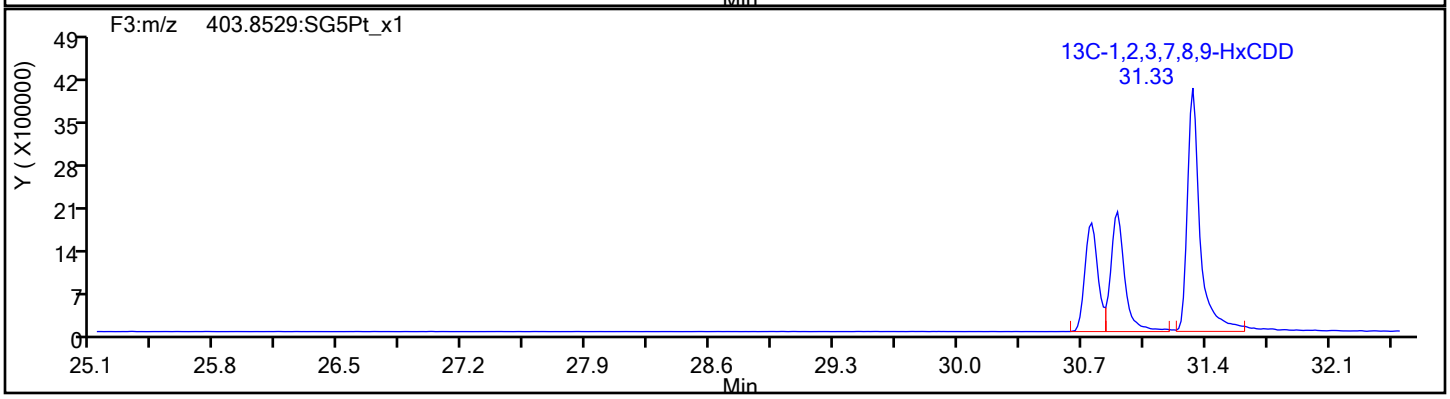

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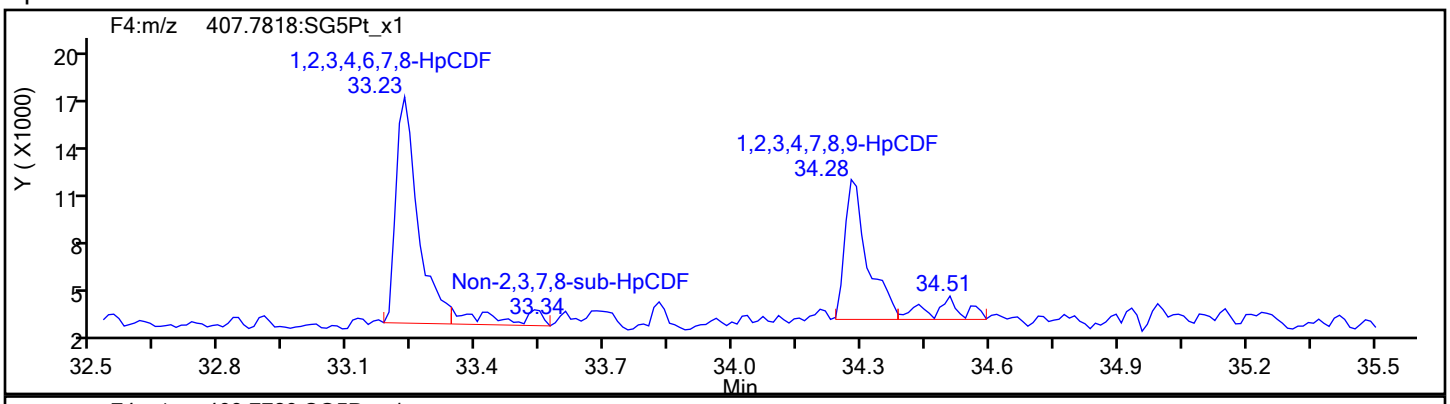

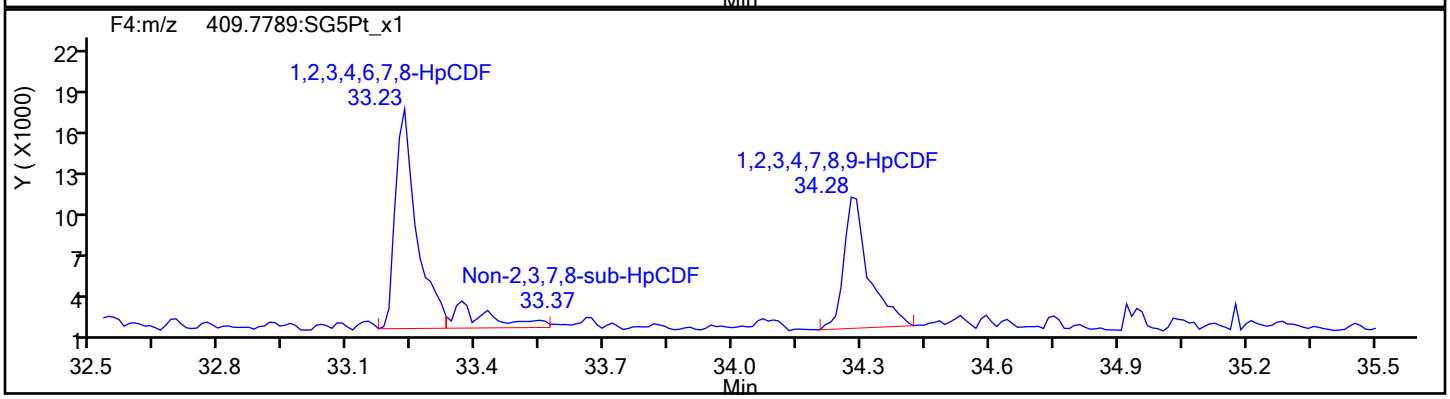

HpCDF Standards

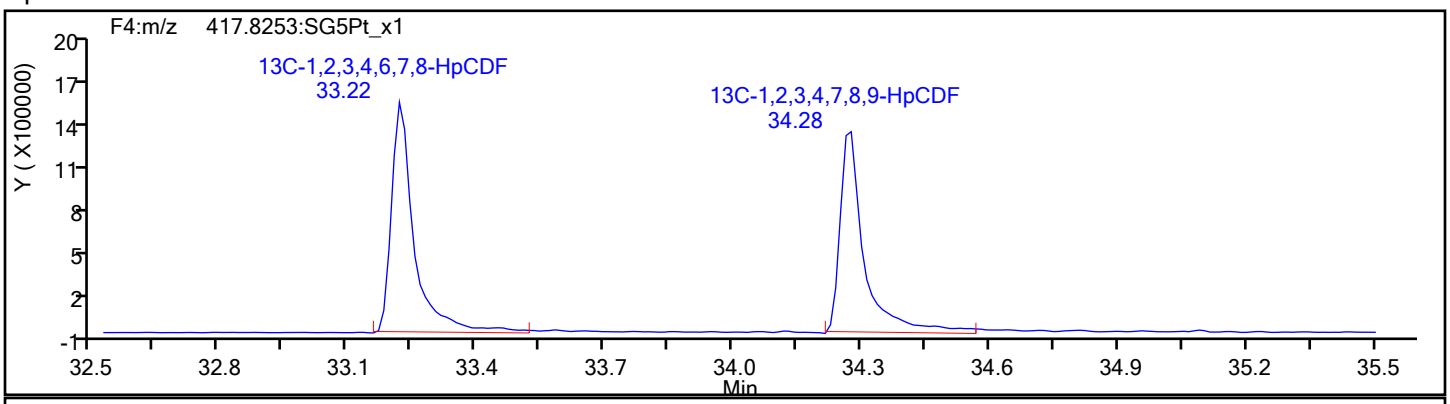

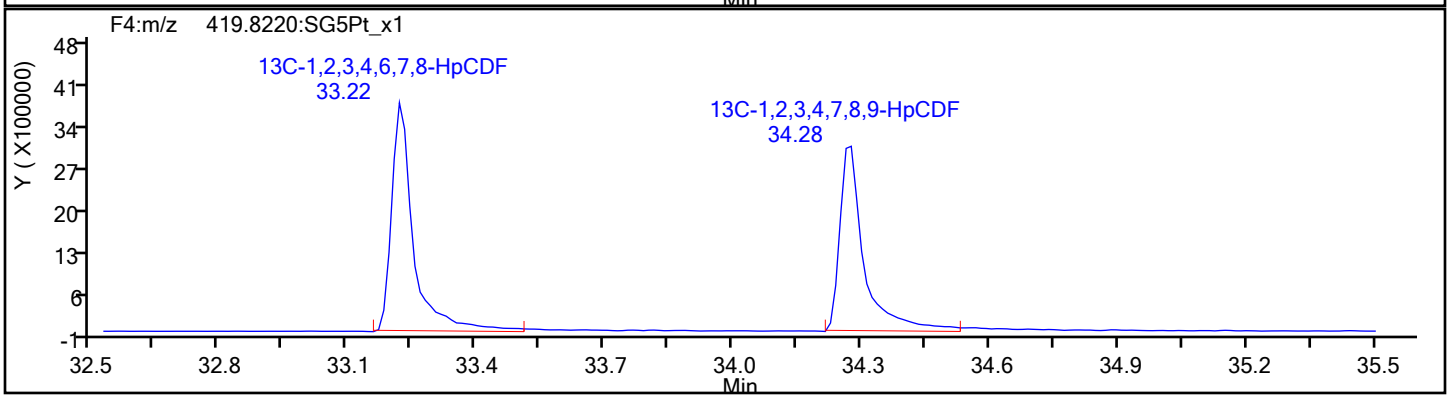

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HpCDF

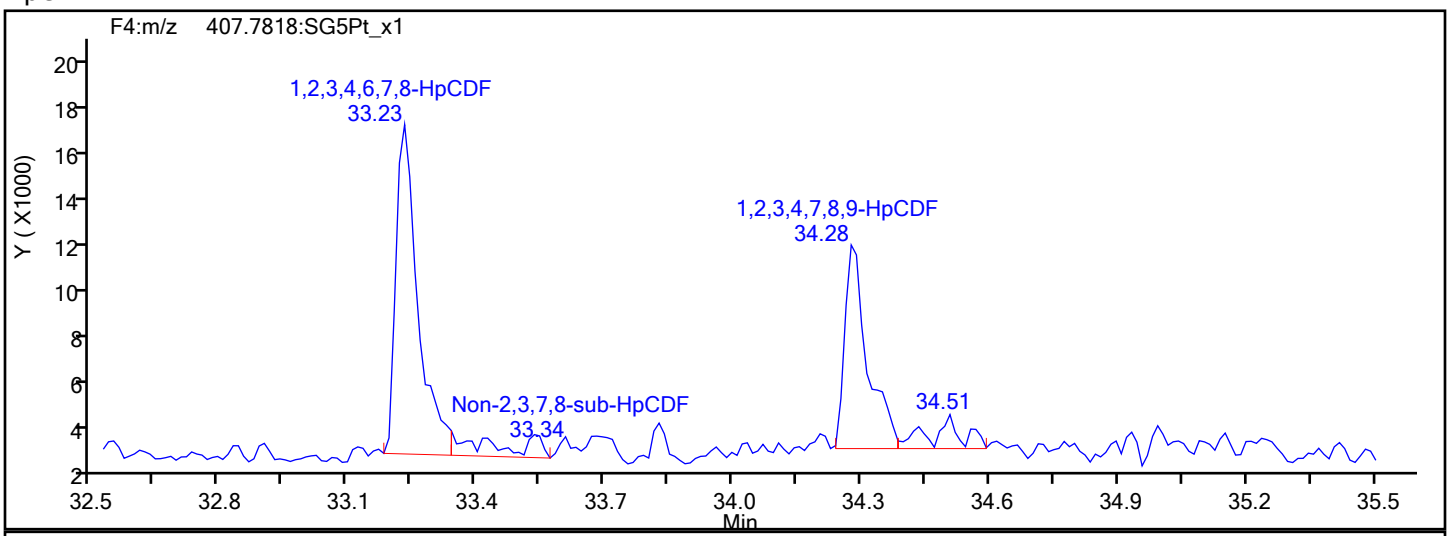

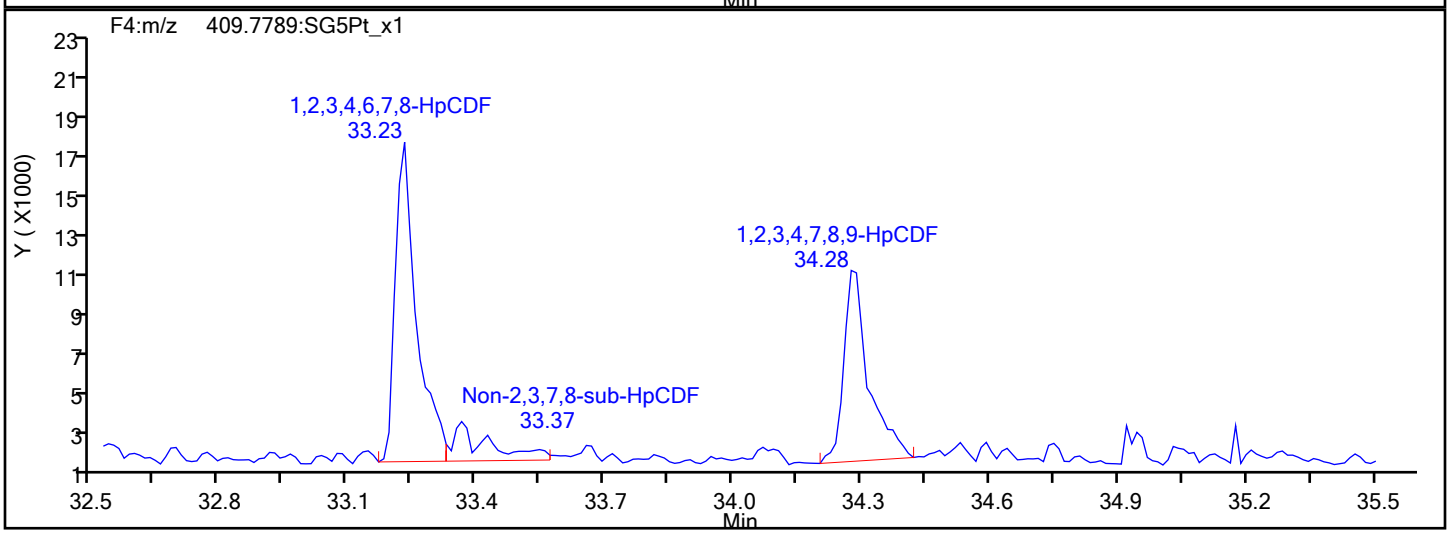

HpCDF Interference Mass

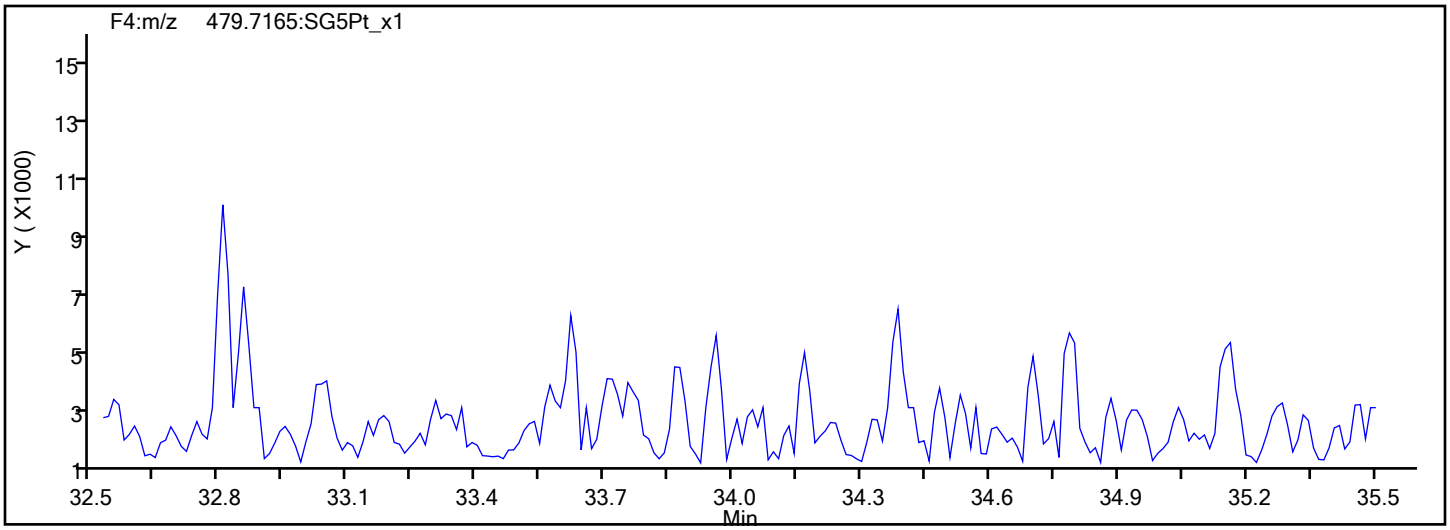

Report Date: 07-Oct-2019 08:49:38 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_16.d		
Injection Date:	03-Oct-2019 23:48:49	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	16
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

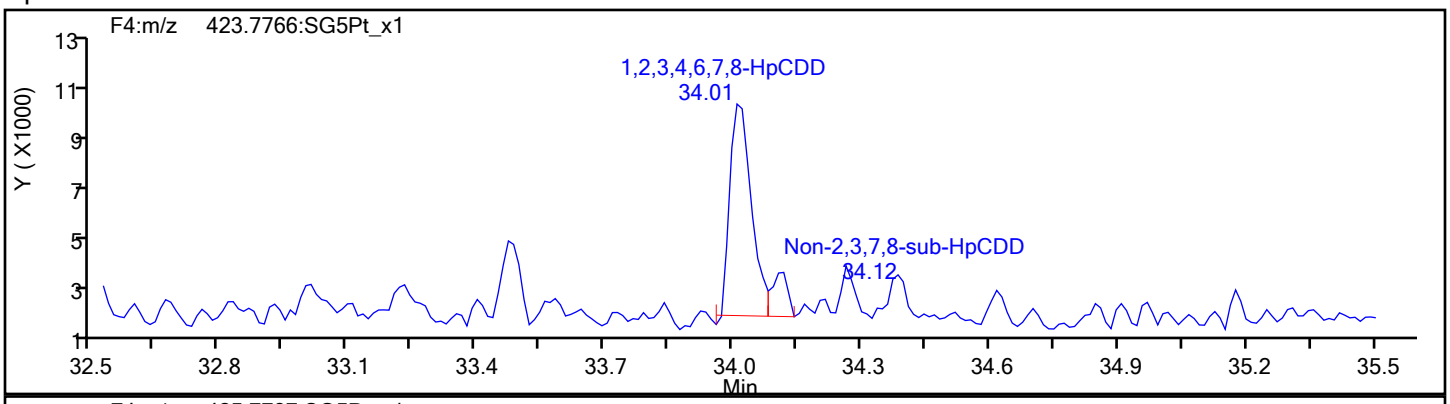

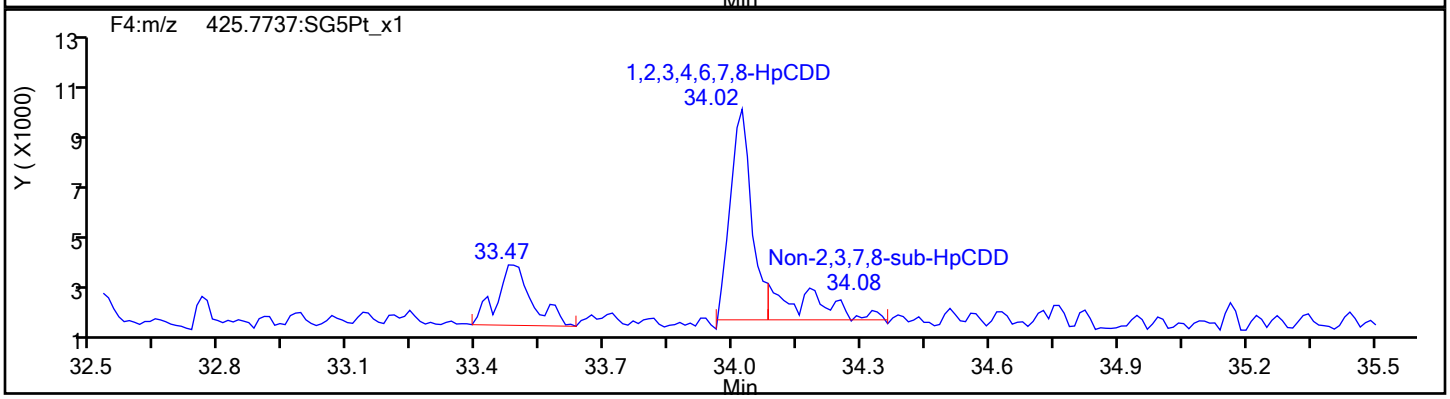

HpCDD Standards

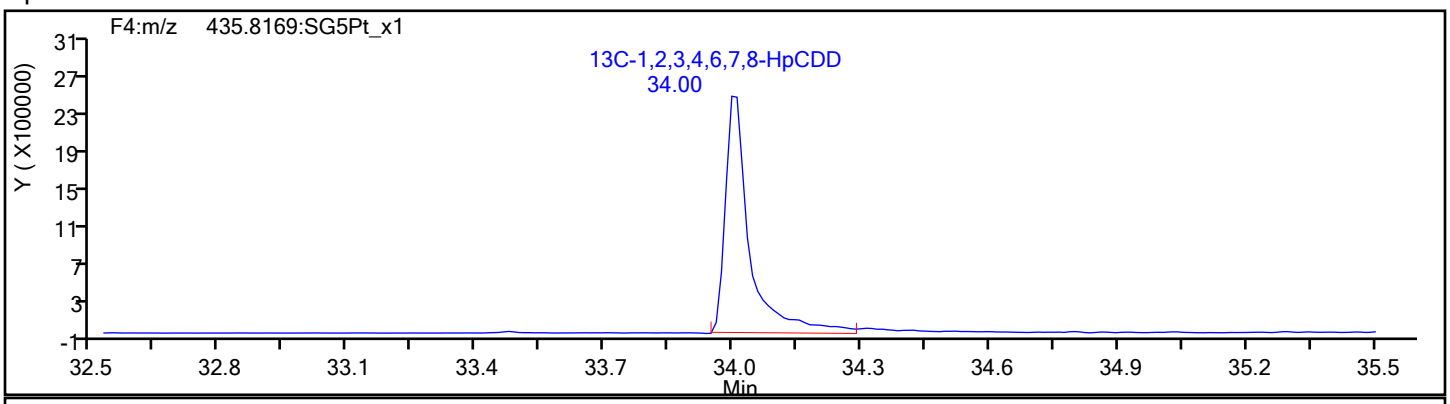

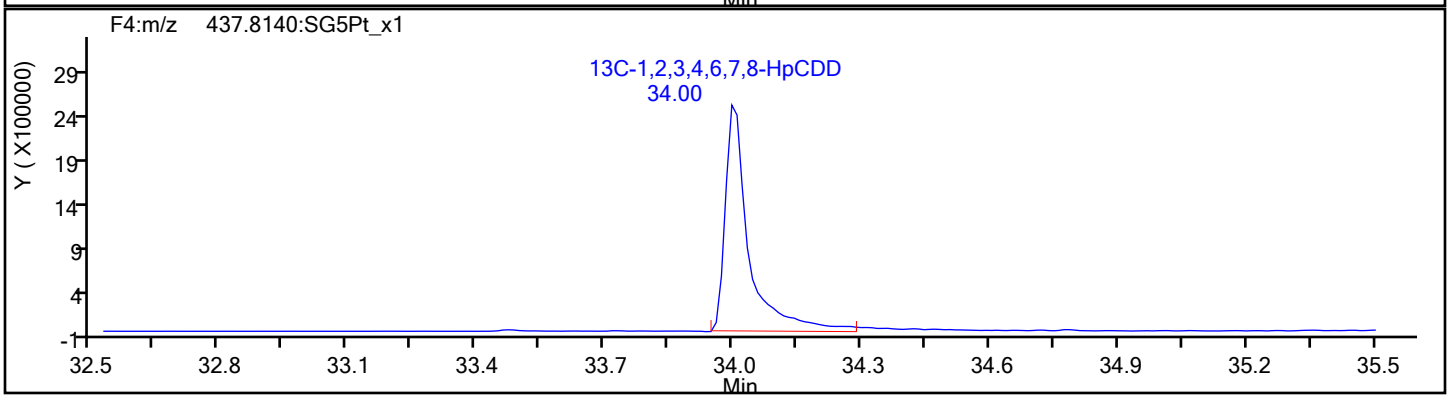

Report Date: 07-Oct-2019 08:49:38 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_16.d		
Injection Date:	03-Oct-2019 23:48:49	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	16
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

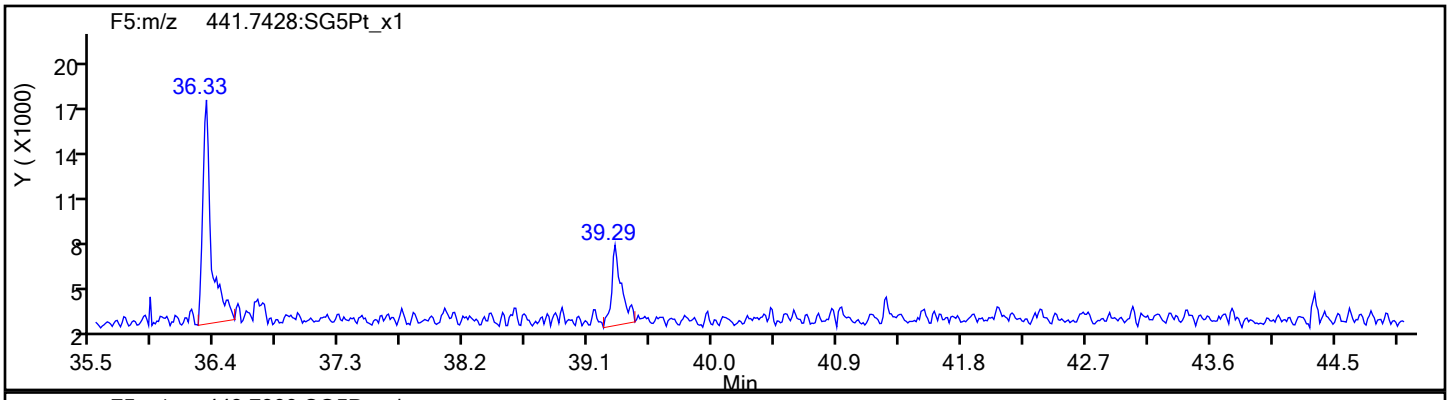

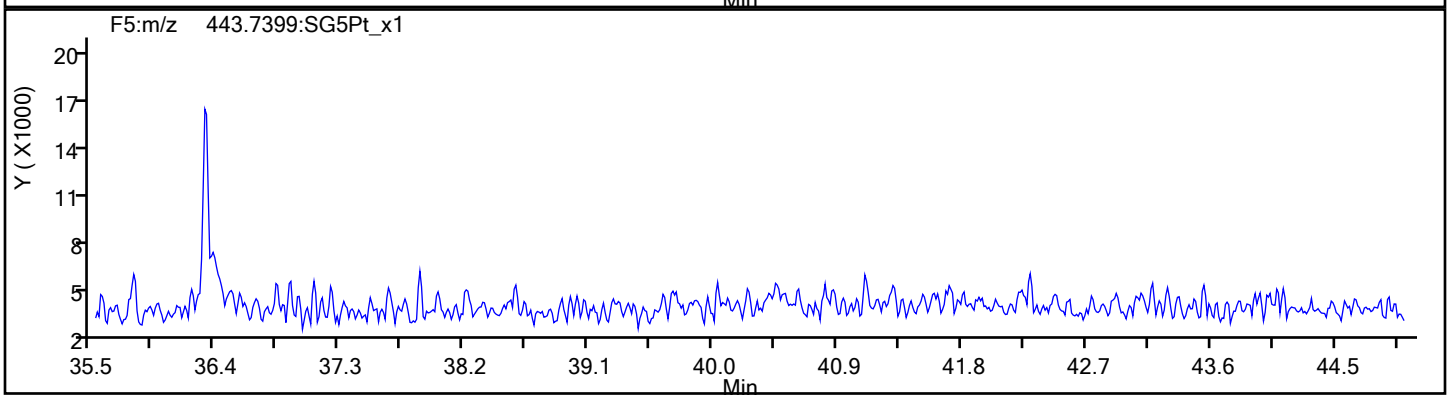

OCDF Standards

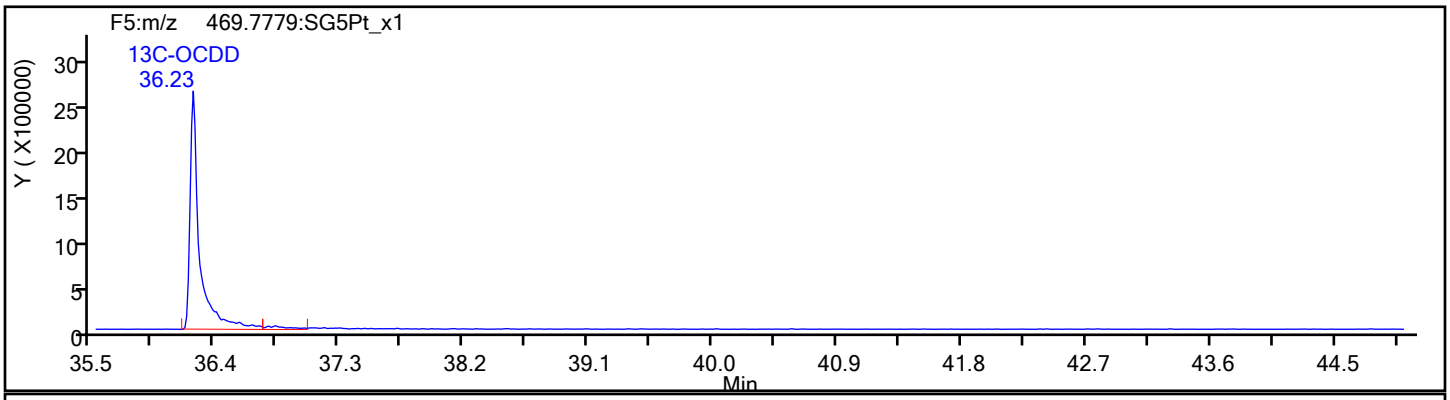

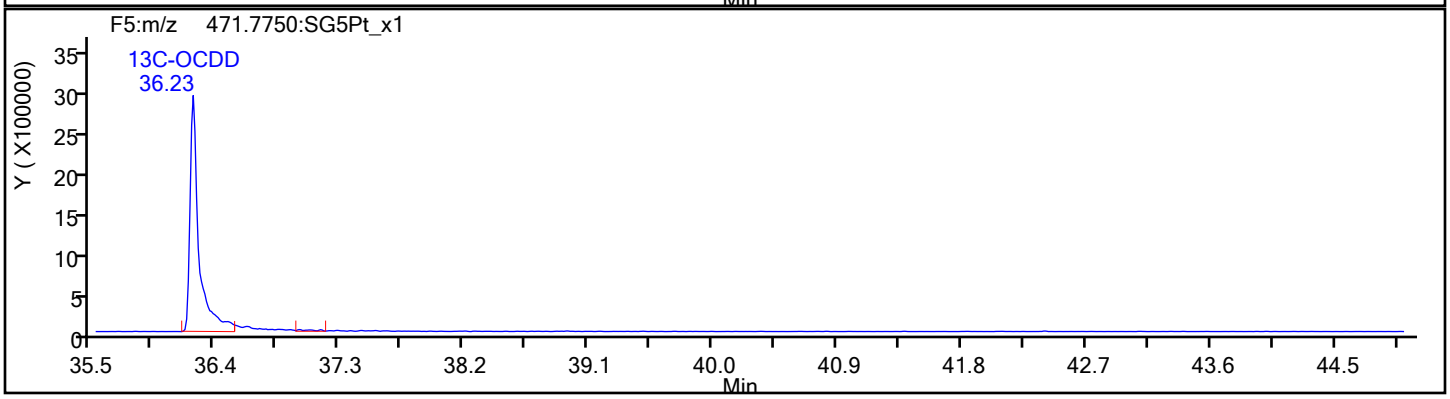

Report Date: 07-Oct-2019 08:49:38 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_16.d		
Injection Date:	03-Oct-2019 23:48:49	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	16
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

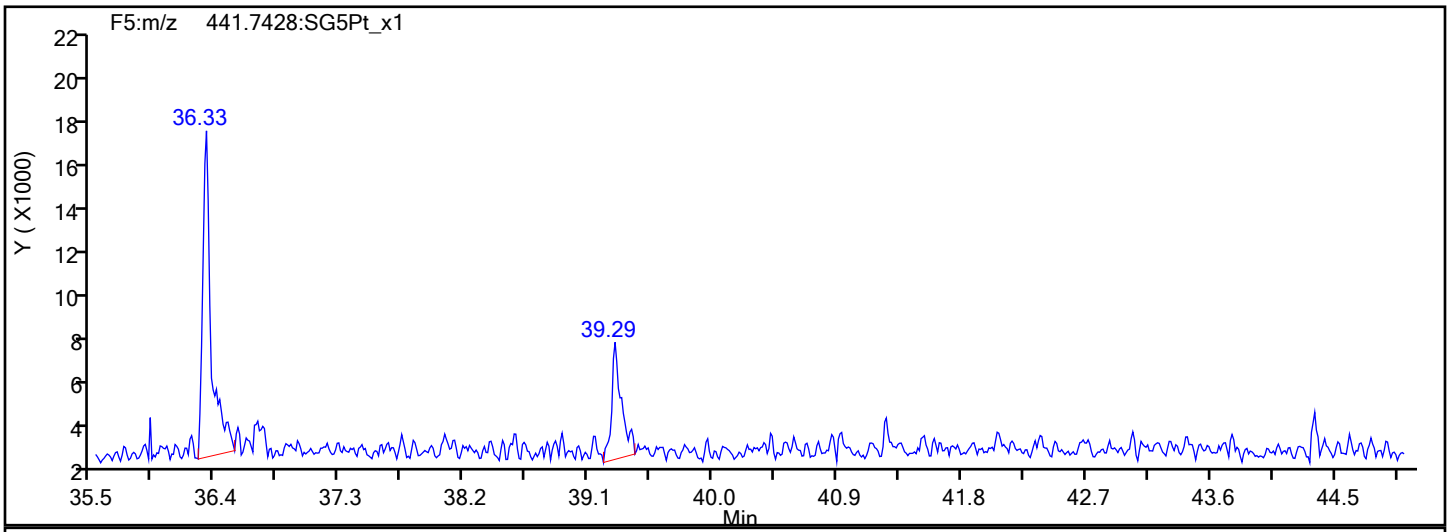

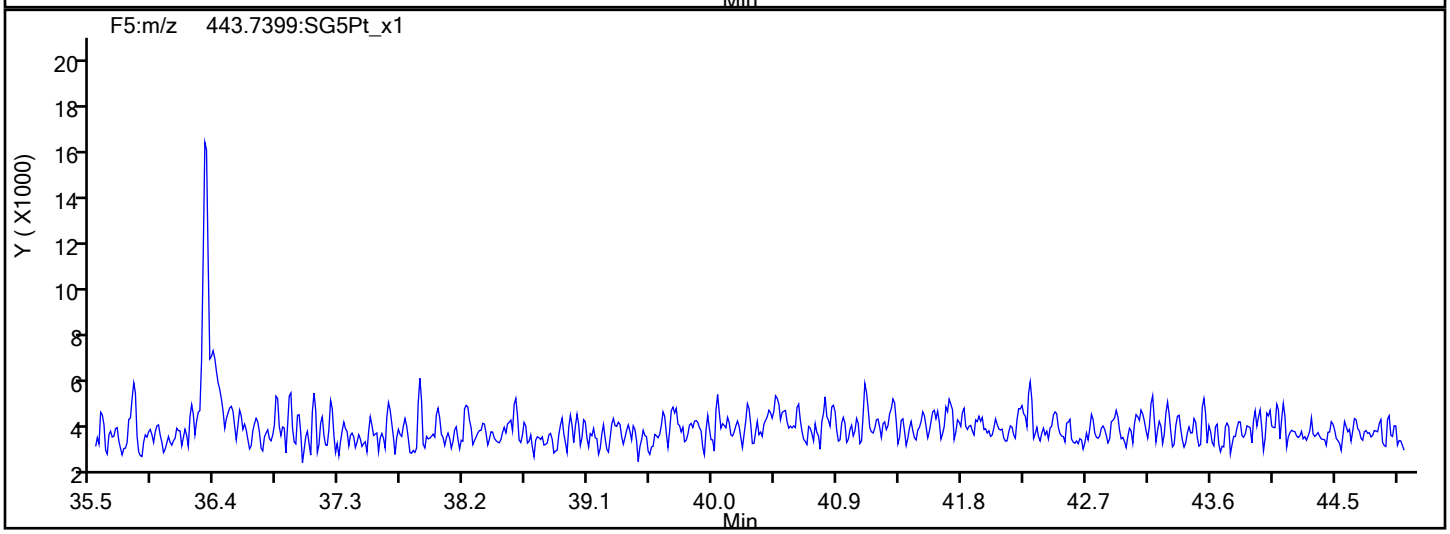

OCDF Interference Mass

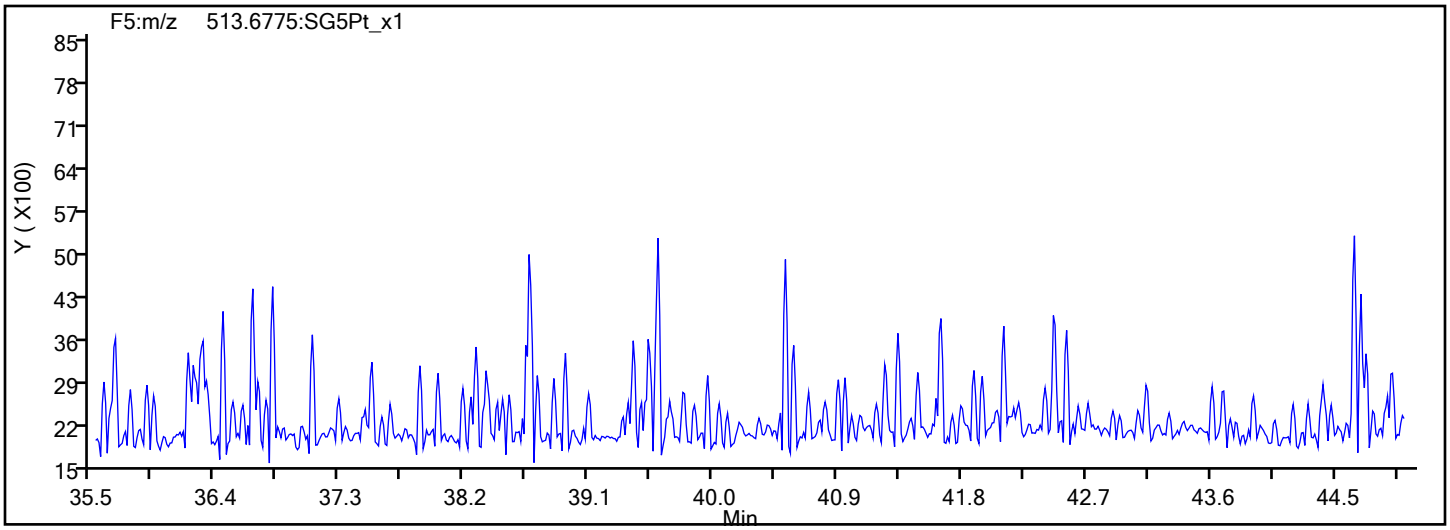

Report Date: 07-Oct-2019 08:49:38 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_16.d		
Injection Date:	03-Oct-2019 23:48:49	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	16
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

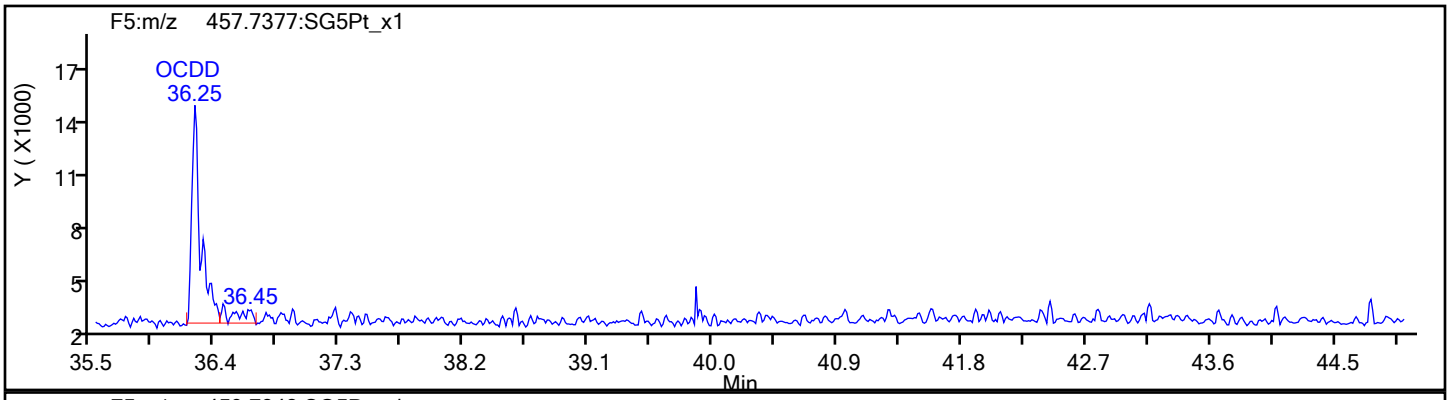

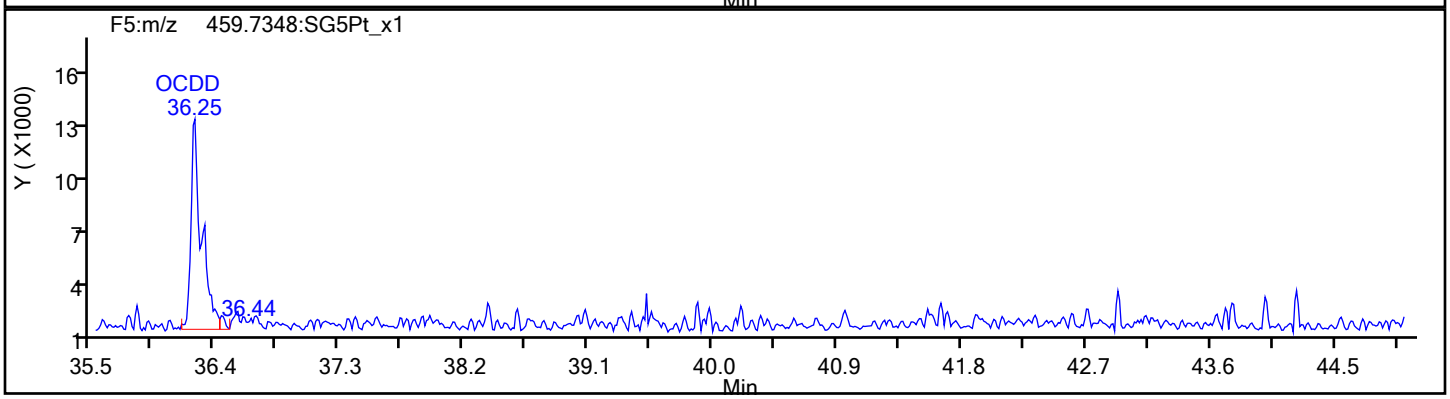

OCDD Standards

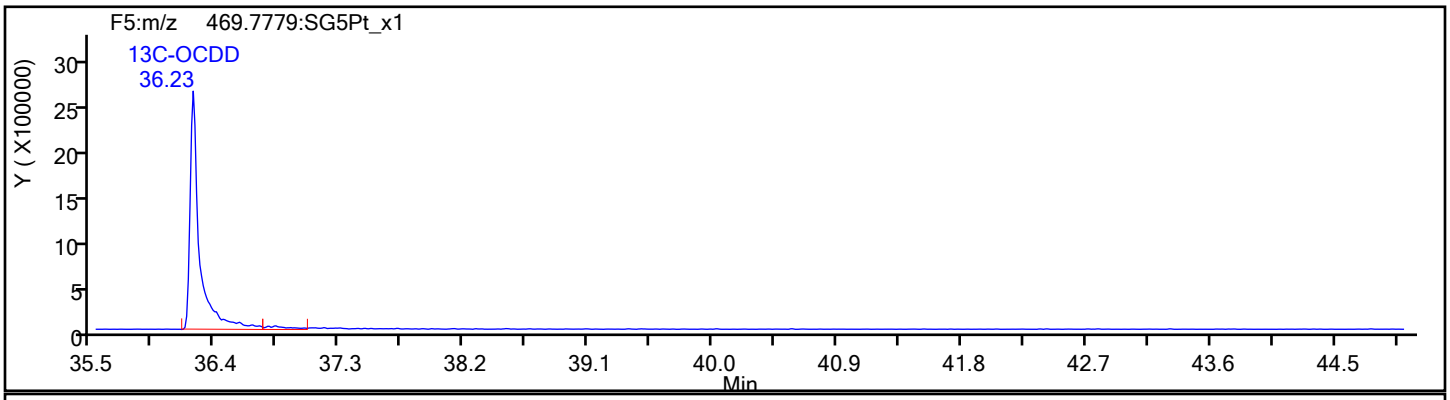

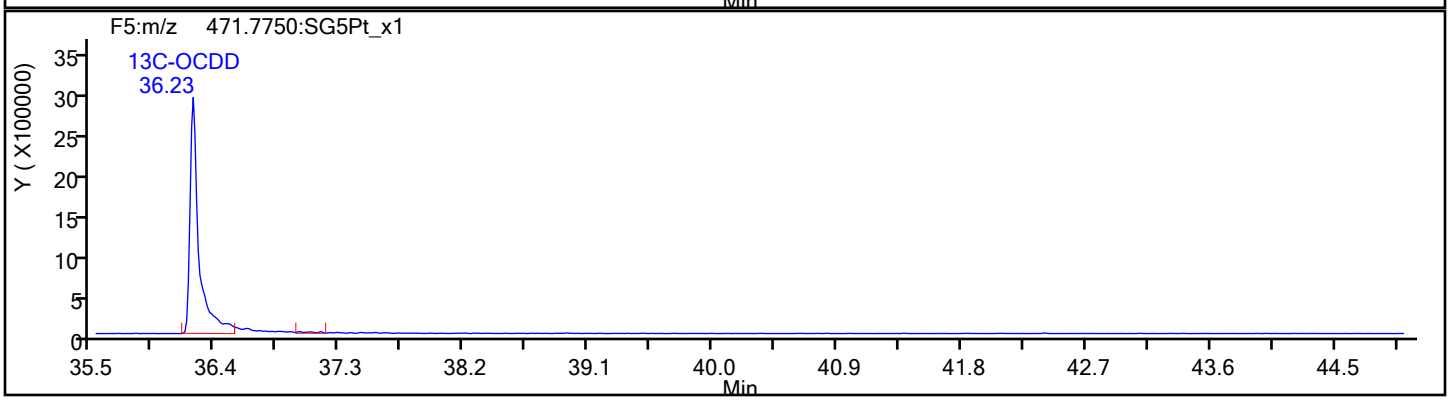

Report Date: 07-Oct-2019 08:49:38 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_16.d		
Injection Date:	03-Oct-2019 23:48:49	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	16
Column Type:	DB-5	Column Dia:	0.32 mm

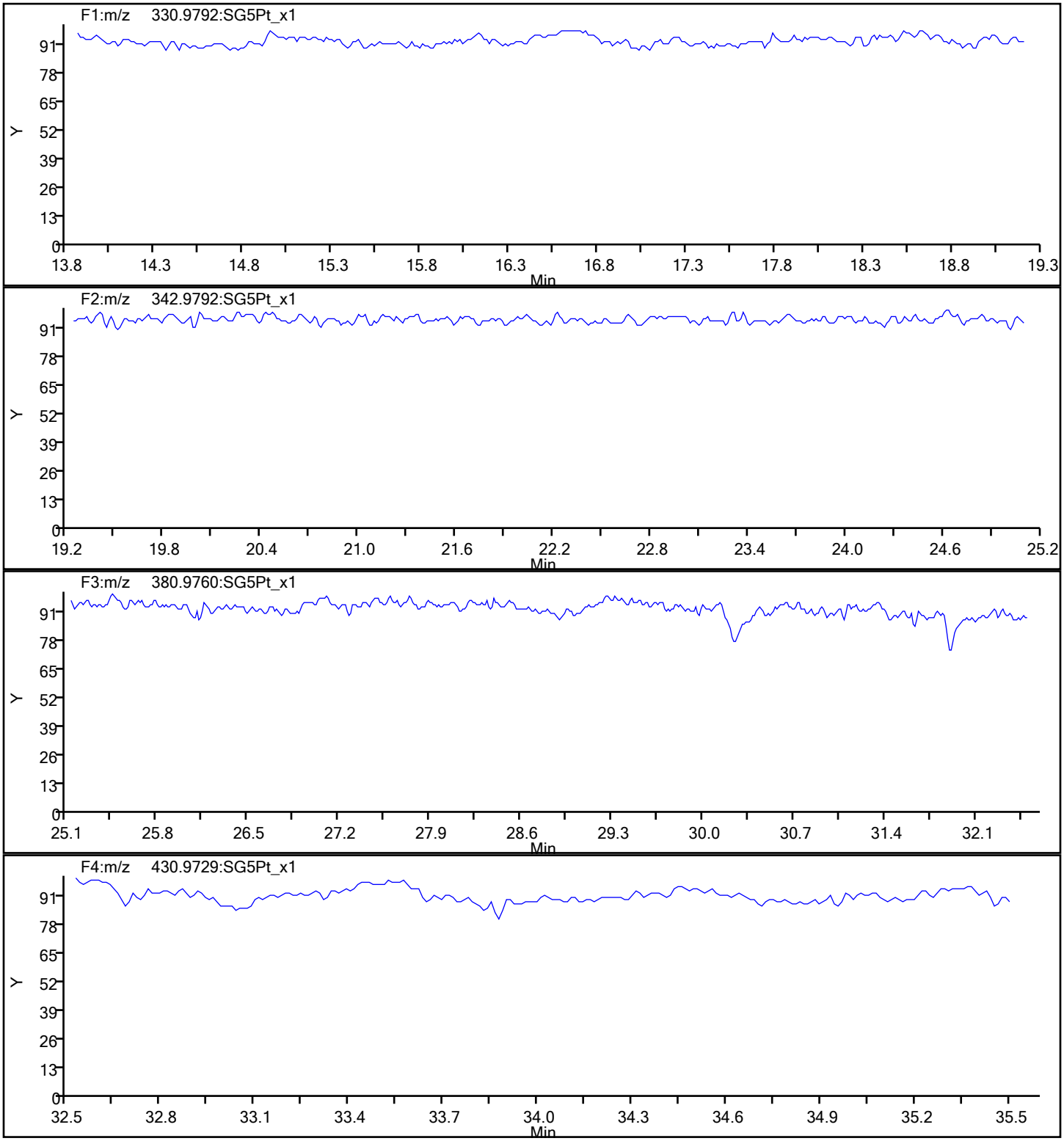

Report Date: 07-Oct-2019 08:49:38 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_16.d		
Injection Date:	03-Oct-2019 23:48:49	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	16
Column Type:	DB-5	Column Dia:	0.32 mm

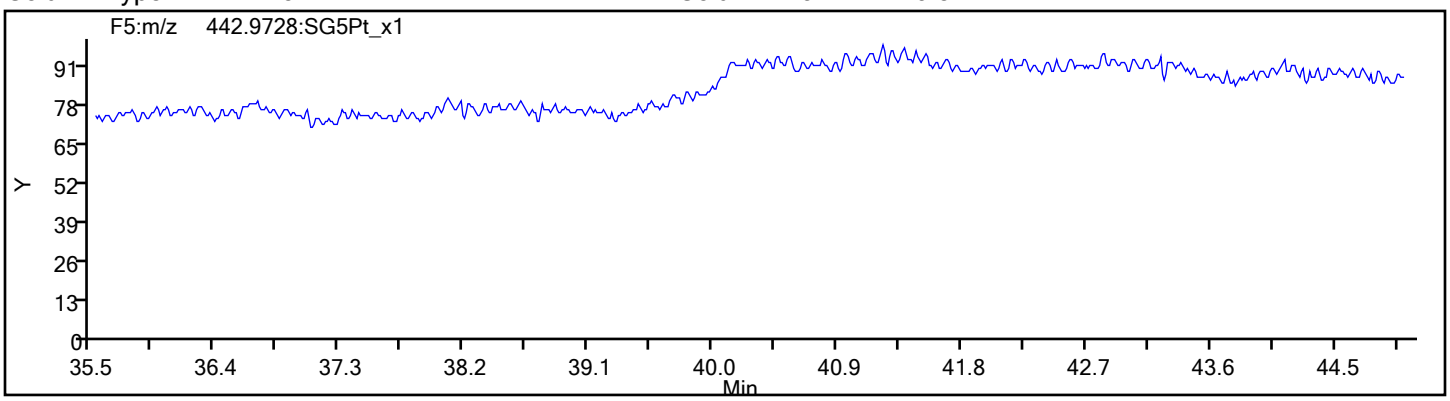

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 180-96144-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 320-327320/2-A
Matrix: Water
Lab File ID: 03OC1910D5_17.d
Analysis Method: 1613B
Date Collected:
Extract. Method: 1613B
Date Extracted: 09/30/2019 11:45
Sample wt/vol: 1000(mL)
Date Analyzed: 10/04/2019 00:34
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 328202
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	201		10	1.8
51207-31-9	2,3,7,8-TCDF	216		10	1.5
40321-76-4	1,2,3,7,8-PeCDD	1150		50	3.3
57117-41-6	1,2,3,7,8-PeCDF	1060		50	5.2
57117-31-4	2,3,4,7,8-PeCDF	1010		50	4.7
39227-28-6	1,2,3,4,7,8-HxCDD	1060		50	5.7
57653-85-7	1,2,3,6,7,8-HxCDD	1060		50	5.7
19408-74-3	1,2,3,7,8,9-HxCDD	1010		50	5.2
70648-26-9	1,2,3,4,7,8-HxCDF	1050		50	15
57117-44-9	1,2,3,6,7,8-HxCDF	1100		50	13
72918-21-9	1,2,3,7,8,9-HxCDF	1050		50	8.9
60851-34-5	2,3,4,6,7,8-HxCDF	1100		50	9.3
35822-46-9	1,2,3,4,6,7,8-HpCDD	1080		50	9.6
67562-39-4	1,2,3,4,6,7,8-HpCDF	1050		50	20
55673-89-7	1,2,3,4,7,8,9-HpCDF	1010		50	23
3268-87-9	OCDD	2000		100	5.3
39001-02-0	OCDF	2090		100	4.5
41903-57-5	Total TCDD	201		10	1.8
30402-14-3	Total TCDF	216		10	1.5
36088-22-9	Total PeCDD	1150		50	3.3
30402-15-4	Total PeCDF	2080		50	4.9
34465-46-8	Total HxCDD	3130		50	5.5
55684-94-1	Total HxCDF	4300		50	12
37871-00-4	Total HpCDD	1080		50	9.6
38998-75-3	Total HpCDF	2050		50	22

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 180-96144-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 320-327320/2-A
Matrix: Water
Lab File ID: 03OC1910D5_17.d
Analysis Method: 1613B
Date Collected:
Extract. Method: 1613B
Date Extracted: 09/30/2019 11:45
Sample wt/vol: 1000(mL)
Date Analyzed: 10/04/2019 00:34
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 328202
Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	65		20-175
89059-46-1	13C-2,3,7,8-TCDF	52		22-152
109719-79-1	13C-1,2,3,7,8-PeCDD	59		21-227
109719-77-9	13C-1,2,3,7,8-PeCDF	62		21-192
116843-02-8	13C-2,3,4,7,8-PeCDF	69		13-328
109719-80-4	13C-1,2,3,4,7,8-HxCDD	68		21-193
109719-81-5	13C-1,2,3,6,7,8-HxCDD	65		25-163
114423-98-2	13C-1,2,3,4,7,8-HxCDF	65		19-202
116843-03-9	13C-1,2,3,6,7,8-HxCDF	69		21-159
116843-04-0	13C-1,2,3,7,8,9-HxCDF	63		17-205
116843-05-1	13C-2,3,4,6,7,8-HxCDF	69		22-176
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	60		26-166
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	55		21-158
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	61		20-186
114423-97-1	13C-OCDD	51		13-199

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	109		31-191

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_17.d
Lims ID: LCS 320-327320/2-A
Client ID:
Sample Type: LCS
Inject. Date: 04-Oct-2019 00:34:47 ALS Bottle#: 16 Worklist Smp#: 17
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCS 320-327320/2-A LCS 320-327320/2-A
Misc. Info.: 03OC1910D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 07-Oct-2019 08:49:34 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0322

First Level Reviewer: dadunj Date: 07-Oct-2019 08:50:21

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	16.837	83679352	0.78	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.353	62006830	0.80	1.4384	51.5	51.5	0.1953	0.1953	51.52	
2,3,7,8-TCDF	16.368	7033432	0.79	1.0507	10.8	10.8	0.0739	0.0739	108	
A Non-2,3,7,8-sub-TCDF	16.058						0.0739	0.0739		
S Total TCDF					10.8	10.8	0.0739	0.0739		
D 13C-2,3,7,8-TCDD	17.018	51892546	0.79	0.9533	65.0	65.0	0.2523	0.2523	65.05	
2,3,7,8-TCDD	17.034	5774628	0.78	1.1064	10.1	10.1	0.0920	0.0920	101	
$ 37Cl4-2,3,7,8-TCDD	17.034	44458605		1.2224	43.5	43.5	0.0723	0.0723	109	
A Non-2,3,7,8-sub-TCDD	16.482						0.0920	0.0920		
S Total TCDD					10.1	10.1	0.0920	0.0920		
D 13C-1,2,3,7,8-PeCDF	20.983	52988156	1.56	1.0286	61.6	61.6	0.2153	0.2153	61.56	
1,2,3,7,8-PeCDF	20.997	30359635	1.59	1.0822	52.9	52.9	0.2580	0.2580	106	
D 13C-2,3,4,7,8-PeCDF	22.211	56487170	1.56	0.9827	68.7	68.7	0.2253	0.2253	68.70	
2,3,4,7,8-PeCDF	22.238	31316345	1.59	1.1032	50.3	50.3	0.2353	0.2353	101	
A F1 PeCDFs	18.727						0.0345	0.0345		
A Non-2,3,7,8-sub-PeCDF	21.612	380909	1.53	1.0927	0.6368	0.6368	0.2462	0.6368	0.00	
S Total PeCDF					103.8	103.8	0.2466	0.2466		
D 13C-1,2,3,7,8-PeCDD	22.879	37132851	1.59	0.7481	59.3	59.3	0.1466	0.1466	59.32	
1,2,3,7,8-PeCDD	22.906	19352725	1.55	0.9050	57.6	57.6	0.1635	0.1635	115	
A Non-2,3,7,8-sub-PeCDD	21.843						0.1635	0.1635		
S Total PeCDD					57.6	57.6	0.1635	0.1635		
D 13C-1,2,3,4,7,8-HxCDF	28.722	41666301	0.52	1.1520	65.4	65.4	0.4979	0.4979	65.36	
1,2,3,4,7,8-HxCDF	28.762	26260285	1.26	1.1973	52.6	52.6	0.7261	0.7261	105	
D 13C-1,2,3,6,7,8-HxCDF	29.028	47473118	0.52	1.2434	69.0	69.0	0.4613	0.4613	68.99	
1,2,3,6,7,8-HxCDF	29.068	30878541	1.28	1.1807	55.1	55.1	0.6748	0.6748	110	
D 13C-2,3,4,6,7,8-HxCDF	30.479	44483498	0.52	1.1720	68.6	68.6	0.4894	0.4894	68.59	
2,3,4,6,7,8-HxCDF	30.506	29514252	1.26	1.2116	54.8	54.8	0.4636	0.4636	110	
D 13C-1,2,3,7,8,9-HxCDF	31.557	37120777	0.53	1.0655	63.0	63.0	0.5384	0.5384	62.96	
1,2,3,7,8,9-HxCDF	31.570	24362014	1.27	1.2451	52.7	52.7	0.4429	0.4429	105	
A Non-2,3,7,8-sub-HxCDF	28.849						0.5516	0.5516		
S Total HxCDF					215.2	215.2	0.5768	0.5768		

Report Date: 07-Oct-2019 08:50:23 Chrom Revision: 2.3 17-Sep-2019 16:19:08
Data File: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_17.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.344	55337025	1.25	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	30.758	29185306	1.25	0.7812	67.5	67.5	0.4604	0.4604	67.51	
1,2,3,4,7,8-HxCDD	30.785	17167998	1.26	1.1088	53.1	53.1	0.2867	0.2867	106	
D 13C-1,2,3,6,7,8-HxCDD	30.918	32831966	1.25	0.9175	64.7	64.7	0.3920	0.3920	64.67	
1,2,3,6,7,8-HxCDD	30.931	18792962	1.27	1.0814	52.9	52.9	0.2859	0.2859	106	
1,2,3,7,8,9-HxCDD	31.358	19031948	1.23	1.2123	50.6	50.6	0.2586	0.2586	101	
A Non-2,3,7,8-sub-HxCDD	29.375						0.2764	0.2764		
S Total HxCDD					156.6	156.6	0.2771	0.2771		
D 13C-1,2,3,4,6,7,8-HpCDF	33.231	26412071	0.44	0.8628	55.3	55.3	1.330	1.330	55.32	
1,2,3,4,6,7,8-HpCDF	33.243	21530294	1.06	1.5555	52.4	52.4	1.020	1.020	105	
D 13C-1,2,3,4,7,8,9-HpCDF	34.276	26863008	0.44	0.7991	60.8	60.8	1.436	1.436	60.75	
1,2,3,4,7,8,9-HpCDF	34.288	18737343	1.06	1.3862	50.3	50.3	1.150	1.150	101	
A Non-2,3,7,8-sub-HpCDF	33.742						1.081	1.081		
S Total HpCDF					102.7	102.7	1.085	1.085		
D 13C-1,2,3,4,6,7,8-HpCDD	34.009	28841916	1.05	0.8739	59.6	59.6	0.5827	0.5827	59.64	
1,2,3,4,6,7,8-HpCDD	34.021	14552024	1.04	0.9316	54.2	54.2	0.4821	0.4821	108	
A Non-2,3,7,8-sub-HpCDD	33.889						0.4821	0.4821		
S Total HpCDD					54.2	54.2	0.4821	0.4821		
D 13C-OCDD	36.246	43320336	0.86	0.7744	101.1	101.1	0.3097	0.3097	50.55	
OCDF	36.330	28465821	0.89	1.2596	104.3	104.3	0.2242	0.2242	104	
OCDD	36.246	22958126	0.89	1.0621	99.8	99.8	0.2672	0.2672	99.80	

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_17.d
Lims ID: LCS 320-327320/2-A
Client ID:
Sample Type: LCS
Inject. Date: 04-Oct-2019 00:34:47 ALS Bottle#: 16 Worklist Smp#: 17
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCS 320-327320/2-A LCS 320-327320/2-A
Misc. Info.: 03OC1910D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 07-Oct-2019 08:49:34 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0322

First Level Reviewer: dadunj Date: 07-Oct-2019 08:50:21

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	16.837	16.792	3		36743617	9767173	11138	27845	877		
333.9339	16.837	16.792	3		46935735	12530724	10313	25782	1215	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.353	16.323	2	0.971	27512049	6996604	16075	40187	435		
317.9389	16.353	16.323	2	0.971	34494781	8928156	8976	22440	995	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.368	16.338	2	1.001	3094083	777610	1582	3955	492		
305.8987	16.368	16.338	2	1.001	3939349	999336	3364	8410	297	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.058						1582	3955			
305.8987	16.058						3364	8410			
13C-2,3,7,8-TCDD											
331.9368	17.018	16.973	3	1.011	22926729	5524670	11138	27845	496		
333.9339	17.018	16.973	3	1.011	28965817	6893991	10313	25782	668	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.034	16.988	3	1.001	2539158	634699	3496	8740	182		
321.8936	17.034	16.988	3	1.001	3235470	806594	1563	3907	516	0.78(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.034	16.988	3	1.012	44458605	10997556	7888	19720	1394		
A Non-2,3,7,8-sub-TCDD											
319.8965	16.482						3496	8740			
321.8936	16.482						1563	3907			
13C-1,2,3,7,8-PeCDF											
351.9000	20.983	20.929	3	1.246	32322311	5973288	11774	29435	507		
353.8970	20.983	20.929	3	1.246	20665845	3781771	7976	19940	474	1.56(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	20.997	20.956	2	1.001	18618738	3456313	6339	15847	545		
341.8567	20.997	20.956	2	1.001	11740897	2157039	4556	11390	473	1.59(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	22.211	22.170	2	1.319	34412947	6352775	11774	29435	540		
353.8970	22.211	22.170	2	1.319	22074223	4140411	7976	19940	519	1.56(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.238	22.184	3	1.001	19206782	3418155	6339	15847	539		
341.8567	22.238	22.184	3	1.001	12109563	2147592	4556	11390	471	1.59(1.32-1.78)	
A F1 PeCDFs											
339.8597	18.727						563	1407			
341.8567	18.727						966	2415			
A Non-2,3,7,8-sub-PeCDF											
339.8597	21.501	21.612	-7	1.025	230154	31427	6339	15847	5		
341.8567	21.488	21.612	-7	1.024	150755	21732	4556	11390	5	1.53(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	22.879	22.825	3	1.359	22778928	3687374	5872	14680	628		
369.8919	22.879	22.825	3	1.359	14353923	2342817	3907	9767	600	1.59(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	22.906	22.852	3	1.001	11775530	1921332	2336	5840	822		
357.8516	22.892	22.852	2	1.001	7577195	1205760	1233	3082	978	1.55(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	21.843						2336	5840			
357.8516	21.843						1233	3082			
13C-1,2,3,4,7,8-HxCDF											
383.8639	28.722	28.669	3	0.916	14209469	1636572	8768	21920	187		
385.8610	28.735	28.669	4	0.917	27456832	3260822	16945	42362	192	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	28.762	28.696	4	1.001	14624812	1779986	9640	24100	185		
375.8178	28.762	28.696	4	1.001	11635473	1395617	7390	18475	189	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.028	28.975	3	0.926	16181531	1802755	8768	21920	206		
385.8610	29.042	28.975	4	0.927	31291587	3541006	16945	42362	209	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	29.068	29.002	4	1.001	17356188	1955483	9640	24100	203		
375.8178	29.068	29.002	4	1.001	13522353	1535349	7390	18475	208	1.28(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	30.479	30.439	2	0.972	15308896	2631194	8768	21920	300		
385.8610	30.479	30.439	2	0.972	29174602	4948598	16945	42362	292	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	30.506	30.453	3	1.001	16450153	2785661	9640	24100	289		
375.8178	30.506	30.453	3	1.001	13064099	2227119	7390	18475	301	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.557	31.517	2	1.007	12840556	2678027	8768	21920	305		
385.8610	31.557	31.517	2	1.007	24280221	5042311	16945	42362	298	0.53(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	31.570	31.544	2	1.000	13637652	2832389	9640	24100	294		
375.8178	31.570	31.544	2	1.000	10724362	2241826	7390	18475	303	1.27(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	28.849						9640	24100			
375.8178	28.849						7390	18475			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.344	31.305	2		30696527	6239758	8779	21947	711		
403.8529	31.344	31.305	2		24640498	4966753	7342	18355	676	1.25(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	30.758	30.719	2	0.981	16238229	3221424	8779	21947	367		
403.8529	30.758	30.719	2	0.981	12947077	2580553	7342	18355	351	1.25(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	30.785	30.746	2	1.001	9562019	1913900	3883	9707	493		
391.8127	30.785	30.746	2	1.001	7605979	1526749	3494	8735	437	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	30.918	30.865	3	0.986	18213797	3238348	8779	21947	369		
403.8529	30.918	30.865	3	0.986	14618169	2725659	7342	18355	371	1.25(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	30.931	30.892	2	1.000	10523813	1950617	3883	9707	502		
391.8127	30.931	30.892	2	1.000	8269149	1539494	3494	8735	441	1.27(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.358	31.318	2	1.019	10506481	2147434	3883	9707	553		
391.8127	31.358	31.318	2	1.019	8525467	1728817	3494	8735	495	1.23(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	29.375						3883	9707			
391.8127	29.375						3494	8735			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.231	33.207	1	1.060	8046930	2221592	15766	39415	141		
419.8220	33.231	33.207	1	1.060	18365141	5030896	35682	89205	141	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.243	33.207	2	1.000	11071747	3013335	22972	57430	131		
409.7789	33.243	33.207	2	1.000	10458547	2807595	23052	57630	122	1.06(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.276	34.252	1	1.094	8152309	2172031	15766	39415	138		
419.8220	34.276	34.252	1	1.094	18710699	5047582	35682	89205	141	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.288	34.264	1	1.000	9628351	2588788	22972	57430	113		
409.7789	34.288	34.264	1	1.000	9108992	2452833	23052	57630	106	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.742						22972	57430			
409.7789	33.742						23052	57630			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.009	33.985	1	1.085	14760207	3930666	11688	29220	336		
437.8140	34.009	33.985	1	1.085	14081709	3725538	11139	27847	334	1.05(0.88-1.20)	

Report Date: 07-Oct-2019 08:50:23 Chrom Revision: 2.3 17-Sep-2019 16:19:08
Data File: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_17.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.021	33.997	1	1.000	7430955	1972003	7222	18055	273		
425.7737	34.021	33.997	1	1.000	7121069	1866584	6532	16330	286	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.889						7222	18055			
425.7737	33.889						6532	16330			
13C-OCDD											
469.7779	36.246	36.211	2	1.156	19975164	4368212	5888	14720	742		
471.7750	36.246	36.211	2	1.156	23345172	4964306	4861	12152	1021	0.86(0.76-1.02)	
OCDF											
441.7428	36.330	36.306	1	1.002	13378451	3128435	2204	5510	1419		
443.7399	36.330	36.306	1	1.002	15087370	3467548	3068	7670	1130	0.89(0.76-1.02)	
OCDD											
457.7377	36.246	36.223	1	1.000	10789799	2350685	2690	6725	874		
459.7348	36.246	36.223	1	1.000	12168327	2681600	2606	6515	1029	0.89(0.76-1.02)	

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_17.d
Lims ID: LCS 320-327320/2-A
Client ID:
Inject. Date: 04-Oct-2019 00:34:47 Dil. Factor: 1.0000
Sample Type: LCS, Lab Control Sample
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 328202 Lims Sample ID: 17

Non-2,3,7,8-sub-PeCDF, RT: 21.612

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.082	D 13C-1,2,3,7,8-PeCDF	100.000	52988156	9755059
2,3,4,7,8-PeCDF	1.103	D 13C-2,3,4,7,8-PeCDF	100.000	56487170	10493186

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.093		100.000	54737663	10124122

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
21.501	230154	31427	150755	21732	0.6368	1.53	
Signal Totals:							
	230154	31427	150755	21732			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	380909	53159				1.53	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.6368 = (380909 * 100.000) / (54737663 * 1.093)

Report Date: 07-Oct-2019 08:50:23 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_17.d		
Injection Date:	04-Oct-2019 00:34:47	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	17
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

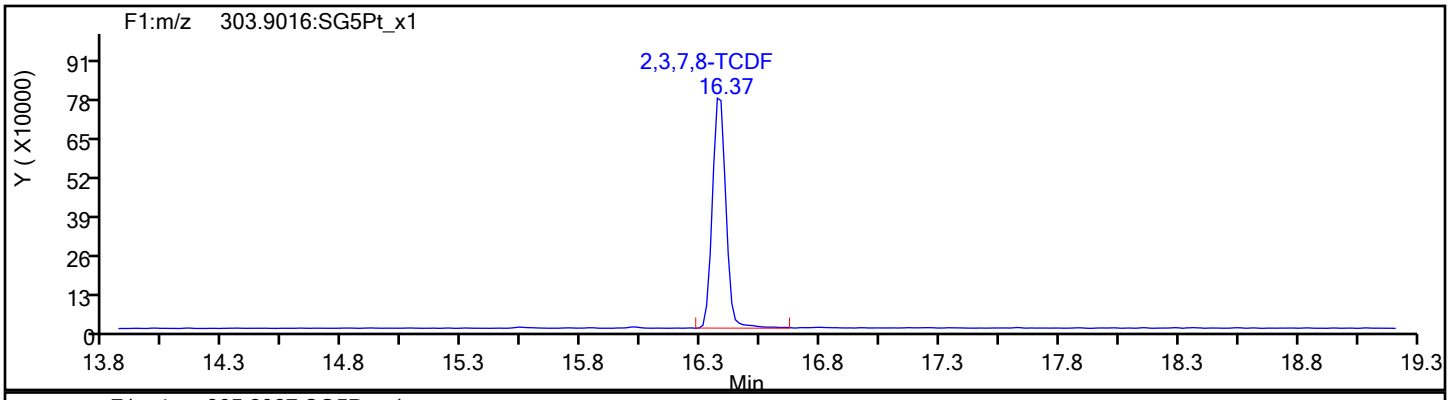

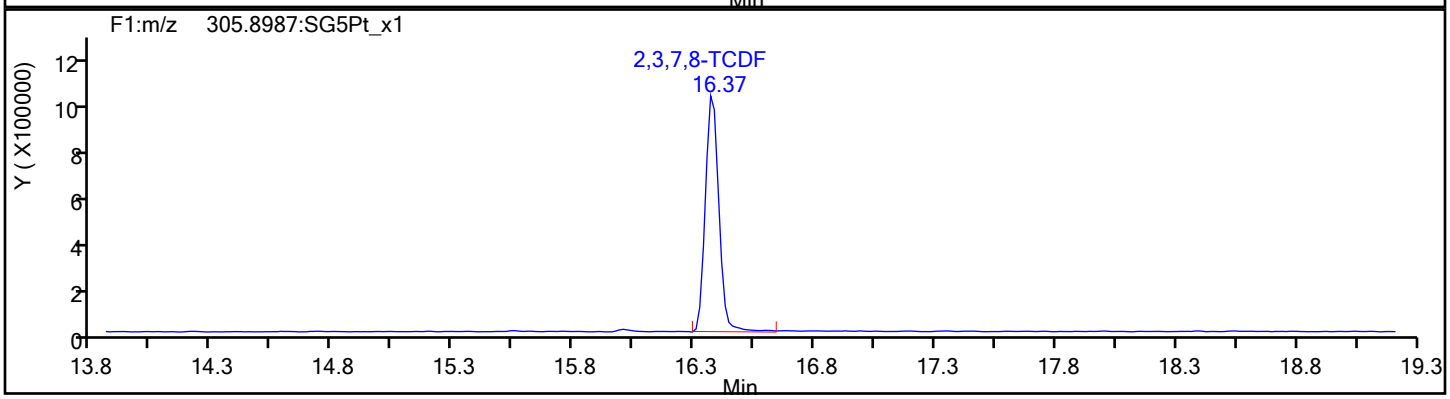

TCDF Standards

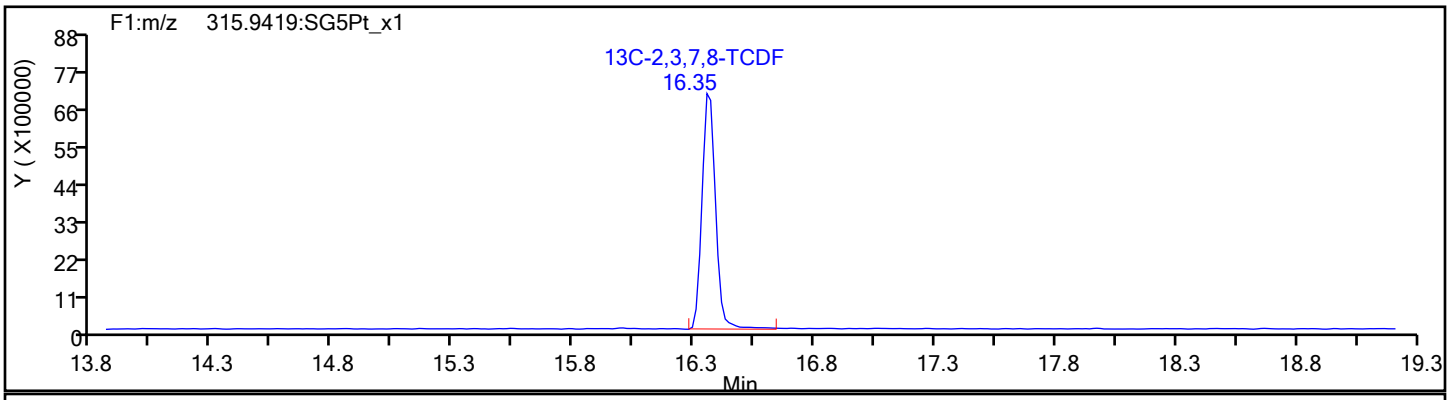

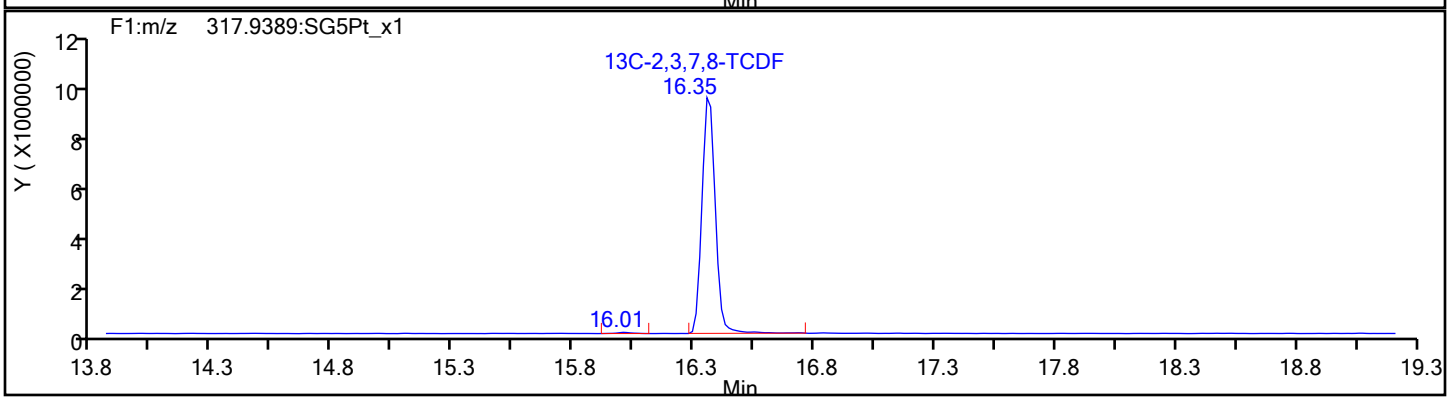

Report Date: 07-Oct-2019 08:50:23 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_17.d		
Injection Date:	04-Oct-2019 00:34:47	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	17
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

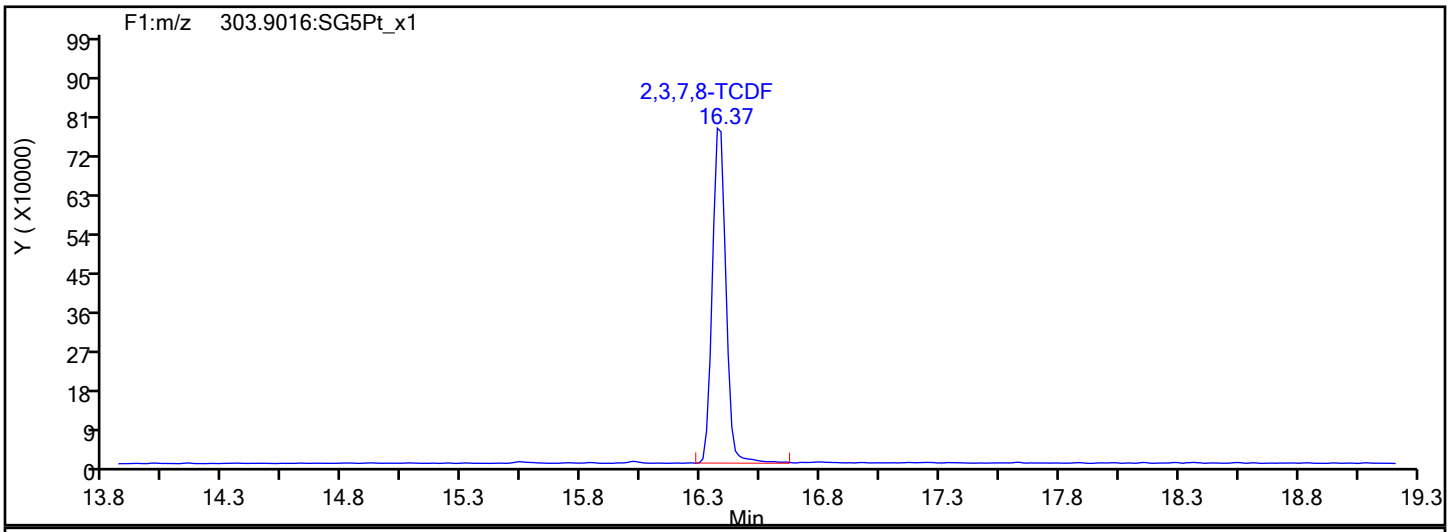

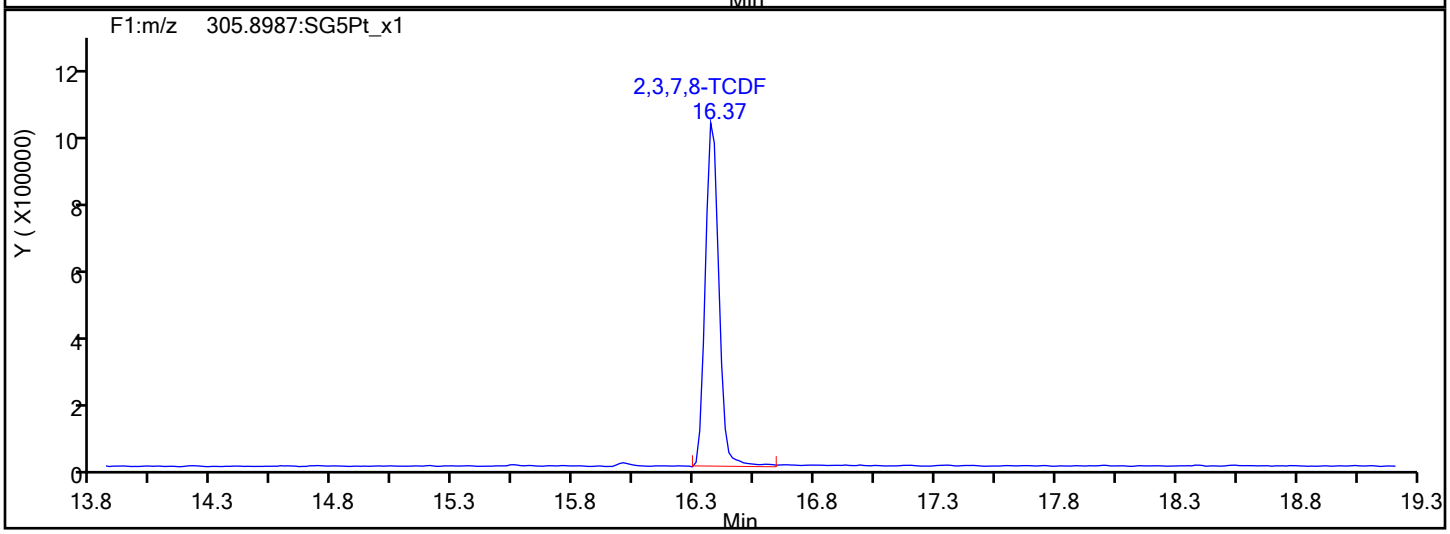

TCDF Interference Mass

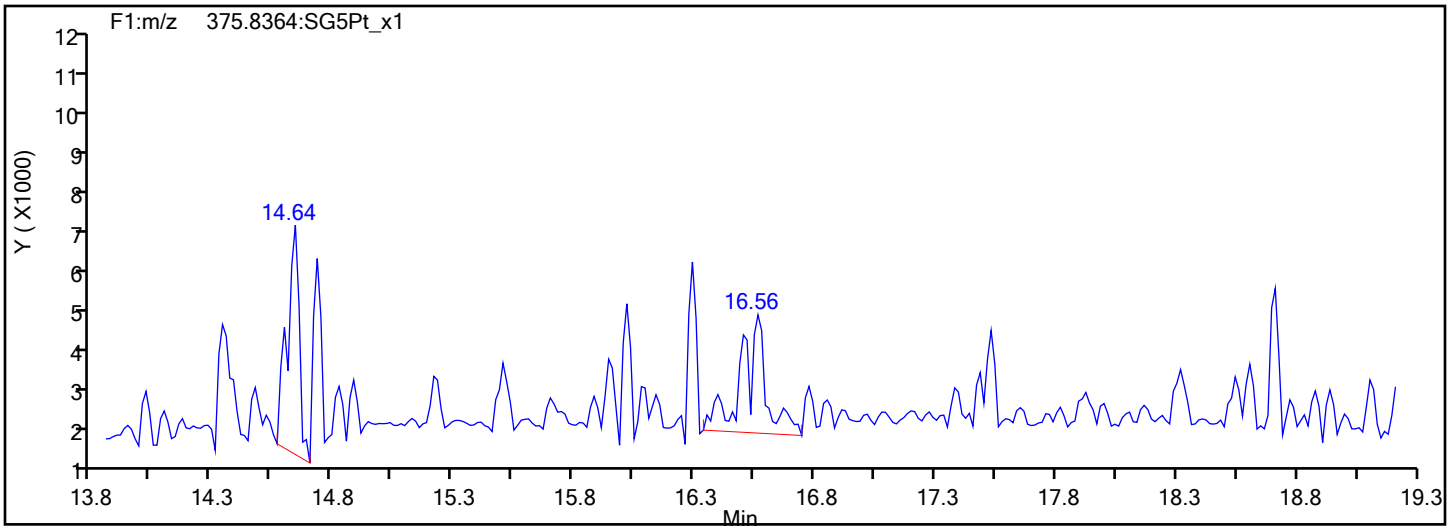

Report Date: 07-Oct-2019 08:50:23 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_17.d		
Injection Date:	04-Oct-2019 00:34:47	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	17
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

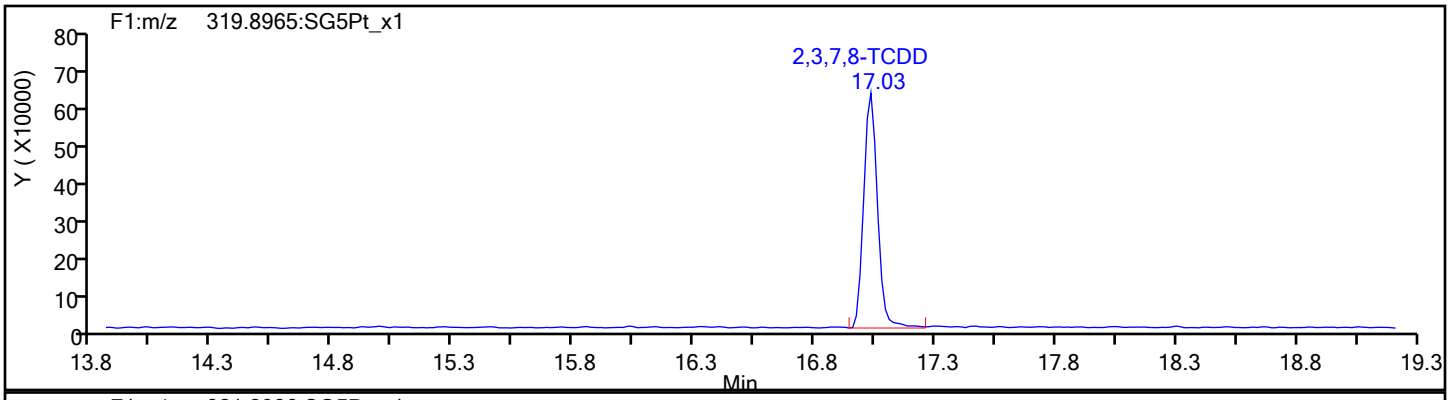

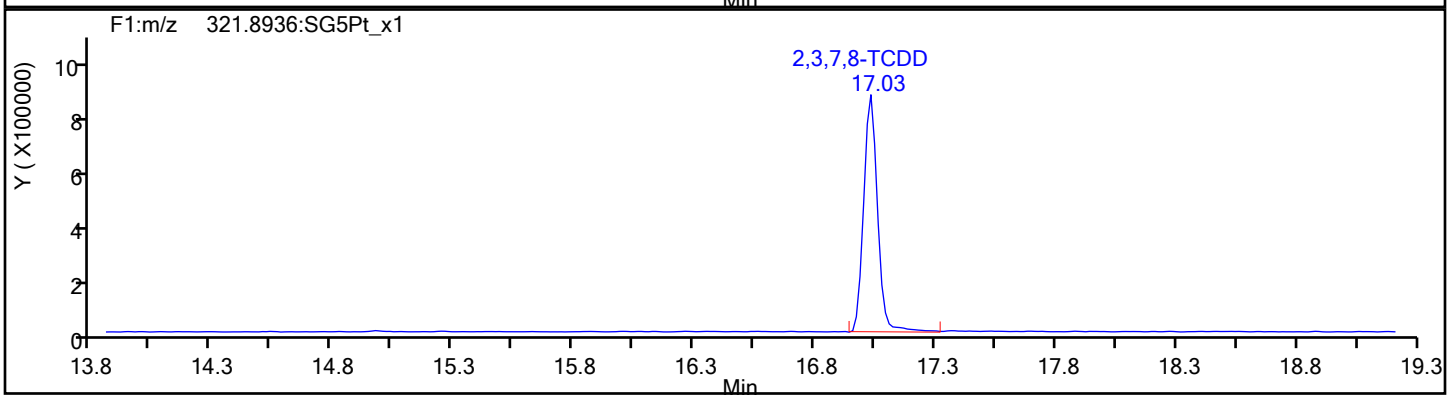

TCDD Standards

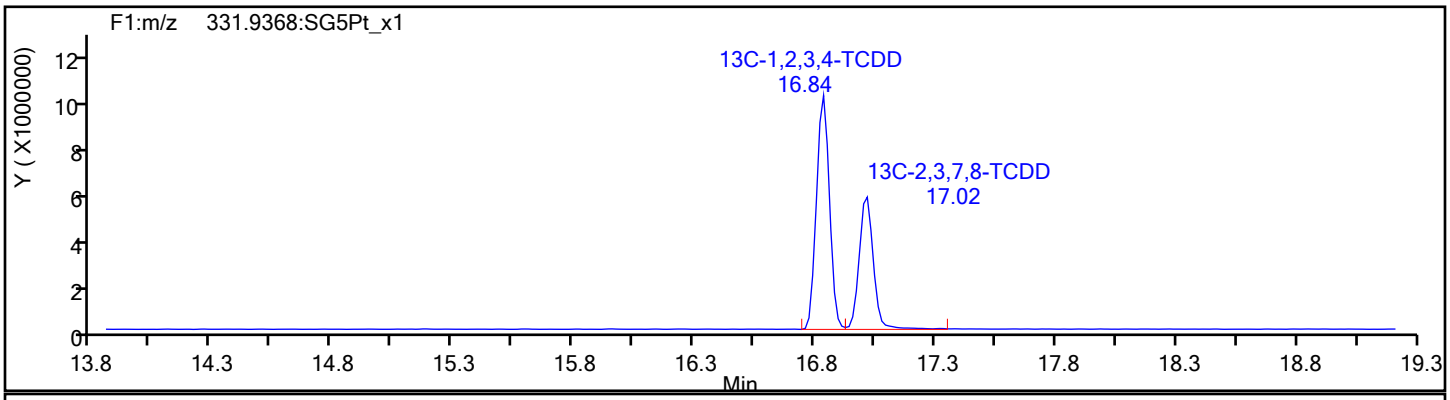

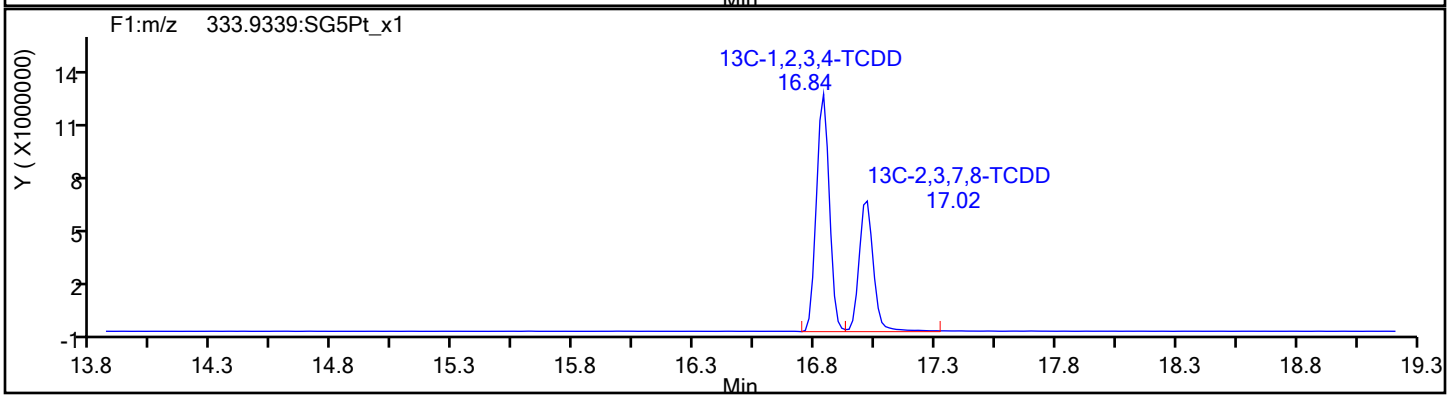

Report Date: 07-Oct-2019 08:50:23 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

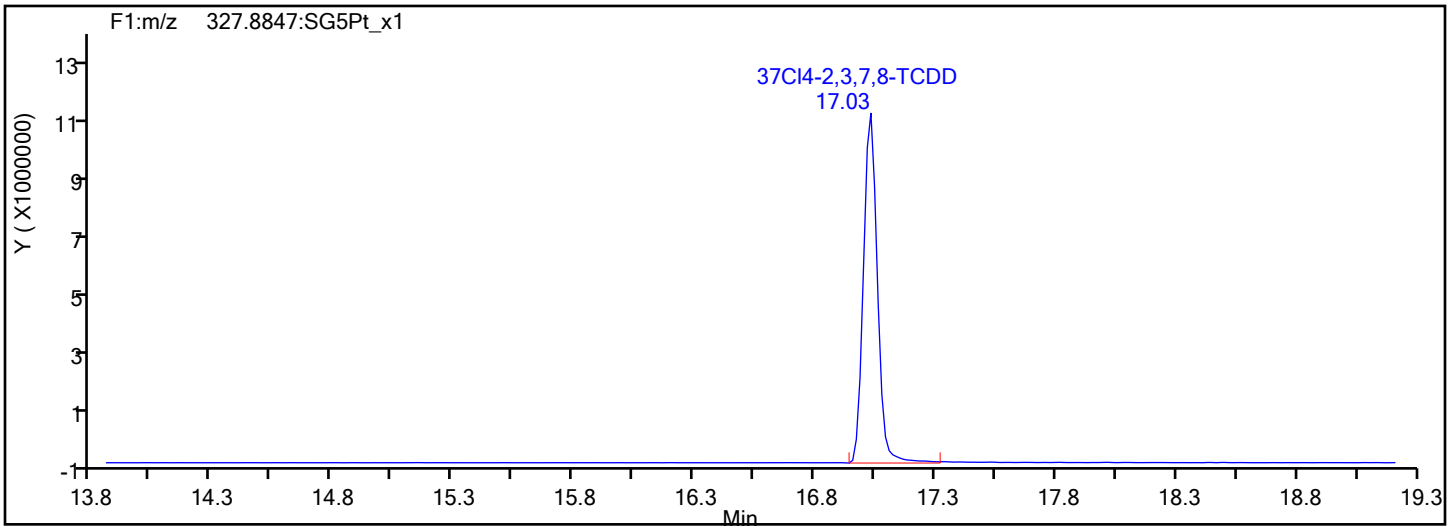

37Cl4-TCDD Standards

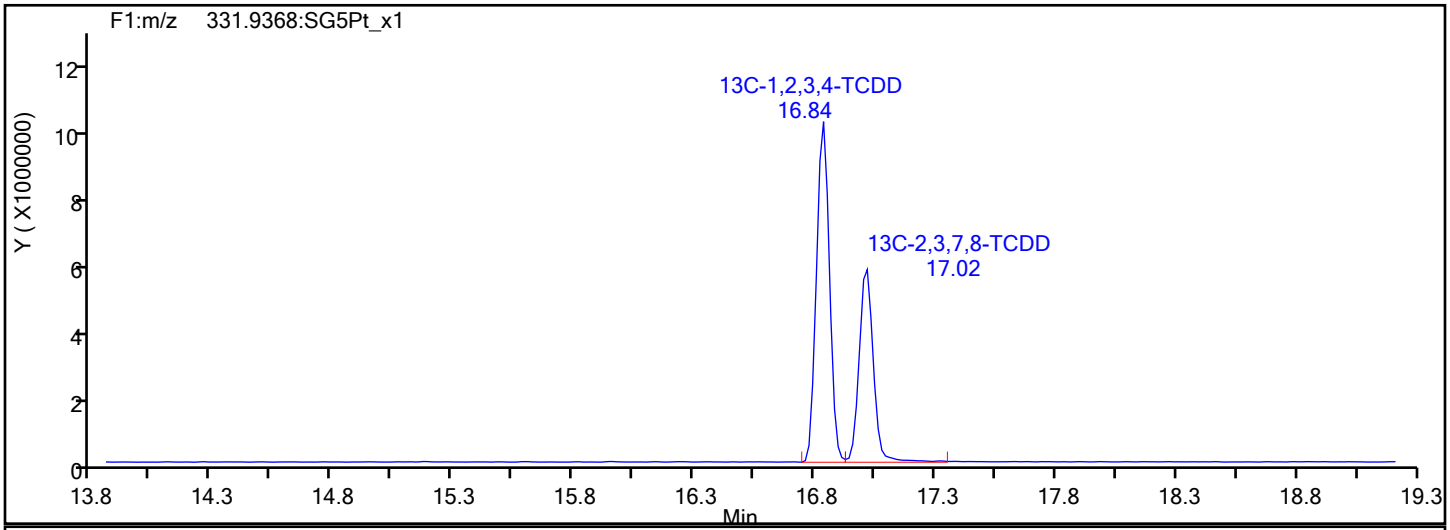

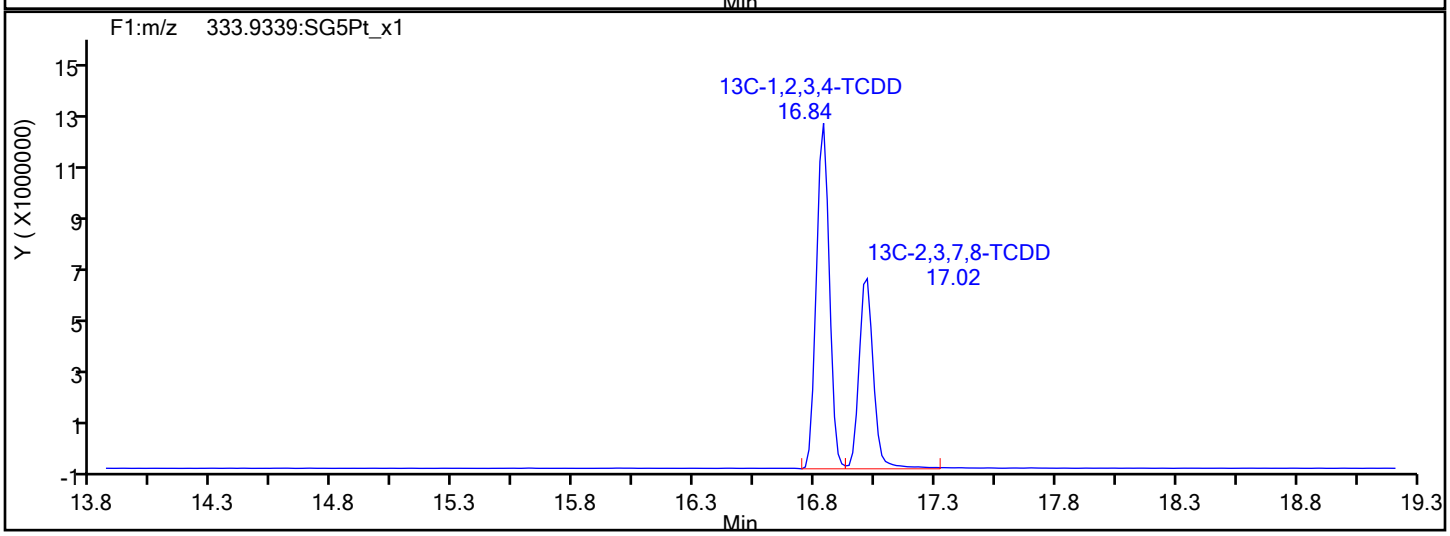

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

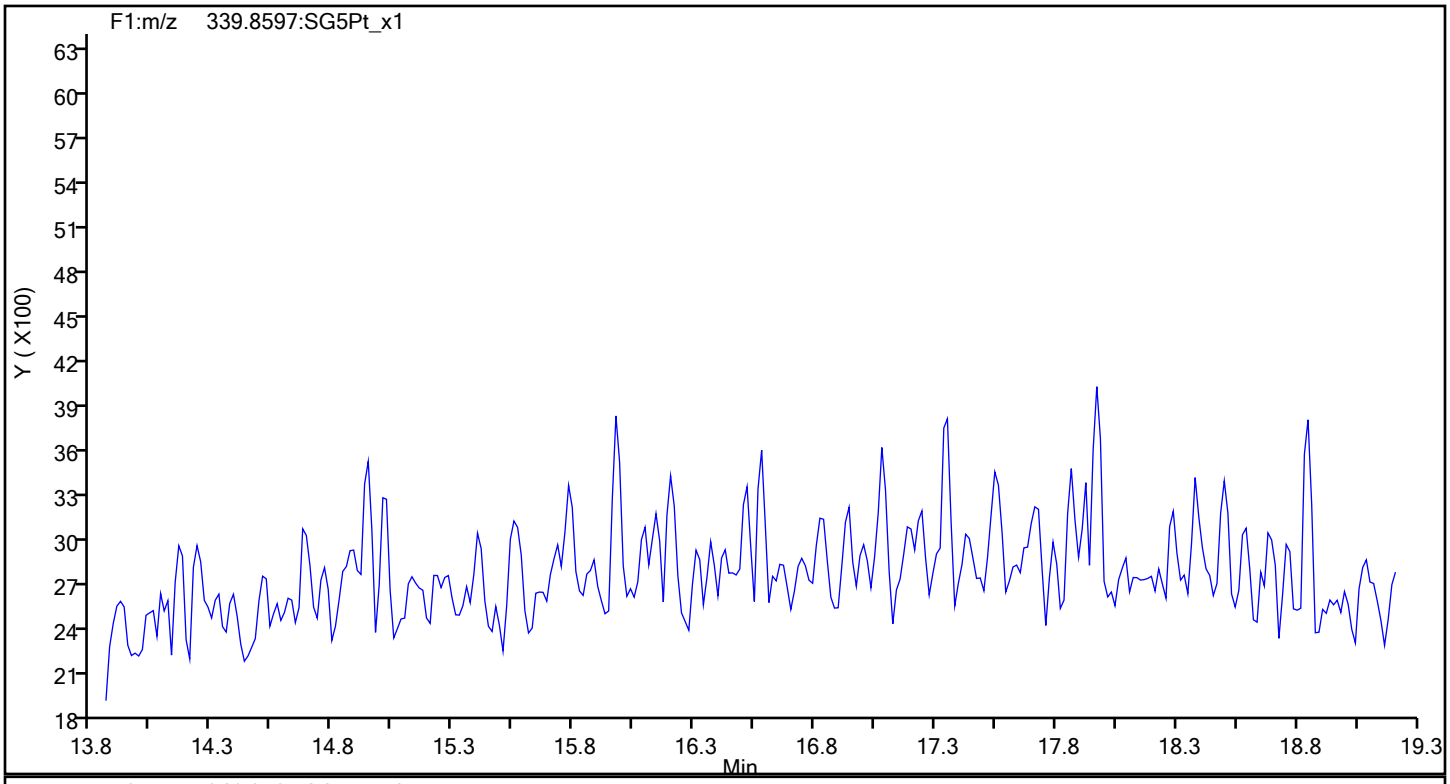

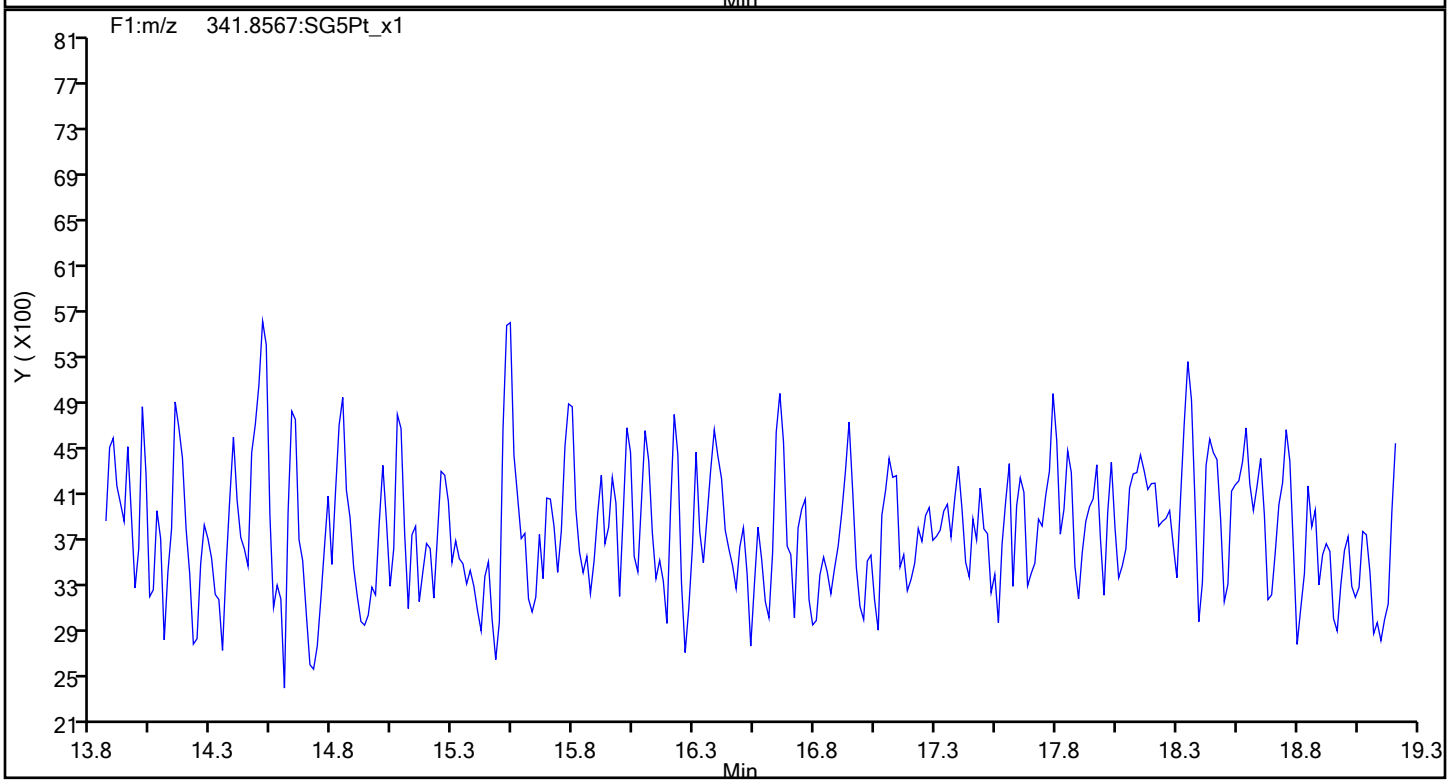

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

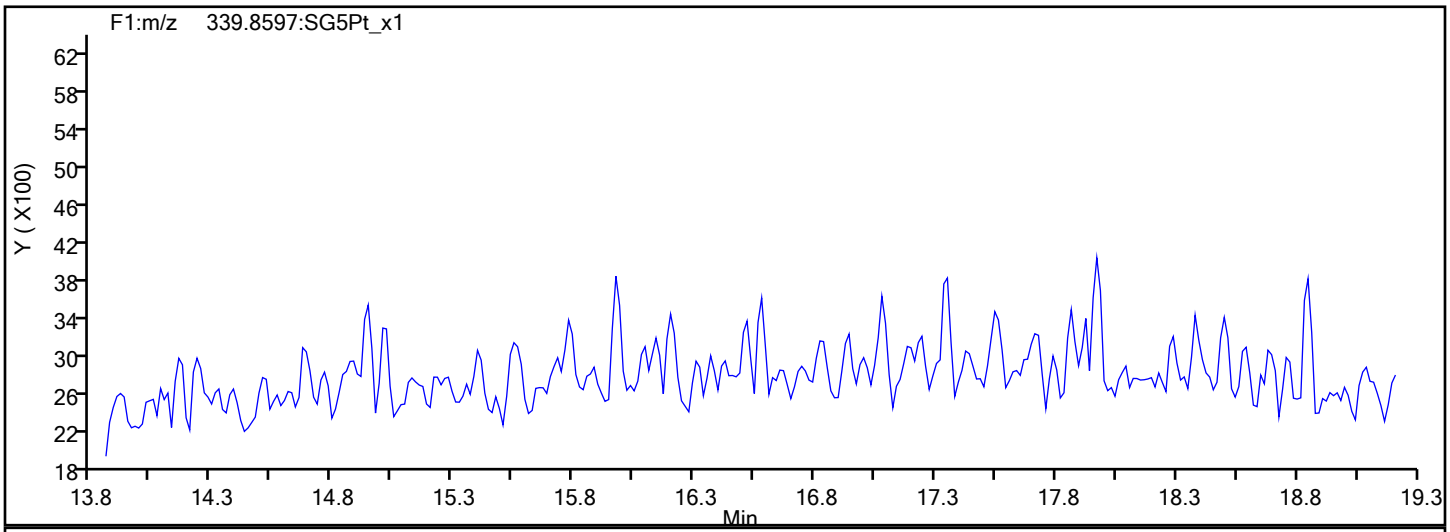

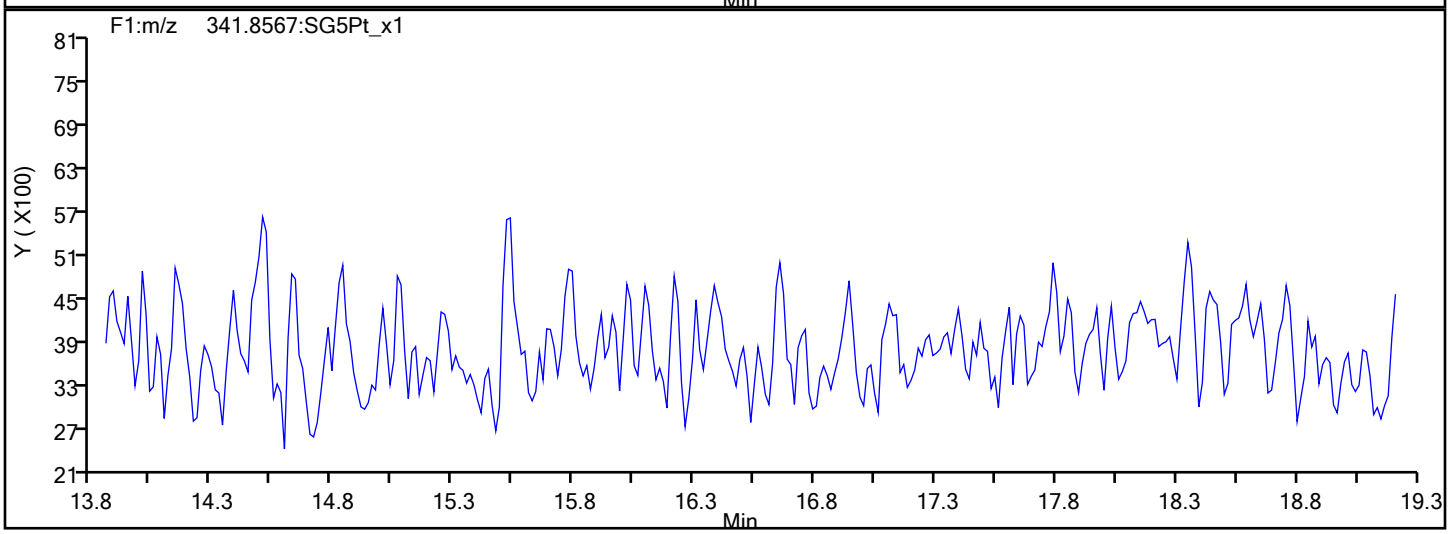

F1 PeCDFs Interference Mass

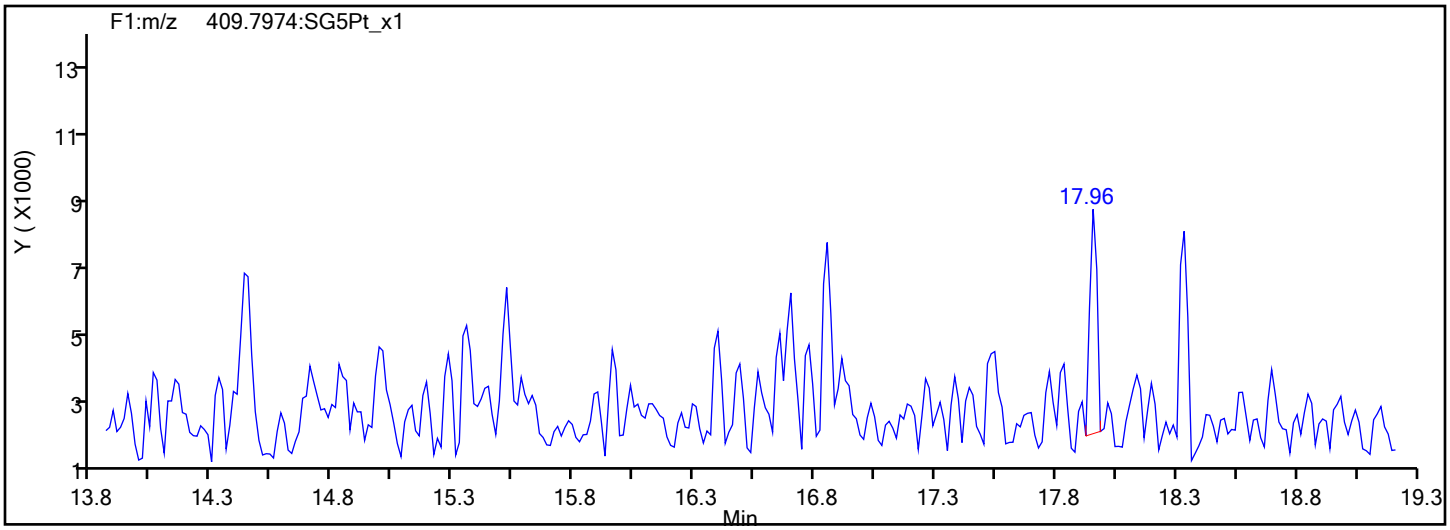

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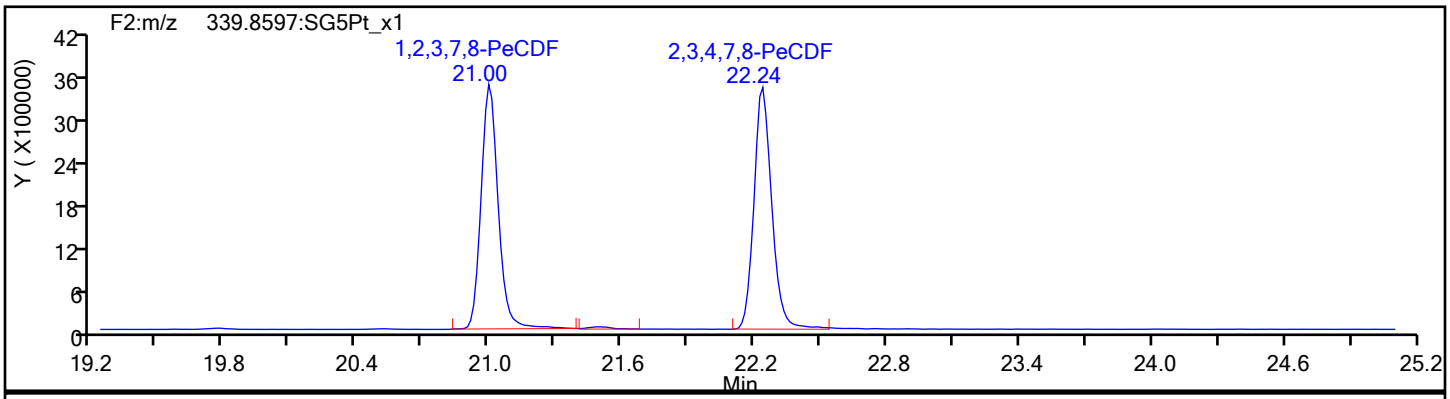

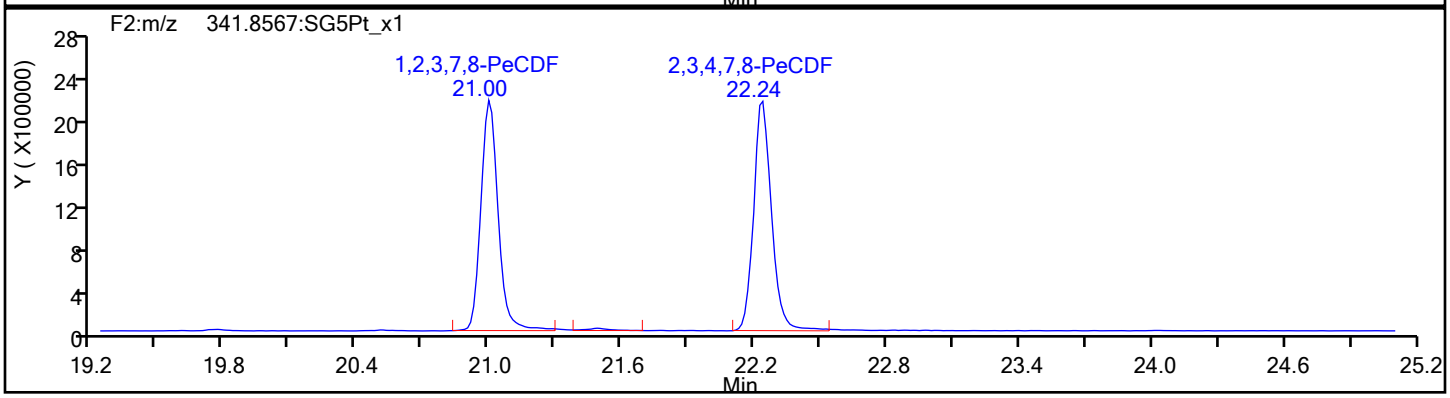

PeCDF Standards

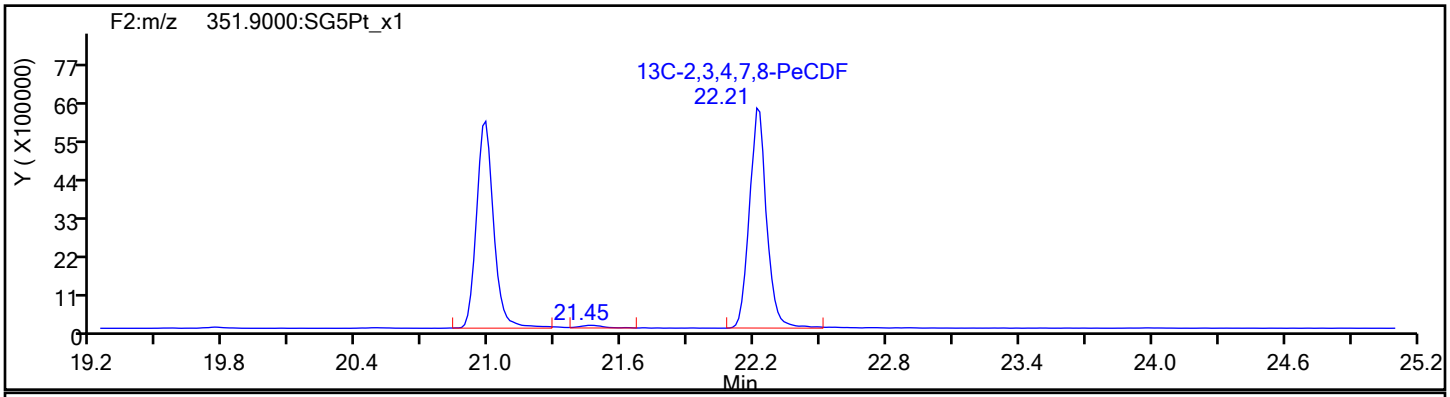

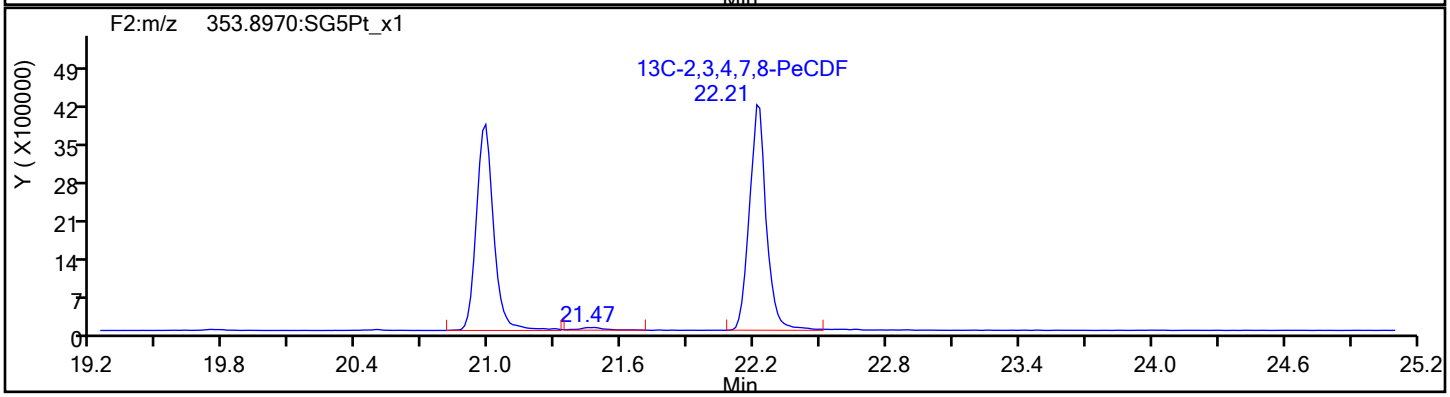

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Eurofins TestAmerica, Sacramento

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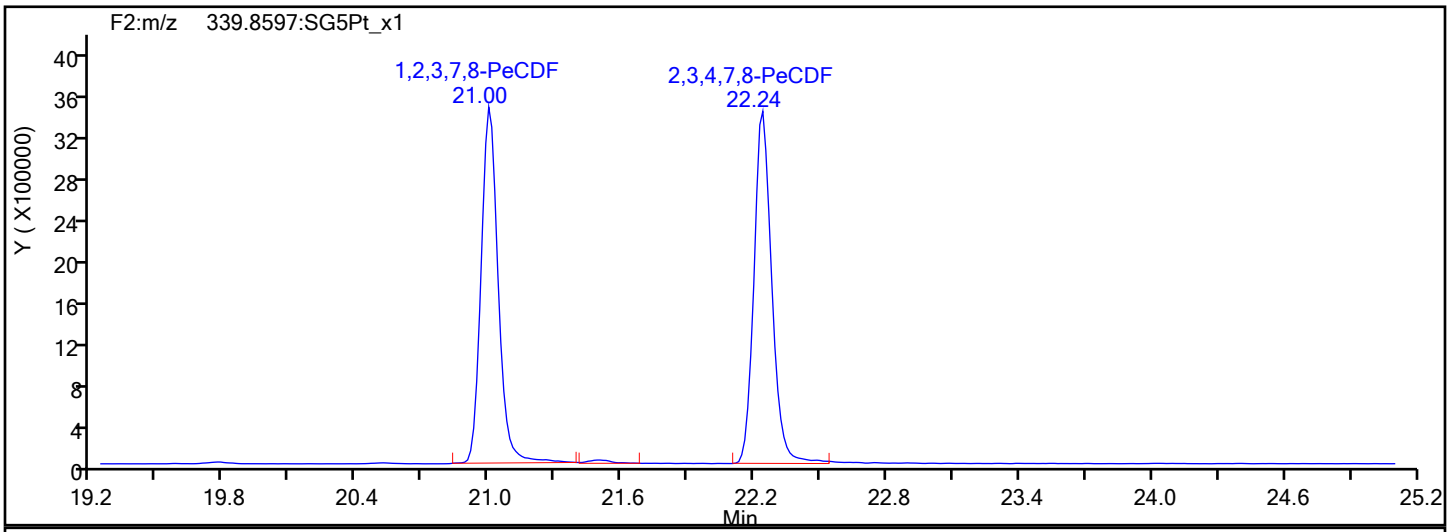

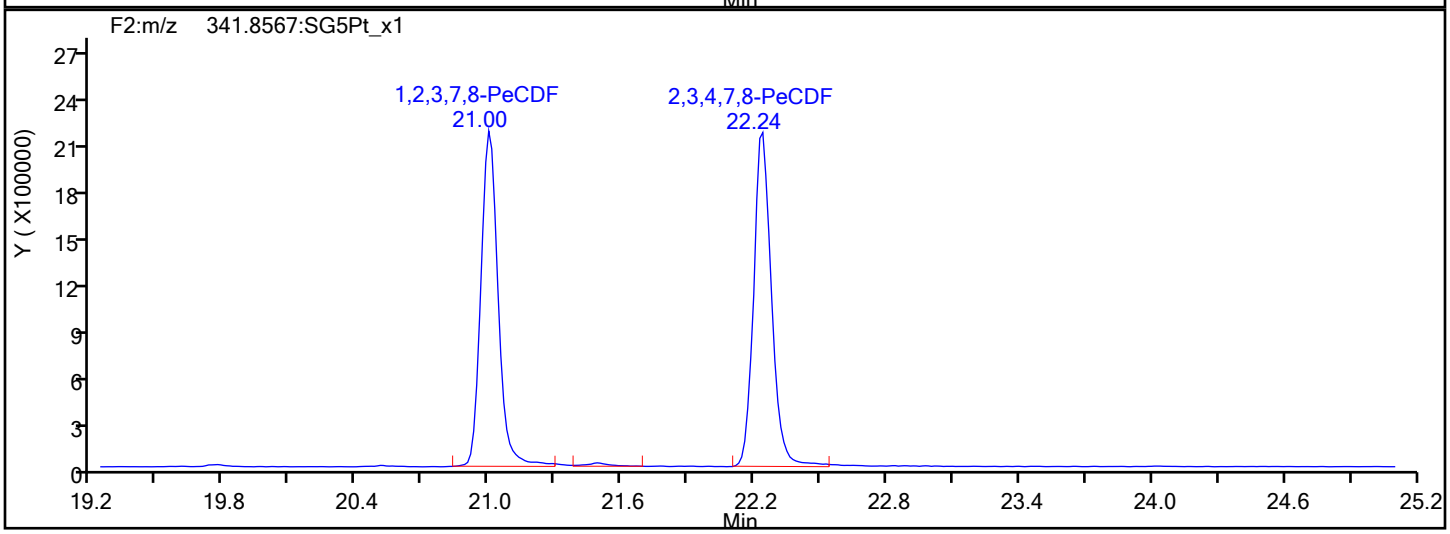

PeCDF Interference Mass

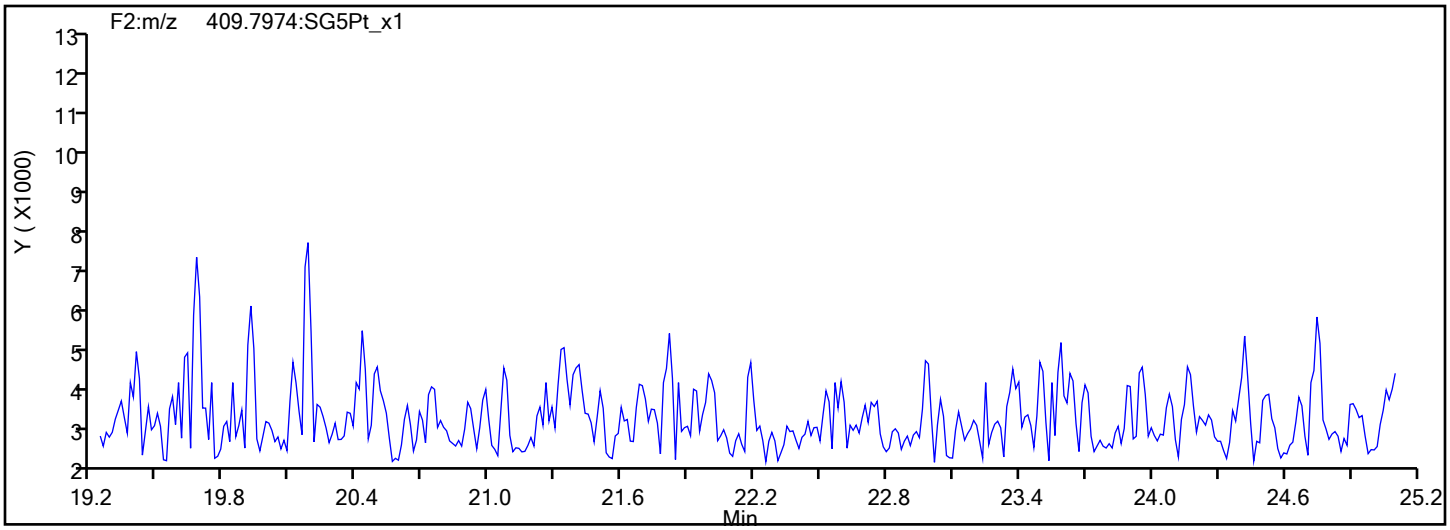

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Eurofins TestAmerica, Sacramento

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PeCDD

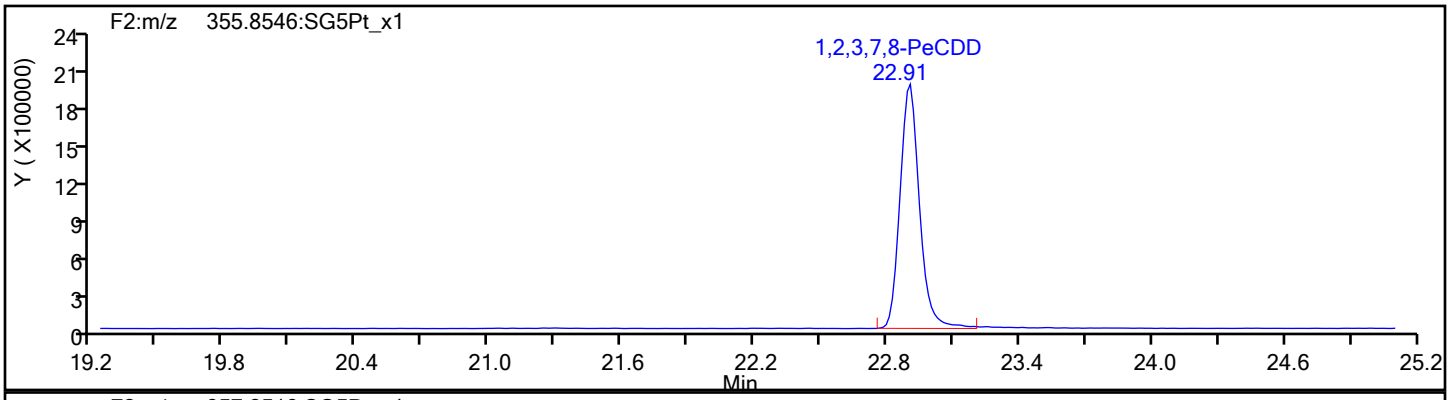

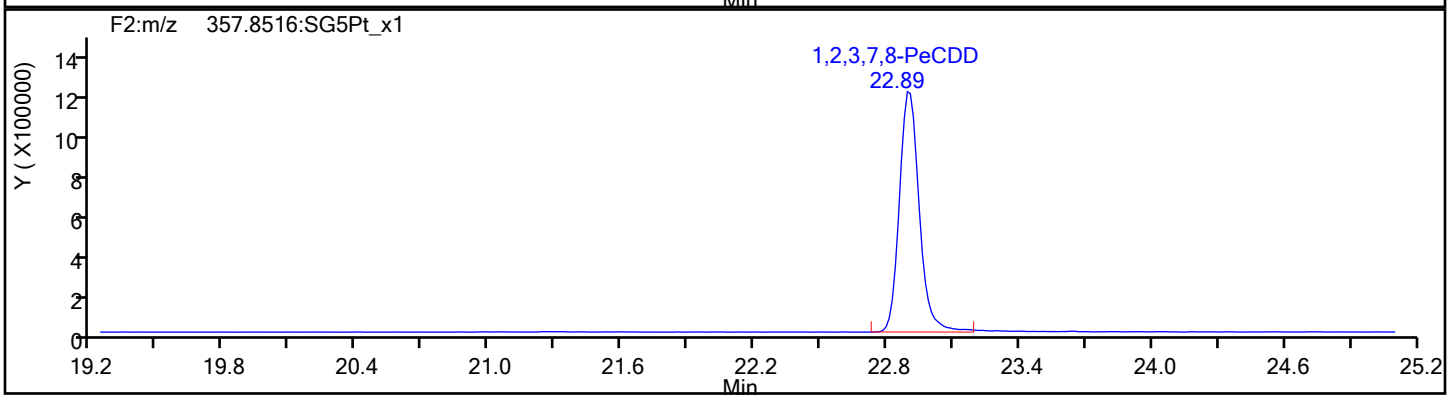

PeCDD Standards

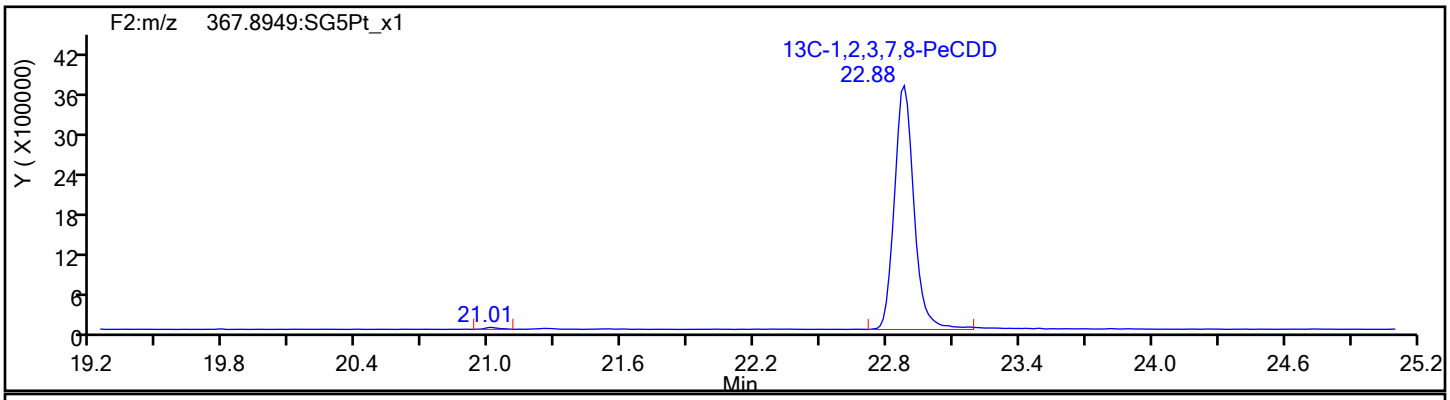

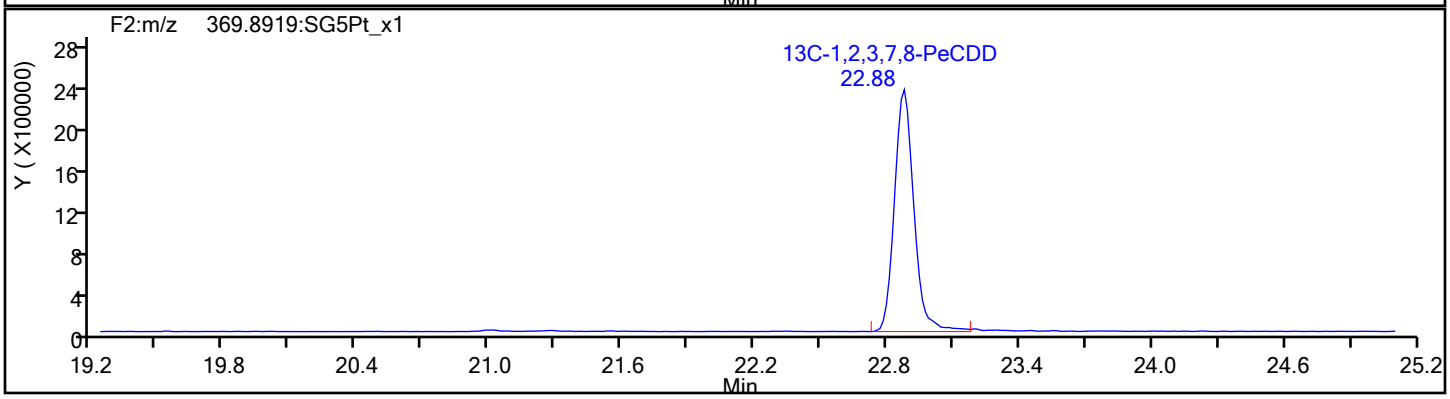

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Eurofins TestAmerica, Sacramento

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HxCDF

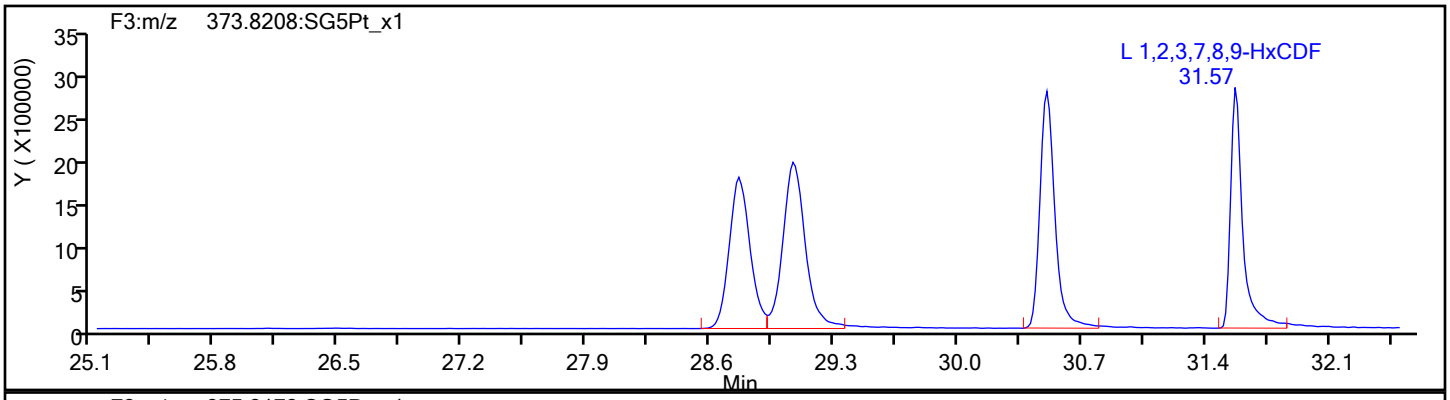

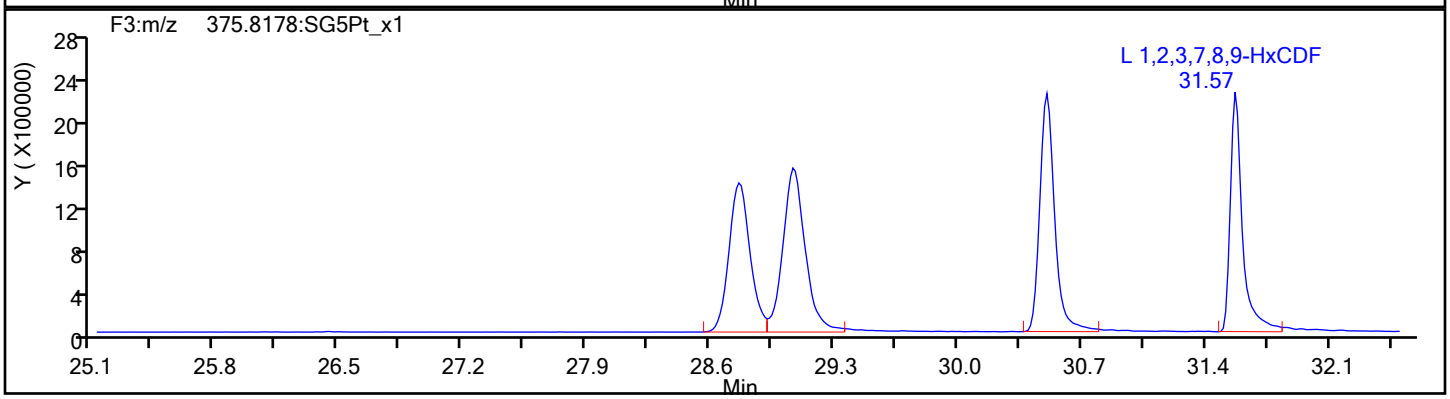

HxCDF Standards

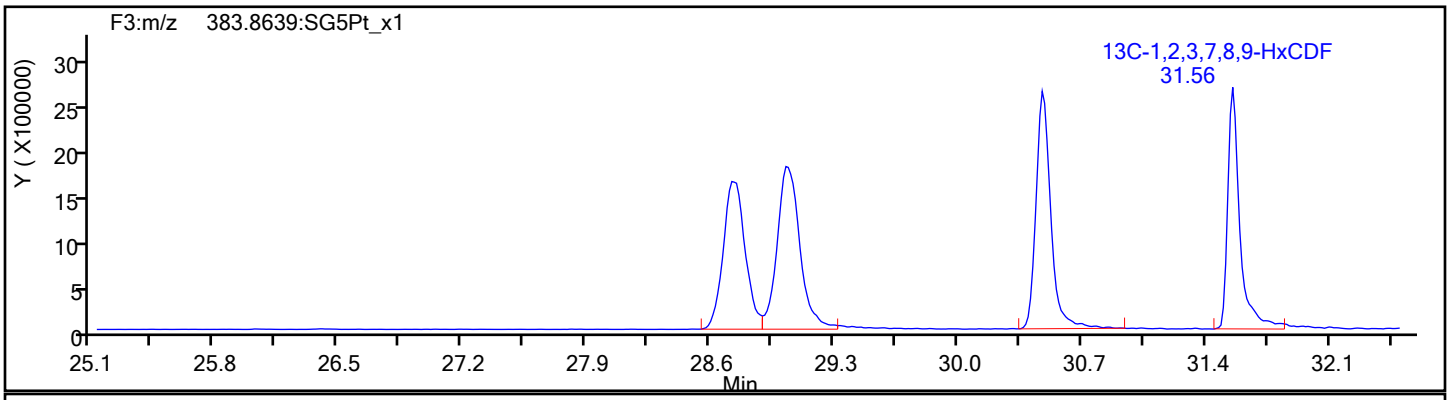

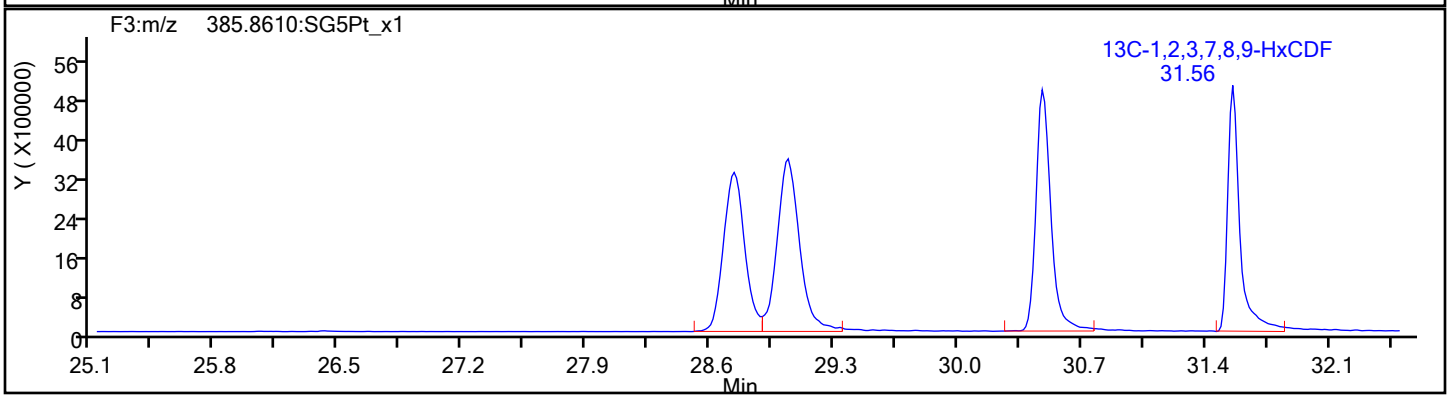

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Eurofins TestAmerica, Sacramento

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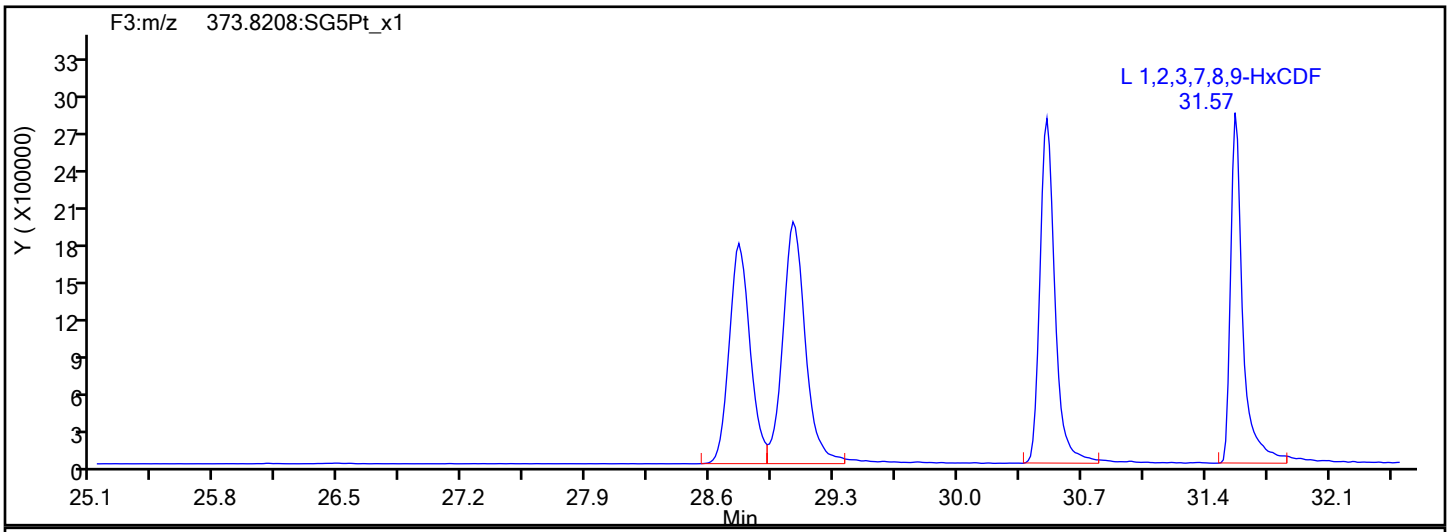

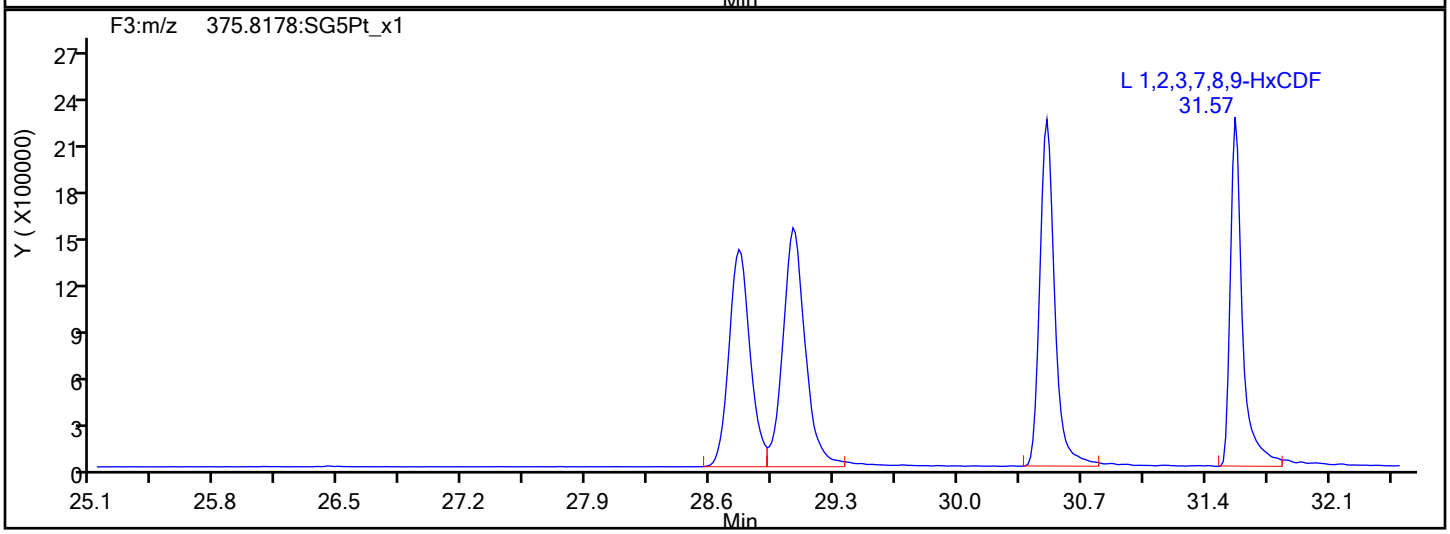

HxCDF Interference Mass

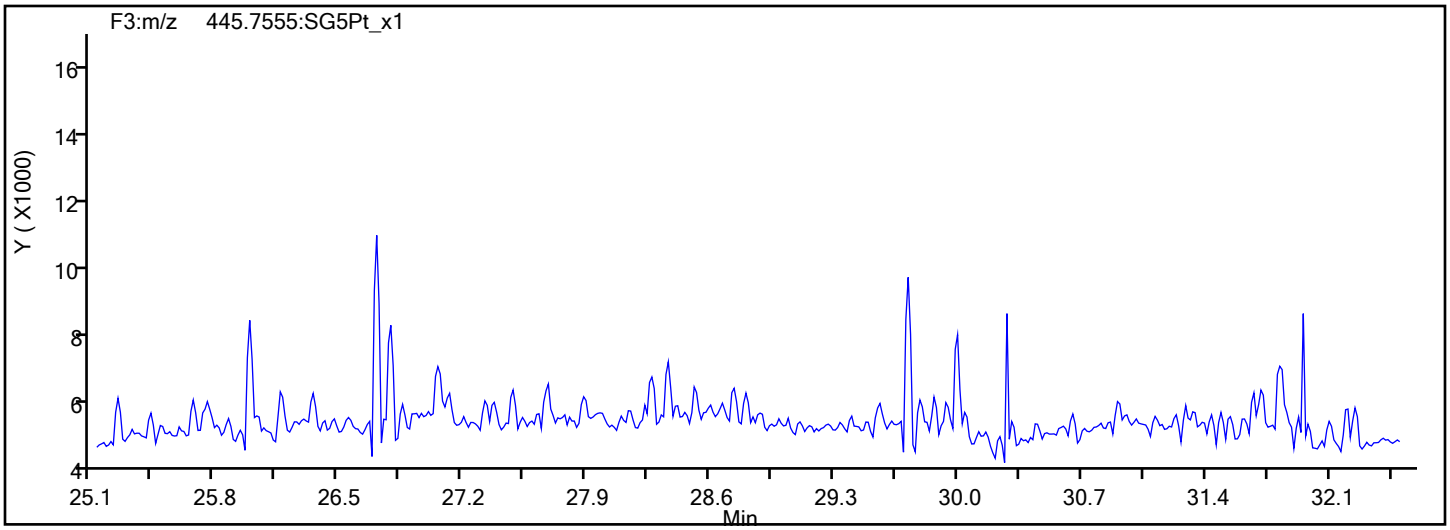

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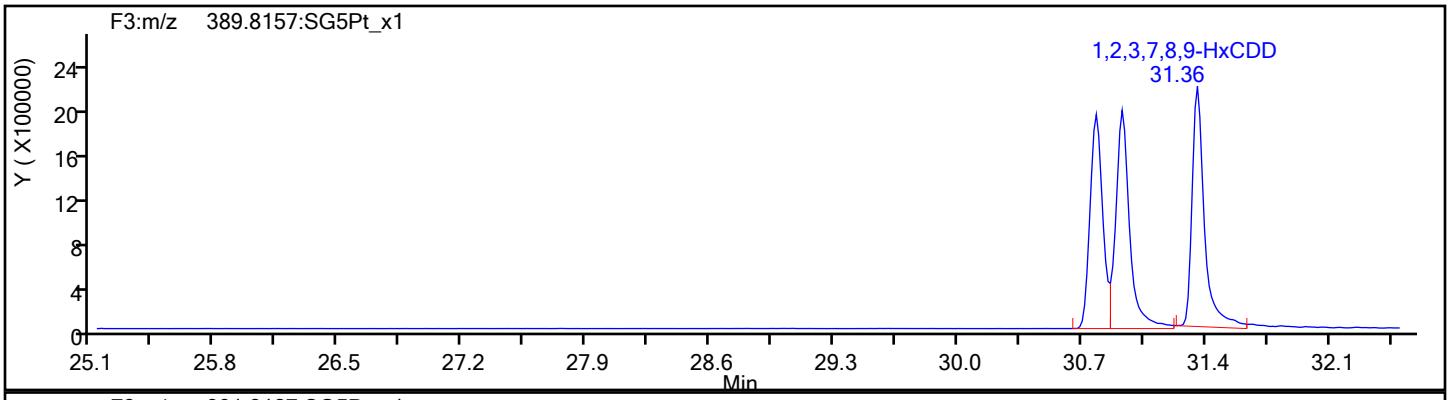

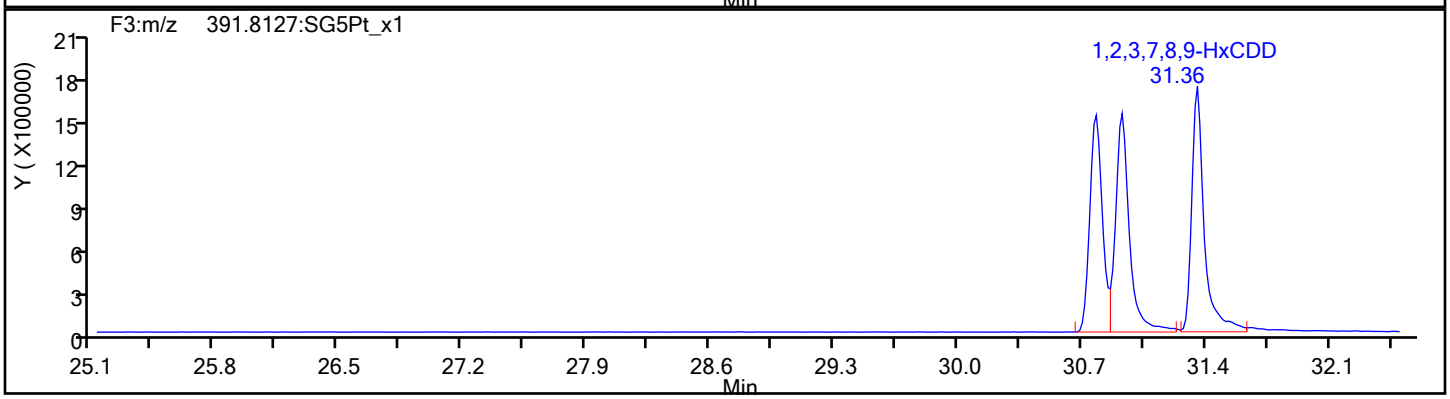

HxCDD Standards

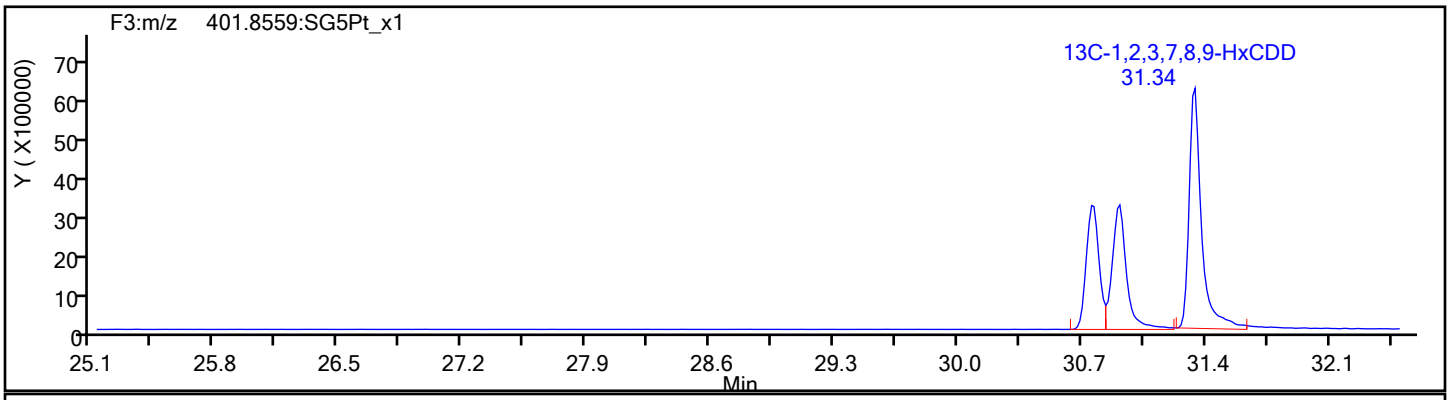

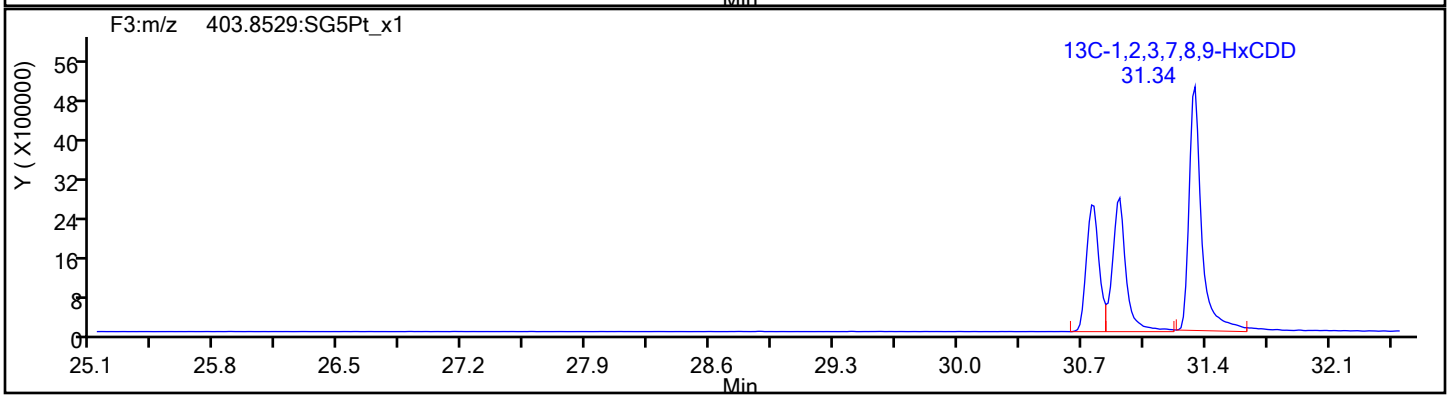

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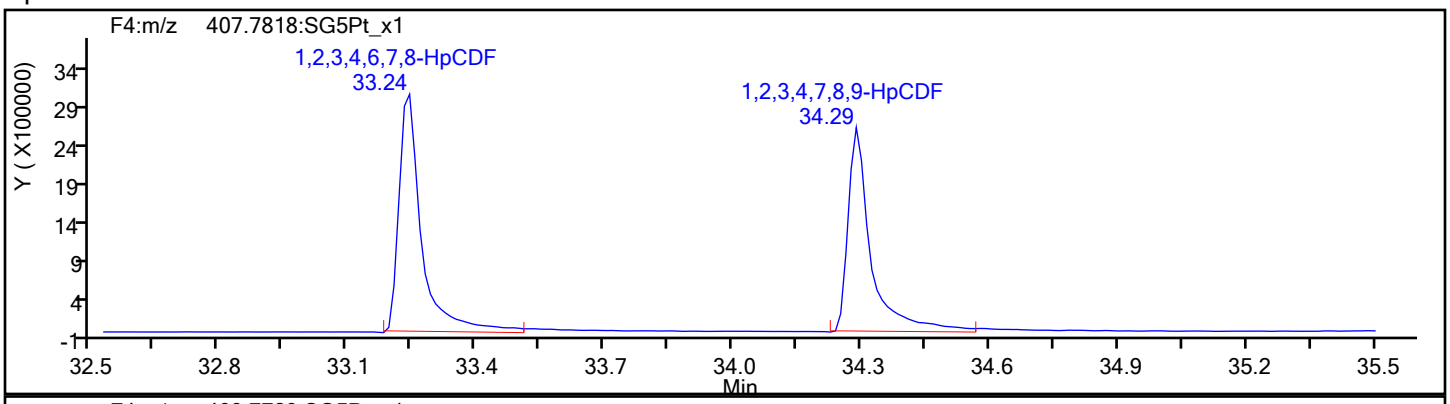

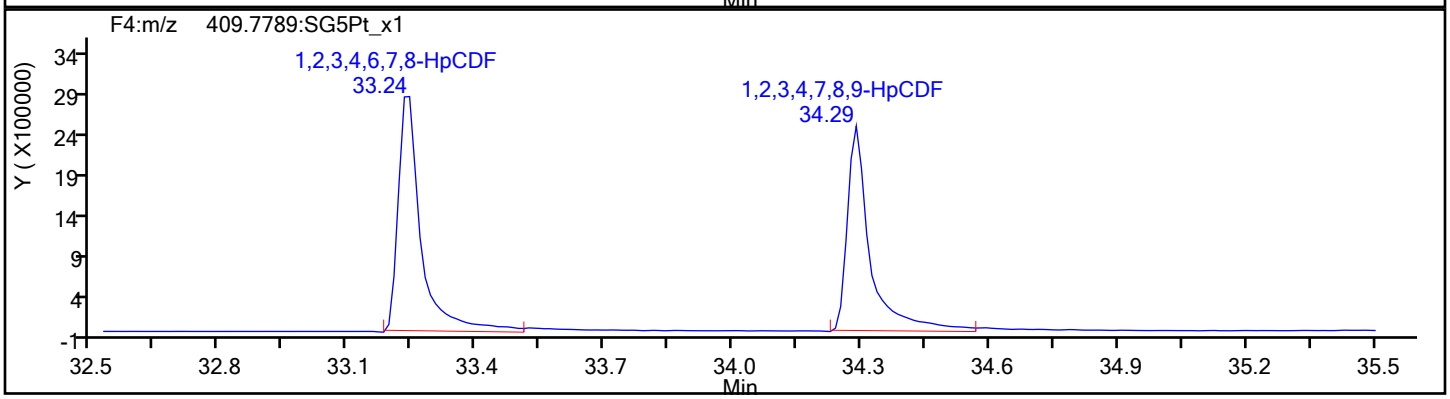

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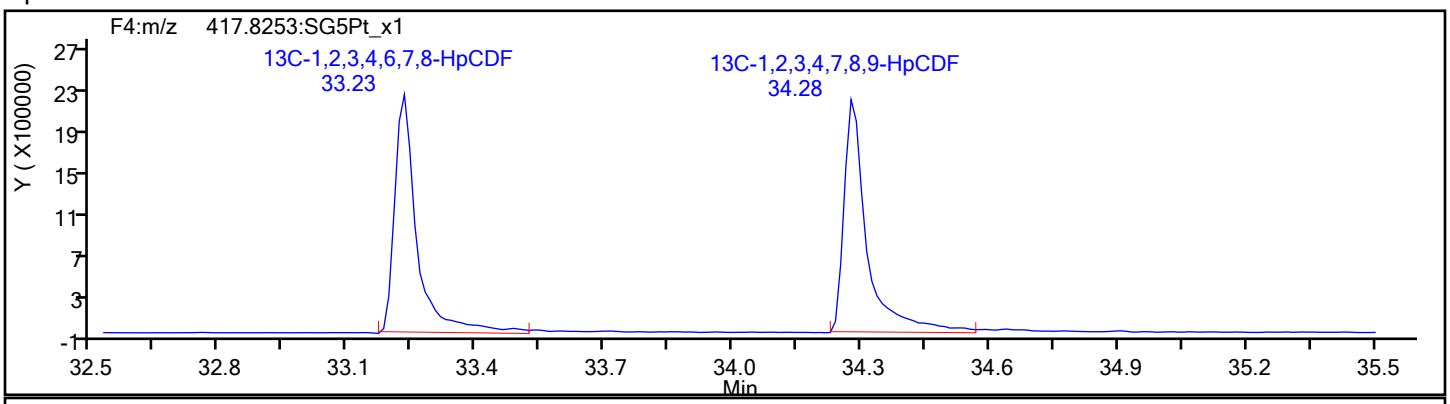

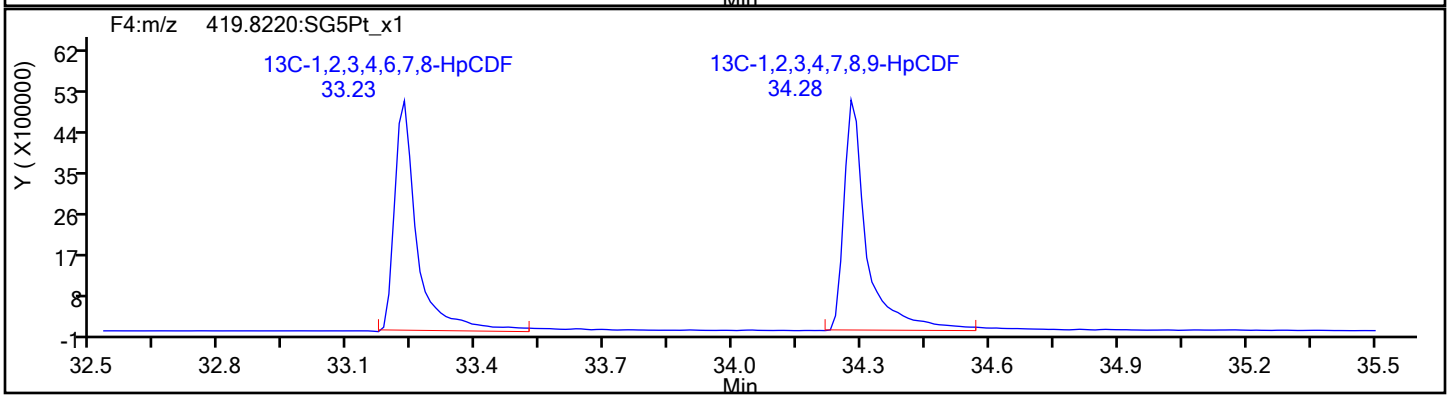

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HpCDF

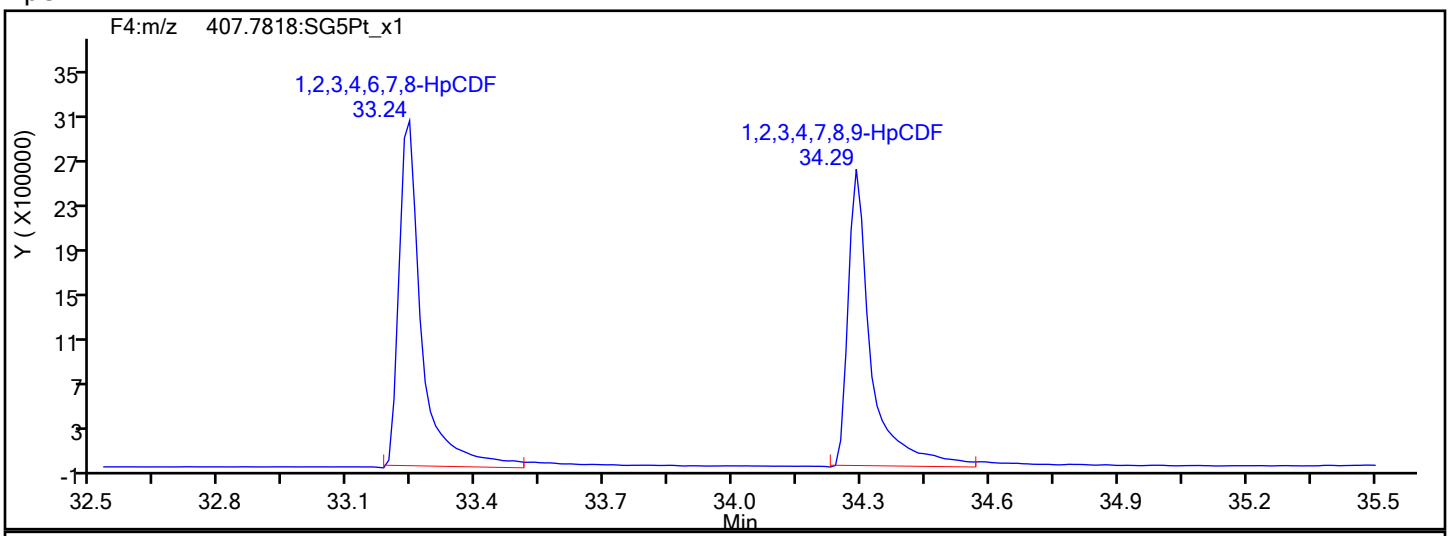

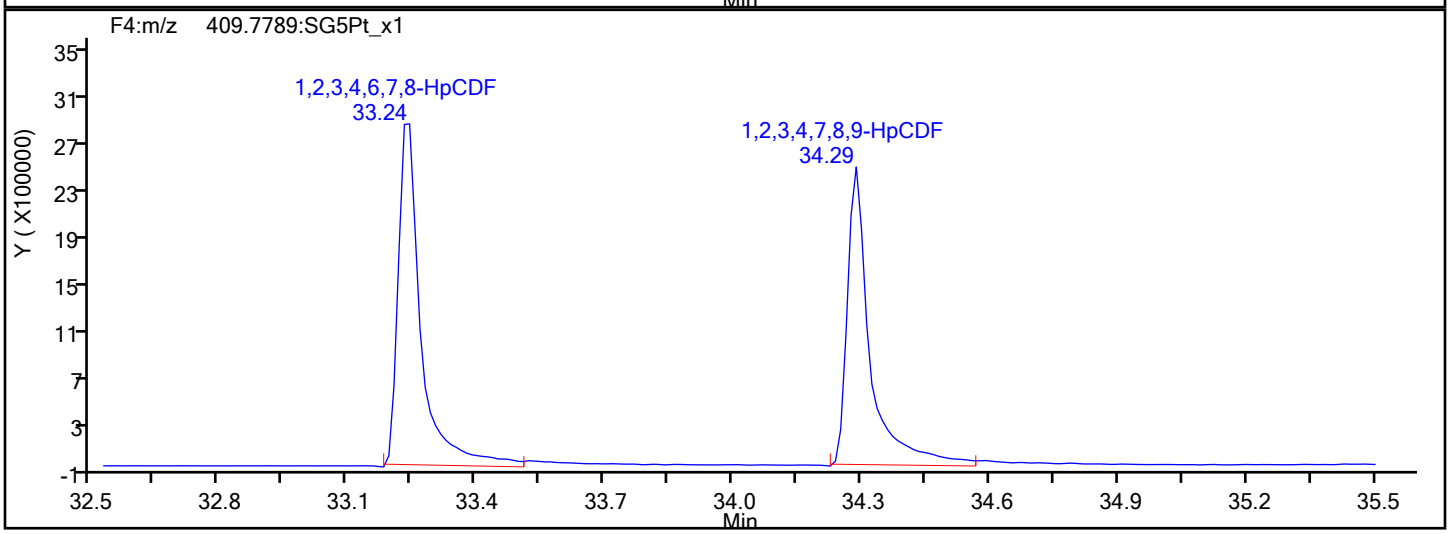

HpCDF Interference Mass

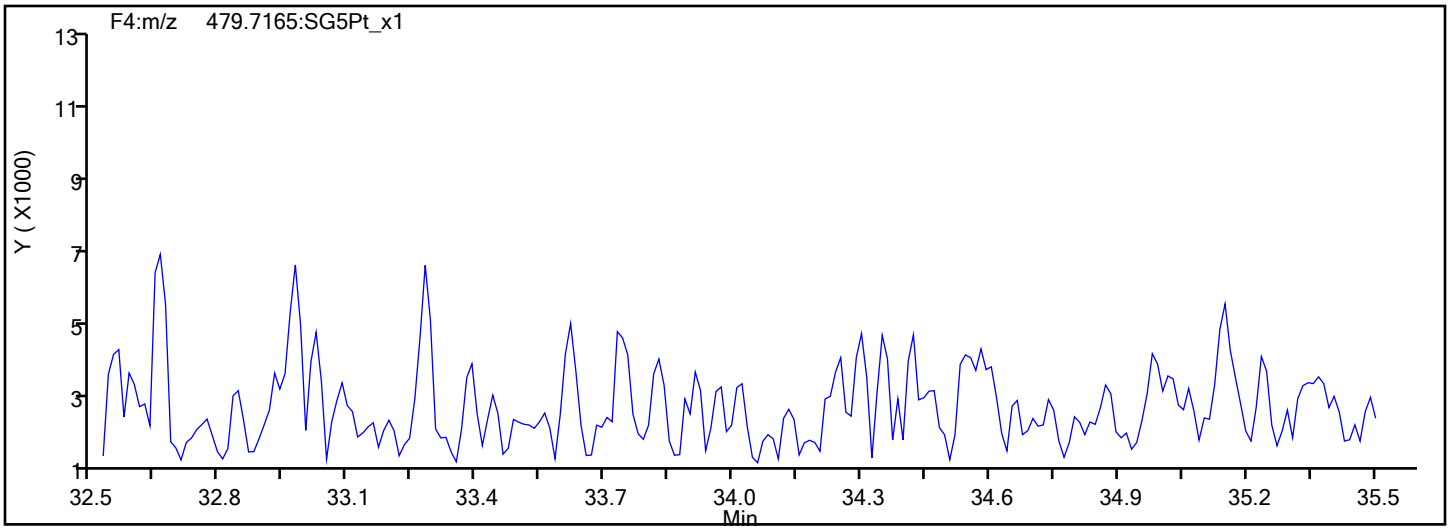

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Eurofins TestAmerica, Sacramento

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HpCDD

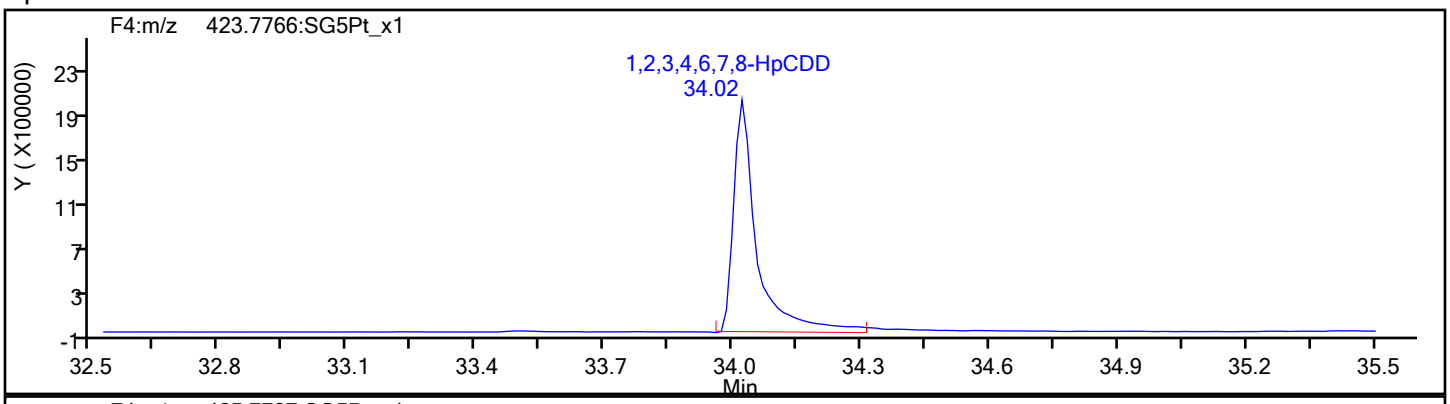

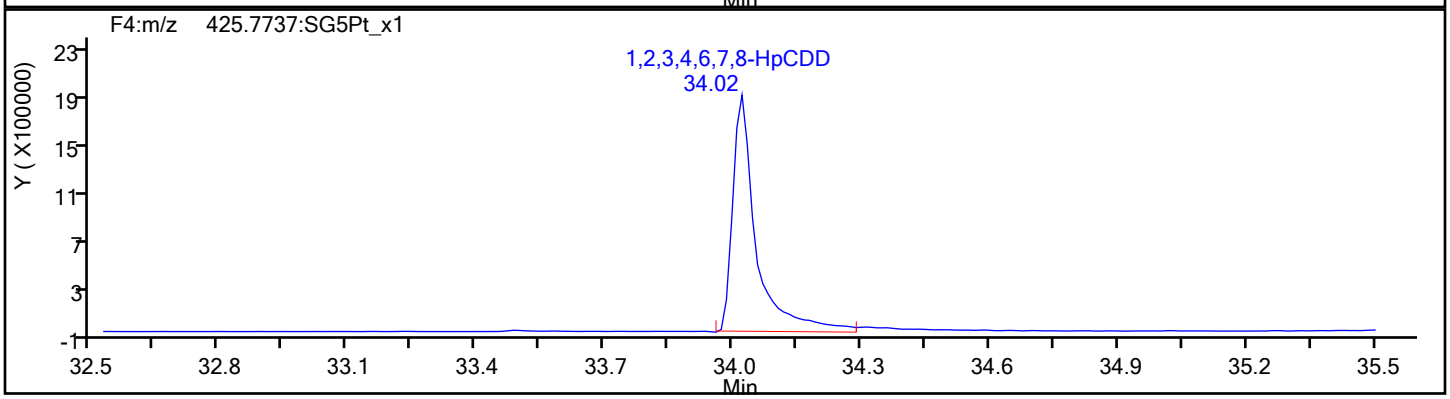

HpCDD Standards

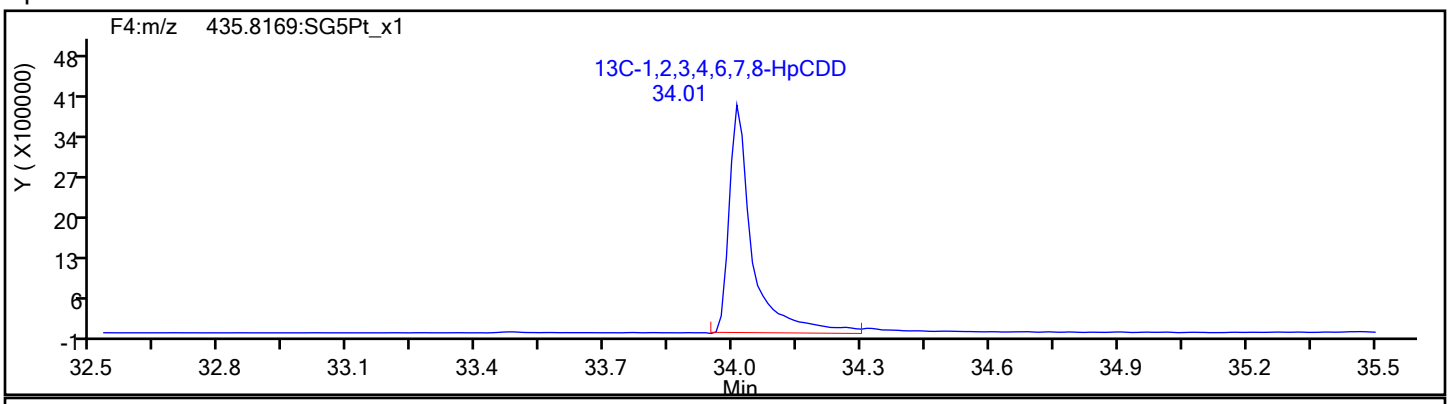

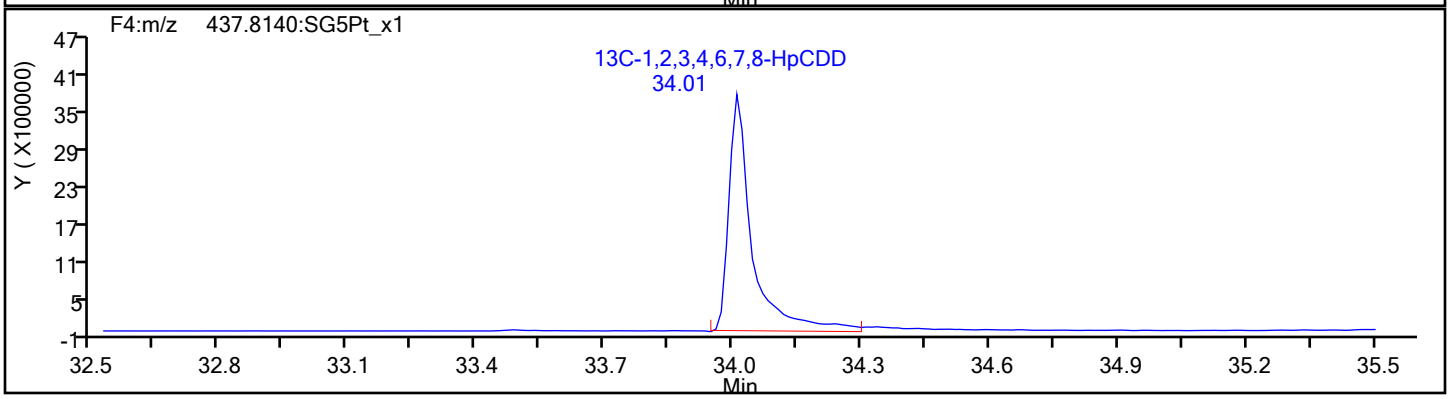

Report Date: 07-Oct-2019 08:50:23 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_17.d		
Injection Date:	04-Oct-2019 00:34:47	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	17
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

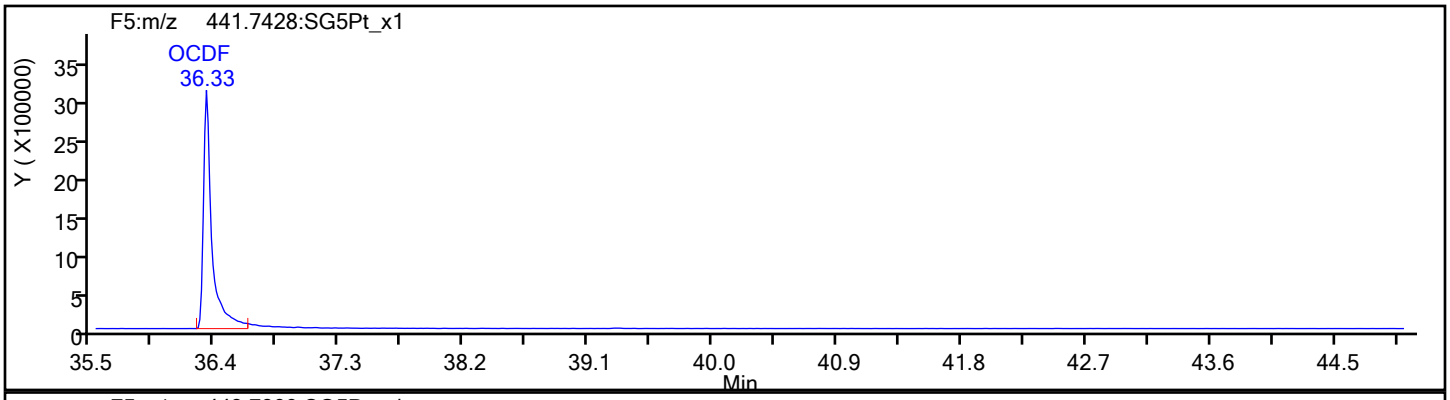

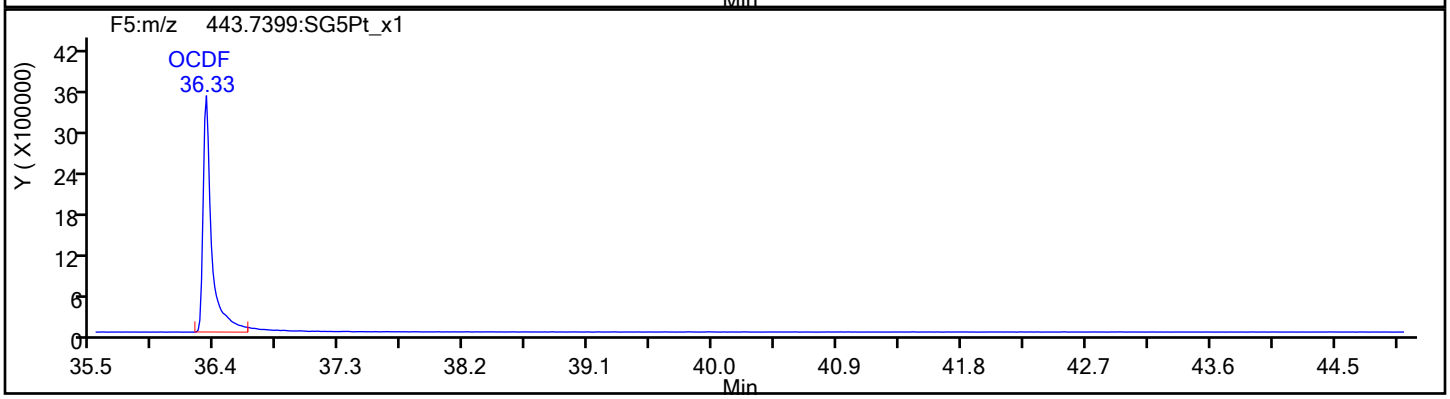

OCDF Standards

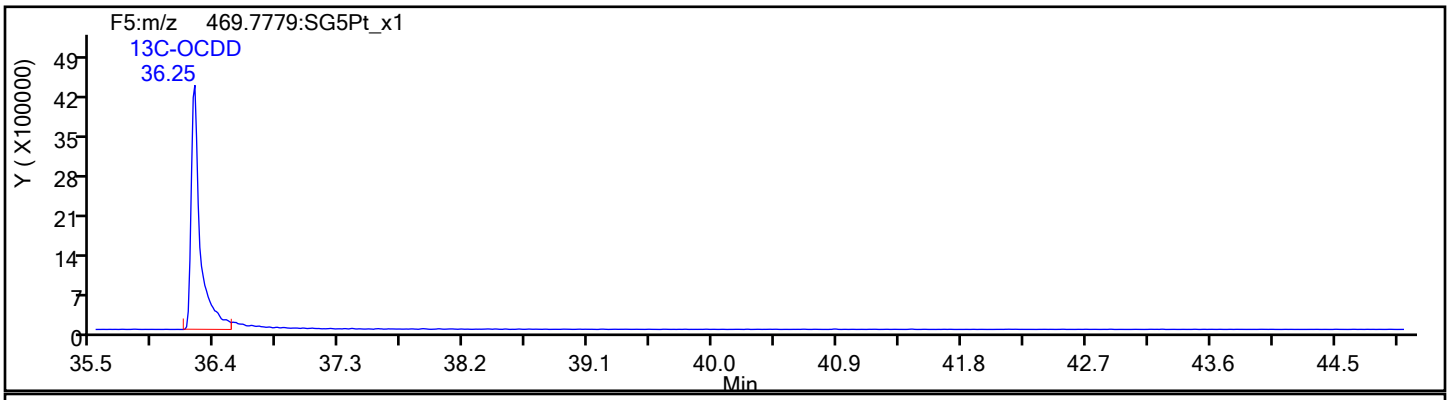

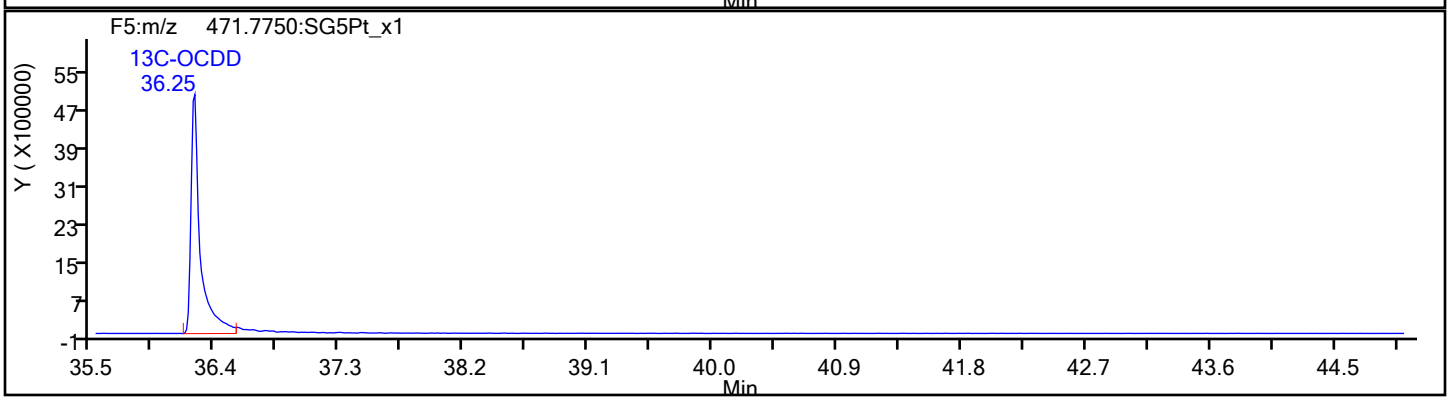

Report Date: 07-Oct-2019 08:50:23 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_17.d		
Injection Date:	04-Oct-2019 00:34:47	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	17
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

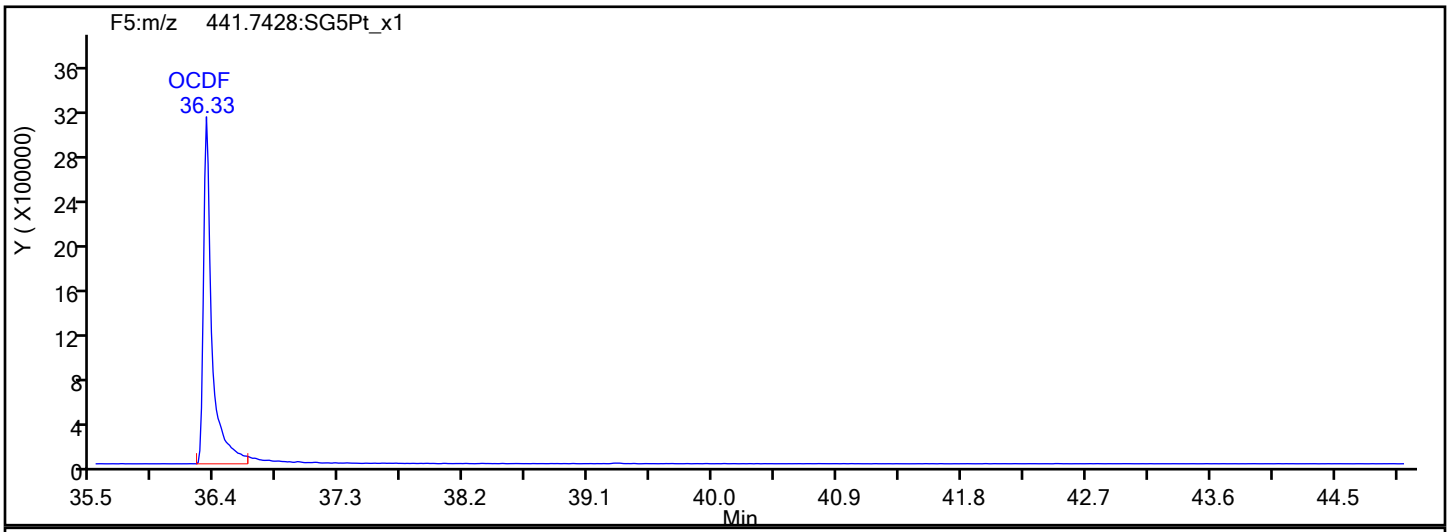

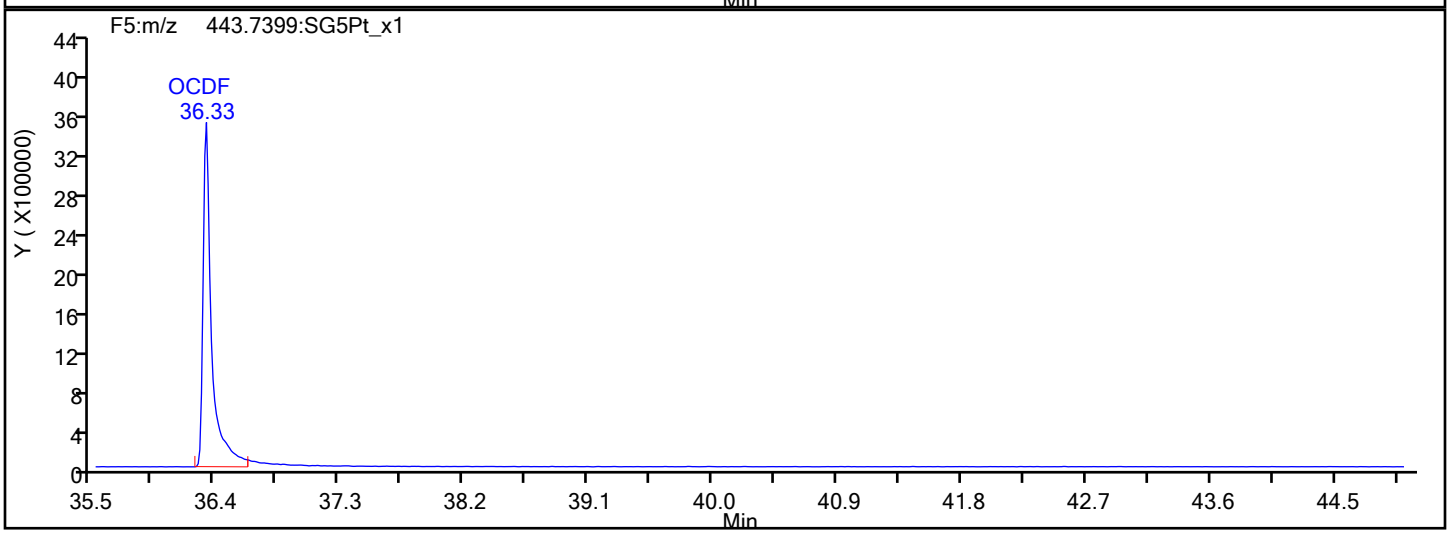

OCDF Interference Mass

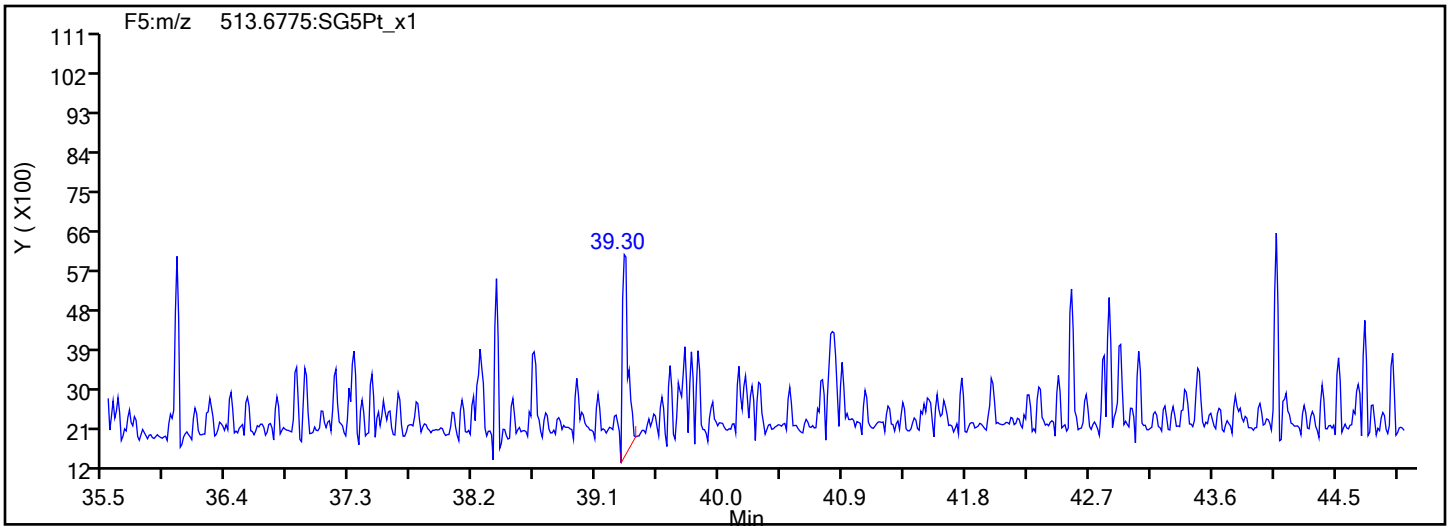

Report Date: 07-Oct-2019 08:50:24 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_17.d		
Injection Date:	04-Oct-2019 00:34:47	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	17
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

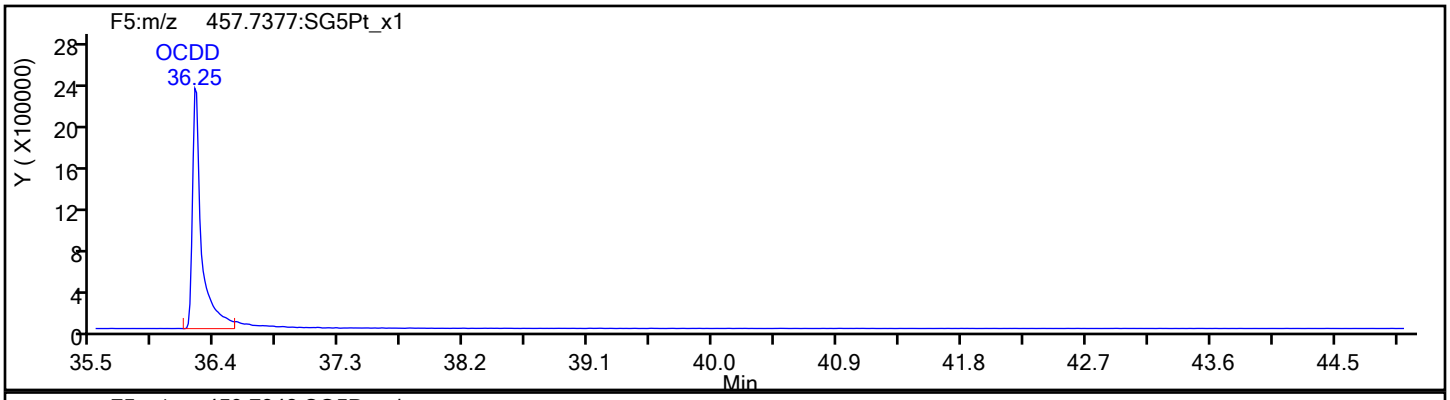

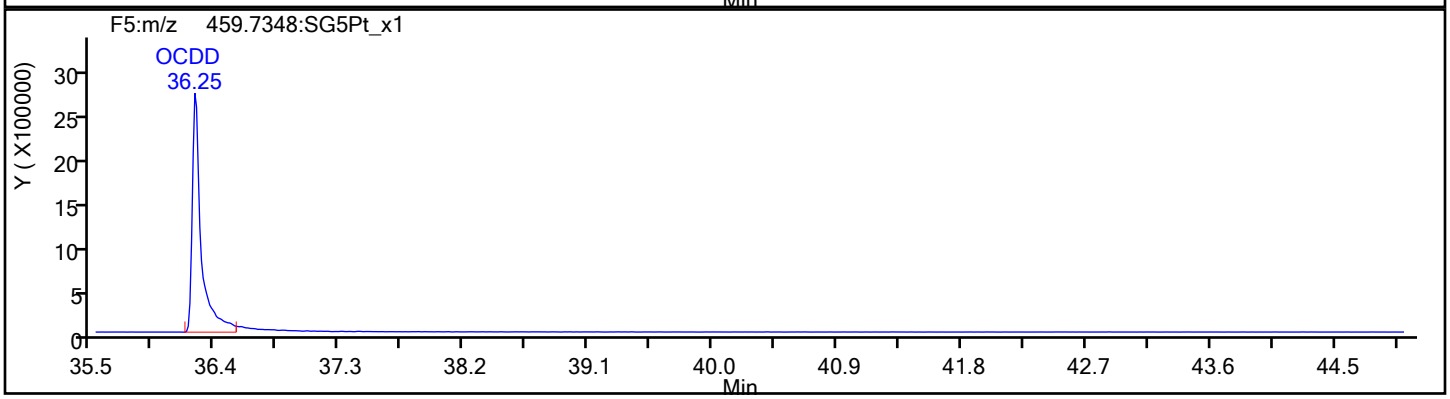

OCDD Standards

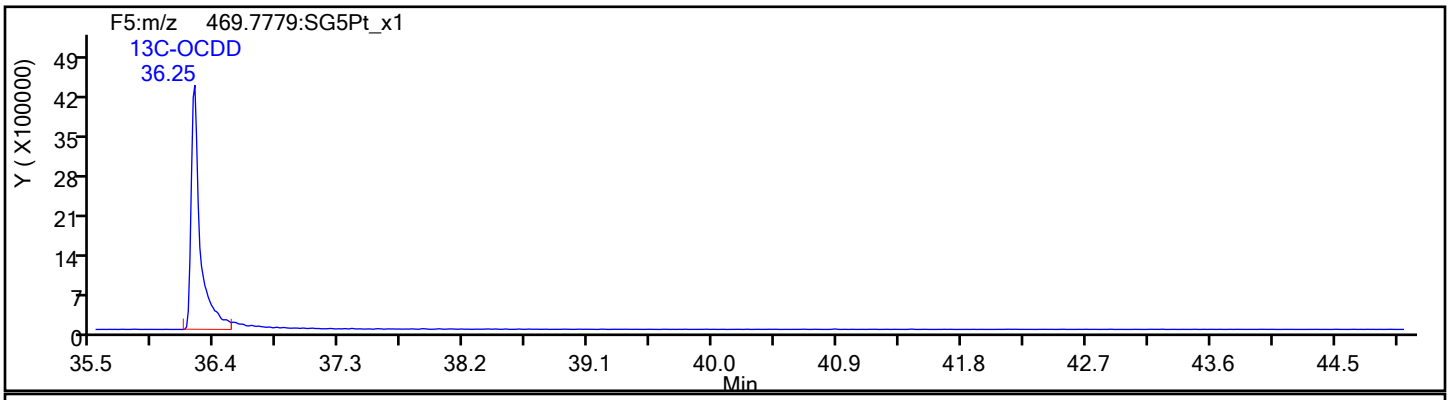

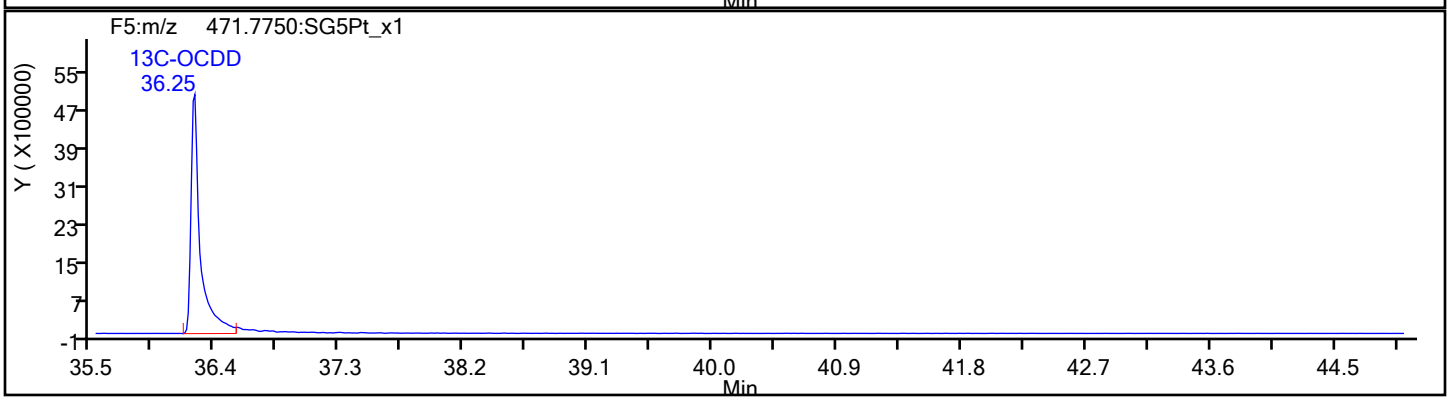

Report Date: 07-Oct-2019 08:50:24 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_17.d		
Injection Date:	04-Oct-2019 00:34:47	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	17
Column Type:	DB-5	Column Dia:	0.32 mm

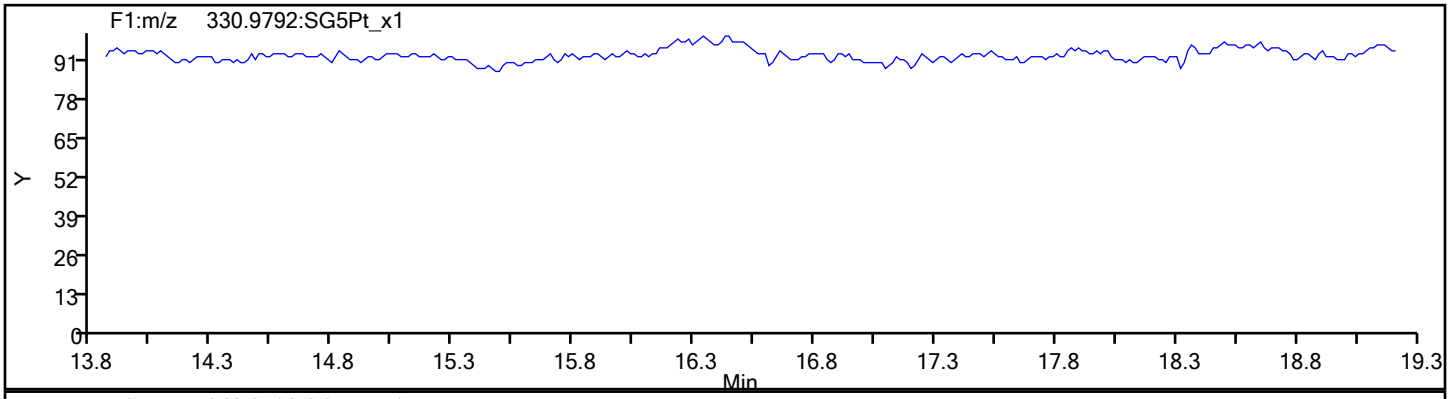

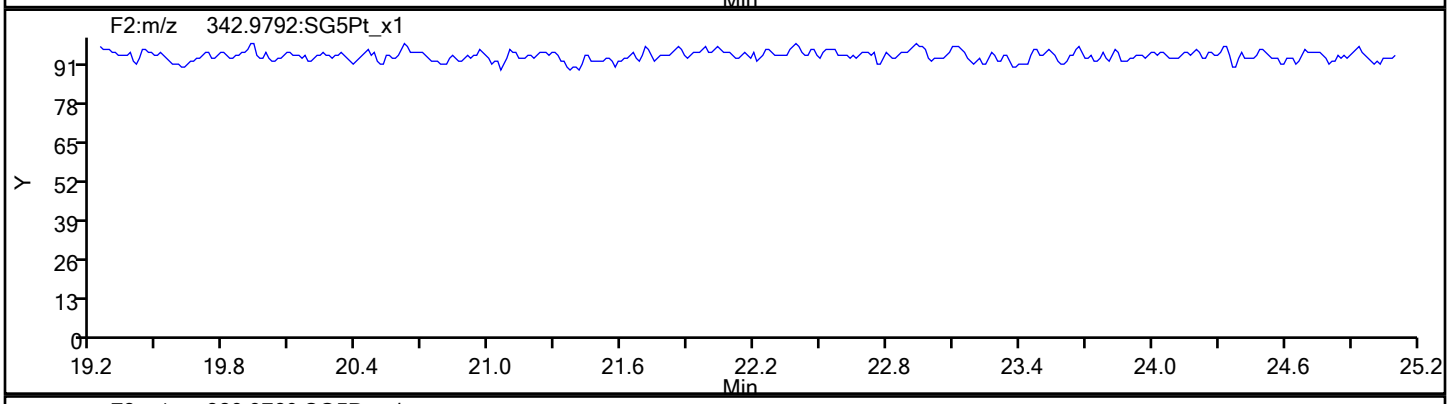

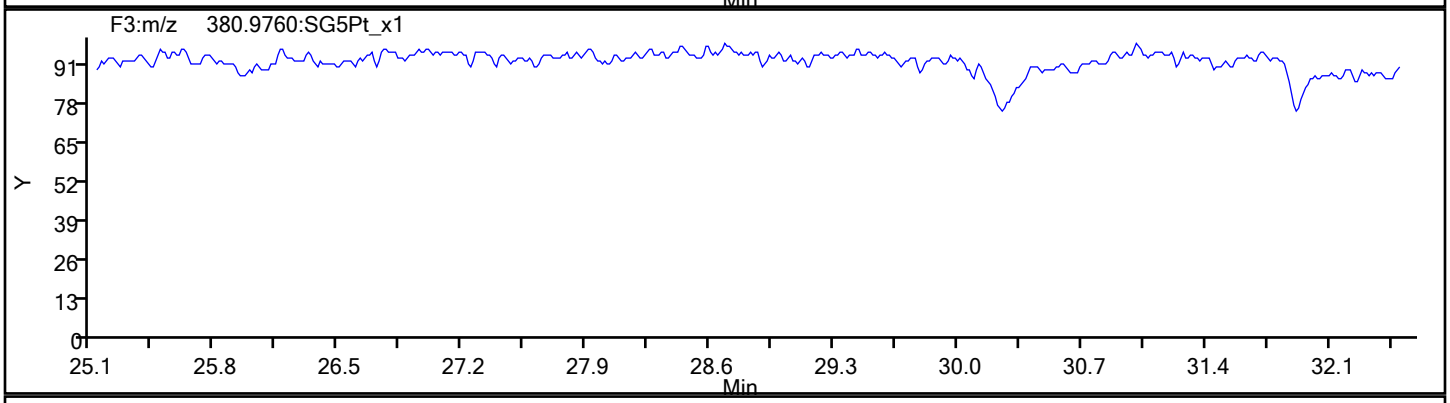

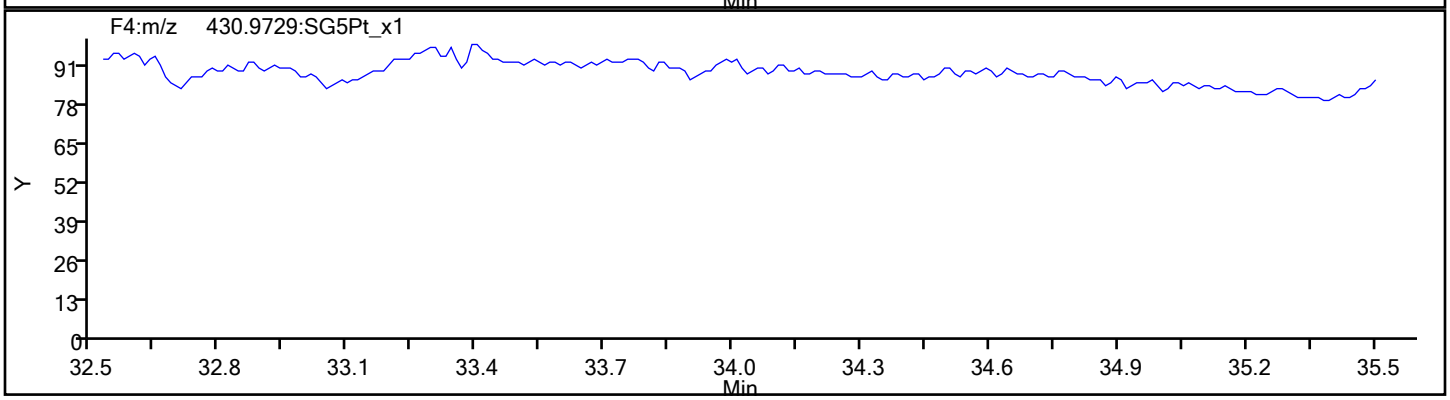

Report Date: 07-Oct-2019 08:50:24 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_17.d		
Injection Date:	04-Oct-2019 00:34:47	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	17
Column Type:	DB-5	Column Dia:	0.32 mm

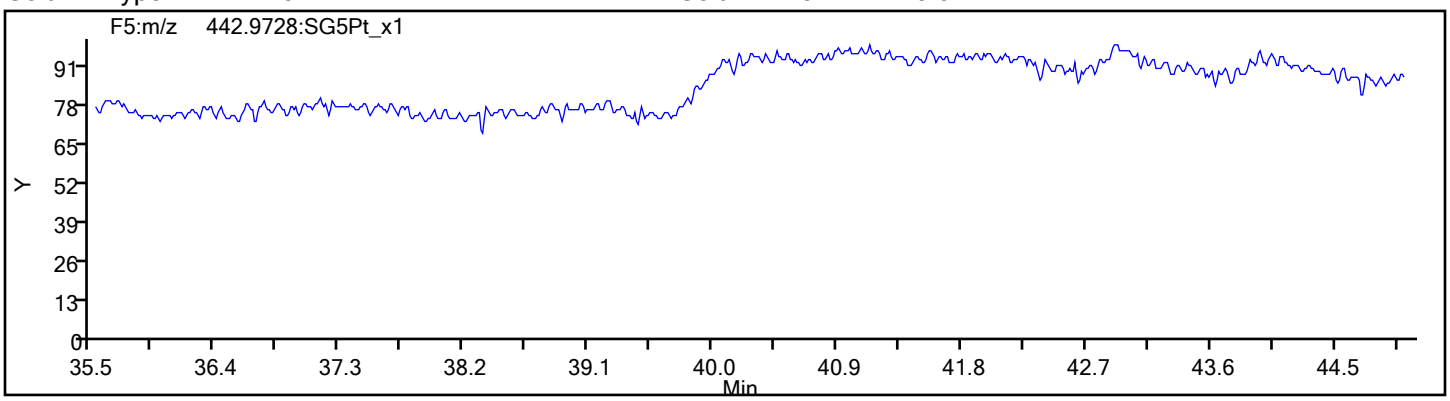

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 180-96144-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCSD 320-327320/3-A
Matrix: Water
Lab File ID: 03OC1910D5_18.d
Analysis Method: 1613B
Date Collected:
Extract. Method: 1613B
Date Extracted: 09/30/2019 11:45
Sample wt/vol: 1000(mL)
Date Analyzed: 10/04/2019 01:20
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 328202
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	190		10	3.1
51207-31-9	2,3,7,8-TCDF	218		10	2.1
40321-76-4	1,2,3,7,8-PeCDD	1120		50	4.2
57117-41-6	1,2,3,7,8-PeCDF	1050		50	6.7
57117-31-4	2,3,4,7,8-PeCDF	1010		50	6.7
39227-28-6	1,2,3,4,7,8-HxCDD	1060		50	7.1
57653-85-7	1,2,3,6,7,8-HxCDD	1070		50	6.4
19408-74-3	1,2,3,7,8,9-HxCDD	977		50	6.1
70648-26-9	1,2,3,4,7,8-HxCDF	1030		50	14
57117-44-9	1,2,3,6,7,8-HxCDF	1060		50	15
72918-21-9	1,2,3,7,8,9-HxCDF	1050		50	10
60851-34-5	2,3,4,6,7,8-HxCDF	1050		50	12
35822-46-9	1,2,3,4,6,7,8-HpCDD	1090		50	11
67562-39-4	1,2,3,4,6,7,8-HpCDF	1030		50	21
55673-89-7	1,2,3,4,7,8,9-HpCDF	1000		50	25
3268-87-9	OCDD	2060		100	6.2
39001-02-0	OCDF	2190		100	8.3
41903-57-5	Total TCDD	190		10	3.1
30402-14-3	Total TCDF	218		10	2.1
36088-22-9	Total PeCDD	1120		50	4.2
30402-15-4	Total PeCDF	2060		50	6.7
34465-46-8	Total HxCDD	3110		50	6.5
55684-94-1	Total HxCDF	4180		50	13
37871-00-4	Total HpCDD	1090		50	11
38998-75-3	Total HpCDF	2030		50	23

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 180-96144-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCSD 320-327320/3-A
Matrix: Water
Lab File ID: 03OC1910D5_18.d
Analysis Method: 1613B
Date Collected:
Extract. Method: 1613B
Date Extracted: 09/30/2019 11:45
Sample wt/vol: 1000(mL)
Date Analyzed: 10/04/2019 01:20
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 328202
Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	46		20-175
89059-46-1	13C-2,3,7,8-TCDF	44		22-152
109719-79-1	13C-1,2,3,7,8-PeCDD	52		21-227
109719-77-9	13C-1,2,3,7,8-PeCDF	48		21-192
116843-02-8	13C-2,3,4,7,8-PeCDF	53		13-328
109719-80-4	13C-1,2,3,4,7,8-HxCDD	57		21-193
109719-81-5	13C-1,2,3,6,7,8-HxCDD	62		25-163
114423-98-2	13C-1,2,3,4,7,8-HxCDF	62		19-202
116843-03-9	13C-1,2,3,6,7,8-HxCDF	59		21-159
116843-04-0	13C-1,2,3,7,8,9-HxCDF	54		17-205
116843-05-1	13C-2,3,4,6,7,8-HxCDF	54		22-176
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	53		26-166
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	54		21-158
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	56		20-186
114423-97-1	13C-OCDD	44		13-199

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	97		31-191

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_18.d
Lims ID: LCSD 320-327320/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 04-Oct-2019 01:20:44 ALS Bottle#: 17 Worklist Smp#: 18
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 320-327320/3-A LCSD 320-327320/3-A
Misc. Info.: 03OC1910D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 07-Oct-2019 08:49:34 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0322

First Level Reviewer: dadunj Date: 07-Oct-2019 08:51:03

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	16.807	53653379	0.78	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.338	33664084	0.78	1.4384	43.6	43.6	0.2702	0.2702	43.62	
2,3,7,8-TCDF	16.353	3851308	0.81	1.0507	10.9	10.9	0.1043	0.1043	109	
A Non-2,3,7,8-sub-TCDF	16.058						0.1043	0.1043		
S Total TCDF					10.9	10.9	0.1043	0.1043		
D 13C-2,3,7,8-TCDD	16.988	23530169	0.81	0.9533	46.0	46.0	0.2825	0.2825	46.00	
2,3,7,8-TCDD	17.018	2475971	0.76	1.1064	9.511	9.511	0.1567	0.1567	95.11	
$ 37Cl4-2,3,7,8-TCDD	17.003	25498529		1.2224	38.9	38.9	0.0676	0.0676	97.20	
A Non-2,3,7,8-sub-TCDD	16.482						0.1567	0.1567		
S Total TCDD					9.511	9.511	0.1567	0.1567		
D 13C-1,2,3,7,8-PeCDF	20.970	26429389	1.53	1.0286	47.9	47.9	0.1960	0.1960	47.89	
1,2,3,7,8-PeCDF	20.997	15018770	1.61	1.0822	52.5	52.5	0.3332	0.3332	105	
D 13C-2,3,4,7,8-PeCDF	22.211	27905969	1.55	0.9827	52.9	52.9	0.2052	0.2052	52.93	
2,3,4,7,8-PeCDF	22.238	15509404	1.58	1.1032	50.4	50.4	0.3334	0.3334	101	
A F1 PeCDFs	18.727						0.0832	0.0832		
A Non-2,3,7,8-sub-PeCDF	21.612						0.3333	0.3333		
S Total PeCDF					102.9	102.9	0.3333	0.3333		
D 13C-1,2,3,7,8-PeCDD	22.879	20760793	1.62	0.7481	51.7	51.7	0.1556	0.1556	51.72	
1,2,3,7,8-PeCDD	22.893	10562767	1.58	0.9050	56.2	56.2	0.2098	0.2098	112	
A Non-2,3,7,8-sub-PeCDD	21.843						0.2098	0.2098		
S Total PeCDD					56.2	56.2	0.2098	0.2098		
D 13C-1,2,3,4,7,8-HxCDF	28.736	26408549	0.54	1.1520	62.5	62.5	0.5374	0.5374	62.47	
1,2,3,4,7,8-HxCDF	28.762	16237417	1.29	1.1973	51.4	51.4	0.7225	0.7225	103	
D 13C-1,2,3,6,7,8-HxCDF	29.042	26895477	0.51	1.2434	58.9	58.9	0.4979	0.4979	58.94	
1,2,3,6,7,8-HxCDF	29.082	16803564	1.27	1.1807	52.9	52.9	0.7598	0.7598	106	
D 13C-2,3,4,6,7,8-HxCDF	30.479	23195453	0.51	1.1720	53.9	53.9	0.5282	0.5282	53.93	
2,3,4,6,7,8-HxCDF	30.506	14782061	1.29	1.2116	52.6	52.6	0.5924	0.5924	105	
D 13C-1,2,3,7,8,9-HxCDF	31.558	21257115	0.53	1.0655	54.4	54.4	0.5810	0.5810	54.37	
1,2,3,7,8,9-HxCDF	31.571	13835247	1.24	1.2451	52.3	52.3	0.5217	0.5217	105	
A Non-2,3,7,8-sub-HxCDF	28.849						0.6360	0.6360		
S Total HxCDF					209.1	209.1	0.6491	0.6491		

Report Date: 07-Oct-2019 08:51:04 Chrom Revision: 2.3 17-Sep-2019 16:19:08
Data File: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_18.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.345	36696329	1.24	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	30.772	16405924	1.26	0.7812	57.2	57.2	0.4797	0.4797	57.23	
1,2,3,4,7,8-HxCDD	30.785	9661448	1.29	1.1088	53.1	53.1	0.3534	0.3534	106	
D 13C-1,2,3,6,7,8-HxCDD	30.905	20789175	1.25	0.9175	61.7	61.7	0.4084	0.4084	61.75	
1,2,3,6,7,8-HxCDD	30.932	12082695	1.25	1.0814	53.7	53.7	0.3210	0.3210	107	
1,2,3,7,8,9-HxCDD	31.358	11011709	1.24	1.2123	48.8	48.8	0.3037	0.3037	97.68	
A Non-2,3,7,8-sub-HxCDD	29.375						0.3246	0.3246		
S Total HxCDD					155.7	155.7	0.3260	0.3260		
D 13C-1,2,3,4,6,7,8-HpCDF	33.232	16986061	0.41	0.8628	53.7	53.7	1.504	1.504	53.65	
1,2,3,4,6,7,8-HpCDF	33.232	13630444	1.07	1.5555	51.6	51.6	1.071	1.071	103	
D 13C-1,2,3,4,7,8,9-HpCDF	34.277	16558413	0.44	0.7991	56.5	56.5	1.624	1.624	56.47	
1,2,3,4,7,8,9-HpCDF	34.289	11476216	1.07	1.3862	50.0	50.0	1.253	1.253	100	
A Non-2,3,7,8-sub-HpCDF	33.742						1.156	1.156		
S Total HpCDF					101.6	101.6	1.162	1.162		
D 13C-1,2,3,4,6,7,8-HpCDD	34.009	16914517	1.06	0.8739	52.7	52.7	0.8081	0.8081	52.74	
1,2,3,4,6,7,8-HpCDD	34.021	8588050	1.04	0.9316	54.5	54.5	0.5712	0.5712	109	
A Non-2,3,7,8-sub-HpCDD	33.889						0.5712	0.5712		
S Total HpCDD					54.5	54.5	0.5712	0.5712		
D 13C-OCDD	36.235	25082201	0.88	0.7744	88.3	88.3	0.3521	0.3521	44.13	
OCDF	36.331	17311215	0.90	1.2596	109.6	109.6	0.4141	0.4141	110	
OCDD	36.247	13706889	0.89	1.0621	102.9	102.9	0.3105	0.3105	103	

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_18.d
Lims ID: LCSD 320-327320/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 04-Oct-2019 01:20:44 ALS Bottle#: 17 Worklist Smp#: 18
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 320-327320/3-A LCSD 320-327320/3-A
Misc. Info.: 03OC1910D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 07-Oct-2019 08:49:34 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0322

First Level Reviewer: dadunj Date: 07-Oct-2019 08:51:03

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	16.807	16.792	1		23558515	5946615	9436	23590	630		
333.9339	16.807	16.792	1		30094864	7761702	5331	13327	1456	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.338	16.323	1	0.972	14730345	3849738	15068	37670	255		
317.9389	16.338	16.323	1	0.972	18933739	4848798	6246	15615	776	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.353	16.338	1	1.001	1725894	446778	1641	4102	272		
305.8987	16.353	16.338	1	1.001	2125414	541654	2174	5435	249	0.81(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.058						1641	4102			
305.8987	16.058						2174	5435			
13C-2,3,7,8-TCDD											
331.9368	16.988	16.973	1	1.011	10498782	2459233	9436	23590	261		
333.9339	16.988	16.973	1	1.011	13031387	3148145	5331	13327	591	0.81(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.018	16.988	2	1.002	1070577	244514	2397	5992	102		
321.8936	17.003	16.988	1	1.001	1405394	336015	1492	3730	225	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.003	16.988	1	1.012	25498529	6064465	4534	11335	1338		
A Non-2,3,7,8-sub-TCDD											
319.8965	16.482						2397	5992			
321.8936	16.482						1492	3730			
13C-1,2,3,7,8-PeCDF											
351.9000	20.970	20.929	2	1.248	15985914	2882740	6332	15830	455		
353.8970	20.970	20.929	2	1.248	10443475	1891403	4725	11812	400	1.53(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	20.997	20.956	2	1.001	9261412	1633241	3782	9455	432		
341.8567	20.983	20.956	2	1.001	5757358	1016037	3105	7762	327	1.61(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	22.211	22.170	2	1.322	16946897	2849198	6332	15830	450		
353.8970	22.211	22.170	2	1.322	10959072	1831936	4725	11812	388	1.55(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.238	22.184	3	1.001	9490953	1577337	3782	9455	417		
341.8567	22.238	22.184	3	1.001	6018451	1003052	3105	7762	323	1.58(1.32-1.78)	
A F1 PeCDFs											
339.8597	18.727						424	1060			
341.8567	18.727						1295	3237			
A Non-2,3,7,8-sub-PeCDF											
339.8597	21.612						3782	9455			
341.8567	21.612						3105	7762			
13C-1,2,3,7,8-PeCDD											
367.8949	22.879	22.825	3	1.361	12823792	2033183	3513	8782	579		
369.8919	22.865	22.825	2	1.360	7937001	1277418	2871	7177	445	1.62(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	22.893	22.852	2	1.001	6464565	1024218	1708	4270	600		
357.8516	22.893	22.852	2	1.001	4098202	649066	806	2015	805	1.58(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	21.843						1708	4270			
357.8516	21.843						806	2015			
13C-1,2,3,4,7,8-HxCDF											
383.8639	28.736	28.669	4	0.917	9239170	1126014	6277	15692	179		
385.8610	28.736	28.669	4	0.917	17169379	2071497	11392	28480	182	0.54(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	28.762	28.696	4	1.001	9137511	1064888	5953	14882	179		
375.8178	28.762	28.696	4	1.001	7099906	840918	5111	12777	165	1.29(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.042	28.975	4	0.927	9081988	1041918	6277	15692	166		
385.8610	29.042	28.975	4	0.927	17813489	2041378	11392	28480	179	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	29.082	29.002	5	1.001	9394704	1033169	5953	14882	174		
375.8178	29.068	29.002	4	1.001	7408860	808204	5111	12777	158	1.27(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	30.479	30.439	2	0.972	7878438	1299292	6277	15692	207		
385.8610	30.479	30.439	2	0.972	15317015	2554525	11392	28480	224	0.51(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	30.506	30.453	3	1.001	8315634	1401758	5953	14882	235		
375.8178	30.506	30.453	3	1.001	6466427	1124410	5111	12777	220	1.29(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.558	31.517	2	1.007	7322256	1456537	6277	15692	232		
385.8610	31.558	31.517	2	1.007	13934859	2801226	11392	28480	246	0.53(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	31.571	31.544	2	1.000	7656468	1569311	5953	14882	264		
375.8178	31.571	31.544	2	1.000	6178779	1232733	5111	12777	241	1.24(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	28.849						5953	14882			
375.8178	28.849						5111	12777			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.345	31.305	2		20305323	3950460	6503	16257	607		
403.8529	31.345	31.305	2		16391006	3184648	4192	10480	760	1.24(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	30.772	30.719	3	0.982	9153508	1820523	6503	16257	280		
403.8529	30.759	30.719	2	0.981	7252416	1413524	4192	10480	337	1.26(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	30.785	30.746	2	1.000	5436709	1094974	2400	6000	456		
391.8127	30.785	30.746	2	1.000	4224739	861186	2669	6672	323	1.29(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	30.905	30.865	2	0.986	11557287	2030122	6503	16257	312		
403.8529	30.905	30.865	2	0.986	9231888	1619791	4192	10480	386	1.25(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	30.932	30.892	2	1.001	6708126	1320298	2400	6000	550		
391.8127	30.932	30.892	2	1.001	5374569	1048891	2669	6672	393	1.25(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.358	31.318	2	1.019	6103949	1231991	2400	6000	513		
391.8127	31.358	31.318	2	1.019	4907760	963400	2669	6672	361	1.24(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	29.375						2400	6000			
391.8127	29.375						2669	6672			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.232	33.207	1	1.060	4971165	1374064	11301	28252	122		
419.8220	33.220	33.207	1	1.060	12014896	3212098	25733	64332	125	0.41(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.232	33.207	1	1.000	7055926	1882259	15347	38367	123		
409.7789	33.232	33.207	1	1.000	6574518	1786946	15204	38010	118	1.07(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.277	34.252	1	1.094	5023435	1328067	11301	28252	118		
419.8220	34.277	34.252	1	1.094	11534978	3068435	25733	64332	119	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.289	34.264	1	1.000	5944917	1559694	15347	38367	102		
409.7789	34.289	34.264	1	1.000	5531299	1443102	15204	38010	95	1.07(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.742						15347	38367			
409.7789	33.742						15204	38010			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.009	33.985	1	1.085	8694484	2305816	11297	28242	204		
437.8140	34.009	33.985	1	1.085	8220033	2193183	8859	22147	248	1.06(0.88-1.20)	

Report Date: 07-Oct-2019 08:51:04 Chrom Revision: 2.3 17-Sep-2019 16:19:08
Data File: \\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_18.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.021	33.997	1	1.000	4383472	1154128	4362	10905	265		
425.7737	34.021	33.997	1	1.000	4204578	1089850	5214	13035	209	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.889						4362	10905			
425.7737	33.889						5214	13035			
13C-OCDD											
469.7779	36.235	36.211	1	1.156	11707356	2563571	2694	6735	952		
471.7750	36.235	36.211	1	1.156	13374845	2966686	5088	12720	583	0.88(0.76-1.02)	
OCDF											
441.7428	36.331	36.306	1	1.003	8217907	1879644	1872	4680	1004		
443.7399	36.331	36.306	1	1.003	9093308	2016733	3897	9742	518	0.90(0.76-1.02)	
OCDD											
457.7377	36.247	36.223	1	1.000	6473634	1419801	1617	4042	878		
459.7348	36.247	36.223	1	1.000	7233255	1584236	2031	5077	780	0.89(0.76-1.02)	

Report Date: 07-Oct-2019 08:51:04 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_18.d		
Injection Date:	04-Oct-2019 01:20:44	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	18
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

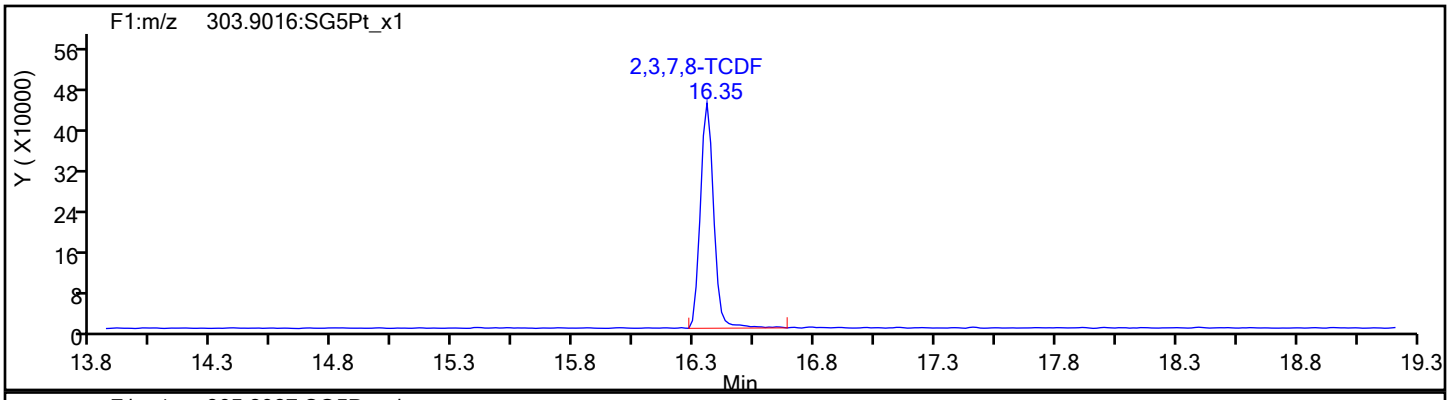

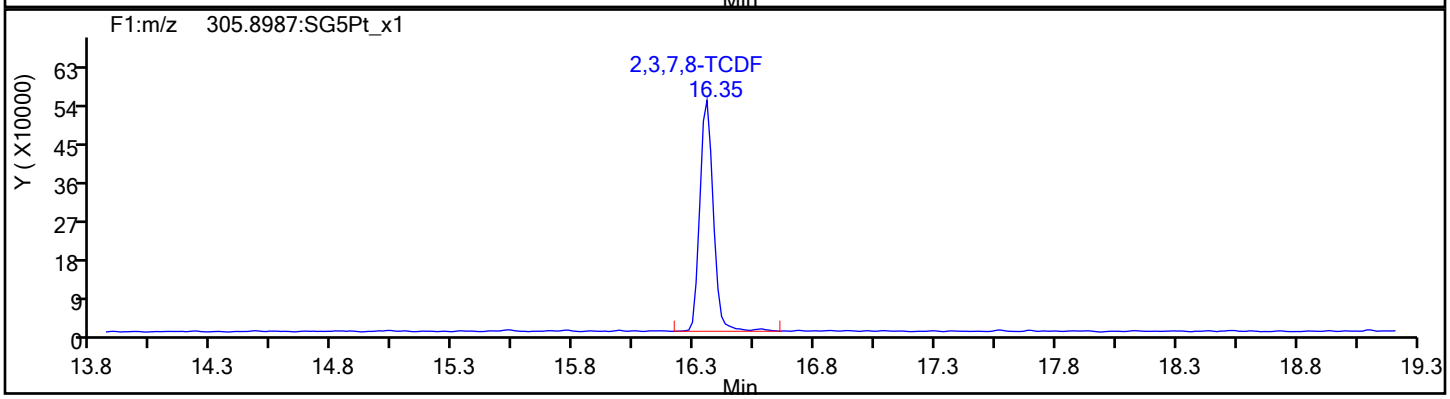

TCDF Standards

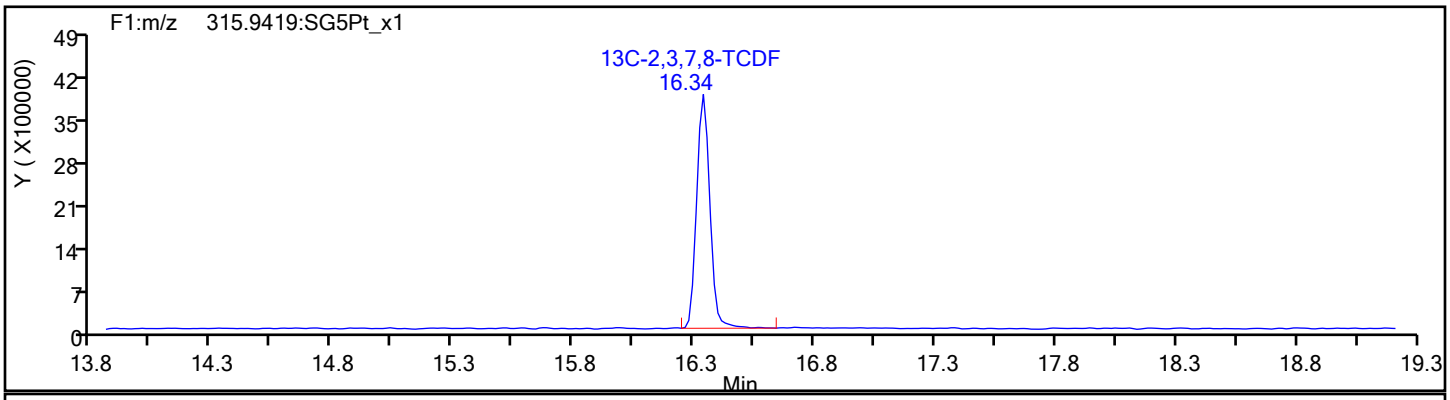

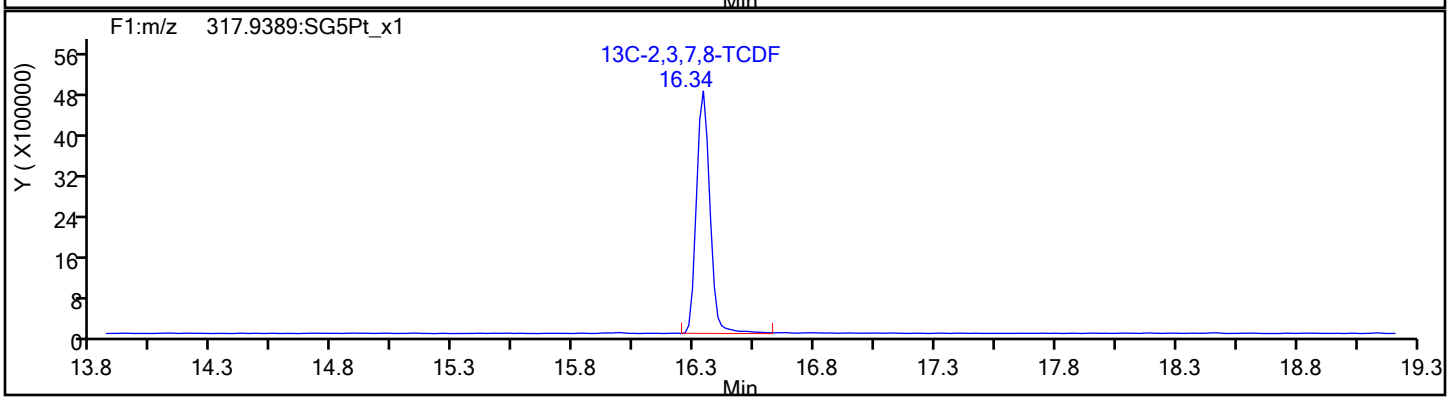

Report Date: 07-Oct-2019 08:51:04 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_18.d		
Injection Date:	04-Oct-2019 01:20:44	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	18
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

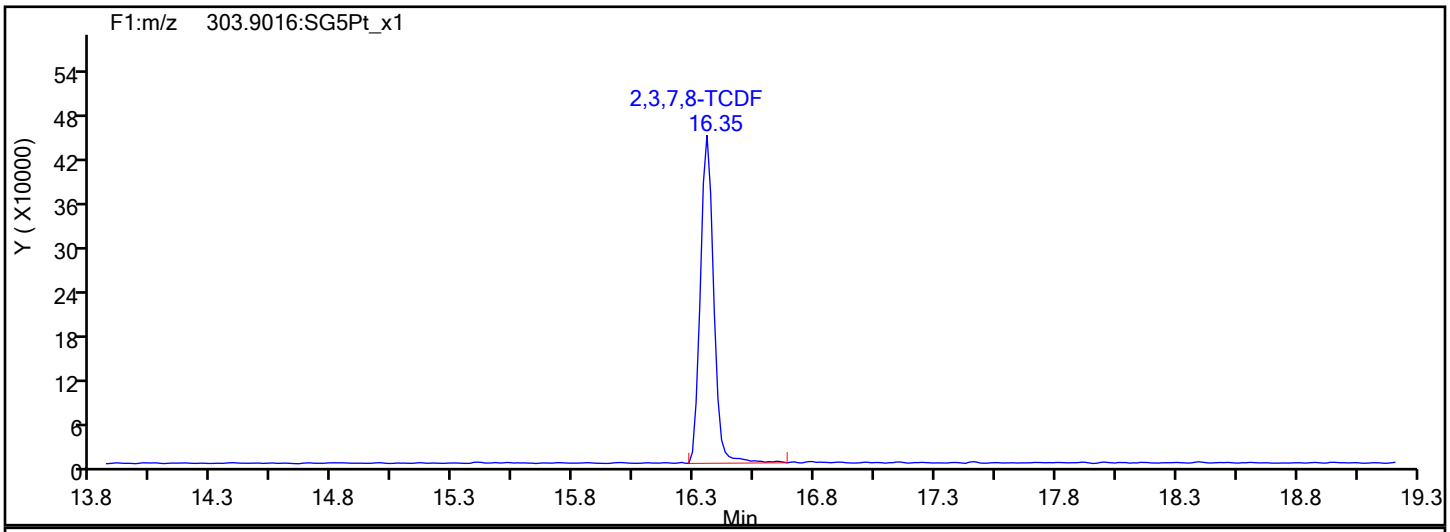

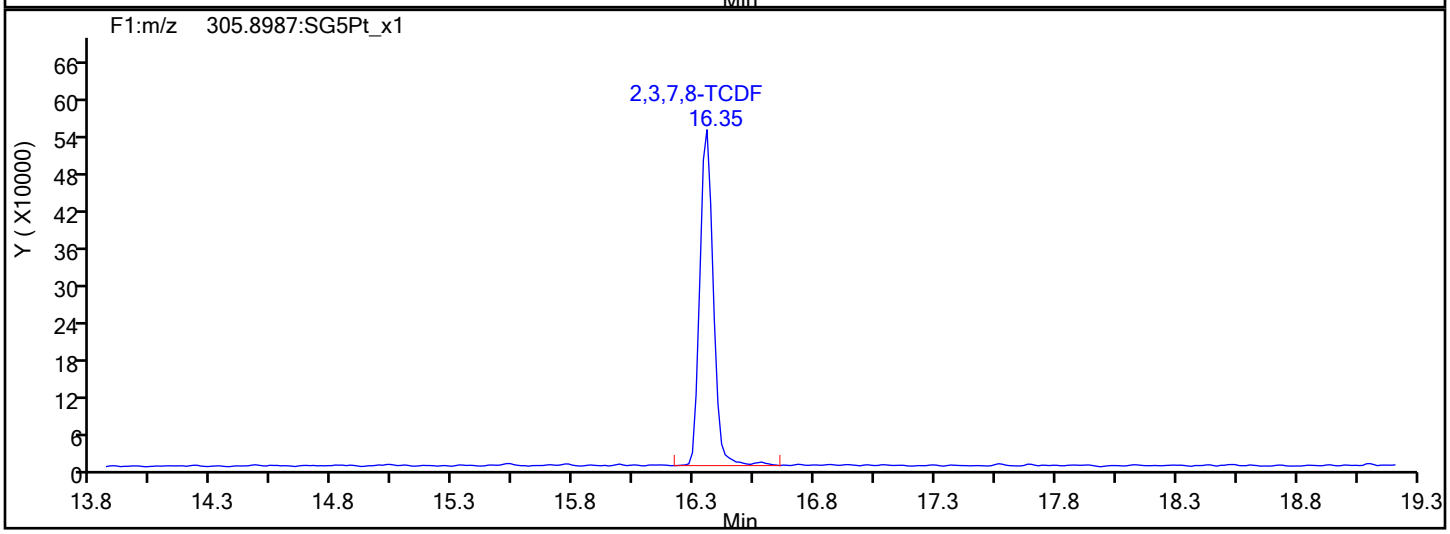

TCDF Interference Mass

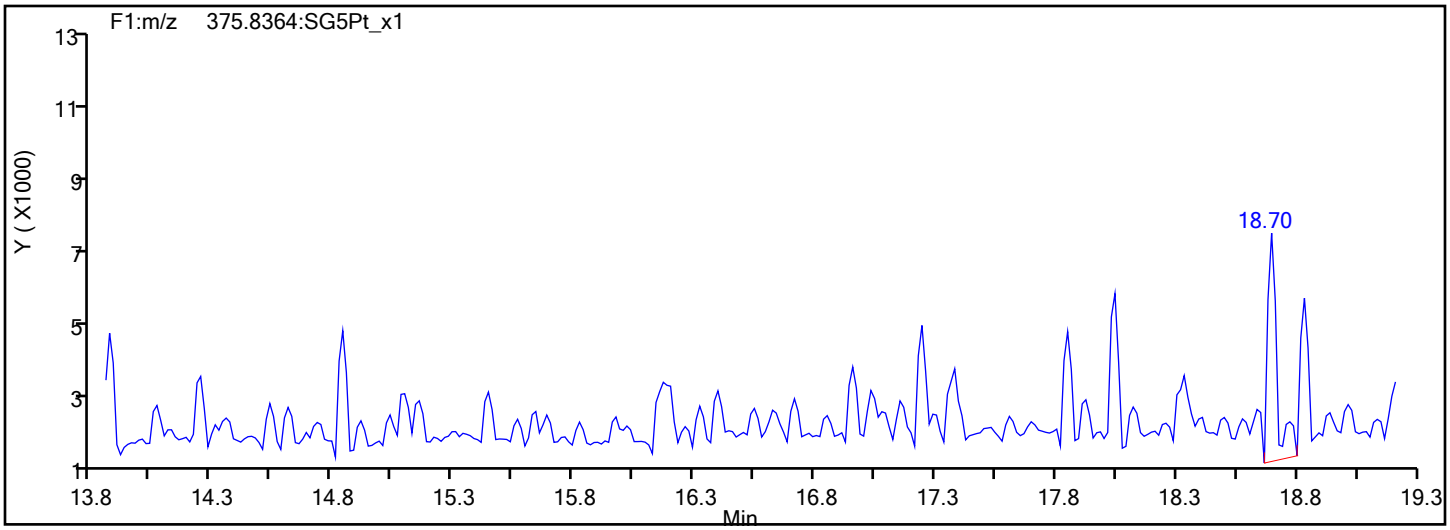

Report Date: 07-Oct-2019 08:51:04 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_18.d		
Injection Date:	04-Oct-2019 01:20:44	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	18
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

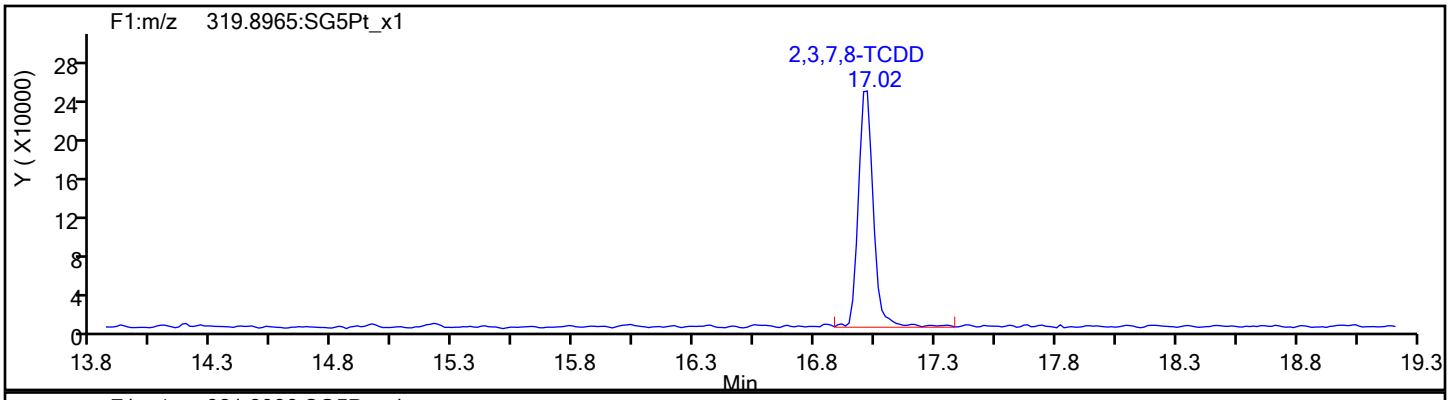

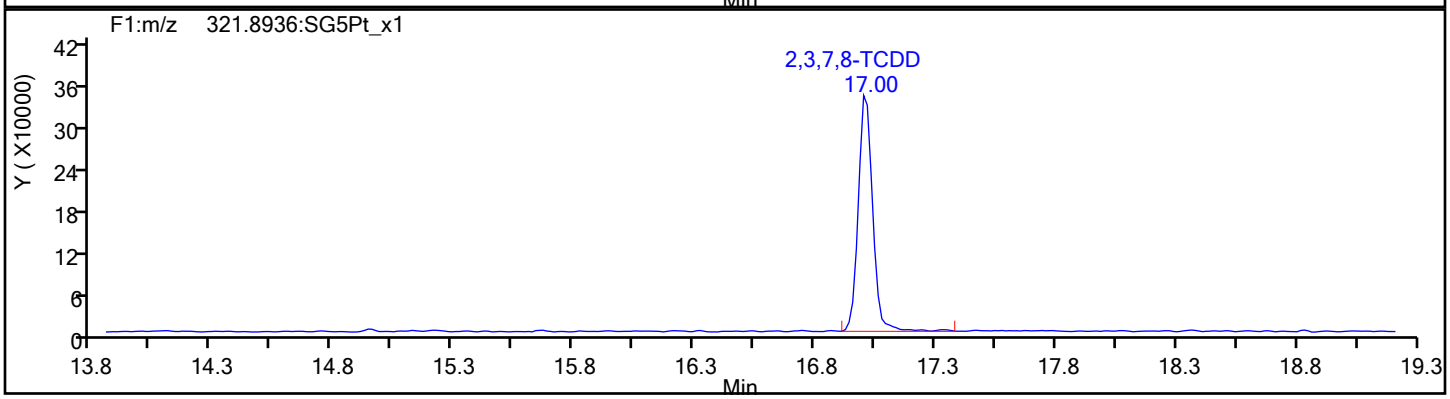

TCDD Standards

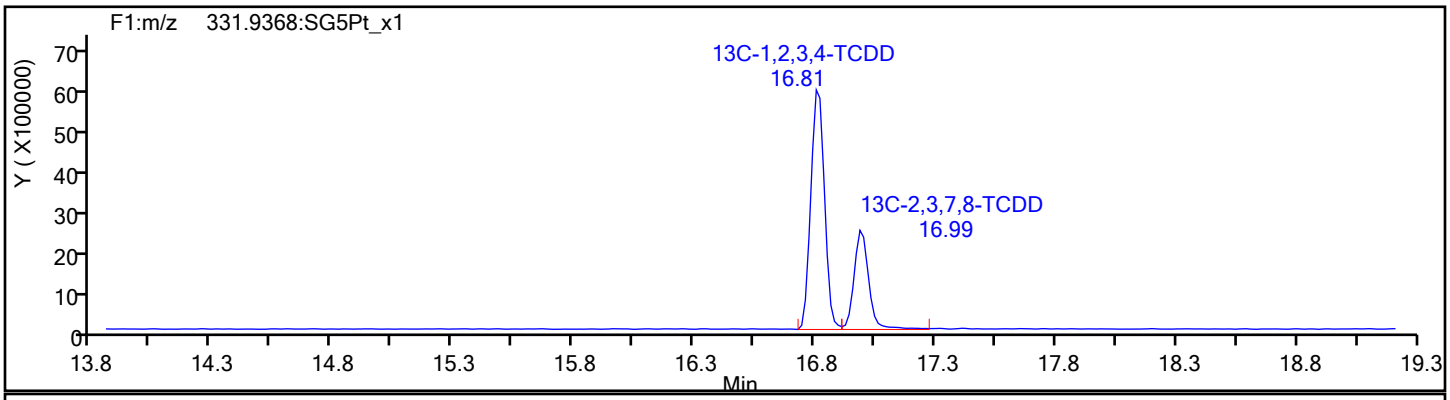

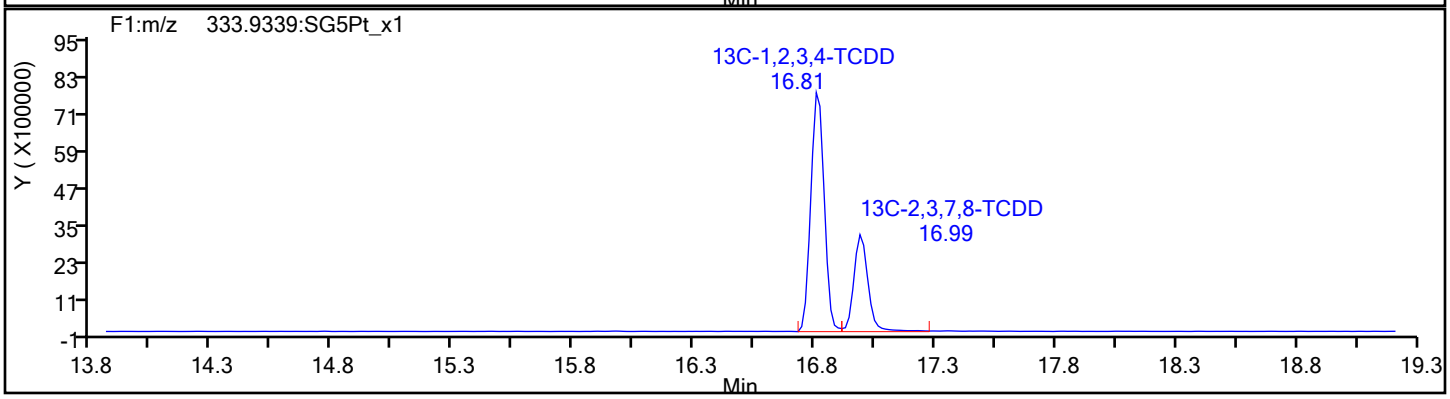

Report Date: 07-Oct-2019 08:51:04 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_18.d		
Injection Date:	04-Oct-2019 01:20:44	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	18
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

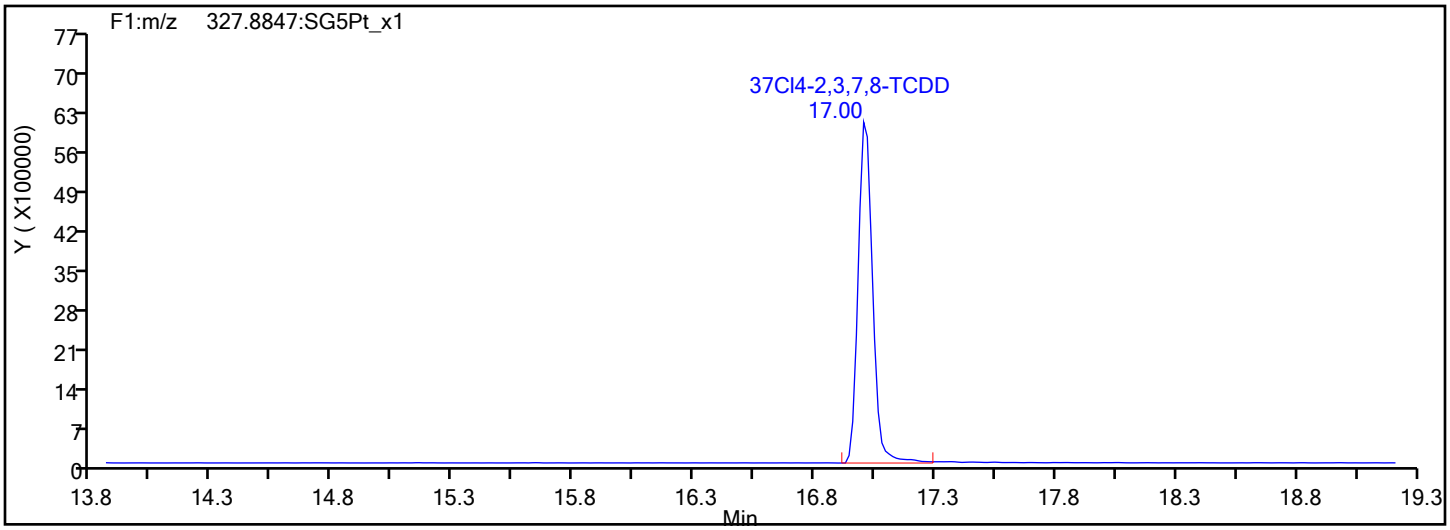

37Cl4-TCDD Standards

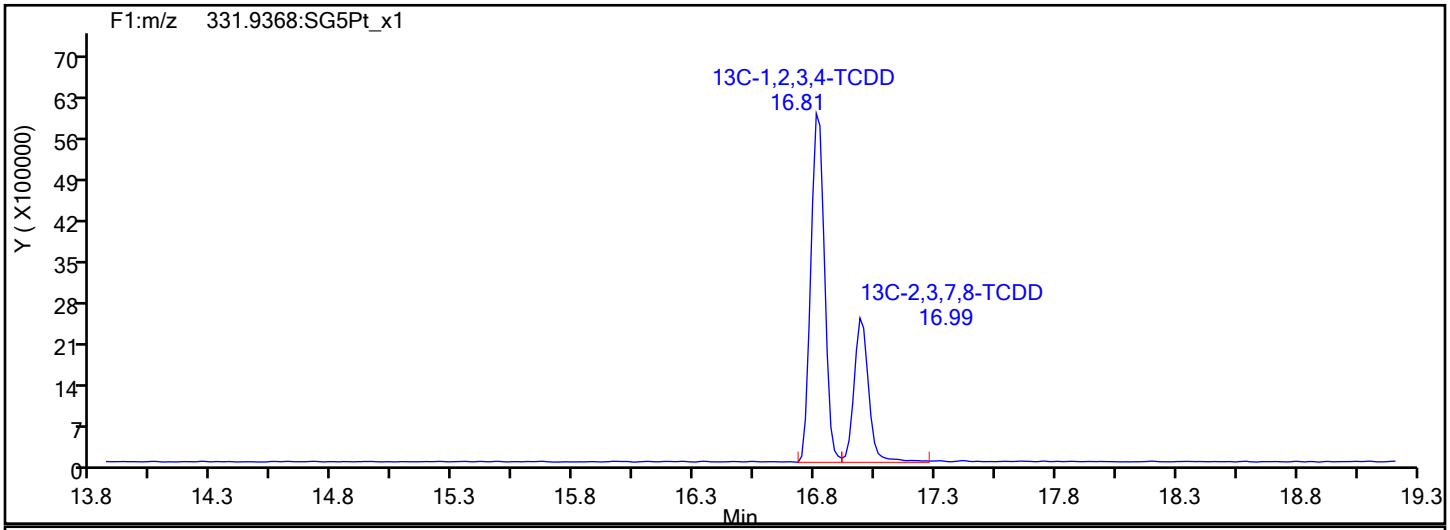

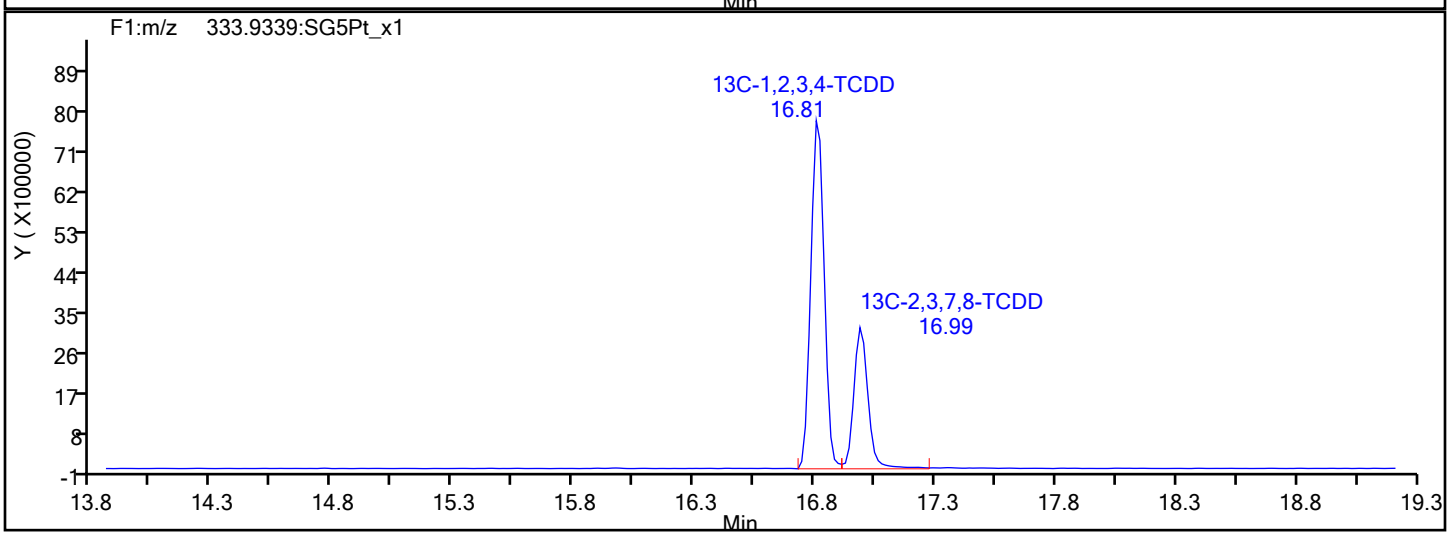

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Eurofins TestAmerica, Sacramento

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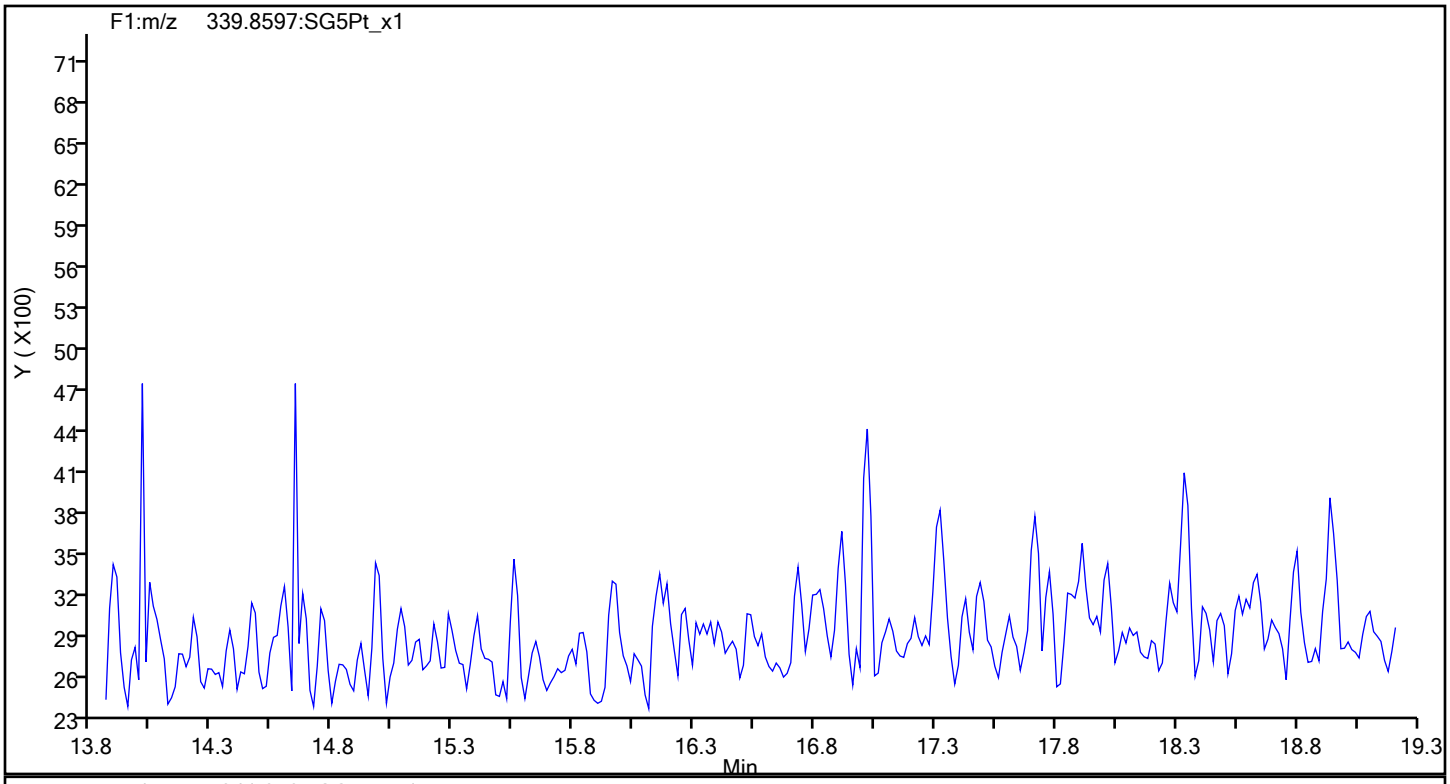

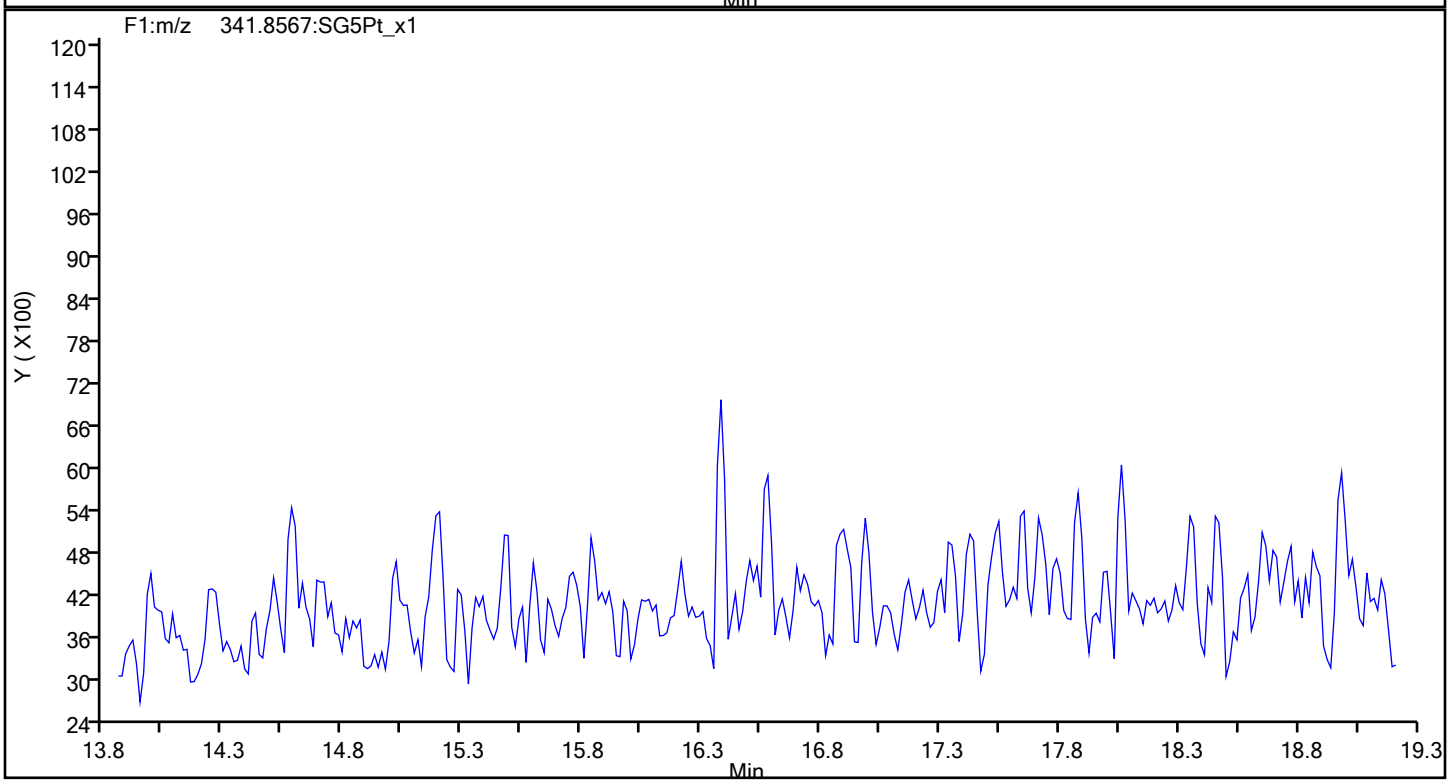

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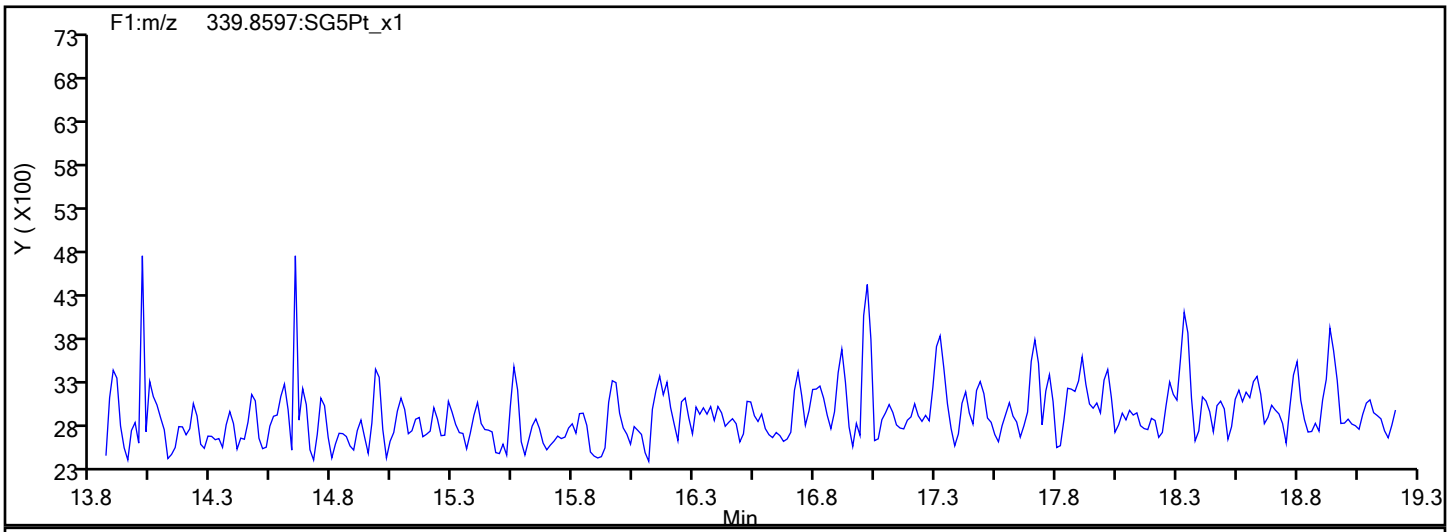

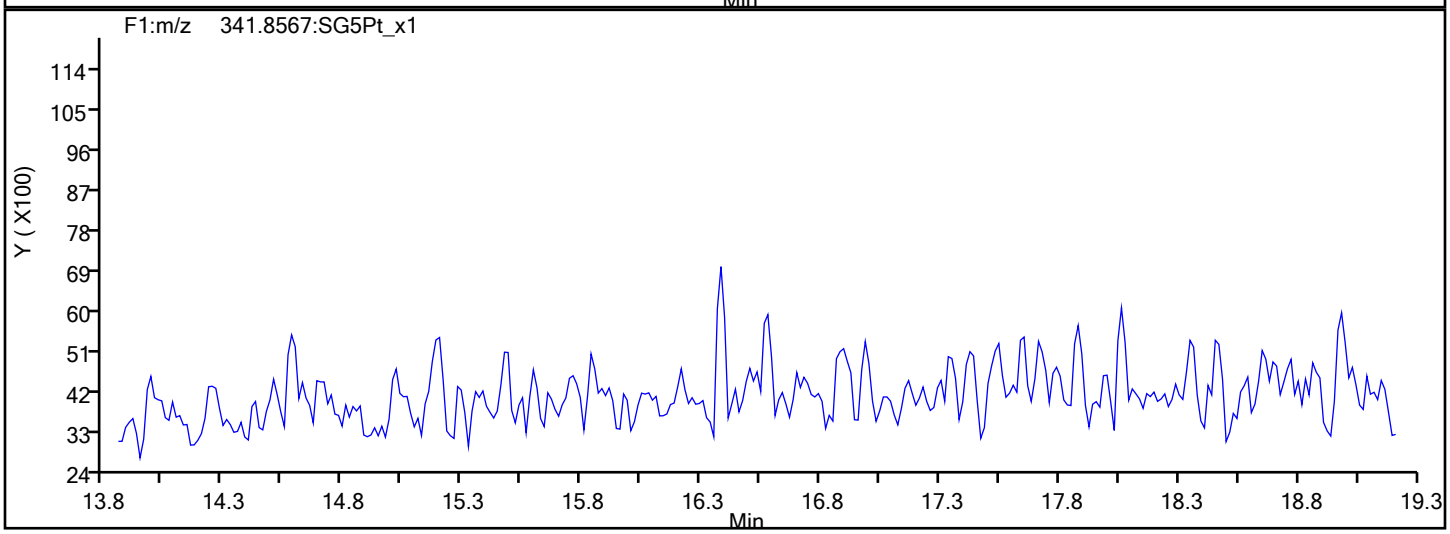

F1 PeCDFs Interference Mass

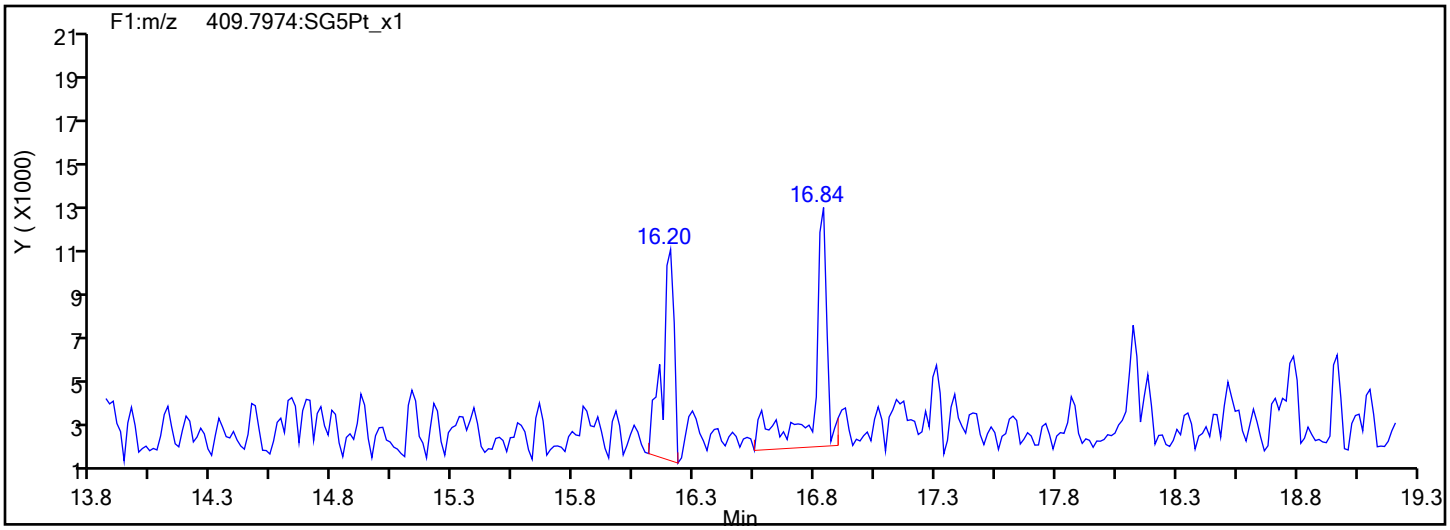

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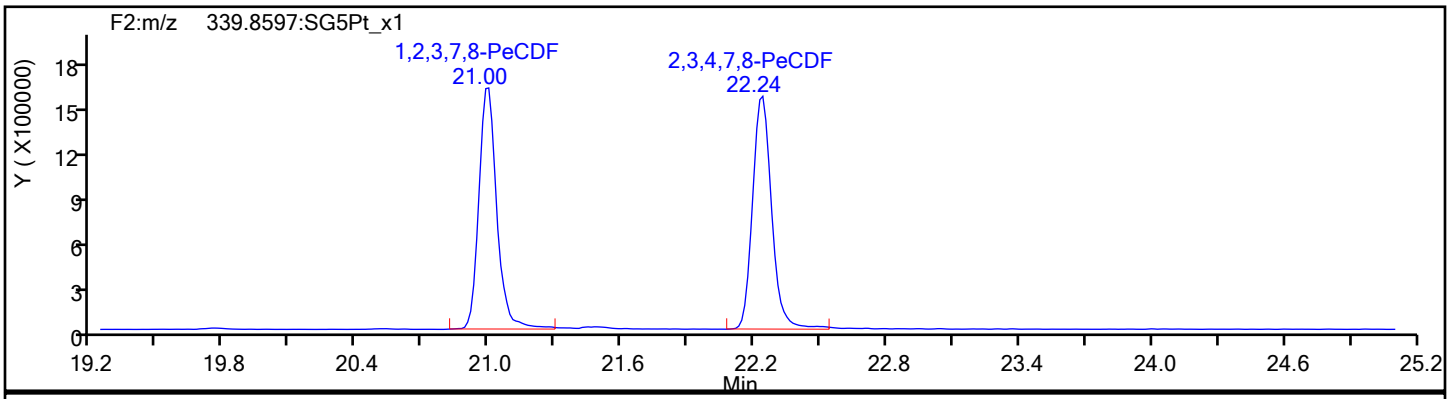

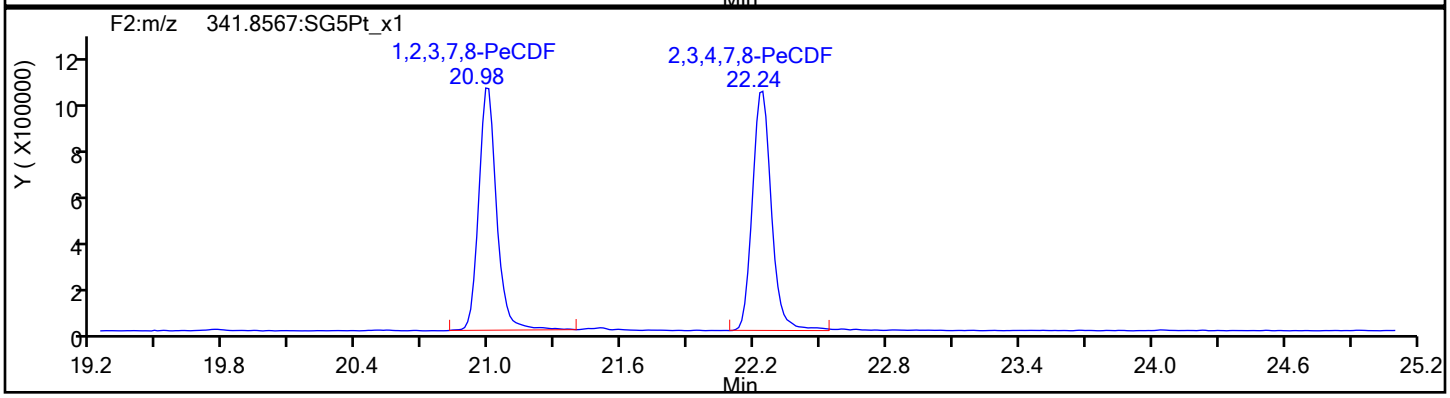

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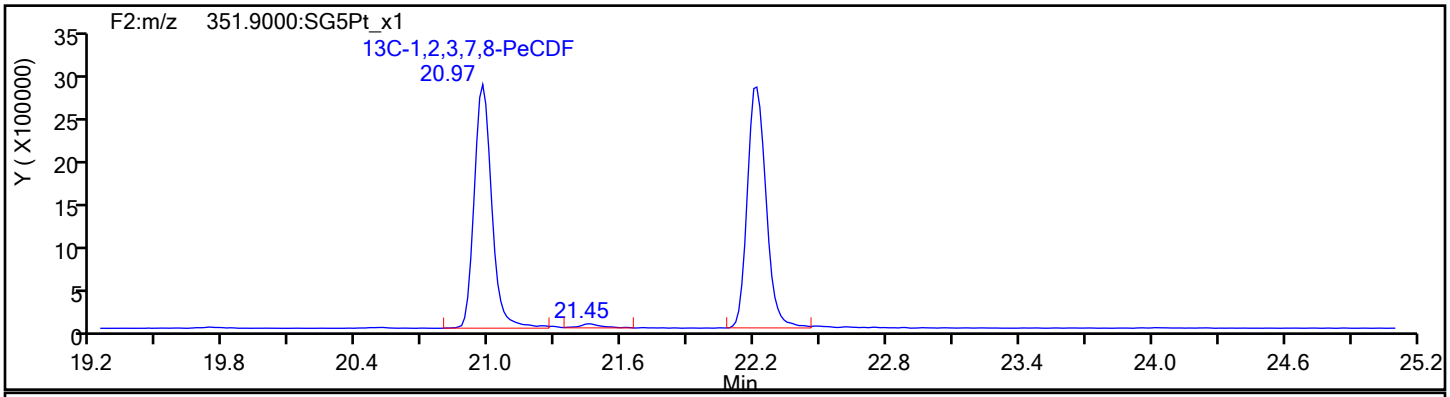

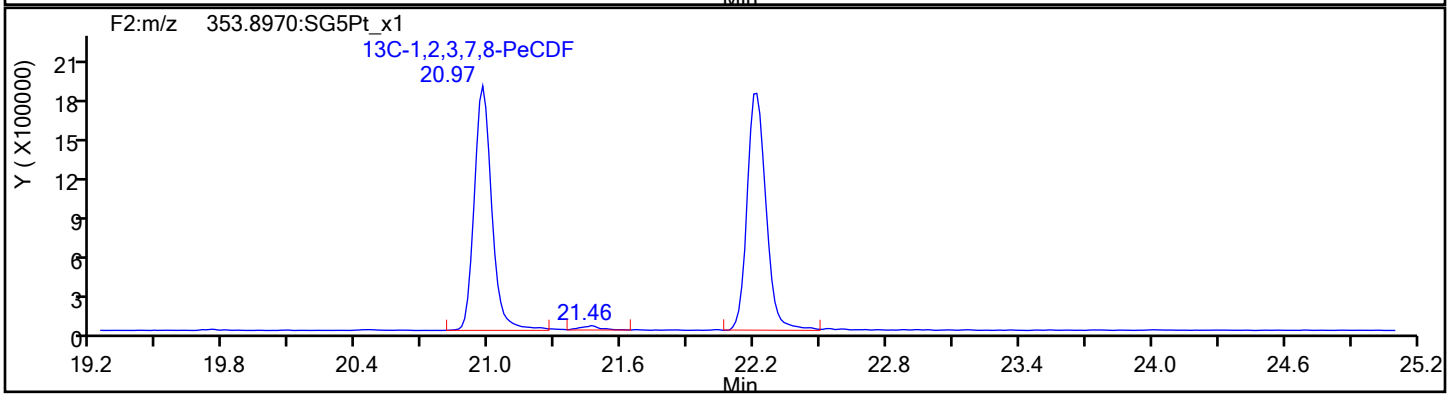

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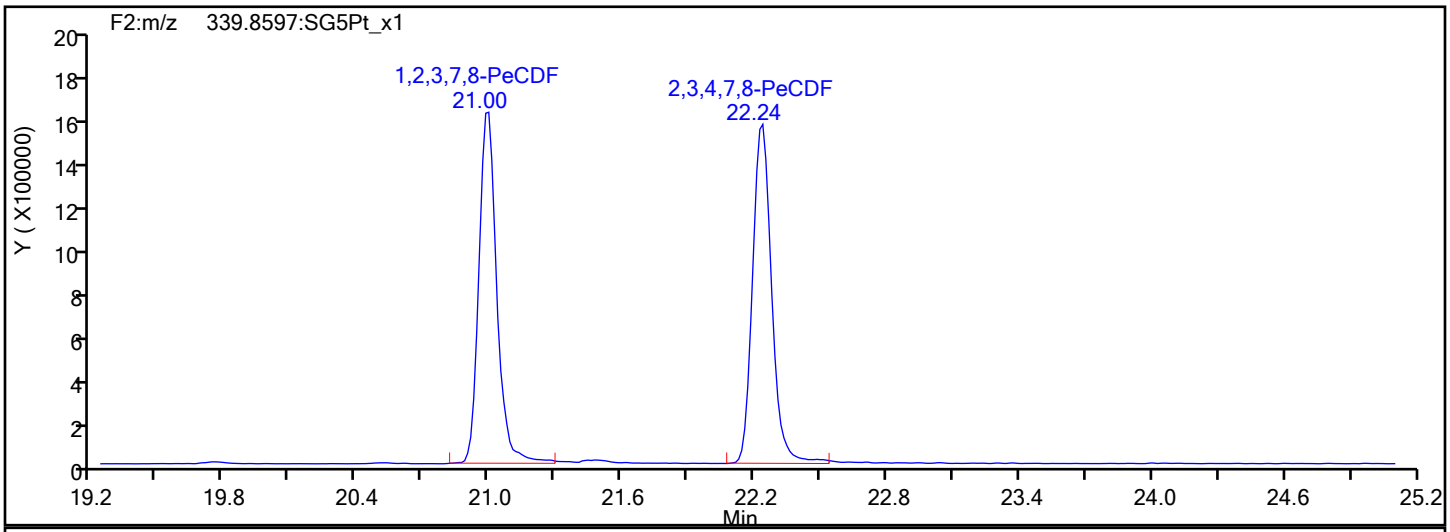

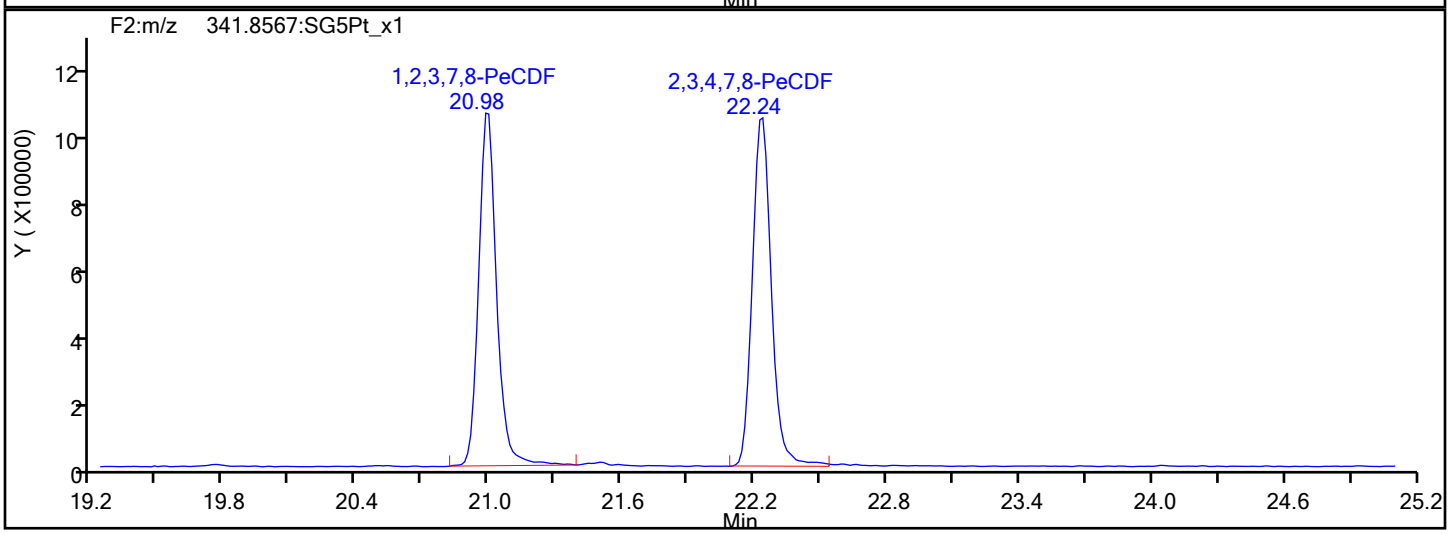

PeCDF Interference Mass

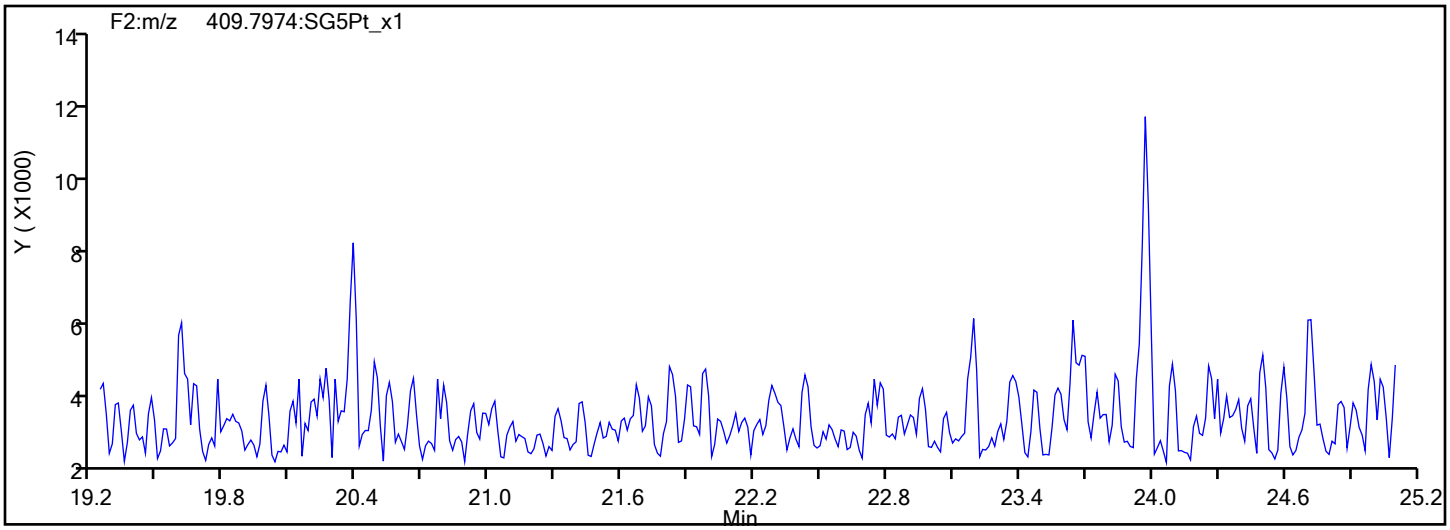

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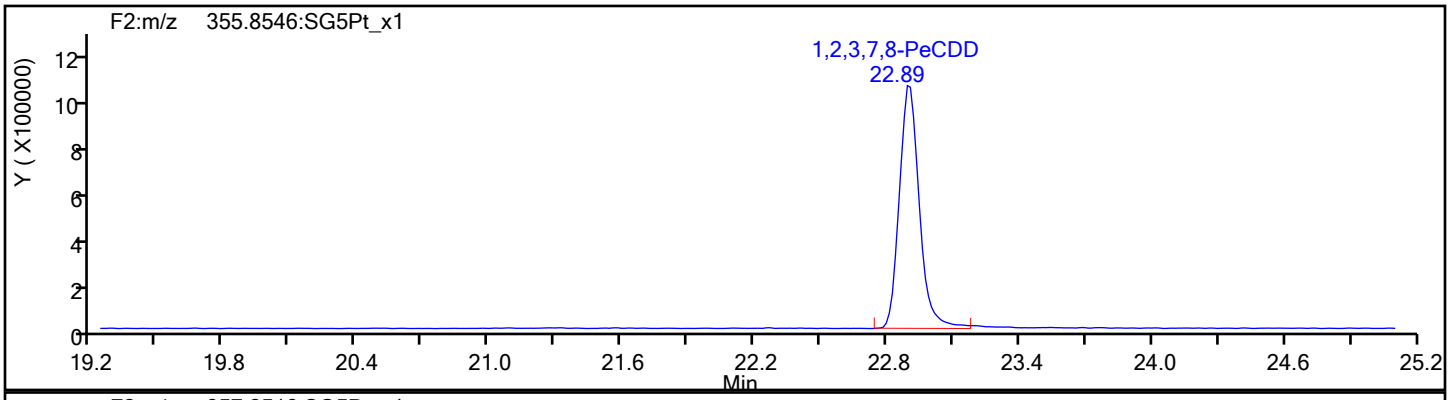

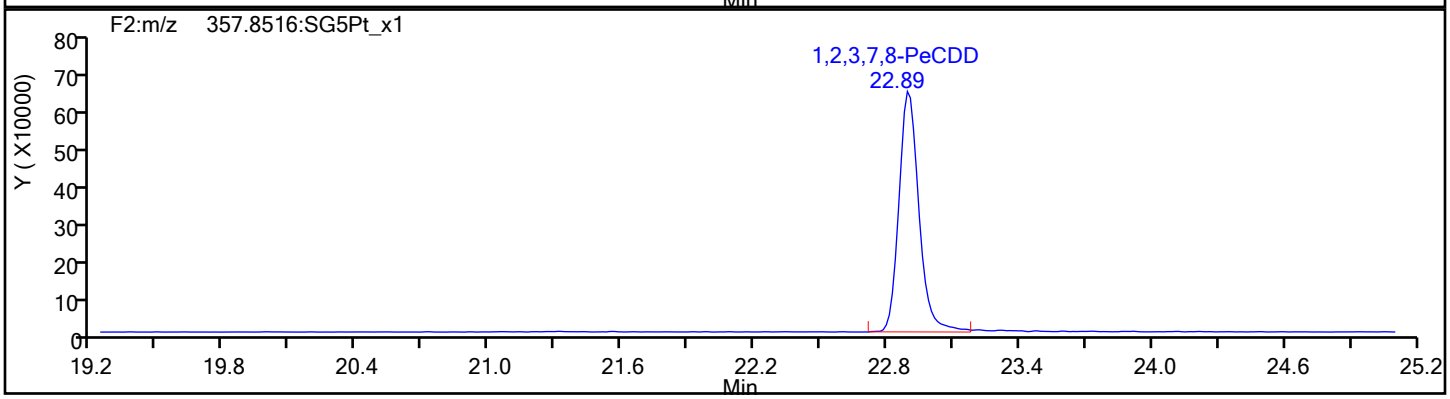

PeCDD Standards

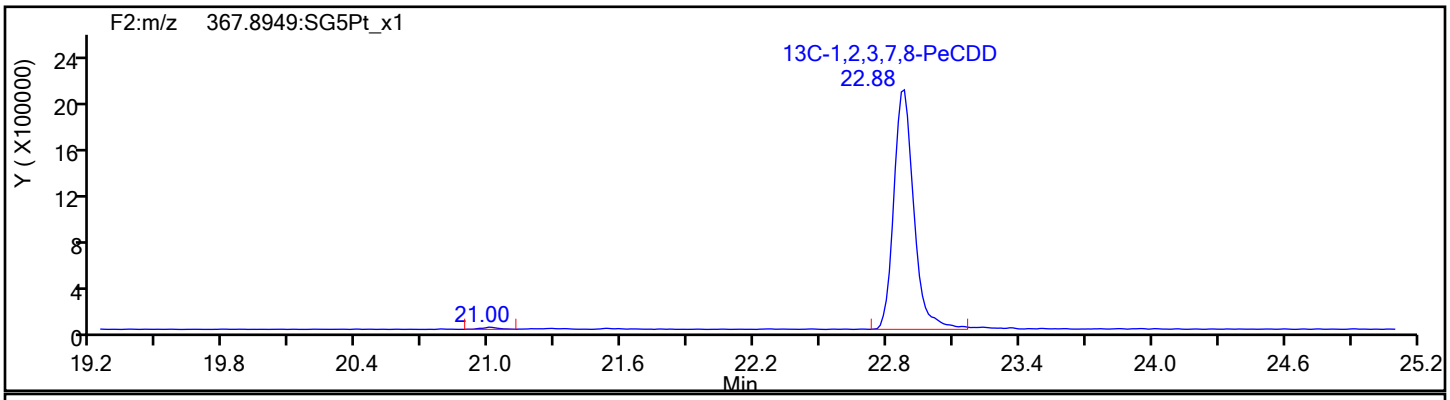

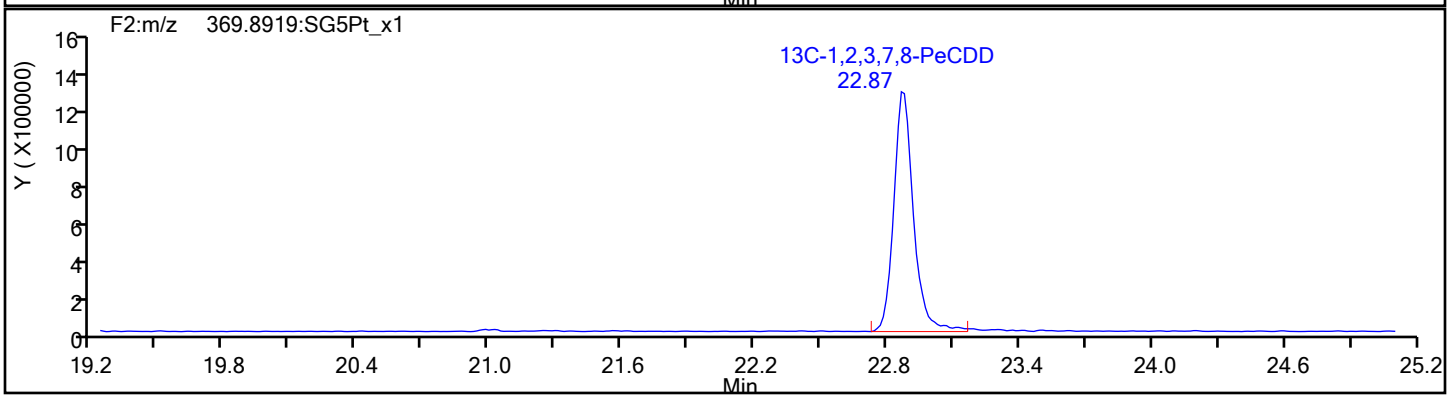

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Eurofins TestAmerica, Sacramento

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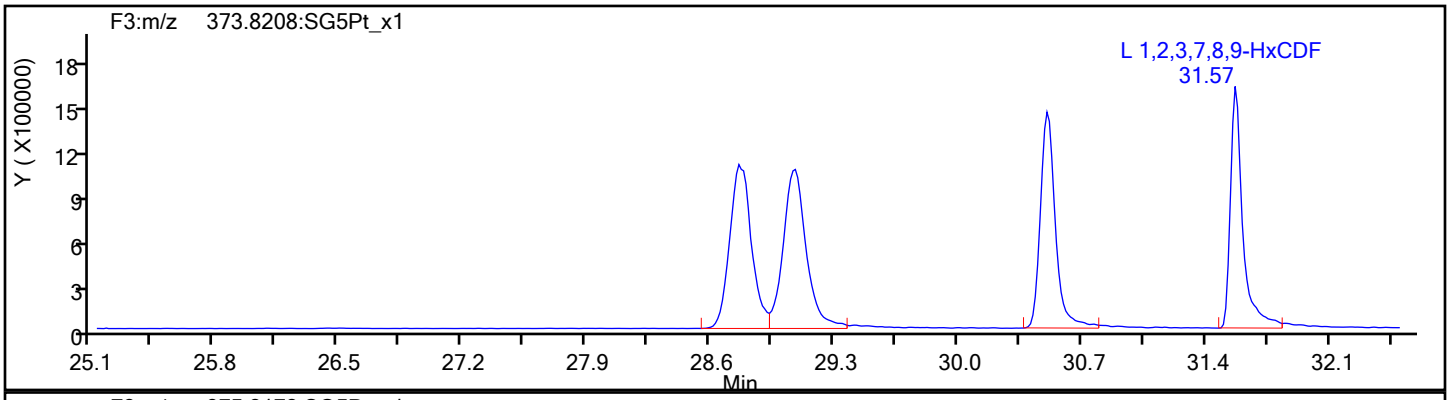

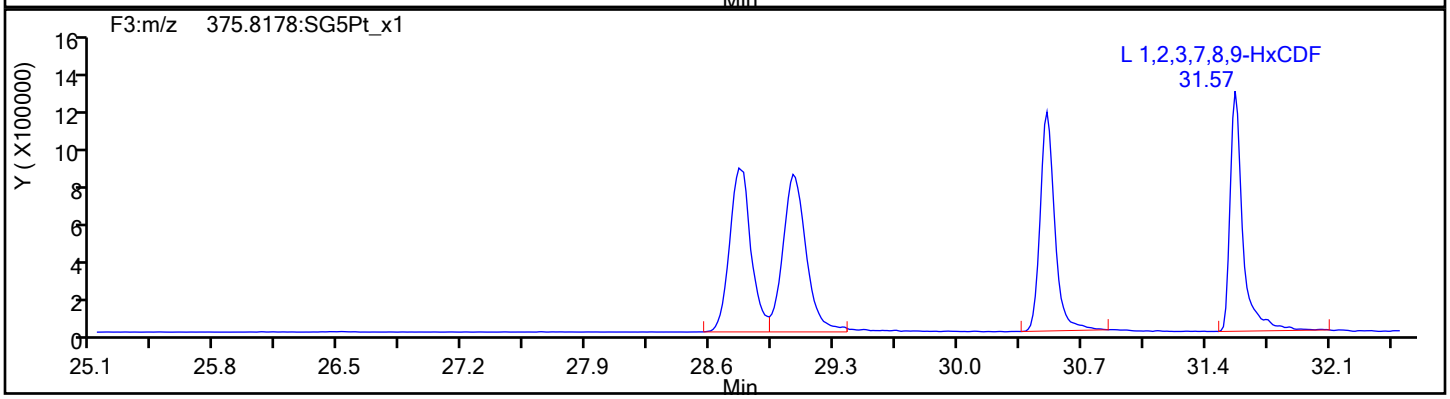

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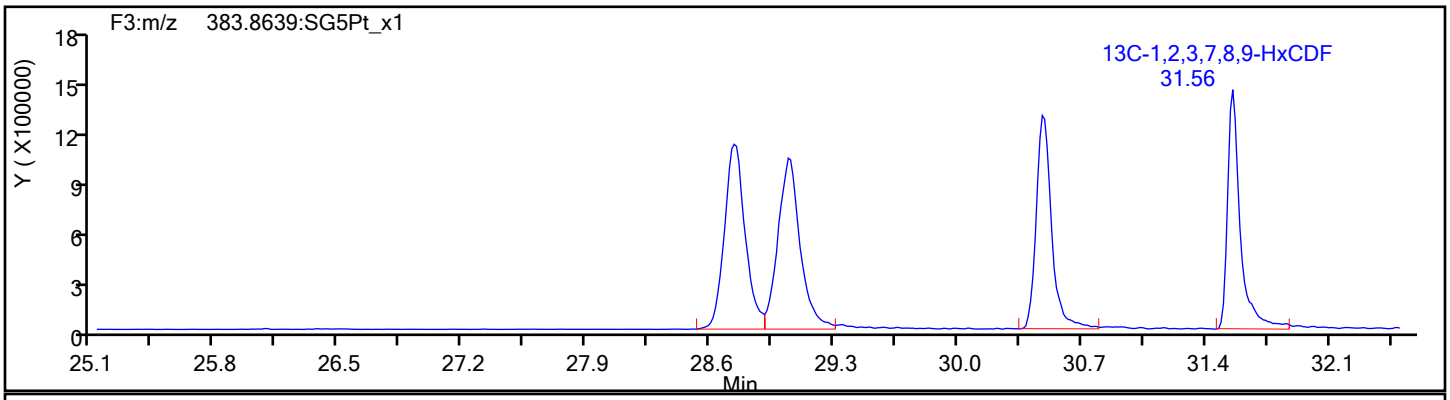

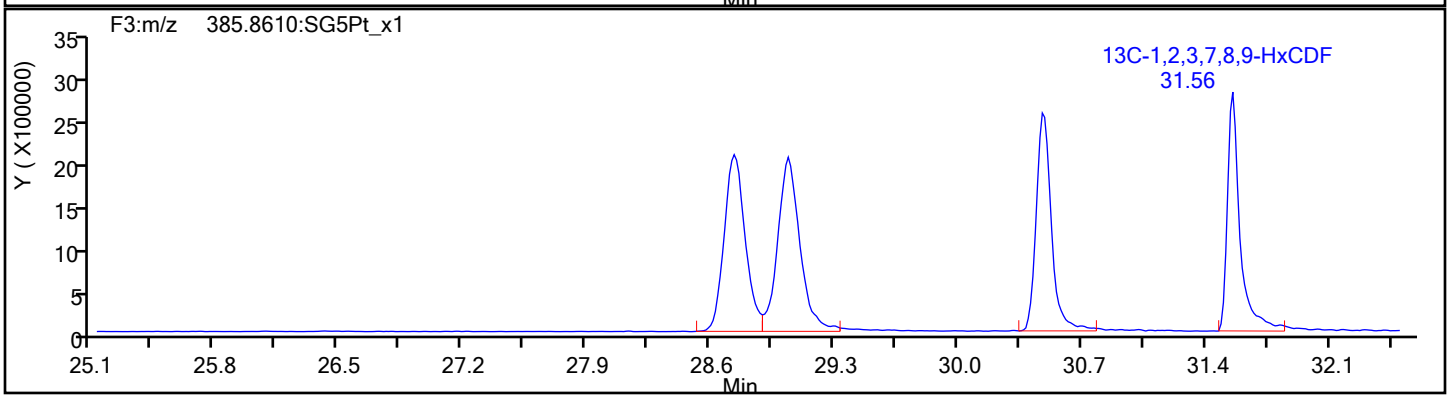

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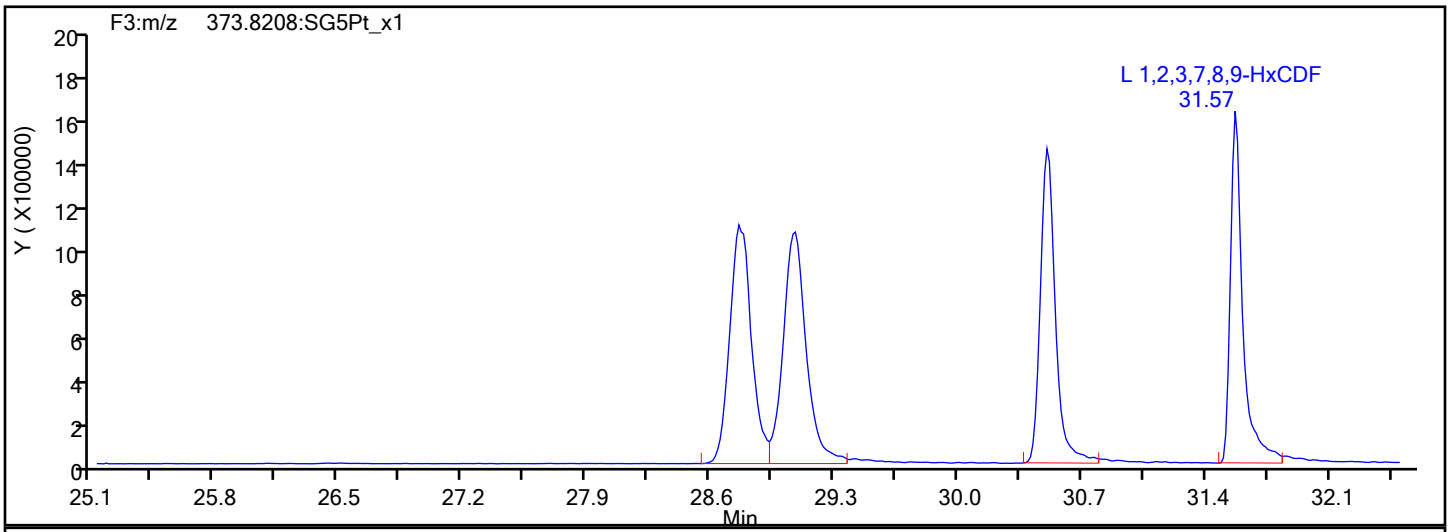

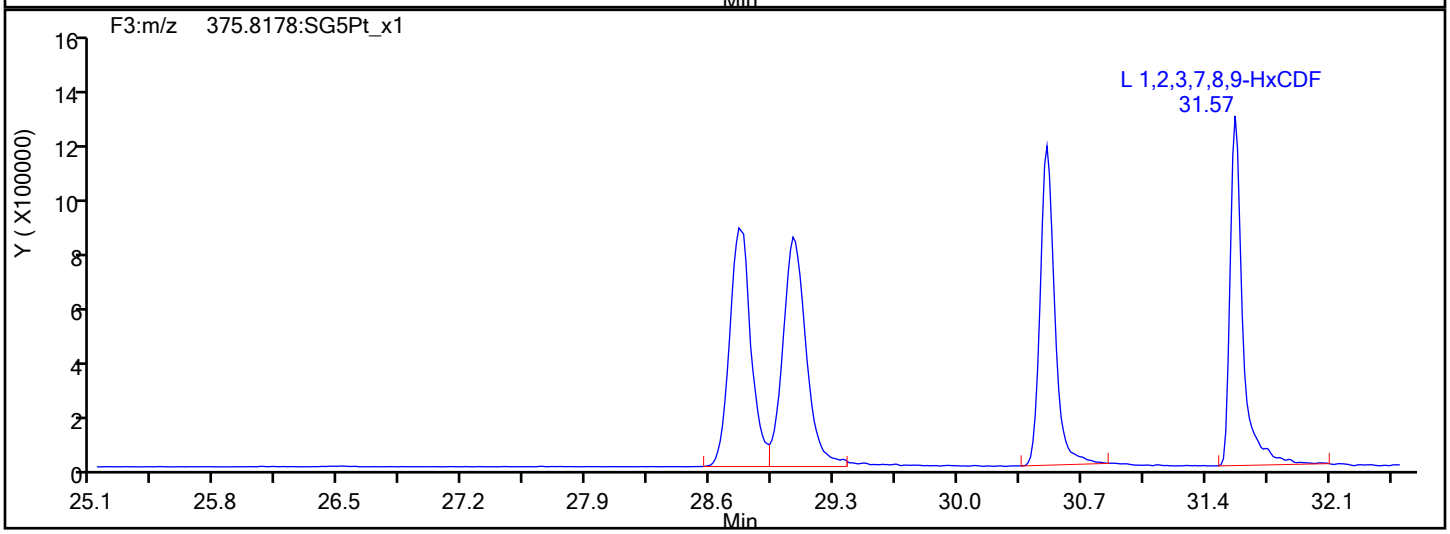

HxCDF Interference Mass

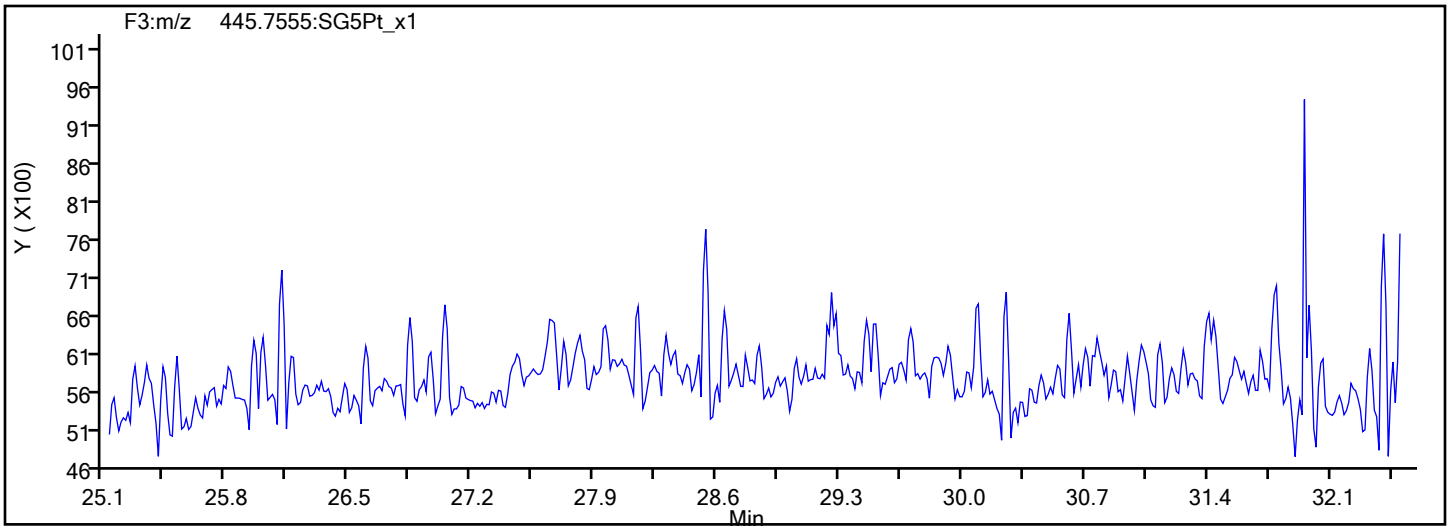

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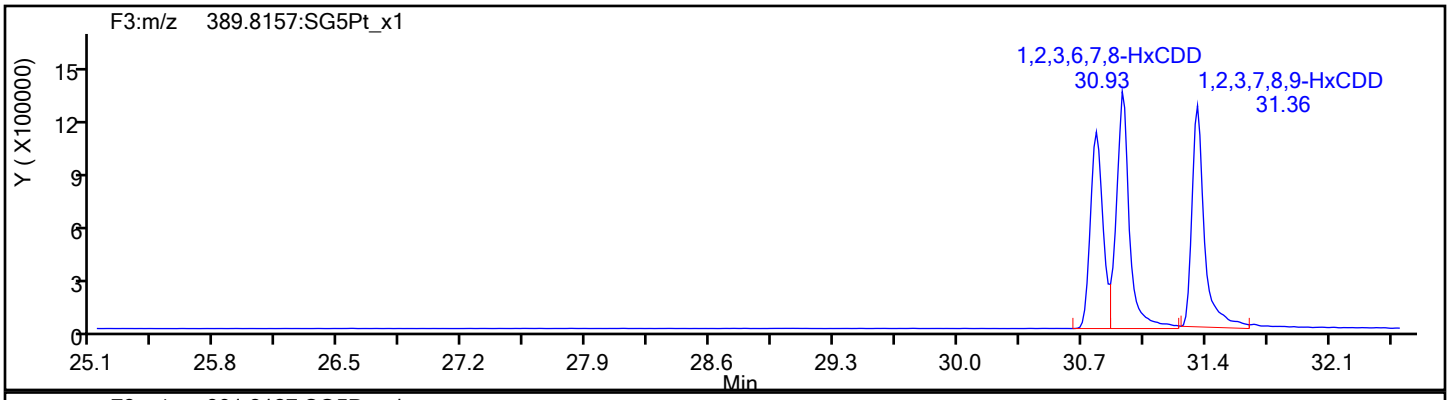

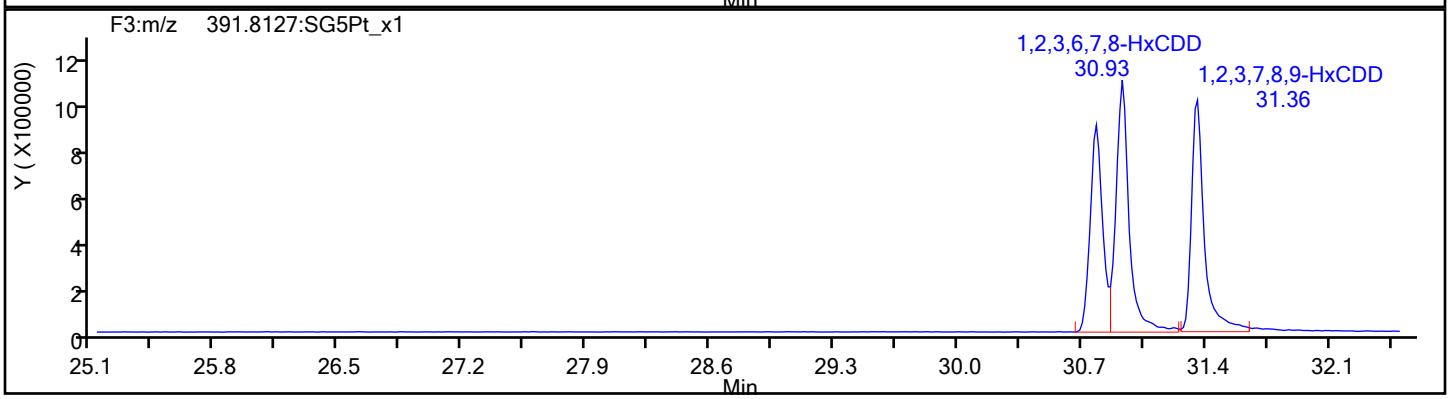

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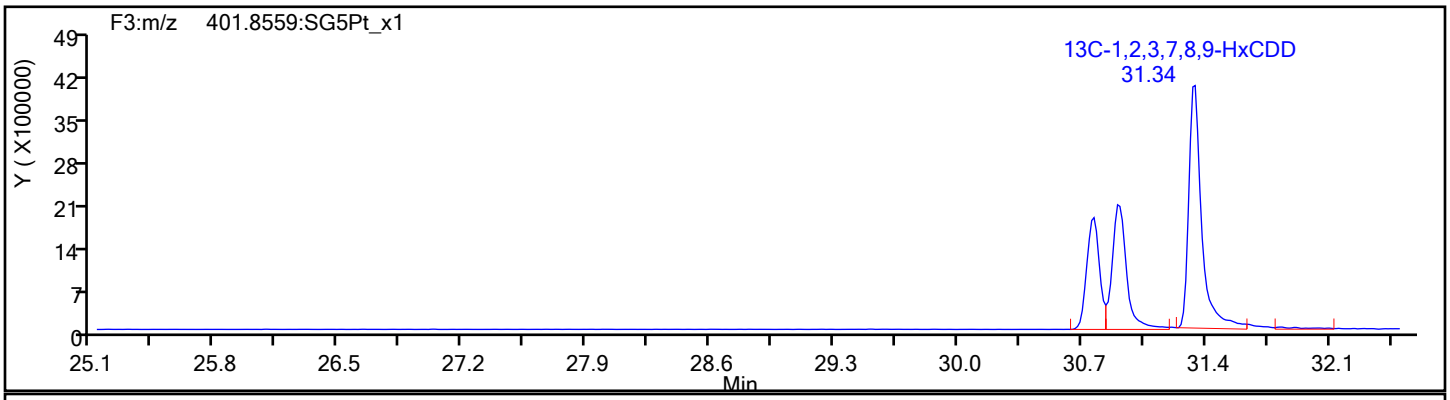

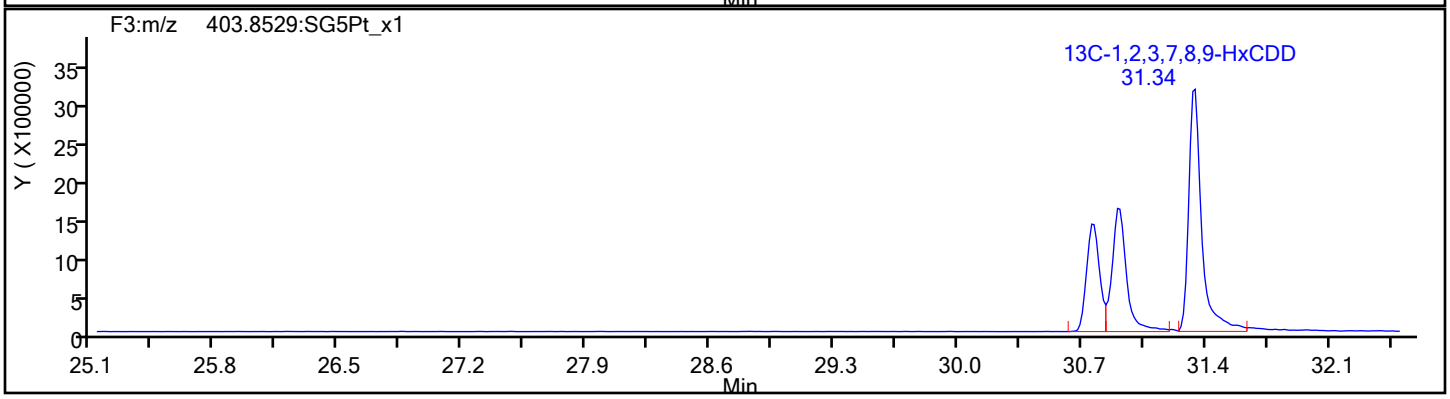

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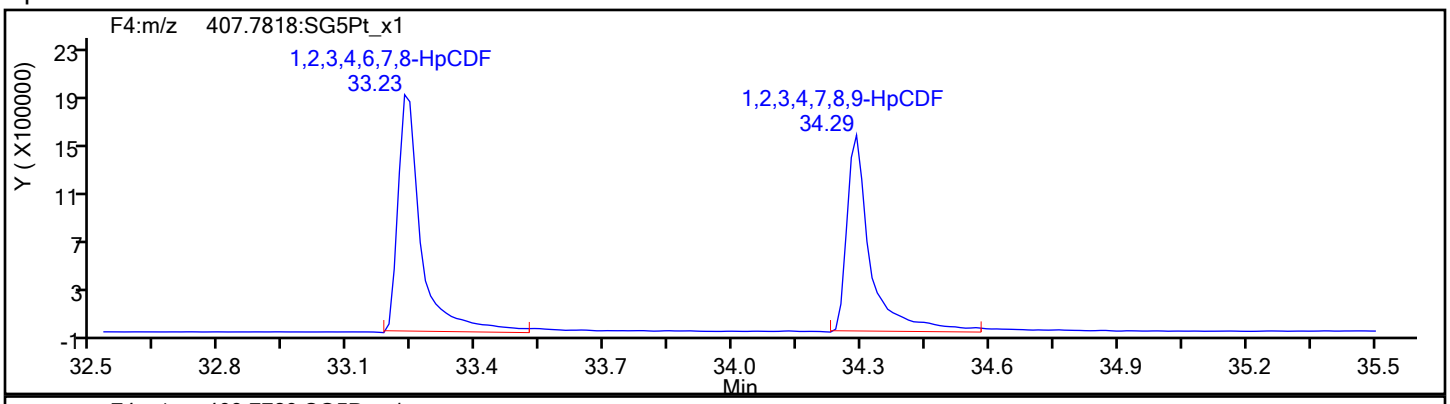

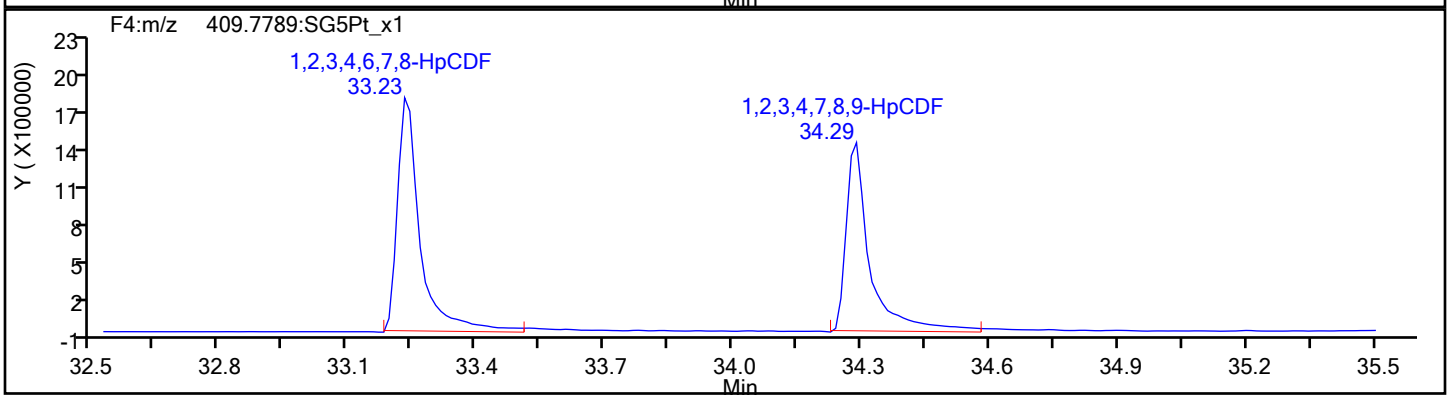

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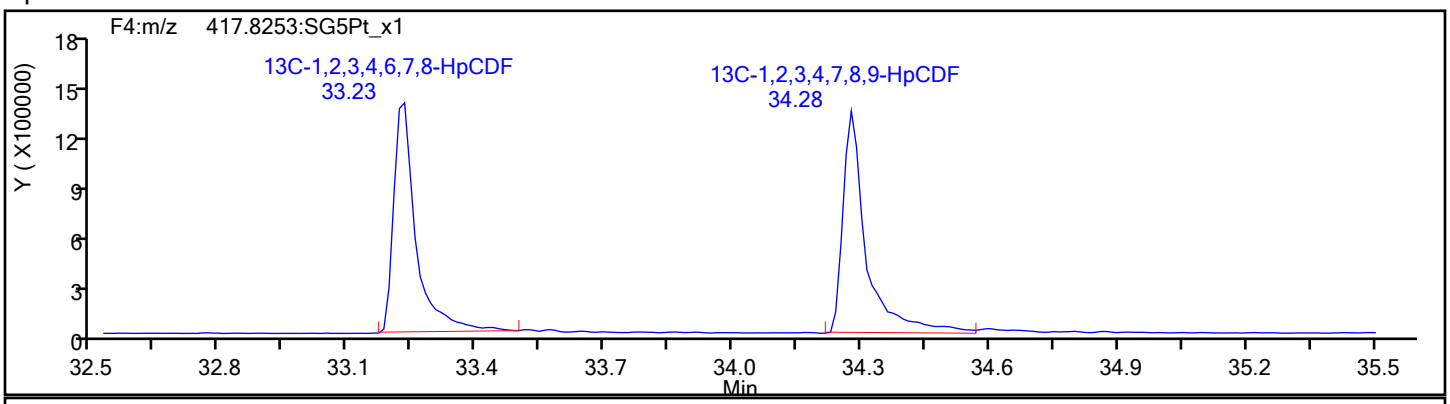

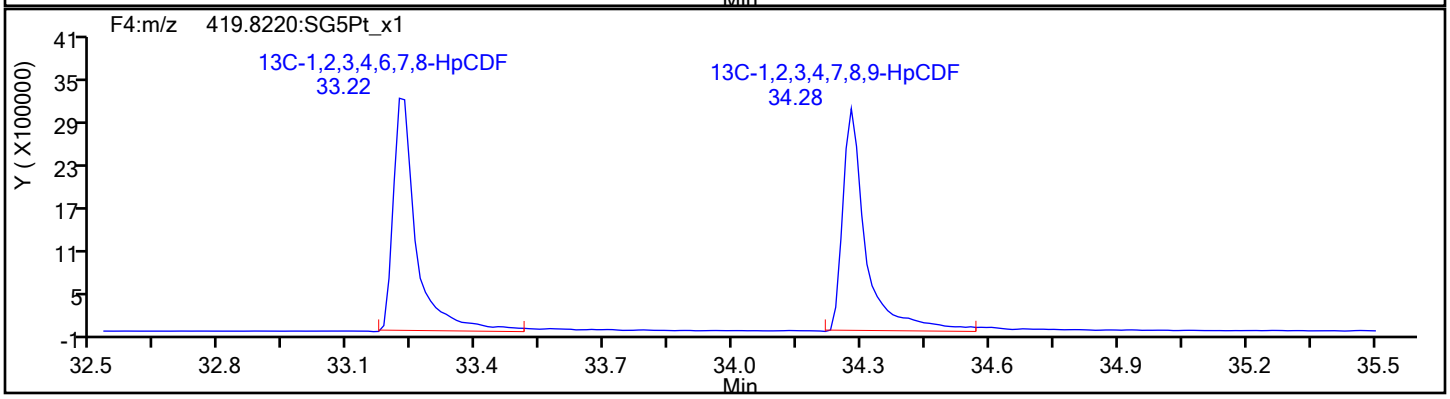

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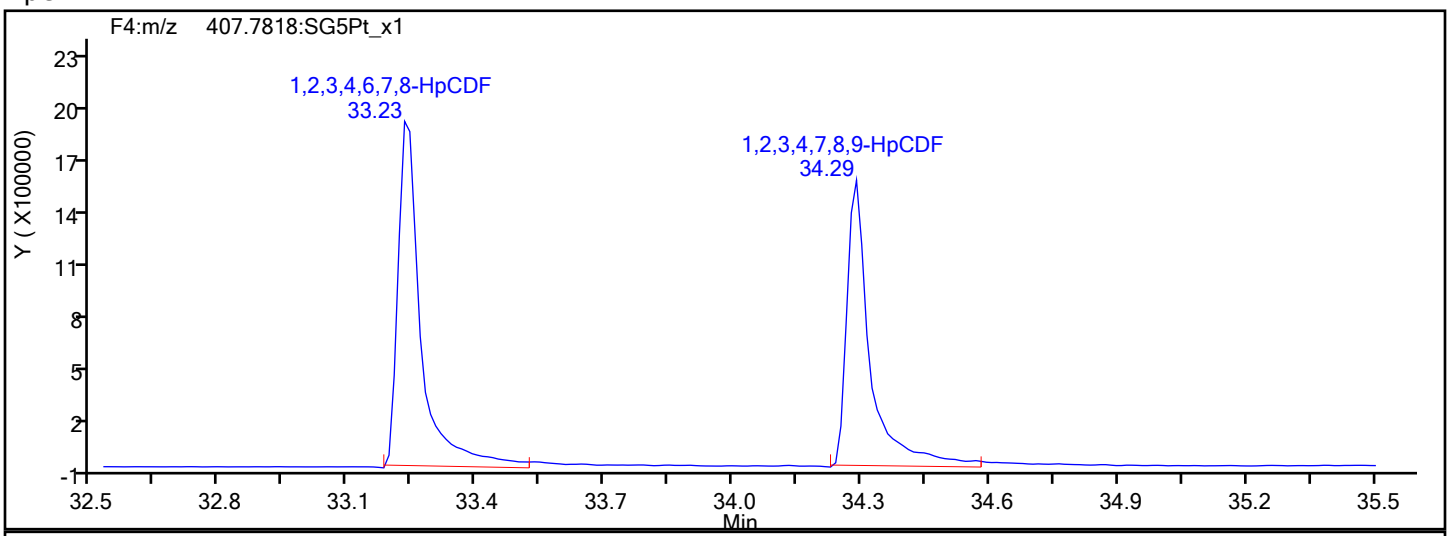

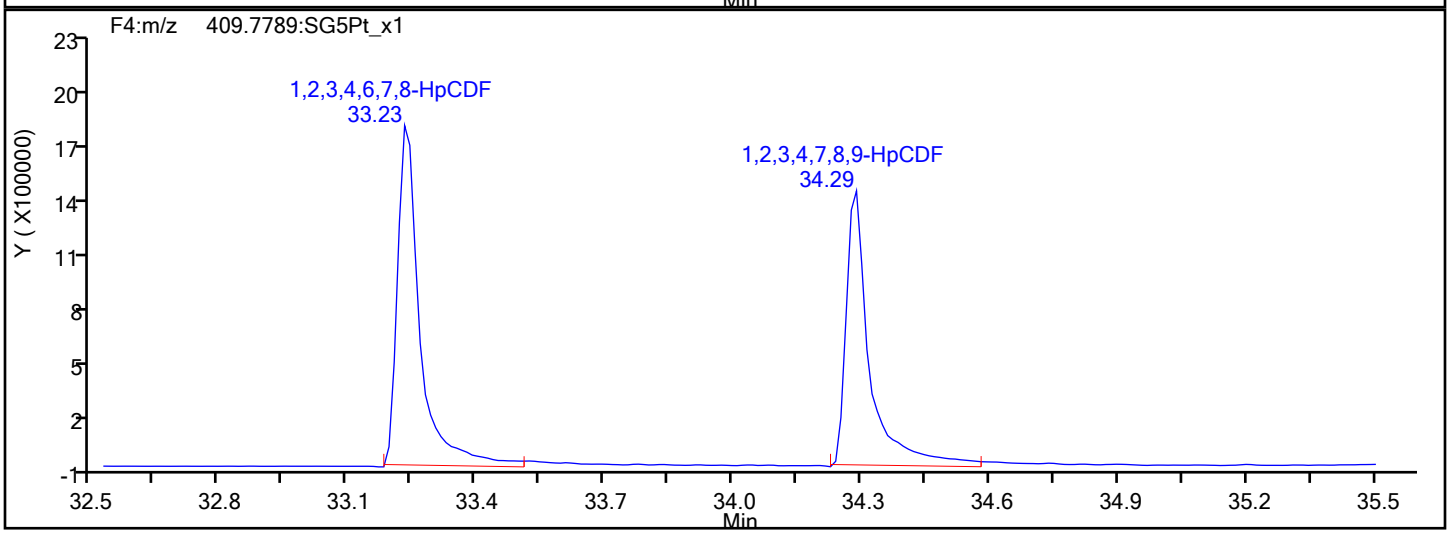

HpCDF Interference Mass

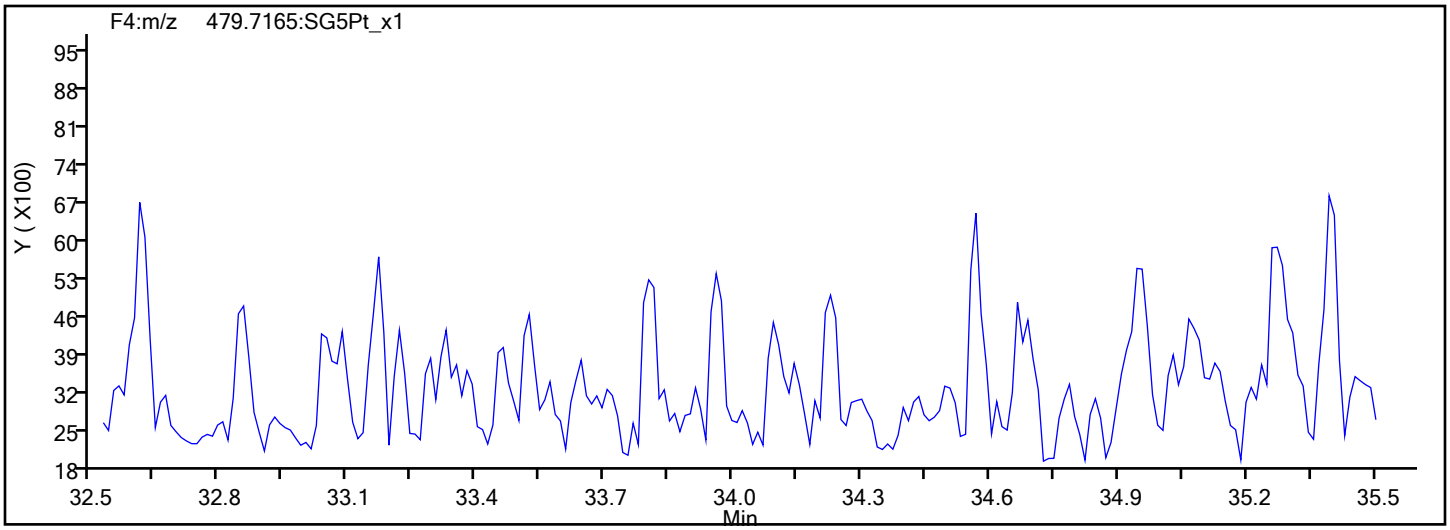

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Eurofins TestAmerica, Sacramento

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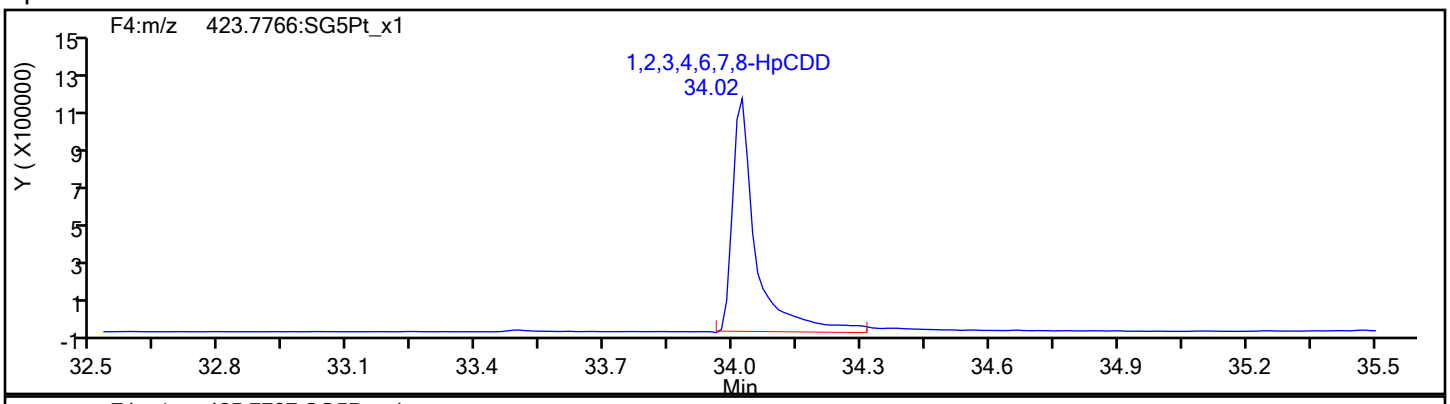

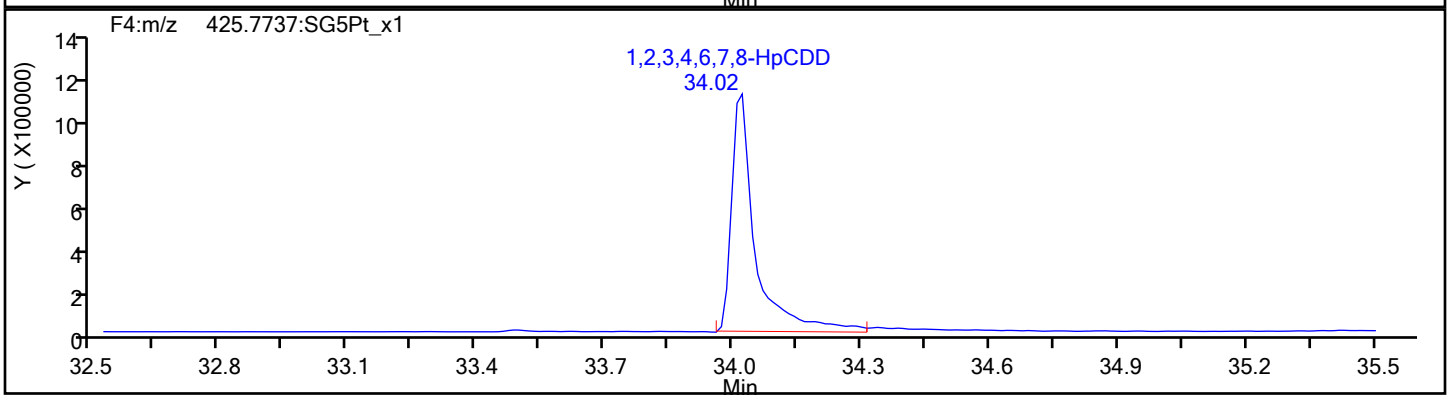

HpCDD Standards

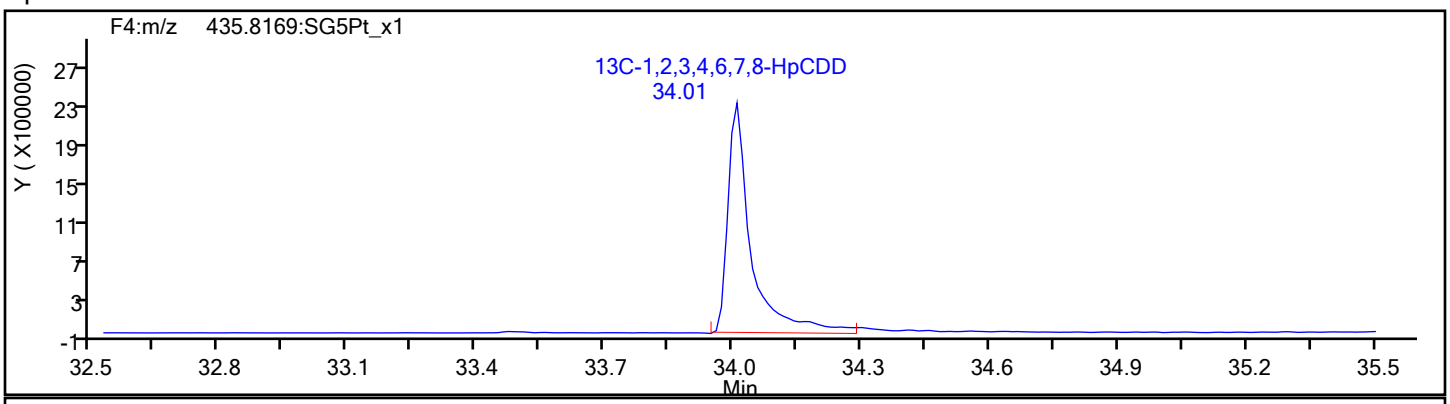

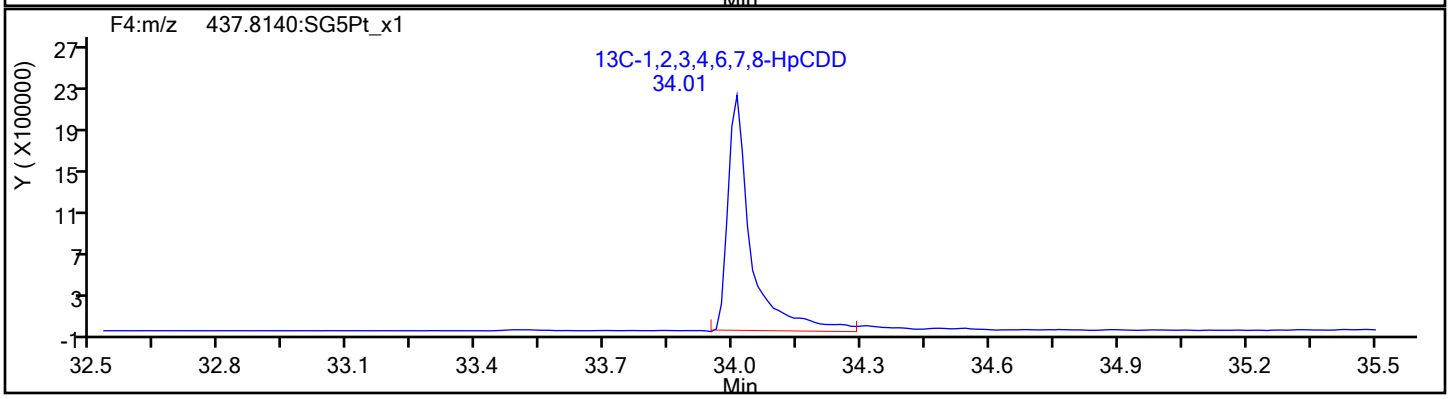

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OCDF

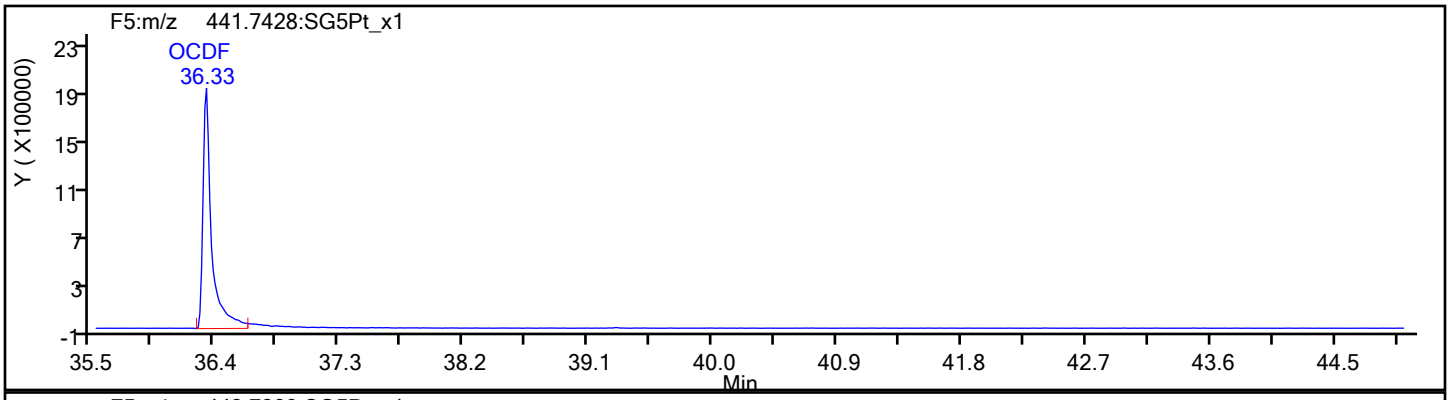

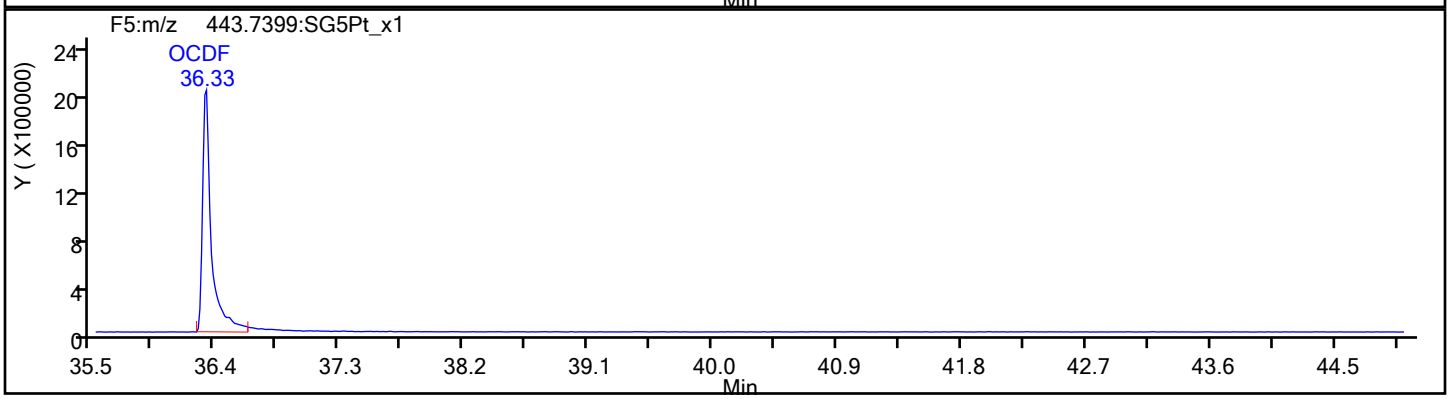

OCDF Standards

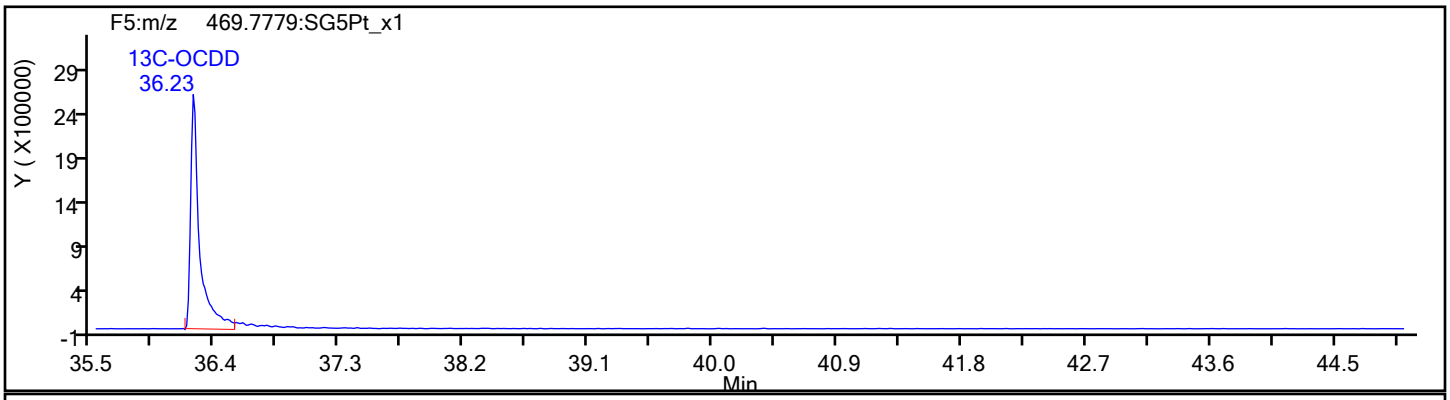

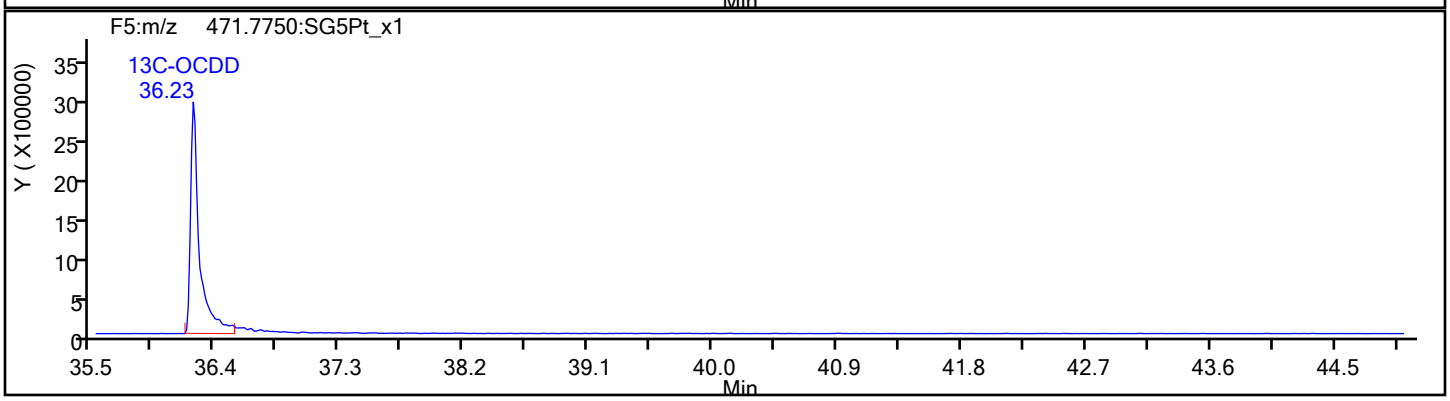

Report Date: 07-Oct-2019 08:51:04 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_18.d		
Injection Date:	04-Oct-2019 01:20:44	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	18
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

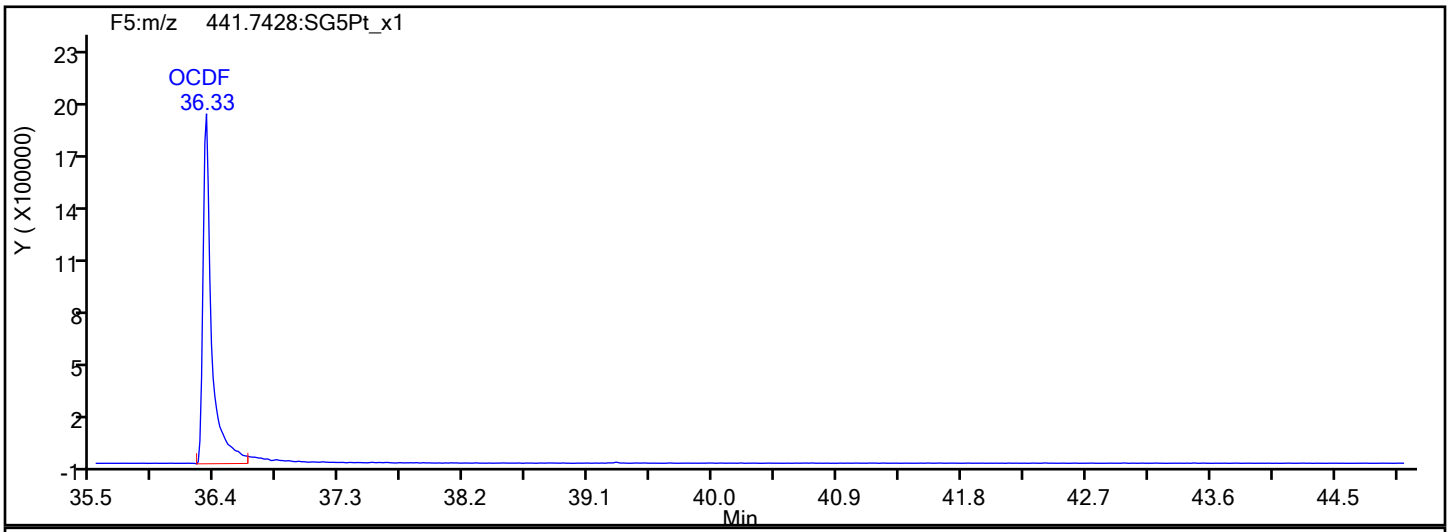

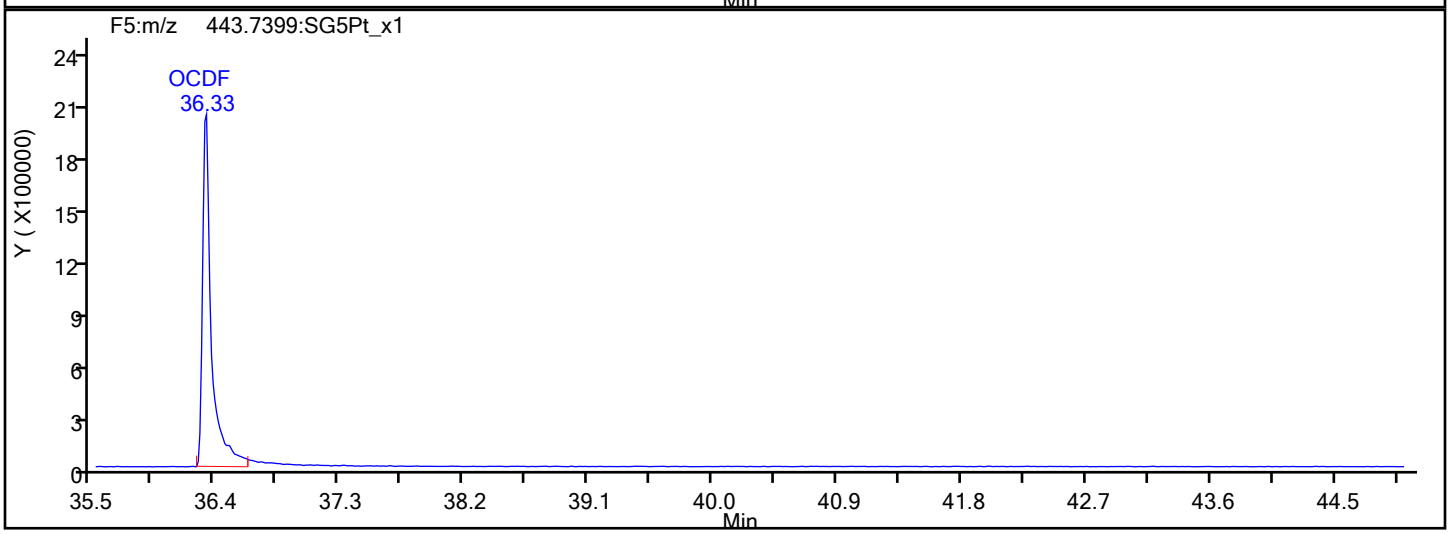

OCDF Interference Mass

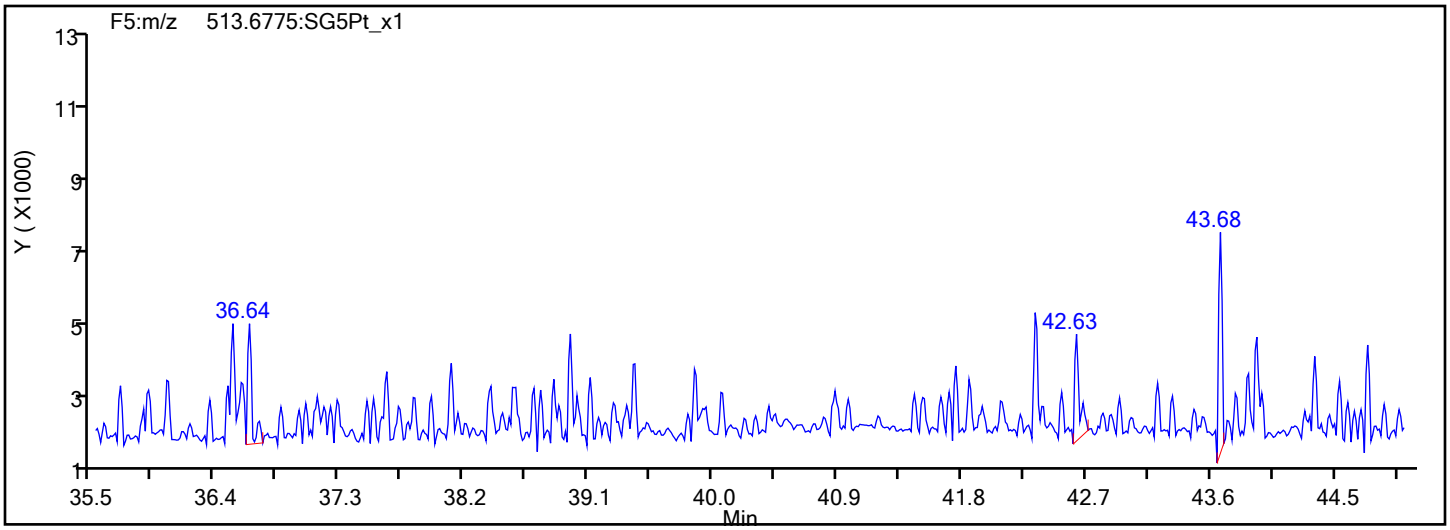

Report Date: 07-Oct-2019 08:51:04 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_18.d		
Injection Date:	04-Oct-2019 01:20:44	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	18
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

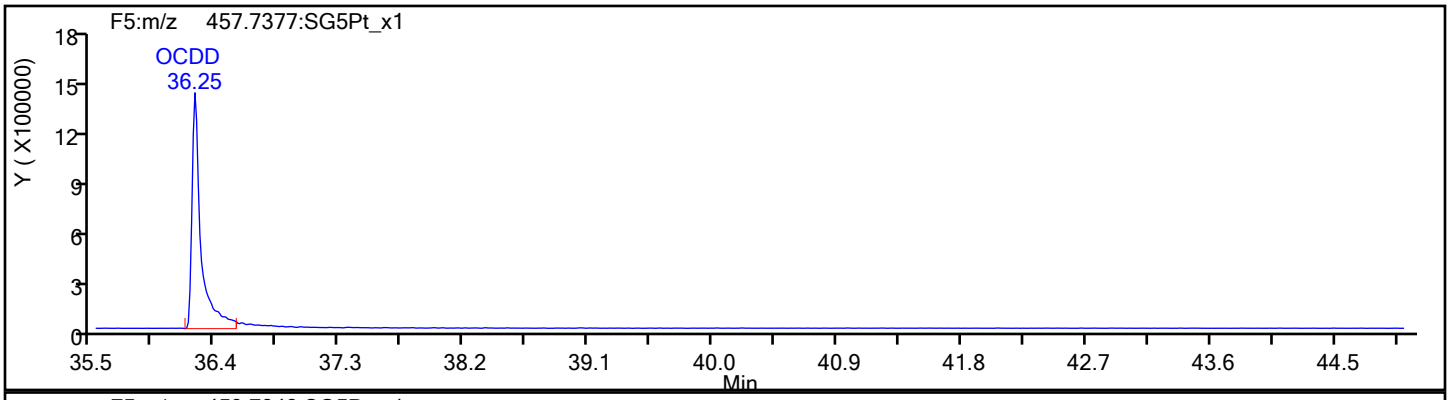

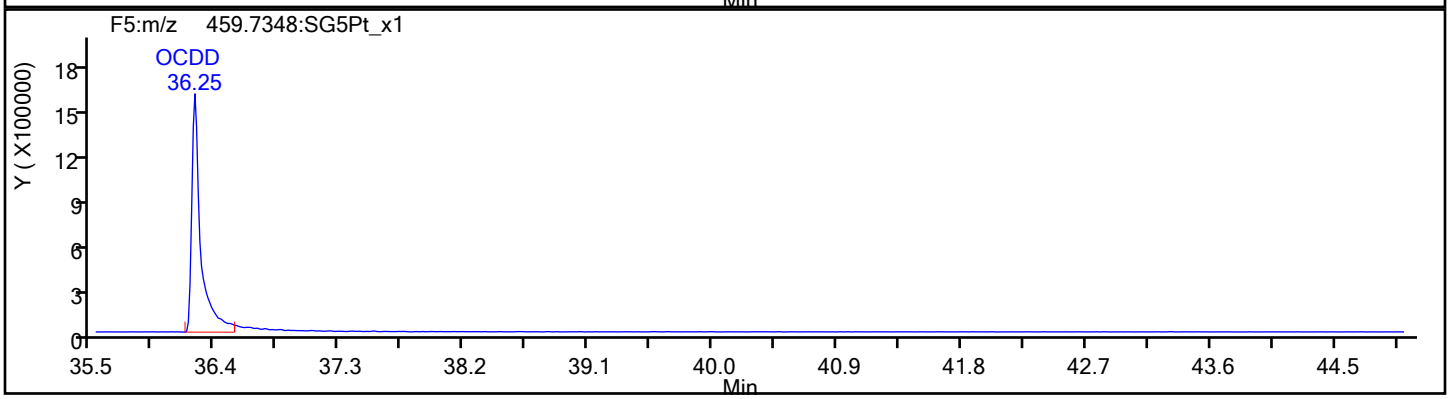

OCDD Standards

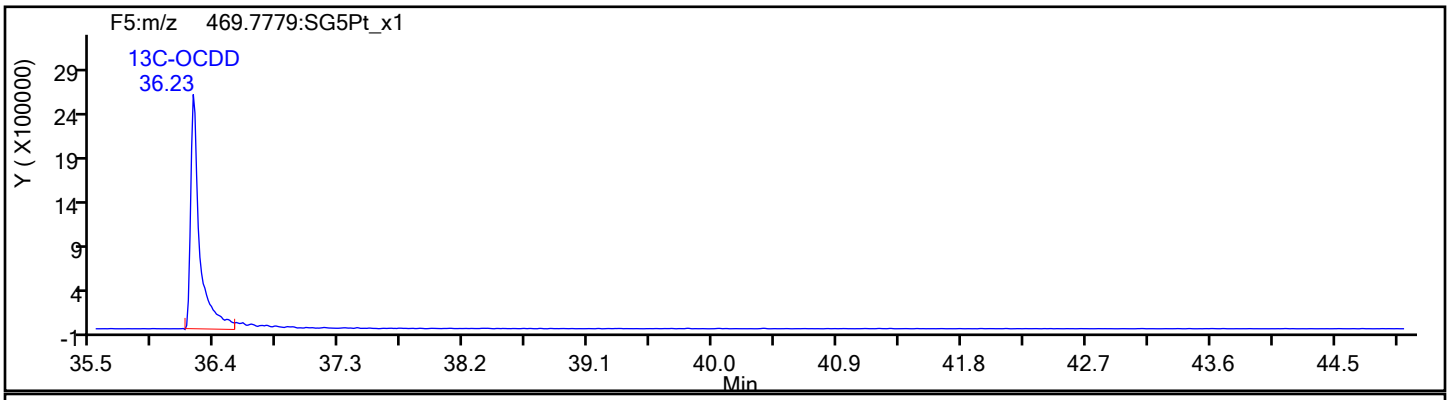

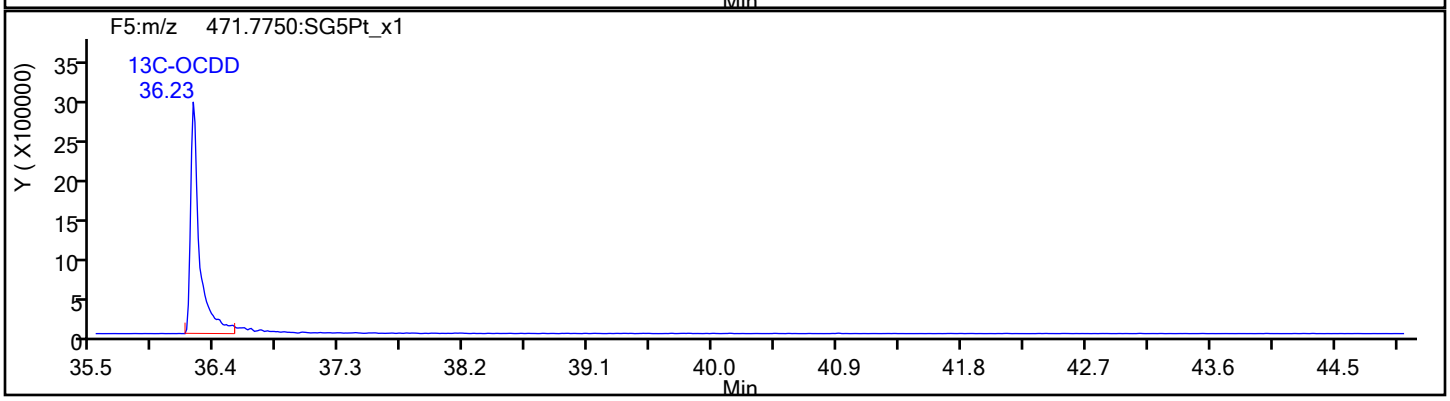

Report Date: 07-Oct-2019 08:51:04 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_18.d		
Injection Date:	04-Oct-2019 01:20:44	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	18
Column Type:	DB-5	Column Dia:	0.32 mm

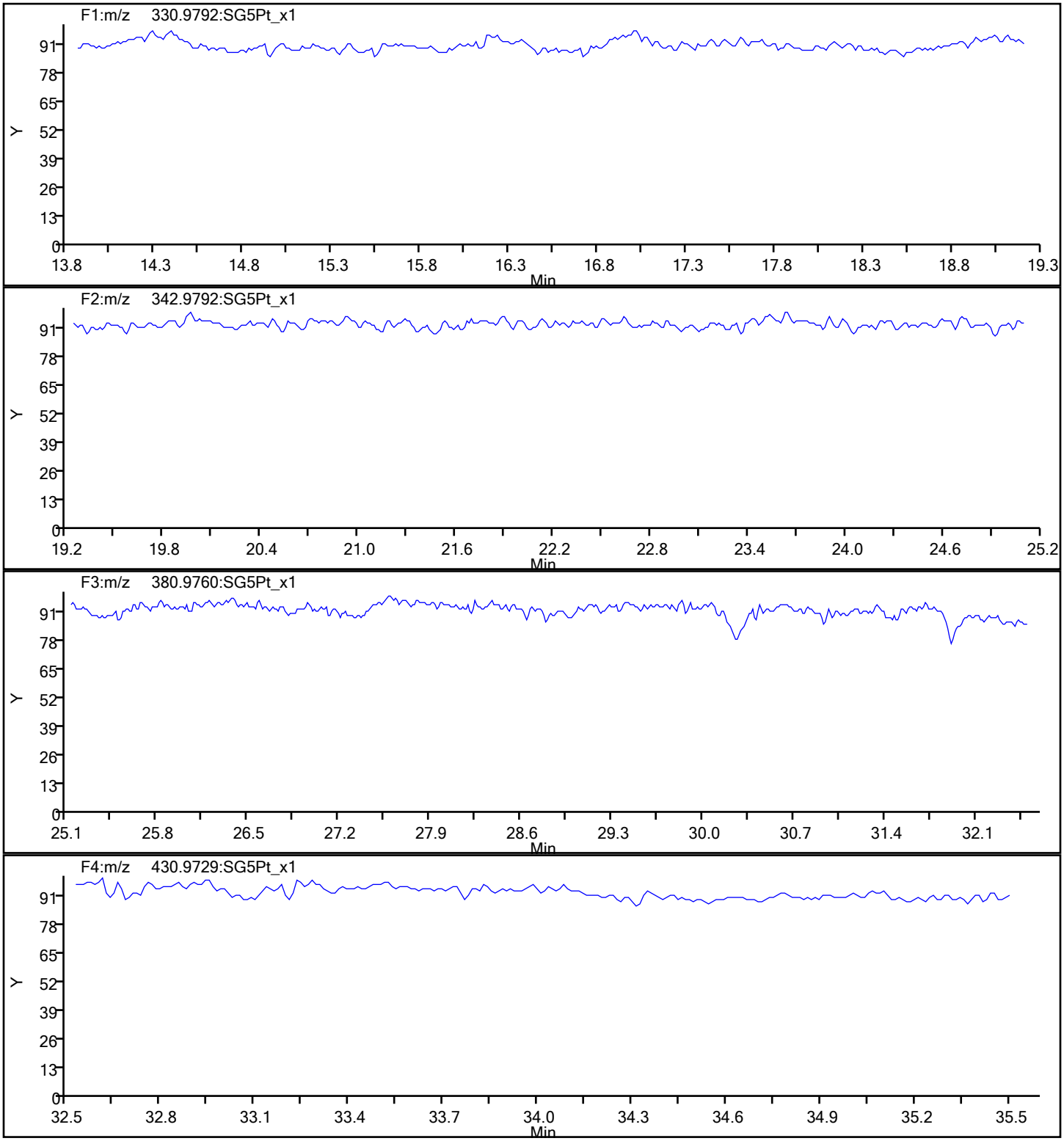

Report Date: 07-Oct-2019 08:51:04 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191003-84271.b\03OC1910D5_18.d		
Injection Date:	04-Oct-2019 01:20:44	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	328202	Sample Line#:	18
Column Type:	DB-5	Column Dia:	0.32 mm

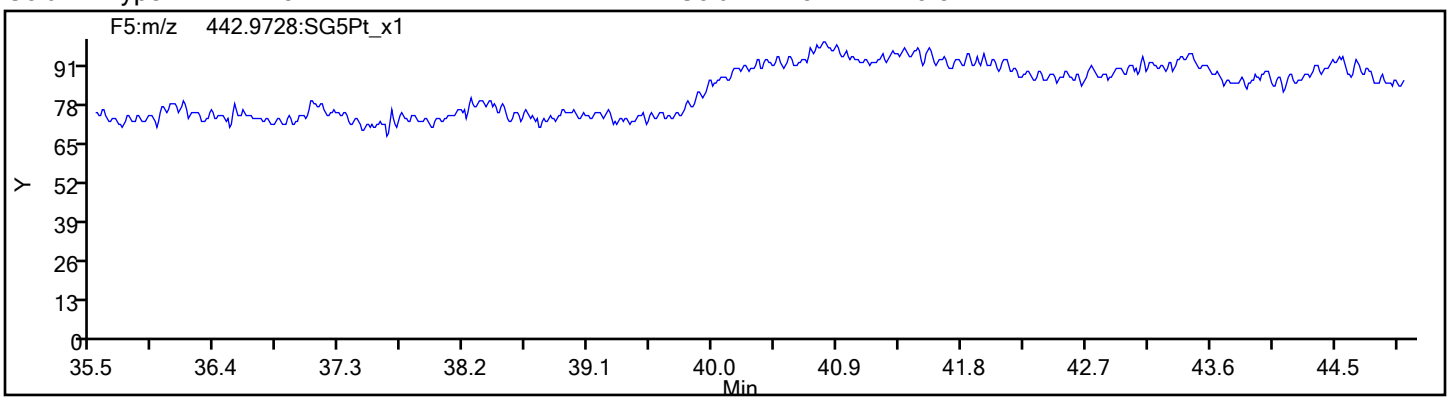

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Instrument ID: 11D2 Start Date: 08/02/2019 01:35

Analysis Batch Number: 312067 End Date: 08/02/2019 06:03

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CPS 320-312067/1		08/02/2019 01:35	1	02AU1911D2_001.d	DB-225 0.32(mm)
IC 320-312067/3		08/02/2019 02:52	1	02AU1911D2_003.d	DB-225 0.32(mm)
IC 320-312067/4		08/02/2019 03:30	1	02AU1911D2_004.d	DB-225 0.32(mm)
IC 320-312067/5		08/02/2019 04:08	1	02AU1911D2_005.d	DB-225 0.32(mm)
IC 320-312067/6		08/02/2019 04:46	1	02AU1911D2_006.d	DB-225 0.32(mm)
IC 320-312067/7		08/02/2019 05:25	1	02AU1911D2_007.d	DB-225 0.32(mm)
ICV 320-312067/8		08/02/2019 06:03	1	02AU1911D2_008.d	DB-225 0.32(mm)

1613B

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Instrument ID: 10D5 Start Date: 09/17/2019 11:28

Analysis Batch Number: 324128 End Date: 09/17/2019 18:27

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
WDM 320-324128/1		09/17/2019 11:28	1	17SE1910D5_1.d	DB-5 0.32(mm)
IC 320-324128/3		09/17/2019 13:03	1	17SE1910D5_3.d	DB-5 0.32(mm)
IC 320-324128/4		09/17/2019 13:49	1	17SE1910D5_4.d	DB-5 0.32(mm)
IC 320-324128/6		09/17/2019 15:21	1	17SE1910D5_6.d	DB-5 0.32(mm)
IC 320-324128/7		09/17/2019 16:09	1	17SE1910D5_7.d	DB-5 0.32(mm)
IC 320-324128/8		09/17/2019 16:55	1	17SE1910D5_8.d	DB-5 0.32(mm)
ICV 320-324128/10		09/17/2019 18:27	1	17SE1910D5_10.d	DB-5 0.32(mm)

1613B

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Instrument ID: 10D5 Start Date: 10/03/2019 21:01

Analysis Batch Number: 328202 End Date: 10/04/2019 06:42

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 320-328202/13		10/03/2019 21:01	1	03OC1910D5_13.d	DB-5 0.32(mm)
WDM 320-328202/14		10/03/2019 21:59	1	03OC1910D5_14.d	DB-5 0.32(mm)
MB 320-327320/1-A		10/03/2019 23:48	1	03OC1910D5_16.d	DB-5 0.32(mm)
LCS 320-327320/2-A		10/04/2019 00:34	1	03OC1910D5_17.d	DB-5 0.32(mm)
LCSD 320-327320/3-A		10/04/2019 01:20	1	03OC1910D5_18.d	DB-5 0.32(mm)
180-96144-1		10/04/2019 02:06	1	03OC1910D5_19.d	DB-5 0.32(mm)
ZZZZZ		10/04/2019 06:42	1		DB-5 0.32(mm)

1613B

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Instrument ID: 11D2 Start Date: 10/10/2019 13:33

Analysis Batch Number: 330101 End Date: 10/10/2019 21:51

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CPS 320-330101/1		10/10/2019 13:33	1	10OC1911D2_001.d	DB-225 0.32(mm)
CCV 320-330101/2		10/10/2019 14:11	1	10OC1911D2_002.d	DB-225 0.32(mm)
180-96144-1 RA		10/10/2019 21:13	2	10OC1911D2_013.d	DB-225 0.32(mm)
ZZZZZ		10/10/2019 21:51	2		DB-225 0.32(mm)

1613B

DIOXIN BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Sacramen Job No.: 180-96144-1

SDG No.:

Batch Number: 327320 Batch Start Date: 09/30/19 11:45 Batch Analyst: Ruiz, Noe I

Batch Method: 1613B Batch End Date: 10/03/19 12:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	ExtractionID	RotoVapID
MB 320-327320/1		1613B, 1613B				1000 mL	20 uL	SS1-1	8
LCS 320-327320/2		1613B, 1613B				1000 mL	20 uL	SS1-2	6
LCSD 320-327320/3		1613B, 1613B				1000 mL	20 uL	SS1-3	8
180-96144-C-1	11187072-CONTACT -INITIAL	1613B, 1613B	T	1562.22 g	517.19 g	1045 mL	20 uL	SS1-4	6

Lab Sample ID	Client Sample ID	Method Chain	Basis	HRDXNIDA 00390	HRDXNIS 00117	HRDXNSU 00220	HRDXNTA 00116		
MB 320-327320/1		1613B, 1613B		1 mL	20 uL	1 mL			
LCS 320-327320/2		1613B, 1613B		1 mL	20 uL	1 mL	50 uL		
LCSD 320-327320/3		1613B, 1613B		1 mL	20 uL	1 mL	50 uL		
180-96144-C-1	11187072-CONTACT -INITIAL	1613B, 1613B	T	1 mL	20 uL	1 mL			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

DIOXIN BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Sacramen Job No.: 180-96144-1

SDG No.:

Batch Number: 327320 Batch Start Date: 09/30/19 11:45 Batch Analyst: Ruiz, Noe I

Batch Method: 1613B Batch End Date: 10/03/19 12:00

Batch Notes	
20% DCM:Hexane ID	1740986 mL
65% DCM:Hexane ID	1738173 mL
Acid Silica Gel ID	1762362
Acid Alumina ID	18X
Balance ID	QA-74
C14 ID	STBJ0716
Hexane ID	0000226435 mL
IFB Clean Up	TGL 10/03/19
MeCL2 ID	0000234774 mL
Na2SO4 ID	0000220237
Analyst ID - IDA Reagent Drop	TGL 09/30/19 HD05018 B 1/4
Analyst ID - IDA Reagent Drop Witness	NR 09/30/19
Analyst ID - IS Reagent Drop	TGL 10/03/19 DB15270 B 4/4
Analyst ID - IS Reagent Drop Witness	GLB 10/03/19
Analyst ID - SU Reagent Drop	TGL 10/03/19 HD05018 B 1/4
Analyst ID - SU Reagent Drop Witness	GLB 10/03/19
Analyst ID - TA Reagent Drop	TGL 09/30/19 DB15270 B 4/10
Analyst ID - TA Reagent Drop Witness	NR 09/30/19
Silica Gel ID	1756094
Soxhlet/Soxtherm End	NR 09/30/19 19:00
Soxhlet/Soxtherm Start	NR 09/30/19 16:00
Storage Box ID	DXN-96
Toluene ID	0000219926 mL

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS

COVER PAGE
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job Number: 180-96144-1

SDG No.:

Project: San Jacinto River Waste Pits Superfund

Client Sample ID	Lab Sample ID
11187072-CONTACT-INITIAL	180-96144-1

Comments:

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: 11187072-CONTACT-INITIAL
Lab Sample ID: 180-96144-1
Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 180-96144-1
SDG ID.:
Matrix: Water
Date Sampled: 09/24/2019 15:00
Reporting Basis: WET
Date Received: 09/25/2019 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-22-4	Silver	ND	0.0050	0.00084	mg/L			1	6010C
7429-90-5	Aluminum	ND	0.20	0.048	mg/L			1	6010C
7440-38-2	Arsenic	ND	0.020	0.012	mg/L			1	6010C
7440-39-3	Barium	0.17	0.0050	0.0025	mg/L			1	6010C
7440-41-7	Beryllium	0.00037	0.0020	0.00030	mg/L	J		1	6010C
7440-70-2	Calcium	35	0.50	0.050	mg/L		B	1	6010C
7440-43-9	Cadmium	ND	0.0020	0.00050	mg/L			1	6010C
7440-48-4	Cobalt	ND	0.0050	0.0030	mg/L			1	6010C
7440-47-3	Chromium	ND	0.0080	0.0012	mg/L			1	6010C
7440-50-8	Copper	0.011	0.010	0.0021	mg/L		B	1	6010C
7439-89-6	Iron	0.022	0.10	0.020	mg/L	J		1	6010C
7440-09-7	Potassium	12	1.0	0.093	mg/L			1	6010C
7439-95-4	Magnesium	22	0.50	0.040	mg/L		B	1	6010C
7439-96-5	Manganese	0.14	0.0050	0.0025	mg/L			1	6010C
7439-98-7	Molybdenum	0.0079	0.020	0.0027	mg/L	J		1	6010C
7440-23-5	Sodium	250	1.0	0.25	mg/L			1	6010C
7440-02-0	Nickel	ND	0.0050	0.0024	mg/L			1	6010C
7723-14-0	Phosphorus	ND	0.50	0.050	mg/L			1	6010C
7439-92-1	Lead	ND	0.0050	0.0025	mg/L			1	6010C
7782-49-2	Selenium	ND	0.020	0.013	mg/L			1	6010C
7440-62-2	Vanadium	ND	0.0050	0.0019	mg/L			1	6010C
7440-66-6	Zinc	0.011	0.010	0.0030	mg/L		B	1	6010C
7440-36-0	Antimony	ND	0.020	0.0098	mg/L			1	6010C
7440-28-0	Thallium	ND	0.020	0.0090	mg/L			1	6010C
7440-24-6	Strontium	0.31	0.050	0.0050	mg/L			1	6010C
7439-97-6	Mercury	ND	0.00020	0.00010	mg/L			1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: 11187072-CONTACT-INITIAL
Lab Sample ID: 180-96144-1
Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 180-96144-1
SDG ID.:
Matrix: Water
Date Sampled: 09/24/2019 15:00
Reporting Basis: WET
Date Received: 09/25/2019 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	ND	0.20	0.048	mg/L			1	6010C
7440-36-0	Antimony	ND	0.020	0.0098	mg/L			1	6010C
7440-38-2	Arsenic	ND	0.020	0.012	mg/L			1	6010C
7440-39-3	Barium	0.18	0.0050	0.0025	mg/L			1	6010C
7440-41-7	Beryllium	ND	0.0020	0.00030	mg/L			1	6010C
7440-43-9	Cadmium	ND	0.0020	0.00050	mg/L			1	6010C
7440-70-2	Calcium	37	0.50	0.050	mg/L			1	6010C
7440-47-3	Chromium	ND	0.0080	0.0012	mg/L			1	6010C
7440-48-4	Cobalt	ND	0.0050	0.0030	mg/L			1	6010C
7440-50-8	Copper	0.014	0.010	0.0021	mg/L			1	6010C
7439-89-6	Iron	ND	0.10	0.020	mg/L			1	6010C
7439-92-1	Lead	ND	0.0050	0.0025	mg/L			1	6010C
7439-95-4	Magnesium	22	0.50	0.040	mg/L			1	6010C
7439-96-5	Manganese	0.15	0.0050	0.0025	mg/L			1	6010C
7440-02-0	Nickel	ND	0.0050	0.0024	mg/L			1	6010C
7440-09-7	Potassium	11	1.0	0.093	mg/L		B	1	6010C
7782-49-2	Selenium	ND	0.020	0.013	mg/L			1	6010C
7440-22-4	Silver	ND	0.0050	0.00084	mg/L			1	6010C
7440-23-5	Sodium	260	1.0	0.25	mg/L		B	1	6010C
7440-28-0	Thallium	ND	0.020	0.0090	mg/L			1	6010C
7440-62-2	Vanadium	ND	0.0050	0.0019	mg/L			1	6010C
7440-66-6	Zinc	0.013	0.010	0.0030	mg/L		B	1	6010C
7439-98-7	Molybdenum	0.0076	0.020	0.0027	mg/L	J		1	6010C
7440-24-6	Strontium	0.32	0.050	0.0050	mg/L			1	6010C
7723-14-0	Phosphorus	0.066	0.50	0.050	mg/L	J		1	6010C
7439-97-6	Mercury	0.00037	0.00020	0.00010	mg/L			1	7470A

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

ICV Source: MT6010ICV_00038 Concentration Units: mg/L

CCV Source: MT6010CCV_00081

Analyte	ICV 320-327515/9 09/30/2019 10:52				CCV 320-327515/105 09/30/2019 17:09				CCV 320-327515/117 09/30/2019 17:56			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	10.2		10.0	102	24.9		25.0	99	24.8		25.0	99
Antimony	0.930		1.00	93	0.528		0.500	106	0.533		0.500	107
Arsenic	0.926		1.00	93	0.492		0.500	98	0.489		0.500	98
Barium	1.01		1.00	101	2.42		2.50	97	2.41		2.50	97
Beryllium	1.05		1.00	105	0.543		0.500	109	0.547		0.500	109
Cadmium	1.03		1.00	103	0.494		0.500	99	0.491		0.500	98
Calcium	10.4		10.0	104	24.1		25.0	97	24.0		25.0	96
Chromium	1.03		1.00	103	2.61		2.50	105	2.62		2.50	105
Cobalt	1.03		1.00	103	2.71		2.50	109	2.72		2.50	109
Copper	1.01		1.00	101	2.41		2.50	96	2.40		2.50	96
Lead	1.04		1.00	104	0.521		0.500	104	0.523		0.500	105
Magnesium	10.2		10.0	102	25.5		25.0	102	25.5		25.0	102
Manganese	1.03		1.00	103	2.40		2.50	96	2.39		2.50	96
Molybdenum	1.01		1.00	101	1.03		1.00	103	1.02		1.00	102
Nickel	1.04		1.00	104	2.59		2.50	104	2.59		2.50	103
Phosphorus	2.02		2.00	101	2.68		2.50	107	2.68		2.50	107
Potassium	10.4		10.0	104	26.8		25.0	107	26.9		25.0	108
Selenium	1.03		1.00	103	0.539		0.500	108	0.538		0.500	108
Silver	0.251		0.249	101	0.490		0.500	98	0.489		0.500	98
Strontium	1.00		1.00	100	2.41		2.50	97	2.41		2.50	96
Thallium	1.05		1.00	105	0.487		0.500	97	0.482		0.500	96
Vanadium	1.02		1.00	102	2.67		2.50	107	2.68		2.50	107
Zinc	1.06		0.997	107	2.50		2.50	100	2.49		2.50	100
Iron	10.3		10.0	103	23.4		25.0	94	23.3		25.0	93
Sodium	10.3		10.0	103	26.1		25.0	104	26.4		25.0	106

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

ICV Source: MT6010ICV_00038 Concentration Units: mg/L

CCV Source: MT6010CCV_00081

Analyte	CCV 320-327515/123 09/30/2019 18:19											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	24.9		25.0	100								
Antimony	0.531		0.500	106								
Arsenic	0.492		0.500	98								
Barium	2.43		2.50	97								
Beryllium	0.544		0.500	109								
Cadmium	0.494		0.500	99								
Calcium	24.2		25.0	97								
Chromium	2.63		2.50	105								
Cobalt	2.72		2.50	109								
Copper	2.41		2.50	96								
Lead	0.523		0.500	105								
Magnesium	25.6		25.0	102								
Manganese	2.41		2.50	96								
Molybdenum	1.03		1.00	103								
Nickel	2.60		2.50	104								
Phosphorus	2.70		2.50	108								
Potassium	26.9		25.0	108								
Selenium	0.537		0.500	107								
Silver	0.491		0.500	98								
Strontium	2.42		2.50	97								
Thallium	0.489		0.500	98								
Vanadium	2.67		2.50	107								
Zinc	2.51		2.50	100								
Iron	23.5		25.0	94								
Sodium	26.5		25.0	106								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

ICV Source: MT6010ICV_00038 Concentration Units: mg/L

CCV Source: MT6010CRI_QSM_00044

Analyte	ICV 320-327515/9 09/30/2019 10:52				CCVL 320-327515/125 09/30/2019 18:27							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	10.2		10.0	102	0.186	J	0.201	93				
Antimony	0.930		1.00	93	0.0294		0.0300	98				
Arsenic	0.926		1.00	93	0.0369		0.0400	92				
Barium	1.01		1.00	101	0.0196		0.0200	98				
Beryllium	1.05		1.00	105	0.00367		0.00299	123				
Cadmium	1.03		1.00	103	0.00322		0.00300	107				
Calcium	10.4		10.0	104	0.506		0.500	101				
Chromium	1.03		1.00	103	0.0103		0.0100	102				
Cobalt	1.03		1.00	103	0.0112		0.0100	112				
Copper	1.01		1.00	101	0.0169		0.0149	113				
Lead	1.04		1.00	104	0.0116		0.0101	114				
Magnesium	10.2		10.0	102	0.517		0.501	103				
Manganese	1.03		1.00	103	0.0102		0.0100	101				
Molybdenum	1.01		1.00	101	0.0205		0.0200	102				
Nickel	1.04		1.00	104	0.0108		0.00995	108				
Phosphorus	2.02		2.00	101	0.562		0.500	112				
Potassium	10.4		10.0	104	1.13		0.997	113				
Selenium	1.03		1.00	103	0.0449		0.0402	112				
Silver	0.251		0.249	101	0.00431	J	0.00500	86				
Strontium	1.00		1.00	100	0.0503		0.0500	101				
Thallium	1.05		1.00	105	0.0318		0.0301	106				
Vanadium	1.02		1.00	102	0.0221		0.0200	110				
Zinc	1.06		0.997	107	0.0216		0.0199	109				
Iron	10.3		10.0	103	0.0921	J	0.100	92				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

ICV Source: MT6010ICV_00038 Concentration Units: mg/L

CCV Source: MT6010CCV_00081

Analyte	ICV 320-327736/9 10/01/2019 14:59				CCV 320-327736/21 10/01/2019 15:46				CCV 320-327736/33 10/01/2019 16:33			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Iron	10.3		10.0	103	24.8		25.0	99	23.6		25.0	95
Sodium	10.1		10.0	101	24.3		25.0	97	23.9		25.0	96
Aluminum	9.93		10.0	99	24.1		25.0	96	24.0		25.0	96
Antimony	0.925		1.00	92	0.501		0.500	100	0.501		0.500	100
Arsenic	0.975		1.00	97	0.492		0.500	98	0.488		0.500	98
Barium	0.998		1.00	100	2.43		2.50	97	2.35		2.50	94
Beryllium	1.03		1.00	103	0.493		0.500	99	0.487		0.500	97
Cadmium	1.03		1.00	103	0.497		0.500	99	0.495		0.500	99
Calcium	10.2		10.0	102	24.5		25.0	98	23.6		25.0	95
Chromium	1.03		1.00	103	2.49		2.50	100	2.50		2.50	100
Cobalt	1.02		1.00	102	2.49		2.50	100	2.52		2.50	101
Copper	1.01		1.00	101	2.44		2.50	98	2.44		2.50	97
Lead	1.03		1.00	103	0.499		0.500	100	0.505		0.500	101
Magnesium	10.1		10.0	101	24.4		25.0	98	24.5		25.0	98
Manganese	1.03		1.00	103	2.47		2.50	99	2.44		2.50	98
Molybdenum	1.00		1.00	100	0.993		1.00	99	0.993		1.00	99
Nickel	1.03		1.00	103	2.51		2.50	100	2.52		2.50	101
Phosphorus	2.00		2.00	100	2.44		2.50	98	2.47		2.50	99
Potassium	10.1		10.0	100	24.3		25.0	97	24.0		25.0	96
Selenium	1.02		1.00	102	0.500		0.500	100	0.507		0.500	101
Silver	0.250		0.249	100	0.491		0.500	98	0.491		0.500	98
Strontium	0.994		1.00	99	2.43		2.50	97	2.35		2.50	94
Thallium	1.02		1.00	102	0.504		0.500	101	0.509		0.500	102
Vanadium	1.01		1.00	101	2.47		2.50	99	2.50		2.50	100
Zinc	1.06		0.997	107	2.49		2.50	100	2.48		2.50	99

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

ICV Source: MT6010ICV_00038 Concentration Units: mg/L

CCV Source: MT6010CCV_00081

Analyte	CCV 320-327736/45 10/01/2019 17:20											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Iron	24.7		25.0	99								
Sodium	24.4		25.0	98								
Aluminum	24.3		25.0	97								
Antimony	0.499		0.500	100								
Arsenic	0.494		0.500	99								
Barium	2.43		2.50	97								
Beryllium	0.491		0.500	98								
Cadmium	0.499		0.500	100								
Calcium	24.3		25.0	97								
Chromium	2.51		2.50	100								
Cobalt	2.50		2.50	100								
Copper	2.45		2.50	98								
Lead	0.505		0.500	101								
Magnesium	24.7		25.0	99								
Manganese	2.48		2.50	99								
Molybdenum	0.999		1.00	100								
Nickel	2.52		2.50	101								
Phosphorus	2.47		2.50	99								
Potassium	24.4		25.0	98								
Selenium	0.507		0.500	101								
Silver	0.494		0.500	99								
Strontium	2.43		2.50	97								
Thallium	0.504		0.500	101								
Vanadium	2.48		2.50	99								
Zinc	2.53		2.50	101								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

ICV Source: MT6010ICV_00038 Concentration Units: mg/L

CCV Source: MT6010CRI_QSM_00044

Analyte	ICV 320-327736/9 10/01/2019 14:59				CCVL 320-327736/152 10/02/2019 00:05							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Iron	10.3		10.0	103	0.107		0.100	107				
Sodium	10.1		10.0	101	0.478	J	0.504	95				
Aluminum	9.93		10.0	99	0.194	J	0.201	97				
Antimony	0.925		1.00	92	0.0291		0.0300	97				
Arsenic	0.975		1.00	97	0.0395		0.0400	99				
Barium	0.998		1.00	100	0.0203		0.0200	101				
Beryllium	1.03		1.00	103	0.00306		0.00299	102				
Cadmium	1.03		1.00	103	0.00334		0.00300	111				
Calcium	10.2		10.0	102	0.516		0.500	103				
Chromium	1.03		1.00	103	0.0110		0.0100	110				
Cobalt	1.02		1.00	102	0.0110		0.0100	110				
Lead	1.03		1.00	103	0.0114		0.0101	113				
Magnesium	10.1		10.0	101	0.541		0.501	108				
Manganese	1.03		1.00	103	0.0111		0.0100	111				
Molybdenum	1.00		1.00	100	0.0216		0.0200	108				
Nickel	1.03		1.00	103	0.0108		0.00995	109				
Phosphorus	2.00		2.00	100	0.560		0.500	112				
Potassium	10.1		10.0	100	1.03		0.997	104				
Selenium	1.02		1.00	102	0.0420		0.0402	105				
Silver	0.250		0.249	100	0.00568		0.00500	114				
Strontium	0.994		1.00	99	0.0523		0.0500	105				
Thallium	1.02		1.00	102	0.0325		0.0301	108				
Vanadium	1.01		1.00	101	0.0214		0.0200	107				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

ICV Source: MT6010ICV_00038 Concentration Units: mg/L

CCV Source: MT6010CCV_00081

Analyte	ICV 320-331282/9 10/15/2019 11:03				CCV 320-331282/69 10/15/2019 15:00				CCV 320-331282/81 10/15/2019 15:47			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	10.1		10.0	101	25.7		25.0	103	25.1		25.0	100
Antimony	0.975		1.00	97	0.538		0.500	108	0.525		0.500	105
Arsenic	0.919		1.00	92	0.531		0.500	106	0.531		0.500	106
Barium	1.02		1.00	102	2.67		2.50	107	2.64		2.50	105
Beryllium	1.05		1.00	105	0.538		0.500	108	0.529		0.500	106
Cadmium	1.03		1.00	103	0.522		0.500	104	0.523		0.500	105
Calcium	10.4		10.0	104	25.3		25.0	101	25.2		25.0	101
Chromium	1.03		1.00	103	2.60		2.50	104	2.59		2.50	104
Cobalt	1.03		1.00	103	2.62		2.50	105	2.61		2.50	105
Copper	0.979		1.00	98	2.33		2.50	93	2.37		2.50	95
Iron	10.4		10.0	104	25.0		25.0	100	24.9		25.0	100
Lead	1.03		1.00	103	0.526		0.500	105	0.529		0.500	106
Magnesium	10.1		10.0	101	25.4		25.0	102	25.2		25.0	101
Manganese	1.04		1.00	104	2.56		2.50	103	2.57		2.50	103
Molybdenum	1.00		1.00	100	1.03		1.00	103	1.04		1.00	104
Nickel	1.03		1.00	103	2.57		2.50	103	2.57		2.50	103
Phosphorus	2.00		2.00	100	2.54		2.50	102	2.53		2.50	101
Potassium	10.1		10.0	101	25.4		25.0	102	25.2		25.0	101
Selenium	1.00		1.00	100	0.545		0.500	109	0.550		0.500	110
Silver	0.255		0.249	103	0.505		0.500	101	0.504		0.500	101
Sodium	9.98		10.0	100	25.8		25.0	103	25.0		25.0	100
Strontium	0.995		1.00	100	2.50		2.50	100	2.50		2.50	100
Thallium	1.06		1.00	106	0.532		0.500	106	0.536		0.500	107
Vanadium	1.03		1.00	103	2.64		2.50	105	2.62		2.50	105
Zinc	1.03		0.997	103	2.43		2.50	97	2.47		2.50	99

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

ICV Source: MT6010ICV_00038 Concentration Units: mg/L

CCV Source: MT6010CCV_00081

Analyte	CCV 320-331282/93 10/15/2019 16:34											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	25.5		25.0	102								
Antimony	0.535		0.500	107								
Arsenic	0.533		0.500	107								
Barium	2.66		2.50	107								
Beryllium	0.536		0.500	107								
Cadmium	0.524		0.500	105								
Calcium	25.4		25.0	101								
Chromium	2.60		2.50	104								
Cobalt	2.62		2.50	105								
Copper	2.34		2.50	94								
Iron	25.1		25.0	100								
Lead	0.526		0.500	105								
Magnesium	25.3		25.0	101								
Manganese	2.56		2.50	103								
Molybdenum	1.04		1.00	104								
Nickel	2.58		2.50	103								
Phosphorus	2.57		2.50	103								
Potassium	25.6		25.0	102								
Selenium	0.543		0.500	109								
Silver	0.503		0.500	101								
Sodium	26.6		25.0	106								
Strontium	2.51		2.50	100								
Thallium	0.540		0.500	108								
Vanadium	2.62		2.50	105								
Zinc	2.47		2.50	99								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

ICV Source: MT6010ICV_00038 Concentration Units: mg/L

CCV Source: MT6010CRI_QSM_00044

Analyte	ICV 320-331282/9 10/15/2019 11:03				CCVL 320-331282/112 10/15/2019 17:48							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	10.1		10.0	101	0.183	J	0.201	91				
Antimony	0.975		1.00	97	0.0295		0.0300	98				
Arsenic	0.919		1.00	92	0.0356		0.0400	89				
Barium	1.02		1.00	102	0.0209		0.0200	105				
Beryllium	1.05		1.00	105	0.00318		0.00299	106				
Cadmium	1.03		1.00	103	0.00325		0.00300	108				
Calcium	10.4		10.0	104	0.526		0.500	105				
Chromium	1.03		1.00	103	0.0108		0.0100	108				
Cobalt	1.03		1.00	103	0.0106		0.0100	105				
Copper	0.979		1.00	98	0.0140		0.0149	94				
Iron	10.4		10.0	104	0.103		0.100	102				
Lead	1.03		1.00	103	0.00989		0.0101	98				
Magnesium	10.1		10.0	101	0.514		0.501	103				
Manganese	1.04		1.00	104	0.0108		0.0100	108				
Molybdenum	1.00		1.00	100	0.0200		0.0200	100				
Nickel	1.03		1.00	103	0.0123		0.00995	124				
Phosphorus	2.00		2.00	100	0.525		0.500	105				
Potassium	10.1		10.0	101	1.04		0.997	104				
Selenium	1.00		1.00	100	0.0364		0.0402	91				
Silver	0.255		0.249	103	0.00535		0.00500	107				
Sodium	9.98		10.0	100	0.657	J	0.504	130				
Strontium	0.995		1.00	100	0.0517		0.0500	103				
Thallium	1.06		1.00	106	0.0331		0.0301	110				
Vanadium	1.03		1.00	103	0.0208		0.0200	104				
Zinc	1.03		0.997	103	0.0219		0.0199	110				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

ICV Source: MT6010ICV_00038 Concentration Units: mg/L

CCV Source: MT6010CCV_00081

Analyte	ICV 320-331614/9 10/16/2019 14:43				CCV 320-331614/21 10/16/2019 15:30				CCV 320-331614/33 10/16/2019 16:15			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Iron	10.2		10.0	102	24.6		25.0	98	24.6		25.0	99
Sodium	9.82		10.0	98	24.3		25.0	97	24.6		25.0	99
Aluminum	9.78		10.0	98	24.0		25.0	96	24.1		25.0	96
Antimony	0.966		1.00	97	0.519		0.500	104	0.522		0.500	104
Arsenic	0.913		1.00	91	0.515		0.500	103	0.513		0.500	103
Barium	1.01		1.00	101	2.57		2.50	103	2.58		2.50	103
Beryllium	1.03		1.00	103	0.520		0.500	104	0.521		0.500	104
Cadmium	1.02		1.00	102	0.505		0.500	101	0.507		0.500	101
Calcium	10.1		10.0	101	24.3		25.0	97	24.4		25.0	97
Chromium	1.02		1.00	102	2.53		2.50	101	2.54		2.50	101
Cobalt	1.02		1.00	102	2.54		2.50	101	2.55		2.50	102
Copper	0.982		1.00	98	2.29		2.50	92	2.29		2.50	92
Lead	1.02		1.00	102	0.515		0.500	103	0.518		0.500	104
Magnesium	9.94		10.0	99	24.4		25.0	98	24.5		25.0	98
Manganese	1.01		1.00	101	2.44		2.50	98	2.44		2.50	98
Molybdenum	0.995		1.00	100	1.00		1.00	100	1.01		1.00	101
Nickel	1.02		1.00	102	2.50		2.50	100	2.51		2.50	101
Phosphorus	1.97		2.00	98	2.42		2.50	97	2.43		2.50	97
Potassium	9.91		10.0	99	24.4		25.0	98	24.6		25.0	98
Selenium	0.986		1.00	99	0.515		0.500	103	0.525		0.500	105
Silver	0.250		0.249	100	0.488		0.500	98	0.489		0.500	98
Strontium	0.982		1.00	98	2.42		2.50	97	2.43		2.50	97
Thallium	1.05		1.00	105	0.486		0.500	97	0.491		0.500	98
Vanadium	1.01		1.00	101	2.54		2.50	102	2.54		2.50	102
Zinc	1.01		0.997	102	2.31		2.50	92	2.31		2.50	92

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

ICV Source: MT6010ICV_00038 Concentration Units: mg/L

CCV Source: MT6010CRI_QSM_00044

Analyte	ICV 320-331614/9 10/16/2019 14:43				CCVL 320-331614/75 10/16/2019 18:50							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Iron	10.2		10.0	102	0.103		0.100	103				
Sodium	9.82		10.0	98	0.449	J	0.504	89				
Aluminum	9.78		10.0	98	0.168	J	0.201	84				
Antimony	0.966		1.00	97	0.0269		0.0300	90				
Arsenic	0.913		1.00	91	0.0342		0.0400	86				
Barium	1.01		1.00	101	0.0191		0.0200	96				
Beryllium	1.03		1.00	103	0.00306		0.00299	102				
Cadmium	1.02		1.00	102	0.00299		0.00300	100				
Calcium	10.1		10.0	101	0.472	J	0.500	94				
Chromium	1.02		1.00	102	0.0101		0.0100	100				
Cobalt	1.02		1.00	102	0.00983		0.0100	98				
Copper	0.982		1.00	98	0.0162		0.0149	109				
Lead	1.02		1.00	102	0.0101		0.0101	100				
Magnesium	9.94		10.0	99	0.478	J	0.501	96				
Manganese	1.01		1.00	101	0.00978		0.0100	98				
Molybdenum	0.995		1.00	100	0.0193	J	0.0200	97				
Nickel	1.02		1.00	102	0.00941		0.00995	95				
Phosphorus	1.97		2.00	98	0.481	J	0.500	96				
Potassium	9.91		10.0	99	0.968	J	0.997	97				
Selenium	0.986		1.00	99	0.0352		0.0402	88				
Silver	0.250		0.249	100	0.00482	J	0.00500	96				
Strontium	0.982		1.00	98	0.0481	J	0.0500	96				
Vanadium	1.01		1.00	101	0.0192		0.0200	96				
Zinc	1.01		0.997	102	0.0235		0.0199	118				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

ICV Source: HGIM_02499 Concentration Units: mg/L

CCV Source: HGIM_02500

Analyte	ICV 320-327724/7-A 10/03/2019 08:59				CCV 320-327724/9-A 10/03/2019 09:29				CCV 320-327724/9-A 10/03/2019 09:59			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	0.00191		0.00200	96	0.00496		0.00500	99	0.00466		0.00500	93

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

ICV Source: HGIM_02499 Concentration Units: mg/L

CCV Source: HGIM_02500

Analyte	CCV 320-327724/9-A 10/03/2019 10:22				CCV 320-327724/9-A 10/03/2019 10:46				CCV 320-327724/9-A 10/03/2019 11:16			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	0.00489		0.00500	98	0.00459		0.00500	92	0.00490		0.00500	98

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Method: 6010C Instrument ID: T01

Lab Sample ID: CRI 320-327515/11 Concentration Units: mg/L

CRQL Check Standard Source: MT6010CRI_QSM_00044

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Aluminum	0.201	0.217		108	70-130
Arsenic	0.0400	0.0391		98	70-130
Barium	0.0200	0.0214		107	70-130
Beryllium	0.00299	0.00351		117	70-130
Cadmium	0.00300	0.00347		116	70-130
Calcium	0.500	0.545		109	70-130
Chromium	0.0100	0.0108		108	70-130
Cobalt	0.0100	0.0118		118	70-130
Copper	0.0149	0.0178		120	70-130
Magnesium	0.501	0.531		106	70-130
Manganese	0.0100	0.0115		114	70-130
Potassium	0.997	1.08		109	70-130
Nickel	0.00995	0.0118		118	70-130
Silver	0.00500	0.00502		101	70-130
Lead	0.0101	0.0114		113	70-130
Sodium	0.504	0.546	J	108	70-130
Selenium	0.0402	0.0407		101	70-130
Vanadium	0.0200	0.0211		106	70-130
Zinc	0.0199	0.0218		109	70-130
Antimony	0.0300	0.0291		97	70-130
Molybdenum	0.0200	0.0199	J	100	70-130
Thallium	0.0301	0.0312		104	70-130
Strontium	0.0500	0.0519		104	70-130
Phosphorus	0.500	0.510		102	70-130

Lab Sample ID: CRI 320-327736/12 Concentration Units: mg/L

CRQL Check Standard Source: MT6010CRI_STD_00028

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Aluminum	0.201	0.179	J	89	70-130
Arsenic	0.0200	0.0203		102	70-130
Barium	0.00500	0.00503		101	70-130
Beryllium	0.00199	0.00201		101	70-130
Cadmium	0.00200	0.00203		102	70-130
Calcium	0.500	0.505		101	70-130

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Method: 6010C Instrument ID: T01

Lab Sample ID: CRI 320-327736/12 Concentration Units: mg/L

CRQL Check Standard Source: MT6010CRI_STD_00028

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Chromium	0.00502	0.00488	J	97	70-130
Cobalt	0.00501	0.00537		107	70-130
Copper	0.00991	0.0114		115	70-130
Iron	0.100	0.0962	J	96	70-130
Magnesium	0.501	0.496	J	99	70-130
Manganese	0.00501	0.00515		103	70-130
Potassium	0.997	0.985	J	99	70-130
Nickel	0.00498	0.00513		103	70-130
Silver	0.00500	0.00466	J	93	70-130
Lead	0.00505	0.00472	J	94	70-130
Sodium	0.504	0.480	J	95	70-130
Selenium	0.0201	0.0166	J	83	70-130
Vanadium	0.00499	0.00494	J	99	70-130
Zinc	0.00997	0.0100		101	70-130
Antimony	0.0200	0.0161	J	81	70-130
Molybdenum	0.0200	0.0198	J	99	70-130
Thallium	0.0200	0.0204		102	70-130
Strontium	0.0500	0.0495	J	99	70-130
Phosphorus	0.501	0.503		100	70-130

Lab Sample ID: CRI 320-331282/12 Concentration Units: mg/L

CRQL Check Standard Source: MT6010CRI_STD_00028

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Aluminum	0.201	0.193	J	96	70-130
Arsenic	0.0200	0.0158	J	79	70-130
Barium	0.00500	0.00525		105	70-130
Beryllium	0.00199	0.00212		106	70-130
Cadmium	0.00200	0.00217		109	70-130
Calcium	0.500	0.504		101	70-130
Chromium	0.00502	0.00560	J	112	70-130
Cobalt	0.00501	0.00520		104	70-130
Copper	0.00991	0.0110		111	70-130
Iron	0.100	0.0972	J	97	70-130
Magnesium	0.501	0.491	J	98	70-130

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Method: 6010C Instrument ID: T01

Lab Sample ID: CRI 320-331282/12 Concentration Units: mg/L

CRQL Check Standard Source: MT6010CRI_STD_00028

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Manganese	0.00501	0.00531		106	70-130
Potassium	0.997	0.977	J	98	70-130
Nickel	0.00498	0.00559		112	70-130
Silver	0.00500	0.00436	J	87	70-130
Lead	0.00505	0.00518		103	70-130
Sodium	0.504	0.504	J	100	70-130
Selenium	0.0201	0.0208		103	70-130
Vanadium	0.00499	0.00509		102	70-130
Zinc	0.00997	0.0115		116	70-130
Antimony	0.0200	0.0191	J	96	70-130
Molybdenum	0.0200	0.0195	J	98	70-130
Thallium	0.0200	0.0214		107	70-130
Strontium	0.0500	0.0494	J	99	70-130
Phosphorus	0.501	0.497	J	99	70-130

Lab Sample ID: CRI 320-331614/12 Concentration Units: mg/L

CRQL Check Standard Source: MT6010CRI_STD_00028

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Aluminum	0.201	0.173	J	86	70-130
Arsenic	0.0200	0.0179	J	90	70-130
Barium	0.00500	0.00502		100	70-130
Beryllium	0.00199	0.00211		106	70-130
Cadmium	0.00200	0.00197	J	99	70-130
Calcium	0.500	0.487	J	97	70-130
Chromium	0.00502	0.00534	J	106	70-130
Cobalt	0.00501	0.00580		116	70-130
Copper	0.00991	0.0110		111	70-130
Iron	0.100	0.0898	J	90	70-130
Magnesium	0.501	0.492	J	98	70-130
Manganese	0.00501	0.00517		103	70-130
Potassium	0.997	0.982	J	99	70-130
Nickel	0.00498	0.00536		108	70-130
Silver	0.00500	0.00420	J	84	70-130
Lead	0.00505	0.00417	J	83	70-130

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Method: 6010C Instrument ID: T01

Lab Sample ID: CRI 320-331614/12 Concentration Units: mg/L

CRQL Check Standard Source: MT6010CRI_STD_00028

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Sodium	0.504	0.496	J	98	70-130
Selenium	0.0201	0.0165	J	82	70-130
Vanadium	0.00499	0.00487	J	98	70-130
Zinc	0.00997	0.00964	J	97	70-130
Antimony	0.0200	0.0212		106	70-130
Molybdenum	0.0200	0.0196	J	98	70-130
Thallium	0.0200	0.0164	J	82	70-130
Strontium	0.0500	0.0494	J	99	70-130
Phosphorus	0.501	0.496	J	99	70-130

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Concentration Units: mg/L

Analyte	RL	ICBIS 320-327515/10 09/30/2019 10:56		CCB 320-327515/106 09/30/2019 17:13		CCB 320-327515/118 09/30/2019 17:59		CCB 320-327515/124 09/30/2019 18:22	
		Found	C	Found	C	Found	C	Found	C
Aluminum	0.20	0.0805	J	ND		ND		ND	
Antimony	0.020	ND		ND		ND		ND	
Arsenic	0.020	ND		ND		ND		ND	
Barium	0.0050	0.00379	J	ND		ND		ND	
Beryllium	0.0020	0.00133	J	0.000440	J	0.000340	J	0.000370	J
Cadmium	0.0020	0.000610	J	ND		ND		ND	
Calcium	0.50	0.110	J	ND		ND		ND	
Chromium	0.0080	0.00268	J	ND		ND		ND	
Cobalt	0.0050	ND		ND		ND		ND	
Copper	0.010	0.00550	J	0.00400	J	0.00254	J	0.00364	J
Lead	0.0050	ND		ND		ND		ND	
Magnesium	0.50	0.0663	J	ND		ND		ND	
Manganese	0.0050	0.00313	J	ND		ND		ND	
Molybdenum	0.020	ND		ND		ND		ND	
Nickel	0.0050	0.00340	J	ND		ND		ND	
Phosphorus	0.50	ND		ND		ND		ND	
Potassium	1.0	0.222	J	ND		ND		ND	
Selenium	0.020	ND		ND		ND		ND	
Silver	0.0050	ND		ND		ND		ND	
Strontium	0.050	ND		ND		ND		ND	
Thallium	0.020	ND		ND		ND		ND	
Vanadium	0.0050	0.00330	J	ND		ND		ND	
Zinc	0.010	0.00372	J	ND		ND		ND	
Sodium	1.0	ND		0.380	J	ND		ND	

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Concentration Units: mg/L

Analyte	RL	ICBIS 320-327736/10 10/01/2019 15:02		CCB 320-327736/22 10/01/2019 15:50		CCB 320-327736/34 10/01/2019 16:37		CCB 320-327736/46 10/01/2019 17:23	
		Found	C	Found	C	Found	C	Found	C
Iron	0.10	ND		0.0209	J	ND		0.0301	J
Sodium	1.0	ND		ND		ND		ND	
Aluminum	0.20	ND		ND		ND		ND	
Antimony	0.020	ND		ND		ND		ND	
Arsenic	0.020	ND		ND		ND		ND	
Barium	0.0050	ND		ND		ND		ND	
Beryllium	0.0020	ND		ND		ND		ND	
Cadmium	0.0020	ND		ND		ND		ND	
Calcium	0.50	ND		ND		ND		ND	
Chromium	0.0080	ND		ND		ND		ND	
Cobalt	0.0050	ND		ND		ND		ND	
Copper	0.010	0.00214	J	ND		0.00292	J	0.00450	J
Lead	0.0050	ND		ND		ND		ND	
Magnesium	0.50	ND		ND		ND		ND	
Manganese	0.0050	ND		ND		ND		ND	
Molybdenum	0.020	ND		ND		ND		ND	
Nickel	0.0050	ND		ND		ND		ND	
Phosphorus	0.50	ND		ND		ND		ND	
Potassium	1.0	ND		ND		ND		ND	
Selenium	0.020	ND		ND		ND		ND	
Silver	0.0050	ND		ND		ND		ND	
Strontium	0.050	ND		ND		ND		ND	
Thallium	0.020	ND		ND		ND		ND	
Vanadium	0.0050	ND		ND		ND		ND	
Zinc	0.010	ND		ND		0.00348	J	0.00750	J

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Concentration Units: mg/L

Analyte	RL	ICBIS 320-331282/10 10/15/2019 11:07		CCB 320-331282/70 10/15/2019 15:04		CCB 320-331282/82 10/15/2019 15:51		CCB 320-331282/94 10/15/2019 16:38	
		Found	C	Found	C	Found	C	Found	C
Aluminum	0.20	ND		ND		ND		ND	
Antimony	0.020	ND		ND		ND		ND	
Arsenic	0.020	ND		ND		ND		ND	
Barium	0.0050	ND		ND		ND		ND	
Beryllium	0.0020	ND		ND		ND		ND	
Cadmium	0.0020	ND		ND		ND		ND	
Calcium	0.50	ND		ND		ND		ND	
Chromium	0.0080	ND		ND		ND		ND	
Cobalt	0.0050	ND		ND		ND		ND	
Copper	0.010	ND		0.00376	J	ND		0.00265	J
Iron	0.10	ND		ND		ND		ND	
Lead	0.0050	ND		ND		ND		ND	
Magnesium	0.50	ND		ND		ND		ND	
Manganese	0.0050	ND		ND		ND		ND	
Molybdenum	0.020	ND		ND		ND		ND	
Nickel	0.0050	ND		ND		ND		ND	
Phosphorus	0.50	ND		ND		ND		ND	
Potassium	1.0	ND		ND		ND		ND	
Selenium	0.020	ND		ND		ND		ND	
Silver	0.0050	ND		ND		ND		ND	
Sodium	1.0	ND		0.276	J	ND		0.446	J
Strontium	0.050	ND		ND		ND		ND	
Thallium	0.020	ND		ND		ND		ND	
Vanadium	0.0050	ND		ND		ND		ND	
Zinc	0.010	0.00336	J	0.00307	J	0.00401	J	ND	

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Concentration Units: mg/L

Analyte	RL	ICBIS 320-331614/10 10/16/2019 14:47		CCB 320-331614/22 10/16/2019 15:34		CCB 320-331614/34 10/16/2019 16:19			
		Found	C	Found	C	Found	C	Found	C
Iron	0.10	ND		0.0567	J	ND			
Sodium	1.0	ND		ND		ND			
Aluminum	0.20	ND		ND		ND			
Antimony	0.020	ND		ND		ND			
Arsenic	0.020	ND		ND		ND			
Barium	0.0050	ND		ND		ND			
Beryllium	0.0020	0.000420	J	ND		ND			
Cadmium	0.0020	ND		ND		ND			
Calcium	0.50	ND		ND		ND			
Chromium	0.0080	ND		ND		ND			
Cobalt	0.0050	ND		ND		ND			
Copper	0.010	0.00349	J	0.00247	J	0.00270	J		
Lead	0.0050	ND		ND		ND			
Magnesium	0.50	ND		ND		ND			
Manganese	0.0050	ND		ND		ND			
Molybdenum	0.020	ND		ND		ND			
Nickel	0.0050	ND		ND		ND			
Phosphorus	0.50	ND		ND		ND			
Potassium	1.0	ND		ND		ND			
Selenium	0.020	ND		ND		ND			
Silver	0.0050	ND		ND		ND			
Strontium	0.050	ND		ND		ND			
Thallium	0.020	ND		ND		ND			
Vanadium	0.0050	ND		ND		ND			
Zinc	0.010	ND		ND		ND			

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Concentration Units: mg/L

Analyte	RL	ICB 320-327724/8-A 10/03/2019 09:01		CCB 320-327724/10-A 10/03/2019 09:31		CCB 320-327724/10-A 10/03/2019 10:02		CCB 320-327724/10-A 10/03/2019 10:25	
		Found	C	Found	C	Found	C	Found	C
Mercury	0.00020	ND		0.000119	J	ND		ND	

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Concentration Units: mg/L

Analyte	RL	CCB 320-327724/10-A 10/03/2019 10:49		CCB 320-327724/10-A 10/03/2019 11:18					
		Found	C	Found	C	Found	C	Found	C
Mercury	0.00020	ND		ND					

Italicized analytes were not requested for this sequence.

3-IN
METHOD BLANK
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Concentration Units: mg/L Lab Sample ID: MB 320-327228/1-A

Instrument Code: T01 Batch No.: 327515

CAS No.	Analyte	Concentration	C	Q	Method
7429-90-5	Aluminum	ND			6010C
7440-38-2	Arsenic	ND			6010C
7440-39-3	Barium	ND			6010C
7440-41-7	Beryllium	ND			6010C
7440-43-9	Cadmium	ND			6010C
7440-70-2	Calcium	0.0732	J		6010C
7440-47-3	Chromium	ND			6010C
7440-48-4	Cobalt	ND			6010C
7440-50-8	Copper	0.00293	J		6010C
7439-95-4	Magnesium	0.0434	J		6010C
7439-96-5	Manganese	ND			6010C
7440-09-7	Potassium	ND			6010C
7440-02-0	Nickel	ND			6010C
7440-22-4	Silver	ND			6010C
7439-92-1	Lead	ND			6010C
7782-49-2	Selenium	ND			6010C
7440-62-2	Vanadium	ND			6010C
7440-66-6	Zinc	0.00452	J		6010C
7440-36-0	Antimony	ND			6010C
7439-98-7	Molybdenum	ND			6010C
7440-28-0	Thallium	ND			6010C
7440-24-6	Strontium	ND			6010C
7723-14-0	Phosphorus	ND			6010C

3-IN
METHOD BLANK
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Concentration Units: mg/L Lab Sample ID: MB 320-327228/1-A

Instrument Code: T01 Batch No.: 327736

CAS No.	Analyte	Concentration	C	Q	Method
7439-89-6	Iron	ND			6010C
7440-23-5	Sodium	ND			6010C

FORM III-IN

3-IN
METHOD BLANK
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Concentration Units: mg/L Lab Sample ID: MB 320-327230/1-A

Instrument Code: T01 Batch No.: 331282

CAS No.	Analyte	Concentration	C	Q	Method
7429-90-5	Aluminum	ND			6010C
7440-38-2	Arsenic	ND			6010C
7440-39-3	Barium	ND			6010C
7440-41-7	Beryllium	ND			6010C
7440-43-9	Cadmium	ND			6010C
7440-70-2	Calcium	ND			6010C
7440-47-3	Chromium	ND			6010C
7440-48-4	Cobalt	ND			6010C
7440-50-8	Copper	ND			6010C
7439-89-6	Iron	ND			6010C
7439-95-4	Magnesium	ND			6010C
7439-96-5	Manganese	ND			6010C
7440-09-7	Potassium	0.124	J		6010C
7440-02-0	Nickel	ND			6010C
7440-22-4	Silver	ND			6010C
7439-92-1	Lead	0.00278	J		6010C
7440-23-5	Sodium	0.346	J		6010C
7782-49-2	Selenium	ND			6010C
7440-62-2	Vanadium	ND			6010C
7440-66-6	Zinc	0.00334	J		6010C
7440-36-0	Antimony	ND			6010C
7439-98-7	Molybdenum	ND			6010C
7440-28-0	Thallium	ND			6010C
7440-24-6	Strontium	ND			6010C
7723-14-0	Phosphorus	ND			6010C

3-IN
METHOD BLANK
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Concentration Units: mg/L Lab Sample ID: MB 320-327721/11-A

Instrument Code: H04 Batch No.: 328188

CAS No.	Analyte	Concentration	C	Q	Method
7439-97-6	Mercury	ND			7470A

FORM III-IN

3-IN
METHOD BLANK
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Concentration Units: mg/L Lab Sample ID: MB 320-327722/11-A

Instrument Code: H04 Batch No.: 328188

CAS No.	Analyte	Concentration	C	Q	Method
7439-97-6	Mercury	ND			7470A

FORM III-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Sacrament Job No.: 180-96144-1

SDG No.:

Lab Sample ID: ICSA 320-327515/13 Instrument ID: T01

Lab File ID: 093019.asc ICS Source: MT6010ICSA_00042

Concentration Units: mg/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Aluminum	**500**	**512**	**102**
Antimony		**0.0037**	
Arsenic		**-0.0012**	
Barium		**0.0018**	
Beryllium		**-0.0004**	
Cadmium		**0.0002**	
Calcium	**500**	**489**	**98**
Chromium		**-0.0002**	
Cobalt		**0.0001**	
Copper		**0.0015**	
Lead		**0.0030**	
Magnesium	**500**	**512**	**102**
Manganese		**0.0005**	
Molybdenum		**0.0024**	
Nickel		**-0.0012**	
Phosphorus		**0.0130**	
Potassium		**-0.0222**	
Selenium		**-0.0007**	
Silver		**0.0015**	
Strontium		**-0.0010**	
Thallium		**0.0011**	
Vanadium		**0.0003**	
Zinc		**-0.0026**	
Boron		*0.0056*	
Iron	*200*	*189*	*94*
Silicon		*-0.0021*	
Sodium		*0.218*	
Sulfur		*-0.480*	
Tin		*-0.0043*	
Titanium		*-0.0009*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Sacrament Job No.: 180-96144-1

SDG No.:

Lab Sample ID: ICSAB 320-327515/14 Instrument ID: T01

Lab File ID: 093019.asc ICS Source: MT6010ICSAB_00029

Concentration Units: mg/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Aluminum	**500**	**511**	**102**
Antimony		**-0.0012**	
Arsenic	**1.00**	**0.938**	**94**
Barium	**1.00**	**0.997**	**100**
Beryllium	**0.500**	**0.507**	**101**
Cadmium	**1.00**	**0.945**	**94**
Calcium	**500**	**488**	**98**
Chromium	**1.00**	**1.02**	**102**
Cobalt	**1.00**	**0.950**	**95**
Copper	**1.00**	**1.05**	**105**
Lead	**1.00**	**0.964**	**96**
Magnesium	**500**	**506**	**101**
Manganese	**1.00**	**0.999**	**100**
Molybdenum		**0.0017**	
Nickel	**1.00**	**0.924**	**92**
Phosphorus	**10.0**	**10.2**	**102**
Potassium	**10.0**	**10.3**	**103**
Selenium	**1.00**	**1.00**	**100**
Silver	**1.00**	**1.10**	**110**
Strontium	**1.00**	**0.992**	**99**
Thallium	**1.00**	**0.941**	**94**
Vanadium	**1.00**	**1.05**	**105**
Zinc	**1.00**	**0.946**	**95**
Boron	*10.0*	*9.88*	*99*
Iron	*200*	*189*	*95*
Silicon		*0.0237*	
Sodium	*10.0*	*10.6*	*106*
Sulfur		*-0.487*	
Tin		*-0.0042*	
Titanium		*-0.0011*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Sacrament Job No.: 180-96144-1

SDG No.:

Lab Sample ID: ICSA 320-327736/13 Instrument ID: T01

Lab File ID: 100119.asc ICS Source: MT6010ICSA_00042

Concentration Units: mg/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Iron	**200**	**188**	**94**
Sodium		**0.183**	
Aluminum	*500*	*500*	*100*
Antimony		*0.0000*	
Arsenic		*-0.0066*	
Barium		*0.0015*	
Beryllium		*-0.0008*	
Boron		*0.0072*	
Cadmium		*-0.0001*	
Calcium	*500*	*475*	*95*
Chromium		*0.0004*	
Cobalt		*-0.0007*	
Copper		*-0.0019*	
Lead		*0.0038*	
Magnesium	*500*	*505*	*101*
Manganese		*0.0002*	
Molybdenum		*0.0023*	
Nickel		*-0.0011*	
Phosphorus		*0.0176*	
Potassium		*-0.126*	
Selenium		*-0.0018*	
Silicon		*-0.0057*	
Silver		*0.0017*	
Strontium		*-0.0013*	
Sulfur		*-0.486*	
Thallium		*-0.0002*	
Tin		*-0.0044*	
Titanium		*0.0007*	
Vanadium		*0.0001*	
Zinc		*-0.0154*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Sacrament Job No.: 180-96144-1

SDG No.:

Lab Sample ID: ICSAB 320-327736/14 Instrument ID: T01

Lab File ID: 100119.asc ICS Source: MT6010ICSAB_00029

Concentration Units: mg/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Iron	**200**	**187**	**93**
Sodium	**10.0**	**10.2**	**102**
Aluminum	*500*	*494*	*99*
Antimony		*-0.0054*	
Arsenic	*1.00*	*0.976*	*98*
Barium	*1.00*	*0.970*	*97*
Beryllium	*0.500*	*0.483*	*96*
Boron	*10.0*	*9.79*	*98*
Cadmium	*1.00*	*0.935*	*94*
Calcium	*500*	*470*	*94*
Chromium	*1.00*	*0.998*	*100*
Cobalt	*1.00*	*0.923*	*92*
Copper	*1.00*	*1.04*	*104*
Lead	*1.00*	*0.948*	*95*
Magnesium	*500*	*495*	*99*
Manganese	*1.00*	*0.987*	*99*
Molybdenum		*0.0022*	
Nickel	*1.00*	*0.907*	*91*
Phosphorus	*10.0*	*9.87*	*99*
Potassium	*10.0*	*9.71*	*97*
Selenium	*1.00*	*0.980*	*98*
Silicon		*0.0073*	
Silver	*1.00*	*1.09*	*109*
Strontium	*1.00*	*0.963*	*96*
Sulfur		*-0.478*	
Thallium	*1.00*	*0.920*	*92*
Tin		*-0.0038*	
Titanium		*0.0003*	
Vanadium	*1.00*	*1.02*	*102*
Zinc	*1.00*	*0.921*	*92*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Sacrament Job No.: 180-96144-1

SDG No.:

Lab Sample ID: ICSA 320-331282/13 Instrument ID: T01

Lab File ID: 101519.asc ICS Source: MT6010ICSA_00042

Concentration Units: mg/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Aluminum	**500**	**506**	**101**
Antimony		**0.0077**	
Arsenic		**-0.0008**	
Barium		**0.0019**	
Beryllium		**-0.0004**	
Cadmium		**0.0004**	
Calcium	**500**	**490**	**98**
Chromium		**0.0006**	
Cobalt		**0.0000**	
Copper		**0.0019**	
Iron	**200**	**188**	**94**
Lead		**-0.0041**	
Magnesium	**500**	**506**	**101**
Manganese		**0.0007**	
Molybdenum		**0.0027**	
Nickel		**0.0005**	
Phosphorus		**0.0164**	
Potassium		**-0.0851**	
Selenium		**-0.0045**	
Silver		**0.0002**	
Sodium		**0.219**	
Strontium		**-0.0015**	
Thallium		**0.0024**	
Vanadium		**-0.0006**	
Zinc		**-0.0014**	
Boron		*0.0069*	
Silicon		*-0.0786*	
Sulfur		*-0.475*	
Tin		*-0.0041*	
Titanium		*0.0001*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Sacrament Job No.: 180-96144-1

SDG No.:

Lab Sample ID: ICSAB 320-331282/14 Instrument ID: T01

Lab File ID: 101519.asc ICS Source: MT6010ICSAB_00029

Concentration Units: mg/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Aluminum	**500**	**525**	**105**
Antimony		**-0.0048**	
Arsenic	**1.00**	**0.946**	**95**
Barium	**1.00**	**1.05**	**105**
Beryllium	**0.500**	**0.517**	**103**
Cadmium	**1.00**	**0.972**	**97**
Calcium	**500**	**499**	**100**
Chromium	**1.00**	**1.05**	**105**
Cobalt	**1.00**	**0.970**	**97**
Copper	**1.00**	**0.990**	**99**
Iron	**200**	**193**	**97**
Lead	**1.00**	**0.970**	**97**
Magnesium	**500**	**518**	**104**
Manganese	**1.00**	**1.05**	**105**
Molybdenum		**0.0025**	
Nickel	**1.00**	**0.936**	**94**
Phosphorus	**10.0**	**10.1**	**101**
Potassium	**10.0**	**10.4**	**104**
Selenium	**1.00**	**0.984**	**98**
Silver	**1.00**	**1.14**	**114**
Sodium	**10.0**	**10.7**	**107**
Strontium	**1.00**	**1.00**	**100**
Thallium	**1.00**	**0.930**	**93**
Vanadium	**1.00**	**1.09**	**109**
Zinc	**1.00**	**0.939**	**94**
Boron	*10.0*	*9.89*	*99*
Silicon		*-0.0699*	
Sulfur		*-0.501*	
Tin		*-0.0036*	
Titanium		*-0.0009*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Sacrament Job No.: 180-96144-1

SDG No.:

Lab Sample ID: ICSA 320-331614/13 Instrument ID: T01

Lab File ID: 101619.asc ICS Source: MT6010ICSA_00042

Concentration Units: mg/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Iron	**200**	**190**	**95**
Sodium		**0.199**	
Aluminum	*500*	*500*	*100*
Antimony		*0.0014*	
Arsenic		*-0.0009*	
Barium		*0.0016*	
Beryllium		*-0.0004*	
Boron		*0.0078*	
Cadmium		*-0.0003*	
Calcium	*500*	*479*	*96*
Chromium		*-0.0004*	
Cobalt		*0.0001*	
Copper		*0.0034*	
Lead		*0.0026*	
Magnesium	*500*	*503*	*101*
Manganese		*0.0004*	
Molybdenum		*0.0028*	
Nickel		*0.0006*	
Phosphorus		*0.0189*	
Potassium		*-0.102*	
Selenium		*0.0029*	
Silicon		*-0.0555*	
Silver		*-0.0008*	
Strontium		*-0.0011*	
Sulfur		*-0.476*	
Thallium		*-0.0003*	
Tin		*-0.0025*	
Titanium		*-0.0002*	
Vanadium		*0.0008*	
Zinc		*-0.0023*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Sacrament Job No.: 180-96144-1

SDG No.:

Lab Sample ID: ICSAB 320-331614/14 Instrument ID: T01

Lab File ID: 101619.asc ICS Source: MT6010ICSAB_00029

Concentration Units: mg/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Iron	**200**	**196**	**98**
Sodium	**10.0**	**10.8**	**108**
Aluminum	*500*	*515*	*103*
Antimony		*-0.0052*	
Arsenic	*1.00*	*0.954*	*95*
Barium	*1.00*	*1.05*	*105*
Beryllium	*0.500*	*0.514*	*103*
Boron	*10.0*	*9.93*	*99*
Cadmium	*1.00*	*0.974*	*97*
Calcium	*500*	*489*	*98*
Chromium	*1.00*	*1.06*	*106*
Cobalt	*1.00*	*0.969*	*97*
Copper	*1.00*	*1.01*	*101*
Lead	*1.00*	*0.993*	*99*
Magnesium	*500*	*520*	*104*
Manganese	*1.00*	*1.03*	*102*
Molybdenum		*0.0025*	
Nickel	*1.00*	*0.945*	*94*
Phosphorus	*10.0*	*10.2*	*102*
Potassium	*10.0*	*10.4*	*104*
Selenium	*1.00*	*0.975*	*98*
Silicon		*-0.0912*	
Silver	*1.00*	*1.13*	*113*
Strontium	*1.00*	*1.01*	*101*
Sulfur		*-0.487*	
Thallium	*1.00*	*0.942*	*94*
Tin		*-0.0034*	
Titanium		*0.0000*	
Vanadium	*1.00*	*1.08*	*108*
Zinc	*1.00*	*0.936*	*93*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: 11187072-CONTACT-INITIAL MS
Lab ID: 180-96144-1 MS
Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 180-96144-1
SDG No.:
Matrix: Water
Concentration Units: mg/L
% Solids:

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Aluminum	4.98		ND		5.00	100	75-125		6010C
Arsenic	0.456		ND		0.500	91	75-125		6010C
Barium	0.688		0.18		0.500	102	75-125		6010C
Beryllium	0.258		ND		0.250	103	75-125		6010C
Cadmium	0.245		ND		0.250	98	75-125		6010C
Calcium	61.0		37		25.0	97	75-125		6010C
Chromium	0.254		ND		0.250	101	75-125		6010C
Cobalt	0.249		ND		0.250	99	75-125		6010C
Copper	0.238		0.014		0.250	90	75-125		6010C
Iron	4.89		ND		5.00	98	75-125		6010C
Magnesium	46.1		22		25.0	97	75-125		6010C
Manganese	0.392		0.15		0.250	99	75-125		6010C
Potassium	36.2		11		25.0	100	75-125		6010C
Nickel	0.242		ND		0.250	97	75-125		6010C
Silver	0.0493		ND		0.0500	99	75-125		6010C
Lead	0.246		ND		0.250	98	75-125		6010C
Sodium	275		260		25.0	74	75-125	4	6010C
Selenium	0.476		ND		0.500	95	75-125		6010C
Vanadium	0.260		ND		0.250	104	75-125		6010C
Zinc	0.485		0.013		0.499	95	75-125		6010C
Antimony	0.494		ND		0.500	99	75-125		6010C
Molybdenum	0.255		0.0076	J	0.250	99	75-125		6010C
Thallium	0.477		ND		0.500	95	75-125		6010C
Strontium	0.556		0.32		0.250	95	75-125		6010C
Phosphorus	5.40		0.066	J	5.00	107	75-125		6010C

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VA - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: 11187072-CONTACT-INITIAL MSD Lab ID: 180-96144-1 MSD

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Matrix: Water Concentration Units: mg/L

% Solids:

Analyte	(SDR)	C	Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Aluminum	5.02		5.00	100	75-125	1	20		6010C
Arsenic	0.456		0.500	91	75-125	0	20		6010C
Barium	0.698		0.500	104	75-125	1	20		6010C
Beryllium	0.261		0.250	104	75-125	1	20		6010C
Cadmium	0.246		0.250	98	75-125	0	20		6010C
Calcium	61.3		25.0	98	75-125	1	20		6010C
Chromium	0.256		0.250	103	75-125	1	20		6010C
Cobalt	0.250		0.250	100	75-125	0	20		6010C
Copper	0.243		0.250	91	75-125	2	20		6010C
Iron	4.95		5.00	99	75-125	1	20		6010C
Magnesium	46.8		25.0	100	75-125	2	20		6010C
Manganese	0.394		0.250	99	75-125	1	20		6010C
Potassium	36.6		25.0	102	75-125	1	20		6010C
Nickel	0.243		0.250	97	75-125	0	20		6010C
Silver	0.0498		0.0500	100	75-125	1	20		6010C
Lead	0.244		0.250	97	75-125	1	20		6010C
Sodium	278		25.0	87	75-125	1	20	4	6010C
Selenium	0.480		0.500	96	75-125	1	20		6010C
Vanadium	0.261		0.250	105	75-125	1	20		6010C
Zinc	0.486		0.499	95	75-125	0	20		6010C
Antimony	0.498		0.500	100	75-125	1	20		6010C
Molybdenum	0.256		0.250	100	75-125	1	20		6010C
Thallium	0.477		0.500	95	75-125	0	20		6010C
Strontium	0.557		0.250	96	75-125	0	20		6010C
Phosphorus	5.42		5.00	107	75-125	0	20		6010C

SDR = Sample Duplicate Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VD - IN

5B-IN
POST DIGESTION SPIKE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: 11187072-CONTACT-INITIAL PDS Lab ID: 180-96144-1 PDS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Matrix: Water Concentration Units: mg/L

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Aluminum	10.6		ND		10.0	106	75-125		6010C
Arsenic	0.0999		ND		0.100	100	75-125		6010C
Barium	0.280		0.18		0.100	101	75-125		6010C
Beryllium	0.0538		ND		0.0500	108	75-125		6010C
Cadmium	0.105		ND		0.100	105	75-125		6010C
Calcium	45.6		37		10.0	88	75-125		6010C
Chromium	0.107		ND		0.100	107	75-125		6010C
Cobalt	0.107		ND		0.100	107	75-125		6010C
Copper	0.112		0.014		0.100	98	75-125		6010C
Iron	4.18		ND		4.00	104	75-125		6010C
Magnesium	31.2		22		10.0	94	75-125		6010C
Manganese	0.245		0.15		0.100	99	75-125		6010C
Potassium	21.3		11		9.97	102	75-125		6010C
Nickel	0.105		ND		0.100	105	75-125		6010C
Silver	0.108		ND		0.100	108	75-125		6010C
Lead	0.104		ND		0.100	104	75-125		6010C
Sodium	255		260		10.1	NC	75-125		6010C
Selenium	0.103		ND		0.100	103	75-125		6010C
Vanadium	0.110		ND		0.100	110	75-125		6010C
Zinc	0.116		0.013		0.100	103	75-125		6010C
Antimony	0.0964		ND		0.100	96	75-125		6010C
Molybdenum	0.111		0.0076	J	0.100	104	75-125		6010C
Thallium	0.103		ND		0.100	103	75-125		6010C
Strontium	0.407		0.32		0.100	90	75-125		6010C
Phosphorus	1.16		0.066	J	1.00	109	75-125		6010C

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VB - IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 320-327228/2-A

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

Sample Matrix: Water LCS Source: MT6010LCS2_00013

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Aluminum	5.00	4.89		98	80	120		6010C
Arsenic	0.500	0.444		89	80	120		6010C
Barium	0.500	0.474		95	80	120		6010C
Beryllium	0.250	0.272		109	80	120		6010C
Cadmium	0.250	0.242		97	80	120		6010C
Calcium	25.0	23.7		95	80	120		6010C
Chromium	0.250	0.259		103	80	120		6010C
Cobalt	0.250	0.263		105	80	120		6010C
Copper	0.250	0.236		94	80	120		6010C
Magnesium	25.0	24.9		100	80	120		6010C
Manganese	0.250	0.236		94	80	120		6010C
Potassium	25.0	26.6		106	80	120		6010C
Nickel	0.250	0.249		100	80	120		6010C
Silver	0.0500	0.0486		97	80	120		6010C
Lead	0.250	0.256		102	80	120		6010C
Selenium	0.500	0.523		105	80	120		6010C
Vanadium	0.250	0.265		106	80	120		6010C
Zinc	0.499	0.492		99	80	120		6010C
Antimony	0.500	0.493		99	80	120		6010C
Molybdenum	0.250	0.252		101	80	120		6010C
Thallium	0.500	0.482		96	80	120		6010C
Strontium	0.250	0.236		94	80	120		6010C
Phosphorus	5.00	5.58		112	80	120		6010C

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 320-327230/2-A

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

Sample Matrix: Water LCS Source: MT6010LCS2_00013

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Aluminum	5.00	4.95		99	80	120		6010C
Arsenic	0.500	0.450		90	80	120		6010C
Barium	0.500	0.508		102	80	120		6010C
Beryllium	0.250	0.257		103	80	120		6010C
Cadmium	0.250	0.246		99	80	120		6010C
Calcium	25.0	24.8		99	80	120		6010C
Chromium	0.250	0.252		101	80	120		6010C
Cobalt	0.250	0.248		99	80	120		6010C
Copper	0.250	0.227		91	80	120		6010C
Iron	5.00	4.93		99	80	120		6010C
Magnesium	25.0	24.6		99	80	120		6010C
Manganese	0.250	0.250		100	80	120		6010C
Potassium	25.0	24.8		99	80	120		6010C
Nickel	0.250	0.244		97	80	120		6010C
Silver	0.0500	0.0492		99	80	120		6010C
Lead	0.250	0.246		98	80	120		6010C
Sodium	25.0	24.8		99	80	120		6010C
Selenium	0.500	0.483		97	80	120		6010C
Vanadium	0.250	0.255		102	80	120		6010C
Zinc	0.499	0.474		95	80	120		6010C
Antimony	0.500	0.489		98	80	120		6010C
Molybdenum	0.250	0.245		98	80	120		6010C
Thallium	0.500	0.503		101	80	120		6010C
Strontium	0.250	0.241		97	80	120		6010C
Phosphorus	5.00	5.19		104	80	120		6010C

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 320-327228/2-A

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

Sample Matrix: Water LCS Source: MT6010LCS2_00013

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Iron	5.00	4.79		96	80	120		6010C
Sodium	25.0	24.0		96	80	120		6010C

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 320-327722/12-A

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

Sample Matrix: Water LCS Source: HGIM_02500

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Mercury	0.00100	0.00103		103	82	113		7470A

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 320-327721/12-A

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

Sample Matrix: Water LCS Source: HGIM_02500

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Mercury	0.00100	0.000964		96	82	113		7470A

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

8-IN
ICP-AES AND ICP-MS SERIAL DILUTIONS
METALS - DISSOLVED

Lab ID: 180-96144-1

SDG No:

Lab Name: Eurofins TestAmerica, Sacramento Job No: 180-96144-1

Matrix: Water Concentration Units: mg/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	Method
Aluminum	ND		ND		NC		6010C
Arsenic	ND		ND		NC		6010C
Barium	0.18		0.181		1.2		6010C
Beryllium	ND		ND		NC		6010C
Cadmium	ND		ND		NC		6010C
Calcium	37		37.8		2.9		6010C
Chromium	ND		ND		NC		6010C
Cobalt	ND		ND		NC		6010C
Copper	0.014		0.0292	J	NC		6010C
Iron	ND		ND		NC		6010C
Magnesium	22		22.4		2.6		6010C
Manganese	0.15		0.150		3.0		6010C
Potassium	11		11.3		2.1		6010C
Nickel	ND		ND		NC		6010C
Silver	ND		ND		NC		6010C
Lead	ND		ND		NC		6010C
Sodium	260		263		2.4		6010C
Selenium	ND		ND		NC		6010C
Vanadium	ND		ND		NC		6010C
Zinc	0.013		0.0150	J	NC		6010C
Antimony	ND		ND		NC		6010C
Molybdenum	0.0076	J	ND		NC		6010C
Thallium	ND		ND		NC		6010C
Strontium	0.32		0.325		2.2		6010C
Phosphorus	0.066	J	ND		NC		6010C

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIII-IN

9-IN
DETECTION LIMITS
METALS

Lab Name: Eurofins TestAmerica, Sacrament Job Number: 180-96144-1

SDG Number:

Matrix: Water Instrument ID: T01

Method: 6010C MDL Date: 01/01/2013 18:18

Prep Method: 3010A

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Aluminum	2961	0.2	0.048
Antimony	2068	0.02	0.0098
Arsenic	1890	0.02	0.012
Barium	4554	0.005	0.0025
Beryllium	3130	0.002	0.0003
Cadmium	2144	0.002	0.0005
Calcium	3179	0.5	0.05
Chromium	2677	0.008	0.0012
Cobalt	2286	0.005	0.003
Copper	3247	0.01	0.0021
Iron	2599	0.1	0.02
Lead	2203	0.005	0.0025
Magnesium	2790	0.5	0.04
Manganese	2576	0.005	0.0025
Molybdenum	2020	0.02	0.0027
Nickel	2316	0.005	0.0024
Phosphorus	1782	0.5	0.05
Potassium	7664	1	0.093
Selenium	1960	0.02	0.013
Silver	3280	0.005	0.00084
Sodium	5895	1	0.25
Strontium	4077	0.05	0.005
Thallium	1908	0.02	0.009
Vanadium	2924	0.005	0.0019
Zinc	2062	0.01	0.003

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS

Lab Name: Eurofins TestAmerica, Sacrament Job Number: 180-96144-1

SDG Number:

Matrix: Water Instrument ID: T01

Method: 6010C XMDL Date: 01/01/2013 18:04

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Aluminum	3961	0.2	0.048
Antimony	2068	0.02	0.0098
Arsenic	1890	0.02	0.012
Barium	4554	0.005	0.0025
Beryllium	3130	0.002	0.0003
Cadmium	2144	0.002	0.0005
Calcium	3179	0.5	0.05
Chromium	2677	0.008	0.0012
Cobalt	2286	0.005	0.003
Copper	3247	0.01	0.0021
Iron	2599	0.1	0.02
Lead	2203	0.005	0.0025
Magnesium	2790	0.5	0.04
Manganese	2576	0.005	0.0025
Molybdenum	2020	0.02	0.0027
Nickel	2316	0.005	0.0024
Phosphorus	1782	0.5	0.05
Potassium	7664	1	0.093
Selenium	1960	0.02	0.013
Silver	3280	0.005	0.00084
Sodium	5895	1	0.25
Strontium	4077	0.05	0.005
Thallium	1908	0.02	0.009
Vanadium	2924	0.005	0.0019
Zinc	2062	0.01	0.003

FORM IX - IN

9-IN
DETECTION LIMITS
METALS - DISSOLVED

Lab Name: Eurofins TestAmerica, Sacrament Job Number: 180-96144-1

SDG Number:

Matrix: Water Instrument ID: T01

Method: 6010C MDL Date: 01/01/2013 18:18

Prep Method: 3010A

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Aluminum	2961	0.2	0.048
Antimony	2068	0.02	0.0098
Arsenic	1890	0.02	0.012
Barium	4554	0.005	0.0025
Beryllium	3130	0.002	0.0003
Cadmium	2144	0.002	0.0005
Calcium	3179	0.5	0.05
Chromium	2677	0.008	0.0012
Cobalt	2286	0.005	0.003
Copper	3247	0.01	0.0021
Iron	2599	0.1	0.02
Lead	2203	0.005	0.0025
Magnesium	2790	0.5	0.04
Manganese	2576	0.005	0.0025
Molybdenum	2020	0.02	0.0027
Nickel	2316	0.005	0.0024
Phosphorus	1782	0.5	0.05
Potassium	7664	1	0.093
Selenium	1960	0.02	0.013
Silver	3280	0.005	0.00084
Sodium	5895	1	0.25
Strontium	4077	0.05	0.005
Thallium	1908	0.02	0.009
Vanadium	2924	0.005	0.0019
Zinc	2062	0.01	0.003

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - DISSOLVED

Lab Name: Eurofins TestAmerica, Sacrament Job Number: 180-96144-1

SDG Number:

Matrix: Water Instrument ID: T01

Method: 6010C XMDL Date: 01/01/2013 18:04

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Aluminum	3961	0.2	0.048
Antimony	2068	0.02	0.0098
Arsenic	1890	0.02	0.012
Barium	4554	0.005	0.0025
Beryllium	3130	0.002	0.0003
Cadmium	2144	0.002	0.0005
Calcium	3179	0.5	0.05
Chromium	2677	0.008	0.0012
Cobalt	2286	0.005	0.003
Copper	3247	0.01	0.0021
Iron	2599	0.1	0.02
Lead	2203	0.005	0.0025
Magnesium	2790	0.5	0.04
Manganese	2576	0.005	0.0025
Molybdenum	2020	0.02	0.0027
Nickel	2316	0.005	0.0024
Phosphorus	1782	0.5	0.05
Potassium	7664	1	0.093
Selenium	1960	0.02	0.013
Silver	3280	0.005	0.00084
Sodium	5895	1	0.25
Strontium	4077	0.05	0.005
Thallium	1908	0.02	0.009
Vanadium	2924	0.005	0.0019
Zinc	2062	0.01	0.003

FORM IX - IN

9-IN
DETECTION LIMITS
METALS

Lab Name: Eurofins TestAmerica, Sacrament Job Number: 180-96144-1

SDG Number:

Matrix: Water Instrument ID: H04

Method: 7470A MDL Date: 09/28/2011 12:55

Prep Method: 7470A

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Mercury		0.0002	0.0001

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS

Lab Name: Eurofins TestAmerica, Sacrament Job Number: 180-96144-1

SDG Number:

Matrix: Water Instrument ID: H04

Method: 7470A XMDL Date: 09/28/2011 12:56

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Mercury		0.0002	0.0001

FORM IX - IN

9-IN
DETECTION LIMITS
METALS - DISSOLVED

Lab Name: Eurofins TestAmerica, Sacrament Job Number: 180-96144-1

SDG Number:

Matrix: Water Instrument ID: H04

Method: 7470A MDL Date: 09/28/2011 12:55

Prep Method: 7470A

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Mercury		0.0002	0.0001

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - DISSOLVED

Lab Name: Eurofins TestAmerica, Sacrament Job Number: 180-96144-1

SDG Number:

Matrix: Water Instrument ID: H04

Method: 7470A XMDL Date: 09/28/2011 12:56

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Mercury		0.0002	0.0001

FORM IX - IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins TestAmerica, Sacrament Job Number: 180-96144-1

SDG No.:

ICP-AES Instrument ID: T01 Date: 09/12/2019

Analyte	Wave Length	Al	Ba	Ca	Co	Cr	Cu	Fe	Mg	Mn	Mo	Na	Ni	P	Sb
Aluminum	309.271										0.030000				
Antimony	206.833	-0.000009		0.000005		0.017200		0.000061	-0.000000		-0.000000		-0.000460		
Arsenic	189.042	0.000005				-0.006600		-0.000123			0.000800				
Barium	455.403														
Beryllium	313.042			-0.000000											
Boron	208.959							-0.000059			0.019500				
Cadmium	214.438	-0.000000	0.000001	-0.000006				0.000028	0.000002						
Calcium	317.938														
Chromium	267.716	0.000008		-0.000000				0.000005	0.000001					0.000021	
Cobalt	228.616		0.000020					0.000024			-0.000484		0.000090		
Copper	324.754	0.000004						-0.000180			0.000680				
Iron	259.940														
Lead	220.353	-0.000053		-0.000002	-0.000200		0.000280	0.000014	0.000002		-0.002300		0.000180		
Magnesium	279.079							0.000010			-0.012500				
Manganese	257.610			0.000001				-0.000008	0.000003						
Molybdenum	202.030							-0.000006							
Nickel	231.601	-0.000003			0.000200			0.000034			-0.000150				-0.000100
Phosphorus	178.284														
Potassium	766.496	0.000118		-0.000007				-0.000092	0.000093						
Selenium	196.090	0.000006		0.000005				-0.000347	0.000004	0.000468	0.000140				
Silicon	288.158	0.000013				-0.003000					-0.001890				
Silver	328.068	-0.000001		-0.000003				-0.000051	-0.000002		-0.000008				
Sodium	589.592														
Strontium	407.771			0.000020											
Sulfur	182.034	-0.000100		-0.00100				0.002061	0.000100	0.005840	-0.003350				
Thallium	190.856	0.000000		0.000005	0.002300	0.000241		-0.000014	-0.000003	0.000500	-0.000136				
Tin	189.989	0.000014													
Titanium	334.904					0.000169			-0.000003		0.000449				
Vanadium	292.402					-0.005500		-0.000061		-0.000570	-0.000200				
Zinc	206.200	0.000002		0.000001		0.000420		-0.0000032	-0.000002		-0.000200				

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins TestAmerica, Sacrament Job Number: 180-96144-1

SDG No.:

ICP-AES Instrument ID: T01 Date: 09/12/2019

Analyte	Wave Length	Se	Si	Sn	Ti	Tl	V								
Aluminum	309.271														
Antimony	206.833			-0.017336	0.000270		-0.002224								
Arsenic	189.042		-0.000036				0.000000								
Barium	455.403														
Beryllium	313.042				-0.000073		0.000830								
Boron	208.959		0.000016												
Cadmium	214.438														
Calcium	317.938														
Chromium	267.716														
Cobalt	228.616		-0.000012		0.002050										
Copper	324.754				-0.000250		-0.000270								
Iron	259.940														
Lead	220.353	0.000013	0.000087		-0.000825		-0.000100								
Magnesium	279.079														
Manganese	257.610														
Molybdenum	202.030														
Nickel	231.601					0.000270									
Phosphorus	178.284														
Potassium	766.496														
Selenium	196.090		0.000020												
Silicon	288.158			0.002050	0.010000		0.003750								
Silver	328.068						0.000067								
Sodium	589.592														
Strontium	407.771														
Sulfur	182.034														
Thallium	190.856				-0.000408		0.000701								
Tin	189.989				-0.003450										
Titanium	334.904		0.000007												
Vanadium	292.402				0.000650										
Zinc	206.200														

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins TestAmerica, Sacrament Job Number: 180-96144-1

SDG No.:

ICP-AES Instrument ID: T01 Date: 09/17/2019

Analyte	Wave Length	Al	Ba	Ca	Co	Cr	Cu	Fe	Mg	Mn	Mo	Na	Ni	P	Sb
Aluminum	309.271										0.030000				
Antimony	206.833	-0.000009		0.000005		0.017200		0.000061	-0.000000		-0.000000		-0.000460		
Arsenic	189.042	0.000005				-0.006600		-0.000043			0.000800				
Barium	455.403														
Beryllium	313.042			-0.000000											
Boron	208.959							-0.000059			0.019500				
Cadmium	214.438	-0.000000	0.000001	-0.000006				0.000028	0.000002						
Calcium	317.938														
Chromium	267.716	0.000008		-0.000000				0.000005	0.000001					0.000021	
Cobalt	228.616		0.000020					0.000024			-0.000484		0.000090		
Copper	324.754	0.000004						-0.000171			0.000680				
Iron	259.940														
Lead	220.353	-0.000108		-0.000002	-0.000200		0.000280	0.000031	0.000002		-0.002300		0.000180		
Magnesium	279.079							0.000010			-0.012500				
Manganese	257.610			0.000001				-0.000008	0.000003						
Molybdenum	202.030							-0.000006							
Nickel	231.601	-0.000003			0.000200			0.000023			-0.000150				-0.000100
Phosphorus	178.284														
Potassium	766.496	0.000118		-0.000007				-0.000092	0.000093						
Selenium	196.090	0.000006		0.000005				-0.000155	0.000004	0.000468	0.000140				
Silicon	288.158	0.000013				-0.003000					-0.001890				
Silver	328.068	-0.000001		-0.000000				-0.000060	-0.000002		-0.000008				
Sodium	589.592														
Strontium	407.771			0.000020											
Sulfur	182.034	-0.000100		-0.00100				0.002061	0.000100	0.005840	-0.003350				
Thallium	190.856	0.000000		0.000005	0.002300	0.000241		-0.000014	-0.000003	0.000500	-0.000136				
Tin	189.989	0.000014													
Titanium	334.904					0.000169			-0.000003		0.000449				
Vanadium	292.402					-0.005500		-0.000037		-0.000570	-0.000200				
Zinc	206.200	0.000002		0.000001		0.000420		-0.0000043	-0.000002		-0.000200				

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins TestAmerica, Sacrament Job Number: 180-96144-1

SDG No.:

ICP-AES Instrument ID: T01 Date: 09/17/2019

Analyte	Wave Length	Se	Si	Sn	Ti	Tl	V								
Aluminum	309.271														
Antimony	206.833			-0.017336	0.000270		-0.002224								
Arsenic	189.042		-0.000036				0.000000								
Barium	455.403														
Beryllium	313.042				-0.000073		0.000830								
Boron	208.959		0.000016												
Cadmium	214.438														
Calcium	317.938														
Chromium	267.716														
Cobalt	228.616		-0.000012		0.002050										
Copper	324.754				-0.000250		-0.000270								
Iron	259.940														
Lead	220.353	0.000013	0.000087		-0.000825		-0.000100								
Magnesium	279.079														
Manganese	257.610														
Molybdenum	202.030														
Nickel	231.601					0.000270									
Phosphorus	178.284														
Potassium	766.496														
Selenium	196.090		0.000020												
Silicon	288.158			0.002050	0.010000		0.003750								
Silver	328.068						0.000067								
Sodium	589.592														
Strontium	407.771														
Sulfur	182.034														
Thallium	190.856				-0.000408		0.000701								
Tin	189.989				-0.003450										
Titanium	334.904		0.000007												
Vanadium	292.402				0.000650										
Zinc	206.200														

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins TestAmerica, Sacrament Job Number: 180-96144-1

SDG No.:

ICP-AES Instrument ID: T01 Date: 09/19/2019

Analyte	Wave Length	Al	Ba	Ca	Co	Cr	Cu	Fe	Mg	Mn	Mo	Na	Ni	P	Sb
Aluminum	309.271										0.030000				
Antimony	206.833	-0.000009		0.000005		0.017200		0.000061	-0.000000		-0.000000		-0.000460		
Arsenic	189.042	0.000005				-0.006600		-0.000043			0.000800				
Barium	455.403														
Beryllium	313.042			-0.000000											
Boron	208.959							-0.000059			0.019500				
Cadmium	214.438	-0.000000	0.000001	-0.000006				0.000028	0.000002						
Calcium	317.938														
Chromium	267.716	0.000008		-0.000000				0.000005	0.000001					0.000021	
Cobalt	228.616		0.000020					0.000024			-0.000484		0.000090		
Copper	324.754	0.000004						-0.000089			0.000680				
Iron	259.940														
Lead	220.353	-0.000108		-0.000002	-0.000200		0.000280	0.000031	0.000002		-0.002300		0.000180		
Magnesium	279.079							0.000010			-0.012500				
Manganese	257.610			0.000001				-0.000008	0.000003						
Molybdenum	202.030							-0.000006							
Nickel	231.601	-0.000003			0.000200			0.000023			-0.000150				-0.000100
Phosphorus	178.284														
Potassium	766.496	0.000118		-0.000007				-0.000092	0.000093						
Selenium	196.090	0.000006		0.000005				-0.000155	0.000004	0.000468	0.000140				
Silicon	288.158	0.000013				-0.003000					-0.001890				
Silver	328.068	-0.000001		-0.000000				-0.000060	-0.000002		-0.000008				
Sodium	589.592														
Strontium	407.771			0.000020											
Sulfur	182.034	-0.000100		-0.00100				0.002061	0.000100	0.005840	-0.003350				
Thallium	190.856	0.000000		0.000005	0.002300	0.000241		-0.000014	-0.000003	0.000500	-0.000136				
Tin	189.989	0.000014													
Titanium	334.904					0.000169			-0.000003		0.000449				
Vanadium	292.402					-0.005500		-0.000037		-0.000570	-0.000200				
Zinc	206.200	0.000002		0.000001		0.000420		-0.0000043	-0.000002		-0.000200				

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins TestAmerica, Sacrament Job Number: 180-96144-1

SDG No.:

ICP-AES Instrument ID: T01 Date: 09/19/2019

Analyte	Wave Length	Se	Si	Sn	Ti	Tl	V								
Aluminum	309.271														
Antimony	206.833			-0.017336	0.000270		-0.002224								
Arsenic	189.042		-0.000036				0.000000								
Barium	455.403														
Beryllium	313.042				-0.000073		0.000830								
Boron	208.959		0.000016												
Cadmium	214.438														
Calcium	317.938														
Chromium	267.716														
Cobalt	228.616		-0.000012		0.002050										
Copper	324.754				-0.000250		-0.000270								
Iron	259.940														
Lead	220.353	0.000013	0.000087		-0.000825		-0.000100								
Magnesium	279.079														
Manganese	257.610														
Molybdenum	202.030														
Nickel	231.601					0.000270									
Phosphorus	178.284														
Potassium	766.496														
Selenium	196.090		0.000020												
Silicon	288.158			0.002050	0.010000		0.003750								
Silver	328.068						0.000067								
Sodium	589.592														
Strontium	407.771														
Sulfur	182.034														
Thallium	190.856				-0.000408		0.000701								
Tin	189.989				-0.003450										
Titanium	334.904		0.000007												
Vanadium	292.402				0.000650										
Zinc	206.200														

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins TestAmerica, Sacrament Job Number: 180-96144-1

SDG No.:

ICP-AES Instrument ID: T01 Date: 09/30/2019

Analyte	Wave Length	Al	Ba	Ca	Co	Cr	Cu	Fe	Mg	Mn	Mo	Na	Ni	P	Sb
Aluminum	309.271										0.030000				
Antimony	206.833	-0.000009		0.000005		0.017200		0.000041	-0.000000		-0.000000		-0.000460		
Arsenic	189.042	0.000005				-0.006600		-0.000043			0.000800				
Barium	455.403														
Beryllium	313.042			-0.000000											
Boron	208.959							-0.000059			0.019500				
Cadmium	214.438	-0.000000	0.000001	-0.000006				0.000043	0.000000						
Calcium	317.938														
Chromium	267.716	0.000008		-0.000000				0.000005	0.000001					0.000021	
Cobalt	228.616		0.000020					0.000024			-0.000484		0.000090		
Copper	324.754	0.000004						-0.000128			0.000680				
Iron	259.940														
Lead	220.353	-0.000083		-0.000001	-0.000200		0.000280	0.000084	0.000000		-0.002300		0.000180		
Magnesium	279.079							0.000010			-0.012500				
Manganese	257.610			0.000001				-0.000008	0.000003						
Molybdenum	202.030							-0.000006							
Nickel	231.601	-0.000003			0.000200			0.000023			-0.000150				-0.000100
Phosphorus	178.284														
Potassium	766.496	0.000118		-0.000007				-0.000092	0.000093						
Selenium	196.090	0.000006		0.000005				-0.000155	0.000004	0.000468	0.000140				
Silicon	288.158	0.000013				-0.003000					-0.001890				
Silver	328.068	-0.000001		-0.000000				0.000004	-0.000002		-0.000008				
Sodium	589.592														
Strontium	407.771			0.000020											
Sulfur	182.034	-0.000100		-0.00100				0.002061	0.000100	0.005840	-0.003350				
Thallium	190.856	0.000000		0.000005	0.002300	0.000241		-0.000014	-0.000003	0.000500	-0.000136				
Tin	189.989	0.000014													
Titanium	334.904					0.000169			-0.000003		0.000449				
Vanadium	292.402					-0.005500		-0.000034		-0.000570	-0.000200				
Zinc	206.200	0.000002		0.000001		0.000420		-0.0000006	-0.000002		-0.000200				

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins TestAmerica, Sacrament Job Number: 180-96144-1

SDG No.:

ICP-AES Instrument ID: T01 Date: 09/30/2019

Analyte	Wave Length	Se	Si	Sn	Ti	Tl	V								
Aluminum	309.271														
Antimony	206.833			-0.017336	0.000270		-0.002224								
Arsenic	189.042		-0.000036				0.000000								
Barium	455.403														
Beryllium	313.042				-0.000073		0.000830								
Boron	208.959		0.000016												
Cadmium	214.438														
Calcium	317.938														
Chromium	267.716														
Cobalt	228.616		-0.000012		0.002050										
Copper	324.754				-0.000250		-0.000270								
Iron	259.940														
Lead	220.353	0.000013	0.000087		-0.000825		-0.000100								
Magnesium	279.079														
Manganese	257.610														
Molybdenum	202.030														
Nickel	231.601					0.000270									
Phosphorus	178.284														
Potassium	766.496														
Selenium	196.090		0.000020												
Silicon	288.158			0.002050	0.010000		0.003750								
Silver	328.068						0.000067								
Sodium	589.592														
Strontium	407.771														
Sulfur	182.034														
Thallium	190.856				-0.000408		0.000701								
Tin	189.989				-0.003450										
Titanium	334.904		0.000007												
Vanadium	292.402				0.000650										
Zinc	206.200														

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins TestAmerica, Sacrament Job Number: 180-96144-1

SDG No.:

ICP-AES Instrument ID: T01 Date: 10/01/2019

Analyte	Wave Length	Al	Ba	Ca	Co	Cr	Cu	Fe	Mg	Mn	Mo	Na	Ni	P	Sb
Aluminum	309.271										0.030000				
Antimony	206.833	-0.000009		0.000005		0.017200		0.000041	-0.000000		-0.000000		-0.000460		
Arsenic	189.042	0.000005				-0.006600		-0.000099			0.000800				
Barium	455.403														
Beryllium	313.042			-0.000000											
Boron	208.959							-0.000059			0.019500				
Cadmium	214.438	-0.000000	0.000001	-0.000006				0.000045	0.000000						
Calcium	317.938														
Chromium	267.716	0.000008		-0.000000				0.000005	0.000001					0.000021	
Cobalt	228.616		0.000020					0.000024			-0.000484		0.000090		
Copper	324.754	0.000004						-0.000146			0.000680				
Iron	259.940														
Lead	220.353	-0.000068		-0.000001	-0.000200		0.000280	0.000084	0.000000		-0.002300		0.000180		
Magnesium	279.079							0.000010			-0.012500				
Manganese	257.610			0.000001				-0.000008	0.000003						
Molybdenum	202.030							-0.000006							
Nickel	231.601	-0.000003			0.000200			0.000023			-0.000150				-0.000100
Phosphorus	178.284														
Potassium	766.496	0.000118		-0.000007				-0.000092	0.000093						
Selenium	196.090	0.000006		0.000005				-0.000164	0.000004	0.000468	0.000140				
Silicon	288.158	0.000013				-0.003000					-0.001890				
Silver	328.068	-0.000001		-0.000000				0.000004	-0.000002		-0.000008				
Sodium	589.592														
Strontium	407.771			0.000020											
Sulfur	182.034	-0.000100		-0.00100				0.002061	0.000100	0.005840	-0.003350				
Thallium	190.856	0.000000		0.000005	0.002300	0.000241		-0.000014	-0.000003	0.000500	-0.000136				
Tin	189.989	0.000014													
Titanium	334.904					0.000169			-0.000003		0.000449				
Vanadium	292.402					-0.005500		-0.000046		-0.000570	-0.000200				
Zinc	206.200	0.000039		-0.000004		0.000420		0.0000034	-0.000004		-0.000200				

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins TestAmerica, Sacrament Job Number: 180-96144-1

SDG No.:

ICP-AES Instrument ID: T01 Date: 10/01/2019

Analyte	Wave Length	Se	Si	Sn	Ti	Tl	V								
Aluminum	309.271														
Antimony	206.833			-0.017336	0.000270		-0.002224								
Arsenic	189.042		-0.000036				0.000000								
Barium	455.403														
Beryllium	313.042				-0.000073		0.000830								
Boron	208.959		0.000016												
Cadmium	214.438														
Calcium	317.938														
Chromium	267.716														
Cobalt	228.616		-0.000012		0.002050										
Copper	324.754				-0.000250		-0.000270								
Iron	259.940														
Lead	220.353	0.000013	0.000087		-0.000825		-0.000100								
Magnesium	279.079														
Manganese	257.610														
Molybdenum	202.030														
Nickel	231.601					0.000270									
Phosphorus	178.284														
Potassium	766.496														
Selenium	196.090		0.000020												
Silicon	288.158			0.002050	0.010000		0.003750								
Silver	328.068						0.000067								
Sodium	589.592														
Strontium	407.771														
Sulfur	182.034														
Thallium	190.856				-0.000408		0.000701								
Tin	189.989				-0.003450										
Titanium	334.904		0.000007												
Vanadium	292.402				0.000650										
Zinc	206.200														

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins TestAmerica, Sacrament Job Number: 180-96144-1

SDG No.:

ICP-AES Instrument ID: T01 Date: 10/02/2019

Analyte	Wave Length	Al	Ba	Ca	Co	Cr	Cu	Fe	Mg	Mn	Mo	Na	Ni	P	Sb
Aluminum	309.271										0.030000				
Antimony	206.833	-0.000009		0.000005		0.017200		0.000041	-0.000000		-0.000000		-0.000460		
Arsenic	189.042	0.000005				-0.006600		-0.000099			0.000800				
Barium	455.403														
Beryllium	313.042			-0.000000											
Boron	208.959							-0.000059			0.019500				
Cadmium	214.438	-0.000000	0.000001	-0.000006				0.000030	0.000000						
Calcium	317.938														
Chromium	267.716	0.000008		-0.000000				0.000005	0.000001					0.000021	
Cobalt	228.616		0.000020					0.000024			-0.000484		0.000090		
Copper	324.754	0.000004						-0.000146			0.000680				
Iron	259.940														
Lead	220.353	-0.000068		-0.000001	-0.000200		0.000280	0.000084	0.000000		-0.002300		0.000180		
Magnesium	279.079							0.000010			-0.012500				
Manganese	257.610			0.000001				-0.000008	0.000003						
Molybdenum	202.030							-0.000006							
Nickel	231.601	-0.000003			0.000200			0.000009			-0.000150				-0.000100
Phosphorus	178.284														
Potassium	766.496	0.000118		-0.000007				-0.000092	0.000093						
Selenium	196.090	0.000006		0.000005				-0.000164	0.000004	0.000468	0.000140				
Silicon	288.158	0.000013				-0.003000					-0.001890				
Silver	328.068	-0.000001		-0.000000				-0.000003	-0.000002		-0.000008				
Sodium	589.592														
Strontium	407.771			0.000020											
Sulfur	182.034	-0.000100		-0.00100				0.001845	0.000100	0.005840	-0.003350				
Thallium	190.856	0.000000		0.000005	0.002300	0.000241		-0.000014	-0.000003	0.000500	-0.000136				
Tin	189.989	0.000014													
Titanium	334.904					0.000169			-0.000003		0.000449				
Vanadium	292.402					-0.005500		-0.000046		-0.000570	-0.000200				
Zinc	206.200	0.000018		0.000001		0.000420		0.0000015	0.000001		-0.000200				

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins TestAmerica, Sacrament Job Number: 180-96144-1

SDG No.:

ICP-AES Instrument ID: T01 Date: 10/02/2019

Analyte	Wave Length	Se	Si	Sn	Ti	Tl	V								
Aluminum	309.271														
Antimony	206.833			-0.017336	0.000270		-0.002224								
Arsenic	189.042		-0.000036				0.000000								
Barium	455.403														
Beryllium	313.042				-0.000073		0.000830								
Boron	208.959		0.000016												
Cadmium	214.438														
Calcium	317.938														
Chromium	267.716														
Cobalt	228.616		-0.000012		0.002050										
Copper	324.754				-0.000250		-0.000270								
Iron	259.940														
Lead	220.353	0.000013	0.000087		-0.000825		-0.000100								
Magnesium	279.079														
Manganese	257.610														
Molybdenum	202.030														
Nickel	231.601					0.000270									
Phosphorus	178.284														
Potassium	766.496														
Selenium	196.090		0.000020												
Silicon	288.158			0.002050	0.010000		0.003750								
Silver	328.068						0.000067								
Sodium	589.592														
Strontium	407.771														
Sulfur	182.034														
Thallium	190.856				-0.000408		0.000701								
Tin	189.989				-0.003450										
Titanium	334.904		0.000007												
Vanadium	292.402				0.000650										
Zinc	206.200														

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins TestAmerica, Sacrament Job Number: 180-96144-1

SDG No.:

ICP-AES Instrument ID: T01 Date: 10/16/2019

Analyte	Wave Length	Al	Ba	Ca	Co	Cr	Cu	Fe	Mg	Mn	Mo	Na	Ni	P	Sb
Aluminum	309.271										0.030000				
Antimony	206.833	-0.000009		0.000005		0.017200		0.000040	-0.000000		-0.000000		-0.000460		
Arsenic	189.042	0.000005				-0.006600		-0.000099			0.000800				
Barium	455.403														
Beryllium	313.042			-0.000000											
Boron	208.959							-0.000059			0.019500				
Cadmium	214.438	-0.000000	0.000001	-0.000006				0.000031	0.000000						
Calcium	317.938														
Chromium	267.716	0.000008		-0.000000				0.000004	0.000001					0.000021	
Cobalt	228.616		0.000020					0.000024			-0.000484		0.000090		
Copper	324.754	0.000004						-0.000085			0.000680				
Iron	259.940														
Lead	220.353	-0.000067		-0.000001	-0.000200		0.000280	0.000010	0.000000		-0.002300		0.000180		
Magnesium	279.079							0.000010			-0.012500				
Manganese	257.610			0.000001				-0.000008	0.000003						
Molybdenum	202.030							-0.000006							
Nickel	231.601	-0.000003			0.000200			0.000009			-0.000150				-0.000100
Phosphorus	178.284														
Potassium	766.496	0.000118		-0.000007				-0.000092	0.000093						
Selenium	196.090	0.000006		0.000005				-0.000117	0.000004	0.000468	0.000140				
Silicon	288.158	0.000004		0.000004		-0.003000		0.000010			-0.001890				
Silver	328.068	-0.000001		-0.000000				-0.000003	0.000001		-0.000008				
Sodium	589.592														
Strontium	407.771			0.000020											
Sulfur	182.034	-0.000100		-0.00100				0.001844	0.000100	0.005840	-0.003350				
Thallium	190.856	0.000000		0.000005	0.002300	0.000241		-0.000081	-0.000003	0.000500	-0.000136				
Tin	189.989	0.000014													
Titanium	334.904					0.000169			-0.000003		0.000449				
Vanadium	292.402					-0.005500		-0.000044		-0.000570	-0.000200				
Zinc	206.200	0.000005		0.000001		0.000420		0.0000047	0.000001		-0.000200				

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins TestAmerica, Sacrament Job Number: 180-96144-1

SDG No.:

ICP-AES Instrument ID: T01 Date: 10/16/2019

Analyte	Wave Length	Se	Si	Sn	Ti	Tl	V								
Aluminum	309.271														
Antimony	206.833			-0.017336	0.000270		-0.002224								
Arsenic	189.042		-0.000036				0.000000								
Barium	455.403														
Beryllium	313.042				-0.000073		0.000830								
Boron	208.959		0.000016												
Cadmium	214.438														
Calcium	317.938														
Chromium	267.716														
Cobalt	228.616		-0.000012		0.002050										
Copper	324.754				-0.000250		-0.000270								
Iron	259.940														
Lead	220.353	0.000013	0.000087		-0.000825		-0.000100								
Magnesium	279.079														
Manganese	257.610														
Molybdenum	202.030														
Nickel	231.601					0.000270									
Phosphorus	178.284														
Potassium	766.496														
Selenium	196.090		0.000020												
Silicon	288.158			0.002050	0.010000		0.003750								
Silver	328.068						0.000067								
Sodium	589.592														
Strontium	407.771														
Sulfur	182.034														
Thallium	190.856				-0.000408		0.000701								
Tin	189.989				-0.003450										
Titanium	334.904		0.000007												
Vanadium	292.402				0.000650										
Zinc	206.200														

X-IN

11-IN
LINEAR RANGES
METALS

Lab Name: Eurofins TestAmerica, Sacramen Job No: 180-96144-1

SDG No.:

Instrument ID: T01 Date: 09/06/2018 17:40

Analyte	Integ. Time (Sec.)	Concentration (ug/mL)	Method
Aluminum		2500	6010C
Arsenic		75	6010C
Barium		100	6010C
Beryllium		25	6010C
Cadmium		40	6010C
Calcium		2500	6010C
Chromium		100	6010C
Cobalt		100	6010C
Copper		75	6010C
Iron		1000	6010C
Magnesium		2500	6010C
Manganese		30	6010C
Potassium		1000	6010C
Nickel		100	6010C
Silver		2.0	6010C
Lead		50	6010C
Sodium		500	6010C
Selenium		100	6010C
Vanadium		100	6010C
Zinc		60	6010C
Antimony		100	6010C
Molybdenum		40	6010C
Thallium		5.0	6010C
Strontium		25	6010C
Phosphorus		100	6010C

11-IN
LINEAR RANGES
METALS

Lab Name: Eurofins TestAmerica, Sacramen Job No: 180-96144-1

SDG No.:

Instrument ID: H04 Date: 01/01/2012 15:32

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Mercury		10	7470A

FORM XI - IN

12-IN
PREPARATION LOG
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Prep Method: 3010A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 320-327228/1-A	09/30/2019 06:00	327228		50	50
LCS 320-327228/2-A	09/30/2019 06:00	327228		50	50
180-96144-1	09/30/2019 06:00	327228		50	50

FORM XII-IN

12-IN
PREPARATION LOG
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Prep Method: 3010A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 320-327230/1-A	09/30/2019 06:00	327230		50	50
LCS 320-327230/2-A	09/30/2019 06:00	327230		50	50
180-96144-1	09/30/2019 06:00	327230		50	50
180-96144-1 MS	09/30/2019 06:00	327230		50	50
180-96144-1 MSD	09/30/2019 06:00	327230		50	50

FORM XII-IN

12-IN
PREPARATION LOG
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Prep Method: 7470A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 320-327721/11-A	10/02/2019 09:30	327721		30	30
LCS 320-327721/12-A	10/02/2019 09:30	327721		30	30
180-96144-1	10/02/2019 09:30	327721		30	30

FORM XII-IN

12-IN
PREPARATION LOG
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Prep Method: 7470A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 320-327722/11-A	10/02/2019 09:30	327722		30	30
LCS 320-327722/12-A	10/02/2019 09:30	327722		30	30
180-96144-1	10/02/2019 09:30	327722		30	30

FORM XII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Instrument ID: T01 Analysis Method: 6010C

Start Date: 09/30/2019 10:20 End Date: 09/30/2019 18:43

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	K	Mg	Mn	Mo	Ni	P	Pb	Sb	Se	Sr	Tl	V	Zn			
RINSE 320-327515/1			10:20																										
RINSE 320-327515/2			10:24																										
RINSE 320-327515/3			10:28																										
CALSTD0 320-327515/4 IC			10:32	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
CALSTD1 320-327515/5 IC			10:36	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
CALSTD2 320-327515/6 IC			10:40	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
LRA 320-327515/7			10:44																										
RINSE 320-327515/8			10:48																										
ICV 320-327515/9	1		10:52	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
ICBIS 320-327515/10	1		10:56	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
CRI 320-327515/11	1		11:00	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
CRI 320-327515/12			11:04																										
ICSA 320-327515/13	1		11:08	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
ICSAB 320-327515/14	1		11:12	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
ZZZZZZ			11:15																										
ZZZZZZ			11:19																										
ZZZZZZ			11:23																										
ZZZZZZ			11:27																										
ZZZZZZ			11:31																										
ZZZZZZ			11:35																										
CCV 320-327515/21			11:39																										
CCB 320-327515/22			11:43																										
ZZZZZZ			11:47																										
ZZZZZZ			11:51																										
ZZZZZZ			11:55																										
ZZZZZZ			11:59																										
ZZZZZZ			12:03																										
ZZZZZZ			12:07																										
ZZZZZZ			12:11																										
ZZZZZZ			12:15																										
ZZZZZZ			12:19																										
ZZZZZZ			12:23																										
CCV 320-327515/33			12:26																										
CCB 320-327515/34			12:30																										
ZZZZZZ			12:34																										
ZZZZZZ			12:38																										
ZZZZZZ			12:42																										
ZZZZZZ			12:46																										
ZZZZZZ			12:50																										
ZZZZZZ			12:54																										
ZZZZZZ			12:58																										
ZZZZZZ			13:01																										

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Instrument ID: T01 Analysis Method: 6010C

Start Date: 09/30/2019 10:20 End Date: 09/30/2019 18:43

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	K	Mg	Mn	Mo	Ni	P	Pb	Sb	Se	Sr	Tl	V	Zn			
ZZZZZZ			13:05																										
ZZZZZZ			13:09																										
CCV 320-327515/45			13:13																										
CCB 320-327515/46			13:17																										
ZZZZZZ			13:21																										
ZZZZZZ			13:25																										
ZZZZZZ			13:29																										
ZZZZZZ			13:33																										
ZZZZZZ			13:37																										
ZZZZZZ			13:41																										
ZZZZZZ			13:45																										
ZZZZZZ			13:49																										
ZZZZZZ			13:53																										
ZZZZZZ			13:57																										
CCV 320-327515/57			14:01																										
CCB 320-327515/58			14:05																										
ZZZZZZ			14:09																										
ZZZZZZ			14:13																										
ZZZZZZ			14:17																										
ZZZZZZ			14:21																										
ZZZZZZ			14:25																										
ZZZZZZ			14:29																										
ZZZZZZ			14:32																										
ZZZZZZ			14:36																										
ZZZZZZ			14:40																										
ZZZZZZ			14:44																										
CCV 320-327515/69			14:48																										
CCB 320-327515/70			14:51																										
ZZZZZZ			14:55																										
ZZZZZZ			14:59																										
ZZZZZZ			15:03																										
ZZZZZZ			15:07																										
ZZZZZZ			15:11																										
ZZZZZZ			15:15																										
ZZZZZZ			15:19																										
ZZZZZZ			15:23																										
ZZZZZZ			15:27																										
ZZZZZZ			15:31																										
CCV 320-327515/81			15:35																										
CCB 320-327515/82			15:38																										
ZZZZZZ			15:42																										
ZZZZZZ			15:46																										

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Instrument ID: T01 Analysis Method: 6010C

Start Date: 09/30/2019 10:20 End Date: 09/30/2019 18:43

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	K	Mg	Mn	Mo	Ni	P	Pb	Sb	Se	Sr	Tl	V	Zn			
ZZZZZZ			15:50																										
ZZZZZZ			15:54																										
ZZZZZZ			15:58																										
ZZZZZZ			16:02																										
ZZZZZZ			16:06																										
ZZZZZZ			16:10																										
ZZZZZZ			16:14																										
ZZZZZZ			16:18																										
CCV 320-327515/93			16:22																										
CCB 320-327515/94			16:25																										
ZZZZZZ			16:29																										
ZZZZZZ			16:33																										
ZZZZZZ			16:37																										
ZZZZZZ			16:41																										
ZZZZZZ			16:45																										
ZZZZZZ			16:49																										
ZZZZZZ			16:53																										
ZZZZZZ			16:57																										
ZZZZZZ			17:01																										
ZZZZZZ			17:05																										
CCV 320-327515/105	1		17:09	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
CCB 320-327515/106	1		17:13	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
ZZZZZZ			17:17																										
ZZZZZZ			17:20																										
ZZZZZZ			17:24																										
ZZZZZZ			17:28																										
ZZZZZZ			17:32																										
ZZZZZZ			17:36																										
MB 320-327228/1-A	1	T	17:40	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
LCS 320-327228/2-A	1	T	17:44	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
ZZZZZZ			17:48																										
ZZZZZZ			17:52																										
CCV 320-327515/117	1		17:56	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
CCB 320-327515/118	1		17:59	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
ZZZZZZ			18:03																										
ZZZZZZ			18:07																										
ZZZZZZ			18:11																										
180-96144-1	1	T	18:15	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
CCV 320-327515/123	1		18:19	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
CCB 320-327515/124	1		18:22	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
CCVL 320-327515/125	1		18:27	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
RINSE 320-327515/126			18:31																										

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Instrument ID: T01 Analysis Method: 6010C

Start Date: 09/30/2019 10:20 End Date: 09/30/2019 18:43

Lab Sample Id	D/F	Type	Time	Analytes																									
				Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	K	Mg	Mn	Mo	Ni	P	Pb	Sb	Se	Sr	Tl	V	Zn			
RINSE 320-327515/127			18:35																										
RINSE 320-327515/128			18:39																										
RINSE 320-327515/129			18:43																										

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Instrument ID: T01 Analysis Method: 6010C

Start Date: 10/01/2019 14:27 End Date: 10/02/2019 00:20

Lab Sample Id	D/F	Type	Time	Analytes																							
				Fe	Na																						
RINSE 320-327736/1			14:27																								
RINSE 320-327736/2			14:31																								
RINSE 320-327736/3			14:35																								
CALSTD0 320-327736/4 IC			14:39	X	X																						
CALSTD1 320-327736/5 IC			14:43	X	X																						
CALSTD2 320-327736/6 IC			14:47	X	X																						
LRA 320-327736/7			14:51																								
RINSE 320-327736/8			14:55																								
ICV 320-327736/9	1		14:59	X	X																						
ICBIS 320-327736/10	1		15:02	X	X																						
CRI 320-327736/11			15:06																								
CRI 320-327736/12	1		15:10	X	X																						
ICSA 320-327736/13	1		15:14	X	X																						
ICSAB 320-327736/14	1		15:18	X	X																						
ZZZZZZ			15:22																								
ZZZZZZ			15:26																								
ZZZZZZ			15:30																								
ZZZZZZ			15:34																								
ZZZZZZ			15:38																								
ZZZZZZ			15:42																								
CCV 320-327736/21	1		15:46	X	X																						
CCB 320-327736/22	1		15:50	X	X																						
ZZZZZZ			15:54																								
ZZZZZZ			15:58																								
ZZZZZZ			16:02																								
MB 320-327228/1-A	1	T	16:06	X	X																						
ZZZZZZ			16:10																								
ZZZZZZ			16:14																								
ZZZZZZ			16:18																								
ZZZZZZ			16:22																								
ZZZZZZ			16:25																								
ZZZZZZ			16:29																								
CCV 320-327736/33	1		16:33	X	X																						
CCB 320-327736/34	1		16:37	X	X																						
ZZZZZZ			16:41																								
ZZZZZZ			16:45																								
180-96144-1	1	T	16:49	X	X																						
ZZZZZZ			16:53																								
ZZZZZZ			16:57																								
ZZZZZZ			17:00																								
ZZZZZZ			17:04																								
ZZZZZZ			17:08																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Instrument ID: T01 Analysis Method: 6010C

Start Date: 10/01/2019 14:27 End Date: 10/02/2019 00:20

Lab Sample Id	D/F	Type	Time	Analytes																							
				Fe	Na																						
ZZZZZZ			17:12																								
ZZZZZZ			17:16																								
CCV 320-327736/45	1		17:20	X	X																						
CCB 320-327736/46	1		17:23	X	X																						
ZZZZZZ			17:27																								
ZZZZZZ			17:31																								
ZZZZZZ			17:35																								
ZZZZZZ			17:39																								
ZZZZZZ			17:43																								
ZZZZZZ			17:47																								
ZZZZZZ			17:51																								
ZZZZZZ			17:54																								
ZZZZZZ			17:58																								
ZZZZZZ			18:02																								
CCV 320-327736/57			18:06																								
CCB 320-327736/58			18:10																								
ZZZZZZ			18:14																								
ZZZZZZ			18:17																								
ZZZZZZ			18:21																								
ZZZZZZ			18:25																								
ZZZZZZ			18:29																								
ZZZZZZ			18:32																								
ZZZZZZ			18:36																								
ZZZZZZ			18:40																								
ZZZZZZ			18:44																								
ZZZZZZ			18:48																								
CCV 320-327736/69			18:51																								
CCB 320-327736/70			18:55																								
ZZZZZZ			18:59																								
ZZZZZZ			19:03																								
ZZZZZZ			19:07																								
ZZZZZZ			19:11																								
ZZZZZZ			19:14																								
ZZZZZZ			19:18																								
ZZZZZZ			19:22																								
ZZZZZZ			19:26																								
ZZZZZZ			19:29																								
ZZZZZZ			19:33																								
CCV 320-327736/81			19:37																								
CCB 320-327736/82			19:41																								
ZZZZZZ			19:45																								
ZZZZZZ			19:49																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Instrument ID: T01 Analysis Method: 6010C

Start Date: 10/01/2019 14:27 End Date: 10/02/2019 00:20

Lab Sample Id	D/F	Type	Time	Analytes																							
				Fe	Na																						
ZZZZZZ			19:53																								
ZZZZZZ			19:56																								
ZZZZZZ			20:00																								
ZZZZZZ			20:04																								
ZZZZZZ			20:08																								
ZZZZZZ			20:12																								
ZZZZZZ			20:15																								
ZZZZZZ			20:19																								
CCV 320-327736/93			20:23																								
CCB 320-327736/94			20:27																								
ZZZZZZ			20:31																								
ZZZZZZ			20:34																								
ZZZZZZ			20:38																								
ZZZZZZ			20:42																								
ZZZZZZ			20:46																								
ZZZZZZ			20:50																								
ZZZZZZ			20:53																								
ZZZZZZ			20:57																								
ZZZZZZ			21:01																								
ZZZZZZ			21:05																								
CCV 320-327736/105			21:09																								
CCB 320-327736/106			21:12																								
ZZZZZZ			21:16																								
ZZZZZZ			21:20																								
ZZZZZZ			21:24																								
ZZZZZZ			21:28																								
ZZZZZZ			21:32																								
ZZZZZZ			21:35																								
ZZZZZZ			21:39																								
ZZZZZZ			21:43																								
ZZZZZZ			21:47																								
ZZZZZZ			21:51																								
CCV 320-327736/117			21:55																								
CCB 320-327736/118			21:58																								
ZZZZZZ			22:02																								
ZZZZZZ			22:06																								
ZZZZZZ			22:10																								
ZZZZZZ			22:14																								
ZZZZZZ			22:17																								
ZZZZZZ			22:21																								
ZZZZZZ			22:25																								
ZZZZZZ			22:29																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Instrument ID: T01 Analysis Method: 6010C

Start Date: 10/01/2019 14:27 End Date: 10/02/2019 00:20

Lab Sample Id	D/F	Type	Time	Analytes																								
				Fe	Na																							
ZZZZZZ			22:33																									
ZZZZZZ			22:36																									
CCV 320-327736/129			22:40																									
CCB 320-327736/130			22:44																									
ZZZZZZ			22:48																									
ZZZZZZ			22:52																									
ZZZZZZ			22:55																									
ZZZZZZ			22:59																									
ZZZZZZ			23:03																									
ZZZZZZ			23:06																									
ZZZZZZ			23:10																									
ZZZZZZ			23:14																									
ZZZZZZ			23:17																									
ZZZZZZ			23:21																									
CCV 320-327736/141			23:24																									
CCB 320-327736/142			23:28																									
ZZZZZZ			23:32																									
ZZZZZZ			23:35																									
ZZZZZZ			23:39																									
ZZZZZZ			23:43																									
ZZZZZZ			23:46																									
ZZZZZZ			23:50																									
ZZZZZZ			23:54																									
CCV 320-327736/150			23:57																									
CCB 320-327736/151			00:01																									
CCVL 320-327736/152	1		00:05	X	X																							
RINSE 320-327736/153			00:09																									
RINSE 320-327736/154			00:12																									
RINSE 320-327736/155			00:16																									
RINSE 320-327736/156			00:20																									

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Instrument ID: T01 Analysis Method: 6010C

Start Date: 10/15/2019 10:32 End Date: 10/15/2019 18:04

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	Sb	Se	Sr	Tl	V	Zn
RINSE 320-331282/1			10:32																									
RINSE 320-331282/2			10:36																									
RINSE 320-331282/3			10:40																									
CALSTD0 320-331282/4 IC			10:44	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CALSTD1 320-331282/5 IC			10:48	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CALSTD2 320-331282/6 IC			10:52	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
LRA 320-331282/7			10:55																									
RINSE 320-331282/8			10:59																									
ICV 320-331282/9	1		11:03	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ICBIS 320-331282/10	1		11:07	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CRI 320-331282/11			11:11																									
CRI 320-331282/12	1		11:15	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ICSA 320-331282/13	1		11:19	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ICSAB 320-331282/14	1		11:23	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ZZZZZZ			11:27																									
ZZZZZZ			11:31																									
ZZZZZZ			11:35																									
ZZZZZZ			11:39																									
ZZZZZZ			11:43																									
ZZZZZZ			11:47																									
CCV 320-331282/21			11:51																									
CCB 320-331282/22			11:55																									
ZZZZZZ			11:59																									
ZZZZZZ			12:03																									
ZZZZZZ			12:07																									
ZZZZZZ			12:11																									
ZZZZZZ			12:14																									
ZZZZZZ			12:18																									
ZZZZZZ			12:22																									
ZZZZZZ			12:26																									
ZZZZZZ			12:30																									
ZZZZZZ			12:34																									
CCV 320-331282/33			12:38																									
CCB 320-331282/34			12:41																									
ZZZZZZ			12:45																									
ZZZZZZ			12:49																									
ZZZZZZ			12:53																									
ZZZZZZ			12:57																									
ZZZZZZ			13:01																									
ZZZZZZ			13:05																									
ZZZZZZ			13:09																									
ZZZZZZ			13:13																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Instrument ID: T01 Analysis Method: 6010C

Start Date: 10/15/2019 10:32 End Date: 10/15/2019 18:04

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	Sb	Se	Sr	Tl	V	Zn
ZZZZZZ			13:17																									
ZZZZZZ			13:21																									
CCV 320-331282/45			13:25																									
CCB 320-331282/46			13:28																									
ZZZZZZ			13:32																									
ZZZZZZ			13:36																									
ZZZZZZ			13:40																									
ZZZZZZ			13:44																									
ZZZZZZ			13:48																									
ZZZZZZ			13:52																									
ZZZZZZ			13:56																									
ZZZZZZ			14:00																									
ZZZZZZ			14:04																									
ZZZZZZ			14:08																									
CCV 320-331282/57			14:12																									
CCB 320-331282/58			14:16																									
ZZZZZZ			14:20																									
ZZZZZZ			14:24																									
ZZZZZZ			14:28																									
ZZZZZZ			14:32																									
ZZZZZZ			14:36																									
ZZZZZZ			14:40																									
ZZZZZZ			14:44																									
ZZZZZZ			14:48																									
ZZZZZZ			14:52																									
ZZZZZZ			14:56																									
CCV 320-331282/69	1		15:00	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CCB 320-331282/70	1		15:04	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ZZZZZZ			15:08																									
ZZZZZZ			15:12																									
ZZZZZZ			15:16																									
ZZZZZZ			15:20																									
ZZZZZZ			15:24																									
ZZZZZZ			15:27																									
ZZZZZZ			15:32																									
MB 320-327230/1-A	1	T	15:36	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
LCS 320-327230/2-A	1	T	15:40	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ZZZZZZ			15:43																									
CCV 320-331282/81	1		15:47	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CCB 320-331282/82	1		15:51	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ZZZZZZ			15:55																									
180-96144-1	1	D	15:59	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Instrument ID: T01 Analysis Method: 6010C

Start Date: 10/15/2019 10:32 End Date: 10/15/2019 18:04

Lab Sample Id	D/F	Type	Time	Analytes																									
				Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	Sb	Se	Sr	Tl	V	Zn	
180-96144-1 SD	5	D	16:03	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
180-96144-1 PDS	1	D	16:07	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
180-96144-1 MS	1	D	16:10	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
180-96144-1 MSD	1	D	16:14	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
ZZZZZZ			16:18																										
ZZZZZZ			16:22																										
ZZZZZZ			16:26																										
ZZZZZZ			16:30																										
CCV 320-331282/93	1		16:34	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
CCB 320-331282/94	1		16:38	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
ZZZZZZ			16:42																										
ZZZZZZ			16:46																										
ZZZZZZ			16:49																										
ZZZZZZ			16:53																										
ZZZZZZ			16:57																										
ZZZZZZ			17:01																										
ZZZZZZ			17:05																										
ZZZZZZ			17:09																										
ZZZZZZ			17:13																										
ZZZZZZ			17:17																										
CCV 320-331282/105			17:21																										
CCB 320-331282/106			17:25																										
ZZZZZZ			17:29																										
ZZZZZZ			17:33																										
ZZZZZZ			17:37																										
CCV 320-331282/110			17:41																										
CCB 320-331282/111			17:44																										
CCVL 320-331282/112	1		17:48	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
RINSE 320-331282/113			17:52																										
RINSE 320-331282/114			17:56																										
RINSE 320-331282/115			18:00																										
RINSE 320-331282/116			18:04																										

Prep Types:
D = Dissolved
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Instrument ID: T01 Analysis Method: 6010C

Start Date: 10/16/2019 14:12 End Date: 10/16/2019 19:05

Lab Sample Id	D/F	Type	Time	Analytes																							
				Fe	Na																						
RINSE 320-331614/1			14:12																								
RINSE 320-331614/2			14:16																								
RINSE 320-331614/3			14:20																								
CALSTD0 320-331614/4 IC			14:24	X	X																						
CALSTD1 320-331614/5 IC			14:28	X	X																						
CALSTD2 320-331614/6 IC			14:32	X	X																						
LRA 320-331614/7			14:35																								
RINSE 320-331614/8			14:39																								
ICV 320-331614/9	1		14:43	X	X																						
ICBIS 320-331614/10	1		14:47	X	X																						
CRI 320-331614/11			14:51																								
CRI 320-331614/12	1		14:55	X	X																						
ICSA 320-331614/13	1		14:59	X	X																						
ICSAB 320-331614/14	1		15:03	X	X																						
ZZZZZZ			15:07																								
ZZZZZZ			15:11																								
ZZZZZZ			15:15																								
ZZZZZZ			15:19																								
ZZZZZZ			15:23																								
ZZZZZZ			15:26																								
CCV 320-331614/21	1		15:30	X	X																						
CCB 320-331614/22	1		15:34	X	X																						
LCS 320-327228/2-A	1	T	15:38	X	X																						
ZZZZZZ			15:41																								
ZZZZZZ			15:45																								
ZZZZZZ			15:49																								
ZZZZZZ			15:52																								
ZZZZZZ			15:56																								
ZZZZZZ			16:00																								
ZZZZZZ			16:04																								
ZZZZZZ			16:07																								
ZZZZZZ			16:11																								
CCV 320-331614/33	1		16:15	X	X																						
CCB 320-331614/34	1		16:19	X	X																						
ZZZZZZ			16:22																								
ZZZZZZ			16:26																								
ZZZZZZ			16:30																								
ZZZZZZ			16:34																								
ZZZZZZ			16:37																								
ZZZZZZ			16:41																								
ZZZZZZ			16:45																								
ZZZZZZ			16:48																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Instrument ID: T01 Analysis Method: 6010C

Start Date: 10/16/2019 14:12 End Date: 10/16/2019 19:05

Lab Sample Id	D/F	Type	Time	Analytes																							
				Fe	Na																						
ZZZZZZ			16:52																								
ZZZZZZ			16:56																								
CCV 320-331614/45			17:00																								
CCB 320-331614/46			17:03																								
ZZZZZZ			17:07																								
ZZZZZZ			17:11																								
ZZZZZZ			17:14																								
ZZZZZZ			17:18																								
ZZZZZZ			17:21																								
ZZZZZZ			17:25																								
ZZZZZZ			17:29																								
ZZZZZZ			17:33																								
ZZZZZZ			17:36																								
ZZZZZZ			17:40																								
CCV 320-331614/57			17:44																								
CCB 320-331614/58			17:47																								
ZZZZZZ			17:51																								
ZZZZZZ			17:55																								
ZZZZZZ			17:58																								
ZZZZZZ			18:02																								
ZZZZZZ			18:06																								
ZZZZZZ			18:09																								
ZZZZZZ			18:13																								
ZZZZZZ			18:17																								
ZZZZZZ			18:20																								
ZZZZZZ			18:24																								
CCV 320-331614/69			18:28																								
CCB 320-331614/70			18:31																								
ZZZZZZ			18:35																								
ZZZZZZ			18:39																								
CCV 320-331614/73			18:42																								
CCB 320-331614/74			18:46																								
CCVL 320-331614/75	1		18:50	X	X																						
RINSE 320-331614/76			18:53																								
RINSE 320-331614/77			18:57																								
RINSE 320-331614/78			19:01																								
RINSE 320-331614/79			19:05																								

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Instrument ID: H04 Analysis Method: 7470A

Start Date: 10/03/2019 08:44 End Date: 10/03/2019 12:02

Lab Sample Id	D/F	Type	Time	Analytes																							
				Hg																							
IC 320-327724/1-A			08:44	X																							
IC 320-327724/2-A			08:46	X																							
IC 320-327724/3-A			08:48	X																							
IC 320-327724/4-A			08:51	X																							
IC 320-327724/5-A			08:53	X																							
IC 320-327724/6-A			08:56	X																							
ICV 320-327724/7-A	1		08:59	X																							
ICB 320-327724/8-A	1		09:01	X																							
ZZZZZZ			09:04																								
ZZZZZZ			09:06																								
MB 320-327722/11-A	1	T	09:09	X																							
LCS 320-327722/12-A	1	T	09:11	X																							
ZZZZZZ			09:13																								
ZZZZZZ			09:16																								
ZZZZZZ			09:18																								
ZZZZZZ			09:21																								
ZZZZZZ			09:23																								
ZZZZZZ			09:26																								
CCV 320-327724/9-A	1		09:29	X																							
CCB 320-327724/10-A	1		09:31	X																							
ZZZZZZ			09:34																								
ZZZZZZ			09:36																								
ZZZZZZ			09:39																								
ZZZZZZ			09:41																								
ZZZZZZ			09:43																								
ZZZZZZ			09:46																								
ZZZZZZ			09:49																								
180-96144-1	1	D	09:51	X																							
ZZZZZZ			09:54																								
CCV 320-327724/9-A	1		09:59	X																							
CCB 320-327724/10-A	1		10:02	X																							
ZZZZZZ			10:04																								
ZZZZZZ			10:06																								
MB 320-327721/11-A	1	T	10:15	X																							
LCS 320-327721/12-A	1	T	10:17	X																							
ZZZZZZ			10:20																								
CCV 320-327724/9-A	1		10:22	X																							
CCB 320-327724/10-A	1		10:25	X																							
ZZZZZZ			10:27																								
ZZZZZZ			10:29																								
ZZZZZZ			10:32																								
ZZZZZZ			10:34																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

Instrument ID: H04 Analysis Method: 7470A

Start Date: 10/03/2019 08:44 End Date: 10/03/2019 12:02

Lab Sample Id	D/F	Type	Time	Analytes																							
				Hg																							
ZZZZZZ			10:37																								
ZZZZZZ			10:39																								
ZZZZZZ			10:41																								
ZZZZZZ			10:44																								
CCV 320-327724/9-A	1		10:46	X																							
CCB 320-327724/10-A	1		10:49	X																							
ZZZZZZ			10:51																								
ZZZZZZ			10:54																								
180-96144-1	1	T	10:56	X																							
ZZZZZZ			10:59																								
ZZZZZZ			11:01																								
ZZZZZZ			11:03																								
ZZZZZZ			11:06																								
ZZZZZZ			11:08																								
ZZZZZZ			11:11																								
ZZZZZZ			11:13																								
CCV 320-327724/9-A	1		11:16	X																							
CCB 320-327724/10-A	1		11:18	X																							
ZZZZZZ			11:20																								
ZZZZZZ			11:23																								
ZZZZZZ			11:25																								
ZZZZZZ			11:28																								
ZZZZZZ			11:30																								
ZZZZZZ			11:32																								
ZZZZZZ			11:35																								
ZZZZZZ			11:38																								
ZZZZZZ			11:40																								
ZZZZZZ			11:43																								
CCV 320-327724/9-A			11:45																								
CCB 320-327724/10-A			11:48																								
ZZZZZZ			11:50																								
ZZZZZZ			11:52																								
ZZZZZZ			11:55																								
ZZZZZZ			11:57																								
CCV 320-327724/9-A			12:00																								
CCB 320-327724/10-A			12:02																								

Prep Types:
D = Dissolved
T = Total/NA

FORM XIII-IN

15-IN
ICP INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

ICP Instrument ID: T01 Start Date: 09/30/2019 End Date: 09/30/2019

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Y 224.306	Q	Element Y 360.073	Q	Element Y 377.433	Q	Element	Q	Element	Q
ICV 320-327515/9	10:52										
ICBIS 320-327515/10	10:56										
CRI 320-327515/11	11:00	99		98		98					
ICSA 320-327515/13	11:08	87		86		94					
ICSAB 320-327515/14	11:12	87		87		95					
CCV 320-327515/105	17:09	95		95		96					
CCB 320-327515/106	17:13	98		97		97					
MB 320-327228/1-A	17:40	97		96		97					
LCS 320-327228/2-A	17:44	97		97		97					
CCV 320-327515/117	17:56	96		95		96					
CCB 320-327515/118	17:59	95		94		93					
180-96144-1	18:15	95		95		98					
CCV 320-327515/123	18:19	95		95		97					
CCB 320-327515/124	18:22	96		95		95					
CCVL 320-327515/125	18:27	96		95		94					

FORM XV - IN

15-IN
ICP INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

ICP Instrument ID: T01 Start Date: 10/01/2019 End Date: 10/02/2019

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Y 224.306	Q	Element Y 360.073	Q	Element Y 377.433	Q	Element	Q	Element	Q
ICV 320-327736/9	14:59										
ICBIS 320-327736/10	15:02										
CRI 320-327736/12	15:10	100		99		101					
ICSA 320-327736/13	15:14	89		89		98					
ICSAB 320-327736/14	15:18	89		89		100					
CCV 320-327736/21	15:46	98		99		103					
CCB 320-327736/22	15:50	100		98		100					
MB 320-327228/1-A	16:06	100		100		103					
CCV 320-327736/33	16:33	97		100		106					
CCB 320-327736/34	16:37	99		99		102					
180-96144-1	16:49	96		96		101					
CCV 320-327736/45	17:20	96		96		101					
CCB 320-327736/46	17:23	99		99		102					
CCVL 320-327736/152	00:05	95		94		95					

FORM XV - IN

15-IN
ICP INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

ICP Instrument ID: T01 Start Date: 10/15/2019 End Date: 10/15/2019

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Y 224.306	Q	Element Y 360.073	Q	Element Y 377.433	Q	Element	Q	Element	Q
ICV 320-331282/9	11:03										
ICBIS 320-331282/10	11:07										
CRI 320-331282/12	11:15	104		104		105					
ICSA 320-331282/13	11:19	90		87		101					
ICSAB 320-331282/14	11:23	89		86		99					
CCV 320-331282/69	15:00	97		94		97					
CCB 320-331282/70	15:04	100		99		100					
MB 320-327230/1-A	15:36	101		100		101					
LCS 320-327230/2-A	15:40	99		95		98					
CCV 320-331282/81	15:47	98		97		101					
CCB 320-331282/82	15:51	98		96		98					
180-96144-1	15:59	94		93		98					
180-96144-1 SD	16:03	96		96		98					
180-96144-1 PDS	16:07	98		94		99					
180-96144-1 MS	16:10	95		93		100					
180-96144-1 MSD	16:14	93		90		95					
CCV 320-331282/93	16:34	97		95		97					
CCB 320-331282/94	16:38	98		100		102					
CCVL 320-331282/112	17:48	101		100		102					

FORM XV - IN

15-IN
ICP INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-96144-1

SDG No.:

ICP Instrument ID: T01 Start Date: 10/16/2019 End Date: 10/16/2019

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Y 224.306	Q	Element Y 360.073	Q	Element Y 377.433	Q	Element	Q	Element	Q
ICV 320-331614/9	14:43										
ICBIS 320-331614/10	14:47										
CRI 320-331614/12	14:55	101		101		102					
ICSA 320-331614/13	14:59	89		87		99					
ICSAB 320-331614/14	15:03	87		85		97					
CCV 320-331614/21	15:30	99		97		98					
CCB 320-331614/22	15:34	98		97		97					
LCS 320-327228/2-A	15:38	102		103		104					
CCV 320-331614/33	16:15	100		97		98					
CCB 320-331614/34	16:19	98		99		97					
CCVL 320-331614/75	18:50	99		99		99					

FORM XV - IN

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Sacramen Job No.: 180-96144-1

SDG No.:

Batch Number: 327228 Batch Start Date: 09/30/19 06:00 Batch Analyst: Merritt, Nataliya

Batch Method: 3010A Batch End Date: 09/30/19 10:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	MT6010LCS1 00014	MT6010LCS2 00013	MT6010LCS3 00013
MB 320-327228/1		3010A, 6010C		<2 SU	50 mL	50 mL			
LCS 320-327228/2		3010A, 6010C		<2 SU	50 mL	50 mL	0.5 mL	0.5 mL	0.5 mL
180-96144-M-1	11187072-CONTACT -INITIAL	3010A, 6010C	T	<2 SU	50 mL	50 mL			

Batch Notes	
Batch Comment	HB cell 5B
Temperature - Corrected - End	94 Degrees C
Temperature - Corrected - Start	94 Degrees C
Digestion End Time	09/30/2019 10:30
Digestion Start Time	09/30/2019 06:00
Digestion Unit ID	5
Hydrochloric Acid ID	1737418
Nitric Acid ID	1752212
pH Indicator ID	1119
Pipette/Syringe/Dispenser ID	J33675F
Analyst ID - Spike Analyst	NIM
Analyst ID - Spike Witness Analyst	TGL
Thermometer ID	BT-12
Digestion Tube/Cup ID	1902243-6E9236AF

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Sacramen Job No.: 180-96144-1

SDG No.:

Batch Number: 327230 Batch Start Date: 09/30/19 06:00 Batch Analyst: Merritt, Nataliya

Batch Method: 3010A Batch End Date: 09/30/19 10:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	MT6010LCS1 00014	MT6010LCS2 00013	MT6010LCS3 00013
MB 320-327230/1		3010A, 6010C		<2 SU	50 mL	50 mL			
LCS 320-327230/2		3010A, 6010C		<2 SU	50 mL	50 mL	0.5 mL	0.5 mL	0.5 mL
180-96144-N-1	11187072-CONTACT -INITIAL	3010A, 6010C	D	<2 SU	50 mL	50 mL			
180-96144-N-1 MS	11187072-CONTACT -INITIAL	3010A, 6010C	D	<2 SU	50 mL	50 mL	0.5 mL	0.5 mL	0.5 mL
180-96144-N-1 MSD	11187072-CONTACT -INITIAL	3010A, 6010C	D	<2 SU	50 mL	50 mL	0.5 mL	0.5 mL	0.5 mL

Batch Notes	
Batch Comment	HB cell 5B
Temperature - Corrected - End	94 Degrees C
Temperature - Corrected - Start	94 Degrees C
Digestion End Time	09/30/2019 10:30
Digestion Start Time	09/30/2019 06:00
Digestion Unit ID	5
Hydrochloric Acid ID	1737418
Nitric Acid ID	1752212
pH Indicator ID	1119
Pipette/Syringe/Dispenser ID	J33675F
Analyst ID - Spike Analyst	NIM
Analyst ID - Spike Witness Analyst	TGL
Thermometer ID	BT-12
Digestion Tube/Cup ID	1902243-6E9236AF

Basis	Basis Description
D	Dissolved

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Sacramen Job No.: 180-96144-1

SDG No.:

Batch Number: 327721 Batch Start Date: 10/02/19 09:30 Batch Analyst: Ortiz, Marsella G

Batch Method: 7470A Batch End Date: 10/02/19 10:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	HGIM 02500			
MB 320-327721/11		7470A, 7470A		30 mL	30 mL				
LCS 320-327721/12		7470A, 7470A		30 mL	30 mL	0.3 mL			
180-96144-M-1	11187072-CONTACT -INITIAL	7470A, 7470A	T	30 mL	30 mL				

Batch Notes	
Batch Comment	Hydroxylamine added 10/02/19 at 12:30 pm
Temperature - Corrected - End	See Attachment Degrees C
Temperature - Corrected - Start	See Attachment Degrees C
Digestion End Time	10/02/19 10:30
Digestion Start Time	10/02/19 09:30
Digestion Unit ID	HgAC1
Sulfuric Acid ID	1721660
Nitric Acid ID	1737419
Hydroxylamine ID	1714523
Potassium Persulfate ID	1531708
Potassium Permanganate ID	1736158
pH Indicator ID	1718
Pipette/Syringe/Dispenser ID	M39512G, 279057A, L18825B
Analyst ID - Spike Analyst	MO
Analyst ID - Spike Witness Analyst	JMD
Sufficient Volume for Batch QC	yes
Thermometer ID	Hi Temp 140-PT/Q19721
Digestion Tube/Cup ID	05619101
Temperature - Uncorrected - End	See Attachment Degrees C
Temperature - Uncorrected - Start	See Attachment Degrees C

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Sacramen Job No.: 180-96144-1

SDG No.:

Batch Number: 327722 Batch Start Date: 10/02/19 09:30 Batch Analyst: Ortiz, Marsella G

Batch Method: 7470A Batch End Date: 10/02/19 10:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	HGIM 02500			
MB 320-327722/11		7470A, 7470A		30 mL	30 mL				
LCS 320-327722/12		7470A, 7470A		30 mL	30 mL	0.3 mL			
180-96144-M-1	11187072-CONTACT -INITIAL	7470A, 7470A	D	30 mL	30 mL				

Batch Notes	
Batch Comment	Hydroxylamine added 10/02/19 at 12:30 pm
Temperature - Corrected - End	See Attachment Degrees C
Temperature - Corrected - Start	See Attachment Degrees C
Digestion End Time	10/02/19 10:30
Digestion Start Time	10/02/19 09:30
Digestion Unit ID	HgAC1
Sulfuric Acid ID	1721660
Nitric Acid ID	1737419
Hydroxylamine ID	1714523
Potassium Persulfate ID	1531708
Potassium Permanganate ID	1736158
pH Indicator ID	1718
Pipette/Syringe/Dispenser ID	M39512G, 279057A, L18825B
Analyst ID - Spike Analyst	MO
Analyst ID - Spike Witness Analyst	JMD
Sufficient Volume for Batch QC	yes
Thermometer ID	Hi Temp 140-PT/Q19721
Digestion Tube/Cup ID	05619101
Temperature - Uncorrected - End	See Attachment Degrees C
Temperature - Uncorrected - Start	See Attachment Degrees C

Basis	Basis Description
D	Dissolved

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Sacramen Job No.: 180-96144-1

SDG No.:

Batch Number: 327724 Batch Start Date: 10/02/19 09:30 Batch Analyst: Ortiz, Marsella G

Batch Method: 7470A Batch End Date: 10/02/19 10:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	HGIM 02499	HGIM 02500		
ICV 320-327724/7		7470A, 7470A		30 mL	30 mL	0.6 mL			
ICB 320-327724/8		7470A, 7470A		30 mL	30 mL				
CCV 320-327724/9		7470A, 7470A		30 mL	30 mL		1.5 mL		
CCB 320-327724/10		7470A, 7470A		30 mL	30 mL				

Batch Notes	
Batch Comment	Hydroxylamine added 10/02/19 at 12:30 pm
Temperature - Corrected - End	See Attachment Degrees C
Temperature - Corrected - Start	See Attachment Degrees C
Digestion End Time	10/02/19 10:30
Digestion Start Time	10/02/19 09:30
Digestion Unit ID	HgAC1
Sulfuric Acid ID	1721660
Nitric Acid ID	1737419
Hydroxylamine ID	1714523
Potassium Persulfate ID	1531708
Potassium Permanganate ID	1736158
pH Indicator ID	1718
Pipette/Syringe/Dispenser ID	M39512G, 279057A, L18825B
Analyst ID - Spike Analyst	MO
Analyst ID - Spike Witness Analyst	JDM
Sufficient Volume for Batch QC	yes
Thermometer ID	Hi Temp 140-PT/Q19721
Digestion Tube/Cup ID	05619101
Temperature - Uncorrected - End	See Attachment Degrees C
Temperature - Uncorrected - Start	See Attachment Degrees C

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Sacramen Job No.: 180-96144-1

SDG No.:

Batch Number: 327724 Batch Start Date: 10/02/19 09:30 Batch Analyst: Ortiz, Marsella G

Batch Method: 7470A Batch End Date: 10/02/19 10:30

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Test America-West Sacramento methods 6010b and 200.7

Author: GH

Published: 10/1/2019 10:01:26AM

Notes:

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Acquire Date: 9/30/2019 10:20:59AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.0030800	ppm	0.00012800	4.1503	.00000	Abs	Pass	
Al3961	**W**	**0.050461**	**ppm**	**0.0015360**	**3.0437**	**.00000**	**Abs**	**Warn High**	**0.05000**
As1890		-0.0017320	ppm	0.0012120	69.953	.00000	Abs	Pass	
B_2089		0.0017450	ppm	0.00013300	7.6134	.00000	Abs	Pass	
Ba4554		-0.00011900	ppm	0.00018500	155.34	.00000	Abs	Pass	
Be3130		0.000084000	ppm	0.00012700	150.68	.00000	Abs	Pass	
Ca3179		0.0031460	ppm	0.0034530	109.76	.00000	Abs	Pass	
Cd2144		0.000016000	ppm	0.000042000	263.56	.00000	Abs	Pass	
Co2286		-0.00023200	ppm	0.000068000	29.284	.00000	Abs	Pass	
Cr2677		0.00017700	ppm	0.000085000	48.052	.00000	Abs	Pass	
Cu3247		0.0016430	ppm	0.0013990	85.140	.00000	Abs	Pass	
Fe2599		0.0092080	ppm	0.0037660	40.893	.00000	Abs	Pass	
K_7664		0.030624	ppm	0.059359	193.83	.00000	Abs	Pass	
Mg2790		-0.0041590	ppm	0.00073100	17.572	.00000	Abs	Pass	
Mn2576		0.00044400	ppm	0.000099000	22.318	.00000	Abs	Pass	
Mo2020		0.000065000	ppm	0.00027200	420.99	.00000	Abs	Pass	
Na5895		0.00080900	ppm	0.0031420	388.33	.00000	Abs	Pass	
Ni2316		0.0010470	ppm	0.000013000	1.2702	.00000	Abs	Pass	
P_1782		0.0010770	ppm	0.0013220	122.70	.00000	Abs	Pass	
Pb2203		-0.0015030	ppm	0.0017470	116.23	.00000	Abs	Pass	
S_1820		0.0020370	ppm	0.0072080	353.80	.00000	Abs	Pass	
Sb2068		0.0013450	ppm	0.00043800	32.590	.00000	Abs	Pass	
Se1960		0.0015270	ppm	0.0025450	166.66	.00000	Abs	Pass	
Si2881		0.0063590	ppm	0.0093050	146.33	.00000	Abs	Pass	
Sn1899		-0.00010400	ppm	0.00076800	741.07	.00000	Abs	Pass	
Sr4077		-0.00020300	ppm	0.00015800	77.596	.00000	Abs	Pass	
Ti3349		0.0013460	ppm	0.00068400	50.861	.00000	Abs	Pass	
Tl1908		0.0033460	ppm	0.0012320	36.822	.00000	Abs	Pass	
V_2924		0.000086000	ppm	0.00070500	816.05	.00000	Abs	Pass	
Zn2062		0.0036510	ppm	0.00060000	16.420	.00000	Abs	Pass	
Y_2243		7,067.5	Cts/S	0.55297	0.0078240				
Y_3600		51,915	Cts/S	19.634	0.037819				
Y_3774		7,439.7	Cts/S	420.08	5.6464				

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Acquire Date: 9/30/2019 10:24:58AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.0027010	ppm	0.00029700	11.014	.00000	Abs	Pass	
Al3961	**W**	**0.056514**	**ppm**	**0.0031070**	**5.4983**	**.00000**	**Abs**	**Warn High**	**0.05000**
As1890		-0.00092300	ppm	0.00011800	12.777	.00000	Abs	Pass	
B_2089		0.00099600	ppm	0.0013320	133.73	.00000	Abs	Pass	
Ba4554		0.000084000	ppm	0.00019200	228.82	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

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Acquire Date: 9/30/2019 10:24:58AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Be3130		-0.00013000	ppm	0.000041000	31.918	.00000	Abs	Pass	
Ca3179		0.0027200	ppm	0.0074060	272.29	.00000	Abs	Pass	
Cd2144		0.000017000	ppm	0.000016000	96.599	.00000	Abs	Pass	
Co2286		0.00026600	ppm	0.000079000	29.785	.00000	Abs	Pass	
Cr2677		0.00042600	ppm	0.00023200	54.494	.00000	Abs	Pass	
Cu3247		0.0019000	ppm	0.00079700	41.957	.00000	Abs	Pass	
Fe2599		0.0057740	ppm	0.0026990	46.739	.00000	Abs	Pass	
K_7664		0.033614	ppm	0.048841	145.30	.00000	Abs	Pass	
Mg2790		0.00034800	ppm	0.0054470	1,564.1	.00000	Abs	Pass	
Mn2576		0.00030900	ppm	0.00022000	71.081	.00000	Abs	Pass	
Mo2020		-0.00013500	ppm	0.0000090000	6.7680	.00000	Abs	Pass	
Na5895		0.0053250	ppm	0.020533	385.60	.00000	Abs	Pass	
Ni2316		0.00091400	ppm	0.00067900	74.251	.00000	Abs	Pass	
P_1782		0.00032900	ppm	0.0029080	885.05	.00000	Abs	Pass	
Pb2203		-0.0017210	ppm	0.0021750	126.35	.00000	Abs	Pass	
S_1820		0.0062840	ppm	0.00099100	15.770	.00000	Abs	Pass	
Sb2068		0.00037700	ppm	0.0019970	529.71	.00000	Abs	Pass	
Se1960		0.0034990	ppm	0.00045700	13.066	.00000	Abs	Pass	
Si2881		-0.019303	ppm	0.0067930	35.189	.00000	Abs	Pass	
Sn1899		-0.00010400	ppm	0.00080100	767.49	.00000	Abs	Pass	
Sr4077		0.000090000	ppm	0.00010200	113.99	.00000	Abs	Pass	
Ti3349		0.00036300	ppm	0.00044900	123.51	.00000	Abs	Pass	
Tl1908		0.0024170	ppm	0.0020100	83.189	.00000	Abs	Pass	
V_2924		-0.00015200	ppm	0.00068900	453.69	.00000	Abs	Pass	
Zn2062		0.0010830	ppm	0.00010000	9.2104	.00000	Abs	Pass	
Y_2243		6,938.0	Cts/S	3.2377	0.046667				
Y_3600		51,231	Cts/S	41.566	0.081136				
Y_3774		7,645.8	Cts/S	96.260	1.2590				

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Acquire Date: 9/30/2019 10:28:58AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.0036960	ppm	0.00058600	15.852	.00000	Abs	Pass	
Al3961		0.034756	ppm	0.020270	58.321	.00000	Abs	Pass	
As1890		-0.00058600	ppm	0.00022700	38.780	.00000	Abs	Pass	
B_2089		0.00041800	ppm	0.00033900	80.969	.00000	Abs	Pass	
Ba4554		0.000044000	ppm	0.00068000	1,553.7	.00000	Abs	Pass	
Be3130		0.000086000	ppm	0.00015400	179.55	.00000	Abs	Pass	
Ca3179		0.0039880	ppm	0.0012360	30.989	.00000	Abs	Pass	
Cd2144		0.000045000	ppm	0.000010000	21.699	.00000	Abs	Pass	
Co2286		.0000080000	ppm	0.00031300	4,019.4	.00000	Abs	Pass	
Cr2677		0.00035100	ppm	0.00060300	171.54	.00000	Abs	Pass	
Cu3247		0.0015050	ppm	0.00031600	21.021	.00000	Abs	Pass	
Fe2599		0.0043890	ppm	0.0019770	45.041	.00000	Abs	Pass	
K_7664		0.093438	ppm	0.015257	16.328	.00000	Abs	Pass	
Mg2790		-0.0016160	ppm	0.0026070	161.38	.00000	Abs	Pass	
Mn2576		0.00011200	ppm	0.00013000	116.71	.00000	Abs	Pass	

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Acquire Date: 9/30/2019 10:28:58AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Mo2020		-0.00017500	ppm	0.00012600	72.146	.00000	Abs	Pass	
Na5895		0.0088500	ppm	0.010749	121.46	.00000	Abs	Pass	
Ni2316		0.00055700	ppm	0.00025400	45.636	.00000	Abs	Pass	
P_1782		0.0010390	ppm	0.0018510	178.15	.00000	Abs	Pass	
Pb2203		-0.00059600	ppm	0.0014540	243.94	.00000	Abs	Pass	
S_1820		0.0026260	ppm	0.00030200	11.494	.00000	Abs	Pass	
Sb2068		0.00073400	ppm	0.0022800	310.68	.00000	Abs	Pass	
Se1960		0.0037750	ppm	0.00041600	11.010	.00000	Abs	Pass	
Si2881		-0.028088	ppm	0.032900	117.13	.00000	Abs	Pass	
Sn1899		0.00025100	ppm	0.00024300	96.812	.00000	Abs	Pass	
Sr4077		0.00011800	ppm	0.00036000	304.12	.00000	Abs	Pass	
Ti3349		0.00056200	ppm	0.00033300	59.145	.00000	Abs	Pass	
Tl1908		0.00095200	ppm	0.00061000	64.118	.00000	Abs	Pass	
V_2924		-0.00062500	ppm	0.00037300	59.593	.00000	Abs	Pass	
Zn2062		0.00040800	ppm	0.00018700	45.919	.00000	Abs	Pass	
Y_2243		7,019.6	Cts/S	15.893	0.22641				
Y_3600		53,470	Cts/S	11.536	0.021576				
Y_3774		7,945.9	Cts/S	155.03	1.9511				

CALSTD0 1707965

Acquire Date: 9/30/2019 10:32:57AM Sample Type: Standard

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00060600	Cts/S	0.000019000	3.1575
Al3961		0.0030300	Cts/S	0.00071400	23.549
As1890		-0.00010600	Cts/S	0.000039000	36.857
B_2089		0.0011440	Cts/S	0.000079000	6.9398
Ba4554		0.0055470	Cts/S	0.00058100	10.469
Be3130		-0.0015260	Cts/S	0.00021300	13.978
Ca3179		0.0061730	Cts/S	0.00043100	6.9755
Cd2144		0.000014000	Cts/S	0.00019300	1,398.6
Co2286		0.000023000	Cts/S	0.000077000	327.32
Cr2677		0.00020100	Cts/S	0.000086000	43.093
Cu3247		0.0027380	Cts/S	0.000064000	2.3535
Fe2599		0.00016200	Cts/S	0.00014100	87.001
K_7664		-0.0018160	Cts/S	0.0026470	145.75
Mg2790		0.000051000	Cts/S	0.000018000	35.262
Mn2576		0.000021000	Cts/S	0.00011900	553.50
Mo2020		0.00031900	Cts/S	0.000051000	15.963
Na5895		-0.0091350	Cts/S	0.0020250	22.170
Ni2316		0.00051200	Cts/S	0.000099000	19.429
P_1782		0.00016300	Cts/S	0.000047000	28.700
Pb2203		-0.00017400	Cts/S	0.00025600	146.94
S_1820		0.00022300	Cts/S	0.000094000	42.350
Sb2068		.0000030000	Cts/S	0.000097000	3,612.3
Se1960		0.000026000	Cts/S	0.000084000	322.53
Si2881		0.00077200	Cts/S	0.0000070000	0.86828
Sn1899		0.00035400	Cts/S	0.00013000	36.708

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CALSTD0 1707965

Acquire Date: 9/30/2019 10:32:57AM Sample Type: Standard

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Sr4077		-0.0029160	Cts/S	0.00022000	7.5475
Ti3349		0.000065000	Cts/S	0.00011600	178.43
Tl1908		0.000054000	Cts/S	0.000031000	57.009
V_2924		0.000090000	Cts/S	0.000086000	94.938
Zn2062		0.000076000	Cts/S	0.000011000	14.977
Y_2243		6,957.4	Cts/S	18.355	0.26382
Y_3600		51,647	Cts/S	134.44	0.26030
Y_3774		7,562.7	Cts/S	174.66	2.3095

CALSTD1 1694100

Acquire Date: 9/30/2019 10:36:56AM Sample Type: Standard

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.12458	Cts/S	0.00025500	0.20452
Al3961		2.2593	Cts/S	0.0047960	0.21227
As1890		0.057732	Cts/S	0.00032600	0.56543
B_2089		0.43739	Cts/S	0.00075600	0.17282
Ba4554		13.096	Cts/S	0.051468	0.39302
Be3130		1.7026	Cts/S	0.0063000	0.37001
Ca3179		2.5266	Cts/S	0.0049800	0.19710
Cd2144		1.7140	Cts/S	0.0014370	0.083868
Co2286		2.8370	Cts/S	0.000044000	0.0015490
Cr2677		0.65773	Cts/S	0.00045900	0.069712
Cu3247		0.46563	Cts/S	0.00062400	0.13401
Fe2599		1.0975	Cts/S	0.0014560	0.13265
K_7664		1.9619	Cts/S	0.0088140	0.44927
Mg2790		0.45346	Cts/S	0.00072600	0.16009
Mn2576		3.4076	Cts/S	0.0066980	0.19656
Mo2020		0.75535	Cts/S	0.0012550	0.16621
Na5895		6.7678	Cts/S	0.028303	0.41820
Ni2316		1.1162	Cts/S	0.00068700	0.061517
P_1782		0.14507	Cts/S	0.00047300	0.32637
Pb2203		0.12231	Cts/S	0.00062900	0.51453
S_1820		0.10252	Cts/S	0.00042700	0.41657
Sb2068		0.060748	Cts/S	0.00013600	0.22462
Se1960		0.040062	Cts/S	0.00014700	0.36783
Si2881		0.050982	Cts/S	0.00023100	0.45286
Sn1899		0.98929	Cts/S	0.0015150	0.15318
Sr4077		16.912	Cts/S	0.070675	0.41790
Ti3349		0.28875	Cts/S	0.00079200	0.27413
Tl1908		0.049060	Cts/S	0.000046000	0.093918
V_2924		0.86285	Cts/S	0.00024000	0.027784
Zn2062		0.39198	Cts/S	0.00041000	0.10465
Y_2243		6,758.6	Cts/S	19.890	0.29429
Y_3600		50,102	Cts/S	86.929	0.17351
Y_3774		7,573.4	Cts/S	230.13	3.0387

CALSTD2 1732511

Acquire Date: 9/30/2019 10:40:39AM Sample Type: Standard

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Al3961		11.443	Cts/S	0.075959	0.66382
Ca3179		12.367	Cts/S	0.080589	0.65165
Fe2599		5.3254	Cts/S	0.033502	0.62911
K_7664		9.8851	Cts/S	0.059017	0.59703
Mg2790		2.2642	Cts/S	0.0066910	0.29550
Na5895		34.134	Cts/S	0.22452	0.65776
P_1782		1.4643	Cts/S	0.0048480	0.33109
S_1820		5.1470	Cts/S	0.012509	0.24302
Y_2243		6,477.9	Cts/S	2.7714	0.042783
Y_3600		47,988	Cts/S	24.315	0.050670
Y_3774		7,754.8	Cts/S	5.1500	0.066411

LRA 1751471

Acquire Date: 9/30/2019 10:44:34AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		2.0044	ppm	0.0043850	0.21879	2.0000	Rel(%)	Pass	
Al3961		99.483	ppm	0.40181	0.40390	100.00	Rel(%)	Pass	
As1890		2.0107	ppm	0.0024830	0.12351	2.0000	Rel(%)	Pass	
B_2089		3.9886	ppm	0.0058840	0.14752	4.0000	Rel(%)	Pass	
Ba4554		9.9940	ppm	0.041993	0.42019	10.000	Rel(%)	Pass	
Be3130		1.9928	ppm	0.010740	0.53895	2.0000	Rel(%)	Pass	
Ca3179		100.76	ppm	0.57324	0.56892	100.00	Rel(%)	Pass	
Cd2144		1.9669	ppm	0.0013680	0.069556	2.0000	Rel(%)	Pass	
Co2286		9.9472	ppm	0.0071400	0.071783	10.000	Rel(%)	Pass	
Cr2677		9.8870	ppm	0.020324	0.20556	10.000	Rel(%)	Pass	
Cu3247		10.083	ppm	0.011504	0.11410	10.000	Rel(%)	Pass	
Fe2599		98.755	ppm	0.38995	0.39487	100.00	Rel(%)	Pass	
K_7664		100.03	ppm	0.40183	0.40171	100.00	Rel(%)	Pass	
Mg2790		99.661	ppm	0.15276	0.15328	100.00	Rel(%)	Pass	
Mn2576		9.6152	ppm	0.059674	0.62062	10.000	Rel(%)	Pass	
Mo2020		4.0026	ppm	0.0064850	0.16203	4.0000	Rel(%)	Pass	
Na5895		99.566	ppm	0.40201	0.40376	100.00	Rel(%)	Pass	
Ni2316		9.8546	ppm	0.0060690	0.061586	10.000	Rel(%)	Pass	
P_1782		10.038	ppm	0.0037540	0.037401	10.000	Rel(%)	Pass	
Pb2203		1.9833	ppm	0.0044220	0.22294	2.0000	Rel(%)	Pass	
S_1820		9.9795	ppm	0.020966	0.21009	10.000	Rel(%)	Pass	
Sb2068		2.0015	ppm	0.0018270	0.091262	2.0000	Rel(%)	Pass	
Se1960		1.9785	ppm	0.0032300	0.16323	2.0000	Rel(%)	Pass	
Si2881		9.9435	ppm	0.10133	1.0191	10.000	Rel(%)	Pass	
Sn1899		9.8983	ppm	0.00077000	0.0077790	10.000	Rel(%)	Pass	
Sr4077		9.6672	ppm	0.46972	4.8589	10.000	Rel(%)	Pass	
Ti3349		3.9897	ppm	0.0042590	0.10675	4.0000	Rel(%)	Pass	
Tl1908		1.9573	ppm	0.0035060	0.17913	2.0000	Rel(%)	Pass	
V_2924		10.020	ppm	0.016767	0.16733	10.000	Rel(%)	Pass	
Zn2062		9.6636	ppm	0.022838	0.23633	10.000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

LRA 1751471

Acquire Date: 9/30/2019 10:44:34AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Y_2243		6,576.4	Cts/S	23.001	0.34975				
Y_3600		49,770	Cts/S	165.49	0.33250				
Y_3774		7,813.0	Cts/S	8.4657	0.10835				

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Acquire Date: 9/30/2019 10:48:26AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00028800	ppm	0.000012000	4.0857	.00000	Abs	Pass	
Al3961		0.029149	ppm	0.015221	52.216	.00000	Abs	Pass	
As1890		0.0012440	ppm	0.0033170	266.61	.00000	Abs	Pass	
B_2089		0.013154	ppm	0.00055900	4.2519	.00000	Abs	Pass	
Ba4554		0.0017110	ppm	0.00042900	25.103	.00000	Abs	Pass	
Be3130		0.00069000	ppm	0.00024200	35.138	.00000	Abs	Pass	
Ca3179		0.046965	ppm	0.0052410	11.160	.00000	Abs	Pass	
Cd2144		0.00032000	ppm	0.00019500	60.985	.00000	Abs	Pass	
Co2286		0.0026350	ppm	0.00079200	30.077	.00000	Abs	Pass	
Cr2677		0.0018770	ppm	0.00060200	32.067	.00000	Abs	Pass	
Cu3247		0.0091810	ppm	0.00084700	9.2235	.00000	Abs	Pass	
Fe2599	**W**	**0.065089**	**ppm**	**0.011157**	**17.141**	**.00000**	**Abs**	**Warn High**	**0.05000**
K_7664		0.16229	ppm	0.011857	7.3062	.00000	Abs	Pass	
Mg2790		0.021457	ppm	0.0083220	38.784	.00000	Abs	Pass	
Mn2576		0.0023050	ppm	0.000015000	0.66717	.00000	Abs	Pass	
Mo2020		0.0028450	ppm	0.00086300	30.329	.00000	Abs	Pass	
Na5895		0.10611	ppm	0.0098760	9.3070	.00000	Abs	Pass	
Ni2316		0.0021050	ppm	0.0015300	72.704	.00000	Abs	Pass	
P_1782		0.0060840	ppm	0.0025560	42.019	.00000	Abs	Pass	
Pb2203		0.0022630	ppm	0.0014480	64.015	.00000	Abs	Pass	
S_1820		0.023801	ppm	0.0019350	8.1287	.00000	Abs	Pass	
Sb2068		-0.00025300	ppm	0.00034200	135.34	.00000	Abs	Pass	
Se1960		0.0027800	ppm	0.0043950	158.08	.00000	Abs	Pass	
Si2881		-0.032834	ppm	0.0016450	5.0101	.00000	Abs	Pass	
Sn1899		0.0035180	ppm	0.00056000	15.912	.00000	Abs	Pass	
Sr4077		0.0021200	ppm	0.00039000	18.382	.00000	Abs	Pass	
Ti3349		0.00092200	ppm	0.00095000	103.00	.00000	Abs	Pass	
Tl1908		-0.00041100	ppm	0.0014910	362.45	.00000	Abs	Pass	
V_2924		0.0015500	ppm	0.00030500	19.703	.00000	Abs	Pass	
Zn2062	**W**	**0.0090780**	**ppm**	**0.00052100**	**5.7339**	**.00000**	**Abs**	**Warn High**	**0.00500**
Y_2243		6,934.7	Cts/S	1.4085	0.020310				
Y_3600		51,460	Cts/S	232.34	0.45150				
Y_3774		7,685.5	Cts/S	4.3276	0.056308				

ICV 1752166

Acquire Date: 9/30/2019 10:52:26AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.25076	ppm	0.00048100	0.19198	.25000	Rel(%)	Pass	
Al3961		10.161	ppm	0.030231	0.29752	10.000	Rel(%)	Pass	
As1890	**W**	**0.92612**	**ppm**	**0.0018460**	**0.19933**	**1.0000**	**Rel(%)**	**Warn Low**	**-5.0000**
B_2089		0.51323	ppm	0.00056000	0.10911	.50000	Rel(%)	Pass	
Ba4554		1.0099	ppm	0.0056870	0.56308	1.0000	Rel(%)	Pass	
Be3130		1.0478	ppm	0.0057020	0.54417	1.0000	Rel(%)	Pass	
Ca3179		10.386	ppm	0.047225	0.45468	10.000	Rel(%)	Pass	
Cd2144		1.0324	ppm	0.0017120	0.16584	1.0000	Rel(%)	Pass	
Co2286		1.0334	ppm	0.0028890	0.27952	1.0000	Rel(%)	Pass	
Cr2677		1.0314	ppm	0.0018490	0.17931	1.0000	Rel(%)	Pass	
Cu3247		1.0112	ppm	0.0017390	0.17203	1.0000	Rel(%)	Pass	
Fe2599		10.273	ppm	0.047813	0.46542	10.000	Rel(%)	Pass	
K_7664		10.359	ppm	0.0027780	0.026818	10.000	Rel(%)	Pass	
Mg2790		10.205	ppm	0.0056420	0.055283	10.000	Rel(%)	Pass	
Mn2576		1.0298	ppm	0.0011490	0.11160	1.0000	Rel(%)	Pass	
Mo2020		1.0117	ppm	0.0011310	0.11178	1.0000	Rel(%)	Pass	
Na5895		10.256	ppm	0.046126	0.44975	10.000	Rel(%)	Pass	
Ni2316		1.0432	ppm	0.0018360	0.17602	1.0000	Rel(%)	Pass	
P_1782		2.0229	ppm	0.0045530	0.22508	2.0000	Rel(%)	Pass	
Pb2203		1.0376	ppm	0.0035110	0.33839	1.0000	Rel(%)	Pass	
S_1820		2.0385	ppm	0.0093450	0.45844	2.0000	Rel(%)	Pass	
Sb2068	**W**	**0.92988**	**ppm**	**0.0041180**	**0.44289**	**1.0000**	**Rel(%)**	**Warn Low**	**-5.0000**
Se1960		1.0300	ppm	0.0048620	0.47211	1.0000	Rel(%)	Pass	
Si2881		10.048	ppm	0.039589	0.39401	10.000	Rel(%)	Pass	
Sn1899		1.0174	ppm	0.0025600	0.25163	1.0000	Rel(%)	Pass	
Sr4077		1.0049	ppm	0.0069180	0.68841	1.0000	Rel(%)	Pass	
Ti3349		1.0172	ppm	0.00042400	0.041715	1.0000	Rel(%)	Pass	
Tl1908	**W**	**1.0549**	**ppm**	**0.0045240**	**0.42883**	**1.0000**	**Rel(%)**	**Warn High**	**5.0000**
V_2924		1.0240	ppm	0.0022340	0.21816	1.0000	Rel(%)	Pass	
Zn2062	**W**	**1.0629**	**ppm**	**0.00062000**	**0.058294**	**1.0000**	**Rel(%)**	**Warn High**	**5.0000**
Y_2243		6,793.1	Cts/S	59.726	0.87921				
Y_3600		50,494	Cts/S	372.53	0.73777				
Y_3774		7,486.3	Cts/S	144.35	1.9282				

ICBIS 1745955

Acquire Date: 9/30/2019 10:56:09AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.00019000	ppm	0.00012900	67.976	.00000	Abs	Pass	
Al3961	**W**	**0.080459**	**ppm**	**0.017057**	**21.200**	**.00000**	**Abs**	**Warn High**	**0.05000**
As1890		0.0013710	ppm	0.00025300	18.485	.00000	Abs	Pass	
B_2089		0.0062920	ppm	0.00053400	8.4796	.00000	Abs	Pass	
Ba4554		0.0037910	ppm	0.00041300	10.881	.00000	Abs	Pass	
Be3130		0.0013260	ppm	0.00017600	13.252	.00000	Abs	Pass	
Ca3179		0.11021	ppm	0.014779	13.410	.00000	Abs	Pass	
Cd2144		0.00060900	ppm	0.00021600	35.466	.00000	Abs	Pass	
Co2286		0.0023010	ppm	0.00066000	28.661	.00000	Abs	Pass	
Cr2677		0.0026790	ppm	0.00023500	8.7618	.00000	Abs	Pass	

ICBIS 1745955

Acquire Date: 9/30/2019 10:56:09AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Cu3247		0.0054970	ppm	0.0000020000	0.030091	.00000	Abs	Pass	
Fe2599	**F**	**0.10865**	**ppm**	**0.012209**	**11.236**	**.00000**	**Abs**	**Fail High**	**.10000**
K_7664		0.22172	ppm	0.0067600	3.0489	.00000	Abs	Pass	
Mg2790		0.066250	ppm	0.0012410	1.8740	.00000	Abs	Pass	
Mn2576		0.0031270	ppm	0.00012700	4.0707	.00000	Abs	Pass	
Mo2020		0.0014910	ppm	0.00039400	26.422	.00000	Abs	Pass	
Na5895		0.12032	ppm	0.030012	24.945	.00000	Abs	Pass	
Ni2316		0.0034050	ppm	0.00011200	3.2985	.00000	Abs	Pass	
P_1782		0.0038000	ppm	0.0044830	117.99	.00000	Abs	Pass	
Pb2203		0.0017460	ppm	0.00019900	11.418	.00000	Abs	Pass	
S_1820		0.033597	ppm	0.0080620	23.995	.00000	Abs	Pass	
Sb2068		0.0022540	ppm	0.00086100	38.223	.00000	Abs	Pass	
Se1960		0.0011600	ppm	0.0010480	90.369	.00000	Abs	Pass	
Si2881		-0.032613	ppm	0.047799	146.56	.00000	Abs	Pass	
Sn1899		0.0025980	ppm	0.00076500	29.464	.00000	Abs	Pass	
Sr4077		0.0042090	ppm	0.00076400	18.141	.00000	Abs	Pass	
Ti3349		0.0013550	ppm	0.00020400	15.036	.00000	Abs	Pass	
Tl1908		0.000089000	ppm	0.00042900	481.14	.00000	Abs	Pass	
V_2924		0.0033020	ppm	0.00046800	14.162	.00000	Abs	Pass	
Zn2062		0.0037230	ppm	0.00019500	5.2293	.00000	Abs	Pass	
Y_2243		7,049.8	Cts/S	25.555	0.36249				
Y_3600		52,733	Cts/S	173.13	0.32831				
Y_3774		7,761.8	Cts/S	192.52	2.4804				

CRI 1733852

Acquire Date: 9/30/2019 11:00:08AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.0050230	ppm	0.00086700	17.260	.00500	Rel(%)	Pass	
Al3961		0.21679	ppm	0.015882	7.3259	.20000	Rel(%)	Pass	
As1890		0.039053	ppm	0.00024200	0.62032	.04000	Rel(%)	Pass	
B_2089		0.20757	ppm	0.00050300	0.24255	.20000	Rel(%)	Pass	
Ba4554		0.021391	ppm	0.000042000	0.19691	.02000	Rel(%)	Pass	
Be3130		0.0035100	ppm	0.000052000	1.4788	.00300	Rel(%)	Pass	
Ca3179		0.54488	ppm	0.021305	3.9101	.50000	Rel(%)	Pass	
Cd2144		0.0034730	ppm	0.000017000	0.49971	.00300	Rel(%)	Pass	
Co2286		0.011779	ppm	0.000087000	0.73870	.01000	Rel(%)	Pass	
Cr2677		0.010830	ppm	0.00030700	2.8340	.01000	Rel(%)	Pass	
Cu3247		0.017771	ppm	0.00033700	1.8936	.01500	Rel(%)	Pass	
Fe2599	**W**	**0.13793**	**ppm**	**0.0046290**	**3.3558**	**.10000**	**Rel(%)**	**Warn High**	**20.000**
K_7664		1.0828	ppm	0.015888	1.4673	1.0000	Rel(%)	Pass	
Mg2790		0.53097	ppm	0.010449	1.9678	.50000	Rel(%)	Pass	
Mn2576		0.011448	ppm	0.000025000	0.21691	.01000	Rel(%)	Pass	
Mo2020		0.019945	ppm	0.00059700	2.9921	.02000	Rel(%)	Pass	
Na5895		0.54605	ppm	0.031788	5.8215	.50000	Rel(%)	Pass	
Ni2316		0.011748	ppm	0.00027100	2.3086	.01000	Rel(%)	Pass	
P_1782		0.50998	ppm	0.00022300	0.043798	.50000	Rel(%)	Pass	
Pb2203		0.011365	ppm	0.00022700	1.9988	.01000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CRI 1733852

Acquire Date: 9/30/2019 11:00:08AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
S_1820		0.51159	ppm	0.00059100	0.11545	.50000	Rel(%)	Pass	
Sb2068		0.029083	ppm	0.0014360	4.9364	.03000	Rel(%)	Pass	
Se1960		0.040737	ppm	0.0014150	3.4724	.04000	Rel(%)	Pass	
Si2881		0.50727	ppm	0.026397	5.2038	.50000	Rel(%)	Pass	
Sn1899		0.021606	ppm	0.00017200	0.79664	.02000	Rel(%)	Pass	
Sr4077		0.051865	ppm	0.00068300	1.3164	.05000	Rel(%)	Pass	
Ti3349		0.010910	ppm	0.00033700	3.0890	.01000	Rel(%)	Pass	
Tl1908		0.031222	ppm	0.0011130	3.5639	.03000	Rel(%)	Pass	
V_2924		0.021141	ppm	0.00040700	1.9234	.02000	Rel(%)	Pass	
Zn2062		0.021782	ppm	0.00018500	0.84847	.02000	Rel(%)	Pass	
Y_2243		6,961.0	Cts/S	26.328	0.37822				
Y_3600		51,522	Cts/S	243.40	0.47242				
Y_3774		7,607.1	Cts/S	158.91	2.0889				

CRI 1733886

Acquire Date: 9/30/2019 11:04:06AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.0044540	ppm	0.00058100	13.045	.00500	Rel(%)	Pass	
Al3961		0.19018	ppm	0.0036060	1.8962	.20000	Rel(%)	Pass	
As1890		0.018498	ppm	0.0011330	6.1253	.02000	Rel(%)	Pass	
B_2089		0.10816	ppm	0.000036000	0.033702	.10000	Rel(%)	Pass	
Ba4554		0.0050440	ppm	0.00031500	6.2401	.00500	Rel(%)	Pass	
Be3130		0.0022460	ppm	0.000035000	1.5533	.00200	Rel(%)	Pass	
Ca3179		0.51938	ppm	0.0042060	0.80974	.50000	Rel(%)	Pass	
Cd2144		0.0021710	ppm	0.00010000	4.6251	.00200	Rel(%)	Pass	
Co2286		0.0057150	ppm	0.00018800	3.2922	.00500	Rel(%)	Pass	
Cr2677		0.0047680	ppm	0.00012900	2.7157	.00500	Rel(%)	Pass	
Cu3247		0.011291	ppm	0.00048700	4.3176	.01000	Rel(%)	Pass	
Fe2599		0.10848	ppm	0.011554	10.650	.10000	Rel(%)	Pass	
K_7664		1.1049	ppm	0.066859	6.0510	1.0000	Rel(%)	Pass	
Mg2790		0.51292	ppm	0.012178	2.3744	.50000	Rel(%)	Pass	
Mn2576		0.0057610	ppm	0.000068000	1.1727	.00500	Rel(%)	Pass	
Mo2020		0.019637	ppm	0.00034900	1.7765	.02000	Rel(%)	Pass	
Na5895		0.52654	ppm	0.016813	3.1931	.50000	Rel(%)	Pass	
Ni2316		0.0057300	ppm	0.00034700	6.0600	.00500	Rel(%)	Pass	
P_1782		0.51157	ppm	0.00049200	0.096174	.50000	Rel(%)	Pass	
Pb2203		0.0055840	ppm	0.00035400	6.3349	.00500	Rel(%)	Pass	
S_1820		0.49962	ppm	0.0049560	0.99185	.50000	Rel(%)	Pass	
Sb2068		0.018503	ppm	0.0016160	8.7357	.02000	Rel(%)	Pass	
Se1960		0.020791	ppm	0.0010070	4.8435	.02000	Rel(%)	Pass	
Si2881		0.46291	ppm	0.017348	3.7476	.50000	Rel(%)	Pass	
Sn1899		0.021872	ppm	0.00016800	0.76972	.02000	Rel(%)	Pass	
Sr4077		0.050586	ppm	0.00027200	0.53711	.05000	Rel(%)	Pass	
Ti3349		0.010254	ppm	0.00043300	4.2247	.01000	Rel(%)	Pass	
Tl1908		0.022857	ppm	0.00059000	2.5802	.02000	Rel(%)	Pass	
V_2924		0.0058640	ppm	0.00037000	6.3118	.00500	Rel(%)	Pass	
Zn2062		0.010657	ppm	0.000035000	0.32960	.01000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CRI 1733886

Acquire Date: 9/30/2019 11:04:06AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Y_2243		6,881.5	Cts/S	20.217	0.29378				
Y_3600		50,878	Cts/S	184.55	0.36272				
Y_3774		7,517.1	Cts/S	202.23	2.6902				

ICSA 1731975

Acquire Date: 9/30/2019 11:08:04AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.0014650	ppm	0.0011260	76.882	.00000	Abs	Pass	
Al3961		512.36	ppm	1.3196	0.25756	500.00	Abs	Pass	
As1890		-0.0012250	ppm	0.0016900	137.95	.00000	Abs	Pass	
B_2089		0.0056060	ppm	0.00077900	13.892	.00000	Abs	Pass	
Ba4554		0.0017660	ppm	0.00053600	30.332	.00000	Abs	Pass	
Be3130		-0.00037800	ppm	0.00027900	73.808	.00000	Abs	Pass	
Ca3179		489.37	ppm	0.84682	0.17304	500.00	Abs	Pass	
Cd2144		0.00020000	ppm	0.00011700	58.555	.00000	Abs	Pass	
Co2286		0.000094000	ppm	0.00050100	532.43	.00000	Abs	Pass	
Cr2677		-0.00017200	ppm	0.00049500	286.97	.00000	Abs	Pass	
Cu3247		0.0014860	ppm	0.0017570	118.27	.00000	Abs	Pass	
Fe2599		188.99	ppm	0.24391	0.12906	200.00	Abs	Pass	
K_7664		-0.022231	ppm	0.095090	427.74	.00000	Abs	Pass	
Mg2790		512.02	ppm	5.8311	1.1389	500.00	Abs	Pass	
Mn2576		0.00052700	ppm	0.000098000	18.519	.00000	Abs	Pass	
Mo2020		0.0024170	ppm	0.00027800	11.493	.00000	Abs	Pass	
Na5895		0.21791	ppm	0.0059680	2.7388	.00000	Abs	Pass	
Ni2316		-0.0012000	ppm	0.000026000	2.1758	.00000	Abs	Pass	
P_1782		0.013041	ppm	0.00026700	2.0453	.00000	Abs	Pass	
Pb2203		0.0030060	ppm	0.0025960	86.360	.00000	Abs	Pass	
S_1820		-0.48021	ppm	0.0023980	0.49937	.00000	Abs	Pass	
Sb2068		0.0037160	ppm	0.00027100	7.2831	.00000	Abs	Pass	
Se1960		-0.00065300	ppm	0.0051870	794.76	.00000	Abs	Pass	
Si2881		-0.0021180	ppm	0.022755	1,074.1	.00000	Abs	Pass	
Sn1899		-0.0043060	ppm	0.00077500	17.997	.00000	Abs	Pass	
Sr4077		-0.00094600	ppm	0.000064000	6.7987	.00000	Abs	Pass	
Ti3349		-0.00087500	ppm	0.0000040000	0.50151	.00000	Abs	Pass	
Tl1908		0.0010840	ppm	0.00082400	76.013	.00000	Abs	Pass	
V_2924		0.00030800	ppm	0.00020900	67.673	.00000	Abs	Pass	
Zn2062		-0.0026110	ppm	0.00061200	23.424	.00000	Abs	Pass	
Y_2243		6,162.0	Cts/S	54.418	0.88313				
Y_3600		45,124	Cts/S	1.6977	0.0037620				
Y_3774		7,273.8	Cts/S	254.93	3.5048				

ICSAB 1731976

Acquire Date: 9/30/2019 11:12:03AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		1.1039	ppm	0.0018080	0.16377	1.0000	Rel(%)	Pass	
Al3961		510.60	ppm	0.67877	0.13293	500.00	Rel(%)	Pass	
As1890		0.93793	ppm	0.0037170	0.39626				
B_2089		9.8830	ppm	0.0098280	0.099444				
Ba4554		0.99748	ppm	0.0038800	0.38901	1.0000	Rel(%)	Pass	
Be3130		0.50693	ppm	0.00044900	0.088608	.50000	Rel(%)	Pass	
Ca3179		488.35	ppm	0.054960	0.011254	500.00	Rel(%)	Pass	
Cd2144		0.94459	ppm	0.0027200	0.28797	1.0000	Rel(%)	Pass	
Co2286		0.95011	ppm	0.0013820	0.14549	1.0000	Rel(%)	Pass	
Cr2677		1.0183	ppm	0.0030430	0.29883	1.0000	Rel(%)	Pass	
Cu3247		1.0522	ppm	0.0049020	0.46588	1.0000	Rel(%)	Pass	
Fe2599		189.38	ppm	0.24575	0.12976	200.00	Rel(%)	Pass	
K_7664		10.343	ppm	0.0038850	0.037558				
Mg2790		506.39	ppm	6.3351	1.2510	500.00	Rel(%)	Pass	
Mn2576		0.99933	ppm	0.00075200	0.075237	1.0000	Rel(%)	Pass	
Mo2020		0.0017130	ppm	0.00011900	6.9345				
Na5895		10.595	ppm	0.038274	0.36126				
Ni2316		0.92431	ppm	0.0020120	0.21769	1.0000	Rel(%)	Pass	
P_1782		10.160	ppm	0.029559	0.29093				
Pb2203		0.96368	ppm	0.00014900	0.015414	1.0000	Rel(%)	Pass	
S_1820		-0.48657	ppm	0.00080000	0.16449				
Sb2068		-0.0012390	ppm	0.00018100	14.594				
Se1960		1.0049	ppm	0.010928	1.0875				
Si2881		0.023648	ppm	0.014349	60.678				
Sn1899		-0.0042060	ppm	0.0015150	36.028				
Sr4077		0.99178	ppm	0.0029260	0.29505				
Ti3349		-0.0011090	ppm	0.00029500	26.603				
Tl1908		0.94130	ppm	0.0029640	0.31491				
V_2924		1.0505	ppm	0.0021220	0.20202	1.0000	Rel(%)	Pass	
Zn2062		0.94595	ppm	0.00052900	0.055883	1.0000	Rel(%)	Pass	
Y_2243		6,123.9	Cts/S	9.4955	0.15506				
Y_3600		45,808	Cts/S	76.588	0.16719				
Y_3774		7,367.2	Cts/S	276.25	3.7497				

AI 1672434

Acquire Date: 9/30/2019 11:15:54AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.0011710	ppm	0.00074400	63.519	.00000	Abs	Pass	
Al3961		964.90	ppm	29.223	3.0286				
As1890		-0.0067060	ppm	0.0017060	25.446	.00000	Abs	Pass	
B_2089		0.032317	ppm	0.00058000	1.7935	.00000	Abs	Pass	
Ba4554		0.00055800	ppm	0.0000010000	0.11526	.00000	Abs	Pass	
Be3130		0.00021500	ppm	0.000083000	38.583	.00000	Abs	Pass	
Ca3179		0.098783	ppm	0.024951	25.258				
Cd2144		0.000014000	ppm	0.00020500	1,473.6	.00000	Abs	Pass	
Co2286		-0.00015200	ppm	0.00013500	88.940	.00000	Abs	Pass	
Cr2677		0.00084700	ppm	0.00057400	67.717	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

Al 1672434

Acquire Date: 9/30/2019 11:15:54AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Cu3247		0.0019640	ppm	0.000029000	1.4969	.00000	Abs	Pass	
Fe2599		0.15488	ppm	0.018174	11.734				
K_7664		-0.13009	ppm	0.022252	17.105	.00000	Abs	Pass	
Mg2790		0.026565	ppm	0.0020780	7.8231				
Mn2576		-0.00016500	ppm	0.00012600	76.453	.00000	Abs	Pass	
Mo2020		0.0019460	ppm	0.00027700	14.241	.00000	Abs	Pass	
Na5895		0.34610	ppm	0.0061310	1.7714	.00000	Abs	Pass	
Ni2316		0.0029770	ppm	0.00011300	3.8037	.00000	Abs	Pass	
P_1782		0.0082030	ppm	0.0033280	40.574	.00000	Abs	Pass	
Pb2203		0.0031280	ppm	0.0028010	89.529	.00000	Abs	Pass	
S_1820		-0.010388	ppm	0.0057270	55.129	.00000	Abs	Pass	
Sb2068		0.0039100	ppm	0.0025130	64.260	.00000	Abs	Pass	
Se1960		0.0017830	ppm	0.0021020	117.88	.00000	Abs	Pass	
Si2881		0.034483	ppm	0.00019600	0.56943	.00000	Abs	Pass	
Sn1899		-0.013223	ppm	0.00071100	5.3779	.00000	Abs	Pass	
Sr4077		0.00032200	ppm	0.000083000	25.642	.00000	Abs	Pass	
Ti3349		0.0019460	ppm	0.00028900	14.859	.00000	Abs	Pass	
Tl1908		0.0020510	ppm	0.0018750	91.421	.00000	Abs	Pass	
V_2924		0.0012610	ppm	0.00089700	71.106	.00000	Abs	Pass	
Zn2062		0.0012750	ppm	0.00043700	34.257	.00000	Abs	Pass	
Y_2243		6,409.4	Cts/S	10.653	0.16622				
Y_3600		45,074	Cts/S	244.95	0.54345				
Y_3774		7,612.7	Cts/S	18.634	0.24478				

Ca 1672439

Acquire Date: 9/30/2019 11:19:55AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00095300	ppm	0.00093000	97.516	.00000	Abs	Pass	
Al3961		0.14776	ppm	0.062408	42.236				
As1890		0.0017390	ppm	0.00017000	9.7570	.00000	Abs	Pass	
B_2089		0.014321	ppm	0.00013200	0.92396	.00000	Abs	Pass	
Ba4554		0.00065600	ppm	0.00020000	30.437	.00000	Abs	Pass	
Be3130		-0.00096100	ppm	0.00014100	14.638	.00000	Abs	Pass	
Ca3179		921.04	ppm	67.802	7.3614				
Cd2144		0.0013250	ppm	0.000097000	7.3390	.00000	Abs	Pass	
Co2286		0.00031000	ppm	0.00017500	56.390	.00000	Abs	Pass	
Cr2677		0.00020400	ppm	0.000099000	48.259	.00000	Abs	Pass	
Cu3247		0.0052230	ppm	0.0021650	41.460	.00000	Abs	Pass	
Fe2599		0.023799	ppm	0.011191	47.023				
K_7664		0.053722	ppm	0.044265	82.397	.00000	Abs	Pass	
Mg2790		0.000070000	ppm	0.0040160	5,741.5				
Mn2576		-0.00094800	ppm	0.00017000	17.978	.00000	Abs	Pass	
Mo2020		0.00027300	ppm	0.00015600	57.073	.00000	Abs	Pass	
Na5895		0.010104	ppm	0.019779	195.75	.00000	Abs	Pass	
Ni2316		0.00015500	ppm	0.00012700	81.968	.00000	Abs	Pass	
P_1782		0.012333	ppm	0.00094700	7.6752	.00000	Abs	Pass	
Pb2203		-0.0020360	ppm	0.0015710	77.174	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

Ca 1672439

Acquire Date: 9/30/2019 11:19:55AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
S_1820		-0.088741	ppm	0.010932	12.319	.00000	Abs	Pass	
Sb2068		-0.0047060	ppm	0.00053800	11.428	.00000	Abs	Pass	
Se1960		-0.00010800	ppm	0.00082800	763.57	.00000	Abs	Pass	
Si2881		-0.017005	ppm	0.028044	164.91	.00000	Abs	Pass	
Sn1899		0.00023100	ppm	0.00054400	235.47	.00000	Abs	Pass	
Sr4077		-0.0017470	ppm	0.0017210	98.529	.00000	Abs	Pass	
Ti3349		-0.0033030	ppm	0.000065000	1.9803	.00000	Abs	Pass	
Tl1908		-0.0046350	ppm	0.0024060	51.905	.00000	Abs	Pass	
V_2924		0.00036000	ppm	0.00033000	91.543	.00000	Abs	Pass	
Zn2062		0.00040000	ppm	0.00013900	34.813	.00000	Abs	Pass	
Y_2243		6,334.2	Cts/S	22.274	0.35166				
Y_3600		47,581	Cts/S	90.071	0.18930				
Y_3774		7,353.5	Cts/S	203.05	2.7613				

Fe 1672441

Acquire Date: 9/30/2019 11:23:58AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.0031810	ppm	0.00017400	5.4618	.00000	Abs	Pass	
Al3961		0.059908	ppm	0.0039760	6.6364				
As1890		0.0021790	ppm	0.0026290	120.66	.00000	Abs	Pass	
B_2089		0.022478	ppm	0.00031400	1.3971	.00000	Abs	Pass	
Ba4554		0.000028000	ppm	0.00037900	1,379.7	.00000	Abs	Pass	
Be3130		0.000088000	ppm	0.0000070000	8.0145	.00000	Abs	Pass	
Ca3179		0.18099	ppm	0.029807	16.469				
Cd2144		-0.00035000	ppm	0.00012000	34.246	.00000	Abs	Pass	
Co2286		-0.0027620	ppm	0.00030200	10.949	.00000	Abs	Pass	
Cr2677		-0.00040800	ppm	0.0017630	432.14	.00000	Abs	Pass	
Cu3247		0.000025000	ppm	0.00037600	1,479.6	.00000	Abs	Pass	
Fe2599		929.45	ppm	3.6963	0.39769				
K_7664		-0.077210	ppm	0.037256	48.252	.00000	Abs	Pass	
Mg2790		0.056568	ppm	0.0049900	8.8218				
Mn2576		-0.00096500	ppm	0.00022400	23.173	.00000	Abs	Pass	
Mo2020		0.0022020	ppm	0.00056000	25.439	.00000	Abs	Pass	
Na5895		0.13193	ppm	0.0021630	1.6399	.00000	Abs	Pass	
Ni2316		0.0014460	ppm	0.00072100	49.856	.00000	Abs	Pass	
P_1782		0.012618	ppm	0.0013000	10.302	.00000	Abs	Pass	
Pb2203		-0.0015680	ppm	0.0051710	329.82	.00000	Abs	Pass	
S_1820		0.0078200	ppm	0.0067930	86.872	.00000	Abs	Pass	
Sb2068		0.0073740	ppm	0.0013080	17.740	.00000	Abs	Pass	
Se1960		0.0039880	ppm	0.0041930	105.13	.00000	Abs	Pass	
Si2881		-0.0085130	ppm	0.014583	171.30	.00000	Abs	Pass	
Sn1899		0.0056470	ppm	0.00017800	3.1439	.00000	Abs	Pass	
Sr4077		0.0016320	ppm	0.000098000	5.9882	.00000	Abs	Pass	
Ti3349		-0.00014000	ppm	0.000019000	13.886	.00000	Abs	Pass	
Tl1908		0.012259	ppm	0.00082200	6.7032	.00000	Abs	Pass	
V_2924		-0.0039520	ppm	0.00090000	22.765	.00000	Abs	Pass	
Zn2062		-0.0018860	ppm	0.00028700	15.219	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

Fe 1672441

Acquire Date: 9/30/2019 11:23:58AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Y_2243		6,641.0	Cts/S	0.13190	0.0019860				
Y_3600		49,467	Cts/S	173.26	0.35025				
Y_3774		7,579.6	Cts/S	93.799	1.2375				

Mg 1672444

Acquire Date: 9/30/2019 11:27:53AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.0016590	ppm	0.00017300	10.410	.00000	Abs	Pass	
Al3961		-0.0076560	ppm	0.039864	520.70				
As1890		0.0012760	ppm	0.0030700	240.56	.00000	Abs	Pass	
B_2089		0.0099550	ppm	0.00035600	3.5786	.00000	Abs	Pass	
Ba4554		0.00069200	ppm	0.00010200	14.749	.00000	Abs	Pass	
Be3130		0.00013400	ppm	0.000087000	64.506	.00000	Abs	Pass	
Ca3179		0.057299	ppm	0.0019410	3.3867				
Cd2144		-0.0010080	ppm	0.0000090000	0.90732	.00000	Abs	Pass	
Co2286		0.00022900	ppm	0.00025000	109.20	.00000	Abs	Pass	
Cr2677		-0.0013950	ppm	0.00031100	22.305	.00000	Abs	Pass	
Cu3247		0.0020310	ppm	0.00013900	6.8366	.00000	Abs	Pass	
Fe2599		0.21737	ppm	0.054911	25.261				
K_7664		-0.12375	ppm	0.0032160	2.5993	.00000	Abs	Pass	
Mg2790		1,025.9	ppm	2.0259	0.19748				
Mn2576		0.0020530	ppm	0.00010200	4.9811	.00000	Abs	Pass	
Mo2020		0.00072500	ppm	0.00039900	55.005	.00000	Abs	Pass	
Na5895		0.0094160	ppm	0.000096000	1.0173	.00000	Abs	Pass	
Ni2316		0.000049000	ppm	0.00083400	1,690.1	.00000	Abs	Pass	
P_1782		-0.0023040	ppm	0.0026000	112.81	.00000	Abs	Pass	
Pb2203		0.0016050	ppm	0.0014720	91.718	.00000	Abs	Pass	
S_1820		-0.071913	ppm	0.0034750	4.8328	.00000	Abs	Pass	
Sb2068		0.0051330	ppm	0.00013200	2.5746	.00000	Abs	Pass	
Se1960		-0.0036560	ppm	0.0026890	73.550	.00000	Abs	Pass	
Si2881		-0.079731	ppm	0.011690	14.662	.00000	Abs	Pass	
Sn1899		-0.00055400	ppm	0.00026300	47.488	.00000	Abs	Pass	
Sr4077		0.00032100	ppm	0.00044600	139.26	.00000	Abs	Pass	
Ti3349		0.0024180	ppm	0.00033600	13.888	.00000	Abs	Pass	
Tl1908		0.0025480	ppm	0.00018600	7.3014	.00000	Abs	Pass	
V_2924		0.00045900	ppm	0.000079000	17.319	.00000	Abs	Pass	
Zn2062		0.0021650	ppm	0.0000050000	0.23660	.00000	Abs	Pass	
Y_2243		6,326.9	Cts/S	7.5019	0.11857				
Y_3600		46,747	Cts/S	119.82	0.25632				
Y_3774		7,207.1	Cts/S	207.41	2.8779				

rinse1

Acquire Date: 9/30/2019 11:31:56AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00038200	ppm	0.00047100	123.44
Al3961		-0.0087900	ppm	0.00027000	3.0710
As1890		0.000077000	ppm	0.0029730	3,857.0
B_2089		0.0053360	ppm	0.00010700	2.0145
Ba4554		-0.00013900	ppm	0.000056000	40.556
Be3130		0.000082000	ppm	0.000023000	28.537
Ca3179		-0.0011980	ppm	0.012485	1,042.4
Cd2144		0.00011600	ppm	0.000058000	49.666
Co2286		0.00025000	ppm	0.00024800	99.268
Cr2677		-0.00049800	ppm	0.00062300	125.03
Cu3247		0.0026970	ppm	0.000055000	2.0323
Fe2599		0.055062	ppm	0.0025420	4.6174
K_7664		0.047597	ppm	0.071203	149.59
Mg2790		0.067265	ppm	0.024082	35.802
Mn2576		0.000068000	ppm	0.000048000	70.913
Mo2020		0.000041000	ppm	0.00034800	837.64
Na5895		-0.0044670	ppm	0.0027080	60.623
Ni2316		-0.00028200	ppm	0.000081000	28.583
P_1782		-0.0022850	ppm	0.0033210	145.32
Pb2203		0.000082000	ppm	0.0012710	1,546.6
S_1820		0.0050740	ppm	0.0034270	67.541
Sb2068		-0.0014620	ppm	0.0014890	101.86
Se1960		0.0043160	ppm	0.00019600	4.5331
Si2881		-0.012451	ppm	0.035963	288.85
Sn1899		-0.00020200	ppm	0.000062000	30.672
Sr4077		0.000098000	ppm	0.000019000	19.551
Ti3349		0.00082800	ppm	0.00044500	53.761
Tl1908		-0.00048800	ppm	0.0017410	357.05
V_2924		0.000014000	ppm	0.00068000	4,855.3
Zn2062		-0.00040000	ppm	0.00033800	84.502
Y_2243		6,815.1	Cts/S	17.990	0.26397
Y_3600		50,597	Cts/S	176.49	0.34883
Y_3774		7,462.9	Cts/S	286.15	3.8343

rinse2

Acquire Date: 9/30/2019 11:35:54AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00024900	ppm	0.00045300	181.66
Al3961		-0.0094050	ppm	0.026793	284.86
As1890		0.00044400	ppm	0.0017520	394.40
B_2089		0.0045490	ppm	0.00062000	13.628
Ba4554		0.000073000	ppm	0.00072900	993.49
Be3130		.0000050000	ppm	0.00012200	2,468.1
Ca3179		0.0063870	ppm	0.0065300	102.25
Cd2144		0.000049000	ppm	0.000081000	163.29
Co2286		0.00033500	ppm	0.000045000	13.527

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

rinse2

Acquire Date: 9/30/2019 11:35:54AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		-0.00041900	ppm	0.00012100	28.991
Cu3247		0.0012210	ppm	0.0013260	108.66
Fe2599		0.033530	ppm	0.0026060	7.7709
K_7664		0.031972	ppm	0.026702	83.517
Mg2790		0.0065330	ppm	0.00047300	7.2329
Mn2576		0.000013000	ppm	0.000018000	138.80
Mo2020		0.000018000	ppm	0.000089000	500.94
Na5895		0.0074150	ppm	0.010243	138.13
Ni2316		-0.00076500	ppm	0.000059000	7.7499
P_1782		-0.0024580	ppm	0.00066700	27.122
Pb2203		0.00038100	ppm	0.00071600	187.77
S_1820		0.00032100	ppm	0.0016920	527.68
Sb2068		-0.0015100	ppm	0.000071000	4.6720
Se1960		-0.00057100	ppm	0.0012800	224.10
Si2881		-0.020311	ppm	0.020669	101.76
Sn1899		0.000079000	ppm	0.00046100	585.90
Sr4077		0.000075000	ppm	0.000017000	22.517
Ti3349		-0.00041200	ppm	0.00026100	63.336
Tl1908		0.00081800	ppm	0.00050700	61.942
V_2924		0.00067800	ppm	0.00066800	98.584
Zn2062		-0.00021300	ppm	0.00047300	222.13
Y_2243		6,837.0	Cts/S	0.74317	0.010870
Y_3600		50,722	Cts/S	23.403	0.046140
Y_3774		7,469.4	Cts/S	314.75	4.2139

CCV 1708493

Acquire Date: 9/30/2019 11:39:53AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.50123	ppm	0.0012870	0.25682	.50000	Rel(%)	Pass	
Al3961		25.024	ppm	0.058410	0.23342	25.000	Rel(%)	Pass	
As1890		0.49832	ppm	0.0030140	0.60474	.50000	Rel(%)	Pass	
B_2089		1.0068	ppm	0.00043900	0.043562	1.0000	Rel(%)	Pass	
Ba4554		2.4901	ppm	0.0084210	0.33819	2.5000	Rel(%)	Pass	
Be3130		0.52543	ppm	0.000099000	0.018788	.50000	Rel(%)	Pass	
Ca3179		25.281	ppm	0.030075	0.11896	25.000	Rel(%)	Pass	
Cd2144		0.50367	ppm	0.00060600	0.12040	.50000	Rel(%)	Pass	
Co2286		2.6173	ppm	0.00030400	0.011615	2.5000	Rel(%)	Pass	
Cr2677		2.5820	ppm	0.0037600	0.14564	2.5000	Rel(%)	Pass	
Cu3247		2.4937	ppm	0.0057350	0.23000	2.5000	Rel(%)	Pass	
Fe2599		24.833	ppm	0.11705	0.47133	25.000	Rel(%)	Pass	
K_7664		25.820	ppm	0.010283	0.039828	25.000	Rel(%)	Pass	
Mg2790		25.517	ppm	0.065656	0.25731	25.000	Rel(%)	Pass	
Mn2576		2.5089	ppm	0.0035530	0.14162	2.5000	Rel(%)	Pass	
Mo2020		1.0175	ppm	0.00034900	0.034305	1.0000	Rel(%)	Pass	
Na5895		25.549	ppm	0.045189	0.17687	25.000	Rel(%)	Pass	
Ni2316		2.5841	ppm	0.0017780	0.068822	2.5000	Rel(%)	Pass	
P_1782		2.5626	ppm	0.0050410	0.19670	2.5000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCV 1708493

Acquire Date: 9/30/2019 11:39:53AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Pb2203		0.51593	ppm	0.00072600	0.14068	.50000	Rel(%)	Pass	
S_1820		2.5421	ppm	0.0010430	0.041036	2.5000	Rel(%)	Pass	
Sb2068		0.51803	ppm	0.0031610	0.61019	.50000	Rel(%)	Pass	
Se1960		0.52733	ppm	0.0076490	1.4505	.50000	Rel(%)	Pass	
Si2881		2.4993	ppm	0.041290	1.6520	2.5000	Rel(%)	Pass	
Sn1899		2.5342	ppm	0.0021510	0.084873	2.5000	Rel(%)	Pass	
Sr4077		2.4867	ppm	0.0061420	0.24699	2.5000	Rel(%)	Pass	
Ti3349		1.0164	ppm	0.0030120	0.29633	1.0000	Rel(%)	Pass	
Tl1908		0.50749	ppm	0.0051270	1.0103	.50000	Rel(%)	Pass	
V_2924		2.5968	ppm	0.0053090	0.20446	2.5000	Rel(%)	Pass	
Zn2062		2.5453	ppm	0.011933	0.46882	2.5000	Rel(%)	Pass	
Y_2243		6,724.5	Cts/S	86.816	1.2911				
Y_3600		49,214	Cts/S	48.795	0.099148				
Y_3774		7,385.7	Cts/S	352.48	4.7725				

CCB 1745955

Acquire Date: 9/30/2019 11:43:39AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.000024000	ppm	0.00031200	1,287.2	.00000	Abs	Pass	
Al3961		-0.0074450	ppm	0.016046	215.53	.00000	Abs	Pass	
As1890		0.00061600	ppm	0.00069900	113.46	.00000	Abs	Pass	
B_2089		0.0062120	ppm	0.00085100	13.705	.00000	Abs	Pass	
Ba4554		0.00010600	ppm	0.00040600	385.03	.00000	Abs	Pass	
Be3130		0.00024200	ppm	0.000035000	14.433	.00000	Abs	Pass	
Ca3179		0.0080260	ppm	0.0066210	82.486	.00000	Abs	Pass	
Cd2144		0.000085000	ppm	0.000016000	18.698	.00000	Abs	Pass	
Co2286		0.00040400	ppm	0.000019000	4.7177	.00000	Abs	Pass	
Cr2677		-0.00065300	ppm	0.00052100	79.815	.00000	Abs	Pass	
Cu3247		0.0032830	ppm	0.00071700	21.848	.00000	Abs	Pass	
Fe2599		0.023806	ppm	0.0015150	6.3632	.00000	Abs	Pass	
K_7664		0.0080750	ppm	0.074132	918.08	.00000	Abs	Pass	
Mg2790		0.000034000	ppm	0.0073280	21,848	.00000	Abs	Pass	
Mn2576		0.00021600	ppm	0.000035000	16.284	.00000	Abs	Pass	
Mo2020		0.00022200	ppm	0.00031100	140.37	.00000	Abs	Pass	
Na5895		0.00065700	ppm	0.0080540	1,226.4	.00000	Abs	Pass	
Ni2316		0.00015200	ppm	0.000053000	35.110	.00000	Abs	Pass	
P_1782		-0.0024760	ppm	0.0031520	127.28	.00000	Abs	Pass	
Pb2203		-0.00038900	ppm	0.0015710	403.72	.00000	Abs	Pass	
S_1820		0.0032200	ppm	0.0041260	128.13	.00000	Abs	Pass	
Sb2068		.0000010000	ppm	0.0030100	203,150	.00000	Abs	Pass	
Se1960		-0.0026770	ppm	0.0013160	49.168	.00000	Abs	Pass	
Si2881		-0.0076230	ppm	0.026367	345.88	.00000	Abs	Pass	
Sn1899		0.00070100	ppm	0.00013900	19.871	.00000	Abs	Pass	
Sr4077		0.00036600	ppm	0.000089000	24.202	.00000	Abs	Pass	
Ti3349		-0.00023600	ppm	0.00024000	101.89	.00000	Abs	Pass	
Tl1908		-0.0010690	ppm	0.00030400	28.420	.00000	Abs	Pass	
V_2924		0.00053700	ppm	0.00038000	70.726	.00000	Abs	Pass	

CCB 1745955

Acquire Date: 9/30/2019 11:43:39AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Zn2062		0.0022370	ppm	0.00026600	11.878	.00000	Abs	Pass	
Y_2243		6,798.8	Cts/S	9.6826	0.14242				
Y_3600		50,582	Cts/S	141.51	0.27976				
Y_3774		7,534.5	Cts/S	151.15	2.0062				

MB 320-326246/1-A

Acquire Date: 9/30/2019 11:47:40AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00051900	ppm	0.0012360	237.94
Al3961		-0.016006	ppm	0.0013300	8.3099
As1890		0.0021610	ppm	0.0022520	104.21
B_2089		0.0033530	ppm	0.00047200	14.064
Ba4554		-0.00015100	ppm	0.00012200	80.646
Be3130		0.00010200	ppm	0.00010500	103.10
Ca3179		-0.014999	ppm	0.0056770	37.850
Cd2144		.0000030000	ppm	0.000078000	2,547.2
Co2286		-0.00012600	ppm	0.00020000	159.18
Cr2677		-0.0015390	ppm	0.00041400	26.891
Cu3247		0.0016910	ppm	0.0010720	63.422
Fe2599		0.015900	ppm	0.016835	105.88
K_7664		0.053909	ppm	0.064800	120.20
Mg2790		-0.0010190	ppm	0.0026580	260.80
Mn2576		0.000032000	ppm	0.000010000	31.194
Mo2020		-0.00025900	ppm	0.00044700	172.63
Na5895		-0.0055770	ppm	0.019856	356.02
Ni2316		-0.00015700	ppm	0.000081000	51.418
P_1782		-0.00081800	ppm	0.0030000	366.64
Pb2203		0.00091100	ppm	0.00023600	25.849
S_1820		-0.0046300	ppm	0.0035480	76.636
Sb2068		-0.0014460	ppm	0.0013370	92.452
Se1960		-0.0010280	ppm	0.00043700	42.507
Si2881		-0.014792	ppm	0.021261	143.74
Sn1899		-0.00012500	ppm	0.00033000	265.05
Sr4077		-0.00015500	ppm	0.00010200	65.833
Ti3349		-0.00070600	ppm	0.000097000	13.729
Tl1908		-0.0020450	ppm	0.00029200	14.260
V_2924		0.00032000	ppm	0.00092100	287.62
Zn2062		-0.00096300	ppm	0.00058900	61.128
Y_2243		6,759.2	Cts/S	25.701	0.38024
Y_3600		49,636	Cts/S	311.31	0.62718
Y_3774		7,322.7	Cts/S	239.82	3.2750

LCS 320-326246/2-A

Acquire Date: 9/30/2019 11:51:41AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.047879	ppm	0.00022900	0.47818
Al3961		4.7878	ppm	0.0017170	0.035859
As1890	**W**	**0.44319**	**ppm**	**0.00076200**	**0.17186**
B_2089		4.7732	ppm	0.0070440	0.14758
Ba4554	**W**	**0.47738**	**ppm**	**0.0032220**	**0.67500**
Be3130		0.25528	ppm	0.00083100	0.32565
Ca3179		24.386	ppm	0.087066	0.35703
Cd2144	**W**	**0.24214**	**ppm**	**0.00031300**	**0.12907**
Co2286		0.24768	ppm	0.0014560	0.58790
Cr2677	**W**	**0.25123**	**ppm**	**0.00030300**	**0.12061**
Cu3247		0.23451	ppm	0.0028770	1.2268
Fe2599		4.7901	ppm	0.0053530	0.11175
K_7664		25.115	ppm	0.17381	0.69208
Mg2790		24.561	ppm	0.017307	0.070467
Mn2576		0.24286	ppm	0.00036000	0.14841
Mo2020		0.24460	ppm	0.0010290	0.42053
Na5895		25.007	ppm	0.096182	0.38463
Ni2316		0.24191	ppm	0.00010800	0.044654
P_1782		5.2422	ppm	0.014848	0.28325
Pb2203	**W**	**0.24769**	**ppm**	**0.000011000**	**0.0044050**
S_1820	**F**	**5.0957**	**ppm**	**0.010825**	**0.21244**
Sb2068		0.47503	ppm	0.0012150	0.25570
Se1960	**W**	**0.50619**	**ppm**	**0.00012300**	**0.024258**
Si2881	**W**	**4.9045**	**ppm**	**0.015400**	**0.31400**
Sn1899		0.49925	ppm	0.00019000	0.038088
Sr4077		0.23790	ppm	0.0010880	0.45738
Ti3349	**W**	**0.24751**	**ppm**	**0.000063000**	**0.025583**
Tl1908		0.49104	ppm	0.0018510	0.37694
V_2924		0.25337	ppm	0.000036000	0.014036
Zn2062		0.49027	ppm	0.00055400	0.11297
Y_2243		6,727.3	Cts/S	17.870	0.26563
Y_3600		49,751	Cts/S	170.44	0.34258
Y_3774		7,400.0	Cts/S	349.30	4.7202

MB 320-324929/1-A

Acquire Date: 9/30/2019 11:55:28AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00076100	ppm	0.00062800	82.579
Al3961		-0.0095280	ppm	0.0016670	17.493
As1890		0.00026400	ppm	0.0015960	605.41
B_2089		0.018736	ppm	0.0015640	8.3468
Ba4554		-0.00059300	ppm	0.00032000	53.910
Be3130		0.00034300	ppm	0.00026600	77.546
Ca3179		0.0033940	ppm	0.0021560	63.524
Cd2144		0.000073000	ppm	0.00018300	250.93
Co2286		0.00021700	ppm	0.00018400	84.545

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

MB 320-324929/1-A

Acquire Date: 9/30/2019 11:55:28AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		-0.00057100	ppm	0.00083200	145.68
Cu3247		0.0027710	ppm	0.00025100	9.0473
Fe2599		0.0011040	ppm	0.0049170	445.44
K_7664		-0.030179	ppm	0.016589	54.968
Mg2790		-0.0016070	ppm	0.0015230	94.775
Mn2576		0.000016000	ppm	0.00000	1.7582
Mo2020		0.00021600	ppm	0.00019000	87.886
Na5895		-0.016243	ppm	0.034258	210.91
Ni2316		-0.00014400	ppm	0.00018800	130.47
P_1782		-0.0045200	ppm	0.00053200	11.765
Pb2203		-0.0013530	ppm	0.00064500	47.676
S_1820		0.0011490	ppm	0.0035290	307.27
Sb2068		0.000010000	ppm	0.0014490	14,752
Se1960		0.00017400	ppm	0.0051390	2,948.7
Si2881		-0.0036780	ppm	0.020252	550.66
Sn1899		0.00085200	ppm	0.00053200	62.407
Sr4077		0.00000	ppm	0.00000	110.89
Ti3349		-0.00023200	ppm	0.00019800	85.310
Tl1908		-0.0010180	ppm	0.0010060	98.855
V_2924		0.00073900	ppm	0.00023900	32.317
Zn2062		-0.00027900	ppm	0.0000050000	1.7526
Y_2243		6,817.4	Cts/S	45.465	0.66689
Y_3600		50,597	Cts/S	1,144.9	2.2628
Y_3774		7,370.5	Cts/S	340.02	4.6133

LCS 320-324929/2-A

Acquire Date: 9/30/2019 11:59:28AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.046271	ppm	0.00062800	1.3571
Al3961		4.7505	ppm	0.014796	0.31145
As1890	**W**	**0.43637**	**ppm**	**0.00082800**	**0.18972**
B_2089		4.6167	ppm	0.00077000	0.016680
Ba4554	**W**	**0.46966**	**ppm**	**0.0024470**	**0.52112**
Be3130		0.25543	ppm	0.00088200	0.34525
Ca3179		23.845	ppm	0.033703	0.14134
Cd2144	**W**	**0.23770**	**ppm**	**0.00045300**	**0.19054**
Co2286		0.24673	ppm	0.00037600	0.15260
Cr2677	**W**	**0.24820**	**ppm**	**0.0010260**	**0.41325**
Cu3247		0.23221	ppm	0.0023110	0.99526
Fe2599		4.6971	ppm	0.012587	0.26798
K_7664		24.778	ppm	0.055712	0.22484
Mg2790		24.050	ppm	0.046564	0.19362
Mn2576		0.23753	ppm	0.00017400	0.073212
Mo2020		0.24268	ppm	0.00031900	0.13155
Na5895		24.739	ppm	0.056799	0.22959
Ni2316		0.23878	ppm	0.00057600	0.24124

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

LCS 320-324929/2-A

Acquire Date: 9/30/2019 11:59:28AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		5.1078	ppm	0.0051280	0.10039
Pb2203	**W**	**0.24800**	**ppm**	**0.0032910**	**1.3272**
S_1820	**F**	**4.9431**	**ppm**	**0.033109**	**0.66981**
Sb2068		0.46279	ppm	0.0010260	0.22177
Se1960	**W**	**0.48016**	**ppm**	**0.0058250**	**1.2131**
Si2881	**W**	**4.8417**	**ppm**	**0.013349**	**0.27571**
Sn1899		0.48788	ppm	0.00027300	0.055929
Sr4077		0.23511	ppm	0.0010710	0.45536
Ti3349	**W**	**0.24464**	**ppm**	**0.00011500**	**0.046957**
Tl1908		0.48062	ppm	0.0028350	0.58983
V_2924		0.25196	ppm	0.0012020	0.47701
Zn2062		0.47115	ppm	0.00026000	0.055141
Y_2243		6,729.4	Cts/S	93.613	1.3911
Y_3600		50,828	Cts/S	249.99	0.49183
Y_3774		7,546.3	Cts/S	317.86	4.2121

MB 320-326238/1-A

Acquire Date: 9/30/2019 12:03:14PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.000041000	ppm	0.00061100	1,485.7
Al3961		-0.0031240	ppm	0.017691	566.34
As1890		0.0021870	ppm	0.00026200	11.976
B_2089		0.024310	ppm	0.0011550	4.7523
Ba4554		-0.00045500	ppm	0.000055000	12.166
Be3130		0.00015900	ppm	0.00011000	69.066
Ca3179		0.014487	ppm	0.0040530	27.978
Cd2144		0.000039000	ppm	0.000083000	212.53
Co2286		0.000051000	ppm	0.00021000	414.92
Cr2677		-0.00038100	ppm	0.00025500	66.883
Cu3247		0.0016040	ppm	0.0015100	94.164
Fe2599		0.010328	ppm	0.00046600	4.5078
K_7664		0.012867	ppm	0.019993	155.38
Mg2790		0.0031710	ppm	0.0032870	103.66
Mn2576		0.000067000	ppm	0.000029000	43.465
Mo2020		0.00013400	ppm	0.00045100	336.87
Na5895		0.029585	ppm	0.00055500	1.8745
Ni2316		-0.00025600	ppm	0.00032200	125.85
P_1782		-0.0027400	ppm	0.0027030	98.677
Pb2203		0.0019320	ppm	0.00018900	9.7629
S_1820		0.0025230	ppm	0.0033670	133.48
Sb2068		-0.00041100	ppm	0.0013760	334.91
Se1960		0.00079800	ppm	0.0046760	585.82
Si2881		-0.026855	ppm	0.00015600	0.57953
Sn1899		0.00043200	ppm	0.00017600	40.793
Sr4077		0.000087000	ppm	0.00022900	263.47
Ti3349		.0000030000	ppm	0.00012100	3,750.4

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

MB 320-326238/1-A

Acquire Date: 9/30/2019 12:03:14PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		-0.0021780	ppm	0.0025250	115.94
V_2924		0.00084500	ppm	0.00052400	62.000
Zn2062		0.0041120	ppm	0.00047500	11.562
Y_2243		6,716.7	Cts/S	14.970	0.22287
Y_3600		49,796	Cts/S	291.66	0.58572
Y_3774		7,435.6	Cts/S	144.75	1.9467

LCS 320-326238/2-A

Acquire Date: 9/30/2019 12:07:14PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.048568	ppm	0.00081300	1.6731
Al3961		4.7990	ppm	0.0065410	0.13631
As1890	**W**	**0.44488**	**ppm**	**0.0019900**	**0.44730**
B_2089		4.8225	ppm	0.0082390	0.17084
Ba4554	**W**	**0.47437**	**ppm**	**0.0029980**	**0.63193**
Be3130		0.25816	ppm	0.0015000	0.58109
Ca3179		24.145	ppm	0.095307	0.39472
Cd2144	**W**	**0.24145**	**ppm**	**0.00026400**	**0.10942**
Co2286		0.24943	ppm	0.00034500	0.13847
Cr2677	**W**	**0.24977**	**ppm**	**0.0016470**	**0.65942**
Cu3247		0.23867	ppm	0.0000040000	0.0016170
Fe2599		4.6956	ppm	0.016274	0.34657
K_7664		25.447	ppm	0.16991	0.66770
Mg2790		24.452	ppm	0.041205	0.16851
Mn2576		0.23929	ppm	0.00079700	0.33287
Mo2020		0.24537	ppm	0.00027900	0.11388
Na5895		25.304	ppm	0.061426	0.24275
Ni2316		0.24274	ppm	0.00067200	0.27664
P_1782		5.2929	ppm	0.025795	0.48735
Pb2203	**W**	**0.24965**	**ppm**	**0.0023210**	**0.92978**
S_1820	**F**	**5.1966**	**ppm**	**0.018080**	**0.34792**
Sb2068		0.47877	ppm	0.0014080	0.29411
Se1960	**W**	**0.50494**	**ppm**	**0.0019080**	**0.37787**
Si2881	**W**	**4.8685**	**ppm**	**0.040792**	**0.83787**
Sn1899		0.48451	ppm	0.00049000	0.10105
Sr4077		0.23586	ppm	0.00081300	0.34476
Ti3349	**W**	**0.24620**	**ppm**	**0.00048900**	**0.19861**
Tl1908		0.49246	ppm	0.0000080000	0.0016990
V_2924		0.25436	ppm	0.0011320	0.44492
Zn2062		0.48746	ppm	0.0013410	0.27519
Y_2243		6,837.7	Cts/S	45.111	0.65974
Y_3600		50,534	Cts/S	174.41	0.34513
Y_3774		7,630.2	Cts/S	201.18	2.6366

LB 320-325707/1-C

Acquire Date: 9/30/2019 12:11:01PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00096800	ppm	0.00085700	88.495
Al3961		-0.045243	ppm	0.0096260	21.275
As1890		-0.0011070	ppm	0.0014190	128.11
B_2089		0.041956	ppm	0.0028510	6.7952
Ba4554	**F**	**0.019374**	**ppm**	**0.000071000**	**0.36702**
Be3130		0.00027400	ppm	0.000036000	13.046
Ca3179		0.017039	ppm	0.0096490	56.631
Cd2144		0.00010500	ppm	0.00012300	117.30
Co2286		0.00010000	ppm	0.00034400	343.18
Cr2677		-0.00074900	ppm	0.00046500	62.162
Cu3247		0.0049060	ppm	0.00056200	11.452
Fe2599		0.0055160	ppm	0.010170	184.38
K_7664		0.19225	ppm	0.010207	5.3090
Mg2790		-0.0030120	ppm	0.0030050	99.768
Mn2576		0.00022000	ppm	0.00011900	54.227
Mo2020		.0000040000	ppm	0.00060300	14,408
Na5895	**F**	**1,140.3**	**ppm**	**76.967**	**6.7500**
Ni2316	**W**	**0.0063580**	**ppm**	**0.00051900**	**8.1646**
P_1782		-0.00032100	ppm	0.0021970	683.31
Pb2203		0.0041760	ppm	0.000096000	2.3055
S_1820		0.014139	ppm	0.0010550	7.4606
Sb2068		-0.00021000	ppm	0.0011020	525.75
Se1960		0.0055440	ppm	0.0036000	64.929
Si2881		-0.042555	ppm	0.013009	30.571
Sn1899		0.00052300	ppm	0.00011500	22.006
Sr4077		0.00022300	ppm	0.000071000	31.888
Ti3349		-0.00049400	ppm	0.000090000	18.285
Tl1908		-0.00074800	ppm	0.00042800	57.306
V_2924		0.00018200	ppm	0.00054100	297.71
Zn2062	**F**	**0.034966**	**ppm**	**0.00039200**	**1.1216**
Y_2243		6,411.5	Cts/S	11.342	0.17690
Y_3600		46,725	Cts/S	204.94	0.43861
Y_3774		7,545.2	Cts/S	19.828	0.26279

320-54552-A-8-D@2

Acquire Date: 9/30/2019 12:15:06PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00040100	ppm	0.00056900	141.71
Al3961		67.771	ppm	0.39849	0.58799
As1890		0.0093250	ppm	0.0017260	18.509
B_2089		0.026536	ppm	0.0020510	7.7291
Ba4554		0.079708	ppm	0.00030000	0.37582
Be3130		-0.0011730	ppm	0.00017600	14.994
Ca3179	**W**	**1,686.6**	**ppm**	**157.86**	**9.3594**
Cd2144		0.0038380	ppm	0.00020900	5.4442
Co2286		0.030515	ppm	0.00061500	2.0153

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54552-A-8-D@2

Acquire Date: 9/30/2019 12:15:06PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.12681	ppm	0.00055000	0.43351
Cu3247		0.10009	ppm	0.0018650	1.8635
Fe2599		69.899	ppm	0.29943	0.42838
K_7664		0.88227	ppm	0.016482	1.8682
Mg2790		16.563	ppm	0.066799	0.40332
Mn2576		1.9680	ppm	0.0047830	0.24305
Mo2020		0.0013170	ppm	0.00055000	41.767
Na5895		1.4245	ppm	0.037980	2.6663
Ni2316		0.025571	ppm	0.00072100	2.8190
P_1782		5.4492	ppm	0.0084990	0.15596
Pb2203		0.0085170	ppm	0.00032300	3.7957
S_1820		1.6616	ppm	0.023764	1.4302
Sb2068		-0.010065	ppm	0.00019100	1.8954
Se1960		0.0080870	ppm	0.0073280	90.622
Si2881		0.18710	ppm	0.013134	7.0195
Sn1899		0.014576	ppm	0.0000070000	0.045020
Sr4077	**W**	**5.3653**	**ppm**	**0.029125**	**0.54285**
Ti3349		2.8182	ppm	0.0022390	0.079435
Tl1908		-0.0073860	ppm	0.0012670	17.152
V_2924		0.16703	ppm	0.00023800	0.14260
Zn2062		0.054697	ppm	0.00069300	1.2677
Y_2243		6,116.5	Cts/S	2.1400	0.034987
Y_3600		45,722	Cts/S	61.586	0.13470
Y_3774		7,462.2	Cts/S	106.58	1.4282

SD 320-54552-A-8D@10

Acquire Date: 9/30/2019 12:19:06PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00014000	ppm	0.00036900	263.64
Al3961		13.649	ppm	0.012903	0.094540
As1890		0.00071000	ppm	0.0012850	181.04
B_2089		0.013144	ppm	0.00090500	6.8870
Ba4554		0.015970	ppm	0.000033000	0.20618
Be3130		-0.00030000	ppm	0.00018700	62.551
Ca3179		395.05	ppm	2.3148	0.58596
Cd2144		0.00088200	ppm	0.000073000	8.2881
Co2286		0.0063870	ppm	0.000067000	1.0416
Cr2677		0.025587	ppm	0.00015200	0.59525
Cu3247		0.023787	ppm	0.0011350	4.7729
Fe2599		14.840	ppm	0.071841	0.48409
K_7664		0.16919	ppm	0.025981	15.355
Mg2790		3.5397	ppm	0.0058360	0.16486
Mn2576		0.40987	ppm	0.00035000	0.085373
Mo2020		0.00016700	ppm	0.000070000	41.722
Na5895		0.29430	ppm	0.015480	5.2602
Ni2316		0.0049160	ppm	0.000042000	0.85859

SD 320-54552-A-8D@10

Acquire Date: 9/30/2019 12:19:06PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		1.0968	ppm	0.0000080000	0.00075200
Pb2203		0.00063100	ppm	0.0016000	253.36
S_1820		0.30404	ppm	0.0026880	0.88422
Sb2068		-0.0024200	ppm	0.00082900	34.248
Se1960		0.0027440	ppm	0.00059800	21.786
Si2881		0.033893	ppm	0.0093850	27.691
Sn1899		0.0030180	ppm	0.00014800	4.9104
Sr4077		1.0948	ppm	0.0072780	0.66475
Ti3349		0.57816	ppm	0.0035860	0.62018
Tl1908		-0.0010870	ppm	0.00034700	31.965
V_2924		0.034712	ppm	0.00018700	0.53806
Zn2062		0.011950	ppm	0.00074500	6.2377
Y_2243		6,560.3	Cts/S	0.53686	0.0081830
Y_3600		48,623	Cts/S	322.67	0.66361
Y_3774		7,424.6	Cts/S	93.202	1.2553

PDS 320-54552-A-8D@2

Acquire Date: 9/30/2019 12:23:02PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.10644	ppm	0.00086200	0.80988
Al3961		77.609	ppm	0.24881	0.32060
As1890		0.10171	ppm	0.0032520	3.1977
B_2089		0.97614	ppm	0.0022570	0.23126
Ba4554		0.17617	ppm	0.00011300	0.064201
Be3130		0.050319	ppm	0.00040900	0.81313
Ca3179	**W**	**1,643.6**	**ppm**	**226.08**	**13.755**
Cd2144		0.095770	ppm	0.00030000	0.31353
Co2286		0.12990	ppm	0.00072100	0.55506
Cr2677		0.22860	ppm	0.00075000	0.32802
Cu3247		0.20145	ppm	0.00076600	0.38028
Fe2599		72.872	ppm	0.20202	0.27722
K_7664		11.592	ppm	0.060862	0.52503
Mg2790		26.066	ppm	0.057577	0.22089
Mn2576		2.0585	ppm	0.0038780	0.18841
Mo2020		0.099125	ppm	0.000083000	0.083788
Na5895		11.898	ppm	0.015637	0.13142
Ni2316		0.12055	ppm	0.00022700	0.18857
P_1782		6.5670	ppm	0.023359	0.35571
Pb2203		0.10907	ppm	0.00039600	0.36274
S_1820		3.8380	ppm	0.027093	0.70592
Sb2068		0.083238	ppm	0.0026670	3.2038
Se1960		0.11352	ppm	0.0023940	2.1092
Si2881		1.1732	ppm	0.024140	2.0576
Sn1899		0.11018	ppm	0.00064800	0.58831
Sr4077	**W**	**5.4380**	**ppm**	**0.0087450**	**0.16081**
Ti3349		2.9182	ppm	0.0072540	0.24856

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

PDS 320-54552-A-8D@2

Acquire Date: 9/30/2019 12:23:02PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		0.081375	ppm	0.0023710	2.9137
V_2924		0.27382	ppm	0.00015500	0.056734
Zn2062		0.14747	ppm	0.00048700	0.33052
Y_2243		6,039.4	Cts/S	4.6326	0.076706
Y_3600		44,702	Cts/S	14.669	0.032816
Y_3774		7,414.7	Cts/S	45.132	0.60869

CCV 1708493

Acquire Date: 9/30/2019 12:26:57PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.50392	ppm	0.00010200	0.020297	.50000	Rel(%)	Pass	
Al3961		25.054	ppm	0.0020070	0.0080100	25.000	Rel(%)	Pass	
As1890		0.50029	ppm	0.0028210	0.56385	.50000	Rel(%)	Pass	
B_2089		1.0081	ppm	0.0011160	0.11065	1.0000	Rel(%)	Pass	
Ba4554		2.4739	ppm	0.0021620	0.087381	2.5000	Rel(%)	Pass	
Be3130		0.53794	ppm	0.00066000	0.12263	.50000	Rel(%)	Pass	
Ca3179		25.192	ppm	0.047914	0.19020	25.000	Rel(%)	Pass	
Cd2144		0.50222	ppm	0.000049000	0.0097980	.50000	Rel(%)	Pass	
Co2286		2.6942	ppm	0.0038610	0.14331	2.5000	Rel(%)	Pass	
Cr2677		2.6291	ppm	0.0020310	0.077252	2.5000	Rel(%)	Pass	
Cu3247		2.5038	ppm	0.0017480	0.069800	2.5000	Rel(%)	Pass	
Fe2599		24.523	ppm	0.032174	0.13120	25.000	Rel(%)	Pass	
K_7664		26.308	ppm	0.063858	0.24274	25.000	Rel(%)	Pass	
Mg2790		25.836	ppm	0.040766	0.15779	25.000	Rel(%)	Pass	
Mn2576		2.4852	ppm	0.00044100	0.017742	2.5000	Rel(%)	Pass	
Mo2020		1.0291	ppm	0.0022470	0.21835	1.0000	Rel(%)	Pass	
Na5895		25.962	ppm	0.031006	0.11943	25.000	Rel(%)	Pass	
Ni2316		2.6189	ppm	0.0042350	0.16172	2.5000	Rel(%)	Pass	
P_1782		2.6325	ppm	0.00082300	0.031254	2.5000	Rel(%)	Pass	
Pb2203		0.52386	ppm	0.0029130	0.55606	.50000	Rel(%)	Pass	
S_1820		2.6415	ppm	0.010340	0.39143	2.5000	Rel(%)	Pass	
Sb2068		0.52861	ppm	0.0023610	0.44668	.50000	Rel(%)	Pass	
Se1960		0.54126	ppm	0.0041730	0.77098	.50000	Rel(%)	Pass	
Si2881		2.4945	ppm	0.019447	0.77960	2.5000	Rel(%)	Pass	
Sn1899		2.5425	ppm	0.0031350	0.12331	2.5000	Rel(%)	Pass	
Sr4077		2.4726	ppm	0.0028440	0.11502	2.5000	Rel(%)	Pass	
Ti3349		1.0239	ppm	0.0017000	0.16608	1.0000	Rel(%)	Pass	
Tl1908		0.49903	ppm	0.00093700	0.18776	.50000	Rel(%)	Pass	
V_2924		2.6587	ppm	0.00084000	0.031591	2.5000	Rel(%)	Pass	
Zn2062		2.5456	ppm	0.0018190	0.071452	2.5000	Rel(%)	Pass	
Y_2243		6,658.0	Cts/S	28.076	0.42169				
Y_3600		48,860	Cts/S	157.89	0.32315				
Y_3774		7,501.2	Cts/S	119.93	1.5988				

CCB 1745955

Acquire Date: 9/30/2019 12:30:42PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00046300	ppm	0.00028200	60.986	.00000	Abs	Pass	
Al3961		-0.011605	ppm	0.027598	237.81	.00000	Abs	Pass	
As1890		0.000082000	ppm	0.0027390	3,331.3	.00000	Abs	Pass	
B_2089		0.010254	ppm	0.00017800	1.7407	.00000	Abs	Pass	
Ba4554		-0.00019600	ppm	0.00010400	53.237	.00000	Abs	Pass	
Be3130		0.00021700	ppm	0.00025100	115.75	.00000	Abs	Pass	
Ca3179		0.018713	ppm	0.0040000	21.375	.00000	Abs	Pass	
Cd2144		0.000092000	ppm	0.00011200	121.79	.00000	Abs	Pass	
Co2286		0.00035400	ppm	0.000091000	25.678	.00000	Abs	Pass	
Cr2677		-0.00017800	ppm	0.0000050000	2.5456	.00000	Abs	Pass	
Cu3247		0.0045360	ppm	0.000060000	1.3137	.00000	Abs	Pass	
Fe2599		0.010082	ppm	0.0017090	16.955	.00000	Abs	Pass	
K_7664		0.0024680	ppm	0.019751	800.38	.00000	Abs	Pass	
Mg2790		-0.0036230	ppm	0.0026370	72.773	.00000	Abs	Pass	
Mn2576		0.00026900	ppm	0.000090000	33.561	.00000	Abs	Pass	
Mo2020		0.00045900	ppm	0.00012400	26.984	.00000	Abs	Pass	
Na5895		0.032888	ppm	0.013600	41.351	.00000	Abs	Pass	
Ni2316		0.00064000	ppm	0.00097100	151.71	.00000	Abs	Pass	
P_1782		-0.0018670	ppm	0.0000060000	0.34793	.00000	Abs	Pass	
Pb2203		0.00038500	ppm	0.0010830	281.40	.00000	Abs	Pass	
S_1820		0.0036820	ppm	0.0021140	57.411	.00000	Abs	Pass	
Sb2068		0.00044600	ppm	0.000064000	14.359	.00000	Abs	Pass	
Se1960		0.0022640	ppm	0.0034790	153.66	.00000	Abs	Pass	
Si2881		-0.019768	ppm	0.017164	86.827	.00000	Abs	Pass	
Sn1899		0.00089100	ppm	0.00061700	69.239	.00000	Abs	Pass	
Sr4077		0.00010200	ppm	0.00032000	314.88	.00000	Abs	Pass	
Ti3349		-0.00051900	ppm	0.0013980	269.08	.00000	Abs	Pass	
Tl1908		-0.00025100	ppm	0.0017660	703.53	.00000	Abs	Pass	
V_2924		0.0012120	ppm	0.000049000	4.0536	.00000	Abs	Pass	
Zn2062		0.0024350	ppm	0.00036700	15.089	.00000	Abs	Pass	
Y_2243		6,587.3	Cts/S	14.615	0.22186				
Y_3600		49,155	Cts/S	106.05	0.21574				
Y_3774		7,300.8	Cts/S	81.751	1.1198				

320-54552-A-8-E MS@2

Acquire Date: 9/30/2019 12:34:42PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.021648	ppm	0.000074000	0.33979
Al3961		83.734	ppm	0.095893	0.11452
As1890		0.20037	ppm	0.00013900	0.069552
B_2089		1.9300	ppm	0.0063300	0.32800
Ba4554		0.28852	ppm	0.00041300	0.14308
Be3130		0.10991	ppm	0.00063200	0.57489
Ca3179	**W**	**1,790.3**	**ppm**	**262.08**	**14.639**
Cd2144		0.10275	ppm	0.00040200	0.39145
Co2286		0.13588	ppm	0.000027000	0.019615
Cr2677		0.23962	ppm	0.00039800	0.16625

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54552-A-8-E MS@2

Acquire Date: 9/30/2019 12:34:42PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Cu3247		0.21556	ppm	0.00024200	0.11239
Fe2599		70.823	ppm	0.030787	0.043470
K_7664		12.784	ppm	0.022456	0.17566
Mg2790		29.195	ppm	0.015386	0.052699
Mn2576		1.9988	ppm	0.0022090	0.11051
Mo2020		0.10315	ppm	0.00032200	0.31259
Na5895		12.708	ppm	0.00048700	0.0038310
Ni2316		0.13070	ppm	0.00058900	0.45029
P_1782		8.2179	ppm	0.017825	0.21690
Pb2203		0.11063	ppm	0.0012960	1.1720
S_1820		3.8629	ppm	0.030176	0.78117
Sb2068		0.075151	ppm	0.00098300	1.3081
Se1960		0.21715	ppm	0.000038000	0.017418
Si2881		0.23784	ppm	0.024821	10.436
Sn1899		0.20715	ppm	0.00021800	0.10515
Sr4077	**W**	**6.0375**	**ppm**	**0.0056650**	**0.093838**
Ti3349		3.1774	ppm	0.0022950	0.072223
Tl1908		0.18236	ppm	0.0047100	2.5825
V_2924		0.28484	ppm	0.00064800	0.22740
Zn2062		0.26030	ppm	0.00095800	0.36822
Y_2243		6,050.7	Cts/S	43.282	0.71532
Y_3600		45,450	Cts/S	122.40	0.26930
Y_3774		7,528.9	Cts/S	44.298	0.58837

320-54552-A-8F MSD@2

Acquire Date: 9/30/2019 12:38:34PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.021413	ppm	0.00038900	1.8144
Al3961		93.932	ppm	0.29579	0.31489
As1890		0.20049	ppm	0.000092000	0.045781
B_2089		1.9252	ppm	0.0018970	0.098524
Ba4554		0.29307	ppm	0.00059200	0.20216
Be3130		0.10843	ppm	0.00029800	0.27490
Ca3179	**W**	**1,956.8**	**ppm**	**20.545**	**1.0499**
Cd2144		0.10217	ppm	0.00011100	0.10871
Co2286		0.13813	ppm	0.00034300	0.24825
Cr2677		0.25620	ppm	0.00064500	0.25173
Cu3247		0.23006	ppm	0.0010460	0.45450
Fe2599		79.358	ppm	0.14934	0.18818
K_7664		12.705	ppm	0.057240	0.45051
Mg2790		28.704	ppm	0.0062090	0.021631
Mn2576		2.1948	ppm	0.00093200	0.042453
Mo2020		0.10204	ppm	0.000091000	0.089318
Na5895		12.686	ppm	0.037076	0.29226
Ni2316		0.13430	ppm	0.0011160	0.83124
P_1782		8.5679	ppm	0.0055570	0.064860

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54552-A-8F MSD@2

Acquire Date: 9/30/2019 12:38:34PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Pb2203		0.11553	ppm	0.00020000	0.17344
S_1820		4.0437	ppm	0.0086930	0.21497
Sb2068		0.067596	ppm	0.0015440	2.2848
Se1960		0.21393	ppm	0.0076900	3.5946
Si2881		0.30376	ppm	0.017174	5.6537
Sn1899		0.20655	ppm	0.0010540	0.51021
Sr4077	**W**	**6.1560**	**ppm**	**0.018017**	**0.29267**
Ti3349		3.5446	ppm	0.0080940	0.22834
Tl1908		0.18005	ppm	0.0010800	0.59988
V_2924		0.30919	ppm	0.0020280	0.65582
Zn2062		0.26705	ppm	0.0012280	0.45966
Y_2243		5,996.6	Cts/S	21.867	0.36466
Y_3600		44,525	Cts/S	7.8580	0.017648
Y_3774		7,385.2	Cts/S	20.525	0.27793

320-54552-A-9-D

Acquire Date: 9/30/2019 12:42:28PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0023680	ppm	0.0012560	53.064
Al3961		284.46	ppm	0.92098	0.32376
As1890		0.039644	ppm	0.00031700	0.79946
B_2089		0.044689	ppm	0.00048400	1.0829
Ba4554		0.29890	ppm	0.00071900	0.24060
Be3130		0.0026770	ppm	0.00019500	7.2885
Ca3179	**W**	**1,334.6**	**ppm**	**2.7235**	**0.20407**
Cd2144		0.0071850	ppm	0.000096000	1.3334
Co2286		0.10782	ppm	0.00059700	0.55382
Cr2677		0.44243	ppm	0.00052200	0.11798
Cu3247		0.39594	ppm	0.00030700	0.077412
Fe2599		277.53	ppm	1.0892	0.39247
K_7664		2.3843	ppm	0.0079320	0.33268
Mg2790		15.216	ppm	0.025505	0.16762
Mn2576		5.7241	ppm	0.0036690	0.064098
Mo2020		0.0023260	ppm	0.000022000	0.94215
Na5895		3.2319	ppm	0.010128	0.31338
Ni2316		0.085589	ppm	0.000054000	0.063273
P_1782		13.144	ppm	0.019214	0.14619
Pb2203		0.060922	ppm	0.0028040	4.6025
S_1820		1.6391	ppm	0.010303	0.62857
Sb2068		0.0013160	ppm	0.0011220	85.234
Se1960		0.0087070	ppm	0.0051380	59.006
Si2881		0.34816	ppm	0.0088020	2.5282
Sn1899		0.040411	ppm	0.000029000	0.071327
Sr4077	**W**	**7.7069**	**ppm**	**0.021649**	**0.28091**
Ti3349	**W**	**10.645**	**ppm**	**0.0025070**	**0.023553**
Tl1908		-0.0089960	ppm	0.0013770	15.305

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54552-A-9-D

Acquire Date: 9/30/2019 12:42:28PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
V_2924		0.62699	ppm	0.00051200	0.081614
Zn2062		0.20603	ppm	0.00020600	0.10004
Y_2243		6,634.9	Cts/S	21.090	0.31786
Y_3600		48,709	Cts/S	145.85	0.29943
Y_3774		8,128.7	Cts/S	3.2771	0.040315

320-54552-A-1-A

Acquire Date: 9/30/2019 12:46:22PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0012360	ppm	0.00051000	41.245
Al3961		200.51	ppm	8.2415	4.1103
As1890		0.046142	ppm	0.00015100	0.32690
B_2089		0.035076	ppm	0.0012700	3.6211
Ba4554		0.24703	ppm	0.010026	4.0587
Be3130		0.0010950	ppm	0.000010000	0.88040
Ca3179	**W**	**1,675.9**	**ppm**	**61.792**	**3.6871**
Cd2144		0.0068270	ppm	0.00010300	1.5158
Co2286		0.080028	ppm	0.00026700	0.33421
Cr2677		0.43015	ppm	0.0017590	0.40892
Cu3247		0.30812	ppm	0.00032100	0.10414
Fe2599		203.79	ppm	8.3052	4.0755
K_7664		2.7026	ppm	0.074814	2.7682
Mg2790		18.003	ppm	0.057587	0.31988
Mn2576		5.1893	ppm	0.0064620	0.12452
Mo2020		0.0024140	ppm	0.00050200	20.816
Na5895		1.7540	ppm	0.080310	4.5787
Ni2316		0.075463	ppm	0.00091000	1.2055
P_1782		14.086	ppm	0.0093800	0.066588
Pb2203		0.037360	ppm	0.00064300	1.7204
S_1820		2.1057	ppm	0.033816	1.6060
Sb2068		-0.0073950	ppm	0.00045300	6.1283
Se1960		0.0081410	ppm	0.00079100	9.7171
Si2881		0.95901	ppm	0.044874	4.6792
Sn1899		0.049641	ppm	0.00062000	1.2480
Sr4077		4.8058	ppm	0.19010	3.9557
Ti3349	**W**	**8.5627**	**ppm**	**0.0077430**	**0.090431**
Tl1908		-0.0091100	ppm	0.0041410	45.458
V_2924		0.42745	ppm	0.00017000	0.039727
Zn2062		0.18983	ppm	0.00054300	0.28604
Y_2243		6,258.0	Cts/S	1.7039	0.027227
Y_3600		46,257	Cts/S	301.93	0.65271
Y_3774		7,629.2	Cts/S	294.34	3.8580

SD 320-54552-A-1-A@5

Acquire Date: 9/30/2019 12:50:18PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00095700	ppm	0.00023500	24.527
Al3961		40.699	ppm	0.18185	0.44682
As1890		0.010710	ppm	0.00026300	2.4517
B_2089		0.016589	ppm	0.000017000	0.10504
Ba4554		0.050732	ppm	0.000071000	0.14029
Be3130		0.00025000	ppm	0.000039000	15.731
Ca3179		374.04	ppm	1.9898	0.53196
Cd2144		0.0019630	ppm	0.000041000	2.0776
Co2286		0.019530	ppm	0.00010000	0.51314
Cr2677		0.091383	ppm	0.0010100	1.1055
Cu3247		0.067041	ppm	0.0012130	1.8094
Fe2599		43.413	ppm	0.27526	0.63405
K_7664		0.54382	ppm	0.058900	10.831
Mg2790		3.9910	ppm	0.029319	0.73464
Mn2576		1.1094	ppm	0.0049380	0.44516
Mo2020		0.0010890	ppm	0.00050100	45.960
Na5895		0.35848	ppm	0.0010380	0.28949
Ni2316		0.018090	ppm	0.0010380	5.7386
P_1782		2.9664	ppm	0.00030900	0.010410
Pb2203		0.0086340	ppm	0.0028700	33.242
S_1820		0.42882	ppm	0.00076100	0.17750
Sb2068		-0.0029420	ppm	0.0025330	86.085
Se1960		0.0026010	ppm	0.00026800	10.287
Si2881		0.17137	ppm	0.037180	21.696
Sn1899		0.011957	ppm	0.00038000	3.1775
Sr4077		0.98621	ppm	0.0057960	0.58775
Ti3349		1.7751	ppm	0.0075220	0.42376
Tl1908		-0.0034030	ppm	0.0010790	31.698
V_2924		0.089694	ppm	0.00091800	1.0232
Zn2062		0.042887	ppm	0.00096900	2.2583
Y_2243		6,493.0	Cts/S	25.210	0.38827
Y_3600		47,839	Cts/S	257.44	0.53813
Y_3774		7,491.0	Cts/S	1.2408	0.016564

PDS 320-54552-A-1-A

Acquire Date: 9/30/2019 12:54:12PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.10167	ppm	0.00017700	0.17412
Al3961		196.16	ppm	0.24033	0.12252
As1890		0.13320	ppm	0.0013590	1.0203
B_2089		0.93824	ppm	0.00048900	0.052105
Ba4554		0.31970	ppm	0.00055800	0.17450
Be3130		0.050179	ppm	0.000036000	0.071849
Ca3179	**W**	**1,573.8**	**ppm**	**6.3861**	**0.40578**
Cd2144		0.094168	ppm	0.000029000	0.031006
Co2286		0.17246	ppm	0.00047000	0.27239

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

PDS 320-54552-A-1-A

Acquire Date: 9/30/2019 12:54:12PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.50838	ppm	0.0023830	0.46884
Cu3247		0.38739	ppm	0.00098600	0.25455
Fe2599		192.84	ppm	0.34909	0.18102
K_7664		12.766	ppm	0.074668	0.58489
Mg2790		26.199	ppm	0.089957	0.34336
Mn2576		5.0103	ppm	0.013183	0.26312
Mo2020		0.096289	ppm	0.00037600	0.39027
Na5895		11.920	ppm	0.037865	0.31767
Ni2316		0.16252	ppm	0.00030000	0.18454
P_1782		14.525	ppm	0.012887	0.088724
Pb2203		0.12647	ppm	0.00029100	0.22995
S_1820		4.1032	ppm	0.00076100	0.018540
Sb2068		0.078212	ppm	0.0060610	7.7492
Se1960		0.10274	ppm	0.0045060	4.3858
Si2881		1.8307	ppm	0.042713	2.3331
Sn1899		0.13909	ppm	0.00015600	0.11227
Sr4077		4.5543	ppm	0.0091400	0.20068
Ti3349	**W**	**8.2315**	**ppm**	**0.016762**	**0.20364**
Tl1908		0.073087	ppm	0.00030900	0.42287
V_2924		0.50874	ppm	0.00044100	0.086658
Zn2062		0.26961	ppm	0.0012110	0.44908
Y_2243		6,206.3	Cts/S	3.7980	0.061197
Y_3600		46,176	Cts/S	242.02	0.52412
Y_3774		7,765.1	Cts/S	0.14054	0.0018100

320-54552-A-1-B MS

Acquire Date: 9/30/2019 12:58:04PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.045329	ppm	0.00085200	1.8793
Al3961		244.72	ppm	0.99198	0.40535
As1890		0.41691	ppm	0.0048960	1.1744
B_2089		3.8130	ppm	0.015579	0.40858
Ba4554		0.66982	ppm	0.0030630	0.45722
Be3130		0.21968	ppm	0.00091100	0.41479
Ca3179	**W**	**1,590.2**	**ppm**	**28.981**	**1.8224**
Cd2144		0.19786	ppm	0.0010920	0.55182
Co2286		0.29220	ppm	0.0011810	0.40421
Cr2677		0.67129	ppm	0.00099400	0.14814
Cu3247		0.54038	ppm	0.0023760	0.43975
Fe2599		208.84	ppm	0.42829	0.20508
K_7664		26.257	ppm	0.16485	0.62781
Mg2790		38.274	ppm	0.028615	0.074764
Mn2576		5.6938	ppm	0.0091490	0.16069
Mo2020		0.20059	ppm	0.00072700	0.36231
Na5895		24.541	ppm	0.11459	0.46694
Ni2316		0.28746	ppm	0.0000070000	0.0025880

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54552-A-1-B MS

Acquire Date: 9/30/2019 12:58:04PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		18.046	ppm	0.051212	0.28378
Pb2203		0.24217	ppm	0.0013330	0.55044
S_1820		6.7813	ppm	0.019225	0.28350
Sb2068		0.14242	ppm	0.0051110	3.5888
Se1960		0.42263	ppm	0.0024540	0.58061
Si2881		1.1693	ppm	0.0046700	0.39938
Sn1899		0.41073	ppm	0.0017710	0.43122
Sr4077		4.9994	ppm	0.022646	0.45297
Ti3349	**W**	**9.4703**	**ppm**	**0.0059190**	**0.062497**
Tl1908		0.35626	ppm	0.0037110	1.0416
V_2924		0.67116	ppm	0.0012810	0.19087
Zn2062		0.59984	ppm	0.000039000	0.0064260
Y_2243		6,276.6	Cts/S	29.344	0.46752
Y_3600		46,734	Cts/S	201.72	0.43163
Y_3774		7,799.7	Cts/S	148.07	1.8984

320-54552-A-1-C MSD

Acquire Date: 9/30/2019 1:01:55PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.044733	ppm	0.00011600	0.25891
Al3961		191.72	ppm	1.1251	0.58685
As1890		0.42491	ppm	0.0021990	0.51748
B_2089		3.9112	ppm	0.0064730	0.16550
Ba4554		0.62163	ppm	0.0039550	0.63623
Be3130		0.22454	ppm	0.0023520	1.0473
Ca3179	**W**	**1,902.0**	**ppm**	**1.0510**	**0.055258**
Cd2144		0.20156	ppm	0.00016700	0.082783
Co2286		0.28003	ppm	0.00050900	0.18171
Cr2677		0.57473	ppm	0.00088100	0.15335
Cu3247		0.47137	ppm	0.00068500	0.14530
Fe2599		162.73	ppm	0.92379	0.56767
K_7664		26.351	ppm	0.21783	0.82667
Mg2790		40.301	ppm	0.14593	0.36210
Mn2576		4.5456	ppm	0.013668	0.30068
Mo2020		0.20787	ppm	0.00018600	0.089529
Na5895		24.949	ppm	0.18209	0.72983
Ni2316		0.27420	ppm	0.00024500	0.089408
P_1782		16.061	ppm	0.014399	0.089655
Pb2203		0.23513	ppm	0.0041030	1.7449
S_1820		7.0758	ppm	0.010410	0.14712
Sb2068		0.16789	ppm	0.0020260	1.2069
Se1960		0.43711	ppm	0.0067320	1.5400
Si2881		1.2438	ppm	0.0040830	0.32824
Sn1899		0.44829	ppm	0.000059000	0.013236
Sr4077		4.9907	ppm	0.030318	0.60749
Ti3349	**W**	**7.4178**	**ppm**	**0.021426**	**0.28885**

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54552-A-1-C MSD

Acquire Date: 9/30/2019 1:01:55PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		0.36900	ppm	0.0031470	0.85279
V_2924		0.58083	ppm	0.0018660	0.32119
Zn2062		0.57618	ppm	0.0019720	0.34234
Y_2243		6,115.0	Cts/S	23.120	0.37809
Y_3600		45,211	Cts/S	26.068	0.057659
Y_3774		7,593.3	Cts/S	36.890	0.48581

320-54552-A-2-A

Acquire Date: 9/30/2019 1:05:46PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0017820	ppm	0.00048500	27.191
Al3961		165.80	ppm	0.41050	0.24758
As1890		0.034181	ppm	0.0037110	10.858
B_2089		0.044072	ppm	0.0017660	4.0063
Ba4554		0.12701	ppm	0.00071500	0.56269
Be3130		0.00095300	ppm	0.00015400	16.180
Ca3179	**W**	**1,900.5**	**ppm**	**7.9273**	**0.41712**
Cd2144		0.0062630	ppm	0.00013000	2.0751
Co2286		0.072479	ppm	0.00059900	0.82693
Cr2677		0.34661	ppm	0.00053700	0.15496
Cu3247		0.24278	ppm	0.00075500	0.31079
Fe2599		197.14	ppm	0.65975	0.33465
K_7664		1.8266	ppm	0.054373	2.9767
Mg2790		17.942	ppm	0.048274	0.26907
Mn2576		3.7778	ppm	0.0073210	0.19380
Mo2020		0.0022360	ppm	0.00056300	25.196
Na5895		1.9280	ppm	0.0013760	0.071366
Ni2316		0.043582	ppm	0.00056100	1.2876
P_1782		6.0413	ppm	0.015285	0.25302
Pb2203		0.073843	ppm	0.00059500	0.80560
S_1820		1.5122	ppm	0.0017020	0.11252
Sb2068		-0.0097390	ppm	0.00080500	8.2690
Se1960		0.0050890	ppm	0.00090700	17.830
Si2881		1.0769	ppm	0.019970	1.8543
Sn1899		0.036072	ppm	0.00075700	2.0979
Sr4077	**W**	**6.9742**	**ppm**	**0.017932**	**0.25712**
Ti3349	**W**	**7.7009**	**ppm**	**0.014313**	**0.18586**
Tl1908		-0.0088720	ppm	0.00052900	5.9649
V_2924		0.51060	ppm	0.0022380	0.43833
Zn2062		0.13716	ppm	0.00064900	0.47321
Y_2243		6,175.9	Cts/S	2.1283	0.034461
Y_3600		46,062	Cts/S	163.69	0.35537
Y_3774		7,855.3	Cts/S	9.2745	0.11807

320-54552-A-3-A@2

Acquire Date: 9/30/2019 1:09:41PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00087200	ppm	0.00087700	100.58
Al3961		23.181	ppm	0.11773	0.50789
As1890		0.0079990	ppm	0.00071100	8.8853
B_2089		0.028141	ppm	0.00071500	2.5421
Ba4554		0.038178	ppm	0.0010620	2.7817
Be3130	**W**	**-0.0020190**	**ppm**	**0.00036300**	**17.955**
Ca3179	**W**	**2,006.5**	**ppm**	**83.463**	**4.1597**
Cd2144		0.0037800	ppm	0.00022800	6.0315
Co2286		0.0092050	ppm	0.000055000	0.59793
Cr2677		0.071418	ppm	0.00026200	0.36715
Cu3247		0.050761	ppm	0.0018640	3.6729
Fe2599		24.621	ppm	0.099723	0.40502
K_7664		0.59387	ppm	0.012037	2.0268
Mg2790		17.328	ppm	0.073451	0.42389
Mn2576		0.58657	ppm	0.0010840	0.18478
Mo2020		0.0076990	ppm	0.00011600	1.5118
Na5895		1.1376	ppm	0.012266	1.0782
Ni2316		0.017652	ppm	0.00074700	4.2301
P_1782		2.9961	ppm	0.0012430	0.041496
Pb2203		0.0038680	ppm	0.0043980	113.71
S_1820		2.5078	ppm	0.016875	0.67288
Sb2068		-0.0082310	ppm	0.0018700	22.721
Se1960		0.0072650	ppm	0.0025470	35.061
Si2881		0.54946	ppm	0.0038570	0.70190
Sn1899		0.010768	ppm	0.00053500	4.9697
Sr4077	**W**	**6.8107**	**ppm**	**0.039657**	**0.58228**
Ti3349		1.1818	ppm	0.00043700	0.036985
Tl1908		-0.0079650	ppm	0.0011400	14.311
V_2924		0.066642	ppm	0.00022400	0.33606
Zn2062		0.060460	ppm	0.00012900	0.21331
Y_2243		5,893.8	Cts/S	18.236	0.30941
Y_3600		44,470	Cts/S	141.68	0.31859
Y_3774		7,342.5	Cts/S	47.179	0.64254

CCV 1708493

Acquire Date: 9/30/2019 1:13:40PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.50106	ppm	0.00059000	0.11773	.50000	Rel(%)	Pass	
Al3961		25.205	ppm	0.11279	0.44751	25.000	Rel(%)	Pass	
As1890		0.49994	ppm	0.0016760	0.33523	.50000	Rel(%)	Pass	
B_2089		1.0029	ppm	0.0028690	0.28605	1.0000	Rel(%)	Pass	
Ba4554		2.4510	ppm	0.0092520	0.37746	2.5000	Rel(%)	Pass	
Be3130		0.54574	ppm	0.0040660	0.74514	.50000	Rel(%)	Pass	
Ca3179		25.380	ppm	0.65806	2.5928	25.000	Rel(%)	Pass	
Cd2144		0.50050	ppm	0.00012400	0.024730	.50000	Rel(%)	Pass	
Co2286		2.7283	ppm	0.0041190	0.15098	2.5000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCV 1708493

Acquire Date: 9/30/2019 1:13:40PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Cr2677		2.6543	ppm	0.0017330	0.065282	2.5000	Rel(%)	Pass	
Cu3247		2.4897	ppm	0.00048200	0.019372	2.5000	Rel(%)	Pass	
Fe2599		24.120	ppm	0.17921	0.74301	25.000	Rel(%)	Pass	
K_7664		26.684	ppm	0.11416	0.42782	25.000	Rel(%)	Pass	
Mg2790		26.015	ppm	0.021024	0.080818	25.000	Rel(%)	Pass	
Mn2576		2.4551	ppm	0.0019090	0.077757	2.5000	Rel(%)	Pass	
Mo2020		1.0337	ppm	0.0018280	0.17682	1.0000	Rel(%)	Pass	
Na5895		26.350	ppm	0.14355	0.54480	25.000	Rel(%)	Pass	
Ni2316		2.6269	ppm	0.0040690	0.15491	2.5000	Rel(%)	Pass	
P_1782		2.6844	ppm	0.0062260	0.23195	2.5000	Rel(%)	Pass	
Pb2203		0.52831	ppm	0.0034780	0.65829	.50000	Rel(%)	Pass	
S_1820		2.6809	ppm	0.0013350	0.049798	2.5000	Rel(%)	Pass	
Sb2068		0.53922	ppm	0.0016630	0.30836	.50000	Rel(%)	Pass	
Se1960		0.54731	ppm	0.00056800	0.10375	.50000	Rel(%)	Pass	
Si2881		2.5353	ppm	0.0044270	0.17464	2.5000	Rel(%)	Pass	
Sn1899		2.5361	ppm	0.0064300	0.25355	2.5000	Rel(%)	Pass	
Sr4077		2.4519	ppm	0.0082830	0.33781	2.5000	Rel(%)	Pass	
Ti3349		1.0175	ppm	0.0043910	0.43160	1.0000	Rel(%)	Pass	
Tl1908		0.49978	ppm	0.0055360	1.1077	.50000	Rel(%)	Pass	
V_2924		2.6936	ppm	0.00042100	0.015643	2.5000	Rel(%)	Pass	
Zn2062		2.5374	ppm	0.0048980	0.19302	2.5000	Rel(%)	Pass	
Y_2243		6,472.8	Cts/S	12.492	0.19299				
Y_3600		47,795	Cts/S	27.972	0.058525				
Y_3774		7,276.5	Cts/S	12.138	0.16681				

CCB 1745955

Acquire Date: 9/30/2019 1:17:25PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.0013970	ppm	0.00052100	37.309	.00000	Abs	Pass	
Al3961		-0.0048730	ppm	0.0068770	141.11	.00000	Abs	Pass	
As1890		0.0014350	ppm	0.00025400	17.670	.00000	Abs	Pass	
B_2089		0.011197	ppm	0.00018800	1.6761	.00000	Abs	Pass	
Ba4554		-0.00036100	ppm	0.00034400	95.348	.00000	Abs	Pass	
Be3130		0.00030300	ppm	0.000026000	8.6890	.00000	Abs	Pass	
Ca3179		0.043550	ppm	0.018357	42.152	.00000	Abs	Pass	
Cd2144		0.000021000	ppm	0.000025000	118.97	.00000	Abs	Pass	
Co2286		0.00027200	ppm	0.00035100	128.87	.00000	Abs	Pass	
Cr2677		0.00022700	ppm	0.00061100	268.78	.00000	Abs	Pass	
Cu3247		0.0048320	ppm	0.0016010	33.128	.00000	Abs	Pass	
Fe2599		0.024903	ppm	0.0052930	21.256	.00000	Abs	Pass	
K_7664		0.062523	ppm	0.013848	22.148	.00000	Abs	Pass	
Mg2790		-0.0026580	ppm	0.0028570	107.48	.00000	Abs	Pass	
Mn2576		0.00068700	ppm	0.00011900	17.275	.00000	Abs	Pass	
Mo2020		0.00032800	ppm	0.000040000	12.197	.00000	Abs	Pass	
Na5895		0.016985	ppm	0.00091100	5.3648	.00000	Abs	Pass	
Ni2316		0.00043500	ppm	0.0010610	244.11	.00000	Abs	Pass	
P_1782		0.0028210	ppm	0.0017580	62.329	.00000	Abs	Pass	

CCB 1745955

Acquire Date: 9/30/2019 1:17:25PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Pb2203		0.00049400	ppm	0.0033190	672.36	.00000	Abs	Pass	
S_1820		-0.0038050	ppm	0.0073450	193.02	.00000	Abs	Pass	
Sb2068		-0.0023050	ppm	0.0022310	96.768	.00000	Abs	Pass	
Se1960		0.0030940	ppm	0.00070800	22.895	.00000	Abs	Pass	
Si2881		-0.00015600	ppm	0.0097720	6,261.6	.00000	Abs	Pass	
Sn1899		0.00086500	ppm	0.00053600	62.017	.00000	Abs	Pass	
Sr4077		0.00036500	ppm	0.00022500	61.565	.00000	Abs	Pass	
Ti3349		0.00066300	ppm	0.00060200	90.724	.00000	Abs	Pass	
Tl1908		-0.00053000	ppm	0.00025300	47.665	.00000	Abs	Pass	
V_2924		0.00095400	ppm	0.000093000	9.7422	.00000	Abs	Pass	
Zn2062		0.0037600	ppm	0.00031600	8.4059	.00000	Abs	Pass	
Y_2243		6,850.1	Cts/S	4.5032	0.065739				
Y_3600		50,861	Cts/S	136.12	0.26764				
Y_3774		7,290.6	Cts/S	156.28	2.1436				

320-54552-A-4-A

Acquire Date: 9/30/2019 1:21:25PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00098500	ppm	0.00018100	18.372
Al3961		91.191	ppm	0.63137	0.69236
As1890		0.017136	ppm	0.0015040	8.7760
B_2089		0.076168	ppm	0.0011050	1.4511
Ba4554		0.16934	ppm	0.0011710	0.69177
Be3130		-0.0010660	ppm	0.000015000	1.4511
Ca3179	**W**	**2,021.6**	**ppm**	**148.17**	**7.3292**
Cd2144		0.0058920	ppm	0.00030300	5.1443
Co2286		0.035090	ppm	0.00025100	0.71645
Cr2677		0.18007	ppm	0.0021130	1.1733
Cu3247		0.14267	ppm	0.00013800	0.096924
Fe2599		88.029	ppm	0.52304	0.59417
K_7664		3.0244	ppm	0.049505	1.6369
Mg2790		20.500	ppm	0.086620	0.42255
Mn2576		2.7367	ppm	0.0085550	0.31260
Mo2020		0.0012320	ppm	0.00010900	8.8762
Na5895		6.0821	ppm	0.056542	0.92963
Ni2316		0.024973	ppm	0.0011870	4.7551
P_1782		8.2952	ppm	0.031143	0.37543
Pb2203		0.086503	ppm	0.00040300	0.46595
S_1820		4.0873	ppm	0.010509	0.25713
Sb2068		-0.0097010	ppm	0.0013900	14.331
Se1960		0.0085690	ppm	0.00041300	4.8196
Si2881		0.70897	ppm	0.0099350	1.4014
Sn1899		0.032442	ppm	0.00088900	2.7401
Sr4077	**W**	**14.054**	**ppm**	**0.24418**	**1.7375**
Ti3349	**W**	**5.1845**	**ppm**	**0.015120**	**0.29163**
Tl1908		-0.012418	ppm	0.00025500	2.0561

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54552-A-4-A

Acquire Date: 9/30/2019 1:21:25PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
V_2924		0.18757	ppm	0.00025000	0.13338
Zn2062		0.29639	ppm	0.00055500	0.18742
Y_2243		6,224.5	Cts/S	3.6944	0.059352
Y_3600		46,455	Cts/S	40.857	0.087948
Y_3774		7,853.5	Cts/S	34.778	0.44284

320-54552-A-5-A@2

Acquire Date: 9/30/2019 1:25:26PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0012970	ppm	0.000060000	4.6294
Al3961		74.979	ppm	0.38940	0.51934
As1890		0.014253	ppm	0.0014100	9.8893
B_2089		0.017245	ppm	0.00027800	1.6100
Ba4554		0.10388	ppm	0.000099000	0.094923
Be3130		-0.0015130	ppm	0.0000050000	0.31531
Ca3179	**W**	**1,999.8**	**ppm**	**14.849**	**0.74254**
Cd2144		0.0041750	ppm	0.000069000	1.6467
Co2286		0.023193	ppm	0.00013200	0.57086
Cr2677		0.16171	ppm	0.0015830	0.97920
Cu3247		0.081111	ppm	0.00053600	0.66035
Fe2599		69.586	ppm	0.41711	0.59942
K_7664		1.2947	ppm	0.0058790	0.45411
Mg2790		27.983	ppm	0.0043150	0.015420
Mn2576		1.1253	ppm	0.00014100	0.012571
Mo2020		0.00061700	ppm	0.000078000	12.586
Na5895		1.2341	ppm	0.0015340	0.12431
Ni2316		0.019748	ppm	0.00024300	1.2318
P_1782		5.3519	ppm	0.0018150	0.033904
Pb2203		0.0067790	ppm	0.0012100	17.842
S_1820		1.8116	ppm	0.0033900	0.18715
Sb2068		-0.010615	ppm	0.00052700	4.9639
Se1960		0.0078120	ppm	0.0030270	38.744
Si2881		0.46287	ppm	0.0015770	0.34079
Sn1899		0.018182	ppm	0.00076500	4.2079
Sr4077	**W**	**6.0152**	**ppm**	**0.036037**	**0.59910**
Ti3349		4.2640	ppm	0.0021890	0.051330
Tl1908		-0.010645	ppm	0.0055760	52.383
V_2924		0.16767	ppm	0.00028300	0.16856
Zn2062		0.064343	ppm	0.00026800	0.41700
Y_2243		6,166.7	Cts/S	14.388	0.23332
Y_3600		46,332	Cts/S	16.626	0.035884
Y_3774		7,773.6	Cts/S	6.6721	0.085830

320-54552-A-6-A

Acquire Date: 9/30/2019 1:29:23PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0010850	ppm	0.00086400	79.624
Al3961		12.665	ppm	0.13115	1.0356
As1890		0.0084150	ppm	0.0020520	24.388
B_2089		0.085575	ppm	0.00022500	0.26335
Ba4554		0.054905	ppm	0.00037700	0.68632
Be3130	**W**	**-0.0028710**	**ppm**	**0.000059000**	**2.0694**
Ca3179	**W**	**2,309.6**	**ppm**	**20.062**	**0.86863**
Cd2144		0.0044680	ppm	0.0000030000	0.074959
Co2286		0.0055250	ppm	0.00034400	6.2294
Cr2677		0.077609	ppm	0.0012280	1.5821
Cu3247		0.095695	ppm	0.0029140	3.0454
Fe2599		21.557	ppm	0.15267	0.70821
K_7664		0.58178	ppm	0.0067090	1.1532
Mg2790		24.234	ppm	0.0076530	0.031579
Mn2576		0.47795	ppm	0.00083800	0.17542
Mo2020		0.0022150	ppm	0.00040900	18.477
Na5895		7.1771	ppm	0.037288	0.51954
Ni2316		0.012470	ppm	0.00073300	5.8787
P_1782		8.3954	ppm	0.036017	0.42901
Pb2203		0.083822	ppm	0.0010200	1.2163
S_1820		4.3253	ppm	0.029078	0.67228
Sb2068		-0.0061130	ppm	0.0014900	24.375
Se1960		0.011127	ppm	0.0011420	10.266
Si2881		1.3019	ppm	0.029409	2.2590
Sn1899		0.019904	ppm	0.00041900	2.1056
Sr4077	**W**	**17.766**	**ppm**	**0.017196**	**0.096796**
Ti3349		0.64432	ppm	0.00079600	0.12351
Tl1908		-0.010884	ppm	0.0018910	17.370
V_2924		0.037200	ppm	0.00030800	0.82790
Zn2062		0.27047	ppm	0.00010800	0.040019
Y_2243		5,986.7	Cts/S	8.0286	0.13411
Y_3600		45,453	Cts/S	55.140	0.12131
Y_3774		7,532.9	Cts/S	5.4164	0.071904

320-54552-A-7-A

Acquire Date: 9/30/2019 1:33:28PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00042400	ppm	0.00058100	136.91
Al3961		71.262	ppm	0.26755	0.37545
As1890		0.016151	ppm	0.00078100	4.8339
B_2089		0.016324	ppm	0.00016600	1.0144
Ba4554		0.096106	ppm	0.00094700	0.98488
Be3130		-0.0015920	ppm	0.00011300	7.0783
Ca3179	**W**	**2,204.1**	**ppm**	**17.373**	**0.78822**
Cd2144		0.0043640	ppm	0.000087000	1.9993
Co2286		0.019848	ppm	0.00016800	0.84488

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54552-A-7-A

Acquire Date: 9/30/2019 1:33:28PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.16020	ppm	0.00096600	0.60289
Cu3247		0.076134	ppm	0.00024000	0.31573
Fe2599		65.060	ppm	0.19579	0.30094
K_7664		1.3200	ppm	0.0094970	0.71949
Mg2790		31.128	ppm	0.013183	0.042352
Mn2576		0.87444	ppm	0.00028100	0.032164
Mo2020		0.00063100	ppm	0.00053300	84.376
Na5895		1.2807	ppm	0.0040010	0.31240
Ni2316		0.018732	ppm	0.00091200	4.8698
P_1782		5.1708	ppm	0.011679	0.22586
Pb2203		0.0036170	ppm	0.0025940	71.727
S_1820		2.0079	ppm	0.0089430	0.44537
Sb2068		-0.010236	ppm	0.0018910	18.475
Se1960		0.0070480	ppm	0.00035700	5.0720
Si2881		1.0091	ppm	0.038123	3.7780
Sn1899		0.026289	ppm	0.00078100	2.9716
Sr4077	**W**	**7.7268**	**ppm**	**0.030913**	**0.40008**
Ti3349		4.2118	ppm	0.00038600	0.0091540
Tl1908		-0.0074390	ppm	0.0011080	14.898
V_2924		0.16559	ppm	0.00066000	0.39848
Zn2062		0.061474	ppm	0.00078600	1.2786
Y_2243		6,011.8	Cts/S	5.7439	0.095543
Y_3600		45,080	Cts/S	65.959	0.14632
Y_3774		7,602.0	Cts/S	6.4270	0.084543

320-53779-A-4-A@200

Acquire Date: 9/30/2019 1:37:26PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00060600	ppm	0.00084600	139.69
Al3961		0.48242	ppm	0.039051	8.0948
As1890		0.0012190	ppm	0.0013850	113.61
B_2089		0.070599	ppm	0.00012400	0.17598
Ba4554		0.0019990	ppm	0.000038000	1.8954
Be3130		0.00064400	ppm	0.00023900	37.076
Ca3179		19.963	ppm	1.9004	9.5198
Cd2144		0.000077000	ppm	0.0000070000	9.5448
Co2286		0.000089000	ppm	0.000049000	55.262
Cr2677		0.00052200	ppm	0.0014560	279.20
Cu3247		0.0054020	ppm	0.00026300	4.8677
Fe2599		0.59930	ppm	0.050711	8.4616
K_7664		22.154	ppm	0.12839	0.57952
Mg2790		15.338	ppm	0.045913	0.29935
Mn2576		0.0057370	ppm	0.0025650	44.711
Mo2020		-0.00024600	ppm	0.00054700	222.67
Na5895	**W**	**318.76**	**ppm**	**7.5307**	**2.3625**
Ni2316		-0.00037500	ppm	0.00028900	77.105

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-53779-A-4-A@200

Acquire Date: 9/30/2019 1:37:26PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		0.0076660	ppm	0.0022850	29.806
Pb2203		-0.0014820	ppm	0.00055100	37.166
S_1820		26.092	ppm	0.0097680	0.037438
Sb2068		-0.0012760	ppm	0.0013390	104.91
Se1960		0.0016820	ppm	0.00023100	13.714
Si2881		0.043325	ppm	0.0065360	15.085
Sn1899		-0.00034200	ppm	0.00044000	128.72
Sr4077		0.15963	ppm	0.0059720	3.7412
Ti3349		0.011132	ppm	0.0049900	44.827
Tl1908		0.00020100	ppm	0.0024180	1,204.2
V_2924		0.0019140	ppm	0.000037000	1.9270
Zn2062		0.0025970	ppm	0.0010080	38.830
Y_2243		6,622.1	Cts/S	30.634	0.46260
Y_3600		49,223	Cts/S	82.558	0.16772
Y_3774		7,875.2	Cts/S	58.506	0.74291

320-53839-A-4-G@100

Acquire Date: 9/30/2019 1:41:28PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.000054000	ppm	0.0014630	2,721.7
Al3961		-0.041709	ppm	0.012660	30.352
As1890		0.00083900	ppm	0.00013600	16.194
B_2089		0.14487	ppm	0.00047800	0.32961
Ba4554		-0.00010600	ppm	0.00043600	411.96
Be3130		0.00025500	ppm	0.000088000	34.485
Ca3179		7.8266	ppm	0.024759	0.31635
Cd2144		0.000038000	ppm	0.000034000	88.340
Co2286		0.000078000	ppm	0.00021800	280.27
Cr2677		0.000044000	ppm	0.000026000	59.042
Cu3247		0.0036310	ppm	0.00036700	10.105
Fe2599		0.0087580	ppm	0.0034350	39.219
K_7664		19.076	ppm	0.035324	0.18518
Mg2790		23.407	ppm	0.041897	0.17900
Mn2576		0.00025000	ppm	0.00012100	48.356
Mo2020		-0.00043600	ppm	0.00087600	201.07
Na5895	**W**	**376.28**	**ppm**	**11.009**	**2.9257**
Ni2316		-0.00050400	ppm	0.00042500	84.332
P_1782		0.0047230	ppm	0.000098000	2.0654
Pb2203		-0.0010170	ppm	0.0060750	597.07
S_1820		25.052	ppm	0.026011	0.10383
Sb2068		-0.00030400	ppm	0.00067500	221.76
Se1960		0.00057300	ppm	0.0016500	288.17
Si2881		0.20930	ppm	0.0012040	0.57516
Sn1899		-0.00018600	ppm	0.00050900	273.49
Sr4077		0.40270	ppm	0.0015910	0.39502
Ti3349		-0.00058200	ppm	0.00012600	21.642

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-53839-A-4-G@100

Acquire Date: 9/30/2019 1:41:28PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		-0.00049100	ppm	0.0011390	232.13
V_2924		0.000042000	ppm	0.00025200	602.80
Zn2062		0.0066520	ppm	0.00012100	1.8206
Y_2243		6,558.0	Cts/S	1.4939	0.022780
Y_3600		48,617	Cts/S	80.154	0.16487
Y_3774		7,592.4	Cts/S	35.253	0.46432

320-54363-C-8-A@10

Acquire Date: 9/30/2019 1:45:29PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00047000	ppm	0.00013100	27.988
Al3961		2.0532	ppm	0.0080700	0.39305
As1890		0.0034430	ppm	0.00050200	14.574
B_2089		0.071025	ppm	0.00092000	1.2952
Ba4554		0.060981	ppm	0.00091100	1.4938
Be3130		0.00038600	ppm	0.000029000	7.5672
Ca3179		25.610	ppm	0.054978	0.21468
Cd2144		0.00021600	ppm	0.000047000	21.513
Co2286		0.0037290	ppm	0.000061000	1.6244
Cr2677		0.0074270	ppm	0.00013300	1.7899
Cu3247		0.025274	ppm	0.00079700	3.1539
Fe2599		2.3413	ppm	0.0042340	0.18085
K_7664		5.4402	ppm	0.055317	1.0168
Mg2790		11.836	ppm	0.13826	1.1682
Mn2576		0.26556	ppm	0.0021570	0.81212
Mo2020		0.000031000	ppm	0.00028200	917.32
Na5895		128.85	ppm	0.43631	0.33862
Ni2316		0.0088800	ppm	0.0021180	23.846
P_1782		0.13588	ppm	0.0028410	2.0909
Pb2203		0.0018680	ppm	0.00067600	36.182
S_1820		11.805	ppm	0.023538	0.19940
Sb2068		0.0010950	ppm	0.00029900	27.262
Se1960		0.0018720	ppm	0.00066200	35.375
Si2881		5.0774	ppm	0.016684	0.32860
Sn1899		0.00029300	ppm	0.000036000	12.222
Sr4077		0.23872	ppm	0.00097200	0.40712
Ti3349		0.065762	ppm	0.0029470	4.4815
Tl1908		-0.0026940	ppm	0.0010030	37.238
V_2924		0.012142	ppm	0.00041100	3.3826
Zn2062		0.0094050	ppm	0.00026500	2.8197
Y_2243		6,627.9	Cts/S	30.726	0.46359
Y_3600		49,541	Cts/S	530.90	1.0716
Y_3774		7,514.7	Cts/S	226.35	3.0121

320-53906-A-2-A@100

Acquire Date: 9/30/2019 1:49:24PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00088500	ppm	0.000099000	11.192
Al3961		-0.021276	ppm	0.012648	59.447
As1890		-0.00024100	ppm	0.00065100	270.53
B_2089		0.12665	ppm	0.000092000	0.072889
Ba4554		-0.00029000	ppm	0.00019400	66.814
Be3130		0.00026800	ppm	0.00014200	53.031
Ca3179		6.9781	ppm	0.023464	0.33625
Cd2144		0.000097000	ppm	0.0000070000	6.9760
Co2286		0.00025600	ppm	0.00023000	89.651
Cr2677		-0.00056900	ppm	0.000016000	2.8107
Cu3247		0.0040100	ppm	0.0015010	37.428
Fe2599		-0.0034770	ppm	0.0028770	82.765
K_7664		17.526	ppm	0.12012	0.68537
Mg2790		23.344	ppm	0.00099600	0.0042670
Mn2576		0.00017000	ppm	0.000083000	48.736
Mo2020		-0.00015000	ppm	0.00029000	192.95
Na5895	**W**	**310.44**	**ppm**	**45.333**	**14.603**
Ni2316		0.000019000	ppm	0.000047000	248.13
P_1782		0.028857	ppm	0.0061250	21.226
Pb2203		0.00022900	ppm	0.0021130	923.45
S_1820		29.344	ppm	0.012848	0.043784
Sb2068		-0.00077000	ppm	0.000099000	12.889
Se1960		0.0022750	ppm	0.000085000	3.7322
Si2881		0.15330	ppm	0.0032750	2.1365
Sn1899		0.000071000	ppm	0.00080600	1,140.2
Sr4077		0.32839	ppm	0.0023000	0.70042
Ti3349		-0.00093400	ppm	0.00056100	60.028
Tl1908		0.00037500	ppm	0.0015380	409.82
V_2924		0.00091100	ppm	0.00066300	72.766
Zn2062		-0.00026200	ppm	0.00042700	163.26
Y_2243		6,646.6	Cts/S	39.381	0.59250
Y_3600		48,892	Cts/S	214.39	0.43849
Y_3774		7,577.3	Cts/S	0.58881	0.0077710

SD 320-53906-A2A@500

Acquire Date: 9/30/2019 1:53:25PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00042500	ppm	0.00038100	89.650
Al3961		0.0049830	ppm	0.010948	219.69
As1890		0.0021170	ppm	0.00026100	12.347
B_2089		0.026658	ppm	0.00031300	1.1739
Ba4554		-0.00012200	ppm	0.00058700	479.46
Be3130		0.00010600	ppm	0.00013300	125.42
Ca3179		1.4649	ppm	0.0023390	0.15969
Cd2144		0.000020000	ppm	0.000022000	114.39
Co2286		0.00021500	ppm	0.00014200	66.368

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

SD 320-53906-A2A@500

Acquire Date: 9/30/2019 1:53:25PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.000050000	ppm	0.00043300	864.01
Cu3247		0.0025210	ppm	0.0018020	71.458
Fe2599		0.0095030	ppm	0.0064470	67.838
K_7664		3.5746	ppm	0.046339	1.2963
Mg2790		4.7463	ppm	0.010524	0.22172
Mn2576		0.00016200	ppm	0.000026000	15.846
Mo2020		-0.00016600	ppm	0.00011000	66.169
Na5895		70.946	ppm	0.27826	0.39221
Ni2316		-0.00052100	ppm	0.00027600	52.943
P_1782		0.0017900	ppm	0.00072600	40.571
Pb2203		-0.00061200	ppm	0.00030600	49.930
S_1820		5.8697	ppm	0.0056620	0.096462
Sb2068		.0000010000	ppm	0.0031900	582,830
Se1960		0.0058330	ppm	0.0044960	77.066
Si2881		0.027803	ppm	0.027084	97.413
Sn1899		0.00016300	ppm	0.00052100	320.25
Sr4077		0.066988	ppm	0.00035700	0.53244
Ti3349		0.00035600	ppm	0.00063600	178.75
Tl1908		-0.0020310	ppm	0.0011330	55.779
V_2924		0.00046800	ppm	0.00023500	50.128
Zn2062		-0.00032700	ppm	0.00017500	53.561
Y_2243		6,798.6	Cts/S	16.104	0.23688
Y_3600		50,396	Cts/S	204.02	0.40483
Y_3774		7,499.1	Cts/S	247.61	3.3018

PDS 320-53906A2A@100

Acquire Date: 9/30/2019 1:57:21PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.099411	ppm	0.000093000	0.093335
Al3961		9.9723	ppm	0.079423	0.79644
As1890		0.091809	ppm	0.00077200	0.84116
B_2089		1.0481	ppm	0.0017210	0.16423
Ba4554		0.096525	ppm	0.0011930	1.2363
Be3130		0.054152	ppm	0.00081200	1.4992
Ca3179		16.450	ppm	0.11639	0.70751
Cd2144		0.097368	ppm	0.00047300	0.48603
Co2286		0.10677	ppm	0.00067300	0.62992
Cr2677		0.10281	ppm	0.00079700	0.77571
Cu3247		0.10241	ppm	0.00026600	0.26023
Fe2599		3.7639	ppm	0.054222	1.4406
K_7664		28.201	ppm	0.23862	0.84615
Mg2790		33.230	ppm	0.075458	0.22708
Mn2576		0.095278	ppm	0.00043300	0.45479
Mo2020		0.10011	ppm	0.000075000	0.074455
Na5895	**W**	**315.76**	**ppm**	**47.096**	**14.915**
Ni2316		0.10075	ppm	0.00058900	0.58455

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

PDS 320-53906A2A@100

Acquire Date: 9/30/2019 1:57:21PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		1.0867	ppm	0.0012500	0.11502
Pb2203		0.10125	ppm	0.000061000	0.059935
S_1820		31.376	ppm	0.063037	0.20091
Sb2068		0.093369	ppm	0.0014380	1.5403
Se1960		0.10693	ppm	0.0015020	1.4050
Si2881		1.1053	ppm	0.018162	1.6433
Sn1899		0.098457	ppm	0.00024000	0.24345
Sr4077		0.42533	ppm	0.0032430	0.76259
Ti3349		0.099031	ppm	0.0013130	1.3261
Tl1908		0.091196	ppm	0.0012960	1.4206
V_2924		0.10827	ppm	0.00067900	0.62694
Zn2062		0.098628	ppm	0.00013800	0.14017
Y_2243		6,622.1	Cts/S	25.850	0.39035
Y_3600		49,533	Cts/S	126.20	0.25478
Y_3774		7,688.0	Cts/S	98.290	1.2785

CCV 1708493

Acquire Date: 9/30/2019 2:01:17PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.48270	ppm	0.0010200	0.21139	.50000	Rel(%)	Pass	
Al3961		24.679	ppm	0.036969	0.14980	25.000	Rel(%)	Pass	
As1890		0.48225	ppm	0.0025620	0.53136	.50000	Rel(%)	Pass	
B_2089		0.96557	ppm	0.00022200	0.023017	1.0000	Rel(%)	Pass	
Ba4554		2.3870	ppm	0.013902	0.58242	2.5000	Rel(%)	Pass	
Be3130		0.53664	ppm	0.0017120	0.31907	.50000	Rel(%)	Pass	
Ca3179		23.741	ppm	0.075954	0.31993	25.000	Rel(%)	Pass	
Cd2144		0.48772	ppm	0.00039700	0.081304	.50000	Rel(%)	Pass	
Co2286		2.6767	ppm	0.0024590	0.091876	2.5000	Rel(%)	Pass	
Cr2677		2.5870	ppm	0.0031670	0.12241	2.5000	Rel(%)	Pass	
Cu3247		2.3798	ppm	0.0019290	0.081042	2.5000	Rel(%)	Pass	
Fe2599		23.372	ppm	0.059385	0.25409	25.000	Rel(%)	Pass	
K_7664		26.340	ppm	0.16525	0.62737	25.000	Rel(%)	Pass	
Mg2790		25.173	ppm	0.0095810	0.038062	25.000	Rel(%)	Pass	
Mn2576		2.3650	ppm	0.0049660	0.20997	2.5000	Rel(%)	Pass	
Mo2020		1.0122	ppm	0.0010360	0.10232	1.0000	Rel(%)	Pass	
Na5895		26.001	ppm	0.022978	0.088373	25.000	Rel(%)	Pass	
Ni2316		2.5611	ppm	0.0032190	0.12570	2.5000	Rel(%)	Pass	
P_1782		2.6124	ppm	0.0031070	0.11894	2.5000	Rel(%)	Pass	
Pb2203		0.51800	ppm	0.0040170	0.77550	.50000	Rel(%)	Pass	
S_1820		2.6184	ppm	0.0078290	0.29899	2.5000	Rel(%)	Pass	
Sb2068		0.52122	ppm	0.0013850	0.26575	.50000	Rel(%)	Pass	
Se1960		0.53176	ppm	0.00028600	0.053796	.50000	Rel(%)	Pass	
Si2881		2.4327	ppm	0.036010	1.4803	2.5000	Rel(%)	Pass	
Sn1899		2.4708	ppm	0.0059730	0.24174	2.5000	Rel(%)	Pass	
Sr4077		2.3850	ppm	0.011196	0.46943	2.5000	Rel(%)	Pass	
Ti3349		0.98636	ppm	0.00024200	0.024570	1.0000	Rel(%)	Pass	
Tl1908		0.48290	ppm	0.0029730	0.61575	.50000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCV 1708493

Acquire Date: 9/30/2019 2:01:17PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
V_2924		2.6312	ppm	0.0034870	0.13253	2.5000	Rel(%)	Pass	
Zn2062		2.4500	ppm	0.0048820	0.19925	2.5000	Rel(%)	Pass	
Y_2243		6,574.9	Cts/S	10.297	0.15661				
Y_3600		49,471	Cts/S	217.12	0.43888				
Y_3774		7,423.5	Cts/S	276.91	3.7302				

CCB 1745955

Acquire Date: 9/30/2019 2:05:03PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00074300	ppm	0.00011500	15.454	.00000	Abs	Pass	
Al3961		-0.0055010	ppm	0.0033120	60.202	.00000	Abs	Pass	
As1890		0.0019470	ppm	0.0030010	154.13	.00000	Abs	Pass	
B_2089		0.0048430	ppm	0.00096400	19.909	.00000	Abs	Pass	
Ba4554		0.00014100	ppm	0.00016600	117.75	.00000	Abs	Pass	
Be3130		0.00014300	ppm	0.00040100	279.91	.00000	Abs	Pass	
Ca3179		0.0012430	ppm	0.0030570	246.00	.00000	Abs	Pass	
Cd2144		0.000076000	ppm	0.000049000	64.191	.00000	Abs	Pass	
Co2286		0.00065500	ppm	0.00019200	29.325	.00000	Abs	Pass	
Cr2677		-0.00044700	ppm	0.00033400	74.679	.00000	Abs	Pass	
Cu3247		0.0045280	ppm	0.00058600	12.939	.00000	Abs	Pass	
Fe2599		0.0055060	ppm	0.00057800	10.496	.00000	Abs	Pass	
K_7664		0.016541	ppm	0.055658	336.49	.00000	Abs	Pass	
Mg2790		-0.0030630	ppm	0.0034010	111.05	.00000	Abs	Pass	
Mn2576		0.00026600	ppm	0.000025000	9.5924	.00000	Abs	Pass	
Mo2020		0.00019800	ppm	0.00013100	66.505	.00000	Abs	Pass	
Na5895		0.055827	ppm	0.0034280	6.1412	.00000	Abs	Pass	
Ni2316		-0.00024000	ppm	0.00010200	42.335	.00000	Abs	Pass	
P_1782		-0.0042570	ppm	0.00070400	16.547	.00000	Abs	Pass	
Pb2203		0.0016360	ppm	0.00045800	27.985	.00000	Abs	Pass	
S_1820		0.0038630	ppm	0.0019130	49.536	.00000	Abs	Pass	
Sb2068		0.00030600	ppm	0.00056600	185.08	.00000	Abs	Pass	
Se1960		0.00035700	ppm	0.0016110	451.66	.00000	Abs	Pass	
Si2881		-0.010473	ppm	0.019406	185.30	.00000	Abs	Pass	
Sn1899		0.00045800	ppm	0.00063500	138.72	.00000	Abs	Pass	
Sr4077		0.000032000	ppm	0.00011400	361.40	.00000	Abs	Pass	
Ti3349		0.000048000	ppm	0.00049800	1,029.0	.00000	Abs	Pass	
Tl1908		0.0015540	ppm	0.0022740	146.31	.00000	Abs	Pass	
V_2924		0.00055900	ppm	0.00076100	135.96	.00000	Abs	Pass	
Zn2062		0.0027010	ppm	0.00053800	19.934	.00000	Abs	Pass	
Y_2243		6,805.0	Cts/S	2.4214	0.035582				
Y_3600		50,658	Cts/S	358.73	0.70815				
Y_3774		7,507.4	Cts/S	242.43	3.2292				

320-53906-A2B MS@100

Acquire Date: 9/30/2019 2:09:02PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00081400	ppm	0.00035500	43.595
Al3961		0.043399	ppm	0.029042	66.918
As1890		0.0045510	ppm	0.0018670	41.031
B_2089		0.17561	ppm	0.00094700	0.53940
Ba4554		0.0052330	ppm	0.00016100	3.0840
Be3130		0.0031020	ppm	0.000081000	2.6204
Ca3179		7.3728	ppm	0.024939	0.33826
Cd2144		0.0028120	ppm	0.00038500	13.678
Co2286		0.0041280	ppm	0.0010360	25.095
Cr2677		0.0029390	ppm	0.00048300	16.447
Cu3247		0.0071810	ppm	0.00085100	11.846
Fe2599		0.056163	ppm	0.0080200	14.279
K_7664		17.987	ppm	0.058073	0.32287
Mg2790		23.895	ppm	0.047433	0.19851
Mn2576		0.0031330	ppm	0.00020600	6.5604
Mo2020		0.0027580	ppm	0.00068600	24.879
Na5895	**W**	**317.28**	**ppm**	**47.835**	**15.077**
Ni2316		0.0037960	ppm	0.0010040	26.444
P_1782		0.060826	ppm	0.00011800	0.19413
Pb2203		0.0025270	ppm	0.0013560	53.642
S_1820		29.825	ppm	0.084710	0.28402
Sb2068		0.0050460	ppm	0.0000010000	0.013212
Se1960		0.0057400	ppm	0.00014100	2.4612
Si2881		0.22297	ppm	0.024340	10.916
Sn1899		0.0053590	ppm	0.00074300	13.871
Sr4077		0.33832	ppm	0.0014540	0.42987
Ti3349		0.0031820	ppm	0.00060600	19.056
Tl1908		0.0035700	ppm	0.00081200	22.751
V_2924		0.0041720	ppm	0.00068100	16.329
Zn2062		0.0083960	ppm	0.00031700	3.7710
Y_2243		6,736.2	Cts/S	20.763	0.30823
Y_3600		49,339	Cts/S	454.38	0.92093
Y_3774		7,636.2	Cts/S	31.893	0.41766

320-53906A2C MSD@100

Acquire Date: 9/30/2019 2:13:04PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.000046000	ppm	0.00075400	1,644.5
Al3961		0.038302	ppm	0.015344	40.061
As1890		0.0062310	ppm	0.00054900	8.8156
B_2089		0.17130	ppm	0.00029300	0.17086
Ba4554		0.0047470	ppm	0.00043800	9.2303
Be3130		0.0030670	ppm	0.00022600	7.3835
Ca3179		7.2200	ppm	0.025317	0.35064
Cd2144		0.0023790	ppm	0.000033000	1.3867
Co2286		0.0030150	ppm	0.000043000	1.4254

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-53906A2C MSD@100

Acquire Date: 9/30/2019 2:13:04PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.0028940	ppm	0.00042400	14.643
Cu3247		0.0059640	ppm	0.00082000	13.747
Fe2599		0.047684	ppm	0.0076940	16.136
K_7664		17.632	ppm	0.12467	0.70708
Mg2790		23.334	ppm	0.057511	0.24646
Mn2576		0.0029090	ppm	0.00010500	3.6221
Mo2020		0.0026640	ppm	0.00052600	19.762
Na5895	**W**	**328.03**	**ppm**	**18.046**	**5.5014**
Ni2316		0.0018440	ppm	0.00097300	52.774
P_1782		0.056104	ppm	0.0013110	2.3364
Pb2203		0.0024760	ppm	0.00088700	35.833
S_1820		29.323	ppm	0.090725	0.30940
Sb2068		0.0054090	ppm	0.0020130	37.208
Se1960		0.0052980	ppm	0.0028070	52.986
Si2881		0.18981	ppm	0.018169	9.5722
Sn1899		0.0049760	ppm	0.00011600	2.3405
Sr4077		0.33073	ppm	0.0013460	0.40697
Ti3349		0.0027320	ppm	0.00034000	12.458
Tl1908		0.0032610	ppm	0.0013490	41.376
V_2924		0.0027050	ppm	0.00038700	14.300
Zn2062		0.0050720	ppm	0.00011200	2.2123
Y_2243		6,760.6	Cts/S	5.8521	0.086561
Y_3600		50,411	Cts/S	215.89	0.42826
Y_3774		7,877.2	Cts/S	4.0128	0.050942

320-53906-A-4-A@100

Acquire Date: 9/30/2019 2:17:07PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00027200	ppm	0.0015460	568.50
Al3961		-0.0098920	ppm	0.0065300	66.017
As1890		0.00075800	ppm	0.00094300	124.43
B_2089		0.12679	ppm	0.0011180	0.88198
Ba4554		-0.00059400	ppm	0.00021400	36.080
Be3130		0.00025300	ppm	0.0000090000	3.5836
Ca3179		6.9213	ppm	0.055357	0.79981
Cd2144		0.000082000	ppm	0.000033000	39.757
Co2286		0.000014000	ppm	0.00025400	1,830.6
Cr2677		-0.00034800	ppm	0.00011100	31.978
Cu3247		0.0018370	ppm	0.00015000	8.1538
Fe2599		-0.0029050	ppm	0.0042200	145.28
K_7664		17.475	ppm	0.14085	0.80597
Mg2790		23.278	ppm	0.014729	0.063275
Mn2576		0.00019800	ppm	0.000059000	29.774
Mo2020		0.000089000	ppm	0.00043600	489.62
Na5895	**W**	**303.77**	**ppm**	**54.054**	**17.795**
Ni2316		-0.00042000	ppm	0.000057000	13.682

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-53906-A-4-A@100

Acquire Date: 9/30/2019 2:17:07PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		0.00077200	ppm	0.00089200	115.52
Pb2203		-0.00090800	ppm	0.0032380	356.44
S_1820		29.341	ppm	0.038687	0.13185
Sb2068		-0.00010500	ppm	0.00072600	693.25
Se1960		0.0036790	ppm	0.0042300	114.97
Si2881		0.14394	ppm	0.0052750	3.6645
Sn1899		-0.00049800	ppm	0.00014900	29.922
Sr4077		0.32671	ppm	0.0018890	0.57818
Ti3349		0.000032000	ppm	0.00026000	801.25
Tl1908		-0.0021010	ppm	0.0010560	50.242
V_2924		0.00061700	ppm	0.000017000	2.6973
Zn2062		-0.00046400	ppm	0.00021900	47.143
Y_2243		6,633.7	Cts/S	8.2191	0.12390
Y_3600		49,075	Cts/S	148.74	0.30309
Y_3774		7,604.3	Cts/S	16.453	0.21636

320-53906-A-6-A@100

Acquire Date: 9/30/2019 2:21:09PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00040000	ppm	0.00062500	156.39
Al3961		-0.015413	ppm	0.022995	149.19
As1890		0.00055900	ppm	0.00093700	167.52
B_2089		0.11774	ppm	0.00066700	0.56631
Ba4554		-0.00026200	ppm	0.00021900	83.750
Be3130		0.00018000	ppm	0.00010900	60.768
Ca3179		6.7425	ppm	0.049099	0.72820
Cd2144		.0000090000	ppm	0.000058000	649.04
Co2286		.0000070000	ppm	0.000048000	662.40
Cr2677		-0.00060000	ppm	0.00044800	74.602
Cu3247		0.0038600	ppm	0.0012630	32.729
Fe2599		0.00087900	ppm	0.0039220	445.97
K_7664		18.597	ppm	0.11797	0.63434
Mg2790		23.516	ppm	0.056791	0.24150
Mn2576		0.000082000	ppm	0.00018300	224.21
Mo2020		-0.00037600	ppm	0.00034300	91.219
Na5895	**W**	**323.12**	**ppm**	**65.930**	**20.404**
Ni2316		-0.00071400	ppm	0.00050300	70.524
P_1782		0.0051490	ppm	0.0012450	24.191
Pb2203		0.00073300	ppm	0.00033400	45.562
S_1820		24.778	ppm	0.062622	0.25274
Sb2068		0.0013310	ppm	0.0037520	282.01
Se1960		0.0050290	ppm	0.0025630	50.959
Si2881		0.18166	ppm	0.0021510	1.1840
Sn1899		0.000035000	ppm	0.000035000	99.819
Sr4077		0.53656	ppm	0.0032960	0.61424
Ti3349		-0.00056700	ppm	0.00054900	96.696

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-53906-A-6-A@100

Acquire Date: 9/30/2019 2:21:09PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		0.00077200	ppm	0.00021700	28.099
V_2924		0.00048800	ppm	0.00084600	173.33
Zn2062		-0.00048200	ppm	0.000075000	15.573
Y_2243		6,550.0	Cts/S	22.231	0.33940
Y_3600		48,643	Cts/S	0.63930	0.0013140
Y_3774		7,524.4	Cts/S	1.5014	0.019954

550-129808-B-1-D

Acquire Date: 9/30/2019 2:25:10PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0035990	ppm	0.00042500	11.810
Al3961		4.1226	ppm	0.0085160	0.20658
As1890		0.013182	ppm	0.0020650	15.666
B_2089		0.071940	ppm	0.00097600	1.3571
Ba4554		0.38402	ppm	0.0015900	0.41400
Be3130		0.00038100	ppm	0.0000030000	0.89266
Ca3179		47.334	ppm	0.25719	0.54334
Cd2144		0.0018570	ppm	0.000070000	3.7713
Co2286		0.0038140	ppm	0.000010000	0.27206
Cr2677		0.055315	ppm	0.00022700	0.41011
Cu3247		0.60883	ppm	0.0016080	0.26413
Fe2599		44.284	ppm	0.16002	0.36134
K_7664		2.9529	ppm	0.086641	2.9341
Mg2790		7.2700	ppm	0.029154	0.40101
Mn2576		0.27095	ppm	0.0017930	0.66186
Mo2020		0.025221	ppm	0.000046000	0.18057
Na5895		1.9622	ppm	0.013668	0.69655
Ni2316		0.035526	ppm	0.000036000	0.10094
P_1782		42.036	ppm	0.11428	0.27186
Pb2203		0.020975	ppm	0.00019700	0.93933
S_1820		21.249	ppm	0.034909	0.16428
Sb2068		0.0035080	ppm	0.0029320	83.568
Se1960		0.011796	ppm	0.0031580	26.775
Si2881		1.5693	ppm	0.021427	1.3654
Sn1899		0.066120	ppm	0.000089000	0.13516
Sr4077		0.39764	ppm	0.0019110	0.48070
Ti3349		0.055612	ppm	0.00067800	1.2200
Tl1908		-0.00023500	ppm	0.00089100	378.91
V_2924		0.053043	ppm	0.00094700	1.7851
Zn2062		1.1865	ppm	0.0063910	0.53862
Y_2243		6,737.8	Cts/S	8.6513	0.12840
Y_3600		50,591	Cts/S	440.97	0.87165
Y_3774		7,476.2	Cts/S	243.45	3.2563

SD 550-129808-B1-D@5

Acquire Date: 9/30/2019 2:29:03PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00022200	ppm	0.00013500	60.923
Al3961		0.76302	ppm	0.024107	3.1594
As1890		0.0047120	ppm	0.00021300	4.5226
B_2089		0.014706	ppm	0.00021500	1.4621
Ba4554		0.076799	ppm	0.00047700	0.62165
Be3130		0.00031400	ppm	0.00019300	61.517
Ca3179		9.5409	ppm	0.053158	0.55716
Cd2144		0.00043800	ppm	0.000059000	13.449
Co2286		0.0010130	ppm	0.00024600	24.338
Cr2677		0.010080	ppm	0.00075400	7.4792
Cu3247		0.12232	ppm	0.00067500	0.55167
Fe2599		8.9315	ppm	0.088844	0.99473
K_7664		0.66045	ppm	0.0061670	0.93381
Mg2790		1.4738	ppm	0.015951	1.0823
Mn2576		0.055715	ppm	0.000024000	0.043312
Mo2020		0.0048500	ppm	0.00037200	7.6634
Na5895		0.42562	ppm	0.0099020	2.3265
Ni2316		0.0066450	ppm	0.00025300	3.8134
P_1782		8.6484	ppm	0.026879	0.31080
Pb2203		0.0047630	ppm	0.00037700	7.9233
S_1820		4.3152	ppm	0.0091350	0.21170
Sb2068		-0.0028430	ppm	0.0030250	106.43
Se1960		0.0018550	ppm	0.0035970	193.96
Si2881		0.32714	ppm	0.0012820	0.39198
Sn1899		0.012848	ppm	0.000023000	0.17687
Sr4077		0.080392	ppm	0.00072800	0.90529
Ti3349		0.011558	ppm	0.00048700	4.2108
Tl1908		-0.0016740	ppm	0.0011360	67.895
V_2924		0.011622	ppm	0.00060200	5.1806
Zn2062		0.24119	ppm	0.00069400	0.28777
Y_2243		6,826.8	Cts/S	0.79676	0.011671
Y_3600		50,754	Cts/S	24.217	0.047713
Y_3774		7,668.4	Cts/S	0.45279	0.0059050

PDS 550-129808-B-1-D

Acquire Date: 9/30/2019 2:32:57PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.10170	ppm	0.00088300	0.86833
Al3961		13.899	ppm	0.0079610	0.057278
As1890		0.10235	ppm	0.00062300	0.60861
B_2089		1.0338	ppm	0.0040580	0.39252
Ba4554		0.46277	ppm	0.0028920	0.62489
Be3130		0.054922	ppm	0.000012000	0.022251
Ca3179		54.649	ppm	0.28277	0.51742
Cd2144		0.10125	ppm	0.000092000	0.090711
Co2286		0.11537	ppm	0.00063200	0.54755

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

PDS 550-129808-B-1-D

Acquire Date: 9/30/2019 2:32:57PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.15933	ppm	0.00019000	0.11955
Cu3247		0.69924	ppm	0.00031600	0.045218
Fe2599		45.813	ppm	0.12831	0.28008
K_7664		13.844	ppm	0.033288	0.24045
Mg2790		17.098	ppm	0.029640	0.17335
Mn2576		0.35789	ppm	0.00023300	0.065060
Mo2020		0.12488	ppm	0.00035900	0.28784
Na5895		13.225	ppm	0.019173	0.14498
Ni2316		0.13949	ppm	0.00096700	0.69308
P_1782		41.852	ppm	0.053656	0.12820
Pb2203		0.12247	ppm	0.00024100	0.19662
S_1820		22.903	ppm	0.0066100	0.028863
Sb2068		0.092931	ppm	0.0013630	1.4669
Se1960		0.11589	ppm	0.00010100	0.087086
Si2881		2.5473	ppm	0.0052140	0.20469
Sn1899		0.16297	ppm	0.00069600	0.42737
Sr4077		0.47596	ppm	0.0024910	0.52338
Ti3349		0.16510	ppm	0.0030760	1.8632
Tl1908		0.099446	ppm	0.0014090	1.4172
V_2924		0.15952	ppm	0.00038700	0.24279
Zn2062		1.2372	ppm	0.0021460	0.17345
Y_2243		6,809.7	Cts/S	10.320	0.15154
Y_3600		50,755	Cts/S	76.794	0.15131
Y_3774		7,631.9	Cts/S	212.13	2.7795

550-129808-B-1-E MS

Acquire Date: 9/30/2019 2:36:44PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.045746	ppm	0.00041400	0.90402
Al3961		9.8111	ppm	0.051174	0.52159
As1890		0.39718	ppm	0.0015490	0.38995
B_2089		3.9484	ppm	0.0043030	0.10899
Ba4554		0.81698	ppm	0.0053200	0.65113
Be3130		0.24651	ppm	0.0021740	0.88202
Ca3179		69.100	ppm	0.29192	0.42246
Cd2144		0.22117	ppm	0.00020400	0.092283
Co2286		0.25140	ppm	0.00052300	0.20822
Cr2677		0.28694	ppm	0.000017000	0.0057990
Cu3247		0.85953	ppm	0.0032310	0.37592
Fe2599		47.896	ppm	0.27563	0.57548
K_7664		27.546	ppm	0.18847	0.68421
Mg2790		29.821	ppm	0.050630	0.16978
Mn2576		0.48555	ppm	0.00070600	0.14549
Mo2020		0.25219	ppm	0.00049000	0.19431
Na5895		26.308	ppm	0.14303	0.54368
Ni2316		0.26919	ppm	0.00041500	0.15403

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

550-129808-B-1-E MS

Acquire Date: 9/30/2019 2:36:44PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		47.230	ppm	0.15207	0.32197
Pb2203		0.25507	ppm	0.00027500	0.10763
S_1820		25.741	ppm	0.064328	0.24990
Sb2068		0.41089	ppm	0.0012470	0.30350
Se1960		0.44037	ppm	0.0034660	0.78699
Si2881		1.6478	ppm	0.035083	2.1291
Sn1899		0.47225	ppm	0.0020900	0.44256
Sr4077		0.61244	ppm	0.0021780	0.35561
Ti3349		0.19800	ppm	0.00023500	0.11880
Tl1908		0.44237	ppm	0.0016340	0.36943
V_2924		0.29663	ppm	0.00045000	0.15169
Zn2062		1.5980	ppm	0.0039660	0.24819
Y_2243		6,685.9	Cts/S	1.9207	0.028728
Y_3600		49,800	Cts/S	206.02	0.41371
Y_3774		7,646.7	Cts/S	15.733	0.20574

550-129808-B-1-F MSD

Acquire Date: 9/30/2019 2:40:29PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.045811	ppm	0.00071500	1.5615
Al3961		9.2926	ppm	0.073955	0.79584
As1890		0.38473	ppm	0.0014150	0.36792
B_2089		3.8051	ppm	0.0026030	0.068422
Ba4554		0.76370	ppm	0.0037630	0.49273
Be3130		0.23925	ppm	0.0016090	0.67250
Ca3179		63.793	ppm	0.29311	0.45947
Cd2144		0.21452	ppm	0.000022000	0.010087
Co2286		0.24273	ppm	0.00040000	0.16483
Cr2677		0.27704	ppm	0.0014320	0.51689
Cu3247		0.79572	ppm	0.000017000	0.0021640
Fe2599		44.414	ppm	0.19411	0.43705
K_7664		26.518	ppm	0.067588	0.25488
Mg2790		28.751	ppm	0.015160	0.052730
Mn2576		0.45253	ppm	0.00060700	0.13409
Mo2020		0.24299	ppm	0.00080300	0.33030
Na5895		25.544	ppm	0.090806	0.35549
Ni2316		0.25810	ppm	0.00064100	0.24855
P_1782		43.823	ppm	0.15983	0.36471
Pb2203		0.24576	ppm	0.0021380	0.87001
S_1820		24.258	ppm	0.12644	0.52125
Sb2068		0.40502	ppm	0.00051200	0.12635
Se1960		0.42769	ppm	0.0031700	0.74115
Si2881		1.4475	ppm	0.050655	3.4994
Sn1899		0.45613	ppm	0.00054100	0.11868
Sr4077		0.56587	ppm	0.0031640	0.55907
Ti3349		0.19000	ppm	0.00050600	0.26649

550-129808-B-1-F MSD

Acquire Date: 9/30/2019 2:40:29PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		0.43013	ppm	0.0024400	0.56728
V_2924		0.28320	ppm	0.00071800	0.25343
Zn2062		1.4909	ppm	0.00026100	0.017520
Y_2243		6,649.7	Cts/S	23.098	0.34736
Y_3600		50,079	Cts/S	1.3643	0.0027240
Y_3774		7,545.5	Cts/S	31.889	0.42263

320-54381-A-1-A

Acquire Date: 9/30/2019 2:44:13PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0026390	ppm	0.00034400	13.031
Al3961		134.17	ppm	0.84384	0.62896
As1890		0.012161	ppm	0.0014930	12.273
B_2089		0.59277	ppm	0.00052000	0.087641
Ba4554		3.5807	ppm	0.020212	0.56448
Be3130		0.0029020	ppm	0.000060000	2.0722
Ca3179		414.45	ppm	1.9701	0.47536
Cd2144		0.0018780	ppm	0.000087000	4.6546
Co2286		0.074996	ppm	0.00032900	0.43820
Cr2677		0.24243	ppm	0.00094800	0.39122
Cu3247		0.39152	ppm	0.0010080	0.25754
Fe2599		124.46	ppm	0.58421	0.46939
K_7664		94.193	ppm	0.62178	0.66011
Mg2790		64.835	ppm	0.12607	0.19444
Mn2576		17.642	ppm	0.16451	0.93250
Mo2020		0.0036200	ppm	0.00014900	4.1252
Na5895		12.067	ppm	0.11954	0.99066
Ni2316		0.14287	ppm	0.0013000	0.90998
P_1782		29.410	ppm	0.013624	0.046325
Pb2203		0.30888	ppm	0.00013500	0.043632
S_1820		5.7951	ppm	0.016015	0.27635
Sb2068		0.0020620	ppm	0.00095300	46.232
Se1960		0.0067410	ppm	0.00082400	12.222
Si2881		4.3073	ppm	0.0065670	0.15246
Sn1899		0.044240	ppm	0.000036000	0.081404
Sr4077		3.7639	ppm	0.018502	0.49155
Ti3349	**W**	**6.5086**	**ppm**	**0.0091250**	**0.14021**
Tl1908		-0.0089460	ppm	0.0010540	11.777
V_2924		0.47166	ppm	0.00041700	0.088456
Zn2062		1.8117	ppm	0.0020600	0.11368
Y_2243		6,504.6	Cts/S	15.315	0.23546
Y_3600		48,168	Cts/S	951.74	1.9759
Y_3774		7,640.0	Cts/S	77.526	1.0147

CCV 1708493

Acquire Date: 9/30/2019 2:48:07PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.48600	ppm	0.0026240	0.53993	.50000	Rel(%)	Pass	
Al3961		24.758	ppm	0.080624	0.32565	25.000	Rel(%)	Pass	
As1890		0.48442	ppm	0.0037850	0.78127	.50000	Rel(%)	Pass	
B_2089		0.97229	ppm	0.000049000	0.0050820	1.0000	Rel(%)	Pass	
Ba4554		2.3936	ppm	0.010445	0.43639	2.5000	Rel(%)	Pass	
Be3130		0.54415	ppm	0.0048020	0.88244	.50000	Rel(%)	Pass	
Ca3179		23.930	ppm	0.079524	0.33231	25.000	Rel(%)	Pass	
Cd2144		0.48811	ppm	0.00041300	0.084511	.50000	Rel(%)	Pass	
Co2286		2.7141	ppm	0.0054540	0.20095	2.5000	Rel(%)	Pass	
Cr2677		2.6081	ppm	0.00093700	0.035938	2.5000	Rel(%)	Pass	
Cu3247		2.3775	ppm	0.00022400	0.0094220	2.5000	Rel(%)	Pass	
Fe2599		23.184	ppm	0.11770	0.50766	25.000	Rel(%)	Pass	
K_7664		26.675	ppm	0.085108	0.31906	25.000	Rel(%)	Pass	
Mg2790		25.384	ppm	0.035395	0.13944	25.000	Rel(%)	Pass	
Mn2576		2.3711	ppm	0.0023630	0.099673	2.5000	Rel(%)	Pass	
Mo2020		1.0162	ppm	0.0023090	0.22720	1.0000	Rel(%)	Pass	
Na5895		26.204	ppm	0.083800	0.31979	25.000	Rel(%)	Pass	
Ni2316		2.5750	ppm	0.0042650	0.16563	2.5000	Rel(%)	Pass	
P_1782		2.6726	ppm	0.012725	0.47613	2.5000	Rel(%)	Pass	
Pb2203		0.51792	ppm	0.0028360	0.54750	.50000	Rel(%)	Pass	
S_1820		2.6619	ppm	0.0089780	0.33727	2.5000	Rel(%)	Pass	
Sb2068		0.52842	ppm	0.000092000	0.017404	.50000	Rel(%)	Pass	
Se1960		0.53653	ppm	0.0039540	0.73698	.50000	Rel(%)	Pass	
Si2881		2.4462	ppm	0.041942	1.7146	2.5000	Rel(%)	Pass	
Sn1899		2.4811	ppm	0.0033270	0.13410	2.5000	Rel(%)	Pass	
Sr4077		2.3908	ppm	0.0097500	0.40781	2.5000	Rel(%)	Pass	
Ti3349		0.99667	ppm	0.0028770	0.28865	1.0000	Rel(%)	Pass	
Tl1908		0.47962	ppm	0.0012570	0.26218	.50000	Rel(%)	Pass	
V_2924		2.6616	ppm	0.0025160	0.094546	2.5000	Rel(%)	Pass	
Zn2062		2.4595	ppm	0.0060710	0.24684	2.5000	Rel(%)	Pass	
Y_2243		6,652.0	Cts/S	18.468	0.27763				
Y_3600		49,906	Cts/S	57.015	0.11424				
Y_3774		7,580.3	Cts/S	17.573	0.23182				

CCB 1745955

Acquire Date: 9/30/2019 2:51:53PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00038400	ppm	0.00084000	218.52	.00000	Abs	Pass	
Al3961		0.0098830	ppm	0.019098	193.25	.00000	Abs	Pass	
As1890		0.000013000	ppm	0.00063100	4,884.0	.00000	Abs	Pass	
B_2089		0.012195	ppm	0.00035400	2.9058	.00000	Abs	Pass	
Ba4554		0.00062300	ppm	0.0020810	334.06	.00000	Abs	Pass	
Be3130		0.00052100	ppm	0.00056200	107.82	.00000	Abs	Pass	
Ca3179		0.023331	ppm	0.023414	100.35	.00000	Abs	Pass	
Cd2144		0.000044000	ppm	0.00010500	239.01	.00000	Abs	Pass	
Co2286		0.00030000	ppm	0.000050000	16.792	.00000	Abs	Pass	
Cr2677		0.00054000	ppm	0.00022300	41.289	.00000	Abs	Pass	

CCB 1745955

Acquire Date: 9/30/2019 2:51:53PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Cu3247		0.0054960	ppm	0.0011860	21.581	.00000	Abs	Pass	
Fe2599		0.0049390	ppm	0.0052240	105.77	.00000	Abs	Pass	
K_7664		0.043738	ppm	0.026485	60.553	.00000	Abs	Pass	
Mg2790		0.0012690	ppm	0.00045700	36.016	.00000	Abs	Pass	
Mn2576		0.00080400	ppm	0.00011600	14.395	.00000	Abs	Pass	
Mo2020		0.00025000	ppm	0.00046800	187.47	.00000	Abs	Pass	
Na5895		0.049361	ppm	0.023128	46.855	.00000	Abs	Pass	
Ni2316		0.00030000	ppm	0.00038100	127.11	.00000	Abs	Pass	
P_1782		-0.0019270	ppm	0.00062400	32.393	.00000	Abs	Pass	
Pb2203		0.000040000	ppm	0.00087100	2,172.7	.00000	Abs	Pass	
S_1820		0.0038390	ppm	0.0053850	140.29	.00000	Abs	Pass	
Sb2068		-0.00039300	ppm	0.0015710	399.41	.00000	Abs	Pass	
Se1960		0.0040220	ppm	0.0010350	25.726	.00000	Abs	Pass	
Si2881		-0.0028670	ppm	0.0082760	288.68	.00000	Abs	Pass	
Sn1899		-0.00020300	ppm	0.00019100	94.258	.00000	Abs	Pass	
Sr4077		0.00091900	ppm	0.0011130	121.19	.00000	Abs	Pass	
Ti3349		0.00040100	ppm	0.000053000	13.148	.00000	Abs	Pass	
Tl1908		0.00067100	ppm	0.0019250	286.86	.00000	Abs	Pass	
V_2924		0.00044600	ppm	0.00036800	82.535	.00000	Abs	Pass	
Zn2062	**W**	**0.0053850**	**ppm**	**0.00018500**	**3.4351**	**.00000**	**Abs**	**Warn High**	**0.00500**
Y_2243		6,728.8	Cts/S	11.084	0.16473				
Y_3600		49,657	Cts/S	265.34	0.53434				
Y_3774		7,349.0	Cts/S	134.84	1.8348				

320-54381-A-2-A

Acquire Date: 9/30/2019 2:55:52PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0017970	ppm	0.00016900	9.4006
Al3961		20.753	ppm	0.068531	0.33022
As1890		0.0052540	ppm	0.00023600	4.4949
B_2089		0.28927	ppm	0.0016150	0.55844
Ba4554		2.3476	ppm	0.0081300	0.34633
Be3130		0.00023700	ppm	0.00012200	51.700
Ca3179		257.21	ppm	0.53435	0.20775
Cd2144		0.0028600	ppm	0.000044000	1.5262
Co2286		0.012246	ppm	0.00032900	2.6893
Cr2677		0.027404	ppm	0.000091000	0.33335
Cu3247		0.13515	ppm	0.000016000	0.011889
Fe2599		11.851	ppm	0.037735	0.31840
K_7664		103.00	ppm	0.12190	0.11835
Mg2790		33.399	ppm	0.017164	0.051391
Mn2576		10.560	ppm	0.084933	0.80431
Mo2020		0.0047810	ppm	0.00058300	12.188
Na5895		7.3441	ppm	0.058011	0.78991
Ni2316		0.023118	ppm	0.00040700	1.7587
P_1782		19.434	ppm	0.019387	0.099760
Pb2203		0.061623	ppm	0.0014200	2.3046

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54381-A-2-A

Acquire Date: 9/30/2019 2:55:52PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
S_1820		14.832	ppm	0.016166	0.10900
Sb2068		0.0016450	ppm	0.00068500	41.669
Se1960		0.0087170	ppm	0.0033060	37.929
Si2881		2.4941	ppm	0.053981	2.1643
Sn1899		0.031232	ppm	0.000015000	0.047810
Sr4077		2.4262	ppm	0.0066330	0.27337
Ti3349		1.0804	ppm	0.0018570	0.17184
Tl1908		-0.0042450	ppm	0.0018170	42.812
V_2924		0.058291	ppm	0.00097400	1.6717
Zn2062		0.78476	ppm	0.000037000	0.0047080
Y_2243		6,595.3	Cts/S	7.3479	0.11141
Y_3600		49,032	Cts/S	430.42	0.87783
Y_3774		7,611.4	Cts/S	95.167	1.2503

320-54413-A-1-I

Acquire Date: 9/30/2019 2:59:49PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00070600	ppm	0.00088500	125.36
Al3961		0.053499	ppm	0.0055470	10.369
As1890		0.0023650	ppm	0.0012330	52.163
B_2089		0.020065	ppm	0.00021000	1.0472
Ba4554		0.010418	ppm	0.000039000	0.37305
Be3130		0.00024000	ppm	0.00022200	92.521
Ca3179		5.3615	ppm	0.0070410	0.13132
Cd2144		0.000034000	ppm	0.000054000	160.76
Co2286		0.00047100	ppm	0.00027600	58.591
Cr2677		0.0018950	ppm	0.00051700	27.292
Cu3247		0.0057040	ppm	0.00038500	6.7444
Fe2599		0.063078	ppm	0.0013820	2.1913
K_7664		0.38150	ppm	0.030564	8.0116
Mg2790		0.31832	ppm	0.014011	4.4015
Mn2576		0.017479	ppm	0.000026000	0.15067
Mo2020		-0.00040400	ppm	0.000022000	5.3324
Na5895	**F**	**1,160.2**	**ppm**	**7.9439**	**0.68473**
Ni2316		0.0060130	ppm	0.000068000	1.1341
P_1782		1.6197	ppm	0.0051760	0.31955
Pb2203		0.00024200	ppm	0.0021020	866.87
S_1820		0.13342	ppm	0.0012380	0.92821
Sb2068		-0.0017190	ppm	0.0027680	161.01
Se1960		0.0039240	ppm	0.00049700	12.673
Si2881		0.19699	ppm	0.0082930	4.2096
Sn1899		0.00034000	ppm	0.000036000	10.457
Sr4077		0.050970	ppm	0.000048000	0.093460
Ti3349		0.0013120	ppm	0.00012800	9.7706
Tl1908		-0.00044500	ppm	0.00041600	93.580
V_2924		0.0012580	ppm	0.00035900	28.578

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54413-A-1-I

Acquire Date: 9/30/2019 2:59:49PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Zn2062		0.022119	ppm	0.00012700	0.57351
Y_2243		6,440.3	Cts/S	14.043	0.21804
Y_3600		47,320	Cts/S	137.58	0.29075
Y_3774		7,561.3	Cts/S	18.160	0.24017

SD 320-54413-A-1-I@5

Acquire Date: 9/30/2019 3:03:51PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0012760	ppm	0.00028300	22.149
Al3961		-0.0083890	ppm	0.0071860	85.651
As1890		0.0016730	ppm	0.0011110	66.400
B_2089		0.0059790	ppm	0.00061300	10.250
Ba4554		0.0017350	ppm	0.00010500	6.0373
Be3130		0.000018000	ppm	0.00011700	633.54
Ca3179		1.1008	ppm	0.00014900	0.013517
Cd2144		.0000090000	ppm	0.000047000	531.79
Co2286		0.00013800	ppm	0.00025300	183.50
Cr2677		-0.00024900	ppm	0.00057900	232.54
Cu3247		0.0038130	ppm	0.00077400	20.294
Fe2599		0.0089380	ppm	0.0037340	41.773
K_7664		0.15472	ppm	0.080017	51.716
Mg2790		0.065384	ppm	0.0044900	6.8670
Mn2576		0.0036570	ppm	0.000032000	0.88313
Mo2020		-0.00016800	ppm	0.00060300	359.11
Na5895		247.59	ppm	0.71810	0.29004
Ni2316		0.0014220	ppm	0.000060000	4.2245
P_1782		0.31901	ppm	0.0023760	0.74492
Pb2203		0.0033530	ppm	0.00052000	15.521
S_1820		0.036041	ppm	0.00038300	1.0638
Sb2068		0.0015450	ppm	0.0011190	72.390
Se1960		0.0012800	ppm	0.0061870	483.21
Si2881		0.0060430	ppm	0.038006	628.98
Sn1899		0.00016200	ppm	0.000050000	30.935
Sr4077		0.010303	ppm	0.000028000	0.27239
Ti3349		0.00079200	ppm	0.00029300	37.027
Tl1908		0.00012300	ppm	0.0014320	1,161.6
V_2924		0.00053500	ppm	0.00076500	142.91
Zn2062		0.0042040	ppm	0.00019700	4.6979
Y_2243		6,781.9	Cts/S	49.116	0.72422
Y_3600		50,090	Cts/S	309.80	0.61848
Y_3774		7,655.2	Cts/S	87.258	1.1399

PDS 320-54413-A-1-I

Acquire Date: 9/30/2019 3:07:48PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.10177	ppm	0.0026880	2.6417
Al3961		9.9747	ppm	0.058855	0.59004
As1890		0.094530	ppm	0.00032900	0.34759
B_2089		0.91959	ppm	0.00056200	0.061124
Ba4554		0.10619	ppm	0.0010960	1.0326
Be3130		0.054505	ppm	0.00019900	0.36504
Ca3179		14.724	ppm	0.10547	0.71634
Cd2144		0.098927	ppm	0.000059000	0.060103
Co2286		0.10692	ppm	0.00016400	0.15356
Cr2677		0.10610	ppm	0.00038500	0.36307
Cu3247		0.10893	ppm	0.000023000	0.020956
Fe2599		3.7593	ppm	0.042073	1.1192
K_7664		11.329	ppm	0.083106	0.73360
Mg2790		10.196	ppm	0.052616	0.51606
Mn2576		0.11123	ppm	0.00092200	0.82926
Mo2020		0.099595	ppm	0.000051000	0.051071
Na5895	**F**	**1,056.4**	**ppm**	**80.393**	**7.6099**
Ni2316		0.10613	ppm	0.00022800	0.21514
P_1782		2.6630	ppm	0.0026170	0.098271
Pb2203		0.099004	ppm	0.0027780	2.8064
S_1820		2.3574	ppm	0.0041550	0.17624
Sb2068		0.088921	ppm	0.0047880	5.3848
Se1960		0.10778	ppm	0.0027150	2.5194
Si2881		1.1959	ppm	0.032183	2.6911
Sn1899		0.098685	ppm	0.00018700	0.18936
Sr4077		0.14500	ppm	0.0011970	0.82586
Ti3349		0.10182	ppm	0.00014800	0.14540
Tl1908		0.088430	ppm	0.0013840	1.5655
V_2924		0.10967	ppm	0.00011100	0.10117
Zn2062		0.12117	ppm	0.00050000	0.41251
Y_2243		6,450.5	Cts/S	9.9279	0.15391
Y_3600		47,303	Cts/S	169.76	0.35886
Y_3774		7,568.7	Cts/S	15.895	0.21001

20-54413-A-1-J MS

Acquire Date: 9/30/2019 3:11:42PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.049216	ppm	0.00049800	1.0121
Al3961		4.7559	ppm	0.037191	0.78200
As1890		0.43359	ppm	0.0011760	0.27123
B_2089		4.2655	ppm	0.0034910	0.081834
Ba4554		0.45902	ppm	0.0044570	0.97107
Be3130		0.25981	ppm	0.0016200	0.62362
Ca3179		27.815	ppm	0.17431	0.62665
Cd2144		0.23050	ppm	0.000075000	0.032583
Co2286		0.24912	ppm	0.00040700	0.16328

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

20-54413-A-1-J MS

Acquire Date: 9/30/2019 3:11:42PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.24857	ppm	0.00087100	0.35022
Cu3247		0.24463	ppm	0.00099100	0.40517
Fe2599		4.4512	ppm	0.041066	0.92257
K_7664		26.476	ppm	0.16932	0.63954
Mg2790		23.827	ppm	0.019111	0.080208
Mn2576		0.23786	ppm	0.00049100	0.20640
Mo2020		0.23777	ppm	0.00053400	0.22460
Na5895	**F**	**1,099.0**	**ppm**	**45.504**	**4.1405**
Ni2316		0.24119	ppm	0.0020430	0.84691
P_1782		7.1244	ppm	0.014261	0.20017
Pb2203		0.23510	ppm	0.0037300	1.5867
S_1820		5.6050	ppm	0.011583	0.20665
Sb2068		0.46738	ppm	0.000054000	0.011462
Se1960		0.50096	ppm	0.0020870	0.41667
Si2881		4.9169	ppm	0.015408	0.31337
Sn1899		0.46981	ppm	0.00063000	0.13400
Sr4077		0.27414	ppm	0.0017040	0.62168
Ti3349		0.24086	ppm	0.00031800	0.13205
Tl1908		0.42327	ppm	0.0026120	0.61716
V_2924		0.25818	ppm	0.0011610	0.44958
Zn2062		0.50063	ppm	0.0018090	0.36136
Y_2243		6,566.7	Cts/S	7.6050	0.11581
Y_3600		47,708	Cts/S	411.48	0.86249
Y_3774		7,531.6	Cts/S	18.918	0.25118

320-54413-A-1-K MSD

Acquire Date: 9/30/2019 3:15:34PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.048998	ppm	0.0010570	2.1570
Al3961		4.7580	ppm	0.012246	0.25738
As1890		0.44012	ppm	0.0015980	0.36300
B_2089		4.3222	ppm	0.012255	0.28354
Ba4554		0.46275	ppm	0.0018430	0.39823
Be3130		0.25950	ppm	0.00032800	0.12629
Ca3179		28.232	ppm	0.065867	0.23330
Cd2144		0.23312	ppm	0.00046400	0.19893
Co2286		0.25062	ppm	0.00013000	0.051905
Cr2677		0.25007	ppm	0.0018110	0.72439
Cu3247		0.24474	ppm	0.000033000	0.013659
Fe2599		4.4879	ppm	0.0044530	0.099213
K_7664		26.548	ppm	0.063815	0.24038
Mg2790		23.911	ppm	0.10987	0.45949
Mn2576		0.24092	ppm	0.00090200	0.37446
Mo2020		0.24057	ppm	0.00052500	0.21824
Na5895	**F**	**1,142.0**	**ppm**	**42.053**	**3.6823**
Ni2316		0.24305	ppm	0.0014460	0.59510

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54413-A-1-K MSD

Acquire Date: 9/30/2019 3:15:34PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		7.3020	ppm	0.010366	0.14196
Pb2203		0.23694	ppm	0.0018960	0.80030
S_1820		5.6548	ppm	0.010329	0.18266
Sb2068		0.46884	ppm	0.0022940	0.48936
Se1960		0.50569	ppm	0.0014790	0.29252
Si2881		4.9349	ppm	0.014619	0.29623
Sn1899		0.47463	ppm	0.0017700	0.37292
Sr4077		0.27874	ppm	0.0012410	0.44518
Ti3349		0.24203	ppm	0.0021240	0.87755
Tl1908		0.42609	ppm	0.00014700	0.034589
V_2924		0.25931	ppm	0.00057600	0.22204
Zn2062		0.50628	ppm	0.0013610	0.26891
Y_2243		6,500.4	Cts/S	17.198	0.26457
Y_3600		47,594	Cts/S	125.96	0.26465
Y_3774		7,598.7	Cts/S	12.623	0.16612

320-54413-A-2-I

Acquire Date: 9/30/2019 3:19:25PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00083300	ppm	0.00025700	30.798
Al3961		0.089533	ppm	0.018972	21.190
As1890		0.0023890	ppm	0.00014400	6.0282
B_2089		0.047065	ppm	0.00053100	1.1289
Ba4554		0.023411	ppm	0.00022800	0.97233
Be3130		0.00012600	ppm	0.00014900	117.59
Ca3179		8.1726	ppm	0.064316	0.78698
Cd2144		0.000014000	ppm	0.0000030000	23.350
Co2286		0.00062800	ppm	0.00022400	35.743
Cr2677		0.0014830	ppm	0.000025000	1.6560
Cu3247		0.0062290	ppm	0.000018000	0.28547
Fe2599		0.030507	ppm	0.0021000	6.8833
K_7664		0.55332	ppm	0.033029	5.9692
Mg2790		0.69752	ppm	0.0087320	1.2518
Mn2576		0.025475	ppm	0.00016900	0.66314
Mo2020		0.00026200	ppm	0.00014900	56.850
Na5895	**F**	**1,045.7**	**ppm**	**54.873**	**5.2476**
Ni2316		0.0055320	ppm	0.00015100	2.7354
P_1782		1.5019	ppm	0.0020560	0.13687
Pb2203		-0.0012260	ppm	0.0011090	90.469
S_1820		0.12674	ppm	0.0097510	7.6935
Sb2068		-0.0013840	ppm	0.0013480	97.428
Se1960		0.0033700	ppm	0.0020420	60.587
Si2881		0.27731	ppm	0.0066700	2.4052
Sn1899		-0.00067800	ppm	0.00032000	47.144
Sr4077		0.098554	ppm	0.00091700	0.93070
Ti3349		0.0010580	ppm	0.00014900	14.044

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54413-A-2-I

Acquire Date: 9/30/2019 3:19:25PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		0.000031000	ppm	0.0029010	9,339.8
V_2924		0.0014340	ppm	0.00037800	26.378
Zn2062		0.040392	ppm	0.000037000	0.092237
Y_2243		6,525.8	Cts/S	9.1937	0.14088
Y_3600		47,768	Cts/S	99.637	0.20859
Y_3774		7,479.8	Cts/S	14.780	0.19760

SD 320-54413-A-2-I@5

Acquire Date: 9/30/2019 3:23:29PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0010410	ppm	0.000070000	6.6845
Al3961		0.011044	ppm	0.030799	278.87
As1890		0.0015420	ppm	0.00058200	37.763
B_2089		0.018035	ppm	0.00034400	1.9052
Ba4554		0.0038620	ppm	0.00065900	17.070
Be3130		0.00017800	ppm	0.000089000	50.244
Ca3179		1.6513	ppm	0.013956	0.84517
Cd2144		.0000060000	ppm	0.000068000	1,149.0
Co2286		0.00033500	ppm	0.00045400	135.50
Cr2677		-0.00051200	ppm	0.00044300	86.664
Cu3247		0.0036550	ppm	0.000047000	1.2860
Fe2599		0.0060550	ppm	0.0051660	85.320
K_7664		0.14816	ppm	0.080654	54.438
Mg2790		0.13970	ppm	0.000054000	0.038445
Mn2576		0.0053020	ppm	0.00017500	3.3019
Mo2020		0.000060000	ppm	0.00026200	434.31
Na5895		235.83	ppm	1.0449	0.44307
Ni2316		0.0010810	ppm	0.00032500	30.030
P_1782		0.29105	ppm	0.0011510	0.39540
Pb2203		-0.0034610	ppm	0.0025740	74.373
S_1820		0.024722	ppm	0.0018060	7.3054
Sb2068		-0.00093900	ppm	0.0024110	256.75
Se1960		0.0028050	ppm	0.0019160	68.294
Si2881		0.028773	ppm	0.0041930	14.574
Sn1899		0.000049000	ppm	0.000083000	168.42
Sr4077		0.019769	ppm	0.00010100	0.51098
Ti3349		0.00015500	ppm	0.00052800	339.57
Tl1908		-0.00045400	ppm	0.00017400	38.365
V_2924		-0.00010100	ppm	0.00045800	453.05
Zn2062		0.0077650	ppm	0.00019300	2.4877
Y_2243		6,766.1	Cts/S	11.296	0.16695
Y_3600		50,266	Cts/S	404.27	0.80426
Y_3774		7,555.0	Cts/S	143.27	1.8963

PDS 320-54413-A-2-I

Acquire Date: 9/30/2019 3:27:27PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.10248	ppm	0.00037100	0.36164
Al3961		10.078	ppm	0.026285	0.26081
As1890		0.093759	ppm	0.00078500	0.83724
B_2089		0.93416	ppm	0.0053650	0.57430
Ba4554		0.11924	ppm	0.0013470	1.1296
Be3130		0.054541	ppm	0.00039900	0.73092
Ca3179		17.354	ppm	0.084598	0.48748
Cd2144		0.099062	ppm	0.00040400	0.40815
Co2286		0.10682	ppm	0.00027900	0.26113
Cr2677		0.10621	ppm	0.00010900	0.10245
Cu3247		0.10719	ppm	0.00020700	0.19352
Fe2599		3.7357	ppm	0.037989	1.0169
K_7664		11.486	ppm	0.036634	0.31894
Mg2790		10.609	ppm	0.046935	0.44242
Mn2576		0.11939	ppm	0.00034600	0.29013
Mo2020		0.099033	ppm	0.00044300	0.44766
Na5895	**F**	**983.68**	**ppm**	**115.27**	**11.718**
Ni2316		0.10572	ppm	0.00091900	0.86930
P_1782		2.5276	ppm	0.0064870	0.25664
Pb2203		0.10072	ppm	0.00068400	0.67889
S_1820		2.3500	ppm	0.0071720	0.30522
Sb2068		0.090632	ppm	0.0014100	1.5558
Se1960		0.10974	ppm	0.0017200	1.5670
Si2881		1.3228	ppm	0.0046510	0.35160
Sn1899		0.098787	ppm	0.00082900	0.83914
Sr4077		0.19068	ppm	0.00084000	0.44064
Ti3349		0.10204	ppm	0.00033400	0.32753
Tl1908		0.089257	ppm	0.0024530	2.7478
V_2924		0.10995	ppm	0.0011400	1.0365
Zn2062		0.14469	ppm	0.0011520	0.79652
Y_2243		6,481.5	Cts/S	20.960	0.32338
Y_3600		47,424	Cts/S	64.657	0.13634
Y_3774		7,580.5	Cts/S	40.479	0.53399

320-54413-A-2-J MS

Acquire Date: 9/30/2019 3:31:22PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.048830	ppm	0.0013220	2.7070
Al3961		4.8565	ppm	0.043512	0.89596
As1890		0.43939	ppm	0.0028370	0.64564
B_2089		4.3010	ppm	0.0058530	0.13609
Ba4554		0.47970	ppm	0.00012900	0.026850
Be3130		0.26305	ppm	0.0012250	0.46571
Ca3179		31.192	ppm	0.16490	0.52865
Cd2144		0.23287	ppm	0.000022000	0.0094970
Co2286		0.25245	ppm	0.00031500	0.12482

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54413-A-2-J MS

Acquire Date: 9/30/2019 3:31:22PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.25252	ppm	0.0019910	0.78849
Cu3247		0.24699	ppm	0.0017870	0.72355
Fe2599		4.4369	ppm	0.013112	0.29553
K_7664		26.804	ppm	0.15326	0.57176
Mg2790		24.482	ppm	0.035196	0.14376
Mn2576		0.25170	ppm	0.00038300	0.15203
Mo2020		0.24051	ppm	0.00034900	0.14515
Na5895	**F**	**1,073.5**	**ppm**	**91.909**	**8.5614**
Ni2316		0.24488	ppm	0.0015050	0.61460
P_1782		7.1260	ppm	0.040724	0.57148
Pb2203		0.24042	ppm	0.00057000	0.23714
S_1820		5.6380	ppm	0.014280	0.25327
Sb2068		0.47083	ppm	0.0045340	0.96292
Se1960		0.50904	ppm	0.0016350	0.32124
Si2881		5.0290	ppm	0.018897	0.37576
Sn1899		0.47561	ppm	0.0020810	0.43753
Sr4077		0.32947	ppm	0.00082800	0.25134
Ti3349		0.24400	ppm	0.00062900	0.25789
Tl1908		0.43104	ppm	0.0041640	0.96600
V_2924		0.26116	ppm	0.000052000	0.019823
Zn2062		0.53038	ppm	0.0012660	0.23861
Y_2243		6,432.9	Cts/S	11.939	0.18559
Y_3600		46,960	Cts/S	154.77	0.32957
Y_3774		7,519.1	Cts/S	16.061	0.21360

CCV 1708493

Acquire Date: 9/30/2019 3:35:13PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.48618	ppm	0.0032960	0.67797	.50000	Rel(%)	Pass	
Al3961		24.657	ppm	0.032347	0.13119	25.000	Rel(%)	Pass	
As1890		0.48280	ppm	0.0039510	0.81834	.50000	Rel(%)	Pass	
B_2089		0.98010	ppm	0.0020150	0.20563	1.0000	Rel(%)	Pass	
Ba4554		2.3874	ppm	0.0084850	0.35540	2.5000	Rel(%)	Pass	
Be3130		0.54439	ppm	0.00076900	0.14132	.50000	Rel(%)	Pass	
Ca3179		23.805	ppm	0.073633	0.30933	25.000	Rel(%)	Pass	
Cd2144		0.48790	ppm	0.00059000	0.12083	.50000	Rel(%)	Pass	
Co2286		2.7117	ppm	0.0060930	0.22468	2.5000	Rel(%)	Pass	
Cr2677		2.6029	ppm	0.012371	0.47529	2.5000	Rel(%)	Pass	
Cu3247		2.3871	ppm	0.0052040	0.21802	2.5000	Rel(%)	Pass	
Fe2599		23.124	ppm	0.077985	0.33726	25.000	Rel(%)	Pass	
K_7664		26.646	ppm	0.12337	0.46299	25.000	Rel(%)	Pass	
Mg2790		25.304	ppm	0.088447	0.34954	25.000	Rel(%)	Pass	
Mn2576		2.3666	ppm	0.0095570	0.40383	2.5000	Rel(%)	Pass	
Mo2020		1.0153	ppm	0.0029220	0.28780	1.0000	Rel(%)	Pass	
Na5895		25.974	ppm	0.071636	0.27579	25.000	Rel(%)	Pass	
Ni2316		2.5751	ppm	0.0047200	0.18331	2.5000	Rel(%)	Pass	
P_1782		2.6469	ppm	0.0025310	0.095604	2.5000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCV 1708493

Acquire Date: 9/30/2019 3:35:13PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Pb2203		0.51326	ppm	0.00048900	0.095177	.50000	Rel(%)	Pass	
S_1820		2.6485	ppm	0.015817	0.59720	2.5000	Rel(%)	Pass	
Sb2068		0.52489	ppm	0.00085500	0.16291	.50000	Rel(%)	Pass	
Se1960		0.53313	ppm	0.0034790	0.65247	.50000	Rel(%)	Pass	
Si2881		2.4403	ppm	0.049178	2.0153	2.5000	Rel(%)	Pass	
Sn1899		2.4827	ppm	0.0059650	0.24026	2.5000	Rel(%)	Pass	
Sr4077		2.3820	ppm	0.0058900	0.24726	2.5000	Rel(%)	Pass	
Ti3349		0.99533	ppm	0.0016180	0.16255	1.0000	Rel(%)	Pass	
Tl1908		0.48180	ppm	0.0029590	0.61414	.50000	Rel(%)	Pass	
V_2924		2.6625	ppm	0.010197	0.38299	2.5000	Rel(%)	Pass	
Zn2062		2.4547	ppm	0.0073520	0.29952	2.5000	Rel(%)	Pass	
Y_2243		6,746.4	Cts/S	0.76803	0.011384				
Y_3600		51,528	Cts/S	223.52	0.43378				
Y_3774		7,557.3	Cts/S	176.75	2.3388				

CCB 1745955

Acquire Date: 9/30/2019 3:38:59PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00023000	ppm	0.00075600	328.27	.00000	Abs	Pass	
Al3961		0.018307	ppm	0.024895	135.98	.00000	Abs	Pass	
As1890		0.0014780	ppm	0.00026400	17.868	.00000	Abs	Pass	
B_2089		0.017014	ppm	0.0010330	6.0685	.00000	Abs	Pass	
Ba4554		0.0012280	ppm	0.0013900	113.13	.00000	Abs	Pass	
Be3130		0.00068800	ppm	0.00025600	37.128	.00000	Abs	Pass	
Ca3179		0.035843	ppm	0.027467	76.632	.00000	Abs	Pass	
Cd2144		0.000076000	ppm	0.000056000	73.608	.00000	Abs	Pass	
Co2286		0.000052000	ppm	0.00017200	331.09	.00000	Abs	Pass	
Cr2677		-0.00057800	ppm	0.00022200	38.422	.00000	Abs	Pass	
Cu3247		0.0041670	ppm	0.00053700	12.880	.00000	Abs	Pass	
Fe2599		0.014291	ppm	0.021121	147.79	.00000	Abs	Pass	
K_7664		0.069915	ppm	0.011883	16.997	.00000	Abs	Pass	
Mg2790		0.0021020	ppm	0.0026890	127.91	.00000	Abs	Pass	
Mn2576		0.00038800	ppm	0.000091000	23.323	.00000	Abs	Pass	
Mo2020		0.00041100	ppm	0.00050700	123.19	.00000	Abs	Pass	
Na5895		0.39211	ppm	0.15602	39.789	.00000	Abs	Pass	
Ni2316		-0.00016100	ppm	0.00073100	454.88	.00000	Abs	Pass	
P_1782		-0.0024320	ppm	0.00021100	8.6833	.00000	Abs	Pass	
Pb2203		0.00039400	ppm	0.0012310	312.64	.00000	Abs	Pass	
S_1820		-0.0023900	ppm	0.0044670	186.88	.00000	Abs	Pass	
Sb2068		-0.00034300	ppm	0.0031340	913.20	.00000	Abs	Pass	
Se1960		-0.0011880	ppm	0.0012780	107.58	.00000	Abs	Pass	
Si2881		-0.011016	ppm	0.0084670	76.864	.00000	Abs	Pass	
Sn1899		0.0010170	ppm	0.00072300	71.113	.00000	Abs	Pass	
Sr4077		0.0018520	ppm	0.0022870	123.48	.00000	Abs	Pass	
Ti3349		0.00026500	ppm	0.00084300	317.61	.00000	Abs	Pass	
Tl1908		-0.00036500	ppm	0.0012670	347.49	.00000	Abs	Pass	
V_2924		0.00090200	ppm	0.00028900	32.040	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCB 1745955

Acquire Date: 9/30/2019 3:38:59PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Zn2062		0.0024900	ppm	0.00021800	8.7393	.00000	Abs	Pass	
Y_2243		6,801.7	Cts/S	15.172	0.22306				
Y_3600		50,367	Cts/S	94.768	0.18816				
Y_3774		7,445.1	Cts/S	126.02	1.6927				

320-54413-A-2-K MSD

Acquire Date: 9/30/2019 3:42:58PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.050343	ppm	0.0011750	2.3338
Al3961		4.9843	ppm	0.017318	0.34745
As1890		0.44764	ppm	0.0025640	0.57270
B_2089		4.3860	ppm	0.0040320	0.091927
Ba4554		0.49341	ppm	0.0014110	0.28604
Be3130		0.27073	ppm	0.00093300	0.34453
Ca3179		32.597	ppm	0.18947	0.58124
Cd2144		0.23832	ppm	0.00027000	0.11349
Co2286		0.26043	ppm	0.0011080	0.42543
Cr2677		0.25907	ppm	0.0010780	0.41600
Cu3247		0.25525	ppm	0.000039000	0.015184
Fe2599		4.5395	ppm	0.0028860	0.063581
K_7664		27.563	ppm	0.093516	0.33929
Mg2790		25.290	ppm	0.044816	0.17721
Mn2576		0.25931	ppm	0.000012000	0.0047380
Mo2020		0.24696	ppm	0.000067000	0.026978
Na5895	**F**	**1,180.1**	**ppm**	**127.19**	**10.778**
Ni2316		0.25096	ppm	0.00063200	0.25187
P_1782		7.4618	ppm	0.0046270	0.062007
Pb2203		0.24204	ppm	0.0015280	0.63111
S_1820		5.7837	ppm	0.011088	0.19171
Sb2068		0.48128	ppm	0.00017300	0.036029
Se1960		0.52225	ppm	0.010184	1.9501
Si2881		5.2324	ppm	0.035823	0.68464
Sn1899		0.48733	ppm	0.00014000	0.028736
Sr4077		0.34468	ppm	0.0015250	0.44250
Ti3349		0.25067	ppm	0.00047500	0.18943
Tl1908		0.43160	ppm	0.0049360	1.1436
V_2924		0.26869	ppm	0.0020200	0.75197
Zn2062		0.54773	ppm	0.0017300	0.31580
Y_2243		6,363.6	Cts/S	8.3558	0.13131
Y_3600		46,610	Cts/S	62.317	0.13370
Y_3774		7,444.4	Cts/S	33.757	0.45345

320-54413-A-3-I

Acquire Date: 9/30/2019 3:46:49PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.000057000	ppm	0.00026700	470.58
Al3961		0.11210	ppm	0.0047820	4.2662
As1890		0.0012370	ppm	0.0014750	119.20
B_2089		0.047236	ppm	0.0011710	2.4782
Ba4554		0.027751	ppm	0.00049500	1.7840
Be3130		0.00017600	ppm	0.000036000	20.393
Ca3179		4.6189	ppm	0.021920	0.47456
Cd2144		0.000079000	ppm	0.00010100	127.03
Co2286		0.00099700	ppm	0.00021300	21.333
Cr2677		0.00084200	ppm	0.00068000	80.710
Cu3247		0.0082170	ppm	0.000086000	1.0467
Fe2599		0.12904	ppm	0.0024380	1.8896
K_7664		0.60609	ppm	0.031812	5.2486
Mg2790		0.43342	ppm	0.0012370	0.28529
Mn2576		0.022791	ppm	0.00011000	0.48099
Mo2020		-0.00027100	ppm	0.00014700	54.137
Na5895	**F**	**1,123.6**	**ppm**	**35.618**	**3.1701**
Ni2316		0.0067200	ppm	0.00088600	13.179
P_1782		1.2899	ppm	0.0055630	0.43125
Pb2203		0.0028620	ppm	0.00031900	11.154
S_1820		0.11140	ppm	0.0049920	4.4811
Sb2068		-0.00048500	ppm	0.00099300	204.72
Se1960		0.00090800	ppm	0.0031760	349.61
Si2881		0.29044	ppm	0.012662	4.3596
Sn1899		0.00063300	ppm	0.00073000	115.32
Sr4077		0.043951	ppm	0.00073800	1.6783
Ti3349		0.0011280	ppm	0.00045400	40.282
Tl1908		-0.00030500	ppm	0.00041000	134.44
V_2924		0.00090000	ppm	0.00025700	28.591
Zn2062		0.039493	ppm	0.00030400	0.77095
Y_2243		6,552.7	Cts/S	4.6022	0.070233
Y_3600		47,965	Cts/S	198.20	0.41322
Y_3774		7,603.5	Cts/S	38.394	0.50495

SD 320-54413-A-3-I@5

Acquire Date: 9/30/2019 3:50:51PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0010240	ppm	0.0024210	236.50
Al3961		0.026005	ppm	0.014602	56.150
As1890		-0.00050900	ppm	0.00037400	73.523
B_2089		0.017509	ppm	0.00048800	2.7851
Ba4554		0.0049890	ppm	0.00030800	6.1745
Be3130		0.00012700	ppm	0.00017300	136.81
Ca3179		0.96310	ppm	0.011235	1.1665
Cd2144		0.000063000	ppm	0.000044000	70.101
Co2286		0.00042000	ppm	0.00017000	40.571

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

SD 320-54413-A-3-I@5

Acquire Date: 9/30/2019 3:50:51PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		-0.00014600	ppm	0.00090200	616.98
Cu3247		0.0038750	ppm	0.0011520	29.742
Fe2599		0.0080810	ppm	0.00061000	7.5476
K_7664		0.13995	ppm	0.032816	23.448
Mg2790		0.085092	ppm	0.0041780	4.9103
Mn2576		0.0047110	ppm	0.00019600	4.1671
Mo2020		0.000052000	ppm	0.00022000	419.74
Na5895	**W**	**253.80**	**ppm**	**1.7566**	**0.69214**
Ni2316		0.0010570	ppm	0.00077500	73.318
P_1782		0.25224	ppm	0.0023580	0.93498
Pb2203		-0.00016500	ppm	0.0027570	1,667.8
S_1820		0.022807	ppm	0.0032560	14.276
Sb2068		0.0020220	ppm	0.00051400	25.394
Se1960		0.0040110	ppm	0.00029400	7.3313
Si2881		0.036319	ppm	0.010229	28.164
Sn1899		-0.00021000	ppm	0.00013300	63.237
Sr4077		0.0088540	ppm	0.00028500	3.2236
Ti3349		-0.00060900	ppm	0.0010560	173.37
Tl1908		-0.0012680	ppm	0.0010960	86.437
V_2924		0.00099100	ppm	0.00019100	19.240
Zn2062		0.0069910	ppm	0.00029100	4.1598
Y_2243		6,683.5	Cts/S	9.2606	0.13856
Y_3600		49,701	Cts/S	353.85	0.71196
Y_3774		7,448.1	Cts/S	153.39	2.0595

PDS 320-54413-A-3-I

Acquire Date: 9/30/2019 3:54:49PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.10283	ppm	0.0015650	1.5216
Al3961		10.109	ppm	0.034193	0.33826
As1890		0.092134	ppm	0.0020740	2.2508
B_2089		0.93508	ppm	0.0021190	0.22665
Ba4554		0.12422	ppm	0.0011980	0.96445
Be3130		0.054775	ppm	0.00041800	0.76344
Ca3179		14.038	ppm	0.046024	0.32784
Cd2144		0.099074	ppm	0.0000040000	0.0040900
Co2286		0.10786	ppm	0.00041700	0.38662
Cr2677		0.10577	ppm	0.0011410	1.0787
Cu3247		0.11079	ppm	0.00084100	0.75900
Fe2599		3.7991	ppm	0.026467	0.69667
K_7664		11.563	ppm	0.073741	0.63771
Mg2790		10.348	ppm	0.0041660	0.040261
Mn2576		0.11683	ppm	0.00035400	0.30318
Mo2020		0.10032	ppm	0.00040100	0.39972
Na5895	**F**	**1,048.6**	**ppm**	**127.29**	**12.140**
Ni2316		0.10683	ppm	0.00047700	0.44665

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

PDS 320-54413-A-3-I

Acquire Date: 9/30/2019 3:54:49PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		2.3267	ppm	0.0058980	0.25350
Pb2203		0.099859	ppm	0.00017500	0.17531
S_1820		2.3562	ppm	0.00029600	0.012570
Sb2068		0.090604	ppm	0.00017800	0.19614
Se1960		0.10972	ppm	0.0011600	1.0569
Si2881		1.3177	ppm	0.010178	0.77236
Sn1899		0.099149	ppm	0.00014800	0.14957
Sr4077		0.13864	ppm	0.0011880	0.85669
Ti3349		0.10119	ppm	0.00096100	0.94972
Tl1908		0.087824	ppm	0.00021400	0.24361
V_2924		0.11054	ppm	0.00038800	0.35101
Zn2062		0.14396	ppm	0.00012800	0.088872
Y_2243		6,570.8	Cts/S	33.164	0.50471
Y_3600		48,146	Cts/S	161.11	0.33463
Y_3774		7,732.5	Cts/S	34.526	0.44651

320-54413-A-3-J MS

Acquire Date: 9/30/2019 3:58:43PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.047960	ppm	0.000037000	0.077318
Al3961		4.4914	ppm	0.0054370	0.12105
As1890		0.40530	ppm	0.0013710	0.33832
B_2089		4.0337	ppm	0.010187	0.25256
Ba4554		0.44726	ppm	0.0032040	0.71645
Be3130		0.24271	ppm	0.00053400	0.21998
Ca3179		25.237	ppm	0.057814	0.22909
Cd2144		0.21983	ppm	0.00022200	0.10110
Co2286		0.23466	ppm	0.00032500	0.13860
Cr2677		0.23254	ppm	0.0020620	0.88669
Cu3247		0.23074	ppm	0.0013240	0.57362
Fe2599		4.2158	ppm	0.034287	0.81330
K_7664		25.096	ppm	0.13743	0.54764
Mg2790		22.276	ppm	0.028193	0.12656
Mn2576		0.22878	ppm	0.00054600	0.23859
Mo2020		0.22503	ppm	0.0010000	0.44438
Na5895	**F**	**1,029.8**	**ppm**	**69.122**	**6.7123**
Ni2316		0.22665	ppm	0.00020000	0.088194
P_1782		6.3567	ppm	0.031806	0.50036
Pb2203		0.22698	ppm	0.0018620	0.82026
S_1820		5.3119	ppm	0.017085	0.32163
Sb2068		0.43965	ppm	0.0017750	0.40379
Se1960		0.47223	ppm	0.00065400	0.13840
Si2881		4.7732	ppm	0.030231	0.63335
Sn1899		0.44599	ppm	0.00040200	0.090245
Sr4077		0.25043	ppm	0.0014760	0.58957
Ti3349		0.22354	ppm	0.00016400	0.073211

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54413-A-3-J MS

Acquire Date: 9/30/2019 3:58:43PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		0.40712	ppm	0.0023020	0.56553
V_2924		0.24097	ppm	0.00075700	0.31429
Zn2062		0.49166	ppm	0.0024780	0.50396
Y_2243		6,374.5	Cts/S	42.643	0.66897
Y_3600		47,461	Cts/S	185.52	0.39088
Y_3774		7,528.9	Cts/S	62.635	0.83193

320-54413-A-3-K MSD

Acquire Date: 9/30/2019 4:02:34PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.049442	ppm	0.00066800	1.3509
Al3961		5.0076	ppm	0.0074870	0.14951
As1890		0.44985	ppm	0.0024890	0.55334
B_2089		4.4426	ppm	0.0015960	0.035915
Ba4554		0.50017	ppm	0.0043080	0.86131
Be3130		0.27238	ppm	0.00081200	0.29813
Ca3179		28.205	ppm	0.13485	0.47810
Cd2144		0.23966	ppm	0.00026200	0.10928
Co2286		0.26176	ppm	0.00080000	0.30560
Cr2677		0.26029	ppm	0.000027000	0.010293
Cu3247		0.26078	ppm	0.00060800	0.23312
Fe2599		4.7229	ppm	0.0056240	0.11907
K_7664		27.615	ppm	0.15380	0.55693
Mg2790		25.048	ppm	0.0093690	0.037407
Mn2576		0.25603	ppm	0.000029000	0.011403
Mo2020		0.24965	ppm	0.0011310	0.45318
Na5895	**F**	**1,093.6**	**ppm**	**37.734**	**3.4503**
Ni2316		0.25433	ppm	0.00047800	0.18780
P_1782		6.9708	ppm	0.010109	0.14501
Pb2203		0.24825	ppm	0.00027200	0.10977
S_1820		5.7336	ppm	0.0037840	0.065991
Sb2068		0.48542	ppm	0.0014200	0.29250
Se1960		0.51948	ppm	0.00027600	0.053195
Si2881		5.1934	ppm	0.0084430	0.16257
Sn1899		0.49182	ppm	0.00091300	0.18558
Sr4077		0.27915	ppm	0.0023740	0.85061
Ti3349		0.25211	ppm	0.0022000	0.87278
Tl1908		0.43804	ppm	0.0011330	0.25872
V_2924		0.27156	ppm	0.00059200	0.21805
Zn2062		0.54478	ppm	0.0021360	0.39209
Y_2243		6,485.7	Cts/S	19.551	0.30145
Y_3600		47,574	Cts/S	16.826	0.035368
Y_3774		7,536.3	Cts/S	81.837	1.0859

320-54413-A-4-I

Acquire Date: 9/30/2019 4:06:24PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00046800	ppm	0.00061400	131.05
Al3961		0.10914	ppm	0.012899	11.819
As1890		0.0046410	ppm	0.00078800	16.981
B_2089		0.054410	ppm	0.0012000	2.2048
Ba4554		0.035311	ppm	0.00024700	0.70038
Be3130		0.000095000	ppm	0.00010100	105.89
Ca3179		3.6987	ppm	0.032769	0.88596
Cd2144		0.00014900	ppm	0.000051000	34.005
Co2286		0.00099700	ppm	0.00022300	22.318
Cr2677		0.0013460	ppm	0.00037800	28.057
Cu3247		0.011651	ppm	0.0012930	11.101
Fe2599		0.17414	ppm	0.010743	6.1693
K_7664		0.62775	ppm	0.0081230	1.2940
Mg2790		0.57435	ppm	0.0013480	0.23474
Mn2576		0.028131	ppm	0.000022000	0.076436
Mo2020		0.000016000	ppm	0.00020900	1,313.5
Na5895	**F**	**1,032.9**	**ppm**	**60.331**	**5.8408**
Ni2316		0.0068250	ppm	0.00053800	7.8823
P_1782		0.87197	ppm	0.0043180	0.49517
Pb2203		0.0020690	ppm	0.00049800	24.060
S_1820		0.089357	ppm	0.00083000	0.92913
Sb2068		0.0013660	ppm	0.00080800	59.157
Se1960		0.0011020	ppm	0.0018320	166.22
Si2881		0.30998	ppm	0.018787	6.0609
Sn1899		0.000074000	ppm	0.00027400	372.17
Sr4077		0.031105	ppm	0.00032500	1.0445
Ti3349		0.00043600	ppm	0.00030100	69.112
Tl1908		0.00000	ppm	0.000090000	40,178
V_2924		0.0010630	ppm	0.00022600	21.230
Zn2062		0.044167	ppm	0.00018800	0.42591
Y_2243		6,478.7	Cts/S	26.695	0.41204
Y_3600		47,342	Cts/S	376.71	0.79572
Y_3774		7,537.9	Cts/S	114.16	1.5145

SD 320-54413-A-4-I@5

Acquire Date: 9/30/2019 4:10:27PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0010270	ppm	0.00045900	44.706
Al3961		0.031997	ppm	0.011763	36.762
As1890		0.0028000	ppm	0.00031600	11.279
B_2089		0.021215	ppm	0.00051400	2.4233
Ba4554		0.0066200	ppm	0.00036300	5.4828
Be3130		0.00019000	ppm	0.000014000	7.5740
Ca3179		0.76309	ppm	0.00067600	0.088616
Cd2144		0.000010000	ppm	0.000090000	904.56
Co2286		0.00034300	ppm	0.00055000	160.56

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

SD 320-54413-A-4-I@5

Acquire Date: 9/30/2019 4:10:27PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		-0.00079200	ppm	0.00033000	41.694
Cu3247		0.0039180	ppm	0.00072900	18.619
Fe2599		0.033802	ppm	0.00059900	1.7733
K_7664		0.18957	ppm	0.037034	19.536
Mg2790		0.12171	ppm	0.0015040	1.2359
Mn2576		0.0056650	ppm	0.00011400	2.0115
Mo2020		-0.00014800	ppm	0.00029400	198.28
Na5895		238.41	ppm	1.3127	0.55059
Ni2316		0.00092100	ppm	0.00018700	20.299
P_1782		0.16844	ppm	0.00087100	0.51696
Pb2203		0.00098900	ppm	0.0013770	139.16
S_1820		0.016072	ppm	0.00057200	3.5606
Sb2068		-0.0011890	ppm	0.00025400	21.372
Se1960		0.0030070	ppm	0.0030550	101.60
Si2881		0.065999	ppm	0.024528	37.164
Sn1899		0.000060000	ppm	0.00083400	1,387.5
Sr4077		0.0063030	ppm	0.00013400	2.1193
Ti3349		0.00038000	ppm	0.00052700	138.63
Tl1908		-0.0010300	ppm	0.00045200	43.879
V_2924		0.00051300	ppm	0.00030100	58.739
Zn2062		0.0081250	ppm	0.00027500	3.3824
Y_2243		6,739.3	Cts/S	14.830	0.22006
Y_3600		49,976	Cts/S	97.502	0.19510
Y_3774		7,391.8	Cts/S	115.11	1.5573

PDS 320-54413-A-4-I

Acquire Date: 9/30/2019 4:14:25PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.10169	ppm	0.00069200	0.68079
Al3961		10.137	ppm	0.0023910	0.023585
As1890		0.092571	ppm	0.0019960	2.1557
B_2089		0.94243	ppm	0.0013060	0.13861
Ba4554		0.13076	ppm	0.00058500	0.44764
Be3130		0.054975	ppm	0.00018400	0.33505
Ca3179		13.168	ppm	0.10024	0.76123
Cd2144		0.099258	ppm	0.000029000	0.029151
Co2286		0.10821	ppm	0.00064800	0.59923
Cr2677		0.10667	ppm	0.0013790	1.2929
Cu3247		0.11353	ppm	0.00016900	0.14889
Fe2599		3.8726	ppm	0.025533	0.65931
K_7664		11.672	ppm	0.059528	0.51001
Mg2790		10.521	ppm	0.029902	0.28421
Mn2576		0.12258	ppm	0.00054400	0.44379
Mo2020		0.099542	ppm	0.00021800	0.21864
Na5895	**F**	**1,008.5**	**ppm**	**103.37**	**10.250**
Ni2316		0.10675	ppm	0.00048500	0.45422

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

PDS 320-54413-A-4-I

Acquire Date: 9/30/2019 4:14:25PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		1.9385	ppm	0.0048640	0.25090
Pb2203		0.10180	ppm	0.0011530	1.1325
S_1820		2.3198	ppm	0.0042400	0.18277
Sb2068		0.090131	ppm	0.0032740	3.6324
Se1960		0.11098	ppm	0.0034640	3.1209
Si2881		1.3122	ppm	0.019592	1.4931
Sn1899		0.098442	ppm	0.00048200	0.48919
Sr4077		0.12700	ppm	0.00030500	0.23987
Ti3349		0.10183	ppm	0.000099000	0.097011
Tl1908		0.089475	ppm	0.0035310	3.9460
V_2924		0.11131	ppm	0.00011700	0.10541
Zn2062		0.14826	ppm	0.0012040	0.81239
Y_2243		6,486.1	Cts/S	0.97082	0.014968
Y_3600		47,365	Cts/S	98.430	0.20781
Y_3774		7,415.0	Cts/S	110.02	1.4838

320-54413-A-4-J MS

Acquire Date: 9/30/2019 4:18:18PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.049240	ppm	0.00027800	0.56520
Al3961		4.9394	ppm	0.025163	0.50945
As1890		0.44526	ppm	0.0027870	0.62601
B_2089		4.3447	ppm	0.0058790	0.13531
Ba4554		0.49717	ppm	0.0031380	0.63109
Be3130		0.26592	ppm	0.0029130	1.0953
Ca3179		26.959	ppm	0.19756	0.73280
Cd2144		0.23536	ppm	0.00046300	0.19689
Co2286		0.25676	ppm	0.00015300	0.059605
Cr2677		0.25312	ppm	0.00044300	0.17493
Cu3247		0.25509	ppm	0.0017650	0.69178
Fe2599		4.6571	ppm	0.035050	0.75261
K_7664		27.251	ppm	0.29750	1.0917
Mg2790		24.679	ppm	0.043082	0.17457
Mn2576		0.25687	ppm	0.00026100	0.10165
Mo2020		0.24313	ppm	0.00034600	0.14251
Na5895	**F**	**1,083.2**	**ppm**	**71.470**	**6.5983**
Ni2316		0.24842	ppm	0.0016610	0.66858
P_1782		6.5521	ppm	0.023623	0.36054
Pb2203		0.24049	ppm	0.0025950	1.0789
S_1820		5.6470	ppm	0.0098430	0.17430
Sb2068		0.47614	ppm	0.00095000	0.19948
Se1960		0.51485	ppm	0.00041900	0.081292
Si2881		5.1235	ppm	0.10444	2.0384
Sn1899		0.48129	ppm	0.0021430	0.44535
Sr4077		0.26252	ppm	0.00055100	0.20985
Ti3349		0.24752	ppm	0.00030400	0.12295

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54413-A-4-J MS

Acquire Date: 9/30/2019 4:18:18PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		0.43089	ppm	0.0020950	0.48632
V_2924		0.26520	ppm	0.00041900	0.15795
Zn2062		0.54198	ppm	0.00068200	0.12575
Y_2243		6,437.2	Cts/S	6.0213	0.093540
Y_3600		47,037	Cts/S	81.639	0.17357
Y_3774		7,456.7	Cts/S	30.405	0.40775

CCV 1708493

Acquire Date: 9/30/2019 4:22:10PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.48847	ppm	0.0000030000	0.00054700	.50000	Rel(%)	Pass	
Al3961		24.900	ppm	0.094442	0.37928	25.000	Rel(%)	Pass	
As1890		0.49010	ppm	0.0031540	0.64348	.50000	Rel(%)	Pass	
B_2089		0.99242	ppm	0.00044200	0.044556	1.0000	Rel(%)	Pass	
Ba4554		2.4064	ppm	0.015933	0.66214	2.5000	Rel(%)	Pass	
Be3130		0.54857	ppm	0.0020120	0.36679	.50000	Rel(%)	Pass	
Ca3179		23.978	ppm	0.11558	0.48202	25.000	Rel(%)	Pass	
Cd2144		0.49188	ppm	0.00079200	0.16103	.50000	Rel(%)	Pass	
Co2286		2.7322	ppm	0.0065800	0.24084	2.5000	Rel(%)	Pass	
Cr2677		2.6295	ppm	0.0031750	0.12073	2.5000	Rel(%)	Pass	
Cu3247		2.3935	ppm	0.0085000	0.35511	2.5000	Rel(%)	Pass	
Fe2599		23.234	ppm	0.14202	0.61127	25.000	Rel(%)	Pass	
K_7664		27.038	ppm	0.088483	0.32725	25.000	Rel(%)	Pass	
Mg2790		25.616	ppm	0.023601	0.092133	25.000	Rel(%)	Pass	
Mn2576		2.3804	ppm	0.0019340	0.081227	2.5000	Rel(%)	Pass	
Mo2020		1.0255	ppm	0.00090300	0.088071	1.0000	Rel(%)	Pass	
Na5895		26.244	ppm	0.16229	0.61839	25.000	Rel(%)	Pass	
Ni2316		2.5953	ppm	0.0015090	0.058163	2.5000	Rel(%)	Pass	
P_1782		2.6858	ppm	0.0020520	0.076396	2.5000	Rel(%)	Pass	
Pb2203		0.52511	ppm	0.00096500	0.18383	.50000	Rel(%)	Pass	
S_1820		2.6793	ppm	0.0043440	0.16212	2.5000	Rel(%)	Pass	
Sb2068		0.52752	ppm	0.0042100	0.79810	.50000	Rel(%)	Pass	
Se1960		0.54522	ppm	0.0010520	0.19300	.50000	Rel(%)	Pass	
Si2881		2.4363	ppm	0.035266	1.4475	2.5000	Rel(%)	Pass	
Sn1899		2.5015	ppm	0.0022720	0.090825	2.5000	Rel(%)	Pass	
Sr4077		2.3994	ppm	0.015971	0.66561	2.5000	Rel(%)	Pass	
Ti3349		0.99986	ppm	0.0020750	0.20756	1.0000	Rel(%)	Pass	
Tl1908		0.48581	ppm	0.0047800	0.98390	.50000	Rel(%)	Pass	
V_2924		2.6826	ppm	0.0012190	0.045428	2.5000	Rel(%)	Pass	
Zn2062		2.4878	ppm	0.0031950	0.12844	2.5000	Rel(%)	Pass	
Y_2243		6,632.9	Cts/S	0.53761	0.0081050				
Y_3600		49,188	Cts/S	145.93	0.29668				
Y_3774		7,393.6	Cts/S	84.023	1.1364				

CCB 1745955

Acquire Date: 9/30/2019 4:25:55PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00048000	ppm	0.00038700	80.648	.00000	Abs	Pass	
Al3961		-0.0052550	ppm	0.0066720	126.96	.00000	Abs	Pass	
As1890		0.0020060	ppm	0.0018470	92.085	.00000	Abs	Pass	
B_2089		0.018750	ppm	0.00056600	3.0200	.00000	Abs	Pass	
Ba4554		-0.00053500	ppm	0.00017800	33.346	.00000	Abs	Pass	
Be3130		0.00041100	ppm	0.00031100	75.698	.00000	Abs	Pass	
Ca3179		0.0075100	ppm	0.013836	184.23	.00000	Abs	Pass	
Cd2144		0.00015000	ppm	0.000088000	58.598	.00000	Abs	Pass	
Co2286		0.00022600	ppm	0.00051900	229.85	.00000	Abs	Pass	
Cr2677		-0.00077200	ppm	0.00012000	15.508	.00000	Abs	Pass	
Cu3247		0.0027040	ppm	0.00027800	10.277	.00000	Abs	Pass	
Fe2599		-0.0061050	ppm	0.0040660	66.608	.00000	Abs	Pass	
K_7664		0.044580	ppm	0.059270	132.95	.00000	Abs	Pass	
Mg2790		-0.0032750	ppm	0.00037600	11.492	.00000	Abs	Pass	
Mn2576		0.00026300	ppm	0.00015400	58.452	.00000	Abs	Pass	
Mo2020		0.00049300	ppm	0.00059800	121.11	.00000	Abs	Pass	
Na5895		0.34893	ppm	0.0052000	1.4902	.00000	Abs	Pass	
Ni2316		-0.00014900	ppm	0.000070000	46.736	.00000	Abs	Pass	
P_1782		-0.0012990	ppm	0.0023360	179.77	.00000	Abs	Pass	
Pb2203		0.00041500	ppm	0.0019670	473.59	.00000	Abs	Pass	
S_1820		0.0039410	ppm	0.0035120	89.124	.00000	Abs	Pass	
Sb2068		0.00011500	ppm	0.00022800	198.12	.00000	Abs	Pass	
Se1960		-0.00086000	ppm	0.0010100	117.52	.00000	Abs	Pass	
Si2881		-0.0049580	ppm	0.022452	452.82	.00000	Abs	Pass	
Sn1899		0.00077600	ppm	0.000030000	3.8217	.00000	Abs	Pass	
Sr4077		0.000014000	ppm	0.00019900	1,372.6	.00000	Abs	Pass	
Ti3349		-0.00040900	ppm	0.00030800	75.347	.00000	Abs	Pass	
Tl1908		0.00026100	ppm	0.00041400	158.76	.00000	Abs	Pass	
V_2924		0.00035700	ppm	0.00052000	145.61	.00000	Abs	Pass	
Zn2062		0.0023540	ppm	0.00042700	18.150	.00000	Abs	Pass	
Y_2243		6,759.6	Cts/S	6.3415	0.093816				
Y_3600		50,019	Cts/S	306.75	0.61326				
Y_3774		7,402.7	Cts/S	7.6495	0.10333				

320-54413-A-4-K MSD

Acquire Date: 9/30/2019 4:29:55PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.049519	ppm	0.0010790	2.1792
Al3961		5.0044	ppm	0.040699	0.81327
As1890		0.44951	ppm	0.0038090	0.84741
B_2089		4.4272	ppm	0.0051790	0.11699
Ba4554		0.50733	ppm	0.0010990	0.21660
Be3130		0.27030	ppm	0.00085100	0.31466
Ca3179		27.405	ppm	0.077868	0.28414
Cd2144		0.23881	ppm	0.000035000	0.014719
Co2286		0.26113	ppm	0.00020400	0.078020
Cr2677		0.25892	ppm	0.00036800	0.14203

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54413-A-4-K MSD

Acquire Date: 9/30/2019 4:29:55PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Cu3247		0.26191	ppm	0.0014500	0.55369
Fe2599		4.7819	ppm	0.033190	0.69408
K_7664		27.747	ppm	0.075114	0.27071
Mg2790		25.082	ppm	0.048498	0.19336
Mn2576		0.26113	ppm	0.000054000	0.020617
Mo2020		0.24767	ppm	0.00017700	0.071293
Na5895	**F**	**1,106.8**	**ppm**	**119.23**	**10.772**
Ni2316		0.25243	ppm	0.00027900	0.11044
P_1782		6.6662	ppm	0.012892	0.19339
Pb2203		0.24088	ppm	0.0033820	1.4041
S_1820		5.7160	ppm	0.011075	0.19375
Sb2068		0.48348	ppm	0.0051210	1.0592
Se1960		0.52250	ppm	0.0014900	0.28517
Si2881		5.2216	ppm	0.042171	0.80763
Sn1899		0.48972	ppm	0.0010450	0.21337
Sr4077		0.26798	ppm	0.0012310	0.45951
Ti3349		0.24925	ppm	0.00076900	0.30856
Tl1908		0.43727	ppm	0.0033890	0.77508
V_2924		0.26916	ppm	0.0011170	0.41494
Zn2062		0.55036	ppm	0.00026200	0.047549
Y_2243		6,427.5	Cts/S	30.888	0.48056
Y_3600		47,030	Cts/S	1.8552	0.0039450
Y_3774		7,463.0	Cts/S	36.533	0.48953

320-54413-A-5-I

Acquire Date: 9/30/2019 4:33:47PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00023200	ppm	0.0019260	831.87
Al3961		0.090063	ppm	0.0013280	1.4740
As1890		0.0026830	ppm	0.0019910	74.208
B_2089		0.048644	ppm	0.0013010	2.6748
Ba4554		0.026508	ppm	0.00017200	0.64901
Be3130		0.00024800	ppm	0.00015200	61.331
Ca3179		4.5635	ppm	0.033257	0.72876
Cd2144		0.000064000	ppm	0.000066000	103.34
Co2286		0.00088900	ppm	0.000047000	5.2491
Cr2677		0.00086800	ppm	0.00047700	54.926
Cu3247		0.0058670	ppm	0.0016640	28.362
Fe2599		0.10480	ppm	0.011686	11.150
K_7664		0.46056	ppm	0.057771	12.544
Mg2790		0.40510	ppm	0.0021760	0.53707
Mn2576		0.021003	ppm	0.000082000	0.39053
Mo2020		-0.00036200	ppm	0.00013400	37.125
Na5895	**F**	**1,053.2**	**ppm**	**51.383**	**4.8787**
Ni2316		0.0061010	ppm	0.00066400	10.890
P_1782		1.3403	ppm	0.0024520	0.18292

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54413-A-5-I

Acquire Date: 9/30/2019 4:33:47PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Pb2203		0.00018300	ppm	0.0016920	926.27
S_1820		0.10981	ppm	0.0016900	1.5394
Sb2068		-0.0012090	ppm	0.00085400	70.667
Se1960		0.0040770	ppm	0.0042830	105.05
Si2881		0.23627	ppm	0.059760	25.293
Sn1899		0.00027700	ppm	0.000034000	12.176
Sr4077		0.044703	ppm	0.00050100	1.1204
Ti3349		0.00075300	ppm	0.0010070	133.74
Tl1908		-0.00051800	ppm	0.00021700	41.923
V_2924		0.0014390	ppm	0.00043500	30.222
Zn2062		0.039066	ppm	0.00017200	0.44138
Y_2243		6,556.7	Cts/S	9.0096	0.13741
Y_3600		48,076	Cts/S	284.73	0.59225
Y_3774		7,663.5	Cts/S	4.4037	0.057463

SD 320-54413-A-5-I@5

Acquire Date: 9/30/2019 4:37:51PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00053500	ppm	0.00027400	51.247
Al3961		-0.0076690	ppm	0.018758	244.61
As1890		-0.00027100	ppm	0.0014420	531.04
B_2089		0.019153	ppm	0.000027000	0.14251
Ba4554		0.0048430	ppm	0.000063000	1.3047
Be3130		0.00022500	ppm	0.00013900	61.855
Ca3179		0.93848	ppm	0.011045	1.1769
Cd2144		0.000035000	ppm	0.0000080000	24.059
Co2286		0.00026500	ppm	0.000048000	18.093
Cr2677		-0.00096200	ppm	0.00051300	53.349
Cu3247		0.0020120	ppm	0.00020300	10.099
Fe2599		0.012692	ppm	0.0015380	12.117
K_7664		0.094255	ppm	0.041180	43.690
Mg2790		0.085338	ppm	0.0018380	2.1540
Mn2576		0.0041900	ppm	0.00016500	3.9405
Mo2020		-0.00052300	ppm	0.00030300	57.972
Na5895		239.49	ppm	1.5753	0.65777
Ni2316		0.00079700	ppm	0.000076000	9.5295
P_1782		0.26059	ppm	0.00038200	0.14661
Pb2203		0.00089300	ppm	0.00031100	34.886
S_1820		0.022936	ppm	0.00040500	1.7650
Sb2068		0.000087000	ppm	0.0010290	1,178.9
Se1960		-0.00079100	ppm	0.0033660	425.49
Si2881		0.047281	ppm	0.015973	33.783
Sn1899		0.000097000	ppm	0.00045100	463.06
Sr4077		0.0089880	ppm	0.000044000	0.49503
Ti3349		-0.00021100	ppm	0.000039000	18.474
Tl1908		0.0010300	ppm	0.00044200	42.935

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

SD 320-54413-A-5-I@5

Acquire Date: 9/30/2019 4:37:51PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
V_2924		0.000023000	ppm	0.00027000	1,157.2
Zn2062		0.0069880	ppm	0.000059000	0.84259
Y_2243		6,647.5	Cts/S	10.251	0.15421
Y_3600		49,599	Cts/S	647.48	1.3054
Y_3774		7,403.0	Cts/S	146.50	1.9789

PDS 320-54413-A-5-I

Acquire Date: 9/30/2019 4:41:50PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.10282	ppm	0.0015970	1.5531
Al3961		10.129	ppm	0.11536	1.1389
As1890		0.094456	ppm	0.0013900	1.4715
B_2089		0.94486	ppm	0.00099500	0.10536
Ba4554		0.12223	ppm	0.00053900	0.44129
Be3130		0.054435	ppm	0.00069600	1.2783
Ca3179		13.941	ppm	0.047854	0.34327
Cd2144		0.099399	ppm	0.00014200	0.14242
Co2286		0.10745	ppm	0.00015400	0.14355
Cr2677		0.10720	ppm	0.00022400	0.20883
Cu3247		0.10977	ppm	0.00048700	0.44411
Fe2599		3.7955	ppm	0.028846	0.76002
K_7664		11.496	ppm	0.025561	0.22234
Mg2790		10.328	ppm	0.0074350	0.071988
Mn2576		0.11549	ppm	0.00049700	0.43052
Mo2020		0.10008	ppm	0.00025300	0.25256
Na5895	**F**	**1,001.4**	**ppm**	**107.08**	**10.693**
Ni2316		0.10648	ppm	0.00063900	0.60006
P_1782		2.3788	ppm	0.012142	0.51043
Pb2203		0.10214	ppm	0.0018490	1.8103
S_1820		2.3650	ppm	0.0080330	0.33967
Sb2068		0.089608	ppm	0.0028550	3.1859
Se1960		0.10944	ppm	0.0026100	2.3844
Si2881		1.2489	ppm	0.0075170	0.60188
Sn1899		0.099328	ppm	0.00015500	0.15559
Sr4077		0.13992	ppm	0.0013330	0.95261
Ti3349		0.10124	ppm	0.00092800	0.91706
Tl1908		0.088972	ppm	0.00082700	0.92925
V_2924		0.11062	ppm	0.00039000	0.35267
Zn2062		0.14200	ppm	0.00096300	0.67783
Y_2243		6,543.3	Cts/S	2.6019	0.039764
Y_3600		47,914	Cts/S	198.36	0.41399
Y_3774		7,530.1	Cts/S	72.492	0.96270

320-54413-A-5-J MS

Acquire Date: 9/30/2019 4:45:45PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.048346	ppm	0.00094800	1.9614
Al3961		4.7305	ppm	0.031445	0.66472
As1890		0.43353	ppm	0.0040750	0.93989
B_2089		4.2925	ppm	0.0040410	0.094136
Ba4554		0.47310	ppm	0.0036440	0.77029
Be3130		0.25517	ppm	0.0023220	0.91000
Ca3179		26.791	ppm	0.12458	0.46499
Cd2144		0.23034	ppm	0.000070000	0.030453
Co2286		0.24580	ppm	0.00075200	0.30602
Cr2677		0.24393	ppm	0.00041200	0.16877
Cu3247		0.24319	ppm	0.00094600	0.38908
Fe2599		4.4599	ppm	0.026527	0.59478
K_7664		26.331	ppm	0.13645	0.51821
Mg2790		23.370	ppm	0.062841	0.26890
Mn2576		0.23997	ppm	0.00060100	0.25054
Mo2020		0.23689	ppm	0.00048500	0.20467
Na5895	**F**	**1,035.5**	**ppm**	**77.337**	**7.4688**
Ni2316		0.23841	ppm	0.00052100	0.21848
P_1782		6.8014	ppm	0.0071040	0.10444
Pb2203		0.23376	ppm	0.0013820	0.59137
S_1820		5.5870	ppm	0.011421	0.20442
Sb2068		0.46323	ppm	0.0037560	0.81077
Se1960		0.50310	ppm	0.0038840	0.77192
Si2881		4.9142	ppm	0.054262	1.1042
Sn1899		0.46786	ppm	0.000031000	0.0066820
Sr4077		0.26698	ppm	0.0015020	0.56241
Ti3349		0.23599	ppm	0.00042700	0.18088
Tl1908		0.42750	ppm	0.0026310	0.61538
V_2924		0.25403	ppm	0.00053100	0.20900
Zn2062		0.51760	ppm	0.0024010	0.46392
Y_2243		6,539.5	Cts/S	1.7600	0.026913
Y_3600		48,264	Cts/S	143.06	0.29641
Y_3774		7,527.6	Cts/S	152.63	2.0276

320-54413-A-5-K MSD

Acquire Date: 9/30/2019 4:49:37PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.049797	ppm	0.00024600	0.49445
Al3961		4.9367	ppm	0.049870	1.0102
As1890		0.44728	ppm	0.0021480	0.48013
B_2089		4.3906	ppm	0.00050800	0.011580
Ba4554		0.49410	ppm	0.0046670	0.94459
Be3130		0.26855	ppm	0.0034010	1.2665
Ca3179		27.810	ppm	0.19794	0.71176
Cd2144		0.23717	ppm	0.00029200	0.12307
Co2286		0.25809	ppm	0.00013100	0.050857

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54413-A-5-K MSD

Acquire Date: 9/30/2019 4:49:37PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.25516	ppm	0.00081100	0.31769
Cu3247		0.25340	ppm	0.00092400	0.36460
Fe2599		4.6472	ppm	0.025738	0.55384
K_7664		27.205	ppm	0.29797	1.0953
Mg2790		24.634	ppm	0.051596	0.20945
Mn2576		0.25078	ppm	0.000037000	0.014665
Mo2020		0.24567	ppm	0.00072700	0.29591
Na5895	**F**	**1,033.0**	**ppm**	**55.997**	**5.4209**
Ni2316		0.24992	ppm	0.00019700	0.078745
P_1782		6.9317	ppm	0.0020020	0.028881
Pb2203		0.24394	ppm	0.0038960	1.5971
S_1820		5.6552	ppm	0.0017130	0.030286
Sb2068		0.47567	ppm	0.0017590	0.36985
Se1960		0.51780	ppm	0.0063560	1.2275
Si2881		5.0690	ppm	0.00024300	0.0047900
Sn1899		0.48659	ppm	0.00010200	0.020982
Sr4077		0.27687	ppm	0.0024950	0.90114
Ti3349		0.24878	ppm	0.00054700	0.21987
Tl1908		0.43602	ppm	0.0068300	1.5665
V_2924		0.26599	ppm	0.0010990	0.41322
Zn2062		0.53692	ppm	0.00061100	0.11386
Y_2243		6,476.7	Cts/S	27.617	0.42641
Y_3600		47,359	Cts/S	36.308	0.076666
Y_3774		7,512.4	Cts/S	40.177	0.53481

320-54413-A-6-I

Acquire Date: 9/30/2019 4:53:28PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00034900	ppm	0.00062700	179.64
Al3961		0.11479	ppm	0.0027720	2.4147
As1890		0.0023390	ppm	0.00049900	21.339
B_2089		0.050911	ppm	0.00018000	0.35383
Ba4554		0.028977	ppm	0.000039000	0.13595
Be3130		0.00016900	ppm	0.00020600	121.57
Ca3179		4.1024	ppm	0.018235	0.44450
Cd2144		0.00013800	ppm	0.000051000	36.908
Co2286		0.00095300	ppm	0.00024500	25.713
Cr2677		0.00076500	ppm	0.000035000	4.6269
Cu3247		0.010304	ppm	0.000079000	0.77136
Fe2599		0.18691	ppm	0.0028150	1.5062
K_7664		0.63202	ppm	0.051666	8.1747
Mg2790		0.55880	ppm	0.0035780	0.64023
Mn2576		0.026928	ppm	0.000057000	0.21193
Mo2020		-0.00010500	ppm	0.00027100	258.81
Na5895	**F**	**1,078.2**	**ppm**	**52.516**	**4.8706**
Ni2316		0.0067780	ppm	0.000094000	1.3826

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54413-A-6-I

Acquire Date: 9/30/2019 4:53:28PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		0.98739	ppm	0.0017910	0.18139
Pb2203		0.0017580	ppm	0.0035980	204.66
S_1820		0.090204	ppm	0.0043650	4.8396
Sb2068		-0.00015700	ppm	0.00066300	423.30
Se1960		0.0032480	ppm	0.0010700	32.938
Si2881		0.25679	ppm	0.0056240	2.1901
Sn1899		0.000064000	ppm	0.00010700	166.31
Sr4077		0.034436	ppm	0.00018100	0.52588
Ti3349		0.0013080	ppm	0.00044500	34.044
Tl1908		-0.0012830	ppm	0.0012650	98.631
V_2924		0.00065200	ppm	0.00030800	47.223
Zn2062		0.039061	ppm	0.00011700	0.29891
Y_2243		6,525.5	Cts/S	26.659	0.40853
Y_3600		47,732	Cts/S	74.679	0.15645
Y_3774		7,550.5	Cts/S	31.641	0.41906

SD 320-54413-A-6-I@5

Acquire Date: 9/30/2019 4:57:31PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00086300	ppm	0.00057400	66.454
Al3961		0.018301	ppm	0.00078500	4.2883
As1890		-0.0010220	ppm	0.0032060	313.88
B_2089		0.019987	ppm	0.00021900	1.0967
Ba4554		0.0057590	ppm	0.00086700	15.050
Be3130		0.00015700	ppm	0.000046000	29.629
Ca3179		0.85066	ppm	0.010969	1.2895
Cd2144		0.000071000	ppm	0.000081000	113.06
Co2286		0.000039000	ppm	0.00023200	596.14
Cr2677		-0.0010980	ppm	0.00020600	18.736
Cu3247		0.0045960	ppm	0.00032400	7.0521
Fe2599		0.037820	ppm	0.0031710	8.3857
K_7664		0.19652	ppm	0.040973	20.849
Mg2790		0.11363	ppm	0.0080370	7.0728
Mn2576		0.0056760	ppm	0.00016100	2.8359
Mo2020		-0.00042600	ppm	0.00011500	26.909
Na5895		249.83	ppm	0.48089	0.19249
Ni2316		0.0016360	ppm	0.00013800	8.4385
P_1782		0.19262	ppm	0.00066700	0.34622
Pb2203		0.0015480	ppm	0.0012430	80.312
S_1820		0.020355	ppm	0.00056400	2.7684
Sb2068		-0.0019620	ppm	0.00091100	46.445
Se1960		0.0043890	ppm	0.0022480	51.208
Si2881		0.066968	ppm	0.011020	16.456
Sn1899		0.00060800	ppm	0.00015700	25.849
Sr4077		0.0068540	ppm	0.00014300	2.0814
Ti3349		0.00090700	ppm	0.00035400	39.033

SD 320-54413-A-6-I@5

Acquire Date: 9/30/2019 4:57:31PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		-0.00048600	ppm	0.0014380	296.05
V_2924		-0.00027300	ppm	0.00067100	245.92
Zn2062		0.0084510	ppm	0.00037400	4.4208
Y_2243		6,746.2	Cts/S	7.1041	0.10531
Y_3600		49,974	Cts/S	63.010	0.12609
Y_3774		7,526.3	Cts/S	175.74	2.3351

PDS 320-54413-A-6-I

Acquire Date: 9/30/2019 5:01:30PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.10209	ppm	0.00010100	0.098723
Al3961		10.128	ppm	0.070290	0.69400
As1890		0.095272	ppm	0.0010450	1.0964
B_2089		0.94177	ppm	0.0015820	0.16800
Ba4554		0.12622	ppm	0.00064200	0.50827
Be3130		0.054558	ppm	0.00033200	0.60855
Ca3179		13.576	ppm	0.051603	0.38010
Cd2144		0.099614	ppm	0.000088000	0.088773
Co2286		0.10737	ppm	0.00062100	0.57822
Cr2677		0.10567	ppm	0.00059900	0.56704
Cu3247		0.11348	ppm	0.00033800	0.29768
Fe2599		3.9191	ppm	0.026673	0.68059
K_7664		11.612	ppm	0.028656	0.24678
Mg2790		10.450	ppm	0.010877	0.10409
Mn2576		0.12177	ppm	0.00062200	0.51074
Mo2020		0.10021	ppm	0.000019000	0.018979
Na5895	**F**	**1,055.5**	**ppm**	**104.36**	**9.8875**
Ni2316		0.10657	ppm	0.00065200	0.61139
P_1782		2.0612	ppm	0.0033200	0.16106
Pb2203		0.10056	ppm	0.0014210	1.4134
S_1820		2.3275	ppm	0.0047420	0.20374
Sb2068		0.090856	ppm	0.0013920	1.5316
Se1960		0.11163	ppm	0.00049900	0.44659
Si2881		1.3250	ppm	0.032606	2.4608
Sn1899		0.099383	ppm	0.0016010	1.6114
Sr4077		0.13053	ppm	0.00076100	0.58269
Ti3349		0.10228	ppm	0.00078700	0.76958
Tl1908		0.088696	ppm	0.0022140	2.4964
V_2924		0.10970	ppm	0.0013060	1.1909
Zn2062		0.14307	ppm	0.000077000	0.053859
Y_2243		6,560.8	Cts/S	14.600	0.22253
Y_3600		47,956	Cts/S	296.69	0.61867
Y_3774		7,742.6	Cts/S	60.776	0.78495

320-54413-A-6-J MS

Acquire Date: 9/30/2019 5:05:25PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.047806	ppm	0.00072600	1.5178
Al3961		4.8620	ppm	0.028276	0.58157
As1890		0.44517	ppm	0.00058600	0.13164
B_2089		4.3577	ppm	0.0082670	0.18971
Ba4554		0.48762	ppm	0.0034820	0.71399
Be3130		0.26121	ppm	0.0016490	0.63148
Ca3179		26.885	ppm	0.12306	0.45773
Cd2144		0.23535	ppm	0.00014400	0.061018
Co2286		0.25363	ppm	0.00053600	0.21150
Cr2677		0.25077	ppm	0.00036800	0.14667
Cu3247		0.25476	ppm	0.0000080000	0.0032410
Fe2599		4.6335	ppm	0.036603	0.78995
K_7664		26.835	ppm	0.23588	0.87902
Mg2790		24.422	ppm	0.056715	0.23223
Mn2576		0.25381	ppm	0.00013700	0.053855
Mo2020		0.24265	ppm	0.00062200	0.25649
Na5895	**F**	**1,022.1**	**ppm**	**81.432**	**7.9672**
Ni2316		0.24574	ppm	0.00089400	0.36389
P_1782		6.5494	ppm	0.0080150	0.12238
Pb2203		0.24012	ppm	0.00042800	0.17837
S_1820		5.6108	ppm	0.0034840	0.062099
Sb2068		0.47356	ppm	0.0020220	0.42690
Se1960		0.51688	ppm	0.0029700	0.57452
Si2881		5.0469	ppm	0.049080	0.97247
Sn1899		0.47984	ppm	0.0018290	0.38121
Sr4077		0.26185	ppm	0.0018690	0.71392
Ti3349		0.24469	ppm	0.00033800	0.13830
Tl1908		0.43693	ppm	0.0016760	0.38354
V_2924		0.26059	ppm	0.00063300	0.24281
Zn2062		0.53105	ppm	0.00075000	0.14114
Y_2243		6,481.2	Cts/S	33.292	0.51367
Y_3600		46,783	Cts/S	80.889	0.17291
Y_3774		7,504.1	Cts/S	15.849	0.21121

CCV 1708493

Acquire Date: 9/30/2019 5:09:17PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.48989	ppm	0.0013290	0.27120	.50000	Rel(%)	Pass	
Al3961		24.870	ppm	0.12052	0.48461	25.000	Rel(%)	Pass	
As1890		0.49203	ppm	0.0022550	0.45836	.50000	Rel(%)	Pass	
B_2089		0.99924	ppm	0.00079400	0.079475	1.0000	Rel(%)	Pass	
Ba4554		2.4229	ppm	0.015328	0.63261	2.5000	Rel(%)	Pass	
Be3130		0.54341	ppm	0.0037580	0.69158	.50000	Rel(%)	Pass	
Ca3179		24.141	ppm	0.14585	0.60413	25.000	Rel(%)	Pass	
Cd2144		0.49377	ppm	0.00010800	0.021815	.50000	Rel(%)	Pass	
Co2286		2.7139	ppm	0.0016820	0.061971	2.5000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCV 1708493

Acquire Date: 9/30/2019 5:09:17PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Cr2677		2.6139	ppm	0.0042760	0.16358	2.5000	Rel(%)	Pass	
Cu3247		2.4061	ppm	0.0050060	0.20805	2.5000	Rel(%)	Pass	
Fe2599		23.384	ppm	0.14844	0.63479	25.000	Rel(%)	Pass	
K_7664		26.821	ppm	0.12117	0.45179	25.000	Rel(%)	Pass	
Mg2790		25.507	ppm	0.024661	0.096682	25.000	Rel(%)	Pass	
Mn2576		2.4002	ppm	0.0026700	0.11125	2.5000	Rel(%)	Pass	
Mo2020		1.0268	ppm	0.0029340	0.28570	1.0000	Rel(%)	Pass	
Na5895		26.102	ppm	0.085930	0.32921	25.000	Rel(%)	Pass	
Ni2316		2.5923	ppm	0.00081200	0.031337	2.5000	Rel(%)	Pass	
P_1782		2.6834	ppm	0.00071800	0.026754	2.5000	Rel(%)	Pass	
Pb2203		0.52089	ppm	0.0015410	0.29587	.50000	Rel(%)	Pass	
S_1820		2.6647	ppm	0.0062880	0.23599	2.5000	Rel(%)	Pass	
Sb2068		0.52805	ppm	0.0026830	0.50818	.50000	Rel(%)	Pass	
Se1960		0.53904	ppm	0.00016100	0.029884	.50000	Rel(%)	Pass	
Si2881		2.4776	ppm	0.020121	0.81213	2.5000	Rel(%)	Pass	
Sn1899		2.5137	ppm	0.0010320	0.041035	2.5000	Rel(%)	Pass	
Sr4077		2.4149	ppm	0.014823	0.61384	2.5000	Rel(%)	Pass	
Ti3349		1.0046	ppm	0.0041530	0.41342	1.0000	Rel(%)	Pass	
Tl1908		0.48668	ppm	0.0028570	0.58707	.50000	Rel(%)	Pass	
V_2924		2.6700	ppm	0.0037870	0.14185	2.5000	Rel(%)	Pass	
Zn2062		2.4969	ppm	0.0035930	0.14388	2.5000	Rel(%)	Pass	
Y_2243		6,687.4	Cts/S	11.009	0.16462				
Y_3600		49,921	Cts/S	203.62	0.40789				
Y_3774		7,430.4	Cts/S	186.33	2.5076				

CCB 1745955

Acquire Date: 9/30/2019 5:13:02PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00039800	ppm	0.0012120	304.58	.00000	Abs	Pass	
Al3961		-0.0074150	ppm	0.0095670	129.02	.00000	Abs	Pass	
As1890		0.0014990	ppm	0.00030600	20.414	.00000	Abs	Pass	
B_2089		0.018080	ppm	0.0014910	8.2474	.00000	Abs	Pass	
Ba4554		-0.00024900	ppm	0.00072000	288.66	.00000	Abs	Pass	
Be3130		0.00044200	ppm	0.00018000	40.749	.00000	Abs	Pass	
Ca3179		0.0026040	ppm	0.0035250	135.37	.00000	Abs	Pass	
Cd2144		0.00015300	ppm	0.000021000	13.955	.00000	Abs	Pass	
Co2286		0.00017000	ppm	0.00018100	106.87	.00000	Abs	Pass	
Cr2677		-0.00017500	ppm	0.000018000	10.046	.00000	Abs	Pass	
Cu3247		0.0040010	ppm	0.00069100	17.268	.00000	Abs	Pass	
Fe2599		0.000084000	ppm	0.00084600	1,004.7	.00000	Abs	Pass	
K_7664		0.023786	ppm	0.032994	138.71	.00000	Abs	Pass	
Mg2790		-0.0027920	ppm	0.0047020	168.43	.00000	Abs	Pass	
Mn2576		0.00018600	ppm	0.000060000	32.214	.00000	Abs	Pass	
Mo2020		0.00078400	ppm	0.00034000	43.313	.00000	Abs	Pass	
Na5895		0.37953	ppm	0.036211	9.5410	.00000	Abs	Pass	
Ni2316		0.00060100	ppm	0.00051300	85.268	.00000	Abs	Pass	
P_1782		-0.0018790	ppm	0.00097400	51.827	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCB 1745955

Acquire Date: 9/30/2019 5:13:02PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Pb2203		-0.00021500	ppm	0.00094800	440.08	.00000	Abs	Pass	
S_1820		0.000067000	ppm	0.00073600	1,103.8	.00000	Abs	Pass	
Sb2068		-0.00045900	ppm	0.0025170	548.08	.00000	Abs	Pass	
Se1960		0.00018500	ppm	0.0022180	1,201.3	.00000	Abs	Pass	
Si2881		-0.019272	ppm	0.014980	77.732	.00000	Abs	Pass	
Sn1899		0.00044700	ppm	0.00061100	136.58	.00000	Abs	Pass	
Sr4077		0.00042600	ppm	0.00023100	54.388	.00000	Abs	Pass	
Ti3349		0.00027900	ppm	0.00011200	40.309	.00000	Abs	Pass	
Tl1908		0.000018000	ppm	0.0015840	8,996.1	.00000	Abs	Pass	
V_2924		0.000049000	ppm	0.0010230	2,074.4	.00000	Abs	Pass	
Zn2062		0.0026170	ppm	0.00023500	8.9649	.00000	Abs	Pass	
Y_2243		6,899.5	Cts/S	4.5475	0.065910				
Y_3600		51,190	Cts/S	8.7354	0.017065				
Y_3774		7,521.0	Cts/S	194.87	2.5910				

320-54413-A-6-K MSD

Acquire Date: 9/30/2019 5:17:02PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.048716	ppm	0.00036900	0.75683
Al3961		4.8504	ppm	0.054584	1.1254
As1890		0.44317	ppm	0.0017900	0.40394
B_2089		4.3542	ppm	0.0060540	0.13904
Ba4554		0.49023	ppm	0.0025120	0.51251
Be3130		0.26270	ppm	0.0012780	0.48661
Ca3179		26.788	ppm	0.028331	0.10576
Cd2144		0.23539	ppm	0.00013400	0.057014
Co2286		0.25293	ppm	0.000058000	0.022843
Cr2677		0.25124	ppm	0.00077000	0.30639
Cu3247		0.25328	ppm	0.00023900	0.094428
Fe2599		4.6160	ppm	0.0098670	0.21376
K_7664		26.865	ppm	0.14426	0.53697
Mg2790		24.154	ppm	0.018433	0.076318
Mn2576		0.25335	ppm	0.00011200	0.044298
Mo2020		0.24334	ppm	0.00020200	0.082878
Na5895	**F**	**1,060.1**	**ppm**	**95.119**	**8.9725**
Ni2316		0.24576	ppm	0.00064100	0.26070
P_1782		6.5545	ppm	0.00068900	0.010505
Pb2203		0.23631	ppm	0.00026900	0.11367
S_1820		5.6362	ppm	0.0067260	0.11934
Sb2068		0.47477	ppm	0.00017700	0.037336
Se1960		0.51255	ppm	0.0088770	1.7319
Si2881		5.0360	ppm	0.011659	0.23151
Sn1899		0.48013	ppm	0.0015160	0.31572
Sr4077		0.26326	ppm	0.0011320	0.43004
Ti3349		0.24329	ppm	0.00090000	0.36987
Tl1908		0.43358	ppm	0.00061000	0.14078

320-54413-A-6-K MSD

Acquire Date: 9/30/2019 5:17:02PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
V_2924		0.26053	ppm	0.0010500	0.40312
Zn2062		0.53561	ppm	0.0019100	0.35652
Y_2243		6,462.8	Cts/S	5.3551	0.082860
Y_3600		47,481	Cts/S	382.53	0.80565
Y_3774		7,557.9	Cts/S	63.559	0.84096

320-54431-A-1-I

Acquire Date: 9/30/2019 5:20:53PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00023300	ppm	0.00050000	214.52
Al3961		1.7001	ppm	0.00072700	0.042744
As1890		0.00049400	ppm	0.000077000	15.571
B_2089		0.047783	ppm	0.0014370	3.0071
Ba4554		0.071862	ppm	0.000075000	0.10418
Be3130		0.00039800	ppm	0.000036000	9.0806
Ca3179		11.204	ppm	0.036719	0.32773
Cd2144		0.00017200	ppm	0.00014900	86.648
Co2286		0.0041820	ppm	0.000028000	0.65761
Cr2677		0.011810	ppm	0.00032900	2.7899
Cu3247		2.2491	ppm	0.0012950	0.057574
Fe2599		7.2708	ppm	0.042005	0.57773
K_7664		0.52714	ppm	0.062697	11.894
Mg2790		1.0650	ppm	0.0038420	0.36073
Mn2576		0.19405	ppm	0.00051500	0.26562
Mo2020		0.000044000	ppm	0.00031800	728.22
Na5895	**F**	**1,076.9**	**ppm**	**60.430**	**5.6113**
Ni2316		0.16125	ppm	0.00035300	0.21884
P_1782		0.023167	ppm	0.00042200	1.8198
Pb2203		0.0052230	ppm	0.0011220	21.473
S_1820		0.16367	ppm	0.00032300	0.19742
Sb2068		0.00075400	ppm	0.00053200	70.651
Se1960		0.0040340	ppm	0.0042490	105.34
Si2881		1.2997	ppm	0.0036630	0.28182
Sn1899		0.00062500	ppm	0.0012070	193.19
Sr4077		0.045753	ppm	0.00018200	0.39728
Ti3349		0.0010520	ppm	0.000072000	6.7950
Tl1908		0.0016780	ppm	0.0019710	117.48
V_2924		0.00022600	ppm	0.00041300	182.86
Zn2062		7.2599	ppm	0.016491	0.22715
Y_2243		6,475.1	Cts/S	8.0833	0.12484
Y_3600		47,159	Cts/S	24.701	0.052379
Y_3774		7,399.6	Cts/S	51.097	0.69054

SD 320-54431-A-1-I@5

Acquire Date: 9/30/2019 5:24:54PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.000014000	ppm	0.00070100	5,180.4
Al3961		0.32253	ppm	0.0018590	0.57635
As1890		0.000060000	ppm	0.0015790	2,634.2
B_2089		0.019064	ppm	0.0011350	5.9552
Ba4554		0.014008	ppm	0.00012200	0.86947
Be3130		0.00020800	ppm	0.000012000	5.9054
Ca3179		2.2772	ppm	0.020740	0.91080
Cd2144		0.00022400	ppm	0.000034000	15.104
Co2286		0.0010450	ppm	0.00013800	13.161
Cr2677		0.0020760	ppm	0.00098900	47.666
Cu3247		0.45243	ppm	0.00068400	0.15124
Fe2599		1.4503	ppm	0.0043470	0.29970
K_7664		0.15726	ppm	0.017044	10.838
Mg2790		0.21852	ppm	0.0075440	3.4523
Mn2576		0.039775	ppm	0.000053000	0.13308
Mo2020		-0.00025500	ppm	0.00021300	83.388
Na5895		239.58	ppm	1.5272	0.63746
Ni2316		0.032377	ppm	0.00028300	0.87296
P_1782		0.0040940	ppm	0.00094600	23.097
Pb2203		0.00082200	ppm	0.00097000	118.02
S_1820		0.030976	ppm	0.00060400	1.9507
Sb2068		-0.00042800	ppm	0.00072400	169.06
Se1960		0.0010260	ppm	0.0043700	426.00
Si2881		0.25435	ppm	0.041991	16.509
Sn1899		0.00076600	ppm	0.00019000	24.847
Sr4077		0.0092360	ppm	0.000053000	0.57212
Ti3349		-0.00026000	ppm	0.000073000	28.158
Tl1908		0.00010200	ppm	0.00013100	128.64
V_2924		0.00019100	ppm	0.00067100	351.25
Zn2062		1.4736	ppm	0.00099500	0.067509
Y_2243		6,717.9	Cts/S	13.779	0.20511
Y_3600		49,830	Cts/S	279.88	0.56167
Y_3774		7,455.9	Cts/S	168.98	2.2664

PDS 320-54431-A-1-I

Acquire Date: 9/30/2019 5:28:50PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.10408	ppm	0.00082400	0.79210
Al3961		11.778	ppm	0.033339	0.28305
As1890		0.094886	ppm	0.00045800	0.48216
B_2089		0.95016	ppm	0.0014300	0.15054
Ba4554		0.16704	ppm	0.00090600	0.54241
Be3130		0.054667	ppm	0.00014900	0.27253
Ca3179		20.496	ppm	0.053135	0.25924
Cd2144		0.099604	ppm	0.000099000	0.098923
Co2286		0.11107	ppm	0.00047200	0.42517

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

PDS 320-54431-A-1-I

Acquire Date: 9/30/2019 5:28:50PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.11721	ppm	0.00059900	0.51108
Cu3247		2.2756	ppm	0.0054740	0.24056
Fe2599		10.742	ppm	0.021546	0.20058
K_7664		11.533	ppm	0.061903	0.53676
Mg2790		10.982	ppm	0.0021270	0.019368
Mn2576		0.28468	ppm	0.00013200	0.046244
Mo2020		0.10086	ppm	0.000014000	0.014039
Na5895	**F**	**1,007.3**	**ppm**	**115.59**	**11.475**
Ni2316		0.25835	ppm	0.00037400	0.14469
P_1782		1.1507	ppm	0.0090440	0.78592
Pb2203		0.11064	ppm	0.000038000	0.034641
S_1820		2.4099	ppm	0.0057880	0.24019
Sb2068		0.090324	ppm	0.00078500	0.86907
Se1960		0.11100	ppm	0.0030890	2.7831
Si2881		2.2518	ppm	0.025460	1.1306
Sn1899		0.099862	ppm	0.00033500	0.33525
Sr4077		0.14159	ppm	0.00016700	0.11768
Ti3349		0.10225	ppm	0.00038800	0.37981
Tl1908		0.091467	ppm	0.0031910	3.4891
V_2924		0.11084	ppm	0.00050200	0.45314
Zn2062		7.1382	ppm	0.0058580	0.082068
Y_2243		6,463.0	Cts/S	2.2122	0.034229
Y_3600		46,968	Cts/S	108.98	0.23204
Y_3774		7,441.6	Cts/S	23.455	0.31519

320-54431-A-1-J MS

Acquire Date: 9/30/2019 5:32:44PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.049194	ppm	0.00023100	0.46948
Al3961		6.4773	ppm	0.090943	1.4040
As1890		0.44144	ppm	0.0018740	0.42454
B_2089		4.3450	ppm	0.0052640	0.12114
Ba4554		0.53032	ppm	0.0037830	0.71328
Be3130		0.26402	ppm	0.0032240	1.2212
Ca3179		33.704	ppm	0.30703	0.91097
Cd2144		0.23353	ppm	0.00038000	0.16287
Co2286		0.25741	ppm	0.00051300	0.19932
Cr2677		0.26309	ppm	0.00075100	0.28554
Cu3247		2.3857	ppm	0.010905	0.45709
Fe2599		11.426	ppm	0.097977	0.85746
K_7664		26.932	ppm	0.22881	0.84959
Mg2790		24.966	ppm	0.054422	0.21798
Mn2576		0.41468	ppm	0.0011780	0.28415
Mo2020		0.24268	ppm	0.00053900	0.22198
Na5895	**F**	**1,029.3**	**ppm**	**78.848**	**7.6600**
Ni2316		0.39322	ppm	0.00019900	0.050642

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54431-A-1-J MS

Acquire Date: 9/30/2019 5:32:44PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		5.6274	ppm	0.0074290	0.13201
Pb2203		0.24521	ppm	0.0020980	0.85547
S_1820		5.6625	ppm	0.0052820	0.093273
Sb2068		0.47281	ppm	0.00037600	0.079479
Se1960		0.51146	ppm	0.0011120	0.21742
Si2881		6.0467	ppm	0.076533	1.2657
Sn1899		0.47580	ppm	0.00033100	0.069512
Sr4077		0.27351	ppm	0.0024150	0.88279
Ti3349		0.24480	ppm	0.000098000	0.039861
Tl1908		0.42981	ppm	0.00082700	0.19252
V_2924		0.26306	ppm	0.0022460	0.85369
Zn2062		7.3053	ppm	0.015410	0.21094
Y_2243		6,499.1	Cts/S	23.011	0.35406
Y_3600		47,068	Cts/S	22.018	0.046778
Y_3774		7,403.0	Cts/S	25.546	0.34508

320-54431-A-1-K MSD

Acquire Date: 9/30/2019 5:36:36PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.048355	ppm	0.0013220	2.7347
Al3961		6.3790	ppm	0.046885	0.73499
As1890		0.43585	ppm	0.0010100	0.23176
B_2089		4.3090	ppm	0.0078240	0.18157
Ba4554		0.52074	ppm	0.0033290	0.63929
Be3130		0.26008	ppm	0.0021400	0.82272
Ca3179		33.272	ppm	0.19139	0.57522
Cd2144		0.23141	ppm	0.00054800	0.23698
Co2286		0.25409	ppm	0.00046900	0.18454
Cr2677		0.25966	ppm	0.00042400	0.16311
Cu3247		2.3944	ppm	0.00059100	0.024704
Fe2599		11.324	ppm	0.041574	0.36712
K_7664		26.530	ppm	0.22656	0.85397
Mg2790		24.515	ppm	0.0027070	0.011041
Mn2576		0.41089	ppm	0.00030900	0.075226
Mo2020		0.23993	ppm	0.00094400	0.39350
Na5895	**F**	**1,045.8**	**ppm**	**28.694**	**2.7437**
Ni2316		0.39350	ppm	0.00010200	0.026003
P_1782		5.5801	ppm	0.0053400	0.095704
Pb2203		0.24391	ppm	0.00015800	0.064627
S_1820		5.6310	ppm	0.012622	0.22415
Sb2068		0.46866	ppm	0.0040510	0.86445
Se1960		0.51232	ppm	0.0018190	0.35509
Si2881		5.9779	ppm	0.0026640	0.044569
Sn1899		0.46889	ppm	0.00099800	0.21289
Sr4077		0.26925	ppm	0.0010150	0.37698
Ti3349		0.23938	ppm	0.00039100	0.16346

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54431-A-1-K MSD

Acquire Date: 9/30/2019 5:36:36PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		0.42513	ppm	0.0015730	0.36990
V_2924		0.25850	ppm	0.00023900	0.092338
Zn2062		7.3545	ppm	0.0045400	0.061737
Y_2243		6,456.6	Cts/S	5.3376	0.082669
Y_3600		47,318	Cts/S	128.21	0.27095
Y_3774		7,525.1	Cts/S	23.117	0.30719

MB 320-327228/1-A

Acquire Date: 9/30/2019 5:40:28PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00071900	ppm	0.00017900	24.940
Al3961		-0.017222	ppm	0.021194	123.06
As1890		0.0025200	ppm	0.0016360	64.899
B_2089		0.028678	ppm	0.0012260	4.2745
Ba4554		-0.00042400	ppm	0.000034000	8.0093
Be3130		0.00020900	ppm	0.00020000	95.949
Ca3179		0.073201	ppm	0.0078170	10.679
Cd2144		0.00010900	ppm	0.000015000	14.051
Co2286		0.000087000	ppm	0.00020100	230.83
Cr2677		-0.00012400	ppm	0.00051500	416.13
Cu3247		0.0029320	ppm	0.00072700	24.800
Fe2599		0.0045940	ppm	0.00055000	11.981
K_7664		0.039381	ppm	0.059281	150.53
Mg2790		0.043431	ppm	0.0016680	3.8404
Mn2576		0.00020200	ppm	0.00011100	54.948
Mo2020		0.00011100	ppm	0.000084000	75.266
Na5895	**W**	**0.86919**	**ppm**	**0.069902**	**8.0422**
Ni2316		0.000081000	ppm	0.000095000	116.82
P_1782		0.00089100	ppm	0.0017280	193.89
Pb2203		0.0010950	ppm	0.00029200	26.702
S_1820		0.0056380	ppm	0.0016420	29.124
Sb2068		-0.0016170	ppm	0.0027110	167.65
Se1960		0.0010370	ppm	0.0018480	178.15
Si2881		-0.012820	ppm	0.016616	129.61
Sn1899		0.00020900	ppm	0.00080900	386.44
Sr4077		0.00029500	ppm	0.000052000	17.563
Ti3349		0.000014000	ppm	0.00025400	1,762.2
Tl1908		-0.00014100	ppm	0.0027660	1,958.0
V_2924		0.00019400	ppm	0.00052800	272.37
Zn2062		0.0045240	ppm	0.00047300	10.463
Y_2243		6,872.9	Cts/S	12.514	0.18208
Y_3600		50,885	Cts/S	25.568	0.050246
Y_3774		7,496.1	Cts/S	101.93	1.3598

LCS 320-327228/2-A

Acquire Date: 9/30/2019 5:44:27PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.048596	ppm	0.00065900	1.3566
Al3961		4.8853	ppm	0.010610	0.21718
As1890	**W**	**0.44438**	**ppm**	**0.00070600**	**0.15893**
B_2089		4.7763	ppm	0.0058630	0.12276
Ba4554	**W**	**0.47397**	**ppm**	**0.0014180**	**0.29911**
Be3130		0.27247	ppm	0.00038400	0.14085
Ca3179		23.698	ppm	0.026167	0.11042
Cd2144	**W**	**0.24216**	**ppm**	**0.00010000**	**0.041324**
Co2286		0.26344	ppm	0.00079500	0.30165
Cr2677	**W**	**0.25868**	**ppm**	**0.0015780**	**0.61009**
Cu3247		0.23599	ppm	0.00037000	0.15695
Fe2599		4.6063	ppm	0.011873	0.25775
K_7664		26.599	ppm	0.079788	0.29997
Mg2790		24.932	ppm	0.057847	0.23202
Mn2576		0.23572	ppm	0.000075000	0.031997
Mo2020		0.25228	ppm	0.00037200	0.14761
Na5895		26.204	ppm	0.011406	0.043529
Ni2316		0.24947	ppm	0.00067700	0.27119
P_1782		5.5801	ppm	0.0082390	0.14766
Pb2203	**W**	**0.25581**	**ppm**	**0.0014440**	**0.56457**
S_1820	**F**	**5.4513**	**ppm**	**0.0022510**	**0.041295**
Sb2068		0.49253	ppm	0.0015060	0.30567
Se1960	**W**	**0.52323**	**ppm**	**0.0025000**	**0.47782**
Si2881	**W**	**4.9070**	**ppm**	**0.017778**	**0.36229**
Sn1899		0.49558	ppm	0.00099100	0.20006
Sr4077		0.23612	ppm	0.00014500	0.061466
Ti3349	**W**	**0.24937**	**ppm**	**0.0010870**	**0.43599**
Tl1908		0.48236	ppm	0.00069000	0.14300
V_2924		0.26533	ppm	0.00059100	0.22272
Zn2062		0.49163	ppm	0.00042600	0.086672
Y_2243		6,849.1	Cts/S	33.382	0.48740
Y_3600		50,998	Cts/S	59.197	0.11608
Y_3774		7,547.8	Cts/S	221.94	2.9404

320-54574-I-1-A

Acquire Date: 9/30/2019 5:48:14PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00027200	ppm	0.000010000	3.7122
Al3961		0.024602	ppm	0.016177	65.754
As1890		0.0020680	ppm	0.0016950	81.957
B_2089		0.067869	ppm	0.0013260	1.9532
Ba4554		0.089508	ppm	0.00039900	0.44593
Be3130		0.00081600	ppm	0.00026700	32.768
Ca3179		23.098	ppm	0.087503	0.37883
Cd2144		0.00068600	ppm	0.00016200	23.646
Co2286		0.00094300	ppm	0.00045500	48.266

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54574-I-1-A

Acquire Date: 9/30/2019 5:48:14PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.0062790	ppm	0.00014800	2.3497
Cu3247		0.0081440	ppm	0.0010200	12.529
Fe2599		0.66878	ppm	0.011836	1.7698
K_7664		7.9460	ppm	0.0019440	0.024465
Mg2790		0.23494	ppm	0.0022030	0.93784
Mn2576		0.0073610	ppm	0.000016000	0.21185
Mo2020		0.0010240	ppm	0.000073000	7.1789
Na5895		23.089	ppm	0.39307	1.7024
Ni2316		0.00069800	ppm	0.00020400	29.175
P_1782		0.063156	ppm	0.0037740	5.9758
Pb2203		0.033734	ppm	0.00087100	2.5823
S_1820		4.8928	ppm	0.0093920	0.19195
Sb2068		0.0059060	ppm	0.0029290	49.596
Se1960		0.00061100	ppm	0.0012560	205.47
Si2881		13.754	ppm	0.087162	0.63374
Sn1899		0.00045100	ppm	0.000025000	5.6510
Sr4077		0.21092	ppm	0.00096500	0.45766
Ti3349		0.00036300	ppm	0.00025900	71.298
Tl1908		-0.0013970	ppm	0.00037700	26.965
V_2924		0.015396	ppm	0.00012500	0.81127
Zn2062		0.058986	ppm	0.00030600	0.51827
Y_2243		6,866.6	Cts/S	0.63722	0.0092800
Y_3600		51,075	Cts/S	16.096	0.031514
Y_3774		7,601.5	Cts/S	111.38	1.4652

SD 320-54574-I-1-A@5

Acquire Date: 9/30/2019 5:52:11PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.000047000	ppm	0.00076300	1,630.4
Al3961		-0.010226	ppm	0.015627	152.81
As1890		0.0011470	ppm	0.0020510	178.75
B_2089		0.025201	ppm	0.00065200	2.5882
Ba4554		0.017711	ppm	0.00043200	2.4364
Be3130		0.000081000	ppm	0.000072000	89.149
Ca3179		4.6734	ppm	0.0073080	0.15638
Cd2144		0.00016000	ppm	0.0000030000	1.6774
Co2286		0.00024000	ppm	0.00019800	82.577
Cr2677		0.00060400	ppm	0.00078200	129.62
Cu3247		0.0026800	ppm	0.00019900	7.4216
Fe2599		0.027819	ppm	0.015944	57.312
K_7664		1.6055	ppm	0.070765	4.4076
Mg2790		0.036638	ppm	0.0047350	12.924
Mn2576		0.00072000	ppm	0.0000090000	1.2333
Mo2020		0.000065000	ppm	0.00033100	506.77
Na5895		4.4456	ppm	0.019620	0.44133
Ni2316		-0.00010400	ppm	0.00075100	720.94

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

SD 320-54574-I-1-A@5

Acquire Date: 9/30/2019 5:52:11PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		0.0078500	ppm	0.0019440	24.760
Pb2203		0.0089080	ppm	0.0010700	12.013
S_1820		0.96159	ppm	0.00031300	0.032565
Sb2068		-0.00069800	ppm	0.00042100	60.330
Se1960		-0.00011900	ppm	0.00017200	144.19
Si2881		2.7063	ppm	0.0052400	0.19363
Sn1899		-0.00025400	ppm	0.00031100	122.18
Sr4077		0.042388	ppm	0.000087000	0.20624
Ti3349		-0.00022900	ppm	0.00029800	130.42
Tl1908		-0.00042500	ppm	0.00059800	140.88
V_2924		0.0028860	ppm	0.00020200	7.0118
Zn2062		0.0096110	ppm	0.00017400	1.8114
Y_2243		6,912.5	Cts/S	8.2428	0.11925
Y_3600		51,577	Cts/S	193.63	0.37542
Y_3774		7,564.6	Cts/S	184.99	2.4455

CCV 1708493

Acquire Date: 9/30/2019 5:56:10PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.48876	ppm	0.0030720	0.62847	.50000	Rel(%)	Pass	
Al3961		24.793	ppm	0.030216	0.12188	25.000	Rel(%)	Pass	
As1890		0.48948	ppm	0.00040900	0.083537	.50000	Rel(%)	Pass	
B_2089		0.98206	ppm	0.0013170	0.13413	1.0000	Rel(%)	Pass	
Ba4554		2.4132	ppm	0.010218	0.42342	2.5000	Rel(%)	Pass	
Be3130		0.54717	ppm	0.0013700	0.25033	.50000	Rel(%)	Pass	
Ca3179		24.008	ppm	0.022885	0.095320	25.000	Rel(%)	Pass	
Cd2144		0.49145	ppm	0.0011560	0.23521	.50000	Rel(%)	Pass	
Co2286		2.7203	ppm	0.0077170	0.28368	2.5000	Rel(%)	Pass	
Cr2677		2.6177	ppm	0.0074530	0.28473	2.5000	Rel(%)	Pass	
Cu3247		2.3975	ppm	0.0064170	0.26765	2.5000	Rel(%)	Pass	
Fe2599		23.260	ppm	0.12319	0.52961	25.000	Rel(%)	Pass	
K_7664		26.883	ppm	0.15005	0.55816	25.000	Rel(%)	Pass	
Mg2790		25.513	ppm	0.10237	0.40126	25.000	Rel(%)	Pass	
Mn2576		2.3886	ppm	0.0083930	0.35137	2.5000	Rel(%)	Pass	
Mo2020		1.0234	ppm	0.0013750	0.13440	1.0000	Rel(%)	Pass	
Na5895		26.443	ppm	0.085798	0.32446	25.000	Rel(%)	Pass	
Ni2316		2.5854	ppm	0.0049860	0.19284	2.5000	Rel(%)	Pass	
P_1782		2.6795	ppm	0.0025700	0.095895	2.5000	Rel(%)	Pass	
Pb2203		0.52268	ppm	0.0054400	1.0409	.50000	Rel(%)	Pass	
S_1820		2.6734	ppm	0.0064730	0.24212	2.5000	Rel(%)	Pass	
Sb2068		0.53271	ppm	0.0016440	0.30867	.50000	Rel(%)	Pass	
Se1960		0.53784	ppm	0.00062200	0.11564	.50000	Rel(%)	Pass	
Si2881		2.4764	ppm	0.034779	1.4044	2.5000	Rel(%)	Pass	
Sn1899		2.5117	ppm	0.0023950	0.095343	2.5000	Rel(%)	Pass	
Sr4077		2.4064	ppm	0.011043	0.45892	2.5000	Rel(%)	Pass	
Ti3349		1.0037	ppm	0.0019140	0.19067	1.0000	Rel(%)	Pass	
Tl1908		0.48179	ppm	0.0028840	0.59856	.50000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCV 1708493

Acquire Date: 9/30/2019 5:56:10PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
V_2924		2.6776	ppm	0.0082540	0.30828	2.5000	Rel(%)	Pass	
Zn2062		2.4913	ppm	0.0086820	0.34850	2.5000	Rel(%)	Pass	
Y_2243		6,752.7	Cts/S	16.050	0.23768				
Y_3600		50,147	Cts/S	143.26	0.28569				
Y_3774		7,448.1	Cts/S	280.88	3.7711				

CCB 1745955

Acquire Date: 9/30/2019 5:59:57PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00010400	ppm	0.00020400	195.71	.00000	Abs	Pass	
Al3961		-0.0063570	ppm	0.0064790	101.92	.00000	Abs	Pass	
As1890		-0.00059100	ppm	0.00042900	72.638	.00000	Abs	Pass	
B_2089		0.015291	ppm	0.00026600	1.7383	.00000	Abs	Pass	
Ba4554		-0.00021400	ppm	0.0000030000	1.5546	.00000	Abs	Pass	
Be3130		0.00034100	ppm	0.000067000	19.590	.00000	Abs	Pass	
Ca3179		0.010484	ppm	0.0077470	73.891	.00000	Abs	Pass	
Cd2144		0.00011300	ppm	0.000056000	49.342	.00000	Abs	Pass	
Co2286		0.00020900	ppm	0.00028500	136.41	.00000	Abs	Pass	
Cr2677		-0.0011780	ppm	0.00033700	28.635	.00000	Abs	Pass	
Cu3247		0.0025410	ppm	0.00085400	33.621	.00000	Abs	Pass	
Fe2599		0.0020150	ppm	0.0043620	216.47	.00000	Abs	Pass	
K_7664		-0.0030310	ppm	0.014184	467.98	.00000	Abs	Pass	
Mg2790		-0.0043610	ppm	0.0016440	37.699	.00000	Abs	Pass	
Mn2576		0.00021500	ppm	0.00017100	79.357	.00000	Abs	Pass	
Mo2020		0.00046800	ppm	0.00040400	86.373	.00000	Abs	Pass	
Na5895		0.19461	ppm	0.0083690	4.3003	.00000	Abs	Pass	
Ni2316		-0.00030600	ppm	0.00014400	47.211	.00000	Abs	Pass	
P_1782		-0.0023390	ppm	0.00017200	7.3363	.00000	Abs	Pass	
Pb2203		0.0014840	ppm	0.0027880	187.89	.00000	Abs	Pass	
S_1820		-0.0013270	ppm	0.0018970	142.94	.00000	Abs	Pass	
Sb2068		-0.0014560	ppm	0.0015440	106.04	.00000	Abs	Pass	
Se1960		0.0016560	ppm	0.0030050	181.44	.00000	Abs	Pass	
Si2881		-0.0051840	ppm	0.013676	263.82	.00000	Abs	Pass	
Sn1899		0.00023000	ppm	0.00038400	167.39	.00000	Abs	Pass	
Sr4077		0.00031300	ppm	0.00029900	95.550	.00000	Abs	Pass	
Ti3349		0.000069000	ppm	0.00082800	1,191.2	.00000	Abs	Pass	
Tl1908		0.00046300	ppm	0.0010880	234.99	.00000	Abs	Pass	
V_2924		0.00039600	ppm	0.00037400	94.478	.00000	Abs	Pass	
Zn2062		0.0022210	ppm	0.000091000	4.0870	.00000	Abs	Pass	
Y_2243		6,694.3	Cts/S	39.558	0.59092				
Y_3600		49,672	Cts/S	73.009	0.14698				
Y_3774		7,216.9	Cts/S	236.51	3.2771				

PDS 320-54574-I-1-A

Acquire Date: 9/30/2019 6:03:57PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.099673	ppm	0.00091000	0.91269
Al3961		10.016	ppm	0.076528	0.76406
As1890		0.094692	ppm	0.0021240	2.2433
B_2089		1.0415	ppm	0.0046410	0.44565
Ba4554		0.18299	ppm	0.0016820	0.91941
Be3130		0.054424	ppm	0.00055500	1.0194
Ca3179		31.733	ppm	0.20289	0.63936
Cd2144		0.10021	ppm	0.00035000	0.34878
Co2286		0.10909	ppm	0.00021500	0.19679
Cr2677		0.11078	ppm	0.000084000	0.076168
Cu3247		0.10433	ppm	0.00032400	0.31029
Fe2599		3.9826	ppm	0.016551	0.41559
K_7664		18.322	ppm	0.098450	0.53734
Mg2790		10.274	ppm	0.033645	0.32747
Mn2576		0.10096	ppm	0.00016900	0.16720
Mo2020		0.10247	ppm	0.00056200	0.54824
Na5895		31.017	ppm	0.15259	0.49196
Ni2316		0.10386	ppm	0.00037000	0.35653
P_1782		1.1378	ppm	0.0022320	0.19613
Pb2203		0.13181	ppm	0.0029350	2.2268
S_1820		6.8093	ppm	0.011955	0.17556
Sb2068		0.097970	ppm	0.0012570	1.2834
Se1960		0.10657	ppm	0.0025580	2.4006
Si2881		14.863	ppm	0.061934	0.41671
Sn1899		0.10264	ppm	0.000069000	0.067632
Sr4077		0.29985	ppm	0.0021300	0.71046
Ti3349		0.10195	ppm	0.00041100	0.40314
Tl1908		0.099313	ppm	0.0026090	2.6269
V_2924		0.12250	ppm	0.00042500	0.34707
Zn2062		0.14866	ppm	0.00060000	0.40340
Y_2243		6,901.5	Cts/S	21.293	0.30853
Y_3600		51,259	Cts/S	9.8016	0.019122
Y_3774		7,591.0	Cts/S	279.60	3.6833

320-54574-I-1-B MS

Acquire Date: 9/30/2019 6:07:46PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.048873	ppm	0.00063400	1.2967
Al3961		4.9265	ppm	0.00031800	0.0064470
As1890		0.44537	ppm	0.0032060	0.71995
B_2089		4.9090	ppm	0.016250	0.33102
Ba4554		0.56495	ppm	0.0022110	0.39144
Be3130		0.26925	ppm	0.00070300	0.26112
Ca3179		46.921	ppm	0.33748	0.71925
Cd2144		0.24121	ppm	0.00049600	0.20555
Co2286		0.25918	ppm	0.00085500	0.32989

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54574-I-1-B MS

Acquire Date: 9/30/2019 6:07:46PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.26193	ppm	0.00035900	0.13724
Cu3247		0.24270	ppm	0.0023760	0.97921
Fe2599		4.8585	ppm	0.028222	0.58089
K_7664		34.216	ppm	0.23891	0.69825
Mg2790		25.058	ppm	0.0019930	0.0079530
Mn2576		0.23874	ppm	0.00041800	0.17527
Mo2020		0.25200	ppm	0.00021500	0.085398
Na5895		47.395	ppm	0.18703	0.39462
Ni2316		0.24639	ppm	0.00030500	0.12397
P_1782		5.5815	ppm	0.024794	0.44421
Pb2203		0.28414	ppm	0.0019590	0.68948
S_1820		10.214	ppm	0.034922	0.34189
Sb2068		0.49459	ppm	0.00045200	0.091441
Se1960		0.50433	ppm	0.0016770	0.33244
Si2881		19.254	ppm	0.12090	0.62789
Sn1899		0.50732	ppm	0.00078700	0.15514
Sr4077		0.44937	ppm	0.0011050	0.24583
Ti3349		0.24956	ppm	0.0019940	0.79905
Tl1908		0.47905	ppm	0.0013970	0.29167
V_2924		0.27749	ppm	0.00041400	0.14926
Zn2062		0.53815	ppm	0.0011870	0.22058
Y_2243		6,763.6	Cts/S	3.4975	0.051710
Y_3600		50,181	Cts/S	472.89	0.94237
Y_3774		7,528.0	Cts/S	86.258	1.1458

320-54574-I-1-C MSD

Acquire Date: 9/30/2019 6:11:32PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.046589	ppm	0.0015450	3.3162
Al3961		4.7912	ppm	0.0024520	0.051175
As1890		0.43721	ppm	0.0013990	0.32004
B_2089		4.8236	ppm	0.0083210	0.17251
Ba4554		0.55223	ppm	0.0017760	0.32153
Be3130		0.26354	ppm	0.00060500	0.22956
Ca3179		45.935	ppm	0.20848	0.45387
Cd2144		0.23602	ppm	0.00033300	0.14107
Co2286		0.25447	ppm	0.00030000	0.11804
Cr2677		0.25676	ppm	0.0012440	0.48464
Cu3247		0.23879	ppm	0.00027400	0.11461
Fe2599		4.7391	ppm	0.019178	0.40468
K_7664		33.543	ppm	0.066215	0.19740
Mg2790		24.466	ppm	0.047436	0.19388
Mn2576		0.23475	ppm	0.0012950	0.55184
Mo2020		0.24679	ppm	0.00021700	0.087739
Na5895		46.397	ppm	0.15236	0.32840
Ni2316		0.24131	ppm	0.00025900	0.10740

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54574-I-1-C MSD

Acquire Date: 9/30/2019 6:11:32PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		5.4734	ppm	0.0023400	0.042747
Pb2203		0.27789	ppm	0.0037800	1.3601
S_1820		10.037	ppm	0.0068760	0.068507
Sb2068		0.48622	ppm	0.0000080000	0.0017060
Se1960		0.49827	ppm	0.0052530	1.0542
Si2881		18.844	ppm	0.12815	0.68007
Sn1899		0.49837	ppm	0.00066300	0.13299
Sr4077		0.43874	ppm	0.0028460	0.64862
Ti3349		0.24466	ppm	0.0017540	0.71680
Tl1908		0.47644	ppm	0.000043000	0.0090520
V_2924		0.27243	ppm	0.00098100	0.36006
Zn2062		0.52897	ppm	0.00095300	0.18015
Y_2243		6,775.8	Cts/S	17.739	0.26181
Y_3600		50,393	Cts/S	31.537	0.062583
Y_3774		7,603.6	Cts/S	61.409	0.80763

180-96144-M-1-A

Acquire Date: 9/30/2019 6:15:17PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00069900	ppm	0.00040200	57.521
Al3961		-0.015786	ppm	0.028146	178.30
As1890		0.0035550	ppm	0.00011600	3.2553
B_2089		0.22124	ppm	0.0016780	0.75826
Ba4554		0.16585	ppm	0.00048800	0.29395
Be3130		0.00036500	ppm	0.00022300	61.158
Ca3179		34.895	ppm	0.23360	0.66944
Cd2144		0.000098000	ppm	0.000085000	86.781
Co2286		0.00094500	ppm	0.00022200	23.446
Cr2677		0.00023500	ppm	0.00048200	205.47
Cu3247		0.010805	ppm	0.00023100	2.1368
Fe2599		0.029627	ppm	0.0010730	3.6210
K_7664		11.562	ppm	0.049695	0.42982
Mg2790		22.016	ppm	0.014244	0.064696
Mn2576		0.13705	ppm	0.00030300	0.22129
Mo2020		0.0078450	ppm	0.00017500	2.2263
Na5895	**W**	**266.17**	**ppm**	**1.5657**	**0.58825**
Ni2316		0.00036800	ppm	0.00011700	31.703
P_1782		0.044253	ppm	0.0028620	6.4664
Pb2203		-0.00045000	ppm	0.0023720	527.03
S_1820		3.4417	ppm	0.015408	0.44770
Sb2068		0.000061000	ppm	0.0031440	5,129.2
Se1960		0.0048200	ppm	0.000098000	2.0247
Si2881		4.1102	ppm	0.014051	0.34187
Sn1899		-0.00011900	ppm	0.00046800	393.22
Sr4077		0.30809	ppm	0.0012980	0.42119
Ti3349		0.00077000	ppm	0.00020300	26.295

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

180-96144-M-1-A

Acquire Date: 9/30/2019 6:15:17PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		-0.00097700	ppm	0.00081200	83.151
V_2924		0.00084100	ppm	0.00038100	45.298
Zn2062		0.011428	ppm	0.00021000	1.8414
Y_2243		6,705.8	Cts/S	7.3816	0.11008
Y_3600		49,952	Cts/S	57.499	0.11511
Y_3774		7,634.0	Cts/S	89.978	1.1787

CCV 1708493

Acquire Date: 9/30/2019 6:19:14PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.49061	ppm	0.0017080	0.34809	.50000	Rel(%)	Pass	
Al3961		24.942	ppm	0.047629	0.19096	25.000	Rel(%)	Pass	
As1890		0.49232	ppm	0.0029980	0.60903	.50000	Rel(%)	Pass	
B_2089		0.99457	ppm	0.0021780	0.21903	1.0000	Rel(%)	Pass	
Ba4554		2.4317	ppm	0.0070950	0.29176	2.5000	Rel(%)	Pass	
Be3130		0.54365	ppm	0.00073900	0.13586	.50000	Rel(%)	Pass	
Ca3179		24.156	ppm	0.0065830	0.027252	25.000	Rel(%)	Pass	
Cd2144		0.49405	ppm	0.00086000	0.17412	.50000	Rel(%)	Pass	
Co2286		2.7202	ppm	0.0071430	0.26259	2.5000	Rel(%)	Pass	
Cr2677		2.6256	ppm	0.0043830	0.16695	2.5000	Rel(%)	Pass	
Cu3247		2.4065	ppm	0.0034930	0.14517	2.5000	Rel(%)	Pass	
Fe2599		23.513	ppm	0.076809	0.32666	25.000	Rel(%)	Pass	
K_7664		26.928	ppm	0.029541	0.10970	25.000	Rel(%)	Pass	
Mg2790		25.573	ppm	0.084970	0.33227	25.000	Rel(%)	Pass	
Mn2576		2.4071	ppm	0.0070300	0.29205	2.5000	Rel(%)	Pass	
Mo2020		1.0301	ppm	0.0041650	0.40433	1.0000	Rel(%)	Pass	
Na5895		26.459	ppm	0.072268	0.27313	25.000	Rel(%)	Pass	
Ni2316		2.5967	ppm	0.0016810	0.064718	2.5000	Rel(%)	Pass	
P_1782		2.6960	ppm	0.0091640	0.33989	2.5000	Rel(%)	Pass	
Pb2203		0.52266	ppm	0.00035700	0.068382	.50000	Rel(%)	Pass	
S_1820		2.6755	ppm	0.016412	0.61342	2.5000	Rel(%)	Pass	
Sb2068		0.53068	ppm	0.0044280	0.83447	.50000	Rel(%)	Pass	
Se1960		0.53713	ppm	0.00033900	0.063126	.50000	Rel(%)	Pass	
Si2881		2.4490	ppm	0.021493	0.87763	2.5000	Rel(%)	Pass	
Sn1899		2.5272	ppm	0.0019990	0.079092	2.5000	Rel(%)	Pass	
Sr4077		2.4245	ppm	0.0074490	0.30723	2.5000	Rel(%)	Pass	
Ti3349		1.0047	ppm	0.0014200	0.14134	1.0000	Rel(%)	Pass	
Tl1908		0.48878	ppm	0.0048370	0.98968	.50000	Rel(%)	Pass	
V_2924		2.6728	ppm	0.0045690	0.17095	2.5000	Rel(%)	Pass	
Zn2062		2.5072	ppm	0.0082680	0.32978	2.5000	Rel(%)	Pass	
Y_2243		6,699.8	Cts/S	10.895	0.16262				
Y_3600		49,921	Cts/S	116.10	0.23257				
Y_3774		7,566.2	Cts/S	174.22	2.3027				

CCB 1745955

Acquire Date: 9/30/2019 6:22:59PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00011500	ppm	0.00069400	602.52	.00000	Abs	Pass	
Al3961		0.0060410	ppm	0.0035380	58.558	.00000	Abs	Pass	
As1890		-0.00037700	ppm	0.00069300	183.88	.00000	Abs	Pass	
B_2089		0.017202	ppm	0.00032600	1.8952	.00000	Abs	Pass	
Ba4554		-0.00045200	ppm	0.00025600	56.691	.00000	Abs	Pass	
Be3130		0.00036800	ppm	0.000055000	15.039	.00000	Abs	Pass	
Ca3179		0.0058160	ppm	0.0047410	81.506	.00000	Abs	Pass	
Cd2144		0.000015000	ppm	0.000041000	281.87	.00000	Abs	Pass	
Co2286		0.00049200	ppm	0.0000010000	0.28766	.00000	Abs	Pass	
Cr2677		-0.00046000	ppm	0.00041100	89.237	.00000	Abs	Pass	
Cu3247		0.0036350	ppm	0.00077300	21.267	.00000	Abs	Pass	
Fe2599		-0.0023980	ppm	0.0061540	256.66	.00000	Abs	Pass	
K_7664		0.022463	ppm	0.013196	58.744	.00000	Abs	Pass	
Mg2790		0.0013790	ppm	0.00042500	30.799	.00000	Abs	Pass	
Mn2576		0.00020900	ppm	0.000064000	30.479	.00000	Abs	Pass	
Mo2020		0.00043200	ppm	0.000060000	13.837	.00000	Abs	Pass	
Na5895		0.14520	ppm	0.0063690	4.3867	.00000	Abs	Pass	
Ni2316		-0.00012000	ppm	0.00088600	739.10	.00000	Abs	Pass	
P_1782		-0.00027300	ppm	0.0022700	830.40	.00000	Abs	Pass	
Pb2203		0.0024060	ppm	0.00016900	7.0434	.00000	Abs	Pass	
S_1820		-0.00098400	ppm	0.0029380	298.63	.00000	Abs	Pass	
Sb2068		-0.00038100	ppm	0.00019500	51.189	.00000	Abs	Pass	
Se1960		0.00065600	ppm	0.0017320	263.87	.00000	Abs	Pass	
Si2881		-0.031168	ppm	0.024930	79.985	.00000	Abs	Pass	
Sn1899		0.0013530	ppm	0.00086400	63.878	.00000	Abs	Pass	
Sr4077		0.000069000	ppm	0.000073000	106.78	.00000	Abs	Pass	
Ti3349		-0.00024300	ppm	0.0010280	423.40	.00000	Abs	Pass	
Tl1908		0.00047700	ppm	0.00048000	100.52	.00000	Abs	Pass	
V_2924		0.00061900	ppm	0.00019600	31.644	.00000	Abs	Pass	
Zn2062		0.0019100	ppm	0.00024600	12.858	.00000	Abs	Pass	
Y_2243		6,740.5	Cts/S	3.2253	0.047850				
Y_3600		50,208	Cts/S	22.442	0.044697				
Y_3774		7,345.5	Cts/S	46.516	0.63326				

CCVL 1733852

Acquire Date: 9/30/2019 6:27:00PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.0043090	ppm	0.00020100	4.6626	.00500	Rel(%)	Pass	
Al3961		0.18587	ppm	0.0024840	1.3366	.20000	Rel(%)	Pass	
As1890		0.036882	ppm	0.0012790	3.4665	.04000	Rel(%)	Pass	
B_2089		0.21626	ppm	0.000079000	0.036593	.20000	Rel(%)	Pass	
Ba4554		0.019568	ppm	0.00079400	4.0554	.02000	Rel(%)	Pass	
Be3130		0.0036690	ppm	0.0000080000	0.22308	.00300	Rel(%)	Pass	
Ca3179		0.50593	ppm	0.0061770	1.2210	.50000	Rel(%)	Pass	
Cd2144		0.0032230	ppm	0.000058000	1.8108	.00300	Rel(%)	Pass	
Co2286		0.011184	ppm	0.00017600	1.5766	.01000	Rel(%)	Pass	
Cr2677		0.010261	ppm	0.00042600	4.1481	.01000	Rel(%)	Pass	

CCVL 1733852

Acquire Date: 9/30/2019 6:27:00PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Cu3247		0.016856	ppm	0.00045400	2.6950	.01500	Rel(%)	Pass	
Fe2599		0.092128	ppm	0.0012160	1.3194	.10000	Rel(%)	Pass	
K_7664		1.1300	ppm	0.045039	3.9857	1.0000	Rel(%)	Pass	
Mg2790		0.51652	ppm	0.0027270	0.52795	.50000	Rel(%)	Pass	
Mn2576		0.010149	ppm	0.00015200	1.4939	.01000	Rel(%)	Pass	
Mo2020		0.020465	ppm	0.00034400	1.6801	.02000	Rel(%)	Pass	
Na5895	**F**	**0.67875**	**ppm**	**0.00031800**	**0.046888**	**.50000**	**Rel(%)**	**Fail High**	**30.000**
Ni2316		0.010774	ppm	0.00026400	2.4507	.01000	Rel(%)	Pass	
P_1782		0.56224	ppm	0.0034470	0.61305	.50000	Rel(%)	Pass	
Pb2203		0.011549	ppm	0.0030010	25.984	.01000	Rel(%)	Pass	
S_1820		0.55308	ppm	0.0020700	0.37429	.50000	Rel(%)	Pass	
Sb2068		0.029367	ppm	0.0010260	3.4954	.03000	Rel(%)	Pass	
Se1960		0.044871	ppm	0.0024540	5.4695	.04000	Rel(%)	Pass	
Si2881		0.49185	ppm	0.078258	15.911	.50000	Rel(%)	Pass	
Sn1899		0.021027	ppm	0.00068000	3.2354	.02000	Rel(%)	Pass	
Sr4077		0.050339	ppm	0.00031700	0.62957	.05000	Rel(%)	Pass	
Ti3349		0.010603	ppm	0.00033600	3.1717	.01000	Rel(%)	Pass	
Tl1908		0.031801	ppm	0.000014000	0.043075	.03000	Rel(%)	Pass	
V_2924		0.022046	ppm	0.00010300	0.46566	.02000	Rel(%)	Pass	
Zn2062		0.021643	ppm	0.00014900	0.69070	.02000	Rel(%)	Pass	
Y_2243		6,735.8	Cts/S	8.6809	0.12888				
Y_3600		50,053	Cts/S	163.24	0.32613				
Y_3774		7,293.9	Cts/S	200.24	2.7453				

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Acquire Date: 9/30/2019 6:31:00PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.0011790	ppm	0.00073500	62.367	.00000	Abs	Pass	
Al3961		0.0094920	ppm	0.015427	162.52	.00000	Abs	Pass	
As1890		0.0011230	ppm	0.0022430	199.75	.00000	Abs	Pass	
B_2089		0.0089990	ppm	0.00076400	8.4918	.00000	Abs	Pass	
Ba4554		0.00082700	ppm	0.000080000	9.7219	.00000	Abs	Pass	
Be3130		0.00060300	ppm	0.0000020000	0.27341	.00000	Abs	Pass	
Ca3179		0.071345	ppm	0.011677	16.367	.00000	Abs	Pass	
Cd2144		0.000060000	ppm	0.000059000	98.033	.00000	Abs	Pass	
Co2286		0.000073000	ppm	0.00015900	215.89	.00000	Abs	Pass	
Cr2677		0.000034000	ppm	0.00084000	2,498.5	.00000	Abs	Pass	
Cu3247		0.0015510	ppm	0.00036600	23.607	.00000	Abs	Pass	
Fe2599		0.0016660	ppm	0.0023090	138.60	.00000	Abs	Pass	
K_7664		0.0059580	ppm	0.026922	451.83	.00000	Abs	Pass	
Mg2790		0.0059310	ppm	0.012871	217.03	.00000	Abs	Pass	
Mn2576		0.00032000	ppm	0.00038000	119.00	.00000	Abs	Pass	
Mo2020		-0.00029800	ppm	0.00017500	58.804	.00000	Abs	Pass	
Na5895		0.30566	ppm	0.053371	17.461	.00000	Abs	Pass	
Ni2316		-0.00016400	ppm	0.00043300	264.37	.00000	Abs	Pass	
P_1782		-0.0022030	ppm	0.0012750	57.856	.00000	Abs	Pass	
Pb2203		0.0016620	ppm	0.00047100	28.314	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

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Acquire Date: 9/30/2019 6:31:00PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
S_1820		-0.00075500	ppm	0.0049860	660.39	.00000	Abs	Pass	
Sb2068		-0.00066600	ppm	0.00015900	23.889	.00000	Abs	Pass	
Se1960		0.0031100	ppm	0.0010120	32.552	.00000	Abs	Pass	
Si2881		0.012597	ppm	0.055098	437.39	.00000	Abs	Pass	
Sn1899		0.00041000	ppm	0.000077000	18.846	.00000	Abs	Pass	
Sr4077		0.0017970	ppm	0.00030400	16.896	.00000	Abs	Pass	
Ti3349		-0.00026500	ppm	0.00073500	277.49	.00000	Abs	Pass	
Tl1908		-0.00010700	ppm	0.0013620	1,274.7	.00000	Abs	Pass	
V_2924		0.00099700	ppm	0.00051000	51.173	.00000	Abs	Pass	
Zn2062		-0.00058400	ppm	0.00061100	104.73	.00000	Abs	Pass	
Y_2243		6,760.5	Cts/S	5.5183	0.081626				
Y_3600		50,225	Cts/S	270.23	0.53804				
Y_3774		7,416.3	Cts/S	156.34	2.1080				

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Acquire Date: 9/30/2019 6:35:01PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.000046000	ppm	0.00075700	1,631.1	.00000	Abs	Pass	
Al3961		-0.017732	ppm	0.00034500	1.9479	.00000	Abs	Pass	
As1890		0.00076200	ppm	0.0017050	223.63	.00000	Abs	Pass	
B_2089		0.0070030	ppm	0.00044800	6.3938	.00000	Abs	Pass	
Ba4554		-0.00064400	ppm	0.00035100	54.546	.00000	Abs	Pass	
Be3130		0.00018600	ppm	0.000091000	49.233	.00000	Abs	Pass	
Ca3179		0.0059240	ppm	0.0011660	19.679	.00000	Abs	Pass	
Cd2144		0.000013000	ppm	0.000070000	521.57	.00000	Abs	Pass	
Co2286		0.00014600	ppm	0.00010000	68.652	.00000	Abs	Pass	
Cr2677		-0.00020300	ppm	0.00047200	232.85	.00000	Abs	Pass	
Cu3247		0.0010980	ppm	0.0015510	141.27	.00000	Abs	Pass	
Fe2599		-0.016730	ppm	0.0020250	12.104	.00000	Abs	Pass	
K_7664		-0.012013	ppm	0.063211	526.17	.00000	Abs	Pass	
Mg2790		0.0015660	ppm	0.00068200	43.540	.00000	Abs	Pass	
Mn2576		0.000099000	ppm	0.000028000	28.743	.00000	Abs	Pass	
Mo2020		0.000056000	ppm	0.00012800	228.36	.00000	Abs	Pass	
Na5895		0.10368	ppm	0.0020500	1.9772	.00000	Abs	Pass	
Ni2316		0.000019000	ppm	0.00058500	3,094.1	.00000	Abs	Pass	
P_1782		-0.0019790	ppm	0.00062800	31.726	.00000	Abs	Pass	
Pb2203		-0.00028900	ppm	0.0052580	1,817.8	.00000	Abs	Pass	
S_1820		0.0014970	ppm	0.0024090	160.87	.00000	Abs	Pass	
Sb2068		0.000082000	ppm	0.0033520	4,093.4	.00000	Abs	Pass	
Se1960		-0.00056900	ppm	0.0033690	592.33	.00000	Abs	Pass	
Si2881		-0.033450	ppm	0.048962	146.37	.00000	Abs	Pass	
Sn1899		0.00053500	ppm	0.00066200	123.67	.00000	Abs	Pass	
Sr4077		.0000080000	ppm	0.00013700	1,703.2	.00000	Abs	Pass	
Ti3349		-0.00076600	ppm	0.00027700	36.234	.00000	Abs	Pass	
Tl1908		.0000010000	ppm	0.00033200	48,759	.00000	Abs	Pass	
V_2924		0.00019000	ppm	0.00074800	394.08	.00000	Abs	Pass	
Zn2062		-0.00091200	ppm	0.00017200	18.897	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

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Acquire Date: 9/30/2019 6:35:01PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Y_2243		6,733.4	Cts/S	3.1224	0.046372				
Y_3600		50,355	Cts/S	173.86	0.34528				
Y_3774		7,367.5	Cts/S	137.92	1.8720				

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Acquire Date: 9/30/2019 6:39:02PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00090600	ppm	0.00011400	12.555	.00000	Abs	Pass	
Al3961		-0.012012	ppm	0.0042280	35.202	.00000	Abs	Pass	
As1890		-0.00051100	ppm	0.000045000	8.8757	.00000	Abs	Pass	
B_2089		0.0051740	ppm	0.00035500	6.8693	.00000	Abs	Pass	
Ba4554		-0.00022700	ppm	0.00016500	72.757	.00000	Abs	Pass	
Be3130		0.00027500	ppm	0.000025000	9.0173	.00000	Abs	Pass	
Ca3179		0.0024670	ppm	0.00079000	32.016	.00000	Abs	Pass	
Cd2144		0.000017000	ppm	0.000036000	214.60	.00000	Abs	Pass	
Co2286		0.000045000	ppm	0.00049200	1,094.1	.00000	Abs	Pass	
Cr2677		-0.00059900	ppm	0.00045700	76.310	.00000	Abs	Pass	
Cu3247		0.0021750	ppm	0.0011990	55.121	.00000	Abs	Pass	
Fe2599		-0.0064280	ppm	0.0021070	32.770	.00000	Abs	Pass	
K_7664		0.021395	ppm	0.0092730	43.341	.00000	Abs	Pass	
Mg2790		-0.0051190	ppm	0.0079080	154.49	.00000	Abs	Pass	
Mn2576		0.000062000	ppm	0.0000060000	9.1175	.00000	Abs	Pass	
Mo2020		-0.00036800	ppm	0.0000070000	1.9016	.00000	Abs	Pass	
Na5895		0.10287	ppm	0.030269	29.426	.00000	Abs	Pass	
Ni2316		-0.00053100	ppm	0.000068000	12.814	.00000	Abs	Pass	
P_1782		-0.0010440	ppm	0.00080300	76.887	.00000	Abs	Pass	
Pb2203		-0.0025720	ppm	0.0011590	45.080	.00000	Abs	Pass	
S_1820		0.0017770	ppm	0.00028000	15.754	.00000	Abs	Pass	
Sb2068		0.0017370	ppm	0.0022070	127.10	.00000	Abs	Pass	
Se1960		0.0014100	ppm	0.0051870	367.89	.00000	Abs	Pass	
Si2881		-0.0012470	ppm	0.0085010	681.56	.00000	Abs	Pass	
Sn1899		0.00015200	ppm	0.00034500	226.76	.00000	Abs	Pass	
Sr4077		-0.00012900	ppm	0.000066000	50.961	.00000	Abs	Pass	
Ti3349		-0.00067600	ppm	0.000029000	4.2279	.00000	Abs	Pass	
Tl1908		0.00036900	ppm	0.00015900	43.198	.00000	Abs	Pass	
V_2924		0.00042300	ppm	0.00075000	177.07	.00000	Abs	Pass	
Zn2062		-0.00047200	ppm	0.000080000	17.012	.00000	Abs	Pass	
Y_2243		6,805.8	Cts/S	6.9219	0.10171				
Y_3600		49,877	Cts/S	157.15	0.31508				
Y_3774		7,284.6	Cts/S	202.93	2.7857				

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Acquire Date: 9/30/2019 6:43:02PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 490

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00090200	ppm	0.0018230	202.10	.00000	Abs	Pass	
Al3961		-0.024704	ppm	0.015838	64.113	.00000	Abs	Pass	
As1890		0.0012340	ppm	0.00037400	30.284	.00000	Abs	Pass	
B_2089		0.0038320	ppm	0.00066200	17.278	.00000	Abs	Pass	
Ba4554		-0.00031000	ppm	0.00018800	60.540	.00000	Abs	Pass	
Be3130		0.00014200	ppm	0.0000090000	5.9891	.00000	Abs	Pass	
Ca3179		0.0041550	ppm	0.0039080	94.072	.00000	Abs	Pass	
Cd2144		0.000057000	ppm	0.000050000	86.634	.00000	Abs	Pass	
Co2286		0.00011500	ppm	0.00043200	376.82	.00000	Abs	Pass	
Cr2677		-0.00073500	ppm	0.00040400	55.030	.00000	Abs	Pass	
Cu3247		0.0020660	ppm	0.00013200	6.3753	.00000	Abs	Pass	
Fe2599		-0.0028890	ppm	0.0055870	193.40	.00000	Abs	Pass	
K_7664		0.064614	ppm	0.0027110	4.1958	.00000	Abs	Pass	
Mg2790		-0.0059690	ppm	0.0010790	18.070	.00000	Abs	Pass	
Mn2576		0.000019000	ppm	0.000016000	81.408	.00000	Abs	Pass	
Mo2020		0.000069000	ppm	0.000094000	137.48	.00000	Abs	Pass	
Na5895		0.083922	ppm	0.0030360	3.6172	.00000	Abs	Pass	
Ni2316		-0.00035600	ppm	0.00044800	125.93	.00000	Abs	Pass	
P_1782		-0.0020380	ppm	0.00068700	33.720	.00000	Abs	Pass	
Pb2203		0.00040900	ppm	0.0010790	263.82	.00000	Abs	Pass	
S_1820		-0.0013150	ppm	0.00075700	57.589	.00000	Abs	Pass	
Sb2068		-0.00056300	ppm	0.00067900	120.65	.00000	Abs	Pass	
Se1960		0.0020110	ppm	0.0015780	78.480	.00000	Abs	Pass	
Si2881		-0.035741	ppm	0.000086000	0.24142	.00000	Abs	Pass	
Sn1899		0.00038300	ppm	0.00070900	185.03	.00000	Abs	Pass	
Sr4077		0.00010600	ppm	0.00018200	171.71	.00000	Abs	Pass	
Ti3349		0.000044000	ppm	0.000029000	65.804	.00000	Abs	Pass	
Tl1908		0.00033000	ppm	0.0015690	474.86	.00000	Abs	Pass	
V_2924		0.00071100	ppm	0.00053400	75.116	.00000	Abs	Pass	
Zn2062		-0.00056500	ppm	0.00015800	27.929	.00000	Abs	Pass	
Y_2243		6,746.1	Cts/S	5.1125	0.075784				
Y_3600		50,084	Cts/S	254.34	0.50782				
Y_3774		7,259.0	Cts/S	251.41	3.4634				

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

Test America-West Sacramento methods 6010b and 200.7

Author: GH

Published: 10/2/2019 8:16:20AM

Notes:

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Acquire Date: 10/1/2019 2:27:42PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00067000	ppm	0.00093400	139.34	.00000	Abs	Pass	
Al3961		0.0080750	ppm	0.0020480	25.364	.00000	Abs	Pass	
As1890		-0.0025920	ppm	0.0019690	75.969	.00000	Abs	Pass	
B_2089		-0.0011920	ppm	0.00064400	54.053	.00000	Abs	Pass	
Ba4554		-0.00029100	ppm	0.00023300	80.201	.00000	Abs	Pass	
Be3130		0.00030700	ppm	0.00016400	53.530	.00000	Abs	Pass	
Ca3179		0.020135	ppm	0.0042220	20.970	.00000	Abs	Pass	
Cd2144		0.000030000	ppm	0.000049000	161.53	.00000	Abs	Pass	
Co2286		0.000024000	ppm	0.00013000	540.12	.00000	Abs	Pass	
Cr2677		-0.00014700	ppm	0.00064900	441.33	.00000	Abs	Pass	
Cu3247		0.00067300	ppm	0.0011770	174.83	.00000	Abs	Pass	
Fe2599		0.0072070	ppm	0.0023690	32.876	.00000	Abs	Pass	
K_7664		0.029444	ppm	0.024444	83.018	.00000	Abs	Pass	
Mg2790		-0.0081510	ppm	0.0019180	23.526	.00000	Abs	Pass	
Mn2576		0.00038700	ppm	0.000043000	11.230	.00000	Abs	Pass	
Mo2020		0.000010000	ppm	0.00046300	4,844.0	.00000	Abs	Pass	
Na5895		0.031952	ppm	0.0018380	5.7526	.00000	Abs	Pass	
Ni2316		0.00010900	ppm	0.00010500	96.327	.00000	Abs	Pass	
P_1782		-0.0039020	ppm	0.00028700	7.3541	.00000	Abs	Pass	
Pb2203		-0.00020600	ppm	0.00029000	140.60	.00000	Abs	Pass	
S_1820		0.0016410	ppm	0.0011570	70.496	.00000	Abs	Pass	
Sb2068		0.0018420	ppm	0.00045200	24.517	.00000	Abs	Pass	
Se1960		0.0012930	ppm	0.0013950	107.92	.00000	Abs	Pass	
Si2881		-0.018271	ppm	0.037898	207.42	.00000	Abs	Pass	
Sn1899		-0.00035400	ppm	0.00071700	202.35	.00000	Abs	Pass	
Sr4077		0.000062000	ppm	0.00012100	196.34	.00000	Abs	Pass	
Ti3349		-0.00021100	ppm	0.00019500	92.560	.00000	Abs	Pass	
Tl1908		-0.00083800	ppm	0.0011900	142.04	.00000	Abs	Pass	
V_2924		0.00039100	ppm	0.00037500	95.866	.00000	Abs	Pass	
Zn2062		-0.0012890	ppm	0.00036700	28.449	.00000	Abs	Pass	
Y_2243		6,921.0	Cts/S	54.388	0.78584				
Y_3600		50,118	Cts/S	284.97	0.56860				
Y_3774		7,196.5	Cts/S	40.567	0.56370				

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Acquire Date: 10/1/2019 2:31:42PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.000011000	ppm	0.00067800	6,121.8	.00000	Abs	Pass	
Al3961		0.017487	ppm	0.0017990	10.286	.00000	Abs	Pass	
As1890		-0.0028770	ppm	0.00038100	13.256	.00000	Abs	Pass	
B_2089		-0.0018340	ppm	0.00080100	43.658	.00000	Abs	Pass	
Ba4554		-0.00016500	ppm	0.00034300	207.44	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

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Acquire Date: 10/1/2019 2:31:42PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Be3130		0.00028200	ppm	0.00012000	42.556	.00000	Abs	Pass	
Ca3179		0.0081270	ppm	0.0041870	51.523	.00000	Abs	Pass	
Cd2144		0.00010600	ppm	0.000052000	49.513	.00000	Abs	Pass	
Co2286		0.00040500	ppm	0.000041000	10.145	.00000	Abs	Pass	
Cr2677		-0.00014000	ppm	0.00056400	401.92	.00000	Abs	Pass	
Cu3247		0.0015710	ppm	0.0016120	102.62	.00000	Abs	Pass	
Fe2599		0.012229	ppm	0.0053470	43.720	.00000	Abs	Pass	
K_7664		0.046522	ppm	0.019663	42.266	.00000	Abs	Pass	
Mg2790		-0.0045050	ppm	0.00010500	2.3334	.00000	Abs	Pass	
Mn2576		0.00012600	ppm	0.000065000	51.234	.00000	Abs	Pass	
Mo2020		-0.00044400	ppm	0.00019400	43.711	.00000	Abs	Pass	
Na5895		0.065426	ppm	0.0023580	3.6037	.00000	Abs	Pass	
Ni2316		-0.00069500	ppm	0.00019800	28.471	.00000	Abs	Pass	
P_1782		-0.0044310	ppm	0.0025700	57.999	.00000	Abs	Pass	
Pb2203		0.0021580	ppm	0.00029700	13.757	.00000	Abs	Pass	
S_1820		-0.00048100	ppm	0.00078400	162.83	.00000	Abs	Pass	
Sb2068		-0.0016830	ppm	0.00025600	15.188	.00000	Abs	Pass	
Se1960		-0.00061200	ppm	0.0016410	268.12	.00000	Abs	Pass	
Si2881		-0.031431	ppm	0.056449	179.60	.00000	Abs	Pass	
Sn1899		0.000099000	ppm	0.00040400	408.10	.00000	Abs	Pass	
Sr4077		-0.00010500	ppm	0.00015500	147.25	.00000	Abs	Pass	
Ti3349		0.00042700	ppm	0.00083000	194.34	.00000	Abs	Pass	
Tl1908		-0.0025400	ppm	0.0031390	123.60	.00000	Abs	Pass	
V_2924		0.000092000	ppm	0.00083100	904.27	.00000	Abs	Pass	
Zn2062		-0.00058000	ppm	0.00010400	17.895	.00000	Abs	Pass	
Y_2243		6,916.4	Cts/S	20.263	0.29297				
Y_3600		50,620	Cts/S	108.15	0.21365				
Y_3774		7,172.9	Cts/S	187.39	2.6125				

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Acquire Date: 10/1/2019 2:35:43PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.00053500	ppm	0.00067400	125.97	.00000	Abs	Pass	
Al3961		0.0041070	ppm	0.0016100	39.189	.00000	Abs	Pass	
As1890		-0.0020190	ppm	0.0022410	111.00	.00000	Abs	Pass	
B_2089		-0.0019940	ppm	0.000090000	4.5168	.00000	Abs	Pass	
Ba4554		-0.00033400	ppm	0.00049900	149.18	.00000	Abs	Pass	
Be3130		0.00019800	ppm	0.000069000	34.775	.00000	Abs	Pass	
Ca3179		0.0076590	ppm	0.011428	149.22	.00000	Abs	Pass	
Cd2144		0.000050000	ppm	0.000052000	104.12	.00000	Abs	Pass	
Co2286		0.00016400	ppm	0.00028800	175.31	.00000	Abs	Pass	
Cr2677		-0.00037100	ppm	0.00019000	51.333	.00000	Abs	Pass	
Cu3247		0.00014500	ppm	0.000071000	48.956	.00000	Abs	Pass	
Fe2599		-0.0021090	ppm	0.010674	506.18	.00000	Abs	Pass	
K_7664		0.097318	ppm	0.053428	54.901	.00000	Abs	Pass	
Mg2790		0.0034580	ppm	0.0020710	59.878	.00000	Abs	Pass	
Mn2576		0.00013400	ppm	0.000041000	30.328	.00000	Abs	Pass	

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Acquire Date: 10/1/2019 2:35:43PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Mo2020		-0.00049900	ppm	0.00013800	27.563	.00000	Abs	Pass	
Na5895		0.050513	ppm	0.0023010	4.5554	.00000	Abs	Pass	
Ni2316		-0.0012470	ppm	0.00044500	35.681	.00000	Abs	Pass	
P_1782		-0.0020190	ppm	0.0022270	110.29	.00000	Abs	Pass	
Pb2203		0.00000	ppm	0.0021520	4,997,800	.00000	Abs	Pass	
S_1820		-0.0035210	ppm	0.0058520	166.21	.00000	Abs	Pass	
Sb2068		0.0013700	ppm	0.0013760	100.47	.00000	Abs	Pass	
Se1960		-0.0011580	ppm	0.00097200	83.898	.00000	Abs	Pass	
Si2881		-0.025689	ppm	0.040841	158.98	.00000	Abs	Pass	
Sn1899		0.000065000	ppm	0.00030900	474.10	.00000	Abs	Pass	
Sr4077		-0.00010100	ppm	0.000017000	17.009	.00000	Abs	Pass	
Ti3349		0.00021200	ppm	0.00035200	166.09	.00000	Abs	Pass	
Tl1908		-0.0017930	ppm	0.0011280	62.949	.00000	Abs	Pass	
V_2924		0.000053000	ppm	0.000068000	128.56	.00000	Abs	Pass	
Zn2062		-0.00081000	ppm	0.00017400	21.485	.00000	Abs	Pass	
Y_2243		6,883.8	Cts/S	5.2387	0.076101				
Y_3600		50,291	Cts/S	106.65	0.21206				
Y_3774		7,171.7	Cts/S	62.178	0.86700				

CALSTD0 1707965

Acquire Date: 10/1/2019 2:39:44PM Sample Type: Standard

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00051000	Cts/S	0.000063000	12.331
Al3961		0.0037790	Cts/S	0.00044600	11.803
As1890		-0.00023100	Cts/S	0.0000090000	4.1065
B_2089		0.00067400	Cts/S	0.00021000	31.198
Ba4554		0.0053150	Cts/S	0.0022790	42.872
Be3130		-0.0010400	Cts/S	0.00019200	18.442
Ca3179		0.0063590	Cts/S	0.00021900	3.4423
Cd2144		0.00014400	Cts/S	0.00028300	196.80
Co2286		0.00011100	Cts/S	0.00014000	126.56
Cr2677		0.00013300	Cts/S	0.000063000	47.712
Cu3247		0.0028260	Cts/S	0.000089000	3.1395
Fe2599		0.00030800	Cts/S	0.00011800	38.254
K_7664		0.0022310	Cts/S	0.0019100	85.608
Mg2790		0.000019000	Cts/S	0.000034000	180.82
Mn2576		0.000022000	Cts/S	0.000046000	207.63
Mo2020		0.00014000	Cts/S	0.000076000	54.753
Na5895		-0.0010640	Cts/S	0.00049800	46.811
Ni2316		0.00048500	Cts/S	0.00012100	24.931
P_1782		0.000069000	Cts/S	0.000078000	113.02
Pb2203		0.000031000	Cts/S	0.00012500	410.30
S_1820		0.00033400	Cts/S	0.000077000	23.128
Sb2068		0.000085000	Cts/S	0.00015300	178.83
Se1960		0.00016800	Cts/S	0.00012300	73.065
Si2881		0.00052200	Cts/S	0.000080000	15.359
Sn1899		0.00038800	Cts/S	0.00014300	36.789

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CALSTD0 1707965

Acquire Date: 10/1/2019 2:39:44PM Sample Type: Standard

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Sr4077		-0.0031290	Cts/S	0.00022000	7.0460
Ti3349		-0.00017900	Cts/S	0.000056000	31.452
Tl1908		0.000075000	Cts/S	0.000012000	16.208
V_2924		0.00015000	Cts/S	0.000050000	33.569
Zn2062		0.000022000	Cts/S	0.0000030000	12.835
Y_2243		6,886.3	Cts/S	11.333	0.16458
Y_3600		50,645	Cts/S	6.3547	0.012547
Y_3774		7,203.3	Cts/S	150.94	2.0954

CALSTD1 1694100

Acquire Date: 10/1/2019 2:43:44PM Sample Type: Standard

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.12468	Cts/S	0.00055100	0.44199
Al3961		2.3980	Cts/S	0.0014700	0.061314
As1890		0.053149	Cts/S	0.00025300	0.47634
B_2089		0.43065	Cts/S	0.0013120	0.30468
Ba4554		13.425	Cts/S	0.042072	0.31339
Be3130		1.8953	Cts/S	0.0038930	0.20538
Ca3179		2.5904	Cts/S	0.0084800	0.32736
Cd2144		1.7012	Cts/S	0.0028920	0.16999
Co2286		3.0255	Cts/S	0.0063660	0.21041
Cr2677		0.68604	Cts/S	0.0016660	0.24281
Cu3247		0.45773	Cts/S	0.00075700	0.16531
Fe2599		1.0507	Cts/S	0.0036070	0.34329
K_7664		2.1817	Cts/S	0.0045040	0.20643
Mg2790		0.46766	Cts/S	0.0014070	0.30081
Mn2576		3.3740	Cts/S	0.010499	0.31118
Mo2020		0.76954	Cts/S	0.0024130	0.31352
Na5895		7.3389	Cts/S	0.015483	0.21097
Ni2316		1.1397	Cts/S	0.0027180	0.23853
P_1782		0.15591	Cts/S	0.00063200	0.40540
Pb2203		0.12361	Cts/S	0.00044200	0.35779
S_1820		0.11143	Cts/S	0.00030000	0.26953
Sb2068		0.063857	Cts/S	0.00027800	0.43581
Se1960		0.041926	Cts/S	0.000061000	0.14481
Si2881		0.050340	Cts/S	0.00023900	0.47414
Sn1899		0.99463	Cts/S	0.0026720	0.26867
Sr4077		17.293	Cts/S	0.048850	0.28249
Ti3349		0.29782	Cts/S	0.00086400	0.29013
Tl1908		0.049974	Cts/S	0.00018400	0.36728
V_2924		0.91898	Cts/S	0.0025180	0.27396
Zn2062		0.26716	Cts/S	0.00095000	0.35560
Y_2243		6,706.9	Cts/S	30.687	0.45754
Y_3600		49,451	Cts/S	11.080	0.022407
Y_3774		7,239.0	Cts/S	145.20	2.0058

CALSTD2 1732511

Acquire Date: 10/1/2019 2:47:27PM Sample Type: Standard

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Al3961		12.269	Cts/S	0.011721	0.095529
Ca3179		12.760	Cts/S	0.010664	0.083573
Fe2599		5.1559	Cts/S	0.0032060	0.062189
K_7664		11.042	Cts/S	0.032825	0.29728
Mg2790		2.3510	Cts/S	0.0024620	0.10473
Na5895		37.207	Cts/S	0.015296	0.041111
P_1782		1.5813	Cts/S	0.0021620	0.13675
S_1820		5.5950	Cts/S	0.0037790	0.067548
Y_2243		6,349.8	Cts/S	7.5641	0.11912
Y_3600		46,430	Cts/S	117.15	0.25230
Y_3774		6,924.3	Cts/S	378.79	5.4705

LRA 1751471

Acquire Date: 10/1/2019 2:51:22PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		2.0109	ppm	0.00075600	0.037600	2.0000	Rel(%)	Pass	
Al3961		97.553	ppm	0.32912	0.33738	100.00	Rel(%)	Pass	
As1890		2.0102	ppm	0.00055100	0.027429	2.0000	Rel(%)	Pass	
B_2089		3.9793	ppm	0.00087800	0.022073	4.0000	Rel(%)	Pass	
Ba4554		9.8290	ppm	0.041675	0.42400	10.000	Rel(%)	Pass	
Be3130		1.9656	ppm	0.0061570	0.31326	2.0000	Rel(%)	Pass	
Ca3179		99.015	ppm	0.30484	0.30787	100.00	Rel(%)	Pass	
Cd2144		1.9669	ppm	0.0028590	0.14534	2.0000	Rel(%)	Pass	
Co2286		9.9626	ppm	0.0089500	0.089832	10.000	Rel(%)	Pass	
Cr2677		9.9148	ppm	0.034241	0.34535	10.000	Rel(%)	Pass	
Cu3247		10.077	ppm	0.014835	0.14721	10.000	Rel(%)	Pass	
Fe2599		98.600	ppm	0.29749	0.30171	100.00	Rel(%)	Pass	
K_7664		98.364	ppm	0.33292	0.33846	100.00	Rel(%)	Pass	
Mg2790		99.638	ppm	0.24095	0.24183	100.00	Rel(%)	Pass	
Mn2576		9.5694	ppm	0.020611	0.21538	10.000	Rel(%)	Pass	
Mo2020		3.9969	ppm	0.00041500	0.010395	4.0000	Rel(%)	Pass	
Na5895		97.772	ppm	0.28329	0.28975	100.00	Rel(%)	Pass	
Ni2316		9.8446	ppm	0.011493	0.11675	10.000	Rel(%)	Pass	
P_1782		9.9932	ppm	0.0098760	0.098829	10.000	Rel(%)	Pass	
Pb2203		1.9968	ppm	0.0047300	0.23690	2.0000	Rel(%)	Pass	
S_1820		9.9141	ppm	0.036757	0.37075	10.000	Rel(%)	Pass	
Sb2068		2.0127	ppm	0.000081000	0.0040080	2.0000	Rel(%)	Pass	
Se1960		1.9924	ppm	0.0031400	0.15758	2.0000	Rel(%)	Pass	
Si2881		9.9521	ppm	0.079711	0.80095	10.000	Rel(%)	Pass	
Sn1899		9.8912	ppm	0.014308	0.14465	10.000	Rel(%)	Pass	
Sr4077		9.7082	ppm	0.089224	0.91906	10.000	Rel(%)	Pass	
Ti3349		3.9906	ppm	0.011679	0.29265	4.0000	Rel(%)	Pass	
Tl1908		1.9843	ppm	0.00045900	0.023110	2.0000	Rel(%)	Pass	
V_2924		10.044	ppm	0.018633	0.18551	10.000	Rel(%)	Pass	
Zn2062		9.6835	ppm	0.030896	0.31906	10.000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

LRA 1751471

Acquire Date: 10/1/2019 2:51:22PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Y_2243		6,444.7	Cts/S	61.935	0.96102				
Y_3600		47,999	Cts/S	202.76	0.42243				
Y_3774		7,155.1	Cts/S	202.74	2.8334				

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Acquire Date: 10/1/2019 2:55:14PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.00031200	ppm	0.00022800	72.930	.00000	Abs	Pass	
Al3961		0.011282	ppm	0.0096120	85.200	.00000	Abs	Pass	
As1890		0.00087100	ppm	0.0013780	158.20	.00000	Abs	Pass	
B_2089		0.015743	ppm	0.000076000	0.48256	.00000	Abs	Pass	
Ba4554		0.00048900	ppm	0.00044000	89.858	.00000	Abs	Pass	
Be3130		0.00026300	ppm	0.00014300	54.517	.00000	Abs	Pass	
Ca3179		0.0094340	ppm	0.015633	165.70	.00000	Abs	Pass	
Cd2144		0.000074000	ppm	0.00010200	138.38	.00000	Abs	Pass	
Co2286		0.00082700	ppm	0.00040000	48.405	.00000	Abs	Pass	
Cr2677		0.0014510	ppm	0.00021600	14.889	.00000	Abs	Pass	
Cu3247		0.0085080	ppm	0.00017900	2.1082	.00000	Abs	Pass	
Fe2599		0.015052	ppm	0.0079450	52.786	.00000	Abs	Pass	
K_7664		0.053415	ppm	0.023182	43.400	.00000	Abs	Pass	
Mg2790		0.0089680	ppm	0.0024780	27.626	.00000	Abs	Pass	
Mn2576		0.0013640	ppm	0.00032500	23.828	.00000	Abs	Pass	
Mo2020		0.0029410	ppm	0.00053100	18.046	.00000	Abs	Pass	
Na5895		0.087982	ppm	0.011110	12.627	.00000	Abs	Pass	
Ni2316		0.0011640	ppm	0.00075900	65.185	.00000	Abs	Pass	
P_1782		0.0016940	ppm	0.000060000	3.5395	.00000	Abs	Pass	
Pb2203		-0.0013580	ppm	0.00094900	69.891	.00000	Abs	Pass	
S_1820		-0.0024380	ppm	0.0010940	44.886	.00000	Abs	Pass	
Sb2068		-0.0011850	ppm	0.0027480	231.81	.00000	Abs	Pass	
Se1960		-0.0045890	ppm	0.0023450	51.109	.00000	Abs	Pass	
Si2881		0.00041300	ppm	0.041391	10,015	.00000	Abs	Pass	
Sn1899		0.0029700	ppm	0.00014800	4.9830	.00000	Abs	Pass	
Sr4077		0.00089100	ppm	0.00011300	12.722	.00000	Abs	Pass	
Ti3349		0.0019130	ppm	0.00037400	19.558	.00000	Abs	Pass	
Tl1908		-0.0012040	ppm	0.0020170	167.54	.00000	Abs	Pass	
V_2924		0.00076500	ppm	0.00045500	59.484	.00000	Abs	Pass	
Zn2062	**W**	**0.0086310**	**ppm**	**0.0012270**	**14.219**	**.00000**	**Abs**	**Warn High**	**0.00500**
Y_2243		6,837.3	Cts/S	22.380	0.32733				
Y_3600		50,341	Cts/S	342.71	0.68077				
Y_3774		7,002.2	Cts/S	368.28	5.2595				

ICV 1752166

Acquire Date: 10/1/2019 2:59:14PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.25016	ppm	0.0015000	0.59956	.25000	Rel(%)	Pass	
Al3961		9.9334	ppm	0.094935	0.95571	10.000	Rel(%)	Pass	
As1890		0.97486	ppm	0.00048500	0.049709	1.0000	Rel(%)	Pass	
B_2089		0.50999	ppm	0.00031300	0.061356	.50000	Rel(%)	Pass	
Ba4554		0.99828	ppm	0.0045520	0.45598	1.0000	Rel(%)	Pass	
Be3130		1.0276	ppm	0.0036400	0.35420	1.0000	Rel(%)	Pass	
Ca3179		10.214	ppm	0.030309	0.29676	10.000	Rel(%)	Pass	
Cd2144		1.0273	ppm	0.0026890	0.26170	1.0000	Rel(%)	Pass	
Co2286		1.0183	ppm	0.0018200	0.17873	1.0000	Rel(%)	Pass	
Cr2677		1.0267	ppm	0.0028650	0.27902	1.0000	Rel(%)	Pass	
Cu3247		1.0067	ppm	0.0021490	0.21351	1.0000	Rel(%)	Pass	
Fe2599		10.290	ppm	0.038520	0.37434	10.000	Rel(%)	Pass	
K_7664		10.051	ppm	0.0019450	0.019355	10.000	Rel(%)	Pass	
Mg2790		10.070	ppm	0.0088680	0.088064	10.000	Rel(%)	Pass	
Mn2576		1.0255	ppm	0.0021850	0.21307	1.0000	Rel(%)	Pass	
Mo2020		1.0049	ppm	0.0036920	0.36743	1.0000	Rel(%)	Pass	
Na5895		10.074	ppm	0.040213	0.39919	10.000	Rel(%)	Pass	
Ni2316		1.0337	ppm	0.0018590	0.17984	1.0000	Rel(%)	Pass	
P_1782		2.0008	ppm	0.0051780	0.25880	2.0000	Rel(%)	Pass	
Pb2203		1.0302	ppm	0.0030040	0.29163	1.0000	Rel(%)	Pass	
S_1820		2.0091	ppm	0.0034280	0.17064	2.0000	Rel(%)	Pass	
Sb2068	**W**	**0.92463**	**ppm**	**0.0019950**	**0.21572**	**1.0000**	**Rel(%)**	**Warn Low**	**-5.0000**
Se1960		1.0180	ppm	0.0025150	0.24706	1.0000	Rel(%)	Pass	
Si2881		9.9626	ppm	0.042062	0.42220	10.000	Rel(%)	Pass	
Sn1899		1.0132	ppm	0.0020220	0.19958	1.0000	Rel(%)	Pass	
Sr4077		0.99378	ppm	0.0058300	0.58661	1.0000	Rel(%)	Pass	
Ti3349		1.0081	ppm	0.0013590	0.13477	1.0000	Rel(%)	Pass	
Tl1908		1.0224	ppm	0.0031560	0.30866	1.0000	Rel(%)	Pass	
V_2924		1.0139	ppm	0.00085900	0.084769	1.0000	Rel(%)	Pass	
Zn2062	**W**	**1.0630**	**ppm**	**0.00050400**	**0.047456**	**1.0000**	**Rel(%)**	**Warn High**	**5.0000**
Y_2243		6,819.7	Cts/S	17.177	0.25187				
Y_3600		49,900	Cts/S	77.346	0.15500				
Y_3774		7,055.7	Cts/S	281.27	3.9865				

ICBIS 1745955

Acquire Date: 10/1/2019 3:02:58PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.00031900	ppm	0.00055700	174.65	.00000	Abs	Pass	
Al3961		0.012298	ppm	0.026205	213.09	.00000	Abs	Pass	
As1890		0.0015110	ppm	0.00012800	8.4655	.00000	Abs	Pass	
B_2089		0.0073040	ppm	0.00052600	7.2012	.00000	Abs	Pass	
Ba4554		-0.00016700	ppm	0.00032800	196.20	.00000	Abs	Pass	
Be3130		0.000038000	ppm	0.000066000	172.37	.00000	Abs	Pass	
Ca3179		0.0026300	ppm	0.0087840	334.02	.00000	Abs	Pass	
Cd2144		0.000011000	ppm	0.000044000	408.70	.00000	Abs	Pass	
Co2286		0.000029000	ppm	0.00031400	1,082.0	.00000	Abs	Pass	
Cr2677		0.00014100	ppm	0.000096000	67.826	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

ICBIS 1745955

Acquire Date: 10/1/2019 3:02:58PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Cu3247		0.0021440	ppm	0.00053900	25.139	.00000	Abs	Pass	
Fe2599		0.00020700	ppm	0.0018180	878.40	.00000	Abs	Pass	
K_7664		-0.013252	ppm	0.055439	418.33	.00000	Abs	Pass	
Mg2790		0.0068300	ppm	0.0026920	39.407	.00000	Abs	Pass	
Mn2576		0.000065000	ppm	0.000043000	66.066	.00000	Abs	Pass	
Mo2020		0.00071600	ppm	0.000058000	8.1410	.00000	Abs	Pass	
Na5895		-0.0098700	ppm	0.0035790	36.266	.00000	Abs	Pass	
Ni2316		0.00039600	ppm	0.00053900	135.98	.00000	Abs	Pass	
P_1782		0.0027030	ppm	0.0011160	41.305	.00000	Abs	Pass	
Pb2203		-0.00074600	ppm	0.00021200	28.355	.00000	Abs	Pass	
S_1820		-0.0089280	ppm	0.0026820	30.037	.00000	Abs	Pass	
Sb2068		-0.0016630	ppm	0.00085000	51.073	.00000	Abs	Pass	
Se1960		-0.00071500	ppm	0.0020170	282.14	.00000	Abs	Pass	
Si2881		0.010627	ppm	0.0016980	15.978	.00000	Abs	Pass	
Sn1899		0.00056900	ppm	0.00097100	170.78	.00000	Abs	Pass	
Sr4077		-0.00011000	ppm	0.00027100	245.10	.00000	Abs	Pass	
Ti3349		0.0011940	ppm	0.00028700	24.035	.00000	Abs	Pass	
Tl1908		-0.0013750	ppm	0.00078200	56.869	.00000	Abs	Pass	
V_2924		0.000052000	ppm	0.00029000	558.21	.00000	Abs	Pass	
Zn2062		0.0013940	ppm	0.00016700	11.983	.00000	Abs	Pass	
Y_2243		6,920.3	Cts/S	56.385	0.81477				
Y_3600		50,678	Cts/S	54.343	0.10723				
Y_3774		7,115.4	Cts/S	299.97	4.2158				

CRI 1733852

Acquire Date: 10/1/2019 3:06:59PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.0057030	ppm	0.000085000	1.4858	.00500	Rel(%)	Pass	
Al3961		0.16291	ppm	0.0085630	5.2562	.20000	Rel(%)	Pass	
As1890		0.038208	ppm	0.0024200	6.3349	.04000	Rel(%)	Pass	
B_2089		0.20214	ppm	0.0013230	0.65455	.20000	Rel(%)	Pass	
Ba4554		0.018918	ppm	0.00010100	0.53310	.02000	Rel(%)	Pass	
Be3130		0.0028940	ppm	0.00011300	3.8958	.00300	Rel(%)	Pass	
Ca3179		0.50676	ppm	0.0013690	0.27024	.50000	Rel(%)	Pass	
Cd2144		0.0030190	ppm	0.000010000	0.34322	.00300	Rel(%)	Pass	
Co2286		0.010109	ppm	0.00041800	4.1385	.01000	Rel(%)	Pass	
Cr2677		0.010218	ppm	0.00064800	6.3458	.01000	Rel(%)	Pass	
Cu3247		0.015497	ppm	0.00027300	1.7596	.01500	Rel(%)	Pass	
Fe2599		0.10092	ppm	0.0044380	4.3981	.10000	Rel(%)	Pass	
K_7664		0.95818	ppm	0.020729	2.1634	1.0000	Rel(%)	Pass	
Mg2790		0.48503	ppm	0.0043760	0.90217	.50000	Rel(%)	Pass	
Mn2576		0.010007	ppm	0.00016300	1.6332	.01000	Rel(%)	Pass	
Mo2020		0.019390	ppm	0.00015600	0.80379	.02000	Rel(%)	Pass	
Na5895		0.50232	ppm	0.0071560	1.4245	.50000	Rel(%)	Pass	
Ni2316		0.0099460	ppm	0.00046700	4.6905	.01000	Rel(%)	Pass	
P_1782		0.48944	ppm	0.00081000	0.16546	.50000	Rel(%)	Pass	
Pb2203		0.0097950	ppm	0.0013050	13.323	.01000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CRI 1733852

Acquire Date: 10/1/2019 3:06:59PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
S_1820		0.46575	ppm	0.0027750	0.59585	.50000	Rel(%)	Pass	
Sb2068		0.025720	ppm	0.000047000	0.18126	.03000	Rel(%)	Pass	
Se1960		0.034891	ppm	0.00013600	0.39032	.04000	Rel(%)	Pass	
Si2881		0.46029	ppm	0.0065460	1.4222	.50000	Rel(%)	Pass	
Sn1899		0.019733	ppm	0.00015600	0.78849	.02000	Rel(%)	Pass	
Sr4077		0.048949	ppm	0.000068000	0.13878	.05000	Rel(%)	Pass	
Ti3349		0.010540	ppm	0.000062000	0.58627	.01000	Rel(%)	Pass	
Tl1908		0.026752	ppm	0.00011800	0.44168	.03000	Rel(%)	Pass	
V_2924		0.019440	ppm	0.00035700	1.8356	.02000	Rel(%)	Pass	
Zn2062		0.021151	ppm	0.00021300	1.0063	.02000	Rel(%)	Pass	
Y_2243		6,998.6	Cts/S	8.9879	0.12843				
Y_3600		51,231	Cts/S	25.628	0.050025				
Y_3774		7,235.0	Cts/S	155.66	2.1515				

CRI 1733886

Acquire Date: 10/1/2019 3:10:58PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.0046620	ppm	0.00039200	8.4150	.00500	Rel(%)	Pass	
Al3961		0.17851	ppm	0.010010	5.6073	.20000	Rel(%)	Pass	
As1890		0.020333	ppm	0.00076900	3.7825	.02000	Rel(%)	Pass	
B_2089		0.10871	ppm	0.00046500	0.42777	.10000	Rel(%)	Pass	
Ba4554		0.0050300	ppm	0.00043400	8.6254	.00500	Rel(%)	Pass	
Be3130		0.0020150	ppm	0.00022300	11.072	.00200	Rel(%)	Pass	
Ca3179		0.50452	ppm	0.0042730	0.84701	.50000	Rel(%)	Pass	
Cd2144		0.0020290	ppm	0.0000080000	0.41688	.00200	Rel(%)	Pass	
Co2286		0.0053660	ppm	0.00021200	3.9493	.00500	Rel(%)	Pass	
Cr2677		0.0048770	ppm	0.00015200	3.1166	.00500	Rel(%)	Pass	
Cu3247		0.011430	ppm	0.00076100	6.6558	.01000	Rel(%)	Pass	
Fe2599		0.096172	ppm	0.0045230	4.7030	.10000	Rel(%)	Pass	
K_7664		0.98456	ppm	0.059673	6.0609	1.0000	Rel(%)	Pass	
Mg2790		0.49593	ppm	0.0038780	0.78193	.50000	Rel(%)	Pass	
Mn2576		0.0051490	ppm	0.000088000	1.7154	.00500	Rel(%)	Pass	
Mo2020		0.019838	ppm	0.000056000	0.28273	.02000	Rel(%)	Pass	
Na5895		0.48005	ppm	0.011617	2.4200	.50000	Rel(%)	Pass	
Ni2316		0.0051280	ppm	0.00026700	5.2073	.00500	Rel(%)	Pass	
P_1782		0.50341	ppm	0.0036410	0.72330	.50000	Rel(%)	Pass	
Pb2203		0.0047160	ppm	0.0022460	47.633	.00500	Rel(%)	Pass	
S_1820		0.48196	ppm	0.0019270	0.39977	.50000	Rel(%)	Pass	
Sb2068		0.016132	ppm	0.0030200	18.718	.02000	Rel(%)	Pass	
Se1960		0.016637	ppm	0.0033440	20.097	.02000	Rel(%)	Pass	
Si2881		0.51294	ppm	0.021248	4.1424	.50000	Rel(%)	Pass	
Sn1899		0.020855	ppm	0.000018000	0.088072	.02000	Rel(%)	Pass	
Sr4077		0.049463	ppm	0.00019300	0.38982	.05000	Rel(%)	Pass	
Ti3349		0.010814	ppm	0.00058600	5.4182	.01000	Rel(%)	Pass	
Tl1908		0.020421	ppm	0.0025700	12.585	.02000	Rel(%)	Pass	
V_2924		0.0049360	ppm	0.00036500	7.3994	.00500	Rel(%)	Pass	
Zn2062		0.010034	ppm	0.00091300	9.1022	.01000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CRI 1733886

Acquire Date: 10/1/2019 3:10:58PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Y_2243		6,904.8	Cts/S	103.26	1.4955				
Y_3600		50,152	Cts/S	276.28	0.55089				
Y_3774		7,153.6	Cts/S	261.03	3.6489				

ICSA 1731975

Acquire Date: 10/1/2019 3:14:57PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.0016500	ppm	0.00036600	22.217	.00000	Abs	Pass	
Al3961		499.63	ppm	1.6563	0.33151	500.00	Abs	Pass	
As1890		-0.0065530	ppm	0.0018600	28.385	.00000	Abs	Pass	
B_2089		0.0071450	ppm	0.000045000	0.62297	.00000	Abs	Pass	
Ba4554		0.0014580	ppm	0.00031100	21.304	.00000	Abs	Pass	
Be3130		-0.00080400	ppm	0.00012300	15.325	.00000	Abs	Pass	
Ca3179		475.49	ppm	0.35983	0.075674	500.00	Abs	Pass	
Cd2144		-0.00012300	ppm	0.000050000	40.377	.00000	Abs	Pass	
Co2286		-0.00071100	ppm	0.00040200	56.442	.00000	Abs	Pass	
Cr2677		0.00040200	ppm	0.00029000	72.048	.00000	Abs	Pass	
Cu3247		-0.0018970	ppm	0.00030600	16.132	.00000	Abs	Pass	
Fe2599		188.05	ppm	0.15801	0.084022	200.00	Abs	Pass	
K_7664		-0.12630	ppm	0.053712	42.527	.00000	Abs	Pass	
Mg2790		505.06	ppm	2.3524	0.46577	500.00	Abs	Pass	
Mn2576		0.00019800	ppm	0.00012200	61.329	.00000	Abs	Pass	
Mo2020		0.0022620	ppm	0.00012500	5.5122	.00000	Abs	Pass	
Na5895		0.18309	ppm	0.0036290	1.9819	.00000	Abs	Pass	
Ni2316		-0.0011240	ppm	0.0012900	114.77	.00000	Abs	Pass	
P_1782		0.017606	ppm	0.0022210	12.617	.00000	Abs	Pass	
Pb2203		0.0038030	ppm	0.0044870	118.00	.00000	Abs	Pass	
S_1820		-0.48615	ppm	0.0060160	1.2375	.00000	Abs	Pass	
Sb2068		0.000038000	ppm	0.0015480	4,079.5	.00000	Abs	Pass	
Se1960		-0.0017690	ppm	0.00080600	45.538	.00000	Abs	Pass	
Si2881		-0.0057080	ppm	0.011891	208.32	.00000	Abs	Pass	
Sn1899		-0.0043600	ppm	0.000028000	0.64367	.00000	Abs	Pass	
Sr4077		-0.0012640	ppm	0.000067000	5.2686	.00000	Abs	Pass	
Ti3349		0.00070600	ppm	0.00023000	32.552	.00000	Abs	Pass	
Tl1908		-0.00020900	ppm	0.0017620	845.10	.00000	Abs	Pass	
V_2924		0.00011700	ppm	0.00049600	425.29	.00000	Abs	Pass	
Zn2062	**W**	**-0.015358**	**ppm**	**0.00017800**	**1.1573**	**.00000**	**Abs**	**Warn Low**	**-.01000**
Y_2243		6,146.0	Cts/S	4.5242	0.073613				
Y_3600		45,013	Cts/S	82.565	0.18342				
Y_3774		7,006.7	Cts/S	290.77	4.1498				

ICSAB 1731976

Acquire Date: 10/1/2019 3:18:57PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		1.0897	ppm	0.0060650	0.55652	1.0000	Rel(%)	Pass	
Al3961		494.11	ppm	1.9507	0.39479	500.00	Rel(%)	Pass	
As1890		0.97647	ppm	0.00010700	0.010942				
B_2089		9.7851	ppm	0.0080520	0.082290				
Ba4554		0.96988	ppm	0.0040520	0.41776	1.0000	Rel(%)	Pass	
Be3130		0.48250	ppm	0.0018900	0.39173	.50000	Rel(%)	Pass	
Ca3179		469.74	ppm	0.55633	0.11843	500.00	Rel(%)	Pass	
Cd2144		0.93539	ppm	0.0012510	0.13370	1.0000	Rel(%)	Pass	
Co2286		0.92329	ppm	0.0031580	0.34199	1.0000	Rel(%)	Pass	
Cr2677		0.99794	ppm	0.0018460	0.18502	1.0000	Rel(%)	Pass	
Cu3247		1.0380	ppm	0.0027670	0.26661	1.0000	Rel(%)	Pass	
Fe2599		186.88	ppm	0.39117	0.20931	200.00	Rel(%)	Pass	
K_7664		9.7133	ppm	0.10230	1.0532				
Mg2790		494.82	ppm	0.60401	0.12207	500.00	Rel(%)	Pass	
Mn2576		0.98716	ppm	0.0029420	0.29807	1.0000	Rel(%)	Pass	
Mo2020		0.0021740	ppm	0.00017400	7.9952				
Na5895		10.178	ppm	0.054075	0.53131				
Ni2316		0.90735	ppm	0.0014350	0.15818	1.0000	Rel(%)	Pass	
P_1782		9.8721	ppm	0.016430	0.16643				
Pb2203		0.94829	ppm	0.000056000	0.0059390	1.0000	Rel(%)	Pass	
S_1820		-0.47832	ppm	0.0034870	0.72892				
Sb2068		-0.0054030	ppm	0.0026110	48.323				
Se1960		0.97960	ppm	0.0052180	0.53264				
Si2881		0.0072590	ppm	0.043368	597.40				
Sn1899		-0.0038190	ppm	0.00011600	3.0385				
Sr4077		0.96266	ppm	0.0057430	0.59660				
Ti3349		0.00026800	ppm	0.00068100	254.33				
Tl1908		0.91991	ppm	0.0034610	0.37626				
V_2924		1.0224	ppm	0.0023330	0.22822	1.0000	Rel(%)	Pass	
Zn2062		0.92100	ppm	0.0026500	0.28769	1.0000	Rel(%)	Pass	
Y_2243		6,154.6	Cts/S	9.0564	0.14715				
Y_3600		45,061	Cts/S	143.80	0.31914				
Y_3774		7,147.8	Cts/S	174.60	2.4427				

AI 1672434

Acquire Date: 10/1/2019 3:22:47PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.0016060	ppm	0.00083300	51.883	.00000	Abs	Pass	
Al3961		896.07	ppm	83.346	9.3013				
As1890		-0.0078450	ppm	0.0036820	46.932	.00000	Abs	Pass	
B_2089		0.038438	ppm	0.0038380	9.9862	.00000	Abs	Pass	
Ba4554		0.00025700	ppm	0.00045800	178.24	.00000	Abs	Pass	
Be3130		-0.00014400	ppm	0.0000060000	3.9623	.00000	Abs	Pass	
Ca3179		0.10261	ppm	0.066451	64.759				
Cd2144		-0.00029600	ppm	0.000045000	15.318	.00000	Abs	Pass	
Co2286		-0.00019300	ppm	0.00023300	120.92	.00000	Abs	Pass	
Cr2677		0.0017620	ppm	0.000019000	1.0770	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

Al 1672434

Acquire Date: 10/1/2019 3:22:47PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Cu3247		0.00089000	ppm	0.0015430	173.29	.00000	Abs	Pass	
Fe2599		0.14034	ppm	0.017466	12.446				
K_7664		-0.085036	ppm	0.027167	31.948	.00000	Abs	Pass	
Mg2790		0.014608	ppm	0.0041380	28.328				
Mn2576		-0.00036300	ppm	0.000038000	10.454	.00000	Abs	Pass	
Mo2020		0.0023350	ppm	0.00086900	37.196	.00000	Abs	Pass	
Na5895		0.33346	ppm	0.021028	6.3058	.00000	Abs	Pass	
Ni2316		0.0034160	ppm	0.00013700	4.0097	.00000	Abs	Pass	
P_1782		0.0044890	ppm	0.0012110	26.979	.00000	Abs	Pass	
Pb2203		-0.0019420	ppm	0.0066420	342.09	.00000	Abs	Pass	
S_1820		-0.0058490	ppm	0.0033030	56.471	.00000	Abs	Pass	
Sb2068		0.0010730	ppm	0.0041220	384.37	.00000	Abs	Pass	
Se1960		-0.0068700	ppm	0.0031840	46.354	.00000	Abs	Pass	
Si2881		0.0052700	ppm	0.016561	314.21	.00000	Abs	Pass	
Sn1899		-0.012887	ppm	0.00073200	5.6836	.00000	Abs	Pass	
Sr4077		0.00044300	ppm	0.000013000	2.9911	.00000	Abs	Pass	
Ti3349		0.0031590	ppm	0.00013800	4.3800	.00000	Abs	Pass	
Tl1908		.0000090000	ppm	0.0025690	30,093	.00000	Abs	Pass	
V_2924		0.0011150	ppm	0.00097200	87.220	.00000	Abs	Pass	
Zn2062		0.0039880	ppm	0.00037200	9.3326	.00000	Abs	Pass	
Y_2243		6,523.7	Cts/S	9.4912	0.14549				
Y_3600		45,515	Cts/S	51.467	0.11308				
Y_3774		7,542.5	Cts/S	86.395	1.1454				

Ca 1672439

Acquire Date: 10/1/2019 3:26:48PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.00082400	ppm	0.00022800	27.721	.00000	Abs	Pass	
Al3961		0.060112	ppm	0.0037480	6.2355				
As1890		-0.0015380	ppm	0.0032330	210.22	.00000	Abs	Pass	
B_2089		0.018156	ppm	0.0012120	6.6769	.00000	Abs	Pass	
Ba4554		0.00052600	ppm	0.00043200	82.167	.00000	Abs	Pass	
Be3130		-0.0012040	ppm	0.000016000	1.3470	.00000	Abs	Pass	
Ca3179		924.32	ppm	44.690	4.8349				
Cd2144		0.0012570	ppm	0.00016000	12.704	.00000	Abs	Pass	
Co2286		0.00013500	ppm	0.00035400	261.95	.00000	Abs	Pass	
Cr2677		0.00059700	ppm	0.0013510	226.39	.00000	Abs	Pass	
Cu3247		0.0032120	ppm	0.00092800	28.891	.00000	Abs	Pass	
Fe2599		0.032280	ppm	0.0061870	19.166				
K_7664		0.0011560	ppm	0.00035500	30.701	.00000	Abs	Pass	
Mg2790		0.0036360	ppm	0.0055760	153.33				
Mn2576		-0.0010860	ppm	0.00024700	22.713	.00000	Abs	Pass	
Mo2020		0.00042100	ppm	0.00020600	48.902	.00000	Abs	Pass	
Na5895		-0.00052400	ppm	0.014160	2,702.4	.00000	Abs	Pass	
Ni2316		0.00027800	ppm	0.000038000	13.815	.00000	Abs	Pass	
P_1782		0.013430	ppm	0.00041200	3.0660	.00000	Abs	Pass	
Pb2203		0.00059600	ppm	0.0025100	420.89	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

Ca 1672439

Acquire Date: 10/1/2019 3:26:48PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
S_1820		-0.096304	ppm	0.0013600	1.4124	.00000	Abs	Pass	
Sb2068		-0.0058000	ppm	0.00076400	13.167	.00000	Abs	Pass	
Se1960		0.0021470	ppm	0.0019050	88.749	.00000	Abs	Pass	
Si2881		-0.040345	ppm	0.030218	74.898	.00000	Abs	Pass	
Sn1899		0.00012800	ppm	0.00013200	103.09	.00000	Abs	Pass	
Sr4077		-0.0022300	ppm	0.00076000	34.083	.00000	Abs	Pass	
Ti3349		-0.0019400	ppm	0.00047000	24.218	.00000	Abs	Pass	
Tl1908		-0.0051630	ppm	0.0035850	69.444	.00000	Abs	Pass	
V_2924		-0.00012600	ppm	0.00051400	409.50	.00000	Abs	Pass	
Zn2062		0.0045380	ppm	0.00024800	5.4752	.00000	Abs	Pass	
Y_2243		6,386.8	Cts/S	28.132	0.44048				
Y_3600		47,337	Cts/S	142.55	0.30113				
Y_3774		7,260.2	Cts/S	7.9088	0.10893				

Fe 1672441

Acquire Date: 10/1/2019 3:30:53PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.0024000	ppm	0.00066600	27.738	.00000	Abs	Pass	
Al3961		0.52911	ppm	0.77930	147.28				
As1890		0.0011660	ppm	0.0026010	223.12	.00000	Abs	Pass	
B_2089		0.024662	ppm	0.00020400	0.82804	.00000	Abs	Pass	
Ba4554		0.00023600	ppm	0.00010900	46.221	.00000	Abs	Pass	
Be3130		-0.00020900	ppm	0.00013500	64.560	.00000	Abs	Pass	
Ca3179		0.92946	ppm	1.1263	121.18				
Cd2144		.0000030000	ppm	0.00010600	3,454.1	.00000	Abs	Pass	
Co2286		-0.0027620	ppm	0.000088000	3.1743	.00000	Abs	Pass	
Cr2677		0.000017000	ppm	0.00033800	2,039.9	.00000	Abs	Pass	
Cu3247		0.00023100	ppm	0.00060400	261.20	.00000	Abs	Pass	
Fe2599		915.91	ppm	2.7257	0.29760				
K_7664		-0.15461	ppm	0.0070580	4.5653	.00000	Abs	Pass	
Mg2790		0.055548	ppm	0.00035400	0.63815				
Mn2576		-0.00013400	ppm	0.00012800	94.977	.00000	Abs	Pass	
Mo2020		0.0014010	ppm	0.000075000	5.3399	.00000	Abs	Pass	
Na5895		0.15436	ppm	0.0089320	5.7869	.00000	Abs	Pass	
Ni2316		0.0018370	ppm	0.0011590	63.072	.00000	Abs	Pass	
P_1782		0.018668	ppm	0.00080200	4.2964	.00000	Abs	Pass	
Pb2203		-0.0041700	ppm	0.0017240	41.342	.00000	Abs	Pass	
S_1820		-0.022039	ppm	0.014718	66.781	.00000	Abs	Pass	
Sb2068		0.00025800	ppm	0.0022260	861.20	.00000	Abs	Pass	
Se1960		0.0015980	ppm	0.0012880	80.577	.00000	Abs	Pass	
Si2881		0.0070560	ppm	0.026691	378.30	.00000	Abs	Pass	
Sn1899		0.0054370	ppm	0.000021000	0.38551	.00000	Abs	Pass	
Sr4077		0.0015780	ppm	0.00016500	10.459	.00000	Abs	Pass	
Ti3349		.0000060000	ppm	0.00054300	9,138.6	.00000	Abs	Pass	
Tl1908		0.0072100	ppm	0.0016700	23.156	.00000	Abs	Pass	
V_2924		0.00020800	ppm	0.0011580	556.15	.00000	Abs	Pass	
Zn2062		0.0044210	ppm	0.00060300	13.648	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

Fe 1672441

Acquire Date: 10/1/2019 3:30:53PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Y_2243		6,697.7	Cts/S	21.965	0.32795				
Y_3600		49,952	Cts/S	16.134	0.032300				
Y_3774		7,483.8	Cts/S	122.78	1.6407				

Mg 1672444

Acquire Date: 10/1/2019 3:34:46PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.0030000	ppm	0.000087000	2.8946	.00000	Abs	Pass	
Al3961		0.0043340	ppm	0.0062350	143.87				
As1890		-0.0024670	ppm	0.0011530	46.736	.00000	Abs	Pass	
B_2089		0.010296	ppm	0.000067000	0.64646	.00000	Abs	Pass	
Ba4554		-0.00015800	ppm	0.00033100	209.51	.00000	Abs	Pass	
Be3130		-0.00020200	ppm	0.000049000	24.010	.00000	Abs	Pass	
Ca3179		0.070025	ppm	0.0040230	5.7445				
Cd2144		-0.0011100	ppm	0.000035000	3.1182	.00000	Abs	Pass	
Co2286		.0000070000	ppm	0.000057000	767.95	.00000	Abs	Pass	
Cr2677		-0.00045300	ppm	0.00048700	107.35	.00000	Abs	Pass	
Cu3247		0.00049400	ppm	0.0013150	266.18	.00000	Abs	Pass	
Fe2599		0.18398	ppm	0.033160	18.024				
K_7664		-0.13156	ppm	0.026324	20.008	.00000	Abs	Pass	
Mg2790		1,004.2	ppm	0.57367	0.057128				
Mn2576		0.0021260	ppm	0.00000	0.0043430	.00000	Abs	Pass	
Mo2020		0.00098400	ppm	0.00034400	34.929	.00000	Abs	Pass	
Na5895		0.0016660	ppm	0.011633	698.26	.00000	Abs	Pass	
Ni2316		0.00018500	ppm	0.00040000	216.77	.00000	Abs	Pass	
P_1782		0.00077100	ppm	0.00044900	58.181	.00000	Abs	Pass	
Pb2203		-0.0030900	ppm	0.00022100	7.1528	.00000	Abs	Pass	
S_1820		-0.071744	ppm	0.0032970	4.5951	.00000	Abs	Pass	
Sb2068		0.0044170	ppm	0.00097800	22.138	.00000	Abs	Pass	
Se1960		-0.0048100	ppm	0.0027470	57.113	.00000	Abs	Pass	
Si2881		-0.029589	ppm	0.011650	39.374	.00000	Abs	Pass	
Sn1899		-0.00086600	ppm	0.00066900	77.216	.00000	Abs	Pass	
Sr4077		0.00030200	ppm	0.000040000	13.364	.00000	Abs	Pass	
Ti3349		0.0035310	ppm	0.000068000	1.9396	.00000	Abs	Pass	
Tl1908		0.0042110	ppm	0.00074900	17.783	.00000	Abs	Pass	
V_2924		-0.00034600	ppm	0.00016400	47.234	.00000	Abs	Pass	
Zn2062		0.0045350	ppm	0.00026900	5.9352	.00000	Abs	Pass	
Y_2243		6,432.2	Cts/S	19.921	0.30970				
Y_3600		47,585	Cts/S	232.01	0.48756				
Y_3774		7,222.8	Cts/S	94.117	1.3031				

rinse1

Acquire Date: 10/1/2019 3:38:51PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00045200	ppm	0.0010220	226.00
Al3961		-0.0075500	ppm	0.0045710	60.547
As1890		0.0014150	ppm	0.0025070	177.18
B_2089		0.0067250	ppm	0.0012450	18.507
Ba4554		-0.00066300	ppm	0.00025700	38.831
Be3130		-0.00012200	ppm	0.0000090000	7.0839
Ca3179		0.0064680	ppm	0.0012620	19.515
Cd2144		0.000022000	ppm	0.000020000	92.532
Co2286		0.000058000	ppm	0.00014800	256.41
Cr2677		0.00037500	ppm	0.00097200	259.45
Cu3247		0.0010280	ppm	0.00054100	52.620
Fe2599		0.049813	ppm	0.014894	29.900
K_7664		-0.0068020	ppm	0.043292	636.46
Mg2790		0.055980	ppm	0.0090010	16.078
Mn2576		0.000032000	ppm	0.000027000	82.208
Mo2020		0.00022000	ppm	0.000094000	42.832
Na5895		-0.017625	ppm	0.010999	62.407
Ni2316		-0.00028800	ppm	0.00090300	313.79
P_1782		-0.0021660	ppm	0.0017790	82.136
Pb2203		-0.0010840	ppm	0.0022170	204.58
S_1820		-0.0017110	ppm	0.000045000	2.6110
Sb2068		-0.00078400	ppm	0.00048100	61.296
Se1960		-0.0022160	ppm	0.0013950	62.961
Si2881		0.0022540	ppm	0.015746	698.52
Sn1899		-0.00023400	ppm	0.000081000	34.555
Sr4077		0.00016800	ppm	0.0000090000	5.5076
Ti3349		0.00062900	ppm	0.00045000	71.636
Tl1908		-0.0017460	ppm	0.00088400	50.649
V_2924		-0.00035100	ppm	0.00067500	192.40
Zn2062		-0.00020300	ppm	0.000069000	34.021
Y_2243		6,853.8	Cts/S	76.101	1.1104
Y_3600		50,617	Cts/S	230.53	0.45543
Y_3774		7,334.8	Cts/S	45.652	0.62240

rinse2

Acquire Date: 10/1/2019 3:42:48PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00023200	ppm	0.00055900	240.48
Al3961		-0.017768	ppm	0.0022250	12.523
As1890		0.00056000	ppm	0.0026690	477.08
B_2089		0.0058770	ppm	0.00081700	13.909
Ba4554		-0.00032700	ppm	0.00034400	105.32
Be3130		0.000011000	ppm	0.000082000	747.58
Ca3179		0.0099530	ppm	0.0068440	68.768
Cd2144		0.000077000	ppm	0.000038000	49.456
Co2286		-0.00019100	ppm	0.00028600	149.95

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

rinse2

Acquire Date: 10/1/2019 3:42:48PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.00011400	ppm	0.00021900	191.78
Cu3247		0.0013480	ppm	0.000072000	5.3286
Fe2599		0.031704	ppm	0.0064830	20.449
K_7664		-0.033939	ppm	0.023114	68.104
Mg2790		0.010161	ppm	0.0024760	24.365
Mn2576		-0.00011000	ppm	0.00013900	126.27
Mo2020		0.00035500	ppm	0.00025800	72.717
Na5895		-0.024871	ppm	0.013867	55.756
Ni2316		0.000086000	ppm	0.00019200	223.25
P_1782		-0.0010320	ppm	0.00056100	54.344
Pb2203		-0.0031820	ppm	0.0022490	70.675
S_1820		-0.0024960	ppm	0.00033600	13.471
Sb2068		-0.00092900	ppm	0.00064400	69.361
Se1960		-0.0031860	ppm	0.0044880	140.90
Si2881		-0.016610	ppm	0.023177	139.53
Sn1899		-0.00038500	ppm	0.00066100	171.94
Sr4077		0.000026000	ppm	0.00023100	878.49
Ti3349		0.00098300	ppm	0.00030200	30.683
Tl1908		-0.0020400	ppm	0.0025130	123.14
V_2924		-0.00031500	ppm	0.00038900	123.37
Zn2062		0.000034000	ppm	0.00018500	546.21
Y_2243		6,839.0	Cts/S	9.6571	0.14121
Y_3600		50,241	Cts/S	183.85	0.36593
Y_3774		7,293.1	Cts/S	140.45	1.9258

CCV 1708493

Acquire Date: 10/1/2019 3:46:48PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.49061	ppm	0.0012860	0.26221	.50000	Rel(%)	Pass	
Al3961		24.117	ppm	0.0058940	0.024440	25.000	Rel(%)	Pass	
As1890		0.49230	ppm	0.00074900	0.15223	.50000	Rel(%)	Pass	
B_2089		0.99633	ppm	0.0014700	0.14757	1.0000	Rel(%)	Pass	
Ba4554		2.4332	ppm	0.0067680	0.27816	2.5000	Rel(%)	Pass	
Be3130		0.49291	ppm	0.00099200	0.20128	.50000	Rel(%)	Pass	
Ca3179		24.472	ppm	0.020383	0.083292	25.000	Rel(%)	Pass	
Cd2144		0.49661	ppm	0.00086400	0.17407	.50000	Rel(%)	Pass	
Co2286		2.4923	ppm	0.0053300	0.21386	2.5000	Rel(%)	Pass	
Cr2677		2.4900	ppm	0.0086010	0.34541	2.5000	Rel(%)	Pass	
Cu3247		2.4403	ppm	0.0066840	0.27390	2.5000	Rel(%)	Pass	
Fe2599		24.752	ppm	0.082927	0.33503	25.000	Rel(%)	Pass	
K_7664		24.272	ppm	0.12640	0.52078	25.000	Rel(%)	Pass	
Mg2790		24.424	ppm	0.095951	0.39285	25.000	Rel(%)	Pass	
Mn2576		2.4704	ppm	0.0062600	0.25339	2.5000	Rel(%)	Pass	
Mo2020		0.99320	ppm	0.0026250	0.26431	1.0000	Rel(%)	Pass	
Na5895		24.282	ppm	0.069458	0.28605	25.000	Rel(%)	Pass	
Ni2316		2.5053	ppm	0.0098740	0.39411	2.5000	Rel(%)	Pass	
P_1782		2.4438	ppm	0.0031920	0.13061	2.5000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCV 1708493

Acquire Date: 10/1/2019 3:46:48PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Pb2203		0.49917	ppm	0.0021270	0.42604	.50000	Rel(%)	Pass	
S_1820		2.3891	ppm	0.017892	0.74889	2.5000	Rel(%)	Pass	
Sb2068		0.50080	ppm	0.00081800	0.16334	.50000	Rel(%)	Pass	
Se1960		0.49978	ppm	0.0018340	0.36697	.50000	Rel(%)	Pass	
Si2881		2.4893	ppm	0.0011950	0.048001	2.5000	Rel(%)	Pass	
Sn1899		2.4810	ppm	0.0069850	0.28155	2.5000	Rel(%)	Pass	
Sr4077		2.4336	ppm	0.0029450	0.12103	2.5000	Rel(%)	Pass	
Ti3349		0.98021	ppm	0.0016790	0.17130	1.0000	Rel(%)	Pass	
Tl1908		0.50408	ppm	0.00088400	0.17537	.50000	Rel(%)	Pass	
V_2924		2.4745	ppm	0.0085040	0.34368	2.5000	Rel(%)	Pass	
Zn2062		2.4944	ppm	0.0061450	0.24636	2.5000	Rel(%)	Pass	
Y_2243		6,782.1	Cts/S	16.816	0.24794				
Y_3600		50,057	Cts/S	216.64	0.43278				
Y_3774		7,362.1	Cts/S	64.569	0.87705				

CCB 1745955

Acquire Date: 10/1/2019 3:50:34PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.00061800	ppm	0.0012610	204.17	.00000	Abs	Pass	
Al3961		0.013207	ppm	0.00057100	4.3236	.00000	Abs	Pass	
As1890		0.0014990	ppm	0.0022990	153.39	.00000	Abs	Pass	
B_2089		0.0071760	ppm	0.00049700	6.9276	.00000	Abs	Pass	
Ba4554		-0.00019200	ppm	0.00017400	90.895	.00000	Abs	Pass	
Be3130		0.000046000	ppm	0.00022200	480.65	.00000	Abs	Pass	
Ca3179		0.0050630	ppm	0.010040	198.28	.00000	Abs	Pass	
Cd2144		0.000028000	ppm	0.00013800	489.57	.00000	Abs	Pass	
Co2286		0.00018000	ppm	0.000073000	40.717	.00000	Abs	Pass	
Cr2677		0.00011700	ppm	0.0011720	1,001.1	.00000	Abs	Pass	
Cu3247		0.0019920	ppm	0.00029200	14.671	.00000	Abs	Pass	
Fe2599		0.020855	ppm	0.0097630	46.813	.00000	Abs	Pass	
K_7664		-0.038269	ppm	0.067931	177.51	.00000	Abs	Pass	
Mg2790		0.0061500	ppm	0.00036300	5.9006	.00000	Abs	Pass	
Mn2576		0.00014000	ppm	0.000072000	51.502	.00000	Abs	Pass	
Mo2020		0.00084100	ppm	0.00018100	21.550	.00000	Abs	Pass	
Na5895		-0.021651	ppm	0.017803	82.227	.00000	Abs	Pass	
Ni2316		0.00045800	ppm	0.0022270	486.50	.00000	Abs	Pass	
P_1782		0.0025950	ppm	0.00019100	7.3418	.00000	Abs	Pass	
Pb2203		-0.0014220	ppm	0.0016740	117.72	.00000	Abs	Pass	
S_1820		-0.0060330	ppm	0.0042550	70.541	.00000	Abs	Pass	
Sb2068		0.0024150	ppm	0.0026120	108.18	.00000	Abs	Pass	
Se1960		0.0013910	ppm	0.0041120	295.54	.00000	Abs	Pass	
Si2881		-0.0015350	ppm	0.022725	1,480.9	.00000	Abs	Pass	
Sn1899		0.00040300	ppm	0.000069000	17.209	.00000	Abs	Pass	
Sr4077		0.00040700	ppm	0.000065000	16.035	.00000	Abs	Pass	
Ti3349		0.00066700	ppm	0.00030000	45.008	.00000	Abs	Pass	
Tl1908		-0.0019830	ppm	0.0019080	96.225	.00000	Abs	Pass	
V_2924		0.000020000	ppm	0.0000010000	5.8545	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCB 1745955

Acquire Date: 10/1/2019 3:50:34PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Zn2062		0.0021490	ppm	0.0000050000	0.21064	.00000	Abs	Pass	
Y_2243		6,886.2	Cts/S	76.976	1.1178				
Y_3600		49,873	Cts/S	271.65	0.54468				
Y_3774		7,105.1	Cts/S	221.43	3.1165				

MB 320-324929/1-A

Acquire Date: 10/1/2019 3:54:35PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00071300	ppm	0.0010770	151.17
Al3961		-0.012090	ppm	0.0046090	38.120
As1890		0.00056000	ppm	0.0024050	429.64
B_2089		0.0046220	ppm	0.0015320	33.150
Ba4554		-0.00027400	ppm	0.00012400	45.339
Be3130		0.000057000	ppm	0.000036000	63.557
Ca3179		-0.00086000	ppm	0.00083900	97.501
Cd2144		0.000077000	ppm	0.0000030000	3.7864
Co2286		0.000017000	ppm	0.000015000	86.642
Cr2677		-0.00045600	ppm	0.00087500	192.13
Cu3247		0.0013480	ppm	0.00043600	32.340
Fe2599		0.011313	ppm	0.0046840	41.405
K_7664		0.022386	ppm	0.013855	61.890
Mg2790		0.0059930	ppm	0.0047260	78.851
Mn2576		0.000069000	ppm	0.000029000	42.255
Mo2020		0.00010000	ppm	0.00015500	155.30
Na5895		-0.044444	ppm	0.0057950	13.039
Ni2316		-0.00040100	ppm	0.00022400	55.798
P_1782		-0.0033220	ppm	0.0043660	131.44
Pb2203		0.0011820	ppm	0.0027640	233.86
S_1820		-0.0067850	ppm	0.0025610	37.738
Sb2068		-0.0024250	ppm	0.00048200	19.881
Se1960		-0.0033790	ppm	0.0010190	30.152
Si2881		-0.026064	ppm	0.031358	120.31
Sn1899		-0.00012600	ppm	0.000069000	55.160
Sr4077		0.00012900	ppm	0.00019000	147.05
Ti3349		0.0011060	ppm	0.00019300	17.471
Tl1908		0.000052000	ppm	0.0024040	4,618.8
V_2924		-0.00042900	ppm	0.00010400	24.283
Zn2062		0.000049000	ppm	0.00033500	679.30
Y_2243		6,836.7	Cts/S	2.9205	0.042718
Y_3600		50,399	Cts/S	224.30	0.44505
Y_3774		7,373.7	Cts/S	47.179	0.63983

LCS 320-324929/2-A

Acquire Date: 10/1/2019 3:58:35PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.046281	ppm	0.00096800	2.0913
Al3961		4.6233	ppm	0.010437	0.22576
As1890	**W**	**0.45981**	**ppm**	**0.0011280**	**0.24536**
B_2089		4.5958	ppm	0.0023390	0.050894
Ba4554	**W**	**0.45240**	**ppm**	**0.0017510**	**0.38705**
Be3130		0.23667	ppm	0.00086900	0.36710
Ca3179		22.873	ppm	0.16650	0.72793
Cd2144	**W**	**0.23680**	**ppm**	**0.00010300**	**0.043386**
Co2286		0.23535	ppm	0.00037400	0.15891
Cr2677	**W**	**0.24245**	**ppm**	**0.0016150**	**0.66610**
Cu3247		0.23057	ppm	0.00066800	0.28953
Fe2599		4.6291	ppm	0.048847	1.0552
K_7664		23.094	ppm	0.053923	0.23350
Mg2790		23.418	ppm	0.045651	0.19494
Mn2576		0.23775	ppm	0.0000080000	0.0033580
Mo2020		0.23928	ppm	0.00047200	0.19733
Na5895		23.232	ppm	0.10607	0.45660
Ni2316		0.23480	ppm	0.0012210	0.51997
P_1782		4.8812	ppm	0.0022850	0.046816
Pb2203	**W**	**0.23793**	**ppm**	**0.0014200**	**0.59679**
S_1820	**F**	**4.6698**	**ppm**	**0.0011930**	**0.025542**
Sb2068		0.44223	ppm	0.00030000	0.067850
Se1960	**W**	**0.46547**	**ppm**	**0.00043600**	**0.093619**
Si2881	**W**	**4.7658**	**ppm**	**0.0091690**	**0.19240**
Sn1899		0.48150	ppm	0.0011940	0.24798
Sr4077		0.22697	ppm	0.0016820	0.74110
Ti3349	**W**	**0.24005**	**ppm**	**0.00025000**	**0.10404**
Tl1908		0.47620	ppm	0.0028630	0.60111
V_2924		0.24286	ppm	0.00062400	0.25690
Zn2062		0.47025	ppm	0.00056800	0.12087
Y_2243		6,776.5	Cts/S	67.816	1.0008
Y_3600		49,383	Cts/S	63.384	0.12835
Y_3774		7,448.6	Cts/S	32.192	0.43220

LCS 320-326238/2-A

Acquire Date: 10/1/2019 4:02:22PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.048545	ppm	0.00027700	0.57149
Al3961		4.7775	ppm	0.044928	0.94041
As1890	**W**	**0.48009**	**ppm**	**0.0032880**	**0.68481**
B_2089		4.8843	ppm	0.00059500	0.012178
Ba4554	**W**	**0.47159**	**ppm**	**0.0023910**	**0.50701**
Be3130		0.24713	ppm	0.00093100	0.37693
Ca3179		24.002	ppm	0.10938	0.45569
Cd2144	**W**	**0.24621**	**ppm**	**0.000015000**	**0.0062890**
Co2286		0.24571	ppm	0.0013290	0.54079

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

LCS 320-326238/2-A

Acquire Date: 10/1/2019 4:02:22PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677	**W**	**0.25031**	**ppm**	**0.00061100**	**0.24401**
Cu3247		0.24371	ppm	0.0016020	0.65717
Fe2599		4.8473	ppm	0.044701	0.92218
K_7664		24.063	ppm	0.14110	0.58638
Mg2790		24.473	ppm	0.063284	0.25859
Mn2576		0.24581	ppm	0.00051400	0.20928
Mo2020		0.24686	ppm	0.00012200	0.049245
Na5895		24.213	ppm	0.059674	0.24646
Ni2316		0.24459	ppm	0.00096900	0.39623
P_1782		5.1686	ppm	0.0052970	0.10249
Pb2203	**W**	**0.24658**	**ppm**	**0.00095200**	**0.38595**
S_1820	**F**	**4.9428**	**ppm**	**0.0095590**	**0.19340**
Sb2068		0.46878	ppm	0.0029860	0.63692
Se1960	**W**	**0.49524**	**ppm**	**0.00054400**	**0.10994**
Si2881	**W**	**4.9509**	**ppm**	**0.0067890**	**0.13713**
Sn1899		0.49386	ppm	0.00038700	0.078275
Sr4077		0.23509	ppm	0.00071500	0.30434
Ti3349	**W**	**0.24860**	**ppm**	**0.00084500**	**0.33998**
Tl1908		0.49399	ppm	0.0049700	1.0061
V_2924		0.25067	ppm	0.0011270	0.44956
Zn2062		0.50227	ppm	0.0028150	0.56047
Y_2243		6,781.0	Cts/S	2.9317	0.043234
Y_3600		49,508	Cts/S	202.29	0.40859
Y_3774		7,338.6	Cts/S	110.49	1.5055

MB 320-327228/1-A

Acquire Date: 10/1/2019 4:06:17PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00087900	ppm	0.00057500	65.439
Al3961		-0.027196	ppm	0.010283	37.811
As1890		-0.00017500	ppm	0.0016690	956.49
B_2089		0.029063	ppm	0.0017380	5.9813
Ba4554		-0.00031600	ppm	0.00037500	118.66
Be3130		-0.00017800	ppm	0.000027000	15.084
Ca3179		0.015460	ppm	0.0048380	31.296
Cd2144		0.000038000	ppm	0.000075000	195.67
Co2286		0.000089000	ppm	0.000095000	106.12
Cr2677		0.00052700	ppm	0.00062500	118.48
Cu3247		0.0015170	ppm	0.00076900	50.717
Fe2599		0.0049630	ppm	0.0037810	76.173
K_7664		-0.023078	ppm	0.0056610	24.529
Mg2790		0.0035090	ppm	0.0023020	65.603
Mn2576		0.000063000	ppm	0.000097000	153.86
Mo2020		0.00074500	ppm	0.000084000	11.225
Na5895		-0.0041260	ppm	0.0020540	49.787
Ni2316		-0.00080800	ppm	0.000084000	10.373

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

MB 320-327228/1-A

Acquire Date: 10/1/2019 4:06:17PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		0.0011070	ppm	0.0019930	180.07
Pb2203		-0.0038960	ppm	0.0030630	78.617
S_1820		-0.0048580	ppm	0.0033030	67.982
Sb2068		-0.0018890	ppm	0.00080300	42.521
Se1960		-0.0023060	ppm	0.0012550	54.429
Si2881		0.0033820	ppm	0.015331	453.26
Sn1899		0.00025700	ppm	0.000040000	15.428
Sr4077		-0.00014600	ppm	0.000079000	54.047
Ti3349		0.0011870	ppm	0.0000010000	0.11477
Tl1908		-0.0028010	ppm	0.0039420	140.77
V_2924		-0.00047900	ppm	0.00015500	32.429
Zn2062		0.0033220	ppm	0.00017100	5.1568
Y_2243		6,902.2	Cts/S	16.708	0.24206
Y_3600		50,556	Cts/S	16.477	0.032592
Y_3774		7,332.3	Cts/S	160.32	2.1865

MB 320-327509/1-A

Acquire Date: 10/1/2019 4:10:18PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0011200	ppm	0.00093200	83.246
Al3961		0.00016100	ppm	0.0041500	2,569.9
As1890		-0.00046700	ppm	0.0021070	451.37
B_2089		0.017196	ppm	0.00037800	2.1984
Ba4554		0.00032800	ppm	0.00018300	55.824
Be3130		0.000070000	ppm	0.000079000	113.75
Ca3179		0.023639	ppm	0.0092270	39.031
Cd2144		-0.00010100	ppm	0.0000030000	2.6967
Co2286		0.000033000	ppm	0.00033100	1,009.4
Cr2677		0.00028200	ppm	0.00047600	168.89
Cu3247		0.00070900	ppm	0.00086600	122.20
Fe2599		0.0086080	ppm	0.0056230	65.328
K_7664		-0.021387	ppm	0.018979	88.739
Mg2790		0.0061920	ppm	0.0024340	39.313
Mn2576		0.000068000	ppm	0.000098000	145.59
Mo2020		0.00018200	ppm	0.000021000	11.271
Na5895		-0.048718	ppm	0.0036340	7.4586
Ni2316		-0.00083900	ppm	0.00028500	33.908
P_1782		0.00088000	ppm	0.0044970	511.13
Pb2203		-0.0015130	ppm	0.00081800	54.065
S_1820		-0.0090510	ppm	0.0020400	22.534
Sb2068		-0.0039860	ppm	0.0019210	48.185
Se1960		-0.0012580	ppm	0.0019920	158.41
Si2881		-0.025822	ppm	0.016213	62.788
Sn1899		-0.00031200	ppm	0.00070100	224.44
Sr4077		0.00095500	ppm	0.00026200	27.453
Ti3349		0.0010100	ppm	0.00079700	78.900

MB 320-327509/1-A

Acquire Date: 10/1/2019 4:10:18PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		-0.0022270	ppm	0.000083000	3.7184
V_2924		-0.00030100	ppm	0.00032700	108.56
Zn2062		0.00011000	ppm	0.0000040000	3.1864
Y_2243		6,805.7	Cts/S	35.567	0.52260
Y_3600		50,053	Cts/S	186.10	0.37181
Y_3774		7,252.2	Cts/S	91.314	1.2591

LCS 320-327509/2-A

Acquire Date: 10/1/2019 4:14:18PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.048048	ppm	0.000064000	0.13420
Al3961		4.6584	ppm	0.017064	0.36631
As1890	**W**	**0.47156**	**ppm**	**0.0020350**	**0.43146**
B_2089		4.7712	ppm	0.010239	0.21460
Ba4554	**W**	**0.46602**	**ppm**	**0.0015920**	**0.34167**
Be3130		0.23966	ppm	0.0015670	0.65394
Ca3179		23.553	ppm	0.034964	0.14845
Cd2144	**W**	**0.24116**	**ppm**	**0.00039600**	**0.16425**
Co2286		0.23629	ppm	0.00021400	0.090682
Cr2677	**W**	**0.24377**	**ppm**	**0.000078000**	**0.031973**
Cu3247		0.23390	ppm	0.0014980	0.64044
Fe2599		4.7784	ppm	0.018622	0.38972
K_7664		23.669	ppm	0.045078	0.19045
Mg2790		23.692	ppm	0.037609	0.15874
Mn2576		0.24096	ppm	0.00070700	0.29358
Mo2020		0.24092	ppm	0.00088400	0.36679
Na5895		23.745	ppm	0.14818	0.62407
Ni2316		0.23723	ppm	0.00047800	0.20136
P_1782		5.0247	ppm	0.015839	0.31522
Pb2203	**W**	**0.23992**	**ppm**	**0.0019500**	**0.81261**
S_1820	**F**	**4.8039**	**ppm**	**0.018115**	**0.37710**
Sb2068		0.44870	ppm	0.0024280	0.54120
Se1960	**W**	**0.48229**	**ppm**	**0.000070000**	**0.014616**
Si2881	**W**	**4.8102**	**ppm**	**0.022050**	**0.45839**
Sn1899		0.49034	ppm	0.00036900	0.075154
Sr4077		0.23290	ppm	0.00054900	0.23589
Ti3349	**W**	**0.24069**	**ppm**	**0.00076200**	**0.31642**
Tl1908		0.48008	ppm	0.00051200	0.10660
V_2924		0.24333	ppm	0.00018000	0.074155
Zn2062		0.48598	ppm	0.00062600	0.12874
Y_2243		6,885.9	Cts/S	24.753	0.35947
Y_3600		50,194	Cts/S	62.408	0.12434
Y_3774		7,449.7	Cts/S	29.966	0.40224

MB 320-327511/1-A

Acquire Date: 10/1/2019 4:18:06PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00052200	ppm	0.00015900	30.457
Al3961		-0.015057	ppm	0.010160	67.472
As1890		0.00078200	ppm	0.0022630	289.42
B_2089		0.023833	ppm	0.0017120	7.1828
Ba4554		-0.00024900	ppm	0.000040000	15.976
Be3130		-0.00014300	ppm	0.00027700	194.26
Ca3179		0.0069430	ppm	0.0051710	74.478
Cd2144		0.000092000	ppm	0.000056000	60.402
Co2286		-0.00013700	ppm	0.00014700	106.85
Cr2677		0.00029200	ppm	0.00042800	146.70
Cu3247		0.0010270	ppm	0.0013200	128.48
Fe2599		0.00057200	ppm	0.0070910	1,239.9
K_7664		-0.093029	ppm	0.031217	33.556
Mg2790		0.0045380	ppm	0.0040980	90.303
Mn2576		-0.00014000	ppm	0.0000050000	3.7400
Mo2020		0.00072000	ppm	0.00031300	43.488
Na5895		-0.035658	ppm	0.0094260	26.435
Ni2316		-0.00031700	ppm	0.00017900	56.416
P_1782		0.0016540	ppm	0.00014600	8.8463
Pb2203		-0.00021600	ppm	0.00049800	230.72
S_1820		-0.0063910	ppm	0.0024410	38.194
Sb2068		0.00097600	ppm	0.00020200	20.723
Se1960		-0.0012500	ppm	0.0033940	271.55
Si2881		-0.0060880	ppm	0.014244	233.98
Sn1899		-0.00086900	ppm	0.00067400	77.520
Sr4077		0.00029800	ppm	0.000017000	5.6649
Ti3349		0.0012820	ppm	0.00061900	48.312
Tl1908		-0.0033610	ppm	0.00087100	25.921
V_2924		0.000045000	ppm	0.000022000	47.857
Zn2062		0.00039800	ppm	0.00048800	122.59
Y_2243		6,948.8	Cts/S	13.474	0.19391
Y_3600		50,988	Cts/S	73.160	0.14349
Y_3774		7,437.7	Cts/S	89.802	1.2074

LCS 320-327511/2-A

Acquire Date: 10/1/2019 4:22:06PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.048012	ppm	0.0011370	2.3673
Al3961		4.6250	ppm	0.015122	0.32697
As1890	**W**	**0.45923**	**ppm**	**0.0021680**	**0.47205**
B_2089		4.6822	ppm	0.0044250	0.094502
Ba4554	**W**	**0.45282**	**ppm**	**0.0041650**	**0.91979**
Be3130		0.23517	ppm	0.0012900	0.54856
Ca3179		22.959	ppm	0.13522	0.58896
Cd2144	**W**	**0.23776**	**ppm**	**0.00027900**	**0.11723**
Co2286		0.23640	ppm	0.00037600	0.15919

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

LCS 320-327511/2-A

Acquire Date: 10/1/2019 4:22:06PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677	**W**	**0.24221**	**ppm**	**0.00022100**	**0.091320**
Cu3247		0.22838	ppm	0.00056400	0.24697
Fe2599		4.6177	ppm	0.010293	0.22290
K_7664		23.228	ppm	0.24605	1.0593
Mg2790		23.585	ppm	0.016315	0.069175
Mn2576		0.23690	ppm	0.000065000	0.027326
Mo2020		0.23787	ppm	0.00057100	0.24004
Na5895		23.291	ppm	0.15250	0.65473
Ni2316		0.23509	ppm	0.00045500	0.19337
P_1782		4.9809	ppm	0.011472	0.23032
Pb2203	**W**	**0.24080**	**ppm**	**0.00089100**	**0.36983**
S_1820	**F**	**4.7810**	**ppm**	**0.0029250**	**0.061184**
Sb2068		0.45074	ppm	0.0020470	0.45425
Se1960	**W**	**0.48080**	**ppm**	**0.0028020**	**0.58268**
Si2881	**W**	**4.7283**	**ppm**	**0.0012480**	**0.026398**
Sn1899		0.48273	ppm	0.0019860	0.41145
Sr4077		0.22601	ppm	0.0020390	0.90200
Ti3349	**W**	**0.23938**	**ppm**	**0.00045300**	**0.18936**
Tl1908		0.47896	ppm	0.000064000	0.013330
V_2924		0.24104	ppm	0.000057000	0.023542
Zn2062		0.47991	ppm	0.00073400	0.15299
Y_2243		6,883.3	Cts/S	9.6647	0.14041
Y_3600		50,562	Cts/S	192.18	0.38010
Y_3774		7,597.3	Cts/S	9.1168	0.12000

MB 320-327507/1-A

Acquire Date: 10/1/2019 4:25:53PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00025700	ppm	0.00072400	281.53
Al3961		-0.010226	ppm	0.0032310	31.600
As1890		0.0025550	ppm	0.00064500	25.255
B_2089		0.029021	ppm	0.0011920	4.1085
Ba4554		-0.00035500	ppm	0.000018000	5.1731
Be3130		0.000077000	ppm	0.000062000	80.221
Ca3179		0.030401	ppm	0.00034800	1.1450
Cd2144		0.000022000	ppm	0.0000040000	19.797
Co2286		0.000060000	ppm	0.00000	0.74622
Cr2677		0.00010500	ppm	0.00021600	206.02
Cu3247		0.0019900	ppm	0.00055500	27.893
Fe2599		-0.0069250	ppm	0.0073710	106.45
K_7664		-0.010270	ppm	0.0062850	61.201
Mg2790		0.0083020	ppm	0.0015450	18.612
Mn2576		-0.00010500	ppm	0.000027000	25.412
Mo2020		0.00029400	ppm	0.000081000	27.669
Na5895		-0.044398	ppm	0.012930	29.124
Ni2316		-0.00033000	ppm	0.00038600	116.89

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

MB 320-327507/1-A

Acquire Date: 10/1/2019 4:25:53PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		0.00046300	ppm	0.0015620	337.56
Pb2203		0.00040900	ppm	0.00097100	237.46
S_1820		-0.0047900	ppm	0.00024400	5.1017
Sb2068		-0.0028110	ppm	0.0011530	41.005
Se1960		0.000089000	ppm	0.0014340	1,609.2
Si2881		-0.0076000	ppm	0.0090770	119.43
Sn1899		-0.00060100	ppm	0.000065000	10.745
Sr4077		0.0010330	ppm	0.000093000	8.9664
Ti3349		0.00063900	ppm	0.00085200	133.41
Tl1908		0.00063700	ppm	0.00054400	85.453
V_2924		0.00042600	ppm	0.000035000	8.2392
Zn2062		0.00066200	ppm	0.00084900	128.12
Y_2243		6,834.5	Cts/S	17.636	0.25805
Y_3600		49,882	Cts/S	86.560	0.17353
Y_3774		7,352.2	Cts/S	24.817	0.33755

LCS 320-327507/2-A

Acquire Date: 10/1/2019 4:29:53PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.048200	ppm	0.000010000	0.021434
Al3961		4.6141	ppm	0.0058260	0.12627
As1890	**W**	**0.46354**	**ppm**	**0.0030040**	**0.64804**
B_2089		4.7253	ppm	0.0098220	0.20787
Ba4554	**W**	**0.45307**	**ppm**	**0.0017300**	**0.38186**
Be3130		0.23695	ppm	0.00057200	0.24121
Ca3179		23.113	ppm	0.059052	0.25549
Cd2144	**W**	**0.24089**	**ppm**	**0.000091000**	**0.037612**
Co2286		0.24002	ppm	0.00042100	0.17524
Cr2677	**W**	**0.24554**	**ppm**	**0.0022400**	**0.91230**
Cu3247		0.23007	ppm	0.0010390	0.45158
Fe2599		4.6257	ppm	0.0098250	0.21240
K_7664		23.338	ppm	0.17640	0.75586
Mg2790		23.971	ppm	0.099460	0.41492
Mn2576		0.24033	ppm	0.00071100	0.29570
Mo2020		0.24088	ppm	0.00069200	0.28746
Na5895		23.390	ppm	0.12652	0.54093
Ni2316		0.23735	ppm	0.00085700	0.36113
P_1782		5.0444	ppm	0.010168	0.20157
Pb2203	**W**	**0.24201**	**ppm**	**0.0013160**	**0.54370**
S_1820	**F**	**4.8346**	**ppm**	**0.0029940**	**0.061924**
Sb2068		0.45259	ppm	0.0049970	1.1042
Se1960	**W**	**0.48494**	**ppm**	**0.0014980**	**0.30885**
Si2881	**W**	**4.7959**	**ppm**	**0.0043490**	**0.090687**
Sn1899		0.48872	ppm	0.00083500	0.17092
Sr4077		0.22643	ppm	0.0013750	0.60705
Ti3349	**W**	**0.24289**	**ppm**	**0.00059500**	**0.24510**

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

LCS 320-327507/2-A

Acquire Date: 10/1/2019 4:29:53PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		0.48701	ppm	0.0031920	0.65533
V_2924		0.24671	ppm	0.0013400	0.54317
Zn2062		0.48899	ppm	0.00028100	0.057551
Y_2243		6,708.5	Cts/S	0.11862	0.0017680
Y_3600		49,196	Cts/S	35.121	0.071390
Y_3774		7,393.6	Cts/S	67.692	0.91555

CCV 1708493

Acquire Date: 10/1/2019 4:33:40PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.49127	ppm	0.00030900	0.062805	.50000	Rel(%)	Pass	
Al3961		24.017	ppm	0.11931	0.49677	25.000	Rel(%)	Pass	
As1890		0.48836	ppm	0.00087200	0.17860	.50000	Rel(%)	Pass	
B_2089		1.0154	ppm	0.0013620	0.13412	1.0000	Rel(%)	Pass	
Ba4554		2.3500	ppm	0.012354	0.52570	2.5000	Rel(%)	Pass	
Be3130		0.48715	ppm	0.0016500	0.33879	.50000	Rel(%)	Pass	
Ca3179		23.646	ppm	0.011555	0.048866	25.000	Rel(%)	Pass	
Cd2144		0.49504	ppm	0.000078000	0.015779	.50000	Rel(%)	Pass	
Co2286		2.5211	ppm	0.0012420	0.049248	2.5000	Rel(%)	Pass	
Cr2677		2.5049	ppm	0.0016700	0.066688	2.5000	Rel(%)	Pass	
Cu3247		2.4357	ppm	0.0081050	0.33276	2.5000	Rel(%)	Pass	
Fe2599		23.642	ppm	0.098720	0.41756	25.000	Rel(%)	Pass	
K_7664		24.002	ppm	0.052273	0.21778	25.000	Rel(%)	Pass	
Mg2790		24.527	ppm	0.012374	0.050452	25.000	Rel(%)	Pass	
Mn2576		2.4403	ppm	0.0013580	0.055648	2.5000	Rel(%)	Pass	
Mo2020		0.99287	ppm	0.00057100	0.057467	1.0000	Rel(%)	Pass	
Na5895		23.894	ppm	0.091567	0.38323	25.000	Rel(%)	Pass	
Ni2316		2.5155	ppm	0.0010070	0.040040	2.5000	Rel(%)	Pass	
P_1782		2.4710	ppm	0.0015260	0.061752	2.5000	Rel(%)	Pass	
Pb2203		0.50458	ppm	0.0011550	0.22883	.50000	Rel(%)	Pass	
S_1820		2.4186	ppm	0.0021300	0.088089	2.5000	Rel(%)	Pass	
Sb2068		0.50108	ppm	0.000022000	0.0043750	.50000	Rel(%)	Pass	
Se1960		0.50720	ppm	0.0040970	0.80770	.50000	Rel(%)	Pass	
Si2881		2.4205	ppm	0.022659	0.93614	2.5000	Rel(%)	Pass	
Sn1899		2.4811	ppm	0.00037600	0.015164	2.5000	Rel(%)	Pass	
Sr4077		2.3525	ppm	0.011267	0.47896	2.5000	Rel(%)	Pass	
Ti3349		0.97828	ppm	0.00048500	0.049557	1.0000	Rel(%)	Pass	
Tl1908		0.50910	ppm	0.0024590	0.48293	.50000	Rel(%)	Pass	
V_2924		2.4964	ppm	0.00064700	0.025933	2.5000	Rel(%)	Pass	
Zn2062		2.4777	ppm	0.00019600	0.0078980	2.5000	Rel(%)	Pass	
Y_2243		6,714.8	Cts/S	11.424	0.17014				
Y_3600		50,478	Cts/S	324.44	0.64273				
Y_3774		7,544.9	Cts/S	142.96	1.8947				

CCB 1745955

Acquire Date: 10/1/2019 4:37:27PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.00058400	ppm	0.0012400	212.18	.00000	Abs	Pass	
Al3961		-0.0010570	ppm	0.0020580	194.75	.00000	Abs	Pass	
As1890		-0.00035800	ppm	0.0027470	766.81	.00000	Abs	Pass	
B_2089		0.023047	ppm	0.00097700	4.2408	.00000	Abs	Pass	
Ba4554		0.00014600	ppm	0.000051000	35.109	.00000	Abs	Pass	
Be3130		0.000058000	ppm	0.00019700	342.60	.00000	Abs	Pass	
Ca3179		0.0095050	ppm	0.0021640	22.766	.00000	Abs	Pass	
Cd2144		0.000081000	ppm	0.00011800	145.86	.00000	Abs	Pass	
Co2286		-0.00025500	ppm	0.00021800	85.289	.00000	Abs	Pass	
Cr2677		0.0010130	ppm	0.00039000	38.528	.00000	Abs	Pass	
Cu3247		0.0029170	ppm	0.0011540	39.561	.00000	Abs	Pass	
Fe2599		-0.0052250	ppm	0.0013620	26.061	.00000	Abs	Pass	
K_7664		-0.071956	ppm	0.032944	45.783	.00000	Abs	Pass	
Mg2790		0.0030940	ppm	0.0055320	178.80	.00000	Abs	Pass	
Mn2576		0.00023000	ppm	0.00010200	44.448	.00000	Abs	Pass	
Mo2020		0.0014230	ppm	0.000078000	5.4786	.00000	Abs	Pass	
Na5895		-0.024943	ppm	0.0066070	26.491	.00000	Abs	Pass	
Ni2316		0.00010800	ppm	0.00030900	285.58	.00000	Abs	Pass	
P_1782		-0.0018660	ppm	0.0012680	67.963	.00000	Abs	Pass	
Pb2203		-0.00067100	ppm	0.00051500	76.765	.00000	Abs	Pass	
S_1820		-0.0060730	ppm	0.00078200	12.881	.00000	Abs	Pass	
Sb2068		-0.0015510	ppm	0.00038600	24.867	.00000	Abs	Pass	
Se1960		-0.0027790	ppm	0.00038800	13.963	.00000	Abs	Pass	
Si2881		-0.0060280	ppm	0.019728	327.29	.00000	Abs	Pass	
Sn1899		0.00030800	ppm	0.00043100	140.20	.00000	Abs	Pass	
Sr4077		0.000091000	ppm	0.000026000	29.178	.00000	Abs	Pass	
Ti3349		0.00050100	ppm	0.0000080000	1.6030	.00000	Abs	Pass	
Tl1908		0.00026700	ppm	0.0015190	569.32	.00000	Abs	Pass	
V_2924		0.000010000	ppm	0.00019600	1,901.3	.00000	Abs	Pass	
Zn2062		0.0034810	ppm	0.000055000	1.5687	.00000	Abs	Pass	
Y_2243		6,835.3	Cts/S	5.3921	0.078887				
Y_3600		49,988	Cts/S	83.268	0.16657				
Y_3774		7,288.2	Cts/S	152.80	2.0966				

320-54381-A-1-A

Acquire Date: 10/1/2019 4:41:27PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0020530	ppm	0.000016000	0.78725
Al3961		130.72	ppm	0.52688	0.40306
As1890		0.0088140	ppm	0.0026290	29.825
B_2089		0.59872	ppm	0.00062600	0.10462
Ba4554		3.5406	ppm	0.013608	0.38433
Be3130		0.0024440	ppm	0.00018800	7.6719
Ca3179		415.89	ppm	2.3453	0.56391
Cd2144		0.0017470	ppm	0.000033000	1.8992
Co2286		0.068793	ppm	0.00043700	0.63516
Cr2677		0.23350	ppm	0.00020400	0.087410

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54381-A-1-A

Acquire Date: 10/1/2019 4:41:27PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Cu3247		0.39784	ppm	0.0010360	0.26050
Fe2599		128.32	ppm	0.65581	0.51106
K_7664		85.491	ppm	0.43348	0.50704
Mg2790		62.853	ppm	0.11670	0.18568
Mn2576		18.453	ppm	0.024622	0.13343
Mo2020		0.0048310	ppm	0.00092900	19.234
Na5895		10.988	ppm	0.049284	0.44854
Ni2316		0.13840	ppm	0.0011430	0.82603
P_1782		27.436	ppm	0.089387	0.32581
Pb2203		0.29976	ppm	0.00049800	0.16630
S_1820		5.2291	ppm	0.013250	0.25339
Sb2068		-0.00016500	ppm	0.00063400	383.48
Se1960		-0.00068900	ppm	0.0012770	185.31
Si2881		4.3724	ppm	0.022727	0.51979
Sn1899		0.043126	ppm	0.00081800	1.8977
Sr4077		3.7232	ppm	0.016725	0.44921
Ti3349	**W**	**6.4020**	**ppm**	**0.0043830**	**0.068458**
Tl1908		0.012283	ppm	0.0015480	12.606
V_2924		0.44794	ppm	0.00092000	0.20546
Zn2062		1.8294	ppm	0.00073900	0.040414
Y_2243		6,503.0	Cts/S	27.760	0.42688
Y_3600		48,028	Cts/S	72.113	0.15015
Y_3774		7,487.1	Cts/S	8.8902	0.11874

320-54381-A-2-A

Acquire Date: 10/1/2019 4:45:22PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0028680	ppm	0.00074000	25.802
Al3961		20.210	ppm	0.084303	0.41714
As1890		0.0058900	ppm	0.0011120	18.887
B_2089		0.30346	ppm	0.00068800	0.22656
Ba4554		2.3331	ppm	0.015073	0.64606
Be3130		0.000027000	ppm	0.000057000	212.79
Ca3179		256.96	ppm	2.2080	0.85929
Cd2144		0.0027920	ppm	0.000099000	3.5348
Co2286		0.010714	ppm	0.00022600	2.1120
Cr2677		0.026207	ppm	0.00075500	2.8828
Cu3247		0.13624	ppm	0.0012910	0.94738
Fe2599		12.178	ppm	0.060645	0.49798
K_7664		93.404	ppm	0.74358	0.79609
Mg2790		32.195	ppm	0.0066720	0.020723
Mn2576		10.856	ppm	0.086917	0.80063
Mo2020		0.0045220	ppm	0.00011300	2.4943
Na5895		6.6950	ppm	0.044076	0.65834
Ni2316		0.023207	ppm	0.00031700	1.3649
P_1782		18.141	ppm	0.012334	0.067986

320-54381-A-2-A

Acquire Date: 10/1/2019 4:45:22PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Pb2203		0.058791	ppm	0.0035460	6.0307
S_1820		13.570	ppm	0.028782	0.21210
Sb2068		0.0025370	ppm	0.0025020	98.621
Se1960		-0.00072200	ppm	0.0017280	239.23
Si2881		2.4790	ppm	0.0067770	0.27339
Sn1899		0.030997	ppm	0.000043000	0.13946
Sr4077		2.4157	ppm	0.015509	0.64204
Ti3349		1.0588	ppm	0.00014000	0.013248
Tl1908		0.0077820	ppm	0.00090900	11.676
V_2924		0.056081	ppm	0.00000	0.00013600
Zn2062		0.80012	ppm	0.0017460	0.21820
Y_2243		6,723.3	Cts/S	6.5183	0.096951
Y_3600		49,483	Cts/S	405.90	0.82028
Y_3774		7,468.0	Cts/S	45.332	0.60702

180-96144-M-1-A

Acquire Date: 10/1/2019 4:49:21PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00016000	ppm	0.00051000	319.23
Al3961		0.013738	ppm	0.0078810	57.369
As1890		0.0018220	ppm	0.0014540	79.773
B_2089		0.20538	ppm	0.00031900	0.15553
Ba4554		0.17053	ppm	0.0056080	3.2886
Be3130		-0.00015400	ppm	0.000068000	44.217
Ca3179		36.293	ppm	0.95689	2.6366
Cd2144		0.000020000	ppm	0.000047000	234.65
Co2286		0.00063900	ppm	0.00011500	18.051
Cr2677		0.00037000	ppm	0.000062000	16.791
Cu3247		0.011482	ppm	0.0026870	23.399
Fe2599		0.021647	ppm	0.0049090	22.676
K_7664		10.820	ppm	0.35576	3.2880
Mg2790		21.727	ppm	0.26934	1.2396
Mn2576		0.16238	ppm	0.027133	16.710
Mo2020		0.0077690	ppm	0.00026900	3.4605
Na5895	**W**	**254.87**	**ppm**	**7.4660**	**2.9294**
Ni2316		0.00051700	ppm	0.00063300	122.47
P_1782		0.049736	ppm	0.0021890	4.4004
Pb2203		-0.0027620	ppm	0.0026110	94.524
S_1820		3.1310	ppm	0.00063000	0.020115
Sb2068		-0.0034140	ppm	0.0021920	64.197
Se1960		-0.00057200	ppm	0.0010600	185.19
Si2881		4.1849	ppm	0.19253	4.6005
Sn1899		-0.00065000	ppm	0.00060200	92.638
Sr4077		0.31657	ppm	0.0090790	2.8681
Ti3349		0.0061140	ppm	0.0056740	92.803
Tl1908		-0.0012490	ppm	0.0012440	99.600

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

180-96144-M-1-A

Acquire Date: 10/1/2019 4:49:21PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
V_2924		0.00091800	ppm	0.00066500	72.421
Zn2062		0.019175	ppm	0.0030940	16.134
Y_2243		6,656.6	Cts/S	8.7254	0.13108
Y_3600		48,624	Cts/S	590.45	1.2143
Y_3774		7,218.7	Cts/S	149.48	2.0707

320-54791-A-1-A

Acquire Date: 10/1/2019 4:53:17PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0021420	ppm	0.00030900	14.437
Al3961		226.69	ppm	0.12898	0.056898
As1890		0.059091	ppm	0.00024900	0.42213
B_2089		0.14714	ppm	0.00090300	0.61341
Ba4554		1.5209	ppm	0.0086470	0.56852
Be3130		0.0054780	ppm	0.00038800	7.0748
Ca3179		40.544	ppm	0.49859	1.2298
Cd2144		0.00080800	ppm	0.000040000	4.9297
Co2286		0.15657	ppm	0.00035300	0.22529
Cr2677		0.75908	ppm	0.00057700	0.075992
Cu3247		0.42415	ppm	0.00092400	0.21791
Fe2599		334.09	ppm	0.56026	0.16770
K_7664		8.9358	ppm	0.16695	1.8683
Mg2790		131.55	ppm	0.74763	0.56832
Mn2576		5.6595	ppm	0.022051	0.38962
Mo2020		0.0028480	ppm	0.00014000	4.9076
Na5895		6.9066	ppm	0.18991	2.7497
Ni2316		1.1324	ppm	0.00066800	0.059000
P_1782		2.9251	ppm	0.0080100	0.27382
Pb2203		0.070099	ppm	0.00044100	0.62902
S_1820		-0.087687	ppm	0.0065830	7.5074
Sb2068		-0.0012740	ppm	0.00094900	74.513
Se1960		-0.0033420	ppm	0.000091000	2.7182
Si2881		0.96711	ppm	0.029088	3.0077
Sn1899		0.023929	ppm	0.00036900	1.5424
Sr4077		0.52004	ppm	0.0055430	1.0660
Ti3349		1.5138	ppm	0.0074490	0.49207
Tl1908		0.0025950	ppm	0.00066800	25.731
V_2924		0.63878	ppm	0.00048400	0.075738
Zn2062		0.70841	ppm	0.0018750	0.26473
Y_2243		6,828.6	Cts/S	2.8461	0.041679
Y_3600		50,390	Cts/S	144.71	0.28719
Y_3774		7,689.0	Cts/S	125.14	1.6275

SD 320-54791-A-1-A@5

Acquire Date: 10/1/2019 4:57:05PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00018400	ppm	0.000071000	38.714
Al3961		47.457	ppm	0.10976	0.23128
As1890		0.014498	ppm	0.0033560	23.145
B_2089		0.039098	ppm	0.00010100	0.25813
Ba4554		0.31980	ppm	0.00031700	0.099231
Be3130		0.00099200	ppm	0.00029600	29.792
Ca3179		8.7098	ppm	0.0029010	0.033309
Cd2144		0.000035000	ppm	0.000022000	61.537
Co2286		0.033249	ppm	0.000034000	0.10263
Cr2677		0.15955	ppm	0.00031200	0.19546
Cu3247		0.088439	ppm	0.00032600	0.36896
Fe2599		70.955	ppm	0.19281	0.27173
K_7664		1.8302	ppm	0.028328	1.5478
Mg2790		27.220	ppm	0.0075090	0.027585
Mn2576		1.1989	ppm	0.00066000	0.055083
Mo2020		0.00083000	ppm	0.00012600	15.205
Na5895		1.5355	ppm	0.018847	1.2274
Ni2316		0.24556	ppm	0.00029600	0.12072
P_1782		0.61867	ppm	0.0019700	0.31837
Pb2203		0.014089	ppm	0.0049820	35.359
S_1820		-0.022864	ppm	0.0015600	6.8231
Sb2068		-0.0010680	ppm	0.00027900	26.088
Se1960		-0.0020260	ppm	0.0025380	125.29
Si2881		0.19661	ppm	0.013606	6.9205
Sn1899		0.0047010	ppm	0.00093800	19.944
Sr4077		0.11034	ppm	0.00031000	0.28088
Ti3349		0.31564	ppm	0.00031600	0.10004
Tl1908		-0.00019300	ppm	0.0023840	1,233.8
V_2924		0.13272	ppm	0.00051900	0.39117
Zn2062		0.15809	ppm	0.00077900	0.49275
Y_2243		6,873.1	Cts/S	20.813	0.30282
Y_3600		50,397	Cts/S	1.1534	0.0022890
Y_3774		7,510.6	Cts/S	15.149	0.20171

PDS 320-54791-A-1-A

Acquire Date: 10/1/2019 5:00:59PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.098965	ppm	0.0017060	1.7240
Al3961		227.93	ppm	0.99047	0.43455
As1890		0.15127	ppm	0.000044000	0.029178
B_2089		1.0645	ppm	0.0021490	0.20190
Ba4554		1.5653	ppm	0.0068510	0.43769
Be3130		0.051915	ppm	0.00026100	0.50185
Ca3179		47.933	ppm	0.13398	0.27951
Cd2144		0.094965	ppm	0.00031000	0.32670
Co2286		0.24491	ppm	0.0010180	0.41568

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

PDS 320-54791-A-1-A

Acquire Date: 10/1/2019 5:00:59PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.82174	ppm	0.0013780	0.16767
Cu3247		0.54833	ppm	0.00039100	0.071256
Fe2599		326.86	ppm	1.2068	0.36921
K_7664		18.058	ppm	0.061751	0.34196
Mg2790		135.79	ppm	0.051099	0.037633
Mn2576		5.5117	ppm	0.00049400	0.0089630
Mo2020		0.097246	ppm	0.00081800	0.84138
Na5895		16.201	ppm	0.070546	0.43544
Ni2316		1.1828	ppm	0.0027180	0.22975
P_1782		3.7371	ppm	0.0045230	0.12104
Pb2203		0.15742	ppm	0.0023460	1.4903
S_1820		1.7447	ppm	0.0037310	0.21385
Sb2068		0.080908	ppm	0.0022510	2.7824
Se1960		0.088438	ppm	0.0013090	1.4805
Si2881		1.8625	ppm	0.000090000	0.0048350
Sn1899		0.11966	ppm	0.00073700	0.61579
Sr4077		0.59394	ppm	0.0037980	0.63946
Ti3349		1.5384	ppm	0.00054500	0.035420
Tl1908		0.096108	ppm	0.0016550	1.7219
V_2924		0.70551	ppm	0.0030800	0.43652
Zn2062		0.76996	ppm	0.000031000	0.0040810
Y_2243		6,848.8	Cts/S	54.787	0.79995
Y_3600		50,508	Cts/S	39.928	0.079053
Y_3774		7,688.5	Cts/S	4.2474	0.055243

320-54791-A-1-B MS

Acquire Date: 10/1/2019 5:04:46PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.044313	ppm	0.0013580	3.0638
Al3961		308.82	ppm	1.5753	0.51010
As1890		0.47520	ppm	0.0016740	0.35222
B_2089		3.9159	ppm	0.00091400	0.023333
Ba4554		3.9582	ppm	0.013459	0.34002
Be3130		0.21977	ppm	0.0011720	0.53329
Ca3179		66.997	ppm	0.20942	0.31258
Cd2144		0.21065	ppm	0.000056000	0.026691
Co2286		0.46107	ppm	0.00011700	0.025356
Cr2677		1.0943	ppm	0.0027010	0.24680
Cu3247		0.69848	ppm	0.00028900	0.041310
Fe2599		374.11	ppm	0.79862	0.21347
K_7664		33.847	ppm	0.15885	0.46932
Mg2790		165.64	ppm	0.21250	0.12830
Mn2576		17.355	ppm	0.16658	0.95984
Mo2020		0.20229	ppm	0.00069500	0.34340
Na5895		29.209	ppm	0.11168	0.38234
Ni2316		1.6635	ppm	0.0026950	0.16202

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54791-A-1-B MS

Acquire Date: 10/1/2019 5:04:46PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		7.4464	ppm	0.015517	0.20839
Pb2203		0.29221	ppm	0.00015100	0.051584
S_1820		4.2542	ppm	0.0054670	0.12852
Sb2068		0.16771	ppm	0.0030510	1.8189
Se1960		0.39918	ppm	0.0022790	0.57104
Si2881		1.5495	ppm	0.018294	1.1807
Sn1899		0.43919	ppm	0.0012800	0.29149
Sr4077		0.83417	ppm	0.0025420	0.30470
Ti3349		4.1778	ppm	0.0054330	0.13004
Tl1908		0.42200	ppm	0.00087500	0.20738
V_2924		1.0923	ppm	0.00090000	0.082433
Zn2062		1.1691	ppm	0.00099600	0.085228
Y_2243		6,813.5	Cts/S	5.8723	0.086186
Y_3600		50,012	Cts/S	139.88	0.27969
Y_3774		7,723.5	Cts/S	4.4850	0.058070

320-54791-A-1-C MSD

Acquire Date: 10/1/2019 5:08:37PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.042346	ppm	0.00056300	1.3285
Al3961		298.94	ppm	1.0446	0.34944
As1890		0.45730	ppm	0.00078000	0.17058
B_2089		3.7699	ppm	0.011804	0.31312
Ba4554		3.4480	ppm	0.013000	0.37703
Be3130		0.21325	ppm	0.00092200	0.43226
Ca3179		68.846	ppm	0.30938	0.44938
Cd2144		0.20491	ppm	0.00043400	0.21158
Co2286		0.45297	ppm	0.0013120	0.28959
Cr2677		1.0620	ppm	0.0031640	0.29798
Cu3247		0.66872	ppm	0.0018730	0.28006
Fe2599		361.42	ppm	0.87592	0.24236
K_7664		32.179	ppm	0.15201	0.47237
Mg2790		160.77	ppm	0.28976	0.18023
Mn2576		14.559	ppm	0.0025960	0.017832
Mo2020		0.19645	ppm	0.00028800	0.14686
Na5895		28.284	ppm	0.11447	0.40472
Ni2316		1.5756	ppm	0.0038450	0.24405
P_1782		7.2106	ppm	0.0023000	0.031901
Pb2203		0.28479	ppm	0.0064690	2.2716
S_1820		4.1764	ppm	0.00059700	0.014287
Sb2068		0.16202	ppm	0.00059400	0.36663
Se1960		0.39043	ppm	0.0052550	1.3459
Si2881		1.4861	ppm	0.0097770	0.65789
Sn1899		0.42518	ppm	0.0023370	0.54973
Sr4077		0.81918	ppm	0.0030050	0.36688
Ti3349		3.8401	ppm	0.015916	0.41447

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54791-A-1-C MSD

Acquire Date: 10/1/2019 5:08:37PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		0.41320	ppm	0.0042180	1.0207
V_2924		1.0320	ppm	0.0037860	0.36682
Zn2062		1.1366	ppm	0.00097400	0.085727
Y_2243		6,746.0	Cts/S	4.2212	0.062574
Y_3600		49,719	Cts/S	78.671	0.15823
Y_3774		7,596.2	Cts/S	20.184	0.26571

320-54791-A-2-A

Acquire Date: 10/1/2019 5:12:27PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0021760	ppm	0.0012640	58.079
Al3961		231.98	ppm	2.0895	0.90071
As1890		0.058197	ppm	0.0018190	3.1248
B_2089		0.18020	ppm	0.0021780	1.2084
Ba4554		1.5105	ppm	0.012244	0.81058
Be3130		0.0051820	ppm	0.00022700	4.3818
Ca3179		39.434	ppm	0.35841	0.90888
Cd2144		0.00060900	ppm	0.00011900	19.597
Co2286		0.15230	ppm	0.00060300	0.39607
Cr2677		0.76134	ppm	0.00056200	0.073757
Cu3247		0.41259	ppm	0.0000060000	0.0015570
Fe2599		331.51	ppm	2.9699	0.89584
K_7664		9.0281	ppm	0.010903	0.12077
Mg2790		133.39	ppm	0.18433	0.13819
Mn2576		4.4767	ppm	0.0039010	0.087143
Mo2020		0.0025160	ppm	0.00025900	10.301
Na5895		6.5430	ppm	0.0072000	0.11004
Ni2316		1.1049	ppm	0.0041230	0.37316
P_1782		2.9130	ppm	0.0048610	0.16686
Pb2203		0.066380	ppm	0.0019220	2.8962
S_1820		-0.088397	ppm	0.0059690	6.7522
Sb2068		-0.0023370	ppm	0.0017010	72.764
Se1960		0.0026200	ppm	0.0035580	135.80
Si2881		0.80790	ppm	0.0094490	1.1696
Sn1899		0.023174	ppm	0.00057500	2.4833
Sr4077		0.51800	ppm	0.0039160	0.75602
Ti3349		1.7743	ppm	0.00032600	0.018355
Tl1908		0.0051200	ppm	0.00070400	13.752
V_2924		0.60077	ppm	0.00043100	0.071697
Zn2062		0.70250	ppm	0.0017140	0.24393
Y_2243		6,869.6	Cts/S	19.149	0.27875
Y_3600		50,431	Cts/S	154.00	0.30537
Y_3774		7,694.9	Cts/S	35.602	0.46267

320-54791-A-3-A

Acquire Date: 10/1/2019 5:16:18PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0022830	ppm	0.0010150	44.472
Al3961		256.42	ppm	1.3002	0.50708
As1890		0.036647	ppm	0.00068900	1.8795
B_2089		0.16024	ppm	0.0010440	0.65172
Ba4554		1.5620	ppm	0.0051550	0.33001
Be3130		0.0056340	ppm	0.000038000	0.68137
Ca3179		58.043	ppm	0.31045	0.53485
Cd2144		0.00040900	ppm	0.00026700	65.309
Co2286		0.11706	ppm	0.00012900	0.11004
Cr2677		0.78215	ppm	0.00035600	0.045568
Cu3247		0.45167	ppm	0.00019200	0.042451
Fe2599		339.17	ppm	1.6859	0.49706
K_7664		11.237	ppm	0.015224	0.13548
Mg2790		127.79	ppm	0.33584	0.26281
Mn2576		3.4120	ppm	0.0037430	0.10969
Mo2020		0.0019180	ppm	0.00014500	7.5357
Na5895		7.8539	ppm	0.039685	0.50529
Ni2316		1.0930	ppm	0.0027390	0.25062
P_1782		2.1575	ppm	0.0024150	0.11195
Pb2203		0.075410	ppm	0.0061110	8.1041
S_1820		0.21516	ppm	0.0026490	1.2310
Sb2068		-0.0020030	ppm	0.00086900	43.368
Se1960		-0.0020490	ppm	0.0050480	246.38
Si2881		0.97063	ppm	0.029566	3.0460
Sn1899		0.023676	ppm	0.0013310	5.6219
Sr4077		0.62265	ppm	0.0029070	0.46693
Ti3349		1.0448	ppm	0.00082300	0.078734
Tl1908		0.0028410	ppm	0.00081900	28.832
V_2924		0.51524	ppm	0.0024210	0.46996
Zn2062		0.71833	ppm	0.0033610	0.46788
Y_2243		6,856.5	Cts/S	17.144	0.25005
Y_3600		50,665	Cts/S	115.53	0.22803
Y_3774		7,742.1	Cts/S	3.3028	0.042660

CCV 1708493

Acquire Date: 10/1/2019 5:20:09PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.49422	ppm	0.0031730	0.64198	.50000	Rel(%)	Pass	
Al3961		24.263	ppm	0.048104	0.19826	25.000	Rel(%)	Pass	
As1890		0.49429	ppm	0.0022980	0.46493	.50000	Rel(%)	Pass	
B_2089		1.0061	ppm	0.0027430	0.27261	1.0000	Rel(%)	Pass	
Ba4554		2.4308	ppm	0.013902	0.57190	2.5000	Rel(%)	Pass	
Be3130		0.49148	ppm	0.0028960	0.58927	.50000	Rel(%)	Pass	
Ca3179		24.318	ppm	0.16897	0.69484	25.000	Rel(%)	Pass	
Cd2144		0.49870	ppm	0.00063100	0.12649	.50000	Rel(%)	Pass	
Co2286		2.5008	ppm	0.00073800	0.029505	2.5000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCV 1708493

Acquire Date: 10/1/2019 5:20:09PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Cr2677		2.5064	ppm	0.0069180	0.27601	2.5000	Rel(%)	Pass	
Cu3247		2.4545	ppm	0.0039560	0.16116	2.5000	Rel(%)	Pass	
Fe2599		24.679	ppm	0.075456	0.30576	25.000	Rel(%)	Pass	
K_7664		24.409	ppm	0.14885	0.60983	25.000	Rel(%)	Pass	
Mg2790		24.665	ppm	0.047434	0.19231	25.000	Rel(%)	Pass	
Mn2576		2.4751	ppm	0.0042230	0.17063	2.5000	Rel(%)	Pass	
Mo2020		0.99945	ppm	0.0016750	0.16764	1.0000	Rel(%)	Pass	
Na5895		24.431	ppm	0.11915	0.48770	25.000	Rel(%)	Pass	
Ni2316		2.5204	ppm	0.0024280	0.096354	2.5000	Rel(%)	Pass	
P_1782		2.4728	ppm	0.0067660	0.27361	2.5000	Rel(%)	Pass	
Pb2203		0.50500	ppm	0.0033350	0.66046	.50000	Rel(%)	Pass	
S_1820		2.3964	ppm	0.0042930	0.17914	2.5000	Rel(%)	Pass	
Sb2068		0.49933	ppm	0.00097300	0.19492	.50000	Rel(%)	Pass	
Se1960		0.50694	ppm	0.0021210	0.41847	.50000	Rel(%)	Pass	
Si2881		2.4222	ppm	0.016903	0.69786	2.5000	Rel(%)	Pass	
Sn1899		2.4972	ppm	0.0065930	0.26402	2.5000	Rel(%)	Pass	
Sr4077		2.4313	ppm	0.011532	0.47430	2.5000	Rel(%)	Pass	
Ti3349		0.98257	ppm	0.0024100	0.24530	1.0000	Rel(%)	Pass	
Tl1908		0.50438	ppm	0.00042600	0.084378	.50000	Rel(%)	Pass	
V_2924		2.4846	ppm	0.0073080	0.29414	2.5000	Rel(%)	Pass	
Zn2062		2.5283	ppm	0.0064870	0.25657	2.5000	Rel(%)	Pass	
Y_2243		6,627.3	Cts/S	0.21915	0.0033070				
Y_3600		48,751	Cts/S	107.20	0.21990				
Y_3774		7,201.5	Cts/S	19.648	0.27284				

CCB 1745955

Acquire Date: 10/1/2019 5:23:55PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.00080100	ppm	0.00069900	87.238	.00000	Abs	Pass	
Al3961		-0.027520	ppm	0.016570	60.213	.00000	Abs	Pass	
As1890		0.000034000	ppm	0.00023300	677.11	.00000	Abs	Pass	
B_2089		0.012926	ppm	0.00042000	3.2484	.00000	Abs	Pass	
Ba4554		-0.00031500	ppm	0.00023300	73.933	.00000	Abs	Pass	
Be3130		0.000039000	ppm	0.000096000	249.03	.00000	Abs	Pass	
Ca3179		0.0022060	ppm	0.00017300	7.8373	.00000	Abs	Pass	
Cd2144		0.000043000	ppm	0.000014000	33.572	.00000	Abs	Pass	
Co2286		0.00025200	ppm	0.00015300	60.589	.00000	Abs	Pass	
Cr2677		0.00059300	ppm	0.0000060000	1.0724	.00000	Abs	Pass	
Cu3247		0.0045000	ppm	0.0014060	31.232	.00000	Abs	Pass	
Fe2599		0.030142	ppm	0.010634	35.279	.00000	Abs	Pass	
K_7664		-0.0028070	ppm	0.018827	670.68	.00000	Abs	Pass	
Mg2790		0.0081140	ppm	0.0014800	18.240	.00000	Abs	Pass	
Mn2576		0.0013290	ppm	0.000043000	3.2555	.00000	Abs	Pass	
Mo2020		0.00054100	ppm	0.000097000	17.969	.00000	Abs	Pass	
Na5895		-0.023282	ppm	0.033376	143.36	.00000	Abs	Pass	
Ni2316		0.00049700	ppm	0.00067600	136.05	.00000	Abs	Pass	
P_1782		0.0013040	ppm	0.0029610	227.08	.00000	Abs	Pass	

CCB 1745955

Acquire Date: 10/1/2019 5:23:55PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Pb2203		-0.00047400	ppm	0.0011320	239.08	.00000	Abs	Pass	
S_1820		-0.0059380	ppm	0.00033000	5.5578	.00000	Abs	Pass	
Sb2068		-0.0018910	ppm	0.00099000	52.319	.00000	Abs	Pass	
Se1960		0.000026000	ppm	0.00031000	1,190.0	.00000	Abs	Pass	
Si2881		-0.011492	ppm	0.00069700	6.0687	.00000	Abs	Pass	
Sn1899		0.00037700	ppm	0.00011900	31.665	.00000	Abs	Pass	
Sr4077		0.00049000	ppm	0.00017700	36.184	.00000	Abs	Pass	
Ti3349		0.0012730	ppm	0.00025300	19.862	.00000	Abs	Pass	
Tl1908		-0.00071900	ppm	0.00021400	29.827	.00000	Abs	Pass	
V_2924		0.00026000	ppm	0.000056000	21.384	.00000	Abs	Pass	
Zn2062	**W**	**0.0074960**	**ppm**	**0.000079000**	**1.0596**	**.00000**	**Abs**	**Warn High**	**0.00500**
Y_2243		6,823.9	Cts/S	12.482	0.18291				
Y_3600		50,158	Cts/S	98.010	0.19540				
Y_3774		7,226.3	Cts/S	130.12	1.8006				

320-54791-A-4-A

Acquire Date: 10/1/2019 5:27:55PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0018170	ppm	0.00036600	20.168
Al3961		259.11	ppm	1.2167	0.46958
As1890		0.090724	ppm	0.0028190	3.1070
B_2089		0.18699	ppm	0.0014470	0.77391
Ba4554		3.7406	ppm	0.019755	0.52812
Be3130		0.0055410	ppm	0.00012700	2.2916
Ca3179		43.174	ppm	0.23915	0.55392
Cd2144		0.00084100	ppm	0.00021400	25.471
Co2286		0.30372	ppm	0.00028800	0.094667
Cr2677		0.85192	ppm	0.0027430	0.32203
Cu3247		0.45423	ppm	0.0041010	0.90292
Fe2599		363.27	ppm	1.3773	0.37915
K_7664		10.633	ppm	0.098139	0.92293
Mg2790		142.66	ppm	0.23181	0.16249
Mn2576		12.570	ppm	0.036046	0.28677
Mo2020		0.0035030	ppm	0.00025300	7.2262
Na5895		7.2725	ppm	0.026375	0.36266
Ni2316		1.2996	ppm	0.0034470	0.26522
P_1782		2.8160	ppm	0.0069190	0.24569
Pb2203		0.079948	ppm	0.0052860	6.6113
S_1820		0.29209	ppm	0.0020030	0.68572
Sb2068		-0.0019870	ppm	0.0014800	74.458
Se1960		-0.0010370	ppm	0.0030960	298.53
Si2881		0.83614	ppm	0.00051400	0.061522
Sn1899		0.025311	ppm	0.00027700	1.0944
Sr4077		0.66241	ppm	0.0031490	0.47537
Ti3349		1.9387	ppm	0.0036980	0.19076
Tl1908		0.012211	ppm	0.0014840	12.151

320-54791-A-4-A

Acquire Date: 10/1/2019 5:27:55PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
V_2924		0.81001	ppm	0.0010660	0.13158
Zn2062		0.74091	ppm	0.0039670	0.53546
Y_2243		6,846.1	Cts/S	40.081	0.58546
Y_3600		49,886	Cts/S	119.06	0.23866
Y_3774		7,668.5	Cts/S	2.3965	0.031251

320-54791-A-5-A

Acquire Date: 10/1/2019 5:31:51PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0012110	ppm	0.00019700	16.270
Al3961		181.48	ppm	0.87223	0.48061
As1890		0.043421	ppm	0.00086900	2.0025
B_2089		0.10040	ppm	0.00013700	0.13651
Ba4554		1.8041	ppm	0.0082450	0.45703
Be3130		0.0040890	ppm	0.00017800	4.3585
Ca3179		38.756	ppm	0.15651	0.40384
Cd2144		0.00098700	ppm	0.000077000	7.7533
Co2286		0.13549	ppm	0.000042000	0.030695
Cr2677		0.62751	ppm	0.000061000	0.0097120
Cu3247		0.38365	ppm	0.0028990	0.75558
Fe2599		296.03	ppm	1.5151	0.51181
K_7664		17.145	ppm	0.11041	0.64398
Mg2790		90.078	ppm	0.14441	0.16032
Mn2576		5.5258	ppm	0.0030980	0.056073
Mo2020		0.0026760	ppm	0.00022000	8.2184
Na5895		5.4421	ppm	0.037571	0.69039
Ni2316		0.87031	ppm	0.0010860	0.12482
P_1782		2.5367	ppm	0.0022570	0.088980
Pb2203		0.10662	ppm	0.0024470	2.2955
S_1820		0.11758	ppm	0.0029920	2.5443
Sb2068		-0.0011960	ppm	0.00017500	14.621
Se1960		-0.0010000	ppm	0.0024220	242.31
Si2881		0.97251	ppm	0.0099390	1.0220
Sn1899		0.046398	ppm	0.00045900	0.98836
Sr4077		0.43081	ppm	0.0025580	0.59370
Ti3349		1.5050	ppm	0.0027210	0.18078
Tl1908		0.00023500	ppm	0.0011580	492.74
V_2924		0.43400	ppm	0.00053700	0.12376
Zn2062		0.79308	ppm	0.0021640	0.27291
Y_2243		6,953.7	Cts/S	4.6014	0.066173
Y_3600		50,752	Cts/S	469.29	0.92467
Y_3774		7,616.6	Cts/S	41.125	0.53994

320-54791-A-6-A

Acquire Date: 10/1/2019 5:35:40PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0015420	ppm	0.00038200	24.754
Al3961		214.90	ppm	1.8032	0.83913
As1890		0.038853	ppm	0.00092800	2.3889
B_2089		0.093495	ppm	0.00058300	0.62386
Ba4554		2.0130	ppm	0.014763	0.73339
Be3130		0.0048550	ppm	0.00011900	2.4482
Ca3179		42.070	ppm	0.38925	0.92524
Cd2144		0.00029000	ppm	0.000050000	17.259
Co2286		0.11296	ppm	0.00022100	0.19593
Cr2677		0.70782	ppm	0.0024060	0.33997
Cu3247		0.42145	ppm	0.0031040	0.73639
Fe2599		320.65	ppm	2.3219	0.72413
K_7664		17.352	ppm	0.18138	1.0453
Mg2790		108.37	ppm	0.24248	0.22376
Mn2576		4.4744	ppm	0.0072530	0.16210
Mo2020		0.0019690	ppm	0.000075000	3.8090
Na5895		5.7011	ppm	0.055532	0.97406
Ni2316		1.0433	ppm	0.0061380	0.58834
P_1782		2.3291	ppm	0.0045370	0.19482
Pb2203		0.079362	ppm	0.0021390	2.6950
S_1820		0.087050	ppm	0.0059470	6.8319
Sb2068		-0.0014810	ppm	0.0015210	102.68
Se1960		-0.0010530	ppm	0.0016510	156.69
Si2881		0.90027	ppm	0.037083	4.1191
Sn1899		0.025509	ppm	0.00034600	1.3561
Sr4077		0.45063	ppm	0.0035400	0.78557
Ti3349		1.1199	ppm	0.00044500	0.039698
Tl1908		0.0015980	ppm	0.00049800	31.129
V_2924		0.47676	ppm	0.0014410	0.30231
Zn2062		0.67165	ppm	0.00065700	0.097752
Y_2243		6,973.2	Cts/S	18.831	0.27004
Y_3600		51,534	Cts/S	188.54	0.36586
Y_3774		7,759.8	Cts/S	63.175	0.81413

320-54791-A-7-A

Acquire Date: 10/1/2019 5:39:30PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00046400	ppm	0.00061100	131.65
Al3961		226.28	ppm	0.81017	0.35804
As1890		0.068145	ppm	0.00011600	0.17016
B_2089		0.17016	ppm	0.00017800	0.10431
Ba4554		2.1366	ppm	0.0053780	0.25170
Be3130		0.0049780	ppm	0.000090000	1.8064
Ca3179		47.112	ppm	0.065773	0.13961
Cd2144		0.0011340	ppm	0.0000060000	0.56971
Co2286		0.20530	ppm	0.00064800	0.31574

320-54791-A-7-A

Acquire Date: 10/1/2019 5:39:30PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.70665	ppm	0.00093600	0.13251
Cu3247		0.45410	ppm	0.0014040	0.30929
Fe2599		341.27	ppm	0.85309	0.24997
K_7664		10.519	ppm	0.061237	0.58217
Mg2790		116.38	ppm	0.25708	0.22090
Mn2576		10.424	ppm	0.025024	0.24005
Mo2020		0.0023840	ppm	0.00026200	10.997
Na5895		10.550	ppm	0.054194	0.51368
Ni2316		1.0191	ppm	0.0033970	0.33330
P_1782		2.1759	ppm	0.0027820	0.12784
Pb2203		0.077946	ppm	0.00098100	1.2584
S_1820		0.30207	ppm	0.0027400	0.90714
Sb2068		-0.0018890	ppm	0.0020910	110.74
Se1960		0.00041200	ppm	0.00028700	69.737
Si2881		0.81324	ppm	0.0011470	0.14103
Sn1899		0.026079	ppm	0.00030100	1.1524
Sr4077		0.65640	ppm	0.0019990	0.30457
Ti3349		2.6602	ppm	0.0061420	0.23090
Tl1908		0.0095530	ppm	0.0010590	11.085
V_2924		0.68356	ppm	0.0012110	0.17721
Zn2062		0.73925	ppm	0.00056600	0.076510
Y_2243		6,871.1	Cts/S	3.6797	0.053553
Y_3600		50,382	Cts/S	114.56	0.22738
Y_3774		7,651.0	Cts/S	6.8613	0.089679

320-54791-A-8-A

Acquire Date: 10/1/2019 5:43:24PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00090800	ppm	0.00040500	44.581
Al3961		220.63	ppm	0.43338	0.19643
As1890		0.089140	ppm	0.00072800	0.81658
B_2089		0.18665	ppm	0.00049200	0.26346
Ba4554		3.4655	ppm	0.026200	0.75604
Be3130		0.0051100	ppm	0.00062500	12.236
Ca3179		51.232	ppm	0.36905	0.72035
Cd2144		0.0025040	ppm	0.000056000	2.2201
Co2286		0.32636	ppm	0.000076000	0.023222
Cr2677		0.67294	ppm	0.0042940	0.63806
Cu3247		0.43794	ppm	0.0015260	0.34856
Fe2599		322.88	ppm	1.1553	0.35781
K_7664		9.8784	ppm	0.087476	0.88553
Mg2790		115.88	ppm	0.46486	0.40117
Mn2576		14.631	ppm	0.23508	1.6067
Mo2020		0.0025840	ppm	0.00011500	4.4443
Na5895		10.082	ppm	0.034189	0.33911
Ni2316		1.1256	ppm	0.00082400	0.073208

320-54791-A-8-A

Acquire Date: 10/1/2019 5:43:24PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		2.2013	ppm	0.00045200	0.020522
Pb2203		0.077594	ppm	0.00049100	0.63223
S_1820		0.72442	ppm	0.0053050	0.73224
Sb2068		-0.0028490	ppm	0.0016110	56.542
Se1960		-0.00033000	ppm	0.0013960	422.80
Si2881		0.84010	ppm	0.053799	6.4038
Sn1899		0.025703	ppm	0.00082000	3.1904
Sr4077		0.70432	ppm	0.0015350	0.21789
Ti3349		2.6451	ppm	0.0087550	0.33099
Tl1908		0.013066	ppm	0.00053600	4.0999
V_2924		0.76997	ppm	0.0032460	0.42151
Zn2062		0.69196	ppm	0.0026970	0.38977
Y_2243		6,911.2	Cts/S	15.827	0.22900
Y_3600		50,813	Cts/S	141.07	0.27763
Y_3774		7,764.3	Cts/S	164.52	2.1189

320-54791-A-9-A

Acquire Date: 10/1/2019 5:47:18PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0017230	ppm	0.00027600	16.019
Al3961		193.77	ppm	0.99096	0.51142
As1890		0.075929	ppm	0.0021710	2.8587
B_2089		0.16774	ppm	0.00013900	0.082764
Ba4554		1.8829	ppm	0.011386	0.60471
Be3130		0.0041830	ppm	0.000050000	1.2025
Ca3179		42.417	ppm	0.23854	0.56236
Cd2144		0.00054700	ppm	0.00019100	34.961
Co2286		0.13749	ppm	0.00020000	0.14519
Cr2677		0.67092	ppm	0.0022780	0.33949
Cu3247		0.39448	ppm	0.00090900	0.23048
Fe2599		295.91	ppm	1.4216	0.48043
K_7664		20.433	ppm	0.18259	0.89357
Mg2790		97.044	ppm	0.16614	0.17120
Mn2576		3.1298	ppm	0.0053100	0.16965
Mo2020		0.0022360	ppm	0.00060600	27.086
Na5895		4.0158	ppm	0.030727	0.76513
Ni2316		0.90854	ppm	0.00041700	0.045872
P_1782		3.4227	ppm	0.0042250	0.12344
Pb2203		0.090052	ppm	0.0038620	4.2882
S_1820		0.73683	ppm	0.0054400	0.73830
Sb2068		-0.0018500	ppm	0.0035190	190.22
Se1960		-0.00015500	ppm	0.000038000	24.398
Si2881		1.3150	ppm	0.015800	1.2015
Sn1899		0.027467	ppm	0.00021200	0.77026
Sr4077		0.48464	ppm	0.0015840	0.32694
Ti3349		2.6286	ppm	0.0050410	0.19177

320-54791-A-9-A

Acquire Date: 10/1/2019 5:47:18PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		0.0029280	ppm	0.0032730	111.78
V_2924		0.63449	ppm	0.00093200	0.14688
Zn2062		0.72387	ppm	0.0034750	0.48008
Y_2243		6,864.2	Cts/S	22.508	0.32791
Y_3600		50,046	Cts/S	37.147	0.074226
Y_3774		7,621.8	Cts/S	23.983	0.31466

320-54791-A-10-A

Acquire Date: 10/1/2019 5:51:07PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0025870	ppm	0.00034500	13.320
Al3961		219.84	ppm	1.7403	0.79160
As1890		0.032106	ppm	0.00018700	0.58153
B_2089		0.15085	ppm	0.00026000	0.17268
Ba4554		1.8161	ppm	0.010490	0.57761
Be3130		0.0050000	ppm	0.000095000	1.8922
Ca3179		47.361	ppm	0.33025	0.69730
Cd2144		0.0020120	ppm	0.00012200	6.0554
Co2286		0.16107	ppm	0.00030700	0.19065
Cr2677		0.76145	ppm	0.0030310	0.39800
Cu3247		0.46673	ppm	0.0012250	0.26253
Fe2599		311.45	ppm	1.7526	0.56274
K_7664		23.287	ppm	0.10464	0.44934
Mg2790		105.95	ppm	0.21437	0.20234
Mn2576		4.0876	ppm	0.0040790	0.099794
Mo2020		0.0017650	ppm	0.000068000	3.8319
Na5895		4.7220	ppm	0.032019	0.67808
Ni2316		1.1309	ppm	0.00014200	0.012534
P_1782		2.6479	ppm	0.0081150	0.30648
Pb2203		0.069687	ppm	0.000094000	0.13438
S_1820		0.77150	ppm	0.015662	2.0300
Sb2068		-0.0016620	ppm	0.0034070	205.05
Se1960		-0.0017690	ppm	0.00048800	27.609
Si2881		1.0975	ppm	0.035956	3.2760
Sn1899		0.026887	ppm	0.00011900	0.44124
Sr4077		0.50410	ppm	0.0032680	0.64829
Ti3349		3.0549	ppm	0.0059920	0.19614
Tl1908		0.0028140	ppm	0.0037640	133.73
V_2924		0.70088	ppm	0.0016220	0.23137
Zn2062		0.90804	ppm	0.0018640	0.20531
Y_2243		6,968.5	Cts/S	12.822	0.18401
Y_3600		51,026	Cts/S	34.261	0.067145
Y_3774		7,764.0	Cts/S	44.732	0.57615

320-54791-A-11-A

Acquire Date: 10/1/2019 5:54:55PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0029230	ppm	0.00031000	10.614
Al3961		254.05	ppm	1.4523	0.57164
As1890		0.040934	ppm	0.0017970	4.3902
B_2089		0.33586	ppm	0.0019100	0.56860
Ba4554		1.8542	ppm	0.0072290	0.38989
Be3130		0.0054790	ppm	0.00011100	2.0300
Ca3179		40.506	ppm	0.10084	0.24894
Cd2144		.0000040000	ppm	0.00011700	2,936.3
Co2286		0.17575	ppm	0.000069000	0.039257
Cr2677		0.87800	ppm	0.0055970	0.63750
Cu3247		0.47152	ppm	0.0017260	0.36608
Fe2599		344.37	ppm	0.80418	0.23352
K_7664		11.609	ppm	0.071123	0.61267
Mg2790		135.36	ppm	0.46762	0.34547
Mn2576		4.3493	ppm	0.010494	0.24128
Mo2020		0.0028360	ppm	0.00075100	26.480
Na5895		12.627	ppm	0.062816	0.49749
Ni2316		1.3466	ppm	0.0030460	0.22618
P_1782		2.8428	ppm	0.0033890	0.11921
Pb2203		0.075632	ppm	0.00026200	0.34650
S_1820		0.53520	ppm	0.0050640	0.94628
Sb2068		-0.00085700	ppm	0.0028960	338.07
Se1960		-0.0019130	ppm	0.0025260	132.05
Si2881		1.2197	ppm	0.0011590	0.095009
Sn1899		0.042919	ppm	0.00064200	1.4960
Sr4077		0.52962	ppm	0.0027990	0.52854
Ti3349		2.5119	ppm	0.0033700	0.13415
Tl1908		0.0025490	ppm	0.0035100	137.70
V_2924		0.62040	ppm	0.0021010	0.33869
Zn2062		0.79277	ppm	0.0039370	0.49666
Y_2243		6,813.9	Cts/S	14.664	0.21521
Y_3600		50,157	Cts/S	40.608	0.080962
Y_3774		7,698.0	Cts/S	44.181	0.57393

320-54791-A-12-A

Acquire Date: 10/1/2019 5:58:44PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0019400	ppm	0.000041000	2.1365
Al3961		255.07	ppm	1.3887	0.54444
As1890		0.046682	ppm	0.0028070	6.0141
B_2089		0.38025	ppm	0.0013530	0.35591
Ba4554		2.0636	ppm	0.012414	0.60159
Be3130		0.0054220	ppm	0.000070000	1.2887
Ca3179		44.434	ppm	0.28348	0.63798
Cd2144		0.00099800	ppm	0.00012400	12.435
Co2286		0.17412	ppm	0.00047300	0.27153

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54791-A-12-A

Acquire Date: 10/1/2019 5:58:44PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.84715	ppm	0.0010910	0.12876
Cu3247		0.47844	ppm	0.00013600	0.028503
Fe2599		343.89	ppm	1.8438	0.53616
K_7664		11.645	ppm	0.026342	0.22620
Mg2790		141.25	ppm	0.12311	0.087154
Mn2576		4.1152	ppm	0.00023000	0.0055920
Mo2020		0.0028030	ppm	0.00036000	12.826
Na5895		12.243	ppm	0.072205	0.58978
Ni2316		1.2279	ppm	0.0037670	0.30681
P_1782		2.9704	ppm	0.0056570	0.19044
Pb2203		0.10896	ppm	0.0017850	1.6380
S_1820		0.82111	ppm	0.0059410	0.72349
Sb2068		-0.0034020	ppm	0.00087000	25.583
Se1960		-0.0032700	ppm	0.0027420	83.857
Si2881		1.0899	ppm	0.021150	1.9406
Sn1899		0.033685	ppm	0.00014700	0.43785
Sr4077		0.56318	ppm	0.0026840	0.47658
Ti3349		2.7822	ppm	0.0011430	0.041087
Tl1908		0.0051690	ppm	0.0017290	33.450
V_2924		0.70370	ppm	0.00045800	0.065112
Zn2062		0.84320	ppm	0.000077000	0.0091770
Y_2243		6,855.1	Cts/S	51.541	0.75187
Y_3600		50,649	Cts/S	52.683	0.10402
Y_3774		7,753.7	Cts/S	2.3855	0.030766

320-54789-A-1-A

Acquire Date: 10/1/2019 6:02:30PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0020530	ppm	0.00018500	9.0114
Al3961		233.01	ppm	1.0202	0.43781
As1890		0.059746	ppm	0.0033770	5.6530
B_2089		0.21836	ppm	0.0013740	0.62925
Ba4554		2.0062	ppm	0.011554	0.57590
Be3130		0.0047780	ppm	0.000069000	1.4528
Ca3179		49.131	ppm	0.15800	0.32159
Cd2144		0.00048200	ppm	0.00013800	28.563
Co2286		0.17186	ppm	0.000091000	0.052854
Cr2677		0.76836	ppm	0.0013890	0.18073
Cu3247		0.39554	ppm	0.00073400	0.18553
Fe2599		323.79	ppm	1.6144	0.49861
K_7664		13.079	ppm	0.083047	0.63496
Mg2790		142.41	ppm	0.14452	0.10148
Mn2576		4.6202	ppm	0.0024760	0.053598
Mo2020		0.0053540	ppm	0.00022600	4.2183
Na5895		4.5786	ppm	0.011800	0.25772
Ni2316		1.1204	ppm	0.0041700	0.37218

320-54789-A-1-A

Acquire Date: 10/1/2019 6:02:30PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		2.9043	ppm	0.0094290	0.32466
Pb2203		0.066285	ppm	0.0020210	3.0494
S_1820		0.59580	ppm	0.0068640	1.1521
Sb2068		-0.0050490	ppm	0.0033600	66.555
Se1960		-0.0016570	ppm	0.00031100	18.774
Si2881		1.0796	ppm	0.019475	1.8039
Sn1899		0.024284	ppm	0.00017800	0.73142
Sr4077		0.51027	ppm	0.0019980	0.39161
Ti3349		2.2176	ppm	0.0032700	0.14744
Tl1908		0.000090000	ppm	0.0012000	1,334.4
V_2924		0.62442	ppm	0.0024960	0.39970
Zn2062		0.70589	ppm	0.00072000	0.10201
Y_2243		6,804.0	Cts/S	0.64704	0.0095100
Y_3600		49,832	Cts/S	181.35	0.36392
Y_3774		7,601.4	Cts/S	8.5714	0.11276

CCV 1708493

Acquire Date: 10/1/2019 6:06:18PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.49094	ppm	0.0011040	0.22497	.50000	Rel(%)	Pass	
Al3961		24.206	ppm	0.13709	0.56634	25.000	Rel(%)	Pass	
As1890		0.49383	ppm	0.0034900	0.70682	.50000	Rel(%)	Pass	
B_2089		0.99388	ppm	0.0014470	0.14560	1.0000	Rel(%)	Pass	
Ba4554		2.4282	ppm	0.021636	0.89105	2.5000	Rel(%)	Pass	
Be3130		0.48996	ppm	0.0039380	0.80379	.50000	Rel(%)	Pass	
Ca3179		24.195	ppm	0.20845	0.86153	25.000	Rel(%)	Pass	
Cd2144		0.49823	ppm	0.00090100	0.18082	.50000	Rel(%)	Pass	
Co2286		2.5013	ppm	0.0025750	0.10296	2.5000	Rel(%)	Pass	
Cr2677		2.5021	ppm	0.0039310	0.15709	2.5000	Rel(%)	Pass	
Cu3247		2.4512	ppm	0.0055120	0.22486	2.5000	Rel(%)	Pass	
Fe2599		24.502	ppm	0.080916	0.33025	25.000	Rel(%)	Pass	
K_7664		24.487	ppm	0.28533	1.1652	25.000	Rel(%)	Pass	
Mg2790		24.558	ppm	0.028846	0.11746	25.000	Rel(%)	Pass	
Mn2576		2.4618	ppm	0.0039210	0.15928	2.5000	Rel(%)	Pass	
Mo2020		0.99980	ppm	0.0010050	0.10047	1.0000	Rel(%)	Pass	
Na5895		24.426	ppm	0.21626	0.88537	25.000	Rel(%)	Pass	
Ni2316		2.5152	ppm	0.0027730	0.11026	2.5000	Rel(%)	Pass	
P_1782		2.4853	ppm	0.0061180	0.24616	2.5000	Rel(%)	Pass	
Pb2203		0.50333	ppm	0.0035540	0.70615	.50000	Rel(%)	Pass	
S_1820		2.4087	ppm	0.0076520	0.31769	2.5000	Rel(%)	Pass	
Sb2068		0.50060	ppm	0.00047100	0.094006	.50000	Rel(%)	Pass	
Se1960		0.50643	ppm	0.00092800	0.18329	.50000	Rel(%)	Pass	
Si2881		2.4418	ppm	0.045400	1.8593	2.5000	Rel(%)	Pass	
Sn1899		2.5026	ppm	0.0033840	0.13520	2.5000	Rel(%)	Pass	
Sr4077		2.4297	ppm	0.021950	0.90340	2.5000	Rel(%)	Pass	
Ti3349		0.97859	ppm	0.00014800	0.015108	1.0000	Rel(%)	Pass	
Tl1908		0.51122	ppm	0.0033070	0.64687	.50000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCV 1708493

Acquire Date: 10/1/2019 6:06:18PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
V_2924		2.4780	ppm	0.0041320	0.16674	2.5000	Rel(%)	Pass	
Zn2062		2.5160	ppm	0.0039610	0.15743	2.5000	Rel(%)	Pass	
Y_2243		6,764.4	Cts/S	7.3605	0.10881				
Y_3600		50,047	Cts/S	41.254	0.082430				
Y_3774		7,360.0	Cts/S	28.684	0.38973				

CCB 1745955

Acquire Date: 10/1/2019 6:10:02PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.000087000	ppm	0.000052000	59.474	.00000	Abs	Pass	
Al3961		-0.0046720	ppm	0.0050500	108.10	.00000	Abs	Pass	
As1890		0.00042200	ppm	0.00034700	82.300	.00000	Abs	Pass	
B_2089		0.0065290	ppm	0.0011830	18.114	.00000	Abs	Pass	
Ba4554		-0.00011700	ppm	0.00067600	578.85	.00000	Abs	Pass	
Be3130		-0.00011700	ppm	0.000027000	23.131	.00000	Abs	Pass	
Ca3179		0.0078870	ppm	0.0039380	49.922	.00000	Abs	Pass	
Cd2144		.0000090000	ppm	0.000084000	941.87	.00000	Abs	Pass	
Co2286		0.00028700	ppm	0.00051500	179.59	.00000	Abs	Pass	
Cr2677		0.00047700	ppm	0.00069900	146.63	.00000	Abs	Pass	
Cu3247		0.0054950	ppm	0.00023500	4.2737	.00000	Abs	Pass	
Fe2599		0.048935	ppm	0.0045980	9.3954	.00000	Abs	Pass	
K_7664		0.047180	ppm	0.057521	121.92	.00000	Abs	Pass	
Mg2790		0.0073880	ppm	0.0031160	42.176	.00000	Abs	Pass	
Mn2576		0.0012410	ppm	0.000028000	2.2196	.00000	Abs	Pass	
Mo2020		0.0012360	ppm	0.00010900	8.8338	.00000	Abs	Pass	
Na5895		-0.037222	ppm	0.0050780	13.643	.00000	Abs	Pass	
Ni2316		0.00062800	ppm	0.000018000	2.9111	.00000	Abs	Pass	
P_1782		0.0034600	ppm	0.00077200	22.312	.00000	Abs	Pass	
Pb2203		-0.0013410	ppm	0.0021570	160.88	.00000	Abs	Pass	
S_1820		-0.0059640	ppm	0.0038450	64.471	.00000	Abs	Pass	
Sb2068		-0.0017270	ppm	0.0013540	78.424	.00000	Abs	Pass	
Se1960		-0.0013600	ppm	0.0039320	289.22	.00000	Abs	Pass	
Si2881		-0.0065500	ppm	0.030237	461.62	.00000	Abs	Pass	
Sn1899		0.00028200	ppm	0.000025000	8.8115	.00000	Abs	Pass	
Sr4077		0.00024900	ppm	0.00048100	192.76	.00000	Abs	Pass	
Ti3349		0.00077100	ppm	0.00061400	79.526	.00000	Abs	Pass	
Tl1908		-0.0025500	ppm	0.0022810	89.416	.00000	Abs	Pass	
V_2924		0.00022000	ppm	0.000092000	41.712	.00000	Abs	Pass	
Zn2062	**W**	**0.0069130**	**ppm**	**0.00020100**	**2.9036**	**.00000**	**Abs**	**Warn High**	**0.00500**
Y_2243		6,758.0	Cts/S	7.0303	0.10403				
Y_3600		49,461	Cts/S	478.76	0.96796				
Y_3774		7,146.7	Cts/S	95.377	1.3346				

SD 320-54789-A-1-A@5

Acquire Date: 10/1/2019 6:14:01PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00030000	ppm	0.000037000	12.397
Al3961		47.943	ppm	0.23807	0.49657
As1890		0.012595	ppm	0.00056700	4.5050
B_2089		0.049619	ppm	0.00024400	0.49078
Ba4554		0.41008	ppm	0.0016870	0.41136
Be3130		0.00074900	ppm	0.000042000	5.6065
Ca3179		10.313	ppm	0.076416	0.74095
Cd2144		0.000032000	ppm	0.000096000	299.23
Co2286		0.037023	ppm	0.00033600	0.90702
Cr2677		0.16109	ppm	0.00022600	0.14045
Cu3247		0.084332	ppm	0.0010560	1.2522
Fe2599		67.151	ppm	0.43937	0.65430
K_7664		2.6750	ppm	0.023263	0.86964
Mg2790		29.276	ppm	0.11365	0.38821
Mn2576		0.96813	ppm	0.0019140	0.19774
Mo2020		0.0014420	ppm	0.00012300	8.5415
Na5895		0.93492	ppm	0.012787	1.3677
Ni2316		0.24263	ppm	0.00013200	0.054585
P_1782		0.61343	ppm	0.0028940	0.47180
Pb2203		0.014012	ppm	0.0039260	28.019
S_1820		0.11992	ppm	0.0045660	3.8076
Sb2068		-0.0011860	ppm	0.00024900	21.029
Se1960		-0.0018560	ppm	0.000073000	3.9530
Si2881		0.19099	ppm	0.047348	24.790
Sn1899		0.0053100	ppm	0.000066000	1.2399
Sr4077		0.10498	ppm	0.00064300	0.61239
Ti3349		0.46069	ppm	0.0012760	0.27704
Tl1908		0.000084000	ppm	0.00091400	1,085.0
V_2924		0.12943	ppm	0.00045300	0.34986
Zn2062		0.15481	ppm	0.000076000	0.049069
Y_2243		6,790.4	Cts/S	20.507	0.30200
Y_3600		49,614	Cts/S	118.53	0.23890
Y_3774		7,327.4	Cts/S	9.0939	0.12411

PDS 320-54789-A-1-A

Acquire Date: 10/1/2019 6:17:54PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.096427	ppm	0.0011330	1.1752
Al3961		232.99	ppm	1.2635	0.54231
As1890		0.14983	ppm	0.0016090	1.0739
B_2089		1.1221	ppm	0.0043620	0.38875
Ba4554		1.9927	ppm	0.010449	0.52436
Be3130		0.051039	ppm	0.00049300	0.96527
Ca3179		55.720	ppm	0.25102	0.45051
Cd2144		0.093941	ppm	0.000070000	0.074895
Co2286		0.26085	ppm	0.000061000	0.023488

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

PDS 320-54789-A-1-A

Acquire Date: 10/1/2019 6:17:54PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.83449	ppm	0.0015590	0.18681
Cu3247		0.47396	ppm	0.0014870	0.31380
Fe2599		309.18	ppm	1.5467	0.50025
K_7664		22.042	ppm	0.088259	0.40042
Mg2790		146.41	ppm	0.86954	0.59391
Mn2576		4.4952	ppm	0.026462	0.58868
Mo2020		0.099447	ppm	0.000086000	0.086536
Na5895		14.025	ppm	0.090553	0.64563
Ni2316		1.1706	ppm	0.0018980	0.16215
P_1782		3.7438	ppm	0.0054490	0.14555
Pb2203		0.16033	ppm	0.000087000	0.054551
S_1820		2.4184	ppm	0.017071	0.70585
Sb2068		0.082269	ppm	0.00085900	1.0442
Se1960		0.091234	ppm	0.00020400	0.22381
Si2881		2.0145	ppm	0.019517	0.96884
Sn1899		0.11900	ppm	0.00028100	0.23623
Sr4077		0.57668	ppm	0.0027890	0.48358
Ti3349		2.2167	ppm	0.010485	0.47300
Tl1908		0.096806	ppm	0.0035070	3.6231
V_2924		0.69955	ppm	0.0023900	0.34162
Zn2062		0.76621	ppm	0.0042650	0.55664
Y_2243		6,792.8	Cts/S	7.1605	0.10541
Y_3600		49,951	Cts/S	378.39	0.75753
Y_3774		7,644.9	Cts/S	0.85472	0.011180

320-54789-A-1-B MS

Acquire Date: 10/1/2019 6:21:39PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.042248	ppm	0.00043900	1.0382
Al3961		288.91	ppm	0.45316	0.15685
As1890		0.46372	ppm	0.0050470	1.0883
B_2089		3.9199	ppm	0.0084350	0.21518
Ba4554		2.8903	ppm	0.0039070	0.13518
Be3130		0.21390	ppm	0.00080600	0.37700
Ca3179		75.332	ppm	0.17456	0.23172
Cd2144		0.20589	ppm	0.000065000	0.031487
Co2286		0.39346	ppm	0.00059000	0.15000
Cr2677		1.0349	ppm	0.0022590	0.21824
Cu3247		0.62361	ppm	0.00061900	0.099181
Fe2599		332.18	ppm	0.58937	0.17743
K_7664		35.925	ppm	0.067573	0.18809
Mg2790		166.54	ppm	0.010816	0.0064950
Mn2576		6.3687	ppm	0.074634	1.1719
Mo2020		0.20075	ppm	0.00084200	0.41944
Na5895		25.988	ppm	0.024866	0.095680
Ni2316		1.3736	ppm	0.00094800	0.068993

320-54789-A-1-B MS

Acquire Date: 10/1/2019 6:21:39PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		7.2512	ppm	0.026514	0.36565
Pb2203		0.27877	ppm	0.0068160	2.4452
S_1820		4.8121	ppm	0.011526	0.23953
Sb2068		0.16056	ppm	0.0012780	0.79568
Se1960		0.39338	ppm	0.00026100	0.066387
Si2881		1.9375	ppm	0.071491	3.6899
Sn1899		0.42754	ppm	0.0022930	0.53643
Sr4077		0.76377	ppm	0.0010680	0.13988
Ti3349		4.0077	ppm	0.0067180	0.16764
Tl1908		0.40735	ppm	0.000051000	0.012639
V_2924		0.97849	ppm	0.0013710	0.14016
Zn2062		1.1110	ppm	0.0024280	0.21856
Y_2243		6,729.3	Cts/S	19.529	0.29021
Y_3600		49,170	Cts/S	211.74	0.43063
Y_3774		7,593.6	Cts/S	16.050	0.21137

320-54789-A-1-C MSD

Acquire Date: 10/1/2019 6:25:25PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.042519	ppm	0.0015290	3.5962
Al3961		271.80	ppm	0.87828	0.32313
As1890		0.44355	ppm	0.0014650	0.33037
B_2089		3.8380	ppm	0.0084640	0.22054
Ba4554		2.2996	ppm	0.0053260	0.23160
Be3130		0.20992	ppm	0.00036000	0.17133
Ca3179		65.355	ppm	0.21967	0.33612
Cd2144		0.20225	ppm	0.00052300	0.25852
Co2286		0.34874	ppm	0.00095200	0.27297
Cr2677		1.0019	ppm	0.0033400	0.33342
Cu3247		0.59756	ppm	0.0012020	0.20111
Fe2599		319.66	ppm	0.94203	0.29470
K_7664		34.290	ppm	0.18870	0.55030
Mg2790		161.41	ppm	0.57056	0.35349
Mn2576		3.8182	ppm	0.010533	0.27586
Mo2020		0.19592	ppm	0.00044200	0.22573
Na5895		25.474	ppm	0.10568	0.41486
Ni2316		1.2765	ppm	0.0022810	0.17869
P_1782		6.9843	ppm	0.0015710	0.022496
Pb2203		0.26599	ppm	0.00065700	0.24703
S_1820		4.5924	ppm	0.019973	0.43492
Sb2068		0.17777	ppm	0.0034330	1.9309
Se1960		0.38845	ppm	0.00041900	0.10777
Si2881		1.8211	ppm	0.047898	2.6301
Sn1899		0.42345	ppm	0.0035980	0.84961
Sr4077		0.68583	ppm	0.0021350	0.31126
Ti3349		3.3158	ppm	0.0070020	0.21118

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54789-A-1-C MSD

Acquire Date: 10/1/2019 6:25:25PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		0.39816	ppm	0.0021300	0.53507
V_2924		0.87428	ppm	0.0022100	0.25275
Zn2062		1.0949	ppm	0.0040800	0.37267
Y_2243		6,734.0	Cts/S	16.021	0.23791
Y_3600		49,213	Cts/S	354.38	0.72010
Y_3774		7,565.7	Cts/S	35.290	0.46645

320-54789-A-2-A

Acquire Date: 10/1/2019 6:29:08PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0012530	ppm	0.00033700	26.880
Al3961		225.63	ppm	1.3334	0.59096
As1890		0.064809	ppm	0.00064700	0.99827
B_2089		0.22907	ppm	0.00081400	0.35515
Ba4554		1.8597	ppm	0.010721	0.57647
Be3130		0.0046980	ppm	0.00011200	2.3753
Ca3179		88.431	ppm	0.55275	0.62506
Cd2144		0.00077900	ppm	0.000094000	12.098
Co2286		0.17922	ppm	0.00016700	0.093189
Cr2677		0.74950	ppm	0.00038200	0.051025
Cu3247		0.41183	ppm	0.00043900	0.10671
Fe2599		317.16	ppm	1.8016	0.56803
K_7664		15.297	ppm	0.026614	0.17399
Mg2790		135.28	ppm	0.49855	0.36854
Mn2576		5.1835	ppm	0.020676	0.39889
Mo2020		0.0056470	ppm	0.00069500	12.316
Na5895		3.3248	ppm	0.017135	0.51537
Ni2316		1.0967	ppm	0.00040100	0.036530
P_1782		2.9900	ppm	0.00068000	0.022755
Pb2203		0.072766	ppm	0.0022780	3.1305
S_1820		0.92379	ppm	0.014815	1.6037
Sb2068		-0.00051400	ppm	0.0022850	444.60
Se1960		-0.0018420	ppm	0.0014130	76.710
Si2881		1.1110	ppm	0.032983	2.9687
Sn1899		0.026537	ppm	0.00053200	2.0034
Sr4077		0.58616	ppm	0.0029150	0.49732
Ti3349		3.0631	ppm	0.0093260	0.30448
Tl1908		0.0022670	ppm	0.0022120	97.597
V_2924		0.65232	ppm	0.0016050	0.24597
Zn2062		0.68186	ppm	0.0026580	0.38986
Y_2243		6,774.6	Cts/S	18.218	0.26891
Y_3600		49,747	Cts/S	254.50	0.51158
Y_3774		7,575.4	Cts/S	0.30060	0.0039680

320-54789-A-3-A

Acquire Date: 10/1/2019 6:32:55PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0022670	ppm	0.00070300	31.027
Al3961		243.54	ppm	1.2393	0.50886
As1890		0.070747	ppm	0.00091800	1.2979
B_2089		0.23025	ppm	0.0044650	1.9394
Ba4554		2.0185	ppm	0.0091480	0.45317
Be3130		0.0053180	ppm	0.00023000	4.3189
Ca3179		83.797	ppm	0.35202	0.42008
Cd2144		0.00088400	ppm	0.00025100	28.353
Co2286		0.18102	ppm	0.00023100	0.12767
Cr2677		0.80377	ppm	0.0054480	0.67781
Cu3247		0.42484	ppm	0.0011040	0.25995
Fe2599		341.71	ppm	1.5507	0.45382
K_7664		10.924	ppm	0.0032810	0.030034
Mg2790		147.17	ppm	0.61892	0.42055
Mn2576		5.1279	ppm	0.023788	0.46390
Mo2020		0.0052930	ppm	0.00046100	8.7098
Na5895		5.1271	ppm	0.041552	0.81043
Ni2316		1.1636	ppm	0.0030800	0.26466
P_1782		3.3932	ppm	0.0029190	0.086034
Pb2203		0.072750	ppm	0.0014760	2.0285
S_1820		0.67012	ppm	0.0010330	0.15412
Sb2068		0.0011070	ppm	0.00012100	10.942
Se1960		0.00031000	ppm	0.0017320	558.19
Si2881		1.0080	ppm	0.043747	4.3399
Sn1899		0.025772	ppm	0.000069000	0.26764
Sr4077		0.61855	ppm	0.0024230	0.39168
Ti3349		2.3784	ppm	0.0081860	0.34420
Tl1908		0.0020640	ppm	0.0015680	75.970
V_2924		0.67421	ppm	0.0010570	0.15675
Zn2062		0.74401	ppm	0.0056650	0.76141
Y_2243		6,768.6	Cts/S	3.8553	0.056958
Y_3600		50,012	Cts/S	342.22	0.68428
Y_3774		7,515.2	Cts/S	7.6996	0.10245

320-54789-A-4-A

Acquire Date: 10/1/2019 6:36:44PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0016870	ppm	0.00085300	50.561
Al3961		225.81	ppm	0.35685	0.15803
As1890		0.059447	ppm	0.0000070000	0.010989
B_2089		0.20566	ppm	0.0026240	1.2757
Ba4554		2.4528	ppm	0.0051840	0.21136
Be3130		0.0047420	ppm	0.000088000	1.8558
Ca3179		37.211	ppm	0.036664	0.098530
Cd2144		0.00044600	ppm	0.00020200	45.398
Co2286		0.14867	ppm	0.000082000	0.055438

320-54789-A-4-A

Acquire Date: 10/1/2019 6:36:44PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.72411	ppm	0.0034920	0.48225
Cu3247		0.39492	ppm	0.0021980	0.55653
Fe2599		313.15	ppm	0.36981	0.11809
K_7664		8.8649	ppm	0.096179	1.0849
Mg2790		141.41	ppm	0.61563	0.43534
Mn2576		3.2228	ppm	0.016523	0.51269
Mo2020		0.0026980	ppm	0.00013400	4.9548
Na5895		6.0009	ppm	0.0052300	0.087145
Ni2316		1.0331	ppm	0.00083700	0.080975
P_1782		3.0327	ppm	0.0052160	0.17200
Pb2203		0.067512	ppm	0.00041700	0.61825
S_1820		1.2711	ppm	0.00029800	0.023473
Sb2068		-0.0034830	ppm	0.0041470	119.07
Se1960		-0.0042310	ppm	0.0083180	196.59
Si2881		0.99177	ppm	0.053213	5.3654
Sn1899		0.021523	ppm	0.00019000	0.88242
Sr4077		0.52924	ppm	0.0020810	0.39322
Ti3349		1.3951	ppm	0.0049230	0.35291
Tl1908		0.0043620	ppm	0.00058500	13.401
V_2924		0.59722	ppm	0.0017360	0.29060
Zn2062		0.78190	ppm	0.0061320	0.78429
Y_2243		6,848.6	Cts/S	9.5681	0.13971
Y_3600		50,037	Cts/S	148.36	0.29650
Y_3774		7,558.2	Cts/S	67.039	0.88696

320-54789-A-5-A

Acquire Date: 10/1/2019 6:40:31PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0024980	ppm	0.000048000	1.9115
Al3961		233.72	ppm	1.1947	0.51116
As1890		0.065474	ppm	0.0010380	1.5860
B_2089		0.19440	ppm	0.00039200	0.20179
Ba4554		1.8795	ppm	0.010450	0.55598
Be3130		0.0048000	ppm	0.00026200	5.4514
Ca3179		43.020	ppm	0.20260	0.47093
Cd2144		0.00036400	ppm	0.000023000	6.3444
Co2286		0.15615	ppm	0.00079100	0.50629
Cr2677		0.71110	ppm	0.0023920	0.33637
Cu3247		0.38928	ppm	0.0017780	0.45670
Fe2599		317.25	ppm	1.8273	0.57600
K_7664		10.678	ppm	0.020469	0.19169
Mg2790		124.34	ppm	0.42779	0.34403
Mn2576		5.0460	ppm	0.0097730	0.19368
Mo2020		0.0045620	ppm	0.000095000	2.0879
Na5895		2.4248	ppm	0.0033590	0.13852
Ni2316		0.99451	ppm	0.00047700	0.047956

320-54789-A-5-A

Acquire Date: 10/1/2019 6:40:31PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		3.0208	ppm	0.0000080000	0.00026300
Pb2203		0.061717	ppm	0.0024480	3.9670
S_1820		0.27915	ppm	0.0097330	3.4865
Sb2068		0.00019600	ppm	0.00027300	139.09
Se1960		-0.0042230	ppm	0.000047000	1.1100
Si2881		1.1168	ppm	0.021825	1.9542
Sn1899		0.024213	ppm	0.00014100	0.58173
Sr4077		0.49470	ppm	0.0029030	0.58683
Ti3349		2.3782	ppm	0.0022650	0.095249
Tl1908		0.0011360	ppm	0.0040360	355.43
V_2924		0.64412	ppm	0.00046500	0.072179
Zn2062		0.66725	ppm	0.00034600	0.051887
Y_2243		6,804.8	Cts/S	25.394	0.37318
Y_3600		49,727	Cts/S	137.82	0.27715
Y_3774		7,603.1	Cts/S	7.8636	0.10343

320-54789-A-6-A

Acquire Date: 10/1/2019 6:44:18PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0012060	ppm	0.00052500	43.545
Al3961		220.94	ppm	0.93326	0.42240
As1890		0.059221	ppm	0.0021400	3.6138
B_2089		0.21804	ppm	0.0068950	3.1622
Ba4554		1.8159	ppm	0.0084420	0.46488
Be3130		0.0046980	ppm	0.00015000	3.1913
Ca3179		40.094	ppm	0.21776	0.54311
Cd2144		0.00077600	ppm	0.00025600	32.965
Co2286		0.16544	ppm	0.00016600	0.10060
Cr2677		0.74988	ppm	0.00067100	0.089521
Cu3247		0.38769	ppm	0.00087200	0.22491
Fe2599		317.62	ppm	1.4089	0.44356
K_7664		8.8925	ppm	0.069373	0.78013
Mg2790		143.55	ppm	0.22657	0.15783
Mn2576		4.9810	ppm	0.0087500	0.17568
Mo2020		0.0047140	ppm	0.00067800	14.382
Na5895		8.0872	ppm	0.053181	0.65760
Ni2316		1.1314	ppm	0.00042100	0.037227
P_1782		2.9555	ppm	0.0085580	0.28955
Pb2203		0.067471	ppm	0.0023880	3.5390
S_1820		1.4903	ppm	0.0092880	0.62323
Sb2068		-0.0035660	ppm	0.0020780	58.280
Se1960		-0.00079300	ppm	0.0064230	810.39
Si2881		1.0332	ppm	0.0056540	0.54726
Sn1899		0.022623	ppm	0.00033900	1.5002
Sr4077		0.52456	ppm	0.0019360	0.36904
Ti3349		1.5203	ppm	0.0014970	0.098489

320-54789-A-6-A

Acquire Date: 10/1/2019 6:44:18PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		0.0040770	ppm	0.00077300	18.948
V_2924		0.58222	ppm	0.00010100	0.017432
Zn2062		0.70138	ppm	0.0032610	0.46496
Y_2243		6,890.3	Cts/S	22.547	0.32724
Y_3600		50,393	Cts/S	803.39	1.5942
Y_3774		7,509.5	Cts/S	5.2708	0.070189

320-54789-A-7-A

Acquire Date: 10/1/2019 6:48:07PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00065000	ppm	0.00053000	81.499
Al3961		177.91	ppm	1.4740	0.82850
As1890		0.096736	ppm	0.0023850	2.4659
B_2089		0.30904	ppm	0.0019900	0.64399
Ba4554		2.4670	ppm	0.023199	0.94040
Be3130		0.0038220	ppm	0.0000030000	0.088868
Ca3179		80.133	ppm	0.72359	0.90298
Cd2144		0.012109	ppm	0.00020500	1.6924
Co2286		0.14324	ppm	0.00086100	0.60087
Cr2677		0.58754	ppm	0.0025630	0.43624
Cu3247		6.9919	ppm	0.023998	0.34323
Fe2599		402.27	ppm	3.9406	0.97960
K_7664		12.814	ppm	0.13815	1.0781
Mg2790		77.737	ppm	0.060904	0.078346
Mn2576		4.4332	ppm	0.0013290	0.029969
Mo2020		0.020444	ppm	0.00069000	3.3767
Na5895		4.3324	ppm	0.026163	0.60388
Ni2316		0.76808	ppm	0.00046000	0.059848
P_1782		4.8690	ppm	0.0013370	0.027450
Pb2203		6.8179	ppm	0.0011240	0.016483
S_1820		2.8762	ppm	0.0036530	0.12700
Sb2068		0.030477	ppm	0.00078800	2.5863
Se1960		-0.00097500	ppm	0.0022500	230.79
Si2881		1.2128	ppm	0.015893	1.3105
Sn1899		0.55929	ppm	0.0012830	0.22937
Sr4077		0.62429	ppm	0.0056750	0.90903
Ti3349		3.3473	ppm	0.00028100	0.0083940
Tl1908		0.0049530	ppm	0.0012140	24.505
V_2924		0.59031	ppm	0.00095000	0.16087
Zn2062		5.7634	ppm	0.000030000	0.00052100
Y_2243		6,821.8	Cts/S	21.608	0.31674
Y_3600		50,293	Cts/S	122.68	0.24393
Y_3774		7,593.1	Cts/S	11.468	0.15104

CCV 1708493

Acquire Date: 10/1/2019 6:51:52PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.49412	ppm	0.0035400	0.71645	.50000	Rel(%)	Pass	
Al3961		24.213	ppm	0.091743	0.37890	25.000	Rel(%)	Pass	
As1890		0.49959	ppm	0.00080900	0.16202	.50000	Rel(%)	Pass	
B_2089		1.0013	ppm	0.000070000	0.0069590	1.0000	Rel(%)	Pass	
Ba4554		2.4106	ppm	0.0098510	0.40865	2.5000	Rel(%)	Pass	
Be3130		0.48718	ppm	0.0026050	0.53462	.50000	Rel(%)	Pass	
Ca3179		23.977	ppm	0.10587	0.44155	25.000	Rel(%)	Pass	
Cd2144		0.49908	ppm	0.000031000	0.0062210	.50000	Rel(%)	Pass	
Co2286		2.5090	ppm	0.0018200	0.072537	2.5000	Rel(%)	Pass	
Cr2677		2.5178	ppm	0.0058800	0.23354	2.5000	Rel(%)	Pass	
Cu3247		2.4745	ppm	0.0050030	0.20220	2.5000	Rel(%)	Pass	
Fe2599		24.195	ppm	0.057248	0.23661	25.000	Rel(%)	Pass	
K_7664		24.383	ppm	0.13187	0.54081	25.000	Rel(%)	Pass	
Mg2790		24.708	ppm	0.0056080	0.022699	25.000	Rel(%)	Pass	
Mn2576		2.4579	ppm	0.0012870	0.052363	2.5000	Rel(%)	Pass	
Mo2020		1.0040	ppm	0.00099800	0.099420	1.0000	Rel(%)	Pass	
Na5895		24.418	ppm	0.11530	0.47221	25.000	Rel(%)	Pass	
Ni2316		2.5238	ppm	0.0016440	0.065156	2.5000	Rel(%)	Pass	
P_1782		2.5062	ppm	0.0017900	0.071443	2.5000	Rel(%)	Pass	
Pb2203		0.50731	ppm	0.0022700	0.44748	.50000	Rel(%)	Pass	
S_1820		2.4254	ppm	0.0062330	0.25697	2.5000	Rel(%)	Pass	
Sb2068		0.50386	ppm	0.0015170	0.30104	.50000	Rel(%)	Pass	
Se1960		0.51215	ppm	0.0018820	0.36750	.50000	Rel(%)	Pass	
Si2881		2.4265	ppm	0.035245	1.4525	2.5000	Rel(%)	Pass	
Sn1899		2.5073	ppm	0.00085300	0.034005	2.5000	Rel(%)	Pass	
Sr4077		2.4123	ppm	0.012296	0.50971	2.5000	Rel(%)	Pass	
Ti3349		0.97787	ppm	0.0031950	0.32674	1.0000	Rel(%)	Pass	
Tl1908		0.50998	ppm	0.0015990	0.31356	.50000	Rel(%)	Pass	
V_2924		2.4858	ppm	0.0029980	0.12060	2.5000	Rel(%)	Pass	
Zn2062		2.5451	ppm	0.0023950	0.094115	2.5000	Rel(%)	Pass	
Y_2243		6,683.9	Cts/S	11.865	0.17751				
Y_3600		49,174	Cts/S	177.27	0.36049				
Y_3774		7,272.1	Cts/S	0.45845	0.0063040				

CCB 1745955

Acquire Date: 10/1/2019 6:55:37PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.00038800	ppm	0.00046000	118.44	.00000	Abs	Pass	
Al3961		-0.017544	ppm	0.00064400	3.6685	.00000	Abs	Pass	
As1890		0.00034900	ppm	0.00098800	283.53	.00000	Abs	Pass	
B_2089		0.0079230	ppm	0.00093800	11.835	.00000	Abs	Pass	
Ba4554		-0.00019800	ppm	0.00021300	107.75	.00000	Abs	Pass	
Be3130		0.000065000	ppm	0.00013600	210.97	.00000	Abs	Pass	
Ca3179		-0.0089670	ppm	0.0055680	62.094	.00000	Abs	Pass	
Cd2144		.0000040000	ppm	0.000029000	808.43	.00000	Abs	Pass	
Co2286		0.00028800	ppm	0.00015400	53.534	.00000	Abs	Pass	
Cr2677		0.00052800	ppm	0.000068000	12.880	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCB 1745955

Acquire Date: 10/1/2019 6:55:37PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Cu3247		0.0093500	ppm	0.000050000	0.53231	.00000	Abs	Pass	
Fe2599	**W**	**0.052194**	**ppm**	**0.0042330**	**8.1109**	**.00000**	**Abs**	**Warn High**	**0.05000**
K_7664		-0.020969	ppm	0.031347	149.49	.00000	Abs	Pass	
Mg2790		0.0043800	ppm	0.0065490	149.51	.00000	Abs	Pass	
Mn2576		0.0011280	ppm	0.00019800	17.593	.00000	Abs	Pass	
Mo2020		0.0012490	ppm	0.00030500	24.403	.00000	Abs	Pass	
Na5895		-0.037118	ppm	0.0059400	16.004	.00000	Abs	Pass	
Ni2316		0.00081700	ppm	0.00018600	22.744	.00000	Abs	Pass	
P_1782		0.00072900	ppm	0.0032140	441.06	.00000	Abs	Pass	
Pb2203		-0.0014870	ppm	0.0011350	76.360	.00000	Abs	Pass	
S_1820		-0.0059910	ppm	0.0049980	83.428	.00000	Abs	Pass	
Sb2068		-0.00039200	ppm	0.00076500	195.18	.00000	Abs	Pass	
Se1960		-0.0037290	ppm	0.0018400	49.328	.00000	Abs	Pass	
Si2881		-0.021511	ppm	0.0079890	37.139	.00000	Abs	Pass	
Sn1899		-0.00012100	ppm	0.00017500	144.17	.00000	Abs	Pass	
Sr4077		0.00021500	ppm	0.00019100	88.765	.00000	Abs	Pass	
Ti3349		0.0013520	ppm	0.00026100	19.336	.00000	Abs	Pass	
Tl1908		-0.0016120	ppm	0.00046900	29.119	.00000	Abs	Pass	
V_2924		-0.00044700	ppm	0.00022600	50.526	.00000	Abs	Pass	
Zn2062	**W**	**0.014280**	**ppm**	**0.0012260**	**8.5888**	**.00000**	**Abs**	**Warn High**	**0.00500**
Y_2243		6,720.7	Cts/S	4.8082	0.071543				
Y_3600		49,630	Cts/S	106.98	0.21555				
Y_3774		7,180.9	Cts/S	15.762	0.21949				

320-54789-A-8-A

Acquire Date: 10/1/2019 6:59:35PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0017600	ppm	0.00017300	9.8180
Al3961		183.27	ppm	0.45734	0.24955
As1890		0.058183	ppm	0.00043100	0.73994
B_2089		0.18946	ppm	0.00071300	0.37650
Ba4554		1.7263	ppm	0.0017900	0.10372
Be3130		0.0042100	ppm	0.000018000	0.43144
Ca3179		46.669	ppm	0.12414	0.26600
Cd2144		0.0018530	ppm	0.00020200	10.903
Co2286		0.17769	ppm	0.0013090	0.73646
Cr2677		0.61794	ppm	0.0014330	0.23185
Cu3247		0.60245	ppm	0.0020690	0.34338
Fe2599		288.69	ppm	0.24054	0.083321
K_7664		14.341	ppm	0.0017660	0.012316
Mg2790		98.558	ppm	0.22934	0.23270
Mn2576		7.4998	ppm	0.061178	0.81572
Mo2020		0.0066740	ppm	0.00010000	1.4916
Na5895		7.2332	ppm	0.029586	0.40903
Ni2316		0.94840	ppm	0.0028770	0.30337
P_1782		2.6951	ppm	0.00073900	0.027429
Pb2203		0.74178	ppm	0.0034540	0.46569

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54789-A-8-A

Acquire Date: 10/1/2019 6:59:35PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
S_1820		2.5090	ppm	0.00017100	0.0068280
Sb2068		-0.0020230	ppm	0.0018370	90.795
Se1960		-0.00044200	ppm	0.0018580	420.45
Si2881		1.0141	ppm	0.0022650	0.22336
Sn1899		0.036430	ppm	0.00020300	0.55682
Sr4077		0.49250	ppm	0.0014990	0.30436
Ti3349		1.5995	ppm	0.0036750	0.22974
Tl1908		0.0013930	ppm	0.00051100	36.722
V_2924		0.52793	ppm	0.0014560	0.27578
Zn2062		1.1720	ppm	0.0028120	0.23991
Y_2243		6,766.3	Cts/S	17.505	0.25871
Y_3600		49,839	Cts/S	68.591	0.13763
Y_3774		7,517.4	Cts/S	7.2461	0.096391

320-54789-A-9-A

Acquire Date: 10/1/2019 7:03:27PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0020620	ppm	0.00091600	44.440
Al3961		195.25	ppm	1.0906	0.55858
As1890		0.058363	ppm	0.00074200	1.2715
B_2089		0.15597	ppm	0.00062200	0.39872
Ba4554		1.5521	ppm	0.0084440	0.54404
Be3130		0.0044430	ppm	0.0000060000	0.13512
Ca3179		34.453	ppm	0.22797	0.66168
Cd2144		0.00025200	ppm	0.000065000	25.747
Co2286		0.13973	ppm	0.00036600	0.26173
Cr2677		0.66022	ppm	0.00029500	0.044688
Cu3247		0.38694	ppm	0.00015900	0.041186
Fe2599		282.26	ppm	1.2289	0.43540
K_7664		11.703	ppm	0.079752	0.68146
Mg2790		124.20	ppm	0.22059	0.17761
Mn2576		3.4007	ppm	0.00086500	0.025428
Mo2020		0.0021330	ppm	0.000069000	3.2179
Na5895		6.9890	ppm	0.028099	0.40205
Ni2316		1.0144	ppm	0.00070600	0.069626
P_1782		2.5853	ppm	0.0085130	0.32929
Pb2203		0.060243	ppm	0.0026370	4.3777
S_1820		0.60982	ppm	0.0088270	1.4474
Sb2068		-0.0042490	ppm	0.0017830	41.953
Se1960		-0.0027420	ppm	0.0028780	104.93
Si2881		1.1478	ppm	0.022039	1.9200
Sn1899		0.021476	ppm	0.00068300	3.1816
Sr4077		0.42714	ppm	0.0026050	0.60991
Ti3349		1.0839	ppm	0.0013150	0.12133
Tl1908		-0.00084900	ppm	0.0010470	123.36
V_2924		0.49083	ppm	0.0027530	0.56085

320-54789-A-9-A

Acquire Date: 10/1/2019 7:03:27PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Zn2062		0.64804	ppm	0.0028540	0.44040
Y_2243		6,835.6	Cts/S	8.0546	0.11783
Y_3600		50,249	Cts/S	321.91	0.64062
Y_3774		7,510.3	Cts/S	18.874	0.25130

320-54788-A-1-A

Acquire Date: 10/1/2019 7:07:15PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0020420	ppm	0.00093000	45.571
Al3961		210.99	ppm	1.0725	0.50832
As1890		0.058596	ppm	0.00043900	0.74864
B_2089		0.14843	ppm	0.0014530	0.97879
Ba4554		1.7338	ppm	0.0079490	0.45847
Be3130		0.0046550	ppm	0.00037600	8.0725
Ca3179		44.628	ppm	0.21922	0.49121
Cd2144		0.00045800	ppm	0.000078000	16.959
Co2286		0.14784	ppm	0.000080000	0.054035
Cr2677		0.72116	ppm	0.0016150	0.22394
Cu3247		0.37631	ppm	0.0000040000	0.0010470
Fe2599		313.11	ppm	1.5083	0.48171
K_7664		9.5876	ppm	0.051962	0.54197
Mg2790		133.77	ppm	0.38536	0.28808
Mn2576		4.1112	ppm	0.011159	0.27142
Mo2020		0.0037290	ppm	0.000076000	2.0430
Na5895		4.2957	ppm	0.019763	0.46007
Ni2316		1.0633	ppm	0.0010800	0.10158
P_1782		3.1896	ppm	0.010979	0.34420
Pb2203		0.064307	ppm	0.00063900	0.99444
S_1820		0.33240	ppm	0.0059010	1.7754
Sb2068		-0.0013300	ppm	0.0016730	125.85
Se1960		-0.0020260	ppm	0.0024840	122.65
Si2881		1.0226	ppm	0.0052220	0.51064
Sn1899		0.022005	ppm	0.00026800	1.2157
Sr4077		0.49349	ppm	0.0022470	0.45529
Ti3349		1.3200	ppm	0.0058110	0.44027
Tl1908		0.0023510	ppm	0.0022930	97.521
V_2924		0.55884	ppm	0.0018270	0.32696
Zn2062		0.69426	ppm	0.0035900	0.51715
Y_2243		6,915.2	Cts/S	7.3217	0.10588
Y_3600		50,597	Cts/S	311.56	0.61577
Y_3774		7,642.7	Cts/S	35.130	0.45965

320-54788-A-2-A

Acquire Date: 10/1/2019 7:11:02PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0011290	ppm	0.000075000	6.6544
Al3961		238.26	ppm	0.69791	0.29292
As1890		0.056161	ppm	0.0010110	1.8002
B_2089		0.20419	ppm	0.0010360	0.50718
Ba4554		1.4952	ppm	0.0056620	0.37869
Be3130		0.0048290	ppm	0.000024000	0.50058
Ca3179		77.803	ppm	0.22095	0.28398
Cd2144		0.00048400	ppm	0.00017700	36.634
Co2286		0.16494	ppm	0.000040000	0.024305
Cr2677		0.81108	ppm	0.0026300	0.32423
Cu3247		0.43012	ppm	0.0028650	0.66606
Fe2599		332.69	ppm	1.1429	0.34352
K_7664		12.367	ppm	0.092824	0.75061
Mg2790		149.11	ppm	0.0067320	0.0045150
Mn2576		3.6775	ppm	0.0021780	0.059222
Mo2020		0.0039400	ppm	0.00016200	4.1099
Na5895		4.6199	ppm	0.022785	0.49318
Ni2316		1.1778	ppm	0.0031850	0.27039
P_1782		3.0335	ppm	0.013836	0.45612
Pb2203		0.065141	ppm	0.0023100	3.5457
S_1820		0.74915	ppm	0.0016940	0.22611
Sb2068		-0.0018780	ppm	0.0038150	203.10
Se1960		0.00086600	ppm	0.0019320	223.21
Si2881		1.0323	ppm	0.0034340	0.33263
Sn1899		0.026170	ppm	0.00019900	0.75870
Sr4077		0.56369	ppm	0.0027180	0.48225
Ti3349		2.5560	ppm	0.0015680	0.061358
Tl1908		0.0045580	ppm	0.000098000	2.1588
V_2924		0.63398	ppm	0.0026770	0.42222
Zn2062		0.73898	ppm	0.0012300	0.16641
Y_2243		6,788.1	Cts/S	4.6381	0.068328
Y_3600		49,961	Cts/S	82.958	0.16605
Y_3774		7,551.8	Cts/S	44.213	0.58546

320-54788-A-3-A

Acquire Date: 10/1/2019 7:14:48PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0018200	ppm	0.00087200	47.925
Al3961		216.65	ppm	1.1960	0.55203
As1890		0.060618	ppm	0.0046900	7.7377
B_2089		0.18730	ppm	0.00041100	0.21933
Ba4554		1.8588	ppm	0.012207	0.65673
Be3130		0.0046070	ppm	0.000044000	0.96032
Ca3179		50.556	ppm	0.27268	0.53936
Cd2144		0.00045200	ppm	0.00015900	35.177
Co2286		0.15601	ppm	0.000097000	0.062254

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54788-A-3-A

Acquire Date: 10/1/2019 7:14:48PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.73264	ppm	0.0016210	0.22124
Cu3247		0.37931	ppm	0.0027450	0.72373
Fe2599		309.31	ppm	2.1144	0.68359
K_7664		13.636	ppm	0.083488	0.61226
Mg2790		133.35	ppm	0.62765	0.47069
Mn2576		3.9149	ppm	0.015671	0.40029
Mo2020		0.0039770	ppm	0.000089000	2.2317
Na5895		3.3242	ppm	0.032712	0.98404
Ni2316		1.0786	ppm	0.0029010	0.26894
P_1782		2.8586	ppm	0.0052800	0.18469
Pb2203		0.066731	ppm	0.00039300	0.58902
S_1820		0.62923	ppm	0.0088700	1.4097
Sb2068		-0.0041490	ppm	0.0011010	26.525
Se1960		-0.0014080	ppm	0.0012450	88.451
Si2881		1.0309	ppm	0.013868	1.3452
Sn1899		0.023266	ppm	0.00041500	1.7835
Sr4077		0.48074	ppm	0.0032540	0.67682
Ti3349		1.9326	ppm	0.010372	0.53666
Tl1908		0.0025570	ppm	0.0026350	103.05
V_2924		0.60494	ppm	0.0017320	0.28626
Zn2062		0.67811	ppm	0.0027230	0.40149
Y_2243		6,827.8	Cts/S	11.661	0.17079
Y_3600		50,193	Cts/S	156.05	0.31090
Y_3774		7,584.1	Cts/S	3.4278	0.045197

320-54788-A-4-A

Acquire Date: 10/1/2019 7:18:35PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0022100	ppm	0.00065700	29.724
Al3961		208.54	ppm	0.79878	0.38303
As1890		0.059104	ppm	0.00061400	1.0390
B_2089		0.15218	ppm	0.0018240	1.1986
Ba4554		1.7608	ppm	0.0083930	0.47666
Be3130		0.0046060	ppm	0.000040000	0.86110
Ca3179		43.825	ppm	0.16549	0.37762
Cd2144		0.00083900	ppm	0.00038300	45.650
Co2286		0.16352	ppm	0.0023510	1.4375
Cr2677		0.70858	ppm	0.0014820	0.20921
Cu3247		0.40172	ppm	0.0018500	0.46042
Fe2599		304.58	ppm	1.7462	0.57332
K_7664		8.2166	ppm	0.00031700	0.0038630
Mg2790		149.08	ppm	0.46994	0.31522
Mn2576		3.3476	ppm	0.011283	0.33705
Mo2020		0.0029060	ppm	0.00011500	3.9453
Na5895		5.8293	ppm	0.031710	0.54399
Ni2316		1.0994	ppm	0.018794	1.7095

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54788-A-4-A

Acquire Date: 10/1/2019 7:18:35PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		3.3498	ppm	0.047343	1.4133
Pb2203		0.068304	ppm	0.0039720	5.8151
S_1820		1.1697	ppm	0.025445	2.1754
Sb2068		-0.0034320	ppm	0.0046210	134.63
Se1960		-0.0057600	ppm	0.00085700	14.880
Si2881		1.0694	ppm	0.022601	2.1135
Sn1899		0.021757	ppm	0.00025600	1.1765
Sr4077		0.49994	ppm	0.0015880	0.31754
Ti3349		1.1366	ppm	0.0034710	0.30536
Tl1908		0.0044550	ppm	0.0018610	41.768
V_2924		0.54983	ppm	0.0011420	0.20767
Zn2062		0.74180	ppm	0.0028990	0.39075
Y_2243		6,746.6	Cts/S	69.265	1.0267
Y_3600		49,933	Cts/S	128.68	0.25770
Y_3774		7,527.9	Cts/S	66.914	0.88888

320-54788-A-5-A

Acquire Date: 10/1/2019 7:22:22PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0019420	ppm	0.0010350	53.268
Al3961		196.93	ppm	0.90493	0.45953
As1890		0.062054	ppm	0.0017550	2.8281
B_2089		0.11868	ppm	0.00038600	0.32516
Ba4554		1.7681	ppm	0.0070510	0.39877
Be3130		0.0042030	ppm	0.000081000	1.9375
Ca3179		41.052	ppm	0.21048	0.51272
Cd2144		0.00031400	ppm	0.000099000	31.697
Co2286		0.16017	ppm	0.00020900	0.13021
Cr2677		0.65008	ppm	0.00074000	0.11379
Cu3247		0.36323	ppm	0.00056500	0.15545
Fe2599		290.93	ppm	1.3698	0.47084
K_7664		7.9233	ppm	0.058001	0.73202
Mg2790		121.73	ppm	0.089862	0.073818
Mn2576		4.8571	ppm	0.0035870	0.073840
Mo2020		0.0038620	ppm	0.00030500	7.8862
Na5895		2.2667	ppm	0.021595	0.95272
Ni2316		0.99431	ppm	0.00092300	0.092849
P_1782		2.7513	ppm	0.0030930	0.11241
Pb2203		0.061889	ppm	0.0030830	4.9819
S_1820		0.29535	ppm	0.0094890	3.2126
Sb2068		-0.0020390	ppm	0.00034000	16.655
Se1960		-0.0015030	ppm	0.0012190	81.076
Si2881		0.98937	ppm	0.041644	4.2091
Sn1899		0.020402	ppm	0.00028100	1.3766
Sr4077		0.47759	ppm	0.0021070	0.44123
Ti3349		1.1867	ppm	0.00019500	0.016397

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54788-A-5-A

Acquire Date: 10/1/2019 7:22:22PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		0.0016140	ppm	0.0037410	231.83
V_2924		0.52905	ppm	0.00083500	0.15778
Zn2062		0.63275	ppm	0.0013580	0.21459
Y_2243		6,946.9	Cts/S	12.958	0.18653
Y_3600		51,010	Cts/S	201.29	0.39461
Y_3774		7,731.6	Cts/S	7.3439	0.094986

320-54788-A-6-A

Acquire Date: 10/1/2019 7:26:11PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0025330	ppm	0.00043100	17.020
Al3961		235.23	ppm	1.9390	0.82433
As1890		0.059600	ppm	0.00031800	0.53356
B_2089		0.25651	ppm	0.00025700	0.10009
Ba4554		1.6082	ppm	0.015641	0.97257
Be3130		0.0046490	ppm	0.00011700	2.5080
Ca3179		44.967	ppm	0.37765	0.83983
Cd2144		0.00022100	ppm	0.00019900	89.833
Co2286		0.18445	ppm	0.00057000	0.30881
Cr2677		0.76625	ppm	0.00088000	0.11482
Cu3247		0.39185	ppm	0.00013500	0.034574
Fe2599		323.51	ppm	2.3210	0.71744
K_7664		9.5741	ppm	0.10200	1.0654
Mg2790		144.91	ppm	0.29114	0.20091
Mn2576		4.8558	ppm	0.0057130	0.11766
Mo2020		0.0046750	ppm	0.00061200	13.093
Na5895		8.0205	ppm	0.059022	0.73588
Ni2316		1.1013	ppm	0.0022830	0.20728
P_1782		3.0491	ppm	0.0048070	0.15766
Pb2203		0.067903	ppm	0.00071000	1.0459
S_1820		1.5317	ppm	0.0021680	0.14154
Sb2068		-0.00095400	ppm	0.00095200	99.814
Se1960		-0.0035130	ppm	0.00023400	6.6652
Si2881		1.0382	ppm	0.044901	4.3248
Sn1899		0.023746	ppm	0.000016000	0.068596
Sr4077		0.51684	ppm	0.0055680	1.0774
Ti3349		1.9714	ppm	0.00047600	0.024120
Tl1908		0.0014610	ppm	0.00042700	29.203
V_2924		0.64083	ppm	0.0015200	0.23713
Zn2062		0.71072	ppm	0.00038600	0.054365
Y_2243		6,849.1	Cts/S	13.226	0.19310
Y_3600		49,897	Cts/S	99.838	0.20009
Y_3774		7,518.4	Cts/S	8.5562	0.11380

320-54788-A-7-A

Acquire Date: 10/1/2019 7:29:59PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0021930	ppm	0.00026500	12.076
Al3961		211.54	ppm	1.0690	0.50533
As1890		0.053225	ppm	0.00099800	1.8759
B_2089		0.18038	ppm	0.00058900	0.32661
Ba4554		1.2705	ppm	0.0062390	0.49107
Be3130		0.0046620	ppm	0.000042000	0.89718
Ca3179		35.598	ppm	0.23392	0.65711
Cd2144		0.000062000	ppm	0.000056000	90.342
Co2286		0.13915	ppm	0.00074800	0.53722
Cr2677		0.70020	ppm	0.0024120	0.34449
Cu3247		0.40686	ppm	0.0013120	0.32247
Fe2599		309.51	ppm	1.7510	0.56575
K_7664		10.969	ppm	0.083073	0.75735
Mg2790		119.57	ppm	0.17396	0.14549
Mn2576		3.0039	ppm	0.0044450	0.14798
Mo2020		0.0025980	ppm	0.00023200	8.9240
Na5895		6.4691	ppm	0.050032	0.77341
Ni2316		0.98381	ppm	0.0016640	0.16910
P_1782		2.7280	ppm	0.0021870	0.080156
Pb2203		0.065351	ppm	0.00048200	0.73725
S_1820		0.38949	ppm	0.0073110	1.8772
Sb2068		-0.0022050	ppm	0.0018070	81.972
Se1960		-0.0018070	ppm	0.00085900	47.510
Si2881		1.0382	ppm	0.044110	4.2489
Sn1899		0.023220	ppm	0.000074000	0.31774
Sr4077		0.43780	ppm	0.0022850	0.52199
Ti3349		2.0381	ppm	0.0066160	0.32459
Tl1908		0.0048040	ppm	0.0018230	37.946
V_2924		0.56094	ppm	0.0049050	0.87439
Zn2062		0.65171	ppm	0.0045340	0.69575
Y_2243		6,757.9	Cts/S	5.4235	0.080255
Y_3600		49,564	Cts/S	49.448	0.099766
Y_3774		7,454.9	Cts/S	21.846	0.29304

320-54788-A-8-A

Acquire Date: 10/1/2019 7:33:47PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0023150	ppm	0.00051300	22.155
Al3961		236.70	ppm	0.85643	0.36181
As1890		0.063659	ppm	0.00096400	1.5136
B_2089		0.23690	ppm	0.0017510	0.73927
Ba4554		2.1361	ppm	0.0091750	0.42954
Be3130		0.0047680	ppm	0.000066000	1.3805
Ca3179		74.932	ppm	0.27501	0.36701
Cd2144		0.00071400	ppm	0.000093000	13.063
Co2286		0.14248	ppm	0.000088000	0.062035

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54788-A-8-A

Acquire Date: 10/1/2019 7:33:47PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.69589	ppm	0.0013690	0.19675
Cu3247		0.42066	ppm	0.00044000	0.10471
Fe2599		319.71	ppm	0.97530	0.30506
K_7664		9.6751	ppm	0.079176	0.81835
Mg2790		120.80	ppm	0.21318	0.17647
Mn2576		2.7823	ppm	0.0040580	0.14584
Mo2020		0.0025420	ppm	0.00042400	16.674
Na5895		9.5664	ppm	0.017501	0.18295
Ni2316		0.96149	ppm	0.0016330	0.16987
P_1782		2.8316	ppm	0.00076900	0.027151
Pb2203		0.069629	ppm	0.0011510	1.6530
S_1820		1.5371	ppm	0.012747	0.82929
Sb2068		0.000093000	ppm	0.0021150	2,273.8
Se1960		-0.0044230	ppm	0.0033660	76.105
Si2881		0.96301	ppm	0.020671	2.1465
Sn1899		0.018275	ppm	0.00098000	5.3646
Sr4077		0.67999	ppm	0.0021560	0.31705
Ti3349		1.2285	ppm	0.0010700	0.087062
Tl1908		0.0053840	ppm	0.0024590	45.667
V_2924		0.57557	ppm	0.0016210	0.28160
Zn2062		0.67245	ppm	0.0041460	0.61658
Y_2243		6,783.2	Cts/S	5.3107	0.078291
Y_3600		49,706	Cts/S	43.399	0.087311
Y_3774		7,518.4	Cts/S	8.4754	0.11273

CCV 1708493

Acquire Date: 10/1/2019 7:37:34PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.49582	ppm	0.00024300	0.049101	.50000	Rel(%)	Pass	
Al3961		24.414	ppm	0.15173	0.62148	25.000	Rel(%)	Pass	
As1890		0.50021	ppm	0.0036260	0.72498	.50000	Rel(%)	Pass	
B_2089		0.99862	ppm	0.0024450	0.24485	1.0000	Rel(%)	Pass	
Ba4554		2.4242	ppm	0.020181	0.83248	2.5000	Rel(%)	Pass	
Be3130		0.49036	ppm	0.0036640	0.74730	.50000	Rel(%)	Pass	
Ca3179		24.097	ppm	0.24582	1.0201	25.000	Rel(%)	Pass	
Cd2144		0.50040	ppm	0.00029000	0.057946	.50000	Rel(%)	Pass	
Co2286		2.5179	ppm	0.0022360	0.088808	2.5000	Rel(%)	Pass	
Cr2677		2.5245	ppm	0.0015140	0.059973	2.5000	Rel(%)	Pass	
Cu3247		2.4748	ppm	0.0039480	0.15954	2.5000	Rel(%)	Pass	
Fe2599		24.225	ppm	0.11218	0.46306	25.000	Rel(%)	Pass	
K_7664		24.519	ppm	0.24733	1.0087	25.000	Rel(%)	Pass	
Mg2790		24.860	ppm	0.053893	0.21679	25.000	Rel(%)	Pass	
Mn2576		2.4676	ppm	0.0019750	0.080030	2.5000	Rel(%)	Pass	
Mo2020		1.0045	ppm	0.0023200	0.23095	1.0000	Rel(%)	Pass	
Na5895		24.569	ppm	0.18408	0.74921	25.000	Rel(%)	Pass	
Ni2316		2.5276	ppm	0.0011190	0.044254	2.5000	Rel(%)	Pass	
P_1782		2.5193	ppm	0.0046500	0.18457	2.5000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCV 1708493

Acquire Date: 10/1/2019 7:37:34PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Pb2203		0.50833	ppm	0.00079400	0.15613	.50000	Rel(%)	Pass	
S_1820		2.4357	ppm	0.0033390	0.13710	2.5000	Rel(%)	Pass	
Sb2068		0.50372	ppm	0.0025230	0.50088	.50000	Rel(%)	Pass	
Se1960		0.51290	ppm	0.0026330	0.51344	.50000	Rel(%)	Pass	
Si2881		2.4705	ppm	0.0050480	0.20433	2.5000	Rel(%)	Pass	
Sn1899		2.5144	ppm	0.00039100	0.015544	2.5000	Rel(%)	Pass	
Sr4077		2.4251	ppm	0.015978	0.65886	2.5000	Rel(%)	Pass	
Ti3349		0.98098	ppm	0.0020160	0.20553	1.0000	Rel(%)	Pass	
Tl1908		0.51441	ppm	0.00054100	0.10526	.50000	Rel(%)	Pass	
V_2924		2.4973	ppm	0.00098200	0.039305	2.5000	Rel(%)	Pass	
Zn2062		2.5380	ppm	0.0010780	0.042471	2.5000	Rel(%)	Pass	
Y_2243		6,698.2	Cts/S	0.79985	0.011941				
Y_3600		49,077	Cts/S	294.15	0.59936				
Y_3774		7,226.4	Cts/S	34.513	0.47760				

CCB 1745955

Acquire Date: 10/1/2019 7:41:19PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.000047000	ppm	0.0010320	2,215.7	.00000	Abs	Pass	
Al3961		0.00030700	ppm	0.0018910	615.84	.00000	Abs	Pass	
As1890		-0.00048900	ppm	0.00095500	195.14	.00000	Abs	Pass	
B_2089		0.0058760	ppm	0.000037000	0.62877	.00000	Abs	Pass	
Ba4554		-0.00035500	ppm	0.00057900	163.22	.00000	Abs	Pass	
Be3130		0.000084000	ppm	0.000069000	82.346	.00000	Abs	Pass	
Ca3179		0.00095000	ppm	0.0039150	412.07	.00000	Abs	Pass	
Cd2144		0.000014000	ppm	0.000053000	370.44	.00000	Abs	Pass	
Co2286		0.00018000	ppm	0.000073000	40.431	.00000	Abs	Pass	
Cr2677		0.0010200	ppm	0.00030800	30.187	.00000	Abs	Pass	
Cu3247		0.0078310	ppm	0.00098500	12.574	.00000	Abs	Pass	
Fe2599	**W**	**0.050318**	**ppm**	**0.0070700**	**14.051**	**.00000**	**Abs**	**Warn High**	**0.05000**
K_7664		-0.036132	ppm	0.042178	116.73	.00000	Abs	Pass	
Mg2790		0.0024210	ppm	0.00095800	39.568	.00000	Abs	Pass	
Mn2576		0.00093200	ppm	0.0000070000	0.79083	.00000	Abs	Pass	
Mo2020		0.0010080	ppm	0.00011000	10.907	.00000	Abs	Pass	
Na5895		-0.036805	ppm	0.015141	41.139	.00000	Abs	Pass	
Ni2316		0.00054400	ppm	0.00030900	56.842	.00000	Abs	Pass	
P_1782		0.000065000	ppm	0.00034800	534.72	.00000	Abs	Pass	
Pb2203		-0.00040900	ppm	0.000041000	9.9033	.00000	Abs	Pass	
S_1820		-0.0034070	ppm	0.0018020	52.893	.00000	Abs	Pass	
Sb2068		-0.0019060	ppm	0.00014700	7.7291	.00000	Abs	Pass	
Se1960		0.000091000	ppm	0.0021600	2,382.2	.00000	Abs	Pass	
Si2881		0.0062310	ppm	0.0073700	118.29	.00000	Abs	Pass	
Sn1899		0.00038100	ppm	0.00024800	65.114	.00000	Abs	Pass	
Sr4077		0.00022700	ppm	0.00021100	93.034	.00000	Abs	Pass	
Ti3349		0.00095800	ppm	0.00035000	36.482	.00000	Abs	Pass	
Tl1908		-0.0019920	ppm	0.000065000	3.2522	.00000	Abs	Pass	
V_2924		0.00027400	ppm	0.00012200	44.487	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCB 1745955

Acquire Date: 10/1/2019 7:41:19PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Zn2062	**W**	**0.0092250**	**ppm**	**0.00051100**	**5.5431**	**.00000**	**Abs**	**Warn High**	**0.00500**
Y_2243		6,721.0	Cts/S	13.104	0.19496				
Y_3600		49,300	Cts/S	157.82	0.32013				
Y_3774		7,040.5	Cts/S	27.314	0.38795				

320-54788-A-9-A

Acquire Date: 10/1/2019 7:45:18PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00067200	ppm	0.0010330	153.70
Al3961		205.13	ppm	0.073086	0.035628
As1890		0.063319	ppm	0.0013740	2.1704
B_2089		0.16998	ppm	0.0014980	0.88143
Ba4554		2.2921	ppm	0.0030440	0.13280
Be3130		0.0045870	ppm	0.00016700	3.6314
Ca3179		39.755	ppm	0.019765	0.049717
Cd2144		0.0014430	ppm	0.00055500	38.466
Co2286		0.19355	ppm	0.0024930	1.2878
Cr2677		0.68908	ppm	0.0047410	0.68808
Cu3247		0.40861	ppm	0.0059680	1.4606
Fe2599		303.73	ppm	0.011318	0.0037260
K_7664		10.924	ppm	0.014282	0.13074
Mg2790		130.63	ppm	1.0738	0.82198
Mn2576		6.3418	ppm	0.077529	1.2225
Mo2020		0.0060640	ppm	0.0014720	24.280
Na5895		7.7739	ppm	0.0038410	0.049408
Ni2316		1.0969	ppm	0.0011300	0.10298
P_1782		2.9551	ppm	0.013767	0.46586
Pb2203		0.069862	ppm	0.0060750	8.6953
S_1820		0.93022	ppm	0.0022630	0.24323
Sb2068		-0.00086800	ppm	0.0037750	434.91
Se1960		0.00053400	ppm	0.0027030	505.87
Si2881		0.88588	ppm	0.018688	2.1096
Sn1899		0.023751	ppm	0.0029390	12.373
Sr4077		0.50864	ppm	0.0011390	0.22397
Ti3349		1.2484	ppm	0.0036330	0.29098
Tl1908		0.0016000	ppm	0.0022260	139.12
V_2924		0.55917	ppm	0.0038360	0.68596
Zn2062		0.69251	ppm	0.0040560	0.58564
Y_2243		6,912.9	Cts/S	61.162	0.88476
Y_3600		51,505	Cts/S	557.17	1.0818
Y_3774		7,603.3	Cts/S	54.602	0.71813

320-54758-F-1-C

Acquire Date: 10/1/2019 7:49:11PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00099100	ppm	0.00077500	78.243
Al3961		95.417	ppm	0.52206	0.54714
As1890		0.078143	ppm	0.0018150	2.3222
B_2089		0.040853	ppm	0.000097000	0.23839
Ba4554		0.82733	ppm	0.0056000	0.67689
Be3130		0.0040660	ppm	0.00012800	3.1497
Ca3179		335.55	ppm	1.7693	0.52730
Cd2144		0.0016530	ppm	0.000032000	1.9458
Co2286		0.051983	ppm	0.00025800	0.49587
Cr2677		0.33758	ppm	0.00011200	0.033167
Cu3247		0.17714	ppm	0.0015670	0.88475
Fe2599		110.65	ppm	0.64359	0.58164
K_7664		12.889	ppm	0.065125	0.50526
Mg2790		34.921	ppm	0.080111	0.22941
Mn2576		1.6187	ppm	0.0025960	0.16038
Mo2020		0.028833	ppm	0.00038600	1.3382
Na5895		4.8736	ppm	0.043854	0.89983
Ni2316		0.058542	ppm	0.00066200	1.1306
P_1782		1.5090	ppm	0.0064820	0.42956
Pb2203		0.14260	ppm	0.0019990	1.4021
S_1820		6.2101	ppm	0.012887	0.20752
Sb2068		-0.0035790	ppm	0.0024440	68.295
Se1960		0.00028400	ppm	0.0017210	606.27
Si2881		0.81450	ppm	0.037135	4.5592
Sn1899		0.027113	ppm	0.00020800	0.76661
Sr4077		0.65766	ppm	0.0048350	0.73513
Ti3349		2.2935	ppm	0.0031780	0.13857
Tl1908		-0.00035200	ppm	0.00090000	255.94
V_2924		0.30592	ppm	0.000069000	0.022650
Zn2062		0.33151	ppm	0.00089000	0.26834
Y_2243		7,016.6	Cts/S	1.9883	0.028337
Y_3600		51,496	Cts/S	143.76	0.27917
Y_3774		7,828.5	Cts/S	23.265	0.29719

SD 320-54758-F-1-C@5

Acquire Date: 10/1/2019 7:53:01PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00090700	ppm	0.00071500	78.864
Al3961		20.412	ppm	0.086580	0.42415
As1890		0.015497	ppm	0.00031000	2.0021
B_2089		0.010334	ppm	0.00097600	9.4484
Ba4554		0.17777	ppm	0.00096800	0.54430
Be3130		0.00082600	ppm	0.00017400	21.075
Ca3179		72.879	ppm	0.23398	0.32105
Cd2144		0.00028700	ppm	0.000041000	14.141
Co2286		0.011541	ppm	0.000010000	0.085922

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

SD 320-54758-F-1-C@5

Acquire Date: 10/1/2019 7:53:01PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.072728	ppm	0.00099800	1.3724
Cu3247		0.041510	ppm	0.00054500	1.3122
Fe2599		24.208	ppm	0.13122	0.54204
K_7664		2.7191	ppm	0.067334	2.4763
Mg2790		7.5848	ppm	0.017189	0.22662
Mn2576		0.34911	ppm	0.00041800	0.11967
Mo2020		0.0062610	ppm	0.000097000	1.5432
Na5895		1.0146	ppm	0.018221	1.7959
Ni2316		0.013620	ppm	0.00083400	6.1231
P_1782		0.32599	ppm	0.0025290	0.77567
Pb2203		0.030994	ppm	0.0026980	8.7038
S_1820		1.3092	ppm	0.0030590	0.23365
Sb2068		-0.0028910	ppm	0.0025060	86.683
Se1960		-0.0031590	ppm	0.00061200	19.365
Si2881		0.13756	ppm	0.0098840	7.1849
Sn1899		0.0050010	ppm	0.00011100	2.2240
Sr4077		0.14196	ppm	0.00072200	0.50835
Ti3349		0.48979	ppm	0.0042120	0.85990
Tl1908		-0.0020640	ppm	0.00036200	17.523
V_2924		0.065270	ppm	0.00066600	1.0201
Zn2062		0.078784	ppm	0.00069400	0.88145
Y_2243		6,832.1	Cts/S	4.8012	0.070274
Y_3600		49,958	Cts/S	150.90	0.30205
Y_3774		7,263.2	Cts/S	23.181	0.31916

PDS 320-54758-F-1-C

Acquire Date: 10/1/2019 7:56:55PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.095583	ppm	0.00015500	0.16190
Al3961		100.77	ppm	0.68112	0.67590
As1890		0.16397	ppm	0.0015510	0.94619
B_2089		0.93641	ppm	0.0017690	0.18887
Ba4554		0.87633	ppm	0.0050020	0.57084
Be3130		0.048778	ppm	0.00049700	1.0181
Ca3179		327.59	ppm	1.9342	0.59042
Cd2144		0.091171	ppm	0.000059000	0.065080
Co2286		0.14076	ppm	0.00011200	0.079798
Cr2677		0.41515	ppm	0.0015480	0.37285
Cu3247		0.26244	ppm	0.0019730	0.75176
Fe2599		108.28	ppm	0.68137	0.62926
K_7664		21.582	ppm	0.15031	0.69647
Mg2790		42.363	ppm	0.083294	0.19662
Mn2576		1.6269	ppm	0.0035800	0.22002
Mo2020		0.11834	ppm	0.00019800	0.16734
Na5895		14.042	ppm	0.090516	0.64463
Ni2316		0.14502	ppm	0.00044200	0.30451

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

PDS 320-54758-F-1-C

Acquire Date: 10/1/2019 7:56:55PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		2.3918	ppm	0.0084640	0.35386
Pb2203		0.23191	ppm	0.0011480	0.49491
S_1820		7.7574	ppm	0.010834	0.13966
Sb2068		0.076300	ppm	0.00097300	1.2753
Se1960		0.089082	ppm	0.0013510	1.5163
Si2881		1.6981	ppm	0.056134	3.3058
Sn1899		0.11755	ppm	0.00042000	0.35689
Sr4077		0.71605	ppm	0.0042450	0.59288
Ti3349		2.2705	ppm	0.0040710	0.17931
Tl1908		0.086942	ppm	0.0013640	1.5689
V_2924		0.38653	ppm	0.00012600	0.032663
Zn2062		0.40165	ppm	0.0031230	0.77757
Y_2243		6,922.5	Cts/S	11.789	0.17031
Y_3600		50,682	Cts/S	128.46	0.25346
Y_3774		7,714.4	Cts/S	32.729	0.42426

320-54758-F-1-D MS

Acquire Date: 10/1/2019 8:00:39PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.042252	ppm	0.000053000	0.12574
Al3961		134.44	ppm	0.91630	0.68155
As1890		0.46939	ppm	0.00068000	0.14492
B_2089		3.6841	ppm	0.0082740	0.22459
Ba4554		1.0429	ppm	0.0061410	0.58884
Be3130		0.20643	ppm	0.00078000	0.37791
Ca3179		346.38	ppm	1.6376	0.47279
Cd2144		0.20138	ppm	0.00038700	0.19212
Co2286		0.24568	ppm	0.00073200	0.29790
Cr2677		0.50411	ppm	0.0010390	0.20604
Cu3247		0.37435	ppm	0.0023320	0.62303
Fe2599		116.17	ppm	0.68312	0.58802
K_7664		36.101	ppm	0.26005	0.72035
Mg2790		58.259	ppm	0.22513	0.38643
Mn2576		1.8725	ppm	0.0080920	0.43217
Mo2020		0.22840	ppm	0.000030000	0.012927
Na5895		26.550	ppm	0.19216	0.72376
Ni2316		0.25345	ppm	0.0012900	0.50903
P_1782		5.9560	ppm	0.0093860	0.15759
Pb2203		0.35125	ppm	0.0024650	0.70176
S_1820		11.255	ppm	0.00085200	0.0075680
Sb2068		0.16618	ppm	0.0012600	0.75850
Se1960		0.39951	ppm	0.00053400	0.13372
Si2881		1.1832	ppm	0.016367	1.3834
Sn1899		0.42250	ppm	0.0012790	0.30283
Sr4077		0.85170	ppm	0.0053050	0.62284
Ti3349		3.9604	ppm	0.015984	0.40359

320-54758-F-1-D MS

Acquire Date: 10/1/2019 8:00:39PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		0.39925	ppm	0.00035500	0.088836
V_2924		0.50484	ppm	0.0010830	0.21450
Zn2062		0.77332	ppm	0.0016680	0.21566
Y_2243		6,702.0	Cts/S	6.3152	0.094229
Y_3600		49,241	Cts/S	75.430	0.15319
Y_3774		7,560.0	Cts/S	43.971	0.58162

320-54758-F-1-E MSD

Acquire Date: 10/1/2019 8:04:21PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.043524	ppm	0.00063800	1.4663
Al3961		146.26	ppm	0.49135	0.33595
As1890		0.47333	ppm	0.0056250	1.1885
B_2089		3.8600	ppm	0.043751	1.1334
Ba4554		1.0273	ppm	0.0040110	0.39044
Be3130		0.21367	ppm	0.00064400	0.30144
Ca3179		284.09	ppm	0.85590	0.30128
Cd2144		0.20651	ppm	0.0024450	1.1841
Co2286		0.25004	ppm	0.0017580	0.70293
Cr2677		0.50350	ppm	0.00084200	0.16723
Cu3247		0.35995	ppm	0.00098600	0.27405
Fe2599		112.30	ppm	0.18024	0.16050
K_7664		36.605	ppm	0.10283	0.28091
Mg2790		57.018	ppm	0.20200	0.35427
Mn2576		1.7045	ppm	0.0041010	0.24063
Mo2020		0.23052	ppm	0.0017830	0.77354
Na5895		27.942	ppm	0.12046	0.43110
Ni2316		0.25778	ppm	0.0011200	0.43458
P_1782		5.9583	ppm	0.065623	1.1014
Pb2203		0.33112	ppm	0.0068180	2.0592
S_1820		9.6170	ppm	0.036561	0.38018
Sb2068		0.18218	ppm	0.0028800	1.5808
Se1960		0.40756	ppm	0.0029170	0.71577
Si2881		1.4724	ppm	0.0097060	0.65920
Sn1899		0.43668	ppm	0.0047610	1.0902
Sr4077		0.82645	ppm	0.0020920	0.25316
Ti3349		4.0263	ppm	0.0096440	0.23952
Tl1908		0.40865	ppm	0.0064140	1.5695
V_2924		0.52712	ppm	0.0019170	0.36365
Zn2062		0.74457	ppm	0.00037700	0.050691
Y_2243		6,853.5	Cts/S	110.86	1.6176
Y_3600		49,153	Cts/S	354.63	0.72147
Y_3774		7,541.7	Cts/S	6.4707	0.085799

MB 320-325979/1-A

Acquire Date: 10/1/2019 8:08:04PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00060700	ppm	0.00097800	161.14
Al3961		0.010186	ppm	0.0021530	21.135
As1890		0.0018940	ppm	0.00057600	30.397
B_2089		0.022030	ppm	0.00030500	1.3863
Ba4554		0.000058000	ppm	0.00015800	272.69
Be3130		0.000010000	ppm	0.000061000	617.23
Ca3179		0.043000	ppm	0.0080000	18.605
Cd2144		0.000061000	ppm	0.000022000	36.795
Co2286		-0.00033800	ppm	0.00043400	128.50
Cr2677		0.00021100	ppm	0.00049200	232.92
Cu3247		0.0037970	ppm	0.00077200	20.318
Fe2599		0.025027	ppm	0.00055900	2.2351
K_7664		-0.053203	ppm	0.056335	105.89
Mg2790		0.013486	ppm	0.0030940	22.941
Mn2576		0.00052500	ppm	0.000077000	14.711
Mo2020		0.00017400	ppm	0.00028100	160.93
Na5895		-0.047495	ppm	0.0082910	17.456
Ni2316		0.000093000	ppm	0.00066300	715.17
P_1782		0.0015050	ppm	0.0010340	68.692
Pb2203		-0.0019700	ppm	0.0019880	100.91
S_1820		-0.0072660	ppm	0.00041600	5.7242
Sb2068		-0.0014470	ppm	0.0017280	119.45
Se1960		-0.0011640	ppm	0.0018090	155.41
Si2881		-0.0071470	ppm	0.022538	315.36
Sn1899		-0.00061000	ppm	0.00033300	54.550
Sr4077		0.00023500	ppm	0.000063000	26.866
Ti3349		0.0010990	ppm	0.00032900	29.986
Tl1908		0.00051100	ppm	0.0027020	528.30
V_2924		0.00037500	ppm	0.00025600	68.408
Zn2062		0.0025000	ppm	0.00014000	5.6055
Y_2243		6,812.6	Cts/S	25.106	0.36852
Y_3600		49,846	Cts/S	97.535	0.19567
Y_3774		7,200.6	Cts/S	0.75115	0.010432

LCS 320-325979/2-A

Acquire Date: 10/1/2019 8:12:01PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.048861	ppm	0.00093300	1.9100
Al3961		4.6916	ppm	0.034622	0.73796
As1890	**W**	**0.47529**	**ppm**	**0.0022150**	**0.46608**
B_2089		4.8192	ppm	0.0056550	0.11734
Ba4554	**W**	**0.47182**	**ppm**	**0.0036320**	**0.76980**
Be3130		0.23956	ppm	0.0028370	1.1843
Ca3179		23.489	ppm	0.10960	0.46661
Cd2144	**W**	**0.24344**	**ppm**	**0.000071000**	**0.029007**
Co2286		0.23786	ppm	0.00060100	0.25283

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

LCS 320-325979/2-A

Acquire Date: 10/1/2019 8:12:01PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677	**W**	**0.24731**	**ppm**	**0.000074000**	**0.029819**
Cu3247		0.23816	ppm	0.000070000	0.029547
Fe2599		4.7703	ppm	0.057351	1.2022
K_7664		24.030	ppm	0.21137	0.87960
Mg2790		24.090	ppm	0.080239	0.33308
Mn2576		0.24197	ppm	0.00015700	0.064813
Mo2020		0.24509	ppm	0.00030600	0.12472
Na5895		24.215	ppm	0.13808	0.57023
Ni2316		0.23980	ppm	0.00034500	0.14372
P_1782		5.1530	ppm	0.012899	0.25032
Pb2203	**W**	**0.24152**	**ppm**	**0.0017370**	**0.71924**
S_1820	**F**	**4.8670**	**ppm**	**0.0064030**	**0.13155**
Sb2068		0.46208	ppm	0.00078600	0.17004
Se1960	**W**	**0.49288**	**ppm**	**0.0031440**	**0.63783**
Si2881	**W**	**4.8102**	**ppm**	**0.016632**	**0.34576**
Sn1899		0.50153	ppm	0.0024460	0.48769
Sr4077		0.23510	ppm	0.00070600	0.30040
Ti3349	**W**	**0.24154**	**ppm**	**0.00087600**	**0.36276**
Tl1908		0.48562	ppm	0.00080600	0.16591
V_2924		0.24447	ppm	0.0012500	0.51119
Zn2062		0.49723	ppm	0.0024880	0.50044
Y_2243		6,760.9	Cts/S	35.717	0.52829
Y_3600		49,012	Cts/S	26.928	0.054942
Y_3774		7,124.3	Cts/S	9.1760	0.12880

MB 320-325977/1-A

Acquire Date: 10/1/2019 8:15:45PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00040300	ppm	0.0012080	299.36
Al3961		0.019880	ppm	0.0095320	47.948
As1890		0.0013390	ppm	0.00016900	12.627
B_2089		0.029305	ppm	0.0017540	5.9838
Ba4554		-0.00059200	ppm	0.00000	0.065031
Be3130		0.000032000	ppm	0.000094000	295.72
Ca3179		0.021106	ppm	0.0012600	5.9696
Cd2144		0.000011000	ppm	0.000032000	282.20
Co2286		0.000039000	ppm	0.000013000	33.959
Cr2677		-0.00018700	ppm	0.00064900	347.55
Cu3247		0.0030130	ppm	0.00057200	18.995
Fe2599		0.012711	ppm	0.010417	81.948
K_7664		-0.016733	ppm	0.038071	227.52
Mg2790		0.0055890	ppm	0.0015580	27.876
Mn2576		0.00026900	ppm	0.0000020000	0.89834
Mo2020		0.00083100	ppm	0.00028300	34.047
Na5895		-0.043613	ppm	0.016706	38.305
Ni2316		0.00033800	ppm	0.00068500	202.27

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

MB 320-325977/1-A

Acquire Date: 10/1/2019 8:15:45PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		0.0037490	ppm	0.00058100	15.509
Pb2203		0.00085400	ppm	0.0010740	125.70
S_1820		-0.0054830	ppm	0.0021380	38.989
Sb2068		0.0013700	ppm	0.0018580	135.55
Se1960		-0.0020100	ppm	0.0050660	252.05
Si2881		-0.019683	ppm	0.041240	209.52
Sn1899		-0.00037900	ppm	0.00013700	36.198
Sr4077		0.00036200	ppm	0.00010900	30.202
Ti3349		0.00032000	ppm	0.00018600	58.138
Tl1908		-0.00031200	ppm	0.00030800	98.499
V_2924		0.00016600	ppm	0.00044300	267.07
Zn2062		0.0020680	ppm	0.000057000	2.7764
Y_2243		6,730.4	Cts/S	31.491	0.46790
Y_3600		49,412	Cts/S	66.020	0.13361
Y_3774		7,105.8	Cts/S	31.104	0.43773

LCS 320-325977/2-A

Acquire Date: 10/1/2019 8:19:42PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.049400	ppm	0.0014510	2.9380
Al3961		4.7061	ppm	0.029633	0.62966
As1890	**W**	**0.47383**	**ppm**	**0.0042120**	**0.88892**
B_2089		4.7695	ppm	0.0090270	0.18927
Ba4554	**W**	**0.46463**	**ppm**	**0.0026430**	**0.56875**
Be3130		0.23722	ppm	0.0019040	0.80278
Ca3179		23.231	ppm	0.11851	0.51011
Cd2144	**W**	**0.24194**	**ppm**	**0.00030200**	**0.12485**
Co2286		0.23738	ppm	0.00071700	0.30202
Cr2677	**W**	**0.24413**	**ppm**	**0.00093700**	**0.38398**
Cu3247		0.23618	ppm	0.0011620	0.49220
Fe2599		4.6843	ppm	0.013436	0.28682
K_7664		23.737	ppm	0.13703	0.57726
Mg2790		23.858	ppm	0.050819	0.21301
Mn2576		0.23873	ppm	0.00046300	0.19386
Mo2020		0.24257	ppm	0.00065300	0.26900
Na5895		23.900	ppm	0.14530	0.60794
Ni2316		0.23744	ppm	0.00074500	0.31378
P_1782		5.1219	ppm	0.016938	0.33069
Pb2203	**W**	**0.24093**	**ppm**	**0.00032200**	**0.13372**
S_1820	**F**	**4.8429**	**ppm**	**0.019572**	**0.40413**
Sb2068		0.45615	ppm	0.00046900	0.10290
Se1960	**W**	**0.48887**	**ppm**	**0.0061640**	**1.2609**
Si2881	**W**	**4.7601**	**ppm**	**0.058536**	**1.2297**
Sn1899		0.49449	ppm	0.00084000	0.16997
Sr4077		0.23378	ppm	0.0016300	0.69735
Ti3349	**W**	**0.23906**	**ppm**	**0.0014680**	**0.61391**

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

LCS 320-325977/2-A

Acquire Date: 10/1/2019 8:19:42PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		0.48842	ppm	0.0039030	0.79917
V_2924		0.24292	ppm	0.00098300	0.40450
Zn2062		0.49244	ppm	0.00047400	0.096248
Y_2243		6,673.6	Cts/S	5.5240	0.082773
Y_3600		49,429	Cts/S	101.11	0.20455
Y_3774		7,201.0	Cts/S	40.140	0.55743

CCV 1708493

Acquire Date: 10/1/2019 8:23:26PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.49387	ppm	0.0025950	0.52541	.50000	Rel(%)	Pass	
Al3961		24.248	ppm	0.13251	0.54647	25.000	Rel(%)	Pass	
As1890		0.49923	ppm	0.0011770	0.23570	.50000	Rel(%)	Pass	
B_2089		1.0271	ppm	0.0011950	0.11635	1.0000	Rel(%)	Pass	
Ba4554		2.4049	ppm	0.014663	0.60972	2.5000	Rel(%)	Pass	
Be3130		0.48675	ppm	0.0038270	0.78614	.50000	Rel(%)	Pass	
Ca3179		23.808	ppm	0.19320	0.81149	25.000	Rel(%)	Pass	
Cd2144		0.50006	ppm	0.0018430	0.36863	.50000	Rel(%)	Pass	
Co2286		2.5203	ppm	0.0097420	0.38655	2.5000	Rel(%)	Pass	
Cr2677		2.5148	ppm	0.0066380	0.26397	2.5000	Rel(%)	Pass	
Cu3247		2.4722	ppm	0.0055530	0.22462	2.5000	Rel(%)	Pass	
Fe2599		23.783	ppm	0.18051	0.75899	25.000	Rel(%)	Pass	
K_7664		24.488	ppm	0.14894	0.60821	25.000	Rel(%)	Pass	
Mg2790		24.710	ppm	0.051469	0.20829	25.000	Rel(%)	Pass	
Mn2576		2.4484	ppm	0.00042000	0.017153	2.5000	Rel(%)	Pass	
Mo2020		1.0068	ppm	0.0028920	0.28729	1.0000	Rel(%)	Pass	
Na5895		24.424	ppm	0.19729	0.80777	25.000	Rel(%)	Pass	
Ni2316		2.5271	ppm	0.0049480	0.19579	2.5000	Rel(%)	Pass	
P_1782		2.5158	ppm	0.0094600	0.37602	2.5000	Rel(%)	Pass	
Pb2203		0.50678	ppm	0.0062720	1.2377	.50000	Rel(%)	Pass	
S_1820		2.4346	ppm	0.011129	0.45712	2.5000	Rel(%)	Pass	
Sb2068		0.50649	ppm	0.0016430	0.32444	.50000	Rel(%)	Pass	
Se1960		0.51374	ppm	0.0069160	1.3462	.50000	Rel(%)	Pass	
Si2881		2.4183	ppm	0.019830	0.81999	2.5000	Rel(%)	Pass	
Sn1899		2.5140	ppm	0.0065310	0.25980	2.5000	Rel(%)	Pass	
Sr4077		2.4067	ppm	0.016720	0.69470	2.5000	Rel(%)	Pass	
Ti3349		0.97496	ppm	0.0012330	0.12643	1.0000	Rel(%)	Pass	
Tl1908		0.51767	ppm	0.0018650	0.36021	.50000	Rel(%)	Pass	
V_2924		2.4887	ppm	0.0030720	0.12345	2.5000	Rel(%)	Pass	
Zn2062		2.5158	ppm	0.0014320	0.056916	2.5000	Rel(%)	Pass	
Y_2243		6,689.9	Cts/S	104.70	1.5650				
Y_3600		50,488	Cts/S	80.741	0.15992				
Y_3774		7,357.6	Cts/S	7.5077	0.10204				

CCB 1745955

Acquire Date: 10/1/2019 8:27:10PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00011400	ppm	0.00036900	323.20	.00000	Abs	Pass	
Al3961		-0.025370	ppm	0.0011570	4.5620	.00000	Abs	Pass	
As1890		0.000047000	ppm	0.00027700	583.33	.00000	Abs	Pass	
B_2089		0.023032	ppm	0.0028300	12.288	.00000	Abs	Pass	
Ba4554		0.000092000	ppm	0.00042700	463.75	.00000	Abs	Pass	
Be3130		0.000072000	ppm	0.000063000	88.209	.00000	Abs	Pass	
Ca3179		0.00010700	ppm	0.0021580	2,011.3	.00000	Abs	Pass	
Cd2144		0.00011600	ppm	0.00019600	169.10	.00000	Abs	Pass	
Co2286		0.00079200	ppm	0.0011880	149.91	.00000	Abs	Pass	
Cr2677		0.00049200	ppm	0.000071000	14.359	.00000	Abs	Pass	
Cu3247		0.0045080	ppm	0.00089300	19.820	.00000	Abs	Pass	
Fe2599		0.016275	ppm	0.0048250	29.645	.00000	Abs	Pass	
K_7664		-0.020110	ppm	0.056220	279.56	.00000	Abs	Pass	
Mg2790		0.0031090	ppm	0.0028210	90.734	.00000	Abs	Pass	
Mn2576		0.00041300	ppm	0.00013200	31.912	.00000	Abs	Pass	
Mo2020		0.0017260	ppm	0.00042100	24.426	.00000	Abs	Pass	
Na5895		-0.056642	ppm	0.016420	28.990	.00000	Abs	Pass	
Ni2316		0.0019370	ppm	0.0014760	76.218	.00000	Abs	Pass	
P_1782		0.0027140	ppm	0.0025400	93.590	.00000	Abs	Pass	
Pb2203		-0.0012980	ppm	0.0016890	130.09	.00000	Abs	Pass	
S_1820		-0.0060110	ppm	0.0022620	37.633	.00000	Abs	Pass	
Sb2068		-0.00083100	ppm	0.0011400	137.18	.00000	Abs	Pass	
Se1960		-0.0026460	ppm	0.0014520	54.855	.00000	Abs	Pass	
Si2881		-0.043337	ppm	0.013006	30.012	.00000	Abs	Pass	
Sn1899		0.0017980	ppm	0.0013090	72.794	.00000	Abs	Pass	
Sr4077		0.00020600	ppm	0.000027000	13.322	.00000	Abs	Pass	
Ti3349		0.00087200	ppm	0.000058000	6.6690	.00000	Abs	Pass	
Tl1908		-0.0013340	ppm	0.00095100	71.291	.00000	Abs	Pass	
V_2924		0.00022800	ppm	0.00022100	97.164	.00000	Abs	Pass	
Zn2062	**W**	**0.0062570**	**ppm**	**0.00027500**	**4.3883**	**.00000**	**Abs**	**Warn High**	**0.00500**
Y_2243		6,624.1	Cts/S	7.4337	0.11222				
Y_3600		48,824	Cts/S	130.56	0.26742				
Y_3774		7,002.9	Cts/S	12.216	0.17445				

440-250743-A-65-A

Acquire Date: 10/1/2019 8:31:08PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00046400	ppm	0.00076600	164.95
Al3961		74.976	ppm	0.38736	0.51665
As1890		0.033659	ppm	0.0011170	3.3175
B_2089		0.043829	ppm	0.000037000	0.085290
Ba4554		0.80779	ppm	0.0046770	0.57903
Be3130		0.0031380	ppm	0.00023400	7.4568
Ca3179		29.596	ppm	0.26604	0.89891
Cd2144		0.0043010	ppm	0.0000090000	0.19917
Co2286		0.055609	ppm	0.00060000	1.0798
Cr2677		0.14082	ppm	0.00087200	0.61952

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-250743-A-65-A

Acquire Date: 10/1/2019 8:31:08PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Cu3247		0.20560	ppm	0.00067700	0.32911
Fe2599		121.89	ppm	0.81487	0.66854
K_7664		21.959	ppm	0.18427	0.83917
Mg2790		28.586	ppm	0.068079	0.23816
Mn2576		2.3724	ppm	0.0023080	0.097289
Mo2020		0.0097930	ppm	0.00024200	2.4722
Na5895		1.0470	ppm	0.012038	1.1498
Ni2316		0.11727	ppm	0.00072700	0.61967
P_1782		6.2398	ppm	0.012608	0.20205
Pb2203		0.56988	ppm	0.0023130	0.40588
S_1820		1.4037	ppm	0.00017300	0.012299
Sb2068		0.0023810	ppm	0.0017700	74.318
Se1960		-0.00073100	ppm	0.0041270	564.73
Si2881		0.81001	ppm	0.044275	5.4659
Sn1899		0.044859	ppm	0.00063000	1.4055
Sr4077		0.28555	ppm	0.0014140	0.49514
Ti3349	**W**	**5.2083**	**ppm**	**0.0047840**	**0.091861**
Tl1908		0.00042200	ppm	0.00029000	68.792
V_2924		0.25205	ppm	0.00065800	0.26100
Zn2062		0.90835	ppm	0.0025290	0.27846
Y_2243		6,821.8	Cts/S	5.0080	0.073411
Y_3600		49,622	Cts/S	146.91	0.29605
Y_3774		7,409.9	Cts/S	59.129	0.79798

SD 440-250743-A65A@5

Acquire Date: 10/1/2019 8:34:58PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00088200	ppm	0.000023000	2.5800
Al3961		15.393	ppm	0.089193	0.57945
As1890		0.0081850	ppm	0.00053300	6.5138
B_2089		0.017124	ppm	0.00057100	3.3346
Ba4554		0.16601	ppm	0.0011200	0.67486
Be3130		0.00048600	ppm	0.000080000	16.413
Ca3179		6.1379	ppm	0.050265	0.81892
Cd2144		0.00099800	ppm	0.000031000	3.0570
Co2286		0.011543	ppm	0.00024700	2.1383
Cr2677		0.028742	ppm	0.00068700	2.3888
Cu3247		0.045432	ppm	0.00051100	1.1244
Fe2599		25.113	ppm	0.15119	0.60203
K_7664		4.4597	ppm	0.0032350	0.072547
Mg2790		5.8591	ppm	0.018158	0.30992
Mn2576		0.48822	ppm	0.00081900	0.16782
Mo2020		0.0019260	ppm	0.000071000	3.6635
Na5895		0.17039	ppm	0.017681	10.376
Ni2316		0.024189	ppm	0.00016100	0.66686
P_1782		1.2895	ppm	0.0029460	0.22846

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

SD 440-250743-A65A@5

Acquire Date: 10/1/2019 8:34:58PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Pb2203		0.11576	ppm	0.0037800	3.2652
S_1820		0.28827	ppm	0.0031740	1.1010
Sb2068		-0.0020620	ppm	0.00051900	25.166
Se1960		-0.0026200	ppm	0.0038840	148.24
Si2881		0.14993	ppm	0.020824	13.889
Sn1899		0.0092310	ppm	0.0011140	12.065
Sr4077		0.058830	ppm	0.000097000	0.16477
Ti3349		1.0594	ppm	0.0034920	0.32962
Tl1908		-0.0018470	ppm	0.00013200	7.1326
V_2924		0.050546	ppm	0.00032600	0.64483
Zn2062		0.19406	ppm	0.0017400	0.89662
Y_2243		6,768.6	Cts/S	31.547	0.46608
Y_3600		49,071	Cts/S	23.622	0.048138
Y_3774		7,156.5	Cts/S	2.2579	0.031551

PDS440-250743-A-65-A

Acquire Date: 10/1/2019 8:38:52PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.098541	ppm	0.00032300	0.32739
Al3961		81.589	ppm	0.56382	0.69104
As1890		0.12595	ppm	0.0012380	0.98300
B_2089		0.97433	ppm	0.00073000	0.074950
Ba4554		0.87246	ppm	0.0073520	0.84273
Be3130		0.050696	ppm	0.00048700	0.96006
Ca3179		37.872	ppm	0.26831	0.70846
Cd2144		0.10153	ppm	0.00011900	0.11714
Co2286		0.15223	ppm	0.00019100	0.12529
Cr2677		0.23618	ppm	0.0012070	0.51099
Cu3247		0.29467	ppm	0.00019600	0.066523
Fe2599		121.01	ppm	0.76699	0.63383
K_7664		30.882	ppm	0.28544	0.92429
Mg2790		37.337	ppm	0.12422	0.33269
Mn2576		2.3834	ppm	0.0040230	0.16879
Mo2020		0.10564	ppm	0.00060500	0.57303
Na5895		10.936	ppm	0.066318	0.60644
Ni2316		0.21119	ppm	0.0012750	0.60355
P_1782		6.9808	ppm	0.011509	0.16487
Pb2203		0.63988	ppm	0.0040360	0.63069
S_1820		3.2622	ppm	0.0085470	0.26199
Sb2068		0.084378	ppm	0.0011910	1.4112
Se1960		0.098462	ppm	0.0021350	2.1683
Si2881		1.7332	ppm	0.0079090	0.45631
Sn1899		0.14335	ppm	0.000096000	0.066949
Sr4077		0.36891	ppm	0.0032790	0.88893
Ti3349	**W**	**5.1433**	**ppm**	**0.011996**	**0.23324**
Tl1908		0.098675	ppm	0.0022990	2.3300

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

PDS440-250743-A-65-A

Acquire Date: 10/1/2019 8:38:52PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
V_2924		0.34198	ppm	0.0012020	0.35138
Zn2062		0.96346	ppm	0.0021460	0.22272
Y_2243		6,827.5	Cts/S	5.0068	0.073333
Y_3600		49,567	Cts/S	41.457	0.083639
Y_3774		7,363.0	Cts/S	18.197	0.24715

440-250743-A-65-B MS

Acquire Date: 10/1/2019 8:42:37PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.042912	ppm	0.00073000	1.7011
Al3961		112.34	ppm	0.61766	0.54980
As1890		0.43918	ppm	0.0034550	0.78661
B_2089		3.8517	ppm	0.0092040	0.23896
Ba4554		1.3361	ppm	0.0061090	0.45724
Be3130		0.21331	ppm	0.0011620	0.54499
Ca3179		54.885	ppm	0.22327	0.40679
Cd2144		0.21543	ppm	0.00076000	0.35257
Co2286		0.26975	ppm	0.00059400	0.22034
Cr2677		0.40177	ppm	0.00015500	0.038598
Cu3247		0.45610	ppm	0.00079300	0.17386
Fe2599		142.49	ppm	0.69359	0.48676
K_7664		46.477	ppm	0.26552	0.57130
Mg2790		54.949	ppm	0.032177	0.058558
Mn2576		2.7571	ppm	0.0025410	0.092173
Mo2020		0.21625	ppm	0.00015100	0.069924
Na5895		22.594	ppm	0.10766	0.47652
Ni2316		0.34457	ppm	0.00098300	0.28543
P_1782		11.473	ppm	0.016145	0.14072
Pb2203		0.88394	ppm	0.0019180	0.21699
S_1820		5.9617	ppm	0.0090590	0.15195
Sb2068		0.17518	ppm	0.00022300	0.12725
Se1960		0.41442	ppm	0.0013840	0.33384
Si2881		3.8480	ppm	0.038821	1.0089
Sn1899		0.46401	ppm	0.00032800	0.070599
Sr4077		0.53535	ppm	0.0026660	0.49802
Ti3349	**W**	**7.5937**	**ppm**	**0.0092430**	**0.12172**
Tl1908		0.42165	ppm	0.0011180	0.26522
V_2924		0.54027	ppm	0.00094800	0.17548
Zn2062		1.4682	ppm	0.0011800	0.080387
Y_2243		6,770.7	Cts/S	3.0920	0.045667
Y_3600		49,632	Cts/S	149.74	0.30170
Y_3774		7,450.9	Cts/S	16.957	0.22759

440-250743-A-65-C MS

Acquire Date: 10/1/2019 8:46:20PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.047264	ppm	0.00026800	0.56706
Al3961		33.702	ppm	0.18552	0.55046
As1890		0.46928	ppm	0.00056800	0.12094
B_2089		4.5440	ppm	0.014978	0.32963
Ba4554		0.73923	ppm	0.0048250	0.65267
Be3130		0.23509	ppm	0.0015590	0.66331
Ca3179		31.489	ppm	0.23586	0.74902
Cd2144		0.23671	ppm	0.00060500	0.25574
Co2286		0.25732	ppm	0.00010500	0.040783
Cr2677		0.29481	ppm	0.00084200	0.28551
Cu3247		0.30379	ppm	0.0012700	0.41809
Fe2599		45.929	ppm	0.34074	0.74189
K_7664		29.954	ppm	0.23371	0.78025
Mg2790		32.973	ppm	0.079397	0.24080
Mn2576		1.1265	ppm	0.0031110	0.27621
Mo2020		0.24232	ppm	0.00077700	0.32045
Na5895		24.297	ppm	0.16295	0.67065
Ni2316		0.27768	ppm	0.0010110	0.36424
P_1782		6.5141	ppm	0.0052640	0.080808
Pb2203		0.41596	ppm	0.0019150	0.46046
S_1820		5.0581	ppm	0.014510	0.28686
Sb2068		0.43723	ppm	0.0018830	0.43059
Se1960		0.45377	ppm	0.0037870	0.83452
Si2881		5.5080	ppm	0.031235	0.56708
Sn1899		0.51820	ppm	0.0014150	0.27299
Sr4077		0.32261	ppm	0.0018310	0.56742
Ti3349		2.1410	ppm	0.0049940	0.23324
Tl1908		0.47596	ppm	0.0033980	0.71386
V_2924		0.33228	ppm	0.00098400	0.29622
Zn2062		0.74077	ppm	0.0015190	0.20505
Y_2243		6,710.8	Cts/S	5.3753	0.080099
Y_3600		49,113	Cts/S	147.97	0.30129
Y_3774		7,271.5	Cts/S	25.300	0.34794

440-250743-A-66-A

Acquire Date: 10/1/2019 8:50:04PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0011180	ppm	0.00078100	69.869
Al3961		85.944	ppm	0.44821	0.52152
As1890		0.035865	ppm	0.000016000	0.045882
B_2089		0.057277	ppm	0.0015080	2.6321
Ba4554		0.79867	ppm	0.0040490	0.50700
Be3130		0.0040090	ppm	0.00019000	4.7347
Ca3179		31.196	ppm	0.17655	0.56595
Cd2144		0.0031590	ppm	0.000077000	2.4305
Co2286		0.055991	ppm	0.00014400	0.25656

440-250743-A-66-A

Acquire Date: 10/1/2019 8:50:04PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.14916	ppm	0.00055200	0.36999
Cu3247		0.15390	ppm	0.00044100	0.28660
Fe2599		137.24	ppm	0.59291	0.43201
K_7664		19.163	ppm	0.11648	0.60782
Mg2790		31.840	ppm	0.0044120	0.013857
Mn2576		2.4916	ppm	0.0028040	0.11254
Mo2020		0.0098480	ppm	0.00010300	1.0444
Na5895		1.2748	ppm	0.016842	1.3212
Ni2316		0.11645	ppm	0.00010600	0.091307
P_1782		6.5955	ppm	0.0048120	0.072958
Pb2203		0.19026	ppm	0.0035370	1.8590
S_1820		0.44141	ppm	0.0034970	0.79232
Sb2068		-0.0010820	ppm	0.00084600	78.119
Se1960		-0.0014080	ppm	0.00030400	21.589
Si2881		0.92444	ppm	0.0010020	0.10835
Sn1899		0.040285	ppm	0.00057500	1.4285
Sr4077		0.28405	ppm	0.0015920	0.56042
Ti3349	**W**	**5.9653**	**ppm**	**0.00049600**	**0.0083170**
Tl1908		0.00088400	ppm	0.000085000	9.5616
V_2924		0.29467	ppm	0.0013430	0.45582
Zn2062		0.48869	ppm	0.00052000	0.10650
Y_2243		6,882.4	Cts/S	23.728	0.34476
Y_3600		50,436	Cts/S	225.75	0.44759
Y_3774		7,477.0	Cts/S	9.0949	0.12164

440-250743-A-68-A

Acquire Date: 10/1/2019 8:53:53PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0016680	ppm	0.00039700	23.824
Al3961		86.905	ppm	0.52407	0.60304
As1890		0.048351	ppm	0.0018060	3.7359
B_2089		0.047466	ppm	0.00019900	0.41837
Ba4554		0.82580	ppm	0.0052360	0.63411
Be3130		0.0036280	ppm	0.000049000	1.3547
Ca3179		27.648	ppm	0.20687	0.74823
Cd2144		0.0030320	ppm	0.0000060000	0.20338
Co2286		0.063611	ppm	0.00014200	0.22321
Cr2677		0.15505	ppm	0.00042300	0.27312
Cu3247		0.14270	ppm	0.0010240	0.71771
Fe2599		141.01	ppm	1.0133	0.71859
K_7664		18.976	ppm	0.062584	0.32981
Mg2790		31.426	ppm	0.018129	0.057688
Mn2576		2.8354	ppm	0.0066730	0.23534
Mo2020		0.012176	ppm	0.00050900	4.1794
Na5895		1.7115	ppm	0.016454	0.96138
Ni2316		0.12300	ppm	0.00017600	0.14306

440-250743-A-68-A

Acquire Date: 10/1/2019 8:53:53PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		4.9119	ppm	0.028918	0.58873
Pb2203		0.16596	ppm	0.0015450	0.93077
S_1820		0.31627	ppm	0.0026120	0.82597
Sb2068		-0.0021430	ppm	0.0019200	89.608
Se1960		0.00062800	ppm	0.0011720	186.54
Si2881		0.85036	ppm	0.0018980	0.22324
Sn1899		0.039665	ppm	0.00035100	0.88556
Sr4077		0.24779	ppm	0.0013550	0.54672
Ti3349	**W**	**6.2609**	**ppm**	**0.0092140**	**0.14717**
Tl1908		0.0010970	ppm	0.0019920	181.62
V_2924		0.31305	ppm	0.0010290	0.32875
Zn2062		0.45310	ppm	0.00014800	0.032671
Y_2243		6,784.2	Cts/S	4.3570	0.064222
Y_3600		49,289	Cts/S	144.62	0.29341
Y_3774		7,313.1	Cts/S	0.97980	0.013398

440-250743-A-69-A

Acquire Date: 10/1/2019 8:57:42PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00032300	ppm	0.00066600	206.35
Al3961		114.11	ppm	0.37380	0.32756
As1890		0.031205	ppm	0.0017500	5.6097
B_2089		0.046446	ppm	0.00024300	0.52424
Ba4554		0.97918	ppm	0.0028490	0.29096
Be3130		0.0042090	ppm	0.00023100	5.4832
Ca3179		29.219	ppm	0.00044600	0.0015250
Cd2144		0.0043260	ppm	0.000013000	0.29179
Co2286		0.066593	ppm	0.00029500	0.44252
Cr2677		0.17821	ppm	0.0014590	0.81871
Cu3247		0.21625	ppm	0.0020510	0.94841
Fe2599		157.10	ppm	0.12198	0.077644
K_7664		29.448	ppm	0.13521	0.45915
Mg2790		34.295	ppm	0.050675	0.14776
Mn2576		3.2052	ppm	0.0043840	0.13676
Mo2020		0.0086010	ppm	0.00013200	1.5346
Na5895		1.6601	ppm	0.019273	1.1610
Ni2316		0.14073	ppm	0.00035500	0.25236
P_1782		5.5569	ppm	0.018354	0.33029
Pb2203		0.69545	ppm	0.0034280	0.49292
S_1820		2.1359	ppm	0.00022100	0.010338
Sb2068		0.0020890	ppm	0.0019150	91.678
Se1960		-0.0032040	ppm	0.0036180	112.93
Si2881		0.88918	ppm	0.045678	5.1371
Sn1899		0.063655	ppm	0.00060600	0.95275
Sr4077		0.30373	ppm	0.00063600	0.20946
Ti3349	**W**	**6.9698**	**ppm**	**0.014917**	**0.21402**

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-250743-A-69-A

Acquire Date: 10/1/2019 8:57:42PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		0.0014280	ppm	0.0013120	91.907
V_2924		0.32987	ppm	0.0022690	0.68774
Zn2062		1.0421	ppm	0.0016060	0.15407
Y_2243		6,942.3	Cts/S	16.388	0.23606
Y_3600		49,443	Cts/S	345.91	0.69962
Y_3774		7,282.0	Cts/S	15.830	0.21739

440-250743-A-70-A

Acquire Date: 10/1/2019 9:01:30PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0012200	ppm	0.0014330	117.49
Al3961		114.70	ppm	0.79239	0.69087
As1890		0.036590	ppm	0.00071400	1.9512
B_2089		0.044323	ppm	0.000073000	0.16483
Ba4554		0.96079	ppm	0.0055250	0.57508
Be3130		0.0047220	ppm	0.000061000	1.3017
Ca3179		31.217	ppm	0.16797	0.53807
Cd2144		0.0045010	ppm	0.000061000	1.3521
Co2286		0.072112	ppm	0.00047100	0.65333
Cr2677		0.20019	ppm	0.0016140	0.80617
Cu3247		0.20917	ppm	0.00032700	0.15629
Fe2599		169.63	ppm	1.1344	0.66875
K_7664		27.710	ppm	0.24696	0.89122
Mg2790		37.530	ppm	0.14875	0.39636
Mn2576		3.2194	ppm	0.0096380	0.29937
Mo2020		0.010505	ppm	0.00044700	4.2506
Na5895		1.4997	ppm	0.0043810	0.29216
Ni2316		0.14953	ppm	0.00033100	0.22142
P_1782		5.5505	ppm	0.00085600	0.015428
Pb2203		0.46699	ppm	0.0021750	0.46570
S_1820		0.74233	ppm	0.0011350	0.15285
Sb2068		0.00041000	ppm	0.00099200	241.83
Se1960		-0.0017580	ppm	0.0010960	62.358
Si2881		0.93553	ppm	0.041990	4.4883
Sn1899		0.064026	ppm	0.0010470	1.6352
Sr4077		0.30200	ppm	0.0022680	0.75087
Ti3349	**W**	**7.5432**	**ppm**	**0.025993**	**0.34460**
Tl1908		0.0011050	ppm	0.0024100	218.13
V_2924		0.36226	ppm	0.0018980	0.52406
Zn2062		0.86321	ppm	0.0050530	0.58532
Y_2243		6,919.8	Cts/S	7.8486	0.11342
Y_3600		50,752	Cts/S	90.917	0.17914
Y_3774		7,651.0	Cts/S	16.432	0.21477

440-250743-A-72-A

Acquire Date: 10/1/2019 9:05:18PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00095800	ppm	0.0016800	175.38
Al3961		92.112	ppm	0.44393	0.48194
As1890		0.035425	ppm	0.0019200	5.4213
B_2089		0.059475	ppm	0.00064500	1.0846
Ba4554		1.3633	ppm	0.0080970	0.59396
Be3130		0.0033520	ppm	0.00010400	3.0977
Ca3179		53.025	ppm	0.32184	0.60696
Cd2144		0.0092120	ppm	0.000071000	0.77329
Co2286		0.055817	ppm	0.000037000	0.066445
Cr2677		0.17949	ppm	0.0013010	0.72503
Cu3247		0.34684	ppm	0.0018380	0.53006
Fe2599		141.47	ppm	0.84165	0.59493
K_7664		22.757	ppm	0.14412	0.63329
Mg2790		34.105	ppm	0.046590	0.13661
Mn2576		2.8584	ppm	0.0046400	0.16234
Mo2020		0.0092610	ppm	0.000020000	0.21926
Na5895		1.3790	ppm	0.016860	1.2226
Ni2316		0.12717	ppm	0.00047700	0.37485
P_1782		13.170	ppm	0.0046800	0.035535
Pb2203		1.6700	ppm	0.0059570	0.35670
S_1820		4.1734	ppm	0.0052360	0.12546
Sb2068		0.0056170	ppm	0.0020620	36.712
Se1960		0.0012890	ppm	0.00081400	63.188
Si2881		0.83249	ppm	0.011125	1.3363
Sn1899		0.071557	ppm	0.00047200	0.66027
Sr4077		0.56113	ppm	0.0030820	0.54930
Ti3349	**W**	**5.5590**	**ppm**	**0.0094690**	**0.17033**
Tl1908		0.00025600	ppm	0.0016180	631.41
V_2924		0.29092	ppm	0.0000010000	0.00039000
Zn2062		2.1309	ppm	0.00047500	0.022272
Y_2243		6,838.8	Cts/S	0.34765	0.0050830
Y_3600		49,666	Cts/S	161.13	0.32442
Y_3774		7,527.6	Cts/S	30.278	0.40222

CCV 1708493

Acquire Date: 10/1/2019 9:09:07PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.49837	ppm	0.0020170	0.40476	.50000	Rel(%)	Pass	
Al3961		24.457	ppm	0.058661	0.23986	25.000	Rel(%)	Pass	
As1890		0.49863	ppm	0.0029090	0.58338	.50000	Rel(%)	Pass	
B_2089		1.0034	ppm	0.0012900	0.12861	1.0000	Rel(%)	Pass	
Ba4554		2.3931	ppm	0.0060430	0.25250	2.5000	Rel(%)	Pass	
Be3130		0.48801	ppm	0.0033510	0.68675	.50000	Rel(%)	Pass	
Ca3179		23.814	ppm	0.12193	0.51203	25.000	Rel(%)	Pass	
Cd2144		0.50260	ppm	0.00086200	0.17141	.50000	Rel(%)	Pass	
Co2286		2.5450	ppm	0.0031870	0.12522	2.5000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCV 1708493

Acquire Date: 10/1/2019 9:09:07PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Cr2677		2.5513	ppm	0.0024130	0.094589	2.5000	Rel(%)	Pass	
Cu3247		2.4718	ppm	0.00041500	0.016790	2.5000	Rel(%)	Pass	
Fe2599		23.796	ppm	0.047484	0.19954	25.000	Rel(%)	Pass	
K_7664		24.534	ppm	0.15822	0.64491	25.000	Rel(%)	Pass	
Mg2790		25.216	ppm	0.040451	0.16042	25.000	Rel(%)	Pass	
Mn2576		2.4767	ppm	0.00046300	0.018713	2.5000	Rel(%)	Pass	
Mo2020		1.0109	ppm	0.0020700	0.20480	1.0000	Rel(%)	Pass	
Na5895		24.455	ppm	0.088533	0.36202	25.000	Rel(%)	Pass	
Ni2316		2.5445	ppm	0.0052370	0.20580	2.5000	Rel(%)	Pass	
P_1782		2.5604	ppm	0.0032600	0.12732	2.5000	Rel(%)	Pass	
Pb2203		0.51372	ppm	0.0015160	0.29518	.50000	Rel(%)	Pass	
S_1820		2.4694	ppm	0.0013880	0.056192	2.5000	Rel(%)	Pass	
Sb2068		0.51075	ppm	0.00088200	0.17275	.50000	Rel(%)	Pass	
Se1960		0.52220	ppm	0.0022380	0.42854	.50000	Rel(%)	Pass	
Si2881		2.4438	ppm	0.00028200	0.011540	2.5000	Rel(%)	Pass	
Sn1899		2.5293	ppm	0.0055480	0.21933	2.5000	Rel(%)	Pass	
Sr4077		2.3915	ppm	0.0095120	0.39774	2.5000	Rel(%)	Pass	
Ti3349		0.99410	ppm	0.0011750	0.11823	1.0000	Rel(%)	Pass	
Tl1908		0.52147	ppm	0.000074000	0.014182	.50000	Rel(%)	Pass	
V_2924		2.5271	ppm	0.0033890	0.13411	2.5000	Rel(%)	Pass	
Zn2062		2.5755	ppm	0.0026920	0.10452	2.5000	Rel(%)	Pass	
Y_2243		6,542.7	Cts/S	6.6432	0.10154				
Y_3600		47,546	Cts/S	107.34	0.22575				
Y_3774		7,050.3	Cts/S	47.009	0.66678				

CCB 1745955

Acquire Date: 10/1/2019 9:12:52PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.00075200	ppm	0.00025900	34.403	.00000	Abs	Pass	
Al3961		-0.021042	ppm	0.0060830	28.908	.00000	Abs	Pass	
As1890		-0.0023890	ppm	0.00029200	12.238	.00000	Abs	Pass	
B_2089		0.0098820	ppm	0.00024600	2.4890	.00000	Abs	Pass	
Ba4554		.0000060000	ppm	0.000052000	884.44	.00000	Abs	Pass	
Be3130		0.000073000	ppm	0.000059000	81.448	.00000	Abs	Pass	
Ca3179		0.0057060	ppm	0.011442	200.54	.00000	Abs	Pass	
Cd2144		0.000030000	ppm	0.00016100	528.08	.00000	Abs	Pass	
Co2286		0.00020600	ppm	0.00039900	193.54	.00000	Abs	Pass	
Cr2677		0.00094400	ppm	0.00034000	35.973	.00000	Abs	Pass	
Cu3247		0.0053040	ppm	0.00053400	10.068	.00000	Abs	Pass	
Fe2599		0.026361	ppm	0.0031490	11.947	.00000	Abs	Pass	
K_7664		-0.00038400	ppm	0.064960	16,913	.00000	Abs	Pass	
Mg2790		0.0063780	ppm	0.0011910	18.668	.00000	Abs	Pass	
Mn2576		0.00069800	ppm	0.00027400	39.266	.00000	Abs	Pass	
Mo2020		0.00092600	ppm	0.00010500	11.356	.00000	Abs	Pass	
Na5895		-0.050278	ppm	0.013456	26.763	.00000	Abs	Pass	
Ni2316		0.00042100	ppm	0.000090000	21.378	.00000	Abs	Pass	
P_1782		0.0054060	ppm	0.00056500	10.449	.00000	Abs	Pass	

CCB 1745955

Acquire Date: 10/1/2019 9:12:52PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Pb2203		-0.0035400	ppm	0.00091200	25.772	.00000	Abs	Pass	
S_1820		-0.0080370	ppm	0.00037100	4.6181	.00000	Abs	Pass	
Sb2068		-0.0010040	ppm	0.00023100	22.960	.00000	Abs	Pass	
Se1960		-0.0037380	ppm	0.00041800	11.176	.00000	Abs	Pass	
Si2881		-0.021840	ppm	0.025368	116.16	.00000	Abs	Pass	
Sn1899		0.00018200	ppm	0.00051600	282.76	.00000	Abs	Pass	
Sr4077		0.00039100	ppm	0.00019200	49.212	.00000	Abs	Pass	
Ti3349		0.0014630	ppm	0.00029300	20.031	.00000	Abs	Pass	
Tl1908		-0.0018410	ppm	0.0025670	139.45	.00000	Abs	Pass	
V_2924		0.00013200	ppm	0.00035800	272.12	.00000	Abs	Pass	
Zn2062	**W**	**0.011204**	**ppm**	**0.00010500**	**0.93288**	**.00000**	**Abs**	**Warn High**	**0.00500**
Y_2243		6,618.5	Cts/S	13.819	0.20880				
Y_3600		48,373	Cts/S	170.12	0.35168				
Y_3774		7,002.6	Cts/S	14.507	0.20717				

440-250743-A-73-A

Acquire Date: 10/1/2019 9:16:50PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00062100	ppm	0.000073000	11.688
Al3961		58.844	ppm	0.40413	0.68678
As1890		0.021318	ppm	0.0022770	10.681
B_2089		0.029858	ppm	0.00067400	2.2582
Ba4554		0.76671	ppm	0.0056590	0.73815
Be3130		0.0024890	ppm	0.000058000	2.3333
Ca3179		25.929	ppm	0.19034	0.73408
Cd2144		0.0046090	ppm	0.00014500	3.1440
Co2286		0.043774	ppm	0.00022100	0.50429
Cr2677		0.11798	ppm	0.0014240	1.2068
Cu3247		0.16627	ppm	0.0010310	0.62000
Fe2599		102.71	ppm	0.66869	0.65107
K_7664		14.818	ppm	0.11593	0.78235
Mg2790		21.081	ppm	0.082715	0.39236
Mn2576		2.1165	ppm	0.0024810	0.11724
Mo2020		0.0066240	ppm	0.000042000	0.63170
Na5895		1.0158	ppm	0.011679	1.1497
Ni2316		0.078044	ppm	0.00042100	0.53887
P_1782		5.9858	ppm	0.0066220	0.11063
Pb2203		0.81224	ppm	0.0022460	0.27654
S_1820		1.3832	ppm	0.0023600	0.17065
Sb2068		0.0026300	ppm	0.0013610	51.732
Se1960		0.0013470	ppm	0.00021200	15.706
Si2881		0.79551	ppm	0.0072840	0.91569
Sn1899		0.046065	ppm	0.000086000	0.18621
Sr4077		0.28440	ppm	0.0026390	0.92775
Ti3349		4.1141	ppm	0.0055050	0.13381
Tl1908		0.0027580	ppm	0.00032600	11.827

440-250743-A-73-A

Acquire Date: 10/1/2019 9:16:50PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
V_2924		0.22000	ppm	0.000030000	0.013767
Zn2062		0.97535	ppm	0.0018990	0.19466
Y_2243		6,797.5	Cts/S	9.4727	0.13936
Y_3600		49,105	Cts/S	274.88	0.55979
Y_3774		7,314.9	Cts/S	11.465	0.15673

440-250743-A-74-A

Acquire Date: 10/1/2019 9:20:40PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00025600	ppm	0.00061200	239.28
Al3961		67.449	ppm	0.35526	0.52671
As1890		0.021894	ppm	0.00087800	4.0086
B_2089		0.026705	ppm	0.00025400	0.95271
Ba4554		0.71401	ppm	0.0055660	0.77953
Be3130		0.0028040	ppm	0.000070000	2.5084
Ca3179		22.416	ppm	0.11428	0.50984
Cd2144		0.0037630	ppm	0.000032000	0.84552
Co2286		0.046010	ppm	0.00010900	0.23691
Cr2677		0.12460	ppm	0.00071700	0.57523
Cu3247		0.15656	ppm	0.0018360	1.1729
Fe2599		117.49	ppm	0.74636	0.63524
K_7664		15.570	ppm	0.080410	0.51646
Mg2790		23.290	ppm	0.0086100	0.036967
Mn2576		2.4914	ppm	0.0061380	0.24636
Mo2020		0.0073810	ppm	0.00014900	2.0135
Na5895		1.2638	ppm	0.0012170	0.096272
Ni2316		0.084479	ppm	0.0014750	1.7464
P_1782		4.9388	ppm	0.0022420	0.045401
Pb2203		0.56090	ppm	0.00053600	0.095599
S_1820		0.81647	ppm	0.0016650	0.20395
Sb2068		0.00075400	ppm	0.0016030	212.73
Se1960		-0.0012820	ppm	0.000054000	4.1772
Si2881		0.78319	ppm	0.026212	3.3468
Sn1899		0.048679	ppm	0.00057700	1.1848
Sr4077		0.25874	ppm	0.0014360	0.55515
Ti3349		4.9820	ppm	0.0083080	0.16677
Tl1908		-0.00027300	ppm	0.0037980	1,391.2
V_2924		0.25567	ppm	0.00046100	0.18044
Zn2062		0.76411	ppm	0.0017660	0.23106
Y_2243		6,757.4	Cts/S	14.065	0.20814
Y_3600		49,231	Cts/S	7.1165	0.014455
Y_3774		7,369.0	Cts/S	0.74108	0.010057

440-250743-A-75-A

Acquire Date: 10/1/2019 9:24:29PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00041700	ppm	0.0012400	297.38
Al3961		88.334	ppm	0.49701	0.56265
As1890		0.033012	ppm	0.0024180	7.3243
B_2089		0.058151	ppm	0.00049100	0.84359
Ba4554		1.2182	ppm	0.0072800	0.59758
Be3130		0.0031350	ppm	0.00019300	6.1533
Ca3179		45.523	ppm	0.14143	0.31067
Cd2144		0.0087240	ppm	0.000062000	0.71140
Co2286		0.062251	ppm	0.00054300	0.87210
Cr2677		0.17356	ppm	0.00080200	0.46187
Cu3247		0.31203	ppm	0.00011000	0.035145
Fe2599		131.82	ppm	0.62103	0.47111
K_7664		21.704	ppm	0.071836	0.33099
Mg2790		30.806	ppm	0.084331	0.27375
Mn2576		2.7497	ppm	0.012488	0.45415
Mo2020		0.010220	ppm	0.000051000	0.49437
Na5895		1.6287	ppm	0.0046330	0.28446
Ni2316		0.12932	ppm	0.00082800	0.64062
P_1782		9.6820	ppm	0.044222	0.45675
Pb2203		1.4449	ppm	0.0041770	0.28906
S_1820		3.9070	ppm	0.010650	0.27259
Sb2068		0.0038150	ppm	0.0028840	75.590
Se1960		-0.00075300	ppm	0.0012810	170.04
Si2881		0.86892	ppm	0.039388	4.5330
Sn1899		0.071907	ppm	0.00062900	0.87439
Sr4077		0.42979	ppm	0.0019200	0.44669
Ti3349	**W**	**5.5323**	**ppm**	**0.022745**	**0.41113**
Tl1908		-0.0026890	ppm	0.0029210	108.64
V_2924		0.27844	ppm	0.00086200	0.30944
Zn2062		3.5348	ppm	0.011863	0.33562
Y_2243		6,699.3	Cts/S	8.0769	0.12056
Y_3600		48,890	Cts/S	71.487	0.14622
Y_3774		7,377.6	Cts/S	24.804	0.33620

440-250743-A-76-A

Acquire Date: 10/1/2019 9:28:17PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00064300	ppm	0.00043100	66.984
Al3961		69.145	ppm	0.44425	0.64249
As1890		0.025781	ppm	0.0014480	5.6170
B_2089		0.028127	ppm	0.00013500	0.47831
Ba4554		0.79625	ppm	0.0055960	0.70284
Be3130		0.0028320	ppm	0.00028900	10.211
Ca3179		21.200	ppm	0.10829	0.51079
Cd2144		0.0038040	ppm	0.000078000	2.0579
Co2286		0.057596	ppm	0.00064600	1.1213

440-250743-A-76-A

Acquire Date: 10/1/2019 9:28:17PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.12152	ppm	0.00034900	0.28707
Cu3247		0.14577	ppm	0.00092400	0.63412
Fe2599		112.71	ppm	0.87073	0.77256
K_7664		17.512	ppm	0.063236	0.36110
Mg2790		22.400	ppm	0.062822	0.28045
Mn2576		2.6195	ppm	0.0050540	0.19295
Mo2020		0.0078610	ppm	0.00014100	1.7939
Na5895		1.3267	ppm	0.00062000	0.046768
Ni2316		0.098066	ppm	0.00060000	0.61208
P_1782		4.2467	ppm	0.0061050	0.14377
Pb2203		0.51168	ppm	0.00055300	0.10808
S_1820		0.90060	ppm	0.0012140	0.13477
Sb2068		0.0019930	ppm	0.00050000	25.096
Se1960		-0.0047760	ppm	0.000024000	0.50855
Si2881		0.80134	ppm	0.0056900	0.71009
Sn1899		0.047359	ppm	0.00071000	1.4987
Sr4077		0.42204	ppm	0.0028880	0.68425
Ti3349		4.8297	ppm	0.013079	0.27080
Tl1908		-0.0016380	ppm	0.00030000	18.340
V_2924		0.25409	ppm	0.0015020	0.59123
Zn2062		0.71747	ppm	0.0034560	0.48164
Y_2243		6,865.2	Cts/S	15.886	0.23140
Y_3600		50,165	Cts/S	30.825	0.061448
Y_3774		7,504.6	Cts/S	38.293	0.51026

440-250743-A-77-A

Acquire Date: 10/1/2019 9:32:06PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0010610	ppm	0.00032000	30.214
Al3961		69.001	ppm	0.49311	0.71464
As1890		0.025588	ppm	0.0023190	9.0646
B_2089		0.027543	ppm	0.00041800	1.5175
Ba4554		0.70243	ppm	0.0030780	0.43825
Be3130		0.0028540	ppm	0.0000070000	0.23968
Ca3179		19.778	ppm	0.13055	0.66006
Cd2144		0.0038170	ppm	0.000072000	1.8985
Co2286		0.068178	ppm	0.00027500	0.40371
Cr2677		0.11974	ppm	0.0015780	1.3179
Cu3247		0.14200	ppm	0.00025300	0.17822
Fe2599		115.51	ppm	0.65448	0.56661
K_7664		15.986	ppm	0.068278	0.42711
Mg2790		22.592	ppm	0.076330	0.33787
Mn2576		3.7974	ppm	0.012928	0.34044
Mo2020		0.0099670	ppm	0.00054200	5.4336
Na5895		1.4464	ppm	0.0034710	0.23995
Ni2316		0.098795	ppm	0.00083100	0.84133

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-250743-A-77-A

Acquire Date: 10/1/2019 9:32:06PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		3.6949	ppm	0.0089370	0.24188
Pb2203		0.42720	ppm	0.00057000	0.13332
S_1820		0.82734	ppm	0.0036060	0.43582
Sb2068		-0.00042500	ppm	0.0015840	373.09
Se1960		-0.00038400	ppm	0.00026800	69.667
Si2881		0.71949	ppm	0.011544	1.6045
Sn1899		0.043621	ppm	0.00042200	0.96857
Sr4077		0.21568	ppm	0.0015980	0.74079
Ti3349		4.7887	ppm	0.015946	0.33300
Tl1908		-0.0023480	ppm	0.00026600	11.327
V_2924		0.26528	ppm	0.0015790	0.59505
Zn2062		0.60385	ppm	0.0024340	0.40310
Y_2243		6,759.9	Cts/S	13.423	0.19858
Y_3600		49,443	Cts/S	366.53	0.74132
Y_3774		7,411.7	Cts/S	4.8127	0.064934

440-250743-A-78-A

Acquire Date: 10/1/2019 9:35:55PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00086300	ppm	0.00012500	14.540
Al3961		62.600	ppm	0.079395	0.12683
As1890		0.025299	ppm	0.0014930	5.9026
B_2089		0.026974	ppm	0.00021800	0.80887
Ba4554		0.59942	ppm	0.00080800	0.13473
Be3130		0.0026840	ppm	0.00017000	6.3315
Ca3179		20.648	ppm	0.048677	0.23575
Cd2144		0.0036200	ppm	0.000017000	0.46266
Co2286		0.044960	ppm	0.00011600	0.25818
Cr2677		0.11452	ppm	0.0013360	1.1663
Cu3247		0.14169	ppm	0.0012060	0.85110
Fe2599		114.89	ppm	0.11410	0.099306
K_7664		15.521	ppm	0.066971	0.43149
Mg2790		21.514	ppm	0.0031430	0.014609
Mn2576		2.1597	ppm	0.0046890	0.21713
Mo2020		0.012024	ppm	0.00016600	1.3793
Na5895		1.3960	ppm	0.00037400	0.026803
Ni2316		0.090995	ppm	0.00027300	0.30001
P_1782		4.0958	ppm	0.0054070	0.13202
Pb2203		0.50895	ppm	0.0019940	0.39175
S_1820		0.71288	ppm	0.0010660	0.14948
Sb2068		-0.0010290	ppm	0.00093300	90.626
Se1960		-0.0016460	ppm	0.00067800	41.196
Si2881		0.76126	ppm	0.0050610	0.66484
Sn1899		0.044665	ppm	0.00055500	1.2434
Sr4077		0.20740	ppm	0.00067300	0.32467
Ti3349		4.6398	ppm	0.013063	0.28154

440-250743-A-78-A

Acquire Date: 10/1/2019 9:35:55PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		-0.00083300	ppm	0.00082800	99.378
V_2924		0.25629	ppm	0.00029600	0.11538
Zn2062		0.62031	ppm	0.00036300	0.058528
Y_2243		6,785.2	Cts/S	26.606	0.39212
Y_3600		49,272	Cts/S	185.32	0.37612
Y_3774		7,348.5	Cts/S	31.682	0.43113

440-250743-A-80-A

Acquire Date: 10/1/2019 9:39:46PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00011200	ppm	0.00023700	211.22
Al3961		115.02	ppm	0.50134	0.43586
As1890		0.035127	ppm	0.0027290	7.7689
B_2089		0.036209	ppm	0.00039600	1.0950
Ba4554		1.0702	ppm	0.0020300	0.18971
Be3130		0.0046330	ppm	0.000041000	0.87591
Ca3179		28.711	ppm	0.11903	0.41457
Cd2144		0.0046260	ppm	0.000040000	0.85880
Co2286		0.070701	ppm	0.000059000	0.084150
Cr2677		0.19244	ppm	0.00021300	0.11089
Cu3247		0.25032	ppm	0.00082300	0.32889
Fe2599		158.13	ppm	0.38618	0.24422
K_7664		23.046	ppm	0.0092740	0.040240
Mg2790		36.074	ppm	0.15956	0.44231
Mn2576		3.7464	ppm	0.015719	0.41959
Mo2020		0.010371	ppm	0.00048300	4.6577
Na5895		1.8988	ppm	0.0095110	0.50090
Ni2316		0.14711	ppm	0.00015300	0.10401
P_1782		4.7120	ppm	0.012467	0.26459
Pb2203		0.71437	ppm	0.00021400	0.029945
S_1820		1.3828	ppm	0.0054650	0.39520
Sb2068		0.00095500	ppm	0.0027210	284.86
Se1960		0.0020000	ppm	0.0017580	87.896
Si2881		0.68945	ppm	0.018982	2.7532
Sn1899		0.051430	ppm	0.00076200	1.4820
Sr4077		0.32145	ppm	0.0013580	0.42253
Ti3349	**W**	**7.1608**	**ppm**	**0.032994**	**0.46076**
Tl1908		-0.00021500	ppm	0.0019610	910.17
V_2924		0.35455	ppm	0.0012550	0.35392
Zn2062		0.94809	ppm	0.0010930	0.11528
Y_2243		6,737.4	Cts/S	26.736	0.39684
Y_3600		48,676	Cts/S	102.01	0.20957
Y_3774		7,302.4	Cts/S	3.8538	0.052774

440-250743-A-81-A

Acquire Date: 10/1/2019 9:43:34PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0015260	ppm	0.000033000	2.1903
Al3961		126.42	ppm	3.4950	2.7646
As1890		0.034999	ppm	0.00067500	1.9286
B_2089		0.038119	ppm	0.00072500	1.9007
Ba4554		1.0599	ppm	0.028655	2.7034
Be3130		0.0051240	ppm	0.0000030000	0.065839
Ca3179		32.158	ppm	0.80357	2.4988
Cd2144		0.0038890	ppm	0.00025300	6.5115
Co2286		0.073940	ppm	0.00030300	0.40978
Cr2677		0.20503	ppm	0.0012300	0.60012
Cu3247		0.22379	ppm	0.00093700	0.41865
Fe2599		168.77	ppm	4.3922	2.6025
K_7664		22.890	ppm	0.63869	2.7902
Mg2790		38.358	ppm	0.15692	0.40910
Mn2576		3.6607	ppm	0.010392	0.28389
Mo2020		0.0098150	ppm	0.000083000	0.84371
Na5895		2.5935	ppm	0.060045	2.3152
Ni2316		0.14779	ppm	0.0015480	1.0475
P_1782		4.2160	ppm	0.011598	0.27509
Pb2203		0.61506	ppm	0.000058000	0.0094450
S_1820		1.0851	ppm	0.0097970	0.90285
Sb2068		0.000031000	ppm	0.00039900	1,280.5
Se1960		-0.00061800	ppm	0.0098690	1,596.5
Si2881		0.89251	ppm	0.0028900	0.32378
Sn1899		0.055814	ppm	0.00035800	0.64206
Sr4077		0.35048	ppm	0.0081780	2.3334
Ti3349	**W**	**7.6510**	**ppm**	**0.0052500**	**0.068612**
Tl1908		0.00083500	ppm	0.00044600	53.465
V_2924		0.36784	ppm	0.00093600	0.25452
Zn2062		1.0596	ppm	0.0033760	0.31864
Y_2243		6,822.4	Cts/S	12.466	0.18272
Y_3600		49,752	Cts/S	191.10	0.38412
Y_3774		7,365.8	Cts/S	226.88	3.0802

G0-250743-A-82-A

Acquire Date: 10/1/2019 9:47:23PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.000038000	ppm	0.00038100	994.79
Al3961		122.89	ppm	0.71078	0.57839
As1890		0.044079	ppm	0.00044800	1.0164
B_2089		0.067643	ppm	0.000078000	0.11545
Ba4554		1.5942	ppm	0.0059130	0.37093
Be3130		0.0047890	ppm	0.00015700	3.2754
Ca3179		50.414	ppm	0.20517	0.40697
Cd2144		0.011762	ppm	0.00012000	1.0179
Co2286		0.077848	ppm	0.00011200	0.14387

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

G0-250743-A-82-A

Acquire Date: 10/1/2019 9:47:23PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.24418	ppm	0.0013500	0.55280
Cu3247		0.43621	ppm	0.000099000	0.022643
Fe2599		171.46	ppm	0.47273	0.27571
K_7664		29.698	ppm	0.21386	0.72010
Mg2790		42.662	ppm	0.11840	0.27753
Mn2576		3.9304	ppm	0.012972	0.33005
Mo2020		0.013185	ppm	0.000036000	0.26949
Na5895		1.8656	ppm	0.010163	0.54478
Ni2316		0.17960	ppm	0.00023500	0.13064
P_1782		8.2526	ppm	0.029121	0.35287
Pb2203		2.2419	ppm	0.0052130	0.23255
S_1820		3.5035	ppm	0.014448	0.41238
Sb2068		0.0063210	ppm	0.0030400	48.094
Se1960		0.0051130	ppm	0.0022850	44.696
Si2881		0.81445	ppm	0.017706	2.1740
Sn1899		0.10595	ppm	0.00030700	0.28994
Sr4077		0.58329	ppm	0.0031090	0.53299
Ti3349	**W**	**7.9437**	**ppm**	**0.019388**	**0.24407**
Tl1908		-0.00074200	ppm	0.0022030	296.91
V_2924		0.37717	ppm	0.0013650	0.36202
Zn2062		2.8246	ppm	0.012383	0.43840
Y_2243		6,736.7	Cts/S	14.347	0.21297
Y_3600		48,979	Cts/S	55.397	0.11311
Y_3774		7,422.5	Cts/S	5.1984	0.070035

440-250743-A-83-A

Acquire Date: 10/1/2019 9:51:11PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0010920	ppm	0.00056700	51.877
Al3961		118.32	ppm	1.0090	0.85279
As1890		0.040633	ppm	0.0012410	3.0538
B_2089		0.037271	ppm	0.0010600	2.8451
Ba4554		1.1972	ppm	0.0091110	0.76106
Be3130		0.0046760	ppm	0.000021000	0.45540
Ca3179		31.050	ppm	0.29654	0.95505
Cd2144		0.0067690	ppm	0.00010500	1.5489
Co2286		0.082037	ppm	0.00065500	0.79825
Cr2677		0.20657	ppm	0.0015320	0.74146
Cu3247		0.29516	ppm	0.00027000	0.091383
Fe2599		166.86	ppm	1.3447	0.80589
K_7664		25.433	ppm	0.17881	0.70306
Mg2790		39.867	ppm	0.13524	0.33921
Mn2576		3.9313	ppm	0.010465	0.26619
Mo2020		0.011777	ppm	0.00067900	5.7683
Na5895		2.0249	ppm	0.016785	0.82891
Ni2316		0.15066	ppm	0.00078500	0.52086

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-250743-A-83-A

Acquire Date: 10/1/2019 9:51:11PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		4.9265	ppm	0.016983	0.34473
Pb2203		0.97687	ppm	0.0047930	0.49065
S_1820		1.1592	ppm	0.013436	1.1591
Sb2068		0.0050120	ppm	0.0026250	52.379
Se1960		0.0017260	ppm	0.0027180	157.47
Si2881		0.86624	ppm	0.018994	2.1927
Sn1899		0.082722	ppm	0.00032700	0.39536
Sr4077		0.39002	ppm	0.0036290	0.93045
Ti3349	**W**	**8.2042**	**ppm**	**0.016632**	**0.20272**
Tl1908		-0.00011900	ppm	0.0023690	1,987.1
V_2924		0.37370	ppm	0.00018000	0.048150
Zn2062		1.4970	ppm	0.0028160	0.18812
Y_2243		6,862.9	Cts/S	44.496	0.64836
Y_3600		49,285	Cts/S	167.26	0.33938
Y_3774		7,466.7	Cts/S	13.282	0.17788

CCV 1708493

Acquire Date: 10/1/2019 9:55:01PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.49682	ppm	0.0025000	0.50329	.50000	Rel(%)	Pass	
Al3961		24.604	ppm	0.049322	0.20046	25.000	Rel(%)	Pass	
As1890		0.49904	ppm	0.0020510	0.41089	.50000	Rel(%)	Pass	
B_2089		0.99811	ppm	0.0020010	0.20049	1.0000	Rel(%)	Pass	
Ba4554		2.3939	ppm	0.014317	0.59807	2.5000	Rel(%)	Pass	
Be3130		0.48805	ppm	0.0027660	0.56680	.50000	Rel(%)	Pass	
Ca3179		23.804	ppm	0.069453	0.29178	25.000	Rel(%)	Pass	
Cd2144		0.50182	ppm	0.00029400	0.058492	.50000	Rel(%)	Pass	
Co2286		2.5463	ppm	0.0025520	0.10021	2.5000	Rel(%)	Pass	
Cr2677		2.5462	ppm	0.0044620	0.17524	2.5000	Rel(%)	Pass	
Cu3247		2.4705	ppm	0.0096550	0.39084	2.5000	Rel(%)	Pass	
Fe2599		23.990	ppm	0.22260	0.92792	25.000	Rel(%)	Pass	
K_7664		24.557	ppm	0.13495	0.54953	25.000	Rel(%)	Pass	
Mg2790		25.144	ppm	0.074895	0.29787	25.000	Rel(%)	Pass	
Mn2576		2.4693	ppm	0.0075960	0.30764	2.5000	Rel(%)	Pass	
Mo2020		1.0106	ppm	0.0022490	0.22258	1.0000	Rel(%)	Pass	
Na5895		24.498	ppm	0.15036	0.61375	25.000	Rel(%)	Pass	
Ni2316		2.5420	ppm	0.0023190	0.091237	2.5000	Rel(%)	Pass	
P_1782		2.5663	ppm	0.011091	0.43217	2.5000	Rel(%)	Pass	
Pb2203		0.51057	ppm	0.0000080000	0.0015160	.50000	Rel(%)	Pass	
S_1820		2.4667	ppm	0.000054000	0.0021690	2.5000	Rel(%)	Pass	
Sb2068		0.50743	ppm	0.0040520	0.79862	.50000	Rel(%)	Pass	
Se1960		0.52009	ppm	0.0013010	0.25013	.50000	Rel(%)	Pass	
Si2881		2.4525	ppm	0.061104	2.4915	2.5000	Rel(%)	Pass	
Sn1899		2.5282	ppm	0.0021900	0.086637	2.5000	Rel(%)	Pass	
Sr4077		2.3899	ppm	0.014929	0.62467	2.5000	Rel(%)	Pass	
Ti3349		0.98907	ppm	0.0021670	0.21909	1.0000	Rel(%)	Pass	
Tl1908		0.52109	ppm	0.0022610	0.43385	.50000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCV 1708493

Acquire Date: 10/1/2019 9:55:01PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
V_2924		2.5211	ppm	0.0050210	0.19916	2.5000	Rel(%)	Pass	
Zn2062		2.5728	ppm	0.0070090	0.27242	2.5000	Rel(%)	Pass	
Y_2243		6,532.0	Cts/S	8.2447	0.12622				
Y_3600		47,927	Cts/S	159.11	0.33198				
Y_3774		7,081.2	Cts/S	22.794	0.32189				

CCB 1745955

Acquire Date: 10/1/2019 9:58:45PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.0013280	ppm	0.00063200	47.611	.00000	Abs	Pass	
Al3961		-0.011628	ppm	0.027748	238.63	.00000	Abs	Pass	
As1890		-0.0017300	ppm	0.0014550	84.081	.00000	Abs	Pass	
B_2089		0.0053620	ppm	0.00042000	7.8311	.00000	Abs	Pass	
Ba4554		0.00010800	ppm	0.00021700	200.94	.00000	Abs	Pass	
Be3130		0.000039000	ppm	0.00011900	302.95	.00000	Abs	Pass	
Ca3179		0.0029180	ppm	0.000023000	0.78373	.00000	Abs	Pass	
Cd2144		0.000024000	ppm	0.00010000	412.44	.00000	Abs	Pass	
Co2286		0.00027900	ppm	0.0000010000	0.19810	.00000	Abs	Pass	
Cr2677		0.00037400	ppm	0.000085000	22.852	.00000	Abs	Pass	
Cu3247		0.0071750	ppm	0.00040800	5.6822	.00000	Abs	Pass	
Fe2599		0.011326	ppm	0.0027310	24.115	.00000	Abs	Pass	
K_7664		-0.016951	ppm	0.0012840	7.5743	.00000	Abs	Pass	
Mg2790		0.0010190	ppm	0.0020300	199.18	.00000	Abs	Pass	
Mn2576		0.00059800	ppm	0.000052000	8.7090	.00000	Abs	Pass	
Mo2020		0.0010160	ppm	0.00040000	39.385	.00000	Abs	Pass	
Na5895		-0.052260	ppm	0.013400	25.642	.00000	Abs	Pass	
Ni2316		-0.00019500	ppm	0.00010900	55.717	.00000	Abs	Pass	
P_1782		0.0077990	ppm	0.00081400	10.441	.00000	Abs	Pass	
Pb2203		-0.0015200	ppm	0.0016830	110.70	.00000	Abs	Pass	
S_1820		-0.0063610	ppm	0.000090000	1.4223	.00000	Abs	Pass	
Sb2068		-0.00085400	ppm	0.0012200	142.87	.00000	Abs	Pass	
Se1960		-0.0026410	ppm	0.0019400	73.462	.00000	Abs	Pass	
Si2881		0.011237	ppm	0.017595	156.59	.00000	Abs	Pass	
Sn1899		0.00053000	ppm	0.00054800	103.40	.00000	Abs	Pass	
Sr4077		0.00037700	ppm	0.000089000	23.634	.00000	Abs	Pass	
Ti3349		0.0014170	ppm	0.00020800	14.660	.00000	Abs	Pass	
Tl1908		-0.00097400	ppm	0.0032510	333.94	.00000	Abs	Pass	
V_2924		0.00057900	ppm	0.00031900	55.140	.00000	Abs	Pass	
Zn2062	**W**	**0.015643**	**ppm**	**0.00013100**	**0.84057**	**.00000**	**Abs**	**Warn High**	**0.00500**
Y_2243		6,649.4	Cts/S	14.819	0.22287				
Y_3600		48,680	Cts/S	231.48	0.47552				
Y_3774		7,094.3	Cts/S	10.143	0.14298				

440-250743-A-84-A

Acquire Date: 10/1/2019 10:02:43PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00061600	ppm	0.00056500	91.840
Al3961		108.58	ppm	0.54805	0.50476
As1890		0.028802	ppm	0.00034500	1.1990
B_2089		0.030288	ppm	0.0013070	4.3157
Ba4554		1.0872	ppm	0.0043300	0.39833
Be3130		0.0045860	ppm	0.000085000	1.8501
Ca3179		25.270	ppm	0.16437	0.65045
Cd2144		0.0036740	ppm	0.000091000	2.4848
Co2286		0.075121	ppm	0.00066900	0.89066
Cr2677		0.17983	ppm	0.00049000	0.27230
Cu3247		0.21126	ppm	0.00074200	0.35129
Fe2599		151.79	ppm	0.75940	0.50031
K_7664		22.777	ppm	0.11670	0.51235
Mg2790		36.234	ppm	0.0069530	0.019189
Mn2576		3.4265	ppm	0.0061000	0.17801
Mo2020		0.013290	ppm	0.00059500	4.4803
Na5895		1.8865	ppm	0.00011200	0.0059120
Ni2316		0.13602	ppm	0.00014100	0.10357
P_1782		3.3810	ppm	0.011695	0.34590
Pb2203		0.27666	ppm	0.0043260	1.5636
S_1820		0.60290	ppm	0.0036570	0.60649
Sb2068		0.00033600	ppm	0.00081100	241.19
Se1960		0.00080100	ppm	0.0019620	244.76
Si2881		0.77480	ppm	0.0072200	0.93180
Sn1899		0.046123	ppm	0.00033900	0.73562
Sr4077		0.31719	ppm	0.0012650	0.39891
Ti3349	**W**	**8.1145**	**ppm**	**0.022248**	**0.27418**
Tl1908		0.0010830	ppm	0.0013170	121.57
V_2924		0.33980	ppm	0.00081300	0.23915
Zn2062		0.78496	ppm	0.00075600	0.096306
Y_2243		6,829.5	Cts/S	12.405	0.18164
Y_3600		49,406	Cts/S	47.177	0.095489
Y_3774		7,417.6	Cts/S	39.292	0.52971

440-250743-A-85-A

Acquire Date: 10/1/2019 10:06:33PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00035400	ppm	0.00017900	50.531
Al3961		113.97	ppm	0.38303	0.33608
As1890		0.032077	ppm	0.00093500	2.9142
B_2089		0.031369	ppm	0.0014950	4.7659
Ba4554		1.1109	ppm	0.0065050	0.58551
Be3130		0.0048350	ppm	0.000018000	0.37710
Ca3179		27.458	ppm	0.14758	0.53746
Cd2144		0.0041260	ppm	0.000050000	1.2092
Co2286		0.078789	ppm	0.00060700	0.77048

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-250743-A-85-A

Acquire Date: 10/1/2019 10:06:33PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.18918	ppm	0.00088900	0.47017
Cu3247		0.22236	ppm	0.0010860	0.48845
Fe2599		156.88	ppm	0.85383	0.54424
K_7664		23.418	ppm	0.093754	0.40035
Mg2790		37.985	ppm	0.098442	0.25916
Mn2576		3.4792	ppm	0.0092710	0.26647
Mo2020		0.013880	ppm	0.00015600	1.1252
Na5895		1.9855	ppm	0.0062560	0.31509
Ni2316		0.14485	ppm	0.00068800	0.47515
P_1782		3.5971	ppm	0.0026750	0.074352
Pb2203		0.31075	ppm	0.0041790	1.3448
S_1820		0.64599	ppm	0.0051200	0.79252
Sb2068		0.0012400	ppm	0.00053700	43.309
Se1960		0.00084700	ppm	0.0029630	349.80
Si2881		0.92745	ppm	0.011120	1.1990
Sn1899		0.051896	ppm	0.00047000	0.90509
Sr4077		0.32869	ppm	0.0015180	0.46190
Ti3349	**W**	**8.6072**	**ppm**	**0.025240**	**0.29324**
Tl1908		0.00067000	ppm	0.000074000	11.089
V_2924		0.35787	ppm	0.0011930	0.33347
Zn2062		0.82242	ppm	0.0024470	0.29751
Y_2243		6,886.1	Cts/S	2.9973	0.043527
Y_3600		50,188	Cts/S	306.35	0.61041
Y_3774		7,561.4	Cts/S	9.7302	0.12868

440-250743-A-86-A

Acquire Date: 10/1/2019 10:10:21PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.000080000	ppm	0.00023700	295.23
Al3961		154.33	ppm	0.36876	0.23894
As1890		0.040552	ppm	0.00034700	0.85614
B_2089		0.057323	ppm	0.000069000	0.12058
Ba4554		1.6146	ppm	0.0057450	0.35580
Be3130		0.0057390	ppm	0.000032000	0.55585
Ca3179		32.427	ppm	0.10429	0.32160
Cd2144		0.0064540	ppm	0.00019900	3.0909
Co2286		0.085161	ppm	0.00017000	0.19944
Cr2677		0.23994	ppm	0.0019170	0.79896
Cu3247		0.30558	ppm	0.00028900	0.094631
Fe2599		190.66	ppm	0.77293	0.40540
K_7664		34.868	ppm	0.14334	0.41109
Mg2790		42.513	ppm	0.18144	0.42679
Mn2576		4.4899	ppm	0.013168	0.29328
Mo2020		0.011044	ppm	0.000073000	0.66339
Na5895		1.8796	ppm	0.019314	1.0276
Ni2316		0.17073	ppm	0.00088500	0.51832

440-250743-A-86-A

Acquire Date: 10/1/2019 10:10:21PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		6.9888	ppm	0.0073040	0.10451
Pb2203		1.4460	ppm	0.0052810	0.36522
S_1820		2.3218	ppm	0.0046970	0.20232
Sb2068		0.0044650	ppm	0.00050600	11.324
Se1960		0.0013780	ppm	0.00080300	58.298
Si2881		0.73929	ppm	0.0010170	0.13759
Sn1899		0.067436	ppm	0.00037100	0.55021
Sr4077		0.36900	ppm	0.0016210	0.43927
Ti3349	**W**	**8.7056**	**ppm**	**0.022664**	**0.26034**
Tl1908		0.0017140	ppm	0.0013700	79.952
V_2924		0.41004	ppm	0.0026900	0.65604
Zn2062		1.6786	ppm	0.010672	0.63575
Y_2243		6,793.7	Cts/S	1.9365	0.028504
Y_3600		48,890	Cts/S	121.36	0.24822
Y_3774		7,440.5	Cts/S	3.1003	0.041668

440-250743-A-43-A

Acquire Date: 10/1/2019 10:14:08PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00069600	ppm	0.00045200	64.895
Al3961		127.08	ppm	0.68247	0.53704
As1890		0.039387	ppm	0.0020750	5.2689
B_2089		0.040278	ppm	0.00030900	0.76636
Ba4554		1.2237	ppm	0.0074770	0.61105
Be3130		0.0049300	ppm	0.000071000	1.4382
Ca3179		103.05	ppm	0.56446	0.54774
Cd2144		0.0054450	ppm	0.000064000	1.1705
Co2286		0.080475	ppm	0.00028800	0.35768
Cr2677		0.21496	ppm	0.00071300	0.33190
Cu3247		0.25241	ppm	0.00054700	0.21684
Fe2599		169.42	ppm	0.74592	0.44027
K_7664		32.464	ppm	0.27826	0.85713
Mg2790		40.870	ppm	0.075568	0.18490
Mn2576		5.1297	ppm	0.012287	0.23953
Mo2020		0.0057920	ppm	0.00032900	5.6759
Na5895		1.4000	ppm	0.011152	0.79657
Ni2316		0.14634	ppm	0.00053500	0.36537
P_1782		6.8562	ppm	0.0068260	0.099555
Pb2203		1.0598	ppm	0.0011110	0.10486
S_1820		2.3255	ppm	0.0016990	0.073051
Sb2068		0.0032060	ppm	0.0011030	34.407
Se1960		0.00065900	ppm	0.0016850	255.70
Si2881		1.0282	ppm	0.0095740	0.93116
Sn1899		0.057083	ppm	0.00051800	0.90754
Sr4077		0.48396	ppm	0.0029130	0.60185
Ti3349	**W**	**8.6613**	**ppm**	**0.023773**	**0.27448**

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-250743-A-43-A

Acquire Date: 10/1/2019 10:14:08PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		0.000029000	ppm	0.00055200	1,898.8
V_2924		0.37347	ppm	0.00016000	0.042799
Zn2062		1.5764	ppm	0.0055450	0.35175
Y_2243		6,754.9	Cts/S	11.697	0.17317
Y_3600		49,093	Cts/S	25.094	0.051116
Y_3774		7,455.1	Cts/S	6.0990	0.081809

440-250743-A-44-A

Acquire Date: 10/1/2019 10:17:55PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0019640	ppm	0.00070100	35.690
Al3961		114.06	ppm	0.66371	0.58189
As1890		0.037198	ppm	0.0012890	3.4660
B_2089		0.041028	ppm	0.00011700	0.28614
Ba4554		1.4550	ppm	0.0086290	0.59302
Be3130		0.0044730	ppm	0.000074000	1.6635
Ca3179		46.995	ppm	0.20675	0.43994
Cd2144		0.0099820	ppm	0.000059000	0.59452
Co2286		0.073967	ppm	0.000049000	0.066551
Cr2677		0.23343	ppm	0.00049400	0.21157
Cu3247		0.50298	ppm	0.0018580	0.36950
Fe2599		155.81	ppm	0.87198	0.55963
K_7664		27.333	ppm	0.099071	0.36245
Mg2790		33.804	ppm	0.10904	0.32256
Mn2576		4.4740	ppm	0.016744	0.37425
Mo2020		0.010372	ppm	0.000087000	0.84101
Na5895		1.3184	ppm	0.0080120	0.60771
Ni2316		0.15740	ppm	0.00058200	0.36974
P_1782		10.926	ppm	0.015864	0.14519
Pb2203		2.4658	ppm	0.00013700	0.0055440
S_1820		4.0647	ppm	0.0012730	0.031329
Sb2068		0.0054060	ppm	0.00091700	16.954
Se1960		-0.0010700	ppm	0.000059000	5.4896
Si2881		0.69765	ppm	0.033231	4.7633
Sn1899		0.097813	ppm	0.00087700	0.89615
Sr4077		0.39190	ppm	0.0029500	0.75272
Ti3349	**W**	**7.1512**	**ppm**	**0.026627**	**0.37234**
Tl1908		0.00047300	ppm	0.0038390	812.16
V_2924		0.33822	ppm	0.0012600	0.37252
Zn2062		2.9446	ppm	0.013717	0.46584
Y_2243		6,755.6	Cts/S	10.345	0.15313
Y_3600		49,177	Cts/S	67.085	0.13641
Y_3774		7,441.5	Cts/S	0.76965	0.010343

SD 440-250743-A44A@5

Acquire Date: 10/1/2019 10:21:42PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00030100	ppm	0.00044800	148.78
Al3961		23.457	ppm	0.15799	0.67353
As1890		0.0068700	ppm	0.0013460	19.593
B_2089		0.010408	ppm	0.00036400	3.4955
Ba4554		0.30091	ppm	0.0021760	0.72319
Be3130		0.00094200	ppm	0.00019700	20.922
Ca3179		9.8438	ppm	0.068295	0.69378
Cd2144		0.0019550	ppm	0.000031000	1.5687
Co2286		0.015559	ppm	0.00021900	1.4075
Cr2677		0.048833	ppm	0.00064800	1.3275
Cu3247		0.10474	ppm	0.0013360	1.2754
Fe2599		32.458	ppm	0.27428	0.84502
K_7664		5.5904	ppm	0.10088	1.8046
Mg2790		6.9818	ppm	0.0038550	0.055210
Mn2576		0.92724	ppm	0.0018120	0.19540
Mo2020		0.0024800	ppm	0.00015200	6.1374
Na5895		0.21771	ppm	0.0079270	3.6410
Ni2316		0.032945	ppm	0.00048700	1.4774
P_1782		2.2525	ppm	0.0018870	0.083767
Pb2203		0.51130	ppm	0.0025860	0.50577
S_1820		0.82653	ppm	0.0050380	0.60949
Sb2068		0.0012200	ppm	0.0014920	122.25
Se1960		0.000092000	ppm	0.0014940	1,626.7
Si2881		0.13076	ppm	0.0037180	2.8438
Sn1899		0.019827	ppm	0.00015200	0.76728
Sr4077		0.081116	ppm	0.00062700	0.77330
Ti3349		1.4550	ppm	0.0014150	0.097259
Tl1908		-0.0010730	ppm	0.0014230	132.63
V_2924		0.068811	ppm	0.00053500	0.77733
Zn2062		0.64276	ppm	0.0033240	0.51708
Y_2243		6,598.8	Cts/S	25.913	0.39269
Y_3600		48,062	Cts/S	110.24	0.22938
Y_3774		7,082.3	Cts/S	20.328	0.28702

PDS440-250743-A-44-A

Acquire Date: 10/1/2019 10:25:34PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.10496	ppm	0.0042890	4.0863
Al3961		119.54	ppm	0.39948	0.33419
As1890		0.12991	ppm	0.0027490	2.1164
B_2089		0.96581	ppm	0.00036200	0.037461
Ba4554		1.5030	ppm	0.0058940	0.39215
Be3130		0.051233	ppm	0.00010400	0.20302
Ca3179		54.567	ppm	0.12269	0.22483
Cd2144		0.10547	ppm	0.00012500	0.11857
Co2286		0.16875	ppm	0.00025700	0.15251

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

PDS440-250743-A-44-A

Acquire Date: 10/1/2019 10:25:34PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.33355	ppm	0.013862	4.1559
Cu3247		0.59725	ppm	0.021045	3.5237
Fe2599		154.53	ppm	0.35727	0.23120
K_7664		36.043	ppm	0.098698	0.27383
Mg2790		43.452	ppm	1.7246	3.9691
Mn2576		4.5197	ppm	0.18214	4.0300
Mo2020		0.10513	ppm	0.000073000	0.069747
Na5895		11.099	ppm	0.021046	0.18961
Ni2316		0.24805	ppm	0.00023500	0.094600
P_1782		11.418	ppm	0.020124	0.17625
Pb2203		2.4478	ppm	0.0025490	0.10413
S_1820		5.7964	ppm	0.0025190	0.043451
Sb2068		0.090495	ppm	0.0036410	4.0237
Se1960		0.099741	ppm	0.0055240	5.5385
Si2881		1.6520	ppm	0.00029500	0.017849
Sn1899		0.19422	ppm	0.0021510	1.1075
Sr4077		0.47100	ppm	0.0026940	0.57206
Ti3349	**W**	**7.1654**	**ppm**	**0.29085**	**4.0590**
Tl1908		0.096661	ppm	0.0056460	5.8412
V_2924		0.43687	ppm	0.016797	3.8448
Zn2062		2.9888	ppm	0.12081	4.0421
Y_2243		6,755.6	Cts/S	1.9880	0.029427
Y_3600		47,896	Cts/S	1,597.8	3.3360
Y_3774		7,408.4	Cts/S	10.486	0.14155

440-250743-A-44-B MS

Acquire Date: 10/1/2019 10:29:18PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.044055	ppm	0.00020500	0.46563
Al3961		164.24	ppm	0.80156	0.48805
As1890		0.43338	ppm	0.0015170	0.34994
B_2089		3.6306	ppm	0.0015820	0.043586
Ba4554		2.0776	ppm	0.012401	0.59689
Be3130		0.20912	ppm	0.00075900	0.36284
Ca3179		71.081	ppm	0.42574	0.59895
Cd2144		0.21549	ppm	0.00035300	0.16368
Co2286		0.28836	ppm	0.00019800	0.068786
Cr2677		0.49234	ppm	0.0037810	0.76797
Cu3247		0.74121	ppm	0.0019210	0.25911
Fe2599		179.99	ppm	1.0016	0.55645
K_7664		50.143	ppm	0.27464	0.54770
Mg2790		58.421	ppm	0.30465	0.52147
Mn2576		5.1333	ppm	0.021786	0.42441
Mo2020		0.21123	ppm	0.00046800	0.22160
Na5895		22.329	ppm	0.13908	0.62285
Ni2316		0.38643	ppm	0.0015830	0.40970

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-250743-A-44-B MS

Acquire Date: 10/1/2019 10:29:18PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		16.015	ppm	0.040487	0.25280
Pb2203		2.2929	ppm	0.00028700	0.012526
S_1820		8.6576	ppm	0.027928	0.32258
Sb2068		0.13240	ppm	0.00067600	0.51048
Se1960		0.40881	ppm	0.00045800	0.11199
Si2881		1.8802	ppm	0.017558	0.93384
Sn1899		0.48589	ppm	0.00084600	0.17415
Sr4077		0.63735	ppm	0.0037560	0.58933
Ti3349	**W**	**9.3522**	**ppm**	**0.043634**	**0.46657**
Tl1908		0.41389	ppm	0.0025410	0.61385
V_2924		0.60579	ppm	0.0031080	0.51307
Zn2062		3.4415	ppm	0.0099080	0.28790
Y_2243		6,721.2	Cts/S	28.689	0.42684
Y_3600		48,353	Cts/S	239.16	0.49462
Y_3774		7,347.8	Cts/S	8.0324	0.10932

440-250743-A-44-C MS

Acquire Date: 10/1/2019 10:33:01PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.050760	ppm	0.00011100	0.21889
Al3961		159.39	ppm	0.44990	0.28226
As1890		0.43583	ppm	0.000034000	0.0077890
B_2089		3.6503	ppm	0.011377	0.31167
Ba4554		1.9914	ppm	0.0094320	0.47363
Be3130		0.21036	ppm	0.00043300	0.20604
Ca3179		72.297	ppm	0.37757	0.52225
Cd2144		0.21731	ppm	0.00018200	0.083791
Co2286		0.28705	ppm	0.00029900	0.10407
Cr2677		0.50245	ppm	0.0020010	0.39829
Cu3247		0.79321	ppm	0.00086200	0.10866
Fe2599		174.69	ppm	0.95310	0.54559
K_7664		50.530	ppm	0.17480	0.34594
Mg2790		57.226	ppm	0.19122	0.33415
Mn2576		4.8364	ppm	0.021728	0.44927
Mo2020		0.21252	ppm	0.00084700	0.39851
Na5895		22.994	ppm	0.094546	0.41118
Ni2316		0.38579	ppm	0.00011300	0.029240
P_1782		16.380	ppm	0.055026	0.33593
Pb2203		2.3548	ppm	0.0063330	0.26893
S_1820		8.6289	ppm	0.017775	0.20600
Sb2068		0.13673	ppm	0.000011000	0.0077080
Se1960		0.40907	ppm	0.00035100	0.085783
Si2881		1.9165	ppm	0.011815	0.61651
Sn1899		0.47787	ppm	0.00016600	0.034655
Sr4077		0.65580	ppm	0.0029840	0.45508
Ti3349	**W**	**9.2009**	**ppm**	**0.042428**	**0.46113**

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-250743-A-44-C MS

Acquire Date: 10/1/2019 10:33:01PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		0.41866	ppm	0.0023690	0.56590
V_2924		0.58964	ppm	0.0032280	0.54751
Zn2062		3.6379	ppm	0.019131	0.52589
Y_2243		6,667.0	Cts/S	6.2280	0.093415
Y_3600		49,345	Cts/S	140.60	0.28492
Y_3774		7,390.5	Cts/S	45.234	0.61206

440-250743-A-45-A

Acquire Date: 10/1/2019 10:36:43PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0010610	ppm	0.00075400	71.048
Al3961		123.27	ppm	0.77038	0.62494
As1890		0.031687	ppm	0.0012370	3.9033
B_2089		0.054276	ppm	0.00084500	1.5571
Ba4554		1.2608	ppm	0.0084200	0.66788
Be3130		0.0053270	ppm	0.00028300	5.3201
Ca3179		30.067	ppm	0.089444	0.29748
Cd2144		0.0046110	ppm	0.000039000	0.84415
Co2286		0.084352	ppm	0.00016000	0.18923
Cr2677		0.20192	ppm	0.0021870	1.0831
Cu3247		0.27057	ppm	0.00072800	0.26922
Fe2599		166.10	ppm	0.93493	0.56288
K_7664		27.822	ppm	0.090960	0.32693
Mg2790		35.133	ppm	0.078980	0.22480
Mn2576		5.4317	ppm	0.012219	0.22495
Mo2020		0.0067230	ppm	0.00033500	4.9857
Na5895		1.2253	ppm	0.018227	1.4876
Ni2316		0.14192	ppm	0.00038200	0.26942
P_1782		5.5449	ppm	0.0033560	0.060529
Pb2203		0.83117	ppm	0.0054160	0.65162
S_1820		1.0037	ppm	0.0070790	0.70528
Sb2068		0.0017420	ppm	0.00053800	30.884
Se1960		0.00011000	ppm	0.0026080	2,377.3
Si2881		0.58272	ppm	0.040693	6.9833
Sn1899		0.059557	ppm	0.00013900	0.23344
Sr4077		0.32053	ppm	0.0029730	0.92743
Ti3349	**W**	**9.0117**	**ppm**	**0.026660**	**0.29584**
Tl1908		0.0020570	ppm	0.00014300	6.9444
V_2924		0.37310	ppm	0.0010110	0.27093
Zn2062		1.2387	ppm	0.0028860	0.23302
Y_2243		6,797.0	Cts/S	8.1914	0.12052
Y_3600		49,438	Cts/S	158.09	0.31977
Y_3774		7,407.7	Cts/S	9.8613	0.13312

CCV 1708493

Acquire Date: 10/1/2019 10:40:31PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.49925	ppm	0.0029090	0.58263	.50000	Rel(%)	Pass	
Al3961		24.462	ppm	0.12696	0.51900	25.000	Rel(%)	Pass	
As1890		0.49841	ppm	0.00061100	0.12260	.50000	Rel(%)	Pass	
B_2089		1.0138	ppm	0.0010630	0.10489	1.0000	Rel(%)	Pass	
Ba4554		2.3931	ppm	0.0084130	0.35154	2.5000	Rel(%)	Pass	
Be3130		0.48726	ppm	0.0027710	0.56861	.50000	Rel(%)	Pass	
Ca3179		23.665	ppm	0.12792	0.54056	25.000	Rel(%)	Pass	
Cd2144		0.50240	ppm	0.00031400	0.062484	.50000	Rel(%)	Pass	
Co2286		2.5428	ppm	0.00094400	0.037139	2.5000	Rel(%)	Pass	
Cr2677		2.5550	ppm	0.0099190	0.38824	2.5000	Rel(%)	Pass	
Cu3247		2.4832	ppm	0.012213	0.49183	2.5000	Rel(%)	Pass	
Fe2599		23.625	ppm	0.12945	0.54792	25.000	Rel(%)	Pass	
K_7664		24.537	ppm	0.20837	0.84923	25.000	Rel(%)	Pass	
Mg2790		25.183	ppm	0.095822	0.38050	25.000	Rel(%)	Pass	
Mn2576		2.4678	ppm	0.0061770	0.25029	2.5000	Rel(%)	Pass	
Mo2020		1.0134	ppm	0.0014230	0.14040	1.0000	Rel(%)	Pass	
Na5895		24.555	ppm	0.11614	0.47296	25.000	Rel(%)	Pass	
Ni2316		2.5471	ppm	0.000055000	0.0021620	2.5000	Rel(%)	Pass	
P_1782		2.5675	ppm	0.0000030000	0.00010700	2.5000	Rel(%)	Pass	
Pb2203		0.51195	ppm	0.00036400	0.071024	.50000	Rel(%)	Pass	
S_1820		2.4827	ppm	0.0045730	0.18420	2.5000	Rel(%)	Pass	
Sb2068		0.51014	ppm	0.0017560	0.34428	.50000	Rel(%)	Pass	
Se1960		0.52186	ppm	0.0014410	0.27616	.50000	Rel(%)	Pass	
Si2881		2.4445	ppm	0.039388	1.6112	2.5000	Rel(%)	Pass	
Sn1899		2.5360	ppm	0.00078300	0.030856	2.5000	Rel(%)	Pass	
Sr4077		2.3924	ppm	0.0094980	0.39701	2.5000	Rel(%)	Pass	
Ti3349		0.98426	ppm	0.0036360	0.36937	1.0000	Rel(%)	Pass	
Tl1908		0.52289	ppm	0.0012080	0.23100	.50000	Rel(%)	Pass	
V_2924		2.5221	ppm	0.0075570	0.29963	2.5000	Rel(%)	Pass	
Zn2062		2.5838	ppm	0.0048090	0.18612	2.5000	Rel(%)	Pass	
Y_2243		6,650.7	Cts/S	40.472	0.60854				
Y_3600		47,405	Cts/S	134.51	0.28374				
Y_3774		6,993.5	Cts/S	8.0037	0.11445				

CCB 1745955

Acquire Date: 10/1/2019 10:44:15PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.0010960	ppm	0.0014090	128.62	.00000	Abs	Pass	
Al3961	**F**	**0.13184**	**ppm**	**0.019662**	**14.914**	**.00000**	**Abs**	**Fail High**	**.10000**
As1890		-0.0015240	ppm	0.00047800	31.380	.00000	Abs	Pass	
B_2089		0.012669	ppm	0.0010640	8.3994	.00000	Abs	Pass	
Ba4554		0.0015860	ppm	0.00062800	39.613	.00000	Abs	Pass	
Be3130		0.00014500	ppm	0.00022200	152.69	.00000	Abs	Pass	
Ca3179		0.064138	ppm	0.0092470	14.417	.00000	Abs	Pass	
Cd2144		.0000040000	ppm	0.000026000	728.88	.00000	Abs	Pass	
Co2286		0.00036300	ppm	0.00021700	59.731	.00000	Abs	Pass	
Cr2677		0.0013570	ppm	0.000052000	3.8564	.00000	Abs	Pass	

CCB 1745955

Acquire Date: 10/1/2019 10:44:15PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Cu3247		0.0079080	ppm	0.0018420	23.292	.00000	Abs	Pass	
Fe2599	**F**	**0.20844**	**ppm**	**0.030169**	**14.474**	**.00000**	**Abs**	**Fail High**	**.10000**
K_7664		0.028367	ppm	0.0015230	5.3690	.00000	Abs	Pass	
Mg2790		0.045077	ppm	0.0042880	9.5123	.00000	Abs	Pass	
Mn2576	**W**	**0.0050570**	**ppm**	**0.00033900**	**6.6987**	**.00000**	**Abs**	**Warn High**	**0.00500**
Mo2020		0.0012920	ppm	0.00029500	22.818	.00000	Abs	Pass	
Na5895		-0.032711	ppm	0.00056700	1.7326	.00000	Abs	Pass	
Ni2316		0.00044400	ppm	0.00065100	146.83	.00000	Abs	Pass	
P_1782		0.0092450	ppm	0.0057040	61.693	.00000	Abs	Pass	
Pb2203		0.00043000	ppm	0.00050900	118.26	.00000	Abs	Pass	
S_1820		-0.0042330	ppm	0.0064580	152.56	.00000	Abs	Pass	
Sb2068		-0.0017430	ppm	0.0016170	92.778	.00000	Abs	Pass	
Se1960		-0.00038900	ppm	0.0017510	449.48	.00000	Abs	Pass	
Si2881		-0.013354	ppm	0.020106	150.57	.00000	Abs	Pass	
Sn1899		0.00023400	ppm	0.00011100	47.360	.00000	Abs	Pass	
Sr4077		0.0011730	ppm	0.00013000	11.060	.00000	Abs	Pass	
Ti3349		0.0074300	ppm	0.00071600	9.6305	.00000	Abs	Pass	
Tl1908		-0.0014460	ppm	0.000095000	6.5964	.00000	Abs	Pass	
V_2924		0.0010580	ppm	0.000054000	5.0902	.00000	Abs	Pass	
Zn2062	**F**	**0.021930**	**ppm**	**0.0010960**	**4.9998**	**.00000**	**Abs**	**Fail High**	**.02000**
Y_2243		6,650.9	Cts/S	21.739	0.32686				
Y_3600		48,584	Cts/S	400.58	0.82451				
Y_3774		7,058.5	Cts/S	61.812	0.87571				

440-250743-A-46-A

Acquire Date: 10/1/2019 10:48:13PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00014100	ppm	0.0010250	727.90
Al3961		135.40	ppm	0.67814	0.50084
As1890		0.031145	ppm	0.00070600	2.2683
B_2089		0.037753	ppm	0.00032800	0.86839
Ba4554		1.2041	ppm	0.0077590	0.64443
Be3130		0.0057330	ppm	0.00021000	3.6649
Ca3179		30.131	ppm	0.12391	0.41122
Cd2144		0.0021490	ppm	0.000065000	3.0278
Co2286		0.091585	ppm	0.00017700	0.19314
Cr2677		0.20640	ppm	0.00086400	0.41876
Cu3247		0.20068	ppm	0.0023860	1.1888
Fe2599		183.27	ppm	0.62668	0.34195
K_7664		27.308	ppm	0.15879	0.58146
Mg2790		39.156	ppm	0.15867	0.40524
Mn2576		6.6094	ppm	0.026869	0.40653
Mo2020		0.0074690	ppm	0.00039800	5.3245
Na5895		1.4469	ppm	0.011606	0.80215
Ni2316		0.13995	ppm	0.0015030	1.0738
P_1782		3.7423	ppm	0.0046490	0.12423
Pb2203		0.13273	ppm	0.00031800	0.23931

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-250743-A-46-A

Acquire Date: 10/1/2019 10:48:13PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
S_1820		0.27882	ppm	0.00018700	0.067237
Sb2068		0.0010950	ppm	0.0031810	290.36
Se1960		-0.0026330	ppm	0.0030190	114.67
Si2881		0.64064	ppm	0.010707	1.6712
Sn1899		0.047744	ppm	0.00035300	0.74007
Sr4077		0.32875	ppm	0.0022630	0.68827
Ti3349	**W**	**10.495**	**ppm**	**0.037358**	**0.35595**
Tl1908		-0.00014300	ppm	0.00072200	505.50
V_2924		0.41001	ppm	0.00072700	0.17725
Zn2062		0.55440	ppm	0.00085600	0.15437
Y_2243		6,834.2	Cts/S	4.0822	0.059732
Y_3600		49,560	Cts/S	76.493	0.15434
Y_3774		7,415.0	Cts/S	44.400	0.59878

440-250743-A-47-A

Acquire Date: 10/1/2019 10:52:07PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0034570	ppm	0.00015800	4.5749
Al3961		151.89	ppm	0.46016	0.30296
As1890		0.037127	ppm	0.0022700	6.1150
B_2089		0.041861	ppm	0.00050900	1.2159
Ba4554		1.2921	ppm	0.0019680	0.15234
Be3130		0.0061890	ppm	0.00028500	4.6015
Ca3179		33.155	ppm	0.095530	0.28814
Cd2144		0.0030830	ppm	0.0000080000	0.26723
Co2286		0.087873	ppm	0.00012500	0.14181
Cr2677		0.23168	ppm	0.0012850	0.55474
Cu3247		0.26312	ppm	0.0021220	0.80641
Fe2599		189.79	ppm	0.64496	0.33983
K_7664		26.259	ppm	0.11527	0.43896
Mg2790		41.789	ppm	0.083970	0.20094
Mn2576		4.5209	ppm	0.013265	0.29341
Mo2020		0.0073200	ppm	0.00030800	4.2120
Na5895		1.6781	ppm	0.0042170	0.25127
Ni2316		0.15693	ppm	0.00018600	0.11846
P_1782		7.1065	ppm	0.010051	0.14144
Pb2203		0.42305	ppm	0.0036620	0.86551
S_1820		1.7360	ppm	0.014725	0.84820
Sb2068		0.0011120	ppm	0.0031550	283.68
Se1960		-0.0021450	ppm	0.0016060	74.893
Si2881		0.74730	ppm	0.024698	3.3049
Sn1899		0.055885	ppm	0.00047300	0.84698
Sr4077		0.33449	ppm	0.0013230	0.39556
Ti3349	**W**	**8.4632**	**ppm**	**0.020856**	**0.24643**
Tl1908		0.0036760	ppm	0.0012850	34.969
V_2924		0.41390	ppm	0.00056800	0.13730

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-250743-A-47-A

Acquire Date: 10/1/2019 10:52:07PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Zn2062		1.2313	ppm	0.00076500	0.062129
Y_2243		6,866.6	Cts/S	15.997	0.23297
Y_3600		49,946	Cts/S	22.603	0.045254
Y_3774		7,490.7	Cts/S	11.858	0.15830

440-250743-A-48-A

Acquire Date: 10/1/2019 10:55:54PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0023020	ppm	0.00037600	16.351
Al3961		145.01	ppm	0.92173	0.63563
As1890		0.034896	ppm	0.0022330	6.3980
B_2089		0.036342	ppm	0.00025900	0.71149
Ba4554		1.0749	ppm	0.0073280	0.68172
Be3130		0.0058510	ppm	0.00025200	4.3108
Ca3179		30.704	ppm	0.21078	0.68648
Cd2144		0.0024860	ppm	0.000068000	2.7161
Co2286		0.081130	ppm	0.00085400	1.0524
Cr2677		0.21941	ppm	0.0016990	0.77436
Cu3247		0.22348	ppm	0.00059600	0.26678
Fe2599		183.32	ppm	1.0180	0.55535
K_7664		22.288	ppm	0.10119	0.45402
Mg2790		39.781	ppm	0.12740	0.32025
Mn2576		4.5227	ppm	0.020360	0.45017
Mo2020		0.0059040	ppm	0.00010900	1.8451
Na5895		2.0969	ppm	0.0047710	0.22751
Ni2316		0.14424	ppm	0.00036300	0.25168
P_1782		3.7847	ppm	0.0080020	0.21143
Pb2203		0.38222	ppm	0.0011440	0.29919
S_1820		0.54369	ppm	0.0027940	0.51380
Sb2068		0.000018000	ppm	0.0041410	23,409
Se1960		-0.00034900	ppm	0.0013470	385.70
Si2881		0.67434	ppm	0.036345	5.3897
Sn1899		0.055074	ppm	0.00036700	0.66711
Sr4077		0.30626	ppm	0.0017470	0.57028
Ti3349	**W**	**8.9608**	**ppm**	**0.053155**	**0.59320**
Tl1908		-0.0013400	ppm	0.0039880	297.64
V_2924		0.40548	ppm	0.0019810	0.48855
Zn2062		0.83736	ppm	0.0057870	0.69116
Y_2243		6,864.6	Cts/S	0.98006	0.014277
Y_3600		50,137	Cts/S	114.57	0.22852
Y_3774		7,586.0	Cts/S	49.792	0.65638

440-250743-A-49-A

Acquire Date: 10/1/2019 10:59:32PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0019320	ppm	0.00061000	31.566
Al3961		162.24	ppm	0.61352	0.37816
As1890		0.037768	ppm	0.00073200	1.9391
B_2089		0.040079	ppm	0.00013200	0.32820
Ba4554		1.2320	ppm	0.0046000	0.37340
Be3130		0.0062420	ppm	0.00021700	3.4769
Ca3179		33.762	ppm	0.088779	0.26295
Cd2144		0.0024180	ppm	0.00014800	6.1276
Co2286		0.091841	ppm	0.000062000	0.067386
Cr2677		0.24329	ppm	0.00031300	0.12865
Cu3247		0.23053	ppm	0.0032070	1.3911
Fe2599		197.72	ppm	0.29818	0.15081
K_7664		23.868	ppm	0.046378	0.19431
Mg2790		43.682	ppm	0.12883	0.29492
Mn2576		5.1284	ppm	0.0082700	0.16126
Mo2020		0.0065430	ppm	0.000010000	0.15185
Na5895		2.8747	ppm	0.029413	1.0232
Ni2316		0.15779	ppm	0.00038000	0.24082
P_1782		3.6350	ppm	0.0026930	0.074075
Pb2203		0.39390	ppm	0.0021660	0.54982
S_1820		0.59465	ppm	0.0030660	0.51554
Sb2068		0.0010750	ppm	0.0017980	167.23
Se1960		0.0019080	ppm	0.0023480	123.09
Si2881		0.69623	ppm	0.016010	2.2994
Sn1899		0.056322	ppm	0.00044600	0.79208
Sr4077		0.36362	ppm	0.0017260	0.47481
Ti3349	**W**	**9.5001**	**ppm**	**0.018818**	**0.19808**
Tl1908		0.0025340	ppm	0.0020200	79.712
V_2924		0.42928	ppm	0.0013690	0.31900
Zn2062		0.86451	ppm	0.0021760	0.25171
Y_2243		6,786.0	Cts/S	9.7191	0.14322
Y_3600		49,324	Cts/S	312.30	0.63317
Y_3774		7,326.5	Cts/S	45.769	0.62470

440-250743-A-50-A

Acquire Date: 10/1/2019 11:03:10PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0018790	ppm	0.000075000	3.9871
Al3961		107.04	ppm	0.98652	0.92167
As1890		0.041732	ppm	0.0020480	4.9076
B_2089		0.047157	ppm	0.0017620	3.7355
Ba4554		1.4417	ppm	0.013984	0.97002
Be3130		0.0037970	ppm	0.000014000	0.36235
Ca3179		60.730	ppm	0.72559	1.1948
Cd2144		0.0074060	ppm	0.000030000	0.39889
Co2286		0.072594	ppm	0.00087300	1.2024

440-250743-A-50-A

Acquire Date: 10/1/2019 11:03:10PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.24006	ppm	0.00012500	0.052018
Cu3247		0.42221	ppm	0.0011990	0.28387
Fe2599		163.57	ppm	1.4972	0.91528
K_7664		31.746	ppm	0.30561	0.96267
Mg2790		40.945	ppm	0.21327	0.52087
Mn2576		3.9906	ppm	0.021087	0.52842
Mo2020		0.0093100	ppm	0.000016000	0.17277
Na5895		1.1619	ppm	0.015877	1.3664
Ni2316		0.13150	ppm	0.00010200	0.077858
P_1782		13.423	ppm	0.021522	0.16033
Pb2203		0.76575	ppm	0.0014410	0.18824
S_1820		4.0379	ppm	0.0097560	0.24162
Sb2068		0.0015590	ppm	0.0022950	147.24
Se1960		0.0014850	ppm	0.00052200	35.189
Si2881		1.0321	ppm	0.015862	1.5369
Sn1899		0.11049	ppm	0.00039400	0.35644
Sr4077		0.53899	ppm	0.0047240	0.87641
Ti3349	**W**	**7.8007**	**ppm**	**0.041315**	**0.52964**
Tl1908		-0.00030800	ppm	0.0053050	1,724.8
V_2924		0.31499	ppm	0.000069000	0.022064
Zn2062		1.9672	ppm	0.0099960	0.50814
Y_2243		6,689.7	Cts/S	43.082	0.64400
Y_3600		49,029	Cts/S	67.496	0.13766
Y_3774		7,313.3	Cts/S	88.344	1.2080

440-250743-A-51-A

Acquire Date: 10/1/2019 11:06:49PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0018600	ppm	0.00056500	30.379
Al3961		107.60	ppm	0.85455	0.79423
As1890		0.043059	ppm	0.0012780	2.9678
B_2089		0.048004	ppm	0.00072200	1.5043
Ba4554		1.4665	ppm	0.016070	1.0958
Be3130		0.0036100	ppm	0.000081000	2.2343
Ca3179		80.914	ppm	0.84509	1.0444
Cd2144		0.0070650	ppm	0.000092000	1.2983
Co2286		0.073675	ppm	0.00030900	0.41947
Cr2677		0.25628	ppm	0.0018820	0.73445
Cu3247		0.37431	ppm	0.00025400	0.067881
Fe2599		172.43	ppm	1.8253	1.0586
K_7664		32.192	ppm	0.35270	1.0956
Mg2790		44.993	ppm	0.14935	0.33195
Mn2576		3.9510	ppm	0.011300	0.28601
Mo2020		0.010346	ppm	0.00021100	2.0366
Na5895		1.3047	ppm	0.0045680	0.35016
Ni2316		0.12201	ppm	0.00057000	0.46743

440-250743-A-51-A

Acquire Date: 10/1/2019 11:06:49PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		15.166	ppm	0.063009	0.41546
Pb2203		0.57739	ppm	0.0015190	0.26300
S_1820		3.2003	ppm	0.0079290	0.24775
Sb2068		0.0018870	ppm	0.0029000	153.71
Se1960		0.0035450	ppm	0.0019920	56.197
Si2881		1.2846	ppm	0.0048360	0.37646
Sn1899		0.061553	ppm	0.00081800	1.3286
Sr4077		0.64838	ppm	0.0071870	1.1085
Ti3349	**W**	**8.1986**	**ppm**	**0.023075**	**0.28145**
Tl1908		0.0033550	ppm	0.0029750	88.682
V_2924		0.29775	ppm	0.00098500	0.33070
Zn2062		1.5979	ppm	0.0055610	0.34799
Y_2243		6,678.9	Cts/S	15.029	0.22502
Y_3600		48,535	Cts/S	49.890	0.10279
Y_3774		7,202.0	Cts/S	2.7221	0.037797

440-250743-A-52-A

Acquire Date: 10/1/2019 11:10:26PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0025030	ppm	0.00033000	13.171
Al3961		81.338	ppm	0.58230	0.71590
As1890		0.057246	ppm	0.00077600	1.3560
B_2089		0.081790	ppm	0.0014880	1.8195
Ba4554		1.4328	ppm	0.013276	0.92656
Be3130		0.0026420	ppm	0.00010500	3.9924
Ca3179		193.98	ppm	1.7434	0.89873
Cd2144		0.011573	ppm	0.00011700	1.0150
Co2286		0.065179	ppm	0.00049600	0.76096
Cr2677		0.18884	ppm	0.00030100	0.15946
Cu3247		0.36201	ppm	0.0023650	0.65321
Fe2599		148.83	ppm	1.3765	0.92484
K_7664		24.644	ppm	0.14246	0.57807
Mg2790		40.650	ppm	0.068421	0.16832
Mn2576		4.0932	ppm	0.0053580	0.13090
Mo2020		0.028164	ppm	0.00079200	2.8104
Na5895		2.3058	ppm	0.029001	1.2578
Ni2316		0.12190	ppm	0.00074800	0.61353
P_1782		15.249	ppm	0.11855	0.77745
Pb2203		0.31160	ppm	0.00089100	0.28606
S_1820		5.7997	ppm	0.044065	0.75979
Sb2068		0.0046930	ppm	0.0037380	79.657
Se1960		0.0081000	ppm	0.00071200	8.7938
Si2881		1.4138	ppm	0.0072120	0.51012
Sn1899		0.051230	ppm	0.000064000	0.12477
Sr4077		1.6322	ppm	0.013791	0.84492
Ti3349	**W**	**6.9217**	**ppm**	**0.013076**	**0.18892**

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-250743-A-52-A

Acquire Date: 10/1/2019 11:10:26PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		-0.0024460	ppm	0.0016240	66.424
V_2924		0.26995	ppm	0.00012800	0.047537
Zn2062		0.91544	ppm	0.00082100	0.089697
Y_2243		6,767.7	Cts/S	48.910	0.72270
Y_3600		48,727	Cts/S	248.68	0.51035
Y_3774		7,343.2	Cts/S	32.519	0.44285

440-250743-A-54-A

Acquire Date: 10/1/2019 11:14:04PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00031500	ppm	0.00040600	128.89
Al3961		92.149	ppm	0.68824	0.74688
As1890		0.038330	ppm	0.00016700	0.43480
B_2089		0.035336	ppm	0.0000010000	0.0036600
Ba4554		0.89756	ppm	0.0066700	0.74308
Be3130		0.0034760	ppm	0.000034000	0.97649
Ca3179		35.998	ppm	0.29385	0.81629
Cd2144		0.0056230	ppm	0.000051000	0.91351
Co2286		0.055094	ppm	0.00015100	0.27492
Cr2677		0.15334	ppm	0.00060900	0.39687
Cu3247		0.25884	ppm	0.00093800	0.36252
Fe2599		148.03	ppm	1.2764	0.86224
K_7664		23.436	ppm	0.23108	0.98601
Mg2790		31.094	ppm	0.10209	0.32832
Mn2576		3.3232	ppm	0.012170	0.36623
Mo2020		0.0086680	ppm	0.00035000	4.0363
Na5895		1.1611	ppm	0.0092900	0.80009
Ni2316		0.13026	ppm	0.00010700	0.082104
P_1782		5.3852	ppm	0.014634	0.27174
Pb2203		1.4976	ppm	0.0098130	0.65520
S_1820		0.76689	ppm	0.0014140	0.18441
Sb2068		0.015489	ppm	0.00027800	1.7921
Se1960		-0.0016750	ppm	0.0028890	172.48
Si2881		0.98576	ppm	0.014463	1.4673
Sn1899		0.50362	ppm	0.0016320	0.32401
Sr4077		0.27985	ppm	0.0024000	0.85776
Ti3349	**W**	**6.5854**	**ppm**	**0.029466**	**0.44744**
Tl1908		0.0021780	ppm	0.0014840	68.173
V_2924		0.28750	ppm	0.00094400	0.32830
Zn2062		1.1121	ppm	0.0036550	0.32865
Y_2243		6,797.8	Cts/S	44.716	0.65780
Y_3600		49,171	Cts/S	177.11	0.36019
Y_3774		7,230.9	Cts/S	31.172	0.43110

440-250743-A-55-A

Acquire Date: 10/1/2019 11:17:41PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00060800	ppm	0.00015500	25.469
Al3961		104.25	ppm	0.45683	0.43822
As1890		0.035718	ppm	0.00059900	1.6762
B_2089		0.039729	ppm	0.0012380	3.1173
Ba4554		0.90308	ppm	0.0045710	0.50615
Be3130		0.0036520	ppm	0.00012900	3.5314
Ca3179		59.525	ppm	0.28246	0.47452
Cd2144		0.0038150	ppm	0.000010000	0.27299
Co2286		0.056299	ppm	0.000083000	0.14689
Cr2677		0.15395	ppm	0.0023470	1.5247
Cu3247		0.25874	ppm	0.0026450	1.0224
Fe2599		143.35	ppm	0.88005	0.61391
K_7664		20.220	ppm	0.11095	0.54874
Mg2790		31.884	ppm	0.14508	0.45504
Mn2576		3.5197	ppm	0.014759	0.41931
Mo2020		0.0073070	ppm	0.00038100	5.2168
Na5895		1.5280	ppm	0.0076270	0.49917
Ni2316		0.13300	ppm	0.00074800	0.56272
P_1782		4.8346	ppm	0.0076000	0.15719
Pb2203		0.98033	ppm	0.0022370	0.22823
S_1820		1.2162	ppm	0.0040060	0.32941
Sb2068		0.0012840	ppm	0.0015090	117.51
Se1960		0.00010500	ppm	0.0010100	959.01
Si2881		0.93597	ppm	0.013980	1.4937
Sn1899		0.068553	ppm	0.00046700	0.68148
Sr4077		0.32554	ppm	0.0020830	0.63996
Ti3349	**W**	**6.5798**	**ppm**	**0.024599**	**0.37385**
Tl1908		-0.00063900	ppm	0.0030070	470.33
V_2924		0.30345	ppm	0.00017900	0.058921
Zn2062		1.0834	ppm	0.0049560	0.45742
Y_2243		6,735.9	Cts/S	8.5917	0.12755
Y_3600		49,535	Cts/S	96.786	0.19539
Y_3774		7,224.3	Cts/S	20.608	0.28526

440-250743-A-56-A

Acquire Date: 10/1/2019 11:21:21PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00063900	ppm	0.0010280	160.83
Al3961		111.67	ppm	0.59574	0.53348
As1890		0.038722	ppm	0.0010690	2.7599
B_2089		0.045589	ppm	0.00061600	1.3510
Ba4554		1.2100	ppm	0.0085090	0.70326
Be3130		0.0041760	ppm	0.00015800	3.7766
Ca3179		45.489	ppm	0.27900	0.61334
Cd2144		0.0064700	ppm	0.000079000	1.2265
Co2286		0.063516	ppm	0.00014200	0.22345

440-250743-A-56-A

Acquire Date: 10/1/2019 11:21:21PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.20370	ppm	0.00094600	0.46428
Cu3247		0.37114	ppm	0.0037040	0.99812
Fe2599		163.64	ppm	0.81819	0.49998
K_7664		29.448	ppm	0.14422	0.48976
Mg2790		39.950	ppm	0.024114	0.060361
Mn2576		2.7942	ppm	0.0032050	0.11472
Mo2020		0.012243	ppm	0.00014500	1.1826
Na5895		1.5463	ppm	0.0065820	0.42568
Ni2316		0.15219	ppm	0.0017480	1.1487
P_1782		11.126	ppm	0.11030	0.99132
Pb2203		1.0404	ppm	0.010837	1.0416
S_1820		3.9189	ppm	0.030524	0.77890
Sb2068		0.0039450	ppm	0.0019590	49.654
Se1960		0.0015730	ppm	0.0041390	263.05
Si2881		0.85180	ppm	0.010976	1.2886
Sn1899		0.084400	ppm	0.0014570	1.7261
Sr4077		0.46765	ppm	0.0037570	0.80345
Ti3349	**W**	**6.4021**	**ppm**	**0.0062030**	**0.096882**
Tl1908		0.0013710	ppm	0.0024320	177.41
V_2924		0.34152	ppm	0.0021410	0.62686
Zn2062		1.9204	ppm	0.0030200	0.15723
Y_2243		6,854.6	Cts/S	138.56	2.0215
Y_3600		48,763	Cts/S	127.02	0.26048
Y_3774		7,205.4	Cts/S	42.636	0.59172

CCV 1708493

Acquire Date: 10/1/2019 11:24:59PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.49290	ppm	0.0037640	0.76364	.50000	Rel(%)	Pass	
Al3961		24.260	ppm	0.13719	0.56551	25.000	Rel(%)	Pass	
As1890		0.50070	ppm	0.00065000	0.12974	.50000	Rel(%)	Pass	
B_2089		1.0011	ppm	0.0032460	0.32425	1.0000	Rel(%)	Pass	
Ba4554		2.3681	ppm	0.012479	0.52696	2.5000	Rel(%)	Pass	
Be3130		0.48077	ppm	0.0041000	0.85278	.50000	Rel(%)	Pass	
Ca3179		23.378	ppm	0.13316	0.56959	25.000	Rel(%)	Pass	
Cd2144		0.50181	ppm	0.00078200	0.15579	.50000	Rel(%)	Pass	
Co2286		2.5309	ppm	0.0042140	0.16651	2.5000	Rel(%)	Pass	
Cr2677		2.5302	ppm	0.0072560	0.28679	2.5000	Rel(%)	Pass	
Cu3247		2.4638	ppm	0.013716	0.55671	2.5000	Rel(%)	Pass	
Fe2599		23.343	ppm	0.10028	0.42959	25.000	Rel(%)	Pass	
K_7664		24.246	ppm	0.28238	1.1646	25.000	Rel(%)	Pass	
Mg2790		24.942	ppm	0.043324	0.17370	25.000	Rel(%)	Pass	
Mn2576		2.4447	ppm	0.0090160	0.36880	2.5000	Rel(%)	Pass	
Mo2020		1.0104	ppm	0.0043470	0.43022	1.0000	Rel(%)	Pass	
Na5895		24.293	ppm	0.21850	0.89944	25.000	Rel(%)	Pass	
Ni2316		2.5373	ppm	0.00039900	0.015740	2.5000	Rel(%)	Pass	
P_1782		2.5672	ppm	0.010686	0.41625	2.5000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCV 1708493

Acquire Date: 10/1/2019 11:24:59PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Pb2203		0.51177	ppm	0.0029480	0.57610	.50000	Rel(%)	Pass	
S_1820		2.4568	ppm	0.0039710	0.16164	2.5000	Rel(%)	Pass	
Sb2068		0.51145	ppm	0.0050850	0.99423	.50000	Rel(%)	Pass	
Se1960		0.52441	ppm	0.0049730	0.94828	.50000	Rel(%)	Pass	
Si2881		2.4276	ppm	0.015267	0.62890	2.5000	Rel(%)	Pass	
Sn1899		2.5312	ppm	0.0094620	0.37381	2.5000	Rel(%)	Pass	
Sr4077		2.3684	ppm	0.016188	0.68351	2.5000	Rel(%)	Pass	
Ti3349		0.97415	ppm	0.0040450	0.41527	1.0000	Rel(%)	Pass	
Tl1908		0.52368	ppm	0.0022290	0.42561	.50000	Rel(%)	Pass	
V_2924		2.4947	ppm	0.0092350	0.37020	2.5000	Rel(%)	Pass	
Zn2062		2.5583	ppm	0.0087730	0.34292	2.5000	Rel(%)	Pass	
Y_2243		6,508.8	Cts/S	5.5742	0.085641				
Y_3600		47,658	Cts/S	187.91	0.39430				
Y_3774		6,930.0	Cts/S	49.173	0.70956				

CCB 1745955

Acquire Date: 10/1/2019 11:28:33PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.00075100	ppm	0.00062000	82.469	.00000	Abs	Pass	
Al3961		-0.018647	ppm	0.0075400	40.438	.00000	Abs	Pass	
As1890		-0.0010910	ppm	0.00061600	56.414	.00000	Abs	Pass	
B_2089		0.0051930	ppm	0.00050500	9.7280	.00000	Abs	Pass	
Ba4554		0.00087900	ppm	0.000056000	6.3697	.00000	Abs	Pass	
Be3130		0.00015700	ppm	0.000018000	11.723	.00000	Abs	Pass	
Ca3179		0.0035990	ppm	0.00048500	13.476	.00000	Abs	Pass	
Cd2144		0.000011000	ppm	0.000057000	509.98	.00000	Abs	Pass	
Co2286		.0000030000	ppm	0.000027000	793.27	.00000	Abs	Pass	
Cr2677		0.00064400	ppm	0.00086900	134.84	.00000	Abs	Pass	
Cu3247		0.0086540	ppm	0.00095200	10.996	.00000	Abs	Pass	
Fe2599		0.029145	ppm	0.011021	37.813	.00000	Abs	Pass	
K_7664		-0.022330	ppm	0.028669	128.39	.00000	Abs	Pass	
Mg2790		0.0084230	ppm	0.011518	136.74	.00000	Abs	Pass	
Mn2576		0.0010610	ppm	0.00026200	24.673	.00000	Abs	Pass	
Mo2020		0.0010750	ppm	0.00033200	30.902	.00000	Abs	Pass	
Na5895		-0.061438	ppm	0.010592	17.239	.00000	Abs	Pass	
Ni2316		.0000030000	ppm	0.00016100	5,817.5	.00000	Abs	Pass	
P_1782		0.0050420	ppm	0.00091900	18.229	.00000	Abs	Pass	
Pb2203		-0.00067900	ppm	0.00089600	132.01	.00000	Abs	Pass	
S_1820		-0.0071830	ppm	0.0033110	46.096	.00000	Abs	Pass	
Sb2068		0.00035000	ppm	0.0010740	306.52	.00000	Abs	Pass	
Se1960		-0.0013390	ppm	0.00095500	71.329	.00000	Abs	Pass	
Si2881		-0.012673	ppm	0.013648	107.69	.00000	Abs	Pass	
Sn1899		0.00096900	ppm	0.00044500	45.905	.00000	Abs	Pass	
Sr4077		0.00084200	ppm	0.00021500	25.571	.00000	Abs	Pass	
Ti3349		0.0015810	ppm	0.00025100	15.864	.00000	Abs	Pass	
Tl1908		0.0014140	ppm	0.00057200	40.435	.00000	Abs	Pass	
V_2924		0.00094300	ppm	0.00056400	59.788	.00000	Abs	Pass	

CCB 1745955

Acquire Date: 10/1/2019 11:28:33PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Zn2062	**W**	**0.017550**	**ppm**	**0.00067300**	**3.8345**	**.00000**	**Abs**	**Warn High**	**0.00500**
Y_2243		6,571.8	Cts/S	25.660	0.39046				
Y_3600		47,729	Cts/S	60.085	0.12589				
Y_3774		6,874.3	Cts/S	9.8982	0.14399				

440-250743-A-57-A

Acquire Date: 10/1/2019 11:32:20PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00071900	ppm	0.00082100	114.06
Al3961		113.51	ppm	0.49921	0.43981
As1890		0.037822	ppm	0.0015720	4.1554
B_2089		0.033830	ppm	0.00023400	0.69299
Ba4554		0.96297	ppm	0.0050160	0.52088
Be3130		0.0044570	ppm	0.000026000	0.58072
Ca3179		29.311	ppm	0.12147	0.41443
Cd2144		0.0039980	ppm	0.00013000	3.2556
Co2286		0.069205	ppm	0.000077000	0.11148
Cr2677		0.18920	ppm	0.00090800	0.47969
Cu3247		0.20321	ppm	0.00089400	0.43995
Fe2599		163.41	ppm	0.70674	0.43248
K_7664		26.254	ppm	0.080963	0.30838
Mg2790		38.904	ppm	0.016443	0.042265
Mn2576		2.9273	ppm	0.0036450	0.12453
Mo2020		0.013748	ppm	0.00021100	1.5340
Na5895		1.6238	ppm	0.014477	0.89161
Ni2316		0.15506	ppm	0.0017890	1.1539
P_1782		5.6401	ppm	0.013387	0.23735
Pb2203		0.29828	ppm	0.0052110	1.7469
S_1820		0.81418	ppm	0.0043840	0.53849
Sb2068		0.0016230	ppm	0.0010120	62.353
Se1960		-0.0023470	ppm	0.00020600	8.7650
Si2881		1.0423	ppm	0.040740	3.9087
Sn1899		0.049037	ppm	0.0016120	3.2874
Sr4077		0.33550	ppm	0.0013710	0.40851
Ti3349	**W**	**6.8358**	**ppm**	**0.0078020**	**0.11414**
Tl1908		0.0023590	ppm	0.0012600	53.424
V_2924		0.35876	ppm	0.0012560	0.35007
Zn2062		0.70986	ppm	0.0016850	0.23740
Y_2243		6,698.0	Cts/S	30.717	0.45860
Y_3600		48,812	Cts/S	97.819	0.20040
Y_3774		7,203.7	Cts/S	22.657	0.31453

440-250743-A-58-A

Acquire Date: 10/1/2019 11:35:59PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0014110	ppm	0.00011400	8.1001
Al3961		125.57	ppm	0.70314	0.55996
As1890		0.036279	ppm	0.00027700	0.76465
B_2089		0.036643	ppm	0.00086800	2.3697
Ba4554		1.0328	ppm	0.0052990	0.51305
Be3130		0.0053420	ppm	0.000059000	1.0975
Ca3179		33.230	ppm	0.17883	0.53815
Cd2144		0.0037870	ppm	0.000085000	2.2431
Co2286		0.074142	ppm	0.00020200	0.27281
Cr2677		0.20488	ppm	0.00079400	0.38734
Cu3247		0.17446	ppm	0.0015930	0.91327
Fe2599		175.41	ppm	0.77596	0.44237
K_7664		22.402	ppm	0.19103	0.85272
Mg2790		42.084	ppm	0.18816	0.44710
Mn2576		3.3388	ppm	0.012841	0.38461
Mo2020		0.016277	ppm	0.00022600	1.3889
Na5895		2.9557	ppm	0.039168	1.3251
Ni2316		0.16184	ppm	0.00037400	0.23127
P_1782		5.2656	ppm	0.011771	0.22354
Pb2203		0.062287	ppm	0.0013770	2.2107
S_1820		0.65222	ppm	0.0057530	0.88213
Sb2068		0.00067000	ppm	0.0032250	481.18
Se1960		0.0021360	ppm	0.0046730	218.74
Si2881		1.0295	ppm	0.027478	2.6690
Sn1899		0.039831	ppm	0.00052900	1.3272
Sr4077		0.34828	ppm	0.0026140	0.75046
Ti3349	**W**	**7.6846**	**ppm**	**0.025413**	**0.33070**
Tl1908		-0.00042800	ppm	0.00078300	183.17
V_2924		0.39373	ppm	0.0034360	0.87277
Zn2062		0.47819	ppm	0.0046040	0.96279
Y_2243		6,795.4	Cts/S	6.0244	0.088654
Y_3600		49,699	Cts/S	136.57	0.27479
Y_3774		7,309.5	Cts/S	82.298	1.1259

440-250743-A-59-A

Acquire Date: 10/1/2019 11:39:38PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0010320	ppm	0.0014320	138.76
Al3961		92.876	ppm	0.47050	0.50659
As1890		0.029171	ppm	0.00036100	1.2365
B_2089		0.026212	ppm	0.0010350	3.9504
Ba4554		0.80091	ppm	0.0046030	0.57468
Be3130		0.0036730	ppm	0.00010100	2.7441
Ca3179		27.941	ppm	0.17425	0.62361
Cd2144		0.0020890	ppm	0.000041000	1.9865
Co2286		0.055885	ppm	0.00015900	0.28485

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-250743-A-59-A

Acquire Date: 10/1/2019 11:39:38PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.15867	ppm	0.00030200	0.19032
Cu3247		0.16164	ppm	0.00034100	0.21116
Fe2599		154.95	ppm	0.66365	0.42831
K_7664		27.258	ppm	0.25405	0.93201
Mg2790		35.751	ppm	0.055549	0.15538
Mn2576		1.7994	ppm	0.0018270	0.10151
Mo2020		0.010905	ppm	0.000035000	0.32329
Na5895		0.95049	ppm	0.011379	1.1972
Ni2316		0.10766	ppm	0.00027500	0.25564
P_1782		7.5785	ppm	0.0013540	0.017863
Pb2203		0.11068	ppm	0.00020000	0.18026
S_1820		0.80435	ppm	0.0019970	0.24826
Sb2068		-0.00079800	ppm	0.0016530	207.16
Se1960		-0.0014590	ppm	0.0024690	169.21
Si2881		1.1627	ppm	0.0030460	0.26195
Sn1899		0.035910	ppm	0.00053300	1.4854
Sr4077		0.24748	ppm	0.0018480	0.74690
Ti3349	**W**	**6.7929**	**ppm**	**0.0035820**	**0.052739**
Tl1908		0.0016790	ppm	0.0020600	122.70
V_2924		0.33055	ppm	0.00041700	0.12629
Zn2062		0.71300	ppm	0.0013580	0.19052
Y_2243		6,709.1	Cts/S	0.82956	0.012365
Y_3600		48,683	Cts/S	17.836	0.036638
Y_3774		7,229.1	Cts/S	0.31209	0.0043170

440-250743-A-60-A

Acquire Date: 10/1/2019 11:43:19PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0016170	ppm	0.00024200	14.957
Al3961		84.317	ppm	0.54446	0.64574
As1890		0.031294	ppm	0.0031610	10.102
B_2089		0.024948	ppm	0.00024700	0.99125
Ba4554		0.76043	ppm	0.0046430	0.61057
Be3130		0.0033560	ppm	0.00020000	5.9687
Ca3179		24.452	ppm	0.10417	0.42601
Cd2144		0.0017040	ppm	0.00010300	6.0695
Co2286		0.055728	ppm	0.000014000	0.024853
Cr2677		0.14780	ppm	0.0010030	0.67863
Cu3247		0.13931	ppm	0.0029040	2.0843
Fe2599		152.13	ppm	0.76665	0.50393
K_7664		23.417	ppm	0.13704	0.58521
Mg2790		31.905	ppm	0.075356	0.23619
Mn2576		1.9632	ppm	0.0057600	0.29340
Mo2020		0.010794	ppm	0.00035300	3.2696
Na5895		1.1337	ppm	0.030857	2.7219
Ni2316		0.10103	ppm	0.00077200	0.76438

440-250743-A-60-A

Acquire Date: 10/1/2019 11:43:19PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		6.2382	ppm	0.019600	0.31419
Pb2203		0.066133	ppm	0.0040140	6.0690
S_1820		0.61588	ppm	0.0040590	0.65906
Sb2068		0.00065400	ppm	0.0015600	238.29
Se1960		-0.0038470	ppm	0.0022740	59.110
Si2881		1.3286	ppm	0.028965	2.1801
Sn1899		0.033770	ppm	0.000024000	0.070940
Sr4077		0.21456	ppm	0.0020720	0.96569
Ti3349	**W**	**6.3046**	**ppm**	**0.020421**	**0.32391**
Tl1908		-0.0025100	ppm	0.00022900	9.1251
V_2924		0.32955	ppm	0.00085200	0.25850
Zn2062		0.49228	ppm	0.0015810	0.32121
Y_2243		6,680.1	Cts/S	38.512	0.57653
Y_3600		48,771	Cts/S	38.042	0.078000
Y_3774		7,154.9	Cts/S	6.6446	0.092868

440-250743-A-61-A

Acquire Date: 10/1/2019 11:46:58PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0022910	ppm	0.0011270	49.185
Al3961		80.063	ppm	0.48284	0.60308
As1890		0.037758	ppm	0.00021000	0.55706
B_2089		0.022901	ppm	0.00031600	1.3794
Ba4554		0.75650	ppm	0.0048220	0.63743
Be3130		0.0031850	ppm	0.00025200	7.9264
Ca3179		21.367	ppm	0.17339	0.81147
Cd2144		0.0018050	ppm	0.00016300	9.0160
Co2286		0.057714	ppm	0.000084000	0.14599
Cr2677		0.14026	ppm	0.0014750	1.0519
Cu3247		0.12789	ppm	0.0011200	0.87603
Fe2599		149.01	ppm	0.71873	0.48234
K_7664		20.414	ppm	0.23093	1.1313
Mg2790		29.302	ppm	0.068029	0.23216
Mn2576		2.1452	ppm	0.0046880	0.21854
Mo2020		0.0098440	ppm	0.0000060000	0.064013
Na5895		1.3689	ppm	0.017693	1.2925
Ni2316		0.097046	ppm	0.00055400	0.57107
P_1782		5.0254	ppm	0.0014760	0.029374
Pb2203		0.044013	ppm	0.0027900	6.3391
S_1820		0.64335	ppm	0.0020010	0.31098
Sb2068		-0.00051600	ppm	0.00067400	130.67
Se1960		0.0011710	ppm	0.0011610	99.190
Si2881		1.0807	ppm	0.011975	1.1081
Sn1899		0.033965	ppm	0.00024500	0.72094
Sr4077		0.20173	ppm	0.00083000	0.41148
Ti3349	**W**	**6.1148**	**ppm**	**0.012042**	**0.19693**

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-250743-A-61-A

Acquire Date: 10/1/2019 11:46:58PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		0.00065900	ppm	0.0019760	299.97
V_2924		0.32150	ppm	0.0023360	0.72663
Zn2062		0.38089	ppm	0.0032650	0.85730
Y_2243		6,669.3	Cts/S	24.193	0.36275
Y_3600		48,269	Cts/S	181.01	0.37500
Y_3774		7,054.8	Cts/S	0.31028	0.0043980

440-250743-A-62-A

Acquire Date: 10/1/2019 11:50:39PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00045400	ppm	0.000017000	3.8417
Al3961		91.375	ppm	0.65680	0.71880
As1890		0.058273	ppm	0.0019600	3.3640
B_2089		0.11235	ppm	0.0021100	1.8778
Ba4554		0.94088	ppm	0.0086480	0.91915
Be3130		0.0032530	ppm	0.00020000	6.1373
Ca3179		37.764	ppm	0.37557	0.99450
Cd2144		0.0059020	ppm	0.000023000	0.38863
Co2286		0.055279	ppm	0.0010110	1.8284
Cr2677		0.17099	ppm	0.00069700	0.40750
Cu3247		0.27777	ppm	0.0021380	0.76953
Fe2599		142.15	ppm	1.1230	0.78997
K_7664		26.424	ppm	0.32193	1.2183
Mg2790		32.611	ppm	0.11553	0.35425
Mn2576		2.4793	ppm	0.010795	0.43540
Mo2020		0.013487	ppm	0.00052100	3.8612
Na5895		1.6409	ppm	0.015305	0.93270
Ni2316		0.12518	ppm	0.00071600	0.57203
P_1782		8.5264	ppm	0.057036	0.66893
Pb2203		3.5973	ppm	0.056433	1.5688
S_1820		2.5861	ppm	0.028235	1.0918
Sb2068		0.0027440	ppm	0.0010840	39.526
Se1960		0.00081200	ppm	0.00042300	52.091
Si2881		1.0124	ppm	0.036707	3.6257
Sn1899		0.065285	ppm	0.00037100	0.56776
Sr4077		0.30295	ppm	0.0031730	1.0475
Ti3349	**W**	**6.0914**	**ppm**	**0.029930**	**0.49134**
Tl1908		0.00049100	ppm	0.0015010	305.90
V_2924		0.28775	ppm	0.0024870	0.86419
Zn2062		1.9558	ppm	0.0081810	0.41829
Y_2243		6,711.7	Cts/S	85.832	1.2788
Y_3600		48,579	Cts/S	337.79	0.69535
Y_3774		7,132.6	Cts/S	12.543	0.17585

440-250743-A-64-A

Acquire Date: 10/1/2019 11:54:17PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0010560	ppm	0.00044100	41.760
Al3961		98.005	ppm	0.79325	0.80940
As1890		0.058039	ppm	0.00040400	0.69562
B_2089		0.031691	ppm	0.000029000	0.091011
Ba4554		0.93514	ppm	0.0097830	1.0462
Be3130		0.0040180	ppm	0.00011500	2.8566
Ca3179		33.854	ppm	0.28841	0.85190
Cd2144		0.0045210	ppm	0.0000050000	0.10135
Co2286		0.062166	ppm	0.000012000	0.019050
Cr2677		0.18032	ppm	0.00012500	0.069151
Cu3247		0.20241	ppm	0.00018100	0.089228
Fe2599		156.97	ppm	1.1600	0.73899
K_7664		22.062	ppm	0.16415	0.74403
Mg2790		36.886	ppm	0.092698	0.25131
Mn2576		2.6749	ppm	0.0056890	0.21267
Mo2020		0.012539	ppm	0.00040000	3.1919
Na5895		1.3466	ppm	0.035746	2.6546
Ni2316		0.13908	ppm	0.0014740	1.0598
P_1782		6.7182	ppm	0.027349	0.40709
Pb2203		0.98083	ppm	0.00030500	0.031115
S_1820		0.92631	ppm	0.0032270	0.34838
Sb2068		-0.0011260	ppm	0.0035220	312.83
Se1960		0.0010620	ppm	0.0025290	238.15
Si2881		0.87504	ppm	0.0016710	0.19100
Sn1899		0.044494	ppm	0.00024200	0.54360
Sr4077		0.29369	ppm	0.0025610	0.87198
Ti3349	**W**	**6.4866**	**ppm**	**0.017434**	**0.26877**
Tl1908		0.000049000	ppm	0.0038630	7,849.6
V_2924		0.32681	ppm	0.000039000	0.011811
Zn2062		0.87895	ppm	0.0054200	0.61661
Y_2243		6,772.8	Cts/S	20.243	0.29889
Y_3600		49,136	Cts/S	50.340	0.10245
Y_3774		7,207.8	Cts/S	14.680	0.20368

CCV 1708493

Acquire Date: 10/1/2019 11:57:56PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.50704	ppm	0.0020760	0.40950	.50000	Rel(%)	Pass	
Al3961		24.778	ppm	0.17491	0.70591	25.000	Rel(%)	Pass	
As1890		0.51231	ppm	0.00097900	0.19112	.50000	Rel(%)	Pass	
B_2089		1.0277	ppm	0.0068090	0.66250	1.0000	Rel(%)	Pass	
Ba4554		2.4387	ppm	0.020909	0.85741	2.5000	Rel(%)	Pass	
Be3130		0.49124	ppm	0.0045560	0.92742	.50000	Rel(%)	Pass	
Ca3179		24.045	ppm	0.22841	0.94992	25.000	Rel(%)	Pass	
Cd2144		0.51358	ppm	0.0017420	0.33909	.50000	Rel(%)	Pass	
Co2286		2.5809	ppm	0.0066520	0.25773	2.5000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCV 1708493

Acquire Date: 10/1/2019 11:57:56PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Cr2677		2.5777	ppm	0.0074930	0.29068	2.5000	Rel(%)	Pass	
Cu3247		2.5389	ppm	0.014827	0.58400	2.5000	Rel(%)	Pass	
Fe2599		24.195	ppm	0.31459	1.3002	25.000	Rel(%)	Pass	
K_7664		24.854	ppm	0.19871	0.79947	25.000	Rel(%)	Pass	
Mg2790		25.429	ppm	0.10513	0.41344	25.000	Rel(%)	Pass	
Mn2576		2.4964	ppm	0.0090760	0.36356	2.5000	Rel(%)	Pass	
Mo2020		1.0347	ppm	0.0063270	0.61154	1.0000	Rel(%)	Pass	
Na5895		24.879	ppm	0.21190	0.85172	25.000	Rel(%)	Pass	
Ni2316		2.5997	ppm	0.0076310	0.29356	2.5000	Rel(%)	Pass	
P_1782		2.6180	ppm	0.010632	0.40612	2.5000	Rel(%)	Pass	
Pb2203		0.52383	ppm	0.0024640	0.47041	.50000	Rel(%)	Pass	
S_1820		2.5073	ppm	0.0056060	0.22360	2.5000	Rel(%)	Pass	
Sb2068		0.52151	ppm	0.0049290	0.94514	.50000	Rel(%)	Pass	
Se1960		0.53160	ppm	0.0056070	1.0547	.50000	Rel(%)	Pass	
Si2881		2.4432	ppm	0.015009	0.61430	2.5000	Rel(%)	Pass	
Sn1899		2.5865	ppm	0.0047220	0.18258	2.5000	Rel(%)	Pass	
Sr4077		2.4370	ppm	0.019598	0.80418	2.5000	Rel(%)	Pass	
Ti3349		0.99208	ppm	0.0052500	0.52916	1.0000	Rel(%)	Pass	
Tl1908		0.52907	ppm	0.0022380	0.42295	.50000	Rel(%)	Pass	
V_2924		2.5338	ppm	0.0082250	0.32463	2.5000	Rel(%)	Pass	
Zn2062		2.6092	ppm	0.0063080	0.24175	2.5000	Rel(%)	Pass	
Y_2243		6,461.1	Cts/S	26.048	0.40315				
Y_3600		47,398	Cts/S	46.725	0.098580				
Y_3774		6,892.2	Cts/S	12.102	0.17559				

CCB 1745955

Acquire Date: 10/2/2019 12:01:29AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.000056000	ppm	0.00027000	477.47	.00000	Abs	Pass	
Al3961		0.011272	ppm	0.0040070	35.544	.00000	Abs	Pass	
As1890		0.0016160	ppm	0.0025660	158.82	.00000	Abs	Pass	
B_2089		0.0082340	ppm	0.0054910	66.681	.00000	Abs	Pass	
Ba4554		0.00051200	ppm	0.00017100	33.365	.00000	Abs	Pass	
Be3130		0.000093000	ppm	0.00010100	108.09	.00000	Abs	Pass	
Ca3179		0.0053290	ppm	0.0077160	144.80	.00000	Abs	Pass	
Cd2144		0.0017520	ppm	0.0019700	112.43	.00000	Abs	Pass	
Co2286	**W**	**0.0092820**	**ppm**	**0.010766**	**115.98**	**.00000**	**Abs**	**Warn High**	**0.00500**
Cr2677		0.0013000	ppm	0.00020100	15.496	.00000	Abs	Pass	
Cu3247		0.0062110	ppm	0.00070900	11.420	.00000	Abs	Pass	
Fe2599		0.014382	ppm	0.00053100	3.6924	.00000	Abs	Pass	
K_7664		-0.040792	ppm	0.062972	154.37	.00000	Abs	Pass	
Mg2790		0.0014440	ppm	0.0019050	131.90	.00000	Abs	Pass	
Mn2576		0.00075500	ppm	0.00015100	20.040	.00000	Abs	Pass	
Mo2020		0.0045800	ppm	0.0036000	78.614	.00000	Abs	Pass	
Na5895		-0.065527	ppm	0.0060370	9.2135	.00000	Abs	Pass	
Ni2316	**F**	**0.010306**	**ppm**	**0.012221**	**118.58**	**.00000**	**Abs**	**Fail High**	**.01000**
P_1782	**W**	**0.11942**	**ppm**	**0.13880**	**116.23**	**.00000**	**Abs**	**Warn High**	**0.10000**

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCB 1745955

Acquire Date: 10/2/2019 12:01:29AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Pb2203	**F**	**0.018407**	**ppm**	**0.022622**	**122.90**	**.00000**	**Abs**	**Fail High**	**.01000**
S_1820		0.026582	ppm	0.038625	145.31	.00000	Abs	Pass	
Sb2068		0.0012070	ppm	0.0015780	130.81	.00000	Abs	Pass	
Se1960		0.00041300	ppm	0.0031820	770.53	.00000	Abs	Pass	
Si2881		0.0070610	ppm	0.037219	527.09	.00000	Abs	Pass	
Sn1899		0.0094310	ppm	0.010501	111.35	.00000	Abs	Pass	
Sr4077		0.00070000	ppm	0.00012000	17.154	.00000	Abs	Pass	
Ti3349		0.0013080	ppm	0.00028500	21.818	.00000	Abs	Pass	
Tl1908		0.00062100	ppm	0.00062000	99.802	.00000	Abs	Pass	
V_2924		0.00023400	ppm	0.00035000	149.76	.00000	Abs	Pass	
Zn2062	**W**	**0.013185**	**ppm**	**0.00032200**	**2.4420**	**.00000**	**Abs**	**Warn High**	**0.00500**
Y_2243		6,630.3	Cts/S	65.905	0.99400				
Y_3600		47,693	Cts/S	67.241	0.14099				
Y_3774		6,712.6	Cts/S	25.757	0.38372				

CCVL 1733852

Acquire Date: 10/2/2019 12:05:16AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.0056760	ppm	0.00031100	5.4857	.00500	Rel(%)	Pass	
Al3961		0.19365	ppm	0.019432	10.034	.20000	Rel(%)	Pass	
As1890		0.039531	ppm	0.0013460	3.4060	.04000	Rel(%)	Pass	
B_2089		0.22266	ppm	0.00010300	0.046220	.20000	Rel(%)	Pass	
Ba4554		0.020275	ppm	0.00013100	0.64510	.02000	Rel(%)	Pass	
Be3130		0.0030620	ppm	0.00026900	8.7749	.00300	Rel(%)	Pass	
Ca3179		0.51577	ppm	0.0028770	0.55785	.50000	Rel(%)	Pass	
Cd2144		0.0033440	ppm	0.0000070000	0.21070	.00300	Rel(%)	Pass	
Co2286		0.011039	ppm	0.000097000	0.88075	.01000	Rel(%)	Pass	
Cr2677		0.011036	ppm	0.000086000	0.77530	.01000	Rel(%)	Pass	
Cu3247	**F**	**0.020337**	**ppm**	**0.0010830**	**5.3234**	**.01500**	**Rel(%)**	**Fail High**	**30.000**
Fe2599		0.10691	ppm	0.013587	12.709	.10000	Rel(%)	Pass	
K_7664		1.0337	ppm	0.0062650	0.60606	1.0000	Rel(%)	Pass	
Mg2790		0.54051	ppm	0.0059520	1.1011	.50000	Rel(%)	Pass	
Mn2576		0.011080	ppm	0.0000090000	0.081906	.01000	Rel(%)	Pass	
Mo2020		0.021574	ppm	0.00034900	1.6160	.02000	Rel(%)	Pass	
Na5895		0.47765	ppm	0.012775	2.6746	.50000	Rel(%)	Pass	
Ni2316		0.010817	ppm	0.000025000	0.22657	.01000	Rel(%)	Pass	
P_1782		0.55951	ppm	0.0011350	0.20293	.50000	Rel(%)	Pass	
Pb2203		0.011409	ppm	0.0012300	10.777	.01000	Rel(%)	Pass	
S_1820		0.53169	ppm	0.0023220	0.43678	.50000	Rel(%)	Pass	
Sb2068		0.029122	ppm	0.000034000	0.11816	.03000	Rel(%)	Pass	
Se1960		0.042029	ppm	0.00014700	0.34962	.04000	Rel(%)	Pass	
Si2881		0.51508	ppm	0.019929	3.8691	.50000	Rel(%)	Pass	
Sn1899		0.022602	ppm	0.00089700	3.9671	.02000	Rel(%)	Pass	
Sr4077		0.052249	ppm	0.00047800	0.91495	.05000	Rel(%)	Pass	
Ti3349		0.010593	ppm	0.0015280	14.428	.01000	Rel(%)	Pass	
Tl1908		0.032452	ppm	0.00092300	2.8445	.03000	Rel(%)	Pass	
V_2924		0.021354	ppm	0.00012300	0.57472	.02000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCVL 1733852

Acquire Date: 10/2/2019 12:05:16AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Zn2062	**F**	**0.031237**	**ppm**	**0.00029000**	**0.92894**	**.02000**	**Rel(%)**	**Fail High**	**30.000**
Y_2243		6,556.3	Cts/S	24.602	0.37524				
Y_3600		47,797	Cts/S	246.74	0.51623				
Y_3774		6,790.5	Cts/S	26.502	0.39028				

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Acquire Date: 10/2/2019 12:09:03AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.00015200	ppm	0.00076200	502.72	.00000	Abs	Pass	
Al3961		-0.0074440	ppm	0.022390	300.79	.00000	Abs	Pass	
As1890		-0.0012740	ppm	0.00062100	48.771	.00000	Abs	Pass	
B_2089		0.0022170	ppm	0.00055900	25.197	.00000	Abs	Pass	
Ba4554		-0.00048100	ppm	0.00082100	170.90	.00000	Abs	Pass	
Be3130		0.000082000	ppm	0.00015100	184.84	.00000	Abs	Pass	
Ca3179		-0.0014350	ppm	0.0028150	196.26	.00000	Abs	Pass	
Cd2144		-0.00011600	ppm	0.000029000	25.341	.00000	Abs	Pass	
Co2286		0.00011700	ppm	0.00020300	174.19	.00000	Abs	Pass	
Cr2677		-0.00023000	ppm	0.00014300	62.183	.00000	Abs	Pass	
Cu3247		0.0023550	ppm	0.00020600	8.7343	.00000	Abs	Pass	
Fe2599		-0.0062250	ppm	0.0011810	18.972	.00000	Abs	Pass	
K_7664		-0.029876	ppm	0.040704	136.24	.00000	Abs	Pass	
Mg2790		0.0056400	ppm	0.00021000	3.7321	.00000	Abs	Pass	
Mn2576		0.00014600	ppm	0.00016300	112.13	.00000	Abs	Pass	
Mo2020		0.00069800	ppm	0.00010800	15.479	.00000	Abs	Pass	
Na5895		-0.077526	ppm	0.019982	25.774	.00000	Abs	Pass	
Ni2316		0.00019800	ppm	0.00035700	180.26	.00000	Abs	Pass	
P_1782		0.0019170	ppm	0.0025360	132.29	.00000	Abs	Pass	
Pb2203		-0.0021260	ppm	0.0022680	106.70	.00000	Abs	Pass	
S_1820		-0.0098590	ppm	0.0021260	21.559	.00000	Abs	Pass	
Sb2068		-0.0018460	ppm	0.00088400	47.887	.00000	Abs	Pass	
Se1960		-0.0019650	ppm	0.0040470	205.91	.00000	Abs	Pass	
Si2881		-0.022162	ppm	0.0056450	25.472	.00000	Abs	Pass	
Sn1899		0.000068000	ppm	0.00045300	666.10	.00000	Abs	Pass	
Sr4077		0.000061000	ppm	0.00013400	218.89	.00000	Abs	Pass	
Ti3349		-0.00015500	ppm	0.00076000	490.73	.00000	Abs	Pass	
Tl1908		-0.0015440	ppm	0.0016720	108.34	.00000	Abs	Pass	
V_2924		0.000012000	ppm	0.00037800	3,195.0	.00000	Abs	Pass	
Zn2062		0.0035120	ppm	0.00021800	6.2174	.00000	Abs	Pass	
Y_2243		6,607.3	Cts/S	28.250	0.42756				
Y_3600		48,513	Cts/S	74.511	0.15359				
Y_3774		6,890.4	Cts/S	27.977	0.40602				

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Acquire Date: 10/2/2019 12:12:51AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.00097600	ppm	0.00074600	76.426	.00000	Abs	Pass	
Al3961		-0.0061850	ppm	0.019207	310.56	.00000	Abs	Pass	
As1890		-0.00021400	ppm	0.00017900	83.707	.00000	Abs	Pass	
B_2089		0.0016890	ppm	0.0011720	69.365	.00000	Abs	Pass	
Ba4554		-0.00053200	ppm	0.00023700	44.485	.00000	Abs	Pass	
Be3130		-0.00016500	ppm	0.000047000	28.336	.00000	Abs	Pass	
Ca3179		0.0070090	ppm	0.0068000	97.014	.00000	Abs	Pass	
Cd2144		0.000090000	ppm	0.00014300	157.89	.00000	Abs	Pass	
Co2286		0.000047000	ppm	0.00015800	333.02	.00000	Abs	Pass	
Cr2677		0.000019000	ppm	0.000062000	324.32	.00000	Abs	Pass	
Cu3247		0.0038980	ppm	0.00051200	13.125	.00000	Abs	Pass	
Fe2599		-0.0016080	ppm	0.00064300	39.956	.00000	Abs	Pass	
K_7664		-0.048662	ppm	0.022753	46.758	.00000	Abs	Pass	
Mg2790		-0.0050510	ppm	0.0054570	108.04	.00000	Abs	Pass	
Mn2576		0.000090000	ppm	0.000066000	73.587	.00000	Abs	Pass	
Mo2020		0.00026800	ppm	0.000041000	15.275	.00000	Abs	Pass	
Na5895		-0.073932	ppm	0.0033770	4.5671	.00000	Abs	Pass	
Ni2316		-0.00083500	ppm	0.00059800	71.631	.00000	Abs	Pass	
P_1782		0.0028260	ppm	0.00019700	6.9639	.00000	Abs	Pass	
Pb2203		-0.0023000	ppm	0.00033600	14.591	.00000	Abs	Pass	
S_1820		-0.0074680	ppm	0.0019660	26.321	.00000	Abs	Pass	
Sb2068		-0.0013150	ppm	0.0027810	211.56	.00000	Abs	Pass	
Se1960		-0.0012590	ppm	0.00033200	26.352	.00000	Abs	Pass	
Si2881		0.0025130	ppm	0.0083840	333.69	.00000	Abs	Pass	
Sn1899		0.00024500	ppm	0.00049900	203.57	.00000	Abs	Pass	
Sr4077		0.00013600	ppm	0.000052000	38.545	.00000	Abs	Pass	
Ti3349		0.0012920	ppm	0.000028000	2.1614	.00000	Abs	Pass	
Tl1908		0.00048500	ppm	0.0011530	237.46	.00000	Abs	Pass	
V_2924		0.00056800	ppm	0.00063800	112.29	.00000	Abs	Pass	
Zn2062		0.0023770	ppm	0.00032300	13.571	.00000	Abs	Pass	
Y_2243		6,531.5	Cts/S	6.7489	0.10333				
Y_3600		47,669	Cts/S	204.38	0.42875				
Y_3774		6,765.9	Cts/S	22.492	0.33243				

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Acquire Date: 10/2/2019 12:16:38AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.00098100	ppm	0.00029500	30.016	.00000	Abs	Pass	
Al3961		-0.027826	ppm	0.0036060	12.958	.00000	Abs	Pass	
As1890		0.0016040	ppm	0.0019150	119.37	.00000	Abs	Pass	
B_2089		0.0021730	ppm	0.0016720	76.967	.00000	Abs	Pass	
Ba4554		0.00025800	ppm	0.000070000	27.155	.00000	Abs	Pass	
Be3130		-0.00015500	ppm	0.00015100	97.223	.00000	Abs	Pass	
Ca3179		-0.010596	ppm	0.0022850	21.567	.00000	Abs	Pass	
Cd2144		0.00016900	ppm	0.00015400	91.144	.00000	Abs	Pass	
Co2286		0.00070800	ppm	0.00095500	134.92	.00000	Abs	Pass	
Cr2677	**W**	**0.0079840**	**ppm**	**0.0085120**	**106.62**	**.00000**	**Abs**	**Warn High**	**0.00500**

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

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Acquire Date: 10/2/2019 12:16:38AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Cu3247	**W**	**0.010829**	**ppm**	**0.0093880**	**86.689**	**.00000**	**Abs**	**Warn High**	**0.01000**
Fe2599		-0.0012070	ppm	0.0034220	283.65	.00000	Abs	Pass	
K_7664		-0.10739	ppm	0.011775	10.964	.00000	Abs	Pass	
Mg2790		0.21162	ppm	0.30280	143.08	.00000	Abs	Pass	
Mn2576	**F**	**0.016948**	**ppm**	**0.023765**	**140.22**	**.00000**	**Abs**	**Fail High**	**.01000**
Mo2020		0.00076700	ppm	0.000043000	5.5966	.00000	Abs	Pass	
Na5895		-0.072235	ppm	0.022865	31.653	.00000	Abs	Pass	
Ni2316		0.00083700	ppm	0.00037200	44.457	.00000	Abs	Pass	
P_1782		0.0081630	ppm	0.0046020	56.371	.00000	Abs	Pass	
Pb2203		0.000015000	ppm	0.0032010	21,881	.00000	Abs	Pass	
S_1820		-0.0024690	ppm	0.0027990	113.35	.00000	Abs	Pass	
Sb2068		-0.0011180	ppm	0.00097900	87.546	.00000	Abs	Pass	
Se1960		-0.0010710	ppm	0.00079500	74.197	.00000	Abs	Pass	
Si2881		-0.0051590	ppm	0.00010400	2.0167	.00000	Abs	Pass	
Sn1899		0.0013650	ppm	0.000088000	6.4165	.00000	Abs	Pass	
Sr4077		0.000062000	ppm	0.00016500	264.96	.00000	Abs	Pass	
Ti3349	**W**	**0.030633**	**ppm**	**0.043247**	**141.18**	**.00000**	**Abs**	**Warn High**	**0.01000**
Tl1908		-0.00064300	ppm	0.0012790	199.10	.00000	Abs	Pass	
V_2924	**W**	**0.0069030**	**ppm**	**0.010673**	**154.61**	**.00000**	**Abs**	**Warn High**	**0.00500**
Zn2062	**W**	**0.011914**	**ppm**	**0.014955**	**125.52**	**.00000**	**Abs**	**Warn High**	**0.00500**
Y_2243		6,575.8	Cts/S	38.926	0.59196				
Y_3600		48,377	Cts/S	1,534.0	3.1708				
Y_3774		6,765.2	Cts/S	31.893	0.47143				

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Acquire Date: 10/2/2019 12:20:26AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.00040300	ppm	0.000057000	14.182	.00000	Abs	Pass	
Al3961		-0.023682	ppm	0.0079630	33.625	.00000	Abs	Pass	
As1890		-0.00054700	ppm	0.00012100	22.107	.00000	Abs	Pass	
B_2089		0.0010580	ppm	0.00027600	26.143	.00000	Abs	Pass	
Ba4554		-0.00046700	ppm	0.000094000	20.135	.00000	Abs	Pass	
Be3130		0.00011100	ppm	0.00018100	162.24	.00000	Abs	Pass	
Ca3179		-0.0061240	ppm	0.0027320	44.616	.00000	Abs	Pass	
Cd2144		-0.00012200	ppm	0.000089000	72.896	.00000	Abs	Pass	
Co2286		-0.00012900	ppm	0.00020900	161.89	.00000	Abs	Pass	
Cr2677		0.00045400	ppm	0.00022800	50.180	.00000	Abs	Pass	
Cu3247		0.0036470	ppm	0.00086200	23.646	.00000	Abs	Pass	
Fe2599		-0.011614	ppm	0.0072480	62.409	.00000	Abs	Pass	
K_7664		-0.015795	ppm	0.045991	291.17	.00000	Abs	Pass	
Mg2790		0.0023140	ppm	0.0033130	143.14	.00000	Abs	Pass	
Mn2576		0.000035000	ppm	0.000099000	286.22	.00000	Abs	Pass	
Mo2020		0.00052100	ppm	0.00010800	20.672	.00000	Abs	Pass	
Na5895		-0.057088	ppm	0.0081470	14.271	.00000	Abs	Pass	
Ni2316		0.00055900	ppm	0.00024700	44.080	.00000	Abs	Pass	
P_1782		0.0046470	ppm	0.0027390	58.950	.00000	Abs	Pass	
Pb2203		-0.0040470	ppm	0.0043980	108.69	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

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Acquire Date: 10/2/2019 12:20:26AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 491

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
S_1820		-0.0059250	ppm	0.0015960	26.933	.00000	Abs	Pass	
Sb2068		-0.0015480	ppm	0.0014600	94.332	.00000	Abs	Pass	
Se1960		-0.0027400	ppm	0.0052990	193.39	.00000	Abs	Pass	
Si2881		-0.0063550	ppm	0.037811	594.94	.00000	Abs	Pass	
Sn1899		0.000032000	ppm	0.00031200	967.87	.00000	Abs	Pass	
Sr4077		-0.00012800	ppm	0.00017900	139.23	.00000	Abs	Pass	
Ti3349		0.0012170	ppm	0.000079000	6.4912	.00000	Abs	Pass	
Tl1908		-0.0024990	ppm	0.00069000	27.613	.00000	Abs	Pass	
V_2924		0.000097000	ppm	0.00039700	407.68	.00000	Abs	Pass	
Zn2062		0.00070100	ppm	0.00029300	41.790	.00000	Abs	Pass	
Y_2243		6,543.5	Cts/S	8.4675	0.12940				
Y_3600		47,784	Cts/S	193.59	0.40512				
Y_3774		6,804.4	Cts/S	4.0833	0.060009				

Test America-West Sacramento methods 6010b and 200.7

Author: GH

Published: 10/16/2019 8:12:14AM

Notes:

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Acquire Date: 10/15/2019 10:32:20AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00019700	ppm	0.00081700	413.98	.00000	Abs	Pass	
Al3961		0.0069790	ppm	0.00086000	12.321	.00000	Abs	Pass	
As1890		0.0016680	ppm	0.00057800	34.636	.00000	Abs	Pass	
B_2089		-0.0024260	ppm	0.000091000	3.7456	.00000	Abs	Pass	
Ba4554		-0.00047000	ppm	0.00038000	80.766	.00000	Abs	Pass	
Be3130		-0.00012500	ppm	0.00015100	121.41	.00000	Abs	Pass	
Ca3179		0.0016560	ppm	0.0060460	365.05	.00000	Abs	Pass	
Cd2144		-0.00011200	ppm	0.000068000	60.734	.00000	Abs	Pass	
Co2286		-0.00039900	ppm	0.00017800	44.638	.00000	Abs	Pass	
Cr2677		-0.0010810	ppm	0.00028100	25.943	.00000	Abs	Pass	
Cu3247		-0.0098420	ppm	0.00094000	9.5483	.00000	Abs	Pass	
Fe2599		-0.0018450	ppm	0.0090250	489.25	.00000	Abs	Pass	
K_7664		0.010824	ppm	0.0038040	35.139	.00000	Abs	Pass	
Mg2790		0.0012410	ppm	0.0034020	274.16	.00000	Abs	Pass	
Mn2576		-0.00025900	ppm	0.00010100	39.014	.00000	Abs	Pass	
Mo2020		0.00052700	ppm	0.00014400	27.292	.00000	Abs	Pass	
Na5895		-0.015351	ppm	0.0080150	52.210	.00000	Abs	Pass	
Ni2316		-0.00025100	ppm	0.000042000	16.752	.00000	Abs	Pass	
P_1782		0.00079700	ppm	0.0018420	231.18	.00000	Abs	Pass	
Pb2203		-0.0035450	ppm	0.0019300	54.443	.00000	Abs	Pass	
S_1820		-0.0016500	ppm	0.0010680	64.698	.00000	Abs	Pass	
Sb2068		0.0014670	ppm	0.00075000	51.164	.00000	Abs	Pass	
Se1960		0.0043550	ppm	0.00090900	20.867	.00000	Abs	Pass	
Si2881		0.018303	ppm	0.0017300	9.4515	.00000	Abs	Pass	
Sn1899		0.00046100	ppm	0.000082000	17.767	.00000	Abs	Pass	
Sr4077		-0.00064200	ppm	0.000072000	11.186	.00000	Abs	Pass	
Ti3349		0.00017500	ppm	0.00088900	507.60	.00000	Abs	Pass	
Tl1908		0.00016200	ppm	0.0014510	896.70	.00000	Abs	Pass	
V_2924		-0.00072100	ppm	0.00063200	87.697	.00000	Abs	Pass	
Zn2062	**F**	**0.11094**	**ppm**	**0.078459**	**70.720**	**.00000**	**Abs**	**Fail High**	**.02000**
Y_2243		6,934.9	Cts/S	15.898	0.22925				
Y_3600		55,619	Cts/S	208.84	0.37549				
Y_3774		8,534.8	Cts/S	199.62	2.3388				

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Acquire Date: 10/15/2019 10:36:19AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.00015700	ppm	0.00021400	136.75	.00000	Abs	Pass	
Al3961		0.0070850	ppm	0.012306	173.69	.00000	Abs	Pass	
As1890		-0.00033200	ppm	0.0012080	364.17	.00000	Abs	Pass	
B_2089		-0.0019960	ppm	0.00015900	7.9798	.00000	Abs	Pass	
Ba4554		-0.00042100	ppm	0.00059800	141.94	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

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Acquire Date: 10/15/2019 10:36:19AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Be3130		-0.00014800	ppm	0.00016600	111.91	.00000	Abs	Pass	
Ca3179		-0.0058350	ppm	0.0019190	32.884	.00000	Abs	Pass	
Cd2144		-0.00014100	ppm	0.000047000	33.098	.00000	Abs	Pass	
Co2286		0.000040000	ppm	0.00027800	693.68	.00000	Abs	Pass	
Cr2677		-0.0012030	ppm	0.00039700	33.033	.00000	Abs	Pass	
Cu3247		-0.0068540	ppm	0.00029100	4.2522	.00000	Abs	Pass	
Fe2599		-0.015944	ppm	0.0014710	9.2240	.00000	Abs	Pass	
K_7664		-0.0055810	ppm	0.036894	661.09	.00000	Abs	Pass	
Mg2790		-0.0049860	ppm	0.00035100	7.0429	.00000	Abs	Pass	
Mn2576		-0.00036300	ppm	0.000035000	9.6161	.00000	Abs	Pass	
Mo2020		.0000090000	ppm	0.00026500	3,090.8	.00000	Abs	Pass	
Na5895		-0.030573	ppm	0.010659	34.866	.00000	Abs	Pass	
Ni2316		0.000041000	ppm	0.0000060000	15.546	.00000	Abs	Pass	
P_1782		-0.00035000	ppm	0.00064000	183.04	.00000	Abs	Pass	
Pb2203		-0.0023910	ppm	0.00037700	15.785	.00000	Abs	Pass	
S_1820		-0.0044200	ppm	0.0020550	46.495	.00000	Abs	Pass	
Sb2068		-0.00013100	ppm	0.00066800	508.60	.00000	Abs	Pass	
Se1960		0.0023490	ppm	0.00065300	27.785	.00000	Abs	Pass	
Si2881		0.031276	ppm	0.046975	150.19	.00000	Abs	Pass	
Sn1899		0.00034600	ppm	0.00017900	51.579	.00000	Abs	Pass	
Sr4077		-0.00057500	ppm	0.0000090000	1.5027	.00000	Abs	Pass	
Ti3349		-0.0011550	ppm	0.000078000	6.7769	.00000	Abs	Pass	
Tl1908		0.00028400	ppm	0.00027900	98.270	.00000	Abs	Pass	
V_2924		-0.00042600	ppm	0.00015200	35.605	.00000	Abs	Pass	
Zn2062		0.0011830	ppm	0.00043900	37.085	.00000	Abs	Pass	
Y_2243		7,022.0	Cts/S	30.662	0.43666				
Y_3600		56,213	Cts/S	204.96	0.36461				
Y_3774		8,721.8	Cts/S	42.235	0.48425				

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Acquire Date: 10/15/2019 10:40:19AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00014200	ppm	0.00067100	472.18	.00000	Abs	Pass	
Al3961		0.012172	ppm	0.0092180	75.731	.00000	Abs	Pass	
As1890		0.0022720	ppm	0.000039000	1.7145	.00000	Abs	Pass	
B_2089		-0.0026430	ppm	0.000077000	2.8974	.00000	Abs	Pass	
Ba4554		-0.00056700	ppm	0.00029600	52.264	.00000	Abs	Pass	
Be3130		-0.00015800	ppm	0.00014300	90.010	.00000	Abs	Pass	
Ca3179		-0.0040860	ppm	0.0091830	224.74	.00000	Abs	Pass	
Cd2144		0.000086000	ppm	0.000075000	86.978	.00000	Abs	Pass	
Co2286		-0.00053200	ppm	0.00015300	28.654	.00000	Abs	Pass	
Cr2677		-0.0013200	ppm	0.00064500	48.833	.00000	Abs	Pass	
Cu3247		-0.0079010	ppm	0.0021190	26.821	.00000	Abs	Pass	
Fe2599		-0.0030410	ppm	0.0055850	183.67	.00000	Abs	Pass	
K_7664		0.0098080	ppm	0.0039230	39.995	.00000	Abs	Pass	
Mg2790		-0.0012370	ppm	0.0016580	134.08	.00000	Abs	Pass	
Mn2576		-0.00044000	ppm	0.0000080000	1.8486	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

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Acquire Date: 10/15/2019 10:40:19AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Mo2020		0.00015600	ppm	0.00018900	121.33	.00000	Abs	Pass	
Na5895		-0.029699	ppm	0.0021520	7.2452	.00000	Abs	Pass	
Ni2316		0.000023000	ppm	0.000044000	191.88	.00000	Abs	Pass	
P_1782		0.00010500	ppm	0.00027100	259.36	.00000	Abs	Pass	
Pb2203		-0.0010340	ppm	0.0010010	96.797	.00000	Abs	Pass	
S_1820		0.0013790	ppm	0.00036900	26.755	.00000	Abs	Pass	
Sb2068		0.0035560	ppm	0.0022420	63.058	.00000	Abs	Pass	
Se1960		0.0020960	ppm	0.00021300	10.140	.00000	Abs	Pass	
Si2881		0.0072470	ppm	0.0030030	41.442	.00000	Abs	Pass	
Sn1899		0.000037000	ppm	0.00040000	1,072.3	.00000	Abs	Pass	
Sr4077		-0.00063200	ppm	0.0000030000	0.53092	.00000	Abs	Pass	
Ti3349		-0.00051700	ppm	0.00057500	111.19	.00000	Abs	Pass	
Tl1908		-0.0012410	ppm	0.00060000	48.291	.00000	Abs	Pass	
V_2924		-0.00014400	ppm	0.00036300	251.86	.00000	Abs	Pass	
Zn2062		-0.00035800	ppm	0.00072600	202.84	.00000	Abs	Pass	
Y_2243		7,025.8	Cts/S	14.479	0.20609				
Y_3600		56,901	Cts/S	48.895	0.085930				
Y_3774		8,810.7	Cts/S	1.4192	0.016108				

CALSTD0 1707965

Acquire Date: 10/15/2019 10:44:19AM Sample Type: Standard

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00034700	Cts/S	0.000030000	8.5701
Al3961		0.0033800	Cts/S	0.0000020000	0.063503
As1890		.0000090000	Cts/S	0.0000080000	80.783
B_2089		0.00078200	Cts/S	0.000079000	10.148
Ba4554		0.0077400	Cts/S	0.0010440	13.493
Be3130		-0.0012420	Cts/S	0.00013400	10.765
Ca3179		0.0066510	Cts/S	0.00013200	1.9920
Cd2144		0.00011000	Cts/S	0.00011500	105.11
Co2286		.0000070000	Cts/S	0.000039000	540.53
Cr2677		0.000020000	Cts/S	0.000031000	153.39
Cu3247		0.0025660	Cts/S	0.000094000	3.6667
Fe2599		0.000093000	Cts/S	0.00014600	157.33
K_7664		0.00024400	Cts/S	0.00054400	222.80
Mg2790		0.000035000	Cts/S	0.0000010000	2.2227
Mn2576		0.000031000	Cts/S	0.0000040000	13.567
Mo2020		0.00021400	Cts/S	0.000027000	12.674
Na5895		-0.0096680	Cts/S	0.00070200	7.2646
Ni2316		0.00022600	Cts/S	0.000098000	43.539
P_1782		0.000046000	Cts/S	0.0000070000	16.068
Pb2203		0.000092000	Cts/S	0.000032000	34.854
S_1820		0.00021500	Cts/S	0.000070000	32.418
Sb2068		0.000010000	Cts/S	0.000093000	911.31
Se1960		0.00036300	Cts/S	0.000056000	15.476
Si2881		0.00071400	Cts/S	0.00038200	53.585
Sn1899		0.00026100	Cts/S	0.00010600	40.497

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CALSTD0 1707965

Acquire Date: 10/15/2019 10:44:19AM Sample Type: Standard

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Sr4077		-0.0027120	Cts/S	0.00025500	9.4015
Ti3349		0.000035000	Cts/S	0.00010600	303.33
Tl1908		0.000052000	Cts/S	0.000081000	155.63
V_2924		0.000094000	Cts/S	0.000062000	65.953
Zn2062		.0000060000	Cts/S	0.0000040000	71.081
Y_2243		7,120.1	Cts/S	46.838	0.65783
Y_3600		58,276	Cts/S	226.15	0.38807
Y_3774		9,005.0	Cts/S	110.38	1.2258

CALSTD1 1694100

Acquire Date: 10/15/2019 10:48:19AM Sample Type: Standard

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.11275	Cts/S	0.00045300	0.40160
Al3961		2.1864	Cts/S	0.0037810	0.17291
As1890		0.052319	Cts/S	0.00035600	0.68119
B_2089		0.41116	Cts/S	0.00034800	0.084730
Ba4554		15.452	Cts/S	0.026129	0.16910
Be3130		1.8305	Cts/S	0.0025030	0.13676
Ca3179		2.3139	Cts/S	0.0027000	0.11670
Cd2144		2.1681	Cts/S	0.00012100	0.0055880
Co2286		2.7770	Cts/S	0.00035700	0.012841
Cr2677		0.61314	Cts/S	0.00035200	0.057417
Cu3247		0.20000	Cts/S	0.00060700	0.30344
Fe2599		1.0352	Cts/S	0.0015750	0.15216
K_7664		1.8497	Cts/S	0.0032330	0.17479
Mg2790		0.39835	Cts/S	0.00025600	0.064314
Mn2576		2.8807	Cts/S	0.0017190	0.059669
Mo2020		0.70523	Cts/S	0.00015400	0.021887
Na5895		6.6554	Cts/S	0.016508	0.24804
Ni2316		1.0516	Cts/S	0.00025100	0.023844
P_1782		0.14556	Cts/S	0.00049000	0.33661
Pb2203		0.087756	Cts/S	0.000071000	0.081114
S_1820		0.10464	Cts/S	0.00038500	0.36797
Sb2068		0.035566	Cts/S	0.000018000	0.051426
Se1960		0.025425	Cts/S	0.000070000	0.27484
Si2881		0.048072	Cts/S	0.00030700	0.63960
Sn1899		0.89729	Cts/S	0.00061400	0.068375
Sr4077		15.151	Cts/S	0.021309	0.14065
Ti3349		0.26314	Cts/S	0.00013700	0.051935
Tl1908		0.044453	Cts/S	0.00015200	0.34149
V_2924		0.81466	Cts/S	0.0011050	0.13566
Zn2062		0.10633	Cts/S	0.00013300	0.12543
Y_2243		6,829.5	Cts/S	9.5259	0.13948
Y_3600		55,186	Cts/S	77.755	0.14090
Y_3774		8,895.3	Cts/S	11.461	0.12884

CALSTD2 1732511

Acquire Date: 10/15/2019 10:52:02AM Sample Type: Standard

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Al3961		11.199	Cts/S	0.0022790	0.020346
Ca3179		11.477	Cts/S	0.029447	0.25659
Fe2599		4.9895	Cts/S	0.013262	0.26579
K_7664		9.5115	Cts/S	0.0078470	0.082497
Mg2790		2.0399	Cts/S	0.0020670	0.10131
Na5895		33.893	Cts/S	0.042796	0.12627
P_1782		1.4895	Cts/S	0.0082140	0.55145
S_1820		5.2447	Cts/S	0.027162	0.51790
Y_2243		6,319.2	Cts/S	6.1007	0.096543
Y_3600		49,513	Cts/S	314.65	0.63549
Y_3774		8,439.5	Cts/S	84.320	0.99912

LRA 1751471

Acquire Date: 10/15/2019 10:55:58AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		2.0405	ppm	0.0038740	0.18986	2.0000	Rel(%)	Pass	
Al3961		102.21	ppm	0.098545	0.096416	100.00	Rel(%)	Pass	
As1890		2.0320	ppm	0.0011760	0.057854	2.0000	Rel(%)	Pass	
B_2089		4.0207	ppm	0.00023400	0.0058280	4.0000	Rel(%)	Pass	
Ba4554		10.301	ppm	0.070106	0.68058	10.000	Rel(%)	Pass	
Be3130		2.0476	ppm	0.00078700	0.038429	2.0000	Rel(%)	Pass	
Ca3179		101.58	ppm	0.15288	0.15050	100.00	Rel(%)	Pass	
Cd2144		2.0109	ppm	0.0016560	0.082348	2.0000	Rel(%)	Pass	
Co2286		10.200	ppm	0.0045990	0.045089	10.000	Rel(%)	Pass	
Cr2677		10.183	ppm	0.012717	0.12488	10.000	Rel(%)	Pass	
Cu3247		9.8936	ppm	0.0085930	0.086851	10.000	Rel(%)	Pass	
Fe2599		102.96	ppm	0.069129	0.067138	100.00	Rel(%)	Pass	
K_7664		101.61	ppm	0.044970	0.044257	100.00	Rel(%)	Pass	
Mg2790		100.75	ppm	0.21931	0.21767	100.00	Rel(%)	Pass	
Mn2576		9.7106	ppm	0.17136	1.7646	10.000	Rel(%)	Pass	
Mo2020		4.0638	ppm	0.00080100	0.019714	4.0000	Rel(%)	Pass	
Na5895		101.83	ppm	0.10192	0.10008	100.00	Rel(%)	Pass	
Ni2316		10.042	ppm	0.0015850	0.015782	10.000	Rel(%)	Pass	
P_1782		10.144	ppm	0.032208	0.31749	10.000	Rel(%)	Pass	
Pb2203		2.0198	ppm	0.0041050	0.20324	2.0000	Rel(%)	Pass	
S_1820		10.215	ppm	0.038954	0.38135	10.000	Rel(%)	Pass	
Sb2068		2.0832	ppm	0.0015840	0.076059	2.0000	Rel(%)	Pass	
Se1960		1.9922	ppm	0.0061360	0.30800	2.0000	Rel(%)	Pass	
Si2881		10.113	ppm	0.010436	0.10319	10.000	Rel(%)	Pass	
Sn1899		10.017	ppm	0.015002	0.14976	10.000	Rel(%)	Pass	
Sr4077		10.017	ppm	0.092602	0.92446	10.000	Rel(%)	Pass	
Ti3349		4.0804	ppm	0.0069400	0.17008	4.0000	Rel(%)	Pass	
Tl1908		1.9547	ppm	0.0053660	0.27452	2.0000	Rel(%)	Pass	
V_2924		10.345	ppm	0.00039800	0.0038510	10.000	Rel(%)	Pass	
Zn2062		9.6542	ppm	0.024766	0.25653	10.000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

LRA 1751471

Acquire Date: 10/15/2019 10:55:58AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Y_2243		6,616.6	Cts/S	24.462	0.36971				
Y_3600		53,118	Cts/S	929.89	1.7506				
Y_3774		8,656.7	Cts/S	48.585	0.56124				

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Acquire Date: 10/15/2019 10:59:55AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.00030600	ppm	0.00068900	225.18	.00000	Abs	Pass	
Al3961	**F**	**0.14440**	**ppm**	**0.081874**	**56.701**	**.00000**	**Abs**	**Fail High**	**.10000**
As1890		0.0010180	ppm	0.00099300	97.522	.00000	Abs	Pass	
B_2089		0.015295	ppm	0.0025630	16.754	.00000	Abs	Pass	
Ba4554	**W**	**0.0098790**	**ppm**	**0.0080210**	**81.193**	**.00000**	**Abs**	**Warn High**	**0.00500**
Be3130	**W**	**0.0022710**	**ppm**	**0.0017480**	**76.971**	**.00000**	**Abs**	**Warn High**	**0.00200**
Ca3179		0.15388	ppm	0.10615	68.982	.00000	Abs	Pass	
Cd2144		0.00019200	ppm	0.000044000	22.901	.00000	Abs	Pass	
Co2286		0.0017900	ppm	0.00069900	39.058	.00000	Abs	Pass	
Cr2677		0.0028570	ppm	0.00088400	30.926	.00000	Abs	Pass	
Cu3247		0.0092240	ppm	0.0050240	54.469	.00000	Abs	Pass	
Fe2599	**F**	**0.18623**	**ppm**	**0.11818**	**63.463**	**.00000**	**Abs**	**Fail High**	**.10000**
K_7664		0.28043	ppm	0.12316	43.917	.00000	Abs	Pass	
Mg2790		0.042853	ppm	0.029613	69.104	.00000	Abs	Pass	
Mn2576		0.0022230	ppm	0.00083000	37.359	.00000	Abs	Pass	
Mo2020		0.0012060	ppm	0.00042400	35.161	.00000	Abs	Pass	
Na5895		0.24472	ppm	0.098654	40.313	.00000	Abs	Pass	
Ni2316		0.0024190	ppm	0.00018000	7.4246	.00000	Abs	Pass	
P_1782		0.0063790	ppm	0.0016210	25.414	.00000	Abs	Pass	
Pb2203		0.0028490	ppm	0.0034800	122.14	.00000	Abs	Pass	
S_1820		0.012869	ppm	0.0047960	37.266	.00000	Abs	Pass	
Sb2068		-0.0026720	ppm	0.00039500	14.768	.00000	Abs	Pass	
Se1960		0.0038940	ppm	0.0015490	39.783	.00000	Abs	Pass	
Si2881		-0.011572	ppm	0.013117	113.35	.00000	Abs	Pass	
Sn1899		0.0028750	ppm	0.00045100	15.689	.00000	Abs	Pass	
Sr4077		0.0097370	ppm	0.0085100	87.398	.00000	Abs	Pass	
Ti3349		0.00027600	ppm	0.00045500	164.63	.00000	Abs	Pass	
Tl1908		0.0049000	ppm	0.00055500	11.325	.00000	Abs	Pass	
V_2924		0.0015830	ppm	0.00014300	9.0309	.00000	Abs	Pass	
Zn2062	**W**	**0.010080**	**ppm**	**0.0023710**	**23.526**	**.00000**	**Abs**	**Warn High**	**0.00500**
Y_2243		6,879.5	Cts/S	5.6974	0.082817				
Y_3600		55,951	Cts/S	59.849	0.10697				
Y_3774		8,551.8	Cts/S	96.138	1.1242				

ICV 1752166

Acquire Date: 10/15/2019 11:03:55AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.25536	ppm	0.00024500	0.096116	.25000	Rel(%)	Pass	
Al3961		10.065	ppm	0.019459	0.19334	10.000	Rel(%)	Pass	
As1890	**W**	**0.91873**	**ppm**	**0.00084700**	**0.092148**	**1.0000**	**Rel(%)**	**Warn Low**	**-5.0000**
B_2089		0.50726	ppm	0.00069600	0.13730	.50000	Rel(%)	Pass	
Ba4554		1.0240	ppm	0.0022530	0.22006	1.0000	Rel(%)	Pass	
Be3130	**W**	**1.0507**	**ppm**	**0.0018680**	**0.17783**	**1.0000**	**Rel(%)**	**Warn High**	**5.0000**
Ca3179		10.353	ppm	0.060843	0.58766	10.000	Rel(%)	Pass	
Cd2144		1.0289	ppm	0.00032600	0.031698	1.0000	Rel(%)	Pass	
Co2286		1.0316	ppm	0.00051700	0.050101	1.0000	Rel(%)	Pass	
Cr2677		1.0329	ppm	0.0011550	0.11185	1.0000	Rel(%)	Pass	
Cu3247		0.97931	ppm	0.0020350	0.20776	1.0000	Rel(%)	Pass	
Fe2599		10.375	ppm	0.031093	0.29969	10.000	Rel(%)	Pass	
K_7664		10.074	ppm	0.043885	0.43563	10.000	Rel(%)	Pass	
Mg2790		10.129	ppm	0.0040650	0.040129	10.000	Rel(%)	Pass	
Mn2576		1.0406	ppm	0.00043800	0.042077	1.0000	Rel(%)	Pass	
Mo2020		1.0015	ppm	0.00064900	0.064813	1.0000	Rel(%)	Pass	
Na5895		9.9775	ppm	0.033143	0.33217	10.000	Rel(%)	Pass	
Ni2316		1.0324	ppm	0.0012680	0.12283	1.0000	Rel(%)	Pass	
P_1782		1.9955	ppm	0.000049000	0.0024600	2.0000	Rel(%)	Pass	
Pb2203		1.0340	ppm	0.0034390	0.33258	1.0000	Rel(%)	Pass	
S_1820		2.0407	ppm	0.0025080	0.12290	2.0000	Rel(%)	Pass	
Sb2068		0.97481	ppm	0.00052100	0.053450	1.0000	Rel(%)	Pass	
Se1960		0.99978	ppm	0.0029850	0.29854	1.0000	Rel(%)	Pass	
Si2881		10.065	ppm	0.043495	0.43215	10.000	Rel(%)	Pass	
Sn1899		1.0127	ppm	0.0014710	0.14528	1.0000	Rel(%)	Pass	
Sr4077		0.99532	ppm	0.00099900	0.10040	1.0000	Rel(%)	Pass	
Ti3349		1.0064	ppm	0.00053800	0.053412	1.0000	Rel(%)	Pass	
Tl1908	**W**	**1.0556**	**ppm**	**0.0052870**	**0.50085**	**1.0000**	**Rel(%)**	**Warn High**	**5.0000**
V_2924		1.0318	ppm	0.00095800	0.092888	1.0000	Rel(%)	Pass	
Zn2062		1.0272	ppm	0.0021050	0.20490	1.0000	Rel(%)	Pass	
Y_2243		6,857.5	Cts/S	12.159	0.17731				
Y_3600		54,648	Cts/S	50.540	0.092483				
Y_3774		8,566.7	Cts/S	42.776	0.49933				

ICBIS 1745955

Acquire Date: 10/15/2019 11:07:39AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00079300	ppm	0.00028300	35.654	.00000	Abs	Pass	
Al3961		0.022104	ppm	0.0056280	25.461	.00000	Abs	Pass	
As1890		0.000017000	ppm	0.00011400	650.78	.00000	Abs	Pass	
B_2089		0.0067110	ppm	0.0012750	18.992	.00000	Abs	Pass	
Ba4554		0.00016500	ppm	0.00027500	166.99	.00000	Abs	Pass	
Be3130		0.00023300	ppm	0.000034000	14.612	.00000	Abs	Pass	
Ca3179		-0.0052580	ppm	0.012040	228.99	.00000	Abs	Pass	
Cd2144		0.00012700	ppm	0.000073000	57.642	.00000	Abs	Pass	
Co2286		0.00046900	ppm	0.000046000	9.8019	.00000	Abs	Pass	
Cr2677		0.00064400	ppm	0.00052300	81.240	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

ICBIS 1745955

Acquire Date: 10/15/2019 11:07:39AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Cu3247		0.00077500	ppm	0.0022950	296.06	.00000	Abs	Pass	
Fe2599		0.0012680	ppm	0.0038420	303.03	.00000	Abs	Pass	
K_7664		-0.017620	ppm	0.059106	335.45	.00000	Abs	Pass	
Mg2790		-0.0045520	ppm	0.0012510	27.475	.00000	Abs	Pass	
Mn2576		0.00029200	ppm	0.0000080000	2.6163	.00000	Abs	Pass	
Mo2020		0.00069000	ppm	0.00042800	62.092	.00000	Abs	Pass	
Na5895		0.014526	ppm	0.0098940	68.112	.00000	Abs	Pass	
Ni2316		0.00080300	ppm	0.00028800	35.814	.00000	Abs	Pass	
P_1782		-0.00022400	ppm	0.00052500	234.62	.00000	Abs	Pass	
Pb2203		-0.0017720	ppm	0.0035160	198.40	.00000	Abs	Pass	
S_1820		0.0011030	ppm	0.0010630	96.346	.00000	Abs	Pass	
Sb2068		-0.0027170	ppm	0.0017520	64.460	.00000	Abs	Pass	
Se1960		0.00015800	ppm	0.0030610	1,942.0	.00000	Abs	Pass	
Si2881		-0.0038780	ppm	0.0019610	50.567	.00000	Abs	Pass	
Sn1899		0.0010490	ppm	0.00070600	67.336	.00000	Abs	Pass	
Sr4077		0.00042300	ppm	0.00033600	79.404	.00000	Abs	Pass	
Ti3349		-0.00022900	ppm	0.00079800	347.64	.00000	Abs	Pass	
Tl1908		0.0029130	ppm	0.0010340	35.511	.00000	Abs	Pass	
V_2924		0.00042100	ppm	0.00044400	105.59	.00000	Abs	Pass	
Zn2062		0.0033570	ppm	0.000082000	2.4538	.00000	Abs	Pass	
Y_2243		6,846.9	Cts/S	13.022	0.19019				
Y_3600		55,416	Cts/S	9.6826	0.017473				
Y_3774		8,459.9	Cts/S	82.088	0.97032				

CRI 1733852

Acquire Date: 10/15/2019 11:11:38AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.0052080	ppm	0.000012000	0.22793	.00500	Rel(%)	Pass	
Al3961		0.20688	ppm	0.011373	5.4975	.20000	Rel(%)	Pass	
As1890		0.035686	ppm	0.00092600	2.5949	.04000	Rel(%)	Pass	
B_2089		0.20595	ppm	0.00022500	0.10913	.20000	Rel(%)	Pass	
Ba4554		0.020243	ppm	0.000023000	0.11333	.02000	Rel(%)	Pass	
Be3130		0.0031600	ppm	0.000022000	0.70709	.00300	Rel(%)	Pass	
Ca3179		0.50808	ppm	0.0024710	0.48636	.50000	Rel(%)	Pass	
Cd2144		0.0031880	ppm	0.000022000	0.70225	.00300	Rel(%)	Pass	
Co2286		0.0099790	ppm	0.000044000	0.44374	.01000	Rel(%)	Pass	
Cr2677		0.010416	ppm	0.00015000	1.4389	.01000	Rel(%)	Pass	
Cu3247		0.014455	ppm	0.0019600	13.557	.01500	Rel(%)	Pass	
Fe2599		0.11611	ppm	0.0023860	2.0550	.10000	Rel(%)	Pass	
K_7664		0.97529	ppm	0.030385	3.1155	1.0000	Rel(%)	Pass	
Mg2790		0.49693	ppm	0.0080780	1.6256	.50000	Rel(%)	Pass	
Mn2576		0.010450	ppm	0.00018700	1.7899	.01000	Rel(%)	Pass	
Mo2020		0.019584	ppm	0.00028400	1.4502	.02000	Rel(%)	Pass	
Na5895		0.47398	ppm	0.0050210	1.0593	.50000	Rel(%)	Pass	
Ni2316		0.010734	ppm	0.00033700	3.1393	.01000	Rel(%)	Pass	
P_1782		0.49720	ppm	0.0020140	0.40511	.50000	Rel(%)	Pass	
Pb2203		0.0088850	ppm	0.0022140	24.918	.01000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CRI 1733852

Acquire Date: 10/15/2019 11:11:38AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
S_1820		0.48653	ppm	0.0040510	0.83264	.50000	Rel(%)	Pass	
Sb2068		0.029720	ppm	0.0024340	8.1886	.03000	Rel(%)	Pass	
Se1960		0.036110	ppm	0.0024090	6.6711	.04000	Rel(%)	Pass	
Si2881		0.47776	ppm	0.0026770	0.56030	.50000	Rel(%)	Pass	
Sn1899		0.021444	ppm	0.000043000	0.20060	.02000	Rel(%)	Pass	
Sr4077		0.049496	ppm	0.000082000	0.16472	.05000	Rel(%)	Pass	
Ti3349		0.0095360	ppm	0.00033500	3.5142	.01000	Rel(%)	Pass	
Tl1908		0.033094	ppm	0.00058300	1.7620	.03000	Rel(%)	Pass	
V_2924		0.019805	ppm	0.000037000	0.18660	.02000	Rel(%)	Pass	
Zn2062		0.021255	ppm	0.0018820	8.8544	.02000	Rel(%)	Pass	
Y_2243		6,884.5	Cts/S	27.218	0.39535				
Y_3600		55,141	Cts/S	34.615	0.062775				
Y_3774		8,508.0	Cts/S	24.691	0.29021				

CRI 1733886

Acquire Date: 10/15/2019 11:15:36AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.0043640	ppm	0.00047300	10.844	.00500	Rel(%)	Pass	
Al3961		0.19324	ppm	0.014258	7.3786	.20000	Rel(%)	Pass	
As1890	**W**	**0.015831**	**ppm**	**0.00061700**	**3.8980**	**.02000**	**Rel(%)**	**Warn Low**	**-20.000**
B_2089		0.10763	ppm	0.000054000	0.049958	.10000	Rel(%)	Pass	
Ba4554		0.0052490	ppm	0.00038100	7.2656	.00500	Rel(%)	Pass	
Be3130		0.0021170	ppm	0.000026000	1.2498	.00200	Rel(%)	Pass	
Ca3179		0.50407	ppm	0.0041750	0.82818	.50000	Rel(%)	Pass	
Cd2144		0.0021720	ppm	0.0000010000	0.042248	.00200	Rel(%)	Pass	
Co2286		0.0052040	ppm	0.00018200	3.4975	.00500	Rel(%)	Pass	
Cr2677		0.0056000	ppm	0.00031700	5.6533	.00500	Rel(%)	Pass	
Cu3247		0.010975	ppm	0.00016900	1.5434	.01000	Rel(%)	Pass	
Fe2599		0.097232	ppm	0.0019420	1.9972	.10000	Rel(%)	Pass	
K_7664		0.97749	ppm	0.023494	2.4035	1.0000	Rel(%)	Pass	
Mg2790		0.49127	ppm	0.0023590	0.48012	.50000	Rel(%)	Pass	
Mn2576		0.0053130	ppm	0.000052000	0.97126	.00500	Rel(%)	Pass	
Mo2020		0.019501	ppm	0.00038500	1.9744	.02000	Rel(%)	Pass	
Na5895		0.50368	ppm	0.0012220	0.24253	.50000	Rel(%)	Pass	
Ni2316		0.0055940	ppm	0.00054900	9.8184	.00500	Rel(%)	Pass	
P_1782		0.49709	ppm	0.0016310	0.32820	.50000	Rel(%)	Pass	
Pb2203		0.0051810	ppm	0.0030610	59.094	.00500	Rel(%)	Pass	
S_1820		0.48253	ppm	0.0048000	0.99472	.50000	Rel(%)	Pass	
Sb2068		0.019129	ppm	0.00075100	3.9264	.02000	Rel(%)	Pass	
Se1960		0.020772	ppm	0.0043650	21.016	.02000	Rel(%)	Pass	
Si2881		0.48189	ppm	0.030471	6.3233	.50000	Rel(%)	Pass	
Sn1899		0.021190	ppm	0.00083800	3.9554	.02000	Rel(%)	Pass	
Sr4077		0.049346	ppm	0.00019100	0.38763	.05000	Rel(%)	Pass	
Ti3349		0.0097250	ppm	0.00075300	7.7424	.01000	Rel(%)	Pass	
Tl1908		0.021444	ppm	0.00045600	2.1247	.02000	Rel(%)	Pass	
V_2924		0.0050920	ppm	0.00022800	4.4795	.00500	Rel(%)	Pass	
Zn2062		0.011524	ppm	0.00077200	6.7034	.01000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CRI 1733886

Acquire Date: 10/15/2019 11:15:36AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Y_2243		7,103.4	Cts/S	13.472	0.18965				
Y_3600		57,493	Cts/S	37.401	0.065054				
Y_3774		8,901.8	Cts/S	79.330	0.89117				

ICSA 1731975

Acquire Date: 10/15/2019 11:19:35AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.00020500	ppm	0.000089000	43.575	.00000	Abs	Pass	
Al3961		505.85	ppm	0.83062	0.16420	500.00	Abs	Pass	
As1890		-0.00084200	ppm	0.000064000	7.6557	.00000	Abs	Pass	
B_2089		0.0069020	ppm	0.0013380	19.392	.00000	Abs	Pass	
Ba4554		0.0018520	ppm	0.00041000	22.143	.00000	Abs	Pass	
Be3130		-0.00037500	ppm	0.00028700	76.463	.00000	Abs	Pass	
Ca3179		489.92	ppm	1.7558	0.35838	500.00	Abs	Pass	
Cd2144		0.00039700	ppm	0.000021000	5.1782	.00000	Abs	Pass	
Co2286		0.000042000	ppm	0.00014100	335.03	.00000	Abs	Pass	
Cr2677		0.00060900	ppm	0.000025000	4.0395	.00000	Abs	Pass	
Cu3247		0.0019050	ppm	0.00073200	38.413	.00000	Abs	Pass	
Fe2599		188.34	ppm	0.098319	0.052202	200.00	Abs	Pass	
K_7664		-0.085120	ppm	0.023673	27.811	.00000	Abs	Pass	
Mg2790		505.95	ppm	0.14468	0.028595	500.00	Abs	Pass	
Mn2576		0.00068700	ppm	0.00017100	24.925	.00000	Abs	Pass	
Mo2020		0.0026920	ppm	0.00060800	22.584	.00000	Abs	Pass	
Na5895		0.21852	ppm	0.0013160	0.60217	.00000	Abs	Pass	
Ni2316		0.00046200	ppm	0.00019500	42.282	.00000	Abs	Pass	
P_1782		0.016407	ppm	0.00034200	2.0864	.00000	Abs	Pass	
Pb2203		-0.0041110	ppm	0.0013610	33.097	.00000	Abs	Pass	
S_1820		-0.47451	ppm	0.0030010	0.63242	.00000	Abs	Pass	
Sb2068		0.0077230	ppm	0.00094000	12.171	.00000	Abs	Pass	
Se1960		-0.0044610	ppm	0.0031530	70.684	.00000	Abs	Pass	
Si2881		-0.078639	ppm	0.011938	15.181	.00000	Abs	Pass	
Sn1899		-0.0041320	ppm	0.00077700	18.806	.00000	Abs	Pass	
Sr4077		-0.0014860	ppm	0.000028000	1.8716	.00000	Abs	Pass	
Ti3349		0.000086000	ppm	0.00056500	653.98	.00000	Abs	Pass	
Tl1908		0.0023540	ppm	0.0012170	51.695	.00000	Abs	Pass	
V_2924		-0.00059300	ppm	0.0012970	218.87	.00000	Abs	Pass	
Zn2062		-0.0014040	ppm	0.00073000	52.000	.00000	Abs	Pass	
Y_2243		6,140.0	Cts/S	1.8922	0.030818				
Y_3600		47,971	Cts/S	156.95	0.32717				
Y_3774		8,574.2	Cts/S	4.5008	0.052492				

ICSAB 1731976

Acquire Date: 10/15/2019 11:23:40AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		1.1394	ppm	0.0031510	0.27656	1.0000	Rel(%)	Pass	
Al3961		525.33	ppm	0.61805	0.11765	500.00	Rel(%)	Pass	
As1890		0.94598	ppm	0.00067600	0.071480				
B_2089		9.8850	ppm	0.019159	0.19382				
Ba4554		1.0548	ppm	0.00083800	0.079436	1.0000	Rel(%)	Pass	
Be3130		0.51737	ppm	0.00033800	0.065398	.50000	Rel(%)	Pass	
Ca3179		499.31	ppm	0.022703	0.0045470	500.00	Rel(%)	Pass	
Cd2144		0.97249	ppm	0.00042300	0.043497	1.0000	Rel(%)	Pass	
Co2286		0.97015	ppm	0.00034500	0.035535	1.0000	Rel(%)	Pass	
Cr2677		1.0524	ppm	0.0028850	0.27413	1.0000	Rel(%)	Pass	
Cu3247		0.98977	ppm	0.0043320	0.43767	1.0000	Rel(%)	Pass	
Fe2599		193.09	ppm	0.22184	0.11489	200.00	Rel(%)	Pass	
K_7664		10.423	ppm	0.031926	0.30630				
Mg2790		518.48	ppm	3.8561	0.74373	500.00	Rel(%)	Pass	
Mn2576		1.0476	ppm	0.0018050	0.17230	1.0000	Rel(%)	Pass	
Mo2020		0.0024530	ppm	0.000064000	2.6132				
Na5895		10.659	ppm	0.00017000	0.0015930				
Ni2316		0.93645	ppm	0.0025090	0.26795	1.0000	Rel(%)	Pass	
P_1782		10.112	ppm	0.035658	0.35264				
Pb2203		0.97015	ppm	0.0027160	0.27997	1.0000	Rel(%)	Pass	
S_1820		-0.50112	ppm	0.0057600	1.1495				
Sb2068		-0.0047790	ppm	0.0055270	115.65				
Se1960		0.98351	ppm	0.0055020	0.55939				
Si2881		-0.069846	ppm	0.056329	80.647				
Sn1899		-0.0035930	ppm	0.000081000	2.2672				
Sr4077		1.0028	ppm	0.00088600	0.088319				
Ti3349		-0.00092700	ppm	0.00052700	56.805				
Tl1908		0.92970	ppm	0.0073680	0.79257				
V_2924		1.0930	ppm	0.000028000	0.0025920	1.0000	Rel(%)	Pass	
Zn2062		0.93872	ppm	0.0054070	0.57600	1.0000	Rel(%)	Pass	
Y_2243		6,090.3	Cts/S	26.098	0.42852				
Y_3600		47,475	Cts/S	122.65	0.25834				
Y_3774		8,397.5	Cts/S	25.104	0.29895				

AI 1672434

Acquire Date: 10/15/2019 11:27:31AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00047400	ppm	0.00036600	77.244	.00000	Abs	Pass	
Al3961		968.78	ppm	15.341	1.5835				
As1890		-0.0014310	ppm	0.0050140	350.43	.00000	Abs	Pass	
B_2089		0.036074	ppm	0.0038570	10.692	.00000	Abs	Pass	
Ba4554		0.0012530	ppm	0.00014200	11.368	.00000	Abs	Pass	
Be3130		0.000097000	ppm	0.00018800	193.88	.00000	Abs	Pass	
Ca3179		0.14921	ppm	0.025175	16.873				
Cd2144		0.00036100	ppm	0.000057000	15.819	.00000	Abs	Pass	
Co2286		0.00016100	ppm	0.00015000	93.604	.00000	Abs	Pass	
Cr2677		0.0019440	ppm	0.000031000	1.5806	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

Al 1672434

Acquire Date: 10/15/2019 11:27:31AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Cu3247		0.0062310	ppm	0.0028790	46.209	.00000	Abs	Pass	
Fe2599		0.21056	ppm	0.026325	12.502				
K_7664		-0.11321	ppm	0.014494	12.803	.00000	Abs	Pass	
Mg2790		0.16341	ppm	0.068435	41.879				
Mn2576		0.0010500	ppm	0.000019000	1.7933	.00000	Abs	Pass	
Mo2020		0.0020850	ppm	0.00027400	13.144	.00000	Abs	Pass	
Na5895		0.37043	ppm	0.013957	3.7677	.00000	Abs	Pass	
Ni2316		0.0043400	ppm	0.00059200	13.637	.00000	Abs	Pass	
P_1782		0.0087420	ppm	0.0036220	41.434	.00000	Abs	Pass	
Pb2203		0.00058400	ppm	0.0052930	905.78	.00000	Abs	Pass	
S_1820		0.0029010	ppm	0.0037180	128.16	.00000	Abs	Pass	
Sb2068		0.010277	ppm	0.0037350	36.347	.00000	Abs	Pass	
Se1960		0.00035800	ppm	0.0043450	1,214.7	.00000	Abs	Pass	
Si2881		-0.033198	ppm	0.030442	91.698	.00000	Abs	Pass	
Sn1899		-0.010722	ppm	0.00096400	8.9876	.00000	Abs	Pass	
Sr4077		0.00065000	ppm	0.00030900	47.483	.00000	Abs	Pass	
Ti3349		0.0024790	ppm	0.00046100	18.599	.00000	Abs	Pass	
Tl1908		0.0063950	ppm	0.00047800	7.4728	.00000	Abs	Pass	
V_2924		0.0011110	ppm	0.00052100	46.892	.00000	Abs	Pass	
Zn2062		0.0045090	ppm	0.00026800	5.9427	.00000	Abs	Pass	
Y_2243		6,451.0	Cts/S	3.8248	0.059289				
Y_3600		48,544	Cts/S	136.14	0.28045				
Y_3774		8,650.6	Cts/S	26.090	0.30159				

Ca 1672439

Acquire Date: 10/15/2019 11:31:32AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.00035600	ppm	0.00045500	127.81	.00000	Abs	Pass	
Al3961		0.32860	ppm	0.13827	42.077				
As1890		0.00027900	ppm	0.00047500	170.51	.00000	Abs	Pass	
B_2089		0.013861	ppm	0.00055600	4.0123	.00000	Abs	Pass	
Ba4554		0.00081400	ppm	0.000082000	10.046	.00000	Abs	Pass	
Be3130		-0.0010120	ppm	0.000058000	5.6905	.00000	Abs	Pass	
Ca3179		951.29	ppm	6.8636	0.72150				
Cd2144		0.0014590	ppm	0.000042000	2.8728	.00000	Abs	Pass	
Co2286		0.00026800	ppm	0.00024200	90.278	.00000	Abs	Pass	
Cr2677		0.00051600	ppm	0.000067000	12.890	.00000	Abs	Pass	
Cu3247		0.0040520	ppm	0.0026840	66.226	.00000	Abs	Pass	
Fe2599		0.10529	ppm	0.011125	10.566				
K_7664		0.021478	ppm	0.052402	243.99	.00000	Abs	Pass	
Mg2790		0.019277	ppm	0.0079970	41.485				
Mn2576		-0.00076000	ppm	0.000027000	3.4977	.00000	Abs	Pass	
Mo2020		0.000017000	ppm	0.00016000	939.12	.00000	Abs	Pass	
Na5895		0.035033	ppm	0.0026810	7.6534	.00000	Abs	Pass	
Ni2316		0.0012460	ppm	0.00028100	22.524	.00000	Abs	Pass	
P_1782		0.014416	ppm	0.0027740	19.243	.00000	Abs	Pass	
Pb2203		0.00095600	ppm	0.0011960	125.11	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

Ca 1672439

Acquire Date: 10/15/2019 11:31:32AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
S_1820		-0.087069	ppm	0.0056940	6.5393	.00000	Abs	Pass	
Sb2068		-0.0085310	ppm	0.0015060	17.648	.00000	Abs	Pass	
Se1960		0.0017030	ppm	0.0057760	339.16	.00000	Abs	Pass	
Si2881		-0.088512	ppm	0.016170	18.269	.00000	Abs	Pass	
Sn1899		0.000013000	ppm	0.00070300	5,308.3	.00000	Abs	Pass	
Sr4077		-0.0027420	ppm	0.00032000	11.686	.00000	Abs	Pass	
Ti3349		-0.0035300	ppm	0.00069000	19.550	.00000	Abs	Pass	
Tl1908		-0.0027260	ppm	0.0010650	39.061	.00000	Abs	Pass	
V_2924		0.000071000	ppm	0.0010980	1,552.7	.00000	Abs	Pass	
Zn2062		0.0024860	ppm	0.00058600	23.575	.00000	Abs	Pass	
Y_2243		6,501.8	Cts/S	5.0365	0.077464				
Y_3600		52,225	Cts/S	136.56	0.26149				
Y_3774		8,885.9	Cts/S	38.307	0.43110				

Fe 1672441

Acquire Date: 10/15/2019 11:35:36AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.0017910	ppm	0.00046300	25.826	.00000	Abs	Pass	
Al3961		0.20236	ppm	0.016374	8.0918				
As1890		0.0011780	ppm	0.0019060	161.85	.00000	Abs	Pass	
B_2089		0.017080	ppm	0.000089000	0.52383	.00000	Abs	Pass	
Ba4554		0.00032400	ppm	0.00011900	36.589	.00000	Abs	Pass	
Be3130		0.000021000	ppm	0.000084000	396.03	.00000	Abs	Pass	
Ca3179		0.40552	ppm	0.11275	27.803				
Cd2144		0.00061000	ppm	0.00023200	38.060	.00000	Abs	Pass	
Co2286		-0.0034620	ppm	0.00041400	11.968	.00000	Abs	Pass	
Cr2677		0.00036500	ppm	0.00040900	112.16	.00000	Abs	Pass	
Cu3247		0.00068900	ppm	0.0031510	457.60	.00000	Abs	Pass	
Fe2599		913.76	ppm	4.1871	0.45822				
K_7664		-0.095997	ppm	0.0022670	2.3617	.00000	Abs	Pass	
Mg2790		0.066107	ppm	0.0085630	12.953				
Mn2576		0.000031000	ppm	0.00021200	683.96	.00000	Abs	Pass	
Mo2020		0.0012750	ppm	0.00011700	9.1650	.00000	Abs	Pass	
Na5895		0.12301	ppm	0.016631	13.521	.00000	Abs	Pass	
Ni2316		-0.0033340	ppm	0.0011340	34.014	.00000	Abs	Pass	
P_1782		0.015419	ppm	0.00020400	1.3225	.00000	Abs	Pass	
Pb2203		0.0027840	ppm	0.0014770	53.046	.00000	Abs	Pass	
S_1820		-0.048165	ppm	0.0085670	17.787	.00000	Abs	Pass	
Sb2068		0.0043070	ppm	0.0045640	105.95	.00000	Abs	Pass	
Se1960		0.00062700	ppm	0.0040880	651.65	.00000	Abs	Pass	
Si2881		-0.022423	ppm	0.028025	124.98	.00000	Abs	Pass	
Sn1899		0.0067230	ppm	0.00045900	6.8236	.00000	Abs	Pass	
Sr4077		0.00038600	ppm	0.00022900	59.363	.00000	Abs	Pass	
Ti3349		-0.00055300	ppm	0.00083600	151.23	.00000	Abs	Pass	
Tl1908		-0.0065520	ppm	0.0029510	45.041	.00000	Abs	Pass	
V_2924		-0.0042550	ppm	0.0012510	29.414	.00000	Abs	Pass	
Zn2062		0.00019300	ppm	0.0020390	1,056.6	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

Fe 1672441

Acquire Date: 10/15/2019 11:35:36AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Y_2243		6,499.1	Cts/S	16.072	0.24731				
Y_3600		52,793	Cts/S	64.072	0.12136				
Y_3774		8,490.2	Cts/S	67.031	0.78951				

Mg 1672444

Acquire Date: 10/15/2019 11:39:29AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.000089000	ppm	0.000073000	81.470	.00000	Abs	Pass	
Al3961		0.024251	ppm	0.027741	114.39				
As1890		-0.00051800	ppm	0.0018670	360.71	.00000	Abs	Pass	
B_2089		0.0076940	ppm	0.00017500	2.2756	.00000	Abs	Pass	
Ba4554		0.00080100	ppm	0.00020900	26.063	.00000	Abs	Pass	
Be3130		0.000045000	ppm	0.000033000	73.382	.00000	Abs	Pass	
Ca3179		0.16256	ppm	0.021556	13.261				
Cd2144		-0.0011250	ppm	0.0000060000	0.53040	.00000	Abs	Pass	
Co2286		-0.00025200	ppm	0.00044200	175.53	.00000	Abs	Pass	
Cr2677		.0000020000	ppm	0.00085600	41,449	.00000	Abs	Pass	
Cu3247		0.0054260	ppm	0.00044900	8.2802	.00000	Abs	Pass	
Fe2599		0.37511	ppm	0.047518	12.668				
K_7664		-0.057039	ppm	0.028793	50.480	.00000	Abs	Pass	
Mg2790		999.95	ppm	8.2265	0.82268				
Mn2576		0.0024760	ppm	0.00015000	6.0518	.00000	Abs	Pass	
Mo2020		0.00051100	ppm	0.00037900	74.095	.00000	Abs	Pass	
Na5895		0.020132	ppm	0.012493	62.055	.00000	Abs	Pass	
Ni2316		0.0010890	ppm	0.00098500	90.418	.00000	Abs	Pass	
P_1782		0.0055720	ppm	0.00088900	15.953	.00000	Abs	Pass	
Pb2203		-0.00011200	ppm	0.0027730	2,477.9	.00000	Abs	Pass	
S_1820		-0.060103	ppm	0.00028300	0.47110	.00000	Abs	Pass	
Sb2068		0.0018720	ppm	0.00089800	47.952	.00000	Abs	Pass	
Se1960		-0.0061530	ppm	0.00016800	2.7259	.00000	Abs	Pass	
Si2881		0.0040890	ppm	0.019908	486.90	.00000	Abs	Pass	
Sn1899		0.00055900	ppm	0.00024300	43.399	.00000	Abs	Pass	
Sr4077		0.00011800	ppm	0.000031000	26.452	.00000	Abs	Pass	
Ti3349		0.0039330	ppm	0.00076900	19.538	.00000	Abs	Pass	
Tl1908		0.0041460	ppm	0.00028400	6.8572	.00000	Abs	Pass	
V_2924		0.00068500	ppm	0.00043800	63.969	.00000	Abs	Pass	
Zn2062		0.0041440	ppm	0.0014040	33.875	.00000	Abs	Pass	
Y_2243		6,300.9	Cts/S	28.986	0.46003				
Y_3600		50,147	Cts/S	64.421	0.12847				
Y_3774		8,274.1	Cts/S	115.19	1.3922				

rinse1

Acquire Date: 10/15/2019 11:43:32AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00014500	ppm	0.00050300	346.87
Al3961		0.0086770	ppm	0.018563	213.94
As1890		-0.00090200	ppm	0.0030290	335.80
B_2089		0.0045680	ppm	0.00034500	7.5453
Ba4554		0.00010600	ppm	0.000040000	38.075
Be3130		0.000037000	ppm	0.000013000	35.947
Ca3179		0.030528	ppm	0.0091200	29.875
Cd2144		0.0000080000	ppm	0.000060000	749.91
Co2286		0.000051000	ppm	0.00036300	707.06
Cr2677		0.00043500	ppm	0.00060900	140.21
Cu3247		0.0033830	ppm	0.0021370	63.171
Fe2599		0.070226	ppm	0.0011600	1.6524
K_7664		-0.015415	ppm	0.0075750	49.138
Mg2790		0.097568	ppm	0.0033470	3.4305
Mn2576		0.00028400	ppm	0.000021000	7.4889
Mo2020		0.000052000	ppm	0.000027000	52.929
Na5895		0.033286	ppm	0.0056680	17.027
Ni2316		0.00062700	ppm	0.00025800	41.114
P_1782		0.0028750	ppm	0.000025000	0.86624
Pb2203		0.0011880	ppm	0.0015410	129.72
S_1820		0.00032200	ppm	0.0011120	345.66
Sb2068		-0.0024570	ppm	0.0057280	233.11
Se1960		0.0055860	ppm	0.0014320	25.640
Si2881		0.0020610	ppm	0.026523	1,286.7
Sn1899		0.00031000	ppm	0.00063500	204.87
Sr4077		0.000024000	ppm	0.000090000	377.36
Ti3349		-0.00017900	ppm	0.00011200	62.508
Tl1908		-0.00017400	ppm	0.0010680	612.58
V_2924		0.000089000	ppm	0.00011700	130.32
Zn2062		0.0017830	ppm	0.00048800	27.365
Y_2243		6,819.9	Cts/S	14.779	0.21671
Y_3600		55,000	Cts/S	340.80	0.61964
Y_3774		8,521.9	Cts/S	79.242	0.92986

rinse2

Acquire Date: 10/15/2019 11:47:29AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00025000	ppm	0.000078000	31.171
Al3961		-0.0069340	ppm	0.00035000	5.0426
As1890		-0.00096100	ppm	0.0010190	106.11
B_2089		0.0041240	ppm	0.00076900	18.639
Ba4554		0.00046800	ppm	0.000022000	4.7694
Be3130		0.000064000	ppm	0.000033000	51.816
Ca3179		0.039600	ppm	0.016678	42.116
Cd2144		0.000027000	ppm	0.000015000	55.480
Co2286		-0.00026400	ppm	0.00012000	45.377

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

rinse2

Acquire Date: 10/15/2019 11:47:29AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.00016700	ppm	0.00028300	169.72
Cu3247		0.000073000	ppm	0.0037690	5,156.6
Fe2599		0.11733	ppm	0.0028370	2.4183
K_7664		0.012451	ppm	0.018949	152.19
Mg2790		0.12006	ppm	0.0012270	1.0221
Mn2576		0.00017800	ppm	0.000025000	14.295
Mo2020		0.000057000	ppm	0.00011200	196.07
Na5895		0.029089	ppm	0.0088100	30.287
Ni2316		-0.00016800	ppm	0.00028200	168.21
P_1782		-0.00013000	ppm	0.00046300	357.63
Pb2203		0.0013390	ppm	0.00072400	54.046
S_1820		0.0047460	ppm	0.000044000	0.92333
Sb2068		-0.00061500	ppm	0.0022640	368.41
Se1960		-0.0010950	ppm	0.0011630	106.24
Si2881		-0.0026530	ppm	0.00077500	29.198
Sn1899		0.00065600	ppm	0.00019700	29.944
Sr4077		0.00016500	ppm	0.00012000	72.783
Ti3349		-0.00025200	ppm	0.00016400	64.941
Tl1908		-0.0011760	ppm	0.0019080	162.24
V_2924		0.00021400	ppm	0.00014700	68.624
Zn2062		0.0015740	ppm	0.00025000	15.858
Y_2243		6,974.2	Cts/S	15.253	0.21870
Y_3600		56,154	Cts/S	75.204	0.13392
Y_3774		8,626.5	Cts/S	136.95	1.5875

CCV 1708493

Acquire Date: 10/15/2019 11:51:28AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.50114	ppm	0.0018120	0.36152	.50000	Rel(%)	Pass	
Al3961		24.577	ppm	0.050919	0.20718	25.000	Rel(%)	Pass	
As1890		0.52364	ppm	0.0055910	1.0678	.50000	Rel(%)	Pass	
B_2089		0.99574	ppm	0.00095600	0.096013	1.0000	Rel(%)	Pass	
Ba4554		2.5679	ppm	0.00025400	0.0098820	2.5000	Rel(%)	Pass	
Be3130		0.52152	ppm	0.00022200	0.042523	.50000	Rel(%)	Pass	
Ca3179		25.198	ppm	0.063907	0.25362	25.000	Rel(%)	Pass	
Cd2144		0.51505	ppm	0.00050100	0.097331	.50000	Rel(%)	Pass	
Co2286		2.5492	ppm	0.00047100	0.018490	2.5000	Rel(%)	Pass	
Cr2677		2.5340	ppm	0.0019670	0.077642	2.5000	Rel(%)	Pass	
Cu3247		2.4162	ppm	0.0034180	0.14145	2.5000	Rel(%)	Pass	
Fe2599		25.138	ppm	0.047702	0.18976	25.000	Rel(%)	Pass	
K_7664		24.593	ppm	0.0059940	0.024374	25.000	Rel(%)	Pass	
Mg2790		24.632	ppm	0.010731	0.043564	25.000	Rel(%)	Pass	
Mn2576		2.5467	ppm	0.0018680	0.073338	2.5000	Rel(%)	Pass	
Mo2020		1.0136	ppm	0.00030000	0.029589	1.0000	Rel(%)	Pass	
Na5895		24.442	ppm	0.0032680	0.013371	25.000	Rel(%)	Pass	
Ni2316		2.5240	ppm	0.0014090	0.055831	2.5000	Rel(%)	Pass	
P_1782		2.4513	ppm	0.010686	0.43594	2.5000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCV 1708493

Acquire Date: 10/15/2019 11:51:28AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Pb2203		0.51884	ppm	0.000071000	0.013683	.50000	Rel(%)	Pass	
S_1820		2.4144	ppm	0.012354	0.51168	2.5000	Rel(%)	Pass	
Sb2068		0.51401	ppm	0.0021470	0.41760	.50000	Rel(%)	Pass	
Se1960		0.53963	ppm	0.0041850	0.77550	.50000	Rel(%)	Pass	
Si2881		2.5321	ppm	0.024976	0.98636	2.5000	Rel(%)	Pass	
Sn1899		2.5303	ppm	0.0016210	0.064081	2.5000	Rel(%)	Pass	
Sr4077		2.4809	ppm	0.0029370	0.11838	2.5000	Rel(%)	Pass	
Ti3349		1.0047	ppm	0.00018300	0.018213	1.0000	Rel(%)	Pass	
Tl1908		0.52738	ppm	0.0022230	0.42149	.50000	Rel(%)	Pass	
V_2924		2.5553	ppm	0.0023050	0.090209	2.5000	Rel(%)	Pass	
Zn2062		2.4585	ppm	0.0032270	0.13124	2.5000	Rel(%)	Pass	
Y_2243		6,786.3	Cts/S	0.34962	0.0051520				
Y_3600		54,939	Cts/S	101.00	0.18383				
Y_3774		8,434.2	Cts/S	241.88	2.8678				

CCB 1745955

Acquire Date: 10/15/2019 11:55:14AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.000079000	ppm	0.000034000	42.462	.00000	Abs	Pass	
Al3961		0.0036950	ppm	0.0035860	97.051	.00000	Abs	Pass	
As1890		0.0012670	ppm	0.00070800	55.847	.00000	Abs	Pass	
B_2089		0.0062230	ppm	0.00070500	11.329	.00000	Abs	Pass	
Ba4554		0.00059500	ppm	0.0000070000	1.1882	.00000	Abs	Pass	
Be3130		0.00011400	ppm	0.00015200	133.79	.00000	Abs	Pass	
Ca3179		0.0071160	ppm	0.0052240	73.401	.00000	Abs	Pass	
Cd2144		0.000036000	ppm	0.000058000	158.84	.00000	Abs	Pass	
Co2286		0.00055500	ppm	0.00047300	85.297	.00000	Abs	Pass	
Cr2677		0.00079100	ppm	0.00041500	52.432	.00000	Abs	Pass	
Cu3247		0.0011390	ppm	0.0021950	192.72	.00000	Abs	Pass	
Fe2599		0.038952	ppm	0.0028970	7.4381	.00000	Abs	Pass	
K_7664		-0.041288	ppm	0.049214	119.20	.00000	Abs	Pass	
Mg2790		0.011780	ppm	0.0037010	31.416	.00000	Abs	Pass	
Mn2576		0.00045300	ppm	0.000044000	9.7241	.00000	Abs	Pass	
Mo2020		0.00019300	ppm	0.00021800	112.99	.00000	Abs	Pass	
Na5895		0.0036460	ppm	0.0079280	217.42	.00000	Abs	Pass	
Ni2316		0.0012080	ppm	0.00067600	55.978	.00000	Abs	Pass	
P_1782		0.0017390	ppm	0.0017330	99.672	.00000	Abs	Pass	
Pb2203		0.0016680	ppm	0.0030980	185.73	.00000	Abs	Pass	
S_1820		0.00016600	ppm	0.0040690	2,452.7	.00000	Abs	Pass	
Sb2068		0.0039440	ppm	0.00057600	14.592	.00000	Abs	Pass	
Se1960		0.00083600	ppm	0.0023380	279.60	.00000	Abs	Pass	
Si2881		-0.019979	ppm	0.017295	86.569	.00000	Abs	Pass	
Sn1899		0.00094600	ppm	0.00028400	29.983	.00000	Abs	Pass	
Sr4077		0.00049200	ppm	0.00032500	65.990	.00000	Abs	Pass	
Ti3349		0.000055000	ppm	0.00054300	985.33	.00000	Abs	Pass	
Tl1908		0.0011060	ppm	0.00039800	35.957	.00000	Abs	Pass	
V_2924		0.00047200	ppm	0.00033700	71.506	.00000	Abs	Pass	

CCB 1745955

Acquire Date: 10/15/2019 11:55:14AM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Zn2062		0.0021670	ppm	0.00023900	11.030	.00000	Abs	Pass	
Y_2243		6,793.4	Cts/S	9.5577	0.14069				
Y_3600		55,060	Cts/S	533.26	0.96852				
Y_3774		8,484.2	Cts/S	37.737	0.44479				

MB 320-327231/1-A

Acquire Date: 10/15/2019 11:59:15AM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00024600	ppm	0.0013300	541.77
Al3961		0.028427	ppm	0.023213	81.657
As1890		-0.0020740	ppm	0.0015060	72.580
B_2089		0.0038920	ppm	0.00054400	13.977
Ba4554		0.0012300	ppm	0.000010000	0.77684
Be3130		0.00027000	ppm	0.0000090000	3.4209
Ca3179		0.0073770	ppm	0.00091800	12.437
Cd2144		0.000026000	ppm	0.000070000	269.51
Co2286		0.00028500	ppm	0.000034000	12.021
Cr2677		0.00092800	ppm	0.00030800	33.233
Cu3247		0.00092500	ppm	0.0016980	183.63
Fe2599		0.042395	ppm	0.011648	27.476
K_7664		-0.016819	ppm	0.044484	264.49
Mg2790		0.012368	ppm	0.0010490	8.4809
Mn2576		0.00038900	ppm	0.000098000	25.083
Mo2020		.0000010000	ppm	0.00027300	18,637
Na5895		0.0019260	ppm	0.0016350	84.869
Ni2316		0.00079800	ppm	0.00036700	46.022
P_1782		0.00063400	ppm	0.0015020	236.93
Pb2203		0.0013700	ppm	0.00015300	11.168
S_1820		0.0019630	ppm	0.0024920	126.96
Sb2068		-0.0032360	ppm	0.00043600	13.458
Se1960		0.00073400	ppm	0.0037000	504.29
Si2881		-0.013478	ppm	0.037608	279.02
Sn1899		0.00087500	ppm	0.00087100	99.584
Sr4077		0.00051800	ppm	0.00021700	41.977
Ti3349		0.00023600	ppm	0.0011390	483.37
Tl1908		0.0019520	ppm	0.00076400	39.146
V_2924		0.00056500	ppm	0.00058200	103.02
Zn2062		0.0041250	ppm	0.00021900	5.3169
Y_2243		6,939.7	Cts/S	4.9157	0.070834
Y_3600		56,460	Cts/S	262.04	0.46411
Y_3774		8,724.4	Cts/S	81.410	0.93312

LCS 320-327231/2-A

Acquire Date: 10/15/2019 12:03:15PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.049375	ppm	0.00026800	0.54213
Al3961		4.7092	ppm	0.0083230	0.17675
As1890	**W**	**0.44493**	**ppm**	**0.0010910**	**0.24515**
B_2089		4.8351	ppm	0.015086	0.31201
Ba4554	**W**	**0.48984**	**ppm**	**0.0012710**	**0.25949**
Be3130		0.25080	ppm	0.00080200	0.31968
Ca3179		24.699	ppm	0.025189	0.10199
Cd2144	**W**	**0.24245**	**ppm**	**0.0012670**	**0.52256**
Co2286		0.24135	ppm	0.00088000	0.36455
Cr2677	**W**	**0.24650**	**ppm**	**0.0014240**	**0.57771**
Cu3247		0.23603	ppm	0.0018530	0.78502
Fe2599		4.9685	ppm	0.0070110	0.14111
K_7664		23.944	ppm	0.021631	0.090340
Mg2790		23.876	ppm	0.038822	0.16260
Mn2576		0.24757	ppm	0.00040400	0.16322
Mo2020		0.24052	ppm	0.00088800	0.36915
Na5895		24.095	ppm	0.043718	0.18144
Ni2316		0.24011	ppm	0.00081800	0.34063
P_1782		4.9847	ppm	0.041007	0.82265
Pb2203	**W**	**0.24268**	**ppm**	**0.00059100**	**0.24340**
S_1820	**F**	**4.9311**	**ppm**	**0.036018**	**0.73042**
Sb2068		0.47808	ppm	0.0031790	0.66486
Se1960	**W**	**0.47643**	**ppm**	**0.0071170**	**1.4937**
Si2881	**W**	**4.9012**	**ppm**	**0.032738**	**0.66796**
Sn1899		0.48552	ppm	0.0021460	0.44203
Sr4077		0.24013	ppm	0.000083000	0.034595
Ti3349	**W**	**0.24280**	**ppm**	**0.00058800**	**0.24205**
Tl1908		0.49264	ppm	0.00028600	0.058005
V_2924		0.24641	ppm	0.00043600	0.17688
Zn2062		0.48069	ppm	0.0019520	0.40607
Y_2243		6,998.7	Cts/S	33.485	0.47845
Y_3600		55,808	Cts/S	50.874	0.091161
Y_3774		8,701.6	Cts/S	82.386	0.94680

MB 320-326524/1-A

Acquire Date: 10/15/2019 12:07:02PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00039300	ppm	0.00089300	227.38
Al3961		0.0048110	ppm	0.0063240	131.45
As1890		-0.00044500	ppm	0.0013040	293.35
B_2089		0.018510	ppm	0.0023320	12.598
Ba4554		0.00049000	ppm	0.00039000	79.527
Be3130		0.00012100	ppm	0.000078000	64.156
Ca3179		0.024654	ppm	0.0092760	37.625
Cd2144		0.000069000	ppm	0.000018000	26.153
Co2286		.0000040000	ppm	0.00013000	3,027.2

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

MB 320-326524/1-A

Acquire Date: 10/15/2019 12:07:02PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.00063300	ppm	0.000014000	2.1601
Cu3247		0.00079000	ppm	0.0011960	151.42
Fe2599		0.027418	ppm	0.0049280	17.974
K_7664		0.035077	ppm	0.024550	69.988
Mg2790		0.0090480	ppm	0.0021690	23.973
Mn2576		0.00021600	ppm	0.000036000	16.474
Mo2020		0.00011200	ppm	0.00013000	116.70
Na5895		0.034545	ppm	0.0066530	19.259
Ni2316		0.00026000	ppm	0.00018500	71.186
P_1782		0.0049730	ppm	0.00082700	16.622
Pb2203		0.00090600	ppm	0.0022060	243.38
S_1820		0.0028540	ppm	0.0014950	52.392
Sb2068		0.00064800	ppm	0.0026430	408.11
Se1960		0.0082230	ppm	0.0050050	60.873
Si2881		-0.022306	ppm	0.021377	95.833
Sn1899		0.00022600	ppm	0.00039700	175.50
Sr4077		0.00020800	ppm	0.000044000	21.094
Ti3349		0.000091000	ppm	0.00021500	235.41
Tl1908		0.0025750	ppm	0.00011800	4.5787
V_2924		0.00013400	ppm	0.0010710	796.54
Zn2062		0.0044890	ppm	0.0011070	24.668
Y_2243		7,005.9	Cts/S	10.083	0.14392
Y_3600		57,035	Cts/S	100.11	0.17553
Y_3774		8,736.8	Cts/S	81.185	0.92923

LCS 320-326524/2-A

Acquire Date: 10/15/2019 12:11:03PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.049958	ppm	0.00020800	0.41578
Al3961		4.7323	ppm	0.017666	0.37330
As1890	**W**	**0.45039**	**ppm**	**0.00060800**	**0.13489**
B_2089		4.9118	ppm	0.0022940	0.046697
Ba4554	**W**	**0.49057**	**ppm**	**0.00095000**	**0.19361**
Be3130		0.25074	ppm	0.00022000	0.087557
Ca3179		24.949	ppm	0.013022	0.052196
Cd2144	**W**	**0.24556**	**ppm**	**0.00011300**	**0.046169**
Co2286		0.24267	ppm	0.000014000	0.0056410
Cr2677	**W**	**0.24689**	**ppm**	**0.00021200**	**0.086016**
Cu3247		0.23938	ppm	0.00024400	0.10175
Fe2599		4.9782	ppm	0.0067510	0.13562
K_7664		24.022	ppm	0.083429	0.34731
Mg2790		24.018	ppm	0.036854	0.15345
Mn2576		0.25117	ppm	0.000015000	0.0060070
Mo2020		0.24328	ppm	0.00034700	0.14283
Na5895		24.082	ppm	0.014691	0.061004
Ni2316		0.24077	ppm	0.0010280	0.42717

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

LCS 320-326524/2-A

Acquire Date: 10/15/2019 12:11:03PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		5.0135	ppm	0.0028760	0.057355
Pb2203	**W**	**0.24735**	**ppm**	**0.0046470**	**1.8788**
S_1820	**F**	**4.8491**	**ppm**	**0.000077000**	**0.0015920**
Sb2068		0.47819	ppm	0.0025110	0.52505
Se1960	**W**	**0.48052**	**ppm**	**0.0031300**	**0.65137**
Si2881	**W**	**4.9423**	**ppm**	**0.016066**	**0.32507**
Sn1899		0.49011	ppm	0.00052800	0.10766
Sr4077		0.24118	ppm	0.00027300	0.11306
Ti3349	**W**	**0.24347**	**ppm**	**0.00045000**	**0.18478**
Tl1908		0.50040	ppm	0.0019800	0.39574
V_2924		0.24858	ppm	0.000063000	0.025152
Zn2062		0.49275	ppm	0.0050490	1.0247
Y_2243		6,911.8	Cts/S	8.1011	0.11721
Y_3600		55,315	Cts/S	169.89	0.30713
Y_3774		8,725.8	Cts/S	95.795	1.0978

MB 320-326242/1-A

Acquire Date: 10/15/2019 12:14:49PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.000060000	ppm	0.0012330	2,057.8
Al3961		-0.0020480	ppm	0.0072990	356.47
As1890		-0.0028550	ppm	0.00038200	13.366
B_2089		0.023325	ppm	0.0014990	6.4254
Ba4554		0.00029300	ppm	0.00016400	55.924
Be3130		0.000053000	ppm	0.0000050000	9.8550
Ca3179		0.0063360	ppm	0.0087020	137.35
Cd2144		0.00010000	ppm	0.000056000	56.192
Co2286		0.00017500	ppm	0.00064500	369.55
Cr2677		0.00014700	ppm	0.00053700	365.07
Cu3247		-0.0018010	ppm	0.0016000	88.860
Fe2599		0.0036670	ppm	0.0086300	235.38
K_7664		-0.036451	ppm	0.029680	81.426
Mg2790		0.010653	ppm	0.0012760	11.981
Mn2576		0.000041000	ppm	0.000053000	130.10
Mo2020		0.000058000	ppm	0.00015800	272.19
Na5895		0.011084	ppm	0.00039800	3.5945
Ni2316		0.000030000	ppm	0.00022600	752.60
P_1782		0.0031640	ppm	0.0015350	48.492
Pb2203		0.0023330	ppm	0.0011860	50.834
S_1820		0.00029800	ppm	0.00063700	213.56
Sb2068		0.00010900	ppm	0.0010790	992.02
Se1960		-0.0039030	ppm	0.0010610	27.193
Si2881		-0.021812	ppm	0.019812	90.831
Sn1899		0.00069100	ppm	0.00069700	100.92
Sr4077		-0.00021700	ppm	0.000087000	39.910
Ti3349		0.00055300	ppm	0.00060100	108.82

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

MB 320-326242/1-A

Acquire Date: 10/15/2019 12:14:49PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		0.0013720	ppm	0.0013220	96.368
V_2924		0.000024000	ppm	0.00054500	2,255.2
Zn2062		0.0048860	ppm	0.00036600	7.4912
Y_2243		6,923.8	Cts/S	7.5882	0.10960
Y_3600		56,234	Cts/S	40.507	0.072032
Y_3774		8,542.7	Cts/S	129.86	1.5201

LCS 320-326242/2-A

Acquire Date: 10/15/2019 12:18:50PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.050025	ppm	0.00061000	1.2199
Al3961		4.8748	ppm	0.016421	0.33686
As1890	**W**	**0.45505**	**ppm**	**0.00024900**	**0.054797**
B_2089		4.9633	ppm	0.0078520	0.15821
Ba4554	**W**	**0.50114**	**ppm**	**0.00025800**	**0.051451**
Be3130		0.25661	ppm	0.000036000	0.013965
Ca3179		25.318	ppm	0.013621	0.053798
Cd2144	**W**	**0.24874**	**ppm**	**0.00030500**	**0.12272**
Co2286		0.24717	ppm	0.000024000	0.0096870
Cr2677	**W**	**0.25176**	**ppm**	**0.00056700**	**0.22523**
Cu3247		0.23756	ppm	0.00057600	0.24233
Fe2599		5.0484	ppm	0.023493	0.46535
K_7664		24.654	ppm	0.017294	0.070148
Mg2790		24.629	ppm	0.040978	0.16638
Mn2576		0.25352	ppm	0.00014400	0.056610
Mo2020		0.24630	ppm	0.00043600	0.17718
Na5895		24.694	ppm	0.048606	0.19683
Ni2316		0.24456	ppm	0.00010400	0.042649
P_1782		5.1289	ppm	0.017389	0.33904
Pb2203	**W**	**0.25219**	**ppm**	**0.0015900**	**0.63042**
S_1820	**F**	**4.9543**	**ppm**	**0.0014470**	**0.029215**
Sb2068		0.48505	ppm	0.0059090	1.2183
Se1960	**W**	**0.48930**	**ppm**	**0.010011**	**2.0461**
Si2881	**W**	**5.0060**	**ppm**	**0.0061700**	**0.12325**
Sn1899		0.49964	ppm	0.0031070	0.62189
Sr4077		0.24467	ppm	0.00029200	0.11916
Ti3349	**W**	**0.24796**	**ppm**	**0.00044100**	**0.17797**
Tl1908		0.50703	ppm	0.0037640	0.74238
V_2924		0.25326	ppm	0.00025400	0.10029
Zn2062		0.49174	ppm	0.00063100	0.12824
Y_2243		6,765.0	Cts/S	23.034	0.34049
Y_3600		54,116	Cts/S	97.766	0.18066
Y_3774		8,569.2	Cts/S	29.371	0.34275

MB 320-324927/1-A

Acquire Date: 10/15/2019 12:22:37PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0011340	ppm	0.00014600	12.899
Al3961		0.010413	ppm	0.0029520	28.350
As1890		.0000060000	ppm	0.00076700	13,104
B_2089		0.028411	ppm	0.0014010	4.9303
Ba4554		0.00037400	ppm	0.000090000	24.173
Be3130		0.000017000	ppm	0.00010500	632.07
Ca3179		0.017125	ppm	0.0016320	9.5326
Cd2144		.0000070000	ppm	0.000018000	249.50
Co2286		0.000098000	ppm	0.00020300	207.97
Cr2677		0.0010410	ppm	0.00010800	10.344
Cu3247		0.0035360	ppm	0.00052800	14.921
Fe2599	**F**	**0.15920**	**ppm**	**0.0086310**	**5.4217**
K_7664		0.025882	ppm	0.010154	39.231
Mg2790		0.017982	ppm	0.00073100	4.0651
Mn2576		0.0016440	ppm	0.000091000	5.5385
Mo2020		.0000080000	ppm	0.00032300	3,963.2
Na5895		0.018556	ppm	0.0099240	53.482
Ni2316		0.00062900	ppm	0.00075800	120.51
P_1782		0.0022680	ppm	0.00099600	43.919
Pb2203		0.00089500	ppm	0.00012700	14.136
S_1820		0.0013060	ppm	0.0016150	123.63
Sb2068		0.0010110	ppm	0.0010200	100.84
Se1960		0.0027770	ppm	0.0018840	67.855
Si2881		-0.023071	ppm	0.0040570	17.585
Sn1899		0.000041000	ppm	0.00031000	751.44
Sr4077		0.000034000	ppm	0.000096000	286.49
Ti3349		.0000070000	ppm	0.00022900	3,155.4
Tl1908		0.0011500	ppm	0.0000070000	0.57915
V_2924		0.00024900	ppm	0.00041900	168.66
Zn2062		0.0038110	ppm	0.00045900	12.053
Y_2243		6,748.7	Cts/S	3.1171	0.046189
Y_3600		55,120	Cts/S	31.288	0.056764
Y_3774		8,417.9	Cts/S	19.281	0.22905

LCS 320-324927/2-A

Acquire Date: 10/15/2019 12:26:38PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.048593	ppm	0.000019000	0.040103
Al3961		4.7771	ppm	0.040528	0.84837
As1890	**W**	**0.45164**	**ppm**	**0.00014300**	**0.031767**
B_2089		4.8955	ppm	0.00016200	0.0033010
Ba4554	**W**	**0.49228**	**ppm**	**0.00049000**	**0.099446**
Be3130		0.25272	ppm	0.00045900	0.18153
Ca3179		24.732	ppm	0.0062310	0.025193
Cd2144	**W**	**0.24570**	**ppm**	**0.00014200**	**0.057724**
Co2286		0.24420	ppm	0.00026100	0.10682

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

LCS 320-324927/2-A

Acquire Date: 10/15/2019 12:26:38PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677	**W**	**0.24797**	**ppm**	**0.00019000**	**0.076430**
Cu3247		0.23815	ppm	0.0016950	0.71188
Fe2599		4.9639	ppm	0.030269	0.60978
K_7664		24.184	ppm	0.016102	0.066580
Mg2790		24.094	ppm	0.031524	0.13084
Mn2576		0.24943	ppm	0.00048200	0.19333
Mo2020		0.24454	ppm	0.000081000	0.033162
Na5895		24.242	ppm	0.051704	0.21329
Ni2316		0.24328	ppm	0.00039900	0.16395
P_1782		5.0722	ppm	0.010887	0.21464
Pb2203	**W**	**0.24720**	**ppm**	**0.00094200**	**0.38093**
S_1820	**F**	**4.9383**	**ppm**	**0.0045870**	**0.092879**
Sb2068		0.48014	ppm	0.0029820	0.62116
Se1960	**W**	**0.48280**	**ppm**	**0.0018070**	**0.37433**
Si2881	**W**	**4.9429**	**ppm**	**0.015280**	**0.30913**
Sn1899		0.49452	ppm	0.00042300	0.085547
Sr4077		0.24089	ppm	0.00031100	0.12907
Ti3349	**W**	**0.24424**	**ppm**	**0.00035800**	**0.14678**
Tl1908		0.50431	ppm	0.0012220	0.24238
V_2924		0.24982	ppm	0.00033000	0.13206
Zn2062		0.47960	ppm	0.0017560	0.36615
Y_2243		7,061.7	Cts/S	12.451	0.17632
Y_3600		56,995	Cts/S	13.333	0.023393
Y_3774		8,737.2	Cts/S	22.471	0.25719

MB 320-325694/1-A

Acquire Date: 10/15/2019 12:30:26PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0010660	ppm	0.00065400	61.398
Al3961		-0.010649	ppm	0.017794	167.10
As1890		-0.0012690	ppm	0.0013230	104.28
B_2089		0.025010	ppm	0.0017820	7.1240
Ba4554		0.00018000	ppm	0.00043700	242.86
Be3130		0.000079000	ppm	0.00014800	188.80
Ca3179		0.0072280	ppm	0.0039820	55.092
Cd2144		0.000094000	ppm	0.000050000	53.753
Co2286		0.000028000	ppm	0.000015000	52.346
Cr2677		0.00076500	ppm	0.00084900	110.95
Cu3247		-0.00066700	ppm	0.00095000	142.31
Fe2599		0.0016070	ppm	0.0053190	330.92
K_7664		0.043627	ppm	0.049053	112.44
Mg2790		0.0046070	ppm	0.0063010	136.78
Mn2576		0.000050000	ppm	0.000063000	125.28
Mo2020		0.00016100	ppm	0.000093000	57.799
Na5895		0.0088960	ppm	0.0098720	110.97
Ni2316		0.00049400	ppm	0.0011370	230.10

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

MB 320-325694/1-A

Acquire Date: 10/15/2019 12:30:26PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		0.0037080	ppm	0.000024000	0.64392
Pb2203		-0.00074300	ppm	0.00054000	72.644
S_1820		-0.0017460	ppm	0.00024600	14.106
Sb2068		-0.0013760	ppm	0.0045780	332.70
Se1960		0.0039140	ppm	0.00073400	18.756
Si2881		-0.033868	ppm	0.020407	60.253
Sn1899		0.00016300	ppm	0.00014200	87.025
Sr4077		0.000026000	ppm	0.00015500	608.50
Ti3349		0.000089000	ppm	0.00029100	328.01
Tl1908		0.0010400	ppm	0.00029800	28.694
V_2924		0.00057200	ppm	0.0000060000	1.0191
Zn2062		0.0053720	ppm	0.00056500	10.509
Y_2243		6,939.1	Cts/S	2.3625	0.034046
Y_3600		55,040	Cts/S	668.32	1.2143
Y_3774		8,467.0	Cts/S	13.159	0.15542

LCS 320-325694/2-A

Acquire Date: 10/15/2019 12:34:25PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.049323	ppm	0.00088700	1.7991
Al3961		4.8647	ppm	0.019222	0.39513
As1890	**W**	**0.44882**	**ppm**	**0.0025650**	**0.57156**
B_2089		4.8660	ppm	0.0073080	0.15018
Ba4554	**W**	**0.49728**	**ppm**	**0.0012690**	**0.25529**
Be3130		0.25417	ppm	0.0011700	0.46043
Ca3179		24.860	ppm	0.022172	0.089187
Cd2144	**W**	**0.24592**	**ppm**	**0.00057700**	**0.23459**
Co2286		0.24571	ppm	0.00027400	0.11132
Cr2677	**W**	**0.24970**	**ppm**	**0.00045200**	**0.18118**
Cu3247		0.23007	ppm	0.0023970	1.0418
Fe2599		4.9316	ppm	0.027769	0.56309
K_7664		24.412	ppm	0.015862	0.064975
Mg2790		24.475	ppm	0.044844	0.18322
Mn2576		0.24946	ppm	0.000094000	0.037559
Mo2020		0.24322	ppm	0.00021400	0.087833
Na5895		24.379	ppm	0.084057	0.34479
Ni2316		0.24308	ppm	0.00036600	0.15061
P_1782		5.0824	ppm	0.010322	0.20310
Pb2203	**W**	**0.24385**	**ppm**	**0.0014050**	**0.57631**
S_1820	**F**	**4.9384**	**ppm**	**0.010344**	**0.20946**
Sb2068		0.48674	ppm	0.0067360	1.3839
Se1960	**W**	**0.47979**	**ppm**	**0.0039500**	**0.82325**
Si2881	**W**	**4.9289**	**ppm**	**0.010707**	**0.21724**
Sn1899		0.49206	ppm	0.00094400	0.19190
Sr4077		0.23978	ppm	0.000067000	0.028030
Ti3349	**W**	**0.24512**	**ppm**	**0.00032000**	**0.13041**

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

LCS 320-325694/2-A

Acquire Date: 10/15/2019 12:34:25PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		0.50235	ppm	0.0029270	0.58274
V_2924		0.25228	ppm	0.00015800	0.062704
Zn2062		0.47338	ppm	0.0035590	0.75193
Y_2243		6,790.4	Cts/S	2.6098	0.038434
Y_3600		53,895	Cts/S	251.86	0.46732
Y_3774		8,466.0	Cts/S	107.42	1.2688

CCV 1708493

Acquire Date: 10/15/2019 12:38:12PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.50329	ppm	0.0010370	0.20603	.50000	Rel(%)	Pass	
Al3961		24.944	ppm	0.0036780	0.014746	25.000	Rel(%)	Pass	
As1890		0.52659	ppm	0.00058900	0.11192	.50000	Rel(%)	Pass	
B_2089		1.0180	ppm	0.000074000	0.0073070	1.0000	Rel(%)	Pass	
Ba4554		2.6092	ppm	0.0024050	0.092180	2.5000	Rel(%)	Pass	
Be3130		0.52929	ppm	0.00031100	0.058666	.50000	Rel(%)	Pass	
Ca3179		25.349	ppm	0.051716	0.20402	25.000	Rel(%)	Pass	
Cd2144		0.51840	ppm	0.00023800	0.045853	.50000	Rel(%)	Pass	
Co2286		2.5864	ppm	0.000013000	0.00049300	2.5000	Rel(%)	Pass	
Cr2677		2.5622	ppm	0.0074300	0.28999	2.5000	Rel(%)	Pass	
Cu3247		2.3732	ppm	0.0035770	0.15072	2.5000	Rel(%)	Pass	
Fe2599		25.045	ppm	0.044696	0.17846	25.000	Rel(%)	Pass	
K_7664		24.881	ppm	0.010928	0.043919	25.000	Rel(%)	Pass	
Mg2790		24.955	ppm	0.045787	0.18348	25.000	Rel(%)	Pass	
Mn2576		2.5609	ppm	0.0050130	0.19575	2.5000	Rel(%)	Pass	
Mo2020		1.0201	ppm	0.00036600	0.035892	1.0000	Rel(%)	Pass	
Na5895		24.659	ppm	0.0043090	0.017473	25.000	Rel(%)	Pass	
Ni2316		2.5426	ppm	0.00029300	0.011542	2.5000	Rel(%)	Pass	
P_1782		2.4710	ppm	0.0061450	0.24869	2.5000	Rel(%)	Pass	
Pb2203		0.52111	ppm	0.0015460	0.29674	.50000	Rel(%)	Pass	
S_1820		2.4546	ppm	0.0013420	0.054681	2.5000	Rel(%)	Pass	
Sb2068		0.52257	ppm	0.0022230	0.42541	.50000	Rel(%)	Pass	
Se1960		0.53429	ppm	0.0034390	0.64364	.50000	Rel(%)	Pass	
Si2881		2.5111	ppm	0.0094800	0.37751	2.5000	Rel(%)	Pass	
Sn1899		2.5478	ppm	0.00092700	0.036392	2.5000	Rel(%)	Pass	
Sr4077		2.4922	ppm	0.0016030	0.064318	2.5000	Rel(%)	Pass	
Ti3349		1.0097	ppm	0.0043660	0.43238	1.0000	Rel(%)	Pass	
Tl1908		0.52781	ppm	0.0016450	0.31160	.50000	Rel(%)	Pass	
V_2924		2.5906	ppm	0.0017490	0.067514	2.5000	Rel(%)	Pass	
Zn2062		2.4495	ppm	0.014679	0.59926	2.5000	Rel(%)	Pass	
Y_2243		6,687.7	Cts/S	8.4085	0.12573				
Y_3600		53,901	Cts/S	118.69	0.22020				
Y_3774		8,540.5	Cts/S	94.942	1.1117				

CCB 1745955

Acquire Date: 10/15/2019 12:41:59PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.000078000	ppm	0.00048700	621.88	.00000	Abs	Pass	
Al3961		0.022143	ppm	0.033147	149.70	.00000	Abs	Pass	
As1890		-0.0027460	ppm	0.00069500	25.307	.00000	Abs	Pass	
B_2089		0.018867	ppm	0.00088500	4.6890	.00000	Abs	Pass	
Ba4554		0.0025830	ppm	0.0032370	125.32	.00000	Abs	Pass	
Be3130		0.00057600	ppm	0.00071400	123.94	.00000	Abs	Pass	
Ca3179		0.031798	ppm	0.043074	135.46	.00000	Abs	Pass	
Cd2144		0.00019700	ppm	0.00017900	90.909	.00000	Abs	Pass	
Co2286		0.00044200	ppm	0.00043200	97.721	.00000	Abs	Pass	
Cr2677		0.00053700	ppm	0.00020200	37.623	.00000	Abs	Pass	
Cu3247		-0.0015750	ppm	0.00062600	39.751	.00000	Abs	Pass	
Fe2599		0.034755	ppm	0.030196	86.884	.00000	Abs	Pass	
K_7664		0.040792	ppm	0.10482	256.97	.00000	Abs	Pass	
Mg2790		-0.0037130	ppm	0.0044210	119.05	.00000	Abs	Pass	
Mn2576		0.00027200	ppm	0.00011500	42.503	.00000	Abs	Pass	
Mo2020		0.00060600	ppm	0.00026800	44.203	.00000	Abs	Pass	
Na5895		0.016225	ppm	0.050709	312.53	.00000	Abs	Pass	
Ni2316		0.0011930	ppm	0.00094300	79.054	.00000	Abs	Pass	
P_1782		0.0017090	ppm	0.0011170	65.333	.00000	Abs	Pass	
Pb2203		0.0023380	ppm	0.0036510	156.13	.00000	Abs	Pass	
S_1820		0.0024410	ppm	0.0057530	235.66	.00000	Abs	Pass	
Sb2068		-0.0020130	ppm	0.0033560	166.75	.00000	Abs	Pass	
Se1960		0.0011180	ppm	0.0056710	507.10	.00000	Abs	Pass	
Si2881		-0.014919	ppm	0.019021	127.50	.00000	Abs	Pass	
Sn1899		0.0014880	ppm	0.0010390	69.789	.00000	Abs	Pass	
Sr4077		0.0025820	ppm	0.0030960	119.91	.00000	Abs	Pass	
Ti3349		-0.00069200	ppm	0.00032200	46.531	.00000	Abs	Pass	
Tl1908		-0.00024600	ppm	0.00085300	346.29	.00000	Abs	Pass	
V_2924		0.00068700	ppm	0.00010000	14.609	.00000	Abs	Pass	
Zn2062		0.0026340	ppm	0.00032500	12.351	.00000	Abs	Pass	
Y_2243		6,796.9	Cts/S	2.7518	0.040485				
Y_3600		55,174	Cts/S	158.06	0.28647				
Y_3774		8,409.1	Cts/S	122.55	1.4573				

320-54862-F-5-A

Acquire Date: 10/15/2019 12:45:59PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00011200	ppm	0.00022500	201.65
Al3961		0.10864	ppm	0.010151	9.3434
As1890		0.00034400	ppm	0.0019890	577.63
B_2089		0.031804	ppm	0.00015500	0.48709
Ba4554		0.048912	ppm	0.000014000	0.029608
Be3130		-0.00017800	ppm	0.00015600	87.686
Ca3179		13.785	ppm	0.047974	0.34802
Cd2144		0.00010700	ppm	0.0000020000	1.7118
Co2286		0.00043600	ppm	0.00010400	23.838
Cr2677		0.0015350	ppm	0.00078400	51.050

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54862-F-5-A

Acquire Date: 10/15/2019 12:45:59PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Cu3247		0.00011400	ppm	0.0026960	2,369.8
Fe2599		0.18016	ppm	0.0055970	3.1065
K_7664		2.6260	ppm	0.023798	0.90625
Mg2790		7.0852	ppm	0.0083680	0.11810
Mn2576		0.013364	ppm	0.000036000	0.27182
Mo2020		0.00068400	ppm	0.000021000	3.1120
Na5895		10.695	ppm	0.010150	0.094910
Ni2316		0.0010200	ppm	0.00047400	46.433
P_1782		0.057803	ppm	0.000017000	0.029382
Pb2203		0.00074600	ppm	0.0027820	372.93
S_1820		1.5991	ppm	0.0034790	0.21758
Sb2068		0.0016720	ppm	0.00050100	29.977
Se1960		-0.0018080	ppm	0.0059200	327.51
Si2881	**W**	**24.841**	**ppm**	**0.067439**	**0.27148**
Sn1899		0.00025300	ppm	0.00016100	63.570
Sr4077		0.14554	ppm	0.00043000	0.29575
Ti3349		0.0029670	ppm	0.00017600	5.9361
Tl1908		0.0020380	ppm	0.0045080	221.19
V_2924		0.010385	ppm	0.00028400	2.7330
Zn2062		0.0043190	ppm	0.00030700	7.1024
Y_2243		6,859.1	Cts/S	14.705	0.21439
Y_3600		54,751	Cts/S	175.41	0.32037
Y_3774		8,434.9	Cts/S	52.730	0.62514

320-54862-F-5-B MS

Acquire Date: 10/15/2019 12:49:57PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.050751	ppm	0.000079000	0.15541
Al3961		5.2087	ppm	0.00039800	0.0076400
As1890		0.44570	ppm	0.00074900	0.16795
B_2089	**W**	**5.0385**	**ppm**	**0.012871**	**0.25545**
Ba4554		0.55790	ppm	0.0011820	0.21190
Be3130		0.26032	ppm	0.00011400	0.043923
Ca3179		38.676	ppm	0.025264	0.065323
Cd2144		0.24737	ppm	0.00045000	0.18172
Co2286		0.24913	ppm	0.0010710	0.42976
Cr2677		0.25433	ppm	0.0010380	0.40828
Cu3247		0.23002	ppm	0.00021700	0.094200
Fe2599		5.1471	ppm	0.012611	0.24502
K_7664		27.475	ppm	0.045682	0.16627
Mg2790		31.886	ppm	0.079217	0.24844
Mn2576		0.26184	ppm	0.00011900	0.045489
Mo2020		0.24696	ppm	0.000067000	0.027306
Na5895		35.831	ppm	0.053337	0.14886
Ni2316		0.24293	ppm	0.00067600	0.27846
P_1782		5.1863	ppm	0.023413	0.45144

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54862-F-5-B MS

Acquire Date: 10/15/2019 12:49:57PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Pb2203		0.24764	ppm	0.0030470	1.2304
S_1820		6.6356	ppm	0.016724	0.25203
Sb2068		0.49879	ppm	0.0027620	0.55367
Se1960		0.47242	ppm	0.0040180	0.85050
Si2881	**W**	**29.964**	**ppm**	**0.042272**	**0.14108**
Sn1899		0.51054	ppm	0.000084000	0.016449
Sr4077		0.38789	ppm	0.00053000	0.13670
Ti3349		0.25241	ppm	0.0010010	0.39642
Tl1908		0.50148	ppm	0.0021880	0.43637
V_2924		0.26671	ppm	0.00011600	0.043471
Zn2062		0.47032	ppm	0.0034780	0.73957
Y_2243		6,666.6	Cts/S	1.1604	0.017406
Y_3600		53,360	Cts/S	202.86	0.38017
Y_3774		8,473.8	Cts/S	17.324	0.20444

320-54862-F-5-C MSD

Acquire Date: 10/15/2019 12:53:43PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.049531	ppm	0.000040000	0.080263
Al3961		5.1801	ppm	0.0082020	0.15834
As1890		0.44577	ppm	0.00039300	0.088223
B_2089	**W**	**5.0493**	**ppm**	**0.013818**	**0.27366**
Ba4554		0.55978	ppm	0.00099100	0.17705
Be3130		0.26202	ppm	0.00069000	0.26323
Ca3179		38.812	ppm	0.14247	0.36708
Cd2144		0.24783	ppm	0.00068100	0.27480
Co2286		0.24945	ppm	0.00064100	0.25715
Cr2677		0.25678	ppm	0.00024500	0.095403
Cu3247		0.23106	ppm	0.0014060	0.60856
Fe2599		5.1647	ppm	0.033179	0.64242
K_7664		27.610	ppm	0.019094	0.069157
Mg2790		32.042	ppm	0.039367	0.12286
Mn2576		0.26457	ppm	0.00031600	0.11960
Mo2020		0.24694	ppm	0.00058500	0.23703
Na5895		35.792	ppm	0.057926	0.16184
Ni2316		0.24334	ppm	0.0013270	0.54526
P_1782		5.2175	ppm	0.0024750	0.047435
Pb2203		0.25033	ppm	0.0021320	0.85176
S_1820		6.6397	ppm	0.010793	0.16256
Sb2068		0.49839	ppm	0.0035790	0.71818
Se1960		0.47557	ppm	0.0086530	1.8195
Si2881	**W**	**29.859**	**ppm**	**0.058324**	**0.19533**
Sn1899		0.51190	ppm	0.00038700	0.075649
Sr4077		0.38683	ppm	0.00035300	0.091139
Ti3349		0.25200	ppm	0.00013700	0.054459
Tl1908		0.50445	ppm	0.0027300	0.54124

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54862-F-5-C MSD

Acquire Date: 10/15/2019 12:53:43PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
V_2924		0.26885	ppm	0.000023000	0.0084590
Zn2062		0.47660	ppm	0.0018290	0.38380
Y_2243		6,645.8	Cts/S	5.9943	0.090198
Y_3600		52,527	Cts/S	24.590	0.046815
Y_3774		8,350.1	Cts/S	33.122	0.39667

320-54653-F-6-A@10

Acquire Date: 10/15/2019 12:57:28PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00035400	ppm	0.00011100	31.345
Al3961		0.046179	ppm	0.016140	34.952
As1890		0.0014470	ppm	0.0015760	108.94
B_2089		0.21575	ppm	0.00067500	0.31268
Ba4554		0.0021750	ppm	0.000036000	1.6470
Be3130		0.000034000	ppm	0.000073000	217.31
Ca3179		0.99147	ppm	0.0012150	0.12251
Cd2144		0.00019100	ppm	0.000068000	35.620
Co2286		0.00010600	ppm	0.00056700	536.85
Cr2677		0.0014110	ppm	0.000096000	6.8175
Cu3247		0.00098400	ppm	0.0023570	239.61
Fe2599		0.050978	ppm	0.0014030	2.7514
K_7664		0.78982	ppm	0.028818	3.6488
Mg2790		0.27257	ppm	0.00042900	0.15753
Mn2576		0.0014780	ppm	0.000062000	4.1882
Mo2020		0.0045210	ppm	0.00042400	9.3742
Na5895		32.750	ppm	0.026242	0.080130
Ni2316		0.00026200	ppm	0.00066500	253.31
P_1782		0.042122	ppm	0.00094900	2.2538
Pb2203		0.00070400	ppm	0.0012830	182.11
S_1820		8.1567	ppm	0.045403	0.55663
Sb2068		0.00031900	ppm	0.00078300	245.58
Se1960		-0.0025210	ppm	0.0040690	161.42
Si2881		2.1057	ppm	0.015576	0.73970
Sn1899		0.00045400	ppm	0.00029400	64.900
Sr4077		0.010562	ppm	0.000074000	0.70029
Ti3349		0.0019280	ppm	0.00020500	10.639
Tl1908		0.0012040	ppm	0.0026770	222.38
V_2924		0.0053970	ppm	0.000049000	0.89908
Zn2062		0.0097690	ppm	0.0011650	11.931
Y_2243		7,005.7	Cts/S	32.201	0.45965
Y_3600		56,368	Cts/S	145.68	0.25844
Y_3774		8,787.1	Cts/S	43.508	0.49514

320-54653-F-6-A@20

Acquire Date: 10/15/2019 1:01:25PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00039700	ppm	0.00054000	135.96
Al3961		0.026105	ppm	0.015338	58.756
As1890		0.0019920	ppm	0.00082900	41.633
B_2089		0.11179	ppm	0.00075900	0.67865
Ba4554		0.0012960	ppm	0.0000080000	0.65086
Be3130		.0000070000	ppm	0.000035000	500.06
Ca3179		0.50676	ppm	0.0049090	0.96867
Cd2144		0.000014000	ppm	0.000052000	364.82
Co2286		0.00010200	ppm	0.00018500	181.63
Cr2677		0.00088300	ppm	0.00030900	34.990
Cu3247		0.0040870	ppm	0.0014390	35.212
Fe2599		0.017931	ppm	0.0034710	19.358
K_7664		0.39792	ppm	0.032629	8.2001
Mg2790		0.13613	ppm	0.0023720	1.7426
Mn2576		0.00091100	ppm	0.0000080000	0.88066
Mo2020		0.0022180	ppm	0.00013900	6.2521
Na5895		16.611	ppm	0.021302	0.12824
Ni2316		0.00077800	ppm	0.00058300	74.901
P_1782		0.021493	ppm	0.0016090	7.4872
Pb2203		0.0023860	ppm	0.0034820	145.93
S_1820		4.1265	ppm	0.0013470	0.032636
Sb2068		-0.00026800	ppm	0.0018020	671.04
Se1960		0.0010810	ppm	0.0030220	279.67
Si2881		1.0414	ppm	0.0056240	0.54006
Sn1899		0.00070700	ppm	0.00050800	71.910
Sr4077		0.0055330	ppm	0.00021700	3.9300
Ti3349		0.0012010	ppm	0.000039000	3.2328
Tl1908		0.0011110	ppm	0.00075700	68.166
V_2924		0.0026750	ppm	0.000080000	2.9725
Zn2062		0.0051780	ppm	0.0013430	25.941
Y_2243		6,837.4	Cts/S	5.3901	0.078833
Y_3600		54,772	Cts/S	353.48	0.64537
Y_3774		8,369.4	Cts/S	126.86	1.5158

320-54749-A-2-A@50

Acquire Date: 10/15/2019 1:05:25PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00015700	ppm	0.00076700	487.31
Al3961		0.0095760	ppm	0.055643	581.08
As1890		-0.00067400	ppm	0.000038000	5.6777
B_2089		3.7111	ppm	0.0088820	0.23934
Ba4554		0.0082610	ppm	0.00092500	11.192
Be3130		0.000060000	ppm	0.00055900	937.92
Ca3179		223.38	ppm	1.3797	0.61764
Cd2144		0.00014800	ppm	0.000049000	33.285
Co2286		0.00083100	ppm	0.00055500	66.848

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54749-A-2-A@50

Acquire Date: 10/15/2019 1:05:25PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.00050300	ppm	0.00032300	64.221
Cu3247		0.0058810	ppm	0.000032000	0.53804
Fe2599		1.3809	ppm	0.0019630	0.14219
K_7664		7.4545	ppm	0.0056640	0.075982
Mg2790		133.90	ppm	0.22372	0.16708
Mn2576		0.23275	ppm	0.000080000	0.034468
Mo2020		0.00036700	ppm	0.00042700	116.34
Na5895		58.497	ppm	0.22057	0.37706
Ni2316		0.0031430	ppm	0.00055600	17.695
P_1782		0.0080240	ppm	0.00074700	9.3052
Pb2203		0.00017100	ppm	0.00078600	460.54
S_1820		8.4530	ppm	0.021557	0.25502
Sb2068		-0.0030450	ppm	0.00024100	7.8989
Se1960		0.0045550	ppm	0.00010100	2.2132
Si2881		0.71873	ppm	0.055133	7.6709
Sn1899		-0.00062700	ppm	0.00026200	41.805
Sr4077		0.95575	ppm	0.0063070	0.65993
Ti3349		-0.0014940	ppm	0.00033100	22.156
Tl1908		0.0044190	ppm	0.000053000	1.1915
V_2924		0.00085800	ppm	0.00028100	32.788
Zn2062		0.0010410	ppm	0.0013590	130.58
Y_2243		6,478.3	Cts/S	23.443	0.36186
Y_3600		50,997	Cts/S	118.56	0.23248
Y_3774		8,397.2	Cts/S	117.78	1.4026

SD 320-54749-A2A@250

Acquire Date: 10/15/2019 1:09:21PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00044900	ppm	0.0016060	357.36
Al3961		-0.00099000	ppm	0.0021130	213.46
As1890		-0.0018660	ppm	0.0011620	62.244
B_2089		0.78607	ppm	0.00012700	0.016170
Ba4554		0.0017510	ppm	0.000036000	2.0385
Be3130		0.000076000	ppm	0.00023200	306.56
Ca3179		46.749	ppm	0.030935	0.066171
Cd2144		0.000016000	ppm	0.000083000	513.96
Co2286		0.00021000	ppm	0.00029800	141.85
Cr2677		-0.00035400	ppm	0.00040900	115.70
Cu3247		0.0024310	ppm	0.00085100	35.023
Fe2599		0.28548	ppm	0.00099300	0.34799
K_7664		1.4814	ppm	0.024121	1.6282
Mg2790		27.372	ppm	0.018216	0.066549
Mn2576		0.049040	ppm	0.00021500	0.43752
Mo2020		0.000064000	ppm	0.00032600	506.18
Na5895		11.855	ppm	0.038080	0.32121
Ni2316		0.00073100	ppm	0.00010900	14.966

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

SD 320-54749-A2A@250

Acquire Date: 10/15/2019 1:09:21PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		0.0056440	ppm	0.00019600	3.4764
Pb2203		0.00059700	ppm	0.0014690	245.88
S_1820		1.7049	ppm	0.0029560	0.17338
Sb2068		0.0041970	ppm	0.0041450	98.762
Se1960		0.0019500	ppm	0.00073000	37.452
Si2881		0.12166	ppm	0.041477	34.093
Sn1899		0.00030100	ppm	0.000030000	9.9186
Sr4077		0.19949	ppm	0.0010080	0.50551
Ti3349		-0.00064900	ppm	0.00020400	31.369
Tl1908		0.000088000	ppm	0.000045000	51.470
V_2924		0.00092600	ppm	0.00026200	28.272
Zn2062		0.0011370	ppm	0.0013560	119.22
Y_2243		6,727.2	Cts/S	17.943	0.26672
Y_3600		54,394	Cts/S	228.52	0.42012
Y_3774		8,575.3	Cts/S	73.290	0.85466

PDS 320-54749-A2A@50

Acquire Date: 10/15/2019 1:13:19PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.10685	ppm	0.000070000	0.065969
Al3961		10.425	ppm	0.021406	0.20532
As1890		0.098231	ppm	0.00059900	0.60977
B_2089		4.7220	ppm	0.0010040	0.021261
Ba4554		0.11318	ppm	0.000076000	0.067235
Be3130		0.052444	ppm	0.00021000	0.39955
Ca3179		232.12	ppm	0.32984	0.14210
Cd2144		0.10063	ppm	0.000043000	0.042275
Co2286		0.10300	ppm	0.00060000	0.58236
Cr2677		0.10385	ppm	0.0012700	1.2228
Cu3247		0.096505	ppm	0.0011250	1.1654
Fe2599		5.3868	ppm	0.0015580	0.028931
K_7664		17.908	ppm	0.056735	0.31681
Mg2790		142.23	ppm	0.27137	0.19080
Mn2576		0.33369	ppm	0.00071000	0.21285
Mo2020		0.10136	ppm	0.00015600	0.15418
Na5895		68.460	ppm	0.012614	0.018426
Ni2316		0.10228	ppm	0.0011900	1.1633
P_1782		1.0885	ppm	0.0012820	0.11780
Pb2203		0.099856	ppm	0.0014880	1.4904
S_1820		10.527	ppm	0.015908	0.15111
Sb2068		0.093728	ppm	0.0049720	5.3043
Se1960		0.10271	ppm	0.0034070	3.3172
Si2881		1.7433	ppm	0.036759	2.1086
Sn1899		0.099742	ppm	0.00010800	0.10784
Sr4077		1.0532	ppm	0.0014770	0.14026
Ti3349		0.10065	ppm	0.00063700	0.63264

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

PDS 320-54749-A2A@50

Acquire Date: 10/15/2019 1:13:19PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		0.098636	ppm	0.0032980	3.3431
V_2924		0.10767	ppm	0.00012500	0.11580
Zn2062		0.097620	ppm	0.00071700	0.73445
Y_2243		6,502.0	Cts/S	32.687	0.50273
Y_3600		51,853	Cts/S	258.98	0.49945
Y_3774		8,459.4	Cts/S	131.76	1.5575

320-54749-A-2B MS@50

Acquire Date: 10/15/2019 1:17:11PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00035500	ppm	0.000043000	12.014
Al3961		0.10711	ppm	0.0073320	6.8452
As1890		0.010973	ppm	0.00054800	4.9923
B_2089		3.8193	ppm	0.0058400	0.15290
Ba4554		0.017920	ppm	0.00017500	0.97440
Be3130		0.0047040	ppm	0.000036000	0.75927
Ca3179		224.02	ppm	0.58567	0.26143
Cd2144		0.0050140	ppm	0.0000020000	0.030393
Co2286		0.0058800	ppm	0.00024500	4.1742
Cr2677		0.0059020	ppm	0.00029400	4.9833
Cu3247		0.0078790	ppm	0.0024250	30.776
Fe2599		1.4754	ppm	0.013389	0.90752
K_7664		7.9442	ppm	0.021157	0.26631
Mg2790		132.70	ppm	0.28440	0.21432
Mn2576		0.23642	ppm	0.0000020000	0.00084800
Mo2020		0.0052120	ppm	0.00021900	4.1991
Na5895		58.937	ppm	0.060072	0.10193
Ni2316		0.0082350	ppm	0.00055100	6.6952
P_1782		0.11286	ppm	0.000025000	0.021830
Pb2203		0.0065840	ppm	0.0032830	49.866
S_1820		8.4610	ppm	0.039163	0.46286
Sb2068		0.0084550	ppm	0.0045100	53.334
Se1960		0.013682	ppm	0.00061000	4.4613
Si2881		0.78146	ppm	0.028978	3.7081
Sn1899		0.0094730	ppm	0.00021000	2.2137
Sr4077		0.96307	ppm	0.0023180	0.24069
Ti3349		0.0036210	ppm	0.000044000	1.2119
Tl1908		0.0083290	ppm	0.0029840	35.824
V_2924		0.0056800	ppm	0.00026400	4.6520
Zn2062		0.010204	ppm	0.000045000	0.44230
Y_2243		6,455.8	Cts/S	33.486	0.51869
Y_3600		51,957	Cts/S	112.93	0.21735
Y_3774		8,406.7	Cts/S	107.65	1.2805

320-54749-A2C MSD@50

Acquire Date: 10/15/2019 1:21:08PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00087300	ppm	0.000032000	3.6298
Al3961		0.087015	ppm	0.0034970	4.0191
As1890		0.010650	ppm	0.0038630	36.271
B_2089		3.7946	ppm	0.000042000	0.0010980
Ba4554		0.017218	ppm	0.00012100	0.70036
Be3130		0.0046810	ppm	0.000028000	0.60289
Ca3179		222.27	ppm	0.51721	0.23269
Cd2144		0.0048160	ppm	0.000056000	1.1687
Co2286		0.0056800	ppm	0.0000080000	0.13221
Cr2677		0.0049090	ppm	0.000057000	1.1547
Cu3247		0.0095290	ppm	0.00052300	5.4862
Fe2599		1.4449	ppm	0.00051400	0.035554
K_7664		8.0942	ppm	0.045246	0.55899
Mg2790		131.66	ppm	0.022067	0.016761
Mn2576		0.23383	ppm	0.00031800	0.13597
Mo2020		0.0049770	ppm	0.00021900	4.4064
Na5895		59.291	ppm	0.14255	0.24042
Ni2316		0.0076200	ppm	0.00017900	2.3469
P_1782		0.10917	ppm	0.00043800	0.40099
Pb2203		0.0068620	ppm	0.0010960	15.968
S_1820		8.3391	ppm	0.025587	0.30683
Sb2068		0.0067740	ppm	0.0011460	16.913
Se1960		0.011524	ppm	0.0031200	27.075
Si2881		0.75600	ppm	0.058474	7.7347
Sn1899		0.0096750	ppm	0.0010660	11.019
Sr4077		0.95080	ppm	0.0026160	0.27513
Ti3349		0.0032960	ppm	0.00039100	11.860
Tl1908		0.0092570	ppm	0.0010470	11.314
V_2924		0.0060560	ppm	0.000017000	0.28854
Zn2062		0.0097830	ppm	0.00049100	5.0168
Y_2243		6,455.4	Cts/S	25.028	0.38771
Y_3600		51,287	Cts/S	263.85	0.51446
Y_3774		8,398.4	Cts/S	1.0486	0.012486

CCV 1708493

Acquire Date: 10/15/2019 1:25:05PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.50249	ppm	0.00018300	0.036368	.50000	Rel(%)	Pass	
Al3961		25.319	ppm	0.058602	0.23146	25.000	Rel(%)	Pass	
As1890		0.52329	ppm	0.00021200	0.040540	.50000	Rel(%)	Pass	
B_2089		1.0227	ppm	0.0011430	0.11175	1.0000	Rel(%)	Pass	
Ba4554		2.6412	ppm	0.0020180	0.076398	2.5000	Rel(%)	Pass	
Be3130		0.53463	ppm	0.00086000	0.16094	.50000	Rel(%)	Pass	
Ca3179		25.279	ppm	0.053251	0.21066	25.000	Rel(%)	Pass	
Cd2144		0.51902	ppm	0.00035800	0.069053	.50000	Rel(%)	Pass	
Co2286		2.6078	ppm	0.0027480	0.10537	2.5000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCV 1708493

Acquire Date: 10/15/2019 1:25:05PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Cr2677		2.5816	ppm	0.0046570	0.18038	2.5000	Rel(%)	Pass	
Cu3247		2.3139	ppm	0.0042730	0.18466	2.5000	Rel(%)	Pass	
Fe2599		24.811	ppm	0.0072360	0.029166	25.000	Rel(%)	Pass	
K_7664		25.082	ppm	0.050815	0.20259	25.000	Rel(%)	Pass	
Mg2790		25.176	ppm	0.038506	0.15295	25.000	Rel(%)	Pass	
Mn2576		2.5478	ppm	0.0021420	0.084077	2.5000	Rel(%)	Pass	
Mo2020		1.0248	ppm	0.0020580	0.20086	1.0000	Rel(%)	Pass	
Na5895		24.838	ppm	0.020579	0.082854	25.000	Rel(%)	Pass	
Ni2316		2.5536	ppm	0.0021660	0.084832	2.5000	Rel(%)	Pass	
P_1782		2.5052	ppm	0.0032750	0.13075	2.5000	Rel(%)	Pass	
Pb2203		0.52356	ppm	0.0010200	0.19478	.50000	Rel(%)	Pass	
S_1820		2.4872	ppm	0.010325	0.41512	2.5000	Rel(%)	Pass	
Sb2068		0.53333	ppm	0.0031930	0.59868	.50000	Rel(%)	Pass	
Se1960		0.54102	ppm	0.0056860	1.0509	.50000	Rel(%)	Pass	
Si2881		2.5254	ppm	0.011954	0.47334	2.5000	Rel(%)	Pass	
Sn1899		2.5523	ppm	0.0020960	0.082140	2.5000	Rel(%)	Pass	
Sr4077		2.4814	ppm	0.00074800	0.030126	2.5000	Rel(%)	Pass	
Ti3349		1.0148	ppm	0.0021410	0.21095	1.0000	Rel(%)	Pass	
Tl1908		0.52816	ppm	0.0022990	0.43530	.50000	Rel(%)	Pass	
V_2924		2.6187	ppm	0.00040000	0.015258	2.5000	Rel(%)	Pass	
Zn2062		2.3956	ppm	0.0067310	0.28099	2.5000	Rel(%)	Pass	
Y_2243		6,683.0	Cts/S	0.40337	0.0060360				
Y_3600		53,595	Cts/S	174.83	0.32621				
Y_3774		8,479.1	Cts/S	36.634	0.43206				

CCB 1745955

Acquire Date: 10/15/2019 1:28:51PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00027500	ppm	0.00047300	171.82	.00000	Abs	Pass	
Al3961		0.0040130	ppm	0.021118	526.17	.00000	Abs	Pass	
As1890		-0.0024430	ppm	0.0026610	108.92	.00000	Abs	Pass	
B_2089		0.022419	ppm	0.00020200	0.90224	.00000	Abs	Pass	
Ba4554		0.00038100	ppm	0.00066700	175.23	.00000	Abs	Pass	
Be3130		0.000040000	ppm	0.000027000	67.380	.00000	Abs	Pass	
Ca3179		0.0097320	ppm	0.0033250	34.165	.00000	Abs	Pass	
Cd2144		0.000040000	ppm	0.000034000	85.063	.00000	Abs	Pass	
Co2286		0.00026800	ppm	0.000093000	34.598	.00000	Abs	Pass	
Cr2677		0.00096100	ppm	0.00087600	91.190	.00000	Abs	Pass	
Cu3247		0.0029400	ppm	0.0017220	58.582	.00000	Abs	Pass	
Fe2599		0.0026030	ppm	0.0056740	217.97	.00000	Abs	Pass	
K_7664		0.028869	ppm	0.037084	128.46	.00000	Abs	Pass	
Mg2790		0.00041800	ppm	0.0052460	1,254.7	.00000	Abs	Pass	
Mn2576		0.00025900	ppm	0.000062000	23.770	.00000	Abs	Pass	
Mo2020		0.00028600	ppm	0.00021700	75.771	.00000	Abs	Pass	
Na5895		0.031203	ppm	0.0090560	29.023	.00000	Abs	Pass	
Ni2316		0.00047100	ppm	0.0012480	265.31	.00000	Abs	Pass	
P_1782		0.00090000	ppm	0.0023690	263.29	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCB 1745955

Acquire Date: 10/15/2019 1:28:51PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Pb2203		-0.0015410	ppm	0.00065000	42.176	.00000	Abs	Pass	
S_1820		0.0043430	ppm	0.0015870	36.528	.00000	Abs	Pass	
Sb2068		0.0020230	ppm	0.0042390	209.49	.00000	Abs	Pass	
Se1960		-0.0010690	ppm	0.000068000	6.3701	.00000	Abs	Pass	
Si2881		-0.024367	ppm	0.012777	52.434	.00000	Abs	Pass	
Sn1899		0.00088500	ppm	0.0011710	132.38	.00000	Abs	Pass	
Sr4077		0.00034600	ppm	0.00027800	80.433	.00000	Abs	Pass	
Ti3349		0.000091000	ppm	0.00034600	381.27	.00000	Abs	Pass	
Tl1908		0.0027150	ppm	0.00067700	24.921	.00000	Abs	Pass	
V_2924		0.00050600	ppm	0.00020300	40.144	.00000	Abs	Pass	
Zn2062		0.0040960	ppm	0.00034800	8.4917	.00000	Abs	Pass	
Y_2243		6,836.7	Cts/S	29.931	0.43781				
Y_3600		55,322	Cts/S	38.431	0.069467				
Y_3774		8,473.0	Cts/S	97.209	1.1473				

320-54749-A-5-A@50

Acquire Date: 10/15/2019 1:32:52PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00049200	ppm	0.00032500	65.955
Al3961		0.0082850	ppm	0.0030560	36.883
As1890		-0.0028410	ppm	0.0040680	143.17
B_2089		0.25473	ppm	0.0011570	0.45410
Ba4554		0.00071100	ppm	0.00049700	69.888
Be3130		-0.00018700	ppm	0.000054000	28.864
Ca3179		10.074	ppm	0.0013410	0.013311
Cd2144		0.000050000	ppm	0.00012400	246.83
Co2286		0.00014900	ppm	0.000080000	53.661
Cr2677		0.00015100	ppm	0.00025000	166.06
Cu3247		0.0056590	ppm	0.0026950	47.620
Fe2599		0.00074900	ppm	0.0056160	750.17
K_7664		24.333	ppm	0.033674	0.13839
Mg2790		31.697	ppm	0.082380	0.25990
Mn2576		0.00015400	ppm	0.00014100	91.154
Mo2020		0.00026400	ppm	0.00014000	52.820
Na5895	**W**	**497.94**	**ppm**	**3.1449**	**0.63160**
Ni2316		0.00015500	ppm	0.00011500	74.267
P_1782		0.010854	ppm	0.00014100	1.3018
Pb2203		0.0013500	ppm	0.0011030	81.747
S_1820		36.570	ppm	0.012439	0.034014
Sb2068		-0.0019780	ppm	0.0024850	125.64
Se1960		0.0026200	ppm	0.0028860	110.15
Si2881		0.47280	ppm	0.020904	4.4214
Sn1899		0.000048000	ppm	0.000075000	155.68
Sr4077		0.91304	ppm	0.0012060	0.13207
Ti3349		-0.00072100	ppm	0.00095500	132.49
Tl1908		0.0016210	ppm	0.00016000	9.8775

320-54749-A-5-A@50

Acquire Date: 10/15/2019 1:32:52PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
V_2924		0.00049300	ppm	0.00038100	77.228
Zn2062		0.0017380	ppm	0.00013300	7.6614
Y_2243		6,361.6	Cts/S	15.281	0.24021
Y_3600		49,272	Cts/S	310.24	0.62965
Y_3774		8,094.9	Cts/S	66.155	0.81725

320-54691-A-2-A@50

Acquire Date: 10/15/2019 1:36:54PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00026500	ppm	0.00013800	52.006
Al3961		0.0083030	ppm	0.0022740	27.386
As1890		0.0017040	ppm	0.0018790	110.26
B_2089		0.30103	ppm	0.00081500	0.27070
Ba4554		0.00083300	ppm	0.00016300	19.554
Be3130		-0.00012500	ppm	0.000015000	11.956
Ca3179		24.701	ppm	0.050058	0.20265
Cd2144		.0000040000	ppm	0.000029000	773.66
Co2286		0.000086000	ppm	0.000095000	111.26
Cr2677		0.00038000	ppm	0.00028700	75.549
Cu3247		0.0071210	ppm	0.0022910	32.166
Fe2599		-0.0022020	ppm	0.016068	729.74
K_7664		34.161	ppm	0.089801	0.26288
Mg2790		57.351	ppm	0.14180	0.24726
Mn2576		0.0012810	ppm	0.0000050000	0.42589
Mo2020		0.00016900	ppm	0.00030300	179.14
Na5895	**F**	**632.35**	**ppm**	**14.065**	**2.2243**
Ni2316		-0.00013400	ppm	0.00029200	216.79
P_1782		0.064869	ppm	0.00061700	0.95150
Pb2203		0.0010250	ppm	0.0027730	270.45
S_1820		69.987	ppm	0.014021	0.020033
Sb2068		-0.0035180	ppm	0.0034080	96.882
Se1960		0.0058890	ppm	0.0089530	152.03
Si2881		0.52972	ppm	0.0075250	1.4206
Sn1899		-0.00028300	ppm	0.00094400	333.15
Sr4077		0.55544	ppm	0.00088100	0.15869
Ti3349		-0.0012240	ppm	0.00022700	18.572
Tl1908		0.0042410	ppm	0.00086900	20.488
V_2924		-0.00027000	ppm	0.00054000	199.84
Zn2062		0.0015210	ppm	0.00038600	25.359
Y_2243		6,503.1	Cts/S	14.781	0.22730
Y_3600		50,713	Cts/S	225.42	0.44450
Y_3774		8,544.8	Cts/S	17.053	0.19957

SD 320-54691-A2A@250

Acquire Date: 10/15/2019 1:40:58PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00042200	ppm	0.00017900	42.385
Al3961		-0.0035760	ppm	0.021057	588.83
As1890		-0.00056900	ppm	0.0015380	270.25
B_2089		0.070262	ppm	0.00038700	0.55091
Ba4554		0.000073000	ppm	0.00039600	543.12
Be3130		.0000020000	ppm	0.000073000	3,870.8
Ca3179		5.0615	ppm	0.023718	0.46861
Cd2144		0.000054000	ppm	0.000079000	145.25
Co2286		0.00013500	ppm	0.00037000	273.80
Cr2677		0.000095000	ppm	0.00030600	321.92
Cu3247		0.0039110	ppm	0.000089000	2.2785
Fe2599		-0.0084790	ppm	0.0038500	45.402
K_7664		6.8613	ppm	0.062919	0.91701
Mg2790		11.609	ppm	0.00088800	0.0076480
Mn2576		0.00031700	ppm	0.00010500	33.138
Mo2020		-0.00032900	ppm	0.00047700	145.03
Na5895		136.04	ppm	0.047649	0.035025
Ni2316		0.00040800	ppm	0.00031100	76.203
P_1782		0.012260	ppm	0.0013300	10.845
Pb2203		-0.0026420	ppm	0.00086600	32.788
S_1820		13.973	ppm	0.035248	0.25225
Sb2068		-0.0012660	ppm	0.0023590	186.38
Se1960		0.0034520	ppm	0.0023320	67.554
Si2881		0.10654	ppm	0.015431	14.484
Sn1899		0.00026600	ppm	0.000016000	6.1950
Sr4077		0.11345	ppm	0.00010100	0.089440
Ti3349		-0.00044700	ppm	0.00057700	129.09
Tl1908		0.0024950	ppm	0.0017950	71.915
V_2924		0.00014400	ppm	0.00023600	163.55
Zn2062		0.00085100	ppm	0.0021650	254.48
Y_2243		6,685.6	Cts/S	52.466	0.78476
Y_3600		53,208	Cts/S	286.97	0.53933
Y_3774		8,377.3	Cts/S	255.42	3.0489

PDS 320-54691-A2A@50

Acquire Date: 10/15/2019 1:44:56PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.10402	ppm	0.00048700	0.46861
Al3961		10.298	ppm	0.0040840	0.039662
As1890		0.094416	ppm	0.0034200	3.6220
B_2089		1.2247	ppm	0.000011000	0.00091100
Ba4554		0.10601	ppm	0.00039700	0.37444
Be3130		0.051857	ppm	0.000073000	0.14103
Ca3179		35.020	ppm	0.017950	0.051255
Cd2144		0.10035	ppm	0.000081000	0.080651
Co2286		0.10151	ppm	0.00031600	0.31095

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

PDS 320-54691-A2A@50

Acquire Date: 10/15/2019 1:44:56PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.10335	ppm	0.00067200	0.64971
Cu3247		0.095731	ppm	0.00095600	0.99823
Fe2599		3.9967	ppm	0.0055180	0.13807
K_7664		44.816	ppm	0.017512	0.039075
Mg2790		67.719	ppm	0.10659	0.15740
Mn2576		0.10556	ppm	0.000076000	0.071551
Mo2020		0.098958	ppm	0.00053600	0.54159
Na5895	**F**	**635.88**	**ppm**	**30.009**	**4.7193**
Ni2316		0.098566	ppm	0.0012980	1.3168
P_1782		1.1304	ppm	0.00035000	0.030937
Pb2203		0.10177	ppm	0.00072800	0.71560
S_1820		71.789	ppm	0.026385	0.036754
Sb2068		0.095319	ppm	0.0010610	1.1130
Se1960		0.099260	ppm	0.013834	13.937
Si2881		1.5897	ppm	0.0030960	0.19476
Sn1899		0.097834	ppm	0.00083200	0.85020
Sr4077		0.65718	ppm	0.00018600	0.028290
Ti3349		0.10044	ppm	0.00054600	0.54343
Tl1908		0.094960	ppm	0.0015270	1.6075
V_2924		0.10755	ppm	0.00035100	0.32645
Zn2062		0.12370	ppm	0.00042800	0.34620
Y_2243		6,384.0	Cts/S	6.2151	0.097354
Y_3600		49,457	Cts/S	114.39	0.23130
Y_3774		8,281.9	Cts/S	19.911	0.24041

320-54691-A2-B MS@50

Acquire Date: 10/15/2019 1:48:53PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00093000	ppm	0.00028500	30.636
Al3961		0.10496	ppm	0.014558	13.870
As1890		0.0077780	ppm	0.00028400	3.6461
B_2089		0.37846	ppm	0.0000070000	0.0019240
Ba4554		0.010746	ppm	0.00019300	1.7968
Be3130		0.0049790	ppm	0.000018000	0.35586
Ca3179		24.368	ppm	0.010513	0.043143
Cd2144		0.0047550	ppm	0.000039000	0.82111
Co2286		0.0045490	ppm	0.00029100	6.3992
Cr2677		0.0059090	ppm	0.000080000	1.3569
Cu3247		0.013181	ppm	0.0021840	16.573
Fe2599		0.097145	ppm	0.0079300	8.1632
K_7664		33.947	ppm	0.12495	0.36806
Mg2790		56.031	ppm	0.23509	0.41956
Mn2576		0.0062140	ppm	0.00018800	3.0303
Mo2020		0.0048600	ppm	0.00031100	6.4014
Na5895	**F**	**620.20**	**ppm**	**10.548**	**1.7007**
Ni2316		0.0044270	ppm	0.00032300	7.2909

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54691-A2-B MS@50

Acquire Date: 10/15/2019 1:48:53PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		0.17037	ppm	0.00089200	0.52366
Pb2203		0.0064960	ppm	0.0029380	45.225
S_1820		67.663	ppm	0.29797	0.44037
Sb2068		0.0090810	ppm	0.0046800	51.532
Se1960		0.0094270	ppm	0.0060750	64.436
Si2881		0.63096	ppm	0.0011440	0.18128
Sn1899		0.0090870	ppm	0.00032000	3.5226
Sr4077		0.54089	ppm	0.0012750	0.23570
Ti3349		0.0039410	ppm	0.00031200	7.9129
Tl1908		0.014332	ppm	0.00056000	3.9088
V_2924		0.0056510	ppm	0.00024600	4.3450
Zn2062		0.012080	ppm	0.0010860	8.9921
Y_2243		6,380.3	Cts/S	4.5652	0.071552
Y_3600		49,220	Cts/S	116.63	0.23696
Y_3774		8,191.4	Cts/S	37.385	0.45639

320-54691A2-C MSD@50

Acquire Date: 10/15/2019 1:52:55PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0010100	ppm	0.00067900	67.225
Al3961		0.083207	ppm	0.0055710	6.6954
As1890		0.0096890	ppm	0.00062400	6.4412
B_2089		0.38413	ppm	0.00029600	0.076995
Ba4554		0.010865	ppm	0.00032100	2.9558
Be3130		0.0050190	ppm	0.000013000	0.24960
Ca3179		24.970	ppm	0.0094640	0.037901
Cd2144		0.0049530	ppm	0.000049000	0.98936
Co2286		0.0050550	ppm	0.0000080000	0.16364
Cr2677		0.0049330	ppm	0.00053300	10.810
Cu3247		0.013933	ppm	0.0044340	31.823
Fe2599		0.10093	ppm	0.0022910	2.2696
K_7664		34.542	ppm	0.062334	0.18046
Mg2790		57.675	ppm	0.089487	0.15516
Mn2576		0.0064790	ppm	0.000050000	0.77786
Mo2020		0.0045700	ppm	0.000066000	1.4392
Na5895	**F**	**634.56**	**ppm**	**7.4069**	**1.1673**
Ni2316		0.0060740	ppm	0.00019000	3.1282
P_1782		0.17128	ppm	0.0014990	0.87506
Pb2203		0.0064360	ppm	0.0014990	23.289
S_1820		69.403	ppm	0.013335	0.019214
Sb2068		0.0083410	ppm	0.0054410	65.232
Se1960		0.010903	ppm	0.00038900	3.5639
Si2881		0.63679	ppm	0.023768	3.7325
Sn1899		0.0095960	ppm	0.000034000	0.35590
Sr4077		0.55530	ppm	0.0010400	0.18729
Ti3349		0.0045850	ppm	0.00019700	4.2992

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54691A2-C MSD@50

Acquire Date: 10/15/2019 1:52:55PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		0.0092450	ppm	0.0025020	27.060
V_2924		0.0053210	ppm	0.00011600	2.1800
Zn2062		0.011664	ppm	0.00038700	3.3142
Y_2243		6,333.1	Cts/S	33.234	0.52477
Y_3600		49,014	Cts/S	37.925	0.077375
Y_3774		8,161.7	Cts/S	57.329	0.70242

320-54691-A-4-A@50

Acquire Date: 10/15/2019 1:56:57PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0012690	ppm	0.00049900	39.295
Al3961		0.0027090	ppm	0.0060300	222.59
As1890		0.00037700	ppm	0.0019940	528.90
B_2089	**W**	**6.1970**	**ppm**	**0.0019680**	**0.031757**
Ba4554		0.012744	ppm	0.00026800	2.1029
Be3130		-0.00047400	ppm	0.000072000	15.203
Ca3179		312.38	ppm	0.12592	0.040310
Cd2144		0.00021700	ppm	0.000039000	17.830
Co2286		0.000010000	ppm	0.00011600	1,196.8
Cr2677		0.000056000	ppm	0.00042100	748.46
Cu3247		0.0030020	ppm	0.0026980	89.855
Fe2599		0.46627	ppm	0.0061930	1.3282
K_7664		19.047	ppm	0.015237	0.079999
Mg2790		193.98	ppm	0.14899	0.076807
Mn2576		0.38450	ppm	0.00052100	0.13561
Mo2020		0.000095000	ppm	0.00074200	778.87
Na5895		188.02	ppm	0.087247	0.046403
Ni2316		-0.00013800	ppm	0.00013300	95.903
P_1782		0.0079360	ppm	0.0017460	22.006
Pb2203		-0.0024630	ppm	0.0028880	117.24
S_1820		7.1971	ppm	0.0082920	0.11521
Sb2068		-0.0019780	ppm	0.00064700	32.703
Se1960		0.0024340	ppm	0.0011100	45.587
Si2881		0.72927	ppm	0.026908	3.6897
Sn1899		-0.00014600	ppm	0.00052300	359.13
Sr4077		1.6146	ppm	0.00054200	0.033571
Ti3349		-0.0010820	ppm	0.00029800	27.493
Tl1908		0.00096700	ppm	0.0035390	366.09
V_2924		0.0012060	ppm	0.00046300	38.392
Zn2062		0.00058700	ppm	0.000091000	15.512
Y_2243		6,375.3	Cts/S	16.149	0.25331
Y_3600		50,640	Cts/S	96.465	0.19049
Y_3774		8,342.1	Cts/S	38.774	0.46481

320-54615-A-2-E@50

Acquire Date: 10/15/2019 2:00:53PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00062100	ppm	0.00025100	40.468
Al3961		-0.012189	ppm	0.015859	130.10
As1890		-0.00019100	ppm	0.0015480	809.58
B_2089		3.3590	ppm	0.0080970	0.24107
Ba4554		0.0059280	ppm	0.00023400	3.9496
Be3130		-0.00022900	ppm	0.000016000	6.9772
Ca3179		157.58	ppm	0.076553	0.048581
Cd2144		0.000024000	ppm	0.000040000	169.92
Co2286		.0000060000	ppm	0.000089000	1,468.7
Cr2677		-0.00015500	ppm	0.00019900	127.89
Cu3247		0.0056480	ppm	0.0048230	85.395
Fe2599		0.016078	ppm	0.00033200	2.0652
K_7664		29.495	ppm	0.014881	0.050451
Mg2790		171.01	ppm	0.22333	0.13059
Mn2576		0.025278	ppm	0.00012600	0.49702
Mo2020		0.0022020	ppm	0.000087000	3.9482
Na5895	**W**	**259.33**	**ppm**	**1.1345**	**0.43748**
Ni2316		0.0013070	ppm	0.00023600	18.042
P_1782		0.0052380	ppm	0.0010540	20.130
Pb2203		-0.00022500	ppm	0.00054500	241.76
S_1820		11.524	ppm	0.0054080	0.046923
Sb2068		-0.0039950	ppm	0.0053900	134.90
Se1960		-0.00046700	ppm	0.00093100	199.22
Si2881		0.51756	ppm	0.020966	4.0509
Sn1899		0.000062000	ppm	0.00075200	1,220.5
Sr4077		1.1687	ppm	0.0028420	0.24319
Ti3349		-0.0023390	ppm	0.000014000	0.58263
Tl1908		0.00064400	ppm	0.0015940	247.52
V_2924		0.00036700	ppm	0.00032500	88.783
Zn2062		0.00067400	ppm	0.000073000	10.863
Y_2243		6,357.1	Cts/S	22.211	0.34939
Y_3600		50,860	Cts/S	474.68	0.93331
Y_3774		8,284.7	Cts/S	101.32	1.2230

SD 320-54615-A2E@250

Acquire Date: 10/15/2019 2:04:55PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		.0000080000	ppm	0.00025000	3,085.7
Al3961		0.020659	ppm	0.028400	137.47
As1890		0.00085100	ppm	0.00017600	20.645
B_2089		0.70392	ppm	0.0034660	0.49244
Ba4554		0.0015640	ppm	0.000088000	5.6025
Be3130		-0.00014000	ppm	0.000049000	34.929
Ca3179		32.276	ppm	0.032438	0.10050
Cd2144		.0000010000	ppm	0.0000030000	246.30
Co2286		-0.00020500	ppm	0.00015200	74.292

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

SD 320-54615-A2E@250

Acquire Date: 10/15/2019 2:04:55PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.00053800	ppm	0.000053000	9.7656
Cu3247		0.0018010	ppm	0.00027000	14.990
Fe2599		0.0019400	ppm	0.010676	550.23
K_7664		5.9345	ppm	0.022390	0.37729
Mg2790		34.449	ppm	0.035659	0.10351
Mn2576		0.0052330	ppm	0.000040000	0.76023
Mo2020		0.00066300	ppm	0.000047000	7.0979
Na5895		53.952	ppm	0.0097880	0.018143
Ni2316		0.00047700	ppm	0.00038500	80.817
P_1782		0.0012560	ppm	0.00090800	72.237
Pb2203		-0.00048100	ppm	0.0053490	1,112.5
S_1820		2.2655	ppm	0.017177	0.75822
Sb2068		-0.00070300	ppm	0.000024000	3.4342
Se1960		0.0077980	ppm	0.0020040	25.692
Si2881		0.11691	ppm	0.0027320	2.3366
Sn1899		0.000091000	ppm	0.00051100	559.18
Sr4077		0.23718	ppm	0.00065100	0.27437
Ti3349		-0.00028600	ppm	0.00048800	170.33
Tl1908		0.0015230	ppm	0.0016160	106.12
V_2924		0.00014200	ppm	0.00036500	257.26
Zn2062		0.00059900	ppm	0.00075300	125.67
Y_2243		6,591.5	Cts/S	5.8613	0.088922
Y_3600		52,669	Cts/S	6.0420	0.011472
Y_3774		8,264.5	Cts/S	73.166	0.88531

PDS 320-54615-A2E@50

Acquire Date: 10/15/2019 2:08:51PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.10666	ppm	0.00079800	0.74865
Al3961		10.594	ppm	0.010777	0.10173
As1890		0.096597	ppm	0.00020400	0.21087
B_2089		4.3970	ppm	0.0058710	0.13352
Ba4554		0.11270	ppm	0.00053700	0.47688
Be3130		0.052589	ppm	0.00015900	0.30278
Ca3179		168.08	ppm	0.18543	0.11032
Cd2144		0.10070	ppm	0.000014000	0.013940
Co2286		0.10139	ppm	0.00081300	0.80197
Cr2677		0.10509	ppm	0.00085100	0.80955
Cu3247		0.096907	ppm	0.0026380	2.7225
Fe2599		4.0214	ppm	0.0015060	0.037445
K_7664		40.238	ppm	0.028684	0.071286
Mg2790		182.30	ppm	0.31678	0.17377
Mn2576		0.12788	ppm	0.000050000	0.039302
Mo2020		0.10484	ppm	0.00040600	0.38714
Na5895	**W**	**274.92**	**ppm**	**8.4510**	**3.0740**
Ni2316		0.099226	ppm	0.00000	0.00037600

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

PDS 320-54615-A2E@50

Acquire Date: 10/15/2019 2:08:51PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		1.0929	ppm	0.00049300	0.045127
Pb2203		0.097814	ppm	0.0025270	2.5831
S_1820		13.781	ppm	0.023171	0.16813
Sb2068		0.097897	ppm	0.0041950	4.2849
Se1960		0.096380	ppm	0.0053400	5.5405
Si2881		1.5696	ppm	0.042836	2.7291
Sn1899		0.098341	ppm	0.00016500	0.16809
Sr4077		1.2760	ppm	0.00021700	0.017018
Ti3349		0.10173	ppm	0.0015040	1.4786
Tl1908		0.098961	ppm	0.0020480	2.0698
V_2924		0.10775	ppm	0.00037900	0.35169
Zn2062		0.096237	ppm	0.0013980	1.4525
Y_2243		6,312.8	Cts/S	95.521	1.5131
Y_3600		49,401	Cts/S	4.7141	0.0095430
Y_3774		8,096.6	Cts/S	21.580	0.26653

CCV 1708493

Acquire Date: 10/15/2019 2:12:48PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.50461	ppm	0.00087300	0.17306	.50000	Rel(%)	Pass	
Al3961		25.269	ppm	0.010681	0.042270	25.000	Rel(%)	Pass	
As1890		0.52700	ppm	0.0024790	0.47037	.50000	Rel(%)	Pass	
B_2089		1.0245	ppm	0.00086000	0.083918	1.0000	Rel(%)	Pass	
Ba4554		2.6423	ppm	0.0041460	0.15690	2.5000	Rel(%)	Pass	
Be3130		0.53247	ppm	0.00060900	0.11430	.50000	Rel(%)	Pass	
Ca3179		25.344	ppm	0.090265	0.35615	25.000	Rel(%)	Pass	
Cd2144		0.51992	ppm	0.00015100	0.029116	.50000	Rel(%)	Pass	
Co2286		2.6075	ppm	0.0010750	0.041245	2.5000	Rel(%)	Pass	
Cr2677		2.5873	ppm	0.0013610	0.052594	2.5000	Rel(%)	Pass	
Cu3247		2.3405	ppm	0.012969	0.55409	2.5000	Rel(%)	Pass	
Fe2599		24.934	ppm	0.024053	0.096470	25.000	Rel(%)	Pass	
K_7664		25.223	ppm	0.031717	0.12575	25.000	Rel(%)	Pass	
Mg2790		25.207	ppm	0.0071620	0.028415	25.000	Rel(%)	Pass	
Mn2576		2.5558	ppm	0.0033850	0.13243	2.5000	Rel(%)	Pass	
Mo2020		1.0296	ppm	0.00048000	0.046596	1.0000	Rel(%)	Pass	
Na5895		25.127	ppm	0.072742	0.28950	25.000	Rel(%)	Pass	
Ni2316		2.5589	ppm	0.0036670	0.14331	2.5000	Rel(%)	Pass	
P_1782		2.5141	ppm	0.0010380	0.041269	2.5000	Rel(%)	Pass	
Pb2203		0.52384	ppm	0.0026000	0.49640	.50000	Rel(%)	Pass	
S_1820		2.5041	ppm	0.0014060	0.056135	2.5000	Rel(%)	Pass	
Sb2068		0.53144	ppm	0.0032170	0.60535	.50000	Rel(%)	Pass	
Se1960		0.53912	ppm	0.0060720	1.1263	.50000	Rel(%)	Pass	
Si2881		2.5153	ppm	0.0076640	0.30469	2.5000	Rel(%)	Pass	
Sn1899		2.5610	ppm	0.00021900	0.0085370	2.5000	Rel(%)	Pass	
Sr4077		2.4954	ppm	0.0029300	0.11742	2.5000	Rel(%)	Pass	
Ti3349		1.0177	ppm	0.00020800	0.020448	1.0000	Rel(%)	Pass	
Tl1908		0.52928	ppm	0.0032490	0.61378	.50000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCV 1708493

Acquire Date: 10/15/2019 2:12:48PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
V_2924		2.6145	ppm	0.0025320	0.096844	2.5000	Rel(%)	Pass	
Zn2062		2.4232	ppm	0.010807	0.44599	2.5000	Rel(%)	Pass	
Y_2243		6,697.9	Cts/S	66.653	0.99514				
Y_3600		53,255	Cts/S	93.043	0.17471				
Y_3774		8,406.7	Cts/S	93.786	1.1156				

CCB 1745955

Acquire Date: 10/15/2019 2:16:35PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.00054400	ppm	0.00062100	114.04	.00000	Abs	Pass	
Al3961		-0.0077940	ppm	0.0045660	58.590	.00000	Abs	Pass	
As1890		0.0011140	ppm	0.0021760	195.43	.00000	Abs	Pass	
B_2089		0.019624	ppm	0.0013110	6.6814	.00000	Abs	Pass	
Ba4554		0.00051600	ppm	0.00073800	143.03	.00000	Abs	Pass	
Be3130		0.00027600	ppm	0.000026000	9.4040	.00000	Abs	Pass	
Ca3179		0.011808	ppm	0.0023920	20.258	.00000	Abs	Pass	
Cd2144		0.00021400	ppm	0.000048000	22.472	.00000	Abs	Pass	
Co2286		0.0011520	ppm	0.00060300	52.365	.00000	Abs	Pass	
Cr2677		0.00064800	ppm	0.00042300	65.328	.00000	Abs	Pass	
Cu3247		0.0023490	ppm	0.0012800	54.480	.00000	Abs	Pass	
Fe2599		-0.0014850	ppm	0.0014860	100.00	.00000	Abs	Pass	
K_7664		0.049059	ppm	0.056658	115.49	.00000	Abs	Pass	
Mg2790		0.010278	ppm	0.0061880	60.206	.00000	Abs	Pass	
Mn2576		0.00043000	ppm	0.00017500	40.681	.00000	Abs	Pass	
Mo2020		0.00020000	ppm	0.00066200	330.95	.00000	Abs	Pass	
Na5895		0.13561	ppm	0.0062150	4.5832	.00000	Abs	Pass	
Ni2316		0.00088100	ppm	0.0012150	137.80	.00000	Abs	Pass	
P_1782		0.00092200	ppm	0.0010860	117.78	.00000	Abs	Pass	
Pb2203		-0.00042600	ppm	0.0014060	330.30	.00000	Abs	Pass	
S_1820		-0.0014190	ppm	0.0019860	140.01	.00000	Abs	Pass	
Sb2068		-0.00013800	ppm	0.0018700	1,354.0	.00000	Abs	Pass	
Se1960		0.0054770	ppm	0.0041190	75.201	.00000	Abs	Pass	
Si2881		-0.0080700	ppm	0.043696	541.45	.00000	Abs	Pass	
Sn1899		0.0016110	ppm	0.0011390	70.704	.00000	Abs	Pass	
Sr4077		0.00057000	ppm	0.00038400	67.399	.00000	Abs	Pass	
Ti3349		0.00024800	ppm	0.00084800	342.11	.00000	Abs	Pass	
Tl1908		0.0031100	ppm	0.00086000	27.672	.00000	Abs	Pass	
V_2924		0.0010320	ppm	0.00013300	12.900	.00000	Abs	Pass	
Zn2062		0.0029680	ppm	0.0012040	40.575	.00000	Abs	Pass	
Y_2243		6,868.9	Cts/S	13.754	0.20023				
Y_3600		55,170	Cts/S	31.841	0.057714				
Y_3774		8,548.9	Cts/S	39.677	0.46413				

320-54615-A2-F MS@50

Acquire Date: 10/15/2019 2:20:36PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00047800	ppm	0.00033500	70.122
Al3961		0.097884	ppm	0.0031980	3.2672
As1890		0.010796	ppm	0.00028400	2.6326
B_2089		3.4340	ppm	0.0054480	0.15866
Ba4554		0.016269	ppm	0.00035800	2.2036
Be3130		0.0048520	ppm	0.000098000	2.0269
Ca3179		158.72	ppm	0.080015	0.050412
Cd2144		0.0049460	ppm	0.000020000	0.39661
Co2286		0.0047590	ppm	0.00024400	5.1255
Cr2677		0.0047490	ppm	0.00043200	9.0906
Cu3247		0.0099050	ppm	0.0015730	15.885
Fe2599		0.11896	ppm	0.0096120	8.0796
K_7664		29.804	ppm	0.022964	0.077050
Mg2790		171.85	ppm	0.35753	0.20805
Mn2576		0.030439	ppm	0.00017700	0.58045
Mo2020		0.0070570	ppm	0.00038400	5.4440
Na5895	**W**	**266.40**	**ppm**	**0.59996**	**0.22521**
Ni2316		0.0053210	ppm	0.00080200	15.073
P_1782		0.10768	ppm	0.0016740	1.5550
Pb2203		0.0070090	ppm	0.0030470	43.478
S_1820		11.651	ppm	0.022649	0.19440
Sb2068		0.0092790	ppm	0.00097600	10.521
Se1960		0.010199	ppm	0.0011310	11.093
Si2881		0.65900	ppm	0.012034	1.8261
Sn1899		0.010035	ppm	0.00048600	4.8466
Sr4077		1.1730	ppm	0.0010360	0.088305
Ti3349		0.0036780	ppm	0.00041700	11.332
Tl1908		0.012389	ppm	0.00031000	2.5045
V_2924		0.0056020	ppm	0.00064400	11.496
Zn2062		0.012840	ppm	0.000075000	0.58686
Y_2243		6,301.5	Cts/S	14.287	0.22672
Y_3600		49,894	Cts/S	136.25	0.27309
Y_3774		8,215.5	Cts/S	21.982	0.26757

320-54615-A2G MSD@50

Acquire Date: 10/15/2019 2:24:36PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00068700	ppm	0.00032700	47.582
Al3961		0.088265	ppm	0.00035400	0.40059
As1890		0.0075650	ppm	0.0037930	50.138
B_2089		3.4217	ppm	0.0044280	0.12940
Ba4554		0.016002	ppm	0.000044000	0.27279
Be3130		0.0050360	ppm	0.000056000	1.1187
Ca3179		158.37	ppm	0.49076	0.30988
Cd2144		0.0049070	ppm	0.000031000	0.62629
Co2286		0.0047850	ppm	0.00016000	3.3380

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54615-A2G MSD@50

Acquire Date: 10/15/2019 2:24:36PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.0050180	ppm	0.000069000	1.3804
Cu3247		0.010625	ppm	0.0037250	35.062
Fe2599		0.11660	ppm	0.0067760	5.8114
K_7664		29.877	ppm	0.15922	0.53293
Mg2790		171.57	ppm	0.18837	0.10979
Mn2576		0.030137	ppm	0.000036000	0.11791
Mo2020		0.0070890	ppm	0.00049400	6.9630
Na5895	**W**	**266.16**	**ppm**	**1.4209**	**0.53387**
Ni2316		0.0059110	ppm	0.00016500	2.7976
P_1782		0.10856	ppm	0.0029670	2.7328
Pb2203		0.0058940	ppm	0.0013310	22.577
S_1820		11.560	ppm	0.056449	0.48830
Sb2068		0.0082030	ppm	0.0019290	23.519
Se1960		0.0074770	ppm	0.0094650	126.58
Si2881		0.62131	ppm	0.014124	2.2733
Sn1899		0.0098890	ppm	0.00024800	2.5107
Sr4077		1.1703	ppm	0.0052400	0.44775
Ti3349		0.0034860	ppm	0.00043500	12.468
Tl1908		0.010276	ppm	0.0027010	26.283
V_2924		0.0047990	ppm	0.00050800	10.596
Zn2062		0.010125	ppm	0.000032000	0.31619
Y_2243		6,176.6	Cts/S	10.594	0.17153
Y_3600		49,072	Cts/S	68.404	0.13940
Y_3774		8,137.4	Cts/S	19.876	0.24425

320-54615-A-4-C@50

Acquire Date: 10/15/2019 2:28:33PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00065400	ppm	0.0013760	210.22
Al3961		0.0061240	ppm	0.023750	387.80
As1890		0.0025880	ppm	0.0020120	77.719
B_2089		3.3158	ppm	0.0019470	0.058709
Ba4554		0.0059550	ppm	0.00011800	1.9753
Be3130		-0.00032800	ppm	0.000047000	14.399
Ca3179		156.92	ppm	0.14180	0.090365
Cd2144		0.00010800	ppm	0.000061000	56.454
Co2286		0.00042800	ppm	0.00019000	44.407
Cr2677		0.00043400	ppm	0.00019400	44.781
Cu3247		0.0049250	ppm	0.0012560	25.497
Fe2599		0.018202	ppm	0.0074660	41.019
K_7664		29.485	ppm	0.077998	0.26454
Mg2790		170.87	ppm	0.015625	0.0091440
Mn2576		0.025178	ppm	0.000077000	0.30563
Mo2020		0.0023940	ppm	0.00075700	31.641
Na5895	**W**	**261.53**	**ppm**	**6.1838**	**2.3645**
Ni2316		0.00057800	ppm	0.000089000	15.476

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54615-A-4-C@50

Acquire Date: 10/15/2019 2:28:33PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		0.0044600	ppm	0.0026960	60.439
Pb2203		0.0026330	ppm	0.000096000	3.6292
S_1820		11.486	ppm	0.019735	0.17182
Sb2068		-0.0046190	ppm	0.0014750	31.943
Se1960		0.0028350	ppm	0.0031710	111.85
Si2881		0.53780	ppm	0.0058660	1.0907
Sn1899		0.00018200	ppm	0.00014100	77.422
Sr4077		1.1643	ppm	0.0016280	0.13980
Ti3349		-0.0014200	ppm	0.00075000	52.799
Tl1908		-0.00050500	ppm	0.0040800	807.54
V_2924		0.00033900	ppm	0.00014000	41.113
Zn2062		0.0019130	ppm	0.0021660	113.21
Y_2243		6,304.5	Cts/S	6.2462	0.099075
Y_3600		49,971	Cts/S	51.614	0.10329
Y_3774		8,284.4	Cts/S	0.42397	0.0051180

320-54615-A-6-B@50

Acquire Date: 10/15/2019 2:32:36PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.000096000	ppm	0.00011100	114.82
Al3961		0.0024280	ppm	0.0070670	291.03
As1890		-0.00032000	ppm	0.0011110	347.86
B_2089		0.31164	ppm	0.0012760	0.40959
Ba4554		0.00070400	ppm	0.000039000	5.4736
Be3130		.0000080000	ppm	0.000068000	856.81
Ca3179		18.734	ppm	0.026733	0.14270
Cd2144		.0000040000	ppm	0.0000020000	71.015
Co2286		0.000094000	ppm	0.00024300	257.91
Cr2677		0.000073000	ppm	0.00064400	887.34
Cu3247		0.0086300	ppm	0.0013530	15.677
Fe2599		0.0015640	ppm	0.0027680	177.02
K_7664		78.566	ppm	0.024543	0.031239
Mg2790		72.278	ppm	0.062129	0.085958
Mn2576		0.00052300	ppm	0.000034000	6.5656
Mo2020		0.000075000	ppm	0.00022900	306.27
Na5895	**F**	**1,370.7**	**ppm**	**28.994**	**2.1152**
Ni2316		0.00053300	ppm	0.00012500	23.383
P_1782		0.023311	ppm	0.0027500	11.799
Pb2203		0.0016840	ppm	0.0019480	115.70
S_1820		97.336	ppm	0.21645	0.22238
Sb2068		-0.0032530	ppm	0.0036870	113.36
Se1960		0.0030010	ppm	0.0025130	83.724
Si2881		0.28552	ppm	0.037889	13.270
Sn1899		-0.00013200	ppm	0.0000040000	3.0355
Sr4077		0.52933	ppm	0.00026800	0.050711
Ti3349		-0.0022330	ppm	0.00047000	21.033

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54615-A-6-B@50

Acquire Date: 10/15/2019 2:32:36PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		0.0015100	ppm	0.0018300	121.17
V_2924		0.00020200	ppm	0.00013200	65.368
Zn2062		0.0015100	ppm	0.00067600	44.767
Y_2243		6,170.7	Cts/S	13.492	0.21865
Y_3600		47,280	Cts/S	9.8087	0.020746
Y_3774		8,230.7	Cts/S	9.2383	0.11224

320-54463-A-2-D@50

Acquire Date: 10/15/2019 2:36:40PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00053700	ppm	0.00060700	113.02
Al3961		0.0011120	ppm	0.0015110	135.87
As1890		0.0012540	ppm	0.00036900	29.457
B_2089		3.7094	ppm	0.0042460	0.11447
Ba4554		0.0035260	ppm	0.00051900	14.706
Be3130		-0.00013900	ppm	0.00022600	162.06
Ca3179		181.90	ppm	2.6857	1.4765
Cd2144		0.00015000	ppm	0.000066000	43.766
Co2286		0.000048000	ppm	0.00013400	281.83
Cr2677		0.00063600	ppm	0.00043500	68.364
Cu3247		0.0017200	ppm	0.0013940	81.053
Fe2599		1.8363	ppm	0.015865	0.86397
K_7664		7.9496	ppm	0.080459	1.0121
Mg2790		96.866	ppm	0.077890	0.080410
Mn2576		0.23562	ppm	0.00058000	0.24601
Mo2020		0.00029800	ppm	0.00067900	227.89
Na5895		54.697	ppm	0.45628	0.83420
Ni2316		-0.00010600	ppm	0.000044000	41.540
P_1782		0.0073100	ppm	0.0016750	22.913
Pb2203		-0.00080100	ppm	0.0032050	399.94
S_1820		9.5369	ppm	0.017640	0.18496
Sb2068		-0.00091200	ppm	0.0017410	190.93
Se1960		0.0017120	ppm	0.00063500	37.068
Si2881		0.86375	ppm	0.019711	2.2820
Sn1899		-0.00011200	ppm	0.00097200	871.05
Sr4077		0.93064	ppm	0.012703	1.3650
Ti3349		-0.0021020	ppm	0.0010520	50.032
Tl1908		0.00043300	ppm	0.0018040	416.66
V_2924		0.0013220	ppm	0.00024000	18.133
Zn2062		0.0013430	ppm	0.00030800	22.962
Y_2243		6,496.7	Cts/S	34.836	0.53621
Y_3600		51,085	Cts/S	2.5001	0.0048940
Y_3774		8,068.4	Cts/S	5.4220	0.067201

SD 320-54463-A2D@250

Acquire Date: 10/15/2019 2:40:37PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00083600	ppm	0.00048300	57.848
Al3961		0.0063040	ppm	0.0076970	122.08
As1890		-0.00083700	ppm	0.0011460	136.96
B_2089		0.76352	ppm	0.00098200	0.12865
Ba4554		0.00057000	ppm	0.00053700	94.216
Be3130		-0.00010500	ppm	0.00013700	131.26
Ca3179		35.832	ppm	0.054295	0.15153
Cd2144		0.00010200	ppm	0.000026000	25.752
Co2286		0.000014000	ppm	0.000039000	271.41
Cr2677		0.00050100	ppm	0.00055000	109.67
Cu3247		0.00013600	ppm	0.0022380	1,647.3
Fe2599		0.36836	ppm	0.0049580	1.3459
K_7664		1.6280	ppm	0.022969	1.4109
Mg2790		19.369	ppm	0.060843	0.31412
Mn2576		0.047716	ppm	0.000097000	0.20335
Mo2020		0.00027500	ppm	0.00028500	103.32
Na5895		10.833	ppm	0.024713	0.22813
Ni2316		0.00071500	ppm	0.00045400	63.433
P_1782		0.00084100	ppm	0.0035520	422.18
Pb2203		0.0044280	ppm	0.0015440	34.869
S_1820		1.8692	ppm	0.013213	0.70686
Sb2068		-0.0012120	ppm	0.00057600	47.573
Se1960		0.00032400	ppm	0.0026240	810.60
Si2881		0.17203	ppm	0.065175	37.886
Sn1899		0.00010800	ppm	0.00026500	244.44
Sr4077		0.18442	ppm	0.00011700	0.063351
Ti3349		-0.00089800	ppm	0.00047200	52.558
Tl1908		0.0019120	ppm	0.00067500	35.296
V_2924		0.00048100	ppm	0.00030400	63.237
Zn2062		0.00056100	ppm	0.0017000	302.90
Y_2243		6,623.0	Cts/S	46.692	0.70501
Y_3600		52,767	Cts/S	76.685	0.14533
Y_3774		8,296.7	Cts/S	120.95	1.4579

PDS 320-54463-A2D@50

Acquire Date: 10/15/2019 2:44:34PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.10196	ppm	0.000082000	0.080845
Al3961		10.213	ppm	0.016238	0.15900
As1890		0.093755	ppm	0.000038000	0.040862
B_2089		4.6994	ppm	0.013372	0.28454
Ba4554		0.10651	ppm	0.00075600	0.71010
Be3130		0.051243	ppm	0.00019000	0.37132
Ca3179		188.10	ppm	0.093512	0.049713
Cd2144		0.098159	ppm	0.00041400	0.42128
Co2286		0.099414	ppm	0.00032900	0.33128

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

PDS 320-54463-A2D@50

Acquire Date: 10/15/2019 2:44:34PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.10173	ppm	0.00054300	0.53417
Cu3247		0.092967	ppm	0.0015350	1.6511
Fe2599		5.6871	ppm	0.0054150	0.095219
K_7664		18.056	ppm	0.023453	0.12989
Mg2790		106.63	ppm	0.016753	0.015711
Mn2576		0.33428	ppm	0.00031600	0.094673
Mo2020		0.099247	ppm	0.00012200	0.12282
Na5895		63.773	ppm	0.051050	0.080050
Ni2316		0.097187	ppm	0.00076500	0.78750
P_1782		1.0634	ppm	0.0024160	0.22722
Pb2203		0.10118	ppm	0.00025000	0.24698
S_1820		11.688	ppm	0.025724	0.22008
Sb2068		0.093324	ppm	0.00044000	0.47096
Se1960		0.10008	ppm	0.0014620	1.4612
Si2881		1.9074	ppm	0.028851	1.5126
Sn1899		0.096707	ppm	0.00070300	0.72690
Sr4077		1.0109	ppm	0.00076500	0.075668
Ti3349		0.098010	ppm	0.00036200	0.36895
Tl1908		0.098149	ppm	0.0020150	2.0534
V_2924		0.10604	ppm	0.00031600	0.29787
Zn2062		0.091606	ppm	0.0015580	1.7003
Y_2243		6,360.8	Cts/S	3.7362	0.058738
Y_3600		50,554	Cts/S	47.018	0.093005
Y_3774		8,061.2	Cts/S	148.47	1.8418

320-54463-A2-E MS@50

Acquire Date: 10/15/2019 2:48:25PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0014940	ppm	0.00030600	20.470
Al3961		0.11023	ppm	0.031100	28.214
As1890		0.0083850	ppm	0.0020160	24.037
B_2089		3.7970	ppm	0.0017160	0.045188
Ba4554		0.013262	ppm	0.00019900	1.4969
Be3130		0.0048260	ppm	0.000068000	1.4049
Ca3179		179.43	ppm	0.15830	0.088222
Cd2144		0.0050120	ppm	0.000065000	1.3000
Co2286		0.0048770	ppm	0.00028800	5.9146
Cr2677		0.0056100	ppm	0.00024700	4.3966
Cu3247		0.0065030	ppm	0.0013690	21.050
Fe2599		1.8912	ppm	0.0046260	0.24458
K_7664		8.3374	ppm	0.012912	0.15487
Mg2790		97.618	ppm	0.33631	0.34451
Mn2576		0.24083	ppm	0.00024400	0.10141
Mo2020		0.0047000	ppm	0.00020500	4.3699
Na5895		54.282	ppm	0.035337	0.065098
Ni2316		0.0045410	ppm	0.00025600	5.6427

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54463-A2-E MS@50

Acquire Date: 10/15/2019 2:48:25PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		0.11499	ppm	0.00074500	0.64822
Pb2203		0.0076970	ppm	0.0015770	20.492
S_1820		9.6881	ppm	0.010121	0.10447
Sb2068		0.0053260	ppm	0.0037420	70.252
Se1960		0.0099240	ppm	0.0044160	44.495
Si2881		0.91375	ppm	0.021237	2.3242
Sn1899		0.010050	ppm	0.00023200	2.3107
Sr4077		0.91963	ppm	0.00069600	0.075686
Ti3349		0.0038570	ppm	0.00066600	17.271
Tl1908		0.012448	ppm	0.00089100	7.1592
V_2924		0.0061680	ppm	0.00095000	15.403
Zn2062		0.0097270	ppm	0.0019620	20.166
Y_2243		6,361.4	Cts/S	8.9538	0.14075
Y_3600		51,085	Cts/S	314.57	0.61577
Y_3774		8,159.8	Cts/S	55.999	0.68628

320-54463-A2F MSD@50

Acquire Date: 10/15/2019 2:52:21PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00067300	ppm	0.00099800	148.15
Al3961		0.095999	ppm	0.018191	18.949
As1890		0.0086850	ppm	0.00073900	8.5044
B_2089		3.7779	ppm	0.010837	0.28686
Ba4554		0.013543	ppm	0.00016200	1.1991
Be3130		0.0049500	ppm	0.00013000	2.6206
Ca3179		178.00	ppm	0.019145	0.010756
Cd2144		0.0049560	ppm	0.000077000	1.5450
Co2286		0.0047640	ppm	0.00029300	6.1599
Cr2677		0.0055420	ppm	0.00045800	8.2694
Cu3247		0.0093870	ppm	0.00041500	4.4182
Fe2599		1.8877	ppm	0.0097270	0.51528
K_7664		8.2630	ppm	0.017315	0.20955
Mg2790		96.536	ppm	0.38965	0.40364
Mn2576		0.23834	ppm	0.00047300	0.19832
Mo2020		0.0050620	ppm	0.00019200	3.7981
Na5895		53.896	ppm	0.068537	0.12717
Ni2316		0.0054890	ppm	0.000078000	1.4262
P_1782		0.11046	ppm	0.0022820	2.0658
Pb2203		0.0080680	ppm	0.00012900	1.6023
S_1820		9.6103	ppm	0.0069290	0.072100
Sb2068		0.0088950	ppm	0.0010370	11.656
Se1960		0.014901	ppm	0.00093100	6.2512
Si2881		0.90804	ppm	0.010840	1.1937
Sn1899		0.0092530	ppm	0.00069200	7.4755
Sr4077		0.91537	ppm	0.0010590	0.11566
Ti3349		0.0039120	ppm	0.00039600	10.127

320-54463-A2F MSD@50

Acquire Date: 10/15/2019 2:52:21PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		0.013042	ppm	0.0012130	9.3013
V_2924		0.0066380	ppm	0.00013600	2.0552
Zn2062		0.0098420	ppm	0.00044700	4.5432
Y_2243		6,503.5	Cts/S	27.855	0.42830
Y_3600		51,731	Cts/S	577.23	1.1158
Y_3774		8,163.6	Cts/S	89.372	1.0948

320-54463-A-4-B@50

Acquire Date: 10/15/2019 2:56:17PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0014720	ppm	0.00079000	53.689
Al3961		-0.010033	ppm	0.022407	223.34
As1890		0.0012480	ppm	0.00015500	12.391
B_2089		0.27886	ppm	0.0011220	0.40240
Ba4554		0.000043000	ppm	0.00012400	288.09
Be3130		0.000036000	ppm	0.00027200	756.00
Ca3179		18.582	ppm	0.014663	0.078910
Cd2144		0.000037000	ppm	0.000021000	56.764
Co2286		0.000051000	ppm	0.00034900	682.56
Cr2677		0.00012000	ppm	0.00048900	407.49
Cu3247		0.0072280	ppm	0.00036800	5.0941
Fe2599		-0.013691	ppm	0.0042000	30.679
K_7664		48.633	ppm	0.034826	0.071609
Mg2790		63.964	ppm	0.11530	0.18026
Mn2576		0.00030400	ppm	0.00014700	48.434
Mo2020		0.00014600	ppm	0.000030000	20.412
Na5895	**F**	**1,017.3**	**ppm**	**0.17663**	**0.017363**
Ni2316		0.00052400	ppm	0.00027600	52.708
P_1782		0.013414	ppm	0.00076900	5.7343
Pb2203		-0.00013600	ppm	0.0023060	1,697.6
S_1820		108.74	ppm	0.16636	0.15300
Sb2068		-0.0055780	ppm	0.00079600	14.274
Se1960		0.0062970	ppm	0.0042620	67.686
Si2881		0.35398	ppm	0.0096370	2.7224
Sn1899		0.00034200	ppm	0.00014800	43.235
Sr4077		0.66558	ppm	0.0000090000	0.0013150
Ti3349		-0.0011990	ppm	0.00062300	51.981
Tl1908		0.0014750	ppm	0.00061600	41.744
V_2924		0.00019100	ppm	0.00047000	245.83
Zn2062		0.0015680	ppm	0.0010630	67.803
Y_2243		6,337.4	Cts/S	13.075	0.20632
Y_3600		49,425	Cts/S	107.53	0.21756
Y_3774		8,320.6	Cts/S	175.78	2.1126

CCV 1708493

Acquire Date: 10/15/2019 3:00:20PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.50500	ppm	0.0025270	0.50038	.50000	Rel(%)	Pass	
Al3961		25.685	ppm	0.019790	0.077049	25.000	Rel(%)	Pass	
As1890		0.53146	ppm	0.00014600	0.027517	.50000	Rel(%)	Pass	
B_2089		1.0198	ppm	0.00051900	0.050934	1.0000	Rel(%)	Pass	
Ba4554		2.6731	ppm	0.0054890	0.20534	2.5000	Rel(%)	Pass	
Be3130		0.53811	ppm	0.00088200	0.16382	.50000	Rel(%)	Pass	
Ca3179		25.271	ppm	0.078865	0.31208	25.000	Rel(%)	Pass	
Cd2144		0.52200	ppm	0.00027800	0.053202	.50000	Rel(%)	Pass	
Co2286		2.6241	ppm	0.0023370	0.089043	2.5000	Rel(%)	Pass	
Cr2677		2.6039	ppm	0.00059000	0.022675	2.5000	Rel(%)	Pass	
Cu3247		2.3300	ppm	0.013828	0.59347	2.5000	Rel(%)	Pass	
Fe2599		25.007	ppm	0.024632	0.098499	25.000	Rel(%)	Pass	
K_7664		25.440	ppm	0.023441	0.092144	25.000	Rel(%)	Pass	
Mg2790		25.404	ppm	0.0099550	0.039189	25.000	Rel(%)	Pass	
Mn2576		2.5641	ppm	0.0010920	0.042571	2.5000	Rel(%)	Pass	
Mo2020		1.0342	ppm	0.00074000	0.071546	1.0000	Rel(%)	Pass	
Na5895		25.768	ppm	0.10163	0.39441	25.000	Rel(%)	Pass	
Ni2316		2.5673	ppm	0.0018040	0.070281	2.5000	Rel(%)	Pass	
P_1782		2.5383	ppm	0.0085080	0.33521	2.5000	Rel(%)	Pass	
Pb2203		0.52551	ppm	0.0023230	0.44207	.50000	Rel(%)	Pass	
S_1820		2.5191	ppm	0.013612	0.54034	2.5000	Rel(%)	Pass	
Sb2068		0.53803	ppm	0.00054800	0.10182	.50000	Rel(%)	Pass	
Se1960		0.54528	ppm	0.00053000	0.097137	.50000	Rel(%)	Pass	
Si2881		2.4963	ppm	0.00092900	0.037207	2.5000	Rel(%)	Pass	
Sn1899		2.5711	ppm	0.0013110	0.051004	2.5000	Rel(%)	Pass	
Sr4077		2.5000	ppm	0.0050580	0.20232	2.5000	Rel(%)	Pass	
Ti3349		1.0243	ppm	0.000098000	0.0095980	1.0000	Rel(%)	Pass	
Tl1908		0.53206	ppm	0.00042600	0.080141	.50000	Rel(%)	Pass	
V_2924		2.6369	ppm	0.00039200	0.014865	2.5000	Rel(%)	Pass	
Zn2062		2.4286	ppm	0.0019170	0.078924	2.5000	Rel(%)	Pass	
Y_2243		6,617.4	Cts/S	15.400	0.23272				
Y_3600		52,337	Cts/S	203.29	0.38843				
Y_3774		8,209.4	Cts/S	3.0324	0.036938				

CCB 1745955

Acquire Date: 10/15/2019 3:04:07PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.00021000	ppm	0.00083500	398.11	.00000	Abs	Pass	
Al3961		0.014129	ppm	0.013329	94.337	.00000	Abs	Pass	
As1890		-0.0018670	ppm	0.00011100	5.9330	.00000	Abs	Pass	
B_2089		0.018275	ppm	0.00026400	1.4469	.00000	Abs	Pass	
Ba4554		0.0015850	ppm	0.0016860	106.37	.00000	Abs	Pass	
Be3130		0.00026500	ppm	0.00039000	146.94	.00000	Abs	Pass	
Ca3179		0.022475	ppm	0.020846	92.753	.00000	Abs	Pass	
Cd2144		0.00026600	ppm	0.00019000	71.340	.00000	Abs	Pass	
Co2286		0.0013000	ppm	0.0016500	127.01	.00000	Abs	Pass	
Cr2677		0.00023400	ppm	0.00047600	203.47	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCB 1745955

Acquire Date: 10/15/2019 3:04:07PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Cu3247		0.0037650	ppm	0.00023100	6.1266	.00000	Abs	Pass	
Fe2599		0.014939	ppm	0.014909	99.799	.00000	Abs	Pass	
K_7664		-0.013301	ppm	0.0093680	70.429	.00000	Abs	Pass	
Mg2790		0.0014440	ppm	0.0014770	102.24	.00000	Abs	Pass	
Mn2576		0.00013300	ppm	0.000050000	37.142	.00000	Abs	Pass	
Mo2020		0.00087100	ppm	0.00056800	65.169	.00000	Abs	Pass	
Na5895		0.27559	ppm	0.042380	15.378	.00000	Abs	Pass	
Ni2316		0.0011700	ppm	0.0011700	100.06	.00000	Abs	Pass	
P_1782		0.0010570	ppm	0.0015730	148.76	.00000	Abs	Pass	
Pb2203		0.00057600	ppm	0.0019260	334.67	.00000	Abs	Pass	
S_1820		0.0097080	ppm	0.018868	194.35	.00000	Abs	Pass	
Sb2068		-0.0036700	ppm	0.0025150	68.523	.00000	Abs	Pass	
Se1960		0.00049700	ppm	0.0026720	537.49	.00000	Abs	Pass	
Si2881		-0.020169	ppm	0.0083090	41.198	.00000	Abs	Pass	
Sn1899		0.0019610	ppm	0.0015280	77.915	.00000	Abs	Pass	
Sr4077		0.0017090	ppm	0.0018050	105.62	.00000	Abs	Pass	
Ti3349		0.00027500	ppm	0.00011700	42.524	.00000	Abs	Pass	
Tl1908		0.0029370	ppm	0.0032600	111.01	.00000	Abs	Pass	
V_2924		0.000085000	ppm	0.000037000	44.313	.00000	Abs	Pass	
Zn2062		0.0030670	ppm	0.00024400	7.9625	.00000	Abs	Pass	
Y_2243		6,840.0	Cts/S	37.830	0.55307				
Y_3600		54,729	Cts/S	263.78	0.48197				
Y_3774		8,419.8	Cts/S	188.72	2.2414				

320-54463-A-6-B@50

Acquire Date: 10/15/2019 3:08:07PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0010470	ppm	0.00059500	56.885
Al3961		0.018479	ppm	0.0031150	16.857
As1890		0.00024700	ppm	0.0042960	1,739.2
B_2089		2.3246	ppm	0.0060180	0.25890
Ba4554		0.00018400	ppm	0.000055000	29.996
Be3130		0.000072000	ppm	0.00013700	188.90
Ca3179		10.197	ppm	0.045095	0.44223
Cd2144		-0.0012580	ppm	0.000044000	3.4733
Co2286		0.0010810	ppm	0.00021600	19.965
Cr2677		-0.0016070	ppm	0.00028900	17.963
Cu3247		0.0076040	ppm	0.0031330	41.206
Fe2599		0.028251	ppm	0.010293	36.432
K_7664		181.79	ppm	0.063562	0.034965
Mg2790	**W**	**1,199.3**	**ppm**	**16.680**	**1.3908**
Mn2576		0.21478	ppm	0.000061000	0.028452
Mo2020		0.0034420	ppm	0.00055700	16.183
Na5895		217.78	ppm	0.24967	0.11465
Ni2316		0.0035910	ppm	0.00085100	23.688
P_1782		0.065563	ppm	0.00022700	0.34656
Pb2203		0.0038250	ppm	0.0044190	115.53

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54463-A-6-B@50

Acquire Date: 10/15/2019 3:08:07PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
S_1820		66.639	ppm	0.35278	0.52938
Sb2068		0.0015370	ppm	0.0072370	470.69
Se1960		-0.0089730	ppm	0.0021060	23.476
Si2881		0.039939	ppm	0.00046800	1.1725
Sn1899		0.00079600	ppm	0.00045400	56.987
Sr4077		0.27728	ppm	0.00019000	0.068695
Ti3349		0.0026360	ppm	0.000053000	1.9927
Tl1908		0.0051530	ppm	0.0018600	36.095
V_2924		0.00099500	ppm	0.00058800	59.106
Zn2062		0.012197	ppm	0.0016400	13.442
Y_2243		6,118.0	Cts/S	88.699	1.4498
Y_3600		47,446	Cts/S	55.111	0.11615
Y_3774		7,992.7	Cts/S	120.11	1.5028

320-54512-A-2-A@50

Acquire Date: 10/15/2019 3:12:09PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.000020000	ppm	0.00027600	1,389.4
Al3961		-0.0039970	ppm	0.0056930	142.43
As1890		-0.00048500	ppm	0.00024800	51.034
B_2089		1.3879	ppm	0.0020720	0.14928
Ba4554		0.0019820	ppm	0.00032100	16.209
Be3130		0.000053000	ppm	0.000074000	138.09
Ca3179		72.562	ppm	0.052124	0.071834
Cd2144		0.000081000	ppm	0.000017000	21.082
Co2286		.0000050000	ppm	0.00043000	8,912.5
Cr2677		0.00040000	ppm	0.00046200	115.68
Cu3247		0.0061470	ppm	0.0026610	43.296
Fe2599		0.0091340	ppm	0.0033940	37.152
K_7664		14.060	ppm	0.088684	0.63074
Mg2790		57.744	ppm	0.12713	0.22017
Mn2576		0.024617	ppm	0.00017000	0.69028
Mo2020		-0.00017100	ppm	0.000052000	30.410
Na5895		221.25	ppm	0.26511	0.11982
Ni2316		0.00062300	ppm	0.00029800	47.856
P_1782		0.0037800	ppm	0.0024700	65.339
Pb2203		-0.0018780	ppm	0.0013740	73.156
S_1820		24.749	ppm	0.012050	0.048689
Sb2068		-0.0013830	ppm	0.0052400	378.82
Se1960		0.0014690	ppm	0.00044100	30.036
Si2881		0.43217	ppm	0.0090140	2.0858
Sn1899		-0.00039700	ppm	0.000083000	20.936
Sr4077		0.88015	ppm	0.00038400	0.043593
Ti3349		-0.0012830	ppm	0.00013300	10.382
Tl1908		0.0044200	ppm	0.0011640	26.341
V_2924		0.00035100	ppm	0.00070800	201.58

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54512-A-2-A@50

Acquire Date: 10/15/2019 3:12:09PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Zn2062		0.0017240	ppm	0.0014120	81.859
Y_2243		6,500.5	Cts/S	12.842	0.19756
Y_3600		51,937	Cts/S	289.48	0.55736
Y_3774		8,483.9	Cts/S	109.46	1.2902

320-54512-A-5-A@50

Acquire Date: 10/15/2019 3:16:05PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.000036000	ppm	0.0010020	2,748.2
Al3961		-0.0036120	ppm	0.031074	860.32
As1890		-0.0012220	ppm	0.00023200	19.009
B_2089		1.1947	ppm	0.00081300	0.068085
Ba4554		0.0022090	ppm	0.00026100	11.796
Be3130		-0.00015100	ppm	0.00021900	145.11
Ca3179		65.200	ppm	0.081629	0.12520
Cd2144		0.000076000	ppm	0.000062000	81.651
Co2286		-0.00010200	ppm	0.00014100	137.44
Cr2677		0.000096000	ppm	0.00042000	436.67
Cu3247		0.0067420	ppm	0.00096400	14.294
Fe2599		0.0062600	ppm	0.0018480	29.524
K_7664		15.459	ppm	0.038613	0.24977
Mg2790		60.823	ppm	0.16682	0.27427
Mn2576		0.047812	ppm	0.000029000	0.061507
Mo2020		0.000060000	ppm	0.00021100	349.46
Na5895	**W**	**275.68**	**ppm**	**8.1155**	**2.9438**
Ni2316		0.00025700	ppm	0.000079000	30.821
P_1782		0.0040680	ppm	0.00038600	9.4916
Pb2203		0.0022680	ppm	0.0041050	180.95
S_1820		36.192	ppm	0.026195	0.072377
Sb2068		-0.0031820	ppm	0.0031610	99.333
Se1960		0.0013550	ppm	0.0046320	341.76
Si2881		0.50803	ppm	0.0060540	1.1917
Sn1899		-0.00030300	ppm	0.00034300	113.36
Sr4077		0.55794	ppm	0.0011060	0.19827
Ti3349		-0.0011840	ppm	0.00011400	9.6354
Tl1908		0.0040440	ppm	0.0014250	35.241
V_2924		0.00013800	ppm	0.00011400	82.709
Zn2062		0.0011930	ppm	0.0000020000	0.20482
Y_2243		6,463.5	Cts/S	4.7796	0.073947
Y_3600		50,607	Cts/S	135.85	0.26845
Y_3774		8,316.0	Cts/S	9.2435	0.11115

SD 320-54512-A5A@250

Acquire Date: 10/15/2019 3:20:06PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.000086000	ppm	0.00038000	439.48
Al3961		0.016845	ppm	0.0026470	15.713
As1890		-0.00088700	ppm	0.00092300	104.08
B_2089		0.26161	ppm	0.0018210	0.69588
Ba4554		0.00038900	ppm	0.00023400	60.131
Be3130		0.000058000	ppm	0.00000	0.16406
Ca3179		13.480	ppm	0.012914	0.095798
Cd2144		0.00015300	ppm	0.000044000	28.668
Co2286		-0.00011000	ppm	0.00028300	257.14
Cr2677		0.00012100	ppm	0.000048000	40.113
Cu3247		0.0024910	ppm	0.0026800	107.58
Fe2599		-0.0043020	ppm	0.0018690	43.455
K_7664		3.1868	ppm	0.013840	0.43431
Mg2790		12.594	ppm	0.0015620	0.012402
Mn2576		0.0099810	ppm	0.00015100	1.5138
Mo2020		0.000037000	ppm	0.00037700	1,018.2
Na5895		59.612	ppm	0.14053	0.23573
Ni2316		0.00028200	ppm	0.0010880	385.58
P_1782		0.0032850	ppm	0.0032260	98.204
Pb2203		0.000092000	ppm	0.0016110	1,742.0
S_1820		7.3475	ppm	0.0096990	0.13201
Sb2068		0.00022900	ppm	0.00088100	384.56
Se1960		0.00047300	ppm	0.0021670	458.50
Si2881		0.10223	ppm	0.0010410	1.0185
Sn1899		0.000057000	ppm	0.00020000	348.20
Sr4077		0.11574	ppm	0.00015600	0.13489
Ti3349		-0.00049000	ppm	0.0010020	204.37
Tl1908		-0.00039000	ppm	0.00036100	92.654
V_2924		0.00026700	ppm	0.00011400	42.678
Zn2062		0.0014450	ppm	0.00060800	42.088
Y_2243		6,623.3	Cts/S	36.123	0.54540
Y_3600		52,210	Cts/S	267.74	0.51281
Y_3774		8,326.9	Cts/S	5.8214	0.069910

PDS 320-54512-A5A@50

Acquire Date: 10/15/2019 3:24:02PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.10532	ppm	0.0013200	1.2532
Al3961		10.478	ppm	0.041660	0.39758
As1890		0.097170	ppm	0.00051400	0.52900
B_2089		2.1773	ppm	0.0056680	0.26032
Ba4554		0.10962	ppm	0.00045400	0.41374
Be3130		0.052897	ppm	0.0000050000	0.010159
Ca3179		74.775	ppm	0.10540	0.14095
Cd2144		0.10168	ppm	0.000056000	0.055496
Co2286		0.10257	ppm	0.00073000	0.71185

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

PDS 320-54512-A5A@50

Acquire Date: 10/15/2019 3:24:02PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.10414	ppm	0.0013930	1.3375
Cu3247		0.094705	ppm	0.00024200	0.25587
Fe2599		4.0395	ppm	0.015603	0.38626
K_7664		26.021	ppm	0.099629	0.38288
Mg2790		70.420	ppm	0.34295	0.48702
Mn2576		0.15118	ppm	0.00066100	0.43692
Mo2020		0.10163	ppm	0.00010600	0.10385
Na5895	**W**	**285.04**	**ppm**	**19.289**	**6.7670**
Ni2316		0.099188	ppm	0.00030700	0.30989
P_1782		1.0883	ppm	0.00045400	0.041678
Pb2203		0.10138	ppm	0.0041100	4.0541
S_1820		38.267	ppm	0.057717	0.15083
Sb2068		0.097817	ppm	0.0024380	2.4924
Se1960		0.10587	ppm	0.00032000	0.30191
Si2881		1.5619	ppm	0.019031	1.2185
Sn1899		0.099360	ppm	0.00068900	0.69393
Sr4077		0.65577	ppm	0.0011430	0.17423
Ti3349		0.10116	ppm	0.00013500	0.13340
Tl1908		0.099691	ppm	0.0027250	2.7332
V_2924		0.10792	ppm	0.00018500	0.17171
Zn2062		0.096124	ppm	0.00095100	0.98900
Y_2243		6,613.8	Cts/S	20.679	0.31266
Y_3600		51,748	Cts/S	154.89	0.29931
Y_3774		8,442.2	Cts/S	43.740	0.51811

320-54512-A5-B MS@50

Acquire Date: 10/15/2019 3:27:58PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0012410	ppm	0.00097500	78.557
Al3961		0.087516	ppm	0.011858	13.550
As1890		0.0099410	ppm	0.00070300	7.0722
B_2089		1.2731	ppm	0.00048900	0.038373
Ba4554		0.012199	ppm	0.00013300	1.0912
Be3130		0.0049690	ppm	0.000096000	1.9417
Ca3179		64.882	ppm	0.065443	0.10087
Cd2144		0.0050000	ppm	0.000019000	0.37304
Co2286		0.0049780	ppm	0.00030800	6.1834
Cr2677		0.0053230	ppm	0.00083500	15.684
Cu3247		0.0093350	ppm	0.0015500	16.609
Fe2599		0.11032	ppm	0.0087550	7.9364
K_7664		15.850	ppm	0.041015	0.25877
Mg2790		60.582	ppm	0.066984	0.11057
Mn2576		0.052456	ppm	0.00020600	0.39318
Mo2020		0.0051250	ppm	0.00034700	6.7722
Na5895	**W**	**278.29**	**ppm**	**8.6100**	**3.0939**
Ni2316		0.0056370	ppm	0.00013600	2.4167

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54512-A5-B MS@50

Acquire Date: 10/15/2019 3:27:58PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		0.11220	ppm	0.000066000	0.059211
Pb2203		0.0064170	ppm	0.0049440	77.048
S_1820		35.832	ppm	0.011367	0.031722
Sb2068		0.0088230	ppm	0.0051040	57.846
Se1960		0.010922	ppm	0.0018760	17.172
Si2881		0.61383	ppm	0.030211	4.9217
Sn1899		0.0090630	ppm	0.00074100	8.1719
Sr4077		0.55559	ppm	0.00033300	0.059852
Ti3349		0.0032270	ppm	0.00039700	12.306
Tl1908		0.013135	ppm	0.00075400	5.7398
V_2924		0.0058690	ppm	0.00075200	12.821
Zn2062		0.010929	ppm	0.00067100	6.1382
Y_2243		6,378.9	Cts/S	4.9391	0.077428
Y_3600		49,985	Cts/S	75.488	0.15102
Y_3774		8,138.3	Cts/S	23.467	0.28835

320-54512A5-C MSD@50

Acquire Date: 10/15/2019 3:32:01PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0015230	ppm	0.00082500	54.179
Al3961		0.094552	ppm	0.0043030	4.5509
As1890		0.010865	ppm	0.00047000	4.3226
B_2089		1.2755	ppm	0.00040600	0.031791
Ba4554		0.012742	ppm	0.000064000	0.50041
Be3130		0.0051710	ppm	0.000044000	0.84797
Ca3179		64.874	ppm	0.11837	0.18247
Cd2144		0.0050150	ppm	0.000056000	1.1203
Co2286		0.0049970	ppm	0.00037400	7.4902
Cr2677		0.0048630	ppm	0.00026500	5.4523
Cu3247		0.0080130	ppm	0.0025830	32.242
Fe2599		0.10595	ppm	0.0039630	3.7404
K_7664		15.768	ppm	0.048714	0.30894
Mg2790		60.374	ppm	0.15246	0.25252
Mn2576		0.052146	ppm	0.00053900	1.0330
Mo2020		0.0050000	ppm	0.00064900	12.971
Na5895	**W**	**277.74**	**ppm**	**2.4888**	**0.89609**
Ni2316		0.0049640	ppm	0.00063400	12.771
P_1782		0.11094	ppm	0.0037590	3.3883
Pb2203		0.0053090	ppm	0.0051320	96.665
S_1820		35.758	ppm	0.054090	0.15127
Sb2068		0.011036	ppm	0.0031310	28.371
Se1960		0.0033940	ppm	0.00039100	11.527
Si2881		0.61782	ppm	0.016749	2.7109
Sn1899		0.0098970	ppm	0.00041900	4.2322
Sr4077		0.55783	ppm	0.00057400	0.10284
Ti3349		0.0035580	ppm	0.000038000	1.0686

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54512A5-C MSD@50

Acquire Date: 10/15/2019 3:32:01PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		0.010646	ppm	0.00086700	8.1461
V_2924		0.0049270	ppm	0.00011900	2.4126
Zn2062		0.010201	ppm	0.00047500	4.6531
Y_2243		6,412.9	Cts/S	4.2949	0.066973
Y_3600		50,824	Cts/S	6.9521	0.013679
Y_3774		8,369.5	Cts/S	82.054	0.98039

MB 320-327230/1-A

Acquire Date: 10/15/2019 3:36:04PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00044000	ppm	0.00090700	206.04
Al3961		0.0030680	ppm	0.0083520	272.23
As1890		-0.0011230	ppm	0.00028400	25.330
B_2089		0.015113	ppm	0.000085000	0.56515
Ba4554		-0.00027700	ppm	0.00048700	175.70
Be3130		0.000082000	ppm	0.0000010000	0.89375
Ca3179		0.025679	ppm	0.0038300	14.915
Cd2144		0.000040000	ppm	0.000015000	36.603
Co2286		0.00011700	ppm	0.00036800	315.76
Cr2677		0.00060000	ppm	0.000097000	16.188
Cu3247		0.00092500	ppm	0.00089700	96.976
Fe2599		-0.0028840	ppm	0.0069230	240.08
K_7664		0.12382	ppm	0.040680	32.856
Mg2790		0.0073850	ppm	0.0026260	35.556
Mn2576		0.000032000	ppm	0.000016000	50.154
Mo2020		0.00032800	ppm	0.00030900	94.138
Na5895		0.34554	ppm	0.032927	9.5292
Ni2316		0.00017100	ppm	0.000037000	21.879
P_1782		0.0030800	ppm	0.0015620	50.714
Pb2203		0.0027850	ppm	0.0016980	60.971
S_1820		0.028721	ppm	0.032410	112.84
Sb2068		0.0021680	ppm	0.00026800	12.361
Se1960		0.00036400	ppm	0.0031490	864.98
Si2881		-0.018324	ppm	0.0074160	40.470
Sn1899		-0.00019200	ppm	0.00018700	97.065
Sr4077		0.000025000	ppm	0.0000020000	7.1307
Ti3349		-0.00034800	ppm	0.00022000	63.297
Tl1908		0.0022230	ppm	0.0021180	95.261
V_2924		0.00028800	ppm	0.00072000	249.49
Zn2062		0.0033410	ppm	0.00093900	28.104
Y_2243		6,922.2	Cts/S	58.207	0.84088
Y_3600		55,382	Cts/S	210.24	0.37961
Y_3774		8,506.0	Cts/S	94.961	1.1164

LCS 320-327230/2-A

Acquire Date: 10/15/2019 3:40:04PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.049205	ppm	0.00060600	1.2314
Al3961		4.9530	ppm	0.018381	0.37112
As1890	**W**	**0.44956**	**ppm**	**0.0015690**	**0.34905**
B_2089		4.8818	ppm	0.0057600	0.11798
Ba4554	**W**	**0.50823**	**ppm**	**0.000070000**	**0.013688**
Be3130		0.25651	ppm	0.00079200	0.30881
Ca3179		24.764	ppm	0.035804	0.14458
Cd2144	**W**	**0.24642**	**ppm**	**0.00042200**	**0.17141**
Co2286		0.24760	ppm	0.00022800	0.092177
Cr2677	**W**	**0.25236**	**ppm**	**0.00076600**	**0.30354**
Cu3247		0.22678	ppm	0.0016270	0.71743
Fe2599		4.9297	ppm	0.0041970	0.085144
K_7664		24.766	ppm	0.021277	0.085910
Mg2790		24.642	ppm	0.015603	0.063321
Mn2576		0.25003	ppm	0.00077100	0.30829
Mo2020		0.24516	ppm	0.000079000	0.032083
Na5895		24.800	ppm	0.028764	0.11598
Ni2316		0.24370	ppm	0.00078200	0.32080
P_1782		5.1915	ppm	0.017394	0.33504
Pb2203	**W**	**0.24562**	**ppm**	**0.0036370**	**1.4809**
S_1820	**F**	**5.0516**	**ppm**	**0.0056050**	**0.11096**
Sb2068		0.48949	ppm	0.0033100	0.67619
Se1960	**W**	**0.48312**	**ppm**	**0.0045950**	**0.95108**
Si2881	**W**	**4.9678**	**ppm**	**0.023111**	**0.46522**
Sn1899		0.49379	ppm	0.00074300	0.15041
Sr4077		0.24141	ppm	0.00037500	0.15543
Ti3349	**W**	**0.24700**	**ppm**	**0.00073000**	**0.29543**
Tl1908		0.50336	ppm	0.0013010	0.25842
V_2924		0.25541	ppm	0.00046700	0.18292
Zn2062		0.47357	ppm	0.0017780	0.37545
Y_2243		6,750.4	Cts/S	40.417	0.59874
Y_3600		52,849	Cts/S	0.48576	0.00091900
Y_3774		8,255.1	Cts/S	110.21	1.3351

MB 320-327234/1-A

Acquire Date: 10/15/2019 3:43:52PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00070900	ppm	0.00076300	107.68
Al3961		-0.0094270	ppm	0.022019	233.58
As1890		-0.0021950	ppm	0.00029300	13.364
B_2089		0.024308	ppm	0.00067800	2.7873
Ba4554		0.000034000	ppm	0.00035300	1,031.9
Be3130		0.00013600	ppm	0.00015900	116.67
Ca3179		0.0025310	ppm	0.00095300	37.644
Cd2144		0.000052000	ppm	0.0000030000	6.0776
Co2286		0.00011600	ppm	0.00030800	266.00

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

MB 320-327234/1-A

Acquire Date: 10/15/2019 3:43:52PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.00024700	ppm	0.000079000	31.855
Cu3247		-0.00089700	ppm	0.0015930	177.52
Fe2599		-0.0067180	ppm	0.0016690	24.848
K_7664		0.014072	ppm	0.063809	453.44
Mg2790		0.0061170	ppm	0.0065450	107.01
Mn2576		0.000036000	ppm	0.000071000	199.93
Mo2020		0.00020100	ppm	0.00022900	113.86
Na5895		0.14831	ppm	0.0058160	3.9213
Ni2316		0.00052300	ppm	0.000047000	8.9620
P_1782		0.0036250	ppm	0.0029830	82.300
Pb2203		0.0012180	ppm	0.00047500	38.964
S_1820		0.0063780	ppm	0.0054260	85.068
Sb2068		0.0017200	ppm	0.0028640	166.53
Se1960		0.0017160	ppm	0.0011260	65.646
Si2881		-0.0093320	ppm	0.0013810	14.795
Sn1899		0.00091200	ppm	0.00074900	82.078
Sr4077		-0.00035300	ppm	0.00020000	56.769
Ti3349		-0.00010300	ppm	0.00040000	388.75
Tl1908		0.0010750	ppm	0.00037400	34.766
V_2924		0.00074000	ppm	0.00032700	44.214
Zn2062		0.0041190	ppm	0.00021500	5.2271
Y_2243		6,889.3	Cts/S	45.403	0.65904
Y_3600		55,266	Cts/S	93.985	0.17006
Y_3774		8,452.9	Cts/S	69.637	0.82383

CCV 1708493

Acquire Date: 10/15/2019 3:47:51PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.50431	ppm	0.00077600	0.15380	.50000	Rel(%)	Pass	
Al3961		25.108	ppm	0.29760	1.1853	25.000	Rel(%)	Pass	
As1890		0.53147	ppm	0.0016690	0.31401	.50000	Rel(%)	Pass	
B_2089		1.0205	ppm	0.00054100	0.053043	1.0000	Rel(%)	Pass	
Ba4554		2.6356	ppm	0.034013	1.2905	2.5000	Rel(%)	Pass	
Be3130		0.52941	ppm	0.0062060	1.1722	.50000	Rel(%)	Pass	
Ca3179		25.188	ppm	0.28133	1.1169	25.000	Rel(%)	Pass	
Cd2144		0.52290	ppm	0.00038900	0.074405	.50000	Rel(%)	Pass	
Co2286		2.6145	ppm	0.0030030	0.11488	2.5000	Rel(%)	Pass	
Cr2677		2.5914	ppm	0.00024600	0.0094800	2.5000	Rel(%)	Pass	
Cu3247		2.3734	ppm	0.012229	0.51524	2.5000	Rel(%)	Pass	
Fe2599		24.936	ppm	0.24559	0.98489	25.000	Rel(%)	Pass	
K_7664		25.159	ppm	0.27342	1.0868	25.000	Rel(%)	Pass	
Mg2790		25.220	ppm	0.023197	0.091979	25.000	Rel(%)	Pass	
Mn2576		2.5738	ppm	0.0012410	0.048215	2.5000	Rel(%)	Pass	
Mo2020		1.0366	ppm	0.00048800	0.047041	1.0000	Rel(%)	Pass	
Na5895		24.967	ppm	0.21841	0.87479	25.000	Rel(%)	Pass	
Ni2316		2.5716	ppm	0.00035000	0.013592	2.5000	Rel(%)	Pass	
P_1782		2.5345	ppm	0.0024000	0.094696	2.5000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCV 1708493

Acquire Date: 10/15/2019 3:47:51PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Pb2203		0.52928	ppm	0.0030960	0.58486	.50000	Rel(%)	Pass	
S_1820		2.5081	ppm	0.0063130	0.25171	2.5000	Rel(%)	Pass	
Sb2068		0.52509	ppm	0.0048550	0.92461	.50000	Rel(%)	Pass	
Se1960	**W**	**0.55036**	**ppm**	**0.0049600**	**0.90121**	**.50000**	**Rel(%)**	**Warn High**	**10.000**
Si2881		2.5265	ppm	0.027137	1.0741	2.5000	Rel(%)	Pass	
Sn1899		2.5830	ppm	0.0017620	0.068210	2.5000	Rel(%)	Pass	
Sr4077		2.4982	ppm	0.031939	1.2785	2.5000	Rel(%)	Pass	
Ti3349		1.0228	ppm	0.000051000	0.0049770	1.0000	Rel(%)	Pass	
Tl1908		0.53555	ppm	0.00049800	0.093076	.50000	Rel(%)	Pass	
V_2924		2.6179	ppm	0.0045400	0.17343	2.5000	Rel(%)	Pass	
Zn2062		2.4679	ppm	0.0012460	0.050486	2.5000	Rel(%)	Pass	
Y_2243		6,711.1	Cts/S	9.7159	0.14477				
Y_3600		53,538	Cts/S	343.71	0.64200				
Y_3774		8,567.8	Cts/S	32.972	0.38483				

CCB 1745955

Acquire Date: 10/15/2019 3:51:35PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.00042100	ppm	0.0015700	372.67	.00000	Abs	Pass	
Al3961		0.00093600	ppm	0.0076680	819.44	.00000	Abs	Pass	
As1890		-0.0017350	ppm	0.0011480	66.172	.00000	Abs	Pass	
B_2089		0.013286	ppm	0.00085200	6.4094	.00000	Abs	Pass	
Ba4554		0.00049800	ppm	0.00014600	29.227	.00000	Abs	Pass	
Be3130		0.00014300	ppm	0.000075000	52.822	.00000	Abs	Pass	
Ca3179		0.0045930	ppm	0.0041140	89.588	.00000	Abs	Pass	
Cd2144		0.000014000	ppm	0.000011000	79.036	.00000	Abs	Pass	
Co2286		0.00025900	ppm	0.00016400	63.472	.00000	Abs	Pass	
Cr2677		0.00057700	ppm	0.00032400	56.111	.00000	Abs	Pass	
Cu3247		0.00011300	ppm	0.0015380	1,365.0	.00000	Abs	Pass	
Fe2599		0.00054700	ppm	0.0059770	1,092.4	.00000	Abs	Pass	
K_7664		-0.0042820	ppm	0.019011	444.03	.00000	Abs	Pass	
Mg2790		0.0027970	ppm	0.00030700	10.957	.00000	Abs	Pass	
Mn2576		0.00021700	ppm	0.00020600	94.873	.00000	Abs	Pass	
Mo2020		0.00025200	ppm	0.00024100	95.716	.00000	Abs	Pass	
Na5895		0.098646	ppm	0.0095280	9.6588	.00000	Abs	Pass	
Ni2316		0.00074500	ppm	0.00011100	14.864	.00000	Abs	Pass	
P_1782		0.00053000	ppm	0.00024700	46.638	.00000	Abs	Pass	
Pb2203		0.0016250	ppm	0.0015100	92.916	.00000	Abs	Pass	
S_1820		-0.00054700	ppm	0.00092100	168.27	.00000	Abs	Pass	
Sb2068		-0.0020470	ppm	0.0036470	178.19	.00000	Abs	Pass	
Se1960		-0.0036770	ppm	0.00010000	2.7276	.00000	Abs	Pass	
Si2881		0.0061050	ppm	0.0034260	56.109	.00000	Abs	Pass	
Sn1899		0.0017950	ppm	0.00064000	35.645	.00000	Abs	Pass	
Sr4077		0.00014900	ppm	0.00015100	101.33	.00000	Abs	Pass	
Ti3349		0.000082000	ppm	0.0013890	1,690.8	.00000	Abs	Pass	
Tl1908		0.0033270	ppm	0.0011900	35.781	.00000	Abs	Pass	
V_2924		0.00058400	ppm	0.000046000	7.8460	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCB 1745955

Acquire Date: 10/15/2019 3:51:35PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Zn2062		0.0040070	ppm	0.00051200	12.785	.00000	Abs	Pass	
Y_2243		6,700.9	Cts/S	20.376	0.30409				
Y_3600		53,341	Cts/S	132.43	0.24826				
Y_3774		8,292.9	Cts/S	53.909	0.65006				

LCS 320-327234/2-A

Acquire Date: 10/15/2019 3:55:33PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.051391	ppm	0.00047000	0.91543
Al3961		4.9236	ppm	0.010237	0.20792
As1890	**W**	**0.45019**	**ppm**	**0.0014400**	**0.31993**
B_2089		4.8831	ppm	0.011591	0.23737
Ba4554	**W**	**0.50326**	**ppm**	**0.0010470**	**0.20808**
Be3130		0.25386	ppm	0.00067200	0.26456
Ca3179		24.695	ppm	0.096409	0.39040
Cd2144	**W**	**0.24654**	**ppm**	**0.000045000**	**0.018220**
Co2286		0.24658	ppm	0.000073000	0.029476
Cr2677	**W**	**0.25069**	**ppm**	**0.00061900**	**0.24682**
Cu3247		0.22861	ppm	0.00020800	0.090884
Fe2599		4.9258	ppm	0.020756	0.42137
K_7664		24.596	ppm	0.0040860	0.016613
Mg2790		24.476	ppm	0.0023370	0.0095480
Mn2576		0.24967	ppm	0.00032300	0.12955
Mo2020		0.24613	ppm	0.00028100	0.11425
Na5895		24.669	ppm	0.055539	0.22513
Ni2316		0.24373	ppm	0.00034200	0.14012
P_1782		5.1845	ppm	0.019606	0.37817
Pb2203	**W**	**0.24374**	**ppm**	**0.0016290**	**0.66825**
S_1820	**F**	**5.0018**	**ppm**	**0.0033760**	**0.067495**
Sb2068		0.48664	ppm	0.0018000	0.36994
Se1960	**W**	**0.48064**	**ppm**	**0.0014450**	**0.30071**
Si2881	**W**	**4.9027**	**ppm**	**0.020198**	**0.41198**
Sn1899		0.49108	ppm	0.0010300	0.20972
Sr4077		0.24120	ppm	0.000012000	0.0048230
Ti3349	**W**	**0.24624**	**ppm**	**0.00092100**	**0.37414**
Tl1908		0.50341	ppm	0.0024930	0.49518
V_2924		0.25327	ppm	0.00034900	0.13770
Zn2062		0.48005	ppm	0.00067900	0.14148
Y_2243		6,652.5	Cts/S	11.381	0.17109
Y_3600		53,220	Cts/S	36.672	0.068906
Y_3774		8,329.3	Cts/S	65.649	0.78816

180-96144-N-1-A

Acquire Date: 10/15/2019 3:59:18PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.000092000	ppm	0.00058900	639.94
Al3961		0.020090	ppm	0.0025230	12.558
As1890		0.0013760	ppm	0.00087600	63.634
B_2089		0.21815	ppm	0.0019790	0.90721
Ba4554		0.17907	ppm	0.00056200	0.31412
Be3130		0.000034000	ppm	0.000069000	206.30
Ca3179		36.746	ppm	0.10373	0.28228
Cd2144		0.000099000	ppm	0.000035000	35.129
Co2286		0.00048400	ppm	0.00019000	39.217
Cr2677		0.00020200	ppm	0.00015500	76.722
Cu3247		0.013886	ppm	0.0051780	37.287
Fe2599		0.014566	ppm	0.00038500	2.6460
K_7664		11.094	ppm	0.014504	0.13074
Mg2790		21.858	ppm	0.053515	0.24484
Mn2576		0.14566	ppm	0.00030500	0.20908
Mo2020		0.0076140	ppm	0.00038800	5.0964
Na5895	**W**	**256.40**	**ppm**	**0.38720**	**0.15101**
Ni2316		0.0010290	ppm	0.000056000	5.4371
P_1782		0.065760	ppm	0.0022600	3.4367
Pb2203		0.0021740	ppm	0.00076700	35.271
S_1820		3.2256	ppm	0.0014790	0.045844
Sb2068		0.00052400	ppm	0.0010250	195.84
Se1960		0.000016000	ppm	0.0058290	36,760
Si2881		4.2095	ppm	0.051427	1.2217
Sn1899		0.00036800	ppm	0.00010600	28.820
Sr4077		0.31778	ppm	0.00031000	0.097500
Ti3349		-0.00048000	ppm	0.000099000	20.658
Tl1908		0.0018910	ppm	0.00068800	36.374
V_2924		0.00075500	ppm	0.00073300	97.149
Zn2062		0.013405	ppm	0.00098800	7.3702
Y_2243		6,452.3	Cts/S	17.227	0.26699
Y_3600		51,487	Cts/S	141.93	0.27566
Y_3774		8,289.3	Cts/S	24.004	0.28957

SD 180-96144-N-1-A@5

Acquire Date: 10/15/2019 4:03:13PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00026800	ppm	0.00018600	69.104
Al3961		-0.0040550	ppm	0.0047530	117.22
As1890		0.00024500	ppm	0.00029100	118.73
B_2089		0.054210	ppm	0.00054600	1.0080
Ba4554		0.036244	ppm	0.000029000	0.080706
Be3130		0.000060000	ppm	0.0000050000	8.0992
Ca3179		7.5630	ppm	0.0032270	0.042673
Cd2144		0.000016000	ppm	0.000095000	587.65
Co2286		0.00021300	ppm	0.00063100	296.56

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

SD 180-96144-N-1-A@5

Acquire Date: 10/15/2019 4:03:13PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.000070000	ppm	0.00030800	441.25
Cu3247		0.0058380	ppm	0.0011320	19.394
Fe2599		0.0041380	ppm	0.0020860	50.408
K_7664		2.2655	ppm	0.0031190	0.13766
Mg2790		4.4874	ppm	0.0074700	0.16647
Mn2576		0.030004	ppm	0.00023800	0.79168
Mo2020		0.0015600	ppm	0.00017900	11.456
Na5895		52.535	ppm	0.0086550	0.016475
Ni2316		0.00084300	ppm	0.00050000	59.263
P_1782		0.020501	ppm	0.00075200	3.6705
Pb2203		0.0014250	ppm	0.0044010	308.83
S_1820		0.64850	ppm	0.00030100	0.046398
Sb2068		0.0032090	ppm	0.0018660	58.148
Se1960		0.0022880	ppm	0.0020910	91.377
Si2881		0.80816	ppm	0.026784	3.3141
Sn1899		0.00016400	ppm	0.00062900	384.12
Sr4077		0.064962	ppm	0.00044000	0.67755
Ti3349		-0.00044200	ppm	0.00087400	197.53
Tl1908		0.0030130	ppm	0.0010070	33.417
V_2924		0.000044000	ppm	0.00010000	227.81
Zn2062		0.0029880	ppm	0.000065000	2.1922
Y_2243		6,572.2	Cts/S	34.356	0.52275
Y_3600		52,948	Cts/S	0.023110	0.000044000
Y_3774		8,275.6	Cts/S	89.933	1.0867

PDS 180-96144-N-1-A

Acquire Date: 10/15/2019 4:07:09PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.10797	ppm	0.00017900	0.16537
Al3961		10.563	ppm	0.028953	0.27410
As1890		0.099929	ppm	0.0026980	2.7003
B_2089		1.2179	ppm	0.00023600	0.019408
Ba4554		0.27977	ppm	0.00018800	0.067065
Be3130		0.053841	ppm	0.00023600	0.43870
Ca3179		45.581	ppm	0.10743	0.23568
Cd2144		0.10500	ppm	0.00014200	0.13516
Co2286		0.10698	ppm	0.00017900	0.16775
Cr2677		0.10689	ppm	0.000023000	0.021682
Cu3247		0.11228	ppm	0.00061900	0.55170
Fe2599		4.1766	ppm	0.0032180	0.077039
K_7664		21.293	ppm	0.046391	0.21787
Mg2790		31.223	ppm	0.051052	0.16351
Mn2576		0.24515	ppm	0.000029000	0.011799
Mo2020		0.11149	ppm	0.00058600	0.52595
Na5895	**W**	**255.44**	**ppm**	**0.27837**	**0.10898**
Ni2316		0.10494	ppm	0.00052200	0.49717

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

PDS 180-96144-N-1-A

Acquire Date: 10/15/2019 4:07:09PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		1.1561	ppm	0.0034360	0.29718
Pb2203		0.10439	ppm	0.0011150	1.0684
S_1820		5.3172	ppm	0.028243	0.53117
Sb2068		0.096397	ppm	0.0015610	1.6197
Se1960		0.10337	ppm	0.0029770	2.8801
Si2881		5.1458	ppm	0.017452	0.33915
Sn1899		0.10627	ppm	0.00098000	0.92204
Sr4077		0.40744	ppm	0.00076700	0.18814
Ti3349		0.10573	ppm	0.00055300	0.52289
Tl1908		0.10312	ppm	0.0016140	1.5650
V_2924		0.10976	ppm	0.00011200	0.10183
Zn2062		0.11623	ppm	0.00081600	0.70239
Y_2243		6,676.1	Cts/S	30.067	0.45037
Y_3600		52,351	Cts/S	291.11	0.55608
Y_3774		8,375.0	Cts/S	95.284	1.1377

180-96144-N-1-B MS

Acquire Date: 10/15/2019 4:10:57PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.049343	ppm	0.00061600	1.2479
Al3961		4.9813	ppm	0.00069400	0.013930
As1890		0.45613	ppm	0.0040040	0.87783
B_2089		4.9314	ppm	0.0044660	0.090570
Ba4554		0.68813	ppm	0.00024300	0.035374
Be3130		0.25809	ppm	0.00030600	0.11871
Ca3179		60.963	ppm	0.069123	0.11339
Cd2144		0.24540	ppm	0.00039400	0.16055
Co2286		0.24854	ppm	0.000089000	0.035892
Cr2677		0.25371	ppm	0.0013410	0.52838
Cu3247		0.23811	ppm	0.0010170	0.42701
Fe2599		4.8917	ppm	0.0070250	0.14361
K_7664		36.217	ppm	0.013367	0.036908
Mg2790		46.068	ppm	0.031644	0.068691
Mn2576		0.39224	ppm	0.00015400	0.039275
Mo2020		0.25451	ppm	0.0014580	0.57267
Na5895	**W**	**274.93**	**ppm**	**2.8926**	**1.0521**
Ni2316		0.24183	ppm	0.00088800	0.36726
P_1782		5.3993	ppm	0.0073500	0.13612
Pb2203		0.24592	ppm	0.00013800	0.056177
S_1820		8.4225	ppm	0.019664	0.23347
Sb2068		0.49378	ppm	0.0036520	0.73954
Se1960		0.47618	ppm	0.0040500	0.85049
Si2881		9.2184	ppm	0.020761	0.22522
Sn1899		0.50404	ppm	0.00018600	0.036807
Sr4077		0.55551	ppm	0.0015000	0.26998
Ti3349		0.24988	ppm	0.0010560	0.42279

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

180-96144-N-1-B MS

Acquire Date: 10/15/2019 4:10:57PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		0.47660	ppm	0.0021460	0.45034
V_2924		0.25986	ppm	0.00038100	0.14662
Zn2062		0.48487	ppm	0.0046470	0.95851
Y_2243		6,472.7	Cts/S	8.6090	0.13301
Y_3600		51,269	Cts/S	34.635	0.067556
Y_3774		8,433.7	Cts/S	39.662	0.47028

180-96144-N-1-C MSD

Acquire Date: 10/15/2019 4:14:48PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.049839	ppm	0.00011400	0.22779
Al3961		5.0232	ppm	0.0055390	0.11027
As1890		0.45585	ppm	0.00041500	0.091149
B_2089		4.9536	ppm	0.0026310	0.053108
Ba4554		0.69776	ppm	0.00028100	0.040286
Be3130		0.26050	ppm	0.00028600	0.10983
Ca3179		61.289	ppm	0.13008	0.21225
Cd2144		0.24599	ppm	0.00062400	0.25349
Co2286		0.24975	ppm	0.00065900	0.26396
Cr2677		0.25648	ppm	0.00049800	0.19420
Cu3247		0.24255	ppm	0.0031570	1.3016
Fe2599		4.9532	ppm	0.011605	0.23428
K_7664		36.576	ppm	0.099832	0.27295
Mg2790		46.769	ppm	0.052726	0.11274
Mn2576		0.39443	ppm	0.00025700	0.065159
Mo2020		0.25648	ppm	0.00057700	0.22482
Na5895	**W**	**278.15**	**ppm**	**5.8956**	**2.1196**
Ni2316		0.24304	ppm	0.00017200	0.070888
P_1782		5.4228	ppm	0.0035340	0.065165
Pb2203		0.24356	ppm	0.0018280	0.75051
S_1820		8.4787	ppm	0.0025930	0.030580
Sb2068		0.49775	ppm	0.00084100	0.16892
Se1960		0.48004	ppm	0.0030870	0.64304
Si2881		9.2513	ppm	0.055199	0.59666
Sn1899		0.50468	ppm	0.00060200	0.11923
Sr4077		0.55663	ppm	0.0012900	0.23172
Ti3349		0.25030	ppm	0.0012130	0.48442
Tl1908		0.47734	ppm	0.0011540	0.24172
V_2924		0.26128	ppm	0.00019500	0.074495
Zn2062		0.48622	ppm	0.0013200	0.27148
Y_2243		6,372.7	Cts/S	62.530	0.98121
Y_3600		49,700	Cts/S	210.59	0.42373
Y_3774		8,068.3	Cts/S	11.965	0.14830

320-54693-F-1-A

Acquire Date: 10/15/2019 4:18:37PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00042400	ppm	0.00041200	97.115
Al3961		0.34932	ppm	0.031067	8.8936
As1890		0.051127	ppm	0.0022990	4.4962
B_2089	**W**	**5.7584**	**ppm**	**0.015988**	**0.27765**
Ba4554		0.19176	ppm	0.00084600	0.44092
Be3130		0.000043000	ppm	0.00018300	427.86
Ca3179		38.267	ppm	0.023335	0.060978
Cd2144		0.000087000	ppm	0.000015000	17.527
Co2286		0.00070500	ppm	0.00016400	23.278
Cr2677		0.020444	ppm	0.00088000	4.3027
Cu3247		0.017834	ppm	0.0014520	8.1409
Fe2599		0.43587	ppm	0.0023970	0.55005
K_7664		30.027	ppm	0.033214	0.11061
Mg2790		15.852	ppm	0.013100	0.082643
Mn2576		0.043300	ppm	0.000054000	0.12518
Mo2020		0.0092340	ppm	0.00019600	2.1226
Na5895	**F**	**1,336.4**	**ppm**	**2.3219**	**0.17374**
Ni2316		0.0030100	ppm	0.00098900	32.843
P_1782		0.26758	ppm	0.0010960	0.40945
Pb2203		0.0036680	ppm	0.00011300	3.0941
S_1820		90.218	ppm	0.31794	0.35241
Sb2068		-0.00068000	ppm	0.00080900	119.00
Se1960		0.00077200	ppm	0.0014340	185.75
Si2881	**W**	**27.562**	**ppm**	**0.0029420**	**0.010673**
Sn1899		0.00037100	ppm	0.000082000	22.116
Sr4077		0.82125	ppm	0.00062800	0.076414
Ti3349		0.027929	ppm	0.00070000	2.5055
Tl1908		0.0030580	ppm	0.0026190	85.652
V_2924		0.14863	ppm	0.00019000	0.12764
Zn2062		0.010729	ppm	0.00060200	5.6126
Y_2243		6,162.4	Cts/S	25.423	0.41255
Y_3600		46,908	Cts/S	119.78	0.25535
Y_3774		8,087.3	Cts/S	0.99943	0.012358

SD 320-54693-F-1-A@5

Acquire Date: 10/15/2019 4:22:36PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00075700	ppm	0.00034800	45.944
Al3961		0.053330	ppm	0.0054110	10.147
As1890		0.010614	ppm	0.00045200	4.2571
B_2089		1.2661	ppm	0.00061200	0.048300
Ba4554		0.038983	ppm	0.00027200	0.69721
Be3130		0.000028000	ppm	0.00010600	386.42
Ca3179		7.8689	ppm	0.030637	0.38934
Cd2144		0.000058000	ppm	0.00011600	200.33
Co2286		0.00032800	ppm	0.00024500	74.881

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

SD 320-54693-F-1-A@5

Acquire Date: 10/15/2019 4:22:36PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.0044460	ppm	0.000047000	1.0507
Cu3247		0.0071730	ppm	0.0027910	38.904
Fe2599		0.081970	ppm	0.0068710	8.3825
K_7664		5.9926	ppm	0.027314	0.45580
Mg2790		3.2652	ppm	0.0015630	0.047876
Mn2576		0.0088590	ppm	0.00013900	1.5695
Mo2020		0.0017870	ppm	0.00035000	19.589
Na5895	**W**	**288.66**	**ppm**	**4.5632**	**1.5808**
Ni2316		0.00077300	ppm	0.00060800	78.724
P_1782		0.064314	ppm	0.0032110	4.9932
Pb2203		0.00033700	ppm	0.0019560	580.36
S_1820		18.248	ppm	0.042961	0.23543
Sb2068		0.0028170	ppm	0.0023950	85.013
Se1960		0.0032550	ppm	0.0025880	79.511
Si2881		5.5145	ppm	0.0022200	0.040264
Sn1899		0.000062000	ppm	0.00016100	261.47
Sr4077		0.16790	ppm	0.00085400	0.50837
Ti3349		0.0056950	ppm	0.00034700	6.1003
Tl1908		0.0011170	ppm	0.00055300	49.531
V_2924		0.029849	ppm	0.00040200	1.3454
Zn2062		0.0028970	ppm	0.0010380	35.815
Y_2243		6,629.1	Cts/S	32.372	0.48833
Y_3600		52,103	Cts/S	45.607	0.087533
Y_3774		8,500.6	Cts/S	5.7606	0.067766

PDS 320-54693-F-1-A

Acquire Date: 10/15/2019 4:26:36PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.10783	ppm	0.000087000	0.080409
Al3961		10.908	ppm	0.023981	0.21986
As1890		0.15001	ppm	0.0031470	2.0977
B_2089	**W**	**6.4619**	**ppm**	**0.0036080**	**0.055833**
Ba4554		0.29174	ppm	0.000030000	0.010412
Be3130		0.053344	ppm	0.00049900	0.93512
Ca3179		47.080	ppm	0.14177	0.30113
Cd2144		0.10459	ppm	0.00013200	0.12663
Co2286		0.10475	ppm	0.00081200	0.77525
Cr2677		0.12670	ppm	0.00066800	0.52753
Cu3247		0.11656	ppm	0.00072600	0.62257
Fe2599		4.5220	ppm	0.011075	0.24492
K_7664		39.596	ppm	0.051136	0.12914
Mg2790		25.237	ppm	0.083353	0.33028
Mn2576		0.14748	ppm	0.000074000	0.049906
Mo2020		0.11054	ppm	0.00088600	0.80150
Na5895	**F**	**1,269.4**	**ppm**	**7.6183**	**0.60013**
Ni2316		0.10512	ppm	0.00080600	0.76644

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

PDS 320-54693-F-1-A

Acquire Date: 10/15/2019 4:26:36PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		1.3452	ppm	0.0039710	0.29517
Pb2203		0.097335	ppm	0.0000070000	0.0071510
S_1820		88.218	ppm	0.10900	0.12356
Sb2068		0.094243	ppm	0.0022100	2.3449
Se1960		0.098234	ppm	0.0036220	3.6873
Si2881	**W**	**29.113**	**ppm**	**0.084801**	**0.29128**
Sn1899		0.10667	ppm	0.0012300	1.1533
Sr4077		0.88999	ppm	0.0014060	0.15793
Ti3349		0.13195	ppm	0.000068000	0.051606
Tl1908		0.095500	ppm	0.000083000	0.087426
V_2924		0.25105	ppm	0.0013130	0.52291
Zn2062		0.11754	ppm	0.00060800	0.51759
Y_2243		6,224.1	Cts/S	6.0523	0.097239
Y_3600		47,814	Cts/S	197.26	0.41255
Y_3774		8,198.5	Cts/S	44.753	0.54587

320-54693-F-1-B MS

Acquire Date: 10/15/2019 4:30:28PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.051347	ppm	0.00045300	0.88229
Al3961		5.6467	ppm	0.013984	0.24764
As1890		0.51058	ppm	0.0020710	0.40570
B_2089	**W**	**10.329**	**ppm**	**0.018625**	**0.18032**
Ba4554		0.70401	ppm	0.0016810	0.23879
Be3130		0.25584	ppm	0.00063600	0.24858
Ca3179		63.206	ppm	0.10799	0.17086
Cd2144		0.24427	ppm	0.000066000	0.026840
Co2286		0.24615	ppm	0.00066800	0.27146
Cr2677		0.27389	ppm	0.00085700	0.31285
Cu3247		0.24957	ppm	0.0032200	1.2900
Fe2599		5.4561	ppm	0.0054060	0.099080
K_7664		56.238	ppm	0.10635	0.18910
Mg2790		40.154	ppm	0.032969	0.082106
Mn2576		0.29912	ppm	0.00014400	0.048029
Mo2020		0.25207	ppm	0.00047500	0.18863
Na5895	**F**	**1,328.0**	**ppm**	**14.572**	**1.0974**
Ni2316		0.24356	ppm	0.000010000	0.0042730
P_1782		5.6391	ppm	0.0047520	0.084274
Pb2203		0.23220	ppm	0.00092200	0.39723
S_1820		96.233	ppm	0.19872	0.20650
Sb2068		0.48121	ppm	0.00011000	0.022779
Se1960		0.45441	ppm	0.0022630	0.49802
Si2881	**W**	**34.509**	**ppm**	**0.045719**	**0.13248**
Sn1899		0.49581	ppm	0.00093700	0.18890
Sr4077		1.0686	ppm	0.000023000	0.0021560
Ti3349		0.29629	ppm	0.0019320	0.65204

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54693-F-1-B MS

Acquire Date: 10/15/2019 4:30:28PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		0.44525	ppm	0.0023470	0.52708
V_2924		0.40987	ppm	0.00029400	0.071848
Zn2062		0.52816	ppm	0.0040440	0.76566
Y_2243		6,178.7	Cts/S	13.303	0.21531
Y_3600		47,529	Cts/S	83.987	0.17671
Y_3774		8,249.1	Cts/S	17.025	0.20638

CCV 1708493

Acquire Date: 10/15/2019 4:34:19PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.50345	ppm	0.0010410	0.20683	.50000	Rel(%)	Pass	
Al3961		25.535	ppm	0.028370	0.11110	25.000	Rel(%)	Pass	
As1890		0.53321	ppm	0.0013290	0.24917	.50000	Rel(%)	Pass	
B_2089		1.0620	ppm	0.0018850	0.17752	1.0000	Rel(%)	Pass	
Ba4554		2.6642	ppm	0.0028320	0.10628	2.5000	Rel(%)	Pass	
Be3130		0.53604	ppm	0.00090500	0.16884	.50000	Rel(%)	Pass	
Ca3179		25.362	ppm	0.040323	0.15899	25.000	Rel(%)	Pass	
Cd2144		0.52423	ppm	0.0010880	0.20753	.50000	Rel(%)	Pass	
Co2286		2.6202	ppm	0.0036460	0.13915	2.5000	Rel(%)	Pass	
Cr2677		2.5990	ppm	0.00079400	0.030536	2.5000	Rel(%)	Pass	
Cu3247		2.3424	ppm	0.0020070	0.085670	2.5000	Rel(%)	Pass	
Fe2599		25.093	ppm	0.044510	0.17738	25.000	Rel(%)	Pass	
K_7664		25.590	ppm	0.043099	0.16842	25.000	Rel(%)	Pass	
Mg2790		25.281	ppm	0.024955	0.098711	25.000	Rel(%)	Pass	
Mn2576		2.5626	ppm	0.0013240	0.051678	2.5000	Rel(%)	Pass	
Mo2020		1.0399	ppm	0.0020070	0.19296	1.0000	Rel(%)	Pass	
Na5895		26.608	ppm	0.13035	0.48990	25.000	Rel(%)	Pass	
Ni2316		2.5769	ppm	0.0052090	0.20214	2.5000	Rel(%)	Pass	
P_1782		2.5651	ppm	0.0033560	0.13082	2.5000	Rel(%)	Pass	
Pb2203		0.52626	ppm	0.00053700	0.10211	.50000	Rel(%)	Pass	
S_1820		2.5314	ppm	0.0053960	0.21318	2.5000	Rel(%)	Pass	
Sb2068		0.53521	ppm	0.0021220	0.39644	.50000	Rel(%)	Pass	
Se1960		0.54299	ppm	0.015847	2.9184	.50000	Rel(%)	Pass	
Si2881		2.5780	ppm	0.048695	1.8889	2.5000	Rel(%)	Pass	
Sn1899		2.6060	ppm	0.0060310	0.23145	2.5000	Rel(%)	Pass	
Sr4077		2.5077	ppm	0.0033120	0.13208	2.5000	Rel(%)	Pass	
Ti3349		1.0287	ppm	0.00063800	0.062014	1.0000	Rel(%)	Pass	
Tl1908		0.53978	ppm	0.00035500	0.065733	.50000	Rel(%)	Pass	
V_2924		2.6246	ppm	0.00077200	0.029408	2.5000	Rel(%)	Pass	
Zn2062		2.4695	ppm	0.00056400	0.022848	2.5000	Rel(%)	Pass	
Y_2243		6,640.2	Cts/S	48.991	0.73779				
Y_3600		52,693	Cts/S	45.485	0.086320				
Y_3774		8,236.2	Cts/S	53.164	0.64550				

CCB 1745955

Acquire Date: 10/15/2019 4:38:11PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00046600	ppm	0.00037500	80.494	.00000	Abs	Pass	
Al3961		0.0025230	ppm	0.013967	553.51	.00000	Abs	Pass	
As1890		-0.00093300	ppm	0.0016390	175.81	.00000	Abs	Pass	
B_2089		0.033561	ppm	0.0010700	3.1886	.00000	Abs	Pass	
Ba4554		0.00028600	ppm	0.000013000	4.3912	.00000	Abs	Pass	
Be3130		0.000084000	ppm	0.00036500	434.28	.00000	Abs	Pass	
Ca3179		0.0065200	ppm	0.010452	160.30	.00000	Abs	Pass	
Cd2144		0.000078000	ppm	0.0000060000	7.2880	.00000	Abs	Pass	
Co2286		0.00023900	ppm	0.00011700	49.148	.00000	Abs	Pass	
Cr2677		0.00076600	ppm	0.000078000	10.197	.00000	Abs	Pass	
Cu3247		0.0026550	ppm	0.00071500	26.938	.00000	Abs	Pass	
Fe2599		0.0078760	ppm	0.0068700	87.218	.00000	Abs	Pass	
K_7664		0.072228	ppm	0.025391	35.154	.00000	Abs	Pass	
Mg2790		.0000080000	ppm	0.00017100	2,133.9	.00000	Abs	Pass	
Mn2576		0.00027100	ppm	0.000043000	15.924	.00000	Abs	Pass	
Mo2020		0.00051600	ppm	0.00040500	78.448	.00000	Abs	Pass	
Na5895		0.44627	ppm	0.0068280	1.5300	.00000	Abs	Pass	
Ni2316		0.00013700	ppm	0.00040000	292.72	.00000	Abs	Pass	
P_1782		0.010051	ppm	0.0044260	44.040	.00000	Abs	Pass	
Pb2203		0.0018840	ppm	0.00078500	41.664	.00000	Abs	Pass	
S_1820		0.0014510	ppm	0.0024710	170.26	.00000	Abs	Pass	
Sb2068		0.0025190	ppm	0.0027390	108.75	.00000	Abs	Pass	
Se1960		-0.0068690	ppm	0.0015190	22.110	.00000	Abs	Pass	
Si2881		-0.035025	ppm	0.058380	166.68	.00000	Abs	Pass	
Sn1899		0.0013590	ppm	0.00013200	9.7490	.00000	Abs	Pass	
Sr4077		0.00038600	ppm	0.00019700	50.911	.00000	Abs	Pass	
Ti3349		-0.00010800	ppm	0.0011420	1,062.5	.00000	Abs	Pass	
Tl1908		0.0013100	ppm	0.00058800	44.911	.00000	Abs	Pass	
V_2924		0.00055800	ppm	0.00024600	44.049	.00000	Abs	Pass	
Zn2062		0.0020060	ppm	0.000034000	1.7028	.00000	Abs	Pass	
Y_2243		6,686.6	Cts/S	21.106	0.31565				
Y_3600		55,606	Cts/S	135.75	0.24412				
Y_3774		8,611.9	Cts/S	10.718	0.12446				

320-54693-F-1-C MSD

Acquire Date: 10/15/2019 4:42:09PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.050822	ppm	0.00068900	1.3557
Al3961		5.4954	ppm	0.0031020	0.056448
As1890		0.51082	ppm	0.00017100	0.033525
B_2089	**W**	**10.303**	**ppm**	**0.023459**	**0.22770**
Ba4554		0.69616	ppm	0.00028000	0.040168
Be3130		0.25399	ppm	0.00058500	0.23020
Ca3179		63.048	ppm	0.16789	0.26630
Cd2144		0.24376	ppm	0.00066100	0.27135
Co2286		0.24522	ppm	0.0000090000	0.0036880
Cr2677		0.27186	ppm	0.00061900	0.22764

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54693-F-1-C MSD

Acquire Date: 10/15/2019 4:42:09PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Cu3247		0.25423	ppm	0.00034600	0.13595
Fe2599		5.4074	ppm	0.0049130	0.090863
K_7664		55.564	ppm	0.023485	0.042266
Mg2790		39.814	ppm	0.10883	0.27335
Mn2576		0.29543	ppm	0.000075000	0.025393
Mo2020		0.25214	ppm	0.00058600	0.23255
Na5895	**F**	**1,309.9**	**ppm**	**20.483**	**1.5637**
Ni2316		0.24341	ppm	0.0010280	0.42249
P_1782		5.5886	ppm	0.015888	0.28430
Pb2203		0.23253	ppm	0.0043590	1.8748
S_1820		95.235	ppm	0.29024	0.30477
Sb2068		0.47544	ppm	0.0037880	0.79665
Se1960		0.45972	ppm	0.0044200	0.96149
Si2881	**W**	**33.961**	**ppm**	**0.025275**	**0.074423**
Sn1899		0.49799	ppm	0.0023260	0.46706
Sr4077		1.0652	ppm	0.00065500	0.061491
Ti3349		0.28664	ppm	0.0017660	0.61615
Tl1908		0.44221	ppm	0.0032090	0.72571
V_2924		0.40749	ppm	0.0025120	0.61657
Zn2062		0.52244	ppm	0.00042100	0.080499
Y_2243		6,327.6	Cts/S	12.560	0.19849
Y_3600		48,537	Cts/S	228.72	0.47123
Y_3774		8,404.3	Cts/S	130.53	1.5531

320-54693-C-2-A

Acquire Date: 10/15/2019 4:46:00PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0010600	ppm	0.00099700	94.134
Al3961		13.348	ppm	0.0072210	0.054099
As1890		0.14832	ppm	0.00029600	0.19927
B_2089		3.2806	ppm	0.0056800	0.17314
Ba4554		0.19586	ppm	0.000067000	0.034286
Be3130		0.00036000	ppm	0.000046000	12.854
Ca3179		32.687	ppm	0.016214	0.049605
Cd2144		0.00025600	ppm	0.0000020000	0.87182
Co2286		0.0054790	ppm	0.000047000	0.86033
Cr2677		0.017744	ppm	0.000090000	0.50445
Cu3247		0.030943	ppm	0.00056400	1.8230
Fe2599		14.809	ppm	0.022136	0.14948
K_7664		17.064	ppm	0.017983	0.10539
Mg2790		12.200	ppm	0.017156	0.14062
Mn2576		0.36087	ppm	0.00055000	0.15245
Mo2020		0.010619	ppm	0.00016300	1.5308
Na5895	**F**	**770.73**	**ppm**	**6.8237**	**0.88535**
Ni2316		0.0076710	ppm	0.000090000	1.1783
P_1782		0.50590	ppm	0.0034440	0.68068

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54693-C-2-A

Acquire Date: 10/15/2019 4:46:00PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Pb2203		0.0063100	ppm	0.0021860	34.650
S_1820		59.978	ppm	0.23421	0.39049
Sb2068		0.0013550	ppm	0.0044000	324.80
Se1960		0.0036650	ppm	0.0052380	142.90
Si2881	**W**	**46.076**	**ppm**	**0.010332**	**0.022423**
Sn1899		0.0025220	ppm	0.00050400	19.969
Sr4077		0.43137	ppm	0.00026900	0.062392
Ti3349		0.87196	ppm	0.00061300	0.070341
Tl1908		0.0024760	ppm	0.0019340	78.082
V_2924		0.16418	ppm	0.00016800	0.10229
Zn2062		0.045027	ppm	0.00032800	0.72949
Y_2243		6,524.4	Cts/S	7.3016	0.11191
Y_3600		50,509	Cts/S	245.79	0.48663
Y_3774		8,591.6	Cts/S	34.274	0.39892

320-54693-C-3-A

Acquire Date: 10/15/2019 4:49:59PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0013290	ppm	0.00022000	16.562
Al3961		0.33323	ppm	0.0098920	2.9686
As1890		0.11075	ppm	0.0019190	1.7327
B_2089	**W**	**5.3828**	**ppm**	**0.0064390**	**0.11962**
Ba4554		0.094469	ppm	0.00035600	0.37709
Be3130		-0.00018400	ppm	0.00020200	110.04
Ca3179		37.159	ppm	0.035917	0.096656
Cd2144		0.00021500	ppm	0.000082000	38.210
Co2286		0.00050700	ppm	0.000055000	10.838
Cr2677		0.013343	ppm	0.00070300	5.2714
Cu3247		0.014498	ppm	0.0013860	9.5568
Fe2599		0.43281	ppm	0.010122	2.3386
K_7664		19.974	ppm	0.024437	0.12235
Mg2790		9.1388	ppm	0.011332	0.12400
Mn2576		0.017916	ppm	0.0000050000	0.027318
Mo2020		0.017986	ppm	0.00065700	3.6556
Na5895	**F**	**946.90**	**ppm**	**2.3823**	**0.25159**
Ni2316		0.0027430	ppm	0.000044000	1.5957
P_1782		0.35939	ppm	0.00042900	0.11936
Pb2203		0.00060600	ppm	0.0016050	264.89
S_1820		72.390	ppm	0.27264	0.37663
Sb2068		0.00049000	ppm	0.000049000	9.9792
Se1960		0.0029010	ppm	0.0014130	48.714
Si2881	**W**	**29.147**	**ppm**	**0.016274**	**0.055833**
Sn1899		0.00086600	ppm	0.00094200	108.86
Sr4077		0.46447	ppm	0.00056500	0.12166
Ti3349		0.031736	ppm	0.00055700	1.7562
Tl1908		0.00097900	ppm	0.00055700	56.956

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54693-C-3-A

Acquire Date: 10/15/2019 4:49:59PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
V_2924		0.13199	ppm	0.00051700	0.39180
Zn2062		0.0090850	ppm	0.00052600	5.7924
Y_2243		6,332.6	Cts/S	22.762	0.35944
Y_3600		49,145	Cts/S	155.62	0.31665
Y_3774		8,273.1	Cts/S	23.263	0.28119

320-54693-F-4-A

Acquire Date: 10/15/2019 4:53:59PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0020930	ppm	0.00041300	19.728
Al3961		0.38077	ppm	0.016983	4.4601
As1890		0.73680	ppm	0.0017370	0.23569
B_2089		1.4846	ppm	0.0044130	0.29727
Ba4554		0.0099420	ppm	0.00018500	1.8602
Be3130		0.000023000	ppm	0.000095000	405.33
Ca3179		3.0691	ppm	0.000057000	0.0018670
Cd2144		.0000070000	ppm	0.000025000	372.66
Co2286		0.00021700	ppm	0.00012600	57.837
Cr2677		0.017718	ppm	0.0000070000	0.040683
Cu3247		0.0061190	ppm	0.00011800	1.9256
Fe2599		0.27503	ppm	0.0012480	0.45383
K_7664		5.5972	ppm	0.020380	0.36411
Mg2790		0.89049	ppm	0.0011850	0.13312
Mn2576		0.025402	ppm	0.00014500	0.57202
Mo2020		0.017698	ppm	0.00033200	1.8761
Na5895	**W**	**300.32**	**ppm**	**3.8417**	**1.2792**
Ni2316		0.00090900	ppm	0.00034400	37.851
P_1782		0.82662	ppm	0.0013220	0.15996
Pb2203		-0.0015580	ppm	0.00095400	61.227
S_1820		28.747	ppm	0.070668	0.24583
Sb2068		0.0033890	ppm	0.0027840	82.162
Se1960		0.0069960	ppm	0.0012940	18.499
Si2881	**W**	**21.817**	**ppm**	**0.0081480**	**0.037348**
Sn1899		0.00016900	ppm	0.00085700	507.93
Sr4077		0.035437	ppm	0.00010400	0.29346
Ti3349		0.014299	ppm	0.00043100	3.0116
Tl1908		0.0011570	ppm	0.00054100	46.797
V_2924		0.33436	ppm	0.00026100	0.078113
Zn2062		0.0076760	ppm	0.00010800	1.4112
Y_2243		6,614.5	Cts/S	60.009	0.90725
Y_3600		52,108	Cts/S	368.07	0.70637
Y_3774		8,427.3	Cts/S	51.234	0.60796

320-54693-F-5-A

Acquire Date: 10/15/2019 4:57:57PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00057200	ppm	0.00056500	98.730
Al3961		2.7548	ppm	0.025641	0.93080
As1890		0.14480	ppm	0.00011600	0.080315
B_2089		0.51320	ppm	0.00012300	0.024010
Ba4554		0.037829	ppm	0.00046900	1.2399
Be3130		0.000025000	ppm	0.000070000	273.18
Ca3179		2.3278	ppm	0.0038410	0.16500
Cd2144		0.00014000	ppm	0.000031000	22.323
Co2286		0.0025500	ppm	0.00027000	10.587
Cr2677		0.0062770	ppm	0.000054000	0.86241
Cu3247		0.0063130	ppm	0.0022980	36.397
Fe2599		3.2245	ppm	0.014754	0.45755
K_7664		7.3892	ppm	0.023053	0.31198
Mg2790		1.4072	ppm	0.0081020	0.57579
Mn2576		0.10224	ppm	0.0000080000	0.0079340
Mo2020		0.0076910	ppm	0.00026600	3.4632
Na5895		159.50	ppm	0.047695	0.029902
Ni2316		0.0069620	ppm	0.000063000	0.90671
P_1782		0.37826	ppm	0.00025100	0.066268
Pb2203		0.00027500	ppm	0.0011410	414.17
S_1820		17.097	ppm	0.041834	0.24468
Sb2068		0.0021280	ppm	0.0041970	197.25
Se1960		0.0042510	ppm	0.0010510	24.723
Si2881	**W**	**27.512**	**ppm**	**0.066761**	**0.24266**
Sn1899		0.00070700	ppm	0.00052100	73.756
Sr4077		0.029792	ppm	0.00016000	0.53830
Ti3349		0.23233	ppm	0.0018800	0.80907
Tl1908		0.00028000	ppm	0.00019200	68.588
V_2924		0.090115	ppm	0.00024200	0.26805
Zn2062		0.015566	ppm	0.0011020	7.0788
Y_2243		6,624.8	Cts/S	9.1634	0.13832
Y_3600		52,414	Cts/S	332.17	0.63374
Y_3774		8,337.3	Cts/S	63.094	0.75677

320-54693-F-6-A

Acquire Date: 10/15/2019 5:01:50PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00017200	ppm	0.0000090000	5.2786
Al3961		3.0405	ppm	0.019678	0.64721
As1890		0.056098	ppm	0.0013890	2.4766
B_2089		1.2924	ppm	0.0033050	0.25571
Ba4554		0.080542	ppm	0.00076700	0.95214
Be3130		0.00031600	ppm	0.000015000	4.7869
Ca3179		9.6386	ppm	0.061142	0.63434
Cd2144		0.00020300	ppm	0.000012000	5.9524
Co2286		0.0048370	ppm	0.0000040000	0.085363

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54693-F-6-A

Acquire Date: 10/15/2019 5:01:50PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.012274	ppm	0.00069500	5.6588
Cu3247		0.015340	ppm	0.00099500	6.4833
Fe2599		3.4105	ppm	0.0097180	0.28495
K_7664		26.212	ppm	0.053693	0.20484
Mg2790		4.4416	ppm	0.022182	0.49943
Mn2576		0.29997	ppm	0.0015400	0.51340
Mo2020		0.012118	ppm	0.00015500	1.2759
Na5895	**W**	**306.93**	**ppm**	**6.9632**	**2.2687**
Ni2316		0.0032790	ppm	0.00075800	23.114
P_1782		1.0020	ppm	0.000022000	0.0022110
Pb2203		0.0031730	ppm	0.0045290	142.75
S_1820		58.319	ppm	0.049657	0.085148
Sb2068		0.0014610	ppm	0.0028960	198.17
Se1960		0.010672	ppm	0.00012100	1.1322
Si2881	**W**	**24.004**	**ppm**	**0.066983**	**0.27905**
Sn1899		0.0015900	ppm	0.00020200	12.705
Sr4077		0.13464	ppm	0.00040400	0.30011
Ti3349		0.22736	ppm	0.00011400	0.050109
Tl1908		0.00028900	ppm	0.0018300	632.09
V_2924		0.048131	ppm	0.000050000	0.10392
Zn2062		0.029757	ppm	0.0019660	6.6083
Y_2243		6,663.9	Cts/S	30.130	0.45213
Y_3600		52,450	Cts/S	413.02	0.78746
Y_3774		8,522.9	Cts/S	53.712	0.63021

320-54693-F-7-A

Acquire Date: 10/15/2019 5:05:49PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0018900	ppm	0.00022600	11.971
Al3961		2.5417	ppm	0.0027080	0.10655
As1890		0.41710	ppm	0.0013050	0.31289
B_2089		2.2903	ppm	0.0034070	0.14877
Ba4554		0.056718	ppm	0.00024300	0.42927
Be3130		0.000039000	ppm	0.0000020000	5.1862
Ca3179		6.3789	ppm	0.0023150	0.036285
Cd2144		0.00012800	ppm	0.0000020000	1.4766
Co2286		0.0011480	ppm	0.000057000	4.9663
Cr2677		0.030702	ppm	0.000074000	0.24068
Cu3247		0.012984	ppm	0.0049430	38.069
Fe2599		2.7548	ppm	0.0027220	0.098826
K_7664		12.152	ppm	0.024116	0.19845
Mg2790		2.1521	ppm	0.0019750	0.091779
Mn2576		0.082260	ppm	0.00027100	0.32906
Mo2020		0.038507	ppm	0.00042400	1.1013
Na5895	**F**	**657.99**	**ppm**	**0.84036**	**0.12772**
Ni2316		0.0033360	ppm	0.00048700	14.603

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54693-F-7-A

Acquire Date: 10/15/2019 5:05:49PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		0.72860	ppm	0.00023900	0.032769
Pb2203		0.0015780	ppm	0.0011520	72.964
S_1820		76.058	ppm	0.019648	0.025833
Sb2068		-0.0019740	ppm	0.0018690	94.648
Se1960		0.022006	ppm	0.00074900	3.4020
Si2881	**W**	**25.583**	**ppm**	**0.032166**	**0.12573**
Sn1899		0.00047600	ppm	0.000044000	9.1498
Sr4077		0.10816	ppm	0.00025300	0.23368
Ti3349		0.16257	ppm	0.00036700	0.22563
Tl1908		0.0019140	ppm	0.0020370	106.43
V_2924		0.28289	ppm	0.0022200	0.78468
Zn2062		0.014835	ppm	0.0011970	8.0679
Y_2243		6,471.7	Cts/S	16.857	0.26047
Y_3600		50,491	Cts/S	124.09	0.24577
Y_3774		8,278.6	Cts/S	18.502	0.22349

320-54693-C-8-A

Acquire Date: 10/15/2019 5:09:48PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0011160	ppm	0.00059500	53.311
Al3961		1.6698	ppm	0.019706	1.1802
As1890		0.15686	ppm	0.0026570	1.6940
B_2089		4.5047	ppm	0.0071020	0.15766
Ba4554		0.055799	ppm	0.000096000	0.17226
Be3130		0.00010600	ppm	0.000084000	79.826
Ca3179		9.3643	ppm	0.025968	0.27731
Cd2144		0.00017200	ppm	0.000045000	26.432
Co2286		0.0010210	ppm	0.00011800	11.529
Cr2677		0.0075580	ppm	0.00096600	12.785
Cu3247		0.012575	ppm	0.0024960	19.853
Fe2599		2.3017	ppm	0.012968	0.56340
K_7664		15.997	ppm	0.080743	0.50474
Mg2790		2.4287	ppm	0.0068000	0.27999
Mn2576		0.047445	ppm	0.00026400	0.55643
Mo2020		0.0057200	ppm	0.000021000	0.36386
Na5895	**F**	**788.72**	**ppm**	**1.5268**	**0.19357**
Ni2316		0.0027750	ppm	0.000067000	2.4115
P_1782		0.28507	ppm	0.00037100	0.13024
Pb2203		0.0014580	ppm	0.0057590	395.02
S_1820		16.368	ppm	0.025655	0.15674
Sb2068		-0.0033190	ppm	0.0020740	62.476
Se1960		0.0011190	ppm	0.000068000	6.0968
Si2881	**W**	**26.867**	**ppm**	**0.0025520**	**0.0095000**
Sn1899		0.00067000	ppm	0.00014900	22.197
Sr4077		0.15630	ppm	0.000036000	0.023099
Ti3349		0.13868	ppm	0.00058000	0.41803

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54693-C-8-A

Acquire Date: 10/15/2019 5:09:48PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		0.00071800	ppm	0.00057500	80.173
V_2924		0.18662	ppm	0.00012800	0.068549
Zn2062		0.029954	ppm	0.00025400	0.84713
Y_2243		6,338.9	Cts/S	80.098	1.2636
Y_3600		48,174	Cts/S	189.62	0.39362
Y_3774		7,986.4	Cts/S	36.736	0.45999

320-54693-F-9-A

Acquire Date: 10/15/2019 5:13:47PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00056400	ppm	0.0000010000	0.10926
Al3961		0.99910	ppm	0.0074290	0.74353
As1890		0.31908	ppm	0.00084500	0.26486
B_2089		0.64398	ppm	0.0011820	0.18351
Ba4554		0.018343	ppm	0.00035800	1.9512
Be3130		0.00015000	ppm	0.00018900	125.78
Ca3179		2.2756	ppm	0.019759	0.86828
Cd2144		0.00013300	ppm	0.000018000	13.823
Co2286		0.0011930	ppm	0.00030100	25.219
Cr2677		0.0047520	ppm	0.00073500	15.472
Cu3247		0.0065340	ppm	0.0024430	37.394
Fe2599		0.97028	ppm	0.0069750	0.71884
K_7664		5.2051	ppm	0.0017140	0.032923
Mg2790		0.86569	ppm	0.0060920	0.70370
Mn2576		0.060835	ppm	0.00015000	0.24622
Mo2020		0.0087860	ppm	0.00026200	2.9807
Na5895		163.16	ppm	0.37936	0.23251
Ni2316		0.0016290	ppm	0.00068500	42.037
P_1782		0.58983	ppm	0.0038280	0.64903
Pb2203		0.00088500	ppm	0.0010070	113.84
S_1820		19.187	ppm	0.0016610	0.0086560
Sb2068		0.00025800	ppm	0.0027780	1,077.2
Se1960		0.0050660	ppm	0.0033010	65.172
Si2881	**W**	**23.852**	**ppm**	**0.0073040**	**0.030623**
Sn1899		0.00053300	ppm	0.00073900	138.61
Sr4077		0.027857	ppm	0.00030300	1.0868
Ti3349		0.068604	ppm	0.00019600	0.28574
Tl1908		0.0021710	ppm	0.00059700	27.503
V_2924		0.13680	ppm	0.00062200	0.45446
Zn2062		0.012440	ppm	0.00018800	1.5144
Y_2243		6,865.3	Cts/S	21.416	0.31195
Y_3600		54,473	Cts/S	74.905	0.13751
Y_3774		8,822.1	Cts/S	10.937	0.12397

320-54693-C-10-A

Acquire Date: 10/15/2019 5:17:41PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.000073000	ppm	0.00032500	442.26
Al3961		1.8493	ppm	0.0072580	0.39250
As1890		0.37734	ppm	0.00010600	0.028223
B_2089		1.5310	ppm	0.0010310	0.067363
Ba4554		0.016975	ppm	0.00038300	2.2552
Be3130		0.00020100	ppm	0.00021800	108.40
Ca3179		6.5132	ppm	0.033866	0.51996
Cd2144		0.00039300	ppm	0.000041000	10.464
Co2286		0.0012660	ppm	0.00037200	29.353
Cr2677		0.0018160	ppm	0.00017600	9.7153
Cu3247		0.016268	ppm	0.00018000	1.1073
Fe2599		1.7831	ppm	0.0016610	0.093144
K_7664		11.400	ppm	0.0069120	0.060627
Mg2790		1.7872	ppm	0.0048550	0.27167
Mn2576		0.27329	ppm	0.00087300	0.31948
Mo2020		0.018797	ppm	0.00020000	1.0627
Na5895	**W**	**492.76**	**ppm**	**15.897**	**3.2261**
Ni2316		0.0029090	ppm	0.00019000	6.5146
P_1782		0.92858	ppm	0.0023400	0.25202
Pb2203		0.00031600	ppm	0.000071000	22.340
S_1820		58.954	ppm	0.054458	0.092373
Sb2068		0.000038000	ppm	0.0020880	5,554.0
Se1960		-0.0011190	ppm	0.0062590	559.25
Si2881	**W**	**21.237**	**ppm**	**0.067615**	**0.31839**
Sn1899		0.0011720	ppm	0.00072400	61.779
Sr4077		0.079650	ppm	0.000039000	0.049424
Ti3349		0.096973	ppm	0.000093000	0.096269
Tl1908		0.00074500	ppm	0.0033520	449.72
V_2924		0.014954	ppm	0.00054800	3.6666
Zn2062		0.020713	ppm	0.000036000	0.17536
Y_2243		6,759.9	Cts/S	25.567	0.37822
Y_3600		52,364	Cts/S	81.424	0.15550
Y_3774		8,656.7	Cts/S	12.691	0.14660

CCV 1708493

Acquire Date: 10/15/2019 5:21:41PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.51021	ppm	0.0023330	0.45732	.50000	Rel(%)	Pass	
Al3961		24.874	ppm	0.036238	0.14569	25.000	Rel(%)	Pass	
As1890		0.53609	ppm	0.0016080	0.30001	.50000	Rel(%)	Pass	
B_2089		1.0321	ppm	0.00043800	0.042463	1.0000	Rel(%)	Pass	
Ba4554		2.6286	ppm	0.0016270	0.061915	2.5000	Rel(%)	Pass	
Be3130		0.52553	ppm	0.00081600	0.15529	.50000	Rel(%)	Pass	
Ca3179		25.354	ppm	0.021145	0.083398	25.000	Rel(%)	Pass	
Cd2144		0.52383	ppm	0.00030000	0.057234	.50000	Rel(%)	Pass	
Co2286		2.5886	ppm	0.0012390	0.047866	2.5000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCV 1708493

Acquire Date: 10/15/2019 5:21:41PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Cr2677		2.5739	ppm	0.0051210	0.19897	2.5000	Rel(%)	Pass	
Cu3247		2.4544	ppm	0.0065690	0.26766	2.5000	Rel(%)	Pass	
Fe2599		25.186	ppm	0.016241	0.064487	25.000	Rel(%)	Pass	
K_7664		25.153	ppm	0.061310	0.24375	25.000	Rel(%)	Pass	
Mg2790		25.016	ppm	0.0092170	0.036845	25.000	Rel(%)	Pass	
Mn2576		2.5866	ppm	0.0018240	0.070510	2.5000	Rel(%)	Pass	
Mo2020		1.0379	ppm	0.0015700	0.15129	1.0000	Rel(%)	Pass	
Na5895		25.257	ppm	0.094967	0.37600	25.000	Rel(%)	Pass	
Ni2316		2.5674	ppm	0.0029110	0.11339	2.5000	Rel(%)	Pass	
P_1782		2.5417	ppm	0.0017160	0.067508	2.5000	Rel(%)	Pass	
Pb2203		0.52688	ppm	0.0019170	0.36380	.50000	Rel(%)	Pass	
S_1820		2.5141	ppm	0.0013100	0.052097	2.5000	Rel(%)	Pass	
Sb2068		0.52078	ppm	0.0011000	0.21127	.50000	Rel(%)	Pass	
Se1960	**W**	**0.55134**	**ppm**	**0.0049330**	**0.89482**	**.50000**	**Rel(%)**	**Warn High**	**10.000**
Si2881		2.5185	ppm	0.015888	0.63085	2.5000	Rel(%)	Pass	
Sn1899		2.6159	ppm	0.0052950	0.20242	2.5000	Rel(%)	Pass	
Sr4077		2.5226	ppm	0.0034060	0.13501	2.5000	Rel(%)	Pass	
Ti3349		1.0193	ppm	0.0024780	0.24306	1.0000	Rel(%)	Pass	
Tl1908		0.53925	ppm	0.0042060	0.77996	.50000	Rel(%)	Pass	
V_2924		2.6004	ppm	0.00055300	0.021256	2.5000	Rel(%)	Pass	
Zn2062		2.5365	ppm	0.0057420	0.22638	2.5000	Rel(%)	Pass	
Y_2243		6,767.8	Cts/S	5.6934	0.084125				
Y_3600		54,242	Cts/S	197.82	0.36469				
Y_3774		8,701.3	Cts/S	5.6448	0.064874				

CCB 1745955

Acquire Date: 10/15/2019 5:25:25PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.00014700	ppm	0.00075300	510.83	.00000	Abs	Pass	
Al3961		0.0011930	ppm	0.012478	1,046.4	.00000	Abs	Pass	
As1890		-0.00010600	ppm	0.0024710	2,331.1	.00000	Abs	Pass	
B_2089		0.017200	ppm	0.00087600	5.0940	.00000	Abs	Pass	
Ba4554		0.0010210	ppm	0.00084400	82.676	.00000	Abs	Pass	
Be3130		0.00027700	ppm	0.000045000	16.057	.00000	Abs	Pass	
Ca3179		0.011450	ppm	0.010761	93.980	.00000	Abs	Pass	
Cd2144		0.000020000	ppm	0.000057000	288.92	.00000	Abs	Pass	
Co2286		0.00010800	ppm	0.0000010000	0.59075	.00000	Abs	Pass	
Cr2677		0.00024500	ppm	0.00021500	87.791	.00000	Abs	Pass	
Cu3247		0.0041450	ppm	0.0021840	52.680	.00000	Abs	Pass	
Fe2599		0.010578	ppm	0.0019330	18.275	.00000	Abs	Pass	
K_7664		0.10636	ppm	0.030211	28.404	.00000	Abs	Pass	
Mg2790		-0.0049770	ppm	0.0033540	67.403	.00000	Abs	Pass	
Mn2576		0.00023300	ppm	0.000090000	38.600	.00000	Abs	Pass	
Mo2020		0.00023800	ppm	0.00011200	46.889	.00000	Abs	Pass	
Na5895		0.49330	ppm	0.22185	44.972	.00000	Abs	Pass	
Ni2316		-0.00010800	ppm	0.00026700	246.57	.00000	Abs	Pass	
P_1782		0.0014840	ppm	0.00061500	41.408	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCB 1745955

Acquire Date: 10/15/2019 5:25:25PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Pb2203		0.0033630	ppm	0.00037200	11.073	.00000	Abs	Pass	
S_1820		0.0050860	ppm	0.0021070	41.438	.00000	Abs	Pass	
Sb2068		-0.00035500	ppm	0.0036940	1,039.8	.00000	Abs	Pass	
Se1960		0.00020100	ppm	0.00063200	314.93	.00000	Abs	Pass	
Si2881		0.0030060	ppm	0.026244	873.13	.00000	Abs	Pass	
Sn1899		0.00076400	ppm	0.00015200	19.941	.00000	Abs	Pass	
Sr4077		0.00071000	ppm	0.0010380	146.16	.00000	Abs	Pass	
Ti3349		-0.00039800	ppm	0.00057800	145.15	.00000	Abs	Pass	
Tl1908		0.00050800	ppm	0.0024740	486.76	.00000	Abs	Pass	
V_2924		0.00038300	ppm	0.00014000	36.626	.00000	Abs	Pass	
Zn2062		0.00040100	ppm	0.00079500	198.12	.00000	Abs	Pass	
Y_2243		6,871.9	Cts/S	9.6397	0.14028				
Y_3600		55,493	Cts/S	108.60	0.19570				
Y_3774		8,575.0	Cts/S	51.047	0.59530				

320-54693-F-11-A

Acquire Date: 10/15/2019 5:29:23PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00037300	ppm	0.00091400	244.92
Al3961		0.29613	ppm	0.027508	9.2890
As1890		0.11104	ppm	0.0055880	5.0323
B_2089	**W**	**5.3448**	**ppm**	**0.010923**	**0.20436**
Ba4554		0.093096	ppm	0.000044000	0.047642
Be3130		0.000031000	ppm	0.00017000	555.32
Ca3179		36.884	ppm	0.020463	0.055479
Cd2144		0.00052500	ppm	0.00064600	122.90
Co2286		0.0026170	ppm	0.0024040	91.879
Cr2677		0.012603	ppm	0.00010000	0.79185
Cu3247		0.013350	ppm	0.0012060	9.0308
Fe2599		0.39146	ppm	0.0027730	0.70845
K_7664		19.607	ppm	0.020979	0.10700
Mg2790		8.9370	ppm	0.00055500	0.0062150
Mn2576		0.017676	ppm	0.000083000	0.46690
Mo2020		0.018827	ppm	0.0012610	6.6995
Na5895	**F**	**933.29**	**ppm**	**20.601**	**2.2074**
Ni2316		0.0042420	ppm	0.0021050	49.626
P_1782		0.35393	ppm	0.0056800	1.6047
Pb2203		0.0016660	ppm	0.00074300	44.589
S_1820		71.594	ppm	0.12608	0.17611
Sb2068		-0.0016990	ppm	0.0028630	168.53
Se1960		0.0079500	ppm	0.00055600	6.9937
Si2881	**W**	**28.793**	**ppm**	**0.090968**	**0.31594**
Sn1899		0.0027200	ppm	0.0024610	90.506
Sr4077		0.46277	ppm	0.00031900	0.068848
Ti3349		0.029384	ppm	0.00038700	1.3172
Tl1908		.0000010000	ppm	0.00047200	66,022

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54693-F-11-A

Acquire Date: 10/15/2019 5:29:23PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
V_2924		0.13028	ppm	0.00045300	0.34734
Zn2062		0.0086210	ppm	0.00075900	8.8079
Y_2243		6,529.9	Cts/S	68.070	1.0424
Y_3600		50,394	Cts/S	165.14	0.32770
Y_3774		8,632.7	Cts/S	50.746	0.58784

SD 320-54862-F-5-A@5

Acquire Date: 10/15/2019 5:33:22PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.000077000	ppm	0.0012590	1,626.8
Al3961		0.017331	ppm	0.0026130	15.075
As1890		-0.00037400	ppm	0.0013230	353.37
B_2089		0.033571	ppm	0.0034830	10.376
Ba4554		0.0097210	ppm	0.00022600	2.3284
Be3130		0.000029000	ppm	0.000059000	198.89
Ca3179		2.7757	ppm	0.0093730	0.33768
Cd2144		0.000017000	ppm	0.000079000	474.44
Co2286		-0.00030700	ppm	0.000086000	27.936
Cr2677		0.00029200	ppm	0.00027200	93.157
Cu3247		-0.00067800	ppm	0.0050680	747.65
Fe2599		0.029279	ppm	0.0048910	16.705
K_7664		0.62562	ppm	0.054846	8.7666
Mg2790		1.4207	ppm	0.0038140	0.26844
Mn2576		0.0028770	ppm	0.000025000	0.86025
Mo2020		0.00039100	ppm	0.000054000	13.692
Na5895		2.9425	ppm	0.11545	3.9235
Ni2316		0.00077800	ppm	0.00012500	16.094
P_1782		0.021087	ppm	0.00082900	3.9305
Pb2203		0.0031470	ppm	0.0042760	135.86
S_1820		0.35192	ppm	0.025914	7.3637
Sb2068		0.0019900	ppm	0.00088200	44.312
Se1960		0.00085300	ppm	0.0024230	284.08
Si2881		4.9338	ppm	0.012726	0.25794
Sn1899		0.00023800	ppm	0.000076000	31.932
Sr4077		0.029828	ppm	0.00010500	0.35104
Ti3349		0.00060800	ppm	0.00014400	23.675
Tl1908		-0.0012210	ppm	0.0019150	156.92
V_2924		0.0023430	ppm	0.00013100	5.5752
Zn2062		0.0023940	ppm	0.00049300	20.602
Y_2243		7,085.0	Cts/S	16.028	0.22623
Y_3600		56,878	Cts/S	542.75	0.95423
Y_3774		8,866.9	Cts/S	11.035	0.12445

PDS 320-54862-F-5A

Acquire Date: 10/15/2019 5:37:18PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.10663	ppm	0.00072500	0.68026
Al3961		10.406	ppm	0.036506	0.35083
As1890		0.098358	ppm	0.0028610	2.9089
B_2089		1.1008	ppm	0.0035620	0.32358
Ba4554		0.15339	ppm	0.00016400	0.10679
Be3130		0.053130	ppm	0.00031400	0.59021
Ca3179		23.499	ppm	0.0034800	0.014809
Cd2144		0.10461	ppm	0.000041000	0.038985
Co2286		0.10523	ppm	0.00011600	0.10984
Cr2677		0.10604	ppm	0.00043100	0.40659
Cu3247		0.10649	ppm	0.00088100	0.82687
Fe2599		4.3669	ppm	0.017236	0.39469
K_7664		12.996	ppm	0.048706	0.37479
Mg2790		16.898	ppm	0.042102	0.24915
Mn2576		0.12010	ppm	0.00060900	0.50738
Mo2020		0.10300	ppm	0.00040300	0.39104
Na5895		20.978	ppm	0.073617	0.35093
Ni2316		0.10384	ppm	0.00057700	0.55593
P_1782		1.0993	ppm	0.00032000	0.029090
Pb2203		0.10293	ppm	0.0028680	2.7863
S_1820		3.6065	ppm	0.0037060	0.10277
Sb2068		0.095614	ppm	0.0014820	1.5497
Se1960		0.10713	ppm	0.0040930	3.8207
Si2881	**W**	**24.791**	**ppm**	**0.10607**	**0.42786**
Sn1899		0.10769	ppm	0.00058200	0.54066
Sr4077		0.24415	ppm	0.00023000	0.094232
Ti3349		0.10760	ppm	0.00019500	0.18113
Tl1908		0.10567	ppm	0.0019330	1.8290
V_2924		0.11672	ppm	0.00036300	0.31141
Zn2062		0.10632	ppm	0.0013160	1.2376
Y_2243		6,984.8	Cts/S	39.276	0.56230
Y_3600		55,098	Cts/S	183.81	0.33360
Y_3774		8,685.9	Cts/S	134.70	1.5508

CCV 1708493

Acquire Date: 10/15/2019 5:41:13PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.50756	ppm	0.00038700	0.076162	.50000	Rel(%)	Pass	
Al3961		24.901	ppm	0.015086	0.060584	25.000	Rel(%)	Pass	
As1890		0.53728	ppm	0.0055150	1.0264	.50000	Rel(%)	Pass	
B_2089		1.0257	ppm	0.0018660	0.18189	1.0000	Rel(%)	Pass	
Ba4554		2.6280	ppm	0.0012600	0.047953	2.5000	Rel(%)	Pass	
Be3130		0.52584	ppm	0.00068900	0.13102	.50000	Rel(%)	Pass	
Ca3179		25.268	ppm	0.031219	0.12355	25.000	Rel(%)	Pass	
Cd2144		0.52233	ppm	0.00071000	0.13585	.50000	Rel(%)	Pass	
Co2286		2.5878	ppm	0.0014410	0.055675	2.5000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCV 1708493

Acquire Date: 10/15/2019 5:41:13PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Cr2677		2.5713	ppm	0.010071	0.39168	2.5000	Rel(%)	Pass	
Cu3247		2.4430	ppm	0.00028000	0.011467	2.5000	Rel(%)	Pass	
Fe2599		25.206	ppm	0.011192	0.044403	25.000	Rel(%)	Pass	
K_7664		25.088	ppm	0.045605	0.18178	25.000	Rel(%)	Pass	
Mg2790		24.976	ppm	0.067919	0.27194	25.000	Rel(%)	Pass	
Mn2576		2.5803	ppm	0.0011630	0.045056	2.5000	Rel(%)	Pass	
Mo2020		1.0351	ppm	0.0021010	0.20298	1.0000	Rel(%)	Pass	
Na5895		24.991	ppm	0.016358	0.065454	25.000	Rel(%)	Pass	
Ni2316		2.5604	ppm	0.0032420	0.12661	2.5000	Rel(%)	Pass	
P_1782		2.5368	ppm	0.0068070	0.26834	2.5000	Rel(%)	Pass	
Pb2203		0.52880	ppm	0.0020710	0.39162	.50000	Rel(%)	Pass	
S_1820		2.5034	ppm	0.012601	0.50337	2.5000	Rel(%)	Pass	
Sb2068		0.52163	ppm	0.0016290	0.31232	.50000	Rel(%)	Pass	
Se1960	**W**	**0.55044**	**ppm**	**0.0030250**	**0.54953**	**.50000**	**Rel(%)**	**Warn High**	**10.000**
Si2881		2.4778	ppm	0.069785	2.8164	2.5000	Rel(%)	Pass	
Sn1899		2.6083	ppm	0.0052100	0.19974	2.5000	Rel(%)	Pass	
Sr4077		2.5223	ppm	0.00053700	0.021280	2.5000	Rel(%)	Pass	
Ti3349		1.0195	ppm	0.00014300	0.014029	1.0000	Rel(%)	Pass	
Tl1908		0.54064	ppm	0.0019900	0.36816	.50000	Rel(%)	Pass	
V_2924		2.5993	ppm	0.0043700	0.16812	2.5000	Rel(%)	Pass	
Zn2062		2.5289	ppm	0.0045000	0.17793	2.5000	Rel(%)	Pass	
Y_2243		6,871.2	Cts/S	23.366	0.34005				
Y_3600		55,196	Cts/S	25.263	0.045770				
Y_3774		8,856.3	Cts/S	91.807	1.0366				

CCB 1745955

Acquire Date: 10/15/2019 5:44:58PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00063800	ppm	0.00017300	27.097	.00000	Abs	Pass	
Al3961		0.000054000	ppm	0.0022190	4,132.8	.00000	Abs	Pass	
As1890		-0.00022000	ppm	0.0013790	626.59	.00000	Abs	Pass	
B_2089		0.014626	ppm	0.00076900	5.2585	.00000	Abs	Pass	
Ba4554		0.00058900	ppm	0.00051000	86.519	.00000	Abs	Pass	
Be3130		0.00016700	ppm	0.000011000	6.4125	.00000	Abs	Pass	
Ca3179		0.0043540	ppm	0.0029950	68.794	.00000	Abs	Pass	
Cd2144		0.000053000	ppm	0.000016000	29.923	.00000	Abs	Pass	
Co2286		0.00028900	ppm	0.00023100	80.050	.00000	Abs	Pass	
Cr2677		0.00041000	ppm	0.000030000	7.4015	.00000	Abs	Pass	
Cu3247		0.0022120	ppm	0.00056000	25.319	.00000	Abs	Pass	
Fe2599		0.0049570	ppm	0.0063680	128.47	.00000	Abs	Pass	
K_7664		0.064595	ppm	0.050549	78.255	.00000	Abs	Pass	
Mg2790		-0.0037150	ppm	0.0034530	92.962	.00000	Abs	Pass	
Mn2576		0.00040800	ppm	0.000031000	7.5733	.00000	Abs	Pass	
Mo2020		.0000070000	ppm	0.00023500	3,608.6	.00000	Abs	Pass	
Na5895		0.19631	ppm	0.0083550	4.2563	.00000	Abs	Pass	
Ni2316		0.00042800	ppm	0.00035700	83.508	.00000	Abs	Pass	
P_1782		0.0030600	ppm	0.0012860	42.031	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCB 1745955

Acquire Date: 10/15/2019 5:44:58PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Pb2203		0.000042000	ppm	0.0028920	6,930.3	.00000	Abs	Pass	
S_1820		0.0024020	ppm	0.0011050	45.976	.00000	Abs	Pass	
Sb2068		-0.0028860	ppm	0.0022990	79.687	.00000	Abs	Pass	
Se1960		-0.00049700	ppm	0.0040980	823.99	.00000	Abs	Pass	
Si2881		-0.018262	ppm	0.00089900	4.9203	.00000	Abs	Pass	
Sn1899		0.0014670	ppm	0.00029000	19.789	.00000	Abs	Pass	
Sr4077		0.00054000	ppm	0.00031700	58.708	.00000	Abs	Pass	
Ti3349		0.00013600	ppm	0.00013800	101.81	.00000	Abs	Pass	
Tl1908		0.000095000	ppm	0.0010360	1,090.2	.00000	Abs	Pass	
V_2924		0.00058900	ppm	0.000062000	10.547	.00000	Abs	Pass	
Zn2062		0.0017540	ppm	0.0014600	83.258	.00000	Abs	Pass	
Y_2243		6,887.9	Cts/S	13.841	0.20095				
Y_3600		56,418	Cts/S	139.75	0.24771				
Y_3774		8,547.2	Cts/S	42.596	0.49836				

CCVL 1733852

Acquire Date: 10/15/2019 5:48:57PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.0053520	ppm	0.00057400	10.719	.00500	Rel(%)	Pass	
Al3961		0.18304	ppm	0.030579	16.706	.20000	Rel(%)	Pass	
As1890		0.035551	ppm	0.0022350	6.2875	.04000	Rel(%)	Pass	
B_2089		0.22209	ppm	0.0012210	0.54956	.20000	Rel(%)	Pass	
Ba4554		0.020926	ppm	0.000012000	0.058569	.02000	Rel(%)	Pass	
Be3130		0.0031830	ppm	0.000019000	0.60699	.00300	Rel(%)	Pass	
Ca3179		0.52615	ppm	0.0019410	0.36892	.50000	Rel(%)	Pass	
Cd2144		0.0032540	ppm	0.000053000	1.6343	.00300	Rel(%)	Pass	
Co2286		0.010551	ppm	0.00016100	1.5226	.01000	Rel(%)	Pass	
Cr2677		0.010795	ppm	0.00032700	3.0253	.01000	Rel(%)	Pass	
Cu3247		0.013980	ppm	0.0011560	8.2713	.01500	Rel(%)	Pass	
Fe2599		0.10256	ppm	0.00067600	0.65928	.10000	Rel(%)	Pass	
K_7664		1.0381	ppm	0.0017500	0.16856	1.0000	Rel(%)	Pass	
Mg2790		0.51399	ppm	0.0041980	0.81681	.50000	Rel(%)	Pass	
Mn2576		0.010836	ppm	0.00014500	1.3357	.01000	Rel(%)	Pass	
Mo2020		0.020013	ppm	0.000054000	0.26780	.02000	Rel(%)	Pass	
Na5895	**F**	**0.65691**	**ppm**	**0.0041650**	**0.63398**	**.50000**	**Rel(%)**	**Fail High**	**30.000**
Ni2316		0.012330	ppm	0.00023200	1.8841	.01000	Rel(%)	Pass	
P_1782		0.52511	ppm	0.00013700	0.026128	.50000	Rel(%)	Pass	
Pb2203		0.0098860	ppm	0.00086500	8.7543	.01000	Rel(%)	Pass	
S_1820		0.51170	ppm	0.00014400	0.028131	.50000	Rel(%)	Pass	
Sb2068		0.029504	ppm	0.00019800	0.67062	.03000	Rel(%)	Pass	
Se1960		0.036412	ppm	0.0033600	9.2290	.04000	Rel(%)	Pass	
Si2881		0.49644	ppm	0.0022900	0.46134	.50000	Rel(%)	Pass	
Sn1899		0.022539	ppm	0.00030500	1.3537	.02000	Rel(%)	Pass	
Sr4077		0.051741	ppm	0.000025000	0.048875	.05000	Rel(%)	Pass	
Ti3349		0.010122	ppm	0.0015170	14.990	.01000	Rel(%)	Pass	
Tl1908		0.033055	ppm	0.0013270	4.0149	.03000	Rel(%)	Pass	
V_2924		0.020785	ppm	0.00010100	0.48695	.02000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCVL 1733852

Acquire Date: 10/15/2019 5:48:57PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Zn2062		0.021848	ppm	0.00014600	0.66848	.02000	Rel(%)	Pass	
Y_2243		6,902.5	Cts/S	28.244	0.40919				
Y_3600		55,648	Cts/S	14.190	0.025500				
Y_3774		8,604.8	Cts/S	75.900	0.88206				

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Acquire Date: 10/15/2019 5:52:55PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00046000	ppm	0.00043700	94.969	.00000	Abs	Pass	
Al3961		-0.00058100	ppm	0.016544	2,848.9	.00000	Abs	Pass	
As1890		0.000057000	ppm	0.00026500	465.90	.00000	Abs	Pass	
B_2089		0.0087110	ppm	0.00028200	3.2365	.00000	Abs	Pass	
Ba4554		0.000040000	ppm	0.00069600	1,722.2	.00000	Abs	Pass	
Be3130		0.000023000	ppm	0.000052000	223.81	.00000	Abs	Pass	
Ca3179		-0.012275	ppm	0.0049260	40.126	.00000	Abs	Pass	
Cd2144		0.000051000	ppm	0.000038000	73.954	.00000	Abs	Pass	
Co2286		-0.00020500	ppm	0.00030600	149.36	.00000	Abs	Pass	
Cr2677		0.000019000	ppm	0.00090100	4,628.9	.00000	Abs	Pass	
Cu3247		0.000033000	ppm	0.00029500	896.86	.00000	Abs	Pass	
Fe2599		-0.0019430	ppm	0.0026080	134.18	.00000	Abs	Pass	
K_7664		0.026760	ppm	0.027833	104.01	.00000	Abs	Pass	
Mg2790		-0.0033670	ppm	0.00099500	29.565	.00000	Abs	Pass	
Mn2576		0.000094000	ppm	0.0000040000	4.2033	.00000	Abs	Pass	
Mo2020		0.000098000	ppm	0.00026300	268.20	.00000	Abs	Pass	
Na5895		0.12845	ppm	0.038875	30.264	.00000	Abs	Pass	
Ni2316		0.00040200	ppm	0.00085100	211.46	.00000	Abs	Pass	
P_1782		0.0020160	ppm	0.00025300	12.546	.00000	Abs	Pass	
Pb2203		0.0015350	ppm	0.0013580	88.503	.00000	Abs	Pass	
S_1820		0.0027660	ppm	0.0023900	86.429	.00000	Abs	Pass	
Sb2068		0.0011080	ppm	0.00034500	31.169	.00000	Abs	Pass	
Se1960		-0.0012720	ppm	0.00098700	77.563	.00000	Abs	Pass	
Si2881		0.010464	ppm	0.0023790	22.736	.00000	Abs	Pass	
Sn1899		0.00063800	ppm	0.00015000	23.527	.00000	Abs	Pass	
Sr4077		-0.00019500	ppm	0.00011000	56.371	.00000	Abs	Pass	
Ti3349		-0.00062500	ppm	0.00011200	17.967	.00000	Abs	Pass	
Tl1908		0.00089700	ppm	0.0014630	163.06	.00000	Abs	Pass	
V_2924		-0.00022300	ppm	0.00025400	114.02	.00000	Abs	Pass	
Zn2062		0.00013700	ppm	0.00024900	181.15	.00000	Abs	Pass	
Y_2243		6,936.3	Cts/S	38.788	0.55921				
Y_3600		55,431	Cts/S	328.60	0.59282				
Y_3774		8,553.2	Cts/S	113.75	1.3299				

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Acquire Date: 10/15/2019 5:56:54PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.00012700	ppm	0.00026000	204.17	.00000	Abs	Pass	
Al3961		0.0090030	ppm	0.0029270	32.512	.00000	Abs	Pass	
As1890		-0.0021010	ppm	0.00045700	21.739	.00000	Abs	Pass	
B_2089		0.0080090	ppm	0.00021600	2.6918	.00000	Abs	Pass	
Ba4554		-0.00012700	ppm	0.00022700	179.80	.00000	Abs	Pass	
Be3130		0.000088000	ppm	0.00011300	128.41	.00000	Abs	Pass	
Ca3179		-0.00059100	ppm	0.00017800	30.169	.00000	Abs	Pass	
Cd2144		0.000026000	ppm	0.000040000	153.51	.00000	Abs	Pass	
Co2286		-0.00017200	ppm	0.000013000	7.6396	.00000	Abs	Pass	
Cr2677		0.00021900	ppm	0.00097800	446.91	.00000	Abs	Pass	
Cu3247		0.00059300	ppm	0.00011200	18.794	.00000	Abs	Pass	
Fe2599		0.00071000	ppm	0.0057520	809.91	.00000	Abs	Pass	
K_7664		0.0059510	ppm	0.0065940	110.81	.00000	Abs	Pass	
Mg2790		-0.0015550	ppm	0.0057440	369.30	.00000	Abs	Pass	
Mn2576		0.000017000	ppm	0.000016000	91.911	.00000	Abs	Pass	
Mo2020		.0000020000	ppm	0.00019300	7,832.8	.00000	Abs	Pass	
Na5895		0.11956	ppm	0.0045750	3.8263	.00000	Abs	Pass	
Ni2316		0.00019300	ppm	0.000043000	22.179	.00000	Abs	Pass	
P_1782		0.0011450	ppm	0.0018590	162.39	.00000	Abs	Pass	
Pb2203		0.00056400	ppm	0.0018280	324.01	.00000	Abs	Pass	
S_1820		0.0031440	ppm	0.0026220	83.390	.00000	Abs	Pass	
Sb2068		-0.0021430	ppm	0.0017140	79.998	.00000	Abs	Pass	
Se1960		-0.00052000	ppm	0.00056700	109.07	.00000	Abs	Pass	
Si2881		-0.011842	ppm	0.0037370	31.558	.00000	Abs	Pass	
Sn1899		-0.00038600	ppm	0.00036600	94.753	.00000	Abs	Pass	
Sr4077		0.000012000	ppm	0.00019500	1,673.8	.00000	Abs	Pass	
Ti3349		0.00022500	ppm	0.00013700	60.853	.00000	Abs	Pass	
Tl1908		0.0024170	ppm	0.0019060	78.858	.00000	Abs	Pass	
V_2924		0.00028800	ppm	0.00069200	240.18	.00000	Abs	Pass	
Zn2062		0.00096900	ppm	0.00024900	25.634	.00000	Abs	Pass	
Y_2243		6,896.3	Cts/S	7.6261	0.11058				
Y_3600		55,914	Cts/S	51.799	0.092641				
Y_3774		8,729.5	Cts/S	79.679	0.91276				

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Acquire Date: 10/15/2019 6:00:54PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.00066000	ppm	0.00078800	119.43	.00000	Abs	Pass	
Al3961		0.014856	ppm	0.0037030	24.928	.00000	Abs	Pass	
As1890		0.000073000	ppm	0.0013320	1,829.0	.00000	Abs	Pass	
B_2089		0.0060340	ppm	0.0012410	20.569	.00000	Abs	Pass	
Ba4554		0.000076000	ppm	0.000097000	127.49	.00000	Abs	Pass	
Be3130		0.000073000	ppm	0.000092000	125.62	.00000	Abs	Pass	
Ca3179		0.00059800	ppm	0.00085700	143.32	.00000	Abs	Pass	
Cd2144		.0000030000	ppm	0.000020000	738.12	.00000	Abs	Pass	
Co2286		0.00021300	ppm	0.000021000	10.040	.00000	Abs	Pass	
Cr2677		0.00031900	ppm	0.00028100	88.221	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

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Acquire Date: 10/15/2019 6:00:54PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Cu3247		0.0020110	ppm	0.00095700	47.575	.00000	Abs	Pass	
Fe2599		-0.0031360	ppm	0.00030400	9.6812	.00000	Abs	Pass	
K_7664		0.020853	ppm	0.031886	152.91	.00000	Abs	Pass	
Mg2790		-0.0087060	ppm	0.0026370	30.288	.00000	Abs	Pass	
Mn2576		0.000065000	ppm	0.000066000	101.65	.00000	Abs	Pass	
Mo2020		0.00020600	ppm	0.00022600	109.56	.00000	Abs	Pass	
Na5895		0.11143	ppm	0.0096640	8.6725	.00000	Abs	Pass	
Ni2316		0.00031400	ppm	0.00027200	86.574	.00000	Abs	Pass	
P_1782		0.0024890	ppm	0.00079300	31.860	.00000	Abs	Pass	
Pb2203		0.00095700	ppm	0.00066400	69.327	.00000	Abs	Pass	
S_1820		0.0056410	ppm	0.00047800	8.4681	.00000	Abs	Pass	
Sb2068		-0.00075600	ppm	0.00024400	32.235	.00000	Abs	Pass	
Se1960		-0.00064100	ppm	0.0029810	465.46	.00000	Abs	Pass	
Si2881		-0.018096	ppm	0.000070000	0.38748	.00000	Abs	Pass	
Sn1899		0.00077100	ppm	0.00026200	34.027	.00000	Abs	Pass	
Sr4077		-0.00017300	ppm	0.00020000	115.26	.00000	Abs	Pass	
Ti3349		0.000058000	ppm	0.00071400	1,240.3	.00000	Abs	Pass	
Tl1908		0.0014450	ppm	0.0011990	82.958	.00000	Abs	Pass	
V_2924		0.00059300	ppm	0.00033500	56.549	.00000	Abs	Pass	
Zn2062		0.0011320	ppm	0.0011340	100.18	.00000	Abs	Pass	
Y_2243		6,929.5	Cts/S	5.5147	0.079583				
Y_3600		56,010	Cts/S	10.875	0.019417				
Y_3774		8,582.8	Cts/S	170.15	1.9824				

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Acquire Date: 10/15/2019 6:04:53PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.000093000	ppm	0.00020000	215.06	.00000	Abs	Pass	
Al3961		-0.0029020	ppm	0.0016890	58.189	.00000	Abs	Pass	
As1890		-0.0018890	ppm	0.00054300	28.727	.00000	Abs	Pass	
B_2089		0.0047970	ppm	0.00016200	3.3838	.00000	Abs	Pass	
Ba4554		0.000068000	ppm	0.00017600	257.99	.00000	Abs	Pass	
Be3130		-0.00013400	ppm	0.00018800	140.22	.00000	Abs	Pass	
Ca3179		0.0047790	ppm	0.0067580	141.43	.00000	Abs	Pass	
Cd2144		0.000035000	ppm	0.000093000	262.37	.00000	Abs	Pass	
Co2286		0.00030800	ppm	0.000029000	9.3108	.00000	Abs	Pass	
Cr2677		0.00068000	ppm	0.00045300	66.643	.00000	Abs	Pass	
Cu3247		-0.00039400	ppm	0.00055800	141.44	.00000	Abs	Pass	
Fe2599		-0.0038360	ppm	0.0033400	87.079	.00000	Abs	Pass	
K_7664		0.084533	ppm	0.051456	60.871	.00000	Abs	Pass	
Mg2790		-0.0065650	ppm	0.0039440	60.083	.00000	Abs	Pass	
Mn2576		.0000040000	ppm	0.000014000	355.53	.00000	Abs	Pass	
Mo2020		0.00025000	ppm	0.00015600	62.398	.00000	Abs	Pass	
Na5895		0.089057	ppm	0.015165	17.029	.00000	Abs	Pass	
Ni2316		0.00031600	ppm	0.00046800	148.17	.00000	Abs	Pass	
P_1782		0.0041720	ppm	0.0021930	52.566	.00000	Abs	Pass	
Pb2203		0.00048100	ppm	0.00079800	165.76	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

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Acquire Date: 10/15/2019 6:04:53PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 501

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
S_1820		0.0050320	ppm	0.00063500	12.621	.00000	Abs	Pass	
Sb2068		-0.00045600	ppm	0.0026040	570.77	.00000	Abs	Pass	
Se1960		0.0029020	ppm	0.0064180	221.14	.00000	Abs	Pass	
Si2881		-0.010345	ppm	0.025068	242.31	.00000	Abs	Pass	
Sn1899		0.00031900	ppm	0.0011450	359.48	.00000	Abs	Pass	
Sr4077		-0.00032100	ppm	0.00022300	69.479	.00000	Abs	Pass	
Ti3349		0.00020900	ppm	0.00028600	136.96	.00000	Abs	Pass	
Tl1908		0.0016210	ppm	0.0014790	91.243	.00000	Abs	Pass	
V_2924		0.000077000	ppm	0.000057000	73.748	.00000	Abs	Pass	
Zn2062		0.0015830	ppm	0.0010070	63.600	.00000	Abs	Pass	
Y_2243		6,870.6	Cts/S	2.5369	0.036924				
Y_3600		55,276	Cts/S	394.04	0.71285				
Y_3774		8,403.1	Cts/S	193.00	2.2968				

Test America-West Sacramento methods 6010b and 200.7

Author: GH

Published: 10/17/2019 8:53:14AM

Notes:

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Acquire Date: 10/16/2019 2:12:25PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00086600	ppm	0.00032800	37.841	.00000	Abs	Pass	
Al3961		-0.035704	ppm	0.018563	51.992	.00000	Abs	Pass	
As1890		-0.00040900	ppm	0.00020300	49.521	.00000	Abs	Pass	
B_2089		0.000060000	ppm	0.000087000	144.39	.00000	Abs	Pass	
Ba4554		0.00044100	ppm	0.00034400	77.896	.00000	Abs	Pass	
Be3130		.0000040000	ppm	0.00011600	2,902.6	.00000	Abs	Pass	
Ca3179		-0.012211	ppm	0.0033070	27.080	.00000	Abs	Pass	
Cd2144		0.000064000	ppm	0.000011000	17.597	.00000	Abs	Pass	
Co2286		0.000036000	ppm	0.00024200	676.09	.00000	Abs	Pass	
Cr2677		0.00049500	ppm	0.000094000	18.914	.00000	Abs	Pass	
Cu3247		0.0026240	ppm	0.00032500	12.385	.00000	Abs	Pass	
Fe2599		-0.00088600	ppm	0.0014380	162.23	.00000	Abs	Pass	
K_7664		0.0055790	ppm	0.020833	373.41	.00000	Abs	Pass	
Mg2790		-0.0028010	ppm	0.00068700	24.518	.00000	Abs	Pass	
Mn2576		0.00010700	ppm	0.000021000	19.359	.00000	Abs	Pass	
Mo2020		0.000012000	ppm	0.000099000	832.71	.00000	Abs	Pass	
Na5895		0.051311	ppm	0.0095740	18.658	.00000	Abs	Pass	
Ni2316		0.000018000	ppm	0.00091200	4,948.4	.00000	Abs	Pass	
P_1782		0.0010980	ppm	0.0010100	91.943	.00000	Abs	Pass	
Pb2203		-0.0016370	ppm	0.000029000	1.7597	.00000	Abs	Pass	
S_1820		0.0046350	ppm	0.0022650	48.861	.00000	Abs	Pass	
Sb2068		0.0013370	ppm	0.00085300	63.823	.00000	Abs	Pass	
Se1960		-0.0016780	ppm	0.00037100	22.119	.00000	Abs	Pass	
Si2881		-0.013323	ppm	0.00029300	2.1981	.00000	Abs	Pass	
Sn1899		-0.00024100	ppm	0.00017400	72.442	.00000	Abs	Pass	
Sr4077		0.000090000	ppm	0.00011200	125.40	.00000	Abs	Pass	
Ti3349		.0000020000	ppm	0.00012300	6,709.3	.00000	Abs	Pass	
Tl1908		0.000015000	ppm	0.00075700	4,915.8	.00000	Abs	Pass	
V_2924		0.000044000	ppm	0.00060700	1,378.6	.00000	Abs	Pass	
Zn2062		0.0026020	ppm	0.00037000	14.216	.00000	Abs	Pass	
Y_2243		6,934.1	Cts/S	18.362	0.26481				
Y_3600		56,408	Cts/S	21.895	0.038816				
Y_3774		8,387.3	Cts/S	761.03	9.0736				

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Acquire Date: 10/16/2019 2:16:24PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.000052000	ppm	0.00054300	1,040.2	.00000	Abs	Pass	
Al3961		-0.018589	ppm	0.0075740	40.745	.00000	Abs	Pass	
As1890		-0.0012770	ppm	0.0016490	129.14	.00000	Abs	Pass	
B_2089		0.00059900	ppm	0.000060000	10.027	.00000	Abs	Pass	
Ba4554		0.00036600	ppm	0.00021200	57.856	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

RINSE BLANK

Acquire Date: 10/16/2019 2:16:24PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Be3130		0.000035000	ppm	0.00012300	352.10	.00000	Abs	Pass	
Ca3179		-0.0065590	ppm	0.0030180	46.023	.00000	Abs	Pass	
Cd2144		0.000011000	ppm	0.000068000	610.25	.00000	Abs	Pass	
Co2286		0.00011400	ppm	0.00040900	358.27	.00000	Abs	Pass	
Cr2677		0.00093200	ppm	0.00060500	64.982	.00000	Abs	Pass	
Cu3247		0.0035070	ppm	0.0031410	89.569	.00000	Abs	Pass	
Fe2599		-0.0050860	ppm	0.0035110	69.029	.00000	Abs	Pass	
K_7664		0.020151	ppm	0.080445	399.22	.00000	Abs	Pass	
Mg2790		0.0022890	ppm	0.0024220	105.80	.00000	Abs	Pass	
Mn2576		0.000056000	ppm	0.000028000	49.853	.00000	Abs	Pass	
Mo2020		0.000097000	ppm	0.000046000	47.702	.00000	Abs	Pass	
Na5895		0.029929	ppm	0.017741	59.276	.00000	Abs	Pass	
Ni2316		0.000046000	ppm	0.00010600	230.86	.00000	Abs	Pass	
P_1782		0.0020610	ppm	0.0010860	52.690	.00000	Abs	Pass	
Pb2203		0.0014260	ppm	0.00074200	52.028	.00000	Abs	Pass	
S_1820		0.0028360	ppm	0.0033150	116.90	.00000	Abs	Pass	
Sb2068		-0.0034230	ppm	0.0044240	129.22	.00000	Abs	Pass	
Se1960		-0.0028350	ppm	0.00085700	30.233	.00000	Abs	Pass	
Si2881		-0.033065	ppm	0.0075960	22.972	.00000	Abs	Pass	
Sn1899		0.000013000	ppm	0.00038300	2,858.0	.00000	Abs	Pass	
Sr4077		0.000029000	ppm	0.00010900	372.65	.00000	Abs	Pass	
Ti3349		0.00019400	ppm	0.00071700	369.81	.00000	Abs	Pass	
Tl1908		-0.00021400	ppm	0.000080000	37.345	.00000	Abs	Pass	
V_2924		0.00021300	ppm	0.00035300	165.51	.00000	Abs	Pass	
Zn2062		0.0011800	ppm	0.00088000	74.527	.00000	Abs	Pass	
Y_2243		6,897.9	Cts/S	13.160	0.19078				
Y_3600		55,797	Cts/S	231.15	0.41427				
Y_3774		8,763.5	Cts/S	8.0997	0.092425				

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Acquire Date: 10/16/2019 2:20:23PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00060100	ppm	0.0010730	178.69	.00000	Abs	Pass	
Al3961		-0.019016	ppm	0.015881	83.512	.00000	Abs	Pass	
As1890		-0.00089100	ppm	0.0010460	117.39	.00000	Abs	Pass	
B_2089		0.000033000	ppm	0.00072200	2,174.7	.00000	Abs	Pass	
Ba4554		0.00042200	ppm	0.00030600	72.487	.00000	Abs	Pass	
Be3130		0.000010000	ppm	0.00014900	1,423.4	.00000	Abs	Pass	
Ca3179		-0.011719	ppm	0.0076690	65.444	.00000	Abs	Pass	
Cd2144		0.000017000	ppm	0.000024000	139.80	.00000	Abs	Pass	
Co2286		0.000062000	ppm	0.00017700	287.05	.00000	Abs	Pass	
Cr2677		0.00052700	ppm	0.00035100	66.629	.00000	Abs	Pass	
Cu3247		0.0046190	ppm	0.0010000	21.660	.00000	Abs	Pass	
Fe2599		-0.0020250	ppm	0.0088380	436.49	.00000	Abs	Pass	
K_7664		-0.022549	ppm	0.013002	57.663	.00000	Abs	Pass	
Mg2790		-0.0020840	ppm	0.0062110	298.10	.00000	Abs	Pass	
Mn2576		0.000046000	ppm	0.000018000	39.268	.00000	Abs	Pass	

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Acquire Date: 10/16/2019 2:20:23PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Mo2020		0.000072000	ppm	0.00047200	654.54	.00000	Abs	Pass	
Na5895		0.035051	ppm	0.0021960	6.2648	.00000	Abs	Pass	
Ni2316		0.00070600	ppm	0.00016600	23.456	.00000	Abs	Pass	
P_1782		-0.00058700	ppm	0.0010330	176.08	.00000	Abs	Pass	
Pb2203		0.0010440	ppm	0.00037600	35.959	.00000	Abs	Pass	
S_1820		0.0063980	ppm	0.00063100	9.8653	.00000	Abs	Pass	
Sb2068		-0.00075600	ppm	0.0027180	359.52	.00000	Abs	Pass	
Se1960		-0.0050770	ppm	0.0053960	106.29	.00000	Abs	Pass	
Si2881		0.0032160	ppm	0.021660	673.60	.00000	Abs	Pass	
Sn1899		0.00019900	ppm	0.00042700	214.24	.00000	Abs	Pass	
Sr4077		0.000038000	ppm	0.00021500	562.79	.00000	Abs	Pass	
Ti3349		-0.00055400	ppm	0.000084000	15.196	.00000	Abs	Pass	
Tl1908		-0.00082800	ppm	0.00026300	31.809	.00000	Abs	Pass	
V_2924		0.000074000	ppm	0.0000030000	4.0555	.00000	Abs	Pass	
Zn2062		0.0015890	ppm	0.0011690	73.523	.00000	Abs	Pass	
Y_2243		6,832.8	Cts/S	4.1748	0.061099				
Y_3600		55,101	Cts/S	111.02	0.20148				
Y_3774		8,761.0	Cts/S	2.2284	0.025435				

CALSTD0 1707965

Acquire Date: 10/16/2019 2:24:23PM Sample Type: Standard

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00031600	Cts/S	0.000048000	15.061
Al3961		0.0026180	Cts/S	0.00047000	17.951
As1890		0.000063000	Cts/S	0.000015000	24.081
B_2089		0.00066300	Cts/S	0.0000050000	0.68497
Ba4554		0.0093320	Cts/S	0.00082200	8.8070
Be3130		-0.0013340	Cts/S	0.000032000	2.4353
Ca3179		0.0066950	Cts/S	0.00020000	2.9902
Cd2144		0.00028100	Cts/S	0.00021000	74.617
Co2286		0.000045000	Cts/S	0.000098000	219.40
Cr2677		0.000032000	Cts/S	0.000025000	78.189
Cu3247		0.0026770	Cts/S	0.000029000	1.0734
Fe2599		0.00017500	Cts/S	0.00010900	62.525
K_7664		0.00045200	Cts/S	0.00082700	183.08
Mg2790		0.000011000	Cts/S	0.000045000	401.79
Mn2576		.0000030000	Cts/S	0.000028000	918.68
Mo2020		0.00020700	Cts/S	0.000040000	19.514
Na5895		-0.0046740	Cts/S	0.0021600	46.204
Ni2316		0.00023100	Cts/S	0.000087000	37.812
P_1782		0.000063000	Cts/S	0.000067000	107.17
Pb2203		0.00022700	Cts/S	0.000086000	37.617
S_1820		0.00024700	Cts/S	0.000015000	5.9767
Sb2068		0.000012000	Cts/S	0.000098000	807.40
Se1960		0.00043500	Cts/S	0.00011500	26.371
Si2881		0.00069700	Cts/S	0.000081000	11.569
Sn1899		0.00019100	Cts/S	0.00014900	78.183

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CALSTD0 1707965

Acquire Date: 10/16/2019 2:24:23PM Sample Type: Standard

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Sr4077		-0.0029980	Cts/S	0.000047000	1.5535
Ti3349		0.000033000	Cts/S	0.000033000	102.76
Tl1908		0.000073000	Cts/S	0.00014800	202.11
V_2924		0.000098000	Cts/S	0.000078000	80.262
Zn2062		0.000033000	Cts/S	0.000021000	64.399
Y_2243		6,892.6	Cts/S	10.840	0.15727
Y_3600		55,765	Cts/S	55.398	0.099341
Y_3774		9,001.3	Cts/S	38.085	0.42310

CALSTD1 1694100

Acquire Date: 10/16/2019 2:28:22PM Sample Type: Standard

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.11912	Cts/S	0.00033100	0.27753
Al3961		2.1779	Cts/S	0.0016800	0.077121
As1890		0.056153	Cts/S	0.00021300	0.37870
B_2089		0.44029	Cts/S	0.00027800	0.063154
Ba4554		15.434	Cts/S	0.047345	0.30675
Be3130		1.8268	Cts/S	0.0046970	0.25709
Ca3179		2.4942	Cts/S	0.0030550	0.12247
Cd2144		2.2671	Cts/S	0.0012410	0.054724
Co2286		2.7902	Cts/S	0.0049890	0.17881
Cr2677		0.62282	Cts/S	0.0014660	0.23530
Cu3247		0.22871	Cts/S	0.00055400	0.24230
Fe2599		1.0857	Cts/S	0.0011780	0.10852
K_7664		1.8666	Cts/S	0.00039200	0.021014
Mg2790		0.40904	Cts/S	0.0012980	0.31721
Mn2576		3.1501	Cts/S	0.0086010	0.27306
Mo2020		0.73173	Cts/S	0.00027700	0.037837
Na5895		6.6620	Cts/S	0.016241	0.24378
Ni2316		1.0790	Cts/S	0.00084800	0.078555
P_1782		0.14912	Cts/S	0.00041000	0.27520
Pb2203		0.11819	Cts/S	0.00015500	0.13150
S_1820		0.10630	Cts/S	0.00010900	0.10276
Sb2068		0.033562	Cts/S	0.00019100	0.57034
Se1960		0.028071	Cts/S	0.00024200	0.86351
Si2881		0.049912	Cts/S	0.00024300	0.48782
Sn1899		0.94826	Cts/S	0.00041400	0.043678
Sr4077		16.096	Cts/S	0.031919	0.19830
Ti3349		0.26767	Cts/S	0.00095600	0.35719
Tl1908		0.017214	Cts/S	0.000054000	0.31385
V_2924		0.82995	Cts/S	0.0015840	0.19080
Zn2062		0.12622	Cts/S	0.00018400	0.14565
Y_2243		6,670.4	Cts/S	29.429	0.44119
Y_3600		53,960	Cts/S	18.812	0.034862
Y_3774		8,970.0	Cts/S	88.952	0.99167

CALSTD2 1732511

Acquire Date: 10/16/2019 2:32:05PM Sample Type: Standard

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Al3961		11.104	Cts/S	0.0080440	0.072446
Ca3179		12.259	Cts/S	0.0041680	0.034002
Fe2599		5.2865	Cts/S	0.0021640	0.040941
K_7664		9.5716	Cts/S	0.0078370	0.081877
Mg2790		2.0877	Cts/S	0.0028520	0.13663
Na5895		34.039	Cts/S	0.016921	0.049711
P_1782		1.5336	Cts/S	0.0068600	0.44733
S_1820		5.3460	Cts/S	0.017770	0.33241
Y_2243		6,293.5	Cts/S	29.613	0.47053
Y_3600		49,701	Cts/S	84.908	0.17084
Y_3774		8,862.6	Cts/S	69.856	0.78822

LRA 1751471

Acquire Date: 10/16/2019 2:35:59PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		2.0165	ppm	0.00033100	0.016415	2.0000	Rel(%)	Pass	
Al3961		99.289	ppm	0.050062	0.050420	100.00	Rel(%)	Pass	
As1890		2.0172	ppm	0.0018260	0.090514	2.0000	Rel(%)	Pass	
B_2089		3.9813	ppm	0.0060780	0.15266	4.0000	Rel(%)	Pass	
Ba4554		10.153	ppm	0.0073650	0.072539	10.000	Rel(%)	Pass	
Be3130		2.0091	ppm	0.0013390	0.066655	2.0000	Rel(%)	Pass	
Ca3179		101.03	ppm	0.23383	0.23144	100.00	Rel(%)	Pass	
Cd2144		1.9922	ppm	0.0028630	0.14371	2.0000	Rel(%)	Pass	
Co2286		10.055	ppm	0.0098470	0.097928	10.000	Rel(%)	Pass	
Cr2677		10.091	ppm	0.0052770	0.052297	10.000	Rel(%)	Pass	
Cu3247		9.8996	ppm	0.011541	0.11658	10.000	Rel(%)	Pass	
Fe2599		100.99	ppm	0.17869	0.17695	100.00	Rel(%)	Pass	
K_7664		100.17	ppm	0.047007	0.046927	100.00	Rel(%)	Pass	
Mg2790		100.11	ppm	0.031441	0.031407	100.00	Rel(%)	Pass	
Mn2576		9.7281	ppm	0.0032840	0.033760	10.000	Rel(%)	Pass	
Mo2020		4.0166	ppm	0.0070530	0.17560	4.0000	Rel(%)	Pass	
Na5895		99.863	ppm	0.094012	0.094141	100.00	Rel(%)	Pass	
Ni2316		9.9254	ppm	0.0094640	0.095355	10.000	Rel(%)	Pass	
P_1782		9.9816	ppm	0.018116	0.18149	10.000	Rel(%)	Pass	
Pb2203		2.0032	ppm	0.0027600	0.13780	2.0000	Rel(%)	Pass	
S_1820		9.9484	ppm	0.0069030	0.069392	10.000	Rel(%)	Pass	
Sb2068		2.0299	ppm	0.0042280	0.20830	2.0000	Rel(%)	Pass	
Se1960		1.9588	ppm	0.00061700	0.031493	2.0000	Rel(%)	Pass	
Si2881		10.048	ppm	0.083181	0.82786	10.000	Rel(%)	Pass	
Sn1899		9.9269	ppm	0.012466	0.12558	10.000	Rel(%)	Pass	
Sr4077		9.9340	ppm	0.054678	0.55042	10.000	Rel(%)	Pass	
Ti3349		4.0396	ppm	0.0018930	0.046867	4.0000	Rel(%)	Pass	
Tl1908		1.9289	ppm	0.0010630	0.055086	2.0000	Rel(%)	Pass	
V_2924		10.216	ppm	0.0064790	0.063417	10.000	Rel(%)	Pass	
Zn2062		9.7019	ppm	0.016695	0.17208	10.000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

LRA 1751471

Acquire Date: 10/16/2019 2:35:59PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Y_2243		6,371.1	Cts/S	15.216	0.23883				
Y_3600		51,076	Cts/S	149.91	0.29350				
Y_3774		8,664.7	Cts/S	39.063	0.45083				

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Acquire Date: 10/16/2019 2:39:52PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.00040200	ppm	0.00099600	247.86	.00000	Abs	Pass	
Al3961		0.013051	ppm	0.018217	139.59	.00000	Abs	Pass	
As1890		0.0011810	ppm	0.0016350	138.42	.00000	Abs	Pass	
B_2089		0.016890	ppm	0.0010510	6.2228	.00000	Abs	Pass	
Ba4554		0.0014760	ppm	0.00078400	53.071	.00000	Abs	Pass	
Be3130		0.00041900	ppm	0.00011200	26.688	.00000	Abs	Pass	
Ca3179		0.0077390	ppm	0.0061150	79.016	.00000	Abs	Pass	
Cd2144		0.0014360	ppm	0.0012260	85.426	.00000	Abs	Pass	
Co2286	**W**	**0.0072620**	**ppm**	**0.0072850**	**100.33**	**.00000**	**Abs**	**Warn High**	**0.00500**
Cr2677		0.0027800	ppm	0.0015730	56.589	.00000	Abs	Pass	
Cu3247	**W**	**0.012005**	**ppm**	**0.00087200**	**7.2635**	**.00000**	**Abs**	**Warn High**	**0.01000**
Fe2599		0.033356	ppm	0.011873	35.595	.00000	Abs	Pass	
K_7664		0.11556	ppm	0.0068640	5.9399	.00000	Abs	Pass	
Mg2790		0.032122	ppm	0.030792	95.859	.00000	Abs	Pass	
Mn2576		0.0024670	ppm	0.0017460	70.779	.00000	Abs	Pass	
Mo2020		0.0039120	ppm	0.0022410	57.277	.00000	Abs	Pass	
Na5895		0.089329	ppm	0.023788	26.630	.00000	Abs	Pass	
Ni2316	**W**	**0.0087560**	**ppm**	**0.0066140**	**75.540**	**.00000**	**Abs**	**Warn High**	**0.00500**
P_1782		0.038771	ppm	0.043869	113.15	.00000	Abs	Pass	
Pb2203		0.00098500	ppm	0.0040280	408.86	.00000	Abs	Pass	
S_1820	**W**	**0.14631**	**ppm**	**0.18231**	**124.60**	**.00000**	**Abs**	**Warn High**	**0.10000**
Sb2068		-0.0018010	ppm	0.0012210	67.789	.00000	Abs	Pass	
Se1960		-0.0018790	ppm	0.00057700	30.721	.00000	Abs	Pass	
Si2881		-0.012229	ppm	0.046163	377.49	.00000	Abs	Pass	
Sn1899		0.012376	ppm	0.0064260	51.924	.00000	Abs	Pass	
Sr4077		0.0019000	ppm	0.00056200	29.603	.00000	Abs	Pass	
Ti3349		0.00077100	ppm	0.00058000	75.187	.00000	Abs	Pass	
Tl1908		0.0011860	ppm	0.0026110	220.11	.00000	Abs	Pass	
V_2924		0.0017450	ppm	0.0023200	133.00	.00000	Abs	Pass	
Zn2062	**W**	**0.0088500**	**ppm**	**0.0027790**	**31.401**	**.00000**	**Abs**	**Warn High**	**0.00500**
Y_2243		6,814.9	Cts/S	8.3630	0.12272				
Y_3600		55,017	Cts/S	209.21	0.38026				
Y_3774		8,812.8	Cts/S	4.7892	0.054344				

ICV 1752166

Acquire Date: 10/16/2019 2:43:52PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.25017	ppm	0.00053300	0.21324	.25000	Rel(%)	Pass	
Al3961		9.7816	ppm	0.0082150	0.083984	10.000	Rel(%)	Pass	
As1890	**W**	**0.91316**	**ppm**	**0.0014250**	**0.15605**	**1.0000**	**Rel(%)**	**Warn Low**	**-5.0000**
B_2089		0.50324	ppm	0.00037800	0.075155	.50000	Rel(%)	Pass	
Ba4554		1.0080	ppm	0.00093500	0.092804	1.0000	Rel(%)	Pass	
Be3130		1.0308	ppm	0.00020800	0.020204	1.0000	Rel(%)	Pass	
Ca3179		10.104	ppm	0.0075510	0.074737	10.000	Rel(%)	Pass	
Cd2144		1.0167	ppm	0.00037900	0.037229	1.0000	Rel(%)	Pass	
Co2286		1.0190	ppm	0.000019000	0.0018980	1.0000	Rel(%)	Pass	
Cr2677		1.0173	ppm	0.0021140	0.20782	1.0000	Rel(%)	Pass	
Cu3247		0.98245	ppm	0.0067520	0.68730	1.0000	Rel(%)	Pass	
Fe2599		10.238	ppm	0.013931	0.13606	10.000	Rel(%)	Pass	
K_7664		9.9119	ppm	0.036337	0.36660	10.000	Rel(%)	Pass	
Mg2790		9.9370	ppm	0.0050430	0.050752	10.000	Rel(%)	Pass	
Mn2576		1.0128	ppm	0.0013900	0.13729	1.0000	Rel(%)	Pass	
Mo2020		0.99515	ppm	0.00022500	0.022618	1.0000	Rel(%)	Pass	
Na5895		9.8223	ppm	0.015333	0.15611	10.000	Rel(%)	Pass	
Ni2316		1.0245	ppm	0.0013810	0.13479	1.0000	Rel(%)	Pass	
P_1782		1.9692	ppm	0.0022720	0.11538	2.0000	Rel(%)	Pass	
Pb2203		1.0227	ppm	0.0020750	0.20293	1.0000	Rel(%)	Pass	
S_1820		2.0111	ppm	0.0029160	0.14497	2.0000	Rel(%)	Pass	
Sb2068		0.96616	ppm	0.0060340	0.62452	1.0000	Rel(%)	Pass	
Se1960		0.98636	ppm	0.00081800	0.082948	1.0000	Rel(%)	Pass	
Si2881		9.8118	ppm	0.011393	0.11611	10.000	Rel(%)	Pass	
Sn1899		1.0033	ppm	0.0021650	0.21575	1.0000	Rel(%)	Pass	
Sr4077		0.98240	ppm	0.00067300	0.068516	1.0000	Rel(%)	Pass	
Ti3349		1.0017	ppm	0.0011470	0.11446	1.0000	Rel(%)	Pass	
Tl1908		1.0490	ppm	0.0032040	0.30545	1.0000	Rel(%)	Pass	
V_2924		1.0148	ppm	0.0010740	0.10582	1.0000	Rel(%)	Pass	
Zn2062		1.0120	ppm	0.000061000	0.0059870	1.0000	Rel(%)	Pass	
Y_2243		6,830.5	Cts/S	15.204	0.22260				
Y_3600		55,093	Cts/S	180.39	0.32744				
Y_3774		9,039.5	Cts/S	35.386	0.39146				

ICBIS 1745955

Acquire Date: 10/16/2019 2:47:35PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.00049800	ppm	0.00033000	66.271	.00000	Abs	Pass	
Al3961		-0.0030320	ppm	0.034684	1,143.7	.00000	Abs	Pass	
As1890		0.00099500	ppm	0.00045200	45.397	.00000	Abs	Pass	
B_2089		0.0065680	ppm	0.00041100	6.2626	.00000	Abs	Pass	
Ba4554		0.00014200	ppm	0.00012400	87.759	.00000	Abs	Pass	
Be3130		0.00042400	ppm	0.00019900	46.932	.00000	Abs	Pass	
Ca3179		0.0093450	ppm	0.0052070	55.725	.00000	Abs	Pass	
Cd2144		.0000010000	ppm	0.000017000	1,330.6	.00000	Abs	Pass	
Co2286		0.00023000	ppm	0.00016500	72.077	.00000	Abs	Pass	
Cr2677		0.0011180	ppm	0.00056000	50.044	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

ICBIS 1745955

Acquire Date: 10/16/2019 2:47:35PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Cu3247		0.0034920	ppm	0.0027950	80.034	.00000	Abs	Pass	
Fe2599		0.0072700	ppm	0.010724	147.51	.00000	Abs	Pass	
K_7664		0.0087090	ppm	0.024238	278.31	.00000	Abs	Pass	
Mg2790		0.011371	ppm	0.0056620	49.795	.00000	Abs	Pass	
Mn2576		0.00064100	ppm	0.00054900	85.641	.00000	Abs	Pass	
Mo2020		0.00028900	ppm	0.00013600	47.194	.00000	Abs	Pass	
Na5895		0.021269	ppm	0.012640	59.428	.00000	Abs	Pass	
Ni2316		0.00095300	ppm	0.00033000	34.599	.00000	Abs	Pass	
P_1782		0.0020110	ppm	0.00037700	18.725	.00000	Abs	Pass	
Pb2203		-0.00020800	ppm	0.0034420	1,656.1	.00000	Abs	Pass	
S_1820		0.0038170	ppm	0.00078400	20.545	.00000	Abs	Pass	
Sb2068		0.0011460	ppm	0.0047820	417.24	.00000	Abs	Pass	
Se1960		0.00024100	ppm	0.0036690	1,520.2	.00000	Abs	Pass	
Si2881		-0.012131	ppm	0.0081770	67.406	.00000	Abs	Pass	
Sn1899		0.0026740	ppm	0.00032400	12.112	.00000	Abs	Pass	
Sr4077		0.00032300	ppm	0.00014800	45.778	.00000	Abs	Pass	
Ti3349		0.000063000	ppm	0.00076300	1,219.5	.00000	Abs	Pass	
Tl1908		-0.0062450	ppm	0.00031100	4.9752	.00000	Abs	Pass	
V_2924		0.00091500	ppm	0.00085100	93.009	.00000	Abs	Pass	
Zn2062		0.0029630	ppm	0.000054000	1.8243	.00000	Abs	Pass	
Y_2243		6,836.8	Cts/S	15.043	0.22002				
Y_3600		55,128	Cts/S	115.11	0.20881				
Y_3774		8,720.9	Cts/S	24.796	0.28432				

CRI 1733852

Acquire Date: 10/16/2019 2:51:34PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.0053140	ppm	0.000057000	1.0737	.00500	Rel(%)	Pass	
Al3961		0.18316	ppm	0.020021	10.931	.20000	Rel(%)	Pass	
As1890		0.036980	ppm	0.00083600	2.2620	.04000	Rel(%)	Pass	
B_2089		0.20253	ppm	0.00034500	0.17050	.20000	Rel(%)	Pass	
Ba4554		0.020023	ppm	0.000049000	0.24246	.02000	Rel(%)	Pass	
Be3130		0.0032600	ppm	0.00021700	6.6712	.00300	Rel(%)	Pass	
Ca3179		0.49109	ppm	0.0060760	1.2373	.50000	Rel(%)	Pass	
Cd2144		0.0030080	ppm	0.00015100	5.0103	.00300	Rel(%)	Pass	
Co2286		0.010265	ppm	0.000077000	0.75423	.01000	Rel(%)	Pass	
Cr2677		0.010268	ppm	0.00013300	1.2919	.01000	Rel(%)	Pass	
Cu3247		0.014409	ppm	0.0030450	21.131	.01500	Rel(%)	Pass	
Fe2599		0.11519	ppm	0.010262	8.9086	.10000	Rel(%)	Pass	
K_7664		1.0051	ppm	0.025790	2.5659	1.0000	Rel(%)	Pass	
Mg2790		0.49200	ppm	0.0031900	0.64836	.50000	Rel(%)	Pass	
Mn2576		0.010115	ppm	0.00016100	1.5893	.01000	Rel(%)	Pass	
Mo2020		0.019048	ppm	0.00019000	0.99881	.02000	Rel(%)	Pass	
Na5895		0.46751	ppm	0.011999	2.5665	.50000	Rel(%)	Pass	
Ni2316		0.010957	ppm	0.000042000	0.38221	.01000	Rel(%)	Pass	
P_1782		0.49037	ppm	0.0010640	0.21702	.50000	Rel(%)	Pass	
Pb2203		0.0090920	ppm	0.0021840	24.024	.01000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CRI 1733852

Acquire Date: 10/16/2019 2:51:34PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
S_1820		0.47846	ppm	0.0047570	0.99420	.50000	Rel(%)	Pass	
Sb2068		0.028246	ppm	0.00052400	1.8563	.03000	Rel(%)	Pass	
Se1960		0.036109	ppm	0.0016590	4.5938	.04000	Rel(%)	Pass	
Si2881		0.46291	ppm	0.016671	3.6013	.50000	Rel(%)	Pass	
Sn1899		0.022011	ppm	0.00035600	1.6161	.02000	Rel(%)	Pass	
Sr4077		0.048880	ppm	0.000078000	0.15969	.05000	Rel(%)	Pass	
Ti3349		0.0096770	ppm	0.00041200	4.2549	.01000	Rel(%)	Pass	
Tl1908		0.029580	ppm	0.000013000	0.043735	.03000	Rel(%)	Pass	
V_2924		0.019788	ppm	0.000023000	0.11805	.02000	Rel(%)	Pass	
Zn2062		0.020050	ppm	0.000091000	0.45579	.02000	Rel(%)	Pass	
Y_2243		6,873.2	Cts/S	9.3897	0.13661				
Y_3600		55,374	Cts/S	121.14	0.21876				
Y_3774		8,841.3	Cts/S	6.0651	0.068599				

CRI 1733886

Acquire Date: 10/16/2019 2:55:31PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.0042020	ppm	0.00024500	5.8242	.00500	Rel(%)	Pass	
Al3961		0.17257	ppm	0.0079670	4.6168	.20000	Rel(%)	Pass	
As1890		0.017932	ppm	0.00070700	3.9448	.02000	Rel(%)	Pass	
B_2089		0.10759	ppm	0.0013160	1.2236	.10000	Rel(%)	Pass	
Ba4554		0.0050160	ppm	0.00013100	2.6106	.00500	Rel(%)	Pass	
Be3130		0.0021130	ppm	0.000088000	4.1494	.00200	Rel(%)	Pass	
Ca3179		0.48657	ppm	0.0031530	0.64807	.50000	Rel(%)	Pass	
Cd2144		0.0019710	ppm	0.000026000	1.3347	.00200	Rel(%)	Pass	
Co2286		0.0058010	ppm	0.000043000	0.73997	.00500	Rel(%)	Pass	
Cr2677		0.0053380	ppm	0.00043700	8.1937	.00500	Rel(%)	Pass	
Cu3247		0.010969	ppm	0.00020800	1.9003	.01000	Rel(%)	Pass	
Fe2599		0.089821	ppm	0.0041530	4.6233	.10000	Rel(%)	Pass	
K_7664		0.98228	ppm	0.047024	4.7872	1.0000	Rel(%)	Pass	
Mg2790		0.49190	ppm	0.0043820	0.89091	.50000	Rel(%)	Pass	
Mn2576		0.0051740	ppm	0.00014600	2.8205	.00500	Rel(%)	Pass	
Mo2020		0.019617	ppm	0.00069300	3.5338	.02000	Rel(%)	Pass	
Na5895		0.49589	ppm	0.00037100	0.074880	.50000	Rel(%)	Pass	
Ni2316		0.0053560	ppm	0.000050000	0.92742	.00500	Rel(%)	Pass	
P_1782		0.49644	ppm	0.00081600	0.16442	.50000	Rel(%)	Pass	
Pb2203		0.0041670	ppm	0.0011640	27.940	.00500	Rel(%)	Pass	
S_1820		0.48391	ppm	0.0060660	1.2535	.50000	Rel(%)	Pass	
Sb2068		0.021238	ppm	0.0060210	28.351	.02000	Rel(%)	Pass	
Se1960		0.016466	ppm	0.0014230	8.6391	.02000	Rel(%)	Pass	
Si2881		0.46353	ppm	0.0035860	0.77369	.50000	Rel(%)	Pass	
Sn1899		0.021896	ppm	0.00094200	4.3001	.02000	Rel(%)	Pass	
Sr4077		0.049348	ppm	0.00012500	0.25297	.05000	Rel(%)	Pass	
Ti3349		0.010091	ppm	0.00020700	2.0551	.01000	Rel(%)	Pass	
Tl1908		0.016435	ppm	0.0011450	6.9641	.02000	Rel(%)	Pass	
V_2924		0.0048720	ppm	0.00029000	5.9585	.00500	Rel(%)	Pass	
Zn2062		0.0096390	ppm	0.00016700	1.7354	.01000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CRI 1733886

Acquire Date: 10/16/2019 2:55:31PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Y_2243		6,921.0	Cts/S	0.29907	0.0043210				
Y_3600		55,771	Cts/S	108.52	0.19459				
Y_3774		8,910.9	Cts/S	1.8910	0.021221				

ICSA 1731975

Acquire Date: 10/16/2019 2:59:29PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00078800	ppm	0.00068800	87.201	.00000	Abs	Pass	
Al3961		499.85	ppm	0.47692	0.095413	500.00	Abs	Pass	
As1890		-0.00092800	ppm	0.0018190	196.05	.00000	Abs	Pass	
B_2089		0.0077580	ppm	0.0017080	22.015	.00000	Abs	Pass	
Ba4554		0.0015610	ppm	0.00026400	16.941	.00000	Abs	Pass	
Be3130		-0.00038000	ppm	0.00028300	74.504	.00000	Abs	Pass	
Ca3179		478.86	ppm	0.10600	0.022136	500.00	Abs	Pass	
Cd2144		-0.00025400	ppm	0.000070000	27.479	.00000	Abs	Pass	
Co2286		0.000058000	ppm	0.00010200	173.89	.00000	Abs	Pass	
Cr2677		-0.00041500	ppm	0.00026400	63.490	.00000	Abs	Pass	
Cu3247		0.0034070	ppm	0.00064300	18.865	.00000	Abs	Pass	
Fe2599		189.93	ppm	0.020615	0.010854	200.00	Abs	Pass	
K_7664		-0.10184	ppm	0.068600	67.362	.00000	Abs	Pass	
Mg2790		503.18	ppm	1.2053	0.23954	500.00	Abs	Pass	
Mn2576		0.00041600	ppm	0.000042000	10.104	.00000	Abs	Pass	
Mo2020		0.0028140	ppm	0.000070000	2.4705	.00000	Abs	Pass	
Na5895		0.19865	ppm	0.012573	6.3294	.00000	Abs	Pass	
Ni2316		0.00061800	ppm	0.00032200	52.187	.00000	Abs	Pass	
P_1782		0.018860	ppm	0.0037550	19.911	.00000	Abs	Pass	
Pb2203		0.0026240	ppm	0.00073900	28.143	.00000	Abs	Pass	
S_1820		-0.47613	ppm	0.00051600	0.10838	.00000	Abs	Pass	
Sb2068		0.0014380	ppm	0.0052150	362.54	.00000	Abs	Pass	
Se1960		0.0028570	ppm	0.0016160	56.570	.00000	Abs	Pass	
Si2881		-0.055504	ppm	0.010100	18.197	.00000	Abs	Pass	
Sn1899		-0.0024510	ppm	0.000075000	3.0464	.00000	Abs	Pass	
Sr4077		-0.0011150	ppm	0.0000070000	0.65095	.00000	Abs	Pass	
Ti3349		-0.00016800	ppm	0.00027700	164.94	.00000	Abs	Pass	
Tl1908		-0.00033000	ppm	0.0066330	2,013.0	.00000	Abs	Pass	
V_2924		0.00074800	ppm	0.00073000	97.598	.00000	Abs	Pass	
Zn2062		-0.0022850	ppm	0.00038400	16.816	.00000	Abs	Pass	
Y_2243		6,058.2	Cts/S	3.6865	0.060852				
Y_3600		47,727	Cts/S	129.79	0.27194				
Y_3774		8,617.9	Cts/S	11.728	0.13608				

ICSAB 1731976

Acquire Date: 10/16/2019 3:03:30PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		1.1259	ppm	0.00061000	0.054208	1.0000	Rel(%)	Pass	
Al3961		515.14	ppm	1.0681	0.20734	500.00	Rel(%)	Pass	
As1890		0.95385	ppm	0.0019770	0.20730				
B_2089		9.9262	ppm	0.0080930	0.081532				
Ba4554		1.0544	ppm	0.0020370	0.19319	1.0000	Rel(%)	Pass	
Be3130		0.51425	ppm	0.0011330	0.22034	.50000	Rel(%)	Pass	
Ca3179		488.50	ppm	3.2954	0.67460	500.00	Rel(%)	Pass	
Cd2144		0.97423	ppm	0.0019450	0.19968	1.0000	Rel(%)	Pass	
Co2286		0.96933	ppm	0.0019930	0.20564	1.0000	Rel(%)	Pass	
Cr2677		1.0552	ppm	0.0028290	0.26807	1.0000	Rel(%)	Pass	
Cu3247		1.0052	ppm	0.0048970	0.48716	1.0000	Rel(%)	Pass	
Fe2599		196.07	ppm	0.38948	0.19864	200.00	Rel(%)	Pass	
K_7664		10.426	ppm	0.049185	0.47174				
Mg2790		519.53	ppm	0.37125	0.071459	500.00	Rel(%)	Pass	
Mn2576		1.0260	ppm	0.00016100	0.015696	1.0000	Rel(%)	Pass	
Mo2020		0.0025440	ppm	0.0010070	39.563				
Na5895		10.790	ppm	0.0059850	0.055469				
Ni2316		0.94464	ppm	0.0018300	0.19374	1.0000	Rel(%)	Pass	
P_1782		10.161	ppm	0.013942	0.13721				
Pb2203		0.99299	ppm	0.0074660	0.75189	1.0000	Rel(%)	Pass	
S_1820		-0.48718	ppm	0.011097	2.2777				
Sb2068		-0.0051890	ppm	0.0067470	130.03				
Se1960		0.97545	ppm	0.0093800	0.96162				
Si2881		-0.091208	ppm	0.0082750	9.0728				
Sn1899		-0.0033510	ppm	0.0017580	52.443				
Sr4077		1.0064	ppm	0.0023790	0.23640				
Ti3349		0.000013000	ppm	0.00020100	1,560.3				
Tl1908		0.94247	ppm	0.013297	1.4109				
V_2924		1.0835	ppm	0.0015660	0.14455	1.0000	Rel(%)	Pass	
Zn2062		0.93567	ppm	0.00069800	0.074628	1.0000	Rel(%)	Pass	
Y_2243		5,971.8	Cts/S	33.751	0.56518				
Y_3600		46,825	Cts/S	70.037	0.14957				
Y_3774		8,460.4	Cts/S	30.848	0.36462				

AI 1672434

Acquire Date: 10/16/2019 3:07:26PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.0015560	ppm	0.0010220	65.699	.00000	Abs	Pass	
Al3961		931.32	ppm	3.4855	0.37426				
As1890		-0.0039010	ppm	0.00018000	4.6053	.00000	Abs	Pass	
B_2089		0.039219	ppm	0.0024950	6.3622	.00000	Abs	Pass	
Ba4554		0.0021000	ppm	0.0025470	121.30	.00000	Abs	Pass	
Be3130		0.00095300	ppm	0.0012070	126.70	.00000	Abs	Pass	
Ca3179		1.5463	ppm	2.0371	131.74				
Cd2144		0.00021300	ppm	0.00018100	85.293	.00000	Abs	Pass	
Co2286		0.00061600	ppm	0.00031800	51.577	.00000	Abs	Pass	
Cr2677		0.0014010	ppm	0.00012400	8.8811	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

Al 1672434

Acquire Date: 10/16/2019 3:07:26PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Cu3247		0.0049520	ppm	0.000021000	0.42331	.00000	Abs	Pass	
Fe2599		0.78840	ppm	0.82118	104.16				
K_7664		-0.027137	ppm	0.072722	267.98	.00000	Abs	Pass	
Mg2790		0.043120	ppm	0.0029990	6.9544				
Mn2576		0.00091300	ppm	0.000082000	8.9463	.00000	Abs	Pass	
Mo2020		0.0022550	ppm	0.0012750	56.543	.00000	Abs	Pass	
Na5895		0.36073	ppm	0.014272	3.9563	.00000	Abs	Pass	
Ni2316		0.0039690	ppm	0.00015700	3.9495	.00000	Abs	Pass	
P_1782		0.0064800	ppm	0.00097100	14.990	.00000	Abs	Pass	
Pb2203		0.0046590	ppm	0.0015480	33.224	.00000	Abs	Pass	
S_1820		0.0041230	ppm	0.0031260	75.802	.00000	Abs	Pass	
Sb2068		0.0091410	ppm	0.010870	118.92	.00000	Abs	Pass	
Se1960		-0.010626	ppm	0.0063020	59.305	.00000	Abs	Pass	
Si2881		-0.052692	ppm	0.032061	60.847	.00000	Abs	Pass	
Sn1899		-0.0099440	ppm	0.00027400	2.7518	.00000	Abs	Pass	
Sr4077		0.0024090	ppm	0.0025220	104.69	.00000	Abs	Pass	
Ti3349		0.0028700	ppm	0.00041000	14.275	.00000	Abs	Pass	
Tl1908		-0.00069200	ppm	0.0058810	850.02	.00000	Abs	Pass	
V_2924		0.0013230	ppm	0.00020900	15.773	.00000	Abs	Pass	
Zn2062		0.0014640	ppm	0.000034000	2.3281	.00000	Abs	Pass	
Y_2243		6,591.0	Cts/S	7.9861	0.12117				
Y_3600		49,513	Cts/S	75.477	0.15244				
Y_3774		9,201.1	Cts/S	3.5781	0.038888				

Ca 1672439

Acquire Date: 10/16/2019 3:11:26PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.000023000	ppm	0.00066300	2,841.1	.00000	Abs	Pass	
Al3961		0.13445	ppm	0.053886	40.078				
As1890		-0.00021200	ppm	0.0010420	490.30	.00000	Abs	Pass	
B_2089		0.022371	ppm	0.0074930	33.496	.00000	Abs	Pass	
Ba4554		0.00049300	ppm	0.00012700	25.754	.00000	Abs	Pass	
Be3130		-0.0010070	ppm	0.000032000	3.1898	.00000	Abs	Pass	
Ca3179		931.73	ppm	27.486	2.9500				
Cd2144		0.0018020	ppm	0.00073600	40.843	.00000	Abs	Pass	
Co2286		0.00090800	ppm	0.00073700	81.182	.00000	Abs	Pass	
Cr2677		0.00043300	ppm	0.00010900	25.201	.00000	Abs	Pass	
Cu3247		0.0033110	ppm	0.00050600	15.272	.00000	Abs	Pass	
Fe2599		0.068413	ppm	0.0012040	1.7602				
K_7664		0.012203	ppm	0.060575	496.39	.00000	Abs	Pass	
Mg2790		0.0054790	ppm	0.00087800	16.032				
Mn2576		-0.00078600	ppm	0.00020600	26.217	.00000	Abs	Pass	
Mo2020		0.00032500	ppm	0.000018000	5.3994	.00000	Abs	Pass	
Na5895		0.016626	ppm	0.012173	73.218	.00000	Abs	Pass	
Ni2316		0.00097100	ppm	0.00071800	73.922	.00000	Abs	Pass	
P_1782		0.017666	ppm	0.0042970	24.327	.00000	Abs	Pass	
Pb2203		0.0015450	ppm	0.000081000	5.2371	.00000	Abs	Pass	

Ca 1672439

Acquire Date: 10/16/2019 3:11:26PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
S_1820		-0.083863	ppm	0.00085400	1.0185	.00000	Abs	Pass	
Sb2068		-0.010508	ppm	0.0029120	27.715	.00000	Abs	Pass	
Se1960		0.0033860	ppm	0.0031820	93.952	.00000	Abs	Pass	
Si2881		-0.080334	ppm	0.0061450	7.6493	.00000	Abs	Pass	
Sn1899		0.00034700	ppm	0.00029800	86.022	.00000	Abs	Pass	
Sr4077		-0.0021100	ppm	0.00086300	40.916	.00000	Abs	Pass	
Ti3349		-0.0030050	ppm	0.000056000	1.8558	.00000	Abs	Pass	
Tl1908		-0.010174	ppm	0.0045350	44.579	.00000	Abs	Pass	
V_2924		-0.00024800	ppm	0.00023900	96.340	.00000	Abs	Pass	
Zn2062		-0.00039000	ppm	0.00053200	136.32	.00000	Abs	Pass	
Y_2243		6,300.9	Cts/S	31.789	0.50452				
Y_3600		50,423	Cts/S	188.93	0.37468				
Y_3774		8,748.1	Cts/S	9.7711	0.11169				

Fe 1672441

Acquire Date: 10/16/2019 3:15:28PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.00087700	ppm	0.00042200	48.093	.00000	Abs	Pass	
Al3961		0.062299	ppm	0.035648	57.220				
As1890		0.0091570	ppm	0.00095800	10.465	.00000	Abs	Pass	
B_2089		0.017885	ppm	0.00052100	2.9127	.00000	Abs	Pass	
Ba4554		0.00038500	ppm	0.000032000	8.2655	.00000	Abs	Pass	
Be3130		0.00012700	ppm	0.000031000	24.108	.00000	Abs	Pass	
Ca3179		0.46913	ppm	0.58546	124.80				
Cd2144		-0.00075000	ppm	0.00013500	17.962	.00000	Abs	Pass	
Co2286		-0.0025670	ppm	0.00041100	16.014	.00000	Abs	Pass	
Cr2677		-0.00062700	ppm	0.000016000	2.5931	.00000	Abs	Pass	
Cu3247		0.0018230	ppm	0.0014950	82.006	.00000	Abs	Pass	
Fe2599		907.56	ppm	5.9849	0.65946				
K_7664		-0.11378	ppm	0.033205	29.183	.00000	Abs	Pass	
Mg2790		0.050882	ppm	0.0045110	8.8657				
Mn2576		-0.00038100	ppm	0.000036000	9.5401	.00000	Abs	Pass	
Mo2020		0.0016350	ppm	0.000078000	4.7459	.00000	Abs	Pass	
Na5895		0.090029	ppm	0.0033770	3.7507	.00000	Abs	Pass	
Ni2316		-0.0016350	ppm	0.00095400	58.371	.00000	Abs	Pass	
P_1782		0.014069	ppm	0.0012660	8.9976	.00000	Abs	Pass	
Pb2203		0.0010090	ppm	0.0021270	210.78	.00000	Abs	Pass	
S_1820		0.0050650	ppm	0.0016450	32.486	.00000	Abs	Pass	
Sb2068		-0.0057500	ppm	0.0027750	48.266	.00000	Abs	Pass	
Se1960		0.011829	ppm	0.0015680	13.256	.00000	Abs	Pass	
Si2881		-0.055593	ppm	0.00086900	1.5627	.00000	Abs	Pass	
Sn1899		0.0073870	ppm	0.0010630	14.394	.00000	Abs	Pass	
Sr4077		0.000048000	ppm	0.00011500	242.59	.00000	Abs	Pass	
Ti3349		-0.00012600	ppm	0.000030000	23.742	.00000	Abs	Pass	
Tl1908		-0.00017900	ppm	0.0088340	4,939.7	.00000	Abs	Pass	
V_2924		0.0024510	ppm	0.00018500	7.5385	.00000	Abs	Pass	
Zn2062		0.00027100	ppm	0.00030800	113.76	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

Fe 1672441

Acquire Date: 10/16/2019 3:15:28PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Y_2243		6,597.4	Cts/S	0.67345	0.010208				
Y_3600		53,151	Cts/S	89.010	0.16747				
Y_3774		8,698.9	Cts/S	35.608	0.40934				

Mg 1672444

Acquire Date: 10/16/2019 3:19:16PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.0016290	ppm	0.00010900	6.6951	.00000	Abs	Pass	
Al3961		-0.038344	ppm	0.0058740	15.319				
As1890		0.00091400	ppm	0.00064400	70.494	.00000	Abs	Pass	
B_2089		0.0011720	ppm	0.000019000	1.6510	.00000	Abs	Pass	
Ba4554		-0.0017080	ppm	0.00013100	7.6922	.00000	Abs	Pass	
Be3130		0.00034200	ppm	0.000034000	9.8553	.00000	Abs	Pass	
Ca3179		-0.0047550	ppm	0.0017830	37.500				
Cd2144		-0.00010300	ppm	0.0000010000	0.75160	.00000	Abs	Pass	
Co2286		0.00012800	ppm	0.000086000	66.992	.00000	Abs	Pass	
Cr2677		-0.00016000	ppm	0.00014600	90.994	.00000	Abs	Pass	
Cu3247	**F**	**-0.021255**	**ppm**	**0.00025500**	**1.2010**	**.00000**	**Abs**	**Fail Low**	**-.01500**
Fe2599		0.023136	ppm	0.020974	90.655				
K_7664		-0.016874	ppm	0.016549	98.076	.00000	Abs	Pass	
Mg2790		0.00028400	ppm	0.0012890	454.16				
Mn2576		0.000076000	ppm	0.000017000	22.405	.00000	Abs	Pass	
Mo2020		-0.00038100	ppm	0.0000070000	1.8642	.00000	Abs	Pass	
Na5895		-0.011905	ppm	0.0027960	23.486	.00000	Abs	Pass	
Ni2316		-0.00051600	ppm	0.00014400	27.972	.00000	Abs	Pass	
P_1782		-0.00036800	ppm	0.00036100	98.121	.00000	Abs	Pass	
Pb2203		-0.0021120	ppm	0.00044400	21.028	.00000	Abs	Pass	
S_1820		-0.0086200	ppm	0.0010230	11.872	.00000	Abs	Pass	
Sb2068		0.00075900	ppm	0.0010250	135.02	.00000	Abs	Pass	
Se1960		-0.0093480	ppm	0.0013370	14.303	.00000	Abs	Pass	
Si2881		-0.048116	ppm	0.025889	53.807	.00000	Abs	Pass	
Sn1899		-0.00050300	ppm	0.00019800	39.484	.00000	Abs	Pass	
Sr4077		-0.00018800	ppm	0.000047000	24.948	.00000	Abs	Pass	
Ti3349		-0.00021900	ppm	0.000036000	16.272	.00000	Abs	Pass	
Tl1908		-0.0064660	ppm	0.0010910	16.876	.00000	Abs	Pass	
V_2924		-0.00015200	ppm	0.00015100	99.167	.00000	Abs	Pass	
Zn2062		-0.0012780	ppm	0.00027600	21.588	.00000	Abs	Pass	
Y_2243		15,272	Cts/S	117.36	0.76844				
Y_3600		123,650	Cts/S	405.34	0.32780				
Y_3774		17,971	Cts/S	196.58	1.0938				

rinse1

Acquire Date: 10/16/2019 3:23:03PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00026000	ppm	0.00033500	128.73
Al3961		-0.0072290	ppm	0.0014680	20.311
As1890		-0.00093400	ppm	0.0014000	149.87
B_2089		0.0071900	ppm	0.0014780	20.553
Ba4554		0.000087000	ppm	0.00023000	264.18
Be3130		0.000078000	ppm	0.000062000	79.628
Ca3179		0.022958	ppm	0.023709	103.27
Cd2144		0.000075000	ppm	0.000038000	50.728
Co2286		0.00061000	ppm	0.000065000	10.698
Cr2677		-0.00011900	ppm	0.000015000	12.873
Cu3247		0.0010780	ppm	0.0035480	329.27
Fe2599		0.35147	ppm	0.28756	81.816
K_7664		0.0080380	ppm	0.013603	169.24
Mg2790		-0.00057700	ppm	0.0023370	404.66
Mn2576		0.00017900	ppm	0.000043000	23.753
Mo2020		-0.00011400	ppm	0.000069000	60.561
Na5895		-0.0079010	ppm	0.00052100	6.5980
Ni2316		0.00052600	ppm	0.00048000	91.354
P_1782		0.0024670	ppm	0.0028760	116.60
Pb2203		0.0015660	ppm	0.0041170	262.81
S_1820		0.0019390	ppm	0.000047000	2.4326
Sb2068		0.00026800	ppm	0.0010450	389.68
Se1960		-0.0023700	ppm	0.0023020	97.131
Si2881		-0.0024320	ppm	0.0063840	262.46
Sn1899		-0.00027800	ppm	0.000055000	19.839
Sr4077		0.00017100	ppm	0.00012300	72.281
Ti3349		0.00028700	ppm	0.00058200	202.62
Tl1908		-0.0049510	ppm	0.0016300	32.931
V_2924		0.00020300	ppm	0.00013600	67.164
Zn2062		0.00098600	ppm	0.00038700	39.217
Y_2243		6,910.3	Cts/S	21.418	0.30994
Y_3600		55,001	Cts/S	55.930	0.10169
Y_3774		8,476.9	Cts/S	295.09	3.4811

rinse2

Acquire Date: 10/16/2019 3:26:50PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00010500	ppm	0.00090100	854.68
Al3961		-0.011329	ppm	0.0070190	61.953
As1890		-0.00062500	ppm	0.0011620	185.94
B_2089		0.0057470	ppm	0.00013100	2.2849
Ba4554		-0.00028700	ppm	0.00016000	55.842
Be3130		0.000097000	ppm	0.00016600	171.55
Ca3179		0.0097310	ppm	0.0042650	43.823
Cd2144		0.000013000	ppm	0.0000080000	57.243
Co2286		0.000053000	ppm	0.00036500	689.16

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

rinse2

Acquire Date: 10/16/2019 3:26:50PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.00070900	ppm	0.00086700	122.35
Cu3247		-0.0018850	ppm	0.00023400	12.421
Fe2599		0.13669	ppm	0.040343	29.513
K_7664		0.024529	ppm	0.024505	99.903
Mg2790		0.0014980	ppm	0.0025060	167.32
Mn2576		0.000088000	ppm	0.000064000	73.565
Mo2020		0.00020100	ppm	0.00027400	136.33
Na5895		-0.025492	ppm	0.0094570	37.098
Ni2316		0.00036600	ppm	0.00016000	43.658
P_1782		0.0014190	ppm	0.00083100	58.594
Pb2203		-0.0021450	ppm	0.00033900	15.811
S_1820		0.0023840	ppm	0.0025050	105.05
Sb2068		-0.00079700	ppm	0.0046170	579.56
Se1960		-0.0023100	ppm	0.00035100	15.174
Si2881		-0.018013	ppm	0.018697	103.79
Sn1899		0.00081700	ppm	0.000085000	10.352
Sr4077		0.00023100	ppm	0.000042000	18.038
Ti3349		-0.00019600	ppm	0.000087000	44.542
Tl1908		-0.0066720	ppm	0.0016900	25.323
V_2924		0.000018000	ppm	0.00025500	1,439.8
Zn2062		0.00034700	ppm	0.00093600	269.70
Y_2243		6,764.8	Cts/S	22.244	0.32882
Y_3600		54,780	Cts/S	37.308	0.068106
Y_3774		8,643.0	Cts/S	198.83	2.3005

CCV 1708493

Acquire Date: 10/16/2019 3:30:38PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.48784	ppm	0.0038690	0.79306	.50000	Rel(%)	Pass	
Al3961		23.968	ppm	0.035492	0.14808	25.000	Rel(%)	Pass	
As1890		0.51467	ppm	0.00085400	0.16597	.50000	Rel(%)	Pass	
B_2089		0.96896	ppm	0.0015720	0.16223	1.0000	Rel(%)	Pass	
Ba4554		2.5696	ppm	0.0039690	0.15447	2.5000	Rel(%)	Pass	
Be3130		0.52044	ppm	0.00030000	0.057607	.50000	Rel(%)	Pass	
Ca3179		24.348	ppm	0.085055	0.34933	25.000	Rel(%)	Pass	
Cd2144		0.50519	ppm	0.00069100	0.13675	.50000	Rel(%)	Pass	
Co2286		2.5353	ppm	0.000043000	0.0016930	2.5000	Rel(%)	Pass	
Cr2677		2.5306	ppm	0.0081960	0.32387	2.5000	Rel(%)	Pass	
Cu3247		2.2943	ppm	0.00077700	0.033869	2.5000	Rel(%)	Pass	
Fe2599		24.588	ppm	0.059734	0.24295	25.000	Rel(%)	Pass	
K_7664		24.438	ppm	0.044929	0.18385	25.000	Rel(%)	Pass	
Mg2790		24.446	ppm	0.053028	0.21692	25.000	Rel(%)	Pass	
Mn2576		2.4428	ppm	0.0050520	0.20681	2.5000	Rel(%)	Pass	
Mo2020		1.0031	ppm	0.0012380	0.12339	1.0000	Rel(%)	Pass	
Na5895		24.326	ppm	0.033262	0.13674	25.000	Rel(%)	Pass	
Ni2316		2.5008	ppm	0.0025900	0.10358	2.5000	Rel(%)	Pass	
P_1782		2.4210	ppm	0.0083750	0.34592	2.5000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCV 1708493

Acquire Date: 10/16/2019 3:30:38PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Pb2203		0.51498	ppm	0.0018540	0.36009	.50000	Rel(%)	Pass	
S_1820		2.4166	ppm	0.0014520	0.060096	2.5000	Rel(%)	Pass	
Sb2068		0.51915	ppm	0.0031930	0.61496	.50000	Rel(%)	Pass	
Se1960		0.51538	ppm	0.00024200	0.046861	.50000	Rel(%)	Pass	
Si2881		2.4344	ppm	0.060045	2.4665	2.5000	Rel(%)	Pass	
Sn1899		2.4736	ppm	0.000080000	0.0032260	2.5000	Rel(%)	Pass	
Sr4077		2.4238	ppm	0.0024600	0.10150	2.5000	Rel(%)	Pass	
Ti3349		1.0079	ppm	0.0034780	0.34508	1.0000	Rel(%)	Pass	
Tl1908		0.48615	ppm	0.0012490	0.25686	.50000	Rel(%)	Pass	
V_2924		2.5394	ppm	0.0056980	0.22437	2.5000	Rel(%)	Pass	
Zn2062		2.3072	ppm	0.0020670	0.089581	2.5000	Rel(%)	Pass	
Y_2243		6,762.7	Cts/S	33.508	0.49549				
Y_3600		53,533	Cts/S	188.04	0.35126				
Y_3774		8,581.1	Cts/S	237.84	2.7717				

CCB 1745955

Acquire Date: 10/16/2019 3:34:12PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.00082100	ppm	0.00070800	86.196	.00000	Abs	Pass	
Al3961		0.0059560	ppm	0.019077	320.32	.00000	Abs	Pass	
As1890		0.00066200	ppm	0.00054400	82.162	.00000	Abs	Pass	
B_2089		0.0082800	ppm	0.00039300	4.7497	.00000	Abs	Pass	
Ba4554		-0.00019000	ppm	0.00037000	194.72	.00000	Abs	Pass	
Be3130		0.00015600	ppm	0.00027600	177.34	.00000	Abs	Pass	
Ca3179		0.0057940	ppm	0.0018300	31.582	.00000	Abs	Pass	
Cd2144		0.000035000	ppm	0.00020500	578.67	.00000	Abs	Pass	
Co2286		0.0012360	ppm	0.00075700	61.235	.00000	Abs	Pass	
Cr2677		0.00036400	ppm	0.000084000	23.096	.00000	Abs	Pass	
Cu3247		0.0024690	ppm	0.00037800	15.327	.00000	Abs	Pass	
Fe2599	**W**	**0.056732**	**ppm**	**0.0096950**	**17.089**	**.00000**	**Abs**	**Warn High**	**0.05000**
K_7664		0.070516	ppm	0.032562	46.176	.00000	Abs	Pass	
Mg2790		0.00045800	ppm	0.0013150	287.27	.00000	Abs	Pass	
Mn2576		0.00028500	ppm	0.000046000	16.222	.00000	Abs	Pass	
Mo2020		0.00038700	ppm	0.00028800	74.542	.00000	Abs	Pass	
Na5895		-0.028745	ppm	0.0042030	14.623	.00000	Abs	Pass	
Ni2316		0.0016470	ppm	0.00052800	32.074	.00000	Abs	Pass	
P_1782		-0.00025900	ppm	0.00054800	211.83	.00000	Abs	Pass	
Pb2203		0.00096700	ppm	0.0018930	195.68	.00000	Abs	Pass	
S_1820		0.00021300	ppm	0.0046990	2,209.8	.00000	Abs	Pass	
Sb2068		-0.0020580	ppm	0.0010700	51.967	.00000	Abs	Pass	
Se1960		0.0014000	ppm	0.00090500	64.619	.00000	Abs	Pass	
Si2881		-0.021960	ppm	0.029224	133.08	.00000	Abs	Pass	
Sn1899		0.0015990	ppm	0.0011150	69.735	.00000	Abs	Pass	
Sr4077		0.00031200	ppm	0.00024400	78.299	.00000	Abs	Pass	
Ti3349		0.00018800	ppm	0.000080000	42.621	.00000	Abs	Pass	
Tl1908		-0.0050590	ppm	0.0062930	124.39	.00000	Abs	Pass	
V_2924		0.00027100	ppm	0.000096000	35.329	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCB 1745955

Acquire Date: 10/16/2019 3:34:12PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Zn2062		0.0010500	ppm	0.00034200	32.599	.00000	Abs	Pass	
Y_2243		6,671.6	Cts/S	0.66539	0.0099740				
Y_3600		53,679	Cts/S	380.55	0.70893				
Y_3774		8,448.2	Cts/S	88.594	1.0487				

LCS 320-327228/2-A

Acquire Date: 10/16/2019 3:38:00PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.047481	ppm	0.0014910	3.1407
Al3961		4.6512	ppm	0.040172	0.86370
As1890	**W**	**0.43523**	**ppm**	**0.00042800**	**0.098262**
B_2089		4.6853	ppm	0.0025420	0.054259
Ba4554	**W**	**0.49141**	**ppm**	**0.0021600**	**0.43965**
Be3130		0.25019	ppm	0.0011410	0.45608
Ca3179		23.665	ppm	0.15857	0.67006
Cd2144	**W**	**0.23819**	**ppm**	**0.00024200**	**0.10139**
Co2286		0.24086	ppm	0.00010200	0.042404
Cr2677	**W**	**0.24246**	**ppm**	**0.00089800**	**0.37036**
Cu3247		0.22142	ppm	0.0013170	0.59484
Fe2599		4.7874	ppm	0.0013910	0.029049
K_7664		23.878	ppm	0.10775	0.45126
Mg2790		23.502	ppm	0.0054080	0.023012
Mn2576		0.23532	ppm	0.000011000	0.0047000
Mo2020		0.23811	ppm	0.00015300	0.064124
Na5895		23.981	ppm	0.087211	0.36366
Ni2316		0.23753	ppm	0.00046600	0.19639
P_1782		4.9559	ppm	0.0055030	0.11104
Pb2203	**W**	**0.24192**	**ppm**	**0.0018210**	**0.75272**
S_1820	**F**	**4.8494**	**ppm**	**0.0093700**	**0.19322**
Sb2068		0.48297	ppm	0.0057640	1.1934
Se1960	**W**	**0.45564**	**ppm**	**0.0051430**	**1.1288**
Si2881	**W**	**4.7773**	**ppm**	**0.050031**	**1.0473**
Sn1899		0.47576	ppm	0.00038900	0.081676
Sr4077		0.23231	ppm	0.0012620	0.54316
Ti3349	**W**	**0.24054**	**ppm**	**0.0011560**	**0.48076**
Tl1908		0.46750	ppm	0.0051270	1.0967
V_2924		0.24501	ppm	0.000028000	0.011521
Zn2062		0.44249	ppm	0.0018440	0.41682
Y_2243		6,960.0	Cts/S	94.038	1.3511
Y_3600		56,579	Cts/S	439.81	0.77734
Y_3774		9,049.8	Cts/S	363.45	4.0161

MB 320-330964/1-A

Acquire Date: 10/16/2019 3:41:35PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00010900	ppm	0.00019300	177.07
Al3961		-0.0063610	ppm	0.0064680	101.68
As1890		0.00034200	ppm	0.0021870	638.56
B_2089		0.019567	ppm	0.0014810	7.5669
Ba4554		0.00012000	ppm	0.00023100	192.94
Be3130		0.00019800	ppm	0.000020000	9.8805
Ca3179		0.0024940	ppm	0.0058280	233.65
Cd2144		0.000080000	ppm	0.000058000	72.018
Co2286		0.00046400	ppm	0.00020200	43.481
Cr2677		0.00040100	ppm	0.00055100	137.47
Cu3247		0.0020560	ppm	0.00057600	28.035
Fe2599		0.043243	ppm	0.0075000	17.345
K_7664		0.0076700	ppm	0.067028	873.89
Mg2790		0.0061930	ppm	0.0057680	93.140
Mn2576		0.00015300	ppm	0.00016100	105.16
Mo2020		0.00041600	ppm	0.00023200	55.764
Na5895		-0.024829	ppm	0.016118	64.915
Ni2316		0.00056700	ppm	0.00027800	48.990
P_1782		0.0016490	ppm	0.0031690	192.14
Pb2203		-0.0010910	ppm	0.0032550	298.25
S_1820		-0.00051900	ppm	0.0012060	232.58
Sb2068		-0.0046910	ppm	0.0018290	38.985
Se1960		0.00019100	ppm	0.00094900	496.91
Si2881		-0.013698	ppm	0.021961	160.32
Sn1899		0.00093500	ppm	0.00040800	43.572
Sr4077		0.000021000	ppm	0.00012000	583.31
Ti3349		0.00011000	ppm	0.00022700	206.15
Tl1908		-0.0047300	ppm	0.0069730	147.42
V_2924		0.00035200	ppm	0.00032200	91.416
Zn2062		0.0030380	ppm	0.00052600	17.300
Y_2243		6,907.0	Cts/S	18.273	0.26456
Y_3600		56,058	Cts/S	42.294	0.075446
Y_3774		8,567.4	Cts/S	181.57	2.1193

LCS 320-330964/2-A

Acquire Date: 10/16/2019 3:45:30PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.049187	ppm	0.0011840	2.4065
Al3961		4.7060	ppm	0.021796	0.46315
As1890	**W**	**0.43573**	**ppm**	**0.0044510**	**1.0216**
B_2089		4.7237	ppm	0.0098920	0.20940
Ba4554	**W**	**0.49445**	**ppm**	**0.00049400**	**0.099883**
Be3130		0.25176	ppm	0.00092200	0.36615
Ca3179		23.710	ppm	0.057924	0.24430
Cd2144	**W**	**0.23898**	**ppm**	**0.00019400**	**0.081266**
Co2286		0.24048	ppm	0.00019400	0.080727

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

LCS 320-330964/2-A

Acquire Date: 10/16/2019 3:45:30PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677	**W**	**0.24710**	**ppm**	**0.00034800**	**0.14067**
Cu3247		0.22788	ppm	0.0016230	0.71229
Fe2599		4.8894	ppm	0.040340	0.82506
K_7664		23.931	ppm	0.00050200	0.0020990
Mg2790		23.690	ppm	0.077829	0.32853
Mn2576		0.23712	ppm	0.00032700	0.13786
Mo2020		0.24021	ppm	0.00011300	0.047037
Na5895		24.228	ppm	0.065030	0.26841
Ni2316		0.23836	ppm	0.00017500	0.073502
P_1782		4.9879	ppm	0.010410	0.20870
Pb2203	**W**	**0.24079**	**ppm**	**0.0016990**	**0.70554**
S_1820	**F**	**4.8532**	**ppm**	**0.0084440**	**0.17398**
Sb2068		0.48489	ppm	0.0020020	0.41278
Se1960	**W**	**0.45586**	**ppm**	**0.00026200**	**0.057399**
Si2881	**W**	**4.8755**	**ppm**	**0.014235**	**0.29197**
Sn1899		0.47690	ppm	0.00061400	0.12867
Sr4077		0.23522	ppm	0.00084700	0.36003
Ti3349	**W**	**0.24386**	**ppm**	**0.0011460**	**0.47004**
Tl1908		0.48138	ppm	0.0067750	1.4074
V_2924		0.24646	ppm	0.00079000	0.32068
Zn2062		0.45065	ppm	0.00099500	0.22090
Y_2243		6,826.6	Cts/S	11.642	0.17054
Y_3600		54,472	Cts/S	153.77	0.28230
Y_3774		8,639.5	Cts/S	258.94	2.9972

LB 320-329675/1-C

Acquire Date: 10/16/2019 3:49:05PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00035700	ppm	0.00014100	39.507
Al3961		-0.0068930	ppm	0.0047940	69.550
As1890		0.0017600	ppm	0.0046120	262.00
B_2089		0.033849	ppm	0.0020450	6.0422
Ba4554	**F**	**0.011365**	**ppm**	**0.000044000**	**0.39072**
Be3130		0.00016100	ppm	0.00016800	104.80
Ca3179		0.011845	ppm	0.000033000	0.27560
Cd2144		0.000059000	ppm	0.000024000	40.458
Co2286		0.00011900	ppm	0.0000010000	0.59589
Cr2677		0.00074800	ppm	0.000037000	4.9064
Cu3247		0.00080600	ppm	0.00034000	42.137
Fe2599		0.024646	ppm	0.0022810	9.2539
K_7664		0.014182	ppm	0.00063000	4.4431
Mg2790		0.0091770	ppm	0.0076260	83.092
Mn2576		0.00040200	ppm	0.000087000	21.762
Mo2020		0.00011200	ppm	0.00019900	178.36
Na5895		0.028830	ppm	0.013795	47.848
Ni2316		0.00094300	ppm	0.00017200	18.247

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

LB 320-329675/1-C

Acquire Date: 10/16/2019 3:49:05PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		0.00028600	ppm	0.0018270	637.86
Pb2203		0.00020100	ppm	0.0016710	831.63
S_1820		0.0036250	ppm	0.0020960	57.823
Sb2068		-0.0016800	ppm	0.0043580	259.36
Se1960		-0.0026040	ppm	0.00085500	32.839
Si2881		0.015995	ppm	0.0014760	9.2306
Sn1899		0.0014460	ppm	0.00058000	40.140
Sr4077		0.00039100	ppm	0.00014800	37.985
Ti3349		0.000063000	ppm	0.00081000	1,290.6
Tl1908		-0.0076940	ppm	0.0014850	19.307
V_2924		0.00052000	ppm	0.00028100	54.123
Zn2062	**W**	**0.012025**	**ppm**	**0.0010450**	**8.6902**
Y_2243		6,986.2	Cts/S	39.129	0.56009
Y_3600		56,380	Cts/S	396.34	0.70297
Y_3774		8,755.2	Cts/S	190.80	2.1792

MB 320-330663/1-A

Acquire Date: 10/16/2019 3:52:53PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00010700	ppm	0.00092000	861.69
Al3961		0.013175	ppm	0.019133	145.23
As1890		0.0012350	ppm	0.0014670	118.79
B_2089		0.011105	ppm	0.00044300	3.9909
Ba4554		-0.00038600	ppm	0.00014200	36.735
Be3130		-0.00013400	ppm	0.00012300	91.953
Ca3179		-0.011833	ppm	0.0064720	54.692
Cd2144		0.000096000	ppm	0.000075000	77.953
Co2286		-0.00016000	ppm	0.00023000	143.17
Cr2677		0.00035700	ppm	0.0014670	411.21
Cu3247		0.00041000	ppm	0.00085100	207.80
Fe2599		0.016722	ppm	0.0025750	15.399
K_7664		0.00066400	ppm	0.025649	3,865.6
Mg2790		-0.0017110	ppm	0.0037300	217.95
Mn2576		0.000053000	ppm	0.000040000	73.863
Mo2020		0.000099000	ppm	0.00032500	328.41
Na5895		-0.037549	ppm	0.010967	29.207
Ni2316		0.00015400	ppm	0.00036900	239.61
P_1782		0.0020190	ppm	0.000051000	2.5495
Pb2203		-0.0032110	ppm	0.00062900	19.575
S_1820		-0.0031750	ppm	0.0053620	168.85
Sb2068		0.00066100	ppm	0.0010930	165.35
Se1960		-0.0027130	ppm	0.00037100	13.694
Si2881		-0.026967	ppm	0.0056100	20.802
Sn1899		0.00023500	ppm	0.00019400	82.661
Sr4077		0.000058000	ppm	0.000011000	19.733
Ti3349		-0.00060800	ppm	0.00029700	48.869

MB 320-330663/1-A

Acquire Date: 10/16/2019 3:52:53PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		-0.0025340	ppm	0.00033300	13.133
V_2924		0.00024700	ppm	0.00045500	184.30
Zn2062		-0.00061200	ppm	0.0014720	240.30
Y_2243		6,970.5	Cts/S	2.9266	0.041985
Y_3600		56,588	Cts/S	312.58	0.55238
Y_3774		8,758.4	Cts/S	92.130	1.0519

LCS 320-330663/2-A

Acquire Date: 10/16/2019 3:56:41PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.047301	ppm	0.00038300	0.80964
Al3961		4.6065	ppm	0.013249	0.28760
As1890	**W**	**0.42799**	**ppm**	**0.0023530**	**0.54986**
B_2089		4.6109	ppm	0.0074950	0.16255
Ba4554	**W**	**0.48235**	**ppm**	**0.0020200**	**0.41886**
Be3130		0.24376	ppm	0.00085300	0.34985
Ca3179		23.477	ppm	0.011211	0.047751
Cd2144	**W**	**0.23600**	**ppm**	**0.00043200**	**0.18309**
Co2286		0.23620	ppm	0.00046200	0.19551
Cr2677	**W**	**0.24005**	**ppm**	**0.0014440**	**0.60168**
Cu3247		0.21560	ppm	0.00027800	0.12887
Fe2599		4.7435	ppm	0.011346	0.23919
K_7664		23.499	ppm	0.029650	0.12617
Mg2790		23.264	ppm	0.052643	0.22628
Mn2576		0.23315	ppm	0.00068400	0.29321
Mo2020		0.23534	ppm	0.000044000	0.018752
Na5895		23.555	ppm	0.029114	0.12360
Ni2316		0.23329	ppm	0.00080500	0.34506
P_1782		4.8691	ppm	0.000056000	0.0011440
Pb2203	**W**	**0.23639**	**ppm**	**0.0036980**	**1.5643**
S_1820	**F**	**4.7425**	**ppm**	**0.012959**	**0.27325**
Sb2068		0.47114	ppm	0.0036490	0.77446
Se1960	**W**	**0.45533**	**ppm**	**0.0043860**	**0.96336**
Si2881	**W**	**4.7318**	**ppm**	**0.059527**	**1.2580**
Sn1899		0.47722	ppm	0.00077400	0.16225
Sr4077		0.22900	ppm	0.00039500	0.17240
Ti3349	**W**	**0.23870**	**ppm**	**0.00027300**	**0.11416**
Tl1908		0.47326	ppm	0.0038570	0.81491
V_2924		0.24164	ppm	0.00064700	0.26788
Zn2062		0.44147	ppm	0.00042000	0.095082
Y_2243		6,866.6	Cts/S	6.4326	0.093679
Y_3600		55,027	Cts/S	616.44	1.1202
Y_3774		8,698.3	Cts/S	430.79	4.9526

320-54691-A-2-A@100

Acquire Date: 10/16/2019 4:00:16PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00042600	ppm	0.00046900	110.11
Al3961		0.034712	ppm	0.00023400	0.67473
As1890		0.0014470	ppm	0.0010270	70.979
B_2089		0.16608	ppm	0.00074500	0.44830
Ba4554		0.000054000	ppm	0.00018400	343.01
Be3130		0.000034000	ppm	0.000047000	139.00
Ca3179		11.885	ppm	0.0061510	0.051757
Cd2144		0.000066000	ppm	0.000015000	22.889
Co2286		0.000014000	ppm	0.00027000	1,904.6
Cr2677		0.00042000	ppm	0.000047000	11.174
Cu3247		0.0064790	ppm	0.00039100	6.0385
Fe2599		-0.00018200	ppm	0.00021500	118.21
K_7664		16.340	ppm	0.0046900	0.028702
Mg2790		27.562	ppm	0.064057	0.23241
Mn2576		0.00066600	ppm	0.000037000	5.5031
Mo2020		0.00036700	ppm	0.00037700	102.53
Na5895	**W**	**313.04**	**ppm**	**7.8367**	**2.5035**
Ni2316		0.00038500	ppm	0.00059900	155.49
P_1782		0.031481	ppm	0.00097000	3.0818
Pb2203		-0.0036050	ppm	0.0055420	153.74
S_1820		33.286	ppm	0.0015600	0.0046870
Sb2068		-0.0045590	ppm	0.0050610	111.01
Se1960		-0.0014470	ppm	0.00041600	28.767
Si2881		0.26330	ppm	0.0023250	0.88291
Sn1899		0.00054100	ppm	0.000025000	4.6518
Sr4077		0.27001	ppm	0.00050400	0.18682
Ti3349		-0.00064500	ppm	0.000060000	9.2621
Tl1908		-0.0036410	ppm	0.0058520	160.74
V_2924		-0.00015700	ppm	0.00013400	85.318
Zn2062		0.0014510	ppm	0.00045400	31.302
Y_2243		6,561.0	Cts/S	0.58879	0.0089740
Y_3600		51,767	Cts/S	39.600	0.076497
Y_3774		8,569.0	Cts/S	91.942	1.0730

SD 320-54691-A2A@500

Acquire Date: 10/16/2019 4:04:07PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00099400	ppm	0.00022700	22.888
Al3961		0.0090300	ppm	0.012969	143.62
As1890		0.000047000	ppm	0.0016230	3,475.0
B_2089		0.043972	ppm	0.00052400	1.1919
Ba4554		-0.00035300	ppm	0.00050400	143.03
Be3130		.0000010000	ppm	0.000039000	4,810.0
Ca3179		2.4729	ppm	0.0092300	0.37325
Cd2144		-0.00012400	ppm	0.000036000	29.073
Co2286		0.00010700	ppm	0.00011000	103.06

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

SD 320-54691-A2A@500

Acquire Date: 10/16/2019 4:04:07PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		-0.00042200	ppm	0.00071300	168.96
Cu3247		0.0055950	ppm	0.00042200	7.5508
Fe2599		0.0055940	ppm	0.010115	180.81
K_7664		3.3830	ppm	0.020250	0.59858
Mg2790		5.7224	ppm	0.010009	0.17490
Mn2576		0.00021800	ppm	0.000020000	9.2654
Mo2020		0.00023700	ppm	0.00011100	47.107
Na5895		67.746	ppm	0.14492	0.21392
Ni2316		0.00088500	ppm	0.00067200	75.896
P_1782		0.0046540	ppm	0.0035090	75.404
Pb2203		-0.0013580	ppm	0.0013840	101.93
S_1820		6.7950	ppm	0.022309	0.32832
Sb2068		-0.0018730	ppm	0.00026100	13.942
Se1960		-0.0024580	ppm	0.000059000	2.3944
Si2881		0.020025	ppm	0.014900	74.408
Sn1899		0.00093400	ppm	0.00011400	12.220
Sr4077		0.056312	ppm	0.000031000	0.054330
Ti3349		-0.00090200	ppm	0.000027000	3.0341
Tl1908		-0.0077570	ppm	0.0041630	53.672
V_2924		0.000010000	ppm	0.00058300	6,118.5
Zn2062		0.0012380	ppm	0.00088200	71.270
Y_2243		6,744.1	Cts/S	23.381	0.34669
Y_3600		54,204	Cts/S	313.71	0.57876
Y_3774		8,587.3	Cts/S	196.64	2.2900

PDS320-54691-A2A@100

Acquire Date: 10/16/2019 4:07:53PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.10153	ppm	0.00014700	0.14512
Al3961		9.8673	ppm	0.029838	0.30239
As1890		0.096991	ppm	0.0028260	2.9139
B_2089		1.1036	ppm	0.00072600	0.065764
Ba4554		0.10369	ppm	0.00063900	0.61609
Be3130		0.051335	ppm	0.00024400	0.47556
Ca3179		21.914	ppm	0.041776	0.19063
Cd2144		0.10040	ppm	0.0000080000	0.0083270
Co2286		0.10139	ppm	0.00016100	0.15909
Cr2677		0.10274	ppm	0.00040600	0.39541
Cu3247		0.10299	ppm	0.00039700	0.38593
Fe2599		4.0607	ppm	0.0010240	0.025229
K_7664		26.630	ppm	0.081233	0.30504
Mg2790		37.599	ppm	0.11615	0.30893
Mn2576		0.10054	ppm	0.00045900	0.45662
Mo2020		0.099744	ppm	0.00054500	0.54653
Na5895	**W**	**319.39**	**ppm**	**12.359**	**3.8697**
Ni2316		0.099882	ppm	0.00055600	0.55686

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

PDS320-54691-A2A@100

Acquire Date: 10/16/2019 4:07:53PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		1.0679	ppm	0.0049040	0.45922
Pb2203		0.095518	ppm	0.0024150	2.5287
S_1820		35.586	ppm	0.040584	0.11404
Sb2068		0.092835	ppm	0.0015840	1.7060
Se1960		0.095788	ppm	0.0011750	1.2267
Si2881		1.2742	ppm	0.0014500	0.11380
Sn1899		0.098291	ppm	0.00067200	0.68373
Sr4077		0.37131	ppm	0.00078700	0.21190
Ti3349		0.10093	ppm	0.00063300	0.62685
Tl1908		0.091844	ppm	0.0015870	1.7277
V_2924		0.10386	ppm	0.00015100	0.14515
Zn2062		0.097665	ppm	0.0014920	1.5278
Y_2243		6,685.7	Cts/S	26.658	0.39874
Y_3600		51,662	Cts/S	145.12	0.28091
Y_3774		8,630.2	Cts/S	76.080	0.88156

320-54691-A2B MS@100

Acquire Date: 10/16/2019 4:11:37PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0010720	ppm	0.000054000	5.0651
Al3961		0.036649	ppm	0.0026510	7.2333
As1890		0.0057610	ppm	0.0024850	43.138
B_2089		0.19457	ppm	0.00097300	0.50022
Ba4554		0.0045300	ppm	0.00014900	3.2929
Be3130		0.0024400	ppm	0.00011100	4.5366
Ca3179		11.756	ppm	0.011986	0.10196
Cd2144		0.0022460	ppm	0.00000	0.0011020
Co2286		0.0027780	ppm	0.00054900	19.771
Cr2677		0.0022660	ppm	0.00072100	31.817
Cu3247		0.0090870	ppm	0.00089600	9.8575
Fe2599		0.055634	ppm	0.00028000	0.50308
K_7664		16.067	ppm	0.039621	0.24660
Mg2790		26.847	ppm	0.035596	0.13259
Mn2576		0.0029010	ppm	0.000080000	2.7695
Mo2020		0.0024840	ppm	0.00025300	10.190
Na5895	**W**	**304.10**	**ppm**	**13.472**	**4.4300**
Ni2316		0.0026370	ppm	0.00027800	10.555
P_1782		0.080460	ppm	0.0018360	2.2822
Pb2203		0.0017100	ppm	0.0017450	102.01
S_1820		32.289	ppm	0.0017190	0.0053240
Sb2068		0.0039780	ppm	0.0051520	129.53
Se1960		0.0023050	ppm	0.0056550	245.32
Si2881		0.29396	ppm	0.028953	9.8493
Sn1899		0.0045300	ppm	0.00048700	10.747
Sr4077		0.26358	ppm	0.00082600	0.31332
Ti3349		0.0020600	ppm	0.00019700	9.5757

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54691-A2B MS@100

Acquire Date: 10/16/2019 4:11:37PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		-0.0022840	ppm	0.0085450	374.16
V_2924		0.0029920	ppm	0.00053900	18.016
Zn2062		0.0048080	ppm	0.00052300	10.873
Y_2243		6,545.6	Cts/S	13.475	0.20586
Y_3600		51,753	Cts/S	64.693	0.12501
Y_3774		8,601.9	Cts/S	25.636	0.29803

CCV 1708493

Acquire Date: 10/16/2019 4:15:28PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.48933	ppm	0.00033200	0.067944	.50000	Rel(%)	Pass	
Al3961		24.066	ppm	0.031106	0.12926	25.000	Rel(%)	Pass	
As1890		0.51273	ppm	0.0028980	0.56526	.50000	Rel(%)	Pass	
B_2089		0.97625	ppm	0.00023900	0.024496	1.0000	Rel(%)	Pass	
Ba4554		2.5799	ppm	0.00053000	0.020529	2.5000	Rel(%)	Pass	
Be3130		0.52111	ppm	0.00057700	0.11072	.50000	Rel(%)	Pass	
Ca3179		24.358	ppm	0.018248	0.074916	25.000	Rel(%)	Pass	
Cd2144		0.50680	ppm	0.0012480	0.24634	.50000	Rel(%)	Pass	
Co2286		2.5469	ppm	0.0012240	0.048069	2.5000	Rel(%)	Pass	
Cr2677		2.5356	ppm	0.0063040	0.24864	2.5000	Rel(%)	Pass	
Cu3247		2.2914	ppm	0.000060000	0.0026000	2.5000	Rel(%)	Pass	
Fe2599		24.631	ppm	0.040763	0.16549	25.000	Rel(%)	Pass	
K_7664		24.566	ppm	0.049892	0.20310	25.000	Rel(%)	Pass	
Mg2790		24.494	ppm	0.0058340	0.023816	25.000	Rel(%)	Pass	
Mn2576		2.4438	ppm	0.00095200	0.038948	2.5000	Rel(%)	Pass	
Mo2020		1.0085	ppm	0.0016000	0.15867	1.0000	Rel(%)	Pass	
Na5895		24.641	ppm	0.036038	0.14625	25.000	Rel(%)	Pass	
Ni2316		2.5132	ppm	0.0056750	0.22581	2.5000	Rel(%)	Pass	
P_1782		2.4311	ppm	0.0043860	0.18041	2.5000	Rel(%)	Pass	
Pb2203		0.51771	ppm	0.00070300	0.13576	.50000	Rel(%)	Pass	
S_1820		2.4264	ppm	0.0024110	0.099346	2.5000	Rel(%)	Pass	
Sb2068		0.52204	ppm	0.0065790	1.2602	.50000	Rel(%)	Pass	
Se1960		0.52506	ppm	0.00074200	0.14134	.50000	Rel(%)	Pass	
Si2881		2.4578	ppm	0.027734	1.1284	2.5000	Rel(%)	Pass	
Sn1899		2.4867	ppm	0.0052040	0.20926	2.5000	Rel(%)	Pass	
Sr4077		2.4299	ppm	0.0012750	0.052455	2.5000	Rel(%)	Pass	
Ti3349		1.0111	ppm	0.00054000	0.053449	1.0000	Rel(%)	Pass	
Tl1908		0.49084	ppm	0.0051820	1.0557	.50000	Rel(%)	Pass	
V_2924		2.5427	ppm	0.0025330	0.099632	2.5000	Rel(%)	Pass	
Zn2062		2.3096	ppm	0.00033100	0.014351	2.5000	Rel(%)	Pass	
Y_2243		6,815.9	Cts/S	93.417	1.3706				
Y_3600		53,722	Cts/S	133.85	0.24915				
Y_3774		8,526.2	Cts/S	137.27	1.6099				

CCB 1745955

Acquire Date: 10/16/2019 4:19:01PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00049500	ppm	0.0013850	279.96	.00000	Abs	Pass	
Al3961		0.014839	ppm	0.0089860	60.556	.00000	Abs	Pass	
As1890		0.00033500	ppm	0.00042000	125.54	.00000	Abs	Pass	
B_2089		0.011082	ppm	0.0015820	14.273	.00000	Abs	Pass	
Ba4554		0.00036300	ppm	0.00013000	35.714	.00000	Abs	Pass	
Be3130		0.000055000	ppm	0.00016100	290.70	.00000	Abs	Pass	
Ca3179		-0.011050	ppm	0.00090500	8.1873	.00000	Abs	Pass	
Cd2144		0.000038000	ppm	0.000013000	33.946	.00000	Abs	Pass	
Co2286		0.00038700	ppm	0.000063000	16.138	.00000	Abs	Pass	
Cr2677		0.00048100	ppm	0.0010320	214.74	.00000	Abs	Pass	
Cu3247		0.0026980	ppm	0.0010680	39.605	.00000	Abs	Pass	
Fe2599		0.0088710	ppm	0.0062930	70.941	.00000	Abs	Pass	
K_7664		0.023752	ppm	0.038073	160.29	.00000	Abs	Pass	
Mg2790		0.0019840	ppm	0.00044100	22.250	.00000	Abs	Pass	
Mn2576		0.00019400	ppm	0.00016100	83.127	.00000	Abs	Pass	
Mo2020		0.00031800	ppm	0.000086000	26.991	.00000	Abs	Pass	
Na5895		0.050836	ppm	0.011076	21.788	.00000	Abs	Pass	
Ni2316		0.00082200	ppm	0.00081000	98.470	.00000	Abs	Pass	
P_1782		-0.00031300	ppm	0.0032880	1,050.5	.00000	Abs	Pass	
Pb2203		0.000034000	ppm	0.00038900	1,156.6	.00000	Abs	Pass	
S_1820		0.0041790	ppm	0.00035700	8.5337	.00000	Abs	Pass	
Sb2068		0.00039500	ppm	0.0045990	1,163.6	.00000	Abs	Pass	
Se1960		-0.0035620	ppm	0.0013220	37.129	.00000	Abs	Pass	
Si2881		-0.019019	ppm	0.025804	135.68	.00000	Abs	Pass	
Sn1899		0.0016500	ppm	0.000061000	3.6886	.00000	Abs	Pass	
Sr4077		0.00043100	ppm	0.00014000	32.511	.00000	Abs	Pass	
Ti3349		-0.00034600	ppm	0.0011340	327.58	.00000	Abs	Pass	
Tl1908		-0.0029660	ppm	0.0012170	41.036	.00000	Abs	Pass	
V_2924		0.000049000	ppm	0.00018400	372.74	.00000	Abs	Pass	
Zn2062		0.0028490	ppm	0.00044600	15.642	.00000	Abs	Pass	
Y_2243		6,669.2	Cts/S	7.9974	0.11992				
Y_3600		54,477	Cts/S	267.52	0.49107				
Y_3774		8,494.1	Cts/S	79.469	0.93559				

320-54691A2C MSD@100

Acquire Date: 10/16/2019 4:22:49PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00070900	ppm	0.0018470	260.58
Al3961		0.023217	ppm	0.010709	46.124
As1890		0.0055560	ppm	0.0025410	45.730
B_2089		0.19431	ppm	0.00062600	0.32194
Ba4554		0.0047920	ppm	0.000059000	1.2363
Be3130		0.0025660	ppm	0.000067000	2.5925
Ca3179		11.960	ppm	0.0021300	0.017812
Cd2144		0.0025970	ppm	0.00023200	8.9498
Co2286		0.0037370	ppm	0.0014900	39.884
Cr2677		0.0027690	ppm	0.00052800	19.054

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54691A2C MSD@100

Acquire Date: 10/16/2019 4:22:49PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Cu3247		0.0076190	ppm	0.0035120	46.094
Fe2599		0.037338	ppm	0.00081500	2.1819
K_7664		16.355	ppm	0.043788	0.26773
Mg2790		27.266	ppm	0.10182	0.37344
Mn2576		0.0030770	ppm	0.00013700	4.4573
Mo2020		0.0030780	ppm	0.00079300	25.780
Na5895	**W**	**302.85**	**ppm**	**13.424**	**4.4326**
Ni2316		0.0035040	ppm	0.0015010	42.834
P_1782		0.081982	ppm	0.0019650	2.3972
Pb2203		0.0018800	ppm	0.0020490	108.95
S_1820		33.055	ppm	0.010516	0.031813
Sb2068		-0.0011990	ppm	0.00035100	29.273
Se1960		0.0050850	ppm	0.0046200	90.854
Si2881		0.26584	ppm	0.0062550	2.3529
Sn1899		0.0056720	ppm	0.0015500	27.321
Sr4077		0.27019	ppm	0.00031500	0.11672
Ti3349		0.0014280	ppm	0.00033800	23.667
Tl1908		-0.0016100	ppm	0.0066860	415.18
V_2924		0.0028840	ppm	0.00064400	22.350
Zn2062		0.0050490	ppm	0.00083200	16.475
Y_2243		6,593.2	Cts/S	122.81	1.8627
Y_3600		53,283	Cts/S	338.72	0.63570
Y_3774		8,938.2	Cts/S	31.084	0.34777

320-54463-A-4-B@200

Acquire Date: 10/16/2019 4:26:40PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00017000	ppm	0.00015200	89.403
Al3961		-0.0050250	ppm	0.0094260	187.58
As1890		0.00070900	ppm	0.0015050	212.24
B_2089		0.069025	ppm	0.00078000	1.1298
Ba4554		-0.00020600	ppm	0.00033600	163.48
Be3130		0.000054000	ppm	0.000021000	39.598
Ca3179		4.5530	ppm	0.0056860	0.12489
Cd2144		0.000076000	ppm	0.000046000	61.096
Co2286		-0.00017900	ppm	0.00013200	73.501
Cr2677		-0.00048400	ppm	0.00032900	68.053
Cu3247		0.0064530	ppm	0.0020210	31.311
Fe2599		0.0021180	ppm	0.0043280	204.39
K_7664		11.456	ppm	0.010910	0.095229
Mg2790		15.283	ppm	0.019173	0.12545
Mn2576		0.000052000	ppm	0.000087000	166.93
Mo2020		0.00026900	ppm	0.00027600	102.52
Na5895	**W**	**259.23**	**ppm**	**6.4204**	**2.4767**
Ni2316		0.00021400	ppm	0.00022600	105.56
P_1782		0.0013750	ppm	0.000086000	6.2604

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54463-A-4-B@200

Acquire Date: 10/16/2019 4:26:40PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Pb2203		-0.00027300	ppm	0.0021210	777.58
S_1820		25.446	ppm	0.031621	0.12427
Sb2068		-0.0022230	ppm	0.0033560	150.99
Se1960		0.000044000	ppm	0.0051340	11,545
Si2881		0.053132	ppm	0.011552	21.742
Sn1899		-0.00014300	ppm	0.00059000	412.69
Sr4077		0.16415	ppm	0.00061400	0.37426
Ti3349		-0.00057600	ppm	0.00051200	88.925
Tl1908		-0.0013360	ppm	0.0025010	187.23
V_2924		0.000068000	ppm	0.00039000	576.95
Zn2062		0.00041000	ppm	0.00086500	211.23
Y_2243		6,620.7	Cts/S	48.123	0.72686
Y_3600		52,323	Cts/S	128.52	0.24563
Y_3774		8,554.2	Cts/S	108.44	1.2676

320-54615-A-6-B@200

Acquire Date: 10/16/2019 4:30:31PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00048100	ppm	0.00043900	91.167
Al3961		-0.018496	ppm	0.0040470	21.879
As1890		0.00025700	ppm	0.00049700	193.37
B_2089		0.077243	ppm	0.00083200	1.0767
Ba4554		0.000042000	ppm	0.0000070000	16.119
Be3130		0.000054000	ppm	0.00013400	249.16
Ca3179		4.7264	ppm	0.0061540	0.13021
Cd2144		-0.00012500	ppm	0.000069000	55.131
Co2286		0.000019000	ppm	0.00014600	785.91
Cr2677		-0.00013400	ppm	0.00022400	167.19
Cu3247		0.0073780	ppm	0.000043000	0.57831
Fe2599		0.010619	ppm	0.0054680	51.493
K_7664		18.361	ppm	0.070072	0.38163
Mg2790		17.046	ppm	0.032788	0.19235
Mn2576		0.00088000	ppm	0.000023000	2.5989
Mo2020		0.000068000	ppm	0.00017500	255.83
Na5895	**W**	**355.73**	**ppm**	**17.990**	**5.0572**
Ni2316		0.00046500	ppm	0.00062400	134.25
P_1782		0.0036640	ppm	0.0032660	89.143
Pb2203		-0.0034860	ppm	0.00014200	4.0744
S_1820		22.777	ppm	0.082751	0.36331
Sb2068		0.0010060	ppm	0.0022180	220.49
Se1960		0.0015500	ppm	0.0019120	123.31
Si2881		0.052309	ppm	0.0039270	7.5069
Sn1899		0.00087900	ppm	0.00062600	71.140
Sr4077		0.12858	ppm	0.00051800	0.40311
Ti3349		-0.00052900	ppm	0.00069900	131.99
Tl1908		-0.0053490	ppm	0.0061040	114.13

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54615-A-6-B@200

Acquire Date: 10/16/2019 4:30:31PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
V_2924		0.00088800	ppm	0.00048900	55.050
Zn2062		0.0056470	ppm	0.00039400	6.9824
Y_2243		6,590.0	Cts/S	25.541	0.38757
Y_3600		52,192	Cts/S	241.87	0.46342
Y_3774		8,720.1	Cts/S	107.74	1.2355

320-54614-A-1-L

Acquire Date: 10/16/2019 4:34:23PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.049372	ppm	0.000022000	0.044352
Al3961		4.7520	ppm	0.0075940	0.15981
As1890		0.45143	ppm	0.0037790	0.83721
B_2089	**W**	**5.3755**	**ppm**	**0.0037830**	**0.070365**
Ba4554		0.54564	ppm	0.00040700	0.074568
Be3130		0.25208	ppm	0.00014900	0.059101
Ca3179		125.53	ppm	0.065300	0.052018
Cd2144		0.23939	ppm	0.000055000	0.022941
Co2286		0.24325	ppm	0.00030700	0.12616
Cr2677		0.29899	ppm	0.0013060	0.43671
Cu3247		0.24037	ppm	0.0029550	1.2293
Fe2599		4.8502	ppm	0.0034840	0.071825
K_7664	**W**	**499.57**	**ppm**	**0.48111**	**0.096306**
Mg2790		27.021	ppm	0.060583	0.22420
Mn2576		0.23808	ppm	0.00019900	0.083470
Mo2020		0.33311	ppm	0.00032000	0.096125
Na5895		71.587	ppm	0.12145	0.16965
Ni2316		0.23925	ppm	0.00055300	0.23102
P_1782		5.2186	ppm	0.011036	0.21148
Pb2203		0.23658	ppm	0.0052170	2.2050
S_1820		33.990	ppm	0.094092	0.27683
Sb2068		0.48465	ppm	0.0052690	1.0872
Se1960		0.44485	ppm	0.00090500	0.20349
Si2881		6.1083	ppm	0.0015270	0.025004
Sn1899		0.48618	ppm	0.00042800	0.087932
Sr4077		3.7722	ppm	0.0043500	0.11531
Ti3349		0.24809	ppm	0.00038400	0.15478
Tl1908		0.45847	ppm	0.0093070	2.0300
V_2924		0.27113	ppm	0.0012840	0.47362
Zn2062		0.47041	ppm	0.0015440	0.32814
Y_2243		6,494.4	Cts/S	3.7477	0.057706
Y_3600		51,853	Cts/S	219.65	0.42359
Y_3774		8,559.6	Cts/S	235.18	2.7476

SD 320-54614-A-1-L@5

Acquire Date: 10/16/2019 4:37:58PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0094060	ppm	0.00039400	4.1893
Al3961		0.88751	ppm	0.0037110	0.41818
As1890		0.092519	ppm	0.0030970	3.3472
B_2089		1.1328	ppm	0.0055890	0.49335
Ba4554		0.10934	ppm	0.00016500	0.15135
Be3130		0.050804	ppm	0.00039100	0.76981
Ca3179		25.284	ppm	0.031288	0.12375
Cd2144		0.049546	ppm	0.00021800	0.44075
Co2286		0.050246	ppm	0.00068000	1.3533
Cr2677		0.061043	ppm	0.00082500	1.3516
Cu3247		0.051142	ppm	0.0023040	4.5054
Fe2599		0.98199	ppm	0.00092300	0.094024
K_7664		100.71	ppm	0.058316	0.057906
Mg2790		5.5912	ppm	0.0037070	0.066309
Mn2576		0.048553	ppm	0.0000030000	0.0060850
Mo2020		0.067011	ppm	0.00010100	0.15122
Na5895		14.261	ppm	0.017265	0.12107
Ni2316		0.050295	ppm	0.00031100	0.61933
P_1782		1.0423	ppm	0.0081240	0.77945
Pb2203		0.045987	ppm	0.0011130	2.4211
S_1820		6.8179	ppm	0.038574	0.56578
Sb2068		0.098547	ppm	0.0062060	6.2972
Se1960		0.094978	ppm	0.0098070	10.326
Si2881		1.2103	ppm	0.0016420	0.13565
Sn1899		0.099364	ppm	0.00017100	0.17177
Sr4077		0.75581	ppm	0.00012500	0.016582
Ti3349		0.049085	ppm	0.000021000	0.043709
Tl1908		0.090670	ppm	0.0083100	9.1653
V_2924		0.053883	ppm	0.00032700	0.60692
Zn2062		0.097394	ppm	0.00000	0.00037500
Y_2243		6,734.6	Cts/S	17.423	0.25871
Y_3600		54,020	Cts/S	302.78	0.56049
Y_3774		8,752.1	Cts/S	85.839	0.98078

PDS 320-54614-A-1-L

Acquire Date: 10/16/2019 4:41:38PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.14675	ppm	0.00060000	0.40911
Al3961		14.265	ppm	0.036014	0.25247
As1890		0.52384	ppm	0.0011010	0.21023
B_2089	**W**	**6.0666**	**ppm**	**0.00014600**	**0.0024070**
Ba4554		0.62207	ppm	0.0014120	0.22694
Be3130		0.28973	ppm	0.00038000	0.13122
Ca3179		129.18	ppm	0.38805	0.30039
Cd2144		0.32529	ppm	0.0000060000	0.0019240
Co2286		0.33145	ppm	0.00065600	0.19803

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

PDS 320-54614-A-1-L

Acquire Date: 10/16/2019 4:41:38PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.38557	ppm	0.0010140	0.26307
Cu3247		0.31995	ppm	0.00011200	0.034966
Fe2599		8.6051	ppm	0.036499	0.42415
K_7664	**W**	**486.25**	**ppm**	**1.4845**	**0.30529**
Mg2790		35.323	ppm	0.0080420	0.022766
Mn2576		0.32442	ppm	0.00026600	0.082037
Mo2020		0.41676	ppm	0.00070400	0.16896
Na5895		78.310	ppm	0.29192	0.37277
Ni2316		0.32609	ppm	0.00019500	0.059743
P_1782		5.9657	ppm	0.029532	0.49504
Pb2203		0.31673	ppm	0.0020940	0.66128
S_1820		34.463	ppm	0.063307	0.18370
Sb2068		0.55686	ppm	0.0067060	1.2042
Se1960		0.52021	ppm	0.0071330	1.3712
Si2881		6.8127	ppm	0.00036000	0.0052820
Sn1899		0.55030	ppm	0.00050400	0.091600
Sr4077		3.6928	ppm	0.0067320	0.18231
Ti3349		0.33702	ppm	0.00056700	0.16812
Tl1908		0.52383	ppm	0.0015610	0.29801
V_2924		0.36083	ppm	0.0011110	0.30785
Zn2062		0.54039	ppm	0.00094800	0.17540
Y_2243		6,506.3	Cts/S	7.6453	0.11751
Y_3600		52,123	Cts/S	64.874	0.12446
Y_3774		8,776.7	Cts/S	97.896	1.1154

320-54614-A-1-M MS

Acquire Date: 10/16/2019 4:45:12PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.047828	ppm	0.000058000	0.12117
Al3961		4.7024	ppm	0.0019520	0.041509
As1890		0.44527	ppm	0.0033160	0.74475
B_2089	**W**	**5.3247**	**ppm**	**0.0011210**	**0.021055**
Ba4554		0.54142	ppm	0.00067300	0.12428
Be3130		0.25025	ppm	0.00062100	0.24800
Ca3179		123.06	ppm	0.15924	0.12940
Cd2144		0.23708	ppm	0.00021100	0.088919
Co2286		0.24141	ppm	0.00051500	0.21316
Cr2677		0.29733	ppm	0.00022500	0.075612
Cu3247		0.23473	ppm	0.00091900	0.39151
Fe2599		4.8532	ppm	0.0011820	0.024355
K_7664	**W**	**489.09**	**ppm**	**0.45741**	**0.093522**
Mg2790		26.819	ppm	0.071153	0.26531
Mn2576		0.23654	ppm	0.000019000	0.0080000
Mo2020		0.32864	ppm	0.0013500	0.41073
Na5895		70.329	ppm	0.051902	0.073799
Ni2316		0.23766	ppm	0.000078000	0.032829

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54614-A-1-M MS

Acquire Date: 10/16/2019 4:45:12PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		5.1522	ppm	0.010828	0.21016
Pb2203		0.23278	ppm	0.00082800	0.35582
S_1820		33.319	ppm	0.075488	0.22656
Sb2068		0.47948	ppm	0.0051370	1.0714
Se1960		0.43941	ppm	0.000040000	0.0090850
Si2881		6.0392	ppm	0.052585	0.87073
Sn1899		0.48277	ppm	0.00031800	0.065890
Sr4077		3.6896	ppm	0.00084200	0.022812
Ti3349		0.24595	ppm	0.00050900	0.20677
Tl1908		0.45127	ppm	0.0012560	0.27824
V_2924		0.26827	ppm	0.00087200	0.32505
Zn2062		0.46682	ppm	0.0025730	0.55119
Y_2243		6,602.9	Cts/S	32.014	0.48485
Y_3600		52,401	Cts/S	119.57	0.22819
Y_3774		8,815.7	Cts/S	55.197	0.62613

320-54614-A-1-N MSD

Acquire Date: 10/16/2019 4:48:47PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00043100	ppm	0.00018700	43.421
Al3961		0.0074870	ppm	0.023545	314.50
As1890		-0.00058200	ppm	0.00023400	40.276
B_2089		0.035112	ppm	0.0014770	4.2063
Ba4554		0.0011040	ppm	0.0020660	187.13
Be3130		0.00094000	ppm	0.00087500	93.124
Ca3179		0.34406	ppm	0.45174	131.30
Cd2144		0.000045000	ppm	0.000070000	153.85
Co2286		0.000097000	ppm	0.00055200	571.63
Cr2677		0.00031400	ppm	0.00015600	49.801
Cu3247		0.0033690	ppm	0.00096100	28.510
Fe2599		0.028032	ppm	0.024539	87.538
K_7664		1.6956	ppm	1.7873	105.41
Mg2790		0.0082750	ppm	0.0038650	46.710
Mn2576		.0000040000	ppm	0.000085000	2,079.7
Mo2020		0.00015700	ppm	0.000032000	20.143
Na5895		0.33815	ppm	0.28798	85.162
Ni2316		0.00077500	ppm	0.00015100	19.493
P_1782		0.0039640	ppm	0.0016350	41.242
Pb2203		-0.0022720	ppm	0.0034160	150.32
S_1820		-0.0012840	ppm	0.0016590	129.23
Sb2068		.0000030000	ppm	0.00030600	10,610
Se1960		0.0014130	ppm	0.0054560	386.15
Si2881		0.028260	ppm	0.020831	73.713
Sn1899		0.00054800	ppm	0.0013450	245.37
Sr4077		0.010232	ppm	0.013491	131.85
Ti3349		0.00043600	ppm	0.00031900	73.335

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

320-54614-A-1-N MSD

Acquire Date: 10/16/2019 4:48:47PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908		-0.0075620	ppm	0.0032980	43.611
V_2924		0.00010000	ppm	0.00033500	335.74
Zn2062		0.0038800	ppm	0.000016000	0.41835
Y_2243		6,939.6	Cts/S	26.104	0.37616
Y_3600		56,898	Cts/S	225.72	0.39670
Y_3774		8,937.4	Cts/S	28.577	0.31974

440-251469-A-172-A

Acquire Date: 10/16/2019 4:52:35PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00090800	ppm	0.0010250	112.89
Al3961		121.22	ppm	0.032750	0.027017
As1890		0.033039	ppm	0.00045200	1.3672
B_2089		0.044465	ppm	0.000067000	0.15036
Ba4554		1.3763	ppm	0.0025700	0.18670
Be3130		0.0059320	ppm	0.0000070000	0.11347
Ca3179		24.630	ppm	0.045593	0.18511
Cd2144		0.0022840	ppm	0.000068000	2.9819
Co2286		0.086413	ppm	0.000042000	0.048812
Cr2677		0.19365	ppm	0.00053600	0.27697
Cu3247		0.19644	ppm	0.0013360	0.67991
Fe2599		178.17	ppm	0.28627	0.16068
K_7664		23.151	ppm	0.0081800	0.035335
Mg2790		30.772	ppm	0.038383	0.12473
Mn2576		6.2735	ppm	0.069125	1.1018
Mo2020		0.0084100	ppm	0.00016500	1.9601
Na5895		1.2307	ppm	0.012216	0.99267
Ni2316		0.12509	ppm	0.00027200	0.21754
P_1782		2.9133	ppm	0.0084610	0.29044
Pb2203		0.37845	ppm	0.0039380	1.0405
S_1820		0.64790	ppm	0.00049000	0.075564
Sb2068		-0.00058400	ppm	0.0062810	1,076.2
Se1960		0.0052970	ppm	0.0028060	52.981
Si2881		0.79609	ppm	0.019836	2.4917
Sn1899		0.066217	ppm	0.00066800	1.0087
Sr4077		0.24817	ppm	0.000010000	0.0041210
Ti3349	**W**	**8.7638**	**ppm**	**0.0027030**	**0.030848**
Tl1908	**F**	**-0.040463**	**ppm**	**0.0064720**	**15.994**
V_2924		0.38785	ppm	0.00026100	0.067406
Zn2062		0.74196	ppm	0.00077500	0.10451
Y_2243		7,082.7	Cts/S	5.8936	0.083211
Y_3600		55,946	Cts/S	112.89	0.20179
Y_3774		9,051.5	Cts/S	146.87	1.6227

440-251469-A-173-A

Acquire Date: 10/16/2019 4:56:18PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00095100	ppm	0.00047500	49.954
Al3961		141.14	ppm	0.18745	0.13281
As1890		0.033693	ppm	0.0016220	4.8154
B_2089		0.041655	ppm	0.00027200	0.65363
Ba4554		1.4467	ppm	0.0016340	0.11298
Be3130		0.0066140	ppm	0.00011900	1.8009
Ca3179		24.954	ppm	0.017182	0.068856
Cd2144		0.0015620	ppm	0.00011300	7.2219
Co2286		0.097210	ppm	0.0000070000	0.0069110
Cr2677		0.20499	ppm	0.00058400	0.28474
Cu3247		0.16306	ppm	0.0013250	0.81247
Fe2599		199.18	ppm	0.20033	0.10058
K_7664		23.787	ppm	0.052847	0.22217
Mg2790		34.486	ppm	0.011921	0.034568
Mn2576		6.9989	ppm	0.074061	1.0582
Mo2020		0.0069590	ppm	0.000037000	0.53679
Na5895		1.3821	ppm	0.012296	0.88971
Ni2316		0.13509	ppm	0.00012000	0.088661
P_1782		2.4132	ppm	0.0080620	0.33407
Pb2203		0.096222	ppm	0.0017240	1.7922
S_1820		0.21972	ppm	0.013207	6.0110
Sb2068		0.00063600	ppm	0.0085820	1,349.4
Se1960		-0.0024990	ppm	0.0045840	183.44
Si2881		0.71799	ppm	0.024003	3.3430
Sn1899		0.046784	ppm	0.00015700	0.33616
Sr4077		0.27095	ppm	0.00022400	0.082514
Ti3349	**W**	**9.8962**	**ppm**	**0.0047990**	**0.048499**
Tl1908	**F**	**-0.048341**	**ppm**	**0.0053130**	**10.991**
V_2924		0.43184	ppm	0.00025800	0.059754
Zn2062		0.44327	ppm	0.0013060	0.29456
Y_2243		7,072.3	Cts/S	2.9989	0.042404
Y_3600		55,922	Cts/S	63.196	0.11301
Y_3774		9,261.6	Cts/S	14.995	0.16190

CCV 1708493

Acquire Date: 10/16/2019 5:00:04PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.48739	ppm	0.000044000	0.0090410	.50000	Rel(%)	Pass	
Al3961		23.995	ppm	0.059107	0.24634	25.000	Rel(%)	Pass	
As1890		0.51345	ppm	0.00069900	0.13607	.50000	Rel(%)	Pass	
B_2089		0.98158	ppm	0.0016600	0.16907	1.0000	Rel(%)	Pass	
Ba4554		2.5546	ppm	0.0024050	0.094137	2.5000	Rel(%)	Pass	
Be3130		0.51500	ppm	0.00097000	0.18843	.50000	Rel(%)	Pass	
Ca3179		24.236	ppm	0.060399	0.24921	25.000	Rel(%)	Pass	
Cd2144		0.50622	ppm	0.00025300	0.050033	.50000	Rel(%)	Pass	
Co2286		2.5250	ppm	0.0023770	0.094156	2.5000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCV 1708493

Acquire Date: 10/16/2019 5:00:04PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Cr2677		2.5219	ppm	0.0023610	0.093609	2.5000	Rel(%)	Pass	
Cu3247		2.3171	ppm	0.0011420	0.049303	2.5000	Rel(%)	Pass	
Fe2599		24.654	ppm	0.010554	0.042808	25.000	Rel(%)	Pass	
K_7664		24.448	ppm	0.045056	0.18430	25.000	Rel(%)	Pass	
Mg2790		24.288	ppm	0.024030	0.098940	25.000	Rel(%)	Pass	
Mn2576		2.4399	ppm	0.0049620	0.20337	2.5000	Rel(%)	Pass	
Mo2020		1.0076	ppm	0.000029000	0.0028700	1.0000	Rel(%)	Pass	
Na5895		24.357	ppm	0.033129	0.13601	25.000	Rel(%)	Pass	
Ni2316		2.5080	ppm	0.0041280	0.16458	2.5000	Rel(%)	Pass	
P_1782		2.4332	ppm	0.011212	0.46078	2.5000	Rel(%)	Pass	
Pb2203		0.51254	ppm	0.0018890	0.36847	.50000	Rel(%)	Pass	
S_1820		2.4155	ppm	0.0068300	0.28276	2.5000	Rel(%)	Pass	
Sb2068		0.51318	ppm	0.0021770	0.42413	.50000	Rel(%)	Pass	
Se1960		0.52031	ppm	0.0069010	1.3264	.50000	Rel(%)	Pass	
Si2881		2.4038	ppm	0.0033400	0.13895	2.5000	Rel(%)	Pass	
Sn1899		2.4909	ppm	0.00046300	0.018588	2.5000	Rel(%)	Pass	
Sr4077		2.4301	ppm	0.0032460	0.13356	2.5000	Rel(%)	Pass	
Ti3349		1.0103	ppm	0.00054400	0.053836	1.0000	Rel(%)	Pass	
Tl1908		0.49256	ppm	0.010993	2.2318	.50000	Rel(%)	Pass	
V_2924		2.5202	ppm	0.0020210	0.080183	2.5000	Rel(%)	Pass	
Zn2062		2.3308	ppm	0.0078260	0.33577	2.5000	Rel(%)	Pass	
Y_2243		6,716.2	Cts/S	12.409	0.18476				
Y_3600		53,840	Cts/S	188.99	0.35102				
Y_3774		8,712.8	Cts/S	41.466	0.47592				

CCB 1745955

Acquire Date: 10/16/2019 5:03:38PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.00048900	ppm	0.00042000	85.749	.00000	Abs	Pass	
Al3961		0.00063000	ppm	0.017859	2,833.3	.00000	Abs	Pass	
As1890		-0.0013940	ppm	0.0012590	90.281	.00000	Abs	Pass	
B_2089		0.012842	ppm	0.00060100	4.6771	.00000	Abs	Pass	
Ba4554		0.00024200	ppm	0.00019000	78.329	.00000	Abs	Pass	
Be3130		.0000010000	ppm	0.000029000	2,327.9	.00000	Abs	Pass	
Ca3179		0.0030040	ppm	0.0048460	161.29	.00000	Abs	Pass	
Cd2144		0.000087000	ppm	0.000038000	43.923	.00000	Abs	Pass	
Co2286		0.00011400	ppm	0.000041000	35.820	.00000	Abs	Pass	
Cr2677		0.00060200	ppm	0.000056000	9.2867	.00000	Abs	Pass	
Cu3247		0.000029000	ppm	0.0019700	6,787.9	.00000	Abs	Pass	
Fe2599		0.0014120	ppm	0.012732	901.38	.00000	Abs	Pass	
K_7664		0.11214	ppm	0.029758	26.537	.00000	Abs	Pass	
Mg2790		0.000051000	ppm	0.0020630	4,074.6	.00000	Abs	Pass	
Mn2576		0.00028400	ppm	0.000034000	11.992	.00000	Abs	Pass	
Mo2020		0.00013500	ppm	0.000066000	48.882	.00000	Abs	Pass	
Na5895		0.015447	ppm	0.018090	117.11	.00000	Abs	Pass	
Ni2316		0.00083200	ppm	0.00044000	52.850	.00000	Abs	Pass	
P_1782		0.00024400	ppm	0.0016570	680.06	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCB 1745955

Acquire Date: 10/16/2019 5:03:38PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Pb2203		0.00029300	ppm	0.0017100	583.21	.00000	Abs	Pass	
S_1820		0.0051060	ppm	0.00072100	14.127	.00000	Abs	Pass	
Sb2068		-0.0024780	ppm	0.00012600	5.0728	.00000	Abs	Pass	
Se1960		-0.0050980	ppm	0.0024840	48.719	.00000	Abs	Pass	
Si2881		-0.019246	ppm	0.010450	54.297	.00000	Abs	Pass	
Sn1899		0.0018310	ppm	0.00072600	39.663	.00000	Abs	Pass	
Sr4077		0.00035700	ppm	0.00016700	46.705	.00000	Abs	Pass	
Ti3349		-0.00021900	ppm	0.000070000	32.009	.00000	Abs	Pass	
Tl1908		-0.0047950	ppm	0.0024820	51.763	.00000	Abs	Pass	
V_2924		0.00027300	ppm	0.00013800	50.500	.00000	Abs	Pass	
Zn2062		0.0035810	ppm	0.00055800	15.593	.00000	Abs	Pass	
Y_2243		6,724.0	Cts/S	1.2679	0.018857				
Y_3600		54,090	Cts/S	474.69	0.87760				
Y_3774		8,591.2	Cts/S	43.678	0.50840				

440-251469-A-174-A

Acquire Date: 10/16/2019 5:07:25PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00017700	ppm	0.00079200	448.07
Al3961		124.96	ppm	0.38448	0.30768
As1890		0.037625	ppm	0.000018000	0.047824
B_2089		0.030468	ppm	0.00070800	2.3243
Ba4554		1.5627	ppm	0.0037500	0.23997
Be3130		0.0054720	ppm	0.00013300	2.4350
Ca3179		27.844	ppm	0.088760	0.31877
Cd2144		0.0061270	ppm	0.000010000	0.17126
Co2286		0.076289	ppm	0.00090700	1.1892
Cr2677		0.18804	ppm	0.00047700	0.25358
Cu3247		0.26488	ppm	0.00062300	0.23505
Fe2599		168.12	ppm	0.55295	0.32889
K_7664		18.515	ppm	0.11979	0.64696
Mg2790		28.897	ppm	0.016181	0.055996
Mn2576		4.7659	ppm	0.0080740	0.16942
Mo2020		0.0080420	ppm	0.00062200	7.7283
Na5895		1.2852	ppm	0.014960	1.1640
Ni2316		0.13341	ppm	0.000031000	0.023096
P_1782		5.2616	ppm	0.0067820	0.12890
Pb2203		1.4611	ppm	0.00031700	0.021691
S_1820		2.3999	ppm	0.0065410	0.27257
Sb2068		0.0028690	ppm	0.0051970	181.16
Se1960		-0.0019090	ppm	0.0025610	134.14
Si2881		0.88649	ppm	0.0082300	0.92840
Sn1899		0.086587	ppm	0.0015780	1.8227
Sr4077		0.28161	ppm	0.00081300	0.28872
Ti3349	**W**	**7.3300**	**ppm**	**0.011814**	**0.16118**
Tl1908	**F**	**-0.036792**	**ppm**	**0.0024050**	**6.5361**

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-251469-A-174-A

Acquire Date: 10/16/2019 5:07:25PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
V_2924		0.36434	ppm	0.00065100	0.17875
Zn2062		2.0965	ppm	0.0085200	0.40638
Y_2243		7,132.7	Cts/S	26.436	0.37063
Y_3600		56,451	Cts/S	66.676	0.11811
Y_3774		9,333.0	Cts/S	59.933	0.64216

SD440-251469-A174A@5

Acquire Date: 10/16/2019 5:11:04PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.000058000	ppm	0.00020900	357.53
Al3961		29.947	ppm	1.1754	3.9250
As1890		0.0091200	ppm	0.00085400	9.3593
B_2089		0.012338	ppm	0.00064900	5.2614
Ba4554		0.37969	ppm	0.013810	3.6373
Be3130		0.0013780	ppm	0.00013200	9.5583
Ca3179		6.8140	ppm	0.27490	4.0344
Cd2144		0.00095000	ppm	0.000037000	3.8559
Co2286		0.015214	ppm	0.0011140	7.3238
Cr2677		0.041140	ppm	0.00068700	1.6707
Cu3247		0.060932	ppm	0.00020400	0.33466
Fe2599		40.600	ppm	1.5457	3.8072
K_7664		4.5436	ppm	0.16649	3.6642
Mg2790		6.4473	ppm	0.11928	1.8500
Mn2576		1.0596	ppm	0.020696	1.9532
Mo2020		0.0019930	ppm	0.00017900	9.0062
Na5895		0.32019	ppm	0.013950	4.3569
Ni2316		0.027588	ppm	0.0020660	7.4901
P_1782		1.0524	ppm	0.070881	6.7350
Pb2203		0.29209	ppm	0.019954	6.8316
S_1820		0.46446	ppm	0.034862	7.5059
Sb2068		0.0022640	ppm	0.0010950	48.394
Se1960		-0.00076100	ppm	0.0013900	182.69
Si2881		0.19271	ppm	0.029038	15.068
Sn1899		0.017840	ppm	0.00034400	1.9275
Sr4077		0.068778	ppm	0.0029150	4.2390
Ti3349		1.5891	ppm	0.029080	1.8300
Tl1908		-0.016071	ppm	0.0057270	35.638
V_2924		0.079341	ppm	0.0019390	2.4443
Zn2062		0.46833	ppm	0.0066530	1.4206
Y_2243		6,844.1	Cts/S	26.281	0.38400
Y_3600		55,468	Cts/S	103.88	0.18728
Y_3774		8,924.2	Cts/S	74.565	0.83554

PDS440-251469-A174-A

Acquire Date: 10/16/2019 5:14:48PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.12057	ppm	0.0014700	1.2195
Al3961		131.40	ppm	0.058946	0.044861
As1890		0.13177	ppm	0.0046130	3.5011
B_2089		1.0484	ppm	0.047482	4.5289
Ba4554		1.6214	ppm	0.0019490	0.12023
Be3130		0.067148	ppm	0.00091200	1.3580
Ca3179		38.552	ppm	0.11071	0.28717
Cd2144		0.11225	ppm	0.0052320	4.6606
Co2286		0.18197	ppm	0.0048820	2.6830
Cr2677		0.29975	ppm	0.0028090	0.93706
Cu3247		0.36510	ppm	0.0015120	0.41415
Fe2599		164.62	ppm	0.037523	0.022794
K_7664		30.125	ppm	0.19962	0.66263
Mg2790		39.314	ppm	0.26019	0.66182
Mn2576		4.6753	ppm	0.015384	0.32906
Mo2020		0.11304	ppm	0.0050450	4.4631
Na5895		13.681	ppm	0.18963	1.3861
Ni2316		0.23446	ppm	0.0052150	2.2241
P_1782		6.1064	ppm	0.042012	0.68800
Pb2203		1.5099	ppm	0.0038830	0.25721
S_1820		4.4036	ppm	0.092738	2.1059
Sb2068		0.10219	ppm	0.012977	12.699
Se1960		0.10095	ppm	0.0078240	7.7509
Si2881		2.1069	ppm	0.0070190	0.33316
Sn1899		0.19147	ppm	0.0046400	2.4232
Sr4077		0.38741	ppm	0.0027660	0.71404
Ti3349	**W**	**7.1627**	**ppm**	**0.017771**	**0.24811**
Tl1908		0.073239	ppm	0.012906	17.621
V_2924		0.47083	ppm	0.0034280	0.72812
Zn2062		2.0963	ppm	0.011915	0.56838
Y_2243		7,011.2	Cts/S	9.7882	0.13961
Y_3600		54,962	Cts/S	163.81	0.29805
Y_3774		9,225.6	Cts/S	0.51058	0.0055340

440-251469-A-174-B M

Acquire Date: 10/16/2019 5:18:23PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.040485	ppm	0.00027200	0.67307
Al3961		169.61	ppm	0.62493	0.36845
As1890		0.38684	ppm	0.0015710	0.40614
B_2089		3.4640	ppm	0.0046400	0.13396
Ba4554		1.6984	ppm	0.0046620	0.27447
Be3130		0.21097	ppm	0.00032000	0.15180
Ca3179		51.185	ppm	0.12913	0.25227
Cd2144		0.20426	ppm	0.00023400	0.11468
Co2286		0.27801	ppm	0.00017700	0.063610

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-251469-A-174-B M

Acquire Date: 10/16/2019 5:18:23PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.40799	ppm	0.00094800	0.23227
Cu3247		0.48846	ppm	0.00079900	0.16360
Fe2599		180.25	ppm	0.86767	0.48137
K_7664		40.421	ppm	0.093877	0.23225
Mg2790		50.030	ppm	0.10621	0.21229
Mn2576		5.0009	ppm	0.015756	0.31507
Mo2020		0.19751	ppm	0.00041700	0.21098
Na5895		21.797	ppm	0.095761	0.43932
Ni2316		0.34456	ppm	0.0014740	0.42773
P_1782		9.9948	ppm	0.052758	0.52785
Pb2203		1.7290	ppm	0.0051140	0.29581
S_1820		6.4583	ppm	0.042709	0.66132
Sb2068		0.13078	ppm	0.0014870	1.1369
Se1960		0.37027	ppm	0.0094050	2.5401
Si2881		2.5234	ppm	0.034729	1.3763
Sn1899		0.45585	ppm	0.00067900	0.14895
Sr4077		0.50894	ppm	0.00064000	0.12585
Ti3349	**W**	**9.0542**	**ppm**	**0.024413**	**0.26963**
Tl1908		0.36276	ppm	0.0027920	0.76953
V_2924		0.59133	ppm	0.0020140	0.34064
Zn2062		2.4404	ppm	0.0052030	0.21323
Y_2243		7,079.4	Cts/S	5.9623	0.084220
Y_3600		56,043	Cts/S	239.39	0.42715
Y_3774		9,493.8	Cts/S	31.356	0.33028

440-251469-A-174-C M

Acquire Date: 10/16/2019 5:21:57PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0011790	ppm	0.00023700	20.080
Al3961		-0.020968	ppm	0.032349	154.28
As1890		0.000010000	ppm	0.00019400	1,941.9
B_2089		0.0072630	ppm	0.00016900	2.3332
Ba4554		-0.0015060	ppm	0.00032600	21.618
Be3130		0.00036400	ppm	0.000047000	12.881
Ca3179		-0.0073920	ppm	0.0041150	55.664
Cd2144		0.000081000	ppm	0.000022000	26.565
Co2286		0.000013000	ppm	0.000081000	626.21
Cr2677		0.000087000	ppm	0.00021300	244.23
Cu3247	**F**	**-0.018834**	**ppm**	**0.0013130**	**6.9689**
Fe2599		0.027476	ppm	0.025754	93.733
K_7664		0.0030490	ppm	0.0066390	217.72
Mg2790		-0.00050700	ppm	0.00050800	100.25
Mn2576		0.00010300	ppm	0.000045000	43.788
Mo2020		0.000031000	ppm	0.00019600	631.17
Na5895		-0.0045520	ppm	0.00081500	17.898
Ni2316		-0.00042100	ppm	0.000068000	16.089

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-251469-A-174-C M

Acquire Date: 10/16/2019 5:21:57PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		0.00083800	ppm	0.00032600	38.940
Pb2203		-0.0035150	ppm	0.0019210	54.660
S_1820		-0.0086620	ppm	0.0031070	35.873
Sb2068		0.0011100	ppm	0.0029210	263.16
Se1960		-0.0099230	ppm	0.00043000	4.3337
Si2881		-0.038590	ppm	0.00042000	1.0892
Sn1899		-0.00032600	ppm	0.00014900	45.757
Sr4077		-0.00015200	ppm	0.00010300	67.955
Ti3349		0.00013500	ppm	0.00019300	142.91
Tl1908		-0.0048350	ppm	0.0038790	80.224
V_2924		0.000041000	ppm	0.000066000	161.13
Zn2062		-0.00045700	ppm	0.000020000	4.3586
Y_2243	**W**	**15,270**	**Cts/S**	**12.759**	**0.083555**
Y_3600	**W**	**123,940**	**Cts/S**	**797.67**	**0.64362**
Y_3774	**W**	**17,803**	**Cts/S**	**271.42**	**1.5245**

440-251469-A-175-A

Acquire Date: 10/16/2019 5:25:45PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00083300	ppm	0.00047400	56.872
Al3961		126.64	ppm	1.0749	0.84880
As1890		0.037997	ppm	0.0021610	5.6869
B_2089		0.034686	ppm	0.0017410	5.0190
Ba4554		2.6024	ppm	0.021565	0.82864
Be3130		0.0058020	ppm	0.00014400	2.4770
Ca3179		27.426	ppm	0.24352	0.88793
Cd2144		0.0038870	ppm	0.00018400	4.7263
Co2286		0.082042	ppm	0.00066700	0.81331
Cr2677		0.17836	ppm	0.000072000	0.040412
Cu3247		0.18334	ppm	0.0027640	1.5075
Fe2599		174.77	ppm	1.4499	0.82959
K_7664		17.968	ppm	0.16630	0.92554
Mg2790		29.521	ppm	0.031788	0.10768
Mn2576		5.3505	ppm	0.0088400	0.16521
Mo2020		0.0070640	ppm	0.00025000	3.5407
Na5895		1.1811	ppm	0.0070090	0.59346
Ni2316		0.12360	ppm	0.0011520	0.93167
P_1782		3.6193	ppm	0.019289	0.53295
Pb2203		3.8428	ppm	0.017814	0.46356
S_1820		1.7305	ppm	0.010534	0.60872
Sb2068		-0.0020670	ppm	0.0048170	233.08
Se1960		-0.0032590	ppm	0.0069990	214.79
Si2881		0.84172	ppm	0.012236	1.4536
Sn1899		0.057125	ppm	0.00052800	0.92502
Sr4077		0.28604	ppm	0.0025260	0.88318
Ti3349	**W**	**8.0163**	**ppm**	**0.015968**	**0.19919**

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-251469-A-175-A

Acquire Date: 10/16/2019 5:25:45PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908	**F**	**-0.041359**	**ppm**	**0.0050700**	**12.258**
V_2924		0.38606	ppm	0.0013030	0.33757
Zn2062		1.0727	ppm	0.00092800	0.086474
Y_2243		7,023.8	Cts/S	2.8427	0.040472
Y_3600		55,603	Cts/S	282.36	0.50783
Y_3774		9,152.3	Cts/S	53.053	0.57967

440-251469-A-176-A

Acquire Date: 10/16/2019 5:29:23PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0015900	ppm	0.00017900	11.260
Al3961		147.81	ppm	0.41119	0.27818
As1890		0.035238	ppm	0.00011100	0.31574
B_2089		0.033425	ppm	0.0013200	3.9485
Ba4554		1.3958	ppm	0.0017080	0.12236
Be3130		0.0069090	ppm	0.000029000	0.41792
Ca3179		25.683	ppm	0.037726	0.14689
Cd2144		0.0021760	ppm	0.00010700	4.8992
Co2286		0.095019	ppm	0.00010300	0.10881
Cr2677		0.21146	ppm	0.00021300	0.10068
Cu3247		0.19133	ppm	0.0024580	1.2845
Fe2599		203.49	ppm	0.33381	0.16404
K_7664		20.472	ppm	0.10590	0.51732
Mg2790		33.722	ppm	0.039394	0.11682
Mn2576		6.3951	ppm	0.030877	0.48283
Mo2020		0.0086000	ppm	0.000033000	0.38462
Na5895		1.2778	ppm	0.015192	1.1890
Ni2316		0.13859	ppm	0.00012700	0.091823
P_1782		2.6648	ppm	0.00029200	0.010955
Pb2203		0.34620	ppm	0.0034350	0.99218
S_1820		0.42426	ppm	0.0045730	1.0780
Sb2068		-0.0035850	ppm	0.0025940	72.365
Se1960		-0.0014490	ppm	0.0061470	424.32
Si2881		0.77701	ppm	0.026251	3.3785
Sn1899		0.055185	ppm	0.00038800	0.70236
Sr4077		0.29873	ppm	0.00038700	0.12940
Ti3349	**W**	**9.6939**	**ppm**	**0.0038860**	**0.040089**
Tl1908	**F**	**-0.044811**	**ppm**	**0.0061630**	**13.753**
V_2924		0.44454	ppm	0.00071000	0.15980
Zn2062		0.72459	ppm	0.0036690	0.50632
Y_2243		7,050.9	Cts/S	2.5516	0.036188
Y_3600		56,218	Cts/S	200.71	0.35703
Y_3774		9,524.5	Cts/S	117.59	1.2346

440-251469-A-177-A

Acquire Date: 10/16/2019 5:33:10PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00012600	ppm	0.000014000	11.116
Al3961		139.90	ppm	0.28379	0.20286
As1890		0.032564	ppm	0.0016740	5.1410
B_2089		0.040764	ppm	0.00031500	0.77337
Ba4554		1.0748	ppm	0.0025460	0.23688
Be3130		0.0057250	ppm	0.0000040000	0.063430
Ca3179		28.497	ppm	0.057078	0.20030
Cd2144		0.0026010	ppm	0.000059000	2.2579
Co2286		0.070130	ppm	0.00039000	0.55628
Cr2677		0.17770	ppm	0.0013500	0.75980
Cu3247		0.21148	ppm	0.0015210	0.71928
Fe2599		171.68	ppm	0.66750	0.38880
K_7664		18.674	ppm	0.081191	0.43478
Mg2790		29.964	ppm	0.026229	0.087535
Mn2576		4.6463	ppm	0.0040130	0.086366
Mo2020		0.0065030	ppm	0.00023300	3.5895
Na5895		2.4090	ppm	0.0041440	0.17201
Ni2316		0.12069	ppm	0.0010650	0.88247
P_1782		6.5937	ppm	0.016343	0.24786
Pb2203		0.56744	ppm	0.00079600	0.14036
S_1820		1.7198	ppm	0.010223	0.59446
Sb2068		0.00020700	ppm	0.0013720	661.36
Se1960		0.00028100	ppm	0.010638	3,788.5
Si2881		0.73398	ppm	0.036650	4.9933
Sn1899		0.053942	ppm	0.00057300	1.0615
Sr4077		0.28296	ppm	0.00015300	0.053917
Ti3349	**W**	**7.0612**	**ppm**	**0.0011440**	**0.016196**
Tl1908	**F**	**-0.033541**	**ppm**	**0.00056800**	**1.6948**
V_2924		0.36725	ppm	0.00026400	0.071751
Zn2062		1.0791	ppm	0.00039800	0.036917
Y_2243		6,893.4	Cts/S	3.8411	0.055721
Y_3600		53,941	Cts/S	216.41	0.40120
Y_3774		9,067.1	Cts/S	64.572	0.71215

440-251469-A-178-A

Acquire Date: 10/16/2019 5:36:48PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0017010	ppm	0.00047100	27.696
Al3961		174.70	ppm	0.65909	0.37727
As1890		0.035510	ppm	0.0021970	6.1870
B_2089		0.040272	ppm	0.00080700	2.0041
Ba4554		1.1773	ppm	0.0049440	0.41997
Be3130		0.0072770	ppm	0.000057000	0.78467
Ca3179		21.574	ppm	0.069660	0.32290
Cd2144		0.0010570	ppm	0.000072000	6.8212
Co2286		0.082226	ppm	0.00028900	0.35162

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-251469-A-178-A

Acquire Date: 10/16/2019 5:36:48PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.20420	ppm	0.00055300	0.27079
Cu3247		0.15611	ppm	0.0030560	1.9578
Fe2599		202.96	ppm	0.56284	0.27732
K_7664		16.878	ppm	0.022371	0.13254
Mg2790		33.692	ppm	0.049407	0.14664
Mn2576		5.1463	ppm	0.0017170	0.033368
Mo2020		0.0053590	ppm	0.00049500	9.2361
Na5895		2.3279	ppm	0.018087	0.77700
Ni2316		0.12669	ppm	0.00063800	0.50374
P_1782		2.9587	ppm	0.0095070	0.32132
Pb2203		0.23519	ppm	0.0021370	0.90884
S_1820		0.38771	ppm	0.0036340	0.93718
Sb2068		-0.0019610	ppm	0.0086150	439.42
Se1960		0.0047890	ppm	0.0055840	116.62
Si2881		0.72001	ppm	0.032500	4.5139
Sn1899		0.049323	ppm	0.00023700	0.48028
Sr4077		0.27670	ppm	0.0010020	0.36201
Ti3349	**W**	**8.3118**	**ppm**	**0.00053700**	**0.0064620**
Tl1908	**F**	**-0.038093**	**ppm**	**0.0056370**	**14.797**
V_2924		0.43848	ppm	0.00072500	0.16546
Zn2062		0.60030	ppm	0.0032310	0.53829
Y_2243		6,798.7	Cts/S	20.653	0.30377
Y_3600		53,730	Cts/S	82.021	0.15265
Y_3774		9,039.2	Cts/S	63.135	0.69846

440-251469-A-179-A

Acquire Date: 10/16/2019 5:40:28PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0014800	ppm	0.00039800	26.910
Al3961		163.07	ppm	0.55166	0.33830
As1890		0.035763	ppm	0.00035800	1.0004
B_2089		0.038624	ppm	0.00011800	0.30459
Ba4554		1.2462	ppm	0.0052430	0.42068
Be3130		0.0069540	ppm	0.0000040000	0.057440
Ca3179		24.146	ppm	0.077211	0.31977
Cd2144		0.0017120	ppm	0.000042000	2.4431
Co2286		0.091270	ppm	0.00034900	0.38183
Cr2677		0.20893	ppm	0.00066200	0.31707
Cu3247		0.17107	ppm	0.0013090	0.76491
Fe2599		207.26	ppm	0.73719	0.35569
K_7664		18.944	ppm	0.042681	0.22530
Mg2790		34.655	ppm	0.14519	0.41896
Mn2576		6.2546	ppm	0.016392	0.26209
Mo2020		0.0052450	ppm	0.00012200	2.3200
Na5895		1.9837	ppm	0.011932	0.60151
Ni2316		0.13159	ppm	0.0012810	0.97359

440-251469-A-179-A

Acquire Date: 10/16/2019 5:40:28PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		2.7317	ppm	0.014627	0.53545
Pb2203		0.29971	ppm	0.00036500	0.12164
S_1820		0.25472	ppm	0.0044400	1.7429
Sb2068		-0.0054060	ppm	0.0038090	70.466
Se1960		0.00040400	ppm	0.0037880	936.89
Si2881		0.86259	ppm	0.0021170	0.24537
Sn1899		0.056068	ppm	0.00064600	1.1525
Sr4077		0.30043	ppm	0.0014470	0.48172
Ti3349	**W**	**9.3127**	**ppm**	**0.014936**	**0.16038**
Tl1908	**F**	**-0.038847**	**ppm**	**0.0061420**	**15.810**
V_2924		0.45335	ppm	0.0013400	0.29558
Zn2062		0.63717	ppm	0.0013890	0.21793
Y_2243		6,987.0	Cts/S	18.619	0.26649
Y_3600		55,773	Cts/S	697.26	1.2502
Y_3774		9,554.9	Cts/S	5.9722	0.062505

CCV 1708493

Acquire Date: 10/16/2019 5:44:06PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.49088	ppm	0.000050000	0.010196	.50000	Rel(%)	Pass	
Al3961		24.073	ppm	0.0072980	0.030315	25.000	Rel(%)	Pass	
As1890		0.52233	ppm	0.0018290	0.35015	.50000	Rel(%)	Pass	
B_2089		0.98268	ppm	0.0023090	0.23492	1.0000	Rel(%)	Pass	
Ba4554		2.5235	ppm	0.0081780	0.32407	2.5000	Rel(%)	Pass	
Be3130		0.50797	ppm	0.0025440	0.50076	.50000	Rel(%)	Pass	
Ca3179		24.401	ppm	0.057677	0.23637	25.000	Rel(%)	Pass	
Cd2144		0.50789	ppm	0.00036700	0.072239	.50000	Rel(%)	Pass	
Co2286		2.5040	ppm	0.00015800	0.0063160	2.5000	Rel(%)	Pass	
Cr2677		2.5133	ppm	0.0016450	0.065453	2.5000	Rel(%)	Pass	
Cu3247		2.3929	ppm	0.0073420	0.30680	2.5000	Rel(%)	Pass	
Fe2599		25.057	ppm	0.065905	0.26303	25.000	Rel(%)	Pass	
K_7664		24.170	ppm	0.11831	0.48950	25.000	Rel(%)	Pass	
Mg2790		24.287	ppm	0.0037620	0.015489	25.000	Rel(%)	Pass	
Mn2576		2.4676	ppm	0.0040570	0.16442	2.5000	Rel(%)	Pass	
Mo2020		1.0082	ppm	0.00079300	0.078654	1.0000	Rel(%)	Pass	
Na5895		24.168	ppm	0.072229	0.29886	25.000	Rel(%)	Pass	
Ni2316		2.5056	ppm	0.00051800	0.020667	2.5000	Rel(%)	Pass	
P_1782		2.4234	ppm	0.010669	0.44026	2.5000	Rel(%)	Pass	
Pb2203		0.51770	ppm	0.0023100	0.44612	.50000	Rel(%)	Pass	
S_1820		2.3814	ppm	0.0063250	0.26561	2.5000	Rel(%)	Pass	
Sb2068		0.50317	ppm	0.0051080	1.0152	.50000	Rel(%)	Pass	
Se1960		0.53191	ppm	0.0054710	1.0285	.50000	Rel(%)	Pass	
Si2881		2.4317	ppm	0.023598	0.97043	2.5000	Rel(%)	Pass	
Sn1899		2.4982	ppm	0.0046150	0.18474	2.5000	Rel(%)	Pass	
Sr4077		2.4468	ppm	0.0060360	0.24668	2.5000	Rel(%)	Pass	
Ti3349		1.0145	ppm	0.00029000	0.028592	1.0000	Rel(%)	Pass	
Tl1908		0.51049	ppm	0.0040360	0.79055	.50000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCV 1708493

Acquire Date: 10/16/2019 5:44:06PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
V_2924		2.4982	ppm	0.00048800	0.019549	2.5000	Rel(%)	Pass	
Zn2062		2.4462	ppm	0.0069140	0.28264	2.5000	Rel(%)	Pass	
Y_2243		6,654.5	Cts/S	3.6652	0.055079				
Y_3600		53,388	Cts/S	111.34	0.20855				
Y_3774		8,732.9	Cts/S	21.859	0.25030				

CCB 1745955

Acquire Date: 10/16/2019 5:47:40PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.0014160	ppm	0.00038400	27.129	.00000	Abs	Pass	
Al3961		0.039994	ppm	0.015552	38.885	.00000	Abs	Pass	
As1890		0.0016440	ppm	0.0033710	205.10	.00000	Abs	Pass	
B_2089		0.011948	ppm	0.0065230	54.592	.00000	Abs	Pass	
Ba4554		0.00060400	ppm	0.00014800	24.463	.00000	Abs	Pass	
Be3130		0.00017100	ppm	0.000022000	12.901	.00000	Abs	Pass	
Ca3179		-0.00087300	ppm	0.0079640	912.31	.00000	Abs	Pass	
Cd2144		0.0014850	ppm	0.0018630	125.47	.00000	Abs	Pass	
Co2286	**W**	**0.0078870**	**ppm**	**0.010263**	**130.13**	**.00000**	**Abs**	**Warn High**	**0.00500**
Cr2677		0.00049300	ppm	0.000047000	9.5637	.00000	Abs	Pass	
Cu3247		0.0034520	ppm	0.0015270	44.246	.00000	Abs	Pass	
Fe2599	**W**	**0.087115**	**ppm**	**0.0059480**	**6.8282**	**.00000**	**Abs**	**Warn High**	**0.05000**
K_7664		0.053422	ppm	0.053126	99.446	.00000	Abs	Pass	
Mg2790		0.018407	ppm	0.0042520	23.098	.00000	Abs	Pass	
Mn2576		0.0027860	ppm	0.000052000	1.8811	.00000	Abs	Pass	
Mo2020		0.0030610	ppm	0.0040740	133.11	.00000	Abs	Pass	
Na5895		-0.015799	ppm	0.018743	118.63	.00000	Abs	Pass	
Ni2316	**W**	**0.0088570**	**ppm**	**0.010460**	**118.09**	**.00000**	**Abs**	**Warn High**	**0.00500**
P_1782		0.047495	ppm	0.059380	125.02	.00000	Abs	Pass	
Pb2203	**W**	**0.0079130**	**ppm**	**0.010340**	**130.67**	**.00000**	**Abs**	**Warn High**	**0.00500**
S_1820		0.029078	ppm	0.040935	140.78	.00000	Abs	Pass	
Sb2068		-0.0012360	ppm	0.0019260	155.86	.00000	Abs	Pass	
Se1960		-0.0046280	ppm	0.0018530	40.042	.00000	Abs	Pass	
Si2881		-0.0055560	ppm	0.025322	455.72	.00000	Abs	Pass	
Sn1899		0.0080460	ppm	0.0093000	115.58	.00000	Abs	Pass	
Sr4077		0.00057500	ppm	0.00029500	51.307	.00000	Abs	Pass	
Ti3349		0.0033920	ppm	0.00057600	16.988	.00000	Abs	Pass	
Tl1908		-0.0030060	ppm	0.0024460	81.371	.00000	Abs	Pass	
V_2924		0.00094400	ppm	0.00022600	23.937	.00000	Abs	Pass	
Zn2062	**W**	**0.0099030**	**ppm**	**0.0011560**	**11.677**	**.00000**	**Abs**	**Warn High**	**0.00500**
Y_2243		6,920.3	Cts/S	54.941	0.79392				
Y_3600		55,353	Cts/S	209.29	0.37811				
Y_3774		8,814.9	Cts/S	50.143	0.56884				

440-251469-A-180-A

Acquire Date: 10/16/2019 5:51:28PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00084500	ppm	0.00085200	100.74
Al3961		99.354	ppm	0.16131	0.16236
As1890		0.028157	ppm	0.0021630	7.6814
B_2089		0.029032	ppm	0.00014100	0.48739
Ba4554		0.99486	ppm	0.0028640	0.28793
Be3130		0.0038210	ppm	0.00013500	3.5328
Ca3179		41.880	ppm	0.064508	0.15403
Cd2144		0.0034560	ppm	0.000042000	1.2156
Co2286		0.059988	ppm	0.00031300	0.52214
Cr2677		0.13329	ppm	0.00028800	0.21585
Cu3247		0.19433	ppm	0.0011380	0.58534
Fe2599		145.47	ppm	0.19157	0.13169
K_7664		18.270	ppm	0.079700	0.43623
Mg2790		25.826	ppm	0.041206	0.15955
Mn2576		3.9345	ppm	0.0074110	0.18835
Mo2020		0.0068100	ppm	0.000020000	0.29568
Na5895		2.0666	ppm	0.0086310	0.41764
Ni2316		0.098177	ppm	0.0011360	1.1567
P_1782		3.6800	ppm	0.011401	0.30982
Pb2203		0.64601	ppm	0.0025040	0.38768
S_1820		2.1195	ppm	0.011617	0.54810
Sb2068		-0.0043740	ppm	0.0059770	136.66
Se1960		-0.0028300	ppm	0.0064710	228.65
Si2881		0.71338	ppm	0.0059740	0.83746
Sn1899		0.055494	ppm	0.00033700	0.60723
Sr4077		0.23502	ppm	0.00036800	0.15677
Ti3349	**W**	**6.2189**	**ppm**	**0.0024280**	**0.039049**
Tl1908	**F**	**-0.030737**	**ppm**	**0.0028490**	**9.2694**
V_2924		0.31592	ppm	0.00053000	0.16764
Zn2062		1.0010	ppm	0.0048170	0.48121
Y_2243		7,103.3	Cts/S	11.927	0.16791
Y_3600		56,694	Cts/S	61.047	0.10768
Y_3774		9,460.4	Cts/S	44.808	0.47364

440-251469-A-181-A

Acquire Date: 10/16/2019 5:55:07PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0012800	ppm	0.00042000	32.785
Al3961		113.28	ppm	0.037089	0.032743
As1890		0.030151	ppm	0.00019200	0.63583
B_2089		0.032795	ppm	0.00091600	2.7927
Ba4554		1.1937	ppm	0.00051300	0.043012
Be3130		0.0052240	ppm	0.000010000	0.19038
Ca3179		23.760	ppm	0.038503	0.16205
Cd2144		0.0041130	ppm	0.000070000	1.7083
Co2286		0.078723	ppm	0.00061800	0.78441

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-251469-A-181-A

Acquire Date: 10/16/2019 5:55:07PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.16969	ppm	0.00057100	0.33652
Cu3247		0.17110	ppm	0.00072400	0.42334
Fe2599		166.66	ppm	0.16739	0.10044
K_7664		19.837	ppm	0.059977	0.30235
Mg2790		28.753	ppm	0.11579	0.40270
Mn2576		5.9106	ppm	0.028624	0.48429
Mo2020		0.0061760	ppm	0.00013600	2.2040
Na5895		1.8413	ppm	0.00053400	0.028977
Ni2316		0.11440	ppm	0.00028300	0.24778
P_1782		2.2802	ppm	0.011495	0.50412
Pb2203		0.33369	ppm	0.00060400	0.18115
S_1820		0.52371	ppm	0.0050580	0.96589
Sb2068		-0.0053000	ppm	0.0010100	19.058
Se1960		-0.00090300	ppm	0.013182	1,459.9
Si2881		0.93206	ppm	0.0069430	0.74492
Sn1899		0.054421	ppm	0.0000010000	0.0019610
Sr4077		0.26648	ppm	0.000078000	0.029145
Ti3349	**W**	**8.5050**	**ppm**	**0.025001**	**0.29395**
Tl1908	**F**	**-0.040661**	**ppm**	**0.0016190**	**3.9812**
V_2924		0.35445	ppm	0.0019510	0.55051
Zn2062		0.67423	ppm	0.0045170	0.66995
Y_2243		6,990.6	Cts/S	34.534	0.49401
Y_3600		55,784	Cts/S	316.45	0.56728
Y_3774		9,296.3	Cts/S	15.475	0.16647

440-251469-A-182-A

Acquire Date: 10/16/2019 5:58:46PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0012240	ppm	0.000033000	2.7368
Al3961		136.19	ppm	0.22015	0.16165
As1890		0.032244	ppm	0.00054700	1.6972
B_2089		0.034616	ppm	0.00062200	1.7967
Ba4554		1.1506	ppm	0.00078300	0.068051
Be3130		0.0063200	ppm	0.000012000	0.18776
Ca3179		22.188	ppm	0.0038040	0.017143
Cd2144		0.0012810	ppm	0.000045000	3.5268
Co2286		0.086149	ppm	0.000015000	0.017694
Cr2677		0.18970	ppm	0.00029100	0.15352
Cu3247		0.14093	ppm	0.0018110	1.2852
Fe2599		192.91	ppm	0.41018	0.21263
K_7664		19.183	ppm	0.031863	0.16610
Mg2790		32.620	ppm	0.057499	0.17627
Mn2576		6.1525	ppm	0.011059	0.17975
Mo2020		0.0050630	ppm	0.00073000	14.415
Na5895		2.5238	ppm	0.0087760	0.34772
Ni2316		0.12239	ppm	0.00021300	0.17398

440-251469-A-182-A

Acquire Date: 10/16/2019 5:58:46PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		2.2207	ppm	0.0041960	0.18893
Pb2203		0.085877	ppm	0.0012360	1.4398
S_1820		0.24970	ppm	0.0053040	2.1241
Sb2068		-0.0070020	ppm	0.0038880	55.530
Se1960		0.0022970	ppm	0.0030750	133.85
Si2881		0.79255	ppm	0.011142	1.4059
Sn1899		0.043540	ppm	0.00040500	0.92977
Sr4077		0.28207	ppm	0.00038200	0.13528
Ti3349	**W**	**9.3422**	**ppm**	**0.025063**	**0.26828**
Tl1908	**F**	**-0.036886**	**ppm**	**0.0059270**	**16.069**
V_2924		0.41078	ppm	0.00024400	0.059401
Zn2062		0.43616	ppm	0.0022780	0.52238
Y_2243		7,055.8	Cts/S	93.425	1.3241
Y_3600		55,483	Cts/S	434.32	0.78279
Y_3774		9,264.9	Cts/S	91.065	0.98290

440-251469-A-183-A

Acquire Date: 10/16/2019 6:02:27PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00066200	ppm	0.00062900	95.113
Al3961		114.92	ppm	0.061629	0.053626
As1890		0.033303	ppm	0.00086400	2.5934
B_2089		0.028645	ppm	0.00044100	1.5393
Ba4554		1.1143	ppm	0.00031700	0.028453
Be3130		0.0048720	ppm	0.00016200	3.3238
Ca3179		31.079	ppm	0.045986	0.14796
Cd2144		0.0027720	ppm	0.000052000	1.8681
Co2286		0.069690	ppm	0.00043400	0.62251
Cr2677		0.16173	ppm	0.00061600	0.38086
Cu3247		0.23731	ppm	0.00017300	0.072698
Fe2599		165.24	ppm	0.29250	0.17702
K_7664		23.176	ppm	0.0094280	0.040682
Mg2790		27.802	ppm	0.063345	0.22784
Mn2576		4.5940	ppm	0.018672	0.40646
Mo2020		0.0072170	ppm	0.0000080000	0.11286
Na5895		1.5074	ppm	0.0073640	0.48855
Ni2316		0.12088	ppm	0.00089400	0.73960
P_1782		5.7341	ppm	0.014944	0.26061
Pb2203		0.58434	ppm	0.0019770	0.33833
S_1820		3.0881	ppm	0.00067000	0.021689
Sb2068		0.00042900	ppm	0.0061200	1,425.8
Se1960		0.0027170	ppm	0.0012140	44.693
Si2881		0.99903	ppm	0.0096230	0.96327
Sn1899		0.052664	ppm	0.000090000	0.17106
Sr4077		0.22549	ppm	0.0000080000	0.0033680
Ti3349	**W**	**6.9441**	**ppm**	**0.029792**	**0.42903**

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-251469-A-183-A

Acquire Date: 10/16/2019 6:02:27PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908	**F**	**-0.034888**	**ppm**	**0.0016480**	**4.7250**
V_2924		0.35094	ppm	0.0018620	0.53065
Zn2062		1.1098	ppm	0.011767	1.0602
Y_2243		7,115.6	Cts/S	7.9751	0.11208
Y_3600		57,245	Cts/S	13.191	0.023043
Y_3774		9,514.9	Cts/S	23.603	0.24806

440-251469-A-184-A

Acquire Date: 10/16/2019 6:06:06PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0011390	ppm	0.00046400	40.736
Al3961		125.90	ppm	0.13775	0.10942
As1890		0.035543	ppm	0.0029630	8.3355
B_2089		0.027640	ppm	0.00098700	3.5721
Ba4554		1.3364	ppm	0.0011360	0.085026
Be3130		0.0057530	ppm	0.000016000	0.28123
Ca3179		33.712	ppm	0.053104	0.15752
Cd2144		0.0020490	ppm	0.000056000	2.7169
Co2286		0.083194	ppm	0.00033200	0.39866
Cr2677		0.18742	ppm	0.00018900	0.10067
Cu3247		0.20054	ppm	0.0029240	1.4581
Fe2599		179.77	ppm	0.23005	0.12797
K_7664		24.140	ppm	0.029379	0.12170
Mg2790		30.087	ppm	0.080226	0.26664
Mn2576		5.8701	ppm	0.012365	0.21064
Mo2020		0.0057050	ppm	0.00022700	3.9709
Na5895		1.0900	ppm	0.0075110	0.68908
Ni2316		0.12869	ppm	0.00021500	0.16677
P_1782		3.7687	ppm	0.00039400	0.010464
Pb2203		0.50674	ppm	0.00011300	0.022282
S_1820		1.1414	ppm	0.0019070	0.16705
Sb2068		-0.0032780	ppm	0.0025380	77.420
Se1960		0.00066800	ppm	0.00093500	139.94
Si2881		1.0295	ppm	0.0095710	0.92971
Sn1899		0.048363	ppm	0.00067600	1.3976
Sr4077		0.23731	ppm	0.00071100	0.29940
Ti3349	**W**	**8.2976**	**ppm**	**0.018210**	**0.21947**
Tl1908	**F**	**-0.034155**	**ppm**	**0.00059800**	**1.7497**
V_2924		0.38356	ppm	0.00013300	0.034803
Zn2062		0.74089	ppm	0.0031550	0.42591
Y_2243		7,064.3	Cts/S	29.290	0.41462
Y_3600		56,564	Cts/S	109.74	0.19401
Y_3774		9,416.3	Cts/S	64.928	0.68952

440-251469-A-185-A

Acquire Date: 10/16/2019 6:09:45PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00091300	ppm	0.00044000	48.218
Al3961		152.05	ppm	0.38293	0.25185
As1890		0.035367	ppm	0.0030200	8.5402
B_2089		0.028648	ppm	0.0010310	3.6000
Ba4554		1.2181	ppm	0.0016010	0.13145
Be3130		0.0067330	ppm	0.000031000	0.45409
Ca3179		26.116	ppm	0.0058780	0.022507
Cd2144		0.00096900	ppm	0.000030000	3.1361
Co2286		0.090874	ppm	0.00053500	0.58899
Cr2677		0.21116	ppm	0.00096400	0.45674
Cu3247		0.15345	ppm	0.00066800	0.43533
Fe2599		207.04	ppm	0.45857	0.22148
K_7664		20.632	ppm	0.013225	0.064098
Mg2790		34.343	ppm	0.075700	0.22042
Mn2576		6.5877	ppm	0.026703	0.40534
Mo2020		0.0067190	ppm	0.000042000	0.62215
Na5895		1.2999	ppm	0.0021550	0.16581
Ni2316		0.13469	ppm	0.00042800	0.31767
P_1782		2.6556	ppm	0.0070740	0.26636
Pb2203		0.11603	ppm	0.000024000	0.020622
S_1820		0.034312	ppm	0.0029060	8.4705
Sb2068		-0.0029890	ppm	0.0069030	230.94
Se1960		-0.00047900	ppm	0.0011880	248.23
Si2881		0.88500	ppm	0.0034680	0.39191
Sn1899		0.044751	ppm	0.00016700	0.37236
Sr4077		0.26212	ppm	0.00019600	0.074825
Ti3349	**W**	**9.6836**	**ppm**	**0.035060**	**0.36206**
Tl1908	**F**	**-0.039769**	**ppm**	**0.0020860**	**5.2456**
V_2924		0.44455	ppm	0.0015620	0.35144
Zn2062		0.45619	ppm	0.0034730	0.76132
Y_2243		6,918.1	Cts/S	15.138	0.21881
Y_3600		54,853	Cts/S	39.850	0.072650
Y_3774		9,274.3	Cts/S	0.25606	0.0027610

440-251469-A-186-A

Acquire Date: 10/16/2019 6:13:30PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.00041000	ppm	0.00014800	36.061
Al3961		102.85	ppm	0.42604	0.41425
As1890		0.032148	ppm	0.0011890	3.6988
B_2089		0.029105	ppm	0.00070400	2.4201
Ba4554		1.2014	ppm	0.0054580	0.45431
Be3130		0.0040460	ppm	0.00013000	3.2015
Ca3179		34.984	ppm	0.060522	0.17300
Cd2144		0.0051320	ppm	0.000026000	0.50798
Co2286		0.059778	ppm	0.00011500	0.19282

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-251469-A-186-A

Acquire Date: 10/16/2019 6:13:30PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Cr2677		0.16366	ppm	0.00014600	0.089100
Cu3247		0.23561	ppm	0.000088000	0.037458
Fe2599		143.93	ppm	0.51113	0.35512
K_7664		19.880	ppm	0.059625	0.29993
Mg2790		26.853	ppm	0.060332	0.22467
Mn2576		4.5413	ppm	0.0031330	0.068989
Mo2020		0.0070880	ppm	0.00035700	5.0435
Na5895		1.6098	ppm	0.012341	0.76665
Ni2316		0.11070	ppm	0.00033600	0.30314
P_1782		6.3364	ppm	0.014524	0.22922
Pb2203		0.92175	ppm	0.0010240	0.11107
S_1820		2.9721	ppm	0.0044830	0.15083
Sb2068		0.0011320	ppm	0.00097600	86.236
Se1960		0.0014810	ppm	0.0054260	366.45
Si2881		0.88678	ppm	0.022074	2.4893
Sn1899		0.058445	ppm	0.00076900	1.3164
Sr4077		0.34756	ppm	0.0014270	0.41063
Ti3349	**W**	**6.1884**	**ppm**	**0.011427**	**0.18465**
Tl1908	**W**	**-0.029696**	**ppm**	**0.00050500**	**1.7015**
V_2924		0.30284	ppm	0.00099000	0.32679
Zn2062		1.3214	ppm	0.0015130	0.11453
Y_2243		6,988.4	Cts/S	10.470	0.14983
Y_3600		55,396	Cts/S	45.427	0.082005
Y_3774		9,220.8	Cts/S	84.504	0.91645

440-251469-A-187-A

Acquire Date: 10/16/2019 6:17:08PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0014850	ppm	0.00070100	47.174
Al3961		128.77	ppm	0.26613	0.20666
As1890		0.039506	ppm	0.00088000	2.2267
B_2089		0.030392	ppm	0.00046900	1.5430
Ba4554		1.2502	ppm	0.0000010000	0.000085000
Be3130		0.0057210	ppm	0.00024600	4.3071
Ca3179		23.906	ppm	0.015125	0.063267
Cd2144		0.0037840	ppm	0.000064000	1.6972
Co2286		0.086435	ppm	0.00025600	0.29587
Cr2677		0.18712	ppm	0.00075000	0.40058
Cu3247		0.26153	ppm	0.00070400	0.26920
Fe2599		189.30	ppm	0.57598	0.30426
K_7664		25.658	ppm	0.10635	0.41450
Mg2790		31.579	ppm	0.11545	0.36558
Mn2576		6.1520	ppm	0.017322	0.28157
Mo2020		0.0091380	ppm	0.000064000	0.70042
Na5895		1.6677	ppm	0.0057190	0.34295
Ni2316		0.13670	ppm	0.0012720	0.93067

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-251469-A-187-A

Acquire Date: 10/16/2019 6:17:08PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
P_1782		4.0458	ppm	0.020934	0.51742
Pb2203		1.1758	ppm	0.00010100	0.0085610
S_1820		0.61045	ppm	0.0062350	1.0215
Sb2068		0.00012300	ppm	0.0049040	3,970.9
Se1960		-0.0032100	ppm	0.0038500	119.94
Si2881		0.94845	ppm	0.016406	1.7298
Sn1899		0.078263	ppm	0.00046700	0.59693
Sr4077		0.29981	ppm	0.0010320	0.34435
Ti3349	**W**	**8.7597**	**ppm**	**0.0097750**	**0.11159**
Tl1908	**F**	**-0.034808**	**ppm**	**0.0055470**	**15.935**
V_2924		0.39972	ppm	0.00073900	0.18478
Zn2062		1.1492	ppm	0.0038660	0.33638
Y_2243		6,958.8	Cts/S	50.647	0.72781
Y_3600		55,318	Cts/S	381.69	0.68999
Y_3774		9,439.5	Cts/S	18.461	0.19557

440-251469-A-200-A

Acquire Date: 10/16/2019 6:20:48PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.00091800	ppm	0.00020500	22.277
Al3961		131.54	ppm	0.33222	0.25257
As1890		0.041813	ppm	0.00016400	0.39135
B_2089		0.034580	ppm	0.00064800	1.8728
Ba4554		1.2691	ppm	0.0024130	0.19011
Be3130		0.0054890	ppm	0.000016000	0.28338
Ca3179		31.310	ppm	0.10705	0.34191
Cd2144		0.0053440	ppm	0.000088000	1.6417
Co2286		0.075361	ppm	0.00074800	0.99244
Cr2677		0.20597	ppm	0.0012220	0.59329
Cu3247		0.22697	ppm	0.0021760	0.95861
Fe2599		187.98	ppm	0.44907	0.23889
K_7664		28.229	ppm	0.043898	0.15551
Mg2790		33.366	ppm	0.073166	0.21929
Mn2576		3.5602	ppm	0.0048560	0.13640
Mo2020		0.0091380	ppm	0.000088000	0.96219
Na5895		4.4070	ppm	0.020818	0.47238
Ni2316		0.13717	ppm	0.00063300	0.46115
P_1782		4.2669	ppm	0.022483	0.52691
Pb2203		0.81758	ppm	0.0074990	0.91724
S_1820		1.7753	ppm	0.0096110	0.54135
Sb2068		0.00013700	ppm	0.0024720	1,799.9
Se1960		-0.0048540	ppm	0.0084710	174.51
Si2881		1.0021	ppm	0.025137	2.5085
Sn1899		0.058095	ppm	0.00050000	0.86037
Sr4077		0.26852	ppm	0.00032100	0.11965
Ti3349	**W**	**7.4974**	**ppm**	**0.0075850**	**0.10117**

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-251469-A-200-A

Acquire Date: 10/16/2019 6:20:48PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Tl1908	**F**	**-0.031159**	**ppm**	**0.0055970**	**17.963**
V_2924		0.39255	ppm	0.000095000	0.024177
Zn2062		1.6595	ppm	0.0062940	0.37925
Y_2243		7,028.9	Cts/S	54.585	0.77657
Y_3600		54,997	Cts/S	425.19	0.77312
Y_3774		9,158.0	Cts/S	5.6677	0.061888

440-251469-A-201-A

Acquire Date: 10/16/2019 6:24:27PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0015710	ppm	0.00033800	21.529
Al3961		142.43	ppm	0.50419	0.35398
As1890		0.034995	ppm	0.0021810	6.2324
B_2089		0.023686	ppm	0.000097000	0.41135
Ba4554		1.0967	ppm	0.0036710	0.33470
Be3130		0.0061650	ppm	0.000083000	1.3527
Ca3179		19.014	ppm	0.050534	0.26578
Cd2144		0.0013220	ppm	0.000056000	4.2706
Co2286		0.085951	ppm	0.00021900	0.25500
Cr2677		0.18731	ppm	0.00050700	0.27047
Cu3247		0.14352	ppm	0.0018090	1.2605
Fe2599		199.41	ppm	0.72684	0.36450
K_7664		22.840	ppm	0.0065380	0.028626
Mg2790		29.510	ppm	0.049130	0.16649
Mn2576		4.7114	ppm	0.0076590	0.16256
Mo2020		0.0053840	ppm	0.000059000	1.0961
Na5895		3.5471	ppm	0.012552	0.35387
Ni2316		0.10769	ppm	0.00038900	0.36127
P_1782		2.3032	ppm	0.0076860	0.33370
Pb2203		0.18478	ppm	0.0030020	1.6249
S_1820		0.52980	ppm	0.011570	2.1839
Sb2068		0.0018050	ppm	0.0045570	252.46
Se1960		-0.00052100	ppm	0.00016700	32.008
Si2881		0.78811	ppm	0.0055750	0.70742
Sn1899		0.044536	ppm	0.00032600	0.73308
Sr4077		0.18427	ppm	0.00076000	0.41230
Ti3349	**W**	**7.9201**	**ppm**	**0.0042040**	**0.053080**
Tl1908	**F**	**-0.032561**	**ppm**	**0.0092630**	**28.447**
V_2924		0.42866	ppm	0.00089000	0.20755
Zn2062		0.62342	ppm	0.0023150	0.37139
Y_2243		7,143.9	Cts/S	8.7039	0.12184
Y_3600		56,482	Cts/S	49.946	0.088429
Y_3774		9,469.7	Cts/S	8.1843	0.086426

CCV 1708493

Acquire Date: 10/16/2019 6:28:07PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.48555	ppm	0.0014330	0.29514	.50000	Rel(%)	Pass	
Al3961		23.964	ppm	0.024479	0.10215	25.000	Rel(%)	Pass	
As1890		0.52311	ppm	0.0015360	0.29357	.50000	Rel(%)	Pass	
B_2089		0.98089	ppm	0.00094400	0.096215	1.0000	Rel(%)	Pass	
Ba4554		2.5070	ppm	0.00064900	0.025870	2.5000	Rel(%)	Pass	
Be3130		0.50335	ppm	0.00069900	0.13891	.50000	Rel(%)	Pass	
Ca3179		24.089	ppm	0.0064820	0.026906	25.000	Rel(%)	Pass	
Cd2144		0.50835	ppm	0.00039700	0.078091	.50000	Rel(%)	Pass	
Co2286		2.4966	ppm	0.0031100	0.12456	2.5000	Rel(%)	Pass	
Cr2677		2.5011	ppm	0.0059210	0.23672	2.5000	Rel(%)	Pass	
Cu3247		2.3840	ppm	0.0060470	0.25363	2.5000	Rel(%)	Pass	
Fe2599		25.014	ppm	0.074477	0.29775	25.000	Rel(%)	Pass	
K_7664		24.011	ppm	0.083265	0.34677	25.000	Rel(%)	Pass	
Mg2790		24.059	ppm	0.026085	0.10842	25.000	Rel(%)	Pass	
Mn2576		2.4454	ppm	0.010223	0.41805	2.5000	Rel(%)	Pass	
Mo2020		1.0089	ppm	0.00076600	0.075883	1.0000	Rel(%)	Pass	
Na5895		24.130	ppm	0.010888	0.045121	25.000	Rel(%)	Pass	
Ni2316		2.5111	ppm	0.0040480	0.16120	2.5000	Rel(%)	Pass	
P_1782		2.4263	ppm	0.0016610	0.068464	2.5000	Rel(%)	Pass	
Pb2203		0.51494	ppm	0.00037500	0.072791	.50000	Rel(%)	Pass	
S_1820		2.3749	ppm	0.0078600	0.33094	2.5000	Rel(%)	Pass	
Sb2068		0.50509	ppm	0.0021760	0.43079	.50000	Rel(%)	Pass	
Se1960		0.53904	ppm	0.0011760	0.21822	.50000	Rel(%)	Pass	
Si2881		2.4293	ppm	0.019958	0.82153	2.5000	Rel(%)	Pass	
Sn1899		2.5012	ppm	0.00044700	0.017862	2.5000	Rel(%)	Pass	
Sr4077		2.4365	ppm	0.00031400	0.012904	2.5000	Rel(%)	Pass	
Ti3349		1.0111	ppm	0.0050880	0.50315	1.0000	Rel(%)	Pass	
Tl1908		0.50931	ppm	0.0016310	0.32015	.50000	Rel(%)	Pass	
V_2924		2.4791	ppm	0.0082570	0.33306	2.5000	Rel(%)	Pass	
Zn2062		2.4365	ppm	0.013499	0.55404	2.5000	Rel(%)	Pass	
Y_2243		6,527.7	Cts/S	3.0642	0.046942				
Y_3600		52,785	Cts/S	11.350	0.021502				
Y_3774		8,601.2	Cts/S	29.744	0.34581				

CCB 1745955

Acquire Date: 10/16/2019 6:31:41PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.00023300	ppm	0.0012180	522.94	.00000	Abs	Pass	
Al3961		0.026058	ppm	0.011087	42.545	.00000	Abs	Pass	
As1890		0.0019850	ppm	0.00034700	17.461	.00000	Abs	Pass	
B_2089		0.0051220	ppm	0.00047800	9.3350	.00000	Abs	Pass	
Ba4554		0.00035400	ppm	0.00046700	131.91	.00000	Abs	Pass	
Be3130		0.00010900	ppm	0.00019800	181.77	.00000	Abs	Pass	
Ca3179		-0.0043850	ppm	0.0045190	103.06	.00000	Abs	Pass	
Cd2144		0.000048000	ppm	0.000048000	101.78	.00000	Abs	Pass	
Co2286		0.00087100	ppm	0.00031400	36.080	.00000	Abs	Pass	
Cr2677		0.0013500	ppm	0.000048000	3.5778	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCB 1745955

Acquire Date: 10/16/2019 6:31:41PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Cu3247		0.0032600	ppm	0.00040800	12.523	.00000	Abs	Pass	
Fe2599		0.037693	ppm	0.028154	74.693	.00000	Abs	Pass	
K_7664		0.018192	ppm	0.010527	57.867	.00000	Abs	Pass	
Mg2790		0.013163	ppm	0.00056800	4.3172	.00000	Abs	Pass	
Mn2576		0.0021260	ppm	0.000075000	3.5474	.00000	Abs	Pass	
Mo2020		0.00067200	ppm	0.000085000	12.613	.00000	Abs	Pass	
Na5895		-0.032772	ppm	0.013999	42.716	.00000	Abs	Pass	
Ni2316		0.0016770	ppm	0.00098700	58.843	.00000	Abs	Pass	
P_1782		0.0053270	ppm	0.0016350	30.689	.00000	Abs	Pass	
Pb2203		0.00039800	ppm	0.0012590	315.86	.00000	Abs	Pass	
S_1820		0.0033070	ppm	0.0026860	81.237	.00000	Abs	Pass	
Sb2068		0.00097400	ppm	0.0039010	400.52	.00000	Abs	Pass	
Se1960		0.00032600	ppm	0.00014400	44.242	.00000	Abs	Pass	
Si2881		-0.0056100	ppm	0.024575	438.07	.00000	Abs	Pass	
Sn1899		0.0018860	ppm	0.00093700	49.670	.00000	Abs	Pass	
Sr4077		0.00058000	ppm	0.00018700	32.239	.00000	Abs	Pass	
Ti3349		0.0027990	ppm	0.00080700	28.833	.00000	Abs	Pass	
Tl1908		-0.0064140	ppm	0.0012110	18.887	.00000	Abs	Pass	
V_2924		0.0010780	ppm	0.000030000	2.7880	.00000	Abs	Pass	
Zn2062	**W**	**0.011531**	**ppm**	**0.00036900**	**3.2005**	**.00000**	**Abs**	**Warn High**	**0.00500**
Y_2243		6,814.3	Cts/S	55.708	0.81752				
Y_3600		54,408	Cts/S	5.2188	0.0095920				
Y_3774		8,575.6	Cts/S	127.30	1.4844				

440-251469-A-202-A

Acquire Date: 10/16/2019 6:35:29PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		-0.0012100	ppm	0.0016740	138.29
Al3961		137.22	ppm	0.090156	0.065704
As1890		0.028629	ppm	0.0016510	5.7657
B_2089		0.021674	ppm	0.0015170	6.9975
Ba4554		1.0639	ppm	0.0017560	0.16510
Be3130		0.0058420	ppm	0.00027400	4.6838
Ca3179		16.257	ppm	0.034085	0.20966
Cd2144		0.00068400	ppm	0.000016000	2.2982
Co2286		0.078496	ppm	0.00086600	1.1027
Cr2677		0.16980	ppm	0.00010000	0.058798
Cu3247		0.12052	ppm	0.00013100	0.10844
Fe2599		183.04	ppm	0.23874	0.13044
K_7664		21.183	ppm	0.10465	0.49405
Mg2790		27.616	ppm	0.052685	0.19078
Mn2576		4.4489	ppm	0.0079960	0.17973
Mo2020		0.0043540	ppm	0.000021000	0.47697
Na5895		2.7093	ppm	0.016250	0.59976
Ni2316		0.10121	ppm	0.00075700	0.74754
P_1782		1.9804	ppm	0.0066580	0.33619
Pb2203		0.091828	ppm	0.0034400	3.7458

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-251469-A-202-A

Acquire Date: 10/16/2019 6:35:29PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
S_1820		0.43311	ppm	0.0011930	0.27553
Sb2068		-0.0063340	ppm	0.0036700	57.947
Se1960		0.00053900	ppm	0.0011010	204.05
Si2881		0.83597	ppm	0.025809	3.0873
Sn1899		0.040145	ppm	0.00050300	1.2517
Sr4077		0.21620	ppm	0.00013000	0.059958
Ti3349	**W**	**7.5850**	**ppm**	**0.0015310**	**0.020179**
Tl1908	**F**	**-0.036318**	**ppm**	**0.0042760**	**11.774**
V_2924		0.38749	ppm	0.00060300	0.15556
Zn2062		0.39227	ppm	0.00055000	0.14023
Y_2243		6,937.4	Cts/S	14.854	0.21411
Y_3600		55,037	Cts/S	291.28	0.52925
Y_3774		9,138.8	Cts/S	104.40	1.1424

440-251469-A-203-A

Acquire Date: 10/16/2019 6:39:10PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Ag3280		0.0014470	ppm	0.00087000	60.104
Al3961		133.84	ppm	0.13052	0.097524
As1890		0.039825	ppm	0.0012580	3.1590
B_2089		0.040109	ppm	0.000051000	0.12664
Ba4554		1.3201	ppm	0.00020000	0.015161
Be3130		0.0054360	ppm	0.00011000	2.0321
Ca3179		32.803	ppm	0.049316	0.15034
Cd2144		0.0094470	ppm	0.00012400	1.3130
Co2286		0.066172	ppm	0.00038200	0.57671
Cr2677		0.24692	ppm	0.000025000	0.010309
Cu3247		0.30231	ppm	0.0029320	0.96999
Fe2599		171.92	ppm	0.12564	0.073082
K_7664		17.519	ppm	0.043743	0.24969
Mg2790		29.031	ppm	0.029261	0.10079
Mn2576		3.3445	ppm	0.00050400	0.015082
Mo2020		0.0083330	ppm	0.0000040000	0.044049
Na5895		1.5674	ppm	0.0019330	0.12330
Ni2316		0.12902	ppm	0.00082000	0.63519
P_1782		7.5434	ppm	0.013024	0.17265
Pb2203		2.0661	ppm	0.012713	0.61532
S_1820		2.6836	ppm	0.0073850	0.27517
Sb2068		0.0037290	ppm	0.00095500	25.613
Se1960		-0.0019820	ppm	0.0024950	125.89
Si2881		0.92817	ppm	0.058908	6.3467
Sn1899		0.11559	ppm	0.000048000	0.041519
Sr4077		0.40260	ppm	0.000051000	0.012686
Ti3349	**W**	**6.6428**	**ppm**	**0.012181**	**0.18337**
Tl1908	**W**	**-0.020757**	**ppm**	**0.000094000**	**0.45242**
V_2924		0.35937	ppm	0.0018350	0.51060

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

440-251469-A-203-A

Acquire Date: 10/16/2019 6:39:10PM Sample Type: Unknown

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD
Zn2062		1.8322	ppm	0.0023350	0.12742
Y_2243		6,905.6	Cts/S	45.730	0.66222
Y_3600		54,136	Cts/S	72.716	0.13432
Y_3774		9,095.6	Cts/S	41.866	0.46029

CCV 1708493

Acquire Date: 10/16/2019 6:42:49PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.48555	ppm	0.00028400	0.058465	.50000	Rel(%)	Pass	
Al3961		24.003	ppm	0.059456	0.24770	25.000	Rel(%)	Pass	
As1890		0.52222	ppm	0.0041660	0.79782	.50000	Rel(%)	Pass	
B_2089		0.98618	ppm	0.0042880	0.43481	1.0000	Rel(%)	Pass	
Ba4554		2.5306	ppm	0.0055240	0.21828	2.5000	Rel(%)	Pass	
Be3130		0.50618	ppm	0.0016060	0.31728	.50000	Rel(%)	Pass	
Ca3179		24.049	ppm	0.074654	0.31042	25.000	Rel(%)	Pass	
Cd2144		0.50653	ppm	0.0011440	0.22579	.50000	Rel(%)	Pass	
Co2286		2.5014	ppm	0.0034680	0.13863	2.5000	Rel(%)	Pass	
Cr2677		2.4895	ppm	0.0044650	0.17934	2.5000	Rel(%)	Pass	
Cu3247		2.3809	ppm	0.0028130	0.11814	2.5000	Rel(%)	Pass	
Fe2599		25.021	ppm	0.082783	0.33085	25.000	Rel(%)	Pass	
K_7664		24.198	ppm	0.050271	0.20775	25.000	Rel(%)	Pass	
Mg2790		23.983	ppm	0.045630	0.19026	25.000	Rel(%)	Pass	
Mn2576		2.4313	ppm	0.00099500	0.040929	2.5000	Rel(%)	Pass	
Mo2020		1.0108	ppm	0.0012260	0.12132	1.0000	Rel(%)	Pass	
Na5895		24.254	ppm	0.079449	0.32757	25.000	Rel(%)	Pass	
Ni2316		2.5069	ppm	0.0077790	0.31029	2.5000	Rel(%)	Pass	
P_1782		2.4295	ppm	0.0040060	0.16490	2.5000	Rel(%)	Pass	
Pb2203		0.51791	ppm	0.0036290	0.70069	.50000	Rel(%)	Pass	
S_1820		2.4106	ppm	0.0017630	0.073122	2.5000	Rel(%)	Pass	
Sb2068		0.50898	ppm	0.0053260	1.0465	.50000	Rel(%)	Pass	
Se1960		0.53673	ppm	0.00095800	0.17842	.50000	Rel(%)	Pass	
Si2881		2.3909	ppm	0.0078250	0.32726	2.5000	Rel(%)	Pass	
Sn1899		2.5035	ppm	0.0055660	0.22232	2.5000	Rel(%)	Pass	
Sr4077		2.4465	ppm	0.0090910	0.37159	2.5000	Rel(%)	Pass	
Ti3349		1.0105	ppm	0.0031820	0.31486	1.0000	Rel(%)	Pass	
Tl1908		0.50798	ppm	0.0022100	0.43515	.50000	Rel(%)	Pass	
V_2924		2.4825	ppm	0.0026590	0.10711	2.5000	Rel(%)	Pass	
Zn2062		2.3893	ppm	0.0096030	0.40192	2.5000	Rel(%)	Pass	
Y_2243		6,879.5	Cts/S	50.708	0.73709				
Y_3600		55,537	Cts/S	10.495	0.018897				
Y_3774		9,135.4	Cts/S	40.943	0.44818				

CCB 1745955

Acquire Date: 10/16/2019 6:46:22PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280	k	0.00022800	ppm	0.00029400	128.90	.00000	Abs	Pass	
Al3961	**sF**	**0.21509**	**ppm**	**0.15712**	**73.047**	**.00000**	**Abs**	**Fail High**	**.10000**
As1890	k	0.0012050	ppm	0.00053800	44.656	.00000	Abs	Pass	
B_2089	k	0.0061490	ppm	0.00075300	12.250	.00000	Abs	Pass	
Ba4554	s	0.0046630	ppm	0.0025950	55.651	.00000	Abs	Pass	
Be3130	s	0.00020300	ppm	0.00084000	413.40	.00000	Abs	Pass	
Ca3179	s	0.086163	ppm	0.011272	13.082	.00000	Abs	Pass	
Cd2144	k	0.000040000	ppm	0.000017000	41.542	.00000	Abs	Pass	
Co2286	k	0.0010010	ppm	0.00010000	10.019	.00000	Abs	Pass	
Cr2677	k	0.00089500	ppm	0.00038700	43.212	.00000	Abs	Pass	
Cu3247	k	0.0054090	ppm	0.0016490	30.492	.00000	Abs	Pass	
Fe2599	**sF**	**0.27583**	**ppm**	**0.21567**	**78.190**	**.00000**	**Abs**	**Fail High**	**.10000**
K_7664	s	0.069211	ppm	0.0038660	5.5852	.00000	Abs	Pass	
Mg2790	k	0.018058	ppm	0.0062540	34.631	.00000	Abs	Pass	
Mn2576	k	0.0020060	ppm	0.000064000	3.1904	.00000	Abs	Pass	
Mo2020	k	0.0010900	ppm	0.000095000	8.7586	.00000	Abs	Pass	
Na5895	s	-0.0050090	ppm	0.040645	811.37	.00000	Abs	Pass	
Ni2316	k	0.0011770	ppm	0.00040600	34.445	.00000	Abs	Pass	
P_1782		0.0038170	ppm	0.0018520	48.521	.00000	Abs	Pass	
Pb2203	k	0.00066600	ppm	0.0031180	468.50	.00000	Abs	Pass	
S_1820	k	0.0022810	ppm	0.00030900	13.561	.00000	Abs	Pass	
Sb2068	k	0.00032400	ppm	0.0068580	2,119.1	.00000	Abs	Pass	
Se1960	k	-0.0051810	ppm	0.0034140	65.888	.00000	Abs	Pass	
Si2881	s	0.034172	ppm	0.045323	132.63	.00000	Abs	Pass	
Sn1899	k	0.0020440	ppm	0.00057400	28.069	.00000	Abs	Pass	
Sr4077	s	0.0028870	ppm	0.0024100	83.462	.00000	Abs	Pass	
Ti3349	k	0.0022070	ppm	0.00020700	9.3794	.00000	Abs	Pass	
Tl1908	k	0.0010190	ppm	0.00088600	86.937	.00000	Abs	Pass	
V_2924	k	0.00069700	ppm	0.00036500	52.405	.00000	Abs	Pass	
Zn2062	**kW**	**0.0090750**	**ppm**	**0.00099000**	**10.909**	**.00000**	**Abs**	**Warn High**	**0.00500**
Y_2243		6,690.2	Cts/S	20.699	0.30940				
Y_3600		54,030	Cts/S	218.60	0.40459				
Y_3774	^	0.00000	Cts/S	0.00000	0.00000				

CCVL 1733852

Acquire Date: 10/16/2019 6:50:10PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		0.0048220	ppm	0.00023100	4.7874	.00500	Rel(%)	Pass	
Al3961		0.16753	ppm	0.012718	7.5911	.20000	Rel(%)	Pass	
As1890		0.034224	ppm	0.0015320	4.4773	.04000	Rel(%)	Pass	
B_2089		0.19751	ppm	0.00068900	0.34866	.20000	Rel(%)	Pass	
Ba4554		0.019132	ppm	0.000039000	0.20556	.02000	Rel(%)	Pass	
Be3130		0.0030600	ppm	0.000082000	2.6950	.00300	Rel(%)	Pass	
Ca3179		0.47201	ppm	0.0071440	1.5135	.50000	Rel(%)	Pass	
Cd2144		0.0029890	ppm	0.000075000	2.4988	.00300	Rel(%)	Pass	
Co2286		0.0098270	ppm	0.00013200	1.3451	.01000	Rel(%)	Pass	
Cr2677		0.010063	ppm	0.00026000	2.5841	.01000	Rel(%)	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

CCVL 1733852

Acquire Date: 10/16/2019 6:50:10PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Cu3247		0.016228	ppm	0.0013750	8.4706	.01500	Rel(%)	Pass	
Fe2599		0.10304	ppm	0.0014830	1.4389	.10000	Rel(%)	Pass	
K_7664		0.96812	ppm	0.013722	1.4174	1.0000	Rel(%)	Pass	
Mg2790		0.47849	ppm	0.00061800	0.12926	.50000	Rel(%)	Pass	
Mn2576		0.0097830	ppm	0.00016200	1.6552	.01000	Rel(%)	Pass	
Mo2020		0.019287	ppm	0.000054000	0.28060	.02000	Rel(%)	Pass	
Na5895		0.44866	ppm	0.0012750	0.28408	.50000	Rel(%)	Pass	
Ni2316		0.0094140	ppm	0.0012240	13.004	.01000	Rel(%)	Pass	
P_1782		0.48117	ppm	0.0023370	0.48577	.50000	Rel(%)	Pass	
Pb2203		0.010109	ppm	0.00099200	9.8158	.01000	Rel(%)	Pass	
S_1820		0.46739	ppm	0.0017360	0.37153	.50000	Rel(%)	Pass	
Sb2068		0.026878	ppm	0.0025590	9.5228	.03000	Rel(%)	Pass	
Se1960		0.035243	ppm	0.00013400	0.38091	.04000	Rel(%)	Pass	
Si2881		0.50133	ppm	0.026007	5.1876	.50000	Rel(%)	Pass	
Sn1899		0.021045	ppm	0.00024700	1.1734	.02000	Rel(%)	Pass	
Sr4077		0.048068	ppm	0.000039000	0.080162	.05000	Rel(%)	Pass	
Ti3349		0.0090930	ppm	0.00050900	5.6028	.01000	Rel(%)	Pass	
Tl1908	**F**	**0.019305**	**ppm**	**0.00045700**	**2.3648**	**.03000**	**Rel(%)**	**Fail Low**	**-30.000**
V_2924		0.019221	ppm	0.00039800	2.0723	.02000	Rel(%)	Pass	
Zn2062		0.023459	ppm	0.0011370	4.8475	.02000	Rel(%)	Pass	
Y_2243		6,783.8	Cts/S	11.664	0.17194				
Y_3600		54,449	Cts/S	154.07	0.28296				
Y_3774		8,632.9	Cts/S	125.06	1.4487				

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Acquire Date: 10/16/2019 6:53:57PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00039100	ppm	0.00061700	158.00	.00000	Abs	Pass	
Al3961		0.023239	ppm	0.0085600	36.836	.00000	Abs	Pass	
As1890		0.00012200	ppm	0.0038960	3,201.7	.00000	Abs	Pass	
B_2089		0.0032520	ppm	0.00058800	18.069	.00000	Abs	Pass	
Ba4554		-0.00047500	ppm	0.000048000	10.073	.00000	Abs	Pass	
Be3130		0.000043000	ppm	0.00017000	395.96	.00000	Abs	Pass	
Ca3179		-0.014942	ppm	0.0058620	39.234	.00000	Abs	Pass	
Cd2144		0.000072000	ppm	0.000063000	86.979	.00000	Abs	Pass	
Co2286		0.00019800	ppm	0.000066000	33.429	.00000	Abs	Pass	
Cr2677		0.000073000	ppm	0.00038600	525.11	.00000	Abs	Pass	
Cu3247		0.0045210	ppm	0.0041340	91.430	.00000	Abs	Pass	
Fe2599		0.011466	ppm	0.0073630	64.216	.00000	Abs	Pass	
K_7664		0.032094	ppm	0.017222	53.661	.00000	Abs	Pass	
Mg2790		-0.0011950	ppm	0.0083460	698.42	.00000	Abs	Pass	
Mn2576		0.000011000	ppm	0.000050000	449.29	.00000	Abs	Pass	
Mo2020		-0.00015300	ppm	0.000039000	25.376	.00000	Abs	Pass	
Na5895		-0.034569	ppm	0.0026970	7.8031	.00000	Abs	Pass	
Ni2316		0.00056100	ppm	0.00083900	149.43	.00000	Abs	Pass	
P_1782		0.000016000	ppm	0.0015820	9,866.3	.00000	Abs	Pass	
Pb2203		-0.0028980	ppm	0.00027700	9.5670	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

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Acquire Date: 10/16/2019 6:53:57PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
S_1820		0.0041080	ppm	0.0046410	112.98	.00000	Abs	Pass	
Sb2068		0.0018030	ppm	0.0045430	252.00	.00000	Abs	Pass	
Se1960		-0.0057880	ppm	0.00016900	2.9189	.00000	Abs	Pass	
Si2881		0.018114	ppm	0.010896	60.156	.00000	Abs	Pass	
Sn1899		0.0013220	ppm	0.000018000	1.3755	.00000	Abs	Pass	
Sr4077		0.00011400	ppm	0.00019600	171.58	.00000	Abs	Pass	
Ti3349		0.00024300	ppm	0.00015400	63.362	.00000	Abs	Pass	
Tl1908		-0.0084050	ppm	0.0022860	27.199	.00000	Abs	Pass	
V_2924		0.00022100	ppm	0.00053300	241.69	.00000	Abs	Pass	
Zn2062		0.0027020	ppm	0.00032300	11.942	.00000	Abs	Pass	
Y_2243		6,601.8	Cts/S	16.061	0.24328				
Y_3600		53,944	Cts/S	576.82	1.0693				
Y_3774		8,497.8	Cts/S	107.47	1.2647				

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Acquire Date: 10/16/2019 6:57:44PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00052700	ppm	0.00086000	163.21	.00000	Abs	Pass	
Al3961		-0.0075400	ppm	0.0021480	28.488	.00000	Abs	Pass	
As1890		0.00071700	ppm	0.0014030	195.64	.00000	Abs	Pass	
B_2089		0.0021230	ppm	0.00014200	6.6884	.00000	Abs	Pass	
Ba4554		-0.00056400	ppm	0.00016500	29.317	.00000	Abs	Pass	
Be3130		0.000064000	ppm	0.000045000	70.661	.00000	Abs	Pass	
Ca3179		-0.012118	ppm	0.0034940	28.835	.00000	Abs	Pass	
Cd2144		-0.00011100	ppm	0.000020000	17.708	.00000	Abs	Pass	
Co2286		0.00057100	ppm	0.000032000	5.6807	.00000	Abs	Pass	
Cr2677		0.00037100	ppm	0.000013000	3.6063	.00000	Abs	Pass	
Cu3247		0.0026820	ppm	0.00094500	35.234	.00000	Abs	Pass	
Fe2599		0.0038790	ppm	0.0071690	184.84	.00000	Abs	Pass	
K_7664		-0.038195	ppm	0.014779	38.693	.00000	Abs	Pass	
Mg2790		0.0097920	ppm	0.0058050	59.283	.00000	Abs	Pass	
Mn2576		0.000016000	ppm	0.000026000	162.70	.00000	Abs	Pass	
Mo2020		0.00027300	ppm	0.00030200	110.76	.00000	Abs	Pass	
Na5895		-0.038028	ppm	0.0058530	15.390	.00000	Abs	Pass	
Ni2316		0.00085200	ppm	0.00068600	80.484	.00000	Abs	Pass	
P_1782		0.0027560	ppm	0.0022450	81.456	.00000	Abs	Pass	
Pb2203		-0.0038650	ppm	0.0010110	26.157	.00000	Abs	Pass	
S_1820		-0.0012450	ppm	0.0014670	117.85	.00000	Abs	Pass	
Sb2068		0.00032600	ppm	0.0037900	1,160.9	.00000	Abs	Pass	
Se1960		0.0034130	ppm	0.0047110	138.02	.00000	Abs	Pass	
Si2881		-0.039242	ppm	0.029375	74.855	.00000	Abs	Pass	
Sn1899		0.0011070	ppm	0.000089000	8.0285	.00000	Abs	Pass	
Sr4077		0.00011600	ppm	0.00011800	102.22	.00000	Abs	Pass	
Ti3349		-0.00057200	ppm	0.00067500	117.99	.00000	Abs	Pass	
Tl1908		-0.0045660	ppm	0.0044270	96.959	.00000	Abs	Pass	
V_2924		0.00024700	ppm	0.00063700	258.14	.00000	Abs	Pass	
Zn2062		0.0012130	ppm	0.0010930	90.093	.00000	Abs	Pass	

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

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Acquire Date: 10/16/2019 6:57:44PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Y_2243		6,647.6	Cts/S	37.993	0.57154				
Y_3600		54,705	Cts/S	351.55	0.64262				
Y_3774		8,627.6	Cts/S	122.23	1.4168				

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Acquire Date: 10/16/2019 7:01:32PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		.0000060000	ppm	0.000024000	430.54	.00000	Abs	Pass	
Al3961		-0.0046430	ppm	0.012901	277.84	.00000	Abs	Pass	
As1890		0.000014000	ppm	0.00046600	3,305.5	.00000	Abs	Pass	
B_2089		0.0026420	ppm	0.00039400	14.905	.00000	Abs	Pass	
Ba4554		-0.00012500	ppm	0.00016400	130.57	.00000	Abs	Pass	
Be3130		.0000040000	ppm	0.00013200	3,774.3	.00000	Abs	Pass	
Ca3179		-0.014387	ppm	0.0047220	32.818	.00000	Abs	Pass	
Cd2144		0.000059000	ppm	0.0000060000	10.863	.00000	Abs	Pass	
Co2286		0.000039000	ppm	0.000045000	116.17	.00000	Abs	Pass	
Cr2677		-0.00059000	ppm	0.00012000	20.302	.00000	Abs	Pass	
Cu3247		0.0031940	ppm	0.0026050	81.568	.00000	Abs	Pass	
Fe2599		0.0011760	ppm	0.0018840	160.18	.00000	Abs	Pass	
K_7664		0.0077440	ppm	0.0014410	18.608	.00000	Abs	Pass	
Mg2790		0.00053800	ppm	0.0027080	503.76	.00000	Abs	Pass	
Mn2576		0.000051000	ppm	0.000095000	185.77	.00000	Abs	Pass	
Mo2020		0.000067000	ppm	0.00017400	260.95	.00000	Abs	Pass	
Na5895		-0.030172	ppm	0.013382	44.351	.00000	Abs	Pass	
Ni2316		0.00035000	ppm	0.00072500	206.96	.00000	Abs	Pass	
P_1782		0.0021600	ppm	0.0017320	80.155	.00000	Abs	Pass	
Pb2203		-0.00070800	ppm	0.0043010	607.23	.00000	Abs	Pass	
S_1820		-0.0021930	ppm	0.00035000	15.953	.00000	Abs	Pass	
Sb2068		-0.0015640	ppm	0.00085300	54.549	.00000	Abs	Pass	
Se1960		-0.0011380	ppm	0.0010880	95.571	.00000	Abs	Pass	
Si2881		-0.024096	ppm	0.011962	49.642	.00000	Abs	Pass	
Sn1899		0.00021000	ppm	0.00024100	114.76	.00000	Abs	Pass	
Sr4077		0.000013000	ppm	0.00010000	756.71	.00000	Abs	Pass	
Ti3349		-0.00072400	ppm	0.00021000	29.013	.00000	Abs	Pass	
Tl1908		-0.0082500	ppm	0.00048900	5.9241	.00000	Abs	Pass	
V_2924		0.000035000	ppm	0.00016000	464.15	.00000	Abs	Pass	
Zn2062		0.0019740	ppm	0.00084300	42.693	.00000	Abs	Pass	
Y_2243		6,702.9	Cts/S	13.165	0.19641				
Y_3600		54,579	Cts/S	201.82	0.36977				
Y_3774		8,651.8	Cts/S	23.892	0.27615				

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Acquire Date: 10/16/2019 7:05:20PM Sample Type: QC

Correction Factor: 1.0000 SW: 1.0000 NW: 1.0000 IV: 1.0000 FV: 1.0000 AF: 1.0000

Analyst Name: admin

Method Name: Thermo6010_EK1 Method Revision: 502

Elem	Flags	Avg	Units	Stddev	%RSD	Check Value	Units	Outcome	Flag Value
Ag3280		-0.00037300	ppm	0.00077900	208.64	.00000	Abs	Pass	
Al3961		0.00039000	ppm	0.010857	2,782.7	.00000	Abs	Pass	
As1890		-0.00032400	ppm	0.00062800	193.85	.00000	Abs	Pass	
B_2089		0.0018090	ppm	0.00056600	31.276	.00000	Abs	Pass	
Ba4554		0.000080000	ppm	0.000037000	46.476	.00000	Abs	Pass	
Be3130		-0.00010000	ppm	0.000022000	22.462	.00000	Abs	Pass	
Ca3179		-0.010914	ppm	0.0047470	43.500	.00000	Abs	Pass	
Cd2144		0.000015000	ppm	0.000029000	188.72	.00000	Abs	Pass	
Co2286		0.00019200	ppm	0.000075000	38.905	.00000	Abs	Pass	
Cr2677		-0.00018300	ppm	0.000097000	52.924	.00000	Abs	Pass	
Cu3247		0.00037600	ppm	0.00046200	123.12	.00000	Abs	Pass	
Fe2599		0.0072460	ppm	0.0059940	82.715	.00000	Abs	Pass	
K_7664		0.014793	ppm	0.0014540	9.8305	.00000	Abs	Pass	
Mg2790		-0.0021690	ppm	0.00033000	15.203	.00000	Abs	Pass	
Mn2576		0.00013600	ppm	0.000029000	21.275	.00000	Abs	Pass	
Mo2020		-0.00048100	ppm	0.00027900	58.096	.00000	Abs	Pass	
Na5895		-0.042831	ppm	0.0015180	3.5437	.00000	Abs	Pass	
Ni2316		0.00071800	ppm	0.00031100	43.296	.00000	Abs	Pass	
P_1782		-0.00073300	ppm	0.00036600	49.838	.00000	Abs	Pass	
Pb2203		-0.0046410	ppm	0.00092800	19.991	.00000	Abs	Pass	
S_1820		0.000013000	ppm	0.00040800	3,078.2	.00000	Abs	Pass	
Sb2068		-0.00024100	ppm	0.0037110	1,541.4	.00000	Abs	Pass	
Se1960		-0.0027600	ppm	0.00056100	20.328	.00000	Abs	Pass	
Si2881		-0.025339	ppm	0.0081470	32.152	.00000	Abs	Pass	
Sn1899		0.00014800	ppm	0.00074600	503.36	.00000	Abs	Pass	
Sr4077		0.000070000	ppm	0.00049700	709.69	.00000	Abs	Pass	
Ti3349		0.000050000	ppm	0.00054800	1,093.5	.00000	Abs	Pass	
Tl1908		-0.0059950	ppm	0.0082700	137.93	.00000	Abs	Pass	
V_2924		-0.00030300	ppm	0.00030200	99.775	.00000	Abs	Pass	
Zn2062		0.0018740	ppm	0.00019800	10.587	.00000	Abs	Pass	
Y_2243		6,709.0	Cts/S	19.350	0.28842				
Y_3600		53,407	Cts/S	371.85	0.69626				
Y_3774		8,357.1	Cts/S	163.45	1.9558				

Color Legend Pass/Unchecked Internal Standard Check Fail Check Warn

WinHg Database 1.5

File Utility Help

Protocol H04 Dataset/Proto 100319A /H04

Protocol | Line info | Cal Curve | Report | Ctrl Chart | Viewer

Reset

Calib Coeffs

New Cal

Update Coeffs

Spike Coeffs

A

B 3.00626e-4

C 4.04192e-2

Rho .999713

Type Linear

☑ Calibrated

☑ Accepted

Accept

µ Abs.
33391

Accepted

New

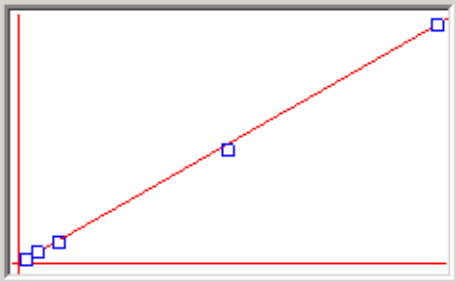

Include S1 Rep 1☑ 2☑ 3☑ 4☐ 5☐

03-Oct-19 08:57 Conc. 10.1

S	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3
01	.00000	.031	.031	-33	99	83	-81	-98
02	.20000	.273	.073	774	0%	774		
03	.50000	.550	.050	1697	0%	1696		
04	1.0000	.927	-.073	2950	0%	2949		
05	5.0000	4.84	-.160	15966	0%	15966		
06	10.000	10.1	.079	33391	0%	33391		

Ready NUM

Protocol: H04

POST-RUN REPORT

```
Line   Conc.  Units     SD/RSD      1       2       3       4       5
--------------------------------------------------------------------------------

*** Standard: 1 Rep: 1              Seq:  3       08:44:13 03 Oct 19   HG

Hg    .000    ppb      83

*** Standard: 2 Rep: 1              Seq:  4       08:46:38 03 Oct 19   HG

Hg    .200    ppb      774

*** Standard: 3 Rep: 1              Seq:  5       08:48:59 03 Oct 19   HG

Hg    .500    ppb      1696

*** Standard: 4 Rep: 1              Seq:  6       08:51:22 03 Oct 19   HG

Hg    1.00    ppb      2949

*** Standard: 5 Rep: 1              Seq:  7       08:53:46 03 Oct 19   HG

Hg    5.00    ppb      15966

*** Standard: 6 Rep: 1              Seq:  8       08:56:29 03 Oct 19   HG

Hg    10.0    ppb      33391

*** Sample ID: ICV                   Seq:  9      08:59:11 03 Oct 19   HG
                           icv 320-327724_7-a
Hg    1.91    ppb      6221

================================================================================
*** Sample ID: ICB                   Seq:  10     09:01:37 03 Oct 19   HG
                           icb 320-327724_8-a
Hg    .004    ppb      -122
                                                                              =
================================================================================
*** Sample ID: MB                    Seq:  11     09:04:11 03 Oct 19   HG
                           mb 320-327724_11-a
Hg    .086    ppb      153
                                                                              =
================================================================================
*** Sample ID: LCS                   Seq:  12     09:06:38 03 Oct 19   HG
                           lcs 320-327724_12-a
Hg    1.02    ppb      3255
                                                                              =
================================================================================
*** Sample ID: MB                    Seq:  13     09:09:03 03 Oct 19   HG
                           mb 320-327722_11-a
Hg    .058    ppb      59
                                                                              =
================================================================================
```

Protocol: H04

POST-RUN REPORT

```
Line   Conc.  Units     SD/RSD      1       2       3       4       5
--------------------------------------------------------------------------------

*** Sample ID: LCS                    Seq:  14     09:11:25 03 Oct 19   HG
                            lcs 320-327722_12-a
Hg    1.03    ppb      3300
                                                                                =
================================================================================
*** Sample ID: MB                     Seq:  15     09:13:49 03 Oct 19   HG
                            mb 320-327721_11-a
Hg    .014    ppb      -88
                                                                                =
================================================================================
*** Sample ID: LCS                    Seq:  16     09:16:26 03 Oct 19   HG
                            lcs 320-327721_12-a
Hg    .953    ppb      3037
                                                                                =
================================================================================
*** Sample ID: MB                     Seq:  17     09:18:52 03 Oct 19   HG
                            mb 320-324838_1-b
Hg    .049    ppb      29
                                                                                =
================================================================================
*** Sample ID: LCS                    Seq:  18     09:21:19 03 Oct 19   HG
                            lcs 320-324838_2-b
Hg    1.05    ppb      3352
                                                                                =
================================================================================
*** Sample ID: LCSD                   Seq:  19     09:23:59 03 Oct 19   HG
                            lcsd 320-324838_3-b
Hg    .949    ppb      3023
                                                                                =
================================================================================
*** Sample ID: LB                     Seq:  20     09:26:34 03 Oct 19   HG
                            lb 320-326535_1-c
Hg    .060    ppb      66
                                                                                =
================================================================================
*** Sample ID: CCV                    Seq:  21     09:29:06 03 Oct 19   HG
                            ccv 320-327724_9-a
Hg    4.96    ppb      16375
                                                                                =
================================================================================
*** Sample ID: CCB                    Seq:  22     09:31:45 03 Oct 19   HG
                            ccb 320-327724_10-a
Hg    .119    ppb      261
                                                                                =
================================================================================
*** Sample ID: 47-1                   Seq:  23     09:34:08 03 Oct 19   HG
                            320-54547-i-1-e
Hg    .056    ppb      51
                                                                                =
================================================================================
```

Protocol: H04

POST-RUN REPORT

```
Line   Conc.  Units     SD/RSD      1       2       3       4       5
--------------------------------------------------------------------------------

*** Sample ID: SD5                    Seq:  24     09:36:33 03 Oct 19   HG
                            SD320-54547-i-1-e@5
Hg    .086    ppb      151
                                                                                =
================================================================================
*** Sample ID: MS                     Seq:  25     09:39:01 03 Oct 19   HG
                            320-54547-i-1-f ms
Hg    1.05    ppb      3349
                                                                                =
================================================================================
*** Sample ID: MSD                    Seq:  26     09:41:27 03 Oct 19   HG
                            320-54547-i-1-g msd
Hg    .969    ppb      3090
                                                                                =
================================================================================
*** Sample ID: 47-2                   Seq:  27     09:43:52 03 Oct 19   HG
                            320-54547-i-2-c
Hg    .125    ppb      281
                                                                                =
================================================================================
*** Sample ID: 47-3                   Seq:  28     09:46:22 03 Oct 19   HG
                            320-54547-i-3-e
Hg    .157    ppb      389
                                                                                =
================================================================================
*** Sample ID: 47-4                   Seq:  29     09:49:06 03 Oct 19   HG
                            320-54547-i-4-e
Hg    .033    ppb      -25
                                                                                =
================================================================================
*** Sample ID: 44-1                   Seq:  30     09:51:43 03 Oct 19   HG
                            180-96144-m-1-c
Hg    .368    ppb      1091
                                                                                =
================================================================================
*** Sample ID: 49-2                   Seq:  31     09:54:19 03 Oct 19   HG
                            320-54749-a-2-g
Hg    .139    ppb      327
                                                                                =
================================================================================
*** Sample ID: CCV                    Seq:  32     09:59:46 03 Oct 19   HG
                            ccv 320-327724_9-a
Hg    4.66    ppb      15378
                                                                                =
================================================================================
*** Sample ID: CCB                    Seq:  33     10:02:07 03 Oct 19   HG
                            ccb 320-327724_10-a
Hg   -.011    ppb      -171
                                                                                =
================================================================================
```

Protocol: H04

POST-RUN REPORT

```
Line   Conc.  Units     SD/RSD      1       2       3       4       5
--------------------------------------------------------------------------------

*** Sample ID: MB                    Seq:  34     10:04:29 03 Oct 19   HG
                            mb 320-327724_11-a
Hg    .030    ppb      -34
                                                                                =
================================================================================
*** Sample ID: LCS                   Seq:  35     10:06:51 03 Oct 19   HG
                            lcs 320-327724_12-a
Hg    .992    ppb      3164
                                                                                =
================================================================================
*** Sample ID: MB                    Seq:  36     10:15:14 03 Oct 19   HG
                            mb 320-327721_11-a
Hg    .019    ppb      -72
                                                                                =
================================================================================
*** Sample ID: LCS                   Seq:  37     10:17:47 03 Oct 19   HG
                            lcs 320-327721_12-a
Hg    .964    ppb      3071
                                                                                =
================================================================================
*** Sample ID: LB                    Seq:  38     10:20:18 03 Oct 19   HG
                            lb 320-326535_1-c
Hg    .081    ppb      135
                                                                                =
================================================================================
*** Sample ID: CCV                   Seq:  39     10:22:40 03 Oct 19   HG
                            ccv 320-327724_9-a
Hg    4.89    ppb      16142
                                                                                =
================================================================================
*** Sample ID: CCB                   Seq:  40     10:25:02 03 Oct 19   HG
                            ccb 320-327724_10-a
Hg   -.015    ppb      -185
                                                                                =
================================================================================
*** Sample ID: 47-1                  Seq:  41     10:27:28 03 Oct 19   HG
                            320-54547-i-1-e
Hg    .097    ppb      187
                                                                                =
================================================================================
*** Sample ID: SD5                   Seq:  42     10:29:49 03 Oct 19   HG
                            SD320-54547-i-1-e@5
Hg    .091    ppb      168
                                                                                =
================================================================================
*** Sample ID: MS                    Seq:  43     10:32:10 03 Oct 19   HG
                            320-54547-i-1-f ms
Hg    .922    ppb      2932
                                                                                =
================================================================================
```

Protocol: H04

POST-RUN REPORT

```
Line   Conc.  Units     SD/RSD      1       2       3       4       5
--------------------------------------------------------------------------------

*** Sample ID: MSD                    Seq:  44     10:34:42 03 Oct 19   HG
                            320-54547-i-1-g msd
Hg    .984    ppb      3140
                                                                                =
================================================================================
*** Sample ID: 47-2                   Seq:  45     10:37:09 03 Oct 19   HG
                            320-54547-i-2-c
Hg    .121    ppb      269
                                                                                =
================================================================================
*** Sample ID: 47-3                   Seq:  46     10:39:32 03 Oct 19   HG
                            320-54547-i-3-e
Hg    .103    ppb      208
                                                                                =
================================================================================
*** Sample ID: 47-4                   Seq:  47     10:41:54 03 Oct 19   HG
                            320-54547-i-4-e
Hg    .075    ppb      115
                                                                                =
================================================================================
*** Sample ID: SD5                    Seq:  48     10:44:16 03 Oct 19   HG
                            SD320-54749-a-2-g@5
Hg    .095    ppb      183
                                                                                =
================================================================================
*** Sample ID: CCV                    Seq:  49     10:46:48 03 Oct 19   HG
                            ccv 320-327724_9-a
Hg    4.59    ppb      15122
                                                                                =
================================================================================
*** Sample ID: CCB                    Seq:  50     10:49:12 03 Oct 19   HG
                            ccb 320-327724_10-a
Hg    .048    ppb      26
                                                                                =
================================================================================
*** Sample ID: MS                     Seq:  51     10:51:54 03 Oct 19   HG
                            320-54749-a-2-h ms
Hg    1.24    ppb      3998
                                                                                =
================================================================================
*** Sample ID: MSD                    Seq:  52     10:54:16 03 Oct 19   HG
                            320-54749-a-2-i msd
Hg    1.09    ppb      3475
                                                                                =
================================================================================
*** Sample ID: 44-1                   Seq:  53     10:56:38 03 Oct 19   HG
                            180-96144-m-1-b
Hg    .096    ppb      184
                                                                                =
================================================================================
```

Protocol: H04

POST-RUN REPORT

```
Line   Conc.  Units     SD/RSD      1       2       3       4       5
--------------------------------------------------------------------------------

*** Sample ID: 74-1                   Seq:  54     10:59:12 03 Oct 19   HG
                            320-54574-m-1-a
Hg    .122    ppb      273
                                                                                =
================================================================================
*** Sample ID: 93-1                   Seq:  55     11:01:35 03 Oct 19   HG
                            320-54693-f-1-d
Hg    .213    ppb      574
                                                                                =
================================================================================
*** Sample ID: 93-2                   Seq:  56     11:03:58 03 Oct 19   HG
                            320-54693-c-2-b
Hg    .089    ppb      160
                                                                                =
================================================================================
*** Sample ID: SD5                    Seq:  57     11:06:22 03 Oct 19   HG
                            SD320-54693-c-2-b@5
Hg    .101    ppb      200
                                                                                =
================================================================================
*** Sample ID: MS                     Seq:  58     11:08:54 03 Oct 19   HG
                            320-54693-c-2-e ms
Hg    1.07    ppb      3411
                                                                                =
================================================================================
*** Sample ID: MSD                    Seq:  59     11:11:17 03 Oct 19   HG
                            320-54693-c-2-f msd
Hg    1.07    ppb      3430
                                                                                =
================================================================================
*** Sample ID: 93-3                   Seq:  60     11:13:43 03 Oct 19   HG
                            320-54693-c-3-b
Hg    .199    ppb      526
                                                                                =
================================================================================
*** Sample ID: CCV                    Seq:  61     11:16:04 03 Oct 19   HG
                            ccv 320-327724_9-a
Hg    4.90    ppb      16176
                                                                                =
================================================================================
*** Sample ID: CCB                    Seq:  62     11:18:25 03 Oct 19   HG
                            ccb 320-327724_10-a
Hg    .020    ppb      -69
                                                                                =
================================================================================
*** Sample ID: 93-4                   Seq:  63     11:20:47 03 Oct 19   HG
                            320-54693-f-4-b
Hg    .078    ppb      126
                                                                                =
================================================================================
```

Protocol: H04

POST-RUN REPORT

```
Line   Conc.  Units     SD/RSD      1       2       3       4       5
--------------------------------------------------------------------------------

*** Sample ID: 93-5                  Seq:  64     11:23:10 03 Oct 19   HG
                            320-54693-f-5-b
Hg    .065    ppb      81
                                                                                =
================================================================================
*** Sample ID: 93-6                  Seq:  65     11:25:43 03 Oct 19   HG
                            320-54693-f-6-b
Hg    .102    ppb      205
                                                                                =
================================================================================
*** Sample ID: 93-7                  Seq:  66     11:28:05 03 Oct 19   HG
                            320-54693-f-7-b
Hg    .033    ppb      -24
                                                                                =
================================================================================
*** Sample ID: 93-8                  Seq:  67     11:30:31 03 Oct 19   HG
                            320-54693-c-8-b
Hg    .084    ppb      145
                                                                                =
================================================================================
*** Sample ID: 93-9                  Seq:  68     11:32:53 03 Oct 19   HG
                            320-54693-f-9-b
Hg    .052    ppb      38
                                                                                =
================================================================================
*** Sample ID: 93-10                 Seq:  69     11:35:27 03 Oct 19   HG
                            320-54693-c-10-b
Hg    .052    ppb      37
                                                                                =
================================================================================
*** Sample ID: 93-11                 Seq:  70     11:38:03 03 Oct 19   HG
                            320-54693-f-11-b
Hg    .097    ppb      187
                                                                                =
================================================================================
*** Sample ID: 91-1                  Seq:  71     11:40:25 03 Oct 19   HG
                            320-54291-a-1-f
Hg    .135    ppb      316
                                                                                =
================================================================================
*** Sample ID: SD5                   Seq:  72     11:43:00 03 Oct 19   HG
                            SD320-54291-a-1-f@5
Hg    .072    ppb      105
                                                                                =
================================================================================
*** Sample ID: CCV                   Seq:  73     11:45:36 03 Oct 19   HG
                            ccv 320-327724_9-a
Hg    4.89    ppb      16115
                                                                                =
================================================================================
```

Protocol: H04

POST-RUN REPORT

```
Line   Conc.  Units     SD/RSD      1       2       3       4       5
--------------------------------------------------------------------------------

*** Sample ID: CCB                    Seq:  74     11:48:01 03 Oct 19   HG
                            ccb 320-327724_10-a
Hg    .093    ppb      174
                                                                                =
================================================================================
*** Sample ID: 91-2                   Seq:  75     11:50:24 03 Oct 19   HG
                            320-54291-a-2-f
Hg    .084    ppb      146
                                                                                =
================================================================================
*** Sample ID: 91-3                   Seq:  76     11:52:56 03 Oct 19   HG
                            320-54291-a-3-f
Hg    .050    ppb      32
                                                                                =
================================================================================
*** Sample ID: 91-4                   Seq:  77     11:55:21 03 Oct 19   HG
                            320-54291-a-4-f
Hg    .053    ppb      41
                                                                                =
================================================================================
*** Sample ID: 91-5                   Seq:  78     11:57:45 03 Oct 19   HG
                            320-54291-a-5-f
Hg    .111    ppb      234
                                                                                =
================================================================================
*** Sample ID: CCV                    Seq:  79     12:00:19 03 Oct 19   HG
                            ccv 320-327724_9-a
Hg    4.98    ppb      16416
                                                                                =
================================================================================
*** Sample ID: CCB                    Seq:  80     12:02:46 03 Oct 19   HG
                            ccb 320-327724_10-a
Hg    .027    ppb      -46
                                                                                =
```

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job Number: 180-96144-1

SDG No.:

Project: San Jacinto River Waste Pits Superfund

Client Sample ID	Lab Sample ID
11187072-CONTACT-INITIAL	180-96144-1

Comments:

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: 11187072-CONTACT-INITIAL
Lab Sample ID: 180-96144-1
Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-96144-1
SDG ID.:
Matrix: Water
Date Sampled: 09/24/2019 15:00
Reporting Basis: WET
Date Received: 09/25/2019 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7664-41-7	Ammonia, distilled	2.7	0.10	0.088	mg/L			1	EPA 350.1
	Chemical Oxygen Demand	92	10	9.1	mg/L			1	EPA 410.4
	pH	7.8	0.1	0.1	SU		HF	1	EPA 9040C
	Total Dissolved Solids	910	50	50	mg/L			1	SM 2540C
	Total Suspended Solids	3400	25	25	mg/L			1	SM 2540D
	Biochemical Oxygen Demand	ND	6.0	6.0	mg/L		* cn	1	SM 5210B
7440-44-0	Total Organic Carbon - Duplicates	4.5	1.0	0.51	mg/L			1	SM 5310C
	Total Alkalinity as CaCO3 to pH 4.5	210	5.0	5.0	mg/L			1	SM2320 B
	Bicarbonate Alkalinity as CaCO3	210	5.0	5.0	mg/L			1	SM2320 B
	Carbonate Alkalinity as CaCO3	ND	5.0	5.0	mg/L			1	SM2320 B

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Analyst: TAM Batch Start Date: 10/07/2019

Reporting Units: mg/L Analytical Batch No.: 294028

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
12	ICV	14:27	Ammonia, distilled	1.03	1.00	103	90-110		WNH31000S_00017
13	ICB	14:28	Ammonia, distilled	ND					
62	CCV	15:38	Ammonia, distilled	2.10	2.00	105	90-110		WNH31000P_00027
63	CCB	15:39	Ammonia, distilled	ND					
74	CCV	15:55	Ammonia, distilled	2.10	2.00	105	90-110		WNH31000P_00027
75	CCB	15:56	Ammonia, distilled	ND					
86	CCV	16:12	Ammonia, distilled	2.12	2.00	106	90-110		WNH31000P_00027
87	CCB	16:13	Ammonia, distilled	ND					
98	CCV	16:29	Ammonia, distilled	2.10	2.00	105	90-110		WNH31000P_00027
99	CCB	16:30	Ammonia, distilled	ND					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Analyst: ELS Batch Start Date: 10/02/2019

Reporting Units: mg/L Analytical Batch No.: 293458

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
9	ICV	09:19	Chemical Oxygen Demand	101	100	101	90-110		WCODLL ICVLCS 00445
10	ICB	09:19	Chemical Oxygen Demand	ND					
21	CCV	09:19	Chemical Oxygen Demand	98.8	100	99	90-110		WCODLL CCV_00438
22	CCB	09:19	Chemical Oxygen Demand	ND					
33	CCV	09:19	Chemical Oxygen Demand	99.4	100	99	90-110		WCODLL CCV_00438
34	CCB	09:19	Chemical Oxygen Demand	ND					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Analyst: MTW Batch Start Date: 10/01/2019

Reporting Units: SU Analytical Batch No.: 293299

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
12	CCV	13:42	pH	7.0	7.00	100	99-101		WpHBuffer7P_00020

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Analyst: TAM Batch Start Date: 10/10/2019

Reporting Units: mg/L Analytical Batch No.: 294581

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
2	ICV	16:09	Total Organic Carbon - Duplicates	39.4	40.0	99	90-110		ICV 40 PPM_01430
3	ICB	16:23	Total Organic Carbon - Duplicates	ND					
14	CCV	19:05	Total Organic Carbon - Duplicates	9.77	10.0	98	90-110		10 PPM TOC/CC_01298
15	CCB	19:20	Total Organic Carbon - Duplicates	ND					
26	CCV	22:02	Total Organic Carbon - Duplicates	9.70	10.0	97	90-110		10 PPM TOC/CC_01298
27	CCB	22:17	Total Organic Carbon - Duplicates	ND					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Analyst: AVS Batch Start Date: 09/26/2019

Reporting Units: mg/L Analytical Batch No.: 292886

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
35	CCV	16:02	Total Alkalinity as CaCO3 to pH 4.5	117	125	93	90-110		ALK 125 PPM C 00099
36	CCB	16:08	Total Alkalinity as CaCO3 to pH 4.5	ND					
			Bicarbonate Alkalinity as CaCO3	ND					
			Carbonate Alkalinity as CaCO3	ND					
47	CCV	17:17	Total Alkalinity as CaCO3 to pH 4.5	114	125	91	90-110		ALK 125 PPM C 00099
48	CCB	17:23	Total Alkalinity as CaCO3 to pH 4.5	ND					
			Bicarbonate Alkalinity as CaCO3	ND					
			Carbonate Alkalinity as CaCO3	ND					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 294028	Date: 10/07/2019 15:44	Prep Batch: 293550	Date: 10/02/2019 20:02				
EPA 350.1	MB 180-293550/1-A	Ammonia, distilled	ND		mg/L	0.10	1
Batch ID: 293458	Date: 10/02/2019 09:19	Prep Batch: 293350	Date: 10/02/2019 08:30				
EPA 410.4	MB 180-293350/12-A	Chemical Oxygen Demand	ND		mg/L	10	1
Batch ID: 293084	Date: 09/28/2019 10:21						
SM 2540C	MB 180-293084/2	Total Dissolved Solids	ND		mg/L	10	1
Batch ID: 292765	Date: 09/26/2019 10:53						
SM 2540D	MB 180-292765/2	Total Suspended Solids	ND		mg/L	0.50	1
Batch ID: 294581	Date: 10/10/2019 17:08						
SM 5310C	MB 180-294581/6	Total Organic Carbon - Duplicates	ND		mg/L	1.0	1
Batch ID: 292886	Date: 09/26/2019 15:04						
SM2320 B	MB 180-292886/26	Total Alkalinity as CaCO3 to pH 4.5	ND		mg/L	5.0	1
SM2320 B	MB 180-292886/26	Bicarbonate Alkalinity as CaCO3	ND		mg/L	5.0	1
SM2320 B	MB 180-292886/26	Carbonate Alkalinity as CaCO3	ND		mg/L	5.0	1

FORM III-IN

3-IN
UNSEEDED CONTROL BLANK
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 293371	Date: 09/26/2019 09:44						
SM 5210B	USB 180-293371/2	Biochemical Oxygen Demand	ND		mg/L	2.0	1

FORM III-IN

7A-IN
LAB CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 294028	Date: 10/07/2019 15:45		Prep Batch: 293550			Date: 10/02/2019 20:02					
						LCS Source: WNH31000S_00017					
EPA 350.1	LCS 180-293550/2-A	Ammonia, distilled	2.08		mg/L	2.00	104	90-110			
Batch ID: 293458	Date: 10/02/2019 09:19		Prep Batch: 293350			Date: 10/02/2019 08:30					
						LCS Source: WCODLL ICVLCS_00445					
EPA 410.4	LCS 180-293350/11-A	Chemical Oxygen Demand	101		mg/L	100	101	90-110			
Batch ID: 293299	Date: 10/01/2019 13:20										
						LCS Source: WpHBuffer7CCV_00033					
EPA 9040C	LCS 180-293299/1	pH	7.0		SU	7.00	100	99-101			
Batch ID: 293084	Date: 09/28/2019 10:21										
						LCS Source: WResPSP_00062					
SM 2540C	LCS 180-293084/1	Total Dissolved Solids	632		mg/L	633	100	80-120			
Batch ID: 292765	Date: 09/26/2019 10:53										
						LCS Source: WResPSP_00062					
SM 2540D	LCS 180-292765/1	Total Suspended Solids	84.0		mg/L	82.3	102	80-120			
Batch ID: 293371	Date: 09/26/2019 09:54										
						LCS Source: WBODGGAP_00078					
SM 5210B	LCS 180-293371/4	Biochemical Oxygen Demand	126		mg/L	198	64	85-115			*
Batch ID: 294581	Date: 10/10/2019 16:38										
						LCS Source: LCS 20 PPM_01431					
SM 5310C	LCS 180-294581/4	Total Organic Carbon - Duplicates	19.0		mg/L	20.0	95	85-115	1	20	
Batch ID: 292886	Date: 09/26/2019 14:58										
						LCS Source: ALK 250 PPM_00104					
SM2320 B	LCS 180-292886/25	Total Alkalinity as CaCO3 to pH 4.5	231		mg/L	250	92	90-110			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

7A-IN
LAB CONTROL SAMPLE DUPLICATE
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 294581	Date: 10/10/2019 16:53										
						LCSD Source: LCS 20 PPM_01431					
SM 5310C	LCSD 180-294581/5	Total Organic Carbon - Duplicates	19.1		mg/L	20.0	96	85-115	1	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-96144-1

SDG Number:

Matrix: Water Instrument ID: ASTORIA1

Method: EPA 350.1 MDL Date: 06/12/2019 16:47

Prep Method: Distill/Ammonia

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Ammonia, distilled		0.1	0.0879

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-96144-1

SDG Number:

Matrix: Water Instrument ID: ASTORIA1

Method: EPA 350.1 XMDL Date: 06/12/2019 16:47

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Ammonia, distilled		0.1	0.0879

FORM IX - IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-96144-1

SDG Number:

Matrix: Water Instrument ID: GENESYS10S

Method: EPA 410.4 MDL Date: 11/26/2018 11:06

Prep Method: 410.4

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Chemical Oxygen Demand		10	9.05

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-96144-1

SDG Number:

Matrix: Water Instrument ID: GENESYS10S

Method: EPA 410.4 XMDL Date: 11/26/2018 11:06

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Chemical Oxygen Demand		10	9.05

FORM IX - IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-96144-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: EPA 9040C RL Date: 07/09/2019 10:56

Analyte	Wavelength/ Mass	RL (SU)	
pH		0.1	

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-96144-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: EPA 9040C XRL Date: 07/09/2019 10:57

Analyte	Wavelength/ Mass	XRL (SU)	
pH		0.1	

FORM IX - IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-96144-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: SM 2540C MDL Date: 01/28/2010 12:58

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Total Dissolved Solids		10	10

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-96144-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: SM 2540C XMDL Date: 01/28/2010 12:58

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Total Dissolved Solids		10	10

FORM IX - IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-96144-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: SM 2540D MDL Date: 01/28/2010 13:00

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Total Suspended Solids		0.5	0.5

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-96144-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: SM 2540D XMDL Date: 01/28/2010 13:00

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Total Suspended Solids		0.5	0.5

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-96144-1

SDG Number:

Matrix: Water Instrument ID: BOD2

Method: SM 5210B MDL Date: 12/04/2014 09:16

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Biochemical Oxygen Demand		2	2

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-96144-1

SDG Number:

Matrix: Water Instrument ID: BOD2

Method: SM 5210B XMDL Date: 12/04/2014 09:17

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Biochemical Oxygen Demand		2	2

FORM IX - IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-96144-1

SDG Number:

Matrix: Water Instrument ID: TOC1030

Method: SM 5310C MDL Date: 03/21/2017 16:51

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Total Organic Carbon - Duplicates		1	0.5084

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-96144-1

SDG Number:

Matrix: Water Instrument ID: TOC1030

Method: SM 5310C XMDL Date: 03/21/2017 16:52

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Total Organic Carbon - Duplicates		1	0.5084

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-96144-1

SDG Number:

Matrix: Water Instrument ID: PCTITRATOR

Method: SM2320 B MDL Date: 10/16/2015 13:27

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Bicarbonate Alkalinity as CaCO3		5	5
Carbonate Alkalinity as CaCO3		5	5
Total Alkalinity as CaCO3 to pH 4.5		5	5

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-96144-1

SDG Number:

Matrix: Water Instrument ID: PCTITRATOR

Method: SM2320 B XMDL Date: 10/16/2015 13:28

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Bicarbonate Alkalinity as CaCO3		5	5
Carbonate Alkalinity as CaCO3		5	5
Total Alkalinity as CaCO3 to pH 4.5		5	5

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PREPARATION LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Prep Method: 410.4

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
LCS 180-293350/11-A	10/02/2019 08:30	293350		1.0	1.0
MB 180-293350/12-A	10/02/2019 08:30	293350		1.0	1.0
180-96144-1	10/02/2019 08:30	293350		1.0	1.0

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12-IN
PREPARATION LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Prep Method: Distill/Ammonia

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 180-293550/1-A	10/02/2019 20:02	293550		50	50
LCS 180-293550/2-A	10/02/2019 20:02	293550		50	50
180-96144-1	10/02/2019 20:04	293550		50	50

FORM XII-IN

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ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Instrument ID: ASTORIA1 Analysis Method: EPA 350.1

Start Date: 10/07/2019 14:12 End Date: 10/07/2019 16:32

Lab Sample Id	D/F	Type	Time	Analytes																							
				NH3																							
ZZZZZZ			14:12																								
ZZZZZZ			14:13																								
ZZZZZZ			14:14																								
ZZZZZZ			14:16																								
ZZZZZZ			14:17																								
ZZZZZZ			14:19																								
ZZZZZZ			14:20																								
ZZZZZZ			14:21																								
ZZZZZZ			14:23																								
ZZZZZZ			14:24																								
ZZZZZZ			14:26																								
ICV 180-293548/2-A	1		14:27	X																							
ICB 180-293548/3-A	1		14:28	X																							
CCV 180-293548/4-A			14:30																								
CCB 180-293548/5-A			14:31																								
ZZZZZZ			14:33																								
ZZZZZZ			14:34																								
ZZZZZZ			14:36																								
ZZZZZZ			14:37																								
ZZZZZZ			14:38																								
ZZZZZZ			14:40																								
ZZZZZZ			14:41																								
ZZZZZZ			14:43																								
ZZZZZZ			14:44																								
ZZZZZZ			14:45																								
CCV 180-293548/4-A			14:47																								
CCB 180-293548/5-A			14:48																								
ZZZZZZ			14:50																								
ZZZZZZ			14:51																								
ZZZZZZ			14:53																								
ZZZZZZ			14:54																								
ZZZZZZ			14:55																								
ZZZZZZ			14:57																								
ZZZZZZ			14:58																								
ZZZZZZ			15:00																								
ZZZZZZ			15:01																								
ZZZZZZ			15:02																								
CCV 180-293548/4-A			15:04																								
CCB 180-293548/5-A			15:05																								
ZZZZZZ			15:07																								
ZZZZZZ			15:08																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Instrument ID: ASTORIA1 Analysis Method: EPA 350.1

Start Date: 10/07/2019 14:12 End Date: 10/07/2019 16:32

Lab Sample Id	D/F	Type	Time	Analytes																							
				NH3																							
ZZZZZZ			15:10																								
ZZZZZZ			15:11																								
ZZZZZZ			15:12																								
ZZZZZZ			15:14																								
ZZZZZZ			15:15																								
ZZZZZZ			15:17																								
ZZZZZZ			15:18																								
ZZZZZZ			15:19																								
CCV 180-293548/4-A			15:21																								
CCB 180-293548/5-A			15:22																								
ZZZZZZ			15:24																								
ZZZZZZ			15:25																								
ZZZZZZ			15:27																								
ZZZZZZ			15:28																								
ZZZZZZ			15:29																								
ZZZZZZ			15:31																								
ZZZZZZ			15:32																								
ZZZZZZ			15:34																								
ZZZZZZ			15:35																								
ZZZZZZ			15:36																								
CCV 180-293548/4-A	1		15:38	X																							
CCB 180-293548/5-A	1		15:39	X																							
ZZZZZZ			15:41																								
ZZZZZZ			15:42																								
MB 180-293550/1-A	1	T	15:44	X																							
LCS 180-293550/2-A	1	T	15:45	X																							
ZZZZZZ			15:46																								
ZZZZZZ			15:48																								
ZZZZZZ			15:49																								
ZZZZZZ			15:51																								
ZZZZZZ			15:52																								
ZZZZZZ			15:53																								
CCV 180-293548/4-A	1		15:55	X																							
CCB 180-293548/5-A	1		15:56	X																							
ZZZZZZ			15:58																								
ZZZZZZ			15:59																								
ZZZZZZ			16:01																								
ZZZZZZ			16:02																								
ZZZZZZ			16:03																								
ZZZZZZ			16:05																								
ZZZZZZ			16:06																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Instrument ID: ASTORIA1 Analysis Method: EPA 350.1

Start Date: 10/07/2019 14:12 End Date: 10/07/2019 16:32

Lab Sample Id	D/F	Type	Time	Analytes																							
				NH3																							
ZZZZZZ			16:08																								
ZZZZZZ			16:09																								
ZZZZZZ			16:10																								
CCV 180-293548/4-A	1		16:12	X																							
CCB 180-293548/5-A	1		16:13	X																							
ZZZZZZ			16:15																								
ZZZZZZ			16:16																								
ZZZZZZ			16:18																								
ZZZZZZ			16:19																								
180-96144-1	1	T	16:20	X																							
ZZZZZZ			16:22																								
ZZZZZZ			16:23																								
ZZZZZZ			16:25																								
ZZZZZZ			16:26																								
ZZZZZZ			16:27																								
CCV 180-293548/4-A	1		16:29	X																							
CCB 180-293548/5-A	1		16:30	X																							
ZZZZZZ			16:32																								

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Instrument ID: GENESYS10S Analysis Method: EPA 410.4

Start Date: 10/02/2019 09:19 End Date: 10/02/2019 09:19

Lab Sample Id	D/F	Type	Time	Analytes																							
				COD																							
IC 180-293458/1	1		09:19	X																							
IC 180-293458/2	1		09:19	X																							
IC 180-293458/3	1		09:19	X																							
IC 180-293458/4	1		09:19	X																							
IC 180-293458/5	1		09:19	X																							
IC 180-293458/6	1		09:19	X																							
IC 180-293458/7	1		09:19	X																							
IC 180-293458/8	1		09:19	X																							
ICV 180-293350/9-A	1		09:19	X																							
ICB 180-293350/10-A	1		09:19	X																							
LCS 180-293350/11-A	1	T	09:19	X																							
MB 180-293350/12-A	1	T	09:19	X																							
ZZZZZZ			09:19																								
ZZZZZZ			09:19																								
ZZZZZZ			09:19																								
ZZZZZZ			09:19																								
ZZZZZZ			09:19																								
ZZZZZZ			09:19																								
ZZZZZZ			09:19																								
ZZZZZZ			09:19																								
CCV 180-293350/21-A	1		09:19	X																							
CCB 180-293350/22-A	1		09:19	X																							
ZZZZZZ			09:19																								
ZZZZZZ			09:19																								
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ZZZZZZ			09:19																								
ZZZZZZ			09:19																								
180-96144-1	1	T	09:19	X																							
CCV 180-293350/33-A	1		09:19	X																							
CCB 180-293350/34-A	1		09:19	X																							
ZZZZZZ			09:19																								
ZZZZZZ			09:19																								
ZZZZZZ			09:19																								
ZZZZZZ			09:19																								
ZZZZZZ			09:19																								
ZZZZZZ			09:19																								
ZZZZZZ			09:19																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Instrument ID: GENESYS10S Analysis Method: EPA 410.4

Start Date: 10/02/2019 09:19 End Date: 10/02/2019 09:19

Lab Sample Id	D/F	Type	Time	Analytes																								
				COD																								
CCV 180-293350/42-A			09:19																									
CCB 180-293350/43-A			09:19																									

Prep Types:
T = Total/NA

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ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: EPA 9040C

Start Date: 10/01/2019 13:20 End Date: 10/01/2019 13:46

Lab Sample Id	D/F	Type	Time	Analytes																							
				pH																							
LCS 180-293299/1	1	T	13:20	X																							
ZZZZZZ			13:22																								
ZZZZZZ			13:24																								
ZZZZZZ			13:26																								
ZZZZZZ			13:28																								
ZZZZZZ			13:30																								
ZZZZZZ			13:32																								
ZZZZZZ			13:34																								
ZZZZZZ			13:36																								
180-96144-1	1	T	13:38	X																							
ZZZZZZ			13:40																								
CCV 180-293299/12	1		13:42	X																							
ZZZZZZ			13:44																								
CCV 180-293299/14			13:46																								

Prep Types:
T = Total/NA

FORM XIII-IN

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ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: SM 2540C

Start Date: 09/28/2019 10:21 End Date: 09/28/2019 10:21

Lab Sample Id	D/F	Type	Time	Analytes																							
				TDS																							
LCS 180-293084/1	1	T	10:21	X																							
MB 180-293084/2	1	T	10:21	X																							
ZZZZZZ			10:21																								
ZZZZZZ			10:21																								
ZZZZZZ			10:21																								
ZZZZZZ			10:21																								
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ZZZZZZ			10:21																								
180-96144-1	1	T	10:21	X																							
ZZZZZZ			10:21																								
ZZZZZZ			10:21																								
ZZZZZZ			10:21																								
ZZZZZZ			10:21																								

Prep Types:
T = Total/NA

FORM XIII-IN

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ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: SM 2540D

Start Date: 09/26/2019 10:53 End Date: 09/26/2019 10:53

Lab Sample Id	D/F	Type	Time	Analytes																							
				TSS																							
LCS 180-292765/1	1	T	10:53	X																							
MB 180-292765/2	1	T	10:53	X																							
ZZZZZZ			10:53																								
ZZZZZZ			10:53																								
ZZZZZZ			10:53																								
ZZZZZZ			10:53																								
ZZZZZZ			10:53																								
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ZZZZZZ			10:53																								
ZZZZZZ			10:53																								
ZZZZZZ			10:53																								
180-96144-1	1	T	10:53	X																							
ZZZZZZ			10:53																								
ZZZZZZ			10:53																								
ZZZZZZ			10:53																								
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ZZZZZZ			10:53																								
ZZZZZZ			10:53																								

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Instrument ID: BOD2 Analysis Method: SM 5210B

Start Date: 09/26/2019 09:43 End Date: 09/26/2019 10:37

Lab Sample Id	D/F	Type	Time	Analytes																							
				BOD																							
ZZZZZZ			09:43																								
USB 180-293371/2	1	T	09:44	X																							
ZZZZZZ			09:48																								
LCS 180-293371/4	1	T	09:54	X																							
ZZZZZZ			09:58																								
ZZZZZZ			10:00																								
180-96144-1	1	T	10:08	X																							
ZZZZZZ			10:18																								
ZZZZZZ			10:22																								
ZZZZZZ			10:24																								
ZZZZZZ			10:28																								
ZZZZZZ			10:33																								
ZZZZZZ			10:37																								

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Instrument ID: TOC1030 Analysis Method: SM 5310C

Start Date: 10/10/2019 15:54 End Date: 10/11/2019 09:31

Lab Sample Id	D/F	Type	Time	Analytes																							
				TOCD																							
ZZZZZZ			15:54																								
ICV 180-294581/2	1		16:09	X																							
ICB 180-294581/3	1		16:23	X																							
LCS 180-294581/4	1	T	16:38	X																							
LCSD 180-294581/5	1	T	16:53	X																							
MB 180-294581/6	1	T	17:08	X																							
ZZZZZZ			17:22																								
ZZZZZZ			17:36																								
ZZZZZZ			17:51																								
ZZZZZZ			18:06																								
ZZZZZZ			18:21																								
ZZZZZZ			18:36																								
ZZZZZZ			18:50																								
CCV 180-294581/14	1		19:05	X																							
CCB 180-294581/15	1		19:20	X																							
ZZZZZZ			19:34																								
ZZZZZZ			19:49																								
ZZZZZZ			20:03																								
ZZZZZZ			20:18																								
180-96144-1	1	T	20:32	X																							
ZZZZZZ			20:47																								
ZZZZZZ			21:02																								
ZZZZZZ			21:17																								
ZZZZZZ			21:32																								
ZZZZZZ			21:47																								
CCV 180-294581/26	1		22:02	X																							
CCB 180-294581/27	1		22:17	X																							
ZZZZZZ			22:31																								
ZZZZZZ			22:46																								
ZZZZZZ			23:01																								
ZZZZZZ			23:16																								
ZZZZZZ			23:31																								
ZZZZZZ			23:46																								
ZZZZZZ			00:00																								
ZZZZZZ			00:15																								
ZZZZZZ			00:30																								
ZZZZZZ			00:45																								
CCV 180-294581/38			01:00																								
CCB 180-294581/39			01:14																								
ZZZZZZ			01:29																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Instrument ID: TOC1030 Analysis Method: SM 5310C

Start Date: 10/10/2019 15:54 End Date: 10/11/2019 09:31

Lab Sample Id	D/F	Type	Time	Analytes																							
				TOCD																							
ZZZZZZ			01:45																								
ZZZZZZ			02:00																								
ZZZZZZ			02:15																								
ZZZZZZ			02:30																								
ZZZZZZ			02:45																								
ZZZZZZ			03:00																								
ZZZZZZ			03:15																								
ZZZZZZ			03:30																								
ZZZZZZ			03:45																								
CCV 180-294581/50			04:00																								
CCB 180-294581/51			04:15																								
ZZZZZZ			04:30																								
ZZZZZZ			04:45																								
ZZZZZZ			05:00																								
ZZZZZZ			05:16																								
ZZZZZZ			05:31																								
ZZZZZZ			05:45																								
ZZZZZZ			06:01																								
ZZZZZZ			06:16																								
ZZZZZZ			06:31																								
ZZZZZZ			06:46																								
CCV 180-294581/62			07:01																								
CCB 180-294581/63			07:16																								
ZZZZZZ			07:31																								
ZZZZZZ			07:46																								
ZZZZZZ			08:02																								
ZZZZZZ			08:17																								
ZZZZZZ			08:31																								
ZZZZZZ			08:46																								
ZZZZZZ			09:02																								
CCV 180-294581/71			09:17																								
CCB 180-294581/72			09:31																								

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Instrument ID: PCTITRATOR Analysis Method: SM2320 B

Start Date: 09/26/2019 00:00 End Date: 09/27/2019 00:42

Lab Sample Id	D/F	Type	Time	Analytes																								
				Alk	BALKCC	CarAlk																						
ZZZZZZ			00:00																									
ZZZZZZ			00:05																									
ZZZZZZ			00:09																									
ZZZZZZ			00:15																									
ZZZZZZ			00:21																									
ZZZZZZ			00:27																									
CCV 180-292886/7			00:35																									
CCB 180-292886/8			00:41																									
ZZZZZZ			00:48																									
ZZZZZZ			00:54																									
ZZZZZZ			01:02																									
ZZZZZZ			01:10																									
ZZZZZZ			01:17																									
ZZZZZZ			01:29																									
ZZZZZZ			01:41																									
ZZZZZZ			01:53																									
ZZZZZZ			01:57																									
CCV 180-292886/18			02:01																									
CCB 180-292886/19			02:06																									
ZZZZZZ			02:09																									
RINSE 180-292886/21			02:14																									
ZZZZZZ			14:42																									
ZZZZZZ			14:47																									
ZZZZZZ			14:50																									
LCS 180-292886/25	1	T	14:58	X																								
MB 180-292886/26	1	T	15:04	X	X	X																						
ZZZZZZ			15:10																									
ZZZZZZ			15:16																									
ZZZZZZ			15:22																									
ZZZZZZ			15:30																									
ZZZZZZ			15:37																									
ZZZZZZ			15:42																									
ZZZZZZ			15:49																									
ZZZZZZ			15:54																									
CCV 180-292886/35	1		16:02	X																								
CCB 180-292886/36	1		16:08	X	X	X																						
ZZZZZZ			16:14																									
ZZZZZZ			16:20																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Instrument ID: PCTITRATOR Analysis Method: SM2320 B

Start Date: 09/26/2019 00:00 End Date: 09/27/2019 00:42

Lab Sample Id	D/F	Type	Time	Analytes																								
				Alk	BALKCC	CarAlk																						
ZZZZZZ			16:26																									
ZZZZZZ			16:32																									
ZZZZZZ			16:38																									
ZZZZZZ			16:45																									
ZZZZZZ			16:50																									
ZZZZZZ			16:58																									
180-96144-1	1	T	17:04	X	X	X																						
ZZZZZZ			17:09																									
CCV 180-292886/47	1		17:17	X																								
CCB 180-292886/48	1		17:23	X	X	X																						
ZZZZZZ			17:30																									
ZZZZZZ			17:36																									
ZZZZZZ			17:42																									
ZZZZZZ			17:47																									
ZZZZZZ			17:52																									
ZZZZZZ			17:59																									
ZZZZZZ			18:05																									
ZZZZZZ			18:11																									
ZZZZZZ			18:16																									
ZZZZZZ			18:22																									
CCV 180-292886/59			18:29																									
CCB 180-292886/60			18:35																									
ZZZZZZ			18:41																									
ZZZZZZ			18:46																									
ZZZZZZ			18:52																									
ZZZZZZ			18:58																									
ZZZZZZ			19:03																									
ZZZZZZ			19:10																									
ZZZZZZ			19:17																									
ZZZZZZ			19:23																									
ZZZZZZ			19:30																									
ZZZZZZ			19:35																									
CCV 180-292886/71			19:43																									
CCB 180-292886/72			19:48																									
ZZZZZZ			19:55																									
ZZZZZZ			20:01																									
ZZZZZZ			20:07																									
ZZZZZZ			20:12																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Instrument ID: PCTITRATOR Analysis Method: SM2320 B

Start Date: 09/26/2019 00:00 End Date: 09/27/2019 00:42

Lab Sample Id	D/F	Type	Time	Analytes																								
				Alk	BALKCC	CarAlk																						
ZZZZZZ			20:19																									
ZZZZZZ			20:26																									
ZZZZZZ			20:33																									
ZZZZZZ			20:39																									
ZZZZZZ			20:46																									
ZZZZZZ			20:53																									
CCV 180-292886/83			21:00																									
CCB 180-292886/84			21:06																									
ZZZZZZ			21:13																									
ZZZZZZ			21:20																									
ZZZZZZ			21:26																									
ZZZZZZ			21:33																									
ZZZZZZ			21:40																									
ZZZZZZ			21:46																									
ZZZZZZ			21:52																									
ZZZZZZ			21:56																									
ZZZZZZ			22:02																									
ZZZZZZ			22:08																									
CCV 180-292886/95			22:16																									
CCB 180-292886/96			22:21																									
ZZZZZZ			22:29																									
ZZZZZZ			22:34																									
ZZZZZZ			22:40																									
ZZZZZZ			22:46																									
ZZZZZZ			22:53																									
ZZZZZZ			22:59																									
ZZZZZZ			23:05																									
ZZZZZZ			23:10																									
ZZZZZZ			23:23																									
ZZZZZZ			23:36																									
CCV 180-292886/107			23:43																									
CCB 180-292886/108			23:49																									
ZZZZZZ			23:54																									
ZZZZZZ			00:00																									
ZZZZZZ			00:08																									
ZZZZZZ			00:21																									
ZZZZZZ			00:26																									
CCV 180-292886/114			00:33																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-96144-1

SDG No.:

Instrument ID: PCTITRATOR Analysis Method: SM2320 B

Start Date: 09/26/2019 00:00 End Date: 09/27/2019 00:42

Lab Sample Id	D/F	Type	Time	Analytes																								
				Alk	BALKCC	CarAlk																						
CCB 180-292886/115			00:39																									
ZZZZZZ			00:42																									

Prep Types:
T = Total/NA

FORM XIII-IN

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-96144-1

SDG No.:

Batch Number: 293548 Batch Start Date: 10/02/19 19:34 Batch Analyst: Mastalski, Tessa A

Batch Method: Distill/Ammonia Batch End Date: 10/03/19 22:03

Lab Sample ID	Client Sample ID	Method Chain	Basis	ClResPres	InitialAmount	FinalAmount	Initial pH	AdjustedpH	WNH31000P 00027
ICV 180-293548/2		Distill/Ammonia, EPA 350.1		none	50 mL	50 mL	6.10 SU	9.47 SU	
ICB 180-293548/3		Distill/Ammonia, EPA 350.1		none	50 mL	50 mL	6.30 SU	9.46 SU	
CCV 180-293548/4		Distill/Ammonia, EPA 350.1		none	50 mL	50 mL	5.90 SU	9.48 SU	100 uL
CCB 180-293548/5		Distill/Ammonia, EPA 350.1		none	50 mL	50 mL	6.30 SU	9.47 SU	

Lab Sample ID	Client Sample ID	Method Chain	Basis	WNH31000S 00017	AnalysisComment				
ICV 180-293548/2		Distill/Ammonia, EPA 350.1		50 uL	Standard ID=3402478				
ICB 180-293548/3		Distill/Ammonia, EPA 350.1							
CCV 180-293548/4		Distill/Ammonia, EPA 350.1			Standard ID=3402479				
CCB 180-293548/5		Distill/Ammonia, EPA 350.1							

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-96144-1

SDG No.:

Batch Number: 293548 Batch Start Date: 10/02/19 19:34 Batch Analyst: Mastalski, Tessa A

Batch Method: Distill/Ammonia Batch End Date: 10/03/19 22:03

Batch Notes	
Acid used for pH adjustment	1N H2SO4=3336323, 0.1N H2SO4=3336352
Anti Foam ID	3131643
Base used for pH adjustment	0.02N NaOH=3334173, 10N NaOH=3042425, 1.0N NaOH=3336354
Boiling Chips ID	3350997
Boric Acid ID	3394193
Buffer Reagent ID	3377722
Distillation End Time	10/03/19 22:03
Distilliation Unit ID	#3
Distillation Start Time	10/03/19 16:30
pH Indicator ID	Accument XL150 XL94107210
Pipette/Syringe/Dispenser ID	OU16344, OU20062, 05J90928=Acid Disp, 01L84741=Buffer Disp
Residual Chlorine Indicator ID	3359176
Temperature	160 Degrees C
Uncorrected Temperature	160 Celsius

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-96144-1

SDG No.:

Batch Number: 293550 Batch Start Date: 10/02/19 20:02 Batch Analyst: Mastalski, Tessa A

Batch Method: Distill/Ammonia Batch End Date: 10/03/19 22:03

Lab Sample ID	Client Sample ID	Method Chain	Basis	ClResPres	InitialAmount	FinalAmount	Initial pH	AdjustedpH	WNH31000S 00017
MB 180-293550/1		Distill/Ammonia, EPA 350.1		none	50 mL	50 mL	6.30 SU	9.46 SU	
LCS 180-293550/2		Distill/Ammonia, EPA 350.1		none	50 mL	50 mL	5.95 SU	9.52 SU	100 uL
180-96144-L-1	11187072-CONTACT-INITIAL	Distill/Ammonia, EPA 350.1	T	none	50 mL	50 mL	<2 SU	9.48 SU	

Batch Notes	
Acid used for pH adjustment	1N H2SO4=3336323, 0.1N H2SO4=3336352
Anti Foam ID	3131643
Base used for pH adjustment	0.02N NaOH=3334173, 10N NaOH=3042425, 1.0N NaOH=3336354
Boiling Chips ID	3350997
Boric Acid ID	3394193
Buffer Reagent ID	3377722
Distillation End Time	10/03/19 22:03
Distilliation Unit ID	#3
Distillation Start Time	10/03/19 16:30
pH Indicator ID	Accument XL150 XL94107210
Pipette/Syringe/Dispenser ID	OU16344, OU20062, 05J90928=Acid Disp, 01L84741=Buffer Disp
Residual Chlorine Indicator ID	3359176
Temperature	160 Degrees C
Uncorrected Temperature	160 Celsius

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-96144-1

SDG No.:

Batch Number: 294028 Batch Start Date: 10/07/19 14:12 Batch Analyst: Mastalski, Tessa A

Batch Method: EPA 350.1 Batch End Date: 10/07/19 16:32

Lab Sample ID	Client Sample ID	Method Chain	Basis	AnalysisComment					
ICV 180-293548/2-A		EPA 350.1		;350.1					
ICB 180-293548/3-A		EPA 350.1		;350.1					
CCV 180-293548/4-A		EPA 350.1		;350.1					
CCB 180-293548/5-A		EPA 350.1		;350.1					
MB 180-293550/1-A		EPA 350.1		;350.1					
LCS 180-293550/2-A		EPA 350.1		;350.1					
CCV 180-293548/4-A		EPA 350.1		;350.1					
CCB 180-293548/5-A		EPA 350.1		;350.1					
CCV 180-293548/4-A		EPA 350.1		;350.1					
CCB 180-293548/5-A		EPA 350.1		;350.1					
180-96144-L-1-B	11187072-CONTACT -INITIAL	EPA 350.1	T	;350.1					
CCV 180-293548/4-A		EPA 350.1		;350.1					
CCB 180-293548/5-A		EPA 350.1		;350.1					

Batch Notes	
Acid used for pH adjustment	3336352, 3336323, 3336353
Base used for pH adjustment	3334173, 3336354, 3042425
Carrier Identification	3394728
Hypochlorite ID	3163675
Sodium Nitroprusside ID	3407644
pH Indicator ID	XL150 XL94107210
Pipette/Syringe/Dispenser ID	B747014865, B747014692
Residual Chlorine Indicator ID	3359176
Sodium Phenolate ID	3383882

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-96144-1

SDG No.:

Batch Number: 294028 Batch Start Date: 10/07/19 14:12 Batch Analyst: Mastalski, Tessa A

Batch Method: EPA 350.1 Batch End Date: 10/07/19 16:32

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-96144-1

SDG No.:

Batch Number: 293350 Batch Start Date: 10/01/19 12:00 Batch Analyst: Loheyde, Cheryl

Batch Method: 410.4 Batch End Date: 10/01/19 14:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	WCODLL CCV 00438	WCODLL ICVLCS 00445		
ICV 180-293350/9		410.4, EPA 410.4		1.0 mL	1.0 mL		1 mL		
ICB 180-293350/10		410.4, EPA 410.4		1.0 mL	1.0 mL				
LCS 180-293350/11		410.4, EPA 410.4		1.0 mL	1.0 mL		1 mL		
MB 180-293350/12		410.4, EPA 410.4		1.0 mL	1.0 mL				
CCV 180-293350/21		410.4, EPA 410.4		1.0 mL	1.0 mL	1 mL			
CCB 180-293350/22		410.4, EPA 410.4		1.0 mL	1.0 mL				
180-96144-L-1	11187072-CONTACT -INITIAL	410.4, EPA 410.4	T	1.0 mL	1.0 mL				
CCV 180-293350/33		410.4, EPA 410.4		1.0 mL	1.0 mL	1 mL			
CCB 180-293350/34		410.4, EPA 410.4		1.0 mL	1.0 mL				

Batch Notes	
Block Digestion End time	14:00
Block Digestion Start time	12:00
Block Digestor ID	REACTOR C & D
Chloride Test Strip Lot #	HACH LOT# 9112 EXP. 4/21
Oven, Bath or Block Temperature 1	150 Celsius
Oven, Bath or Block Temperature 2	150 Celsius
Pipette/Syringe/Dispenser ID	B747014692 / 747014865
Sufficient Volume for Batch QC	YES
Temperature	150 Celsius
Uncorrected Temperature	150 Celsius
Vial Lot Number	3322198

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-96144-1

SDG No.:

Batch Number: 293458 Batch Start Date: 10/02/19 09:19 Batch Analyst: Shireman, Edwin L

Batch Method: EPA 410.4 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ChlorideScrn	WCODLL 100ppm 00450	WCODLL 10ppm 00448	WCODLL 125ppm 00445
IC 180-293458/1		EPA 410.4		1.0 mL	1.0 mL				
IC 180-293458/2		EPA 410.4		1.0 mL	1.0 mL				1 mL
IC 180-293458/3		EPA 410.4		1.0 mL	1.0 mL		1 mL		
IC 180-293458/4		EPA 410.4		1.0 mL	1.0 mL				
IC 180-293458/5		EPA 410.4		1.0 mL	1.0 mL				
IC 180-293458/6		EPA 410.4		1.0 mL	1.0 mL				
IC 180-293458/7		EPA 410.4		1.0 mL	1.0 mL			1 mL	
IC 180-293458/8		EPA 410.4		1.0 mL	1.0 mL				
ICV 180-293350/9-A		EPA 410.4		1.0 mL	1.0 mL				
ICB 180-293350/10-A		EPA 410.4		1.0 mL	1.0 mL				
LCS 180-293350/11-A		EPA 410.4		1.0 mL	1.0 mL				
MB 180-293350/12-A		EPA 410.4		1.0 mL	1.0 mL				
CCV 180-293350/21-A		EPA 410.4		1.0 mL	1.0 mL				
CCB 180-293350/22-A		EPA 410.4		1.0 mL	1.0 mL				
180-96144-L-1-A	11187072-CONTACT -INITIAL	EPA 410.4	T	1.0 mL	1.0 mL	399			
CCV 180-293350/33-A		EPA 410.4		1.0 mL	1.0 mL				
CCB 180-293350/34-A		EPA 410.4		1.0 mL	1.0 mL				

Lab Sample ID	Client Sample ID	Method Chain	Basis	WCODLL 150ppm 00455	WCODLL 25ppm 00448	WCODLL 50ppm 00445	WCODLL 75ppm 00445		
IC 180-293458/1		EPA 410.4		1 mL					
IC 180-293458/2		EPA 410.4							
IC 180-293458/3		EPA 410.4							
IC 180-293458/4		EPA 410.4					1 mL		
IC 180-293458/5		EPA 410.4				1 mL			
IC 180-293458/6		EPA 410.4			1 mL				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-96144-1

SDG No.:

Batch Number: 293458 Batch Start Date: 10/02/19 09:19 Batch Analyst: Shireman, Edwin L

Batch Method: EPA 410.4 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	WCODLL 150ppm 00455	WCODLL 25ppm 00448	WCODLL 50ppm 00445	WCODLL 75ppm 00445		
IC 180-293458/7		EPA 410.4							
IC 180-293458/8		EPA 410.4							
ICV 180-293350/9-A		EPA 410.4							
ICB 180-293350/10-A		EPA 410.4							
LCS 180-293350/11-A		EPA 410.4							
MB 180-293350/12-A		EPA 410.4							
CCV 180-293350/21-A		EPA 410.4							
CCB 180-293350/22-A		EPA 410.4							
180-96144-L-1-A	11187072-CONTACT -INITIAL	EPA 410.4	T						
CCV 180-293350/33-A		EPA 410.4							
CCB 180-293350/34-A		EPA 410.4							

Batch Notes	
Block Digestor ID	REACTOR C & D
Temperature - Corrected - End	150 Degrees C
Temperature - Corrected - Start	150 Degrees C
Digestion End Time	10/01/2019 14:00
Digestion Start Time	10/01/2019 12:00
Pipette/Syringe/Dispenser ID	B747014692 / 747014865
Sufficient Volume for Batch QC	YES
Temperature - Uncorrected - End	150 Degrees C
Temperature - Uncorrected - Start	150 Degrees C
Vial Lot Number	3322198

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-96144-1

SDG No.:

Batch Number: 293299 Batch Start Date: 10/01/19 13:20 Batch Analyst: Wesoloski, Michael

Batch Method: EPA 9040C Batch End Date: 10/01/19 13:46

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	SampleTemp	pHRead1	TempRead1	pHRead2	TempRead2
LCS 180-293299/1		EPA 9040C		20 mL	21.9 Celsius	7.01 SU	21.9 Celsius	7.00 SU	21.9 Celsius
180-96144-J-1	11187072-CONTACT -INITIAL	EPA 9040C	T	20 mL	21.4 Celsius	7.83 SU	21.7 Celsius	7.83 SU	21.4 Celsius
CCV 180-293299/12		EPA 9040C		20 mL	22.1 Celsius	6.99 SU	21.5 Celsius	6.99 SU	22.1 Celsius

Lab Sample ID	Client Sample ID	Method Chain	Basis	WpHBuffer7CCV 00033	WpHBuffer7P 00020				
LCS 180-293299/1		EPA 9040C		20 mL					
180-96144-J-1	11187072-CONTACT -INITIAL	EPA 9040C	T						
CCV 180-293299/12		EPA 9040C			20 mL				

Batch Notes	
pH Buffer 1 ID	2853130 pH 2.00
pH Buffer 2 ID	2853144 pH 4.00
pH Buffer 3 ID	2923701 pH 7.00
pH Buffer 4 ID	3217943 pH 10.00
pH Buffer 5 ID	3217944 pH 13.00
pH Buffer 6 ID	2939079 pH 7.00 (Second Source / LCS)
Calibration Date and Time	10/01/19 @ 07:35
pH Meter Calibration Slope	101.6
pH Meter ID	Accumet AR20 (SN AR812106163)
Probe ID	XY3-10281
Sufficient volume for sample dup	Yes
Thermometer ID	AR812106163

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-96144-1

SDG No.:

Batch Number: 293084 Batch Start Date: 09/28/19 10:21 Batch Analyst: Smith, Abbey V

Batch Method: SM 2540C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	Conductivity	CrucibleID	TareWeight	InitialAmount	Weight1	Weight2
LCS 180-293084/1		SM 2540C			K6	88.0902 g	50 mL	88.1219 g	88.1218 g
MB 180-293084/2		SM 2540C			F17	86.0132 g	100 mL	86.0134 g	86.0133 g
180-96144-H-1	11187072-CONTACT -INITIAL	SM 2540C	T	1659 umhos/cm	L47	86.6041 g	20 mL	86.6223 g	86.6222 g

Lab Sample ID	Client Sample ID	Method Chain	Basis	WeightOne%Diff	WeightTwo%Diff	Weight4OK	Residue	Residue2	Residue3
LCS 180-293084/1		SM 2540C		Pass No Unit	N/A No Unit	N/A	0.0317 g	0.0316 g	N/A g
MB 180-293084/2		SM 2540C		Pass No Unit	N/A No Unit	N/A	0.0002 g	0.0001 g	N/A g
180-96144-H-1	11187072-CONTACT -INITIAL	SM 2540C	T	Pass No Unit	N/A No Unit	N/A	0.0182 g	0.0181 g	N/A g

Lab Sample ID	Client Sample ID	Method Chain	Basis	Residue4	FinalAmount	CalcMsg	WResPSP 00062		
LCS 180-293084/1		SM 2540C		N/A g	100 mL	OK	50 mL		
MB 180-293084/2		SM 2540C		N/A g	100 mL	OK			
180-96144-H-1	11187072-CONTACT -INITIAL	SM 2540C	T	N/A g	100 mL	OK			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-96144-1

SDG No.:

Batch Number: 293084 Batch Start Date: 09/28/19 10:21 Batch Analyst: Smith, Abbey V

Batch Method: SM 2540C Batch End Date:

Batch Notes	
Balance ID	1126020829
Conductivity Meter ID	Ultrameter II 6Psi - 6205309
Date/Time - In - CW (WT2)	09/30/2019 09:06
Date/Time - Out - CW (WT2)	09/30/2019 10:11
Temperature - Start - CW (WT2) - Correct	180 Celsius
Temperature - End - CW (WT2) - Correct	180 Celsius
Temperature - Start-CW(WT2) -Uncorrected	180 Celsius
Temperature - End-CW(WT2) -Uncorrected	180 Celsius
Date/Time - In - CW (WT3)	09/17/2019 00:00
Date/Time - Out - CW (WT3)	09/17/2019 00:00
Date/Time - In - CW (WT4)	09/17/2019 00:00
Date/Time - Out - CW (WT4)	09/17/2019 00:00
Temperature - Start - Corrected	105 Celsius
Temperature - End - Corrected	105 Celsius
Date/Time - In	09/28/2019 11:55
Date/Time - Out	09/30/2019 07:30
Filter ID	Environmental Express 600022-9158 -R1
Nominal Amount Used	100 mL
Oven ID	ZHE Oven #1
Oven ID - Low Temperature	OV-O2
Thermometer ID - Low Temperature	QA backup #5
Thermometer ID	QA Backup #15
Temperature - Start - Uncorrected	105 Celsius
Temperature - End - Uncorrected	105 Celsius
Weight(WT1) Start Date/Time	09/30/2019 07:30 No Unit
Weight(WT1) Date/Time Out	09/30/2019 08:39
Weight(WT1) Start Temp	180 Celsius
Weight(WT1) Temp Out	180 Celsius
Uncorrected Weight(WT1) Start Temp	180 Celsius
Uncorrected Weight(WT1) Temp Out	180 Celsius

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-96144-1

SDG No.:

Batch Number: 293084 Batch Start Date: 09/28/19 10:21 Batch Analyst: Smith, Abbey V

Batch Method: SM 2540C Batch End Date:

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-96144-1

SDG No.:

Batch Number: 292765 Batch Start Date: 09/26/19 10:53 Batch Analyst: Partridge, Angela G

Batch Method: SM 2540D Batch End Date: 09/27/19 12:54

Lab Sample ID	Client Sample ID	Method Chain	Basis	CrucibleID	TareWeight	InitialAmount	Weight1	Weight2	Weight3
LCS 180-292765/1		SM 2540D		HWE2I 0.1146	0.1146 g	50 mL	0.1189 g	0.1188 g	0 g
MB 180-292765/2		SM 2540D		HWE2H 0.1141	0.1141 g	1000 mL	0.1142 g	0.1141 g	0 g
180-96144-G-1	11187072-CONTACT -INITIAL	SM 2540D	T	HWD9B 0.1146	0.1146 g	20 mL	0.1831 g	0.1830 g	0 g

Lab Sample ID	Client Sample ID	Method Chain	Basis	WeightOne%Diff	Residue	Residue2	FinalAmount	ResDishWt	DishWeight
LCS 180-292765/1		SM 2540D		PASS <0.5mg	0.0043 g	0.0042 g	1000 mL	0.1188 g	0.1146 g
MB 180-292765/2		SM 2540D		PASS <0.5mg	0.0001 g	0 g	1000 mL	0.1141 g	0.1141 g
180-96144-G-1	11187072-CONTACT -INITIAL	SM 2540D	T	PASS <0.5mg	0.0685 g	0.0684 g	1000 mL	0.183 g	0.1146 g

Lab Sample ID	Client Sample ID	Method Chain	Basis	WResPSP 00062					
LCS 180-292765/1		SM 2540D		50 mL					
MB 180-292765/2		SM 2540D							
180-96144-G-1	11187072-CONTACT -INITIAL	SM 2540D	T						

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-96144-1

SDG No.:

Batch Number: 292765 Batch Start Date: 09/26/19 10:53 Batch Analyst: Partridge, Angela G

Batch Method: SM 2540D Batch End Date: 09/27/19 12:54

Batch Notes	
Analyst ID 2	RSR
Balance ID	1126020829
Date/Time - In - CW (WT2)	09/27/2019 09:11
Date/Time - Out - CW (WT2)	09/27/2019 11:37
Temperature - Start - CW (WT2) - Correct	105 Celsius
Temperature - End - CW (WT2) - Correct	105 Celsius
Temperature - Start-CW(WT2) -Uncorrected	105 Celsius
Temperature - End-CW(WT2) -Uncorrected	105 Celsius
Temperature - Start - Corrected	105 Celsius
Temperature - End - Corrected	105 Celsius
Date/Time - In	09/26/2019 11:53
Date/Time - Out	09/27/2019 05:45
Filter ID	Environmental Express 600022-9126-R2
Nominal Amount Used	1000 mL
Oven ID	EZ BAKE
Perform Calculation (0=No, 1=Yes)	1
Thermometer ID	QA Backup #1
Temperature - Start - Uncorrected	105 Celsius
Temperature - End - Uncorrected	105 Celsius

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-96144-1

SDG No.:

Batch Number: 293371 Batch Start Date: 09/26/19 09:43 Batch Analyst: Shireman, Edwin L

Batch Method: SM 5210B Batch End Date: 10/01/19 11:40

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	ResidualChloCheck	InitialTemp	Final pH	InitialAmount	FinalAmount
USB 180-293371/2		SM 5210B		7.29 SU	-	21.9 Celsius	7.29 SU	300 mL	300 mL
LCS 180-293371/4		SM 5210B		7.29 SU	-	21.9 Celsius	7.29 SU	6 mL	300 mL
180-96144-H-1	11187072-CONTACT-INITIAL	SM 5210B	T	7.86 SU	-	18.3 Celsius	7.86 SU	100 mL	300 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	InstResult	CalcMsg	WBODGGAP 00078			
USB 180-293371/2		SM 5210B		-0.20 mg/L	OK				
LCS 180-293371/4		SM 5210B		126.39 mg/L	OK	6 mL			
180-96144-H-1	11187072-CONTACT-INITIAL	SM 5210B	T	<4.68 mg/L	OK				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-96144-1

SDG No.:

Batch Number: 293371 Batch Start Date: 09/26/19 09:43 Batch Analyst: Shireman, Edwin L

Batch Method: SM 5210B Batch End Date: 10/01/19 11:40

Batch Notes	
Barometer ID	181562859
Barometric Pressure - Corrected	29.04 inHg
Bottle Lot ID	Env. Express Ex2345-140
Calibration - Final Date/Time	10/01/2019 11:40
Calibration - Initial Date/Time	09/26/2019 09:43
Corrected Incubator Temp - Final	19.8 Celsius
Corrected Incubator Temp - Initial	19.6 Celsius
Incubator ID	BOD 2
Sodium Hydroxide ID	3293208
Nutrient Buffer Pillow ID	2936764
pH Meter ID	Accument XL150 (XL1767210)
Pipette/Syringe/Dispenser ID	B747014692
Probe ID	VWU17374
Residual Chlorine Pillow Lot #	3016744
Perform Calculation (0=No, 1=Yes)	1
Seed ID	3314403
Thermometer ID	TempGuard Sensor 3
Uncorrected Incubator Temp - Final	19.8 Celsius
Uncorrected Incubator Temp - Initial	19.6 Celsius
Barometric Pressure - Uncorrected	28.81 inHg

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-96144-1

SDG No.:

Batch Number: 294581 Batch Start Date: 10/10/19 15:54 Batch Analyst: Mastalski, Tessa A

Batch Method: SM 5310C Batch End Date: 10/11/19 09:37

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	Res1&2RPD	RPDOK	10 PPM TOC/CC 01298	ICV 40 PPM 01430	LCS 20 PPM 01431
ICV 180-294581/2		SM 5310C			1 %	TOC Pass		40 mL	
ICB 180-294581/3		SM 5310C			200 %	TOC Fail			
LCS 180-294581/4		SM 5310C			2 %	TOC Pass			40 mL
LCSD 180-294581/5		SM 5310C			1 %	TOC Pass			40 mL
MB 180-294581/6		SM 5310C			22 %	TOC Fail			
CCV 180-294581/14		SM 5310C			2 %	TOC Pass	40 mL		
CCB 180-294581/15		SM 5310C			200 %	TOC Fail			
180-96144-S-1	11187072-CONTACT -INITIAL	SM 5310C	T	<2 SU	3 %	TOC Pass			
CCV 180-294581/26		SM 5310C			1 %	TOC Pass	40 mL		
CCB 180-294581/27		SM 5310C				TOC Pass			

Batch Notes	
Batch Comment	pH strips: HC991818
Phosphoric Acid ID	3412181
Pipette/Syringe/Dispenser ID	B747014653, B747014865
Sodium Persulfate ID	3412182

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-96144-1

SDG No.:

Batch Number: 292886 Batch Start Date: 09/26/19 00:00 Batch Analyst: Smith, Abbey V

Batch Method: SM2320 B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	CalcMsg	ALK 125 PPM C 00099	ALK 250 PPM 00104			
LCS 180-292886/25		SM2320 B		InitialAmount is blank		10 mL			
MB 180-292886/26		SM2320 B		InitialAmount is blank					
CCV 180-292886/35		SM2320 B		InitialAmount is blank	10 mL				
CCB 180-292886/36		SM2320 B		InitialAmount is blank					
180-96144-I-1	11187072-CONTACT -INITIAL	SM2320 B	T	InitialAmount is blank					
CCV 180-292886/47		SM2320 B		InitialAmount is blank	10 mL				
CCB 180-292886/48		SM2320 B		InitialAmount is blank					

Batch Notes	
Acid ID	3391563
pH Buffer 1 ID	2655162
pH Buffer 2 ID	3310867
pH Buffer 3 ID	3251542
pH Buffer 4 ID	3222369
pH Buffer 5 ID	2981610
Nominal Amount Used	50 mL
pH Meter ID	PC-Titrator
Pipette/Syringe/Dispenser ID	PC-Titrator
Probe ID	PC-Titrator
Normality of First Titrant	0.0198 N
Titrant Standardization Date	09/24/2019

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Run Name: A100719A
Configuration: Distilled Ammonia 0.05 - 8mg/L
Run date: 10/7/2019 350 1

TM 10/07/19

	Position	Identifier	Type	Comment	Date	Time	Total	AMMONIA Raw Ht	Cor Ht	mg/L
1	SR:1	SYNC	SYNC	8.0 ppm;350.1	10/7/2019	2:12:59 PM	1	0.455	0.454	7.774
2	SR:1	SYNC	SYNC	8.0 ppm;350.1	10/7/2019	2:13:24 PM	1	0.472	0.471	8.074
3	SR:2	CO	Carry over		10/7/2019	2:14:49 PM	1	0.005	0.004	0.070
4	SR:3	W	Wash		10/7/2019	2:16:14 PM	1	0.001	0.000	0.005
5	SR:5	C1	Calibrant	8.0 ppm;350.1	10/7/2019	2:17:39 PM	1	0.469	0.468	8.017
6	SR:6	C2	Calibrant	4.0 ppm;350.1	10/7/2019	2:19:03 PM	1	0.236	0.231	3.969
7	SR:7	C3	Calibrant	1.0 ppm;350.1	10/7/2019	2:20:29 PM	1	0.060	0.057	0.984
8	SR:8	C4	Calibrant	0.4 ppm;350.1	10/7/2019	2:21:54 PM	1	0.025	0.024	0.416
9	SR:9	C5	Calibrant	0.1 ppm;350.1	10/7/2019	2:23:19 PM	1	0.007	0.006	0.109
10	SR:10	C6	Calibrant	0.0 ppm;350.1	10/7/2019	2:24:44 PM	1	0.001	0.000	0.005
11	SR:11	W	Wash		10/7/2019	2:26:09 PM	1	0.001	0.000	0.005
12	SR:12	ICV 180-293548/2-A	Unknown	;350.1	10/7/2019	2:27:33 PM	1	0.061	0.060	1.030
13	SR:13	ICB 180-293548/3-A	Unknown	;350.1	10/7/2019	2:28:59 PM	1	0.001	0.000	0.002
14	SR:14	CCV 180-293548/4-A	Check Cal	;350.1	10/7/2019	2:30:24 PM	1	0.125	0.124	2.136
15	SR:15	CCB 180-293548/5-A	Check Cal	;350.1	10/7/2019	2:31:48 PM	1	0.002	0.000	0.006
16	SR:16	W	Wash		10/7/2019	2:33:14 PM	1	0.001	0.000	0.005
17	1:1	MB 180-293548/6-A	Unknown	;350.1	10/7/2019	2:34:39 PM	1	0.005	0.004	0.074
18	1:2	LCS 180-293548/7-A	Unknown	;350.1	10/7/2019	2:36:04 PM	1	0.118	0.117	2.013
19	1:3	180-95638-G-4-AD	Unknown	;350.1	10/7/2019	2:37:28 PM	1	0.328	0.326	5.594
20	1:4	180-95638-G-4-AE MS	Unknown	;350.1	10/7/2019	2:38:53 PM	1	0.464	0.461	7.896
21	1:5	180-95638-G-4-AF MSD	Unknown	;350.1	10/7/2019	2:40:19 PM	1	0.426	0.422	7.224
22	1:6	180-95630-G-1-Q	Unknown	;350.1	10/7/2019	2:41:44 PM	1	0.009	0.004	0.078
23	1:7	180-95630-G-2-M	Unknown	;350.1	10/7/2019	2:43:09 PM	1	0.007	0.005	0.098
24	1:8	180-95630-G-3-M	Unknown	;350.1	10/7/2019	2:44:33 PM	1	0.005	0.004	0.074
25	1:9	180-95630-H-10-L	Unknown	;350.1	10/7/2019	2:45:58 PM	1	0.009	0.008	0.145
26	SR:14	CCV 180-293548/4-A	Check Cal	;350.1	10/7/2019	2:47:24 PM	1	0.128	0.127	2.183
27	SR:15	CCB 180-293548/5-A	Check Cal	;350.1	10/7/2019	2:48:49 PM	1	0.002	0.000	0.000
28	SR:16	W	Wash		10/7/2019	2:50:14 PM	1	0.001	0.000	0.005
29	1:10	180-95630-G-11-L	Unknown	;350.1	10/7/2019	2:51:38 PM	1	0.011	0.010	0.177
30	1:11	180-95638-G-1-J	Unknown	;350.1	10/7/2019	2:53:03 PM	1	0.366	0.365	6.252
31	1:12	180-95638-G-2-L	Unknown	;350.1	10/7/2019	2:54:29 PM	1	0.181	0.177	3.034
32	1:13	180-95638-G-3-J	Unknown	;350.1	10/7/2019	2:55:54 PM	1	0.013	0.010	0.184
33	1:14	180-95638-G-5-L	Unknown	;350.1	10/7/2019	2:57:19 PM	1	0.319	0.317	5.443
34	1:15	180-95638-G-6-L	Unknown	;350.1	10/7/2019	2:58:44 PM	1	0.156	0.152	2.601
35	1:16	180-95638-G-6-M MS	Unknown	;350.1	10/7/2019	3:00:09 PM	1	0.274	0.271	4.639
36	1:17	180-95638-G-6-N MSD	Unknown	;350.1	10/7/2019	3:01:33 PM	1	0.269	0.265	4.536
37	1:18	180-95643-G-1-J	Unknown	;350.1	10/7/2019	3:02:59 PM	1	0.371	0.367	6.288
38	SR:14	CCV 180-293548/4-A	Check Cal	;350.1	10/7/2019	3:04:24 PM	1	0.128	0.123	2.107
39	SR:15	CCB 180-293548/5-A	Check Cal	;350.1	10/7/2019	3:05:49 PM	1	0.003	0.000	0.005
40	SR:16	W	Wash		10/7/2019	3:07:13 PM	1	0.002	0.000	0.005
41	1:19	180-95643-G-2-J	Unknown	;350.1	10/7/2019	3:08:38 PM	1	0.112	0.110	1.885
42	1:20	180-95643-G-3-J	Unknown	;350.1	10/7/2019	3:10:03 PM	1	0.008	0.005	0.089
43	1:21	180-95643-G-4-I	Unknown	;350.1	10/7/2019	3:11:28 PM	1	0.153	0.151	2.598
44	1:22	180-95643-G-5-I	Unknown	;350.1	10/7/2019	3:12:54 PM	1	0.321	0.318	5.445
45	1:23	180-95779-B-2-E	Unknown	;350.1	10/7/2019	3:14:19 PM	1	0.053	0.049	0.842
46	1:24	180-95779-B-3-E	Unknown	;350.1	10/7/2019	3:15:44 PM	1	0.084	0.082	1.416
47	1:25	180-95779-B-4-E	Unknown	;350.1	10/7/2019	3:17:09 PM	1	0.057	0.055	0.947
48	1:26	180-95779-B-5-E	Unknown	;350.1	10/7/2019	3:18:33 PM	1	0.044	0.042	0.724
49	1:27	MB 180-293549/1-A	Unknown	;350.1	10/7/2019	3:19:59 PM	1	0.006	0.004	0.070

	Position	Identifier	Type	Comment	Date	Time	Total	AMMONIA Raw Ht	Cor Ht	mg/L
50	SR:14	CCV 180-293548/4-A	Check Cal	;350.1	10/7/2019	3:21:24 PM	1	0.124	0.123	2.108
51	SR:15	CCB 180-293548/5-A	Check Cal	;350.1	10/7/2019	3:22:49 PM	1	0.002	0.000	-0.001
52	SR:16	W	Wash		10/7/2019	3:24:13 PM	1	0.001	0.000	0.005
53	1:28	LCS 180-293549/2-A	Unknown	;350.1	10/7/2019	3:25:38 PM	1	0.124	0.123	2.109
54	1:29	180-95779-B-6-E	Unknown	;350.1	10/7/2019	3:27:03 PM	1	0.045	0.042	0.733
55	1:30	180-95779-B-6-F MS	Unknown	;350.1	10/7/2019	3:28:29 PM	1	0.157	0.155	2.664
56	1:31	180-95779-B-6-G MSD	Unknown	;350.1	10/7/2019	3:29:54 PM	1	0.160	0.158	2.713
57	1:32	180-95779-B-7-G	Unknown	;350.1	10/7/2019	3:31:18 PM	1	0.048	0.045	0.780
58	1:33	180-95779-B-8-E	Unknown	;350.1	10/7/2019	3:32:44 PM	1	0.009	0.008	0.139
59	1:34	180-95930-B-1-D	Unknown	;350.1	10/7/2019	3:34:09 PM	1	0.034	0.033	0.573
60	1:35	180-95930-B-2-F	Unknown	;350.1	10/7/2019	3:35:34 PM	1	0.006	0.005	0.085
61	1:36	180-95930-B-3-D	Unknown	;350.1	10/7/2019	3:36:59 PM	1	0.051	0.050	0.861
62	SR:14	CCV 180-293548/4-A	Check Cal	;350.1	10/7/2019	3:38:23 PM	1	0.124	0.122	2.101
63	SR:15	CCB 180-293548/5-A	Check Cal	;350.1	10/7/2019	3:39:49 PM	1	0.002	0.000	0.004
64	SR:16	W	Wash		10/7/2019	3:41:14 PM	1	0.001	0.000	0.005
65	1:37	180-95930-B-4-D	Unknown	;350.1	10/7/2019	3:42:39 PM	1	0.011	0.010	0.172
66	1:38	MB 180-293550/1-A	Unknown	;350.1	10/7/2019	3:44:04 PM	1	0.005	0.004	0.077
67	1:39	LCS 180-293550/2-A	Unknown	;350.1	10/7/2019	3:45:28 PM	1	0.122	0.121	2.078
68	1:40	180-96150-C-2-D	Unknown	;350.1	10/7/2019	3:46:53 PM	1	0.009	0.007	0.130
69	1:41	180-96150-C-2-E MS	Unknown	;350.1	10/7/2019	3:48:18 PM	1	0.137	0.136	2.334
70	1:42	180-96150-C-2-F MSD	Unknown	;350.1	10/7/2019	3:49:44 PM	1	0.132	0.130	2.227
71	1:43	180-95861-D-1-A	Unknown	;350.1	10/7/2019	3:51:09 PM	1	0.011	0.009	0.159
72	1:44	180-95861-D-2-A	Unknown	;350.1	10/7/2019	3:52:34 PM	1	0.003	0.002	0.045
73	1:45	180-95861-D-3-A	Unknown	;350.1	10/7/2019	3:53:58 PM	1	0.031	0.031	0.531
74	SR:14	CCV 180-293548/4-A	Check Cal	;350.1	10/7/2019	3:55:24 PM	1	0.123	0.122	2.099
75	SR:15	CCB 180-293548/5-A	Check Cal	;350.1	10/7/2019	3:56:49 PM	1	0.001	0.000	0.003
76	SR:16	W	Wash		10/7/2019	3:58:13 PM	1	0.001	0.000	0.005
77	1:46	180-95861-D-4-A	Unknown	;350.1	10/7/2019	3:59:39 PM	1	0.031	0.031	0.528
78	1:47	180-95861-D-5-A	Unknown	;350.1	10/7/2019	4:01:04 PM	1	0.005	0.004	0.071
79	1:48	180-95458-J-3-A	Unknown	;350.1	10/7/2019	4:02:29 PM	1	0.008	0.008	0.139
80	1:49	180-95896-D-1-A	Unknown	;350.1	10/7/2019	4:03:54 PM	1	0.125	0.125	2.139
81	1:50	180-96150-C-1-B	Unknown	;350.1	10/7/2019	4:05:19 PM	1	0.006	0.004	0.081
82	1:51	180-96150-C-8-B	Unknown	;350.1	10/7/2019	4:06:44 PM	1	0.234	0.233	4.001
83	1:52	180-96150-C-9-B	Unknown	;350.1	10/7/2019	4:08:08 PM	1	0.197	0.194	3.335
84	1:53	180-96150-C-9-E MS	Unknown	;350.1	10/7/2019	4:09:34 PM	1	0.328	0.325	5.579
85	1:54	180-96150-C-9-F MSD	Unknown	;350.1	10/7/2019	4:10:59 PM	1	0.327	0.324	5.555
86	SR:14	CCV 180-293548/4-A	Check Cal	;350.1	10/7/2019	4:12:24 PM	1	0.126	0.123	2.116
87	SR:15	CCB 180-293548/5-A	Check Cal	;350.1	10/7/2019	4:13:48 PM	1	0.001	0.000	-0.002
88	SR:16	W	Wash		10/7/2019	4:15:14 PM	1	0.001	0.000	0.005
89	1:55	180-96150-C-10-B	Unknown	;350.1	10/7/2019	4:16:39 PM	1	0.167	0.167	2.863
90	1:56	180-96150-C-11-D	Unknown	;350.1	10/7/2019	4:18:04 PM	1	0.234	0.233	3.988
91	1:57	180-96136-C-3-A	Unknown	;350.1	10/7/2019	4:19:29 PM	2	0.235	0.233	7.979
92	1:58	180-96144-L-1-B	Unknown	;350.1	10/7/2019	4:20:54 PM	1	0.162	0.160	2.742
93	1:59	180-95779-C-9-A	Unknown	;350.1	10/7/2019	4:22:18 PM	1	0.011	0.009	0.163
~~94~~	~~1:60~~	~~180-96136-H-1-A~~	~~Unknown~~	~~;350.1~~	~~10/7/2019~~	~~4:23:43 PM~~	~~1000~~	~~0.035~~	~~0.035~~	~~604.869~~
95	1:61	180-96136-H-1-A	Unknown	;350.1	10/7/2019	4:25:09 PM	500	0.071	0.071	609.405
~~96~~	~~1:62~~	~~180-96136-H-2-A~~	~~Unknown~~	~~;350.1~~	~~10/7/2019~~	~~4:26:34 PM~~	~~1000~~	~~0.046~~	~~0.045~~	~~774.362~~
97	1:63	180-96136-H-2-A	Unknown	;350.1	10/7/2019	4:27:59 PM	500	0.092	0.091	782.985
98	SR:14	CCV 180-293548/4-A	Check Cal	;350.1	10/7/2019	4:29:24 PM	1	0.123	0.122	2.096
99	SR:15	CCB 180-293548/5-A	Check Cal	;350.1	10/7/2019	4:30:49 PM	1	0.001	0.000	0.003
100	SR:16	W	Wash		10/7/2019	4:32:14 PM	1	0.000	0.000	0.005

MM 10/07/19

A100719A, 10/7/2019 - AMMONIA

Distilled 350.1

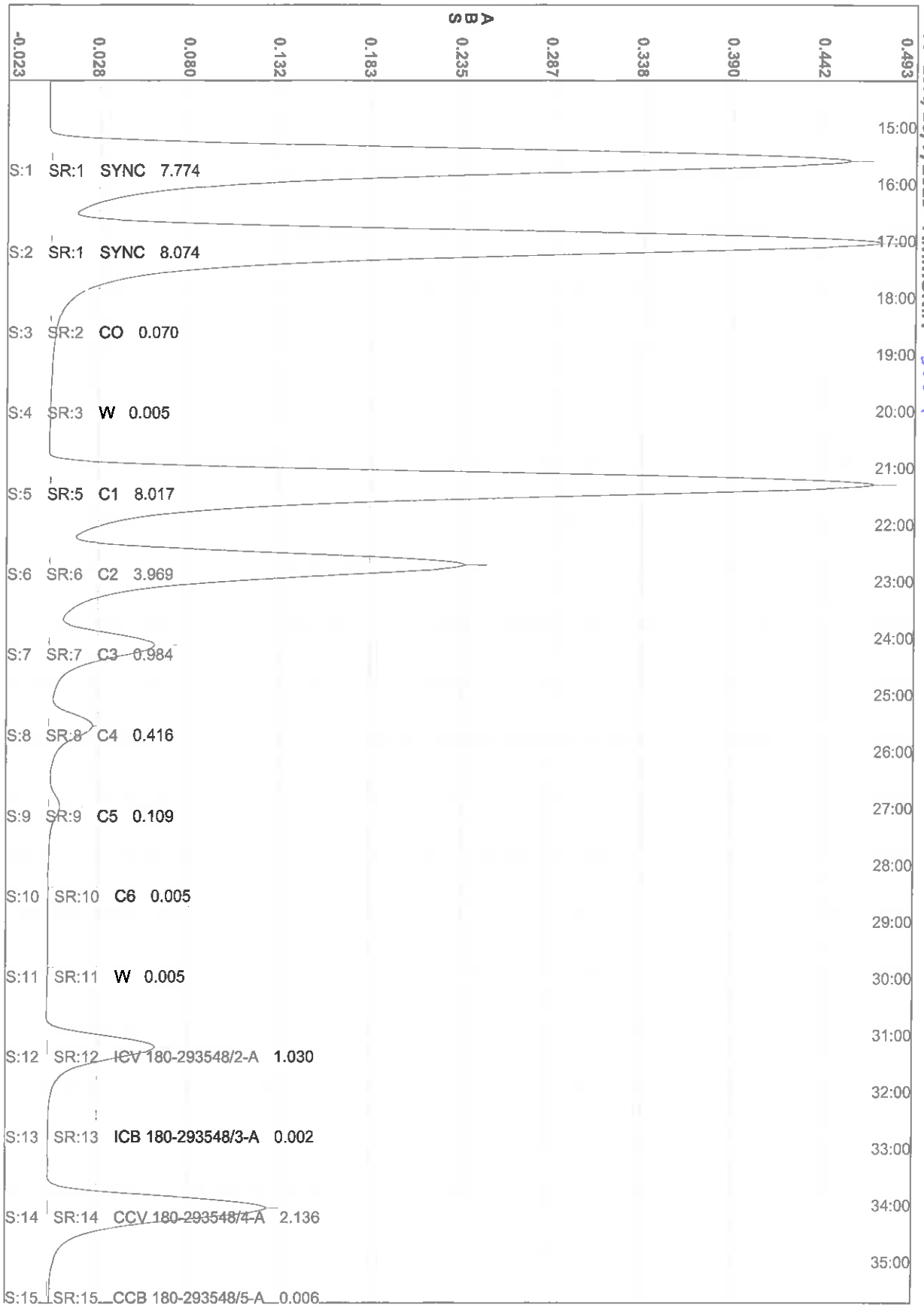

TM 10/7/19

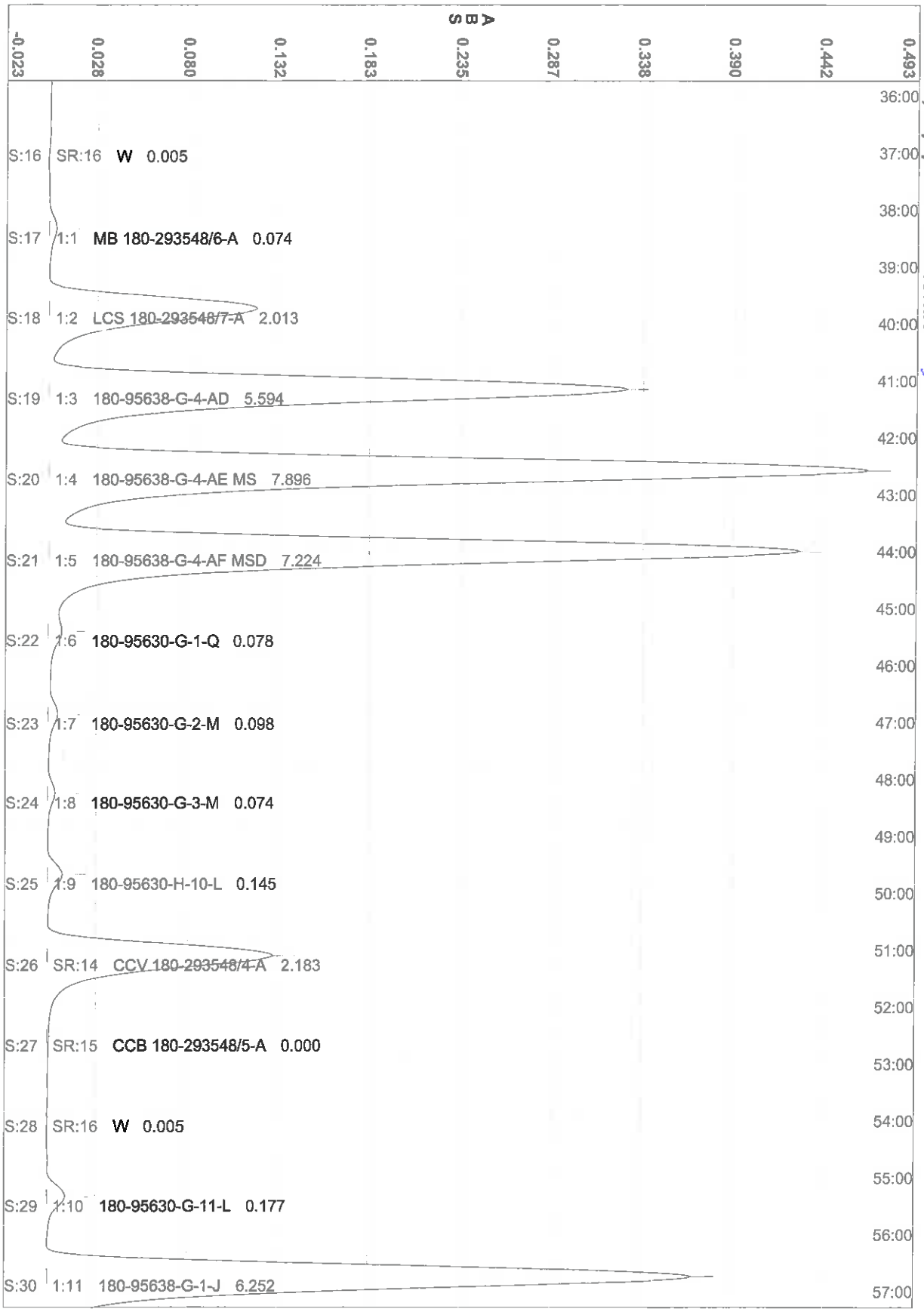

Distilled 350.1

TM 10/07/19

A100719A, 10/7/2019 - AMMONIA

Distilled 350.1

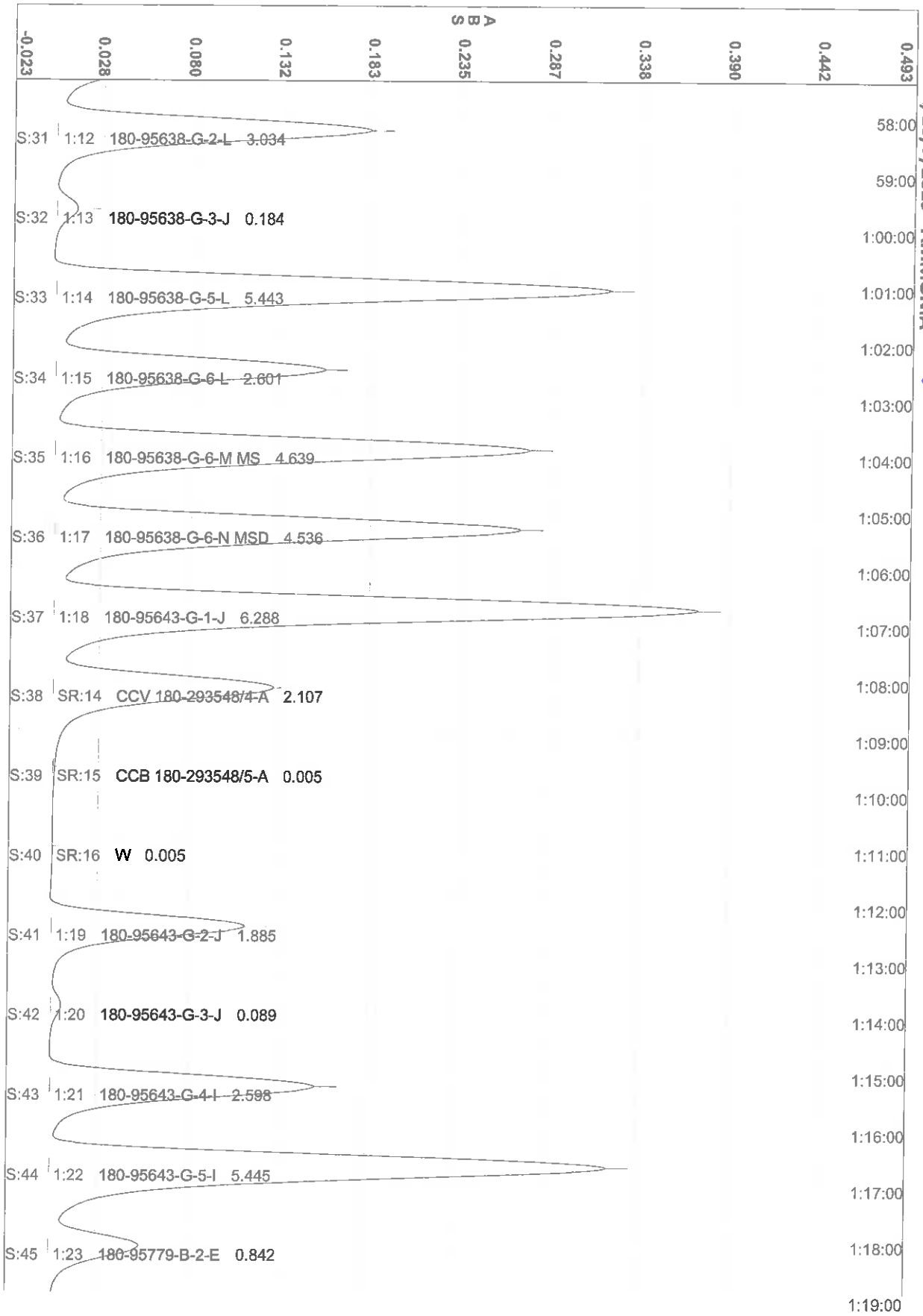

TM 10/07/19

A100719A, 10/7/2019 - AMMONIA

Distilled 350.1

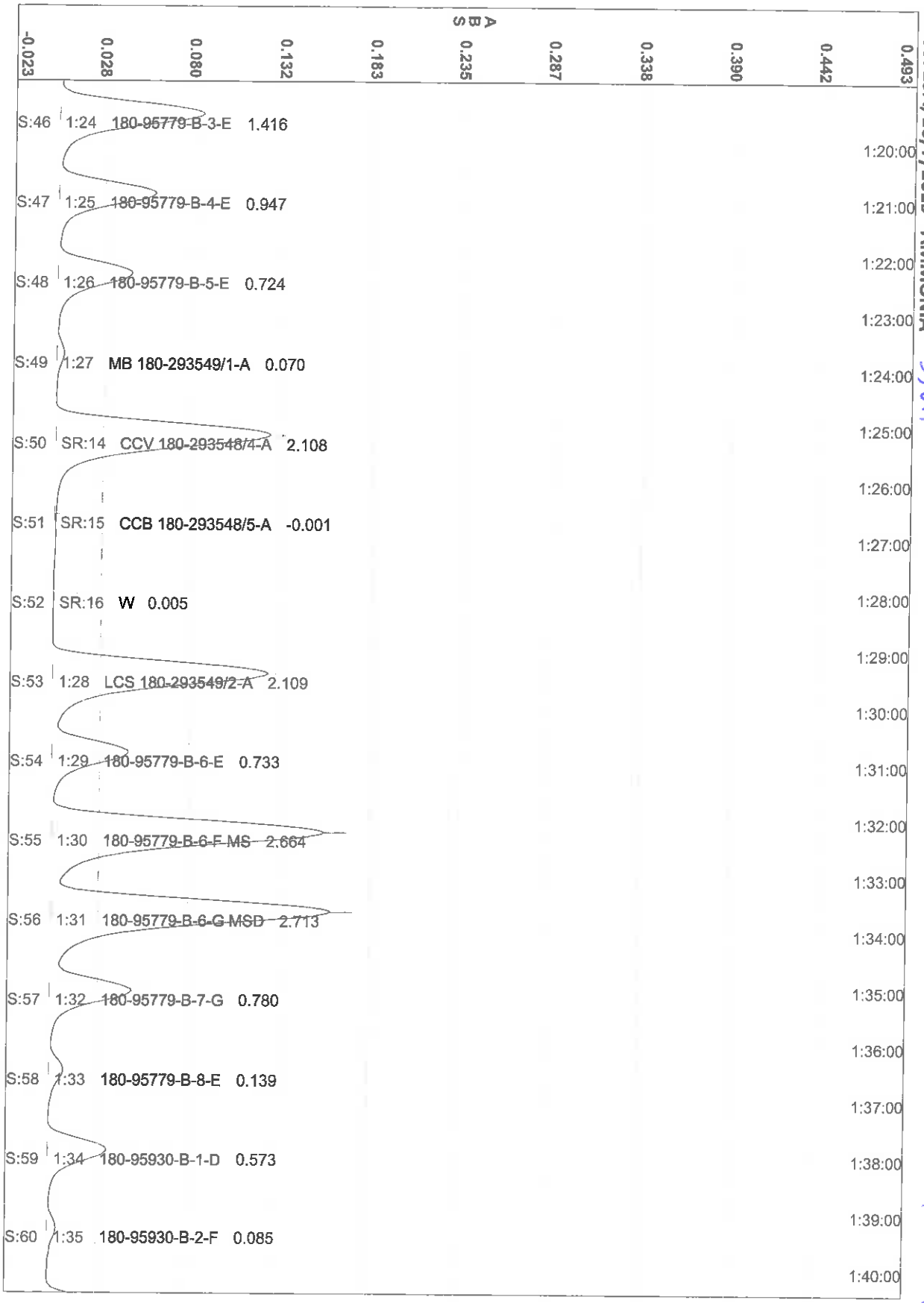

TM 10/07/19

A100719A, 10/7/2019 - AMMONIA

Distilled 350.1

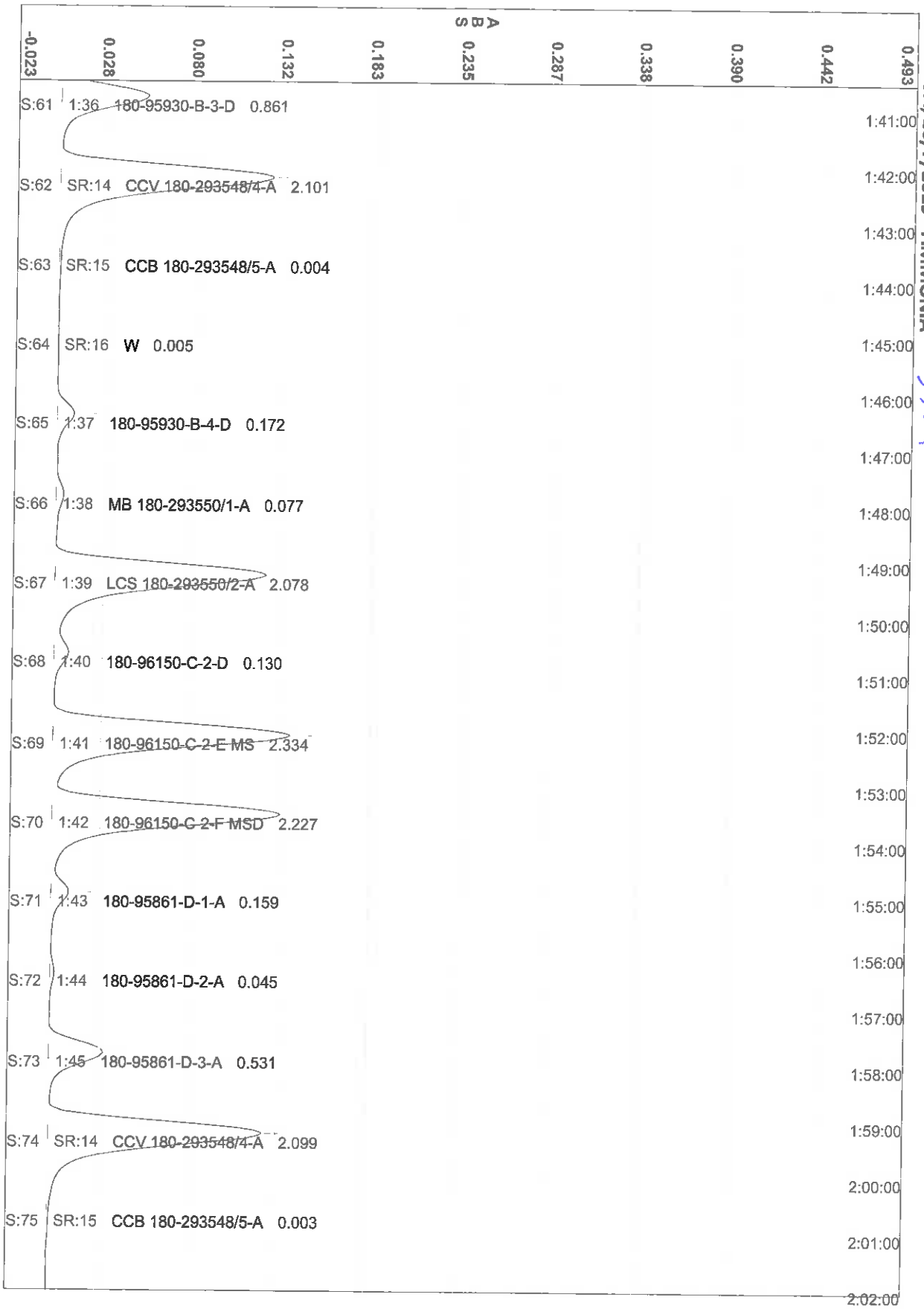

MM 10/07/19

A100719A, 10/7/2019 - AMMONIA

Distilled 350.1

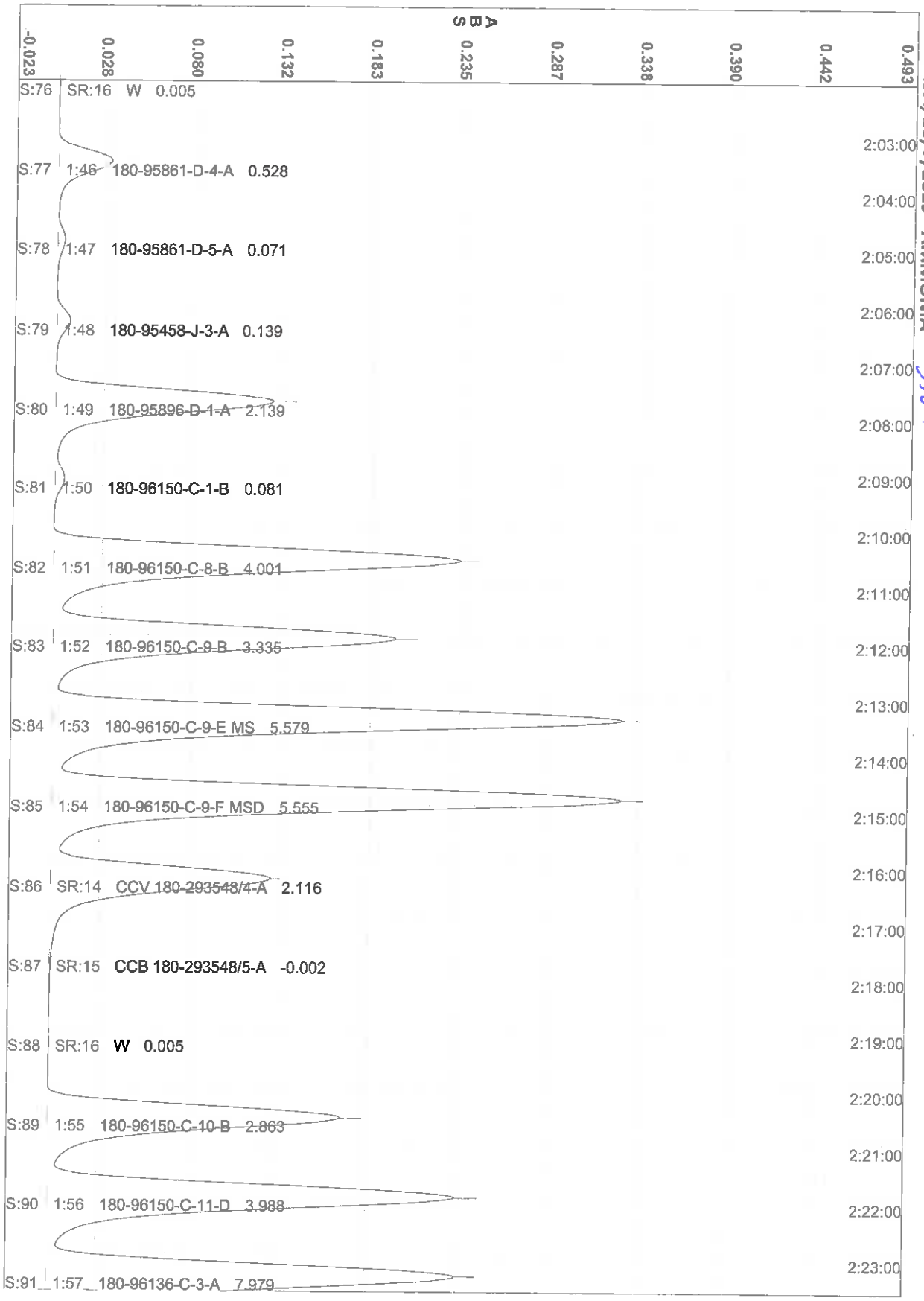

tnn 10/07/19

A100719A, 10/7/2019 - AMMONIA

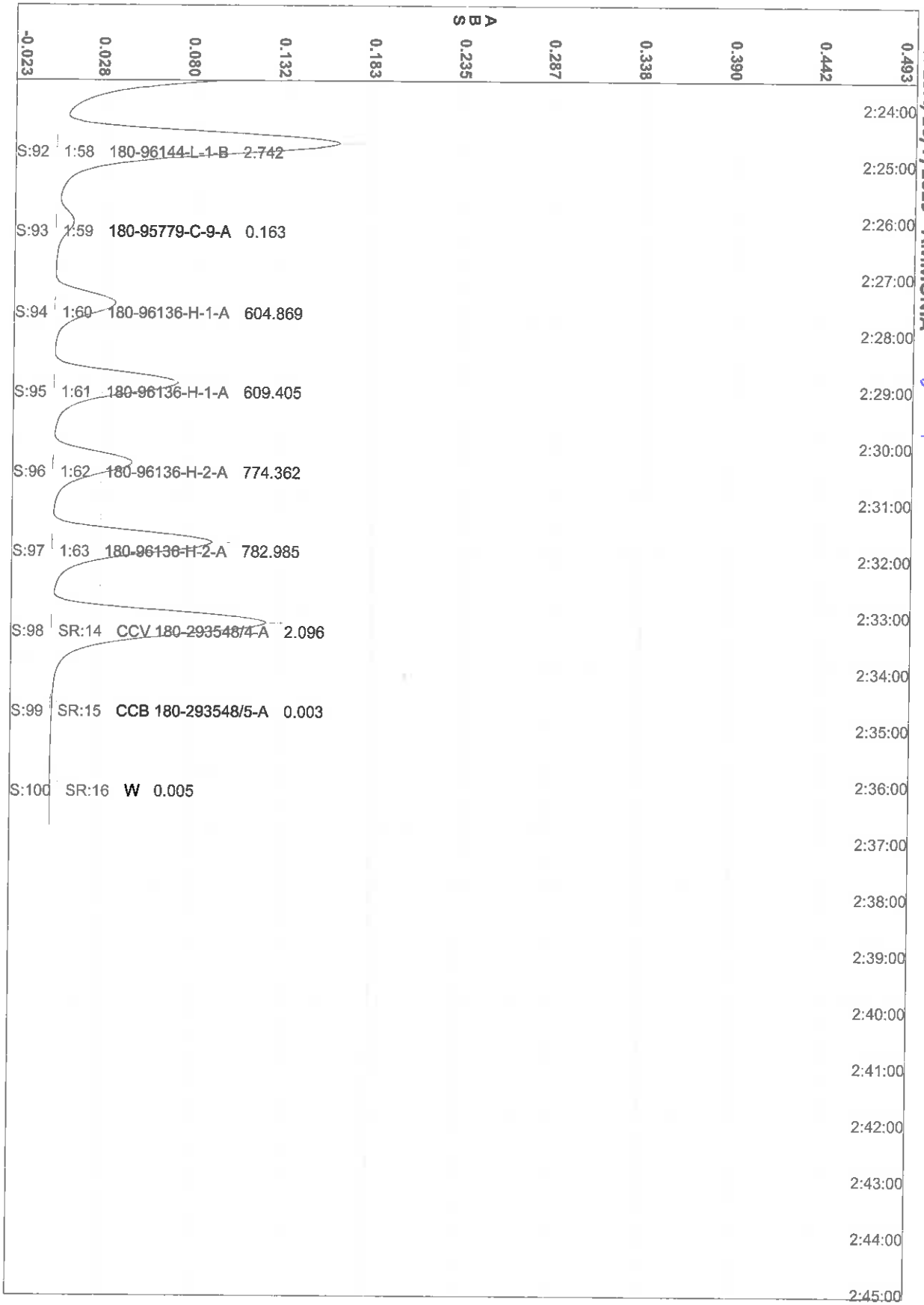

Distilled 350.1

TM 10/07/19

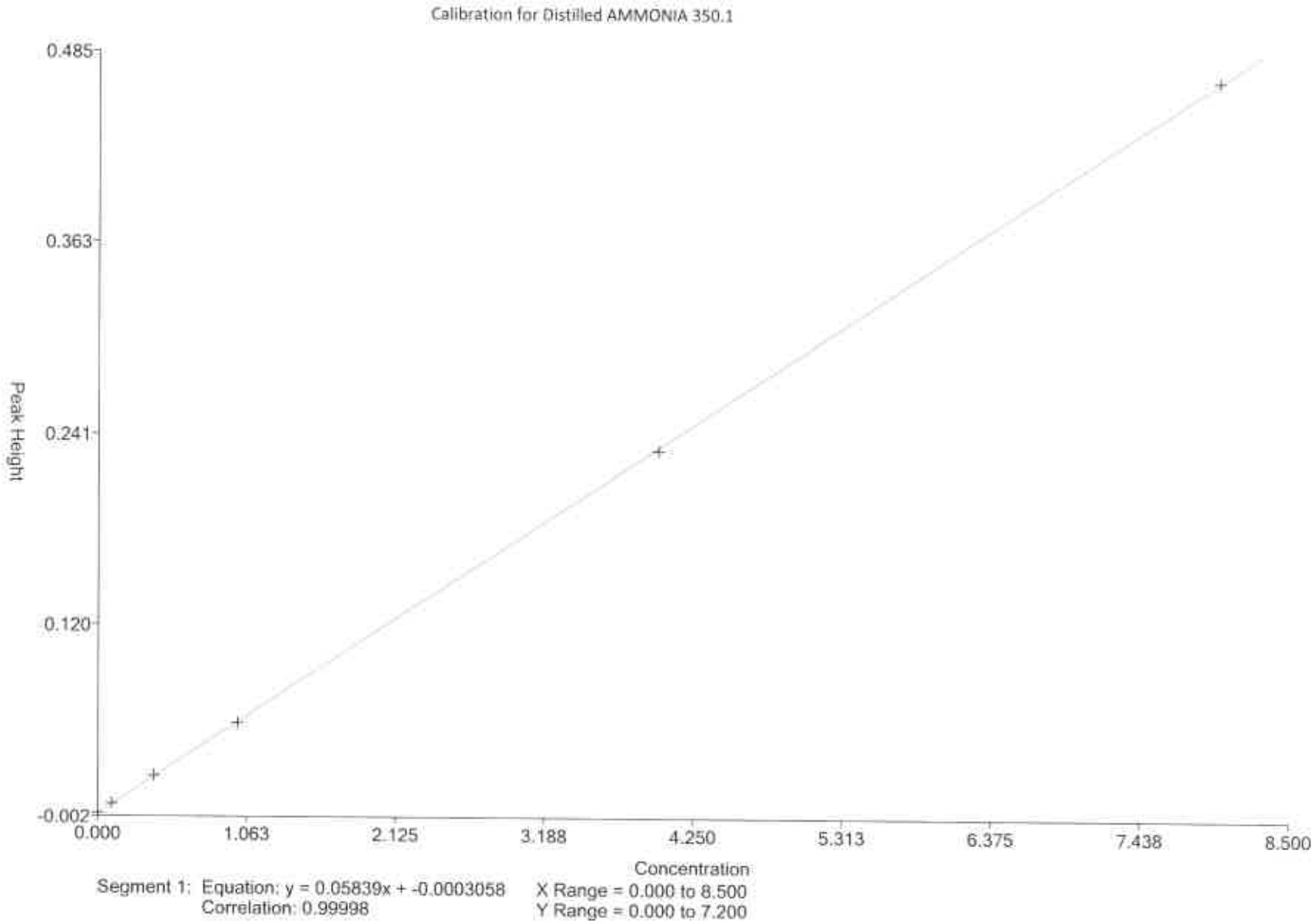
Calibration for Distilled AMMONIA 350.1
0.485
0.363
0.241
0.120
-0.002
Peak Height
0.000
1.063
2.125
3.188
4.250
5.313
6.375
7.438
8.500
Concentration
Segment 1: Equation: y = 0.05839x + -0.0003058
Correlation: 0.99998
X Range = 0.000 to 8.500
Y Range = 0.000 to 7.200

Bt# 293458
File#100219COD

Calibration

Calib 293458-0 / Chemical Oxygen Demand

Curve Type:	Linear
Weighting:	None
Origin:	None
Dependency:	Concentration
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	146.2
Slope:	-649.4

Error Coefficients

Standard Error:	4.37
Relative Standard Error:	9.9
Correlation Coefficient:	0.997
Coefficient of Determination (Adjusted):	0.995 (0.995)

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 180-293458/8	0.0	0.232			Infinity	Y
2	IC 180-293458/7	10.0	0.207			0.0207	Y
3	IC 180-293458/6	25.0	0.189			0.00756	Y
4	IC 180-293458/5	50.0	0.146			0.00292	Y
5	IC 180-293458/4	75.0	0.097			0.001293	Y
6	IC 180-293458/3	100.0	0.07			0.0007	Y
7	IC 180-293458/2	125.0	0.036			0.000288	Y
8	IC 180-293458/1	150.0	0.0			0.0	Y

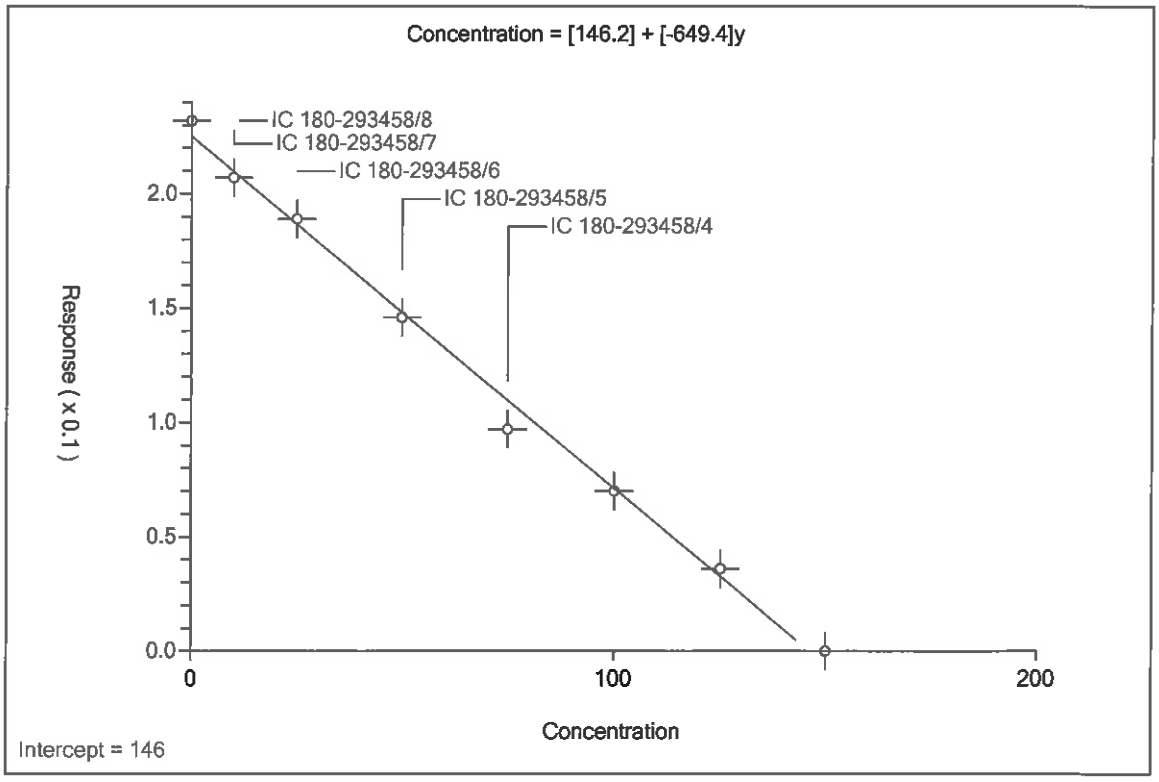

TALS Raw Data Report

Job Number: 180-96144-1
LIMS Batch: 293458
Equipment: GENESYS10S

Laboratory: Eurofins TestAmerica, Pittsburg

RS# 9 Lab ID: **ICV 180-293350/9-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.069	101.3914 mg/L	mg/L	101	90	110		

RS# 10 Lab ID: **ICB 180-293350/10-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.230	-3.162000 mg/L	mg/L					

RS# 11 Lab ID: **LCS 180-293350/11-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.070	100.7420 mg/L	mg/L	101	90	110		

RS# 12 Lab ID: **MB 180-293350/12-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.231	-3.811400 mg/L	mg/L					

RS# 21 Lab ID: **CCV 180-293350/21-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.073	98.79380 mg/L	mg/L	99	90	110		

RS# 22 Lab ID: **CCB 180-293350/22-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.232	-4.460800 mg/L	mg/L					

RS# 26 Lab ID: **180-96446-C-1-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.127	63.72620 mg/L	mg/L					

RS# 27 Lab ID: **180-96446-C-1-B MS** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.093	85.80580 mg/L	mg/L	88	90	110		

RS# 28 Lab ID: **180-96446-C-1-C MSD** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.094	85.15640 mg/L	mg/L	86	90	110	1	20

RS# 32 Lab ID: **180-96144-L-1-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.083	92.29980 mg/L	mg/L					

RS# 33 Lab ID: **CCV 180-293350/33-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.072	99.44320 mg/L	mg/L	99	90	110		

RS# 34 Lab ID: **CCB 180-293350/34-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.232	-4.460800 mg/L	mg/L					

RS# 37 Lab ID: **LB 180-293389/1-B** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt

Chemical Oxygen De		mg/L	mg/L				

RS# 42 Lab ID: **CCV 180-293350/42-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De		mg/L	mg/L				

RS# 43 Lab ID: **CCB 180-293350/43-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De		mg/L	mg/L				

TALS Raw Data Report

Job Number: 180-96323-1
LIMS Batch: 293458
Equipment: GENESYS10S

Laboratory: Eurofins TestAmerica, Pittsburg

RS# 9 Lab ID: **ICV 180-293350/9-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.069	101.3914 mg/L	mg/L	101	90	110		

RS# 10 Lab ID: **ICB 180-293350/10-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.230	-3.162000 mg/L	mg/L					

RS# 11 Lab ID: **LCS 180-293350/11-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.070	100.7420 mg/L	mg/L	101	90	110		

RS# 12 Lab ID: **MB 180-293350/12-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.231	-3.811400 mg/L	mg/L					

RS# 13 Lab ID: **180-96323-C-1-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.171	35.15260 mg/L	mg/L					

RS# 14 Lab ID: **180-96323-C-2-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.175	32.55500 mg/L	mg/L					

RS# 15 Lab ID: **180-96323-C-3-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.104	78.66240 mg/L	mg/L					

RS# 16 Lab ID: **180-96323-C-4-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.136	57.88160 mg/L	mg/L					

RS# 17 Lab ID: **180-96323-C-5-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.225	.08500000 mg/L	mg/L					

RS# 18 Lab ID: **180-96323-C-5-B MS** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.192	21.51520 mg/L	mg/L	86	90	110		

RS# 19 Lab ID: **180-96323-C-5-C MSD** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.196	18.91760 mg/L	mg/L	76	90	110	13	20

RS# 20 Lab ID: **180-96323-C-6-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.154	46.19240 mg/L	mg/L					

RS# 21 Lab ID: **CCV 180-293350/21-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt

Chemical Oxygen De	.073	98.79380	mg/L	mg/L	99	90	110	

RS# 22 Lab ID: **CCB 180-293350/22-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	.232	-4.460800 mg/L	mg/L				

RS# 33 Lab ID: **CCV 180-293350/33-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	.072	99.44320 mg/L	mg/L	99	90 110		

RS# 34 Lab ID: **CCB 180-293350/34-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	.232	-4.460800 mg/L	mg/L				

RS# 37 Lab ID: **LB 180-293389/1-B** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De		mg/L	mg/L				

RS# 42 Lab ID: **CCV 180-293350/42-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De		mg/L	mg/L				

RS# 43 Lab ID: **CCB 180-293350/43-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De		mg/L	mg/L				

TALS Raw Data Report

Job Number: 180-96348-1
LIMS Batch: 293458
Equipment: GENESYS10S

Laboratory: Eurofins TestAmerica, Pittsburg

RS# 9 Lab ID: **ICV 180-293350/9-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.069	101.3914 mg/L	mg/L	101	90	110		

RS# 10 Lab ID: **ICB 180-293350/10-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.230	-3.162000 mg/L	mg/L					

RS# 11 Lab ID: **LCS 180-293350/11-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.070	100.7420 mg/L	mg/L	101	90	110		

RS# 12 Lab ID: **MB 180-293350/12-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.231	-3.811400 mg/L	mg/L					

RS# 17 Lab ID: **180-96323-C-5-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.225	.08500000 mg/L	mg/L					

RS# 18 Lab ID: **180-96323-C-5-B MS** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.192	21.51520 mg/L	mg/L	86	90	110		

RS# 19 Lab ID: **180-96323-C-5-C MSD** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.196	18.91760 mg/L	mg/L	76	90	110	13	20

RS# 21 Lab ID: **CCV 180-293350/21-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.073	98.79380 mg/L	mg/L	99	90	110		

RS# 22 Lab ID: **CCB 180-293350/22-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.232	-4.460800 mg/L	mg/L					

RS# 23 Lab ID: **180-96348-G-3-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.196	18.91760 mg/L	mg/L					

RS# 33 Lab ID: **CCV 180-293350/33-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.072	99.44320 mg/L	mg/L	99	90	110		

RS# 34 Lab ID: **CCB 180-293350/34-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.232	-4.460800 mg/L	mg/L					

RS# 37 Lab ID: **LB 180-293389/1-B** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt

Chemical Oxygen De		mg/L	mg/L				

RS# 42 Lab ID: **CCV 180-293350/42-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De		mg/L	mg/L				

RS# 43 Lab ID: **CCB 180-293350/43-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De		mg/L	mg/L				

TALS Raw Data Report

Job Number: 180-96360-1
LIMS Batch: 293458
Equipment: GENESYS10S

Laboratory: Eurofins TestAmerica, Pittsburg

RS# 9 Lab ID: **ICV 180-293350/9-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.069	101.3914 mg/L	mg/L	101	90	110		

RS# 10 Lab ID: **ICB 180-293350/10-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.230	-3.162000 mg/L	mg/L					

RS# 11 Lab ID: **LCS 180-293350/11-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.070	100.7420 mg/L	mg/L	101	90	110		

RS# 12 Lab ID: **MB 180-293350/12-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.231	-3.811400 mg/L	mg/L					

RS# 17 Lab ID: **180-96323-C-5-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.225	.08500000 mg/L	mg/L					

RS# 18 Lab ID: **180-96323-C-5-B MS** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.192	21.51520 mg/L	mg/L	86	90	110		

RS# 19 Lab ID: **180-96323-C-5-C MSD** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.196	18.91760 mg/L	mg/L	76	90	110	13	20

RS# 21 Lab ID: **CCV 180-293350/21-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.073	98.79380 mg/L	mg/L	99	90	110		

RS# 22 Lab ID: **CCB 180-293350/22-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.232	-4.460800 mg/L	mg/L					

RS# 24 Lab ID: **180-96360-D-6-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.172	34.50320 mg/L	mg/L					

RS# 33 Lab ID: **CCV 180-293350/33-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.072	99.44320 mg/L	mg/L	99	90	110		

RS# 34 Lab ID: **CCB 180-293350/34-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.232	-4.460800 mg/L	mg/L					

RS# 37 Lab ID: **LB 180-293389/1-B** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt

Chemical Oxygen De		mg/L	mg/L				

RS# 42 Lab ID: **CCV 180-293350/42-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De		mg/L	mg/L				

RS# 43 Lab ID: **CCB 180-293350/43-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De		mg/L	mg/L				

TALS Raw Data Report

Job Number: 180-96372-1
LIMS Batch: 293458
Equipment: GENESYS10S

Laboratory: Eurofins TestAmerica, Pittsburg

RS# 9 Lab ID: **ICV 180-293350/9-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.069	101.3914 mg/L	mg/L	101	90	110		

RS# 10 Lab ID: **ICB 180-293350/10-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.230	-3.162000 mg/L	mg/L					

RS# 11 Lab ID: **LCS 180-293350/11-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.070	100.7420 mg/L	mg/L	101	90	110		

RS# 12 Lab ID: **MB 180-293350/12-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.231	-3.811400 mg/L	mg/L					

RS# 17 Lab ID: **180-96323-C-5-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.225	.08500000 mg/L	mg/L					

RS# 18 Lab ID: **180-96323-C-5-B MS** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.192	21.51520 mg/L	mg/L	86	90	110		

RS# 19 Lab ID: **180-96323-C-5-C MSD** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.196	18.91760 mg/L	mg/L	76	90	110	13	20

RS# 21 Lab ID: **CCV 180-293350/21-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.073	98.79380 mg/L	mg/L	99	90	110		

RS# 22 Lab ID: **CCB 180-293350/22-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.232	-4.460800 mg/L	mg/L					

RS# 25 Lab ID: **180-96372-B-1-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De		mg/L	mg/L					

RS# 33 Lab ID: **CCV 180-293350/33-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.072	99.44320 mg/L	mg/L	99	90	110		

RS# 34 Lab ID: **CCB 180-293350/34-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.232	-4.460800 mg/L	mg/L					

RS# 37 Lab ID: **LB 180-293389/1-B** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt

Chemical Oxygen De		mg/L	mg/L				

RS# 42 Lab ID: **CCV 180-293350/42-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De		mg/L	mg/L				

RS# 43 Lab ID: **CCB 180-293350/43-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De		mg/L	mg/L				

TALS Raw Data Report

Job Number: 180-96446-1
LIMS Batch: 293458
Equipment: GENESYS10S

Laboratory: Eurofins TestAmerica, Pittsburg

RS# 9 Lab ID: **ICV 180-293350/9-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.069	101.3914 mg/L	mg/L	101	90	110		

RS# 10 Lab ID: **ICB 180-293350/10-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.230	-3.162000 mg/L	mg/L					

RS# 11 Lab ID: **LCS 180-293350/11-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.070	100.7420 mg/L	mg/L	101	90	110		

RS# 12 Lab ID: **MB 180-293350/12-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.231	-3.811400 mg/L	mg/L					

RS# 21 Lab ID: **CCV 180-293350/21-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.073	98.79380 mg/L	mg/L	99	90	110		

RS# 22 Lab ID: **CCB 180-293350/22-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.232	-4.460800 mg/L	mg/L					

RS# 26 Lab ID: **180-96446-C-1-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.127	63.72620 mg/L	mg/L					

RS# 27 Lab ID: **180-96446-C-1-B MS** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.093	85.80580 mg/L	mg/L	88	90	110		

RS# 28 Lab ID: **180-96446-C-1-C MSD** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.094	85.15640 mg/L	mg/L	86	90	110	1	20

RS# 29 Lab ID: **180-96446-C-2-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.153	46.84180 mg/L	mg/L					

RS# 30 Lab ID: **180-96446-C-3-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.168	37.10080 mg/L	mg/L					

RS# 31 Lab ID: **180-96446-C-4-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	.143	53.33580 mg/L	mg/L					

RS# 33 Lab ID: **CCV 180-293350/33-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt

Chemical Oxygen De	.072	99.44320	mg/L	mg/L	99	90	110	

RS# 34 Lab ID: **CCB 180-293350/34-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	.232	-4.460800 mg/L	mg/L				

RS# 37 Lab ID: **LB 180-293389/1-B** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De		mg/L	mg/L				

RS# 42 Lab ID: **CCV 180-293350/42-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De		mg/L	mg/L				

RS# 43 Lab ID: **CCB 180-293350/43-A** Inj Date: 10/2/2019 9:19:00AM Dil: 1.0 Meth: 410.4

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De		mg/L	mg/L				

Order Number: PC_BOD_20190926-3 **Run Number:** 10211

Rack #	Bottle #	Sample Name	StartTime	Predil	Sample Volume	Mass (g)	Seed Volume	Initial DO	Initial Temp
002	11	180-96207-a-2	10:27 AM	1.00	300.00		2.25	8.24	21.70
002	12	180-96208-b-3	10:28 AM	1.00	25.00		2.25	7.70	22.00
002	13	180-96208-b-3	10:29 AM	1.00	50.00		2.25	7.80	21.90
002	14	180-96208-b-3	10:31 AM	1.00	100.00		2.25	7.84	21.90
002	15	180-96208-b-3	10:31 AM	1.00	300.00		2.25	8.12	21.60
002	16	180-96208-b-3 DU	10:33 AM	1.00	25.00		2.25	7.73	22.00
002	17	180-96208-b-3 DU	10:34 AM	1.00	50.00		2.25	7.79	22.00
002	18	180-96208-b-3 DU	10:35 AM	1.00	100.00		2.25	7.95	21.70
002	19	180-96208-b-3 DU	10:36 AM	1.00	300.00		2.25	8.13	21.60
002	20	BLANK	10:37 AM	1.00	.00		.00	7.74	22.00

PC-BOD Final Report

Initials Operator:	ELS	**BOD Blank Average Depletion:**	-.20	
Finals Operator:	ELS	**CBOD Blank Average Depletion:**	.00	
Run Number:	10211	**BOD Seed Correction: (per ml of seed)**	0.19508	
OrderNumber:	PC_BOD_20190926-3	**CBOD Seed Correction: (per ml of seed)**	0.00000	
Start Time:	9:41 AM			
Start Date:	9/26/2019	**Initial Cal Reading:**	96.30	
Finish Time:	11:40 AM	**Initial Pressure:**	28.81	inHg
Finish Date:	10/1/2019	**Final Cal Reading:**	97.00	
Method:	SM5210B / SM5210B Calc	**Final Pressure:**	29.04	inHg

Flag Definitions

SR	Standard - Out of range
SAR	Standard average out of range
bSS	Blank supersaturated
bDe	Blank - Depletion
cD	Seed - Depletion
cF	Seed - Final DO
cR	Seed - Range
sD	Sample Limit - Depletion
sF	Sample Limit - Final DO
gF	Group Failure - Final DO
gD	Group Failure - Depletion
gT	Group Failure - Toxicity
In+	Incubation too long
In-	Incubation too short
iT	Intial temperature out of range
fT	Final temperature out of range

Rack #	Bottle #	Sample Name	Sample ID	Start Time	Finish Time	Predil Factor	Sample Volume	Mass (g)	Seed Vol	Initial DO	Initial Temp	Final DO	Final Temp	Depletion	BOD\ CBOD	BOD\CBOD Average	Flags
001	1	flush		9:43 AM	10:59 AM	1.00	.00		2.25	6.98	21.90	6.37	20.00	2.00	< 6.77	< 6.77	sDgD
001	2	usb		9:44 AM	11:00 AM	1.00	.00		.00	7.75	21.90	7.90	20.10	-.15	.00	.00	
001	3	usb		9:45 AM	11:01 AM	1.00	.00		.00	7.78	21.90	8.03	20.20	-.25	.00	.00	
001	4	seed		9:48 AM	11:02 AM	1.00	.00		20.00	7.64	21.80	3.89	20.00	3.75	.00	.00	
001	5	seed		9:50 AM	11:03 AM	1.00	.00		15.00	7.75	21.80	4.71	20.00	3.04	.00	.00	
001	6	seed		9:52 AM	11:03 AM	1.00	.00		10.00	7.76	21.90	5.80	20.10	1.96	< .00	.00	cD
001	7	seed		9:53 AM	11:04 AM	1.00	.00		5.00	7.78	21.90	7.06	20.20	.72	< .00	.00	cD
001	8	GGA_Bod		9:54 AM	11:05 AM	1.00	6.00		2.25	7.78	21.90	4.20	20.00	3.58	157.05	.00	
001	9	GGA_Bod		9:56 AM	11:06 AM	1.00	6.00		2.25	7.79	21.90	5.46	20.00	2.33	94.55	.00	
001	10	GGA_Bod		9:57 AM	11:07 AM	1.00	6.00		2.25	7.78	21.90	4.79	20.00	2.99	127.55	126.39	gT
001	11	BLANK		9:58 AM	11:08 AM	1.00	.00		.00	7.69	22.00	8.02	20.10	2.00	< 127.55	.00	sD
001	12	180-96146-j-1		10:00 AM	11:09 AM	1.00	1.00		2.25	7.68	22.00	6.63	20.00	2.00	< 468.32	.00	sD
001	13	180-96146-j-1		10:01 AM	11:10 AM	1.00	2.50		2.25	7.75	21.90	4.93	20.00	2.82	285.73	.00	
001	14	180-96146-j-1		10:02 AM	11:11 AM	1.00	6.00		2.25	7.75	22.00	1.34	20.00	6.41	298.55	.00	

Rack #	Bottle #	Sample Name	Sample ID	Start Time	Finish Time	Predil Factor	Sample Volume	Mass (g)	Seed Vol	Initial DO	Initial Temp	Final DO	Final Temp	Depletion	BOD\ CBOD	BOD\CBOD Average	Flags
001	15	180-96146-j-1		10:03 AM	11:12 AM	1.00	15.00		2.25	7.71	22.00	1.14	20.10	6.57	122.62	.00	
001	16	180-96146-j-1		10:05 AM	11:12 AM	1.00	40.00		2.25	7.86	21.50	1.47	19.90	6.39	44.63	.00	
001	17	180-96146-j-1		10:06 AM	11:13 AM	1.00	100.00		2.25	7.74	21.10	1.41	19.80	6.33	17.67	.00	
001	18	180-96146-j-1		10:07 AM	11:14 AM	1.00	300.00		2.25	5.81	21.80	.75	20.00	5.06	> 4.62	153.84	sFgT
001	19	180-96144-h-1		10:08 AM	11:15 AM	1.00	1.00		2.25	7.74	22.00	6.99	20.10	2.00	< 468.32	.00	sD
001	20	180-96144-h-1		10:09 AM	11:16 AM	1.00	2.50		2.25	7.78	22.00	7.70	20.00	2.00	< 187.33	.00	sD
001	21	180-96144-h-1		10:11 AM	11:17 AM	1.00	6.00		2.25	7.75	22.00	7.75	20.00	2.00	< 78.05	.00	sD
001	22	180-96144-h-1		10:12 AM	11:17 AM	1.00	15.00		2.25	7.64	22.00	7.58	20.10	2.00	< 31.22	.00	sD
001	23	180-96144-h-1		10:13 AM	11:18 AM	1.00	40.00		2.25	7.42	22.00	7.33	20.10	2.00	< 11.71	.00	sD
002	1	180-96144-h-1		10:15 AM	11:21 AM	1.00	100.00		2.25	6.32	22.00	5.94	20.20	2.00	< 4.68	.00	sD
002	2	180-96144-h-1		10:16 AM	11:22 AM	1.00	300.00		2.25	2.29	22.00	1.23	20.20	1.06	.62	.62	gT
002	3	180-96207-a-1		10:18 AM	11:23 AM	1.00	25.00		2.25	7.63	22.00	6.79	20.20	2.00	< 18.73	.00	sD
002	4	180-96207-a-1		10:19 AM	11:24 AM	1.00	50.00		2.25	7.77	22.00	6.38	20.20	2.00	< 9.37	.00	sD
002	5	180-96207-a-1		10:20 AM	11:25 AM	1.00	100.00		2.25	7.81	21.90	5.09	20.20	2.72	6.84	.00	
002	6	180-96207-a-1		10:21 AM	11:26 AM	1.00	300.00		2.25	8.00	21.80	.67	20.20	7.33	> 6.89	6.84	sFgT
002	7	BLANK		10:22 AM	11:27 AM	1.00	.00		.00	7.65	22.00	7.64	20.20	2.00	< 6.89	.00	sD
002	8	180-96207-a-2		10:24 AM	11:28 AM	1.00	25.00		2.25	7.72	22.00	7.08	20.10	2.00	< 18.73	.00	sD
002	9	180-96207-a-2		10:25 AM	11:29 AM	1.00	50.00		2.25	7.81	22.00	6.48	20.20	2.00	< 9.37	.00	sD
002	10	180-96207-a-2		10:26 AM	11:29 AM	1.00	100.00		2.25	8.09	21.40	6.71	20.10	2.00	< 4.68	.00	sD
002	11	180-96207-a-2		10:27 AM	11:30 AM	1.00	300.00		2.25	8.24	21.70	.81	20.20	7.43	> 6.99	.00	sFgT
002	12	180-96208-b-3		10:28 AM	11:32 AM	1.00	25.00		2.25	7.70	22.00	6.81	20.10	2.00	< 18.73	.00	sD
002	13	180-96208-b-3		10:29 AM	11:32 AM	1.00	50.00		2.25	7.80	21.90	6.44	20.10	2.00	< 9.37	.00	sD
002	14	180-96208-b-3		10:31 AM	11:33 AM	1.00	100.00		2.25	7.84	21.90	5.68	20.20	2.16	5.16	.00	
002	15	180-96208-b-3		10:31 AM	11:34 AM	1.00	300.00		2.25	8.12	21.60	.73	20.20	7.39	> 6.95	5.16	sFgT
002	16	180-96208-b-3 DU		10:33 AM	11:35 AM	1.00	25.00		2.25	7.73	22.00	6.39	20.10	2.00	< 18.73	.00	sD
002	17	180-96208-b-3 DU		10:34 AM	11:36 AM	1.00	50.00		2.25	7.79	22.00	6.37	20.10	2.00	< 9.37	.00	sD
002	18	180-96208-b-3 DU		10:35 AM	11:37 AM	1.00	100.00		2.25	7.95	21.70	6.11	20.20	2.00	< 4.68	.00	sD

Rack #	Bottle #	Sample Name	Sample ID	Start Time	Finish Time	Predil Factor	Sample Volume	Mass (g)	Seed Vol	Initial DO	Initial Temp	Final DO	Final Temp	Depletion	BOD\ CBOD	BOD\CBOD Average	Flags
002	19	180-96208-b-3 DU		10:36 AM	11:38 AM	1.00	300.00		2.25	8.13	21.60	.92	20.20	7.21	> 6.77	.00	sFgT
002	20	BLANK		10:37 AM	11:39 AM	1.00	.00		.00	7.74	22.00	7.58	20.20	2.00	< 6.77	< 127.55	sDgDgT

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Controlled Document
PITTSBURGH
WI No. PT-WC-WI-012 R4
Effective Date: 5/7/2019
Page 1 of 1

AUTOMATED BOD & CBOD LOG SHEET METHOD: SM 5210B

Rack Number: 001/002	Analyst: ELS	1N NaOH TALS ID: NA
Incubator ID: BOD 2	Date: 9-26-19	1N H_2SO_4 TALS ID: 3293206
Buffer Lot: 2936764	Chlorine Test Lot: 3016744	
Mini Buffer Lot: 3374894	Potassium Iodine Lot: NA	
G/GA Lot: 3342720	Sodium Sulfite Lot: NA	
Seed Lot: 3314403	CBOD Nitrification Inhibitor: NA	
Seed Volume Used (mL): 2.25	TALS Batch: 293371	
BOD Bottle Lot: Env. Express EX-2345-1	Comments:	

Sample ID	Sample Temp °C	Initial pH	Final pH	Chlorine + = >0.2mg/L -- = <0.2mg/L	mL Na_2SO_3 Added (per L of Sample) to Remove Chlorine
Dilution Water	21.9	7.29	—	⊖	NA
180-96146-J-1	19.3	9.19	7.20	⊖	NA
180-96144-H-1	18.3	7.86	—	⊖	NA
180-96207-A-1	18.7	7.70	—	⊖	NA
180-96207-A-2	19.1	7.64	—	⊖	NA
180-96204-B-3	19.7	7.33	—	⊖	NA
					ELS 10-1-19

Day 1
DO Meter Calibration with Water Saturated Air

Date: 9-26-19 Time: 0941

Barometric Pressure: 28.61
Air Temperature: 21.79
DO %Saturation: 95.8

Calibration of pH Meter
pH meter ID: Accumet XL150 (XL17672.10)
Date calibrated: 9-26-19
Slope: 100.3 Incubator Temp, °C 19.6
Sensor 3

Day 5
DO Meter Calibration with Water Saturated Air

Date: 10-1-19 Time: 11:40

Barometric Pressure: 29.04
Air Temperature: ~~20.37~~ 20.25
DO %Saturation: ~~93.7~~ 96.8 ELS 10/1/19

Incubator Temp, °C 19.8

PC-BOD Initial Report

Method: SM5210B / SM5210B

Initial Operator: ELS **Start Date:** 9/26/2019 **Start Time:** 9:41 AM

Initial Cal Reading: 96.30 **Initial Pressure:** 28.81 inHg

Order Number: PC_BOD_20190926-3 **Run Number:** 10211

Rack #	Bottle #	Sample Name	StartTime	Predil	Sample Volume	Mass (g)	Seed Volume	Initial DO	Initial Temp
001	1	flush	9:43 AM	1.00	.00		2.25	6.98	21.90
001	2	usb	9:44 AM	1.00	.00		.00	7.75	21.90
001	3	usb	9:45 AM	1.00	.00		.00	7.78	21.90
001	4	seed	9:48 AM	1.00	.00		20.00	7.64	21.80
001	5	seed	9:50 AM	1.00	.00		15.00	7.75	21.80
001	6	seed	9:52 AM	1.00	.00		10.00	7.76	21.90
001	7	seed	9:53 AM	1.00	.00		5.00	7.78	21.90
001	8	GGA_Bod	9:54 AM	1.00	6.00		2.25	7.78	21.90
001	9	GGA_Bod	9:56 AM	1.00	6.00		2.25	7.79	21.90
001	10	GGA_Bod	9:57 AM	1.00	6.00		2.25	7.78	21.90
001	11	BLANK	9:58 AM	1.00	.00		.00	7.69	22.00
001	12	180-96146-j-1	10:00 AM	1.00	1.00		2.25	7.68	22.00
001	13	180-96146-j-1	10:01 AM	1.00	2.50		2.25	7.75	21.90
001	14	180-96146-j-1	10:02 AM	1.00	6.00		2.25	7.75	22.00
001	15	180-96146-j-1	10:03 AM	1.00	15.00		2.25	7.71	22.00
001	16	180-96146-j-1	10:05 AM	1.00	40.00		2.25	7.86	21.50
001	17	180-96146-j-1	10:06 AM	1.00	100.00		2.25	7.74	21.10
001	18	180-96146-j-1	10:07 AM	1.00	300.00		2.25	5.81	21.80
001	19	180-96144-h-1	10:08 AM	1.00	1.00		2.25	7.74	22.00
001	20	180-96144-h-1	10:09 AM	1.00	2.50		2.25	7.78	22.00
001	21	180-96144-h-1	10:11 AM	1.00	6.00		2.25	7.75	22.00
001	22	180-96144-h-1	10:12 AM	1.00	15.00		2.25	7.64	22.00
001	23	180-96144-h-1	10:13 AM	1.00	40.00		2.25	7.42	22.00
002	1	180-96144-h-1	10:15 AM	1.00	100.00		2.25	6.32	22.00
002	2	180-96144-h-1	10:16 AM	1.00	300.00		2.25	2.29	22.00
002	3	180-96207-a-1	10:18 AM	1.00	25.00		2.25	7.63	22.00
002	4	180-96207-a-1	10:19 AM	1.00	50.00		2.25	7.77	22.00
002	5	180-96207-a-1	10:20 AM	1.00	100.00		2.25	7.81	21.90
002	6	180-96207-a-1	10:21 AM	1.00	300.00		2.25	8.00	21.80
002	7	BLANK	10:22 AM	1.00	.00		.00	7.65	22.00
002	8	180-96207-a-2	10:24 AM	1.00	25.00		2.25	7.72	22.00
002	9	180-96207-a-2	10:25 AM	1.00	50.00		2.25	7.81	22.00
002	10	180-96207-a-2	10:26 AM	1.00	100.00		2.25	8.09	21.40

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Date Approved: By:

TOC1030 5310C Batch# 294581 10/10/19 TOCB TM 10/11/19

Sample Results Summary

Spl #	Vial #	Sample ID	Num Rep	Act Rep	Method	Type	Dil	Cust ID	Mode	Avg. Area (cts)	Avg. Mass (ug)	Avg. Conc (PPM)	Std. Dev	% RSD	Notes
1	1	BLANK	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	592	0.202	0.084	81	13.61	Pass
2	2	ICV 40 PPM	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Chk Standard	1 : 1	00000000	TOC	172,075	94.573	39.405	1,023	0.59	Fail
3	3	ICB	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Chk Standard	1 : 1	00000000	TOC	536	0.012	0.005	156	29.20	Fail
4	4	LCS 20 PPM	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Chk Standard	1 : 1	00000000	TOC	83,143	45.524	18.968	890	1.07	Fail
5	5	LCSD 20 PPM	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Chk Standard	1 : 1	00000000	TOC	83,821	45.898	19.124	765	0.91	Fail
6	6	MB	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Chk Standard	1 : 1	00000000	TOC	798	0.108	0.045	29	3.65	Fail
7	7	180-96010-N-1	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	1,311	0.598	0.249	77	5.90	Pass
8	8	180-96010-N-2	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	1,713	0.820	0.342	118	6.87	Pass
9	9	180-96077-N-1	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	4,294	2.244	0.935	151	3.52	Pass
10	10	180-96077-M-2	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	13,226	7.170	2.987	766	5.79	Pass
11	11	180-96077-N-3	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	13,358	7.243	3.018	1,486	11.12	Pass
12	12	180-96077-M-4	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	6,390	3.400	1.417	314	4.91	Pass
13	13	180-96077-N-5	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	625	0.220	0.092	110	17.61	Pass
14	14	CCV 10 PPM	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Chk Standard	1 : 1	00000000	TOC	43,133	23.457	9.774	458	1.06	Fail
15	15	CCB	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Chk Standard	1 : 1	00000000	TOC	1,512	0.520	0.216	1,378	91.11	Fail
16	16	180-96077-M-6	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	543	0.175	0.073	123	22.61	Pass
17	17	180-96077-N-7	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	13,661	7.410	3.087	864	6.33	Pass
18	18	180-96135-M-11	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	978	0.415	0.173	214	21.87	Pass
19	19	180-96135-M-12	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	1,003	0.428	0.179	109	10.90	Pass
20	20	180-96144-S-1	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	19,777	10.783	4.493	399	2.02	Pass
21	21	180-96202-P-1	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	39,643	21.740	9.058	923	2.33	Pass
22	22	180-96202-P-2	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	38,850	21.302	8.876	625	1.61	Pass
23	23	180-96217-J-1	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	3,179	1.629	0.679	75	2.34	Pass

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24	24	180-96218-J-1	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	8,898	4.783	1.993	58	0.65	Pass
25	25	180-96218-J-2	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	9,866	5.317	2.215	80	0.81	Pass
26	26	CCV 10 PPM	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Chk Standard	1 : 1	00000000	TOC	42,801	23.274	9.698	368	0.86	Fail
27	27	CCB	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Chk Standard	1 : 1	00000000	TOC	438	0.000	0.000	28	6.45	Fail
28	28	180-96218-I-3	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	13,458	7.298	3.041	230	1.71	Pass
29	29	180-96218-I-4	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	7,371	3.941	1.642	45	0.61	Pass
30	30	180-96219-I-1	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	4,429	2.318	0.966	110	2.49	Pass
31	31	LCS 20 PPM	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Chk Standard	1 : 1	00000000	TOC	81,772	44.768	18.653	1,424	1.74	Fail
32	32	LCSD 20 PPM	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Chk Standard	1 : 1	00000000	TOC	81,887	44.831	18.680	957	1.17	Fail
33	33	MB	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Chk Standard	1 : 1	00000000	TOC	372	0.000	0.000	129	34.68	Fail
34	34	180-96232-L-1	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	722	0.273	0.114	173	23.98	Pass
35	35	180-96232-L-2	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	777	0.304	0.127	26	3.35	Pass
36	36	180-96376-B-1	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	25,321	13.841	5.767	376	1.49	Pass
37	37	180-96378-B-1	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	29,783	16.302	6.792	428	1.44	Pass
38	38	CCV 10 PPM	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Chk Standard	1 : 1	00000000	TOC	41,199	22.391	9.330	1,061	2.57	Fail
39	39	CCB	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Chk Standard	1 : 1	00000000	TOC	532	0.000	0.000	74	13.98	Fail
40	40	180-96379-B-1	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	24,862	13.587	5.661	257	1.03	Pass
41	41	180-96381-B-1	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	24,931	13.626	5.677	161	0.64	Pass
42	42	180-96382-B-1	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	28,720	15.716	6.548	795	2.77	Pass
43	43	180-96453-O-3	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	146,196	80.507	33.544	6,558	4.49	Pass
44	44	180-96453-P-5	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	34,352	18.822	7.843	188	0.55	Pass
45	45	180-96453-O-6	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	87,785	48.291	20.121	948	1.08	Pass
46	46	180-96518-I-1	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	30,228	16.547	6.895	943	3.12	Pass
47	47	180-95645-J-2	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	3,522	1.818	0.758	263	7.46	Pass
48	48	180-95645-J-5	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	3,844	1.995	0.832	241	6.26	Pass
49	49	180-95645-J-8	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	3,724	1.929	0.804	225	6.04	Pass

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50	50	CCV 10 PPM	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Chk Standard	1 : 1	00000000	TOC	42,893	23.325	9.719	696	1.62	Fail
51	51	CCB	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Chk Standard	1 : 1	00000000	TOC	738	0.075	0.031	15	1.99	Fail
52	52	180-95645-J-11	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	3,809	1.976	0.823	233	6.11	Pass
53	53	180-95645-J-14	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	3,704	1.918	0.800	519	14.02	Pass
54	54	180-95645-J-17	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	16,461	8.954	3.731	971	5.90	Pass
55	55	180-95645-J-20	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	18,352	9.997	4.166	2,182	11.89	Pass
56	56	180-95645-J-23	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	16,249	8.837	3.683	1,949	11.99	Pass
57	57	180-95645-J-26	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	6,081	3.229	1.346	831	13.67	Pass
58	58	LCS 20 PPM	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Chk Standard	1 : 1	00000000	TOC	78,966	43.220	18.008	210	0.27	Fail
59	59	LCSD 20 PPM	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Chk Standard	1 : 1	00000000	TOC	80,820	44.243	18.435	1,065	1.32	Fail
60	60	MB	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Chk Standard	1 : 1	00000000	TOC	644	0.044	0.019	166	25.78	Fail
61	61	180-95645-J-29	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	3,734	1.935	0.807	193	5.18	Pass
62	62	CCV 10 PPM	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Chk Standard	1 : 1	00000000	TOC	42,329	23.014	9.589	297	0.70	Fail
63	63	CCB	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Chk Standard	1 : 1	00000000	TOC	534	0.000	0.000	68	12.76	Fail
64	64	180-95645-J-32	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	16,121	8.766	3.653	599	3.72	Pass
65	65	180-95645-J-35	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	8,763	4.708	1.962	778	8.88	Pass
66	66	180-95645-J-35 MS	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	27,204	14.879	6.200	677	2.49	Pass
67	67	180-95645-J-35 MSD	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	25,890	14.154	5.898	2,783	10.75	Pass
68	68	180-95645-J-38	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	11,838	6.404	2.669	469	3.96	Pass
69	69	180-95645-J-41	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	7,758	4.154	1.731	700	9.02	Pass
70	70	180-95645-J-44	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	3,871	2.010	0.838	181	4.68	Pass
71	71	CCV 10 PPM	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Chk Standard	1 : 1	00000000	TOC	42,732	23.236	9.682	541	1.27	Fail
72	72	CCB	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Chk Standard	1 : 1	00000000	TOC	558	0.018	0.008	153	27.34	Fail

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Date Approved: By:

Sample Results

Spl #: 1 Sample ID : BLANK Type : Sample Date: 10/10/2019 Status: Pass
Vial #: 1 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	3:54 pm	-	-	-	649	0.233	0.097
2	4:00 pm	-	-	-	535	0.171	0.071
Avg.		-	-	-	592	0.202	0.084
Std.Dev.							
% RSD.					13.61		

Spl #: 2 Sample ID : ICV 40 PPM Type : Chk Standarc Date: 10/10/2019 Status: Fail
Vial #: 2 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	4:09 pm	-	-	-	172,798	94.971	39.571
2	4:14 pm	-	-	-	171,352	94.174	39.239
Avg.		-	-	-	172,075	94.573	39.405
Std.Dev.							
% RSD.					0.59		

Spl #: 3 Sample ID : ICB Type : Chk Standarc Date: 10/10/2019 Status: Fail
Vial #: 3 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	4:23 pm	-	-	-	425	0.000	0.000
2	4:29 pm	-	-	-	647	0.025	0.010
Avg.		-	-	-	536	0.012	0.005
Std.Dev.							
% RSD.					29.20		

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Date Approved: By:

Spl #: 4 Sample ID : LCS 20 PPM Type : Chk Standard Date: 10/10/2019 Status: Fail
Vial #: 4 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	4:38 pm	-	-	-	82,514	45.177	18.824
2	4:44 pm	-	-	-	83,773	45.871	19.112
	Avg.	-	-	-	83,143	45.524	18.968
	Std.Dev.						
	% RSD.				1.07		

Spl #: 5 Sample ID : LCSD 20 PPM Type : Chk Standard Date: 10/10/2019 Status: Fail
Vial #: 5 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	4:53 pm	-	-	-	83,280	45.599	19.000
2	4:59 pm	-	-	-	84,362	46.196	19.248
	Avg.	-	-	-	83,821	45.898	19.124
	Std.Dev.						
	% RSD.				0.91		

Spl #: 6 Sample ID : MB Type : Chk Standard Date: 10/10/2019 Status: Fail
Vial #: 6 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	5:08 pm	-	-	-	777	0.097	0.040
2	5:14 pm	-	-	-	818	0.119	0.050
	Avg.	-	-	-	798	0.108	0.045
	Std.Dev.						
	% RSD.				3.65		

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Date Prepared: 10/11/2019 By: TOC

Date Approved: By:

Spl #: 7 Sample ID : 180-96010-N-1 Type : Sample Date: 10/10/2019 Status: Pass
Vial #: 7 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	5:22 pm	-	-	-	1,256	0.568	0.237
2	5:28 pm	-	-	-	1,366	0.629	0.262
	Avg.	-	-	-	1,311	0.598	0.249
	Std.Dev.						
	% RSD.				5.90		

Spl #: 8 Sample ID : 180-96010-N-2 Type : Sample Date: 10/10/2019 Status: Pass
Vial #: 8 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	5:36 pm	-	-	-	1,630	0.774	0.323
2	5:42 pm	-	-	-	1,796	0.866	0.361
	Avg.	-	-	-	1,713	0.820	0.342
	Std.Dev.						
	% RSD.				6.87		

Spl #: 9 Sample ID : 180-96077-N-1 Type : Sample Date: 10/10/2019 Status: Pass
Vial #: 9 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	5:51 pm	-	-	-	4,401	2.303	0.960
2	5:56 pm	-	-	-	4,188	2.185	0.910
	Avg.	-	-	-	4,294	2.244	0.935
	Std.Dev.						
	% RSD.				3.52		

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Date Prepared: 10/11/2019 By: TOC

Date Approved: By:

Spl #: 10 Sample ID : 180-96077-M-2 Type : Sample Date: 10/10/2019 Status: Pass
Vial #: 10 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	6:06 pm	-	-	-	13,767	7.468	3.112
2	6:12 pm	-	-	-	12,684	6.871	2.862
Avg.		-	-	-	13,226	7.170	2.987
Std.Dev.							
% RSD.					5.79		

Spl #: 11 Sample ID : 180-96077-N-3 Type : Sample Date: 10/10/2019 Status: Pass
Vial #: 11 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	6:21 pm	-	-	-	14,409	7.822	3.259
2	6:27 pm	-	-	-	12,308	6.664	2.777
Avg.		-	-	-	13,358	7.243	3.018
Std.Dev.							
% RSD.					11.12		

Spl #: 12 Sample ID : 180-96077-M-4 Type : Sample Date: 10/10/2019 Status: Pass
Vial #: 12 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	6:36 pm	-	-	-	6,612	3.522	1.468
2	6:42 pm	-	-	-	6,169	3.278	1.366
Avg.		-	-	-	6,390	3.400	1.417
Std.Dev.							
% RSD.					4.91		

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Spl #: 13 Sample ID : 180-96077-N-5 Type : Sample Date: 10/10/2019 Status: Pass
Vial #: 13 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	6:50 pm	-	-	-	547	0.177	0.074
2	6:56 pm	-	-	-	703	0.263	0.110
	Avg.	-	-	-	625	0.220	0.092
	Std.Dev.						
	% RSD.				17.61		

Spl #: 14 Sample ID : CCV 10 PPM Type : Chk Standarc Date: 10/10/2019 Status: Fail
Vial #: 14 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	7:05 pm	-	-	-	42,809	23.279	9.700
2	7:11 pm	-	-	-	43,457	23.636	9.848
	Avg.	-	-	-	43,133	23.457	9.774
	Std.Dev.						
	% RSD.				1.06		

Spl #: 15 Sample ID : CCB Type : Chk Standarc Date: 10/10/2019 Status: Fail
Vial #: 15 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	7:20 pm	-	-	-	538	0.000	0.000
2	7:26 pm	-	-	-	2,487	1.039	0.433
	Avg.	-	-	-	1,512	0.520	0.216
	Std.Dev.						
	% RSD.				91.11		

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Spl #: 16 Sample ID : 180-96077-M-6 Type : Sample Date: 10/10/2019 Status: Pass
Vial #: 16 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	7:34 pm	-	-	-	456	0.127	0.053
2	7:40 pm	-	-	-	629	0.222	0.093
Avg.		-	-	-	543	0.175	0.073
Std.Dev.							
% RSD.					22.61		

Spl #: 17 Sample ID : 180-96077-N-7 Type : Sample Date: 10/10/2019 Status: Pass
Vial #: 17 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	7:49 pm	-	-	-	14,272	7.747	3.228
2	7:55 pm	-	-	-	13,050	7.073	2.946
Avg.		-	-	-	13,661	7.410	3.087
Std.Dev.							
% RSD.					6.33		

Spl #: 18 Sample ID : 180-96135-M-11 Type : Sample Date: 10/10/2019 Status: Pass
Vial #: 18 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	8:03 pm	-	-	-	827	0.331	0.138
2	8:09 pm	-	-	-	1,129	0.498	0.208
Avg.		-	-	-	978	0.415	0.173
Std.Dev.							
% RSD.					21.87		

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Date Prepared: 10/11/2019 By: TOC

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Spl #: 19 Sample ID : 180-96135-M-12 Type : Sample Date: 10/10/2019 Status: Pass
Vial #: 19 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	8:18 pm	-	-	-	925	0.386	0.161
2	8:23 pm	-	-	-	1,080	0.471	0.196
Avg.		-	-	-	1,003	0.428	0.179
Std.Dev.							
% RSD.					10.90		

Spl #: 20 Sample ID : 180-96144-S-1 Type : Sample Date: 10/10/2019 Status: Pass
Vial #: 20 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	8:32 pm	-	-	-	19,495	10.627	4.428
2	8:38 pm	-	-	-	20,059	10.938	4.558
Avg.		-	-	-	19,777	10.783	4.493
Std.Dev.							
% RSD.					2.02		

Spl #: 21 Sample ID : 180-96202-P-1 Type : Sample Date: 10/10/2019 Status: Pass
Vial #: 21 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	8:47 pm	-	-	-	38,990	21.380	8.908
2	8:53 pm	-	-	-	40,296	22.100	9.208
Avg.		-	-	-	39,643	21.740	9.058
Std.Dev.							
% RSD.					2.33		

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Date Prepared: 10/11/2019 By: TOC

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Spl #: 22 Sample ID : 180-96202-P-2 Type : Sample Date: 10/10/2019 Status: Pass
Vial #: 22 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	9:02 pm	-	-	-	38,408	21.059	8.774
2	9:08 pm	-	-	-	39,292	21.546	8.978
Avg.		-	-	-	38,850	21.302	8.876
Std.Dev.							
% RSD.					1.61		

Spl #: 23 Sample ID : 180-96217-J-1 Type : Sample Date: 10/10/2019 Status: Pass
Vial #: 23 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	9:17 pm	-	-	-	3,232	1.658	0.691
2	9:23 pm	-	-	-	3,127	1.600	0.667
Avg.		-	-	-	3,179	1.629	0.679
Std.Dev.							
% RSD.					2.34		

Spl #: 24 Sample ID : 180-96218-J-1 Type : Sample Date: 10/10/2019 Status: Pass
Vial #: 24 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	9:32 pm	-	-	-	8,857	4.760	1.984
2	9:38 pm	-	-	-	8,939	4.805	2.002
Avg.		-	-	-	8,898	4.783	1.993
Std.Dev.							
% RSD.					0.65		

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Date Prepared: 10/11/2019 By: TOC

Date Approved: By:

Spl #: 25 Sample ID : 180-96218-J-2 Type : Sample Date: 10/10/2019 Status: Pass
Vial #: 25 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	9:47 pm	-	-	-	9,810	5.286	2.202
2	9:53 pm	-	-	-	9,923	5.348	2.228
Avg.		-	-	-	9,866	5.317	2.215
Std.Dev.							
% RSD.					0.81		

Spl #: 26 Sample ID : CCV 10 PPM Type : Chk Standarc Date: 10/10/2019 Status: Fail
Vial #: 26 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	10:02 pm	-	-	-	42,541	23.131	9.638
2	10:08 pm	-	-	-	43,061	23.418	9.757
Avg.		-	-	-	42,801	23.274	9.698
Std.Dev.							
% RSD.					0.86		

Spl #: 27 Sample ID : CCB Type : Chk Standarc Date: 10/10/2019 Status: Fail
Vial #: 27 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	10:17 pm	-	-	-	418	0.000	0.000
2	10:22 pm	-	-	-	458	0.000	0.000
Avg.		-	-	-	438	0.000	0.000
Std.Dev.							
% RSD.					6.45		

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Date Prepared: 10/11/2019 By: TOC

Date Approved: By:

Spl #: 28 Sample ID : 180-96218-I-3 Type : Sample Date: 10/10/2019 Status: Pass
Vial #: 28 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	10:31 pm	-	-	-	13,295	7.208	3.003
2	10:37 pm	-	-	-	13,620	7.387	3.078
Avg.		-	-	-	13,458	7.298	3.041
Std.Dev.							
% RSD.					1.71		

Spl #: 29 Sample ID : 180-96218-I-4 Type : Sample Date: 10/10/2019 Status: Pass
Vial #: 29 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	10:46 pm	-	-	-	7,339	3.923	1.635
2	10:52 pm	-	-	-	7,403	3.958	1.649
Avg.		-	-	-	7,371	3.941	1.642
Std.Dev.							
% RSD.					0.61		

Spl #: 30 Sample ID : 180-96219-I-1 Type : Sample Date: 10/10/2019 Status: Pass
Vial #: 30 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	11:01 pm	-	-	-	4,351	2.275	0.948
2	11:07 pm	-	-	-	4,507	2.361	0.984
Avg.		-	-	-	4,429	2.318	0.966
Std.Dev.							
% RSD.					2.49		

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Date Prepared: 10/11/2019 By: TOC

Date Approved: By:

Spl #: 31 Sample ID : LCS 20 PPM Type : Chk Standarc Date: 10/10/2019 Status: Fail
Vial #: 31 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	11:16 pm	-	-	-	80,765	44.212	18.422
2	11:22 pm	-	-	-	82,779	45.323	18.885
	Avg.	-	-	-	81,772	44.768	18.653
	Std.Dev.						
	% RSD.				1.74		

Spl #: 32 Sample ID : LCSD 20 PPM Type : Chk Standarc Date: 10/10/2019 Status: Fail
Vial #: 32 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	11:31 pm	-	-	-	81,211	44.458	18.524
2	11:37 pm	-	-	-	82,564	45.205	18.835
	Avg.	-	-	-	81,887	44.831	18.680
	Std.Dev.						
	% RSD.				1.17		

Spl #: 33 Sample ID : MB Type : Chk Standarc Date: 10/10/2019 Status: Fail
Vial #: 33 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	11:46 pm	-	-	-	281	0.000	0.000
2	11:52 pm	-	-	-	463	0.000	0.000
	Avg.	-	-	-	372	0.000	0.000
	Std.Dev.						
	% RSD.				34.68		

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Date Prepared: 10/11/2019 By: TOC

Date Approved: By:

Spl #: 34 Sample ID : 180-96232-L-1 Type : Sample Date: 10/11/2019 Status: Pass
Vial #: 34 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	12:00 am	-	-	-	599	0.206	0.086
2	12:06 am	-	-	-	844	0.341	0.142
	Avg.	-	-	-	722	0.273	0.114
	Std.Dev.						
	% RSD.				23.98		

Spl #: 35 Sample ID : 180-96232-L-2 Type : Sample Date: 10/11/2019 Status: Pass
Vial #: 35 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	12:15 am	-	-	-	759	0.294	0.123
2	12:21 am	-	-	-	796	0.314	0.131
	Avg.	-	-	-	777	0.304	0.127
	Std.Dev.						
	% RSD.				3.35		

Spl #: 36 Sample ID : 180-96376-B-1 Type : Sample Date: 10/11/2019 Status: Pass
Vial #: 36 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	12:30 am	-	-	-	25,587	13.987	5.828
2	12:36 am	-	-	-	25,055	13.694	5.706
	Avg.	-	-	-	25,321	13.841	5.767
	Std.Dev.						
	% RSD.				1.49		

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Date Prepared: 10/11/2019 By: TOC

Date Approved: By:

Spl #: 37 Sample ID : 180-96378-B-1 Type : Sample Date: 10/11/2019 Status: Pass
Vial #: 37 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	12:45 am	-	-	-	29,480	16.135	6.723
2	12:51 am	-	-	-	30,086	16.469	6.861
	Avg.	-	-	-	29,783	16.302	6.792
	Std.Dev.						
	% RSD.				1.44		

Spl #: 38 Sample ID : CCV 10 PPM Type : Chk Standarc Date: 10/11/2019 Status: Fail
Vial #: 38 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	1:00 am	-	-	-	40,449	21.977	9.157
2	1:05 am	-	-	-	41,949	22.804	9.502
	Avg.	-	-	-	41,199	22.391	9.330
	Std.Dev.						
	% RSD.				2.57		

Spl #: 39 Sample ID : CCB Type : Chk Standarc Date: 10/11/2019 Status: Fail
Vial #: 39 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	1:14 am	-	-	-	479	0.000	0.000
2	1:20 am	-	-	-	585	0.000	0.000
	Avg.	-	-	-	532	0.000	0.000
	Std.Dev.						
	% RSD.				13.98		

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Date Prepared: 10/11/2019 By: TOC

Date Approved: By:

Spl #: 40 Sample ID : 180-96379-B-1 Type : Sample Date: 10/11/2019 Status: Pass
Vial #: 40 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	1:29 am	-	-	-	24,680	13.487	5.620
2	1:35 am	-	-	-	25,043	13.688	5.703
Avg.		-	-	-	24,862	13.587	5.661
Std.Dev.							
% RSD.					1.03		

Spl #: 41 Sample ID : 180-96381-B-1 Type : Sample Date: 10/11/2019 Status: Pass
Vial #: 41 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	1:45 am	-	-	-	24,817	13.563	5.651
2	1:50 am	-	-	-	25,045	13.688	5.703
Avg.		-	-	-	24,931	13.626	5.677
Std.Dev.							
% RSD.					0.64		

Spl #: 42 Sample ID : 180-96382-B-1 Type : Sample Date: 10/11/2019 Status: Pass
Vial #: 42 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	2:00 am	-	-	-	28,158	15.406	6.419
2	2:06 am	-	-	-	29,282	16.025	6.677
Avg.		-	-	-	28,720	15.716	6.548
Std.Dev.							
% RSD.					2.77		

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Date Prepared: 10/11/2019 By: TOC

Date Approved: By:

Spl #: 43 Sample ID : 180-96453-O-3 Type : Sample Date: 10/11/2019 Status: Pass
Vial #: 43 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	2:15 am	-	-	-	141,559	77.949	32.479
2	2:20 am	-	-	-	150,833	83.065	34.610
	Avg.	-	-	-	146,196	80.507	33.544
	Std.Dev.						
	% RSD.				4.49		

Spl #: 44 Sample ID : 180-96453-P-5 Type : Sample Date: 10/11/2019 Status: Pass
Vial #: 44 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	2:30 am	-	-	-	34,485	18.895	7.873
2	2:36 am	-	-	-	34,219	18.748	7.812
	Avg.	-	-	-	34,352	18.822	7.843
	Std.Dev.						
	% RSD.				0.55		

Spl #: 45 Sample ID : 180-96453-O-6 Type : Sample Date: 10/11/2019 Status: Pass
Vial #: 45 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	2:45 am	-	-	-	87,114	47.922	19.967
2	2:51 am	-	-	-	88,455	48.661	20.275
	Avg.	-	-	-	87,785	48.291	20.121
	Std.Dev.						
	% RSD.				1.08		

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Date Prepared: 10/11/2019 By: TOC

Date Approved: By:

Spl #: 46 Sample ID : 180-96518-I-1 Type : Sample Date: 10/11/2019 Status: Pass
Vial #: 46 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	3:00 am	-	-	-	29,561	16.179	6.741
2	3:06 am	-	-	-	30,895	16.915	7.048
	Avg.	-	-	-	30,228	16.547	6.895
	Std.Dev.						
	% RSD.				3.12		

Spl #: 47 Sample ID : 180-95645-J-2 Type : Sample Date: 10/11/2019 Status: Pass
Vial #: 47 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	3:15 am	-	-	-	3,707	1.920	0.800
2	3:20 am	-	-	-	3,336	1.715	0.715
	Avg.	-	-	-	3,522	1.818	0.758
	Std.Dev.						
	% RSD.				7.46		

Spl #: 48 Sample ID : 180-95645-J-5 Type : Sample Date: 10/11/2019 Status: Pass
Vial #: 48 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	3:30 am	-	-	-	4,014	2.089	0.871
2	3:36 am	-	-	-	3,674	1.902	0.792
	Avg.	-	-	-	3,844	1.995	0.832
	Std.Dev.						
	% RSD.				6.26		

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Date Prepared: 10/11/2019 By: TOC

Date Approved: By:

Spl #: 49 Sample ID : 180-95645-J-8 Type : Sample Date: 10/11/2019 Status: Pass
Vial #: 49 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	3:45 am	-	-	-	3,883	2.017	0.841
2	3:51 am	-	-	-	3,565	1.842	0.767
Avg.		-	-	-	3,724	1.929	0.804
Std.Dev.							
% RSD.					6.04		

Spl #: 50 Sample ID : CCV 10 PPM Type : Chk Standar Date: 10/11/2019 Status: Fail
Vial #: 50 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	4:00 am	-	-	-	42,402	23.054	9.606
2	4:06 am	-	-	-	43,385	23.596	9.832
Avg.		-	-	-	42,893	23.325	9.719
Std.Dev.							
% RSD.					1.62		

Spl #: 51 Sample ID : CCB Type : Chk Standar Date: 10/11/2019 Status: Fail
Vial #: 51 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	4:15 am	-	-	-	727	0.069	0.029
2	4:21 am	-	-	-	748	0.080	0.034
Avg.		-	-	-	738	0.075	0.031
Std.Dev.							
% RSD.					1.99		

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Date Prepared: 10/11/2019 By: TOC

Date Approved: By:

Spl #: 52 Sample ID : 180-95645-J-11 Type : Sample Date: 10/11/2019 Status: Pass
Vial #: 52 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	4:30 am	-	-	-	3,973	2.067	0.861
2	4:35 am	-	-	-	3,644	1.885	0.786
Avg.		-	-	-	3,809	1.976	0.823
Std.Dev.							
% RSD.					6.11		

Spl #: 53 Sample ID : 180-95645-J-14 Type : Sample Date: 10/11/2019 Status: Pass
Vial #: 53 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	4:45 am	-	-	-	4,071	2.121	0.884
2	4:50 am	-	-	-	3,337	1.716	0.715
Avg.		-	-	-	3,704	1.918	0.800
Std.Dev.							
% RSD.					14.02		

Spl #: 54 Sample ID : 180-95645-J-17 Type : Sample Date: 10/11/2019 Status: Pass
Vial #: 54 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	5:00 am	-	-	-	17,148	9.333	3.889
2	5:06 am	-	-	-	15,775	8.576	3.573
Avg.		-	-	-	16,461	8.954	3.731
Std.Dev.							
% RSD.					5.90		

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Date Prepared: 10/11/2019 By: TOC

Date Approved: By:

Spl #: 55 Sample ID : 180-95645-J-20 Type : Sample Date: 10/11/2019 Status: Pass
Vial #: 55 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	5:16 am	-	-	-	19,895	10.848	4.520
2	5:21 am	-	-	-	16,809	9.146	3.811
	Avg.	-	-	-	18,352	9.997	4.166
	Std.Dev.						
	% RSD.				11.89		

Spl #: 56 Sample ID : 180-95645-J-23 Type : Sample Date: 10/11/2019 Status: Pass
Vial #: 56 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	5:31 am	-	-	-	17,627	9.597	3.999
2	5:36 am	-	-	-	14,871	8.077	3.366
	Avg.	-	-	-	16,249	8.837	3.683
	Std.Dev.						
	% RSD.				11.99		

Spl #: 57 Sample ID : 180-95645-J-26 Type : Sample Date: 10/11/2019 Status: Pass
Vial #: 57 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	5:45 am	-	-	-	6,669	3.554	1.481
2	5:51 am	-	-	-	5,494	2.905	1.211
	Avg.	-	-	-	6,081	3.229	1.346
	Std.Dev.						
	% RSD.				13.67		

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Date Prepared: 10/11/2019 By: TOC

Date Approved: By:

Spl #: 58 Sample ID : LCS 20 PPM Type : Chk Standard Date: 10/11/2019 Status: Fail
Vial #: 58 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	6:01 am	-	-	-	78,818	43.139	17.974
2	6:07 am	-	-	-	79,114	43.302	18.043
Avg.		-	-	-	78,966	43.220	18.008
Std.Dev.							
% RSD.					0.27		

Spl #: 59 Sample ID : LCSD 20 PPM Type : Chk Standard Date: 10/11/2019 Status: Fail
Vial #: 59 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	6:16 am	-	-	-	80,067	43.827	18.261
2	6:22 am	-	-	-	81,573	44.658	18.608
Avg.		-	-	-	80,820	44.243	18.435
Std.Dev.							
% RSD.					1.32		

Spl #: 60 Sample ID : MB Type : Chk Standard Date: 10/11/2019 Status: Fail
Vial #: 60 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	6:31 am	-	-	-	527	0.000	0.000
2	6:37 am	-	-	-	762	0.088	0.037
Avg.		-	-	-	644	0.044	0.019
Std.Dev.							
% RSD.					25.78		

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Date Prepared: 10/11/2019 By: TOC

Date Approved: By:

Spl #: 61 Sample ID : 180-95645-J-29 Type : Sample Date: 10/11/2019 Status: Pass
Vial #: 61 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	6:46 am	-	-	-	3,871	2.010	0.838
2	6:51 am	-	-	-	3,597	1.859	0.775
	Avg.	-	-	-	3,734	1.935	0.807
	Std.Dev.						
	% RSD.				5.18		

Spl #: 62 Sample ID : CCV 10 PPM Type : Chk Standarc Date: 10/11/2019 Status: Fail
Vial #: 62 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	7:01 am	-	-	-	42,119	22.898	9.541
2	7:06 am	-	-	-	42,539	23.129	9.637
	Avg.	-	-	-	42,329	23.014	9.589
	Std.Dev.						
	% RSD.				0.70		

Spl #: 63 Sample ID : CCB Type : Chk Standarc Date: 10/11/2019 Status: Fail
Vial #: 63 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	7:16 am	-	-	-	583	0.000	0.000
2	7:21 am	-	-	-	486	0.000	0.000
	Avg.	-	-	-	534	0.000	0.000
	Std.Dev.						
	% RSD.				12.76		

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Date Prepared: 10/11/2019 By: TOC

Date Approved: By:

Spl #: 64 Sample ID : 180-95645-J-32 Type : Sample Date: 10/11/2019 Status: Pass
Vial #: 64 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	7:31 am	-	-	-	16,544	9.000	3.750
2	7:37 am	-	-	-	15,697	8.533	3.555
Avg.		-	-	-	16,121	8.766	3.653
Std.Dev.							
% RSD.					3.72		

Spl #: 65 Sample ID : 180-95645-J-35 Type : Sample Date: 10/11/2019 Status: Pass
Vial #: 65 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	7:46 am	-	-	-	9,313	5.012	2.088
2	7:51 am	-	-	-	8,213	4.405	1.835
Avg.		-	-	-	8,763	4.708	1.962
Std.Dev.							
% RSD.					8.88		

Spl #: 66 Sample ID : 180-95645-J-35 MS Type : Sample Date: 10/11/2019 Status: Pass
Vial #: 66 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	8:02 am	-	-	-	27,682	15.143	6.310
2	8:07 am	-	-	-	26,725	14.615	6.090
Avg.		-	-	-	27,204	14.879	6.200
Std.Dev.							
% RSD.					2.49		

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Date Prepared: 10/11/2019 By: TOC

Date Approved: By:

Spl #: 67 Sample ID : 180-95645-J-35 MSD Type : Sample Date: 10/11/2019 Status: Pass
Vial #: 67 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	8:17 am	-	-	-	27,858	15.240	6.350
2	8:22 am	-	-	-	23,922	13.069	5.445
Avg.		-	-	-	25,890	14.154	5.898
Std.Dev.							
% RSD.					10.75		

Spl #: 68 Sample ID : 180-95645-J-38 Type : Sample Date: 10/11/2019 Status: Pass
Vial #: 68 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	8:31 am	-	-	-	12,169	6.587	2.745
2	8:37 am	-	-	-	11,506	6.221	2.592
Avg.		-	-	-	11,838	6.404	2.669
Std.Dev.							
% RSD.					3.96		

Spl #: 69 Sample ID : 180-95645-J-41 Type : Sample Date: 10/11/2019 Status: Pass
Vial #: 69 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	8:46 am	-	-	-	8,253	4.427	1.845
2	8:52 am	-	-	-	7,263	3.881	1.617
Avg.		-	-	-	7,758	4.154	1.731
Std.Dev.							
% RSD.					9.02		

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Denotes First Failed Samples

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Date Prepared: 10/11/2019 By: TOC

Date Approved: By:

Spl #: 70 Sample ID : 180-95645-J-44 Type : Sample Date: 10/11/2019 Status: Pass
Vial #: 70 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	9:02 am	-	-	-	3,999	2.081	0.867
2	9:07 am	-	-	-	3,743	1.940	0.808
	Avg.	-	-	-	3,871	2.010	0.838
	Std.Dev.						
	% RSD.				4.68		

Spl #: 71 Sample ID : CCV 10 PPM Type : Chk Standarc Date: 10/11/2019 Status: Fail
Vial #: 71 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	9:17 am	-	-	-	42,350	23.025	9.594
2	9:22 am	-	-	-	43,115	23.447	9.770
	Avg.	-	-	-	42,732	23.236	9.682
	Std.Dev.						
	% RSD.				1.27		

Spl #: 72 Sample ID : CCB Type : Chk Standarc Date: 10/11/2019 Status: Fail
Vial #: 72 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	9:31 am	-	-	-	450	0.000	0.000
2	9:37 am	-	-	-	666	0.035	0.015
	Avg.	-	-	-	558	0.018	0.008
	Std.Dev.						
	% RSD.				27.34		

Denotes Excluded Replicates
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Date Prepared: 10/11/2019 By: TOC

Date Approved: By:

Method Summary

Method Details

Method Name:	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM
Date Created:	06/24/2019
Time Created:	15:41
Created By:	toc

Analysis Mode: NPOC Only

Sparging Mode:	Internal
Pre-Acid Volume (mL):	1.000
Sparge Time (mm:ss):	02:00

Volumes

Sample Volume (mL):	2.400
Acid Volume (mL):	1.000
Persulfate Volume(mL):	1.500

Other

SysPressure:	17.00

Pre-Processing

Sample Dilution:	Disabled
Dilution Mode:	Automatic
Dilution Factor:	1 : 1

Times

	React	Detect
TIC	01:30	03:00
TOC	02:00	03:00

Temp

	React	Detect
TIC	70	70
TOC	98	98

Outlier Removal Criteria

Enabled:	No
Additional Replicates:	1
Max. % RSD.	10.00

Rinses

Rinse Volume (mL):	10.000
Rinses Per Sample:	1
Rinses Per Replicate:	0

Max. Std. Dev. 100 Use Modified Oxidant: No

Calibration Summary

Calibration Generation

Generation Mode:	Manual
# of Stds:	5
Dilution Factor:	10 : 1
Dilution Volume (mL):	1.000
Add Zero as Std #1:	No

Calibration Mode

Primary Mode:	TOC
User for ALL Modes:	Enabled

Calibration Pass/Fail Criteria

Parameter	Enabled	Low	High	Failure
R² (ugC/K-cts)	Yes	0.1000	0.3000	Continue
	Yes	0.995	1.000	Continue
Offset (area) (cts)	No	-	-	-
Offset (mass) (ugC)	No	-	-	-
QC Blank(cts)	No	-	-	-

Checks, QC's and Actions

Type	Target (PPM)	Tolerance (+/- %)	1st Failure	2nd Failure
CK Std	n/a	10.00	Continue	Continue
QC #1	40.000	10.00	Continue	Continue
QC #2	20.000	20.00	Continue	Continue
QC #3	25.000	10.00	Continue	Continue
QC #4	0.000	10.00	Continue	Continue
SST	0.000	15.00	Continue	Continue

Denotes Excluded Replicates
Denotes First Failed Samples

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USA

Date Prepared: 10/11/2019 By: TOC

Date Approved: By:

Calibration Details

Calibration Mode:	TOC
Date Calibrated:	10/03/2019
Time Calibrated:	6:27 pm
Calibrated By:	toc
RF (ugC/k-cts):	0.5515
R2:	0.9995
R:	0.9998
QC Blank(cts):	1,763
Offset (cts):	596
Offset (ugC):	-0.329
Reagent Blank (cts):	226
Units of Measure:	PPM->mg/L C

Calibration Settings

Stock Conc. For Dilutions: (PPM)	1,000.000
# of Reagent Blanks:	3
EFC Enabled:	No
Total Flowrate w/EFC:	100 ml/min
Check Standards:	Subtract RW
Samples:	Substract RB
Regression type:	Weighted Linear
	weighting factor => 1 / mass

Calculations:

$$Concentration = \frac{\frac{RF}{1000} \times Area}{volume}$$

Samples: $Area = Area_{Peak} - Area_{Offset}$ or $Area = Area_{Peak} - Area_{RB}$

CHK Stds: $Area = Area_{Peak} - Area_{Offset}$ or $Area = Area_{Peak} - Area_{RW}$

QC Samples: $Area = Area_{Peak} - Area_{QCBlank}$

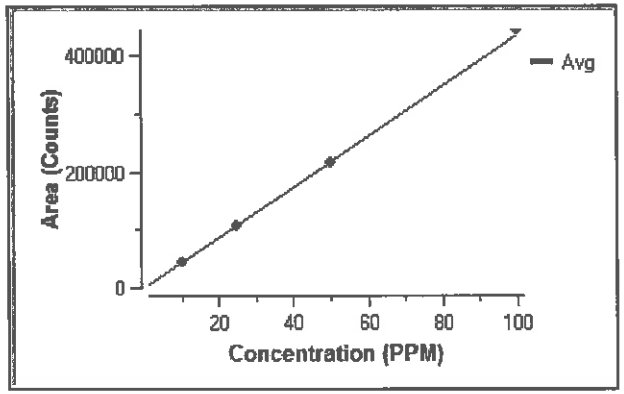

$$y = m \times x + b$$

$y \Rightarrow Area$ $\quad m \Rightarrow \frac{1000}{RF \times volume}$ $\quad b \Rightarrow 0$

Denotes Excluded Replicates

Denotes First Failed Samples

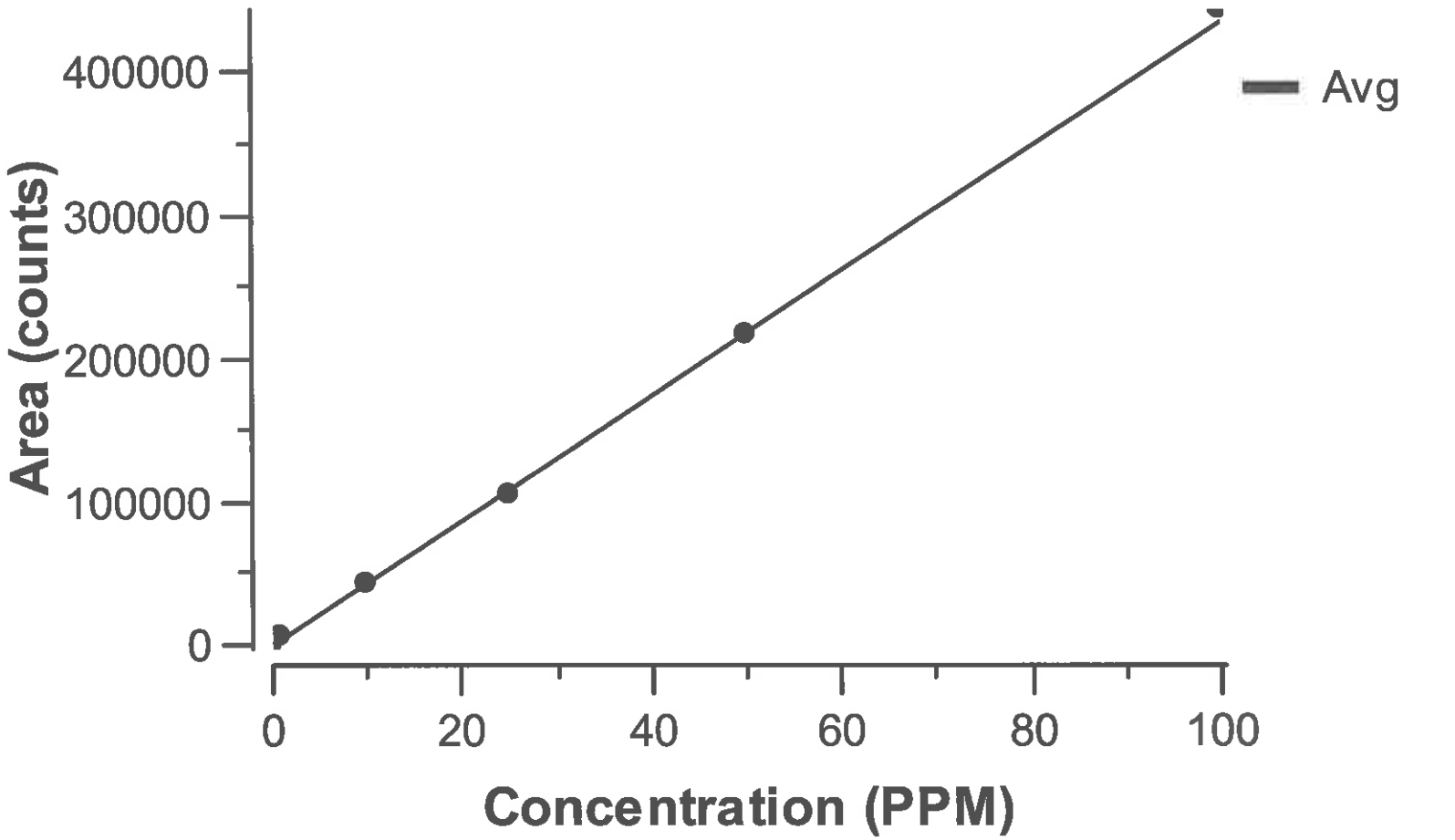
Area (counts)
400000
300000
200000
100000
0
0
20
40
60
80
100
Concentration (PPM)
Avg

Instrument ID: E717730273 Wet - Chemistry

User ID:toc	Name:Total Organic Carbon
Title:Mr	Dept:OIC-TOC

Calibration - Quick View -TOC

Revision: 9-TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM
Modified By: toc
Date Created: 2019/06/24; 03:41 PM
Last Modified: 2019/10/03; 06:14 PM
Last Calibrated: 2019/10/03; 06:27 PM

RF(ugC/k-cnt): 0.5515
R2: 0.9995
Reagent Blank(cts): 226
Offset Area(cts): 596
Offset Mass(ugC): -0.33

Std #	Conc (PPM)	Volume (mL)	# Reps	Area	Std. Dev	%RSD	Date Analysed
RW	0.000	2.400	2	603	41	6.74	2019-10-03; 04:51PM
1	1.000	2.400	2	4,892	113	2.32	2019-10-03; 05:07PM
2	10.000	2.400	2	42,470	109	0.26	2019-10-03; 05:23PM
3	25.000	2.400	2	106,540	1,045	0.98	2019-10-03; 05:38PM
4	50.000	2.400	2	214,932	3,098	1.44	2019-10-03; 05:53PM
5	100.000	2.400	2	443,819	4,543	1.02	2019-10-03; 06:08PM

TEST AMERICA
301 ALPHA DRIVE
PITTSBURGH, PA.
15238
USA

Date Prepared: 10/04/2019 By: TOC

Date Approved: By:

Sample Results Summary

Spl #	Vial #	Sample ID	Num Rep	Act Rep	Method	Type	Dil	Cust ID	Mode	Avg. Area (cts)	Avg. Mass (ug)	Avg. Conc (PPM)	Std. Dev	% RSD	Notes
1	1	DI WATER	4	4	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	585	0.000	0.000	21	3.66	Pass
2	2	BLANK	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Sample	1 : 1	00000000	TOC	511	0.000	0.000	97	18.99	Pass
4	3	TOC-RW	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Std	1 : 1	00000000	TOC	603	0.000	0.000	41	6.74	
5	4	TOC-Std#1-1.000 PPM	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Std	1 : 1	00000000	TOC	4,892	2.400	1.000	113	2.32	
6	5	TOC-Std#2-10.000 PPM	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Std	1 : 1	00000000	TOC	42,470	24.000	10.000	109	0.26	
7	6	TOC-Std#3-25.000 PPM	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Std	1 : 1	00000000	TOC	106,540	60.000	25.000	1,045	0.98	
8	7	TOC-Std#4-50.000 PPM	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Std	1 : 1	00000000	TOC	214,932	120.000	50.000	3,098	1.44	
9	8	TOC-Std#5-100.000 PPM	2	2	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	Std	1 : 1	00000000	TOC	443,819	240.000	100.000	4,543	1.02	
10	9	QC BLANK	1	1	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM	QC Blank	1 : 1	00000000	TOC	1,763	0.000	0.000	0	0.00	

100319 TOC CAL

Instrument ID: E717730273 (Wet Chemical)
Report_ID: TOC1030-R02858 (Report generated by OI Analytical's TOC Reporter V1.4.2)
Page 1 of 7
Date Printed: 10/4/2019
By Sample Report

Denotes Excluded Replicates
Denotes First Failed Samples

TEST AMERICA
301 ALPHA DRIVE
PITTSBURGH, PA.
15238
USA

Date Prepared: 10/04/2019 By: TOC

Date Approved: By:

Sample Results

Spl #: 1 Sample ID : DI WATER Type : Sample Date: 10/03/2019 Status: Pass
Vial #: 1 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	3:31 pm	-	-	-	558	0.000	0.000
2	3:37 pm	-	-	-	586	0.000	0.000
3	3:43 pm	-	-	-	610	0.000	0.000
4	3:49 pm	-	-	-	584	0.000	0.000
Avg.		-	-	-	585	0.000	0.000
Std.Dev.							
% RSD.					3.66		

Spl #: 2 Sample ID : BLANK Type : Sample Date: 10/03/2019 Status: Pass
Vial #: 2 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	3:57 pm	-	-	-	442	0.000	0.000
2	4:03 pm	-	-	-	580	0.000	0.000
Avg.		-	-	-	511	0.000	0.000
Std.Dev.							
% RSD.					18.99		

Spl #: 4 Sample ID : TOC-RW Type : Std Date: 10/03/2019 Status:
Vial #: 3 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	4:51 pm	-	-	-	574	0.000	0.000
2	4:56 pm	-	-	-	632	0.000	0.000
Avg.		-	-	-	603	0.000	0.000
Std.Dev.							
% RSD.					6.74		

Denotes Excluded Replicates
Denotes First Failed Samples

TEST AMERICA
301 ALPHA DRIVE
PITTSBURGH, PA.
15238
USA

Date Prepared: 10/04/2019 By: TOC

Date Approved: By:

Spl #: 5 Sample ID : TOC-Std#1-1.000 PPM Type : Std Date: 10/03/2019 Status:
Vial #: 4 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	5:07 pm	-	-	-	4,812	2.400	1.000
2	5:13 pm	-	-	-	4,972	2.400	1.000
Avg.		-	-	-	4,892	2.400	1.000
Std.Dev.							
% RSD.					2.32		

Spl #: 6 Sample ID : TOC-Std#2-10.000 PPM Type : Std Date: 10/03/2019 Status:
Vial #: 5 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	5:23 pm	-	-	-	42,393	24.000	10.000
2	5:28 pm	-	-	-	42,547	24.000	10.000
Avg.		-	-	-	42,470	24.000	10.000
Std.Dev.							
% RSD.					0.26		

Spl #: 7 Sample ID : TOC-Std#3-25.000 PPM Type : Std Date: 10/03/2019 Status:
Vial #: 6 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	5:38 pm	-	-	-	105,801	60.000	25.000
2	5:43 pm	-	-	-	107,279	60.000	25.000
Avg.		-	-	-	106,540	60.000	25.000
Std.Dev.							
% RSD.					0.98		

Denotes Excluded Replicates
Denotes First Failed Samples

TEST AMERICA
301 ALPHA DRIVE
PITTSBURGH, PA.
15238
USA

Date Prepared: 10/04/2019 By: TOC

Date Approved: By:

Spl #: 8 Sample ID : TOC-Std#4-50.000 PPM Type : Std Date: 10/03/2019 Status:
Vial #: 7 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	5:53 pm	-	-	-	217,122	120.000	50.000
2	5:59 pm	-	-	-	212,741	120.000	50.000
	Avg.	-	-	-	214,932	120.000	50.000
	Std.Dev.						
	% RSD.				1.44		

Spl #: 9 Sample ID : TOC-Std#5-100.000 PPM Type : Std Date: 10/03/2019 Status:
Vial #: 8 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	6:08 pm	-	-	-	440,607	240.000	100.000
2	6:14 pm	-	-	-	447,031	240.000	100.000
	Avg.	-	-	-	443,819	240.000	100.000
	Std.Dev.						
	% RSD.				1.02		

Spl #: 10 Sample ID : QC BLANK Type : QC Blank Date: 10/03/2019 Status:
Vial #: 9 Method : TOC JUN 2019 - Jun 24, 2019 Dilution 1 : 1 Customer ID: 00000000

Rep #	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (PPM)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (PPM)
1	6:27 pm	-	-	-	1,763	0.000	0.000
	Avg.	-	-	-	1,763	0.000	0.000
	Std.Dev.						
	% RSD.				0.00		

Denotes Excluded Replicates
Denotes First Failed Samples

TEST AMERICA
301 ALPHA DRIVE
PITTSBURGH, PA.
15238
USA

Date Prepared: 10/04/2019 By: TOC

Date Approved: By:

Method Summary

Method Details

Method Name:	TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM
Date Created:	06/24/2019
Time Created:	15:41
Created By:	toc

Analysis Mode: NPOC Only

Sparging Mode:	Internal
Pre-Acid Volume (mL):	1.000
Sparge Time (mm:ss):	02:00

Volumes

Sample Volume (mL):	2.400
Acid Volume (mL):	1.000
Persulfate Volume(mL):	1.500

Other

SysPressure:	17.00

Pre-Processing

Sample Dilution:	Disabled
Dilution Mode:	Automatic
Dilution Factor:	1 : 1

Times	React	Detect
TIC	01:30	03:00
TOC	02:00	03:00

Temp	React	Detect
TIC	70	70
TOC	98	98

Outlier Removal Criteria

Enabled:	No
Additional Replicates:	1
Max. % RSD.	10.00

Rinses

Rinse Volume (mL):	10.000
Rinses Per Sample:	1
Rinses Per Replicate:	0

Max. Std. Dev. 100 Use Modified Oxidant: No

Calibration Summary

Calibration Generation

Generation Mode:	Manual
# of Stds:	5
Dilution Factor:	10 : 1
Dilution Volume (mL):	1.000
Add Zero as Std #1:	No

Calibration Mode

Primary Mode:	TOC
User for ALL Modes:	Enabled

Calibration Pass/Fail Criteria

Parameter	Enabled	Low	High	Failure
RF (ugC/K-cts)	Yes	0.1000	0.3000	Continue
	Yes	0.995	1.000	Continue
Offset (area) (cts)	No	-	-	-
Offset (mass) (ugC)	No	-	-	-
QC Blank(cts)	No	-	-	-

Checks, QC's and Actions

Type	Target (PPM)	Tolerance (+/- %)	1st Failure	2nd Failure
CK Std	n/a	10.00	Continue	Continue
QC #1	40.000	10.00	Continue	Continue
QC #2	20.000	20.00	Continue	Continue
QC #3	25.000	10.00	Continue	Continue
QC #4	0.000	10.00	Continue	Continue
SST	0.000	15.00	Continue	Continue

TEST AMERICA
301 ALPHA DRIVE
PITTSBURGH, PA.
15238
USA

Date Prepared: 10/04/2019 By: TOC

Date Approved: By:

Calibration Details

Calibration Mode:	TOC
Date Calibrated:	10/03/2019
Time Calibrated:	2:01 pm
Calibrated By:	toc
RF (ugC/k-cts):	-41.9988
R2:	0.0248
R:	0.1575
QC Blank(cts):	534
Offset (cts):	7316
Offset (ugC):	307.270
Reagent Blank (cts):	276
Units of Measure:	PPM->mg/L C

Calibration Settings

Stock Conc. For Dilutions: (PPM)	1,000.000
# of Reagent Blanks:	3
EFC Enabled:	No
Total Flowrate w/EFC:	100 ml/min
Check Standards:	Subtract RW
Samples:	Substract RB
Regression type:	Weighted Linear
	weighting factor => 1 / mass

Calculations:

$$Concentration = \frac{\frac{RF}{1000} \times Area}{volume}$$

Samples: $Area = Area_{Peak} - Area_{Offset}$ or $Area = Area_{Peak} - Area_{RB}$

CHK Stds: $Area = Area_{Peak} - Area_{Offset}$ or $Area = Area_{Peak} - Area_{RW}$

QC Samples: $Area = Area_{Peak} - Area_{QCBlank}$

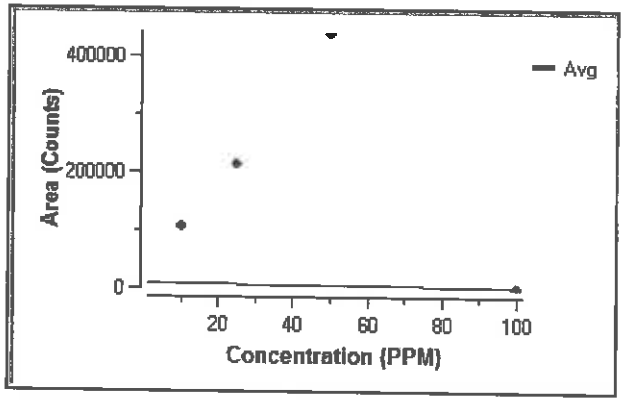

$$y = m \times x + b$$

$y \Rightarrow Area$ $\quad m \Rightarrow \frac{1000}{RF \times volume}$ $\quad b \Rightarrow 0$

Denotes Excluded Replicates

Denotes First Failed Samples

TEST AMERICA
301 ALPHA DRIVE
PITTSBURGH, PA.
15238
USA

Date Prepared: 10/04/2019 By: TOC

Date Approved: By:

Calibration Details

Calibration Mode:	TOC
Date Calibrated:	10/03/2019
Time Calibrated:	6:14 pm
Calibrated By:	toc
RF (ugC/k-cts):	0.5515
R2:	0.9995
R:	0.9998
QC Blank(cts):	0
Offset (cts):	596
Offset (ugC):	-0.329
Reagent Blank (cts):	226
Units of Measure:	PPM->mg/L C

Calibration Settings

Stock Conc. For Dilutions: (PPM)	1,000.000
# of Reagent Blanks:	3
EFC Enabled:	No
Total Flowrate w/EFC:	100 ml/min
Check Standards:	Subtract RW
Samples:	Substract RB
Regression type:	Weighted Linear
	weighting factor => 1 / mass

Calculations:

$$Concentration = \frac{\frac{RF}{1000} \times Area}{volume}$$

Samples: $Area = Area_{Peak} - Area_{Offset}$ or $Area = Area_{Peak} - Area_{RB}$

CHK Stds: $Area = Area_{Peak} - Area_{Offset}$ or $Area = Area_{Peak} - Area_{RW}$

QC Samples: $Area = Area_{Peak} - Area_{QCBlank}$

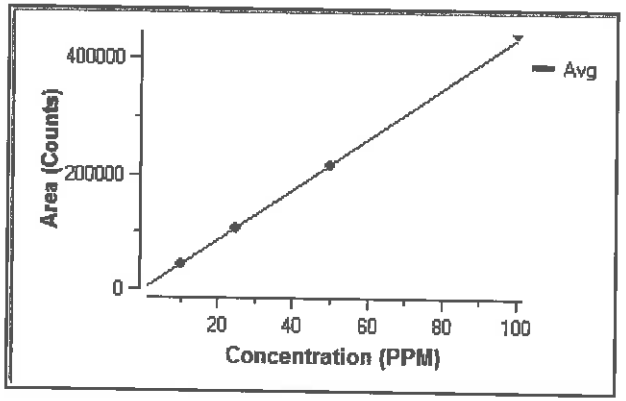

$$y = m \times x + b$$

$y \Rightarrow Area$ $\quad m \Rightarrow \frac{1000}{RF \times volume}$ $\quad b \Rightarrow 0$

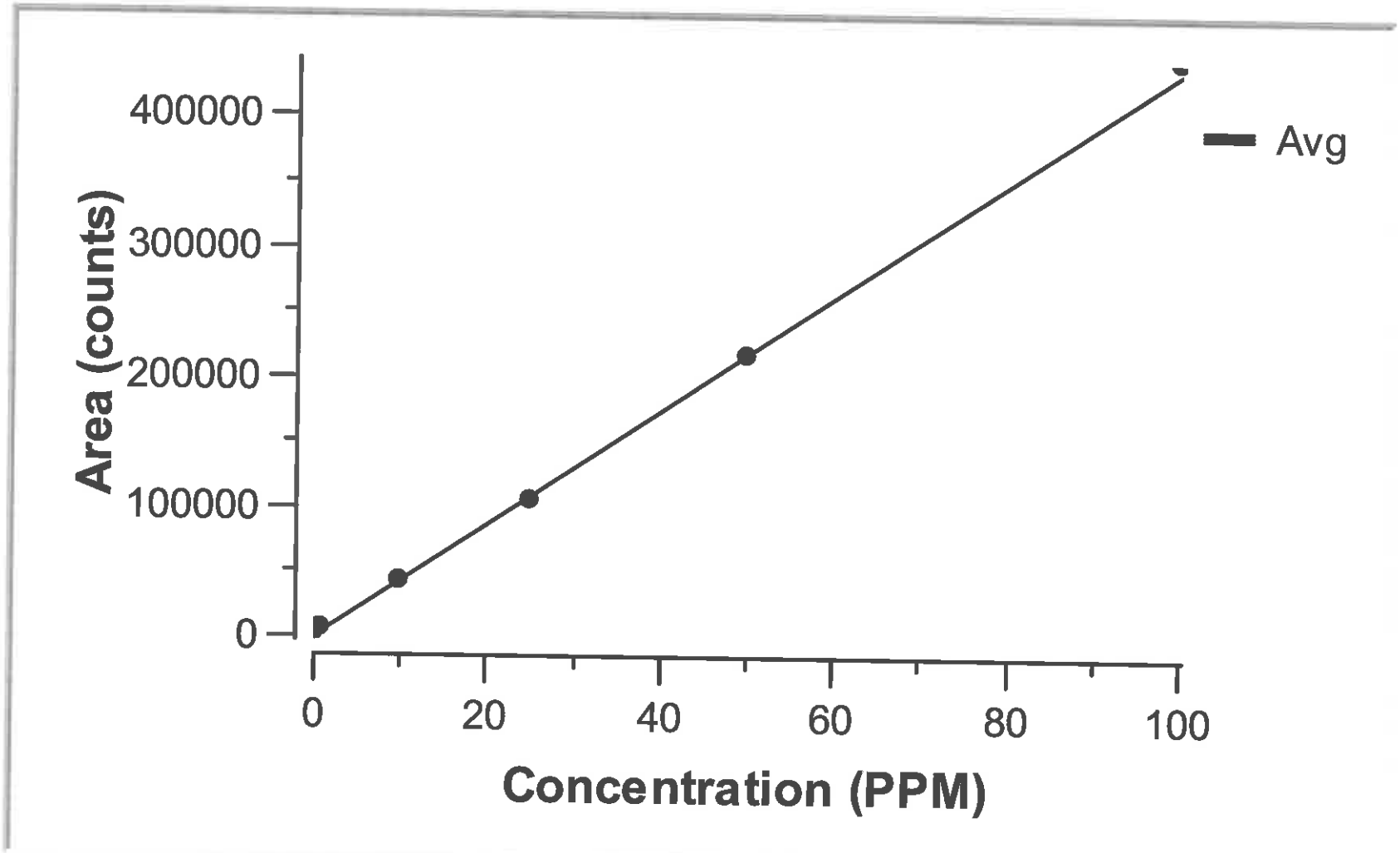
Area (counts)
400000
300000
200000
100000
0
0
20
40
60
80
100
Concentration (PPM)
Avg

TEST AMERICA TOC Reporter
Instrument ID: E717730273 Wet - Chemistry

10-04-2019 10:58 AM

User ID:toc	Name:Total Organic Carbon
Title:Mr	Dept:OIC-TOC

Calibration - Quick View -TOC

Revision: 9-TOC JUN 2019 - Jun 24, 2019; 03-41-32 PM
Modified By: toc
Date Created: 2019/06/24; 03:41 PM
Last Modified: 2019/10/03; 06:14 PM
Last Calibrated: 2019/10/03; 06:14 PM

RF(ugC/k-cnt): 0.5515
R2: 0.9995
Reagent Blank(cts): 226
Offset Area(cts): 596
Offset Mass(ugC): -0.33

Std #	Conc (PPM)	Volume (mL)	# Reps	Area	Std. Dev	%RSD	Date Analysed
RW	0.000	2.400	2	603	41	6.74	2019-10-03; 04:51PM
1	1.000	2.400	2	4,892	113	2.32	2019-10-03; 05:07PM
2	10.000	2.400	2	42,470	109	0.26	2019-10-03; 05:23PM
3	25.000	2.400	2	106,540	1,045	0.98	2019-10-03; 05:38PM
4	50.000	2.400	2	214,932	3,098	1.44	2019-10-03; 05:53PM
5	100.000	2.400	2	443,819	4,543	1.02	2019-10-03; 06:08PM

Analyzed by: AVS Date: 9-26-19

Water Analysis Historical Data Report
Eurofins-TestAmerica-Pittsburgh

Report Date: 9/27/2019 : 7:42 AM

pH 4 ID: 3310867 Volume of sample titrated: 10mL

0.02N/0.1000N H2SO4 ID: 3591563 H2SO4 True Value: 0.0198

Alkalinity LCS (1000ppm/250ppm) ID: 3389791

Alkalinity CCV (1000ppm/125ppm) ID: 3389492

Conductivity LCS ID: —

Conductivity CCV ID: —

100mS ID: —

SM:2320B
EPA:120.1
SM:4500H+B
SM:2510B
EPA:9050A
EPA:9040C

Run Number 592 **Order Number** 20190925-2 **TALS Batch ID:** 292886

SampleID	Schedule Name	RunDate	RunTime	Temp	cond (uS)	pH	palk-ppm	talk-ppm	bcarb-ppm	carb-ppm	hydr-ppm	mLs@8.3	mLs@4.5	mLs@4.2
180-96068-D-1	PH-ALK	9/26/2019	12:00 AM	22.17	-1.00	7.02	.00	29.15	29.15	.00	.00	.00	.29	-1.00
180-96136-E-1	PH-ALK	9/26/2019	12:05 AM	22.28	-1.00	5.22	.00	28.67	28.67	.00	.00	.00	.29	-1.00
180-96136-E-2	PH-ALK	9/26/2019	12:09 AM	22.31	-1.00	4.14	.00	.00	.00	.00	.00	.00	.00	.00
180-96087-B-1	PH-ALK	9/26/2019	12:15 AM	22.20	-1.00	5.22	.00	.95	.95	.00	.00	.00	.03	.05
180-96087-B-2	PH-ALK	9/26/2019	12:21 AM	22.28	-1.00	7.52	.00	134.60	134.60	.00	.00	.00	1.36	-1.00
180-96087-B-3	PH-ALK	9/26/2019	12:27 AM	22.34	-1.00	7.90	.00	203.13	203.13	.00	.00	.00	2.05	-1.00
ccv	PH-ALK	9/26/2019	12:35 AM	22.42	-1.00	10.04	47.23	121.34	26.88	94.45	.00	.48	1.23	-1.00
ccb	PH-ALK	9/26/2019	12:41 AM	22.37	-1.00	6.50	.00	2.09	2.09	.00	.00	.00	.04	.06
lcs	PH-ALK	9/26/2019	12:48 AM	22.34	-1.00	10.39	108.95	241.25	23.35	217.90	.00	1.10	2.44	-1.00
mb	PH-ALK	9/26/2019	12:54 AM	22.37	-1.00	7.11	.00	1.85	1.85	.00	.00	.00	.04	.06
180-96087-B-4	PH-ALK	9/26/2019	1:02 AM	22.37	-1.00	7.74	.00	992.18	992.18	.00	.00	.00	10.02	-1.00
180-96087-B-4du	PH-ALK	9/26/2019	1:10 AM	22.40	-1.00	7.75	.00	995.15	995.15	.00	.00	.00	10.05	-1.00
180-96087-B-5	PH-ALK	9/26/2019	1:17 AM	22.40	-1.00	7.99	.00	204.00	204.00	.00	.00	.00	2.06	-1.00
180-96130-B-1	PH-ALK	9/26/2019	1:29 AM	22.35	-1.00	10.74	2,370.62	.00	-4,741.23	4,741.23	.00	23.95	.00	.00
180-96130-B-2	PH-ALK	9/26/2019	1:41 AM	22.40	-1.00	10.78	2,395.72	.00	-4,791.44	4,791.44	.00	24.20	.00	.00
180-96130-B-3	PH-ALK	9/26/2019	1:53 AM	22.40	-1.00	11.14	.00	.00	.00	.00	.00	.00	.00	.00
180-95985-C-2	PH-ALK	9/26/2019	1:57 AM	22.58	-1.00	1.29	.00	.00	.00	.00	.00	.00	.00	.00
ccv	PH-ALK	9/26/2019	2:01 AM	22.42	-1.00	5.16	.00	5.57	5.57	.00	.00	.00	.12	.18
ccb	PH-ALK	9/26/2019	2:06 AM	22.31	-1.00	4.74	.00	-.83	-.83	.00	.00	.00	.01	.03
ph4	PH	9/26/2019	2:09 AM	22.26	-1.00	3.99	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
rinse	PH-ALK	9/26/2019	2:14 AM	22.22	-1.00	4.82	.00	-.41	-.41	.00	.00	.00	.01	.03
Tap Water	PH-ALK	9/26/2019	2:42 PM	22.87	-1.00	7.03	.00	59.98	59.98	.00	.00	.00	.61	-1.00
DI	PH-ALK	9/26/2019	2:47 PM	22.69	-1.00	5.38	.00	.39	.39	.00	.00	.00	.02	.04
pH4	PH	9/26/2019	2:50 PM	22.58	-1.00	3.98	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
LCS	PH-ALK	9/26/2019	2:58 PM	22.66	-1.00	10.59	111.83	230.53	6.87	223.66	.00	1.13	2.33	-1.00

AVS 9-27-19

Run Number 594 **Order Number** 20190926-2 **TALS Batch ID:** _____

SampleID	Schedule Name	RunDate	RunTime	Temp	cond (uS)	pH	palk-ppm	talk-ppm	bcarb-ppm	carb-ppm	hydr-ppm	mLs@8.3	mLs@4.5	mLs@4.2
MB	PH-ALK	9/26/2019	3:04 PM	22.60	-1.00	6.63	.00	1.47	1.47	.00	.00	.00	.03	.05
180-95787-B-1	PH-ALK	9/26/2019	3:10 PM	22.40	-1.00	7.54	.00	93.58	93.58	.00	.00	.00	.95	-1.00
180-95787-B-1du	PH-ALK	9/26/2019	3:16 PM	22.51	-1.00	7.69	.00	94.09	94.09	.00	.00	.00	.95	-1.00
180-95787-B-2	PH-ALK	9/26/2019	3:22 PM	22.64	-1.00	7.81	.00	132.65	132.65	.00	.00	.00	1.34	-1.00
180-96087-B-4	PH-ALK	9/26/2019	3:30 PM	22.86	-1.00	7.39	.00	962.94	962.94	.00	.00	.00	9.73	-1.00
180-96087-B-5	PH-ALK	9/26/2019	3:37 PM	23.17	-1.00	7.76	.00	194.43	194.43	.00	.00	.00	1.96	-1.00
180-96136-F-5	PH-ALK	9/26/2019	3:42 PM	22.92	-1.00	7.05	.00	57.27	57.27	.00	.00	.00	.58	-1.00
180-96136-C-6	PH-ALK	9/26/2019	3:49 PM	22.69	-1.00	7.95	.00	268.27	268.27	.00	.00	.00	2.71	-1.00
180-96150-B-1	PH-ALK	9/26/2019	3:54 PM	22.63	-1.00	5.10	.00	2.28	2.28	.00	.00	.00	.05	.07
ccv	PH-ALK	9/26/2019	4:02 PM	22.64	-1.00	10.16	48.34	116.62	19.93	96.69	.00	.49	1.18	-1.00
ccb	PH-ALK	9/26/2019	4:08 PM	22.81	-1.00	6.81	.00	1.17	1.17	.00	.00	.00	.03	.05
180-96150-B-2	PH-ALK	9/26/2019	4:14 PM	22.72	-1.00	9.61	30.11	59.64	.00	59.06	.58	.30	.60	-1.00
180-96150-B-2 DU	PH-ALK	9/26/2019	4:20 PM	22.83	-1.00	9.77	40.88	64.48	.00	47.20	17.28	.41	.65	-1.00
180-96163-B-1	PH-ALK	9/26/2019	4:26 PM	22.87	-1.00	8.16	.00	3.65	3.65	.00	.00	.00	.06	.08
180-96163-B-3	PH-ALK	9/26/2019	4:32 PM	22.96	-1.00	6.09	.00	.79	.79	.00	.00	.00	.03	.05
180-96138-D-1	PH-ALK	9/26/2019	4:38 PM	23.12	-1.00	7.58	.00	282.93	282.93	.00	.00	.00	2.86	-1.00
180-96138-D-2	PH-ALK	9/26/2019	4:45 PM	22.95	-1.00	7.62	.00	320.20	320.20	.00	.00	.00	3.23	-1.00
180-96165-B-7	PH-ALK	9/26/2019	4:50 PM	22.83	-1.00	6.68	.00	1.38	1.38	.00	.00	.00	.03	.05
180-96165-B-8	PH-ALK	9/26/2019	4:58 PM	22.74	-1.00	8.07	.00	427.19	427.19	.00	.00	.00	4.32	-1.00
180-96144-I-1	PH-ALK	9/26/2019	5:04 PM	22.78	-1.00	7.98	.00	214.00	214.00	.00	.00	.00	2.16	-1.00
180-96150-B-3	PH-ALK	9/26/2019	5:09 PM	22.80	-1.00	6.40	.00	26.01	26.01	.00	.00	.00	.26	-1.00
ccv	PH-ALK	9/26/2019	5:17 PM	22.86	-1.00	10.14	45.18	113.58	23.22	90.35	.00	.46	1.15	-1.00
ccb	PH-ALK	9/26/2019	5:23 PM	22.98	-1.00	6.82	.00	1.14	1.14	.00	.00	.00	.03	.05
lcs	PH-ALK	9/26/2019	5:30 PM	23.01	-1.00	10.56	114.18	235.59	7.22	228.37	.00	1.15	2.38	-1.00
mb	PH-ALK	9/26/2019	5:36 PM	23.14	-1.00	7.33	.00	1.45	1.45	.00	.00	.00	.03	.05
180-96163-B-2	PH-ALK	9/26/2019	5:42 PM	23.20	-1.00	6.68	.00	95.32	95.32	.00	.00	.00	.96	-1.00
180-96163-B-2du	PH-ALK	9/26/2019	5:47 PM	23.07	-1.00	6.69	.00	95.24	95.24	.00	.00	.00	.96	-1.00
180-96150-B-4	PH-ALK	9/26/2019	5:52 PM	22.96	-1.00	6.14	.00	36.94	36.94	.00	.00	.00	.37	-1.00
180-96150-B-5	PH-ALK	9/26/2019	5:59 PM	22.92	-1.00	7.71	.00	205.94	205.94	.00	.00	.00	2.08	-1.00
180-96161-D-1	PH-ALK	9/26/2019	6:05 PM	22.96	-1.00	7.80	.00	173.88	173.88	.00	.00	.00	1.76	-1.00
180-96162-D-1	PH-ALK	9/26/2019	6:11 PM	22.89	-1.00	7.81	.00	174.50	174.50	.00	.00	.00	1.76	-1.00

Run Number 594 **Order Number** 20190926-2 **TALS Batch ID:** _____

SampleID	Schedule Name	RunDate	RunTime	Temp	cond(uS)	pH	palk-ppm	talk-ppm	bcarb-ppm	carb-ppm	hydr-ppm	mLs@8.3	mLs@4.5	mLs@4.2
180-96163-B-4	PH-ALK	9/26/2019	6:16 PM	21.60	-1.00	6.65	.00	92.80	92.80	.00	.00	.00	.94	-1.00
180-96163-B-5	PH-ALK	9/26/2019	6:22 PM	20.96	-1.00	6.63	.00	92.39	92.39	.00	.00	.00	.93	-1.00
ccv	PH-ALK	9/26/2019	6:29 PM	21.44	-1.00	10.13	47.94	115.54	19.66	95.87	.00	.48	1.17	-1.00
ccb	PH-ALK	9/26/2019	6:35 PM	21.95	-1.00	6.84	.00	1.29	1.29	.00	.00	.00	.03	.05
180-96163-B-6	PH-ALK	9/26/2019	6:41 PM	22.22	-1.00	5.94	.00	11.80	11.80	.00	.00	.00	.14	.17
180-96163-B-6du	PH-ALK	9/26/2019	6:46 PM	22.39	-1.00	5.92	.00	11.47	11.47	.00	.00	.00	.14	.16
180-96163-B-7	PH-ALK	9/26/2019	6:52 PM	22.40	-1.00	5.68	.00	.38	.38	.00	.00	.00	.02	.04
180-96163-B-8	PH-ALK	9/26/2019	6:58 PM	22.42	-1.00	6.17	.00	7.65	7.65	.00	.00	.00	.10	.12
180-96163-B-9	PH-ALK	9/26/2019	7:03 PM	22.45	-1.00	6.24	.00	11.25	11.25	.00	.00	.00	.14	.16
180-96139-C-1	PH-ALK	9/26/2019	7:10 PM	22.48	-1.00	7.88	.00	224.11	224.11	.00	.00	.00	2.26	-1.00
180-96139-C-2	PH-ALK	9/26/2019	7:17 PM	22.55	-1.00	8.13	.00	250.77	250.77	.00	.00	.00	2.53	-1.00
180-96139-C-3	PH-ALK	9/26/2019	7:23 PM	22.64	-1.00	8.19	.00	239.34	239.34	.00	.00	.00	2.42	-1.00
180-96139-C-4	PH-ALK	9/26/2019	7:30 PM	22.67	-1.00	8.16	.00	215.07	215.07	.00	.00	.00	2.17	-1.00
180-96181-D-1	PH-ALK	9/26/2019	7:35 PM	22.72	-1.00	6.49	.00	56.06	56.06	.00	.00	.00	.57	-1.00
ccv	PH-ALK	9/26/2019	7:43 PM	22.77	-1.00	10.08	42.89	116.12	30.34	85.78	.00	.43	1.17	-1.00
ccb	PH-ALK	9/26/2019	7:48 PM	22.86	-1.00	6.74	.00	1.12	1.12	.00	.00	.00	.03	.05
lcs	PH-ALK	9/26/2019	7:55 PM	22.80	-1.00	10.51	112.16	241.05	16.72	224.32	.00	1.13	2.43	-1.00
mb	PH-ALK	9/26/2019	8:01 PM	22.67	-1.00	7.19	.00	1.44	1.44	.00	.00	.00	.03	.05
180-96181-D-2	PH-ALK	9/26/2019	8:07 PM	22.51	-1.00	7.21	.00	33.79	33.79	.00	.00	.00	.34	-1.00
180-96181-D-2du	PH-ALK	9/26/2019	8:12 PM	22.37	-1.00	7.44	.00	36.16	36.16	.00	.00	.00	.37	-1.00
180-96164-H-1	PH-ALK	9/26/2019	8:19 PM	22.29	-1.00	8.61	24.81	417.22	367.60	49.62	.00	.25	4.21	-1.00
180-96164-H-3	PH-ALK	9/26/2019	8:26 PM	22.32	-1.00	8.22	.00	306.23	306.23	.00	.00	.00	3.09	-1.00
180-96164-H-4	PH-ALK	9/26/2019	8:33 PM	22.32	-1.00	8.40	7.96	309.42	293.49	15.93	.00	.08	3.13	-1.00
180-96164-F-5	PH-ALK	9/26/2019	8:39 PM	22.32	-1.00	6.81	.00	1.41	1.41	.00	.00	.00	.03	.05
180-96165-B-6	PH-ALK	9/26/2019	8:46 PM	22.34	-1.00	8.06	.00	584.55	584.55	.00	.00	.00	5.90	-1.00
180-96164-H-7	PH-ALK	9/26/2019	8:53 PM	22.37	-1.00	7.97	.00	295.99	295.99	.00	.00	.00	2.99	-1.00
ccv	PH-ALK	9/26/2019	9:00 PM	22.39	-1.00	10.06	45.79	119.61	28.02	91.58	.00	.46	1.21	-1.00
ccb	PH-ALK	9/26/2019	9:06 PM	22.43	-1.00	6.70	.00	1.46	1.46	.00	.00	.00	.03	.05
180-96165-B-1	PH-ALK	9/26/2019	9:13 PM	22.29	-1.00	8.00	.00	469.50	469.50	.00	.00	.00	4.74	-1.00
180-96165-B-2	PH-ALK	9/26/2019	9:20 PM	22.19	-1.00	7.99	.00	472.74	472.74	.00	.00	.00	4.78	-1.00
180-96165-B-3	PH-ALK	9/26/2019	9:26 PM	22.11	-1.00	7.71	.00	413.48	413.48	.00	.00	.00	4.18	-1.00

Run Number 594 **Order Number** 20190926-2 **TALS Batch ID:** _____

SampleID	Schedule Name	RunDate	RunTime	Temp	cond (uS)	pH	palk-ppm	talk-ppm	bcarb-ppm	carb-ppm	hydr-ppm	mLs@8.3	mLs@4.5	mLs@4.2
180-96165-B-3du	PH-ALK	9/26/2019	9:33 PM	22.03	-1.00	7.71	.00	417.40	417.40	.00	.00	.00	4.22	-1.00
180-96165-B-4	PH-ALK	9/26/2019	9:40 PM	22.00	-1.00	7.82	.00	433.55	433.55	.00	.00	.00	4.38	-1.00
180-96165-B-5	PH-ALK	9/26/2019	9:46 PM	21.99	-1.00	6.93	.00	2.14	2.14	.00	.00	.00	.04	.05
180-96150-B-6	PH-ALK	9/26/2019	9:52 PM	21.95	-1.00	8.05	.00	175.68	175.68	.00	.00	.00	1.77	-1.00
180-96150-B-7	PH-ALK	9/26/2019	9:56 PM	21.90	-1.00	4.27	.00	-1.31	-1.31	.00	.00	.00	.00	.01
180-96150-B-8	PH-ALK	9/26/2019	10:02 PM	21.89	-1.00	7.19	.00	252.21	252.21	.00	.00	.00	2.55	-1.00
180-96150-A-9	PH-ALK	9/26/2019	10:08 PM	21.87	-1.00	7.40	.00	517.94	517.94	.00	.00	.00	5.23	-1.00
ccv	PH-ALK	9/26/2019	10:16 PM	21.86	-1.00	10.01	41.90	121.47	37.68	83.80	.00	.42	1.23	-1.00
ccb	PH-ALK	9/26/2019	10:21 PM	21.86	-1.00	6.72	.00	1.55	1.55	.00	.00	.00	.03	.05
lcs	PH-ALK	9/26/2019	10:29 PM	21.76	-1.00	10.47	111.00	243.07	21.07	221.99	.00	1.12	2.46	-1.00
mb	PH-ALK	9/26/2019	10:34 PM	21.69	-1.00	7.04	.00	1.53	1.53	.00	.00	.00	.03	.05
180-96150-A-10	PH-ALK	9/26/2019	10:40 PM	21.63	-1.00	6.81	.00	335.99	335.99	.00	.00	.00	3.39	-1.00
180-96150-A-10du	PH-ALK	9/26/2019	10:46 PM	21.58	-1.00	6.91	.00	339.52	339.52	.00	.00	.00	3.43	-1.00
180-96150-A-11	PH-ALK	9/26/2019	10:53 PM	21.56	-1.00	7.15	.00	265.16	265.16	.00	.00	.00	2.68	-1.00
180-96177-E-1	PH-ALK	9/26/2019	10:59 PM	21.53	-1.00	7.83	.00	214.30	214.30	.00	.00	.00	2.16	-1.00
180-96177-E-2	PH-ALK	9/26/2019	11:05 PM	21.48	-1.00	7.81	.00	69.89	69.89	.00	.00	.00	.71	-1.00
~~180-96125-A-1~~	~~PH-ALK~~	~~9/26/2019~~	~~11:10 PM~~	~~21.53~~	~~-1.00~~	~~6.26~~	~~.00~~	~~25.26~~	~~25.26~~	~~.00~~	~~.00~~	~~.00~~	~~.26~~	~~-1.00~~
180-96125-A-3	PH-ALK	9/26/2019	11:23 PM	21.45	-1.00	7.56	.00	2,450.18	2,450.18	.00	.00	.00	24.75	-1.00
~~180-96125-A-5~~	~~PH-ALK~~	~~9/26/2019~~	~~11:36 PM~~	~~21.54~~	~~-1.00~~	~~6.97~~	~~.00~~	~~.00~~	~~.00~~	~~.00~~	~~.00~~	~~.00~~	~~.00~~	~~.00~~ AVS 9.27.19
ccv	PH-ALK	9/26/2019	11:43 PM	21.43	-1.00	9.58	34.32	133.23	64.59	68.64	.00	.35	1.35	-1.00
ccb	PH-ALK	9/26/2019	11:49 PM	21.31	-1.00	6.76	.00	1.97	1.97	.00	.00	.00	.04	.05
~~180-96190-D-1~~	~~PH-ALK~~	~~9/26/2019~~	~~11:54 PM~~	~~21.25~~	~~-1.00~~	~~6.90~~	~~.00~~	~~28.12~~	~~28.12~~	~~.00~~	~~.00~~	~~.00~~	~~.28~~	~~-1.00~~
180-96190-D-1du	PH-ALK	9/27/2019	12:00 AM	21.25	-1.00	7.12	.00	27.67	27.67	.00	.00	.00	.28	-1.00
180-96125-A-2	PH-ALK	9/27/2019	12:08 AM	21.30	-1.00	6.52	.00	830.08	830.08	.00	.00	.00	8.38	-1.00
180-96125-A-4	PH-ALK	9/27/2019	12:21 AM	21.31	-1.00	7.59	.00	2,488.86	2,488.86	.00	.00	.00	25.14	-1.00
180-96125-A-6	PH-ALK	9/27/2019	12:26 AM	21.27	-1.00	7.42	.00	525.24	525.24	.00	.00	.00	5.31	-1.00
ccv	PH-ALK	9/27/2019	12:33 AM	21.15	-1.00	9.38	37.52	154.89	79.85	75.04	.00	.38	1.56	-1.00
~~ccb~~	~~PH-ALK~~	~~9/27/2019~~	~~12:39 AM~~	~~21.12~~	~~-1.00~~	~~6.82~~	~~.00~~	~~2.27~~	~~2.27~~	~~.00~~	~~.00~~	~~.00~~	~~.04~~	~~.06~~ AVS 9.27.19
ph4	PH	9/27/2019	12:42 AM	21.11	-1.00	3.99	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00

MANTECH

MANTECH INC.

Calibration Report

Report Date: 9/26/2019 : 2:21 PM

Calibration Record # 197

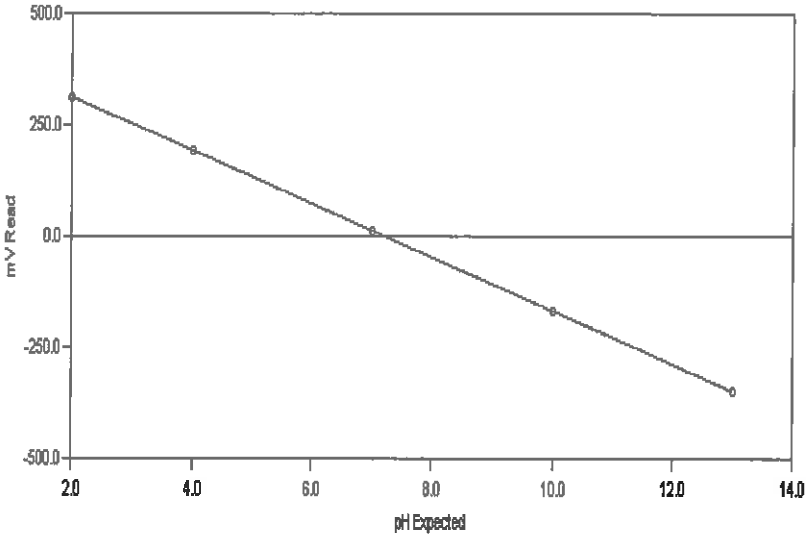

Calibration Settings

Calibration ID	PH TITRASIP	Date	9/26/2019	
Channel	1	Time	2:15 PM	
Probe Type	pH	Temperature	295.22 K	22.07 C
Probe ID	PH ELECTRODE	Analysis Type	Single Line Fit	

Calibration Results

Slope	-60.043	CorrCoeff	1.0000
Intercept	12.595	Equation:	Y = (-60.043) X + (12.595)

Calibration Validity **True** Operator

	Result	Minimum	Maximum
Slope	-60.043	-65.00	-53.00
Intercept	12.595	-30.00	30.00
Correlation Coefficient	1.0000	0.99	1.00

Note: "True" means the calibration was within the specified ranges
"False" means the calibration was NOT within the specified ranges

Calibration Data	**Standard**	**Reading**
	2.00	312.62
	4.00	192.87
	7.00	12.45
	10.00	-166.99
	13.00	-348.02

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Pittsburgh
STANDARDIZATION OF ALKALINITY TITRANT LOGSHEET
NB-2019-037

STANDARDIZATION OF 0.1N OR 0.02N H_2SO_4

Use 1000mg/L Na_2CO_3 (Sodium Carbonate) Standard (Certified)

Use 15 mL of 1000mg/L Na_2CO_3 + 85 mL of DI Water

Calculation of Normality

$$N = \frac{A \times B}{53 \times C}$$

Where: A = g of Na_2CO_3 (for example, 1.0g for 1000mg/L)
B = mL of Na_2CO_3 Standard used
C = mL of H_2SO_4 to reach pH 4.5

$$N = \frac{2.05 \times 15}{53 \times 37.9} = \frac{39.75}{2008.7} = 0.0198 \text{ N}$$

~~38.75~~ AVS 9.24.19

Na_2CO_3 Standard: 33915 63

Standardized By: AVS **Date:** 9.24.19

Checked By: AGP **Date:** 9/28/19

Subcontract Data

Shipping and Receiving Documents

CHAIN OF CUSTODY RECORD

COC NO.: 59349

Address: 2055 Niagara Falls Blvd

Phone: 716-297-6150

Fax:

PAGE ___ OF ___

Project No/ Phase/Task Code: 11187072	Laboratory Name: Eurofins / Test America	Lab Location: Pittsburgh	SSOW ID:
Project Name: San Jacinto	Lab Contact: Carrie Gamber / Beth Hitt		Cooler No:
Project Location: Texas			Carrier:
GHD Chemistry Contact: Debbie Brennan			Airbill No:
Sampler(s): Don Pope			Total # of Containers:

Item	Sample Identification (Containers for each sample may be combined on one line)	Date (mm/dd/yy)	Time (hh:mm)	Matrix Code (see back of COC)	Grab (G) or Comp (C)	Filtered (Y/N)	See SSOW												Total Containers/sample	MS/MSD Request	Comments/ Special Instructions:
	PRESERVATION - (SEE BACK OF COC FOR ABBREVIATIONS)																				
1	11187072-Contact-Initial	9/24/19	15:00	WG			X														* See SSOW for Analyses
2																					
3																					* Sample for dissolved metals has been filtered and preserved.
4																					
5																					
6																					
7																					* Std. TAT
8																					
9																					
10																					
11																					
12																					

180-96144 Chain of Custody

TAT Required in business days (use separate COCs for different TATs):

☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 1 Week ☑ 2 Week ☐ Other:

Notes/ Special Requirements:

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1. Don Pope	GHD	9/24/19	15:15	1. [illegible]	TAPitt	9-25-19	9:00
2.				2.			
3.				3.			

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT – ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE – Fully Executed Copy (CRA) YELLOW – Receiving Laboratory Copy PINK – Shipper GOLDENROD – Sampling Crew

GHD Form: COC-10B (20110804)

Do Not Lift Using This

180-96144 Waybill

ORIGIN ID:DKKA (716) 297-2160
BRITT GEBHARDT
GHD
2055 NIAGARA FALLS BLVD

NIAGARA FALLS, NY 14304
UNITED STATES US

SHIP DATE: 24SEP19
ACTWGT: 48.00 LB MAN
CAD: 68417/CAFE3211
DIMS: 26x15x15 IN

BILL SENDER

TO **SAMPLE CUSTODIAN**
EUROFINS/TEST AMERICA
301 ALPHA DRIVE

PITTSBURGH PA 152381330
(412) 963-7058
REF: 11187072 MANNS (D. POPE)

5S1C1/9B04/104C

J181118060501uv

1 10:30 A 8100 09.25

RT 97 FZ

WED 25SEP 10:30A
PRIORITY OVERNIGHT

TRK# 0201 **4576 5883 8100**

EK AGCA

15238
PA-US **PIT**

Uncorrected temp 4.8 °C
Thermometer ID 10
CF 0 Initials B
PT-WI-SR-001 effective 11/8/18

Part # 154254-354 RIT EXP 02/20

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrier L	Carrier Tracking No(s):	COC No: 180-374490.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com	State of Origin: Texas	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Texas		Job #: 180-96144-1
Address: 880 Riverside Parkway, ,	Due Date Requested: 10/11/2019			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: San Jacinto River Waste Pits Superfund	Project #: 18020662			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Full List w/ Totals	Total_TEQ	6010C/3010A (MOD) TAL Metals	7470A/7470A_Prep Mercury Only	6010C/FIELD_FLTRD TAL Metals	7470A/FIELD_FLTRD Mercury Only	Total Number of containers	Special Instructions/Note:
			Preservation Code:											
11187072-CONTACT-INITIAL (180-96144-1)	9/24/19	15:00 Central		Water			X	X	X	X	X	X	3	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 4	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	9/26/19 1700	TMB	[signature]	9/27/19 900	ETA-SAC
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.7°C

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 180-96144-1

Login Number: 96144
List Number: 1
Creator: Watson, Debbie

List Source: Eurofins TestAmerica, Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 180-96144-1

Login Number: 96144
List Number: 2
Creator: Kintaudi, Pauline W

List Source: Eurofins TestAmerica, Sacramento
List Creation: 09/27/19 02:04 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.7c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

Job Number: 180-97287-1

Job Description: San Jacinto River Waste Pits Superfund

For:
GHD Services Inc.
5551 Corporate Boulevard
Suite 200
Baton Rouge, LA 70808

Attention: Janie Smith

Approved for release.
Carrie L Gamber
Senior Project Manager
5/26/2020 9:43 AM

Carrie L Gamber, Senior Project Manager
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2428
carrie.gamber@testamericainc.com
05/26/2020
Revision: 2

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.

Dioxin

Qualifier	Qualifier Description
*	Isotope Dilution analyte is outside acceptance limits.
B	Compound was found in the blank and sample.
G	The reported quantitation limit has been raised due to an exhibited elevated noise or matrix interference
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE

Client: GHD Services Inc.

Project: San Jacinto River Waste Pits Superfund

Report Number: 180-97287-1 REVISED

NOTE: Per the client's request, the TEQ summaries have been removed from this report.

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 10/16/2019; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 3.6 C.

VOLATILES
The continuing calibration verification (CCV) analyzed in batch 180-295465 was outside the method criteria for the following analyte: Isobutyl Alcohol (RF). A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte is considered estimated.

The continuing calibration verification (CCV) analyzed in 180-295465 was outside the method criteria for the following analyte: 1,2,3-Trichloropropane. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte is considered estimated.

SEMIVOLATILES
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

8015 GLYCOLS
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PESTICIDES
Tetrachloro-m-xylene failed low for the CCVIS. All recoveries for this surrogate were acceptable for the analytical samples.

PCBS
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

HERBICIDES
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

DIOXINS
EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV103019B). The 13C-1,2,3,4-TCDD and 13C-1,2,3,7,8,9-HxCDD associated with the following samples run on instrument 3D5 exceeded this criteria: 11187072-NORTH-IMPCT-INITIALS (180-97287-1), (CCV 320-334889/1), (LB 320-334214/5-A), (LCS 320-334214/2-A), (MB 320-334214/1-A) and (WDM 320-334889/2). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

OCDD and Total HxCDD were detected in method blank LB 320-334214/5-A at a level exceeding the reporting limit. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Total TCDD was detected in method blank MB 320-334214/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

OCDD and Total TCDD were detected in method blank MB 320-334214/1-A at a level exceeding the reporting limit. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Total TCDD was detected in method blank MB 320-334214/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an

estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

METALS

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GENERAL CHEMSITRY

Sulfide failed the recovery criteria low for the MS/MSD of sample 11187072-NORTH-IMPCT-INITIALS (180-97287-1) in batch 180-295417.

Detection Summary

Client: GHD Services Inc.
Job ID: 180-97287-1
Project/Site: San Jacinto River Waste Pits Superfund

Client Sample ID: 11187072-NORTH-IMPCT-INITIALS — Lab Sample ID: 180-97287-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
OCDD	34	J B	500	6.1	pg/L	1		1613B	TCLP
Total TCDD	4.4	J q B	50	3.4	pg/L	1		1613B	TCLP
Barium	1.1	J	2.0	0.026	mg/L	1		EPA 6010C	TCLP
Ignitability	>140				Degrees F	1		EPA 1020B	Total/NA
Sulfide	76	F1	48	16	mg/Kg	1	☼	EPA 9034	Total/NA
pH	7.9	HF	0.1	0.1	SU	1		EPA 9045D	Total/NA
Free Liquid	CNF				NONE	1		EPA 9095B	Total/NA

Client Sample ID: 11187072-NORTH-IMPCT-INITIALS — Lab Sample ID: 180-97287-2

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-97287-1

Method: EPA 8260C - Volatile Organic Compounds by GC/MS - TCLP

Client Sample ID: 11187072-NORTH-IMPCT-INITIALS
Date Collected: 10/15/19 15:00
Date Received: 10/16/19 09:00

Lab Sample ID: 180-97287-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.20	0.16	mg/L			10/20/19 12:54	1
1,1,1-Trichloroethane	ND		0.20	0.10	mg/L			10/20/19 12:54	1
1,2-Dichloroethane	ND		0.20	0.058	mg/L			10/20/19 12:54	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.12	mg/L			10/20/19 12:54	1
2-Butanone (MEK)	ND		0.20	0.12	mg/L			10/20/19 12:54	1
Benzene	ND		0.20	0.079	mg/L			10/20/19 12:54	1
1,1,2-Trichloroethane	ND		0.20	0.096	mg/L			10/20/19 12:54	1
Carbon tetrachloride	ND		0.20	0.13	mg/L			10/20/19 12:54	1
Chlorobenzene	ND		0.20	0.063	mg/L			10/20/19 12:54	1
Chloroform	ND		0.20	0.085	mg/L			10/20/19 12:54	1
Tetrachloroethene	ND		0.20	0.080	mg/L			10/20/19 12:54	1
Trichloroethene	ND		0.20	0.060	mg/L			10/20/19 12:54	1
1,2,3-Trichloropropane	ND		0.20	0.11	mg/L			10/20/19 12:54	1
Vinyl chloride	ND		0.20	0.15	mg/L			10/20/19 12:54	1
1,1-Dichloroethene	ND		0.20	0.11	mg/L			10/20/19 12:54	1
1,3-Dichloropropene, Total	ND		0.40	0.13	mg/L			10/20/19 12:54	1
1,4-Dichlorobenzene	ND		0.20	0.041	mg/L			10/20/19 12:54	1
4-Methyl-2-pentanone (MIBK)	ND		0.20	0.074	mg/L			10/20/19 12:54	1
Acetone	ND		0.80	0.13	mg/L			10/20/19 12:54	1
Acetonitrile	ND		2.0	2.0	mg/L			10/20/19 12:54	1
Acrylonitrile	ND		2.0	1.3	mg/L			10/20/19 12:54	1
Bromoform	ND		0.20	0.10	mg/L			10/20/19 12:54	1
Bromomethane	ND		0.20	0.18	mg/L			10/20/19 12:54	1
Carbon disulfide	ND		0.20	0.12	mg/L			10/20/19 12:54	1
Dichlorobromomethane	ND		0.20	0.094	mg/L			10/20/19 12:54	1
Dichlorodifluoromethane	ND		0.20	0.12	mg/L			10/20/19 12:54	1
Ethylbenzene	ND		0.20	0.086	mg/L			10/20/19 12:54	1
1,2-Dibromoethane	ND		0.20	0.11	mg/L			10/20/19 12:54	1
Hexachlorobutadiene	ND		0.20	0.073	mg/L			10/20/19 12:54	1
Isobutyl alcohol	ND		5.0	3.6	mg/L			10/20/19 12:54	1
Methacrylonitrile	ND		2.0	1.6	mg/L			10/20/19 12:54	1
Methylene Chloride	ND		0.20	0.15	mg/L			10/20/19 12:54	1
Styrene	ND		0.20	0.053	mg/L			10/20/19 12:54	1
Toluene	ND		0.20	0.067	mg/L			10/20/19 12:54	1
trans-1,3-Dichloropropene	ND		0.20	0.069	mg/L			10/20/19 12:54	1
Trichlorofluoromethane	ND		0.20	0.058	mg/L			10/20/19 12:54	1
Xylenes, Total	ND		0.40	0.17	mg/L			10/20/19 12:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*58 - 139*		*10/20/19 12:54*	*1*
4-Bromofluorobenzene (Surr)	*92*		*64 - 122*		*10/20/19 12:54*	*1*
Dibromofluoromethane (Surr)	*93*		*70 - 127*		*10/20/19 12:54*	*1*
Toluene-d8 (Surr)	*106*		*71 - 125*		*10/20/19 12:54*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-97287-1

Method: EPA 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Client Sample ID: 11187072-NORTH-IMPCT-INITIALS
Date Collected: 10/15/19 15:00
Date Received: 10/16/19 09:00

Lab Sample ID: 180-97287-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.050	0.0045	mg/L		10/18/19 12:00	10/19/19 21:53	1
2,4,5-Trichlorophenol	ND		0.050	0.0079	mg/L		10/18/19 12:00	10/19/19 21:53	1
2,4,6-Trichlorophenol	ND		0.050	0.0095	mg/L		10/18/19 12:00	10/19/19 21:53	1
2,4-Dinitrotoluene	ND		0.050	0.0079	mg/L		10/18/19 12:00	10/19/19 21:53	1
2-Methylphenol	ND		0.050	0.0040	mg/L		10/18/19 12:00	10/19/19 21:53	1
Methylphenol, 3 & 4	ND		0.050	0.0079	mg/L		10/18/19 12:00	10/19/19 21:53	1
Hexachlorobenzene	ND		0.050	0.0055	mg/L		10/18/19 12:00	10/19/19 21:53	1
Hexachlorobutadiene	ND		0.050	0.0084	mg/L		10/18/19 12:00	10/19/19 21:53	1
Hexachloroethane	ND		0.050	0.0040	mg/L		10/18/19 12:00	10/19/19 21:53	1
Nitrobenzene	ND		0.050	0.012	mg/L		10/18/19 12:00	10/19/19 21:53	1
Pentachlorophenol	ND		0.25	0.0075	mg/L		10/18/19 12:00	10/19/19 21:53	1
Pyridine	ND		0.10	0.0082	mg/L		10/18/19 12:00	10/19/19 21:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*100*		*55 - 107*	*10/18/19 12:00*	*10/19/19 21:53*	*1*
2-Fluorophenol (Surr)	*103*		*60 - 108*	*10/18/19 12:00*	*10/19/19 21:53*	*1*
2,4,6-Tribromophenol (Surr)	*62*		*24 - 113*	*10/18/19 12:00*	*10/19/19 21:53*	*1*
Nitrobenzene-d5 (Surr)	*100*		*62 - 115*	*10/18/19 12:00*	*10/19/19 21:53*	*1*
Phenol-d5 (Surr)	*97*		*52 - 107*	*10/18/19 12:00*	*10/19/19 21:53*	*1*
Terphenyl-d14 (Surr)	*107*		*44 - 116*	*10/18/19 12:00*	*10/19/19 21:53*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-97287-1

Method: 8015D - Glycols- Direct Injection (GC/FID)

Client Sample ID: 11187072-NORTH-IMPCT-INITIALS
Date Collected: 10/24/19 08:45
Date Received: 10/16/19 09:00

Lab Sample ID: 180-97287-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene glycol	ND		10	1.9	mg/L		10/29/19 09:03	10/29/19 12:19	1
2-Ethoxyethanol	ND		20	2.5	mg/L		10/29/19 09:03	10/29/19 12:19	1
2-Methoxyethanol	ND		10	2.4	mg/L		10/29/19 09:03	10/29/19 12:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Butanediol	*98*		*66 - 130*	*10/29/19 09:03*	*10/29/19 12:19*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-97287-1

Method: EPA 8081B - Organochlorine Pesticides (GC) - TCLP

Client Sample ID: 11187072-NORTH-IMPCT-INITIALS
Date Collected: 10/15/19 15:00
Date Received: 10/16/19 09:00

Lab Sample ID: 180-97287-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	ND		0.0050	0.0029	mg/L		10/18/19 10:30	10/24/19 13:56	1
Endrin	ND		0.00050	0.000091	mg/L		10/18/19 10:30	10/24/19 13:56	1
gamma-BHC (Lindane)	ND		0.00050	0.00012	mg/L		10/18/19 10:30	10/24/19 13:56	1
Heptachlor	ND		0.00050	0.00018	mg/L		10/18/19 10:30	10/24/19 13:56	1
Heptachlor epoxide	ND		0.00050	0.00014	mg/L		10/18/19 10:30	10/24/19 13:56	1
Methoxychlor	ND		0.00050	0.00031	mg/L		10/18/19 10:30	10/24/19 13:56	1
Toxaphene	ND		0.040	0.020	mg/L		10/18/19 10:30	10/24/19 13:56	1
4,4'-DDD	ND		0.00050	0.00021	mg/L		10/18/19 10:30	10/24/19 13:56	1
4,4'-DDE	ND		0.00050	0.00012	mg/L		10/18/19 10:30	10/24/19 13:56	1
4,4'-DDT	ND		0.00050	0.00012	mg/L		10/18/19 10:30	10/24/19 13:56	1
Dieldrin	ND		0.00050	0.00011	mg/L		10/18/19 10:30	10/24/19 13:56	1
Endosulfan I	ND		0.00050	0.00027	mg/L		10/18/19 10:30	10/24/19 13:56	1
Mirex	ND		0.00050	0.000084	mg/L		10/18/19 10:30	10/24/19 13:56	1
Endosulfan sulfate	ND		0.00050	0.00026	mg/L		10/18/19 10:30	10/24/19 13:56	1
Endosulfan II	ND		0.00050	0.00013	mg/L		10/18/19 10:30	10/24/19 13:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*87*		*62 - 150*	*10/18/19 10:30*	*10/24/19 13:56*	*1*
DCB Decachlorobiphenyl (Surr)	*86*		*62 - 150*	*10/18/19 10:30*	*10/24/19 13:56*	*1*
Tetrachloro-m-xylene	*70*		*54 - 138*	*10/18/19 10:30*	*10/24/19 13:56*	*1*
Tetrachloro-m-xylene	*71*		*54 - 138*	*10/18/19 10:30*	*10/24/19 13:56*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-97287-1

Method: EPA 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography - TCLP

Client Sample ID: 11187072-NORTH-IMPCT-INITIALS
Date Collected: 10/15/19 15:00
Date Received: 10/16/19 09:00

Lab Sample ID: 180-97287-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.00039	0.00018	mg/L		10/18/19 10:30	10/22/19 09:43	1
PCB-1221	ND		0.00039	0.00022	mg/L		10/18/19 10:30	10/22/19 09:43	1
PCB-1232	ND		0.00039	0.00020	mg/L		10/18/19 10:30	10/22/19 09:43	1
PCB-1242	ND		0.00039	0.00035	mg/L		10/18/19 10:30	10/22/19 09:43	1
PCB-1248	ND		0.00039	0.00012	mg/L		10/18/19 10:30	10/22/19 09:43	1
PCB-1254	ND		0.00039	0.00037	mg/L		10/18/19 10:30	10/22/19 09:43	1
PCB-1260	ND		0.00039	0.00015	mg/L		10/18/19 10:30	10/22/19 09:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*83*		*45 - 133*	*10/18/19 10:30*	*10/22/19 09:43*	*1*
Tetrachloro-m-xylene (Surr)	*92*		*45 - 133*	*10/18/19 10:30*	*10/22/19 09:43*	*1*
DCB Decachlorobiphenyl (Surr)	*85*		*59 - 144*	*10/18/19 10:30*	*10/22/19 09:43*	*1*
DCB Decachlorobiphenyl (Surr)	*90*		*59 - 144*	*10/18/19 10:30*	*10/22/19 09:43*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-97287-1

Method: EPA 8151A - Herbicides (GC) - TCLP

Client Sample ID: 11187072-NORTH-IMPCT-INITIALS
Date Collected: 10/15/19 15:00
Date Received: 10/16/19 09:00

Lab Sample ID: 180-97287-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		0.040	0.020	mg/L		10/18/19 13:00	10/23/19 09:59	20
Silvex (2,4,5-TP)	ND		0.010	0.0030	mg/L		10/18/19 13:00	10/23/19 09:59	20
Dinoseb	ND		0.040	0.038	mg/L		10/18/19 13:00	10/23/19 09:59	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*75*		*23 - 122*	*10/18/19 13:00*	*10/23/19 09:59*	*20*
2,4-Dichlorophenylacetic acid	*70*		*23 - 122*	*10/18/19 13:00*	*10/23/19 09:59*	*20*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-97287-1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - TCLP

Client Sample ID: 11187072-NORTH-IMPCT-INITIALS
Date Collected: 10/15/19 15:00
Date Received: 10/16/19 09:00

Lab Sample ID: 180-97287-1
Matrix: Solid

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		50	3.4	pg/L		10/28/19 14:05	10/31/19 03:09	1
2,3,7,8-TCDF	ND		50	2.8	pg/L		10/28/19 14:05	10/31/19 03:09	1
1,2,3,7,8-PeCDD	ND		250	8.4	pg/L		10/28/19 14:05	10/31/19 03:09	1
1,2,3,7,8-PeCDF	ND		250	4.6	pg/L		10/28/19 14:05	10/31/19 03:09	1
2,3,4,7,8-PeCDF	ND		250	4.6	pg/L		10/28/19 14:05	10/31/19 03:09	1
1,2,3,4,7,8-HxCDD	ND		250	4.5	pg/L		10/28/19 14:05	10/31/19 03:09	1
1,2,3,6,7,8-HxCDD	ND		250	4.7	pg/L		10/28/19 14:05	10/31/19 03:09	1
1,2,3,7,8,9-HxCDD	ND		250	4.3	pg/L		10/28/19 14:05	10/31/19 03:09	1
1,2,3,4,7,8-HxCDF	ND		250	2.9	pg/L		10/28/19 14:05	10/31/19 03:09	1
1,2,3,6,7,8-HxCDF	ND		250	3.1	pg/L		10/28/19 14:05	10/31/19 03:09	1
1,2,3,7,8,9-HxCDF	ND		250	2.2	pg/L		10/28/19 14:05	10/31/19 03:09	1
2,3,4,6,7,8-HxCDF	ND		250	2.5	pg/L		10/28/19 14:05	10/31/19 03:09	1
1,2,3,4,6,7,8-HpCDD	ND		250	3.4	pg/L		10/28/19 14:05	10/31/19 03:09	1
1,2,3,4,6,7,8-HpCDF	ND		250	5.3	pg/L		10/28/19 14:05	10/31/19 03:09	1
1,2,3,4,7,8,9-HpCDF	ND		250	6.2	pg/L		10/28/19 14:05	10/31/19 03:09	1
OCDD	**34**	**J B**	500	6.1	pg/L		10/28/19 14:05	10/31/19 03:09	1
OCDF	ND		500	7.6	pg/L		10/28/19 14:05	10/31/19 03:09	1
Total TCDD	**4.4**	**J q B**	50	3.4	pg/L		10/28/19 14:05	10/31/19 03:09	1
Total TCDF	ND		50	2.8	pg/L		10/28/19 14:05	10/31/19 03:09	1
Total PeCDD	ND		250	8.4	pg/L		10/28/19 14:05	10/31/19 03:09	1
Total PeCDF	ND		250	4.6	pg/L		10/28/19 14:05	10/31/19 03:09	1
Total HxCDD	ND		250	4.7	pg/L		10/28/19 14:05	10/31/19 03:09	1
Total HxCDF	ND		250	3.1	pg/L		10/28/19 14:05	10/31/19 03:09	1
Total HpCDD	ND		250	10	pg/L		10/28/19 14:05	10/31/19 03:09	1
Total HpCDF	ND		250	6.2	pg/L		10/28/19 14:05	10/31/19 03:09	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*87*		*25 - 164*	*10/28/19 14:05*	*10/31/19 03:09*	*1*
13C-2,3,7,8-TCDF	*79*		*24 - 169*	*10/28/19 14:05*	*10/31/19 03:09*	*1*
13C-1,2,3,7,8-PeCDD	*77*		*25 - 181*	*10/28/19 14:05*	*10/31/19 03:09*	*1*
13C-1,2,3,7,8-PeCDF	*86*		*24 - 185*	*10/28/19 14:05*	*10/31/19 03:09*	*1*
13C-2,3,4,7,8-PeCDF	*93*		*21 - 178*	*10/28/19 14:05*	*10/31/19 03:09*	*1*
13C-1,2,3,4,7,8-HxCDD	*90*		*32 - 141*	*10/28/19 14:05*	*10/31/19 03:09*	*1*
13C-1,2,3,6,7,8-HxCDD	*83*		*28 - 130*	*10/28/19 14:05*	*10/31/19 03:09*	*1*
13C-1,2,3,4,7,8-HxCDF	*115*		*26 - 152*	*10/28/19 14:05*	*10/31/19 03:09*	*1*
13C-1,2,3,6,7,8-HxCDF	*95*		*26 - 123*	*10/28/19 14:05*	*10/31/19 03:09*	*1*
13C-1,2,3,7,8,9-HxCDF	*107*		*29 - 147*	*10/28/19 14:05*	*10/31/19 03:09*	*1*
13C-2,3,4,6,7,8-HxCDF	*97*		*28 - 136*	*10/28/19 14:05*	*10/31/19 03:09*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*100*		*23 - 140*	*10/28/19 14:05*	*10/31/19 03:09*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*91*		*28 - 143*	*10/28/19 14:05*	*10/31/19 03:09*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*104*		*26 - 138*	*10/28/19 14:05*	*10/31/19 03:09*	*1*
13C-OCDD	*85*		*17 - 157*	*10/28/19 14:05*	*10/31/19 03:09*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*111*		*35 - 197*	*10/28/19 14:05*	*10/31/19 03:09*	*1*

Client Sample Results

Client: GHD Services Inc.
Job ID: 180-97287-1
Project/Site: San Jacinto River Waste Pits Superfund

Method: EPA 6010C - Metals (ICP) - TCLP

Client Sample ID: 11187072-NORTH-IMPCT-INITIALS
Lab Sample ID: 180-97287-1
Date Collected: 10/15/19 15:00
Matrix: Solid
Date Received: 10/16/19 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.50	0.041	mg/L		10/21/19 16:25	10/22/19 12:20	1
Barium	**1.1**	**J**	2.0	0.026	mg/L		10/21/19 16:25	10/22/19 12:20	1
Cadmium	ND		0.50	0.0028	mg/L		10/21/19 16:25	10/22/19 12:20	1
Chromium	ND		0.50	0.0078	mg/L		10/21/19 16:25	10/22/19 12:20	1
Lead	ND		0.50	0.029	mg/L		10/21/19 16:25	10/22/19 12:20	1
Selenium	ND		0.50	0.036	mg/L		10/21/19 16:25	10/22/19 12:20	1
Silver	ND		0.50	0.0085	mg/L		10/21/19 16:25	10/22/19 12:20	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-97287-1

Method: EPA 7470A - Mercury (CVAA) - TCLP

Client Sample ID: 11187072-NORTH-IMPCT-INITIALS
Date Collected: 10/15/19 15:00
Date Received: 10/16/19 09:00

Lab Sample ID: 180-97287-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00010	mg/L		10/18/19 12:37	10/18/19 19:59	1

Client Sample Results

Client: GHD Services Inc.
Job ID: 180-97287-1
Project/Site: San Jacinto River Waste Pits Superfund

General Chemistry

Client Sample ID: 11187072-NORTH-IMPCT-INITIALS
Lab Sample ID: 180-97287-1
Date Collected: 10/15/19 15:00
Matrix: Solid
Date Received: 10/16/19 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	37.5		0.1	0.1	%			10/17/19 11:41	1
Percent Solids	62.5		0.1	0.1	%			10/17/19 11:41	1
Ignitability	>140				Degrees F			10/18/19 09:07	1
pH	7.9	HF	0.1	0.1	SU			10/28/19 16:23	1
Free Liquid	CNF				NONE			10/30/19 16:36	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-97287-1

General Chemistry

Client Sample ID: 11187072-NORTH-IMPCT-INITIALS
Date Collected: 10/15/19 15:00
Date Received: 10/16/19 09:00

Lab Sample ID: 180-97287-1
Matrix: Solid
Percent Solids: 62.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.80	0.43	mg/Kg	☼	10/25/19 10:30	10/25/19 13:40	1
Sulfide	**76**	**F1**	48	16	mg/Kg	☼	10/18/19 13:45	10/18/19 16:30	1

Default Detection Limits

Client: GHD Services Inc. Job ID: 180-97287-1
Project/Site: San Jacinto River Waste Pits Superfund

Method: EPA 8260C - Volatile Organic Compounds by GC/MS - TCLP

Leach: EPA 1311

Analyte	RL	MDL	Units
1,1,1,2-Tetrachloroethane	0.20	0.16	mg/L
1,1,1-Trichloroethane	0.20	0.10	mg/L
1,1,2,2-Tetrachloroethane	0.20	0.12	mg/L
1,1,2-Trichloroethane	0.20	0.096	mg/L
1,1-Dichloroethene	0.20	0.11	mg/L
1,2,3-Trichloropropane	0.20	0.11	mg/L
1,2-Dibromoethane	0.20	0.11	mg/L
1,2-Dichloroethane	0.20	0.058	mg/L
1,3-Dichloropropene, Total	0.40	0.13	mg/L
1,4-Dichlorobenzene	0.20	0.041	mg/L
2-Butanone (MEK)	0.20	0.12	mg/L
4-Methyl-2-pentanone (MIBK)	0.20	0.074	mg/L
Acetone	0.80	0.13	mg/L
Acetonitrile	2.0	2.0	mg/L
Acrylonitrile	2.0	1.3	mg/L
Benzene	0.20	0.079	mg/L
Bromoform	0.20	0.10	mg/L
Bromomethane	0.20	0.18	mg/L
Carbon disulfide	0.20	0.12	mg/L
Carbon tetrachloride	0.20	0.13	mg/L
Chlorobenzene	0.20	0.063	mg/L
Chloroform	0.20	0.085	mg/L
Dichlorobromomethane	0.20	0.094	mg/L
Dichlorodifluoromethane	0.20	0.12	mg/L
Ethylbenzene	0.20	0.086	mg/L
Hexachlorobutadiene	0.20	0.073	mg/L
Isobutyl alcohol	5.0	3.6	mg/L
Methacrylonitrile	2.0	1.6	mg/L
Methylene Chloride	0.20	0.15	mg/L
Styrene	0.20	0.053	mg/L
Tetrachloroethene	0.20	0.080	mg/L
Toluene	0.20	0.067	mg/L
trans-1,3-Dichloropropene	0.20	0.069	mg/L
Trichloroethene	0.20	0.060	mg/L
Trichlorofluoromethane	0.20	0.058	mg/L
Vinyl chloride	0.20	0.15	mg/L
Xylenes, Total	0.40	0.17	mg/L

Method: EPA 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Prep: 3510C

Leach: EPA 1311

Analyte	RL	MDL	Units
1,4-Dichlorobenzene	0.050	0.0045	mg/L
2,4,5-Trichlorophenol	0.050	0.0079	mg/L
2,4,6-Trichlorophenol	0.050	0.0095	mg/L
2,4-Dinitrotoluene	0.050	0.0079	mg/L
2-Methylphenol	0.050	0.0040	mg/L
Hexachlorobenzene	0.050	0.0055	mg/L
Hexachlorobutadiene	0.050	0.0084	mg/L
Hexachloroethane	0.050	0.0040	mg/L
Methylphenol, 3 & 4	0.050	0.0079	mg/L

Method: EPA 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP (Continued)

Prep: 3510C

Leach: EPA 1311

Analyte	RL	MDL	Units
Nitrobenzene	0.050	0.012	mg/L
Pentachlorophenol	0.25	0.0075	mg/L
Pyridine	0.10	0.0082	mg/L

Method: 8015D - Glycols- Direct Injection (GC/FID)

Prep: 8015 Prep

Analyte	RL	MDL	Units
2-Ethoxyethanol	20	2.5	mg/L
2-Methoxyethanol	10	2.4	mg/L
Ethylene glycol	10	1.9	mg/L

Method: EPA 8081B - Organochlorine Pesticides (GC) - TCLP

Prep: 3510C

Leach: EPA 1311

Analyte	RL	MDL	Units
4,4'-DDD	0.00050	0.00021	mg/L
4,4'-DDE	0.00050	0.00012	mg/L
4,4'-DDT	0.00050	0.00012	mg/L
Chlordane (technical)	0.0050	0.0029	mg/L
Dieldrin	0.00050	0.00011	mg/L
Endosulfan I	0.00050	0.00027	mg/L
Endosulfan II	0.00050	0.00013	mg/L
Endosulfan sulfate	0.00050	0.00026	mg/L
Endrin	0.00050	0.000091	mg/L
gamma-BHC (Lindane)	0.00050	0.00012	mg/L
Heptachlor	0.00050	0.00018	mg/L
Heptachlor epoxide	0.00050	0.00014	mg/L
Methoxychlor	0.00050	0.00031	mg/L
Mirex	0.00050	0.000084	mg/L
Toxaphene	0.040	0.020	mg/L

Method: EPA 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography - TCLP

Prep: 3510C

Leach: EPA 1311

Analyte	RL	MDL	Units
PCB-1016	0.00040	0.00019	mg/L
PCB-1221	0.00040	0.00023	mg/L
PCB-1232	0.00040	0.00021	mg/L
PCB-1242	0.00040	0.00037	mg/L
PCB-1248	0.00040	0.00012	mg/L
PCB-1254	0.00040	0.00038	mg/L
PCB-1260	0.00040	0.00016	mg/L

Method: EPA 8151A - Herbicides (GC) - TCLP

Prep: 8151A

Leach: EPA 1311

Analyte	RL	MDL	Units
2,4-D	0.040	0.020	mg/L
Dinoseb	0.040	0.038	mg/L
Silvex (2,4,5-TP)	0.010	0.0030	mg/L

Default Detection Limits

Client: GHD Services Inc.
Job ID: 180-97287-1
Project/Site: San Jacinto River Waste Pits Superfund

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - TCLP

Prep: HRMS-Sep
Leach: 1311

Analyte	RL		Units
1,2,3,4,6,7,8-HpCDD	250		pg/L
1,2,3,4,6,7,8-HpCDF	250		pg/L
1,2,3,4,7,8,9-HpCDF	250		pg/L
1,2,3,4,7,8-HxCDD	250		pg/L
1,2,3,4,7,8-HxCDF	250		pg/L
1,2,3,6,7,8-HxCDD	250		pg/L
1,2,3,6,7,8-HxCDF	250		pg/L
1,2,3,7,8,9-HxCDD	250		pg/L
1,2,3,7,8,9-HxCDF	250		pg/L
1,2,3,7,8-PeCDD	250		pg/L
1,2,3,7,8-PeCDF	250		pg/L
2,3,4,6,7,8-HxCDF	250		pg/L
2,3,4,7,8-PeCDF	250		pg/L
2,3,7,8-TCDD	50		pg/L
2,3,7,8-TCDF	50		pg/L
OCDD	500		pg/L
OCDF	500		pg/L
Total HpCDD	250		pg/L
Total HpCDF	250		pg/L
Total HxCDD	250		pg/L
Total HxCDF	250		pg/L
Total PeCDD	250		pg/L
Total PeCDF	250		pg/L
Total TCDD	50		pg/L
Total TCDF	50		pg/L

Method: EPA 6010C - Metals (ICP) - TCLP

Prep: 3010A
Leach: EPA 1311

Analyte	RL	MDL	Units
Arsenic	0.050	0.0041	mg/L
Barium	0.20	0.0026	mg/L
Cadmium	0.050	0.00028	mg/L
Chromium	0.050	0.00078	mg/L
Lead	0.050	0.0029	mg/L
Selenium	0.050	0.0036	mg/L
Silver	0.050	0.00085	mg/L

Method: EPA 7470A - Mercury (CVAA) - TCLP

Prep: 7470A
Leach: EPA 1311

Analyte	RL	MDL	Units
Mercury	0.00020	0.00010	mg/L

General Chemistry

Analyte	RL	MDL	Units
Percent Moisture	0.1	0.1	%
Percent Solids	0.1	0.1	%
pH	0.1	0.1	SU

Default Detection Limits

Client: GHD Services Inc.
Job ID: 180-97287-1
Project/Site: San Jacinto River Waste Pits Superfund

General Chemistry
Prep: 9010C

Analyte	RL	MDL	Units
Cyanide, Total	0.50	0.27	mg/Kg

General Chemistry
Prep: 9030B

Analyte	RL	MDL	Units
Sulfide	30	10	mg/Kg

Surrogate Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-97287-1

Method: EPA 8260C - Volatile Organic Compounds by GC/MS

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(58-139)	(64-122)	(70-127)	(71-125)
LCS 180-295465/4	Lab Control Sample	89	91	92	101

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: EPA 8260C - Volatile Organic Compounds by GC/MS

Matrix: Solid **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(58-139)	(64-122)	(70-127)	(71-125)
180-97287-1	11187072-NORTH-IMPCT-INITI	95	92	93	106
LB 180-295111/1-A	Method Blank	91	89	91	103
LB 180-295413/1-A	Method Blank	92	88	88	103

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: EPA 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	TBP	NBZ	PHL	TPHL
Lab Sample ID	Client Sample ID	(55-107)	(60-108)	(24-113)	(62-115)	(52-107)	(44-116)
LCS 180-295386/2-A	Lab Control Sample	90	92	90	91	92	97
LCSD 180-295386/3-A	Lab Control Sample Dup	96	95	96	93	91	101
MB 180-295386/1-A	Method Blank	89	88	84	88	86	94

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol (Surr)
TBP = 2,4,6-Tribromophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPHL = Terphenyl-d14 (Surr)

Method: EPA 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	TBP	NBZ	PHL	TPHL
Lab Sample ID	Client Sample ID	(55-107)	(60-108)	(24-113)	(62-115)	(52-107)	(44-116)
180-97287-1	11187072-NORTH-IMPCT-INITI	100	103	62	100	97	107
LB 180-295177/16-C	Method Blank	88	86	82	86	86	90

Surrogate Legend

FBP = 2-Fluorobiphenyl

2FP = 2-Fluorophenol (Surr)
TBP = 2,4,6-Tribromophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPHL = Terphenyl-d14 (Surr)

Method: 8015D - Glycols- Direct Injection (GC/FID)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)						
		14BD						
Lab Sample ID	Client Sample ID	(66-130)						
180-97287-2	11187072-NORTH-IMPCT-INITI	98						
180-97287-2 MS	11187072-NORTH-IMPCT-INITI LS	98						
180-97287-2 MSD	11187072-NORTH-IMPCT-INITI LS	95						
LCS 480-500888/2-A	Lab Control Sample	102						
MB 480-500888/1-A	Method Blank	95						

Surrogate Legend

14BD = 1,4-Butanediol

Method: EPA 8081B - Organochlorine Pesticides (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)						
		DCB1	DCB2	TCX1	TCX2			
Lab Sample ID	Client Sample ID	(62-150)	(62-150)	(54-138)	(54-138)			
LCS 180-295379/2-A	Lab Control Sample	90	88	71	74			
LCSD 180-295379/3-A	Lab Control Sample Dup	87	87	69	72			
MB 180-295379/1-A	Method Blank	90	88	73	73			

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)
TCX = Tetrachloro-m-xylene

Method: EPA 8081B - Organochlorine Pesticides (GC)

Matrix: Solid **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)						
		DCB1	DCB2	TCX1	TCX2			
Lab Sample ID	Client Sample ID	(62-150)	(62-150)	(54-138)	(54-138)			
180-97287-1	11187072-NORTH-IMPCT-INITI	87	86	70	71			
LB 180-295177/1-B	Method Blank	88	88	70	73			

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)
TCX = Tetrachloro-m-xylene

Method: EPA 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)						
		TCX1	TCX2	DCB1	DCB2			
Lab Sample ID	Client Sample ID	(45-133)	(45-133)	(59-144)	(59-144)			
LCS 180-295380/2-A	Lab Control Sample	87	97	92	96			
LCSD 180-295380/3-A	Lab Control Sample Dup	89	94	86	92			
MB 180-295380/1-A	Method Blank	84	83	88	91			

Surrogate Summary

Client: GHD Services Inc. Job ID: 180-97287-1
Project/Site: San Jacinto River Waste Pits Superfund

Surrogate Legend
TCX = Tetrachloro-m-xylene (Surr)
DCB = DCB Decachlorobiphenyl (Surr)

Method: EPA 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)			
		TCX1	TCX2	DCB1	DCB2
Lab Sample ID	Client Sample ID	(45-133)	(45-133)	(59-144)	(59-144)
180-97287-1	11187072-NORTH-IMPCT-INITI	83	92	85	90
LB 180-295177/1-C	Method Blank	91	98	87	95

Surrogate Legend
TCX = Tetrachloro-m-xylene (Surr)
DCB = DCB Decachlorobiphenyl (Surr)

Method: EPA 8151A - Herbicides (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		DCPAA1	DCPAA2
Lab Sample ID	Client Sample ID	(23-122)	(23-122)
LCS 180-295398/2-A	Lab Control Sample	54	49
MB 180-295398/1-A	Method Blank	26	29

Surrogate Legend
DCPAA = 2,4-Dichlorophenylacetic acid

Method: EPA 8151A - Herbicides (GC)

Matrix: Solid **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)	
		DCPAA1	DCPAA2
Lab Sample ID	Client Sample ID	(23-122)	(23-122)
180-97287-1	11187072-NORTH-IMPCT-INITI	75	70
LB 180-295177/1-F	Method Blank	40	36

Surrogate Legend
DCPAA = 2,4-Dichlorophenylacetic acid

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		37TCDD
Lab Sample ID	Client Sample ID	(35-197)
LB 320-334214/5-A	Method Blank	105
MB 320-334214/1-A	Method Blank	105

Surrogate Legend
37TCDD = 37Cl4-2,3,7,8-TCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		37TCDD
Lab Sample ID	Client Sample ID	(31-191)
LCS 320-334214/2-A	Lab Control Sample	110

Surrogate Summary

Client: GHD Services Inc. Job ID: 180-97287-1
Project/Site: San Jacinto River Waste Pits Superfund

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	37TCDD (31-191)							
LCSD 320-334214/3-A	Lab Control Sample Dup	109							

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Solid **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	37TCDD (35-197)							
180-97287-1	11187072-NORTH-IMPCT-INITI	111							

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-97287-1

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Solid **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		TCDD	TCDF	PeCDD	PeCDF	PeCF	HxCDD	HxDD	HxCDF
Lab Sample ID	Client Sample ID	(25-164)	(24-169)	(25-181)	(24-185)	(21-178)	(32-141)	(28-130)	(26-152)
LB 320-334214/5-A	Method Blank	83	73	71	83	83	86	75	106
MB 320-334214/1-A	Method Blank	82	77	72	79	85	84	80	105

		Percent Isotope Dilution Recovery (Acceptance Limits)						
		HxDF	HxCF	13CHxCF	HpCDD	HpCDF	HpCDF2	OCDD
Lab Sample ID	Client Sample ID	(26-123)	(29-147)	(28-136)	(23-140)	(28-143)	(26-138)	(17-157)
LB 320-334214/5-A	Method Blank	89	99	91	86	85	94	75
MB 320-334214/1-A	Method Blank	85	99	91	81	83	86	69

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Solid **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		TCDD	TCDF	PeCDD	PeCDF	PeCF	HxCDD	HxDD	HxCDF
Lab Sample ID	Client Sample ID	(20-175)	(22-152)	(21-227)	(21-192)	(13-328)	(21-193)	(25-163)	(19-202)
LCS 320-334214/2-A	Lab Control Sample	83	79	70	79	84	84	78	104
LCSD 320-334214/3-A	Lab Control Sample Dup	87	76	90	84	93	95	83	84

		Percent Isotope Dilution Recovery (Acceptance Limits)						
		HxDF	HxCF	13CHxCF	HpCDD	HpCDF	HpCDF2	OCDD
Lab Sample ID	Client Sample ID	(21-159)	(17-205)	(22-176)	(26-166)	(21-158)	(20-186)	(13-199)
LCS 320-334214/2-A	Lab Control Sample	88	100	93	93	79	88	68
LCSD 320-334214/3-A	Lab Control Sample Dup	81	80	82	87	83	90	77

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF

13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Solid **Prep Type: TCLP**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		TCDD	TCDF	PeCDD	PeCDF	PeCF	HxCDD	HxDD	HxCDF
Lab Sample ID	Client Sample ID	(25-164)	(24-169)	(25-181)	(24-185)	(21-178)	(32-141)	(28-130)	(26-152)
180-97287-1	11187072-NORTH-IMPCT-INITI	87	79	77	86	93	90	83	115

		Percent Isotope Dilution Recovery (Acceptance Limits)						
		HxDF	HxCF	13CHxCF	HpCDD	HpCDF	HpCDF2	OCDD
Lab Sample ID	Client Sample ID	(26-123)	(29-147)	(28-136)	(23-140)	(28-143)	(26-138)	(17-157)
180-97287-1	11187072-NORTH-IMPCT-INITI	95	107	97	100	91	104	85

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: EPA 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: LCS 180-295465/4
Matrix: Solid
Analysis Batch: 295465

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	0.0400	0.0396		mg/L		99	81 - 124
1,1,1-Trichloroethane	0.0400	0.0414		mg/L		103	77 - 130
1,2-Dichloroethane	0.0400	0.0376		mg/L		94	62 - 129
1,1,2,2-Tetrachloroethane	0.0400	0.0367		mg/L		92	61 - 130
2-Butanone (MEK)	0.0400	0.0335		mg/L		84	33 - 133
Benzene	0.0400	0.0391		mg/L		98	72 - 118
1,1,2-Trichloroethane	0.0400	0.0414		mg/L		103	75 - 119
Carbon tetrachloride	0.0400	0.0395		mg/L		99	69 - 137
Chlorobenzene	0.0400	0.0384		mg/L		96	77 - 122
Chloroform	0.0400	0.0372		mg/L		93	78 - 119
Tetrachloroethene	0.0400	0.0392		mg/L		98	75 - 125
Trichloroethene	0.0400	0.0400		mg/L		100	76 - 120
1,2,3-Trichloropropane	0.0400	0.0500		mg/L		125	65 - 130
Vinyl chloride	0.0400	0.0324		mg/L		81	52 - 130
1,1-Dichloroethene	0.0400	0.0389		mg/L		97	60 - 131
1,3-Dichloropropene, Total	0.0800	0.0853		mg/L		107	68 - 126
1,4-Dichlorobenzene	0.0400	0.0418		mg/L		105	76 - 119
4-Methyl-2-pentanone (MIBK)	0.0400	0.0398		mg/L		99	36 - 138
Acetone	0.0400	0.0358		mg/L		89	13 - 150
Acrylonitrile	0.400	0.351		mg/L		88	43 - 134
Bromoform	0.0400	0.0362		mg/L		90	61 - 149
Bromomethane	0.0400	0.0413		mg/L		103	30 - 150
Carbon disulfide	0.0400	0.0350		mg/L		88	54 - 150
Dichlorobromomethane	0.0400	0.0395		mg/L		99	79 - 119
Dichlorodifluoromethane	0.0400	0.0341		mg/L		85	33 - 150
Ethylbenzene	0.0400	0.0406		mg/L		101	73 - 127
1,2-Dibromoethane	0.0400	0.0411		mg/L		103	75 - 118
Hexachlorobutadiene	0.0400	0.0304		mg/L		76	45 - 150
Methylene Chloride	0.0400	0.0336		mg/L		84	63 - 124
Styrene	0.0400	0.0397		mg/L		99	76 - 125
Toluene	0.0400	0.0403		mg/L		101	69 - 125
trans-1,3-Dichloropropene	0.0400	0.0414		mg/L		103	65 - 130
Trichlorofluoromethane	0.0400	0.0380		mg/L		95	45 - 150
Xylenes, Total	0.0800	0.0809		mg/L		101	73 - 123

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*89*		*58 - 139*
4-Bromofluorobenzene (Surr)	*91*		*64 - 122*
Dibromofluoromethane (Surr)	*92*		*70 - 127*
Toluene-d8 (Surr)	*101*		*71 - 125*

Lab Sample ID: LB 180-295111/1-A
Matrix: Solid
Analysis Batch: 295465

Client Sample ID: Method Blank
Prep Type: TCLP

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.050	0.039	mg/L			10/20/19 12:07	1
1,1,1-Trichloroethane	ND		0.050	0.025	mg/L			10/20/19 12:07	1

Method: EPA 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LB 180-295111/1-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: TCLP**
Analysis Batch: 295465

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		0.050	0.015	mg/L			10/20/19 12:07	1
1,1,2,2-Tetrachloroethane	ND		0.050	0.030	mg/L			10/20/19 12:07	1
2-Butanone (MEK)	ND		0.050	0.029	mg/L			10/20/19 12:07	1
Benzene	ND		0.050	0.020	mg/L			10/20/19 12:07	1
1,1,2-Trichloroethane	ND		0.050	0.024	mg/L			10/20/19 12:07	1
Carbon tetrachloride	ND		0.050	0.033	mg/L			10/20/19 12:07	1
Chlorobenzene	ND		0.050	0.016	mg/L			10/20/19 12:07	1
Chloroform	ND		0.050	0.021	mg/L			10/20/19 12:07	1
Tetrachloroethene	ND		0.050	0.020	mg/L			10/20/19 12:07	1
Trichloroethene	ND		0.050	0.015	mg/L			10/20/19 12:07	1
1,2,3-Trichloropropane	ND		0.050	0.028	mg/L			10/20/19 12:07	1
Vinyl chloride	ND		0.050	0.037	mg/L			10/20/19 12:07	1
1,1-Dichloroethene	ND		0.050	0.029	mg/L			10/20/19 12:07	1
1,3-Dichloropropene, Total	ND		0.10	0.033	mg/L			10/20/19 12:07	1
1,4-Dichlorobenzene	ND		0.050	0.010	mg/L			10/20/19 12:07	1
4-Methyl-2-pentanone (MIBK)	ND		0.050	0.019	mg/L			10/20/19 12:07	1
Acetone	ND		0.20	0.032	mg/L			10/20/19 12:07	1
Acetonitrile	ND		0.50	0.49	mg/L			10/20/19 12:07	1
Acrylonitrile	ND		0.50	0.34	mg/L			10/20/19 12:07	1
Bromoform	ND		0.050	0.026	mg/L			10/20/19 12:07	1
Bromomethane	ND		0.050	0.045	mg/L			10/20/19 12:07	1
Carbon disulfide	ND		0.050	0.030	mg/L			10/20/19 12:07	1
Dichlorobromomethane	ND		0.050	0.024	mg/L			10/20/19 12:07	1
Dichlorodifluoromethane	ND		0.050	0.029	mg/L			10/20/19 12:07	1
Ethylbenzene	ND		0.050	0.022	mg/L			10/20/19 12:07	1
1,2-Dibromoethane	ND		0.050	0.027	mg/L			10/20/19 12:07	1
Hexachlorobutadiene	ND		0.050	0.018	mg/L			10/20/19 12:07	1
Isobutyl alcohol	ND		1.3	0.91	mg/L			10/20/19 12:07	1
Methacrylonitrile	ND		0.50	0.39	mg/L			10/20/19 12:07	1
Methylene Chloride	ND		0.050	0.039	mg/L			10/20/19 12:07	1
Styrene	ND		0.050	0.013	mg/L			10/20/19 12:07	1
Toluene	ND		0.050	0.017	mg/L			10/20/19 12:07	1
trans-1,3-Dichloropropene	ND		0.050	0.017	mg/L			10/20/19 12:07	1
Trichlorofluoromethane	ND		0.050	0.015	mg/L			10/20/19 12:07	1
Xylenes, Total	ND		0.10	0.043	mg/L			10/20/19 12:07	1

Surrogate	*LB %Recovery*	*LB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*58 - 139*		*10/20/19 12:07*	*1*
4-Bromofluorobenzene (Surr)	*89*		*64 - 122*		*10/20/19 12:07*	*1*
Dibromofluoromethane (Surr)	*91*		*70 - 127*		*10/20/19 12:07*	*1*
Toluene-d8 (Surr)	*103*		*71 - 125*		*10/20/19 12:07*	*1*

Lab Sample ID: LB 180-295413/1-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: TCLP**
Analysis Batch: 295465

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.050	0.039	mg/L			10/20/19 13:17	1

Method: EPA 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LB 180-295413/1-A
Matrix: Solid
Analysis Batch: 295465

Client Sample ID: Method Blank
Prep Type: TCLP

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.050	0.025	mg/L			10/20/19 13:17	1
1,2-Dichloroethane	ND		0.050	0.015	mg/L			10/20/19 13:17	1
1,1,2,2-Tetrachloroethane	ND		0.050	0.030	mg/L			10/20/19 13:17	1
2-Butanone (MEK)	ND		0.050	0.029	mg/L			10/20/19 13:17	1
Benzene	ND		0.050	0.020	mg/L			10/20/19 13:17	1
1,1,2-Trichloroethane	ND		0.050	0.024	mg/L			10/20/19 13:17	1
Carbon tetrachloride	ND		0.050	0.033	mg/L			10/20/19 13:17	1
Chlorobenzene	ND		0.050	0.016	mg/L			10/20/19 13:17	1
Chloroform	ND		0.050	0.021	mg/L			10/20/19 13:17	1
Tetrachloroethene	ND		0.050	0.020	mg/L			10/20/19 13:17	1
Trichloroethene	ND		0.050	0.015	mg/L			10/20/19 13:17	1
1,2,3-Trichloropropane	ND		0.050	0.028	mg/L			10/20/19 13:17	1
Vinyl chloride	ND		0.050	0.037	mg/L			10/20/19 13:17	1
1,1-Dichloroethene	ND		0.050	0.029	mg/L			10/20/19 13:17	1
1,3-Dichloropropene, Total	ND		0.10	0.033	mg/L			10/20/19 13:17	1
1,4-Dichlorobenzene	ND		0.050	0.010	mg/L			10/20/19 13:17	1
4-Methyl-2-pentanone (MIBK)	ND		0.050	0.019	mg/L			10/20/19 13:17	1
Acetone	ND		0.20	0.032	mg/L			10/20/19 13:17	1
Acetonitrile	ND		0.50	0.49	mg/L			10/20/19 13:17	1
Acrylonitrile	ND		0.50	0.34	mg/L			10/20/19 13:17	1
Bromoform	ND		0.050	0.026	mg/L			10/20/19 13:17	1
Bromomethane	ND		0.050	0.045	mg/L			10/20/19 13:17	1
Carbon disulfide	ND		0.050	0.030	mg/L			10/20/19 13:17	1
Dichlorobromomethane	ND		0.050	0.024	mg/L			10/20/19 13:17	1
Dichlorodifluoromethane	ND		0.050	0.029	mg/L			10/20/19 13:17	1
Ethylbenzene	ND		0.050	0.022	mg/L			10/20/19 13:17	1
1,2-Dibromoethane	ND		0.050	0.027	mg/L			10/20/19 13:17	1
Hexachlorobutadiene	ND		0.050	0.018	mg/L			10/20/19 13:17	1
Isobutyl alcohol	ND		1.3	0.91	mg/L			10/20/19 13:17	1
Methacrylonitrile	ND		0.50	0.39	mg/L			10/20/19 13:17	1
Methylene Chloride	ND		0.050	0.039	mg/L			10/20/19 13:17	1
Styrene	ND		0.050	0.013	mg/L			10/20/19 13:17	1
Toluene	ND		0.050	0.017	mg/L			10/20/19 13:17	1
trans-1,3-Dichloropropene	ND		0.050	0.017	mg/L			10/20/19 13:17	1
Trichlorofluoromethane	ND		0.050	0.015	mg/L			10/20/19 13:17	1
Xylenes, Total	ND		0.10	0.043	mg/L			10/20/19 13:17	1

Surrogate	*LB %Recovery*	*LB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*58 - 139*		*10/20/19 13:17*	*1*
4-Bromofluorobenzene (Surr)	*88*		*64 - 122*		*10/20/19 13:17*	*1*
Dibromofluoromethane (Surr)	*88*		*70 - 127*		*10/20/19 13:17*	*1*
Toluene-d8 (Surr)	*103*		*71 - 125*		*10/20/19 13:17*	*1*

QC Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-97287-1

Method: EPA 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 180-295386/1-A
Matrix: Solid
Analysis Batch: 295453

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 295386

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.050	0.0045	mg/L		10/18/19 12:00	10/19/19 13:41	1
2,4,5-Trichlorophenol	ND		0.050	0.0079	mg/L		10/18/19 12:00	10/19/19 13:41	1
2,4,6-Trichlorophenol	ND		0.050	0.0095	mg/L		10/18/19 12:00	10/19/19 13:41	1
2,4-Dinitrotoluene	ND		0.050	0.0079	mg/L		10/18/19 12:00	10/19/19 13:41	1
2-Methylphenol	ND		0.050	0.0040	mg/L		10/18/19 12:00	10/19/19 13:41	1
Methylphenol, 3 & 4	ND		0.050	0.0079	mg/L		10/18/19 12:00	10/19/19 13:41	1
Hexachlorobenzene	ND		0.050	0.0055	mg/L		10/18/19 12:00	10/19/19 13:41	1
Hexachlorobutadiene	ND		0.050	0.0084	mg/L		10/18/19 12:00	10/19/19 13:41	1
Hexachloroethane	ND		0.050	0.0040	mg/L		10/18/19 12:00	10/19/19 13:41	1
Nitrobenzene	ND		0.050	0.012	mg/L		10/18/19 12:00	10/19/19 13:41	1
Pentachlorophenol	ND		0.25	0.0075	mg/L		10/18/19 12:00	10/19/19 13:41	1
Pyridine	ND		0.10	0.0082	mg/L		10/18/19 12:00	10/19/19 13:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*89*		*55 - 107*	*10/18/19 12:00*	*10/19/19 13:41*	*1*
2-Fluorophenol (Surr)	*88*		*60 - 108*	*10/18/19 12:00*	*10/19/19 13:41*	*1*
2,4,6-Tribromophenol (Surr)	*84*		*24 - 113*	*10/18/19 12:00*	*10/19/19 13:41*	*1*
Nitrobenzene-d5 (Surr)	*88*		*62 - 115*	*10/18/19 12:00*	*10/19/19 13:41*	*1*
Phenol-d5 (Surr)	*86*		*52 - 107*	*10/18/19 12:00*	*10/19/19 13:41*	*1*
Terphenyl-d14 (Surr)	*94*		*44 - 116*	*10/18/19 12:00*	*10/19/19 13:41*	*1*

Lab Sample ID: LCS 180-295386/2-A
Matrix: Solid
Analysis Batch: 295453

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 295386

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	0.250	0.219		mg/L		87	60 - 100
2,4,5-Trichlorophenol	0.250	0.215		mg/L		86	54 - 100
2,4,6-Trichlorophenol	0.250	0.212		mg/L		85	56 - 100
2,4-Dinitrotoluene	0.250	0.181		mg/L		72	42 - 100
2-Methylphenol	0.250	0.210		mg/L		84	60 - 101
Methylphenol, 3 & 4	0.500	0.433		mg/L		87	62 - 106
Hexachlorobenzene	0.250	0.149		mg/L		60	37 - 100
Hexachlorobutadiene	0.250	0.217		mg/L		87	50 - 103
Hexachloroethane	0.250	0.226		mg/L		90	59 - 104
Nitrobenzene	0.250	0.219		mg/L		87	58 - 113
Pentachlorophenol	0.250	0.158	J	mg/L		63	18 - 100
Pyridine	0.250	0.237		mg/L		95	54 - 119

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*90*		*55 - 107*
2-Fluorophenol (Surr)	*92*		*60 - 108*
2,4,6-Tribromophenol (Surr)	*90*		*24 - 113*
Nitrobenzene-d5 (Surr)	*91*		*62 - 115*
Phenol-d5 (Surr)	*92*		*52 - 107*
Terphenyl-d14 (Surr)	*97*		*44 - 116*

Method: EPA 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 180-295386/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 295453 **Prep Batch: 295386**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dichlorobenzene			0.250	0.226		mg/L		90	60 - 100	3	15
2,4,5-Trichlorophenol			0.250	0.219		mg/L		88	54 - 100	2	16
2,4,6-Trichlorophenol			0.250	0.226		mg/L		90	56 - 100	6	15
2,4-Dinitrotoluene			0.250	0.185		mg/L		74	42 - 100	3	17
2-Methylphenol			0.250	0.215		mg/L		86	60 - 101	2	15
Methylphenol, 3 & 4			0.500	0.440		mg/L		88	62 - 106	2	15
Hexachlorobenzene			0.250	0.157		mg/L		63	37 - 100	5	15
Hexachlorobutadiene			0.250	0.226		mg/L		90	50 - 103	4	15
Hexachloroethane			0.250	0.232		mg/L		93	59 - 104	3	16
Nitrobenzene			0.250	0.231		mg/L		93	58 - 113	6	15
Pentachlorophenol			0.250	0.163	J	mg/L		65	18 - 100	3	16
Pyridine			0.250	0.243		mg/L		97	54 - 119	3	16

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*96*		*55 - 107*
2-Fluorophenol (Surr)	*95*		*60 - 108*
2,4,6-Tribromophenol (Surr)	*96*		*24 - 113*
Nitrobenzene-d5 (Surr)	*93*		*62 - 115*
Phenol-d5 (Surr)	*91*		*52 - 107*
Terphenyl-d14 (Surr)	*101*		*44 - 116*

Lab Sample ID: LB 180-295177/16-C **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: TCLP**
Analysis Batch: 295453 **Prep Batch: 295386**

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.050	0.0045	mg/L		10/18/19 12:00	10/19/19 16:25	1
2,4,5-Trichlorophenol	ND		0.050	0.0079	mg/L		10/18/19 12:00	10/19/19 16:25	1
2,4,6-Trichlorophenol	ND		0.050	0.0095	mg/L		10/18/19 12:00	10/19/19 16:25	1
2,4-Dinitrotoluene	ND		0.050	0.0079	mg/L		10/18/19 12:00	10/19/19 16:25	1
2-Methylphenol	ND		0.050	0.0040	mg/L		10/18/19 12:00	10/19/19 16:25	1
Methylphenol, 3 & 4	ND		0.050	0.0079	mg/L		10/18/19 12:00	10/19/19 16:25	1
Hexachlorobenzene	ND		0.050	0.0055	mg/L		10/18/19 12:00	10/19/19 16:25	1
Hexachlorobutadiene	ND		0.050	0.0084	mg/L		10/18/19 12:00	10/19/19 16:25	1
Hexachloroethane	ND		0.050	0.0040	mg/L		10/18/19 12:00	10/19/19 16:25	1
Nitrobenzene	ND		0.050	0.012	mg/L		10/18/19 12:00	10/19/19 16:25	1
Pentachlorophenol	ND		0.25	0.0075	mg/L		10/18/19 12:00	10/19/19 16:25	1
Pyridine	ND		0.10	0.0082	mg/L		10/18/19 12:00	10/19/19 16:25	1

Surrogate	*LB %Recovery*	*LB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*88*		*55 - 107*	*10/18/19 12:00*	*10/19/19 16:25*	*1*
2-Fluorophenol (Surr)	*86*		*60 - 108*	*10/18/19 12:00*	*10/19/19 16:25*	*1*
2,4,6-Tribromophenol (Surr)	*82*		*24 - 113*	*10/18/19 12:00*	*10/19/19 16:25*	*1*
Nitrobenzene-d5 (Surr)	*86*		*62 - 115*	*10/18/19 12:00*	*10/19/19 16:25*	*1*
Phenol-d5 (Surr)	*86*		*52 - 107*	*10/18/19 12:00*	*10/19/19 16:25*	*1*
Terphenyl-d14 (Surr)	*90*		*44 - 116*	*10/18/19 12:00*	*10/19/19 16:25*	*1*

QC Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-97287-1

Method: 8015D - Glycols- Direct Injection (GC/FID)

Lab Sample ID: MB 480-500888/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 500914 — **Prep Batch: 500888**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene glycol	ND		10	1.9	mg/L		10/29/19 09:03	10/29/19 10:28	1
2-Ethoxyethanol	ND		20	2.5	mg/L		10/29/19 09:03	10/29/19 10:28	1
2-Methoxyethanol	ND		10	2.4	mg/L		10/29/19 09:03	10/29/19 10:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Butanediol	*95*		*66 - 130*	*10/29/19 09:03*	*10/29/19 10:28*	*1*

Lab Sample ID: LCS 480-500888/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 500914 — **Prep Batch: 500888**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylene glycol	20.0	15.6		mg/L		78	46 - 129
2-Ethoxyethanol	20.0	17.2	J	mg/L		86	44 - 144
2-Methoxyethanol	20.0	16.9		mg/L		85	48 - 138

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Butanediol	*102*		*66 - 130*

Lab Sample ID: 180-97287-2 MS — **Client Sample ID: 11187072-NORTH-IMPCT-INITIALS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 500914 — **Prep Batch: 500888**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylene glycol	ND		20.0	15.3		mg/L		76	46 - 143
2-Ethoxyethanol	ND		20.0	17.2	J	mg/L		86	55 - 159
2-Methoxyethanol	ND		20.0	16.2		mg/L		81	66 - 147

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,4-Butanediol	*98*		*66 - 130*

Lab Sample ID: 180-97287-2 MSD — **Client Sample ID: 11187072-NORTH-IMPCT-INITIALS**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 500914 — **Prep Batch: 500888**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethylene glycol	ND		20.0	14.6		mg/L		73	46 - 143	5	50
2-Ethoxyethanol	ND		20.0	17.0	J	mg/L		85	55 - 159	1	50
2-Methoxyethanol	ND		20.0	16.5		mg/L		82	66 - 147	2	50

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,4-Butanediol	*95*		*66 - 130*

QC Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-97287-1

Method: EPA 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 180-295379/1-A
Matrix: Solid
Analysis Batch: 295908

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 295379

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	ND		0.0050	0.0029	mg/L		10/18/19 10:30	10/24/19 12:54	1
Endrin	ND		0.00050	0.000091	mg/L		10/18/19 10:30	10/24/19 12:54	1
gamma-BHC (Lindane)	ND		0.00050	0.00012	mg/L		10/18/19 10:30	10/24/19 12:54	1
Heptachlor	ND		0.00050	0.00018	mg/L		10/18/19 10:30	10/24/19 12:54	1
Heptachlor epoxide	ND		0.00050	0.00014	mg/L		10/18/19 10:30	10/24/19 12:54	1
Methoxychlor	ND		0.00050	0.00031	mg/L		10/18/19 10:30	10/24/19 12:54	1
Toxaphene	ND		0.040	0.020	mg/L		10/18/19 10:30	10/24/19 12:54	1
4,4'-DDD	ND		0.00050	0.00021	mg/L		10/18/19 10:30	10/24/19 12:54	1
4,4'-DDE	ND		0.00050	0.00012	mg/L		10/18/19 10:30	10/24/19 12:54	1
4,4'-DDT	ND		0.00050	0.00012	mg/L		10/18/19 10:30	10/24/19 12:54	1
Dieldrin	ND		0.00050	0.00011	mg/L		10/18/19 10:30	10/24/19 12:54	1
Endosulfan I	ND		0.00050	0.00027	mg/L		10/18/19 10:30	10/24/19 12:54	1
Mirex	ND		0.00050	0.000084	mg/L		10/18/19 10:30	10/24/19 12:54	1
Endosulfan sulfate	ND		0.00050	0.00026	mg/L		10/18/19 10:30	10/24/19 12:54	1
Endosulfan II	ND		0.00050	0.00013	mg/L		10/18/19 10:30	10/24/19 12:54	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*90*		*62 - 150*	*10/18/19 10:30*	*10/24/19 12:54*	*1*
DCB Decachlorobiphenyl (Surr)	*88*		*62 - 150*	*10/18/19 10:30*	*10/24/19 12:54*	*1*
Tetrachloro-m-xylene	*73*		*54 - 138*	*10/18/19 10:30*	*10/24/19 12:54*	*1*
Tetrachloro-m-xylene	*73*		*54 - 138*	*10/18/19 10:30*	*10/24/19 12:54*	*1*

Lab Sample ID: LCS 180-295379/2-A
Matrix: Solid
Analysis Batch: 295908

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 295379

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Endrin	0.0100	0.00902		mg/L		90	71 - 134
gamma-BHC (Lindane)	0.0100	0.00813		mg/L		81	66 - 127
Heptachlor	0.0100	0.00879		mg/L		88	66 - 134
Heptachlor epoxide	0.0100	0.00813		mg/L		81	65 - 141
Methoxychlor	0.0100	0.00998		mg/L		100	59 - 131
4,4'-DDD	0.0100	0.00852		mg/L		85	71 - 136
4,4'-DDE	0.0100	0.00873		mg/L		87	75 - 133
4,4'-DDT	0.0100	0.00859		mg/L		86	56 - 132
Dieldrin	0.0100	0.00932		mg/L		93	75 - 131
Endosulfan I	0.0100	0.00770		mg/L		77	63 - 144
Endosulfan sulfate	0.0100	0.00835		mg/L		84	48 - 131
Endosulfan II	0.0100	0.00974		mg/L		97	76 - 136

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*90*		*62 - 150*
DCB Decachlorobiphenyl (Surr)	*88*		*62 - 150*
Tetrachloro-m-xylene	*71*		*54 - 138*
Tetrachloro-m-xylene	*74*		*54 - 138*

Method: EPA 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCSD 180-295379/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 295908 **Prep Batch: 295379**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Endrin			0.0100	0.00849		mg/L		85	71 - 134	6	18
gamma-BHC (Lindane)			0.0100	0.00802		mg/L		80	66 - 127	1	15
Heptachlor			0.0100	0.00856		mg/L		86	66 - 134	3	15
Heptachlor epoxide			0.0100	0.00814		mg/L		81	65 - 141	0	15
Methoxychlor			0.0100	0.00942		mg/L		94	59 - 131	6	28
4,4'-DDD			0.0100	0.00825		mg/L		83	71 - 136	3	18
4,4'-DDE			0.0100	0.00841		mg/L		84	75 - 133	4	16
4,4'-DDT			0.0100	0.00818		mg/L		82	56 - 132	5	18
Dieldrin			0.0100	0.00925		mg/L		93	75 - 131	1	17
Endosulfan I			0.0100	0.00739		mg/L		74	63 - 144	4	15
Endosulfan sulfate			0.0100	0.00810		mg/L		81	48 - 131	3	24
Endosulfan II			0.0100	0.00993		mg/L		99	76 - 136	2	16

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*87*		*62 - 150*
DCB Decachlorobiphenyl (Surr)	*87*		*62 - 150*
Tetrachloro-m-xylene	*69*		*54 - 138*
Tetrachloro-m-xylene	*72*		*54 - 138*

Lab Sample ID: LB 180-295177/1-B **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: TCLP**
Analysis Batch: 295908 **Prep Batch: 295379**

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	ND		0.0050	0.0029	mg/L		10/18/19 10:30	10/24/19 13:40	1
Endrin	ND		0.00050	0.000091	mg/L		10/18/19 10:30	10/24/19 13:40	1
gamma-BHC (Lindane)	ND		0.00050	0.00012	mg/L		10/18/19 10:30	10/24/19 13:40	1
Heptachlor	ND		0.00050	0.00018	mg/L		10/18/19 10:30	10/24/19 13:40	1
Heptachlor epoxide	ND		0.00050	0.00014	mg/L		10/18/19 10:30	10/24/19 13:40	1
Methoxychlor	ND		0.00050	0.00031	mg/L		10/18/19 10:30	10/24/19 13:40	1
Toxaphene	ND		0.040	0.020	mg/L		10/18/19 10:30	10/24/19 13:40	1
4,4'-DDD	ND		0.00050	0.00021	mg/L		10/18/19 10:30	10/24/19 13:40	1
4,4'-DDE	ND		0.00050	0.00012	mg/L		10/18/19 10:30	10/24/19 13:40	1
4,4'-DDT	ND		0.00050	0.00012	mg/L		10/18/19 10:30	10/24/19 13:40	1
Dieldrin	ND		0.00050	0.00011	mg/L		10/18/19 10:30	10/24/19 13:40	1
Endosulfan I	ND		0.00050	0.00027	mg/L		10/18/19 10:30	10/24/19 13:40	1
Mirex	ND		0.00050	0.000084	mg/L		10/18/19 10:30	10/24/19 13:40	1
Endosulfan sulfate	ND		0.00050	0.00026	mg/L		10/18/19 10:30	10/24/19 13:40	1
Endosulfan II	ND		0.00050	0.00013	mg/L		10/18/19 10:30	10/24/19 13:40	1

Surrogate	*LB %Recovery*	*LB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*88*		*62 - 150*	*10/18/19 10:30*	*10/24/19 13:40*	*1*
DCB Decachlorobiphenyl (Surr)	*88*		*62 - 150*	*10/18/19 10:30*	*10/24/19 13:40*	*1*
Tetrachloro-m-xylene	*70*		*54 - 138*	*10/18/19 10:30*	*10/24/19 13:40*	*1*
Tetrachloro-m-xylene	*73*		*54 - 138*	*10/18/19 10:30*	*10/24/19 13:40*	*1*

QC Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-97287-1

Method: EPA 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 180-295380/1-A
Matrix: Solid
Analysis Batch: 295495

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 295380

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.00040	0.00019	mg/L		10/18/19 10:30	10/22/19 07:39	1
PCB-1221	ND		0.00040	0.00023	mg/L		10/18/19 10:30	10/22/19 07:39	1
PCB-1232	ND		0.00040	0.00021	mg/L		10/18/19 10:30	10/22/19 07:39	1
PCB-1242	ND		0.00040	0.00037	mg/L		10/18/19 10:30	10/22/19 07:39	1
PCB-1248	ND		0.00040	0.00012	mg/L		10/18/19 10:30	10/22/19 07:39	1
PCB-1254	ND		0.00040	0.00038	mg/L		10/18/19 10:30	10/22/19 07:39	1
PCB-1260	ND		0.00040	0.00016	mg/L		10/18/19 10:30	10/22/19 07:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*84*		*45 - 133*	*10/18/19 10:30*	*10/22/19 07:39*	*1*
Tetrachloro-m-xylene (Surr)	*83*		*45 - 133*	*10/18/19 10:30*	*10/22/19 07:39*	*1*
DCB Decachlorobiphenyl (Surr)	*88*		*59 - 144*	*10/18/19 10:30*	*10/22/19 07:39*	*1*
DCB Decachlorobiphenyl (Surr)	*91*		*59 - 144*	*10/18/19 10:30*	*10/22/19 07:39*	*1*

Lab Sample ID: LCS 180-295380/2-A
Matrix: Solid
Analysis Batch: 295495

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 295380

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	0.0400	0.0385		mg/L		96	55 - 124
PCB-1260	0.0400	0.0414		mg/L		103	56 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene (Surr)	*87*		*45 - 133*
Tetrachloro-m-xylene (Surr)	*97*		*45 - 133*
DCB Decachlorobiphenyl (Surr)	*92*		*59 - 144*
DCB Decachlorobiphenyl (Surr)	*96*		*59 - 144*

Lab Sample ID: LCSD 180-295380/3-A
Matrix: Solid
Analysis Batch: 295495

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 295380

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-1016	0.0400	0.0378		mg/L		94	55 - 124	2	23
PCB-1260	0.0400	0.0376		mg/L		94	56 - 122	10	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene (Surr)	*89*		*45 - 133*
Tetrachloro-m-xylene (Surr)	*94*		*45 - 133*
DCB Decachlorobiphenyl (Surr)	*86*		*59 - 144*
DCB Decachlorobiphenyl (Surr)	*92*		*59 - 144*

Lab Sample ID: LB 180-295177/1-C
Matrix: Solid
Analysis Batch: 295495

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 295380

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.00039	0.00018	mg/L		10/18/19 10:30	10/22/19 09:22	1

Method: EPA 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: LB 180-295177/1-C **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: TCLP**
Analysis Batch: 295495 **Prep Batch: 295380**

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1221	ND		0.00039	0.00022	mg/L		10/18/19 10:30	10/22/19 09:22	1
PCB-1232	ND		0.00039	0.00020	mg/L		10/18/19 10:30	10/22/19 09:22	1
PCB-1242	ND		0.00039	0.00035	mg/L		10/18/19 10:30	10/22/19 09:22	1
PCB-1248	ND		0.00039	0.00012	mg/L		10/18/19 10:30	10/22/19 09:22	1
PCB-1254	ND		0.00039	0.00037	mg/L		10/18/19 10:30	10/22/19 09:22	1
PCB-1260	ND		0.00039	0.00015	mg/L		10/18/19 10:30	10/22/19 09:22	1

Surrogate	*LB %Recovery*	*LB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*91*		*45 - 133*	*10/18/19 10:30*	*10/22/19 09:22*	*1*
Tetrachloro-m-xylene (Surr)	*98*		*45 - 133*	*10/18/19 10:30*	*10/22/19 09:22*	*1*
DCB Decachlorobiphenyl (Surr)	*87*		*59 - 144*	*10/18/19 10:30*	*10/22/19 09:22*	*1*
DCB Decachlorobiphenyl (Surr)	*95*		*59 - 144*	*10/18/19 10:30*	*10/22/19 09:22*	*1*

Method: EPA 8151A - Herbicides (GC)

Lab Sample ID: MB 180-295398/1-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 295605 **Prep Batch: 295398**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		0.0040	0.0020	mg/L		10/18/19 13:00	10/23/19 07:05	20
Silvex (2,4,5-TP)	ND		0.0010	0.00030	mg/L		10/18/19 13:00	10/23/19 07:05	20
Dinoseb	ND		0.0040	0.0038	mg/L		10/18/19 13:00	10/23/19 07:05	20

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*26*		*23 - 122*	*10/18/19 13:00*	*10/23/19 07:05*	*20*
2,4-Dichlorophenylacetic acid	*29*		*23 - 122*	*10/18/19 13:00*	*10/23/19 07:05*	*20*

Lab Sample ID: LCS 180-295398/2-A **Client Sample ID: Lab Control Sample**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 295605 **Prep Batch: 295398**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4-D	0.0200	0.00520	p	mg/L		26	19 - 127
Silvex (2,4,5-TP)	0.00500	0.00258		mg/L		52	24 - 128
Dinoseb	0.0200	0.0146		mg/L		73	10 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4-Dichlorophenylacetic acid	*54*		*23 - 122*
2,4-Dichlorophenylacetic acid	*49*		*23 - 122*

Lab Sample ID: LB 180-295177/1-F **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: TCLP**
Analysis Batch: 295605 **Prep Batch: 295398**

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		0.040	0.020	mg/L		10/18/19 13:00	10/23/19 09:34	20
Silvex (2,4,5-TP)	ND		0.010	0.0030	mg/L		10/18/19 13:00	10/23/19 09:34	20

Method: EPA 8151A - Herbicides (GC) (Continued)

Lab Sample ID: LB 180-295177/1-F **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: TCLP**
Analysis Batch: 295605 **Prep Batch: 295398**

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dinoseb	ND		0.040	0.038	mg/L		10/18/19 13:00	10/23/19 09:34	20

Surrogate	*LB %Recovery*	*LB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*40*		*23 - 122*	*10/18/19 13:00*	*10/23/19 09:34*	*20*
2,4-Dichlorophenylacetic acid	*36*		*23 - 122*	*10/18/19 13:00*	*10/23/19 09:34*	*20*

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: LB 320-334214/5-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 334889 **Prep Batch: 334214**

Analyte	LB Result	LB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		50	4.0	pg/L		10/28/19 14:05	10/31/19 00:46	1
2,3,7,8-TCDF	ND		50	3.1	pg/L		10/28/19 14:05	10/31/19 00:46	1
1,2,3,7,8-PeCDD	ND		250	7.8	pg/L		10/28/19 14:05	10/31/19 00:46	1
1,2,3,7,8-PeCDF	ND		250	4.3	pg/L		10/28/19 14:05	10/31/19 00:46	1
2,3,4,7,8-PeCDF	ND		250	4.6	pg/L		10/28/19 14:05	10/31/19 00:46	1
1,2,3,4,7,8-HxCDD	ND		250	4.4	pg/L		10/28/19 14:05	10/31/19 00:46	1
1,2,3,6,7,8-HxCDD	ND		250	4.5	pg/L		10/28/19 14:05	10/31/19 00:46	1
1,2,3,7,8,9-HxCDD	ND		250	4.2	pg/L		10/28/19 14:05	10/31/19 00:46	1
1,2,3,4,7,8-HxCDF	ND		250	3.2	pg/L		10/28/19 14:05	10/31/19 00:46	1
1,2,3,6,7,8-HxCDF	ND		250	3.3	pg/L		10/28/19 14:05	10/31/19 00:46	1
1,2,3,7,8,9-HxCDF	ND		250	2.4	pg/L		10/28/19 14:05	10/31/19 00:46	1
2,3,4,6,7,8-HxCDF	ND		250	2.6	pg/L		10/28/19 14:05	10/31/19 00:46	1
1,2,3,4,6,7,8-HpCDD	ND		250	3.8	pg/L		10/28/19 14:05	10/31/19 00:46	1
1,2,3,4,6,7,8-HpCDF	ND		250	5.8	pg/L		10/28/19 14:05	10/31/19 00:46	1
1,2,3,4,7,8,9-HpCDF	ND		250	7.3	pg/L		10/28/19 14:05	10/31/19 00:46	1
OCDD	19.3	J q	500	6.2	pg/L		10/28/19 14:05	10/31/19 00:46	1
OCDF	ND		500	8.5	pg/L		10/28/19 14:05	10/31/19 00:46	1
Total TCDD	ND		50	4.0	pg/L		10/28/19 14:05	10/31/19 00:46	1
Total TCDF	ND		50	3.1	pg/L		10/28/19 14:05	10/31/19 00:46	1
Total PeCDD	ND		250	7.8	pg/L		10/28/19 14:05	10/31/19 00:46	1
Total PeCDF	ND		250	4.8	pg/L		10/28/19 14:05	10/31/19 00:46	1
Total HxCDD	7.97	J q	250	4.3	pg/L		10/28/19 14:05	10/31/19 00:46	1
Total HxCDF	ND		250	3.3	pg/L		10/28/19 14:05	10/31/19 00:46	1
Total HpCDD	ND		250	13	pg/L		10/28/19 14:05	10/31/19 00:46	1
Total HpCDF	ND		250	7.3	pg/L		10/28/19 14:05	10/31/19 00:46	1

Isotope Dilution	*LB %Recovery*	*LB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*83*		*25 - 164*	*10/28/19 14:05*	*10/31/19 00:46*	*1*
13C-2,3,7,8-TCDF	*73*		*24 - 169*	*10/28/19 14:05*	*10/31/19 00:46*	*1*
13C-1,2,3,7,8-PeCDD	*71*		*25 - 181*	*10/28/19 14:05*	*10/31/19 00:46*	*1*
13C-1,2,3,7,8-PeCDF	*83*		*24 - 185*	*10/28/19 14:05*	*10/31/19 00:46*	*1*
13C-2,3,4,7,8-PeCDF	*83*		*21 - 178*	*10/28/19 14:05*	*10/31/19 00:46*	*1*
13C-1,2,3,4,7,8-HxCDD	*86*		*32 - 141*	*10/28/19 14:05*	*10/31/19 00:46*	*1*
13C-1,2,3,6,7,8-HxCDD	*75*		*28 - 130*	*10/28/19 14:05*	*10/31/19 00:46*	*1*
13C-1,2,3,4,7,8-HxCDF	*106*		*26 - 152*	*10/28/19 14:05*	*10/31/19 00:46*	*1*
13C-1,2,3,6,7,8-HxCDF	*89*		*26 - 123*	*10/28/19 14:05*	*10/31/19 00:46*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LB 320-334214/5-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 334889 **Prep Batch: 334214**

Isotope Dilution	LB %Recovery	LB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,7,8,9-HxCDF	99		29 - 147	10/28/19 14:05	10/31/19 00:46	1
13C-2,3,4,6,7,8-HxCDF	91		28 - 136	10/28/19 14:05	10/31/19 00:46	1
13C-1,2,3,4,6,7,8-HpCDD	86		23 - 140	10/28/19 14:05	10/31/19 00:46	1
13C-1,2,3,4,6,7,8-HpCDF	85		28 - 143	10/28/19 14:05	10/31/19 00:46	1
13C-1,2,3,4,7,8,9-HpCDF	94		26 - 138	10/28/19 14:05	10/31/19 00:46	1
13C-OCDD	75		17 - 157	10/28/19 14:05	10/31/19 00:46	1

Surrogate	LB %Recovery	LB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	105		35 - 197	10/28/19 14:05	10/31/19 00:46	1

Lab Sample ID: MB 320-334214/1-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 334889 **Prep Batch: 334214**

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		10	0.66	pg/L		10/28/19 14:05	10/30/19 23:59	1
2,3,7,8-TCDF	ND		10	0.66	pg/L		10/28/19 14:05	10/30/19 23:59	1
1,2,3,7,8-PeCDD	ND		50	1.4	pg/L		10/28/19 14:05	10/30/19 23:59	1
1,2,3,7,8-PeCDF	ND		50	0.99	pg/L		10/28/19 14:05	10/30/19 23:59	1
2,3,4,7,8-PeCDF	ND		50	0.98	pg/L		10/28/19 14:05	10/30/19 23:59	1
1,2,3,4,7,8-HxCDD	ND		50	0.82	pg/L		10/28/19 14:05	10/30/19 23:59	1
1,2,3,6,7,8-HxCDD	ND		50	0.88	pg/L		10/28/19 14:05	10/30/19 23:59	1
1,2,3,7,8,9-HxCDD	ND		50	0.80	pg/L		10/28/19 14:05	10/30/19 23:59	1
1,2,3,4,7,8-HxCDF	ND		50	0.57	pg/L		10/28/19 14:05	10/30/19 23:59	1
1,2,3,6,7,8-HxCDF	ND		50	0.61	pg/L		10/28/19 14:05	10/30/19 23:59	1
1,2,3,7,8,9-HxCDF	ND		50	0.43	pg/L		10/28/19 14:05	10/30/19 23:59	1
2,3,4,6,7,8-HxCDF	ND		50	0.45	pg/L		10/28/19 14:05	10/30/19 23:59	1
1,2,3,4,6,7,8-HpCDD	ND		50	0.64	pg/L		10/28/19 14:05	10/30/19 23:59	1
1,2,3,4,6,7,8-HpCDF	ND		50	1.3	pg/L		10/28/19 14:05	10/30/19 23:59	1
1,2,3,4,7,8,9-HpCDF	ND		50	1.7	pg/L		10/28/19 14:05	10/30/19 23:59	1
OCDD	4.94	J	100	1.5	pg/L		10/28/19 14:05	10/30/19 23:59	1
OCDF	ND		100	1.5	pg/L		10/28/19 14:05	10/30/19 23:59	1
Total TCDD	0.978	J q	10	0.66	pg/L		10/28/19 14:05	10/30/19 23:59	1
Total TCDF	ND		10	0.66	pg/L		10/28/19 14:05	10/30/19 23:59	1
Total PeCDD	ND		50	1.4	pg/L		10/28/19 14:05	10/30/19 23:59	1
Total PeCDF	ND		50	0.99	pg/L		10/28/19 14:05	10/30/19 23:59	1
Total HxCDD	ND		50	3.0	pg/L		10/28/19 14:05	10/30/19 23:59	1
Total HxCDF	ND		50	0.61	pg/L		10/28/19 14:05	10/30/19 23:59	1
Total HpCDD	ND		50	3.0	pg/L		10/28/19 14:05	10/30/19 23:59	1
Total HpCDF	ND		50	1.7	pg/L		10/28/19 14:05	10/30/19 23:59	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	82		25 - 164	10/28/19 14:05	10/30/19 23:59	1
13C-2,3,7,8-TCDF	77		24 - 169	10/28/19 14:05	10/30/19 23:59	1
13C-1,2,3,7,8-PeCDD	72		25 - 181	10/28/19 14:05	10/30/19 23:59	1
13C-1,2,3,7,8-PeCDF	79		24 - 185	10/28/19 14:05	10/30/19 23:59	1
13C-2,3,4,7,8-PeCDF	85		21 - 178	10/28/19 14:05	10/30/19 23:59	1
13C-1,2,3,4,7,8-HxCDD	84		32 - 141	10/28/19 14:05	10/30/19 23:59	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-334214/1-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 334889 **Prep Batch: 334214**

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,6,7,8-HxCDD	80		28 - 130	10/28/19 14:05	10/30/19 23:59	1
13C-1,2,3,4,7,8-HxCDF	105		26 - 152	10/28/19 14:05	10/30/19 23:59	1
13C-1,2,3,6,7,8-HxCDF	85		26 - 123	10/28/19 14:05	10/30/19 23:59	1
13C-1,2,3,7,8,9-HxCDF	99		29 - 147	10/28/19 14:05	10/30/19 23:59	1
13C-2,3,4,6,7,8-HxCDF	91		28 - 136	10/28/19 14:05	10/30/19 23:59	1
13C-1,2,3,4,6,7,8-HpCDD	81		23 - 140	10/28/19 14:05	10/30/19 23:59	1
13C-1,2,3,4,6,7,8-HpCDF	83		28 - 143	10/28/19 14:05	10/30/19 23:59	1
13C-1,2,3,4,7,8,9-HpCDF	86		26 - 138	10/28/19 14:05	10/30/19 23:59	1
13C-OCDD	69		17 - 157	10/28/19 14:05	10/30/19 23:59	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	105		35 - 197	10/28/19 14:05	10/30/19 23:59	1

Lab Sample ID: LCS 320-334214/2-A **Client Sample ID: Lab Control Sample**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 334889 **Prep Batch: 334214**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	200	217		pg/L		109	67 - 158
2,3,7,8-TCDF	200	155		pg/L		78	75 - 158
1,2,3,7,8-PeCDD	1000	1370		pg/L		137	70 - 142
1,2,3,7,8-PeCDF	1000	1240		pg/L		124	80 - 134
2,3,4,7,8-PeCDF	1000	1200		pg/L		120	68 - 160
1,2,3,4,7,8-HxCDD	1000	1190		pg/L		119	70 - 164
1,2,3,6,7,8-HxCDD	1000	1270		pg/L		127	76 - 134
1,2,3,7,8,9-HxCDD	1000	1250		pg/L		125	64 - 162
1,2,3,4,7,8-HxCDF	1000	979		pg/L		98	72 - 134
1,2,3,6,7,8-HxCDF	1000	1060		pg/L		106	84 - 130
1,2,3,7,8,9-HxCDF	1000	1090		pg/L		109	78 - 130
2,3,4,6,7,8-HxCDF	1000	1090		pg/L		109	70 - 156
1,2,3,4,6,7,8-HpCDD	1000	979		pg/L		98	70 - 140
1,2,3,4,6,7,8-HpCDF	1000	903		pg/L		90	82 - 122
1,2,3,4,7,8,9-HpCDF	1000	830		pg/L		83	78 - 138
OCDD	2000	2220		pg/L		111	78 - 144
OCDF	2000	2300		pg/L		115	63 - 170

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	83		20 - 175
13C-2,3,7,8-TCDF	79		22 - 152
13C-1,2,3,7,8-PeCDD	70		21 - 227
13C-1,2,3,7,8-PeCDF	79		21 - 192
13C-2,3,4,7,8-PeCDF	84		13 - 328
13C-1,2,3,4,7,8-HxCDD	84		21 - 193
13C-1,2,3,6,7,8-HxCDD	78		25 - 163
13C-1,2,3,4,7,8-HxCDF	104		19 - 202
13C-1,2,3,6,7,8-HxCDF	88		21 - 159
13C-1,2,3,7,8,9-HxCDF	100		17 - 205
13C-2,3,4,6,7,8-HxCDF	93		22 - 176

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-334214/2-A **Client Sample ID: Lab Control Sample**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 334889 **Prep Batch: 334214**

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-1,2,3,4,6,7,8-HpCDD	93		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	79		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	88		20 - 186
13C-OCDD	68		13 - 199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	110		31 - 191

Lab Sample ID: LCSD 320-334214/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 335194 **Prep Batch: 334214**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD			200	206		pg/L		103	67 - 158	5	50
2,3,7,8-TCDF			200	220		pg/L		110	75 - 158	34	50
1,2,3,7,8-PeCDD			1000	1170		pg/L		117	70 - 142	16	50
1,2,3,7,8-PeCDF			1000	1080		pg/L		108	80 - 134	14	50
2,3,4,7,8-PeCDF			1000	1010		pg/L		101	68 - 160	17	50
1,2,3,4,7,8-HxCDD			1000	1010		pg/L		101	70 - 164	16	50
1,2,3,6,7,8-HxCDD			1000	1100		pg/L		110	76 - 134	15	50
1,2,3,7,8,9-HxCDD			1000	1010		pg/L		101	64 - 162	21	50
1,2,3,4,7,8-HxCDF			1000	1030		pg/L		103	72 - 134	5	50
1,2,3,6,7,8-HxCDF			1000	1090		pg/L		109	84 - 130	3	50
1,2,3,7,8,9-HxCDF			1000	1080		pg/L		108	78 - 130	1	50
2,3,4,6,7,8-HxCDF			1000	1110		pg/L		111	70 - 156	1	50
1,2,3,4,6,7,8-HpCDD			1000	1120		pg/L		112	70 - 140	13	50
1,2,3,4,6,7,8-HpCDF			1000	1050		pg/L		105	82 - 122	15	50
1,2,3,4,7,8,9-HpCDF			1000	995		pg/L		99	78 - 138	18	50
OCDD			2000	2060		pg/L		103	78 - 144	7	50
OCDF			2000	2160		pg/L		108	63 - 170	6	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	87		20 - 175
13C-2,3,7,8-TCDF	76		22 - 152
13C-1,2,3,7,8-PeCDD	90		21 - 227
13C-1,2,3,7,8-PeCDF	84		21 - 192
13C-2,3,4,7,8-PeCDF	93		13 - 328
13C-1,2,3,4,7,8-HxCDD	95		21 - 193
13C-1,2,3,6,7,8-HxCDD	83		25 - 163
13C-1,2,3,4,7,8-HxCDF	84		19 - 202
13C-1,2,3,6,7,8-HxCDF	81		21 - 159
13C-1,2,3,7,8,9-HxCDF	80		17 - 205
13C-2,3,4,6,7,8-HxCDF	82		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	87		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	83		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	90		20 - 186
13C-OCDD	77		13 - 199

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-334214/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 335194 **Prep Batch: 334214**

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
37Cl4-2,3,7,8-TCDD	*109*		*31 - 191*

Method: EPA 6010C - Metals (ICP)

Lab Sample ID: MB 180-295580/1-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 295734 **Prep Batch: 295580**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.050	0.0041	mg/L		10/21/19 16:16	10/22/19 09:06	1
Barium	ND		0.20	0.0026	mg/L		10/21/19 16:16	10/22/19 09:06	1
Cadmium	ND		0.050	0.00028	mg/L		10/21/19 16:16	10/22/19 09:06	1
Chromium	ND		0.050	0.00078	mg/L		10/21/19 16:16	10/22/19 09:06	1
Lead	ND		0.050	0.0029	mg/L		10/21/19 16:16	10/22/19 09:06	1
Selenium	ND		0.050	0.0036	mg/L		10/21/19 16:16	10/22/19 09:06	1
Silver	ND		0.050	0.00085	mg/L		10/21/19 16:16	10/22/19 09:06	1

Lab Sample ID: LCS 180-295580/2-A **Client Sample ID: Lab Control Sample**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 295734 **Prep Batch: 295580**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	1.04		mg/L		104	80 - 120
Barium	1.00	0.986		mg/L		99	80 - 120
Cadmium	0.500	0.506		mg/L		101	80 - 120
Chromium	0.500	0.487		mg/L		97	80 - 120
Lead	0.500	0.493		mg/L		99	80 - 120
Selenium	1.00	1.02		mg/L		102	80 - 120
Silver	0.250	0.253		mg/L		101	80 - 120

Lab Sample ID: LB 180-295177/1-G **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: TCLP**
Analysis Batch: 295734 **Prep Batch: 295580**

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.50	0.041	mg/L		10/21/19 16:25	10/22/19 11:08	1
Barium	ND		2.0	0.026	mg/L		10/21/19 16:25	10/22/19 11:08	1
Cadmium	ND		0.50	0.0028	mg/L		10/21/19 16:25	10/22/19 11:08	1
Chromium	ND		0.50	0.0078	mg/L		10/21/19 16:25	10/22/19 11:08	1
Lead	ND		0.50	0.029	mg/L		10/21/19 16:25	10/22/19 11:08	1
Selenium	ND		0.50	0.036	mg/L		10/21/19 16:25	10/22/19 11:08	1
Silver	ND		0.50	0.0085	mg/L		10/21/19 16:25	10/22/19 11:08	1

Method: EPA 7470A - Mercury (CVAA)

Lab Sample ID: MB 180-295382/1-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 295427 **Prep Batch: 295382**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00010	mg/L		10/18/19 12:37	10/18/19 19:50	1

Lab Sample ID: LCS 180-295382/2-A **Client Sample ID: Lab Control Sample**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 295427 **Prep Batch: 295382**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00250	0.00264		mg/L		106	80 - 120

Lab Sample ID: LB 180-295177/1-D **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: TCLP**
Analysis Batch: 295427 **Prep Batch: 295382**

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00010	mg/L		10/18/19 12:37	10/18/19 19:52	1

Method: 2540G - SM 2540G

Lab Sample ID: 180-97287-1 DU **Client Sample ID: 11187072-NORTH-IMPCT-INITIALS**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 295218

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	37.5		39.0		%		4	10
Percent Solids	62.5		61.0		%		2	10

Method: EPA 9014 - Cyanide

Lab Sample ID: MB 180-296087/4-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 296145 **Prep Batch: 296087**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.50	0.27	mg/Kg		10/25/19 10:30	10/25/19 13:23	1

Lab Sample ID: HLCS 180-296087/2-A **Client Sample ID: Lab Control Sample**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 296145 **Prep Batch: 296087**

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.250	0.252		mg/Kg		101	90 - 110

Lab Sample ID: LCS 180-296087/3-A **Client Sample ID: Lab Control Sample**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 296145 **Prep Batch: 296087**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	190	158		mg/Kg		83	26 - 139

Method: EPA 9014 - Cyanide (Continued)

Lab Sample ID: LLCS 180-296087/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 296145 — **Prep Batch: 296087**

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total			0.0500	0.0490		mg/Kg		98	90 - 110		

Method: EPA 9034 - Sulfide, Acid soluble and Insoluble (Titrimetric)

Lab Sample ID: MB 180-295377/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 295417 — **Prep Batch: 295377**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		30	10	mg/Kg		10/18/19 13:45	10/18/19 16:30	1

Lab Sample ID: LCS 180-295377/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 295417 — **Prep Batch: 295377**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfide			111	105		mg/Kg		94	85 - 115		

Lab Sample ID: 180-97287-1 MS — **Client Sample ID: 11187072-NORTH-IMPCT-INITIALS**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 295417 — **Prep Batch: 295377**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfide	76	F1	175	145	F1	mg/Kg	☼	40	75 - 125		

Lab Sample ID: 180-97287-1 MSD — **Client Sample ID: 11187072-NORTH-IMPCT-INITIALS**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 295417 — **Prep Batch: 295377**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfide	76	F1	176	140	F1	mg/Kg	☼	37	75 - 125	3	20

Method: EPA 9045D - pH

Lab Sample ID: LCS 180-296263/1 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 296263

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			7.00	7.0		SU		100	99 - 101		

Method: EPA 9095B - Paint Filter

Lab Sample ID: 180-97287-1 DU — **Client Sample ID: 11187072-NORTH-IMPCT-INITIALS**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 296616

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Free Liquid	CNF			CNF		NONE				NC	20

QC Association Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-97287-1

GC/MS VOA

Leach Batch: 295111

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-97287-1	11187072-NORTH-IMPCT-INITIALS	TCLP	Solid	EPA 1311	
LB 180-295111/1-A	Method Blank	TCLP	Solid	EPA 1311	

Leach Batch: 295413

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LB 180-295413/1-A	Method Blank	TCLP	Solid	EPA 1311	

Analysis Batch: 295465

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-97287-1	11187072-NORTH-IMPCT-INITIALS	TCLP	Solid	EPA 8260C	295111
LB 180-295111/1-A	Method Blank	TCLP	Solid	EPA 8260C	295111
LB 180-295413/1-A	Method Blank	TCLP	Solid	EPA 8260C	295413
LCS 180-295465/4	Lab Control Sample	Total/NA	Solid	EPA 8260C	

GC/MS Semi VOA

Leach Batch: 295177

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-97287-1	11187072-NORTH-IMPCT-INITIALS	TCLP	Solid	EPA 1311	
LB 180-295177/16-C	Method Blank	TCLP	Solid	1311	

Prep Batch: 295386

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-97287-1	11187072-NORTH-IMPCT-INITIALS	TCLP	Solid	3510C	295177
LB 180-295177/16-C	Method Blank	TCLP	Solid	3510C	295177
MB 180-295386/1-A	Method Blank	Total/NA	Solid	3510C	
LCS 180-295386/2-A	Lab Control Sample	Total/NA	Solid	3510C	
LCSD 180-295386/3-A	Lab Control Sample Dup	Total/NA	Solid	3510C	

Analysis Batch: 295453

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-97287-1	11187072-NORTH-IMPCT-INITIALS	TCLP	Solid	EPA 8270D	295386
LB 180-295177/16-C	Method Blank	TCLP	Solid	EPA 8270D	295386
MB 180-295386/1-A	Method Blank	Total/NA	Solid	EPA 8270D	295386
LCS 180-295386/2-A	Lab Control Sample	Total/NA	Solid	EPA 8270D	295386
LCSD 180-295386/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 8270D	295386

GC VOA

Prep Batch: 500888

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-97287-2	11187072-NORTH-IMPCT-INITIALS	Total/NA	Water	8015 Prep	
MB 480-500888/1-A	Method Blank	Total/NA	Water	8015 Prep	
LCS 480-500888/2-A	Lab Control Sample	Total/NA	Water	8015 Prep	
180-97287-2 MS	11187072-NORTH-IMPCT-INITIALS	Total/NA	Water	8015 Prep	
180-97287-2 MSD	11187072-NORTH-IMPCT-INITIALS	Total/NA	Water	8015 Prep	

Analysis Batch: 500914

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-97287-2	11187072-NORTH-IMPCT-INITIALS	Total/NA	Water	8015D	500888
MB 480-500888/1-A	Method Blank	Total/NA	Water	8015D	500888
LCS 480-500888/2-A	Lab Control Sample	Total/NA	Water	8015D	500888

GC VOA (Continued)

Analysis Batch: 500914 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-97287-2 MS	11187072-NORTH-IMPCT-INITIALS	Total/NA	Water	8015D	500888
180-97287-2 MSD	11187072-NORTH-IMPCT-INITIALS	Total/NA	Water	8015D	500888

GC Semi VOA

Leach Batch: 295177

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-97287-1	11187072-NORTH-IMPCT-INITIALS	TCLP	Solid	EPA 1311	
LB 180-295177/1-B	Method Blank	TCLP	Solid	1311	
LB 180-295177/1-C	Method Blank	TCLP	Solid	1311	
LB 180-295177/1-F	Method Blank	TCLP	Solid	1311	

Prep Batch: 295379

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-97287-1	11187072-NORTH-IMPCT-INITIALS	TCLP	Solid	3510C	295177
LB 180-295177/1-B	Method Blank	TCLP	Solid	3510C	295177
MB 180-295379/1-A	Method Blank	Total/NA	Solid	3510C	
LCS 180-295379/2-A	Lab Control Sample	Total/NA	Solid	3510C	
LCSD 180-295379/3-A	Lab Control Sample Dup	Total/NA	Solid	3510C	

Prep Batch: 295380

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-97287-1	11187072-NORTH-IMPCT-INITIALS	TCLP	Solid	3510C	295177
LB 180-295177/1-C	Method Blank	TCLP	Solid	3510C	295177
MB 180-295380/1-A	Method Blank	Total/NA	Solid	3510C	
LCS 180-295380/2-A	Lab Control Sample	Total/NA	Solid	3510C	
LCSD 180-295380/3-A	Lab Control Sample Dup	Total/NA	Solid	3510C	

Prep Batch: 295398

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-97287-1	11187072-NORTH-IMPCT-INITIALS	TCLP	Solid	8151A	295177
LB 180-295177/1-F	Method Blank	TCLP	Solid	8151A	295177
MB 180-295398/1-A	Method Blank	Total/NA	Solid	8151A	
LCS 180-295398/2-A	Lab Control Sample	Total/NA	Solid	8151A	

Analysis Batch: 295495

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-97287-1	11187072-NORTH-IMPCT-INITIALS	TCLP	Solid	EPA 8082A	295380
LB 180-295177/1-C	Method Blank	TCLP	Solid	EPA 8082A	295380
MB 180-295380/1-A	Method Blank	Total/NA	Solid	EPA 8082A	295380
LCS 180-295380/2-A	Lab Control Sample	Total/NA	Solid	EPA 8082A	295380
LCSD 180-295380/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 8082A	295380

Analysis Batch: 295605

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-97287-1	11187072-NORTH-IMPCT-INITIALS	TCLP	Solid	EPA 8151A	295398
LB 180-295177/1-F	Method Blank	TCLP	Solid	EPA 8151A	295398
MB 180-295398/1-A	Method Blank	Total/NA	Solid	EPA 8151A	295398
LCS 180-295398/2-A	Lab Control Sample	Total/NA	Solid	EPA 8151A	295398

QC Association Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-97287-1

GC Semi VOA

Analysis Batch: 295908

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-97287-1	11187072-NORTH-IMPCT-INITIALS	TCLP	Solid	EPA 8081B	295379
LB 180-295177/1-B	Method Blank	TCLP	Solid	EPA 8081B	295379
MB 180-295379/1-A	Method Blank	Total/NA	Solid	EPA 8081B	295379
LCS 180-295379/2-A	Lab Control Sample	Total/NA	Solid	EPA 8081B	295379
LCSD 180-295379/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 8081B	295379

Specialty Organics

Leach Batch: 332998

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-97287-1	11187072-NORTH-IMPCT-INITIALS	TCLP	Solid	1311	

Prep Batch: 334214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-97287-1	11187072-NORTH-IMPCT-INITIALS	TCLP	Solid	HRMS-Sep	332998
LB 320-334214/5-A	Method Blank	Total/NA	Solid	HRMS-Sep	
MB 320-334214/1-A	Method Blank	Total/NA	Solid	HRMS-Sep	
LCS 320-334214/2-A	Lab Control Sample	Total/NA	Solid	HRMS-Sep	
LCSD 320-334214/3-A	Lab Control Sample Dup	Total/NA	Solid	HRMS-Sep	

Analysis Batch: 334889

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-97287-1	11187072-NORTH-IMPCT-INITIALS	TCLP	Solid	1613B	334214
LB 320-334214/5-A	Method Blank	Total/NA	Solid	1613B	334214
MB 320-334214/1-A	Method Blank	Total/NA	Solid	1613B	334214
LCS 320-334214/2-A	Lab Control Sample	Total/NA	Solid	1613B	334214

Analysis Batch: 335194

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 320-334214/3-A	Lab Control Sample Dup	Total/NA	Solid	1613B	334214

Metals

Leach Batch: 295177

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-97287-1	11187072-NORTH-IMPCT-INITIALS	TCLP	Solid	EPA 1311	
LB 180-295177/1-D	Method Blank	TCLP	Solid	1311	
LB 180-295177/1-G	Method Blank	TCLP	Solid	1311	

Prep Batch: 295382

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-97287-1	11187072-NORTH-IMPCT-INITIALS	TCLP	Solid	7470A	295177
LB 180-295177/1-D	Method Blank	TCLP	Solid	7470A	295177
MB 180-295382/1-A	Method Blank	Total/NA	Solid	7470A	
LCS 180-295382/2-A	Lab Control Sample	Total/NA	Solid	7470A	

Analysis Batch: 295427

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-97287-1	11187072-NORTH-IMPCT-INITIALS	TCLP	Solid	EPA 7470A	295382
LB 180-295177/1-D	Method Blank	TCLP	Solid	EPA 7470A	295382
MB 180-295382/1-A	Method Blank	Total/NA	Solid	EPA 7470A	295382
LCS 180-295382/2-A	Lab Control Sample	Total/NA	Solid	EPA 7470A	295382

QC Association Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-97287-1

Metals

Prep Batch: 295580

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-97287-1	11187072-NORTH-IMPCT-INITIALS	TCLP	Solid	3010A	295177
LB 180-295177/1-G	Method Blank	TCLP	Solid	3010A	295177
MB 180-295580/1-A	Method Blank	Total/NA	Solid	3010A	
LCS 180-295580/2-A	Lab Control Sample	Total/NA	Solid	3010A	

Analysis Batch: 295734

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-97287-1	11187072-NORTH-IMPCT-INITIALS	TCLP	Solid	EPA 6010C	295580
LB 180-295177/1-G	Method Blank	TCLP	Solid	EPA 6010C	295580
MB 180-295580/1-A	Method Blank	Total/NA	Solid	EPA 6010C	295580
LCS 180-295580/2-A	Lab Control Sample	Total/NA	Solid	EPA 6010C	295580

General Chemistry

Analysis Batch: 295218

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-97287-1	11187072-NORTH-IMPCT-INITIALS	Total/NA	Solid	2540G	
180-97287-1 DU	11187072-NORTH-IMPCT-INITIALS	Total/NA	Solid	2540G	

Analysis Batch: 295336

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-97287-1	11187072-NORTH-IMPCT-INITIALS	Total/NA	Solid	EPA 1020B	

Prep Batch: 295377

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-97287-1	11187072-NORTH-IMPCT-INITIALS	Total/NA	Solid	9030B	
MB 180-295377/1-A	Method Blank	Total/NA	Solid	9030B	
LCS 180-295377/2-A	Lab Control Sample	Total/NA	Solid	9030B	
180-97287-1 MS	11187072-NORTH-IMPCT-INITIALS	Total/NA	Solid	9030B	
180-97287-1 MSD	11187072-NORTH-IMPCT-INITIALS	Total/NA	Solid	9030B	

Analysis Batch: 295417

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-97287-1	11187072-NORTH-IMPCT-INITIALS	Total/NA	Solid	EPA 9034	295377
MB 180-295377/1-A	Method Blank	Total/NA	Solid	EPA 9034	295377
LCS 180-295377/2-A	Lab Control Sample	Total/NA	Solid	EPA 9034	295377
180-97287-1 MS	11187072-NORTH-IMPCT-INITIALS	Total/NA	Solid	EPA 9034	295377
180-97287-1 MSD	11187072-NORTH-IMPCT-INITIALS	Total/NA	Solid	EPA 9034	295377

Prep Batch: 296087

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-97287-1	11187072-NORTH-IMPCT-INITIALS	Total/NA	Solid	9010C	
MB 180-296087/4-A	Method Blank	Total/NA	Solid	9010C	
HLCS 180-296087/2-A	Lab Control Sample	Total/NA	Solid	9010C	
LCS 180-296087/3-A	Lab Control Sample	Total/NA	Solid	9010C	
LLCS 180-296087/1-A	Lab Control Sample	Total/NA	Solid	9010C	

Analysis Batch: 296145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-97287-1	11187072-NORTH-IMPCT-INITIALS	Total/NA	Solid	EPA 9014	296087
MB 180-296087/4-A	Method Blank	Total/NA	Solid	EPA 9014	296087

General Chemistry (Continued)

Analysis Batch: 296145 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HLCS 180-296087/2-A	Lab Control Sample	Total/NA	Solid	EPA 9014	296087
LCS 180-296087/3-A	Lab Control Sample	Total/NA	Solid	EPA 9014	296087
LLCS 180-296087/1-A	Lab Control Sample	Total/NA	Solid	EPA 9014	296087

Analysis Batch: 296263

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-97287-1	11187072-NORTH-IMPCT-INITIALS	Total/NA	Solid	EPA 9045D	
LCS 180-296263/1	Lab Control Sample	Total/NA	Solid	EPA 9045D	

Analysis Batch: 296616

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-97287-1	11187072-NORTH-IMPCT-INITIALS	Total/NA	Solid	EPA 9095B	
180-97287-1 DU	11187072-NORTH-IMPCT-INITIALS	Total/NA	Solid	EPA 9095B	

Lab Chronicle

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-97287-1

Client Sample ID: 11187072-NORTH-IMPCT-INITIALS

Lab Sample ID: 180-97287-1

Date Collected: 10/15/19 15:00

Matrix: Solid

Date Received: 10/16/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	EPA 1311			25.00 g	500 mL	295111	10/16/19 16:00	JAS	TAL PIT
TCLP	Analysis	EPA 8260C		1	0.125 mL	5 mL	295465	10/20/19 12:54	KLG	TAL PIT
	Instrument ID:	CHHP3								
TCLP	Leach	EPA 1311			100.00 g	2000 mL	295177	10/16/19 16:15	JAS	TAL PIT
TCLP	Prep	3510C			200 mL	10.0 mL	295386	10/18/19 12:00	CBY	TAL PIT
TCLP	Analysis	EPA 8270D		1	1 mL	1 mL	295453	10/19/19 21:53	VVP	TAL PIT
	Instrument ID:	CHMSD7								
TCLP	Leach	EPA 1311			100.00 g	2000 mL	295177	10/16/19 16:15	JAS	TAL PIT
TCLP	Prep	3510C			100 mL	40.0 mL	295379	10/18/19 10:30	CBY	TAL PIT
TCLP	Analysis	EPA 8081B		1			295908	10/24/19 13:56	DFE	TAL PIT
	Instrument ID:	CHGC15								
TCLP	Leach	EPA 1311			100.00 g	2000 mL	295177	10/16/19 16:15	JAS	TAL PIT
TCLP	Prep	3510C			1030 mL	40.0 mL	295380	10/18/19 10:30	CBY	TAL PIT
TCLP	Analysis	EPA 8082A		1			295495	10/22/19 09:43	JMO	TAL PIT
	Instrument ID:	CHGC10								
TCLP	Leach	EPA 1311			100.00 g	2000 mL	295177	10/16/19 16:15	JAS	TAL PIT
TCLP	Prep	8151A			100 mL	10.0 mL	295398	10/18/19 13:00	CBY	TAL PIT
TCLP	Analysis	EPA 8151A		20			295605	10/23/19 09:59	JMO	TAL PIT
	Instrument ID:	CGC1								
TCLP	Leach	1311			100.15 g	2000 mL	332998	10/23/19 16:10	DPM	TAL SAC
TCLP	Prep	HRMS-Sep			200.50 g	20.0 uL	334214	10/28/19 14:05	RDR	TAL SAC
TCLP	Analysis	1613B		1			334889	10/31/19 03:09	SMA	TAL SAC
	Instrument ID:	3D5								
TCLP	Leach	EPA 1311			100.00 g	2000 mL	295177	10/16/19 16:15	JAS	TAL PIT
TCLP	Prep	3010A			5 mL	50 mL	295580	10/21/19 16:25	MWW	TAL PIT
TCLP	Analysis	EPA 6010C		1			295734	10/22/19 12:20	RJG	TAL PIT
	Instrument ID:	C								
TCLP	Leach	EPA 1311			100.00 g	2000 mL	295177	10/16/19 16:15	JAS	TAL PIT
TCLP	Prep	7470A			50 mL	50 mL	295382	10/18/19 12:37	NAM	TAL PIT
TCLP	Analysis	EPA 7470A		1			295427	10/18/19 19:59	NAM	TAL PIT
	Instrument ID:	HGZ								
Total/NA	Analysis	2540G		1			295218	10/17/19 11:41	PMH	TAL PIT
	Instrument ID:	NOEQUIP								
Total/NA	Analysis	EPA 1020B		1			295336	10/18/19 09:07	AVS	TAL PIT
	Instrument ID:	NOEQUIP								
Total/NA	Analysis	EPA 9045D		1	20.01 g	20 mL	296263	10/28/19 16:23	PMH	TAL PIT
	Instrument ID:	NOEQUIP								
Total/NA	Analysis	EPA 9095B		1			296616	10/30/19 16:36	PMH	TAL PIT
	Instrument ID:	NOEQUIP								

Lab Chronicle

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-97287-1

Client Sample ID: 11187072-NORTH-IMPCT-INITIALS

Lab Sample ID: 180-97287-1

Date Collected: 10/15/19 15:00
Date Received: 10/16/19 09:00

Matrix: Solid
Percent Solids: 62.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	9010C			1.00 g	50 mL	296087	10/25/19 10:30	CMR	TAL PIT
Total/NA	Analysis	EPA 9014		1			296145	10/25/19 13:40	CMR	TAL PIT
	Instrument ID:	SEAL2								
Total/NA	Prep	9030B			5.01 g	50 mL	295377	10/18/19 13:45	CMR	TAL PIT
Total/NA	Analysis	EPA 9034		1			295417	10/18/19 16:30	CMR	TAL PIT
	Instrument ID:	NOEQUIP								

Client Sample ID: 11187072-NORTH-IMPCT-INITIALS

Lab Sample ID: 180-97287-2

Date Collected: 10/24/19 08:45
Date Received: 10/16/19 09:00

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8015 Prep			.5 mL	1 mL	500888	10/29/19 09:03	MAN	TAL BUF
Total/NA	Analysis	8015D		1			500914	10/29/19 12:19	MAN	TAL BUF
	Instrument ID:	PE-01								

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Analyst References:

Lab: TAL BUF
- Batch Type: Prep
  - MAN = Mary Neary
- Batch Type: Analysis
  - MAN = Mary Neary

Lab: TAL PIT
- Batch Type: Leach
  - JAS = Jeremy Stundon
- Batch Type: Prep
  - CBY = Charles Yushinski
  - CMR = Carl Reagle
  - MWW = Margaret Wanyoike
  - NAM = Nicole Marfisi
- Batch Type: Analysis
  - AVS = Abbey Smith
  - CMR = Carl Reagle
  - DFE = David Eppinger
  - JMO = John Oravec
  - KLG = Kathy Gordon
  - NAM = Nicole Marfisi
  - PMH = Paloma Hoelzle
  - RJG = Rob Good
  - VVP = Vincent Piccolino

Lab: TAL SAC
- Batch Type: Leach
  - DPM = Dmitry Melnik
- Batch Type: Prep
  - RDR = Robert Royce
- Batch Type: Analysis
  - SMA = Saleh Arghestani

Accreditation/Certification Summary

Client: GHD Services Inc. Job ID: 180-97287-1
Project/Site: San Jacinto River Waste Pits Superfund

Laboratory: Eurofins TestAmerica, Pittsburgh

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704528-15-2	03-31-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
EPA 8151A	8151A	Solid	Dinoseb

Laboratory: Eurofins TestAmerica, Buffalo

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	88-0686	07-06-20
California	State	2931	04-01-20
Connecticut	State	PH-0568	09-30-20
Florida	NELAP	E87672	06-30-20
Georgia	State	10026 (NY)	03-31-20
Georgia (DW)	State	956	03-31-20
Illinois	NELAP	200003	09-30-20
Iowa	State	374	02-28-21
Kansas	NELAP	E-10187	01-31-20
Kentucky (DW)	State	90029	12-31-19
Kentucky (UST)	State	30	03-31-20
Kentucky (WW)	State	KY90029	12-31-20
Louisiana	NELAP	02031	06-30-20
Maine	State	NY00044	11-26-19
Maryland	State	294	03-31-20
Massachusetts	State	M-NY044	11-26-19
Michigan	State	9937	03-31-20
Minnesota	NELAP	1524384	12-31-19
New Hampshire	NELAP	2337	11-17-19
New Jersey	NELAP	NY455	06-30-20
New York	NELAP	10026	11-14-19
North Dakota	State	R-176	03-31-20
Oklahoma	State	9421	09-01-20
Oregon	NELAP	NY200003	06-10-20
Pennsylvania	NELAP	68-00281	07-31-20
Rhode Island	State	LAO00328	12-29-19
Tennessee	State	02970	03-31-20
Texas	NELAP	T104704412-18-10	08-01-20
USDA	US Federal Programs	P330-18-00039	02-06-21
Virginia	NELAP	460185	12-14-19
Washington	State	C784	02-10-20
Wisconsin	State	998310390	08-31-20

Accreditation/Certification Summary

Client: GHD Services Inc. Job ID: 180-97287-1
Project/Site: San Jacinto River Waste Pits Superfund

Laboratory: Eurofins TestAmerica, Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704399	05-31-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1613B	HRMS-Sep	Solid	1,2,3,4,6,7,8-HpCDD
1613B	HRMS-Sep	Solid	1,2,3,4,6,7,8-HpCDF
1613B	HRMS-Sep	Solid	1,2,3,4,7,8,9-HpCDF
1613B	HRMS-Sep	Solid	1,2,3,4,7,8-HxCDD
1613B	HRMS-Sep	Solid	1,2,3,4,7,8-HxCDF
1613B	HRMS-Sep	Solid	1,2,3,6,7,8-HxCDD
1613B	HRMS-Sep	Solid	1,2,3,6,7,8-HxCDF
1613B	HRMS-Sep	Solid	1,2,3,7,8,9-HxCDD
1613B	HRMS-Sep	Solid	1,2,3,7,8,9-HxCDF
1613B	HRMS-Sep	Solid	1,2,3,7,8-PeCDD
1613B	HRMS-Sep	Solid	1,2,3,7,8-PeCDF
1613B	HRMS-Sep	Solid	2,3,4,6,7,8-HxCDF
1613B	HRMS-Sep	Solid	2,3,4,7,8-PeCDF
1613B	HRMS-Sep	Solid	2,3,7,8-TCDD
1613B	HRMS-Sep	Solid	2,3,7,8-TCDF
1613B	HRMS-Sep	Solid	OCDD
1613B	HRMS-Sep	Solid	OCDF
1613B	HRMS-Sep	Solid	Total HpCDD
1613B	HRMS-Sep	Solid	Total HpCDF
1613B	HRMS-Sep	Solid	Total HxCDD
1613B	HRMS-Sep	Solid	Total HxCDF
1613B	HRMS-Sep	Solid	Total PeCDD
1613B	HRMS-Sep	Solid	Total PeCDF
1613B	HRMS-Sep	Solid	Total TCDD
1613B	HRMS-Sep	Solid	Total TCDF

Method Summary

Client: GHD Services Inc.
Job ID: 180-97287-1
Project/Site: San Jacinto River Waste Pits Superfund

Method	Method Description	Protocol	Laboratory
EPA 8260C	Volatile Organic Compounds by GC/MS	SW846	TAL PIT
EPA 8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PIT
8015D	Glycols- Direct Injection (GC/FID)	SW846	TAL BUF
EPA 8081B	Organochlorine Pesticides (GC)	SW846	TAL PIT
EPA 8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL PIT
EPA 8151A	Herbicides (GC)	SW846	TAL PIT
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	TAL SAC
TEQ	Total TEQ Calculation	TAL SOP	TAL SAC
EPA 6010C	Metals (ICP)	SW846	TAL PIT
EPA 7470A	Mercury (CVAA)	SW846	TAL PIT
2540G	SM 2540G	SM22	TAL PIT
EPA 1020B	Ignitability, Small Scale Closed-Cup Method	SW846	TAL PIT
EPA 9014	Cyanide	SW846	TAL PIT
EPA 9034	Sulfide, Acid soluble and Insoluble (Titrimetric)	SW846	TAL PIT
EPA 9045D	pH	SW846	TAL PIT
EPA 9095B	Paint Filter	SW846	TAL PIT
1311	TCLP Extraction	SW846	TAL SAC
3010A	Preparation, Total Metals	SW846	TAL PIT
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL PIT
5030C	Purge and Trap	SW846	TAL PIT
7470A	Preparation, Mercury	SW846	TAL PIT
8015 Prep	8015 Direct Injection Prep (Aqueous)	SW846	TAL BUF
8151A	Extraction (Herbicides)	SW846	TAL PIT
9010C	Cyanide, Distillation	SW846	TAL PIT
9030B	Sulfide, Distillation (Acid Soluble and Insoluble)	SW846	TAL PIT
EPA 1311	TCLP Extraction	SW846	TAL PIT
HRMS-Sep	Separatory Funnel (Liquid-Liquid) Extraction	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency
SM22 = Standard Methods For The Examination Of Water And Wastewater, 22nd Edition
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600
TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058
TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GHD Services Inc.
Job ID: 180-97287-1
Project/Site: San Jacinto River Waste Pits Superfund

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-97287-1	11187072-NORTH-IMPCT-INITIALS	Solid	10/15/19 15:00	10/16/19 09:00	
180-97287-2	11187072-NORTH-IMPCT-INITIALS	Water	10/24/19 08:45	10/16/19 09:00	

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-97287-1

SDG No.:

Instrument ID: CHHP3 Analysis Batch Number: 282028

Lab Sample ID: IC 180-282028/2 Client Sample ID:

Date Analyzed: 06/18/19 07:14 Lab File ID: 3061802.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Isopropyl alcohol	3.84	Poor chromatography	gordonk	06/18/19 07:41

EPA 8260C

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-97287-1

SDG No.:

Instrument ID: CHHP3 Analysis Batch Number: 283451

Lab Sample ID: IC 180-283451/4 Client Sample ID:

Date Analyzed: 06/29/19 12:00 Lab File ID: 30629K04.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloromethane	1.85	Poor chromatography	gordonk	06/29/19 21:51
Vinyl chloride	1.98	Poor chromatography	gordonk	06/29/19 21:52
Chloroethane	2.39	Poor chromatography	gordonk	06/29/19 21:52
Dichlorofluoromethane	2.68	Poor chromatography	gordonk	06/29/19 21:52
Trichlorofluoromethane	2.69	Poor chromatography	gordonk	06/29/19 21:53
Ethyl ether	3.13	Poor chromatography	gordonk	06/29/19 21:53
1,1-Dichloroethene	3.39	Poor chromatography	gordonk	06/29/19 21:53
1,1,2-Trichloro-1,2,2-trifluoroethane	3.47	Poor chromatography	gordonk	06/29/19 21:53
Allyl chloride	3.97	Poor chromatography	gordonk	06/29/19 21:54
Vinyl acetate	5.34	Poor chromatography	gordonk	06/29/19 21:54

Lab Sample ID: IC 180-283451/5 Client Sample ID:

Date Analyzed: 06/29/19 12:24 Lab File ID: 30629K05.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	2.70	Poor chromatography	gordonk	06/29/19 21:59
1,1,2-Trichloro-1,2,2-trifluoroethane	3.46	Poor chromatography	gordonk	06/29/19 21:59
Acetone	3.56	Poor chromatography	gordonk	06/29/19 21:58
Iodomethane	3.59	Poor chromatography	gordonk	06/29/19 21:58

Lab Sample ID: IC 180-283451/6 Client Sample ID:

Date Analyzed: 06/29/19 12:47 Lab File ID: 30629K06.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,1,2-Trichloro-1,2,2-trifluoroethane	3.45	Poor chromatography	gordonk	06/29/19 22:02

EPA 8260C

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-97287-1

SDG No.:

Instrument ID: CHHP3 Analysis Batch Number: 295465

Lab Sample ID: LCS 180-295465/4 Client Sample ID:

Date Analyzed: 10/20/19 11:20 Lab File ID: 3102004.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Vinyl chloride	2.00	Poor chromatography	gordonk	10/20/19 11:38

Lab Sample ID: LB 180-295111/1-A Client Sample ID:

Date Analyzed: 10/20/19 12:07 Lab File ID: 3102006.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,1,1,2-Tetrachloroethane		Invalid Compound ID	gordonk	10/21/19 06:53
1,1,2,2-Tetrachloroethane		Invalid Compound ID	gordonk	10/21/19 06:53
1,1,2-Trichloroethane		Invalid Compound ID	gordonk	10/21/19 06:53
1,2-Dibromoethane		Invalid Compound ID	gordonk	10/21/19 06:53
1,2-Dichloroethane		Invalid Compound ID	gordonk	10/21/19 06:53
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	gordonk	10/21/19 06:53
Acetonitrile		Invalid Compound ID	gordonk	10/21/19 06:52
Acrylonitrile		Invalid Compound ID	gordonk	10/21/19 06:52
Benzene		Invalid Compound ID	gordonk	10/21/19 06:52
Chlorobenzene		Invalid Compound ID	gordonk	10/21/19 06:53
Ethylbenzene		Invalid Compound ID	gordonk	10/21/19 06:53
Hexachlorobutadiene		Invalid Compound ID	gordonk	10/21/19 06:54
Isobutyl alcohol		Invalid Compound ID	gordonk	10/21/19 06:52
Methacrylonitrile		Invalid Compound ID	gordonk	10/21/19 06:52
Methylene Chloride		Invalid Compound ID	gordonk	10/21/19 06:52
m-Xylene & p-Xylene		Invalid Compound ID	gordonk	10/21/19 06:53
o-Xylene		Invalid Compound ID	gordonk	10/21/19 06:53
Styrene		Invalid Compound ID	gordonk	10/21/19 06:53
Tetrachloroethene		Invalid Compound ID	gordonk	10/21/19 06:53
Toluene		Invalid Compound ID	gordonk	10/21/19 06:53
Trichloroethene		Invalid Compound ID	gordonk	10/21/19 06:53
Vinyl chloride		Invalid Compound ID	gordonk	10/21/19 06:52

EPA 8260C

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-97287-1

SDG No.:

Instrument ID: CHHP3 Analysis Batch Number: 295465

Lab Sample ID: 180-97287-1 Client Sample ID: 11187072-NORTH-IMPCT-INITIALS

Date Analyzed: 10/20/19 12:54 Lab File ID: 3102008.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,1,2-Trichloroethane		Invalid Compound ID	gordonk	10/21/19 06:54
1,4-Dichlorobenzene		Invalid Compound ID	gordonk	10/21/19 06:54
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	gordonk	10/21/19 06:54
Chloroform		Invalid Compound ID	gordonk	10/21/19 06:54
Methylene Chloride		Invalid Compound ID	gordonk	10/21/19 06:54
Vinyl chloride		Invalid Compound ID	gordonk	10/21/19 06:54

Lab Sample ID: LB 180-295413/1-A Client Sample ID:

Date Analyzed: 10/20/19 13:17 Lab File ID: 3102009.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,4-Dichlorobenzene		Invalid Compound ID	gordonk	10/21/19 06:55
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	gordonk	10/21/19 06:55
Chloroform		Invalid Compound ID	gordonk	10/21/19 06:55
Methylene Chloride		Invalid Compound ID	gordonk	10/21/19 06:55
Vinyl chloride		Invalid Compound ID	gordonk	10/21/19 06:55

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-97287-1

SDG No.:

Instrument ID: CHMSD7 Analysis Batch Number: 294955

Lab Sample ID: IC 180-294955/3 Client Sample ID:

Date Analyzed: 10/16/19 05:53 Lab File ID: M1016003.D GC Column: Rxi-5SilMS ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,4-Dioxane	1.67	Incomplete Integration	piccolinov	10/16/19 08:31
N-Nitrosodimethylamine	2.38	Incomplete Integration	piccolinov	10/16/19 08:31
Pyridine	2.51	Incomplete Integration	piccolinov	10/16/19 08:31
Methyl methanesulfonate	4.78	Incomplete Integration	piccolinov	10/16/19 08:31
Caprolactam	8.04	Incomplete Integration	piccolinov	10/16/19 08:31
Dimethyl phthalate	9.01	Incomplete Integration	piccolinov	10/16/19 08:32
1,3-Dinitrobenzene	9.04	Incomplete Integration	piccolinov	10/16/19 08:32
2,4,6-Tribromophenol (Surr)	10.04	Peak assignment corrected	piccolinov	10/16/19 08:30
3,3'-Dichlorobenzidine	14.26	Incomplete Integration	piccolinov	10/16/19 08:32
Bis(2-ethylhexyl) phthalate	14.28	Incomplete Integration	piccolinov	10/16/19 08:32
Di-n-octyl phthalate	15.62	Incomplete Integration	piccolinov	10/16/19 08:32
Benzo[k]fluoranthene	16.60	Incomplete Integration	piccolinov	10/16/19 08:32
Benzo[e]pyrene	17.13	Incomplete Integration	piccolinov	10/16/19 08:32
Benzo[a]pyrene	17.25	Incomplete Integration	piccolinov	10/16/19 08:32
Indeno[1,2,3-cd]pyrene	19.67	Incomplete Integration	piccolinov	10/16/19 08:33
Dibenz(a,h)anthracene	19.69	Incomplete Integration	piccolinov	10/16/19 08:33
Benzo[g,h,i]perylene	20.30	Incomplete Integration	piccolinov	10/16/19 08:33

EPA 8270D

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-97287-1

SDG No.:

Instrument ID: CHMSD7 Analysis Batch Number: 294955

Lab Sample ID: IC 180-294955/4 Client Sample ID:

Date Analyzed: 10/16/19 06:20 Lab File ID: M1016004.D GC Column: Rxi-5SilMS ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,4-Dioxane	1.63	Incomplete Integration	piccolinov	10/16/19 08:28
Pyridine	2.46	Incomplete Integration	piccolinov	10/16/19 08:28
Benzoic acid	7.35	Incomplete Integration	piccolinov	10/16/19 08:28
Caprolactam	8.02	Incomplete Integration	piccolinov	10/16/19 08:29
Benzo[e]pyrene	17.14	Incomplete Integration	piccolinov	10/16/19 08:29
Benzo[a]pyrene	17.26	Incomplete Integration	piccolinov	10/16/19 08:29
Indeno[1,2,3-cd]pyrene	19.69	Incomplete Integration	piccolinov	10/16/19 08:30
Dibenz(a,h)anthracene	19.70	Incomplete Integration	piccolinov	10/16/19 08:30
Benzo[g,h,i]perylene	20.32	Incomplete Integration	piccolinov	10/16/19 08:30

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-97287-1

SDG No.:

Instrument ID: CHMSD7 Analysis Batch Number: 294955

Lab Sample ID: IC 180-294955/5 Client Sample ID:

Date Analyzed: 10/16/19 06:47 Lab File ID: M1016005.D GC Column: Rxi-5SilMS ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Pyridine	2.45	Incomplete Integration	piccolinov	10/16/19 08:26
Di-n-octyl phthalate	15.62	Incomplete Integration	piccolinov	10/16/19 08:27
Benzo[e]pyrene	17.14	Incomplete Integration	piccolinov	10/16/19 08:27
Benzo[a]pyrene	17.25	Incomplete Integration	piccolinov	10/16/19 08:27
Indeno[1,2,3-cd]pyrene	19.66	Incomplete Integration	piccolinov	10/16/19 08:27
Dibenz(a,h)anthracene	19.69	Incomplete Integration	piccolinov	10/16/19 08:27
Benzo[g,h,i]perylene	20.30	Incomplete Integration	piccolinov	10/16/19 08:27

Lab Sample ID: ICIS 180-294955/6 Client Sample ID:

Date Analyzed: 10/16/19 07:14 Lab File ID: M1016006.D GC Column: Rxi-5SilMS ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzoic acid	7.36	Incomplete Integration	piccolinov	10/16/19 08:25
Benzo[e]pyrene	17.15	Incomplete Integration	piccolinov	10/16/19 08:25
Benzo[a]pyrene	17.26	Incomplete Integration	piccolinov	10/16/19 08:25
Indeno[1,2,3-cd]pyrene	19.69	Incomplete Integration	piccolinov	10/16/19 08:25

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-97287-1

SDG No.:

Instrument ID: CHMSD7 Analysis Batch Number: 294955

Lab Sample ID: IC 180-294955/7 Client Sample ID:

Date Analyzed: 10/16/19 07:41 Lab File ID: M1016007.D GC Column: Rxi-5SilMS ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzo[e]pyrene	17.14	Peak assignment corrected	piccolino v	10/16/19 08:34
Benzo[a]pyrene	17.25	Peak assignment corrected	piccolino v	10/16/19 08:34
Indeno[1,2,3-cd]pyrene	19.66	Peak assignment corrected	piccolino v	10/16/19 08:34

Lab Sample ID: IC 180-294955/9 Client Sample ID:

Date Analyzed: 10/16/19 08:34 Lab File ID: M1016009.D GC Column: Rxi-5SilMS ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzoic acid	7.40	Peak assignment corrected	piccolino v	10/16/19 09:05

Lab Sample ID: IC 180-294955/10 Client Sample ID:

Date Analyzed: 10/16/19 09:05 Lab File ID: M1016010.D GC Column: Rxi-5SilMS ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Aniline	6.08	Peak assignment corrected	piccolino v	10/16/19 09:35
Benzoic acid	7.42	Peak assignment corrected	piccolino v	10/16/19 09:35
Caprolactam	8.05	Incomplete Integration	piccolino v	10/17/19 05:56
Benzo[b]fluoranthene	16.59	Peak assignment corrected	piccolino v	10/16/19 09:35
Benzo[k]fluoranthene	16.64	Peak assignment corrected	piccolino v	10/16/19 09:35
Benzo[a]pyrene	17.28	Peak assignment corrected	piccolino v	10/16/19 09:36

EPA 8270D

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-97287-1

SDG No.:

Instrument ID: CHMSD7 Analysis Batch Number: 295453

Lab Sample ID: LCS 180-295386/2-A Client Sample ID:

Date Analyzed: 10/19/19 14:08 Lab File ID: M1019006.D GC Column: Rxi-5SilMS ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Pyridine	2.39	Incomplete Integration	piccolino v	10/21/19 06:59

EPA 8270D

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-97287-1

SDG No.:

Instrument ID: CHGC15 Analysis Batch Number: 279115

Lab Sample ID: IC 180-279115/2 Client Sample ID:

Date Analyzed: 05/18/19 12:14 Lab File ID: Q0518190000002.D GC Column: MR-1 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	7.05	Baseline Smoothing	eppinged	05/18/19 12:35
Toxaphene Peak 2	7.32	Baseline Smoothing	eppinged	05/18/19 12:35
Toxaphene Peak 3	7.70	Baseline Smoothing	eppinged	05/18/19 12:35
Toxaphene Peak 4	7.95	Baseline Smoothing	eppinged	05/18/19 12:35
Dibutylchlorendate ISTD	8.28	Baseline Smoothing	eppinged	05/18/19 12:35

Lab Sample ID: IC 180-279115/2 Client Sample ID:

Date Analyzed: 05/18/19 12:14 Lab File ID: Q0518190000002.D GC Column: MR-2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	7.26	Baseline Smoothing	eppinged	05/18/19 12:35
Toxaphene Peak 2	7.39	Baseline Smoothing	eppinged	05/18/19 12:35
Toxaphene Peak 3	7.90	Baseline Smoothing	eppinged	05/18/19 12:36
Dibutylchlorendate ISTD	8.39	Baseline Smoothing	eppinged	05/18/19 12:34
Toxaphene Peak 4	8.63	Baseline Smoothing	eppinged	05/18/19 12:36

Lab Sample ID: IC 180-279115/3 Client Sample ID:

Date Analyzed: 05/18/19 12:29 Lab File ID: Q0518190000003.D GC Column: MR-1 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	7.05	Baseline Smoothing	eppinged	05/18/19 12:49
Toxaphene Peak 2	7.32	Baseline Smoothing	eppinged	05/18/19 12:49
Toxaphene Peak 3	7.70	Baseline Smoothing	eppinged	05/18/19 12:49
Toxaphene Peak 4	7.94	Baseline Smoothing	eppinged	05/18/19 12:49
Dibutylchlorendate ISTD	8.28	Baseline Smoothing	eppinged	05/18/19 12:49

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-97287-1

SDG No.:

Instrument ID: CHGC15 Analysis Batch Number: 279115

Lab Sample ID: IC 180-279115/3 Client Sample ID:

Date Analyzed: 05/18/19 12:29 Lab File ID: Q0518190000003.D GC Column: MR-2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	7.26	Baseline Smoothing	eppinged	05/18/19 12:49
Toxaphene Peak 2	7.39	Baseline Smoothing	eppinged	05/18/19 12:49
Toxaphene Peak 3	7.90	Baseline Smoothing	eppinged	05/18/19 12:49
Dibutylchlorendate ISTD	8.39	Baseline Smoothing	eppinged	05/18/19 12:49
Toxaphene Peak 4	8.63	Baseline Smoothing	eppinged	05/18/19 12:49

Lab Sample ID: IC 180-279115/4 Client Sample ID:

Date Analyzed: 05/18/19 12:45 Lab File ID: Q0518190000004.D GC Column: MR-1 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	7.05	Baseline Smoothing	eppinged	05/18/19 13:04
Toxaphene Peak 2	7.32	Baseline Smoothing	eppinged	05/18/19 13:04
Toxaphene Peak 3	7.70	Baseline Smoothing	eppinged	05/18/19 13:04
Toxaphene Peak 4	7.94	Baseline Smoothing	eppinged	05/18/19 13:04
Dibutylchlorendate ISTD	8.28	Baseline Smoothing	eppinged	05/18/19 13:04

Lab Sample ID: IC 180-279115/4 Client Sample ID:

Date Analyzed: 05/18/19 12:45 Lab File ID: Q0518190000004.D GC Column: MR-2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	7.26	Baseline Smoothing	eppinged	05/18/19 13:04
Toxaphene Peak 2	7.39	Baseline Smoothing	eppinged	05/18/19 13:04
Toxaphene Peak 3	7.90	Baseline Smoothing	eppinged	05/18/19 13:04
Dibutylchlorendate ISTD	8.39	Baseline Smoothing	eppinged	05/18/19 13:04
Toxaphene Peak 4	8.63	Baseline Smoothing	eppinged	05/18/19 13:04

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-97287-1

SDG No.:

Instrument ID: CHGC15 Analysis Batch Number: 279115

Lab Sample ID: IC 180-279115/5 Client Sample ID:

Date Analyzed: 05/18/19 13:00 Lab File ID: Q0518190000005.D GC Column: MR-2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	7.26	Baseline Smoothing	eppinged	05/18/19 13:18
Toxaphene Peak 2	7.39	Baseline Smoothing	eppinged	05/18/19 13:18
Toxaphene Peak 3	7.89	Baseline Smoothing	eppinged	05/18/19 13:18
Dibutylchlorendate ISTD	8.39	Baseline Smoothing	eppinged	05/18/19 13:18
Toxaphene Peak 4	8.63	Baseline Smoothing	eppinged	05/18/19 13:18

Lab Sample ID: IC 180-279115/6 Client Sample ID:

Date Analyzed: 05/18/19 13:16 Lab File ID: Q0518190000006.D GC Column: MR-1 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	7.05	Baseline Smoothing	eppinged	05/18/19 13:32
Toxaphene Peak 2	7.32	Baseline Smoothing	eppinged	05/18/19 13:32
Toxaphene Peak 3	7.70	Baseline Smoothing	eppinged	05/18/19 13:32
Toxaphene Peak 4	7.94	Baseline Smoothing	eppinged	05/18/19 13:32
Dibutylchlorendate ISTD	8.28	Baseline Smoothing	eppinged	05/18/19 13:32

Lab Sample ID: IC 180-279115/6 Client Sample ID:

Date Analyzed: 05/18/19 13:16 Lab File ID: Q0518190000006.D GC Column: MR-2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	7.26	Baseline Smoothing	eppinged	05/18/19 13:32
Toxaphene Peak 2	7.39	Baseline Smoothing	eppinged	05/18/19 13:32
Toxaphene Peak 3	7.90	Baseline Smoothing	eppinged	05/18/19 13:32
Dibutylchlorendate ISTD	8.39	Baseline Smoothing	eppinged	05/18/19 13:32
Toxaphene Peak 4	8.63	Baseline Smoothing	eppinged	05/18/19 13:32

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-97287-1

SDG No.:

Instrument ID: CHGC15 Analysis Batch Number: 279115

Lab Sample ID: IC 180-279115/7 Client Sample ID:

Date Analyzed: 05/18/19 14:56 Lab File ID: Q0518190000007.D GC Column: MR-1 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dibutylchlorendate ISTD	8.25	Baseline Smoothing	eppinged	05/18/19 15:35

Lab Sample ID: IC 180-279115/7 Client Sample ID:

Date Analyzed: 05/18/19 14:56 Lab File ID: Q0518190000007.D GC Column: MR-2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1-Bromo-2-nitrobenzene	4.06	Baseline Smoothing	eppinged	05/18/19 16:26
Chlordane (technical) Peak 1	6.05	Baseline Smoothing	eppinged	05/18/19 16:31
Chlordane (technical) Peak 2	6.41	Baseline Smoothing	eppinged	05/18/19 16:31
Chlordane (technical) Peak 3	7.02	Baseline Smoothing	eppinged	05/18/19 16:31
Chlordane (technical) Peak 4	7.07	Baseline Smoothing	eppinged	05/18/19 16:31
Dibutylchlorendate ISTD	8.37	Baseline Smoothing	eppinged	05/18/19 16:30

Lab Sample ID: IC 180-279115/9 Client Sample ID:

Date Analyzed: 05/18/19 15:26 Lab File ID: Q0518190000009.D GC Column: MR-2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chlordane (technical) Peak 2	6.41	Baseline Smoothing	eppinged	05/18/19 15:46
Chlordane (technical) Peak 3	7.02	Baseline Smoothing	eppinged	05/18/19 15:46
Chlordane (technical) Peak 4	7.07	Baseline Smoothing	eppinged	05/18/19 15:46

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-97287-1

SDG No.:

Instrument ID: CHGC15 Analysis Batch Number: 279115

Lab Sample ID: IC 180-279115/11 Client Sample ID:

Date Analyzed: 05/18/19 15:57 Lab File ID: Q0518190000011.D GC Column: MR-2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chlordane (technical) Peak 1	6.05	Baseline Smoothing	eppinged	05/18/19 16:15
Chlordane (technical) Peak 2	6.41	Baseline Smoothing	eppinged	05/18/19 16:15
Chlordane (technical) Peak 3	7.02	Baseline Smoothing	eppinged	05/18/19 16:15
Chlordane (technical) Peak 4	7.07	Baseline Smoothing	eppinged	05/18/19 16:15
Dibutylchlorendate ISTD	8.37	Baseline Smoothing	eppinged	05/18/19 16:15

Lab Sample ID: ICV 180-279115/30 Client Sample ID:

Date Analyzed: 05/18/19 20:51 Lab File ID: Q0518190000030.D GC Column: MR-1 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	7.01	Baseline Smoothing	eppinged	05/20/19 04:50
Toxaphene Peak 2	7.28	Baseline Smoothing	eppinged	05/20/19 04:50
Toxaphene Peak 3	7.66	Baseline Smoothing	eppinged	05/20/19 04:50
Toxaphene Peak 4	7.90	Baseline Smoothing	eppinged	05/20/19 04:50

Lab Sample ID: ICV 180-279115/30 Client Sample ID:

Date Analyzed: 05/18/19 20:51 Lab File ID: Q0518190000030.D GC Column: MR-2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	7.24	Baseline Smoothing	eppinged	05/20/19 04:51
Toxaphene Peak 2	7.37	Baseline Smoothing	eppinged	05/20/19 04:51
Toxaphene Peak 3	7.88	Baseline Smoothing	eppinged	05/20/19 04:51
Toxaphene Peak 4	8.61	Baseline Smoothing	eppinged	05/20/19 04:51

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-97287-1

SDG No.:

Instrument ID: CHGC15 Analysis Batch Number: 283759

Lab Sample ID: IC 180-283759/2 Client Sample ID:

Date Analyzed: 07/02/19 15:33 Lab File ID: Q070219A0000002.D GC Column: MR-1 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dibutylchlorendate ISTD	8.23	Split Peak	eppinged	07/03/19 07:17
Endrin ketone	8.28	Split Peak	eppinged	07/03/19 07:18

Lab Sample ID: IC 180-283759/2 Client Sample ID:

Date Analyzed: 07/02/19 15:33 Lab File ID: Q070219A0000002.D GC Column: MR-2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Endrin ketone	8.91	Split Peak	eppinged	07/03/19 07:18
DCB Decachlorobiphenyl (Surr)	10.62	Incomplete Integration	eppinged	07/03/19 07:18

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-97287-1

SDG No.:

Instrument ID: CHGC15 Analysis Batch Number: 295908

Lab Sample ID: PEM 180-295908/1 Client Sample ID:

Date Analyzed: 10/24/19 11:21 Lab File ID: Q1024190000001.D GC Column: MR-1 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
4,4'-DDE	6.93	Peak assignment corrected	eppinged	10/24/19 11:38
Endrin	7.26	Peak assignment corrected	eppinged	10/24/19 11:38
4,4'-DDD	7.38	Peak assignment corrected	eppinged	10/24/19 11:38
4,4'-DDT	7.66	Peak assignment corrected	eppinged	10/24/19 11:38
Endrin ketone	8.23	Split Peak	eppinged	10/24/19 11:39
DCB Decachlorobiphenyl (Surr)	9.94	Peak assignment corrected	eppinged	10/24/19 11:37

Lab Sample ID: PEM 180-295908/1 Client Sample ID:

Date Analyzed: 10/24/19 11:21 Lab File ID: Q1024190000001.D GC Column: MR-2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
4,4'-DDE	7.15	Peak assignment corrected	eppinged	10/24/19 11:38
Endrin	7.60	Peak assignment corrected	eppinged	10/24/19 11:38
4,4'-DDD	7.67	Peak assignment corrected	eppinged	10/24/19 11:38
4,4'-DDT	7.92	Peak assignment corrected	eppinged	10/24/19 11:38
Endrin ketone	8.87	Baseline Smoothing	eppinged	10/24/19 11:39
DCB Decachlorobiphenyl (Surr)	10.56	Peak assignment corrected	eppinged	10/24/19 11:37

Lab Sample ID: CCV 180-295908/2 Client Sample ID:

Date Analyzed: 10/24/19 11:36 Lab File ID: Q1024190000002.D GC Column: MR-2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	7.18	Baseline Smoothing	eppinged	10/24/19 12:00
Toxaphene Peak 2	7.32	Baseline Smoothing	eppinged	10/24/19 12:00
Toxaphene Peak 3	7.82	Baseline Smoothing	eppinged	10/24/19 12:00
Toxaphene Peak 4	8.54	Baseline Smoothing	eppinged	10/24/19 12:00

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-97287-1

SDG No.:

Instrument ID: CHGC15 Analysis Batch Number: 295908

Lab Sample ID: CCV 180-295908/4 Client Sample ID:

Date Analyzed: 10/24/19 12:07 Lab File ID: Q1024190000004.D GC Column: MR-1 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Mirex	8.73	Peak assignment corrected	eppinged	10/24/19 12:22

Lab Sample ID: CCV 180-295908/4 Client Sample ID:

Date Analyzed: 10/24/19 12:07 Lab File ID: Q1024190000004.D GC Column: MR-2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Mirex	9.15	Peak assignment corrected	eppinged	10/24/19 12:22

Lab Sample ID: CCVIS 180-295908/5 Client Sample ID:

Date Analyzed: 10/24/19 12:23 Lab File ID: Q1024190000005.D GC Column: MR-1 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Endosulfan sulfate	7.78	Peak assignment corrected	eppinged	10/24/19 12:38

Lab Sample ID: CCVIS 180-295908/5 Client Sample ID:

Date Analyzed: 10/24/19 12:23 Lab File ID: Q1024190000005.D GC Column: MR-2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Endosulfan sulfate	8.25	Peak assignment corrected	eppinged	10/24/19 12:38

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-97287-1

SDG No.:

Instrument ID: CHGC10 Analysis Batch Number: 292146

Lab Sample ID: IC 180-292146/5 Client Sample ID:

Date Analyzed: 09/21/19 09:45 Lab File ID: S0921906.D GC Column: RTX-CLP1 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1016 Peak 1	3.69	Instrument noise	oravecj	09/23/19 06:40
PCB-1016 Peak 5	5.78	Instrument noise	oravecj	09/23/19 06:41

Lab Sample ID: IC 180-292146/5 Client Sample ID:

Date Analyzed: 09/21/19 09:45 Lab File ID: S0921906.D GC Column: RTX-CLP2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1016 Peak 1	4.35	Instrument noise	oravecj	09/23/19 06:42
PCB-1016 Peak 2	5.51	Instrument noise	oravecj	09/23/19 06:43
PCB-1016 Peak 3	5.72	Instrument noise	oravecj	09/23/19 06:43
PCB-1260 Peak 4	10.87	Instrument noise	oravecj	09/23/19 06:42

Lab Sample ID: IC 180-292146/6 Client Sample ID:

Date Analyzed: 09/21/19 10:02 Lab File ID: S0921907.D GC Column: RTX-CLP1 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1016 Peak 1	3.69	Instrument noise	oravecj	09/23/19 06:41

EPA 8082A

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-97287-1

SDG No.:

Instrument ID: CHGC10 Analysis Batch Number: 295495

Lab Sample ID: CCV 180-295495/1 Client Sample ID:

Date Analyzed: 10/21/19 07:24 Lab File ID: S1021901.D GC Column: RTX-CLP2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1254 Peak 1	7.21	Instrument noise	oravecj	10/21/19 08:25
PCB-1254 Peak 2	8.51	Instrument noise	oravecj	10/21/19 08:25
PCB-1254 Peak 3	8.94	Instrument noise	oravecj	10/21/19 08:25
PCB-1254 Peak 4	9.55	Instrument noise	oravecj	10/21/19 08:25
PCB-1254 Peak 5	9.86	Instrument noise	oravecj	10/21/19 08:25

Lab Sample ID: 180-97287-1 Client Sample ID: 11187072-NORTH-IMPCT-INITIALS

Date Analyzed: 10/22/19 09:43 Lab File ID: S1021979.D GC Column: RTX-CLP1 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1221		Unspecified		
PCB-1232		Unspecified		
PCB-1221 Peak 1		Invalid Compound ID	oravecj	10/23/19 08:55
PCB-1221 Peak 2		Invalid Compound ID	oravecj	10/23/19 08:55
PCB-1221 Peak 3		Invalid Compound ID	oravecj	10/23/19 08:55
PCB-1232 Peak 1		Invalid Compound ID	oravecj	10/23/19 08:55
PCB-1232 Peak 2		Invalid Compound ID	oravecj	10/23/19 08:55
PCB-1232 Peak 3		Invalid Compound ID	oravecj	10/23/19 08:55
PCB-1232 Peak 4		Invalid Compound ID	oravecj	10/23/19 08:55
PCB-1232 Peak 5		Invalid Compound ID	oravecj	10/23/19 08:55

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-97287-1

SDG No.:

Instrument ID: CHGC10 Analysis Batch Number: 295495

Lab Sample ID: 180-97287-1 Client Sample ID: 11187072-NORTH-IMPCT-INITIALS

Date Analyzed: 10/22/19 09:43 Lab File ID: S1021979.D GC Column: RTX-CLP2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1221		Unspecified		
PCB-1232		Unspecified		
PCB-1221 Peak 1		Invalid Compound ID	oravecj	10/23/19 08:55
PCB-1221 Peak 2		Invalid Compound ID	oravecj	10/23/19 08:55
PCB-1221 Peak 3		Invalid Compound ID	oravecj	10/23/19 08:55
PCB-1232 Peak 1		Invalid Compound ID	oravecj	10/23/19 08:55
PCB-1232 Peak 2		Invalid Compound ID	oravecj	10/23/19 08:55
PCB-1232 Peak 3		Invalid Compound ID	oravecj	10/23/19 08:55
PCB-1232 Peak 4		Invalid Compound ID	oravecj	10/23/19 08:55
PCB-1232 Peak 5		Invalid Compound ID	oravecj	10/23/19 08:55

EPA 8082A

HERBICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-97287-1

SDG No.:

Instrument ID: CGC1 Analysis Batch Number: 288571

Lab Sample ID: IC 180-288571/2 Client Sample ID:

Date Analyzed: 08/19/19 18:39 Lab File ID: 0819190000015.D GC Column: RTX-50 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,4-Dichlorophenylacetic acid	8.03	Baseline Smoothing	fritschj	08/20/19 08:28
MCPA	8.67	Baseline Smoothing	fritschj	08/20/19 08:30

Lab Sample ID: IC 180-288571/2 Client Sample ID:

Date Analyzed: 08/19/19 18:39 Lab File ID: 0819190000015.D GC Column: RTX-1701 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,4-Dichlorophenylacetic acid	8.00	Split Peak	fritschj	08/20/19 08:28
MCPP	8.43	Baseline Smoothing	fritschj	08/20/19 08:28
MCPA	8.73	Baseline Smoothing	fritschj	08/20/19 08:29
2,4-DB	11.15	Incomplete Integration	fritschj	08/20/19 08:30
Dinoseb	11.80	Incomplete Integration	fritschj	08/20/19 08:30

Lab Sample ID: IC 180-288571/3 Client Sample ID:

Date Analyzed: 08/19/19 19:04 Lab File ID: 0819190000016.D GC Column: RTX-50 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,4-Dichlorophenylacetic acid	8.03	Baseline Smoothing	fritschj	08/20/19 08:32

Lab Sample ID: IC 180-288571/3 Client Sample ID:

Date Analyzed: 08/19/19 19:04 Lab File ID: 0819190000016.D GC Column: RTX-1701 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,4-Dichlorophenylacetic acid	8.00	Baseline Smoothing	fritschj	08/20/19 08:32
MCPP	8.42	Baseline Smoothing	fritschj	08/20/19 08:33

HERBICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-97287-1

SDG No.:

Instrument ID: CGC1 Analysis Batch Number: 288571

Lab Sample ID: ICRT 180-288571/5 Client Sample ID:

Date Analyzed: 08/19/19 19:54 Lab File ID: 0819190000018.D GC Column: RTX-50 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dalapon	2.18	Peak assignment corrected	fritschj	08/20/19 08:15
2,4-Dichlorophenylacetic acid	8.03	Peak assignment corrected	fritschj	08/20/19 08:15
MCPP	8.25	Peak assignment corrected	fritschj	08/20/19 08:17
Dicamba	8.33	Peak assignment corrected	fritschj	08/20/19 08:18
MCPA	8.67	Peak assignment corrected	fritschj	08/20/19 08:18
Dichlorprop	8.95	Peak assignment corrected	fritschj	08/20/19 08:19
2,4-D	9.44	Peak assignment corrected	fritschj	08/20/19 08:19
Pentachlorophenol	9.97	Peak assignment corrected	fritschj	08/20/19 08:21
Silvex (2,4,5-TP)	10.12	Peak assignment corrected	fritschj	08/20/19 08:22
2,4,5-T	10.67	Peak assignment corrected	fritschj	08/20/19 08:23
Dinoseb	10.93	Peak assignment corrected	fritschj	08/20/19 08:24
2,4-DB	11.06	Peak assignment corrected	fritschj	08/20/19 08:24

Lab Sample ID: ICRT 180-288571/5 Client Sample ID:

Date Analyzed: 08/19/19 19:54 Lab File ID: 0819190000018.D GC Column: RTX-1701 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dalapon	2.35	Peak assignment corrected	fritschj	08/20/19 08:15
2,4-Dichlorophenylacetic acid	8.00	Peak assignment corrected	fritschj	08/20/19 08:16
Dicamba	8.27	Peak assignment corrected	fritschj	08/20/19 08:18
MCPP	8.42	Baseline Smoothing	fritschj	08/20/19 09:09
MCPA	8.73	Peak assignment corrected	fritschj	08/20/19 08:18
Dichlorprop	9.10	Peak assignment corrected	fritschj	08/20/19 08:19
2,4-D	9.49	Peak assignment corrected	fritschj	08/20/19 08:19
Pentachlorophenol	9.69	Peak assignment corrected	fritschj	08/20/19 08:22
Silvex (2,4,5-TP)	10.26	Peak assignment corrected	fritschj	08/20/19 08:22
2,4,5-T	10.72	Peak assignment corrected	fritschj	08/20/19 08:23
2,4-DB	11.15	Peak assignment corrected	fritschj	08/20/19 08:24
Dinoseb	11.80	Peak assignment corrected	fritschj	08/20/19 08:24

EPA 8151A

HERBICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-97287-1

SDG No.:

Instrument ID: CGC1 Analysis Batch Number: 288571

Lab Sample ID: IC 180-288571/6 Client Sample ID:

Date Analyzed: 08/19/19 20:19 Lab File ID: 0819190000019.D GC Column: RTX-1701 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,4-Dichlorophenylacetic acid	8.00	Baseline Smoothing	fritschj	08/20/19 08:38
MCPP	8.42	Baseline Smoothing	fritschj	08/20/19 09:01

Lab Sample ID: IC 180-288571/7 Client Sample ID:

Date Analyzed: 08/19/19 20:44 Lab File ID: 0819190000020.D GC Column: RTX-50 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
MCPA	8.67	Baseline Smoothing	fritschj	08/20/19 08:39
Dichlorprop	8.95	Baseline Smoothing	fritschj	08/20/19 08:39

Lab Sample ID: IC 180-288571/7 Client Sample ID:

Date Analyzed: 08/19/19 20:44 Lab File ID: 0819190000020.D GC Column: RTX-1701 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,4-Dichlorophenylacetic acid	8.00	Baseline Smoothing	fritschj	08/20/19 08:39
MCPP	8.42	Baseline Smoothing	fritschj	08/20/19 09:01

Lab Sample ID: IC 180-288571/8 Client Sample ID:

Date Analyzed: 08/19/19 21:09 Lab File ID: 0819190000021.D GC Column: RTX-50 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
MCPP	8.25	Baseline Smoothing	fritschj	08/20/19 08:40
MCPA	8.67	Baseline Smoothing	fritschj	08/20/19 08:40

EPA 8151A

HERBICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-97287-1

SDG No.:

Instrument ID: CGC1 Analysis Batch Number: 288571

Lab Sample ID: IC 180-288571/8 Client Sample ID:

Date Analyzed: 08/19/19 21:09 Lab File ID: 0819190000021.D GC Column: RTX-1701 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,4-Dichlorophenylacetic acid	8.00	Baseline Smoothing	fritschj	08/20/19 08:39
MCPP	8.42	Baseline Smoothing	fritschj	08/20/19 08:59

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Sacram Job No.: 180-97287-1

SDG No.:

Instrument ID: 10D5 Analysis Batch Number: 324128

Lab Sample ID: IC 320-324128/3 Client Sample ID:

Date Analyzed: 09/17/19 13:03 Lab File ID: 17SE1910D5_3.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,7,8,9-HxCDD	31.76	Invalid Compound ID	shardaa	09/17/19 18:02

1613B

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Sacram Job No.: 180-97287-1

SDG No.:

Instrument ID: 10D5 Analysis Batch Number: 335194

Lab Sample ID: WDM 320-335194/1 Client Sample ID:

Date Analyzed: 10/31/19 13:25 Lab File ID: 31OC1910D5_1.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,4,6,7,9-HpCDD	33.70	Peak assignment corrected	messecara	10/31/19 23:59

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Sacram Job No.: 180-97287-1

SDG No.:

Instrument ID: 3D5 Analysis Batch Number: 296020

Lab Sample ID: IC 320-296020/3 Client Sample ID:

Date Analyzed: 05/21/19 13:31 Lab File ID: 21MY193D5_3.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,3,7,8-TCDF	17.92	Poor chromatography	shardaa	05/21/19 17:52
2,3,7,8-TCDD	18.64	Poor chromatography	shardaa	05/21/19 17:52
13C-2,3,4,7,8-PeCDF	24.48	Peak assignment corrected	shardaa	05/21/19 17:48
13C-1,2,3,4,7,8-HxCDF	31.05	Peak assignment corrected	shardaa	05/21/19 17:49
13C-1,2,3,4,7,8-HxCDD	32.10	Peak assignment corrected	shardaa	05/21/19 17:49
13C-1,2,3,4,7,8,9-HpCDF	35.23	Peak assignment corrected	shardaa	05/21/19 17:49

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Sacram Job No.: 180-97287-1

SDG No.:

Instrument ID: 3D5 Analysis Batch Number: 334889

Lab Sample ID: MB 320-334214/1-A Client Sample ID:

Date Analyzed: 10/30/19 23:59 Lab File ID: 30OC19B3D5_4.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
OCDD	36.79	Baseline	dadunj	11/01/19 10:09

Lab Sample ID: 180-97287-1 Client Sample ID: 11187072-NORTH-IMPCT-INITIALS

Date Analyzed: 10/31/19 03:09 Lab File ID: 30OC19B3D5_8.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,4,7,8-HxCDD		Invalid Compound ID	dadunj	11/01/19 10:14
1,2,3,6,7,8-HxCDD		Invalid Compound ID	dadunj	11/01/19 10:14

1613B

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
BSbAgZn INT_00009	12/14/19	09/14/19	2% Nitric Acid, Lot 218076	1000 mL	M4400-5M74B_00001	50 mL	B	250 mg/L
					MAG1000_00002	50 mL	Silver	50 mg/L
					MCGSB1-1_00010	50 mL	Sb	50 mg/L
					MZN1000_00002	50 mL	Zn	50 mg/L
.M4400-5M74B_00001	05/17/21	CPI International, Lot 1009207-1			(Purchased Reagent)		B	5000 ppm
.MAG1000_00002	10/26/20	CPI International, Lot 975475-12			(Purchased Reagent)		Silver	1000 ppm
.MCGSB1-1_00010	04/15/20	CPI, Lot 153992-34			(Purchased Reagent)		Sb	1000 ppm
.MZN1000_00002	10/01/20	CPI International, Lot 984272-23			(Purchased Reagent)		Zn	1000 ppm
GCAPPIX1L1_00025	03/17/20	09/17/19	Hexane, Lot 3295450	25 mL	GCAPPX1WORKST_00019	0.025 mL	Chlorobenside	0.002 ug/mL
							DCPA	0.001 ug/mL
							Hexachlorobenzene	0.001 ug/mL
							Isodrin	0.001 ug/mL
							Mirex	0.001 ug/mL
							oxy-Chlordane	0.001 ug/mL
.GCAPPX1WORKST_00019	03/17/20	09/17/19	Hexane, Lot 3295450	10 mL	GCAPPIX1STD_00006	1 mL	Chlorobenside	2 ug/mL
							DCPA	1 ug/mL
							Hexachlorobenzene	1 ug/mL
							Isodrin	1 ug/mL
							Mirex	1 ug/mL
							oxy-Chlordane	1 ug/mL
..GCAPPIX1STD_00006	03/26/20	ACCUSTANDARD, Lot 216031541-02			(Purchased Reagent)		Chlorobenside	20 ug/mL
							DCPA	10 ug/mL
							Hexachlorobenzene	10 ug/mL
							Isodrin	10 ug/mL
							Mirex	10 ug/mL
							oxy-Chlordane	10 ug/mL
GCAPPIX1L2_00024	03/17/20	09/17/19	Hexane, Lot 3295450	25 mL	GCAPPX1WORKST_00019	0.125 mL	Chlorobenside	0.01 ug/mL
							DCPA	0.005 ug/mL
							Hexachlorobenzene	0.005 ug/mL
							Isodrin	0.005 ug/mL
							Mirex	0.005 ug/mL
							oxy-Chlordane	0.005 ug/mL
.GCAPPX1WORKST_00019	03/17/20	09/17/19	Hexane, Lot 3295450	10 mL	GCAPPIX1STD_00006	1 mL	Chlorobenside	2 ug/mL
							DCPA	1 ug/mL
							Hexachlorobenzene	1 ug/mL
							Isodrin	1 ug/mL
							Mirex	1 ug/mL
							oxy-Chlordane	1 ug/mL
..GCAPPIX1STD_00006	03/26/20	ACCUSTANDARD, Lot 216031541-02			(Purchased Reagent)		Chlorobenside	20 ug/mL
							DCPA	10 ug/mL
							Hexachlorobenzene	10 ug/mL
							Isodrin	10 ug/mL
							Mirex	10 ug/mL
							oxy-Chlordane	10 ug/mL
GCAPPIX1L3_00032	03/17/20	09/17/19	Hexane, Lot 3295450	40 mL	GCAPPX1WORKST_00019	1 mL	Chlorobenside	0.05 ug/mL
							DCPA	0.025 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Hexachlorobenzene	0.025 ug/mL
							Isodrin	0.025 ug/mL
							Mirex	0.025 ug/mL
							oxy-Chlordane	0.025 ug/mL
.GCAPPX1WORKST_00019	03/17/20	09/17/19	Hexane, Lot 3295450	10 mL	GCAPPIX1STD_00006	1 mL	Chlorobenside	2 ug/mL
							DCPA	1 ug/mL
							Hexachlorobenzene	1 ug/mL
							Isodrin	1 ug/mL
							Mirex	1 ug/mL
							oxy-Chlordane	1 ug/mL
..GCAPPIX1STD_00006	03/26/20	ACCUSTANDARD, Lot 216031541-02			(Purchased Reagent)		Chlorobenside	20 ug/mL
							DCPA	10 ug/mL
							Hexachlorobenzene	10 ug/mL
							Isodrin	10 ug/mL
							Mirex	10 ug/mL
							oxy-Chlordane	10 ug/mL
GCAPPIX1L4_00024	03/17/20	09/17/19	Hexane, Lot 3295450	25 mL	GCAPPX1WORKST_00019	1.25 mL	Chlorobenside	0.1 ug/mL
							DCPA	0.05 ug/mL
							Hexachlorobenzene	0.05 ug/mL
							Isodrin	0.05 ug/mL
							Mirex	0.05 ug/mL
							oxy-Chlordane	0.05 ug/mL
.GCAPPX1WORKST_00019	03/17/20	09/17/19	Hexane, Lot 3295450	10 mL	GCAPPIX1STD_00006	1 mL	Chlorobenside	2 ug/mL
							DCPA	1 ug/mL
							Hexachlorobenzene	1 ug/mL
							Isodrin	1 ug/mL
							Mirex	1 ug/mL
							oxy-Chlordane	1 ug/mL
..GCAPPIX1STD_00006	03/26/20	ACCUSTANDARD, Lot 216031541-02			(Purchased Reagent)		Chlorobenside	20 ug/mL
							DCPA	10 ug/mL
							Hexachlorobenzene	10 ug/mL
							Isodrin	10 ug/mL
							Mirex	10 ug/mL
							oxy-Chlordane	10 ug/mL
GCAPPIX1L5_00022	03/17/20	09/17/19	Hexane, Lot 3295450	25 mL	GCAPPX1WORKST_00019	2.5 mL	Chlorobenside	0.2 ug/mL
							DCPA	0.1 ug/mL
							Hexachlorobenzene	0.1 ug/mL
							Isodrin	0.1 ug/mL
							Mirex	0.1 ug/mL
							oxy-Chlordane	0.1 ug/mL
.GCAPPX1WORKST_00019	03/17/20	09/17/19	Hexane, Lot 3295450	10 mL	GCAPPIX1STD_00006	1 mL	Chlorobenside	2 ug/mL
							DCPA	1 ug/mL
							Hexachlorobenzene	1 ug/mL
							Isodrin	1 ug/mL
							Mirex	1 ug/mL
							oxy-Chlordane	1 ug/mL
..GCAPPIX1STD_00006	03/26/20	ACCUSTANDARD, Lot 216031541-02			(Purchased Reagent)		Chlorobenside	20 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							DCPA	10 ug/mL
							Hexachlorobenzene	10 ug/mL
							Isodrin	10 ug/mL
							Mirex	10 ug/mL
							oxy-Chlordane	10 ug/mL
GCAPPIX1L6_00022	03/17/20	09/17/19	Hexane, Lot 3295450	12.5 mL	GCAPPX1WORKST_00019	2.5 mL	Chlorobenside	0.4 ug/mL
							DCPA	0.2 ug/mL
							Hexachlorobenzene	0.2 ug/mL
							Isodrin	0.2 ug/mL
							Mirex	0.2 ug/mL
							oxy-Chlordane	0.2 ug/mL
.GCAPPX1WORKST_00019	03/17/20	09/17/19	Hexane, Lot 3295450	10 mL	GCAPPIX1STD_00006	1 mL	Chlorobenside	2 ug/mL
							DCPA	1 ug/mL
							Hexachlorobenzene	1 ug/mL
							Isodrin	1 ug/mL
							Mirex	1 ug/mL
							oxy-Chlordane	1 ug/mL
..GCAPPIX1STD_00006	03/26/20	ACCUSTANDARD, Lot 216031541-02			(Purchased Reagent)		Chlorobenside	20 ug/mL
							DCPA	10 ug/mL
							Hexachlorobenzene	10 ug/mL
							Isodrin	10 ug/mL
							Mirex	10 ug/mL
							oxy-Chlordane	10 ug/mL
GCAPPX1ICV_00023	03/26/20	09/17/19	Hexane, Lot 3295450	40 mL	GCAPPIX12NDST_00007	0.06 mL	Mirex	0.03 ug/mL
.GCAPPIX12NDST_00007	03/26/20	ACCUSTANDARD, Lot 216031526-02			(Purchased Reagent)		Mirex	20 ug/mL
GCAR1248CALL4_00022	02/28/20	08/27/19	Hexane, Lot 2938930	100 mL	GCPCBI1248STD_00006	0.05 mL	PCB-1248 Peak 1	0.5 ug/mL
							PCB-1248 Peak 2	0.5 ug/mL
							PCB-1248 Peak 3	0.5 ug/mL
							PCB-1248 Peak 4	0.5 ug/mL
							PCB-1248 Peak 5	0.5 ug/mL
.GCPCBI1248STD_00006	07/31/20	RESTEK, Lot A01303107			(Purchased Reagent)		PCB-1248 Peak 1	1000 ug/mL
							PCB-1248 Peak 2	1000 ug/mL
							PCB-1248 Peak 3	1000 ug/mL
							PCB-1248 Peak 4	1000 ug/mL
							PCB-1248 Peak 5	1000 ug/mL
GCAR1248CALL4_00022	02/28/20	08/27/19	Hexane, Lot 2938930	100 mL	GCPCBI1248STD_00006	0.05 mL	PCB-1248	0.5 ug/mL
.GCPCBI1248STD_00006	07/31/20	RESTEK, Lot A01303107			(Purchased Reagent)		PCB-1248	1000 ug/mL
GCAR1248ICV_00020	02/28/20	08/27/19	HEXANE, Lot 2938930	100 mL	GCPCBI1248STD_00009	0.05 mL	PCB-1248	0.5 ug/mL
.GCPCBI1248STD_00009	04/30/22	RESTEK, Lot A0116431			(Purchased Reagent)		PCB-1248	1000 ug/mL
GCAR1660CALL1_00025	02/26/20	08/27/19	HEXANE, Lot 2938930	100 mL	GC1660WORKS_00021	0.01 mL	PCB-1016 Peak 1	0.01 ug/mL
							PCB-1016 Peak 2	0.01 ug/mL
							PCB-1016 Peak 3	0.01 ug/mL
							PCB-1016 Peak 4	0.01 ug/mL
							PCB-1016 Peak 5	0.01 ug/mL
							PCB-1260 Peak 1	0.01 ug/mL
							PCB-1260 Peak 2	0.01 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1260 Peak 3	0.01 ug/mL
							PCB-1260 Peak 4	0.01 ug/mL
							PCB-1260 Peak 5	0.01 ug/mL
							DCB Decachlorobiphenyl (Surr)	0.0005 ug/mL
							Tetrachloro-m-xylene	0.0005 ug/mL
.GC1660WORKS_00021	02/26/20	02/26/19	Hexane, Lot 2938930	40 mL	GCPCBI1660STD_00014	4 mL	PCB-1016 Peak 1	100 ug/mL
							PCB-1016 Peak 2	100 ug/mL
							PCB-1016 Peak 3	100 ug/mL
							PCB-1016 Peak 4	100 ug/mL
							PCB-1016 Peak 5	100 ug/mL
							PCB-1260 Peak 1	100 ug/mL
							PCB-1260 Peak 2	100 ug/mL
							PCB-1260 Peak 3	100 ug/mL
							PCB-1260 Peak 4	100 ug/mL
							PCB-1260 Peak 5	100 ug/mL
					GCPEST(SURR)S_00009	1 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPCBI1660STD_00014	08/30/22	RESTEK, Lot A0119290			(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL
							PCB-1016 Peak 5	1000 ug/mL
							PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL
..GCPEST(SURR)S_00009	11/30/23	RESTEK, Lot A0130424			(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
GCAR1660CALL2_00019	02/26/20	08/27/19	HEXANE, Lot 2938930	100 mL	GC1660WORKS_00021	0.1 mL	PCB-1016 Peak 1	0.1 ug/mL
							PCB-1016 Peak 2	0.1 ug/mL
							PCB-1016 Peak 3	0.1 ug/mL
							PCB-1016 Peak 4	0.1 ug/mL
							PCB-1016 Peak 5	0.1 ug/mL
							PCB-1260 Peak 1	0.1 ug/mL
							PCB-1260 Peak 2	0.1 ug/mL
							PCB-1260 Peak 3	0.1 ug/mL
							PCB-1260 Peak 4	0.1 ug/mL
							PCB-1260 Peak 5	0.1 ug/mL
							DCB Decachlorobiphenyl (Surr)	0.005 ug/mL
							Tetrachloro-m-xylene	0.005 ug/mL
.GC1660WORKS_00021	02/26/20	02/26/19	Hexane, Lot 2938930	40 mL	GCPCBI1660STD_00014	4 mL	PCB-1016 Peak 1	100 ug/mL
							PCB-1016 Peak 2	100 ug/mL
							PCB-1016 Peak 3	100 ug/mL
							PCB-1016 Peak 4	100 ug/mL
							PCB-1016 Peak 5	100 ug/mL
							PCB-1260 Peak 1	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1260 Peak 2	100 ug/mL
							PCB-1260 Peak 3	100 ug/mL
							PCB-1260 Peak 4	100 ug/mL
							PCB-1260 Peak 5	100 ug/mL
					GCPEST(SURR)S_00009	1 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPCBI1660STD_00014	08/30/22	RESTEK, Lot A0119290			(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL
							PCB-1016 Peak 5	1000 ug/mL
							PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL
..GCPEST(SURR)S_00009	11/30/23	RESTEK, Lot A0130424			(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
GCAR1660CALL3_00018	02/26/20	08/27/19	HEXANE, Lot 2938930	100 mL	GC1660WORKS_00021	0.25 mL	PCB-1016 Peak 1	0.25 ug/mL
							PCB-1016 Peak 2	0.25 ug/mL
							PCB-1016 Peak 3	0.25 ug/mL
							PCB-1016 Peak 4	0.25 ug/mL
							PCB-1016 Peak 5	0.25 ug/mL
							PCB-1260 Peak 1	0.25 ug/mL
							PCB-1260 Peak 2	0.25 ug/mL
							PCB-1260 Peak 3	0.25 ug/mL
							PCB-1260 Peak 4	0.25 ug/mL
							PCB-1260 Peak 5	0.25 ug/mL
							DCB Decachlorobiphenyl (Surr)	0.0125 ug/mL
							Tetrachloro-m-xylene	0.0125 ug/mL
.GC1660WORKS_00021	02/26/20	02/26/19	Hexane, Lot 2938930	40 mL	GCPCBI1660STD_00014	4 mL	PCB-1016 Peak 1	100 ug/mL
							PCB-1016 Peak 2	100 ug/mL
							PCB-1016 Peak 3	100 ug/mL
							PCB-1016 Peak 4	100 ug/mL
							PCB-1016 Peak 5	100 ug/mL
							PCB-1260 Peak 1	100 ug/mL
							PCB-1260 Peak 2	100 ug/mL
							PCB-1260 Peak 3	100 ug/mL
							PCB-1260 Peak 4	100 ug/mL
							PCB-1260 Peak 5	100 ug/mL
					GCPEST(SURR)S_00009	1 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPCBI1660STD_00014	08/30/22	RESTEK, Lot A0119290			(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL
							PCB-1016 Peak 5	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL
..GCPEST(SURR)S_00009	11/30/23		RESTEK, Lot A0130424		(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
GCAR1660CALL4_00019	02/26/20	08/27/19	HEXANE, Lot 2938930	200 mL	GC1660WORKS_00021	1 mL	PCB-1016 Peak 1	0.5 ug/mL
							PCB-1016 Peak 2	0.5 ug/mL
							PCB-1016 Peak 3	0.5 ug/mL
							PCB-1016 Peak 4	0.5 ug/mL
							PCB-1016 Peak 5	0.5 ug/mL
							PCB-1260 Peak 1	0.5 ug/mL
							PCB-1260 Peak 2	0.5 ug/mL
							PCB-1260 Peak 3	0.5 ug/mL
							PCB-1260 Peak 4	0.5 ug/mL
							PCB-1260 Peak 5	0.5 ug/mL
							DCB Decachlorobiphenyl (Surr)	0.025 ug/mL
							Tetrachloro-m-xylene	0.025 ug/mL
.GC1660WORKS_00021	02/26/20	02/26/19	Hexane, Lot 2938930	40 mL	GCPCBI1660STD_00014	4 mL	PCB-1016 Peak 1	100 ug/mL
							PCB-1016 Peak 2	100 ug/mL
							PCB-1016 Peak 3	100 ug/mL
							PCB-1016 Peak 4	100 ug/mL
							PCB-1016 Peak 5	100 ug/mL
							PCB-1260 Peak 1	100 ug/mL
							PCB-1260 Peak 2	100 ug/mL
							PCB-1260 Peak 3	100 ug/mL
							PCB-1260 Peak 4	100 ug/mL
							PCB-1260 Peak 5	100 ug/mL
					GCPEST(SURR)S_00009	1 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPCBI1660STD_00014	08/30/22		RESTEK, Lot A0119290		(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL
							PCB-1016 Peak 5	1000 ug/mL
							PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL
..GCPEST(SURR)S_00009	11/30/23		RESTEK, Lot A0130424		(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
GCAR1660CALL4_00019	02/26/20	08/27/19	HEXANE, Lot 2938930	200 mL	GC1660WORKS_00021	1 mL	PCB-1016	0.5 ug/mL
							PCB-1260	0.5 ug/mL
.GC1660WORKS_00021	02/26/20	02/26/19	Hexane, Lot 2938930	40 mL	GCPCBI1660STD_00014	4 mL	PCB-1016	100 ug/mL
							PCB-1260	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..GCPCBI1660STD_00014	08/30/22		RESTEK, Lot A0119290		(Purchased Reagent)		PCB-1016	1000 ug/mL
							PCB-1260	1000 ug/mL
GCAR1660CALL5_00019	02/26/20	08/27/19	HEXANE, Lot 2938930	200 mL	GC1660WORKS_00021	2 mL	PCB-1016 Peak 1	1 ug/mL
							PCB-1016 Peak 2	1 ug/mL
							PCB-1016 Peak 3	1 ug/mL
							PCB-1016 Peak 4	1 ug/mL
							PCB-1016 Peak 5	1 ug/mL
							PCB-1260 Peak 1	1 ug/mL
							PCB-1260 Peak 2	1 ug/mL
							PCB-1260 Peak 3	1 ug/mL
							PCB-1260 Peak 4	1 ug/mL
							PCB-1260 Peak 5	1 ug/mL
							DCB Decachlorobiphenyl (Surr)	0.05 ug/mL
							Tetrachloro-m-xylene	0.05 ug/mL
.GC1660WORKS_00021	02/26/20	02/26/19	Hexane, Lot 2938930	40 mL	GCPCBI1660STD_00014	4 mL	PCB-1016 Peak 1	100 ug/mL
							PCB-1016 Peak 2	100 ug/mL
							PCB-1016 Peak 3	100 ug/mL
							PCB-1016 Peak 4	100 ug/mL
							PCB-1016 Peak 5	100 ug/mL
							PCB-1260 Peak 1	100 ug/mL
							PCB-1260 Peak 2	100 ug/mL
							PCB-1260 Peak 3	100 ug/mL
							PCB-1260 Peak 4	100 ug/mL
							PCB-1260 Peak 5	100 ug/mL
					GCPEST(SURR)S_00009	1 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPCBI1660STD_00014	08/30/22		RESTEK, Lot A0119290		(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL
							PCB-1016 Peak 5	1000 ug/mL
							PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL
..GCPEST(SURR)S_00009	11/30/23		RESTEK, Lot A0130424		(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
GCAR1660CALL6_00017	02/26/20	08/27/19	HEXANE, Lot 2938930	100 mL	GC1660WORKS_00021	2 mL	PCB-1016 Peak 1	2 ug/mL
							PCB-1016 Peak 2	2 ug/mL
							PCB-1016 Peak 3	2 ug/mL
							PCB-1016 Peak 4	2 ug/mL
							PCB-1016 Peak 5	2 ug/mL
							PCB-1260 Peak 1	2 ug/mL
							PCB-1260 Peak 2	2 ug/mL
							PCB-1260 Peak 3	2 ug/mL
							PCB-1260 Peak 4	2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1260 Peak 5	2 ug/mL
							DCB Decachlorobiphenyl (Surr)	0.1 ug/mL
							Tetrachloro-m-xylene	0.1 ug/mL
.GC1660WORKS_00021	02/26/20	02/26/19	Hexane, Lot 2938930	40 mL	GCPCBI1660STD_00014	4 mL	PCB-1016 Peak 1	100 ug/mL
							PCB-1016 Peak 2	100 ug/mL
							PCB-1016 Peak 3	100 ug/mL
							PCB-1016 Peak 4	100 ug/mL
							PCB-1016 Peak 5	100 ug/mL
							PCB-1260 Peak 1	100 ug/mL
							PCB-1260 Peak 2	100 ug/mL
							PCB-1260 Peak 3	100 ug/mL
							PCB-1260 Peak 4	100 ug/mL
							PCB-1260 Peak 5	100 ug/mL
					GCPEST(SURR)S_00009	1 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPCBI1660STD_00014	08/30/22	RESTEK, Lot A0119290			(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL
							PCB-1016 Peak 5	1000 ug/mL
							PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL
..GCPEST(SURR)S_00009	11/30/23	RESTEK, Lot A0130424			(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
GCAR1660CALL7_00018	02/26/20	08/27/19	HEXANE, Lot 2938930	100 mL	GC1660WORKS_00021	4 mL	PCB-1016 Peak 1	4 ug/mL
							PCB-1016 Peak 2	4 ug/mL
							PCB-1016 Peak 3	4 ug/mL
							PCB-1016 Peak 4	4 ug/mL
							PCB-1016 Peak 5	4 ug/mL
							PCB-1260 Peak 1	4 ug/mL
							PCB-1260 Peak 2	4 ug/mL
							PCB-1260 Peak 3	4 ug/mL
							PCB-1260 Peak 4	4 ug/mL
							PCB-1260 Peak 5	4 ug/mL
							DCB Decachlorobiphenyl (Surr)	0.2 ug/mL
							Tetrachloro-m-xylene	0.2 ug/mL
.GC1660WORKS_00021	02/26/20	02/26/19	Hexane, Lot 2938930	40 mL	GCPCBI1660STD_00014	4 mL	PCB-1016 Peak 1	100 ug/mL
							PCB-1016 Peak 2	100 ug/mL
							PCB-1016 Peak 3	100 ug/mL
							PCB-1016 Peak 4	100 ug/mL
							PCB-1016 Peak 5	100 ug/mL
							PCB-1260 Peak 1	100 ug/mL
							PCB-1260 Peak 2	100 ug/mL
							PCB-1260 Peak 3	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1260 Peak 4	100 ug/mL
							PCB-1260 Peak 5	100 ug/mL
					GCPEST(SURR)S_00009	1 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPCBI1660STD_00014	08/30/22		RESTEK, Lot A0119290		(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL
							PCB-1016 Peak 5	1000 ug/mL
							PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL
..GCPEST(SURR)S_00009	11/30/23		RESTEK, Lot A0130424		(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
GCAR1660ICV_00015	02/28/20	08/27/19	Hexane, Lot 2938930	100 mL	GCPCBI1660STD_00016	0.05 mL	PCB-1016	0.5 ug/mL
							PCB-1260	0.5 ug/mL
.GCPCBI1660STD_00016	01/30/22		RESTEK, Lot A0114674		(Purchased Reagent)		PCB-1016	1000 ug/mL
							PCB-1260	1000 ug/mL
GCAR2154CALL4_00021	02/28/20	08/27/19	Hexane, Lot 2938930	100 mL	GCPCB2154 mix_00005	0.05 mL	PCB-1221 Peak 1	0.5 ug/mL
							PCB-1221 Peak 2	0.5 ug/mL
							PCB-1221 Peak 3	0.5 ug/mL
							PCB-1254 Peak 1	0.5 ug/mL
							PCB-1254 Peak 2	0.5 ug/mL
							PCB-1254 Peak 3	0.5 ug/mL
							PCB-1254 Peak 4	0.5 ug/mL
							PCB-1254 Peak 5	0.5 ug/mL
.GCPCB2154 mix_00005	04/30/22		RESTEK, Lot a0116420		(Purchased Reagent)		PCB-1221 Peak 1	1000 ug/mL
							PCB-1221 Peak 2	1000 ug/mL
							PCB-1221 Peak 3	1000 ug/mL
							PCB-1254 Peak 1	1000 ug/mL
							PCB-1254 Peak 2	1000 ug/mL
							PCB-1254 Peak 3	1000 ug/mL
							PCB-1254 Peak 4	1000 ug/mL
							PCB-1254 Peak 5	1000 ug/mL
GCAR2154CALL4_00021	02/28/20	08/27/19	Hexane, Lot 2938930	100 mL	GCPCB2154 mix_00005	0.05 mL	PCB-1221	0.5 ug/mL
							PCB-1254	0.5 ug/mL
.GCPCB2154 mix_00005	04/30/22		RESTEK, Lot a0116420		(Purchased Reagent)		PCB-1221	1000 ug/mL
							PCB-1254	1000 ug/mL
GCAR2154ICV_00021	02/28/20	08/27/19	HEXANE, Lot 2938930	100 mL	GCPCB2154 mix_00004	0.05 mL	PCB-1221	0.5 ug/mL
							PCB-1254	0.5 ug/mL
.GCPCB2154 mix_00004	02/28/22		RESTEK, Lot a0115555		(Purchased Reagent)		PCB-1221	1000 ug/mL
							PCB-1254	1000 ug/mL
GCAR3262CALL4_00014	02/28/20	08/27/19	Hexane, Lot 2938930	100 mL	GCPCB3262 mix_00003	0.05 mL	PCB-1232 Peak 1	0.5 ug/mL
							PCB-1232 Peak 2	0.5 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1232 Peak 3	0.5 ug/mL
							PCB-1232 Peak 4	0.5 ug/mL
							PCB-1232 Peak 5	0.5 ug/mL
							PCB-1262 Peak 1	0.5 ug/mL
							PCB-1262 Peak 2	0.5 ug/mL
							PCB-1262 Peak 3	0.5 ug/mL
							PCB-1262 Peak 4	0.5 ug/mL
							PCB-1262 Peak 5	0.5 ug/mL
.GCPCB3262 mix_00003	10/30/21		RESTEK, Lot A0112323		(Purchased Reagent)		PCB-1232 Peak 1	1000 ug/mL
							PCB-1232 Peak 2	1000 ug/mL
							PCB-1232 Peak 3	1000 ug/mL
							PCB-1232 Peak 4	1000 ug/mL
							PCB-1232 Peak 5	1000 ug/mL
							PCB-1262 Peak 1	1000 ug/mL
							PCB-1262 Peak 2	1000 ug/mL
							PCB-1262 Peak 3	1000 ug/mL
							PCB-1262 Peak 4	1000 ug/mL
							PCB-1262 Peak 5	1000 ug/mL
GCAR3262CALL4_00014	02/28/20	08/27/19	Hexane, Lot 2938930	100 mL	GCPCB3262 mix_00003	0.05 mL	PCB-1232	0.5 ug/mL
.GCPCB3262 mix_00003	10/30/21		RESTEK, Lot A0112323		(Purchased Reagent)		PCB-1232	1000 ug/mL
GCAR3262ICV_00012	02/28/20	08/27/19	HEAXANE, Lot 2938930	100 mL	GCPCB3262 mix_00004	0.05 mL	PCB-1232	0.5 ug/mL
.GCPCB3262 mix_00004	08/30/21		RESTEK, Lot A0110988		(Purchased Reagent)		PCB-1232	1000 ug/mL
GCAR4268CALL4_00014	02/28/20	08/27/19	Hexane, Lot 2938930	100 mL	GCPCB4268 mix_00004	0.05 mL	PCB-1242 Peak 1	0.5 ug/mL
							PCB-1242 Peak 2	0.5 ug/mL
							PCB-1242 Peak 3	0.5 ug/mL
							PCB-1242 Peak 4	0.5 ug/mL
							PCB-1242 Peak 5	0.5 ug/mL
							PCB-1268 Peak 1	0.5 ug/mL
							PCB-1268 Peak 2	0.5 ug/mL
							PCB-1268 Peak 3	0.5 ug/mL
							PCB-1268 Peak 4	0.5 ug/mL
.GCPCB4268 mix_00004	05/30/21		RESTEK, Lot A0109391		(Purchased Reagent)		PCB-1242 Peak 1	1000 ug/mL
							PCB-1242 Peak 2	1000 ug/mL
							PCB-1242 Peak 3	1000 ug/mL
							PCB-1242 Peak 4	1000 ug/mL
							PCB-1242 Peak 5	1000 ug/mL
							PCB-1268 Peak 1	1000 ug/mL
							PCB-1268 Peak 2	1000 ug/mL
							PCB-1268 Peak 3	1000 ug/mL
							PCB-1268 Peak 4	1000 ug/mL
GCAR4268CALL4_00014	02/28/20	08/27/19	Hexane, Lot 2938930	100 mL	GCPCB4268 mix_00004	0.05 mL	PCB-1242	0.5 ug/mL
.GCPCB4268 mix_00004	05/30/21		RESTEK, Lot A0109391		(Purchased Reagent)		PCB-1242	1000 ug/mL
GCAR4268ICV_00012	02/28/20	08/27/19	HEXANE, Lot 2938930	100 mL	GCPCB4268 mix_00003	0.05 mL	PCB-1242	0.5 ug/mL
.GCPCB4268 mix_00003	04/30/22		RESTEK, Lot A0116616		(Purchased Reagent)		PCB-1242	1000 ug/mL
GCCHLORICV_00011	09/04/19	03/04/19	Hexane, Lot 3019174	40 mL	TECHCHLORDANE_00002	0.002 mL	Chlordane (technical)	0.25 ug/mL
.TECHCHLORDANE_00002	02/29/20		RESTEK, Lot A0117232		(Purchased Reagent)		Chlordane (technical)	5000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
GCCHLORLEVEL1_00011	09/04/19	03/04/19	Hexane, Lot 3019174	40 mL	GCCHLORINTSTD_00006	0.004 mL	Chlordane (technical) Peak 1	0.005 ug/mL
							Chlordane (technical) Peak 2	0.005 ug/mL
							Chlordane (technical) Peak 3	0.005 ug/mL
							Chlordane (technical) Peak 4	0.005 ug/mL
.GCCHLORINTSTD_00006	02/29/20	03/04/19	Hexane, Lot 3019174	40 mL	TECHCHLORDANE_00001	400 uL	Chlordane (technical) Peak 1	50 ug/mL
							Chlordane (technical) Peak 2	50 ug/mL
							Chlordane (technical) Peak 3	50 ug/mL
							Chlordane (technical) Peak 4	50 ug/mL
..TECHCHLORDANE_00001	02/29/20		RESTEK, Lot A0117443		(Purchased Reagent)		Chlordane (technical) Peak 1	5000 ug/mL
							Chlordane (technical) Peak 2	5000 ug/mL
							Chlordane (technical) Peak 3	5000 ug/mL
							Chlordane (technical) Peak 4	5000 ug/mL
GCCHLORLEVEL2_00009	09/04/19	03/04/19	Hexane, Lot 3019174	40 mL	GCCHLORINTSTD_00006	0.02 mL	Chlordane (technical) Peak 1	0.025 ug/mL
							Chlordane (technical) Peak 2	0.025 ug/mL
							Chlordane (technical) Peak 3	0.025 ug/mL
							Chlordane (technical) Peak 4	0.025 ug/mL
.GCCHLORINTSTD_00006	02/29/20	03/04/19	Hexane, Lot 3019174	40 mL	TECHCHLORDANE_00001	400 uL	Chlordane (technical) Peak 1	50 ug/mL
							Chlordane (technical) Peak 2	50 ug/mL
							Chlordane (technical) Peak 3	50 ug/mL
							Chlordane (technical) Peak 4	50 ug/mL
..TECHCHLORDANE_00001	02/29/20		RESTEK, Lot A0117443		(Purchased Reagent)		Chlordane (technical) Peak 1	5000 ug/mL
							Chlordane (technical) Peak 2	5000 ug/mL
							Chlordane (technical) Peak 3	5000 ug/mL
							Chlordane (technical) Peak 4	5000 ug/mL
GCCHLORLEVEL3_00015	09/04/19	03/04/19	Hexane, Lot 3019174	40 mL	GCCHLORINTSTD_00006	0.2 mL	Chlordane (technical) Peak 1	0.25 ug/mL
							Chlordane (technical) Peak 2	0.25 ug/mL
							Chlordane (technical) Peak 3	0.25 ug/mL
							Chlordane (technical) Peak 4	0.25 ug/mL
.GCCHLORINTSTD_00006	02/29/20	03/04/19	Hexane, Lot 3019174	40 mL	TECHCHLORDANE_00001	400 uL	Chlordane (technical) Peak 1	50 ug/mL
							Chlordane (technical) Peak 2	50 ug/mL
							Chlordane (technical) Peak 3	50 ug/mL
							Chlordane (technical) Peak 4	50 ug/mL
..TECHCHLORDANE_00001	02/29/20		RESTEK, Lot A0117443		(Purchased Reagent)		Chlordane (technical) Peak 1	5000 ug/mL
							Chlordane (technical) Peak 2	5000 ug/mL
							Chlordane (technical) Peak 3	5000 ug/mL
							Chlordane (technical) Peak 4	5000 ug/mL
GCCHLORLEVEL3_00017	02/29/20	09/19/19	Hexane, Lot 3295450	40 mL	GCCHLORINTSTD_00006	0.2 mL	Chlordane (technical)	0.25 ug/mL
.GCCHLORINTSTD_00006	02/29/20	03/04/19	Hexane, Lot 3019174	40 mL	TECHCHLORDANE_00001	400 uL	Chlordane (technical)	50 ug/mL
..TECHCHLORDANE_00001	02/29/20		RESTEK, Lot A0117443		(Purchased Reagent)		Chlordane (technical)	5000 ug/mL
GCCHLORLEVEL4_00009	09/04/19	03/04/19	Hexane, Lot 3019174	40 mL	GCCHLORINTSTD_00006	1 mL	Chlordane (technical) Peak 1	1.25 ug/mL
							Chlordane (technical) Peak 2	1.25 ug/mL
							Chlordane (technical) Peak 3	1.25 ug/mL
							Chlordane (technical) Peak 4	1.25 ug/mL
.GCCHLORINTSTD_00006	02/29/20	03/04/19	Hexane, Lot 3019174	40 mL	TECHCHLORDANE_00001	400 uL	Chlordane (technical) Peak 1	50 ug/mL
							Chlordane (technical) Peak 2	50 ug/mL
							Chlordane (technical) Peak 3	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Chlordane (technical) Peak 4	50 ug/mL
..TECHCHLORDANE_00001	02/29/20		RESTEK, Lot A0117443		(Purchased Reagent)		Chlordane (technical) Peak 1	5000 ug/mL
							Chlordane (technical) Peak 2	5000 ug/mL
							Chlordane (technical) Peak 3	5000 ug/mL
							Chlordane (technical) Peak 4	5000 ug/mL
GCCHLORLEVEL5_00011	09/04/19	03/04/19	Hexane, Lot 3019174	40 mL	GCCHLORINTSTD_00006	2 mL	Chlordane (technical) Peak 1	2.5 ug/mL
							Chlordane (technical) Peak 2	2.5 ug/mL
							Chlordane (technical) Peak 3	2.5 ug/mL
							Chlordane (technical) Peak 4	2.5 ug/mL
.GCCHLORINTSTD_00006	02/29/20	03/04/19	Hexane, Lot 3019174	40 mL	TECHCHLORDANE_00001	400 uL	Chlordane (technical) Peak 1	50 ug/mL
							Chlordane (technical) Peak 2	50 ug/mL
							Chlordane (technical) Peak 3	50 ug/mL
							Chlordane (technical) Peak 4	50 ug/mL
..TECHCHLORDANE_00001	02/29/20		RESTEK, Lot A0117443		(Purchased Reagent)		Chlordane (technical) Peak 1	5000 ug/mL
							Chlordane (technical) Peak 2	5000 ug/mL
							Chlordane (technical) Peak 3	5000 ug/mL
							Chlordane (technical) Peak 4	5000 ug/mL
GCHERBCALSL1_00027	06/30/20	04/03/19	Hexane, Lot 1932891	40 mL	GCHERBICALSTK_00021	0.125 mL	2,4-Dichlorophenylacetic acid	0.02 ug/mL
							2,4,5-T	0.005 ug/mL
							2,4-D	0.02 ug/mL
							2,4-DB	0.02 ug/mL
							Dalapon	0.02 ug/mL
							Dicamba	0.01 ug/mL
							Dichlorprop	0.02 ug/mL
							Dinoseb	0.02 ug/mL
							MCPA	2 ug/mL
							MCPP	2 ug/mL
							Pentachlorophenol	0.005 ug/mL
							Silvex (2,4,5-TP)	0.005 ug/mL
.GCHERBICALSTK_00021	06/30/20	04/03/19	Hexane, Lot 1932891	10 mL	GCDCAASSTD_00008	0.064 mL	2,4-Dichlorophenylacetic acid	6.4 ug/mL
					GCHERBICALMIX_00018	0.32 mL	2,4,5-T	1.6 ug/mL
							2,4-D	6.4 ug/mL
							2,4-DB	6.4 ug/mL
							Dalapon	6.4 ug/mL
							Dicamba	3.2 ug/mL
							Dichlorprop	6.4 ug/mL
							Dinoseb	6.4 ug/mL
							MCPA	640 ug/mL
							MCPP	640 ug/mL
							Pentachlorophenol	1.6 ug/mL
							Silvex (2,4,5-TP)	1.6 ug/mL
..GCDCAASSTD_00008	06/30/20		RESTEK, Lot A0140943		(Purchased Reagent)		2,4-Dichlorophenylacetic acid	1000 ug/mL
..GCHERBICALMIX_00018	07/31/20		restek, Lot A0142217		(Purchased Reagent)		2,4,5-T	50 ug/mL
							2,4-D	200 ug/mL
							2,4-DB	200 ug/mL
							Dalapon	200 ug/mL
							Dicamba	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Dichlorprop	200 ug/mL
							Dinoseb	200 ug/mL
							MCPA	20000 ug/mL
							MCPP	20000 ug/mL
							Pentachlorophenol	50 ug/mL
							Silvex (2,4,5-TP)	50 ug/mL
GCHERBCALSL2_00024	06/30/20	04/03/19	Hexane, Lot 1932891	40 mL	GCHERBICALSTK_00021	0.25 mL	2,4-Dichlorophenylacetic acid	0.04 ug/mL
							2,4,5-T	0.01 ug/mL
							2,4-D	0.04 ug/mL
							2,4-DB	0.04 ug/mL
							Dalapon	0.04 ug/mL
							Dicamba	0.02 ug/mL
							Dichlorprop	0.04 ug/mL
							Dinoseb	0.04 ug/mL
							MCPA	4 ug/mL
							MCPP	4 ug/mL
							Pentachlorophenol	0.01 ug/mL
							Silvex (2,4,5-TP)	0.01 ug/mL
.GCHERBICALSTK_00021	06/30/20	04/03/19	Hexane, Lot 1932891	10 mL	GCDCAASSTD_00008	0.064 mL	2,4-Dichlorophenylacetic acid	6.4 ug/mL
					GCHERBICALMIX_00018	0.32 mL	2,4,5-T	1.6 ug/mL
							2,4-D	6.4 ug/mL
							2,4-DB	6.4 ug/mL
							Dalapon	6.4 ug/mL
							Dicamba	3.2 ug/mL
							Dichlorprop	6.4 ug/mL
							Dinoseb	6.4 ug/mL
							MCPA	640 ug/mL
							MCPP	640 ug/mL
							Pentachlorophenol	1.6 ug/mL
							Silvex (2,4,5-TP)	1.6 ug/mL
..GCDCAASSTD_00008	06/30/20	RESTEK, Lot A0140943			(Purchased Reagent)		2,4-Dichlorophenylacetic acid	1000 ug/mL
..GCHERBICALMIX_00018	07/31/20	restek, Lot A0142217			(Purchased Reagent)		2,4,5-T	50 ug/mL
							2,4-D	200 ug/mL
							2,4-DB	200 ug/mL
							Dalapon	200 ug/mL
							Dicamba	100 ug/mL
							Dichlorprop	200 ug/mL
							Dinoseb	200 ug/mL
							MCPA	20000 ug/mL
							MCPP	20000 ug/mL
							Pentachlorophenol	50 ug/mL
							Silvex (2,4,5-TP)	50 ug/mL
GCHERBCALSL3_00028	06/30/20	04/03/19	Hexane, Lot 1932891	100 mL	GCHERBICALSTK_00021	1.25 mL	2,4-Dichlorophenylacetic acid	0.08 ug/mL
							2,4,5-T	0.02 ug/mL
							2,4-D	0.08 ug/mL
							2,4-DB	0.08 ug/mL
							Dalapon	0.08 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Dicamba	0.04 ug/mL
							Dichlorprop	0.08 ug/mL
							Dinoseb	0.08 ug/mL
							MCPA	8 ug/mL
							MCPP	8 ug/mL
							Pentachlorophenol	0.02 ug/mL
							Silvex (2,4,5-TP)	0.02 ug/mL
.GCHERBICALSTK_00021	06/30/20	04/03/19	Hexane, Lot 1932891	10 mL	GCDCAASSTD_00008	0.064 mL	2,4-Dichlorophenylacetic acid	6.4 ug/mL
					GCHERBICALMIX_00018	0.32 mL	2,4,5-T	1.6 ug/mL
							2,4-D	6.4 ug/mL
							2,4-DB	6.4 ug/mL
							Dalapon	6.4 ug/mL
							Dicamba	3.2 ug/mL
							Dichlorprop	6.4 ug/mL
							Dinoseb	6.4 ug/mL
							MCPA	640 ug/mL
							MCPP	640 ug/mL
							Pentachlorophenol	1.6 ug/mL
							Silvex (2,4,5-TP)	1.6 ug/mL
..GCDCAASSTD_00008	06/30/20		RESTEK, Lot A0140943		(Purchased Reagent)		2,4-Dichlorophenylacetic acid	1000 ug/mL
..GCHERBICALMIX_00018	07/31/20		restek, Lot A0142217		(Purchased Reagent)		2,4,5-T	50 ug/mL
							2,4-D	200 ug/mL
							2,4-DB	200 ug/mL
							Dalapon	200 ug/mL
							Dicamba	100 ug/mL
							Dichlorprop	200 ug/mL
							Dinoseb	200 ug/mL
							MCPA	20000 ug/mL
							MCPP	20000 ug/mL
							Pentachlorophenol	50 ug/mL
							Silvex (2,4,5-TP)	50 ug/mL
GCHERBCALSL4_00027	06/30/20	04/03/19	Hexane, Lot 1932891	40 mL	GCHERBICALSTK_00021	1 mL	2,4-Dichlorophenylacetic acid	0.16 ug/mL
							2,4,5-T	0.04 ug/mL
							2,4-D	0.16 ug/mL
							2,4-DB	0.16 ug/mL
							Dalapon	0.16 ug/mL
							Dicamba	0.08 ug/mL
							Dichlorprop	0.16 ug/mL
							Dinoseb	0.16 ug/mL
							MCPA	16 ug/mL
							MCPP	16 ug/mL
							Pentachlorophenol	0.04 ug/mL
							Silvex (2,4,5-TP)	0.04 ug/mL
.GCHERBICALSTK_00021	06/30/20	04/03/19	Hexane, Lot 1932891	10 mL	GCDCAASSTD_00008	0.064 mL	2,4-Dichlorophenylacetic acid	6.4 ug/mL
					GCHERBICALMIX_00018	0.32 mL	2,4,5-T	1.6 ug/mL
							2,4-D	6.4 ug/mL
							2,4-DB	6.4 ug/mL

REAGENT TRACEABILITY SUMMARY

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SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Dalapon	6.4 ug/mL
							Dicamba	3.2 ug/mL
							Dichlorprop	6.4 ug/mL
							Dinoseb	6.4 ug/mL
							MCPA	640 ug/mL
							MCPP	640 ug/mL
							Pentachlorophenol	1.6 ug/mL
							Silvex (2,4,5-TP)	1.6 ug/mL
..GCDCAASSTD_00008	06/30/20		RESTEK, Lot A0140943		(Purchased Reagent)		2,4-Dichlorophenylacetic acid	1000 ug/mL
..GCHERBICALMIX_00018	07/31/20		restek, Lot A0142217		(Purchased Reagent)		2,4,5-T	50 ug/mL
							2,4-D	200 ug/mL
							2,4-DB	200 ug/mL
							Dalapon	200 ug/mL
							Dicamba	100 ug/mL
							Dichlorprop	200 ug/mL
							Dinoseb	200 ug/mL
							MCPA	20000 ug/mL
							MCPP	20000 ug/mL
							Pentachlorophenol	50 ug/mL
							Silvex (2,4,5-TP)	50 ug/mL
GCHERBCALSL5_00024	06/30/20	04/03/19	Hexane, Lot 1932891	40 mL	GCHERBICALSTK_00021	2 mL	2,4-Dichlorophenylacetic acid	0.32 ug/mL
							2,4,5-T	0.08 ug/mL
							2,4-D	0.32 ug/mL
							2,4-DB	0.32 ug/mL
							Dalapon	0.32 ug/mL
							Dicamba	0.16 ug/mL
							Dichlorprop	0.32 ug/mL
							Dinoseb	0.32 ug/mL
							MCPA	32 ug/mL
							MCPP	32 ug/mL
							Pentachlorophenol	0.08 ug/mL
							Silvex (2,4,5-TP)	0.08 ug/mL
.GCHERBICALSTK_00021	06/30/20	04/03/19	Hexane, Lot 1932891	10 mL	GCDCAASSTD_00008	0.064 mL	2,4-Dichlorophenylacetic acid	6.4 ug/mL
					GCHERBICALMIX_00018	0.32 mL	2,4,5-T	1.6 ug/mL
							2,4-D	6.4 ug/mL
							2,4-DB	6.4 ug/mL
							Dalapon	6.4 ug/mL
							Dicamba	3.2 ug/mL
							Dichlorprop	6.4 ug/mL
							Dinoseb	6.4 ug/mL
							MCPA	640 ug/mL
							MCPP	640 ug/mL
							Pentachlorophenol	1.6 ug/mL
							Silvex (2,4,5-TP)	1.6 ug/mL
..GCDCAASSTD_00008	06/30/20		RESTEK, Lot A0140943		(Purchased Reagent)		2,4-Dichlorophenylacetic acid	1000 ug/mL
..GCHERBICALMIX_00018	07/31/20		restek, Lot A0142217		(Purchased Reagent)		2,4,5-T	50 ug/mL
							2,4-D	200 ug/mL

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Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,4-DB	200 ug/mL
							Dalapon	200 ug/mL
							Dicamba	100 ug/mL
							Dichlorprop	200 ug/mL
							Dinoseb	200 ug/mL
							MCPA	20000 ug/mL
							MCPP	20000 ug/mL
							Pentachlorophenol	50 ug/mL
							Silvex (2,4,5-TP)	50 ug/mL
GCHERBCALSL6_00012	06/30/20	04/03/19	Hexane, Lot 1932891	20 mL	GCHERBICALSTK_00021	2 mL	2,4-Dichlorophenylacetic acid	0.64 ug/mL
							2,4,5-T	0.16 ug/mL
							2,4-D	0.64 ug/mL
							2,4-DB	0.64 ug/mL
							Dalapon	0.64 ug/mL
							Dicamba	0.32 ug/mL
							Dichlorprop	0.64 ug/mL
							Dinoseb	0.64 ug/mL
							MCPA	64 ug/mL
							MCPP	64 ug/mL
							Pentachlorophenol	0.16 ug/mL
							Silvex (2,4,5-TP)	0.16 ug/mL
.GCHERBICALSTK_00021	06/30/20	04/03/19	Hexane, Lot 1932891	10 mL	GCDCAASSTD_00008	0.064 mL	2,4-Dichlorophenylacetic acid	6.4 ug/mL
					GCHERBICALMIX_00018	0.32 mL	2,4,5-T	1.6 ug/mL
							2,4-D	6.4 ug/mL
							2,4-DB	6.4 ug/mL
							Dalapon	6.4 ug/mL
							Dicamba	3.2 ug/mL
							Dichlorprop	6.4 ug/mL
							Dinoseb	6.4 ug/mL
							MCPA	640 ug/mL
							MCPP	640 ug/mL
							Pentachlorophenol	1.6 ug/mL
							Silvex (2,4,5-TP)	1.6 ug/mL
..GCDCAASSTD_00008	06/30/20	RESTEK, Lot A0140943			(Purchased Reagent)		2,4-Dichlorophenylacetic acid	1000 ug/mL
..GCHERBICALMIX_00018	07/31/20	restek, Lot A0142217			(Purchased Reagent)		2,4,5-T	50 ug/mL
							2,4-D	200 ug/mL
							2,4-DB	200 ug/mL
							Dalapon	200 ug/mL
							Dicamba	100 ug/mL
							Dichlorprop	200 ug/mL
							Dinoseb	200 ug/mL
							MCPA	20000 ug/mL
							MCPP	20000 ug/mL
							Pentachlorophenol	50 ug/mL
							Silvex (2,4,5-TP)	50 ug/mL
GCHERBCALSL7_00011	06/30/20	04/03/19	Hexane, Lot 1932891	40 mL	GCHERBICALSTK_00021	0.0625 mL	2,4-Dichlorophenylacetic acid	0.01 ug/mL

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Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,4,5-T	0.0025 ug/mL
							2,4-D	0.01 ug/mL
							2,4-DB	0.01 ug/mL
							Dalapon	0.01 ug/mL
							Dicamba	0.005 ug/mL
							Dichlorprop	0.01 ug/mL
							Dinoseb	0.01 ug/mL
							MCPA	1 ug/mL
							MCPP	1 ug/mL
							Pentachlorophenol	0.0025 ug/mL
							Silvex (2,4,5-TP)	0.0025 ug/mL
.GCHERBICALSTK_00021	06/30/20	04/03/19	Hexane, Lot 1932891	10 mL	GCDCAASSTD_00008	0.064 mL	2,4-Dichlorophenylacetic acid	6.4 ug/mL
					GCHERBICALMIX_00018	0.32 mL	2,4,5-T	1.6 ug/mL
							2,4-D	6.4 ug/mL
							2,4-DB	6.4 ug/mL
							Dalapon	6.4 ug/mL
							Dicamba	3.2 ug/mL
							Dichlorprop	6.4 ug/mL
							Dinoseb	6.4 ug/mL
							MCPA	640 ug/mL
							MCPP	640 ug/mL
							Pentachlorophenol	1.6 ug/mL
							Silvex (2,4,5-TP)	1.6 ug/mL
..GCDCAASSTD_00008	06/30/20	RESTEK, Lot A0140943			(Purchased Reagent)		2,4-Dichlorophenylacetic acid	1000 ug/mL
..GCHERBICALMIX_00018	07/31/20	restek, Lot A0142217			(Purchased Reagent)		2,4,5-T	50 ug/mL
							2,4-D	200 ug/mL
							2,4-DB	200 ug/mL
							Dalapon	200 ug/mL
							Dicamba	100 ug/mL
							Dichlorprop	200 ug/mL
							Dinoseb	200 ug/mL
							MCPA	20000 ug/mL
							MCPP	20000 ug/mL
							Pentachlorophenol	50 ug/mL
							Silvex (2,4,5-TP)	50 ug/mL
GCMATRIXWORKS_00034	03/18/20	09/18/19	ACETONE, Lot 2680072	200 mL	AR1016(10000)_00001	0.8 mL	PCB-1016	40 ug/mL
					AR1260(10000)_00001	0.8 mL	PCB-1260	40 ug/mL
.AR1016(10000)_00001	03/31/22	restek, Lot A0125929			(Purchased Reagent)		PCB-1016	10000 ug/mL
.AR1260(10000)_00001	03/31/22	Restek, Lot A0126325			(Purchased Reagent)		PCB-1260	10000 ug/mL
GCPest L1_00026	08/03/19	02/06/19	Hexane, Lot 3019174	40 mL	GCCLPSURRSTK_00010	0.008 mL	DCB Decachlorobiphenyl (Surr)	0.001 ug/mL
							Tetrachloro-m-xylene	0.001 ug/mL
					GCPestCAL_00014	0.004 mL	4,4'-DDD	0.001 ug/mL
							4,4'-DDE	0.001 ug/mL
							4,4'-DDT	0.001 ug/mL
							Aldrin	0.001 ug/mL
							alpha-BHC	0.001 ug/mL
							beta-BHC	0.001 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							cis-Chlordane	0.001 ug/mL
							delta-BHC	0.001 ug/mL
							Dieldrin	0.001 ug/mL
							Endosulfan I	0.001 ug/mL
							Endosulfan II	0.001 ug/mL
							Endosulfan sulfate	0.001 ug/mL
							Endrin	0.001 ug/mL
							Endrin aldehyde	0.001 ug/mL
							Endrin ketone	0.001 ug/mL
							gamma-BHC (Lindane)	0.001 ug/mL
							Heptachlor	0.001 ug/mL
							Heptachlor epoxide	0.001 ug/mL
							Methoxychlor	0.001 ug/mL
							trans-Chlordane	0.001 ug/mL
.GCCLPSURRSTK_00010	08/03/19	08/03/18	Hexane, Lot 2819206	20 mL	GCPEST(SURR)S_00009	0.5 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPEST(SURR)S_00009	11/30/23	RESTEK, Lot A0130424			(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
.GCPestCAL_00014	02/06/20	02/06/19	Hexane, Lot 3019174	20 mL	GCPESTAB3STD_00004	0.1 mL	4,4'-DDD	10 ug/mL
							4,4'-DDE	10 ug/mL
							4,4'-DDT	10 ug/mL
							Aldrin	10 ug/mL
							alpha-BHC	10 ug/mL
							beta-BHC	10 ug/mL
							cis-Chlordane	10 ug/mL
							delta-BHC	10 ug/mL
							Dieldrin	10 ug/mL
							Endosulfan I	10 ug/mL
							Endosulfan II	10 ug/mL
							Endosulfan sulfate	10 ug/mL
							Endrin	10 ug/mL
							Endrin aldehyde	10 ug/mL
							Endrin ketone	10 ug/mL
							gamma-BHC (Lindane)	10 ug/mL
							Heptachlor	10 ug/mL
							Heptachlor epoxide	10 ug/mL
							Methoxychlor	10 ug/mL
							trans-Chlordane	10 ug/mL
..GCPESTAB3STD_00004	09/30/22	RESTEK, Lot A0137734			(Purchased Reagent)		4,4'-DDD	2000 ug/mL
							4,4'-DDE	2000 ug/mL
							4,4'-DDT	2000 ug/mL
							Aldrin	2000 ug/mL
							alpha-BHC	2000 ug/mL
							beta-BHC	2000 ug/mL
							cis-Chlordane	2000 ug/mL
							delta-BHC	2000 ug/mL
							Dieldrin	2000 ug/mL
							Endosulfan I	2000 ug/mL

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Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Endosulfan II	2000 ug/mL
							Endosulfan sulfate	2000 ug/mL
							Endrin	2000 ug/mL
							Endrin aldehyde	2000 ug/mL
							Endrin ketone	2000 ug/mL
							gamma-BHC (Lindane)	2000 ug/mL
							Heptachlor	2000 ug/mL
							Heptachlor epoxide	2000 ug/mL
							Methoxychlor	2000 ug/mL
							trans-Chlordane	2000 ug/mL
GCPESTICVSTD_00022	07/31/19	07/02/19	Hexane, Lot 3019174	40 mL	GC2PESTAB3STD_00003	0.001 mL	4,4'-DDD	0.05 ug/mL
							4,4'-DDE	0.05 ug/mL
							4,4'-DDT	0.05 ug/mL
							Dieldrin	0.05 ug/mL
							Endosulfan I	0.05 ug/mL
							Endosulfan II	0.05 ug/mL
							Endosulfan sulfate	0.05 ug/mL
							Endrin	0.05 ug/mL
							gamma-BHC (Lindane)	0.05 ug/mL
							Heptachlor	0.05 ug/mL
							Heptachlor epoxide	0.05 ug/mL
							Methoxychlor	0.05 ug/mL
.GC2PESTAB3STD_00003	06/30/19		RESTEK, Lot A0108854		(Purchased Reagent)		4,4'-DDD	2000 ug/mL
							4,4'-DDE	2000 ug/mL
							4,4'-DDT	2000 ug/mL
							Dieldrin	2000 ug/mL
							Endosulfan I	2000 ug/mL
							Endosulfan II	2000 ug/mL
							Endosulfan sulfate	2000 ug/mL
							Endrin	2000 ug/mL
							gamma-BHC (Lindane)	2000 ug/mL
							Heptachlor	2000 ug/mL
							Heptachlor epoxide	2000 ug/mL
							Methoxychlor	2000 ug/mL
GCPESTISSPK2_00016	11/08/19	05/08/19	Hexane, Lot 3151769	100 mL	DBC Internal_00002	0.5 mL	Dibutylchlorendate ISTD	1 ug/mL
					GCpest/pcbINT_00004	0.1 mL	1-Bromo-2-nitrobenzene	1 ug/mL
.DBC Internal_00002	05/31/20		RESTEK, Lot A0126147		(Purchased Reagent)		Dibutylchlorendate ISTD	200 ug/mL
.GCpest/pcbINT_00004	04/30/20		restek, Lot A0124315		(Purchased Reagent)		1-Bromo-2-nitrobenzene	1000 ug/mL
GCPestL2_00022	08/03/19	02/06/19	Hexane, Lot 3019174	40 mL	GCCLPSURRSTK_00010	0.04 mL	DCB Decachlorobiphenyl (Surr)	0.005 ug/mL
							Tetrachloro-m-xylene	0.005 ug/mL
					GCPestCAL_00014	0.02 mL	4,4'-DDD	0.005 ug/mL
							4,4'-DDE	0.005 ug/mL
							4,4'-DDT	0.005 ug/mL
							Aldrin	0.005 ug/mL
							alpha-BHC	0.005 ug/mL
							beta-BHC	0.005 ug/mL
							cis-Chlordane	0.005 ug/mL

REAGENT TRACEABILITY SUMMARY

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Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							delta-BHC	0.005 ug/mL
							Dieldrin	0.005 ug/mL
							Endosulfan I	0.005 ug/mL
							Endosulfan II	0.005 ug/mL
							Endosulfan sulfate	0.005 ug/mL
							Endrin	0.005 ug/mL
							Endrin aldehyde	0.005 ug/mL
							Endrin ketone	0.005 ug/mL
							gamma-BHC (Lindane)	0.005 ug/mL
							Heptachlor	0.005 ug/mL
							Heptachlor epoxide	0.005 ug/mL
							Methoxychlor	0.005 ug/mL
							trans-Chlordane	0.005 ug/mL
.GCCLPSURRSTK_00010	08/03/19	08/03/18	Hexane, Lot 2819206	20 mL	GCPEST(SURR)S_00009	0.5 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPEST(SURR)S_00009	11/30/23	RESTEK, Lot A0130424			(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
.GCPestCAL_00014	02/06/20	02/06/19	Hexane, Lot 3019174	20 mL	GCPESTAB3STD_00004	0.1 mL	4,4'-DDD	10 ug/mL
							4,4'-DDE	10 ug/mL
							4,4'-DDT	10 ug/mL
							Aldrin	10 ug/mL
							alpha-BHC	10 ug/mL
							beta-BHC	10 ug/mL
							cis-Chlordane	10 ug/mL
							delta-BHC	10 ug/mL
							Dieldrin	10 ug/mL
							Endosulfan I	10 ug/mL
							Endosulfan II	10 ug/mL
							Endosulfan sulfate	10 ug/mL
							Endrin	10 ug/mL
							Endrin aldehyde	10 ug/mL
							Endrin ketone	10 ug/mL
							gamma-BHC (Lindane)	10 ug/mL
							Heptachlor	10 ug/mL
							Heptachlor epoxide	10 ug/mL
							Methoxychlor	10 ug/mL
							trans-Chlordane	10 ug/mL
..GCPESTAB3STD_00004	09/30/22	RESTEK, Lot A0137734			(Purchased Reagent)		4,4'-DDD	2000 ug/mL
							4,4'-DDE	2000 ug/mL
							4,4'-DDT	2000 ug/mL
							Aldrin	2000 ug/mL
							alpha-BHC	2000 ug/mL
							beta-BHC	2000 ug/mL
							cis-Chlordane	2000 ug/mL
							delta-BHC	2000 ug/mL
							Dieldrin	2000 ug/mL
							Endosulfan I	2000 ug/mL
							Endosulfan II	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Endosulfan sulfate	2000 ug/mL
							Endrin	2000 ug/mL
							Endrin aldehyde	2000 ug/mL
							Endrin ketone	2000 ug/mL
							gamma-BHC (Lindane)	2000 ug/mL
							Heptachlor	2000 ug/mL
							Heptachlor epoxide	2000 ug/mL
							Methoxychlor	2000 ug/mL
							trans-Chlordane	2000 ug/mL
GCPestL3_00028	08/03/19	02/06/19	Hexane, Lot 3019174	100 mL	GCCLPSURRSTK_00010	0.5 mL	DCB Decachlorobiphenyl (Surr)	0.025 ug/mL
							Tetrachloro-m-xylene	0.025 ug/mL
					GCPestCAL_00014	0.25 mL	4,4'-DDD	0.025 ug/mL
							4,4'-DDE	0.025 ug/mL
							4,4'-DDT	0.025 ug/mL
							Aldrin	0.025 ug/mL
							alpha-BHC	0.025 ug/mL
							beta-BHC	0.025 ug/mL
							cis-Chlordane	0.025 ug/mL
							delta-BHC	0.025 ug/mL
							Dieldrin	0.025 ug/mL
							Endosulfan I	0.025 ug/mL
							Endosulfan II	0.025 ug/mL
							Endosulfan sulfate	0.025 ug/mL
							Endrin	0.025 ug/mL
							Endrin aldehyde	0.025 ug/mL
							Endrin ketone	0.025 ug/mL
							gamma-BHC (Lindane)	0.025 ug/mL
							Heptachlor	0.025 ug/mL
							Heptachlor epoxide	0.025 ug/mL
							Methoxychlor	0.025 ug/mL
							trans-Chlordane	0.025 ug/mL
.GCCLPSURRSTK_00010	08/03/19	08/03/18	Hexane, Lot 2819206	20 mL	GCPEST(SURR)S_00009	0.5 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPEST(SURR)S_00009	11/30/23	RESTEK, Lot A0130424			(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
.GCPestCAL_00014	02/06/20	02/06/19	Hexane, Lot 3019174	20 mL	GCPESTAB3STD_00004	0.1 mL	4,4'-DDD	10 ug/mL
							4,4'-DDE	10 ug/mL
							4,4'-DDT	10 ug/mL
							Aldrin	10 ug/mL
							alpha-BHC	10 ug/mL
							beta-BHC	10 ug/mL
							cis-Chlordane	10 ug/mL
							delta-BHC	10 ug/mL
							Dieldrin	10 ug/mL
							Endosulfan I	10 ug/mL
							Endosulfan II	10 ug/mL
							Endosulfan sulfate	10 ug/mL

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Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Endrin	10 ug/mL
							Endrin aldehyde	10 ug/mL
							Endrin ketone	10 ug/mL
							gamma-BHC (Lindane)	10 ug/mL
							Heptachlor	10 ug/mL
							Heptachlor epoxide	10 ug/mL
							Methoxychlor	10 ug/mL
							trans-Chlordane	10 ug/mL
..GCPESTAB3STD_00004	09/30/22	RESTEK, Lot A0137734			(Purchased Reagent)		4,4'-DDD	2000 ug/mL
							4,4'-DDE	2000 ug/mL
							4,4'-DDT	2000 ug/mL
							Aldrin	2000 ug/mL
							alpha-BHC	2000 ug/mL
							beta-BHC	2000 ug/mL
							cis-Chlordane	2000 ug/mL
							delta-BHC	2000 ug/mL
							Dieldrin	2000 ug/mL
							Endosulfan I	2000 ug/mL
							Endosulfan II	2000 ug/mL
							Endosulfan sulfate	2000 ug/mL
							Endrin	2000 ug/mL
							Endrin aldehyde	2000 ug/mL
							Endrin ketone	2000 ug/mL
							gamma-BHC (Lindane)	2000 ug/mL
							Heptachlor	2000 ug/mL
							Heptachlor epoxide	2000 ug/mL
							Methoxychlor	2000 ug/mL
							trans-Chlordane	2000 ug/mL
GCPestL3_00032	02/06/20	09/17/19	Hexane, Lot 3295450	100 mL	GCCLPSURRSTK_00011	0.5 mL	DCB Decachlorobiphenyl (Surr)	0.025 ug/mL
							Tetrachloro-m-xylene	0.025 ug/mL
					GCPestCAL_00014	0.25 mL	4,4'-DDD	0.025 ug/mL
							4,4'-DDE	0.025 ug/mL
							4,4'-DDT	0.025 ug/mL
							Dieldrin	0.025 ug/mL
							Endosulfan I	0.025 ug/mL
							Endosulfan II	0.025 ug/mL
							Endosulfan sulfate	0.025 ug/mL
							Endrin	0.025 ug/mL
							gamma-BHC (Lindane)	0.025 ug/mL
							Heptachlor	0.025 ug/mL
							Heptachlor epoxide	0.025 ug/mL
							Methoxychlor	0.025 ug/mL
.GCCLPSURRSTK_00011	08/08/20	08/08/19	Hexane, Lot 3200099	20 mL	GCPEST(SURR)S_00010	0.5 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPEST(SURR)S_00010	11/30/24	RESTEK, Lot A0141110			(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
.GCPestCAL_00014	02/06/20	02/06/19	Hexane, Lot 3019174	20 mL	GCPESTAB3STD_00004	0.1 mL	4,4'-DDD	10 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4,4'-DDE	10 ug/mL
							4,4'-DDT	10 ug/mL
							Dieldrin	10 ug/mL
							Endosulfan I	10 ug/mL
							Endosulfan II	10 ug/mL
							Endosulfan sulfate	10 ug/mL
							Endrin	10 ug/mL
							gamma-BHC (Lindane)	10 ug/mL
							Heptachlor	10 ug/mL
							Heptachlor epoxide	10 ug/mL
							Methoxychlor	10 ug/mL
..GCPESTAB3STD_00004	09/30/22		RESTEK, Lot A0137734		(Purchased Reagent)		4,4'-DDD	2000 ug/mL
							4,4'-DDE	2000 ug/mL
							4,4'-DDT	2000 ug/mL
							Dieldrin	2000 ug/mL
							Endosulfan I	2000 ug/mL
							Endosulfan II	2000 ug/mL
							Endosulfan sulfate	2000 ug/mL
							Endrin	2000 ug/mL
							gamma-BHC (Lindane)	2000 ug/mL
							Heptachlor	2000 ug/mL
							Heptachlor epoxide	2000 ug/mL
							Methoxychlor	2000 ug/mL
GCPestL4_00021	08/03/19	02/06/19	Hexane, Lot 3019174	40 mL	GCCLPSURRSTK_00010	0.4 mL	DCB Decachlorobiphenyl (Surr)	0.05 ug/mL
							Tetrachloro-m-xylene	0.05 ug/mL
					GCPestCAL_00014	0.2 mL	4,4'-DDD	0.05 ug/mL
							4,4'-DDE	0.05 ug/mL
							4,4'-DDT	0.05 ug/mL
							Aldrin	0.05 ug/mL
							alpha-BHC	0.05 ug/mL
							beta-BHC	0.05 ug/mL
							cis-Chlordane	0.05 ug/mL
							delta-BHC	0.05 ug/mL
							Dieldrin	0.05 ug/mL
							Endosulfan I	0.05 ug/mL
							Endosulfan II	0.05 ug/mL
							Endosulfan sulfate	0.05 ug/mL
							Endrin	0.05 ug/mL
							Endrin aldehyde	0.05 ug/mL
							Endrin ketone	0.05 ug/mL
							gamma-BHC (Lindane)	0.05 ug/mL
							Heptachlor	0.05 ug/mL
							Heptachlor epoxide	0.05 ug/mL
							Methoxychlor	0.05 ug/mL
							trans-Chlordane	0.05 ug/mL
.GCCLPSURRSTK_00010	08/03/19	08/03/18	Hexane, Lot 2819206	20 mL	GCPEST(SURR)S_00009	0.5 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL

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SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..GCPEST(SURR)S_00009	11/30/23		RESTEK, Lot A0130424		(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
.GCPestCAL_00014	02/06/20	02/06/19	Hexane, Lot 3019174	20 mL	GCPESTAB3STD_00004	0.1 mL	4,4'-DDD	10 ug/mL
							4,4'-DDE	10 ug/mL
							4,4'-DDT	10 ug/mL
							Aldrin	10 ug/mL
							alpha-BHC	10 ug/mL
							beta-BHC	10 ug/mL
							cis-Chlordane	10 ug/mL
							delta-BHC	10 ug/mL
							Dieldrin	10 ug/mL
							Endosulfan I	10 ug/mL
							Endosulfan II	10 ug/mL
							Endosulfan sulfate	10 ug/mL
							Endrin	10 ug/mL
							Endrin aldehyde	10 ug/mL
							Endrin ketone	10 ug/mL
							gamma-BHC (Lindane)	10 ug/mL
							Heptachlor	10 ug/mL
							Heptachlor epoxide	10 ug/mL
							Methoxychlor	10 ug/mL
							trans-Chlordane	10 ug/mL
..GCPESTAB3STD_00004	09/30/22		RESTEK, Lot A0137734		(Purchased Reagent)		4,4'-DDD	2000 ug/mL
							4,4'-DDE	2000 ug/mL
							4,4'-DDT	2000 ug/mL
							Aldrin	2000 ug/mL
							alpha-BHC	2000 ug/mL
							beta-BHC	2000 ug/mL
							cis-Chlordane	2000 ug/mL
							delta-BHC	2000 ug/mL
							Dieldrin	2000 ug/mL
							Endosulfan I	2000 ug/mL
							Endosulfan II	2000 ug/mL
							Endosulfan sulfate	2000 ug/mL
							Endrin	2000 ug/mL
							Endrin aldehyde	2000 ug/mL
							Endrin ketone	2000 ug/mL
							gamma-BHC (Lindane)	2000 ug/mL
							Heptachlor	2000 ug/mL
							Heptachlor epoxide	2000 ug/mL
							Methoxychlor	2000 ug/mL
							trans-Chlordane	2000 ug/mL
GCPestL5_00021	08/03/19	02/06/19	Hexane, Lot 3019174	40 mL	GCCLPSURRSTK_00010	0.8 mL	DCB Decachlorobiphenyl (Surr)	0.1 ug/mL
							Tetrachloro-m-xylene	0.1 ug/mL
					GCPestCAL_00014	0.4 mL	4,4'-DDD	0.1 ug/mL
							4,4'-DDE	0.1 ug/mL
							4,4'-DDT	0.1 ug/mL

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Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Aldrin	0.1 ug/mL
							alpha-BHC	0.1 ug/mL
							beta-BHC	0.1 ug/mL
							cis-Chlordane	0.1 ug/mL
							delta-BHC	0.1 ug/mL
							Dieldrin	0.1 ug/mL
							Endosulfan I	0.1 ug/mL
							Endosulfan II	0.1 ug/mL
							Endosulfan sulfate	0.1 ug/mL
							Endrin	0.1 ug/mL
							Endrin aldehyde	0.1 ug/mL
							Endrin ketone	0.1 ug/mL
							gamma-BHC (Lindane)	0.1 ug/mL
							Heptachlor	0.1 ug/mL
							Heptachlor epoxide	0.1 ug/mL
							Methoxychlor	0.1 ug/mL
							trans-Chlordane	0.1 ug/mL
.GCCLPSURRSTK_00010	08/03/19	08/03/18	Hexane, Lot 2819206	20 mL	GCPEST(SURR)S_00009	0.5 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPEST(SURR)S_00009	11/30/23	RESTEK, Lot A0130424			(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
.GCPestCAL_00014	02/06/20	02/06/19	Hexane, Lot 3019174	20 mL	GCPESTAB3STD_00004	0.1 mL	4,4'-DDD	10 ug/mL
							4,4'-DDE	10 ug/mL
							4,4'-DDT	10 ug/mL
							Aldrin	10 ug/mL
							alpha-BHC	10 ug/mL
							beta-BHC	10 ug/mL
							cis-Chlordane	10 ug/mL
							delta-BHC	10 ug/mL
							Dieldrin	10 ug/mL
							Endosulfan I	10 ug/mL
							Endosulfan II	10 ug/mL
							Endosulfan sulfate	10 ug/mL
							Endrin	10 ug/mL
							Endrin aldehyde	10 ug/mL
							Endrin ketone	10 ug/mL
							gamma-BHC (Lindane)	10 ug/mL
							Heptachlor	10 ug/mL
							Heptachlor epoxide	10 ug/mL
							Methoxychlor	10 ug/mL
							trans-Chlordane	10 ug/mL
..GCPESTAB3STD_00004	09/30/22	RESTEK, Lot A0137734			(Purchased Reagent)		4,4'-DDD	2000 ug/mL
							4,4'-DDE	2000 ug/mL
							4,4'-DDT	2000 ug/mL
							Aldrin	2000 ug/mL
							alpha-BHC	2000 ug/mL
							beta-BHC	2000 ug/mL
							cis-Chlordane	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

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Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							delta-BHC	2000 ug/mL
							Dieldrin	2000 ug/mL
							Endosulfan I	2000 ug/mL
							Endosulfan II	2000 ug/mL
							Endosulfan sulfate	2000 ug/mL
							Endrin	2000 ug/mL
							Endrin aldehyde	2000 ug/mL
							Endrin ketone	2000 ug/mL
							gamma-BHC (Lindane)	2000 ug/mL
							Heptachlor	2000 ug/mL
							Heptachlor epoxide	2000 ug/mL
							Methoxychlor	2000 ug/mL
							trans-Chlordane	2000 ug/mL
GCPestL6_00021	08/03/19	02/06/19	Hexane, Lot 3019174	40 mL	GCCLPSURRSTK_00010	1.6 mL	DCB Decachlorobiphenyl (Surr)	0.2 ug/mL
							Tetrachloro-m-xylene	0.2 ug/mL
					GCPestCAL_00014	0.8 mL	4,4'-DDD	0.2 ug/mL
							4,4'-DDE	0.2 ug/mL
							4,4'-DDT	0.2 ug/mL
							Aldrin	0.2 ug/mL
							alpha-BHC	0.2 ug/mL
							beta-BHC	0.2 ug/mL
							cis-Chlordane	0.2 ug/mL
							delta-BHC	0.2 ug/mL
							Dieldrin	0.2 ug/mL
							Endosulfan I	0.2 ug/mL
							Endosulfan II	0.2 ug/mL
							Endosulfan sulfate	0.2 ug/mL
							Endrin	0.2 ug/mL
							Endrin aldehyde	0.2 ug/mL
							Endrin ketone	0.2 ug/mL
							gamma-BHC (Lindane)	0.2 ug/mL
							Heptachlor	0.2 ug/mL
							Heptachlor epoxide	0.2 ug/mL
							Methoxychlor	0.2 ug/mL
							trans-Chlordane	0.2 ug/mL
.GCCLPSURRSTK_00010	08/03/19	08/03/18	Hexane, Lot 2819206	20 mL	GCPEST(SURR)S_00009	0.5 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPEST(SURR)S_00009	11/30/23	RESTEK, Lot A0130424			(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
.GCPestCAL_00014	02/06/20	02/06/19	Hexane, Lot 3019174	20 mL	GCPESTAB3STD_00004	0.1 mL	4,4'-DDD	10 ug/mL
							4,4'-DDE	10 ug/mL
							4,4'-DDT	10 ug/mL
							Aldrin	10 ug/mL
							alpha-BHC	10 ug/mL
							beta-BHC	10 ug/mL
							cis-Chlordane	10 ug/mL
							delta-BHC	10 ug/mL

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Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Dieldrin	10 ug/mL
							Endosulfan I	10 ug/mL
							Endosulfan II	10 ug/mL
							Endosulfan sulfate	10 ug/mL
							Endrin	10 ug/mL
							Endrin aldehyde	10 ug/mL
							Endrin ketone	10 ug/mL
							gamma-BHC (Lindane)	10 ug/mL
							Heptachlor	10 ug/mL
							Heptachlor epoxide	10 ug/mL
							Methoxychlor	10 ug/mL
							trans-Chlordane	10 ug/mL
..GCPESTAB3STD_00004	09/30/22		RESTEK, Lot A0137734		(Purchased Reagent)		4,4'-DDD	2000 ug/mL
							4,4'-DDE	2000 ug/mL
							4,4'-DDT	2000 ug/mL
							Aldrin	2000 ug/mL
							alpha-BHC	2000 ug/mL
							beta-BHC	2000 ug/mL
							cis-Chlordane	2000 ug/mL
							delta-BHC	2000 ug/mL
							Dieldrin	2000 ug/mL
							Endosulfan I	2000 ug/mL
							Endosulfan II	2000 ug/mL
							Endosulfan sulfate	2000 ug/mL
							Endrin	2000 ug/mL
							Endrin aldehyde	2000 ug/mL
							Endrin ketone	2000 ug/mL
							gamma-BHC (Lindane)	2000 ug/mL
							Heptachlor	2000 ug/mL
							Heptachlor epoxide	2000 ug/mL
							Methoxychlor	2000 ug/mL
							trans-Chlordane	2000 ug/mL
GCPESTPEMSTD_00040	01/31/20	08/16/19	Hexane, Lot 3295450	100 mL	GCCLPSURRSTK_00011	0.5 mL	DCB Decachlorobiphenyl (Surr)	0.025 ug/mL
							Tetrachloro-m-xylene	0.025 ug/mL
					GCPEST(PEM2)_00001	0.5 mL	4,4'-DDT	0.05 ug/mL
							Endrin	0.025 ug/mL
.GCCLPSURRSTK_00011	08/08/20	08/08/19	Hexane, Lot 3200099	20 mL	GCPEST(SURR)S_00010	0.5 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPEST(SURR)S_00010	11/30/24		RESTEK, Lot A0141110		(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
.GCPEST(PEM2)_00001	01/31/20		RESTEK, Lot A0123952		(Purchased Reagent)		4,4'-DDT	10 ug/mL
							Endrin	5 ug/mL
GCTOXICV_00010	09/26/19	03/26/19	Hexane, Lot 3019174	40 mL	GCTOX2NDSOURC_00001	0.008 mL	Toxaphene	1 ug/mL
.GCTOX2NDSOURC_00001	04/30/20		RESTEK, Lot A0116660		(Purchased Reagent)		Toxaphene	5000 ug/mL
GCTOXLEVEL1_00011	06/04/19	12/04/18	Hexane, Lot 2938930	40 mL	GCTOXINTERSTD_00006	0.016 mL	Toxaphene Peak 1	0.02 ug/mL
							Toxaphene Peak 2	0.02 ug/mL
							Toxaphene Peak 3	0.02 ug/mL

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Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Toxaphene Peak 4	0.02 ug/mL
.GCTOXINTERSTD_00006	12/04/19	12/04/18	Hexane, Lot 2938930	40 mL	GCTOXSTDSTD_00002	0.4 mL	Toxaphene Peak 1	50 ug/mL
							Toxaphene Peak 2	50 ug/mL
							Toxaphene Peak 3	50 ug/mL
							Toxaphene Peak 4	50 ug/mL
..GCTOXSTDSTD_00002	10/31/20		RESTEK, Lot A0120412		(Purchased Reagent)		Toxaphene Peak 1	5000 ug/mL
							Toxaphene Peak 2	5000 ug/mL
							Toxaphene Peak 3	5000 ug/mL
							Toxaphene Peak 4	5000 ug/mL
GCTOXLEVEL2_00009	06/04/19	12/04/18	Hexane, Lot 2938930	40 mL	GCTOXINTERSTD_00006	0.16 mL	Toxaphene Peak 1	0.2 ug/mL
							Toxaphene Peak 2	0.2 ug/mL
							Toxaphene Peak 3	0.2 ug/mL
							Toxaphene Peak 4	0.2 ug/mL
.GCTOXINTERSTD_00006	12/04/19	12/04/18	Hexane, Lot 2938930	40 mL	GCTOXSTDSTD_00002	0.4 mL	Toxaphene Peak 1	50 ug/mL
							Toxaphene Peak 2	50 ug/mL
							Toxaphene Peak 3	50 ug/mL
							Toxaphene Peak 4	50 ug/mL
..GCTOXSTDSTD_00002	10/31/20		RESTEK, Lot A0120412		(Purchased Reagent)		Toxaphene Peak 1	5000 ug/mL
							Toxaphene Peak 2	5000 ug/mL
							Toxaphene Peak 3	5000 ug/mL
							Toxaphene Peak 4	5000 ug/mL
GCTOXLEVEL3_00018	06/04/19	12/04/18	Hexane, Lot 2938930	40 mL	GCTOXINTERSTD_00006	0.8 mL	Toxaphene Peak 1	1 ug/mL
							Toxaphene Peak 2	1 ug/mL
							Toxaphene Peak 3	1 ug/mL
							Toxaphene Peak 4	1 ug/mL
.GCTOXINTERSTD_00006	12/04/19	12/04/18	Hexane, Lot 2938930	40 mL	GCTOXSTDSTD_00002	0.4 mL	Toxaphene Peak 1	50 ug/mL
							Toxaphene Peak 2	50 ug/mL
							Toxaphene Peak 3	50 ug/mL
							Toxaphene Peak 4	50 ug/mL
..GCTOXSTDSTD_00002	10/31/20		RESTEK, Lot A0120412		(Purchased Reagent)		Toxaphene Peak 1	5000 ug/mL
							Toxaphene Peak 2	5000 ug/mL
							Toxaphene Peak 3	5000 ug/mL
							Toxaphene Peak 4	5000 ug/mL
GCTOXLEVEL3_00020	12/04/19	06/25/19	Hexane, Lot 3200099	40 mL	GCTOXINTERSTD_00006	0.8 mL	Toxaphene	1 ug/mL
.GCTOXINTERSTD_00006	12/04/19	12/04/18	Hexane, Lot 2938930	40 mL	GCTOXSTDSTD_00002	0.4 mL	Toxaphene	50 ug/mL
..GCTOXSTDSTD_00002	10/31/20		RESTEK, Lot A0120412		(Purchased Reagent)		Toxaphene	5000 ug/mL
GCTOXLEVEL4_00010	06/04/19	12/04/18	Hexane, Lot 2938930	20 mL	GCTOXINTERSTD_00006	1 mL	Toxaphene Peak 1	2.5 ug/mL
							Toxaphene Peak 2	2.5 ug/mL
							Toxaphene Peak 3	2.5 ug/mL
							Toxaphene Peak 4	2.5 ug/mL
.GCTOXINTERSTD_00006	12/04/19	12/04/18	Hexane, Lot 2938930	40 mL	GCTOXSTDSTD_00002	0.4 mL	Toxaphene Peak 1	50 ug/mL
							Toxaphene Peak 2	50 ug/mL
							Toxaphene Peak 3	50 ug/mL
							Toxaphene Peak 4	50 ug/mL
..GCTOXSTDSTD_00002	10/31/20		RESTEK, Lot A0120412		(Purchased Reagent)		Toxaphene Peak 1	5000 ug/mL
							Toxaphene Peak 2	5000 ug/mL

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Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Toxaphene Peak 3	5000 ug/mL
							Toxaphene Peak 4	5000 ug/mL
GCTOXLEVEL5_00013	06/04/19	12/04/18	Hexane, Lot 2938930	20 mL	GCTOXINTERSTD_00006	2 mL	Toxaphene Peak 1	5 ug/mL
							Toxaphene Peak 2	5 ug/mL
							Toxaphene Peak 3	5 ug/mL
							Toxaphene Peak 4	5 ug/mL
.GCTOXINTERSTD_00006	12/04/19	12/04/18	Hexane, Lot 2938930	40 mL	GCTOXSTDSTD_00002	0.4 mL	Toxaphene Peak 1	50 ug/mL
							Toxaphene Peak 2	50 ug/mL
							Toxaphene Peak 3	50 ug/mL
							Toxaphene Peak 4	50 ug/mL
..GCTOXSTDSTD_00002	10/31/20	RESTEK, Lot A0120412			(Purchased Reagent)		Toxaphene Peak 1	5000 ug/mL
							Toxaphene Peak 2	5000 ug/mL
							Toxaphene Peak 3	5000 ug/mL
							Toxaphene Peak 4	5000 ug/mL
Herb(RTS)spk_00010	09/30/20	restek, Lot A0135473			(Purchased Reagent)		2,4,5-T	5 ug/mL
							2,4-D	20 ug/mL
							2,4-DB	20 ug/mL
							Dalapon	20 ug/mL
							Dicamba	10 ug/mL
							Dichlorprop	20 ug/mL
							Dinoseb	20 ug/mL
							MCPA	2000 ug/mL
							MCPP	2000 ug/mL
							Pentachlorophenol	5 ug/mL
							Silvex (2,4,5-TP)	5 ug/mL
M6500CCV_00031	01/15/20	10/15/19	5%HNO3 - 5%HCL, Lot 221803 -4119020	1000 mL	MTAPITTCALTRA_00011	10 mL	Arsenic	0.5 ppm
							Cadmium	0.5 ppm
							Lead	0.5 ppm
							Selenium	0.5 ppm
							Silver	1 ppm
					MTAPITTCALTRC_00011	10 mL	Barium	2 ppm
							Chromium	2 ppm
.MTAPITTCALTRA_00011	06/04/20	Inorganic Ventures, Lot N2-MEB673400			(Purchased Reagent)		Arsenic	50 ppm
							Cadmium	50 ppm
							Lead	50 ppm
							Selenium	50 ppm
							Silver	100 ppm
.MTAPITTCALTRC_00011	06/04/20	Inorganic Ventures, Lot N2-MEB673401			(Purchased Reagent)		Barium	200 ppm
							Chromium	200 ppm
M6500ICV_00006	01/21/20	10/21/19	5%HNO3 - 5%HCL, Lot 221803- 4119020	1000 mL	MTAPITTICPICV_00015	20 mL	Arsenic	0.25 ppm
							Barium	1 ppm
							Cadmium	0.25 ppm
							Chromium	1 ppm
							Lead	0.25 ppm
							Selenium	0.25 ppm

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Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Silver	0.5 ppm
.MTAPITTICPICV_00015	01/30/20	SPEX, Lot 50-201CR			(Purchased Reagent)		Arsenic	12.5 ppm
							Barium	50 ppm
							Cadmium	12.5 ppm
							Chromium	50 ppm
							Lead	12.5 ppm
							Selenium	12.5 ppm
							Silver	25 ppm
MHgworkingCal_02163	10/19/19	10/18/19	2% Nitric Acid, Lot cont #:3330882	100 mL	MHgIntcal_01230	1 mL	Mercury	100 ppb
.MHgIntcal_01230	10/19/19	10/18/19	2% Nitric Acid, Lot cont #: 3330882	100 mL	MCGHG1-1_00014	1 mL	Mercury	10 ppm
..MCGHG1-1_00014	02/11/20	Inorganic Ventures, Lot N2-HG669550			(Purchased Reagent)		Mercury	1000 ppm
MHgWorkingicv_02117	10/19/19	10/18/19	2% Nitric Acid, Lot cont#: 3330882	100 mL	MHgIntICV_01198	1 mL	Mercury	100 ppb
.MHgIntICV_01198	10/19/19	10/18/19	2% Nitric Acid, Lot cont #: 3330882	100 mL	MHGICV-1_00010	1 mL	Mercury	10 ppm
..MHGICV-1_00010	02/11/20	ULTRA SCIENTIFIC, Lot CS-0444			(Purchased Reagent)		Mercury	1000 ppm
MICSAB_00104	01/11/20	10/11/19	5%HNO3 - 5%HCL, Lot 233411 - 4119020	1000 mL	M6500ICSA_00005	100 mL	Al	500 ppm
							Ca	500 ppm
							Fe	200 ppm
							Mg	500 ppm
					MCGTL1-1_00011	1 mL	Tl	1 ppm
					MTAPITTICSADD_00018	100 mL	B	1 ppm
							Li	1 ppm
							Si	1 ppm
							Sn	1 ppm
							Sr	1 ppm
							Ti	1 ppm
					MTAPITTICSB_00013	100 mL	Arsenic	1 ppm
							Barium	0.5 ppm
							Be	0.5 ppm
							Cadmium	1 ppm
							Chromium	0.5 ppm
							Co	0.5 ppm
							Cu	0.5 ppm
							K	10 ppm
							Lead	1 ppm
							Mn	0.5 ppm
							Na	10 ppm
							Ni	1 ppm
							Selenium	1 ppm
							Silver	1 ppm
							V	0.5 ppm
							Zn	1 ppm
					MTAPITTICSB1_00013	100 mL	Mo	1 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Sb	1 ppm
.M6500ICSA_00005	01/11/21	CPI International, Lot 1013122-1			(Purchased Reagent)		Al	5000 ppm
							Ca	5000 ppm
							Fe	2000 ppm
							Mg	5000 ppm
.MCGTL1-1_00011	04/11/20	CPI, Lot 148983-92			(Purchased Reagent)		Tl	1000 ppm
.MTAPITTICSADD_00018	06/25/20	Inorganic Ventures, Lot N2-MEB673405			(Purchased Reagent)		B	10 ppm
							Li	10 ppm
							Si	10 ppm
							Sn	10 ppm
							Sr	10 ppm
							Ti	10 ppm
.MTAPITTICSB_00013	06/25/20	Inorganic Ventures, Lot N2-MEB666958			(Purchased Reagent)		Arsenic	10 ppm
							Barium	5 ppm
							Be	5 ppm
							Cadmium	10 ppm
							Chromium	5 ppm
							Co	5 ppm
							Cu	5 ppm
							K	100 ppm
							Lead	10 ppm
							Mn	5 ppm
							Na	100 ppm
							Ni	10 ppm
							Selenium	10 ppm
							Silver	10 ppm
							V	5 ppm
							Zn	10 ppm
.MTAPITTICSB1_00013	06/25/20	Inorganic Ventures, Lot N2-MEB673404			(Purchased Reagent)		Mo	10 ppm
							Sb	10 ppm
MICSAICP_00092	01/03/20	10/03/19	5%HNO3 - 5%HCL, Lot 221803 - 57072	1000 mL	M6500ICSA_00005	100 mL	Al	500 ppm
							Ca	500 ppm
							Fe	200 ppm
							Mg	500 ppm
.M6500ICSA_00005	01/11/21	CPI International, Lot 1013122-1			(Purchased Reagent)		Al	5000 ppm
							Ca	5000 ppm
							Fe	2000 ppm
							Mg	5000 ppm
MICVLCCVL_00011	01/16/20	10/16/19	5%HNO3 - 5%HCL, Lot 221803 - 4119020	1000 mL	MTAPITTCRA1DO_00008	10 mL	Arsenic	0.01 ppm
							Barium	0.2 ppm
							Cadmium	0.005 ppm
							Chromium	0.005 ppm
							Lead	0.01 ppm
							Selenium	0.01 ppm
							Silver	0.005 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MTAPITTCRA1DO_00008	06/11/20	Inorganic Ventures, Lot N2-MEB673399			(Purchased Reagent)		Arsenic	1 ppm
							Barium	20 ppm
							Cadmium	0.5 ppm
							Chromium	0.5 ppm
							Lead	1 ppm
							Selenium	1 ppm
							Silver	0.5 ppm
op-p/pcb sur_00024	12/30/19	06/25/19	ACETONE, Lot 2680072	2000 mL	GCDCBStock_00008	1.6 mL	DCB Decachlorobiphenyl (Surr)	0.8 ug/mL
					GCTCMXSTD_00010	0.8 mL	Tetrachloro-m-xylene	0.8 ug/mL
.GCDCBStock_00008	01/31/21	ULTRA, Lot CK-4355			(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	1000 ug/mL
.GCTCMXSTD_00010	10/30/20	Ultra Scientific, Lot CL-3352			(Purchased Reagent)		Tetrachloro-m-xylene	2000 ug/mL
OP8270TCLPSPi_00037	02/28/20	07/31/19	Methanol, Lot 0000177891	100 mL	svTCLPacids_00010	5 mL	2,4,5-Trichlorophenol	100 ug/mL
							2,4,6-Trichlorophenol	100 ug/mL
							2-Methylphenol	100 ug/mL
							3 & 4 Methylphenol	200 ug/mL
							3-Methylphenol	200 ug/mL
							Methyl Phenols,Total	300 ug/mL
							Methylphenol, 3 & 4	200 ug/mL
							Pentachlorophenol	100 ug/mL
							Total Cresols	300 ug/mL
					svTCLPbns_00010	5 mL	1,4-Dichlorobenzene	100 ug/mL
							2,4-Dinitrotoluene	100 ug/mL
							Hexachlorobenzene	100 ug/mL
							Hexachlorobutadiene	100 ug/mL
							Hexachloroethane	100 ug/mL
							Nitrobenzene	100 ug/mL
							Pyridine	100 ug/mL
.svTCLPacids_00010	02/28/21	Restek, Lot A0134153			(Purchased Reagent)		2,4,5-Trichlorophenol	2000 ug/mL
							2,4,6-Trichlorophenol	2000 ug/mL
							2-Methylphenol	2000 ug/mL
							3 & 4 Methylphenol	4000 ug/mL
							3-Methylphenol	4000 ug/mL
							Methyl Phenols,Total	6000 ug/mL
							Methylphenol, 3 & 4	4000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Total Cresols	6000 ug/mL
.svTCLPbns_00010	05/31/22	Restek, Lot A0141077			(Purchased Reagent)		1,4-Dichlorobenzene	2000 ug/mL
							2,4-Dinitrotoluene	2000 ug/mL
							Hexachlorobenzene	2000 ug/mL
							Hexachlorobutadiene	2000 ug/mL
							Hexachloroethane	2000 ug/mL
							Nitrobenzene	2000 ug/mL
							Pyridine	2000 ug/mL
OPHERBRTSSURR_00010	08/31/20	RESTEK, Lot A0125706			(Purchased Reagent)		2,4-Dichlorophenylacetic acid	10 ug/mL
OPPESTMATRIX_00036	02/24/20	08/24/19	ACETONE, Lot 2680072	100 mL	GCPESTAB3STD_00003	0.05 mL	4,4'-DDD	1 ug/mL
							4,4'-DDE	1 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4,4'-DDT	1 ug/mL
							Aldrin	1 ug/mL
							alpha-BHC	1 ug/mL
							beta-BHC	1 ug/mL
							cis-Chlordane	1 ug/mL
							delta-BHC	1 ug/mL
							Dieldrin	1 ug/mL
							Endosulfan I	1 ug/mL
							Endosulfan II	1 ug/mL
							Endosulfan sulfate	1 ug/mL
							Endrin	1 ug/mL
							Endrin aldehyde	1 ug/mL
							Endrin ketone	1 ug/mL
							gamma-BHC (Lindane)	1 ug/mL
							Heptachlor	1 ug/mL
							Heptachlor epoxide	1 ug/mL
							Methoxychlor	1 ug/mL
							trans-Chlordane	1 ug/mL
.GCPESTAB3STD_00003	07/31/21		RESTEK, Lot A0129369		(Purchased Reagent)		4,4'-DDD	2000 ug/mL
							4,4'-DDE	2000 ug/mL
							4,4'-DDT	2000 ug/mL
							Aldrin	2000 ug/mL
							alpha-BHC	2000 ug/mL
							beta-BHC	2000 ug/mL
							cis-Chlordane	2000 ug/mL
							delta-BHC	2000 ug/mL
							Dieldrin	2000 ug/mL
							Endosulfan I	2000 ug/mL
							Endosulfan II	2000 ug/mL
							Endosulfan sulfate	2000 ug/mL
							Endrin	2000 ug/mL
							Endrin aldehyde	2000 ug/mL
							Endrin ketone	2000 ug/mL
							gamma-BHC (Lindane)	2000 ug/mL
							Heptachlor	2000 ug/mL
							Heptachlor epoxide	2000 ug/mL
							Methoxychlor	2000 ug/mL
							trans-Chlordane	2000 ug/mL
OPQL8270SURi_00086	04/18/20	10/18/19	Methanol, Lot 000023046	500 mL	SVLVSURSPK_00008	20 mL	2,4,6-Tribromophenol (Surr)	200 ug/mL
							2-Fluorobiphenyl	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5 (Surr)	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL
							Terphenyl-d14 (Surr)	200 ug/mL
.SVLVSURSPK_00008	11/30/23		Restek, Lot A0143524		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
PCBINT_00010	02/01/20	08/01/19	Hexane, Lot 1932891	100 mL	GCBZ#205STD1_00006	10 mL	PCB-205 (IS)	10 ug/mL
					GCpest/pcbINT_00005	1 mL	1-Bromo-2-nitrobenzene	10 ug/mL
.GCBZ#205STD1_00006	09/06/26	AccuStandard, Lot 216091034			(Purchased Reagent)		PCB-205 (IS)	100 ug/mL
.GCpest/pcbINT_00005	04/30/20	restek, Lot A0141134			(Purchased Reagent)		1-Bromo-2-nitrobenzene	1000 ug/mL
SVDFTPP50i_00036							Aramite, Total	
							Diallate	
							Methyl Phenols,Total	
							Tentatively Identified Compound	
					SVTUNINGMIXs_00008	500 uL	4,4'-DDD	0 ug/mL
							4,4'-DDE	0 ug/mL
							4,4'-DDT	50 ug/mL
							Benzidine_T	50 ug/mL
							DFTPP	50 ug/mL
							Pentachlorophenol_T	50 ug/mL
.SVTUNINGMIXs_00008	03/31/22	Restek, Lot A0147424			(Purchased Reagent)		4,4'-DDD	0 ug/mL
							4,4'-DDE	0 ug/mL
							4,4'-DDT	1000 ug/mL
							Benzidine_T	1000 ug/mL
							DFTPP	1000 ug/mL
							Pentachlorophenol_T	1000 ug/mL
SVTAP2NDSRC2i_00017	12/31/19	10/15/19	MeCl2, Lot 3373271	1 mL	SVTAPITINTRNi_00023	10 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
.SVTAPITINTRNi_00023	10/15/20	10/15/19	MeCl2, Lot 3373271	25 mL	SVLVIntstd_00010	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..SVLVIntstd_00010	09/30/23	Restek, Lot A0141743			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
SVTAP2NDSRCEi_00028	12/31/19	10/15/19	MeCl2, Lot 3373271	10 mL	SVTAPITINTRNi_00023	100 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenanthrene-d10	4 ug/mL
.SVTAPITINTRNi_00023	10/15/20	10/15/19	MeCl2, Lot 3373271	25 mL	SVLVIntstd_00010	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..SVLVIntstd_00010	09/30/23	Restek, Lot A0141743			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
SVTAP2NDSRCEi_00028	12/31/19	10/15/19	MeCl2, Lot 3373271	10 mL	SVLVSURRSPK_00021	20 uL	2,4,6-Tribromophenol (Surr)	10 ug/mL
							2-Fluorobiphenyl	10 ug/mL
							2-Fluorophenol (Surr)	10 ug/mL
							Nitrobenzene-d5 (Surr)	10 ug/mL
							Phenol-d5 (Surr)	10 ug/mL
							Terphenyl-d14 (Surr)	10 ug/mL
					SVSEC L1/STD1_00001	100 uL	1,4-Dichlorobenzene	10 ug/mL
							2,4,5-Trichlorophenol	10 ug/mL
							2,4,6-Trichlorophenol	10 ug/mL
							2,4-Dinitrotoluene	10 ug/mL
							2-Methylphenol	10 ug/mL
							Hexachlorobenzene	10 ug/mL
							Hexachlorobutadiene	10 ug/mL
							Hexachloroethane	10 ug/mL
							Methylphenol, 3 & 4	10 ug/mL
							Nitrobenzene	10 ug/mL
							Pentachlorophenol	20 ug/mL
							Pyridine	20 ug/mL
.SVLVSURRSPK_00021	12/31/21	Restek, Lot A0123269			(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
.SVSEC L1/STD1_00001	12/31/19	Restek, Lot A0138890			(Purchased Reagent)		1,4-Dichlorobenzene	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Methylphenol, 3 & 4	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Pyridine	2000 ug/mL
SVTAPITINTRNi_00023	10/15/20	10/15/19	MeCl2, Lot 3373271	25 mL	SVLVIntstd_00010	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
.SVLVIntstd_00010	09/30/23	Restek, Lot A0141743			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
SVTAPSTD0.38i_00010	04/15/20	10/15/19	MeCl2, Lot 3373271	1 mL	SVTAPITINTRNi_00023	10 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
					SVTAPITSTCKi_00023	4.75 uL	Benzo[e]pyrene	0.19 ug/mL
							Benzoic acid	0.19 ug/mL
							Indene	0.19 ug/mL
							2,3,5,6-Tetrachlorophenol	0.19 ug/mL
							2-Naphthylamine	0.19 ug/mL
							7,12-Dimethylbenz(a)anthracene	0.19 ug/mL
							1,1'-Biphenyl	0.19 ug/mL
							1,2,4,5-Tetrachlorobenzene	0.19 ug/mL
							1,2,4-Trichlorobenzene	0.19 ug/mL
							1,2-Dichlorobenzene	0.19 ug/mL
							1,2-Diphenylhydrazine	0.19 ug/mL
							1,3-Dichlorobenzene	0.19 ug/mL
							1,3-Dinitrobenzene	0.19 ug/mL
							1,4-Dichlorobenzene	0.19 ug/mL
							1,4-Dioxane	0.19 ug/mL
							1-Methylnaphthalene	0.19 ug/mL
							2,2'-oxybis[1-chloropropane]	0.19 ug/mL
							2,3,4,6-Tetrachlorophenol	0.19 ug/mL
							2,4,5-Trichlorophenol	0.19 ug/mL
							2,4,6-Trichlorophenol	0.19 ug/mL
							2,4-Dichlorophenol	0.19 ug/mL
							2,4-Dimethylphenol	0.19 ug/mL
							2,4-Dinitrophenol	0.38 ug/mL
							2,4-Dinitrotoluene	0.19 ug/mL
							2,6-Dichlorophenol	0.19 ug/mL
							2,6-Dinitrotoluene	0.19 ug/mL
							2-Chloronaphthalene	0.19 ug/mL
							2-Chlorophenol	0.19 ug/mL

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Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Methylnaphthalene	0.19 ug/mL
							2-Methylphenol	0.19 ug/mL
							2-Nitroaniline	0.19 ug/mL
							2-Nitrophenol	0.19 ug/mL
							3-Nitroaniline	0.19 ug/mL
							4,6-Dinitro-2-methylphenol	0.38 ug/mL
							4-Bromophenyl phenyl ether	0.19 ug/mL
							4-Chloro-3-methylphenol	0.19 ug/mL
							4-Chloroaniline	0.19 ug/mL
							4-Chlorophenyl phenyl ether	0.19 ug/mL
							4-Nitroaniline	0.19 ug/mL
							4-Nitrophenol	0.38 ug/mL
							Acenaphthene	0.19 ug/mL
							Acenaphthylene	0.19 ug/mL
							Acetophenone	0.19 ug/mL
							Aniline	0.19 ug/mL
							Anthracene	0.19 ug/mL
							Azobenzene	0.19 ug/mL
							Benzo[a]anthracene	0.19 ug/mL
							Benzo[a]pyrene	0.19 ug/mL
							Benzo[b]fluoranthene	0.19 ug/mL
							Benzo[g,h,i]perylene	0.19 ug/mL
							Benzo[k]fluoranthene	0.19 ug/mL
							Benzyl alcohol	0.19 ug/mL
							Bis(2-chloroethoxy)methane	0.19 ug/mL
							Bis(2-chloroethyl)ether	0.19 ug/mL
							Bis(2-ethylhexyl) phthalate	0.19 ug/mL
							Butyl benzyl phthalate	0.19 ug/mL
							Carbazole	0.19 ug/mL
							Chrysene	0.19 ug/mL
							Di-n-butyl phthalate	0.19 ug/mL
							Di-n-octyl phthalate	0.19 ug/mL
							Dibenz(a,h)anthracene	0.19 ug/mL
							Dibenzofuran	0.19 ug/mL
							Diethyl phthalate	0.19 ug/mL
							Dimethyl phthalate	0.19 ug/mL
							Fluoranthene	0.19 ug/mL
							Fluorene	0.19 ug/mL
							Hexachlorobenzene	0.19 ug/mL
							Hexachlorobutadiene	0.19 ug/mL
							Hexachlorocyclopentadiene	0.19 ug/mL
							Hexachloroethane	0.19 ug/mL
							Hexadecane	0.19 ug/mL
							Indeno[1,2,3-cd]pyrene	0.19 ug/mL
							Isophorone	0.19 ug/mL
							Methylphenol, 3 & 4	0.19 ug/mL
							n-Decane	0.19 ug/mL
							N-Nitrosodi-n-propylamine	0.19 ug/mL

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Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							N-Nitrosodimethylamine	0.19 ug/mL
							N-Nitrosodiphenylamine	0.19 ug/mL
							n-Octadecane	0.19 ug/mL
							Naphthalene	0.19 ug/mL
							Nitrobenzene	0.19 ug/mL
							Pentachlorophenol	0.38 ug/mL
							Phenanthrene	0.19 ug/mL
							Phenol	0.19 ug/mL
							Pyrene	0.19 ug/mL
							Pyridine	0.38 ug/mL
							Atrazine	0.19 ug/mL
							Benzaldehyde	0.19 ug/mL
							Caprolactam	0.19 ug/mL
							3,3'-Dichlorobenzidine	0.19 ug/mL
							Benzidine	0.19 ug/mL
							2,4,6-Tribromophenol (Surr)	0.19 ug/mL
							2-Fluorobiphenyl	0.19 ug/mL
							2-Fluorophenol (Surr)	0.19 ug/mL
							Nitrobenzene-d5 (Surr)	0.19 ug/mL
							Phenol-d5 (Surr)	0.19 ug/mL
							Terphenyl-d14 (Surr)	0.19 ug/mL
							Methyl methanesulfonate	0.19 ug/mL
							N-Nitrosopyrrolidine	0.19 ug/mL
.SVTAPITINTRNi_00023	10/15/20	10/15/19	MeCl2, Lot 3373271	25 mL	SVLVIntstd_00010	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..SVLVIntstd_00010	09/30/23	Restek, Lot A0141743			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.SVTAPITSTCKi_00023	04/15/20	10/15/19	MeCl2, Lot 3373271	20 mL	SV LIST3/STD1_00002	400 uL	Benzo[e]pyrene	40 ug/mL
					SV LST1/STD10_00001	400 uL	Benzoic acid	40 ug/mL
							Indene	40 ug/mL
					SV2356TCPs_00004	800 uL	2,3,5,6-Tetrachlorophenol	40 ug/mL
					SV2NAPAMINEs_00009	800 uL	2-Naphthylamine	40 ug/mL
					sv712dimbenza_00012	800 uL	7,12-Dimethylbenz(a)anthracene	40 ug/mL
					SVLIST1/STD1_00002	800 uL	1,1'-Biphenyl	40 ug/mL
							1,2,4,5-Tetrachlorobenzene	40 ug/mL
							1,2,4-Trichlorobenzene	40 ug/mL
							1,2-Dichlorobenzene	40 ug/mL
							1,2-Diphenylhydrazine	40 ug/mL
							1,3-Dichlorobenzene	40 ug/mL
							1,3-Dinitrobenzene	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,4-Dichlorobenzene	40 ug/mL
							1,4-Dioxane	40 ug/mL
							1-Methylnaphthalene	40 ug/mL
							2,2'-oxybis[1-chloropropane]	40 ug/mL
							2,3,4,6-Tetrachlorophenol	40 ug/mL
							2,4,5-Trichlorophenol	40 ug/mL
							2,4,6-Trichlorophenol	40 ug/mL
							2,4-Dichlorophenol	40 ug/mL
							2,4-Dimethylphenol	40 ug/mL
							2,4-Dinitrophenol	80 ug/mL
							2,4-Dinitrotoluene	40 ug/mL
							2,6-Dichlorophenol	40 ug/mL
							2,6-Dinitrotoluene	40 ug/mL
							2-Chloronaphthalene	40 ug/mL
							2-Chlorophenol	40 ug/mL
							2-Methylnaphthalene	40 ug/mL
							2-Methylphenol	40 ug/mL
							2-Nitroaniline	40 ug/mL
							2-Nitrophenol	40 ug/mL
							3-Nitroaniline	40 ug/mL
							4,6-Dinitro-2-methylphenol	80 ug/mL
							4-Bromophenyl phenyl ether	40 ug/mL
							4-Chloro-3-methylphenol	40 ug/mL
							4-Chloroaniline	40 ug/mL
							4-Chlorophenyl phenyl ether	40 ug/mL
							4-Nitroaniline	40 ug/mL
							4-Nitrophenol	80 ug/mL
							Acenaphthene	40 ug/mL
							Acenaphthylene	40 ug/mL
							Acetophenone	40 ug/mL
							Aniline	40 ug/mL
							Anthracene	40 ug/mL
							Azobenzene	40 ug/mL
							Benzo[a]anthracene	40 ug/mL
							Benzo[a]pyrene	40 ug/mL
							Benzo[b]fluoranthene	40 ug/mL
							Benzo[g,h,i]perylene	40 ug/mL
							Benzo[k]fluoranthene	40 ug/mL
							Benzyl alcohol	40 ug/mL
							Bis(2-chloroethoxy)methane	40 ug/mL
							Bis(2-chloroethyl)ether	40 ug/mL
							Bis(2-ethylhexyl) phthalate	40 ug/mL
							Butyl benzyl phthalate	40 ug/mL
							Carbazole	40 ug/mL
							Chrysene	40 ug/mL
							Di-n-butyl phthalate	40 ug/mL
							Di-n-octyl phthalate	40 ug/mL
							Dibenz(a,h)anthracene	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Dibenzofuran	40 ug/mL
							Diethyl phthalate	40 ug/mL
							Dimethyl phthalate	40 ug/mL
							Fluoranthene	40 ug/mL
							Fluorene	40 ug/mL
							Hexachlorobenzene	40 ug/mL
							Hexachlorobutadiene	40 ug/mL
							Hexachlorocyclopentadiene	40 ug/mL
							Hexachloroethane	40 ug/mL
							Hexadecane	40 ug/mL
							Indeno[1,2,3-cd]pyrene	40 ug/mL
							Isophorone	40 ug/mL
							Methylphenol, 3 & 4	40 ug/mL
							n-Decane	40 ug/mL
							N-Nitrosodi-n-propylamine	40 ug/mL
							N-Nitrosodimethylamine	40 ug/mL
							N-Nitrosodiphenylamine	40 ug/mL
							n-Octadecane	40 ug/mL
							Naphthalene	40 ug/mL
							Nitrobenzene	40 ug/mL
							Pentachlorophenol	80 ug/mL
							Phenanthrene	40 ug/mL
							Phenol	40 ug/mL
							Pyrene	40 ug/mL
							Pyridine	80 ug/mL
					SVLIST1/STD11_00003	400 uL	Atrazine	40 ug/mL
							Benzaldehyde	40 ug/mL
							Caprolactam	40 ug/mL
					SVLIST1/STD9_00004	400 uL	3,3'-Dichlorobenzidine	40 ug/mL
							Benzidine	40 ug/mL
					SVLVSURRSPK_00021	160 uL	2,4,6-Tribromophenol (Surr)	40 ug/mL
							2-Fluorobiphenyl	40 ug/mL
							2-Fluorophenol (Surr)	40 ug/mL
							Nitrobenzene-d5 (Surr)	40 ug/mL
							Phenol-d5 (Surr)	40 ug/mL
							Terphenyl-d14 (Surr)	40 ug/mL
					svmethylmetha_00012	800 uL	Methyl methanesulfonate	40 ug/mL
					SVNNITROPYROs_00019	800 uL	N-Nitrosopyrrolidine	40 ug/mL
..SV LIST3/STD1_00002	06/30/20	Restek, Lot a0123781			(Purchased Reagent)		Benzo[e]pyrene	2000 ug/mL
..SV LST1/STD10_00001	08/31/20	Restek, Lot A0145854			(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
..SV2356TCPs_00004	09/21/20	Absolute, Lot 092115			(Purchased Reagent)		2,3,5,6-Tetrachlorophenol	1000 ug/mL
..SV2NAPAMINEs_00009	11/19/22	Ultra Scientific, Lot Cs-5614			(Purchased Reagent)		2-Naphthylamine	1000 ug/mL
..sv712dimbenza_00012	05/31/21	Absolute, Lot 053116			(Purchased Reagent)		7,12-Dimethylbenz(a)anthracene	1000 ug/mL
..SVLIST1/STD1_00002	09/30/20	Restek, Lot A0147571			(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2-Diphenylhydrazine	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							Methylphenol, 3 & 4	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
..SVLIST1/STD11_00003	09/30/20		Restek, Lot A0147257		(Purchased Reagent)		Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
..SVLIST1/STD9_00004	07/31/20		Restek, Lot A0145230		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
							Benzidine	2000 ug/mL
..SVLVSURRSPK_00021	12/31/21		Restek, Lot A0123269		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
..svmethylmetha_00012	03/27/22		Absolute, Lot 032717		(Purchased Reagent)		Methyl methanesulfonate	1000 ug/mL
..SVNNITROPYROs_00019	11/06/21		absolute, Lot 110618		(Purchased Reagent)		N-Nitrosopyrrolidine	1000 ug/mL
SVTAPSTD10i_00346	10/22/19	10/15/19	MeCl2, Lot 3373271	1 mL	SVTAPITINTRNi_00023	10 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					SVTAPITSTCKi_00023	125 uL	Benzo[e]pyrene	5 ug/mL
							Benzoic acid	5 ug/mL
							Indene	5 ug/mL
							2,3,5,6-Tetrachlorophenol	5 ug/mL
							2-Naphthylamine	5 ug/mL
							7,12-Dimethylbenz(a)anthracene	5 ug/mL
							1,1'-Biphenyl	5 ug/mL
							1,2,4,5-Tetrachlorobenzene	5 ug/mL
							1,2,4-Trichlorobenzene	5 ug/mL
							1,2-Dichlorobenzene	5 ug/mL
							1,2-Diphenylhydrazine	5 ug/mL
							1,3-Dichlorobenzene	5 ug/mL
							1,3-Dinitrobenzene	5 ug/mL
							1,4-Dichlorobenzene	5 ug/mL
							1,4-Dioxane	5 ug/mL
							1-Methylnaphthalene	5 ug/mL
							2,2'-oxybis[1-chloropropane]	5 ug/mL
							2,3,4,6-Tetrachlorophenol	5 ug/mL
							2,4,5-Trichlorophenol	5 ug/mL
							2,4,6-Trichlorophenol	5 ug/mL
							2,4-Dichlorophenol	5 ug/mL
							2,4-Dimethylphenol	5 ug/mL
							2,4-Dinitrophenol	10 ug/mL
							2,4-Dinitrotoluene	5 ug/mL
							2,6-Dichlorophenol	5 ug/mL
							2,6-Dinitrotoluene	5 ug/mL
							2-Chloronaphthalene	5 ug/mL
							2-Chlorophenol	5 ug/mL
							2-Methylnaphthalene	5 ug/mL
							2-Methylphenol	5 ug/mL
							2-Nitroaniline	5 ug/mL
							2-Nitrophenol	5 ug/mL
							3-Nitroaniline	5 ug/mL
							4,6-Dinitro-2-methylphenol	10 ug/mL
							4-Bromophenyl phenyl ether	5 ug/mL
							4-Chloro-3-methylphenol	5 ug/mL
							4-Chloroaniline	5 ug/mL
							4-Chlorophenyl phenyl ether	5 ug/mL
							4-Nitroaniline	5 ug/mL
							4-Nitrophenol	10 ug/mL
							Acenaphthene	5 ug/mL
							Acenaphthylene	5 ug/mL
							Acetophenone	5 ug/mL
							Aniline	5 ug/mL
							Anthracene	5 ug/mL
							Azobenzene	5 ug/mL
							Benzo[a]anthracene	5 ug/mL
							Benzo[a]pyrene	5 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[b]fluoranthene	5 ug/mL
							Benzo[g,h,i]perylene	5 ug/mL
							Benzo[k]fluoranthene	5 ug/mL
							Benzyl alcohol	5 ug/mL
							Bis(2-chloroethoxy)methane	5 ug/mL
							Bis(2-chloroethyl)ether	5 ug/mL
							Bis(2-ethylhexyl) phthalate	5 ug/mL
							Butyl benzyl phthalate	5 ug/mL
							Carbazole	5 ug/mL
							Chrysene	5 ug/mL
							Di-n-butyl phthalate	5 ug/mL
							Di-n-octyl phthalate	5 ug/mL
							Dibenz(a,h)anthracene	5 ug/mL
							Dibenzofuran	5 ug/mL
							Diethyl phthalate	5 ug/mL
							Dimethyl phthalate	5 ug/mL
							Fluoranthene	5 ug/mL
							Fluorene	5 ug/mL
							Hexachlorobenzene	5 ug/mL
							Hexachlorobutadiene	5 ug/mL
							Hexachlorocyclopentadiene	5 ug/mL
							Hexachloroethane	5 ug/mL
							Hexadecane	5 ug/mL
							Indeno[1,2,3-cd]pyrene	5 ug/mL
							Isophorone	5 ug/mL
							Methylphenol, 3 & 4	5 ug/mL
							n-Decane	5 ug/mL
							N-Nitrosodi-n-propylamine	5 ug/mL
							N-Nitrosodimethylamine	5 ug/mL
							N-Nitrosodiphenylamine	5 ug/mL
							n-Octadecane	5 ug/mL
							Naphthalene	5 ug/mL
							Nitrobenzene	5 ug/mL
							Pentachlorophenol	10 ug/mL
							Phenanthrene	5 ug/mL
							Phenol	5 ug/mL
							Pyrene	5 ug/mL
							Pyridine	10 ug/mL
							Atrazine	5 ug/mL
							Benzaldehyde	5 ug/mL
							Caprolactam	5 ug/mL
							3,3'-Dichlorobenzidine	5 ug/mL
							Benzidine	5 ug/mL
							2,4,6-Tribromophenol (Surr)	5 ug/mL
							2-Fluorobiphenyl	5 ug/mL
							2-Fluorophenol (Surr)	5 ug/mL
							Nitrobenzene-d5 (Surr)	5 ug/mL
							Phenol-d5 (Surr)	5 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Terphenyl-d14 (Surr)	5 ug/mL
							Methyl methanesulfonate	5 ug/mL
							N-Nitrosopyrrolidine	5 ug/mL
.SVTAPITINTRNi_00023	10/15/20	10/15/19	MeCl2, Lot 3373271	25 mL	SVLVIntstd_00010	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..SVLVIntstd_00010	09/30/23	Restek, Lot A0141743			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.SVTAPITSTCKi_00023	04/15/20	10/15/19	MeCl2, Lot 3373271	20 mL	SV LIST3/STD1_00002	400 uL	Benzo[e]pyrene	40 ug/mL
					SV LST1/STD10_00001	400 uL	Benzoic acid	40 ug/mL
							Indene	40 ug/mL
					SV2356TCPs_00004	800 uL	2,3,5,6-Tetrachlorophenol	40 ug/mL
					SV2NAPAMINEs_00009	800 uL	2-Naphthylamine	40 ug/mL
					sv712dimbenza_00012	800 uL	7,12-Dimethylbenz(a)anthracene	40 ug/mL
					SVLIST1/STD1_00002	800 uL	1,1'-Biphenyl	40 ug/mL
							1,2,4,5-Tetrachlorobenzene	40 ug/mL
							1,2,4-Trichlorobenzene	40 ug/mL
							1,2-Dichlorobenzene	40 ug/mL
							1,2-Diphenylhydrazine	40 ug/mL
							1,3-Dichlorobenzene	40 ug/mL
							1,3-Dinitrobenzene	40 ug/mL
							1,4-Dichlorobenzene	40 ug/mL
							1,4-Dioxane	40 ug/mL
							1-Methylnaphthalene	40 ug/mL
							2,2'-oxybis[1-chloropropane]	40 ug/mL
							2,3,4,6-Tetrachlorophenol	40 ug/mL
							2,4,5-Trichlorophenol	40 ug/mL
							2,4,6-Trichlorophenol	40 ug/mL
							2,4-Dichlorophenol	40 ug/mL
							2,4-Dimethylphenol	40 ug/mL
							2,4-Dinitrophenol	80 ug/mL
							2,4-Dinitrotoluene	40 ug/mL
							2,6-Dichlorophenol	40 ug/mL
							2,6-Dinitrotoluene	40 ug/mL
							2-Chloronaphthalene	40 ug/mL
							2-Chlorophenol	40 ug/mL
							2-Methylnaphthalene	40 ug/mL
							2-Methylphenol	40 ug/mL
							2-Nitroaniline	40 ug/mL
							2-Nitrophenol	40 ug/mL
							3-Nitroaniline	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4,6-Dinitro-2-methylphenol	80 ug/mL
							4-Bromophenyl phenyl ether	40 ug/mL
							4-Chloro-3-methylphenol	40 ug/mL
							4-Chloroaniline	40 ug/mL
							4-Chlorophenyl phenyl ether	40 ug/mL
							4-Nitroaniline	40 ug/mL
							4-Nitrophenol	80 ug/mL
							Acenaphthene	40 ug/mL
							Acenaphthylene	40 ug/mL
							Acetophenone	40 ug/mL
							Aniline	40 ug/mL
							Anthracene	40 ug/mL
							Azobenzene	40 ug/mL
							Benzo[a]anthracene	40 ug/mL
							Benzo[a]pyrene	40 ug/mL
							Benzo[b]fluoranthene	40 ug/mL
							Benzo[g,h,i]perylene	40 ug/mL
							Benzo[k]fluoranthene	40 ug/mL
							Benzyl alcohol	40 ug/mL
							Bis(2-chloroethoxy)methane	40 ug/mL
							Bis(2-chloroethyl)ether	40 ug/mL
							Bis(2-ethylhexyl) phthalate	40 ug/mL
							Butyl benzyl phthalate	40 ug/mL
							Carbazole	40 ug/mL
							Chrysene	40 ug/mL
							Di-n-butyl phthalate	40 ug/mL
							Di-n-octyl phthalate	40 ug/mL
							Dibenz(a,h)anthracene	40 ug/mL
							Dibenzofuran	40 ug/mL
							Diethyl phthalate	40 ug/mL
							Dimethyl phthalate	40 ug/mL
							Fluoranthene	40 ug/mL
							Fluorene	40 ug/mL
							Hexachlorobenzene	40 ug/mL
							Hexachlorobutadiene	40 ug/mL
							Hexachlorocyclopentadiene	40 ug/mL
							Hexachloroethane	40 ug/mL
							Hexadecane	40 ug/mL
							Indeno[1,2,3-cd]pyrene	40 ug/mL
							Isophorone	40 ug/mL
							Methylphenol, 3 & 4	40 ug/mL
							n-Decane	40 ug/mL
							N-Nitrosodi-n-propylamine	40 ug/mL
							N-Nitrosodimethylamine	40 ug/mL
							N-Nitrosodiphenylamine	40 ug/mL
							n-Octadecane	40 ug/mL
							Naphthalene	40 ug/mL
							Nitrobenzene	40 ug/mL

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Pentachlorophenol	80 ug/mL
							Phenanthrene	40 ug/mL
							Phenol	40 ug/mL
							Pyrene	40 ug/mL
							Pyridine	80 ug/mL
					SVLIST1/STD11_00003	400 uL	Atrazine	40 ug/mL
							Benzaldehyde	40 ug/mL
							Caprolactam	40 ug/mL
					SVLIST1/STD9_00004	400 uL	3,3'-Dichlorobenzidine	40 ug/mL
							Benzidine	40 ug/mL
					SVLVSURRSPK_00021	160 uL	2,4,6-Tribromophenol (Surr)	40 ug/mL
							2-Fluorobiphenyl	40 ug/mL
							2-Fluorophenol (Surr)	40 ug/mL
							Nitrobenzene-d5 (Surr)	40 ug/mL
							Phenol-d5 (Surr)	40 ug/mL
							Terphenyl-d14 (Surr)	40 ug/mL
					svmethylmetha_00012	800 uL	Methyl methanesulfonate	40 ug/mL
					SVNNITROPYROs_00019	800 uL	N-Nitrosopyrrolidine	40 ug/mL
..SV LIST3/STD1_00002	06/30/20		Restek, Lot a0123781		(Purchased Reagent)		Benzo[e]pyrene	2000 ug/mL
..SV LST1/STD10_00001	08/31/20		Restek, Lot A0145854		(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
..SV2356TCPs_00004	09/21/20		Absolute, Lot 092115		(Purchased Reagent)		2,3,5,6-Tetrachlorophenol	1000 ug/mL
..SV2NAPAMINEs_00009	11/19/22		Ultra Scientific, Lot Cs-5614		(Purchased Reagent)		2-Naphthylamine	1000 ug/mL
..sv712dimbenza_00012	05/31/21		Absolute, Lot 053116		(Purchased Reagent)		7,12-Dimethylbenz(a)anthracene	1000 ug/mL
..SVLIST1/STD1_00002	09/30/20		Restek, Lot A0147571		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							Methylphenol, 3 & 4	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
..SVLIST1/STD11_00003	09/30/20		Restek, Lot A0147257		(Purchased Reagent)		Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
..SVLIST1/STD9_00004	07/31/20		Restek, Lot A0145230		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
							Benzidine	2000 ug/mL
..SVLVSURRSPK_00021	12/31/21		Restek, Lot A0123269		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
..svmethylmetha_00012	03/27/22		Absolute, Lot 032717		(Purchased Reagent)		Methyl methanesulfonate	1000 ug/mL
..SVNNITROPYROs_00019	11/06/21		absolute, Lot 110618		(Purchased Reagent)		N-Nitrosopyrrolidine	1000 ug/mL
SVTAPSTD2.0i_00021	04/15/20	10/15/19	MeCl2, Lot 3373271	1 mL	SVTAPITINTRNi_00023	10 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
					SVTAPITSTCKi_00023	25 uL	Benzo[e]pyrene	1 ug/mL
							Benzoic acid	1 ug/mL
							Indene	1 ug/mL
							2,3,5,6-Tetrachlorophenol	1 ug/mL
							2-Naphthylamine	1 ug/mL
							7,12-Dimethylbenz(a)anthracene	1 ug/mL
							1,1'-Biphenyl	1 ug/mL
							1,2,4,5-Tetrachlorobenzene	1 ug/mL
							1,2,4-Trichlorobenzene	1 ug/mL
							1,2-Dichlorobenzene	1 ug/mL
							1,2-Diphenylhydrazine	1 ug/mL
							1,3-Dichlorobenzene	1 ug/mL
							1,3-Dinitrobenzene	1 ug/mL
							1,4-Dichlorobenzene	1 ug/mL
							1,4-Dioxane	1 ug/mL
							1-Methylnaphthalene	1 ug/mL
							2,2'-oxybis[1-chloropropane]	1 ug/mL
							2,3,4,6-Tetrachlorophenol	1 ug/mL
							2,4,5-Trichlorophenol	1 ug/mL
							2,4,6-Trichlorophenol	1 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,4-Dichlorophenol	1 ug/mL
							2,4-Dimethylphenol	1 ug/mL
							2,4-Dinitrophenol	2 ug/mL
							2,4-Dinitrotoluene	1 ug/mL
							2,6-Dichlorophenol	1 ug/mL
							2,6-Dinitrotoluene	1 ug/mL
							2-Chloronaphthalene	1 ug/mL
							2-Chlorophenol	1 ug/mL
							2-Methylnaphthalene	1 ug/mL
							2-Methylphenol	1 ug/mL
							2-Nitroaniline	1 ug/mL
							2-Nitrophenol	1 ug/mL
							3-Nitroaniline	1 ug/mL
							4,6-Dinitro-2-methylphenol	2 ug/mL
							4-Bromophenyl phenyl ether	1 ug/mL
							4-Chloro-3-methylphenol	1 ug/mL
							4-Chloroaniline	1 ug/mL
							4-Chlorophenyl phenyl ether	1 ug/mL
							4-Nitroaniline	1 ug/mL
							4-Nitrophenol	2 ug/mL
							Acenaphthene	1 ug/mL
							Acenaphthylene	1 ug/mL
							Acetophenone	1 ug/mL
							Aniline	1 ug/mL
							Anthracene	1 ug/mL
							Azobenzene	1 ug/mL
							Benzo[a]anthracene	1 ug/mL
							Benzo[a]pyrene	1 ug/mL
							Benzo[b]fluoranthene	1 ug/mL
							Benzo[g,h,i]perylene	1 ug/mL
							Benzo[k]fluoranthene	1 ug/mL
							Benzyl alcohol	1 ug/mL
							Bis(2-chloroethoxy)methane	1 ug/mL
							Bis(2-chloroethyl)ether	1 ug/mL
							Bis(2-ethylhexyl) phthalate	1 ug/mL
							Butyl benzyl phthalate	1 ug/mL
							Carbazole	1 ug/mL
							Chrysene	1 ug/mL
							Di-n-butyl phthalate	1 ug/mL
							Di-n-octyl phthalate	1 ug/mL
							Dibenz(a,h)anthracene	1 ug/mL
							Dibenzofuran	1 ug/mL
							Diethyl phthalate	1 ug/mL
							Dimethyl phthalate	1 ug/mL
							Fluoranthene	1 ug/mL
							Fluorene	1 ug/mL
							Hexachlorobenzene	1 ug/mL
							Hexachlorobutadiene	1 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Hexachlorocyclopentadiene	1 ug/mL
							Hexachloroethane	1 ug/mL
							Hexadecane	1 ug/mL
							Indeno[1,2,3-cd]pyrene	1 ug/mL
							Isophorone	1 ug/mL
							Methylphenol, 3 & 4	1 ug/mL
							n-Decane	1 ug/mL
							N-Nitrosodi-n-propylamine	1 ug/mL
							N-Nitrosodimethylamine	1 ug/mL
							N-Nitrosodiphenylamine	1 ug/mL
							n-Octadecane	1 ug/mL
							Naphthalene	1 ug/mL
							Nitrobenzene	1 ug/mL
							Pentachlorophenol	2 ug/mL
							Phenanthrene	1 ug/mL
							Phenol	1 ug/mL
							Pyrene	1 ug/mL
							Pyridine	2 ug/mL
							Atrazine	1 ug/mL
							Benzaldehyde	1 ug/mL
							Caprolactam	1 ug/mL
							3,3'-Dichlorobenzidine	1 ug/mL
							Benzidine	1 ug/mL
							2,4,6-Tribromophenol (Surr)	1 ug/mL
							2-Fluorobiphenyl	1 ug/mL
							2-Fluorophenol (Surr)	1 ug/mL
							Nitrobenzene-d5 (Surr)	1 ug/mL
							Phenol-d5 (Surr)	1 ug/mL
							Terphenyl-d14 (Surr)	1 ug/mL
							Methyl methanesulfonate	1 ug/mL
							N-Nitrosopyrrolidine	1 ug/mL
.SVTAPITINTRNi_00023	10/15/20	10/15/19	MeCl2, Lot 3373271	25 mL	SVLVIntstd_00010	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..SVLVIntstd_00010	09/30/23	Restek, Lot A0141743			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.SVTAPITSTCKi_00023	04/15/20	10/15/19	MeCl2, Lot 3373271	20 mL	SV LIST3/STD1_00002	400 uL	Benzo[e]pyrene	40 ug/mL
					SV LST1/STD10_00001	400 uL	Benzoic acid	40 ug/mL
							Indene	40 ug/mL
					SV2356TCPs_00004	800 uL	2,3,5,6-Tetrachlorophenol	40 ug/mL
					SV2NAPAMINEs_00009	800 uL	2-Naphthylamine	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					sv712dimbenza_00012	800 uL	7,12-Dimethylbenz(a)anthracene	40 ug/mL
					SVLIST1/STD1_00002	800 uL	1,1'-Biphenyl	40 ug/mL
							1,2,4,5-Tetrachlorobenzene	40 ug/mL
							1,2,4-Trichlorobenzene	40 ug/mL
							1,2-Dichlorobenzene	40 ug/mL
							1,2-Diphenylhydrazine	40 ug/mL
							1,3-Dichlorobenzene	40 ug/mL
							1,3-Dinitrobenzene	40 ug/mL
							1,4-Dichlorobenzene	40 ug/mL
							1,4-Dioxane	40 ug/mL
							1-Methylnaphthalene	40 ug/mL
							2,2'-oxybis[1-chloropropane]	40 ug/mL
							2,3,4,6-Tetrachlorophenol	40 ug/mL
							2,4,5-Trichlorophenol	40 ug/mL
							2,4,6-Trichlorophenol	40 ug/mL
							2,4-Dichlorophenol	40 ug/mL
							2,4-Dimethylphenol	40 ug/mL
							2,4-Dinitrophenol	80 ug/mL
							2,4-Dinitrotoluene	40 ug/mL
							2,6-Dichlorophenol	40 ug/mL
							2,6-Dinitrotoluene	40 ug/mL
							2-Chloronaphthalene	40 ug/mL
							2-Chlorophenol	40 ug/mL
							2-Methylnaphthalene	40 ug/mL
							2-Methylphenol	40 ug/mL
							2-Nitroaniline	40 ug/mL
							2-Nitrophenol	40 ug/mL
							3-Nitroaniline	40 ug/mL
							4,6-Dinitro-2-methylphenol	80 ug/mL
							4-Bromophenyl phenyl ether	40 ug/mL
							4-Chloro-3-methylphenol	40 ug/mL
							4-Chloroaniline	40 ug/mL
							4-Chlorophenyl phenyl ether	40 ug/mL
							4-Nitroaniline	40 ug/mL
							4-Nitrophenol	80 ug/mL
							Acenaphthene	40 ug/mL
							Acenaphthylene	40 ug/mL
							Acetophenone	40 ug/mL
							Aniline	40 ug/mL
							Anthracene	40 ug/mL
							Azobenzene	40 ug/mL
							Benzo[a]anthracene	40 ug/mL
							Benzo[a]pyrene	40 ug/mL
							Benzo[b]fluoranthene	40 ug/mL
							Benzo[g,h,i]perylene	40 ug/mL
							Benzo[k]fluoranthene	40 ug/mL
							Benzyl alcohol	40 ug/mL
							Bis(2-chloroethoxy)methane	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Bis(2-chloroethyl)ether	40 ug/mL
							Bis(2-ethylhexyl) phthalate	40 ug/mL
							Butyl benzyl phthalate	40 ug/mL
							Carbazole	40 ug/mL
							Chrysene	40 ug/mL
							Di-n-butyl phthalate	40 ug/mL
							Di-n-octyl phthalate	40 ug/mL
							Dibenz(a,h)anthracene	40 ug/mL
							Dibenzofuran	40 ug/mL
							Diethyl phthalate	40 ug/mL
							Dimethyl phthalate	40 ug/mL
							Fluoranthene	40 ug/mL
							Fluorene	40 ug/mL
							Hexachlorobenzene	40 ug/mL
							Hexachlorobutadiene	40 ug/mL
							Hexachlorocyclopentadiene	40 ug/mL
							Hexachloroethane	40 ug/mL
							Hexadecane	40 ug/mL
							Indeno[1,2,3-cd]pyrene	40 ug/mL
							Isophorone	40 ug/mL
							Methylphenol, 3 & 4	40 ug/mL
							n-Decane	40 ug/mL
							N-Nitrosodi-n-propylamine	40 ug/mL
							N-Nitrosodimethylamine	40 ug/mL
							N-Nitrosodiphenylamine	40 ug/mL
							n-Octadecane	40 ug/mL
							Naphthalene	40 ug/mL
							Nitrobenzene	40 ug/mL
							Pentachlorophenol	80 ug/mL
							Phenanthrene	40 ug/mL
							Phenol	40 ug/mL
							Pyrene	40 ug/mL
							Pyridine	80 ug/mL
					SVLIST1/STD11_00003	400 uL	Atrazine	40 ug/mL
							Benzaldehyde	40 ug/mL
							Caprolactam	40 ug/mL
					SVLIST1/STD9_00004	400 uL	3,3'-Dichlorobenzidine	40 ug/mL
							Benzidine	40 ug/mL
					SVLVSURRSPK_00021	160 uL	2,4,6-Tribromophenol (Surr)	40 ug/mL
							2-Fluorobiphenyl	40 ug/mL
							2-Fluorophenol (Surr)	40 ug/mL
							Nitrobenzene-d5 (Surr)	40 ug/mL
							Phenol-d5 (Surr)	40 ug/mL
							Terphenyl-d14 (Surr)	40 ug/mL
					svmethylmetha_00012	800 uL	Methyl methanesulfonate	40 ug/mL
					SVNNITROPYROs_00019	800 uL	N-Nitrosopyrrolidine	40 ug/mL
..SV LIST3/STD1_00002	06/30/20		Restek, Lot a0123781		(Purchased Reagent)		Benzo[e]pyrene	2000 ug/mL
..SV LST1/STD10_00001	08/31/20		Restek, Lot A0145854		(Purchased Reagent)		Benzoic acid	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Indene	2000 ug/mL
..SV2356TCPs_00004	09/21/20	Absolute, Lot 092115			(Purchased Reagent)		2,3,5,6-Tetrachlorophenol	1000 ug/mL
..SV2NAPAMINEs_00009	11/19/22	Ultra Scientific, Lot Cs-5614			(Purchased Reagent)		2-Naphthylamine	1000 ug/mL
..sv712dimbenza_00012	05/31/21	Absolute, Lot 053116			(Purchased Reagent)		7,12-Dimethylbenz(a)anthracene	1000 ug/mL
..SVLIST1/STD1_00002	09/30/20	Restek, Lot A0147571			(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							Methylphenol, 3 & 4	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
..SVLIST1/STD11_00003	09/30/20		Restek, Lot A0147257		(Purchased Reagent)		Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
..SVLIST1/STD9_00004	07/31/20		Restek, Lot A0145230		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
							Benzidine	2000 ug/mL
..SVLVSURRSPK_00021	12/31/21		Restek, Lot A0123269		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
..svmethylmetha_00012	03/27/22		Absolute, Lot 032717		(Purchased Reagent)		Methyl methanesulfonate	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..SVNNITROPYROs_00019	11/06/21		absolute, Lot 110618		(Purchased Reagent)		N-Nitrosopyrrolidine	1000 ug/mL
SVTAPSTD20i_00018	04/15/20	10/15/19	MeCl2, Lot 3373271	1 mL	SVTAPITINTRNi_00023	10 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
					SVTAPITSTCKi_00023	250 uL	Benzo[e]pyrene	10 ug/mL
							Benzoic acid	10 ug/mL
							Indene	10 ug/mL
							2,3,5,6-Tetrachlorophenol	10 ug/mL
							2-Naphthylamine	10 ug/mL
							7,12-Dimethylbenz(a)anthracene	10 ug/mL
							1,1'-Biphenyl	10 ug/mL
							1,2,4,5-Tetrachlorobenzene	10 ug/mL
							1,2,4-Trichlorobenzene	10 ug/mL
							1,2-Dichlorobenzene	10 ug/mL
							1,2-Diphenylhydrazine	10 ug/mL
							1,3-Dichlorobenzene	10 ug/mL
							1,3-Dinitrobenzene	10 ug/mL
							1,4-Dichlorobenzene	10 ug/mL
							1,4-Dioxane	10 ug/mL
							1-Methylnaphthalene	10 ug/mL
							2,2'-oxybis[1-chloropropane]	10 ug/mL
							2,3,4,6-Tetrachlorophenol	10 ug/mL
							2,4,5-Trichlorophenol	10 ug/mL
							2,4,6-Trichlorophenol	10 ug/mL
							2,4-Dichlorophenol	10 ug/mL
							2,4-Dimethylphenol	10 ug/mL
							2,4-Dinitrophenol	20 ug/mL
							2,4-Dinitrotoluene	10 ug/mL
							2,6-Dichlorophenol	10 ug/mL
							2,6-Dinitrotoluene	10 ug/mL
							2-Chloronaphthalene	10 ug/mL
							2-Chlorophenol	10 ug/mL
							2-Methylnaphthalene	10 ug/mL
							2-Methylphenol	10 ug/mL
							2-Nitroaniline	10 ug/mL
							2-Nitrophenol	10 ug/mL
							3-Nitroaniline	10 ug/mL
							4,6-Dinitro-2-methylphenol	20 ug/mL
							4-Bromophenyl phenyl ether	10 ug/mL
							4-Chloro-3-methylphenol	10 ug/mL
							4-Chloroaniline	10 ug/mL
							4-Chlorophenyl phenyl ether	10 ug/mL
							4-Nitroaniline	10 ug/mL
							4-Nitrophenol	20 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Acenaphthene	10 ug/mL
							Acenaphthylene	10 ug/mL
							Acetophenone	10 ug/mL
							Aniline	10 ug/mL
							Anthracene	10 ug/mL
							Azobenzene	10 ug/mL
							Benzo[a]anthracene	10 ug/mL
							Benzo[a]pyrene	10 ug/mL
							Benzo[b]fluoranthene	10 ug/mL
							Benzo[g,h,i]perylene	10 ug/mL
							Benzo[k]fluoranthene	10 ug/mL
							Benzyl alcohol	10 ug/mL
							Bis(2-chloroethoxy)methane	10 ug/mL
							Bis(2-chloroethyl)ether	10 ug/mL
							Bis(2-ethylhexyl) phthalate	10 ug/mL
							Butyl benzyl phthalate	10 ug/mL
							Carbazole	10 ug/mL
							Chrysene	10 ug/mL
							Di-n-butyl phthalate	10 ug/mL
							Di-n-octyl phthalate	10 ug/mL
							Dibenz(a,h)anthracene	10 ug/mL
							Dibenzofuran	10 ug/mL
							Diethyl phthalate	10 ug/mL
							Dimethyl phthalate	10 ug/mL
							Fluoranthene	10 ug/mL
							Fluorene	10 ug/mL
							Hexachlorobenzene	10 ug/mL
							Hexachlorobutadiene	10 ug/mL
							Hexachlorocyclopentadiene	10 ug/mL
							Hexachloroethane	10 ug/mL
							Hexadecane	10 ug/mL
							Indeno[1,2,3-cd]pyrene	10 ug/mL
							Isophorone	10 ug/mL
							Methylphenol, 3 & 4	10 ug/mL
							n-Decane	10 ug/mL
							N-Nitrosodi-n-propylamine	10 ug/mL
							N-Nitrosodimethylamine	10 ug/mL
							N-Nitrosodiphenylamine	10 ug/mL
							n-Octadecane	10 ug/mL
							Naphthalene	10 ug/mL
							Nitrobenzene	10 ug/mL
							Pentachlorophenol	20 ug/mL
							Phenanthrene	10 ug/mL
							Phenol	10 ug/mL
							Pyrene	10 ug/mL
							Pyridine	20 ug/mL
							Atrazine	10 ug/mL
							Benzaldehyde	10 ug/mL

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Caprolactam	10 ug/mL
							3,3'-Dichlorobenzidine	10 ug/mL
							Benzidine	10 ug/mL
							2,4,6-Tribromophenol (Surr)	10 ug/mL
							2-Fluorobiphenyl	10 ug/mL
							2-Fluorophenol (Surr)	10 ug/mL
							Nitrobenzene-d5 (Surr)	10 ug/mL
							Phenol-d5 (Surr)	10 ug/mL
							Terphenyl-d14 (Surr)	10 ug/mL
							Methyl methanesulfonate	10 ug/mL
							N-Nitrosopyrrolidine	10 ug/mL
.SVTAPITINTRNi_00023	10/15/20	10/15/19	MeCl2, Lot 3373271	25 mL	SVLVIntstd_00010	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..SVLVIntstd_00010	09/30/23	Restek, Lot A0141743			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.SVTAPITSTCKi_00023	04/15/20	10/15/19	MeCl2, Lot 3373271	20 mL	SV LIST3/STD1_00002	400 uL	Benzo[e]pyrene	40 ug/mL
					SV LST1/STD10_00001	400 uL	Benzoic acid	40 ug/mL
							Indene	40 ug/mL
					SV2356TCPs_00004	800 uL	2,3,5,6-Tetrachlorophenol	40 ug/mL
					SV2NAPAMINEs_00009	800 uL	2-Naphthylamine	40 ug/mL
					sv712dimbenza_00012	800 uL	7,12-Dimethylbenz(a)anthracene	40 ug/mL
					SVLIST1/STD1_00002	800 uL	1,1'-Biphenyl	40 ug/mL
							1,2,4,5-Tetrachlorobenzene	40 ug/mL
							1,2,4-Trichlorobenzene	40 ug/mL
							1,2-Dichlorobenzene	40 ug/mL
							1,2-Diphenylhydrazine	40 ug/mL
							1,3-Dichlorobenzene	40 ug/mL
							1,3-Dinitrobenzene	40 ug/mL
							1,4-Dichlorobenzene	40 ug/mL
							1,4-Dioxane	40 ug/mL
							1-Methylnaphthalene	40 ug/mL
							2,2'-oxybis[1-chloropropane]	40 ug/mL
							2,3,4,6-Tetrachlorophenol	40 ug/mL
							2,4,5-Trichlorophenol	40 ug/mL
							2,4,6-Trichlorophenol	40 ug/mL
							2,4-Dichlorophenol	40 ug/mL
							2,4-Dimethylphenol	40 ug/mL
							2,4-Dinitrophenol	80 ug/mL
							2,4-Dinitrotoluene	40 ug/mL
							2,6-Dichlorophenol	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,6-Dinitrotoluene	40 ug/mL
							2-Chloronaphthalene	40 ug/mL
							2-Chlorophenol	40 ug/mL
							2-Methylnaphthalene	40 ug/mL
							2-Methylphenol	40 ug/mL
							2-Nitroaniline	40 ug/mL
							2-Nitrophenol	40 ug/mL
							3-Nitroaniline	40 ug/mL
							4,6-Dinitro-2-methylphenol	80 ug/mL
							4-Bromophenyl phenyl ether	40 ug/mL
							4-Chloro-3-methylphenol	40 ug/mL
							4-Chloroaniline	40 ug/mL
							4-Chlorophenyl phenyl ether	40 ug/mL
							4-Nitroaniline	40 ug/mL
							4-Nitrophenol	80 ug/mL
							Acenaphthene	40 ug/mL
							Acenaphthylene	40 ug/mL
							Acetophenone	40 ug/mL
							Aniline	40 ug/mL
							Anthracene	40 ug/mL
							Azobenzene	40 ug/mL
							Benzo[a]anthracene	40 ug/mL
							Benzo[a]pyrene	40 ug/mL
							Benzo[b]fluoranthene	40 ug/mL
							Benzo[g,h,i]perylene	40 ug/mL
							Benzo[k]fluoranthene	40 ug/mL
							Benzyl alcohol	40 ug/mL
							Bis(2-chloroethoxy)methane	40 ug/mL
							Bis(2-chloroethyl)ether	40 ug/mL
							Bis(2-ethylhexyl) phthalate	40 ug/mL
							Butyl benzyl phthalate	40 ug/mL
							Carbazole	40 ug/mL
							Chrysene	40 ug/mL
							Di-n-butyl phthalate	40 ug/mL
							Di-n-octyl phthalate	40 ug/mL
							Dibenz(a,h)anthracene	40 ug/mL
							Dibenzofuran	40 ug/mL
							Diethyl phthalate	40 ug/mL
							Dimethyl phthalate	40 ug/mL
							Fluoranthene	40 ug/mL
							Fluorene	40 ug/mL
							Hexachlorobenzene	40 ug/mL
							Hexachlorobutadiene	40 ug/mL
							Hexachlorocyclopentadiene	40 ug/mL
							Hexachloroethane	40 ug/mL
							Hexadecane	40 ug/mL
							Indeno[1,2,3-cd]pyrene	40 ug/mL
							Isophorone	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Methylphenol, 3 & 4	40 ug/mL
							n-Decane	40 ug/mL
							N-Nitrosodi-n-propylamine	40 ug/mL
							N-Nitrosodimethylamine	40 ug/mL
							N-Nitrosodiphenylamine	40 ug/mL
							n-Octadecane	40 ug/mL
							Naphthalene	40 ug/mL
							Nitrobenzene	40 ug/mL
							Pentachlorophenol	80 ug/mL
							Phenanthrene	40 ug/mL
							Phenol	40 ug/mL
							Pyrene	40 ug/mL
							Pyridine	80 ug/mL
					SVLIST1/STD11_00003	400 uL	Atrazine	40 ug/mL
							Benzaldehyde	40 ug/mL
							Caprolactam	40 ug/mL
					SVLIST1/STD9_00004	400 uL	3,3'-Dichlorobenzidine	40 ug/mL
							Benzidine	40 ug/mL
					SVLVSURRSPK_00021	160 uL	2,4,6-Tribromophenol (Surr)	40 ug/mL
							2-Fluorobiphenyl	40 ug/mL
							2-Fluorophenol (Surr)	40 ug/mL
							Nitrobenzene-d5 (Surr)	40 ug/mL
							Phenol-d5 (Surr)	40 ug/mL
							Terphenyl-d14 (Surr)	40 ug/mL
					svmethylmetha_00012	800 uL	Methyl methanesulfonate	40 ug/mL
					SVNNITROPYROs_00019	800 uL	N-Nitrosopyrrolidine	40 ug/mL
..SV LIST3/STD1_00002	06/30/20	Restek, Lot a0123781			(Purchased Reagent)		Benzo[e]pyrene	2000 ug/mL
..SV LST1/STD10_00001	08/31/20	Restek, Lot A0145854			(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
..SV2356TCPs_00004	09/21/20	Absolute, Lot 092115			(Purchased Reagent)		2,3,5,6-Tetrachlorophenol	1000 ug/mL
..SV2NAPAMINEs_00009	11/19/22	Ultra Scientific, Lot Cs-5614			(Purchased Reagent)		2-Naphthylamine	1000 ug/mL
..sv712dimbenza_00012	05/31/21	Absolute, Lot 053116			(Purchased Reagent)		7,12-Dimethylbenz(a)anthracene	1000 ug/mL
..SVLIST1/STD1_00002	09/30/20	Restek, Lot A0147571			(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							Methylphenol, 3 & 4	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
..SVLIST1/STD11_00003	09/30/20		Restek, Lot A0147257		(Purchased Reagent)		Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
..SVLIST1/STD9_00004	07/31/20		Restek, Lot A0145230		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
							Benzidine	2000 ug/mL
..SVLVSURRSPK_00021	12/31/21		Restek, Lot A0123269		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
..svmethylmetha_00012	03/27/22		Absolute, Lot 032717		(Purchased Reagent)		Methyl methanesulfonate	1000 ug/mL
..SVNNITROPYROs_00019	11/06/21		absolute, Lot 110618		(Purchased Reagent)		N-Nitrosopyrrolidine	1000 ug/mL
SVTAPSTD4.0i_00020	04/15/20	10/15/19	MeCl2, Lot 3373271	1 mL	SVTAPITINTRNi_00023	10 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
					SVTAPITSTCKi_00023	50 uL	Benzo[e]pyrene	2 ug/mL
							Benzoic acid	2 ug/mL
							Indene	2 ug/mL
							2,3,5,6-Tetrachlorophenol	2 ug/mL
							2-Naphthylamine	2 ug/mL
							7,12-Dimethylbenz(a)anthracene	2 ug/mL
							1,1'-Biphenyl	2 ug/mL
							1,2,4,5-Tetrachlorobenzene	2 ug/mL
							1,2,4-Trichlorobenzene	2 ug/mL
							1,2-Dichlorobenzene	2 ug/mL
							1,2-Diphenylhydrazine	2 ug/mL
							1,3-Dichlorobenzene	2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,3-Dinitrobenzene	2 ug/mL
							1,4-Dichlorobenzene	2 ug/mL
							1,4-Dioxane	2 ug/mL
							1-Methylnaphthalene	2 ug/mL
							2,2'-oxybis[1-chloropropane]	2 ug/mL
							2,3,4,6-Tetrachlorophenol	2 ug/mL
							2,4,5-Trichlorophenol	2 ug/mL
							2,4,6-Trichlorophenol	2 ug/mL
							2,4-Dichlorophenol	2 ug/mL
							2,4-Dimethylphenol	2 ug/mL
							2,4-Dinitrophenol	4 ug/mL
							2,4-Dinitrotoluene	2 ug/mL
							2,6-Dichlorophenol	2 ug/mL
							2,6-Dinitrotoluene	2 ug/mL
							2-Chloronaphthalene	2 ug/mL
							2-Chlorophenol	2 ug/mL
							2-Methylnaphthalene	2 ug/mL
							2-Methylphenol	2 ug/mL
							2-Nitroaniline	2 ug/mL
							2-Nitrophenol	2 ug/mL
							3-Nitroaniline	2 ug/mL
							4,6-Dinitro-2-methylphenol	4 ug/mL
							4-Bromophenyl phenyl ether	2 ug/mL
							4-Chloro-3-methylphenol	2 ug/mL
							4-Chloroaniline	2 ug/mL
							4-Chlorophenyl phenyl ether	2 ug/mL
							4-Nitroaniline	2 ug/mL
							4-Nitrophenol	4 ug/mL
							Acenaphthene	2 ug/mL
							Acenaphthylene	2 ug/mL
							Acetophenone	2 ug/mL
							Aniline	2 ug/mL
							Anthracene	2 ug/mL
							Azobenzene	2 ug/mL
							Benzo[a]anthracene	2 ug/mL
							Benzo[a]pyrene	2 ug/mL
							Benzo[b]fluoranthene	2 ug/mL
							Benzo[g,h,i]perylene	2 ug/mL
							Benzo[k]fluoranthene	2 ug/mL
							Benzyl alcohol	2 ug/mL
							Bis(2-chloroethoxy)methane	2 ug/mL
							Bis(2-chloroethyl)ether	2 ug/mL
							Bis(2-ethylhexyl) phthalate	2 ug/mL
							Butyl benzyl phthalate	2 ug/mL
							Carbazole	2 ug/mL
							Chrysene	2 ug/mL
							Di-n-butyl phthalate	2 ug/mL
							Di-n-octyl phthalate	2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Dibenz(a,h)anthracene	2 ug/mL
							Dibenzofuran	2 ug/mL
							Diethyl phthalate	2 ug/mL
							Dimethyl phthalate	2 ug/mL
							Fluoranthene	2 ug/mL
							Fluorene	2 ug/mL
							Hexachlorobenzene	2 ug/mL
							Hexachlorobutadiene	2 ug/mL
							Hexachlorocyclopentadiene	2 ug/mL
							Hexachloroethane	2 ug/mL
							Hexadecane	2 ug/mL
							Indeno[1,2,3-cd]pyrene	2 ug/mL
							Isophorone	2 ug/mL
							Methylphenol, 3 & 4	2 ug/mL
							n-Decane	2 ug/mL
							N-Nitrosodi-n-propylamine	2 ug/mL
							N-Nitrosodimethylamine	2 ug/mL
							N-Nitrosodiphenylamine	2 ug/mL
							n-Octadecane	2 ug/mL
							Naphthalene	2 ug/mL
							Nitrobenzene	2 ug/mL
							Pentachlorophenol	4 ug/mL
							Phenanthrene	2 ug/mL
							Phenol	2 ug/mL
							Pyrene	2 ug/mL
							Pyridine	4 ug/mL
							Atrazine	2 ug/mL
							Benzaldehyde	2 ug/mL
							Caprolactam	2 ug/mL
							3,3'-Dichlorobenzidine	2 ug/mL
							Benzidine	2 ug/mL
							2,4,6-Tribromophenol (Surr)	2 ug/mL
							2-Fluorobiphenyl	2 ug/mL
							2-Fluorophenol (Surr)	2 ug/mL
							Nitrobenzene-d5 (Surr)	2 ug/mL
							Phenol-d5 (Surr)	2 ug/mL
							Terphenyl-d14 (Surr)	2 ug/mL
							Methyl methanesulfonate	2 ug/mL
							N-Nitrosopyrrolidine	2 ug/mL
.SVTAPITINTRNi_00023	10/15/20	10/15/19	MeCl2, Lot 3373271	25 mL	SVLVIntstd_00010	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..SVLVIntstd_00010	09/30/23	Restek, Lot A0141743			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.SVTAPITSTCKi_00023	04/15/20	10/15/19	MeCl2, Lot 3373271	20 mL	SV LIST3/STD1_00002	400 uL	Benzo[e]pyrene	40 ug/mL
					SV LST1/STD10_00001	400 uL	Benzoic acid	40 ug/mL
							Indene	40 ug/mL
					SV2356TCPs_00004	800 uL	2,3,5,6-Tetrachlorophenol	40 ug/mL
					SV2NAPAMINEs_00009	800 uL	2-Naphthylamine	40 ug/mL
					sv712dimbenza_00012	800 uL	7,12-Dimethylbenz(a)anthracene	40 ug/mL
					SVLIST1/STD1_00002	800 uL	1,1'-Biphenyl	40 ug/mL
							1,2,4,5-Tetrachlorobenzene	40 ug/mL
							1,2,4-Trichlorobenzene	40 ug/mL
							1,2-Dichlorobenzene	40 ug/mL
							1,2-Diphenylhydrazine	40 ug/mL
							1,3-Dichlorobenzene	40 ug/mL
							1,3-Dinitrobenzene	40 ug/mL
							1,4-Dichlorobenzene	40 ug/mL
							1,4-Dioxane	40 ug/mL
							1-Methylnaphthalene	40 ug/mL
							2,2'-oxybis[1-chloropropane]	40 ug/mL
							2,3,4,6-Tetrachlorophenol	40 ug/mL
							2,4,5-Trichlorophenol	40 ug/mL
							2,4,6-Trichlorophenol	40 ug/mL
							2,4-Dichlorophenol	40 ug/mL
							2,4-Dimethylphenol	40 ug/mL
							2,4-Dinitrophenol	80 ug/mL
							2,4-Dinitrotoluene	40 ug/mL
							2,6-Dichlorophenol	40 ug/mL
							2,6-Dinitrotoluene	40 ug/mL
							2-Chloronaphthalene	40 ug/mL
							2-Chlorophenol	40 ug/mL
							2-Methylnaphthalene	40 ug/mL
							2-Methylphenol	40 ug/mL
							2-Nitroaniline	40 ug/mL
							2-Nitrophenol	40 ug/mL
							3-Nitroaniline	40 ug/mL
							4,6-Dinitro-2-methylphenol	80 ug/mL
							4-Bromophenyl phenyl ether	40 ug/mL
							4-Chloro-3-methylphenol	40 ug/mL
							4-Chloroaniline	40 ug/mL
							4-Chlorophenyl phenyl ether	40 ug/mL
							4-Nitroaniline	40 ug/mL
							4-Nitrophenol	80 ug/mL
							Acenaphthene	40 ug/mL
							Acenaphthylene	40 ug/mL
							Acetophenone	40 ug/mL
							Aniline	40 ug/mL
							Anthracene	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Azobenzene	40 ug/mL
							Benzo[a]anthracene	40 ug/mL
							Benzo[a]pyrene	40 ug/mL
							Benzo[b]fluoranthene	40 ug/mL
							Benzo[g,h,i]perylene	40 ug/mL
							Benzo[k]fluoranthene	40 ug/mL
							Benzyl alcohol	40 ug/mL
							Bis(2-chloroethoxy)methane	40 ug/mL
							Bis(2-chloroethyl)ether	40 ug/mL
							Bis(2-ethylhexyl) phthalate	40 ug/mL
							Butyl benzyl phthalate	40 ug/mL
							Carbazole	40 ug/mL
							Chrysene	40 ug/mL
							Di-n-butyl phthalate	40 ug/mL
							Di-n-octyl phthalate	40 ug/mL
							Dibenz(a,h)anthracene	40 ug/mL
							Dibenzofuran	40 ug/mL
							Diethyl phthalate	40 ug/mL
							Dimethyl phthalate	40 ug/mL
							Fluoranthene	40 ug/mL
							Fluorene	40 ug/mL
							Hexachlorobenzene	40 ug/mL
							Hexachlorobutadiene	40 ug/mL
							Hexachlorocyclopentadiene	40 ug/mL
							Hexachloroethane	40 ug/mL
							Hexadecane	40 ug/mL
							Indeno[1,2,3-cd]pyrene	40 ug/mL
							Isophorone	40 ug/mL
							Methylphenol, 3 & 4	40 ug/mL
							n-Decane	40 ug/mL
							N-Nitrosodi-n-propylamine	40 ug/mL
							N-Nitrosodimethylamine	40 ug/mL
							N-Nitrosodiphenylamine	40 ug/mL
							n-Octadecane	40 ug/mL
							Naphthalene	40 ug/mL
							Nitrobenzene	40 ug/mL
							Pentachlorophenol	80 ug/mL
							Phenanthrene	40 ug/mL
							Phenol	40 ug/mL
							Pyrene	40 ug/mL
							Pyridine	80 ug/mL
					SVLIST1/STD11_00003	400 uL	Atrazine	40 ug/mL
							Benzaldehyde	40 ug/mL
							Caprolactam	40 ug/mL
					SVLIST1/STD9_00004	400 uL	3,3'-Dichlorobenzidine	40 ug/mL
							Benzidine	40 ug/mL
					SVLVSURRSPK_00021	160 uL	2,4,6-Tribromophenol (Surr)	40 ug/mL
							2-Fluorobiphenyl	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Fluorophenol (Surr)	40 ug/mL
							Nitrobenzene-d5 (Surr)	40 ug/mL
							Phenol-d5 (Surr)	40 ug/mL
							Terphenyl-d14 (Surr)	40 ug/mL
					svmethylmetha_00012	800 uL	Methyl methanesulfonate	40 ug/mL
					SVNNITROPYROs_00019	800 uL	N-Nitrosopyrrolidine	40 ug/mL
..SV LIST3/STD1_00002	06/30/20		Restek, Lot a0123781		(Purchased Reagent)		Benzo[e]pyrene	2000 ug/mL
..SV LST1/STD10_00001	08/31/20		Restek, Lot A0145854		(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
..SV2356TCPs_00004	09/21/20		Absolute, Lot 092115		(Purchased Reagent)		2,3,5,6-Tetrachlorophenol	1000 ug/mL
..SV2NAPAMINEs_00009	11/19/22		Ultra Scientific, Lot Cs-5614		(Purchased Reagent)		2-Naphthylamine	1000 ug/mL
..sv712dimbenza_00012	05/31/21		Absolute, Lot 053116		(Purchased Reagent)		7,12-Dimethylbenz(a)anthracene	1000 ug/mL
..SVLIST1/STD1_00002	09/30/20		Restek, Lot A0147571		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							Methylphenol, 3 & 4	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
..SVLIST1/STD11_00003	09/30/20		Restek, Lot A0147257		(Purchased Reagent)		Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
..SVLIST1/STD9_00004	07/31/20		Restek, Lot A0145230		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzidine	2000 ug/mL
..SVLVSURRSPK_00021	12/31/21	Restek, Lot A0123269			(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
..svmethylmetha_00012	03/27/22	Absolute, Lot 032717			(Purchased Reagent)		Methyl methanesulfonate	1000 ug/mL
..SVNNITROPYROs_00019	11/06/21	absolute, Lot 110618			(Purchased Reagent)		N-Nitrosopyrrolidine	1000 ug/mL
SVTAPSTD40i_00018	04/15/20	10/15/19	MeCl2, Lot 3373271	1 mL	SVTAPITINTRNi_00023	10 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
					SVTAPITSTCKi_00023	500 uL	Benzo[e]pyrene	20 ug/mL
							Benzoic acid	20 ug/mL
							Indene	20 ug/mL
							2,3,5,6-Tetrachlorophenol	20 ug/mL
							2-Naphthylamine	20 ug/mL
							7,12-Dimethylbenz(a)anthracene	20 ug/mL
							1,1'-Biphenyl	20 ug/mL
							1,2,4,5-Tetrachlorobenzene	20 ug/mL
							1,2,4-Trichlorobenzene	20 ug/mL
							1,2-Dichlorobenzene	20 ug/mL
							1,2-Diphenylhydrazine	20 ug/mL
							1,3-Dichlorobenzene	20 ug/mL
							1,3-Dinitrobenzene	20 ug/mL
							1,4-Dichlorobenzene	20 ug/mL
							1,4-Dioxane	20 ug/mL
							1-Methylnaphthalene	20 ug/mL
							2,2'-oxybis[1-chloropropane]	20 ug/mL
							2,3,4,6-Tetrachlorophenol	20 ug/mL
							2,4,5-Trichlorophenol	20 ug/mL
							2,4,6-Trichlorophenol	20 ug/mL
							2,4-Dichlorophenol	20 ug/mL
							2,4-Dimethylphenol	20 ug/mL
							2,4-Dinitrophenol	40 ug/mL
							2,4-Dinitrotoluene	20 ug/mL
							2,6-Dichlorophenol	20 ug/mL
							2,6-Dinitrotoluene	20 ug/mL
							2-Chloronaphthalene	20 ug/mL
							2-Chlorophenol	20 ug/mL
							2-Methylnaphthalene	20 ug/mL
							2-Methylphenol	20 ug/mL
							2-Nitroaniline	20 ug/mL
							2-Nitrophenol	20 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							3-Nitroaniline	20 ug/mL
							4,6-Dinitro-2-methylphenol	40 ug/mL
							4-Bromophenyl phenyl ether	20 ug/mL
							4-Chloro-3-methylphenol	20 ug/mL
							4-Chloroaniline	20 ug/mL
							4-Chlorophenyl phenyl ether	20 ug/mL
							4-Nitroaniline	20 ug/mL
							4-Nitrophenol	40 ug/mL
							Acenaphthene	20 ug/mL
							Acenaphthylene	20 ug/mL
							Acetophenone	20 ug/mL
							Aniline	20 ug/mL
							Anthracene	20 ug/mL
							Azobenzene	20 ug/mL
							Benzo[a]anthracene	20 ug/mL
							Benzo[a]pyrene	20 ug/mL
							Benzo[b]fluoranthene	20 ug/mL
							Benzo[g,h,i]perylene	20 ug/mL
							Benzo[k]fluoranthene	20 ug/mL
							Benzyl alcohol	20 ug/mL
							Bis(2-chloroethoxy)methane	20 ug/mL
							Bis(2-chloroethyl)ether	20 ug/mL
							Bis(2-ethylhexyl) phthalate	20 ug/mL
							Butyl benzyl phthalate	20 ug/mL
							Carbazole	20 ug/mL
							Chrysene	20 ug/mL
							Di-n-butyl phthalate	20 ug/mL
							Di-n-octyl phthalate	20 ug/mL
							Dibenz(a,h)anthracene	20 ug/mL
							Dibenzofuran	20 ug/mL
							Diethyl phthalate	20 ug/mL
							Dimethyl phthalate	20 ug/mL
							Fluoranthene	20 ug/mL
							Fluorene	20 ug/mL
							Hexachlorobenzene	20 ug/mL
							Hexachlorobutadiene	20 ug/mL
							Hexachlorocyclopentadiene	20 ug/mL
							Hexachloroethane	20 ug/mL
							Hexadecane	20 ug/mL
							Indeno[1,2,3-cd]pyrene	20 ug/mL
							Isophorone	20 ug/mL
							Methylphenol, 3 & 4	20 ug/mL
							n-Decane	20 ug/mL
							N-Nitrosodi-n-propylamine	20 ug/mL
							N-Nitrosodimethylamine	20 ug/mL
							N-Nitrosodiphenylamine	20 ug/mL
							n-Octadecane	20 ug/mL
							Naphthalene	20 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Nitrobenzene	20 ug/mL
							Pentachlorophenol	40 ug/mL
							Phenanthrene	20 ug/mL
							Phenol	20 ug/mL
							Pyrene	20 ug/mL
							Pyridine	40 ug/mL
							Atrazine	20 ug/mL
							Benzaldehyde	20 ug/mL
							Caprolactam	20 ug/mL
							3,3'-Dichlorobenzidine	20 ug/mL
							Benzidine	20 ug/mL
							2,4,6-Tribromophenol (Surr)	20 ug/mL
							2-Fluorobiphenyl	20 ug/mL
							2-Fluorophenol (Surr)	20 ug/mL
							Nitrobenzene-d5 (Surr)	20 ug/mL
							Phenol-d5 (Surr)	20 ug/mL
							Terphenyl-d14 (Surr)	20 ug/mL
							Methyl methanesulfonate	20 ug/mL
							N-Nitrosopyrrolidine	20 ug/mL
.SVTAPITINTRNi_00023	10/15/20	10/15/19	MeCl2, Lot 3373271	25 mL	SVLVIntstd_00010	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..SVLVIntstd_00010	09/30/23	Restek, Lot A0141743			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.SVTAPITSTCKi_00023	04/15/20	10/15/19	MeCl2, Lot 3373271	20 mL	SV LIST3/STD1_00002	400 uL	Benzo[e]pyrene	40 ug/mL
					SV LST1/STD10_00001	400 uL	Benzoic acid	40 ug/mL
							Indene	40 ug/mL
					SV2356TCPs_00004	800 uL	2,3,5,6-Tetrachlorophenol	40 ug/mL
					SV2NAPAMINEs_00009	800 uL	2-Naphthylamine	40 ug/mL
					sv712dimbenza_00012	800 uL	7,12-Dimethylbenz(a)anthracene	40 ug/mL
					SVLIST1/STD1_00002	800 uL	1,1'-Biphenyl	40 ug/mL
							1,2,4,5-Tetrachlorobenzene	40 ug/mL
							1,2,4-Trichlorobenzene	40 ug/mL
							1,2-Dichlorobenzene	40 ug/mL
							1,2-Diphenylhydrazine	40 ug/mL
							1,3-Dichlorobenzene	40 ug/mL
							1,3-Dinitrobenzene	40 ug/mL
							1,4-Dichlorobenzene	40 ug/mL
							1,4-Dioxane	40 ug/mL
							1-Methylnaphthalene	40 ug/mL
							2,2'-oxybis[1-chloropropane]	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,3,4,6-Tetrachlorophenol	40 ug/mL
							2,4,5-Trichlorophenol	40 ug/mL
							2,4,6-Trichlorophenol	40 ug/mL
							2,4-Dichlorophenol	40 ug/mL
							2,4-Dimethylphenol	40 ug/mL
							2,4-Dinitrophenol	80 ug/mL
							2,4-Dinitrotoluene	40 ug/mL
							2,6-Dichlorophenol	40 ug/mL
							2,6-Dinitrotoluene	40 ug/mL
							2-Chloronaphthalene	40 ug/mL
							2-Chlorophenol	40 ug/mL
							2-Methylnaphthalene	40 ug/mL
							2-Methylphenol	40 ug/mL
							2-Nitroaniline	40 ug/mL
							2-Nitrophenol	40 ug/mL
							3-Nitroaniline	40 ug/mL
							4,6-Dinitro-2-methylphenol	80 ug/mL
							4-Bromophenyl phenyl ether	40 ug/mL
							4-Chloro-3-methylphenol	40 ug/mL
							4-Chloroaniline	40 ug/mL
							4-Chlorophenyl phenyl ether	40 ug/mL
							4-Nitroaniline	40 ug/mL
							4-Nitrophenol	80 ug/mL
							Acenaphthene	40 ug/mL
							Acenaphthylene	40 ug/mL
							Acetophenone	40 ug/mL
							Aniline	40 ug/mL
							Anthracene	40 ug/mL
							Azobenzene	40 ug/mL
							Benzo[a]anthracene	40 ug/mL
							Benzo[a]pyrene	40 ug/mL
							Benzo[b]fluoranthene	40 ug/mL
							Benzo[g,h,i]perylene	40 ug/mL
							Benzo[k]fluoranthene	40 ug/mL
							Benzyl alcohol	40 ug/mL
							Bis(2-chloroethoxy)methane	40 ug/mL
							Bis(2-chloroethyl)ether	40 ug/mL
							Bis(2-ethylhexyl) phthalate	40 ug/mL
							Butyl benzyl phthalate	40 ug/mL
							Carbazole	40 ug/mL
							Chrysene	40 ug/mL
							Di-n-butyl phthalate	40 ug/mL
							Di-n-octyl phthalate	40 ug/mL
							Dibenz(a,h)anthracene	40 ug/mL
							Dibenzofuran	40 ug/mL
							Diethyl phthalate	40 ug/mL
							Dimethyl phthalate	40 ug/mL
							Fluoranthene	40 ug/mL

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Fluorene	40 ug/mL
							Hexachlorobenzene	40 ug/mL
							Hexachlorobutadiene	40 ug/mL
							Hexachlorocyclopentadiene	40 ug/mL
							Hexachloroethane	40 ug/mL
							Hexadecane	40 ug/mL
							Indeno[1,2,3-cd]pyrene	40 ug/mL
							Isophorone	40 ug/mL
							Methylphenol, 3 & 4	40 ug/mL
							n-Decane	40 ug/mL
							N-Nitrosodi-n-propylamine	40 ug/mL
							N-Nitrosodimethylamine	40 ug/mL
							N-Nitrosodiphenylamine	40 ug/mL
							n-Octadecane	40 ug/mL
							Naphthalene	40 ug/mL
							Nitrobenzene	40 ug/mL
							Pentachlorophenol	80 ug/mL
							Phenanthrene	40 ug/mL
							Phenol	40 ug/mL
							Pyrene	40 ug/mL
							Pyridine	80 ug/mL
					SVLIST1/STD11_00003	400 uL	Atrazine	40 ug/mL
							Benzaldehyde	40 ug/mL
							Caprolactam	40 ug/mL
					SVLIST1/STD9_00004	400 uL	3,3'-Dichlorobenzidine	40 ug/mL
							Benzidine	40 ug/mL
					SVLVSURRSPK_00021	160 uL	2,4,6-Tribromophenol (Surr)	40 ug/mL
							2-Fluorobiphenyl	40 ug/mL
							2-Fluorophenol (Surr)	40 ug/mL
							Nitrobenzene-d5 (Surr)	40 ug/mL
							Phenol-d5 (Surr)	40 ug/mL
							Terphenyl-d14 (Surr)	40 ug/mL
					svmethylmetha_00012	800 uL	Methyl methanesulfonate	40 ug/mL
					SVNNITROPYROs_00019	800 uL	N-Nitrosopyrrolidine	40 ug/mL
..SV LIST3/STD1_00002	06/30/20	Restek, Lot a0123781			(Purchased Reagent)		Benzo[e]pyrene	2000 ug/mL
..SV LST1/STD10_00001	08/31/20	Restek, Lot A0145854			(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
..SV2356TCPs_00004	09/21/20	Absolute, Lot 092115			(Purchased Reagent)		2,3,5,6-Tetrachlorophenol	1000 ug/mL
..SV2NAPAMINEs_00009	11/19/22	Ultra Scientific, Lot Cs-5614			(Purchased Reagent)		2-Naphthylamine	1000 ug/mL
..sv712dimbenza_00012	05/31/21	Absolute, Lot 053116			(Purchased Reagent)		7,12-Dimethylbenz(a)anthracene	1000 ug/mL
..SVLIST1/STD1_00002	09/30/20	Restek, Lot A0147571			(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							Methylphenol, 3 & 4	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
..SVLIST1/STD11_00003	09/30/20		Restek, Lot A0147257		(Purchased Reagent)		Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
..SVLIST1/STD9_00004	07/31/20		Restek, Lot A0145230		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
							Benzidine	2000 ug/mL
..SVLVSURRSPK_00021	12/31/21		Restek, Lot A0123269		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
..svmethylmetha_00012	03/27/22		Absolute, Lot 032717		(Purchased Reagent)		Methyl methanesulfonate	1000 ug/mL
..SVNNITROPYROs_00019	11/06/21		absolute, Lot 110618		(Purchased Reagent)		N-Nitrosopyrrolidine	1000 ug/mL
SVTAPSTD60i_00018	04/15/20	10/15/19	MeCl2, Lot 3373271	1 mL	SVTAPITINTRNi_00023	10 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
					SVTAPITSTCKi_00023	750 uL	Benzo[e]pyrene	30 ug/mL
							Benzoic acid	30 ug/mL
							Indene	30 ug/mL
							2,3,5,6-Tetrachlorophenol	30 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Naphthylamine	30 ug/mL
							7,12-Dimethylbenz(a)anthracene	30 ug/mL
							1,1'-Biphenyl	30 ug/mL
							1,2,4,5-Tetrachlorobenzene	30 ug/mL
							1,2,4-Trichlorobenzene	30 ug/mL
							1,2-Dichlorobenzene	30 ug/mL
							1,2-Diphenylhydrazine	30 ug/mL
							1,3-Dichlorobenzene	30 ug/mL
							1,3-Dinitrobenzene	30 ug/mL
							1,4-Dichlorobenzene	30 ug/mL
							1,4-Dioxane	30 ug/mL
							1-Methylnaphthalene	30 ug/mL
							2,2'-oxybis[1-chloropropane]	30 ug/mL
							2,3,4,6-Tetrachlorophenol	30 ug/mL
							2,4,5-Trichlorophenol	30 ug/mL
							2,4,6-Trichlorophenol	30 ug/mL
							2,4-Dichlorophenol	30 ug/mL
							2,4-Dimethylphenol	30 ug/mL
							2,4-Dinitrophenol	60 ug/mL
							2,4-Dinitrotoluene	30 ug/mL
							2,6-Dichlorophenol	30 ug/mL
							2,6-Dinitrotoluene	30 ug/mL
							2-Chloronaphthalene	30 ug/mL
							2-Chlorophenol	30 ug/mL
							2-Methylnaphthalene	30 ug/mL
							2-Methylphenol	30 ug/mL
							2-Nitroaniline	30 ug/mL
							2-Nitrophenol	30 ug/mL
							3-Nitroaniline	30 ug/mL
							4,6-Dinitro-2-methylphenol	60 ug/mL
							4-Bromophenyl phenyl ether	30 ug/mL
							4-Chloro-3-methylphenol	30 ug/mL
							4-Chloroaniline	30 ug/mL
							4-Chlorophenyl phenyl ether	30 ug/mL
							4-Nitroaniline	30 ug/mL
							4-Nitrophenol	60 ug/mL
							Acenaphthene	30 ug/mL
							Acenaphthylene	30 ug/mL
							Acetophenone	30 ug/mL
							Aniline	30 ug/mL
							Anthracene	30 ug/mL
							Azobenzene	30 ug/mL
							Benzo[a]anthracene	30 ug/mL
							Benzo[a]pyrene	30 ug/mL
							Benzo[b]fluoranthene	30 ug/mL
							Benzo[g,h,i]perylene	30 ug/mL
							Benzo[k]fluoranthene	30 ug/mL
							Benzyl alcohol	30 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Bis(2-chloroethoxy)methane	30 ug/mL
							Bis(2-chloroethyl)ether	30 ug/mL
							Bis(2-ethylhexyl) phthalate	30 ug/mL
							Butyl benzyl phthalate	30 ug/mL
							Carbazole	30 ug/mL
							Chrysene	30 ug/mL
							Di-n-butyl phthalate	30 ug/mL
							Di-n-octyl phthalate	30 ug/mL
							Dibenz(a,h)anthracene	30 ug/mL
							Dibenzofuran	30 ug/mL
							Diethyl phthalate	30 ug/mL
							Dimethyl phthalate	30 ug/mL
							Fluoranthene	30 ug/mL
							Fluorene	30 ug/mL
							Hexachlorobenzene	30 ug/mL
							Hexachlorobutadiene	30 ug/mL
							Hexachlorocyclopentadiene	30 ug/mL
							Hexachloroethane	30 ug/mL
							Hexadecane	30 ug/mL
							Indeno[1,2,3-cd]pyrene	30 ug/mL
							Isophorone	30 ug/mL
							Methylphenol, 3 & 4	30 ug/mL
							n-Decane	30 ug/mL
							N-Nitrosodi-n-propylamine	30 ug/mL
							N-Nitrosodimethylamine	30 ug/mL
							N-Nitrosodiphenylamine	30 ug/mL
							n-Octadecane	30 ug/mL
							Naphthalene	30 ug/mL
							Nitrobenzene	30 ug/mL
							Pentachlorophenol	60 ug/mL
							Phenanthrene	30 ug/mL
							Phenol	30 ug/mL
							Pyrene	30 ug/mL
							Pyridine	60 ug/mL
							Atrazine	30 ug/mL
							Benzaldehyde	30 ug/mL
							Caprolactam	30 ug/mL
							3,3'-Dichlorobenzidine	30 ug/mL
							Benzidine	30 ug/mL
							2,4,6-Tribromophenol (Surr)	30 ug/mL
							2-Fluorobiphenyl	30 ug/mL
							2-Fluorophenol (Surr)	30 ug/mL
							Nitrobenzene-d5 (Surr)	30 ug/mL
							Phenol-d5 (Surr)	30 ug/mL
							Terphenyl-d14 (Surr)	30 ug/mL
							Methyl methanesulfonate	30 ug/mL
							N-Nitrosopyrrolidine	30 ug/mL
.SVTAPITINTRNi_00023	10/15/20	10/15/19	MeCl2, Lot 3373271	25 mL	SVLVIntstd_00010	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..SVLVIntstd_00010	09/30/23	Restek, Lot A0141743			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.SVTAPITSTCKi_00023	04/15/20	10/15/19	MeCl2, Lot 3373271	20 mL	SV LIST3/STD1_00002	400 uL	Benzo[e]pyrene	40 ug/mL
					SV LST1/STD10_00001	400 uL	Benzoic acid	40 ug/mL
							Indene	40 ug/mL
					SV2356TCPs_00004	800 uL	2,3,5,6-Tetrachlorophenol	40 ug/mL
					SV2NAPAMINEs_00009	800 uL	2-Naphthylamine	40 ug/mL
					sv712dimbenza_00012	800 uL	7,12-Dimethylbenz(a)anthracene	40 ug/mL
					SVLIST1/STD1_00002	800 uL	1,1'-Biphenyl	40 ug/mL
							1,2,4,5-Tetrachlorobenzene	40 ug/mL
							1,2,4-Trichlorobenzene	40 ug/mL
							1,2-Dichlorobenzene	40 ug/mL
							1,2-Diphenylhydrazine	40 ug/mL
							1,3-Dichlorobenzene	40 ug/mL
							1,3-Dinitrobenzene	40 ug/mL
							1,4-Dichlorobenzene	40 ug/mL
							1,4-Dioxane	40 ug/mL
							1-Methylnaphthalene	40 ug/mL
							2,2'-oxybis[1-chloropropane]	40 ug/mL
							2,3,4,6-Tetrachlorophenol	40 ug/mL
							2,4,5-Trichlorophenol	40 ug/mL
							2,4,6-Trichlorophenol	40 ug/mL
							2,4-Dichlorophenol	40 ug/mL
							2,4-Dimethylphenol	40 ug/mL
							2,4-Dinitrophenol	80 ug/mL
							2,4-Dinitrotoluene	40 ug/mL
							2,6-Dichlorophenol	40 ug/mL
							2,6-Dinitrotoluene	40 ug/mL
							2-Chloronaphthalene	40 ug/mL
							2-Chlorophenol	40 ug/mL
							2-Methylnaphthalene	40 ug/mL
							2-Methylphenol	40 ug/mL
							2-Nitroaniline	40 ug/mL
							2-Nitrophenol	40 ug/mL
							3-Nitroaniline	40 ug/mL
							4,6-Dinitro-2-methylphenol	80 ug/mL
							4-Bromophenyl phenyl ether	40 ug/mL
							4-Chloro-3-methylphenol	40 ug/mL
							4-Chloroaniline	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Chlorophenyl phenyl ether	40 ug/mL
							4-Nitroaniline	40 ug/mL
							4-Nitrophenol	80 ug/mL
							Acenaphthene	40 ug/mL
							Acenaphthylene	40 ug/mL
							Acetophenone	40 ug/mL
							Aniline	40 ug/mL
							Anthracene	40 ug/mL
							Azobenzene	40 ug/mL
							Benzo[a]anthracene	40 ug/mL
							Benzo[a]pyrene	40 ug/mL
							Benzo[b]fluoranthene	40 ug/mL
							Benzo[g,h,i]perylene	40 ug/mL
							Benzo[k]fluoranthene	40 ug/mL
							Benzyl alcohol	40 ug/mL
							Bis(2-chloroethoxy)methane	40 ug/mL
							Bis(2-chloroethyl)ether	40 ug/mL
							Bis(2-ethylhexyl) phthalate	40 ug/mL
							Butyl benzyl phthalate	40 ug/mL
							Carbazole	40 ug/mL
							Chrysene	40 ug/mL
							Di-n-butyl phthalate	40 ug/mL
							Di-n-octyl phthalate	40 ug/mL
							Dibenz(a,h)anthracene	40 ug/mL
							Dibenzofuran	40 ug/mL
							Diethyl phthalate	40 ug/mL
							Dimethyl phthalate	40 ug/mL
							Fluoranthene	40 ug/mL
							Fluorene	40 ug/mL
							Hexachlorobenzene	40 ug/mL
							Hexachlorobutadiene	40 ug/mL
							Hexachlorocyclopentadiene	40 ug/mL
							Hexachloroethane	40 ug/mL
							Hexadecane	40 ug/mL
							Indeno[1,2,3-cd]pyrene	40 ug/mL
							Isophorone	40 ug/mL
							Methylphenol, 3 & 4	40 ug/mL
							n-Decane	40 ug/mL
							N-Nitrosodi-n-propylamine	40 ug/mL
							N-Nitrosodimethylamine	40 ug/mL
							N-Nitrosodiphenylamine	40 ug/mL
							n-Octadecane	40 ug/mL
							Naphthalene	40 ug/mL
							Nitrobenzene	40 ug/mL
							Pentachlorophenol	80 ug/mL
							Phenanthrene	40 ug/mL
							Phenol	40 ug/mL
							Pyrene	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Pyridine	80 ug/mL
					SVLIST1/STD11_00003	400 uL	Atrazine	40 ug/mL
							Benzaldehyde	40 ug/mL
							Caprolactam	40 ug/mL
					SVLIST1/STD9_00004	400 uL	3,3'-Dichlorobenzidine	40 ug/mL
							Benzidine	40 ug/mL
					SVLVSURRSPK_00021	160 uL	2,4,6-Tribromophenol (Surr)	40 ug/mL
							2-Fluorobiphenyl	40 ug/mL
							2-Fluorophenol (Surr)	40 ug/mL
							Nitrobenzene-d5 (Surr)	40 ug/mL
							Phenol-d5 (Surr)	40 ug/mL
							Terphenyl-d14 (Surr)	40 ug/mL
					svmethylmetha_00012	800 uL	Methyl methanesulfonate	40 ug/mL
					SVNNITROPYROs_00019	800 uL	N-Nitrosopyrrolidine	40 ug/mL
..SV LIST3/STD1_00002	06/30/20	Restek, Lot a0123781			(Purchased Reagent)		Benzo[e]pyrene	2000 ug/mL
..SV LST1/STD10_00001	08/31/20	Restek, Lot A0145854			(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
..SV2356TCPs_00004	09/21/20	Absolute, Lot 092115			(Purchased Reagent)		2,3,5,6-Tetrachlorophenol	1000 ug/mL
..SV2NAPAMINEs_00009	11/19/22	Ultra Scientific, Lot Cs-5614			(Purchased Reagent)		2-Naphthylamine	1000 ug/mL
..sv712dimbenza_00012	05/31/21	Absolute, Lot 053116			(Purchased Reagent)		7,12-Dimethylbenz(a)anthracene	1000 ug/mL
..SVLIST1/STD1_00002	09/30/20	Restek, Lot A0147571			(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							Methylphenol, 3 & 4	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
..SVLIST1/STD11_00003	09/30/20		Restek, Lot A0147257		(Purchased Reagent)		Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
..SVLIST1/STD9_00004	07/31/20		Restek, Lot A0145230		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
							Benzidine	2000 ug/mL
..SVLVSURRSPK_00021	12/31/21		Restek, Lot A0123269		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
..svmethylmetha_00012	03/27/22		Absolute, Lot 032717		(Purchased Reagent)		Methyl methanesulfonate	1000 ug/mL
..SVNNITROPYROs_00019	11/06/21		absolute, Lot 110618		(Purchased Reagent)		N-Nitrosopyrrolidine	1000 ug/mL
SVTAPSTD80i_00018	04/15/20	10/15/19	MeCl2, Lot 3373271	1 mL	SVTAPITINTRNi_00023	10 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
					SVTAPITSTCKi_00023	1000 uL	Benzo[e]pyrene	40 ug/mL
							Benzoic acid	40 ug/mL
							Indene	40 ug/mL
							2,3,5,6-Tetrachlorophenol	40 ug/mL
							2-Naphthylamine	40 ug/mL
							7,12-Dimethylbenz(a)anthracene	40 ug/mL
							1,1'-Biphenyl	40 ug/mL
							1,2,4,5-Tetrachlorobenzene	40 ug/mL
							1,2,4-Trichlorobenzene	40 ug/mL
							1,2-Dichlorobenzene	40 ug/mL
							1,2-Diphenylhydrazine	40 ug/mL
							1,3-Dichlorobenzene	40 ug/mL
							1,3-Dinitrobenzene	40 ug/mL
							1,4-Dichlorobenzene	40 ug/mL
							1,4-Dioxane	40 ug/mL
							1-Methylnaphthalene	40 ug/mL
							2,2'-oxybis[1-chloropropane]	40 ug/mL
							2,3,4,6-Tetrachlorophenol	40 ug/mL
							2,4,5-Trichlorophenol	40 ug/mL
							2,4,6-Trichlorophenol	40 ug/mL
							2,4-Dichlorophenol	40 ug/mL
							2,4-Dimethylphenol	40 ug/mL
							2,4-Dinitrophenol	80 ug/mL
							2,4-Dinitrotoluene	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,6-Dichlorophenol	40 ug/mL
							2,6-Dinitrotoluene	40 ug/mL
							2-Chloronaphthalene	40 ug/mL
							2-Chlorophenol	40 ug/mL
							2-Methylnaphthalene	40 ug/mL
							2-Methylphenol	40 ug/mL
							2-Nitroaniline	40 ug/mL
							2-Nitrophenol	40 ug/mL
							3-Nitroaniline	40 ug/mL
							4,6-Dinitro-2-methylphenol	80 ug/mL
							4-Bromophenyl phenyl ether	40 ug/mL
							4-Chloro-3-methylphenol	40 ug/mL
							4-Chloroaniline	40 ug/mL
							4-Chlorophenyl phenyl ether	40 ug/mL
							4-Nitroaniline	40 ug/mL
							4-Nitrophenol	80 ug/mL
							Acenaphthene	40 ug/mL
							Acenaphthylene	40 ug/mL
							Acetophenone	40 ug/mL
							Aniline	40 ug/mL
							Anthracene	40 ug/mL
							Azobenzene	40 ug/mL
							Benzo[a]anthracene	40 ug/mL
							Benzo[a]pyrene	40 ug/mL
							Benzo[b]fluoranthene	40 ug/mL
							Benzo[g,h,i]perylene	40 ug/mL
							Benzo[k]fluoranthene	40 ug/mL
							Benzyl alcohol	40 ug/mL
							Bis(2-chloroethoxy)methane	40 ug/mL
							Bis(2-chloroethyl)ether	40 ug/mL
							Bis(2-ethylhexyl) phthalate	40 ug/mL
							Butyl benzyl phthalate	40 ug/mL
							Carbazole	40 ug/mL
							Chrysene	40 ug/mL
							Di-n-butyl phthalate	40 ug/mL
							Di-n-octyl phthalate	40 ug/mL
							Dibenz(a,h)anthracene	40 ug/mL
							Dibenzofuran	40 ug/mL
							Diethyl phthalate	40 ug/mL
							Dimethyl phthalate	40 ug/mL
							Fluoranthene	40 ug/mL
							Fluorene	40 ug/mL
							Hexachlorobenzene	40 ug/mL
							Hexachlorobutadiene	40 ug/mL
							Hexachlorocyclopentadiene	40 ug/mL
							Hexachloroethane	40 ug/mL
							Hexadecane	40 ug/mL
							Indeno[1,2,3-cd]pyrene	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Isophorone	40 ug/mL
							Methylphenol, 3 & 4	40 ug/mL
							n-Decane	40 ug/mL
							N-Nitrosodi-n-propylamine	40 ug/mL
							N-Nitrosodimethylamine	40 ug/mL
							N-Nitrosodiphenylamine	40 ug/mL
							n-Octadecane	40 ug/mL
							Naphthalene	40 ug/mL
							Nitrobenzene	40 ug/mL
							Pentachlorophenol	80 ug/mL
							Phenanthrene	40 ug/mL
							Phenol	40 ug/mL
							Pyrene	40 ug/mL
							Pyridine	80 ug/mL
							Atrazine	40 ug/mL
							Benzaldehyde	40 ug/mL
							Caprolactam	40 ug/mL
							3,3'-Dichlorobenzidine	40 ug/mL
							Benzidine	40 ug/mL
							2,4,6-Tribromophenol (Surr)	40 ug/mL
							2-Fluorobiphenyl	40 ug/mL
							2-Fluorophenol (Surr)	40 ug/mL
							Nitrobenzene-d5 (Surr)	40 ug/mL
							Phenol-d5 (Surr)	40 ug/mL
							Terphenyl-d14 (Surr)	40 ug/mL
							Methyl methanesulfonate	40 ug/mL
							N-Nitrosopyrrolidine	40 ug/mL
.SVTAPITINTRNi_00023	10/15/20	10/15/19	MeCl2, Lot 3373271	25 mL	SVLVIntstd_00010	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..SVLVIntstd_00010	09/30/23	Restek, Lot A0141743			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.SVTAPITSTCKi_00023	04/15/20	10/15/19	MeCl2, Lot 3373271	20 mL	SV LIST3/STD1_00002	400 uL	Benzo[e]pyrene	40 ug/mL
					SV LST1/STD10_00001	400 uL	Benzoic acid	40 ug/mL
							Indene	40 ug/mL
					SV2356TCPs_00004	800 uL	2,3,5,6-Tetrachlorophenol	40 ug/mL
					SV2NAPAMINEs_00009	800 uL	2-Naphthylamine	40 ug/mL
					sv712dimbenza_00012	800 uL	7,12-Dimethylbenz(a)anthracene	40 ug/mL
					SVLIST1/STD1_00002	800 uL	1,1'-Biphenyl	40 ug/mL
							1,2,4,5-Tetrachlorobenzene	40 ug/mL
							1,2,4-Trichlorobenzene	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2-Dichlorobenzene	40 ug/mL
							1,2-Diphenylhydrazine	40 ug/mL
							1,3-Dichlorobenzene	40 ug/mL
							1,3-Dinitrobenzene	40 ug/mL
							1,4-Dichlorobenzene	40 ug/mL
							1,4-Dioxane	40 ug/mL
							1-Methylnaphthalene	40 ug/mL
							2,2'-oxybis[1-chloropropane]	40 ug/mL
							2,3,4,6-Tetrachlorophenol	40 ug/mL
							2,4,5-Trichlorophenol	40 ug/mL
							2,4,6-Trichlorophenol	40 ug/mL
							2,4-Dichlorophenol	40 ug/mL
							2,4-Dimethylphenol	40 ug/mL
							2,4-Dinitrophenol	80 ug/mL
							2,4-Dinitrotoluene	40 ug/mL
							2,6-Dichlorophenol	40 ug/mL
							2,6-Dinitrotoluene	40 ug/mL
							2-Chloronaphthalene	40 ug/mL
							2-Chlorophenol	40 ug/mL
							2-Methylnaphthalene	40 ug/mL
							2-Methylphenol	40 ug/mL
							2-Nitroaniline	40 ug/mL
							2-Nitrophenol	40 ug/mL
							3-Nitroaniline	40 ug/mL
							4,6-Dinitro-2-methylphenol	80 ug/mL
							4-Bromophenyl phenyl ether	40 ug/mL
							4-Chloro-3-methylphenol	40 ug/mL
							4-Chloroaniline	40 ug/mL
							4-Chlorophenyl phenyl ether	40 ug/mL
							4-Nitroaniline	40 ug/mL
							4-Nitrophenol	80 ug/mL
							Acenaphthene	40 ug/mL
							Acenaphthylene	40 ug/mL
							Acetophenone	40 ug/mL
							Aniline	40 ug/mL
							Anthracene	40 ug/mL
							Azobenzene	40 ug/mL
							Benzo[a]anthracene	40 ug/mL
							Benzo[a]pyrene	40 ug/mL
							Benzo[b]fluoranthene	40 ug/mL
							Benzo[g,h,i]perylene	40 ug/mL
							Benzo[k]fluoranthene	40 ug/mL
							Benzyl alcohol	40 ug/mL
							Bis(2-chloroethoxy)methane	40 ug/mL
							Bis(2-chloroethyl)ether	40 ug/mL
							Bis(2-ethylhexyl) phthalate	40 ug/mL
							Butyl benzyl phthalate	40 ug/mL
							Carbazole	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Chrysene	40 ug/mL
							Di-n-butyl phthalate	40 ug/mL
							Di-n-octyl phthalate	40 ug/mL
							Dibenz(a,h)anthracene	40 ug/mL
							Dibenzofuran	40 ug/mL
							Diethyl phthalate	40 ug/mL
							Dimethyl phthalate	40 ug/mL
							Fluoranthene	40 ug/mL
							Fluorene	40 ug/mL
							Hexachlorobenzene	40 ug/mL
							Hexachlorobutadiene	40 ug/mL
							Hexachlorocyclopentadiene	40 ug/mL
							Hexachloroethane	40 ug/mL
							Hexadecane	40 ug/mL
							Indeno[1,2,3-cd]pyrene	40 ug/mL
							Isophorone	40 ug/mL
							Methylphenol, 3 & 4	40 ug/mL
							n-Decane	40 ug/mL
							N-Nitrosodi-n-propylamine	40 ug/mL
							N-Nitrosodimethylamine	40 ug/mL
							N-Nitrosodiphenylamine	40 ug/mL
							n-Octadecane	40 ug/mL
							Naphthalene	40 ug/mL
							Nitrobenzene	40 ug/mL
							Pentachlorophenol	80 ug/mL
							Phenanthrene	40 ug/mL
							Phenol	40 ug/mL
							Pyrene	40 ug/mL
							Pyridine	80 ug/mL
					SVLIST1/STD11_00003	400 uL	Atrazine	40 ug/mL
							Benzaldehyde	40 ug/mL
							Caprolactam	40 ug/mL
					SVLIST1/STD9_00004	400 uL	3,3'-Dichlorobenzidine	40 ug/mL
							Benzidine	40 ug/mL
					SVLVSURRSPK_00021	160 uL	2,4,6-Tribromophenol (Surr)	40 ug/mL
							2-Fluorobiphenyl	40 ug/mL
							2-Fluorophenol (Surr)	40 ug/mL
							Nitrobenzene-d5 (Surr)	40 ug/mL
							Phenol-d5 (Surr)	40 ug/mL
							Terphenyl-d14 (Surr)	40 ug/mL
					svmethylmetha_00012	800 uL	Methyl methanesulfonate	40 ug/mL
					SVNNITROPYROs_00019	800 uL	N-Nitrosopyrrolidine	40 ug/mL
..SV LIST3/STD1_00002	06/30/20	Restek, Lot a0123781			(Purchased Reagent)		Benzo[e]pyrene	2000 ug/mL
..SV LST1/STD10_00001	08/31/20	Restek, Lot A0145854			(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
..SV2356TCPs_00004	09/21/20	Absolute, Lot 092115			(Purchased Reagent)		2,3,5,6-Tetrachlorophenol	1000 ug/mL
..SV2NAPAMINEs_00009	11/19/22	Ultra Scientific, Lot Cs-5614			(Purchased Reagent)		2-Naphthylamine	1000 ug/mL
..sv712dimbenza_00012	05/31/21	Absolute, Lot 053116			(Purchased Reagent)		7,12-Dimethylbenz(a)anthracene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..SVLIST1/STD1_00002	09/30/20		Restek, Lot A0147571		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							Methylphenol, 3 & 4	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
..SVLIST1/STD11_00003	09/30/20		Restek, Lot A0147257		(Purchased Reagent)		Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
..SVLIST1/STD9_00004	07/31/20		Restek, Lot A0145230		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
							Benzidine	2000 ug/mL
..SVLVSURRSPK_00021	12/31/21		Restek, Lot A0123269		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
..svmethylmetha_00012	03/27/22		Absolute, Lot 032717		(Purchased Reagent)		Methyl methanesulfonate	1000 ug/mL
..SVNNITROPYROs_00019	11/06/21		absolute, Lot 110618		(Purchased Reagent)		N-Nitrosopyrrolidine	1000 ug/mL
TA-SPIKE1_00006	03/06/21		CPI, Lot 1021235-1		(Purchased Reagent)		Arsenic	200 mg/L
							Barium	200 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Be	100 mg/L
							Cadmium	100 mg/L
							Chromium	100 mg/L
							Co	100 mg/L
							Cu	100 mg/L
							Lead	100 mg/L
							Li	100 mg/L
							Mn	100 mg/L
							Mo	100 mg/L
							Ni	100 mg/L
							Selenium	200 mg/L
							Si	200 mg/L
							SiO2	428 mg/L
							Sn	200 mg/L
							Sr	100 mg/L
							Ti	100 mg/L
							Tl	200 mg/L
							V	100 mg/L
TA-SPIKE2_00004	03/06/21	CPI, Lot 1022516-1			(Purchased Reagent)		Al	1000 mg/L
							Ca	5000 mg/L
							Fe	1000 mg/L
							K	5000 mg/L
							Mg	5000 mg/L
							Na	5000 mg/L
VOA8260INT_00095	06/21/19	05/21/19	Methanol, Lot 3167194	10 mL	VOA8260INTRES_00148	1 mL	1,4-Dichlorobenzene-d4	25 ug/mL
							Chlorobenzene-d5	25 ug/mL
							Fluorobenzene (IS)	25 ug/mL
							TBA-d9 (IS)	500 ug/mL
.VOA8260INTRES_00148	12/31/22	Restek, Lot A0133525			(Purchased Reagent)		1,4-Dichlorobenzene-d4	250 ug/mL
							Chlorobenzene-d5	250 ug/mL
							Fluorobenzene (IS)	250 ug/mL
							TBA-d9 (IS)	5000 ug/mL
VOA8260INT_00096	07/10/19	06/10/19	Methanol, Lot 3167189	10 mL	VOA8260INTRES_00147	1 mL	1,4-Dichlorobenzene-d4	25 ug/mL
							Chlorobenzene-d5	25 ug/mL
							Fluorobenzene (IS)	25 ug/mL
							TBA-d9 (IS)	500 ug/mL
.VOA8260INTRES_00147	12/31/22	Restek, Lot A0133525			(Purchased Reagent)		1,4-Dichlorobenzene-d4	250 ug/mL
							Chlorobenzene-d5	250 ug/mL
							Fluorobenzene (IS)	250 ug/mL
							TBA-d9 (IS)	5000 ug/mL
VOA8260INT_00100	11/07/19	10/07/19	Methanol, Lot 3167192	10 mL	VOA8260INTRES_00164	1 mL	1,4-Dichlorobenzene-d4	25 ug/mL
							Chlorobenzene-d5	25 ug/mL
							Fluorobenzene (IS)	25 ug/mL
							TBA-d9 (IS)	500 ug/mL
.VOA8260INTRES_00164	01/31/24	Restek, Lot A0145169			(Purchased Reagent)		1,4-Dichlorobenzene-d4	250 ug/mL
							Chlorobenzene-d5	250 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Fluorobenzene (IS)	250 ug/mL
							TBA-d9 (IS)	5000 ug/mL
VOA8260SURR_00096	07/10/19	06/10/19	Methanol, Lot 3167189	100 mL	VOA8260SURRES_00150	1 mL	1,2-Dichloroethane-d4 (Surr)	25 ug/mL
							4-Bromofluorobenzene (Surr)	25 ug/mL
							Dibromofluoromethane (Surr)	25 ug/mL
							Toluene-d8 (Surr)	25 ug/mL
.VOA8260SURRES_00150	11/30/22		Restek, Lot A0132615		(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Dibromofluoromethane (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
VOA8260SURR_00100	11/07/19	10/07/19	Methanol, Lot 3167192	100 mL	VOA8260SURRES_00161	1 mL	1,2-Dichloroethane-d4 (Surr)	25 ug/mL
							4-Bromofluorobenzene (Surr)	25 ug/mL
							Dibromofluoromethane (Surr)	25 ug/mL
							Toluene-d8 (Surr)	25 ug/mL
.VOA8260SURRES_00161	11/30/23		Restek, Lot A0143613		(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Dibromofluoromethane (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
VOA8260VOA2ND_00360	07/03/19	06/26/19	Methanol, Lot 3167194	10 mL	VOA8260GAS2ND_00278	0.1 mL	Bromomethane	25 ug/mL
							Dichlorodifluoromethane	25 ug/mL
							Trichlorofluoromethane	25 ug/mL
							Vinyl chloride	25 ug/mL
					VOA8260VOA2ND_00359	1 mL	2-Butanone (MEK)	25 ug/mL
							4-Methyl-2-pentanone (MIBK)	25 ug/mL
							Acetone	25 ug/mL
							1,1,1,2-Tetrachloroethane	25 ug/mL
							1,1,1-Trichloroethane	25 ug/mL
							1,1,2,2-Tetrachloroethane	25 ug/mL
							1,1,2-Trichloroethane	25 ug/mL
							1,1-Dichloroethene	25 ug/mL
							1,2,3-Trichloropropane	25 ug/mL
							1,2-Dibromoethane	25 ug/mL
							1,2-Dichloroethane	25 ug/mL
							1,3-Dichloropropene, Total	50 ug/mL
							1,4-Dichlorobenzene	25 ug/mL
							Acrylonitrile	250 ug/mL
							Benzene	25 ug/mL
							Bromoform	25 ug/mL
							Carbon disulfide	25 ug/mL
							Carbon tetrachloride	25 ug/mL
							Chlorobenzene	25 ug/mL
							Chloroform	25 ug/mL
							Dichlorobromomethane	25 ug/mL
							Ethylbenzene	25 ug/mL
							Hexachlorobutadiene	25 ug/mL
							Isobutyl alcohol	625 ug/mL
							Methylene Chloride	25 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Styrene	25 ug/mL
							Tetrachloroethene	25 ug/mL
							Toluene	25 ug/mL
							trans-1,3-Dichloropropene	25 ug/mL
							Trichloroethene	25 ug/mL
							Xylenes, Total	50 ug/mL
.VOA8260GAS2ND_00278	03/31/22		Restek, Lot A0147004		(Purchased Reagent)		Bromomethane	2500 ug/mL
							Dichlorodifluoromethane	2500 ug/mL
							Trichlorofluoromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
.VOA8260VOA2ND_00359	07/26/19	06/26/19	Methanol, Lot 3167194	10 mL	VOA8260KET2ND_00119	0.2 mL	2-Butanone (MEK)	250 ug/mL
							4-Methyl-2-pentanone (MIBK)	250 ug/mL
							Acetone	250 ug/mL
					VOA8260MEGA2_00087	1 mL	1,1,1,2-Tetrachloroethane	250 ug/mL
							1,1,1-Trichloroethane	250 ug/mL
							1,1,2,2-Tetrachloroethane	250 ug/mL
							1,1,2-Trichloroethane	250 ug/mL
							1,1-Dichloroethene	250 ug/mL
							1,2,3-Trichloropropane	250 ug/mL
							1,2-Dibromoethane	250 ug/mL
							1,2-Dichloroethane	250 ug/mL
							1,3-Dichloropropene, Total	500 ug/mL
							1,4-Dichlorobenzene	250 ug/mL
							Acrylonitrile	2500 ug/mL
							Benzene	250 ug/mL
							Bromoform	250 ug/mL
							Carbon disulfide	250 ug/mL
							Carbon tetrachloride	250 ug/mL
							Chlorobenzene	250 ug/mL
							Chloroform	250 ug/mL
							Dichlorobromomethane	250 ug/mL
							Ethylbenzene	250 ug/mL
							Hexachlorobutadiene	250 ug/mL
							Isobutyl alcohol	6250 ug/mL
							Methylene Chloride	250 ug/mL
							Styrene	250 ug/mL
							Tetrachloroethene	250 ug/mL
							Toluene	250 ug/mL
							trans-1,3-Dichloropropene	250 ug/mL
							Trichloroethene	250 ug/mL
							Xylenes, Total	500 ug/mL
..VOA8260KET2ND_00119	08/31/21		Restek, Lot A0140519		(Purchased Reagent)		2-Butanone (MEK)	12500 ug/mL
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL
							Acetone	12500 ug/mL
..VOA8260MEGA2_00087	06/30/21		Restek, Lot A0144202		(Purchased Reagent)		1,1,1,2-Tetrachloroethane	2500 ug/mL
							1,1,1-Trichloroethane	2500 ug/mL
							1,1,2,2-Tetrachloroethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,1-Dichloroethene	2500 ug/mL
							1,2,3-Trichloropropane	2500 ug/mL
							1,2-Dibromoethane	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,3-Dichloropropene, Total	5000 ug/mL
							1,4-Dichlorobenzene	2500 ug/mL
							Acrylonitrile	25000 ug/mL
							Benzene	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon disulfide	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chloroform	2500 ug/mL
							Dichlorobromomethane	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Hexachlorobutadiene	2500 ug/mL
							Isobutyl alcohol	62500 ug/mL
							Methylene Chloride	2500 ug/mL
							Styrene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Toluene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							Trichloroethene	2500 ug/mL
							Xylenes, Total	5000 ug/mL
VOA8260VOAPRI_00362	07/02/19	06/25/19	Methanol, Lot 3167192	10 mL	VOA8260GAS1ST_00270	0.1 mL	Bromomethane	25 ug/mL
							Butadiene	25 ug/mL
							Chloroethane	25 ug/mL
							Chloromethane	25 ug/mL
							Dichlorodifluoromethane	25 ug/mL
							Dichlorofluoromethane	25 ug/mL
							Trichlorofluoromethane	25 ug/mL
							Vinyl chloride	25 ug/mL
					VOA8260VOAPRI_00361	1 mL	2-Butanone (MEK)	25 ug/mL
							2-Hexanone	25 ug/mL
							4-Methyl-2-pentanone (MIBK)	25 ug/mL
							Acetone	25 ug/mL
							1,1,1,2-Tetrachloroethane	25 ug/mL
							1,1,1-Trichloroethane	25 ug/mL
							1,1,2,2-Tetrachloroethane	25 ug/mL
							1,1,2-Trichloro-1,2,2-trifluoroethane	25 ug/mL
							1,1,2-Trichloroethane	25 ug/mL
							1,1-Dichloroethane	25 ug/mL
							1,1-Dichloroethene	25 ug/mL
							1,1-Dichloropropene	25 ug/mL
							1,2,3-Trichlorobenzene	25 ug/mL
							1,2,3-Trichloropropane	25 ug/mL
							1,2,4-Trichlorobenzene	25 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,4-Trimethylbenzene	25 ug/mL
							1,2-Dibromo-3-Chloropropane	25 ug/mL
							1,2-Dibromoethane	25 ug/mL
							1,2-Dichlorobenzene	25 ug/mL
							1,2-Dichloroethane	25 ug/mL
							1,2-Dichloropropane	25 ug/mL
							1,3,5-Trimethylbenzene	25 ug/mL
							1,3-Dichlorobenzene	25 ug/mL
							1,3-Dichloropropane	25 ug/mL
							1,4-Dichlorobenzene	25 ug/mL
							1,4-Dioxane	500 ug/mL
							2,2-Dichloropropane	25 ug/mL
							2-Chlorotoluene	25 ug/mL
							2-Methyl-2-propanol	250 ug/mL
							3-Chloro-1-propene	25 ug/mL
							4-Chlorotoluene	25 ug/mL
							4-Isopropyltoluene	25 ug/mL
							Acrylonitrile	250 ug/mL
							Benzene	25 ug/mL
							Bromobenzene	25 ug/mL
							Bromoform	25 ug/mL
							Carbon disulfide	25 ug/mL
							Carbon tetrachloride	25 ug/mL
							Chlorobenzene	25 ug/mL
							Chlorobromomethane	25 ug/mL
							Chlorodibromomethane	25 ug/mL
							Chloroform	25 ug/mL
							cis-1,2-Dichloroethene	25 ug/mL
							cis-1,3-Dichloropropene	25 ug/mL
							Cyclohexane	25 ug/mL
							Dibromomethane	25 ug/mL
							Dichlorobromomethane	25 ug/mL
							Ethyl ether	25 ug/mL
							Ethyl methacrylate	25 ug/mL
							Ethylbenzene	25 ug/mL
							Hexachlorobutadiene	25 ug/mL
							Hexane	25 ug/mL
							Iodomethane	25 ug/mL
							Isobutyl alcohol	625 ug/mL
							Isopropylbenzene	25 ug/mL
							m-Xylene & p-Xylene	25 ug/mL
							Methyl acetate	50 ug/mL
							Methyl tert-butyl ether	25 ug/mL
							Methylcyclohexane	25 ug/mL
							Methylene Chloride	25 ug/mL
							n-Butylbenzene	25 ug/mL
							n-Heptane	25 ug/mL
							N-Propylbenzene	25 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Naphthalene	25 ug/mL
							o-Xylene	25 ug/mL
							sec-Butylbenzene	25 ug/mL
							Styrene	25 ug/mL
							tert-Butylbenzene	25 ug/mL
							Tetrachloroethene	25 ug/mL
							Tetrahydrofuran	50 ug/mL
							Toluene	25 ug/mL
							trans-1,2-Dichloroethene	25 ug/mL
							trans-1,3-Dichloropropene	25 ug/mL
							trans-1,4-Dichloro-2-butene	25 ug/mL
							Trichloroethene	25 ug/mL
.VOA8260GAS1ST_00270	11/30/21		Restek, Lot A0143158		(Purchased Reagent)		Bromomethane	2500 ug/mL
							Butadiene	2500 ug/mL
							Chloroethane	2500 ug/mL
							Chloromethane	2500 ug/mL
							Dichlorodifluoromethane	2500 ug/mL
							Dichlorofluoromethane	2500 ug/mL
							Trichlorofluoromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
.VOA8260VOAPRI_00361	07/24/19	06/24/19	Methanol, Lot 3167189	10 mL	VOA8260KET1ST_00131	0.2 mL	2-Butanone (MEK)	250 ug/mL
							2-Hexanone	250 ug/mL
							4-Methyl-2-pentanone (MIBK)	250 ug/mL
							Acetone	250 ug/mL
					VOA8260MEGA1_00087	1 mL	1,1,1,2-Tetrachloroethane	250 ug/mL
							1,1,1-Trichloroethane	250 ug/mL
							1,1,2,2-Tetrachloroethane	250 ug/mL
							1,1,2-Trichloro-1,2,2-trifluor oethane	250 ug/mL
							1,1,2-Trichloroethane	250 ug/mL
							1,1-Dichloroethane	250 ug/mL
							1,1-Dichloroethene	250 ug/mL
							1,1-Dichloropropene	250 ug/mL
							1,2,3-Trichlorobenzene	250 ug/mL
							1,2,3-Trichloropropane	250 ug/mL
							1,2,4-Trichlorobenzene	250 ug/mL
							1,2,4-Trimethylbenzene	250 ug/mL
							1,2-Dibromo-3-Chloropropane	250 ug/mL
							1,2-Dibromoethane	250 ug/mL
							1,2-Dichlorobenzene	250 ug/mL
							1,2-Dichloroethane	250 ug/mL
							1,2-Dichloropropane	250 ug/mL
							1,3,5-Trimethylbenzene	250 ug/mL
							1,3-Dichlorobenzene	250 ug/mL
							1,3-Dichloropropane	250 ug/mL
							1,4-Dichlorobenzene	250 ug/mL
							1,4-Dioxane	5000 ug/mL
							2,2-Dichloropropane	250 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Chlorotoluene	250 ug/mL
							2-Methyl-2-propanol	2500 ug/mL
							3-Chloro-1-propene	250 ug/mL
							4-Chlorotoluene	250 ug/mL
							4-Isopropyltoluene	250 ug/mL
							Acrylonitrile	2500 ug/mL
							Benzene	250 ug/mL
							Bromobenzene	250 ug/mL
							Bromoform	250 ug/mL
							Carbon disulfide	250 ug/mL
							Carbon tetrachloride	250 ug/mL
							Chlorobenzene	250 ug/mL
							Chlorobromomethane	250 ug/mL
							Chlorodibromomethane	250 ug/mL
							Chloroform	250 ug/mL
							cis-1,2-Dichloroethene	250 ug/mL
							cis-1,3-Dichloropropene	250 ug/mL
							Cyclohexane	250 ug/mL
							Dibromomethane	250 ug/mL
							Dichlorobromomethane	250 ug/mL
							Ethyl ether	250 ug/mL
							Ethyl methacrylate	250 ug/mL
							Ethylbenzene	250 ug/mL
							Hexachlorobutadiene	250 ug/mL
							Hexane	250 ug/mL
							Iodomethane	250 ug/mL
							Isobutyl alcohol	6250 ug/mL
							Isopropylbenzene	250 ug/mL
							m-Xylene & p-Xylene	250 ug/mL
							Methyl acetate	500 ug/mL
							Methyl tert-butyl ether	250 ug/mL
							Methylcyclohexane	250 ug/mL
							Methylene Chloride	250 ug/mL
							n-Butylbenzene	250 ug/mL
							n-Heptane	250 ug/mL
							N-Propylbenzene	250 ug/mL
							Naphthalene	250 ug/mL
							o-Xylene	250 ug/mL
							sec-Butylbenzene	250 ug/mL
							Styrene	250 ug/mL
							tert-Butylbenzene	250 ug/mL
							Tetrachloroethene	250 ug/mL
							Tetrahydrofuran	500 ug/mL
							Toluene	250 ug/mL
							trans-1,2-Dichloroethene	250 ug/mL
							trans-1,3-Dichloropropene	250 ug/mL
							trans-1,4-Dichloro-2-butene	250 ug/mL
							Trichloroethene	250 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..VOA8260KET1ST_00131	12/31/21		Restek, Lot A0143988		(Purchased Reagent)		2-Butanone (MEK)	12500 ug/mL
							2-Hexanone	12500 ug/mL
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL
							Acetone	12500 ug/mL
..VOA8260MEGA1_00087	06/30/21		Restek, Lot A0143774		(Purchased Reagent)		1,1,1,2-Tetrachloroethane	2500 ug/mL
							1,1,1-Trichloroethane	2500 ug/mL
							1,1,2,2-Tetrachloroethane	2500 ug/mL
							1,1,2-Trichloro-1,2,2-trifluor oethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,1-Dichloropropene	2500 ug/mL
							1,2,3-Trichlorobenzene	2500 ug/mL
							1,2,3-Trichloropropane	2500 ug/mL
							1,2,4-Trichlorobenzene	2500 ug/mL
							1,2,4-Trimethylbenzene	2500 ug/mL
							1,2-Dibromo-3-Chloropropane	2500 ug/mL
							1,2-Dibromoethane	2500 ug/mL
							1,2-Dichlorobenzene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,2-Dichloropropane	2500 ug/mL
							1,3,5-Trimethylbenzene	2500 ug/mL
							1,3-Dichlorobenzene	2500 ug/mL
							1,3-Dichloropropane	2500 ug/mL
							1,4-Dichlorobenzene	2500 ug/mL
							1,4-Dioxane	50000 ug/mL
							2,2-Dichloropropane	2500 ug/mL
							2-Chlorotoluene	2500 ug/mL
							2-Methyl-2-propanol	25000 ug/mL
							3-Chloro-1-propene	2500 ug/mL
							4-Chlorotoluene	2500 ug/mL
							4-Isopropyltoluene	2500 ug/mL
							Acrylonitrile	25000 ug/mL
							Benzene	2500 ug/mL
							Bromobenzene	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon disulfide	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chlorobromomethane	2500 ug/mL
							Chlorodibromomethane	2500 ug/mL
							Chloroform	2500 ug/mL
							cis-1,2-Dichloroethene	2500 ug/mL
							cis-1,3-Dichloropropene	2500 ug/mL
							Cyclohexane	2500 ug/mL
							Dibromomethane	2500 ug/mL
							Dichlorobromomethane	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Ethyl ether	2500 ug/mL
							Ethyl methacrylate	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Hexachlorobutadiene	2500 ug/mL
							Hexane	2500 ug/mL
							Iodomethane	2500 ug/mL
							Isobutyl alcohol	62500 ug/mL
							Isopropylbenzene	2500 ug/mL
							m-Xylene & p-Xylene	2500 ug/mL
							Methyl acetate	5000 ug/mL
							Methyl tert-butyl ether	2500 ug/mL
							Methylcyclohexane	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							n-Butylbenzene	2500 ug/mL
							n-Heptane	2500 ug/mL
							N-Propylbenzene	2500 ug/mL
							Naphthalene	2500 ug/mL
							o-Xylene	2500 ug/mL
							sec-Butylbenzene	2500 ug/mL
							Styrene	2500 ug/mL
							tert-Butylbenzene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Tetrahydrofuran	5000 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							trans-1,4-Dichloro-2-butene	2500 ug/mL
							Trichloroethene	2500 ug/mL
VOA8260VOAPRI_00376	10/23/19	10/16/19	Methanol, Lot 3167194	10 mL	VOA8260GAS1ST_00279	0.1 mL	Bromomethane	25 ug/mL
							Dichlorodifluoromethane	25 ug/mL
							Trichlorofluoromethane	25 ug/mL
							Vinyl chloride	25 ug/mL
					VOA8260VOAPRI_00374	1 mL	2-Butanone (MEK)	25 ug/mL
							4-Methyl-2-pentanone (MIBK)	25 ug/mL
							Acetone	25 ug/mL
							1,1,1,2-Tetrachloroethane	25 ug/mL
							1,1,1-Trichloroethane	25 ug/mL
							1,1,2,2-Tetrachloroethane	25 ug/mL
							1,1,2-Trichloroethane	25 ug/mL
							1,1-Dichloroethene	25 ug/mL
							1,2,3-Trichloropropane	25 ug/mL
							1,2-Dibromoethane	25 ug/mL
							1,2-Dichloroethane	25 ug/mL
							1,3-Dichloropropene, Total	50 ug/mL
							1,4-Dichlorobenzene	25 ug/mL
							Acrylonitrile	250 ug/mL
							Benzene	25 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Bromoform	25 ug/mL
							Carbon disulfide	25 ug/mL
							Carbon tetrachloride	25 ug/mL
							Chlorobenzene	25 ug/mL
							Chloroform	25 ug/mL
							Dichlorobromomethane	25 ug/mL
							Ethylbenzene	25 ug/mL
							Hexachlorobutadiene	25 ug/mL
							Isobutyl alcohol	625 ug/mL
							Methylene Chloride	25 ug/mL
							Styrene	25 ug/mL
							Tetrachloroethene	25 ug/mL
							Toluene	25 ug/mL
							trans-1,3-Dichloropropene	25 ug/mL
							Trichloroethene	25 ug/mL
							Xylenes, Total	50 ug/mL
.VOA8260GAS1ST_00279	03/31/21	Restek, Lot A0146651			(Purchased Reagent)		Bromomethane	2500 ug/mL
							Dichlorodifluoromethane	2500 ug/mL
							Trichlorofluoromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
.VOA8260VOAPRI_00374	11/08/19	10/08/19	Methanol, Lot 3167194	10 mL	VOA8260KET1ST_00133	0.2 mL	2-Butanone (MEK)	250 ug/mL
							4-Methyl-2-pentanone (MIBK)	250 ug/mL
							Acetone	250 ug/mL
					VOA8260MEGA1_00089	1 mL	1,1,1,2-Tetrachloroethane	250 ug/mL
							1,1,1-Trichloroethane	250 ug/mL
							1,1,2,2-Tetrachloroethane	250 ug/mL
							1,1,2-Trichloroethane	250 ug/mL
							1,1-Dichloroethene	250 ug/mL
							1,2,3-Trichloropropane	250 ug/mL
							1,2-Dibromoethane	250 ug/mL
							1,2-Dichloroethane	250 ug/mL
							1,3-Dichloropropene, Total	500 ug/mL
							1,4-Dichlorobenzene	250 ug/mL
							Acrylonitrile	2500 ug/mL
							Benzene	250 ug/mL
							Bromoform	250 ug/mL
							Carbon disulfide	250 ug/mL
							Carbon tetrachloride	250 ug/mL
							Chlorobenzene	250 ug/mL
							Chloroform	250 ug/mL
							Dichlorobromomethane	250 ug/mL
							Ethylbenzene	250 ug/mL
							Hexachlorobutadiene	250 ug/mL
							Isobutyl alcohol	6250 ug/mL
							Methylene Chloride	250 ug/mL
							Styrene	250 ug/mL
							Tetrachloroethene	250 ug/mL
							Toluene	250 ug/mL

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							trans-1,3-Dichloropropene	250 ug/mL
							Trichloroethene	250 ug/mL
							Xylenes, Total	500 ug/mL
..VOA8260KET1ST_00133	12/31/21		Restek, Lot A0143988		(Purchased Reagent)		2-Butanone (MEK)	12500 ug/mL
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL
							Acetone	12500 ug/mL
..VOA8260MEGA1_00089	06/30/21		Restek, Lot A0143774		(Purchased Reagent)		1,1,1,2-Tetrachloroethane	2500 ug/mL
							1,1,1-Trichloroethane	2500 ug/mL
							1,1,2,2-Tetrachloroethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,2,3-Trichloropropane	2500 ug/mL
							1,2-Dibromoethane	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,3-Dichloropropene, Total	5000 ug/mL
							1,4-Dichlorobenzene	2500 ug/mL
							Acrylonitrile	25000 ug/mL
							Benzene	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon disulfide	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chloroform	2500 ug/mL
							Dichlorobromomethane	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Hexachlorobutadiene	2500 ug/mL
							Isobutyl alcohol	62500 ug/mL
							Methylene Chloride	2500 ug/mL
							Styrene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Toluene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							Trichloroethene	2500 ug/mL
							Xylenes, Total	5000 ug/mL
VOAACRPRI_00019	07/26/19	06/26/19	Methanol, Lot 3167194	100 mL	VOAACRORES_00145	125 uL	Acrolein	25 ug/mL
.VOAACRORES_00145	09/30/19		Restek, Lot A0146613		(Purchased Reagent)		Acrolein	20000 ug/mL
VOABFB50_00116							1,2-Dichloroethene, Total	
							1,3-Dichloropropene, Total	
							Tentatively Identified Compound	
							Total BTEX	
							Xylenes, Total	
					VOABFBRES_00082	1 mL	BFB	50 ug/mL
.VOABFBRES_00082	11/30/23		Restek, Lot A0142868		(Purchased Reagent)		BFB	2500 ug/mL
VOABFB50_00120							1,2-Dichloroethene, Total	
							1,3-Dichloropropene, Total	

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Tentatively Identified Compound	
							Total BTEX	
							Xylenes, Total	
					VOABFBRES_00088	1 mL	BFB	50 ug/mL
.VOABFBRES_00088	04/30/24		Restek, Lot A0147670		(Purchased Reagent)		BFB	2500 ug/mL
VOAList22ND_00005	07/13/19	06/13/19	Methanol, Lot 3167194	10 mL	VOALIST2STD6S_00028	0.1 mL	Methacrylonitrile	250 ug/mL
					VOALIST3STD1S_00043	0.1 mL	Acetonitrile	250 ug/mL
.VOALIST2STD6S_00028	05/31/20		Restek, Lot A0143097		(Purchased Reagent)		Methacrylonitrile	25000 ug/mL
.VOALIST3STD1S_00043	11/30/20		Restek, Lot A0143318		(Purchased Reagent)		Acetonitrile	25000 ug/mL
VOAList22ND_00007	10/20/19	09/20/19	Methanol, Lot 3167192	10 mL	VOALIST2STD6S_00032	0.1 mL	Methacrylonitrile	250 ug/mL
					VOALIST3STD1S_00045	0.1 mL	Acetonitrile	250 ug/mL
.VOALIST2STD6S_00032	05/31/20		Restek, Lot A0143097		(Purchased Reagent)		Methacrylonitrile	25000 ug/mL
.VOALIST3STD1S_00045	11/30/20		Restek, Lot A0143318		(Purchased Reagent)		Acetonitrile	25000 ug/mL
VOAList2PRI_00022	07/13/19	06/13/19	Methanol, Lot 3167189	10 mL	VOALIST2STD3P_00031	0.2 mL	Cyclohexanone	500 ug/mL
					VOALIST2STD6P_00030	0.1 mL	1,2,3-Trimethylbenzene	25 ug/mL
							1,3,5-Trichlorobenzene	25 ug/mL
							2-Chloro-1,3-butadiene	25 ug/mL
							Benzyl chloride	25 ug/mL
							Isooctane	25 ug/mL
							Isopropyl alcohol	250 ug/mL
							Methacrylonitrile	250 ug/mL
							n-Butanol	625 ug/mL
					VOALIST2STD7P_00032	0.1 mL	Ethyl acetate	50 ug/mL
							Ethyl acrylate	25 ug/mL
							Methyl methacrylate	50 ug/mL
							n-Butyl acetate	25 ug/mL
					VOALIST3STD1P_00054	0.1 mL	Acetonitrile	250 ug/mL
							Isopropyl ether	25 ug/mL
							Propionitrile	250 ug/mL
							Tert-amyl methyl ether	25 ug/mL
							Tert-butyl ethyl ether	25 ug/mL
.VOALIST2STD3P_00031	08/31/21		Restek, Lot A0140237		(Purchased Reagent)		Cyclohexanone	25000 ug/mL
.VOALIST2STD6P_00030	09/30/19		Restek, Lot A0135915		(Purchased Reagent)		1,2,3-Trimethylbenzene	2500 ug/mL
							1,3,5-Trichlorobenzene	2500 ug/mL
							2-Chloro-1,3-butadiene	2500 ug/mL
							Benzyl chloride	2500 ug/mL
							Isooctane	2500 ug/mL
							Isopropyl alcohol	25000 ug/mL
							Methacrylonitrile	25000 ug/mL
							n-Butanol	62500 ug/mL
.VOALIST2STD7P_00032	05/31/20		Restek, Lot A0143198		(Purchased Reagent)		Ethyl acetate	5000 ug/mL
							Ethyl acrylate	2500 ug/mL
							Methyl methacrylate	5000 ug/mL
							n-Butyl acetate	2500 ug/mL
.VOALIST3STD1P_00054	07/31/20		Restek, Lot A0139911		(Purchased Reagent)		Acetonitrile	25000 ug/mL
							Isopropyl ether	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Propionitrile	25000 ug/mL
							Tert-amyl methyl ether	2500 ug/mL
							Tert-butyl ethyl ether	2500 ug/mL
VOAVAPRI_00025	07/26/19	06/26/19	Methanol, Lot 3167194	10 mL	VOA8260VARES_00115	50 uL	Vinyl acetate	25 ug/mL
.VOA8260VARES_00115	08/31/19		Restek, Lot A0145775		(Purchased Reagent)		Vinyl acetate	5000 ug/mL
voaW2clev1stR_00037	06/18/19	06/11/19	Methanol, Lot 3167192	10 mL	VOACEVERES_00172	200 uL	2-Chloroethyl vinyl ether	50 ug/mL
.VOACEVERES_00172	10/31/21		Restek, Lot A0142584		(Purchased Reagent)		2-Chloroethyl vinyl ether	2500 ug/mL
WCN0.1L3_00514	10/27/19	10/25/19	Sodium Hyroxide, Lot 4704D69	100 mL	WCN10Pi_00701	1 mL	Cyanide, Total	0.1 mg/L
.WCN10Pi_00701	10/30/19	10/23/19	Sodium Hyroxide, Lot 4704D69	100 mL	WCN1000P_00044	1 mL	Cyanide, Total	10 mg/L
..WCN1000P_00044	12/28/19		LabChem Inc., Lot J178-14		(Purchased Reagent)		Cyanide, Total	1000 mg/L
WCN0.2ICV_00804	10/27/19	10/25/19	Sodium Hyroxide, Lot 4704D69	100 mL	WCN10Si_00697	2 mL	Cyanide, Total	0.2 mg/L
.WCN10Si_00697	10/30/19	10/23/19	Sodium Hyroxide, Lot 4704D69	100 mL	WCN1000S_00034	1 mL	Cyanide, Total	10 mg/L
..WCN1000S_00034	02/29/20		Ricca Chemical Co., Lot 4908J29		(Purchased Reagent)		Cyanide, Total	1000 mg/L
WCN0.5L1_00967	10/27/19	10/25/19	Sodium Hyroxide, Lot 4704D69	100 mL	WCN10Pi_00701	5 mL	Cyanide, Total	0.5 mg/L
.WCN10Pi_00701	10/30/19	10/23/19	Sodium Hyroxide, Lot 4704D69	100 mL	WCN1000P_00044	1 mL	Cyanide, Total	10 mg/L
..WCN1000P_00044	12/28/19		LabChem Inc., Lot J178-14		(Purchased Reagent)		Cyanide, Total	1000 mg/L
WCN10Pi_00701	10/30/19	10/23/19	Sodium Hyroxide, Lot 4704D69	100 mL	WCN1000P_00044	1 mL	Cyanide, Total	10 mg/L
.WCN1000P_00044	12/28/19		LabChem Inc., Lot J178-14		(Purchased Reagent)		Cyanide, Total	1000 mg/L
WCNSoilLCS_00025	04/30/20		Phenova, Lot 7069-06		(Purchased Reagent)		Cyanide, Total	190 mg/Kg
WpHBuffer7CCV_00053	04/30/21		Ricca Chemical, Lot 4904H33		(Purchased Reagent)		pH	7 SU
WpHBuffer7P_00022	05/23/21		Lab Chem, Lot J142-03		(Purchased Reagent)		pH	7 SU
WSULFPSP_00687	10/24/19	10/18/19	DI Water, Lot Super Q	250 mL	WSulfide_00005	1.037 g	Sulfide	553.758 mg/L
.WSulfide_00005	05/10/21		Sigma-Aldrich, Lot MKCF4407		(Purchased Reagent)		Sulfide	0.1335 g/g
WSULFSICVCCV_00687	10/24/19	10/18/19	DI Water, Lot Super Q	250 mL	WSulfide_00006	1.131 g	Sulfide	603.954 mg/L
.WSulfide_00006	03/09/20		GFS Chemicals, Lot C579586		(Purchased Reagent)		Sulfide	0.1335 g/g

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
GLY_CCV_1000_00109	07/12/19	06/12/19	Methanol/water, Lot 196628	1 mL	GLY_STK_00108	100 uL	2,2'-Oxybisethanol	1000 ng/uL
							2-Ethoxyethanol	1000 ng/uL
							2-Methoxyethanol	1000 ng/uL
							Ethylene glycol	1000 ng/uL
							Propylene glycol	1000 ng/uL
							Triethylene Glycol	1000 ng/uL
.GLY_STK_00108	07/12/19	Ultra, Lot CS-1398			(Purchased Reagent)		2,2'-Oxybisethanol	10000 ng/uL
							2-Ethoxyethanol	10000 ng/uL
							2-Methoxyethanol	10000 ng/uL
							Ethylene glycol	10000 ng/uL
							Propylene glycol	10000 ng/uL
							Triethylene Glycol	10000 ng/uL
GLY_CCV_1000_00113	11/29/19	10/29/19	Methanol, Lot 198123	1 mL	GLY_STK_00113	100 uL	2,2'-Oxybisethanol	1000 ng/uL
							2-Ethoxyethanol	1000 ng/uL
							2-Methoxyethanol	1000 ng/uL
							Ethylene glycol	1000 ng/uL
							Propylene glycol	1000 ng/uL
							Triethylene Glycol	1000 ng/uL
.GLY_STK_00113	11/29/19	Agilent, Lot 0006476060			(Purchased Reagent)		2,2'-Oxybisethanol	10000 ng/uL
							2-Ethoxyethanol	10000 ng/uL
							2-Methoxyethanol	10000 ng/uL
							Ethylene glycol	10000 ng/uL
							Propylene glycol	10000 ng/uL
							Triethylene Glycol	10000 ng/uL
GLY_SURR1000_00103	07/11/19	06/11/19	Methanol/Water, Lot 198123	10 mL	GLY_SUR_10000_00095	1000 uL	1,4-Butanediol	1010 ug/mL
.GLY_SUR_10000_00095	07/11/19	06/11/19	Methanol, Lot 198123	10 mL	GLY_SURR_neat_00023	100 uL	1,4-Butanediol	10100 ng/uL
..GLY_SURR_neat_00023	06/11/20	Chem Service, Lot 7323500			(Purchased Reagent)		1,4-Butanediol	1010000 ng/uL
GLY_SURR1000_00107	11/29/19	10/29/19	Methanol, Lot 198123	10 mL	GLY_SUR_10000_00099	1000 uL	1,4-Butanediol	1010 ug/mL
.GLY_SUR_10000_00099	11/29/19	10/29/19	Methanol, Lot 198123	10 mL	GLY_SURR_neat_00023	100 uL	1,4-Butanediol	10100 ng/uL
..GLY_SURR_neat_00023	06/11/20	Chem Service, Lot 7323500			(Purchased Reagent)		1,4-Butanediol	1010000 ng/uL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
HRDXNCP_00038	10/16/19	10/16/18	C14, Lot STBH5862	6 mL	HRDXNCP_00037	1.2 mL	1,2,3,4,6,7,9-HpCDD	40 pg/uL
							1,2,3,4,6,7-HxCDD	40 pg/uL
							1,2,3,4,6,8-HxCDF	40 pg/uL
							1,2,3,4,8,9-HxCDF	40 pg/uL
							1,2,3,7-TCDD	40 pg/uL
							1,2,3,8,9-PeCDD	40 pg/uL
							1,2,3,8,9-PeCDF	40 pg/uL
							1,2,3,9-TCDD	40 pg/uL
							1,2,3,9-TCDF	40 pg/uL
							1,2,4,6,7,9-HxCDD	40 pg/uL
							1,2,4,7,9-PeCDD	40 pg/uL
							1,2,8,9-TCDD	40 pg/uL
							1,2,8,9-TCDF	40 pg/uL
							1,3,4,6,8-PeCDF	40 pg/uL
							1,3,6,8-TCDD	40 pg/uL
							1,3,6,8-TCDF	40 pg/uL
							13C-2,3,7,8-TCDD	40 pg/uL
							13C-2,3,7,8-TCDF	40 pg/uL
							2,3,4,7-TCDF	40 pg/uL
							2,3,7,8-TCDD	40 pg/uL
							2,3,7,8-TCDF	40 pg/uL
.HRDXNCP_00037	03/31/25		CIL, Lot ER03111502		(Purchased Reagent)		1,2,3,4,6,7,9-HpCDD	200 ng/mL
							1,2,3,4,6,7-HxCDD	200 ng/mL
							1,2,3,4,6,8-HxCDF	200 ng/mL
							1,2,3,4,8,9-HxCDF	200 ng/mL
							1,2,3,7-TCDD	200 ng/mL
							1,2,3,8,9-PeCDD	200 ng/mL
							1,2,3,8,9-PeCDF	200 ng/mL
							1,2,3,9-TCDD	200 ng/mL
							1,2,3,9-TCDF	200 ng/mL
							1,2,4,6,7,9-HxCDD	200 ng/mL
							1,2,4,7,9-PeCDD	200 ng/mL
							1,2,8,9-TCDD	200 ng/mL
							1,2,8,9-TCDF	200 ng/mL
							1,3,4,6,8-PeCDF	200 ng/mL
							1,3,6,8-TCDD	200 ng/mL
							1,3,6,8-TCDF	200 ng/mL
							13C-2,3,7,8-TCDD	200 ng/mL
							13C-2,3,7,8-TCDF	200 ng/mL
							2,3,4,7-TCDF	200 ng/mL
							2,3,7,8-TCDD	200 ng/mL
							2,3,7,8-TCDF	200 ng/mL
HRDXNCP_00040	08/30/20	08/30/19	C14, Lot STBH7678	6 mL	HRDXNCP_00039	1.2 mL	1,2,3,4,6,7,9-HpCDD	40 pg/uL
							1,2,3,4,6,7-HxCDD	40 pg/uL
							1,2,3,4,6,8-HxCDF	40 pg/uL
							1,2,3,4,8,9-HxCDF	40 pg/uL
							1,2,3,7-TCDD	40 pg/uL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,8,9-PeCDD	40 pg/uL
							1,2,3,8,9-PeCDF	40 pg/uL
							1,2,3,9-TCDD	40 pg/uL
							1,2,3,9-TCDF	40 pg/uL
							1,2,4,6,7,9-HxCDD	40 pg/uL
							1,2,4,7,9-PeCDD	40 pg/uL
							1,2,8,9-TCDD	40 pg/uL
							1,2,8,9-TCDF	40 pg/uL
							1,3,4,6,8-PeCDF	40 pg/uL
							1,3,6,8-TCDD	40 pg/uL
							1,3,6,8-TCDF	40 pg/uL
							13C-2,3,7,8-TCDD	40 pg/uL
							13C-2,3,7,8-TCDF	40 pg/uL
							2,3,4,7-TCDF	40 pg/uL
							2,3,7,8-TCDD	40 pg/uL
							2,3,7,8-TCDF	40 pg/uL
.HRDXNCP_00039	03/31/25		CIL, Lot ER03111502		(Purchased Reagent)		1,2,3,4,6,7,9-HpCDD	200 ng/mL
							1,2,3,4,6,7-HxCDD	200 ng/mL
							1,2,3,4,6,8-HxCDF	200 ng/mL
							1,2,3,4,8,9-HxCDF	200 ng/mL
							1,2,3,7-TCDD	200 ng/mL
							1,2,3,8,9-PeCDD	200 ng/mL
							1,2,3,8,9-PeCDF	200 ng/mL
							1,2,3,9-TCDD	200 ng/mL
							1,2,3,9-TCDF	200 ng/mL
							1,2,4,6,7,9-HxCDD	200 ng/mL
							1,2,4,7,9-PeCDD	200 ng/mL
							1,2,8,9-TCDD	200 ng/mL
							1,2,8,9-TCDF	200 ng/mL
							1,3,4,6,8-PeCDF	200 ng/mL
							1,3,6,8-TCDD	200 ng/mL
							1,3,6,8-TCDF	200 ng/mL
							13C-2,3,7,8-TCDD	200 ng/mL
							13C-2,3,7,8-TCDF	200 ng/mL
							2,3,4,7-TCDF	200 ng/mL
							2,3,7,8-TCDD	200 ng/mL
							2,3,7,8-TCDF	200 ng/mL
HRDXNIC_00038	10/25/19	01/31/19	C14, Lot STBH5862	0.5 mL	HRDXNIDA_00303	0.125 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.25 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNSU_00196	0.05 mL	37Cl4-2,3,7,8-TCDD	40 ng/mL
					HRDXNTA_00098	0.5 mL	1,2,3,4,6,7,8-HpCDD	200 ng/mL
							1,2,3,4,6,7,8-HpCDF	200 ng/mL
							1,2,3,4,7,8,9-HpCDF	200 ng/mL
							1,2,3,4,7,8-HxCDD	200 ng/mL
							1,2,3,4,7,8-HxCDF	200 ng/mL
							1,2,3,6,7,8-HxCDD	200 ng/mL
							1,2,3,6,7,8-HxCDF	200 ng/mL
							1,2,3,7,8,9-HxCDD	200 ng/mL
							1,2,3,7,8,9-HxCDF	200 ng/mL
							1,2,3,7,8-PeCDD	200 ng/mL
							1,2,3,7,8-PeCDF	200 ng/mL
							2,3,4,6,7,8-HxCDF	200 ng/mL
							2,3,4,7,8-PeCDF	200 ng/mL
							2,3,7,8-TCDD	40 ng/mL
							2,3,7,8-TCDF	40 ng/mL
							OCDD	400 ng/mL
							OCDF	400 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00098	03/01/25	Wellington Labs, Lot 13PAR0418			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	200 ng/mL
							1,2,3,4,6,7,8-HpCDF	200 ng/mL
							1,2,3,4,7,8,9-HpCDF	200 ng/mL
							1,2,3,4,7,8-HxCDD	200 ng/mL
							1,2,3,4,7,8-HxCDF	200 ng/mL
							1,2,3,6,7,8-HxCDD	200 ng/mL
							1,2,3,6,7,8-HxCDF	200 ng/mL
							1,2,3,7,8,9-HxCDD	200 ng/mL
							1,2,3,7,8,9-HxCDF	200 ng/mL
							1,2,3,7,8-PeCDD	200 ng/mL
							1,2,3,7,8-PeCDF	200 ng/mL
							2,3,4,6,7,8-HxCDF	200 ng/mL
							2,3,4,7,8-PeCDF	200 ng/mL
							2,3,7,8-TCDD	40 ng/mL
							2,3,7,8-TCDF	40 ng/mL
							OCDD	400 ng/mL
							OCDF	400 ng/mL
HRDXNIC_00042	04/29/20	07/02/19	C14, Lot STBH7678	0.5 mL	HRDXNIDA_00303	0.125 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.25 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNSU_00196	0.05 mL	37Cl4-2,3,7,8-TCDD	40 ng/mL
					HRDXNTA_00102	0.5 mL	1,2,3,4,6,7,8-HpCDD	200 ng/mL
							1,2,3,4,6,7,8-HpCDF	200 ng/mL
							1,2,3,4,7,8,9-HpCDF	200 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,4,7,8-HxCDD	200 ng/mL
							1,2,3,4,7,8-HxCDF	200 ng/mL
							1,2,3,6,7,8-HxCDD	200 ng/mL
							1,2,3,6,7,8-HxCDF	200 ng/mL
							1,2,3,7,8,9-HxCDD	200 ng/mL
							1,2,3,7,8,9-HxCDF	200 ng/mL
							1,2,3,7,8-PeCDD	200 ng/mL
							1,2,3,7,8-PeCDF	200 ng/mL
							2,3,4,6,7,8-HxCDF	200 ng/mL
							2,3,4,7,8-PeCDF	200 ng/mL
							2,3,7,8-TCDD	40 ng/mL
							2,3,7,8-TCDF	40 ng/mL
							OCDD	400 ng/mL
							OCDF	400 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00102	03/01/25	Wellington Labs, Lot 13PAR0418			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	200 ng/mL
							1,2,3,4,6,7,8-HpCDF	200 ng/mL
							1,2,3,4,7,8,9-HpCDF	200 ng/mL
							1,2,3,4,7,8-HxCDD	200 ng/mL
							1,2,3,4,7,8-HxCDF	200 ng/mL
							1,2,3,6,7,8-HxCDD	200 ng/mL
							1,2,3,6,7,8-HxCDF	200 ng/mL
							1,2,3,7,8,9-HxCDD	200 ng/mL
							1,2,3,7,8,9-HxCDF	200 ng/mL
							1,2,3,7,8-PeCDD	200 ng/mL
							1,2,3,7,8-PeCDF	200 ng/mL
							2,3,4,6,7,8-HxCDF	200 ng/mL
							2,3,4,7,8-PeCDF	200 ng/mL
							2,3,7,8-TCDD	40 ng/mL
							2,3,7,8-TCDF	40 ng/mL
							OCDD	400 ng/mL
							OCDF	400 ng/mL
HRDXNIDA_00392	10/24/20	10/24/19	Acetone, Lot 0000236139	500 mL	HRDXNIDA_00364	5 mL	13C-1,2,3,4,6,7,8-HpCDD	2 pg/uL
							13C-1,2,3,4,6,7,8-HpCDF	2 pg/uL
							13C-2,3,7,8-TCDF	2 pg/uL
							13C-2,3,7,8-TCDD	2 pg/uL
							13C-1,2,3,6,7,8-HxCDF	2 pg/uL
							13C-1,2,3,7,8,9-HxCDF	2 pg/uL
							13C-2,3,4,6,7,8-HxCDF	2 pg/uL
							13C-1,2,3,7,8-PeCDD	2 pg/uL
							13C-1,2,3,7,8-PeCDF	2 pg/uL
							13C-1,2,3,6,7,8-HxCDD	2 pg/uL
							13C-OCDD	4 pg/uL
					HRDXNIDA_00379	2.5 mL	13C-1,2,3,4,7,8,9-HpCDF	2 pg/uL
							13C-2,3,4,7,8-PeCDF	2 pg/uL
							13C-1,2,3,4,7,8-HxCDD	2 pg/uL
							13C-1,2,3,4,7,8-HxCDF	2 pg/uL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNIDA_00353	11/30/24		CIL, Lot ER08101404		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26		CIL, Lot ER09131601		(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26		CIL, Lot ER03031601		(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26		CIL, Lot ER02241603		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20		CIL, Lot ER100610-01		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20		CIL, Lot ER100610-02		(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21		CIL, Lot ER012111-01		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28		CIL, Lot ER03151801		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27		CIL, Lot ER04051701		(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIDA_00379	04/11/26	04/11/19	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00375	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00376	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00377	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00378	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00375	05/31/26		CIL, Lot ER04251601		(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00376	01/31/27		CIL, Lot ER01061701		(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00377	06/30/26		CIL, Lot ER04211601		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00378	07/31/27		CIL, Lot ER04211701		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
HRDXNIS_00121	10/09/20	10/09/19	C14, Lot STBJ0716	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
.HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
..HRDXNIS_00110	09/30/26		CIL, Lot ER08221601		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
..HRDXNIS_00111	01/31/27		CIL, Lot ER11081602		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
HRDXNL2_00024	09/07/19	01/29/19	C14, Lot STBH5862	1 mL	HRDXNIDA_00303	0.25 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.5 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIS_00113	1 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00205	0.625 mL	37Cl4-2,3,7,8-TCDD	0.5 ng/mL
					HRDXNTA_00100	0.125 mL	1,2,3,4,6,7,8-HpCDD	2.5 ng/mL
							1,2,3,4,6,7,8-HpCDF	2.5 ng/mL
							1,2,3,4,7,8,9-HpCDF	2.5 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,4,7,8-HxCDD	2.5 ng/mL
							1,2,3,4,7,8-HxCDF	2.5 ng/mL
							1,2,3,6,7,8-HxCDD	2.5 ng/mL
							1,2,3,6,7,8-HxCDF	2.5 ng/mL
							1,2,3,7,8,9-HxCDD	2.5 ng/mL
							1,2,3,7,8,9-HxCDF	2.5 ng/mL
							1,2,3,7,8-PeCDD	2.5 ng/mL
							1,2,3,7,8-PeCDF	2.5 ng/mL
							2,3,4,6,7,8-HxCDF	2.5 ng/mL
							2,3,4,7,8-PeCDF	2.5 ng/mL
							2,3,7,8-TCDD	0.5 ng/mL
							2,3,7,8-TCDF	0.5 ng/mL
							OCDD	5 ng/mL
							OCDF	5 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00113	10/25/19	10/25/18	C14, Lot STBH5862	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26	CIL, Lot ER08221601			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27	CIL, Lot ER11081602			(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00205	09/07/19	01/08/19	Isooctane, Lot 0000192372	500 mL	HRDXNSU_00192	1000 uL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
..HRDXNSU_00192	09/07/19	09/07/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00169	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
...HRDXNSU_00169	07/31/25	09/19/17	Isooctane, Lot 0000134126	10 mL	HRDXNSU_00123	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
....HRDXNSU_00123	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00100	01/08/20	01/08/19	Acetone, Lot 00000164215	25 mL	HRDXNTA_00091	0.25 mL	1,2,3,4,6,7,8-HpCDD	20 ng/mL
							1,2,3,4,6,7,8-HpCDF	20 ng/mL
							1,2,3,4,7,8,9-HpCDF	20 ng/mL
							1,2,3,4,7,8-HxCDD	20 ng/mL
							1,2,3,4,7,8-HxCDF	20 ng/mL
							1,2,3,6,7,8-HxCDD	20 ng/mL
							1,2,3,6,7,8-HxCDF	20 ng/mL
							1,2,3,7,8,9-HxCDD	20 ng/mL
							1,2,3,7,8,9-HxCDF	20 ng/mL
							1,2,3,7,8-PeCDD	20 ng/mL
							1,2,3,7,8-PeCDF	20 ng/mL
							2,3,4,6,7,8-HxCDF	20 ng/mL
							2,3,4,7,8-PeCDF	20 ng/mL
							2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL
							OCDD	40 ng/mL
							OCDF	40 ng/mL
..HRDXNTA_00091	04/30/26	CIL, Lot ER02241602			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL2_00027	04/29/20	07/02/19	C14, Lot STBH7678	1 mL	HRDXNIDA_00303	0.25 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.5 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIS_00117	1 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00217	0.625 mL	37Cl4-2,3,7,8-TCDD	0.5 ng/mL
					HRDXNTA_00113	0.125 mL	1,2,3,4,6,7,8-HpCDD	2.5 ng/mL
							1,2,3,4,6,7,8-HpCDF	2.5 ng/mL
							1,2,3,4,7,8,9-HpCDF	2.5 ng/mL
							1,2,3,4,7,8-HxCDD	2.5 ng/mL
							1,2,3,4,7,8-HxCDF	2.5 ng/mL
							1,2,3,6,7,8-HxCDD	2.5 ng/mL
							1,2,3,6,7,8-HxCDF	2.5 ng/mL
							1,2,3,7,8,9-HxCDD	2.5 ng/mL
							1,2,3,7,8,9-HxCDF	2.5 ng/mL
							1,2,3,7,8-PeCDD	2.5 ng/mL
							1,2,3,7,8-PeCDF	2.5 ng/mL
							2,3,4,6,7,8-HxCDF	2.5 ng/mL
							2,3,4,7,8-PeCDF	2.5 ng/mL
							2,3,7,8-TCDD	0.5 ng/mL
							2,3,7,8-TCDF	0.5 ng/mL
							OCDD	5 ng/mL
							OCDF	5 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26	CIL, Lot ER08221601			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27	CIL, Lot ER11081602			(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00217	07/01/20	07/01/19	Isooctane, Lot 0000201867	500 mL	HRDXNSU_00196	1000 uL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
..HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
...HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
....HRDXNSU_00187	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00113	05/29/20	05/29/19	Acetone, Lot 00000197752	25 mL	HRDXNTA_00092	0.25 mL	1,2,3,4,6,7,8-HpCDD	20 ng/mL
							1,2,3,4,6,7,8-HpCDF	20 ng/mL
							1,2,3,4,7,8,9-HpCDF	20 ng/mL
							1,2,3,4,7,8-HxCDD	20 ng/mL
							1,2,3,4,7,8-HxCDF	20 ng/mL
							1,2,3,6,7,8-HxCDD	20 ng/mL
							1,2,3,6,7,8-HxCDF	20 ng/mL
							1,2,3,7,8,9-HxCDD	20 ng/mL
							1,2,3,7,8,9-HxCDF	20 ng/mL
							1,2,3,7,8-PeCDD	20 ng/mL
							1,2,3,7,8-PeCDF	20 ng/mL
							2,3,4,6,7,8-HxCDF	20 ng/mL
							2,3,4,7,8-PeCDF	20 ng/mL
							2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							OCDD	40 ng/mL
							OCDF	40 ng/mL
..HRDXNTA_00092	04/30/26	CIL, Lot ER02241602			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL3_00022	09/07/19	01/29/19	C14, Lot STBH5862	0.5 mL	HRDXNIDA_00303	0.125 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.25 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIS_00113	0.5 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00205	1.25 mL	37Cl4-2,3,7,8-TCDD	2 ng/mL
					HRDXNTA_00100	0.25 mL	1,2,3,4,6,7,8-HpCDD	10 ng/mL
							1,2,3,4,6,7,8-HpCDF	10 ng/mL
							1,2,3,4,7,8,9-HpCDF	10 ng/mL
							1,2,3,4,7,8-HxCDD	10 ng/mL
							1,2,3,4,7,8-HxCDF	10 ng/mL
							1,2,3,6,7,8-HxCDD	10 ng/mL
							1,2,3,6,7,8-HxCDF	10 ng/mL
							1,2,3,7,8,9-HxCDD	10 ng/mL
							1,2,3,7,8,9-HxCDF	10 ng/mL
							1,2,3,7,8-PeCDD	10 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,7,8-PeCDF	10 ng/mL
							2,3,4,6,7,8-HxCDF	10 ng/mL
							2,3,4,7,8-PeCDF	10 ng/mL
							2,3,7,8-TCDD	2 ng/mL
							2,3,7,8-TCDF	2 ng/mL
							OCDD	20 ng/mL
							OCDF	20 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00113	10/25/19	10/25/18	C14, Lot STBH5862	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26	CIL, Lot ER08221601			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27	CIL, Lot ER11081602			(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00205	09/07/19	01/08/19	Isooctane, Lot 0000192372	500 mL	HRDXNSU_00192	1000 uL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNSU_00192	09/07/19	09/07/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00169	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
...HRDXNSU_00169	07/31/25	09/19/17	Isooctane, Lot 0000134126	10 mL	HRDXNSU_00123	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
....HRDXNSU_00123	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00100	01/08/20	01/08/19	Acetone, Lot 00000164215	25 mL	HRDXNTA_00091	0.25 mL	1,2,3,4,6,7,8-HpCDD	20 ng/mL
							1,2,3,4,6,7,8-HpCDF	20 ng/mL
							1,2,3,4,7,8,9-HpCDF	20 ng/mL
							1,2,3,4,7,8-HxCDD	20 ng/mL
							1,2,3,4,7,8-HxCDF	20 ng/mL
							1,2,3,6,7,8-HxCDD	20 ng/mL
							1,2,3,6,7,8-HxCDF	20 ng/mL
							1,2,3,7,8,9-HxCDD	20 ng/mL
							1,2,3,7,8,9-HxCDF	20 ng/mL
							1,2,3,7,8-PeCDD	20 ng/mL
							1,2,3,7,8-PeCDF	20 ng/mL
							2,3,4,6,7,8-HxCDF	20 ng/mL
							2,3,4,7,8-PeCDF	20 ng/mL
							2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL
							OCDD	40 ng/mL
							OCDF	40 ng/mL
..HRDXNTA_00091	04/30/26	CIL, Lot ER02241602			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL3_00025	04/29/20	07/02/19	C14, Lot STBH7678	0.5 mL	HRDXNIDA_00303	0.125 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.25 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIS_00117	0.5 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00217	1.25 mL	37Cl4-2,3,7,8-TCDD	2 ng/mL
					HRDXNTA_00113	0.25 mL	1,2,3,4,6,7,8-HpCDD	10 ng/mL
							1,2,3,4,6,7,8-HpCDF	10 ng/mL
							1,2,3,4,7,8,9-HpCDF	10 ng/mL
							1,2,3,4,7,8-HxCDD	10 ng/mL
							1,2,3,4,7,8-HxCDF	10 ng/mL
							1,2,3,6,7,8-HxCDD	10 ng/mL
							1,2,3,6,7,8-HxCDF	10 ng/mL
							1,2,3,7,8,9-HxCDD	10 ng/mL
							1,2,3,7,8,9-HxCDF	10 ng/mL
							1,2,3,7,8-PeCDD	10 ng/mL
							1,2,3,7,8-PeCDF	10 ng/mL
							2,3,4,6,7,8-HxCDF	10 ng/mL
							2,3,4,7,8-PeCDF	10 ng/mL
							2,3,7,8-TCDD	2 ng/mL
							2,3,7,8-TCDF	2 ng/mL
							OCDD	20 ng/mL
							OCDF	20 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNIDA_00075	11/30/20		CIL, Lot ER111010-01		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24		CIL, Lot ER08101404		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26		CIL, Lot ER09131601		(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26		CIL, Lot ER03031601		(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26		CIL, Lot ER02241603		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20		CIL, Lot ER100610-01		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20		CIL, Lot ER100610-02		(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21		CIL, Lot ER012111-01		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28		CIL, Lot ER03151801		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27		CIL, Lot ER04051701		(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26		CIL, Lot ER08221601		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27		CIL, Lot ER11081602		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00217	07/01/20	07/01/19	Isooctane, Lot 0000201867	500 mL	HRDXNSU_00196	1000 uL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
..HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
...HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
....HRDXNSU_00187	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00113	05/29/20	05/29/19	Acetone, Lot 00000197752	25 mL	HRDXNTA_00092	0.25 mL	1,2,3,4,6,7,8-HpCDD	20 ng/mL
							1,2,3,4,6,7,8-HpCDF	20 ng/mL
							1,2,3,4,7,8,9-HpCDF	20 ng/mL
							1,2,3,4,7,8-HxCDD	20 ng/mL
							1,2,3,4,7,8-HxCDF	20 ng/mL
							1,2,3,6,7,8-HxCDD	20 ng/mL
							1,2,3,6,7,8-HxCDF	20 ng/mL
							1,2,3,7,8,9-HxCDD	20 ng/mL
							1,2,3,7,8,9-HxCDF	20 ng/mL
							1,2,3,7,8-PeCDD	20 ng/mL
							1,2,3,7,8-PeCDF	20 ng/mL
							2,3,4,6,7,8-HxCDF	20 ng/mL
							2,3,4,7,8-PeCDF	20 ng/mL
							2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL
							OCDD	40 ng/mL
							OCDF	40 ng/mL
..HRDXNTA_00092	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL4_00077	10/25/19	01/29/19	C14, Lot STBH5862	1 mL	HRDXNIDA_00303	0.25 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.5 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIS_00113	1 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00196	0.025 mL	37Cl4-2,3,7,8-TCDD	10 ng/mL
					HRDXNTA_00092	0.025 mL	1,2,3,4,6,7,8-HpCDD	50 ng/mL
							1,2,3,4,6,7,8-HpCDF	50 ng/mL
							1,2,3,4,7,8,9-HpCDF	50 ng/mL
							1,2,3,4,7,8-HxCDD	50 ng/mL
							1,2,3,4,7,8-HxCDF	50 ng/mL
							1,2,3,6,7,8-HxCDD	50 ng/mL
							1,2,3,6,7,8-HxCDF	50 ng/mL
							1,2,3,7,8,9-HxCDD	50 ng/mL
							1,2,3,7,8,9-HxCDF	50 ng/mL
							1,2,3,7,8-PeCDD	50 ng/mL
							1,2,3,7,8-PeCDF	50 ng/mL
							2,3,4,6,7,8-HxCDF	50 ng/mL
							2,3,4,7,8-PeCDF	50 ng/mL
							2,3,7,8-TCDD	10 ng/mL
							2,3,7,8-TCDF	10 ng/mL
							OCDD	100 ng/mL
							OCDF	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00113	10/25/19	10/25/18	C14, Lot STBH5862	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26	CIL, Lot ER08221601			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27	CIL, Lot ER11081602			(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00092	04/30/26	CIL, Lot ER02241602			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL4_00084	04/29/20	07/11/19	C14, Lot STBH7678	1 mL	HRDXNIDA_00364	0.5 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIDA_00379	0.25 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIS_00117	1 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00196	0.02 mL	37Cl4-2,3,7,8-TCDD	8 ng/mL
					HRDXNTA_00093	0.025 mL	1,2,3,4,6,7,8-HpCDD	50 ng/mL
							1,2,3,4,6,7,8-HpCDF	50 ng/mL
							1,2,3,4,7,8,9-HpCDF	50 ng/mL
							1,2,3,4,7,8-HxCDD	50 ng/mL
							1,2,3,4,7,8-HxCDF	50 ng/mL
							1,2,3,6,7,8-HxCDD	50 ng/mL
							1,2,3,6,7,8-HxCDF	50 ng/mL
							1,2,3,7,8,9-HxCDD	50 ng/mL
							1,2,3,7,8,9-HxCDF	50 ng/mL
							1,2,3,7,8-PeCDD	50 ng/mL
							1,2,3,7,8-PeCDF	50 ng/mL
							2,3,4,6,7,8-HxCDF	50 ng/mL
							2,3,4,7,8-PeCDF	50 ng/mL
							2,3,7,8-TCDD	10 ng/mL
							2,3,7,8-TCDF	10 ng/mL
							OCDD	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							OCDF	100 ng/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIDA_00379	04/11/26	04/11/19	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00375	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00376	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00377	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00378	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00375	05/31/26	CIL, Lot ER04251601			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00376	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00377	06/30/26	CIL, Lot ER04211601			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00378	07/31/27	CIL, Lot ER04211701			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26	CIL, Lot ER08221601			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27	CIL, Lot ER11081602			(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00093	04/30/26	CIL, Lot ER02241602			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL4_00085	04/29/20	10/03/19	C14, Lot STBH7678	1 mL	HRDXNIDA_00364	0.5 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIDA_00379	0.25 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNSU_00196	0.025 mL	37Cl4-2,3,7,8-TCDD	10 ng/mL
					HRDXNTA_00093	0.025 mL	1,2,3,4,6,7,8-HpCDD	50 ng/mL
							1,2,3,4,6,7,8-HpCDF	50 ng/mL
							1,2,3,4,7,8,9-HpCDF	50 ng/mL
							1,2,3,4,7,8-HxCDD	50 ng/mL
							1,2,3,4,7,8-HxCDF	50 ng/mL
							1,2,3,6,7,8-HxCDD	50 ng/mL
							1,2,3,6,7,8-HxCDF	50 ng/mL
							1,2,3,7,8,9-HxCDD	50 ng/mL
							1,2,3,7,8,9-HxCDF	50 ng/mL
							1,2,3,7,8-PeCDD	50 ng/mL
							1,2,3,7,8-PeCDF	50 ng/mL
							2,3,4,6,7,8-HxCDF	50 ng/mL
							2,3,4,7,8-PeCDF	50 ng/mL
							2,3,7,8-TCDD	10 ng/mL
							2,3,7,8-TCDF	10 ng/mL
							OCDD	100 ng/mL
							OCDF	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIDA_00379	04/11/26	04/11/19	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00375	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00376	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00377	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00378	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00375	05/31/26	CIL, Lot ER04251601			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00376	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00377	06/30/26	CIL, Lot ER04211601			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00378	07/31/27	CIL, Lot ER04211701			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00093	04/30/26	CIL, Lot ER02241602			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL5_00025	10/25/19	01/29/19	C14, Lot STBH5862	0.2 mL	HRDXNIDA_00303	0.05 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.1 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIS_00113	0.2 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00196	0.02 mL	37Cl4-2,3,7,8-TCDD	40 ng/mL
					HRDXNTA_00092	0.02 mL	1,2,3,4,6,7,8-HpCDD	200 ng/mL
							1,2,3,4,6,7,8-HpCDF	200 ng/mL
							1,2,3,4,7,8,9-HpCDF	200 ng/mL
							1,2,3,4,7,8-HxCDD	200 ng/mL
							1,2,3,4,7,8-HxCDF	200 ng/mL
							1,2,3,6,7,8-HxCDD	200 ng/mL
							1,2,3,6,7,8-HxCDF	200 ng/mL
							1,2,3,7,8,9-HxCDD	200 ng/mL
							1,2,3,7,8,9-HxCDF	200 ng/mL
							1,2,3,7,8-PeCDD	200 ng/mL
							1,2,3,7,8-PeCDF	200 ng/mL
							2,3,4,6,7,8-HxCDF	200 ng/mL
							2,3,4,7,8-PeCDF	200 ng/mL
							2,3,7,8-TCDD	40 ng/mL
							2,3,7,8-TCDF	40 ng/mL
							OCDD	400 ng/mL
							OCDF	400 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNIDA_00301	10/31/21		CIL, Lot ER102711-01		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20		CIL, Lot ER072810-02		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20		CIL, Lot ER111010-01		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24		CIL, Lot ER08101404		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26		CIL, Lot ER09131601		(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26		CIL, Lot ER03031601		(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26		CIL, Lot ER02241603		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20		CIL, Lot ER100610-01		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20		CIL, Lot ER100610-02		(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21		CIL, Lot ER012111-01		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28		CIL, Lot ER03151801		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27		CIL, Lot ER04051701		(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00113	10/25/19	10/25/18	C14, Lot STBH5862	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26		CIL, Lot ER08221601		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27		CIL, Lot ER11081602		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00092	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL5_00028	04/29/20	07/02/19	C14, Lot STBH7678	0.2 mL	HRDXNIDA_00303	0.05 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.1 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIS_00117	0.2 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00196	0.02 mL	37Cl4-2,3,7,8-TCDD	40 ng/mL
					HRDXNTA_00093	0.02 mL	1,2,3,4,6,7,8-HpCDD	200 ng/mL
							1,2,3,4,6,7,8-HpCDF	200 ng/mL
							1,2,3,4,7,8,9-HpCDF	200 ng/mL
							1,2,3,4,7,8-HxCDD	200 ng/mL
							1,2,3,4,7,8-HxCDF	200 ng/mL
							1,2,3,6,7,8-HxCDD	200 ng/mL
							1,2,3,6,7,8-HxCDF	200 ng/mL
							1,2,3,7,8,9-HxCDD	200 ng/mL
							1,2,3,7,8,9-HxCDF	200 ng/mL
							1,2,3,7,8-PeCDD	200 ng/mL
							1,2,3,7,8-PeCDF	200 ng/mL
							2,3,4,6,7,8-HxCDF	200 ng/mL
							2,3,4,7,8-PeCDF	200 ng/mL
							2,3,7,8-TCDD	40 ng/mL
							2,3,7,8-TCDF	40 ng/mL
							OCDD	400 ng/mL
							OCDF	400 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNIDA_00301	10/31/21		CIL, Lot ER102711-01		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20		CIL, Lot ER072810-02		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20		CIL, Lot ER111010-01		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24		CIL, Lot ER08101404		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26		CIL, Lot ER09131601		(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26		CIL, Lot ER03031601		(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26		CIL, Lot ER02241603		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20		CIL, Lot ER100610-01		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20		CIL, Lot ER100610-02		(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21		CIL, Lot ER012111-01		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28		CIL, Lot ER03151801		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27		CIL, Lot ER04051701		(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26		CIL, Lot ER08221601		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27		CIL, Lot ER11081602		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00093	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL6_00021	10/25/19	01/29/19	C14, Lot STBH5862	0.2 mL	HRDXNIDA_00303	0.05 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.1 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIS_00113	0.2 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00196	0.1 mL	37Cl4-2,3,7,8-TCDD	200 ng/mL
					HRDXNTA_00092	0.1 mL	1,2,3,4,6,7,8-HpCDD	1000 ng/mL
							1,2,3,4,6,7,8-HpCDF	1000 ng/mL
							1,2,3,4,7,8,9-HpCDF	1000 ng/mL
							1,2,3,4,7,8-HxCDD	1000 ng/mL
							1,2,3,4,7,8-HxCDF	1000 ng/mL
							1,2,3,6,7,8-HxCDD	1000 ng/mL
							1,2,3,6,7,8-HxCDF	1000 ng/mL
							1,2,3,7,8,9-HxCDD	1000 ng/mL
							1,2,3,7,8,9-HxCDF	1000 ng/mL
							1,2,3,7,8-PeCDD	1000 ng/mL
							1,2,3,7,8-PeCDF	1000 ng/mL
							2,3,4,6,7,8-HxCDF	1000 ng/mL
							2,3,4,7,8-PeCDF	1000 ng/mL
							2,3,7,8-TCDD	200 ng/mL
							2,3,7,8-TCDF	200 ng/mL
							OCDD	2000 ng/mL
							OCDF	2000 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNIDA_00301	10/31/21		CIL, Lot ER102711-01		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20		CIL, Lot ER072810-02		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20		CIL, Lot ER111010-01		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24		CIL, Lot ER08101404		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26		CIL, Lot ER09131601		(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26		CIL, Lot ER03031601		(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26		CIL, Lot ER02241603		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20		CIL, Lot ER100610-01		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20		CIL, Lot ER100610-02		(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21		CIL, Lot ER012111-01		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28		CIL, Lot ER03151801		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27		CIL, Lot ER04051701		(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00113	10/25/19	10/25/18	C14, Lot STBH5862	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26		CIL, Lot ER08221601		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27		CIL, Lot ER11081602		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00092	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL6_00024	04/29/20	07/02/19	C14, Lot STBH7678	0.2 mL	HRDXNIDA_00303	0.05 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.1 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIS_00117	0.2 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00196	0.1 mL	37Cl4-2,3,7,8-TCDD	200 ng/mL
					HRDXNTA_00093	0.1 mL	1,2,3,4,6,7,8-HpCDD	1000 ng/mL
							1,2,3,4,6,7,8-HpCDF	1000 ng/mL
							1,2,3,4,7,8,9-HpCDF	1000 ng/mL
							1,2,3,4,7,8-HxCDD	1000 ng/mL
							1,2,3,4,7,8-HxCDF	1000 ng/mL
							1,2,3,6,7,8-HxCDD	1000 ng/mL
							1,2,3,6,7,8-HxCDF	1000 ng/mL
							1,2,3,7,8,9-HxCDD	1000 ng/mL
							1,2,3,7,8,9-HxCDF	1000 ng/mL
							1,2,3,7,8-PeCDD	1000 ng/mL
							1,2,3,7,8-PeCDF	1000 ng/mL
							2,3,4,6,7,8-HxCDF	1000 ng/mL
							2,3,4,7,8-PeCDF	1000 ng/mL
							2,3,7,8-TCDD	200 ng/mL
							2,3,7,8-TCDF	200 ng/mL
							OCDD	2000 ng/mL
							OCDF	2000 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNIDA_00301	10/31/21		CIL, Lot ER102711-01		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20		CIL, Lot ER072810-02		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20		CIL, Lot ER111010-01		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24		CIL, Lot ER08101404		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26		CIL, Lot ER09131601		(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26		CIL, Lot ER03031601		(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26		CIL, Lot ER02241603		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20		CIL, Lot ER100610-01		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20		CIL, Lot ER100610-02		(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21		CIL, Lot ER012111-01		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28		CIL, Lot ER03151801		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27		CIL, Lot ER04051701		(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26		CIL, Lot ER08221601		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27		CIL, Lot ER11081602		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00093	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNSU_00221	10/18/20	10/18/19	Isooctane, Lot 0000221197	500 mL	HRDXNSU_00196	1000 uL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
HRDXNTA_00116	08/26/20	08/26/19	Acetone, Lot 00000236139	25 mL	HRDXNTA_00093	0.25 mL	1,2,3,4,6,7,8-HpCDD	20 ng/mL
							1,2,3,4,6,7,8-HpCDF	20 ng/mL
							1,2,3,4,7,8,9-HpCDF	20 ng/mL
							1,2,3,4,7,8-HxCDD	20 ng/mL
							1,2,3,4,7,8-HxCDF	20 ng/mL
							1,2,3,6,7,8-HxCDD	20 ng/mL
							1,2,3,6,7,8-HxCDF	20 ng/mL
							1,2,3,7,8,9-HxCDD	20 ng/mL
							1,2,3,7,8,9-HxCDF	20 ng/mL
							1,2,3,7,8-PeCDD	20 ng/mL
							1,2,3,7,8-PeCDF	20 ng/mL
							2,3,4,6,7,8-HxCDF	20 ng/mL
							2,3,4,7,8-PeCDF	20 ng/mL
							2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL
							OCDD	40 ng/mL
							OCDF	40 ng/mL
.HRDXNTA_00093	04/30/26	CIL, Lot ER02241602			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL

Reagent

AR1016(10000)_00001

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 572370 **Lot No.:** A0125929

Description : Custom Aroclor 1016 Standard

Custom Aroclor 1016 Standard 10,000µg/mL, Isooctane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2022 **Storage:** 10°C or colder

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Aroclor 1016	10,060.0 µg/mL	+/- 93.0971 µg/mL	Gravimetric
	CAS # 12674-11-2 (Lot 5013300)		+/- 326.8660 µg/mL	Unstressed
	Purity —%		+/- 422.6873 µg/mL	Stressed

Solvent: Isooctane
CAS # 540-84-1
Purity 99%

Reagent

AR1260(10000)_00001

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 572371 **Lot No.:** A0126325

Description : Custom Aroclor 1260 Standard

Custom Aroclor 1260 Standard 10,000µg/mL, Isooctane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2022 **Storage:** 10°C or colder

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1260		10,020.0 µg/mL	+/- 92.7270	µg/mL	Gravimetric
	CAS # 11096-82-5	(Lot W-129-06)		+/- 325.5664	µg/mL	Unstressed
	Purity ----%			+/- 421.0066	µg/mL	Stressed

Solvent: Isooctane
CAS # 540-84-1
Purity 99%

Reagent

DBC Internal_00002

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32025 **Lot No.:** A0126147

Description : Dibutyl Chlorendate Mix

Dibutylchlorendate 200µg/mL, Acetone, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Dibutyl chlorendate **CAS #** 1770-80-5 (Lot CAP-25493-47) **Purity** 99%	202.0 µg/mL	+/- 1.4323	µg/mL	Gravimetric
			+/- 9.3150	µg/mL	Unstressed
			+/- 9.5516	µg/mL	Stressed

Solvent: Acetone
CAS # 67-64-1
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

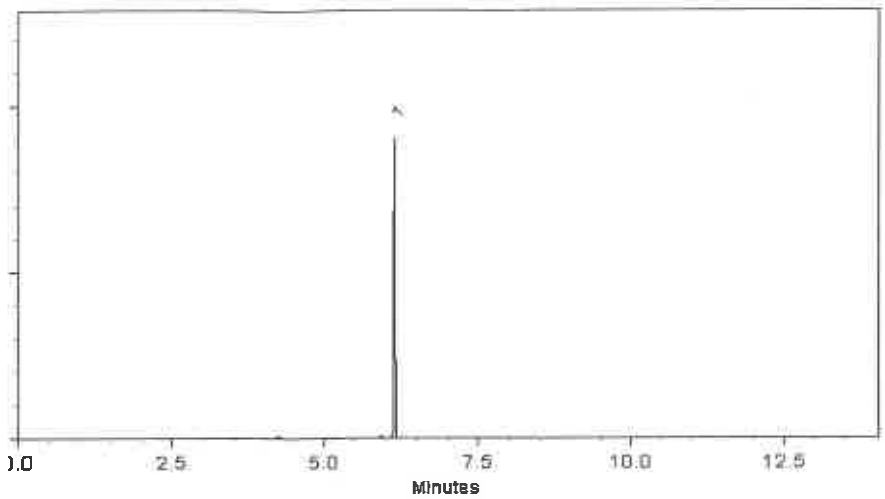

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Matt Fragassi - Mix Technician

Date Mixed: 24-Mar-2017 **Balance:** 1127510105

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 28-Mar-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

Reagent

GC2PESTAB3STD_00003

RESTEK CERTIFIED REFERENCE MATERIAL

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AB#3.SEC

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Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Rec'd 10-26-18

Catalog No. : 32415.sec **Lot No.:** A0108854

Description : Organochlorine Pesticide Mix AB #3

Organochlorine Pesticide Mix AB #3 2,000µg/mL, Hexane/Toluene (50:50), 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2019 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	alpha-BHC		2,009.5 µg/mL	+/- 11.7929 µg/mL	Gravimetric
	CAS # 319-84-6.SEC	(Lot 1623900)		+/- 78.6071 µg/mL	Unstressed
	Purity 99%			+/- 124.7419 µg/mL	Stressed
2	gamma-BHC (Lindane)		2,010.0 µg/mL	+/- 11.7958 µg/mL	Gravimetric
	CAS # 58-89-9.SEC	(Lot LC00563V)		+/- 78.6267 µg/mL	Unstressed
	Purity 99%			+/- 124.7729 µg/mL	Stressed
3	beta-BHC		2,003.1 µg/mL	+/- 11.7554 µg/mL	Gravimetric
	CAS # 319-85-7.SEC	(Lot 1808700)		+/- 78.3575 µg/mL	Unstressed
	Purity 98%			+/- 124.3458 µg/mL	Stressed
4	delta-BHC		2,003.5 µg/mL	+/- 11.7577 µg/mL	Gravimetric
	CAS # 319-86-8.SEC	(Lot 1912200)		+/- 78.3724 µg/mL	Unstressed
	Purity 99%			+/- 124.3694 µg/mL	Stressed
5	Heptachlor		2,000.5 µg/mL	+/- 11.7401 µg/mL	Gravimetric
	CAS # 76-44-8.SEC	(Lot 1745400)		+/- 78.2551 µg/mL	Unstressed
	Purity 99%			+/- 124.1832 µg/mL	Stressed
6	Aldrin		2,004.1 µg/mL	+/- 11.7612 µg/mL	Gravimetric
	CAS # 309-00-2.SEC	(Lot ER062311-01)		+/- 78.3959 µg/mL	Unstressed
	Purity 98%			+/- 124.4067 µg/mL	Stressed
7	Heptachlor epoxide (isomer B)		2,006.0 µg/mL	+/- 11.7723 µg/mL	Gravimetric
	CAS # 1024-57-3.SEC	(Lot 3352500)		+/- 78.4702 µg/mL	Unstressed
	Purity 99%			+/- 124.5246 µg/mL	Stressed

8	trans-Chlordane **CAS #** 5103-74-2.SEC **Purity** 99%	(Lot LC06193V)	2,006.0	µg/mL	+/- +/- +/-	11.7723 78.4702 124.5246	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
9	cis-Chlordane **CAS #** 5103-71-9.SEC **Purity** 99%	(Lot 24407)	2,009.0	µg/mL	+/- +/- +/-	11.7899 78.5876 124.7108	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
10	Endosulfan I **CAS #** 959-98-8.SEC **Purity** 98%	(Lot 1710200)	2,002.1	µg/mL	+/- +/- +/-	11.7497 78.3192 124.2860	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
11	4,4'-DDE **CAS #** 72-55-9.SEC **Purity** 99%	(Lot 1833500)	2,001.5	µg/mL	+/- +/- +/-	11.7451 78.2942 124.2453	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
12	Dieldrin **CAS #** 60-57-1.SEC **Purity** 98%	(Lot 1274700)	1,995.3	µg/mL	+/- +/- +/-	11.7094 78.0509 123.8591	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
13	Endrin **CAS #** 72-20-8 * **Purity** 99%	(Lot LC06045V)	2,000.0	µg/mL	+/- +/- +/-	11.7371 78.2355 124.1521	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
14	4,4'-DDD **CAS #** 72-54-8.SEC **Purity** 98%	(Lot 1141700)	2,009.0	µg/mL	+/- +/- +/-	11.7899 78.5876 124.7108	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
15	Endosulfan II **CAS #** 33213-65-9.SEC **Purity** 99%	(Lot 3437500)	2,010.0	µg/mL	+/- +/- +/-	11.7958 78.6267 124.7729	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
16	Endrin aldehyde **CAS #** 7421-93-4.SEC **Purity** 98%	(Lot 21752)	2,016.4	µg/mL	+/- +/- +/-	11.8331 78.8751 125.1671	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
17	4,4'-DDT **CAS #** 50-29-3.SEC **Purity** 99%	(Lot 3478000)	2,016.5	µg/mL	+/- +/- +/-	11.8340 78.8809 125.1764	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
18	Endosulfan sulfate **CAS #** 1031-07-8.SEC **Purity** 98%	(Lot 1888900)	2,007.5	µg/mL	+/- +/- +/-	11.7813 78.5301 124.6196	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
19	Methoxychlor **CAS #** 72-43-5.SEC **Purity** 99%	(Lot LC09014V)	2,007.0	µg/mL	+/- +/- +/-	11.7782 78.5093 124.5867	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
20	Endrin ketone **CAS #** 53494-70-5.SEC **Purity** 98%	(Lot 091307RD)	2,007.5	µg/mL	+/- +/- +/-	11.7813 78.5301 124.6196	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Hexane/Toluene (50:50)
CAS # 110-54-3/108-88-3
Purity 99%

*** Restek is unable to identify a reliable and/or acceptable second source for this material - the same batch of neat material may have been used to produce both the primary and secondary standard. The primary and secondary standards were prepared using different equipment and personnel.**

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
150°C to 300°C
@ 4°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
300°C

Det. Type:
ECD

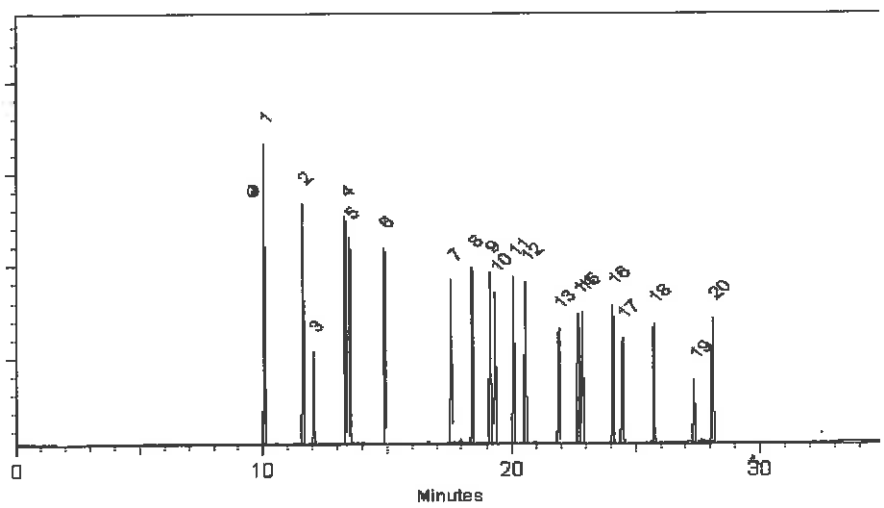

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Lane Kibe - Mix Technician

Date Mixed: 04-Feb-2015 **Balance:** B345965662

Diane Shaffer - Operations Tech-ARM QC

Date Passed: 12-Feb-2015

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

Reagent

GCBZ#205STD1_00006

125 Market Street
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USA

AccuStandard® Inc.

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CERTIFICATE OF ANALYSIS

Catalog No: C-205S-TP
Description: 2,3,3',4,4',5,5',6-Octachlorobiphenyl
Lot: 216091034
Solvent: Isooctane
Hazards: *Refer to SDS for complete safety information*

Signal Word: Danger

Date Certified: Sep 6, 2016
Expiration: Sep 6, 2026
Sample Size: 1 mL
Components: 1
Storage Condition: Ambient (>5 °C)/Sonicate

Included on ISO/IEC 17025 Scope of Accreditation: Yes

Included on ISO Guide 34 Scope of Accreditation: Yes

Component	CAS #	Purity % (GC/MS)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
2,3,3',4,4',5,5',6-Octachlorobiphenyl	74472-53-0	99.0	100.2	99.2

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] All weights are traceable through NIST, Test No. 822-275872-11

[2] Certified Analyte Concentration = Purity x Prepared Concentration. The Uncertainty associated with the gravimetric values reported on this certificate is ±0.24%. The CRM Uncertainty calculated for this product is ±5%. These values are the expanded uncertainty and represent an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker

See reverse side for additional information

Certified By: Larry Decker, Organic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001

Reagent

GCDCAASSTD_00008

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Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567804 **Lot No.:** A0140943

Description : DCAA Standard

DCAA Standard 1,000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2020 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
I	2,4-dichlorophenylacetic acid **CAS #** 19719-28-9 **Purity** 99% (Lot S30618V)	1,004.7 µg/mL	+/- 5.9674	µg/mL	Gravimetric
			+/- 53.4489	µg/mL	Unstressed
			+/- 53.5384	µg/mL	Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Reagent

GCDCBStock_00008

Certificate of Analysis

Decachlorobiphenyl Solution

Product Number: PPS-150 **Page:** 1 of 1

Lot Number: CP-6040 **Lot Issue Date:** 16-Dec-2016 **Expiration Date:** 31-Jan-2021

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
decachlorobiphenyl (BZ # 209)	002051-24-3	RM01256	1000 ± 5 µg/mL

Matrix: toluene

Storage: Store at Room Temperature (15° to 30°C).

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

John Russo
President

Monica Bourgeois
Director of QA/RA

ISO 9001
Registered
TUV USA, Inc.

250 SMITH STREET • NORTH KINGSTOWN, RHODE ISLAND 02852 • WWW.ULTRASCI.COM

Reagent

GCHERBICALMIX_00018

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Gravimetric Certificate

ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569749 **Lot No.:** A0142217

Description : Herbicide List #1 Standard (2015)

Herbicide List #1 Standard (2015) 50-20,000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : October 31, 2021 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Component #	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2,4,5-T		50.5 µg/mL	+/- 0.3581	µg/mL	Gravimetric
	CAS # 93-76-5	(Lot 6693400)		+/- 2.6937	µg/mL	Unstressed
	Purity 99%			+/- 2.6982	µg/mL	Stressed
2	2,4,5-TP (silvex)		50.0 µg/mL	+/- 0.3545	µg/mL	Gravimetric
	CAS # 93-72-1	(Lot 5299900)		+/- 2.6671	µg/mL	Unstressed
	Purity 99%			+/- 2.6715	µg/mL	Stressed
3	2,4-D		201.0 µg/mL	+/- 1.4253	µg/mL	Gravimetric
	CAS # 94-75-7	(Lot 7677600)		+/- 10.7216	µg/mL	Unstressed
	Purity 99%			+/- 10.7395	µg/mL	Stressed
4	2,4-DB		201.0 µg/mL	+/- 1.4253	µg/mL	Gravimetric
	CAS # 94-82-6	(Lot 5262300)		+/- 10.7216	µg/mL	Unstressed
	Purity 99%			+/- 10.7395	µg/mL	Stressed
5	Dalapon		200.5 µg/mL	+/- 1.4214	µg/mL	Gravimetric
	CAS # 75-99-0	(Lot 7138100)		+/- 10.6923	µg/mL	Unstressed
	Purity 95%			+/- 10.7101	µg/mL	Stressed
6	Dicamba		100.5 µg/mL	+/- 0.7126	µg/mL	Gravimetric
	CAS # 1918-00-9	(Lot 7173700)		+/- 5.3608	µg/mL	Unstressed
	Purity 99%			+/- 5.3697	µg/mL	Stressed
7	Dichlorprop		201.0 µg/mL	+/- 1.4253	µg/mL	Gravimetric
	CAS # 120-36-5	(Lot 4619200)		+/- 10.7216	µg/mL	Unstressed
	Purity 99%			+/- 10.7395	µg/mL	Stressed

8	Dinoseb			201.0	µg/mL	+/-	1.4253	µg/mL	Gravimetric
	CAS #	88-85-7	(Lot 50001)			+/-	10.7216	µg/mL	Unstressed
	Purity	99%				+/-	10.7395	µg/mL	Stressed
9	MCPA			20,198.3	µg/mL	+/-	118.2655	µg/mL	Gravimetric
	CAS #	94-74-6	(Lot 7204500)			+/-	1,074.3731	µg/mL	Unstressed
	Purity	97%				+/-	1,076.1727	µg/mL	Stressed
10	MCPP (Mecoprop)			20,094.0	µg/mL	+/-	117.6548	µg/mL	Gravimetric
	CAS #	93-65-2	(Lot 6899400)			+/-	1,068.8247	µg/mL	Unstressed
	Purity	99%				+/-	1,070.6150	µg/mL	Stressed
11	Pentachlorophenol			50.5	µg/mL	+/-	0.3581	µg/mL	Gravimetric
	CAS #	87-86-5	(Lot 180924JACG)			+/-	2.6937	µg/mL	Unstressed
	Purity	99%				+/-	2.6982	µg/mL	Stressed
12	Picloram			201.8	µg/mL	+/-	1.4306	µg/mL	Gravimetric
	CAS #	1918-02-1	(Lot 34ATO)			+/-	10.7622	µg/mL	Unstressed
	Purity	97%				+/-	10.7801	µg/mL	Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Tom Suckar - Mix Technician

Date Mixed: 09-Oct-2018 **Balance:** 1128360905

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

Specific Reference Material Notes:
Failure to derivatize this standard will lead to incorrect quantitative results.

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

GCPCB2154 mix_00004

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited Reference Material Producer Certificate #3222.01

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ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569745 **Lot No.:** A0115555

Description : PCB-1221/1254 Standard

PCB-1221/1254 Standard 1000 µg/ml, Hexane, 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 28, 2022 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1221		1,000.0 µg/mL	+/- 5.9397	µg/mL	Gravimetric
	CAS # 11104-28-2	(Lot 1240100)		+/- 31.7072	µg/mL	Unstressed
	Purity ----%			+/- 41.4130	µg/mL	Stressed
2	Aroclor 1254		1,000.0 µg/mL	+/- 5.9397	µg/mL	Gravimetric
	CAS # 11097-69-1	(Lot 124-191-B)		+/- 31.7072	µg/mL	Unstressed
	Purity ----%			+/- 41.4130	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

GCPCB2154 mix_00005

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Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569745.sec **Lot No.:** A0116420

Description : PCB-1221/1254 Standard

PCB-1221/1254 Standard 1000 µg/ml, Hexane, 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2022 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Aroclor 1221 **CAS #** 11104-28-2.SEC (Lot W-126-07) **Purity** ----%	1,004.0 µg/mL	+/- 5.9635 µg/mL +/- 31.8340 µg/mL +/- 41.5787 µg/mL	Gravimetric Unstressed Stressed
2	Aroclor 1254 **CAS #** 11097-69-1.SEC (Lot RM00922) **Purity** ----%	1,002.0 µg/mL	+/- 5.9516 µg/mL +/- 31.7706 µg/mL +/- 41.4958 µg/mL	Gravimetric Unstressed Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

GCPCB3262 mix_00003

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569746 **Lot No.:** A0112323

Description : PCB-1232/1262 Standard

PCB-1232/1262 Standard 1000 µg/ml, Hexane, 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : October 31, 2021 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1232 **CAS #** 11141-16-5 (Lot W-107-05) **Purity** ----%	1,000.0 µg/mL	+/- 10.0737 +/- 32.1814 +/- 42.2011	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	Aroclor 1262 **CAS #** 37324-23-5 (Lot 3067100) **Purity** ----%	1,000.0 µg/mL	+/- 10.0737 +/- 32.1814 +/- 42.2011	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

GCPCB3262 mix_00004

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569746.sec **Lot No.:** A0110988

Description : PCB-1232/1262 Standard

PCB-1232/1262 Standard 1000 µg/ml, Hexane, 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2021 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Aroclor 1232 **CAS #** 11141-16-5.SEC (Lot 130604JLM) **Purity** ----%	1,000.0 µg/mL	+/- 10.0737 µg/mL +/- 32.1814 µg/mL +/- 42.2011 µg/mL	Gravimetric Unstressed Stressed
2	Aroclor 1262 **CAS #** 37324-23-5.SEC (Lot W-130-05) **Purity** ----%	1,004.0 µg/mL	+/- 10.1140 µg/mL +/- 32.3101 µg/mL +/- 42.3699 µg/mL	Gravimetric Unstressed Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

GCPCB4268 mix_00003

RESTEK CERTIFIED REFERENCE MATERIAL

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Certificate of Analysis

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569747 **Lot No.:** A0116616

Description : PCB-1242/1268 Standard

PCB-1242/1268 Standard 1000 µg/ml, Hexane, 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2022 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1242 **CAS #** 53469-21-9 **Purity** ----%	(Lot 01141-A)	1,000.0 µg/mL	+/- 5.9397 +/- 31.7072 +/- 41.4130	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	Aroclor 1268 **CAS #** 11100-14-4 **Purity** ----%	(Lot 2743900)	1,002.0 µg/mL	+/- 5.9516 +/- 31.7706 +/- 41.4958	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

GCPCB4268 mix_00004

RESTEK® CERTIFIED REFERENCE MATERIAL

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569747.sec **Lot No.:** A0109391

Description : PCB-1242/1268 Standard

PCB-1242/1268 Standard 1000 µg/ml, Hexane, 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2021 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L., K=2)		
1	Aroclor 1242 **CAS #** 53469-21-9.SEC (Lot NTO1020) **Purity** 99%	1,000.0 µg/mL	+/- 5.9397 +/- 31.1358 +/- 41.4093	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	Aroclor 1268 **CAS #** 11100-14-4.SEC (Lot W-131-05) **Purity** ----%	1,004.0 µg/mL	+/- 5.9635 +/- 31.2604 +/- 41.5749	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

GCPCBI1248STD_00006

CERTIFIED REFERENCE MATERIAL

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32010 **Lot No.:** A0103107

Description : Aroclor® 1248 Standard

Aroclor® 1248 Standard 1,000µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2020 **Storage:** 25°C nominal

Handling: This product contains PCB's

C E R T I F I E D V A L U E S

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Aroclor 1248	1,000.4 µg/mL	+/- 5.8709 µg/mL	Gravimetric
	CAS # 12672-29-6 (Lot W-108-07)		+/- 31.1348 µg/mL	Unstressed
	Purity ----%		+/- 41.4157 µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

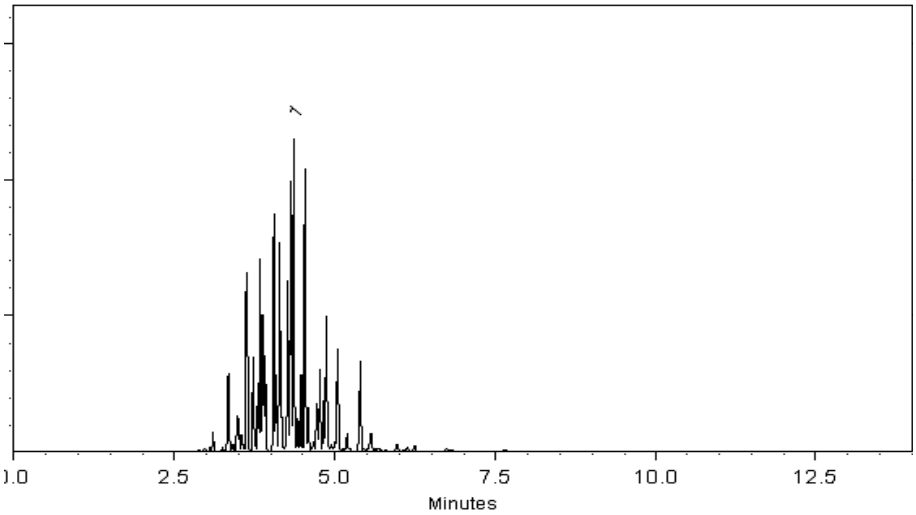

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cheryl Graham - Mix Technician

Date Mixed: 02-May-2014 **Balance:** 1128342313

Jennifer L. Pollino - QC Analyst

Date Passed: 06-May-2014

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31840, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

GCPCBI1248STD_00009

110 Benner Circle
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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32010.sec **Lot No.:** A0116431

Description : Aroclor® 1248 Standard

Aroclor® 1248 Standard 1,000µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2022 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1248	1.002.0 µg/mL	+/- 5.9516	µg/mL	Gravimetric
	CAS # 12672-29-6.SEC (Lot 106-248)		+/- 31.7706	µg/mL	Unstressed
	Purity ----%		+/- 41.4958	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

GCPCBI1660STD_00014

110 Benner Circle
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CERTIFIED REFERENCE MATERIAL

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Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32039 **Lot No.:** A0119290

Description : Aroclor® 1016/1260 Mix

Aroclor® 1016/1260 Mix 1,000 µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2022 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1016 **CAS #** 12674-11-2 **Purity** ----%	(Lot W-125-01)	1,005.0 µg/mL	+/- 5.8567 +/- 31.8448 +/- 41.6041	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	Aroclor 1260 **CAS #** 11096-82-5 **Purity** ----%	(Lot W-129-06)	1,007.2 µg/mL	+/- 5.8695 +/- 31.9145 +/- 41.6951	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

GCPCBI1660STD_00016

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32039.SEC **Lot No.:** A0114674

Description : Aroclor® 1016/1260 Mix

Aroclor® 1016/1260 Mix 1,000 µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2022 **Storage:** 25°C nominal

Handling: This product contains PCB's

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1016 **CAS #** 12674-11-2.SEC (Lot 129) **Purity** ----%	1.000.7 µg/mL	+/- 5.9437 +/- 31.7284 +/- 41.4406	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	Aroclor 1260 **CAS #** 11096-82-5.SEC (Lot NTO1023) **Purity** ----%	1.000.0 µg/mL	+/- 5.9397 +/- 31.7072 +/- 41.4130	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

GCPEST(PEM2)_00001

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Catalog No. : 571991 **Lot No.:** A0123952

Description : 8081 Performance Evaluation Mix

8081 Performance Evaluation Mix 5-10 µg/ml, Hexane/Toluene (90:10), 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Endrin **CAS #** 72-20-8 **Purity** 98%	(Lot SZBD119XV)	5.0 µg/mL	+/- 0.1541 +/- 0.2734 +/- 0.3619	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	4,4'-DDT **CAS #** 50-29-3 **Purity** 99%	(Lot S37912V)	10.0 µg/mL	+/- 0.3090 +/- 0.5480 +/- 0.7254	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Hexane/Toluene (90:10)
CAS # 110-54-3/108-88-3
Purity 99%

Rec'd
4-3-19

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

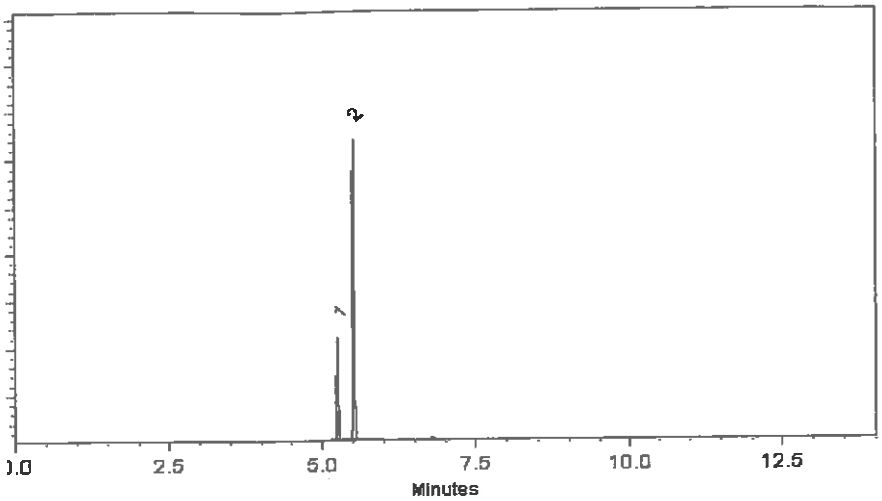

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Isaiah Harrison - Mix Technician

Date Mixed: 04-Jan-2017 **Balance:** 1128353505

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 10-Jan-2017

Manufactured under Restek's ISO 9001:2008
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Certificate #FM 80397

Reagent

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32000 **Lot No.:** A0130424

Description : Pesticide Surrogate Mix

Pesticide Surrogate Mix 200 µg/mL, Acetone, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2023 **Storage:** 10°C or colder

Handling: Contains PCBs - sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2,4,5,6-Tetrachloro-m-xylene		201.2 µg/mL	+/- 1.1725	µg/mL	Gravimetric
	CAS # 877-09-8	(Lot 0052481)		+/- 6.3751	µg/mL	Unstressed
	Purity 98%			+/- 8.3288	µg/mL	Stressed
2	Decachlorobiphenyl (BZ# 209)		201.5 µg/mL	+/- 1.1742	µg/mL	Gravimetric
	CAS # 2051-24-3	(Lot ER071509-01)		+/- 6.3848	µg/mL	Unstressed
	Purity 99%			+/- 8.3415	µg/mL	Stressed

Solvent: Acetone
CAS # 67-64-1
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

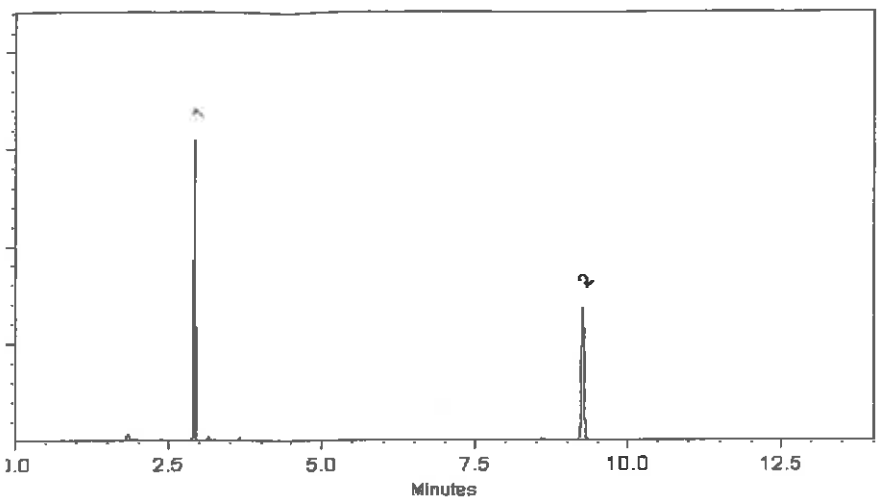

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 31-Aug-2017 **Balance:** B345965662

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 07-Sep-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

Reagent

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32000 **Lot No.:** A0141110

Description : Pesticide Surrogate Mix

Pesticide Surrogate Mix 200 µg/mL, Acetone, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2024 **Storage:** 10°C or colder

Handling: Contains PCBs - sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	2,4,5,6-Tetrachloro-m-xylene **CAS #** 877-09-8 (Lot 0052481) **Purity** 98%	201.4 µg/mL	+/- 1.1736 µg/mL +/- 6.3813 µg/mL +/- 8.3370 µg/mL	Gravimetric Unstressed Stressed
2	Decachlorobiphenyl (BZ# 209) **CAS #** 2051-24-3 (Lot ER071509-01) **Purity** 99%	200.6 µg/mL	+/- 1.1690 µg/mL +/- 6.3563 µg/mL +/- 8.3043 µg/mL	Gravimetric Unstressed Stressed

Solvent: Acetone
CAS # 67-64-1
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

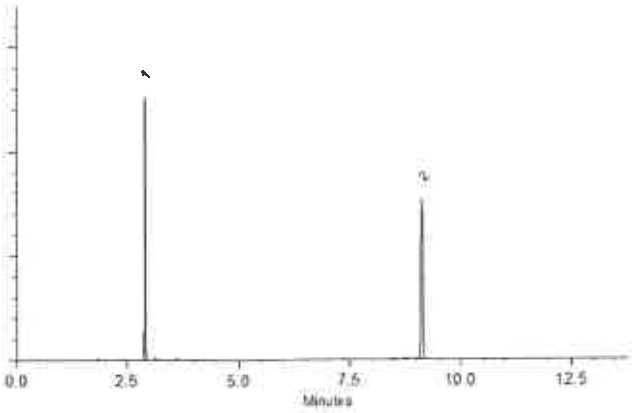

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 29-Aug-2018 **Balance:** B707717271

Justine Albertson - Operations Tech-ARM QC

Date Passed: 04-Sep-2018

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32279 **Lot No.:** A0124315

Description : 1-Bromo-2-nitrobenzene Standard

1-Bromo-2-nitrobenzene Standard 1000 µg/mL, Acetone, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1-Bromo-2-nitrobenzene **CAS #** 577-19-5 (Lot 643872/1) **Purity** 99%	1,006.0 µg/mL	+/- 5.9753 µg/mL +/- 56.4187 µg/mL +/- 57.7382 µg/mL	Gravimetric Unstressed Stressed

Solvent: Acetone
CAS # 67-64-1
Purity 99%

Reagent

GCpest/pcbINT_00005

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32279 **Lot No.:** A0141134

Description : 1-Bromo-2-nitrobenzene Standard

1-Bromo-2-nitrobenzene Standard 1000 µg/mL, Acetone, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2021 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)			
1	1-Bromo-2-nitrobenzene		1,005.0	µg/mL	+/-	5.9694	µg/mL	Gravimetric
	CAS # 577-19-5	(Lot 643872/1)			+/-	56.3626	µg/mL	Unstressed
	Purity 99%				+/-	57.6808	µg/mL	Stressed

Solvent: Acetone
CAS # 67-64-1
Purity 99%

Rec'd 11-19-18

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID

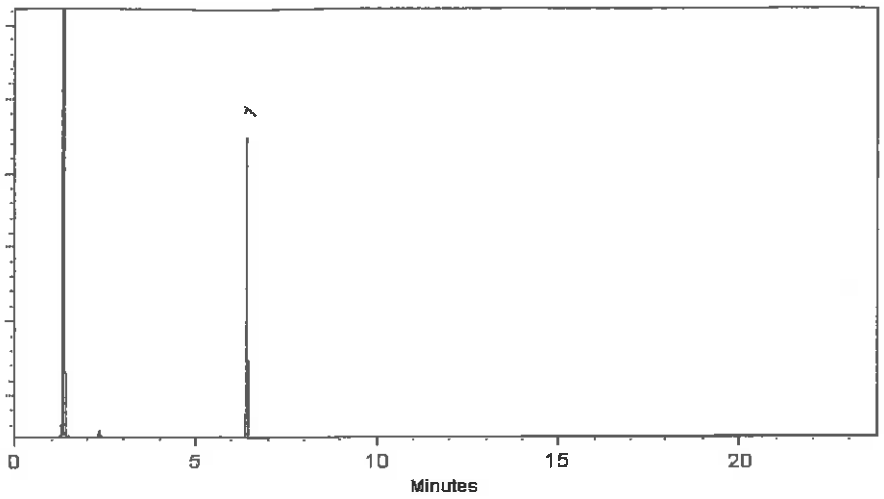

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Dustin J Lidgett

Dustin Lidgett - Mix Technician

Date Mixed: 29-Aug-2018 **Balance:** B442140311

Jennifer L Pollino

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 31-Aug-2018

Manufactured under Restek's ISO 9001:2015
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Certificate #FM 80397

Reagent

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32415 **Lot No.:** A0129369

Description : Organochlorine Pesticide Mix AB #3

Organochlorine Pesticide Mix AB #3 2,000 µg/mL, Hexane/Toluene (50:50), 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : July 31, 2021 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	alpha-BHC **CAS #** 319-84-6 **Purity** 99%	(Lot 0911942)	2,012.0 µg/mL	+/- 11.8075 µg/mL +/- 91.6450 µg/mL +/- 132.3230 µg/mL		Gravimetric Unstressed Stressed
2	gamma-BHC (Lindane) **CAS #** 58-89-9 **Purity** 99%	(Lot 6357300)	2,010.5 µg/mL	+/- 11.7987 µg/mL +/- 91.5767 µg/mL +/- 132.2244 µg/mL		Gravimetric Unstressed Stressed
3	beta-BHC **CAS #** 319-85-7 **Purity** 98%	(Lot SZBD116XV)	2,011.9 µg/mL	+/- 11.8072 µg/mL +/- 91.6423 µg/mL +/- 132.3191 µg/mL		Gravimetric Unstressed Stressed
4	delta-BHC **CAS #** 319-86-8 **Purity** 99%	(Lot ER02101401)	2,017.0 µg/mL	+/- 11.8369 µg/mL +/- 91.8728 µg/mL +/- 132.6518 µg/mL		Gravimetric Unstressed Stressed
5	Heptachlor **CAS #** 76-44-8 **Purity** 99%	(Lot NT056422)	2,011.5 µg/mL	+/- 11.8046 µg/mL +/- 91.6223 µg/mL +/- 132.2901 µg/mL		Gravimetric Unstressed Stressed
6	Aldrin **CAS #** 309-00-2 **Purity** 98%	(Lot 5923100)	2,009.0 µg/mL	+/- 11.7899 µg/mL +/- 91.5084 µg/mL +/- 132.1257 µg/mL		Gravimetric Unstressed Stressed
7	Heptachlor epoxide (isomer B) **CAS #** 1024-57-3 **Purity** 99%	(Lot ER121511-01)	2,007.0 µg/mL	+/- 11.7782 µg/mL +/- 91.4173 µg/mL +/- 131.9942 µg/mL		Gravimetric Unstressed Stressed

8	trans-Chlordane			2,007.0	µg/mL	+/-	11.7782	µg/mL	Gravimetric
	CAS #	5103-74-2	(Lot ER061906-04)			+/-	91.4173	µg/mL	Unstressed
	Purity	99%				+/-	131.9942	µg/mL	Stressed
9	cis-Chlordane			2,006.0	µg/mL	+/-	11.7723	µg/mL	Gravimetric
	CAS #	5103-71-9	(Lot ER062410-01)			+/-	91.3717	µg/mL	Unstressed
	Purity	99%				+/-	131.9284	µg/mL	Stressed
10	Endosulfan I			2,013.0	µg/mL	+/-	11.8134	µg/mL	Gravimetric
	CAS #	959-98-8	(Lot ER012105-02)			+/-	91.6906	µg/mL	Unstressed
	Purity	99%				+/-	132.3888	µg/mL	Stressed
11	4,4'-DDE			2,008.5	µg/mL	+/-	11.7870	µg/mL	Gravimetric
	CAS #	72-55-9	(Lot GHYQG)			+/-	91.4856	µg/mL	Unstressed
	Purity	99%				+/-	132.0928	µg/mL	Stressed
12	Dieldrin			2,006.0	µg/mL	+/-	11.7723	µg/mL	Gravimetric
	CAS #	60-57-1	(Lot ER030105-03)			+/-	91.3717	µg/mL	Unstressed
	Purity	99%				+/-	131.9284	µg/mL	Stressed
13	Endrin			2,019.3	µg/mL	+/-	11.8503	µg/mL	Gravimetric
	CAS #	72-20-8	(Lot 6429800)			+/-	91.9771	µg/mL	Unstressed
	Purity	98%				+/-	132.8025	µg/mL	Stressed
14	4,4'-DDD			2,014.9	µg/mL	+/-	11.8244	µg/mL	Gravimetric
	CAS #	72-54-8	(Lot ER061207-01)			+/-	91.7762	µg/mL	Unstressed
	Purity	98%				+/-	132.5124	µg/mL	Stressed
15	Endosulfan II			2,007.5	µg/mL	+/-	11.7811	µg/mL	Gravimetric
	CAS #	33213-65-9	(Lot ER102407-02)			+/-	91.4401	µg/mL	Unstressed
	Purity	99%				+/-	132.0271	µg/mL	Stressed
16	Endrin aldehyde			2,008.5	µg/mL	+/-	11.7870	µg/mL	Gravimetric
	CAS #	7421-93-4	(Lot ER082306-01)			+/-	91.4856	µg/mL	Unstressed
	Purity	99%				+/-	132.0928	µg/mL	Stressed
17	4,4'-DDT			2,009.0	µg/mL	+/-	11.7899	µg/mL	Gravimetric
	CAS #	50-29-3	(Lot S37912V)			+/-	91.5084	µg/mL	Unstressed
	Purity	99%				+/-	132.1257	µg/mL	Stressed
18	Endosulfan sulfate			2,009.3	µg/mL	+/-	11.7916	µg/mL	Gravimetric
	CAS #	1031-07-8	(Lot SZBC213XV)			+/-	91.5211	µg/mL	Unstressed
	Purity	96%				+/-	132.1441	µg/mL	Stressed
19	Methoxychlor			2,015.4	µg/mL	+/-	11.8273	µg/mL	Gravimetric
	CAS #	72-43-5	(Lot 6429900)			+/-	91.7985	µg/mL	Unstressed
	Purity	98%				+/-	132.5446	µg/mL	Stressed
20	Endrin ketone			2,007.5	µg/mL	+/-	11.7811	µg/mL	Gravimetric
	CAS #	53494-70-5	(Lot 160405JLM)			+/-	91.4401	µg/mL	Unstressed
	Purity	99%				+/-	132.0271	µg/mL	Stressed

Solvent: Hexane/Toluene (50:50)
CAS # 110-54-3/108-88-3
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
150°C to 300°C
@ 4°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
300°C

Det. Type:
ECD

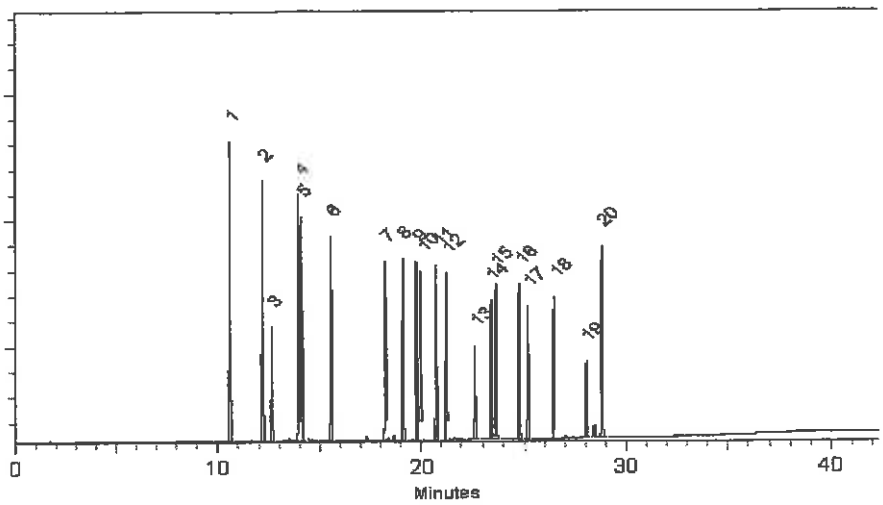

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 24-Jul-2017 **Balance:** B442140311

Diane Shaffer - Operations Tech-ARM QC

Date Passed: 25-Jul-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

Reagent

GCPESTAB3STD_00004

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Rec'd 10-26-18

Catalog No. : 32415 **Lot No.:** A0137734

Description : Organochlorine Pesticide Mix AB #3

Organochlorine Pesticide Mix AB #3 2,000 µg/mL, Hexane/Toluene (50:50), 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2022 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	alpha-BHC **CAS #** 319-84-6 **Purity** 99%	(Lot 0911942)	2,016.5 µg/mL	+/- 11.8340 +/- 91.8500 +/- 132.6190	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	gamma-BHC (Lindane) **CAS #** 58-89-9 **Purity** 99%	(Lot 6815700)	2,018.5 µg/mL	+/- 11.8457 +/- 91.9411 +/- 132.7505	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
3	beta-BHC **CAS #** 319-85-7 **Purity** 98%	(Lot BCBS8692V)	2,009.5 µg/mL	+/- 11.7928 +/- 91.5307 +/- 132.1579	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
4	delta-BHC **CAS #** 319-86-8 **Purity** 99%	(Lot ER02101401)	2,018.5 µg/mL	+/- 11.8457 +/- 91.9411 +/- 132.7505	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
5	Heptachlor **CAS #** 76-44-8 **Purity** 99%	(Lot NT060133)	2,015.0 µg/mL	+/- 11.8251 +/- 91.7817 +/- 132.5203	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
6	Aldrin **CAS #** 309-00-2 **Purity** 99%	(Lot 7321900)	2,014.5 µg/mL	+/- 11.8222 +/- 91.7589 +/- 132.4874	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
7	Heptachlor epoxide (isomer B) **CAS #** 1024-57-3 **Purity** 99%	(Lot ER121511-01)	2,007.5 µg/mL	+/- 11.7811 +/- 91.4401 +/- 132.0271	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

8	trans-Chlordane		2,009.0	µg/mL	+/-	11.7899	µg/mL	Gravimetric
	CAS # 5103-74-2	(Lot ER061906-04)			+/-	91.5084	µg/mL	Unstressed
	Purity 99%				+/-	132.1257	µg/mL	Stressed
9	cis-Chlordane		2,008.0	µg/mL	+/-	11.7841	µg/mL	Gravimetric
	CAS # 5103-71-9	(Lot ER062410-01)			+/-	91.4628	µg/mL	Unstressed
	Purity 99%				+/-	132.0599	µg/mL	Stressed
10	Endosulfan I		2,016.0	µg/mL	+/-	11.8310	µg/mL	Gravimetric
	CAS # 959-98-8	(Lot ER012105-02)			+/-	91.8272	µg/mL	Unstressed
	Purity 99%				+/-	132.5861	µg/mL	Stressed
11	4,4'-DDE		2,012.5	µg/mL	+/-	11.8105	µg/mL	Gravimetric
	CAS # 72-55-9	(Lot GHYQG)			+/-	91.6678	µg/mL	Unstressed
	Purity 99%				+/-	132.3559	µg/mL	Stressed
12	Dieldrin		1,999.2	µg/mL	+/-	11.7324	µg/mL	Gravimetric
	CAS # 60-[illegible]	(Lot 5709400)			+/-	91.0620	µg/mL	Unstressed
	Purity 98%				+/-	131.4812	µg/mL	Stressed
13	Endrin		2,012.4	µg/mL	+/-	11.8101	µg/mL	Gravimetric
	CAS # 72-20-8	(Lot 6898800)			+/-	91.6646	µg/mL	Unstressed
	Purity 98%				+/-	132.3513	µg/mL	Stressed
14	4,4'-DDD		2,005.5	µg/mL	+/-	11.7694	µg/mL	Gravimetric
	CAS # 72-54-8	(Lot HAN02-KNCK)			+/-	91.3490	µg/mL	Unstressed
	Purity 99%				+/-	131.8955	µg/mL	Stressed
15	Endosulfan II		2,018.0	µg/mL	+/-	11.8428	µg/mL	Gravimetric
	CAS # 33213-65-9	(Lot 7276300)			+/-	91.9183	µg/mL	Unstressed
	Purity 99%				+/-	132.7176	µg/mL	Stressed
16	Endrin aldehyde		2,015.5	µg/mL	+/-	11.8281	µg/mL	Gravimetric
	CAS # 7421-93-4	(Lot ER082306-01)			+/-	91.8045	µg/mL	Unstressed
	Purity 99%				+/-	132.5532	µg/mL	Stressed
17	4,4'-DDT		2,016.5	µg/mL	+/-	11.8340	µg/mL	Gravimetric
	CAS # 50-29-3	(Lot S37912V)			+/-	91.8500	µg/mL	Unstressed
	Purity 99%				+/-	132.6190	µg/mL	Stressed
18	Endosulfan sulfate		2,009.3	µg/mL	+/-	11.7914	µg/mL	Gravimetric
	CAS # 1031-07-8	(Lot BCBT8804)			+/-	91.5198	µg/mL	Unstressed
	Purity 95%				+/-	132.1422	µg/mL	Stressed
19	Methoxychlor		2,006.5	µg/mL	+/-	11.7753	µg/mL	Gravimetric
	CAS # 72-43-5	(Lot 7322100)			+/-	91.3945	µg/mL	Unstressed
	Purity 99%				+/-	131.9613	µg/mL	Stressed
20	Endrin ketone		2,007.0	µg/mL	+/-	11.7782	µg/mL	Gravimetric
	CAS # 53494-70-5	(Lot 160405JLM)			+/-	91.4173	µg/mL	Unstressed
	Purity 99%				+/-	131.9942	µg/mL	Stressed

Solvent: Hexane/Toluene (50:50)
CAS # 110-54-3/108-88-3
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
150°C to 300°C
@ 4°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
300°C

Det. Type:
ECD

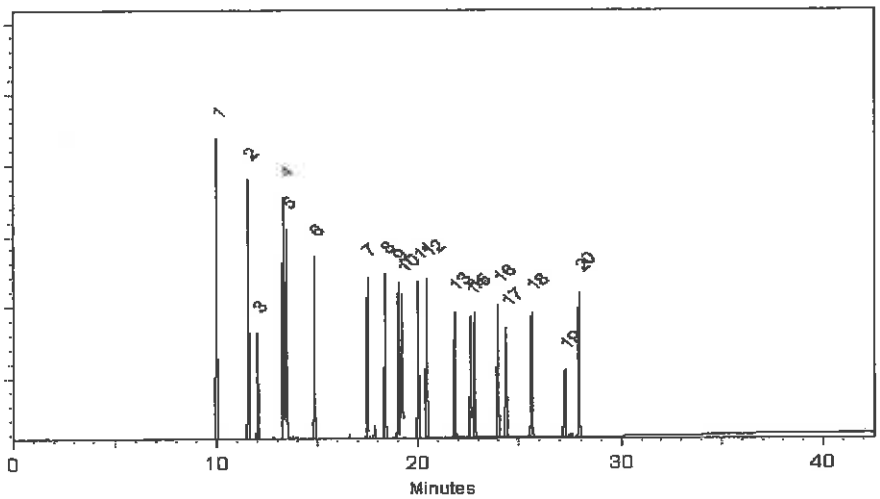

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 03-May-2018 **Balance:** B442140311

Amanda Miller - Operations Tech-ARM QC

Date Passed: 18-May-2018

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

Reagent

GCTCMXSTD_00010

Certificate of Analysis

2,4,5,6-Tetrachloro-m-xylene Solution

Product Number: IST-440 **Page:** 1 of 1

Lot Number: CL-3352A **Lot Issue Date:** 05-Oct-2017 **Expiration Date:** 31-Oct-2020

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
2,4,5,6-tetrachloro-m-xylene	000877-09-8	RM04082	2006 ± 10 µg/mL

Matrix: acetone

Storage: Store at Room Temperature (15° to 30°C).

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

John Russo
President

Monica Bourgeois
Director of QA/RA

ISO 9001
Registered
TUV USA, Inc.

250 SMITH STREET • NORTH KINGSTOWN, RHODE ISLAND 02852 • WWW.ULTRASCI.COM

Reagent

GCTOX2NDSOURC_00001

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited Reference Material Producer Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32071-SL **Lot No.:** A0116660

Description : Toxaphene Standard

Toxaphene Standard 5,000 µg/mL, Isooctane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Toxaphene	5,036.0 µg/mL	+/- 46.8321 µg/mL	Gravimetric
	CAS # 8001-35-2 (Lot NT052152)		+/- 163.6931 µg/mL	Unstressed
	Purity ----%		+/- 211.6461 µg/mL	Stressed

Solvent: Isooctane
CAS # 540-84-1
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

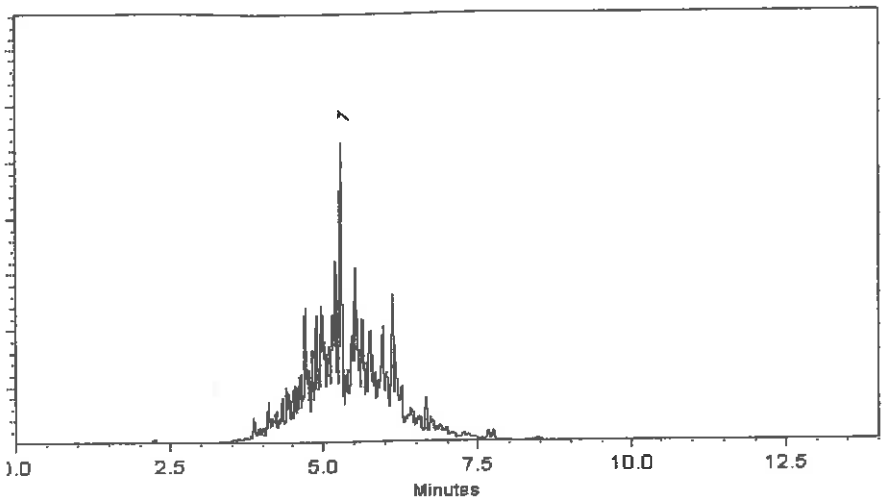

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cheryl Graham - Mix Technician

Date Mixed: 18-Jan-2016 **Balance:** B442140311

Jodi E. Breon - QA Analyst

Date Passed: 05-Feb-2016

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

Reagent

GCTOXSTDSTD_00002

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32071 **Lot No.:** A0120412

Description : Toxaphene Standard

Toxaphene Standard 5,000 µg/mL, Isooctane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : October 31, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Toxaphene **CAS #** 8001-35-2 (Lot NT053206) **Purity** ----%	5,024.0 µg/mL	+/- 29.4836 µg/mL +/- 159.2305 µg/mL +/- 208.0080 µg/mL	Gravimetric Unstressed Stressed

Solvent: Isooctane
CAS # 540-84-1
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

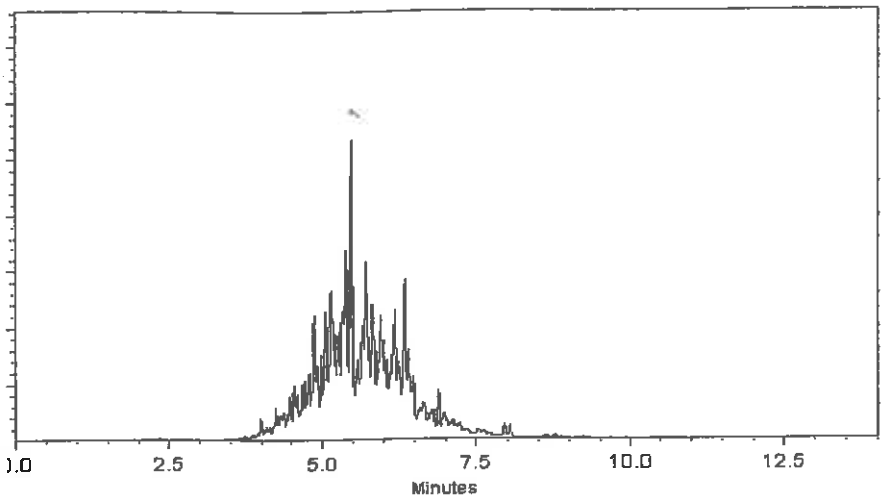

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Dawn Brownson - Mix Technician

Date Mixed: 14-Jul-2016 **Balance:** 1125113331

Jennifer L. Pollino - QC Analyst

Date Passed: 20-Jul-2016

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

Reagent

Herb(RTS)spk_00010

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Gravimetric Certificate

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

3123016
ID: Herb(RTS)spk_00010
Exp: 09/30/20 Prpd: JBF
Herbicide RTS LCS

Catalog No. : 569750 **Lot No.:** A0141540

Description : Herbicide LCS RTS (2015)

Herbicide LCS RTS (2015) 5-2000 µg/mL, Methanol, 25mL/bottle

Container Size : 25 mL **Pkg Amt:** > 25 mL

Expiration Date : September 30, 2020 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Component #	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2,4,5-T **CAS #** 93-76-5 **Purity** 99%	(Lot 6693400)	5.0 µg/mL	+/- 0.0409 +/- 0.2685 +/- 0.2690	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	2,4,5-TP (silvex) **CAS #** 93-72-1 **Purity** 99%	(Lot 6943200)	5.0 µg/mL	+/- 0.0408 +/- 0.2675 +/- 0.2679	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
3	2,4-D **CAS #** 94-75-7 **Purity** 99%	(Lot 6780500)	20.0 µg/mL	+/- 0.1434 +/- 1.0670 +/- 1.0688	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
4	2,4-DB **CAS #** 94-82-6 **Purity** 99%	(Lot 4174600)	20.0 µg/mL	+/- 0.1436 +/- 1.0681 +/- 1.0699	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
5	Dalapon **CAS #** 75-99-0 **Purity** 95%	(Lot 7138100)	20.0 µg/mL	+/- 0.1438 +/- 1.0694 +/- 1.0712	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
6	Dicamba **CAS #** 1918-00-9 **Purity** 99%	(Lot 5990000)	10.0 µg/mL	+/- 0.0717 +/- 0.5335 +/- 0.5344	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
7	Dichlorprop **CAS #** 120-36-5 **Purity** 99%	(Lot 2015100)	20.0 µg/mL	+/- 0.1437 +/- 1.0692 +/- 1.0710	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Reagent

M4400-5M74B_00001

3186736
ID: M4400-5M74B_00001
Exp:05/17/21 Prpd:RSK Opn:05/17/19
5000ppm BORON

3186737
ID: M4400-5M74B_00001
Exp:05/17/21 Prpd:RSK Opn:05/17/19
5000ppm BORON

REPORT OF ANALYSIS

Single-Element Aqueous RM

Boron (B) – 5000 µg/mL

Product #: 4400-5M74

Matrix: H_2O

Lot #: 1009207-1

Element	Certified Concentration
B	**4981 µg/mL**

Intended Use: This solution is intended for use as a reference material (RM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This RM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO Guide 34**, and **ISO/IEC 17025**. This RM was prepared to a nominal concentration of 5000 µg/mL by gravimetric methods using 99.9995% pure boric acid (H_3BO_3) dissolved and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this RM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration was determined based upon gravimetric procedures. Secondary verification of the certified concentration was performed using ICP-OES and is traceable to **NIST SRM 3107**. The uncertainty associated with the certified concentration is ±0.5% relative, which is the sum of the estimated errors due to the purity of the raw materials, the gravimetric preparation of the solution, and transpiration through the container. This represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the RM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original RM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

May 15, 2019

Chuck Goudreau, Certifying Officer **Certification Date**

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

Reagent

MAG1000_00002

3172752
ID: MAG1000_00002
Exp: 10/26/20 Prpd: RJR
1000ppm SILVER

3172753
ID: MAG1000_00002
Exp: 10/26/20 Prpd: RJR
1000ppm SILVER

3172754
ID: MAG1000_00002
Exp: 10/26/20 Prpd: RJR
1000ppm SILVER

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-1000511

SE Std Silver (Ag) – 1000 µg/mL

Lot #: 975475-22

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty
Ag	996 ± 3 µg/mL (w/v)
	987 ± 3 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure silver (Ag) metal dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3151, lot #992212**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	MAJOR	Co	<0.5	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	<2	Cs	<1	Hf	<0.2	Mg	<5	Pb	2	Sc	<5	Tl	<2
As	<2	Cr	<0.5	Hg	3	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	2	Cu	9	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	2	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

April 26, 2019
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MCGHG1-1_00014

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01

ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGHG1
Lot Number:	N2-HG669550
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Mercury
Starting Material:	Hg metal
Starting Material Lot#:	1959
Starting Material Purity:	99.9994%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1002 ± 3 µg/mL

Density: 1.026 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **999 ± 5 µg/mL**
ICP Assay NIST SRM 3133 Lot Number: 061204

Assay Method #2 **1003 ± 3 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

O	Ag		0.001159	M	Eu	<	0.000201	O	Na		0.000435	M	Se	<	0.015915	O	Zn	<	0.001510
O	Al		0.000090	O	Fe		0.000113	M	Nb	<	0.000201	O	Si		0.000526	M	Zr	<	0.000201
M	As	<	0.000402	M	Ga	<	0.000201	M	Nd	<	0.000201	M	Sm	<	0.000201				
M	Au	<	0.003631	M	Gd	<	0.000201	M	Ni	<	0.000402	M	Sn	<	0.001007				
M	B	<	0.001208	M	Ge	<	0.000201	M	Os	<	0.000605	M	Sr	<	0.000201				
M	Ba	<	0.000201	M	Hf	<	0.000201	O	P	<	0.032370	M	Ta	<	0.000201				
M	Be	<	0.000201	s	Hg	<		M	Pb	<	0.000201	M	Tb	<	0.000201				
M	Bi	<	0.000201	M	Ho	<	0.000201	M	Pd	<	0.000403	M	Te	<	0.002216				
O	Ca		0.000746	M	In	<	0.000201	M	Pr	<	0.000201	M	Th	<	0.000201				
M	Cd	<	0.000201	M	Ir	<	0.000201	M	Pt	<	0.000402	M	Ti	<	0.000402				
M	Ce	<	0.000201	O	K		0.002008	M	Rb	<	0.000201	O	Tl	<	0.016508				
M	Co	<	0.000201	M	La	<	0.000201	M	Re	<	0.000201	M	Tm	<	0.000201				
O	Cr	<	0.003021	O	Li	<	0.000107	M	Rh	<	0.000201	M	U	<	0.008058				
M	Cs	<	0.001208	M	Lu	<	0.000201	M	Ru	<	0.000201	M	V	<	0.000201				
M	Cu	<	0.000402	O	Mg		0.000096	O	S	<	0.053950	M	W	<	0.000604				
M	Dy	<	0.000201	M	Mn	<	0.000604	M	Sb	<	0.001208	M	Y	<	0.000201				
M	Er	<	0.000201	M	Mo		0.000971	M	Sc	<	0.000201	M	Yb	<	0.000201				

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 200.59 +2 4 Hg(OH)(aq) 1+
Chemical Compatibility - Stable in HNO3. Avoid basic media forming insoluble carbonate. The sulfide, basic carbonate, oxalate, phosphate, arsenite, arsenate and iodide are insoluble in water.
Stability - 2-100 ppb levels not stable in 1% HNO3 / LDPE container, stable in 10% HNO3 packaged in borosilicate glass. 1-100 ppm levels stable in 7% HNO3 packaged in borosilicate glass. 1000-10,000 ppm solutions are chemically stable for years in 5-10% HNO3 / LDPE container.
Hg Containing Samples (Preparation and Solution) - Metal (soluble in HNO3); Oxide (Soluble in HNO3); Ores and Organic based (The literature has more references to the preparation of Hg containing samples than any other element. Please consult the literature for your specific sample type, since such preparations are prone to error. Or e-mail our technical staff and we will contact you to discuss your particular sample preparation questions in further detail.).
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 202 amu	9 ppt	n/a	186W16O
ICP-OES 184.950 nm	0.03 / 0.005 µg/mL	1	
ICP-OES 194.227 nm	0.03 / 0.005 µg/mL	1	V
ICP-OES 253.652 nm	0.1 / 0.03 µg/mL	1	Ta, Co, Th ,Rh , Fe, U

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 10, 2018

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **August 10, 2022**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Reagent

MCGSB1-1_00010

RJR
10/10/18

2941248
ID: MCGSB1-1_00010
Exp: 04/15/20 Prpd: RJR
1000ppm ANTIMONY

2941247
ID: MCGSB1-1_00010
Exp: 04/15/20 Prpd: RJR
1000ppm ANTIMONY

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-100023

SE Std Antimony (Sb) – 1000 µg/mL

Lot #: 153992-34

Matrix: 5% HNO_3/tr. HF

Element	Certified Concentration & Uncertainty
Sb	1000 ± 5 µg/mL (w/v)
	977 ± 5 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure antimony (Sb) metal dissolved in high purity nitric acid (HNO_3), trace hydrofluoric acid (HF) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3102a, lot #140911**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Mg	<5	Pd	<0.5	Si	<1000	V	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mn	<1	Pr	<0.2	Sm	<0.2	W	<0.5
As	<2	Cr	<0.5	Hg	<0.5	Mo	<0.5	Pt	<0.5	Sn	<0.5	Y	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Na	<25	Rb	<0.5	Sr	<1	Yb	<0.2
B	<5	Dy	<0.2	In	nd	Nb	0.6	Re	<0.2	Ta	<0.5	Zn	<2
Ba	<1	Er	<0.2	Ir	<0.2	Nd	<0.2	Rh	<0.5	Tb	<0.5		
Bi	<0.2	Eu	<0.2	K	<25	Ni	<2	Ru	<0.5	Te	<1		
Ca	<25	Fe	<10	La	4	Os	<0.5	Sb	MAJOR	Ti	<2		
Cd	<0.5	Ga	<0.5	Li	<2	P	<100	Sc	<5	Tl	<0.5		
Ce	<0.2	Gd	<0.2	Lu	<0.2	Pb	<1	Se	<2	Tm	<0.2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

October 15, 2018
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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F: 707.545.7901

Europe
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1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MCGTL1-1_00011

RJR 10/18/18

2941253
ID: MCGTL1-1_00011
Exp: 04/11/20 Prpd: RJR
1000ppm THALLIUM

2941252
ID: MCGTL1-1_00011
Exp: 04/11/20 Prpd: RJR
1000ppm THALLIUM

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Product #: TA-1000581

Lot #: 148983-92

Single-Element Aqueous CRM

SE Std Thallium (Tl) – 1000 µg/mL

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty
Tl	1002 ± 3 µg/mL (w/v)
	997 ± 3 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001, ISO 17034,** and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.99% pure thallium (Tl) metal dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3158, lot #993012**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<1	Co	<1	Ge	<0.5	Mg	<5	Pd	<0.5	Si	<100	V	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mn	<1	Pr	<0.2	Sm	<0.2	W	<0.5
As	<2	Cr	<0.5	Hg	13	Mo	<0.5	Pt	<0.5	Sn	<0.5	Y	<0.5
Au	<0.5	Cu	2	Ho	<0.2	Na	<25	Rb	<0.5	Sr	<1	Yb	<0.2
B	<5	Dy	<0.2	In	nd	Nb	<0.5	Re	<0.2	Ta	<0.5	Zn	<2
Ba	<1	Er	<0.2	Ir	<0.2	Nd	<0.2	Rh	<0.5	Tb	<0.5		
Bi	0.3	Eu	<0.2	K	<25	Ni	<2	Ru	<0.5	Te	<1		
Ca	<25	Fe	<10	La	<0.5	Os	<0.5	Sb	<0.5	Ti	<2		
Cd	<0.5	Ga	<0.5	Li	<2	P	<100	Sc	<5	Tl	MAJOR		
Ce	<0.2	Gd	<0.2	Lu	<0.2	Pb	5	Se	<2	Tm	<0.2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

October 11, 2018
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MHGICV-1_00010

Certificate of Analysis

ISO Guide 34 Reference Material

Product Number: ICP-080
Lot Number: CS-0444

Lot Issue Date: 02-Feb 2018
Expiration Date: 28-Feb 2025

Product Name: Mercury ICP Standard

Description:
This Reference Material (RM) was gravimetrically prepared in accordance with ISO Guide 34 and under ULTRA Scientific's ISO 9001 registered quality system. The neat materials used for this product have been verified by ULTRA's ISO 17025 laboratory and under ULTRA's ISO Guide 34 accreditation. The analyte concentrations were verified by ULTRA's ISO 17025 accredited laboratory. For each analyte, the true value, with its uncertainty value calculated at the 95% confidence level, is reported below.

Analyte	Starting Material	Lot Number	Purity (%)	Calculated Value	Traceability & Method
mercury	mercuric nitrate	RM11214	99.999%	1001 ± 2 µg/mL	NIST SRM 3133; ICP-MS

Solvent: 2% nitric acid in low TOC water (< 50 ppb)

Non-Certified Values:

Density: 1.0101 g/mL @ 20.00 ± 0.05°C

Trace Metallic Impurities in Solution Standard in µg/mL

*___	Al	<0.005 ND	*___	Ga	<0.005 ND	n___	Nb		n___	S	
*___	Sb	<0.005 ND	n___	Ge		n___	Os		n___	Ta	
*___	As	<0.005 ND	n___	Au		*___	Pd	<0.005 ND	n___	Te	
*___	Ba	<0.005 ND	n___	Hf		*___	P	<0.005 ND	n___	Tb	
*___	Be	<0.005 ND	n___	Ho		*___	Pt	<0.005 ND	n___	Tl	
*___	Bi	<0.005 ND	*___	In	<0.005 ND	*__	K	<0.005 ND	*___	Th	<0.005 ND
*___	B	<0.005 ND	n___	Ir		n___	Pr		n___	Tm	
*___	Cd	<0.005 ND	*___	Fe	<0.005 ND	n___	Re		*___	Sn	<0.005 ND
*___	Cs	<0.005 ND	*___	La	<0.005 ND	n___	Rh		*___	Ti	<0.005 ND
*___	Ca	<0.005 ND	*___	Pb	<0.005 ND	n___	Rb		n___	W	
n___	Ce		*___	Li	<0.005 ND	n___	Ru		n___	U	
*___	Cr	<0.005 ND	n___	Lu		n___	Sm		*___	V	<0.005 ND
*___	Co	<0.005 ND	*___	Mg	<0.005 ND	n___	Sc		n___	Yb	
*___	Cu	<0.005 ND	*___	Mn	<0.005 ND	*___	Se	<0.005 ND	n___	Y	
n___	Dy		s___	Hg		*___	Si	<0.005 ND	*___	Zn	<0.005 ND
*___	Er	<0.005 ND	*___	Mo	<0.005 ND	*___	Ag	<0.005 ND	n___	Zr	
*___	Eu	<0.005 ND	n___	Nd		*___	Na	<0.005 ND			
*___	Gd	<0.005 ND	*___	Ni	<0.005 ND	*___	Sr	<0.005 ND			

* - element checked; i - spectral interference; n – element not checked; D – element detected; ND – element not detected;
s - standard element

ISO 9001 Registered Quality System – TUV USA

Certificate of Analysis

ISO Guide 34 Reference Material

Product Number: ICP-080 **Lot Issue Date:** 02-Feb 2018
Lot Number: CS-0444 **Expiration Date:** 28-Feb 2025

Storage: Store at Room Temperature (15° to 30°C).

Traceability:
Traceability has been established through an unbroken chain of comparisons, each having stated uncertainties. Comparisons are based on appropriate physical or chemical measurements, including gravimetric or volumetric dilution, where the mass or volume of a solution before and after dilution is measured. The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1, ISO 9001, ISO 17025, and ISO Guide 34. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 819.

Estimation of Uncertainties:
The true value is reported, with its uncertainty value calculated at the 95% confidence level.

Homogeneity:
This RM was formulated and unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Intended Use:
This RM is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods and continuing calibration verification.

Instructions for Use:
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening and should be processed without delay for the true value to be valid within the stated uncertainties. Do not pipet from the bottle. Do not return any material removed for pipetting to the bottle. Tightly cap the bottle after removing any material and store according to the instructions noted above.

Hazards:
Refer to the Safety Data Sheet for information regarding this RM.

Expiration of Certification:
The certification of this RM is valid, within the measurement uncertainty specified, until the expiration date specified above, provided the RM is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the RM is damaged, contaminated, or otherwise modified.

Maintenance of Certification:
The real-time, long term stability of the RM may be monitored over the lifetime of the certification. If substantive changes occur that affect the certification before the expiration of this certificate, ULTRA Scientific will notify the purchaser.

John Russo
President

Monica Bourgeois
Director of QA/RA

ANAB ACCREDITED ISO GUIDE 34 REFERENCE MATERIAL PRODUCER

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

Reagent

MTAPITTCALTRA_00011

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inorganicventures.com

CERTIFICATE OF ANALYSIS

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info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	TAPITT-CAL-TRA
Lot Number:	N2-MEB673400
Matrix:	3% (v/v) HNO3
Value / Analyte(s):	100 µg/mL ea: Silver, Thallium, 50 µg/mL ea: Arsenic, Cadmium, Lead, Antimony, Selenium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	**50.01 ± 0.30 µg/mL**	**Arsenic, As**	**50.00 ± 0.27 µg/mL**
Cadmium, Cd	**50.00 ± 0.21 µg/mL**	**Lead, Pb**	**50.01 ± 0.22 µg/mL**
Selenium, Se	**50.00 ± 0.35 µg/mL**	**Silver, Ag**	**100.0 ± 0.4 µg/mL**
Thallium, Tl	**100.0 ± 0.5 µg/mL**		

Density: 1.014 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	992212
Ag	Volhard	999c	999c
As	ICP Assay	3103a	100818
As	Calculated		See Sec. 4.2
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Sb	ICP Assay	3102a	140911
Se	ICP Assay	3149	100901
Se	Calculated		See Sec. 4.2
Tl	ICP Assay	3158	151215
Tl	Calculated		See Sec. 4.2

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

November 05, 2018

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **November 05, 2022**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Reagent

MTAPITTCALTRC_00011

INORGANIC VENTURES
300 Technology Drive
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CERTIFICATE OF ANALYSIS

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	TAPITT-CAL-TRC-REV
Lot Number:	N2-MEB673401
Matrix:	3% (v/v) HNO3
Value / Analyte(s):	200 µg/mL ea:

Boron,	Barium,	Beryllium,
Cobalt,	Chromium,	Copper,
Lithium,	Manganese,	Nickel,
Strontium,	Vanadium,	Zinc

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Barium, Ba	**200.0 ± 0.9 µg/mL**	**Beryllium, Be**	**200.0 ± 1.0 µg/mL**
Boron, B	**200.0 ± 1.4 µg/mL**	**Chromium, Cr**	**200.0 ± 1.2 µg/mL**
Cobalt, Co	**200.0 ± 1.0 µg/mL**	**Copper, Cu**	**200.0 ± 0.8 µg/mL**
Lithium, Li	**200.0 ± 0.8 µg/mL**	**Manganese, Mn**	**199.9 ± 0.8 µg/mL**
Nickel, Ni	**200.0 ± 0.9 µg/mL**	**Strontium, Sr**	**199.9 ± 0.8 µg/mL**
Vanadium, V	**200.0 ± 0.8 µg/mL**	**Zinc, Zn**	**199.9 ± 0.9 µg/mL**

Density: 1.025 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
B	ICP Assay	3107	110830
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Co	ICP Assay	3113	000630 Co
Co	EDTA	928	928
Cr	ICP Assay	3112a	030730Cr3
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Li	ICP Assay	3129a	100714
Li	Gravimetric		See Sec. 4.2
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Sr	EDTA	928	928
Sr	ICP Assay	3153a	990906
V	EDTA	928	928
V	ICP Assay	3165	992706
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

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Characterization of CRM/RM by One Method

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- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

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- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

November 05, 2018

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11.2 Lot Expiration Date

- **November 05, 2022**

- The date after which this CRM/RM should not be used.

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11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Reagent

MTAPITTCRA1DO_00008

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ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	TAPITT-CRA-1DOD
Lot Number:	N2-MEB673399
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	500 µg/mL ea: Calcium, Potassium, Sodium, Magnesium, 20 µg/mL ea: Aluminum, Barium, 10 µg/mL ea: Iron, 5 µg/mL ea: Vanadium, Strontium, Cobalt, Lithium, 4 µg/mL ea: Nickel, 2.5 µg/mL ea: Copper, 2 µg/mL ea: Thallium, Zinc, 1.5 µg/mL ea: Manganese, 1 µg/mL ea: Lead, Selenium, Arsenic, 0.5 µg/mL ea: Chromium, Cadmium, Silver, 0.4 µg/mL ea: Beryllium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	20.00 ± 0.10 µg/mL	Arsenic, As	1.000 ± 0.008 µg/mL
Barium, Ba	20.00 ± 0.10 µg/mL	Beryllium, Be	0.4000 ± 0.0025 µg/mL
Cadmium, Cd	0.5001 ± 0.0037 µg/mL	Calcium, Ca	500.1 ± 2.5 µg/mL
Chromium, Cr	0.5000 ± 0.0031 µg/mL	Cobalt, Co	4.999 ± 0.022 µg/mL
Copper, Cu	2.501 ± 0.015 µg/mL	Iron, Fe	10.00 ± 0.05 µg/mL
Lead, Pb	1.000 ± 0.005 µg/mL	Lithium, Li	5.000 ± 0.026 µg/mL
Magnesium, Mg	500.0 ± 2.5 µg/mL	Manganese, Mn	1.500 ± 0.007 µg/mL
Nickel, Ni	4.000 ± 0.024 µg/mL	Potassium, K	500.0 ± 2.4 µg/mL
Selenium, Se	1.001 ± 0.008 µg/mL	Silver, Ag	0.5002 ± 0.0040 µg/mL
Sodium, Na	500.1 ± 2.3 µg/mL	Strontium, Sr	5.000 ± 0.030 µg/mL
Thallium, Tl	2.000 ± 0.016 µg/mL	Vanadium, V	5.001 ± 0.030 µg/mL
Zinc, Zn	2.000 ± 0.012 µg/mL		

Density: 1.033 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	992212
Ag	Volhard	999b	999b
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
As	ICP Assay	3103a	100818
As	Calculated		See Sec. 4.2
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Cd	ICP Assay	3108	060531
Cd	EDTA	928	928
Co	ICP Assay	3113	000630 Co
Co	EDTA	928	928
Cr	Calculated		See Sec. 4.2
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Li	ICP Assay	3129a	100714
Li	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	050302
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Pb	Calculated		See Sec. 4.2
Se	Calculated		See Sec. 4.2
Sr	EDTA	928	928
Sr	ICP Assay	3153a	990906
Tl	Calculated		See Sec. 4.2
V	ICP Assay	3165	160906
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

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X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

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CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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u_{bb} = bottle to bottle homogeneity standard uncertainty

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k = coverage factor = 2 in all cases at Inorganic Ventures

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u_{bb} = bottle to bottle homogeneity standard uncertainty

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4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Low Silver Note: This solution contains “LOW” levels of Silver. Please store this entire bottle inside a sealed glass jar.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

November 05, 2018

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **November 05, 2022**

- The date after which this CRM/RM should not be used.

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11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Reagent

MTAPITTICPICV_00015

3038899
ID: MTAPITTICPICV_00015
Exp: 01/30/20 Prpd: RJG
TAPITT-ICP-ICV

Reference Materials Producer
Cert #2495.01

SPEXertificate®

Certificate of Reference Material

Chemical Testing
Cert #2495.02

Catalog Number: XCAL-59-250 **Lot No.** 50-201CR

Description: Custom Assurance Standard

Matrix: 10% HNO_3 / Tr. Tart. Acid / Tr. HF

REC 1-16-19

This **ASSURANCE®** Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for analytical instrumentation such as ICP-OES, DCP, AA, ICP-MS, and XRF. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

The CRM is prepared from high purity single element concentrates of individual elements using Class A laboratory ware to give precise concentrations.

Instrumental Analysis by ICP Spectrometer:

Analyte	Labeled	Uncertainty	SRM	Analyte	Labeled	Uncertainty	SRM
K	2500 µg/mL	±50 µg/mL	3141a*	Ni	50 µg/mL	±1 µg/mL	3136*
Na	2500 µg/mL	±50 µg/mL	3152a*	Si	50 µg/mL	±1 µg/mL	3150*
Ca	1250 µg/mL	±30 µg/mL	3109a*	Sn	50 µg/mL	±1 µg/mL	3161a*
Mg	1250 µg/mL	±30 µg/mL	3131a*	Sr	50 µg/mL	±1 µg/mL	3153a*
Al	625 µg/mL	±10 µg/mL	3101a*	Ti	50 µg/mL	±1 µg/mL	3162a*
Fe	625 µg/mL	±10 µg/mL	3126a*	V	50 µg/mL	±1 µg/mL	3165*
B	50 µg/mL	±1 µg/mL	3107*	Zn	50 µg/mL	±1 µg/mL	3168a*
Ba	50 µg/mL	±1 µg/mL	3104a*	Ag	25 µg/mL	±0.5 µg/mL	3151*
Be	50 µg/mL	±1 µg/mL	3105a*	Tl	25 µg/mL	±0.5 µg/mL	3158*
Co	50 µg/mL	±1 µg/mL	3113*	As	12.5 µg/mL	±0.3 µg/mL	3103a*
Cr	50 µg/mL	±1 µg/mL	3112a*	Cd	12.5 µg/mL	±0.3 µg/mL	3108*
Cu	50 µg/mL	±1 µg/mL	3114*	Pb	12.5 µg/mL	±0.3 µg/mL	3128*
Li	50 µg/mL	±1 µg/mL	3129a*	Sb	12.5 µg/mL	±0.3 µg/mL	3102a*
Mn	50 µg/mL	±1 µg/mL	3132*	Se	12.5 µg/mL	±0.3 µg/mL	3149*
Mo	50 µg/mL	±1 µg/mL	3134*				

* - indicates NIST SRM † - indicates SPEX CertiPrep CRM (when NIST SRM is not available)

SPEX CertiPrep Reference Multi: Lot# MULTI1YP

Balances are calibrated regularly with weight sets traceable to NIST#s 32856, 32867 and others. This CRM is guaranteed stable and accurate to ±2% of the labeled value. This includes uncertainty components due to preparation, measurement, homogeneity, and short-term and long-term stability. This guarantee is valid for a period of one year from the date of certification only when the material is kept tightly capped and stored under ambient laboratory conditions.

Date of Certification: JAN - - 2019 Certifying Officer: Katherine Cullinan

Katherine Cullinan, QC Manager

Page 1 of 2
Rev. 0

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Report of Certification

This Certified Reference Material (CRM) has been prepared and certified under an ISO 9001 (certified by DQS), ISO 17025 (accredited by A2LA) and ISO 17034 (accredited by A2LA) quality system consistent with the following guides:

- ISO 9001: Quality management systems – Requirements
- ISO/IEC 17025: General requirements for the competence of testing and calibration laboratories
- ISO 17034: General requirements for the competence of reference material producers
- ISO Guide 30: Reference Materials – Selected terms and definitions
- ISO Guide 31: Reference Materials – Contents of certificates and labels
- ISO Guide 35: Reference Materials – General and principals for certification
- Guide to the Expression of Uncertainty in Measurement, 2008
- EURACHEM/CITAC Guide: Qualifying Uncertainty in Analytical Measurement – Third Edition
- NIST Technical Note 1297

Material Source:

All analytes and matrix materials are obtained and verified by SPEX CertiPrep from pre-qualified vendors as per ISO 9001, ISO 17025, and ISO 17034 guidelines. Vendor identifications are proprietary; however, sources of all materials used in the preparation and testing of SPEX CertiPrep CRMs are tracked and documented. For further assistance, please contact Sales Support at crmsales@spexcsp.com.

Instructions for Use:

Primary usage of this CRM is in neat form or diluted serially with matrix of a purity at or greater than the purity of the original matrix solution. If dilution is required, the diluent must be compatible with all certified analytes and contain stabilizers appropriate for the period of intended use. The CRM can also be used as a spike or with a spike, again with appropriate compatibility considerations. All solutions should be thoroughly mixed, by shaking, prior to use and never pipetted directly from the bottle. Do not return excess solution to the bottle. All surfaces that come in contact with the solution must be thoroughly cleaned and leached prior to use. Dilutions should be performed only with Class A volumetric glassware. See SDS for health and safety information.

Method of Preparation:

Clean laboratory procedures and techniques have been used throughout the preparation. All materials, equipment, analytical instrumentation and personnel have been qualified prior to use. The highest purity acids applicable, 18 megohm, double deionized water, acid-leached triple-rinsed bottles (where appropriate), and Class A/calibrated volumetrics have been used in all preparations.

Homogeneity:

The homogeneity of the CRM has been confirmed by procedures consistent with ISO 17025, ISO 17034, and ASTM D6362-98 Appendix X2. Random, replicate samples of the final, packaged material have been analyzed to prove homogeneity in accordance with our internal procedure 4600-HOMOGEN-1A. Since the product is highly homogeneous, any sample size taken for analysis would be within the uncertainty budget. This is consistent with the intended use of the CRM.

Statistical Estimator and Confidence Limits:

The certified value 'X' listed on the reverse of this document is at the 95% level of confidence and can be expressed as:

- $X = x \pm U$ where X=certified value, U=expanded uncertainty, x=property value
- $U = ku_c$ where k=2 is the coverage factor at the 95% confidence level
- u_c=combined standard uncertainty obtained by combining the individual element standard uncertainty components u_i, and $u_c = \sqrt{\Sigma u_i^2}$

Certification Report:

All certified values reported were derived from the Certification Report, SPEX CertiPrep's traceability documentation, identified by the lot number of this CRM. During the stated period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution. For further assistance, please contact Sales Support at crmsales@spexcsp.com.

Legal Notice:

SPEX CertiPrep reference materials are not for any cosmetic, drug or household application and are to be used only by qualified individuals who are trained in appropriate procedures. No claims against SPEX CertiPrep, LLC. of any kind whatsoever, whether based on breach of warranty, alleged negligence, or otherwise, with respect to this Reference Material shall be greater than the purchase price. In no event shall SPEX CertiPrep, LLC. be liable for any loss of profits or any incidental, special, or consequential damages.

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Your Science is Our Passion®

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Reagent

MTAPITTICSADD_00018

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CERTIFICATE OF ANALYSIS

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	TAPITT-ICS-ADD
Lot Number:	N2-MEB673405
Matrix:	7% (v/v) HNO3 tr. HF
Value / Analyte(s):	10 µg/mL ea: Boron, Lithium, Silicon, Tin, Strontium, Titanium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Boron, B	**10.00 ± 0.06 µg/mL**	**Lithium, Li**	**10.00 ± 0.05 µg/mL**
Silicon, Si	**10.00 ± 0.07 µg/mL**	**Strontium, Sr**	**10.00 ± 0.06 µg/mL**
Tin, Sn	**10.00 ± 0.08 µg/mL**	**Titanium, Ti**	**10.00 ± 0.06 µg/mL**

Density: 1.034 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
B	ICP Assay	3107	110830
B	Calculated		See Sec. 4.2
Li	ICP Assay	3129a	100714
Li	Gravimetric		See Sec. 4.2
Si	ICP Assay	3150	130912
Sn	ICP Assay	3161a	140917
Sr	EDTA	928	928
Sr	ICP Assay	3153a	990906
Ti	ICP Assay	3162a	130925
Ti	Calculated		See Sec. 4.2

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

November 05, 2018

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **November 05, 2022**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Reagent

MTAPITTICSB_00013

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CERTIFICATE OF ANALYSIS

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	TAPITT-ICS-B
Lot Number:	N2-MEB666958
Matrix:	3% (v/v) HNO3
Value / Analyte(s):	100 µg/mL ea: Sodium, Potassium, 10 µg/mL ea: Zinc, Nickel, Lead, Selenium, Silver, Arsenic, Cadmium, 5 µg/mL ea: Cobalt, Chromium, Copper, Barium, Beryllium, Vanadium, Manganese

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Arsenic, As	**10.00 ± 0.06 µg/mL**	**Barium, Ba**	**5.000 ± 0.030 µg/mL**
Beryllium, Be	**5.000 ± 0.030 µg/mL**	**Cadmium, Cd**	**10.00 ± 0.06 µg/mL**
Chromium, Cr	**5.001 ± 0.026 µg/mL**	**Cobalt, Co**	**5.000 ± 0.026 µg/mL**
Copper, Cu	**5.000 ± 0.030 µg/mL**	**Lead, Pb**	**10.00 ± 0.05 µg/mL**
Manganese, Mn	**5.000 ± 0.026 µg/mL**	**Nickel, Ni**	**10.00 ± 0.06 µg/mL**
Potassium, K	**100.0 ± 0.4 µg/mL**	**Selenium, Se**	**10.00 ± 0.05 µg/mL**
Silver, Ag	**10.00 ± 0.07 µg/mL**	**Sodium, Na**	**100.0 ± 0.4 µg/mL**
Vanadium, V	**5.000 ± 0.030 µg/mL**	**Zinc, Zn**	**10.00 ± 0.06 µg/mL**

Density: 1.017 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	992212
Ag	Volhard	999c	999c
As	ICP Assay	3103a	100818
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Co	ICP Assay	3113	000630 Co
Co	EDTA	928	928
Cr	ICP Assay	3112a	030730Cr3
Cr	Calculated		See Sec. 4.2
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Se	Calculated		See Sec. 4.2
V	EDTA	928	928
V	ICP Assay	3165	992706
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Low Silver Note: This solution contains “LOW” levels of Silver. Please store this entire bottle inside a sealed glass jar.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

April 03, 2018

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **April 03, 2021**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Reagent

MTAPITTICSB1_00013

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CERTIFICATE OF ANALYSIS

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	TAPITT-ICS-B1
Lot Number:	N2-MEB673404
Matrix:	3% (v/v) HNO3 tr. HF
Value / Analyte(s):	10 µg/mL ea: Molybdenum, Antimony

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	**10.00 ± 0.07 µg/mL**	**Molybdenum, Mo**	**10.00 ± 0.07 µg/mL**

Density: 1.013 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Mo	ICP Assay	3134	130418
Mo	Calculated		See Sec. 4.2
Sb	ICP Assay	3102a	140911
Sb	Calculated		See Sec. 4.2

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

November 05, 2018

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **November 05, 2022**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Reagent

MZN1000_00002

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-1000681

SE Std Zinc (Zn) – 1000 µg/mL

Lot #: 984272-23

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty
Zn	1005 ± 3 µg/mL (w/v)
	998 ± 3 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.9999% pure zinc (Zn) metal dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3168a, lot #120629**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	3	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Tl	<2
As	6	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	12	W	<0.5
Bi	<0.2	Eu	<0.2	K	296	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	1	Tb	<0.5	Zn	MAJOR
Ce	<0.2	Gd	<0.2										

3150242
ID: MZN1000_00002
Exp. 10/01/20 Prpd: RJR
1000ppm ZINC

3150241
ID: MZN1000_00002
Exp: 10/01/20 Prpd: RJR
1000ppm ZINC

RECEIVED 4-18-19 RJR

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

April 16, 2019
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

OPHERBRTSSURR_00010

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568751 **Lot No.:** A0140416

Description : Herbicide Surrogate RTS

Herbicide Surrogate RTS 10µg/mL, Methanol, 100mL/bottle

Container Size : 100 mL **Pkg Amt:** > 100 mL

Expiration Date : August 31, 2020 **Storage:** 10°C or colder

Handling: This product is photosensitive.

3173325
ID: OPHERBRTSSURR_00010
Exp: 08/31/20 Prpd: JBF
HERBICIDE SURROOGATE RTS

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	2,4-dichlorophenylacetic acid **CAS #** 19719-28-9 (Lot S30618V) **Purity** 99%	10.0 µg/mL	+/- 0.0706 µg/mL +/- 0.5334 µg/mL +/- 0.5343 µg/mL	Gravimetric Unstressed Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Reagent

SV LST1/STD10_00001

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569731 **Lot No.:** A0145854

Description : 8270 List 1 / Std #10

8270 List 1 / Std #10 2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : August 31, 2020 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Indene **CAS #** 95-13-6 (Lot MKBT8433V) **Purity** 98%	2,000.2 µg/mL	+/- 11.6292 µg/mL +/- 112.1481 µg/mL +/- 114.7722 µg/mL	Gravimetric Unstressed Stressed
2	Benzoic acid **CAS #** 65-85-0 (Lot MKCC9722) **Purity** 99%	2,000.1 µg/mL	+/- 11.6288 µg/mL +/- 112.1436 µg/mL +/- 114.7676 µg/mL	Gravimetric Unstressed Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Reagent

SV2356TCPs_00004

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ISO 9001 QS Registered
ISO 17025-34-35-43 Accredited
Scopes: http://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT

Part Number: 70315
Lot Number: 092115
Description: 2,3,5,6-Tetrachlorophenol

Expiration Date: 092120
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 1000

Solvent(s):	Lot#
Methylene chloride	72062

Formulated By:	Paul Barron	092115 DATE
Reviewed By:	Pedro L. Rentas	092115 DATE

Weight(s) shown below were combined and diluted to (mL): 25.0

5E-05 Balance Uncertainty
0.001 Flask Uncertainty

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty	MSDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. 2,3,5,6-Tetrachlorophenol	315	060697	1000	98	0.2	0.02551	0.02555	1001.7	0.0057	00935-95-5	N/A	N/A

Method GC8MSD-3.M: Column: SPB-5 (30m X 0.25mm ID X 0.25µm film thickness) Temp 1 = 50°C (1min.), Temp 2 = 300°C (9 min.), Rate = 10°C/min., Injector B= 200°C, Detector B = 300°C. Scan Rate = 2, Split Ratio = 100:1. Analysis performed by Lance R. Boynton.

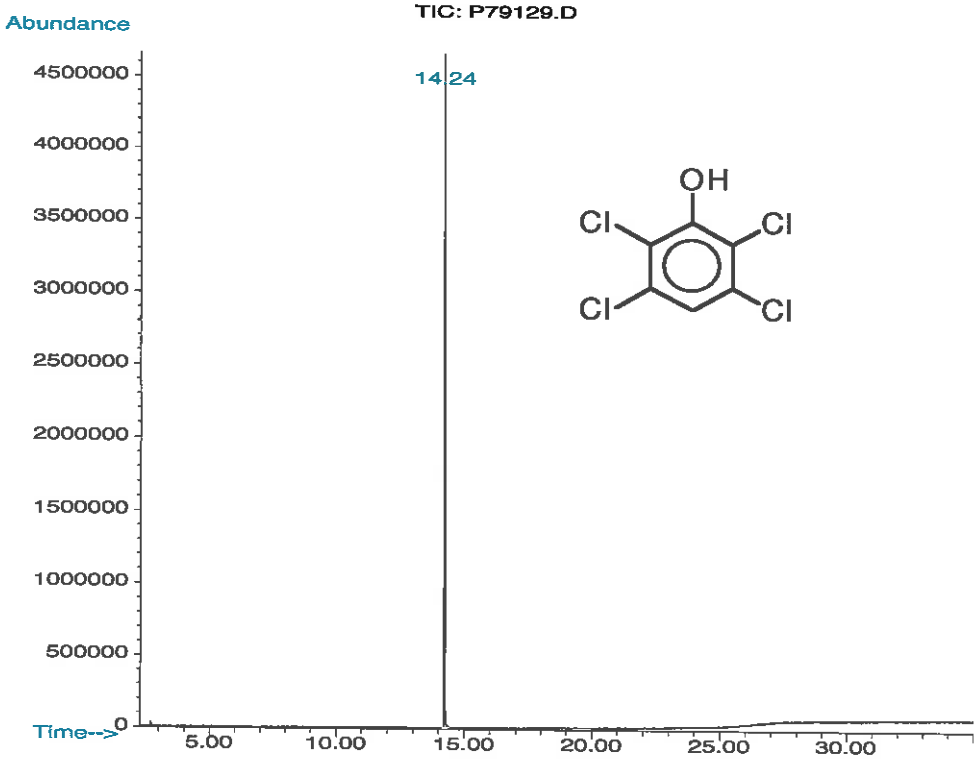

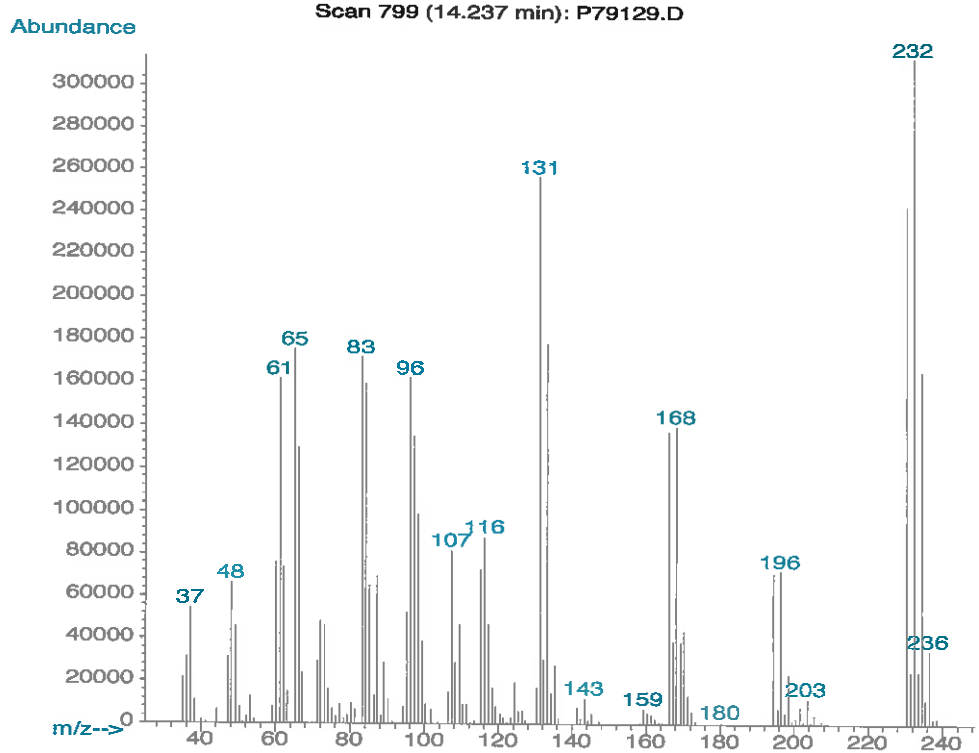

Reagent

SV2NAPAMINEs_00009

Agilent

Certificate of Analysis
ISO Guide 34

2-Naphthylamine Standard

Product Number:	EPA-1135			**Page:**	1 of 1
Lot Number:	CS-5614	**Lot Issue Date:**	19-Nov-2018	**Expiration Date:**	31-Dec-2022

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with Agilent's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
2-naphthylamine	000091-59-8	RM10617	1002 ± 5 µg/mL

Matrix: methanol (methyl alcohol)

Storage: Store at Room Temperature (15° to 30°C).

Agilent uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

Monica Bourgeois
QMS Representative

ANAB ACCREDITED
REFERENCE MATERIAL PRODUCER
ISO Guide 34 Cert No.
AR-1936

Produced in accordance with TUV USA Inc 56 100 18560026
registered ISO 9001 Quality Managment System

ANAB ACCREDITED
TESTING LABORATORY
ISO17025 Cert No.
AT-1937

250 Smith Street North Kingstown, Rhode Island 02852 www.ultrasci.com

Reagent

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sv712dimbenza_00012

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ISO 9001 QS Registered
ISO 17025-34-35-43 Accredited
Scopes: http://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT

Part Number: 70411
Lot Number: 053116
Description: 7,12-Dimethylbenz(a)anthracene

Solvent(s): Methylene chloride **Lot#** 76782

Expiration Date: 053121
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 1000
NIST Test ID#: 822-275872-11 5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to (mL): 100.0 0.003 Flask Uncertainty

Formulated By:		053116 DATE
Reviewed By:	Pedro L. Rentas	053116 DATE

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight (g)	Actual Weight (g)	Actual Conc(µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	MSDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. 7,12-Dimethylbenz(a)anthracene	411	GGR4E-DC	1000	98	0.2	0.10205	0.10231	1002.5	4.2	57-97-6	N/A	orl-rat 327mg/kg

Method GC8MSD-3.M: Column:SPB-5 (30m X 0.25mm ID X 0.25µm film thickness), Temp 1 = 50°C (1min.), Temp 2 = 300°C (9 min.), Rate = 10°C/min., Injector B= 200°C, Detector B = 300°C, Scan Rate = 2, Analysis performed by Candice Warren.

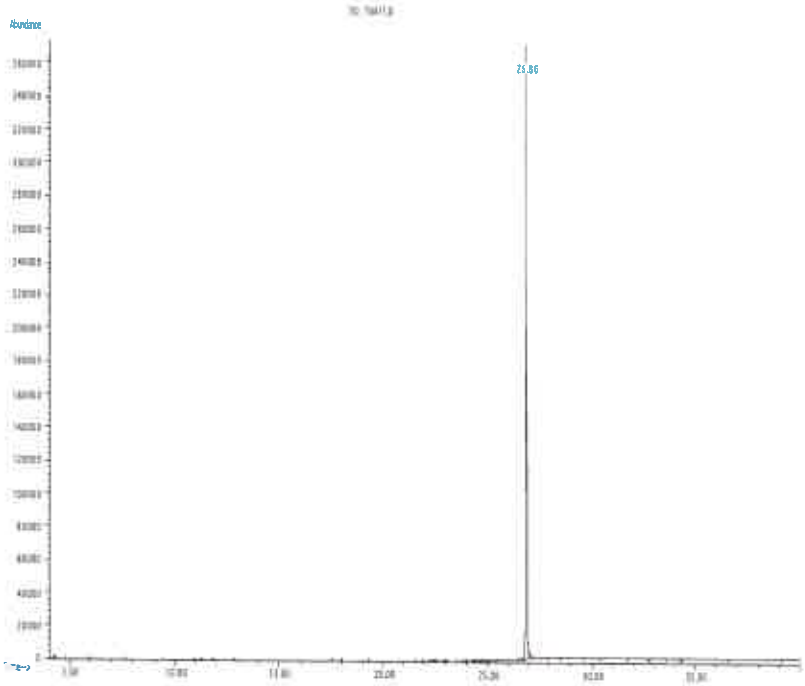

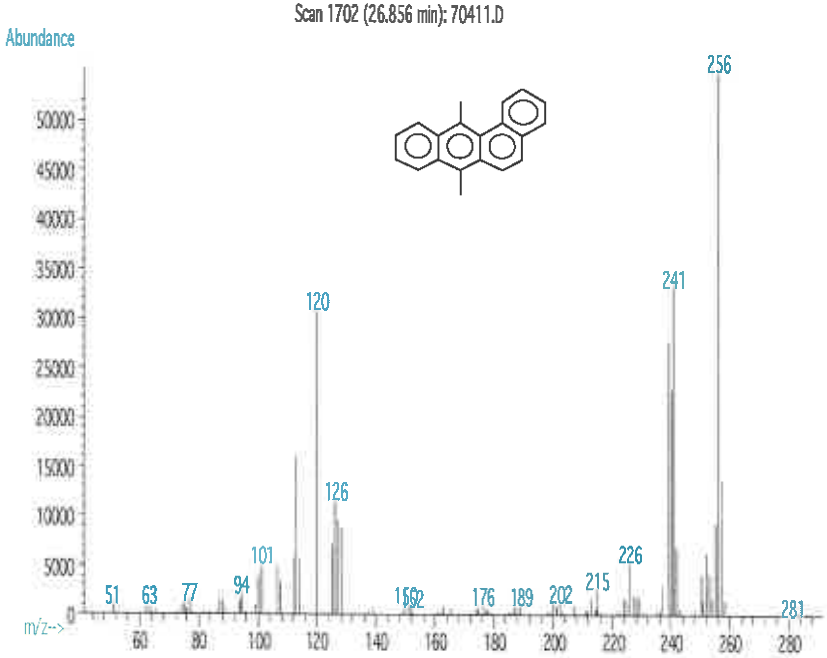

- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

Reagent

SVLIST1/STD1_00002

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571995 **Lot No.:** A0147571

Description : 8270 List 1 / Std #1 MegaMix (2017)

8270 List 1 / Std #1 MegaMix (2017) 500-2000µg/mL, Methylene chloride, 5mL/ampul

Container Size : **Pkg Amt:** > 5 mL

Expiration Date : September 30, 2020 **Storage:** 0°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,4-Dioxane		1,004.1 µg/mL	+/- 5.8379	µg/mL	Gravimetric
	CAS # 123-91-1	(Lot SHBJ5124)		+/- 12.0031	µg/mL	Unstressed
	Purity 99%			+/- 19.1027	µg/mL	Stressed
2	N-Nitrosodimethylamine		1,004.7 µg/mL	+/- 5.8414	µg/mL	Gravimetric
	CAS # 62-75-9	(Lot 190214JLM)		+/- 12.0102	µg/mL	Unstressed
	Purity 99%			+/- 19.1141	µg/mL	Stressed
3	Pyridine		2,005.9 µg/mL	+/- 11.6625	µg/mL	Gravimetric
	CAS # 110-86-1	(Lot SHBJ3129)		+/- 23.9787	µg/mL	Unstressed
	Purity 99%			+/- 38.1617	µg/mL	Stressed
4	Phenol		1,008.7 µg/mL	+/- 5.8647	µg/mL	Gravimetric
	CAS # 108-95-2	(Lot SHBF9719V)		+/- 12.0581	µg/mL	Unstressed
	Purity 99%			+/- 19.1902	µg/mL	Stressed
5	Aniline		1,006.5 µg/mL	+/- 5.8519	µg/mL	Gravimetric
	CAS # 62-53-3	(Lot K22Z462)		+/- 12.0318	µg/mL	Unstressed
	Purity 99%			+/- 19.1484	µg/mL	Stressed
6	Bis(2-chloroethyl)ether		1,006.2 µg/mL	+/- 5.8501	µg/mL	Gravimetric
	CAS # 111-44-4	(Lot SHBJ2059)		+/- 12.0282	µg/mL	Unstressed
	Purity 99%			+/- 19.1427	µg/mL	Stressed
7	n-Decane (C10)		1,008.6 µg/mL	+/- 5.8641	µg/mL	Gravimetric
	CAS # 124-18-5	(Lot SHBK4937)		+/- 12.0569	µg/mL	Unstressed
	Purity 99%			+/- 19.1883	µg/mL	Stressed

24	Bis(2-chloroethoxy)methane		1,002.7	µg/mL	+/-	5.8298	µg/mL	Gravimetric
	CAS # 111-91-1	(Lot 8238500)			+/-	11.9863	µg/mL	Unstressed
	Purity 99%				+/-	19.0761	µg/mL	Stressed
25	2,4-Dichlorophenol		1,005.3	µg/mL	+/-	5.8449	µg/mL	Gravimetric
	CAS # 120-83-2	(Lot BCBJ8113V)			+/-	12.0174	µg/mL	Unstressed
	Purity 99%				+/-	19.1255	µg/mL	Stressed
26	1,2,4-Trichlorobenzene		1,005.9	µg/mL	+/-	5.8484	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBJ9215)			+/-	12.0246	µg/mL	Unstressed
	Purity 99%				+/-	19.1370	µg/mL	Stressed
27	Naphthalene		1,002.3	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBZ8680V)			+/-	11.9816	µg/mL	Unstressed
	Purity 99%				+/-	19.0685	µg/mL	Stressed
28	2,6-Dichlorophenol		1,005.4	µg/mL	+/-	5.8455	µg/mL	Gravimetric
	CAS # 87-65-0	(Lot MKBP8620V)			+/-	12.0186	µg/mL	Unstressed
	Purity 99%				+/-	19.1274	µg/mL	Stressed
29	4-Chloroaniline		1,005.1	µg/mL	+/-	5.8437	µg/mL	Gravimetric
	CAS # 106-47-8	(Lot BCBJ1580V)			+/-	12.0150	µg/mL	Unstressed
	Purity 99%				+/-	19.1217	µg/mL	Stressed
30	Hexachlorobutadiene		1,005.8	µg/mL	+/-	5.8478	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot J31X013)			+/-	12.0234	µg/mL	Unstressed
	Purity 99%				+/-	19.1351	µg/mL	Stressed
31	4-Chloro-3-methylphenol		1,008.2	µg/mL	+/-	5.8618	µg/mL	Gravimetric
	CAS # 59-50-7	(Lot STBC7309V)			+/-	12.0521	µg/mL	Unstressed
	Purity 99%				+/-	19.1807	µg/mL	Stressed
32	2-Methylnaphthalene		1,004.7	µg/mL	+/-	5.8416	µg/mL	Gravimetric
	CAS # 91-57-6	(Lot STBG8884)			+/-	12.0107	µg/mL	Unstressed
	Purity 96%				+/-	19.1148	µg/mL	Stressed
33	1-Methylnaphthalene		1,008.5	µg/mL	+/-	5.8635	µg/mL	Gravimetric
	CAS # 90-12-0	(Lot 525000-9)			+/-	12.0557	µg/mL	Unstressed
	Purity 99%				+/-	19.1864	µg/mL	Stressed
34	1,2,4,5-Tetrachlorobenzene		1,001.7	µg/mL	+/-	5.8240	µg/mL	Gravimetric
	CAS # 95-94-3	(Lot MKBW7717V)			+/-	11.9744	µg/mL	Unstressed
	Purity 99%				+/-	19.0571	µg/mL	Stressed
35	Hexachlorocyclopentadiene		1,004.2	µg/mL	+/-	5.8385	µg/mL	Gravimetric
	CAS # 77-47-4	(Lot 0012015)			+/-	12.0043	µg/mL	Unstressed
	Purity 99%				+/-	19.1046	µg/mL	Stressed
36	2,4,6-Trichlorophenol		1,005.4	µg/mL	+/-	5.8455	µg/mL	Gravimetric
	CAS # 88-06-2	(Lot STBF3742V)			+/-	12.0186	µg/mL	Unstressed
	Purity 99%				+/-	19.1274	µg/mL	Stressed
37	2,4,5-Trichlorophenol		1,003.8	µg/mL	+/-	5.8362	µg/mL	Gravimetric
	CAS # 95-95-4	(Lot FHN01)			+/-	11.9995	µg/mL	Unstressed
	Purity 99%				+/-	19.0970	µg/mL	Stressed
38	2-Chloronaphthalene		1,006.4	µg/mL	+/-	5.8513	µg/mL	Gravimetric
	CAS # 91-58-7	(Lot AJ2UI)			+/-	12.0306	µg/mL	Unstressed
	Purity 99%				+/-	19.1465	µg/mL	Stressed
39	Biphenyl		1,006.9	µg/mL	+/-	5.8542	µg/mL	Gravimetric
	CAS # 92-52-4	(Lot MKCD8504)			+/-	12.0365	µg/mL	Unstressed
	Purity 99%				+/-	19.1560	µg/mL	Stressed

56	4-Nitroaniline			1,006.8	µg/mL	+/-	5.8536	µg/mL	Gravimetric
	CAS #	100-01-6	(Lot BCBT9940)			+/-	12.0353	µg/mL	Unstressed
	Purity	99%				+/-	19.1541	µg/mL	Stressed
57	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)			2,008.4	µg/mL	+/-	11.6770	µg/mL	Gravimetric
	CAS #	534-52-1	(Lot LRAC0549)			+/-	24.0085	µg/mL	Unstressed
	Purity	99%				+/-	38.2092	µg/mL	Stressed
58	Diphenylamine			852.7	µg/mL	+/-	4.9691	µg/mL	Gravimetric
	CAS #	122-39-4	(Lot MKBN8295V)			+/-	10.1988	µg/mL	Unstressed
	Purity	99%				+/-	16.2259	µg/mL	Stressed
59	Azobenzene			1,001.4	µg/mL	+/-	5.8222	µg/mL	Gravimetric
	CAS #	103-33-3	(Lot BCBW2006)			+/-	11.9708	µg/mL	Unstressed
	Purity	99%				+/-	19.0513	µg/mL	Stressed
60	4-Bromophenyl phenyl ether			1,005.8	µg/mL	+/-	5.8478	µg/mL	Gravimetric
	CAS #	101-55-3	(Lot STBB9729V)			+/-	12.0234	µg/mL	Unstressed
	Purity	99%				+/-	19.1351	µg/mL	Stressed
61	Hexachlorobenzene			1,004.8	µg/mL	+/-	5.8420	µg/mL	Gravimetric
	CAS #	118-74-1	(Lot 7990700)			+/-	12.0114	µg/mL	Unstressed
	Purity	99%				+/-	19.1160	µg/mL	Stressed
62	Pentachlorophenol			2,010.3	µg/mL	+/-	11.6881	µg/mL	Gravimetric
	CAS #	87-86-5	(Lot 190227CGKJ)			+/-	24.0313	µg/mL	Unstressed
	Purity	99%				+/-	38.2454	µg/mL	Stressed
63	n-Octadecane (C18)			1,007.4	µg/mL	+/-	5.8571	µg/mL	Gravimetric
	CAS #	593-45-3	(Lot O8LZH)			+/-	12.0425	µg/mL	Unstressed
	Purity	99%				+/-	19.1655	µg/mL	Stressed
64	Phenanthrene			1,009.2	µg/mL	+/-	5.8676	µg/mL	Gravimetric
	CAS #	85-01-8	(Lot MKCD3760)			+/-	12.0640	µg/mL	Unstressed
	Purity	99%				+/-	19.1997	µg/mL	Stressed
65	Anthracene			1,004.6	µg/mL	+/-	5.8408	µg/mL	Gravimetric
	CAS #	120-12-7	(Lot MKCC7378)			+/-	12.0091	µg/mL	Unstressed
	Purity	99%				+/-	19.1122	µg/mL	Stressed
66	Carbazole			1,004.7	µg/mL	+/-	5.8414	µg/mL	Gravimetric
	CAS #	86-74-8	(Lot 8210200)			+/-	12.0102	µg/mL	Unstressed
	Purity	99%				+/-	19.1141	µg/mL	Stressed
67	Di-n-butylphthalate			1,009.5	µg/mL	+/-	5.8693	µg/mL	Gravimetric
	CAS #	84-74-2	(Lot MKBW8599V)			+/-	12.0676	µg/mL	Unstressed
	Purity	99%				+/-	19.2054	µg/mL	Stressed
68	Fluoranthene			1,007.3	µg/mL	+/-	5.8568	µg/mL	Gravimetric
	CAS #	206-44-0	(Lot MKBQ6360V)			+/-	12.0418	µg/mL	Unstressed
	Purity	98%				+/-	19.1644	µg/mL	Stressed
69	Pyrene			1,000.7	µg/mL	+/-	5.8182	µg/mL	Gravimetric
	CAS #	129-00-0	(Lot BCBW7698)			+/-	11.9624	µg/mL	Unstressed
	Purity	99%				+/-	19.0380	µg/mL	Stressed
70	Benzyl butyl phthalate			1,008.5	µg/mL	+/-	5.8635	µg/mL	Gravimetric
	CAS #	85-68-7	(Lot MKCF0058)			+/-	12.0557	µg/mL	Unstressed
	Purity	99%				+/-	19.1864	µg/mL	Stressed
71	Benz(a)anthracene			1,007.1	µg/mL	+/-	5.8556	µg/mL	Gravimetric
	CAS #	56-55-3	(Lot 0022018)			+/-	12.0394	µg/mL	Unstressed
	Purity	96%				+/-	19.1605	µg/mL	Stressed

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID

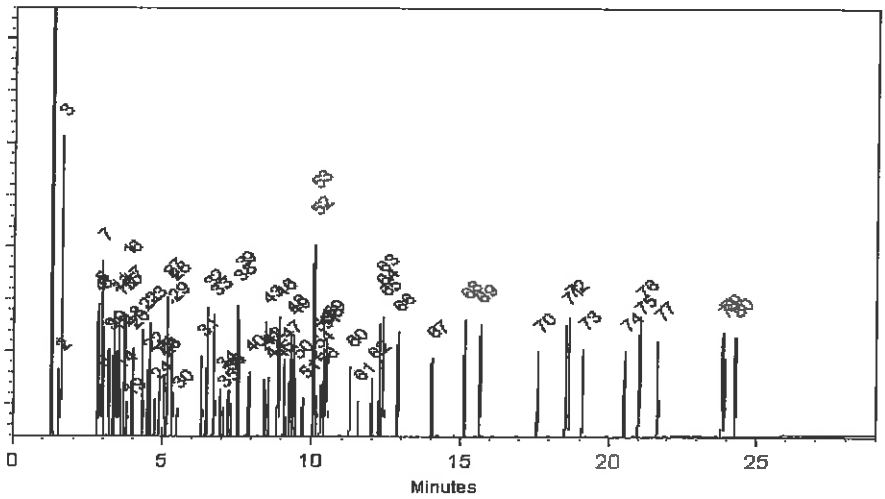

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cydnei L. Crust
Cydnei L. Crust - Mix Technician

Date Mixed: 28-Mar-2019 **Balance:** B442140311

Fang-Yun Lo - QC Analyst

Date Passed: 01-May-2019

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

SVLIST1/STD11_00003

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

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Certificate of Analysis

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569732 **Lot No.:** A0147257

Description : 8270 List 1 / Std #11

8270 List 1 / Std #11 2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : September 30, 2020 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Benzaldehyde **CAS #** 100-52-7 (Lot SHBJ3062) **Purity** 99%	2,004.5 µg/mL	+/- 11.6543 µg/mL +/- 64.2556 µg/mL +/- 74.6946 µg/mL	Gravimetric Unstressed Stressed
2	epsilon-Caprolactam **CAS #** 105-60-2 (Lot I16X016) **Purity** 99%	2,001.7 µg/mL	+/- 11.6381 µg/mL +/- 64.1658 µg/mL +/- 74.5903 µg/mL	Gravimetric Unstressed Stressed
3	Atrazine **CAS #** 1912-24-9 (Lot 77P7D) **Purity** 99%	2,002.2 µg/mL	+/- 11.6410 µg/mL +/- 64.1818 µg/mL +/- 74.6089 µg/mL	Gravimetric Unstressed Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Reagent

SVLIST1/STD9_00004

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569730 **Lot No.:** A0145230

Description : 8270 List 1 / Std #9

8270 List 1 / Std #9 2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : July 31, 2020 **Storage:** 10°C or colder

Handling: Contains carcinogen/reproductive toxin.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Benzidine **CAS #** 92-87-5 (Lot 190115JACG) **Purity** 99%	2,009.3 µg/mL	+/- 11.6822 µg/mL +/- 24.0193 µg/mL +/- 38.2264 µg/mL	Gravimetric Unstressed Stressed
2	3,3'-Dichlorobenzidine **CAS #** 91-94-1 (Lot 190104JACG) **Purity** 99%	2,004.5 µg/mL	+/- 11.6543 µg/mL +/- 23.9619 µg/mL +/- 38.1350 µg/mL	Gravimetric Unstressed Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Reagent

SVLVIntstd_00010

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567684 **Lot No.:** A0141743

Description : 8270 Internal Standard

8270 Internal Standard 2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : September 30, 2023 **Storage:** 10°C or colder

Handling: Sonication required. Mix is photosensitive.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,4-Dichlorobenzene-d4		2,008.7 µg/mL	+/- 11.6788	µg/mL	Gravimetric
	CAS # 3855-82-1	(Lot PR-18488)		+/- 90.4731	µg/mL	Unstressed
	Purity 99%			+/- 100.3910	µg/mL	Stressed
2	Naphthalene-d8		2,009.2 µg/mL	+/- 11.6817	µg/mL	Gravimetric
	CAS # 1146-65-2	(Lot M-1452)		+/- 90.4956	µg/mL	Unstressed
	Purity 99%			+/- 100.4160	µg/mL	Stressed
3	Acenaphthene-d10		2,008.3 µg/mL	+/- 11.6764	µg/mL	Gravimetric
	CAS # 15067-26-2	(Lot PR-28021)		+/- 90.4550	µg/mL	Unstressed
	Purity 99%			+/- 100.3710	µg/mL	Stressed
4	Phenanthrene-d10		2,007.3 µg/mL	+/- 11.6708	µg/mL	Gravimetric
	CAS # 1517-22-2	(Lot PR-23065)		+/- 90.4115	µg/mL	Unstressed
	Purity 98%			+/- 100.3228	µg/mL	Stressed
5	Chrysene-d12		2,006.0 µg/mL	+/- 11.6631	µg/mL	Gravimetric
	CAS # 1719-03-5	(Lot PR-28823)		+/- 90.3514	µg/mL	Unstressed
	Purity 99%			+/- 100.2561	µg/mL	Stressed
6	Perylene-d12		2,008.6 µg/mL	+/- 11.6782	µg/mL	Gravimetric
	CAS # 1520-96-3	(Lot PR-27342)		+/- 90.4685	µg/mL	Unstressed
	Purity 99%			+/- 100.3860	µg/mL	Stressed

Reagent

SVLVSURRSPK_00021

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Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567685 **Lot No.:** A0123269

Description : 8270 Surrogate Standard

8270 Surrogate Standard 5,000 ug/ml, Methylene Chloride, 5 ml/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : December 31, 2021 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

C E R T I F I E D V A L U E S

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2-Fluorophenol		5,017.0 µg/mL	+/- 29.1677	µg/mL	Gravimetric
	CAS # 367-12-4	(Lot STBD7945V)		+/- 146.4126	µg/mL	Unstressed
	Purity 99%			+/- 177.6661	µg/mL	Stressed
2	Phenol-d5		4,965.4 µg/mL	+/- 28.8690	µg/mL	Gravimetric
	CAS # 4165-62-2	(Lot X-479)		+/- 144.9056	µg/mL	Unstressed
	Purity 99%			+/- 175.8373	µg/mL	Stressed
3	Nitrobenzene-d5		5,019.4 µg/mL	+/- 29.1814	µg/mL	Gravimetric
	CAS # 4165-60-0	(Lot PR-25462)		+/- 146.4812	µg/mL	Unstressed
	Purity 99%			+/- 177.7494	µg/mL	Stressed
4	2-Fluorobiphenyl		5,031.5 µg/mL	+/- 29.2518	µg/mL	Gravimetric
	CAS # 321-60-8	(Lot 10194342)		+/- 146.8343	µg/mL	Unstressed
	Purity 99%			+/- 178.1779	µg/mL	Stressed
5	2,4,6-Tribromophenol		5,026.7 µg/mL	+/- 29.2238	µg/mL	Gravimetric
	CAS # 118-79-6	(Lot 29699MJV)		+/- 146.6942	µg/mL	Unstressed
	Purity 99%			+/- 178.0079	µg/mL	Stressed
6	p-Terphenyl-d14		5,029.2 µg/mL	+/- 29.2387	µg/mL	Gravimetric
	CAS # 1718-51-0	(Lot PR-21037)		+/- 146.7686	µg/mL	Unstressed
	Purity 99%			+/- 178.0982	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Tech Tips:
Due to the limited solubility of p-terphenyl-d14 in methanol, we do not recommend that this mixture be diluted in methanol.

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID

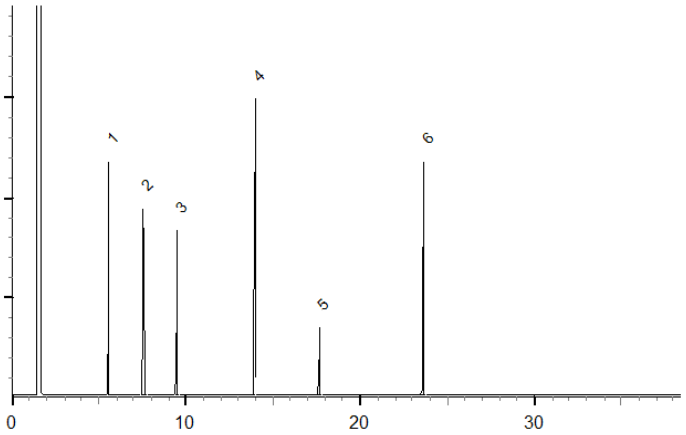

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Dawn Brownson - Mix Technician

Date Mixed: 06-Dec-2016 **Balance:** B345965662

Justine Albertson - Operations Tech-ARM QC

Date Passed: 08-Dec-2016

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

SVLVSURSPK_00008

110 Benner Circle
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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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Certificate #3222.01

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ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567685 **Lot No.:** A0143524

Description : 8270 Surrogate Standard

8270 Surrogate Standard 5,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : November 30, 2023 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	2-Fluorophenol **CAS #** 367-12-4 **Purity** 99%	(Lot STBF3761V)	4,998.8 µg/mL	+/- 29.0635 µg/mL +/- 145.8817 µg/mL +/- 177.0219 µg/mL	Gravimetric Unstressed Stressed
2	Phenol-d5 **CAS #** 4165-62-2 **Purity** 99%	(Lot CD-105)	5,018.9 µg/mL	+/- 29.1801 µg/mL +/- 146.4674 µg/mL +/- 177.7325 µg/mL	Gravimetric Unstressed Stressed
3	Nitrobenzene-d5 **CAS #** 4165-60-0 **Purity** 99%	(Lot PR-29603)	5,009.3 µg/mL	+/- 29.1243 µg/mL +/- 146.1872 µg/mL +/- 177.3925 µg/mL	Gravimetric Unstressed Stressed
4	2-Fluorobiphenyl **CAS #** 321-60-8 **Purity** 99%	(Lot M09E045)	5,024.7 µg/mL	+/- 29.2138 µg/mL +/- 146.6366 µg/mL +/- 177.9379 µg/mL	Gravimetric Unstressed Stressed
5	2,4,6-Tribromophenol **CAS #** 118-79-6 **Purity** 99%	(Lot 29699MJV)	5,012.1 µg/mL	+/- 29.1410 µg/mL +/- 146.2708 µg/mL +/- 177.4940 µg/mL	Gravimetric Unstressed Stressed
6	p-Terphenyl-d14 **CAS #** 1718-51-0 **Purity** 99%	(Lot B180320L)	5,022.9 µg/mL	+/- 29.2038 µg/mL +/- 146.5860 µg/mL +/- 177.8765 µg/mL	Gravimetric Unstressed Stressed

Reagent

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svmethylmetha_00012

Absolute Standards, Inc.
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Analytical Reference Material ARM

ISO 9001 QS Registered
ISO 17025-34-35-43 Accredited
Scopes: http://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT

Part Number: 70443
Lot Number: 032717
Description: Methyl methane sulfonate

Solvent(s): **Lot#**
Methylene chloride 76782

Expiration Date: 032722
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 1000
NIST Test ID#: 822-275872-11 5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to (mL): 25.0 0.001 Flask Uncertainty

Formulated By: Bryan Njeba	032717	DATE
Reviewed By: Pedro L. Rentas	032717	DATE

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight (g)	Actual Weight (g)	Actual Conc(µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	CAS#	OSHA PEL (TWA)	LD50
1. Methyl methane sulfonate	443	07322PW	1000	99	0.2	0.02525	0.02527	1000.8	5.7	66-27-3	N/A	orl-rat 225mg/kg

MSDS Information (Solvent Safety Info. On Attached pg.)

Method GC6MSD-1: Column: Vocol (60m X 0.25mm ID X 1.5µm film thickness). Temp. 1=35°C (10min.), Temp. 2=200°C (8.75 min.), Rate=4°C/min., Injector Temp.=200°C, Detector Temp.=220°C. Analysis performed by Pedro Rentas.

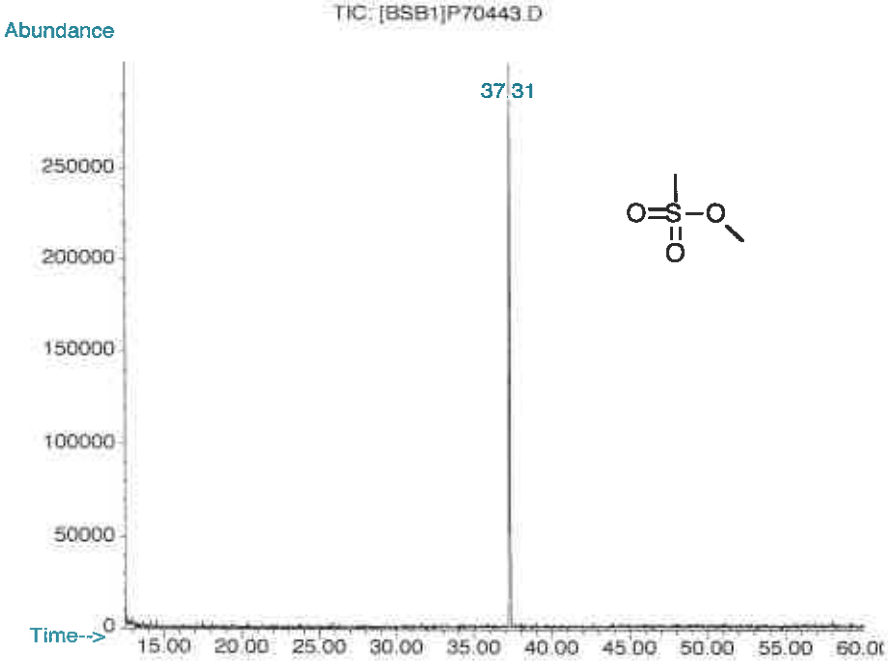

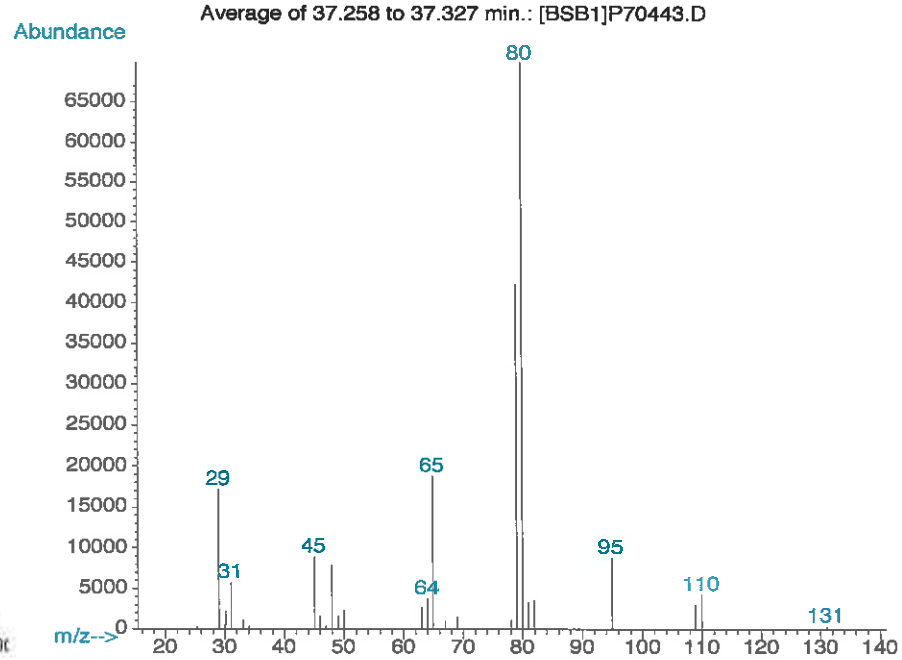

- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

Reagent

SVNNITROPYROs_00019

CERTIFIED WEIGHT REPORT

Part Number: 70451
Lot Number: 110618
Description: N-Nitrosopyrrolidine

Solvent(s): Methylene chloride **Lot#** 102669

Expiration Date: 110621
Recommended Storage: Freezer (0 °C)
Nominal Concentration (µg/mL): 1000
NIST Test ID#: 2684186

5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to (mL): 25.0 0.001 Flask Uncertainty

Formulated By:	Eli Aliaga	110618 DATE
Reviewed By:	Pedro L. Rentas	110618 DATE

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight (g)	Actual Weight (g)	Actual Conc(µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. N-Nitrosopyrrolidine	451	04025BM	1000	99	0.2	0.02525	0.02527	1000.8	5.7	930-55-2	N/A	ori-rat 900mg/kg

Method GC8MSD-3.M: Column:SPB-5 (30m X 0.25mm ID X 0.25µm film thickness) Temp 1 = 50°C (1min.), Temp 2 = 300°C (9min.), Rate = 10°C/min., Injector B= 200°C, Detector B = 275°C, Split Ratio = 100:1, Scan Rate = 2. Analysis performed by: Candice Warren.

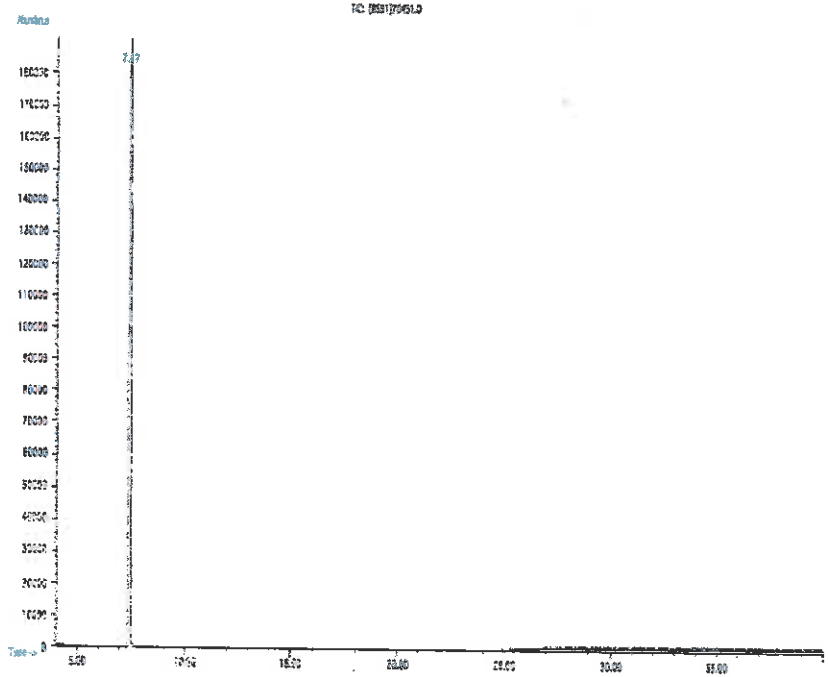

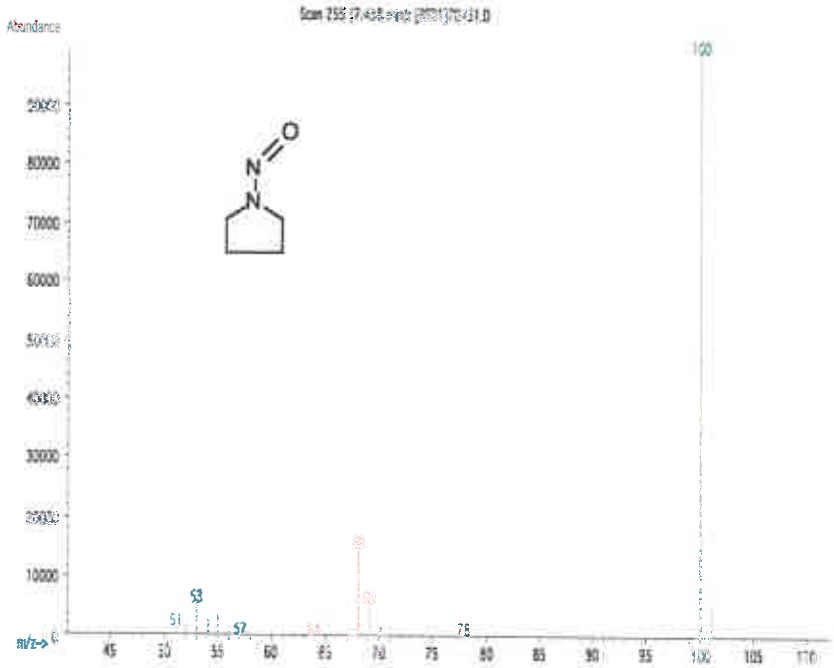

- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

Reagent

SVSEC L1/STD1_00001

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Fax: (814)353-1309

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571995.SEC **Lot No.:** A0138890

Description : 8270 List 1 / Std #1 MegaMix (2017)

8270 List 1 / Std #1 MegaMix (2017) 500-2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : December 31, 2019 **Storage:** 0°C or colder

Handling: Carcinogen/reproductive toxin, Photosensitive, Sonicate.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dioxane CAS # 123-91-1.SEC (Lot MUFZH) Purity 99%	1,006.2 µg/mL	+/- 5.8637 µg/mL +/- 12.0348 µg/mL +/- 19.1468 µg/mL	Gravimetric Unstressed Stressed
2	N-Nitrosodimethylamine CAS # 62-75-9.SEC (Lot 61H72) Purity 99%	1,000.6 µg/mL	+/- 5.8310 µg/mL +/- 11.9678 µg/mL +/- 19.0402 µg/mL	Gravimetric Unstressed Stressed
3	Pyridine CAS # 110-86-1.SEC (Lot QN8DK) Purity 99%	2,007.0 µg/mL	+/- 11.6689 µg/mL +/- 23.9918 µg/mL +/- 38.1826 µg/mL	Gravimetric Unstressed Stressed
4	Phenol CAS # 108-95-2.SEC (Lot EDPYN) Purity 99%	1,010.0 µg/mL	+/- 5.8858 µg/mL +/- 12.0802 µg/mL +/- 19.2191 µg/mL	Gravimetric Unstressed Stressed
5	Aniline CAS # 62-53-3.SEC (Lot ZCD3N) Purity 99%	1,002.2 µg/mL	+/- 5.8403 µg/mL +/- 11.9869 µg/mL +/- 19.0707 µg/mL	Gravimetric Unstressed Stressed
6	Bis(2-chloroethyl)ether CAS # 111-44-4.SEC (Lot FA010143) Purity 99%	1,006.8 µg/mL	+/- 5.8671 µg/mL +/- 12.0419 µg/mL +/- 19.1582 µg/mL	Gravimetric Unstressed Stressed
7	n-Decane (C10) CAS # 124-18-5.SEC (Lot UCVNN) Purity 99%	1,007.0 µg/mL	+/- 5.8683 µg/mL +/- 12.0443 µg/mL +/- 19.1620 µg/mL	Gravimetric Unstressed Stressed

24	Bis(2-chloroethoxy)methane **CAS #** 111-91-1 * **Purity** 99%	(Lot 4621000)	1,008.0	µg/mL	+/-	5.8741 12.0563 19.1811	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
25	2,4-Dichlorophenol **CAS #** 120-83-2.SEC **Purity** 99%	(Lot FHM01)	1,009.2	µg/mL	+/-	5.8811 12.0706 19.2039	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
26	1,2,4-Trichlorobenzene **CAS #** 120-82-1.SEC **Purity** 99%	(Lot 3LYYC)	1,007.0	µg/mL	+/-	5.8683 12.0443 19.1620	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
27	Naphthalene **CAS #** 91-20-3.SEC **Purity** 99%	(Lot SKZ5N)	1,003.2	µg/mL	+/-	5.8462 11.9989 19.0897	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
28	2,6-Dichlorophenol **CAS #** 87-65-0.SEC **Purity** 99%	(Lot SIDBB)	1,003.8	µg/mL	+/-	5.8497 12.0061 19.1011	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
29	4-Chloroaniline **CAS #** 106-47-8.SEC **Purity** 99%	(Lot 10171860)	1,002.2	µg/mL	+/-	5.8403 11.9869 19.0707	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
30	Hexachlorobutadiene **CAS #** 87-68-3.SEC **Purity** 97%	(Lot 6878400)	1,009.0	µg/mL	+/-	5.8799 12.0682 19.2000	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
31	4-Chloro-3-methylphenol **CAS #** 59-50-7.SEC **Purity** 99%	(Lot FDO02)	1,007.4	µg/mL	+/-	5.8706 12.0491 19.1696	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
32	2-Methylnaphthalene **CAS #** 91-57-6.SEC **Purity** 98%	(Lot 76023-1)	1,010.0	µg/mL	+/-	5.8857 12.0801 19.2189	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
33	1-Methylnaphthalene **CAS #** 90-12-0.SEC **Purity** 99%	(Lot OEE3F)	1,007.4	µg/mL	+/-	5.8706 12.0491 19.1696	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
34	1,2,4,5-Tetrachlorobenzene **CAS #** 95-94-3.SEC **Purity** 99%	(Lot AF02)	1,003.4	µg/mL	+/-	5.8473 12.0013 19.0935	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
35	Hexachlorocyclopentadiene **CAS #** 77-47-4.SEC **Purity** 99%	(Lot 6975000)	1,008.4	µg/mL	+/-	5.8765 12.0611 19.1887	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
36	2,4,6-Trichlorophenol **CAS #** 88-06-2.SEC **Purity** 98%	(Lot UUMYM)	1,009.6	µg/mL	+/-	5.8834 12.0754 19.2114	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
37	2,4,5-Trichlorophenol **CAS #** 95-95-4.SEC **Purity** 99%	(Lot MKBQ9937V)	1,004.8	µg/mL	+/-	5.8555 12.0180 19.1202	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
38	2-Chloronaphthalene **CAS #** 91-58-7.SEC **Purity** 99%	(Lot 6779200)	1,005.0	µg/mL	+/-	5.8567 12.0204 19.1240	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
39	Biphenyl **CAS #** 92-52-4.SEC **Purity** 99%	(Lot 33OQE)	1,009.4	µg/mL	+/-	5.8823 12.0730 19.2077	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

56	4-Nitroaniline			1,002.0	µg/mL	+/-	5.8392	µg/mL	Gravimetric
	CAS #	100-01-6.SEC	(Lot 5ITRC)			+/-	11.9845	µg/mL	Unstressed
	Purity	99%				+/-	19.0669	µg/mL	Stressed
57	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)			2,005.2	µg/mL	+/-	11.6584	µg/mL	Gravimetric
	CAS #	534-52-1.SEC	(Lot 3256700)			+/-	23.9703	µg/mL	Unstressed
	Purity	99%				+/-	38.1483	µg/mL	Stressed
58	Diphenylamine			853.0	µg/mL	+/-	4.9709	µg/mL	Gravimetric
	CAS #	122-39-4.SEC	(Lot 10164691)			+/-	10.2024	µg/mL	Unstressed
	Purity	99%				+/-	16.2316	µg/mL	Stressed
59	Azobenzene			1,006.0	µg/mL	+/-	5.8625	µg/mL	Gravimetric
	CAS #	103-33-3.SEC	(Lot JUWAG)			+/-	12.0324	µg/mL	Unstressed
	Purity	99%				+/-	19.1430	µg/mL	Stressed
60	4-Bromophenyl phenyl ether			1,008.2	µg/mL	+/-	5.8753	µg/mL	Gravimetric
	CAS #	101-55-3.SEC	(Lot 84C6D)			+/-	12.0587	µg/mL	Unstressed
	Purity	99%				+/-	19.1849	µg/mL	Stressed
61	Hexachlorobenzene			1,001.6	µg/mL	+/-	5.8368	µg/mL	Gravimetric
	CAS #	118-74-1.SEC	(Lot G137934)			+/-	11.9797	µg/mL	Unstressed
	Purity	99%				+/-	19.0593	µg/mL	Stressed
62	Pentachlorophenol			2,018.0	µg/mL	+/-	11.7328	µg/mL	Gravimetric
	CAS #	87-86-5.SEC	(Lot 6143700)			+/-	24.1233	µg/mL	Unstressed
	Purity	99%				+/-	38.3919	µg/mL	Stressed
63	n-Octadecane (C18)			1,008.0	µg/mL	+/-	5.8741	µg/mL	Gravimetric
	CAS #	593-45-3.SEC	(Lot G14U045)			+/-	12.0563	µg/mL	Unstressed
	Purity	99%				+/-	19.1811	µg/mL	Stressed
64	Phenanthrene			1,001.6	µg/mL	+/-	5.8366	µg/mL	Gravimetric
	CAS #	85-01-8.SEC	(Lot 7248800)			+/-	11.9793	µg/mL	Unstressed
	Purity	98%				+/-	19.0585	µg/mL	Stressed
65	Anthracene			1,002.6	µg/mL	+/-	5.8427	µg/mL	Gravimetric
	CAS #	120-12-7.SEC	(Lot WDFNJ)			+/-	11.9917	µg/mL	Unstressed
	Purity	99%				+/-	19.0783	µg/mL	Stressed
66	Carbazole			1,005.6	µg/mL	+/-	5.8602	µg/mL	Gravimetric
	CAS #	86-74-8.SEC	(Lot LMIZB)			+/-	12.0276	µg/mL	Unstressed
	Purity	99%				+/-	19.1354	µg/mL	Stressed
67	Di-n-butylphthalate			1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS #	84-74-2.SEC	(Lot 42FSG)			+/-	11.9606	µg/mL	Unstressed
	Purity	99%				+/-	19.0288	µg/mL	Stressed
68	Fluoranthene			1,008.8	µg/mL	+/-	5.8788	µg/mL	Gravimetric
	CAS #	206-44-0.SEC	(Lot FREGF)			+/-	12.0659	µg/mL	Unstressed
	Purity	99%				+/-	19.1963	µg/mL	Stressed
69	Pyrene			1,003.6	µg/mL	+/-	5.8485	µg/mL	Gravimetric
	CAS #	129-00-0.SEC	(Lot ROVJC)			+/-	12.0037	µg/mL	Unstressed
	Purity	99%				+/-	19.0973	µg/mL	Stressed
70	Benzyl butyl phthalate			1,002.0	µg/mL	+/-	5.8389	µg/mL	Gravimetric
	CAS #	85-68-7.SEC	(Lot GX3GL)			+/-	11.9839	µg/mL	Unstressed
	Purity	98%				+/-	19.0660	µg/mL	Stressed
71	Benz(a)anthracene			1,000.6	µg/mL	+/-	5.8310	µg/mL	Gravimetric
	CAS #	56-55-3.SEC	(Lot MTENF)			+/-	11.9678	µg/mL	Unstressed
	Purity	99%				+/-	19.0402	µg/mL	Stressed

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID

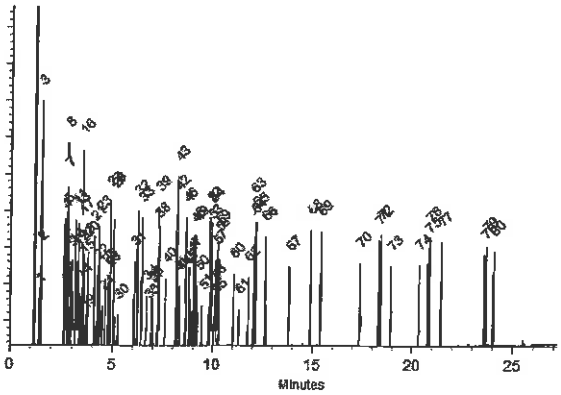

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Lane Klbe - Mix Technician

Date Mixed: 14-Jun-2018 **Balance:** B345965662

Justine Albertson - Operations Tech-ARM QC

Date Passed: 21-Jun-2018

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

Reagent

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svTCLPacids_00010

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Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31027 **Lot No.:** A0134153

Description : TCLP Acid Mix

TCLP Acids Method 1311 Std 2000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 28, 2021 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	2-Methylphenol (o-cresol) **CAS #** 95-48-7 **Purity** 99%	(Lot SHBC1479V)	2,010.0 µg/mL	+/- 11.7958 µg/mL +/- 58.6804 µg/mL +/- 71.1979 µg/mL	Gravimetric Unstressed Stressed
2	3-Methylphenol (m-cresol) **CAS #** 108-39-4 **Purity** 99%	(Lot SHBD0627V)	2,008.0 µg/mL	+/- 11.7841 µg/mL +/- 58.6221 µg/mL +/- 71.1271 µg/mL	Gravimetric Unstressed Stressed
3	4-Methylphenol (p-cresol) **CAS #** 106-44-5 **Purity** 99%	(Lot 49396APV)	2,000.0 µg/mL	+/- 11.7371 µg/mL +/- 58.3885 µg/mL +/- 70.8437 µg/mL	Gravimetric Unstressed Stressed
4	2,4,5-Trichlorophenol **CAS #** 95-95-4 **Purity** 99%	(Lot FHN01)	2,008.0 µg/mL	+/- 11.7841 µg/mL +/- 58.6221 µg/mL +/- 71.1271 µg/mL	Gravimetric Unstressed Stressed
5	2,4,6-Trichlorophenol **CAS #** 88-06-2 **Purity** 99%	(Lot STBF3742V)	2,009.0 µg/mL	+/- 11.7899 µg/mL +/- 58.6513 µg/mL +/- 71.1625 µg/mL	Gravimetric Unstressed Stressed
6	Pentachlorophenol **CAS #** 87-86-5 **Purity** 99%	(Lot 170717KJA)	2,003.0 µg/mL	+/- 11.7547 µg/mL +/- 58.4761 µg/mL +/- 70.9500 µg/mL	Gravimetric Unstressed Stressed

Reagent

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svTCLPbns_00010

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31028 **Lot No.:** A0141077

Description : TCLP B/N Mix

TCLP B/N Mix 2000 µg/mL, Acetone, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2022 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Pyridine **CAS #** 110-86-1 **Purity** 99%	(Lot SHBC7174V)	2,019.0 µg/mL	+/- 11.8486 µg/mL +/- 99.8886 µg/mL +/- 102.3717 µg/mL		Gravimetric Unstressed Stressed
2	1,4-Dichlorobenzene **CAS #** 106-46-7 **Purity** 99%	(Lot MKBS4401V)	2,010.0 µg/mL	+/- 11.7958 µg/mL +/- 99.4433 µg/mL +/- 101.9154 µg/mL		Gravimetric Unstressed Stressed
3	Hexachloroethane **CAS #** 67-72-1 **Purity** 99%	(Lot 4H3SF)	2,018.5 µg/mL	+/- 11.8457 µg/mL +/- 99.8638 µg/mL +/- 102.3464 µg/mL		Gravimetric Unstressed Stressed
4	Nitrobenzene **CAS #** 98-95-3 **Purity** 99%	(Lot SHBG5577V)	2,017.5 µg/mL	+/- 11.8398 µg/mL +/- 99.8144 µg/mL +/- 102.2957 µg/mL		Gravimetric Unstressed Stressed
5	Hexachlorobutadiene **CAS #** 87-68-3 **Purity** 99%	(Lot J31X013)	2,008.5 µg/mL	+/- 11.7870 µg/mL +/- 99.3691 µg/mL +/- 101.8394 µg/mL		Gravimetric Unstressed Stressed
6	2,4-Dinitrotoluene **CAS #** 121-14-2 **Purity** 99%	(Lot MKAA0690)	2,009.5 µg/mL	+/- 11.7929 µg/mL +/- 99.4186 µg/mL +/- 101.8901 µg/mL		Gravimetric Unstressed Stressed
7	Hexachlorobenzene **CAS #** 118-74-1 **Purity** 99%	(Lot LRAB8468)	2,009.0 µg/mL	+/- 11.7899 µg/mL +/- 99.3938 µg/mL +/- 101.8647 µg/mL		Gravimetric Unstressed Stressed

Reagent

SVTUNINGMIXs_00008

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Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31615 **Lot No.:** A0147424

Description : GC/MS Tuning Mixture

GC/MS Tuning Mixture 1,000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2022 **Storage:** 10°C or colder

Handling: Contains carcinogen/reproductive toxin.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Pentachlorophenol **CAS #** 87-86-5 (Lot 190227CGKJ) **Purity** 99%	1,000.4 µg/mL	+/- 5.8709 µg/mL +/- 45.5674 µg/mL +/- 65.7932 µg/mL	Gravimetric Unstressed Stressed
2	DFTPP (Decafluorotriphenylphosphine) **CAS #** 5074-71-5 (Lot 10198748) **Purity** 99%	1,000.0 µg/mL	+/- 5.8686 µg/mL +/- 45.5492 µg/mL +/- 65.7669 µg/mL	Gravimetric Unstressed Stressed
3	Benzidine **CAS #** 92-87-5 (Lot 190115JACG) **Purity** 99%	1,000.0 µg/mL	+/- 5.8686 µg/mL +/- 45.5492 µg/mL +/- 65.7669 µg/mL	Gravimetric Unstressed Stressed
4	4,4'-DDT **CAS #** 50-29-3 (Lot S37912V) **Purity** 99%	1,000.4 µg/mL	+/- 5.8709 µg/mL +/- 45.5674 µg/mL +/- 65.7932 µg/mL	Gravimetric Unstressed Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Reagent

TA-SPIKE1_00006

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

September 6, 2019

Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM		Analyte	Aq. SRM	MO SRM		Analyte	Aq. SRM	MO SRM
Ag	3151	1077a		Hf	3122	—		S	3154	2770
Al	3101a	1075a		Hg	3133	3133		Sb	3102a	3102a
As	3103a	3103a		Ho	3123a	—		Sc	3148a	3148a
Au	3121	—		In	3124a	3124a		Se	3149	3149
B	3107	3107		K	3141a	3141a		Si	3150	1066a
Ba	3104a	1051b		La	3127a	3127a		Sm	3147a	—
Be	3105a	3105a		Li	3129a	3129a		Sn	3161a	1057b
Bi	3106	3106		Lu	3130a	—		SO_4^{-2}	3181	—
Br^-	3184	—		Mg	3131a	3131a		Sr	3153a	3153a
Ca	3109a	3109a		Mn	3132	3132		Ta	3155	—
Cd	3108	1053a		Mo	3134	3134		Tb	3157a	—
Ce	3110	3110		Na	3152a	3152a		Te	3156	—
Cl^-	3182	1818a		Nb	3137	—		Th	3159	—
Co	3113	3113		Nd	3135a	—		Ti	3162a	3162a
Cr	3112a	1078b		Ni	3136	1065b		Tl	3158	3158
Cs	3111a	—		NO_3^-	3185	—		Tm	3160a	—
Cu	3114	1080a		P	3139a	3139a		U	3164	—
Dy	3115a	—		Pb	3128	3128		V	3165	1052b
Er	3116a	—		Pd	3138	—		W	3163	3163
Eu	3117a	—		PO_4^{-3}	3186	—		Y	3167a	3167a
F^-	3183	—		Pr	3142a	—		Yb	3166a	—
Fe	3126a	1079b		Pt	3140	3140		Zn	3168a	3168a
Ga	3119a	—		Rb	3145a	—		Zr	3169	3169
Gd	3118a	—		Re	3143	—				
Ge	3120a	—		Rh	3144	3144				

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CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

Product #: TA-SPIKE1+

Spike Mix # 1

Lot #: 1021235-1

Matrix: 5% HNO_3/tr. HF

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
As	200.0 ± 1.0 mg/L	Li	100.0 ± 0.5 mg/L	Sn	200.0 ± 1.0 mg/L
Ba	200.0 ± 1.0 mg/L	Mn	100.0 ± 0.5 mg/L	Sr	100.0 ± 0.5 mg/L
Be	99.99 ± 0.50 mg/L	Mo	100.0 ± 0.5 mg/L	Ti	100.0 ± 0.5 mg/L
Cd	100.0 ± 0.5 mg/L	Ni	100.0 ± 0.5 mg/L	Tl	200.0 ± 1.0 mg/L
Co	99.98 ± 0.50 mg/L	Pb	100.0 ± 0.5 mg/L	V	100.0 ± 0.5 mg/L
Cr	100.0 ± 0.5 mg/L	Se	200.0 ± 1.0 mg/L		
Cu	100.0 ± 0.5 mg/L	Si	200.0 ± 1.0 mg/L		

Source Material Lot# Chart

Element	Source Material Lot#	Element	Source Material Lot#	Element	Source Material Lot#
As	166531	Li	170237	Sn	171360
Ba	150283r	Mn	985851	Sr	976606
Be	989234	Mo	118881r	Ti	148663
Cd	173171	Ni	752769	Tl	983036
Co	979870	Pb	168223	V	983037
Cr	880115	Se	929078		
Cu	148793	Si	977647		

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see reverse side)**. The solution was stabilized using high purity nitric acid (HNO_3), trace hydrofluoric acid (HF) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentrations were determined based upon gravimetric procedures. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see reverse side)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

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1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

Reagent

TA-SPIKE2_00004

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM		Analyte	Aq. SRM	MO SRM		Analyte	Aq. SRM	MO SRM
Ag	3151	1077a		Hf	3122	—		S	3154	2770
Al	3101a	1075a		Hg	3133	3133		Sb	3102a	3102a
As	3103a	3103a		Ho	3123a	—		Sc	3148a	3148a
Au	3121	—		In	3124a	3124a		Se	3149	3149
B	3107	3107		K	3141a	3141a		Si	3150	1066a
Ba	3104a	1051b		La	3127a	3127a		Sm	3147a	—
Be	3105a	3105a		Li	3129a	3129a		Sn	3161a	1057b
Bi	3106	3106		Lu	3130a	—		SO_4^{-2}	3181	—
Br^-	3184	—		Mg	3131a	3131a		Sr	3153a	3153a
Ca	3109a	3109a		Mn	3132	3132		Ta	3155	—
Cd	3108	1053a		Mo	3134	3134		Tb	3157a	—
Ce	3110	3110		Na	3152a	3152a		Te	3156	—
Cl^-	3182	1818a		Nb	3137	—		Th	3159	—
Co	3113	3113		Nd	3135a	—		Ti	3162a	3162a
Cr	3112a	1078b		Ni	3136	1065b		Tl	3158	3158
Cs	3111a	—		NO_3^-	3185	—		Tm	3160a	—
Cu	3114	1080a		P	3139a	3139a		U	3164	—
Dy	3115a	—		Pb	3128	3128		V	3165	1052b
Er	3116a	—		Pd	3138	—		W	3163	3163
Eu	3117a	—		PO_4^{-3}	3186	—		Y	3167a	3167a
F^-	3183	—		Pr	3142a	—		Yb	3166a	—
Fe	3126a	1079b		Pt	3140	3140		Zn	3168a	3168a
Ga	3119a	—		Rb	3145a	—		Zr	3169	3169
Gd	3118a	—		Re	3143	—				
Ge	3120a	—		Rh	3144	3144				

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CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

Product #: TA-SPIKE2

Spike Mix # 2

Lot #: 1022516-1

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
Al	1000 ± 5 mg/L	Fe	1000 ± 5 mg/L	Mg	5000 ± 25 mg/L
Ca	5000 ± 25 mg/L	K	5000 ± 25 mg/L	Na	5000 ± 25 mg/L

Source Material Lot# Chart

Element	Source Material Lot#	Element	Source Material Lot#		Source Material Lot#
Al	992545	Fe	1004971	Mg	116835
Ca	150704	K	983959	Na	994710

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see reverse side)**. The solution was stabilized using high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentrations were determined based upon gravimetric procedures. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see reverse side)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

September 6, 2019
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

Reagent

TECHCHLORDANE_00001

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Tel: (800)356-1688
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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

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ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571052-FL **Lot No.:** A0117443

Description : Chlordane Standard

Chlordane Standard 5000 µg/mL, Isooctane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 29, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)		
1	Chlordane		5,002.0 µg/mL	+/-	29.3545	µg/mL	Gravimetric
	CAS # 57-74-9.SEC	(Lot 30912)		+/-	158.5332	µg/mL	Unstressed
	Purity ----%			+/-	207.0971	µg/mL	Stressed

Solvent: Isooctane
CAS # 540-84-1
Purity 99%

TECH
CHLORDANE
1ST

Tech Tips:
CAS #57-74-9 nomenclature is based on EPA method 8081B.

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

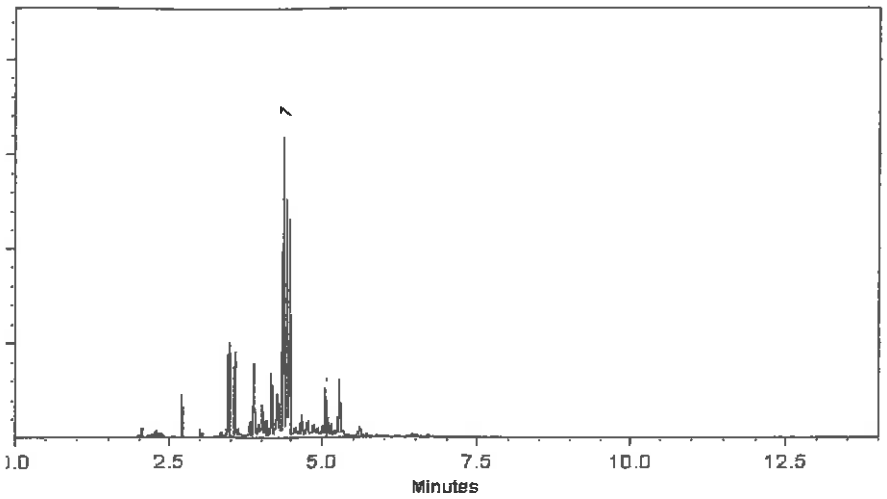

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Brandon Reish - Mix Technician

Date Mixed: 19-Feb-2016 **Balance:** B345965662

Jennifer L. Pollino - QC Analyst

Date Passed: 23-Feb-2016

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

Reagent

TECHCHLORDANE_00002

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited Reference Material Producer Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571052-sl **Lot No.:** A0117232

Description : Chlordane Standard

Chlordane Standard 5000 µg/mL, Isooctane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 29, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Chlordane	5,050.0 µg/mL	+/- 29.6362 µg/mL	Gravimetric
	CAS # 57-74-9.SEC (Lot 30912)		+/- 160.0545 µg/mL	Unstressed
	Purity ----%		+/- 209.0845 µg/mL	Stressed

Solvent: Isooctane
CAS # 540-84-1
Purity 99%

TECH CHLORDANE 2nd

Tech Tips:
CAS #57-74-9 nomenclature is based on EPA method 8081B.

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

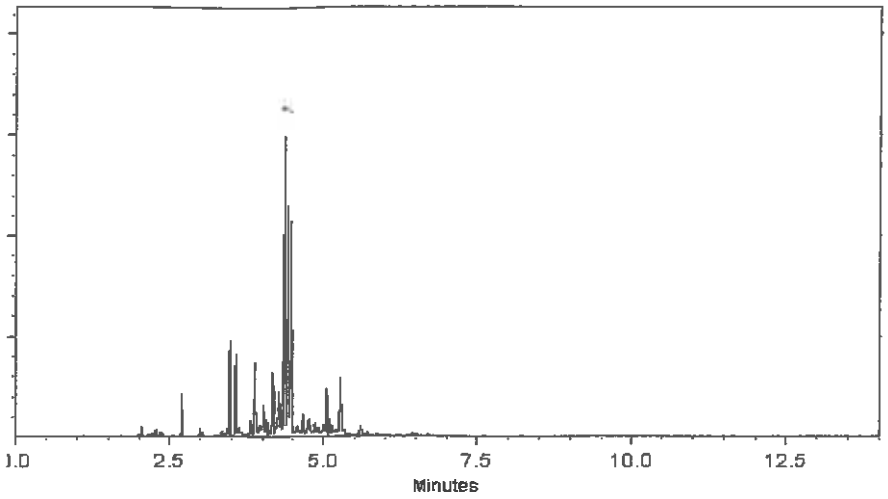

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Brandon Cook - Mix Technician

Date Mixed: 10-Feb-2016 **Balance:** 1128353505

Jennifer L. Pollino - QC Analyst

Date Passed: 23-Feb-2016

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

Reagent

VOA8260GAS1ST_00270

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569722 **Lot No.:** A0143158

Description : 8260 List 1 / Std #3 Gases (2015)

8260 List 1 / Std #3 Gases (2015) 2,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2021 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Dichlorodifluoromethane (CFC-12) **CAS #** 75-71-8 (Lot 00012554) **Purity** 99%	2,500.9 µg/mL	+/- 17.2023 +/- 140.5234 +/- 143.7976	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	Chloromethane (methyl chloride) **CAS #** 74-87-3 (Lot SHBJ6334) **Purity** 99%	2,500.4 µg/mL	+/- 17.0791 +/- 140.4796 +/- 143.7534	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
3	Vinyl chloride **CAS #** 75-01-4 (Lot 00012557) **Purity** 99%	2,500.4 µg/mL	+/- 16.5693 +/- 140.4224 +/- 143.6977	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
4	1,3-Butadiene **CAS #** 106-99-0 (Lot SHBK2299) **Purity** 99%	2,500.1 µg/mL	+/- 17.0785 +/- 140.4623 +/- 143.7357	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
5	Bromomethane (methyl bromide) **CAS #** 74-83-9 (Lot 101604) **Purity** 99%	2,500.9 µg/mL	+/- 16.5511 +/- 140.4457 +/- 143.7217	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
6	Chloroethane (ethyl chloride) **CAS #** 75-00-3 (Lot 107-401039114-1) **Purity** 99%	2,502.0 µg/mL	+/- 16.0409 +/- 140.4480 +/- 143.7268	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
7	Dichlorofluoromethane (CFC-21) **CAS #** 75-43-4 (Lot 7766400) **Purity** 99%	2,500.0 µg/mL	+/- 14.5352 +/- 140.1725 +/- 143.4524	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

8	Trichlorofluoromethane (CFC-11)		2,500.8	µg/mL	+/-	17.8012	µg/mL	Gravimetric
	CAS # 75-69-4	(Lot SHBH4155V)			+/-	140.5946	µg/mL	Unstressed
	Purity 99%				+/-	143.8670	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Tech Tips:
Raw material may contain trace amounts of tert-Butanol.

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD

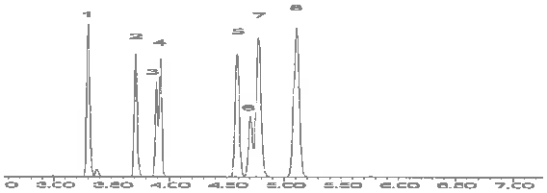

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Joseph Jaglowski - Mix Technician

Date Mixed: 12-Nov-2018 **Balance:** B707717271

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 11-Dec-2018

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

VOA8260GAS1ST_00279

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Tel: (800)356-1688
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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569722 **Lot No.:** A0146651

Description : 8260 List 1 / Std #3 Gases (2015)

8260 List 1 / Std #3 Gases (2015) 2,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2022 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Dichlorodifluoromethane (CFC-12) CAS # 75-71-8 (Lot 00012554) Purity 99%	2,500.2 µg/mL	+/- 19.5056 µg/mL +/- 140.7858 µg/mL +/- 144.0522 µg/mL	Gravimetric Unstressed Stressed
2	Chloromethane (methyl chloride) CAS # 74-87-3 (Lot SHBJ6334) Purity 99%	2,501.5 µg/mL	+/- 20.4136 µg/mL +/- 140.9867 µg/mL +/- 144.2520 µg/mL	Gravimetric Unstressed Stressed
3	Vinyl chloride CAS # 75-01-4 (Lot 00012557) Purity 99%	2,502.6 µg/mL	+/- 19.3699 µg/mL +/- 140.9018 µg/mL +/- 144.1719 µg/mL	Gravimetric Unstressed Stressed
4	1,3-Butadiene CAS # 106-99-0 (Lot SHBK2299) Purity 99%	2,502.4 µg/mL	+/- 21.0409 µg/mL +/- 141.1253 µg/mL +/- 144.3895 µg/mL	Gravimetric Unstressed Stressed
5	Bromomethane (methyl bromide) CAS # 74-83-9 (Lot 101604) Purity 99%	2,501.9 µg/mL	+/- 18.1039 µg/mL +/- 140.6930 µg/mL +/- 143.9660 µg/mL	Gravimetric Unstressed Stressed
6	Chloroethane (ethyl chloride) CAS # 75-00-3 (Lot 107-401039114-1) Purity 99%	2,498.4 µg/mL	+/- 18.1959 µg/mL +/- 140.5102 µg/mL +/- 143.7782 µg/mL	Gravimetric Unstressed Stressed
7	Dichlorofluoromethane (CFC-21) CAS # 75-43-4 (Lot 7978700) Purity 99%	2,500.0 µg/mL	+/- 14.5352 µg/mL +/- 140.1725 µg/mL +/- 143.4524 µg/mL	Gravimetric Unstressed Stressed

8	Trichlorofluoromethane (CFC-11)		2,505.7	µg/mL	+/-	19.3191	µg/mL	Gravimetric
	CAS # 75-69-4	(Lot SHBH4155V)			+/-	141.0656	µg/mL	Unstressed
	Purity 99%				+/-	144.3399	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Tech Tips:
Raw material may contain trace amounts of tert-Butanol.

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD

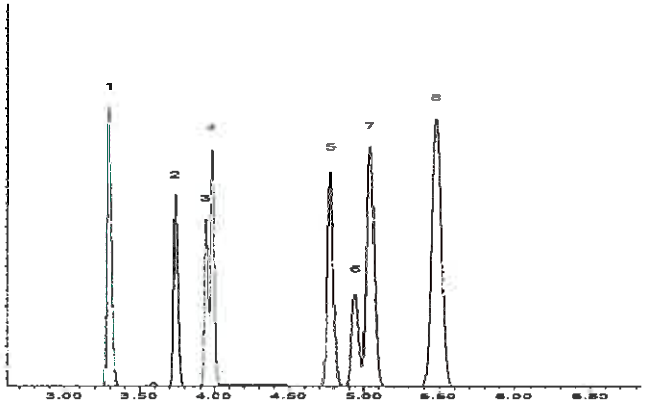

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 05-Mar-2019 **Balance:** B707717271

John Lidgett - AD Chemist

Date Passed: 12-Mar-2019

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

VOA8260GAS2ND_00278

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569722.SEC **Lot No.:** A0147004

Description : 8260 List 1 / Std #3 Gases (2015)

8260 List 1 / Std #3 Gases (2015) 2,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2022 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Dichlorodifluoromethane (CFC-12) **CAS #** 75-71-8.SEC (Lot 25587) **Purity** 99%	2,502.6 µg/mL	+/- 18.1926 µg/mL +/- 140.7448 µg/mL +/- 144.0185 µg/mL	Gravimetric Unstressed Stressed
2	Chloromethane (methyl chloride) **CAS #** 74-87-3.SEC (Lot 18343) **Purity** 99%	2,501.0 µg/mL	+/- 19.9774 µg/mL +/- 140.8939 µg/mL +/- 144.1598 µg/mL	Gravimetric Unstressed Stressed
3	Vinyl chloride **CAS #** 75-01-4.SEC (Lot MKBK6872V) **Purity** 99%	2,504.4 µg/mL	+/- 18.8833 µg/mL +/- 140.9336 µg/mL +/- 144.2075 µg/mL	Gravimetric Unstressed Stressed
4	1,3-Butadiene **CAS #** 106-99-0.SEC (Lot 24033) **Purity** 99%	2,510.8 µg/mL	+/- 17.6771 µg/mL +/- 141.1317 µg/mL +/- 144.4177 µg/mL	Gravimetric Unstressed Stressed
5	Bromomethane (methyl bromide) **CAS #** 74-83-9.SEC (Lot Q119-46) **Purity** 99%	2,504.5 µg/mL	+/- 24.1672 µg/mL +/- 141.7438 µg/mL +/- 144.9997 µg/mL	Gravimetric Unstressed Stressed
6	Chloroethane (ethyl chloride) **CAS #** 75-00-3.SEC (Lot 00004202) **Purity** 99%	2,502.0 µg/mL	+/- 17.7700 µg/mL +/- 140.6543 µg/mL +/- 143.9283 µg/mL	Gravimetric Unstressed Stressed
7	Dichlorofluoromethane (CFC-21) **CAS #** 75-43-4 * **Purity** 99%	2,500.0 µg/mL	+/- 14.5352 µg/mL +/- 140.1725 µg/mL +/- 143.4524 µg/mL	Gravimetric Unstressed Stressed

8	Trichlorofluoromethane (CFC-11)		2,501.8	µg/mL	+/-	18.3807	µg/mL	Gravimetric
	CAS # 75-69-4.SEC	(Lot 253600)			+/-	140.7217	µg/mL	Unstressed
	Purity 99%				+/-	143.9937	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

*** Restek is unable to identify a reliable and/or acceptable second source for this material - the same batch of neat material may have been used to produce both the primary and secondary standard. The primary and secondary standards were prepared using different equipment and personnel.**

Tech Tips:
Raw material may contain trace amounts of tert-Butanol.

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD

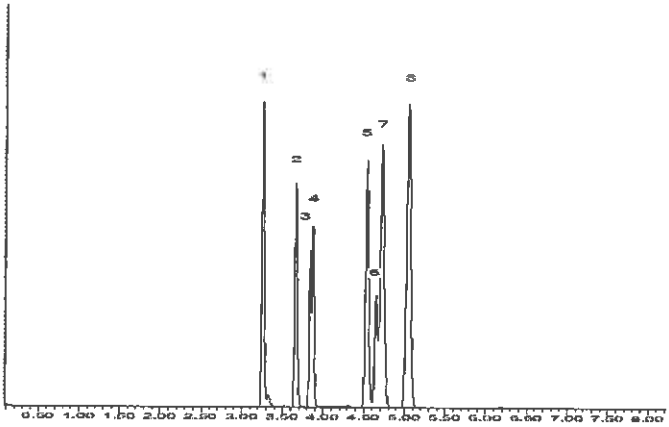

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Brandon Reish - Mix Technician

Date Mixed: 13-Mar-2019 **Balance:** 1127510105

Justine Albertson - Operations Tech-ARM GC

Date Passed: 18-Mar-2019

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

VOA8260INTRES_00147

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited Reference Material Producer Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568718 **Lot No.:** A0133525

Description : 8260 Internal Standard 2014

8260 Internal Standard 2014 250-5,000µg/mL, P&T Methanol/Water (90:10), 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : December 31, 2022 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	tert-Butyl-d9-alcohol **CAS #** 25725-11-5 (Lot CD-107) **Purity** 98%	5,043.8 µg/mL	+/- 29.3235 µg/mL +/- 107.9879 µg/mL +/- 111.1273 µg/mL	Gravimetric Unstressed Stressed
2	2-Butanone-d5 **CAS #** 24313-50-6 (Lot M-276) **Purity** 99%	1,258.0 µg/mL	+/- 7.3141 µg/mL +/- 26.9339 µg/mL +/- 27.7169 µg/mL	Gravimetric Unstressed Stressed
3	Fluorobenzene **CAS #** 462-06-6 (Lot BCBK8171V) **Purity** 99%	251.8 µg/mL	+/- 1.4674 µg/mL +/- 5.3920 µg/mL +/- 5.5487 µg/mL	Gravimetric Unstressed Stressed
4	1,4-Dioxane-d8 **CAS #** 17647-74-4 (Lot I-19942) **Purity** 99%	5,037.4 µg/mL	+/- 29.2862 µg/mL +/- 107.8502 µg/mL +/- 110.9856 µg/mL	Gravimetric Unstressed Stressed
5	Chlorobenzene-d5 **CAS #** 3114-55-4 (Lot PR-22736) **Purity** 99%	251.6 µg/mL	+/- 1.4660 µg/mL +/- 5.3870 µg/mL +/- 5.5435 µg/mL	Gravimetric Unstressed Stressed
6	1,4-Dichlorobenzene-d4 **CAS #** 3855-82-1 (Lot PR-18488) **Purity** 99%	251.4 µg/mL	+/- 1.4652 µg/mL +/- 5.3841 µg/mL +/- 5.5406 µg/mL	Gravimetric Unstressed Stressed

Reagent

VOA8260INTRES_00148

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited Reference Material Producer Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568718 **Lot No.:** A0133525

Description : 8260 Internal Standard 2014

8260 Internal Standard 2014 250-5,000µg/mL, P&T Methanol/Water (90:10), 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : December 31, 2022 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	tert-Butyl-d9-alcohol **CAS #** 25725-11-5 (Lot CD-107) **Purity** 98%	5,043.8 µg/mL	+/- 29.3235 µg/mL +/- 107.9879 µg/mL +/- 111.1273 µg/mL	Gravimetric Unstressed Stressed
2	2-Butanone-d5 **CAS #** 24313-50-6 (Lot M-276) **Purity** 99%	1,258.0 µg/mL	+/- 7.3141 µg/mL +/- 26.9339 µg/mL +/- 27.7169 µg/mL	Gravimetric Unstressed Stressed
3	Fluorobenzene **CAS #** 462-06-6 (Lot BCBK8171V) **Purity** 99%	251.8 µg/mL	+/- 1.4674 µg/mL +/- 5.3920 µg/mL +/- 5.5487 µg/mL	Gravimetric Unstressed Stressed
4	1,4-Dioxane-d8 **CAS #** 17647-74-4 (Lot I-19942) **Purity** 99%	5,037.4 µg/mL	+/- 29.2862 µg/mL +/- 107.8502 µg/mL +/- 110.9856 µg/mL	Gravimetric Unstressed Stressed
5	Chlorobenzene-d5 **CAS #** 3114-55-4 (Lot PR-22736) **Purity** 99%	251.6 µg/mL	+/- 1.4660 µg/mL +/- 5.3870 µg/mL +/- 5.5435 µg/mL	Gravimetric Unstressed Stressed
6	1,4-Dichlorobenzene-d4 **CAS #** 3855-82-1 (Lot PR-18488) **Purity** 99%	251.4 µg/mL	+/- 1.4652 µg/mL +/- 5.3841 µg/mL +/- 5.5406 µg/mL	Gravimetric Unstressed Stressed

Reagent

VOA8260INTRES_00164

RESTEK® CERTIFIED REFERENCE MATERIAL

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Certificate of Analysis

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ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568718 **Lot No.:** A0145169

Description : 8260 Internal Standard 2014

8260 Internal Standard 2014 250-5,000µg/mL, P&T Methanol/Water (90:10), 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : January 31, 2024 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	tert-Butyl-d9-alcohol **CAS #** 25725-11-5 (Lot CD-107) **Purity** 98%	5,044.0 µg/mL	+/- 29.3246 µg/mL +/- 107.9918 µg/mL +/- 111.1314 µg/mL	Gravimetric Unstressed Stressed
2	2-Butanone-d5 **CAS #** 24313-50-6 (Lot M-276) **Purity** 99%	1,254.2 µg/mL	+/- 7.2922 µg/mL +/- 26.8533 µg/mL +/- 27.6340 µg/mL	Gravimetric Unstressed Stressed
3	Fluorobenzene **CAS #** 462-06-6 (Lot BCBK8171V) **Purity** 99%	252.1 µg/mL	+/- 1.4689 µg/mL +/- 5.3977 µg/mL +/- 5.5545 µg/mL	Gravimetric Unstressed Stressed
4	1,4-Dioxane-d8 **CAS #** 17647-74-4 (Lot I-19942) **Purity** 99%	5,027.8 µg/mL	+/- 29.2304 µg/mL +/- 107.6448 µg/mL +/- 110.7743 µg/mL	Gravimetric Unstressed Stressed
5	Chlorobenzene-d5 **CAS #** 3114-55-4 (Lot PR-23926) **Purity** 99%	250.6 µg/mL	+/- 1.4603 µg/mL +/- 5.3661 µg/mL +/- 5.5220 µg/mL	Gravimetric Unstressed Stressed
6	1,4-Dichlorobenzene-d4 **CAS #** 3855-82-1 (Lot PR-18488) **Purity** 99%	251.6 µg/mL	+/- 1.4660 µg/mL +/- 5.3871 µg/mL +/- 5.5436 µg/mL	Gravimetric Unstressed Stressed

Reagent

VOA8260KET1ST_00131

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

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RESTEK CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED ISO 17034 Accredited Reference Material Producer Certificate #3222.01

ilac-MRA

ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569721 **Lot No.:** A0143988

Description : 8260 List 1/ Std #2 Ketones (2015)

8260 List 1/ Std #2 Ketones (2015) 12,500µg/mL, P&T Methanol/Water (90:10), 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : December 31, 2021 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Acetone **CAS #** 67-64-1 **Purity** 99%	(Lot SHBJ7699)	12,500.5 µg/mL	+/- 72.6790 µg/mL +/- 754.2106 µg/mL +/- 756.0012 µg/mL	Gravimetric Unstressed Stressed
2	2-Butanone (MEK) **CAS #** 78-93-3 **Purity** 99%	(Lot SHBF2461V)	12,501.0 µg/mL	+/- 72.6819 µg/mL +/- 754.2407 µg/mL +/- 756.0314 µg/mL	Gravimetric Unstressed Stressed
3	4-Methyl-2-pentanone (MIBK) **CAS #** 108-10-1 **Purity** 99%	(Lot SHBH8930)	12,501.5 µg/mL	+/- 72.6848 µg/mL +/- 754.2709 µg/mL +/- 756.0617 µg/mL	Gravimetric Unstressed Stressed
4	2-Hexanone **CAS #** 591-78-6 **Purity** 99%	(Lot MKCD9048)	12,501.8 µg/mL	+/- 72.6863 µg/mL +/- 754.2860 µg/mL +/- 756.0768 µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol/Water (90:10)
CAS # 67-56-1/7732-18-5
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

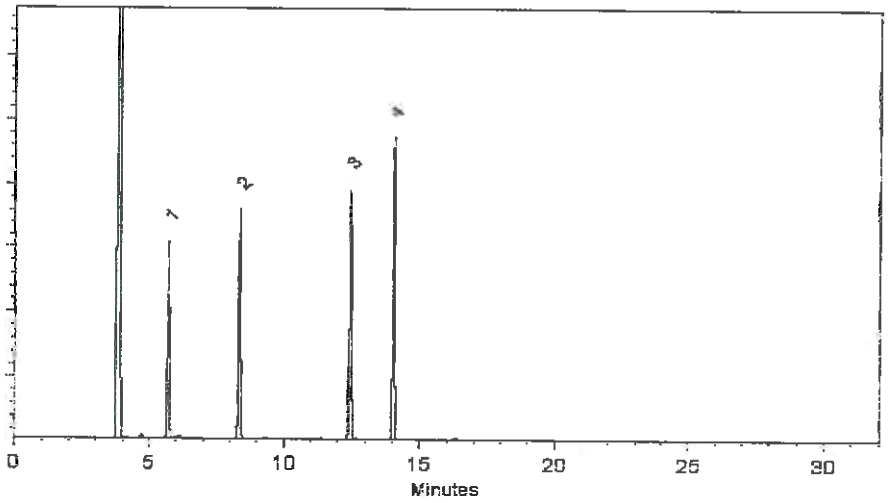

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

F. Joseph Talion - Mix Technician

Date Mixed: 11-Dec-2018 **Balance:** B251644995

Jennifer Pollino
Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 14-Dec-2018

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

VOA8260KET1ST_00133

RESTEK CERTIFIED REFERENCE MATERIAL

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Certificate of Analysis

ACCREDITED
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Certificate #3222.01

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Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569721 **Lot No.:** A0143988

Description : 8260 List 1/ Std #2 Ketones (2015)

8260 List 1/ Std #2 Ketones (2015) 12,500µg/mL, P&T Methanol/Water (90:10), 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : December 31, 2021 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Acetone **CAS #** 67-64-1 **Purity** 99%	(Lot SHBJ7699)	12,500.5 µg/mL	+/- 72.6790 µg/mL +/- 754.2106 µg/mL +/- 756.0012 µg/mL	Gravimetric Unstressed Stressed
2	2-Butanone (MEK) **CAS #** 78-93-3 **Purity** 99%	(Lot SHBF2461V)	12,501.0 µg/mL	+/- 72.6819 µg/mL +/- 754.2407 µg/mL +/- 756.0314 µg/mL	Gravimetric Unstressed Stressed
3	4-Methyl-2-pentanone (MIBK) **CAS #** 108-10-1 **Purity** 99%	(Lot SHBH8930)	12,501.5 µg/mL	+/- 72.6848 µg/mL +/- 754.2709 µg/mL +/- 756.0617 µg/mL	Gravimetric Unstressed Stressed
4	2-Hexanone **CAS #** 591-78-6 **Purity** 99%	(Lot MKCD9048)	12,501.8 µg/mL	+/- 72.6863 µg/mL +/- 754.2860 µg/mL +/- 756.0768 µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol/Water (90:10)
CAS # 67-56-1/7732-18-5
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

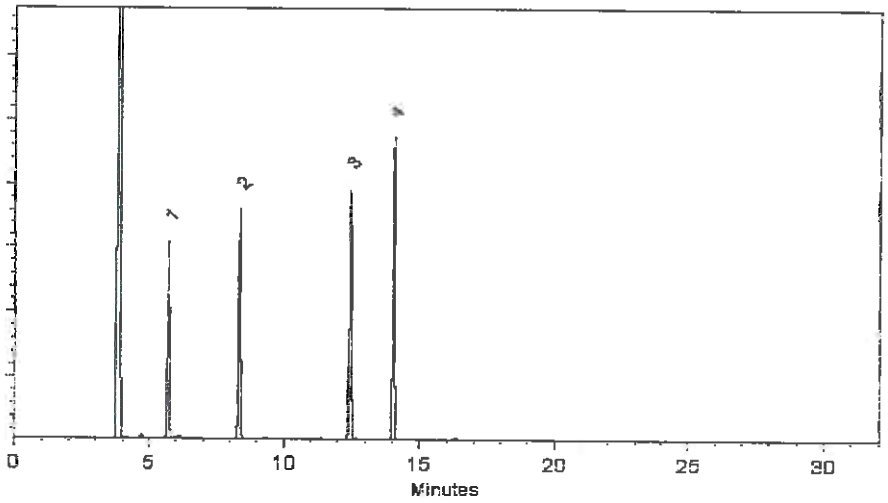

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

P. Joseph Talion - Mix Technician

Date Mixed: 11-Dec-2018 **Balance:** B251644995

Jennifer Pollino
Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 14-Dec-2018

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

VOA8260KET2ND_00119

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569721.SEC **Lot No.:** A0140519

Description : 8260 List 1/ Std #2 Ketones (2015)

8260 List 1/ Std #2 Ketones (2015) 12,500µg/mL, P&T Methanol/Water (90:10), 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2021 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Acetone **CAS #** 67-64-1.SEC (Lot U13B039) **Purity** 99%	12,509.0 µg/mL	+/- 73.2429 µg/mL +/- 754.7732 µg/mL +/- 756.5649 µg/mL	Gravimetric Unstressed Stressed
2	2-Butanone (MEK) **CAS #** 78-93-3.SEC (Lot RGZ2A) **Purity** 99%	12,558.0 µg/mL	+/- 73.5299 µg/mL +/- 757.7297 µg/mL +/- 759.5285 µg/mL	Gravimetric Unstressed Stressed
3	4-Methyl-2-pentanone (MIBK) **CAS #** 108-10-1.SEC (Lot E29T040) **Purity** 99%	12,547.0 µg/mL	+/- 73.4654 µg/mL +/- 757.0660 µg/mL +/- 758.8632 µg/mL	Gravimetric Unstressed Stressed
4	2-Hexanone **CAS #** 591-78-6.SEC (Lot V3NRA) **Purity** 99%	12,561.0 µg/mL	+/- 73.5474 µg/mL +/- 757.9108 µg/mL +/- 759.7099 µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol/Water (90:10)
CAS # 67-56-1/7732-18-5
Purity 99%

Reagent

VOA8260MEGA1_00087

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571992 **Lot No.:** A0143774

Description : 8260 List 1 / Std #1 MegaMix (2017)

8260 List 1 / Std #1 MegaMix (2017) 1,250-62,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2021 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Diethyl ether (ethyl ether) CAS # 60-29-7 (Lot SHBJ5713) Purity 99%	2,500.6 µg/mL	+/- 14.5388	µg/mL	Gravimetric
			+/- 150.8738	µg/mL	Unstressed
			+/- 151.2320	µg/mL	Stressed
2	1,1,2-Trichlorotrifluoroethane (CFC-113) CAS # 76-13-1 (Lot 00009482) Purity 99%	2,501.6 µg/mL	+/- 14.5447	µg/mL	Gravimetric
			+/- 150.9341	µg/mL	Unstressed
			+/- 151.2925	µg/mL	Stressed
3	1,1-dichloroethene CAS # 75-35-4 (Lot SHBG8609V) Purity 99%	2,501.9 µg/mL	+/- 14.5461	µg/mL	Gravimetric
			+/- 150.9492	µg/mL	Unstressed
			+/- 151.3076	µg/mL	Stressed
4	tert-Butanol (TBA) CAS # 75-65-0 (Lot SHBJ9404) Purity 99%	25,008.1 µg/mL	+/- 145.3918	µg/mL	Gravimetric
			+/- 1,508.8503	µg/mL	Unstressed
			+/- 1,512.4325	µg/mL	Stressed
5	Methyl acetate CAS # 79-20-9 (Lot SHBG4345V) Purity 99%	5,000.8 µg/mL	+/- 29.0748	µg/mL	Gravimetric
			+/- 301.7174	µg/mL	Unstressed
			+/- 302.4337	µg/mL	Stressed
6	Iodomethane (methyl iodide) CAS # 74-88-4 (Lot SHBH4362V) Purity 99%	2,500.6 µg/mL	+/- 14.5388	µg/mL	Gravimetric
			+/- 150.8738	µg/mL	Unstressed
			+/- 151.2320	µg/mL	Stressed
7	Allyl chloride (3-chloropropene) CAS # 107-05-1 (Lot WXBB7852V) Purity 99%	2,502.0 µg/mL	+/- 14.5468	µg/mL	Gravimetric
			+/- 150.9567	µg/mL	Unstressed
			+/- 151.3151	µg/mL	Stressed

8	Methylene chloride (dichloromethane) **CAS #** 75-09-2 **Purity** 99%	(Lot SHBK5095)	2,500.8	µg/mL	+/-	14.5396	µg/mL	Gravimetric
					+/-	150.8813	µg/mL	Unstressed
					+/-	151.2395	µg/mL	Stressed
9	Carbon disulfide **CAS #** 75-15-0 **Purity** 99%	(Lot U22D706)	2,501.1	µg/mL	+/-	14.5418	µg/mL	Gravimetric
					+/-	150.9040	µg/mL	Unstressed
					+/-	151.2622	µg/mL	Stressed
10	Acrylonitrile **CAS #** 107-13-1 **Purity** 99%	(Lot R15D047)	25,010.4	µg/mL	+/-	145.4049	µg/mL	Gravimetric
					+/-	1,508.9860	µg/mL	Unstressed
					+/-	1,512.5686	µg/mL	Stressed
11	Methyl-tert-butyl ether (MTBE) **CAS #** 1634-04-4 **Purity** 99%	(Lot SHBH9526)	2,500.3	µg/mL	+/-	14.5367	µg/mL	Gravimetric
					+/-	150.8512	µg/mL	Unstressed
					+/-	151.2093	µg/mL	Stressed
12	cis-1,2-Dichloroethene **CAS #** 156-59-2 **Purity** 99%	(Lot MKBX5945V)	2,501.3	µg/mL	+/-	14.5425	µg/mL	Gravimetric
					+/-	150.9115	µg/mL	Unstressed
					+/-	151.2698	µg/mL	Stressed
13	n-Hexane (C6) **CAS #** 110-54-3 **Purity** 99%	(Lot SHBH8106)	2,500.8	µg/mL	+/-	14.5396	µg/mL	Gravimetric
					+/-	150.8813	µg/mL	Unstressed
					+/-	151.2395	µg/mL	Stressed
14	1,1-Dichloroethane **CAS #** 75-34-3 **Purity** 99%	(Lot 462600)	2,500.4	µg/mL	+/-	14.5374	µg/mL	Gravimetric
					+/-	150.8587	µg/mL	Unstressed
					+/-	151.2169	µg/mL	Stressed
15	2,2-Dichloropropane **CAS #** 594-20-7 **Purity** 99%	(Lot BCBT5124)	2,500.9	µg/mL	+/-	14.5403	µg/mL	Gravimetric
					+/-	150.8889	µg/mL	Unstressed
					+/-	151.2471	µg/mL	Stressed
16	trans-1,2-Dichloroethene **CAS #** 156-60-5 **Purity** 99%	(Lot MKBH9850V)	2,500.3	µg/mL	+/-	14.5367	µg/mL	Gravimetric
					+/-	150.8512	µg/mL	Unstressed
					+/-	151.2093	µg/mL	Stressed
17	Isobutanol (2-Methyl-1-propanol) **CAS #** 78-83-1 **Purity** 99%	(Lot SHBK0551)	62,500.9	µg/mL	+/-	363.3665	µg/mL	Gravimetric
					+/-	3,770.9529	µg/mL	Unstressed
					+/-	3,779.9058	µg/mL	Stressed
18	chloroform **CAS #** 67-66-3 **Purity** 99%	(Lot SHBJ9076)	2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
					+/-	150.8662	µg/mL	Unstressed
					+/-	151.2244	µg/mL	Stressed
19	Bromochloromethane **CAS #** 74-97-5 **Purity** 98%	(Lot 00008541)	2,500.6	µg/mL	+/-	14.5387	µg/mL	Gravimetric
					+/-	150.8718	µg/mL	Unstressed
					+/-	151.2300	µg/mL	Stressed
20	Tetrahydrofuran **CAS #** 109-99-9 **Purity** 99%	(Lot SHBJ6179)	5,000.6	µg/mL	+/-	29.0741	µg/mL	Gravimetric
					+/-	301.7099	µg/mL	Unstressed
					+/-	302.4262	µg/mL	Stressed
21	1,1,1-trichloroethane **CAS #** 71-55-6 **Purity** 99%	(Lot B15W12061)	2,500.8	µg/mL	+/-	14.5396	µg/mL	Gravimetric
					+/-	150.8813	µg/mL	Unstressed
					+/-	151.2395	µg/mL	Stressed
22	Cyclohexane **CAS #** 110-82-7 **Purity** 99%	(Lot MKCC9660)	2,500.9	µg/mL	+/-	14.5403	µg/mL	Gravimetric
					+/-	150.8889	µg/mL	Unstressed
					+/-	151.2471	µg/mL	Stressed
23	1,1-Dichloropropene **CAS #** 563-58-6 **Purity** 99%	(Lot 180531JLM)	2,500.6	µg/mL	+/-	14.5388	µg/mL	Gravimetric
					+/-	150.8738	µg/mL	Unstressed
					+/-	151.2320	µg/mL	Stressed

24	carbon tetrachloride **CAS #** 56-23-5 **Purity** 99%	(Lot SHBJ2110)	2,501.1	µg/mL	+/-	14.5418	µg/mL	Gravimetric
					+/-	150.9040	µg/mL	Unstressed
					+/-	151.2622	µg/mL	Stressed
25	n-Heptane (C7) **CAS #** 142-82-5 **Purity** 99%	(Lot SHBJ2424)	2,501.6	µg/mL	+/-	14.5447	µg/mL	Gravimetric
					+/-	150.9341	µg/mL	Unstressed
					+/-	151.2925	µg/mL	Stressed
26	1,2-Dichloroethane **CAS #** 107-06-2 **Purity** 99%	(Lot SHBJ0707)	2,501.3	µg/mL	+/-	14.5425	µg/mL	Gravimetric
					+/-	150.9115	µg/mL	Unstressed
					+/-	151.2698	µg/mL	Stressed
27	Benzene **CAS #** 71-43-2 **Purity** 99%	(Lot SHBJ5344)	2,500.9	µg/mL	+/-	14.5403	µg/mL	Gravimetric
					+/-	150.8889	µg/mL	Unstressed
					+/-	151.2471	µg/mL	Stressed
28	Trichloroethene **CAS #** 79-01-6 **Purity** 99%	(Lot SHBH1955V)	2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
					+/-	150.8662	µg/mL	Unstressed
					+/-	151.2244	µg/mL	Stressed
29	Methylcyclohexane **CAS #** 108-87-2 **Purity** 99%	(Lot SHBJ0457)	2,501.6	µg/mL	+/-	14.5447	µg/mL	Gravimetric
					+/-	150.9341	µg/mL	Unstressed
					+/-	151.2925	µg/mL	Stressed
30	1,2-Dichloropropane **CAS #** 78-87-5 **Purity** 99%	(Lot BCBR0882V)	2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
					+/-	150.8662	µg/mL	Unstressed
					+/-	151.2244	µg/mL	Stressed
31	1,4-Dioxane **CAS #** 123-91-1 **Purity** 99%	(Lot SHBJ7415)	50,001.1	µg/mL	+/-	290.6957	µg/mL	Gravimetric
					+/-	3,016.7880	µg/mL	Unstressed
					+/-	3,023.9503	µg/mL	Stressed
32	Dibromomethane **CAS #** 74-95-3 **Purity** 99%	(Lot 10201030)	2,502.0	µg/mL	+/-	14.5468	µg/mL	Gravimetric
					+/-	150.9567	µg/mL	Unstressed
					+/-	151.3151	µg/mL	Stressed
33	cis-1,3-Dichloropropene **CAS #** 10061-01-5 **Purity** 99%	(Lot 25076)	2,501.4	µg/mL	+/-	14.5432	µg/mL	Gravimetric
					+/-	150.9190	µg/mL	Unstressed
					+/-	151.2773	µg/mL	Stressed
34	Toluene **CAS #** 108-88-3 **Purity** 99%	(Lot SHBJ5659)	2,500.1	µg/mL	+/-	14.5359	µg/mL	Gravimetric
					+/-	150.8436	µg/mL	Unstressed
					+/-	151.2017	µg/mL	Stressed
35	Ethyl methacrylate **CAS #** 97-63-2 **Purity** 99%	(Lot 69796APV)	2,502.8	µg/mL	+/-	14.5512	µg/mL	Gravimetric
					+/-	151.0020	µg/mL	Unstressed
					+/-	151.3605	µg/mL	Stressed
36	trans-1,3-Dichloropropene **CAS #** 10061-02-6 **Purity** 98%	(Lot C797620)	2,500.6	µg/mL	+/-	14.5387	µg/mL	Gravimetric
					+/-	150.8718	µg/mL	Unstressed
					+/-	151.2300	µg/mL	Stressed
37	1,1,2-Trichloroethane **CAS #** 79-00-5 **Purity** 99%	(Lot FGB01)	2,500.4	µg/mL	+/-	14.5374	µg/mL	Gravimetric
					+/-	150.8587	µg/mL	Unstressed
					+/-	151.2169	µg/mL	Stressed
38	1,3-Dichloropropane **CAS #** 142-28-9 **Purity** 99%	(Lot BCBG2162V)	2,500.9	µg/mL	+/-	14.5403	µg/mL	Gravimetric
					+/-	150.8889	µg/mL	Unstressed
					+/-	151.2471	µg/mL	Stressed
39	Tetrachloroethene **CAS #** 127-18-4 **Purity** 99%	(Lot SHBH9691)	2,501.0	µg/mL	+/-	14.5410	µg/mL	Gravimetric
					+/-	150.8964	µg/mL	Unstressed
					+/-	151.2547	µg/mL	Stressed

40	dibromochloromethane **CAS #** 124-48-1 **Purity** 98%	(Lot MKCC0877)	2,502.4	µg/mL	+/-	14.5493	µg/mL	Gravimetric
					+/-	150.9827	µg/mL	Unstressed
					+/-	151.3411	µg/mL	Stressed
41	1,2-Dibromoethane (EDB) **CAS #** 106-93-4 **Purity** 99%	(Lot BCBH3877V)	2,500.4	µg/mL	+/-	14.5374	µg/mL	Gravimetric
					+/-	150.8587	µg/mL	Unstressed
					+/-	151.2169	µg/mL	Stressed
42	Chlorobenzene **CAS #** 108-90-7 **Purity** 99%	(Lot SHBH4459V)	2,501.1	µg/mL	+/-	14.5418	µg/mL	Gravimetric
					+/-	150.9040	µg/mL	Unstressed
					+/-	151.2622	µg/mL	Stressed
43	m-Xylene **CAS #** 108-38-3 **Purity** 99%	(Lot SHBJ2338)	1,251.5	µg/mL	+/-	7.2763	µg/mL	Gravimetric
					+/-	75.5085	µg/mL	Unstressed
					+/-	75.6878	µg/mL	Stressed
44	p-Xylene **CAS #** 106-42-3 **Purity** 99%	(Lot SHBJ0052)	1,250.1	µg/mL	+/-	7.2683	µg/mL	Gravimetric
					+/-	75.4256	µg/mL	Unstressed
					+/-	75.6047	µg/mL	Stressed
45	Ethylbenzene **CAS #** 100-41-4 **Purity** 99%	(Lot SHBJ3183)	2,500.0	µg/mL	+/-	14.5352	µg/mL	Gravimetric
					+/-	150.8361	µg/mL	Unstressed
					+/-	151.1942	µg/mL	Stressed
46	1,1,1,2-Tetrachloroethane **CAS #** 630-20-6 **Purity** 99%	(Lot MKBS3769V)	2,500.0	µg/mL	+/-	14.5352	µg/mL	Gravimetric
					+/-	150.8361	µg/mL	Unstressed
					+/-	151.1942	µg/mL	Stressed
47	o-Xylene **CAS #** 95-47-6 **Purity** 99%	(Lot SHBH7231)	2,500.8	µg/mL	+/-	14.5396	µg/mL	Gravimetric
					+/-	150.8813	µg/mL	Unstressed
					+/-	151.2395	µg/mL	Stressed
48	Styrene **CAS #** 100-42-5 **Purity** 99%	(Lot MKCC9766)	2,500.0	µg/mL	+/-	14.5352	µg/mL	Gravimetric
					+/-	150.8361	µg/mL	Unstressed
					+/-	151.1942	µg/mL	Stressed
49	Isopropylbenzene (cumene) **CAS #** 98-82-8 **Purity** 99%	(Lot 10185056)	2,500.1	µg/mL	+/-	14.5359	µg/mL	Gravimetric
					+/-	150.8436	µg/mL	Unstressed
					+/-	151.2017	µg/mL	Stressed
50	bromoform **CAS #** 75-25-2 **Purity** 99%	(Lot SHBG3138V)	2,501.0	µg/mL	+/-	14.5410	µg/mL	Gravimetric
					+/-	150.8964	µg/mL	Unstressed
					+/-	151.2547	µg/mL	Stressed
51	bromodichloromethane **CAS #** 75-27-4 **Purity** 99%	(Lot MKCF8470)	2,501.6	µg/mL	+/-	14.5447	µg/mL	Gravimetric
					+/-	150.9341	µg/mL	Unstressed
					+/-	151.2925	µg/mL	Stressed
52	1,1,2,2-Tetrachloroethane **CAS #** 79-34-5 **Purity** 99%	(Lot CFA4D)	2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
					+/-	150.8662	µg/mL	Unstressed
					+/-	151.2244	µg/mL	Stressed
53	1,2,3-Trichloropropane **CAS #** 96-18-4 **Purity** 99%	(Lot BCBH8722V)	2,501.3	µg/mL	+/-	14.5425	µg/mL	Gravimetric
					+/-	150.9115	µg/mL	Unstressed
					+/-	151.2698	µg/mL	Stressed
54	trans-1,4-dichloro-2-butene **CAS #** 110-57-6 **Purity** 94%	(Lot MKBX7788V)	2,500.0	µg/mL	+/-	14.5355	µg/mL	Gravimetric
					+/-	150.8389	µg/mL	Unstressed
					+/-	151.1971	µg/mL	Stressed
55	n-Propylbenzene **CAS #** 103-65-1 **Purity** 99%	(Lot WXBC3346V)	2,500.0	µg/mL	+/-	14.5352	µg/mL	Gravimetric
					+/-	150.8361	µg/mL	Unstressed
					+/-	151.1942	µg/mL	Stressed

56	Bromobenzene		2,500.1	µg/mL	+/-	14.5359	µg/mL	Gravimetric
	CAS # 108-86-1	(Lot WXBC5147V)			+/-	150.8436	µg/mL	Unstressed
	Purity 99%				+/-	151.2017	µg/mL	Stressed
57	1,3,5-Trimethylbenzene		2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
	CAS # 108-67-8	(Lot BCBS7648V)			+/-	150.8662	µg/mL	Unstressed
	Purity 99%				+/-	151.2244	µg/mL	Stressed
58	2-Chlorotoluene		2,500.1	µg/mL	+/-	14.5359	µg/mL	Gravimetric
	CAS # 95-49-8	(Lot MKBW5554V)			+/-	150.8436	µg/mL	Unstressed
	Purity 99%				+/-	151.2017	µg/mL	Stressed
59	4-Chlorotoluene		2,500.9	µg/mL	+/-	14.5403	µg/mL	Gravimetric
	CAS # 106-43-4	(Lot MKBL7753V)			+/-	150.8889	µg/mL	Unstressed
	Purity 99%				+/-	151.2471	µg/mL	Stressed
60	tert-Butylbenzene		2,500.1	µg/mL	+/-	14.5359	µg/mL	Gravimetric
	CAS # 98-06-6	(Lot STBD6954V)			+/-	150.8436	µg/mL	Unstressed
	Purity 99%				+/-	151.2017	µg/mL	Stressed
61	1,2,4-Trimethylbenzene		2,499.9	µg/mL	+/-	14.5348	µg/mL	Gravimetric
	CAS # 95-63-6	(Lot MKBH5027V)			+/-	150.8320	µg/mL	Unstressed
	Purity 97%				+/-	151.1901	µg/mL	Stressed
62	sec-Butylbenzene		2,501.1	µg/mL	+/-	14.5418	µg/mL	Gravimetric
	CAS # 135-98-8	(Lot MKBR9260V)			+/-	150.9040	µg/mL	Unstressed
	Purity 99%				+/-	151.2622	µg/mL	Stressed
63	p-Isopropyltoluene (p-Cymene)		2,501.1	µg/mL	+/-	14.5418	µg/mL	Gravimetric
	CAS # 99-87-6	(Lot MKBV3556V)			+/-	150.9040	µg/mL	Unstressed
	Purity 99%				+/-	151.2622	µg/mL	Stressed
64	1,3-Dichlorobenzene		2,501.4	µg/mL	+/-	14.5432	µg/mL	Gravimetric
	CAS # 541-73-1	(Lot BCBQ7100V)			+/-	150.9190	µg/mL	Unstressed
	Purity 99%				+/-	151.2773	µg/mL	Stressed
65	1,4-Dichlorobenzene		2,501.5	µg/mL	+/-	14.5439	µg/mL	Gravimetric
	CAS # 106-46-7	(Lot MKBS4401V)			+/-	150.9266	µg/mL	Unstressed
	Purity 99%				+/-	151.2849	µg/mL	Stressed
66	n-Butylbenzene		2,501.0	µg/mL	+/-	14.5410	µg/mL	Gravimetric
	CAS # 104-51-8	(Lot 09804AE)			+/-	150.8964	µg/mL	Unstressed
	Purity 99%				+/-	151.2547	µg/mL	Stressed
67	1,2-Dichlorobenzene		2,502.9	µg/mL	+/-	14.5519	µg/mL	Gravimetric
	CAS # 95-50-1	(Lot SHBG3111V)			+/-	151.0095	µg/mL	Unstressed
	Purity 99%				+/-	151.3681	µg/mL	Stressed
68	1,2-Dibromo-3-chloropropane		2,502.0	µg/mL	+/-	14.5468	µg/mL	Gravimetric
	CAS # 96-12-8	(Lot FBL01)			+/-	150.9567	µg/mL	Unstressed
	Purity 99%				+/-	151.3151	µg/mL	Stressed
69	1,2,4-Trichlorobenzene		2,502.1	µg/mL	+/-	14.5476	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBJ9215)			+/-	150.9643	µg/mL	Unstressed
	Purity 99%				+/-	151.3227	µg/mL	Stressed
70	Hexachlorobutadiene		2,501.5	µg/mL	+/-	14.5439	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot J31X013)			+/-	150.9266	µg/mL	Unstressed
	Purity 99%				+/-	151.2849	µg/mL	Stressed
71	Naphthalene		2,502.8	µg/mL	+/-	14.5512	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBZ8680V)			+/-	151.0020	µg/mL	Unstressed
	Purity 99%				+/-	151.3605	µg/mL	Stressed

72	1,2,3-Trichlorobenzene **CAS #** 87-61-6 **Purity** 99%	(Lot MKBX7627V)	2,502.5	µg/mL	+/-	14.5498	µg/mL	Gravimetric
					+/-	150.9869	µg/mL	Unstressed
					+/-	151.3454	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
40°C (hold 6 min.) to 240°C
@ 6°C/min. (hold 10 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD

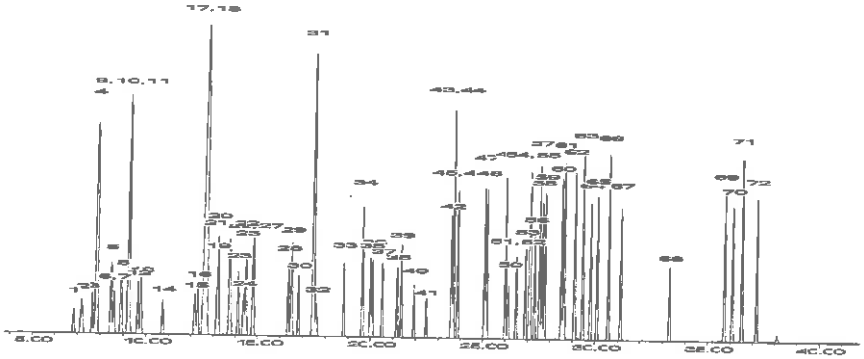

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

F. Joseph Tallon - Mix Technician

Date Mixed: 05-Dec-2018 **Balance:** B251644995

Diane Shaffer - Operations Tech-ARM QC

Date Passed: 21-Dec-2018

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

Reagent

VOA8260MEGA1_00089

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

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RESTEK CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED ISO 17034 Accredited Reference Material Producer Certificate #3222.01

ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571992 **Lot No.:** A0143774

Description : 8260 List 1 / Std #1 MegaMix (2017)

8260 List 1 / Std #1 MegaMix (2017) 1,250-62,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2021 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Diethyl ether (ethyl ether) CAS # 60-29-7 (Lot SHBJ5713) Purity 99%	2,500.6 µg/mL	+/- 14.5388	µg/mL	Gravimetric
			+/- 150.8738	µg/mL	Unstressed
			+/- 151.2320	µg/mL	Stressed
2	1,1,2-Trichlorotrifluoroethane (CFC-113) CAS # 76-13-1 (Lot 00009482) Purity 99%	2,501.6 µg/mL	+/- 14.5447	µg/mL	Gravimetric
			+/- 150.9341	µg/mL	Unstressed
			+/- 151.2925	µg/mL	Stressed
3	1,1-dichloroethene CAS # 75-35-4 (Lot SHBG8609V) Purity 99%	2,501.9 µg/mL	+/- 14.5461	µg/mL	Gravimetric
			+/- 150.9492	µg/mL	Unstressed
			+/- 151.3076	µg/mL	Stressed
4	tert-Butanol (TBA) CAS # 75-65-0 (Lot SHBJ9404) Purity 99%	25,008.1 µg/mL	+/- 145.3918	µg/mL	Gravimetric
			+/- 1,508.8503	µg/mL	Unstressed
			+/- 1,512.4325	µg/mL	Stressed
5	Methyl acetate CAS # 79-20-9 (Lot SHBG4345V) Purity 99%	5,000.8 µg/mL	+/- 29.0748	µg/mL	Gravimetric
			+/- 301.7174	µg/mL	Unstressed
			+/- 302.4337	µg/mL	Stressed
6	Iodomethane (methyl iodide) CAS # 74-88-4 (Lot SHBH4362V) Purity 99%	2,500.6 µg/mL	+/- 14.5388	µg/mL	Gravimetric
			+/- 150.8738	µg/mL	Unstressed
			+/- 151.2320	µg/mL	Stressed
7	Allyl chloride (3-chloropropene) CAS # 107-05-1 (Lot WXBB7852V) Purity 99%	2,502.0 µg/mL	+/- 14.5468	µg/mL	Gravimetric
			+/- 150.9567	µg/mL	Unstressed
			+/- 151.3151	µg/mL	Stressed

8	Methylene chloride (dichloromethane) **CAS #** 75-09-2 **Purity** 99%	(Lot SHBK5095)	2,500.8	µg/mL	+/- +/- +/-	14.5396 150.8813 151.2395	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
9	Carbon disulfide **CAS #** 75-15-0 **Purity** 99%	(Lot U22D706)	2,501.1	µg/mL	+/- +/- +/-	14.5418 150.9040 151.2622	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
10	Acrylonitrile **CAS #** 107-13-1 **Purity** 99%	(Lot R15D047)	25,010.4	µg/mL	+/- +/- +/-	145.4049 1,508.9860 1,512.5686	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
11	Methyl-tert-butyl ether (MTBE) **CAS #** 1634-04-4 **Purity** 99%	(Lot SHBH9526)	2,500.3	µg/mL	+/- +/- +/-	14.5367 150.8512 151.2093	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
12	cis-1,2-Dichloroethene **CAS #** 156-59-2 **Purity** 99%	(Lot MKBX5945V)	2,501.3	µg/mL	+/- +/- +/-	14.5425 150.9115 151.2698	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
13	n-Hexane (C6) **CAS #** 110-54-3 **Purity** 99%	(Lot SHBH8106)	2,500.8	µg/mL	+/- +/- +/-	14.5396 150.8813 151.2395	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
14	1,1-Dichloroethane **CAS #** 75-34-3 **Purity** 99%	(Lot 462600)	2,500.4	µg/mL	+/- +/- +/-	14.5374 150.8587 151.2169	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
15	2,2-Dichloropropane **CAS #** 594-20-7 **Purity** 99%	(Lot BCBT5124)	2,500.9	µg/mL	+/- +/- +/-	14.5403 150.8889 151.2471	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
16	trans-1,2-Dichloroethene **CAS #** 156-60-5 **Purity** 99%	(Lot MKBH9850V)	2,500.3	µg/mL	+/- +/- +/-	14.5367 150.8512 151.2093	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
17	Isobutanol (2-Methyl-1-propanol) **CAS #** 78-83-1 **Purity** 99%	(Lot SHBK0551)	62,500.9	µg/mL	+/- +/- +/-	363.3665 3,770.9529 3,779.9058	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
18	chloroform **CAS #** 67-66-3 **Purity** 99%	(Lot SHBJ9076)	2,500.5	µg/mL	+/- +/- +/-	14.5381 150.8662 151.2244	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
19	Bromochloromethane **CAS #** 74-97-5 **Purity** 98%	(Lot 00008541)	2,500.6	µg/mL	+/- +/- +/-	14.5387 150.8718 151.2300	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
20	Tetrahydrofuran **CAS #** 109-99-9 **Purity** 99%	(Lot SHBJ6179)	5,000.6	µg/mL	+/- +/- +/-	29.0741 301.7099 302.4262	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
21	1,1,1-trichloroethane **CAS #** 71-55-6 **Purity** 99%	(Lot B15W12061)	2,500.8	µg/mL	+/- +/- +/-	14.5396 150.8813 151.2395	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
22	Cyclohexane **CAS #** 110-82-7 **Purity** 99%	(Lot MKCC9660)	2,500.9	µg/mL	+/- +/- +/-	14.5403 150.8889 151.2471	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
23	1,1-Dichloropropene **CAS #** 563-58-6 **Purity** 99%	(Lot 180531JLM)	2,500.6	µg/mL	+/- +/- +/-	14.5388 150.8738 151.2320	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

24	carbon tetrachloride **CAS #** 56-23-5 **Purity** 99%	(Lot SHBJ2110)	2,501.1	µg/mL	+/-	14.5418	µg/mL	Gravimetric
					+/-	150.9040	µg/mL	Unstressed
					+/-	151.2622	µg/mL	Stressed
25	n-Heptane (C7) **CAS #** 142-82-5 **Purity** 99%	(Lot SHBJ2424)	2,501.6	µg/mL	+/-	14.5447	µg/mL	Gravimetric
					+/-	150.9341	µg/mL	Unstressed
					+/-	151.2925	µg/mL	Stressed
26	1,2-Dichloroethane **CAS #** 107-06-2 **Purity** 99%	(Lot SHBJ0707)	2,501.3	µg/mL	+/-	14.5425	µg/mL	Gravimetric
					+/-	150.9115	µg/mL	Unstressed
					+/-	151.2698	µg/mL	Stressed
27	Benzene **CAS #** 71-43-2 **Purity** 99%	(Lot SHBJ5344)	2,500.9	µg/mL	+/-	14.5403	µg/mL	Gravimetric
					+/-	150.8889	µg/mL	Unstressed
					+/-	151.2471	µg/mL	Stressed
28	Trichloroethene **CAS #** 79-01-6 **Purity** 99%	(Lot SHBH1955V)	2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
					+/-	150.8662	µg/mL	Unstressed
					+/-	151.2244	µg/mL	Stressed
29	Methylcyclohexane **CAS #** 108-87-2 **Purity** 99%	(Lot SHBJ0457)	2,501.6	µg/mL	+/-	14.5447	µg/mL	Gravimetric
					+/-	150.9341	µg/mL	Unstressed
					+/-	151.2925	µg/mL	Stressed
30	1,2-Dichloropropane **CAS #** 78-87-5 **Purity** 99%	(Lot BCBR0882V)	2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
					+/-	150.8662	µg/mL	Unstressed
					+/-	151.2244	µg/mL	Stressed
31	1,4-Dioxane **CAS #** 123-91-1 **Purity** 99%	(Lot SHBJ7415)	50,001.1	µg/mL	+/-	290.6957	µg/mL	Gravimetric
					+/-	3,016.7880	µg/mL	Unstressed
					+/-	3,023.9503	µg/mL	Stressed
32	Dibromomethane **CAS #** 74-95-3 **Purity** 99%	(Lot 10201030)	2,502.0	µg/mL	+/-	14.5468	µg/mL	Gravimetric
					+/-	150.9567	µg/mL	Unstressed
					+/-	151.3151	µg/mL	Stressed
33	cis-1,3-Dichloropropene **CAS #** 10061-01-5 **Purity** 99%	(Lot 25076)	2,501.4	µg/mL	+/-	14.5432	µg/mL	Gravimetric
					+/-	150.9190	µg/mL	Unstressed
					+/-	151.2773	µg/mL	Stressed
34	Toluene **CAS #** 108-88-3 **Purity** 99%	(Lot SHBJ5659)	2,500.1	µg/mL	+/-	14.5359	µg/mL	Gravimetric
					+/-	150.8436	µg/mL	Unstressed
					+/-	151.2017	µg/mL	Stressed
35	Ethyl methacrylate **CAS #** 97-63-2 **Purity** 99%	(Lot 69796APV)	2,502.8	µg/mL	+/-	14.5512	µg/mL	Gravimetric
					+/-	151.0020	µg/mL	Unstressed
					+/-	151.3605	µg/mL	Stressed
36	trans-1,3-Dichloropropene **CAS #** 10061-02-6 **Purity** 98%	(Lot C797620)	2,500.6	µg/mL	+/-	14.5387	µg/mL	Gravimetric
					+/-	150.8718	µg/mL	Unstressed
					+/-	151.2300	µg/mL	Stressed
37	1,1,2-Trichloroethane **CAS #** 79-00-5 **Purity** 99%	(Lot FGB01)	2,500.4	µg/mL	+/-	14.5374	µg/mL	Gravimetric
					+/-	150.8587	µg/mL	Unstressed
					+/-	151.2169	µg/mL	Stressed
38	1,3-Dichloropropane **CAS #** 142-28-9 **Purity** 99%	(Lot BCBG2162V)	2,500.9	µg/mL	+/-	14.5403	µg/mL	Gravimetric
					+/-	150.8889	µg/mL	Unstressed
					+/-	151.2471	µg/mL	Stressed
39	Tetrachloroethene **CAS #** 127-18-4 **Purity** 99%	(Lot SHBH9691)	2,501.0	µg/mL	+/-	14.5410	µg/mL	Gravimetric
					+/-	150.8964	µg/mL	Unstressed
					+/-	151.2547	µg/mL	Stressed

40	dibromochloromethane **CAS #** 124-48-1 **Purity** 98%	(Lot MKCC0877)	2,502.4	µg/mL	+/-	14.5493	µg/mL	Gravimetric
					+/-	150.9827	µg/mL	Unstressed
					+/-	151.3411	µg/mL	Stressed
41	1,2-Dibromoethane (EDB) **CAS #** 106-93-4 **Purity** 99%	(Lot BCBH3877V)	2,500.4	µg/mL	+/-	14.5374	µg/mL	Gravimetric
					+/-	150.8587	µg/mL	Unstressed
					+/-	151.2169	µg/mL	Stressed
42	Chlorobenzene **CAS #** 108-90-7 **Purity** 99%	(Lot SHBH4459V)	2,501.1	µg/mL	+/-	14.5418	µg/mL	Gravimetric
					+/-	150.9040	µg/mL	Unstressed
					+/-	151.2622	µg/mL	Stressed
43	m-Xylene **CAS #** 108-38-3 **Purity** 99%	(Lot SHBJ2338)	1,251.5	µg/mL	+/-	7.2763	µg/mL	Gravimetric
					+/-	75.5085	µg/mL	Unstressed
					+/-	75.6878	µg/mL	Stressed
44	p-Xylene **CAS #** 106-42-3 **Purity** 99%	(Lot SHBJ0052)	1,250.1	µg/mL	+/-	7.2683	µg/mL	Gravimetric
					+/-	75.4256	µg/mL	Unstressed
					+/-	75.6047	µg/mL	Stressed
45	Ethylbenzene **CAS #** 100-41-4 **Purity** 99%	(Lot SHBJ3183)	2,500.0	µg/mL	+/-	14.5352	µg/mL	Gravimetric
					+/-	150.8361	µg/mL	Unstressed
					+/-	151.1942	µg/mL	Stressed
46	1,1,1,2-Tetrachloroethane **CAS #** 630-20-6 **Purity** 99%	(Lot MKBS3769V)	2,500.0	µg/mL	+/-	14.5352	µg/mL	Gravimetric
					+/-	150.8361	µg/mL	Unstressed
					+/-	151.1942	µg/mL	Stressed
47	o-Xylene **CAS #** 95-47-6 **Purity** 99%	(Lot SHBH7231)	2,500.8	µg/mL	+/-	14.5396	µg/mL	Gravimetric
					+/-	150.8813	µg/mL	Unstressed
					+/-	151.2395	µg/mL	Stressed
48	Styrene **CAS #** 100-42-5 **Purity** 99%	(Lot MKCC9766)	2,500.0	µg/mL	+/-	14.5352	µg/mL	Gravimetric
					+/-	150.8361	µg/mL	Unstressed
					+/-	151.1942	µg/mL	Stressed
49	Isopropylbenzene (cumene) **CAS #** 98-82-8 **Purity** 99%	(Lot 10185056)	2,500.1	µg/mL	+/-	14.5359	µg/mL	Gravimetric
					+/-	150.8436	µg/mL	Unstressed
					+/-	151.2017	µg/mL	Stressed
50	bromoform **CAS #** 75-25-2 **Purity** 99%	(Lot SHBG3138V)	2,501.0	µg/mL	+/-	14.5410	µg/mL	Gravimetric
					+/-	150.8964	µg/mL	Unstressed
					+/-	151.2547	µg/mL	Stressed
51	bromodichloromethane **CAS #** 75-27-4 **Purity** 99%	(Lot MKCF8470)	2,501.6	µg/mL	+/-	14.5447	µg/mL	Gravimetric
					+/-	150.9341	µg/mL	Unstressed
					+/-	151.2925	µg/mL	Stressed
52	1,1,2,2-Tetrachloroethane **CAS #** 79-34-5 **Purity** 99%	(Lot CFA4D)	2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
					+/-	150.8662	µg/mL	Unstressed
					+/-	151.2244	µg/mL	Stressed
53	1,2,3-Trichloropropane **CAS #** 96-18-4 **Purity** 99%	(Lot BCBH8722V)	2,501.3	µg/mL	+/-	14.5425	µg/mL	Gravimetric
					+/-	150.9115	µg/mL	Unstressed
					+/-	151.2698	µg/mL	Stressed
54	trans-1,4-dichloro-2-butene **CAS #** 110-57-6 **Purity** 94%	(Lot MKBX7788V)	2,500.0	µg/mL	+/-	14.5355	µg/mL	Gravimetric
					+/-	150.8389	µg/mL	Unstressed
					+/-	151.1971	µg/mL	Stressed
55	n-Propylbenzene **CAS #** 103-65-1 **Purity** 99%	(Lot WXBC3346V)	2,500.0	µg/mL	+/-	14.5352	µg/mL	Gravimetric
					+/-	150.8361	µg/mL	Unstressed
					+/-	151.1942	µg/mL	Stressed

56	Bromobenzene **CAS #** 108-86-1 **Purity** 99%	(Lot WXBC5147V)	2,500.1	µg/mL	+/- +/- +/-	14.5359 150.8436 151.2017	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
57	1,3,5-Trimethylbenzene **CAS #** 108-67-8 **Purity** 99%	(Lot BCBS7648V)	2,500.5	µg/mL	+/- +/- +/-	14.5381 150.8662 151.2244	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
58	2-Chlorotoluene **CAS #** 95-49-8 **Purity** 99%	(Lot MKBW5554V)	2,500.1	µg/mL	+/- +/- +/-	14.5359 150.8436 151.2017	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
59	4-Chlorotoluene **CAS #** 106-43-4 **Purity** 99%	(Lot MKBL7753V)	2,500.9	µg/mL	+/- +/- +/-	14.5403 150.8889 151.2471	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
60	tert-Butylbenzene **CAS #** 98-06-6 **Purity** 99%	(Lot STBD6954V)	2,500.1	µg/mL	+/- +/- +/-	14.5359 150.8436 151.2017	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
61	1,2,4-Trimethylbenzene **CAS #** 95-63-6 **Purity** 97%	(Lot MKBH5027V)	2,499.9	µg/mL	+/- +/- +/-	14.5348 150.8320 151.1901	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
62	sec-Butylbenzene **CAS #** 135-98-8 **Purity** 99%	(Lot MKBR9260V)	2,501.1	µg/mL	+/- +/- +/-	14.5418 150.9040 151.2622	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
63	p-Isopropyltoluene (p-Cymene) **CAS #** 99-87-6 **Purity** 99%	(Lot MKBV3556V)	2,501.1	µg/mL	+/- +/- +/-	14.5418 150.9040 151.2622	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
64	1,3-Dichlorobenzene **CAS #** 541-73-1 **Purity** 99%	(Lot BCBQ7100V)	2,501.4	µg/mL	+/- +/- +/-	14.5432 150.9190 151.2773	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
65	1,4-Dichlorobenzene **CAS #** 106-46-7 **Purity** 99%	(Lot MKBS4401V)	2,501.5	µg/mL	+/- +/- +/-	14.5439 150.9266 151.2849	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
66	n-Butylbenzene **CAS #** 104-51-8 **Purity** 99%	(Lot 09804AE)	2,501.0	µg/mL	+/- +/- +/-	14.5410 150.8964 151.2547	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
67	1,2-Dichlorobenzene **CAS #** 95-50-1 **Purity** 99%	(Lot SHBG3111V)	2,502.9	µg/mL	+/- +/- +/-	14.5519 151.0095 151.3681	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
68	1,2-Dibromo-3-chloropropane **CAS #** 96-12-8 **Purity** 99%	(Lot FBL01)	2,502.0	µg/mL	+/- +/- +/-	14.5468 150.9567 151.3151	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
69	1,2,4-Trichlorobenzene **CAS #** 120-82-1 **Purity** 99%	(Lot SHBJ9215)	2,502.1	µg/mL	+/- +/- +/-	14.5476 150.9643 151.3227	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
70	Hexachlorobutadiene **CAS #** 87-68-3 **Purity** 99%	(Lot J31X013)	2,501.5	µg/mL	+/- +/- +/-	14.5439 150.9266 151.2849	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
71	Naphthalene **CAS #** 91-20-3 **Purity** 99%	(Lot MKBZ8680V)	2,502.8	µg/mL	+/- +/- +/-	14.5512 151.0020 151.3605	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

72	1,2,3-Trichlorobenzene **CAS #** 87-61-6 **Purity** 99%	(Lot MKBX7627V)	2,502.5	µg/mL	+/-	14.5498	µg/mL	Gravimetric
					+/-	150.9869	µg/mL	Unstressed
					+/-	151.3454	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
40°C (hold 6 min.) to 240°C
@ 6°C/min. (hold 10 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD

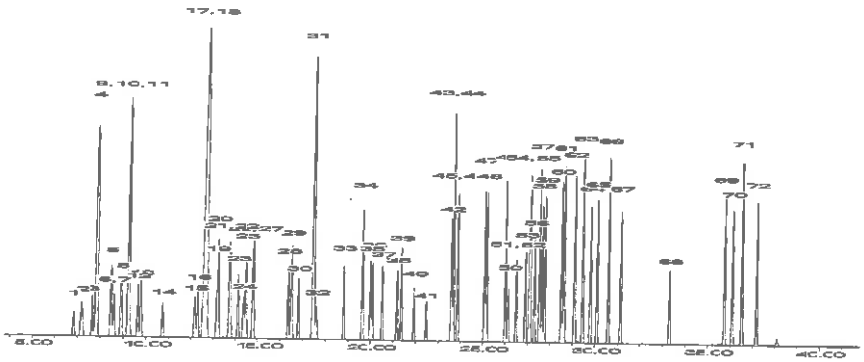

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

F. Joseph Tallon - Mix Technician

Date Mixed: 05-Dec-2018 **Balance:** B251644995

Diane Shaffer - Operations Tech-ARM QC

Date Passed: 21-Dec-2018

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

Reagent

VOA8260MEGA2_00087

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #2222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #2222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571992.SEC **Lot No.:** A0144202

Description : 8260 List 1 / Std #1 MegaMix (2017)

8260 List 1 / Std #1 MegaMix (2017) 1,250-62,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2021 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Diethyl ether (ethyl ether) **CAS #** 60-29-7.SEC (Lot F23X068) **Purity** 98%	2,517.0 µg/mL	+/- 14.6339 +/- 151.8598 +/- 152.2203	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	1,1,2-Trichlorotrifluoroethane (CFC-113) **CAS #** 76-13-1.SEC (Lot 18342) **Purity** 99%	2,506.7 µg/mL	+/- 14.5740 +/- 151.2383 +/- 151.5974	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
3	1,1-Dichloroethene **CAS #** 75-35-4.SEC (Lot 7692300) **Purity** 99%	2,503.3 µg/mL	+/- 14.5546 +/- 151.0372 +/- 151.3958	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
4	tert-Butanol (TBA) **CAS #** 75-65-0.SEC (Lot XYXDO) **Purity** 98%	25,000.8 µg/mL	+/- 145.3491 +/- 1,508.4071 +/- 1,511.9883	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
5	Methyl acetate **CAS #** 79-20-9.SEC (Lot UCNEL) **Purity** 99%	5,002.3 µg/mL	+/- 29.0840 +/- 301.8129 +/- 302.5295	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
6	Iodomethane (methyl iodide) **CAS #** 74-88-4.SEC (Lot Y25A027) **Purity** 99%	2,503.5 µg/mL	+/- 14.5556 +/- 151.0472 +/- 151.4059	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
7	Allyl chloride (3-chloropropene) **CAS #** 107-05-1.SEC (Lot H3HGC) **Purity** 99%	2,511.7 µg/mL	+/- 14.6030 +/- 151.5400 +/- 151.8998	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

8	Methylene chloride (dichloromethane) **CAS #** 75-09-2.SEC **Purity** 99%	(Lot FGM02)	2,506.7	µg/mL	+/-	14.5740	µg/mL	Gravimetric
					+/-	151.2383	µg/mL	Unstressed
					+/-	151.5974	µg/mL	Stressed
9	Carbon disulfide **CAS #** 75-15-0.SEC **Purity** 99%	(Lot MKBL1376V)	2,500.7	µg/mL	+/-	14.5391	µg/mL	Gravimetric
					+/-	150.8763	µg/mL	Unstressed
					+/-	151.2345	µg/mL	Stressed
10	Acrylonitrile **CAS #** 107-13-1.SEC **Purity** 99%	(Lot UERIL)	25,001.2	µg/mL	+/-	145.3513	µg/mL	Gravimetric
					+/-	1,508.4304	µg/mL	Unstressed
					+/-	1,512.0117	µg/mL	Stressed
11	Methyl-tert-butyl ether (MTBE) **CAS #** 1634-04-4.SEC **Purity** 99%	(Lot ZHKYA)	2,501.5	µg/mL	+/-	14.5439	µg/mL	Gravimetric
					+/-	150.9266	µg/mL	Unstressed
					+/-	151.2849	µg/mL	Stressed
12	cis-1,2-Dichloroethene **CAS #** 156-59-2.SEC **Purity** 98%	(Lot HGC01-BLKT)	2,501.3	µg/mL	+/-	14.5427	µg/mL	Gravimetric
					+/-	150.9137	µg/mL	Unstressed
					+/-	151.2720	µg/mL	Stressed
13	n-Hexane (C6) **CAS #** 110-54-3.SEC **Purity** 97%	(Lot K24W001)	2,503.2	µg/mL	+/-	14.5541	µg/mL	Gravimetric
					+/-	151.0320	µg/mL	Unstressed
					+/-	151.3905	µg/mL	Stressed
14	1,1-Dichloroethane **CAS #** 75-34-3.SEC **Purity** 99%	(Lot 5379000)	2,502.0	µg/mL	+/-	14.5468	µg/mL	Gravimetric
					+/-	150.9567	µg/mL	Unstressed
					+/-	151.3151	µg/mL	Stressed
15	2,2-Dichloropropane **CAS #** 594-20-7.SEC **Purity** 98%	(Lot I7E8E)	2,503.2	µg/mL	+/-	14.5541	µg/mL	Gravimetric
					+/-	151.0320	µg/mL	Unstressed
					+/-	151.3905	µg/mL	Stressed
16	trans-1,2-Dichloroethene **CAS #** 156-60-5.SEC **Purity** 97%	(Lot TS5UB)	2,501.0	µg/mL	+/-	14.5409	µg/mL	Gravimetric
					+/-	150.8954	µg/mL	Unstressed
					+/-	151.2537	µg/mL	Stressed
17	Isobutanol (2-Methyl-1-propanol) **CAS #** 78-83-1.SEC **Purity** 99%	(Lot PH2XK)	62,508.3	µg/mL	+/-	363.4098	µg/mL	Gravimetric
					+/-	3,771.4029	µg/mL	Unstressed
					+/-	3,780.3569	µg/mL	Stressed
18	Chloroform **CAS #** 67-66-3.SEC **Purity** 99%	(Lot 1297547)	2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
					+/-	150.8662	µg/mL	Unstressed
					+/-	151.2244	µg/mL	Stressed
19	Bromochloromethane **CAS #** 74-97-5.SEC **Purity** 99%	(Lot 5670200)	2,507.0	µg/mL	+/-	14.5759	µg/mL	Gravimetric
					+/-	151.2584	µg/mL	Unstressed
					+/-	151.6175	µg/mL	Stressed
20	Tetrahydrofuran **CAS #** 109-99-9.SEC **Purity** 99%	(Lot 8DAOJ)	5,006.7	µg/mL	+/-	29.1092	µg/mL	Gravimetric
					+/-	302.0744	µg/mL	Unstressed
					+/-	302.7916	µg/mL	Stressed
21	1,1,1-Trichloroethane **CAS #** 71-55-6.SEC **Purity** 99%	(Lot 7998000)	2,507.7	µg/mL	+/-	14.5798	µg/mL	Gravimetric
					+/-	151.2986	µg/mL	Unstressed
					+/-	151.6579	µg/mL	Stressed
22	Cyclohexane **CAS #** 110-82-7.SEC **Purity** 99%	(Lot YADRA)	2,508.0	µg/mL	+/-	14.5817	µg/mL	Gravimetric
					+/-	151.3188	µg/mL	Unstressed
					+/-	151.6780	µg/mL	Stressed
23	1,1-Dichloropropene **CAS #** 563-58-6.SEC **Purity** 96%	(Lot 5221100)	2,502.4	µg/mL	+/-	14.5492	µg/mL	Gravimetric
					+/-	150.9809	µg/mL	Unstressed
					+/-	151.3393	µg/mL	Stressed

24	Carbon tetrachloride **CAS #** 56-23-5.SEC **Purity** 99%	(Lot 11466)	2,510.3	µg/mL	+/-	14.5953	µg/mL	Gravimetric
					+/-	151.4595	µg/mL	Unstressed
					+/-	151.8191	µg/mL	Stressed
25	n-Heptane (C7) **CAS #** 142-82-5.SEC **Purity** 99%	(Lot TFHUC)	2,511.8	µg/mL	+/-	14.6040	µg/mL	Gravimetric
					+/-	151.5500	µg/mL	Unstressed
					+/-	151.9098	µg/mL	Stressed
26	1,2-Dichloroethane **CAS #** 107-06-2.SEC **Purity** 99%	(Lot FO6PK)	2,501.3	µg/mL	+/-	14.5430	µg/mL	Gravimetric
					+/-	150.9165	µg/mL	Unstressed
					+/-	151.2748	µg/mL	Stressed
27	Benzene **CAS #** 71-43-2.SEC **Purity** 99%	(Lot B28Y008)	2,504.8	µg/mL	+/-	14.5633	µg/mL	Gravimetric
					+/-	151.1277	µg/mL	Unstressed
					+/-	151.4865	µg/mL	Stressed
28	Trichloroethene **CAS #** 79-01-6.SEC **Purity** 99%	(Lot H04X050)	2,508.7	µg/mL	+/-	14.5856	µg/mL	Gravimetric
					+/-	151.3590	µg/mL	Unstressed
					+/-	151.7183	µg/mL	Stressed
29	Methylcyclohexane **CAS #** 108-87-2.SEC **Purity** 99%	(Lot Q02QG)	2,504.5	µg/mL	+/-	14.5614	µg/mL	Gravimetric
					+/-	151.1076	µg/mL	Unstressed
					+/-	151.4663	µg/mL	Stressed
30	1,2-Dichloropropane **CAS #** 78-87-5.SEC **Purity** 99%	(Lot ERRBI-RH)	2,504.0	µg/mL	+/-	14.5585	µg/mL	Gravimetric
					+/-	151.0774	µg/mL	Unstressed
					+/-	151.4361	µg/mL	Stressed
31	1,4-Dioxane **CAS #** 123-91-1.SEC **Purity** 99%	(Lot YVP2C)	50,008.0	µg/mL	+/-	290.7356	µg/mL	Gravimetric
					+/-	3,017.2028	µg/mL	Unstressed
					+/-	3,024.3661	µg/mL	Stressed
32	Dibromomethane **CAS #** 74-95-3.SEC **Purity** 99%	(Lot FGI01-OICH)	2,509.5	µg/mL	+/-	14.5904	µg/mL	Gravimetric
					+/-	151.4093	µg/mL	Unstressed
					+/-	151.7687	µg/mL	Stressed
33	cis-1,3-Dichloropropene **CAS #** 10061-01-5.SEC **Purity** 99%	(Lot 487OA)	2,502.0	µg/mL	+/-	14.5468	µg/mL	Gravimetric
					+/-	150.9567	µg/mL	Unstressed
					+/-	151.3151	µg/mL	Stressed
34	Toluene **CAS #** 108-88-3.SEC **Purity** 99%	(Lot YND2B-BD)	2,501.5	µg/mL	+/-	14.5439	µg/mL	Gravimetric
					+/-	150.9266	µg/mL	Unstressed
					+/-	151.2849	µg/mL	Stressed
35	Ethyl methacrylate **CAS #** 97-63-2.SEC **Purity** 99%	(Lot MLWYK-LS)	2,508.8	µg/mL	+/-	14.5866	µg/mL	Gravimetric
					+/-	151.3690	µg/mL	Unstressed
					+/-	151.7284	µg/mL	Stressed
36	trans-1,3-Dichloropropene **CAS #** 10061-02-6.SEC **Purity** 96%	(Lot ZDMSL)	2,502.9	µg/mL	+/-	14.5520	µg/mL	Gravimetric
					+/-	151.0098	µg/mL	Unstressed
					+/-	151.3684	µg/mL	Stressed
37	1,1,2-Trichloroethane **CAS #** 79-00-5.SEC **Purity** 99%	(Lot 7871500)	2,502.5	µg/mL	+/-	14.5498	µg/mL	Gravimetric
					+/-	150.9869	µg/mL	Unstressed
					+/-	151.3454	µg/mL	Stressed
38	1,3-Dichloropropane **CAS #** 142-28-9.SEC **Purity** 99%	(Lot AGN01-EFPC)	2,502.7	µg/mL	+/-	14.5507	µg/mL	Gravimetric
					+/-	150.9970	µg/mL	Unstressed
					+/-	151.3555	µg/mL	Stressed
39	Tetrachloroethene **CAS #** 127-18-4.SEC **Purity** 99%	(Lot F09W014)	2,505.0	µg/mL	+/-	14.5643	µg/mL	Gravimetric
					+/-	151.1378	µg/mL	Unstressed
					+/-	151.4966	µg/mL	Stressed

40	Dibromochloromethane **CAS #** 124-48-1.SEC **Purity** 97%	(Lot 10206360)	2,502.4	µg/mL	+/-	14.5494	µg/mL	Gravimetric
					+/-	150.9832	µg/mL	Unstressed
					+/-	151.3417	µg/mL	Stressed
41	1,2-Dibromoethane (EDB) **CAS #** 106-93-4.SEC **Purity** 99%	(Lot 3505900)	2,503.3	µg/mL	+/-	14.5546	µg/mL	Gravimetric
					+/-	151.0372	µg/mL	Unstressed
					+/-	151.3958	µg/mL	Stressed
42	Chlorobenzene **CAS #** 108-90-7.SEC **Purity** 99%	(Lot 1161936)	2,504.8	µg/mL	+/-	14.5633	µg/mL	Gravimetric
					+/-	151.1277	µg/mL	Unstressed
					+/-	151.4865	µg/mL	Stressed
43	m-Xylene **CAS #** 108-38-3.SEC **Purity** 99%	(Lot OUKMG-GB)	1,251.7	µg/mL	+/-	7.2941	µg/mL	Gravimetric
					+/-	75.5202	µg/mL	Unstressed
					+/-	75.6995	µg/mL	Stressed
44	p-Xylene **CAS #** 106-42-3.SEC **Purity** 99%	(Lot GM01)	1,253.7	µg/mL	+/-	7.3058	µg/mL	Gravimetric
					+/-	75.6409	µg/mL	Unstressed
					+/-	75.8205	µg/mL	Stressed
45	Ethylbenzene **CAS #** 100-41-4.SEC **Purity** 99%	(Lot PI4SE)	2,503.5	µg/mL	+/-	14.5556	µg/mL	Gravimetric
					+/-	151.0472	µg/mL	Unstressed
					+/-	151.4059	µg/mL	Stressed
46	1,1,1,2-Tetrachloroethane **CAS #** 630-20-6.SEC **Purity** 99%	(Lot GC01)	2,506.7	µg/mL	+/-	14.5740	µg/mL	Gravimetric
					+/-	151.2383	µg/mL	Unstressed
					+/-	151.5974	µg/mL	Stressed
47	o-Xylene **CAS #** 95-47-6.SEC **Purity** 99%	(Lot FGL01)	2,504.2	µg/mL	+/-	14.5594	µg/mL	Gravimetric
					+/-	151.0875	µg/mL	Unstressed
					+/-	151.4462	µg/mL	Stressed
48	Styrene **CAS #** 100-42-5.SEC **Purity** 99%	(Lot OFIOL-IA)	2,507.2	µg/mL	+/-	14.5769	µg/mL	Gravimetric
					+/-	151.2685	µg/mL	Unstressed
					+/-	151.6276	µg/mL	Stressed
49	Isopropylbenzene (cumene) **CAS #** 98-82-8.SEC **Purity** 99%	(Lot 2PHXG-IH)	2,505.2	µg/mL	+/-	14.5653	µg/mL	Gravimetric
					+/-	151.1478	µg/mL	Unstressed
					+/-	151.5067	µg/mL	Stressed
50	Bromoform **CAS #** 75-25-2.SEC **Purity** 97%	(Lot 5461400)	2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
					+/-	150.8661	µg/mL	Unstressed
					+/-	151.2243	µg/mL	Stressed
51	Bromodichloromethane **CAS #** 75-27-4.SEC **Purity** 98%	(Lot 13780)	2,501.3	µg/mL	+/-	14.5427	µg/mL	Gravimetric
					+/-	150.9137	µg/mL	Unstressed
					+/-	151.2720	µg/mL	Stressed
52	1,1,2,2-Tetrachloroethane **CAS #** 79-34-5.SEC **Purity** 99%	(Lot CFA4D-AQ)	2,502.0	µg/mL	+/-	14.5468	µg/mL	Gravimetric
					+/-	150.9567	µg/mL	Unstressed
					+/-	151.3151	µg/mL	Stressed
53	1,2,3-Trichloropropane **CAS #** 96-18-4.SEC **Purity** 99%	(Lot GUHZN)	2,505.7	µg/mL	+/-	14.5682	µg/mL	Gravimetric
					+/-	151.1780	µg/mL	Unstressed
					+/-	151.5369	µg/mL	Stressed
54	trans-1,4-Dichloro-2-butene **CAS #** 110-57-6.SEC **Purity** 98%	(Lot 100700-3)	2,514.2	µg/mL	+/-	14.6177	µg/mL	Gravimetric
					+/-	151.6922	µg/mL	Unstressed
					+/-	152.0524	µg/mL	Stressed
55	n-Propylbenzene **CAS #** 103-65-1.SEC **Purity** 99%	(Lot T2HFC)	2,503.7	µg/mL	+/-	14.5565	µg/mL	Gravimetric
					+/-	151.0573	µg/mL	Unstressed
					+/-	151.4159	µg/mL	Stressed

56	Bromobenzene **CAS #** 108-86-1.SEC **Purity** 99%	(Lot 2FUHG-EM)	2,506.2	µg/mL	+/-	14.5711	µg/mL	Gravimetric
					+/-	151.2081	µg/mL	Unstressed
					+/-	151.5671	µg/mL	Stressed
57	1,3,5-Trimethylbenzene **CAS #** 108-67-8.SEC **Purity** 99%	(Lot FGH02-CMLN)	2,510.0	µg/mL	+/-	14.5934	µg/mL	Gravimetric
					+/-	151.4394	µg/mL	Unstressed
					+/-	151.7990	µg/mL	Stressed
58	2-Chlorotoluene **CAS #** 95-49-8.SEC **Purity** 99%	(Lot SW8QG-AO)	2,504.7	µg/mL	+/-	14.5623	µg/mL	Gravimetric
					+/-	151.1176	µg/mL	Unstressed
					+/-	151.4764	µg/mL	Stressed
59	4-Chlorotoluene **CAS #** 106-43-4.SEC **Purity** 99%	(Lot P4XHJ-AO)	2,509.2	µg/mL	+/-	14.5885	µg/mL	Gravimetric
					+/-	151.3891	µg/mL	Unstressed
					+/-	151.7486	µg/mL	Stressed
60	tert-Butylbenzene **CAS #** 98-06-6.SEC **Purity** 99%	(Lot D6OHC)	2,505.8	µg/mL	+/-	14.5691	µg/mL	Gravimetric
					+/-	151.1880	µg/mL	Unstressed
					+/-	151.5470	µg/mL	Stressed
61	1,2,4-Trimethylbenzene **CAS #** 95-63-6.SEC **Purity** 99%	(Lot JMIYD)	2,508.7	µg/mL	+/-	14.5856	µg/mL	Gravimetric
					+/-	151.3590	µg/mL	Unstressed
					+/-	151.7183	µg/mL	Stressed
62	sec-Butylbenzene **CAS #** 135-98-8.SEC **Purity** 99%	(Lot OGN01-IMA)	2,504.7	µg/mL	+/-	14.5623	µg/mL	Gravimetric
					+/-	151.1176	µg/mL	Unstressed
					+/-	151.4764	µg/mL	Stressed
63	4-Isopropyltoluene (p-cymene) **CAS #** 99-87-6.SEC **Purity** 99%	(Lot 6628200)	2,500.3	µg/mL	+/-	14.5372	µg/mL	Gravimetric
					+/-	150.8562	µg/mL	Unstressed
					+/-	151.2143	µg/mL	Stressed
64	1,3-Dichlorobenzene **CAS #** 541-73-1.SEC **Purity** 99%	(Lot FMDFD)	2,506.3	µg/mL	+/-	14.5720	µg/mL	Gravimetric
					+/-	151.2182	µg/mL	Unstressed
					+/-	151.5772	µg/mL	Stressed
65	1,4-Dichlorobenzene **CAS #** 106-46-7.SEC **Purity** 99%	(Lot 4Y5DC)	2,509.8	µg/mL	+/-	14.5924	µg/mL	Gravimetric
					+/-	151.4294	µg/mL	Unstressed
					+/-	151.7889	µg/mL	Stressed
66	n-Butylbenzene **CAS #** 104-51-8.SEC **Purity** 99%	(Lot MMPGA)	2,513.7	µg/mL	+/-	14.6147	µg/mL	Gravimetric
					+/-	151.6607	µg/mL	Unstressed
					+/-	152.0207	µg/mL	Stressed
67	1,2-Dichlorobenzene **CAS #** 95-50-1.SEC **Purity** 99%	(Lot R6QDM)	2,501.8	µg/mL	+/-	14.5459	µg/mL	Gravimetric
					+/-	150.9467	µg/mL	Unstressed
					+/-	151.3051	µg/mL	Stressed
68	1,2-Dibromo-3-chloropropane **CAS #** 96-12-8.SEC **Purity** 98%	(Lot LC00408V)	2,508.5	µg/mL	+/-	14.5845	µg/mL	Gravimetric
					+/-	151.3473	µg/mL	Unstressed
					+/-	151.7066	µg/mL	Stressed
69	1,2,4-Trichlorobenzene **CAS #** 120-82-1.SEC **Purity** 99%	(Lot 3LYYC)	2,503.3	µg/mL	+/-	14.5546	µg/mL	Gravimetric
					+/-	151.0372	µg/mL	Unstressed
					+/-	151.3958	µg/mL	Stressed
70	Hexachlorobutadiene **CAS #** 87-68-3.SEC **Purity** 97%	(Lot 5526800)	2,504.4	µg/mL	+/-	14.5607	µg/mL	Gravimetric
					+/-	151.1002	µg/mL	Unstressed
					+/-	151.4590	µg/mL	Stressed
71	Naphthalene **CAS #** 91-20-3.SEC **Purity** 99%	(Lot 4KW3H-OO)	2,503.3	µg/mL	+/-	14.5546	µg/mL	Gravimetric
					+/-	151.0372	µg/mL	Unstressed
					+/-	151.3958	µg/mL	Stressed

72	1,2,3-Trichlorobenzene **CAS #** 87-61-6.SEC **Purity** 98%	(Lot A0043055)	2,512.2	µg/mL	+/- +/- +/-	14.6063 151.5740 151.9338	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
40°C (hold 6 min.) to 240°C
@ 6°C/min. (hold 10 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD

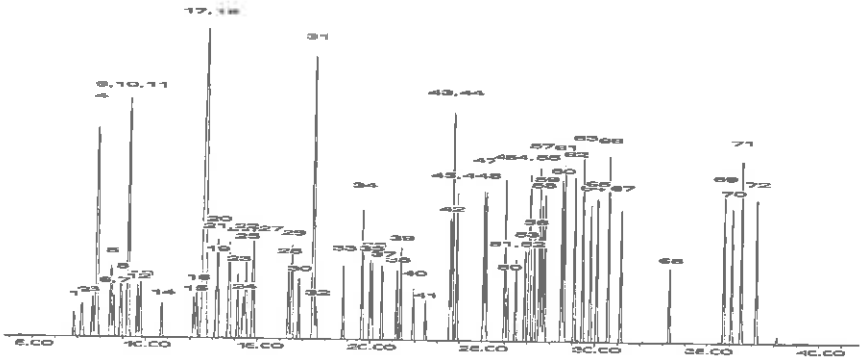

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Brandon Reish - Mix Technician

Date Mixed: 17-Dec-2018 **Balance:** 1127510105

Diane Shaffer - Operations Tech-ARM QC

Date Passed: 21-Dec-2018

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

Reagent

VOA8260SURRES_00150

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited Reference Material Producer Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567650 **Lot No.:** A0132615

Description : 8260 Surrogate Standard

8260 Surrogate Standard 2,500µg/mL, P&T Methanol, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : November 30, 2022 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Dibromofluoromethane **CAS #** 1868-53-7 **Purity** 99.8%	(Lot 0012017)	2,500.2 µg/mL	+/- 14.5364 µg/mL +/- 140.1837 µg/mL +/- 143.4639 µg/mL	Gravimetric Unstressed Stressed
2	1,2-Dichloroethane-d4 **CAS #** 17060-07-0 **Purity** 99%	(Lot PR-26748)	2,500.2 µg/mL	+/- 14.5361 µg/mL +/- 140.1809 µg/mL +/- 143.4610 µg/mL	Gravimetric Unstressed Stressed
3	Toluene-d8 **CAS #** 2037-26-5 **Purity** 99%	(Lot PR-26623)	2,500.2 µg/mL	+/- 14.5364 µg/mL +/- 140.1837 µg/mL +/- 143.4639 µg/mL	Gravimetric Unstressed Stressed
4	1-Bromo-4-fluorobenzene (BFB) **CAS #** 460-00-4 **Purity** 99%	(Lot 20401KOV)	2,500.3 µg/mL	+/- 14.5370 µg/mL +/- 140.1893 µg/mL +/- 143.4696 µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Reagent

VOA8260SURRES_00161

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567650 **Lot No.:** A0143613

Description : 8260 Surrogate Standard

8260 Surrogate Standard 2,500µg/mL, P&T Methanol, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : November 30, 2023 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Dibromofluoromethane **CAS #** 1868-53-7 **Purity** 99%	(Lot 0012017)	2,506.4 µg/mL	+/- 14.5724 µg/mL +/- 140.5314 µg/mL +/- 143.8196 µg/mL	Gravimetric Unstressed Stressed
2	1,2-Dichloroethane-d4 **CAS #** 17060-07-0 **Purity** 99%	(Lot PR-29377)	2,503.8 µg/mL	+/- 14.5570 µg/mL +/- 140.3828 µg/mL +/- 143.6676 µg/mL	Gravimetric Unstressed Stressed
3	Toluene-d8 **CAS #** 2037-26-5 **Purity** 99%	(Lot PR-27311)	2,512.2 µg/mL	+/- 14.6059 µg/mL +/- 140.8538 µg/mL +/- 144.1496 µg/mL	Gravimetric Unstressed Stressed
4	1-Bromo-4-fluorobenzene (BFB) **CAS #** 460-00-4 **Purity** 99%	(Lot 20401KO)	2,501.8 µg/mL	+/- 14.5457 µg/mL +/- 140.2734 µg/mL +/- 143.5557 µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Reagent

VOA8260VARES_00115

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569724 **Lot No.:** A0145775

Description : 8260 List 1 / Std #6 Vinyl Acetate (2015)

8260 List 1 / Std #6 Vinyl Acetate (2015) 5,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2019 **Storage:** 0°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Vinyl acetate **CAS #** 108-05-4 (Lot STBD7333V) **Purity** 99%	5,030.0 µg/mL	+/- 29.5189 µg/mL +/- 303.5087 µg/mL +/- 304.2292 µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Tech Tips:

Vinyl acetate is a volatile organic ester included in the target lists of several US EPA and other methods . Under acidic conditions, esters react with alcohols to form new esters (transesterification). Methanol-based mixes containing halogenated compounds are slightly acidic, so it is important to minimize exposure of vinyl acetate to mixes of halogenated compounds in methanol. For this reason, we offer vinyl acetate in individual solution, and suggest that it be introduced into the working level calibration solution immediately before use. This will minimize problems and ensure more consistent results.

Reagent

VOAACRORES_00145

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568720 **Lot No.:** A0146613

Description : 8260 List 1/Std #5 Acrolein High

8260 List 1/Std #5 Acrolein High 19,750µg/mL, Water, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2019 **Storage:** 0°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound			Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)			
1	Acrolein			19,933.0	µg/mL	+/-	116.7121	µg/mL	Gravimetric
	CAS #	107-02-8	(Lot 0012014-D0218)			+/-	639.1146	µg/mL	Unstressed
	Purity	99%				+/-	742.9009	µg/mL	Stressed

Solvent: Water
CAS # 7732-18-5
Purity 99%

Reagent

VOABFBRES_00082

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 30067 **Lot No.:** A0142868

Description : 4-Bromofluorobenzene Standard

4-Bromofluorobenzene Standard 2,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2023 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1-Bromo-4-fluorobenzene (BFB)	2,510.0 µg/mL	+/- 14.7301	µg/mL	Gravimetric
	CAS # 460-00-4 (Lot 20401KO)		+/- 140.7475	µg/mL	Unstressed
	Purity 99%		+/- 144.0401	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Reagent

VOABFBRES_00088

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 30067 **Lot No.:** A0147670

Description : 4-Bromofluorobenzene Standard

4-Bromofluorobenzene Standard 2,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2024 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1-Bromo-4-fluorobenzene (BFB)	2,511.0 µg/mL	+/- 14.7360	µg/mL	Gravimetric
	CAS # 460-00-4 (Lot 20401KO)		+/- 140.8035	µg/mL	Unstressed
	Purity 99%		+/- 144.0975	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

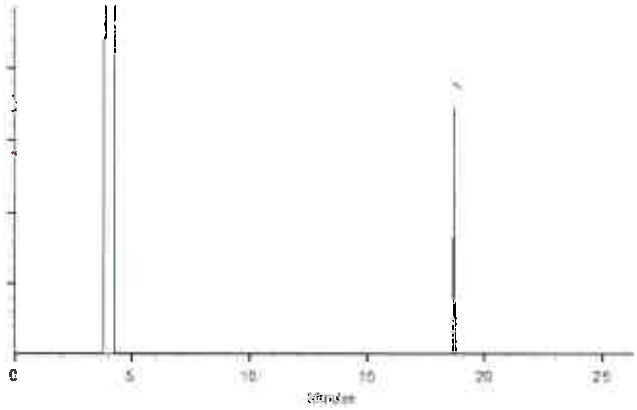

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Dustin J Lidgett

Dustin Lidgett - Mix Technician

Date Mixed: 01-Apr-2019 **Balance:** 1127510105

Justine Albertson - Operations Tech-ARM QC

Date Passed: 04-Apr-2019

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

VOACEVERES_00172

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Catalog No. : 569723 **Lot No.:** A0142584

Description : 8260 List 1 / Std #4 2-CEVE (2015)

8260 List 1 / Std #4 2-CEVE (2015) 2,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : October 31, 2021 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	2-Chloroethyl vinyl ether **CAS #** 110-75-8 (Lot MKBK2735V) **Purity** 99%	2,506.0 µg/mL	+/- 14.7066 µg/mL +/- 53.6910 µg/mL +/- 55.2497 µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Tech Tips:

Degradation of tetrachloroethylene to pentachloroethane may occur if solutions containing 2-chloroethyl vinyl ether are combined with solutions that contain tetrachloroethylene.

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

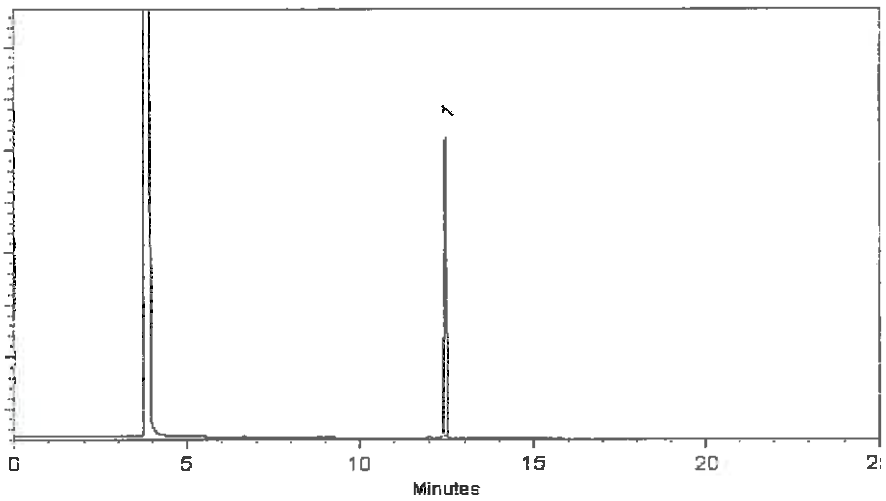

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 24-Oct-2018 **Balance:** B707717271

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 26-Oct-2018

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

VOALIST2STD3P_00031

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Catalog No. : 569727 **Lot No.:** A0140237

Description : 8260 List 2/ Std #3 Cyclohexanone (2015)

8260 List 2/ Std #3 Cyclohexanone (2015) 25,000µg/mL, Water, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2021 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Cyclohexanone **CAS #** 108-94-1 (Lot MKBS9093V) **Purity** 99%	25,148.7 µg/mL	+/- 147.2510 µg/mL		Gravimetric
			+/- 1,517.4305 µg/mL		Unstressed
			+/- 1,521.0327 µg/mL		Stressed

Solvent: Water
CAS # 7732-18-5
Purity 99%

Reagent

VOALIST2STD6P_00030

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 570808 **Lot No.:** A0135915

Description : 8260 List 2 / Std #6

8260 List 2 / Std #6 2,500-62,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2019 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	2-Propanol (isopropanol) **CAS #** 67-63-0 (Lot SHBG4888V) **Purity** 99%	25,201.5 µg/mL	+/- 147.5603 µg/mL +/- 1,246.7862 µg/mL +/- 1,277.7827 µg/mL	Gravimetric Unstressed Stressed
2	Chloroprene (2-chloro-1,3-butadiene) **CAS #** 126-99-8 (Lot 180302JLM) **Purity** 99%	2,510.0 µg/mL	+/- 14.7301 µg/mL +/- 124.1804 µg/mL +/- 127.2675 µg/mL	Gravimetric Unstressed Stressed
3	Methacrylonitrile **CAS #** 126-98-7 (Lot 1012014) **Purity** 99%	25,081.5 µg/mL	+/- 146.8577 µg/mL +/- 1,240.8495 µg/mL +/- 1,271.6983 µg/mL	Gravimetric Unstressed Stressed
4	2,2,4-Trimethylpentane (isooctane) **CAS #** 540-84-1 (Lot SHBD2922V) **Purity** 99%	2,523.0 µg/mL	+/- 14.8064 µg/mL +/- 124.8236 µg/mL +/- 127.9267 µg/mL	Gravimetric Unstressed Stressed
5	1-Butanol **CAS #** 71-36-3 (Lot SHBH9510) **Purity** 99%	62,543.5 µg/mL	+/- 366.1871 µg/mL +/- 3,094.1935 µg/mL +/- 3,171.1186 µg/mL	Gravimetric Unstressed Stressed
6	2-Nitropropane **CAS #** 79-46-9 (Lot BCBL0537V) **Purity** 98%	5,026.4 µg/mL	+/- 29.4308 µg/mL +/- 248.6706 µg/mL +/- 254.8528 µg/mL	Gravimetric Unstressed Stressed
7	1-Chlorohexane **CAS #** 544-10-5 (Lot 05107LK) **Purity** 98%	2,519.1 µg/mL	+/- 14.7834 µg/mL +/- 124.6302 µg/mL +/- 127.7284 µg/mL	Gravimetric Unstressed Stressed

8	1,2,3-Trimethylbenzene		2,502.6	µg/mL	+/-	14.6867	µg/mL	Gravimetric
	CAS # 526-73-8	(Lot 877605-13)			+/-	123.8143	µg/mL	Unstressed
	Purity 97%				+/-	126.8923	µg/mL	Stressed
9	Benzyl chloride		2,513.5	µg/mL	+/-	14.7506	µg/mL	Gravimetric
	CAS # 100-44-7	(Lot SHBB7346V)			+/-	124.3536	µg/mL	Unstressed
	Purity 99%				+/-	127.4450	µg/mL	Stressed
10	1,3,5-Trichlorobenzene		2,501.5	µg/mL	+/-	14.6802	µg/mL	Gravimetric
	CAS # 108-70-3	(Lot 11319AS)			+/-	123.7599	µg/mL	Unstressed
	Purity 99%				+/-	126.8365	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

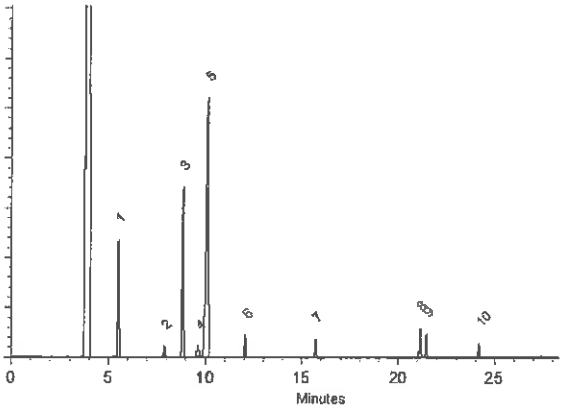

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cydnei L. Crust
Cydnei L. Crust - Mix Technician

Date Mixed: 06-Mar-2018 **Balance:** B707717271

Justine Albertson - Operations Tech-ARM QC

Date Passed: 08-Mar-2018

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

Reagent

VOALIST2STD6S_00028

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

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Catalog No. : 570808.SEC **Lot No.:** A0143097

Description : 8260 List 2 / Std #6

8260 List 2 / Std #6 2,500-62,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2020 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	2-Propanol (isopropanol) **CAS #** 67-63-0.SEC (Lot NWVYK) **Purity** 99%	25,047.5 µg/mL	+/- 146.6586 µg/mL +/- 1,239.1674 µg/mL +/- 1,269.9744 µg/mL	Gravimetric Unstressed Stressed
2	Chloroprene (2-chloro-1,3-butadiene) **CAS #** 126-99-8 * (Lot 180921JLM) **Purity** 99%	2,509.0 µg/mL	+/- 14.7242 µg/mL +/- 124.1310 µg/mL +/- 127.2168 µg/mL	Gravimetric Unstressed Stressed
3	Methacrylonitrile **CAS #** 126-98-7 * (Lot 1012014) **Purity** 99%	25,031.0 µg/mL	+/- 146.5620 µg/mL +/- 1,238.3511 µg/mL +/- 1,269.1379 µg/mL	Gravimetric Unstressed Stressed
4	2,2,4-Trimethylpentane (Isooctane) **CAS #** 540-84-1.SEC (Lot 4597900) **Purity** 99%	2,513.5 µg/mL	+/- 14.7506 µg/mL +/- 124.3536 µg/mL +/- 127.4450 µg/mL	Gravimetric Unstressed Stressed
5	1-Butanol **CAS #** 71-36-3.SEC (Lot TOY3I) **Purity** 99%	62,799.0 µg/mL	+/- 367.6830 µg/mL +/- 3,106.8338 µg/mL +/- 3,184.0731 µg/mL	Gravimetric Unstressed Stressed
6	2-Nitropropane **CAS #** 79-46-9.SEC (Lot 6M3NJ) **Purity** 98%	5,003.9 µg/mL	+/- 29.2988 µg/mL +/- 247.5555 µg/mL +/- 253.7099 µg/mL	Gravimetric Unstressed Stressed
7	1-Chlorohexane **CAS #** 544-10-5.SEC (Lot 3890000) **Purity** 98%	2,501.9 µg/mL	+/- 14.6828 µg/mL +/- 123.7817 µg/mL +/- 126.8588 µg/mL	Gravimetric Unstressed Stressed

8	1,2,3-Trimethylbenzene **CAS #** 526-73-8.SEC **Purity** 97%	(Lot 7754800)	2,512.3	µg/mL	+/- +/- +/-	14.7436 124.2942 127.3841	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
9	Benzyl chloride **CAS #** 100-44-7.SEC **Purity** 99%	(Lot H29N03)	2,501.0	µg/mL	+/- +/- +/-	14.6773 123.7352 126.8112	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
10	1,3,5-Trichlorobenzene **CAS #** 108-70-3.SEC **Purity** 99%	(Lot I28U021)	2,506.5	µg/mL	+/- +/- +/-	14.7095 124.0073 127.0900	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

*** Restek is unable to identify a reliable and/or acceptable second source for this material - the same batch of neat material may have been used to produce both the primary and secondary standard. The primary and secondary standards were prepared using different equipment and personnel.**

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

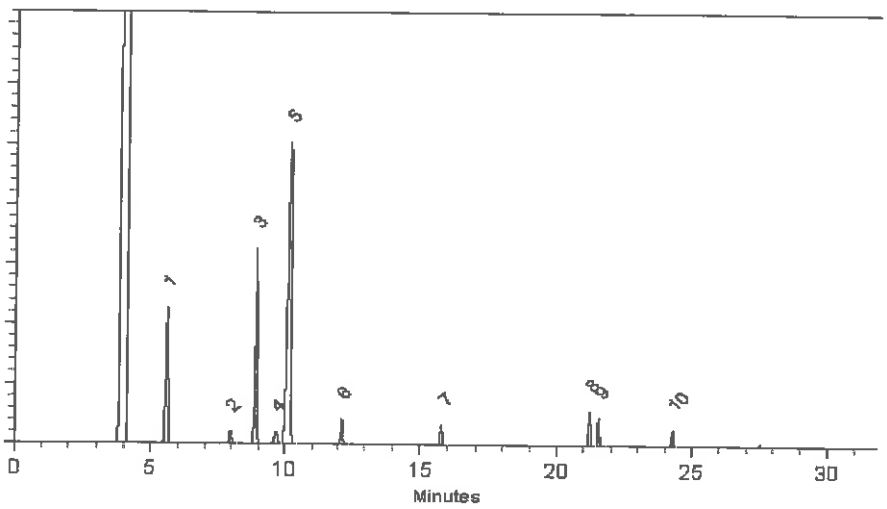

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Matt Fragassi - Mix Technician

Date Mixed: 08-Nov-2018 **Balance:** 1128342314

Diane Shaffer - Operations Tech-ARM QC

Date Passed: 13-Nov-2018

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

VOALIST2STD6S_00032

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Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 570808.SEC **Lot No.:** A0143097

Description : 8260 List 2 / Std #6

8260 List 2 / Std #6 2,500-62,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2020 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	2-Propanol (isopropanol) **CAS #** 67-63-0.SEC (Lot NWVYK) **Purity** 99%	25,047.5 µg/mL	+/- 146.6586 µg/mL +/- 1,239.1674 µg/mL +/- 1,269.9744 µg/mL	Gravimetric Unstressed Stressed
2	Chloroprene (2-chloro-1,3-butadiene) **CAS #** 126-99-8 * (Lot 180921JLM) **Purity** 99%	2,509.0 µg/mL	+/- 14.7242 µg/mL +/- 124.1310 µg/mL +/- 127.2168 µg/mL	Gravimetric Unstressed Stressed
3	Methacrylonitrile **CAS #** 126-98-7 * (Lot 1012014) **Purity** 99%	25,031.0 µg/mL	+/- 146.5620 µg/mL +/- 1,238.3511 µg/mL +/- 1,269.1379 µg/mL	Gravimetric Unstressed Stressed
4	2,2,4-Trimethylpentane (Isooctane) **CAS #** 540-84-1.SEC (Lot 4597900) **Purity** 99%	2,513.5 µg/mL	+/- 14.7506 µg/mL +/- 124.3536 µg/mL +/- 127.4450 µg/mL	Gravimetric Unstressed Stressed
5	1-Butanol **CAS #** 71-36-3.SEC (Lot TOY3I) **Purity** 99%	62,799.0 µg/mL	+/- 367.6830 µg/mL +/- 3,106.8338 µg/mL +/- 3,184.0731 µg/mL	Gravimetric Unstressed Stressed
6	2-Nitropropane **CAS #** 79-46-9.SEC (Lot 6M3NJ) **Purity** 98%	5,003.9 µg/mL	+/- 29.2988 µg/mL +/- 247.5555 µg/mL +/- 253.7099 µg/mL	Gravimetric Unstressed Stressed
7	1-Chlorohexane **CAS #** 544-10-5.SEC (Lot 3890000) **Purity** 98%	2,501.9 µg/mL	+/- 14.6828 µg/mL +/- 123.7817 µg/mL +/- 126.8588 µg/mL	Gravimetric Unstressed Stressed

8	1,2,3-Trimethylbenzene		2,512.3	µg/mL	+/-	14.7436	µg/mL	Gravimetric
	CAS # 526-73-8.SEC	(Lot 7754800)			+/-	124.2942	µg/mL	Unstressed
	Purity 97%				+/-	127.3841	µg/mL	Stressed
9	Benzyl chloride		2,501.0	µg/mL	+/-	14.6773	µg/mL	Gravimetric
	CAS # 100-44-7.SEC	(Lot H29N03)			+/-	123.7352	µg/mL	Unstressed
	Purity 99%				+/-	126.8112	µg/mL	Stressed
10	1,3,5-Trichlorobenzene		2,506.5	µg/mL	+/-	14.7095	µg/mL	Gravimetric
	CAS # 108-70-3.SEC	(Lot I28U021)			+/-	124.0073	µg/mL	Unstressed
	Purity 99%				+/-	127.0900	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

*** Restek is unable to identify a reliable and/or acceptable second source for this material - the same batch of neat material may have been used to produce both the primary and secondary standard. The primary and secondary standards were prepared using different equipment and personnel.**

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

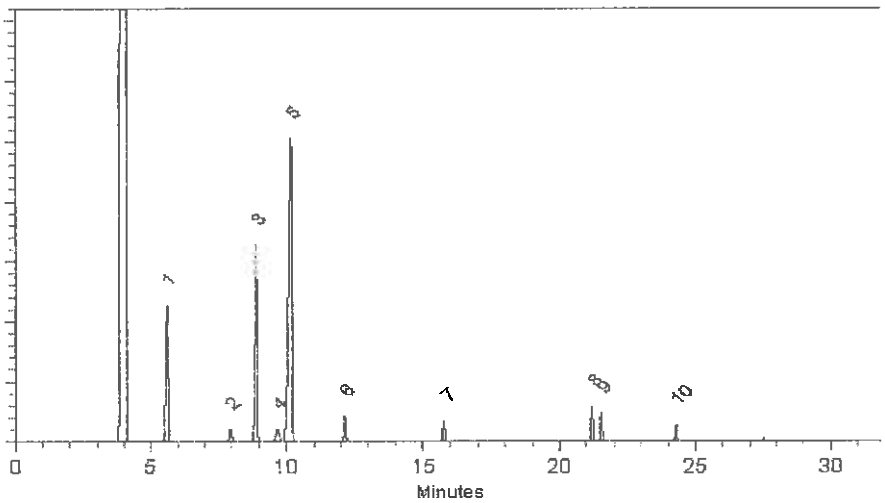

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Matt Fragassi - Mix Technician

Date Mixed: 08-Nov-2018 **Balance:** 1128342314

Diane Shaffer - Operations Tech-ARM QC

Date Passed: 13-Nov-2018

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

VOALIST2STD7P_00032

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Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 570809 **Lot No.:** A0143198

Description : 8260 List 2 / Std #7

8260 List 2 / Std #7 2,500-5,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2020 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Ethyl acetate **CAS #** 141-78-6 **Purity** 99%	(Lot SHBJ7347)	5,022.5 µg/mL	+/- 29.4078 µg/mL +/- 303.0497 µg/mL +/- 303.7691 µg/mL	Gravimetric Unstressed Stressed
2	Ethyl acrylate **CAS #** 140-88-5 **Purity** 99%	(Lot 10129902)	2,514.0 µg/mL	+/- 14.7536 µg/mL +/- 151.6940 µg/mL +/- 152.0541 µg/mL	Gravimetric Unstressed Stressed
3	Methyl methacrylate **CAS #** 80-62-6 **Purity** 99%	(Lot MKBH4379V)	5,019.5 µg/mL	+/- 29.3903 µg/mL +/- 302.8686 µg/mL +/- 303.5876 µg/mL	Gravimetric Unstressed Stressed
4	Butyl acetate **CAS #** 123-86-4 **Purity** 99%	(Lot SHBJ2076)	2,507.0 µg/mL	+/- 14.7125 µg/mL +/- 151.2716 µg/mL +/- 151.6307 µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Reagent

VOALIST3STD1P_00054

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571993 **Lot No.:** A0139911

Description : 8260 List 3/ Std#1 Polar Additions (2017)

8260 List 3/ Std#1 Polar Additions (2017) 2,500-25,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : July 31, 2020 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Acetonitrile **CAS #** 75-05-8 (Lot SHBH6233) **Purity** 99%	25,212.5 µg/mL	+/- 147.6247 µg/mL +/- 1,247.3304 µg/mL +/- 1,278.3404 µg/mL	Gravimetric Unstressed Stressed
2	Diisopropyl ether (DIPE) **CAS #** 108-20-3 (Lot SHBC0391V) **Purity** 99%	2,525.0 µg/mL	+/- 14.8181 µg/mL +/- 124.9226 µg/mL +/- 128.0281 µg/mL	Gravimetric Unstressed Stressed
3	Ethyl-tert-butyl ether (ETBE) **CAS #** 637-92-3 (Lot MKCC2702) **Purity** 99%	2,518.5 µg/mL	+/- 14.7800 µg/mL +/- 124.6010 µg/mL +/- 127.6985 µg/mL	Gravimetric Unstressed Stressed
4	Propionitrile **CAS #** 107-12-0 (Lot BCBV8545) **Purity** 99%	25,227.5 µg/mL	+/- 147.7126 µg/mL +/- 1,248.0725 µg/mL +/- 1,279.1009 µg/mL	Gravimetric Unstressed Stressed
5	tert-Amyl alcohol **CAS #** 75-85-4 (Lot STBB1898V) **Purity** 99%	25,152.5 µg/mL	+/- 147.2734 µg/mL +/- 1,244.3621 µg/mL +/- 1,275.2982 µg/mL	Gravimetric Unstressed Stressed
6	tert-Amyl methyl ether (TAME) **CAS #** 994-05-8 (Lot HMBF8365V) **Purity** 99%	2,525.0 µg/mL	+/- 14.8181 µg/mL +/- 124.9226 µg/mL +/- 128.0281 µg/mL	Gravimetric Unstressed Stressed

Reagent

VOALIST3STD1S_00043

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Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571993.SEC **Lot No.:** A0143318

Description : 8260 List 3/ Std#1 Polar Additions (2017)

8260 List 3/ Std#1 Polar Additions (2017) 2,500-25,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2020 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Acetonitrile **CAS #** 75-05-8.SEC (Lot 7KGDA) **Purity** 99%	25,020.5 µg/mL	+/- 146.5005 µg/mL +/- 1,237.8317 µg/mL +/- 1,268.6055 µg/mL	Gravimetric Unstressed Stressed
2	Diisopropyl ether (DIPE) **CAS #** 108-20-3.SEC (Lot LL7TN-SH) **Purity** 98%	2,506.8 µg/mL	+/- 14.7115 µg/mL +/- 124.0241 µg/mL +/- 127.1073 µg/mL	Gravimetric Unstressed Stressed
3	Ethyl-tert-butyl ether (ETBE) **CAS #** 637-92-3.SEC (Lot MHBJG-QK) **Purity** 99%	2,509.0 µg/mL	+/- 14.7242 µg/mL +/- 124.1310 µg/mL +/- 127.2168 µg/mL	Gravimetric Unstressed Stressed
4	Propionitrile **CAS #** 107-12-0.SEC (Lot PS48O) **Purity** 99%	25,017.5 µg/mL	+/- 146.4830 µg/mL +/- 1,237.6833 µg/mL +/- 1,268.4534 µg/mL	Gravimetric Unstressed Stressed
5	tert-Amyl alcohol **CAS #** 75-85-4.SEC (Lot ZL6RD) **Purity** 99%	25,019.0 µg/mL	+/- 146.4917 µg/mL +/- 1,237.7575 µg/mL +/- 1,268.5294 µg/mL	Gravimetric Unstressed Stressed
6	tert-Amyl methyl ether (TAME) **CAS #** 994-05-8.SEC (Lot 7375800) **Purity** 98%	2,510.3 µg/mL	+/- 14.7317 µg/mL +/- 124.1938 µg/mL +/- 127.2812 µg/mL	Gravimetric Unstressed Stressed

Reagent

VOALIST3STD1S_00045

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571993.SEC **Lot No.:** A0143318

Description : 8260 List 3/ Std#1 Polar Additions (2017)

8260 List 3/ Std#1 Polar Additions (2017) 2,500-25,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2020 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L., K=2)	
1	Acetonitrile	25,020.5 µg/mL	+/- 146.5005 µg/mL	Gravimetric
	CAS # 75-05-8.SEC (Lot 7KGDA)		+/- 1,237.8317 µg/mL	Unstressed
	Purity 99%		+/- 1,268.6055 µg/mL	Stressed
2	Diisopropyl ether (DIPE)	2,506.8 µg/mL	+/- 14.7115 µg/mL	Gravimetric
	CAS # 108-20-3.SEC (Lot LL7TN-SH)		+/- 124.0241 µg/mL	Unstressed
	Purity 98%		+/- 127.1073 µg/mL	Stressed
3	Ethyl-tert-butyl ether (ETBE)	2,509.0 µg/mL	+/- 14.7242 µg/mL	Gravimetric
	CAS # 637-92-3.SEC (Lot MHBJG-QK)		+/- 124.1310 µg/mL	Unstressed
	Purity 99%		+/- 127.2168 µg/mL	Stressed
4	Propionitrile	25,017.5 µg/mL	+/- 146.4830 µg/mL	Gravimetric
	CAS # 107-12-0.SEC (Lot PS48O)		+/- 1,237.6833 µg/mL	Unstressed
	Purity 99%		+/- 1,268.4534 µg/mL	Stressed
5	tert-Amyl alcohol	25,019.0 µg/mL	+/- 146.4917 µg/mL	Gravimetric
	CAS # 75-85-4.SEC (Lot ZL6RD)		+/- 1,237.7575 µg/mL	Unstressed
	Purity 99%		+/- 1,268.5294 µg/mL	Stressed
6	tert-Amyl methyl ether (TAME)	2,510.3 µg/mL	+/- 14.7317 µg/mL	Gravimetric
	CAS # 994-05-8.SEC (Lot 7375800)		+/- 124.1938 µg/mL	Unstressed
	Purity 98%		+/- 127.2812 µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

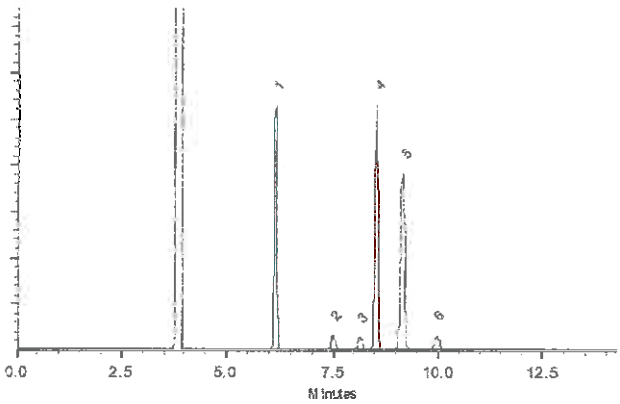

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Dustin J. Lidgett
Dustin Lidgett - Mix Technician

Date Mixed: 15-Nov-2018 **Balance:** 1128342314

Justine Albertson - Operations Tech-ARM QC

Date Passed: 20-Nov-2018

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

WCN1000P_00044

LabChem
performance through chemistry
Jackson's Pointe Commerce Park - Building 1000
1010 Jackson's Pointe Court, Zelienople, PA 16063
Ph: 412-826-5230 | Fax: 724-473-0647 | www.labchem.com

CERTIFICATE OF ANALYSIS

Description: CYANIDE STANDARD, 1000ppm (1ml = 1mg CN)

Mfg. Date: 06/28/2019

Catalog Number: LC13545

Exp. Date: 12/28/2019

Lot Number: J178-14

ANALYTICAL SECTION

Test	Specification	Test Result
Appearance	clear, colorless solution	Pass Test
Concentration ppm CN	1000ppm +/- 10ppm	1009 ppm
Concentration mg CN/mL	1.000mg/mL +/- 0.010 mg CN/mL	1.009 mg CN/mL
Traceable to NIST	Potassium Chloride	999b

Intended Use - Product is intended for use in manufacturing procedures and laboratory procedures and protocols.
Storage Information - Unless otherwise noted on the product label, store the product under normal lab conditions in its tightly closed, original container. Do not pipet directly from the container or return unused portions to the container.
Instructions for Handling and Use - Please refer to the associated product label and Safety Data Sheet (SDS) for information regarding safety and handling of this product.
Preparation - All products are manufactured and tested according to established, documented procedures and methodology. Production documentation records manufacturing data, raw material traceability and testing history on a per lot basis. Balances, thermometers, and glassware are calibrated before first use and on a regular schedule with references traceable to NIST standards.
Submitted by: Greg Albright, Chemist Supervisor

An ISO9001:2008 certified company. Registration # 0306-0109/09/2019 12:22 PM
Form #17.13 07/28/2016

Reagent

WCN1000S_00034

RICCA CHEMICAL COMPANY®

1490 Lammers Pike
Batesville, IN 47006
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

Certificate of Analysis

Cyanide Standard, 1000 ppm CN^-

Lot Number: 4908J29 **Product Number:** 2543

Manufacture Date: AUG 23, 2019
Expiration Date: FEB 2020

This standard is prepared using accurate volumetric techniques from material that has been assayed against Silver Nitrate solution certified traceable to NIST Standard Reference Material 999. The certified value reported is the prepared value based upon the method of preparation of the material. The uncertainty in the prepared value is the combined uncertainty based on the stability of the assayed Potassium Cyanide, and the uncertainty in the mass and volume measurements.
Use 0.16% (w/v) (0.04 N) Sodium Hydroxide or 0.225 % (w/v) (0.04 N) Potassium Hydroxide to make dilutions of this standard. Restandardize weekly if extreme accuracy is required.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Potassium Cyanide	151-50-8	ACS
Sodium Hydroxide	1310-73-2	Reagent

Test	Specification	Result
Appearance	Colorless liquid	Passed
Cyanide (CN^-)	995-1005 ppm	1000 ppm

Specification	Reference
Stock Standard Cyanide Solution	APHA (4500-CN- F)
Stock Cyanide Solution	APHA (4500-CN- E)
Stock Cyanide Solution	APHA (4500-CN- K)
Stock Cyanide Solution	APHA (4500-CN- H)
Cyanide Reference Solution (1000 mg/L)	EPA (SW-846) (7.3.3.2)
Cyanide Calibration Stock Solution (1,000 mg/L CN-)	EPA (SW-846) (9213)
Stock Cyanide Solution	EPA (335.3)
Stock Cyanide Solution	EPA (335.2)
Cyanide Solution Stock	ASTM (D 4282)
Simple Cyanide Solution, Stock (1.0 g/L CN)	ASTM (D 4374)

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container
2543-16	500 mL amber poly	6 months
2543-4	120 mL amber poly	6 months

Recommended Storage: 2°C - 8°C (36°F - 46°F)

3361866
ID: WCN1000S_00034
Exp:02/29/20 Prpd:BSH Opn:09/12/19
Cyanide 1000 ppm Secondar

3361867
ID: WCN1000S_00034
Exp:02/29/20 Prpd:BSH Opn:09/12/19
Cyanide 1000 ppm Secondar

Jim Gibbs (08/23/2019)
Quality Control Supervisor
This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

This test report shall not be reproduced, except in full, without the written approval of Ricca Chemical Company.

Reagent

WCNSoilLCS_00025

phenova
Certified Reference Materials

info@phenova.com • www.phenova.com • 1-866-942-2978

Cyanide in Soil — Lot #7069-06

TNI Analyte Code	Analyte	Certified Value mg/kg	Acceptance Limits mg/kg	Acceptance Limits %
1645	Cyanide, total	190	41.4 - 209	21.8 - 110

Certified Values = "100% true concentration" of each analyte as determined from gravimetric and volumetric measurements made during standard manufacture.

Acceptance Limits = Generated based on the criteria established by The NELAC Institute (TNI) Fields of Proficiency Testing tables using regression equations and/or fixed percentage limits, historical data, and other criteria distributed by accrediting agencies as applicable. Please note that regression based acceptance criteria are based on the Assigned Value and may have different criteria at different concentrations.

Store at 20-25°C.

Catalog #: QC-CN-SOIL

Expiration Date: 04/20

Preparation Instructions: The Cyanide in Soil standard is provided as a pre-spiked, ready-to-use standard that is ready for preparation and analysis as received. Due to potential settling during shipping, homogenize before taking an aliquot. Digest and analyze the standard by your normal procedure. The standard is pre-dried so percent moisture is 0%. The standard should be stored at 20-25°C.

3055959
ID: WCNSoilLCS_00025
Exp:04/30/20 Prpd:JAS Opn:02/06/19
Cyanide Solid LCS

3055960
ID: WCNSoilLCS_00025
Exp:04/30/20 Prpd:JAS Opn:02/06/19
Cyanide Solid LCS

Approved by: BJW

Date: 12/18

Reviewed by: AMB

Date: 12/18

Reagent

WpHBuffer7CCV_00053

RICCA CHEMICAL COMPANY®

1841 Broad Street
Pocomoke City, MD 21851
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

Certificate of Analysis

Buffer, Reference Standard, pH 7.00 ± 0.01 at 25°C (Color Coded Yellow)

Lot Number: 2902F30 **Product Number:** 1551

Manufacture Date: FEB 27, 2019
Expiration Date: FEB 2021

The certified value for this product is confirmed in independent testing by a second qualified chemist.
The NIST traceable pH value is certified to ±0.01 at 25 °C only. All other pH values at their corresponding temperatures are accurate to ± 0.05.

°C	0	5	10	15	20	25	30	35	40	45	50
pH	7.12	7.09	7.06	7.04	7.02	7.00	6.99	6.98	6.98	6.97	6.97

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Sodium Phosphate Dibasic	7558-79-4	ACS
Sodium Hydroxide	1310-73-2	Reagent
Potassium Dihydrogen Phosphate	7778-77-0	ACS
Yellow Dye	Proprietary	
Preservative	Proprietary	

3315265
ID: WpHBuffer7CCV_00053
Exp: 04/30/21 Prpd: MRD
pH Buffer 7 LCS

Test	Specification	Result	NIST SRM#
Appearance	Yellow liquid	Passed	
pH at 25°C (Method: SQCP027, SQCP033)	6.990-7.010	7.003	186-I-g, 186-II-g, 191d
pH at 25°C (Method: SQCP027, SQCP033) Uncertainty	0.01	0.01	

Specification	Reference
Commercial Buffer Solutions	ASTM (D 1293 B)
Buffer A	ASTM (D 5464)
Buffer A	ASTM (D 5128)

pH measurements were performed in our Pocomoke City, MD laboratory under ISO/IEC 17025 accreditation (ANAB Certificate L2387.01) and are certified traceable to National Institute of Standards and Technology (NIST) Standard Reference Material as indicated above via an unbroken chain of comparisons. The uncertainty is calculated from the uncertainty of the measurement variation from sample to sample, the uncertainty in the NIST Standard Reference Material, and the uncertainty of the measurement process. The uncertainty is multiplied by k=2, corresponding to 95% coverage in a normal distribution.
Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
1551-16	500 mL natural poly	24 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

Tara Jones

Tara Jones (02/27/2019)
Quality Control Supervisor
This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

ANAB ACCREDITED
ISO/IEC 17025
TESTING LABORATORY
Certificate # L2387.01 Testing

This test report shall not be reproduced, except in full, without the written approval of Ricca Chemical Company.

Reagent

WpHBuffer7P_00022

LabChem
performance through chemistry
Jackson's Pointe Commerce Park - Building 1000
1010 Jackson's Pointe Court, Zelienople, PA 16063
Ph: 412-826-5230 | Fax: 724-473-0647 | www.labchem.com

CERTIFICATE OF ANALYSIS

Description: BUFFER SOLUTION pH 7.0

Catalog Number: LC12370

Lot Number: J142-03

Mfg. Date: 05/23/2019

Exp. Date: 05/23/2021

ANALYTICAL SECTION

Test	Specification	Test Result
Appearance	clear, colorless solution	Pass Test
pH @ 25 degrees C	pH 7.00 +/- 0.01	7.01
Verified against NIST buffer		186g 187f

Intended Use - Product is intended for use in manufacturing procedures and laboratory procedures and protocols.
Storage Information - Unless otherwise noted on the product label, store the product under normal lab conditions in its tightly closed, original container. Do not pipet directly from the container or return unused portions to the container.
Instructions for Handling and Use - Please refer to the associated product label and Safety Data Sheet (SDS) for information regarding safety and handling of this product.
Preparation - All products are manufactured and tested according to established, documented procedures and methodology. Production documentation records manufacturing data, raw material traceability and testing history on a per lot basis. Balances, thermometers, and glassware are calibrated before first use and on a regular schedule with references traceable to NIST standards.
Submitted by: Greg Albright, Chemist Supervisor

An ISO9001:2008 certified company. Registration # 0306-0107/02/2019 12:01 PM
Form #17.13 07/28/2016

Reagent

WSulfide_00005

SIGMA-ALDRICH®
sigma-aldrich.com
3050 Spruce Street, Saint Louis, MO 63103, USA
Website: www.sigmaaldrich.com
Email USA: techserv@sial.com
Outside USA: eurtechserv@sial.com

Certificate of Analysis

Product Name:
Sodium sulfide nonahydrate - ACS reagent, ≥98.0%

Product Number:	**208043**
Batch Number:	**MKCF4407**
Brand:	SIGALD
CAS Number:	1313-84-4
MDL Number:	MFCD00149184
Formula:	Na2S · 9H2O
Formula Weight:	240.18 g/mol
Storage Temperature:	Store at 2 - 8 °C
Quality Release Date:	22 NOV 2017

$Na_2S \cdot 9H_2O$

Test	Specification	Result
Appearance (Color)	Colorless to Very Faint Yellow and White to Faint Yellow	White
Appearance (Form) Crystals or Chunks	Conforms to Requirements	Crystals
ICP Major Analysis Confirms Sodium and Sulfur Components	Confirmed	Confirmed
Titration by Na2S2O3	≥ 98.0 %	98.0 %
Ammonia (NH4)	≤ 0.005 %	< 0.005 %
Assay (Sulfite and Thiosulfate)	≤ 0.1 %	< 0.1 %
Iron (Fe)	Pass	Pass
Meets ACS Requirements	Current ACS Specification	Conforms

Michael Grady, Manager
Quality Control
Milwaukee, WI US

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at Sigma-Aldrich.com. For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.

Reagent

WSulfide_00006

Certificate of Analysis

GFS CHEMICALS

ISO 9001:2008 Manufacture of Chemical Products
Certificate Number 1348 Issue No. 6
ISO 9001:2008 Stockist, Distributor, and
Manufacturer of Fine Chemicals
Certificate Number S1348 Issue No. 6

SODIUM SULFIDE, NONAHYDRATE, REAGENT (ACS)
Item #: 1040
Lot #: C579586

2895260
ID: WSulfide_00006
Exp:03/09/20 Prpd:TAM Opn:09/14/15
sodium sulfide, nonahydra

1700988
ID: WSulfide_00003
Exp:09/09/16 Prpd:MTW Opn:09/14/16
sodium sulfide, nonahydra

Certified Values:

Specifications (Max Limits or as Specified)	Pass/Fail	Numerical Result
Assay 98.0% min	PASS	102.8%
Sulfite and Thiosulfate (as SO4) 0.1%	PASS	<0.1%
Iron Pass test	PASS	pass test
Ammonium 0.005%	PASS	<0.005%
Appearance Colorless to slightly yellow crystals	PASS	conforms

Traceable to N.I.S.T. (Y/N)? Y
Comments:

Certificate Prepared By: Nicholas E. Dangler — Signature on file.

Certifying Officer: Charles Fontaine, QA Manager, Analytical Division — Signature on file.

QA to Retest Point: 12 months from shipment

Recertification Batch #: 256373

Not for direct use in food, cosmetics, finished pharmaceuticals or drug products. Supplier is not responsible for compliance with FDA Current Good Manufacturing Practice (cGMP) requirements, including without limitation those for finished drug products in 21 C.F.R Parts 210 and 211. Consult warranty limitations at www.gfschemicals.com/statics/documents/aboutus/termsandconditions.html
For resale by GFS authorized distributors only.

GFS Chemicals, Inc. P.O. Box 245 Powell, OH 43065 * Signed Orig. Doc. On File
1-800-858-9682 (U.S. and Canada) 1-740-881-5501(International) 1-740-881-5989(Fax)

Reagent

GLY_STK_00108

Certificate of Analysis

Agilent

Custom Standard

Product Number: CUS-8384 **Page:** 1 of 1

Lot Number: CS-1398 **Lot Issue Date:** 26-Mar-2018 **Expiration Date:** 30-Apr-2020

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA Scientific's ISO 9001 registered quality system. A review of the gravimetric preparation data by our ISO 17025 accredited laboratory serves to verify the concentration of each analyte. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
2-methoxyethanol	000109-86-4	RM01198	10001 ± 50 µg/mL
2-ethoxyethanol	000110-80-5	RM01025	10048 ± 50 µg/mL
ethylene glycol	000107-21-1	RM12125	10037 ± 50 µg/mL
diethylene glycol	000111-46-6	RM03684	10012 ± 50 µg/mL
propylene glycol	000057-55-6	RM09856	10042 ± 50 µg/mL
triethylene glycol	000112-27-6	RM00376	10008 ± 50 µg/mL

Matrix: methanol (methyl alcohol)

Storage: Store at Room Temperature (15° to 30°C).

ID's 5000259
260
261
262
263
264
421
422
433
434

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

ANAB ACCREDITED TESTING LABORATORY

ISO 9001
Registered
TUV USA, Inc.

John Russo
President

Monica Bourgeois
Director of QA/RA

250 Smith Street North Kingstown, Rhode Island 02852 www.ultrasci.com

Reagent

GLY_STK_00113

Agilent

Certificate of Analysis
ISO 17034

Custom Standard

Product Number: CUS-8384 **Page:** 1 of 1

Lot Number: 0006476060 **Lot Issue Date:** 24-Jun-2019 **Expiration Date:** 31-Jul-2021

This ISO 17034 Reference Material (RM) was manufactured and verified in accordance with Agilent Technologies ISO 9001 registered quality system. A review of the gravimetric preparation data by our ISO 17025 accredited laboratory serves to verify the concentration of each analyte. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
2-methoxyethanol	000109-86-4	RM01198	10042 ± 50 µg/mL
2-ethoxyethanol	000110-80-5	RM01025	10042 ± 50 µg/mL
ethylene glycol	000107-21-1	RM12125	10045 ± 50 µg/mL
diethylene glycol	000111-46-6	RM12474	10041 ± 50 µg/mL
propylene glycol	000057-55-6	RM09856	10048 ± 50 µg/mL
triethylene glycol	000112-27-6	RM00376	10046 ± 50 µg/mL

Matrix: methanol (methyl alcohol)

Storage: Store at Room Temperature (15° to 30°C).

Agilent uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

Monica Bourgeois
QMS Representative

5376711
ID: GLY_STK_00111
Exp: 07/31/21 Prpd: JLS
8015 Glycol Stock 10,000

5376712
ID: GLY_STK_00112
Exp: 07/31/21 Prpd: JLS
8015 Glycol Stock 10,000

5376713
ID: GLY_STK_00113
Exp: 07/31/21 Prpd: JLS
8015 Glycol Stock 10,000

5376714
ID: GLY_STK_00114
Exp: 07/31/21 Prpd: JLS
8015 Glycol Stock 10,000

5376715
ID: GLY_STK_00115
Exp: 07/31/21 Prpd: JLS
8015 Glycol Stock 10,000

ANAB ACCREDITED 9017058 REFERENCE MATERIAL PRODUCER
ISO 17034 Cert No. AR-1936

Produced in accordance with TUV USA Inc 56 100 18560026 registered ISO 9001 Quality Management System

ANAB ACCREDITED 9017058 TESTING LABORATORY
ISO17025 Cert No. AT-1937

250 Smith Street North Kingstown, Rhode Island 02852 www.agilent.com/quality

Reagent

GLY_SURR_neat_00023

660 Tower Lane • P.O. Box 599 • West Chester, PA 19381-0599
1-800-452-9994 • 1-610-692-3026 • Fax 1-610-692-8729
info@chemservice.com • www.chemservice.com

CERTIFICATE OF ANALYSIS

1,4-Butanediol

CATALOG NUMBER	N-10211-1G
LOT NUMBER	7323500
DATE CERTIFIED	01/28/15
EXPIRATION DATE	01/31/24
CAS NUMBER	110-63-4
MOLECULAR FORMULA	C4H10O2
MOLECULAR WEIGHT	90.12
STORAGE	Store in a cool dry place.
HANDLING	See Safety Data Sheet
INTENDED USE	For laboratory use only.
ISO GUIDE 34 CERTIFIED	[ ]

Analytical Test	Value
% PURITY (GC/FID)	98.2

Chem Service, Inc. guarantees the purity to be +/- 0.5% deviation prior to the expiration date shown on the label and exclusive of any customer contamination.

4598506
ID: GLY_SURR_neat_00020
Exp: 01/31/24 Prpd: JLS
8015 Glycol Surrogate (Ne

4598507
ID: GLY_SURR_neat_00021
Exp: 01/31/24 Prpd: JLS
8015 Glycol Surrogate (Ne

Certified By:

Mary Beth O'Donnell

Mary Beth O'Donnell
CSM/TC

4598508
ID: GLY_SURR_neat_00022
Exp: 01/31/24 Prpd: JLS
8015 Glycol Surrogate (Ne

4598509
ID: GLY_SURR_neat_00023
Exp: 01/31/24 Prpd: JLS
8015 Glycol Surrogate (Ne

4598510
ID: GLY_SURR_neat_00024
Exp: 01/31/24 Prpd: JLS
8015 Glycol Surrogate (Ne

Chem Service, Inc. is accredited to ISO Guide 34:2009, ISO/IEC 17025:2005 and certified to ISO 9001:2008

ISO/IEC 17025
Accreditation Number 3320

Reference Material Producer
ISO GUIDE 34
Accreditation Number 3320

COA Form
Revision 3 (3/2015)

Reagent

HRDXNCP_00039

received 8/30/19 KSS

(pg 1/6)

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

PCDD/PCDF Window Defining and Isomer Specificity Mix (DB-5)

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number:	EDF-4147
Solution Lot:	ER03111502
Expiration Date:	March 2025
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/ analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies.
- Ampules are overfilled to ensure a minimum 1 2 mL volume We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

March 24, 2015
Date

Component	Chromatographic Purity	Concentration
1,3,6,8-Tetrachlorodibenzo-p-dioxin	99.9%	200.3 ± 2.0 ng/mL
1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin	99.8%	200.6 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzo-p-dioxin	99.2%	200.3 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	98.9%	200.1 ± 2.0 ng/mL
1,2,3,9-Tetrachlorodibenzo-p-dioxin	99.6%	199.9 ± 2.0 ng/mL
1,2,8,9-Tetrachlorodibenzo-p-dioxin	99.2%	200.2 ± 2.0 ng/mL
1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin	98.9%	200.6 ± 2.0 ng/mL
1,2,3,8,9-Pentachlorodibenzo-p-dioxin	99.0%	200.1 ± 2.0 ng/mL
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin	98.7%	200.2 ± 2.0 ng/mL
1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin	99.0%	200.5 ± 2.0 ng/mL
1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin	98.9%	200.1 ± 2.0 ng/mL
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	99.8%	200.3 ± 2.0 ng/mL
1,3,6,8-Tetrachlorodibenzofuran	98.5%	200.1 ± 2.0 ng/mL
1,2,3,9-Tetrachlorodibenzofuran	98.2%	200.4 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzofuran	99.4%	200.0 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	99.2%	200.5 ± 2.0 ng/mL
2,3,4,7-Tetrachlorodibenzofuran	98.7%	200.2 ± 2.0 ng/mL
1,2,8,9-Tetrachlorodibenzofuran	99.3%	199.9 ± 2.0 ng/mL
1,3,4,6,8-Pentachlorodibenzofuran	99.5%	200.6 ± 2.0 ng/mL
1,2,3,8,9-Pentachlorodibenzofuran	99.0%	200.5 ± 2.0 ng/mL
1,2,3,4,6,8-Hexachlorodibenzofuran	98.6%	200.5 ± 2.0 ng/mL
1,2,3,4,8,9-Hexachlorodibenzofuran	99.7%	200.5 ± 2.0 ng/mL
1,2,3,4,6,7,8-Heptachlorodibenzofuran	98.9%	200.6 ± 2.0 ng/mL
1,2,3,4,7,8,9-Heptachlorodibenzofuran	99.1%	200.1 ± 2.0 ng/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Stock solution concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.

Standard Solution Assay Parameters

Analysis Method:	GC/MS
Column:	DB-5ms 30 m x 0.25 mm ID, 0.25 µm film thickness
Temp Program:	140°C to 200°C at 40°C/min 200°C to 300°C at 4°C/min
Injector Temp:	Cool-on-Column
Detector Temp:	280°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	1

Solution Standard Verification and Homogeneity

Compound	Verified Concentration ng/mL	Acceptance Criteria	%RSD - Homogeneity %	Acceptance Criteria
1,3,6,8-Tetrachlorodibenzo-p-dioxin	200 4	± 10%	1 6	≤ 5%
1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin/ 2,3,7,8-Tetrachlorodibenzo-p-dioxin/ 1,2,3,9-Tetrachlorodibenzo-p-dioxin [1]	591.2	± 10%	1 6	≤ 5%
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	196 8	± 10%	2 7	≤ 5%
1,2,8,9-Tetrachlorodibenzo-p-dioxin	197 2	± 10%	2 8	≤ 5%
1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin	194 6	± 10%	2 8	≤ 5%
1,2,3,8,9-Pentachlorodibenzo-p-dioxin	194 7	± 10%	2 3	≤ 5%
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin	195 3	± 10%	1 7	≤ 5%
1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin	192.6	± 10%	2 3	≤ 5%
1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin	191.2	± 10%	2 5	≤ 5%
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	196 7	± 10%	2 1	≤ 5%
1,3,6,8-Tetrachlorodibenzofuran	202 3	± 10%	2 1	≤ 5%
1,2,3,9-Tetrachlorodibenzofuran	194 4	± 10%	2 4	≤ 5%
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	198 0	± 10%	3.3	≤ 5%
2,3,4,7-Tetrachlorodibenzofuran/ 2,3,7,8-Tetrachlorodibenzofuran [1]	399.3	± 10%	2.4	≤ 5%
1,2,8,9-Tetrachlorodibenzofuran	198 9	± 10%	2.9	≤ 5%
1,3,4,6,8-Pentachlorodibenzofuran	195 0	± 10%	2.1	≤ 5%
1,2,3,8,9-Pentachlorodibenzofuran	199.6	± 10%	2.1	≤ 5%
1,2,3,4,6,8-Hexachlorodibenzofuran	195.5	± 10%	2.4	≤ 5%
1,2,3,4,8,9-Hexachlorodibenzofuran	196.4	± 10%	1.8	≤ 5%
1,2,3,4,6,7,8-Heptachlorodibenzofuran	197.4	± 10%	2.9	≤ 5%
1,2,3,4,7,8,9-Heptachlorodibenzofuran	195.3	± 10%	2.1	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The %RSD of samples pulled from across the lot demonstrate homogeneity.
- Product is compared to prior lot and meets acceptance criteria of ± 10%.

[1] Compounds co-elute. Concentration is the sum of both or all analytes.

Neat Material Data

Compound	Lot Number	CAS Number	Chemical Formula	Molecular Weight	Chromatographic Purity
1,3,6,8-Tetrachlorodibenzo-p-dioxin	ER040811-02	33423-92-6	$C_{12}H_4Cl_4O_2$	321.97	99.9%
1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin	ER021510-01	NA	$C_{12}H_4Cl_4O_2$	321.97	99.8%
2,3,7,8-Tetrachlorodibenzo-p-dioxin	ER061009-02	1746-01-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	ER01031401	76523-40-5	$^{13}C_{12}H_4Cl_4O_2$	333.84	98.9%
1,2,3,9-Tetrachlorodibenzo-p-dioxin	ER0529401	71669-26-6	$C_{12}H_4Cl_4O_2$	321.97	99.6%
1,2,8,9-Tetrachlorodibenzo-p-dioxin	ER11201301	62470-54-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%
1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin	ER11051302	NA	$C_{12}H_3Cl_5O_2$	356.42	98.9%
1,2,3,8,9-Pentachlorodibenzo-p-dioxin	ER05161401	NA	$C_{12}H_3Cl_5O_2$	356.42	99.0%
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin	ER08101402	NA	$C_{12}H_2Cl_6O_2$	390.86	98.7%
1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin	ER030107-01	NA	$C_{12}H_2Cl_6O_2$	390.86	99.0%
1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin	ER01201502	58200-70-7	$C_{12}HCl_7O_2$	425.31	98.9%
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	ER100207-02	35822-46-9	$C_{12}HCl_7O_2$	425.31	99.8%
1,3,6,8-Tetrachlorodibenzofuran	ER021808-01	71998-72-6	$C_{12}H_4Cl_4O$	305.98	98.5%
1,2,3,9-Tetrachlorodibenzofuran	ER071107-01	NA	$C_{12}H_4Cl_4O$	305.98	98.2%
2,3,7,8-Tetrachlorodibenzofuran	ER101211-02	51207-31-9	$C_{12}H_4Cl_4O$	305.98	99.4%
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	ER12101304	89059-46-1	$^{13}C_{12}H_4Cl_4O$	317.88	99.2%
2,3,4,7-Tetrachlorodibenzofuran	ER052307-01	NA	$C_{12}H_4Cl_4O$	305.98	98.7%
1,2,8,9-Tetrachlorodibenzofuran	ER041508-03	NA	$C_{12}H_4Cl_4O$	305.98	99.3%
1,3,4,6,8-Pentachlorodibenzofuran	ER04231401	NA	$C_{12}H_3Cl_5O$	340.42	99.5%
1,2,3,8,9-Pentachlorodibenzofuran	ER12101303	NA	$C_{12}H_3Cl_5O$	340.42	99.0%
1,2,3,4,6,8-Hexachlorodibenzofuran	ER04231402	NA	$C_{12}H_2Cl_6O$	374.86	98.6%
1,2,3,4,8,9-Hexachlorodibenzofuran	ER12091401	92341-07-6	$C_{12}H_2Cl_6O$	374.86	99.7%
1,2,3,4,6,7,8-Heptachlorodibenzofuran	ER02281403	67562-39-4	$C_{12}HCl_7O$	409.31	98.9%
1,2,3,4,7,8,9-Heptachlorodibenzofuran	ER01121503	55673-89-7	$C_{12}HCl_7O$	409.31	99.1%

Product Analysis

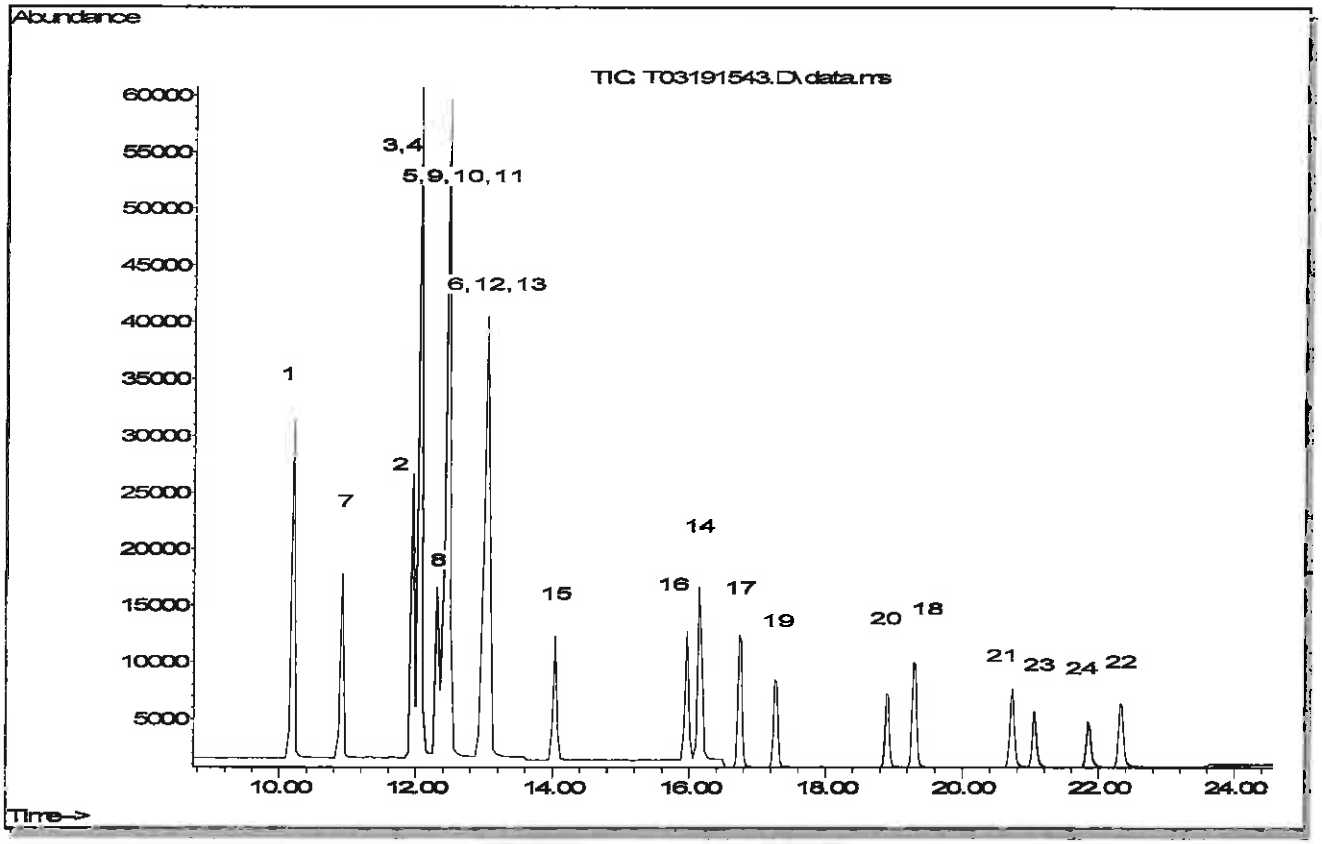

1 1,3,6,8-Tetrachlorodibenzofuran
2 2,3,4,7-Tetrachlorodibenzofuran
3 2,3,7,8-Tetrachlorodibenzofuran
4 2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$
5 1,2,3,9-Tetrachlorodibenzofuran
6 1,2,8,9-Tetrachlorodibenzofuran
7 1,3,6,8-Tetrachlorodibenzo-p-dioxin
8 1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin
9 1,2,3,9-Tetrachlorodibenzo-p-dioxin
10 2,3,7,8-Tetrachlorodibenzo-p-dioxin
11 2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$
12 1,2,8,9-Tetrachlorodibenzo-p-dioxin
13 1,3,4,6,8-Pentachlorodibenzofuran
14 1,2,3,8,9-Pentachlorodibenzofuran
15 1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin
16 1,2,3,8,9-Pentachlorodibenzo-p-dioxin
17 1,2,3,4,6,8-Hexachlorodibenzofuran
18 1,2,3,4,8,9-Hexachlorodibenzofuran
19 1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin
20 1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin
21 1,2,3,4,6,7,8-Heptachlorodibenzofuran
22 1,2,3,4,7,8,9-Heptachlorodibenzofuran
23 1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin
24 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin

COA Revision History

Revision No.	Date	Reason for Revision
00	March 24, 2015	Initial version

Reagent

HRDXNIDA_00075

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-$^{13}C_{12}$

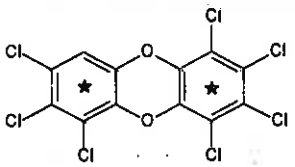

Catalog Number:	ED-972
Solution Lot:	ER111010-01
Expiration Date:	November 2020
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature Do not store cold
Intended Use:	For laboratory use only Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-$^{13}C_{12}$	98.9%	50.03 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER111010-01	50.5	± 5%	0.5	≤ 3%
Previous Lot	ER011807-01	47.4	± 5%	1.8	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

January 15, 2016
Date

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}HO_2Cl_7$
Compound Lot:	ER100110-01	**CAS Number:**	NA
		Molecular Weight:	437.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.9%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.10% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		98.91%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

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Spectral and Physical Data

GC/FID

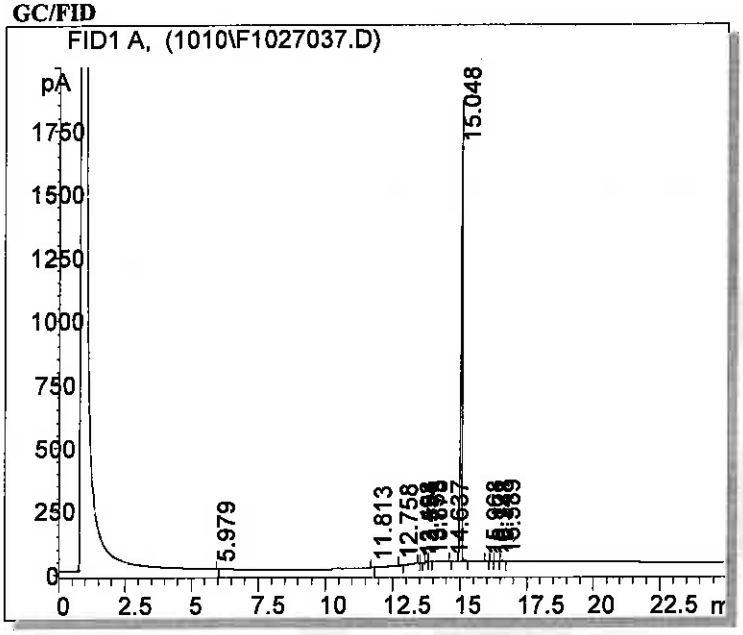

Column:	DB-5ms, 30m x 0.53mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-column
Detector Temp:	325°C
Data File Name:	S:\GC\GC6\2010\1010\F1027037.D
Instrument:	GC#6
Sample Name:	ER100110-01
Acquired:	October 28, 2010

Peak #	Ret Time	Area	Height	Area %
1	5.98	0.34	0.18	0.00
2	11.81	1.00	0.08	0.01
3	12.76	10.96	2.89	0.16
4	13.50	1.19	0.32	0.02
5	13.55	2.63	0.80	0.04
6	13.75	13.39	3.28	0.19
7	13.88	7.04	1.81	0.10
8	14.64	0.86	0.28	0.01
9	15.05	6900.70	1812.09	98.81
10	15.97	3.15	0.73	0.05
11	16.17	2.25	0.55	0.03
12	16.35	5.12	1.10	0.07
13	16.59	18.93	4.26	0.27
14	26.99	15.17	0.35	0.22
15	35.58	0.06	0.21	0.00
16	41.80	0.77	0.13	0.01

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Spectral and Physical Data (cont.)

GC/MS

Compound Name : 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-13C
Lab Number : [illegible]
Instrument : Agilent 5973N MSD/5890 GC
Operator-Inst ID : [illegible] - 010106
Date Reported : Wed Oct 27 [illegible] 2010
Column Type : [illegible] x 0.25mm ID, 0.25um film thickness
Temp. Program : [illegible]
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 290°C

Scan Range : 50-550

Total Ion Chromatogram

Mass Spectrum

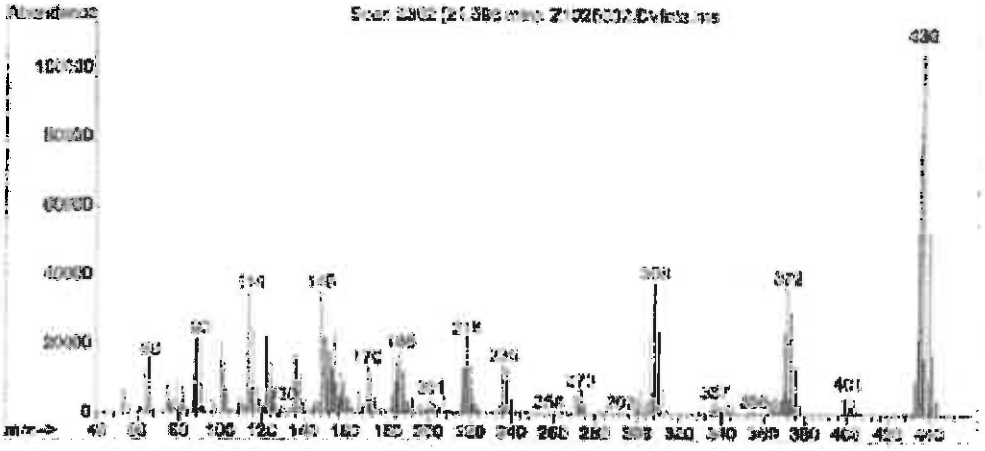

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

COA Revision History

Revision No.	Date	Reason for Revision
00	November 24, 2010	Initial version
01	January 15, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

Reagent

HRDXNIDA_00247

Recd 8-17-16

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$

HpCDF

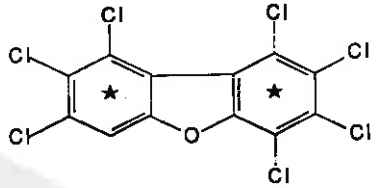

Catalog Number: EF-988
Solution Lot: ER04251601
Expiration Date: March 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	99.1%	49.99 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04251601	49.11	± 5%	0.2	≤ 3%
Previous Lot	ER053107-02	50.58	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

June 21, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}HCl_7O$
Compound Lot:	ER04041602	**CAS Number:**	109719-94-0
		Molecular Weight:	421.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.1%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS SIM	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.16% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.10%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data (cont.)

GC/FID

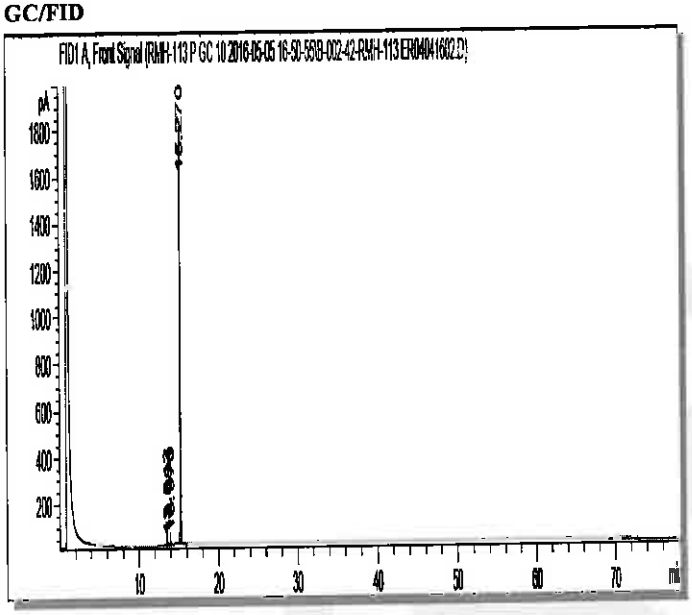

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Data File Name:	RMH-113 P GC 10 2016-05-05 16-50-55\B-002-42.D
Instrument:	GC#10
Sample Name:	ER04041602
Acquired:	May 05, 2016

Peak #	Ret Time	Area	Height	Area %
1	13.51	8.76	2.52	0.12
2	13.68	17.42	7.45	0.24
3	13.97	39.65	15.48	0.54
4	15.27	7226.95	1798.33	99.10

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 1,2,3,4,7,8,9-Heptachlorodibenzofuran-13C12
Lot Number	: EM04041602
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Wed May 04 15:34:28 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

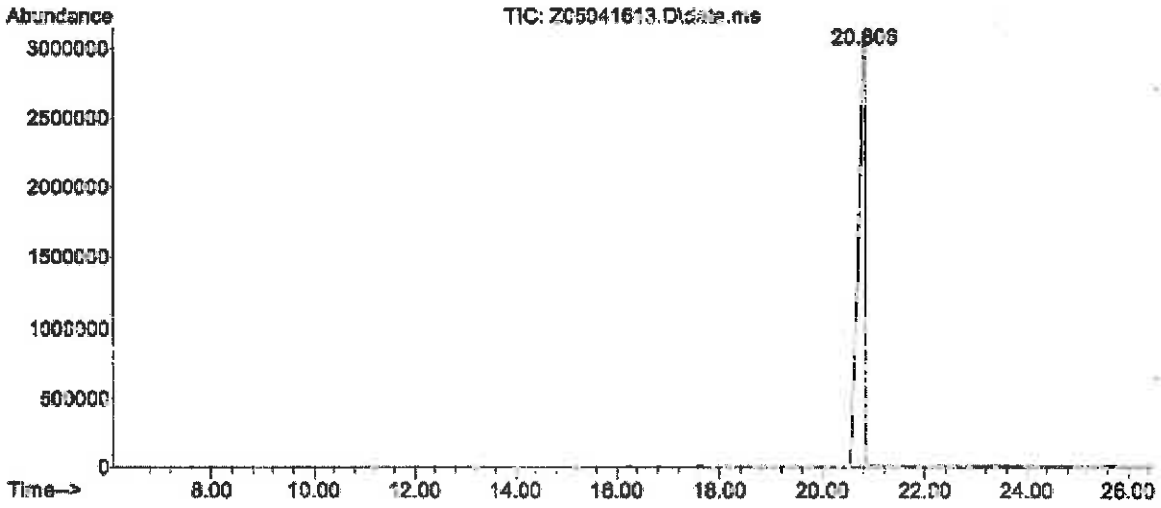

Mass Spectrum

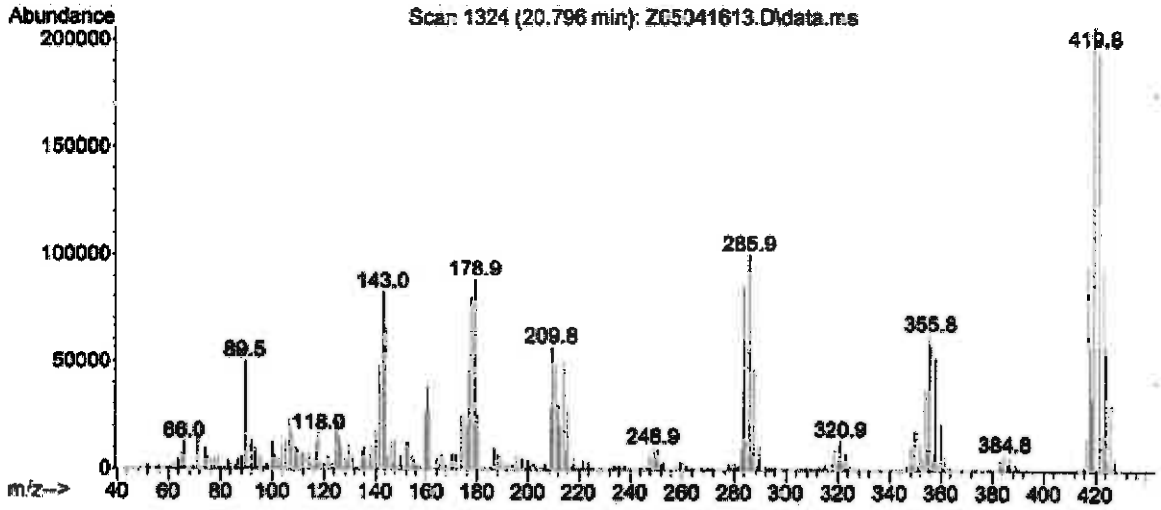

COA Revision History

Revision No.	Date	Reason for Revision
00	June 21, 2016	Initial version

Reagent

HRDXNIDA_00297

r: 9/28/17 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

1042065
ID: HRDXNIDA_00297
Exp: 01/31/27 Prpd: SKV
13C-2,3,4,7,8-PeCDF [50ug

CIL

Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$

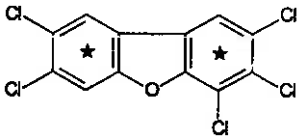

Catalog Number: EF-958
Solution Lot: ER01061701
Expiration Date: January 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	97.9%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s); measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER01061701	50.51	± 5%	0.1	≤ 3%
Previous Lot	ER11041601	49.56	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

January 27, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3Cl_5O$
Compound Lot:	ER11101601	**CAS Number:**	116843-02-8
		Molecular Weight:	352.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0102	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.02% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 0.5%
Mass Balance Purity Factor		98.33%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

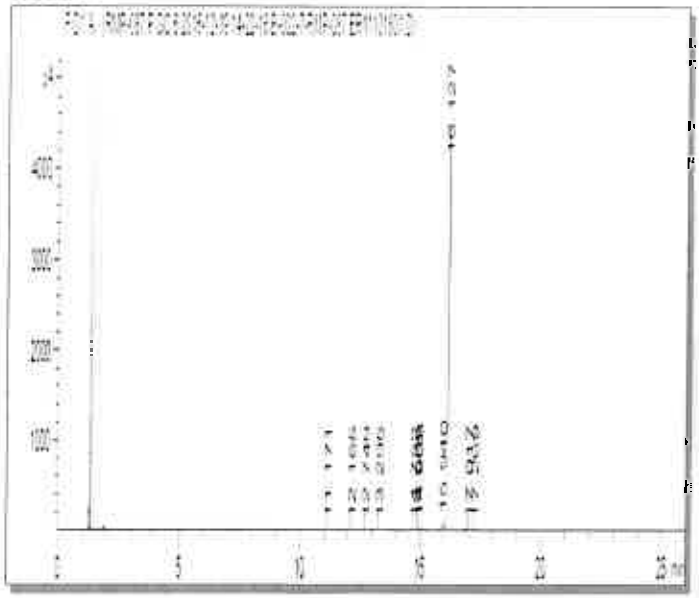

Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 100°C to 300°C at 15°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: RMP-087 P GC 6 2016-12-19 14-22-16\B-002-7.D
Instrument: GC#6
Sample Name: ER11101601
Acquired: December 19, 2016

Peak #	Ret Time	Area	Height	Area %
1	11.17	0.94	0.40	0.01
2	12.17	1.30	0.39	0.01
3	12.75	0.47	0.20	0.00
4	13.30	0.90	0.35	0.01
5	14.75	1.70	0.87	0.02
6	14.91	1.09	0.56	0.01
7	14.97	32.24	17.54	0.29
8	15.94	124.38	64.36	1.13
9	16.13	10866.60	4688.80	98.41
10	17.02	6.31	2.46	0.06
11	17.27	6.76	2.34	0.06

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 2,3,4,7,8-Pentachlorodibenzofuran-13C12
Lot Number	: ER11101601
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRS)
Date Reported	: Tue Dec 20 12:19:55 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.50 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

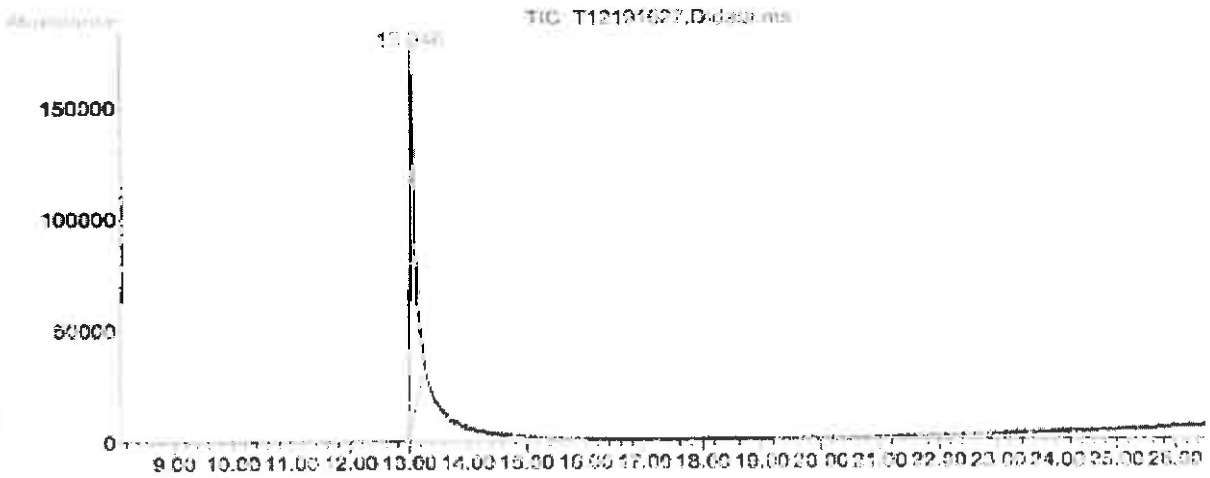

Mass Spectrum

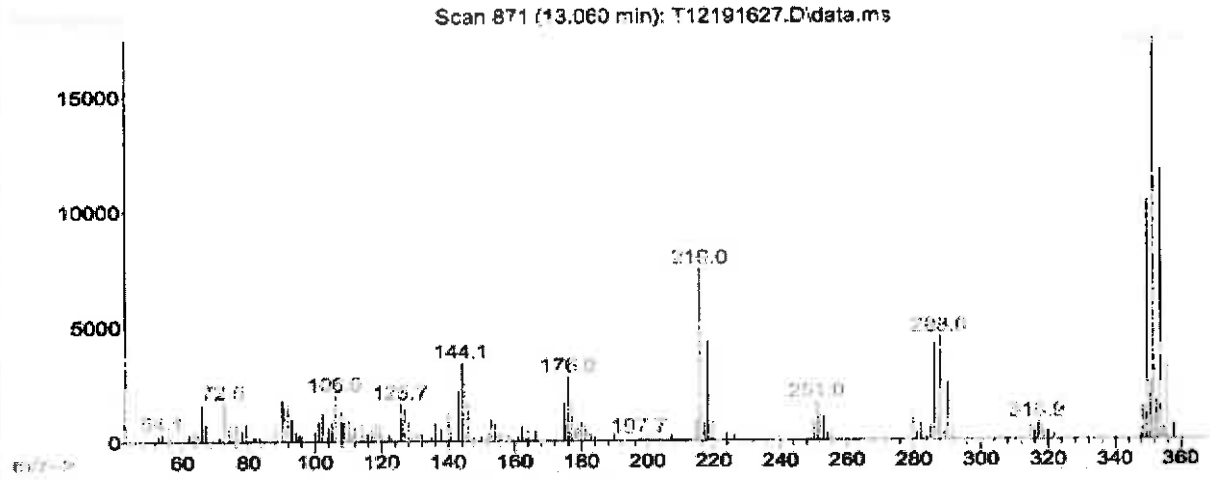

Reagent

HRDXNIDA_00301

n: 9/20/17 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

1042073
ID: HRDXNIDA_00301
Exp: 10/31/21 Prpd: SKV
13C-1,2,3,4,7,8-HxCDD [50

CIL

Certificate of Analysis

Certificate Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 9001
GMP/GLP

1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

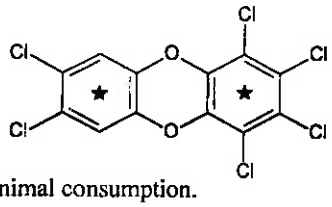

Catalog Number: ED-946
Solution Lot: ER102711-01
Expiration Date: October 2021
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.0%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER102711-01	48.2	± 5%	0.2	≤ 3%
Previous Lot	ER012208-01	49.6	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS ACCREDITED
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

September 17, 2015
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O_2$
Compound Lot:	ER011008-01	**CAS Number:**	109719-80-4
		Molecular Weight:	402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.2%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.08% $^{13}C_0$ vs $^{13}C_{12}$
		0.19% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.19%

- Chromatographic purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

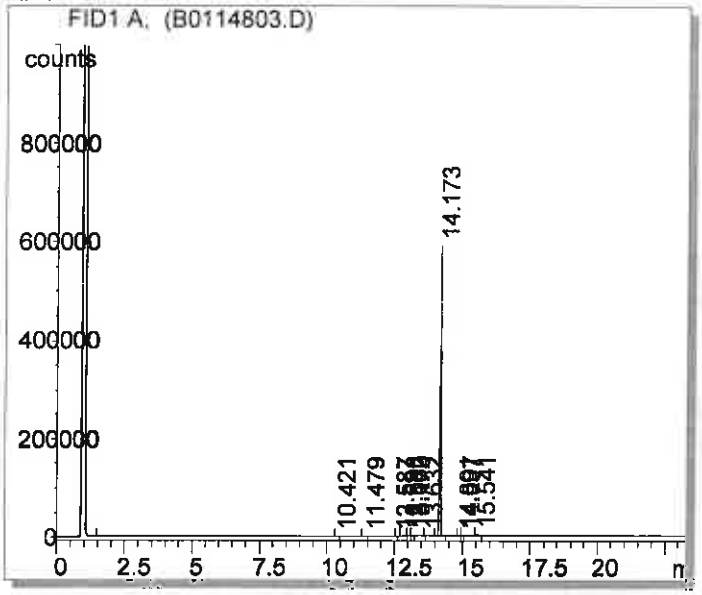

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0114803.D
Instrument:	GC#2
Sample Name:	ER011008-01
Acquired:	January 14, 2008

Peak #	Ret Time	Area	Height	Area %
1	10.42	287.44	132.33	0.02
2	11.48	242.24	92.03	0.01
3	12.59	389.12	196.33	0.02
4	12.90	3015.36	1199.07	0.17
5	13.06	2243.36	788.13	0.13
6	13.17	2243.90	754.45	0.13
7	13.63	2349.03	134.07	0.02
8	14.17	427.02	588610.00	99.20
9	14.89	1731980.00	110.79	0.03
10	15.00	512.26	86.41	0.02
11	15.54	4077.63	1008.44	0.23

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

Compound Name : 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-13C12
Lot Number : [illegible]-01
Instrument : Agilent 5973N MSD/6890N GC
Operator-Inst ID : REC - C1010E
Date Reported : Wed Jan 16 11:15:58 2008
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 300°C@6°C/min (5 min)
Injection Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 280°C

Scan Range : 50-550

Total Ion Chromatogram

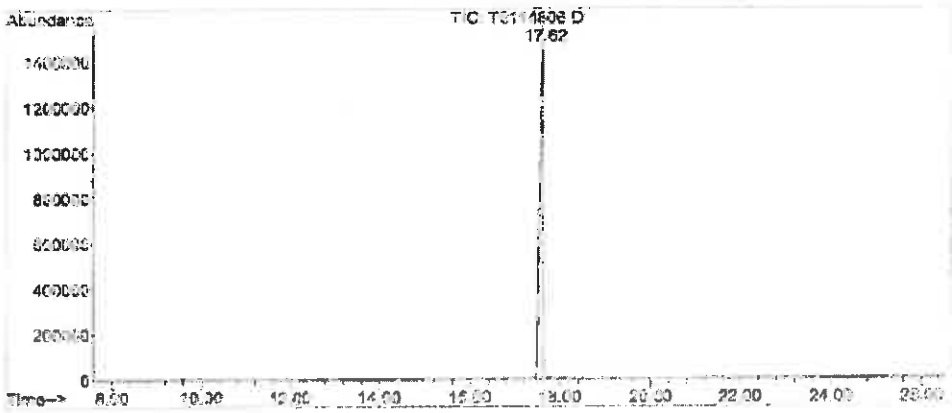

Mass Spectrum

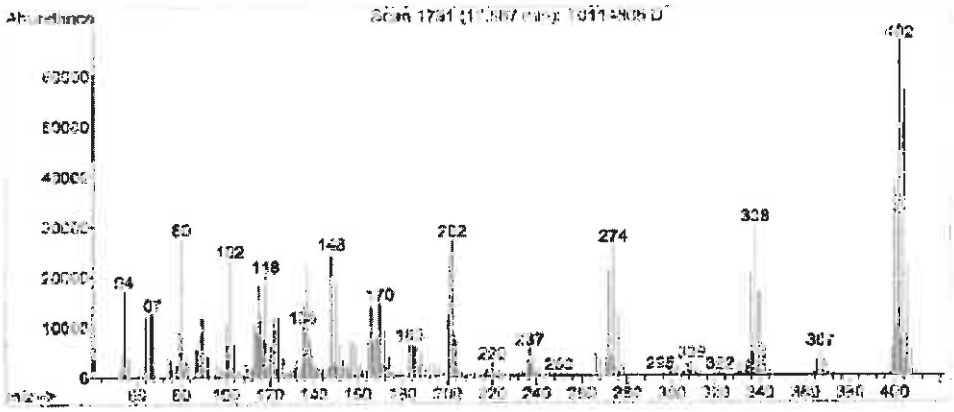

COA Revision History

Revision No.	Date	Reason for Revision
00	November 12, 2011	Initial version
01	September 17, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet"

Reagent

HRDXNIDA_00302

r: 9/20/17 SKV

1042074
ID: HRDXNIDA_00302
Exp: 07/31/20 Prpd: SKV
13C-1,2,3,4,7,8-HxCDF [50

Cerilliant
Analytical Reference Standards
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CIL

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

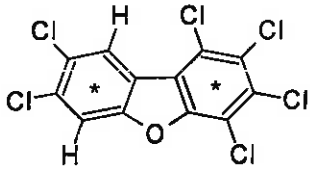

Catalog Number:	EF-963
Solution Lot:	ER072810-02
Expiration Date:	July 2020
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Protect from air and light, store at room temperature. Do not store cold.
Intended Use:	For laboratory use only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration.

Component	Chromatographic Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.6%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Acceptance Criteria	%RSD - Homogeneity Actual Results	Acceptance Criteria
New Lot	ER072810-02	47.4	± 5%	0.3	≤ 3%
Previous Lot	LR011907-01	46.6	—	1.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

November 15, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$
Compound Lot:	35135-45

Chemical Formula:	$^{13}C_{12}H_2OCl_6$
CAS Number:	114423-98-2
Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.6%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% C_0 vs C_{12}
		0.13% C_6 vs C_{12}
Purity Factor		99.57%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

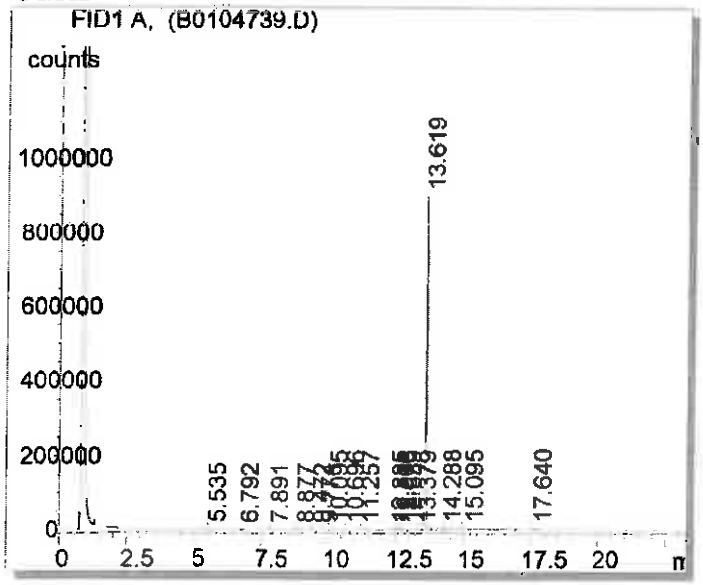

Column:	DB-5ms, 30m x 0.53mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0104739.D
Instrument:	GC#2
Sample Name:	35135-45
Acquired:	January 05, 2007

Peak #	Ret Time	Area	Height	Area %
1	4.21	615.24	161.26	0.02
2	5.21	1024.94	292.85	0.04
3	6.09	326.05	83.67	0.01
4	7.10	301.83	31.69	0.01
5	7.75	169.71	40.31	0.01
6	8.38	136.91	47.17	0.01
7	8.97	123.76	38.29	0.00
8	12.30	2684.80	1153.73	0.10
9	12.48	1162.83	467.42	0.04
10	12.56	1893.94	719.41	0.07
11	12.68	466.69	180.24	0.02
12	12.86	690.32	301.63	0.03
13	13.62	2651450.00	979725.00	99.58
14	14.34	274.11	82.01	0.01
15	15.17	1208.09	320.67	0.05
16	19.00	166.44	32.66	0.01

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

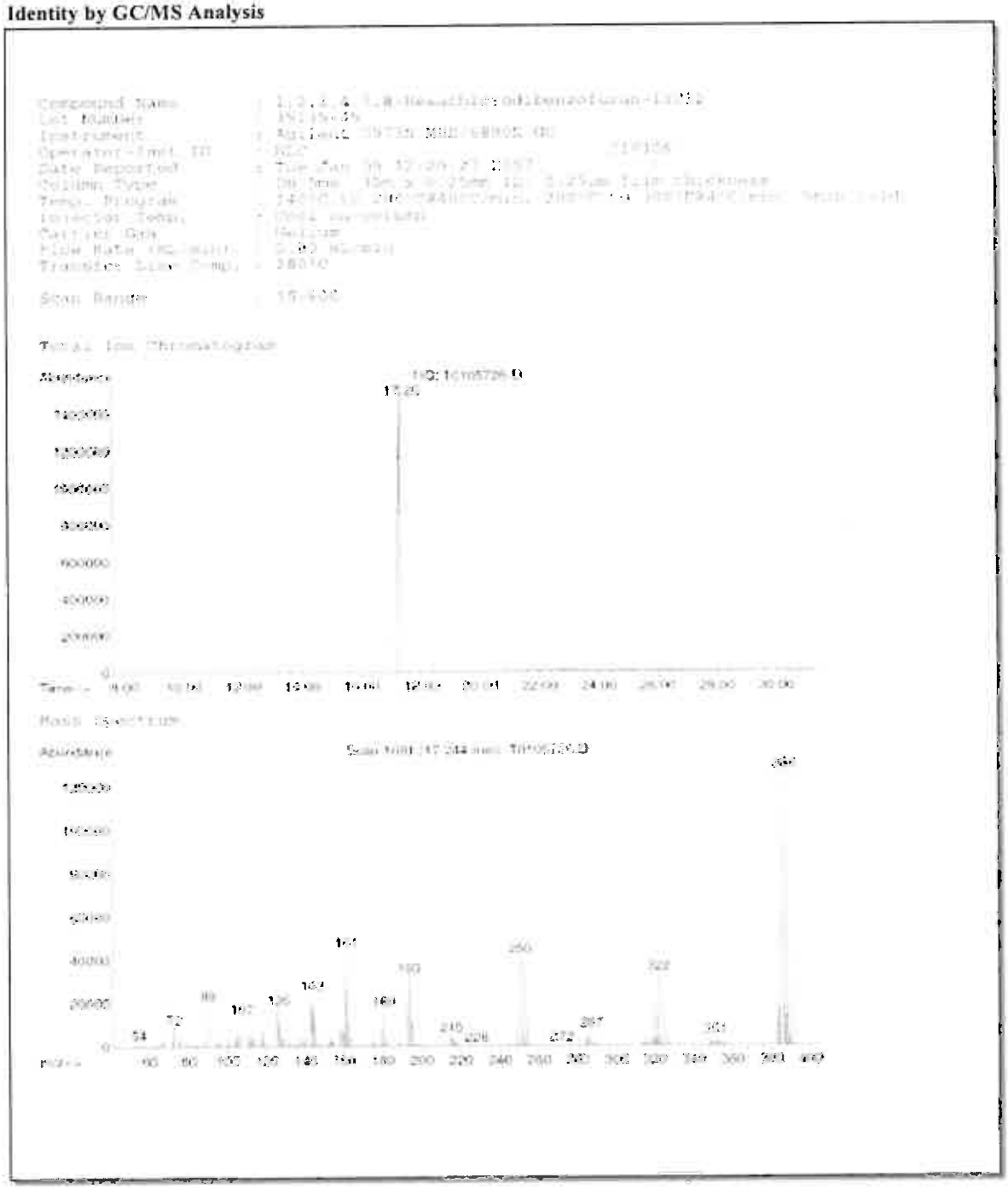

COA Revision History

Revision No.	Date	Reason for Revision
00	September 22, 2010	Initial version
01	September 22, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet"
02	November 15, 2016	Corrected Molecular Weight from 368.77 to 386.77

Reagent

HRDXNIDA_00353

r: 11/28/18 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,6,7,8-Heptachlorodibenzofuran-$^{13}C_{12}$

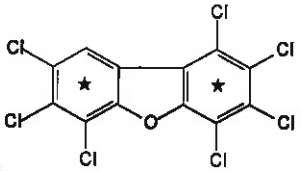

Catalog Number: EF-974
Solution Lot: ER08101404
Expiration Date: November 2024
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,6,7,8-Heptachlorodibenzofuran-$^{13}C_{12}$	98.3%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER08101404	48.75	± 5%	0.3	≤ 3%
Previous Lot	ER102711-02	51.49	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

December 03, 2015
Date

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 60°C to 300°C at 40°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 4
Linearity (r): 1.000

Neat Material Data

Compound Name: 1,2,3,4,6,7,8-Heptachlorodibenzofuran-$^{13}C_{12}$
Compound Lot: ER020507-02

Chemical Formula: $^{13}C_{12}HCl_7O$
CAS Number: 109719-84-8
Molecular Weight: 421.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	98.7%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.16% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS	SP10-0105	Pass
		no single DD/DF impurity ≥1.0%
Purity Factor		98.69%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

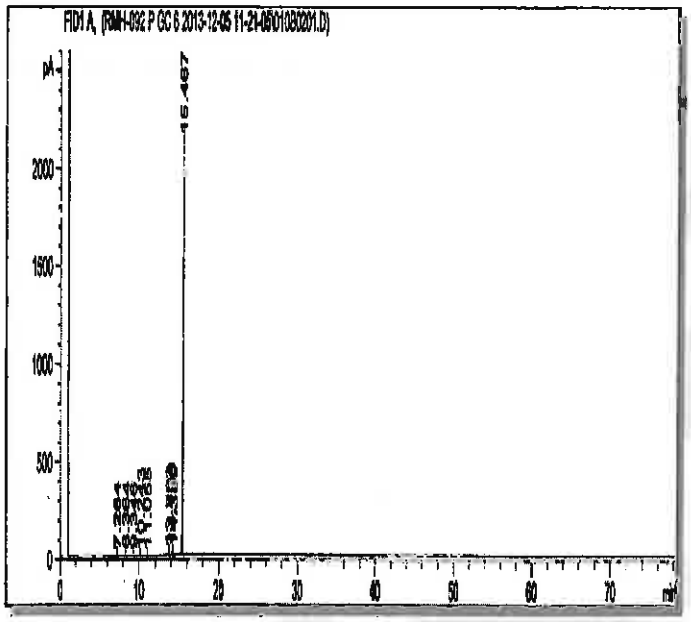

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-092 P GC 6 2013-12-05 11-21-05\010B0201.D
Instrument:	GC#6
Sample Name:	ER020507-02
Acquired:	December 05, 2013

Peak #	Ret Time	Area	Height	Area %
1	7.26	4.41	2.08	0.05
2	8.36	11.76	5.45	0.12
3	9.35	5.20	2.32	0.05
4	10.24	1.47	0.62	0.02
5	11.06	0.34	0.17	0.00
6	13.75	8.81	4.38	0.09
7	13.80	23.67	9.98	0.25
8	14.13	43.07	16.42	0.45
9	14.20	21.73	8.77	0.23
10	14.39	4.79	1.81	0.05
11	15.47	9349.36	2200.33	98.68

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 1,2,3,4,6,7,8-Heptachlorodibenzofuran-13C12
Lot Number : ER020507-02
Instrument : Agilent GCMS
Operator : ECM(BRYAN_DOCKERY)
Date Reported : Tue Dec 17 09:08:58 2013
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL\min) : 0.80 mL/min
Transfer Line Temp. : 280°C
Scan Range : 50-550

Total Ion Chromatogram

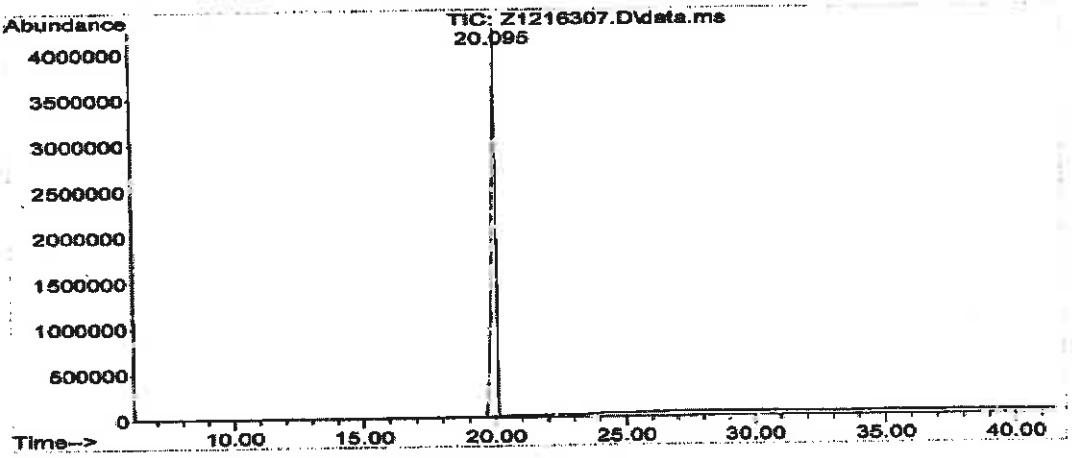

Mass Spectrum

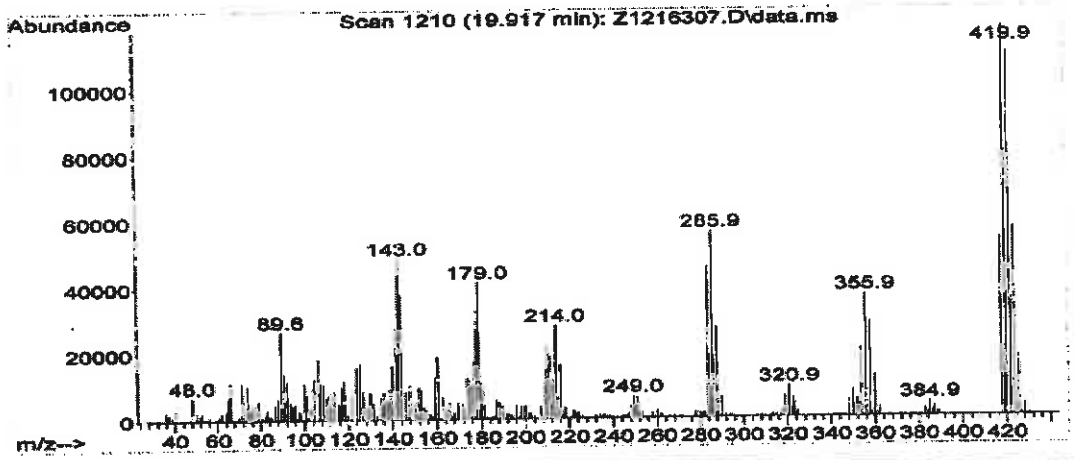

COA Revision History

Revision No.	Date	Reason for Revision
00	January 19, 2015	Initial version
01	December 04, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet"

Reagent

HRDXNIDA_00354

Rec: 11/28/18 SKV

Cerilliant Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$

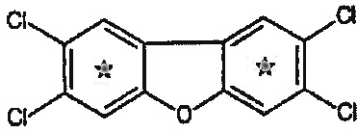

Catalog Number: EF-904
Solution Lot: ER09131601
Expiration Date: September 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	99.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER09131601	49.91	± 5%	0.2	≤ 3%
Previous Lot	ER12101304	51.13	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

November 02, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_4Cl_4O$
Compound Lot:	ER01161401	**CAS Number:**	89059-46-1
		Molecular Weight:	317.88

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.2%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS SIM	SP10-0105	No single DD/DF ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.00% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.24%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

GC/FID

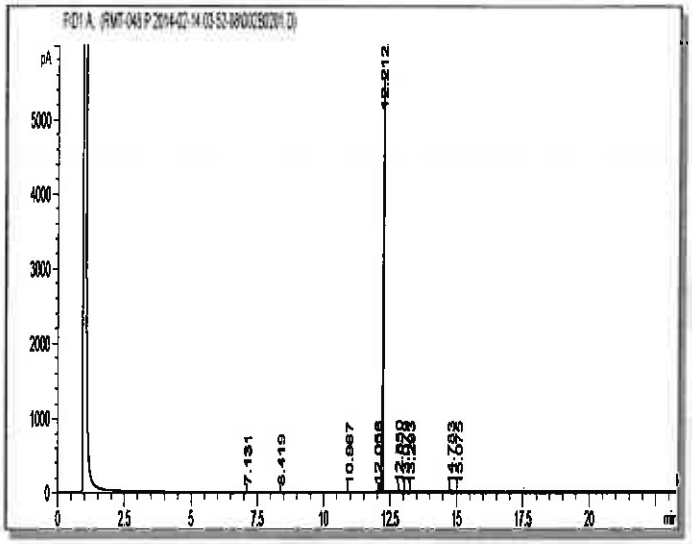

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMT-048 P 2014-02-14 03-52-08\002B0201.D
Instrument:	GC#10
Sample Name:	ER01161401
Acquired:	February 14, 2014

Peak #	Ret Time	Area	Height	Area %
1	7.13	1.19	0.61	0.01
2	8.42	3.23	1.42	0.03
3	10.97	3.57	1.04	0.03
4	12.06	20.86	12.47	0.18
5	12.21	11764.70	5466.96	99.29
6	12.85	30.72	15.48	0.26
7	13.08	7.62	4.03	0.06
8	13.29	5.47	2.91	0.05
9	14.78	7.62	2.76	0.06
10	15.08	3.87	1.33	0.03

GC/MS

Compound Name	: 2,3,7,8-Tetrachlorodibenzofuran-13C12
Lot Number	: ER01161401
Instrument	: Agilent GCMS
Operator	: ECM(SAMUEL_GIUFFRE)
Date Reported	: Thu Feb 13 11:57:07 2014
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

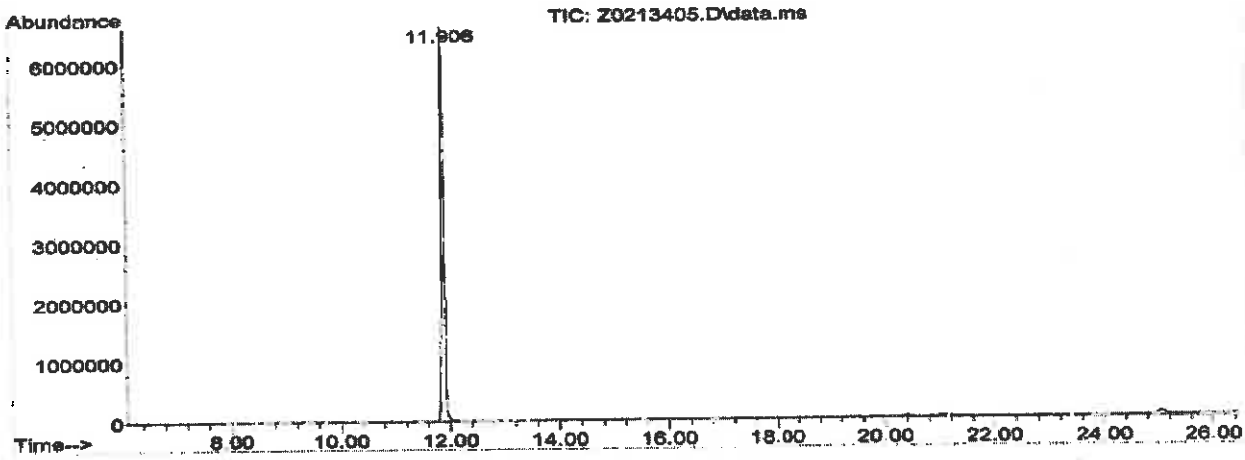

Mass Spectrum

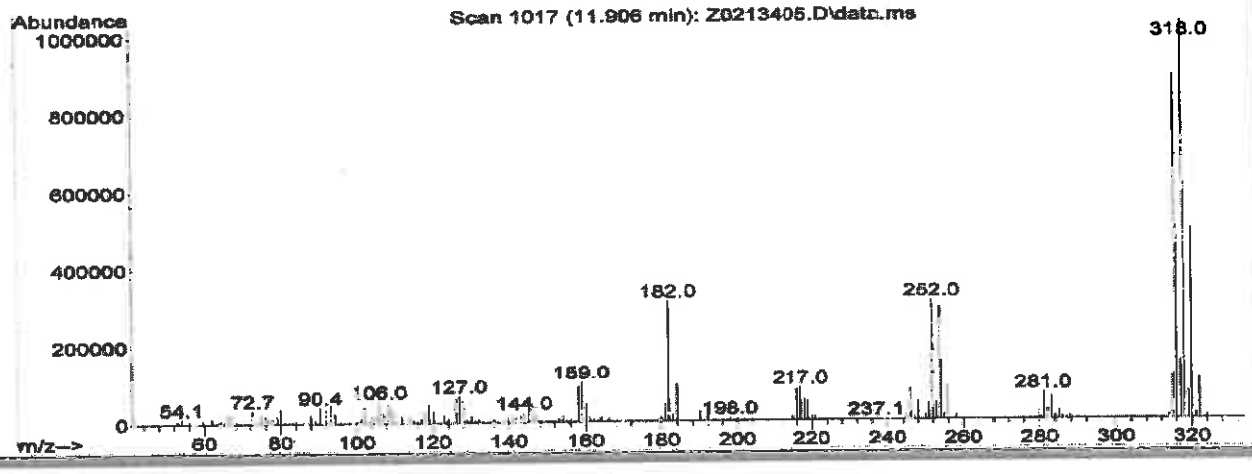

COA Revision History

Revision No.	Date	Reason for Revision
00	November 02, 2016	Initial version

Reagent

HRDXNIDA_00355

Rec: 11/28/18 SJV

Cerilliant Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$

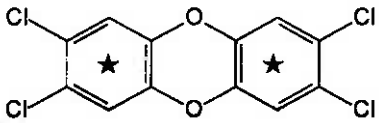

Catalog Number:	ED-900
Solution Lot:	ER03031601
Expiration Date:	March 2026
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.4%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution, and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER03031601	52.66	± 5%	0.3	≤ 3%
Previous Lot	ER01031401	49.83	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

March 24, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-35ms 30 m x 0.53 mm ID, 1.0 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_4Cl_4O_2$
Compound Lot:	ER01201405	**CAS Number:**	76523-40-5
		Molecular Weight:	333.88

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity and Distribution by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.05% $^{13}C_6$ vs $^{13}C_{12}$
Impurities by GC/MS SIM Analysis	SP10-0105	no single DD/DF impurity $\geq$0.5%
Mass Balance Purity Factor		99.34%

- The primary chromatographic purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Mass Balance Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

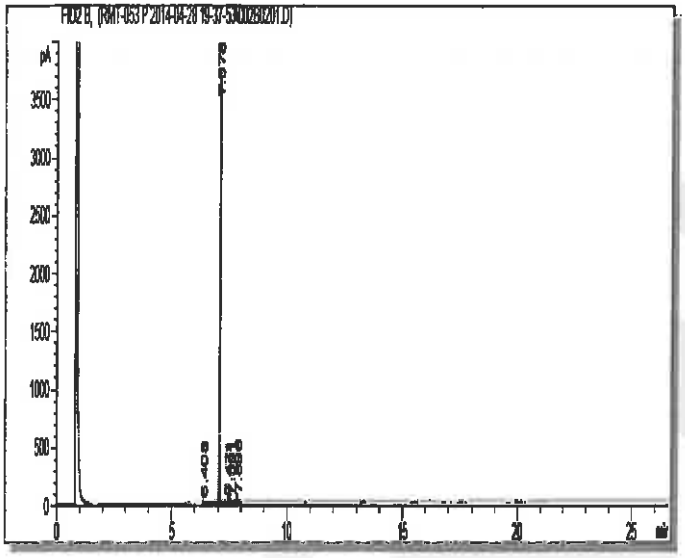

Column:	DB-35ms, 30 m x 0.53 mm ID, 1.0 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMT-053 P 2014-04-28 19-37-53\002B0201.D
Instrument:	GC#6
Sample Name:	ER01201405
Acquired:	April 28, 2014

Peak #	Ret Time	Area	Height	Area %
1	6.41	4 36	2.80	0.08
2	7 08	5225 21	3678.99	99.32
3	7 47	5 29	3.00	0.10
4	7 59	9 11	4.81	0.17
5	7.90	17 05	9.22	0.32

GC/MS

Compound Name	: 2,3,7,8-Tetrachlorodibenzo-p-dioxin-13C12
Lot Number	: ERD1201405
Instrument	: Agilent GCMS
Operator	: ECM(SAMUEL_GIUITRE)
Date Reported	: Tue May 06 09:30:26 2014
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 220°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

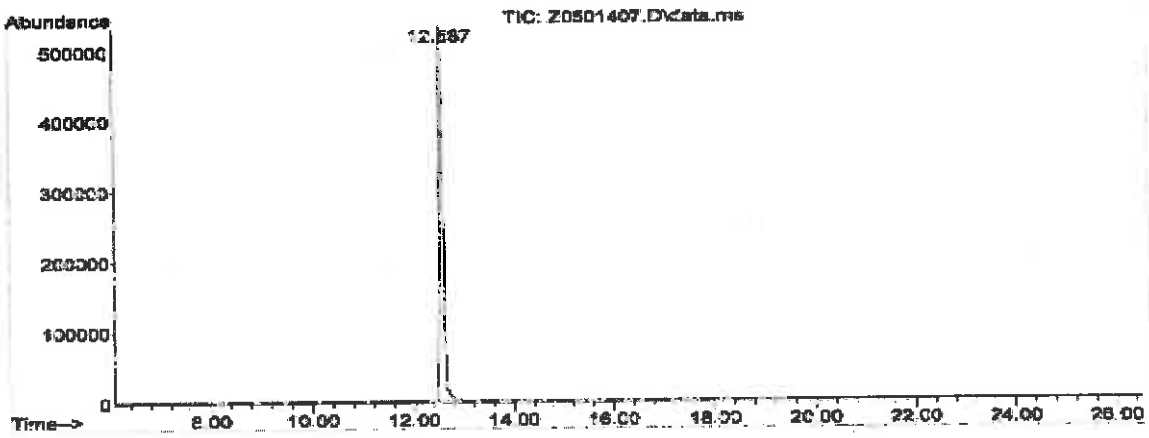

Mass Spectrum

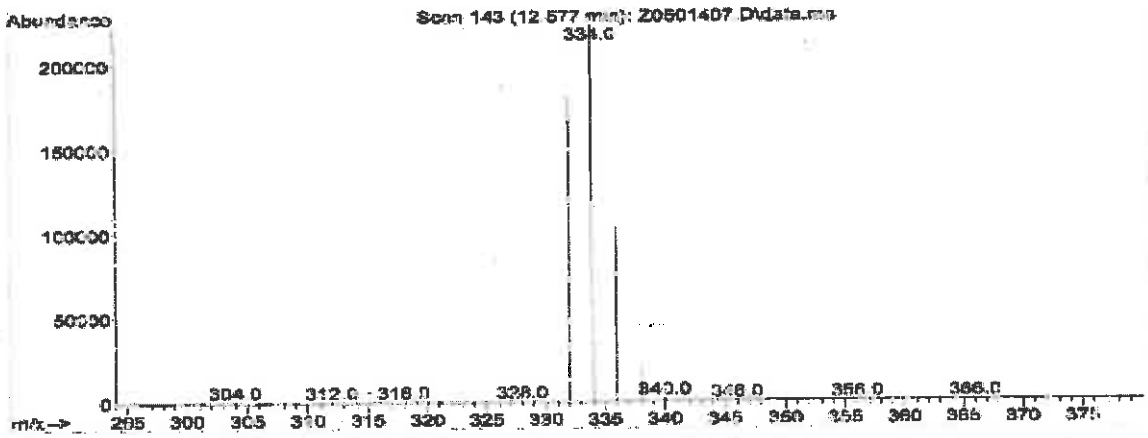

Reagent

HRDXNIDA_00357

r: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Certificate of Analysis

1,2,3,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

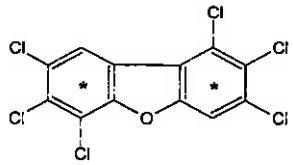

Catalog Number: EF-985
Solution Lot: ER02241603
Expiration Date: April 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.6%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER02241603	50.09	± 5%	0.4	≤ 3%
Previous Lot	ER053107-03	50.81	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

May 04, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O$
Compound Lot:	ER051607-01	**CAS Number:**	116843-03-9
		Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.06% $^{13}C_6$ vs $^{13}C_{12}$
Impurities by GC/MS SIM Analysis	SP10-0105	no single DD/DF impurity ≥ 0.5%
Mass Balance Purity Factor		99.01%

- The chromatographic purity is calculated as the average of two independently performed analyses utilizing two different methods Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Mass Balance Purity Factor
- Mass Balance Purity Factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

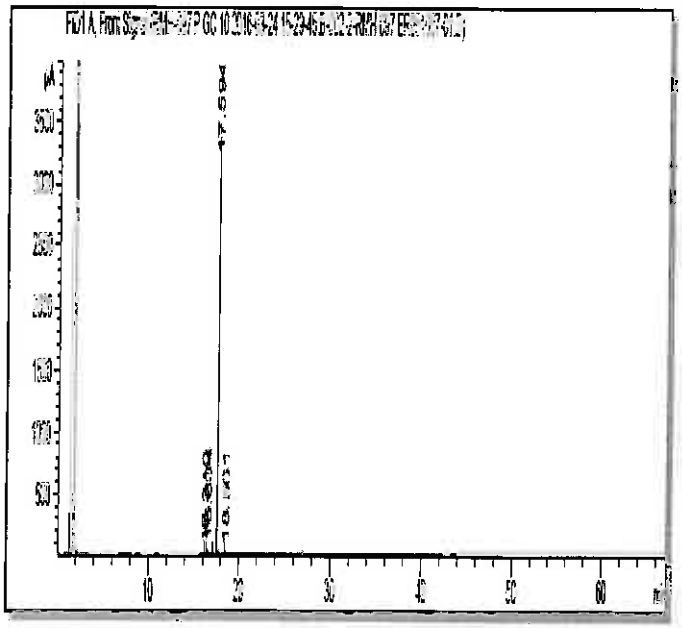

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	40°C to 300°C at 15°C/min hold 50 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-097 P GC 10 2016-03-24 15-29-45\B-002-2.D
Instrument:	GC#10
Sample Name:	ER051607-01
Acquired:	March 24, 2016

Peak #	Ret Time	Area	Height	Area %
1	16.31	6.97	3.21	0.08
2	16.60	77.08	33.51	0.83
3	17.59	9156.82	3458.38	99.00
4	18.56	8.48	2.69	0.09

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 1,2,3,6,7,8-Hexachlorodibenzofuran-13C12
Lot Number	: ER051607-01
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Fri Mar 18 07:08:54 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

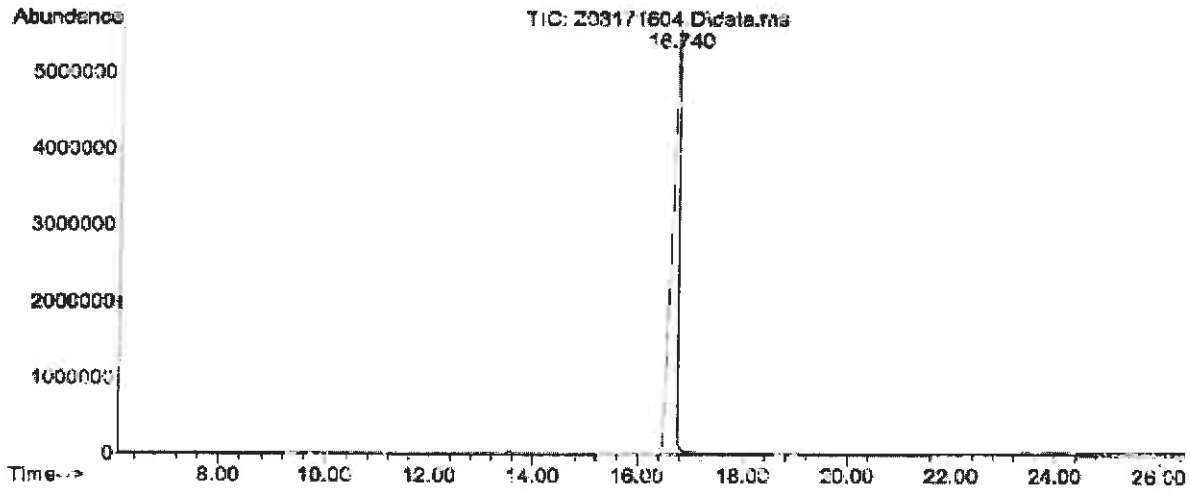

Mass Spectrum

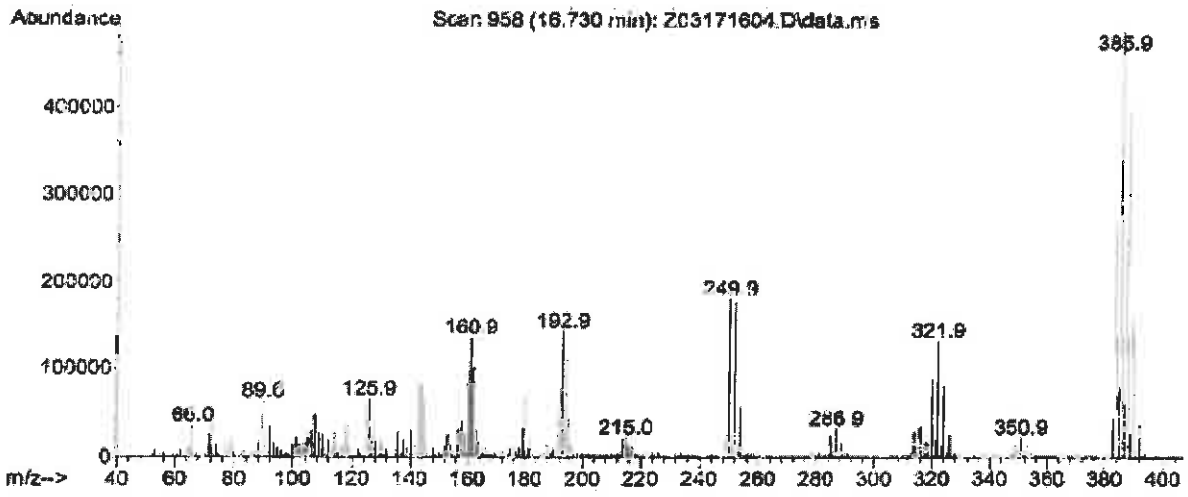

COA Revision History

Revision No.	Date	Reason for Revision
00	May 04, 2016	Initial version

Reagent

HRDXNIDA_00358

r: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,7,8,9-Hexachlorodibenzofuran-$^{13}C_{12}$

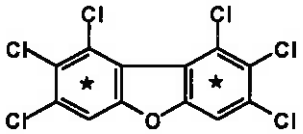

Catalog Number: EF-986
Solution Lot: ER100610-01
Expiration Date: December 2020
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For laboratory use only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
1,2,3,7,8,9-Hexachlorodibenzofuran-$^{13}C_{12}$	99.5%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER100610-01	51.2	± 5%	0.4	≤ 3%
Previous Lot	ER100107-01	49.9	± 5%	1.4	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

February 14, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2OCl_6$
Compound Lot:	ER080108-03	**CAS Number:**	116843-04-0
		Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.5%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.03% $^{13}C_0$ vs $^{13}C_{12}$
		0.09% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.49%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

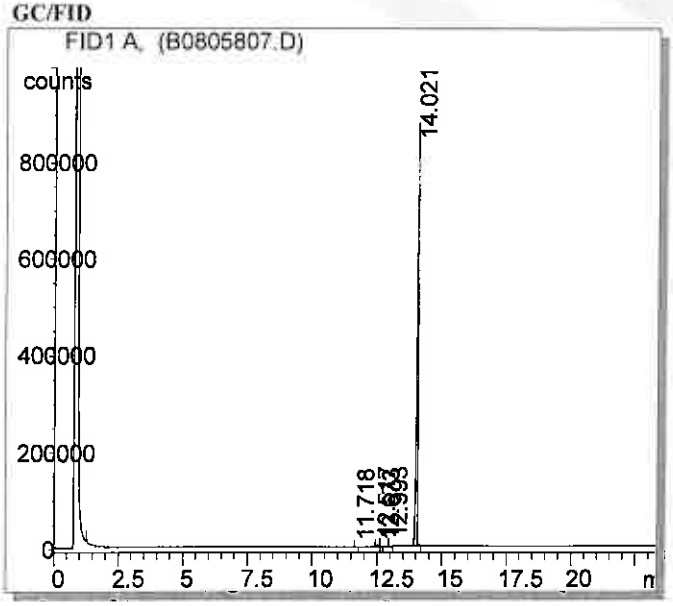

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0805807.D
Instrument:	GC#2
Sample Name:	ER080108-03
Acquired:	August 05, 2008

Peak #	Ret Time	Area	Height	Area %
1	11.72	318.47	152.10	0.01
2	12.52	8294.54	2994.64	0.30
3	12.67	155.17	67.29	0.01
4	12.99	4248.66	1646.53	0.16
5	14.02	2708910.00	880320.00	99.52

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

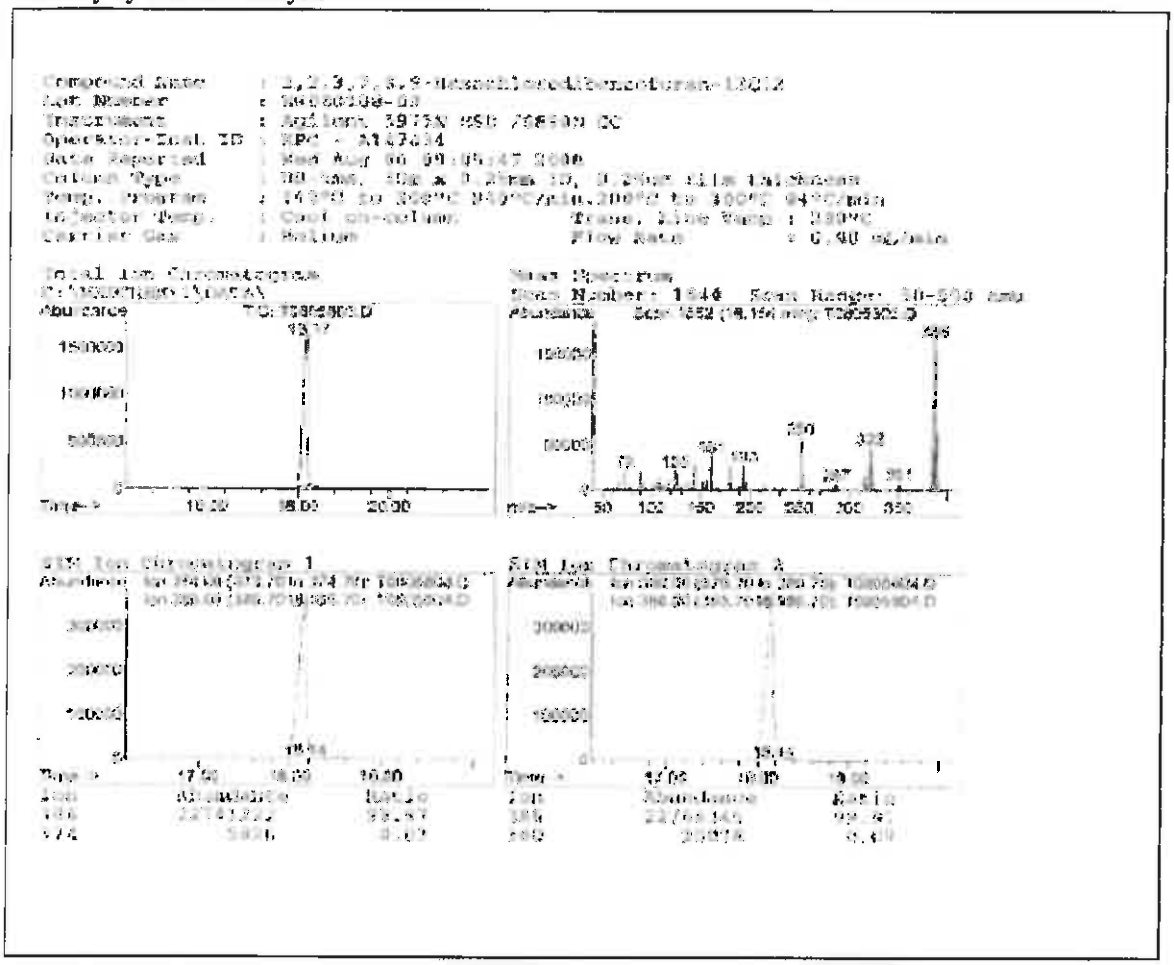

COA Revision History

Revision No.	Date	Reason for Revision
00	January 12, 2011	Initial version
01	November 05, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".
02	February 14, 2017	Corrected Isotopic Purity by GC/MS SIM from C to ^{13}C.

Reagent

HRDXNIDA_00359

r: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

2,3,4,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

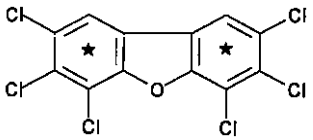

Catalog Number: EF-987
Solution Lot: ER100610-02
Expiration Date: December 2020
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For laboratory use only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
2,3,4,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.4%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER100610-02	50.9	± 5%	0.6	≤ 3%
Previous Lot	ER031507-03	50.3	± 5%	1.8	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

January 15, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,4,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O$
Compound Lot:	ER061906-02	**CAS Number:**	116843-05-1
		Molecular Weight:	386.73

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.4%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.04% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.40%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

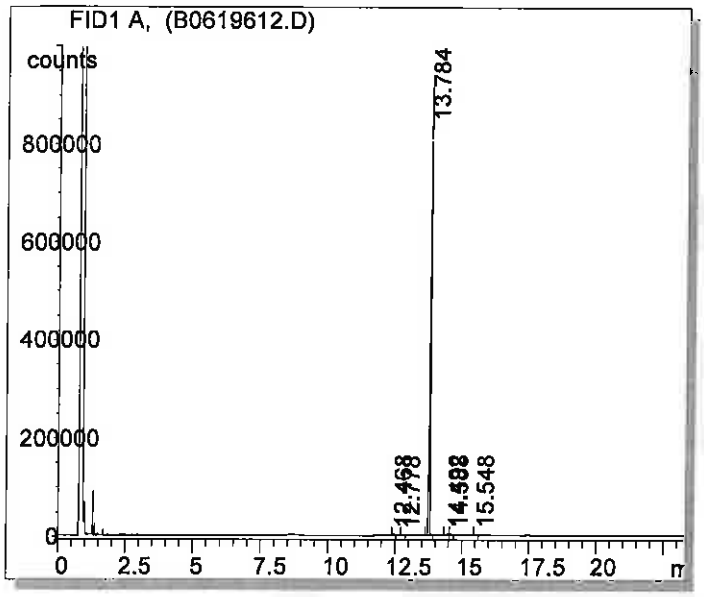

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0619612.D
Instrument:	GC#2
Sample Name:	ER061906-02
Acquired:	June 19, 2006

Peak #	Ret Time	Area	Height	Area %
1	12.47	4458	1822	0.18
2	12.78	3496	1304	0.14
3	13.78	2443150	925399	99.39
4	14.49	1528	387	0.06
5	14.59	4236	1332	0.17
6	15.55	1361	348	0.06

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 2,3,4,6,7,8-Hexachlorodibenzofuran-13C12
Lab Number : ZR061906-02
Instrument : Agilent 5975N MSD /6890N GC
Operator Inst ID : RPC - A147434
Date Reported : Tue Jun 20 08:44:12 2006
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C 8.0°C/min,200°C to 320°C @4°C/min
Injector Temp. : Cool on-column Trans. Line Temp : 280°C
Carrier Gas : Helium Flow Rate : 0.80 mL/min

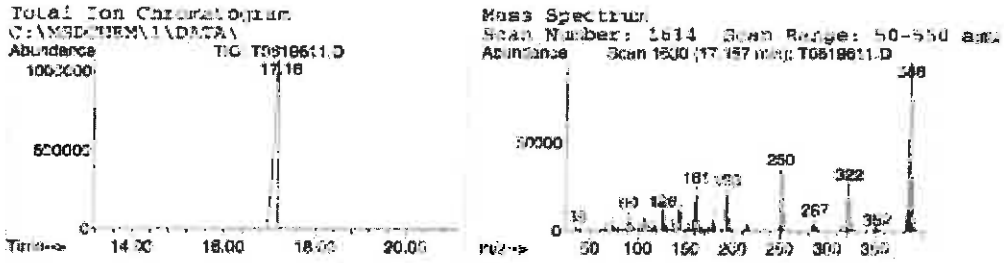

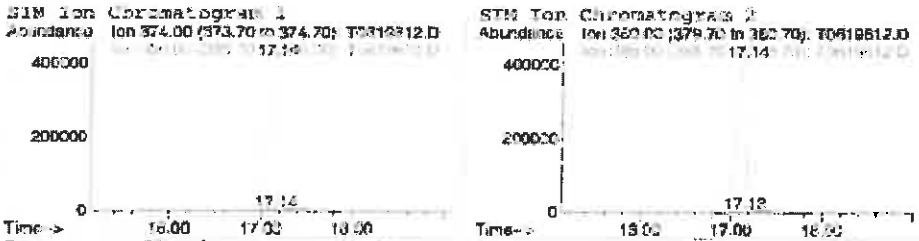

COA Revision History

Revision No.	Date	Reason for Revision
00	January 04, 2011	Initial version
01	January 15, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Reagent

HRDXNIDA_00360

r: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
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Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,7,8-Pentachlorodibenzo-p-dioxin-$^{13}C_{12}$

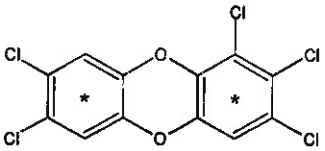

Catalog Number: ED-955
Solution Lot: ER08041401
Expiration Date: August 2024
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,7,8-Pentachlorodibenzo-p-dioxin-$^{13}C_{12}$	98.2%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER08041401	48.80	± 5%	0.3	≤ 3%
Previous Lot	ER030907-02	49.84	± 5%	0.4	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

February 10, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,7,8-Pentachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3Cl_5O_2$
Compound Lot:	ER06241403	**CAS Number:**	109719-79-1
		Molecular Weight:	368.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.9%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS-SIM Analysis	SP10-0105	0.07% $^{13}C_0$ vs $^{13}C_{12}$
		0.14% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS	SP10-0105	No single DD/DF $\geq$ 0.5%
Mass Balance Purity Factor		98.90%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

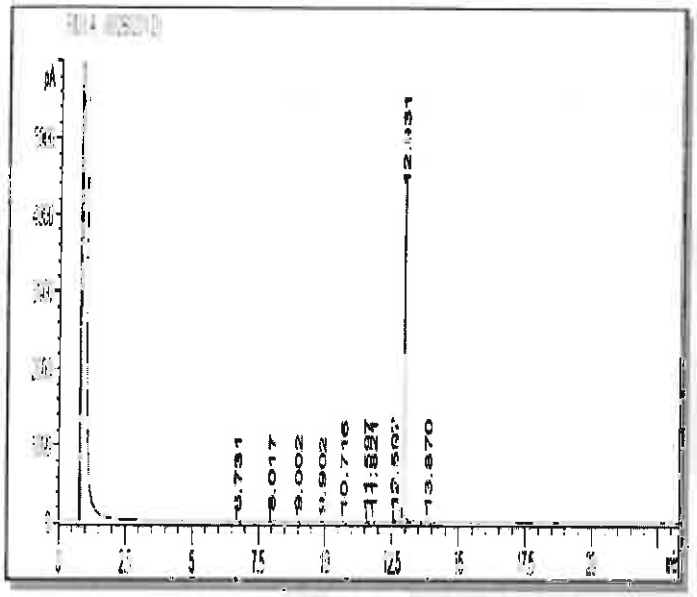

Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 100°C to 300°C at 15°C/min, hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: RMP-085 P GC 6 2014-07-30 18-11-11\002B0201.D
Instrument: GC#6
Sample Name: ER06241403
Acquired: July 30, 2014

Peak #	Ret Time	Area	Height	Area %
1	6.73	7.32	3.42	0.07
2	8.02	3.79	1.60	0.04
3	9.00	8.74	3.64	0.08
4	9.90	3.38	1.35	0.03
5	10.72	1.31	0.45	0.01
6	11.60	14.46	6.69	0.14
7	11.82	2.21	1.11	0.02
8	12.60	68.05	28.10	0.64
9	12.93	10594.10	4235.85	98.91
10	13.87	7.09	2.57	0.07

Spectral and Physical Data (cont.)

GC/MS

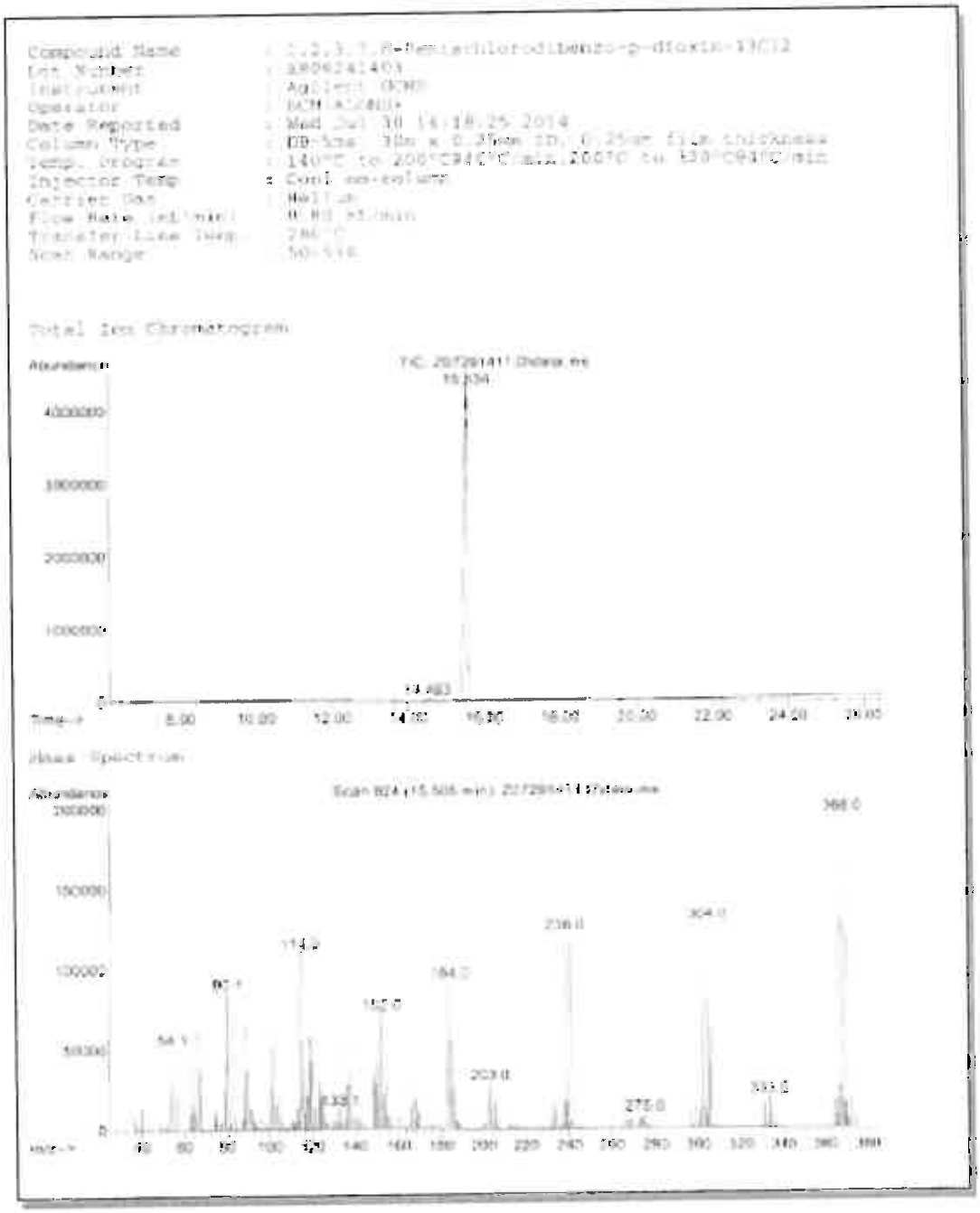

COA Revision History

Revision No.	Date	Reason for Revision
00	September 24, 2014	Initial version
01	February 10, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Reagent

HRDXNIDA_00361

r: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

Certificate of Analysis

1,2,3,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$

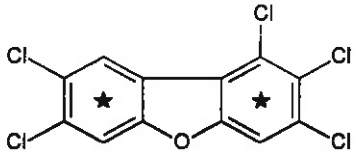

Catalog Number: EF-952
Solution Lot: ER012111-01
Expiration Date: January 2021
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For laboratory use only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
1,2,3,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	99.2%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER012111-01	50.7	± 5%	0.4	≤ 3%
Previous Lot	ER0100407-02	51.0	± 5%	0.5	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

February 15, 2016
Date

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 60°C to 300°C at 40°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 4
Linearity (r): 1.000

Neat Material Data

Compound Name: 1,2,3,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$
Compound Lot: ER090110-01

Chemical Formula: $^{13}C_{12}H_3OCl_5$
CAS Number: 109719-77-9
Molecular Weight: 352.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.2%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.03% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.17%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

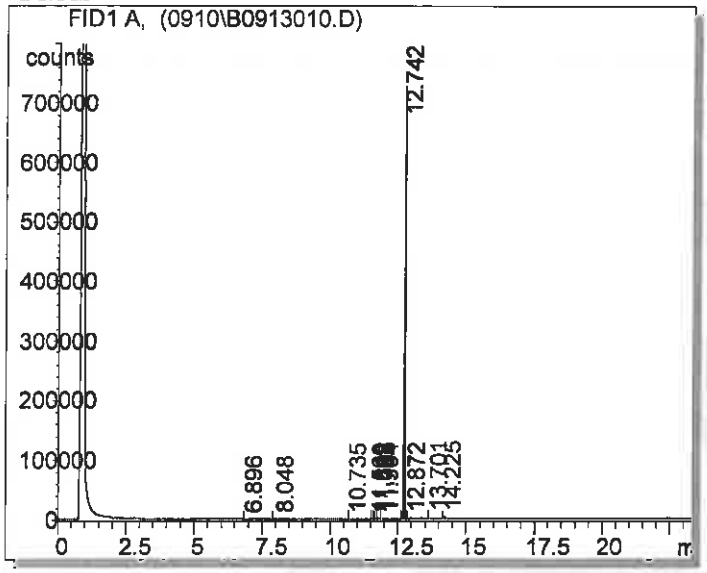

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	S:\GC\GC2\2010\0910\B0913010.D
Instrument:	GC#2
Sample Name:	ER090110-01
Acquired:	September 13, 2010

Peak #	Ret Time	Area	Height	Area %
1	6.90	618.64	296.84	0.04
2	8.05	254 50	102.70	0.01
3	10.74	162 25	70.86	0.01
4	11 57	145 03	82.11	0.01
5	11 62	468 46	216.27	0.03
6	11 69	1863 76	870.51	0.11
7	11.79	1631 76	576.35	0.10
8	11.90	421 31	184.81	0.02
9	12.74	1702290 00	729831.00	99.20
10	12.87	308 15	147.54	0.02
11	13.70	3743 55	1299.40	0.22
12	14.23	4032 24	1491.01	0.23

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

Compound Name : 1,2,3,7,8-Pentachlorodibenzofuran-13C12
Lot Number : EX090110-01
Instrument : Agilent 5973N MSD/6890N GC
Operator-Inst ID : RPC - C10106
Date Reported : Tue Sep 14 11:05:33 2010
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 280°C

Scan Range : 50-550

Total Ion Chromatogram

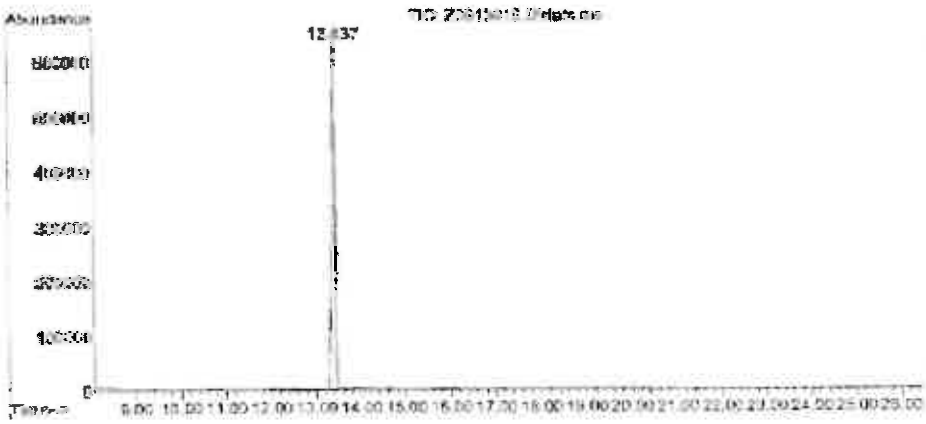

Mass Spectrum

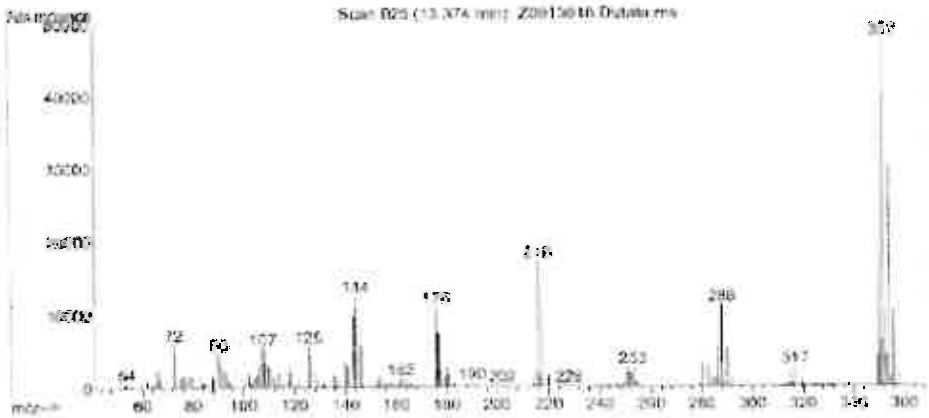

COA Revision History

Revision No.	Date	Reason for Revision
00	February 11, 2011	Initial version
01	March 01, 2011	Corrected typographical error: Chemical Structure
02	February 15, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Reagent

HRDXNIDA_00362

P: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

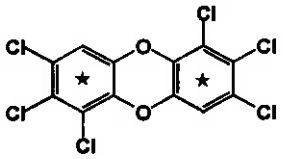

Catalog Number: ED-966
Solution Lot: ER03151801
Expiration Date: March 2028
Solvent: n-Nonane:Toluene (80:20) (v/v)
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	> 99.9%	50.03 ± 0.28 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER03151801	52.29	± 5%	0.2	≤ 3%
Previous Lot	ER010209-01	48.05	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using balances that have been qualified and calibrated to ISO 17025 requirements. All calibrations utilize NIST traceable weights which are calibrated externally by a qualified ISO 17025 accredited calibration laboratory to NIST standards. Qualification of each balance includes the assignment of a minimum weighing by a qualified and ISO 17025 accredited calibration vendor taking into consideration the balance and installed environmental conditions to ensure compliance with USP tolerances of NMT 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

April 19, 2018
Date

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 60°C to 300°C at 40°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 4
Linearity (r): 1.000

Neat Material Data

Compound Name: 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$
Compound Lot: FN01151802

Chemical Formula: $^{13}C_{12}H_2Cl_6O_2$
CAS Number: 109719-81-5
Molecular Weight: 402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.04% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 1.0%
Mass Balance Purity Factor		98.96%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

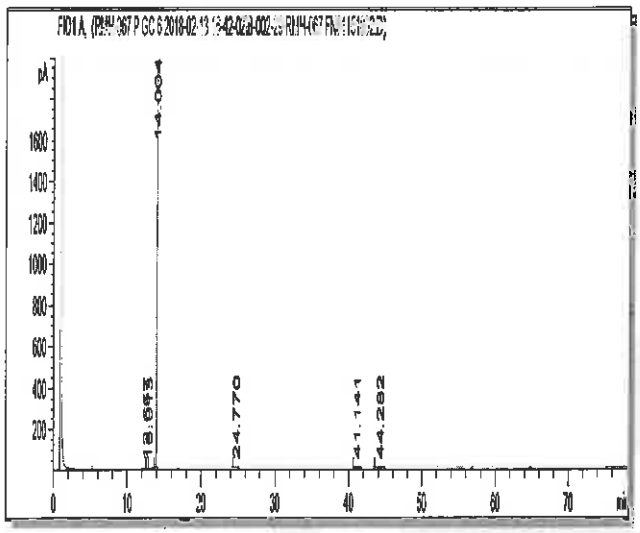

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-067 P GC 6 2018-02-13 16-42-02\B-002-29.D
Instrument:	GC#6
Sample Name:	FN01151802
Acquired:	February 13, 2018

Peak #	Ret Time	Area	Height	Area %
1	12.66	1 69	0.62	0.03
2	13.01	1 96	0.53	0.03
3	14 00	5617 62	1952.76	98.87
4	24 77	5.26	0.34	0.09
5	41 14	10.58	0.38	0.19
6	44 28	44.69	1.49	0.79

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-13C12
Lot Number	: FN01151802
Instrument	: Agilent GCMS
Operator	: FCM(SGIUFTRE)
Date Reported	: Mon Mar 05 10:17:32 2018
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

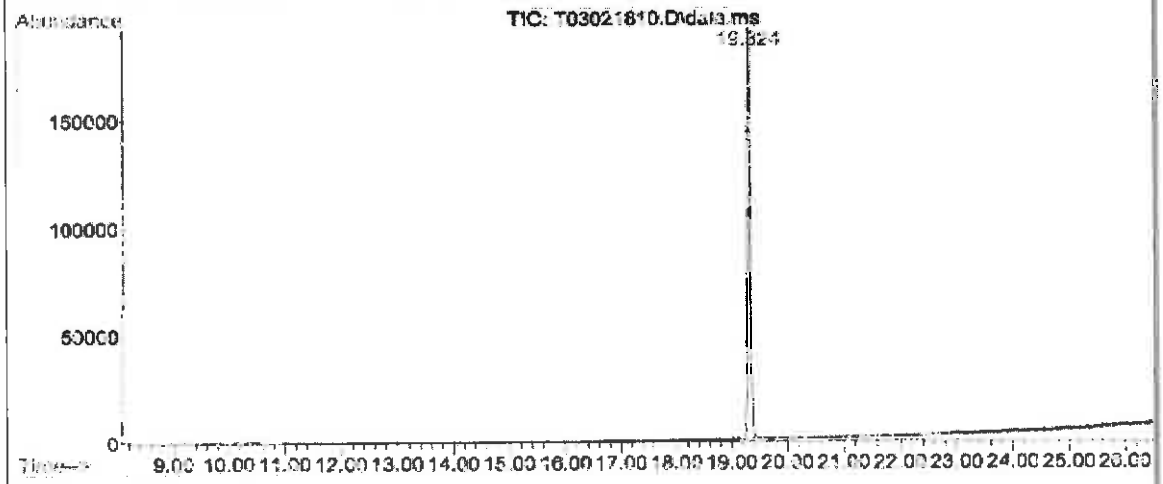

Mass Spectrum

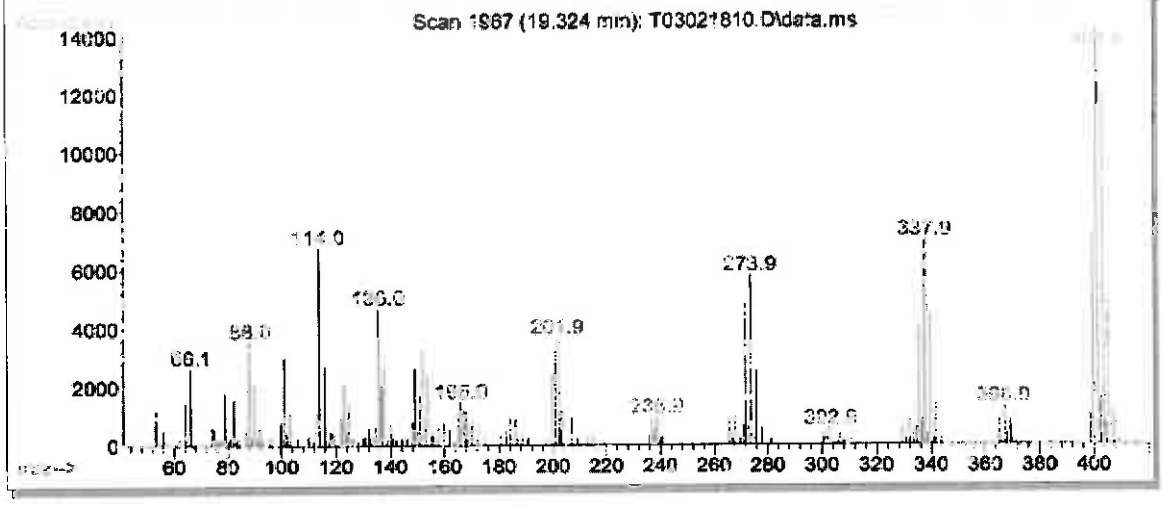

Reagent

HRDXNIDA_00365

Rec 11/28/18 SKV

1450145
ID: HRDXNIDA_00347
Exp: 04/30/27 Prpd: SKV
13C-OCDD [10 ug/mL]

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Analytical Reference Standards
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CIL

Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Octachlorodibenzo-p-dioxin-$^{13}C_{12}$

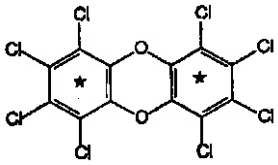

Catalog Number: ED-981-1.2
Solution Lot: ER04051701
Expiration Date: April 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
Octachlorodibenzo-p-dioxin-$^{13}C_{12}$	> 99.9%	10.00 ± 0.05 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04057101	10.22	± 5%	1.1	≤ 5%
Previous Lot	ER06061601	10.17	± 5%	0 8	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB Accredited Reference Material Producer

Darron Ellsworth, Quality Assurance Manager

May 19, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.25 mm ID, 0.25 µm film thickness
Temp Program:	70°C to 200°C at 40°C/min 200°C to 280°C at 10°C/min hold 15 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	3
Linearity (r):	0.997

Neat Material Data

Compound Name:	Octachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}Cl_8O_2$
Compound Lot:	ER04041601	**CAS Number:**	114423-97-1
		Molecular Weight:	471.66

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.1%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.07% $^{13}C_0$ vs $^{13}C_{12}$
		0.96% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.15%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

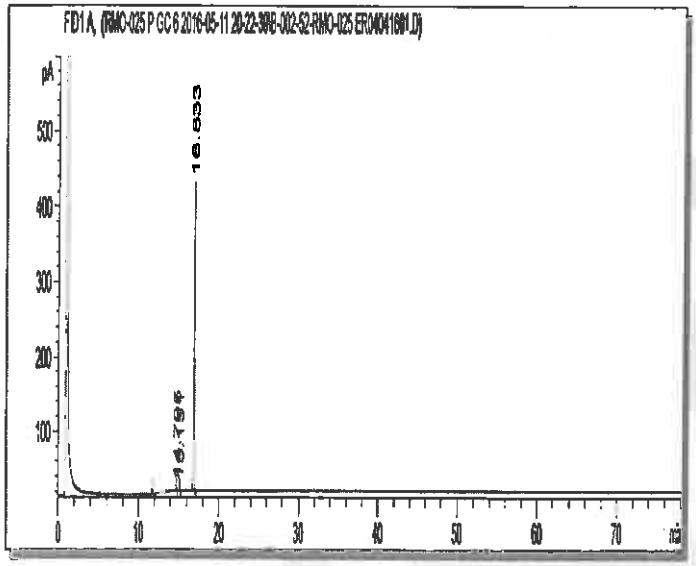

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMO-025 P GC 6 2016-05-11 20-22-39\B-002-52.D
Instrument:	GC#6
Sample Name:	ER04041601
Acquired:	May 11, 2016

Peak #	Ret Time	Area	Height	Area %
1	14.80	12.12	3.62	0.61
2	15.15	4.72	1.32	0.24
3	16.83	1980.56	409.54	99.16

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: Octachlorodibenzo-p-dioxin-13C12
Lot Number	: ERC4041601
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Wed May 04 13:45:40 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

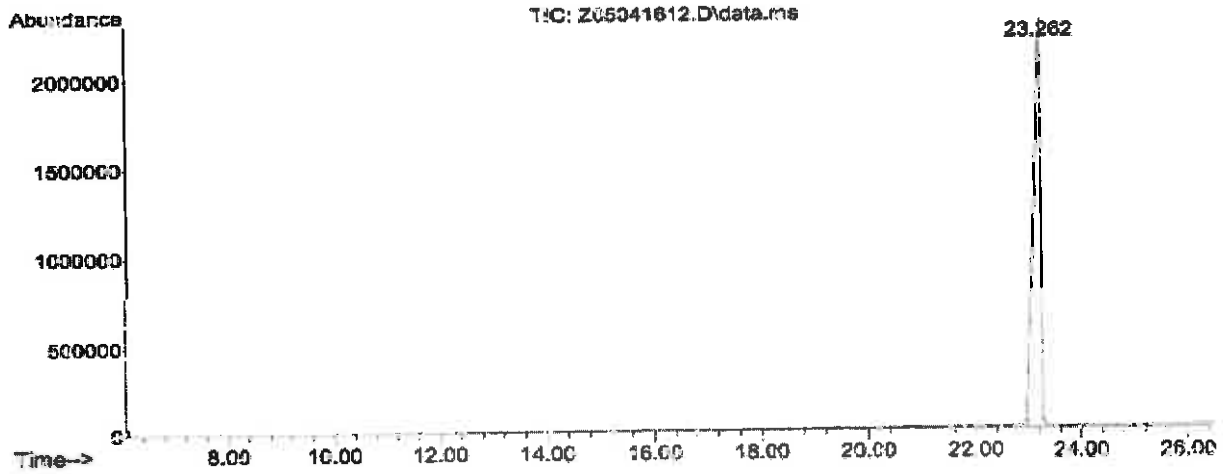

Mass Spectrum

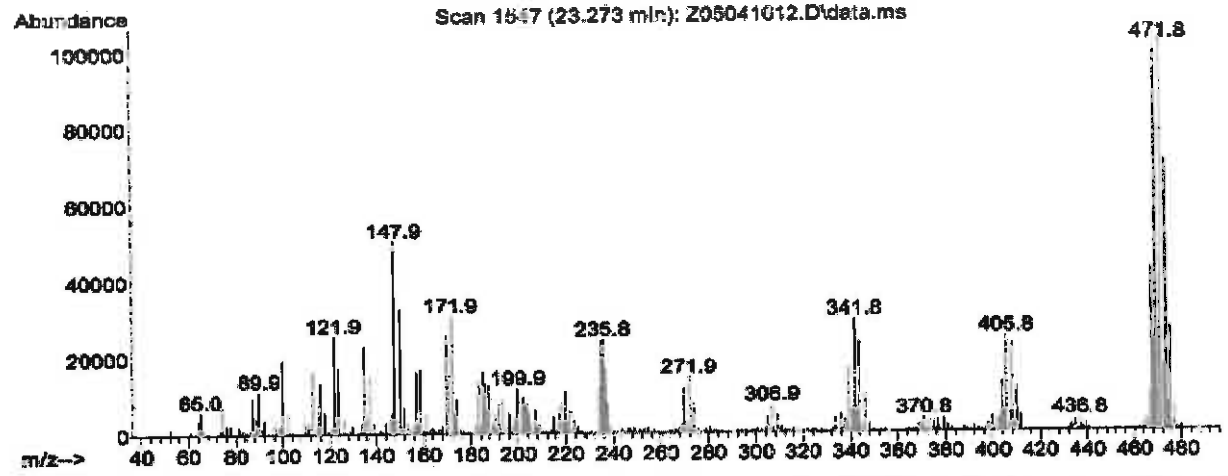

Reagent

HRDXNIDA_00375

nc 4/8/19 BW

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Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$

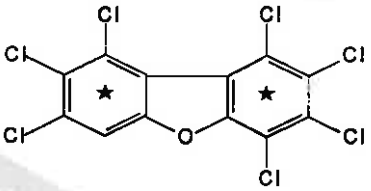

Catalog Number: EF-988
Solution Lot: ER04251601
Expiration Date: May 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	99.1%	49.99 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass, Purity Factor of the analyte(s), measured mass of the solution, and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04251601	49.11	± 5%	0.2	≤ 3%
Previous Lot	ER053107-02	50.58	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

November 09, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}HCl_7O$
Compound Lot:	ER04041602	**CAS Number:**	109719-94-0
		Molecular Weight:	421.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.1%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS SIM	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.16% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.10%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data (cont.)

GC/FID

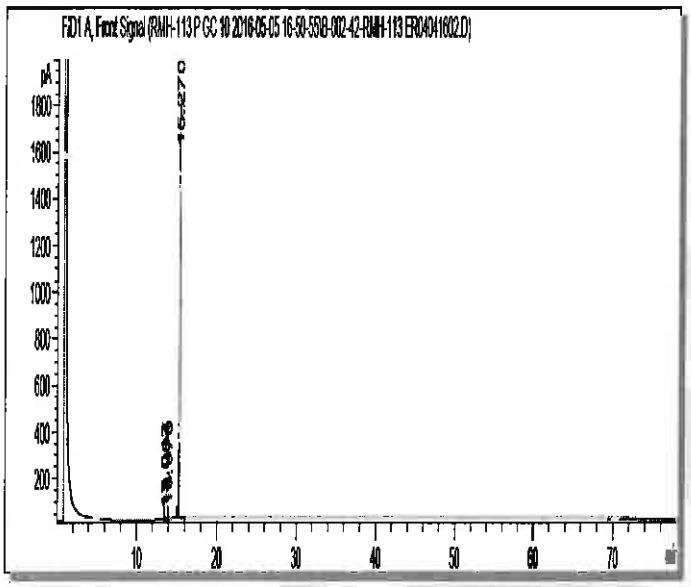

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-113 P GC 10 2016-05-05 16-50-55\B-002-42.D
Instrument:	GC#10
Sample Name:	ER04041602
Acquired:	May 05, 2016

Peak #	Ret Time	Area	Height	Area %
1	13.51	8.76	2.52	0.12
2	13.68	17.42	7.45	0.24
3	13.97	39.65	15.48	0.54
4	15.27	7226.95	1798.33	99.10

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 1,2,3,4,7,8,9-Heptachlorodibenzofuran-13C12
Lot Number	: ER04041602
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Wed May 04 15:34:28 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

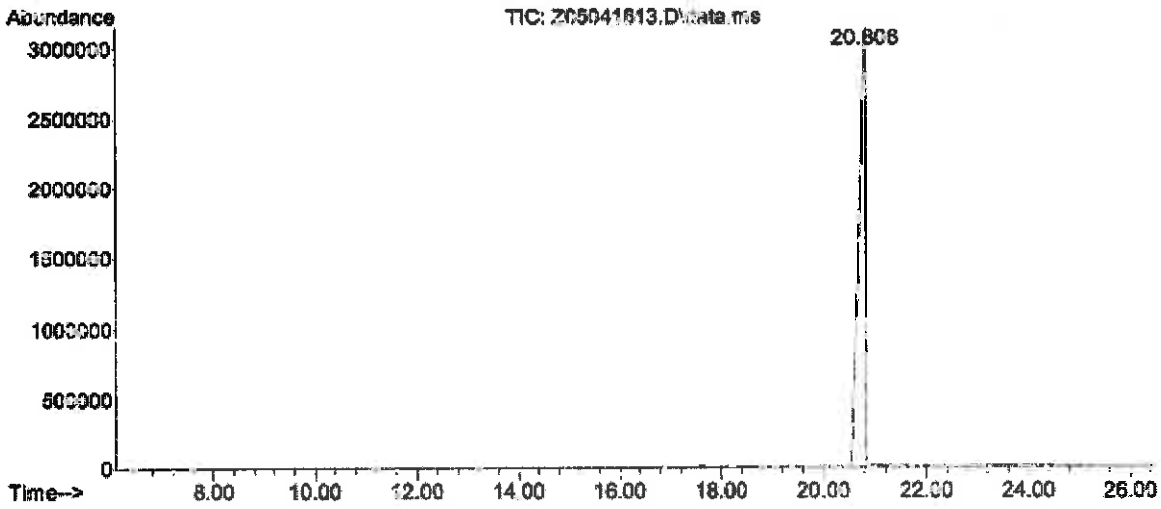

Mass Spectrum

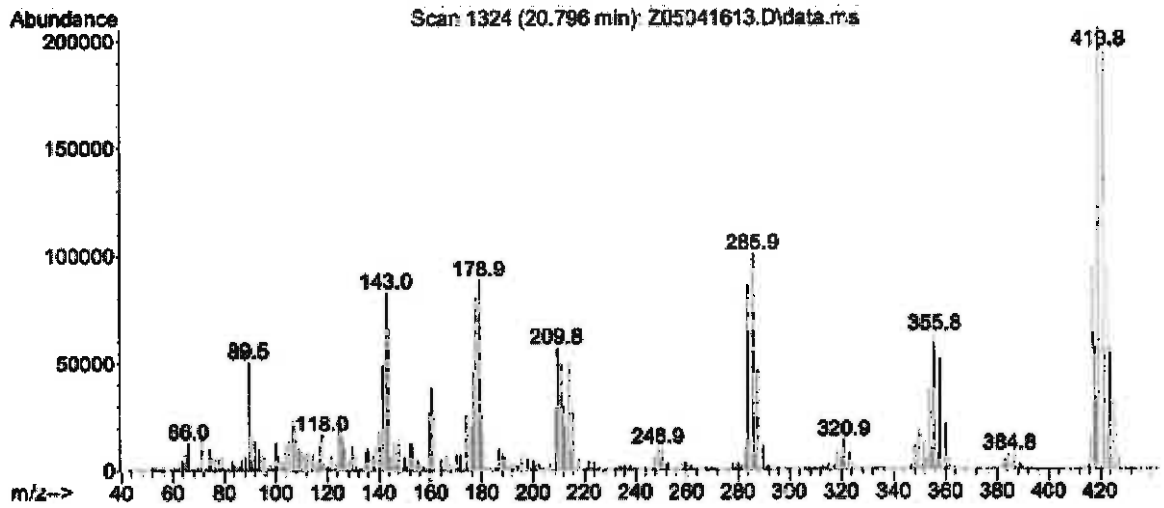

COA Revision History

Revision No.	Date	Reason for Revision
00	June 21, 2016	Initial version
01	November 09, 2016	Corrected Expiration Date from March 2026 to May 2026.

Reagent

HRDXNIDA_00376

N: 4/8/19 SW

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Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$

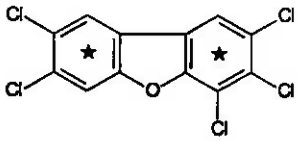

Catalog Number: EF-958
Solution Lot: ER01061701
Expiration Date: January 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	97.9%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass, Purity Factor of the analyte(s), measured mass of the solution, and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Acceptance Criteria	%RSD - Homogeneity Actual Results	Acceptance Criteria
New Lot	ER01061701	50.51	± 5%	0.1	≤ 3%
Previous Lot	ER11041601	49.56	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

January 27, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3Cl_5O$
Compound Lot:	ER11101601	**CAS Number:**	116843-02-8
		Molecular Weight:	352.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0102	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.02% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 0.5%
Mass Balance Purity Factor		**98.33%**

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

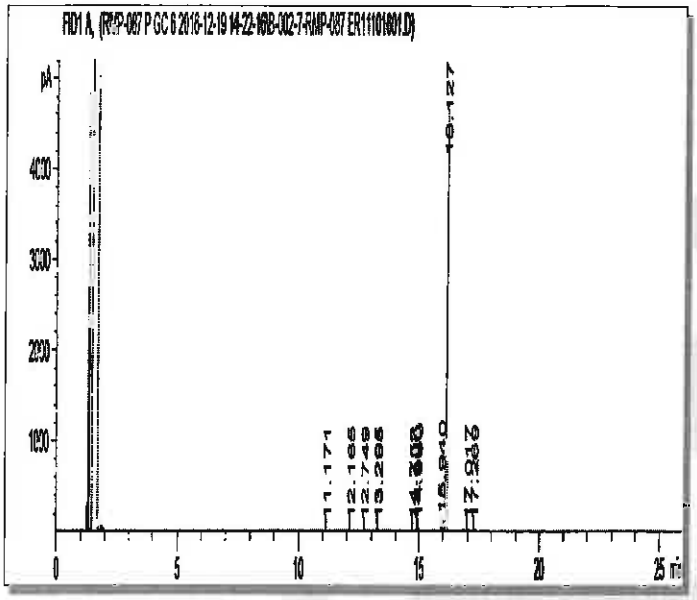

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMP-087 P GC 6 2016-12-19 14-22-16\B-002-7.D
Instrument:	GC#6
Sample Name:	ER11101601
Acquired:	December 19, 2016

Peak #	Ret Time	Area	Height	Area %
1	11.17	0.94	0.40	0.01
2	12.17	1.30	0.39	0.01
3	12.75	0.47	0.20	0.00
4	13.30	0.90	0.35	0.01
5	14.75	1.70	0.87	0.02
6	14.91	1.09	0.56	0.01
7	14.97	32.24	17.54	0.29
8	15.94	124.38	64.36	1.13
9	16.13	10866.60	4688.80	98.41
10	17.02	6.31	2.46	0.06
11	17.27	6.76	2.34	0.06

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 2,3,4,7,8-Pentachlorodibenzofuran-13C12
Lot Number	: ER11101601
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Tue Dec 20 12:19:55 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

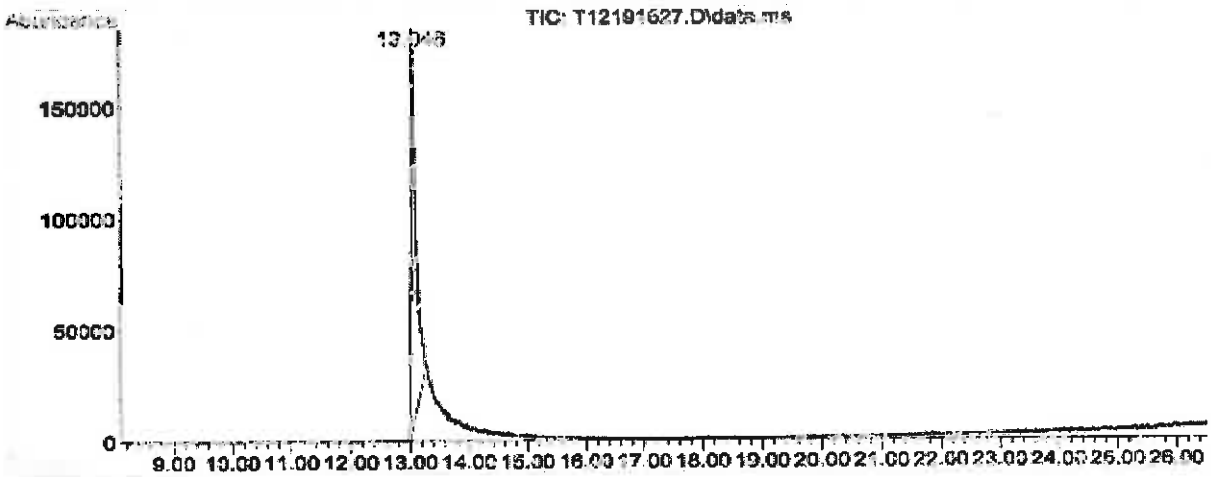

Mass Spectrum

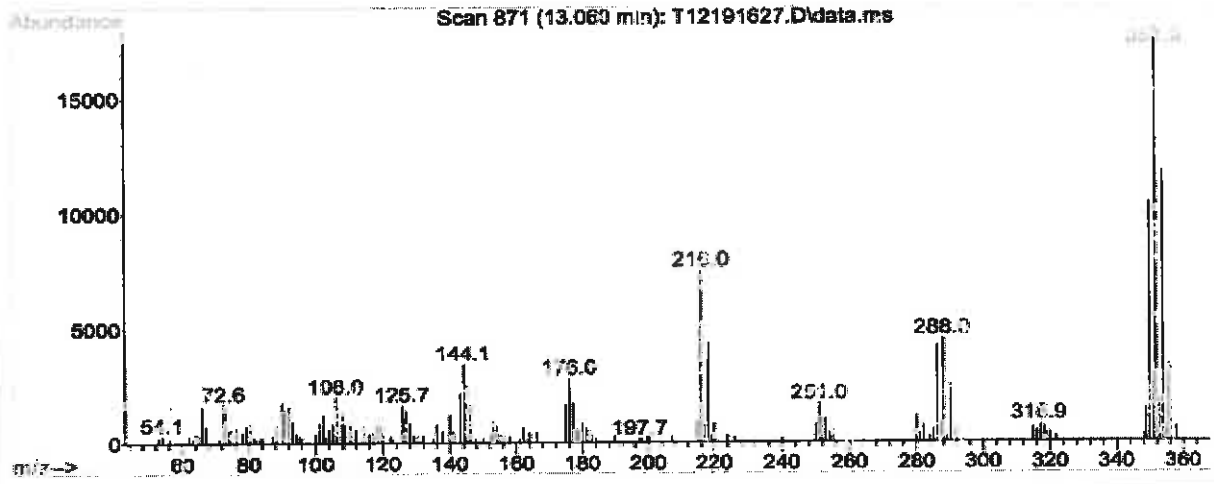

Reagent

HRDXNIDA_00377

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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

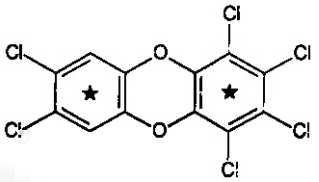

Catalog Number:	ED-946
Solution Lot:	ER04211601
Expiration Date:	June 2026
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.3%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04211601	49.24	± 5%	0.4	≤ 3%
Previous Lot	ER102711-01	49.69	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

August 11, 2016
Date

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 60°C to 300°C at 40°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 4
Linearity (r): 1.000

Neat Material Data

Compound Name: 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$
Compound Lot: ER011008-01

Chemical Formula: $^{13}C_{12}H_2Cl_6O_2$
CAS Number: 109719-80-4
Molecular Weight: 402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.08% $^{13}C_0$ vs $^{13}C_{12}$
		0.21% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.26%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

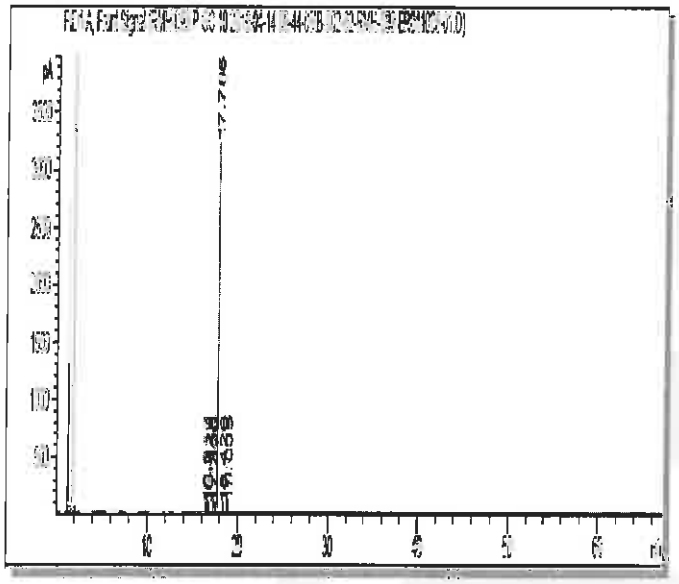

Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 40°C to 300°C at 15°C/min hold 50 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: RMH-098 P GC 10 2016-04-14 08-44-08\B-002-62.D
Instrument: GC#10
Sample Name: ER011008-01
Acquired: April 14, 2016

Peak #	Ret Time	Area	Height	Area %
1	16.56	16.58	7.74	0.19
2	16.72	11.25	5.08	0.13
3	16.83	8.45	4.05	0.10
4	17.30	1.81	0.71	0.02
5	17.48	1.07	0.50	0.01
6	17.79	8682.22	3203.58	99.29
7	18.43	1.99	0.68	0.02
8	19.01	20.62	6.08	0.24

Spectral and Physical Data (cont.)

GC/MS

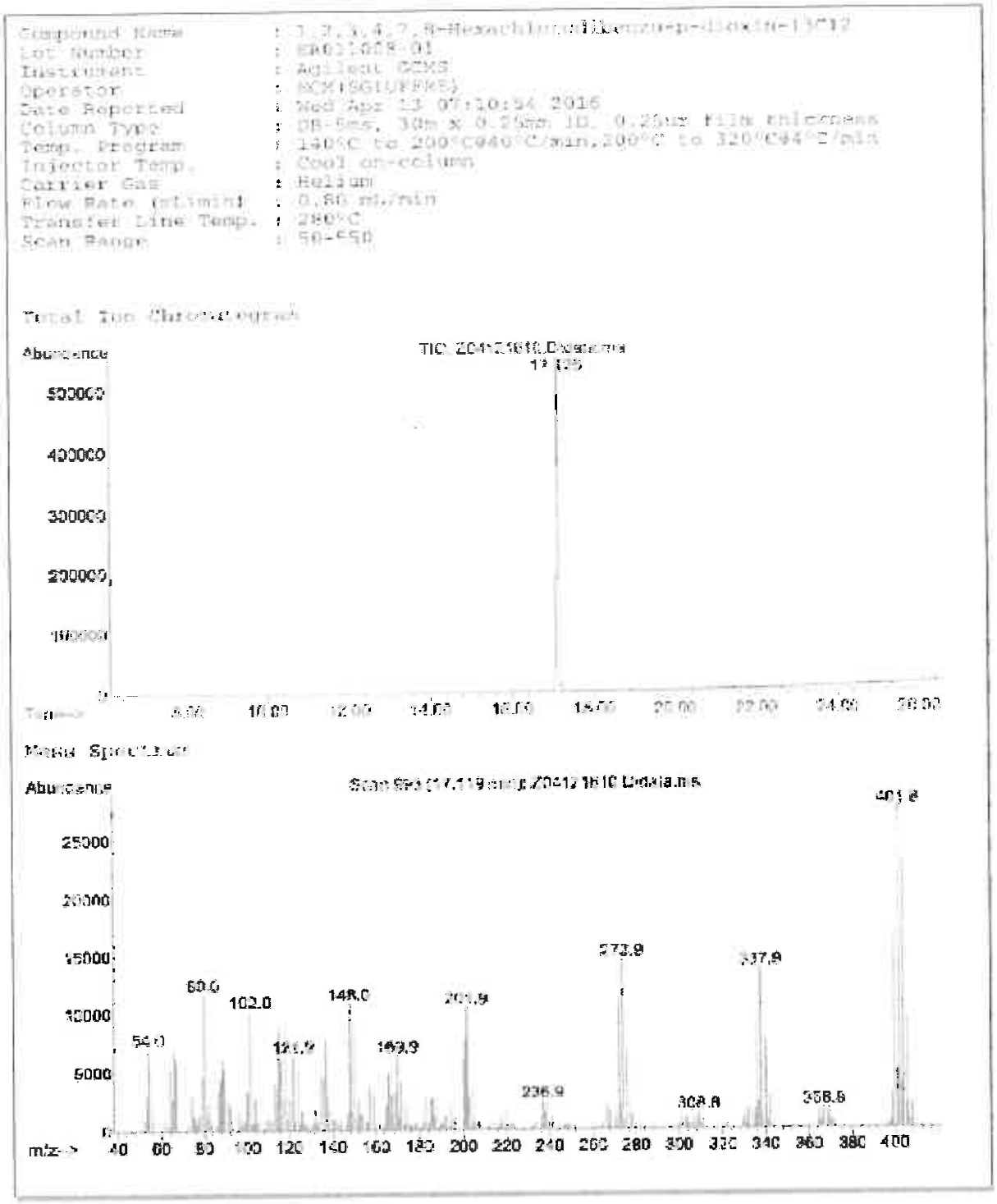

Reagent

HRDXNIDA_00378

r: 4/8/19 SKJ

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Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

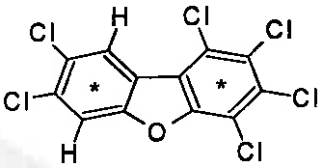

Catalog Number:	EF-963
Solution Lot:	ER04211701
Expiration Date:	July 2027
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.4%	50.00 ± 0.28 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04211701	49.47	± 5%	0.2	≤ 3%
Previous Lot	ER072810-02	45.87	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release

Traceability

- Gravemetrically prepared using balances that have been qualified and calibrated to ISO 17025 requirements. All calibrations utilize NIST traceable weights which are calibrated externally by a qualified ISO 17025 accredited calibration laboratory to NIST standards. Qualification of each balance includes the assignment of a minimum weighing by a qualified and ISO 17025 accredited calibration vendor taking into consideration the balance and installed environmental conditions to ensure compliance with USP tolerances of NMT 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

September 11, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}Cl_6H_2O$
Compound Lot:	ER11281601	**CAS Number:**	114423-98-2
		Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0102	99.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.06% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 0.5%
Mass Balance Purity Factor		99.31%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

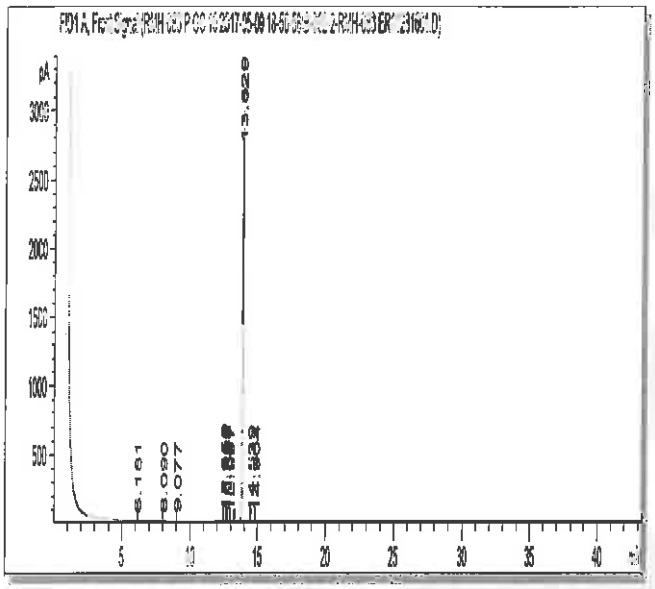

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 30 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-083 P GC 10 2017-05-09 18-50-58\B-002-2.D
Instrument:	GC#10
Sample Name:	ER11281601
Acquired:	May 09, 2017

Peak #	Ret Time	Area	Height	Area %
1	6.18	1.10	0.64	0.01
2	8.09	2.00	0.70	0.02
3	9.08	1.17	0.48	0.01
4	12.55	14.76	7.25	0.16
5	12.73	32.67	11.32	0.36
6	12.84	5.45	2.50	0.06
7	13.00	2.51	1.30	0.03
8	13.83	8993.56	3122.16	99.30
9	14.54	1.11	0.20	0.01
10	14.90	2.71	0.86	0.03

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 1,2,3,4,7,8-hexachlorodibenzofuran-13C12
Lot Number : SRI128160[illegible]
Instrument : Agilent GCMS
Operator : ECM(SGIDEFKE)
Date Reported : Mon May 08 09:30:09 2017
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@60°C/min,200°C to 320°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL\min) : 0.80 mL/min
Transfer Line Temp. : 280°C
Scan Range : 50-550

Total Ion Chromatogram

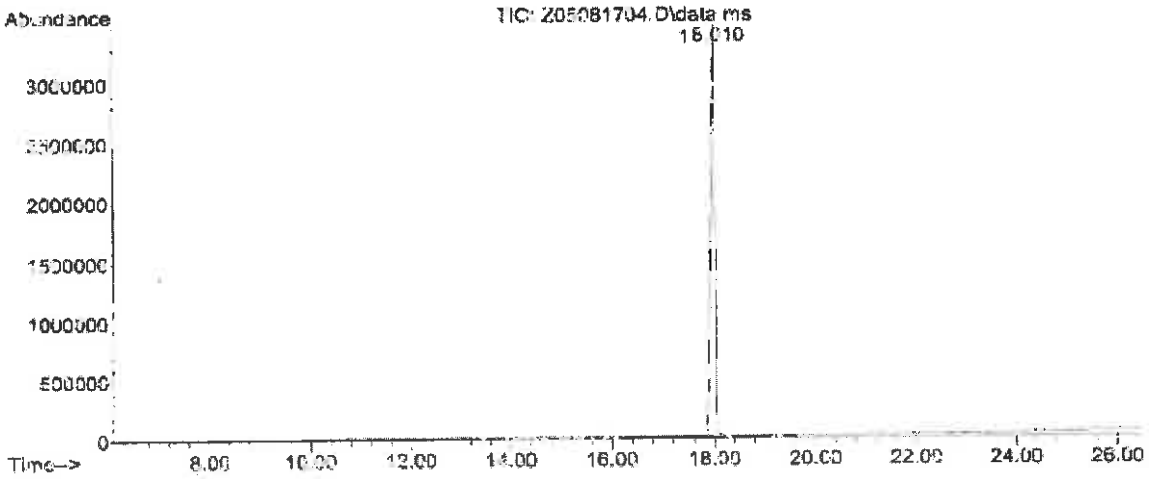

Mass Spectrum

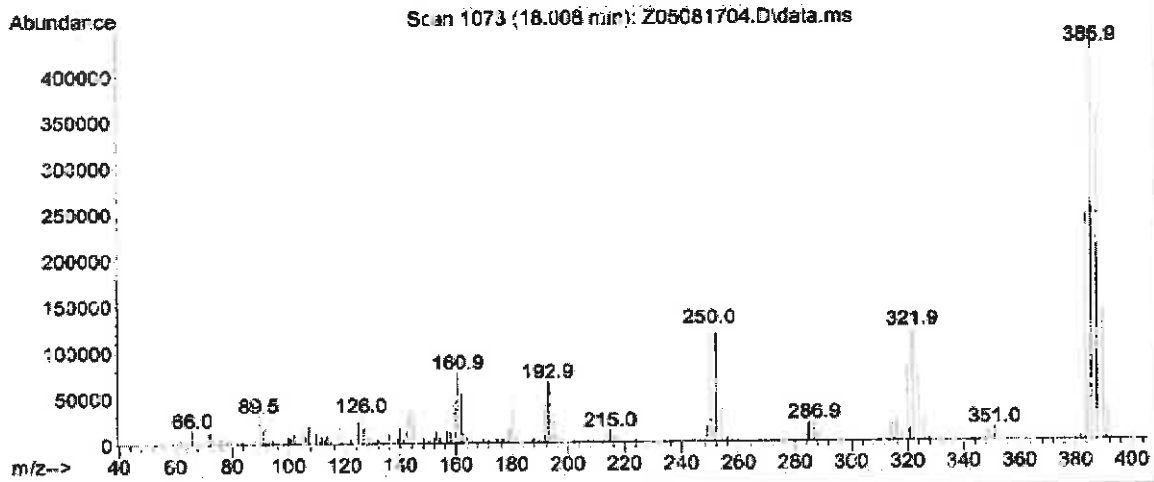

Reagent

HRDXNIS_00110

r: 9/4/18 SKV

Cerilliant
Analytical Reference Standards
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CIL

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

Catalog Number: ED-996
Solution Lot: ER08221601
Expiration Date: September 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER08221601	49.20	± 5%	0.3	≤ 3%
Previous Lot	ER021313-01	49.56	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

September 28, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O_2$
Compound Lot:	ER110510-01	**CAS Number:**	109719-82-6
		Molecular Weight:	402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.04% $^{13}C_0$ vs $^{13}C_{12}$
		0.27% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.02%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

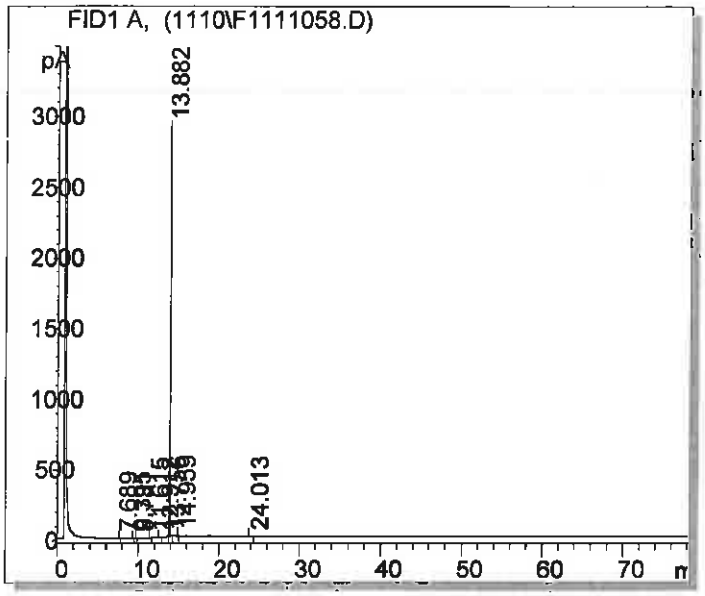

Column:	DB-5ms 30m x 0.53mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-column
Detector Temp:	325°C
Data File Name:	S:\GC\GC6\2010\1110\F1111058.D
Instrument:	GC#6
Sample Name:	ER110510-01
Acquired:	November 12, 2010

Peak #	Ret Time	Area	Height	Area %
1	4 69	0.45	0.10	0.01
2	9.40	0 72	0.14	0.01
3	9.78	0 80	0.13	0.01
4	11 62	7.34	2.54	0.09
5	12 91	2.59	0.23	0.03
6	13 76	1.91	1.00	0.02
7	13 88	8026.07	2938.74	99.11
8	14.96	36.82	11.38	0.45
9	24.01	21.08	1.62	0.26

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-13C12
Lot Number : ER110510-01
Instrument : Agilent 5973N MSD /6890N GC
Operator-Inst ID : RPC - A147434
Date Reported : Fri Nov 12 16:41:14 2010
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C @40°C/min,200°C to 320°C @4°C/min
Injector Temp. : Cool on-column Trans. Line Temp : 280°C
Carrier Gas : Helium Flow Rate : 0.80 mL/min

Total Ion Chromatogram
S:\GCMS\GCMS2\2010\1110\

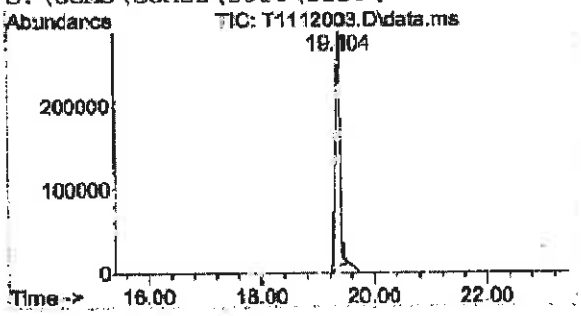

Mass Spectrum
Scan Number: 1976 Scan Range: 50-550 amu

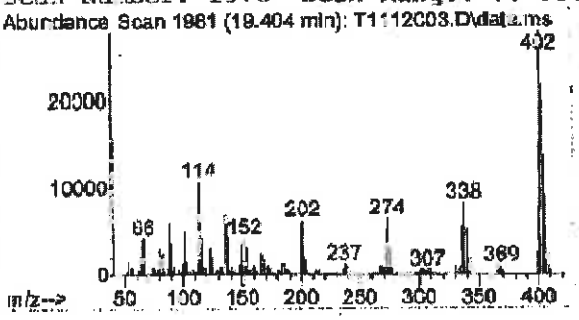

SIM Ion Chromatogram 1

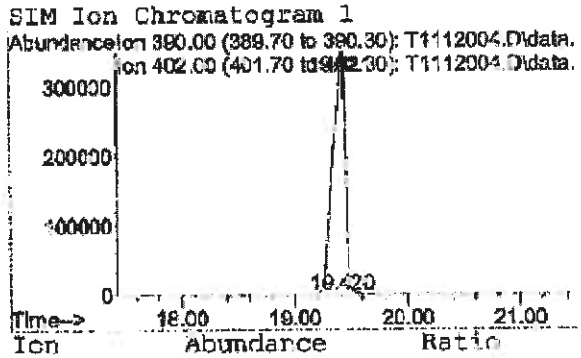

Ion	Abundance	Ratio
402	26368380	99.96
390	9776	0.04

SIM Ion Chromatogram 2

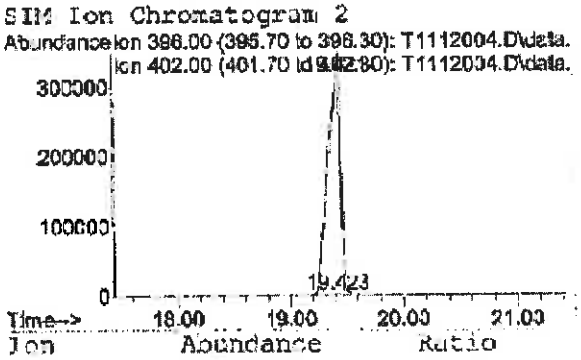

Ion	Abundance	Ratio
402	26368380	99.73
396	71626	0.27

Reagent

HRDXNIS_00111

Rec: 9/4/18 SKV

Cerilliant
Analytical Reference Standards
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Certificate of Analysis

1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$

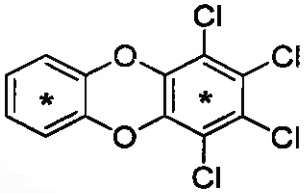

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number: ED-911
Solution Lot: ER11081602
Expiration Date: January 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.7%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER11081602	51.01	± 10%	0.1	≤ 3%
Previous Lot	ER060710-01	50.59	± 10%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

January 23, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$
Compound Lot:	ER02021602

Chemical Formula:	$^{13}C_{12}H_4Cl_4O_2$
CAS Number:	114423-99-3
Molecular Weight:	333.88

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS	SP10-0105	no single DD/DF impurity ≥ 1.0%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.03% $^{13}C_0$ vs $^{13}C_{12}$
		0.01% $^{13}C_6$ vs $^{13}C_{12}$
Identity by ^{1}H-NMR Analysis	USP <761>, SP10-0116	Consistent with Structure
Residual Solvent by ^{1}H-NMR Analysis	USP <761>, SP10-0116	0.31% Dichloromethane
Mass Balance Purity Factor		98.71%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

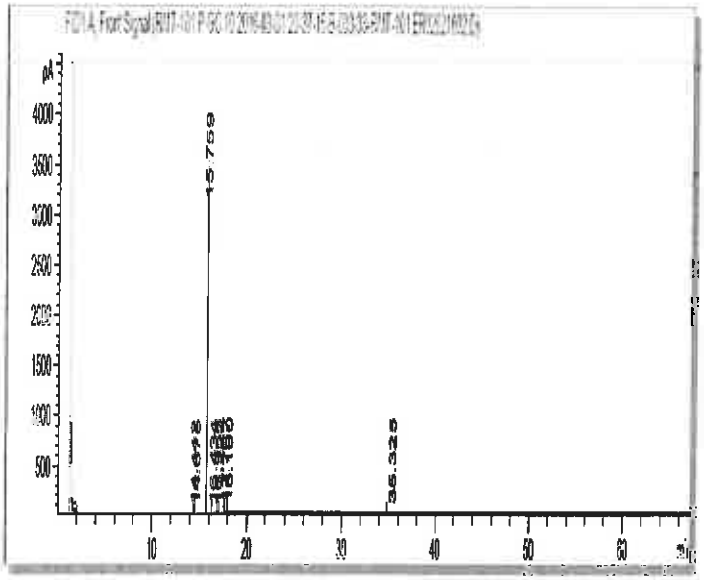

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	40°C to 300°C at 15°C/min hold 50 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMT-101 P GC 10 2016-03-01 20-37-15\B-003-33.D
Instrument:	GC#10
Sample Name:	ER02021602
Acquired:	March 01, 2016

Peak #	Ret Time	Area	Height	Area %
1	14.44	1.34	0.53	0.02
2	14.68	3.60	0.58	0.05
3	15.76	7522.29	3054.11	99.22
4	16.43	3.51	0.80	0.05
5	16.96	2.38	1.09	0.03
6	17.13	4.79	2.26	0.06
7	17.77	8.72	3.38	0.11
8	18.10	1.68	0.54	0.02
9	35.33	32.94	1.28	0.43

^{1}H NMR

Instrument:	JEOL ECS 400
Solvent:	Chloroform-D

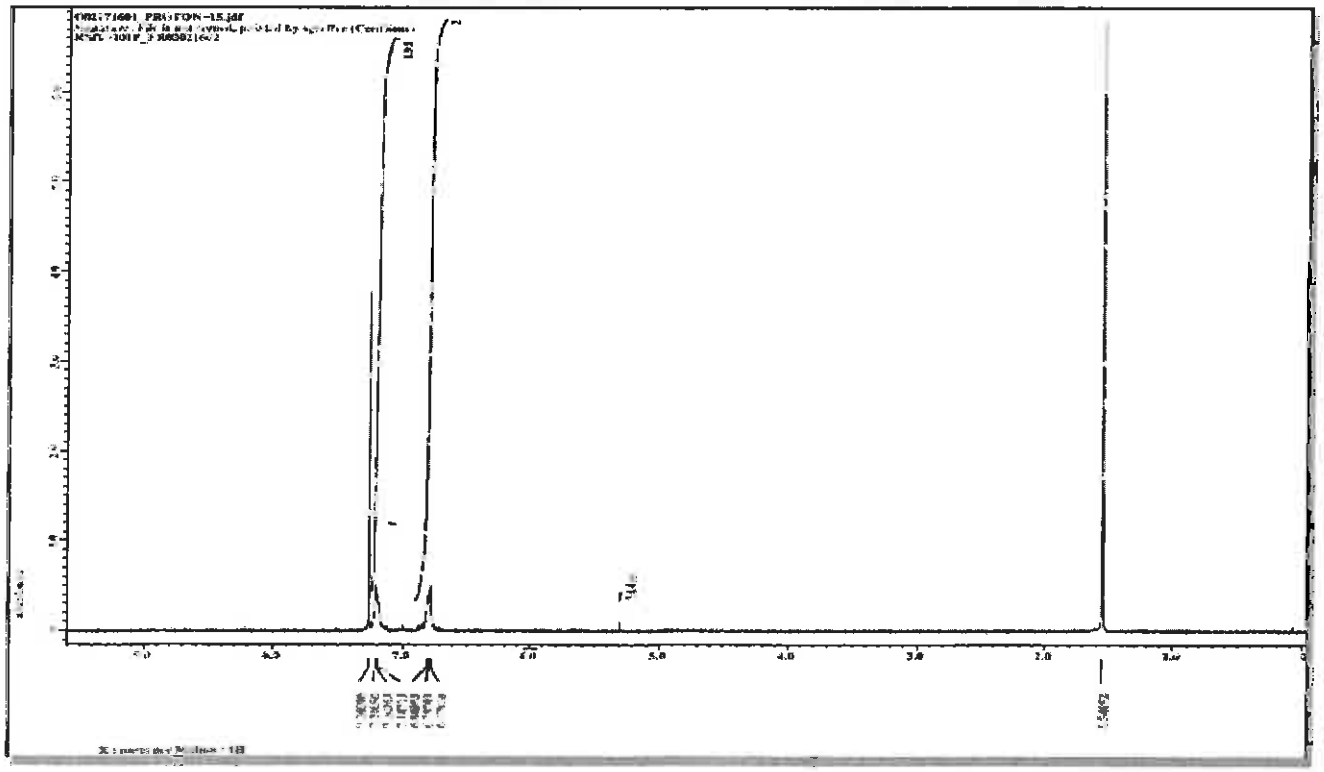

Spectral and Physical Data (cont.)

GC/MS

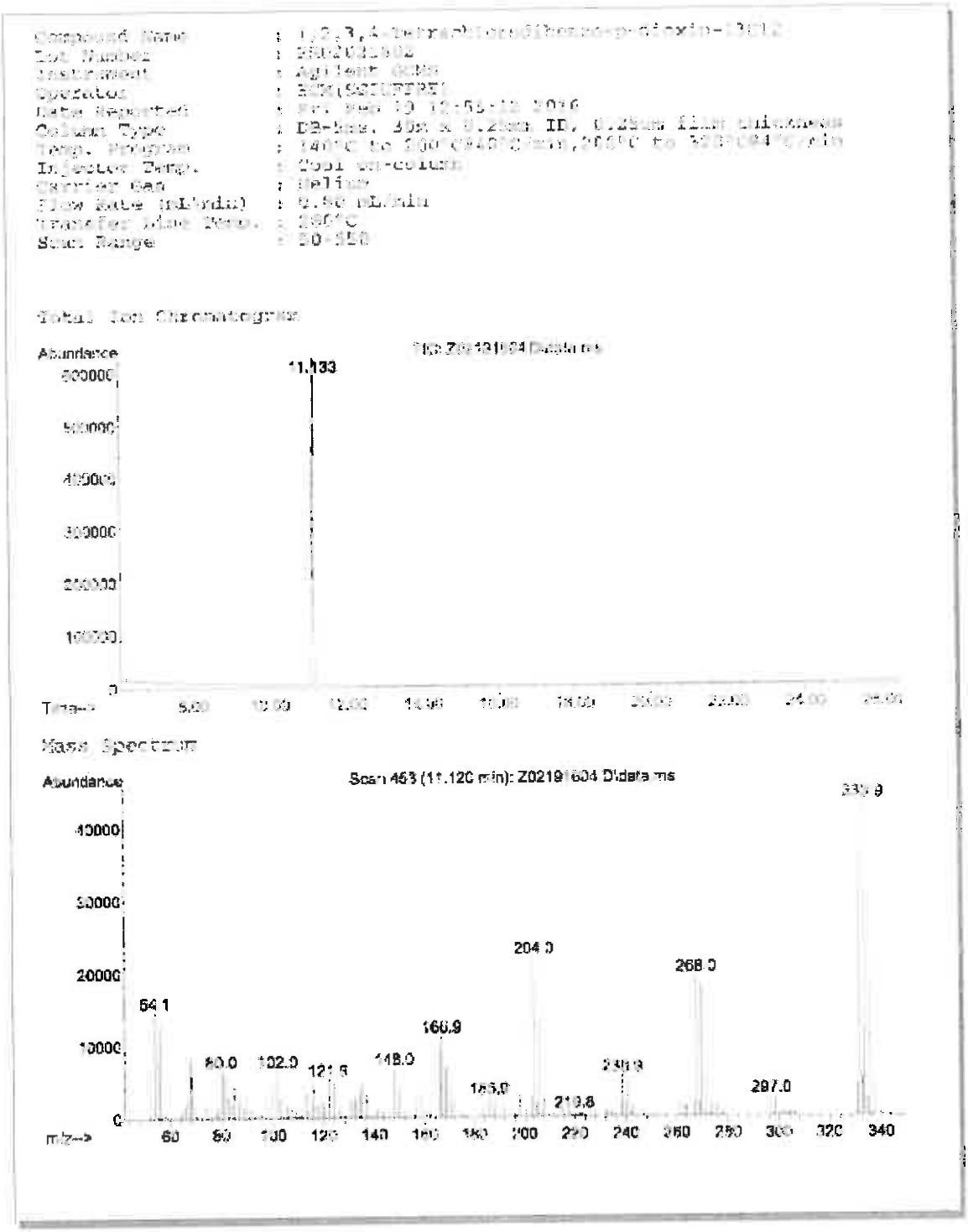

Reagent

HRDXNSU_00123

Richard Wolstenholme

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$

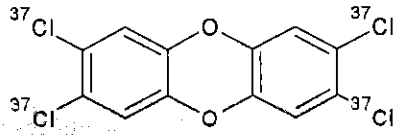

Catalog Number: ED-907
Solution Lot: ER05211501
Expiration Date: July 2025
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Shipping: Ambient.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Instructions for Use: Sonicate before use.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies.
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.
- For MS Applications, we advise laboratories not to mix lots during a single sequence.

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$	98.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s); measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER05211501	50.60	± 10%	0.2	≤ 5%
Previous Lot	ER052010-02	49.73	± 10%	0.5	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after

ACLASS ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

August 03, 2015
Date

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$	**Chemical Formula:**	$C_{12}H_4O_2{}^{37}Cl_4$
Compound Lot:	ER040510-01	**CAS Number:**	85508-50-5
		Molecular Weight:	328.02

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{37}Cl_0$ vs $^{37}Cl_4$
Identity by ^{1}H-NMR Analysis	USP <761>, SP10-0116	Consistent with Structure
Residual Solvent Analysis by ^{1}H-NMR	USP <761>, SP10-0116	1.2% Chloroform
Purity Factor		97.14%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

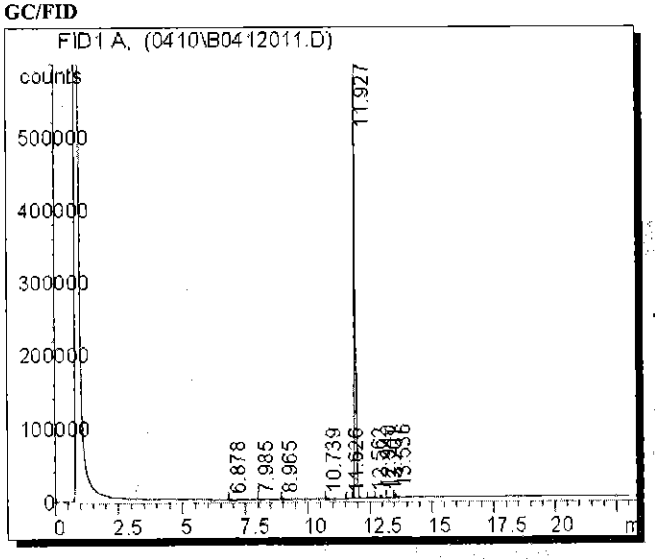

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	S:\GC\GC2\2010\0410\B0412011.D
Instrument:	GC#2
Sample Name:	ER040510-01
Acquired:	April 13, 2010

Peak #	Ret Time	Area	Height	Area %
1	6.88	245.58	89.37	0.01
2	7.99	304.03	131.27	0.01
3	8.97	233.91	72.32	0.01
4	10.74	931.14	265.29	0.04
5	11.63	127.86	46.74	0.01
6	11.93	2261830.00	580792.00	98.34
7	12.56	6435.54	1838.17	0.28
8	12.94	13336.80	4373.86	0.58
9	13.20	2178.30	729.98	0.09
10	13.54	14483.30	5038.43	0.63

^{1}H NMR

Instrument:	JEOL ECS 400
Solvent:	Toluene-D_8

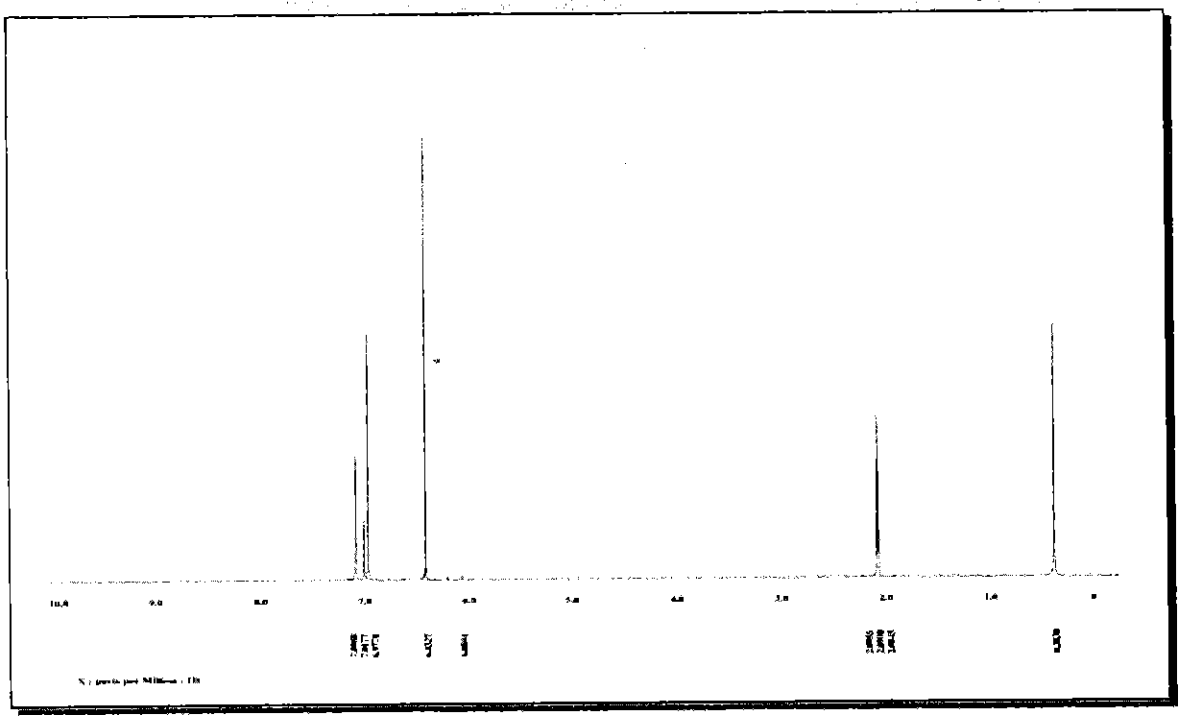

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

```
Compound Name          : 2,3,7,8-Tetrachlorodibenzo-p-dioxin-37Cl4
Lot Number             : ER040510-01
Instrument             : Agilent 5973N MSD/6890N GC
Operator-Inst ID       : RPC - C10106
Date Reported          : Mon Apr 19 13:23:09 2010
Column Type            : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program          : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.         : Cool on-column
Carrier Gas            : Helium
Flow Rate (mL\min)     : 0.80 mL/min
Transfer Line Temp.    : 280°C

Scan Range             : 50-550
```

Total Ion Chromatogram

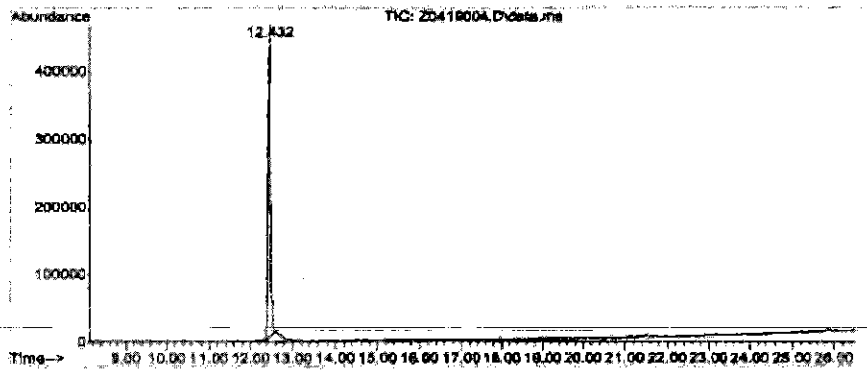

Mass Spectrum

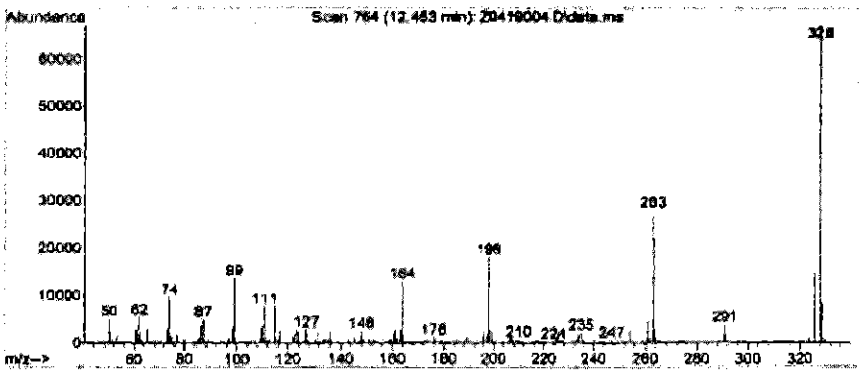

Reagent

HRDXNSU_00187

r: 7/30/18 SKJ

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$

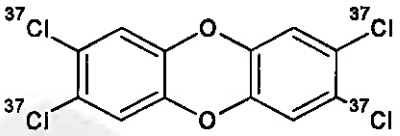

Catalog Number: ED-907
Solution Lot: ER05211501
Expiration Date: July 2025
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold
Shipping: Ambient.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Instructions for Use: Sonicate before use.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration
- For MS Applications, we advise laboratories not to mix lots during a single sequence.

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$	98.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Acceptance Criteria	%RSD - Homogeneity Actual Results	Acceptance Criteria
New Lot	ER05211501	50.60	± 10%	0.2	≤ 5%
Previous Lot	ER052010-02	49.73	± 10%	0.5	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after

ACLASS ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

August 03, 2015
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$	**Chemical Formula:**	$C_{12}H_4O_2{}^{37}Cl_4$
Compound Lot:	ER040510-01	**CAS Number**	85508-50-5
		Molecular Weight	328.02

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{37}Cl_0$ vs $^{37}Cl_4$
Identity by ^{1}H-NMR Analysis	USP <761>, SP10-0116	Consistent with Structure
Residual Solvent Analysis by ^{1}H-NMR	USP <761>, SP10-0116	1.2% Chloroform
Purity Factor		97.14%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

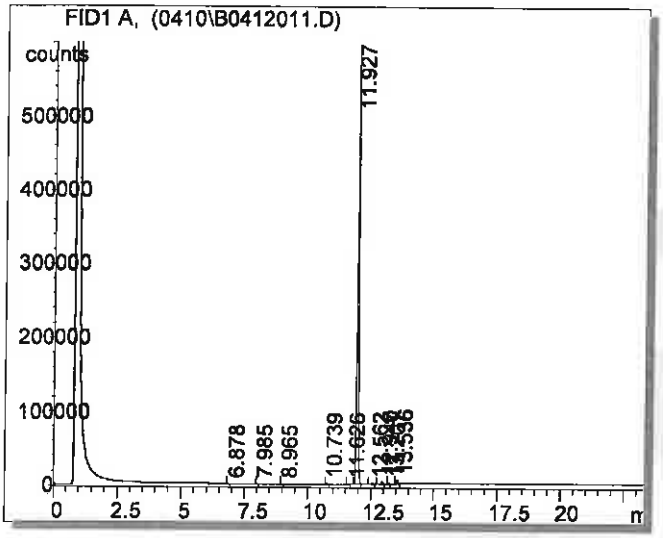

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	S:\GC\GC2\2010\0410\B0412011.D
Instrument:	GC#2
Sample Name:	ER040510-01
Acquired:	April 13, 2010

Peak #	Ret Time	Area	Height	Area %
1	6.88	245.58	89.37	0.01
2	7.99	304.03	131.27	0.01
3	8.97	233.91	72.32	0.01
4	10.74	931.14	265.29	0.04
5	11.63	127.86	46.74	0.01
6	11.93	2261830.00	580792.00	98.34
7	12.56	6435.54	1838.17	0.28
8	12.94	13336.80	4373.86	0.58
9	13.20	2178.30	729.98	0.09
10	13.54	14483.80	5038.43	0.63

^{1}H NMR

Instrument:	JEOL ECS 400
Solvent:	Toluene-D_8

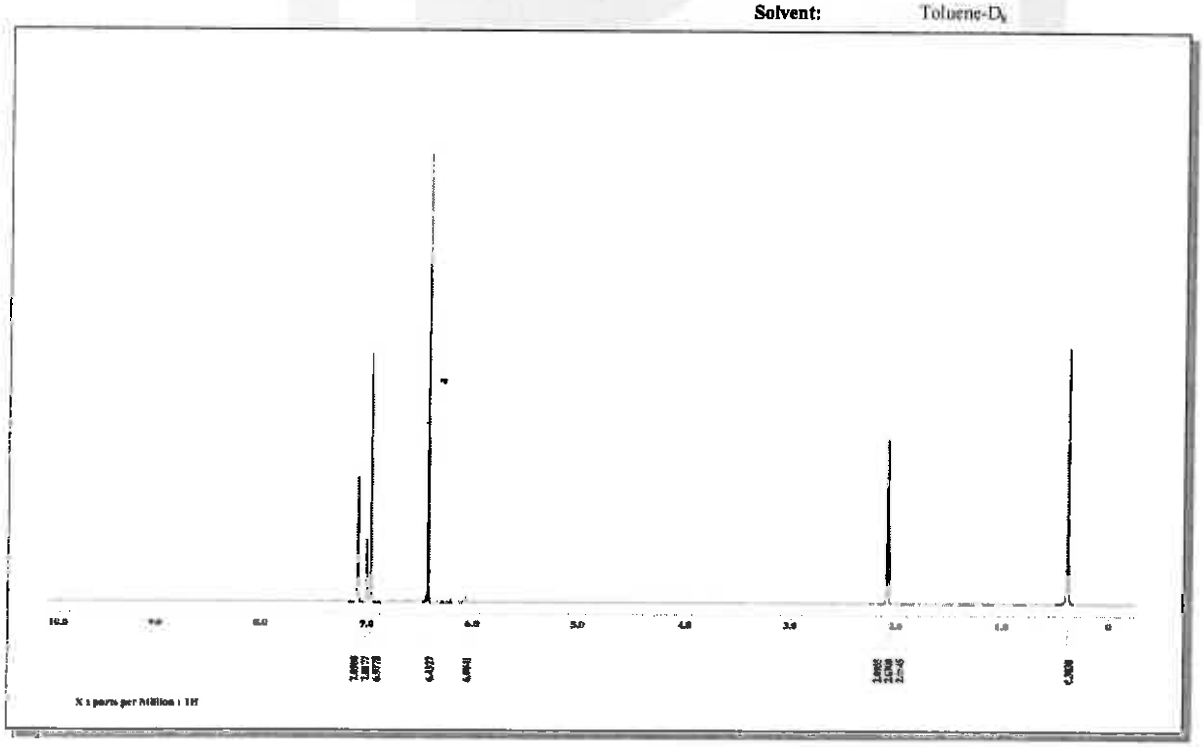

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

Compound Name : 2,3,7,8-Tetrachlorodibenzo-p-dioxin-37C14
Lot Number : RR060510-02
Instrument : Agilent 5973N MSD/6890N GC
Operator-Inst ID : RPC - C10106
Date Acquired : Mon Apr 19 23:23:00 2010
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 320°C@10°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 280°C

Scan Range : 50-550

Total Ion Chromatogram

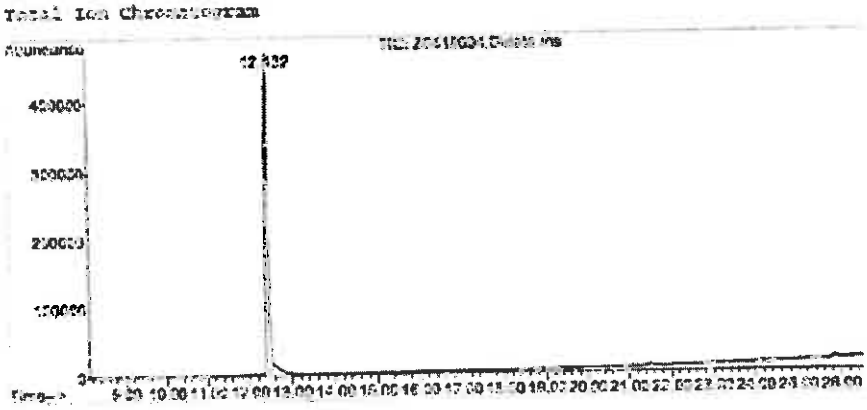

Mass Spectrum

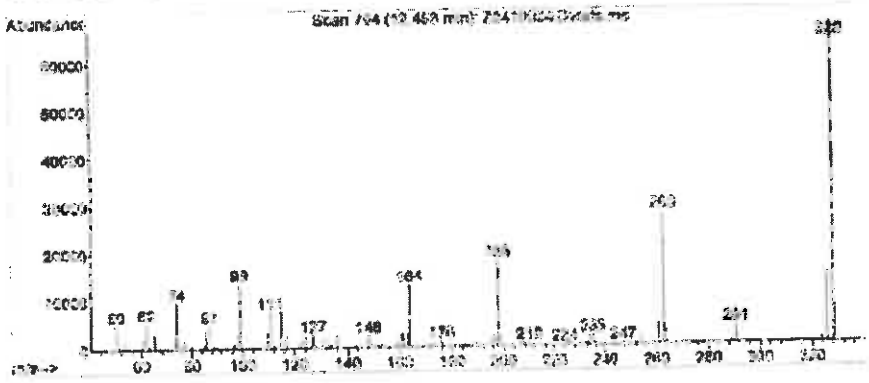

Reagent

HRDXNTA_00091

R: 7/6/18 SKJ

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Method 1613 PAR Stock Solution

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number: EDF-7999-10X
Solution Lot: ER02241602
Expiration Date: April 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/ analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 volume. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Lot Number	CAS Number	Chemical Formula	Molecular Weight	Chromatographic Purity	Concentration
2,3,7,8-TeCDD	ER04271502	1746-01-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%	399.9 ± 4.0 ng/mL
2,3,7,8-TeCDF	ER101211-02	51207-31-9	$C_{12}H_4Cl_4O$	305.97	99.4%	399.9 ± 4.0 ng/mL
1,2,3,7,8-PeCDD	ER110909-02	40321-76-4	$C_{12}H_3Cl_5O_2$	356.42	99.2%	2000 ± 20 ng/mL
1,2,3,7,8-PeCDF	ER03121401	57117-41-6	$C_{12}H_3Cl_5O$	340.42	99.5%	1999 ± 20 ng/mL
2,3,4,7,8-PeCDF	ER070710-01	57117-31-4	$C_{12}H_3Cl_5O$	340.42	99.4%	1999 ± 20 ng/mL
1,2,3,4,7,8-HxCDD	ER080108-02	39227-28-6	$C_{12}H_2Cl_6O_2$	390.86	98.6%	2000 ± 20 ng/mL
1,2,3,6,7,8-HxCDD	ER03231501	57653-85-7	$C_{12}H_2Cl_6O_2$	390.86	99.6%	2000 ± 20 ng/mL
1,2,3,7,8,9-HxCDD	ER02041601	19408-74-3	$C_{12}H_2Cl_6O_2$	390.86	99.2%	2000 ± 20 ng/mL
1,2,3,4,7,8-HxCDF	ER021110-01	70648-26-9	$C_{12}H_2Cl_6O$	374.86	99.0%	2000 ± 20 ng/mL
1,2,3,6,7,8-HxCDF	ER04161501	57117-44-9	$C_{12}H_2Cl_6O$	374.86	99.8%	2000 ± 20 ng/mL
1,2,3,7,8,9-HxCDF	ER060107-01	72918-21-9	$C_{12}H_2Cl_6O$	374.86	97.5%	1999 ± 20 ng/mL
2,3,4,6,7,8-HxCDF	ER02041602	60851-34-5	$C_{12}H_2Cl_6O$	374.86	99.1%	2001 ± 20 ng/mL
1,2,3,4,6,7,8-HpCDD	ER01201504	35822-46-9	$C_{12}HCl_7O_2$	425.31	98.5%	1999 ± 20 ng/mL
1,2,3,4,6,7,8-HpCDF	ER02281403	67562-39-4	$C_{12}HCl_7O$	409.31	98.9%	1999 ± 20 ng/mL
1,2,3,4,7,8,9-HpCDF	ER01121503	55673-89-7	$C_{12}HCl_7O$	409.31	99.1%	1999 ± 20 ng/mL
OCDD	ER05221301	3268-87-9	$C_{12}Cl_8O_2$	459.75	99.9%	3999 ± 40 ng/mL
OCDF	ER040811-01	39001-02-0	$C_{12}Cl_8O$	443.75	98.9%	4000 ± 40 ng/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Stock solution concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

April 28, 2016
Date

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.

Standard Solution Assay Parameters

Analysis Method: GC/ECD
Column: DB-5ms, 30 m x 0.25 mm ID, 0 25 µm film thickness
Temp Program: 140°C to 200°C at 40°C/min, 200°C to 300°C at 4°C/min hold 3 min
Injector Temp: Cool on-column
Detector Temp: 280°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 1

Solution Standard Verification and Homogeneity

Compound	Verified Concentration ng/mL	Acceptance Criteria	%RSD - Homogeneity %	Acceptance Criteria
2,3,7,8-TeCDD	397 1	± 10%	0.7	≤ 5%
2,3,7,8-TeCDF	386 6	± 10%	0.7	≤ 5%
1,2,3,7,8-PeCDD	1937	± 10%	0 8	≤ 5%
1,2,3,7,8-PeCDF	1919	± 10%	0.8	≤ 5%
2,3,4,7,8-PeCDF	1941	± 10%	0.8	≤ 5%
1,2,3,4,7,8-HxCDD	1932	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDD	1987	± 10%	0 8	≤ 5%
1,2,3,7,8,9-HxCDD	1943	± 10%	0 7	≤ 5%
1,2,3,4,7,8-HxCDF	1933	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDF	1909	± 10%	0.9	≤ 5%
1,2,3,7,8,9-HxCDF	1942	± 10%	0.7	≤ 5%
2,3,4,6,7,8-HxCDF	1950	± 10%	0.8	≤ 5%
1.2.3.4.6.7.8-HpCDD	1930	± 10%	0.9	≤ 5%
1,2,3,4,6,7,8-HpCDF	1919	± 10%	0.9	≤ 5%
1,2,3,4,7,8,9-HpCDF	1943	± 10%	1.0	≤ 5%
OCDD	3844	± 10%	1.0	≤ 5%
OCDF	3906	± 10%	0.9	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The %RSD of samples pulled from across the lot demonstrate homogeneity.
- Product is compared to prior lot and meets acceptance criteria of ± 10%.

Product Analysis

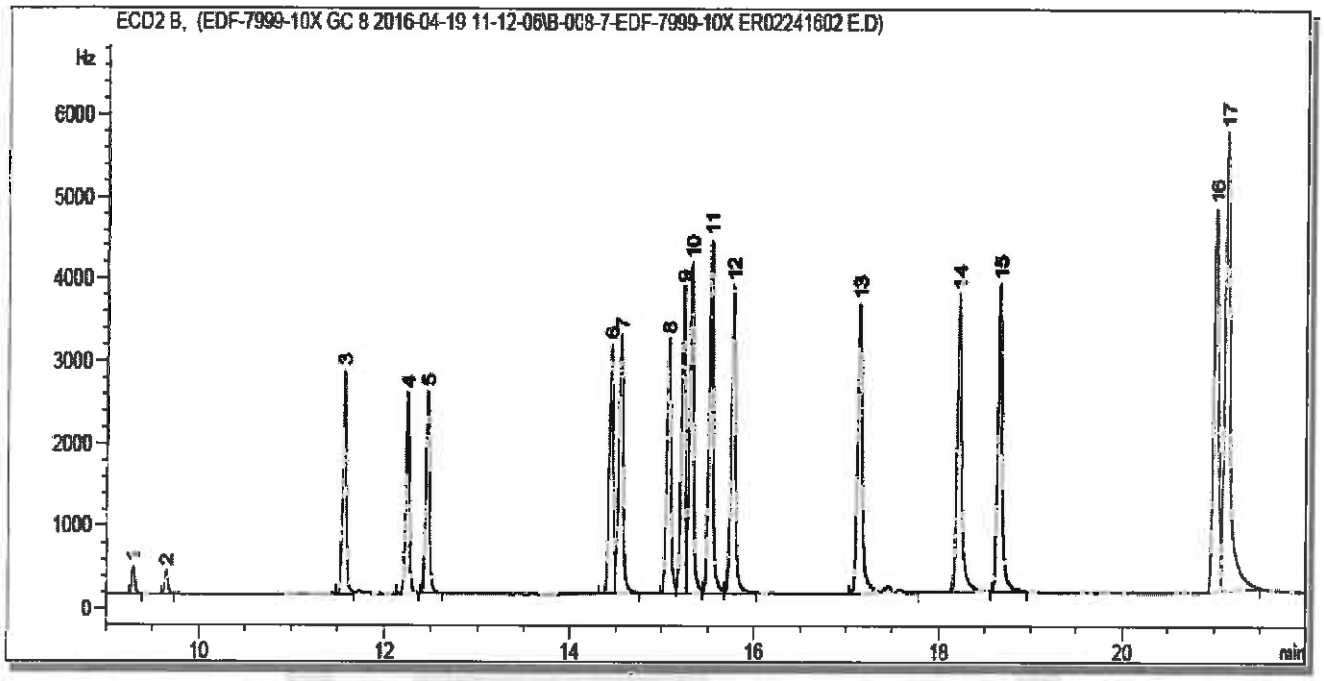

Peak:	Analyte:
1	2,3,7,8-Tetrachlorodibenzofuran
2	2,3,7,8-Tetrachloro-p-dioxin
3	1,2,3,7,8-Pentachlorodibenzofuran
4	2,3,4,7,8-Pentachlorodibenzofuran
5	1,2,3,7,8-Pentachlorodibenzo-p-dioxin
6	1,2,3,4,7,8-Hexachlorodibenzofuran
7	1,2,3,6,7,8-Hexachlorodibenzofuran
8	2,3,4,6,7,8-Hexachlorodibenzofuran
9	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin
10	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin
11	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin
12	1,2,3,7,8,9-Hexachlorodibenzofuran
13	1,2,3,4,6,7,8-Heptachlorodibenzofuran
14	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin
15	1,2,3,4,7,8,9-Heptachlorodibenzofuran
16	Octachlorodibenzo-p-dioxin
17	Octachlorodibenzofuran

COA Revision History

Revision No.	Date	Reason for Revision
00	April 28, 2016	Initial version

Reagent

HRDXNTA_00092

R: 7/6/18 SKJ

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Method 1613 PAR Stock Solution

Certificate Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number: EDF-7999-10X
Solution Lot: ER02241602
Expiration Date: April 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/ analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 volume. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Lot Number	CAS Number	Chemical Formula	Molecular Weight	Chromatographic Purity	Concentration
2,3,7,8-TeCDD	ER04271502	1746-01-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%	399.9 ± 4.0 ng/mL
2,3,7,8-TeCDF	ER101211-02	51207-31-9	$C_{12}H_4Cl_4O$	305.97	99.4%	399.9 ± 4.0 ng/mL
1,2,3,7,8-PeCDD	ER110909-02	40321-76-4	$C_{12}H_3Cl_5O_2$	356.42	99.2%	2000 ± 20 ng/mL
1,2,3,7,8-PeCDF	ER03121401	57117-41-6	$C_{12}H_3Cl_5O$	340.42	99.5%	1999 ± 20 ng/mL
2,3,4,7,8-PeCDF	ER070710-01	57117-31-4	$C_{12}H_3Cl_5O$	340.42	99.4%	1999 ± 20 ng/mL
1,2,3,4,7,8-HxCDD	ER080108-02	39227-28-6	$C_{12}H_2Cl_6O_2$	390.86	98.6%	2000 ± 20 ng/mL
1,2,3,6,7,8-HxCDD	ER03231501	57653-85-7	$C_{12}H_2Cl_6O_2$	390.86	99.6%	2000 ± 20 ng/mL
1,2,3,7,8,9-HxCDD	ER02041601	19408-74-3	$C_{12}H_2Cl_6O_2$	390.86	99.2%	2000 ± 20 ng/mL
1,2,3,4,7,8-HxCDF	ER021110-01	70648-26-9	$C_{12}H_2Cl_6O$	374.86	99.0%	2000 ± 20 ng/mL
1,2,3,6,7,8-HxCDF	ER04161501	57117-44-9	$C_{12}H_2Cl_6O$	374.86	99.8%	2000 ± 20 ng/mL
1,2,3,7,8,9-HxCDF	ER060107-01	72918-21-9	$C_{12}H_2Cl_6O$	374.86	97.5%	1999 ± 20 ng/mL
2,3,4,6,7,8-HxCDF	ER02041602	60851-34-5	$C_{12}H_2Cl_6O$	374.86	99.1%	2001 ± 20 ng/mL
1,2,3,4,6,7,8-HpCDD	ER01201504	35822-46-9	$C_{12}HCl_7O_2$	425.31	98.5%	1999 ± 20 ng/mL
1,2,3,4,6,7,8-HpCDF	ER02281403	67562-39-4	$C_{12}HCl_7O$	409.31	98.9%	1999 ± 20 ng/mL
1,2,3,4,7,8,9-HpCDF	ER01121503	55673-89-7	$C_{12}HCl_7O$	409.31	99.1%	1999 ± 20 ng/mL
OCDD	ER05221301	3268-87-9	$C_{12}Cl_8O_2$	459.75	99.9%	3999 ± 40 ng/mL
OCDF	ER040811-01	39001-02-0	$C_{12}Cl_8O$	443.75	98.9%	4000 ± 40 ng/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Stock solution concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

April 28, 2016
Date

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.

Standard Solution Assay Parameters

Analysis Method: GC/ECD
Column: DB-5ms, 30 m x 0.25 mm ID, 0 25 µm film thickness
Temp Program: 140°C to 200°C at 40°C/min, 200°C to 300°C at 4°C/min hold 3 min
Injector Temp: Cool on-column
Detector Temp: 280°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 1

Solution Standard Verification and Homogeneity

Compound	Verified Concentration ng/mL	Acceptance Criteria	%RSD - Homogeneity %	Acceptance Criteria
2,3,7,8-TeCDD	397 1	± 10%	0.7	≤ 5%
2,3,7,8-TeCDF	386 6	± 10%	0.7	≤ 5%
1,2,3,7,8-PeCDD	1937	± 10%	0 8	≤ 5%
1,2,3,7,8-PeCDF	1919	± 10%	0.8	≤ 5%
2,3,4,7,8-PeCDF	1941	± 10%	0.8	≤ 5%
1,2,3,4,7,8-HxCDD	1932	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDD	1987	± 10%	0 8	≤ 5%
1,2,3,7,8,9-HxCDD	1943	± 10%	0 7	≤ 5%
1,2,3,4,7,8-HxCDF	1933	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDF	1909	± 10%	0.9	≤ 5%
1,2,3,7,8,9-HxCDF	1942	± 10%	0.7	≤ 5%
2,3,4,6,7,8-HxCDF	1950	± 10%	0.8	≤ 5%
1.2.3.4.6.7.8-HpCDD	1930	± 10%	0.9	≤ 5%
1,2,3,4,6,7,8-HpCDF	1919	± 10%	0.9	≤ 5%
1,2,3,4,7,8,9-HpCDF	1943	± 10%	1.0	≤ 5%
OCDD	3844	± 10%	1.0	≤ 5%
OCDF	3906	± 10%	0.9	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The %RSD of samples pulled from across the lot demonstrate homogeneity.
- Product is compared to prior lot and meets acceptance criteria of ± 10%.

Product Analysis

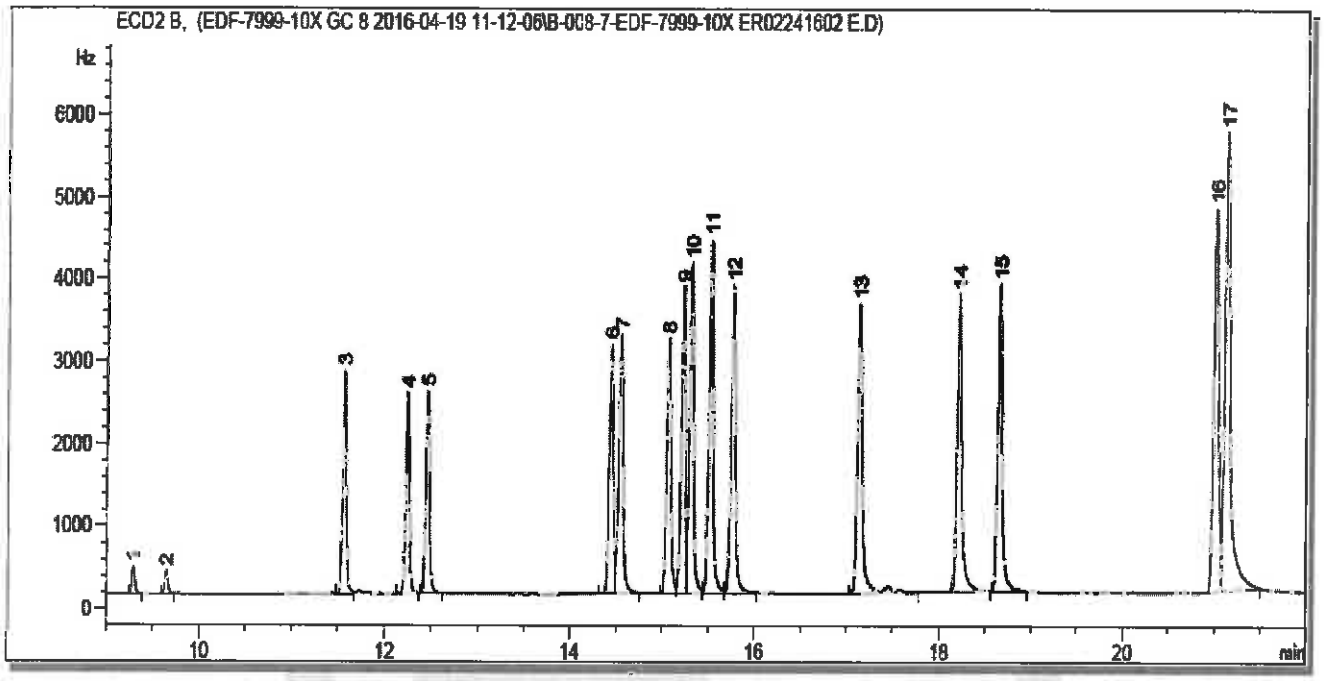

Peak:	Analyte:
1	2,3,7,8-Tetrachlorodibenzofuran
2	2,3,7,8-Tetrachloro-p-dioxin
3	1,2,3,7,8-Pentachlorodibenzofuran
4	2,3,4,7,8-Pentachlorodibenzofuran
5	1,2,3,7,8-Pentachlorodibenzo-p-dioxin
6	1,2,3,4,7,8-Hexachlorodibenzofuran
7	1,2,3,6,7,8-Hexachlorodibenzofuran
8	2,3,4,6,7,8-Hexachlorodibenzofuran
9	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin
10	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin
11	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin
12	1,2,3,7,8,9-Hexachlorodibenzofuran
13	1,2,3,4,6,7,8-Heptachlorodibenzofuran
14	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin
15	1,2,3,4,7,8,9-Heptachlorodibenzofuran
16	Octachlorodibenzo-p-dioxin
17	Octachlorodibenzofuran

COA Revision History

Revision No.	Date	Reason for Revision
00	April 28, 2016	Initial version

Reagent

HRDXNTA_00093

R: 7/6/18 SKJ

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Method 1613 PAR Stock Solution

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number: EDF-7999-10X
Solution Lot: ER02241602
Expiration Date: April 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/ analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 volume. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Lot Number	CAS Number	Chemical Formula	Molecular Weight	Chromatographic Purity	Concentration
2,3,7,8-TeCDD	ER04271502	1746-01-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%	399.9 ± 4.0 ng/mL
2,3,7,8-TeCDF	ER101211-02	51207-31-9	$C_{12}H_4Cl_4O$	305.97	99.4%	399.9 ± 4.0 ng/mL
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1,2,3,4,7,8-HxCDD	ER080108-02	39227-28-6	$C_{12}H_2Cl_6O_2$	390.86	98.6%	2000 ± 20 ng/mL
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ANAB ACCREDITED
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

April 28, 2016
Date

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Calibration Curve: Linear Regression
Number of Points: 1

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1,2,3,4,7,8-HxCDF	1933	± 10%	0.9	≤ 5%
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1,2,3,7,8,9-HxCDF	1942	± 10%	0.7	≤ 5%
2,3,4,6,7,8-HxCDF	1950	± 10%	0.8	≤ 5%
1.2.3.4.6.7.8-HpCDD	1930	± 10%	0.9	≤ 5%
1,2,3,4,6,7,8-HpCDF	1919	± 10%	0.9	≤ 5%
1,2,3,4,7,8,9-HpCDF	1943	± 10%	1.0	≤ 5%
OCDD	3844	± 10%	1.0	≤ 5%
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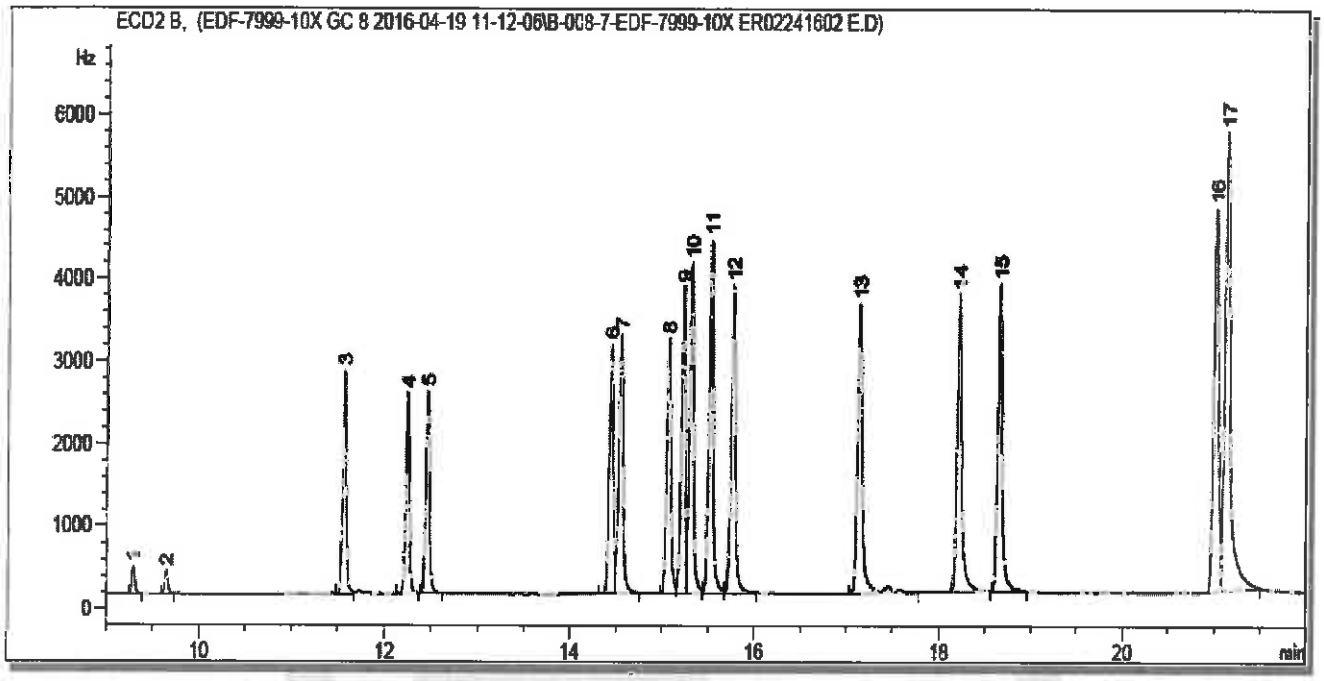

Peak:	Analyte:
1	2,3,7,8-Tetrachlorodibenzofuran
2	2,3,7,8-Tetrachloro-p-dioxin
3	1,2,3,7,8-Pentachlorodibenzofuran
4	2,3,4,7,8-Pentachlorodibenzofuran
5	1,2,3,7,8-Pentachlorodibenzo-p-dioxin
6	1,2,3,4,7,8-Hexachlorodibenzofuran
7	1,2,3,6,7,8-Hexachlorodibenzofuran
8	2,3,4,6,7,8-Hexachlorodibenzofuran
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11	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin
12	1,2,3,7,8,9-Hexachlorodibenzofuran
13	1,2,3,4,6,7,8-Heptachlorodibenzofuran
14	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin
15	1,2,3,4,7,8,9-Heptachlorodibenzofuran
16	Octachlorodibenzo-p-dioxin
17	Octachlorodibenzofuran

COA Revision History

Revision No.	Date	Reason for Revision
00	April 28, 2016	Initial version

Reagent

HRDXNTA_00098

r: 11/2/18 SKJ

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

EPA-1613PAR

U.S. EPA Method 1613 Native PCDD/PCDF
Precision and Recovery Stock Solution

PRODUCT CODE:	EPA-1613PAR
LOT NUMBER:	13PAR0418
SOLVENT(S):	Nonane/Toluene
DATE PREPARED: (mm/dd/yyyy)	04/11/2018
LAST TESTED: (mm/dd/yyyy)	04/12/2018
EXPIRY DATE: (mm/dd/yyyy)	03/01/2025
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION:

EPA-1613PAR is a solution/mixture of all the 2,3,7,8-substituted chlorinated dibenzo-p-dioxins (PCDDs) and 2,3,7,8-substituted dibenzofurans (PCDFs). The components and their concentrations are given in Table A.

EPA-1613PAR was designed for, and prepared to be used according to, U.S. EPA Method 1613 (Revision B).

The individual PCDDs and PCDFs all have chemical purities of >98%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: HRGC/HRMS Data (SIR; 10,000 mass resolving power)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Table A: **EPA-1613PAR; Components and Concentrations (ng/ml, ± 5% in nonane/ 2.4% toluene)**

	Concentration (ng/ml)
PCDDs:	
2,3,7,8-Tetrachlorodibenzo-p-dioxin	40
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	200
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	200
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	200
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	200
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	200
Octachlorodibenzo-p-dioxin	400
PCDFs:	
2,3,7,8-Tetrachlorodibenzofuran	40
1,2,3,7,8-Pentachlorodibenzofuran	200
2,3,4,7,8-Pentachlorodibenzofuran	200
1,2,3,4,7,8-Hexachlorodibenzofuran	200
1,2,3,6,7,8-Hexachlorodibenzofuran	200
1,2,3,7,8,9-Hexachlorodibenzofuran	200
2,3,4,6,7,8-Hexachlorodibenzofuran	200
1,2,3,4,6,7,8-Heptachlorodibenzofuran	200
1,2,3,4,7,8,9-Heptachlorodibenzofuran	200
Octachlorodibenzofuran	400

Certified By: _____ **Date:** 04/16/2018
(mm/dd/yyyy)
B.G. Chittim, General Manager

Figure 1: **EPA-1613PAR; HRGC/HRMS Data (60 m DB-5 Column)**

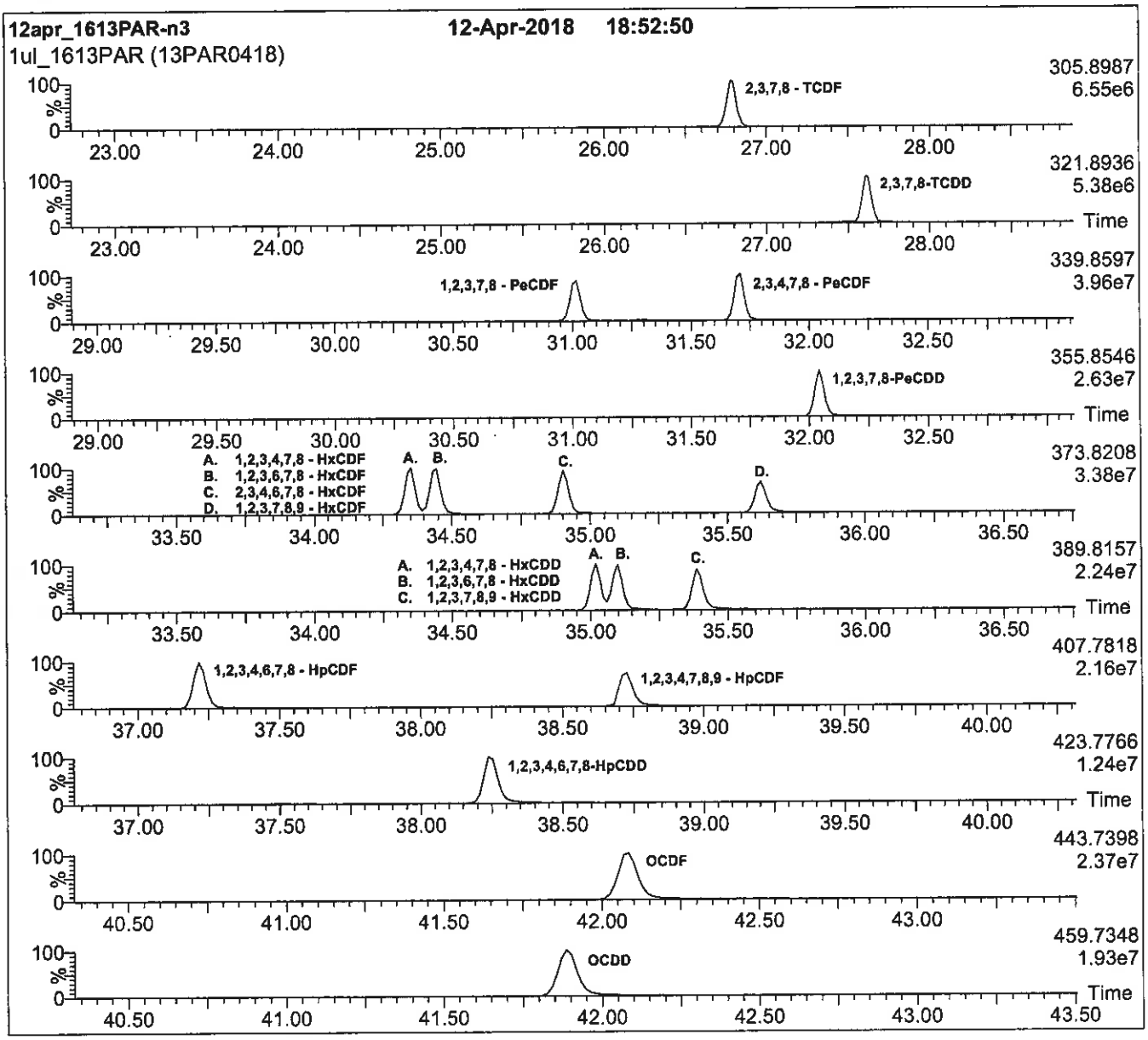

HRGC/HRMS:

Agilent 6890N (HRGC)
Autospec Ultima (HRMS)

Chromatographic Conditions:

Column: 60 m DB-5 (0.25 mm id, 0.25 µm film thickness) Agilent J&W

Flow:	Constant at 1 ml/min	Oven:	150 °C (1 min)
Injector:	280 °C (Splitless Injection)		12 °C/min to 200 °C
Ionization:	EI+		3 °C/min to 235 °C
Detector:	280 °C		235 °C (8 min)
	SIR at 10,000 mass resolving power		8 °C/min to 310 °C
			310 °C (8 min)

Reagent

HRDXNTA_00102

Rec: 1/31/19 SKV

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

EPA-1613PAR

U.S. EPA Method 1613 Native PCDD/PCDF
Precision and Recovery Stock Solution

PRODUCT CODE:	EPA-1613PAR
LOT NUMBER:	13PAR0418
SOLVENT(S):	Nonane/Toluene
DATE PREPARED: (mm/dd/yyyy)	04/11/2018
LAST TESTED: (mm/dd/yyyy)	04/12/2018
EXPIRY DATE: (mm/dd/yyyy)	03/01/2025
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION:

EPA-1613PAR is a solution/mixture of all the 2,3,7,8-substituted chlorinated dibenzo-p-dioxins (PCDDs) and 2,3,7,8-substituted dibenzofurans (PCDFs). The components and their concentrations are given in Table A.

EPA-1613PAR was designed for, and prepared to be used according to, U.S. EPA Method 1613 (Revision B).

The individual PCDDs and PCDFs all have chemical purities of >98%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: HRGC/HRMS Data (SIR; 10,000 mass resolving power)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Table A: **EPA-1613PAR; Components and Concentrations (ng/ml, ± 5% in nonane/ 2.4% toluene)**

	Concentration (ng/ml)
PCDDs:	
2,3,7,8-Tetrachlorodibenzo-p-dioxin	40
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	200
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	200
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	200
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	200
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	200
Octachlorodibenzo-p-dioxin	400
PCDFs:	
2,3,7,8-Tetrachlorodibenzofuran	40
1,2,3,7,8-Pentachlorodibenzofuran	200
2,3,4,7,8-Pentachlorodibenzofuran	200
1,2,3,4,7,8-Hexachlorodibenzofuran	200
1,2,3,6,7,8-Hexachlorodibenzofuran	200
1,2,3,7,8,9-Hexachlorodibenzofuran	200
2,3,4,6,7,8-Hexachlorodibenzofuran	200
1,2,3,4,6,7,8-Heptachlorodibenzofuran	200
1,2,3,4,7,8,9-Heptachlorodibenzofuran	200
Octachlorodibenzofuran	400

Certified By: _____ **Date:** 04/16/2018 (mm/dd/yyyy)

B.G. Chittim, General Manager

Figure 1: **EPA-1613PAR; HRGC/HRMS Data (60 m DB-5 Column)**

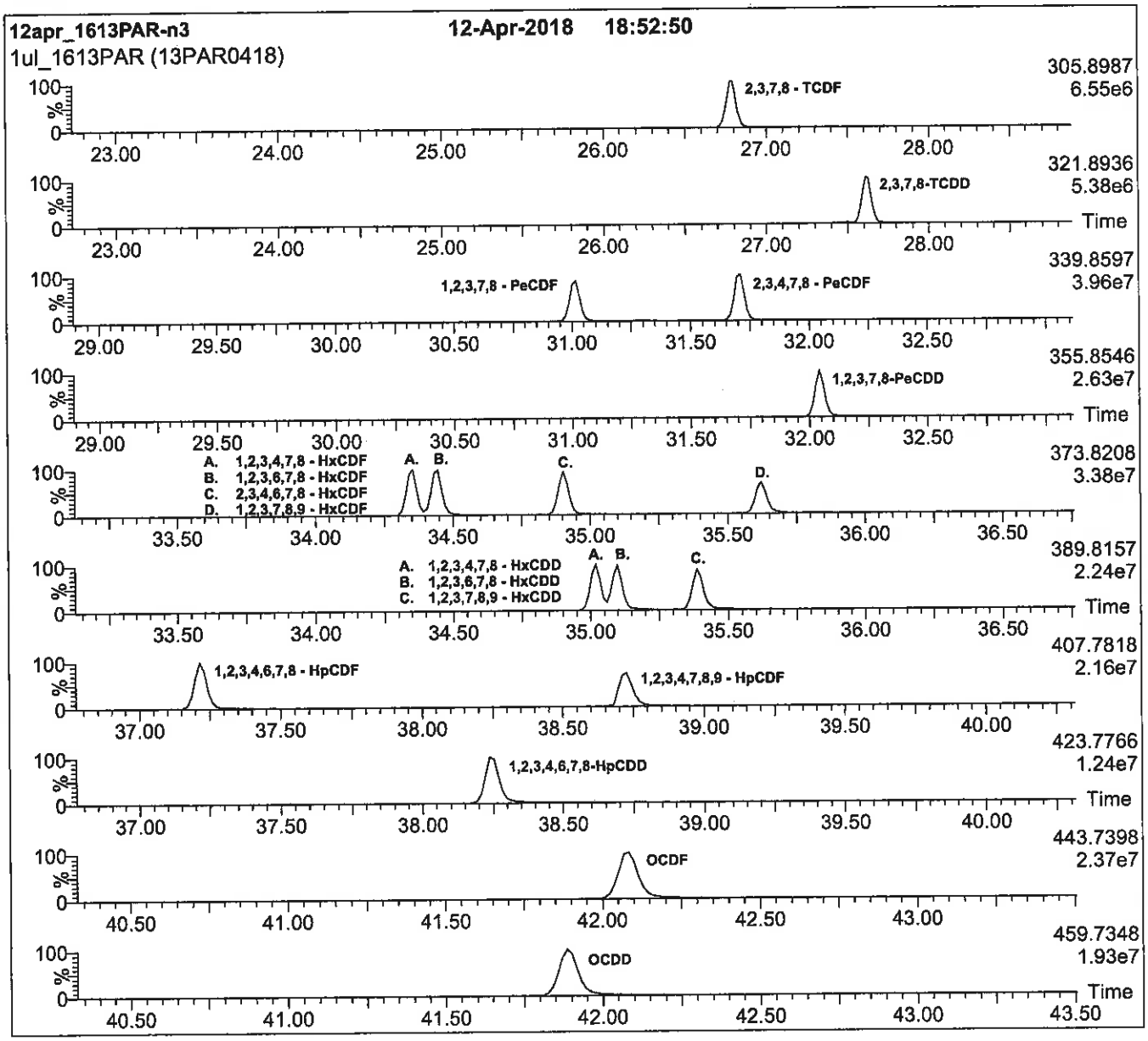

HRGC/HRMS:

Agilent 6890N (HRGC)
Autospec Ultima (HRMS)

Chromatographic Conditions:

Column: 60 m DB-5 (0.25 mm id, 0.25 µm film thickness) Agilent J&W

Flow:	Constant at 1 ml/min	Oven:	150 °C (1 min)
Injector:	280 °C (Splitless Injection)		12 °C/min to 200 °C
Ionization:	EI+		3 °C/min to 235 °C
Detector:	280 °C		235 °C (8 min)
	SIR at 10,000 mass resolving power		8 °C/min to 310 °C
			310 °C (8 min)

Method 8260C

Volatile Organic Compounds (GC/MS) by Method 8260C

FORM II
GC/MS VOA SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Matrix: Solid (TCLP) Level: Low

GC Column (1): DB-624 ID: 0.18(mm)

Client Sample ID	Lab Sample ID	DBFM #	DCA #	TOL #	BFB #
11187072-NORTH-IMP CT-INITIALS	180-97287-1	93	95	106	92
	LB 180-295111/1-A	91	91	103	89
	LB 180-295413/1-A	88	92	103	88
	LCS 180-295465/4	92	89	101	91

	QC LIMITS
DBFM = Dibromofluoromethane (Surr)	70-127
DCA = 1,2-Dichloroethane-d4 (Surr)	58-139
TOL = Toluene-d8 (Surr)	71-125
BFB = 4-Bromofluorobenzene (Surr)	64-122

Column to be used to flag recovery values

FORM II EPA 8260C

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 3102004.D

Lab ID: LCS 180-295465/4 Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
1,1,1,2-Tetrachloroethane	0.0400	0.0396	99	81-124	
1,1,1-Trichloroethane	0.0400	0.0414	103	77-130	
1,2-Dichloroethane	0.0400	0.0376	94	62-129	
1,1,2,2-Tetrachloroethane	0.0400	0.0367	92	61-130	
2-Butanone (MEK)	0.0400	0.0335	84	33-133	
Benzene	0.0400	0.0391	98	72-118	
1,1,2-Trichloroethane	0.0400	0.0414	103	75-119	
Carbon tetrachloride	0.0400	0.0395	99	69-137	
Chlorobenzene	0.0400	0.0384	96	77-122	
Chloroform	0.0400	0.0372	93	78-119	
Tetrachloroethene	0.0400	0.0392	98	75-125	
Trichloroethene	0.0400	0.0400	100	76-120	
1,2,3-Trichloropropane	0.0400	0.0500	125	65-130	
Vinyl chloride	0.0400	0.0324	81	52-130	
1,1-Dichloroethene	0.0400	0.0389	97	60-131	
1,3-Dichloropropene, Total	0.0800	0.0853	107	68-126	
1,4-Dichlorobenzene	0.0400	0.0418	105	76-119	
4-Methyl-2-pentanone (MIBK)	0.0400	0.0398	99	36-138	
Acetone	0.0400	0.0358	89	13-150	
Acrylonitrile	0.400	0.351	88	43-134	
Bromoform	0.0400	0.0362	90	61-149	
Bromomethane	0.0400	0.0413	103	30-150	
Carbon disulfide	0.0400	0.0350	88	54-150	
Dichlorobromomethane	0.0400	0.0395	99	79-119	
Dichlorodifluoromethane	0.0400	0.0341	85	33-150	
Ethylbenzene	0.0400	0.0406	101	73-127	
1,2-Dibromoethane	0.0400	0.0411	103	75-118	
Hexachlorobutadiene	0.0400	0.0304	76	45-150	
Methylene Chloride	0.0400	0.0336	84	63-124	
Styrene	0.0400	0.0397	99	76-125	
Toluene	0.0400	0.0403	101	69-125	
trans-1,3-Dichloropropene	0.0400	0.0414	103	65-130	
Trichlorofluoromethane	0.0400	0.0380	95	45-150	
Xylenes, Total	0.0800	0.0809	101	73-123	

Column to be used to flag recovery and RPD values

FORM III EPA 8260C

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab File ID: 3061801.D BFB Injection Date: 06/18/2019

Instrument ID: CHHP3 BFB Injection Time: 06:39

Analysis Batch No.: 282028

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	22.0	
75	30.0 - 60.0 % of mass 95	57.8	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	7.2	
173	Less than 2.0 % of mass 174	0.0	(0.0) 1
174	50.0 - 120.00 % of mass 95	66.0	
175	5.0 - 9.0 % of mass 174	5.3	(8.0) 1
176	95.0 - 101.0 % of mass 174	66.2	(100.3) 1
177	5.0 - 9.0 % of mass 176	4.5	(6.8) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	IC 180-282028/2	3061802.D	06/18/2019	7:14
	IC 180-282028/4	3061804.D	06/18/2019	8:01
	IC 180-282028/5	3061805.D	06/18/2019	8:24
	IC 180-282028/6	3061806.D	06/18/2019	8:46
	IC 180-282028/7	3061807.D	06/18/2019	9:10
	IC 180-282028/8	3061808.D	06/18/2019	9:33
	IC 180-282028/11	3061811.D	06/18/2019	10:42
	ICV 180-282028/12	3061812.D	06/18/2019	11:22

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab File ID: 30629K01.D BFB Injection Date: 06/29/2019

Instrument ID: CHHP3 BFB Injection Time: 10:44

Analysis Batch No.: 283451

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	22.4	
75	30.0 - 60.0 % of mass 95	58.4	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	7.1	
173	Less than 2.0 % of mass 174	0.0	(0.0) 1
174	50.0 - 120.00 % of mass 95	50.6	
175	5.0 - 9.0 % of mass 174	4.2	(8.2) 1
176	95.0 - 101.0 % of mass 174	50.4	(99.5) 1
177	5.0 - 9.0 % of mass 176	3.4	(6.8) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	IC 180-283451/4	30629K04.D	06/29/2019	12:00
	IC 180-283451/5	30629K05.D	06/29/2019	12:24
	IC 180-283451/6	30629K06.D	06/29/2019	12:47
	ICIS 180-283451/7	30629K07.D	06/29/2019	13:10
	IC 180-283451/8	30629K08.D	06/29/2019	13:34
	IC 180-283451/9	30629K09.D	06/29/2019	13:57
	IC 180-283451/10	30629K10.D	06/29/2019	14:21
	ICV 180-283451/18	30629K18.D	06/29/2019	17:26

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab File ID: 3102001.D BFB Injection Date: 10/20/2019

Instrument ID: CHHP3 BFB Injection Time: 10:00

Analysis Batch No.: 295465

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	20.0	
75	30.0 - 60.0 % of mass 95	55.2	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	7.1	
173	Less than 2.0 % of mass 174	0.0	(0.0) 1
174	50.0 - 120.00 % of mass 95	54.1	
175	5.0 - 9.0 % of mass 174	4.3	(8.0) 1
176	95.0 - 101.0 % of mass 174	52.7	(97.3) 1
177	5.0 - 9.0 % of mass 176	3.6	(6.9) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCVIS 180-295465/2	3102002.D	10/20/2019	10:33
	CCV 180-295465/3	3102003.D	10/20/2019	10:57
	LCS 180-295465/4	3102004.D	10/20/2019	11:20
	LB 180-295111/1-A	3102006.D	10/20/2019	12:07
11187072-NORTH-IMPCT-INITIALS	180-97287-1	3102008.D	10/20/2019	12:54
	LB 180-295413/1-A	3102009.D	10/20/2019	13:17

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Sample No.: ICIS 180-283451/7 Date Analyzed: 06/29/2019 13:10

Instrument ID: CHHP3 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): 30629K07.D Heated Purge: (Y/N) Y

Calibration ID: 40686

		TBAd9		FB		CBNZd5	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		127749	4.44	476530	7.31	103561	10.40
UPPER LIMIT		255498	4.94	953060	7.81	207122	10.90
LOWER LIMIT		63875	3.94	238265	6.81	51781	9.90
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 180-283451/18		155874	4.46	541030	7.32	122068	10.41

TBAd9 = TBA-d9 (IS)
FB = Fluorobenzene (IS)
CBNZd5 = Chlorobenzene-d5

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8260C

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Sample No.: ICIS 180-283451/7 Date Analyzed: 06/29/2019 13:10

Instrument ID: CHHP3 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): 30629K07.D Heated Purge: (Y/N) Y

Calibration ID: 40686

		DCBd4					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		146217	12.73				
UPPER LIMIT		292434	13.23				
LOWER LIMIT		73109	12.23				
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 180-283451/18		159835	12.73				

DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8260C

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Sample No.: CCVIS 180-295465/2 Date Analyzed: 10/20/2019 10:33

Instrument ID: CHHP3 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): 3102002.D Heated Purge: (Y/N) Y

Calibration ID: 40686

		TBAd9		FB		CBNZd5	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		184226	4.41	467826	7.31	104786	10.40
UPPER LIMIT		368452	4.91	935652	7.81	209572	10.90
LOWER LIMIT		92113	3.91	233913	6.81	52393	9.90
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCV 180-295465/3		182530	4.38	494430	7.32	110458	10.41
LCS 180-295465/4		163453	4.41	463659	7.31	105611	10.40
LB 180-295111/1-A		203522	4.38	514048	7.32	113311	10.40
180-97287-1	11187072-NORTH-IMPCT-INITIALS	184541	4.38	503443	7.32	110349	10.41
LB 180-295413/1-A		193353	4.38	509033	7.32	110986	10.41

TBAd9 = TBA-d9 (IS)
FB = Fluorobenzene (IS)
CBNZd5 = Chlorobenzene-d5

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8260C

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Sample No.: CCVIS 180-295465/2 Date Analyzed: 10/20/2019 10:33

Instrument ID: CHHP3 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): 3102002.D Heated Purge: (Y/N) Y

Calibration ID: 40686

		DCBd4					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		116323	12.73				
UPPER LIMIT		232646	13.23				
LOWER LIMIT		58162	12.23				
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCV 180-295465/3		128681	12.73				
LCS 180-295465/4		116551	12.73				
LB 180-295111/1-A		126378	12.73				
180-97287-1	11187072-NORTH-IMPCT-INITIALS	123204	12.73				
LB 180-295413/1-A		122099	12.73				

DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8260C

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-97287-1
SDG No.:
Client Sample ID: 11187072-NORTH-IMPCT-INITIALS
Lab Sample ID: 180-97287-1
Matrix: Solid (TCLP)
Lab File ID: 3102008.D
Analysis Method: EPA 8260C
Date Collected: 10/15/2019 15:00
Sample wt/vol: 0.125(mL)
Date Analyzed: 10/20/2019 12:54
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: DB-624 ID: 0.18(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 295465
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	ND		0.20	0.16
71-55-6	1,1,1-Trichloroethane	ND		0.20	0.10
107-06-2	1,2-Dichloroethane	ND		0.20	0.058
79-34-5	1,1,2,2-Tetrachloroethane	ND		0.20	0.12
78-93-3	2-Butanone (MEK)	ND		0.20	0.12
71-43-2	Benzene	ND		0.20	0.079
79-00-5	1,1,2-Trichloroethane	ND		0.20	0.096
56-23-5	Carbon tetrachloride	ND		0.20	0.13
108-90-7	Chlorobenzene	ND		0.20	0.063
67-66-3	Chloroform	ND		0.20	0.085
127-18-4	Tetrachloroethene	ND		0.20	0.080
79-01-6	Trichloroethene	ND		0.20	0.060
96-18-4	1,2,3-Trichloropropane	ND		0.20	0.11
75-01-4	Vinyl chloride	ND		0.20	0.15
75-35-4	1,1-Dichloroethene	ND		0.20	0.11
542-75-6	1,3-Dichloropropene, Total	ND		0.40	0.13
106-46-7	1,4-Dichlorobenzene	ND		0.20	0.041
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		0.20	0.074
67-64-1	Acetone	ND		0.80	0.13
75-05-8	Acetonitrile	ND		2.0	2.0
107-13-1	Acrylonitrile	ND		2.0	1.3
75-25-2	Bromoform	ND		0.20	0.10
74-83-9	Bromomethane	ND		0.20	0.18
75-15-0	Carbon disulfide	ND		0.20	0.12
75-27-4	Dichlorobromomethane	ND		0.20	0.094
75-71-8	Dichlorodifluoromethane	ND		0.20	0.12
100-41-4	Ethylbenzene	ND		0.20	0.086
106-93-4	1,2-Dibromoethane	ND		0.20	0.11
87-68-3	Hexachlorobutadiene	ND		0.20	0.073
78-83-1	Isobutyl alcohol	ND		5.0	3.6
126-98-7	Methacrylonitrile	ND		2.0	1.6
75-09-2	Methylene Chloride	ND		0.20	0.15
100-42-5	Styrene	ND		0.20	0.053
108-88-3	Toluene	ND		0.20	0.067
10061-02-6	trans-1,3-Dichloropropene	ND		0.20	0.069

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Client Sample ID: 11187072-NORTH-IMPCT-INITIALS Lab Sample ID: 180-97287-1

Matrix: Solid (TCLP) Lab File ID: 3102008.D

Analysis Method: EPA 8260C Date Collected: 10/15/2019 15:00

Sample wt/vol: 0.125(mL) Date Analyzed: 10/20/2019 12:54

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 295465 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-69-4	Trichlorofluoromethane	ND		0.20	0.058
1330-20-7	Xylenes, Total	ND		0.40	0.17

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	95		58-139
460-00-4	4-Bromofluorobenzene (Surr)	92		64-122
1868-53-7	Dibromofluoromethane (Surr)	93		70-127
2037-26-5	Toluene-d8 (Surr)	106		71-125

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102008.D
Lims ID: 180-97287-A-1-A
Client ID: 11187072-NORTH-IMPCT-INITIALS
Sample Type: Client
Inject. Date: 20-Oct-2019 12:54:30 ALS Bottle#: 8 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029194-007
Operator ID: 10099 Instrument ID: CHHP3

Method: \\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\MSVOA_S_CHHP3.m
Limit Group: VOA 8260C_D ICAL
Last Update: 21-Oct-2019 06:59:58 Calib Date: 29-Jun-2019 14:21:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K10.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: gordonk Date: 21-Oct-2019 06:54:56

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.379	4.410	-0.031	96	184541	5000.0	
* 2 Fluorobenzene (IS)	96	7.317	7.312	0.005	98	503443	250.0	
* 3 Chlorobenzene-d5	119	10.408	10.403	0.005	89	110349	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.732	12.726	0.006	97	123204	250.0	
$ 5 Dibromofluoromethane (Surr	113	6.581	6.570	0.011	91	103826	233.6	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.952	6.947	0.005	92	170628	237.3	
$ 7 Toluene-d8 (Surr)	98	8.966	8.967	-0.001	94	477179	264.0	
$ 8 4-Bromofluorobenzene (Surr	95	11.576	11.571	0.005	75	175918	228.8	
10 Dichlorodifluoromethane	85		1.642				ND	
12 Vinyl chloride	62		1.989				ND	U
14 Bromomethane	94		2.299				ND	
17 Trichlorofluoromethane	101		2.707				ND	
21 1,1-Dichloroethene	96		3.382				ND	
23 Acetone	43		3.553				ND	
25 Carbon disulfide	76		3.680				ND	
27 Acetonitrile	41		3.998				ND	
30 Methylene Chloride	84		4.179				ND	U
32 Acrylonitrile	53		4.611				ND	
43 2-Butanone (MEK)	43		6.047				ND	
46 Methacrylonitrile	41		6.291				ND	
49 Chloroform	83		6.387				ND	U
50 1,1,1-Trichloroethane	97		6.570				ND	
53 Carbon tetrachloride	117		6.759				ND	
55 Benzene	78		6.996				ND	
54 Isobutyl alcohol	41		7.008				ND	
56 1,2-Dichloroethane	62		7.032				ND	
60 Trichloroethene	130		7.708				ND	
68 Dichlorobromomethane	83		8.243				ND	
71 cis-1,3-Dichloropropene	75		8.699				ND	
72 4-Methyl-2-pentanone (MIBK	43		8.863				ND	U
73 Toluene	91		9.034				ND	
74 trans-1,3-Dichloropropene	75		9.259				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
76 1,1,2-Trichloroethane	97		9.441				ND	U
77 Tetrachloroethene	164		9.575				ND	
82 Ethylene Dibromide	107		9.946				ND	
83 Chlorobenzene	112		10.433				ND	
85 1,1,1,2-Tetrachloroethane	131		10.512				ND	
86 Ethylbenzene	106		10.542				ND	
87 m-Xylene & p-Xylene	106		10.658				ND	
88 o-Xylene	106		11.053				ND	
89 Styrene	104		11.066				ND	
90 Bromoform	173		11.254				ND	
93 1,1,2,2-Tetrachloroethane	83		11.723				ND	
95 1,2,3-Trichloropropane	110		11.765				ND	
107 1,4-Dichlorobenzene	146		12.751				ND	U
115 Hexachlorobutadiene	225		14.910				ND	
S 129 Xylenes, Total	106		1.000				ND	
S 131 1,3-Dichloropropene, Total	1		0.000				ND	

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

VOA8260INT_00100	Amount Added: 10.00	Units: uL	Run Reagent
VOA8260SURR_00100	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 21-Oct-2019 07:00:12 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102008.D				
Injection Date:	20-Oct-2019 12:54:30	Instrument ID:	CHHP3	Operator ID:	10099
Lims ID:	180-97287-A-1-A	Lab Sample ID:	180-97287-1	Worklist Smp#:	7
Client ID:	11187072-NORTH-IMPCT-INITIALS				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

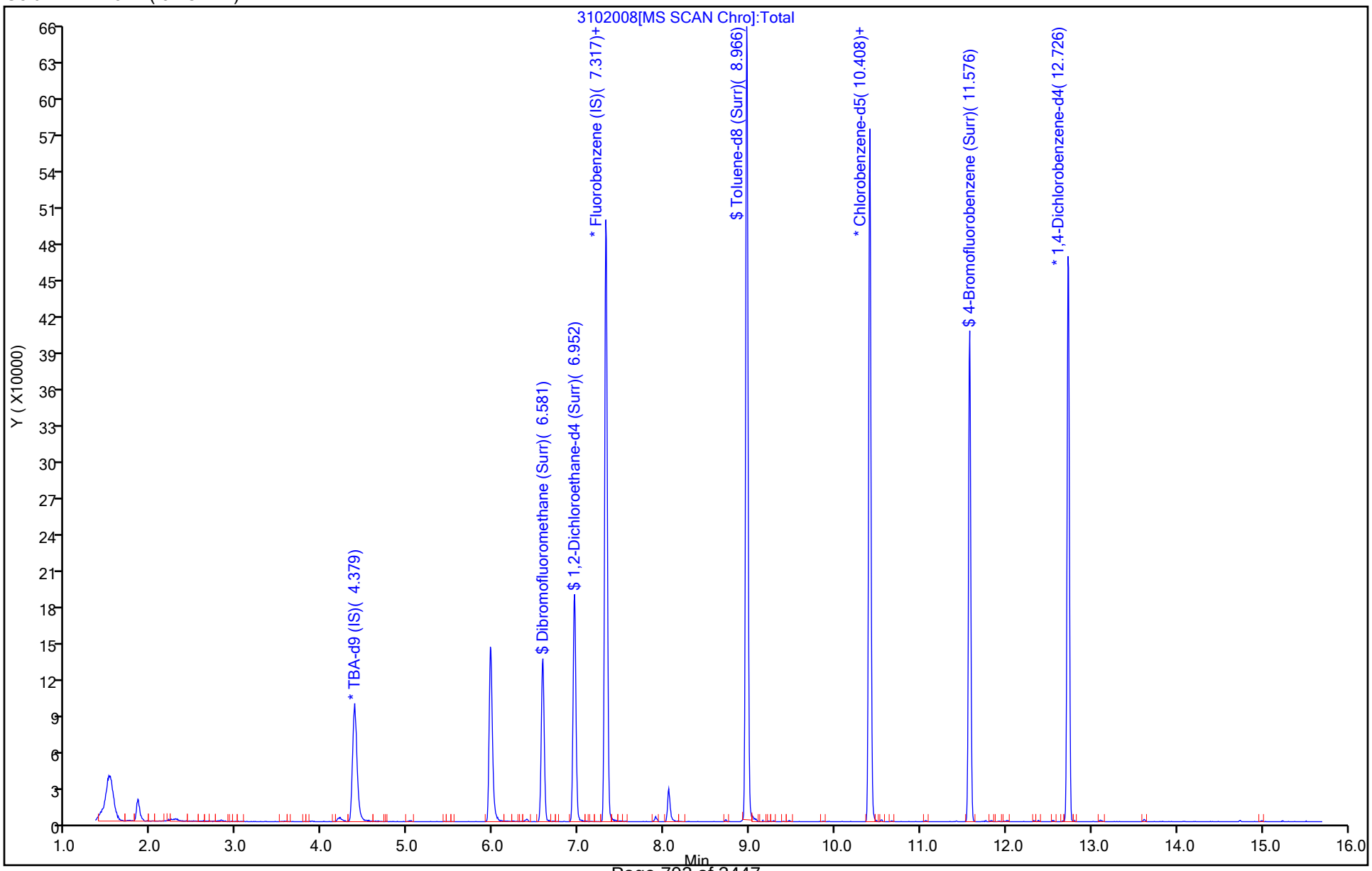

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102008.D
Lims ID: 180-97287-A-1-A
Client ID: 11187072-NORTH-IMPCT-INITIALS
Sample Type: Client
Inject. Date: 20-Oct-2019 12:54:30 ALS Bottle#: 8 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029194-007
Operator ID: 10099 Instrument ID: CHHP3

Method: \\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\MSVOA_S_CHHP3.m
Limit Group: VOA 8260C_D ICAL
Last Update: 21-Oct-2019 06:59:58 Calib Date: 29-Jun-2019 14:21:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K10.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: gordonk Date: 21-Oct-2019 06:54:56

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	250.0	233.6	93.45
$ 6 1,2-Dichloroethane-d4 (Surr)	250.0	237.3	94.93
$ 7 Toluene-d8 (Surr)	250.0	264.0	105.60
$ 8 4-Bromofluorobenzene (Surr)	250.0	228.8	91.52

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102008.D				
Injection Date:	20-Oct-2019 12:54:30	Instrument ID:	CHHP3		
Lims ID:	180-97287-A-1-A	Lab Sample ID:	180-97287-1		
Client ID:	11187072-NORTH-IMPCT-INITIALS				
Operator ID:	10099	ALS Bottle#:	8	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

76 1,1,2-Trichloroethane, CAS: 79-00-5

Processing Results

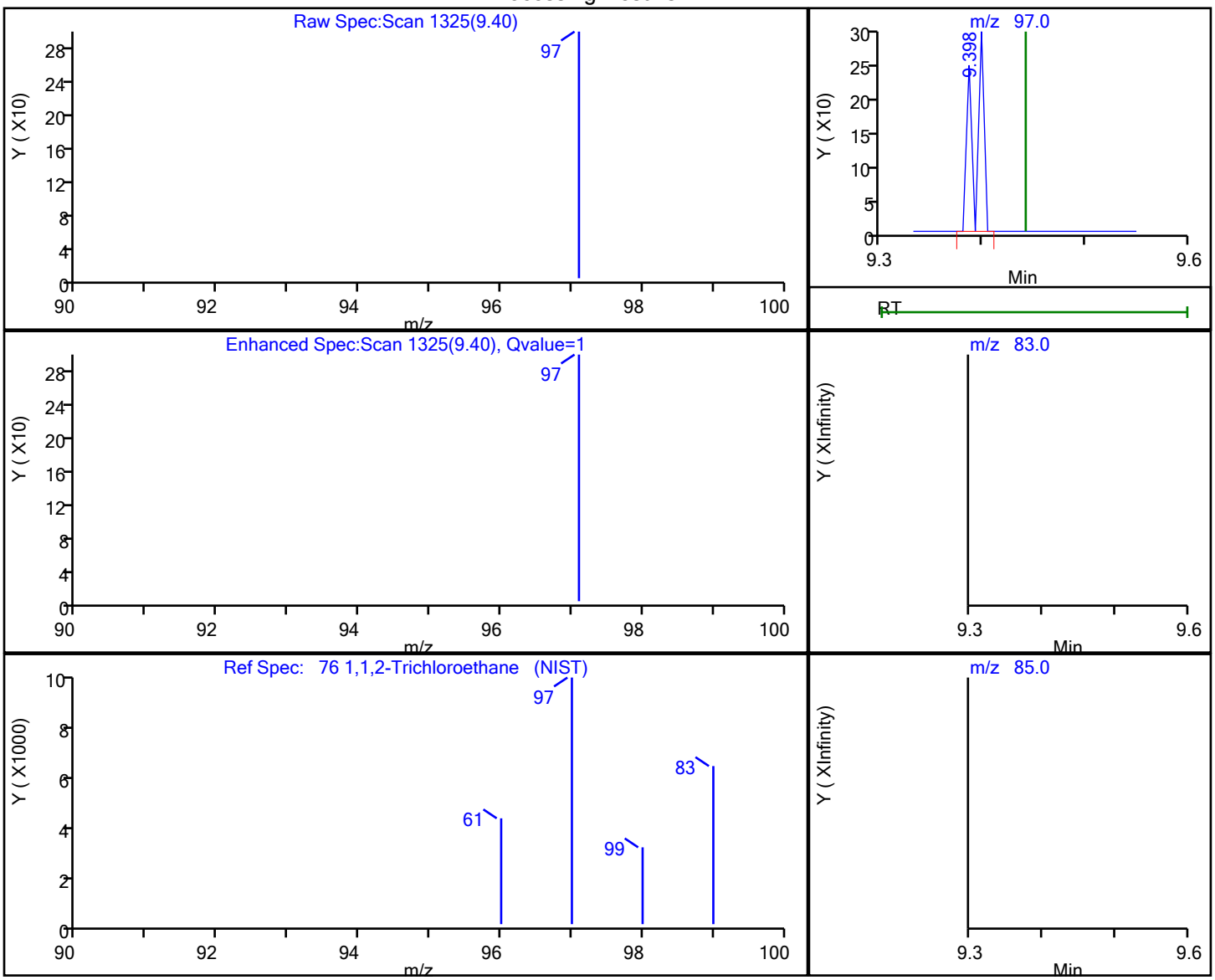

RT	Mass	Response	Amount
9.40	97.00	195	0.493981
9.44	83.00	0	
9.44	85.00	0	

Reviewer: gordonk, 21-Oct-2019 06:54:44

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102008.D				
Injection Date:	20-Oct-2019 12:54:30	Instrument ID:	CHHP3		
Lims ID:	180-97287-A-1-A	Lab Sample ID:	180-97287-1		
Client ID:	11187072-NORTH-IMPCT-INITIALS				
Operator ID:	10099	ALS Bottle#:	8	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

49 Chloroform, CAS: 67-66-3

Processing Results

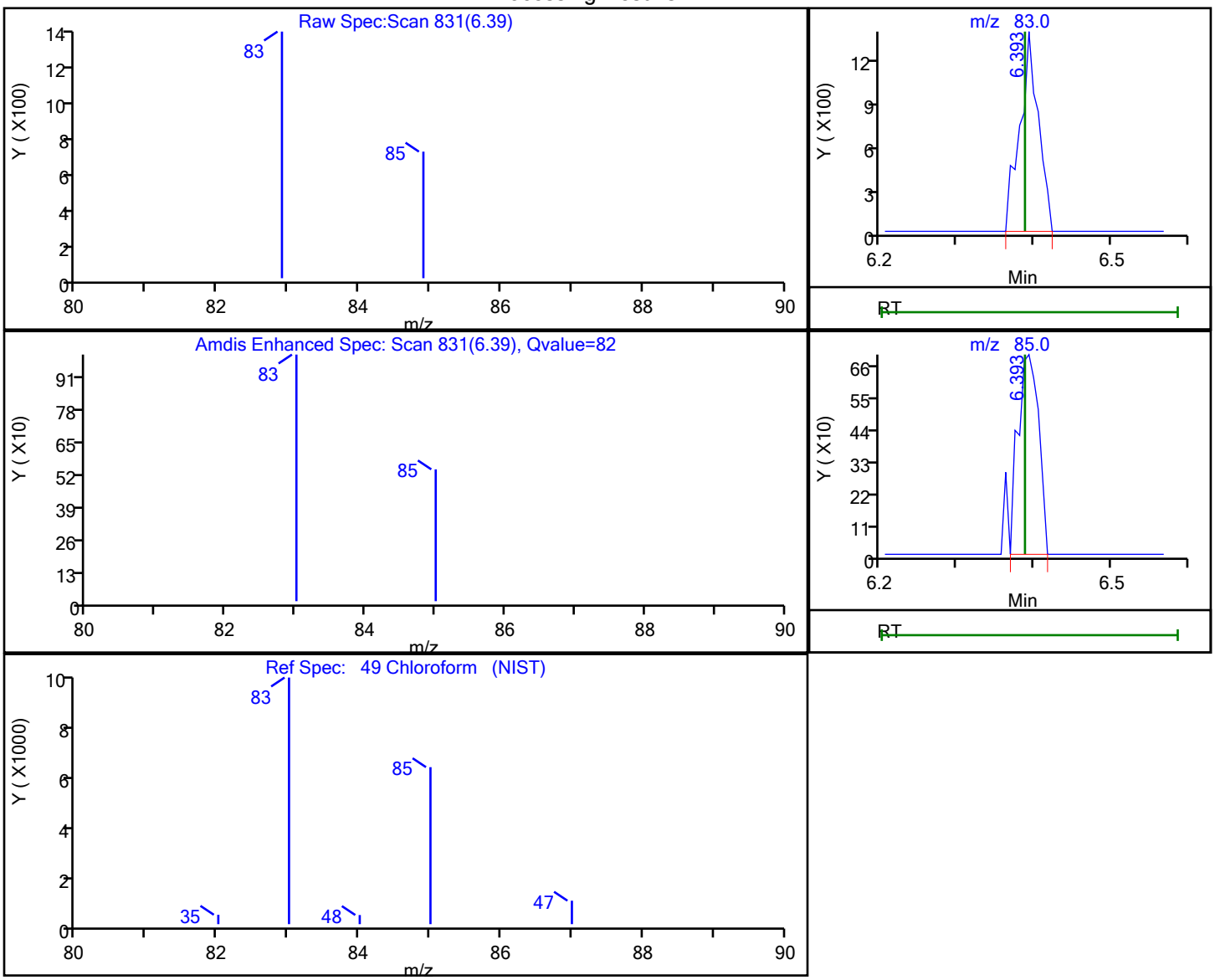

RT	Mass	Response	Amount
6.39	83.00	2297	2.111660
6.39	85.00	1315	

Reviewer: gordonk, 21-Oct-2019 06:54:41

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102008.D				
Injection Date:	20-Oct-2019 12:54:30	Instrument ID:	CHHP3		
Lims ID:	180-97287-A-1-A	Lab Sample ID:	180-97287-1		
Client ID:	11187072-NORTH-IMPCT-INITIALS				
Operator ID:	10099	ALS Bottle#:	8	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

12 Vinyl chloride, CAS: 75-01-4

Processing Results

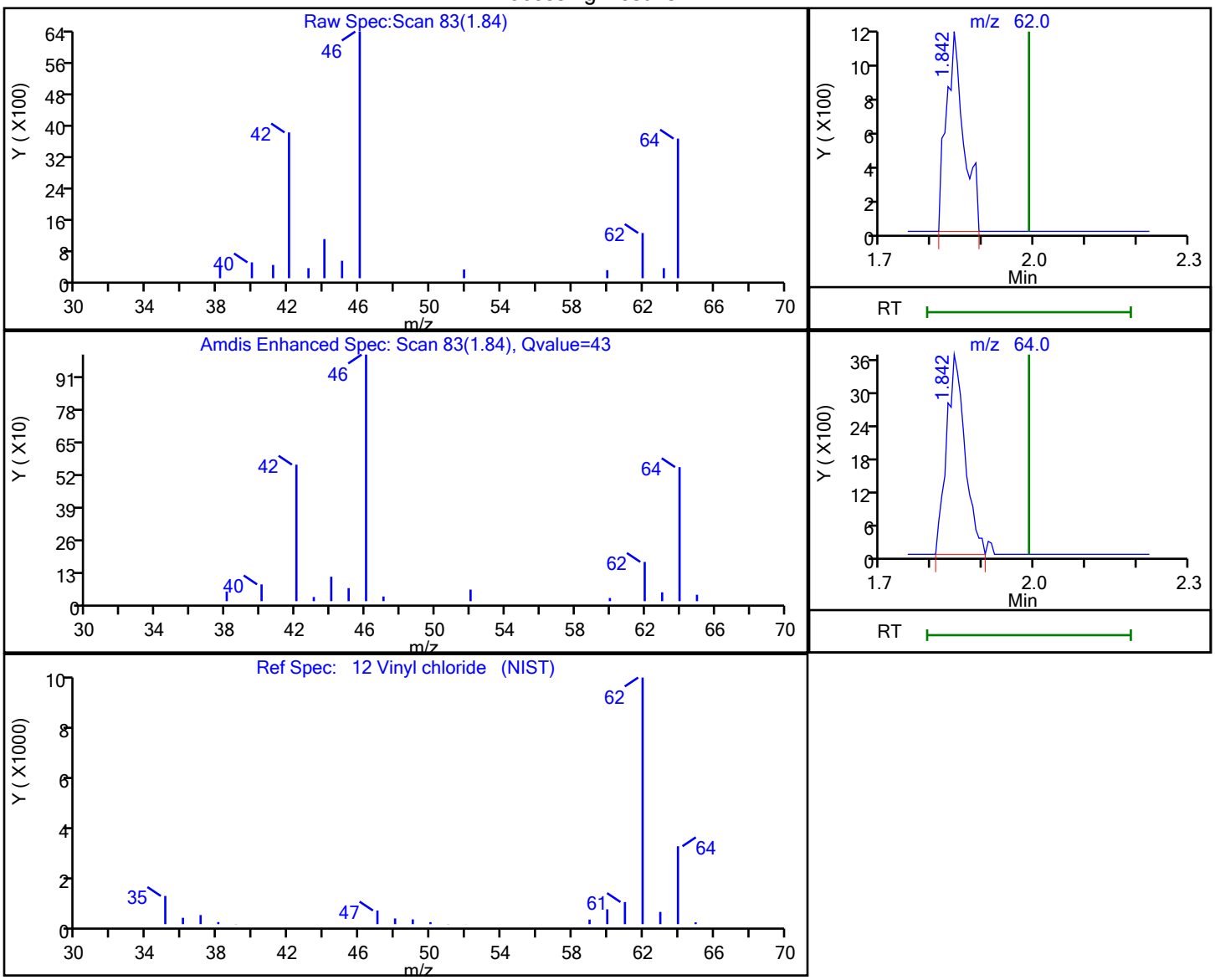

RT	Mass	Response	Amount
1.84	62.00	2778	3.416967
1.84	64.00	9093	

Reviewer: gordonk, 21-Oct-2019 06:54:37

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 21-Oct-2019 07:00:12 Chrom Revision: 2.3 09-Oct-2019 11:13:36

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102008.D				
Injection Date:	20-Oct-2019 12:54:30	Instrument ID:	CHHP3		
Lims ID:	180-97287-A-1-A	Lab Sample ID:	180-97287-1		
Client ID:	11187072-NORTH-IMPCT-INITIALS				
Operator ID:	10099	ALS Bottle#:	8	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

107 1,4-Dichlorobenzene, CAS: 106-46-7

Processing Results

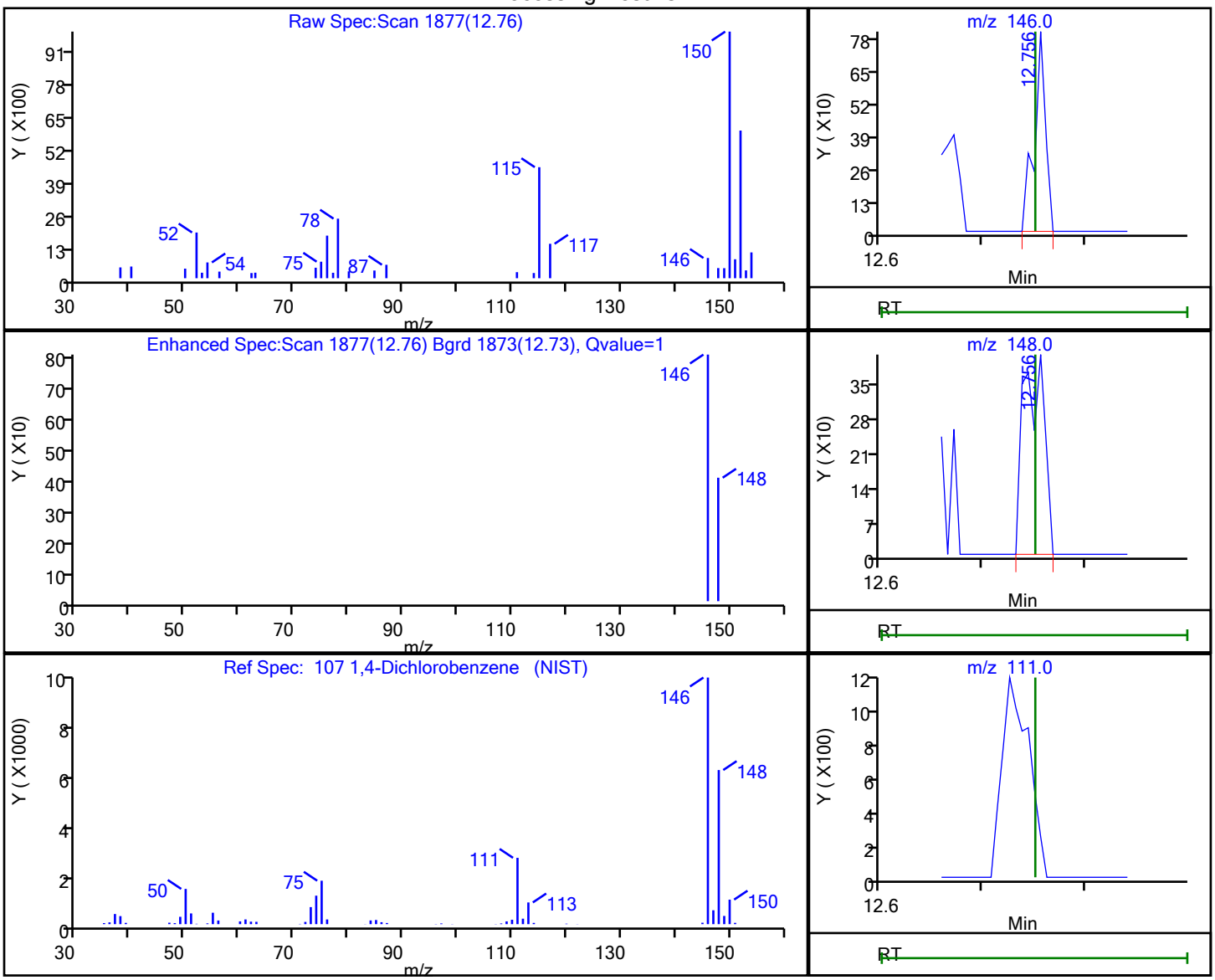

RT	Mass	Response	Amount
12.76	146.00	621	0.798276
12.76	148.00	573	
12.75	111.00	0	

Reviewer: gordonk, 21-Oct-2019 06:54:49

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102008.D				
Injection Date:	20-Oct-2019 12:54:30	Instrument ID:	CHHP3		
Lims ID:	180-97287-A-1-A	Lab Sample ID:	180-97287-1		
Client ID:	11187072-NORTH-IMPCT-INITIALS				
Operator ID:	10099	ALS Bottle#:	8	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

72 4-Methyl-2-pentanone (MIBK), CAS: 108-10-1

Processing Results

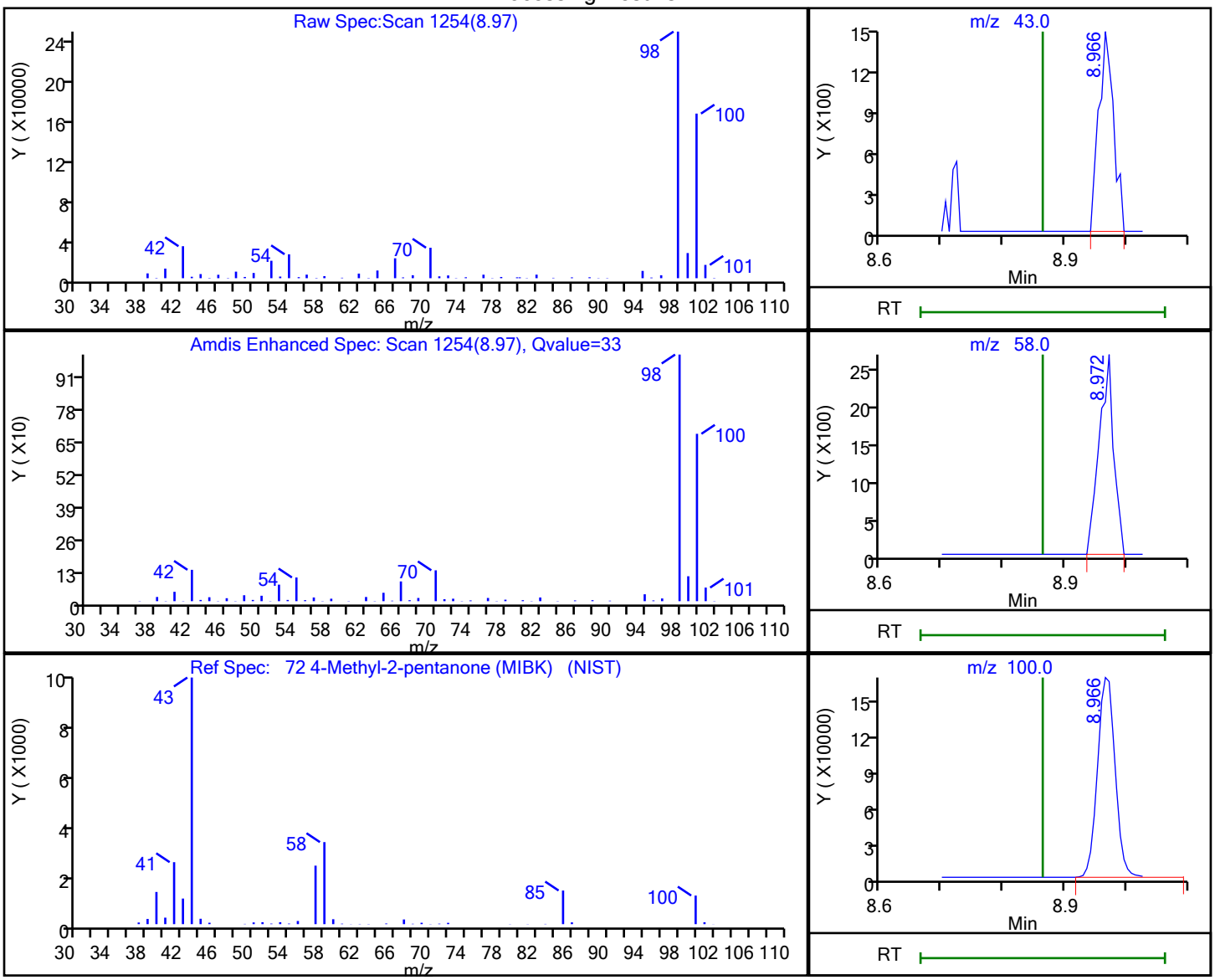

RT	Mass	Response	Amount
8.97	43.00	2353	5.923091
8.97	58.00	4388	
8.97	100.00	325942	

Reviewer: gordonk, 21-Oct-2019 06:54:43

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 21-Oct-2019 07:00:12 Chrom Revision: 2.3 09-Oct-2019 11:13:36

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102008.D				
Injection Date:	20-Oct-2019 12:54:30	Instrument ID:	CHHP3		
Lims ID:	180-97287-A-1-A	Lab Sample ID:	180-97287-1		
Client ID:	11187072-NORTH-IMPCT-INITIALS				
Operator ID:	10099	ALS Bottle#:	8	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

30 Methylene Chloride, CAS: 75-09-2

Processing Results

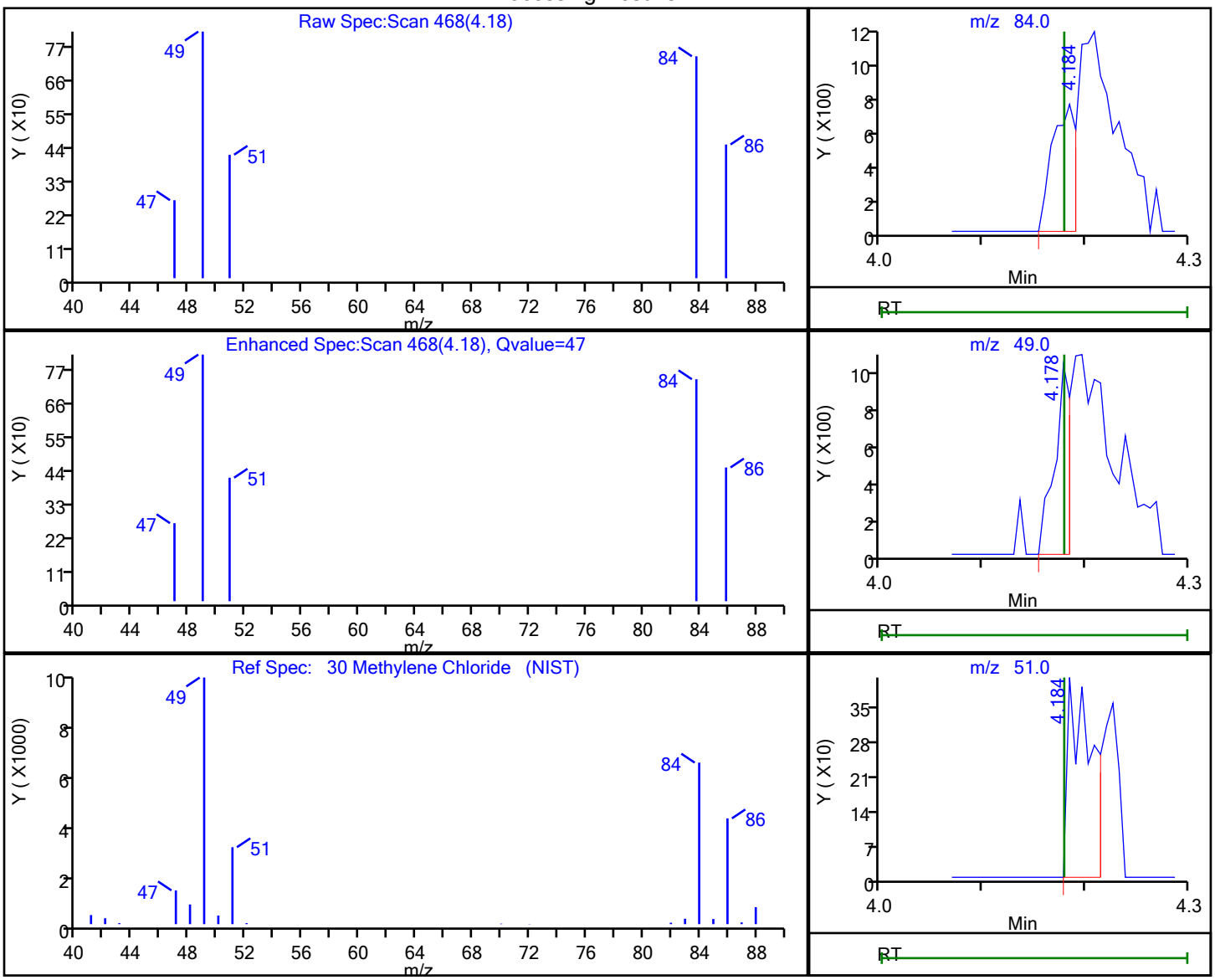

RT	Mass	Response	Amount
4.18	84.00	1193	-21.290863
4.18	49.00	1078	
4.18	51.00	653	

Reviewer: gordonk, 21-Oct-2019 06:54:37

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 282028

SDG No.:

Instrument ID: CHHP3 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 06/18/2019 07:14 Calibration End Date: 06/18/2019 10:42 Calibration ID: 40654

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-282028/2	3061802.D
Level 2	IC 180-282028/11	3061811.D
Level 3	IC 180-282028/4	3061804.D
Level 4	IC 180-282028/5	3061805.D
Level 5	IC 180-282028/6	3061806.D
Level 6	IC 180-282028/7	3061807.D
Level 7	IC 180-282028/8	3061808.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Isopropyl alcohol	0.0163 0.0131	0.0101 0.0124	0.0113	0.0123	0.0122	Ave		0.0125			0.0100	15.4		20.0			
Acetonitrile	0.0350 0.0343	0.0312 0.0329	0.0334	0.0334	0.0352	Ave		0.0336			0.0100	4.1		20.0			
Chloroprene	0.4396 0.5397	0.4581 0.5302	0.5051	0.5389	0.5543	Ave		0.5094			0.0100	8.7		20.0			
Isopropyl ether	0.8869 0.9134	0.8377 0.8641	0.9018	0.9597	0.9591	Ave		0.9032			0.0100	5.1		20.0			
Tert-butyl ethyl ether	0.7400 0.8217	0.7095 0.7984	0.7803	0.8315	0.8301	Ave		0.7874			0.0100	6.0		20.0			
Propionitrile	0.0335 0.0349	0.0295 0.0320	0.0344	0.0347	0.0350	Ave		0.0334			0.0100	6.1		20.0			
Ethyl acetate	0.2063 0.2161	0.1942 0.2014	0.2058	0.2180	0.2210	Ave		0.2090			0.0100	4.7		20.0			
Methacrylonitrile	0.1474 0.1379	0.1420 0.1219	0.1471	0.1468	0.1478	Ave		0.1416			0.0100	6.6		20.0			
Isooctane	1.1225 1.2995	1.1638 1.2493	1.3025	1.3405	1.2839	Ave		1.2517			0.0100	6.4		20.0			
Tert-amyl methyl ether	0.6269 0.6738	0.5731 0.6526	0.6463	0.6893	0.6899	Ave		0.6503			0.0100	6.3		20.0			
n-Butanol	0.0051 0.0053	0.0028 0.0052	0.0041	0.0047	0.0043	Ave		0.0045		*	0.0100	19.8		20.0			
Ethyl acrylate	1.1613 1.2444	1.0801 1.2363	1.1634	1.1916	1.1803	Ave		1.1796			0.0100	4.7		20.0			
Methyl methacrylate	0.1583 0.1847	0.1621 0.1698	0.1816	0.1860	0.1843	Ave		0.1753			0.0100	6.7		20.0			
2-Chloroethyl vinyl ether	0.0673 0.1315	0.0970 0.1210	0.1137	0.1227	0.1262	Lin2	-3.105	0.1289			0.0100				0.9990		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 282028

SDG No.:

Instrument ID: CHHP3 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 06/18/2019 07:14 Calibration End Date: 06/18/2019 10:42 Calibration ID: 40654

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
n-Butyl acetate	1.2362 1.4552	1.0684 1.4500	1.2019	1.3114	1.2944	Ave		1.2882			0.0100	10.7		20.0			
Cyclohexanone	0.0329 0.0315	0.0224 0.0313	0.0264	0.0293	0.0285	Ave		0.0289			0.0100	12.5		20.0			
1,2,3-Trimethylbenzene	3.4859 3.0892	3.1186 2.8345	3.3716	3.4191	3.3791	Ave		3.2426			0.0100	7.2		20.0			
Benzyl chloride	0.6990 1.0530	0.5336 1.0886	0.7605	0.8214	0.8356	Lin1	-20.43	1.0591			0.0100				0.9910		0.9900
1,3,5-Trichlorobenzene	1.1431 1.1274	1.1178 1.1063	1.1344	1.1490	1.1769	Ave		1.1364			0.0100	2.0		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 282028

SDG No.:

Instrument ID: CHHP3 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 06/18/2019 07:14 Calibration End Date: 06/18/2019 10:42 Calibration ID: 40654

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-282028/2	3061802.D
Level 2	IC 180-282028/11	3061811.D
Level 3	IC 180-282028/4	3061804.D
Level 4	IC 180-282028/5	3061805.D
Level 5	IC 180-282028/6	3061806.D
Level 6	IC 180-282028/7	3061807.D
Level 7	IC 180-282028/8	3061808.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Isopropyl alcohol	FB	Ave	7994 148096	8998 259900	24997	43474	53938	250 6250	500 12500	1250	2000	2500
Acetonitrile	FB	Ave	17125 388728	27694 691107	73670	117937	156058	250 6250	500 12500	1250	2000	2500
Chloroprene	FB	Ave	21498 612202	40699 1112581	111326	190382	245523	25.0 625	50.0 1250	125	200	250
Isopropyl ether	FB	Ave	43369 1036219	74425 1813413	198750	339074	424830	25.0 625	50.0 1250	125	200	250
Tert-butyl ethyl ether	FB	Ave	36188 932119	63041 1675460	171976	293777	367687	25.0 625	50.0 1250	125	200	250
Propionitrile	FB	Ave	16368 395390	26175 670758	75929	122672	155168	250 6250	500 12500	1250	2000	2500
Ethyl acetate	FB	Ave	20178 490208	34504 845363	90740	154071	195815	50.0 1250	100 2500	250	400	500
Methacrylonitrile	FB	Ave	72104 1563851	126172 2558382	324242	518509	654695	250 6250	500 12500	1250	2000	2500
Isooctane	FB	Ave	54894 1474184	103402 2621734	287074	473589	568696	25.0 625	50.0 1250	125	200	250
Tert-amyl methyl ether	FB	Ave	30656 764355	50924 1369471	142455	243524	305563	25.0 625	50.0 1250	125	200	250
n-Butanol	FB	Ave	6266 149954	6136 271406	22562	41146	47422	625 15625	1250 31250	3125	5000	6250
Ethyl acrylate	CBNZ d5	Ave	13078 353245	22758 612959	65089	105310	130606	25.0 625	50.0 1250	125	200	250
Methyl methacrylate	FB	Ave	15485 419109	28798 712822	80054	131423	163269	50.0 1250	100 2500	250	400	500
2-Chloroethyl vinyl ether	FB	Lin2	6579 298408	17234 507878	50109	86711	111770	50.0 1250	100 2500	250	400	500
n-Butyl acetate	CBNZ d5	Ave	13922 413078	22512 718932	67245	115900	143230	25.0 625	50.0 1250	125	200	250

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 282028

SDG No.:

Instrument ID: CHHP3 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 06/18/2019 07:14 Calibration End Date: 06/18/2019 10:42 Calibration ID: 40654

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Cyclohexanone	CBNZ d5	Ave	7407 178688	9421 310644	29535	51863	63049	500 12500	1000 25000	2500	4000	5000
1,2,3-Trimethylbenzene	DCBd 4	Ave	50563 1312792	89228 2215800	260593	426853	534412	25.0 625	50.0 1250	125	200	250
Benzyl chloride	DCBd 4	Lin1	10139 447472	15268 850983	58778	102541	132160	25.0 625	50.0 1250	125	200	250
1,3,5-Trichlorobenzene	DCBd 4	Ave	16581 479084	31981 864826	87682	143441	186128	25.0 625	50.0 1250	125	200	250

Curve Type Legend:

Ave = Average ISTD
Lin1 = Linear 1/conc ISTD
Lin2 = Linear 1/conc^2 ISTD

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 282028

SDG No.:

Instrument ID: CHHP3 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 06/18/2019 07:14 Calibration End Date: 06/18/2019 10:42 Calibration ID: 40654

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-282028/2	3061802.D
Level 2	IC 180-282028/11	3061811.D
Level 3	IC 180-282028/4	3061804.D
Level 4	IC 180-282028/5	3061805.D
Level 5	IC 180-282028/6	3061806.D
Level 6	IC 180-282028/7	3061807.D
Level 7	IC 180-282028/8	3061808.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
Isopropyl alcohol	30.4 -1.2	-19.2	-9.5	-1.8	-2.8	4.2	50 30	30	30	30	30	30
Acetonitrile	4.1 -2.1	-7.3	-0.6	-0.7	4.8	1.9	50 30	30	30	30	30	30
Chloroprene	-13.7 4.1	-10.1	-0.8	5.8	8.8	5.9	50 30	30	30	30	30	30
Isopropyl ether	-1.8 -4.3	-7.3	-0.2	6.3	6.2	1.1	50 30	30	30	30	30	30
Tert-butyl ethyl ether	-6.0 1.4	-9.9	-0.9	5.6	5.4	4.4	50 30	30	30	30	30	30
Propionitrile	0.1 -4.4	-11.9	3.1	3.9	4.8	4.3	50 30	30	30	30	30	30
Ethyl acetate	-1.3 -3.6	-7.1	-1.5	4.3	5.8	3.4	50 30	30	30	30	30	30
Methacrylonitrile	4.2 -13.9	0.3	3.9	3.7	4.4	-2.6	50 30	30	30	30	30	30
Isooctane	-10.3 -0.2	-7.0	4.1	7.1	2.6	3.8	50 30	30	30	30	30	30
Tert-amyl methyl ether	-3.6 0.4	-11.9	-0.6	6.0	6.1	3.6	50 30	30	30	30	30	30
n-Butanol	14.3 15.4	-38.4 *	-8.7	3.9	-4.5	17.9	50 30	30	30	30	30	30
Ethyl acrylate	-1.6 4.8	-8.4	-1.4	1.0	0.1	5.5	50 30	30	30	30	30	30
Methyl methacrylate	-9.7 -3.1	-7.5	3.6	6.1	5.2	5.4	50 30	30	30	30	30	30
2-Chloroethyl vinyl ether	0.3 -5.2	-0.7	-2.2	1.2	2.7	3.9	50 30	30	30	30	30	30
n-Butyl acetate	-4.0 12.6	-17.1	-6.7	1.8	0.5	13.0	50 30	30	30	30	30	30

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 282028

SDG No.:

Instrument ID: CHHP3 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 06/18/2019 07:14 Calibration End Date: 06/18/2019 10:42 Calibration ID: 40654

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
Cyclohexanone	13.8 8.4	-22.6	-8.7	1.5	-1.4	8.9	50 30	30	30	30	30	30
1,2,3-Trimethylbenzene	7.5 -12.6	-3.8	4.0	5.4	4.2	-4.7	50 30	30	30	30	30	30
Benzyl chloride	43.2 4.3	-11.0	-12.8	-12.8	-13.4	2.5	50 30	30	30	30	30	30
1,3,5-Trichlorobenzene	0.6 -2.6	-1.6	-0.2	1.1	3.6	-0.8	50 30	30	30	30	30	30

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP3\20190618-27335.b\3061802.D
Lims ID: IC VSTD5
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 18-Jun-2019 07:14:30 ALS Bottle#: 2 Worklist Smp#: 2
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: CCVIS
Operator ID: 10099 Instrument ID: CHHP3
Sublist: chrom-MSVOA_S_CHHP3*sub58

Method: \\chromna\Pittsburgh\ChromData\CHHP3\20190618-27335.b\MSVOA_S_CHHP3.m
Limit Group: VOA 8260C_D ICAL
Last Update: 18-Jun-2019 11:08:16 Calib Date: 18-Jun-2019 10:42:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP3\20190618-27335.b\3061811.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: gordonk Date: 18-Jun-2019 07:41:23

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.372	4.372	0.000	91	127522	5000.0	5000.0	
* 2 Fluorobenzene (IS)	96	7.317	7.317	0.000	98	489016	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.407	10.407	0.000	90	112620	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.731	12.731	0.000	98	145048	250.0	250.0	
26 Isopropyl alcohol	45	3.843	3.843	0.000	93	7994	250.0	326.1	M
27 Acetonitrile	41	3.989	3.989	0.000	98	17125	250.0	260.3	
38 2-Chloro-1,3-butadiene	53	5.346	5.346	0.000	94	21498	25.0	21.6	
39 Isopropyl ether	45	5.370	5.370	0.000	92	43369	25.0	24.5	
40 Tert-butyl ethyl ether	59	5.838	5.838	0.000	97	36188	25.0	23.5	
44 Propionitrile	54	6.124	6.124	0.000	97	16368	250.0	250.4	
45 Ethyl acetate	43	6.130	6.130	0.000	99	20178	50.0	49.4	
46 Methacrylonitrile	41	6.295	6.295	0.000	92	72104	250.0	260.4	
58 Isooctane	57	7.104	7.104	0.000	97	54894	25.0	22.4	
57 Tert-amyl methyl ether	73	7.159	7.159	0.000	95	30656	25.0	24.1	
61 n-Butanol	56	7.712	7.712	0.000	93	6266	625.0	714.5	
62 Ethyl acrylate	55	7.858	7.858	0.000	98	13078	25.0	24.6	
66 Methyl methacrylate	69	8.095	8.095	0.000	92	15485	50.0	45.2	
70 2-Chloroethyl vinyl ether	63	8.564	8.564	0.000	91	6579	50.0	50.2	
80 n-Butyl acetate	43	9.829	9.829	0.000	96	13922	25.0	24.0	
92 Cyclohexanone	55	11.526	11.526	0.000	92	7407	500.0	569.0	
108 1,2,3-Trimethylbenzene	105	12.798	12.798	0.000	100	50563	25.0	26.9	
109 Benzyl chloride	91	12.889	12.889	0.000	98	10139	25.0	35.8	
113 1,3,5-Trichlorobenzene	180	14.118	14.118	0.000	91	16581	25.0	25.1	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

VOAList2PRI_00022	Amount Added:	1.00	Units: uL	
voaW2clev1stR_00037	Amount Added:	1.00	Units: uL	
VOA8260INT_00095	Amount Added:	10.00	Units: uL	Run Reagent

Report Date: 18-Jun-2019 11:08:16 Chrom Revision: 2.3 02-Jun-2019 10:27:32

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20190618-27335.b\3061802.D				
Injection Date:	18-Jun-2019 07:14:30	Instrument ID:	CHHP3	Operator ID:	10099
Lims ID:	IC VSTD5			Worklist Smp#:	2
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

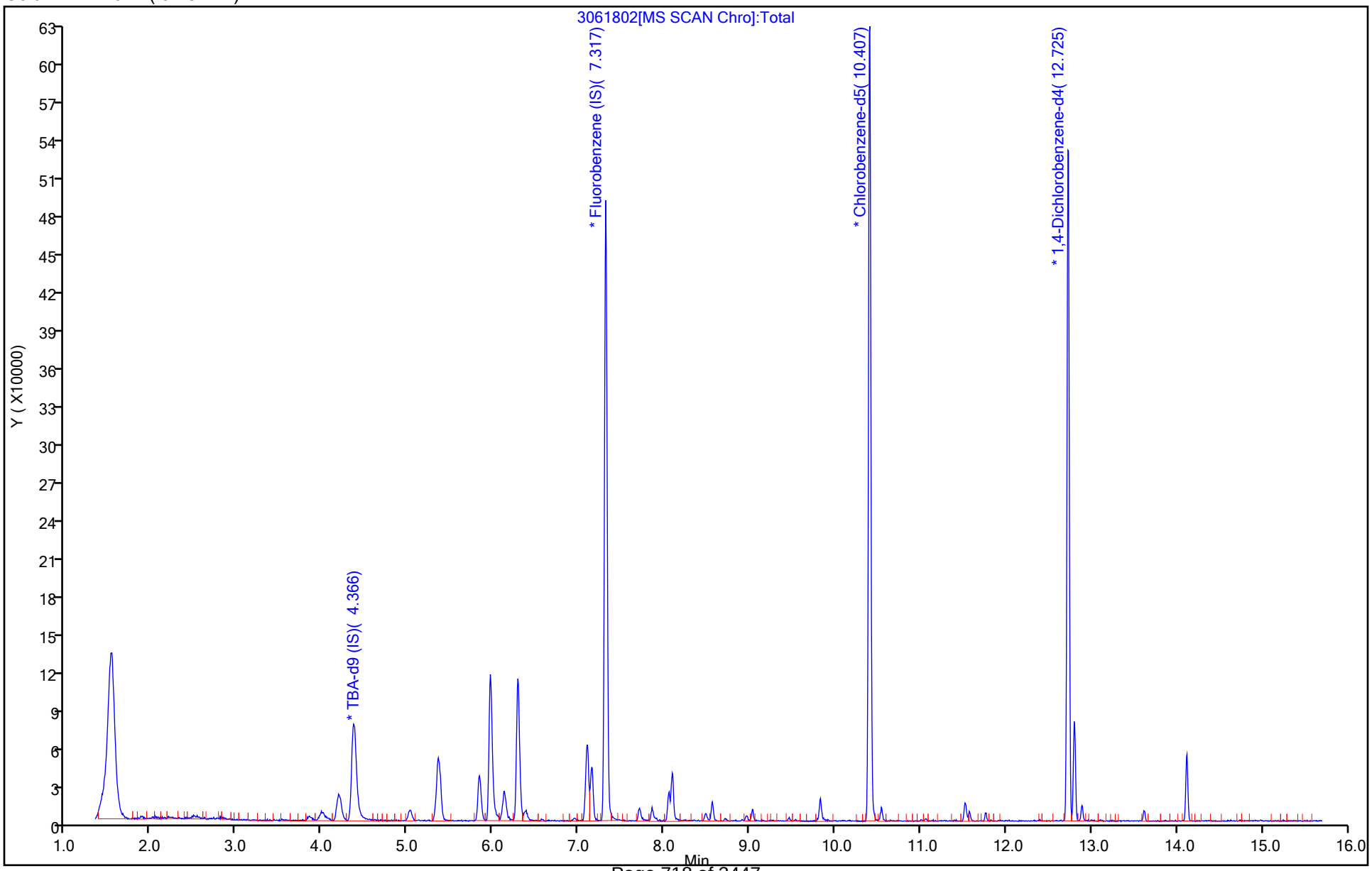

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20190618-27335.b\3061802.D				
Injection Date:	18-Jun-2019 07:14:30	Instrument ID:	CHHP3		
Lims ID:	IC VSTD5				
Client ID:					
Operator ID:	10099	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

26 Isopropyl alcohol, CAS: 67-63-0

Signal: 1

Processing Integration Results

RT: 3.84
Area: 8312
Amount: 250.0000
Amount Units: ng

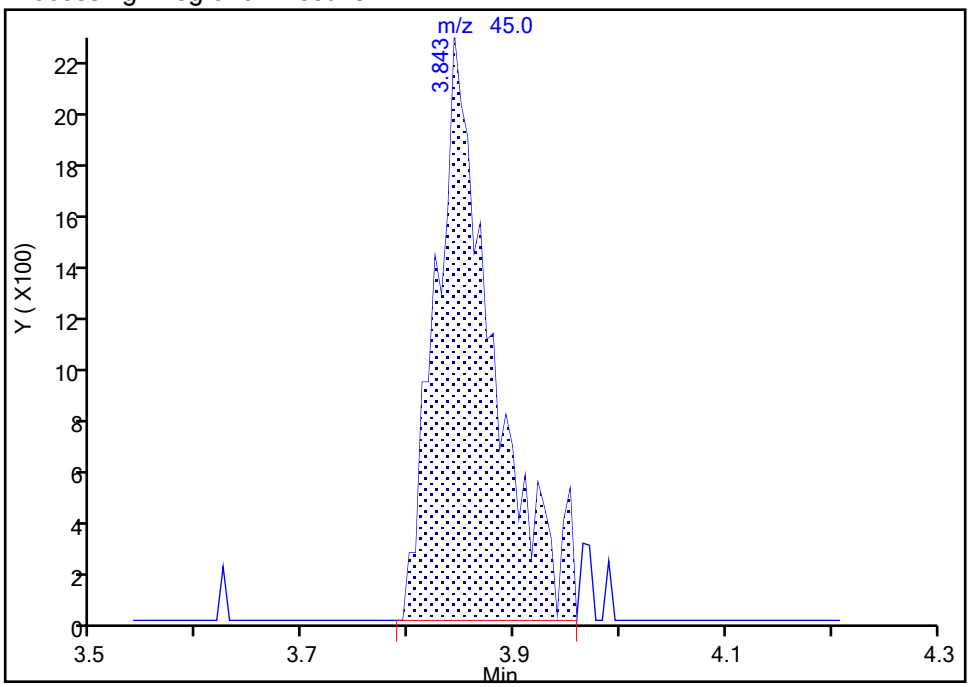

Manual Integration Results

RT: 3.84
Area: 7994
Amount: 326.0550
Amount Units: ng

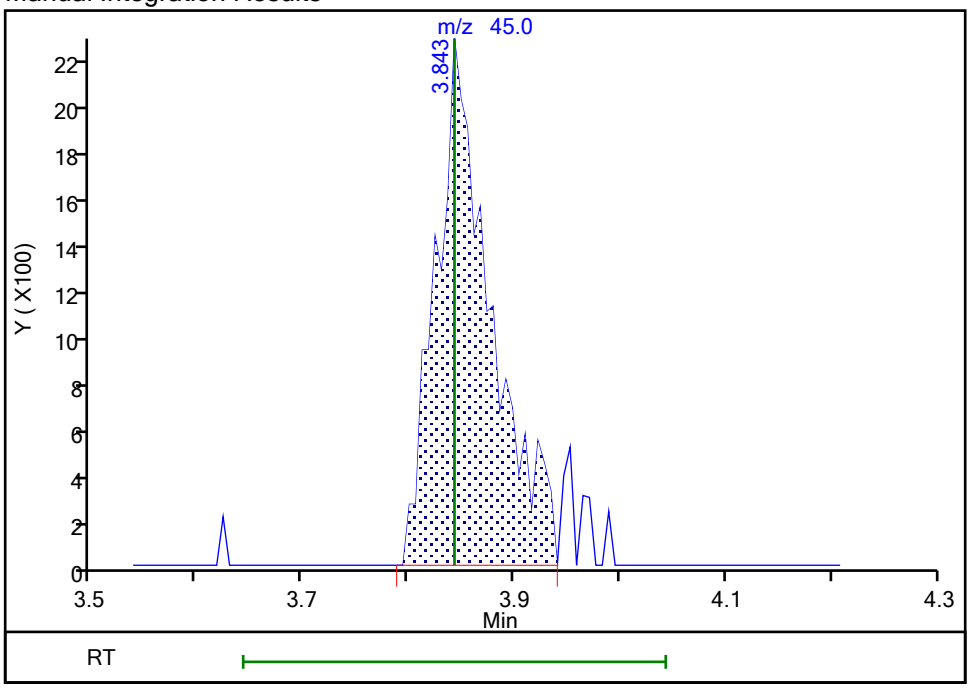

Reviewer: gordonk, 18-Jun-2019 07:41:16

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP3\20190618-27335.b\3061804.D
Lims ID: IC VSTD25
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 18-Jun-2019 08:01:30 ALS Bottle#: 4 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0027335-004
Operator ID: 10099 Instrument ID: CHHP3
Sublist: chrom-MSVOA_S_CHHP3*sub58

Method: \\chromna\Pittsburgh\ChromData\CHHP3\20190618-27335.b\MSVOA_S_CHHP3.m
Limit Group: VOA 8260C_D ICAL
Last Update: 18-Jun-2019 11:08:18 Calib Date: 18-Jun-2019 10:42:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP3\20190618-27335.b\3061811.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: gordonk Date: 18-Jun-2019 08:42:32

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.376	4.372	0.004	92	128314	5000.0	5000.0	
* 2 Fluorobenzene (IS)	96	7.320	7.317	0.003	98	440807	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.411	10.407	0.004	90	111898	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.729	12.731	-0.002	98	154582	250.0	250.0	
26 Isopropyl alcohol	45	3.853	3.843	0.010	96	24997	1250.0	1131.1	
27 Acetonitrile	41	3.993	3.989	0.004	98	73670	1250.0	1242.3	
38 2-Chloro-1,3-butadiene	53	5.343	5.346	-0.003	95	111326	125.0	123.9	
39 Isopropyl ether	45	5.374	5.370	0.004	92	198750	125.0	124.8	
40 Tert-butyl ethyl ether	59	5.842	5.838	0.004	97	171976	125.0	123.9	
44 Propionitrile	54	6.116	6.124	-0.008	98	75929	1250.0	1288.5	
45 Ethyl acetate	43	6.140	6.130	0.010	100	90740	250.0	246.2	
46 Methacrylonitrile	41	6.292	6.295	-0.003	91	324242	1250.0	1299.1	
58 Isooctane	57	7.101	7.104	-0.003	97	287074	125.0	130.1	
57 Tert-amyl methyl ether	73	7.156	7.159	-0.003	95	142455	125.0	124.2	
61 n-Butanol	56	7.710	7.712	-0.002	93	22562	3125.0	2854.0	
62 Ethyl acrylate	55	7.862	7.858	0.004	99	65089	125.0	123.3	
66 Methyl methacrylate	69	8.099	8.095	0.004	88	80054	250.0	259.0	
70 2-Chloroethyl vinyl ether	63	8.561	8.564	-0.003	93	50109	250.0	244.5	
80 n-Butyl acetate	43	9.827	9.829	-0.002	97	67245	125.0	116.6	
92 Cyclohexanone	55	11.524	11.526	-0.002	93	29535	2500.0	2283.6	
108 1,2,3-Trimethylbenzene	105	12.802	12.798	0.004	99	260593	125.0	130.0	
109 Benzyl chloride	91	12.887	12.889	-0.002	99	58778	125.0	109.0	
113 1,3,5-Trichlorobenzene	180	14.116	14.118	-0.002	94	87682	125.0	124.8	

Reagents:

voaW2clev1stR_00037	Amount Added:	5.00	Units: uL	
VOAList2PRI_00022	Amount Added:	5.00	Units: uL	
VOA8260INT_00095	Amount Added:	10.00	Units: uL	Run Reagent

Report Date: 18-Jun-2019 11:08:18 Chrom Revision: 2.3 02-Jun-2019 10:27:32

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20190618-27335.b\3061804.D				
Injection Date:	18-Jun-2019 08:01:30	Instrument ID:	CHHP3	Operator ID:	10099
Lims ID:	IC VSTD25			Worklist Smp#:	4
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

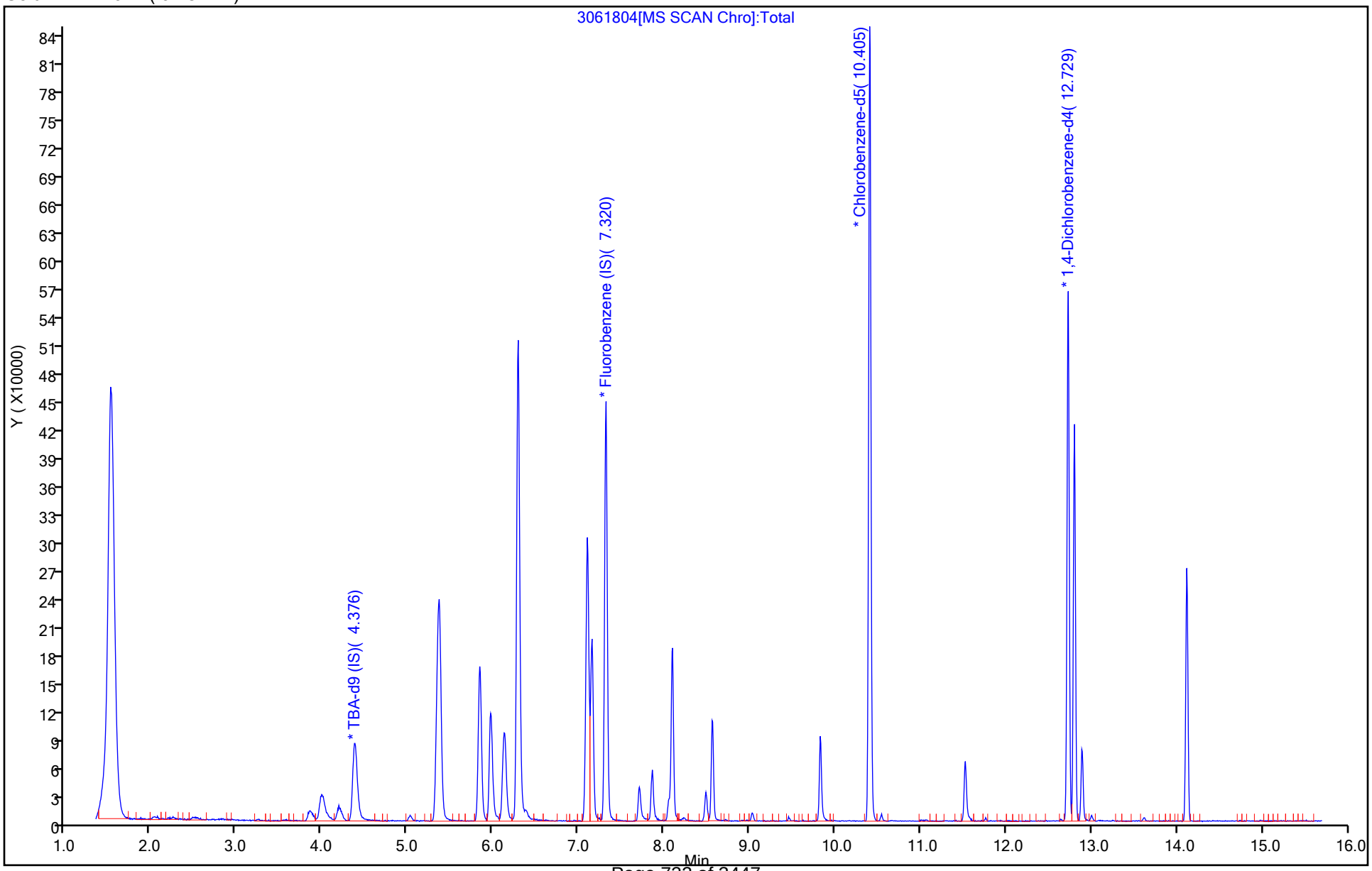

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP3\20190618-27335.b\3061805.D
Lims ID: IC VSTD40
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 18-Jun-2019 08:24:30 ALS Bottle#: 5 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0027335-005
Operator ID: 10099 Instrument ID: CHHP3
Sublist: chrom-MSVOA_S_CHHP3*sub58

Method: \\chromna\Pittsburgh\ChromData\CHHP3\20190618-27335.b\MSVOA_S_CHHP3.m
Limit Group: VOA 8260C_D ICAL
Last Update: 18-Jun-2019 11:08:20 Calib Date: 18-Jun-2019 10:42:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP3\20190618-27335.b\3061811.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: gordonk Date: 18-Jun-2019 08:42:51

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.392	4.392	0.000	92	129193	5000.0	5000.0	
* 2 Fluorobenzene (IS)	96	7.318	7.318	0.000	98	441627	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.408	10.408	0.000	90	110471	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.726	12.726	0.000	98	156054	250.0	250.0	
26 Isopropyl alcohol	45	3.869	3.869	0.000	96	43474	2000.0	1963.5	
27 Acetonitrile	41	4.003	4.003	0.000	99	117937	2000.0	1985.1	
38 2-Chloro-1,3-butadiene	53	5.353	5.353	0.000	94	190382	200.0	211.6	
39 Isopropyl ether	45	5.377	5.377	0.000	92	339074	200.0	212.5	
40 Tert-butyl ethyl ether	59	5.846	5.846	0.000	96	293777	200.0	211.2	
44 Propionitrile	54	6.120	6.120	0.000	98	122672	2000.0	2077.8	
45 Ethyl acetate	43	6.144	6.144	0.000	99	154071	400.0	417.3	
46 Methacrylonitrile	41	6.296	6.296	0.000	91	518509	2000.0	2073.5	
58 Isooctane	57	7.105	7.105	0.000	97	473589	200.0	214.2	
57 Tert-amyl methyl ether	73	7.160	7.160	0.000	96	243524	200.0	212.0	
61 n-Butanol	56	7.707	7.707	0.000	92	41146	5000.0	5195.2	
62 Ethyl acrylate	55	7.859	7.859	0.000	99	105310	200.0	202.0	
66 Methyl methacrylate	69	8.097	8.097	0.000	89	131423	400.0	424.5	
70 2-Chloroethyl vinyl ether	63	8.565	8.565	0.000	93	86711	400.0	404.8	
80 n-Butyl acetate	43	9.831	9.831	0.000	97	115900	200.0	203.6	
92 Cyclohexanone	55	11.528	11.528	0.000	93	51863	4000.0	4061.8	
108 1,2,3-Trimethylbenzene	105	12.799	12.799	0.000	99	426853	200.0	210.9	
109 Benzyl chloride	91	12.891	12.891	0.000	99	102541	200.0	174.4	
113 1,3,5-Trichlorobenzene	180	14.113	14.113	0.000	94	143441	200.0	202.2	

Reagents:

voaW2clev1stR_00037	Amount Added:	8.00	Units: uL	
VOAList2PRI_00022	Amount Added:	8.00	Units: uL	
VOA8260INT_00095	Amount Added:	10.00	Units: uL	Run Reagent

Report Date: 18-Jun-2019 11:08:20 Chrom Revision: 2.3 02-Jun-2019 10:27:32

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20190618-27335.b\3061805.D				
Injection Date:	18-Jun-2019 08:24:30	Instrument ID:	CHHP3	Operator ID:	10099
Lims ID:	IC VSTD40			Worklist Smp#:	5
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

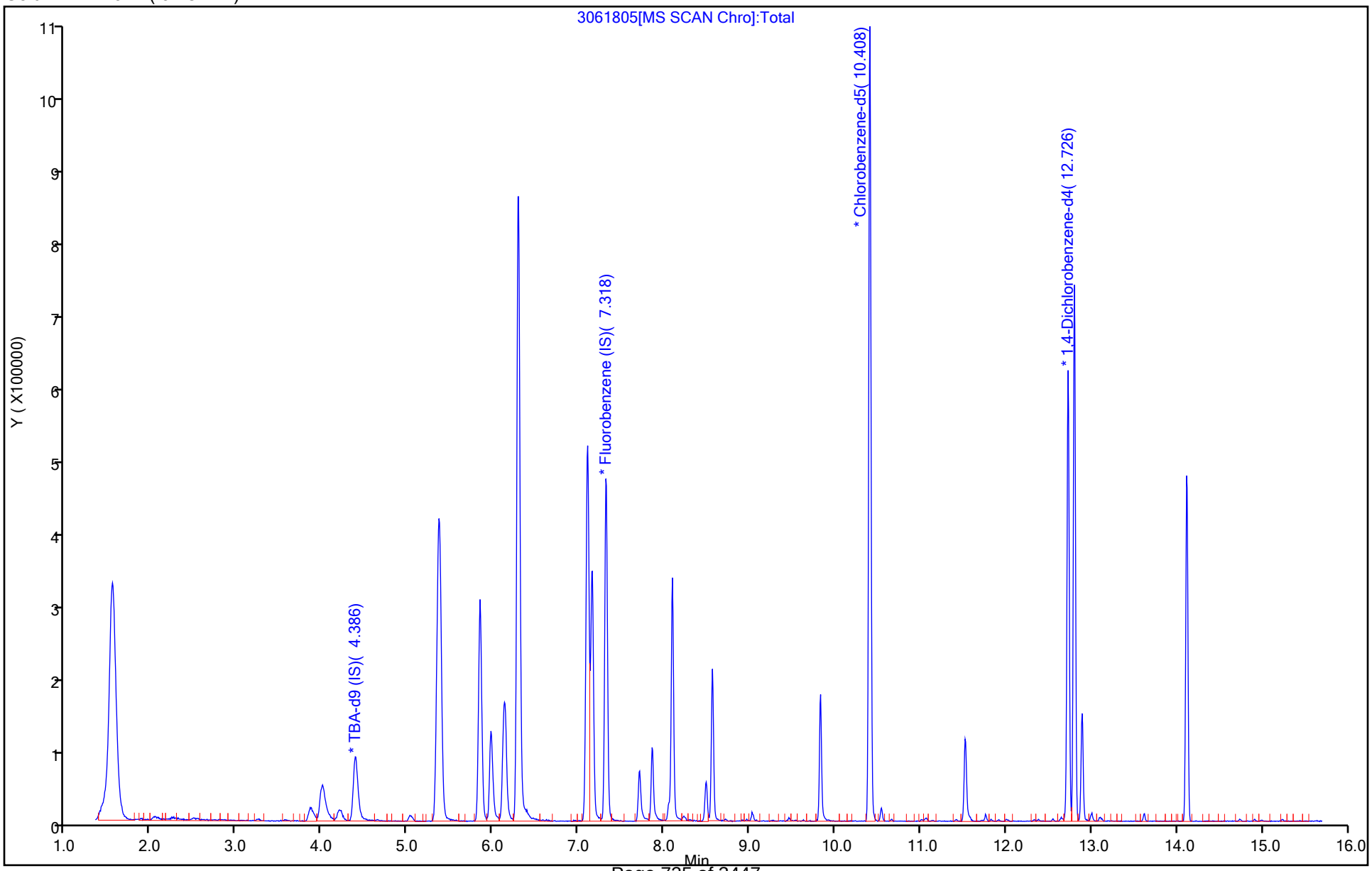

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP3\20190618-27335.b\3061806.D
Lims ID: IC VSTD50
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 18-Jun-2019 08:46:30 ALS Bottle#: 6 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0027335-006
Operator ID: 10099 Instrument ID: CHHP3
Sublist: chrom-MSVOA_S_CHHP3*sub58

Method: \\chromna\Pittsburgh\ChromData\CHHP3\20190618-27335.b\MSVOA_S_CHHP3.m
Limit Group: VOA 8260C_D ICAL
Last Update: 18-Jun-2019 11:08:21 Calib Date: 18-Jun-2019 10:42:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP3\20190618-27335.b\3061811.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: gordonk Date: 18-Jun-2019 09:04:27

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.385	4.392	-0.007	91	130520	5000.0	5000.0	
* 2 Fluorobenzene (IS)	96	7.318	7.318	0.000	97	442928	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.408	10.408	0.000	90	110657	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.726	12.726	0.000	98	158154	250.0	250.0	
26 Isopropyl alcohol	45	3.868	3.869	-0.001	95	53938	2500.0	2428.9	
27 Acetonitrile	41	3.996	4.003	-0.007	100	156058	2500.0	2619.0	
38 2-Chloro-1,3-butadiene	53	5.347	5.353	-0.006	94	245523	250.0	272.0	
39 Isopropyl ether	45	5.371	5.377	-0.006	92	424830	250.0	265.5	
40 Tert-butyl ethyl ether	59	5.845	5.846	-0.001	97	367687	250.0	263.6	
44 Propionitrile	54	6.119	6.120	-0.001	98	155168	2500.0	2620.5	
45 Ethyl acetate	43	6.137	6.144	-0.007	99	195815	500.0	528.9	
46 Methacrylonitrile	41	6.296	6.296	0.000	92	654695	2500.0	2610.4	
58 Isooctane	57	7.105	7.105	0.000	98	568696	250.0	256.4	
57 Tert-amyl methyl ether	73	7.159	7.160	-0.001	96	305563	250.0	265.2	
61 n-Butanol	56	7.713	7.707	0.006	94	47422	6250.0	5970.0	
62 Ethyl acrylate	55	7.859	7.859	0.000	99	130606	250.0	250.1	
66 Methyl methacrylate	69	8.096	8.097	-0.001	89	163269	500.0	525.8	
70 2-Chloroethyl vinyl ether	63	8.565	8.565	0.000	93	111770	500.0	513.3	
80 n-Butyl acetate	43	9.830	9.831	-0.001	97	143230	250.0	251.2	
92 Cyclohexanone	55	11.521	11.528	-0.007	93	63049	5000.0	4929.6	
108 1,2,3-Trimethylbenzene	105	12.799	12.799	0.000	100	534412	250.0	260.5	
109 Benzyl chloride	91	12.890	12.891	0.000	99	132160	250.0	216.5	
113 1,3,5-Trichlorobenzene	180	14.113	14.113	0.000	95	186128	250.0	258.9	

Reagents:

voaW2clev1stR_00037	Amount Added:	10.00	Units: uL	
VOAList2PRI_00022	Amount Added:	10.00	Units: uL	
VOA8260INT_00095	Amount Added:	10.00	Units: uL	Run Reagent

Report Date: 18-Jun-2019 11:08:22 Chrom Revision: 2.3 02-Jun-2019 10:27:32

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20190618-27335.b\3061806.D				
Injection Date:	18-Jun-2019 08:46:30	Instrument ID:	CHHP3	Operator ID:	10099
Lims ID:	IC VSTD50			Worklist Smp#:	6
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

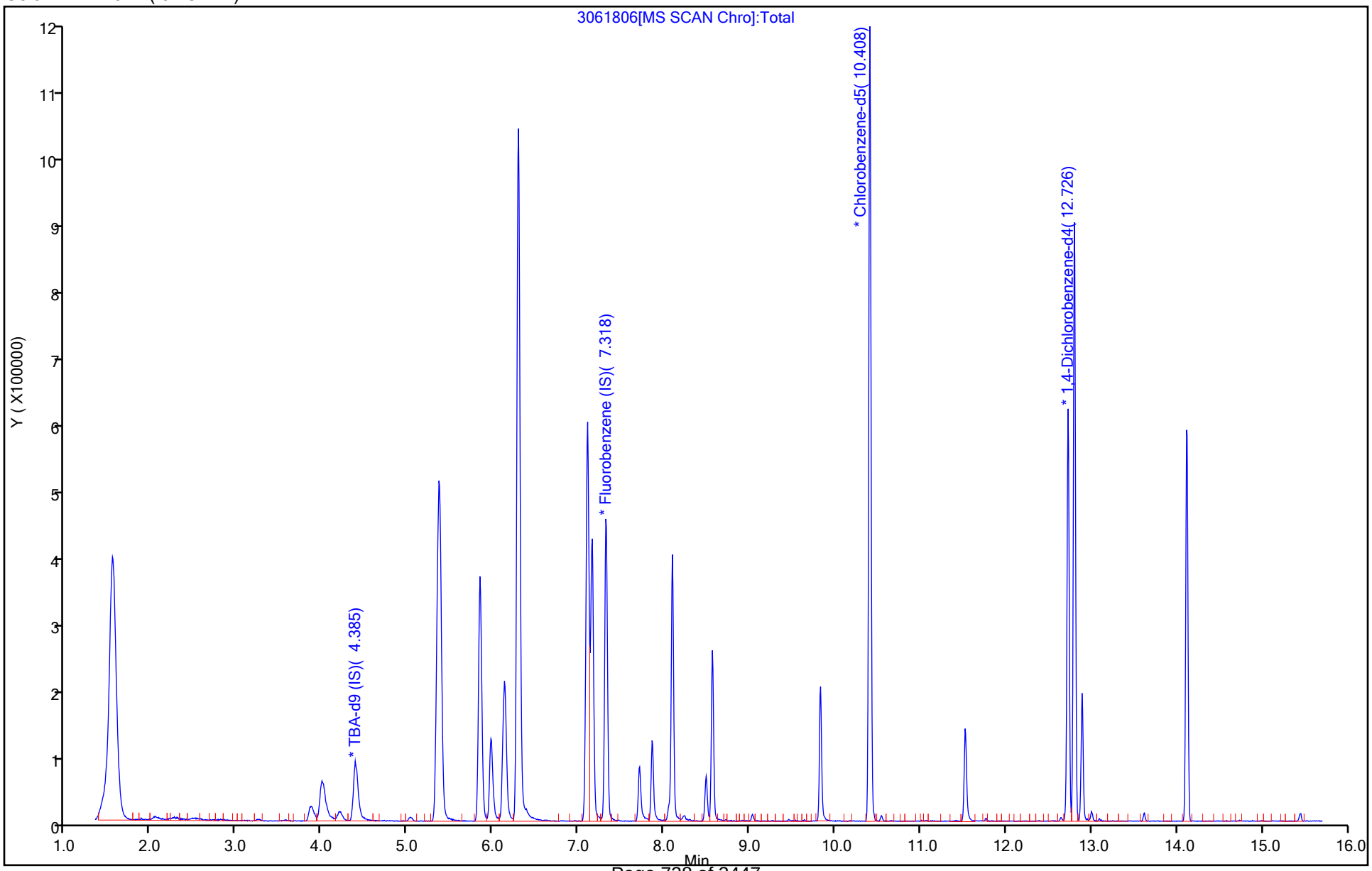

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP3\20190618-27335.b\3061807.D
Lims ID: IC VSTD125
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 18-Jun-2019 09:10:30 ALS Bottle#: 7 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0027335-007
Operator ID: 10099 Instrument ID: CHHP3
Sublist: chrom-MSVOA_S_CHHP3*sub58

Method: \\chromna\Pittsburgh\ChromData\CHHP3\20190618-27335.b\MSVOA_S_CHHP3.m
Limit Group: VOA 8260C_D ICAL
Last Update: 18-Jun-2019 11:08:23 Calib Date: 18-Jun-2019 10:42:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP3\20190618-27335.b\3061811.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: gordonk Date: 18-Jun-2019 09:41:51

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.397	4.392	0.005	91	132657	5000.0	5000.0	
* 2 Fluorobenzene (IS)	96	7.317	7.318	-0.001	97	453767	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.407	10.408	-0.001	90	113547	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.731	12.726	0.005	98	169982	250.0	250.0	
26 Isopropyl alcohol	45	3.880	3.869	0.011	95	148096	6250.0	6509.7	
27 Acetonitrile	41	3.989	4.003	-0.014	99	388728	6250.0	6367.8	
38 2-Chloro-1,3-butadiene	53	5.346	5.353	-0.007	94	612202	625.0	662.1	
39 Isopropyl ether	45	5.370	5.377	-0.007	91	1036219	625.0	632.1	
40 Tert-butyl ethyl ether	59	5.845	5.846	-0.002	96	932119	625.0	652.2	
44 Propionitrile	54	6.118	6.120	-0.002	98	395390	6250.0	6517.8	
45 Ethyl acetate	43	6.137	6.144	-0.007	99	490208	1250.0	1292.3	
46 Methacrylonitrile	41	6.295	6.296	-0.001	90	1563851	6250.0	6086.5	
58 Isooctane	57	7.104	7.105	-0.001	97	1474184	625.0	648.9	
57 Tert-amyl methyl ether	73	7.159	7.160	-0.001	96	764355	625.0	647.6	
61 n-Butanol	56	7.712	7.707	0.005	93	149954	15625	18427	
62 Ethyl acrylate	55	7.858	7.859	-0.001	99	353245	625.0	659.3	
66 Methyl methacrylate	69	8.095	8.097	-0.002	89	419109	1250.0	1317.5	
70 2-Chloroethyl vinyl ether	63	8.564	8.565	-0.001	93	298408	1250.0	1299.1	
80 n-Butyl acetate	43	9.829	9.831	-0.002	97	413078	625.0	706.0	
92 Cyclohexanone	55	11.520	11.528	-0.008	93	178688	12500	13616	
108 1,2,3-Trimethylbenzene	105	12.804	12.799	0.005	99	1312792	625.0	595.4	
109 Benzyl chloride	91	12.889	12.891	-0.001	99	447472	625.0	640.7	
113 1,3,5-Trichlorobenzene	180	14.118	14.113	0.005	95	479084	625.0	620.0	

Reagents:

voaW2clev1stR_00037	Amount Added:	25.00	Units: uL	
VOAList2PRI_00022	Amount Added:	25.00	Units: uL	
VOA8260INT_00095	Amount Added:	10.00	Units: uL	Run Reagent

Report Date: 18-Jun-2019 11:08:24 Chrom Revision: 2.3 02-Jun-2019 10:27:32

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP3\20190618-27335.b\3061807.D

Injection Date: 18-Jun-2019 09:10:30 Instrument ID: CHHP3 Operator ID: 10099

Lims ID: IC VSTD125 Worklist Smp#: 7

Client ID:

Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 7

Method: MSVOA_S_CHHP3 Limit Group: VOA 8260C_D ICAL

Column: DB-624 (0.18 mm)

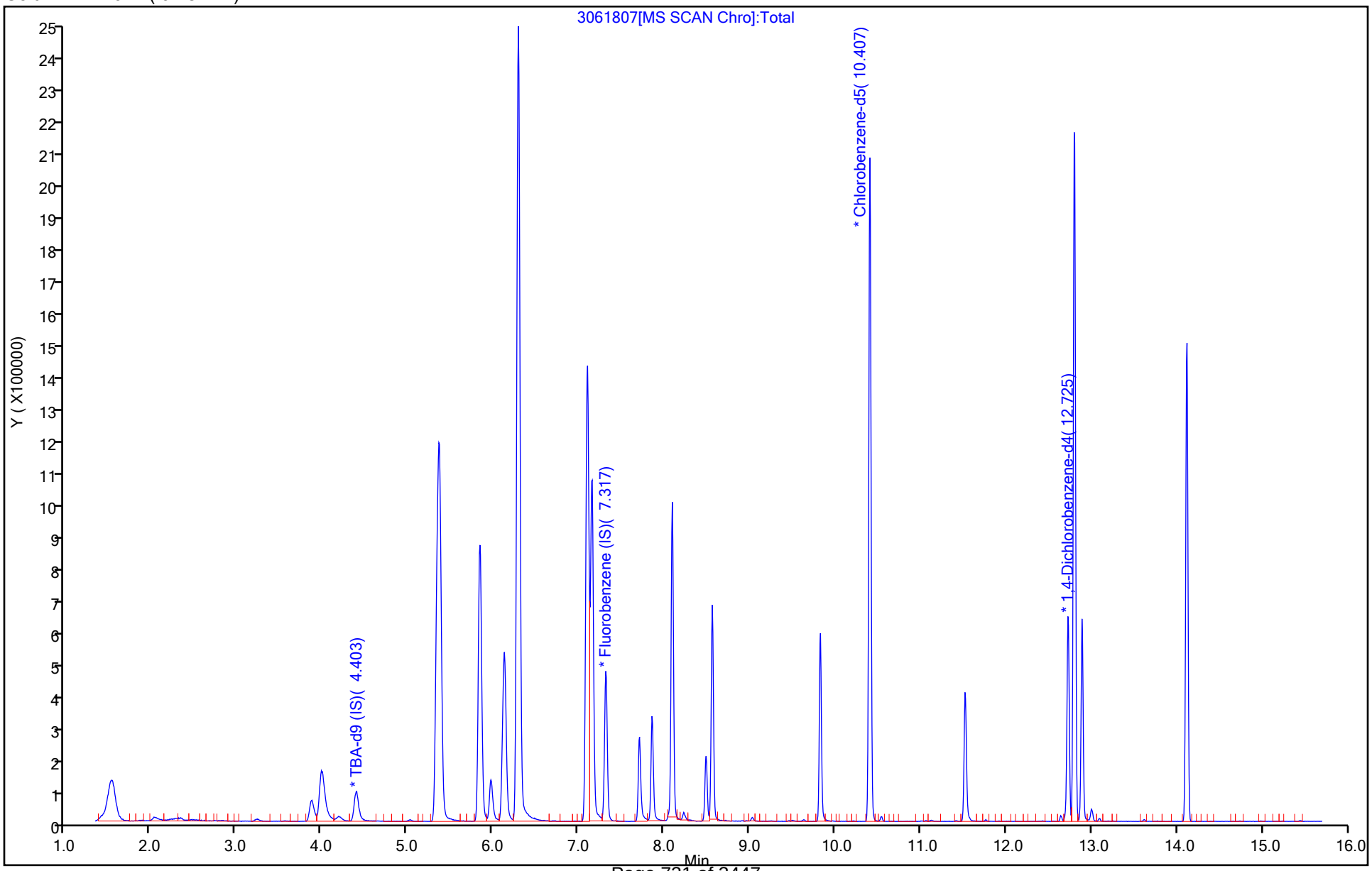

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP3\20190618-27335.b\3061808.D
Lims ID: IC VSTD250
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 18-Jun-2019 09:33:30 ALS Bottle#: 8 Worklist Smp#: 8
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0027335-008
Operator ID: 10099 Instrument ID: CHHP3
Sublist: chrom-MSVOA_S_CHHP3*sub58

Method: \\chromna\Pittsburgh\ChromData\CHHP3\20190618-27335.b\MSVOA_S_CHHP3.m
Limit Group: VOA 8260C_D ICAL
Last Update: 18-Jun-2019 11:08:25 Calib Date: 18-Jun-2019 10:42:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP3\20190618-27335.b\3061811.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: gordonk Date: 18-Jun-2019 10:05:38

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.407	4.392	0.015	90	112559	5000.0	5000.0	
* 2 Fluorobenzene (IS)	96	7.315	7.318	-0.003	98	419707	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.405	10.408	-0.003	91	99162	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.729	12.726	0.003	98	156346	250.0	250.0	
26 Isopropyl alcohol	45	3.890	3.869	0.021	96	259900	12500	12351	
27 Acetonitrile	41	3.987	4.003	-0.016	99	691107	12500	12240	
38 2-Chloro-1,3-butadiene	53	5.338	5.353	-0.015	95	1112581	1250.0	1301.0	
39 Isopropyl ether	45	5.368	5.377	-0.009	91	1813413	1250.0	1195.9	
40 Tert-butyl ethyl ether	59	5.843	5.846	-0.003	96	1675460	1250.0	1267.5	
44 Propionitrile	54	6.116	6.120	-0.004	98	670758	12500	11954	
45 Ethyl acetate	43	6.135	6.144	-0.009	99	845363	2500.0	2409.5	
46 Methacrylonitrile	41	6.293	6.296	-0.003	88	2558382	12500	10765	
58 Isooctane	57	7.102	7.105	-0.003	96	2621734	1250.0	1247.6	
57 Tert-amyl methyl ether	73	7.157	7.160	-0.003	96	1369471	1250.0	1254.4	
61 n-Butanol	56	7.710	7.707	0.003	92	271406	31250	36058	
62 Ethyl acrylate	55	7.856	7.859	-0.003	99	612959	1250.0	1310.1	
66 Methyl methacrylate	69	8.093	8.097	-0.004	90	712822	2500.0	2422.6	
70 2-Chloroethyl vinyl ether	63	8.562	8.565	-0.003	93	507878	2500.0	2370.2	
80 n-Butyl acetate	43	9.827	9.831	-0.004	97	718932	1250.0	1407.0	
92 Cyclohexanone	55	11.518	11.528	-0.010	95	310644	25000	27104	
108 1,2,3-Trimethylbenzene	105	12.802	12.799	0.003	98	2215800	1250.0	1092.7	
109 Benzyl chloride	91	12.887	12.891	-0.003	99	850983	1250.0	1304.1	
113 1,3,5-Trichlorobenzene	180	14.116	14.113	0.003	95	864826	1250.0	1216.9	

Reagents:

voaW2clev1stR_00037	Amount Added:	50.00	Units: uL	
VOAList2PRI_00022	Amount Added:	50.00	Units: uL	
VOA8260INT_00095	Amount Added:	10.00	Units: uL	Run Reagent

Report Date: 18-Jun-2019 11:08:26 Chrom Revision: 2.3 02-Jun-2019 10:27:32

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20190618-27335.b\3061808.D				
Injection Date:	18-Jun-2019 09:33:30	Instrument ID:	CHHP3	Operator ID:	10099
Lims ID:	IC VSTD250			Worklist Smp#:	8
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

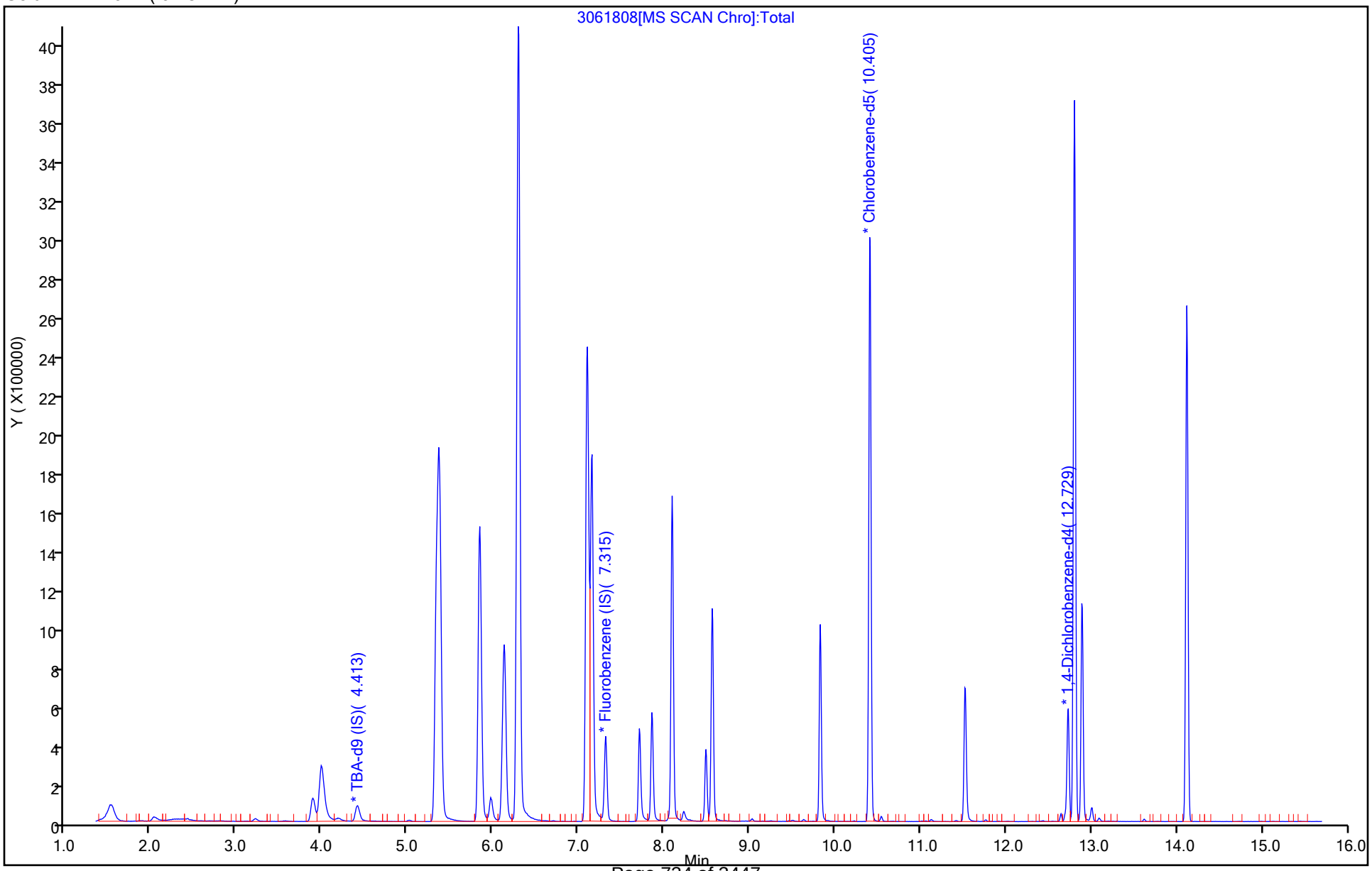

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP3\20190618-27335.b\3061811.D
Lims ID: IC VSTD10
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 18-Jun-2019 10:42:30 ALS Bottle#: 11 Worklist Smp#: 11
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0027335-011
Operator ID: 10099 Instrument ID: CHHP3
Sublist: chrom-MSVOA_S_CHHP3*sub58

Method: \\chromna\Pittsburgh\ChromData\CHHP3\20190618-27335.b\MSVOA_S_CHHP3.m
Limit Group: VOA 8260C_D ICAL
Last Update: 18-Jun-2019 11:22:02 Calib Date: 18-Jun-2019 10:42:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP3\20190618-27335.b\3061811.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: gordonk Date: 18-Jun-2019 11:03:56

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.373	4.392	-0.019	91	121821	5000.0	5000.0	
* 2 Fluorobenzene (IS)	96	7.318	7.318	0.000	97	444248	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.408	10.408	0.000	91	105354	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.726	12.726	0.000	98	143059	250.0	250.0	
26 Isopropyl alcohol	45	3.856	3.869	-0.013	94	8998	500.0	404.0	
27 Acetonitrile	41	3.996	4.003	-0.007	97	27694	500.0	463.4	
38 2-Chloro-1,3-butadiene	53	5.347	5.353	-0.006	94	40699	50.0	45.0	
39 Isopropyl ether	45	5.377	5.377	0.000	90	74425	50.0	46.4	
40 Tert-butyl ethyl ether	59	5.846	5.846	0.000	96	63041	50.0	45.1	
44 Propionitrile	54	6.126	6.120	0.006	98	26175	500.0	440.7	
45 Ethyl acetate	43	6.144	6.144	0.000	100	34504	100.0	92.9	
46 Methacrylonitrile	41	6.290	6.296	-0.006	92	126172	500.0	501.6	
58 Isooctane	57	7.105	7.105	0.000	97	103402	50.0	46.5	
57 Tert-amyl methyl ether	73	7.160	7.160	0.000	93	50924	50.0	44.1	
61 n-Butanol	56	7.707	7.707	0.000	94	6136	1250.0	770.2	
62 Ethyl acrylate	55	7.865	7.859	0.006	98	22758	50.0	45.8	
66 Methyl methacrylate	69	8.097	8.097	0.000	90	28798	100.0	92.5	
70 2-Chloroethyl vinyl ether	63	8.565	8.565	0.000	92	17234	100.0	99.3	
80 n-Butyl acetate	43	9.830	9.831	-0.001	96	22512	50.0	41.5	
92 Cyclohexanone	55	11.522	11.528	-0.006	92	9421	1000.0	773.7	
108 1,2,3-Trimethylbenzene	105	12.799	12.799	0.000	99	89228	50.0	48.1	
109 Benzyl chloride	91	12.890	12.891	0.000	98	15268	50.0	44.5	
113 1,3,5-Trichlorobenzene	180	14.119	14.113	0.006	90	31981	50.0	49.2	

Reagents:

voaW2clev1stR_00037	Amount Added:	2.00	Units: uL	
VOAList2PRI_00022	Amount Added:	2.00	Units: uL	
VOA8260INT_00095	Amount Added:	10.00	Units: uL	Run Reagent

Report Date: 18-Jun-2019 11:22:03 Chrom Revision: 2.3 02-Jun-2019 10:27:32

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20190618-27335.b\3061811.D				
Injection Date:	18-Jun-2019 10:42:30	Instrument ID:	CHHP3	Operator ID:	10099
Lims ID:	IC VSTD10			Worklist Smp#:	11
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

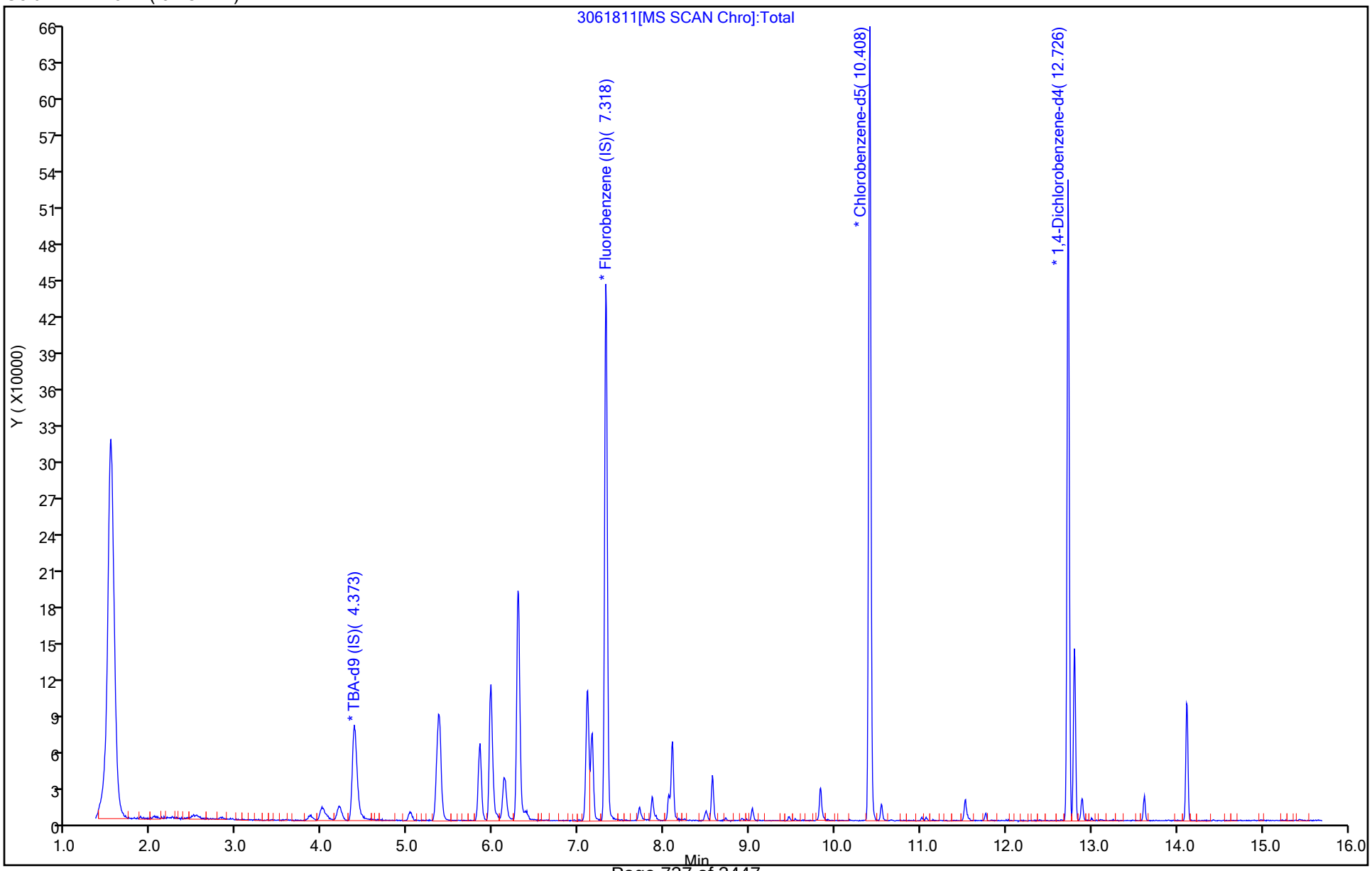

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 283451

SDG No.:

Instrument ID: CHHP3 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 06/29/2019 12:00 Calibration End Date: 06/29/2019 14:21 Calibration ID: 40686

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-283451/4	30629K04.D
Level 2	IC 180-283451/5	30629K05.D
Level 3	IC 180-283451/6	30629K06.D
Level 4	ICIS 180-283451/7	30629K07.D
Level 5	IC 180-283451/8	30629K08.D
Level 6	IC 180-283451/9	30629K09.D
Level 7	IC 180-283451/10	30629K10.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Dichlorodifluoromethane	0.4381 0.4972	0.4139 0.4969	0.4700	0.5073	0.5191	Ave		0.4775			0.1000	8.1		20.0			
Chloromethane	0.4015 0.4614	0.4374 0.4451	0.4557	0.4557	0.4695	Ave		0.4466			0.1000	5.0		20.0			
1,3-Butadiene	0.4354 0.4529	0.4104 0.4313	0.4534	0.4658	0.4734	Ave		0.4461			0.0100	4.9		20.0			
Vinyl chloride	0.3804 0.4075	0.3876 0.4023	0.4097	0.4158	0.4229	Ave		0.4037			0.1000	3.7		20.0			
Bromomethane	0.1773 0.1682	0.1683 0.1639	0.1718	0.1724	0.1674	Ave		0.1699			0.0500	2.6		20.0			
Chloroethane	0.1641 0.1624	0.1694 0.1579	0.1689	0.1631	0.1667	Ave		0.1646			0.0500	2.5		20.0			
Dichlorofluoromethane	0.4758 0.4409	0.4909 0.3429	0.5014	0.4815	0.4953	Ave		0.4613			0.0100	12.1		20.0			
Trichlorofluoromethane	0.4171 0.3766	0.3882 0.2929	0.4258	0.3999	0.4298	Ave		0.3900			0.1000	12.1		20.0			
Ethyl ether	0.2411 0.2698	0.2604 0.2561	0.2679	0.2591	0.2725	Ave		0.2610			0.0100	4.1		20.0			
Acrolein	0.0448 0.0483	0.0467 0.0491	0.0470	0.0478	0.0490	Ave		0.0475			0.0100	3.2		20.0			
1,1-Dichloroethene	0.2308 0.2721	0.2312 0.2601	0.2647	0.2669	0.2727	Ave		0.2569			0.1000	7.1		20.0			
1,1,2-Trichloro-1,2,2-trifluoroethane	0.2848 0.2973	0.2578 0.2912	0.3014	0.3013	0.3117	Ave		0.2922			0.1000	5.9		20.0			
Acetone	0.1692 0.1332	0.1701 0.1186	0.1444	0.1456	0.1415	Ave		0.1461			0.0500	12.7		20.0			
Iodomethane	0.2971 0.3573	0.3168 0.3440	0.3456	0.3425	0.3500	Ave		0.3362			0.0100	6.3		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 283451

SDG No.:

Instrument ID: CHHP3 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 06/29/2019 12:00 Calibration End Date: 06/29/2019 14:21 Calibration ID: 40686

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Carbon disulfide	0.5113 0.9059	0.5249 0.9064	0.6861	0.7491	0.8125	Lin1	-15.65	0.9055			0.1000				0.9970		0.9900
Allyl chloride	0.1152 0.1820	0.1395 0.1823	0.1588	0.1613	0.1775	Lin2	-1.692	0.1787			0.0100				0.9980		0.9900
Methyl acetate	0.1644 0.1891	0.1858 0.1894	0.1881	0.1889	0.1899	Ave		0.1851			0.1000	5.0		20.0			
Methylene Chloride	0.5931 0.3176	0.4592 0.2999	0.3825	0.3489	0.3440	Lin2	7.2025	0.3105			0.1000				0.9990		0.9900
tert-Butyl alcohol	1.0838 1.2841	1.2000 1.2565	1.2780	1.2516	1.3151	Ave		1.2384			0.0100	6.2		20.0			
trans-1,2-Dichloroethene	0.2534 0.2923	0.2785 0.2816	0.2996	0.2919	0.3037	Ave		0.2859			0.1000	5.9		20.0			
Acrylonitrile	0.0837 0.0880	0.0921 0.0843	0.0939	0.0939	0.0930	Ave		0.0899			0.0100	5.0		20.0			
Methyl tert-butyl ether	0.5827 0.6861	0.6275 0.6910	0.6787	0.6724	0.6921	Ave		0.6615			0.1000	6.2		20.0			
Hexane	0.5348 0.5101	0.4816 0.4968	0.5145	0.5339	0.5424	Ave		0.5163			0.0100	4.3		20.0			
1,1-Dichloroethane	0.5048 0.5716	0.5521 0.5477	0.5733	0.5728	0.5828	Ave		0.5579			0.2000	4.8		20.0			
Vinyl acetate	0.3064 0.4546	0.3140 0.4604	0.3730	0.4083	0.4152	Lin2	-3.867	0.4341			0.0100				0.9930		0.9900
2,2-Dichloropropane	0.0590 0.0710	0.0543 0.0680	0.0667	0.0664	0.0642	Ave		0.0642			0.0100	8.9		20.0			
cis-1,2-Dichloroethene	0.2748 0.3015	0.2940 0.2912	0.3152	0.3118	0.3155	Ave		0.3006			0.1000	5.0		20.0			
2-Butanone (MEK)	0.1801 0.1388	0.1678 0.1299	0.1444	0.1523	0.1475	Ave		0.1516			0.0500	11.4		20.0			
Chlorobromomethane	0.1215 0.1187	0.1155 0.1178	0.1226	0.1202	0.1230	Ave		0.1199			0.0100	2.3		20.0			
Tetrahydrofuran	0.0558 0.0675	0.0616 0.0692	0.0693	0.0688	0.0695	Ave		0.0660			0.0100	8.0		20.0			
Chloroform	0.5672 0.5227	0.5509 0.4950	0.5528	0.5363	0.5563	Ave		0.5402			0.2000	4.5		20.0			
1,1,1-Trichloroethane	0.3429 0.4291	0.3768 0.4117	0.4124	0.4115	0.4289	Ave		0.4019			0.1000	7.8		20.0			
Cyclohexane	0.4838 0.5743	0.4713 0.5562	0.5736	0.5815	0.5924	Ave		0.5476			0.1000	9.0		20.0			
Carbon tetrachloride	0.2660 0.3375	0.2623 0.3313	0.3151	0.3211	0.3302	Ave		0.3091			0.1000	10.2		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 283451

SDG No.:

Instrument ID: CHHP3 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 06/29/2019 12:00 Calibration End Date: 06/29/2019 14:21 Calibration ID: 40686

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,1-Dichloropropene	0.3790 0.4322	0.3953 0.4129	0.4277	0.4441	0.4403	Ave		0.4188			0.0100	5.8		20.0			
Benzene	1.1763 1.1556	1.2378 1.0676	1.2540	1.2473	1.2283	Ave		1.1953			0.5000	5.6		20.0			
Isobutyl alcohol	0.0054 0.0068	0.0064 0.0071	0.0069	0.0068	0.0065	Lin2	-0.933	0.0070		*	0.0100				0.9990		0.9900
1,2-Dichloroethane	0.4035 0.3971	0.4165 0.3867	0.4159	0.4261	0.4197	Ave		0.4093			0.1000	3.4		20.0			
n-Heptane	0.4590 0.5150	0.4462 0.4946	0.5030	0.5376	0.5358	Ave		0.4987			0.0100	7.1		20.0			
Trichloroethene	0.2174 0.2581	0.2444 0.2523	0.2521	0.2588	0.2546	Ave		0.2482			0.2000	5.8		20.0			
Methylcyclohexane	0.4675 0.5795	0.4680 0.5494	0.5556	0.5780	0.5977	Ave		0.5422			0.1000	9.8		20.0			
1,2-Dichloropropane	0.2608 0.2936	0.2929 0.2880	0.3026	0.3044	0.3035	Ave		0.2922			0.1000	5.2		20.0			
Dibromomethane	0.1272 0.1500	0.1468 0.1486	0.1441	0.1545	0.1492	Ave		0.1458			0.0100	6.0		20.0			
1,4-Dioxane	0.0016 0.0024	0.0027 0.0026	0.0026	0.0027	0.0026	Lin1	-0.215	0.0026		*	0.0100				0.9970		0.9900
Dichlorobromomethane	0.2763 0.3557	0.3037 0.3598	0.3207	0.3412	0.3429	Ave		0.3286			0.2000	9.2		20.0			
cis-1,3-Dichloropropene	0.2910 0.4448	0.3415 0.4389	0.3879	0.4107	0.4305	Ave		0.3922			0.2000	14.6		20.0			
4-Methyl-2-pentanone (MIBK)	0.7481 0.9771	0.8257 0.9651	0.8913	0.9507	0.9421	Ave		0.9000			0.1000	9.4		20.0			
Toluene	5.1393 4.9689	5.5785 4.3764	5.3489	5.6466	5.4594	Ave		5.2169			0.4000	8.4		20.0			
trans-1,3-Dichloropropene	1.0403 1.7467	1.2637 1.7029	1.4278	1.6215	1.6588	Lin2	-17.77	1.6961			0.1000				0.9970		0.9900
Ethyl methacrylate	1.0524 1.5284	1.1843 1.4555	1.3466	1.5121	1.5015	Ave		1.3687			0.0100	13.5		20.0			
1,1,2-Trichloroethane	0.8469 0.8903	0.8895 0.8543	0.9144	0.9569	0.9080	Ave		0.8943			0.1000	4.2		20.0			
Tetrachloroethene	0.7043 0.7412	0.7428 0.7280	0.7296	0.8198	0.7739	Ave		0.7485			0.2000	5.0		20.0			
1,3-Dichloropropane	1.7209 1.8173	1.8329 1.6980	1.9013	2.0020	1.8999	Ave		1.8389			0.0100	5.8		20.0			
2-Hexanone	0.5801 0.7885	0.7052 0.7464	0.7170	0.7831	0.7765	Ave		0.7281			0.1000	10.0		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 283451

SDG No.:

Instrument ID: CHHP3 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 06/29/2019 12:00 Calibration End Date: 06/29/2019 14:21 Calibration ID: 40686

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Chlorodibromomethane	0.5986 0.8339	0.6300 0.8507	0.7112	0.7519	0.7776	Ave		0.7363			0.1000	13.1		20.0			
1,2-Dibromoethane	0.7692 0.9010	0.8675 0.8658	0.8676	0.9165	0.8967	Ave		0.8692			0.1000	5.6		20.0			
Chlorobenzene	3.0991 3.0466	3.1581 2.7821	3.1847	3.2817	3.2143	Ave		3.1095			0.5000	5.2		20.0			
1,1,1,2-Tetrachloroethane	0.7490 0.9883	0.8430 0.9623	0.9171	0.9857	0.9767	Ave		0.9174			0.0100	9.9		20.0			
Ethylbenzene	1.5546 1.7343	1.7075 1.6029	1.7764	1.8443	1.8187	Ave		1.7198			0.1000	6.3		20.0			
m-Xylene & p-Xylene	2.0135 2.1786	2.1238 2.0533	2.2237	2.3269	2.2776	Ave		2.1710			0.1000	5.3		20.0			
o-Xylene	1.8328 2.0956	2.0270 1.9845	2.1343	2.2391	2.1885	Ave		2.0717			0.3000	6.6		20.0			
Styrene	3.1726 3.5432	3.5041 3.2486	3.8084	3.8287	3.7948	Ave		3.5572			0.3000	7.6		20.0			
Bromoform	0.2231 0.3741	0.2458 +++++	0.2848	0.3173	0.3278	Lin2	-3.350	0.3394			0.1000				0.9900		0.9900
Isopropylbenzene	4.9225 5.5640	5.3389 4.9188	5.9609	6.2389	6.0222	Ave		5.5666			0.1000	9.6		20.0			
1,1,2,2-Tetrachloroethane	1.0995 1.1984	1.1166 1.1438	1.2359	1.2706	1.2423	Ave		1.1867			0.3000	5.7		20.0			
Bromobenzene	0.6797 0.7803	0.7913 0.7351	0.8069	0.7720	0.8195	Ave		0.7692			0.0100	6.2		20.0			
1,2,3-Trichloropropane	0.2339 0.2580	0.2794 0.2425	0.2702	0.2566	0.2627	Ave		0.2576			0.0100	6.0		20.0			
trans-1,4-Dichloro-2-butene	0.2039 0.2759	0.2212 0.2908	0.2505	0.2561	0.2796	Ave		0.2540			0.0100	12.5		20.0			
N-Propylbenzene	0.9694 1.1204	1.0785 1.0530	1.1436	1.1382	1.1653	Ave		1.0955			0.0100	6.2		20.0			
2-Chlorotoluene	0.8448 0.9375	0.9062 0.8944	0.9491	0.9326	0.9633	Ave		0.9183			0.0100	4.4		20.0			
1,3,5-Trimethylbenzene	3.2560 3.5225	3.6905 3.1054	3.7479	3.7279	3.8015	Ave		3.5502			0.0100	7.6		20.0			
4-Chlorotoluene	0.9238 0.9623	0.9971 0.9084	0.9817	0.9422	0.9878	Ave		0.9576			0.0100	3.5		20.0			
tert-Butylbenzene	2.4114 2.9664	2.8812 2.7282	3.0941	3.1134	3.1541	Ave		2.9070			0.0100	9.1		20.0			
1,2,4-Trimethylbenzene	3.1609 3.5676	3.6929 3.1574	3.8041	3.7802	3.8508	Ave		3.5734			0.0100	8.3		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 283451

SDG No.:

Instrument ID: CHHP3 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 06/29/2019 12:00 Calibration End Date: 06/29/2019 14:21 Calibration ID: 40686

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
sec-Butylbenzene	4.1392 4.5625	4.6503 3.9631	4.8918	4.8878	4.9501	Ave		4.5778			0.0100	8.5		20.0			
1,3-Dichlorobenzene	1.5393 1.6078	1.6553 1.5071	1.6537	1.6532	1.6716	Ave		1.6126			0.6000	4.0		20.0			
4-Isopropyltoluene	3.1991 3.6231	3.5814 3.1989	3.8336	3.8518	3.8505	Ave		3.5912			0.0100	8.1		20.0			
1,4-Dichlorobenzene	1.5182 1.5800	1.5760 1.5073	1.6232	1.6228	1.6222	Ave		1.5785			0.5000	3.1		20.0			
n-Butylbenzene	3.1978 3.9650	3.6957 3.4633	4.1107	4.1749	4.1747	Ave		3.8260			0.0100	10.0		20.0			
1,2-Dichlorobenzene	1.4377 1.4957	1.5125 1.4017	1.5718	1.5109	1.5337	Ave		1.4949			0.4000	3.9		20.0			
1,2-Dibromo-3-Chloropropane	0.1208 0.1648	0.1277 0.1762	0.1331	0.1438	0.1366	Ave		0.1433			0.0500	14.1		20.0			
1,2,4-Trichlorobenzene	0.6888 0.9101	0.7640 0.8954	0.8333	0.8711	0.9048	Ave		0.8382			0.2000	10.0		20.0			
Hexachlorobutadiene	0.2707 0.3339	0.2779 0.3235	0.3322	0.3266	0.3196	Ave		0.3121			0.0100	8.4		20.0			
Naphthalene	1.4026 2.2081	1.7562 2.1336	2.0447	2.1610	2.1849	Ave		1.9844			0.0100	15.1		20.0			
1,2,3-Trichlorobenzene	0.6145 0.7905	0.7007 0.7758	0.7473	0.7675	0.7694	Ave		0.7380			0.0100	8.3		20.0			
Dibromofluoromethane (Surr)	0.2119 0.2231	0.2094 0.2146	0.2318	0.2288	0.2252	Ave		0.2207				4.0		20.0			
1,2-Dichloroethane-d4 (Surr)	0.3854 0.3426	0.3579 0.3358	0.3667	0.3622	0.3486	Ave		0.3570				4.7		20.0			
Toluene-d8 (Surr)	3.9851 3.9391	4.1808 3.5892	4.3059	4.4701	4.1943	Ave		4.0949				7.0		20.0			
4-Bromofluorobenzene (Surr)	1.6255 1.7472	1.7028 1.6996	1.7964	1.8480	1.7736	Ave		1.7419				4.2		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 283451

SDG No.:

Instrument ID: CHHP3 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 06/29/2019 12:00 Calibration End Date: 06/29/2019 14:21 Calibration ID: 40686

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-283451/4	30629K04.D
Level 2	IC 180-283451/5	30629K05.D
Level 3	IC 180-283451/6	30629K06.D
Level 4	ICIS 180-283451/7	30629K07.D
Level 5	IC 180-283451/8	30629K08.D
Level 6	IC 180-283451/9	30629K09.D
Level 7	IC 180-283451/10	30629K10.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Dichlorodifluoromethane	FB	Ave	21099 638719	40418 1303753	110291	193410	250481	25.0 625	50.0 1250	125	200	250
Chloromethane	FB	Ave	19333 592770	42713 1168069	106923	173728	226569	25.0 625	50.0 1250	125	200	250
1,3-Butadiene	FB	Ave	20968 581838	40081 1131779	106394	177563	228428	25.0 625	50.0 1250	125	200	250
Vinyl chloride	FB	Ave	18318 523514	37853 1055515	96127	158514	204046	25.0 625	50.0 1250	125	200	250
Bromomethane	FB	Ave	8539 216053	16431 430090	40319	65724	80786	25.0 625	50.0 1250	125	200	250
Chloroethane	FB	Ave	7904 208612	16544 414218	39631	62185	80439	25.0 625	50.0 1250	125	200	250
Dichlorofluoromethane	FB	Ave	22914 566462	47937 899876	117658	183571	238994	25.0 625	50.0 1250	125	200	250
Trichlorofluoromethane	FB	Ave	20084 483808	37907 768570	99921	152453	207377	25.0 625	50.0 1250	125	200	250
Ethyl ether	FB	Ave	11613 346610	25426 672054	62872	98784	131511	25.0 625	50.0 1250	125	200	250
Acrolein	FB	Ave	43154 111601	57054 128859	66220	79697	94633	500 1125	625 1250	750	875	1000
1,1-Dichloroethene	FB	Ave	11116 349546	22576 682631	62120	101738	131610	25.0 625	50.0 1250	125	200	250
1,1,2-Trichloro-1,2,2-trifluoroetha ne	FB	Ave	13716 381914	25173 764139	70719	114856	150408	25.0 625	50.0 1250	125	200	250
Acetone	FB	Ave	8149 171116	16615 311325	33881	55508	68277	25.0 625	50.0 1250	125	200	250
Iodomethane	FB	Ave	14306 459029	30935 902718	81105	130553	168871	25.0 625	50.0 1250	125	200	250
Carbon disulfide	FB	Lin1	24625 1163766	51257 2378487	161000	285568	392093	25.0 625	50.0 1250	125	200	250

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 283451

SDG No.:

Instrument ID: CHHP3 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 06/29/2019 12:00 Calibration End Date: 06/29/2019 14:21 Calibration ID: 40686

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Allyl chloride	FB	Lin2	5548 233826	13619 478246	37255	61486	85670	25.0 625	50.0 1250	125	200	250
Methyl acetate	FB	Ave	15838 485789	36293 993866	88254	143995	183252	50.0 1250	100 2500	250	400	500
Methylene Chloride	FB	Lin2	28561 407993	44841 786954	89766	133002	165991	25.0 625	50.0 1250	125	200	250
tert-Butyl alcohol	TBAd 9	Ave	6889 227067	15752 480296	40766	63957	83300	250 6250	500 12500	1250	2000	2500
trans-1,2-Dichloroethene	FB	Ave	12202 375502	27197 738962	70313	111268	146562	25.0 625	50.0 1250	125	200	250
Acrylonitrile	FB	Ave	40328 1130768	89975 2210808	220448	357866	448741	250 6250	500 12500	1250	2000	2500
Methyl tert-butyl ether	FB	Ave	28062 881500	61283 1813294	159270	256350	333981	25.0 625	50.0 1250	125	200	250
Hexane	FB	Ave	25756 655347	47035 1303690	120733	203542	261751	25.0 625	50.0 1250	125	200	250
1,1-Dichloroethane	FB	Ave	24311 734352	53921 1437206	134528	218354	281246	25.0 625	50.0 1250	125	200	250
Vinyl acetate	FB	Lin2	14755 584054	30667 1208187	87530	155645	200358	25.0 625	50.0 1250	125	200	250
2,2-Dichloropropane	FB	Ave	2841 91230	5298 178414	15662	25305	30973	25.0 625	50.0 1250	125	200	250
cis-1,2-Dichloroethene	FB	Ave	13232 387401	28715 764031	73967	118848	152240	25.0 625	50.0 1250	125	200	250
2-Butanone (MEK)	FB	Ave	8671 178371	16389 340825	33886	58075	71190	25.0 625	50.0 1250	125	200	250
Chlorobromomethane	FB	Ave	5853 152503	11279 309048	28763	45805	59376	25.0 625	50.0 1250	125	200	250
Tetrahydrofuran	FB	Ave	5376 173324	12039 363202	32507	52449	67077	50.0 1250	100 2500	250	400	500
Chloroform	FB	Ave	27317 671528	53797 1298916	129705	204454	268421	25.0 625	50.0 1250	125	200	250
1,1,1-Trichloroethane	FB	Ave	16514 551276	36797 1080381	96779	156882	206971	25.0 625	50.0 1250	125	200	250
Cyclohexane	FB	Ave	23300 737750	46025 1459545	134606	221667	285848	25.0 625	50.0 1250	125	200	250
Carbon tetrachloride	FB	Ave	12809 433544	25611 869345	73938	122406	159348	25.0 625	50.0 1250	125	200	250
1,1-Dichloropropene	FB	Ave	18250 555275	38601 1083353	100366	169283	212449	25.0 625	50.0 1250	125	200	250
Benzene	FB	Ave	56647 1484613	120878 2801428	294248	475491	592702	25.0 625	50.0 1250	125	200	250

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 283451

SDG No.:

Instrument ID: CHHP3 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 06/29/2019 12:00 Calibration End Date: 06/29/2019 14:21 Calibration ID: 40686

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Isobutyl alcohol	FB	Lin2	6513 218898	15631 465009	40597	64983	78904	625 15625	1250 31250	3125	5000	6250
1,2-Dichloroethane	FB	Ave	19430 510209	40672 1014609	97597	162443	202508	25.0 625	50.0 1250	125	200	250
n-Heptane	FB	Ave	22103 661643	43573 1297891	118033	204957	258530	25.0 625	50.0 1250	125	200	250
Trichloroethene	FB	Ave	10470 331562	23871 661938	59145	98652	122865	25.0 625	50.0 1250	125	200	250
Methylcyclohexane	FB	Ave	22514 744492	45700 1441686	130377	220329	288410	25.0 625	50.0 1250	125	200	250
1,2-Dichloropropane	FB	Ave	12559 377214	28601 755661	70997	116050	146458	25.0 625	50.0 1250	125	200	250
Dibromomethane	FB	Ave	6127 192708	14332 389837	33815	58915	71987	25.0 625	50.0 1250	125	200	250
1,4-Dioxane	FB	Lin1	1557 61342	5209 135944	12337	20210	24814	500 12500	1000 25000	2500	4000	5000
Dichlorobromomethane	FB	Ave	13308 456925	29663 944001	75263	130060	165488	25.0 625	50.0 1250	125	200	250
cis-1,3-Dichloropropene	FB	Ave	14013 571376	33346 1151716	91022	156585	207740	25.0 625	50.0 1250	125	200	250
4-Methyl-2-pentanone (MIBK)	CBNZ d5	Ave	8012 285728	17985 583673	48580	78765	101860	25.0 625	50.0 1250	125	200	250
Toluene	CBNZ d5	Ave	55038 1453061	121516 2646800	291549	467814	590266	25.0 625	50.0 1250	125	200	250
trans-1,3-Dichloropropene	CBNZ d5	Lin2	11141 510799	27527 1029896	77825	134343	179345	25.0 625	50.0 1250	125	200	250
Ethyl methacrylate	CBNZ d5	Ave	11271 446949	25798 880294	73400	125272	162343	25.0 625	50.0 1250	125	200	250
1,1,2-Trichloroethane	CBNZ d5	Ave	9070 260354	19375 516688	49838	79279	98172	25.0 625	50.0 1250	125	200	250
Tetrachloroethene	CBNZ d5	Ave	7543 216765	16181 440273	39768	67919	83671	25.0 625	50.0 1250	125	200	250
1,3-Dichloropropane	CBNZ d5	Ave	18430 531427	39925 1026939	103631	165866	205417	25.0 625	50.0 1250	125	200	250
2-Hexanone	CBNZ d5	Ave	6212 230578	15362 451425	39082	64882	83959	25.0 625	50.0 1250	125	200	250
Chlorodibromomethane	CBNZ d5	Ave	6411 243862	13724 514480	38765	62293	84072	25.0 625	50.0 1250	125	200	250
1,2-Dibromoethane	CBNZ d5	Ave	8238 263491	18897 523644	47288	75933	96949	25.0 625	50.0 1250	125	200	250
Chlorobenzene	CBNZ d5	Ave	33189 890936	68792 1682584	173586	271888	347527	25.0 625	50.0 1250	125	200	250

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 283451

SDG No.:

Instrument ID: CHHP3 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 06/29/2019 12:00 Calibration End Date: 06/29/2019 14:21 Calibration ID: 40686

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
1,1,1,2-Tetrachloroethane	CBNZ d5	Ave	8021 289009	18362 581956	49985	81663	105601	25.0 625	50.0 1250	125	200	250
Ethylbenzene	CBNZ d5	Ave	16649 507175	37194 969385	96826	152799	196638	25.0 625	50.0 1250	125	200	250
m-Xylene & p-Xylene	CBNZ d5	Ave	21563 637099	46262 1241775	121204	192781	246251	25.0 625	50.0 1250	125	200	250
o-Xylene	CBNZ d5	Ave	19628 612827	44153 1200199	116331	185504	236626	25.0 625	50.0 1250	125	200	250
Styrene	CBNZ d5	Ave	33976 1036143	76329 1964731	207580	317205	410293	25.0 625	50.0 1250	125	200	250
Bromoform	CBNZ d5	Lin2	2389 109403	5354 +++++	15521	26287	35440	25.0 625	50.0 +++++	125	200	250
Isopropylbenzene	CBNZ d5	Ave	52716 1627088	116296 2974790	324906	516887	651118	25.0 625	50.0 1250	125	200	250
1,1,2,2-Tetrachloroethane	CBNZ d5	Ave	11775 350464	24322 691747	67364	105270	134315	25.0 625	50.0 1250	125	200	250
Bromobenzene	DCBd 4	Ave	9728 308568	22420 607054	58637	90298	119609	25.0 625	50.0 1250	125	200	250
1,2,3-Trichloropropane	DCBd 4	Ave	3348 102027	7917 200272	19636	30012	38347	25.0 625	50.0 1250	125	200	250
trans-1,4-Dichloro-2-butene	DCBd 4	Ave	2919 109088	6267 240126	18202	29958	40804	25.0 625	50.0 1250	125	200	250
N-Propylbenzene	DCBd 4	Ave	13875 443057	30556 869580	83111	133135	170092	25.0 625	50.0 1250	125	200	250
2-Chlorotoluene	DCBd 4	Ave	12092 370761	25676 738621	68976	109087	140602	25.0 625	50.0 1250	125	200	250
1,3,5-Trimethylbenzene	DCBd 4	Ave	46603 1393004	104563 2564591	272370	436067	554862	25.0 625	50.0 1250	125	200	250
4-Chlorotoluene	DCBd 4	Ave	13222 380539	28250 750205	71343	110218	144177	25.0 625	50.0 1250	125	200	250
tert-Butylbenzene	DCBd 4	Ave	34514 1173103	81633 2253096	224859	364188	460366	25.0 625	50.0 1250	125	200	250
1,2,4-Trimethylbenzene	DCBd 4	Ave	45242 1410846	104630 2607518	276453	442180	562069	25.0 625	50.0 1250	125	200	250
sec-Butylbenzene	DCBd 4	Ave	59245 1804294	131757 3272880	355502	571739	722518	25.0 625	50.0 1250	125	200	250
1,3-Dichlorobenzene	DCBd 4	Ave	22032 635818	46901 1244644	120175	193375	243986	25.0 625	50.0 1250	125	200	250
4-Isopropyltoluene	DCBd 4	Ave	45789 1432776	101473 2641766	278595	450563	562020	25.0 625	50.0 1250	125	200	250
1,4-Dichlorobenzene	DCBd 4	Ave	21730 624832	44654 1244804	117965	189819	236771	25.0 625	50.0 1250	125	200	250

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 283451

SDG No.:

Instrument ID: CHHP3 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 06/29/2019 12:00 Calibration End Date: 06/29/2019 14:21 Calibration ID: 40686

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
n-Butylbenzene	DCBd 4	Ave	45770 1568007	104711 2860171	298736	488352	609334	25.0 625	50.0 1250	125	200	250
1,2-Dichlorobenzene	DCBd 4	Ave	20578 591489	42853 1157621	114225	176732	223865	25.0 625	50.0 1250	125	200	250
1,2-Dibromo-3-Chloropropane	DCBd 4	Ave	1729 65189	3617 145508	9676	16822	19942	25.0 625	50.0 1250	125	200	250
1,2,4-Trichlorobenzene	DCBd 4	Ave	9859 359888	21647 739472	60556	101892	132058	25.0 625	50.0 1250	125	200	250
Hexachlorobutadiene	DCBd 4	Ave	3875 132045	7874 267185	24145	38200	46649	25.0 625	50.0 1250	125	200	250
Naphthalene	DCBd 4	Ave	20075 873221	49757 1761982	148590	252777	318913	25.0 625	50.0 1250	125	200	250
1,2,3-Trichlorobenzene	DCBd 4	Ave	8795 312603	19854 640699	54310	89774	112306	25.0 625	50.0 1250	125	200	250
Dibromofluoromethane (Surr)	FB	Ave	10203 286642	20452 563182	54383	87217	108689	25.0 625	50.0 1250	125	200	250
1,2-Dichloroethane-d4 (Surr)	FB	Ave	18561 440186	34955 881201	86039	138084	168212	25.0 625	50.0 1250	125	200	250
Toluene-d8 (Surr)	CBNZ d5	Ave	42678 1151924	91069 2170678	234695	370341	453487	25.0 625	50.0 1250	125	200	250
4-Bromofluorobenzene (Surr)	CBNZ d5	Ave	17408 510947	37092 1027867	97913	153101	191766	25.0 625	50.0 1250	125	200	250

Curve Type Legend:

Ave = Average ISTD
Lin1 = Linear 1/conc ISTD
Lin2 = Linear 1/conc^2 ISTD

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 283451

SDG No.:

Instrument ID: CHHP3 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 06/29/2019 12:00 Calibration End Date: 06/29/2019 14:21 Calibration ID: 40686

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-283451/4	30629K04.D
Level 2	IC 180-283451/5	30629K05.D
Level 3	IC 180-283451/6	30629K06.D
Level 4	ICIS 180-283451/7	30629K07.D
Level 5	IC 180-283451/8	30629K08.D
Level 6	IC 180-283451/9	30629K09.D
Level 7	IC 180-283451/10	30629K10.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
Dichlorodifluoromethane	-8.2 4.1	-13.3	-1.6	6.3	8.7	4.1	50 30	30	30	30	30	30
Chloromethane	-10.1 -0.3	-2.1	2.0	2.0	5.1	3.3	50 30	30	30	30	30	30
1,3-Butadiene	-2.4 -3.3	-8.0	1.6	4.4	6.1	1.5	50 30	30	30	30	30	30
Vinyl chloride	-5.8 -0.4	-4.0	1.5	3.0	4.7	0.9	50 30	30	30	30	30	30
Bromomethane	4.4 -3.5	-1.0	1.1	1.5	-1.5	-1.0	50 30	30	30	30	30	30
Chloroethane	-0.3 -4.1	2.9	2.6	-0.9	1.2	-1.4	50 30	30	30	30	30	30
Dichlorofluoromethane	3.2 -25.7	6.4	8.7	4.4	7.4	-4.4	50 30	30	30	30	30	30
Trichlorofluoromethane	6.9 -24.9	-0.5	9.2	2.5	10.2	-3.4	50 30	30	30	30	30	30
Ethyl ether	-7.6 -1.9	-0.2	2.7	-0.7	4.4	3.4	50 30	30	30	30	30	30
Acrolein	-5.7 3.3	-1.7	-1.1	0.5	3.1	1.5	50 30	30	30	30	30	30
1,1-Dichloroethene	-10.2 1.2	-10.0	3.0	3.9	6.1	5.9	50 30	30	30	30	30	30
1,1,2-Trichloro-1,2,2-trifluoroethane	-2.5 -0.3	-11.8	3.1	3.1	6.7	1.7	50 30	30	30	30	30	30
Acetone	15.8 -18.8	16.5	-1.2	-0.3	-3.2	-8.8	50 30	30	30	30	30	30
Iodomethane	-11.6 2.3	-5.8	2.8	1.9	4.1	6.3	50 30	30	30	30	30	30
Carbon disulfide	25.6 1.5	-7.5	-10.4	-8.6	-3.4	2.8	50 30	30	30	30	30	30

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 283451

SDG No.:

Instrument ID: CHHP3 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 06/29/2019 12:00 Calibration End Date: 06/29/2019 14:21 Calibration ID: 40686

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
Allyl chloride	2.3 2.8	-3.0	-3.6	-5.0	3.1	3.4	50 30	30	30	30	30	30
Methyl acetate	-11.1 2.3	0.4	1.6	2.0	2.6	2.2	50 30	30	30	30	30	30
Methylene Chloride	-1.8 -5.3	1.5	4.7	0.8	1.5	-1.4	50 30	30	30	30	30	30
tert-Butyl alcohol	-12.5 1.5	-3.1	3.2	1.1	6.2	3.7	50 30	30	30	30	30	30
trans-1,2-Dichloroethene	-11.4 -1.5	-2.6	4.8	2.1	6.3	2.2	50 30	30	30	30	30	30
Acrylonitrile	-6.8 -6.2	2.5	4.6	4.5	3.5	-2.0	50 30	30	30	30	30	30
Methyl tert-butyl ether	-11.9 4.5	-5.1	2.6	1.6	4.6	3.7	50 30	30	30	30	30	30
Hexane	3.6 -3.8	-6.7	-0.4	3.4	5.1	-1.2	50 30	30	30	30	30	30
1,1-Dichloroethane	-9.5 -1.8	-1.0	2.8	2.7	4.5	2.5	50 30	30	30	30	30	30
Vinyl acetate	6.2 6.8	-9.9	-7.0	-1.5	-0.8	6.1	50 30	30	30	30	30	30
2,2-Dichloropropane	-8.1 5.9	-15.5	3.9	3.4	-0.1	10.6	50 30	30	30	30	30	30
cis-1,2-Dichloroethene	-8.6 -3.1	-2.2	4.9	3.7	5.0	0.3	50 30	30	30	30	30	30
2-Butanone (MEK)	18.8 -14.3	10.7	-4.7	0.5	-2.7	-8.4	50 30	30	30	30	30	30
Chlorobromomethane	1.4 -1.8	-3.7	2.2	0.2	2.6	-1.0	50 30	30	30	30	30	30
Tetrahydrofuran	-15.4 4.9	-6.5	5.0	4.3	5.4	2.3	50 30	30	30	30	30	30
Chloroform	5.0 -8.4	2.0	2.3	-0.7	3.0	-3.2	50 30	30	30	30	30	30
1,1,1-Trichloroethane	-14.7 2.4	-6.3	2.6	2.4	6.7	6.8	50 30	30	30	30	30	30
Cyclohexane	-11.6 1.6	-13.9	4.8	6.2	8.2	4.9	50 30	30	30	30	30	30
Carbon tetrachloride	-13.9 7.2	-15.1	2.0	3.9	6.8	9.2	50 30	30	30	30	30	30
1,1-Dichloropropene	-9.5 -1.4	-5.6	2.1	6.0	5.1	3.2	50 30	30	30	30	30	30
Benzene	-1.6 -10.7	3.6	4.9	4.4	2.8	-3.3	50 30	30	30	30	30	30

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 283451

SDG No.:

Instrument ID: CHHP3 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 06/29/2019 12:00 Calibration End Date: 06/29/2019 14:21 Calibration ID: 40686

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
Isobutyl alcohol	-1.3 1.8	2.2	3.2	0.2	-4.4	-1.7	50 30	30	30	30	30	30
1,2-Dichloroethane	-1.4 -5.5	1.7	1.6	4.1	2.5	-3.0	50 30	30	30	30	30	30
n-Heptane	-8.0 -0.8	-10.5	0.9	7.8	7.4	3.3	50 30	30	30	30	30	30
Trichloroethene	-12.4 1.6	-1.5	1.5	4.2	2.6	4.0	50 30	30	30	30	30	30
Methylcyclohexane	-13.8 1.3	-13.7	2.5	6.6	10.2	6.9	50 30	30	30	30	30	30
1,2-Dichloropropane	-10.8 -1.5	0.2	3.5	4.2	3.9	0.5	50 30	30	30	30	30	30
Dibromomethane	-12.7 1.9	0.7	-1.1	6.0	2.3	2.9	50 30	30	30	30	30	30
1,4-Dioxane	-20.2 1.3	12.3	5.8	5.4	1.9	-6.3	50 30	30	30	30	30	30
Dichlorobromomethane	-15.9 9.5	-7.6	-2.4	3.8	4.4	8.2	50 30	30	30	30	30	30
cis-1,3-Dichloropropene	-25.8 11.9	-12.9	-1.1	4.7	9.8	13.4	50 30	30	30	30	30	30
4-Methyl-2-pentanone (MIBK)	-16.9 7.2	-8.3	-1.0	5.6	4.7	8.6	50 30	30	30	30	30	30
Toluene	-1.5 -16.1	6.9	2.5	8.2	4.6	-4.8	50 30	30	30	30	30	30
trans-1,3-Dichloropropene	3.2 1.2	-4.5	-7.4	0.8	2.0	4.7	50 30	30	30	30	30	30
Ethyl methacrylate	-23.1 6.3	-13.5	-1.6	10.5	9.7	11.7	50 30	30	30	30	30	30
1,1,2-Trichloroethane	-5.3 -4.5	-0.5	2.2	7.0	1.5	-0.4	50 30	30	30	30	30	30
Tetrachloroethene	-5.9 -2.7	-0.8	-2.5	9.5	3.4	-1.0	50 30	30	30	30	30	30
1,3-Dichloropropane	-6.4 -7.7	-0.3	3.4	8.9	3.3	-1.2	50 30	30	30	30	30	30
2-Hexanone	-20.3 2.5	-3.1	-1.5	7.6	6.6	8.3	50 30	30	30	30	30	30
Chlorodibromomethane	-18.7 15.5	-14.4	-3.4	2.1	5.6	13.3	50 30	30	30	30	30	30
1,2-Dibromoethane	-11.5 -0.4	-0.2	-0.2	5.4	3.2	3.7	50 30	30	30	30	30	30
Chlorobenzene	-0.3 -10.5	1.6	2.4	5.5	3.4	-2.0	50 30	30	30	30	30	30

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 283451

SDG No.:

Instrument ID: CHHP3 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 06/29/2019 12:00 Calibration End Date: 06/29/2019 14:21 Calibration ID: 40686

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
1,1,1,2-Tetrachloroethane	-18.4 4.9	-8.1	0.0	7.4	6.5	7.7	50 30	30	30	30	30	30
Ethylbenzene	-9.6 -6.8	-0.7	3.3	7.2	5.7	0.8	50 30	30	30	30	30	30
m-Xylene & p-Xylene	-7.3 -5.4	-2.2	2.4	7.2	4.9	0.3	50 30	30	30	30	30	30
o-Xylene	-11.5 -4.2	-2.2	3.0	8.1	5.6	1.2	50 30	30	30	30	30	30
Styrene	-10.8 -8.7	-1.5	7.1	7.6	6.7	-0.4	50 30	30	30	30	30	30
Bromoform	5.2 +++++	-7.8	-8.2	-1.6	0.5	11.8	50	30	30	30	30	30
Isopropylbenzene	-11.6 -11.6	-4.1	7.1	12.1	8.2	0.0	50 30	30	30	30	30	30
1,1,2,2-Tetrachloroethane	-7.3 -3.6	-5.9	4.1	7.1	4.7	1.0	50 30	30	30	30	30	30
Bromobenzene	-11.6 -4.4	2.9	4.9	0.4	6.5	1.4	50 30	30	30	30	30	30
1,2,3-Trichloropropane	-9.2 -5.9	8.5	4.9	-0.4	2.0	0.1	50 30	30	30	30	30	30
trans-1,4-Dichloro-2-butene	-19.7 14.5	-12.9	-1.4	0.8	10.1	8.6	50 30	30	30	30	30	30
N-Propylbenzene	-11.5 -3.9	-1.6	4.4	3.9	6.4	2.3	50 30	30	30	30	30	30
2-Chlorotoluene	-8.0 -2.6	-1.3	3.4	1.6	4.9	2.1	50 30	30	30	30	30	30
1,3,5-Trimethylbenzene	-8.3 -12.5	4.0	5.6	5.0	7.1	-0.8	50 30	30	30	30	30	30
4-Chlorotoluene	-3.5 -5.1	4.1	2.5	-1.6	3.2	0.5	50 30	30	30	30	30	30
tert-Butylbenzene	-17.0 -6.1	-0.9	6.4	7.1	8.5	2.0	50 30	30	30	30	30	30
1,2,4-Trimethylbenzene	-11.5 -11.6	3.3	6.5	5.8	7.8	-0.2	50 30	30	30	30	30	30
sec-Butylbenzene	-9.6 -13.4	1.6	6.9	6.8	8.1	-0.3	50 30	30	30	30	30	30
1,3-Dichlorobenzene	-4.5 -6.5	2.7	2.5	2.5	3.7	-0.3	50 30	30	30	30	30	30
4-Isopropyltoluene	-10.9 -10.9	-0.3	6.7	7.3	7.2	0.9	50 30	30	30	30	30	30
1,4-Dichlorobenzene	-3.8 -4.5	-0.2	2.8	2.8	2.8	0.1	50 30	30	30	30	30	30

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 283451

SDG No.:

Instrument ID: CHHP3 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 06/29/2019 12:00 Calibration End Date: 06/29/2019 14:21 Calibration ID: 40686

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
n-Butylbenzene	-16.4 -9.5	-3.4	7.4	9.1	9.1	3.6	50 30	30	30	30	30	30
1,2-Dichlorobenzene	-3.8 -6.2	1.2	5.1	1.1	2.6	0.1	50 30	30	30	30	30	30
1,2-Dibromo-3-Chloropropane	-15.7 23.0	-10.9	-7.1	0.4	-4.7	15.0	50 30	30	30	30	30	30
1,2,4-Trichlorobenzene	-17.8 6.8	-8.8	-0.6	3.9	7.9	8.6	50 30	30	30	30	30	30
Hexachlorobutadiene	-13.2 3.7	-10.9	6.5	4.6	2.4	7.0	50 30	30	30	30	30	30
Naphthalene	-29.3 7.5	-11.5	3.0	8.9	10.1	11.3	50 30	30	30	30	30	30
1,2,3-Trichlorobenzene	-16.7 5.1	-5.0	1.3	4.0	4.3	7.1	50 30	30	30	30	30	30
Dibromofluoromethane (Surr)	-4.0 -2.7	-5.1	5.0	3.7	2.1	1.1	50 30	30	30	30	30	30
1,2-Dichloroethane-d4 (Surr)	8.0 -5.9	0.3	2.7	1.4	-2.4	-4.0	50 30	30	30	30	30	30
Toluene-d8 (Surr)	-2.7 -12.4	2.1	5.2	9.2	2.4	-3.8	50 30	30	30	30	30	30
4-Bromofluorobenzene (Surr)	-6.7 -2.4	-2.2	3.1	6.1	1.8	0.3	50 30	30	30	30	30	30

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K04.D
Lims ID: IC VSTD5
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 29-Jun-2019 12:00:30 ALS Bottle#: 4 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0027546-004
Operator ID: 10099 Instrument ID: CHHP3
Sublist: chrom-MSVOA_S_CHHP3*sub85

Method: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\MSVOA_S_CHHP3.m
Limit Group: VOA 8260C_D ICAL
Last Update: 29-Jun-2019 22:18:56 Calib Date: 29-Jun-2019 14:21:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K10.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0320

First Level Reviewer: gordonk Date: 29-Jun-2019 21:56:46

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.416	4.440	-0.024	89	127131	5000.0	5000.0	
* 2 Fluorobenzene (IS)	96	7.312	7.312	0.000	97	481569	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.402	10.402	0.000	92	107093	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.726	12.726	0.000	96	143131	250.0	250.0	
$ 5 Dibromofluoromethane (Surr	113	6.576	6.569	0.007	77	10203	25.0	24.0	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.953	6.947	0.006	90	18561	25.0	27.0	
$ 7 Toluene-d8 (Surr)	98	8.966	8.966	0.000	94	42678	25.0	24.3	
$ 8 4-Bromofluorobenzene (Surr	95	11.570	11.570	0.000	72	17408	25.0	23.3	
10 Dichlorodifluoromethane	85	1.654	1.642	0.012	99	21099	25.0	22.9	
11 Chloromethane	50	1.849	1.861	-0.012	97	19333	25.0	22.5	M
13 Butadiene	39	1.971	1.964	0.006	95	20968	25.0	24.4	
12 Vinyl chloride	62	1.977	1.983	-0.006	90	18318	25.0	23.6	M
14 Bromomethane	94	2.287	2.275	0.012	92	8539	25.0	26.1	
15 Chloroethane	64	2.390	2.390	0.000	96	7904	25.0	24.9	M
16 Dichlorofluoromethane	67	2.676	2.652	0.024	96	22914	25.0	25.8	M
17 Trichlorofluoromethane	101	2.688	2.688	0.000	68	20084	25.0	26.7	M
19 Ethyl ether	59	3.126	3.120	0.006	88	11613	25.0	23.1	M
20 Acrolein	56	3.297	3.303	-0.006	97	43154	500.0	471.3	
21 1,1-Dichloroethene	96	3.388	3.370	0.018	97	11116	25.0	22.5	M
22 1,1,2-Trichloro-1,2,2-trif	101	3.467	3.437	0.031	81	13716	25.0	24.4	M
23 Acetone	43	3.558	3.570	-0.012	96	8149	25.0	29.0	
24 Iodomethane	142	3.583	3.583	0.001	99	14306	25.0	22.1	
25 Carbon disulfide	76	3.668	3.662	0.006	100	24625	25.0	31.4	
28 3-Chloro-1-propene	76	3.972	3.960	0.012	89	5548	25.0	25.6	M
29 Methyl acetate	43	4.081	4.081	0.000	96	15838	50.0	44.4	
30 Methylene Chloride	84	4.179	4.179	0.000	95	28561	25.0	24.6	
31 2-Methyl-2-propanol	59	4.544	4.568	-0.024	90	6889	250.0	218.8	
33 trans-1,2-Dichloroethene	96	4.599	4.598	0.001	95	12202	25.0	22.2	
32 Acrylonitrile	53	4.623	4.617	0.006	97	40328	250.0	233.0	
34 Methyl tert-butyl ether	73	4.653	4.659	-0.006	97	28062	25.0	22.0	
35 Hexane	57	5.012	5.006	0.006	95	25756	25.0	25.9	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 1,1-Dichloroethane	63	5.219	5.207	0.012	97	24311	25.0	22.6	
37 Vinyl acetate	43	5.335	5.341	-0.006	98	14755	25.0	26.6	M
41 2,2-Dichloropropane	97	5.980	5.973	0.007	46	2841	25.0	23.0	
42 cis-1,2-Dichloroethene	96	5.980	5.979	0.001	58	13232	25.0	22.9	
43 2-Butanone (MEK)	43	6.046	6.052	-0.006	100	8671	25.0	29.7	
47 Chlorobromomethane	128	6.272	6.265	0.007	95	5853	25.0	25.3	
48 Tetrahydrofuran	42	6.351	6.344	0.007	84	5376	50.0	42.3	
49 Chloroform	83	6.387	6.387	0.000	93	27317	25.0	26.3	
50 1,1,1-Trichloroethane	97	6.570	6.569	0.001	94	16514	25.0	21.3	
51 Cyclohexane	56	6.618	6.618	0.000	91	23300	25.0	22.1	
53 Carbon tetrachloride	117	6.758	6.752	0.006	74	12809	25.0	21.5	
52 1,1-Dichloropropene	75	6.764	6.764	0.000	91	18250	25.0	22.6	
55 Benzene	78	6.995	6.995	0.000	96	56647	25.0	24.6	
54 Isobutyl alcohol	41	7.014	7.014	0.000	41	6513	625.0	616.9	
56 1,2-Dichloroethane	62	7.032	7.032	0.000	97	19430	25.0	24.6	
59 n-Heptane	43	7.312	7.312	0.000	44	22103	25.0	23.0	
60 Trichloroethene	130	7.701	7.707	-0.006	89	10470	25.0	21.9	
63 Methylcyclohexane	83	7.896	7.896	0.000	92	22514	25.0	21.6	
64 1,2-Dichloropropane	63	7.944	7.944	0.000	94	12559	25.0	22.3	
65 Dibromomethane	93	8.066	8.066	0.000	90	6127	25.0	21.8	
67 1,4-Dioxane	88	8.115	8.109	0.006	37	1557	500.0	398.8	
68 Dichlorobromomethane	83	8.236	8.242	-0.006	98	13308	25.0	21.0	
71 cis-1,3-Dichloropropene	75	8.699	8.699	0.000	92	14013	25.0	18.5	
72 4-Methyl-2-pentanone (MIBK	43	8.869	8.869	0.000	98	8012	25.0	20.8	
73 Toluene	91	9.033	9.033	0.000	97	55038	25.0	24.6	
74 trans-1,3-Dichloropropene	75	9.265	9.264	0.001	97	11141	25.0	25.8	
75 Ethyl methacrylate	69	9.356	9.362	-0.006	89	11271	25.0	19.2	
76 1,1,2-Trichloroethane	97	9.441	9.447	-0.006	96	9070	25.0	23.7	
77 Tetrachloroethene	164	9.575	9.575	0.000	86	7543	25.0	23.5	
78 1,3-Dichloropropane	76	9.611	9.611	0.000	93	18430	25.0	23.4	
79 2-Hexanone	43	9.709	9.702	0.007	96	6212	25.0	19.9	
81 Chlorodibromomethane	129	9.830	9.836	-0.006	88	6411	25.0	20.3	
82 Ethylene Dibromide	107	9.952	9.946	0.006	96	8238	25.0	22.1	
83 Chlorobenzene	112	10.433	10.433	0.001	91	33189	25.0	24.9	
85 1,1,1,2-Tetrachloroethane	131	10.512	10.518	-0.006	88	8021	25.0	20.4	
86 Ethylbenzene	106	10.536	10.542	-0.006	99	16649	25.0	22.6	
87 m-Xylene & p-Xylene	106	10.658	10.658	0.000	97	21563	25.0	23.2	
88 o-Xylene	106	11.053	11.053	0.000	97	19628	25.0	22.1	
89 Styrene	104	11.065	11.065	0.000	92	33976	25.0	22.3	
90 Bromoform	173	11.248	11.254	-0.006	86	2389	25.0	26.3	
91 Isopropylbenzene	105	11.418	11.418	0.000	97	52716	25.0	22.1	
93 1,1,2,2-Tetrachloroethane	83	11.722	11.716	0.006	69	11775	25.0	23.2	
94 Bromobenzene	156	11.722	11.722	0.000	90	9728	25.0	22.1	
95 1,2,3-Trichloropropane	110	11.759	11.765	-0.006	86	3348	25.0	22.7	
96 trans-1,4-Dichloro-2-buten	53	11.777	11.777	0.000	64	2919	25.0	20.1	
97 N-Propylbenzene	120	11.826	11.826	0.000	99	13875	25.0	22.1	
98 2-Chlorotoluene	126	11.911	11.911	0.000	93	12092	25.0	23.0	
99 1,3,5-Trimethylbenzene	105	12.002	12.002	0.000	92	46603	25.0	22.9	
100 4-Chlorotoluene	126	12.026	12.020	0.006	99	13222	25.0	24.1	
101 tert-Butylbenzene	119	12.331	12.331	0.000	90	34514	25.0	20.7	
103 1,2,4-Trimethylbenzene	105	12.373	12.379	-0.006	97	45242	25.0	22.1	
104 sec-Butylbenzene	105	12.550	12.550	0.000	96	59245	25.0	22.6	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
105 1,3-Dichlorobenzene	146	12.659	12.659	0.000	91	22032	25.0	23.9	
106 4-Isopropyltoluene	119	12.696	12.689	0.007	96	45789	25.0	22.3	
107 1,4-Dichlorobenzene	146	12.744	12.750	-0.006	89	21730	25.0	24.0	
110 n-Butylbenzene	91	13.103	13.103	0.000	99	45770	25.0	20.9	
111 1,2-Dichlorobenzene	146	13.128	13.127	0.001	90	20578	25.0	24.0	
112 1,2-Dibromo-3-Chloropropan	75	13.906	13.912	-0.006	59	1729	25.0	21.1	
114 1,2,4-Trichlorobenzene	180	14.734	14.740	-0.006	86	9859	25.0	20.5	
115 Hexachlorobutadiene	225	14.904	14.904	0.000	71	3875	25.0	21.7	
116 Naphthalene	128	14.989	14.989	0.000	98	20075	25.0	17.7	
117 1,2,3-Trichlorobenzene	180	15.232	15.238	-0.006	85	8795	25.0	20.8	
S 141 Total BTEX	1		1.000				125.0	ND	
S 129 Xylenes, Total	106				0		50.0	45.3	
S 130 1,2-Dichloroethene, Total	96				0		50.0	45.0	
S 131 1,3-Dichloropropene, Total	1				0		50.0	44.4	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

VOA8260VOAPRI_00362	Amount Added: 1.00	Units: uL	
VOAVAPRI_00025	Amount Added: 1.00	Units: uL	
VOAACRPRI_00019	Amount Added: 20.00	Units: uL	
VOA8260SURR_00096	Amount Added: 1.00	Units: uL	
VOA8260INT_00096	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 29-Jun-2019 22:18:57 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K04.D

Injection Date: 29-Jun-2019 12:00:30 Instrument ID: CHHP3 Operator ID: 10099

Lims ID: IC VSTD5 Worklist Smp#: 4

Client ID:

Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 4

Method: MSVOA_S_CHHP3 Limit Group: VOA 8260C_D ICAL

Column: DB-624 (0.18 mm)

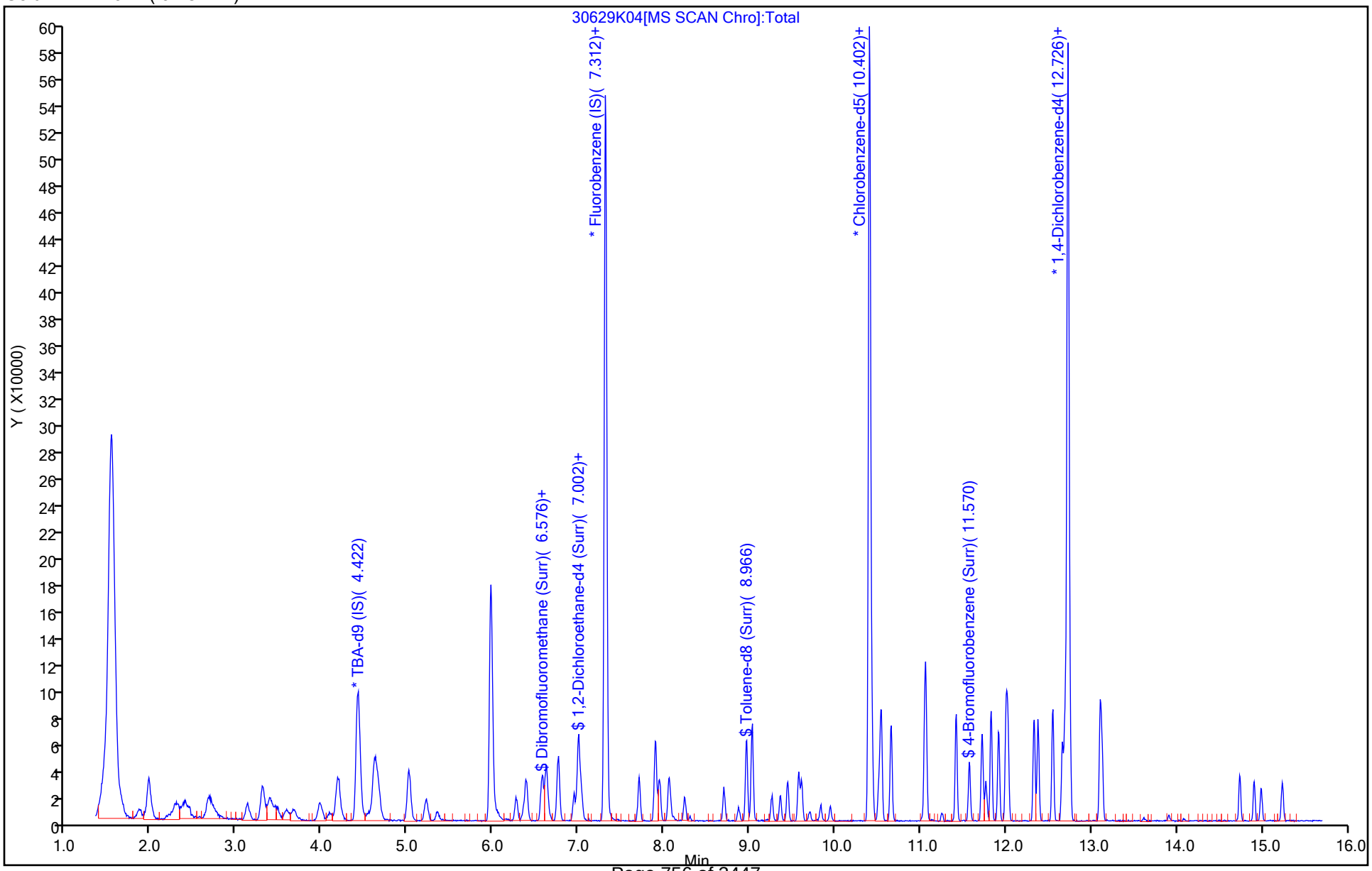

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K04.D				
Injection Date:	29-Jun-2019 12:00:30	Instrument ID:	CHHP3		
Lims ID:	IC VSTD5				
Client ID:					
Operator ID:	10099	ALS Bottle#:	4	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

11 Chloromethane, CAS: 74-87-3

Signal: 1

Processing Integration Results

RT: 1.85
Area: 16481
Amount: 19.527249
Amount Units: ng

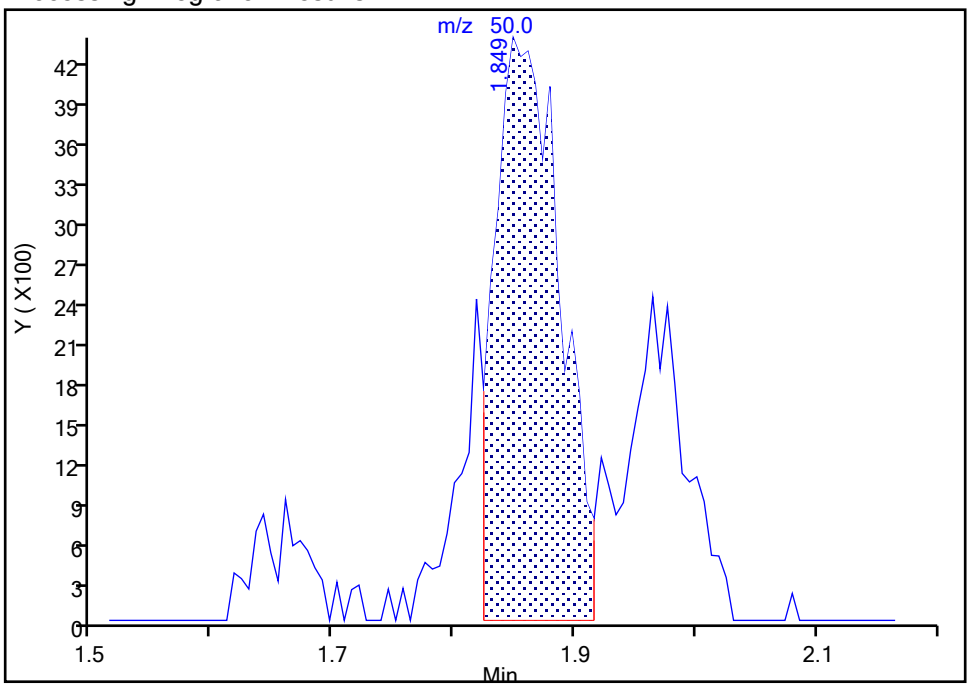

Manual Integration Results

RT: 1.85
Area: 19333
Amount: 22.472466
Amount Units: ng

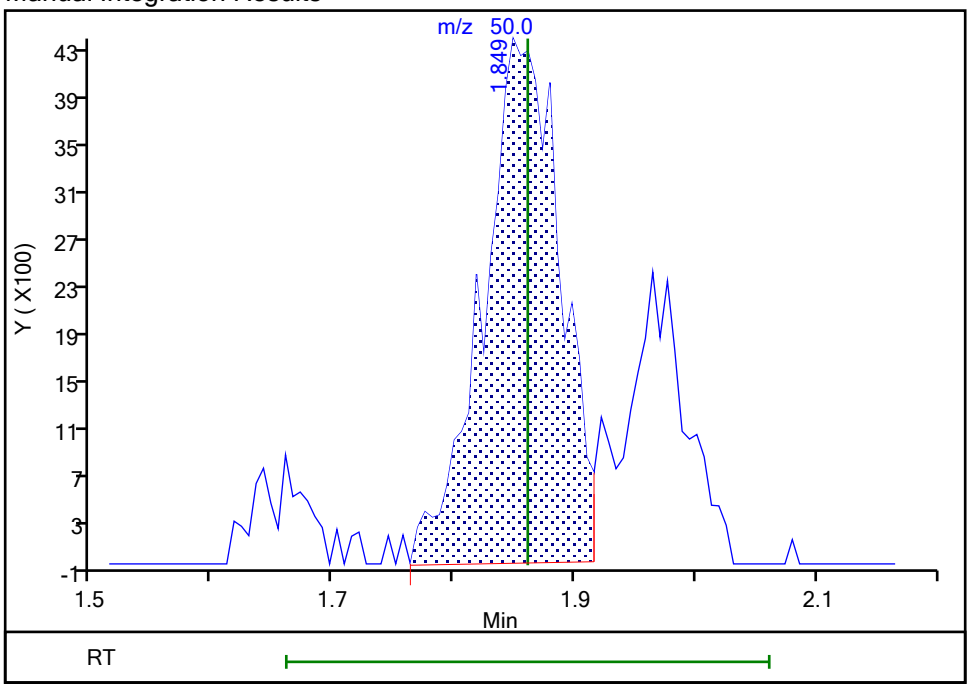

Reviewer: gordonk, 29-Jun-2019 21:51:31

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K04.D				
Injection Date:	29-Jun-2019 12:00:30	Instrument ID:	CHHP3		
Lims ID:	IC VSTD5				
Client ID:					
Operator ID:	10099	ALS Bottle#:	4	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

12 Vinyl chloride, CAS: 75-01-4

Signal: 1

Processing Integration Results

RT: 1.98
Area: 13757
Amount: 18.303259
Amount Units: ng

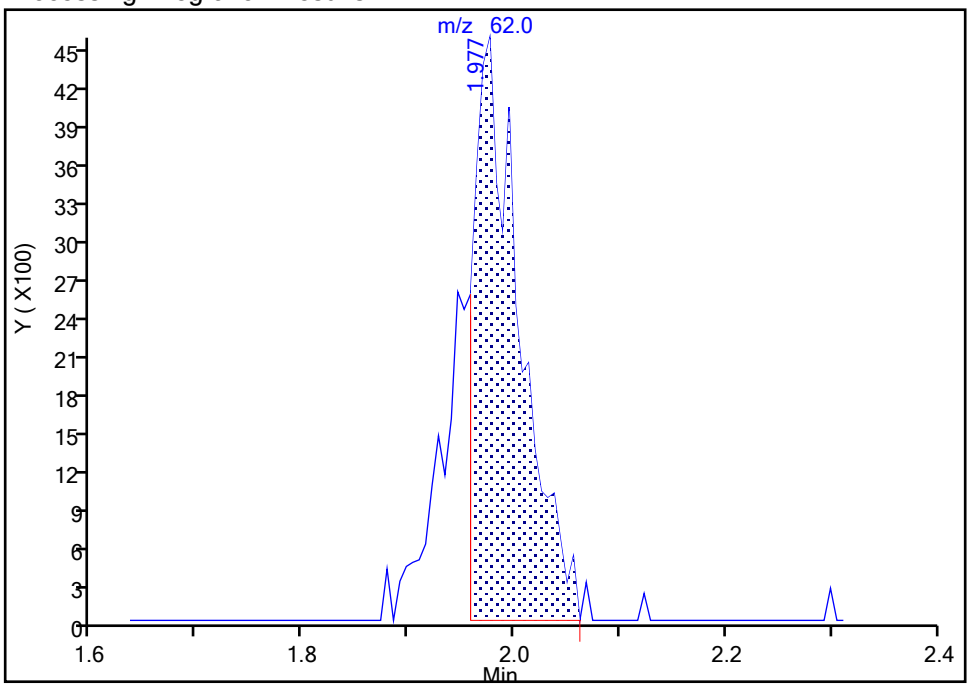

Manual Integration Results

RT: 1.98
Area: 18318
Amount: 23.554746
Amount Units: ng

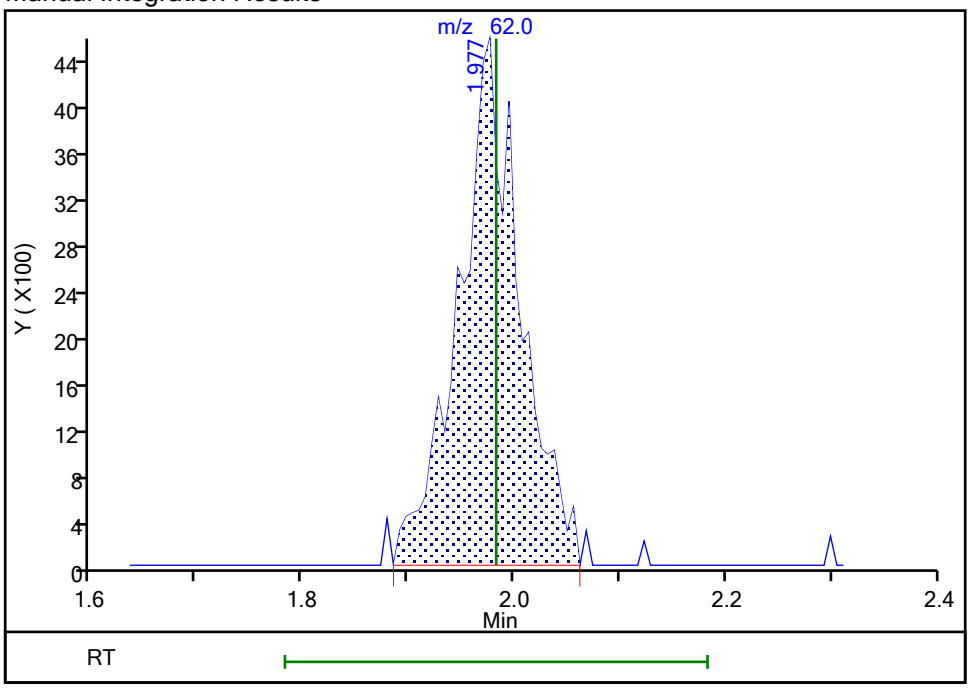

Reviewer: gordonk, 29-Jun-2019 21:52:10

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K04.D				
Injection Date:	29-Jun-2019 12:00:30	Instrument ID:	CHHP3		
Lims ID:	IC VSTD5				
Client ID:					
Operator ID:	10099	ALS Bottle#:	4	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

15 Chloroethane, CAS: 75-00-3

Signal: 1

Processing Integration Results

RT: 2.39
Area: 7222
Amount: 23.055402
Amount Units: ng

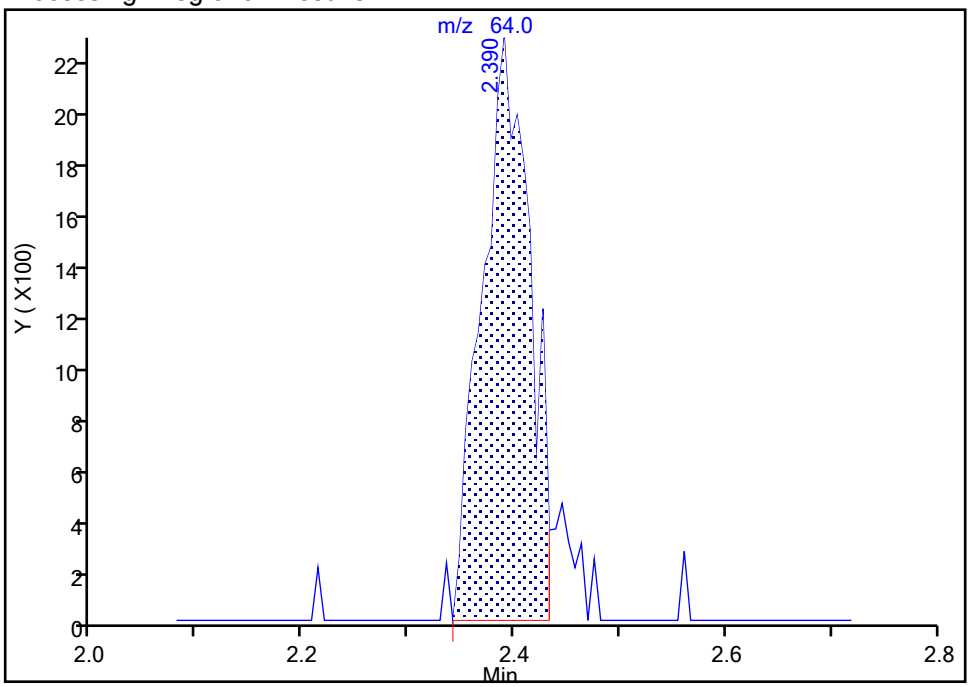

Manual Integration Results

RT: 2.39
Area: 7904
Amount: 24.922543
Amount Units: ng

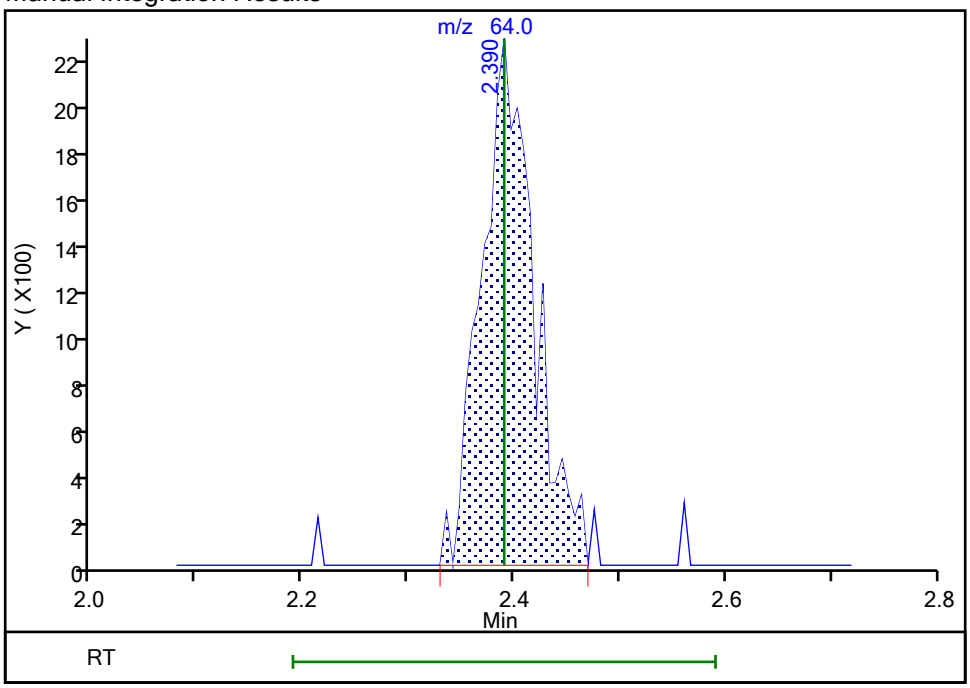

Reviewer: gordonk, 29-Jun-2019 21:52:42

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K04.D				
Injection Date:	29-Jun-2019 12:00:30	Instrument ID:	CHHP3		
Lims ID:	IC VSTD5				
Client ID:					
Operator ID:	10099	ALS Bottle#:	4	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

16 Dichlorofluoromethane, CAS: 75-43-4

Signal: 1

Processing Integration Results

RT: 2.68
Area: 22630
Amount: 25.516512
Amount Units: ng

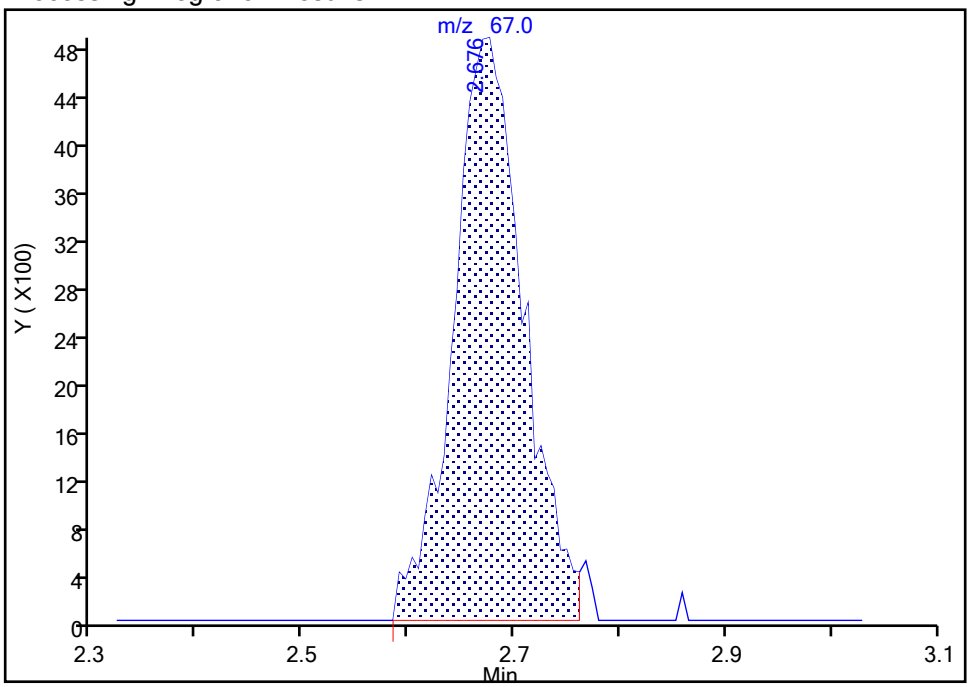

Manual Integration Results

RT: 2.68
Area: 22914
Amount: 25.789546
Amount Units: ng

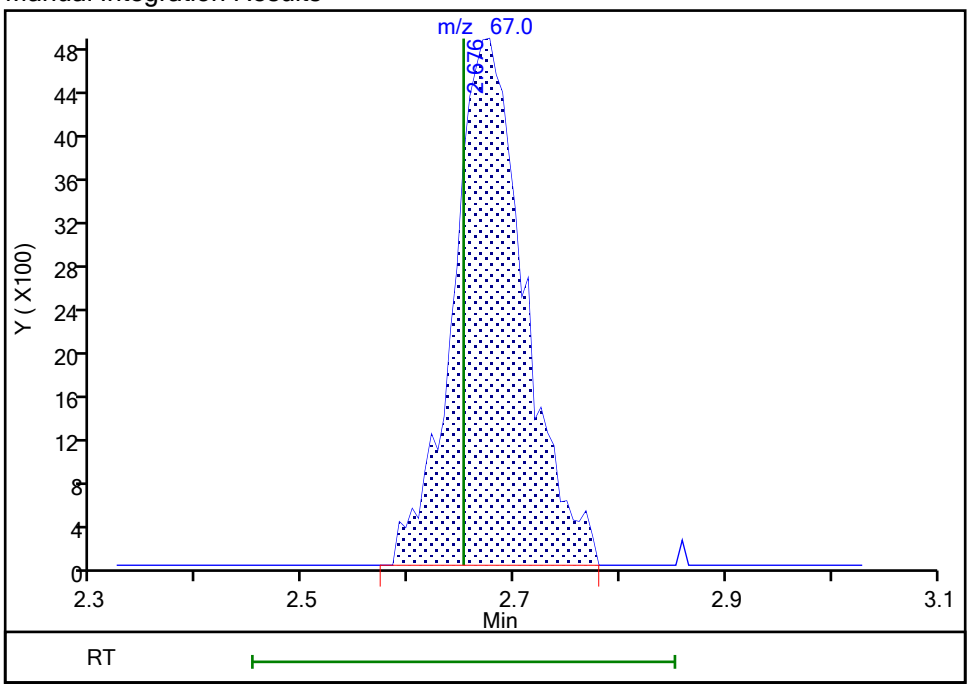

Reviewer: gordonk, 29-Jun-2019 21:52:48

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K04.D				
Injection Date:	29-Jun-2019 12:00:30	Instrument ID:	CHHP3		
Lims ID:	IC VSTD5				
Client ID:					
Operator ID:	10099	ALS Bottle#:	4	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

17 Trichlorofluoromethane, CAS: 75-69-4

Signal: 1

Processing Integration Results

RT: 2.69
Area: 3996
Amount: 6.198776
Amount Units: ng

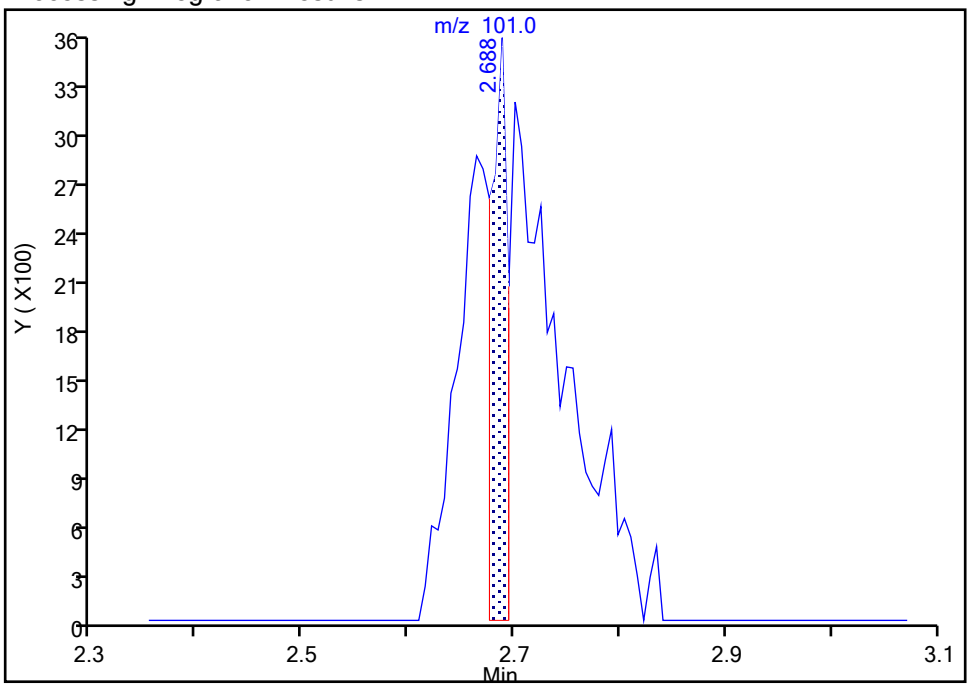

Manual Integration Results

RT: 2.69
Area: 20084
Amount: 26.732399
Amount Units: ng

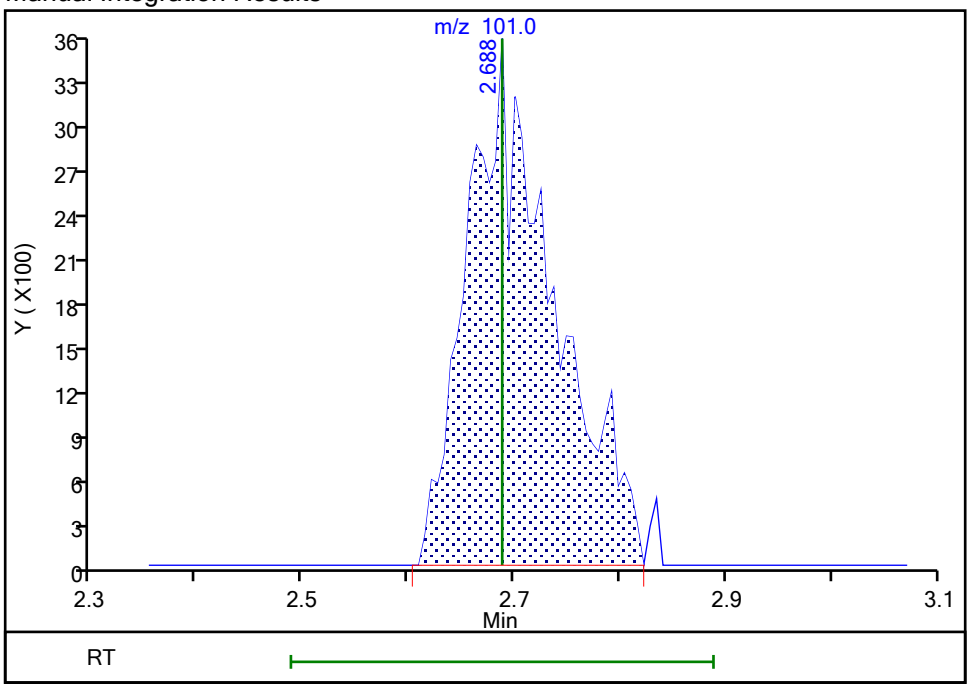

Reviewer: gordonk, 29-Jun-2019 21:53:03

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K04.D				
Injection Date:	29-Jun-2019 12:00:30	Instrument ID:	CHHP3		
Lims ID:	IC VSTD5				
Client ID:					
Operator ID:	10099	ALS Bottle#:	4	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

19 Ethyl ether, CAS: 60-29-7

Signal: 1

Processing Integration Results

RT: 3.13
Area: 9431
Amount: 19.235439
Amount Units: ng

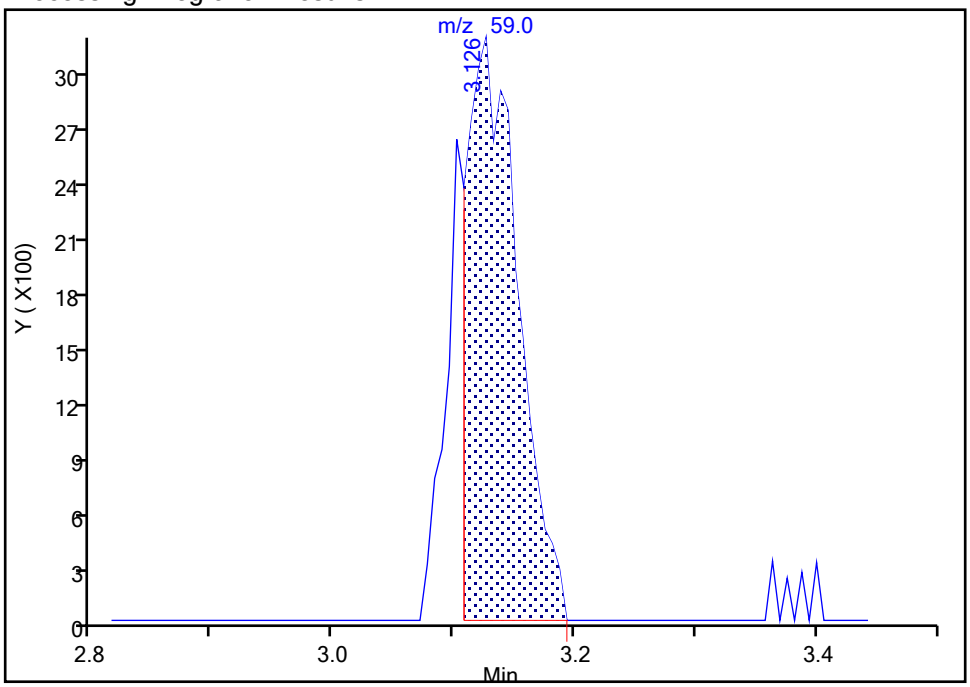

Manual Integration Results

RT: 3.13
Area: 11613
Amount: 23.098427
Amount Units: ng

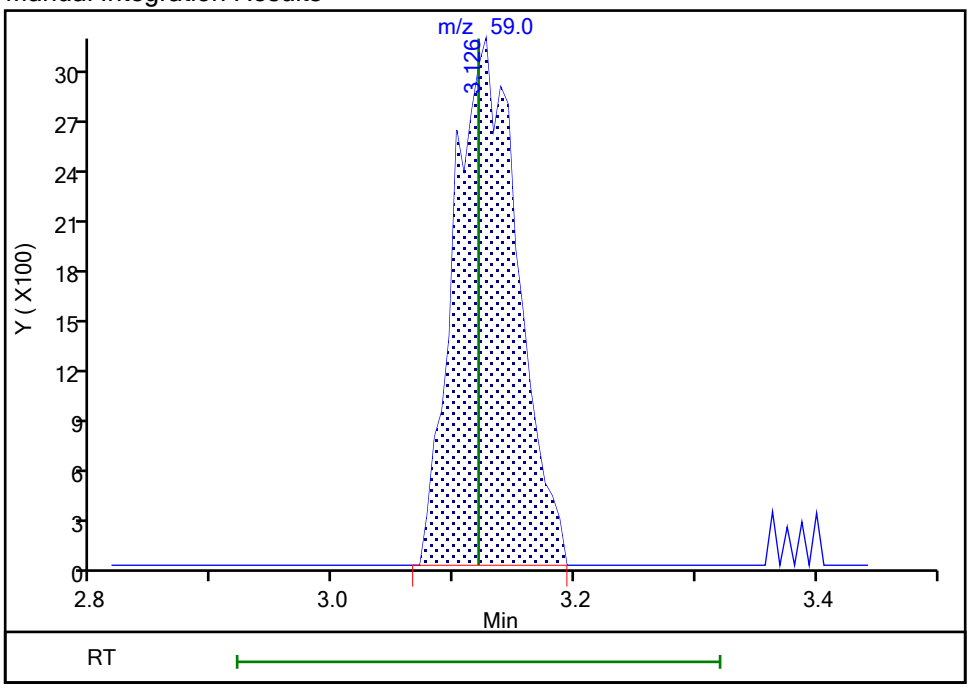

Reviewer: gordonk, 29-Jun-2019 21:53:25
Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K04.D				
Injection Date:	29-Jun-2019 12:00:30	Instrument ID:	CHHP3		
Lims ID:	IC VSTD5				
Client ID:					
Operator ID:	10099	ALS Bottle#:	4	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

21 1,1-Dichloroethene, CAS: 75-35-4

Signal: 1

Processing Integration Results

RT: 3.39
Area: 8139
Amount: 17.029895
Amount Units: ng

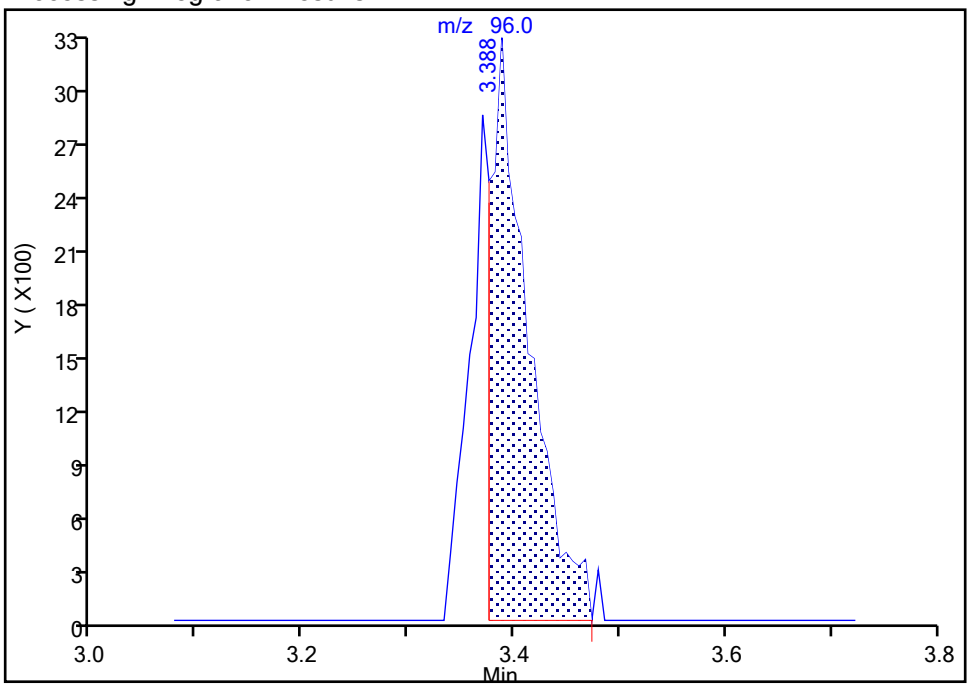

Manual Integration Results

RT: 3.39
Area: 11116
Amount: 22.459483
Amount Units: ng

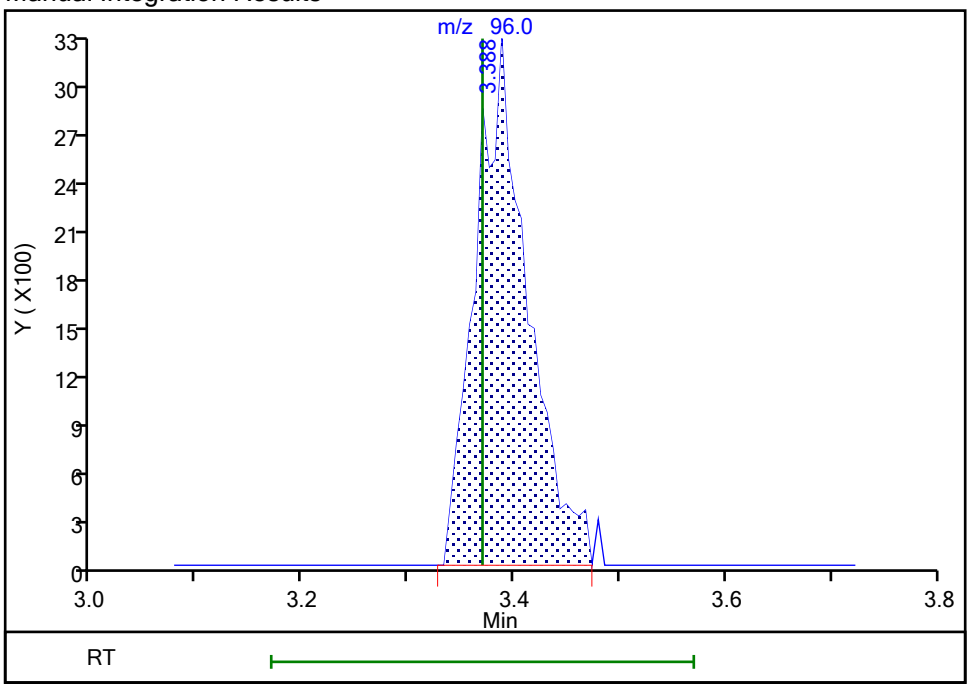

Reviewer: gordonk, 29-Jun-2019 21:53:42

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K04.D				
Injection Date:	29-Jun-2019 12:00:30	Instrument ID:	CHHP3		
Lims ID:	IC VSTD5				
Client ID:					
Operator ID:	10099	ALS Bottle#:	4	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

22 1,1,2-Trichloro-1,2,2-trifluoroethane, CAS: 76-13-1

Signal: 1

Processing Integration Results

RT: 3.47
Area: 7390
Amount: 25.308580
Amount Units: ng

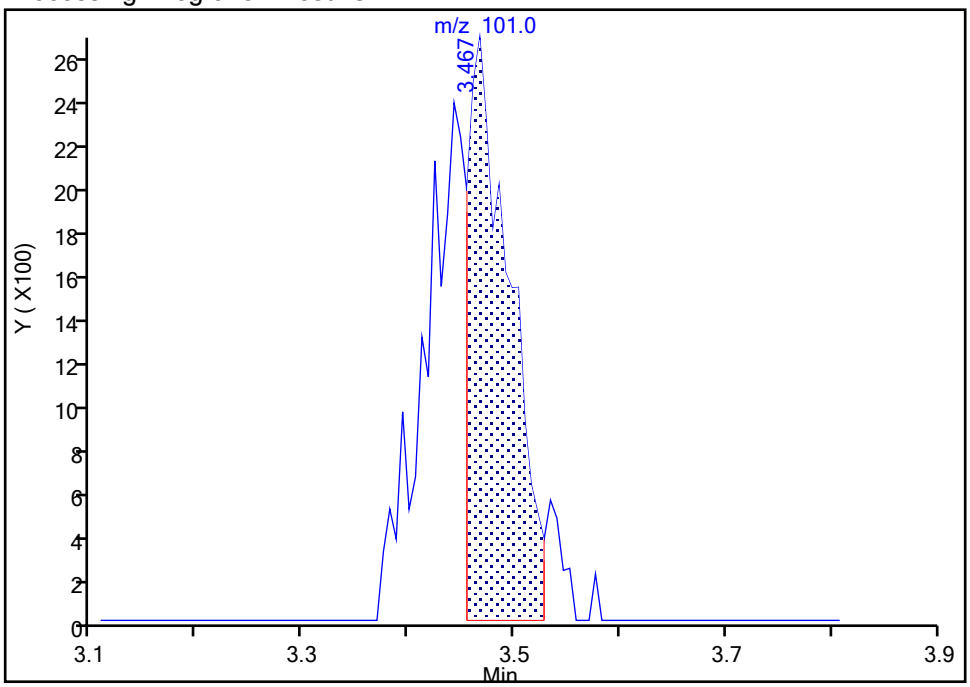

Manual Integration Results

RT: 3.47
Area: 13716
Amount: 24.368194
Amount Units: ng

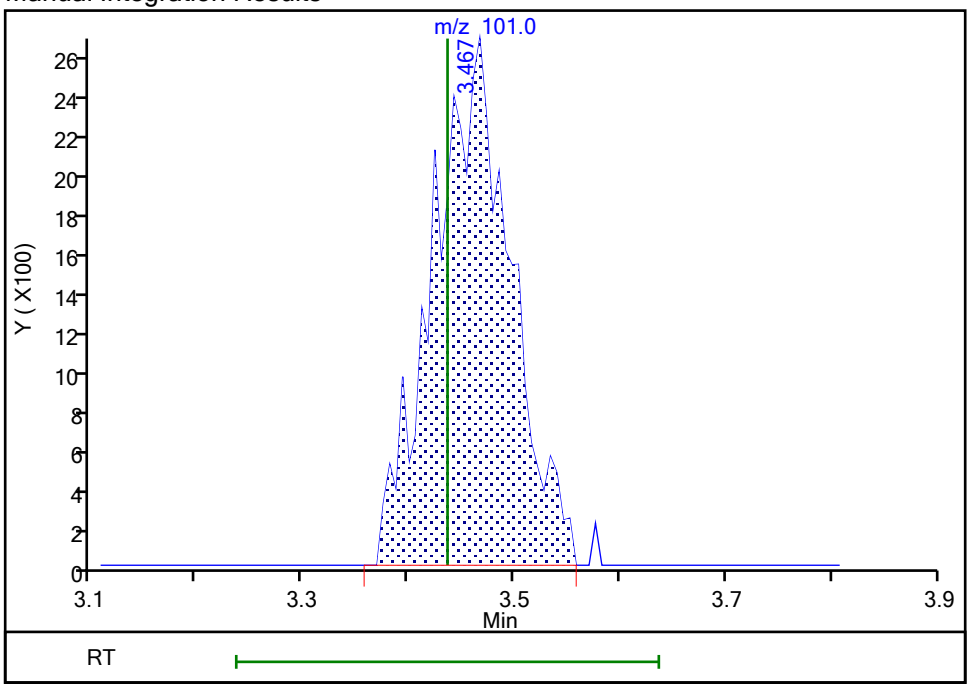

Reviewer: gordonk, 29-Jun-2019 21:53:55

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K04.D				
Injection Date:	29-Jun-2019 12:00:30	Instrument ID:	CHHP3		
Lims ID:	IC VSTD5				
Client ID:					
Operator ID:	10099	ALS Bottle#:	4	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

28 3-Chloro-1-propene, CAS: 107-05-1

Signal: 1

Processing Integration Results

RT: 3.97
Area: 4272
Amount: 24.931846
Amount Units: ng

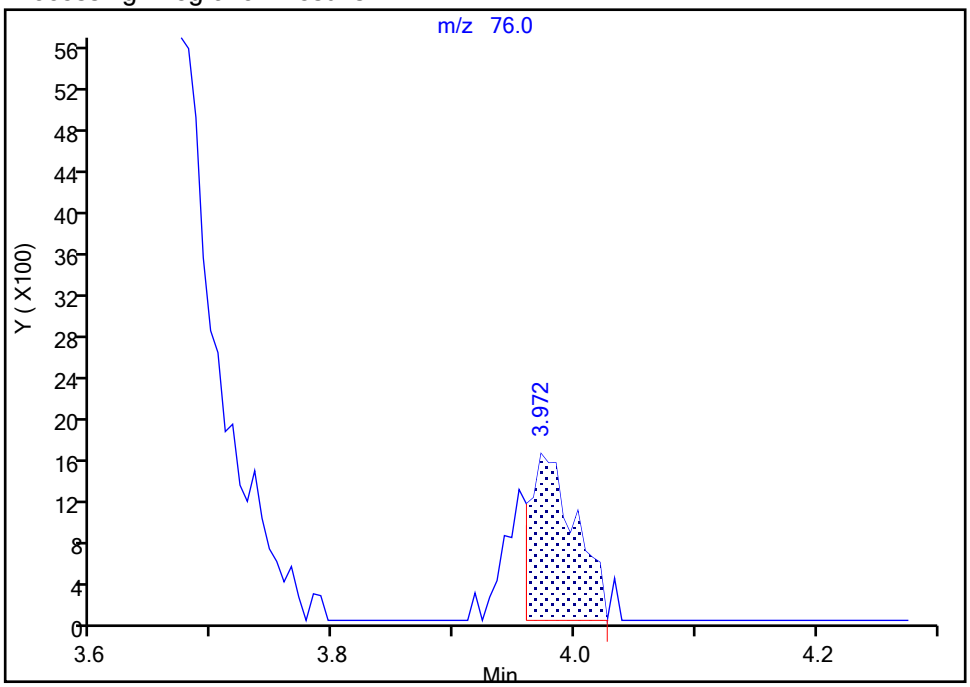

Manual Integration Results

RT: 3.97
Area: 5548
Amount: 25.586988
Amount Units: ng

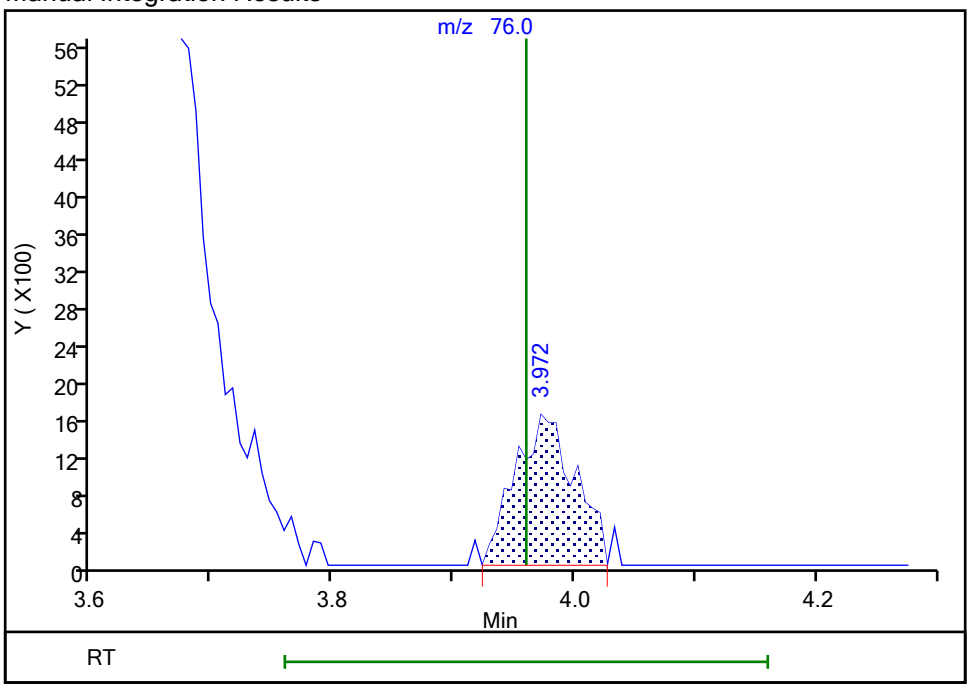

Reviewer: gordonk, 29-Jun-2019 21:54:25

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K04.D				
Injection Date:	29-Jun-2019 12:00:30	Instrument ID:	CHHP3		
Lims ID:	IC VSTD5				
Client ID:					
Operator ID:	10099	ALS Bottle#:	4	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

37 Vinyl acetate, CAS: 108-05-4

Signal: 1

Processing Integration Results

RT: 5.33
Area: 14176
Amount: 18.939653
Amount Units: ng

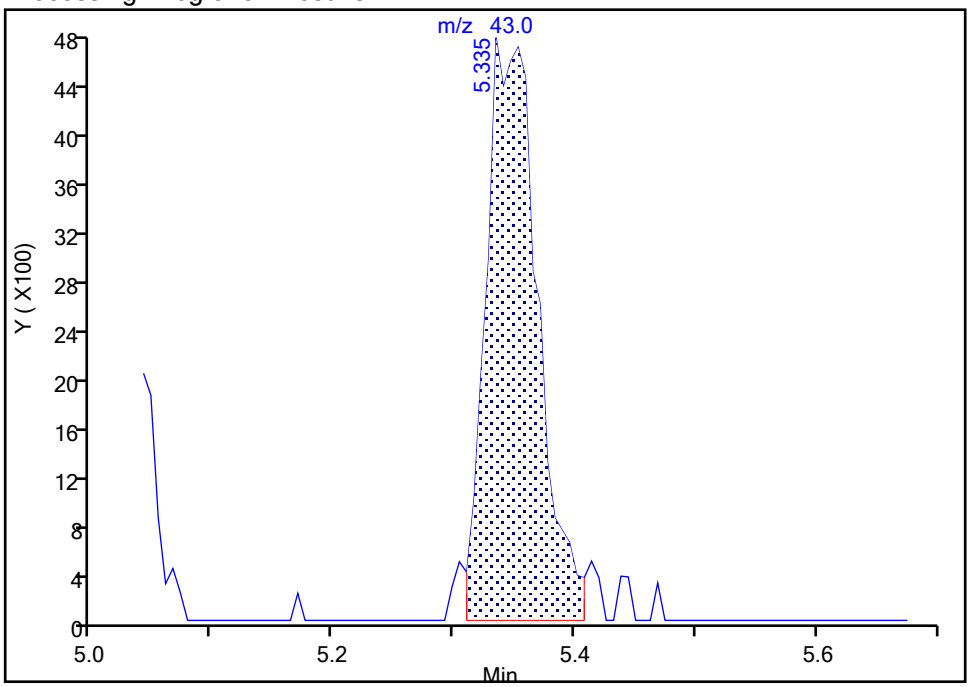

Manual Integration Results

RT: 5.33
Area: 14755
Amount: 26.551151
Amount Units: ng

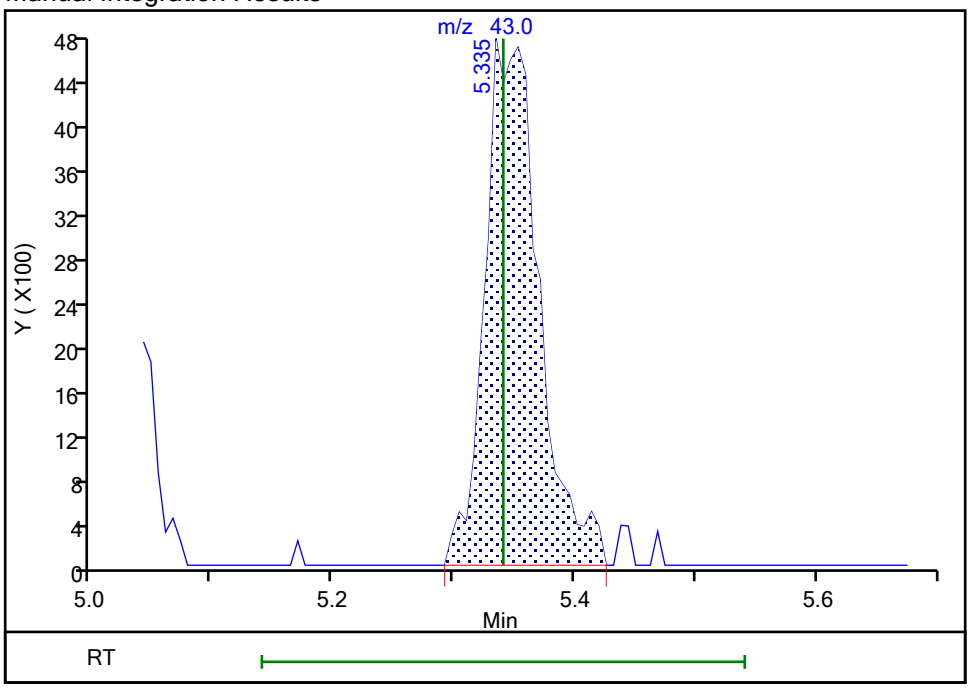

Reviewer: gordonk, 29-Jun-2019 21:54:50

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K05.D
Lims ID: IC VSTD10
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 29-Jun-2019 12:24:30 ALS Bottle#: 5 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0027546-005
Operator ID: 10099 Instrument ID: CHHP3
Sublist: chrom-MSVOA_S_CHHP3*sub85

Method: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\MSVOA_S_CHHP3.m
Limit Group: VOA 8260C_D ICAL
Last Update: 29-Jun-2019 22:19:07 Calib Date: 29-Jun-2019 14:21:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K10.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0320

First Level Reviewer: gordonk Date: 29-Jun-2019 22:00:06

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.419	4.440	-0.021	89	131263	5000.0	5000.0	
* 2 Fluorobenzene (IS)	96	7.314	7.312	0.002	96	488289	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.405	10.402	0.003	91	108914	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.729	12.726	0.003	97	141665	250.0	250.0	
$ 5 Dibromofluoromethane (Surr	113	6.572	6.569	0.003	72	20452	50.0	47.4	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.943	6.947	-0.004	92	34955	50.0	50.1	
$ 7 Toluene-d8 (Surr)	98	8.963	8.966	-0.003	94	91069	50.0	51.0	
$ 8 4-Bromofluorobenzene (Surr	95	11.567	11.570	-0.003	71	37092	50.0	48.9	
10 Dichlorodifluoromethane	85	1.651	1.642	0.009	98	40418	50.0	43.3	
11 Chloromethane	50	1.858	1.861	-0.003	99	42713	50.0	49.0	
13 Butadiene	39	1.967	1.964	0.003	94	40081	50.0	46.0	
12 Vinyl chloride	62	1.973	1.983	-0.010	69	37853	50.0	48.0	
14 Bromomethane	94	2.271	2.275	-0.004	95	16431	50.0	49.5	
15 Chloroethane	64	2.387	2.390	-0.003	98	16544	50.0	51.4	
16 Dichlorofluoromethane	67	2.667	2.652	0.015	98	47937	50.0	53.2	
17 Trichlorofluoromethane	101	2.697	2.688	0.009	94	37907	50.0	49.8	a
19 Ethyl ether	59	3.123	3.120	0.003	92	25426	50.0	49.9	
20 Acrolein	56	3.299	3.303	-0.004	99	57054	625.0	614.5	
21 1,1-Dichloroethene	96	3.385	3.370	0.015	96	22576	50.0	45.0	
22 1,1,2-Trichloro-1,2,2-trif	101	3.458	3.437	0.022	94	25173	50.0	44.1	M
23 Acetone	43	3.561	3.570	-0.009	98	16615	50.0	58.2	a
24 Iodomethane	142	3.591	3.583	0.009	99	30935	50.0	47.1	M
25 Carbon disulfide	76	3.664	3.662	0.002	100	51257	50.0	46.3	
28 3-Chloro-1-propene	76	3.975	3.960	0.015	90	13619	50.0	48.5	
29 Methyl acetate	43	4.090	4.081	0.009	97	36293	100.0	100.4	
30 Methylene Chloride	84	4.175	4.179	-0.004	95	44841	50.0	50.7	
31 2-Methyl-2-propanol	59	4.547	4.568	-0.022	85	15752	500.0	484.5	
33 trans-1,2-Dichloroethene	96	4.607	4.598	0.009	58	27197	50.0	48.7	
32 Acrylonitrile	53	4.613	4.617	-0.004	98	89975	500.0	512.7	
34 Methyl tert-butyl ether	73	4.656	4.659	-0.003	97	61283	50.0	47.4	
35 Hexane	57	5.015	5.006	0.009	94	47035	50.0	46.6	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 1,1-Dichloroethane	63	5.210	5.207	0.003	97	53921	50.0	49.5	
37 Vinyl acetate	43	5.350	5.341	0.009	98	30667	50.0	45.1	
41 2,2-Dichloropropane	97	5.970	5.973	-0.003	50	5298	50.0	42.2	
42 cis-1,2-Dichloroethene	96	5.976	5.979	-0.003	48	28715	50.0	48.9	
43 2-Butanone (MEK)	43	6.055	6.052	0.003	99	16389	50.0	55.4	
47 Chlorobromomethane	128	6.268	6.265	0.003	93	11279	50.0	48.2	
48 Tetrahydrofuran	42	6.347	6.344	0.003	84	12039	100.0	93.5	
49 Chloroform	83	6.390	6.387	0.003	94	53797	50.0	51.0	
50 1,1,1-Trichloroethane	97	6.566	6.569	-0.003	96	36797	50.0	46.9	
51 Cyclohexane	56	6.621	6.618	0.003	93	46025	50.0	43.0	
53 Carbon tetrachloride	117	6.761	6.752	0.009	92	25611	50.0	42.4	
52 1,1-Dichloropropene	75	6.767	6.764	0.003	93	38601	50.0	47.2	
55 Benzene	78	6.998	6.995	0.003	97	120878	50.0	51.8	
54 Isobutyl alcohol	41	7.010	7.014	-0.004	49	15631	1250.0	1277.7	
56 1,2-Dichloroethane	62	7.029	7.032	-0.003	97	40672	50.0	50.9	
59 n-Heptane	43	7.308	7.312	-0.004	47	43573	50.0	44.7	
60 Trichloroethene	130	7.704	7.707	-0.003	94	23871	50.0	49.2	
63 Methylcyclohexane	83	7.898	7.896	0.002	93	45700	50.0	43.2	
64 1,2-Dichloropropane	63	7.947	7.944	0.003	93	28601	50.0	50.1	
65 Dibromomethane	93	8.069	8.066	0.003	82	14332	50.0	50.3	
67 1,4-Dioxane	88	8.111	8.109	0.002	96	5209	1000.0	1122.9	
68 Dichlorobromomethane	83	8.239	8.242	-0.003	98	29663	50.0	46.2	
71 cis-1,3-Dichloropropene	75	8.695	8.699	-0.004	92	33346	50.0	43.5	
72 4-Methyl-2-pentanone (MIBK	43	8.866	8.869	-0.003	98	17985	50.0	45.9	
73 Toluene	91	9.030	9.033	-0.003	96	121516	50.0	53.5	
74 trans-1,3-Dichloropropene	75	9.261	9.264	-0.003	97	27527	50.0	47.7	
75 Ethyl methacrylate	69	9.359	9.362	-0.004	89	25798	50.0	43.3	
76 1,1,2-Trichloroethane	97	9.444	9.447	-0.003	94	19375	50.0	49.7	
77 Tetrachloroethene	164	9.571	9.575	-0.004	81	16181	50.0	49.6	
78 1,3-Dichloropropane	76	9.614	9.611	0.003	94	39925	50.0	49.8	
79 2-Hexanone	43	9.699	9.702	-0.003	97	15362	50.0	48.4	
81 Chlorodibromomethane	129	9.839	9.836	0.003	90	13724	50.0	42.8	
82 Ethylene Dibromide	107	9.943	9.946	-0.003	95	18897	50.0	49.9	
83 Chlorobenzene	112	10.429	10.433	-0.003	89	68792	50.0	50.8	
85 1,1,1,2-Tetrachloroethane	131	10.514	10.518	-0.004	85	18362	50.0	45.9	
86 Ethylbenzene	106	10.539	10.542	-0.003	100	37194	50.0	49.6	
87 m-Xylene & p-Xylene	106	10.654	10.658	-0.004	98	46262	50.0	48.9	
88 o-Xylene	106	11.050	11.053	-0.003	98	44153	50.0	48.9	
89 Styrene	104	11.062	11.065	-0.003	93	76329	50.0	49.3	
90 Bromoform	173	11.257	11.254	0.003	85	5354	50.0	46.1	
91 Isopropylbenzene	105	11.421	11.418	0.003	97	116296	50.0	48.0	
93 1,1,2,2-Tetrachloroethane	83	11.719	11.716	0.003	93	24322	50.0	47.0	
94 Bromobenzene	156	11.725	11.722	0.003	92	22420	50.0	51.4	
95 1,2,3-Trichloropropane	110	11.768	11.765	0.003	90	7917	50.0	54.2	
96 trans-1,4-Dichloro-2-buten	53	11.780	11.777	0.003	67	6267	50.0	43.5	
97 N-Propylbenzene	120	11.828	11.826	0.002	99	30556	50.0	49.2	
98 2-Chlorotoluene	126	11.914	11.911	0.003	94	25676	50.0	49.3	
99 1,3,5-Trimethylbenzene	105	11.999	12.002	-0.003	93	104563	50.0	52.0	
100 4-Chlorotoluene	126	12.023	12.020	0.003	99	28250	50.0	52.1	
101 tert-Butylbenzene	119	12.327	12.331	-0.004	91	81633	50.0	49.6	
103 1,2,4-Trimethylbenzene	105	12.376	12.379	-0.003	96	104630	50.0	51.7	
104 sec-Butylbenzene	105	12.546	12.550	-0.004	96	131757	50.0	50.8	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
105 1,3-Dichlorobenzene	146	12.656	12.659	-0.003	92	46901	50.0	51.3	
106 4-Isopropyltoluene	119	12.692	12.689	0.003	96	101473	50.0	49.9	
107 1,4-Dichlorobenzene	146	12.747	12.750	-0.003	90	44654	50.0	49.9	
110 n-Butylbenzene	91	13.100	13.103	-0.003	98	104711	50.0	48.3	
111 1,2-Dichlorobenzene	146	13.124	13.127	-0.003	89	42853	50.0	50.6	
112 1,2-Dibromo-3-Chloropropan	75	13.909	13.912	-0.003	64	3617	50.0	44.5	
114 1,2,4-Trichlorobenzene	180	14.736	14.740	-0.004	89	21647	50.0	45.6	
115 Hexachlorobutadiene	225	14.907	14.904	0.003	60	7874	50.0	44.5	
116 Naphthalene	128	14.986	14.989	-0.003	98	49757	50.0	44.2	
117 1,2,3-Trichlorobenzene	180	15.235	15.238	-0.003	91	19854	50.0	47.5	
S 141 Total BTEX	1		1.000				250.0	ND	
S 129 Xylenes, Total	106				0		100.0	97.8	
S 130 1,2-Dichloroethene, Total	96				0		100.0	97.6	
S 131 1,3-Dichloropropene, Total	1				0		100.0	91.3	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

VOA8260VOAPRI_00362	Amount Added: 2.00	Units: uL	
VOAVAPRI_00025	Amount Added: 2.00	Units: uL	
VOAACRPRI_00019	Amount Added: 25.00	Units: uL	
VOA8260SURR_00096	Amount Added: 2.00	Units: uL	
VOA8260INT_00096	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 29-Jun-2019 22:19:08 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K05.D

Injection Date: 29-Jun-2019 12:24:30 Instrument ID: CHHP3 Operator ID: 10099

Lims ID: IC VSTD10 Worklist Smp#: 5

Client ID:

Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 5

Method: MSVOA_S_CHHP3 Limit Group: VOA 8260C_D ICAL

Column: DB-624 (0.18 mm)

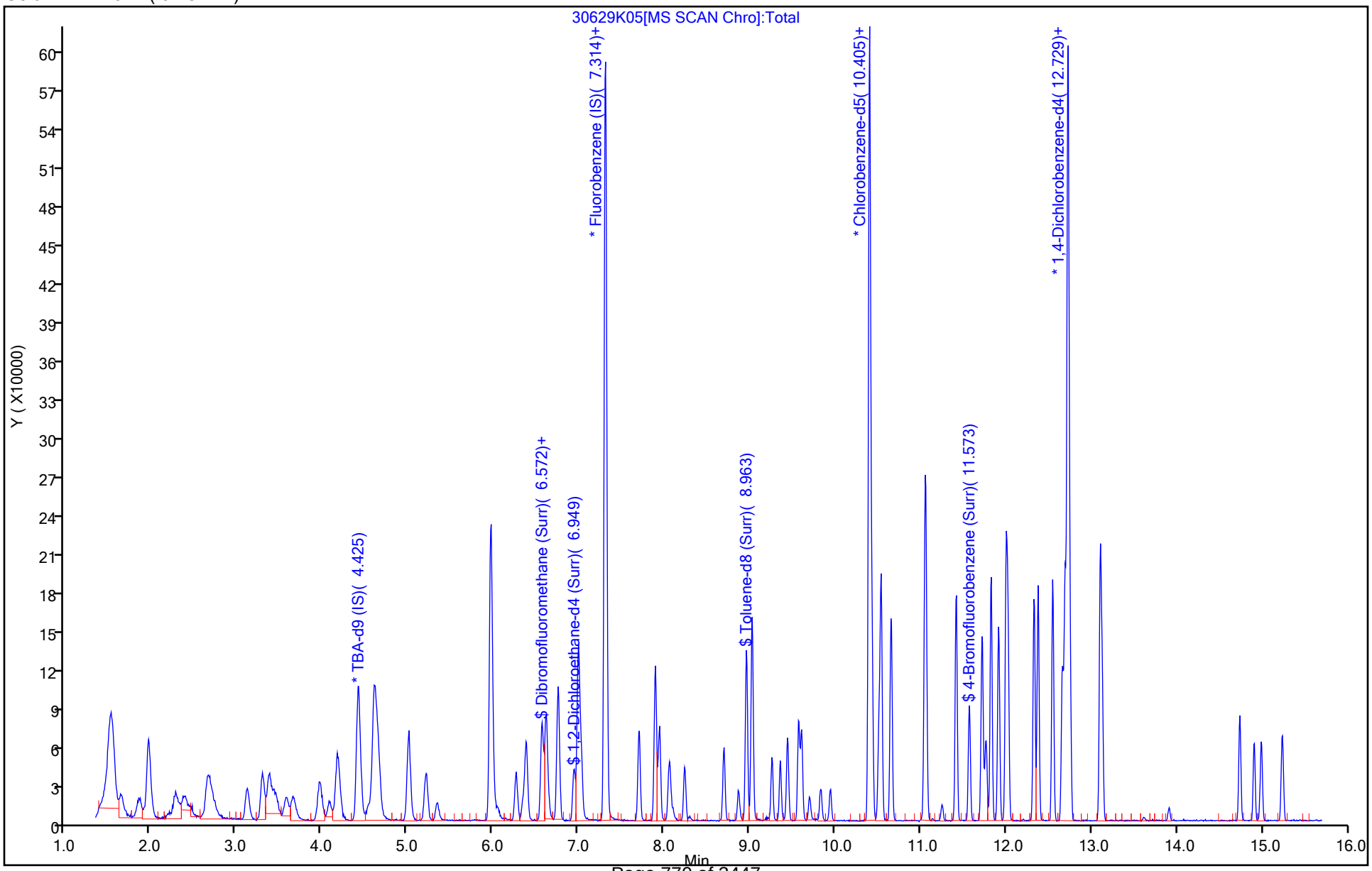

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K05.D				
Injection Date:	29-Jun-2019 12:24:30	Instrument ID:	CHHP3		
Lims ID:	IC VSTD10				
Client ID:					
Operator ID:	10099	ALS Bottle#:	5	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

17 Trichlorofluoromethane, CAS: 75-69-4

Signal: 1

Not Detected
Expected RT: 2.69

Processing Integration Results

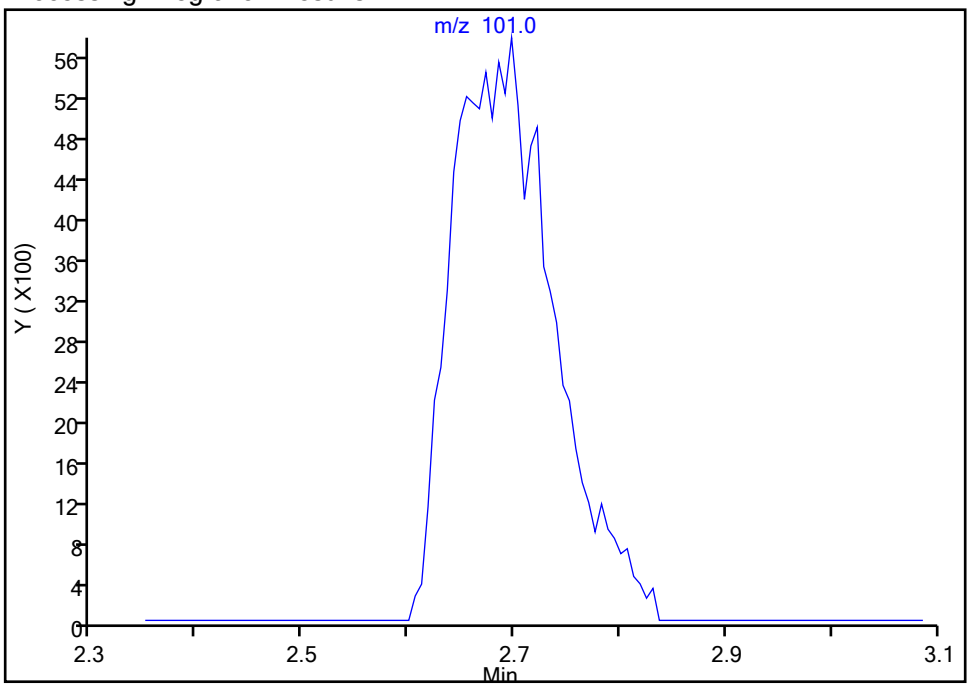

Manual Integration Results

RT: 2.70
Area: 37907
Amount: 49.760956
Amount Units: ng

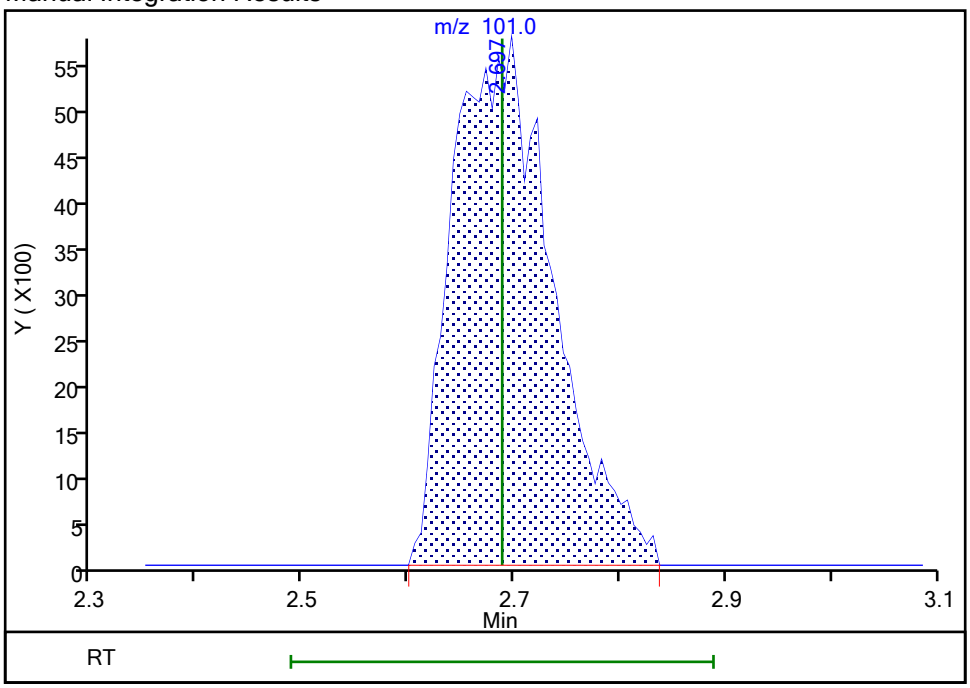

Reviewer: gordonk, 29-Jun-2019 21:59:40
Audit Action: Assigned Compound ID Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K05.D				
Injection Date:	29-Jun-2019 12:24:30	Instrument ID:	CHHP3		
Lims ID:	IC VSTD10				
Client ID:					
Operator ID:	10099	ALS Bottle#:	5	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

22 1,1,2-Trichloro-1,2,2-trifluoroethane, CAS: 76-13-1

Signal: 1

Processing Integration Results

RT: 3.46
Area: 21110
Amount: 38.195771
Amount Units: ng

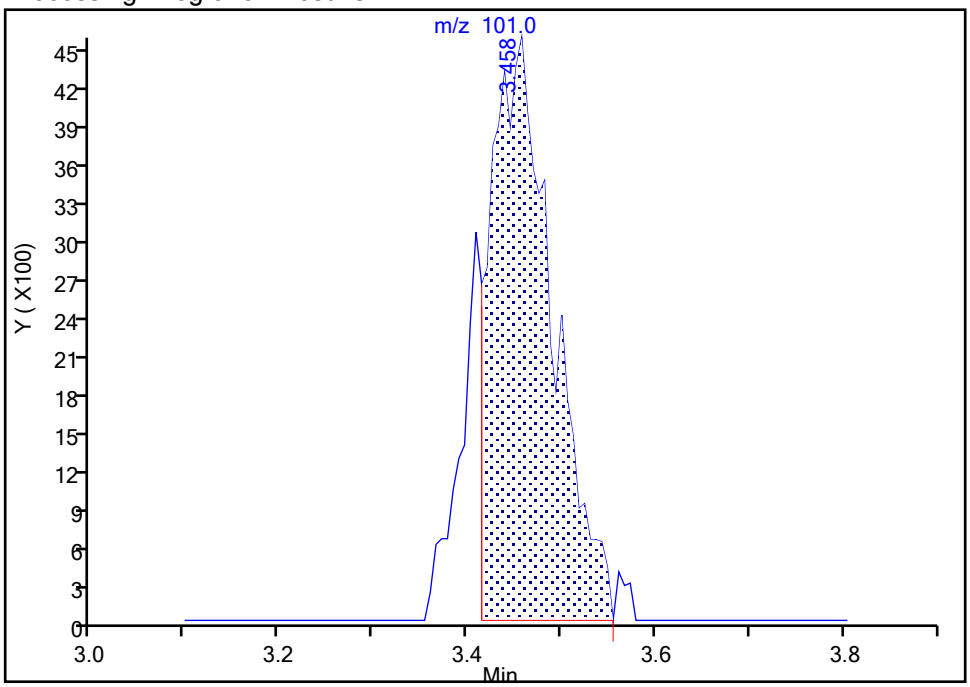

Manual Integration Results

RT: 3.46
Area: 25173
Amount: 44.107498
Amount Units: ng

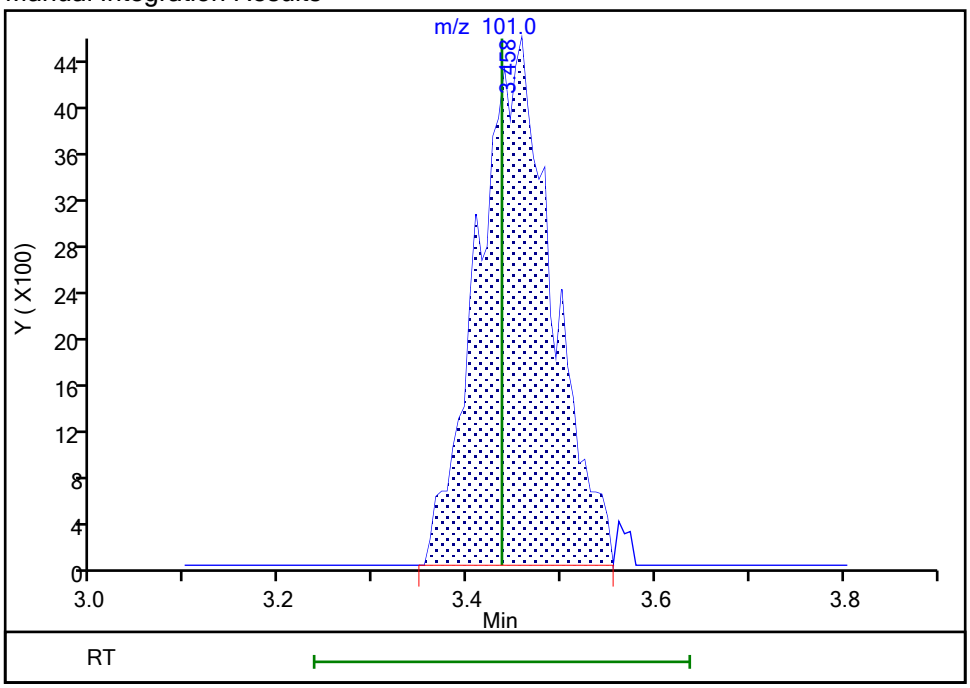

Reviewer: gordonk, 29-Jun-2019 21:59:31

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K05.D				
Injection Date:	29-Jun-2019 12:24:30	Instrument ID:	CHHP3		
Lims ID:	IC VSTD10				
Client ID:					
Operator ID:	10099	ALS Bottle#:	5	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

23 Acetone, CAS: 67-64-1

Signal: 1

Not Detected
Expected RT: 3.57

Processing Integration Results

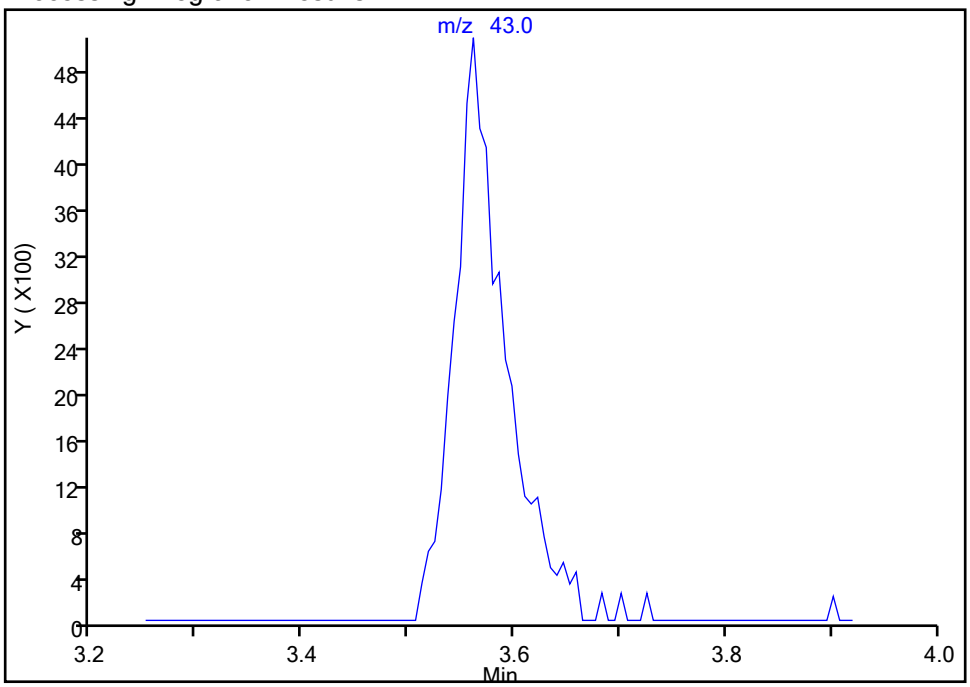

RT: 3.56
Area: 16615
Amount: 58.226884
Amount Units: ng

Manual Integration Results

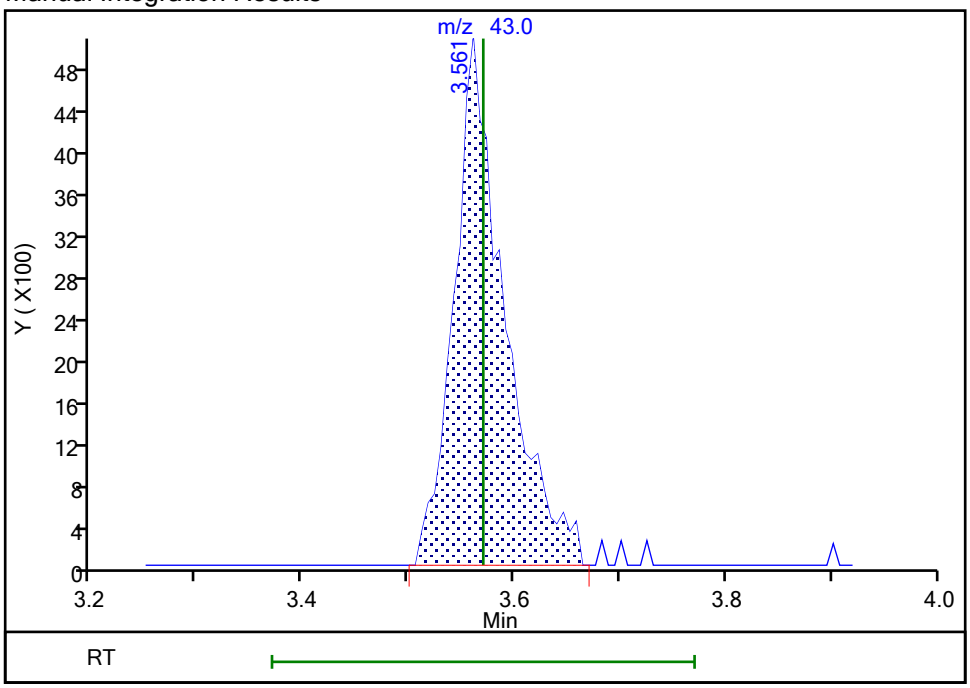

Reviewer: gordonk, 29-Jun-2019 21:58:49
Audit Action: Assigned Compound ID Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K05.D				
Injection Date:	29-Jun-2019 12:24:30	Instrument ID:	CHHP3		
Lims ID:	IC VSTD10				
Client ID:					
Operator ID:	10099	ALS Bottle#:	5	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

24 Iodomethane, CAS: 74-88-4

Signal: 1

Processing Integration Results

RT: 3.59
Area: 25612
Amount: 39.931993
Amount Units: ng

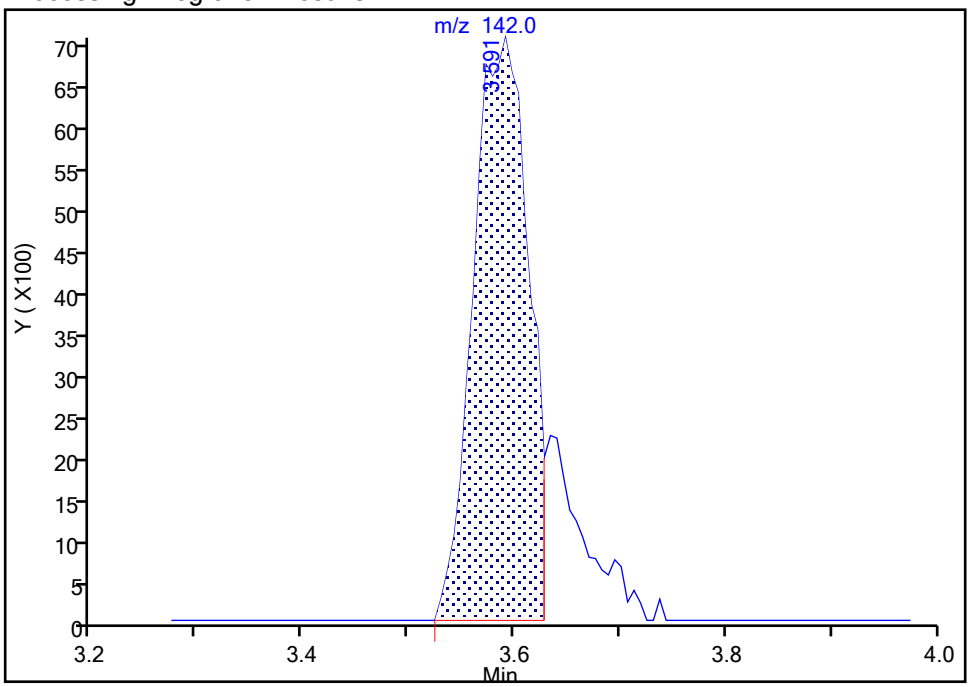

Manual Integration Results

RT: 3.59
Area: 30935
Amount: 47.113989
Amount Units: ng

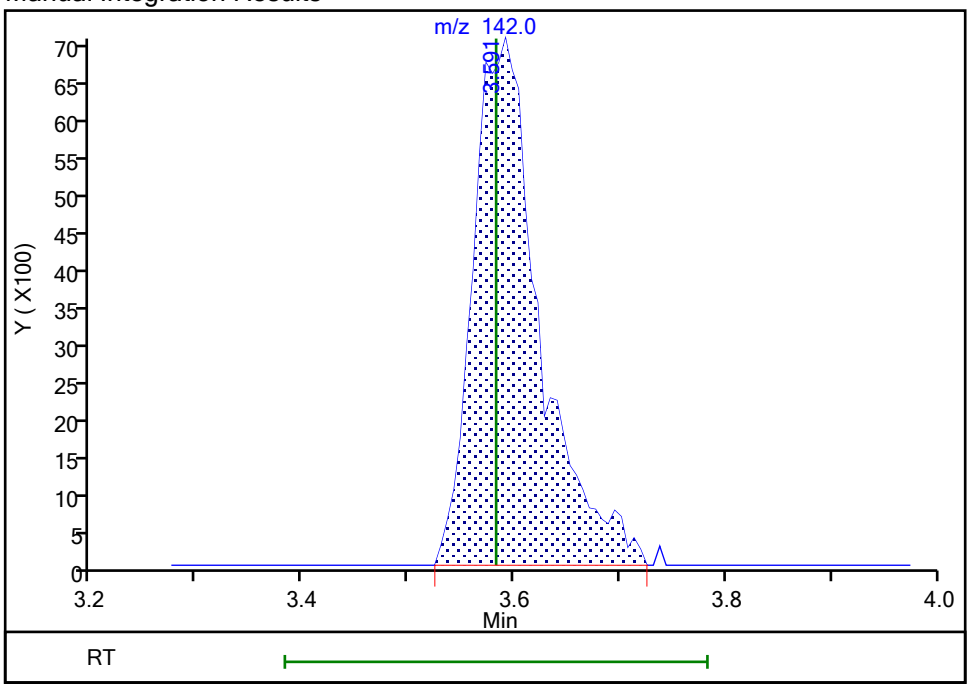

Reviewer: gordonk, 29-Jun-2019 21:58:19

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K06.D
Lims ID: IC VSTD25
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 29-Jun-2019 12:47:30 ALS Bottle#: 6 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0027546-006
Operator ID: 10099 Instrument ID: CHHP3
Sublist: chrom-MSVOA_S_CHHP3*sub85

Method: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\MSVOA_S_CHHP3.m
Limit Group: VOA 8260C_D ICAL
Last Update: 29-Jun-2019 22:19:15 Calib Date: 29-Jun-2019 14:21:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K10.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0320

First Level Reviewer: gordonk Date: 29-Jun-2019 22:03:34

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.428	4.440	-0.012	89	127592	5000.0	5000.0	
* 2 Fluorobenzene (IS)	96	7.311	7.312	-0.001	94	469308	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.402	10.402	0.000	91	109012	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.726	12.726	0.000	96	145345	250.0	250.0	
$ 5 Dibromofluoromethane (Surr	113	6.575	6.569	0.006	72	54383	125.0	131.3	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.946	6.947	-0.001	92	86039	125.0	128.4	
$ 7 Toluene-d8 (Surr)	98	8.960	8.966	-0.006	94	234695	125.0	131.4	
$ 8 4-Bromofluorobenzene (Surr	95	11.570	11.570	0.000	73	97913	125.0	128.9	
10 Dichlorodifluoromethane	85	1.648	1.642	0.006	99	110291	125.0	123.0	
11 Chloromethane	50	1.854	1.861	-0.007	99	106923	125.0	127.5	
13 Butadiene	39	1.964	1.964	0.000	94	106394	125.0	127.1	
12 Vinyl chloride	62	1.976	1.983	-0.007	64	96127	125.0	126.8	
14 Bromomethane	94	2.274	2.275	-0.001	90	40319	125.0	126.4	
15 Chloroethane	64	2.390	2.390	0.000	98	39631	125.0	128.2	
16 Dichlorofluoromethane	67	2.664	2.652	0.012	95	117658	125.0	135.9	
17 Trichlorofluoromethane	101	2.682	2.688	-0.006	86	99921	125.0	136.5	
19 Ethyl ether	59	3.132	3.120	0.012	92	62872	125.0	128.3	
20 Acrolein	56	3.302	3.303	-0.001	99	66220	750.0	742.1	
21 1,1-Dichloroethene	96	3.375	3.370	0.005	94	62120	125.0	128.8	
22 1,1,2-Trichloro-1,2,2-trif	101	3.448	3.437	0.012	94	70719	125.0	128.9	M
23 Acetone	43	3.576	3.570	0.006	54	33881	125.0	123.5	
24 Iodomethane	142	3.582	3.583	0.000	100	81105	125.0	128.5	
25 Carbon disulfide	76	3.661	3.662	-0.001	100	161000	125.0	112.0	
28 3-Chloro-1-propene	76	3.971	3.960	0.011	88	37255	125.0	120.5	
29 Methyl acetate	43	4.081	4.081	0.000	97	88254	250.0	254.0	
30 Methylene Chloride	84	4.184	4.179	0.005	94	89766	125.0	130.8	
31 2-Methyl-2-propanol	59	4.562	4.568	-0.006	93	40766	1250.0	1289.9	
33 trans-1,2-Dichloroethene	96	4.598	4.598	0.000	93	70313	125.0	131.0	
32 Acrylonitrile	53	4.616	4.617	-0.001	99	220448	1250.0	1307.0	
34 Methyl tert-butyl ether	73	4.659	4.659	0.000	97	159270	125.0	128.3	
35 Hexane	57	5.012	5.006	0.006	95	120733	125.0	124.6	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 1,1-Dichloroethane	63	5.212	5.207	0.005	97	134528	125.0	128.5	
37 Vinyl acetate	43	5.346	5.341	0.005	98	87530	125.0	116.3	
41 2,2-Dichloropropane	97	5.973	5.973	0.000	80	15662	125.0	129.9	
42 cis-1,2-Dichloroethene	96	5.985	5.979	0.006	84	73967	125.0	131.1	
43 2-Butanone (MEK)	43	6.046	6.052	-0.006	99	33886	125.0	119.1	
47 Chlorobromomethane	128	6.265	6.265	0.000	93	28763	125.0	127.8	
48 Tetrahydrofuran	42	6.350	6.344	0.006	84	32507	250.0	262.6	
49 Chloroform	83	6.387	6.387	0.000	95	129705	125.0	127.9	
50 1,1,1-Trichloroethane	97	6.569	6.569	0.000	96	96779	125.0	128.3	
51 Cyclohexane	56	6.624	6.618	0.006	93	134606	125.0	130.9	
53 Carbon tetrachloride	117	6.758	6.752	0.006	93	73938	125.0	127.4	
52 1,1-Dichloropropene	75	6.764	6.764	0.000	96	100366	125.0	127.7	
55 Benzene	78	6.995	6.995	0.000	97	294248	125.0	131.1	
54 Isobutyl alcohol	41	7.013	7.014	-0.001	87	40597	3125.0	3225.4	
56 1,2-Dichloroethane	62	7.031	7.032	-0.001	98	97597	125.0	127.0	
59 n-Heptane	43	7.311	7.312	-0.001	56	118033	125.0	126.1	
60 Trichloroethene	130	7.707	7.707	0.000	92	59145	125.0	126.9	
63 Methylcyclohexane	83	7.901	7.896	0.005	92	130377	125.0	128.1	
64 1,2-Dichloropropane	63	7.944	7.944	0.000	94	70997	125.0	129.4	
65 Dibromomethane	93	8.066	8.066	0.000	84	33815	125.0	123.6	
67 1,4-Dioxane	88	8.114	8.109	0.005	97	12337	2500.0	2644.4	
68 Dichlorobromomethane	83	8.242	8.242	0.000	98	75263	125.0	122.0	
71 cis-1,3-Dichloropropene	75	8.698	8.699	-0.001	92	91022	125.0	123.6	
72 4-Methyl-2-pentanone (MIBK	43	8.869	8.869	0.000	98	48580	125.0	123.8	
73 Toluene	91	9.033	9.033	0.000	98	291549	125.0	128.2	
74 trans-1,3-Dichloropropene	75	9.258	9.264	-0.006	97	77825	125.0	115.7	
75 Ethyl methacrylate	69	9.361	9.362	-0.001	89	73400	125.0	123.0	
76 1,1,2-Trichloroethane	97	9.447	9.447	0.000	95	49838	125.0	127.8	
77 Tetrachloroethene	164	9.580	9.575	0.005	84	39768	125.0	121.8	
78 1,3-Dichloropropane	76	9.611	9.611	0.000	94	103631	125.0	129.2	
79 2-Hexanone	43	9.702	9.702	0.000	98	39082	125.0	123.1	
81 Chlorodibromomethane	129	9.836	9.836	0.000	89	38765	125.0	120.7	
82 Ethylene Dibromide	107	9.945	9.946	-0.001	98	47288	125.0	124.8	
83 Chlorobenzene	112	10.432	10.433	0.000	89	173586	125.0	128.0	
85 1,1,1,2-Tetrachloroethane	131	10.511	10.518	-0.007	91	49985	125.0	125.0	
86 Ethylbenzene	106	10.542	10.542	0.000	100	96826	125.0	129.1	
87 m-Xylene & p-Xylene	106	10.657	10.658	-0.001	98	121204	125.0	128.0	
88 o-Xylene	106	11.053	11.053	0.000	97	116331	125.0	128.8	
89 Styrene	104	11.065	11.065	0.000	94	207580	125.0	133.8	
90 Bromoform	173	11.253	11.254	-0.001	86	15521	125.0	114.8	
91 Isopropylbenzene	105	11.418	11.418	0.000	97	324906	125.0	133.9	
93 1,1,2,2-Tetrachloroethane	83	11.722	11.716	0.006	95	67364	125.0	130.2	
94 Bromobenzene	156	11.722	11.722	0.000	93	58637	125.0	131.1	
95 1,2,3-Trichloropropane	110	11.758	11.765	-0.007	83	19636	125.0	131.1	
96 trans-1,4-Dichloro-2-buten	53	11.777	11.777	0.000	68	18202	125.0	123.3	
97 N-Propylbenzene	120	11.825	11.826	-0.001	99	83111	125.0	130.5	
98 2-Chlorotoluene	126	11.916	11.911	0.005	93	68976	125.0	129.2	
99 1,3,5-Trimethylbenzene	105	12.002	12.002	0.000	93	272370	125.0	132.0	
100 4-Chlorotoluene	126	12.026	12.020	0.006	99	71343	125.0	128.1	
101 tert-Butylbenzene	119	12.330	12.331	-0.001	92	224859	125.0	133.0	
103 1,2,4-Trimethylbenzene	105	12.379	12.379	0.000	98	276453	125.0	133.1	
104 sec-Butylbenzene	105	12.549	12.550	-0.001	96	355502	125.0	133.6	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
105 1,3-Dichlorobenzene	146	12.659	12.659	0.000	92	120175	125.0	128.2	
106 4-Isopropyltoluene	119	12.689	12.689	0.000	97	278595	125.0	133.4	
107 1,4-Dichlorobenzene	146	12.750	12.750	0.000	88	117965	125.0	128.5	
110 n-Butylbenzene	91	13.103	13.103	0.000	98	298736	125.0	134.3	
111 1,2-Dichlorobenzene	146	13.127	13.127	0.000	90	114225	125.0	131.4	
112 1,2-Dibromo-3-Chloropropan	75	13.906	13.912	-0.006	64	9676	125.0	116.1	
114 1,2,4-Trichlorobenzene	180	14.739	14.740	-0.001	90	60556	125.0	124.3	
115 Hexachlorobutadiene	225	14.903	14.904	-0.001	74	24145	125.0	133.1	
116 Naphthalene	128	14.989	14.989	0.000	98	148590	125.0	128.8	
117 1,2,3-Trichlorobenzene	180	15.232	15.238	-0.006	90	54310	125.0	126.6	
S 141 Total BTEX	1		1.000				625.0	ND	
S 129 Xylenes, Total	106				0		250.0	256.8	
S 130 1,2-Dichloroethene, Total	96				0		250.0	262.1	
S 131 1,3-Dichloropropene, Total	1				0		250.0	239.3	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

VOA8260VOAPRI_00362	Amount Added: 5.00	Units: uL	
VOAVAPRI_00025	Amount Added: 5.00	Units: uL	
VOAACRPRI_00019	Amount Added: 30.00	Units: uL	
VOA8260SURR_00096	Amount Added: 5.00	Units: uL	
VOA8260INT_00096	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 29-Jun-2019 22:19:16 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K06.D				
Injection Date:	29-Jun-2019 12:47:30	Instrument ID:	CHHP3	Operator ID:	10099
Lims ID:	IC VSTD25			Worklist Smp#:	6
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

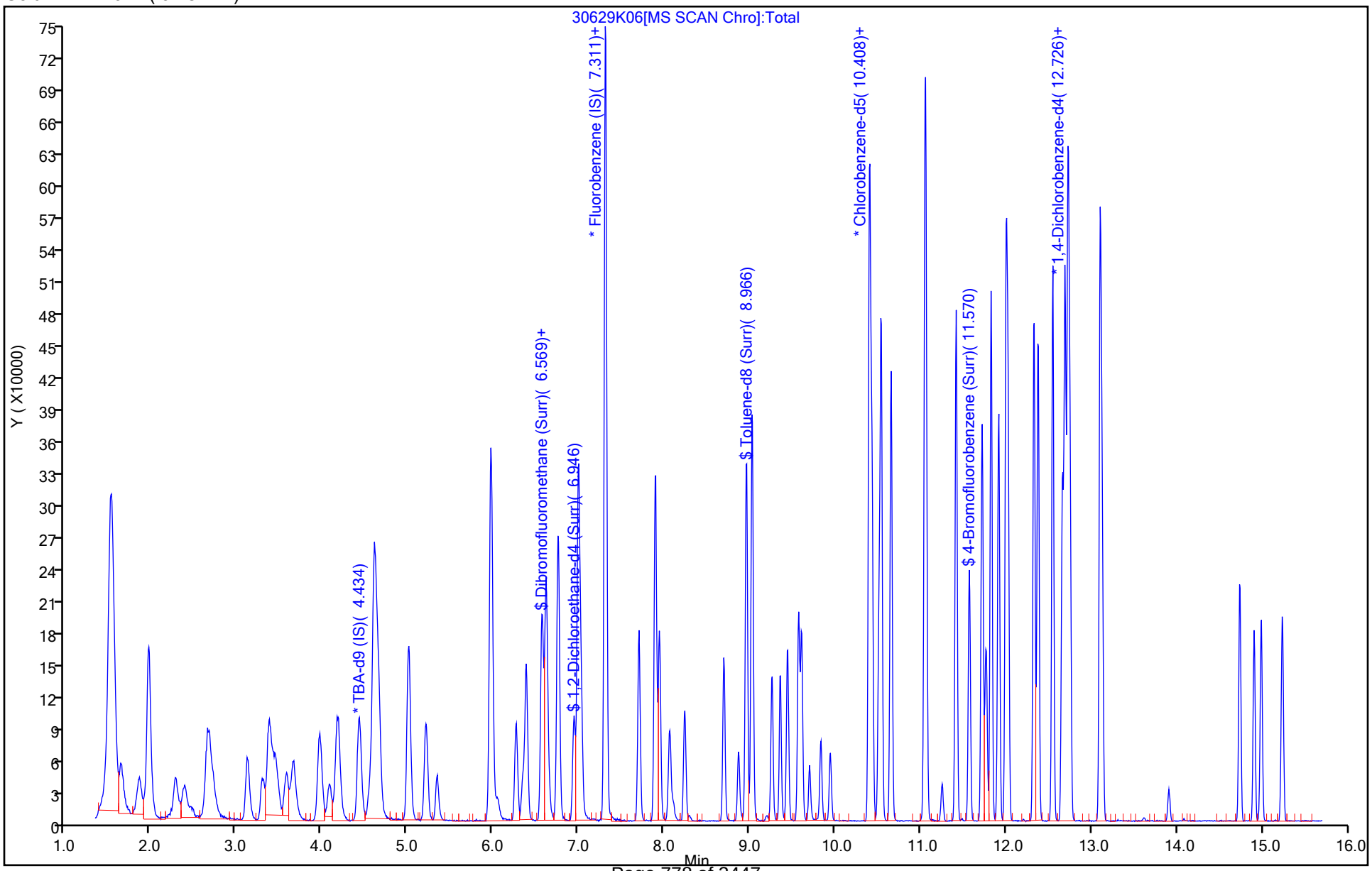

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K06.D				
Injection Date:	29-Jun-2019 12:47:30	Instrument ID:	CHHP3		
Lims ID:	IC VSTD25				
Client ID:					
Operator ID:	10099	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

22 1,1,2-Trichloro-1,2,2-trifluoroethane, CAS: 76-13-1

Signal: 1

Processing Integration Results

RT: 3.45
Area: 65310
Amount: 120.4199
Amount Units: ng

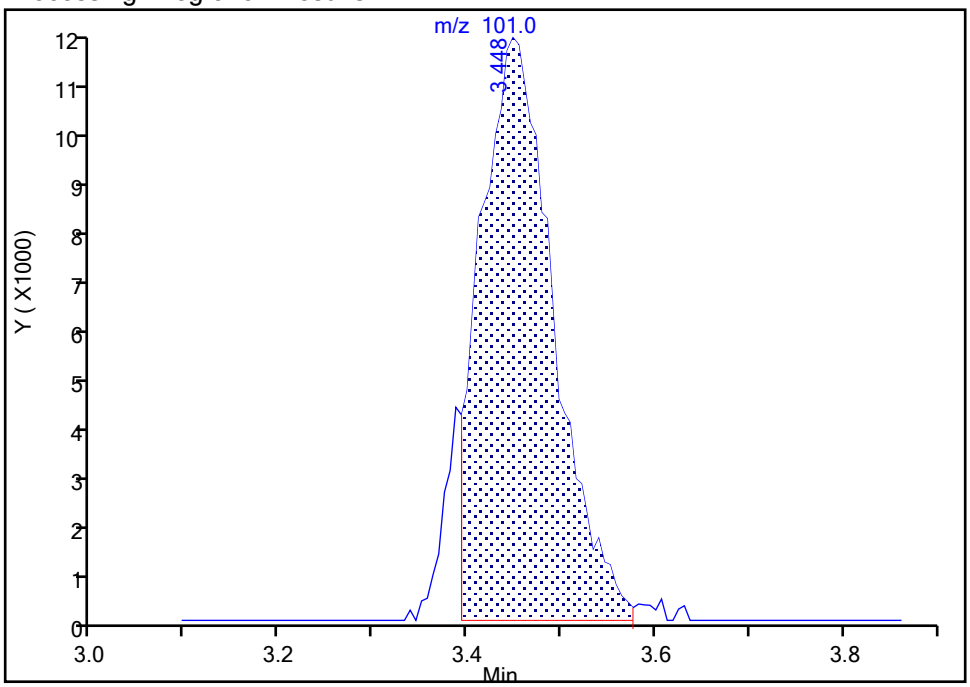

Manual Integration Results

RT: 3.45
Area: 70719
Amount: 128.9236
Amount Units: ng

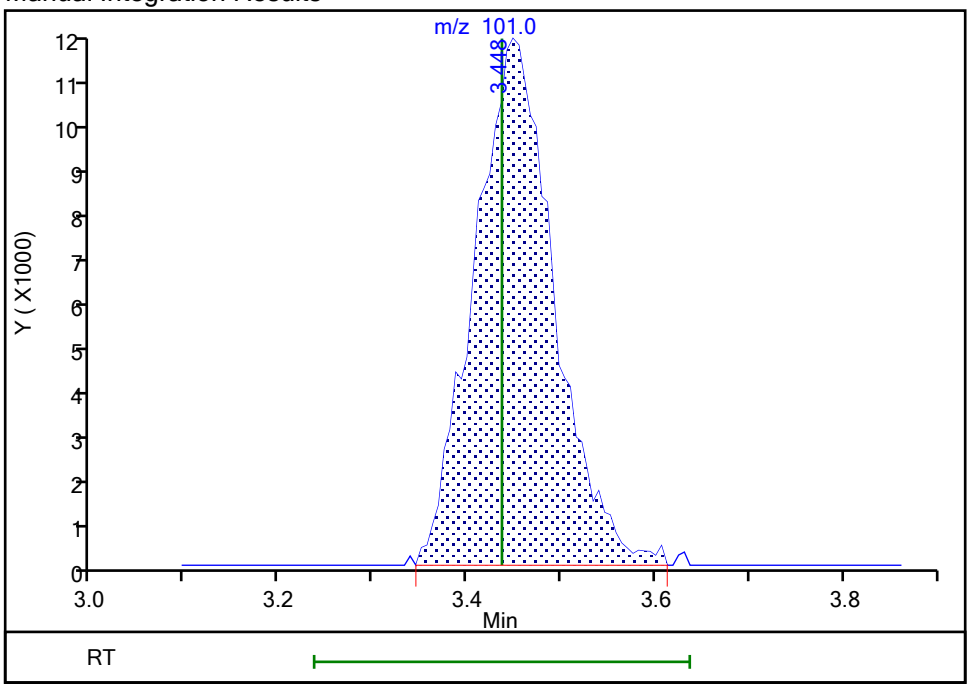

Reviewer: gordonk, 29-Jun-2019 22:02:26

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K07.D
Lims ID: ICIS VSTD40
Client ID:
Sample Type: ICIS Calib Level: 4
Inject. Date: 29-Jun-2019 13:10:30 ALS Bottle#: 7 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0027546-007
Operator ID: 10099 Instrument ID: CHHP3
Sublist: chrom-MSVOA_S_CHHP3*sub85

Method: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\MSVOA_S_CHHP3.m
Limit Group: VOA 8260C_D ICAL
Last Update: 29-Jun-2019 22:19:22 Calib Date: 29-Jun-2019 14:21:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K10.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0320

First Level Reviewer: bowieh Date: 29-Jun-2019 15:05:27

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.440	4.440	0.000	89	127749	5000.0	5000.0	
* 2 Fluorobenzene (IS)	96	7.312	7.312	0.000	92	476530	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.402	10.402	0.000	92	103561	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.726	12.726	0.000	95	146217	250.0	250.0	
$ 5 Dibromofluoromethane (Surr	113	6.569	6.569	0.000	91	87217	200.0	207.3	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.947	6.947	0.000	92	138084	200.0	202.9	
$ 7 Toluene-d8 (Surr)	98	8.966	8.966	0.000	94	370341	200.0	218.3	
$ 8 4-Bromofluorobenzene (Surr	95	11.570	11.570	0.000	84	153101	200.0	212.2	
10 Dichlorodifluoromethane	85	1.642	1.642	0.000	100	193410	200.0	212.5	
11 Chloromethane	50	1.861	1.861	0.000	100	173728	200.0	204.1	
13 Butadiene	39	1.964	1.964	0.000	96	177563	200.0	208.8	
12 Vinyl chloride	62	1.983	1.983	0.000	75	158514	200.0	206.0	
14 Bromomethane	94	2.275	2.275	0.000	92	65724	200.0	202.9	
15 Chloroethane	64	2.390	2.390	0.000	99	62185	200.0	198.2	
16 Dichlorofluoromethane	67	2.652	2.652	0.000	97	183571	200.0	208.8	
17 Trichlorofluoromethane	101	2.688	2.688	0.000	96	152453	200.0	205.1	
19 Ethyl ether	59	3.120	3.120	0.000	92	98784	200.0	198.6	
20 Acrolein	56	3.303	3.303	0.000	100	79697	875.0	879.6	
21 1,1-Dichloroethene	96	3.370	3.370	0.000	96	101738	200.0	207.7	
22 1,1,2-Trichloro-1,2,2-trif	101	3.437	3.437	0.000	95	114856	200.0	206.2	
23 Acetone	43	3.570	3.570	0.000	66	55508	200.0	199.3	
24 Iodomethane	142	3.583	3.583	0.000	99	130553	200.0	203.7	
25 Carbon disulfide	76	3.662	3.662	0.000	100	285568	200.0	182.7	
28 3-Chloro-1-propene	76	3.960	3.960	0.000	89	61486	200.0	190.0	
29 Methyl acetate	43	4.081	4.081	0.000	98	143995	400.0	408.2	
30 Methylene Chloride	84	4.179	4.179	0.000	95	133002	200.0	201.5	
31 2-Methyl-2-propanol	59	4.568	4.568	0.000	72	63957	2000.0	2021.3	
33 trans-1,2-Dichloroethene	96	4.598	4.598	0.000	95	111268	200.0	204.2	
32 Acrylonitrile	53	4.617	4.617	0.000	98	357866	2000.0	2089.5	
34 Methyl tert-butyl ether	73	4.659	4.659	0.000	97	256350	200.0	203.3	
35 Hexane	57	5.006	5.006	0.000	95	203542	200.0	206.8	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 1,1-Dichloroethane	63	5.207	5.207	0.000	97	218354	200.0	205.3	
37 Vinyl acetate	43	5.341	5.341	0.000	98	155645	200.0	197.0	
41 2,2-Dichloropropane	97	5.973	5.973	0.000	88	25305	200.0	206.7	
42 cis-1,2-Dichloroethene	96	5.979	5.979	0.000	81	118848	200.0	207.4	
43 2-Butanone (MEK)	43	6.052	6.052	0.000	100	58075	200.0	201.0	
47 Chlorobromomethane	128	6.265	6.265	0.000	91	45805	200.0	200.4	
48 Tetrahydrofuran	42	6.344	6.344	0.000	88	52449	400.0	417.2	
49 Chloroform	83	6.387	6.387	0.000	96	204454	200.0	198.6	
50 1,1,1-Trichloroethane	97	6.569	6.569	0.000	96	156882	200.0	204.8	
51 Cyclohexane	56	6.618	6.618	0.000	93	221667	200.0	212.4	
53 Carbon tetrachloride	117	6.752	6.752	0.000	80	122406	200.0	207.8	
52 1,1-Dichloropropene	75	6.764	6.764	0.000	92	169283	200.0	212.1	
55 Benzene	78	6.995	6.995	0.000	97	475491	200.0	208.7	
54 Isobutyl alcohol	41	7.014	7.014	0.000	93	64983	5000.0	5007.7	
56 1,2-Dichloroethane	62	7.032	7.032	0.000	97	162443	200.0	208.2	
59 n-Heptane	43	7.312	7.312	0.000	69	204957	200.0	215.6	
60 Trichloroethene	130	7.707	7.707	0.000	92	98652	200.0	208.5	
63 Methylcyclohexane	83	7.896	7.896	0.000	93	220329	200.0	213.2	
64 1,2-Dichloropropane	63	7.944	7.944	0.000	93	116050	200.0	208.3	
65 Dibromomethane	93	8.066	8.066	0.000	82	58915	200.0	212.0	
67 1,4-Dioxane	88	8.109	8.109	0.000	98	20210	4000.0	4214.9	
68 Dichlorobromomethane	83	8.242	8.242	0.000	98	130060	200.0	207.6	
71 cis-1,3-Dichloropropene	75	8.699	8.699	0.000	92	156585	200.0	209.5	
72 4-Methyl-2-pentanone (MIBK	43	8.869	8.869	0.000	97	78765	200.0	211.3	
73 Toluene	91	9.033	9.033	0.000	98	467814	200.0	216.5	
74 trans-1,3-Dichloropropene	75	9.264	9.264	0.000	97	134343	200.0	201.7	
75 Ethyl methacrylate	69	9.362	9.362	0.000	89	125272	200.0	220.9	
76 1,1,2-Trichloroethane	97	9.447	9.447	0.000	93	79279	200.0	214.0	
77 Tetrachloroethene	164	9.575	9.575	0.000	85	67919	200.0	219.0	
78 1,3-Dichloropropane	76	9.611	9.611	0.000	93	165866	200.0	217.7	
79 2-Hexanone	43	9.702	9.702	0.000	95	64882	200.0	215.1	
81 Chlorodibromomethane	129	9.836	9.836	0.000	91	62293	200.0	204.2	
82 Ethylene Dibromide	107	9.946	9.946	0.000	98	75933	200.0	210.9	
83 Chlorobenzene	112	10.433	10.433	0.000	89	271888	200.0	211.1	
85 1,1,1,2-Tetrachloroethane	131	10.518	10.518	0.000	90	81663	200.0	214.9	
86 Ethylbenzene	106	10.542	10.542	0.000	100	152799	200.0	214.5	
87 m-Xylene & p-Xylene	106	10.658	10.658	0.000	98	192781	200.0	214.4	
88 o-Xylene	106	11.053	11.053	0.000	97	185504	200.0	216.2	
89 Styrene	104	11.065	11.065	0.000	94	317205	200.0	215.3	
90 Bromoform	173	11.254	11.254	0.000	85	26287	200.0	196.9	
91 Isopropylbenzene	105	11.418	11.418	0.000	98	516887	200.0	224.2	
93 1,1,2,2-Tetrachloroethane	83	11.716	11.716	0.000	96	105270	200.0	214.1	
94 Bromobenzene	156	11.722	11.722	0.000	96	90298	200.0	200.7	
95 1,2,3-Trichloropropane	110	11.765	11.765	0.000	84	30012	200.0	199.2	
96 trans-1,4-Dichloro-2-buten	53	11.777	11.777	0.000	78	29958	200.0	201.7	
97 N-Propylbenzene	120	11.826	11.826	0.000	99	133135	200.0	207.8	
98 2-Chlorotoluene	126	11.911	11.911	0.000	93	109087	200.0	203.1	
99 1,3,5-Trimethylbenzene	105	12.002	12.002	0.000	93	436067	200.0	210.0	
100 4-Chlorotoluene	126	12.020	12.020	0.000	99	110218	200.0	196.8	
101 tert-Butylbenzene	119	12.331	12.331	0.000	92	364188	200.0	214.2	
103 1,2,4-Trimethylbenzene	105	12.379	12.379	0.000	97	442180	200.0	211.6	
104 sec-Butylbenzene	105	12.550	12.550	0.000	97	571739	200.0	213.5	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
105 1,3-Dichlorobenzene	146	12.659	12.659	0.000	92	193375	200.0	205.0	
106 4-Isopropyltoluene	119	12.689	12.689	0.000	96	450563	200.0	214.5	
107 1,4-Dichlorobenzene	146	12.750	12.750	0.000	87	189819	200.0	205.6	
110 n-Butylbenzene	91	13.103	13.103	0.000	99	488352	200.0	218.2	
111 1,2-Dichlorobenzene	146	13.127	13.127	0.000	92	176732	200.0	202.1	
112 1,2-Dibromo-3-Chloropropan	75	13.912	13.912	0.000	67	16822	200.0	200.7	
114 1,2,4-Trichlorobenzene	180	14.740	14.740	0.000	90	101892	200.0	207.8	
115 Hexachlorobutadiene	225	14.904	14.904	0.000	75	38200	200.0	209.3	
116 Naphthalene	128	14.989	14.989	0.000	99	252777	200.0	217.8	
117 1,2,3-Trichlorobenzene	180	15.238	15.238	0.000	91	89774	200.0	208.0	
S 141 Total BTEX	1		1.000				1000.0	ND	
S 129 Xylenes, Total	106				0		400.0	430.5	
S 130 1,2-Dichloroethene, Total	96				0		400.0	411.6	
S 131 1,3-Dichloropropene, Total	1				0		400.0	411.2	

Reagents:

VOA8260VOAPRI_00362	Amount Added: 8.00	Units: uL	
VOAVAPRI_00025	Amount Added: 8.00	Units: uL	
VOAACRPRI_00019	Amount Added: 35.00	Units: uL	
VOA8260SURR_00096	Amount Added: 8.00	Units: uL	
VOA8260INT_00096	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 29-Jun-2019 22:19:24 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K07.D

Injection Date: 29-Jun-2019 13:10:30 Instrument ID: CHHP3 Operator ID: 10099

Lims ID: ICIS VSTD40 Worklist Smp#: 7

Client ID:

Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 7

Method: MSVOA_S_CHHP3 Limit Group: VOA 8260C_D ICAL

Column: DB-624 (0.18 mm)

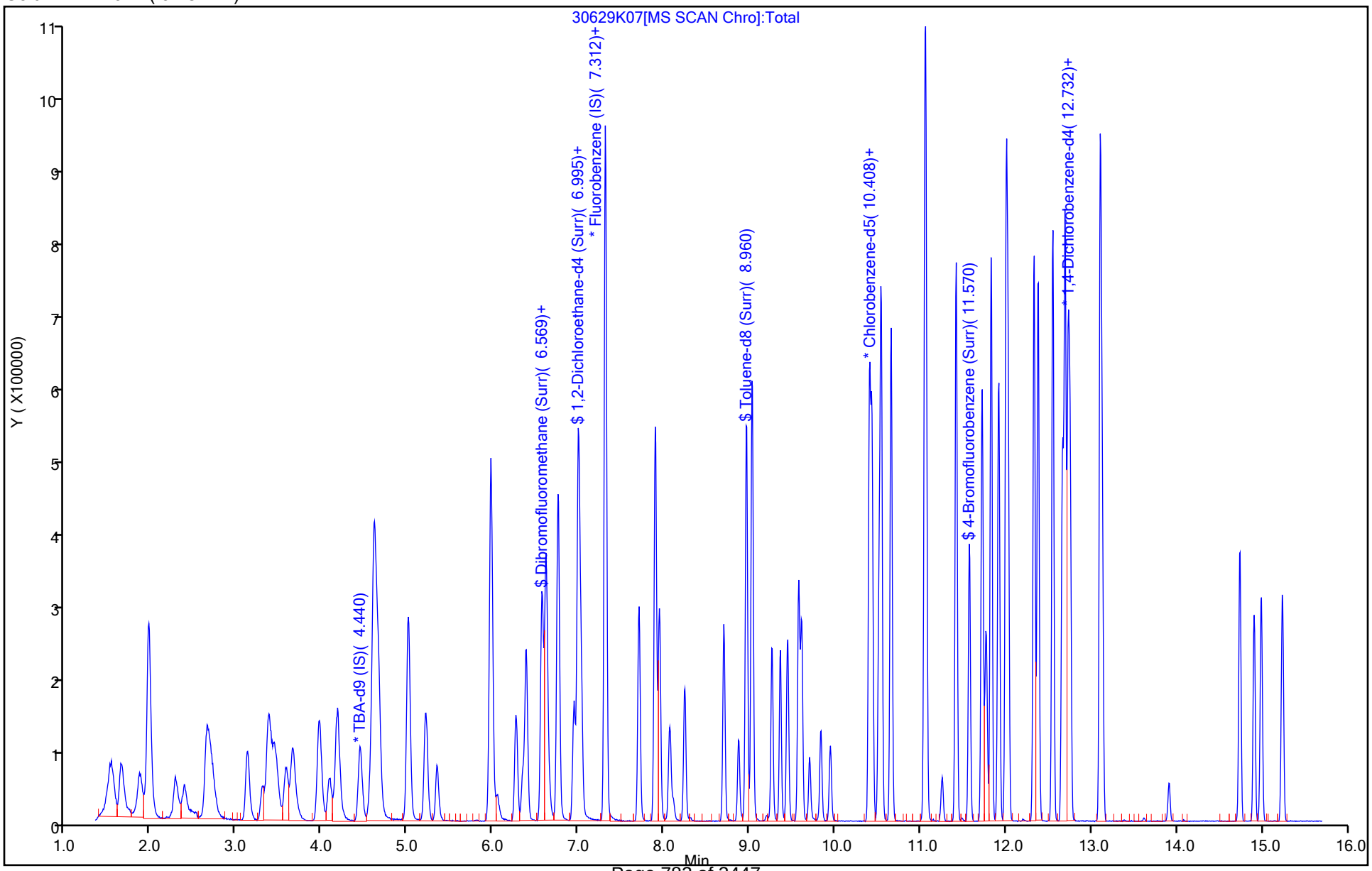

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K08.D
Lims ID: IC VSTD50
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 29-Jun-2019 13:34:30 ALS Bottle#: 8 Worklist Smp#: 8
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0027546-008
Operator ID: 10099 Instrument ID: CHHP3
Sublist: chrom-MSVOA_S_CHHP3*sub85

Method: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\MSVOA_S_CHHP3.m
Limit Group: VOA 8260C_D ICAL
Last Update: 29-Jun-2019 22:19:28 Calib Date: 29-Jun-2019 14:21:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K10.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0320

First Level Reviewer: gordonk Date: 29-Jun-2019 22:06:15

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.437	4.440	-0.003	89	126686	5000.0	5000.0	
* 2 Fluorobenzene (IS)	96	7.315	7.312	0.002	90	482547	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.405	10.402	0.003	90	108120	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.729	12.726	0.003	95	145960	250.0	250.0	
$ 5 Dibromofluoromethane (Surr	113	6.572	6.569	0.003	90	108689	250.0	255.2	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.943	6.947	-0.004	92	168212	250.0	244.1	
$ 7 Toluene-d8 (Surr)	98	8.963	8.966	-0.003	94	453487	250.0	256.1	
$ 8 4-Bromofluorobenzene (Surr	95	11.573	11.570	0.003	74	191766	250.0	254.6	
10 Dichlorodifluoromethane	85	1.651	1.642	0.009	99	250481	250.0	271.8	
11 Chloromethane	50	1.876	1.861	0.015	99	226569	250.0	262.8	
13 Butadiene	39	1.967	1.964	0.003	97	228428	250.0	265.3	
12 Vinyl chloride	62	1.991	1.983	0.008	98	204046	250.0	261.8	
14 Bromomethane	94	2.290	2.275	0.015	93	80786	250.0	246.3	
15 Chloroethane	64	2.393	2.390	0.003	99	80439	250.0	253.1	
16 Dichlorofluoromethane	67	2.667	2.652	0.015	96	238994	250.0	268.4	
17 Trichlorofluoromethane	101	2.691	2.688	0.003	82	207377	250.0	275.5	
19 Ethyl ether	59	3.123	3.120	0.003	93	131511	250.0	261.0	
20 Acrolein	56	3.299	3.303	-0.004	99	94633	1000.0	1031.4	
21 1,1-Dichloroethene	96	3.379	3.370	0.008	95	131610	250.0	265.4	
22 1,1,2-Trichloro-1,2,2-trif	101	3.452	3.437	0.016	96	150408	250.0	266.7	
23 Acetone	43	3.561	3.570	-0.009	98	68277	250.0	242.1	
24 Iodomethane	142	3.585	3.583	0.003	100	168871	250.0	260.3	
25 Carbon disulfide	76	3.658	3.662	-0.004	100	392093	250.0	241.6	
28 3-Chloro-1-propene	76	3.969	3.960	0.009	89	85670	250.0	257.8	
29 Methyl acetate	43	4.084	4.081	0.003	98	183252	500.0	513.0	
30 Methylene Chloride	84	4.175	4.179	-0.004	96	165991	250.0	253.8	
31 2-Methyl-2-propanol	59	4.559	4.568	-0.009	91	83300	2500.0	2654.7	
33 trans-1,2-Dichloroethene	96	4.589	4.598	-0.009	95	146562	250.0	265.6	
32 Acrylonitrile	53	4.613	4.617	-0.004	98	448741	2500.0	2587.4	
34 Methyl tert-butyl ether	73	4.656	4.659	-0.003	97	333981	250.0	261.6	
35 Hexane	57	5.009	5.006	0.003	94	261751	250.0	262.6	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 1,1-Dichloroethane	63	5.210	5.207	0.003	97	281246	250.0	261.2	
37 Vinyl acetate	43	5.343	5.341	0.002	98	200358	250.0	248.0	
41 2,2-Dichloropropane	97	5.970	5.973	-0.003	87	30973	250.0	249.9	
42 cis-1,2-Dichloroethene	96	5.982	5.979	0.003	89	152240	250.0	262.4	
43 2-Butanone (MEK)	43	6.055	6.052	0.003	100	71190	250.0	243.4	
47 Chlorobromomethane	128	6.268	6.265	0.003	92	59376	250.0	256.6	
48 Tetrahydrofuran	42	6.347	6.344	0.003	87	67077	500.0	526.9	
49 Chloroform	83	6.390	6.387	0.003	97	268421	250.0	257.4	
50 1,1,1-Trichloroethane	97	6.572	6.569	0.003	97	206971	250.0	266.8	
51 Cyclohexane	56	6.621	6.618	0.003	93	285848	250.0	270.4	
53 Carbon tetrachloride	117	6.755	6.752	0.003	96	159348	250.0	267.1	
52 1,1-Dichloropropene	75	6.761	6.764	-0.003	93	212449	250.0	262.8	
55 Benzene	78	6.992	6.995	-0.003	97	592702	250.0	256.9	
54 Isobutyl alcohol	41	7.010	7.014	-0.004	87	78904	6250.0	5978.1	
56 1,2-Dichloroethane	62	7.029	7.032	-0.003	98	202508	250.0	256.3	
59 n-Heptane	43	7.315	7.312	0.002	77	258530	250.0	268.6	
60 Trichloroethene	130	7.710	7.707	0.003	93	122865	250.0	256.4	
63 Methylcyclohexane	83	7.899	7.896	0.003	93	288410	250.0	275.6	
64 1,2-Dichloropropane	63	7.947	7.944	0.003	95	146458	250.0	259.6	
65 Dibromomethane	93	8.069	8.066	0.003	83	71987	250.0	255.9	
67 1,4-Dioxane	88	8.105	8.109	-0.004	97	24814	5000.0	5092.7	
68 Dichlorobromomethane	83	8.239	8.242	-0.003	98	165488	250.0	260.9	
71 cis-1,3-Dichloropropene	75	8.702	8.699	0.003	92	207740	250.0	274.4	
72 4-Methyl-2-pentanone (MIBK	43	8.872	8.869	0.003	97	101860	250.0	261.7	
73 Toluene	91	9.030	9.033	-0.003	97	590266	250.0	261.6	
74 trans-1,3-Dichloropropene	75	9.261	9.264	-0.003	96	179345	250.0	255.0	
75 Ethyl methacrylate	69	9.359	9.362	-0.003	89	162343	250.0	274.3	
76 1,1,2-Trichloroethane	97	9.444	9.447	-0.003	94	98172	250.0	253.8	
77 Tetrachloroethene	164	9.578	9.575	0.003	85	83671	250.0	258.5	
78 1,3-Dichloropropane	76	9.608	9.611	-0.003	94	205417	250.0	258.3	
79 2-Hexanone	43	9.699	9.702	-0.003	98	83959	250.0	266.6	
81 Chlorodibromomethane	129	9.833	9.836	-0.003	90	84072	250.0	264.0	
82 Ethylene Dibromide	107	9.943	9.946	-0.003	99	96949	250.0	257.9	
83 Chlorobenzene	112	10.435	10.433	0.003	89	347527	250.0	258.4	
85 1,1,1,2-Tetrachloroethane	131	10.514	10.518	-0.004	91	105601	250.0	266.2	
86 Ethylbenzene	106	10.545	10.542	0.003	100	196638	250.0	264.4	
87 m-Xylene & p-Xylene	106	10.654	10.658	-0.004	98	246251	250.0	262.3	
88 o-Xylene	106	11.050	11.053	-0.003	98	236626	250.0	264.1	
89 Styrene	104	11.062	11.065	-0.003	93	410293	250.0	266.7	
90 Bromoform	173	11.257	11.254	0.003	86	35440	250.0	251.3	
91 Isopropylbenzene	105	11.415	11.418	-0.003	98	651118	250.0	270.5	
93 1,1,2,2-Tetrachloroethane	83	11.719	11.716	0.003	95	134315	250.0	261.7	
94 Bromobenzene	156	11.725	11.722	0.003	92	119609	250.0	266.3	
95 1,2,3-Trichloropropane	110	11.762	11.765	-0.003	85	38347	250.0	255.0	
96 trans-1,4-Dichloro-2-buten	53	11.774	11.777	-0.003	77	40804	250.0	275.2	
97 N-Propylbenzene	120	11.828	11.826	0.002	99	170092	250.0	265.9	
98 2-Chlorotoluene	126	11.914	11.911	0.003	93	140602	250.0	262.3	
99 1,3,5-Trimethylbenzene	105	11.999	12.002	-0.003	93	554862	250.0	267.7	
100 4-Chlorotoluene	126	12.023	12.020	0.003	100	144177	250.0	257.9	
101 tert-Butylbenzene	119	12.327	12.331	-0.004	91	460366	250.0	271.2	
103 1,2,4-Trimethylbenzene	105	12.376	12.379	-0.003	97	562069	250.0	269.4	
104 sec-Butylbenzene	105	12.546	12.550	-0.004	97	722518	250.0	270.3	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
105 1,3-Dichlorobenzene	146	12.662	12.659	0.003	92	243986	250.0	259.2	
106 4-Isopropyltoluene	119	12.692	12.689	0.003	95	562020	250.0	268.1	
107 1,4-Dichlorobenzene	146	12.753	12.750	0.003	91	236771	250.0	256.9	
110 n-Butylbenzene	91	13.100	13.103	-0.003	98	609334	250.0	272.8	
111 1,2-Dichlorobenzene	146	13.124	13.127	-0.003	90	223865	250.0	256.5	
112 1,2-Dibromo-3-Chloropropan	75	13.909	13.912	-0.003	68	19942	250.0	238.4	
114 1,2,4-Trichlorobenzene	180	14.736	14.740	-0.004	90	132058	250.0	269.9	
115 Hexachlorobutadiene	225	14.907	14.904	0.003	72	46649	250.0	256.0	
116 Naphthalene	128	14.986	14.989	-0.003	98	318913	250.0	275.3	
117 1,2,3-Trichlorobenzene	180	15.235	15.238	-0.003	92	112306	250.0	260.7	
S 141 Total BTEX	1		1.000				1250.0	ND	
S 129 Xylenes, Total	106				0		500.0	526.4	
S 130 1,2-Dichloroethene, Total	96				0		500.0	528.0	
S 131 1,3-Dichloropropene, Total	1				0		500.0	529.4	

Reagents:

VOA8260VOAPRI_00362	Amount Added: 10.00	Units: uL	
VOAVAPRI_00025	Amount Added: 10.00	Units: uL	
VOAACRPRI_00019	Amount Added: 40.00	Units: uL	
VOA8260SURR_00096	Amount Added: 10.00	Units: uL	
VOA8260INT_00096	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 29-Jun-2019 22:19:28 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K08.D				
Injection Date:	29-Jun-2019 13:34:30	Instrument ID:	CHHP3	Operator ID:	10099
Lims ID:	IC VSTD50			Worklist Smp#:	8
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column: DB-624 (0.18 mm)					

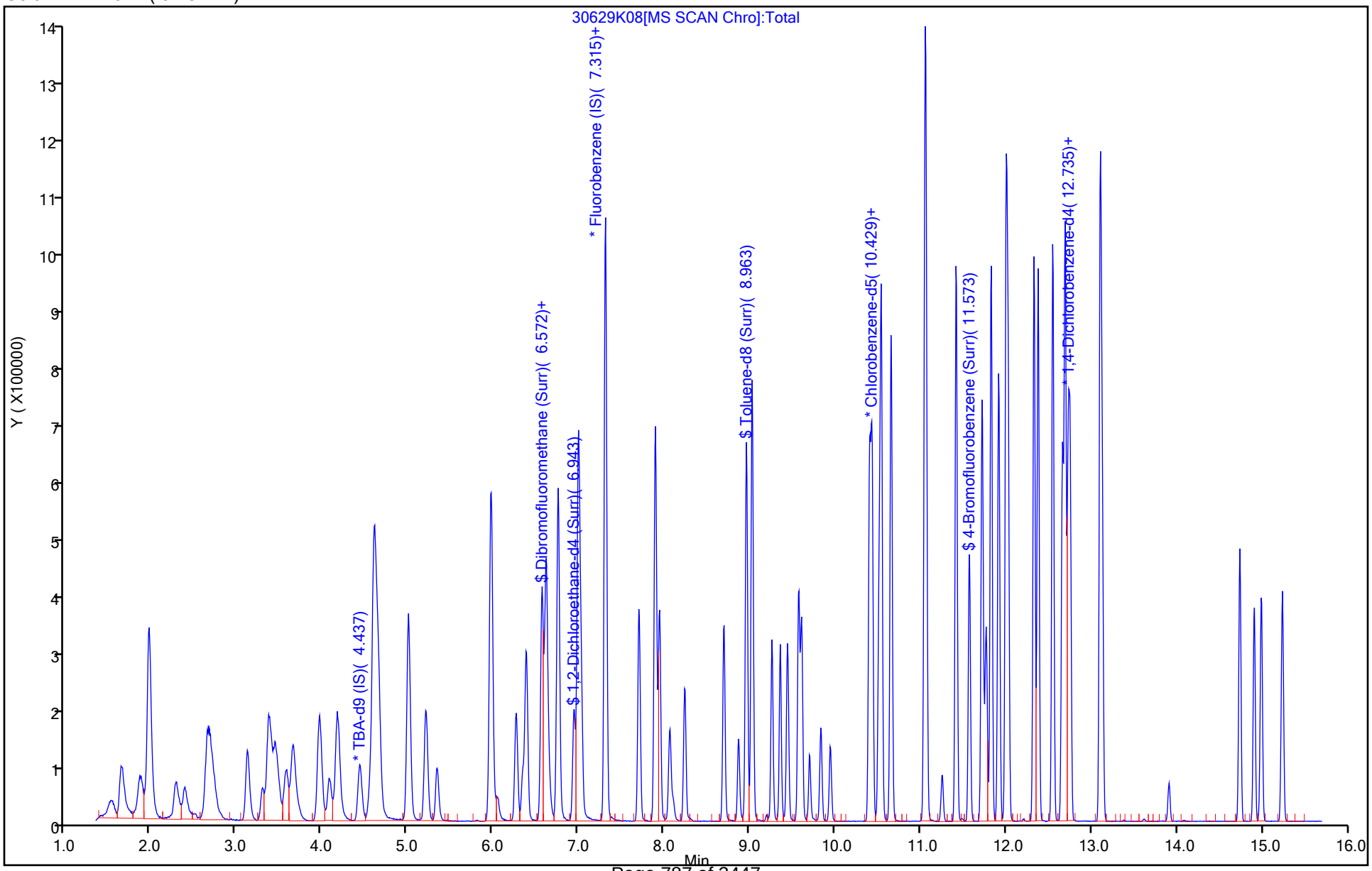

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K09.D
Lims ID: IC VSTD125
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 29-Jun-2019 13:57:30 ALS Bottle#: 9 Worklist Smp#: 9
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0027546-009
Operator ID: 10099 Instrument ID: CHHP3
Sublist: chrom-MSVOA_S_CHHP3*sub85

Method: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\MSVOA_S_CHHP3.m
Limit Group: VOA 8260C_D ICAL
Last Update: 29-Jun-2019 22:19:32 Calib Date: 29-Jun-2019 14:21:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K10.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0320

First Level Reviewer: gordonk Date: 29-Jun-2019 22:06:59

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.476	4.440	0.036	90	141467	5000.0	5000.0	
* 2 Fluorobenzene (IS)	96	7.317	7.312	0.005	73	513884	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.401	10.402	-0.001	92	116973	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.725	12.726	-0.001	96	158183	250.0	250.0	
$ 5 Dibromofluoromethane (Surr	113	6.575	6.569	0.006	90	286642	625.0	631.9	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.946	6.947	-0.001	92	440186	625.0	599.8	
$ 7 Toluene-d8 (Surr)	98	8.966	8.966	0.000	94	1151924	625.0	601.2	
$ 8 4-Bromofluorobenzene (Surr	95	11.569	11.570	-0.001	78	510947	625.0	626.9	
10 Dichlorodifluoromethane	85	1.653	1.642	0.011	99	638719	625.0	650.8	
11 Chloromethane	50	1.866	1.861	0.005	100	592770	625.0	645.7	
13 Butadiene	39	1.976	1.964	0.012	93	581838	625.0	634.5	
12 Vinyl chloride	62	1.982	1.983	-0.001	97	523514	625.0	630.8	
14 Bromomethane	94	2.286	2.275	0.011	92	216053	625.0	618.7	
15 Chloroethane	64	2.389	2.390	-0.001	100	208612	625.0	616.4	
16 Dichlorofluoromethane	67	2.657	2.652	0.005	97	566462	625.0	597.5	
17 Trichlorofluoromethane	101	2.669	2.688	-0.019	98	483808	625.0	603.5	
19 Ethyl ether	59	3.132	3.120	0.012	92	346610	625.0	646.1	
20 Acrolein	56	3.314	3.303	0.011	99	111601	1125.0	1142.1	
21 1,1-Dichloroethene	96	3.363	3.370	-0.007	95	349546	625.0	661.8	
22 1,1,2-Trichloro-1,2,2-trif	101	3.442	3.437	0.006	95	381914	625.0	635.9	
23 Acetone	43	3.582	3.570	0.012	53	171116	625.0	569.8	
24 Iodomethane	142	3.576	3.583	-0.006	100	459029	625.0	664.3	
25 Carbon disulfide	76	3.649	3.662	-0.013	100	1163766	625.0	642.5	
28 3-Chloro-1-propene	76	3.965	3.960	0.005	90	233826	625.0	646.1	
29 Methyl acetate	43	4.093	4.081	0.012	98	485789	1250.0	1277.0	
30 Methylene Chloride	84	4.178	4.179	-0.001	95	407993	625.0	616.1	
31 2-Methyl-2-propanol	59	4.598	4.568	0.030	51	227067	6250.0	6480.3	
33 trans-1,2-Dichloroethene	96	4.592	4.598	-0.006	94	375502	625.0	639.1	
32 Acrylonitrile	53	4.622	4.617	0.005	97	1130768	6250.0	6122.4	
34 Methyl tert-butyl ether	73	4.671	4.659	0.012	96	881500	625.0	648.3	
35 Hexane	57	5.005	5.006	-0.001	95	655347	625.0	617.5	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 1,1-Dichloroethane	63	5.212	5.207	0.005	97	734352	625.0	640.4	
37 Vinyl acetate	43	5.346	5.341	0.005	98	584054	625.0	663.4	
41 2,2-Dichloropropane	97	5.966	5.973	-0.007	90	91230	625.0	691.1	
42 cis-1,2-Dichloroethene	96	5.979	5.979	0.000	89	387401	625.0	627.0	
43 2-Butanone (MEK)	43	6.058	6.052	0.006	100	178371	625.0	572.6	
47 Chlorobromomethane	128	6.271	6.265	0.006	93	152503	625.0	618.8	
48 Tetrahydrofuran	42	6.350	6.344	0.006	87	173324	1250.0	1278.5	
49 Chloroform	83	6.392	6.387	0.005	96	671528	625.0	604.8	
50 1,1,1-Trichloroethane	97	6.569	6.569	0.000	96	551276	625.0	667.3	
51 Cyclohexane	56	6.617	6.618	-0.001	93	737750	625.0	655.4	
53 Carbon tetrachloride	117	6.757	6.752	0.005	96	433544	625.0	682.4	
52 1,1-Dichloropropene	75	6.763	6.764	-0.001	96	555275	625.0	645.1	
55 Benzene	78	6.995	6.995	0.000	98	1484613	625.0	604.3	
54 Isobutyl alcohol	41	7.019	7.014	0.005	95	218898	15625	15359	
56 1,2-Dichloroethane	62	7.031	7.032	-0.001	98	510209	625.0	606.4	
59 n-Heptane	43	7.317	7.312	0.005	90	661643	625.0	645.4	
60 Trichloroethene	130	7.706	7.707	-0.001	92	331562	625.0	649.8	
63 Methylcyclohexane	83	7.901	7.896	0.005	93	744492	625.0	668.0	
64 1,2-Dichloropropane	63	7.950	7.944	0.006	95	377214	625.0	627.9	
65 Dibromomethane	93	8.065	8.066	-0.001	84	192708	625.0	643.1	
67 1,4-Dioxane	88	8.114	8.109	0.005	98	61342	12500	11711	
68 Dichlorobromomethane	83	8.242	8.242	0.000	98	456925	625.0	676.4	
71 cis-1,3-Dichloropropene	75	8.698	8.699	-0.001	92	571376	625.0	708.8	
72 4-Methyl-2-pentanone (MIBK	43	8.874	8.869	0.005	97	285728	625.0	678.5	
73 Toluene	91	9.033	9.033	0.000	98	1453061	625.0	595.3	
74 trans-1,3-Dichloropropene	75	9.264	9.264	0.000	97	510799	625.0	654.1	
75 Ethyl methacrylate	69	9.361	9.362	-0.001	89	446949	625.0	697.9	
76 1,1,2-Trichloroethane	97	9.446	9.447	-0.001	94	260354	625.0	622.2	
77 Tetrachloroethene	164	9.574	9.575	-0.001	85	216765	625.0	618.9	
78 1,3-Dichloropropane	76	9.610	9.611	-0.001	94	531427	625.0	617.6	
79 2-Hexanone	43	9.702	9.702	0.000	97	230578	625.0	676.8	
81 Chlorodibromomethane	129	9.836	9.836	0.000	90	243862	625.0	707.9	
82 Ethylene Dibromide	107	9.945	9.946	-0.001	97	263491	625.0	647.9	
83 Chlorobenzene	112	10.432	10.433	0.000	88	890936	625.0	612.4	
85 1,1,1,2-Tetrachloroethane	131	10.517	10.518	-0.001	92	289009	625.0	673.3	
86 Ethylbenzene	106	10.541	10.542	-0.001	99	507175	625.0	630.3	
87 m-Xylene & p-Xylene	106	10.657	10.658	-0.001	98	637099	625.0	627.2	
88 o-Xylene	106	11.052	11.053	-0.001	98	612827	625.0	632.2	
89 Styrene	104	11.064	11.065	-0.001	92	1036143	625.0	622.5	
90 Bromoform	173	11.253	11.254	-0.001	86	109403	625.0	698.9	
91 Isopropylbenzene	105	11.417	11.418	-0.001	99	1627088	625.0	624.7	
93 1,1,2,2-Tetrachloroethane	83	11.721	11.716	0.005	95	350464	625.0	631.2	
94 Bromobenzene	156	11.727	11.722	0.005	96	308568	625.0	634.0	
95 1,2,3-Trichloropropane	110	11.764	11.765	-0.001	83	102027	625.0	625.9	
96 trans-1,4-Dichloro-2-buten	53	11.776	11.777	-0.001	90	109088	625.0	678.8	
97 N-Propylbenzene	120	11.831	11.826	0.005	98	443057	625.0	639.2	
98 2-Chlorotoluene	126	11.916	11.911	0.005	94	370761	625.0	638.1	
99 1,3,5-Trimethylbenzene	105	12.001	12.002	-0.001	95	1393004	625.0	620.1	
100 4-Chlorotoluene	126	12.026	12.020	0.006	100	380539	625.0	628.0	
101 tert-Butylbenzene	119	12.330	12.331	-0.001	90	1173103	625.0	637.8	
103 1,2,4-Trimethylbenzene	105	12.378	12.379	-0.001	99	1410846	625.0	624.0	
104 sec-Butylbenzene	105	12.549	12.550	-0.001	97	1804294	625.0	622.9	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
105 1,3-Dichlorobenzene	146	12.664	12.659	0.005	91	635818	625.0	623.2	
106 4-Isopropyltoluene	119	12.695	12.689	0.006	95	1432776	625.0	630.5	
107 1,4-Dichlorobenzene	146	12.750	12.750	0.000	86	624832	625.0	625.6	
110 n-Butylbenzene	91	13.102	13.103	-0.001	98	1568007	625.0	647.7	
111 1,2-Dichlorobenzene	146	13.127	13.127	0.000	90	591489	625.0	625.4	
112 1,2-Dibromo-3-Chloropropan	75	13.905	13.912	-0.007	84	65189	625.0	719.0	
114 1,2,4-Trichlorobenzene	180	14.739	14.740	-0.001	91	359888	625.0	678.6	
115 Hexachlorobutadiene	225	14.903	14.904	-0.001	74	132045	625.0	668.7	
116 Naphthalene	128	14.988	14.989	-0.001	99	873221	625.0	695.5	
117 1,2,3-Trichlorobenzene	180	15.232	15.238	-0.006	91	312603	625.0	669.5	
S 141 Total BTEX	1		1.000				3125.0	ND	
S 129 Xylenes, Total	106				0		1250.0	1259.4	
S 130 1,2-Dichloroethene, Total	96				0		1250.0	1266.1	
S 131 1,3-Dichloropropene, Total	1				0		1250.0	1362.9	

Reagents:

VOA8260VOAPRI_00362	Amount Added: 25.00	Units: uL	
VOAVAPRI_00025	Amount Added: 25.00	Units: uL	
VOAACRPRI_00019	Amount Added: 45.00	Units: uL	
VOA8260SURR_00096	Amount Added: 25.00	Units: uL	
VOA8260INT_00096	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 29-Jun-2019 22:19:33 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K09.D				
Injection Date:	29-Jun-2019 13:57:30	Instrument ID:	CHHP3	Operator ID:	10099
Lims ID:	IC VSTD125			Worklist Smp#:	9
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

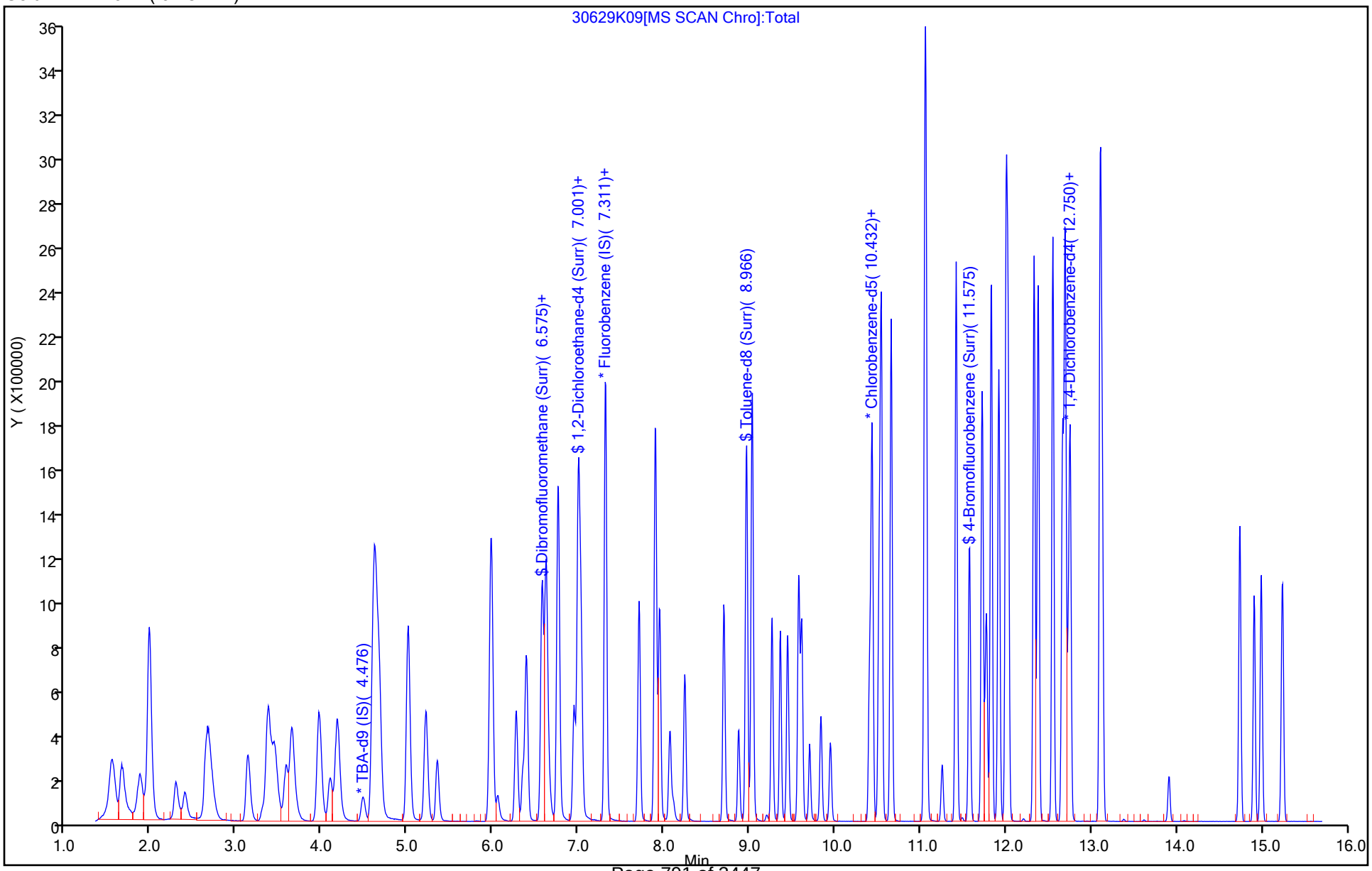

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K10.D
Lims ID: IC VSTD250
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 29-Jun-2019 14:21:30 ALS Bottle#: 10 Worklist Smp#: 10
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0027546-010
Operator ID: 10099 Instrument ID: CHHP3
Sublist: chrom-MSVOA_S_CHHP3*sub85

Method: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\MSVOA_S_CHHP3.m
Limit Group: VOA 8260C_D ICAL
Last Update: 29-Jun-2019 22:19:37 Calib Date: 29-Jun-2019 14:21:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K10.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0320

First Level Reviewer: journetp Date: 29-Jun-2019 16:19:13

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.497	4.440	0.057	91	152896	5000.0	5000.0	
* 2 Fluorobenzene (IS)	96	7.314	7.312	0.002	54	524805	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.405	10.402	0.002	91	120957	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.728	12.726	0.002	92	165168	250.0	250.0	
$ 5 Dibromofluoromethane (Surr	113	6.572	6.569	0.003	90	563182	1250.0	1215.7	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.949	6.947	0.002	93	881201	1250.0	1175.7	
$ 7 Toluene-d8 (Surr)	98	8.963	8.966	-0.003	94	2170678	1250.0	1095.6	
$ 8 4-Bromofluorobenzene (Surr	95	11.573	11.570	0.003	74	1027867	1250.0	1219.6	
10 Dichlorodifluoromethane	85	1.650	1.642	0.008	99	1303753	1250.0	1300.7	
11 Chloromethane	50	1.869	1.861	0.008	99	1168069	1250.0	1245.9	
13 Butadiene	39	1.979	1.964	0.015	94	1131779	1250.0	1208.6	
12 Vinyl chloride	62	1.985	1.983	0.002	69	1055515	1250.0	1245.4	
14 Bromomethane	94	2.289	2.275	0.014	92	430090	1250.0	1205.9	
15 Chloroethane	64	2.393	2.390	0.003	99	414218	1250.0	1198.5	
16 Dichlorofluoromethane	67	2.648	2.652	-0.004	97	899876	1250.0	929.4	
17 Trichlorofluoromethane	101	2.672	2.688	-0.016	98	768570	1250.0	938.7	
19 Ethyl ether	59	3.129	3.120	0.009	92	672054	1250.0	1226.6	
20 Acrolein	56	3.311	3.303	0.008	99	128859	1250.0	1291.3	
21 1,1-Dichloroethene	96	3.360	3.370	-0.010	97	682631	1250.0	1265.6	
22 1,1,2-Trichloro-1,2,2-trif	101	3.433	3.437	-0.003	97	764139	1250.0	1245.7	
23 Acetone	43	3.591	3.570	0.021	99	311325	1250.0	1015.1	
24 Iodomethane	142	3.573	3.583	-0.009	99	902718	1250.0	1279.2	
25 Carbon disulfide	76	3.640	3.662	-0.022	100	2378487	1250.0	1268.5	
28 3-Chloro-1-propene	76	3.962	3.960	0.002	89	478246	1250.0	1284.4	
29 Methyl acetate	43	4.096	4.081	0.015	98	993866	2500.0	2558.2	
30 Methylene Chloride	84	4.175	4.179	-0.004	95	786954	1250.0	1184.3	
31 2-Methyl-2-propanol	59	4.613	4.568	0.045	95	480296	12500	12683	
33 trans-1,2-Dichloroethene	96	4.589	4.598	-0.009	95	738962	1250.0	1231.4	
32 Acrylonitrile	53	4.631	4.617	0.014	97	2210808	12500	11721	
34 Methyl tert-butyl ether	73	4.674	4.659	0.015	96	1813294	1250.0	1305.7	
35 Hexane	57	5.002	5.006	-0.004	95	1303690	1250.0	1202.8	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 1,1-Dichloroethane	63	5.209	5.207	0.002	97	1437206	1250.0	1227.2	
37 Vinyl acetate	43	5.343	5.341	0.002	98	1208187	1250.0	1334.6	
41 2,2-Dichloropropane	97	5.970	5.973	-0.003	91	178414	1250.0	1323.4	
42 cis-1,2-Dichloroethene	96	5.982	5.979	0.003	87	764031	1250.0	1210.9	
43 2-Butanone (MEK)	43	6.055	6.052	0.003	100	340825	1250.0	1071.3	
47 Chlorobromomethane	128	6.268	6.265	0.003	93	309048	1250.0	1227.9	
48 Tetrahydrofuran	42	6.347	6.344	0.003	86	363202	2500.0	2623.3	
49 Chloroform	83	6.389	6.387	0.002	96	1298916	1250.0	1145.5	
50 1,1,1-Trichloroethane	97	6.566	6.569	-0.003	97	1080381	1250.0	1280.5	
51 Cyclohexane	56	6.621	6.618	0.003	92	1459545	1250.0	1269.7	
53 Carbon tetrachloride	117	6.754	6.752	0.002	94	869345	1250.0	1340.0	
52 1,1-Dichloropropene	75	6.761	6.764	-0.003	94	1083353	1250.0	1232.4	
55 Benzene	78	6.998	6.995	0.003	100	2801428	1250.0	1116.5	
54 Isobutyl alcohol	41	7.022	7.014	0.008	93	465009	31250	31804	
56 1,2-Dichloroethane	62	7.034	7.032	0.002	98	1014609	1250.0	1180.7	
59 n-Heptane	43	7.314	7.312	0.002	90	1297891	1250.0	1239.7	
60 Trichloroethene	130	7.703	7.707	-0.004	93	661938	1250.0	1270.3	
63 Methylcyclohexane	83	7.898	7.896	0.002	94	1441686	1250.0	1266.6	
64 1,2-Dichloropropane	63	7.947	7.944	0.003	95	755661	1250.0	1231.7	
65 Dibromomethane	93	8.068	8.066	0.002	84	389837	1250.0	1274.0	
67 1,4-Dioxane	88	8.111	8.109	0.002	98	135944	25000	25315	
68 Dichlorobromomethane	83	8.239	8.242	-0.003	98	944001	1250.0	1368.4	
71 cis-1,3-Dichloropropene	75	8.701	8.699	0.002	92	1151716	1250.0	1399.0	
72 4-Methyl-2-pentanone (MIBK	43	8.871	8.869	0.002	97	583673	1250.0	1340.4	
73 Toluene	91	9.030	9.033	-0.003	96	2646800	1250.0	1048.6	
74 trans-1,3-Dichloropropene	75	9.261	9.264	-0.003	97	1029896	1250.0	1265.5	
75 Ethyl methacrylate	69	9.358	9.362	-0.004	89	880294	1250.0	1329.3	
76 1,1,2-Trichloroethane	97	9.443	9.447	-0.004	94	516688	1250.0	1194.1	
77 Tetrachloroethene	164	9.577	9.575	0.002	86	440273	1250.0	1215.7	
78 1,3-Dichloropropane	76	9.608	9.611	-0.003	94	1026939	1250.0	1154.2	
79 2-Hexanone	43	9.705	9.702	0.003	95	451425	1250.0	1281.4	
81 Chlorodibromomethane	129	9.833	9.836	-0.003	89	514480	1250.0	1444.2	
82 Ethylene Dibromide	107	9.942	9.946	-0.004	98	523644	1250.0	1245.2	
83 Chlorobenzene	112	10.435	10.433	0.003	86	1682584	1250.0	1118.4	
85 1,1,1,2-Tetrachloroethane	131	10.514	10.518	-0.004	92	581956	1250.0	1311.1	
86 Ethylbenzene	106	10.544	10.542	0.002	98	969385	1250.0	1165.0	
87 m-Xylene & p-Xylene	106	10.660	10.658	0.002	97	1241775	1250.0	1182.2	
88 o-Xylene	106	11.049	11.053	-0.004	96	1200199	1250.0	1197.4	
89 Styrene	104	11.068	11.065	0.003	91	1964731	1250.0	1141.6	
90 Bromoform	173	11.256	11.254	0.002	87	248562	1250.0	1523.8	
91 Isopropylbenzene	105	11.420	11.418	0.002	99	2974790	1250.0	1104.5	
93 1,1,2,2-Tetrachloroethane	83	11.719	11.716	0.003	96	691747	1250.0	1204.8	
94 Bromobenzene	156	11.725	11.722	0.003	95	607054	1250.0	1194.5	
95 1,2,3-Trichloropropane	110	11.767	11.765	0.002	84	200272	1250.0	1176.7	
96 trans-1,4-Dichloro-2-buten	53	11.779	11.777	0.002	87	240126	1250.0	1431.0	
97 N-Propylbenzene	120	11.828	11.826	0.002	96	869580	1250.0	1201.5	
98 2-Chlorotoluene	126	11.919	11.911	0.008	94	738621	1250.0	1217.5	
99 1,3,5-Trimethylbenzene	105	12.004	12.002	0.002	95	2564591	1250.0	1093.4	
100 4-Chlorotoluene	126	12.029	12.020	0.009	98	750205	1250.0	1185.8	
101 tert-Butylbenzene	119	12.333	12.331	0.002	91	2253096	1250.0	1173.1	
103 1,2,4-Trimethylbenzene	105	12.376	12.379	-0.003	98	2607518	1250.0	1104.5	
104 sec-Butylbenzene	105	12.552	12.550	0.002	97	3272880	1250.0	1082.1	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
105 1,3-Dichlorobenzene	146	12.661	12.659	0.002	90	1244644	1250.0	1168.3	
106 4-Isopropyltoluene	119	12.692	12.689	0.003	93	2641766	1250.0	1113.4	
107 1,4-Dichlorobenzene	146	12.753	12.750	0.003	85	1244804	1250.0	1193.6	
110 n-Butylbenzene	91	13.106	13.103	0.003	95	2860171	1250.0	1131.5	
111 1,2-Dichlorobenzene	146	13.130	13.127	0.003	89	1157621	1250.0	1172.1	
112 1,2-Dibromo-3-Chloropropan	75	13.909	13.912	-0.003	70	145508	1250.0	1537.0	
114 1,2,4-Trichlorobenzene	180	14.736	14.740	-0.004	90	739472	1250.0	1335.3	
115 Hexachlorobutadiene	225	14.906	14.904	0.002	82	267185	1250.0	1295.9	
116 Naphthalene	128	14.991	14.989	0.002	99	1761982	1250.0	1343.9	
117 1,2,3-Trichlorobenzene	180	15.235	15.238	-0.003	91	640699	1250.0	1314.1	
S 141 Total BTEX	1		1.000				6250.0	ND	
S 129 Xylenes, Total	106				0		2500.0	2379.6	
S 130 1,2-Dichloroethene, Total	96				0		2500.0	2442.3	
S 131 1,3-Dichloropropene, Total	1				0		2500.0	2664.5	

Reagents:

VOA8260SURR_00096	Amount Added: 50.00	Units: uL	
VOA8260VOAPRI_00362	Amount Added: 50.00	Units: uL	
VOAVAPRI_00025	Amount Added: 50.00	Units: uL	
VOAACRPRI_00019	Amount Added: 50.00	Units: uL	
VOA8260INT_00096	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 29-Jun-2019 22:19:37 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K10.D

Injection Date: 29-Jun-2019 14:21:30 Instrument ID: CHHP3 Operator ID: 10099

Lims ID: IC VSTD250 Worklist Smp#: 10

Client ID:

Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 10

Method: MSVOA_S_CHHP3 Limit Group: VOA 8260C_D ICAL

Column: DB-624 (0.18 mm)

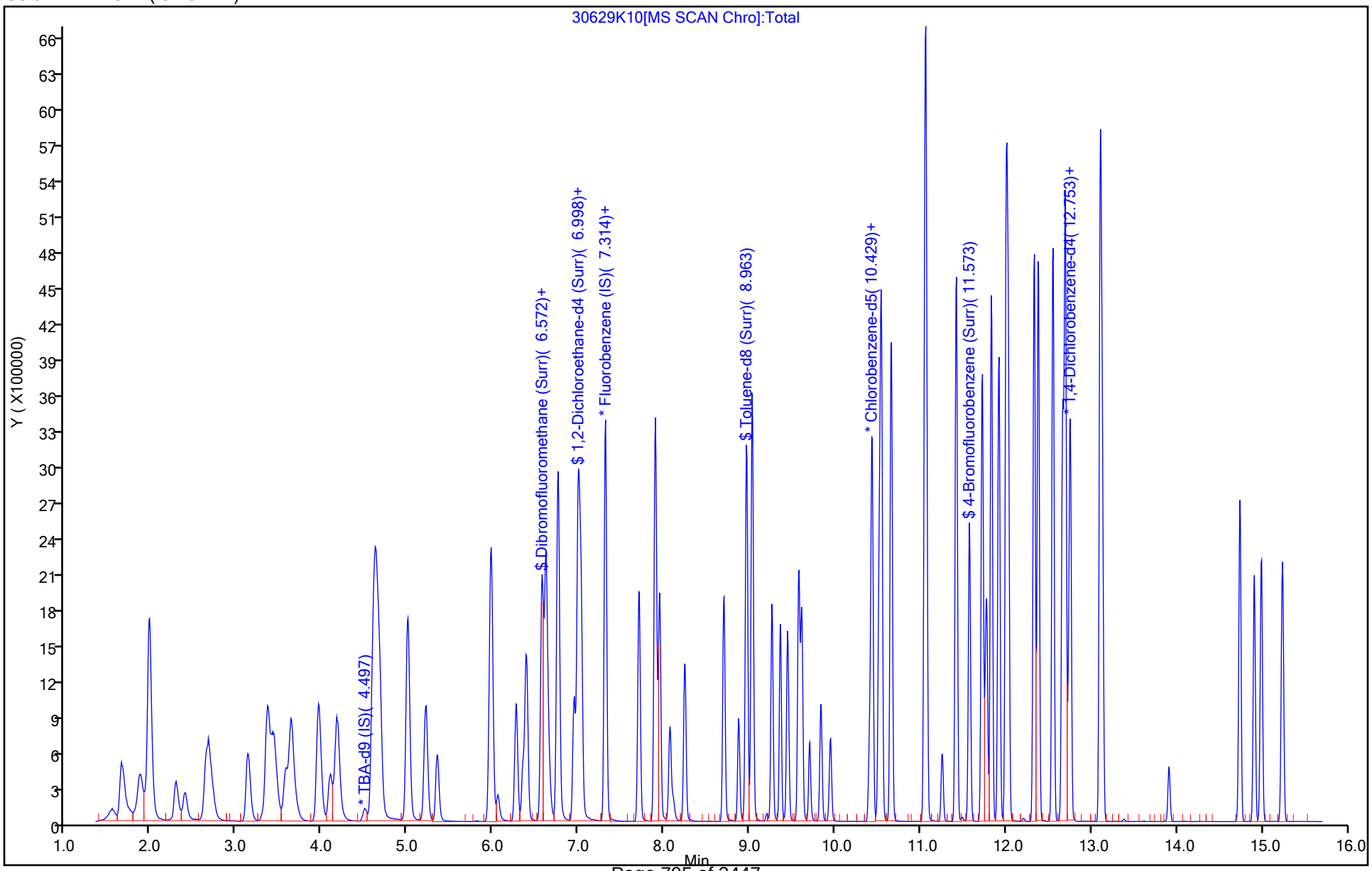

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 180-282028/12 Calibration Date: 06/18/2019 11:22

Instrument ID: CHHP3 Calib Start Date: 06/18/2019 07:14

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 06/18/2019 10:42

Lab File ID: 3061812.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Isopropyl alcohol	Ave	0.0125	0.0115	0.0100	367	400	-8.1	30.0
Acetonitrile	Ave	0.0336	0.0340	0.0100	404	400	1.0	30.0
Chloroprene	Ave	0.5094	0.5564	0.0100	43.7	40.0	9.2	30.0
Isopropyl ether	Ave	0.9032	0.9685	0.0100	42.9	40.0	7.2	30.0
Tert-butyl ethyl ether	Ave	0.7874	0.8178	0.0100	41.5	40.0	3.9	30.0
Propionitrile	Ave	0.0334	0.0324	0.0100	388	400	-2.9	30.0
Ethyl acetate	Ave	0.2090	0.2014	0.0100	77.1	80.0	-3.6	30.0
Methacrylonitrile	Ave	0.1416	0.1403	0.0100	396	400	-0.9	30.0
Isooctane	Ave	1.252	1.409	0.0100	45.0	40.0	12.6	30.0
Tert-amyl methyl ether	Ave	0.6503	0.6679	0.0100	41.1	40.0	2.7	30.0
n-Butanol	Ave	0.0045	0.0039*	0.0100	859	1000	-14.1	30.0
Ethyl acrylate	Ave	1.180	1.098	0.0100	37.2	40.0	-6.9	30.0
Methyl methacrylate	Ave	0.1753	0.1715	0.0100	78.3	80.0	-2.2	30.0
2-Chloroethyl vinyl ether	Lin2		0.1120	0.0100	74.3	80.0	-7.1	30.0
n-Butyl acetate	Ave	1.288	1.187	0.0100	36.9	40.0	-7.9	30.0
Cyclohexanone	Ave	0.0289	0.0246	0.0100	680	800	-15.0	30.0
1,2,3-Trimethylbenzene	Ave	3.243	3.396	0.0100	41.9	40.0	4.7	30.0
Benzyl chloride	Lin1		0.7189	0.0100	31.0	40.0	-22.5	30.0
1,3,5-Trichlorobenzene	Ave	1.136	1.144	0.0100	40.3	40.0	0.6	30.0

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP3\20190618-27335.b\3061812.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 18-Jun-2019 11:22:30 ALS Bottle#: 12 Worklist Smp#: 12
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0027335-012
Operator ID: 10099 Instrument ID: CHHP3
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHHP3\20190618-27335.b\MSVOA_S_CHHP3.m
Limit Group: VOA 8260C_D ICAL
Last Update: 18-Jun-2019 11:50:25 Calib Date: 18-Jun-2019 10:42:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP3\20190618-27335.b\3061811.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: gordonk Date: 18-Jun-2019 11:50:45

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.374	4.392	-0.018	92	123395	5000.0	5000.0	
* 2 Fluorobenzene (IS)	96	7.319	7.318	0.001	98	447442	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.403	10.408	-0.005	91	113340	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.727	12.726	0.001	98	156480	250.0	250.0	
26 Isopropyl alcohol	45	3.845	3.869	-0.024	97	41211	2000.0	1837.1	
27 Acetonitrile	41	3.979	4.003	-0.024	99	121563	2000.0	2019.5	
38 2-Chloro-1,3-butadiene	53	5.335	5.353	-0.018	95	199148	200.0	218.4	
39 Isopropyl ether	45	5.372	5.377	-0.005	92	346686	200.0	214.5	
40 Tert-butyl ethyl ether	59	5.840	5.846	-0.006	96	292725	200.0	207.7	
44 Propionitrile	54	6.114	6.120	-0.006	99	116111	2000.0	1941.1	
45 Ethyl acetate	43	6.138	6.144	-0.006	99	144157	400.0	385.4	
46 Methacrylonitrile	41	6.291	6.296	-0.005	91	502182	2000.0	1982.1	
58 Isooctane	57	7.100	7.105	-0.005	97	504335	200.0	225.1	
57 Tert-amyl methyl ether	73	7.154	7.160	-0.006	95	239060	200.0	205.4	
61 n-Butanol	56	7.708	7.707	0.001	93	34461	5000.0	4294.6	
62 Ethyl acrylate	55	7.860	7.859	0.001	99	99581	200.0	186.2	
66 Methyl methacrylate	69	8.097	8.097	0.000	88	122765	400.0	391.4	
70 2-Chloroethyl vinyl ether	63	8.566	8.565	0.001	93	80198	400.0	371.6	
80 n-Butyl acetate	43	9.831	9.831	0.000	97	107616	200.0	184.3	
92 Cyclohexanone	55	11.522	11.528	-0.006	93	44515	4000.0	3398.1	
108 1,2,3-Trimethylbenzene	105	12.800	12.799	0.001	99	425184	200.0	209.5	
109 Benzyl chloride	91	12.891	12.891	0.001	99	89995	200.0	155.0	
113 1,3,5-Trichlorobenzene	180	14.120	14.113	0.007	94	143171	200.0	201.3	

Reagents:

VOAList22ND_00005	Amount Added:	8.00	Units: uL	
VOACEVE2ND_00020	Amount Added:	8.00	Units: uL	
VOA8260INT_00095	Amount Added:	10.00	Units: uL	Run Reagent

Report Date: 18-Jun-2019 11:50:46 Chrom Revision: 2.3 02-Jun-2019 10:27:32

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20190618-27335.b\3061812.D				
Injection Date:	18-Jun-2019 11:22:30	Instrument ID:	CHHP3	Operator ID:	10099
Lims ID:	ICV			Worklist Smp#:	12
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

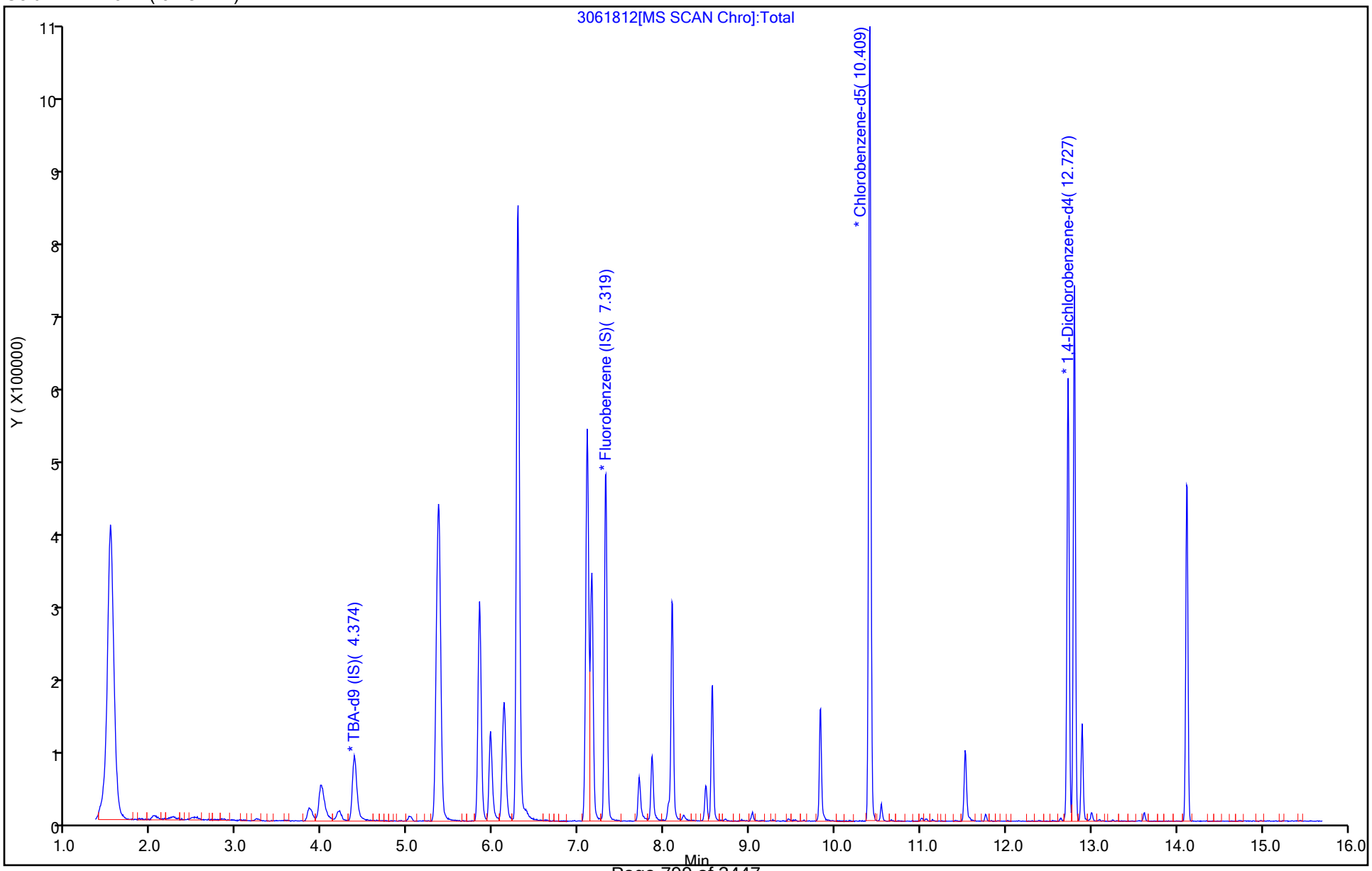

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 180-283451/18 Calibration Date: 06/29/2019 17:26

Instrument ID: CHHP3 Calib Start Date: 06/29/2019 12:00

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 06/29/2019 14:21

Lab File ID: 30629K18.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.4775	0.5006	0.1000	41.9	40.0	4.8	30.0
Chloromethane	Ave	0.4466	0.4590	0.1000	41.1	40.0	2.8	30.0
1,3-Butadiene	Ave	0.4461	0.4567	0.0100	41.0	40.0	2.4	30.0
Vinyl chloride	Ave	0.4037	0.4028	0.1000	39.9	40.0	-0.2	30.0
Bromomethane	Ave	0.1699	0.1691	0.0500	39.8	40.0	-0.5	30.0
Chloroethane	Ave	0.1646	0.1639	0.0500	39.8	40.0	-0.4	30.0
Dichlorofluoromethane	Ave	0.4613	0.4699	0.0100	40.8	40.0	1.9	30.0
Trichlorofluoromethane	Ave	0.3900	0.4038	0.1000	41.4	40.0	3.5	30.0
Ethyl ether	Ave	0.2610	0.2665	0.0100	40.8	40.0	2.1	30.0
Acrolein	Ave	0.0475	0.0460	0.0100	169	175	-3.3	30.0
1,1-Dichloroethene	Ave	0.2569	0.2672	0.1000	41.6	40.0	4.0	30.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.2922	0.3035	0.1000	41.6	40.0	3.9	30.0
Acetone	Ave	0.1461	0.1238	0.0500	33.9	40.0	-15.3	30.0
Iodomethane	Ave	0.3362	0.3456	0.0100	41.1	40.0	2.8	30.0
Carbon disulfide	Lin1		0.7897	0.1000	38.3	40.0	-4.2	30.0
Allyl chloride	Lin2		0.1641	0.0100	38.6	40.0	-3.5	30.0
Methyl acetate	Ave	0.1851	0.1930	0.1000	83.4	80.0	4.3	30.0
Methylene Chloride	Lin2		0.3496	0.1000	40.4	40.0	1.0	30.0
tert-Butyl alcohol	Ave	1.238	1.220	0.0100	394	400	-1.5	30.0
trans-1,2-Dichloroethene	Ave	0.2859	0.2935	0.1000	41.1	40.0	2.7	30.0
Acrylonitrile	Ave	0.0899	0.0958	0.0100	426	400	6.6	30.0
Methyl tert-butyl ether	Ave	0.6615	0.6939	0.1000	42.0	40.0	4.9	30.0
Hexane	Ave	0.5163	0.5243	0.0100	40.6	40.0	1.5	30.0
1,1-Dichloroethane	Ave	0.5579	0.5765	0.2000	41.3	40.0	3.3	30.0
Vinyl acetate	Lin2		0.3596	0.0100	34.9	40.0	-12.7	30.0
2,2-Dichloropropane	Ave	0.0642	0.0675	0.0100	42.0	40.0	5.1	30.0
cis-1,2-Dichloroethene	Ave	0.3006	0.3159	0.1000	42.0	40.0	5.1	30.0
2-Butanone (MEK)	Ave	0.1516	0.1362	0.0500	35.9	40.0	-10.2	30.0
Chlorobromomethane	Ave	0.1199	0.1237	0.0100	41.3	40.0	3.1	30.0
Tetrahydrofuran	Ave	0.0660	0.0687	0.0100	83.4	80.0	4.2	30.0
Chloroform	Ave	0.5402	0.5397	0.2000	40.0	40.0	-0.0	30.0
1,1,1-Trichloroethane	Ave	0.4019	0.4257	0.1000	42.4	40.0	5.9	30.0
Cyclohexane	Ave	0.5476	0.5844	0.1000	42.7	40.0	6.7	30.0
Carbon tetrachloride	Ave	0.3091	0.3207	0.1000	41.5	40.0	3.8	30.0
1,1-Dichloropropene	Ave	0.4188	0.4318	0.0100	41.2	40.0	3.1	30.0
Benzene	Ave	1.195	1.236	0.5000	41.3	40.0	3.4	30.0
Isobutyl alcohol	Lin2		0.0066*	0.0100	973	1000	-2.7	30.0
1,2-Dichloroethane	Ave	0.4093	0.4227	0.1000	41.3	40.0	3.3	30.0
n-Heptane	Ave	0.4987	0.5183	0.0100	41.6	40.0	3.9	30.0
Trichloroethene	Ave	0.2482	0.2588	0.2000	41.7	40.0	4.3	30.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 180-283451/18 Calibration Date: 06/29/2019 17:26

Instrument ID: CHHP3 Calib Start Date: 06/29/2019 12:00

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 06/29/2019 14:21

Lab File ID: 30629K18.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methylcyclohexane	Ave	0.5422	0.5880	0.1000	43.4	40.0	8.4	30.0
1,2-Dichloropropane	Ave	0.2922	0.3001	0.1000	41.1	40.0	2.7	30.0
Dibromomethane	Ave	0.1458	0.1513	0.0100	41.5	40.0	3.8	30.0
1,4-Dioxane	Lin1		0.0025*	0.0100	801	800	0.2	30.0
Dichlorobromomethane	Ave	0.3286	0.3465	0.2000	42.2	40.0	5.5	30.0
cis-1,3-Dichloropropene	Ave	0.3922	0.4198	0.2000	42.8	40.0	7.0	30.0
4-Methyl-2-pentanone (MIBK)	Ave	0.9000	0.9652	0.1000	42.9	40.0	7.2	30.0
Toluene	Ave	5.217	5.399	0.4000	41.4	40.0	3.5	30.0
trans-1,3-Dichloropropene	Lin2		1.574	0.1000	39.2	40.0	-2.0	30.0
Ethyl methacrylate	Ave	1.369	1.504	0.0100	43.9	40.0	9.9	30.0
1,1,2-Trichloroethane	Ave	0.8943	0.9258	0.1000	41.4	40.0	3.5	30.0
Tetrachloroethene	Ave	0.7485	0.7462	0.2000	39.9	40.0	-0.3	30.0
1,3-Dichloropropane	Ave	1.839	1.893	0.0100	41.2	40.0	2.9	30.0
2-Hexanone	Ave	0.7281	0.7213	0.1000	39.6	40.0	-0.9	30.0
Chlorodibromomethane	Ave	0.7363	0.7744	0.1000	42.1	40.0	5.2	30.0
1,2-Dibromoethane	Ave	0.8692	0.8982	0.1000	41.3	40.0	3.3	30.0
Chlorobenzene	Ave	3.110	3.099	0.5000	39.9	40.0	-0.3	30.0
1,1,1,2-Tetrachloroethane	Ave	0.9174	0.9550	0.0100	41.6	40.0	4.1	30.0
Ethylbenzene	Ave	1.720	1.769	0.1000	41.1	40.0	2.9	30.0
m-Xylene & p-Xylene	Ave	2.171	2.218	0.1000	40.9	40.0	2.2	30.0
o-Xylene	Ave	2.072	2.184	0.3000	42.2	40.0	5.4	30.0
Styrene	Ave	3.557	3.690	0.3000	41.5	40.0	3.7	30.0
Bromoform	Lin2		0.3192	0.1000	39.6	40.0	-1.0	30.0
Isopropylbenzene	Ave	5.567	5.880	0.1000	42.2	40.0	5.6	30.0
1,1,2,2-Tetrachloroethane	Ave	1.187	1.218	0.3000	41.1	40.0	2.7	30.0
Bromobenzene	Ave	0.7692	0.8145	0.0100	42.4	40.0	5.9	30.0
1,2,3-Trichloropropane	Ave	0.2576	0.2700	0.0100	41.9	40.0	4.8	30.0
trans-1,4-Dichloro-2-butene	Ave	0.2540	0.2665	0.0100	42.0	40.0	4.9	30.0
N-Propylbenzene	Ave	1.095	1.133	0.0100	41.4	40.0	3.5	30.0
2-Chlorotoluene	Ave	0.9183	0.9702	0.0100	42.3	40.0	5.7	30.0
1,3,5-Trimethylbenzene	Ave	3.550	3.840	0.0100	43.3	40.0	8.2	30.0
4-Chlorotoluene	Ave	0.9576	0.9635	0.0100	40.2	40.0	0.6	30.0
tert-Butylbenzene	Ave	2.907	3.131	0.0100	43.1	40.0	7.7	30.0
1,2,4-Trimethylbenzene	Ave	3.573	3.844	0.0100	43.0	40.0	7.6	30.0
sec-Butylbenzene	Ave	4.578	4.995	0.0100	43.6	40.0	9.1	30.0
1,3-Dichlorobenzene	Ave	1.613	1.669	0.6000	41.4	40.0	3.5	30.0
4-Isopropyltoluene	Ave	3.591	3.925	0.0100	43.7	40.0	9.3	30.0
1,4-Dichlorobenzene	Ave	1.579	1.606	0.5000	40.7	40.0	1.8	30.0
n-Butylbenzene	Ave	3.826	4.136	0.0100	43.2	40.0	8.1	30.0
1,2-Dichlorobenzene	Ave	1.495	1.564	0.4000	41.8	40.0	4.6	30.0
1,2-Dibromo-3-Chloropropane	Ave	0.1433	0.1445	0.0500	40.3	40.0	0.9	30.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 180-283451/18 Calibration Date: 06/29/2019 17:26

Instrument ID: CHHP3 Calib Start Date: 06/29/2019 12:00

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 06/29/2019 14:21

Lab File ID: 30629K18.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2,4-Trichlorobenzene	Ave	0.8382	0.8511	0.2000	40.6	40.0	1.5	30.0
Hexachlorobutadiene	Ave	0.3121	0.3191	0.0100	40.9	40.0	2.3	30.0
Naphthalene	Ave	1.984	2.130	0.0100	42.9	40.0	7.3	30.0
1,2,3-Trichlorobenzene	Ave	0.7380	0.7501	0.0100	40.7	40.0	1.6	30.0
Dibromofluoromethane (Surr)	Ave	0.2207	0.2332		42.3	40.0	5.7	30.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3570	0.3664		41.0	40.0	2.6	30.0
Toluene-d8 (Surr)	Ave	4.095	4.216		41.2	40.0	3.0	30.0
4-Bromofluorobenzene (Surr)	Ave	1.742	1.764		40.5	40.0	1.3	30.0

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K18.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 29-Jun-2019 17:26:30 ALS Bottle#: 18 Worklist Smp#: 18
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0027546-018
Operator ID: 10099 Instrument ID: CHHP3
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\MSVOA_S_CHHP3.m
Limit Group: VOA 8260C_D ICAL
Last Update: 29-Jun-2019 22:34:14 Calib Date: 29-Jun-2019 14:21:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K10.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0320

First Level Reviewer: gordonk Date: 29-Jun-2019 22:35:16

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.456	4.440	0.016	90	155874	5000.0	5000.0	
* 2 Fluorobenzene (IS)	96	7.315	7.312	0.003	92	541030	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.405	10.402	0.003	91	122068	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.729	12.726	0.003	95	159835	250.0	250.0	
$ 5 Dibromofluoromethane (Surr	113	6.579	6.569	0.010	76	100950	200.0	211.4	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.950	6.947	0.003	92	158591	200.0	205.2	
$ 7 Toluene-d8 (Surr)	98	8.963	8.966	-0.003	94	411701	200.0	205.9	
$ 8 4-Bromofluorobenzene (Surr	95	11.573	11.570	0.003	74	172261	200.0	202.5	
10 Dichlorodifluoromethane	85	1.675	1.642	0.033	98	216689	200.0	209.7	
11 Chloromethane	50	1.876	1.861	0.015	99	198662	200.0	205.5	
13 Butadiene	39	1.986	1.964	0.022	94	197675	200.0	204.8	
12 Vinyl chloride	62	2.004	1.983	0.021	98	174323	200.0	199.5	
14 Bromomethane	94	2.296	2.275	0.021	91	73197	200.0	199.1	
15 Chloroethane	64	2.399	2.390	0.009	99	70942	200.0	199.1	
16 Dichlorofluoromethane	67	2.673	2.652	0.021	99	203388	200.0	203.8	
17 Trichlorofluoromethane	101	2.697	2.688	0.009	96	174779	200.0	207.1	
19 Ethyl ether	59	3.142	3.120	0.022	92	115339	200.0	204.2	
20 Acrolein	56	3.312	3.303	0.009	99	87077	875.0	846.4	
21 1,1-Dichloroethene	96	3.391	3.370	0.021	95	115633	200.0	208.0	
22 1,1,2-Trichloro-1,2,2-trif	101	3.464	3.437	0.028	95	131380	200.0	207.8	
23 Acetone	43	3.586	3.570	0.016	55	53563	200.0	169.4	
24 Iodomethane	142	3.592	3.583	0.010	99	149581	200.0	205.6	
25 Carbon disulfide	76	3.665	3.662	0.003	100	341793	200.0	191.7	
28 3-Chloro-1-propene	76	3.969	3.960	0.009	89	71003	200.0	193.1	
29 Methyl acetate	43	4.091	4.081	0.010	98	167046	400.0	417.1	
30 Methylene Chloride	84	4.182	4.179	0.003	96	151305	200.0	202.0	
31 2-Methyl-2-propanol	59	4.577	4.568	0.009	90	76051	2000.0	1969.8	
33 trans-1,2-Dichloroethene	96	4.608	4.598	0.010	95	127027	200.0	205.3	
32 Acrylonitrile	53	4.626	4.617	0.009	99	414651	2000.0	2132.4	
34 Methyl tert-butyl ether	73	4.675	4.659	0.016	97	300317	200.0	209.8	
35 Hexane	57	5.015	5.006	0.009	94	226930	200.0	203.1	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 1,1-Dichloroethane	63	5.222	5.207	0.015	97	249537	200.0	206.7	
37 Vinyl acetate	43	5.350	5.341	0.009	98	155649	200.0	174.6	
41 2,2-Dichloropropane	97	5.970	5.973	-0.003	86	29206	200.0	210.1	
42 cis-1,2-Dichloroethene	96	5.983	5.979	0.004	83	136731	200.0	210.2	
43 2-Butanone (MEK)	43	6.056	6.052	0.004	100	58933	200.0	179.7	
47 Chlorobromomethane	128	6.275	6.265	0.010	92	53523	200.0	206.3	
48 Tetrahydrofuran	42	6.354	6.344	0.010	86	59487	400.0	416.8	
49 Chloroform	83	6.390	6.387	0.003	96	233610	200.0	199.8	
50 1,1,1-Trichloroethane	97	6.573	6.569	0.004	97	184261	200.0	211.8	
51 Cyclohexane	56	6.621	6.618	0.003	93	252944	200.0	213.4	
53 Carbon tetrachloride	117	6.761	6.752	0.009	94	138791	200.0	207.5	
52 1,1-Dichloropropene	75	6.767	6.764	0.003	95	186892	200.0	206.2	
55 Benzene	78	6.998	6.995	0.003	97	534770	200.0	206.7	
54 Isobutyl alcohol	41	7.017	7.014	0.003	90	71592	5000.0	4863.2	
56 1,2-Dichloroethane	62	7.035	7.032	0.003	98	182972	200.0	206.5	
59 n-Heptane	43	7.315	7.312	0.003	69	224347	200.0	207.9	
60 Trichloroethene	130	7.710	7.707	0.003	93	112013	200.0	208.5	
63 Methylcyclohexane	83	7.899	7.896	0.003	93	254490	200.0	216.9	
64 1,2-Dichloropropane	63	7.948	7.944	0.004	93	129869	200.0	205.3	
65 Dibromomethane	93	8.069	8.066	0.003	84	65501	200.0	207.6	
67 1,4-Dioxane	88	8.112	8.109	0.003	99	21793	4000.0	4007.4	
68 Dichlorobromomethane	83	8.246	8.242	0.004	98	149992	200.0	210.9	
71 cis-1,3-Dichloropropene	75	8.702	8.699	0.003	92	181707	200.0	214.1	
72 4-Methyl-2-pentanone (MIBK	43	8.872	8.869	0.003	98	94257	200.0	214.5	
73 Toluene	91	9.030	9.033	-0.003	97	527227	200.0	207.0	
74 trans-1,3-Dichloropropene	75	9.262	9.264	-0.002	97	153701	200.0	196.1	
75 Ethyl methacrylate	69	9.359	9.362	-0.003	91	146827	200.0	219.7	
76 1,1,2-Trichloroethane	97	9.450	9.447	0.003	95	90412	200.0	207.0	
77 Tetrachloroethene	164	9.578	9.575	0.003	88	72871	200.0	199.4	
78 1,3-Dichloropropane	76	9.614	9.611	0.003	93	184844	200.0	205.9	
79 2-Hexanone	43	9.706	9.702	0.004	98	70438	200.0	198.1	
81 Chlorodibromomethane	129	9.833	9.836	-0.003	90	75619	200.0	210.3	
82 Ethylene Dibromide	107	9.949	9.946	0.003	97	87714	200.0	206.7	
83 Chlorobenzene	112	10.436	10.433	0.004	88	302609	200.0	199.3	
85 1,1,1,2-Tetrachloroethane	131	10.515	10.518	-0.003	90	93260	200.0	208.2	
86 Ethylbenzene	106	10.539	10.542	-0.003	100	172772	200.0	205.7	
87 m-Xylene & p-Xylene	106	10.655	10.658	-0.003	98	216605	200.0	204.3	
88 o-Xylene	106	11.050	11.053	-0.003	97	213306	200.0	210.9	
89 Styrene	104	11.062	11.065	-0.003	93	360311	200.0	207.4	
90 Bromoform	173	11.251	11.254	-0.003	86	31172	200.0	198.0	
91 Isopropylbenzene	105	11.415	11.418	-0.003	98	574169	200.0	211.2	
93 1,1,2,2-Tetrachloroethane	83	11.719	11.716	0.003	94	118965	200.0	205.3	
94 Bromobenzene	156	11.725	11.722	0.003	93	104144	200.0	211.8	
95 1,2,3-Trichloropropane	110	11.762	11.765	-0.003	85	34526	200.0	209.6	
96 trans-1,4-Dichloro-2-buten	53	11.780	11.777	0.003	76	34071	200.0	209.8	
97 N-Propylbenzene	120	11.829	11.826	0.003	99	144929	200.0	206.9	
98 2-Chlorotoluene	126	11.914	11.911	0.003	94	124054	200.0	211.3	
99 1,3,5-Trimethylbenzene	105	11.999	12.002	-0.003	93	491047	200.0	216.3	
100 4-Chlorotoluene	126	12.023	12.020	0.003	99	123194	200.0	201.2	
101 tert-Butylbenzene	119	12.328	12.331	-0.003	91	400374	200.0	215.4	
103 1,2,4-Trimethylbenzene	105	12.376	12.379	-0.003	99	491465	200.0	215.1	
104 sec-Butylbenzene	105	12.547	12.550	-0.003	96	638752	200.0	218.2	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
105 1,3-Dichlorobenzene	146	12.662	12.659	0.003	92	213462	200.0	207.0	
106 4-Isopropyltoluene	119	12.693	12.689	0.004	96	501934	200.0	218.6	
107 1,4-Dichlorobenzene	146	12.753	12.750	0.003	90	205379	200.0	203.5	
110 n-Butylbenzene	91	13.100	13.103	-0.003	99	528800	200.0	216.2	
111 1,2-Dichlorobenzene	146	13.125	13.127	-0.002	90	199955	200.0	209.2	
112 1,2-Dibromo-3-Chloropropan	75	13.909	13.912	-0.003	67	18479	200.0	201.7	
114 1,2,4-Trichlorobenzene	180	14.737	14.740	-0.003	90	108828	200.0	203.1	
115 Hexachlorobutadiene	225	14.907	14.904	0.003	79	40807	200.0	204.5	
116 Naphthalene	128	14.986	14.989	-0.003	99	272302	200.0	214.6	
117 1,2,3-Trichlorobenzene	180	15.235	15.238	-0.003	93	95910	200.0	203.3	
S 141 Total BTEX	1		1.000				1000.0	ND	
S 129 Xylenes, Total	106				0		400.0	415.2	
S 130 1,2-Dichloroethene, Total	96				0		400.0	415.5	
S 131 1,3-Dichloropropene, Total	1				0		400.0	410.2	

Reagents:

VOA8260SURR_00096	Amount Added: 8.00	Units: uL	
VOA8260VOA2ND_00360	Amount Added: 8.00	Units: uL	
VOAVA2ND_00022	Amount Added: 8.00	Units: uL	
VOAACR2ND_00024	Amount Added: 35.00	Units: uL	
VOA8260INT_00096	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 29-Jun-2019 22:35:17 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K18.D				
Injection Date:	29-Jun-2019 17:26:30	Instrument ID:	CHHP3	Operator ID:	10099
Lims ID:	ICV			Worklist Smp#:	18
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	18
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

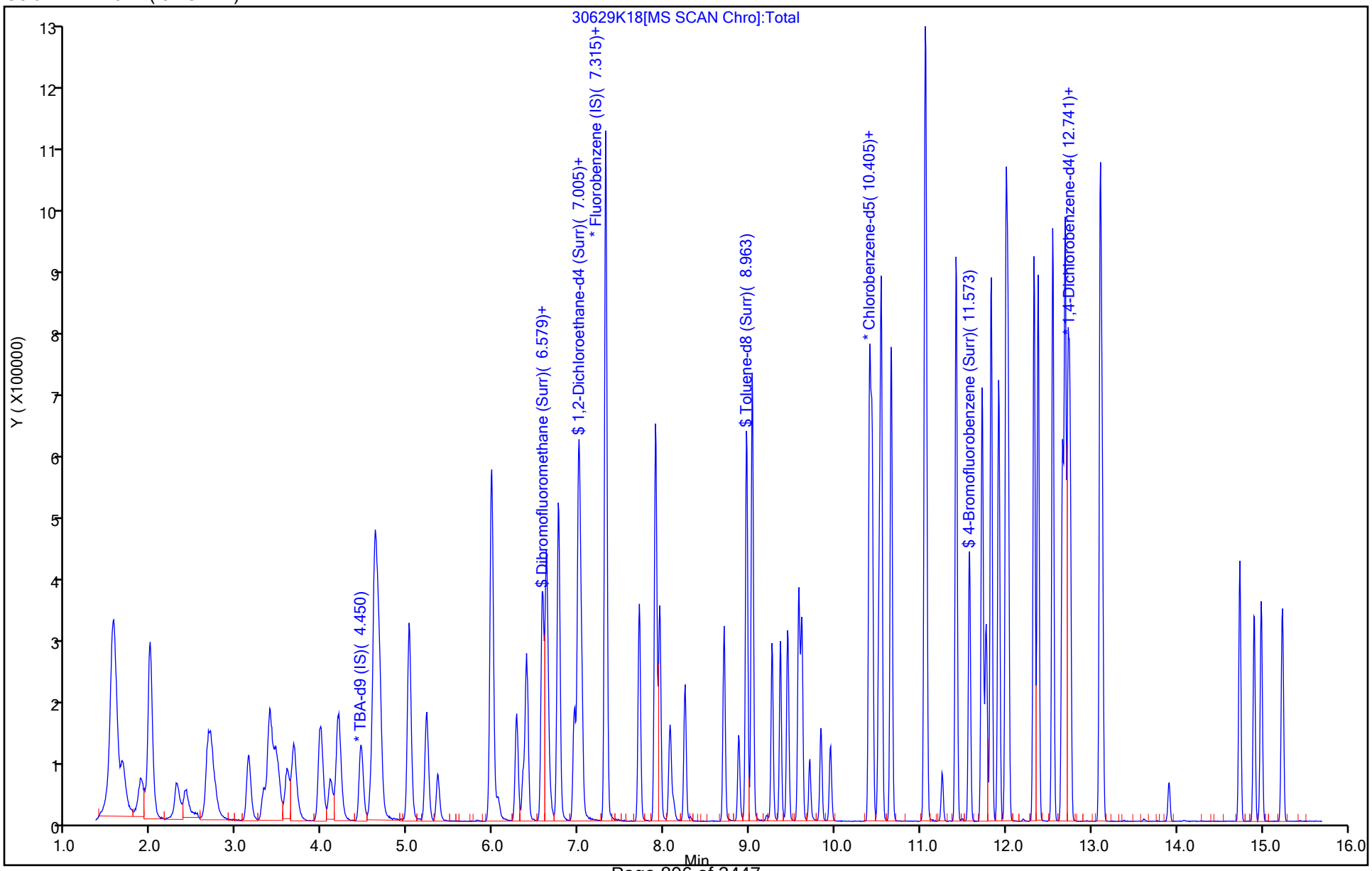

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCVIS 180-295465/2 Calibration Date: 10/20/2019 10:33

Instrument ID: CHHP3 Calib Start Date: 06/29/2019 12:00

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 06/29/2019 14:21

Lab File ID: 3102002.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.4775	0.4502	0.1000	37.7	40.0	-5.7	20.0
Chloromethane	Ave	0.4466	0.3534	0.1000	31.6	40.0	-20.9*	20.0
1,3-Butadiene	Ave	0.4461	0.3778	0.0100	33.9	40.0	-15.3	20.0
Vinyl chloride	Ave	0.4037	0.3600	0.1000	35.7	40.0	-10.8	20.0
Bromomethane	Ave	0.1699	0.1829	0.0500	43.1	40.0	7.6	20.0
Chloroethane	Ave	0.1646	0.1732	0.0500	42.1	40.0	5.2	20.0
Dichlorofluoromethane	Ave	0.4613	0.4836	0.0100	41.9	40.0	4.8	20.0
Trichlorofluoromethane	Ave	0.3900	0.4161	0.1000	42.7	40.0	6.7	20.0
Ethyl ether	Ave	0.2610	0.2425	0.0100	37.2	40.0	-7.1	20.0
1,1-Dichloroethene	Ave	0.2569	0.2586	0.1000	40.3	40.0	0.7	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.2922	0.2897	0.1000	39.7	40.0	-0.9	20.0
Acetone	Ave	0.1461	0.1555	0.0500	42.6	40.0	6.5	20.0
Iodomethane	Ave	0.3362	0.3206	0.0100	38.1	40.0	-4.6	20.0
Carbon disulfide	Lin1		0.7129	0.1000	34.9	40.0	-12.6	20.0
Allyl chloride	Lin2		0.1679	0.0100	39.5	40.0	-1.3	20.0
Methyl acetate	Ave	0.1851	0.1639	0.1000	70.9	80.0	-11.4	20.0
Methylene Chloride	Lin2		0.3067	0.1000	34.9	40.0	-12.8	20.0
tert-Butyl alcohol	Ave	1.238	1.149	0.0100	371	400	-7.2	20.0
trans-1,2-Dichloroethene	Ave	0.2859	0.2918	0.1000	40.8	40.0	2.1	20.0
Acrylonitrile	Ave	0.0899	0.0820	0.0100	365	400	-8.7	20.0
Methyl tert-butyl ether	Ave	0.6615	0.7146	0.1000	43.2	40.0	8.0	20.0
Hexane	Ave	0.5163	0.4956	0.0100	38.4	40.0	-4.0	20.0
1,1-Dichloroethane	Ave	0.5579	0.5306	0.2000	38.0	40.0	-4.9	20.0
2,2-Dichloropropane	Ave	0.0642	0.0675	0.0100	42.0	40.0	5.1	20.0
cis-1,2-Dichloroethene	Ave	0.3006	0.3153	0.1000	42.0	40.0	4.9	20.0
2-Butanone (MEK)	Ave	0.1516	0.1478	0.0500	39.0	40.0	-2.5	20.0
Chlorobromomethane	Ave	0.1199	0.1179	0.0100	39.3	40.0	-1.7	20.0
Tetrahydrofuran	Ave	0.0660	0.0647	0.0100	78.5	80.0	-1.8	20.0
Chloroform	Ave	0.5402	0.5219	0.2000	38.6	40.0	-3.4	20.0
1,1,1-Trichloroethane	Ave	0.4019	0.4343	0.1000	43.2	40.0	8.0	20.0
Cyclohexane	Ave	0.5476	0.5369	0.1000	39.2	40.0	-2.0	20.0
Carbon tetrachloride	Ave	0.3091	0.3186	0.1000	41.2	40.0	3.1	20.0
1,1-Dichloropropene	Ave	0.4188	0.4460	0.0100	42.6	40.0	6.5	20.0
Benzene	Ave	1.195	1.173	0.5000	39.2	40.0	-1.9	20.0
Isobutyl alcohol	Lin2		0.0066*	0.0100	972	1000	-2.8	20.0
1,2-Dichloroethane	Ave	0.4093	0.4103	0.1000	40.1	40.0	0.2	20.0
n-Heptane	Ave	0.4987	0.4579	0.0100	36.7	40.0	-8.2	20.0
Trichloroethene	Ave	0.2482	0.2646	0.2000	42.6	40.0	6.6	20.0
Methylcyclohexane	Ave	0.5422	0.5952	0.1000	43.9	40.0	9.8	20.0
1,2-Dichloropropane	Ave	0.2922	0.2689	0.1000	36.8	40.0	-8.0	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCVIS 180-295465/2 Calibration Date: 10/20/2019 10:33

Instrument ID: CHHP3 Calib Start Date: 06/29/2019 12:00

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 06/29/2019 14:21

Lab File ID: 3102002.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dibromomethane	Ave	0.1458	0.1391	0.0100	38.2	40.0	-4.6	20.0
1,4-Dioxane	Lin1		0.0030*	0.0100	960	800	20.0	20.0
Dichlorobromomethane	Ave	0.3286	0.3306	0.2000	40.2	40.0	0.6	20.0
cis-1,3-Dichloropropene	Ave	0.3922	0.4355	0.2000	44.4	40.0	11.0	20.0
4-Methyl-2-pentanone (MIBK)	Ave	0.9000	0.9435	0.1000	41.9	40.0	4.8	20.0
Toluene	Ave	5.217	5.405	0.4000	41.4	40.0	3.6	20.0
trans-1,3-Dichloropropene	Lin2		1.754	0.1000	43.5	40.0	8.6	20.0
Ethyl methacrylate	Ave	1.369	1.520	0.0100	44.4	40.0	11.0	20.0
1,1,2-Trichloroethane	Ave	0.8943	0.9513	0.1000	42.5	40.0	6.4	20.0
Tetrachloroethene	Ave	0.7485	0.7330	0.2000	39.2	40.0	-2.1	20.0
1,3-Dichloropropane	Ave	1.839	1.865	0.0100	40.6	40.0	1.4	20.0
2-Hexanone	Ave	0.7281	0.7818	0.1000	43.0	40.0	7.4	20.0
Chlorodibromomethane	Ave	0.7363	0.7514	0.1000	40.8	40.0	2.1	20.0
1,2-Dibromoethane	Ave	0.8692	0.9246	0.1000	42.5	40.0	6.4	20.0
Chlorobenzene	Ave	3.110	3.105	0.5000	39.9	40.0	-0.1	20.0
1,1,1,2-Tetrachloroethane	Ave	0.9174	0.9618	0.0100	41.9	40.0	4.8	20.0
Ethylbenzene	Ave	1.720	1.822	0.1000	42.4	40.0	5.9	20.0
m-Xylene & p-Xylene	Ave	2.171	2.261	0.1000	41.7	40.0	4.1	20.0
o-Xylene	Ave	2.072	2.181	0.3000	42.1	40.0	5.3	20.0
Styrene	Ave	3.557	3.553	0.3000	40.0	40.0	-0.1	20.0
Bromoform	Lin2		0.3017	0.1000	37.5	40.0	-6.1	20.0
Isopropylbenzene	Ave	5.567	5.969	0.1000	42.9	40.0	7.2	20.0
1,1,2,2-Tetrachloroethane	Ave	1.187	1.117	0.3000	37.7	40.0	-5.8	20.0
Bromobenzene	Ave	0.7692	0.9150	0.0100	47.6	40.0	19.0	20.0
1,2,3-Trichloropropane	Ave	0.2576	0.3229	0.0100	50.1	40.0	25.3*	20.0
trans-1,4-Dichloro-2-butene	Ave	0.2540	0.2823	0.0100	44.5	40.0	11.1	20.0
N-Propylbenzene	Ave	1.095	1.309	0.0100	47.8	40.0	19.5	20.0
2-Chlorotoluene	Ave	0.9183	1.053	0.0100	45.9	40.0	14.7	20.0
1,3,5-Trimethylbenzene	Ave	3.550	4.311	0.0100	48.6	40.0	21.4*	20.0
4-Chlorotoluene	Ave	0.9576	1.037	0.0100	43.3	40.0	8.3	20.0
tert-Butylbenzene	Ave	2.907	3.600	0.0100	49.5	40.0	23.8*	20.0
1,2,4-Trimethylbenzene	Ave	3.573	4.232	0.0100	47.4	40.0	18.4	20.0
sec-Butylbenzene	Ave	4.578	5.297	0.0100	46.3	40.0	15.7	20.0
1,3-Dichlorobenzene	Ave	1.613	1.758	0.6000	43.6	40.0	9.0	20.0
4-Isopropyltoluene	Ave	3.591	4.185	0.0100	46.6	40.0	16.5	20.0
1,4-Dichlorobenzene	Ave	1.579	1.691	0.5000	42.8	40.0	7.1	20.0
n-Butylbenzene	Ave	3.826	4.165	0.0100	43.5	40.0	8.9	20.0
1,2-Dichlorobenzene	Ave	1.495	1.618	0.4000	43.3	40.0	8.2	20.0
1,2-Dibromo-3-Chloropropane	Ave	0.1433	0.1578	0.0500	44.1	40.0	10.1	20.0
1,2,4-Trichlorobenzene	Ave	0.8382	0.7949	0.2000	37.9	40.0	-5.2	20.0
Hexachlorobutadiene	Ave	0.3121	0.2712	0.0100	34.8	40.0	-13.1	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCVIS 180-295465/2 Calibration Date: 10/20/2019 10:33

Instrument ID: CHHP3 Calib Start Date: 06/29/2019 12:00

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 06/29/2019 14:21

Lab File ID: 3102002.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Naphthalene	Ave	1.984	2.303	0.0100	46.4	40.0	16.1	20.0
1,2,3-Trichlorobenzene	Ave	0.7380	0.6720	0.0100	36.4	40.0	-8.9	20.0
Dibromofluoromethane (Surr)	Ave	0.2207	0.2174		39.4	40.0	-1.5	20.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3570	0.3521		39.5	40.0	-1.4	20.0
Toluene-d8 (Surr)	Ave	4.095	4.525		44.2	40.0	10.5	20.0
4-Bromofluorobenzene (Surr)	Ave	1.742	1.755		40.3	40.0	0.7	20.0

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102002.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 20-Oct-2019 10:33:30 ALS Bottle#: 2 Worklist Smp#: 2
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: CCVIS
Operator ID: 10099 Instrument ID: CHHP3
Sublist: chrom-MSVOA_S_CHHP3*sub79

Method: \\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\MSVOA_S_CHHP3.m
Limit Group: VOA 8260C_D ICAL
Last Update: 21-Oct-2019 06:59:57 Calib Date: 29-Jun-2019 14:21:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K10.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: gordonk Date: 20-Oct-2019 10:51:46

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.410	4.410	0.000	96	184226	5000.0	5000.0	
* 2 Fluorobenzene (IS)	96	7.312	7.312	0.000	93	467826	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.403	10.403	0.000	89	104786	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.726	12.726	0.000	96	116323	250.0	250.0	
$ 5 Dibromofluoromethane (Surr	113	6.570	6.570	0.000	71	81365	200.0	197.0	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.947	6.947	0.000	92	131791	200.0	197.3	
$ 7 Toluene-d8 (Surr)	98	8.967	8.967	0.000	94	379305	200.0	221.0	
$ 8 4-Bromofluorobenzene (Surr	95	11.571	11.571	0.000	75	147100	200.0	201.5	
10 Dichlorodifluoromethane	85	1.642	1.642	0.000	99	168505	200.0	188.6	
11 Chloromethane	50	1.874	1.874	0.000	98	132256	200.0	158.2	
13 Butadiene	39	1.965	1.965	0.000	97	141412	200.0	169.4	
12 Vinyl chloride	62	1.989	1.989	0.000	98	134715	200.0	178.3	
14 Bromomethane	94	2.299	2.299	0.000	91	68442	200.0	215.3	
15 Chloroethane	64	2.397	2.397	0.000	99	64811	200.0	210.4	
16 Dichlorofluoromethane	67	2.664	2.664	0.000	96	180996	200.0	209.7	
17 Trichlorofluoromethane	101	2.707	2.707	0.000	95	155743	200.0	213.4	
19 Ethyl ether	59	3.121	3.121	0.000	89	90750	200.0	185.8	
21 1,1-Dichloroethene	96	3.382	3.382	0.000	94	96799	200.0	201.3	
22 1,1,2-Trichloro-1,2,2-trif	101	3.461	3.461	0.000	94	108419	200.0	198.3	
23 Acetone	43	3.553	3.553	0.000	99	58212	200.0	212.9	
24 Iodomethane	142	3.583	3.583	0.000	98	119994	200.0	190.7	
25 Carbon disulfide	76	3.680	3.680	0.000	99	266826	200.0	174.7	
28 3-Chloro-1-propene	76	3.972	3.972	0.000	89	62832	200.0	197.4	
29 Methyl acetate	43	4.082	4.082	0.000	97	122707	400.0	354.3	
30 Methylene Chloride	84	4.179	4.179	0.000	92	114802	200.0	174.4	
31 2-Methyl-2-propanol	59	4.532	4.532	0.000	97	84691	2000.0	1856.0	
33 trans-1,2-Dichloroethene	96	4.593	4.593	0.000	96	109212	200.0	204.2	
32 Acrylonitrile	53	4.611	4.611	0.000	97	306946	2000.0	1825.5	
34 Methyl tert-butyl ether	73	4.654	4.654	0.000	95	267457	200.0	216.1	
35 Hexane	57	5.013	5.013	0.000	92	185486	200.0	192.0	
36 1,1-Dichloroethane	63	5.207	5.207	0.000	96	198567	200.0	190.2	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
41 2,2-Dichloropropane	97	5.974	5.974	0.000	75	25255	200.0	210.1	
42 cis-1,2-Dichloroethene	96	5.980	5.980	0.000	82	118006	200.0	209.8	
43 2-Butanone (MEK)	43	6.047	6.047	0.000	99	55307	200.0	195.0	
47 Chlorobromomethane	128	6.266	6.266	0.000	98	44117	200.0	196.6	
48 Tetrahydrofuran	42	6.339	6.339	0.000	84	48463	400.0	392.7	
49 Chloroform	83	6.387	6.387	0.000	93	195311	200.0	193.2	
50 1,1,1-Trichloroethane	97	6.570	6.570	0.000	98	162526	200.0	216.1	
51 Cyclohexane	56	6.625	6.625	0.000	90	200932	200.0	196.1	
53 Carbon tetrachloride	117	6.759	6.759	0.000	96	119255	200.0	206.2	
52 1,1-Dichloropropene	75	6.765	6.765	0.000	95	166936	200.0	213.0	
55 Benzene	78	6.996	6.996	0.000	96	438841	200.0	196.2	
54 Isobutyl alcohol	41	7.008	7.008	0.000	89	61880	5000.0	4861.3	
56 1,2-Dichloroethane	62	7.032	7.032	0.000	99	153557	200.0	200.5	
59 n-Heptane	43	7.312	7.312	0.000	78	171390	200.0	183.6	
60 Trichloroethene	130	7.708	7.708	0.000	93	99026	200.0	213.2	
63 Methylcyclohexane	83	7.896	7.896	0.000	90	222776	200.0	219.6	
64 1,2-Dichloropropane	63	7.945	7.945	0.000	95	100653	200.0	184.0	
65 Dibromomethane	93	8.067	8.067	0.000	86	52044	200.0	190.8	
67 1,4-Dioxane	88	8.103	8.103	0.000	93	22649	4000.0	4799.5	
68 Dichlorobromomethane	83	8.243	8.243	0.000	99	123726	200.0	201.2	
71 cis-1,3-Dichloropropene	75	8.699	8.699	0.000	94	162973	200.0	222.1	
72 4-Methyl-2-pentanone (MIBK	43	8.863	8.863	0.000	96	79089	200.0	209.7	
73 Toluene	91	9.034	9.034	0.000	98	453074	200.0	207.2	
74 trans-1,3-Dichloropropene	75	9.259	9.259	0.000	94	147015	200.0	217.3	
75 Ethyl methacrylate	69	9.356	9.356	0.000	89	127395	200.0	222.1	
76 1,1,2-Trichloroethane	97	9.441	9.441	0.000	93	79743	200.0	212.7	
77 Tetrachloroethene	164	9.575	9.575	0.000	87	61449	200.0	195.9	
78 1,3-Dichloropropane	76	9.612	9.612	0.000	91	156317	200.0	202.8	
79 2-Hexanone	43	9.703	9.703	0.000	95	65540	200.0	214.8	
81 Chlorodibromomethane	129	9.837	9.837	0.000	92	62989	200.0	204.1	
82 Ethylene Dibromide	107	9.946	9.946	0.000	96	77508	200.0	212.7	
83 Chlorobenzene	112	10.433	10.433	0.000	91	260327	200.0	199.7	
85 1,1,1,2-Tetrachloroethane	131	10.512	10.512	0.000	92	80626	200.0	209.7	
86 Ethylbenzene	106	10.542	10.542	0.000	99	152696	200.0	211.8	
87 m-Xylene & p-Xylene	106	10.658	10.658	0.000	98	189519	200.0	208.3	
88 o-Xylene	106	11.053	11.053	0.000	97	182843	200.0	210.6	
89 Styrene	104	11.066	11.066	0.000	94	297864	200.0	199.8	
90 Bromoform	173	11.254	11.254	0.000	88	25294	200.0	187.7	
91 Isopropylbenzene	105	11.419	11.419	0.000	96	500345	200.0	214.4	
94 Bromobenzene	156	11.723	11.723	0.000	93	85149	200.0	237.9	
93 1,1,2,2-Tetrachloroethane	83	11.723	11.723	0.000	95	93672	200.0	188.3	
95 1,2,3-Trichloropropane	110	11.765	11.765	0.000	83	30048	200.0	250.7	
96 trans-1,4-Dichloro-2-buten	53	11.777	11.777	0.000	87	26270	200.0	222.3	
97 N-Propylbenzene	120	11.826	11.826	0.000	99	121825	200.0	239.0	
98 2-Chlorotoluene	126	11.917	11.917	0.000	94	97988	200.0	229.3	
99 1,3,5-Trimethylbenzene	105	12.003	12.003	0.000	94	401173	200.0	242.9	
100 4-Chlorotoluene	126	12.027	12.027	0.000	99	96542	200.0	216.7	
101 tert-Butylbenzene	119	12.331	12.331	0.000	91	335023	200.0	247.7	
103 1,2,4-Trimethylbenzene	105	12.380	12.380	0.000	97	393809	200.0	236.9	
104 sec-Butylbenzene	105	12.550	12.550	0.000	96	492928	200.0	231.4	
105 1,3-Dichlorobenzene	146	12.666	12.666	0.000	93	163628	200.0	218.1	
106 4-Isopropyltoluene	119	12.690	12.690	0.000	96	389438	200.0	233.1	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
107 1,4-Dichlorobenzene	146	12.751	12.751	0.000	88	157341	200.0	214.2	
110 n-Butylbenzene	91	13.104	13.104	0.000	99	387618	200.0	217.7	
111 1,2-Dichlorobenzene	146	13.128	13.128	0.000	92	150535	200.0	216.4	
112 1,2-Dibromo-3-Chloropropan	75	13.907	13.907	0.000	71	14688	200.0	220.3	
114 1,2,4-Trichlorobenzene	180	14.740	14.740	0.000	91	73972	200.0	189.7	
115 Hexachlorobutadiene	225	14.910	14.910	0.000	78	25241	200.0	173.8	
116 Naphthalene	128	14.990	14.990	0.000	98	214309	200.0	232.1	
117 1,2,3-Trichlorobenzene	180	15.239	15.239	0.000	92	62534	200.0	182.1	
S 141 Total BTEX	1				0		1000.0	1034.1	
S 129 Xylenes, Total	106				0		400.0	418.8	
S 130 1,2-Dichloroethene, Total	96				0		400.0	414.0	
S 131 1,3-Dichloropropene, Total	1				0		400.0	439.3	

Reagents:

VOA8260INT_00100 Amount Added: 10.00 Units: uL
VOA8260SURR_00100 Amount Added: 8.00 Units: uL
VOA8260VOAPRI_00376 Amount Added: 8.00 Units: uL

Report Date: 21-Oct-2019 06:59:57 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102002.D

Injection Date: 20-Oct-2019 10:33:30 Instrument ID: CHHP3 Operator ID: 10099

Lims ID: CCVIS Worklist Smp#: 2

Client ID:

Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 2

Method: MSVOA_S_CHHP3 Limit Group: VOA 8260C_D ICAL

Column: DB-624 (0.18 mm)

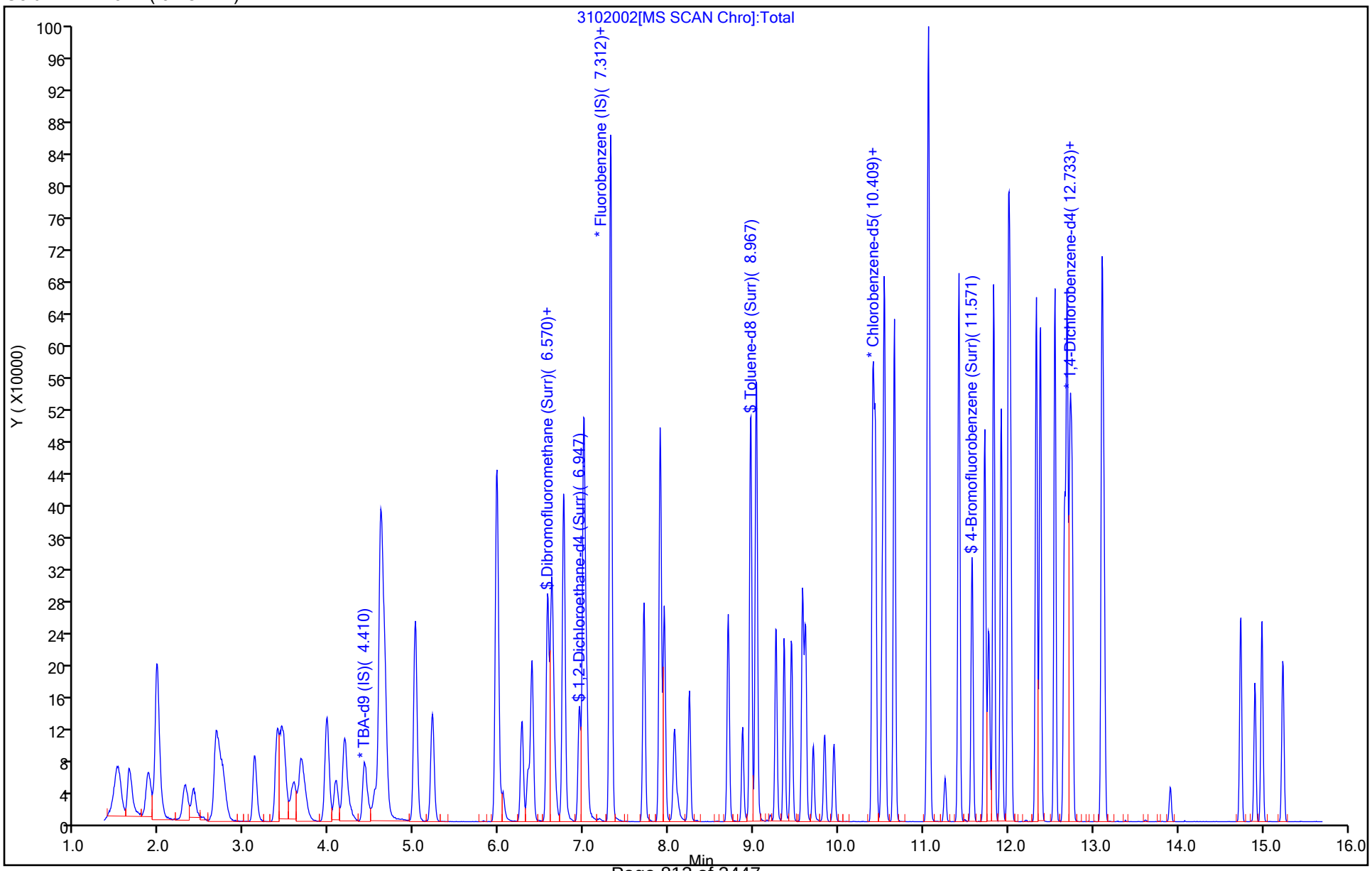

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCV 180-295465/3 Calibration Date: 10/20/2019 10:57

Instrument ID: CHHP3 Calib Start Date: 06/18/2019 07:14

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 06/18/2019 10:42

Lab File ID: 3102003.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Isopropyl alcohol	Ave	0.0125	0.0133	0.0100	423	400	5.7	20.0
Acetonitrile	Ave	0.0336	0.0284	0.0100	338	400	-15.6	20.0
Chloroprene	Ave	0.5094	0.5412	0.0100	42.5	40.0	6.2	20.0
Isopropyl ether	Ave	0.9032	0.8859	0.0100	39.2	40.0	-1.9	20.0
Tert-butyl ethyl ether	Ave	0.7874	0.6609	0.0100	33.6	40.0	-16.1	20.0
Propionitrile	Ave	0.0334	0.0300	0.0100	360	400	-10.1	20.0
Ethyl acetate	Ave	0.2090	0.2120	0.0100	81.2	80.0	1.4	20.0
Methacrylonitrile	Ave	0.1416	0.1359	0.0100	384	400	-4.0	20.0
Isooctane	Ave	1.252	1.245	0.0100	39.8	40.0	-0.5	20.0
Tert-amyl methyl ether	Ave	0.6503	0.5519	0.0100	33.9	40.0	-15.1	20.0
n-Butanol	Ave	0.0045	0.0049*	0.0100	1100	1000	10.1	20.0
Ethyl acrylate	Ave	1.180	1.331	0.0100	45.1	40.0	12.8	20.0
Methyl methacrylate	Ave	0.1753	0.1777	0.0100	81.1	80.0	1.4	20.0
n-Butyl acetate	Ave	1.288	1.454	0.0100	45.1	40.0	12.9	20.0
Cyclohexanone	Ave	0.0289	0.0938	0.0100	2600	800	224.7*	20.0
1,2,3-Trimethylbenzene	Ave	3.243	4.233	0.0100	52.2	40.0	30.5*	20.0
Benzyl chloride	Lin1		1.316	0.0100	53.6	40.0	33.9*	20.0
1,3,5-Trichlorobenzene	Ave	1.136	0.9875	0.0100	34.8	40.0	-13.1	20.0

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102003.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 20-Oct-2019 10:57:30 ALS Bottle#: 3 Worklist Smp#: 3
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: CCV
Operator ID: 10099 Instrument ID: CHHP3
Sublist: chrom-MSVOA_S_CHHP3*sub57

Method: \\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\MSVOA_S_CHHP3.m
Limit Group: VOA 8260C_D ICAL
Last Update: 21-Oct-2019 06:59:58 Calib Date: 29-Jun-2019 14:21:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K10.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: gordonk Date: 20-Oct-2019 11:14:16

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.379	4.410	-0.031	96	182530	5000.0	5000.0	
* 2 Fluorobenzene (IS)	96	7.317	7.312	0.005	98	494430	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.408	10.403	0.005	91	110458	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.725	12.726	-0.001	98	128681	250.0	250.0	
26 Isopropyl alcohol	45	3.844	3.858	-0.014	96	52411	2000.0	2114.3	
27 Acetonitrile	41	3.996	3.998	-0.002	98	112288	2000.0	1688.1	
38 2-Chloro-1,3-butadiene	53	5.346	5.348	-0.002	93	214061	200.0	212.5	
39 Isopropyl ether	45	5.370	5.373	-0.003	92	350395	200.0	196.1	
40 Tert-butyl ethyl ether	59	5.839	5.841	-0.002	98	261409	200.0	167.9	
44 Propionitrile	54	6.113	6.115	-0.002	98	118815	2000.0	1797.5	
45 Ethyl acetate	43	6.137	6.133	0.004	99	167714	400.0	405.8	
46 Methacrylonitrile	41	6.289	6.291	-0.002	91	537679	2000.0	1920.5	
58 Isooctane	57	7.104	7.101	0.003	98	492463	200.0	198.9	
57 Tert-amyl methyl ether	73	7.153	7.155	-0.002	97	218290	200.0	169.7	
61 n-Butanol	56	7.707	7.709	-0.002	90	48796	5000.0	5503.1	
62 Ethyl acrylate	55	7.859	7.855	0.004	99	117573	200.0	225.6	
66 Methyl methacrylate	69	8.096	8.092	0.004	91	140542	400.0	405.5	
80 n-Butyl acetate	43	9.824	9.826	-0.002	98	128479	200.0	225.7	
92 Cyclohexanone	55	11.521	11.523	-0.002	93	165814	4000.0	12988	
108 1,2,3-Trimethylbenzene	105	12.798	12.801	-0.003	100	435725	200.0	261.1	
109 Benzyl chloride	91	12.890	12.886	0.004	98	135501	200.0	267.8	
113 1,3,5-Trichlorobenzene	180	14.112	14.115	-0.003	91	101655	200.0	173.8	

Reagents:

VOA8260INT_00100 Amount Added: 10.00 Units: uL
VOAList22ND_00007 Amount Added: 8.00 Units: uL

Report Date: 21-Oct-2019 06:59:58 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102003.D				
Injection Date:	20-Oct-2019 10:57:30	Instrument ID:	CHHP3	Operator ID:	10099
Lims ID:	CCV			Worklist Smp#:	3
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

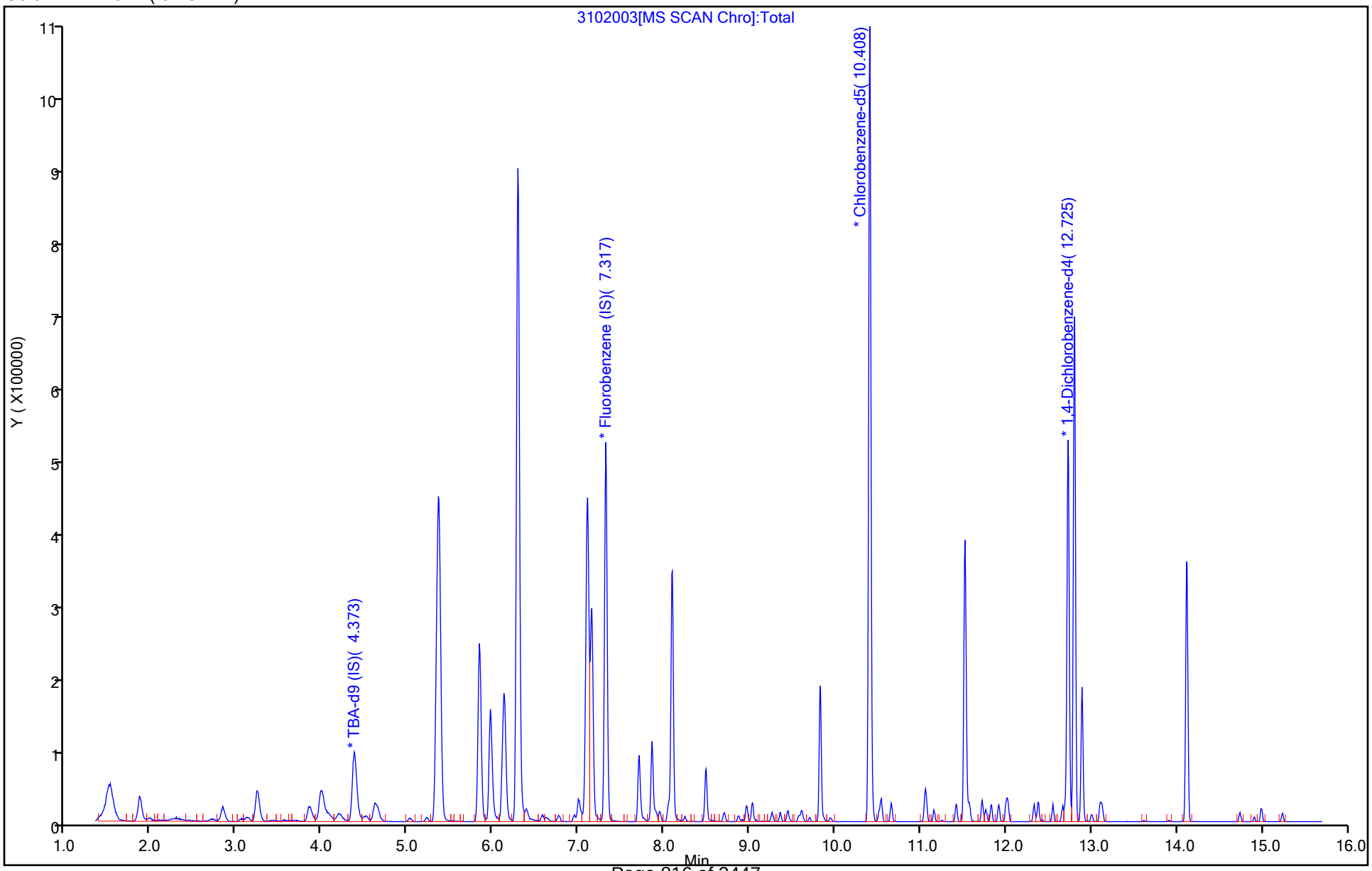

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP3\20190618-27335.b\3061801.D
Lims ID: BFB
Client ID:
Sample Type: BFB
Inject. Date: 18-Jun-2019 06:39:30 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 5.0 mL Dil. Factor: 1.0000
Sample Info: BFB
Operator ID: 10099 Instrument ID: CHHP3

Method: \\chromna\Pittsburgh\ChromData\CHHP3\20190618-27335.b\MSVOA_S_CHHP3.m
Limit Group: VOA 8260C_D ICAL
Last Update: 18-Jun-2019 11:08:14 Calib Date: 18-Jun-2019 10:42:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP3\20190618-27335.b\3061811.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: gordonk Date: 18-Jun-2019 06:53:57

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
$ 9 BFB	95	8.366	8.366	0.000	0	615442	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

VOABFB50_00116 Amount Added: 1.00 Units: uL

Report Date: 18-Jun-2019 11:08:14 Chrom Revision: 2.3 02-Jun-2019 10:27:32

MS Tune Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20190618-27335.b\3061801.D				
Injection Date:	18-Jun-2019 06:39:30	Instrument ID:	CHHP3		
Lims ID:	BFB				
Client ID:					
Operator ID:	10099	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	5.0 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Tune Method:	BFB Method 8260				

$ 9 BFB

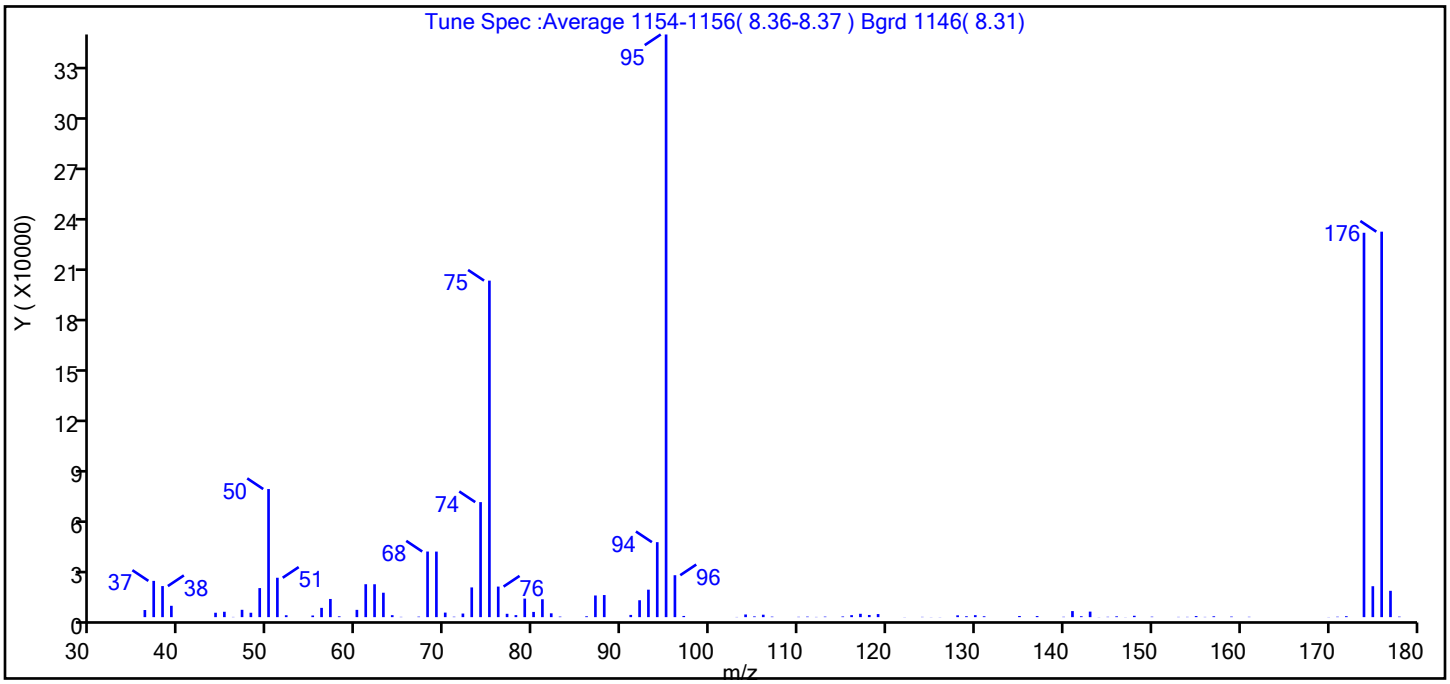

m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	22.0
75	30 to 60% of m/z 95	57.8
96	5 to 9% of m/z 95	7.2
173	Less than 2% of m/z 174	0.0 (0.0)
174	50 to 120% of m/z 95	66.0
175	5 to 9% of m/z 174	5.3 (8.0)
176	Greater than 95% but less than 101% of m/z 174	66.2 (100.3)
177	5 to 9% of m/z 176	4.5 (6.8)

Report Date: 18-Jun-2019 11:08:14 Chrom Revision: 2.3 02-Jun-2019 10:27:32

Data File: \\chromna\Pittsburgh\ChromData\CHHP3\20190618-27335.b\3061801.D\MSVOA_S_CHHP3.rslt\spectra.c
Injection Date: 18-Jun-2019 06:39:30
Spectrum: Tune Spec :Average 1154-1156(8.36-8.37) Bgrd 1146(8.31)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 99

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	4187	69.00	38576	103.00	110	141.00	3564
37.00	21344	70.00	2673	104.00	1569	142.00	526
38.00	18280	71.00	246	105.00	438	143.00	3258
39.00	6676	72.00	2120	106.00	1434	144.00	76
44.00	2587	73.00	17488	107.00	294	145.00	201
45.00	3164	74.00	67680	110.00	188	146.00	484
46.00	130	75.00	198016	111.00	312	147.00	69
47.00	4317	76.00	17984	112.00	132	148.00	806
48.00	2586	77.00	1977	113.00	308	150.00	273
49.00	17096	78.00	1188	115.00	396	153.00	151
50.00	75376	79.00	10904	116.00	1169	154.00	164
51.00	23176	80.00	3074	117.00	1971	155.00	636
52.00	1114	81.00	10529	118.00	1277	156.00	145
55.00	963	82.00	2259	119.00	1811	157.00	507
56.00	5460	83.00	309	122.00	77	159.00	328
57.00	10699	86.00	515	124.00	159	161.00	200
58.00	470	87.00	12745	125.00	76	170.00	90
60.00	4286	88.00	13004	126.00	79	171.00	251
61.00	19376	91.00	1312	128.00	1071	172.00	555
62.00	19352	92.00	9944	129.00	531	174.00	226176
63.00	14372	93.00	16162	130.00	1162	175.00	18200
64.00	1161	94.00	44120	131.00	517	176.00	226816
65.00	162	95.00	342848	135.00	680	177.00	15493
67.00	293	96.00	24672	137.00	636	178.00	292
68.00	38608	97.00	700	140.00	207		

Report Date: 18-Jun-2019 11:08:14 Chrom Revision: 2.3 02-Jun-2019 10:27:32

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20190618-27335.b\3061801.D				
Injection Date:	18-Jun-2019 06:39:30	Instrument ID:	CHHP3	Operator ID:	10099
Lims ID:	BFB			Worklist Smp#:	1
Client ID:					
Injection Vol:	5.0 mL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

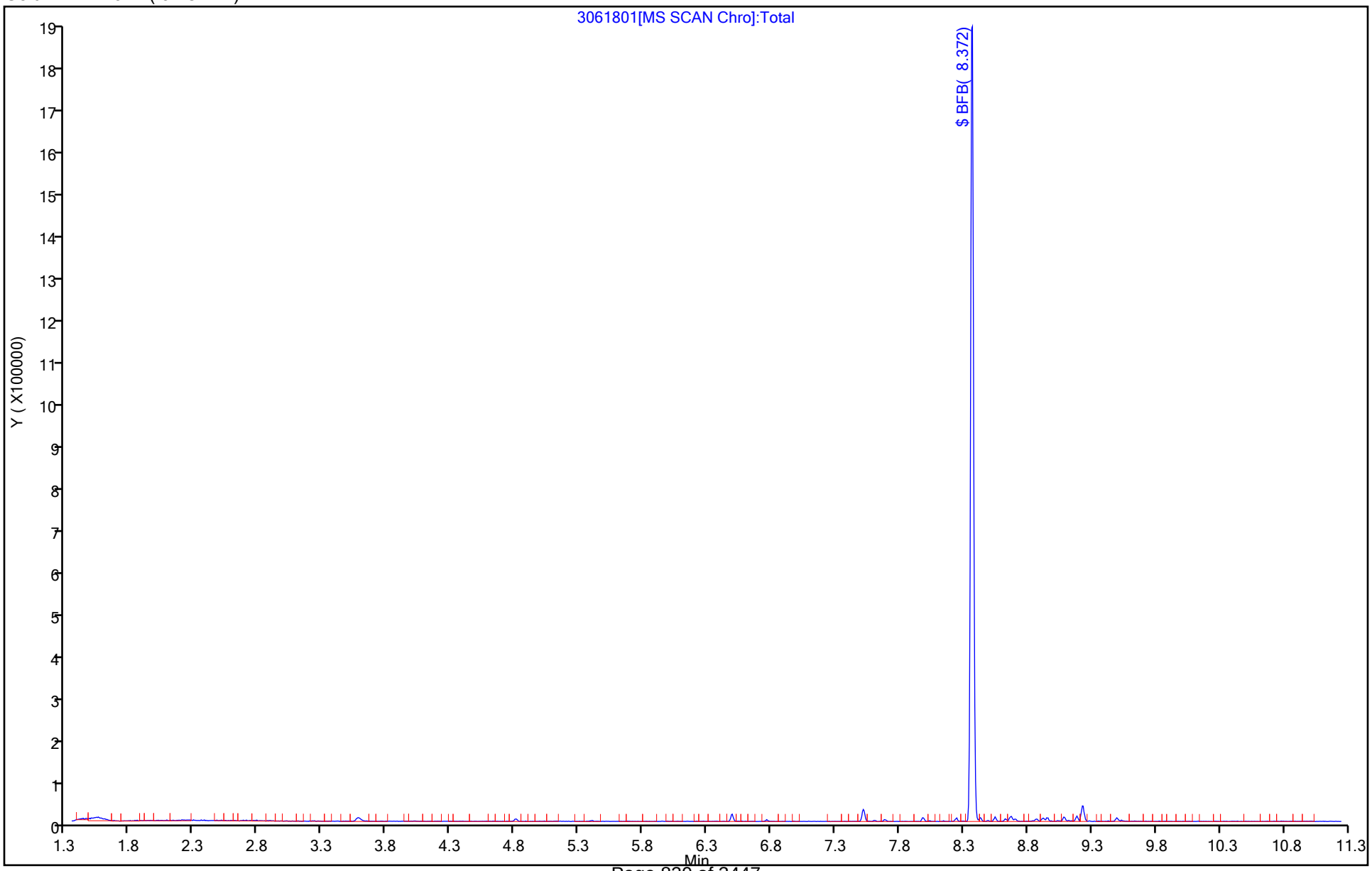

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K01.D
Lims ID: BFB
Client ID:
Sample Type: BFB
Inject. Date: 29-Jun-2019 10:44:30 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 5.0 mL Dil. Factor: 1.0000
Sample Info: BFB
Operator ID: 10099 Instrument ID: CHHP3

Method: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\MSVOA_S_CHHP3.m
Limit Group: VOA 8260C_D ICAL
Last Update: 29-Jun-2019 22:19:41 Calib Date: 29-Jun-2019 14:21:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K10.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0320

First Level Reviewer: gordonk Date: 29-Jun-2019 10:56:53

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
$ 9 BFB	95	8.366	8.366	0.000	0	555259	NR	NR	

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Reagents:

VOABFB50_00116 Amount Added: 1.00 Units: uL

Report Date: 29-Jun-2019 22:19:43 Chrom Revision: 2.3 20-Jun-2019 20:50:56

MS Tune Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K01.D				
Injection Date:	29-Jun-2019 10:44:30	Instrument ID:	CHHP3		
Lims ID:	BFB				
Client ID:					
Operator ID:	10099	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	5.0 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Tune Method:	BFB Method 8260				

$ 9 BFB

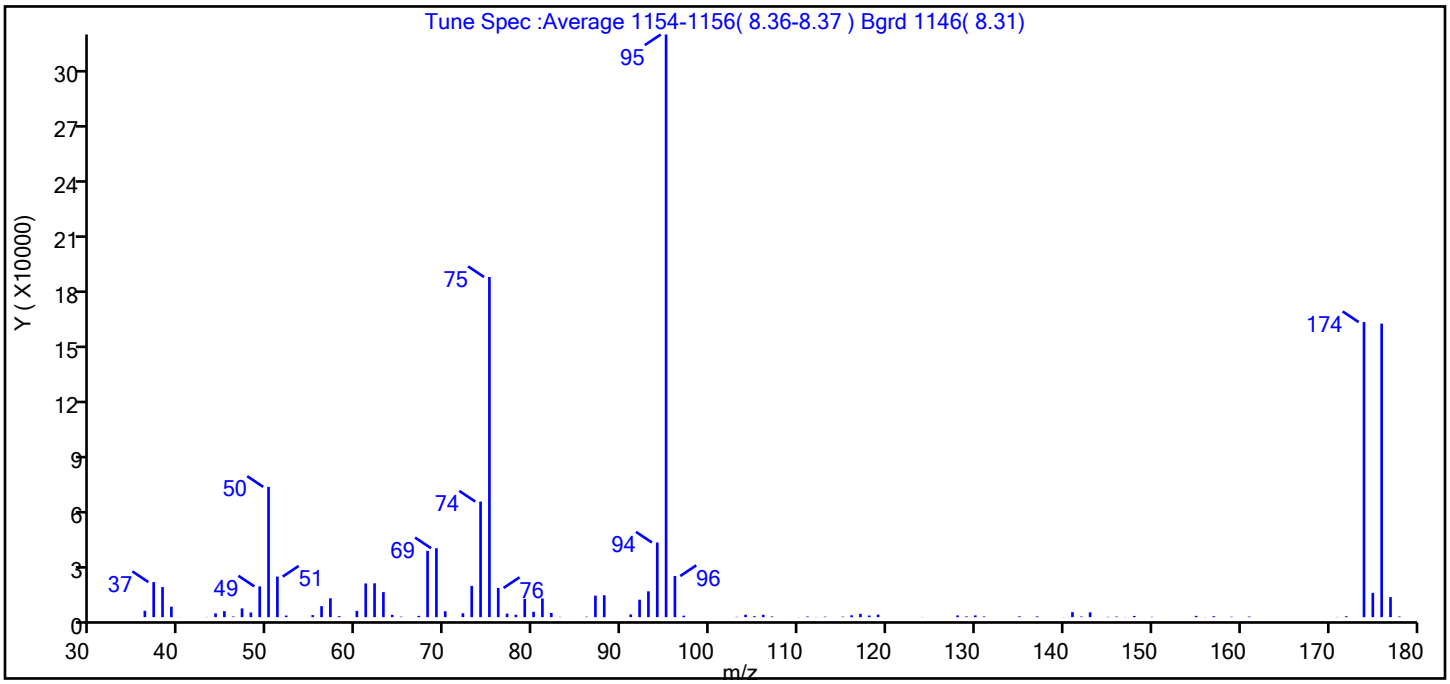

m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	22.4
75	30 to 60% of m/z 95	58.4
96	5 to 9% of m/z 95	7.1
173	Less than 2% of m/z 174	0.0 (0.0)
174	50 to 120% of m/z 95	50.6
175	5 to 9% of m/z 174	4.2 (8.2)
176	Greater than 95% but less than 101% of m/z 174	50.4 (99.5)
177	5 to 9% of m/z 176	3.4 (6.8)

Report Date: 29-Jun-2019 22:19:43 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Data File: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K01.D\MSVOA_S_CHHP3.rslt\spectra
Injection Date: 29-Jun-2019 10:44:30
Spectrum: Tune Spec :Average 1154-1156(8.36-8.37) Bgrd 1146(8.31)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 93

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	3446	65.00	274	95.00	315456	140.00	78
37.00	18992	67.00	681	96.00	22256	141.00	2697
38.00	16288	68.00	35872	97.00	789	142.00	328
39.00	5659	69.00	37312	103.00	164	143.00	2590
40.00	61	70.00	3187	104.00	1278	145.00	185
43.00	110	72.00	2087	105.00	504	146.00	322
44.00	2027	73.00	16912	106.00	1269	147.00	91
45.00	3238	74.00	62584	107.00	365	148.00	653
46.00	344	75.00	184128	110.00	75	150.00	194
47.00	4733	76.00	15806	111.00	343	155.00	702
48.00	2526	77.00	1927	112.00	104	156.00	81
49.00	16640	78.00	1302	113.00	274	157.00	504
50.00	70528	79.00	9892	115.00	276	159.00	219
51.00	21952	80.00	2888	116.00	992	161.00	328
52.00	873	81.00	10103	117.00	1797	171.00	109
55.00	1100	82.00	2278	118.00	862	172.00	500
56.00	5957	83.00	165	119.00	1369	174.00	159744
57.00	10196	86.00	254	124.00	92	175.00	13159
58.00	510	87.00	11625	128.00	918	176.00	158912
60.00	3386	88.00	11873	129.00	400	177.00	10815
61.00	18248	91.00	1462	130.00	931	178.00	328
62.00	18320	92.00	9444	131.00	366		
63.00	13549	93.00	13981	135.00	439		
64.00	1243	94.00	40408	137.00	411		

Report Date: 29-Jun-2019 22:19:43 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K01.D				
Injection Date:	29-Jun-2019 10:44:30	Instrument ID:	CHHP3	Operator ID:	10099
Lims ID:	BFB			Worklist Smp#:	1
Client ID:					
Injection Vol:	5.0 mL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

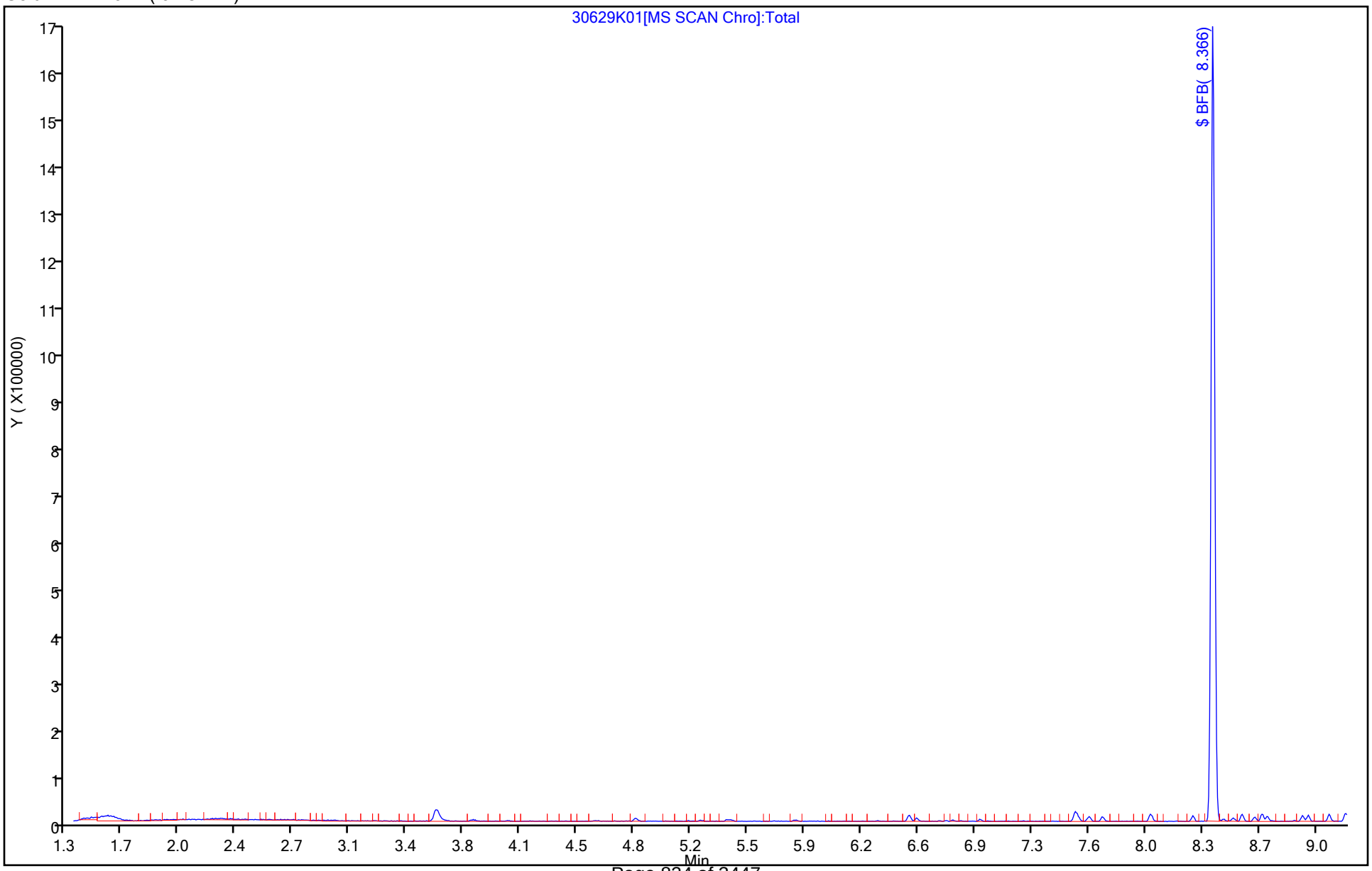

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102001.D
Lims ID: BFB
Client ID:
Sample Type: BFB
Inject. Date: 20-Oct-2019 10:00:30 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 5.0 mL Dil. Factor: 1.0000
Sample Info: BFB
Operator ID: 10099 Instrument ID: CHHP3

Method: \\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\MSVOA_S_CHHP3.m
Limit Group: VOA 8260C_D ICAL
Last Update: 21-Oct-2019 06:59:56 Calib Date: 29-Jun-2019 14:21:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K10.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: gordonk Date: 20-Oct-2019 10:14:34

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
$ 9 BFB	95	8.369	8.369	0.000	0	450544	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

VOABFB50_00120 Amount Added: 1.00 Units: uL

MS Tune Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102001.D				
Injection Date:	20-Oct-2019 10:00:30	Instrument ID:	CHHP3		
Lims ID:	BFB				
Client ID:					
Operator ID:	10099	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	5.0 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Tune Method:	BFB Method 8260				

$ 9 BFB

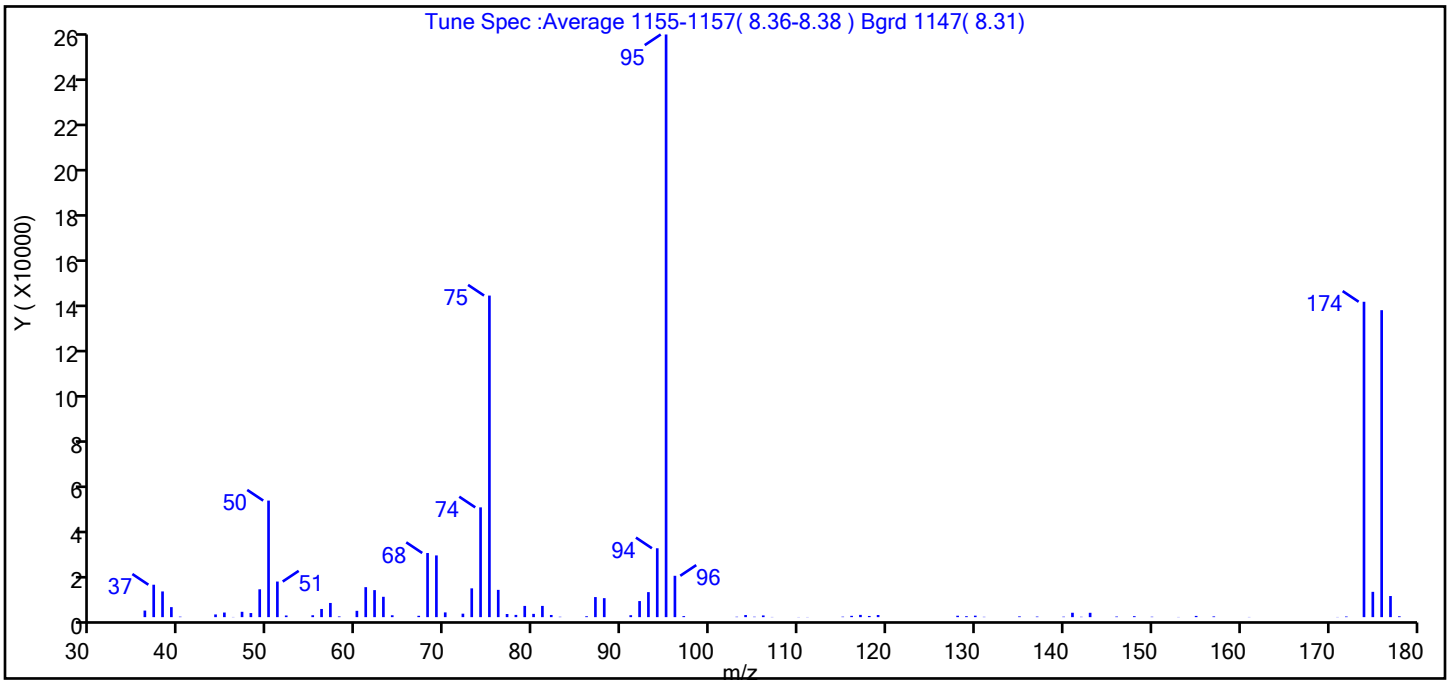

m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	20.0
75	30 to 60% of m/z 95	55.2
96	5 to 9% of m/z 95	7.1
173	Less than 2% of m/z 174	0.0 (0.0)
174	50 to 120% of m/z 95	54.1
175	5 to 9% of m/z 174	4.3 (8.0)
176	Greater than 95% but less than 101% of m/z 174	52.7 (97.3)
177	5 to 9% of m/z 176	3.6 (6.9)

Report Date: 21-Oct-2019 06:59:56 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Data File: \\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102001.D\MSVOA_S_CHHP3.rslt\spectra.c
Injection Date: 20-Oct-2019 10:00:30
Spectrum: Tune Spec :Average 1155-1157(8.36-8.38) Bgrd 1147(8.31)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 85

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	2851	64.00	814	93.00	10857	137.00	252
37.00	14069	67.00	582	94.00	29888	140.00	202
38.00	11153	68.00	27824	95.00	252800	141.00	1903
39.00	4341	69.00	26784	96.00	17944	142.00	155
40.00	198	70.00	2056	97.00	443	143.00	1885
44.00	1172	72.00	1508	103.00	173	146.00	264
45.00	1998	73.00	12492	104.00	907	148.00	411
46.00	78	74.00	47632	105.00	177	150.00	177
47.00	2322	75.00	139520	106.00	740	153.00	78
48.00	1775	76.00	11836	107.00	82	155.00	537
49.00	12080	77.00	1361	110.00	68	157.00	317
50.00	50568	78.00	974	111.00	68	161.00	79
51.00	15445	79.00	4870	115.00	204	171.00	76
52.00	716	80.00	1421	116.00	570	172.00	274
55.00	819	81.00	4872	117.00	974	174.00	136832
56.00	3548	82.00	938	118.00	511	175.00	10978
57.00	6155	83.00	157	119.00	915	176.00	133184
58.00	300	86.00	391	128.00	613	177.00	9164
60.00	2742	87.00	8709	129.00	406	178.00	357
61.00	13012	88.00	8243	130.00	640		
62.00	11724	91.00	840	131.00	135		
63.00	8827	92.00	6978	135.00	329		

Report Date: 21-Oct-2019 06:59:56 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102001.D				
Injection Date:	20-Oct-2019 10:00:30	Instrument ID:	CHHP3	Operator ID:	10099
Lims ID:	BFB			Worklist Smp#:	1
Client ID:					
Injection Vol:	5.0 mL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

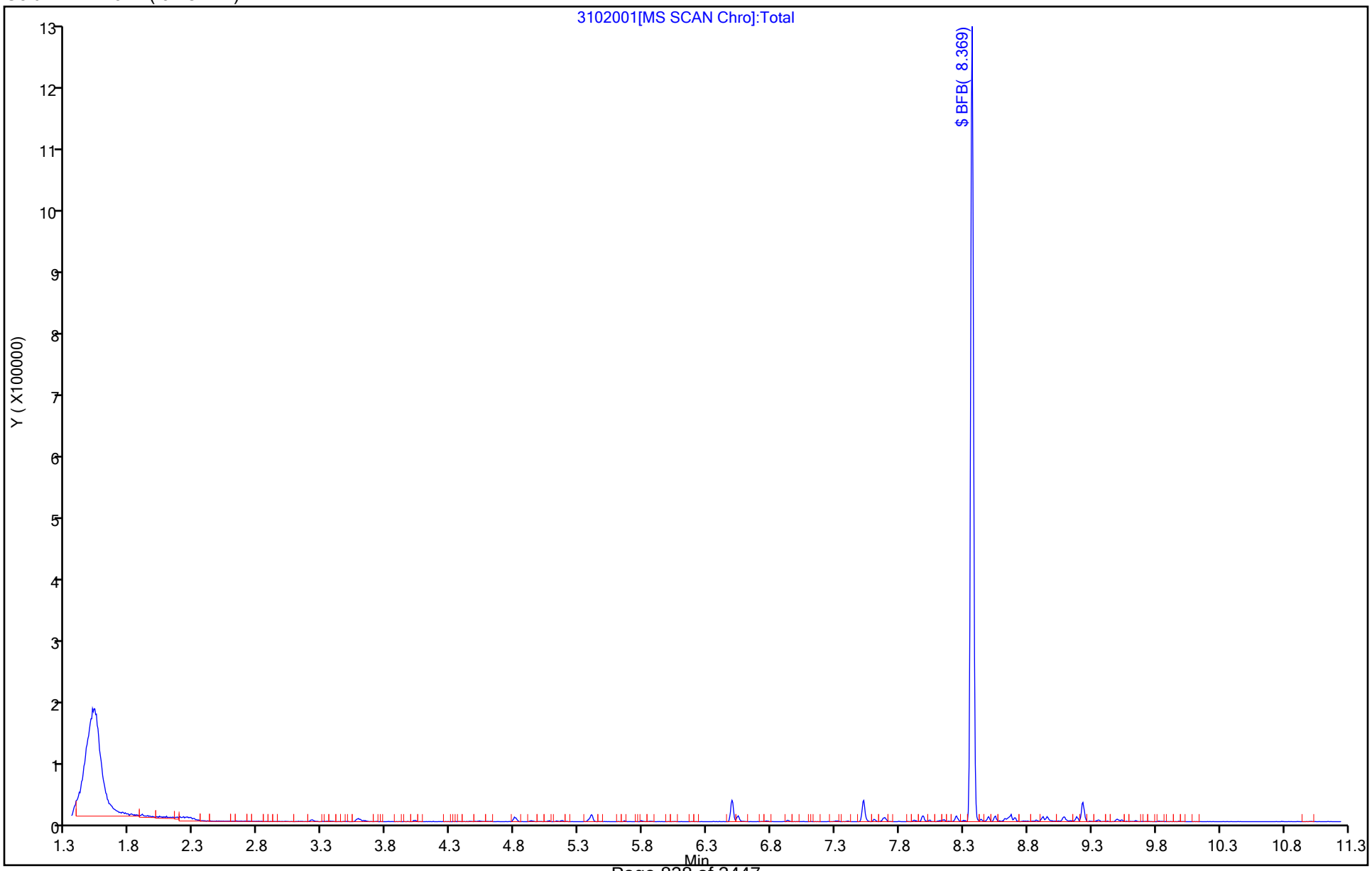

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Client Sample ID: Lab Sample ID: LB 180-295111/1-A

Matrix: Solid (TCLP) Lab File ID: 3102006.D

Analysis Method: EPA 8260C Date Collected:

Sample wt/vol: 0.5(mL) Date Analyzed: 10/20/2019 12:07

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 295465 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	ND		0.050	0.039
71-55-6	1,1,1-Trichloroethane	ND		0.050	0.025
107-06-2	1,2-Dichloroethane	ND		0.050	0.015
79-34-5	1,1,2,2-Tetrachloroethane	ND		0.050	0.030
78-93-3	2-Butanone (MEK)	ND		0.050	0.029
71-43-2	Benzene	ND		0.050	0.020
79-00-5	1,1,2-Trichloroethane	ND		0.050	0.024
56-23-5	Carbon tetrachloride	ND		0.050	0.033
108-90-7	Chlorobenzene	ND		0.050	0.016
67-66-3	Chloroform	ND		0.050	0.021
127-18-4	Tetrachloroethene	ND		0.050	0.020
79-01-6	Trichloroethene	ND		0.050	0.015
96-18-4	1,2,3-Trichloropropane	ND		0.050	0.028
75-01-4	Vinyl chloride	ND		0.050	0.037
75-35-4	1,1-Dichloroethene	ND		0.050	0.029
542-75-6	1,3-Dichloropropene, Total	ND		0.10	0.033
106-46-7	1,4-Dichlorobenzene	ND		0.050	0.010
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		0.050	0.019
67-64-1	Acetone	ND		0.20	0.032
75-05-8	Acetonitrile	ND		0.50	0.49
107-13-1	Acrylonitrile	ND		0.50	0.34
75-25-2	Bromoform	ND		0.050	0.026
74-83-9	Bromomethane	ND		0.050	0.045
75-15-0	Carbon disulfide	ND		0.050	0.030
75-27-4	Dichlorobromomethane	ND		0.050	0.024
75-71-8	Dichlorodifluoromethane	ND		0.050	0.029
100-41-4	Ethylbenzene	ND		0.050	0.022
106-93-4	1,2-Dibromoethane	ND		0.050	0.027
87-68-3	Hexachlorobutadiene	ND		0.050	0.018
78-83-1	Isobutyl alcohol	ND		1.3	0.91
126-98-7	Methacrylonitrile	ND		0.50	0.39
75-09-2	Methylene Chloride	ND		0.050	0.039
100-42-5	Styrene	ND		0.050	0.013
108-88-3	Toluene	ND		0.050	0.017
10061-02-6	trans-1,3-Dichloropropene	ND		0.050	0.017
75-69-4	Trichlorofluoromethane	ND		0.050	0.015

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Client Sample ID: Lab Sample ID: LB 180-295111/1-A

Matrix: Solid (TCLP) Lab File ID: 3102006.D

Analysis Method: EPA 8260C Date Collected:

Sample wt/vol: 0.5(mL) Date Analyzed: 10/20/2019 12:07

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 295465 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
1330-20-7	Xylenes, Total	ND		0.10	0.043

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	91		58-139
460-00-4	4-Bromofluorobenzene (Surr)	89		64-122
1868-53-7	Dibromofluoromethane (Surr)	91		70-127
2037-26-5	Toluene-d8 (Surr)	103		71-125

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102006.D
Lims ID: LB 180-295111/1-A
Client ID:
Sample Type: LB
Inject. Date: 20-Oct-2019 12:07:30 ALS Bottle#: 6 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: LB
Operator ID: 10099 Instrument ID: CHHP3

Method: \\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\MSVOA_S_CHHP3.m
Limit Group: VOA 8260C_D ICAL
Last Update: 21-Oct-2019 06:59:58 Calib Date: 29-Jun-2019 14:21:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K10.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: gordonk Date: 21-Oct-2019 06:54:26

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.380	4.410	-0.030	96	203522	5000.0	5000.0	
* 2 Fluorobenzene (IS)	96	7.319	7.312	0.007	98	514048	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.403	10.403	0.000	90	113311	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.727	12.726	0.001	98	126378	250.0	250.0	
$ 5 Dibromofluoromethane (Surr	113	6.577	6.570	0.007	91	103399	250.0	227.9	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.954	6.947	0.007	93	166878	250.0	227.3	
$ 7 Toluene-d8 (Surr)	98	8.967	8.967	0.000	94	479669	250.0	258.4	
$ 8 4-Bromofluorobenzene (Surr	95	11.571	11.571	0.000	75	174905	250.0	221.5	
10 Dichlorodifluoromethane	85		1.642					ND	
11 Chloromethane	50		1.874					ND	
13 Butadiene	39		1.965					ND	U
12 Vinyl chloride	62		1.989					ND	U
14 Bromomethane	94		2.299					ND	
15 Chloroethane	64		2.397					ND	
16 Dichlorofluoromethane	67		2.664					ND	
17 Trichlorofluoromethane	101		2.707					ND	
19 Ethyl ether	59		3.121					ND	U
20 Acrolein	56		3.300					ND	
21 1,1-Dichloroethene	96		3.382					ND	
22 1,1,2-Trichloro-1,2,2-trif	101		3.461					ND	
23 Acetone	43		3.553					ND	
24 Iodomethane	142		3.583					ND	
25 Carbon disulfide	76		3.680					ND	
26 Isopropyl alcohol	45		3.858					ND	U
28 3-Chloro-1-propene	76		3.972					ND	
27 Acetonitrile	41		3.998					ND	U
29 Methyl acetate	43		4.082					ND	U
30 Methylene Chloride	84		4.179					ND	U
31 2-Methyl-2-propanol	59		4.532					ND	U
33 trans-1,2-Dichloroethene	96		4.593					ND	
32 Acrylonitrile	53		4.611					ND	U
34 Methyl tert-butyl ether	73		4.654					ND	U

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
35 Hexane	57		5.013					ND	U
36 1,1-Dichloroethane	63		5.207					ND	
37 Vinyl acetate	43		5.340					ND	U
38 2-Chloro-1,3-butadiene	53		5.348					ND	
39 Isopropyl ether	45		5.373					ND	U
40 Tert-butyl ethyl ether	59		5.841					ND	U
41 2,2-Dichloropropane	97		5.974					ND	
42 cis-1,2-Dichloroethene	96		5.980					ND	U
43 2-Butanone (MEK)	43		6.047					ND	
44 Propionitrile	54		6.115					ND	U
45 Ethyl acetate	43		6.133					ND	U
47 Chlorobromomethane	128		6.266					ND	
46 Methacrylonitrile	41		6.291					ND	U
48 Tetrahydrofuran	42		6.339					ND	U
49 Chloroform	83	6.388	6.387	0.001	88	3671		3.31	
50 1,1,1-Trichloroethane	97		6.570					ND	
51 Cyclohexane	56		6.625					ND	
53 Carbon tetrachloride	117		6.759					ND	
52 1,1-Dichloropropene	75		6.765					ND	
55 Benzene	78		6.996					ND	U
54 Isobutyl alcohol	41		7.008					ND	U
56 1,2-Dichloroethane	62		7.032					ND	U
58 Isooctane	57		7.101					ND	U
57 Tert-amyl methyl ether	73		7.155					ND	U
59 n-Heptane	43		7.312					ND	U
60 Trichloroethene	130		7.708					ND	U
61 n-Butanol	56		7.709					ND	U
62 Ethyl acrylate	55		7.855					ND	U
63 Methylcyclohexane	83		7.896					ND	U
64 1,2-Dichloropropane	63		7.945					ND	U
65 Dibromomethane	93		8.067					ND	
66 Methyl methacrylate	69		8.092					ND	U
67 1,4-Dioxane	88		8.103					ND	
68 Dichlorobromomethane	83		8.243					ND	
70 2-Chloroethyl vinyl ether	63		8.562					ND	
71 cis-1,3-Dichloropropene	75		8.699					ND	
72 4-Methyl-2-pentanone (MIBK	43		8.863					ND	U
73 Toluene	91		9.034					ND	U
74 trans-1,3-Dichloropropene	75		9.259					ND	
75 Ethyl methacrylate	69		9.356					ND	U
76 1,1,2-Trichloroethane	97		9.441					ND	U
77 Tetrachloroethene	164		9.575					ND	U
78 1,3-Dichloropropane	76		9.612					ND	U
79 2-Hexanone	43		9.703					ND	U
80 n-Butyl acetate	43		9.826					ND	U
81 Chlorodibromomethane	129		9.837					ND	
82 Ethylene Dibromide	107		9.946					ND	U
83 Chlorobenzene	112		10.433					ND	U
85 1,1,1,2-Tetrachloroethane	131		10.512					ND	U
86 Ethylbenzene	106		10.542					ND	U
87 m-Xylene & p-Xylene	106		10.658					ND	U
88 o-Xylene	106		11.053					ND	U

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
89 Styrene	104		11.066					ND	U
90 Bromoform	173		11.254					ND	
91 Isopropylbenzene	105		11.419					ND	U
92 Cyclohexanone	55		11.523					ND	U
94 Bromobenzene	156		11.723					ND	U
93 1,1,2,2-Tetrachloroethane	83		11.723					ND	U
95 1,2,3-Trichloropropane	110		11.765					ND	
96 trans-1,4-Dichloro-2-buten	53		11.777					ND	
97 N-Propylbenzene	120		11.826					ND	U
98 2-Chlorotoluene	126		11.917					ND	U
99 1,3,5-Trimethylbenzene	105	12.003	12.003	0.000	91	4978		2.77	
100 4-Chlorotoluene	126	12.027	12.027	0.000	94	1219		2.52	
101 tert-Butylbenzene	119	12.338	12.331	0.007	90	3665		2.49	
103 1,2,4-Trimethylbenzene	105	12.380	12.380	0.000	94	5257		2.91	
104 sec-Butylbenzene	105	12.551	12.550	0.001	91	6479		2.80	
105 1,3-Dichlorobenzene	146	12.660	12.666	-0.006	91	3187		3.91	
106 4-Isopropyltoluene	119	12.690	12.690	0.000	94	4794		2.64	
107 1,4-Dichlorobenzene	146	12.757	12.751	0.006	80	2660		3.33	
108 1,2,3-Trimethylbenzene	105		12.801					ND	U
109 Benzyl chloride	91		12.886					ND	
110 n-Butylbenzene	91	13.104	13.104	0.000	95	4610		2.38	
111 1,2-Dichlorobenzene	146	13.122	13.128	-0.006	91	2590		3.43	
112 1,2-Dibromo-3-Chloropropan	75		13.907					ND	
113 1,3,5-Trichlorobenzene	180		14.115					ND	U
114 1,2,4-Trichlorobenzene	180		14.740					ND	U
115 Hexachlorobutadiene	225		14.910					ND	U
116 Naphthalene	128	14.990	14.990	0.000	94	5133		5.12	
117 1,2,3-Trichlorobenzene	180	15.227	15.239	-0.012	88	1778		4.77	
122 3-Chlorotoluene	126		0.000					ND	
S 141 Total BTEX	1		1.000					ND	
S 129 Xylenes, Total	106		1.000					ND	
S 130 1,2-Dichloroethene, Total	96		1.000					ND	
S 131 1,3-Dichloropropene, Total	1		0.000					ND	

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

VOA8260INT_00100	Amount Added: 10.00	Units: uL	Run Reagent
VOA8260SURR_00100	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 21-Oct-2019 07:00:03 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102006.D				
Injection Date:	20-Oct-2019 12:07:30	Instrument ID:	CHHP3	Operator ID:	10099
Lims ID:	LB 180-295111/1-A			Worklist Smp#:	6
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column: DB-624 (0.18 mm)					

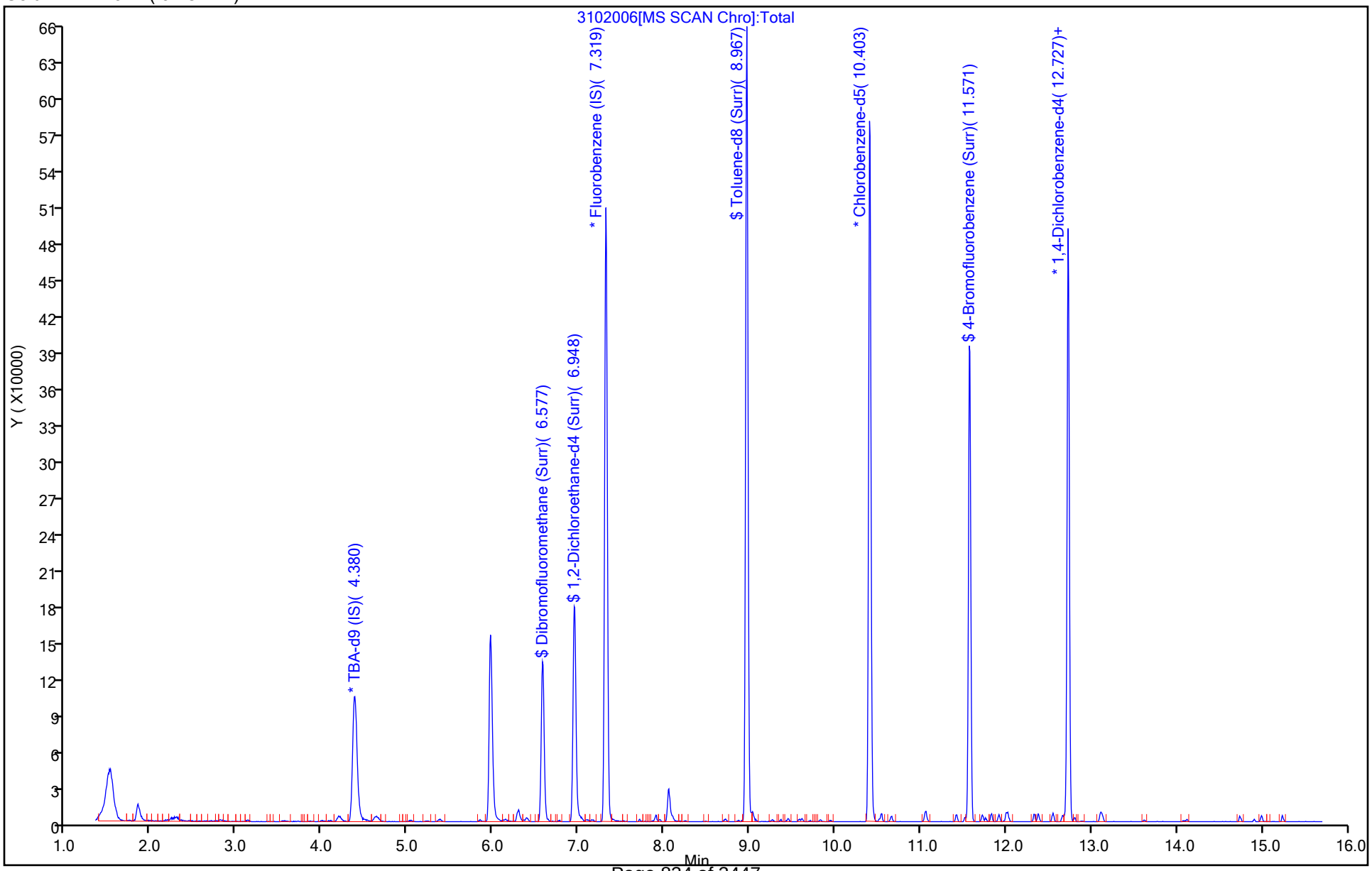

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102006.D
Lims ID: LB 180-295111/1-A
Client ID:
Sample Type: LB
Inject. Date: 20-Oct-2019 12:07:30 ALS Bottle#: 6 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: LB
Operator ID: 10099 Instrument ID: CHHP3

Method: \\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\MSVOA_S_CHHP3.m
Limit Group: VOA 8260C_D ICAL
Last Update: 21-Oct-2019 06:59:58 Calib Date: 29-Jun-2019 14:21:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K10.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: gordonk Date: 21-Oct-2019 06:54:26

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	250.0	227.9	91.15
$ 6 1,2-Dichloroethane-d4 (Surr)	250.0	227.3	90.92
$ 7 Toluene-d8 (Surr)	250.0	258.4	103.38
$ 8 4-Bromofluorobenzene (Surr)	250.0	221.5	88.62

Report Date: 21-Oct-2019 07:00:04 Chrom Revision: 2.3 09-Oct-2019 11:13:36

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102006.D				
Injection Date:	20-Oct-2019 12:07:30	Instrument ID:	CHHP3		
Lims ID:	LB 180-295111/1-A				
Client ID:					
Operator ID:	10099	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

85 1,1,1,2-Tetrachloroethane, CAS: 630-20-6

Processing Results

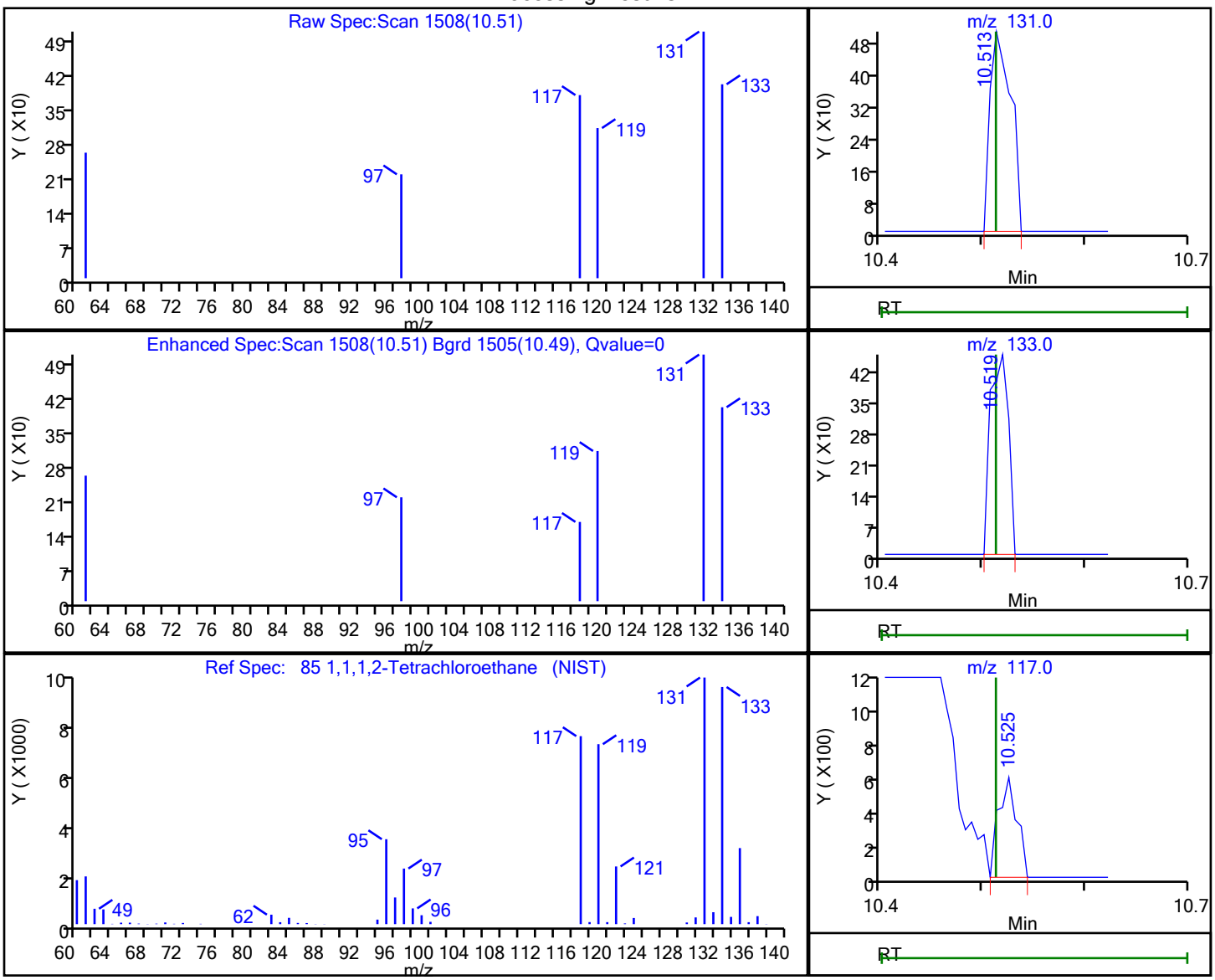

RT	Mass	Response	Amount
10.51	131.00	712	1.712304
10.52	133.00	559	
10.52	117.00	700	

Reviewer: gordonk, 21-Oct-2019 06:53:30

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 21-Oct-2019 07:00:03 Chrom Revision: 2.3 09-Oct-2019 11:13:36

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102006.D				
Injection Date:	20-Oct-2019 12:07:30	Instrument ID:	CHHP3		
Lims ID:	LB 180-295111/1-A				
Client ID:					
Operator ID:	10099	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

56 1,2-Dichloroethane, CAS: 107-06-2

Processing Results

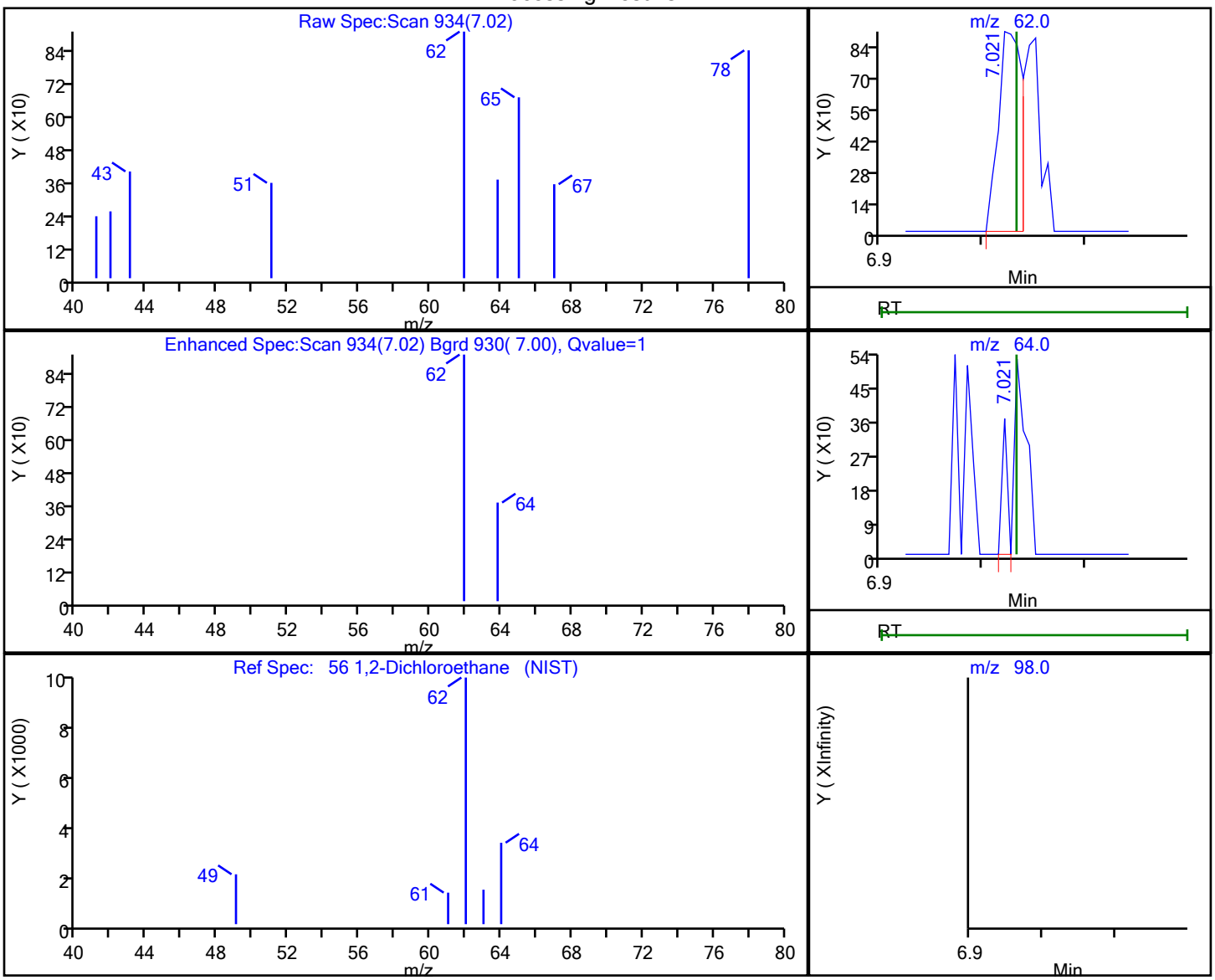

RT	Mass	Response	Amount
7.02	62.00	1478	1.755971
7.02	64.00	132	
7.03	98.00	0	

Reviewer: gordonk, 21-Oct-2019 06:53:06

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 21-Oct-2019 07:00:05 Chrom Revision: 2.3 09-Oct-2019 11:13:36

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102006.D				
Injection Date:	20-Oct-2019 12:07:30	Instrument ID:	CHHP3		
Lims ID:	LB 180-295111/1-A				
Client ID:					
Operator ID:	10099	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

93 1,1,2,2-Tetrachloroethane, CAS: 79-34-5

Processing Results

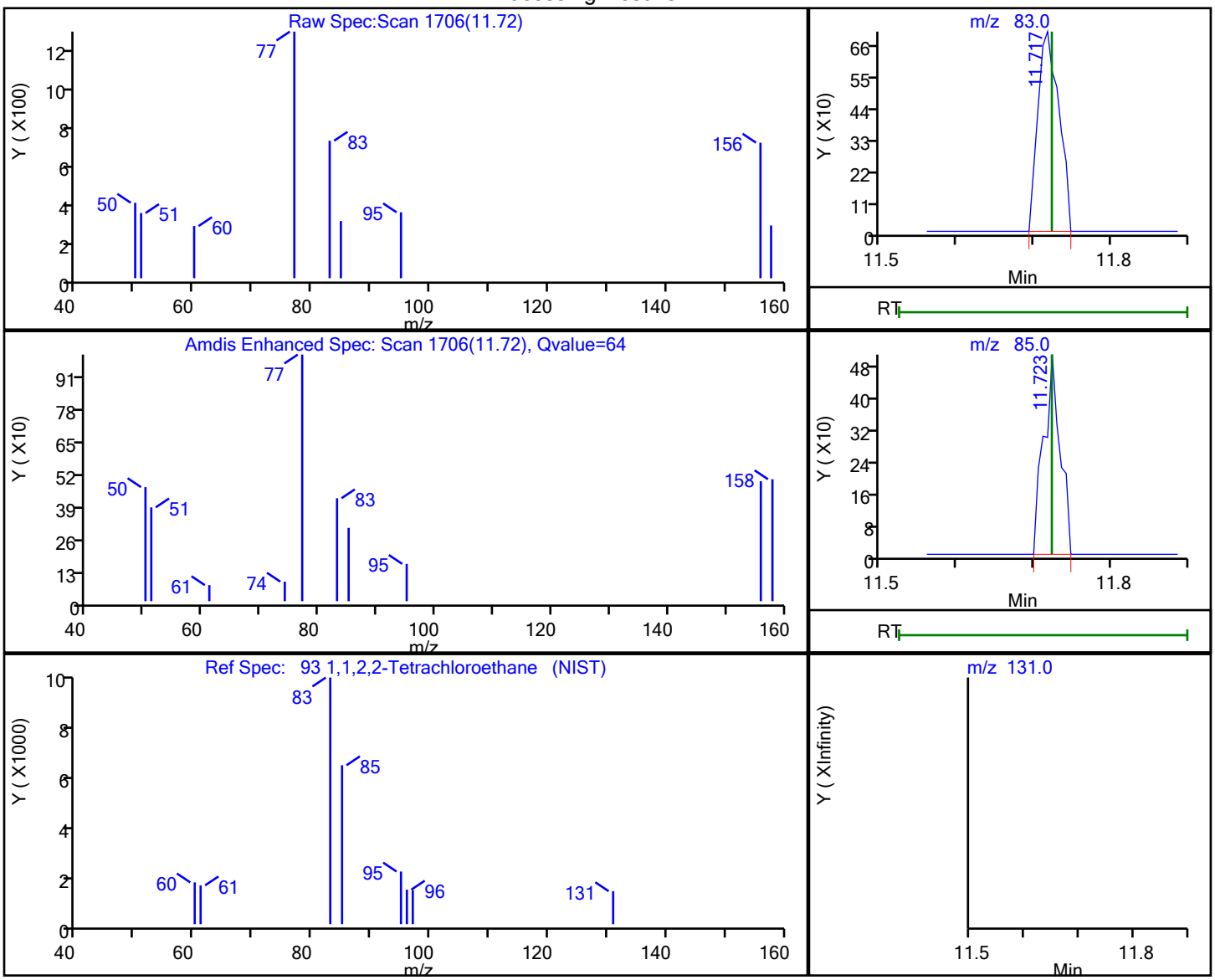

RT	Mass	Response	Amount
11.72	83.00	1357	2.522873
11.72	85.00	753	
11.72	131.00	0	

Reviewer: gordonk, 21-Oct-2019 06:53:36

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 21-Oct-2019 07:00:03 Chrom Revision: 2.3 09-Oct-2019 11:13:36

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102006.D				
Injection Date:	20-Oct-2019 12:07:30	Instrument ID:	CHHP3		
Lims ID:	LB 180-295111/1-A				
Client ID:					
Operator ID:	10099	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

55 Benzene, CAS: 71-43-2

Processing Results

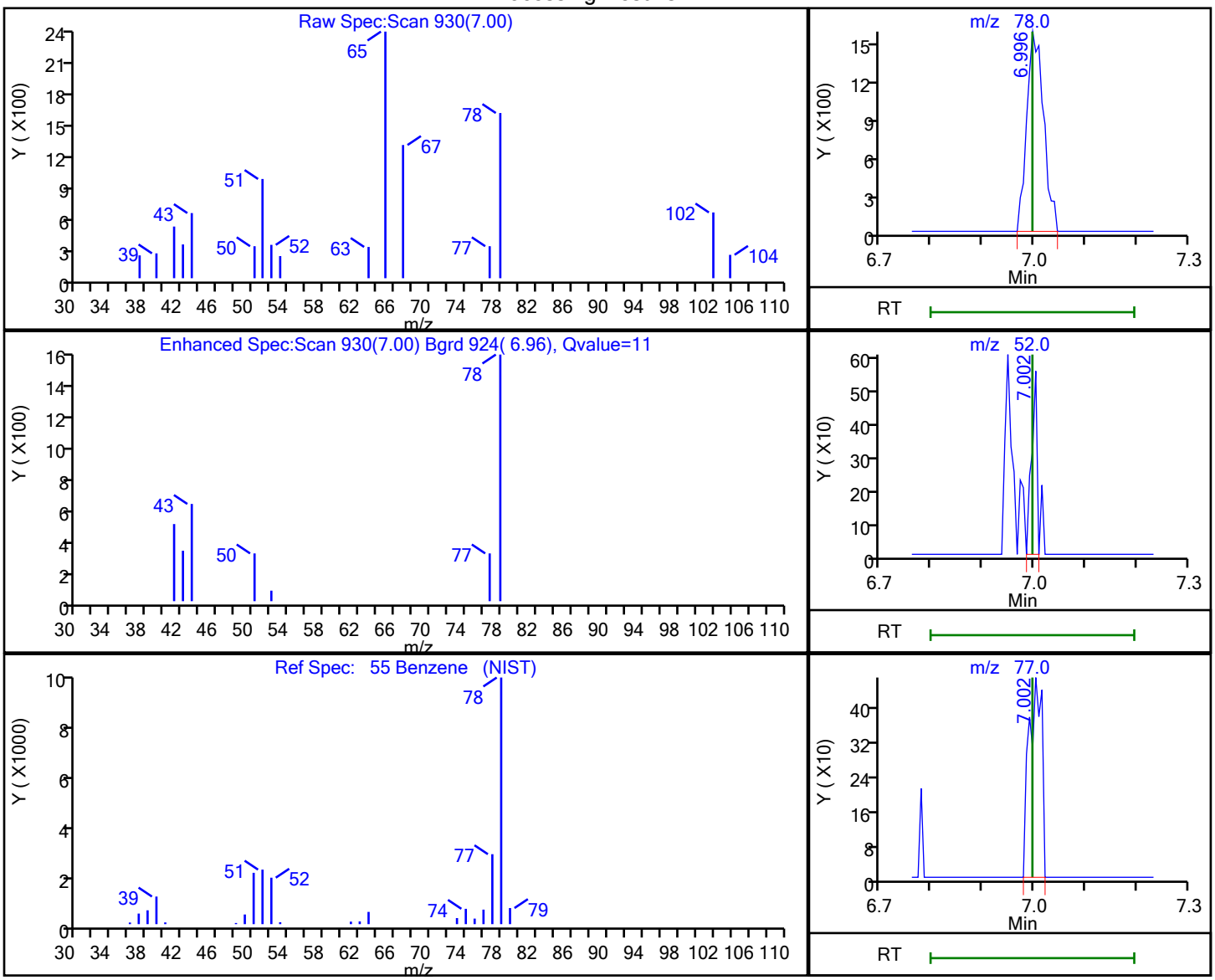

RT	Mass	Response	Amount
7.00	78.00	3604	1.466425
7.00	52.00	406	
7.00	77.00	825	

Reviewer: gordonk, 21-Oct-2019 06:52:56

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102006.D				
Injection Date:	20-Oct-2019 12:07:30	Instrument ID:	CHHP3		
Lims ID:	LB 180-295111/1-A				
Client ID:					
Operator ID:	10099	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

76 1,1,2-Trichloroethane, CAS: 79-00-5

Processing Results

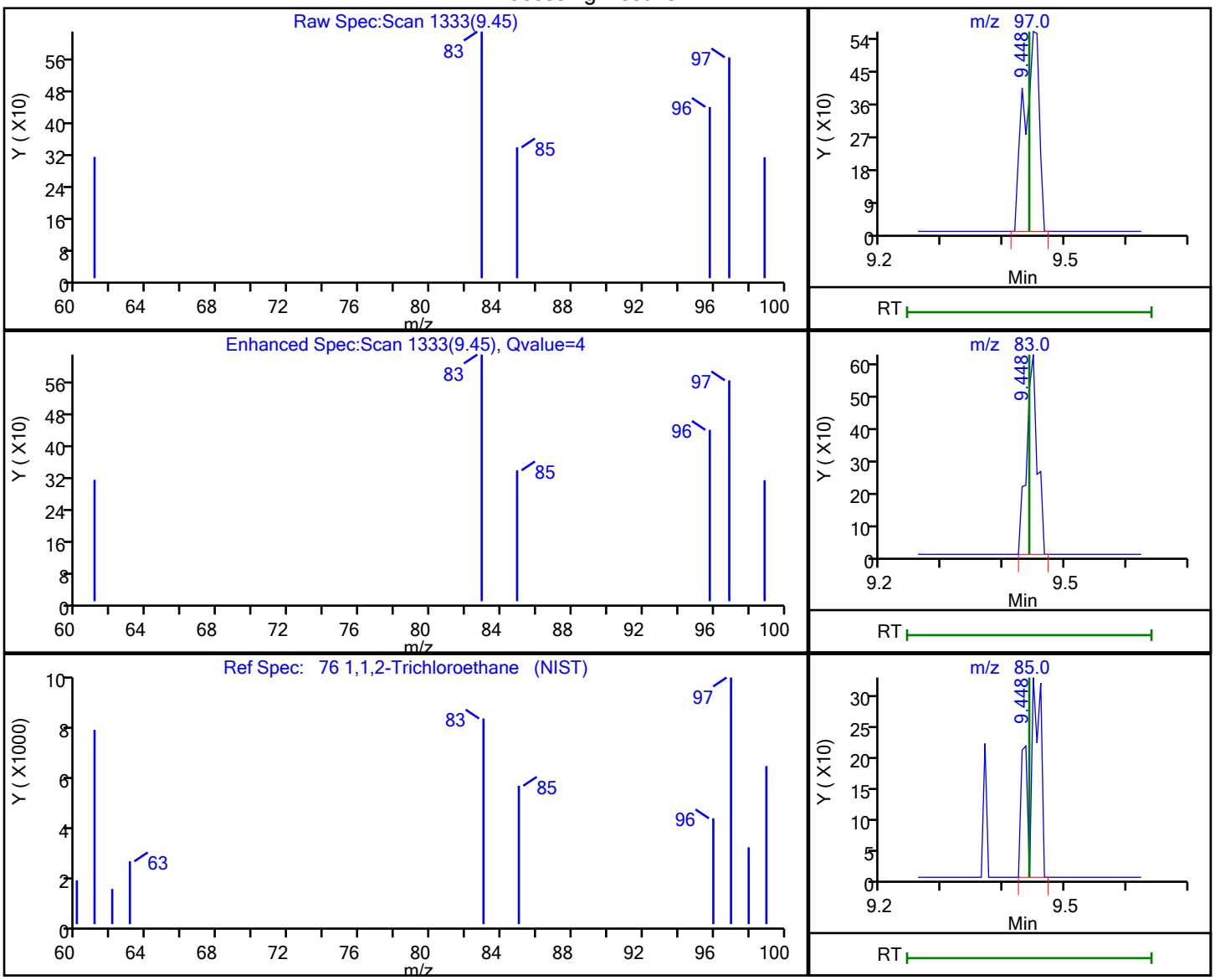

RT	Mass	Response	Amount
9.45	97.00	941	2.321460
9.45	83.00	757	
9.45	85.00	474	

Reviewer: gordonk, 21-Oct-2019 06:53:23

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102006.D				
Injection Date:	20-Oct-2019 12:07:30	Instrument ID:	CHHP3		
Lims ID:	LB 180-295111/1-A				
Client ID:					
Operator ID:	10099	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

83 Chlorobenzene, CAS: 108-90-7

Processing Results

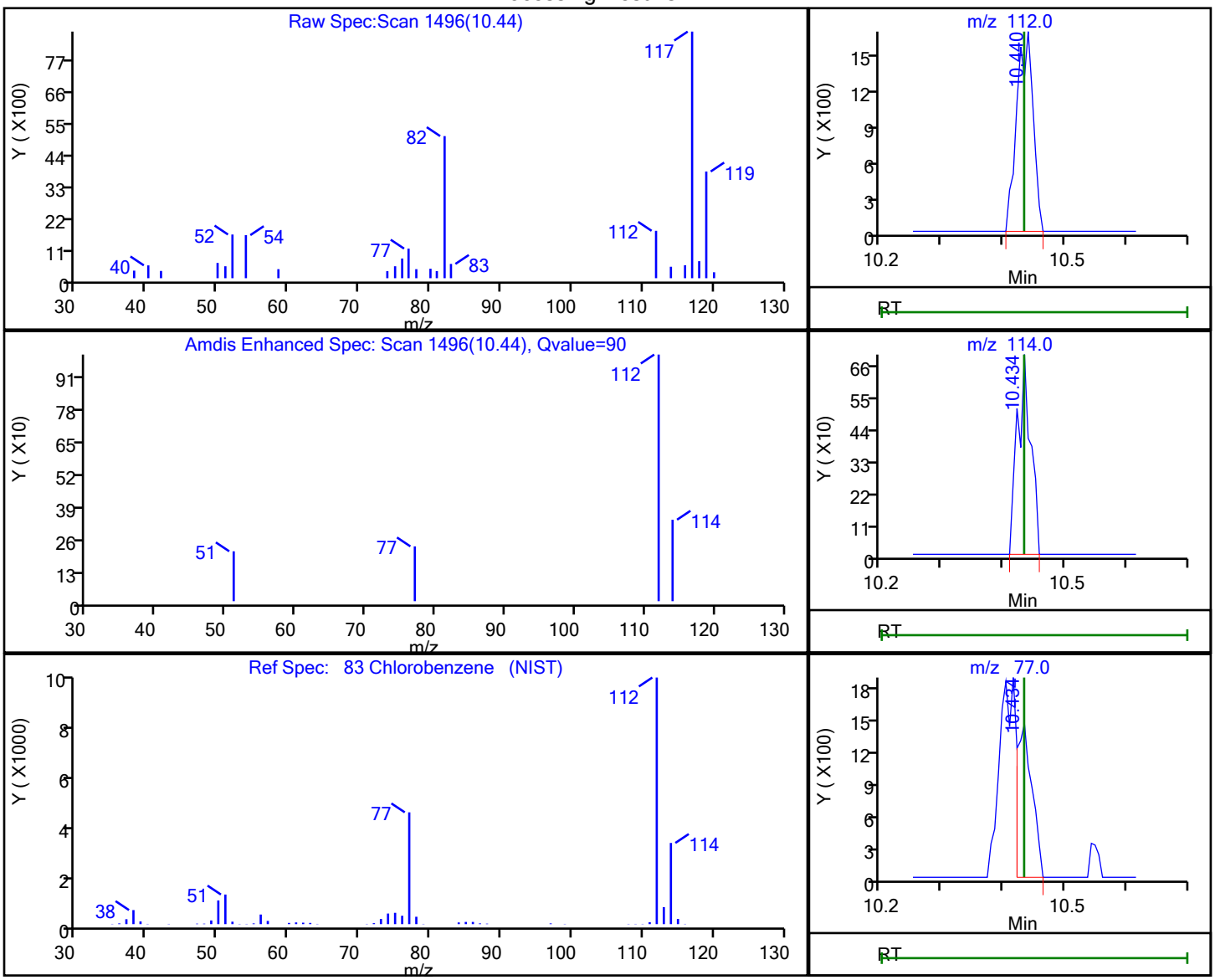

RT	Mass	Response	Amount
10.44	112.00	3076	2.182533
10.43	114.00	1045	
10.43	77.00	2464	

Reviewer: gordonk, 21-Oct-2019 06:53:30

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 21-Oct-2019 07:00:04 Chrom Revision: 2.3 09-Oct-2019 11:13:36

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102006.D				
Injection Date:	20-Oct-2019 12:07:30	Instrument ID:	CHHP3		
Lims ID:	LB 180-295111/1-A				
Client ID:					
Operator ID:	10099	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

77 Tetrachloroethene, CAS: 127-18-4

Processing Results

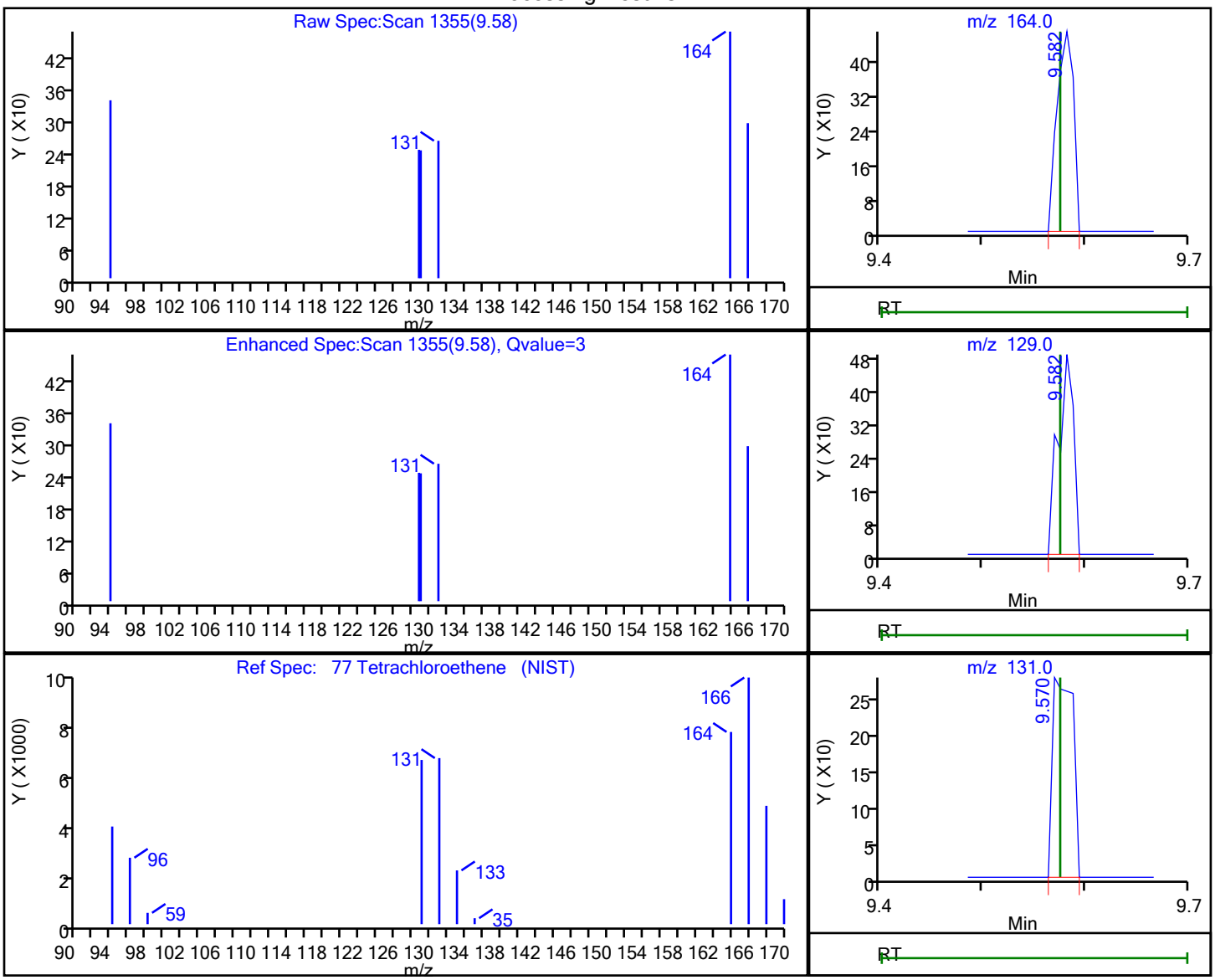

RT	Mass	Response	Amount
9.58	164.00	521	1.535674
9.58	129.00	503	
9.57	131.00	384	

Reviewer: gordonk, 21-Oct-2019 06:53:23

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 21-Oct-2019 07:00:03 Chrom Revision: 2.3 09-Oct-2019 11:13:36

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102006.D				
Injection Date:	20-Oct-2019 12:07:30	Instrument ID:	CHHP3		
Lims ID:	LB 180-295111/1-A				
Client ID:					
Operator ID:	10099	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

60 Trichloroethene, CAS: 79-01-6

Processing Results

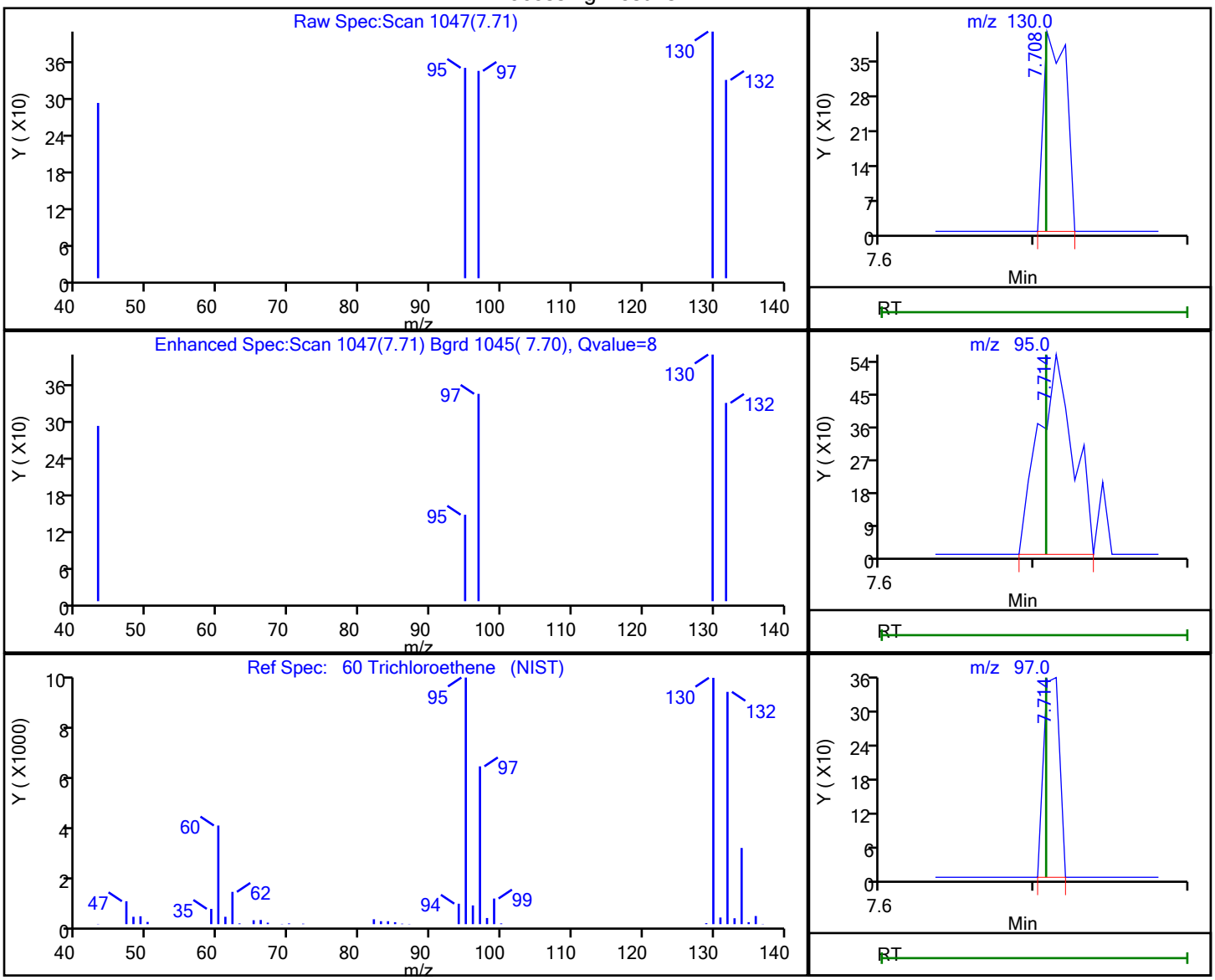

RT	Mass	Response	Amount
7.71	130.00	413	0.809142
7.71	95.00	873	
7.71	97.00	253	

Reviewer: gordonk, 21-Oct-2019 06:53:06

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102006.D				
Injection Date:	20-Oct-2019 12:07:30	Instrument ID:	CHHP3		
Lims ID:	LB 180-295111/1-A				
Client ID:					
Operator ID:	10099	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

12 Vinyl chloride, CAS: 75-01-4

Processing Results

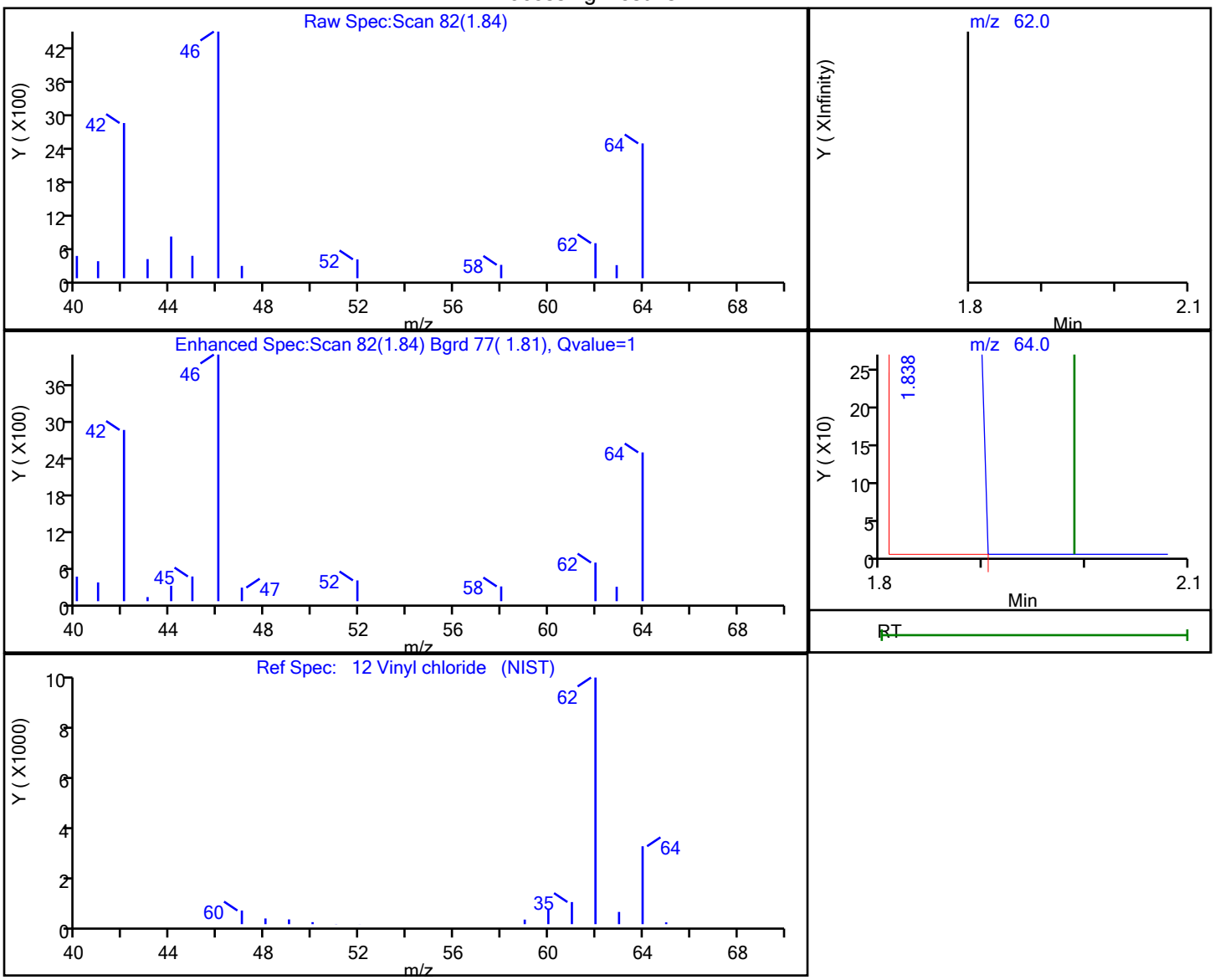

RT	Mass	Response	Amount
1.84	62.00	828	0.997437
1.84	64.00	6717	

Reviewer: gordonk, 21-Oct-2019 06:52:19

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102006.D				
Injection Date:	20-Oct-2019 12:07:30	Instrument ID:	CHHP3		
Lims ID:	LB 180-295111/1-A				
Client ID:					
Operator ID:	10099	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

72 4-Methyl-2-pentanone (MIBK), CAS: 108-10-1

Processing Results

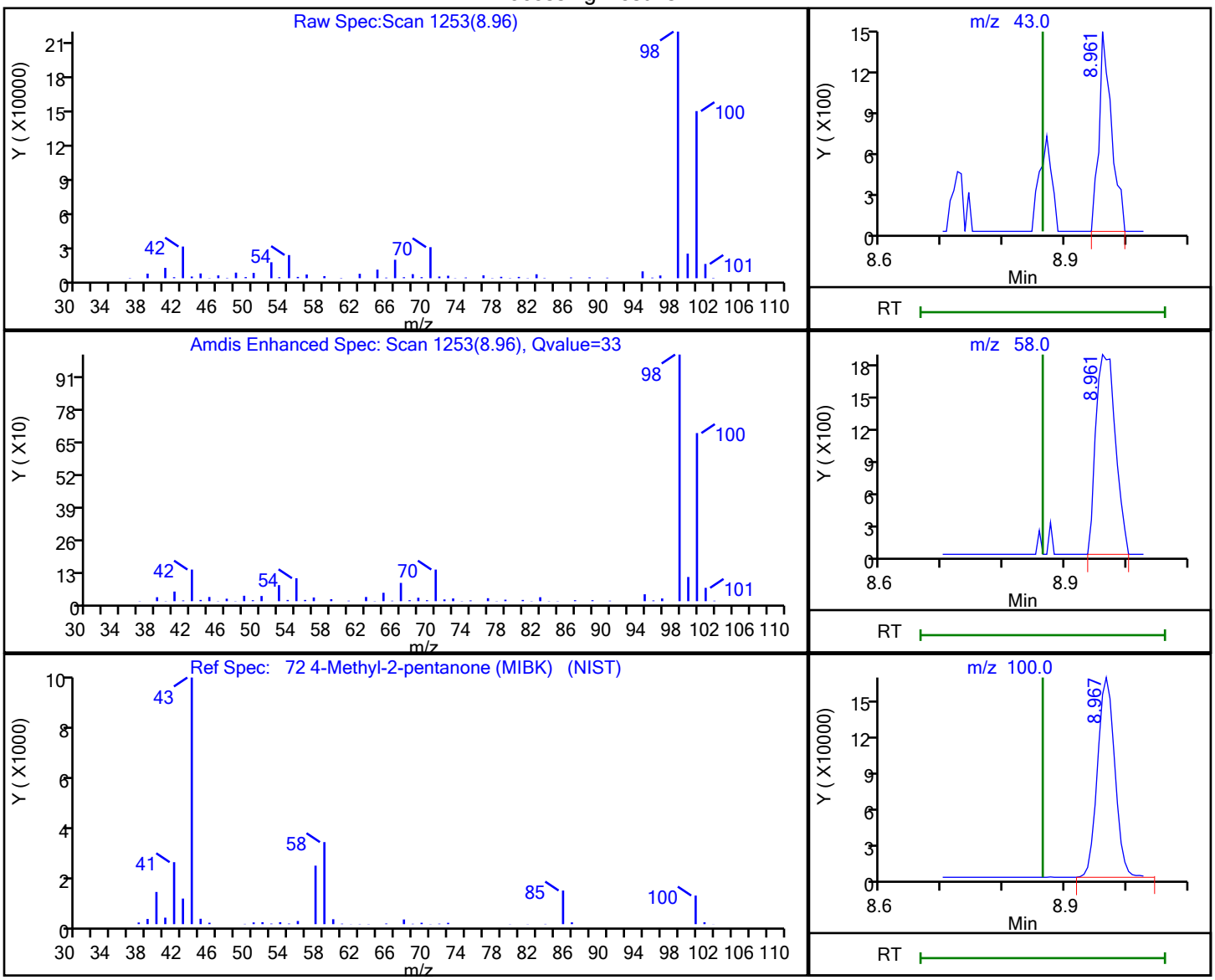

RT	Mass	Response	Amount
8.96	43.00	2109	5.170105
8.96	58.00	4143	
8.97	100.00	321102	

Reviewer: gordonk, 21-Oct-2019 06:53:16

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102006.D				
Injection Date:	20-Oct-2019 12:07:30	Instrument ID:	CHHP3		
Lims ID:	LB 180-295111/1-A				
Client ID:					
Operator ID:	10099	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

27 Acetonitrile, CAS: 75-05-8

Processing Results

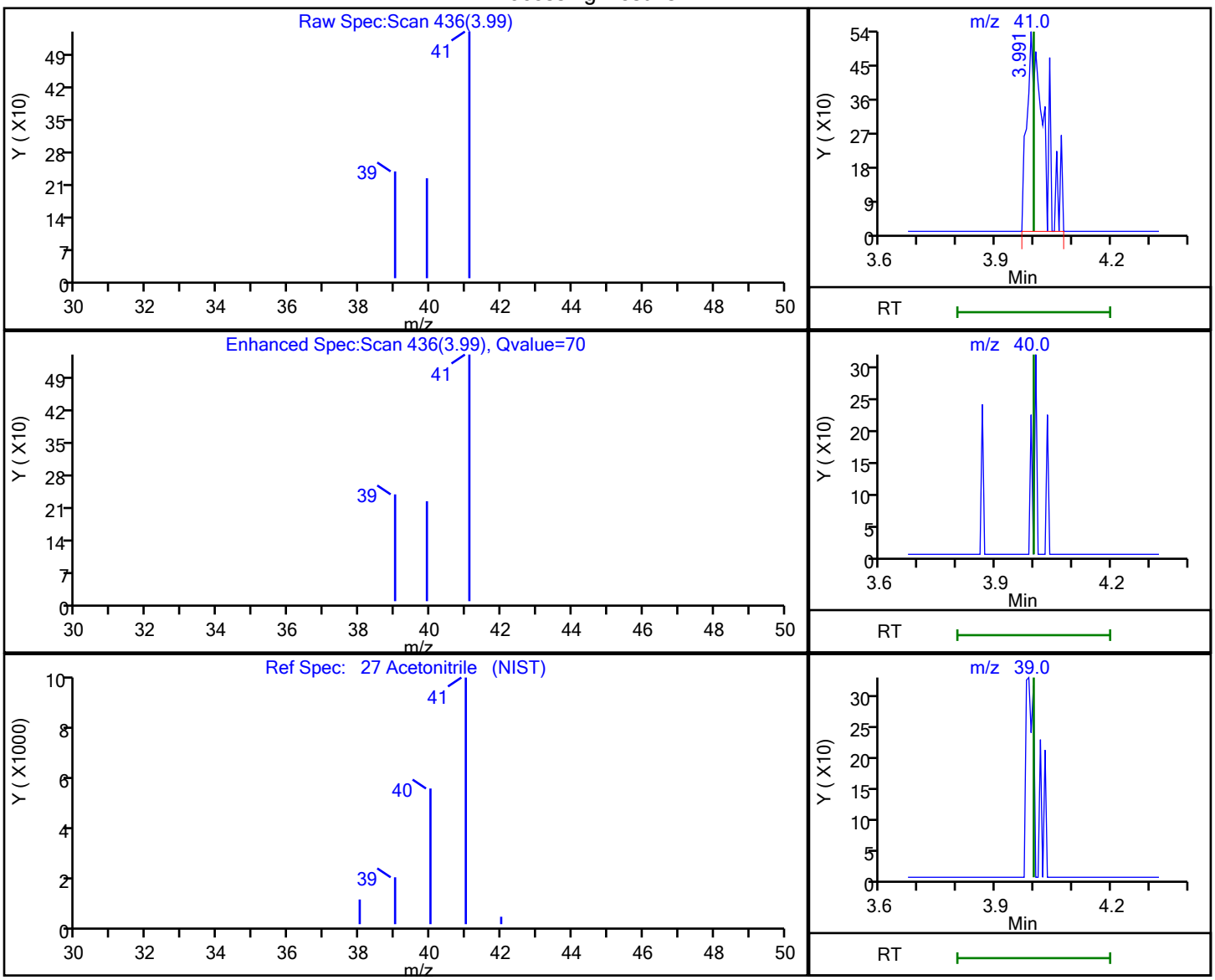

RT	Mass	Response	Amount
3.99	41.00	1676	24.235391
4.00	40.00	0	
4.00	39.00	0	

Reviewer: gordonk, 21-Oct-2019 06:52:23

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 21-Oct-2019 07:00:03 Chrom Revision: 2.3 09-Oct-2019 11:13:36

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102006.D				
Injection Date:	20-Oct-2019 12:07:30	Instrument ID:	CHHP3		
Lims ID:	LB 180-295111/1-A				
Client ID:					
Operator ID:	10099	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

32 Acrylonitrile, CAS: 107-13-1

Processing Results

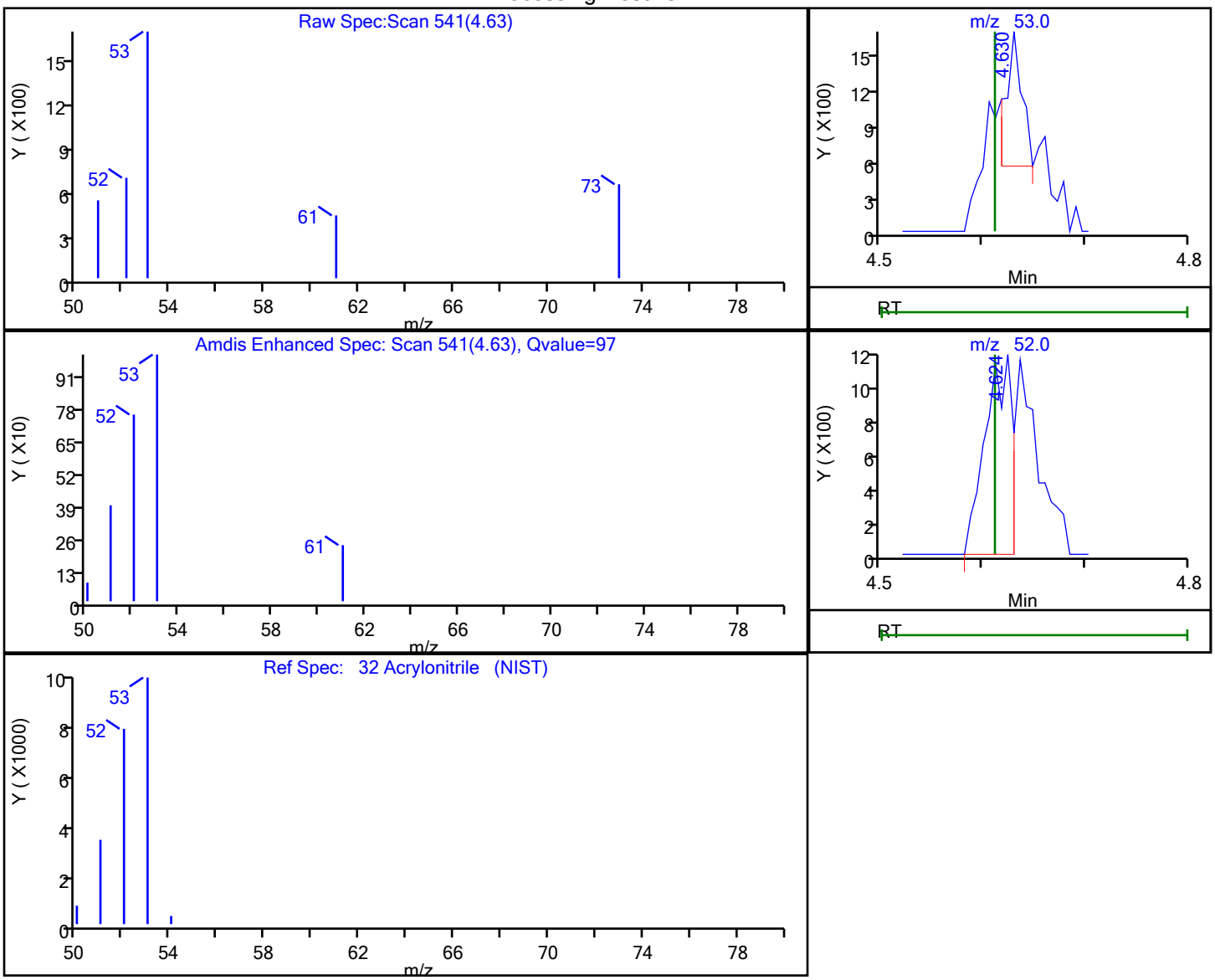

RT	Mass	Response	Amount
4.63	53.00	1228	6.646767
4.62	52.00	2058	

Reviewer: gordonk, 21-Oct-2019 06:52:33

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 21-Oct-2019 07:00:05 Chrom Revision: 2.3 09-Oct-2019 11:13:36

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102006.D				
Injection Date:	20-Oct-2019 12:07:30	Instrument ID:	CHHP3		
Lims ID:	LB 180-295111/1-A				
Client ID:					
Operator ID:	10099	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

86 Ethylbenzene, CAS: 100-41-4

Processing Results

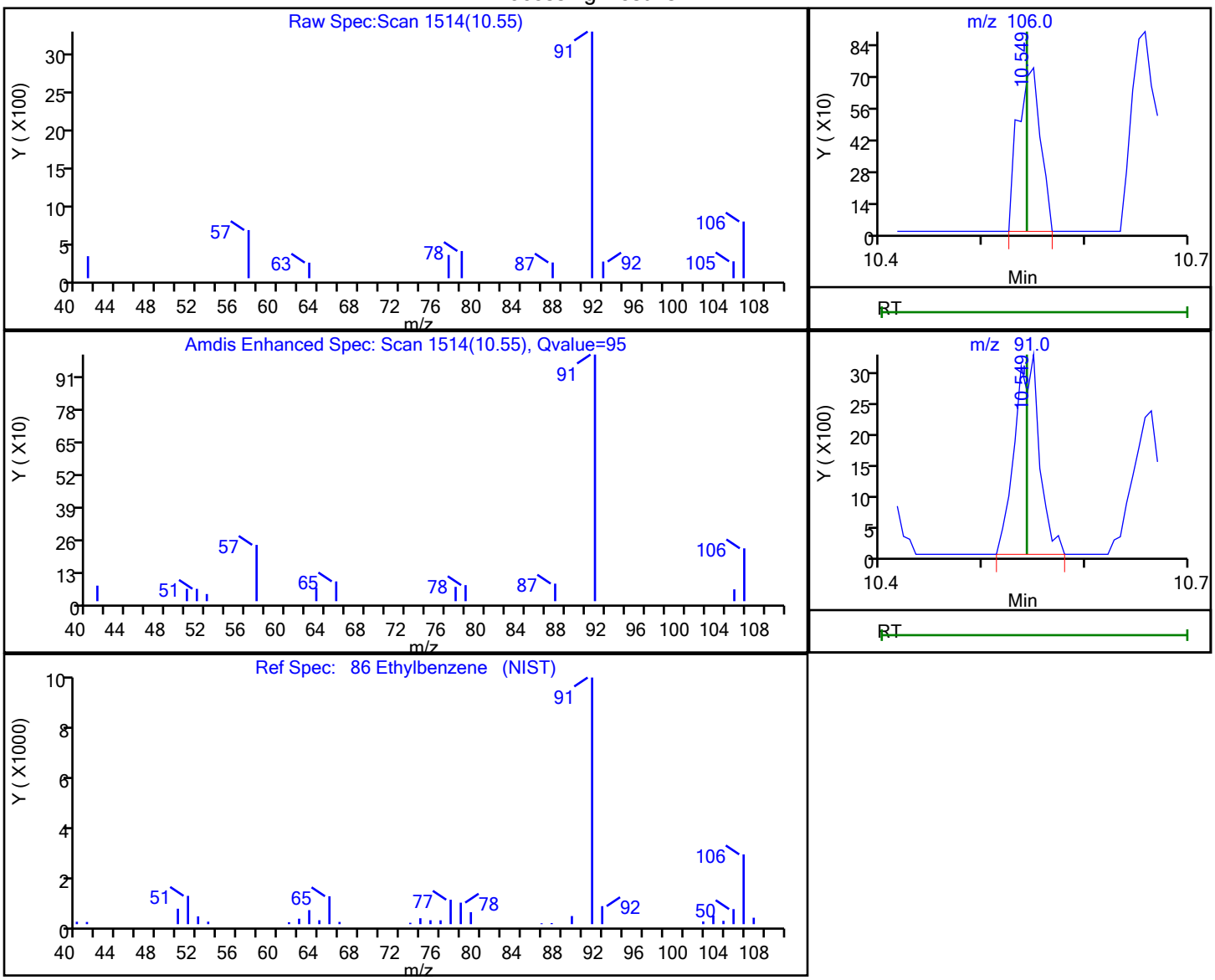

RT	Mass	Response	Amount
10.55	106.00	1132	1.452215
10.55	91.00	5329	

Reviewer: gordonk, 21-Oct-2019 06:53:30

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 21-Oct-2019 07:00:04 Chrom Revision: 2.3 09-Oct-2019 11:13:36

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102006.D				
Injection Date:	20-Oct-2019 12:07:30	Instrument ID:	CHHP3		
Lims ID:	LB 180-295111/1-A				
Client ID:					
Operator ID:	10099	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

82 Ethylene Dibromide, CAS: 106-93-4

Processing Results

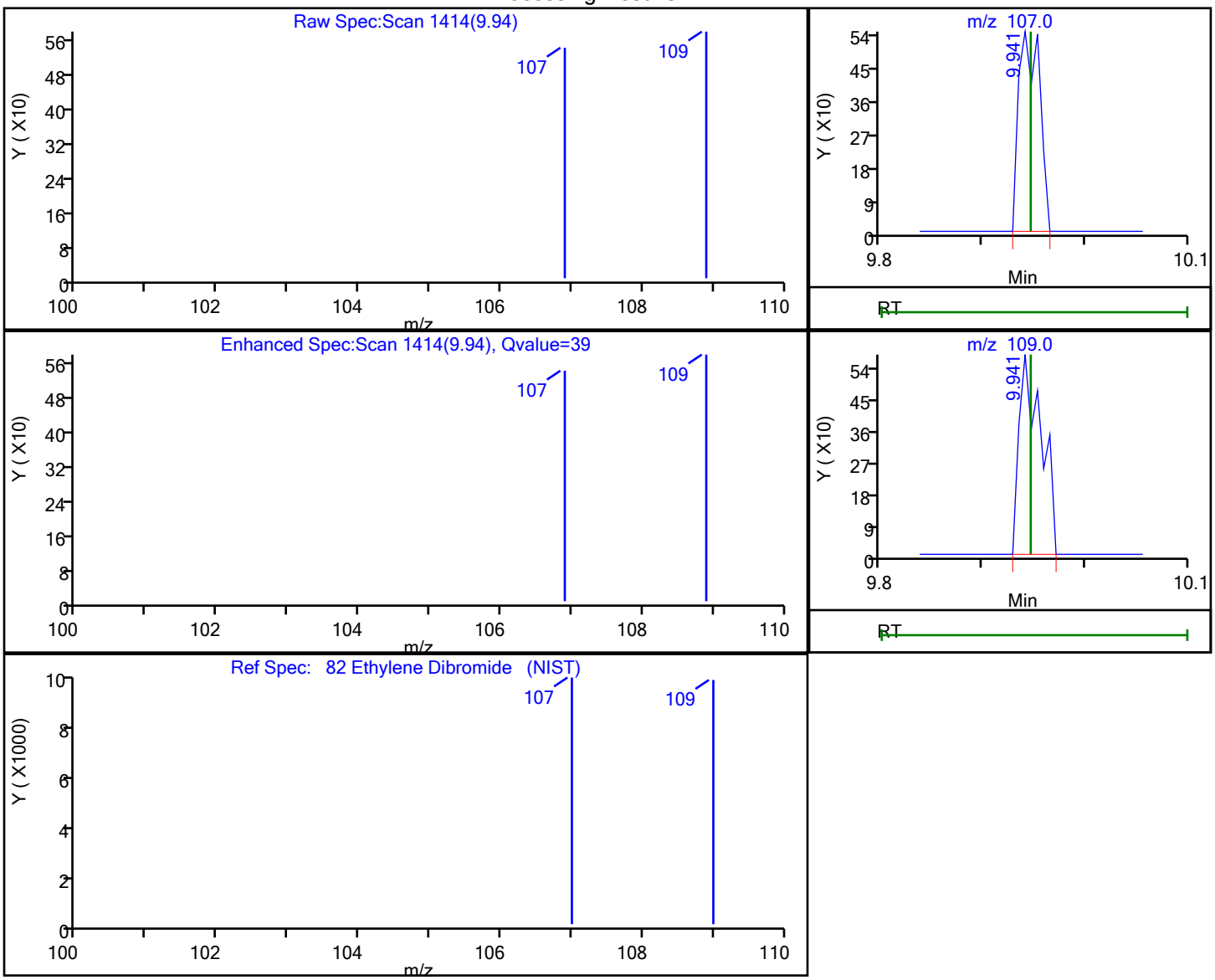

RT	Mass	Response	Amount
9.94	107.00	775	1.967205
9.94	109.00	873	

Reviewer: gordonk, 21-Oct-2019 06:53:30

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 21-Oct-2019 07:00:06 Chrom Revision: 2.3 09-Oct-2019 11:13:36

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102006.D				
Injection Date:	20-Oct-2019 12:07:30	Instrument ID:	CHHP3		
Lims ID:	LB 180-295111/1-A				
Client ID:					
Operator ID:	10099	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

115 Hexachlorobutadiene, CAS: 87-68-3

Processing Results

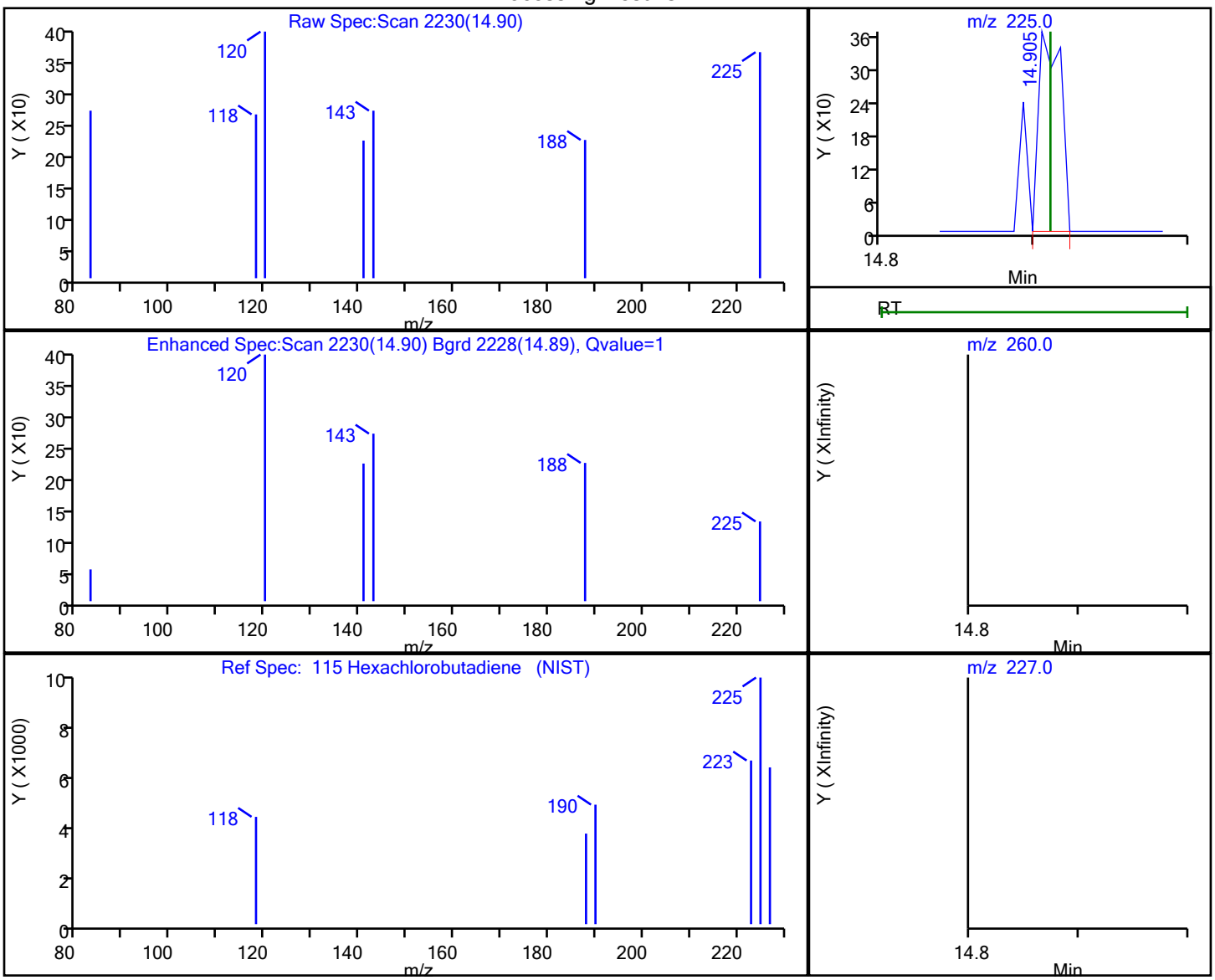

RT	Mass	Response	Amount
14.90	225.00	363	2.301034
14.91	260.00	0	
14.91	227.00	0	

Reviewer: gordonk, 21-Oct-2019 06:54:16

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102006.D				
Injection Date:	20-Oct-2019 12:07:30	Instrument ID:	CHHP3		
Lims ID:	LB 180-295111/1-A				
Client ID:					
Operator ID:	10099	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

54 Isobutyl alcohol, CAS: 78-83-1

Processing Results

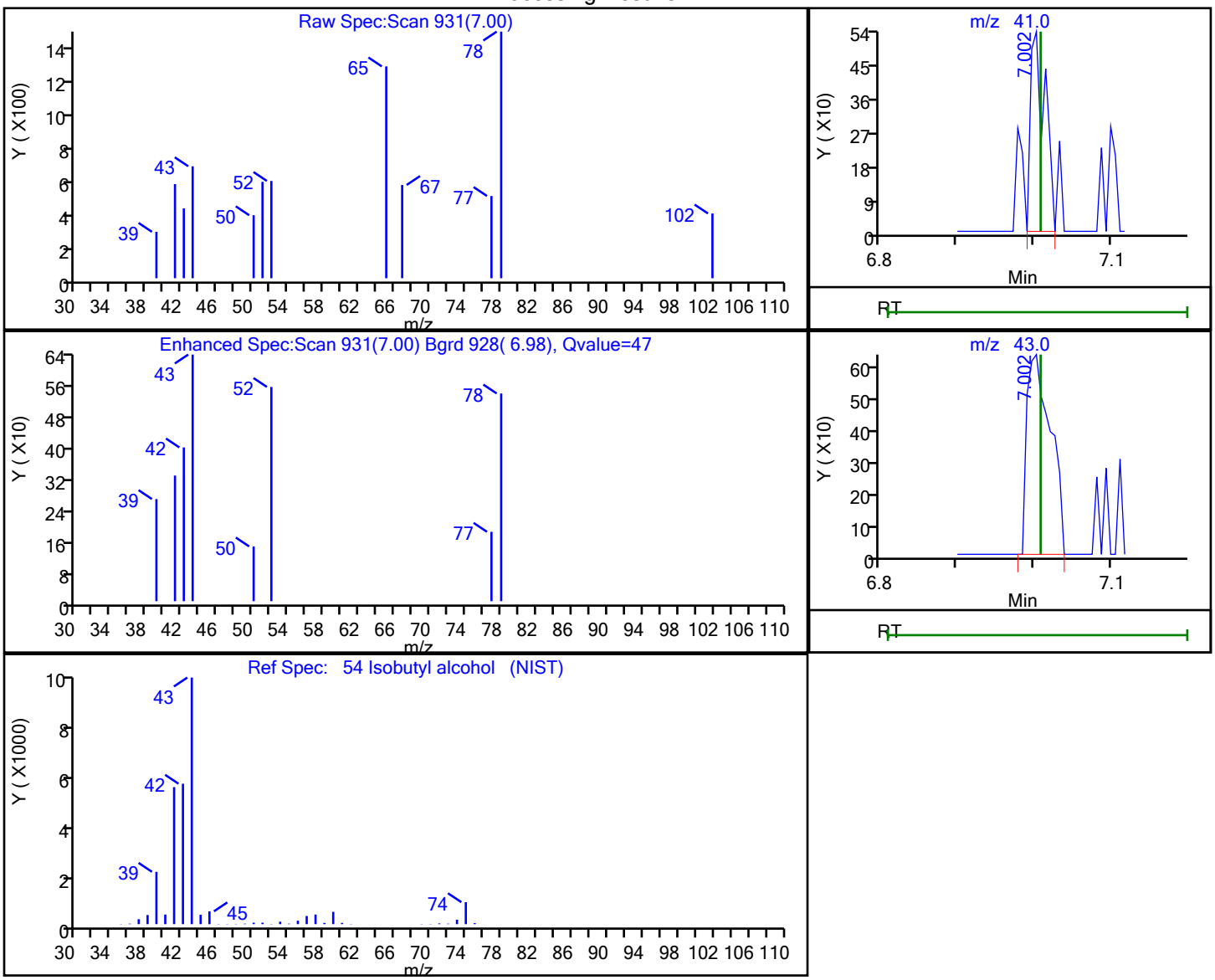

RT	Mass	Response	Amount
7.00	41.00	705	182.4770
7.00	43.00	1376	

Reviewer: gordonk, 21-Oct-2019 06:52:59

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102006.D				
Injection Date:	20-Oct-2019 12:07:30	Instrument ID:	CHHP3		
Lims ID:	LB 180-295111/1-A				
Client ID:					
Operator ID:	10099	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

46 Methacrylonitrile, CAS: 126-98-7

Processing Results

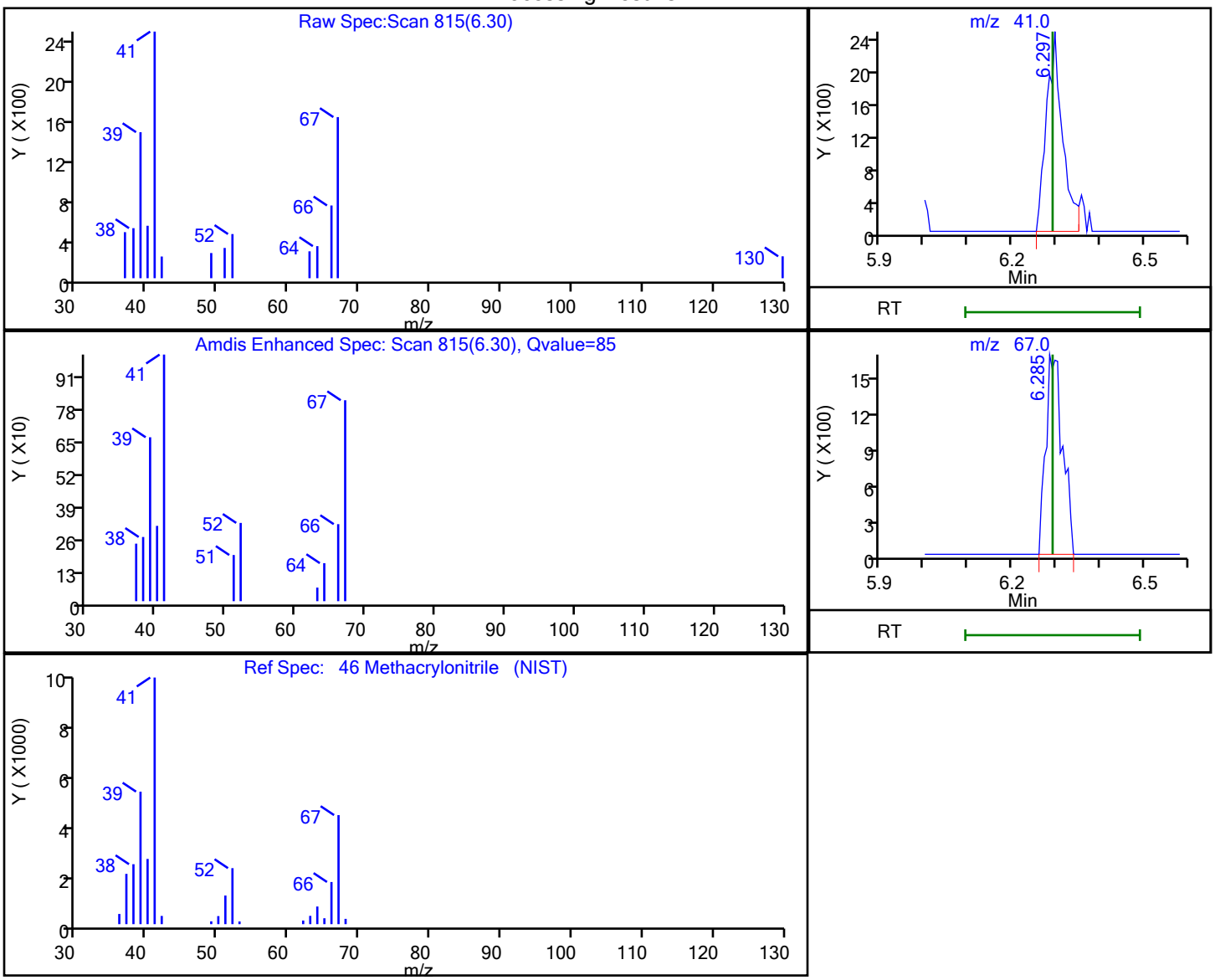

RT	Mass	Response	Amount
6.30	41.00	6242	21.444987
6.28	67.00	4397	

Reviewer: gordonk, 21-Oct-2019 06:52:50

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102006.D				
Injection Date:	20-Oct-2019 12:07:30	Instrument ID:	CHHP3		
Lims ID:	LB 180-295111/1-A				
Client ID:					
Operator ID:	10099	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

30 Methylene Chloride, CAS: 75-09-2

Processing Results

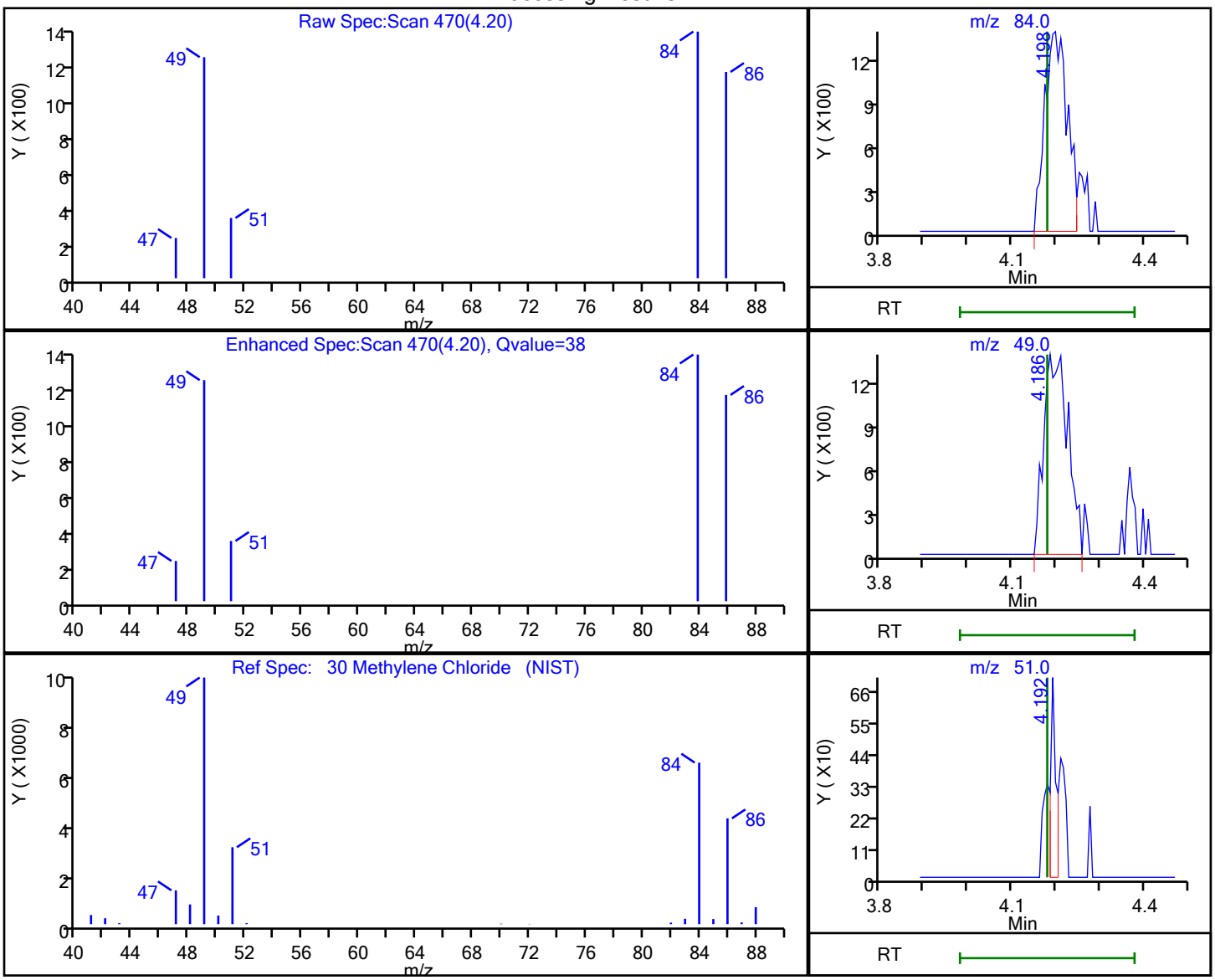

RT	Mass	Response	Amount
4.20	84.00	4935	-15.468500
4.19	49.00	5217	
4.19	51.00	593	

Reviewer: gordonk, 21-Oct-2019 06:52:29

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102006.D				
Injection Date:	20-Oct-2019 12:07:30	Instrument ID:	CHHP3		
Lims ID:	LB 180-295111/1-A				
Client ID:					
Operator ID:	10099	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

89 Styrene, CAS: 100-42-5

Processing Results

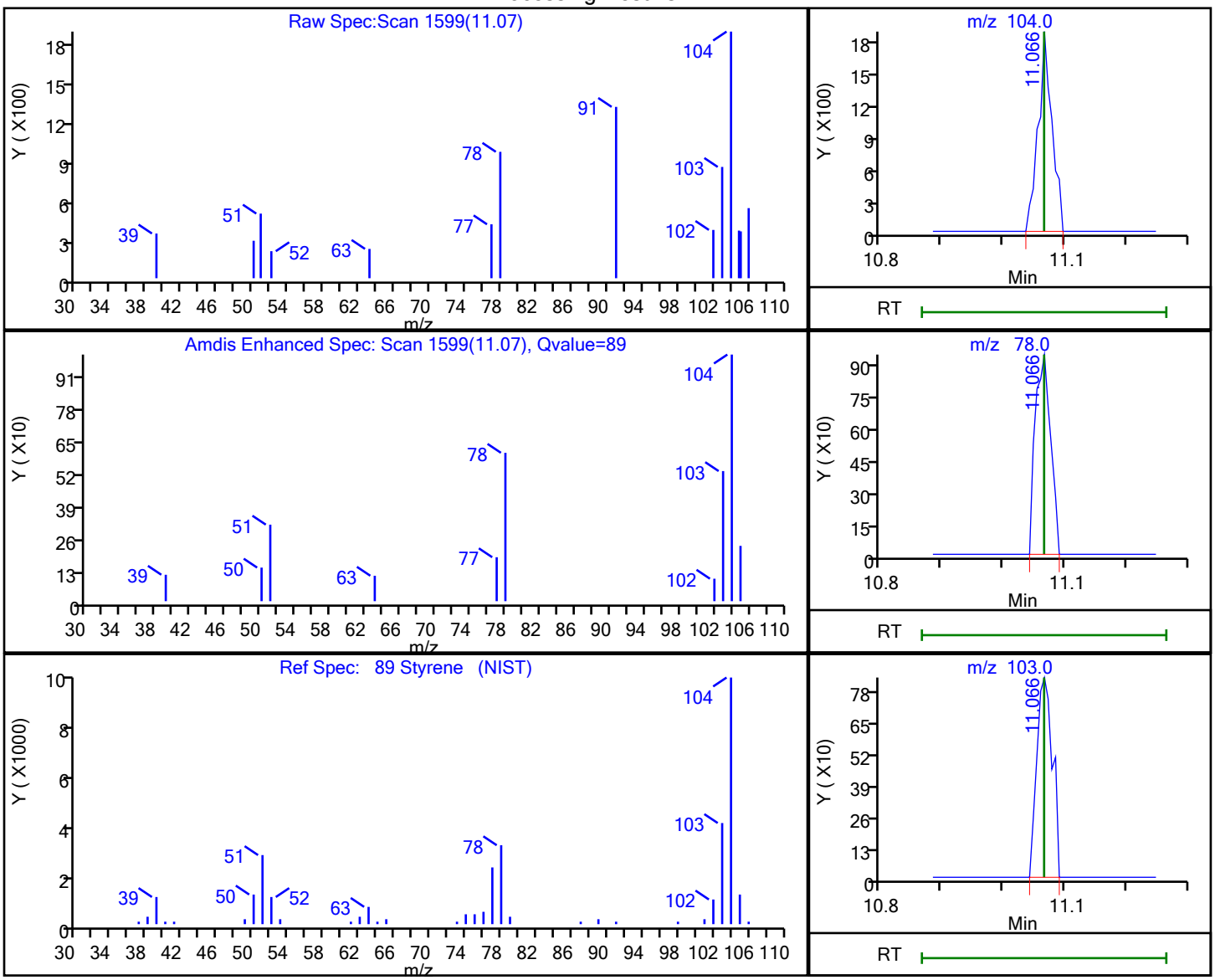

RT	Mass	Response	Amount
11.07	104.00	2876	1.783810
11.07	78.00	1655	
11.07	103.00	1481	

Reviewer: gordonk, 21-Oct-2019 06:53:30

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 21-Oct-2019 07:00:04 Chrom Revision: 2.3 09-Oct-2019 11:13:36

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102006.D				
Injection Date:	20-Oct-2019 12:07:30	Instrument ID:	CHHP3		
Lims ID:	LB 180-295111/1-A				
Client ID:					
Operator ID:	10099	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

73 Toluene, CAS: 108-88-3

Processing Results

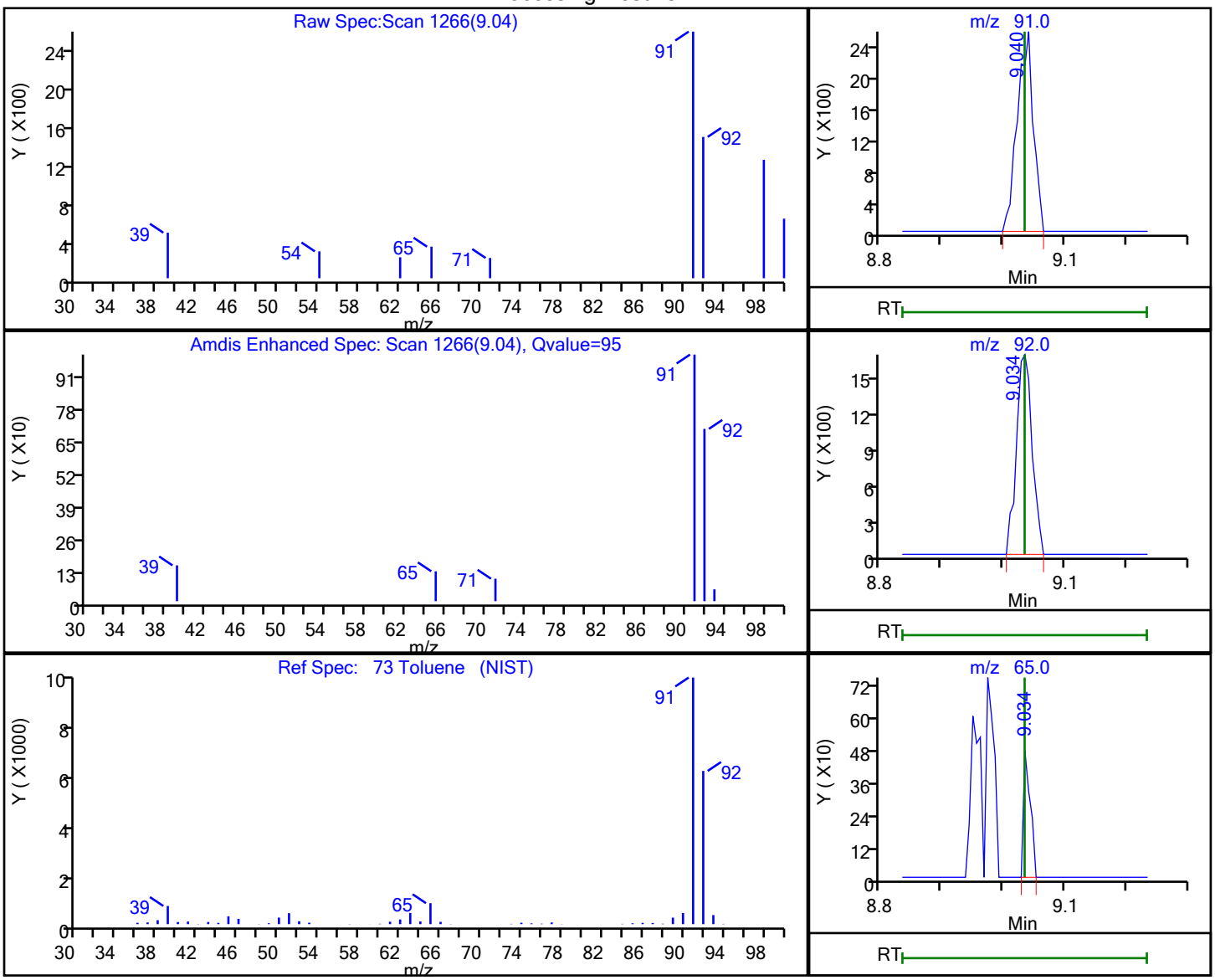

RT	Mass	Response	Amount
9.04	91.00	4565	1.930633
9.03	92.00	2933	
9.03	65.00	370	

Reviewer: gordonk, 21-Oct-2019 06:53:17

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 21-Oct-2019 07:00:05 Chrom Revision: 2.3 09-Oct-2019 11:13:36

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102006.D				
Injection Date:	20-Oct-2019 12:07:30	Instrument ID:	CHHP3		
Lims ID:	LB 180-295111/1-A				
Client ID:					
Operator ID:	10099	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

87 m-Xylene & p-Xylene, CAS: 179601-23-1

Processing Results

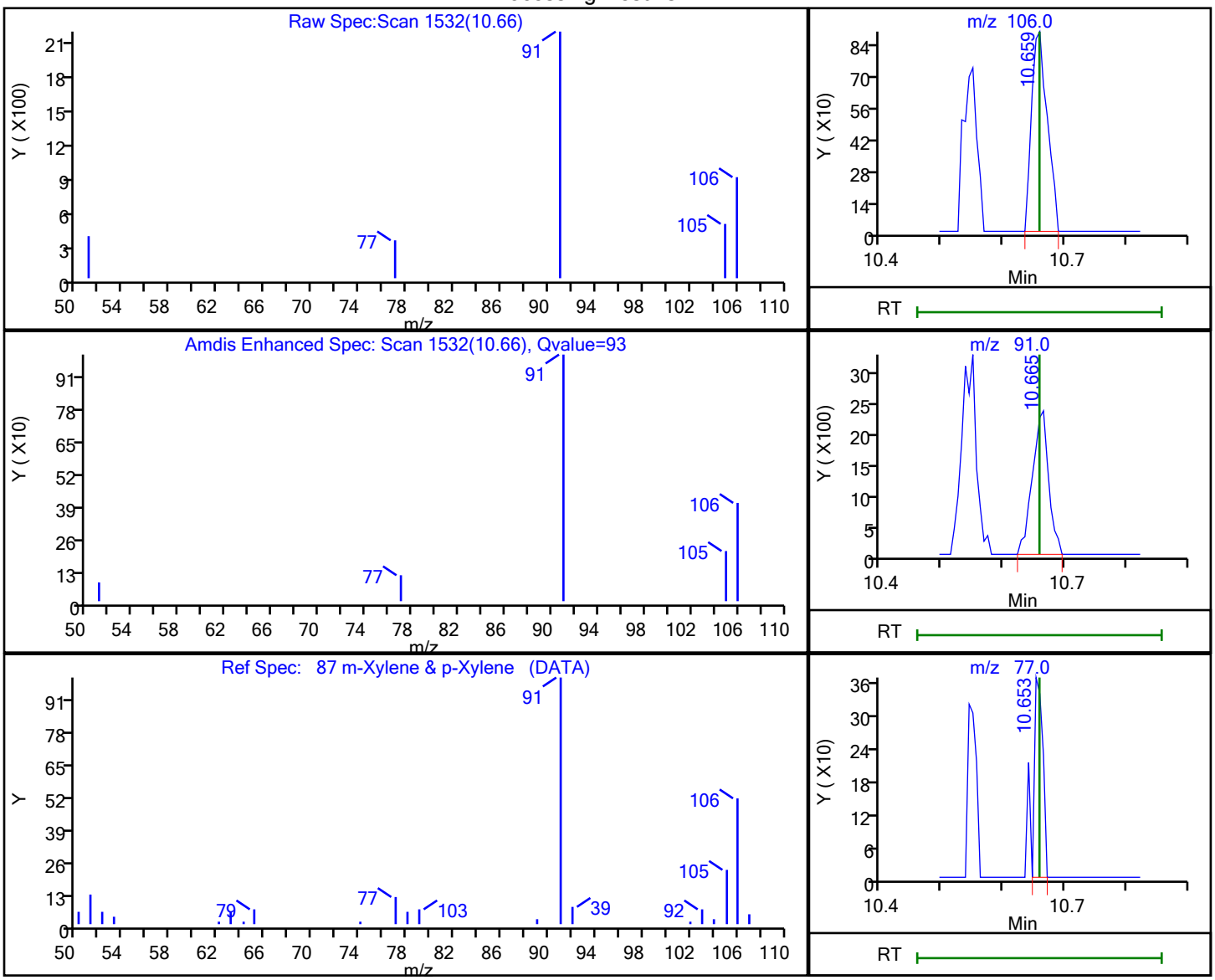

RT	Mass	Response	Amount
10.66	106.00	1605	1.631078
10.66	91.00	4253	
10.65	77.00	339	

Reviewer: gordonk, 21-Oct-2019 06:53:30

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102006.D				
Injection Date:	20-Oct-2019 12:07:30	Instrument ID:	CHHP3		
Lims ID:	LB 180-295111/1-A				
Client ID:					
Operator ID:	10099	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

88 o-Xylene, CAS: 95-47-6

Processing Results

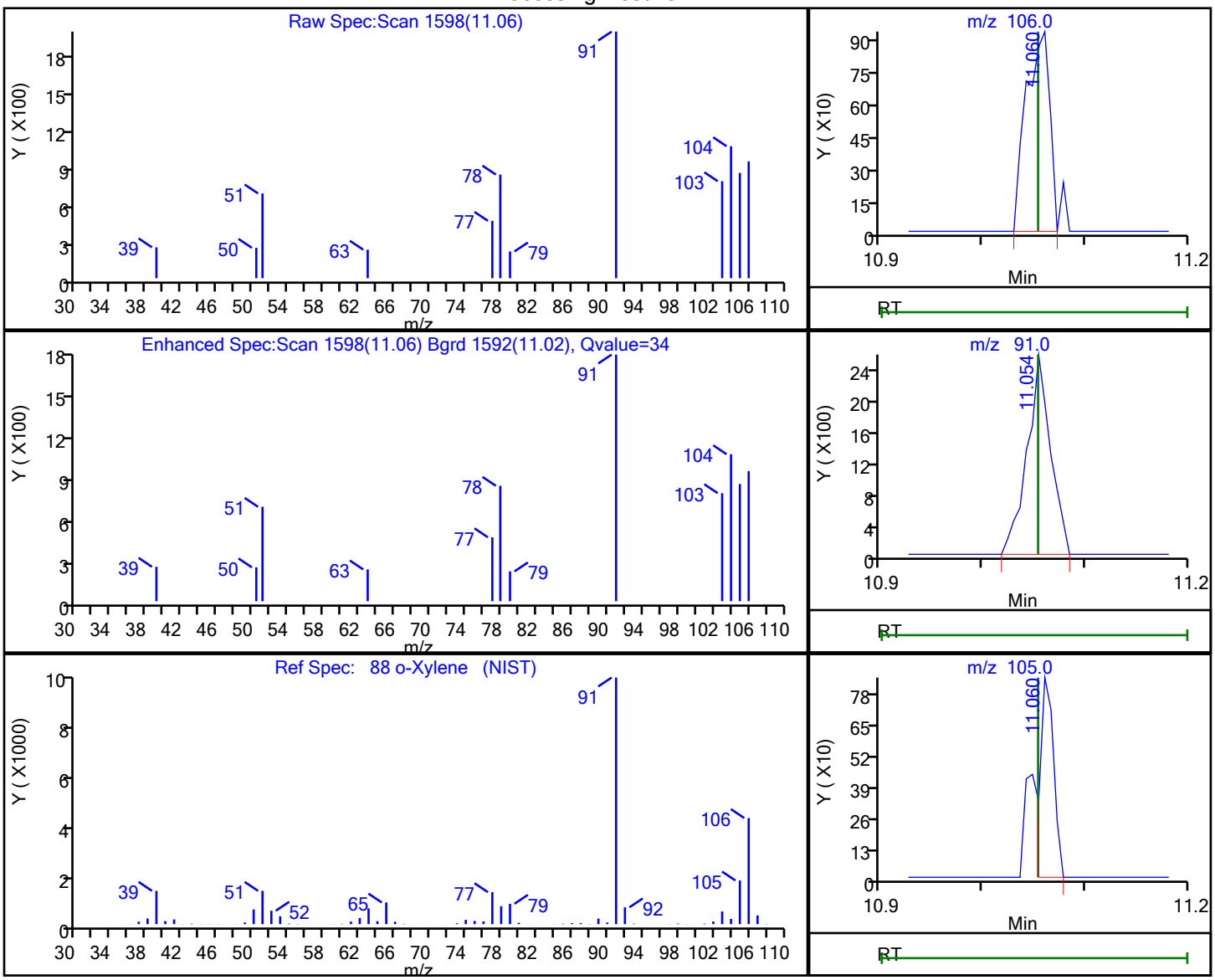

RT	Mass	Response	Amount
11.06	106.00	1500	1.597481
11.05	91.00	4157	
11.06	105.00	768	

Reviewer: gordonk, 21-Oct-2019 06:53:30

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Client Sample ID: Lab Sample ID: LB 180-295413/1-A

Matrix: Solid (TCLP) Lab File ID: 3102009.D

Analysis Method: EPA 8260C Date Collected:

Sample wt/vol: 0.5(mL) Date Analyzed: 10/20/2019 13:17

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 295465 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	ND		0.050	0.039
71-55-6	1,1,1-Trichloroethane	ND		0.050	0.025
107-06-2	1,2-Dichloroethane	ND		0.050	0.015
79-34-5	1,1,2,2-Tetrachloroethane	ND		0.050	0.030
78-93-3	2-Butanone (MEK)	ND		0.050	0.029
71-43-2	Benzene	ND		0.050	0.020
79-00-5	1,1,2-Trichloroethane	ND		0.050	0.024
56-23-5	Carbon tetrachloride	ND		0.050	0.033
108-90-7	Chlorobenzene	ND		0.050	0.016
67-66-3	Chloroform	ND		0.050	0.021
127-18-4	Tetrachloroethene	ND		0.050	0.020
79-01-6	Trichloroethene	ND		0.050	0.015
96-18-4	1,2,3-Trichloropropane	ND		0.050	0.028
75-01-4	Vinyl chloride	ND		0.050	0.037
75-35-4	1,1-Dichloroethene	ND		0.050	0.029
542-75-6	1,3-Dichloropropene, Total	ND		0.10	0.033
106-46-7	1,4-Dichlorobenzene	ND		0.050	0.010
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		0.050	0.019
67-64-1	Acetone	ND		0.20	0.032
75-05-8	Acetonitrile	ND		0.50	0.49
107-13-1	Acrylonitrile	ND		0.50	0.34
75-25-2	Bromoform	ND		0.050	0.026
74-83-9	Bromomethane	ND		0.050	0.045
75-15-0	Carbon disulfide	ND		0.050	0.030
75-27-4	Dichlorobromomethane	ND		0.050	0.024
75-71-8	Dichlorodifluoromethane	ND		0.050	0.029
100-41-4	Ethylbenzene	ND		0.050	0.022
106-93-4	1,2-Dibromoethane	ND		0.050	0.027
87-68-3	Hexachlorobutadiene	ND		0.050	0.018
78-83-1	Isobutyl alcohol	ND		1.3	0.91
126-98-7	Methacrylonitrile	ND		0.50	0.39
75-09-2	Methylene Chloride	ND		0.050	0.039
100-42-5	Styrene	ND		0.050	0.013
108-88-3	Toluene	ND		0.050	0.017
10061-02-6	trans-1,3-Dichloropropene	ND		0.050	0.017
75-69-4	Trichlorofluoromethane	ND		0.050	0.015

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Client Sample ID: Lab Sample ID: LB 180-295413/1-A

Matrix: Solid (TCLP) Lab File ID: 3102009.D

Analysis Method: EPA 8260C Date Collected:

Sample wt/vol: 0.5(mL) Date Analyzed: 10/20/2019 13:17

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 295465 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
1330-20-7	Xylenes, Total	ND		0.10	0.043

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	92		58-139
460-00-4	4-Bromofluorobenzene (Surr)	88		64-122
1868-53-7	Dibromofluoromethane (Surr)	88		70-127
2037-26-5	Toluene-d8 (Surr)	103		71-125

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102009.D
Lims ID: LB 180-295413/1-A
Client ID:
Sample Type: LB
Inject. Date: 20-Oct-2019 13:17:30 ALS Bottle#: 9 Worklist Smp#: 8
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029194-008
Operator ID: 10099 Instrument ID: CHHP3

Method: \\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\MSVOA_S_CHHP3.m
Limit Group: VOA 8260C_D ICAL
Last Update: 21-Oct-2019 06:59:58 Calib Date: 29-Jun-2019 14:21:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K10.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: gordonk Date: 21-Oct-2019 06:55:36

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.380	4.410	-0.030	96	193353	5000.0	5000.0	
* 2 Fluorobenzene (IS)	96	7.318	7.312	0.006	98	509033	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.408	10.403	0.005	90	110986	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.726	12.726	0.000	97	122099	250.0	250.0	
$ 5 Dibromofluoromethane (Surr	113	6.576	6.570	0.006	92	99167	250.0	220.7	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.947	6.947	0.000	93	167039	250.0	229.8	
$ 7 Toluene-d8 (Surr)	98	8.967	8.967	0.000	93	467514	250.0	257.2	
$ 8 4-Bromofluorobenzene (Surr	95	11.576	11.571	0.005	76	169494	250.0	219.2	
10 Dichlorodifluoromethane	85		1.642					ND	
11 Chloromethane	50		1.874					ND	
13 Butadiene	39		1.965					ND	
12 Vinyl chloride	62		1.989					ND	U
14 Bromomethane	94		2.299					ND	
15 Chloroethane	64		2.397					ND	
16 Dichlorofluoromethane	67		2.664					ND	
17 Trichlorofluoromethane	101		2.707					ND	
19 Ethyl ether	59		3.121					ND	
20 Acrolein	56		3.300					ND	
21 1,1-Dichloroethene	96		3.382					ND	
22 1,1,2-Trichloro-1,2,2-trif	101		3.461					ND	
23 Acetone	43		3.553					ND	
24 Iodomethane	142		3.583					ND	
25 Carbon disulfide	76		3.680					ND	
26 Isopropyl alcohol	45		3.858					ND	
28 3-Chloro-1-propene	76		3.972					ND	
27 Acetonitrile	41		3.998					ND	
29 Methyl acetate	43		4.082					ND	
30 Methylene Chloride	84		4.179					ND	U
31 2-Methyl-2-propanol	59		4.532					ND	
33 trans-1,2-Dichloroethene	96		4.593					ND	
32 Acrylonitrile	53		4.611					ND	
34 Methyl tert-butyl ether	73		4.654					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
35 Hexane	57		5.013					ND	
36 1,1-Dichloroethane	63		5.207					ND	
37 Vinyl acetate	43		5.340					ND	
38 2-Chloro-1,3-butadiene	53		5.348					ND	
39 Isopropyl ether	45		5.373					ND	
40 Tert-butyl ethyl ether	59		5.841					ND	
41 2,2-Dichloropropane	97		5.974					ND	
42 cis-1,2-Dichloroethene	96		5.980					ND	
43 2-Butanone (MEK)	43		6.047					ND	
44 Propionitrile	54		6.115					ND	U
45 Ethyl acetate	43		6.133					ND	U
47 Chlorobromomethane	128		6.266					ND	
46 Methacrylonitrile	41		6.291					ND	
48 Tetrahydrofuran	42		6.339					ND	
49 Chloroform	83		6.387					ND	U
50 1,1,1-Trichloroethane	97		6.570					ND	
51 Cyclohexane	56		6.625					ND	
53 Carbon tetrachloride	117		6.759					ND	
52 1,1-Dichloropropene	75		6.765					ND	
55 Benzene	78		6.996					ND	
54 Isobutyl alcohol	41		7.008					ND	
56 1,2-Dichloroethane	62		7.032					ND	
58 Isooctane	57		7.101					ND	
57 Tert-amyl methyl ether	73		7.155					ND	
59 n-Heptane	43		7.312					ND	U
60 Trichloroethene	130		7.708					ND	
61 n-Butanol	56		7.709					ND	
62 Ethyl acrylate	55		7.855					ND	
63 Methylcyclohexane	83		7.896					ND	U
64 1,2-Dichloropropane	63		7.945					ND	
65 Dibromomethane	93		8.067					ND	
66 Methyl methacrylate	69		8.092					ND	
67 1,4-Dioxane	88		8.103					ND	
68 Dichlorobromomethane	83		8.243					ND	
70 2-Chloroethyl vinyl ether	63		8.562					ND	
71 cis-1,3-Dichloropropene	75		8.699					ND	
72 4-Methyl-2-pentanone (MIBK	43		8.863					ND	U
73 Toluene	91		9.034					ND	
74 trans-1,3-Dichloropropene	75		9.259					ND	
75 Ethyl methacrylate	69		9.356					ND	
76 1,1,2-Trichloroethane	97		9.441					ND	
77 Tetrachloroethene	164		9.575					ND	
78 1,3-Dichloropropane	76		9.612					ND	
79 2-Hexanone	43		9.703					ND	
80 n-Butyl acetate	43		9.826					ND	
81 Chlorodibromomethane	129		9.837					ND	
82 Ethylene Dibromide	107		9.946					ND	
83 Chlorobenzene	112		10.433					ND	
85 1,1,1,2-Tetrachloroethane	131		10.512					ND	
86 Ethylbenzene	106		10.542					ND	
87 m-Xylene & p-Xylene	106		10.658					ND	
88 o-Xylene	106		11.053					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
89 Styrene	104		11.066					ND	
90 Bromoform	173		11.254					ND	
91 Isopropylbenzene	105		11.419					ND	
92 Cyclohexanone	55		11.523					ND	
94 Bromobenzene	156		11.723					ND	
93 1,1,2,2-Tetrachloroethane	83		11.723					ND	
95 1,2,3-Trichloropropane	110		11.765					ND	
96 trans-1,4-Dichloro-2-buten	53		11.777					ND	
97 N-Propylbenzene	120		11.826					ND	
98 2-Chlorotoluene	126		11.917					ND	
99 1,3,5-Trimethylbenzene	105		12.003					ND	
100 4-Chlorotoluene	126		12.027					ND	
101 tert-Butylbenzene	119		12.331					ND	
103 1,2,4-Trimethylbenzene	105		12.380					ND	
104 sec-Butylbenzene	105		12.550					ND	
105 1,3-Dichlorobenzene	146		12.666					ND	
106 4-Isopropyltoluene	119		12.690					ND	
107 1,4-Dichlorobenzene	146		12.751					ND	U
108 1,2,3-Trimethylbenzene	105		12.801					ND	
109 Benzyl chloride	91		12.886					ND	
110 n-Butylbenzene	91		13.104					ND	
111 1,2-Dichlorobenzene	146		13.128					ND	
112 1,2-Dibromo-3-Chloropropan	75		13.907					ND	
113 1,3,5-Trichlorobenzene	180		14.115					ND	
114 1,2,4-Trichlorobenzene	180		14.740					ND	
115 Hexachlorobutadiene	225		14.910					ND	
116 Naphthalene	128		14.990					ND	U
117 1,2,3-Trichlorobenzene	180		15.239					ND	
122 3-Chlorotoluene	126		0.000					ND	
S 141 Total BTEX	1		1.000					ND	
S 129 Xylenes, Total	106		1.000					ND	
S 130 1,2-Dichloroethene, Total	96		1.000					ND	
S 131 1,3-Dichloropropene, Total	1		0.000					ND	

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

VOA8260INT_00100	Amount Added: 10.00	Units: uL	Run Reagent
VOA8260SURR_00100	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 21-Oct-2019 07:00:13 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102009.D				
Injection Date:	20-Oct-2019 13:17:30	Instrument ID:	CHHP3	Operator ID:	10099
Lims ID:	LB 180-295413/1-A			Worklist Smp#:	8
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

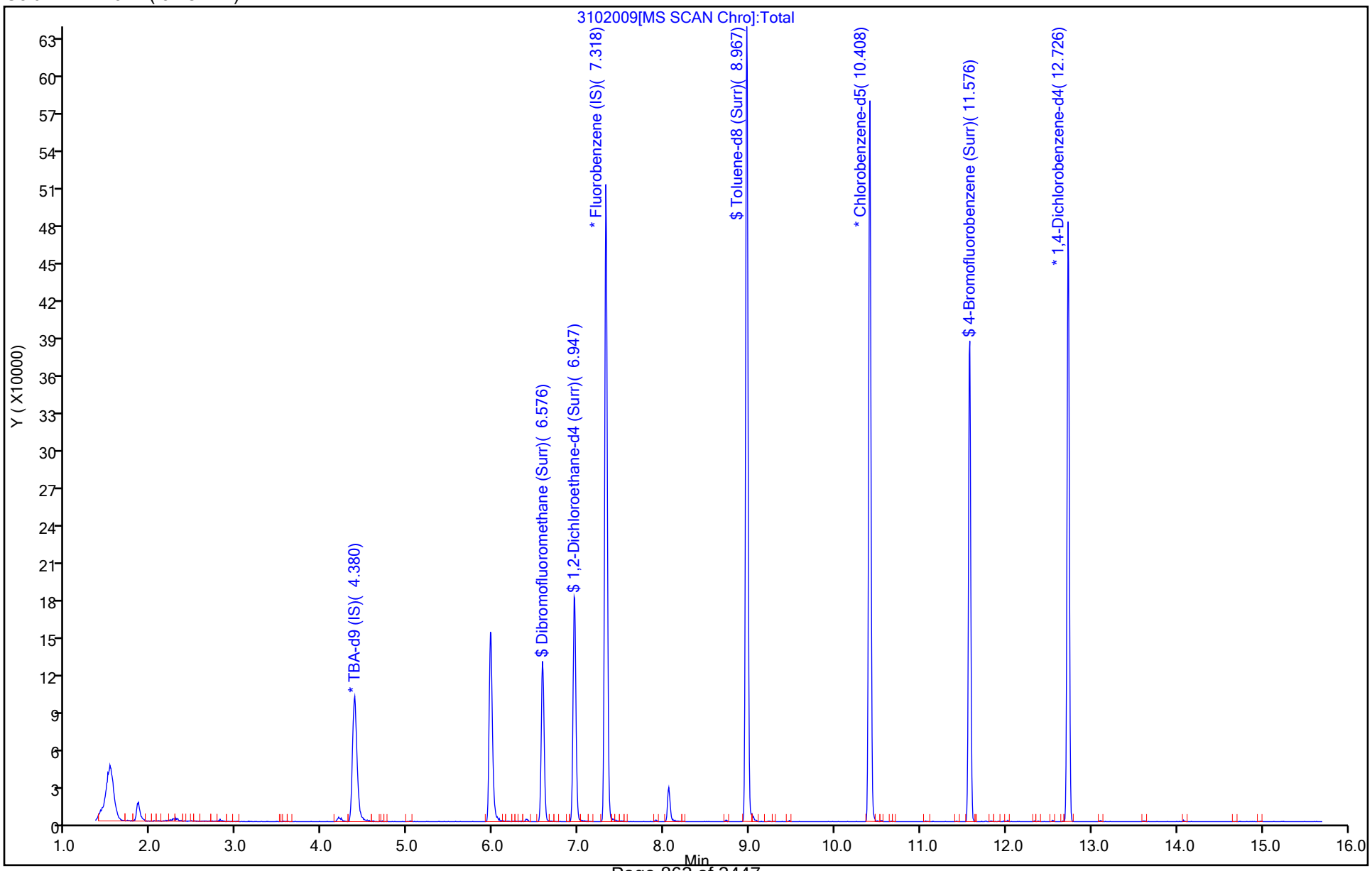

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102009.D
Lims ID: LB 180-295413/1-A
Client ID:
Sample Type: LB
Inject. Date: 20-Oct-2019 13:17:30 ALS Bottle#: 9 Worklist Smp#: 8
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029194-008
Operator ID: 10099 Instrument ID: CHHP3

Method: \\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\MSVOA_S_CHHP3.m
Limit Group: VOA 8260C_D ICAL
Last Update: 21-Oct-2019 06:59:58 Calib Date: 29-Jun-2019 14:21:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K10.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: gordonk Date: 21-Oct-2019 06:55:36

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	250.0	220.7	88.28
$ 6 1,2-Dichloroethane-d4 (Surr)	250.0	229.8	91.91
$ 7 Toluene-d8 (Surr)	250.0	257.2	102.87
$ 8 4-Bromofluorobenzene (Surr)	250.0	219.2	87.67

Report Date: 21-Oct-2019 07:00:13 Chrom Revision: 2.3 09-Oct-2019 11:13:36

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102009.D				
Injection Date:	20-Oct-2019 13:17:30	Instrument ID:	CHHP3		
Lims ID:	LB 180-295413/1-A				
Client ID:					
Operator ID:	10099	ALS Bottle#:	9	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

49 Chloroform, CAS: 67-66-3

Processing Results

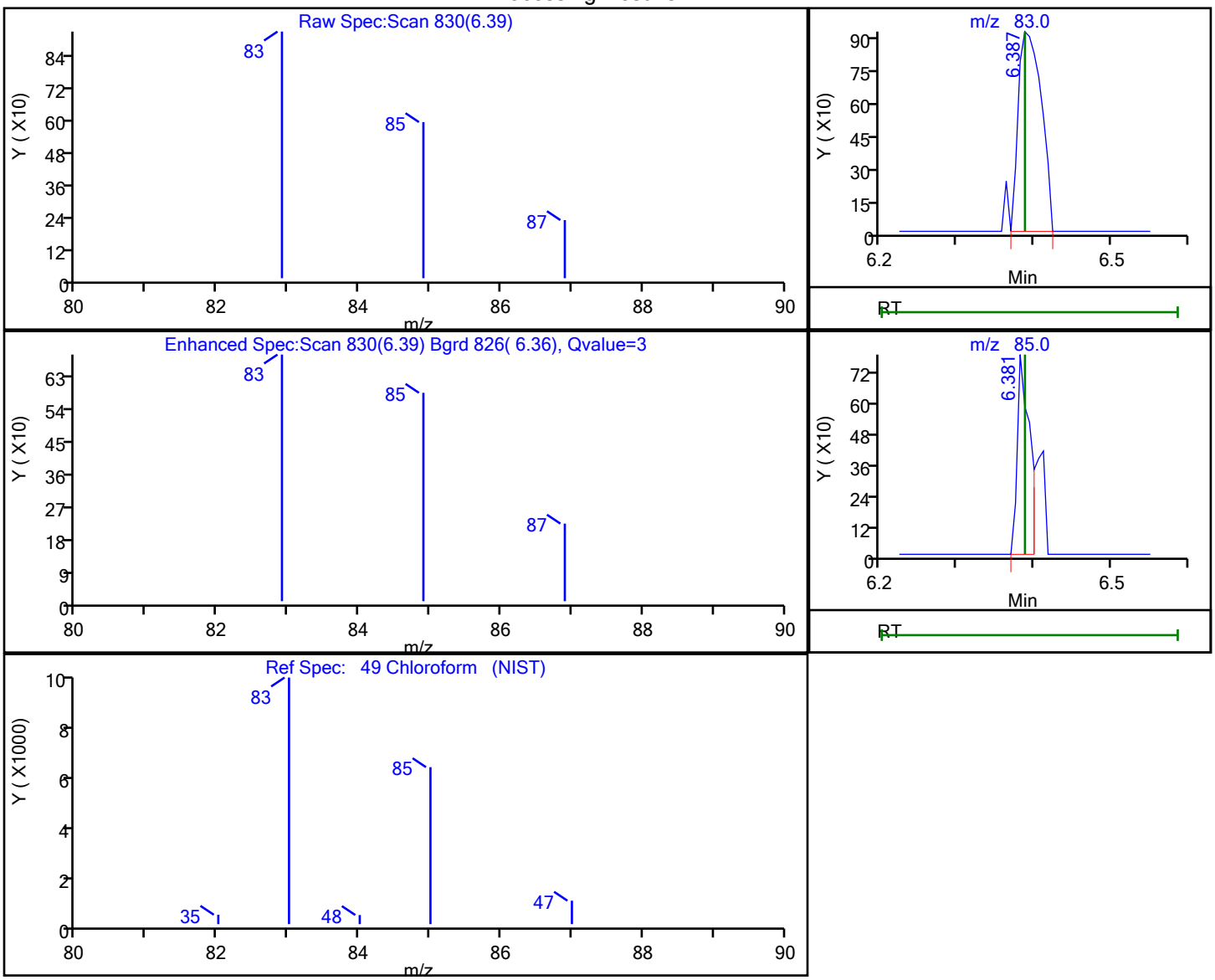

RT	Mass	Response	Amount
6.39	83.00	1927	1.752060
6.38	85.00	887	

Reviewer: gordonk, 21-Oct-2019 06:55:23

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 21-Oct-2019 07:00:13 Chrom Revision: 2.3 09-Oct-2019 11:13:36

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102009.D				
Injection Date:	20-Oct-2019 13:17:30	Instrument ID:	CHHP3		
Lims ID:	LB 180-295413/1-A				
Client ID:					
Operator ID:	10099	ALS Bottle#:	9	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

12 Vinyl chloride, CAS: 75-01-4

Processing Results

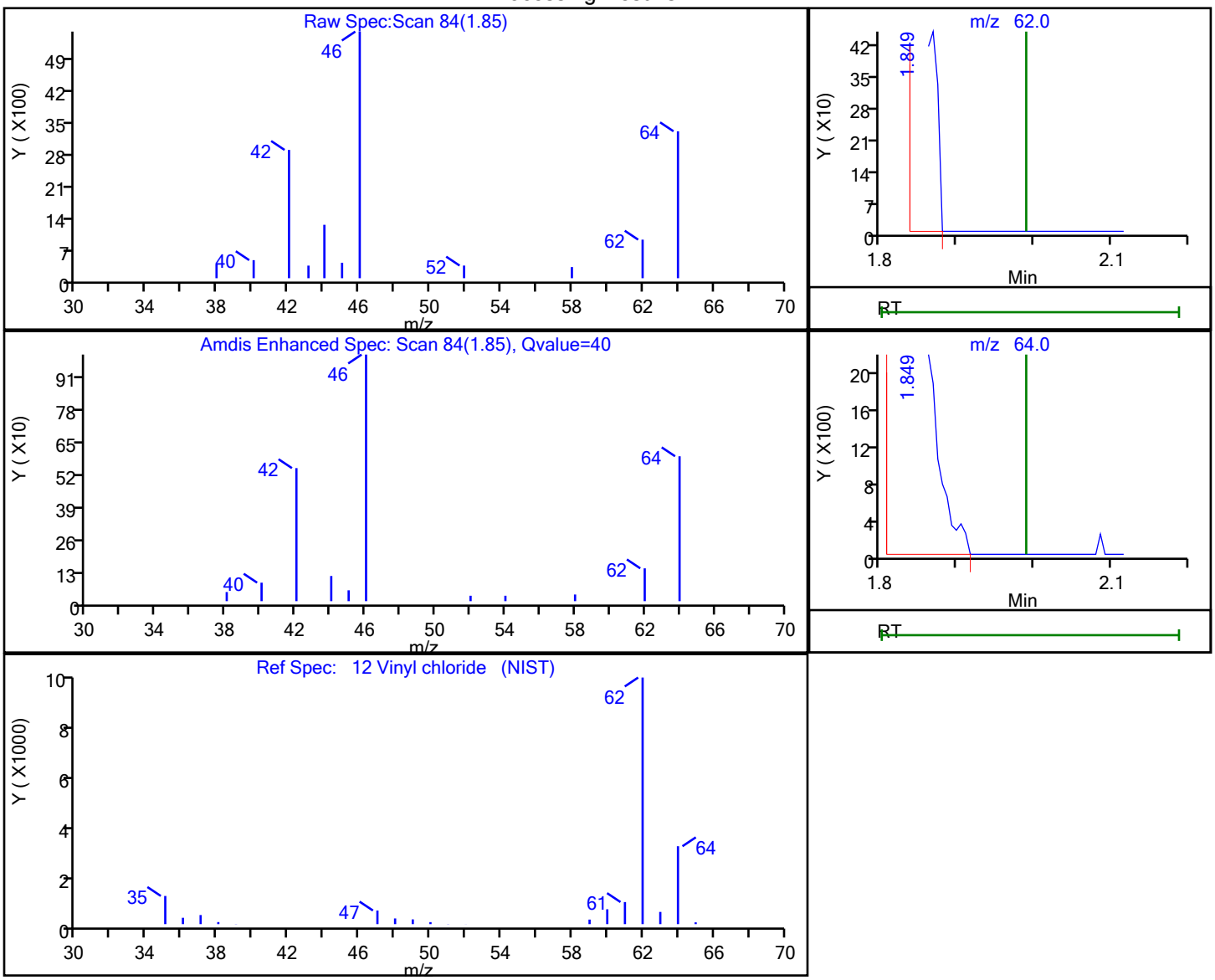

RT	Mass	Response	Amount
1.85	62.00	1317	1.602134
1.85	64.00	8578	

Reviewer: gordonk, 21-Oct-2019 06:55:33

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102009.D				
Injection Date:	20-Oct-2019 13:17:30	Instrument ID:	CHHP3		
Lims ID:	LB 180-295413/1-A				
Client ID:					
Operator ID:	10099	ALS Bottle#:	9	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

107 1,4-Dichlorobenzene, CAS: 106-46-7

Processing Results

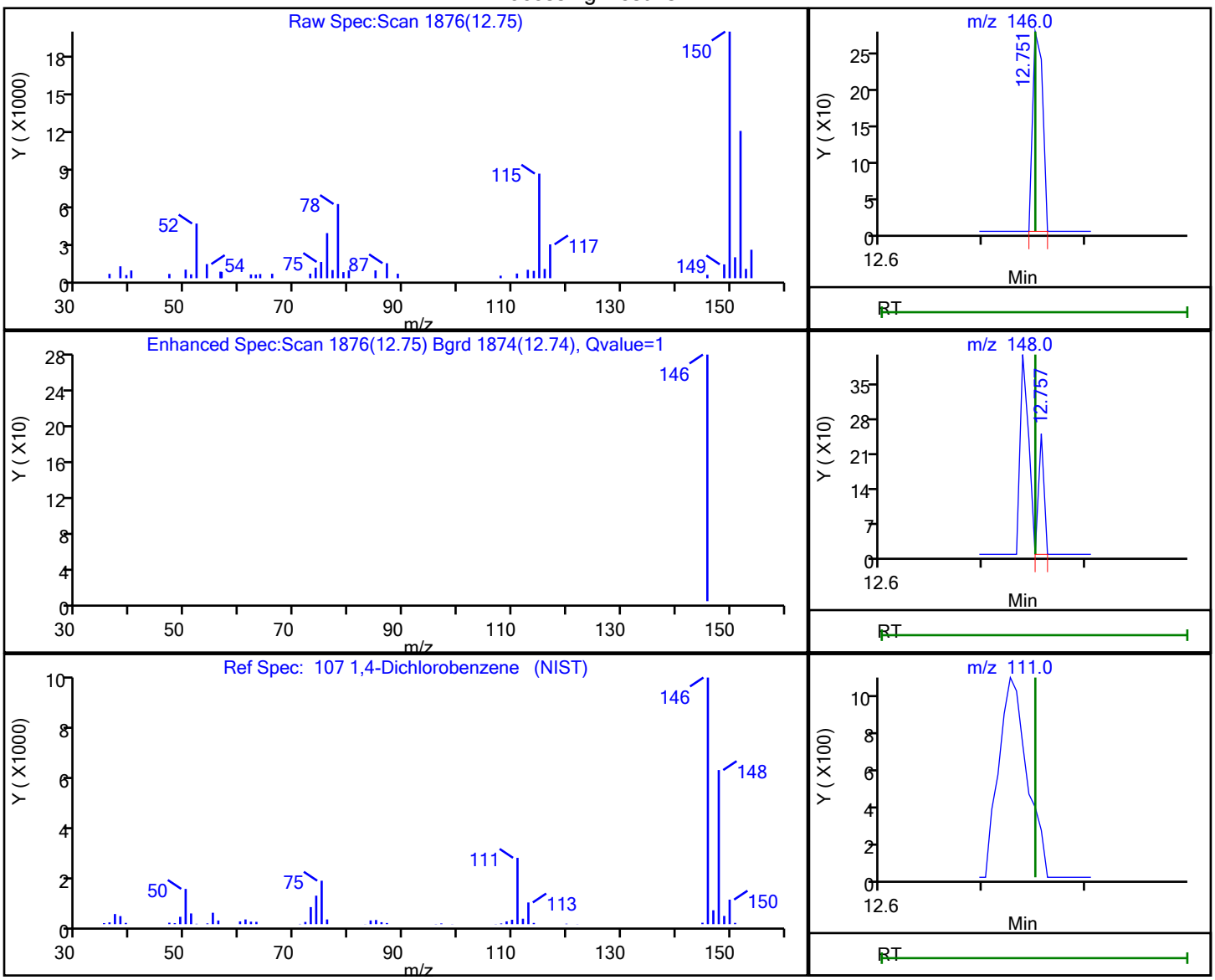

RT	Mass	Response	Amount
12.75	146.00	185	0.239964
12.76	148.00	88	
12.75	111.00	0	

Reviewer: gordonk, 21-Oct-2019 06:55:05

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102009.D				
Injection Date:	20-Oct-2019 13:17:30	Instrument ID:	CHHP3		
Lims ID:	LB 180-295413/1-A				
Client ID:					
Operator ID:	10099	ALS Bottle#:	9	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

72 4-Methyl-2-pentanone (MIBK), CAS: 108-10-1

Processing Results

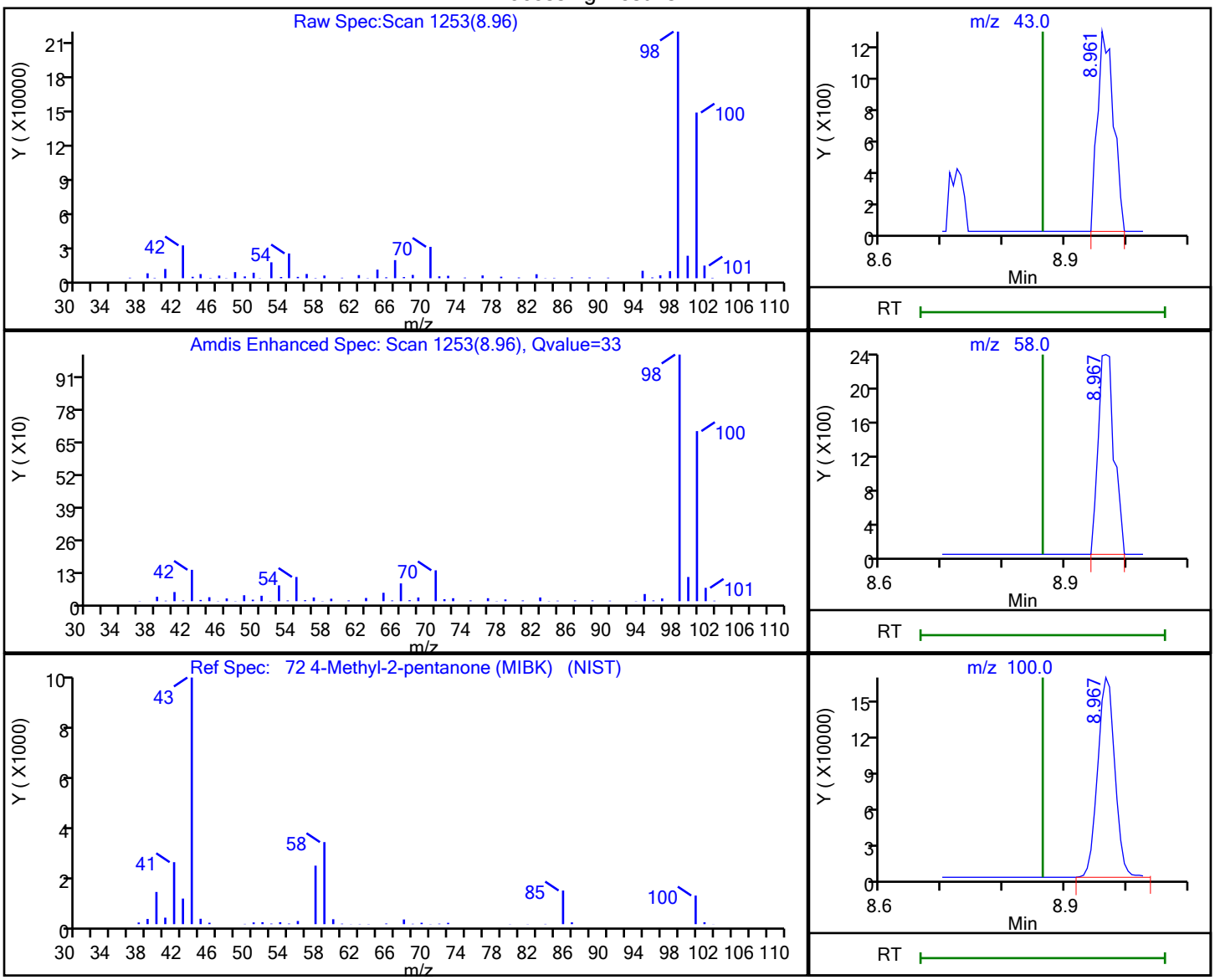

RT	Mass	Response	Amount
8.96	43.00	2240	5.606278
8.97	58.00	4179	
8.97	100.00	316806	

Reviewer: gordonk, 21-Oct-2019 06:55:13

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102009.D				
Injection Date:	20-Oct-2019 13:17:30	Instrument ID:	CHHP3		
Lims ID:	LB 180-295413/1-A				
Client ID:					
Operator ID:	10099	ALS Bottle#:	9	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

30 Methylene Chloride, CAS: 75-09-2

Processing Results

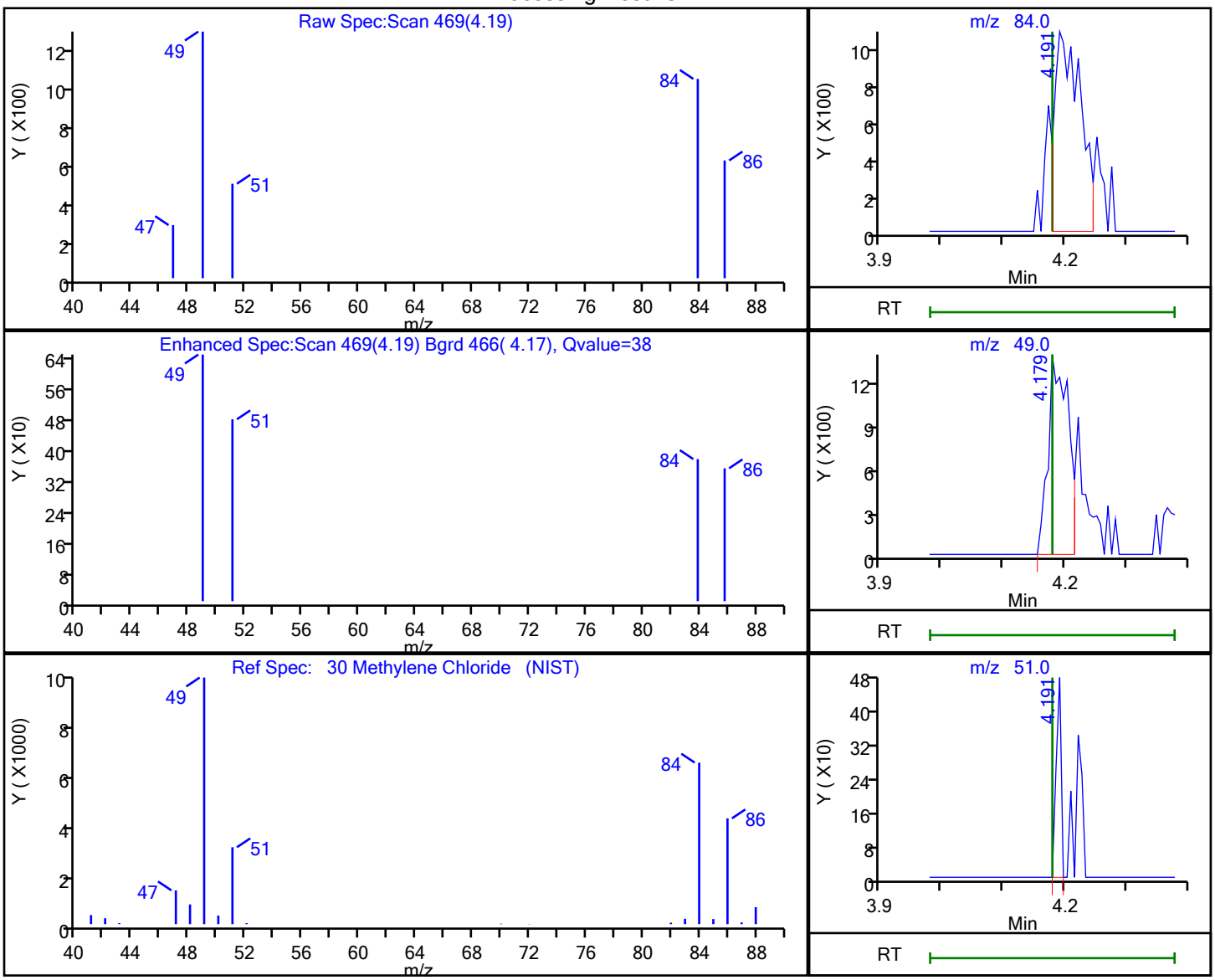

RT	Mass	Response	Amount
4.19	84.00	2952	-18.529251
4.18	49.00	3204	
4.19	51.00	268	

Reviewer: gordonk, 21-Oct-2019 06:55:29

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 180-295465/4

Matrix: Solid Lab File ID: 3102004.D

Analysis Method: EPA 8260C Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 10/20/2019 11:20

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 295465 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	0.0396		0.0050	0.0039
71-55-6	1,1,1-Trichloroethane	0.0414		0.0050	0.0025
107-06-2	1,2-Dichloroethane	0.0376		0.0050	0.0015
79-34-5	1,1,2,2-Tetrachloroethane	0.0367		0.0050	0.0030
78-93-3	2-Butanone (MEK)	0.0335		0.0050	0.0029
71-43-2	Benzene	0.0391		0.0050	0.0020
79-00-5	1,1,2-Trichloroethane	0.0414		0.0050	0.0024
56-23-5	Carbon tetrachloride	0.0395		0.0050	0.0033
108-90-7	Chlorobenzene	0.0384		0.0050	0.0016
67-66-3	Chloroform	0.0372		0.0050	0.0021
127-18-4	Tetrachloroethene	0.0392		0.0050	0.0020
79-01-6	Trichloroethene	0.0400		0.0050	0.0015
96-18-4	1,2,3-Trichloropropane	0.0500		0.0050	0.0028
75-01-4	Vinyl chloride	0.0324		0.0050	0.0037
75-35-4	1,1-Dichloroethene	0.0389		0.0050	0.0029
542-75-6	1,3-Dichloropropene, Total	0.0853		0.010	0.0033
106-46-7	1,4-Dichlorobenzene	0.0418		0.0050	0.0010
108-10-1	4-Methyl-2-pentanone (MIBK)	0.0398		0.0050	0.0019
67-64-1	Acetone	0.0358		0.020	0.0032
107-13-1	Acrylonitrile	0.351		0.050	0.034
75-25-2	Bromoform	0.0362		0.0050	0.0026
74-83-9	Bromomethane	0.0413		0.0050	0.0045
75-15-0	Carbon disulfide	0.0350		0.0050	0.0030
75-27-4	Dichlorobromomethane	0.0395		0.0050	0.0024
75-71-8	Dichlorodifluoromethane	0.0341		0.0050	0.0029
100-41-4	Ethylbenzene	0.0406		0.0050	0.0022
106-93-4	1,2-Dibromoethane	0.0411		0.0050	0.0027
87-68-3	Hexachlorobutadiene	0.0304		0.0050	0.0018
78-83-1	Isobutyl alcohol	0.855		0.13	0.091
75-09-2	Methylene Chloride	0.0336		0.0050	0.0039
100-42-5	Styrene	0.0397		0.0050	0.0013
108-88-3	Toluene	0.0403		0.0050	0.0017
10061-02-6	trans-1,3-Dichloropropene	0.0414		0.0050	0.0017
75-69-4	Trichlorofluoromethane	0.0380		0.0050	0.0015
1330-20-7	Xylenes, Total	0.0809		0.010	0.0043

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 180-295465/4

Matrix: Solid Lab File ID: 3102004.D

Analysis Method: EPA 8260C Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 10/20/2019 11:20

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 295465 Units: mg/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	89		58-139
460-00-4	4-Bromofluorobenzene (Surr)	91		64-122
1868-53-7	Dibromofluoromethane (Surr)	92		70-127
2037-26-5	Toluene-d8 (Surr)	101		71-125

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102004.D
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 20-Oct-2019 11:20:30 ALS Bottle#: 4 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029194-004
Operator ID: 10099 Instrument ID: CHHP3

Method: \\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\MSVOA_S_CHHP3.m
Limit Group: VOA 8260C_D ICAL
Last Update: 21-Oct-2019 06:59:58 Calib Date: 29-Jun-2019 14:21:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K10.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: gordonk Date: 20-Oct-2019 11:38:46

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.412	4.410	0.002	96	163453	5000.0	5000.0	
* 2 Fluorobenzene (IS)	96	7.313	7.312	0.001	99	463659	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.404	10.403	0.001	90	105611	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.728	12.726	0.002	96	116551	250.0	250.0	
$ 5 Dibromofluoromethane (Surr	113	6.571	6.570	0.001	83	93747	250.0	229.0	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.948	6.947	0.001	92	147552	250.0	222.8	
$ 7 Toluene-d8 (Surr)	98	8.968	8.967	0.001	94	437347	250.0	252.8	
$ 8 4-Bromofluorobenzene (Surr	95	11.572	11.571	0.001	75	167882	250.0	228.1	
10 Dichlorodifluoromethane	85	1.656	1.642	0.014	99	150790	200.0	170.3	
11 Chloromethane	50	1.875	1.874	0.001	98	114579	200.0	138.3	
13 Butadiene	39	1.972	1.965	0.007	93	126544	200.0	153.0	
12 Vinyl chloride	62	2.002	1.989	0.013	97	121120	200.0	161.8	M
14 Bromomethane	94	2.319	2.299	0.020	91	65084	200.0	206.6	
15 Chloroethane	64	2.422	2.397	0.025	100	63833	200.0	209.1	
16 Dichlorofluoromethane	67	2.690	2.664	0.026	97	169648	200.0	198.3	
17 Trichlorofluoromethane	101	2.745	2.707	0.038	85	137268	200.0	189.8	
19 Ethyl ether	59	3.122	3.121	0.001	89	83549	200.0	172.6	
21 1,1-Dichloroethene	96	3.390	3.382	0.008	94	92671	200.0	194.5	
22 1,1,2-Trichloro-1,2,2-trif	101	3.463	3.461	0.002	95	99451	200.0	183.5	
23 Acetone	43	3.548	3.553	-0.005	99	48493	200.0	179.0	
24 Iodomethane	142	3.596	3.583	0.013	100	115243	200.0	184.8	
25 Carbon disulfide	76	3.682	3.680	0.002	99	264934	200.0	175.0	
28 3-Chloro-1-propene	76	3.986	3.972	0.014	88	59653	200.0	189.5	
29 Methyl acetate	43	4.083	4.082	0.001	97	115237	400.0	335.7	
30 Methylene Chloride	84	4.186	4.179	0.007	89	110121	200.0	168.0	
31 2-Methyl-2-propanol	59	4.539	4.532	0.007	98	76993	2000.0	1901.7	
33 trans-1,2-Dichloroethene	96	4.600	4.593	0.007	96	103041	200.0	194.4	
32 Acrylonitrile	53	4.612	4.611	0.001	98	292582	2000.0	1755.8	
34 Methyl tert-butyl ether	73	4.655	4.654	0.001	94	254327	200.0	207.3	
35 Hexane	57	5.014	5.013	0.001	92	173361	200.0	181.0	
36 1,1-Dichloroethane	63	5.215	5.207	0.008	96	188149	200.0	181.8	
41 2,2-Dichloropropane	97	5.975	5.974	0.001	70	23821	200.0	200.0	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
42 cis-1,2-Dichloroethene	96	5.987	5.980	0.007	83	110644	200.0	198.5	
43 2-Butanone (MEK)	43	6.042	6.047	-0.005	98	47054	200.0	167.4	
47 Chlorobromomethane	128	6.273	6.266	0.007	98	42231	200.0	189.9	
48 Tetrahydrofuran	42	6.340	6.339	0.001	88	46230	400.0	377.9	
49 Chloroform	83	6.389	6.387	0.002	94	186264	200.0	185.9	
50 1,1,1-Trichloroethane	97	6.571	6.570	0.001	97	154123	200.0	206.8	
51 Cyclohexane	56	6.620	6.625	-0.005	89	189024	200.0	186.1	
53 Carbon tetrachloride	117	6.760	6.759	0.001	96	113244	200.0	197.6	
52 1,1-Dichloropropene	75	6.766	6.765	0.001	95	158470	200.0	204.0	
55 Benzene	78	6.997	6.996	0.001	96	433836	200.0	195.7	
54 Isobutyl alcohol	41	7.009	7.008	0.001	45	53708	5000.0	4273.8	
56 1,2-Dichloroethane	62	7.034	7.032	0.002	99	142624	200.0	187.9	
59 n-Heptane	43	7.313	7.312	0.001	78	163636	200.0	176.9	
60 Trichloroethene	130	7.709	7.708	0.001	94	92003	200.0	199.8	
63 Methylcyclohexane	83	7.903	7.896	0.007	89	212527	200.0	211.3	
64 1,2-Dichloropropane	63	7.946	7.945	0.001	94	97608	200.0	180.1	
65 Dibromomethane	93	8.068	8.067	0.002	85	50454	200.0	186.6	
67 1,4-Dioxane	88	8.110	8.103	0.007	97	19537	4000.0	4188.2	
68 Dichlorobromomethane	83	8.244	8.243	0.001	99	120455	200.0	197.6	
71 cis-1,3-Dichloropropene	75	8.700	8.699	0.001	94	159723	200.0	219.6	
72 4-Methyl-2-pentanone (MIBK	43	8.871	8.863	0.008	95	75589	200.0	198.8	
73 Toluene	91	9.035	9.034	0.001	98	443880	200.0	201.4	
74 trans-1,3-Dichloropropene	75	9.266	9.259	0.007	95	140713	200.0	206.9	
75 Ethyl methacrylate	69	9.357	9.356	0.001	88	122441	200.0	211.8	
76 1,1,2-Trichloroethane	97	9.449	9.441	0.008	93	78193	200.0	207.0	
77 Tetrachloroethene	164	9.576	9.575	0.001	87	62022	200.0	196.1	
78 1,3-Dichloropropane	76	9.613	9.612	0.001	91	149893	200.0	193.0	
79 2-Hexanone	43	9.698	9.703	-0.005	96	59492	200.0	193.4	
81 Chlorodibromomethane	129	9.832	9.837	-0.005	91	61434	200.0	197.5	
82 Ethylene Dibromide	107	9.947	9.946	0.001	98	75544	200.0	205.7	
83 Chlorobenzene	112	10.434	10.433	0.001	90	252444	200.0	192.2	
85 1,1,1,2-Tetrachloroethane	131	10.519	10.512	0.007	94	76825	200.0	198.2	
86 Ethylbenzene	106	10.544	10.542	0.002	99	147414	200.0	202.9	
87 m-Xylene & p-Xylene	106	10.659	10.658	0.001	98	184190	200.0	200.8	
88 o-Xylene	106	11.055	11.053	0.002	98	178448	200.0	203.9	
89 Styrene	104	11.067	11.066	0.001	93	298085	200.0	198.4	
90 Bromoform	173	11.255	11.254	0.001	87	24498	200.0	180.8	
91 Isopropylbenzene	105	11.420	11.419	0.002	96	485130	200.0	206.3	
94 Bromobenzene	156	11.724	11.723	0.001	92	81945	200.0	228.5	
93 1,1,2,2-Tetrachloroethane	83	11.718	11.723	-0.005	94	91870	200.0	183.3	
95 1,2,3-Trichloropropane	110	11.766	11.765	0.001	83	30050	200.0	250.2	
96 trans-1,4-Dichloro-2-buten	53	11.779	11.777	0.002	74	24012	200.0	202.8	
97 N-Propylbenzene	120	11.827	11.826	0.001	99	117365	200.0	229.8	
98 2-Chlorotoluene	126	11.912	11.917	-0.005	94	95272	200.0	222.5	
99 1,3,5-Trimethylbenzene	105	12.004	12.003	0.001	93	393692	200.0	237.9	
100 4-Chlorotoluene	126	12.028	12.027	0.001	98	97314	200.0	218.0	
101 tert-Butylbenzene	119	12.332	12.331	0.001	92	323691	200.0	238.8	
103 1,2,4-Trimethylbenzene	105	12.375	12.380	-0.005	97	388628	200.0	233.3	
104 sec-Butylbenzene	105	12.551	12.550	0.001	96	488966	200.0	229.1	
105 1,3-Dichlorobenzene	146	12.667	12.666	0.001	94	159614	200.0	212.3	
106 4-Isopropyltoluene	119	12.691	12.690	0.001	97	377922	200.0	225.7	
107 1,4-Dichlorobenzene	146	12.752	12.751	0.001	89	153916	200.0	209.1	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
110 n-Butylbenzene	91	13.105	13.104	0.001	99	374449	200.0	209.9	
111 1,2-Dichlorobenzene	146	13.129	13.128	0.001	91	147794	200.0	212.1	
112 1,2-Dibromo-3-Chloropropan	75	13.914	13.907	0.007	69	13508	200.0	202.2	
114 1,2,4-Trichlorobenzene	180	14.741	14.740	0.001	92	68486	200.0	175.3	
115 Hexachlorobutadiene	225	14.906	14.910	-0.004	79	22144	200.0	152.2	
116 Naphthalene	128	14.991	14.990	0.001	98	194619	200.0	210.4	
117 1,2,3-Trichlorobenzene	180	15.240	15.239	0.001	91	55264	200.0	160.6	
S 141 Total BTEX	1				0		1000.0	1004.8	
S 129 Xylenes, Total	106				0		400.0	404.7	
S 130 1,2-Dichloroethene, Total	96				0		400.0	392.8	
S 131 1,3-Dichloropropene, Total	1				0		400.0	426.5	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

VOA8260VOAPRI_00376	Amount Added: 8.00	Units: uL	
VOA8260INT_00100	Amount Added: 10.00	Units: uL	Run Reagent
VOA8260SURR_00100	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 21-Oct-2019 06:59:59 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102004.D				
Injection Date:	20-Oct-2019 11:20:30	Instrument ID:	CHHP3	Operator ID:	10099
Lims ID:	LCS			Worklist Smp#:	4
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

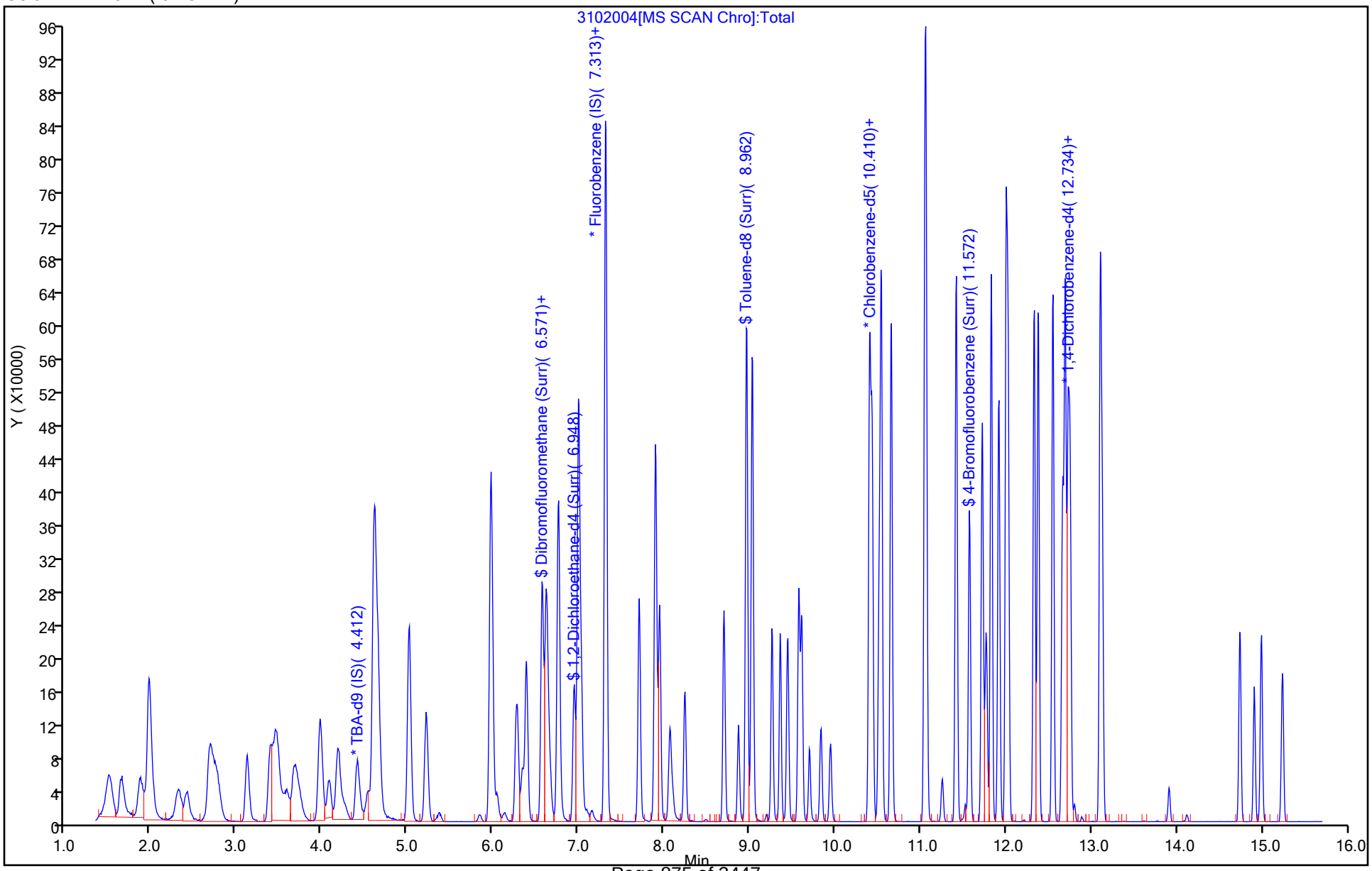

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102004.D
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 20-Oct-2019 11:20:30 ALS Bottle#: 4 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029194-004
Operator ID: 10099 Instrument ID: CHHP3

Method: \\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\MSVOA_S_CHHP3.m
Limit Group: VOA 8260C_D ICAL
Last Update: 21-Oct-2019 06:59:58 Calib Date: 29-Jun-2019 14:21:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP3\20190629-27546.b\30629K10.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0305

First Level Reviewer: gordonk Date: 20-Oct-2019 11:38:46

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	250.0	229.0	91.62
$ 6 1,2-Dichloroethane-d4 (Surr)	250.0	222.8	89.13
$ 7 Toluene-d8 (Surr)	250.0	252.8	101.13
$ 8 4-Bromofluorobenzene (Surr)	250.0	228.1	91.26

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP3\20191020-29194.b\3102004.D				
Injection Date:	20-Oct-2019 11:20:30	Instrument ID:	CHHP3		
Lims ID:	LCS				
Client ID:					
Operator ID:	10099	ALS Bottle#:	4	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_S_CHHP3	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

12 Vinyl chloride, CAS: 75-01-4

Signal: 1

Processing Integration Results

RT: 2.00
Area: 109492
Amount: 146.2321
Amount Units: ng

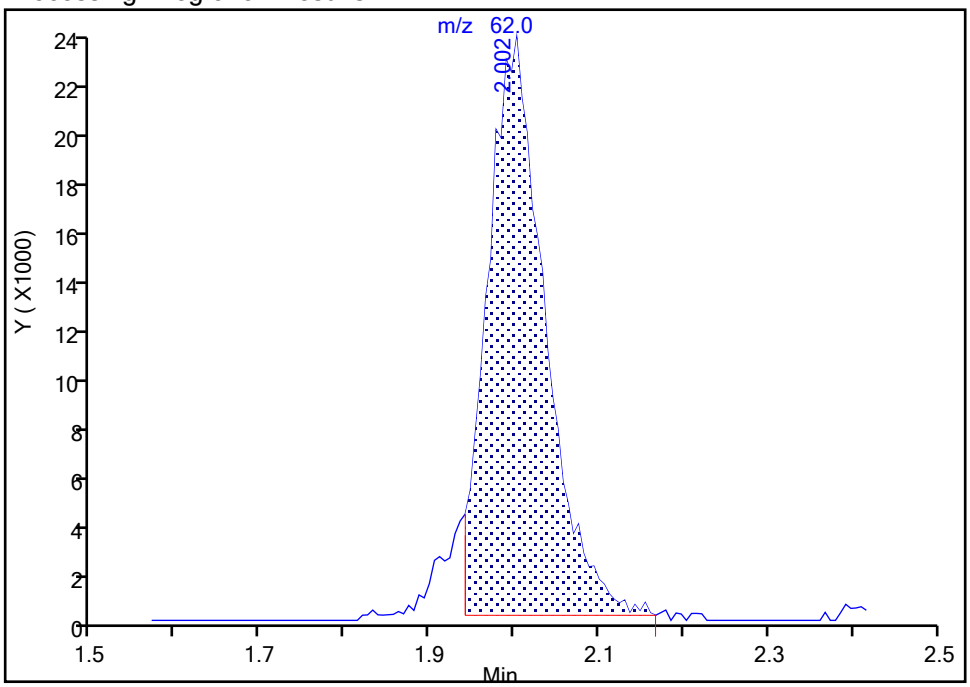

Manual Integration Results

RT: 2.00
Area: 121120
Amount: 161.7618
Amount Units: ng

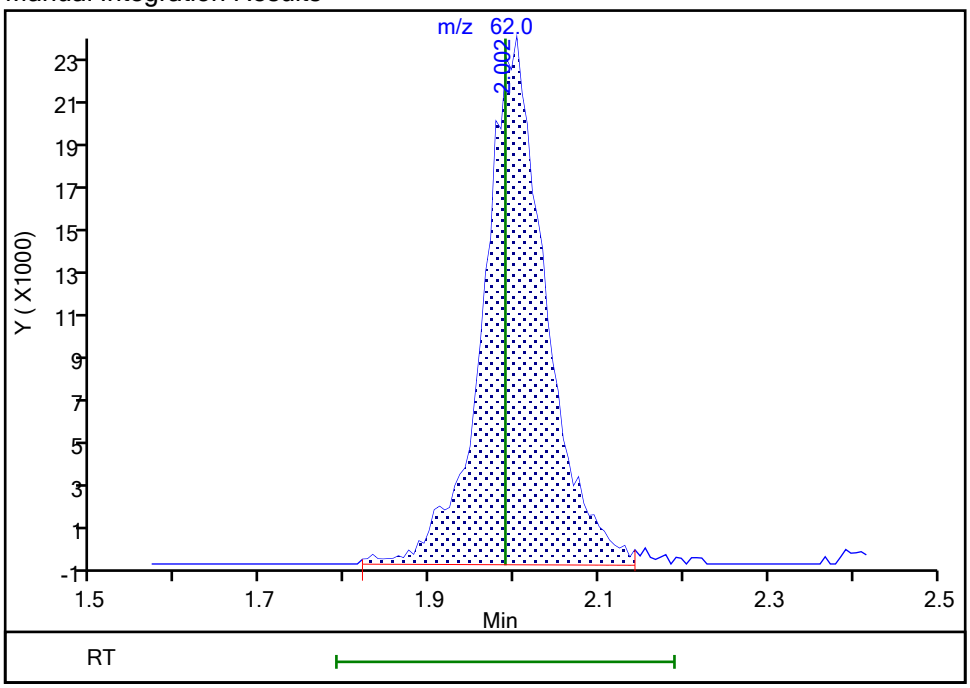

Reviewer: gordonk, 20-Oct-2019 11:38:38

Audit Action: Manually Integrated Audit Reason: Poor chromatography

GC/MS VOA ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Instrument ID: CHHP3 Start Date: 06/18/2019 06:39

Analysis Batch Number: 282028 End Date: 06/18/2019 11:45

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 180-282028/1		06/18/2019 06:39	1	3061801.D	DB-624 0.18(mm)
IC 180-282028/2		06/18/2019 07:14	1	3061802.D	DB-624 0.18(mm)
IC 180-282028/4		06/18/2019 08:01	1	3061804.D	DB-624 0.18(mm)
IC 180-282028/5		06/18/2019 08:24	1	3061805.D	DB-624 0.18(mm)
IC 180-282028/6		06/18/2019 08:46	1	3061806.D	DB-624 0.18(mm)
IC 180-282028/7		06/18/2019 09:10	1	3061807.D	DB-624 0.18(mm)
IC 180-282028/8		06/18/2019 09:33	1	3061808.D	DB-624 0.18(mm)
IC 180-282028/11		06/18/2019 10:42	1	3061811.D	DB-624 0.18(mm)
ICV 180-282028/12		06/18/2019 11:22	1	3061812.D	DB-624 0.18(mm)
ZZZZZ		06/18/2019 11:45	1		DB-624 0.18(mm)

EPA 8260C

GC/MS VOA ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Instrument ID: CHHP3 Start Date: 06/29/2019 10:44

Analysis Batch Number: 283451 End Date: 06/29/2019 17:26

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 180-283451/1		06/29/2019 10:44	1	30629K01.D	DB-624 0.18(mm)
IC 180-283451/4		06/29/2019 12:00	1	30629K04.D	DB-624 0.18(mm)
IC 180-283451/5		06/29/2019 12:24	1	30629K05.D	DB-624 0.18(mm)
IC 180-283451/6		06/29/2019 12:47	1	30629K06.D	DB-624 0.18(mm)
ICIS 180-283451/7		06/29/2019 13:10	1	30629K07.D	DB-624 0.18(mm)
IC 180-283451/8		06/29/2019 13:34	1	30629K08.D	DB-624 0.18(mm)
IC 180-283451/9		06/29/2019 13:57	1	30629K09.D	DB-624 0.18(mm)
IC 180-283451/10		06/29/2019 14:21	1	30629K10.D	DB-624 0.18(mm)
ZZZZZ		06/29/2019 16:17	1		DB-624 0.18(mm)
ICV 180-283451/18		06/29/2019 17:26	1	30629K18.D	DB-624 0.18(mm)

EPA 8260C

GC/MS VOA ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Instrument ID: CHHP3 Start Date: 10/20/2019 10:00

Analysis Batch Number: 295465 End Date: 10/20/2019 15:15

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 180-295465/1		10/20/2019 10:00	1	3102001.D	DB-624 0.18(mm)
CCVIS 180-295465/2		10/20/2019 10:33	1	3102002.D	DB-624 0.18(mm)
CCV 180-295465/3		10/20/2019 10:57	1	3102003.D	DB-624 0.18(mm)
LCS 180-295465/4		10/20/2019 11:20	1	3102004.D	DB-624 0.18(mm)
ZZZZZ		10/20/2019 11:43	1		DB-624 0.18(mm)
LB 180-295111/1-A		10/20/2019 12:07	1	3102006.D	DB-624 0.18(mm)
180-97287-1		10/20/2019 12:54	1	3102008.D	DB-624 0.18(mm)
LB 180-295413/1-A		10/20/2019 13:17	1	3102009.D	DB-624 0.18(mm)
ZZZZZ		10/20/2019 13:41	1		DB-624 0.18(mm)
ZZZZZ		10/20/2019 14:04	1		DB-624 0.18(mm)
ZZZZZ		10/20/2019 14:28	1		DB-624 0.18(mm)
ZZZZZ		10/20/2019 14:51	1		DB-624 0.18(mm)
ZZZZZ		10/20/2019 15:15	1		DB-624 0.18(mm)

EPA 8260C

GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 282028 Batch Start Date: 06/18/19 06:39 Batch Analyst: Gordon, Kathy L

Batch Method: EPA 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	VOA8260INT 00095	VOABFB50 00116	VOACEVE2ND 00020	VOAList22ND 00005
BFB 180-282028/1		EPA 8260C		5 mL	5 mL		1 uL		
IC 180-282028/2		EPA 8260C		5 mL	5 mL	10 uL			
IC 180-282028/4		EPA 8260C		5 mL	5 mL	10 uL			
IC 180-282028/5		EPA 8260C		5 mL	5 mL	10 uL			
IC 180-282028/6		EPA 8260C		5 mL	5 mL	10 uL			
IC 180-282028/7		EPA 8260C		5 mL	5 mL	10 uL			
IC 180-282028/8		EPA 8260C		5 mL	5 mL	10 uL			
IC 180-282028/11		EPA 8260C		5 mL	5 mL	10 uL			
ICV 180-282028/12		EPA 8260C		5 mL	5 mL	10 uL		8 uL	8 uL

Lab Sample ID	Client Sample ID	Method Chain	Basis	VOAList2PRI 00022	voaW2clev1stR 00037				
BFB 180-282028/1		EPA 8260C							
IC 180-282028/2		EPA 8260C		1 uL	1 uL				
IC 180-282028/4		EPA 8260C		5 uL	5 uL				
IC 180-282028/5		EPA 8260C		8 uL	8 uL				
IC 180-282028/6		EPA 8260C		10 uL	10 uL				
IC 180-282028/7		EPA 8260C		25 uL	25 uL				
IC 180-282028/8		EPA 8260C		50 uL	50 uL				
IC 180-282028/11		EPA 8260C		2 uL	2 uL				
ICV 180-282028/12		EPA 8260C							

Batch Notes	
Batch Comment	Methanol ID 3167189

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 283451 Batch Start Date: 06/29/19 10:44 Batch Analyst: Gordon, Kathy L

Batch Method: EPA 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	VOA8260INT 00096	VOA8260SURR 00096	VOA8260VOA2ND 00360	VOA8260VOAPRI 00362
BFB 180-283451/1		EPA 8260C		5 mL	5 mL				
IC 180-283451/4		EPA 8260C		5 mL	5 mL	10 uL	1 uL		1 uL
IC 180-283451/5		EPA 8260C		5 mL	5 mL	10 uL	2 uL		2 uL
IC 180-283451/6		EPA 8260C		5 mL	5 mL	10 uL	5 uL		5 uL
ICIS 180-283451/7		EPA 8260C		5 mL	5 mL	10 uL	8 uL		8 uL
IC 180-283451/8		EPA 8260C		5 mL	5 mL	10 uL	10 uL		10 uL
IC 180-283451/9		EPA 8260C		5 mL	5 mL	10 uL	25 uL		25 uL
IC 180-283451/10		EPA 8260C		5 mL	5 mL	10 uL	50 uL		50 uL
ICV 180-283451/18		EPA 8260C		5 mL	5 mL	10 uL	8 uL	8 uL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	VOAACR2ND 00024	VOAACRPRI 00019	VOABFB50 00116	VOAVA2ND 00022	VOAVAPRI 00025	
BFB 180-283451/1		EPA 8260C				1 uL			
IC 180-283451/4		EPA 8260C			20 uL			1 uL	
IC 180-283451/5		EPA 8260C			25 uL			2 uL	
IC 180-283451/6		EPA 8260C			30 uL			5 uL	
ICIS 180-283451/7		EPA 8260C			35 uL			8 uL	
IC 180-283451/8		EPA 8260C			40 uL			10 uL	
IC 180-283451/9		EPA 8260C			45 uL			25 uL	
IC 180-283451/10		EPA 8260C			50 uL			50 uL	
ICV 180-283451/18		EPA 8260C		35 uL			8 uL		

Batch Notes	
Batch Comment	Methanol ID 3167189

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295111 Batch Start Date: 10/16/19 16:00 Batch Analyst: Stundon, Jeremy A

Batch Method: EPA 1311 Batch End Date: 10/17/19 09:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	VesselNumber	FiltCompDate	FiltCompTime	LeachatepH
LB 180-295111/1		EPA 1311, EPA 8260C			500 mL	T23	10/17/19	0930	4.93 S.U.
180-97287-A-1	11187072-NORTH-I MPCT-INITIALS	EPA 1311, EPA 8260C	P	25.00 g	500 mL	EE	10/17/19	0930	6.17 S.U.

Batch Notes	
Balance ID	AND-14577823
Batch Comment	2716893-pH 7 buffer second source; 2417504 pH 13 buffer
pH Buffer 1 ID	3166975
pH Buffer 2 ID	2613652
pH Buffer 3 ID	2923701
pH Buffer 4 ID	2417503
First End time	0930
Filter Paper ID	2792355
Minumum Temperature	22 Celsius
pH Meter Calibration Slope	97.9
pH Meter ID	ACCUMET-XL-150
Probe ID	XV3-12485
Room Temperature Thermometer ID	FISHER-160719405
Rotation Time for 10 Revolutions	Tumbler 3: 30
First Start time	0915
TCLP Fluid 1 ID	2379721
TCLP Fluid pH	4.93 SU
Maximum Temperature	22 Celsius
Uncorrected Maximum Temperature	22 Celsius
Uncorrected Minimum Temperature	22 Celsius

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295413 Batch Start Date: 10/18/19 15:30 Batch Analyst: Stundon, Jeremy A

Batch Method: EPA 1311 Batch End Date: 10/19/19 07:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	VesselNumber	FiltCompDate	FiltCompTime	LeachatepH	
LB 180-295413/1		EPA 1311, EPA 8260C		500 mL	F5	10/19/19	0815	4.93 S.U.	

Batch Notes	
Balance ID	AND-14577823
Batch Comment	2716893-pH 7 buffer second source; 2417504 pH 13 buffer
pH Buffer 1 ID	3166975
pH Buffer 2 ID	2613652
pH Buffer 3 ID	2923701
pH Buffer 4 ID	2417503
First End time	0830
Filter Paper ID	2792355
Minumum Temperature	22 Celsius
pH Meter Calibration Slope	99.0
pH Meter ID	ACCUMET-XL-150
Probe ID	XV3-12485
Room Temperature Thermometer ID	FISHER-160719405
Rotation Time for 10 Revolutions	Tumbler 3: 30
First Start time	0815
TCLP Fluid 1 ID	2379721
TCLP Fluid pH	4.93 SU
Maximum Temperature	23 Celsius
Uncorrected Maximum Temperature	23 Celsius
Uncorrected Minimum Temperature	22 Celsius

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295465 Batch Start Date: 10/20/19 10:00 Batch Analyst: Gordon, Kathy L

Batch Method: EPA 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	VOA8260INT 00100	VOA8260SURR 00100	VOA8260VOAPRI 00376	VOABFB50 00120
BFB 180-295465/1		EPA 8260C		5 mL	5 mL				1 uL
CCVIS 180-295465/2		EPA 8260C		5 mL	5 mL	10 uL	8 uL	8 uL	
CCV 180-295465/3		EPA 8260C		5 mL	5 mL	10 uL			
LCS 180-295465/4		EPA 8260C		5 mL	5 mL	10 uL	10 uL	8 uL	
LB 180-295111/1-A		EPA 8260C		0.5 mL	5 mL	10 uL	10 uL		
180-97287-A-1-A	11187072-NORTH-IMPCT-INITIALS	EPA 8260C	P	0.125 mL	5 mL	10 uL	10 uL		
LB 180-295413/1-A		EPA 8260C		0.5 mL	5 mL	10 uL	10 uL		

Lab Sample ID	Client Sample ID	Method Chain	Basis	VOAList22ND 00007					
BFB 180-295465/1		EPA 8260C							
CCVIS 180-295465/2		EPA 8260C							
CCV 180-295465/3		EPA 8260C		8 uL					
LCS 180-295465/4		EPA 8260C							
LB 180-295111/1-A		EPA 8260C							
180-97287-A-1-A	11187072-NORTH-IMPCT-INITIALS	EPA 8260C	P						
LB 180-295413/1-A		EPA 8260C							

Batch Notes	
Batch Comment	Methanol ID 3167189

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Method 8270D

Semivolatile Organic Compounds (GC/MS) by Method 8270D

FORM II
GC/MS SEMI VOA SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Matrix: Solid (TCLP) Level: Low

GC Column (1): Rxi-5SilMS ID: 0.32(mm)

Client Sample ID	Lab Sample ID	2FP #	PHL #	NBZ #	FBP #	TBP #	TPHL #
11187072-NORTH-IMP CT-INITIALS	180-97287-1	103	97	100	100	62	107
	MB 180-295386/1-A	88	86	88	89	84	94
	LB 180-295177/16-C	86	86	86	88	82	90
	LCS 180-295386/2-A	92	92	91	90	90	97
	LCSD 180-295386/3-A	95	91	93	96	96	101

	QC LIMITS
2FP = 2-Fluorophenol (Surr)	60-108
PHL = Phenol-d5 (Surr)	52-107
NBZ = Nitrobenzene-d5 (Surr)	62-115
FBP = 2-Fluorobiphenyl	55-107
TBP = 2,4,6-Tribromophenol (Surr)	24-113
TPHL = Terphenyl-d14 (Surr)	44-116

Column to be used to flag recovery values

FORM II EPA 8270D

FORM III
GC/MS SEMI VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Matrix: Water Level: Low Lab File ID: M1019006.D

Lab ID: LCS 180-295386/2-A Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
1,4-Dichlorobenzene	0.250	0.219	87	60-100	
2,4,5-Trichlorophenol	0.250	0.215	86	54-100	
2,4,6-Trichlorophenol	0.250	0.212	85	56-100	
2,4-Dinitrotoluene	0.250	0.181	72	42-100	
2-Methylphenol	0.250	0.210	84	60-101	
Methylphenol, 3 & 4	0.500	0.433	87	62-106	
Hexachlorobenzene	0.250	0.149	60	37-100	
Hexachlorobutadiene	0.250	0.217	87	50-103	
Hexachloroethane	0.250	0.226	90	59-104	
Nitrobenzene	0.250	0.219	87	58-113	
Pentachlorophenol	0.250	0.158 J	63	18-100	
Pyridine	0.250	0.237	95	54-119	

Column to be used to flag recovery and RPD values

FORM III EPA 8270D

FORM III
GC/MS SEMI VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Matrix: Water Level: Low Lab File ID: M1019007.D

Lab ID: LCSD 180-295386/3-A Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCSD CONCENTRATION (mg/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
1,4-Dichlorobenzene	0.250	0.226	90	3	15	60-100	
2,4,5-Trichlorophenol	0.250	0.219	88	2	16	54-100	
2,4,6-Trichlorophenol	0.250	0.226	90	6	15	56-100	
2,4-Dinitrotoluene	0.250	0.185	74	3	17	42-100	
2-Methylphenol	0.250	0.215	86	2	15	60-101	
Methylphenol, 3 & 4	0.500	0.440	88	2	15	62-106	
Hexachlorobenzene	0.250	0.157	63	5	15	37-100	
Hexachlorobutadiene	0.250	0.226	90	4	15	50-103	
Hexachloroethane	0.250	0.232	93	3	16	59-104	
Nitrobenzene	0.250	0.231	93	6	15	58-113	
Pentachlorophenol	0.250	0.163 J	65	3	16	18-100	
Pyridine	0.250	0.243	97	3	16	54-119	

Column to be used to flag recovery and RPD values

FORM III EPA 8270D

FORM IV
GC/MS SEMI VOA METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab File ID: M1019005.D Lab Sample ID: MB 180-295386/1-A

Matrix: Water Date Extracted: 10/18/2019 12:00

Instrument ID: CHMSD7 Date Analyzed: 10/19/2019 13:41

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 180-295386/2-A	M1019006.D	10/19/2019 14:08
	LCSD 180-295386/3-A	M1019007.D	10/19/2019 14:35
	LB 180-295177/16-C	M1019011.D	10/19/2019 16:25
11187072-NORTH-IMPCT-INITIALS	180-97287-1	M1019023.D	10/19/2019 21:53

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab File ID: M1016002.D DFTPP Injection Date: 10/16/2019

Instrument ID: CHMSD7 DFTPP Injection Time: 05:38

Analysis Batch No.: 294955

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0 - 60.0 % of mass 198	39.0	
68	Less than 2.0 % of mass 69	0.0	(0.0) 1
69	Mass 69 relative abundance	43.0	
70	Less than 2.0 % of mass 69	0.0	(0.0) 1
127	40.0 - 60.0 % of mass 198	43.1	
197	Less than 1.0 % of mass 198	0.0	
198	Base Peak, 100 % relative abundance	100.0	
199	5.0- 9.0 % of mass 198	7.1	
275	10.0 - 30.0 % of mass 198	25.7	
365	Greater than 1.0 % of mass 198	2.3	
441	Present but less than mass 443	8.8	(77.6) 3
442	Greater than 40.0 % of mass 198	59.4	
443	17.0 - 23.0 % of mass 442	11.3	(19.1) 2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	IC 180-294955/3	M1016003.D	10/16/2019	5:53
	IC 180-294955/4	M1016004.D	10/16/2019	6:20
	IC 180-294955/5	M1016005.D	10/16/2019	6:47
	ICIS 180-294955/6	M1016006.D	10/16/2019	7:14
	IC 180-294955/7	M1016007.D	10/16/2019	7:41
	IC 180-294955/8	M1016008.D	10/16/2019	8:07
	IC 180-294955/9	M1016009.D	10/16/2019	8:34
	IC 180-294955/10	M1016010.D	10/16/2019	9:05
	ICV 180-294955/11	M1016011.D	10/16/2019	9:32
	ICV 180-294955/12	M1016012.D	10/16/2019	10:30

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab File ID: M1019002.D DFTPP Injection Date: 10/19/2019

Instrument ID: CHMSD7 DFTPP Injection Time: 12:31

Analysis Batch No.: 295453

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0 - 60.0 % of mass 198	36.4	
68	Less than 2.0 % of mass 69	0.0	(0.0) 1
69	Mass 69 relative abundance	39.6	
70	Less than 2.0 % of mass 69	0.1	(0.3) 1
127	40.0 - 60.0 % of mass 198	41.8	
197	Less than 1.0 % of mass 198	0.0	
198	Base Peak, 100 % relative abundance	100.0	
199	5.0- 9.0 % of mass 198	6.5	
275	10.0 - 30.0 % of mass 198	26.3	
365	Greater than 1.0 % of mass 198	2.4	
441	Present but less than mass 443	9.1	(74.8) 3
442	Greater than 40.0 % of mass 198	64.8	
443	17.0 - 23.0 % of mass 442	12.2	(18.8) 2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCVIS 180-295453/3	M1019003.D	10/19/2019	12:47
	MB 180-295386/1-A	M1019005.D	10/19/2019	13:41
	LCS 180-295386/2-A	M1019006.D	10/19/2019	14:08
	LCSD 180-295386/3-A	M1019007.D	10/19/2019	14:35
	LB 180-295177/16-C	M1019011.D	10/19/2019	16:25
11187072-NORTH-IMPCT-INITIALS	180-97287-1	M1019023.D	10/19/2019	21:53

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Sample No.: ICIS 180-294955/6 Date Analyzed: 10/16/2019 07:14

Instrument ID: CHMSD7 GC Column: Rxi-5SilMS ID: 0.32(mm)

Lab File ID (Standard): M1016006.D Heated Purge: (Y/N) N

Calibration ID: 41753

		DCBd4		NPT		ANT	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		126348	6.43	468728	7.67	265272	9.32
UPPER LIMIT		252696	6.93	937456	8.17	530544	9.82
LOWER LIMIT		63174	5.93	234364	7.17	132636	8.82
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 180-294955/11		121667	6.42	465140	7.66	254793	9.31
ICV 180-294955/12		118966	6.41	456265	7.65	243501	9.31

DCBd4 = 1,4-Dichlorobenzene-d4
NPT = Naphthalene-d8
ANT = Acenaphthene-d10

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8270D

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Sample No.: ICIS 180-294955/6 Date Analyzed: 10/16/2019 07:14

Instrument ID: CHMSD7 GC Column: Rxi-5SilMS ID: 0.32(mm)

Lab File ID (Standard): M1016006.D Heated Purge: (Y/N) N

Calibration ID: 41753

		PHN		CRY		PRY	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		490345	10.71	500808	14.38	436252	17.38
UPPER LIMIT		980690	11.21	1001616	14.88	872504	17.88
LOWER LIMIT		245173	10.21	250404	13.88	218126	16.88
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 180-294955/11		477457	10.71	479766	14.38	411164	17.38
ICV 180-294955/12		451726	10.70	435292	14.36	373368	17.35

PHN = Phenanthrene-d10
CRY = Chrysene-d12
PRY = Perylene-d12

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8270D

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Sample No.: CCVIS 180-295453/3 Date Analyzed: 10/19/2019 12:47

Instrument ID: CHMSD7 GC Column: Rxi-5SilMS ID: 0.32(mm)

Lab File ID (Standard): M1019003.D Heated Purge: (Y/N) N

Calibration ID: 41753

		DCBd4		NPT		ANT	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		137436	6.38	517518	7.63	285699	9.29
UPPER LIMIT		274872	6.88	1035036	8.13	571398	9.79
LOWER LIMIT		68718	5.88	258759	7.13	142850	8.79
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 180-295386/1-A		153630	6.39	580497	7.64	316038	9.30
LCS 180-295386/2-A		131822	6.38	510125	7.63	287421	9.29
LCSD 180-295386/3-A		135055	6.39	514803	7.64	287226	9.30
LB 180-295177/16-C		147402	6.39	571588	7.64	310428	9.30
180-97287-1	11187072-NORTH-IMPCT-INITIALS	128021	6.40	502314	7.65	270836	9.31

DCBd4 = 1,4-Dichlorobenzene-d4
NPT = Naphthalene-d8
ANT = Acenaphthene-d10

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8270D

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Sample No.: CCVIS 180-295453/3 Date Analyzed: 10/19/2019 12:47

Instrument ID: CHMSD7 GC Column: Rxi-5SilMS ID: 0.32(mm)

Lab File ID (Standard): M1019003.D Heated Purge: (Y/N) N

Calibration ID: 41753

		PHN		CRY		PRY	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		514343	10.69	486642	14.36	418614	17.34
UPPER LIMIT		1028686	11.19	973284	14.86	837228	17.84
LOWER LIMIT		257172	10.19	243321	13.86	209307	16.84
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 180-295386/1-A		588428	10.70	507210	14.37	428855	17.36
LCS 180-295386/2-A		533378	10.70	490716	14.36	415285	17.35
LCSD 180-295386/3-A		543593	10.70	487782	14.37	412178	17.35
LB 180-295177/16-C		580732	10.70	524395	14.37	433296	17.36
180-97287-1	11187072-NORTH-IMPCT-INITIALS	508778	10.71	445604	14.38	362874	17.38

PHN = Phenanthrene-d10
CRY = Chrysene-d12
PRY = Perylene-d12

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8270D

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-97287-1
SDG No.:
Client Sample ID: 11187072-NORTH-IMPCT-INITIALS
Lab Sample ID: 180-97287-1
Matrix: Solid (TCLP)
Lab File ID: M1019023.D
Analysis Method: EPA 8270D
Date Collected: 10/15/2019 15:00
Extract. Method: 3510C
Date Extracted: 10/18/2019 12:00
Sample wt/vol: 200(mL)
Date Analyzed: 10/19/2019 21:53
Con. Extract Vol.: 10.0(mL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 295453
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
106-46-7	1,4-Dichlorobenzene	ND		0.050	0.0045
95-95-4	2,4,5-Trichlorophenol	ND		0.050	0.0079
88-06-2	2,4,6-Trichlorophenol	ND		0.050	0.0095
121-14-2	2,4-Dinitrotoluene	ND		0.050	0.0079
95-48-7	2-Methylphenol	ND		0.050	0.0040
106-44-5	Methylphenol, 3 & 4	ND		0.050	0.0079
118-74-1	Hexachlorobenzene	ND		0.050	0.0055
87-68-3	Hexachlorobutadiene	ND		0.050	0.0084
67-72-1	Hexachloroethane	ND		0.050	0.0040
98-95-3	Nitrobenzene	ND		0.050	0.012
87-86-5	Pentachlorophenol	ND		0.25	0.0075
110-86-1	Pyridine	ND		0.10	0.0082

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	100		55-107
367-12-4	2-Fluorophenol (Surr)	103		60-108
118-79-6	2,4,6-Tribromophenol (Surr)	62		24-113
4165-60-0	Nitrobenzene-d5 (Surr)	100		62-115
4165-62-2	Phenol-d5 (Surr)	97		52-107
1718-51-0	Terphenyl-d14 (Surr)	107		44-116

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191019-29192.b\M1019023.D
Lims ID: 180-97287-A-1-I
Client ID: 11187072-NORTH-IMPCT-INITIALS
Sample Type: Client
Inject. Date: 19-Oct-2019 21:53:30 ALS Bottle#: 23 Worklist Smp#: 23
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029192-023
Operator ID: 003200 Instrument ID: CHMSD7

Method: \\chromna\Pittsburgh\ChromData\CHMSD7\20191019-29192.b\BNA_CHMSD7.m
Limit Group: BNA 8270D ICAL
Last Update: 21-Oct-2019 07:51:17 Calib Date: 16-Oct-2019 09:05:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016010.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0323

First Level Reviewer: piccolinov Date: 21-Oct-2019 07:09:32

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.398	6.381	0.017	97	128021	8.00	
* 2 Naphthalene-d8	136	7.648	7.631	0.017	100	502314	8.00	
* 3 Acenaphthene-d10	164	9.309	9.292	0.017	95	270836	8.00	
* 4 Phenanthrene-d10	188	10.708	10.692	0.016	97	508778	8.00	
* 5 Chrysene-d12	240	14.383	14.356	0.027	99	445604	8.00	
* 6 Perylene-d12	264	17.379	17.336	0.043	98	362874	8.00	
$ 7 2-Fluorophenol	112	4.982	4.966	0.016	94	748102	41.2	
$ 8 Phenol-d5	99	6.024	6.008	0.016	98	929355	38.7	
$ 9 Nitrobenzene-d5	82	6.937	6.926	0.011	91	921834	39.9	
$ 10 2-Fluorobiphenyl	172	8.652	8.635	0.017	100	2012656	40.1	
$ 11 2,4,6-Tribromophenol	330	10.040	10.024	0.016	88	136022	24.8	
$ 12 Terphenyl-d14	244	12.561	12.540	0.021	100	2156256	42.8	

Reagents:

SVTAPITINTRNi_00023 Amount Added: 1.00 Units: uL Run Reagent

Report Date: 24-Oct-2019 11:46:45 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191019-29192.b\M1019023.D				
Injection Date:	19-Oct-2019 21:53:30	Instrument ID:	CHMSD7	Operator ID:	003200
Lims ID:	180-97287-A-1-I	Lab Sample ID:	180-97287-1	Worklist Smp#:	23
Client ID:	11187072-NORTH-IMPCT-INITIALS				
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	23
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

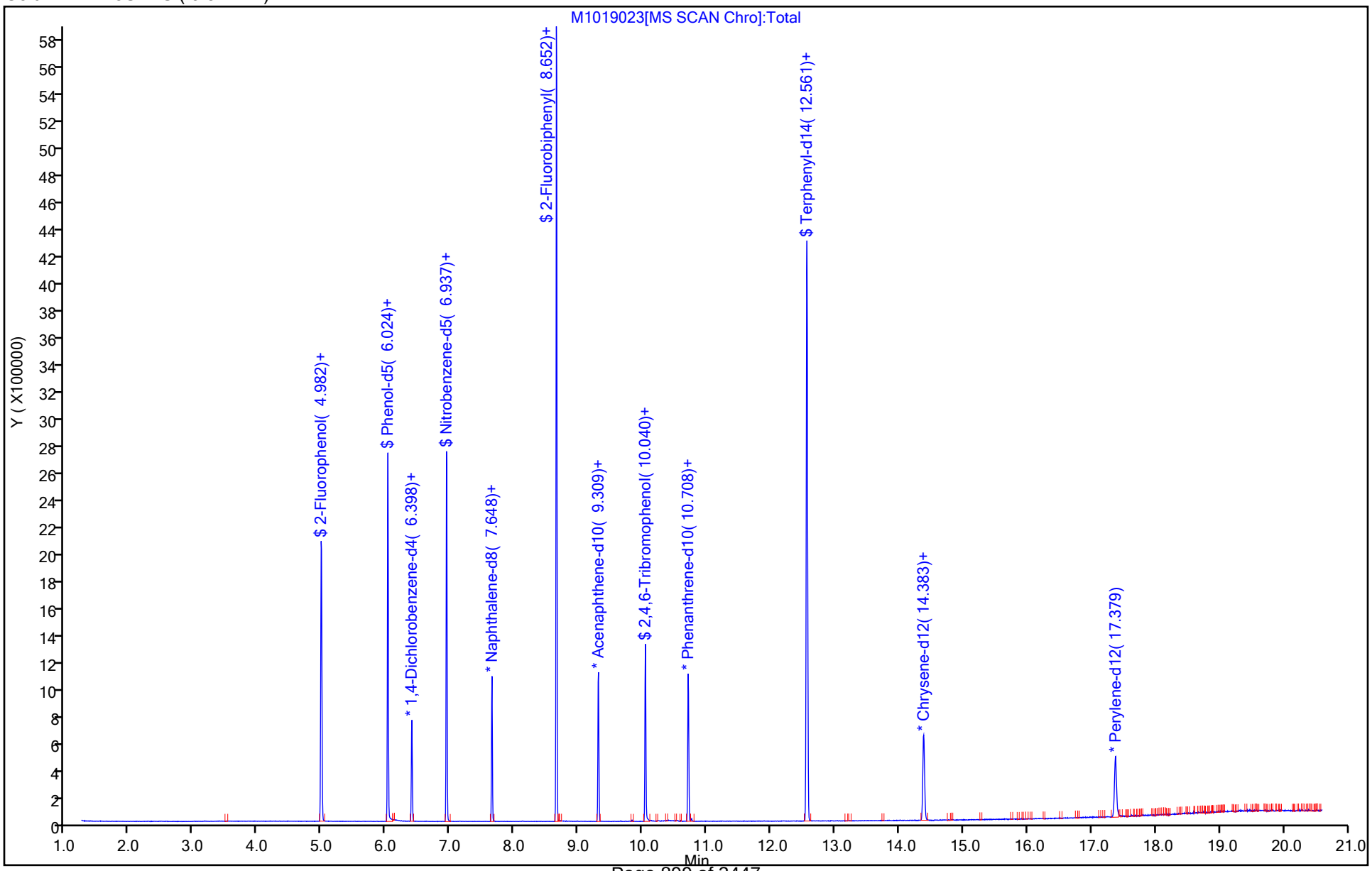

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191019-29192.b\M1019023.D
Lims ID: 180-97287-A-1-I
Client ID: 11187072-NORTH-IMPCT-INITIALS
Sample Type: Client
Inject. Date: 19-Oct-2019 21:53:30 ALS Bottle#: 23 Worklist Smp#: 23
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029192-023
Operator ID: 003200 Instrument ID: CHMSD7

Method: \\chromna\Pittsburgh\ChromData\CHMSD7\20191019-29192.b\BNA_CHMSD7.m
Limit Group: BNA 8270D ICAL
Last Update: 21-Oct-2019 07:51:17 Calib Date: 16-Oct-2019 09:05:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016010.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0323

First Level Reviewer: piccolinov Date: 21-Oct-2019 07:09:32

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	40.0	41.2	102.93
$ 8 Phenol-d5	40.0	38.7	96.85
$ 9 Nitrobenzene-d5	40.0	39.9	99.65
$ 10 2-Fluorobiphenyl	40.0	40.1	100.32
$ 11 2,4,6-Tribromophenol	40.0	24.8	62.12
$ 12 Terphenyl-d14	40.0	42.8	106.97

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 294955

SDG No.:

Instrument ID: CHMSD7 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/16/2019 05:53 Calibration End Date: 10/16/2019 09:05 Calibration ID: 41753

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-294955/3	M1016003.D
Level 2	IC 180-294955/4	M1016004.D
Level 3	IC 180-294955/5	M1016005.D
Level 4	ICIS 180-294955/6	M1016006.D
Level 5	IC 180-294955/7	M1016007.D
Level 6	IC 180-294955/8	M1016008.D
Level 7	IC 180-294955/9	M1016009.D
Level 8	IC 180-294955/10	M1016010.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
1,4-Dioxane	0.3740 0.4057	0.3875 0.4091	0.4251 0.4151	0.4021	0.4009	Ave		0.4024			0.0100	3.9		50.0			
N-Nitrosodimethylamine	+++++ 0.6576	0.5748 0.6544	0.6680 0.6830	0.6001	0.6346	Ave		0.6389			0.0100	6.1		20.0			
Pyridine	0.7151 1.1408	0.9983 1.1056	1.1374 1.1661	1.0313	1.0748	Ave		1.0462			0.0100	13.9		50.0			
Methyl methanesulfonate	0.6423 0.7230	0.6726 0.7294	0.6913 0.7380	0.6597	0.6935	Ave		0.6937			0.0100	5.0		50.0			
Benzaldehyde	1.0467 1.1555	1.1034 1.1391	1.1554 1.1426	1.0652	1.1046	Ave		1.1141			0.0100	3.7		50.0			
Phenol	1.5993 1.7789	1.7829 1.8063	1.8358 1.8098	1.7122	1.7574	Ave		1.7603			0.8000	4.3		20.0			
Aniline	2.0330 2.0215	1.9616 2.0362	2.0689 2.0422	1.9399	2.0172	Ave		2.0151			0.0100	2.1		20.0			
Bis(2-chloroethyl)ether	1.2208 1.1678	1.2442 1.1542	1.2020 1.1802	1.1428	1.1680	Ave		1.1850			0.7000	2.9		20.0			
2-Chlorophenol	1.2014 1.3454	1.2470 1.3238	1.3110 1.3315	1.2569	1.2910	Ave		1.2885			0.8000	3.8		20.0			
n-Decane	1.4285 1.2952	1.2685 1.2823	1.3231 1.3554	1.2686	1.2563	Ave		1.3097				4.4		20.0			
1,3-Dichlorobenzene	1.5377 1.5776	1.5727 1.5696	1.6262 1.5722	1.5261	1.5382	Ave		1.5650			0.0100	2.0		20.0			
1,4-Dichlorobenzene	1.7490 1.5992	1.5537 1.5840	1.6475 1.5943	1.5304	1.5897	Ave		1.6060			0.0100	4.2		20.0			
Benzyl alcohol	0.7293 0.8335	0.6989 0.8391	0.7612 0.8479	0.7550	0.8244	Ave		0.7862			0.0100	7.3		50.0			
1,2-Dichlorobenzene	1.4496 1.5067	1.4745 1.4831	1.5629 1.4946	1.4608	1.4835	Ave		1.4895			0.0100	2.3		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 294955

SDG No.:

Instrument ID: CHMSD7 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/16/2019 05:53 Calibration End Date: 10/16/2019 09:05 Calibration ID: 41753

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
2-Methylphenol	1.1271 1.2053	1.0838 1.2328	1.1775 1.2408	1.1661	1.1990	Ave		1.1790			0.7000	4.5		20.0			
Indene	2.4300 2.2947	2.2822 2.3210	2.3266 2.3855	2.2312	2.2391	Ave		2.3138			0.0100	3.0		20.0			
2,2'-oxybis[1-chloropropane]	1.7649 1.5309	1.5862 1.5465	1.5856 1.5914	1.5119	1.5187	Ave		1.5795			0.0100	5.2		50.0			
N-Nitrosopyrrolidine	0.5634 0.6273	0.5115 0.6226	0.5859 0.6304	0.5629	0.6066	Ave		0.5888			0.0100	7.0		50.0			
Methylphenol, 3 & 4	1.2725 1.2965	1.1590 1.2975	1.2897 1.3188	1.2167	1.2370	Ave		1.2610			0.6000	4.2		20.0			
N-Nitrosodi-n-propylamine	0.9194 1.0093	1.0236 1.0088	0.9905 1.0283	0.9626	0.9798	Ave		0.9903			0.5000	3.7		20.0			
Acetophenone	1.9020 1.8637	1.8363 1.8389	1.8879 1.8711	1.8093	1.8109	Ave		1.8525			0.0100	1.9		20.0			
Hexachloroethane	0.5661 0.5913	0.5844 0.5874	0.6039 0.5879	0.5814	0.5670	Ave		0.5837			0.3000	2.1		20.0			
Nitrobenzene	0.3869 0.3829	0.3751 0.3771	0.3871 0.3991	0.3719	0.3710	Ave		0.3814			0.2000	2.5		20.0			
Isophorone	0.6527 0.6871	0.5955 0.6875	0.6244 0.7118	0.6417	0.6408	Ave		0.6552			0.4000	5.8		20.0			
2-Nitrophenol	0.1523 0.2008	0.1657 0.2014	0.1719 0.2045	0.1858	0.1848	Ave		0.1834			0.1000	10.3		20.0			
2,4-Dimethylphenol	0.3661 0.3769	0.3508 0.3760	0.3617 0.3914	0.3547	0.3590	Ave		0.3671			0.2000	3.7		50.0			
Benzoic acid	+++++ 0.1872	0.1090 0.2039	0.1250 0.2109	0.1380	0.1529	Lin1	-0.311	0.2034			0.0100				0.9910		0.9900
Bis(2-chloroethoxy)methane	0.3961 0.3769	0.3754 0.3854	0.3843 0.3968	0.3660	0.3695	Ave		0.3813			0.3000	3.0		20.0			
2,4-Dichlorophenol	0.2647 0.3185	0.2741 0.3177	0.3036 0.3236	0.3029	0.3054	Ave		0.3013			0.2000	7.1		20.0			
1,2,4-Trichlorobenzene	0.3756 0.3643	0.3381 0.3640	0.3565 0.3705	0.3534	0.3526	Ave		0.3594			0.0100	3.3		20.0			
Naphthalene	1.1774 1.0801	1.0273 1.0815	1.0323 1.1177	1.0607	1.0489	Ave		1.0782			0.7000	4.6		20.0			
4-Chloroaniline	0.4087 0.4410	0.3974 0.4475	0.4267 0.4456	0.4309	0.4253	Ave		0.4279			0.0100	4.1		20.0			
2,6-Dichlorophenol	0.2616 0.3067	0.2834 0.3079	0.2976 0.3139	0.2960	0.2923	Ave		0.2949			0.0100	5.6		20.0			
Hexachlorobutadiene	0.2430 0.2283	0.2085 0.2263	0.2346 0.2302	0.2281	0.2215	Ave		0.2276			0.0100	4.4		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 294955

SDG No.:

Instrument ID: CHMSD7 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/16/2019 05:53 Calibration End Date: 10/16/2019 09:05 Calibration ID: 41753

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Caprolactam	+++++ 0.1012	0.0623 0.1039	0.0772 0.1063	0.0867	0.0911	Lin2	-0.084	0.1012			0.0100				0.9970		0.9900
4-Chloro-3-methylphenol	0.2496 0.3439	0.2924 0.3428	0.3071 0.3501	0.3193	0.3211	Ave		0.3158			0.2000	10.5		20.0			
2-Methylnaphthalene	0.7683 0.7619	0.7005 0.7628	0.7602 0.7881	0.7367	0.7245	Ave		0.7504			0.4000	3.7		20.0			
1-Methylnaphthalene	0.6425 0.6999	0.6684 0.6983	0.6901 0.7210	0.6787	0.6646	Ave		0.6829			0.0100	3.6		20.0			
Hexachlorocyclopentadiene	0.4234 0.5361	0.4198 0.5361	0.4492 0.5579	0.4674	0.5142	Ave		0.4880			0.0500	11.2		50.0			
1,2,4,5-Tetrachlorobenzene	0.7478 0.7077	0.7042 0.7084	0.6831 0.7375	0.6861	0.6870	Ave		0.7077			0.0100	3.4		20.0			
2,4,6-Trichlorophenol	0.2766 0.4299	0.3913 0.4371	0.4133 0.4506	0.4051	0.4139	Ave		0.4022			0.2000	13.4		20.0			
2,4,5-Trichlorophenol	0.3454 0.4586	0.4191 0.4505	0.4397 0.4622	0.4437	0.4565	Ave		0.4345			0.2000	8.9		20.0			
1,1'-Biphenyl	1.6536 1.6078	1.5713 1.5967	1.6188 1.6305	1.5599	1.5540	Ave		1.5991			0.0100	2.2		20.0			
2-Chloronaphthalene	1.3176 1.2120	1.2329 1.2067	1.2532 1.2483	1.1973	1.1945	Ave		1.2328			0.8000	3.3		20.0			
2-Nitroaniline	0.2825 0.3867	0.3298 0.3939	0.3472 0.4144	0.3646	0.3777	Ave		0.3621			0.0100	11.5		20.0			
Dimethyl phthalate	1.3825 1.4409	1.3817 1.4403	1.3984 1.4651	1.3661	1.3966	Ave		1.4089			0.0100	2.5		20.0			
1,3-Dinitrobenzene	+++++ 0.2255	0.1641 0.2370	0.1848 0.2370	0.2091	0.2173	Ave		0.2107			0.0100	13.0		50.0			
2,6-Dinitrotoluene	+++++ 0.3290	0.2774 0.3214	0.3031 0.3251	0.3017	0.3155	Ave		0.3104			0.2000	5.8		20.0			
Acenaphthylene	1.5941 1.9075	1.8039 1.9281	1.8232 1.9547	1.8363	1.8702	Ave		1.8398			0.9000	6.1		20.0			
3-Nitroaniline	0.2204 0.3360	0.3027 0.3368	0.3161 0.3391	0.3184	0.3255	Ave		0.3119			0.0100	12.5		20.0			
2,4-Dinitrophenol	+++++ 0.2439	0.1537 0.2550	0.1735 0.2632	0.1906	0.2123	Lin1	-0.643	0.2570			0.0100				0.9960		0.9900
Acenaphthene	1.2009 1.2661	1.2595 1.2650	1.2510 1.3052	1.2077	1.2389	Ave		1.2493			0.9000	2.7		20.0			
4-Nitrophenol	+++++ 0.2293	0.1953 0.2321	0.2159 0.2334	0.2215	0.2173	Ave		0.2207			0.0100	6.0		50.0			
2,4-Dinitrotoluene	+++++ 0.4398	0.3482 0.4419	0.4008 0.4370	0.4186	0.4260	Ave		0.4160			0.2000	8.0		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 294955

SDG No.:

Instrument ID: CHMSD7 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/16/2019 05:53 Calibration End Date: 10/16/2019 09:05 Calibration ID: 41753

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Dibenzofuran	1.7945 1.7916	1.7199 1.7745	1.8159 1.8129	1.7394	1.7475	Ave		1.7745			0.8000	2.0		20.0			
2,3,5,6-Tetrachlorophenol	0.3340 0.4165	0.3459 0.4193	0.3615 0.4153	0.3826	0.3899	Ave		0.3831			0.0100	8.7		20.0			
2,3,4,6-Tetrachlorophenol	0.3561 0.4111	0.3841 0.4188	0.3899 0.4046	0.3912	0.3920	Ave		0.3935			0.0100	4.9		20.0			
2-Naphthylamine	1.0759 1.3090	1.1983 1.2902	1.2631 1.2735	1.2718	1.2800	Ave		1.2452			0.0100	6.1		50.0			
Diethyl phthalate	1.2516 1.4159	1.3433 1.4109	1.3609 1.3974	1.3096	1.3477	Ave		1.3547			0.0100	4.1		20.0			
Hexadecane	0.4629 0.4734	0.4555 0.4800	0.4760 0.4949	0.4589	0.4498	Ave		0.4689				3.2		20.0			
4-Chlorophenyl phenyl ether	0.7419 0.7576	0.7264 0.7604	0.7522 0.7740	0.7375	0.7395	Ave		0.7487			0.4000	2.0		20.0			
4-Nitroaniline	0.2273 0.3662	0.3240 0.3697	0.3330 0.3769	0.3553	0.3613	Ave		0.3392			0.0100	14.4		20.0			
Fluorene	1.4020 1.4410	1.3965 1.4394	1.4178 1.4712	1.3975	1.4004	Ave		1.4207			0.9000	1.9		20.0			
4,6-Dinitro-2-methylphenol	+++++ 0.1632	0.1104 0.1639	0.1301 0.1705	0.1438	0.1513	Ave		0.1476			0.0100	14.5		50.0			
N-Nitrosodiphenylamine	0.5370 0.5504	0.5519 0.5508	0.5524 0.5676	0.5627	0.5366	Ave		0.5512			0.0100	2.0		20.0			
1,2-Diphenylhydrazine(as Azobenzene)	0.7033 0.7709	0.7330 0.7625	0.7485 0.7976	0.7654	0.7275	Ave		0.7511			0.0100	3.9		20.0			
Azobenzene	0.7033 0.7709	0.7330 0.7605	0.7485 0.7976	0.7654	0.7275	Ave		0.7508			0.0100	3.9		20.0			
4-Bromophenyl phenyl ether	0.2012 0.2331	0.2215 0.2342	0.2273 0.2397	0.2206	0.2233	Ave		0.2251			0.1000	5.2		20.0			
Hexachlorobenzene	0.2126 0.2187	0.2190 0.2232	0.2180 0.2246	0.2162	0.2134	Ave		0.2182			0.1000	1.9		20.0			
Atrazine	0.1838 0.2375	0.2091 0.2361	0.2238 0.2310	0.2348	0.2325	Ave		0.2236			0.0100	8.3		50.0			
n-Octadecane	1.5879 1.8505	1.6592 1.8739	1.7197 1.8999	1.7011	1.7682	Ave		1.7576				6.3		20.0			
Pentachlorophenol	0.1617 0.1664	0.1495 0.1721	0.1552 0.1788	0.1436	0.1499	Ave		0.1597			0.0500	7.7		50.0			
Phenanthrene	1.2133 1.1288	1.1348 1.1248	1.1386 1.1961	1.1346	1.0943	Ave		1.1457			0.7000	3.4		20.0			
Anthracene	1.0302 1.1515	1.1162 1.1680	1.1285 1.1817	1.1350	1.1246	Ave		1.1295			0.7000	4.1		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 294955

SDG No.:

Instrument ID: CHMSD7 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/16/2019 05:53 Calibration End Date: 10/16/2019 09:05 Calibration ID: 41753

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Carbazole	0.9350 1.0356	0.9741 1.0182	0.9923 1.0644	1.0282	0.9964	Ave		1.0055			0.0100	4.0		20.0			
Di-n-butyl phthalate	0.8870 1.2434	1.0384 1.2559	1.0955 1.2851	1.1653	1.1812	Ave		1.1440			0.0100	11.6		20.0			
Fluoranthene	1.1996 1.3658	1.2173 1.3656	1.2338 1.3876	1.3078	1.2809	Ave		1.2948			0.6000	5.7		20.0			
Benzidine	+++++ 0.7942	0.5676 0.7893	0.6244 0.7649	0.7141	0.7569	Ave		0.7159			0.0100	12.2		50.0			
Pyrene	1.1077 1.3643	1.2352 1.3889	1.2602 1.3825	1.3009	1.3080	Ave		1.2935			0.6000	7.2		20.0			
Butyl benzyl phthalate	+++++ 0.5600	0.3733 0.5586	0.4168 0.5750	0.4886	0.5085	Lin2	-0.402	0.5521			0.0100				0.9970		0.9900
3,3'-Dichlorobenzidine	+++++ 0.4803	0.3419 0.4972	0.3605 0.5141	0.4189	0.4469	Lin2	-0.332	0.4824			0.0100				0.9950		0.9900
Bis(2-ethylhexyl) phthalate	+++++ 0.7728	0.4995 0.7806	0.5682 0.8093	0.6626	0.7007	Lin2	-0.601	0.7668			0.0100				0.9960		0.9900
Benzo[a]anthracene	1.2533 1.2746	1.2011 1.2749	1.1882 1.2989	1.2617	1.2326	Ave		1.2482			0.8000	3.1		20.0			
Chrysene	1.1932 1.2304	1.2062 1.2359	1.2062 1.2809	1.2289	1.2135	Ave		1.2244			0.7000	2.2		20.0			
Di-n-octyl phthalate	+++++ 1.5033	1.3835 1.5987	1.3558 1.6207	1.1193	1.2769	Ave		1.4083			0.0100	12.8		50.0			
7,12-Dimethylbenz(a)anthracene	0.5557 0.6792	0.5248 0.7023	0.5851 0.7070	0.6115	0.6358	Ave		0.6252			0.0100	10.9		20.0			
Benzo[b]fluoranthene	1.3158 1.5185	1.3068 1.4956	1.4555 1.5584	1.4452	1.4234	Ave		1.4399			0.7000	6.3		20.0			
Benzo[k]fluoranthene	1.3341 1.4138	1.3010 1.5092	1.3731 1.4980	1.3899	1.4353	Ave		1.4068			0.7000	5.2		20.0			
Benzo[e]pyrene	1.1801 1.3008	1.1640 1.3362	1.2184 1.3544	1.2374	1.2511	Ave		1.2553			0.0100	5.6		20.0			
Benzo[a]pyrene	0.9974 1.2397	1.0870 1.2834	1.1647 1.2887	1.1815	1.2043	Ave		1.1808			0.7000	8.4		20.0			
Indeno[1,2,3-cd]pyrene	1.0625 1.4116	1.1495 1.4590	1.2648 1.5276	1.3192	1.3429	Ave		1.3171			0.5000	11.8		20.0			
Dibenz(a,h)anthracene	0.8784 1.1372	0.9366 1.1777	1.0469 1.2360	1.0634	1.0781	Ave		1.0693			0.4000	11.1		20.0			
Benzo[g,h,i]perylene	0.9792 1.1527	0.9890 1.1782	1.0701 1.2276	1.0946	1.1087	Ave		1.1000			0.5000	7.9		20.0			
2-Fluorophenol (Surr)	1.0056 1.2047	1.0416 1.1997	1.1493 1.2207	1.1089	1.1529	Ave		1.1354				6.9		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 294955

SDG No.:

Instrument ID: CHMSD7 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/16/2019 05:53 Calibration End Date: 10/16/2019 09:05 Calibration ID: 41753

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Phenol-d5 (Surr)	1.3797 1.5563	1.4122 1.5661	1.5228 1.5795	1.4662	1.5095	Ave		1.4990				4.9		20.0			
Nitrobenzene-d5 (Surr)	0.3470 0.3768	0.3588 0.3809	0.3578 0.3922	0.3656	0.3675	Ave		0.3683				3.9		20.0			
2-Fluorobiphenyl	1.4932 1.4796	1.5039 1.4773	1.5222 1.5031	1.4178	1.4548	Ave		1.4815				2.2		20.0			
2,4,6-Tribromophenol (Surr)	+++++ 0.0894	0.0769 0.0905	0.0833 0.0937	0.0834	0.0853	Ave		0.0861			0.0100	6.5		20.0			
Terphenyl-d14 (Surr)	0.8608 0.9400	0.8730 0.9394	0.8722 0.9595	0.8920	0.9013	Ave		0.9048				4.1		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 294955

SDG No.:

Instrument ID: CHMSD7 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/16/2019 05:53 Calibration End Date: 10/16/2019 09:05 Calibration ID: 41753

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-294955/3	M1016003.D
Level 2	IC 180-294955/4	M1016004.D
Level 3	IC 180-294955/5	M1016005.D
Level 4	ICIS 180-294955/6	M1016006.D
Level 5	IC 180-294955/7	M1016007.D
Level 6	IC 180-294955/8	M1016008.D
Level 7	IC 180-294955/9	M1016009.D
Level 8	IC 180-294955/10	M1016010.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
1,4-Dioxane	DCBd 4	Ave	2346 250110	12569 366451	28028 452142	63504	127632	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
N-Nitrosodimethylamine	DCBd 4	Ave	+++++ 405357	18644 586108	44046 743834	94780	202039	+++++ 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Pyridine	DCBd 4	Ave	8972 1406480	64767 1980592	149996 2540047	325742	684288	0.760 80.0	4.00 120	8.00 160	20.0	40.0
Methyl methanesulfonate	DCBd 4	Ave	4029 445690	21818 653335	45584 803757	104192	220762	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Benzaldehyde	DCBd 4	Ave	6566 712279	35792 1020260	76184 1244406	168228	351661	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Phenol	DCBd 4	Ave	10032 1096591	57832 1617809	121050 1971097	270412	559452	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Aniline	DCBd 4	Ave	12753 1246155	63630 1823736	136418 2224261	306379	642161	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Bis(2-chloroethyl)ether	DCBd 4	Ave	7658 719912	40359 1033749	79256 1285440	180482	371841	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2-Chlorophenol	DCBd 4	Ave	7536 829373	40449 1185656	86446 1450147	198505	410985	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
n-Decane	DCBd 4	Ave	8961 798425	41147 1148552	87242 1476184	200361	399935	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
1,3-Dichlorobenzene	DCBd 4	Ave	9646 972493	51015 1405863	107228 1712384	241019	489683	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
1,4-Dichlorobenzene	DCBd 4	Ave	10971 985820	50397 1418755	108636 1736357	241705	506081	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Benzyl alcohol	DCBd 4	Ave	4575 513811	22671 751537	50192 923486	119247	262451	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
1,2-Dichlorobenzene	DCBd 4	Ave	9093 928803	47829 1328352	103057 1627848	230706	472282	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2-Methylphenol	DCBd 4	Ave	7070 742983	35156 1104210	77642 1351406	184170	381685	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 294955

SDG No.:

Instrument ID: CHMSD7 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/16/2019 05:53 Calibration End Date: 10/16/2019 09:05 Calibration ID: 41753

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Indene	DCBd 4	Ave	15243 1414551	74028 2078827	153411 2598098	352385	712814	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2,2'-oxybis[1-chloropropane]	DCBd 4	Ave	11071 943706	51451 1385186	104551 1733283	238776	483461	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
N-Nitrosopyrrolidine	DCBd 4	Ave	3534 386698	16593 557682	38635 686542	88908	193097	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Methylphenol, 3 & 4	DCBd 4	Ave	7982 799241	37596 1162121	85041 1436370	192152	393792	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
N-Nitrosodi-n-propylamine	DCBd 4	Ave	5767 622172	33202 903528	65311 1119940	152035	311918	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Acetophenone	DCBd 4	Ave	11931 1148903	59565 1647025	124487 2037819	285748	576496	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Hexachloroethane	DCBd 4	Ave	3551 364534	18955 526135	39817 640272	91822	180508	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Nitrobenzene	NPT	Ave	9294 882345	46639 1266248	99006 1595808	217898	448807	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Isophorone	NPT	Ave	15678 1583229	74039 2308551	159700 2846068	375961	775124	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2-Nitrophenol	NPT	Ave	3658 462750	20606 676231	43968 817737	108833	223594	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2,4-Dimethylphenol	NPT	Ave	8793 868460	43620 1262476	92525 1564980	207802	434250	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Benzoic acid	NPT	Lin1	+++++ 431434	13553 684838	31974 843130	80862	184903	+++++ 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Bis(2-chloroethoxy)methane	NPT	Ave	9514 868428	46680 1294315	98302 1586488	214432	446979	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2,4-Dichlorophenol	NPT	Ave	6358 733891	34084 1066716	77651 1294009	177493	369469	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
1,2,4-Trichlorobenzene	NPT	Ave	9022 839299	42040 1222290	91177 1481510	207038	426557	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Naphthalene	NPT	Ave	28281 2488594	127734 3631780	264032 4469288	621461	1268829	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
4-Chloroaniline	NPT	Ave	9816 1016129	49409 1502539	109139 1781789	252481	514482	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2,6-Dichlorophenol	NPT	Ave	6283 706675	35243 1033859	76127 1255028	173423	353546	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Hexachlorobutadiene	NPT	Ave	5838 525939	25930 759897	59996 920624	133647	267909	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Caprolactam	NPT	Lin2	+++++ 233066	7744 349047	19752 424976	50784	110144	+++++ 40.0	2.00 60.0	4.00 80.0	10.0	20.0
4-Chloro-3-methylphenol	NPT	Ave	5996 792351	36351 1151021	78539 1400061	187095	388483	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 294955

SDG No.:

Instrument ID: CHMSD7 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/16/2019 05:53 Calibration End Date: 10/16/2019 09:05 Calibration ID: 41753

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
2-Methylnaphthalene	NPT	Ave	18454 1755579	87099 2561531	194446 3151229	431617	876475	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
1-Methylnaphthalene	NPT	Ave	15434 1612719	83113 2344862	176516 2882897	397663	803925	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Hexachlorocyclopentadiene	ANT	Ave	5805 697033	28275 1019290	62976 1247772	154993	344534	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
1,2,4,5-Tetrachlorobenzene	ANT	Ave	10253 920189	47432 1346852	95774 1649378	227503	460292	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2,4,6-Trichlorophenol	ANT	Ave	3793 558965	26360 831046	57945 1007734	134311	277311	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2,4,5-Trichlorophenol	ANT	Ave	4736 596310	28232 856567	61651 1033747	147112	305876	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
1,1'-Biphenyl	ANT	Ave	22672 2090596	105840 3035732	226964 3646755	517243	1041223	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2-Chloronaphthalene	ANT	Ave	18066 1575887	83049 2294371	175710 2791858	397018	800338	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2-Nitroaniline	ANT	Ave	3873 502852	22212 748975	48679 926895	120906	253065	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Dimethyl phthalate	ANT	Ave	18955 1873541	93068 2738499	196064 3276631	452994	935749	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
1,3-Dinitrobenzene	ANT	Ave	+++++ 293249	11052 450614	25917 530024	69330	145621	+++++ 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2,6-Dinitrotoluene	ANT	Ave	+++++ 427746	18685 611063	42497 727099	100028	211378	+++++ 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Acenaphthylene	ANT	Ave	21856 2480286	121509 3666003	255621 4371684	608914	1253139	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
3-Nitroaniline	ANT	Ave	3022 436950	20393 640361	44313 758337	105590	218082	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2,4-Dinitrophenol	ANT	Lin1	+++++ 634340	20706 969673	48662 1177179	126431	284461	+++++ 80.0	4.00 120	8.00 160	20.0	40.0
Acenaphthene	ANT	Ave	16466 1646352	84838 2405103	175396 2919121	400461	830109	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
4-Nitrophenol	ANT	Ave	+++++ 596196	26308 882539	60547 1043990	146907	291264	+++++ 80.0	4.00 120	8.00 160	20.0	40.0
2,4-Dinitrotoluene	ANT	Ave	+++++ 571867	23454 840202	56190 977254	138813	285407	+++++ 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Dibenzofuran	ANT	Ave	24604 2329552	115850 3373955	254600 4054651	576784	1170876	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2,3,5,6-Tetrachlorophenol	ANT	Ave	4580 541543	23300 797129	50681 928730	126882	261234	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2,3,4,6-Tetrachlorophenol	ANT	Ave	4883 534550	25873 796318	54661 904813	129716	262630	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 294955

SDG No.:

Instrument ID: CHMSD7 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/16/2019 05:53 Calibration End Date: 10/16/2019 09:05 Calibration ID: 41753

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
2-Naphthylamine	ANT	Ave	14752 1702093	80715 2453107	177093 2848332	421701	857628	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Diethyl phthalate	ANT	Ave	17160 1841115	90486 2682608	190810 3125251	434249	902997	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Hexadecane	NPT	Ave	11119 1090722	56633 1611851	121748 1978991	268898	544132	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
4-Chlorophenyl phenyl ether	ANT	Ave	10172 985137	48929 1445788	105462 1730980	244537	495474	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
4-Nitroaniline	ANT	Ave	3117 476140	21823 702976	46690 843049	117805	242055	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Fluorene	ANT	Ave	19223 1873686	94068 2736816	198787 3290442	463406	938314	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
4,6-Dinitro-2-methylphenol	PHN	Ave	+++++ 807234	27446 1185335	68165 1413696	176313	386195	+++++ 80.0	4.00 120	8.00 160	20.0	40.0
N-Nitrosodiphenylamine	PHN	Ave	13684 1361256	68610 1991776	144718 2352873	344896	685047	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
1,2-Diphenylhydrazine(as Azobenzene)	PHN	Ave	17919 1906674	91127 2757409	196093 3306336	469118	928785	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Azobenzene	PHN	Ave	17919 1906674	91127 2750125	196093 3306230	469118	928785	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
4-Bromophenyl phenyl ether	PHN	Ave	5127 576446	27542 846928	59561 993600	135223	285120	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Hexachlorobenzene	PHN	Ave	5418 541022	27220 806988	57123 930930	132528	272422	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Atrazine	PHN	Ave	4682 587545	26001 853839	58642 957467	143888	296827	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
n-Octadecane	DCBd 4	Ave	9961 1140736	53819 1678414	113395 2069282	268661	562903	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Pentachlorophenol	PHN	Ave	8241 823036	37175 1244363	81340 1482448	175995	382845	0.760 80.0	4.00 120	8.00 160	20.0	40.0
Phenanthrene	PHN	Ave	30915 2791927	141076 4067634	298297 4958199	695405	1397108	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Anthracene	PHN	Ave	26250 2848254	138764 4223921	295649 4898514	695703	1435809	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Carbazole	PHN	Ave	23824 2561567	121094 3681934	259982 4412298	630193	1272027	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Di-n-butyl phthalate	PHN	Ave	22602 3075469	129087 4541651	287014 5327079	714222	1508042	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Fluoranthene	PHN	Ave	30566 3378295	151333 4938209	323248 5752032	801599	1635307	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Benzidine	CRY	Ave	+++++ 1919816	70968 2784360	165175 3122400	447009	955335	+++++ 40.0	2.00 60.0	4.00 80.0	10.0	20.0

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 294955

SDG No.:

Instrument ID: CHMSD7 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/16/2019 05:53 Calibration End Date: 10/16/2019 09:05 Calibration ID: 41753

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Pyrene	CRY	Ave	27306 3297844	154432 4899881	333344 5643182	814405	1650915	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Butyl benzyl phthalate	CRY	Lin2	+++++ 1353602	46666 1970697	110249 2346981	305872	641810	+++++ 40.0	2.00 60.0	4.00 80.0	10.0	20.0
3,3'-Dichlorobenzidine	CRY	Lin2	+++++ 1161135	42747 1754190	95366 2098356	262239	564106	+++++ 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Bis(2-ethylhexyl) phthalate	CRY	Lin2	+++++ 1868166	62451 2753788	150305 3303484	414767	884416	+++++ 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Benzo[a]anthracene	CRY	Ave	30894 3081142	150161 4497556	314308 5301873	789864	1555708	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Chrysene	CRY	Ave	29412 2974287	150804 4359949	319070 5228464	769285	1531676	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Di-n-octyl phthalate	PRY	Ave	+++++ 3102104	149498 4705295	296097 5782001	610390	1385420	+++++ 40.0	2.00 60.0	4.00 80.0	10.0	20.0
7,12-Dimethylbenz(a)anthracene	PRY	Ave	11888 1401548	56702 2066997	127771 2522323	333451	689832	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Benzo[b]fluoranthene	PRY	Ave	28149 3133348	141209 4401903	317861 5559718	788094	1544332	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Benzo[k]fluoranthene	PRY	Ave	28540 2917247	140577 4441832	299877 5344217	757940	1557226	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Benzo[e]pyrene	PRY	Ave	25245 2684248	125779 3932640	266097 4832199	674752	1357402	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Benzo[a]pyrene	PRY	Ave	21336 2558186	117457 3777238	254354 4597559	644283	1306651	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Indeno[1,2,3-cd]pyrene	PRY	Ave	22729 2912894	124212 4294009	276213 5449790	719370	1456932	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Dibenz(a,h)anthracene	PRY	Ave	18792 2346624	101206 3466057	228627 4409618	579870	1169684	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Benzo[g,h,i]perylene	PRY	Ave	20948 2378514	106869 3467545	233696 4379782	596908	1202915	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2-Fluorophenol (Surr)	DCBd 4	Ave	6308 742657	33787 1074548	75784 1329538	175129	367017	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Phenol-d5 (Surr)	DCBd 4	Ave	8655 959361	45808 1402726	100409 1720283	231568	480545	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Nitrobenzene-d5 (Surr)	NPT	Ave	8334 868137	44615 1278988	91526 1568116	214203	444573	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2-Fluorobiphenyl	ANT	Ave	20473 1923857	101305 2808717	213420 3361651	470130	974756	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2,4,6-Tribromophenol (Surr)	PHN	Ave	+++++ 221043	9557 327292	21836 388366	51111	108928	+++++ 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Terphenyl-d14 (Surr)	CRY	Ave	21218 2272200	109144 3313977	230706 3916460	558389	1137564	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 294955

SDG No.:

Instrument ID: CHMSD7 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/16/2019 05:53 Calibration End Date: 10/16/2019 09:05 Calibration ID: 41753

Curve Type Legend:

Ave = Average ISTD
Lin1 = Linear 1/conc ISTD
Lin2 = Linear 1/conc^2 ISTD

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 294955

SDG No.:

Instrument ID: CHMSD7 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/16/2019 05:53 Calibration End Date: 10/16/2019 09:05 Calibration ID: 41753

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-294955/3	M1016003.D
Level 2	IC 180-294955/4	M1016004.D
Level 3	IC 180-294955/5	M1016005.D
Level 4	ICIS 180-294955/6	M1016006.D
Level 5	IC 180-294955/7	M1016007.D
Level 6	IC 180-294955/8	M1016008.D
Level 7	IC 180-294955/9	M1016009.D
Level 8	IC 180-294955/10	M1016010.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
1,4-Dioxane	-7.1 1.7	-3.7 3.2	5.6	-0.1	-0.4	0.8	50 30	30 30	30	30	30	30
N-Nitrosodimethylamine	+++++ 2.4	-10.0 6.9	4.5	-6.1	-0.7	2.9	 30	50 30	30	30	30	30
Pyridine	-31.6 5.7	-4.6 11.5	8.7	-1.4	2.7	9.0	50 30	30 30	30	30	30	30
Methyl methanesulfonate	-7.4 5.1	-3.0 6.4	-0.3	-4.9	0.0	4.2	50 30	30 30	30	30	30	30
Benzaldehyde	-6.0 2.2	-1.0 2.6	3.7	-4.4	-0.8	3.7	50 30	30 30	30	30	30	30
Phenol	-9.1 2.6	1.3 2.8	4.3	-2.7	-0.2	1.1	50 30	30 30	30	30	30	30
Aniline	0.9 1.0	-2.7 1.3	2.7	-3.7	0.1	0.3	50 30	30 30	30	30	30	30
Bis(2-chloroethyl)ether	3.0 -2.6	5.0 -0.4	1.4	-3.6	-1.4	-1.4	50 30	30 30	30	30	30	30
2-Chlorophenol	-6.8 2.7	-3.2 3.3	1.7	-2.5	0.2	4.4	50 30	30 30	30	30	30	30
n-Decane	9.1 -2.1	-3.1 3.5	1.0	-3.1	-4.1	-1.1	50 30	30 30	30	30	30	30
1,3-Dichlorobenzene	-1.7 0.3	0.5 0.5	3.9	-2.5	-1.7	0.8	50 30	30 30	30	30	30	30
1,4-Dichlorobenzene	8.9 -1.4	-3.3 -0.7	2.6	-4.7	-1.0	-0.4	50 30	30 30	30	30	30	30
Benzyl alcohol	-7.2 6.7	-11.1 7.9	-3.2	-4.0	4.9	6.0	50 30	30 30	30	30	30	30
1,2-Dichlorobenzene	-2.7 -0.4	-1.0 0.3	4.9	-1.9	-0.4	1.2	50 30	30 30	30	30	30	30
2-Methylphenol	-4.4 4.6	-8.1 5.2	-0.1	-1.1	1.7	2.2	50 30	30 30	30	30	30	30

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 294955

SDG No.:

Instrument ID: CHMSD7 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/16/2019 05:53 Calibration End Date: 10/16/2019 09:05 Calibration ID: 41753

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
Indene	5.0 0.3	-1.4 3.1	0.6	-3.6	-3.2	-0.8	50 30	30 30	30	30	30	30
2,2'-oxybis[1-chloropropane]	11.7 -2.1	0.4 0.8	0.4	-4.3	-3.9	-3.1	50 30	30 30	30	30	30	30
N-Nitrosopyrrolidine	-4.3 5.7	-13.1 7.1	-0.5	-4.4	3.0	6.5	50 30	30 30	30	30	30	30
Methylphenol, 3 & 4	0.9 2.9	-8.1 4.6	2.3	-3.5	-1.9	2.8	50 30	30 30	30	30	30	30
N-Nitrosodi-n-propylamine	-7.2 1.9	3.4 3.8	0.0	-2.8	-1.1	1.9	50 30	30 30	30	30	30	30
Acetophenone	2.7 -0.7	-0.9 1.0	1.9	-2.3	-2.2	0.6	50 30	30 30	30	30	30	30
Hexachloroethane	-3.0 0.6	0.1 0.7	3.5	-0.4	-2.9	1.3	50 30	30 30	30	30	30	30
Nitrobenzene	1.4 -1.1	-1.6 4.6	1.5	-2.5	-2.7	0.4	50 30	30 30	30	30	30	30
Isophorone	-0.4 4.9	-9.1 8.6	-4.7	-2.1	-2.2	4.9	50 30	30 30	30	30	30	30
2-Nitrophenol	-17.0 9.8	-9.6 11.5	-6.3	1.3	0.8	9.5	50 30	30 30	30	30	30	30
2,4-Dimethylphenol	-0.3 2.4	-4.4 6.6	-1.5	-3.4	-2.2	2.7	50 30	30 30	30	30	30	30
Benzoic acid	+++++ 2.8	30.0 5.6	-0.3	-16.8	-17.2	-4.1	 30	50 30	30	30	30	30
Bis(2-chloroethoxy)methane	3.9 1.1	-1.5 4.1	0.8	-4.0	-3.1	-1.2	50 30	30 30	30	30	30	30
2,4-Dichlorophenol	-12.2 5.4	-9.0 7.4	0.8	0.5	1.4	5.7	50 30	30 30	30	30	30	30
1,2,4-Trichlorobenzene	4.5 1.3	-5.9 3.1	-0.8	-1.7	-1.9	1.4	50 30	30 30	30	30	30	30
Naphthalene	9.2 0.3	-4.7 3.7	-4.3	-1.6	-2.7	0.2	50 30	30 30	30	30	30	30
4-Chloroaniline	-4.5 4.6	-7.1 4.1	-0.3	0.7	-0.6	3.1	50 30	30 30	30	30	30	30
2,6-Dichlorophenol	-11.3 4.4	-3.9 6.4	0.9	0.4	-0.9	4.0	50 30	30 30	30	30	30	30
Hexachlorobutadiene	6.8 -0.6	-8.4 1.2	3.1	0.2	-2.7	0.3	50 30	30 30	30	30	30	30
Caprolactam	+++++ 4.1	2.9 6.0	-3.0	-6.1	-5.9	2.0	 30	50 30	30	30	30	30
4-Chloro-3-methylphenol	-21.0 8.5	-7.4 10.9	-2.8	1.1	1.7	8.9	50 30	30 30	30	30	30	30

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 294955

SDG No.:

Instrument ID: CHMSD7 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/16/2019 05:53 Calibration End Date: 10/16/2019 09:05 Calibration ID: 41753

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
2-Methylnaphthalene	2.4 1.7	-6.6 5.0	1.3	-1.8	-3.4	1.5	50 30	30 30	30	30	30	30
1-Methylnaphthalene	-5.9 2.2	-2.1 5.6	1.0	-0.6	-2.7	2.5	50 30	30 30	30	30	30	30
Hexachlorocyclopentadiene	-13.2 9.9	-14.0 14.3	-8.0	-4.2	5.4	9.8	50 30	30 30	30	30	30	30
1,2,4,5-Tetrachlorobenzene	5.7 0.1	-0.5 4.2	-3.5	-3.1	-2.9	0.0	50 30	30 30	30	30	30	30
2,4,6-Trichlorophenol	-31.2 8.7	-2.7 12.0	2.8	0.7	2.9	6.9	50 30	30 30	30	30	30	30
2,4,5-Trichlorophenol	-20.5 3.7	-3.5 6.4	1.2	2.1	5.1	5.6	50 30	30 30	30	30	30	30
1,1'-Biphenyl	3.4 -0.2	-1.7 2.0	1.2	-2.4	-2.8	0.5	50 30	30 30	30	30	30	30
2-Chloronaphthalene	6.9 -2.1	0.0 1.3	1.7	-2.9	-3.1	-1.7	50 30	30 30	30	30	30	30
2-Nitroaniline	-22.0 8.8	-8.9 14.5	-4.1	0.7	4.3	6.8	50 30	30 30	30	30	30	30
Dimethyl phthalate	-1.9 2.2	-1.9 4.0	-0.7	-3.0	-0.9	2.3	50 30	30 30	30	30	30	30
1,3-Dinitrobenzene	+++++ 12.5	-22.1 12.5	-12.3	-0.8	3.2	7.0	 30	50 30	30	30	30	30
2,6-Dinitrotoluene	+++++ 3.5	-10.6 4.7	-2.4	-2.8	1.6	6.0	 30	50 30	30	30	30	30
Acenaphthylene	-13.4 4.8	-2.0 6.2	-0.9	-0.2	1.7	3.7	50 30	30 30	30	30	30	30
3-Nitroaniline	-29.3 8.0	-2.9 8.7	1.3	2.1	4.4	7.7	50 30	30 30	30	30	30	30
2,4-Dinitrophenol	+++++ 1.3	22.4 4.0	-1.2	-13.3	-11.2	-2.0	 30	50 30	30	30	30	30
Acenaphthene	-3.9 1.3	0.8 4.5	0.1	-3.3	-0.8	1.3	50 30	30 30	30	30	30	30
4-Nitrophenol	+++++ 5.2	-11.5 5.8	-2.2	0.4	-1.5	3.9	 30	50 30	30	30	30	30
2,4-Dinitrotoluene	+++++ 6.2	-16.3 5.0	-3.7	0.6	2.4	5.7	 30	50 30	30	30	30	30
Dibenzofuran	1.1 0.0	-3.1 2.2	2.3	-2.0	-1.5	1.0	50 30	30 30	30	30	30	30
2,3,5,6-Tetrachlorophenol	-12.8 9.4	-9.7 8.4	-5.6	-0.1	1.8	8.7	50 30	30 30	30	30	30	30
2,3,4,6-Tetrachlorophenol	-9.5 6.4	-2.4 2.8	-0.9	-0.6	-0.4	4.5	50 30	30 30	30	30	30	30

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 294955

SDG No.:

Instrument ID: CHMSD7 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/16/2019 05:53 Calibration End Date: 10/16/2019 09:05 Calibration ID: 41753

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
2-Naphthylamine	-13.6 3.6	-3.8 2.3	1.4	2.1	2.8	5.1	50 30	30 30	30	30	30	30
Diethyl phthalate	-7.6 4.2	-0.8 3.2	0.5	-3.3	-0.5	4.5	50 30	30 30	30	30	30	30
Hexadecane	-1.3 2.4	-2.9 5.5	1.5	-2.1	-4.1	0.9	50 30	30 30	30	30	30	30
4-Chlorophenyl phenyl ether	-0.9 1.6	-3.0 3.4	0.5	-1.5	-1.2	1.2	50 30	30 30	30	30	30	30
4-Nitroaniline	-33.0 9.0	-4.5 11.1	-1.8	4.7	6.5	8.0	50 30	30 30	30	30	30	30
Fluorene	-1.3 1.3	-1.7 3.6	-0.2	-1.6	-1.4	1.4	50 30	30 30	30	30	30	30
4,6-Dinitro-2-methylphenol	+++++ 11.0	-25.2 15.5	-11.9	-2.6	2.5	10.6	 30	50 30	30	30	30	30
N-Nitrosodiphenylamine	-2.6 -0.1	0.1 3.0	0.2	2.1	-2.6	-0.1	50 30	30 30	30	30	30	30
1,2-Diphenylhydrazine(as Azobenzene)	-6.4 1.5	-2.4 6.2	-0.3	1.9	-3.1	2.6	50 30	30 30	30	30	30	30
Azobenzene	-6.3 1.3	-2.4 6.2	-0.3	1.9	-3.1	2.7	50 30	30 30	30	30	30	30
4-Bromophenyl phenyl ether	-10.6 4.0	-1.6 6.5	1.0	-2.0	-0.8	3.5	50 30	30 30	30	30	30	30
Hexachlorobenzene	-2.6 2.3	0.3 2.9	-0.1	-0.9	-2.2	0.2	50 30	30 30	30	30	30	30
Atrazine	-17.8 5.6	-6.5 3.3	0.1	5.0	4.0	6.2	50 30	30 30	30	30	30	30
n-Octadecane	-9.7 6.6	-5.6 8.1	-2.2	-3.2	0.6	5.3	50 30	30 30	30	30	30	30
Pentachlorophenol	1.3 7.8	-6.3 12.0	-2.8	-10.1	-6.1	4.2	50 30	30 30	30	30	30	30
Phenanthrene	5.9 -1.8	-0.9 4.4	-0.6	-1.0	-4.5	-1.5	50 30	30 30	30	30	30	30
Anthracene	-8.8 3.4	-1.2 4.6	-0.1	0.5	-0.4	2.0	50 30	30 30	30	30	30	30
Carbazole	-7.0 1.3	-3.1 5.9	-1.3	2.3	-0.9	3.0	50 30	30 30	30	30	30	30
Di-n-butyl phthalate	-22.5 9.8	-9.2 12.3	-4.2	1.9	3.3	8.7	50 30	30 30	30	30	30	30
Fluoranthene	-7.4 5.5	-6.0 7.2	-4.7	1.0	-1.1	5.5	50 30	30 30	30	30	30	30
Benzidine	+++++ 10.2	-20.7 6.8	-12.8	-0.3	5.7	10.9	 30	50 30	30	30	30	30

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 294955

SDG No.:

Instrument ID: CHMSD7 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 10/16/2019 05:53 Calibration End Date: 10/16/2019 09:05 Calibration ID: 41753

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
Pyrene	-14.4 7.4	-4.5 6.9	-2.6	0.6	1.1	5.5	50 30	30 30	30	30	30	30
Butyl benzyl phthalate	+++++ 2.4	4.0 5.1	-6.3	-4.2	-4.2	3.3	 30	50 30	30	30	30	30
3,3'-Dichlorobenzidine	+++++ 4.2	5.3 7.4	-8.1	-6.3	-3.9	1.3	 30	50 30	30	30	30	30
Bis(2-ethylhexyl) phthalate	+++++ 3.1	4.4 6.5	-6.3	-5.8	-4.7	2.7	 30	50 30	30	30	30	30
Benzo[a]anthracene	0.4 2.1	-3.8 4.1	-4.8	1.1	-1.2	2.1	50 30	30 30	30	30	30	30
Chrysene	-2.5 0.9	-1.5 4.6	-1.5	0.4	-0.9	0.5	50 30	30 30	30	30	30	30
Di-n-octyl phthalate	+++++ 13.5	-1.8 15.1	-3.7	-20.5	-9.3	6.7	 30	50 30	30	30	30	30
7,12-Dimethylbenz(a)anthracene	-11.1 12.3	-16.1 13.1	-6.4	-2.2	1.7	8.6	50 30	30 30	30	30	30	30
Benzo[b]fluoranthene	-8.6 3.9	-9.2 8.2	1.1	0.4	-1.1	5.5	50 30	30 30	30	30	30	30
Benzo[k]fluoranthene	-5.2 7.3	-7.5 6.5	-2.4	-1.2	2.0	0.5	50 30	30 30	30	30	30	30
Benzo[e]pyrene	-6.0 6.4	-7.3 7.9	-2.9	-1.4	-0.3	3.6	50 30	30 30	30	30	30	30
Benzo[a]pyrene	-15.5 8.7	-7.9 9.1	-1.4	0.1	2.0	5.0	50 30	30 30	30	30	30	30
Indeno[1,2,3-cd]pyrene	-19.3 10.8	-12.7 16.0	-4.0	0.2	2.0	7.2	50 30	30 30	30	30	30	30
Dibenz(a,h)anthracene	-17.8 10.1	-12.4 15.6	-2.1	-0.6	0.8	6.4	50 30	30 30	30	30	30	30
Benzo[g,h,i]perylene	-11.0 7.1	-10.1 11.6	-2.7	-0.5	0.8	4.8	50 30	30 30	30	30	30	30
2-Fluorophenol (Surr)	-11.4 5.7	-8.3 7.5	1.2	-2.3	1.5	6.1	50 30	30 30	30	30	30	30
Phenol-d5 (Surr)	-8.0 4.5	-5.8 5.4	1.6	-2.2	0.7	3.8	50 30	30 30	30	30	30	30
Nitrobenzene-d5 (Surr)	-5.8 3.4	-2.6 6.5	-2.8	-0.7	-0.2	2.3	50 30	30 30	30	30	30	30
2-Fluorobiphenyl	0.8 -0.3	1.5 1.5	2.7	-4.3	-1.8	-0.1	50 30	30 30	30	30	30	30
2,4,6-Tribromophenol (Surr)	+++++ 5.2	-10.7 8.8	-3.2	-3.1	-0.9	3.8	 30	50 30	30	30	30	30
Terphenyl-d14 (Surr)	-4.9 3.8	-3.5 6.0	-3.6	-1.4	-0.4	3.9	50 30	30 30	30	30	30	30

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016003.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 16-Oct-2019 05:53:30 ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029126-003
Operator ID: 003200 Instrument ID: CHMSD7
Sublist: chrom-BNA_CHMSD7*sub13

Method: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\BNA_CHMSD7.m
Limit Group: BNA 8270D ICAL
Last Update: 17-Oct-2019 06:05:23 Calib Date: 16-Oct-2019 09:05:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016010.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0331

First Level Reviewer: piccolinov Date: 16-Oct-2019 08:33:26

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.413	6.413	0.000	97	132061	8.00	8.00	
* 2 Naphthalene-d8	136	7.658	7.658	0.000	100	505695	8.00	8.00	
* 3 Acenaphthene-d10	164	9.308	9.308	0.000	95	288652	8.00	8.00	
* 4 Phenanthrene-d10	188	10.702	10.702	0.000	97	536424	8.00	8.00	
* 5 Chrysene-d12	240	14.366	14.366	0.000	99	518949	8.00	8.00	
* 6 Perylene-d12	264	17.357	17.357	0.000	99	450365	8.00	8.00	
$ 7 2-Fluorophenol	112	5.003	5.003	0.000	90	6308	0.3800	0.3365	
$ 8 Phenol-d5	99	6.039	6.039	0.000	97	8655	0.3800	0.3498	
$ 9 Nitrobenzene-d5	82	6.958	6.958	0.000	92	8334	0.3800	0.3580	
$ 10 2-Fluorobiphenyl	172	8.657	8.657	0.000	98	20473	0.3800	0.3830	
$ 11 2,4,6-Tribromophenol	330	10.035	10.035	0.000	79	1268	0.3800	0.2197	a
$ 12 Terphenyl-d14	244	12.550	12.550	0.000	98	21218	0.3800	0.3615	
13 1,4-Dioxane	88	1.665	1.665	0.000	0	2346	0.3800	0.3531	Ma
14 N-Nitrosodimethylamine	74	2.376	2.376	0.000	45	2234	0.3800	0.2118	M
15 Pyridine	79	2.514	2.514	0.000	83	8972	0.7600	0.5195	M
21 Methyl methanesulfonate	80	4.779	4.779	0.000	70	4029	0.3800	0.3518	M
25 Benzaldehyde	77	5.959	5.959	0.000	89	6566	0.3800	0.3570	
26 Phenol	94	6.056	6.056	0.000	95	10032	0.3800	0.3452	
27 Aniline	93	6.077	6.077	0.000	96	12753	0.3800	0.3834	
29 Bis(2-chloroethyl)ether	93	6.141	6.141	0.000	95	7658	0.3800	0.3915	
30 2-Chlorophenol	128	6.200	6.200	0.000	94	7536	0.3800	0.3543	
31 n-Decane	43	6.258	6.258	0.000	83	8961	0.3800	0.4145	
32 1,3-Dichlorobenzene	146	6.360	6.360	0.000	95	9646	0.3800	0.3734	
33 1,4-Dichlorobenzene	146	6.435	6.435	0.000	90	10971	0.3800	0.4138	
34 Benzyl alcohol	108	6.552	6.552	0.000	89	4575	0.3800	0.3525	
35 1,2-Dichlorobenzene	146	6.590	6.590	0.000	95	9093	0.3800	0.3698	
36 2-Methylphenol	108	6.654	6.654	0.000	92	7070	0.3800	0.3632	
37 Indene	116	6.675	6.675	0.000	92	15243	0.3800	0.3991	
38 2,2'-oxybis[1-chloropropan	45	6.680	6.680	0.000	71	11071	0.3800	0.4246	
39 N-Nitrosopyrrolidine	100	6.793	6.793	0.000	30	3534	0.3800	0.3636	
42 4-Methylphenol	108	6.809	6.809	0.000	59	7982	0.3800	0.3835	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
41 N-Nitrosodi-n-propylamine	70	6.814	6.814	0.000	44	5767	0.3800	0.3528	
40 Acetophenone	105	6.809	6.809	0.000	85	11931	0.3800	0.3902	
45 Hexachloroethane	117	6.926	6.926	0.000	83	3551	0.3800	0.3686	
46 Nitrobenzene	77	6.969	6.969	0.000	89	9294	0.3800	0.3855	
48 Isophorone	82	7.209	7.209	0.000	95	15678	0.3800	0.3786	
49 2-Nitrophenol	139	7.284	7.284	0.000	88	3658	0.3800	0.3155	
50 2,4-Dimethylphenol	107	7.311	7.311	0.000	96	8793	0.3800	0.3790	
52 Benzoic acid	122	7.343	7.343	0.000	86	2101	0.3800	1.69	
53 Bis(2-chloroethoxy)methane	93	7.396	7.396	0.000	95	9514	0.3800	0.3947	
54 2,4-Dichlorophenol	162	7.514	7.514	0.000	92	6358	0.3800	0.3338	
56 1,2,4-Trichlorobenzene	180	7.599	7.599	0.000	93	9022	0.3800	0.3972	
58 Naphthalene	128	7.679	7.679	0.000	96	28281	0.3800	0.4149	
59 4-Chloroaniline	127	7.717	7.717	0.000	92	9816	0.3800	0.3629	
60 2,6-Dichlorophenol	162	7.733	7.733	0.000	87	6283	0.3800	0.3370	
62 Hexachlorobutadiene	225	7.797	7.797	0.000	90	5838	0.3800	0.4058	
64 Caprolactam	113	8.037	8.037	0.000	1	222	0.3800	0.8628	Ma
67 4-Chloro-3-methylphenol	107	8.149	8.149	0.000	93	5996	0.3800	0.3004	
69 2-Methylnaphthalene	142	8.325	8.325	0.000	93	18454	0.3800	0.3891	
71 1-Methylnaphthalene	142	8.422	8.422	0.000	89	15434	0.3800	0.3575	
72 Hexachlorocyclopentadiene	237	8.486	8.486	0.000	69	5805	0.3800	0.3297	
73 1,2,4,5-Tetrachlorobenzene	216	8.486	8.486	0.000	94	10253	0.3800	0.4015	
74 2,4,6-Trichlorophenol	196	8.582	8.582	0.000	90	3793	0.3800	0.2614	
75 2,4,5-Trichlorophenol	196	8.614	8.614	0.000	90	4736	0.3800	0.3021	
76 1,1'-Biphenyl	154	8.753	8.753	0.000	96	22672	0.3800	0.3930	
77 2-Chloronaphthalene	162	8.785	8.785	0.000	96	18066	0.3800	0.4061	
79 2-Nitroaniline	65	8.860	8.860	0.000	70	3873	0.3800	0.2964	
82 Dimethyl phthalate	163	9.009	9.009	0.000	98	18955	0.3800	0.3729	a
83 1,3-Dinitrobenzene	168	9.041	9.041	0.000	78	1501	0.3800	0.1974	M
84 2,6-Dinitrotoluene	165	9.073	9.073	0.000	85	3225	0.3800	0.2879	
85 Acenaphthylene	152	9.180	9.180	0.000	98	21856	0.3800	0.3293	
86 3-Nitroaniline	138	9.233	9.233	0.000	81	3022	0.3800	0.2685	
87 2,4-Dinitrophenol	184	9.330	9.330	0.000	56	2746	0.7600	2.80	
88 Acenaphthene	153	9.340	9.340	0.000	90	16466	0.3800	0.3653	
89 4-Nitrophenol	109	9.362	9.362	0.000	88	3336	0.7600	0.4190	
91 2,4-Dinitrotoluene	165	9.447	9.447	0.000	91	3956	0.3800	0.2635	
93 Dibenzofuran	168	9.495	9.495	0.000	96	24604	0.3800	0.3843	
95 2,3,5,6-Tetrachlorophenol	232	9.559	9.559	0.000	86	4580	0.3800	0.3313	
96 2,3,4,6-Tetrachlorophenol	232	9.597	9.597	0.000	64	4883	0.3800	0.3439	
97 2-Naphthylamine	143	9.629	9.629	0.000	93	14752	0.3800	0.3283	
98 Diethyl phthalate	149	9.650	9.650	0.000	97	17160	0.3800	0.3511	
99 Hexadecane	57	9.655	9.655	0.000	82	11119	0.3800	0.3751	
100 4-Chlorophenyl phenyl ethe	204	9.789	9.789	0.000	93	10172	0.3800	0.3766	
101 4-Nitroaniline	138	9.800	9.800	0.000	43	3117	0.3800	0.2547	
103 Fluorene	166	9.816	9.816	0.000	96	19223	0.3800	0.3750	
104 4,6-Dinitro-2-methylphenol	198	9.832	9.832	0.000	82	2718	0.7600	0.2746	
105 N-Nitrosodiphenylamine	169	9.890	9.890	0.000	96	13684	0.3800	0.3703	
90 1,2-Diphenylhydrazine	77	9.933	9.933	0.000	97	17919	0.3800	0.3558	
215 Azobenzene	77	9.933	9.933	0.000	99	17919	0.3800	0.3559	
110 4-Bromophenyl phenyl ether	248	10.243	10.243	0.000	65	5127	0.3800	0.3396	
112 Hexachlorobenzene	284	10.334	10.334	0.000	86	5418	0.3800	0.3703	
113 Atrazine	200	10.350	10.350	0.000	89	4682	0.3800	0.3123	
115 n-Octadecane	57	10.499	10.499	0.000	96	9961	0.3800	0.3433	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
116 Pentachlorophenol	266	10.510	10.510	0.000	81	8241	0.7600	0.7698	
121 Phenanthrene	178	10.724	10.724	0.000	94	30915	0.3800	0.4024	
122 Anthracene	178	10.777	10.777	0.000	97	26250	0.3800	0.3466	
124 Carbazole	167	10.921	10.921	0.000	95	23824	0.3800	0.3534	
126 Di-n-butyl phthalate	149	11.220	11.220	0.000	99	22602	0.3800	0.2947	
131 Fluoranthene	202	12.070	12.070	0.000	96	30566	0.3800	0.3521	
132 Benzidine	184	12.192	12.192	0.000	97	11266	0.3800	0.2426	
133 Pyrene	202	12.395	12.395	0.000	94	27306	0.3800	0.3254	
138 Butyl benzyl phthalate	149	13.255	13.255	0.000	94	8415	0.3800	0.9636	
144 3,3'-Dichlorobenzidine	252	14.259	14.259	0.000	65	5958	0.3800	0.8784	a
145 Bis(2-ethylhexyl) phthalat	149	14.275	14.275	0.000	84	9095	0.3800	0.9672	a
146 Benzo[a]anthracene	228	14.350	14.350	0.000	98	30894	0.3800	0.3816	
147 Chrysene	228	14.414	14.414	0.000	96	29412	0.3800	0.3703	
150 Di-n-octyl phthalate	149	15.616	15.616	0.000	99	42710	0.3800	0.5387	a
151 7,12-Dimethylbenz(a)anthra	256	16.524	16.524	0.000	92	11888	0.3800	0.3378	
152 Benzo[b]fluoranthene	252	16.540	16.540	0.000	95	28149	0.3800	0.3473	
153 Benzo[k]fluoranthene	252	16.604	16.604	0.000	98	28540	0.3800	0.3604	M
217 Benzo[e]pyrene	252	17.128	17.128	0.000	96	25245	0.3800	0.3572	a
154 Benzo[a]pyrene	252	17.245	17.245	0.000	75	21336	0.3800	0.3210	Ma
157 Indeno[1,2,3-cd]pyrene	276	19.665	19.665	0.000	89	22729	0.3800	0.3065	M
158 Dibenz(a,h)anthracene	278	19.686	19.686	0.000	84	18792	0.3800	0.3122	M
159 Benzo[g,h,i]perylene	276	20.295	20.295	0.000	94	20948	0.3800	0.3383	M
S 199 Total Cresols	108				0		0.7600	0.7467	
S 197 Methyl Phenols,Total	108				0		0.7600	0.7467	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

SVTAPSTD0.38i_00010 Amount Added: 1.00 Units: mL

Report Date: 17-Oct-2019 06:05:24 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016003.D				
Injection Date:	16-Oct-2019 05:53:30	Instrument ID:	CHMSD7	Operator ID:	003200
Lims ID:	IC			Worklist Smp#:	3
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

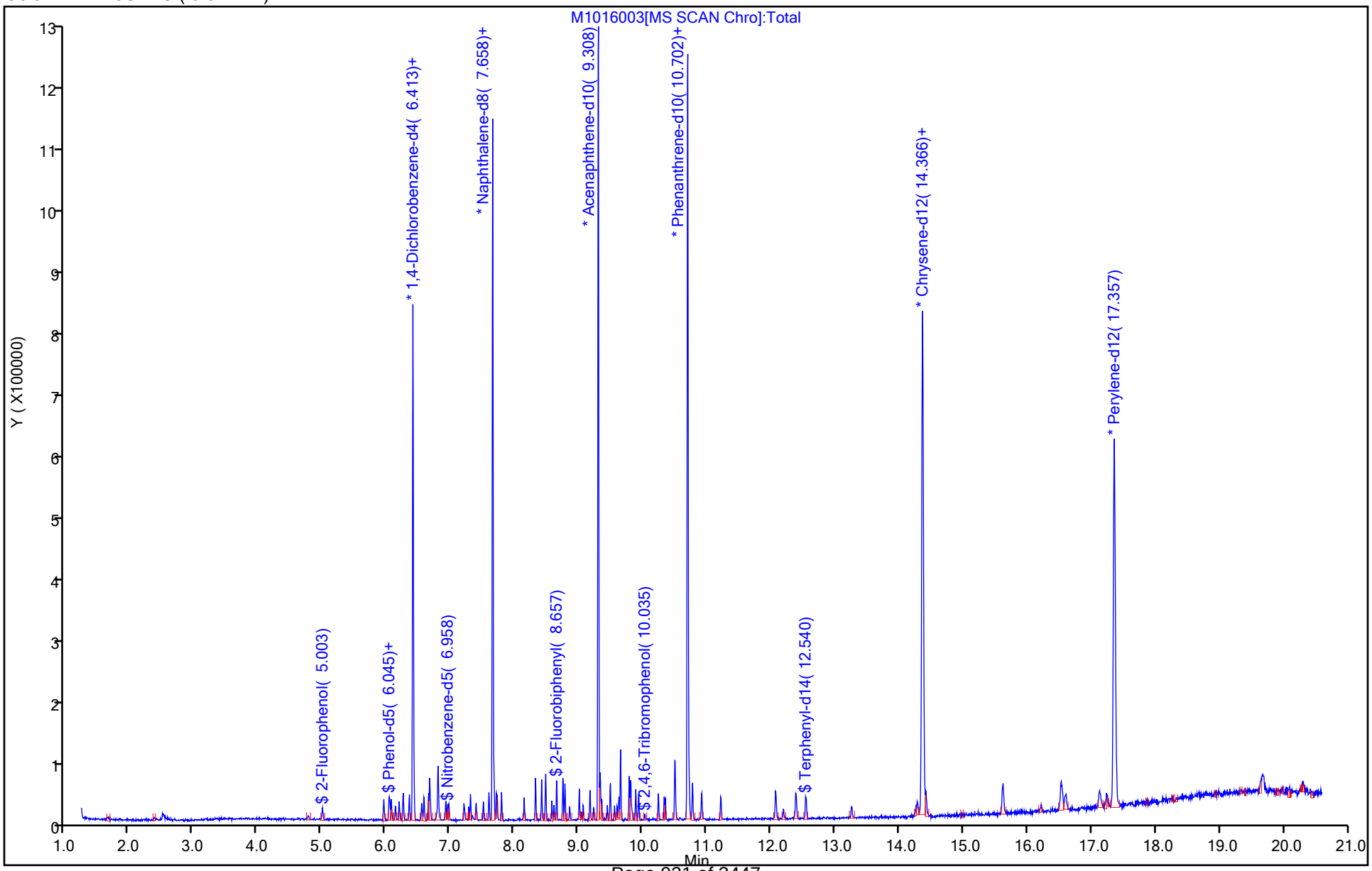

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016003.D				
Injection Date:	16-Oct-2019 05:53:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

13 1,4-Dioxane, CAS: 123-91-1

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 1.67

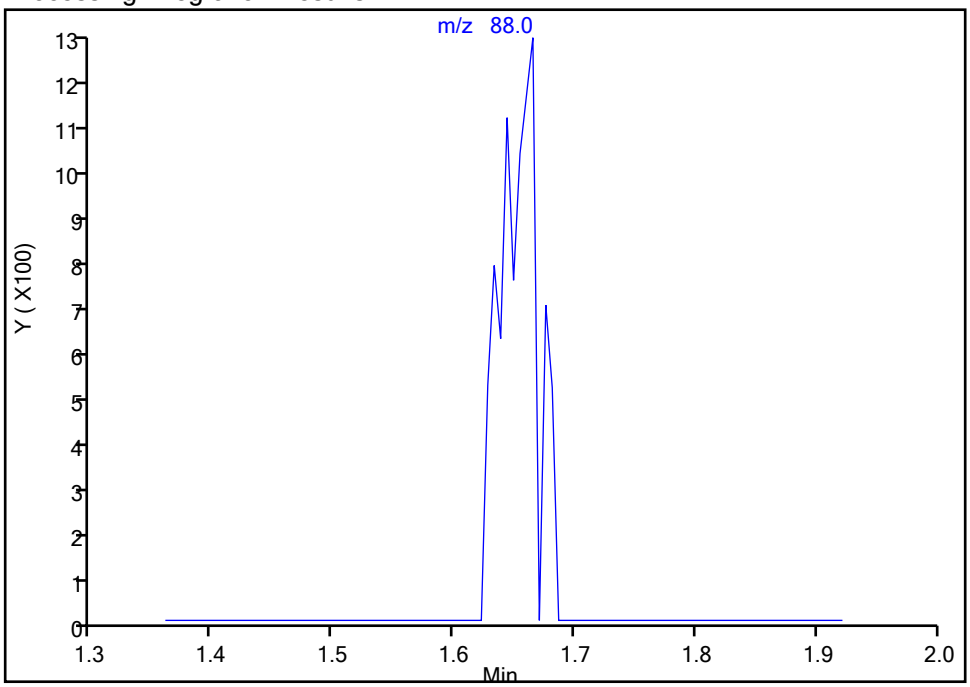

Manual Integration Results

RT: 1.67
Area: 2346
Amount: 0.353133
Amount Units: ng

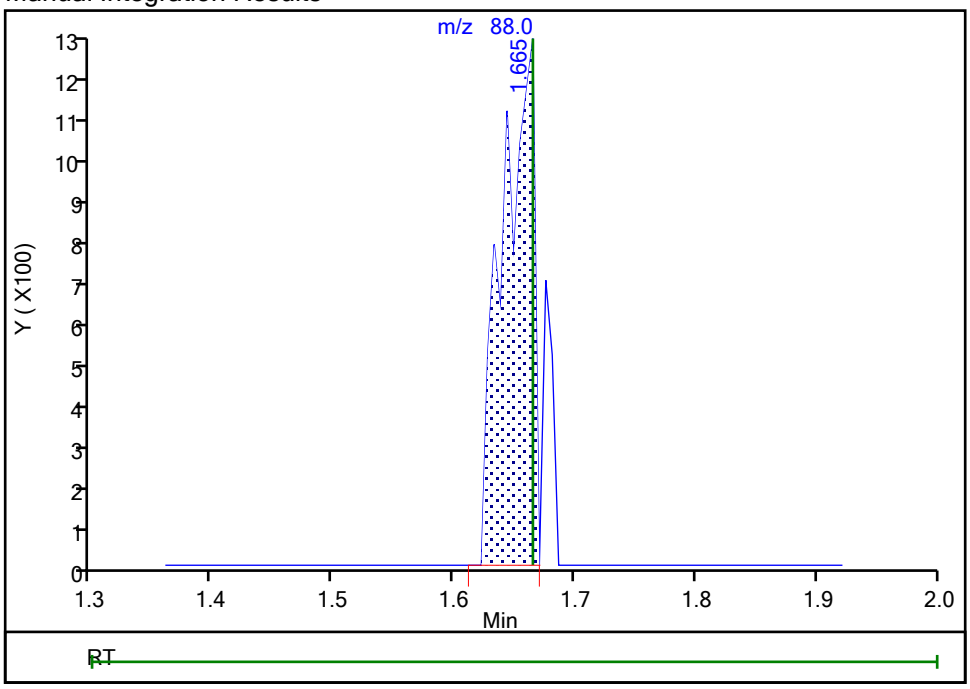

Reviewer: piccolinov, 16-Oct-2019 08:31:21
Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016003.D				
Injection Date:	16-Oct-2019 05:53:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

14 N-Nitrosodimethylamine, CAS: 62-75-9

Signal: 1

Processing Integration Results

RT: 2.38
Area: 1347
Amount: 0.164811
Amount Units: ng

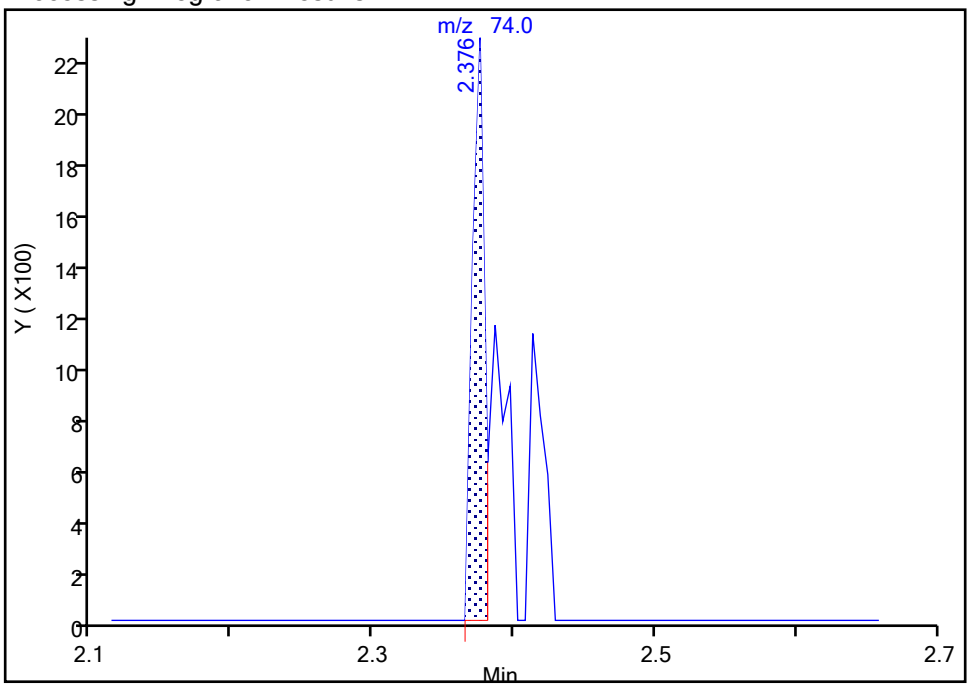

Manual Integration Results

RT: 2.38
Area: 2234
Amount: 0.211813
Amount Units: ng

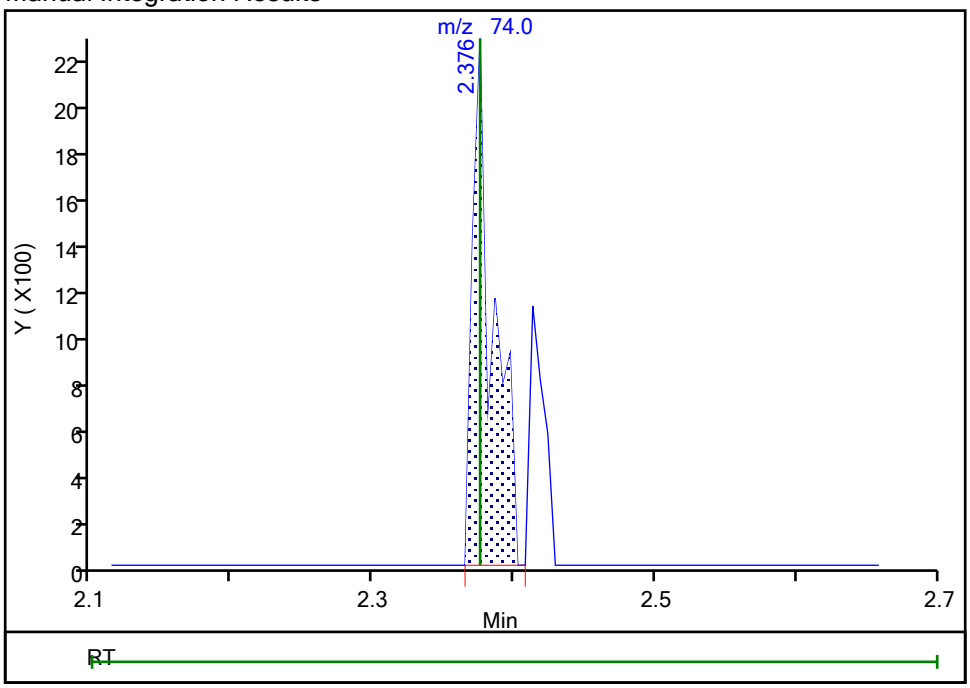

Reviewer: piccolinov, 16-Oct-2019 08:31:26

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016003.D				
Injection Date:	16-Oct-2019 05:53:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

15 Pyridine, CAS: 110-86-1

Signal: 1

Processing Integration Results

RT: 2.51
Area: 5146
Amount: 0.376623
Amount Units: ng

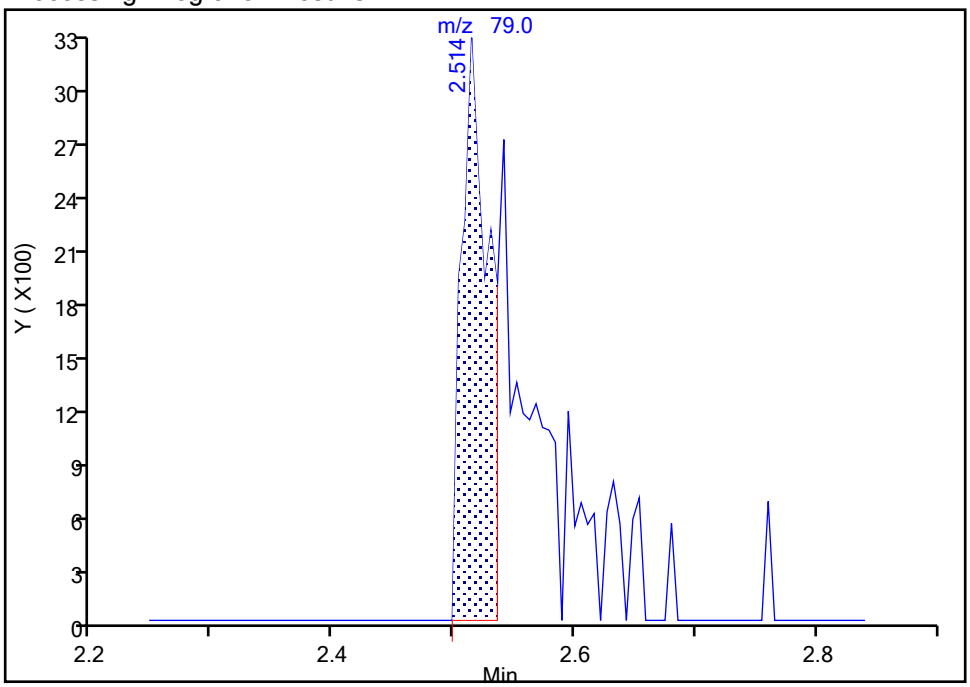

Manual Integration Results

RT: 2.51
Area: 8972
Amount: 0.519518
Amount Units: ng

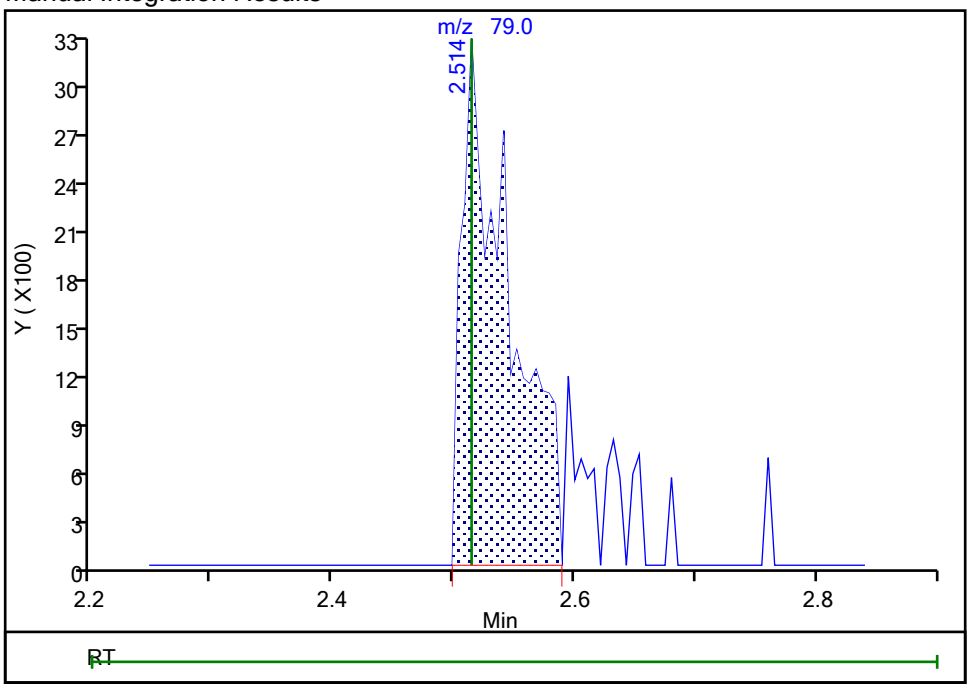

Reviewer: piccolinov, 16-Oct-2019 08:31:31

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016003.D				
Injection Date:	16-Oct-2019 05:53:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

21 Methyl methanesulfonate, CAS: 66-27-3

Signal: 1

Processing Integration Results

RT: 4.78
Area: 3842
Amount: 0.385273
Amount Units: ng

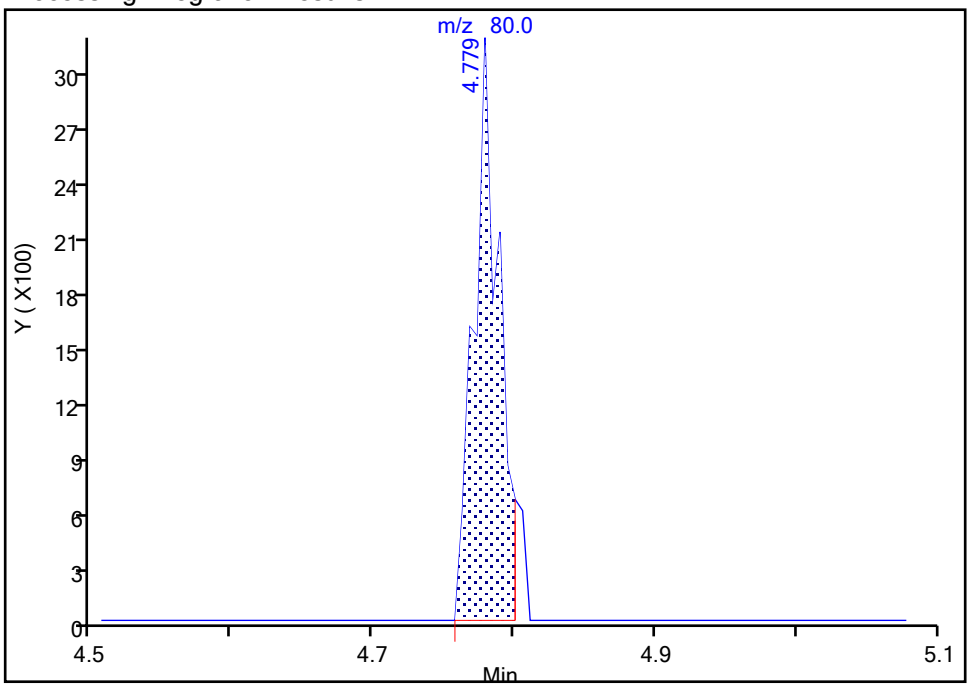

Manual Integration Results

RT: 4.78
Area: 4029
Amount: 0.351824
Amount Units: ng

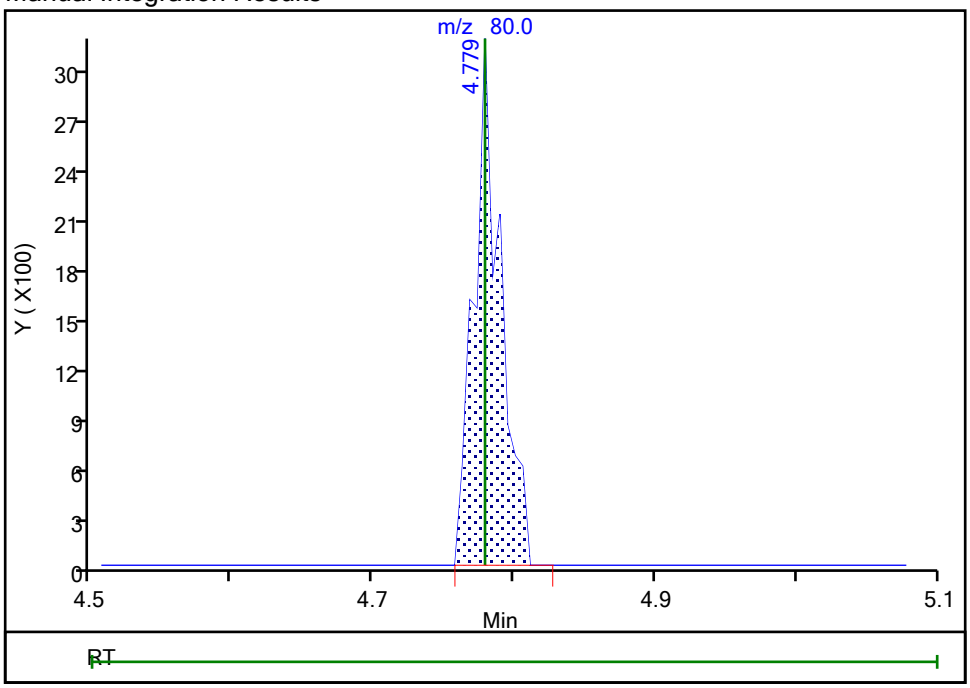

Reviewer: piccolinov, 16-Oct-2019 08:31:36

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016003.D				
Injection Date:	16-Oct-2019 05:53:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

64 Caprolactam, CAS: 105-60-2

Signal: 1

Not Detected
Expected RT: 8.04

Processing Integration Results

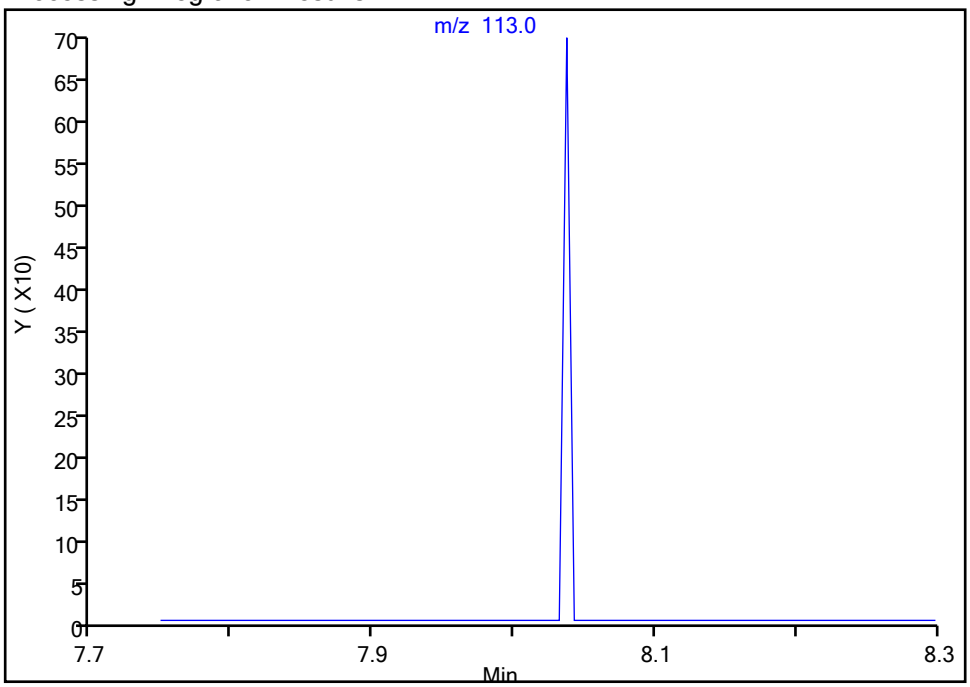

Manual Integration Results

RT: 8.04
Area: 222
Amount: 0.862756
Amount Units: ng

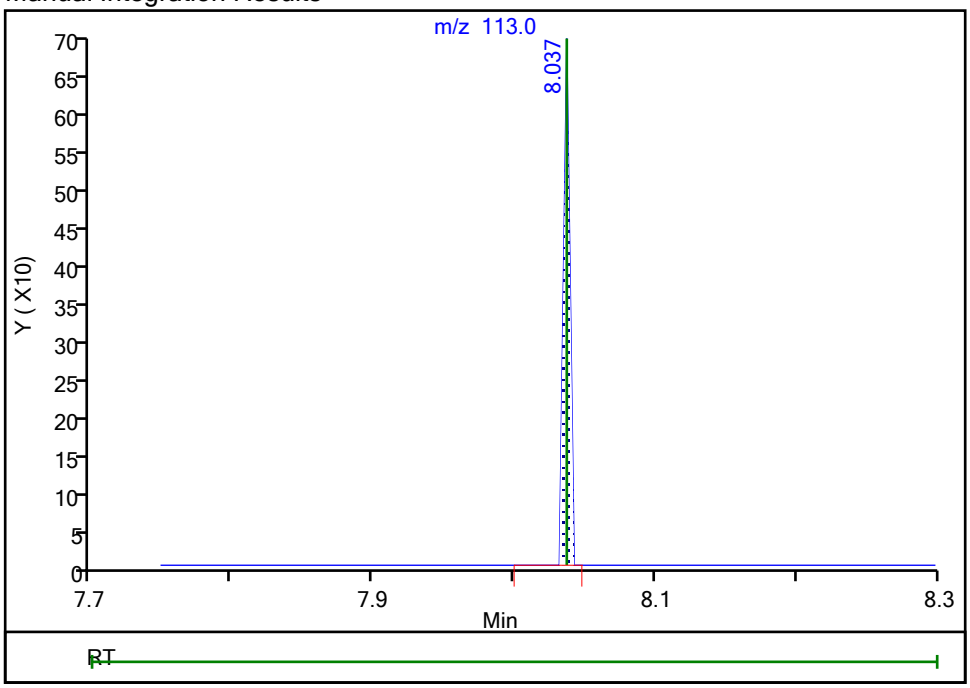

Reviewer: piccolinov, 16-Oct-2019 08:31:59
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016003.D				
Injection Date:	16-Oct-2019 05:53:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

82 Dimethyl phthalate, CAS: 131-11-3

Signal: 1

Not Detected
Expected RT: 9.01

Processing Integration Results

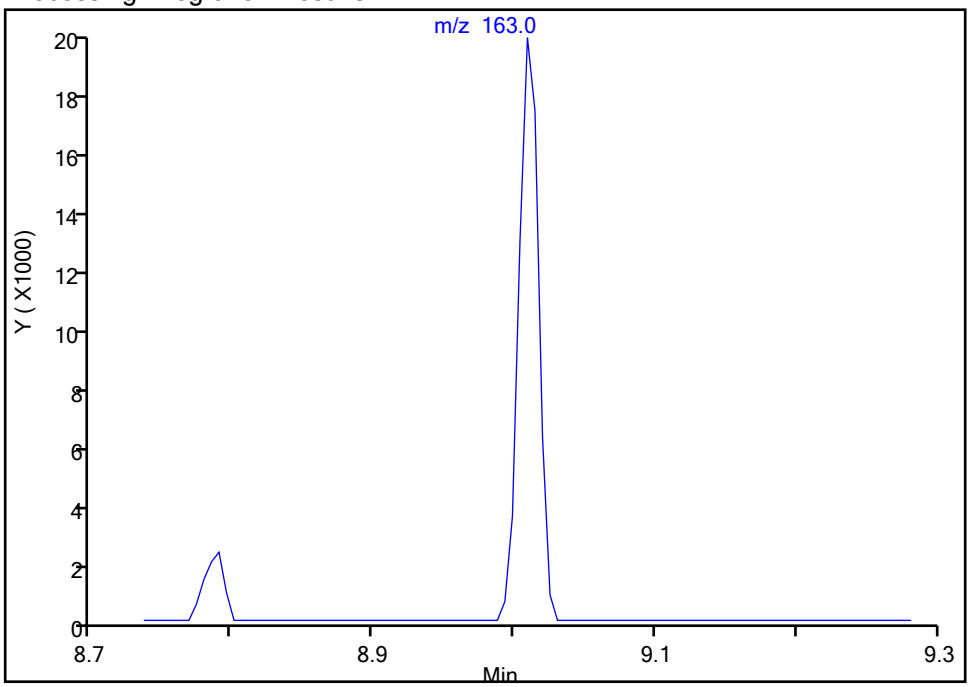

Manual Integration Results

RT: 9.01
Area: 18955
Amount: 0.372863
Amount Units: ng

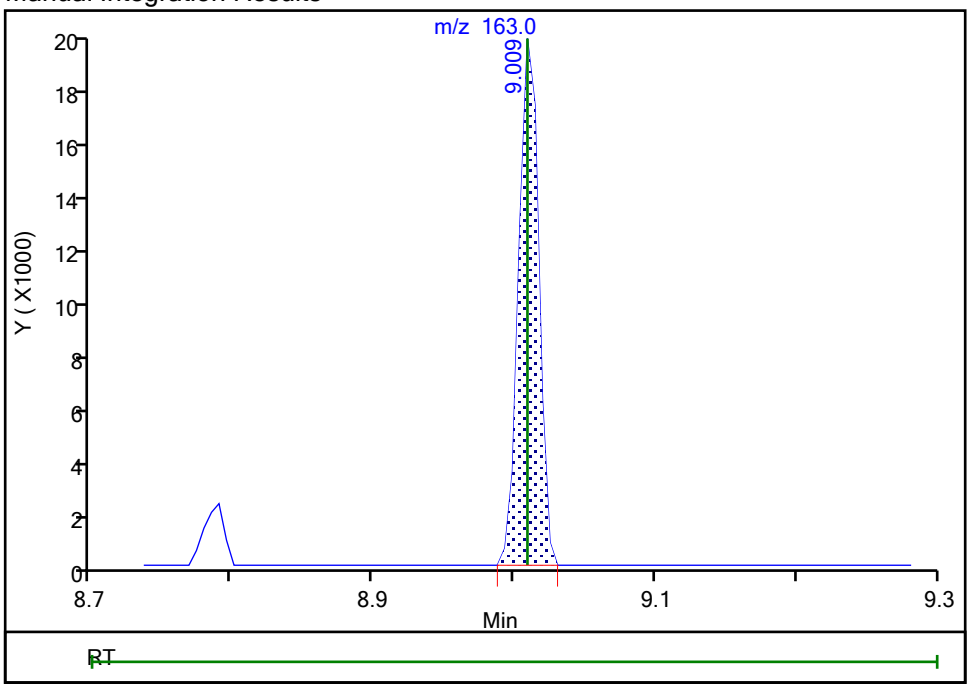

Reviewer: piccolinov, 16-Oct-2019 08:32:07
Audit Action: Assigned Compound ID Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016003.D				
Injection Date:	16-Oct-2019 05:53:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

83 1,3-Dinitrobenzene, CAS: 99-65-0

Signal: 1

Processing Integration Results

RT: 9.04
Area: 1109
Amount: 0.768281
Amount Units: ng

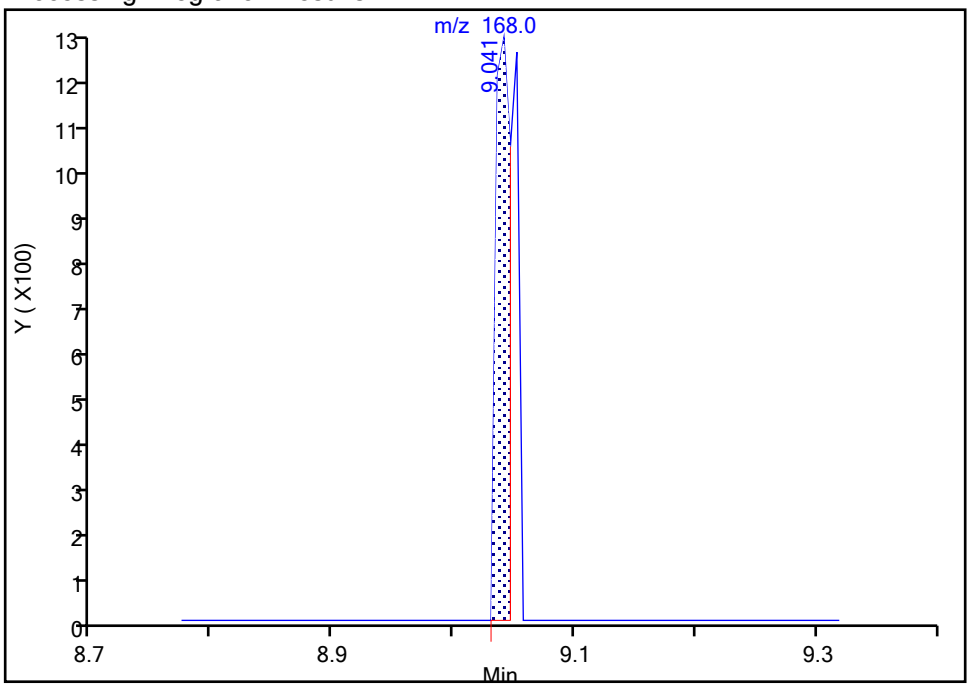

Manual Integration Results

RT: 9.04
Area: 1501
Amount: 0.197445
Amount Units: ng

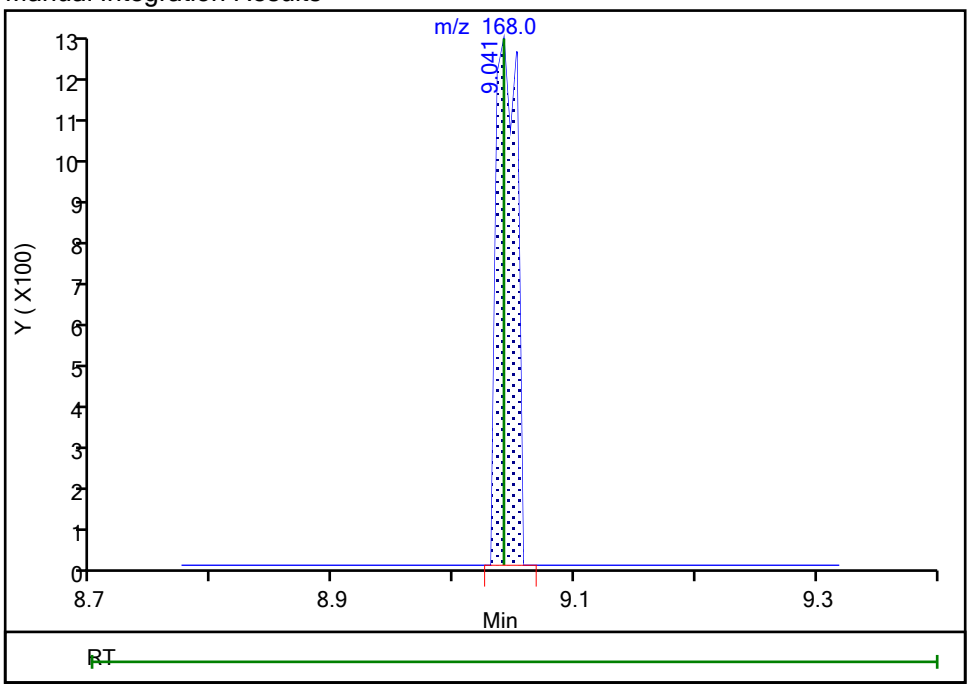

Reviewer: piccolinov, 16-Oct-2019 08:32:14

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016003.D				
Injection Date:	16-Oct-2019 05:53:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

$ 11 2,4,6-Tribromophenol, CAS: 118-79-6

Signal: 1

Not Detected
Expected RT: 10.03

Processing Integration Results

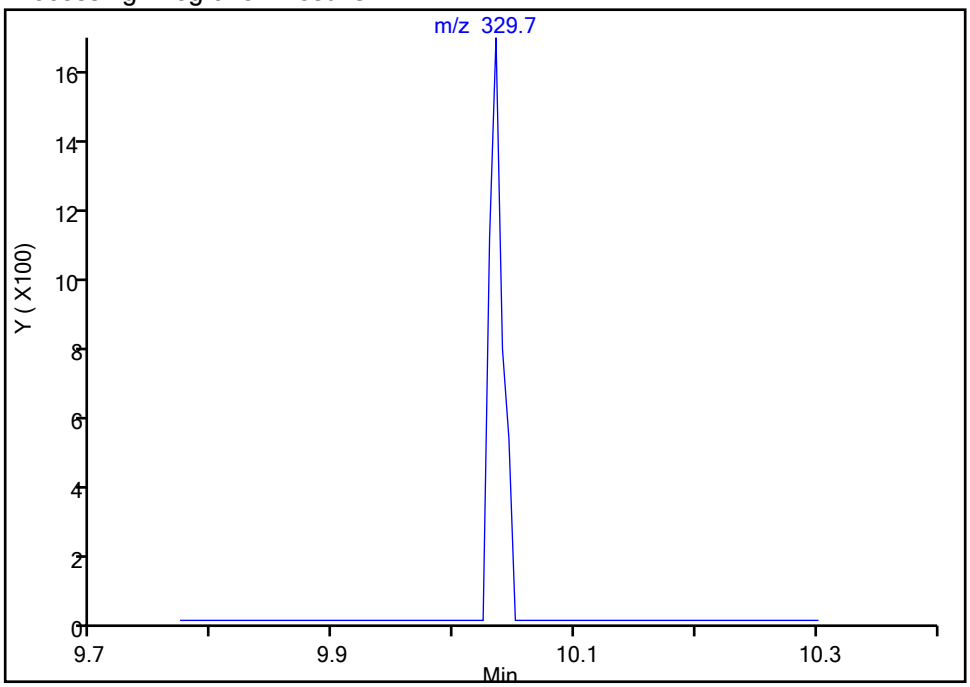

RT: 10.03
Area: 1268
Amount: 0.219709
Amount Units: ng

Manual Integration Results

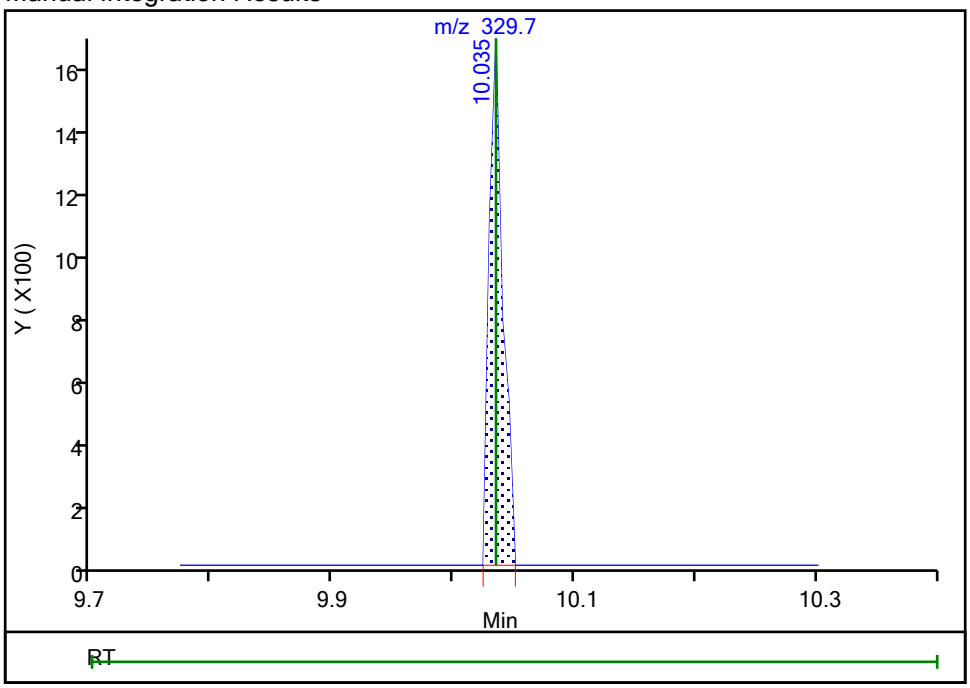

Reviewer: piccolinov, 16-Oct-2019 08:30:47
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016003.D				
Injection Date:	16-Oct-2019 05:53:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

144 3,3'-Dichlorobenzidine, CAS: 91-94-1

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 14.26

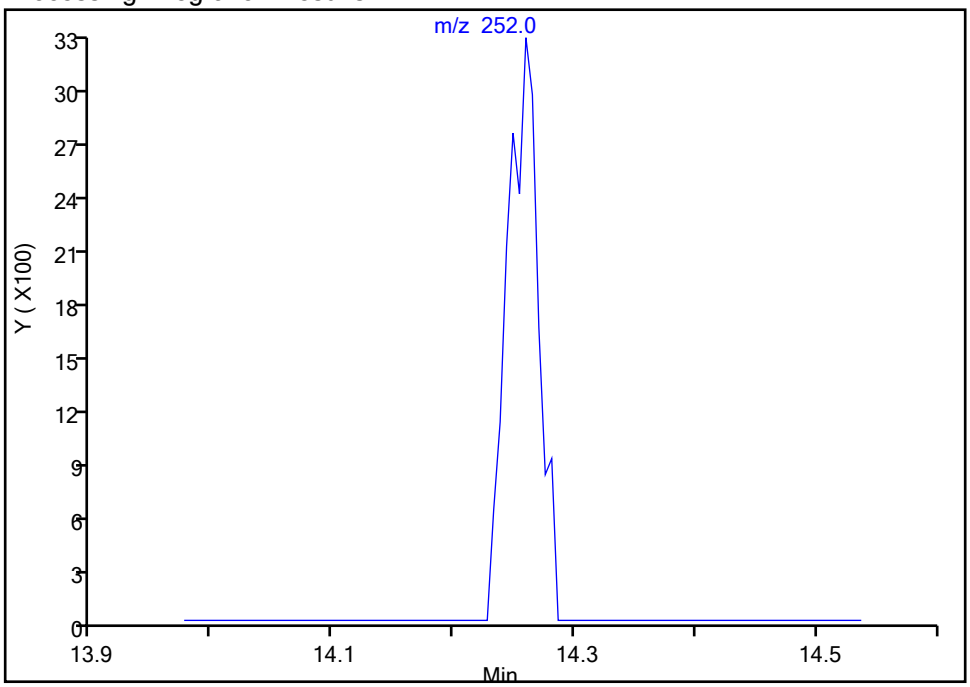

Manual Integration Results

RT: 14.26
Area: 5958
Amount: 0.878421
Amount Units: ng

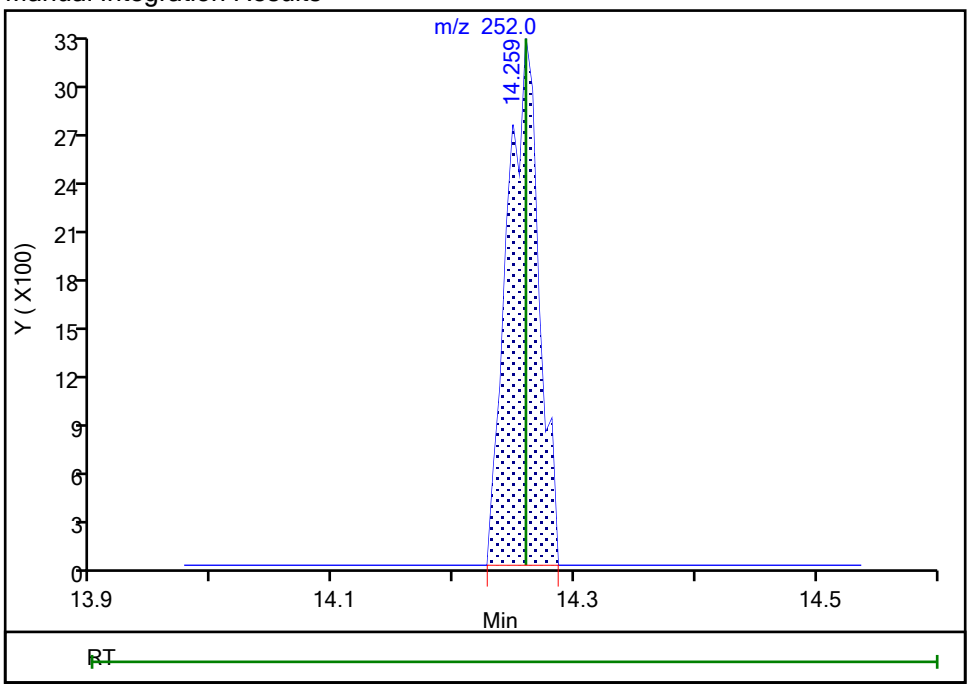

Reviewer: piccolinov, 16-Oct-2019 08:32:30
Audit Action: Assigned Compound ID Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016003.D				
Injection Date:	16-Oct-2019 05:53:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

145 Bis(2-ethylhexyl) phthalate, CAS: 117-81-7

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 14.28

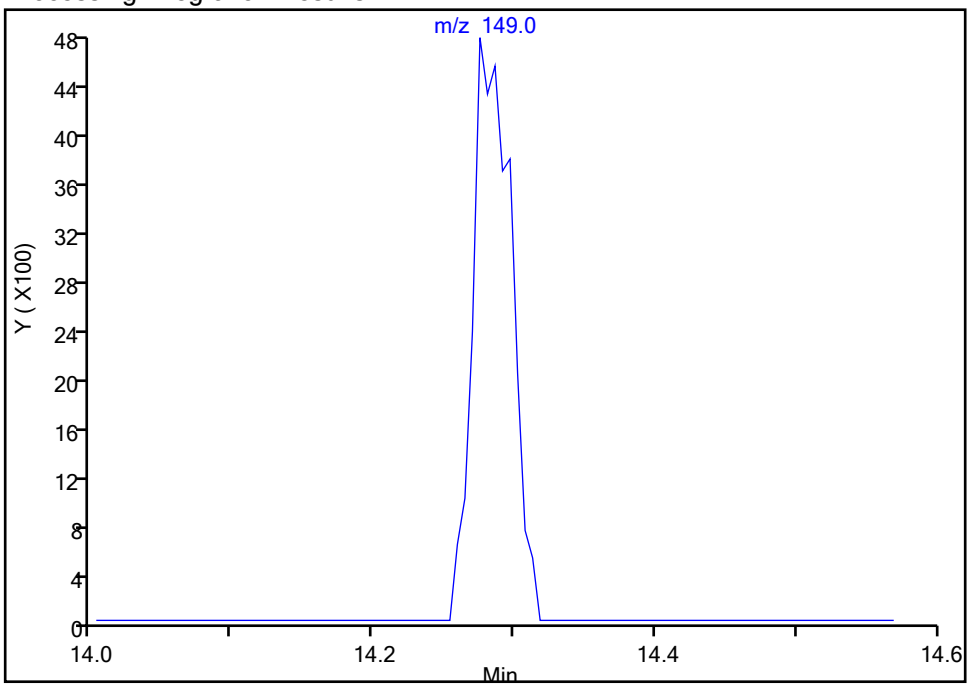

Manual Integration Results

RT: 14.28
Area: 9095
Amount: 0.967160
Amount Units: ng

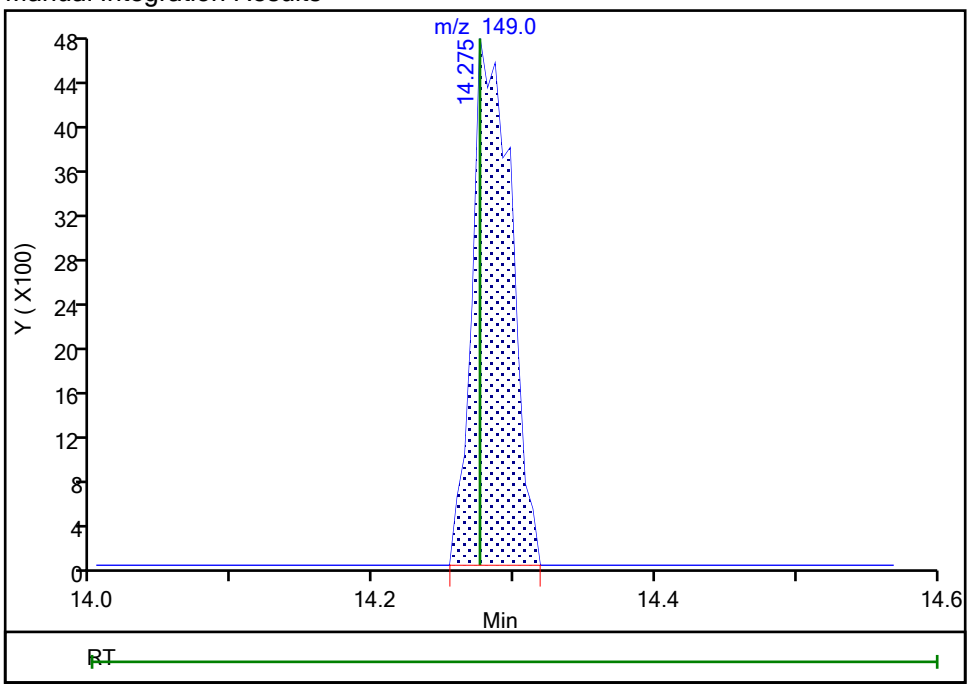

Reviewer: piccolinov, 16-Oct-2019 08:32:33
Audit Action: Assigned Compound ID Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016003.D				
Injection Date:	16-Oct-2019 05:53:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

150 Di-n-octyl phthalate, CAS: 117-84-0

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 15.62

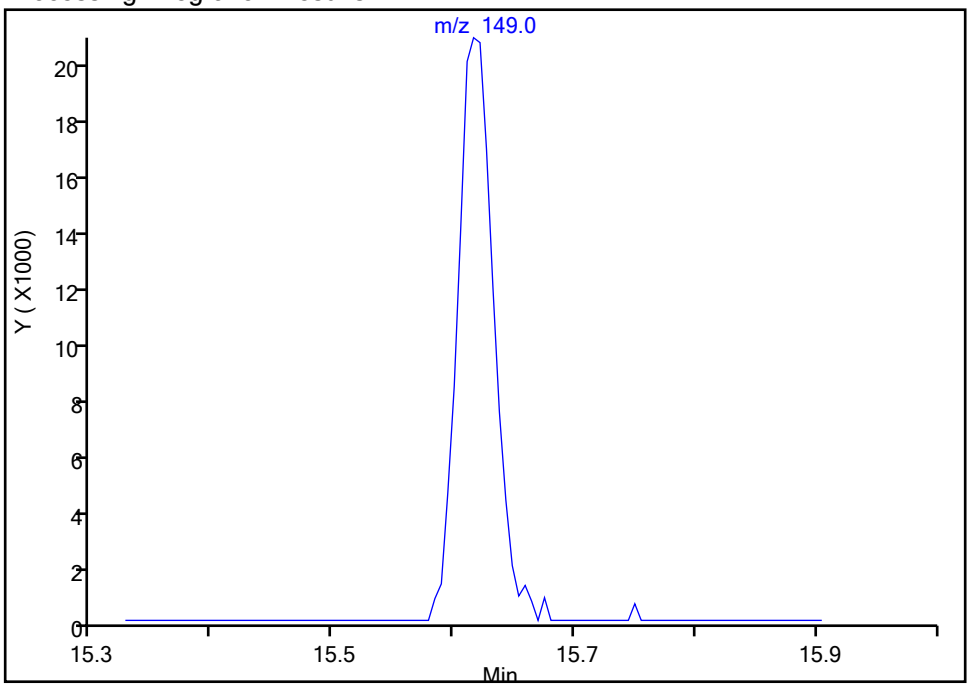

Manual Integration Results

RT: 15.62
Area: 42710
Amount: 0.538703
Amount Units: ng

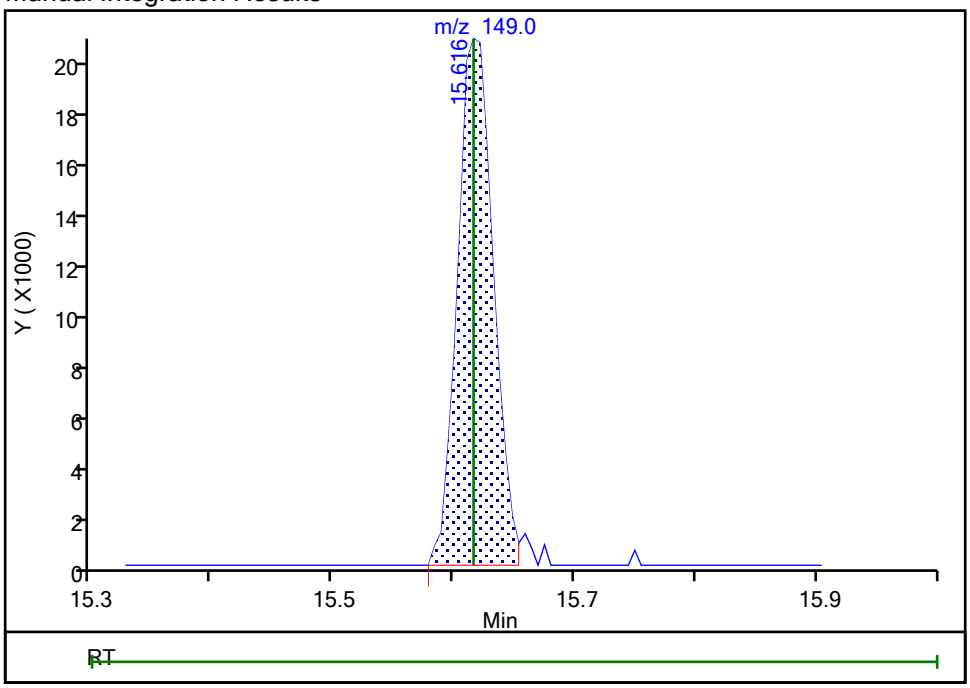

Reviewer: piccolinov, 16-Oct-2019 08:32:38
Audit Action: Assigned Compound ID Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016003.D				
Injection Date:	16-Oct-2019 05:53:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

153 Benzo[k]fluoranthene, CAS: 207-08-9

Signal: 1

Processing Integration Results

RT: 16.59
Area: 15555
Amount: 0.218340
Amount Units: ng

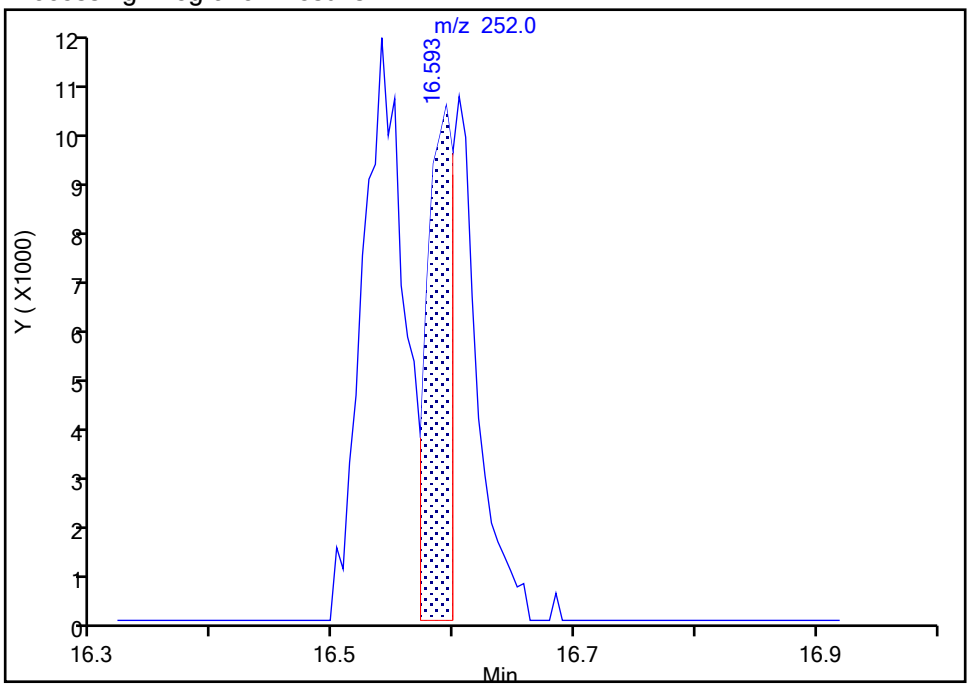

Manual Integration Results

RT: 16.60
Area: 28540
Amount: 0.360371
Amount Units: ng

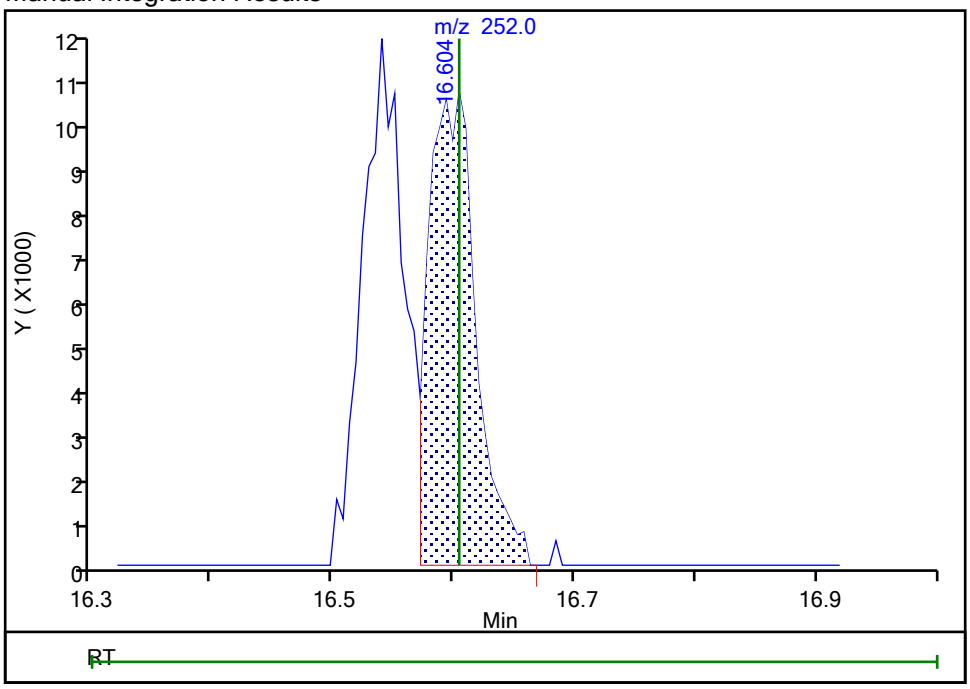

Reviewer: piccolinov, 16-Oct-2019 08:32:47

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016003.D				
Injection Date:	16-Oct-2019 05:53:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

217 Benzo[e]pyrene, CAS: 192-97-2

Signal: 1

Not Detected
Expected RT: 17.13

Processing Integration Results

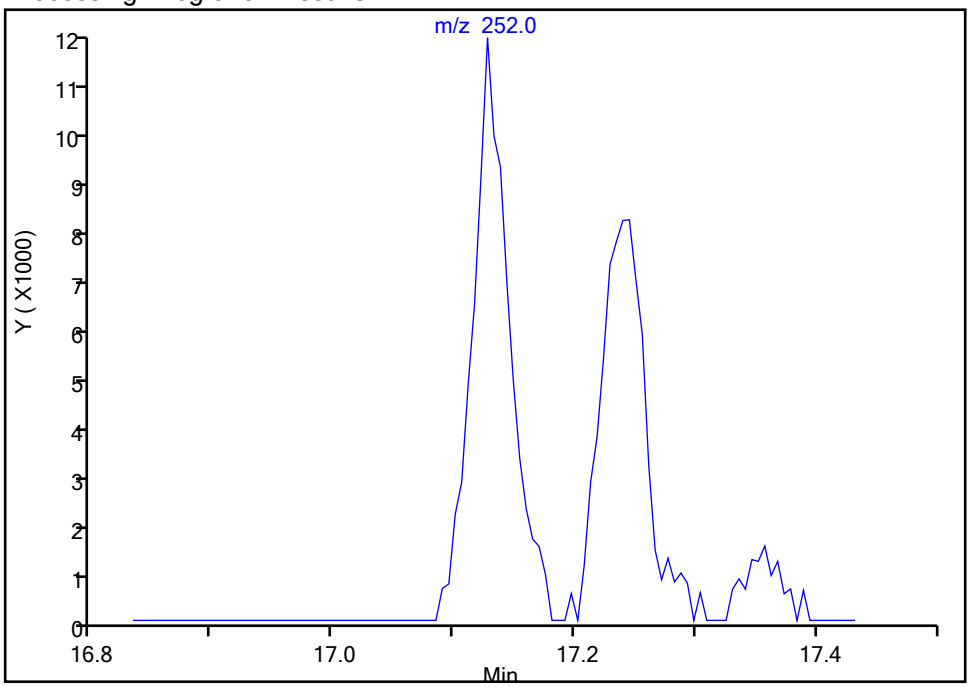

Manual Integration Results

RT: 17.13
Area: 25245
Amount: 0.357230
Amount Units: ng

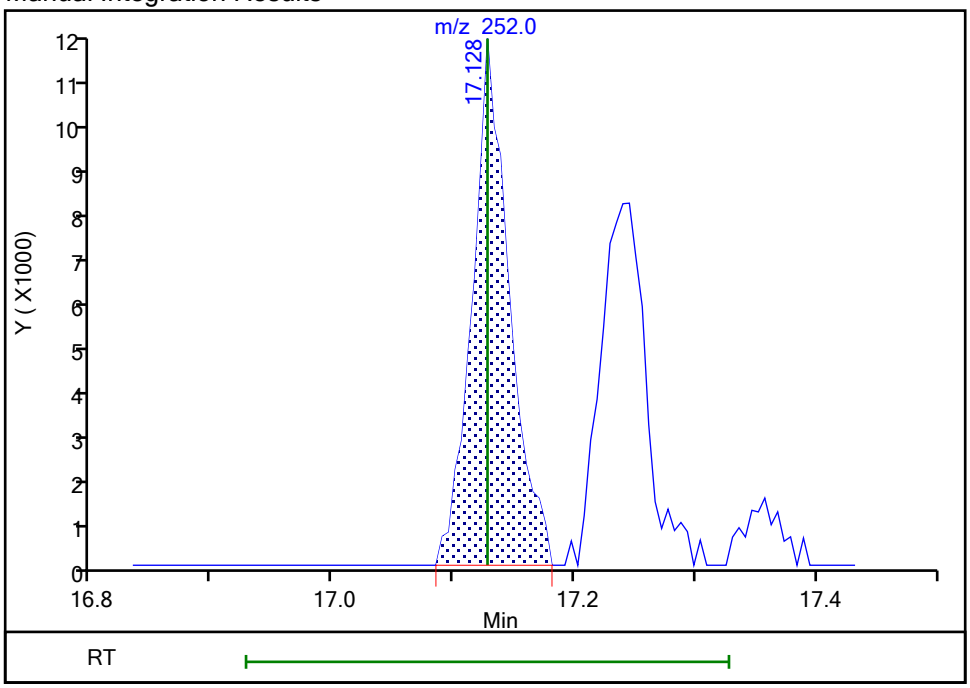

Reviewer: piccolinov, 16-Oct-2019 08:32:51
Audit Action: Assigned Compound ID Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016003.D				
Injection Date:	16-Oct-2019 05:53:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

154 Benzo[a]pyrene, CAS: 50-32-8

Signal: 1

Processing Integration Results

RT: 17.13
Area: 25245
Amount: 0.386121
Amount Units: ng

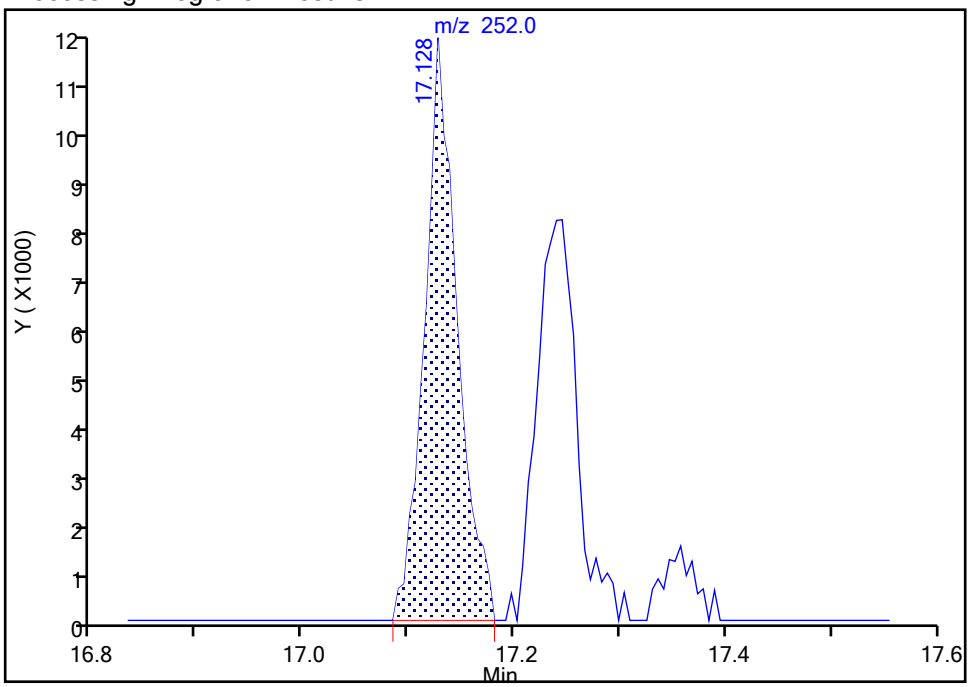

Manual Integration Results

RT: 17.25
Area: 21336
Amount: 0.320959
Amount Units: ng

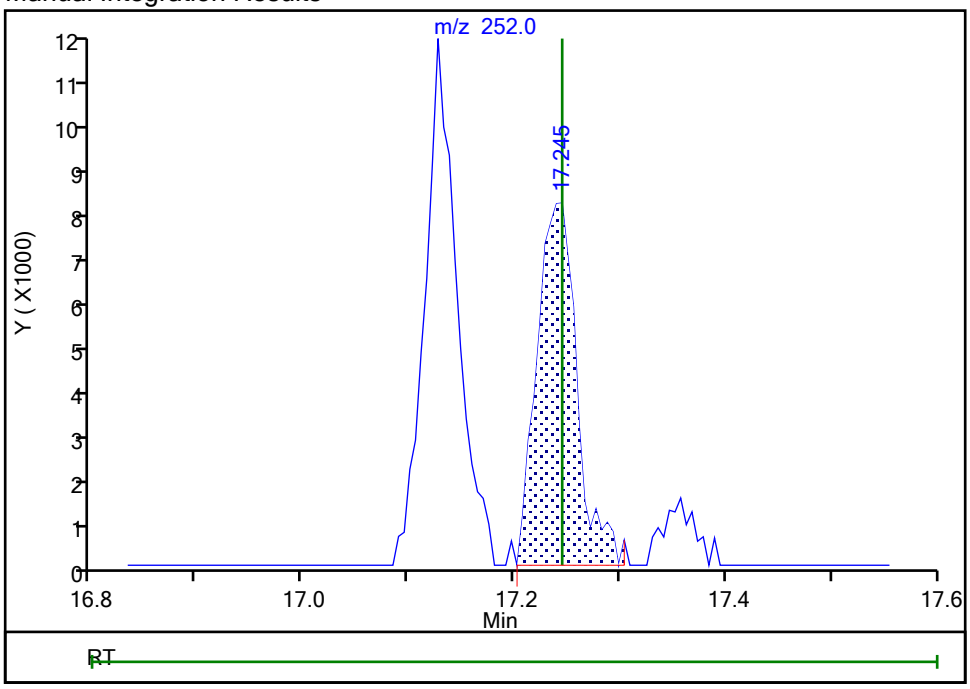

Reviewer: piccolinov, 16-Oct-2019 08:32:59

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016003.D				
Injection Date:	16-Oct-2019 05:53:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

157 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

Signal: 1

Processing Integration Results

RT: 19.64
Area: 12180
Amount: 0.207024
Amount Units: ng

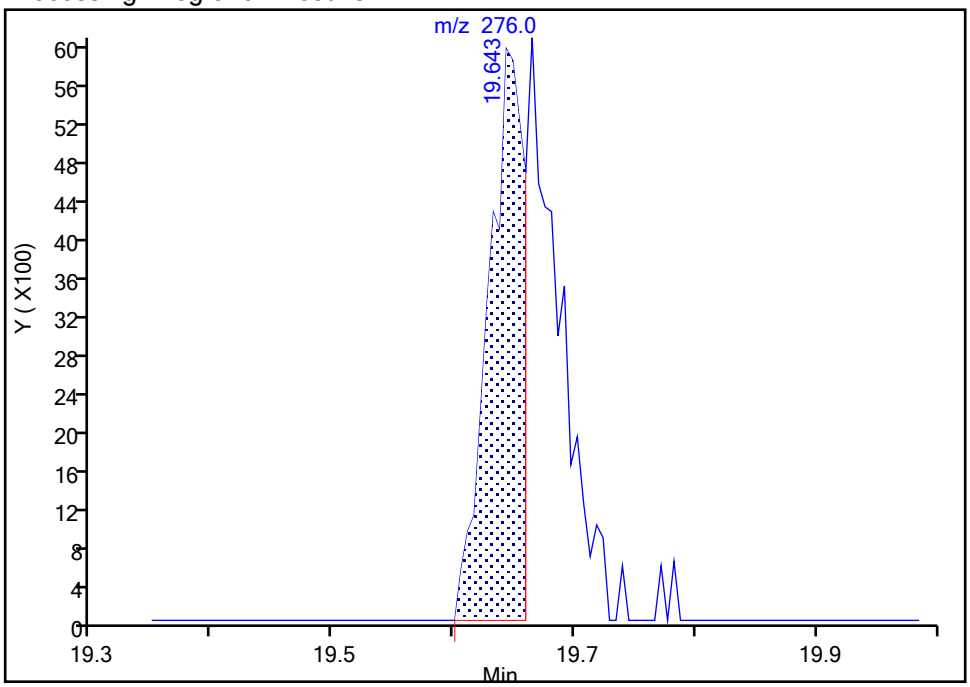

Manual Integration Results

RT: 19.66
Area: 22729
Amount: 0.306535
Amount Units: ng

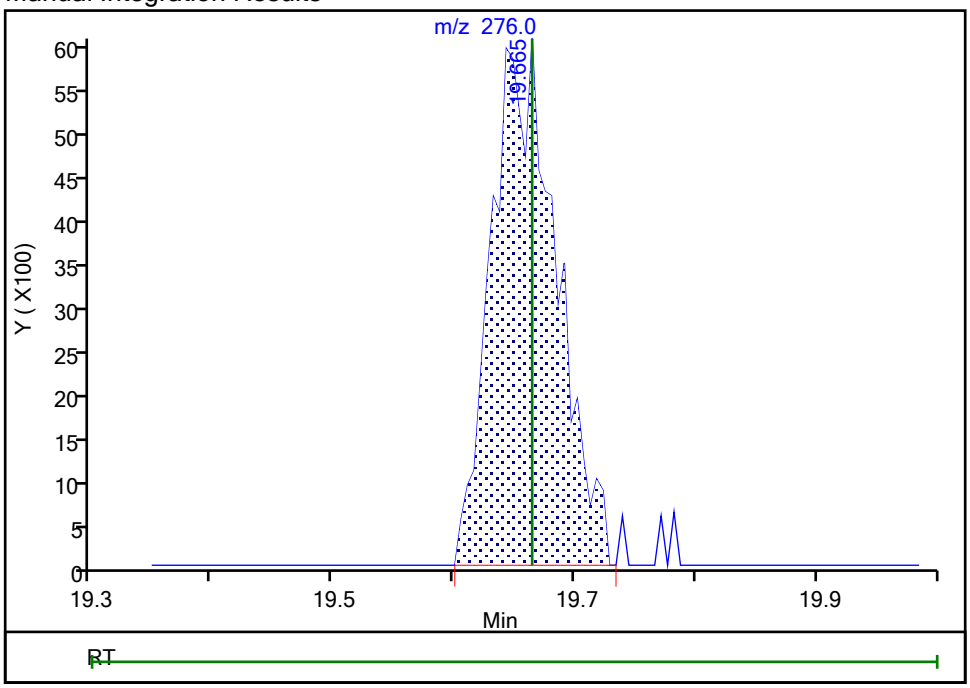

Reviewer: piccolinov, 16-Oct-2019 08:33:04

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016003.D				
Injection Date:	16-Oct-2019 05:53:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

158 Dibenz(a,h)anthracene, CAS: 53-70-3

Signal: 1

Processing Integration Results

RT: 19.69
Area: 11291
Amount: 0.384830
Amount Units: ng

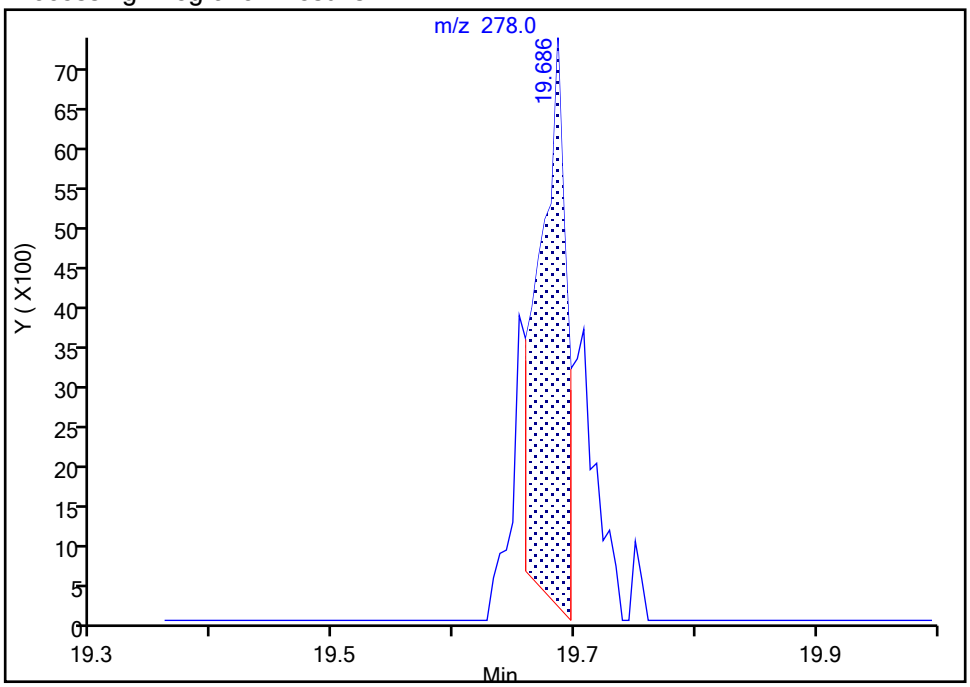

Manual Integration Results

RT: 19.69
Area: 18792
Amount: 0.312180
Amount Units: ng

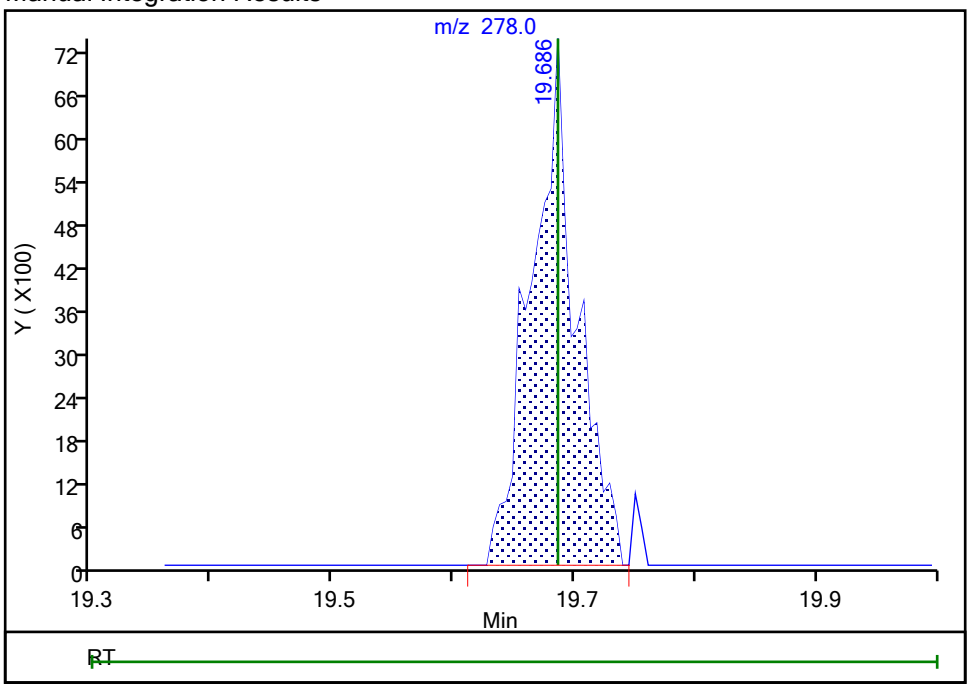

Reviewer: piccolinov, 16-Oct-2019 08:33:13

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016003.D				
Injection Date:	16-Oct-2019 05:53:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

159 Benzo[g,h,i]perylene, CAS: 191-24-2

Signal: 1

Processing Integration Results

RT: 20.29
Area: 12045
Amount: 0.207449
Amount Units: ng

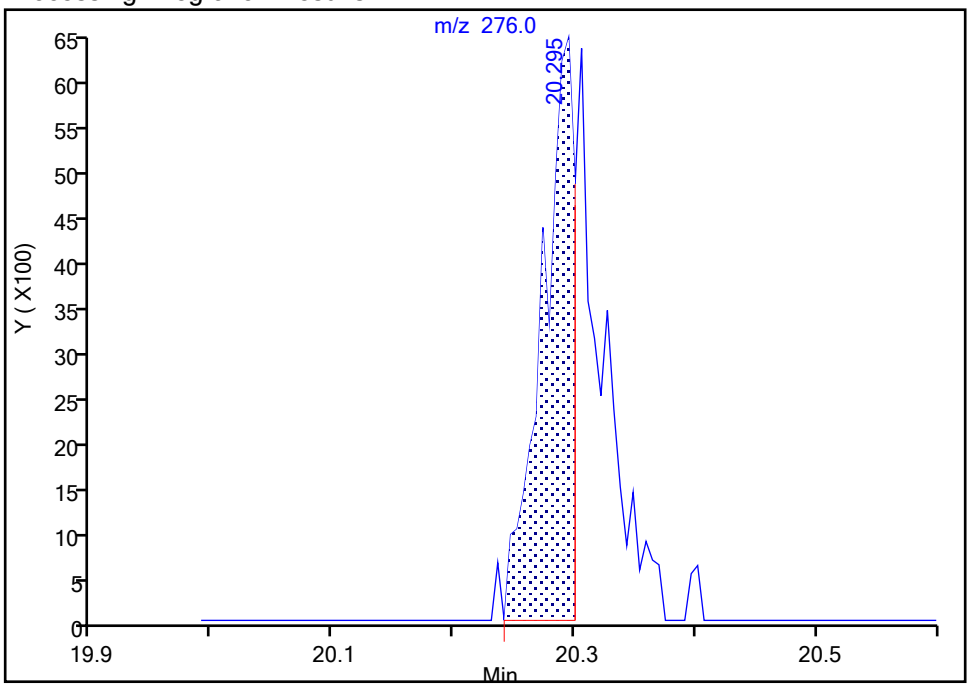

Manual Integration Results

RT: 20.29
Area: 20948
Amount: 0.338274
Amount Units: ng

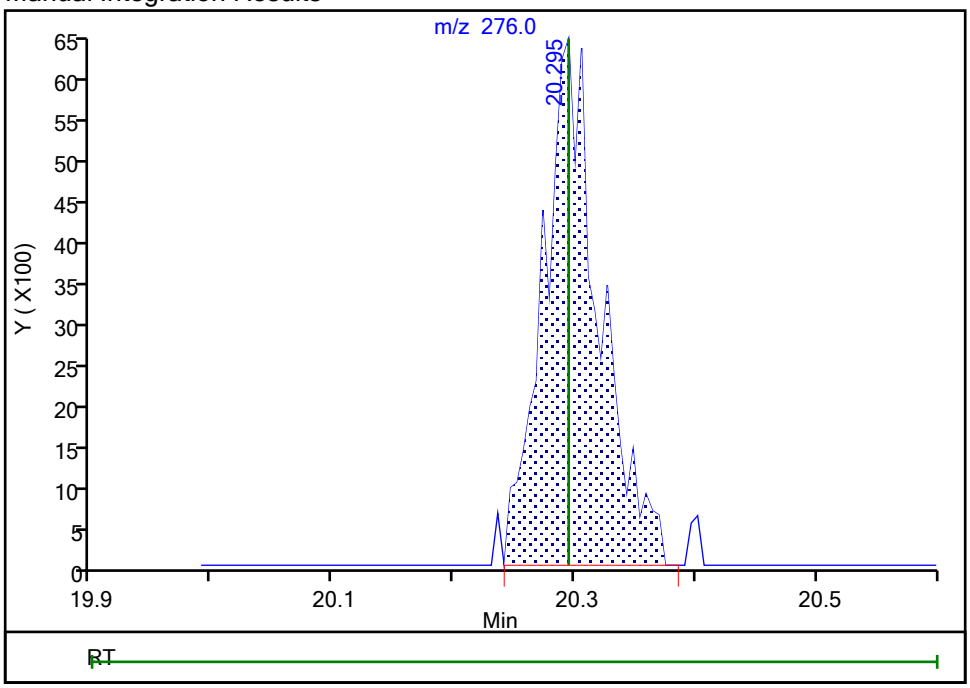

Reviewer: piccolinov, 16-Oct-2019 08:33:20

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016004.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 16-Oct-2019 06:20:30 ALS Bottle#: 3 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029126-004
Operator ID: 003200 Instrument ID: CHMSD7
Sublist: chrom-BNA_CHMSD7*sub13

Method: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\BNA_CHMSD7.m
Limit Group: BNA 8270D ICAL
Last Update: 17-Oct-2019 06:05:31 Calib Date: 16-Oct-2019 09:05:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016010.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0331

First Level Reviewer: piccolinov Date: 16-Oct-2019 08:30:15

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.425	6.413	0.012	96	129750	8.00	8.00	
* 2 Naphthalene-d8	136	7.664	7.658	0.006	100	497352	8.00	8.00	
* 3 Acenaphthene-d10	164	9.314	9.308	0.006	94	269440	8.00	8.00	
* 4 Phenanthrene-d10	188	10.708	10.702	0.006	97	497275	8.00	8.00	
* 5 Chrysene-d12	240	14.383	14.366	0.017	99	500084	8.00	8.00	
* 6 Perylene-d12	264	17.385	17.357	0.028	98	432218	8.00	8.00	
$ 7 2-Fluorophenol	112	5.015	5.003	0.012	94	33787	2.00	1.83	
$ 8 Phenol-d5	99	6.046	6.039	0.007	97	45808	2.00	1.88	
$ 9 Nitrobenzene-d5	82	6.964	6.958	0.006	89	44615	2.00	1.95	
$ 10 2-Fluorobiphenyl	172	8.663	8.657	0.006	100	101305	2.00	2.03	
$ 11 2,4,6-Tribromophenol	330	10.041	10.035	0.006	87	9557	2.00	1.79	
$ 12 Terphenyl-d14	244	12.557	12.550	0.006	100	109144	2.00	1.93	
13 1,4-Dioxane	88	1.634	1.665	-0.031	92	12569	2.00	1.93	M
14 N-Nitrosodimethylamine	74	2.360	2.376	-0.016	93	18644	2.00	1.80	
15 Pyridine	79	2.457	2.514	-0.057	94	64767	4.00	3.82	M
21 Methyl methanesulfonate	80	4.769	4.779	-0.010	86	21818	2.00	1.94	
25 Benzaldehyde	77	5.966	5.959	0.007	96	35792	2.00	1.98	
26 Phenol	94	6.062	6.056	0.006	96	57832	2.00	2.03	
27 Aniline	93	6.083	6.077	0.006	97	63630	2.00	1.95	
29 Bis(2-chloroethyl)ether	93	6.147	6.141	0.006	95	40359	2.00	2.10	
30 2-Chlorophenol	128	6.211	6.200	0.011	96	40449	2.00	1.94	
31 n-Decane	43	6.270	6.258	0.012	86	41147	2.00	1.94	
32 1,3-Dichlorobenzene	146	6.366	6.360	0.006	97	51015	2.00	2.01	
33 1,4-Dichlorobenzene	146	6.441	6.435	0.006	95	50397	2.00	1.93	
34 Benzyl alcohol	108	6.553	6.552	0.001	89	22671	2.00	1.78	
35 1,2-Dichlorobenzene	146	6.596	6.590	0.006	96	47829	2.00	1.98	
36 2-Methylphenol	108	6.665	6.654	0.011	96	35156	2.00	1.84	
37 Indene	116	6.681	6.675	0.006	91	74028	2.00	1.97	
38 2,2'-oxybis[1-chloropropan	45	6.692	6.680	0.012	88	51451	2.00	2.01	
39 N-Nitrosopyrrolidine	100	6.783	6.793	-0.010	84	16593	2.00	1.74	
42 4-Methylphenol	108	6.815	6.809	0.006	60	37596	2.00	1.84	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
40 Acetophenone	105	6.815	6.809	0.006	78	59565	2.00	1.98	
41 N-Nitrosodi-n-propylamine	70	6.815	6.814	0.001	65	33202	2.00	2.07	
45 Hexachloroethane	117	6.938	6.926	0.012	89	18955	2.00	2.00	
46 Nitrobenzene	77	6.986	6.969	0.017	87	46639	2.00	1.97	
48 Isophorone	82	7.215	7.209	0.006	99	74039	2.00	1.82	
49 2-Nitrophenol	139	7.296	7.284	0.012	94	20606	2.00	1.81	
50 2,4-Dimethylphenol	107	7.322	7.311	0.011	98	43620	2.00	1.91	
52 Benzoic acid	122	7.354	7.343	0.011	86	13553	2.00	2.60	M
53 Bis(2-chloroethoxy)methane	93	7.408	7.396	0.012	98	46680	2.00	1.97	
54 2,4-Dichlorophenol	162	7.520	7.514	0.006	95	34084	2.00	1.82	
56 1,2,4-Trichlorobenzene	180	7.611	7.599	0.012	95	42040	2.00	1.88	
58 Naphthalene	128	7.685	7.679	0.006	97	127734	2.00	1.91	
59 4-Chloroaniline	127	7.723	7.717	0.006	94	49409	2.00	1.86	
60 2,6-Dichlorophenol	162	7.739	7.733	0.006	97	35243	2.00	1.92	
62 Hexachlorobutadiene	225	7.808	7.797	0.011	95	25930	2.00	1.83	
64 Caprolactam	113	8.017	8.037	-0.020	79	7744	2.00	2.06	M
67 4-Chloro-3-methylphenol	107	8.161	8.149	0.012	96	36351	2.00	1.85	
69 2-Methylnaphthalene	142	8.337	8.325	0.012	90	87099	2.00	1.87	
71 1-Methylnaphthalene	142	8.433	8.422	0.011	93	83113	2.00	1.96	
72 Hexachlorocyclopentadiene	237	8.492	8.486	0.006	95	28275	2.00	1.72	
73 1,2,4,5-Tetrachlorobenzene	216	8.497	8.486	0.011	97	47432	2.00	1.99	
74 2,4,6-Trichlorophenol	196	8.593	8.582	0.011	93	26360	2.00	1.95	
75 2,4,5-Trichlorophenol	196	8.625	8.614	0.011	94	28232	2.00	1.93	
76 1,1'-Biphenyl	154	8.764	8.753	0.011	95	105840	2.00	1.97	
77 2-Chloronaphthalene	162	8.796	8.785	0.011	96	83049	2.00	2.00	
79 2-Nitroaniline	65	8.871	8.860	0.011	80	22212	2.00	1.82	
82 Dimethyl phthalate	163	9.015	9.009	0.006	98	93068	2.00	1.96	
83 1,3-Dinitrobenzene	168	9.053	9.041	0.012	86	11052	2.00	1.56	
84 2,6-Dinitrotoluene	165	9.079	9.073	0.006	92	18685	2.00	1.79	
85 Acenaphthylene	152	9.186	9.180	0.006	98	121509	2.00	1.96	
86 3-Nitroaniline	138	9.245	9.233	0.012	91	20393	2.00	1.94	
87 2,4-Dinitrophenol	184	9.341	9.330	0.011	83	20706	4.00	4.89	
88 Acenaphthene	153	9.347	9.340	0.007	94	84838	2.00	2.02	
89 4-Nitrophenol	109	9.368	9.362	0.006	94	26308	4.00	3.54	
91 2,4-Dinitrotoluene	165	9.459	9.447	0.012	90	23454	2.00	1.67	
93 Dibenzofuran	168	9.501	9.495	0.006	96	115850	2.00	1.94	
95 2,3,5,6-Tetrachlorophenol	232	9.571	9.559	0.012	93	23300	2.00	1.81	
96 2,3,4,6-Tetrachlorophenol	232	9.608	9.597	0.011	72	25873	2.00	1.95	
97 2-Naphthylamine	143	9.640	9.629	0.011	95	80715	2.00	1.92	
98 Diethyl phthalate	149	9.662	9.650	0.012	98	90486	2.00	1.98	
99 Hexadecane	57	9.662	9.655	0.007	97	56633	2.00	1.94	
100 4-Chlorophenyl phenyl ethe	204	9.801	9.789	0.011	92	48929	2.00	1.94	
101 4-Nitroaniline	138	9.811	9.800	0.011	83	21823	2.00	1.91	
103 Fluorene	166	9.822	9.816	0.006	95	94068	2.00	1.97	
104 4,6-Dinitro-2-methylphenol	198	9.838	9.832	0.006	86	27446	4.00	2.99	
105 N-Nitrosodiphenylamine	169	9.902	9.890	0.012	99	68610	2.00	2.00	
90 1,2-Diphenylhydrazine	77	9.945	9.933	0.012	97	91127	2.00	1.95	
215 Azobenzene	77	9.945	9.933	0.012	99	91127	2.00	1.95	
110 4-Bromophenyl phenyl ether	248	10.255	10.243	0.011	68	27542	2.00	1.97	
112 Hexachlorobenzene	284	10.345	10.334	0.011	93	27220	2.00	2.01	
113 Atrazine	200	10.361	10.350	0.011	93	26001	2.00	1.87	
115 n-Octadecane	57	10.506	10.499	0.007	94	53819	2.00	1.89	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
116 Pentachlorophenol	266	10.516	10.510	0.006	90	37175	4.00	3.75	
121 Phenanthrene	178	10.735	10.724	0.011	97	141076	2.00	1.98	
122 Anthracene	178	10.789	10.777	0.012	98	138764	2.00	1.98	
124 Carbazole	167	10.933	10.921	0.012	97	121094	2.00	1.94	
126 Di-n-butyl phthalate	149	11.227	11.220	0.007	100	129087	2.00	1.82	
131 Fluoranthene	202	12.086	12.070	0.016	97	151333	2.00	1.88	
132 Benzidine	184	12.204	12.192	0.012	98	70968	2.00	1.59	
133 Pyrene	202	12.402	12.395	0.007	97	154432	2.00	1.91	
138 Butyl benzyl phthalate	149	13.267	13.255	0.012	98	46666	2.00	2.08	
144 3,3'-Dichlorobenzidine	252	14.276	14.259	0.017	73	42747	2.00	2.11	
145 Bis(2-ethylhexyl) phthalat	149	14.303	14.275	0.028	97	62451	2.00	2.09	
146 Benzo[a]anthracene	228	14.362	14.350	0.012	98	150161	2.00	1.92	
147 Chrysene	228	14.431	14.414	0.017	96	150804	2.00	1.97	
150 Di-n-octyl phthalate	149	15.633	15.616	0.017	100	149498	2.00	1.96	
151 7,12-Dimethylbenz(a)anthra	256	16.541	16.524	0.017	92	56702	2.00	1.68	
152 Benzo[b]fluoranthene	252	16.557	16.540	0.017	97	141209	2.00	1.82	
153 Benzo[k]fluoranthene	252	16.621	16.604	0.017	99	140577	2.00	1.85	
217 Benzo[e]pyrene	252	17.144	17.128	0.016	96	125779	2.00	1.85	Ma
154 Benzo[a]pyrene	252	17.257	17.245	0.012	77	117457	2.00	1.84	Ma
157 Indeno[1,2,3-cd]pyrene	276	19.687	19.665	0.022	94	124212	2.00	1.75	M
158 Dibenz(a,h)anthracene	278	19.703	19.686	0.017	75	101206	2.00	1.75	M
159 Benzo[g,h,i]perylene	276	20.322	20.295	0.027	98	106869	2.00	1.80	M
S 199 Total Cresols	108				0		4.00	3.68	
S 197 Methyl Phenols,Total	108				0		4.00	3.68	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

SVTAPSTD2.0i_00021 Amount Added: 1.00 Units: mL

Report Date: 17-Oct-2019 06:05:32 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016004.D				
Injection Date:	16-Oct-2019 06:20:30	Instrument ID:	CHMSD7	Operator ID:	003200
Lims ID:	IC			Worklist Smp#:	4
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

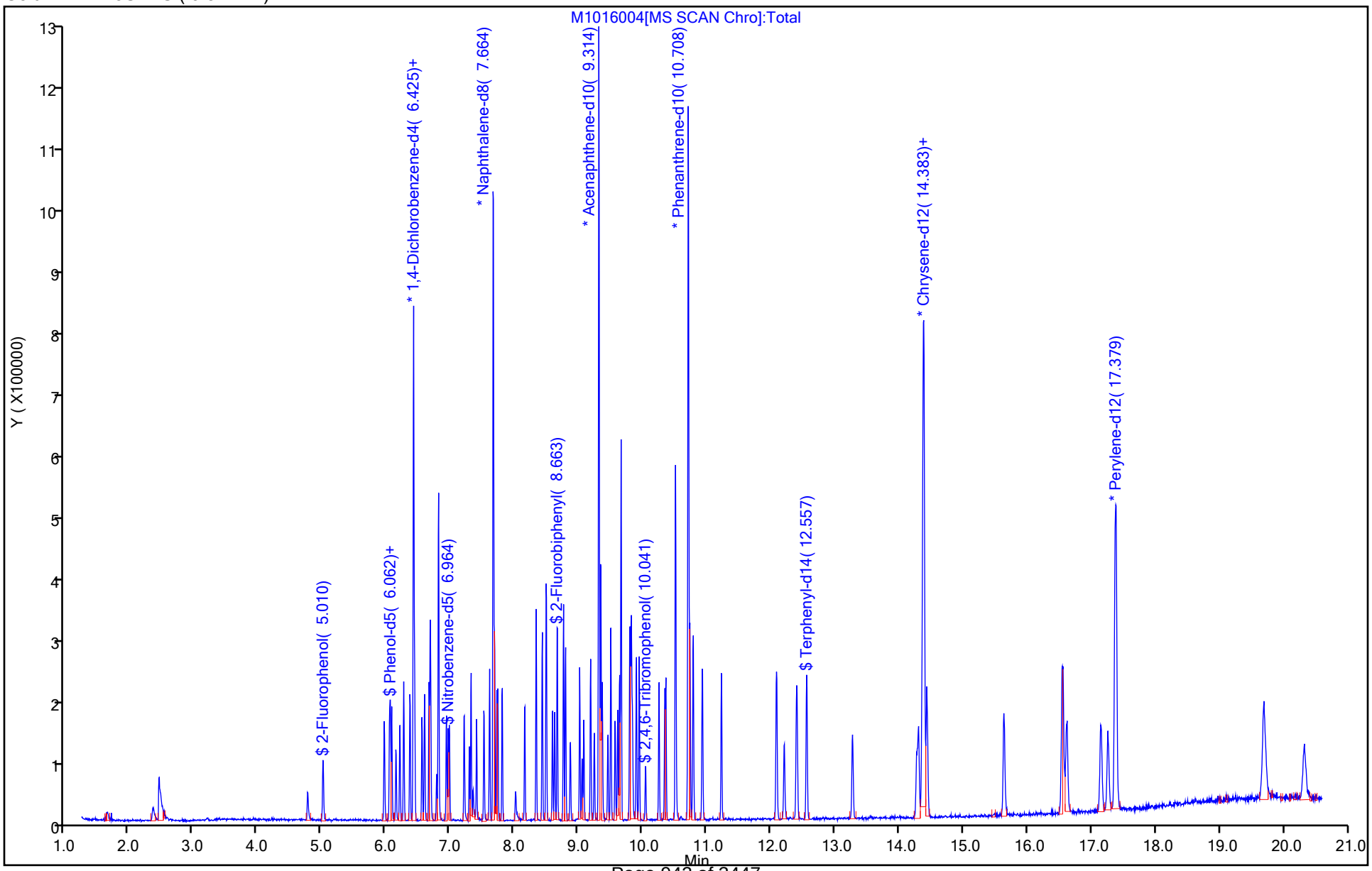

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016004.D				
Injection Date:	16-Oct-2019 06:20:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	3	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

13 1,4-Dioxane, CAS: 123-91-1

Signal: 1

Processing Integration Results

RT: 1.63
Area: 7321
Amount: 1.437925
Amount Units: ng

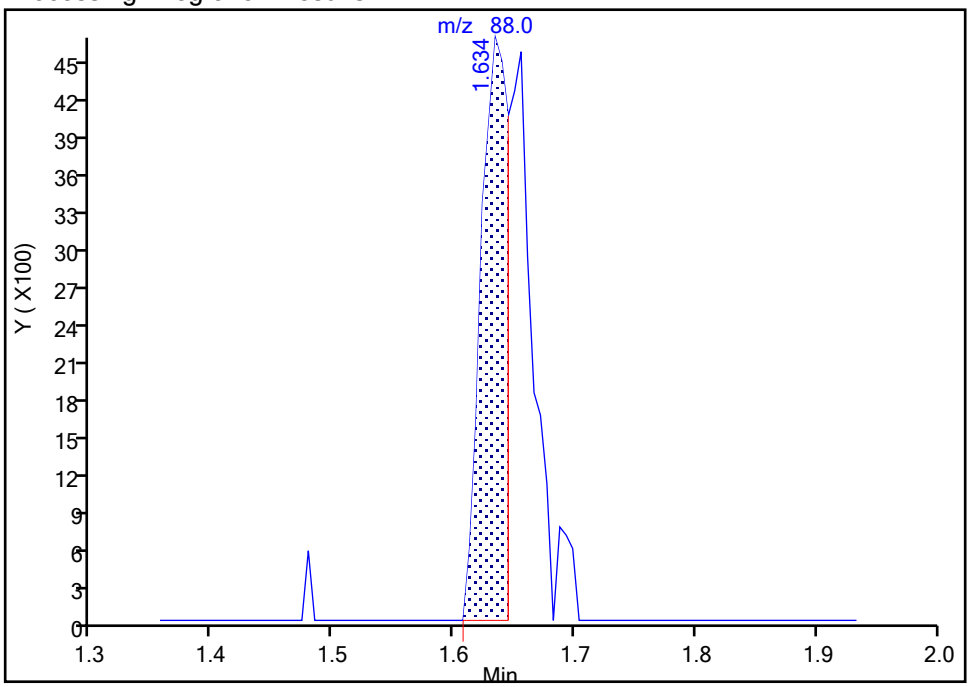

Manual Integration Results

RT: 1.63
Area: 12569
Amount: 1.925655
Amount Units: ng

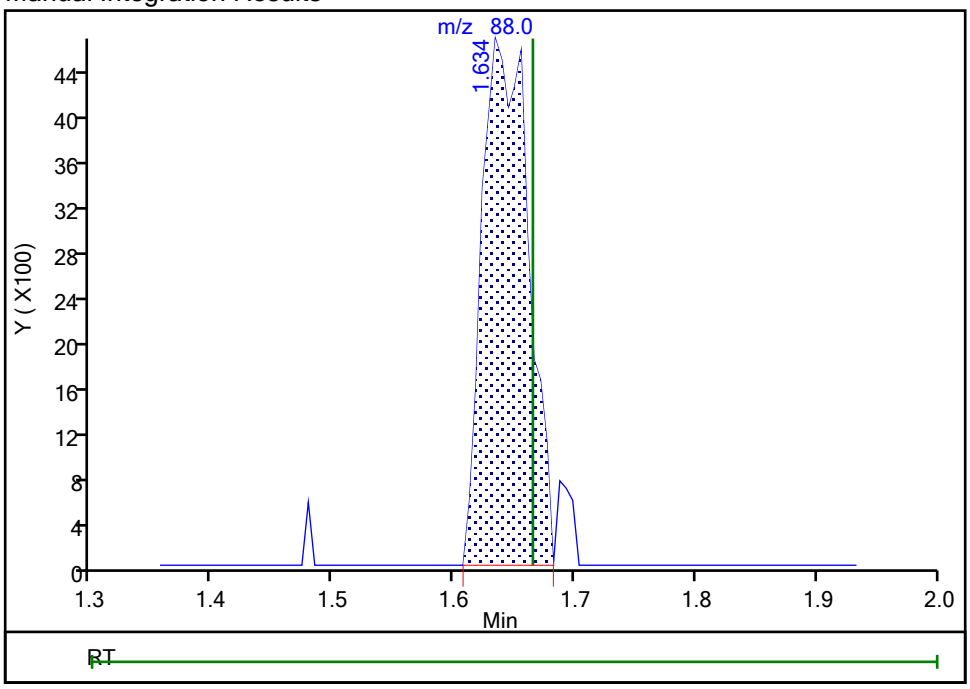

Reviewer: piccolinov, 16-Oct-2019 08:28:29

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016004.D				
Injection Date:	16-Oct-2019 06:20:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	3	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

15 Pyridine, CAS: 110-86-1

Signal: 1

Processing Integration Results

RT: 2.46
Area: 50463
Amount: 3.888525
Amount Units: ng

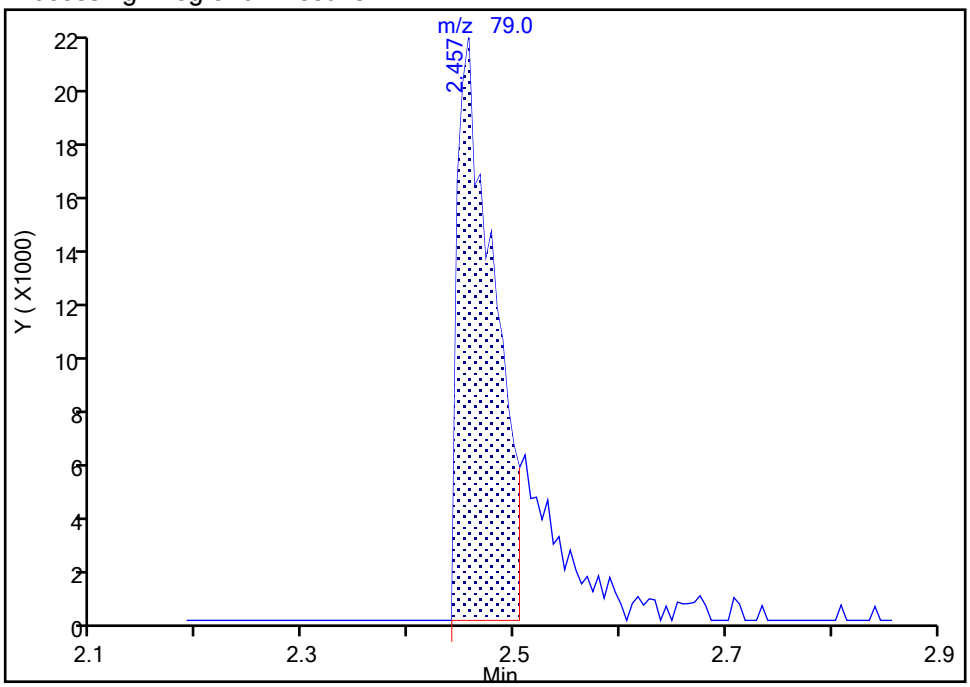

Manual Integration Results

RT: 2.46
Area: 64767
Amount: 3.817088
Amount Units: ng

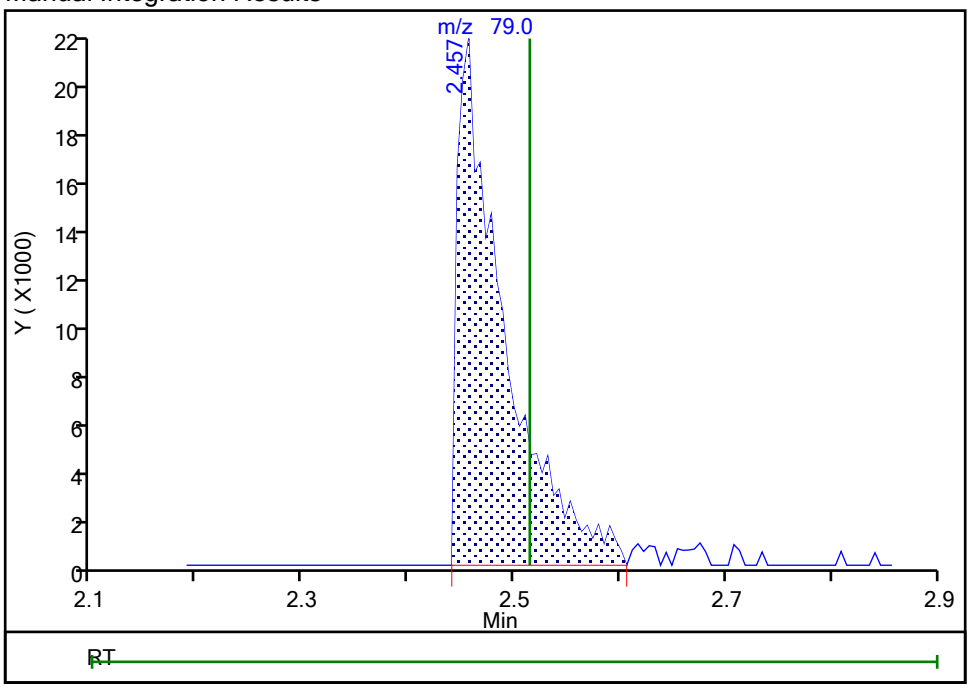

Reviewer: piccolinov, 16-Oct-2019 08:28:35

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016004.D				
Injection Date:	16-Oct-2019 06:20:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	3	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

52 Benzoic acid, CAS: 65-85-0

Signal: 1

Processing Integration Results

RT: 7.35
Area: 12177
Amount: 1.505227
Amount Units: ng

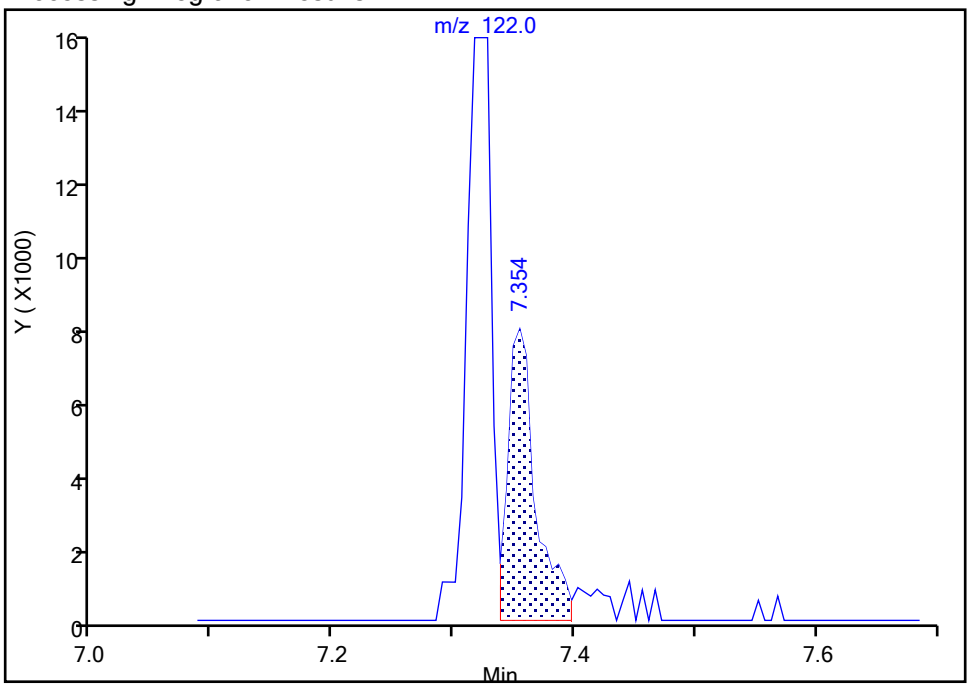

Manual Integration Results

RT: 7.35
Area: 13553
Amount: 2.600611
Amount Units: ng

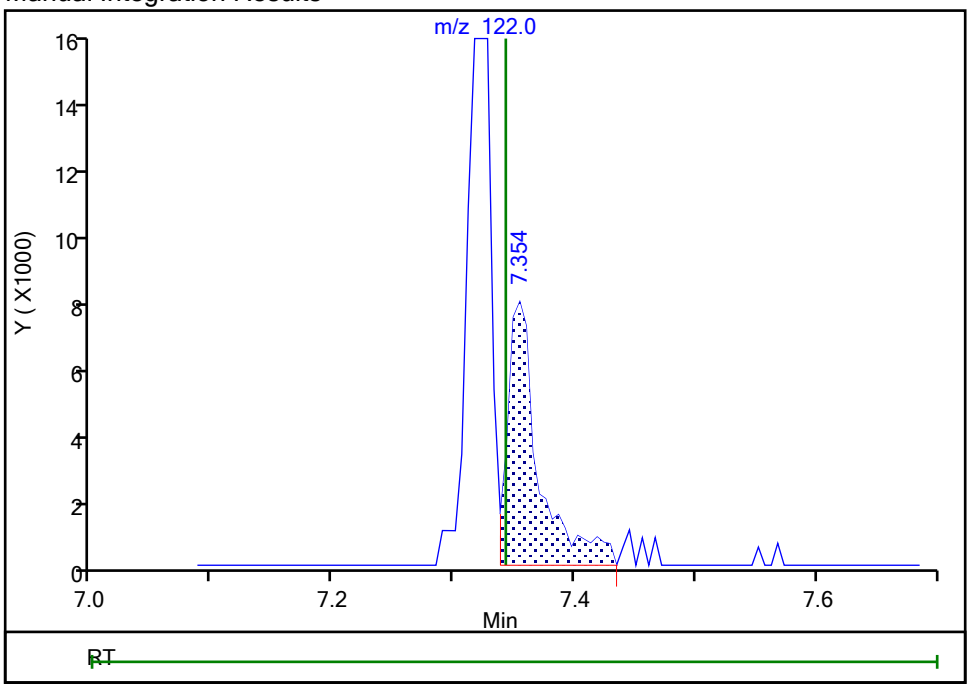

Reviewer: piccolinov, 16-Oct-2019 08:28:50

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016004.D				
Injection Date:	16-Oct-2019 06:20:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	3	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

64 Caprolactam, CAS: 105-60-2

Signal: 1

Processing Integration Results

RT: 8.02
Area: 6739
Amount: 1.972966
Amount Units: ng

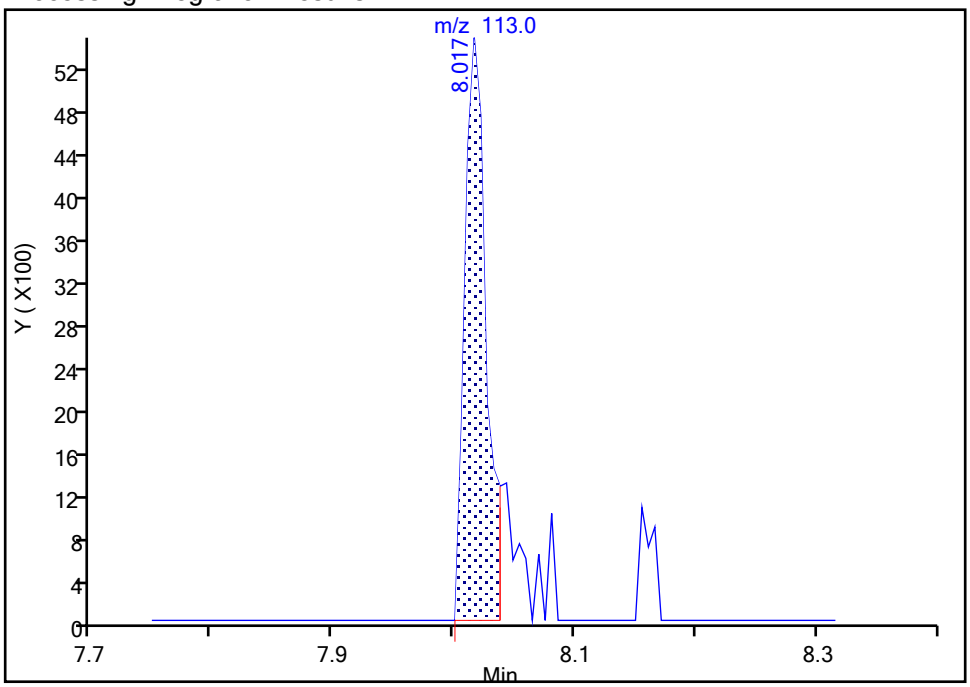

Manual Integration Results

RT: 8.02
Area: 7744
Amount: 2.058600
Amount Units: ng

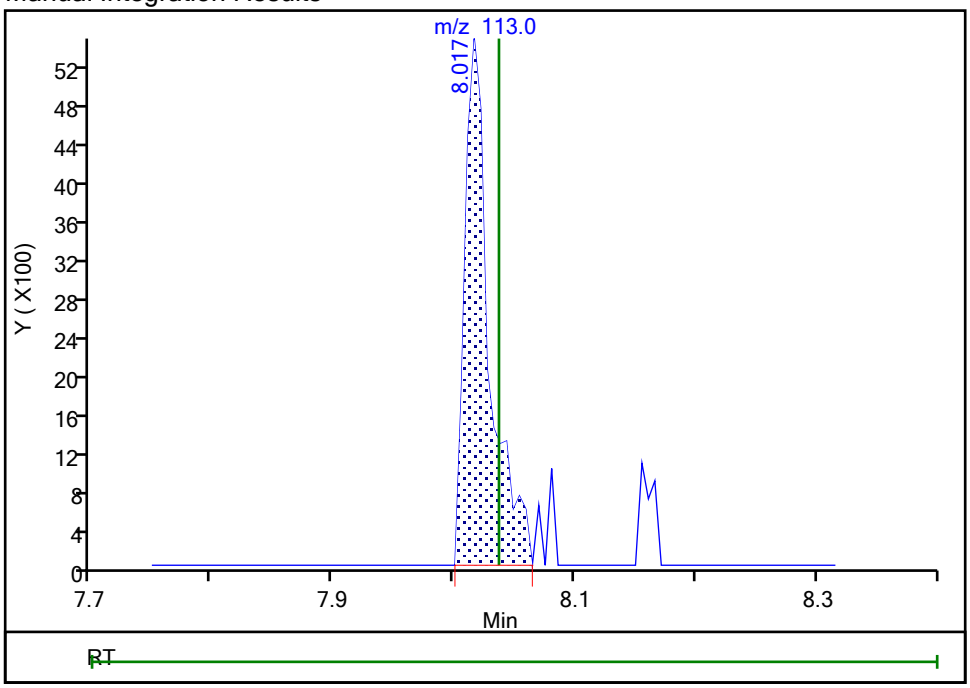

Reviewer: piccolinov, 16-Oct-2019 08:29:01

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016004.D				
Injection Date:	16-Oct-2019 06:20:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	3	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

217 Benzo[e]pyrene, CAS: 192-97-2

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 17.13

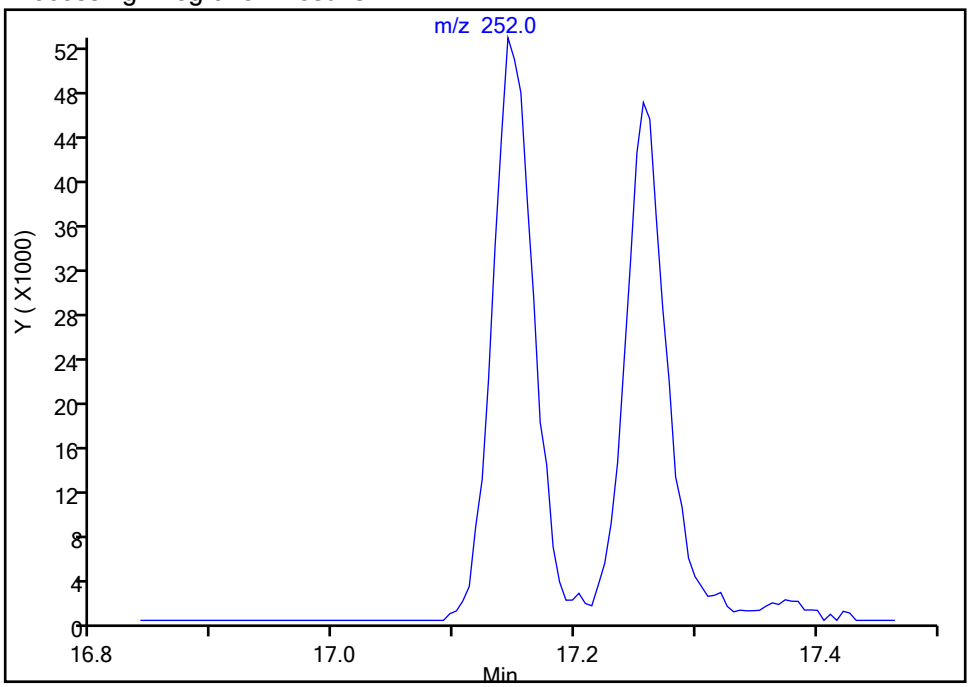

Manual Integration Results

RT: 17.14
Area: 125779
Amount: 1.854569
Amount Units: ng

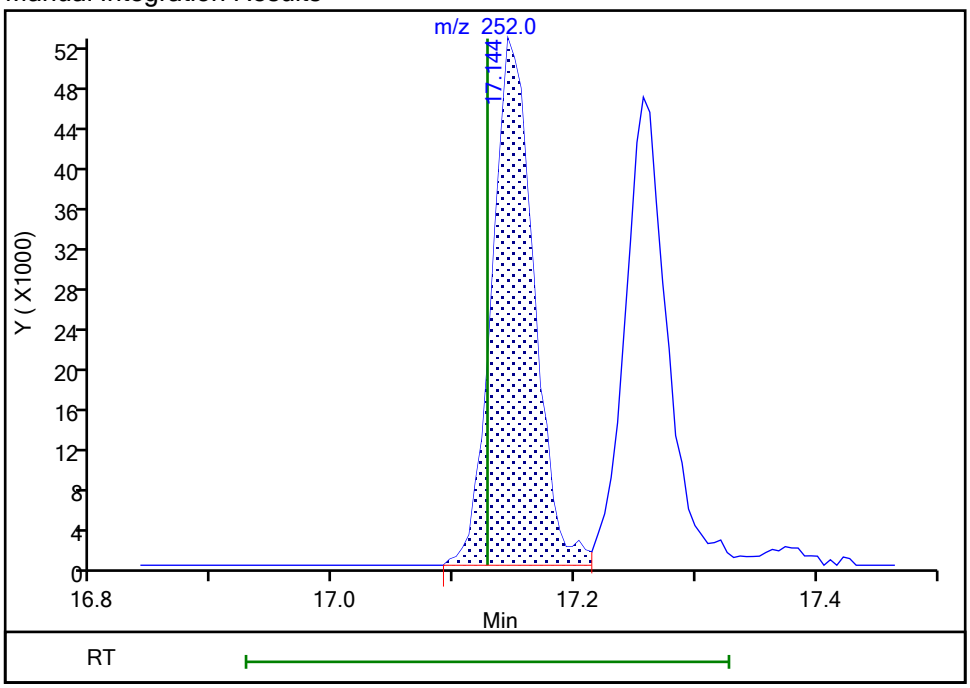

Reviewer: piccolinov, 16-Oct-2019 08:29:51
Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016004.D				
Injection Date:	16-Oct-2019 06:20:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	3	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

154 Benzo[a]pyrene, CAS: 50-32-8

Signal: 1

Processing Integration Results

RT: 17.14
Area: 123513
Amount: 1.956640
Amount Units: ng

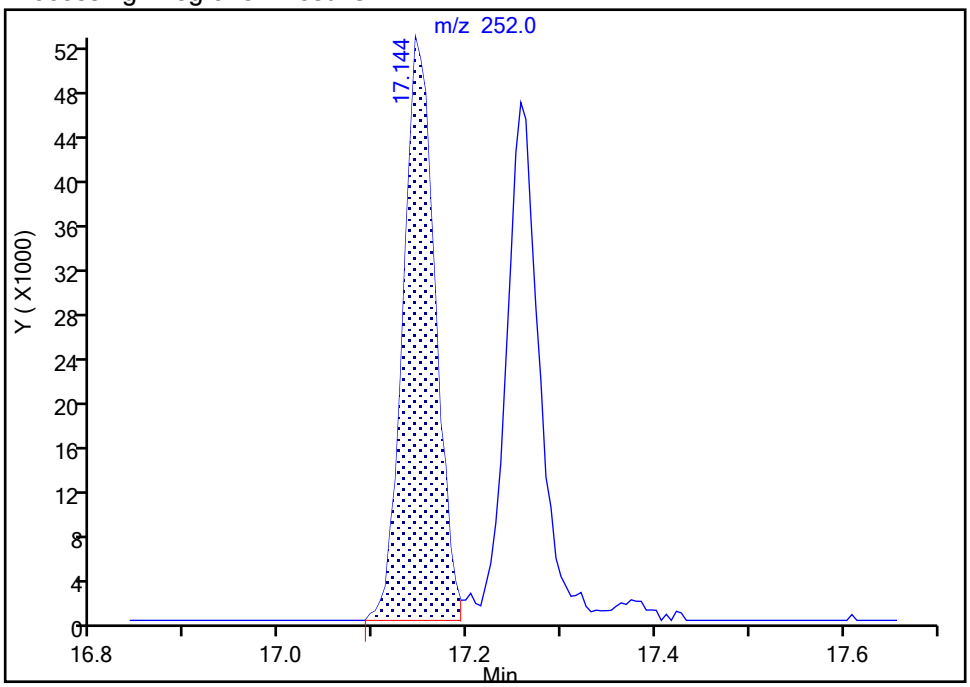

Manual Integration Results

RT: 17.26
Area: 117457
Amount: 1.841097
Amount Units: ng

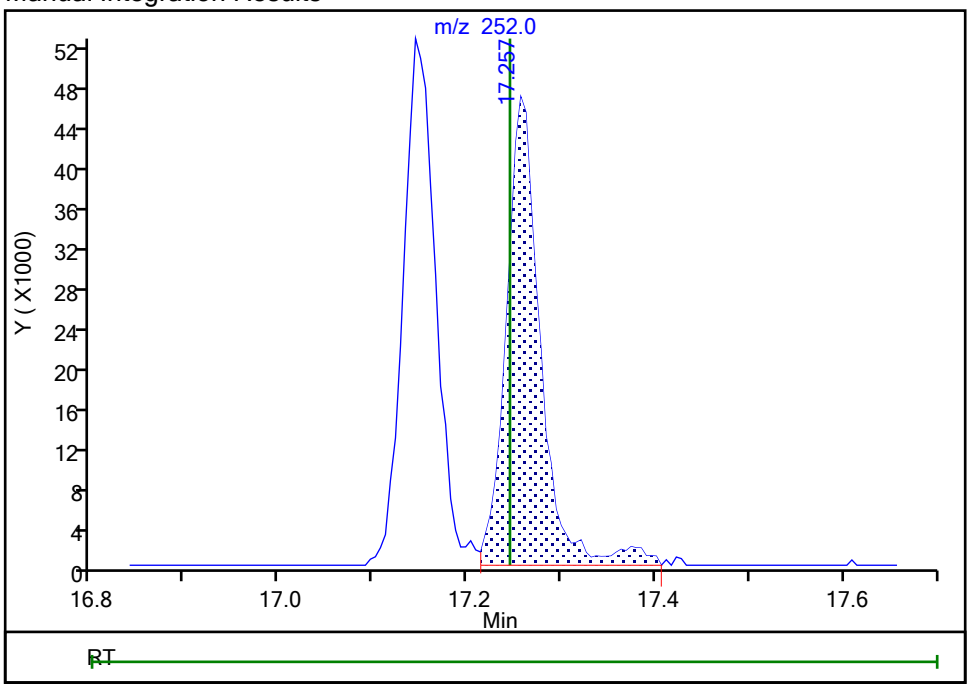

Reviewer: piccolinov, 16-Oct-2019 08:29:41

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016004.D				
Injection Date:	16-Oct-2019 06:20:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	3	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

157 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

Signal: 1

Processing Integration Results

RT: 19.69
Area: 118648
Amount: 2.114363
Amount Units: ng

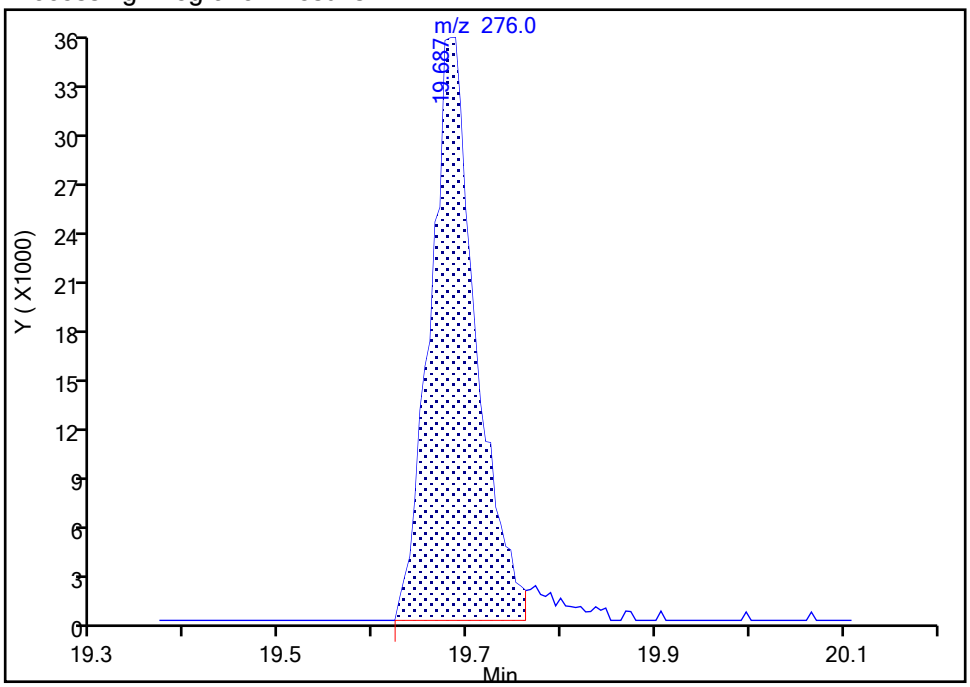

Manual Integration Results

RT: 19.69
Area: 124212
Amount: 1.745520
Amount Units: ng

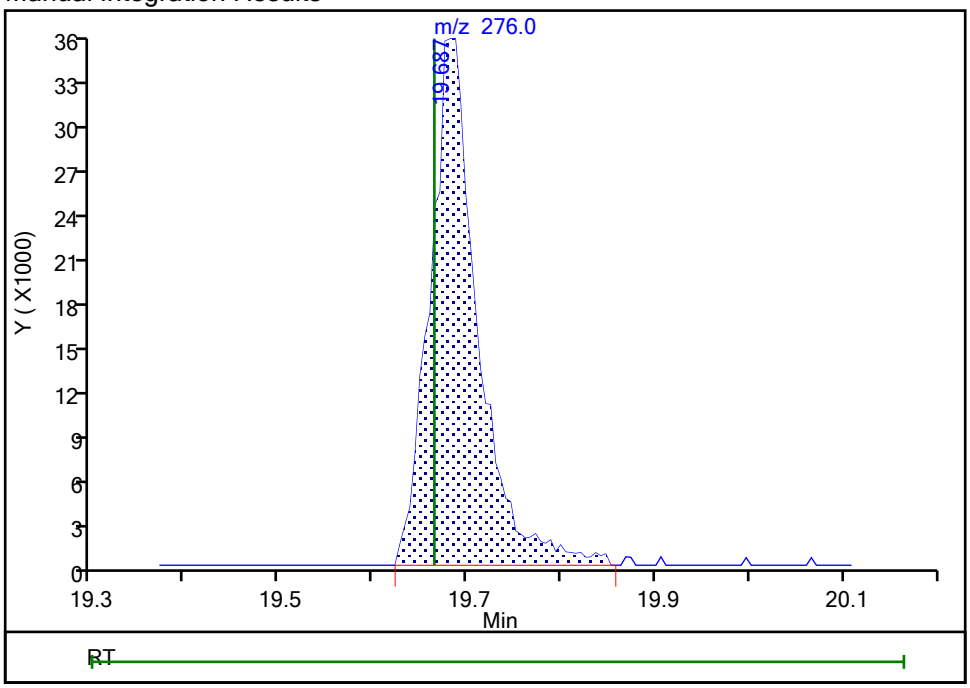

Reviewer: piccolinov, 16-Oct-2019 08:30:01

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016004.D				
Injection Date:	16-Oct-2019 06:20:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	3	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

158 Dibenz(a,h)anthracene, CAS: 53-70-3

Signal: 1

Processing Integration Results

RT: 19.70
Area: 96572
Amount: 1.814907
Amount Units: ng

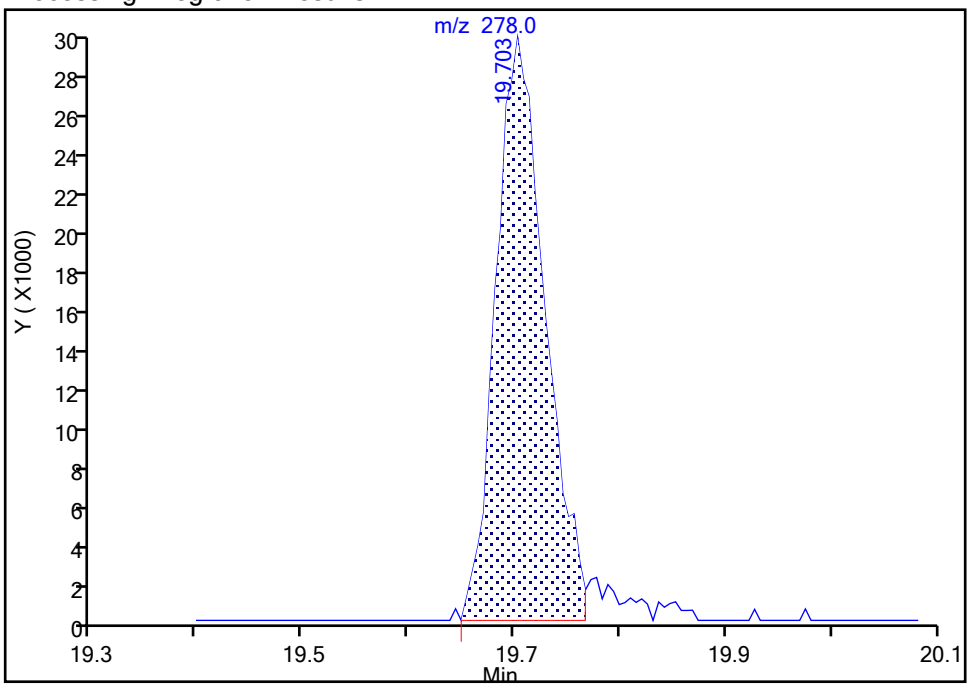

Manual Integration Results

RT: 19.70
Area: 101206
Amount: 1.751865
Amount Units: ng

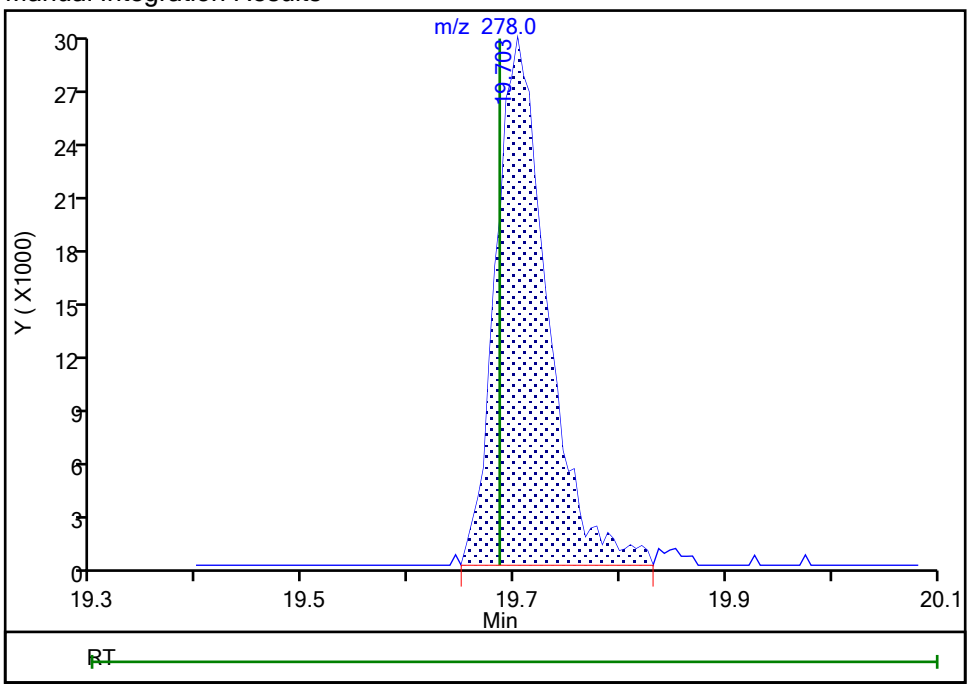

Reviewer: piccolinov, 16-Oct-2019 08:30:07

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016004.D				
Injection Date:	16-Oct-2019 06:20:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	3	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

159 Benzo[g,h,i]perylene, CAS: 191-24-2

Signal: 1

Processing Integration Results

RT: 20.32
Area: 103080
Amount: 1.857766
Amount Units: ng

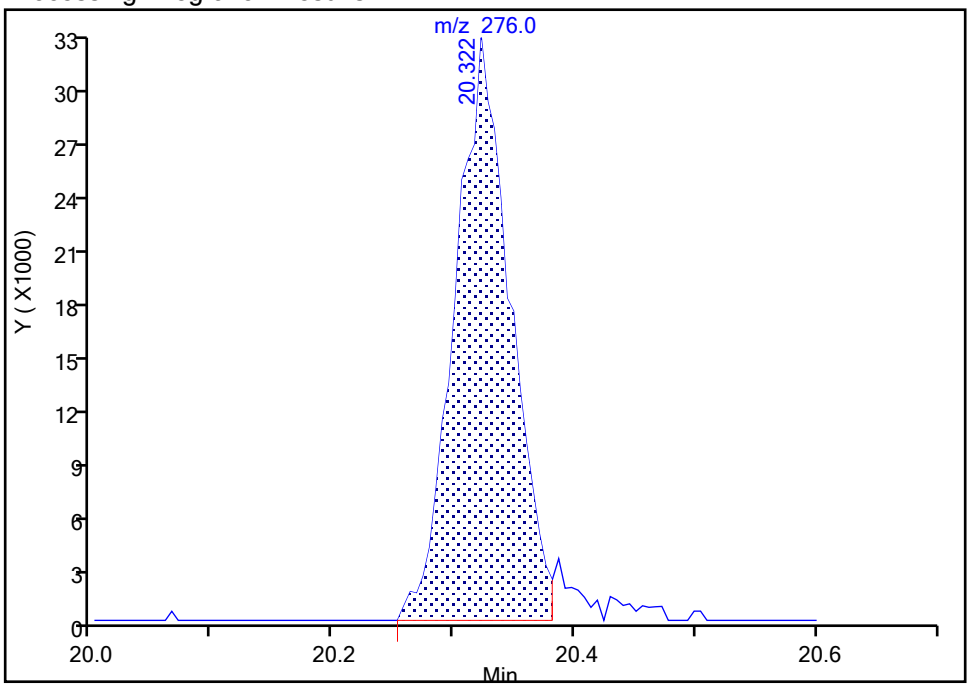

Manual Integration Results

RT: 20.32
Area: 106869
Amount: 1.798206
Amount Units: ng

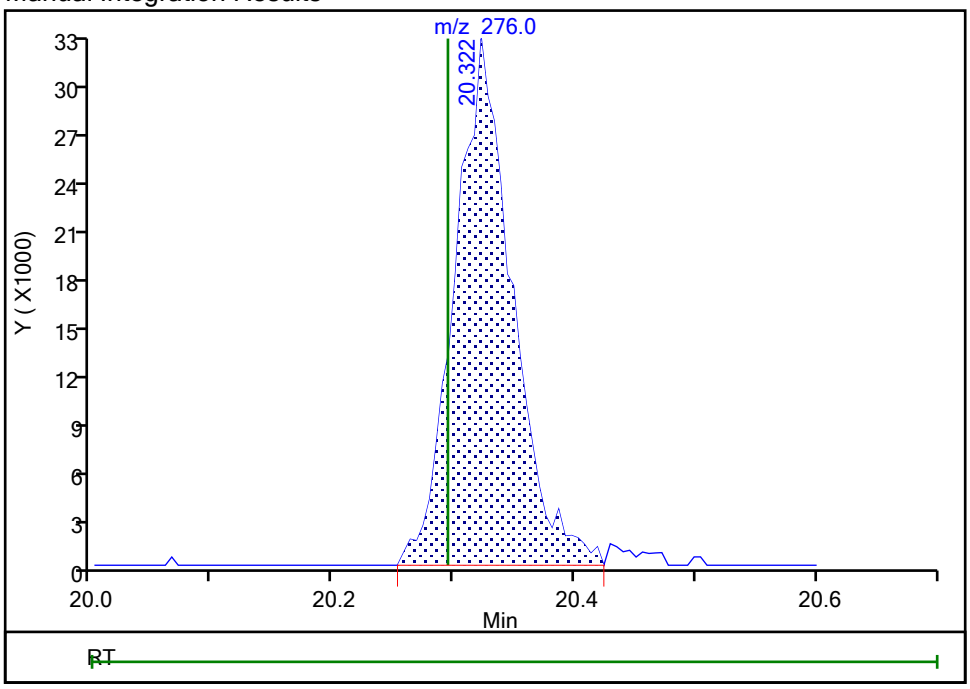

Reviewer: piccolinov, 16-Oct-2019 08:30:11

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016005.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 16-Oct-2019 06:47:30 ALS Bottle#: 4 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029126-005
Operator ID: 003200 Instrument ID: CHMSD7
Sublist: chrom-BNA_CHMSD7*sub13

Method: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\BNA_CHMSD7.m
Limit Group: BNA 8270D ICAL
Last Update: 17-Oct-2019 06:05:38 Calib Date: 16-Oct-2019 09:05:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016010.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0331

First Level Reviewer: piccolinov Date: 16-Oct-2019 08:27:56

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.419	6.413	0.006	97	131877	8.00	8.00	
* 2 Naphthalene-d8	136	7.664	7.658	0.006	100	511559	8.00	8.00	
* 3 Acenaphthene-d10	164	9.309	9.308	0.001	94	280412	8.00	8.00	
* 4 Phenanthrene-d10	188	10.703	10.702	0.001	97	523974	8.00	8.00	
* 5 Chrysene-d12	240	14.372	14.366	0.006	100	529034	8.00	8.00	
* 6 Perylene-d12	264	17.363	17.357	0.006	98	436786	8.00	8.00	
$ 7 2-Fluorophenol	112	5.009	5.003	0.006	94	75784	4.00	4.05	
$ 8 Phenol-d5	99	6.045	6.039	0.006	98	100409	4.00	4.06	
$ 9 Nitrobenzene-d5	82	6.959	6.958	0.001	91	91526	4.00	3.89	
$ 10 2-Fluorobiphenyl	172	8.662	8.657	0.005	100	213420	4.00	4.11	
$ 11 2,4,6-Tribromophenol	330	10.040	10.035	0.005	90	21836	4.00	3.87	
$ 12 Terphenyl-d14	244	12.551	12.550	0.001	100	230706	4.00	3.86	
13 1,4-Dioxane	88	1.644	1.665	-0.021	90	28028	4.00	4.22	
14 N-Nitrosodimethylamine	74	2.365	2.376	-0.011	92	44046	4.00	4.18	
15 Pyridine	79	2.451	2.514	-0.063	95	149996	8.00	8.70	M
21 Methyl methanesulfonate	80	4.763	4.779	-0.016	89	45584	4.00	3.99	
25 Benzaldehyde	77	5.965	5.959	0.006	94	76184	4.00	4.15	
26 Phenol	94	6.056	6.056	0.000	99	121050	4.00	4.17	
27 Aniline	93	6.077	6.077	0.000	98	136418	4.00	4.11	
29 Bis(2-chloroethyl)ether	93	6.147	6.141	0.006	95	79256	4.00	4.06	
30 2-Chlorophenol	128	6.206	6.200	0.006	97	86446	4.00	4.07	
31 n-Decane	43	6.264	6.258	0.006	87	87242	4.00	4.04	
32 1,3-Dichlorobenzene	146	6.366	6.360	0.006	97	107228	4.00	4.16	
33 1,4-Dichlorobenzene	146	6.435	6.435	0.000	94	108636	4.00	4.10	
34 Benzyl alcohol	108	6.547	6.552	-0.005	91	50192	4.00	3.87	
35 1,2-Dichlorobenzene	146	6.590	6.590	0.000	96	103057	4.00	4.20	
36 2-Methylphenol	108	6.659	6.654	0.005	97	77642	4.00	3.99	
37 Indene	116	6.676	6.675	0.001	89	153411	4.00	4.02	
38 2,2'-oxybis[1-chloropropan	45	6.686	6.680	0.006	89	104551	4.00	4.02	
39 N-Nitrosopyrrolidine	100	6.777	6.793	-0.016	84	38635	4.00	3.98	
42 4-Methylphenol	108	6.809	6.809	0.000	62	85041	4.00	4.09	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
40 Acetophenone	105	6.809	6.809	0.000	81	124487	4.00	4.08	
41 N-Nitrosodi-n-propylamine	70	6.809	6.814	-0.005	71	65311	4.00	4.00	
45 Hexachloroethane	117	6.932	6.926	0.006	92	39817	4.00	4.14	
46 Nitrobenzene	77	6.980	6.969	0.011	90	99006	4.00	4.06	
48 Isophorone	82	7.204	7.209	-0.005	98	159700	4.00	3.81	
49 2-Nitrophenol	139	7.290	7.284	0.006	97	43968	4.00	3.75	
50 2,4-Dimethylphenol	107	7.316	7.311	0.005	96	92525	4.00	3.94	
52 Benzoic acid	122	7.348	7.343	0.005	88	31974	4.00	3.99	
53 Bis(2-chloroethoxy)methane	93	7.402	7.396	0.006	98	98302	4.00	4.03	
54 2,4-Dichlorophenol	162	7.519	7.514	0.005	94	77651	4.00	4.03	
56 1,2,4-Trichlorobenzene	180	7.605	7.599	0.006	94	91177	4.00	3.97	
58 Naphthalene	128	7.685	7.679	0.006	97	264032	4.00	3.83	
59 4-Chloroaniline	127	7.717	7.717	0.000	95	109139	4.00	3.99	
60 2,6-Dichlorophenol	162	7.733	7.733	0.000	97	76127	4.00	4.04	
62 Hexachlorobutadiene	225	7.802	7.797	0.005	93	59996	4.00	4.12	
64 Caprolactam	113	8.011	8.037	-0.026	81	19752	4.00	3.88	
67 4-Chloro-3-methylphenol	107	8.150	8.149	0.001	96	78539	4.00	3.89	
69 2-Methylnaphthalene	142	8.331	8.325	0.006	93	194446	4.00	4.05	
71 1-Methylnaphthalene	142	8.427	8.422	0.005	91	176516	4.00	4.04	
72 Hexachlorocyclopentadiene	237	8.481	8.486	-0.005	96	62976	4.00	3.68	
73 1,2,4,5-Tetrachlorobenzene	216	8.491	8.486	0.005	97	95774	4.00	3.86	
74 2,4,6-Trichlorophenol	196	8.588	8.582	0.006	93	57945	4.00	4.11	
75 2,4,5-Trichlorophenol	196	8.620	8.614	0.006	95	61651	4.00	4.05	
76 1,1'-Biphenyl	154	8.759	8.753	0.006	95	226964	4.00	4.05	
77 2-Chloronaphthalene	162	8.791	8.785	0.006	97	175710	4.00	4.07	
79 2-Nitroaniline	65	8.860	8.860	0.000	79	48679	4.00	3.84	
82 Dimethyl phthalate	163	9.010	9.009	0.001	98	196064	4.00	3.97	
83 1,3-Dinitrobenzene	168	9.047	9.041	0.006	85	25917	4.00	3.51	
84 2,6-Dinitrotoluene	165	9.074	9.073	0.001	93	42497	4.00	3.91	
85 Acenaphthylene	152	9.180	9.180	0.000	98	255621	4.00	3.96	
86 3-Nitroaniline	138	9.239	9.233	0.006	94	44313	4.00	4.05	
87 2,4-Dinitrophenol	184	9.330	9.330	0.000	87	48662	8.00	7.90	
88 Acenaphthene	153	9.341	9.340	0.001	93	175396	4.00	4.01	
89 4-Nitrophenol	109	9.362	9.362	0.000	97	60547	8.00	7.83	
91 2,4-Dinitrotoluene	165	9.448	9.447	0.001	91	56190	4.00	3.85	
93 Dibenzofuran	168	9.496	9.495	0.001	96	254600	4.00	4.09	
95 2,3,5,6-Tetrachlorophenol	232	9.565	9.559	0.006	92	50681	4.00	3.77	
96 2,3,4,6-Tetrachlorophenol	232	9.602	9.597	0.005	72	54661	4.00	3.96	
97 2-Naphthylamine	143	9.629	9.629	0.000	95	177093	4.00	4.06	
98 Diethyl phthalate	149	9.650	9.650	0.000	98	190810	4.00	4.02	
99 Hexadecane	57	9.656	9.655	0.001	98	121748	4.00	4.06	
100 4-Chlorophenyl phenyl ethe	204	9.789	9.789	0.000	94	105462	4.00	4.02	
101 4-Nitroaniline	138	9.800	9.800	0.000	85	46690	4.00	3.93	
103 Fluorene	166	9.816	9.816	0.000	95	198787	4.00	3.99	
104 4,6-Dinitro-2-methylphenol	198	9.832	9.832	0.000	88	68165	8.00	7.05	
105 N-Nitrosodiphenylamine	169	9.896	9.890	0.006	99	144718	4.00	4.01	
90 1,2-Diphenylhydrazine	77	9.939	9.933	0.006	96	196093	4.00	3.99	
215 Azobenzene	77	9.939	9.933	0.006	99	196093	4.00	3.99	
110 4-Bromophenyl phenyl ether	248	10.249	10.243	0.006	68	59561	4.00	4.04	
112 Hexachlorobenzene	284	10.339	10.334	0.005	93	57123	4.00	4.00	
113 Atrazine	200	10.356	10.350	0.006	93	58642	4.00	4.00	
115 n-Octadecane	57	10.500	10.499	0.001	96	113395	4.00	3.91	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
116 Pentachlorophenol	266	10.505	10.510	-0.005	94	81340	8.00	7.78	
121 Phenanthrene	178	10.729	10.724	0.005	97	298297	4.00	3.98	
122 Anthracene	178	10.777	10.777	0.000	97	295649	4.00	4.00	
124 Carbazole	167	10.922	10.921	0.001	97	259982	4.00	3.95	
126 Di-n-butyl phthalate	149	11.221	11.220	0.001	100	287014	4.00	3.83	
131 Fluoranthene	202	12.081	12.070	0.011	97	323248	4.00	3.81	
132 Benzidine	184	12.198	12.192	0.006	99	165175	4.00	3.49	
133 Pyrene	202	12.396	12.395	0.001	97	333344	4.00	3.90	
138 Butyl benzyl phthalate	149	13.261	13.255	0.006	98	110249	4.00	3.75	
144 3,3'-Dichlorobenzidine	252	14.265	14.259	0.006	74	95366	4.00	3.68	
145 Bis(2-ethylhexyl) phthalat	149	14.292	14.275	0.017	97	150305	4.00	3.75	
146 Benzo[a]anthracene	228	14.351	14.350	0.001	98	314308	4.00	3.81	
147 Chrysene	228	14.425	14.414	0.011	97	319070	4.00	3.94	
150 Di-n-octyl phthalate	149	15.622	15.616	0.006	99	296097	4.00	3.85	M
151 7,12-Dimethylbenz(a)anthra	256	16.524	16.524	0.000	90	127771	4.00	3.74	
152 Benzo[b]fluoranthene	252	16.540	16.540	0.000	97	317861	4.00	4.04	
153 Benzo[k]fluoranthene	252	16.605	16.604	0.001	99	299877	4.00	3.90	
217 Benzo[e]pyrene	252	17.139	17.128	0.011	96	266097	4.00	3.88	a
154 Benzo[a]pyrene	252	17.245	17.245	0.000	76	254354	4.00	3.95	a
157 Indeno[1,2,3-cd]pyrene	276	19.660	19.665	-0.005	96	276213	4.00	3.84	M
158 Dibenz(a,h)anthracene	278	19.686	19.686	0.000	90	228627	4.00	3.92	M
159 Benzo[g,h,i]perylene	276	20.301	20.295	0.006	98	233696	4.00	3.89	M
S 199 Total Cresols	108				0		8.00	8.09	
S 197 Methyl Phenols,Total	108				0		8.00	8.09	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

SVTAPSTD4.0i_00020 Amount Added: 1.00 Units: mL

Report Date: 17-Oct-2019 06:05:39 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016005.D				
Injection Date:	16-Oct-2019 06:47:30	Instrument ID:	CHMSD7	Operator ID:	003200
Lims ID:	IC			Worklist Smp#:	5
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

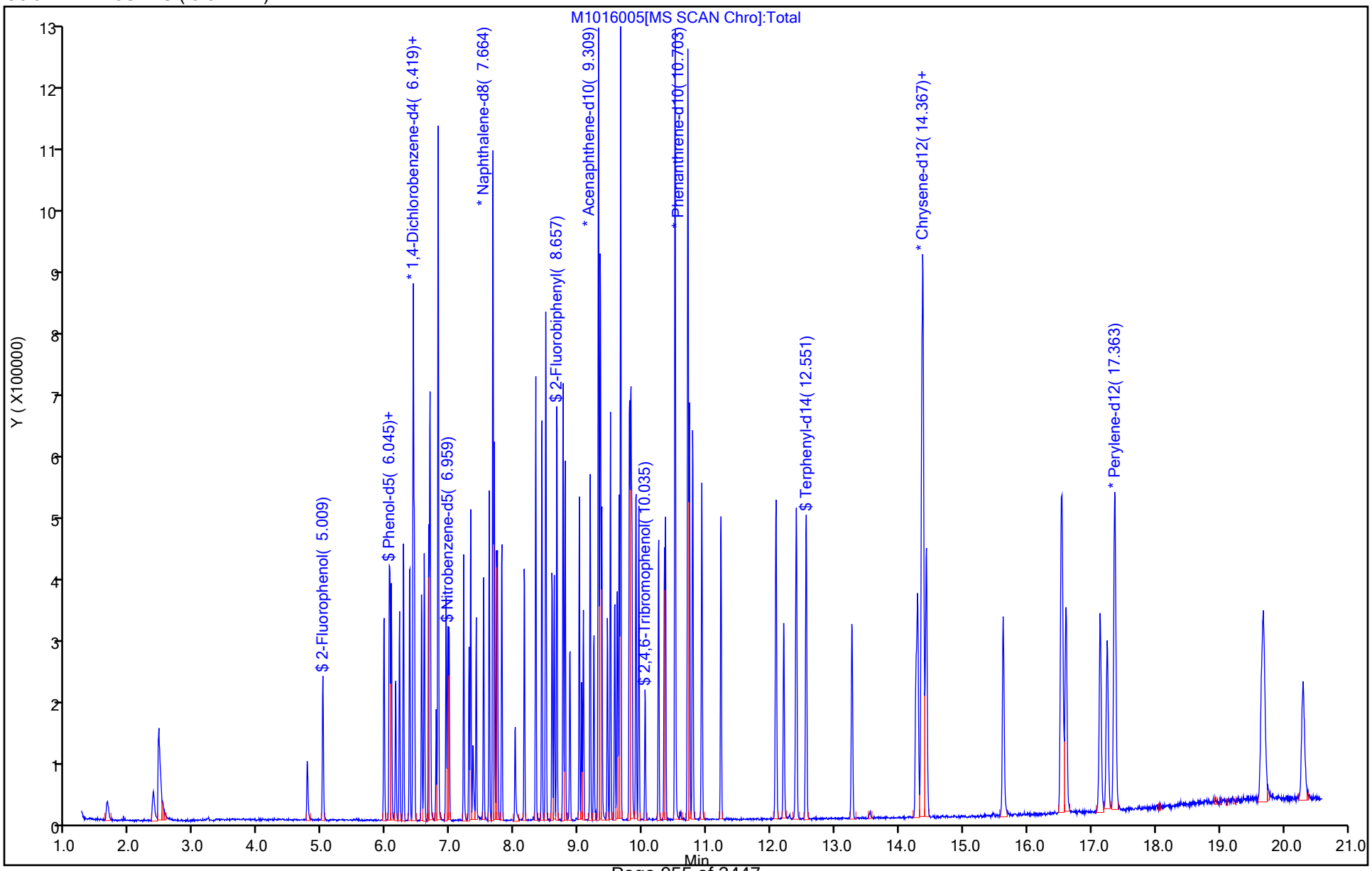

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016005.D				
Injection Date:	16-Oct-2019 06:47:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

15 Pyridine, CAS: 110-86-1

Signal: 1

Processing Integration Results

RT: 2.45
Area: 127043
Amount: 9.900859
Amount Units: ng

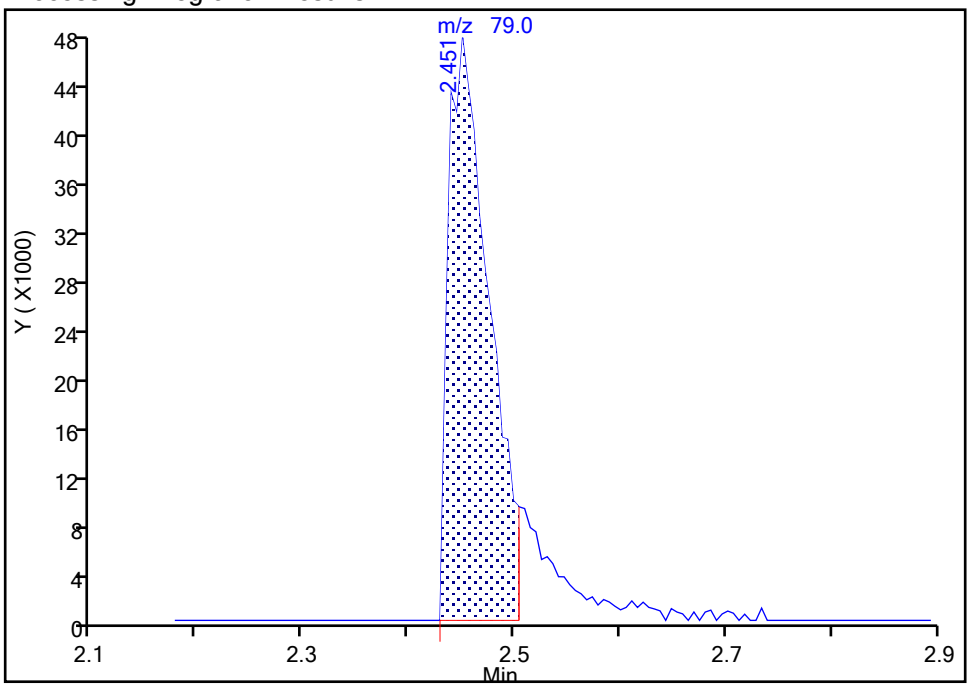

Manual Integration Results

RT: 2.45
Area: 149996
Amount: 8.697540
Amount Units: ng

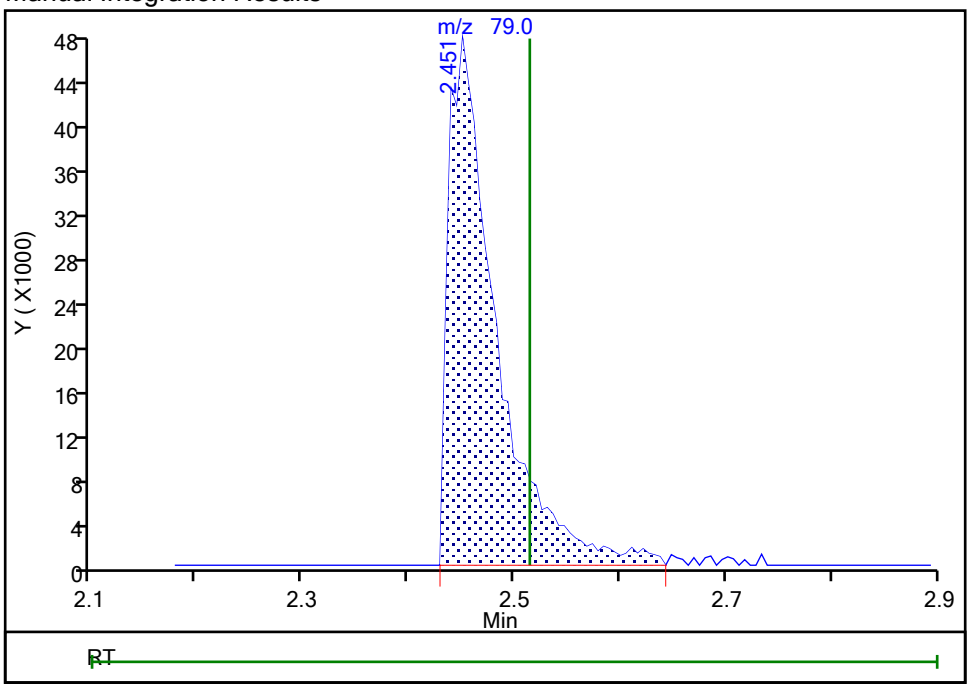

Reviewer: piccolinov, 16-Oct-2019 08:26:44

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016005.D				
Injection Date:	16-Oct-2019 06:47:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

150 Di-n-octyl phthalate, CAS: 117-84-0

Signal: 1

Processing Integration Results

RT: 15.62
Area: 290618
Amount: 3.653823
Amount Units: ng

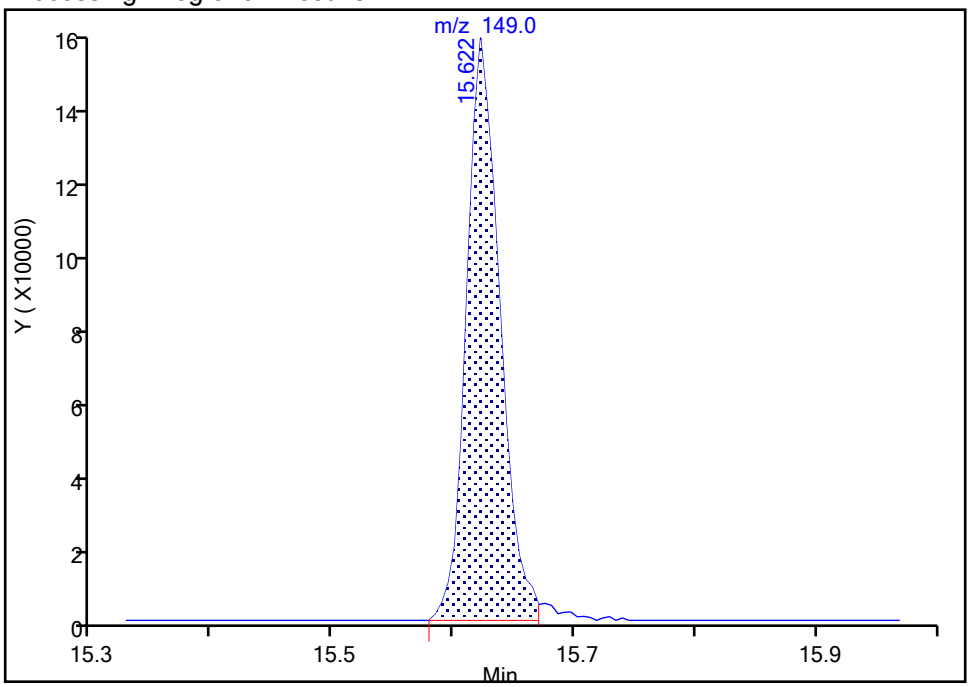

Manual Integration Results

RT: 15.62
Area: 296097
Amount: 3.850788
Amount Units: ng

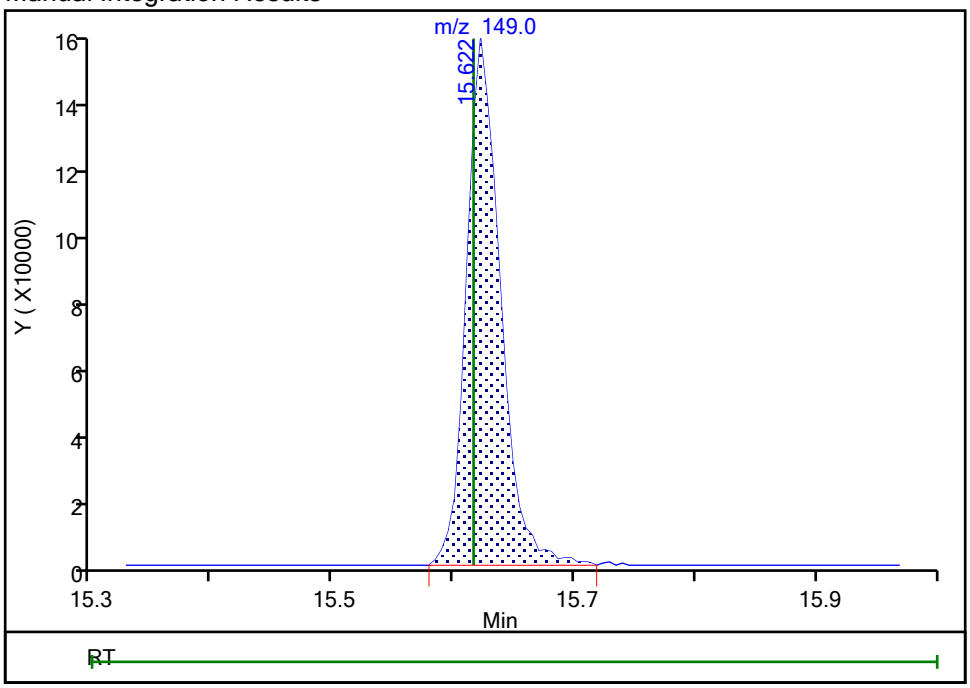

Reviewer: piccolinov, 16-Oct-2019 08:27:23

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016005.D				
Injection Date:	16-Oct-2019 06:47:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

217 Benzo[e]pyrene, CAS: 192-97-2

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 17.13

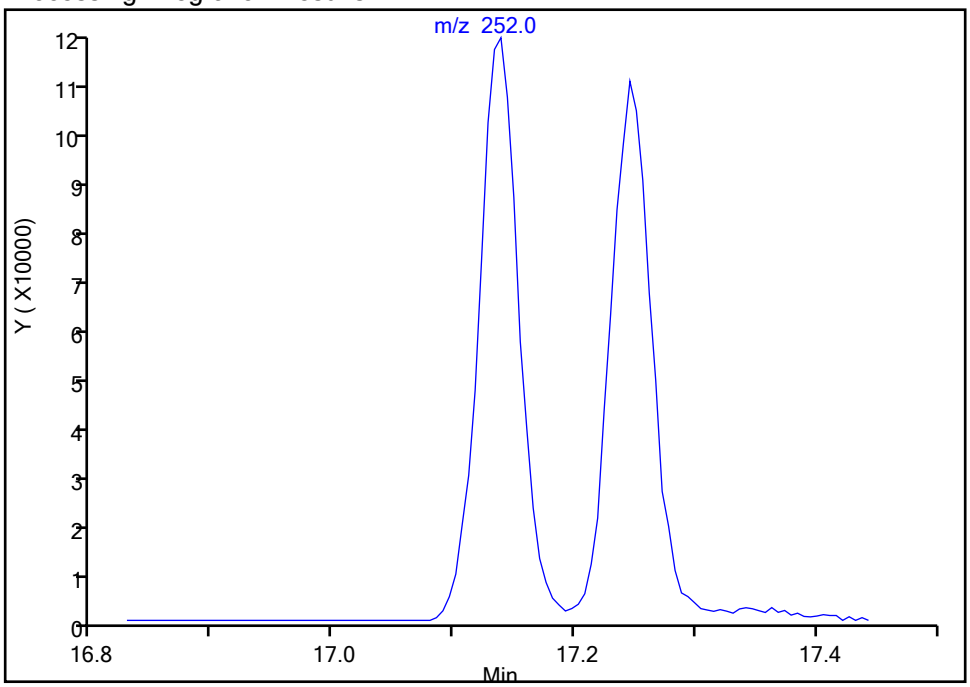

Manual Integration Results

RT: 17.14
Area: 266097
Amount: 3.882478
Amount Units: ng

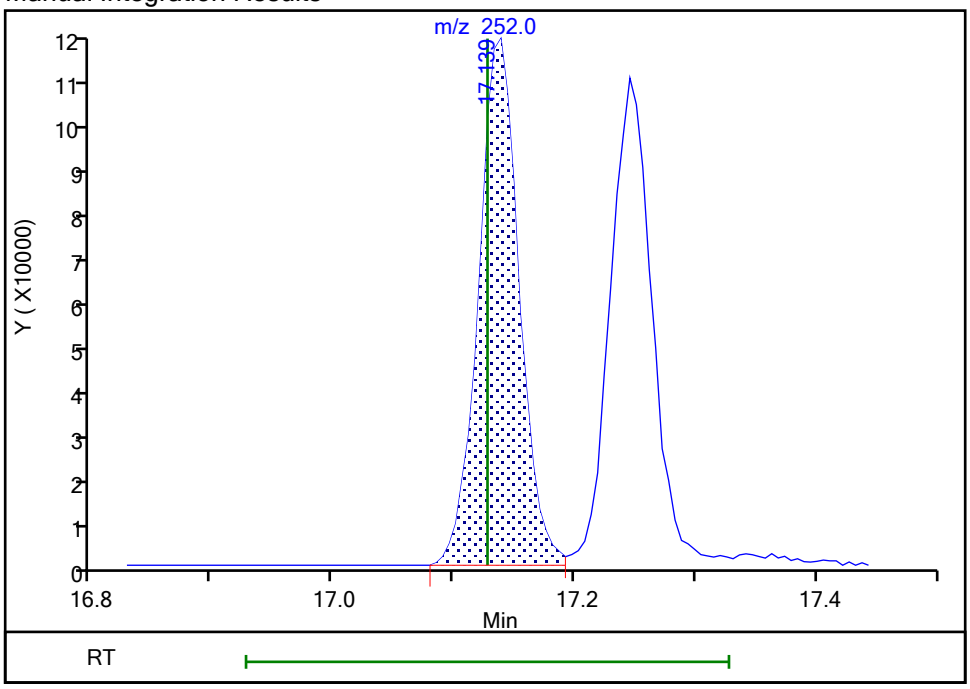

Reviewer: piccolinov, 16-Oct-2019 08:27:29
Audit Action: Assigned Compound ID Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016005.D				
Injection Date:	16-Oct-2019 06:47:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

154 Benzo[a]pyrene, CAS: 50-32-8

Signal: 1

Processing Integration Results

RT: 17.14
Area: 266097
Amount: 4.147450
Amount Units: ng

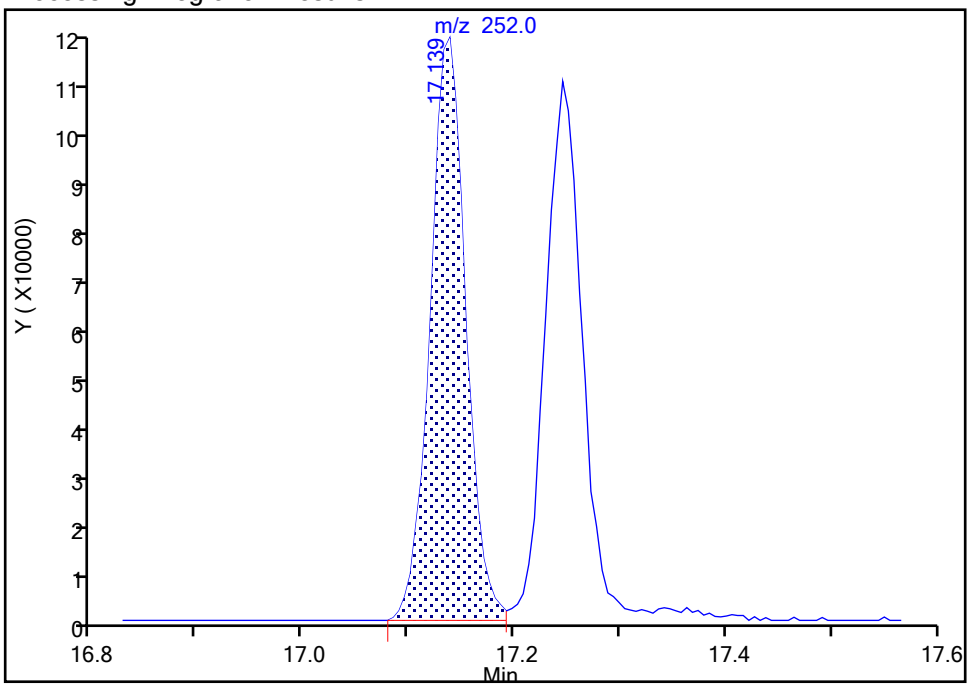

Manual Integration Results

RT: 17.25
Area: 254354
Amount: 3.945214
Amount Units: ng

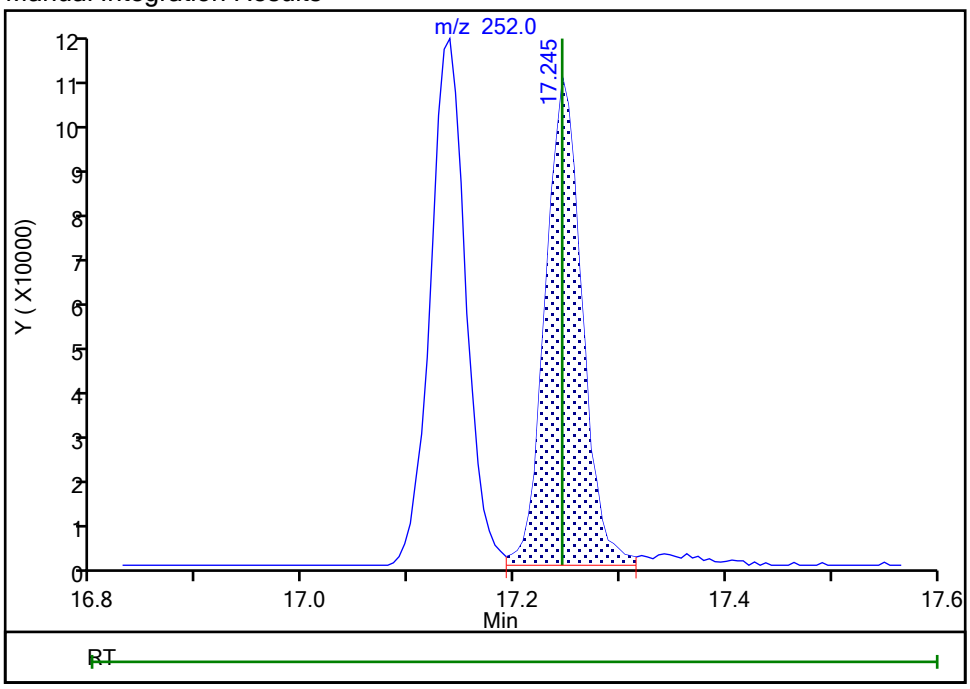

Reviewer: piccolinov, 16-Oct-2019 08:27:34

Audit Action: Assigned Compound ID Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016005.D				
Injection Date:	16-Oct-2019 06:47:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

157 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

Signal: 1

Processing Integration Results

RT: 19.66
Area: 268536
Amount: 4.755509
Amount Units: ng

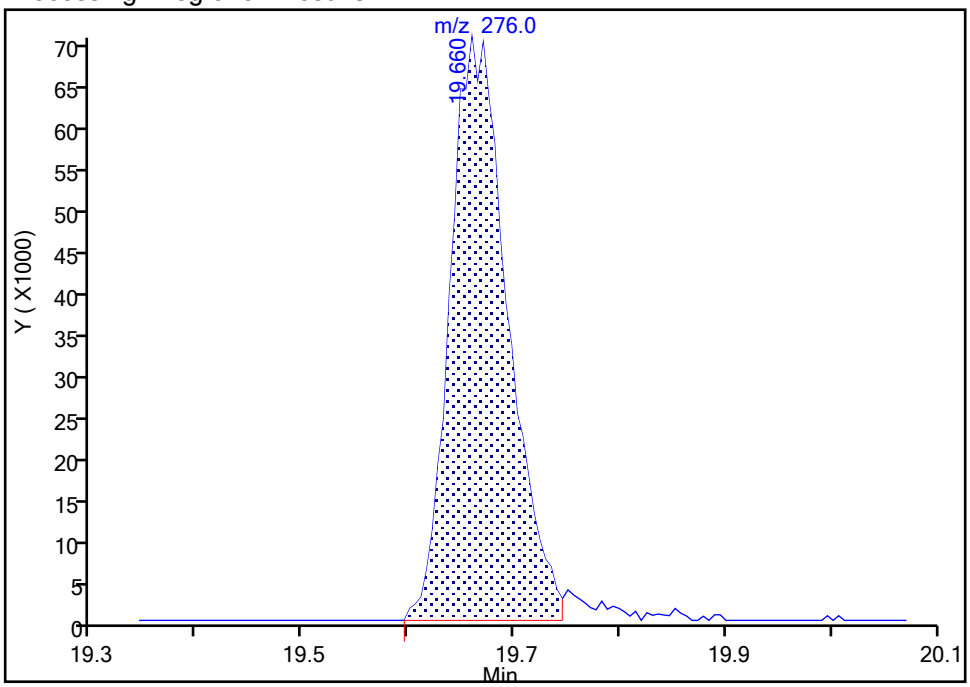

Manual Integration Results

RT: 19.66
Area: 276213
Amount: 3.840959
Amount Units: ng

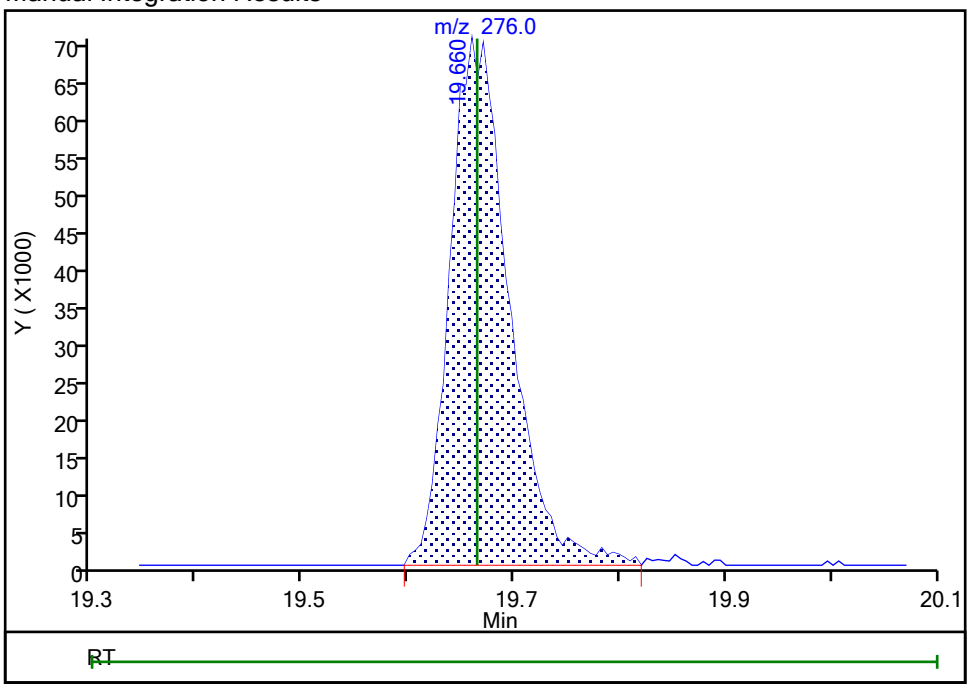

Reviewer: piccolinov, 16-Oct-2019 08:27:41

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016005.D				
Injection Date:	16-Oct-2019 06:47:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

158 Dibenz(a,h)anthracene, CAS: 53-70-3

Signal: 1

Processing Integration Results

RT: 19.69
Area: 221170
Amount: 3.867200
Amount Units: ng

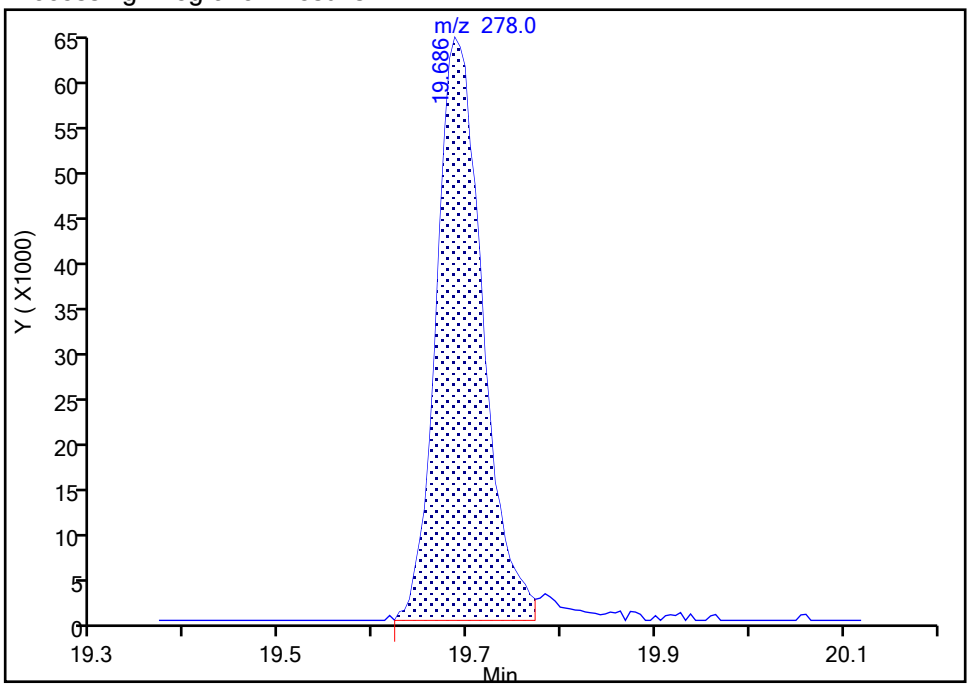

Manual Integration Results

RT: 19.69
Area: 228627
Amount: 3.916121
Amount Units: ng

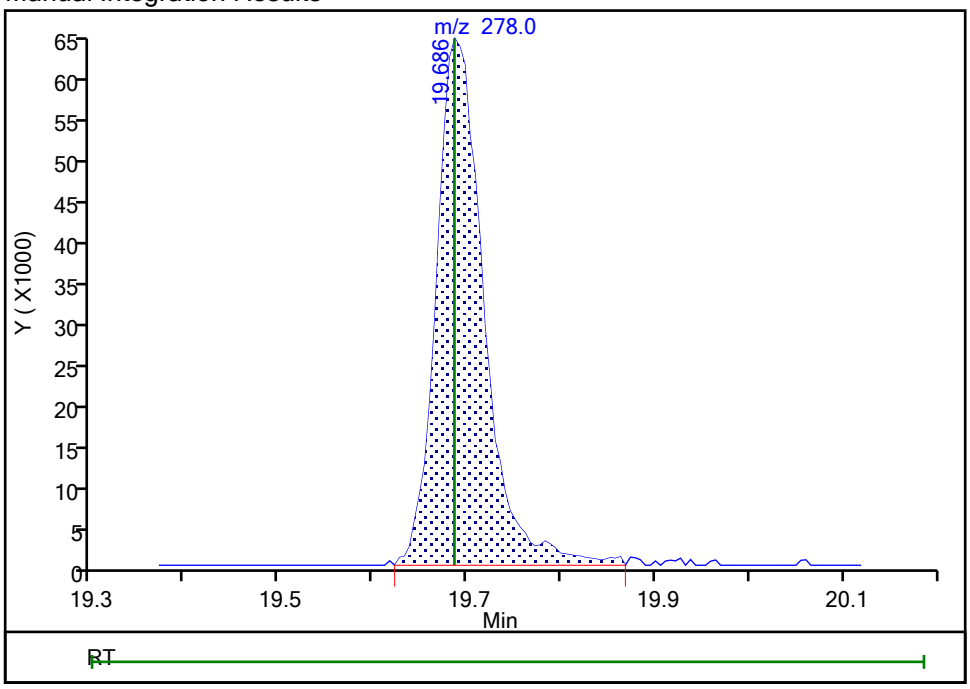

Reviewer: piccolinov, 16-Oct-2019 08:27:47

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016005.D				
Injection Date:	16-Oct-2019 06:47:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

159 Benzo[g,h,i]perylene, CAS: 191-24-2

Signal: 1

Processing Integration Results

RT: 20.30
Area: 231684
Amount: 4.136509
Amount Units: ng

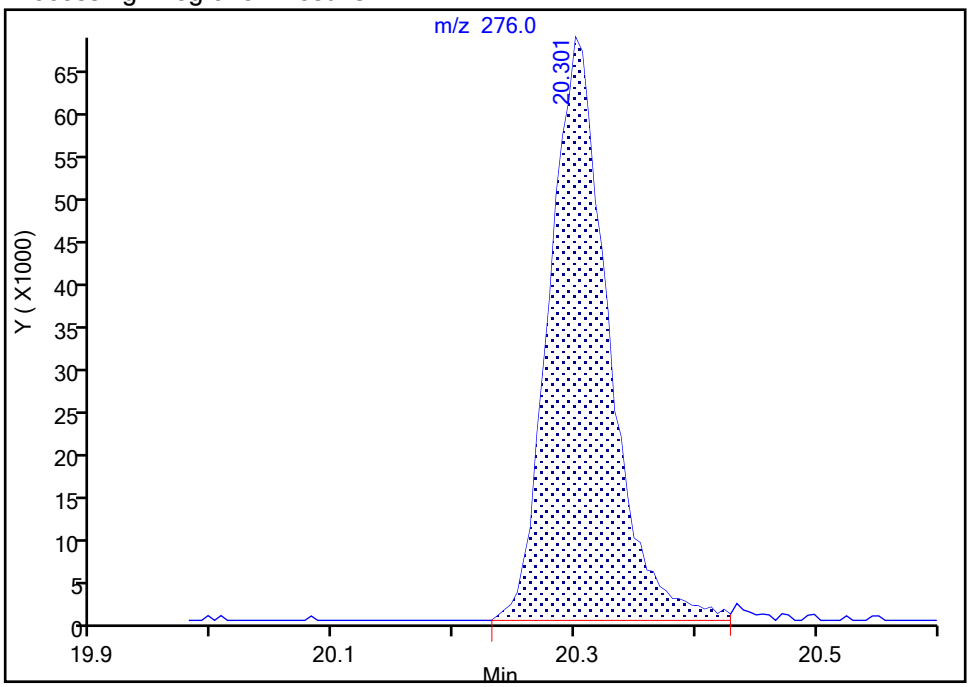

Manual Integration Results

RT: 20.30
Area: 233696
Amount: 3.891106
Amount Units: ng

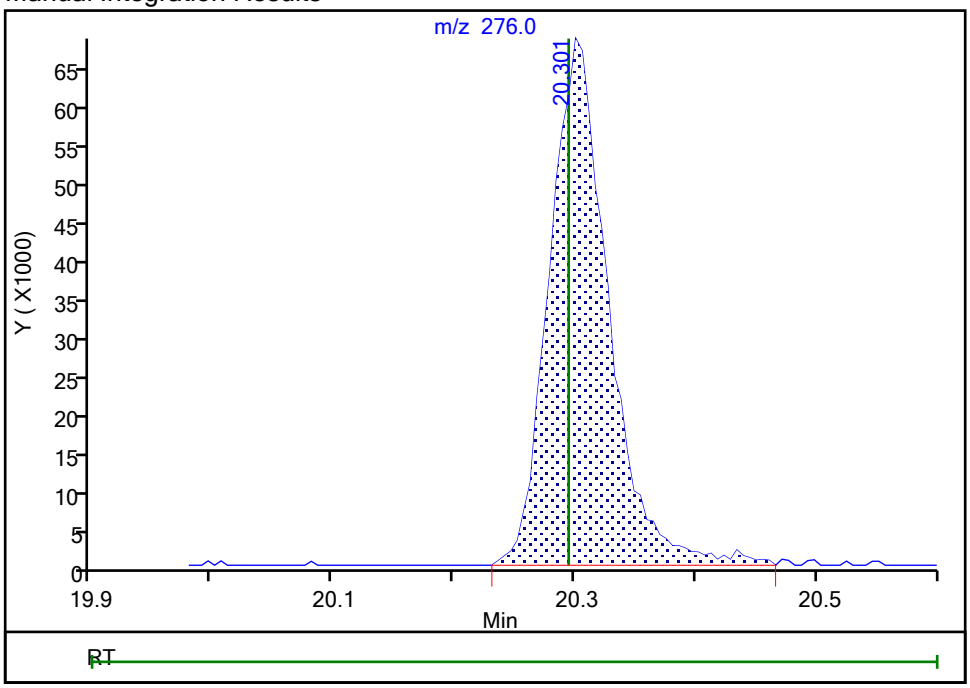

Reviewer: piccolinov, 16-Oct-2019 08:27:52

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016006.D
Lims ID: ICIS
Client ID:
Sample Type: ICIS Calib Level: 4
Inject. Date: 16-Oct-2019 07:14:30 ALS Bottle#: 5 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029126-006
Operator ID: 003200 Instrument ID: CHMSD7
Sublist: chrom-BNA_CHMSD7*sub13

Method: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\BNA_CHMSD7.m
Limit Group: BNA 8270D ICAL
Last Update: 17-Oct-2019 06:05:45 Calib Date: 16-Oct-2019 09:05:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016010.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0331

First Level Reviewer: piccolinov Date: 16-Oct-2019 08:26:03

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.427	6.427	0.000	96	126348	8.00	8.00	
* 2 Naphthalene-d8	136	7.666	7.666	0.000	100	468728	8.00	8.00	
* 3 Acenaphthene-d10	164	9.317	9.317	0.000	94	265272	8.00	8.00	
* 4 Phenanthrene-d10	188	10.711	10.711	0.000	97	490345	8.00	8.00	
* 5 Chrysene-d12	240	14.380	14.380	0.000	99	500808	8.00	8.00	
* 6 Perylene-d12	264	17.382	17.382	0.000	98	436252	8.00	8.00	
$ 7 2-Fluorophenol	112	5.017	5.017	0.000	93	175129	10.0	9.77	
$ 8 Phenol-d5	99	6.053	6.053	0.000	98	231568	10.0	9.78	
$ 9 Nitrobenzene-d5	82	6.967	6.967	0.000	90	214203	10.0	9.93	
$ 10 2-Fluorobiphenyl	172	8.665	8.665	0.000	100	470130	10.0	9.57	
$ 11 2,4,6-Tribromophenol	330	10.043	10.043	0.000	89	51111	10.0	9.69	
$ 12 Terphenyl-d14	244	12.559	12.559	0.000	100	558389	10.0	9.86	
13 1,4-Dioxane	88	1.652	1.652	0.000	92	63504	10.0	10.0	
14 N-Nitrosodimethylamine	74	2.379	2.379	0.000	90	94780	10.0	9.39	
15 Pyridine	79	2.448	2.448	0.000	96	325742	20.0	19.7	
21 Methyl methanesulfonate	80	4.772	4.772	0.000	88	104192	10.0	9.51	
25 Benzaldehyde	77	5.968	5.968	0.000	95	168228	10.0	9.56	
26 Phenol	94	6.064	6.064	0.000	97	270412	10.0	9.73	
27 Aniline	93	6.086	6.086	0.000	97	306379	10.0	9.63	
29 Bis(2-chloroethyl)ether	93	6.150	6.150	0.000	96	180482	10.0	9.64	
30 2-Chlorophenol	128	6.214	6.214	0.000	96	198505	10.0	9.75	
31 n-Decane	43	6.272	6.272	0.000	88	200361	10.0	9.69	
32 1,3-Dichlorobenzene	146	6.369	6.369	0.000	97	241019	10.0	9.75	
33 1,4-Dichlorobenzene	146	6.443	6.443	0.000	93	241705	10.0	9.53	
34 Benzyl alcohol	108	6.556	6.556	0.000	90	119247	10.0	9.60	
35 1,2-Dichlorobenzene	146	6.598	6.598	0.000	96	230706	10.0	9.81	
36 2-Methylphenol	108	6.668	6.668	0.000	98	184170	10.0	9.89	
37 Indene	116	6.684	6.684	0.000	90	352385	10.0	9.64	
38 2,2'-oxybis[1-chloropropan	45	6.694	6.694	0.000	89	238776	10.0	9.57	
39 N-Nitrosopyrrolidine	100	6.785	6.785	0.000	84	88908	10.0	9.56	
42 4-Methylphenol	108	6.812	6.812	0.000	94	192152	10.0	9.65	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
40 Acetophenone	105	6.817	6.817	0.000	85	285748	10.0	9.77	
41 N-Nitrosodi-n-propylamine	70	6.812	6.812	0.000	71	152035	10.0	9.72	
45 Hexachloroethane	117	6.940	6.940	0.000	91	91822	10.0	9.96	
46 Nitrobenzene	77	6.983	6.983	0.000	89	217898	10.0	9.75	
48 Isophorone	82	7.212	7.212	0.000	99	375961	10.0	9.79	
49 2-Nitrophenol	139	7.298	7.298	0.000	97	108833	10.0	10.1	
50 2,4-Dimethylphenol	107	7.319	7.319	0.000	97	207802	10.0	9.66	
52 Benzoic acid	122	7.362	7.362	0.000	90	80862	10.0	8.32	M
53 Bis(2-chloroethoxy)methane	93	7.410	7.410	0.000	98	214432	10.0	9.60	
54 2,4-Dichlorophenol	162	7.522	7.522	0.000	95	177493	10.0	10.1	
56 1,2,4-Trichlorobenzene	180	7.613	7.613	0.000	94	207038	10.0	9.83	
58 Naphthalene	128	7.688	7.688	0.000	98	621461	10.0	9.84	
59 4-Chloroaniline	127	7.725	7.725	0.000	95	252481	10.0	10.1	
60 2,6-Dichlorophenol	162	7.741	7.741	0.000	98	173423	10.0	10.0	
62 Hexachlorobutadiene	225	7.805	7.805	0.000	94	133647	10.0	10.0	
64 Caprolactam	113	8.019	8.019	0.000	79	50784	10.0	9.39	
67 4-Chloro-3-methylphenol	107	8.158	8.158	0.000	96	187095	10.0	10.1	
69 2-Methylnaphthalene	142	8.339	8.339	0.000	92	431617	10.0	9.82	
71 1-Methylnaphthalene	142	8.436	8.436	0.000	92	397663	10.0	9.94	
72 Hexachlorocyclopentadiene	237	8.489	8.489	0.000	97	154993	10.0	9.58	
73 1,2,4,5-Tetrachlorobenzene	216	8.500	8.500	0.000	97	227503	10.0	9.69	
74 2,4,6-Trichlorophenol	196	8.590	8.590	0.000	93	134311	10.0	10.1	
75 2,4,5-Trichlorophenol	196	8.628	8.628	0.000	95	147112	10.0	10.2	
76 1,1'-Biphenyl	154	8.767	8.767	0.000	95	517243	10.0	9.76	
77 2-Chloronaphthalene	162	8.793	8.793	0.000	96	397018	10.0	9.71	
79 2-Nitroaniline	65	8.868	8.868	0.000	81	120906	10.0	10.1	
82 Dimethyl phthalate	163	9.018	9.018	0.000	98	452994	10.0	9.70	
83 1,3-Dinitrobenzene	168	9.055	9.055	0.000	85	69330	10.0	9.92	
84 2,6-Dinitrotoluene	165	9.082	9.082	0.000	93	100028	10.0	9.72	
85 Acenaphthylene	152	9.189	9.189	0.000	98	608914	10.0	9.98	
86 3-Nitroaniline	138	9.242	9.242	0.000	92	105590	10.0	10.2	
87 2,4-Dinitrophenol	184	9.338	9.338	0.000	85	126431	20.0	17.3	
88 Acenaphthene	153	9.344	9.344	0.000	93	400461	10.0	9.67	
89 4-Nitrophenol	109	9.370	9.370	0.000	97	146907	20.0	20.1	
91 2,4-Dinitrotoluene	165	9.456	9.456	0.000	93	138813	10.0	10.1	
93 Dibenzofuran	168	9.504	9.504	0.000	96	576784	10.0	9.80	
95 2,3,5,6-Tetrachlorophenol	232	9.568	9.568	0.000	92	126882	10.0	9.99	
96 2,3,4,6-Tetrachlorophenol	232	9.611	9.611	0.000	72	129716	10.0	9.94	
97 2-Naphthylamine	143	9.637	9.637	0.000	95	421701	10.0	10.2	
98 Diethyl phthalate	149	9.659	9.659	0.000	98	434249	10.0	9.67	
99 Hexadecane	57	9.664	9.664	0.000	98	268898	10.0	9.79	
100 4-Chlorophenyl phenyl ethe	204	9.798	9.798	0.000	91	244537	10.0	9.85	
101 4-Nitroaniline	138	9.808	9.808	0.000	82	117805	10.0	10.5	
103 Fluorene	166	9.819	9.819	0.000	98	463406	10.0	9.84	
104 4,6-Dinitro-2-methylphenol	198	9.840	9.840	0.000	86	176313	20.0	19.5	
105 N-Nitrosodiphenylamine	169	9.899	9.899	0.000	99	344896	10.0	10.2	
90 1,2-Diphenylhydrazine	77	9.942	9.942	0.000	98	469118	10.0	10.2	
215 Azobenzene	77	9.942	9.942	0.000	100	469118	10.0	10.2	
110 4-Bromophenyl phenyl ether	248	10.257	10.257	0.000	67	135223	10.0	9.80	
112 Hexachlorobenzene	284	10.348	10.348	0.000	94	132528	10.0	9.91	
113 Atrazine	200	10.364	10.364	0.000	93	143888	10.0	10.5	
115 n-Octadecane	57	10.508	10.508	0.000	96	268661	10.0	9.68	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
116 Pentachlorophenol	266	10.513	10.513	0.000	92	175995	20.0	18.0	
121 Phenanthrene	178	10.738	10.738	0.000	97	695405	10.0	9.90	
122 Anthracene	178	10.786	10.786	0.000	98	695703	10.0	10.0	
124 Carbazole	167	10.930	10.930	0.000	97	630193	10.0	10.2	
126 Di-n-butyl phthalate	149	11.229	11.229	0.000	100	714222	10.0	10.2	
131 Fluoranthene	202	12.089	12.089	0.000	97	801599	10.0	10.1	
132 Benzidine	184	12.206	12.206	0.000	99	447009	10.0	9.97	
133 Pyrene	202	12.404	12.404	0.000	98	814405	10.0	10.1	
138 Butyl benzyl phthalate	149	13.275	13.275	0.000	98	305872	10.0	9.58	
144 3,3'-Dichlorobenzidine	252	14.279	14.279	0.000	74	262239	10.0	9.37	
145 Bis(2-ethylhexyl) phthalat	149	14.305	14.305	0.000	96	414767	10.0	9.42	
146 Benzo[a]anthracene	228	14.364	14.364	0.000	98	789864	10.0	10.1	
147 Chrysene	228	14.439	14.439	0.000	97	769285	10.0	10.0	
150 Di-n-octyl phthalate	149	15.635	15.635	0.000	100	610390	10.0	7.95	
151 7,12-Dimethylbenz(a)anthra	256	16.543	16.543	0.000	91	333451	10.0	9.78	
152 Benzo[b]fluoranthene	252	16.565	16.565	0.000	97	788094	10.0	10.0	
153 Benzo[k]fluoranthene	252	16.618	16.618	0.000	99	757940	10.0	9.88	
217 Benzo[e]pyrene	252	17.152	17.152	0.000	97	674752	10.0	9.86	a
154 Benzo[a]pyrene	252	17.264	17.264	0.000	77	644283	10.0	10.0	a
157 Indeno[1,2,3-cd]pyrene	276	19.689	19.689	0.000	97	719370	10.0	10.0	Ma
158 Dibenz(a,h)anthracene	278	19.705	19.705	0.000	89	579870	10.0	9.94	
159 Benzo[g,h,i]perylene	276	20.325	20.325	0.000	98	596908	10.0	9.95	
S 199 Total Cresols	108				0		20.0	19.5	
S 197 Methyl Phenols,Total	108				0		20.0	19.5	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

SVTAPSTD10i_00346 Amount Added: 1.00 Units: mL

Report Date: 17-Oct-2019 06:05:46 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016006.D				
Injection Date:	16-Oct-2019 07:14:30	Instrument ID:	CHMSD7	Operator ID:	003200
Lims ID:	ICIS			Worklist Smp#:	6
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

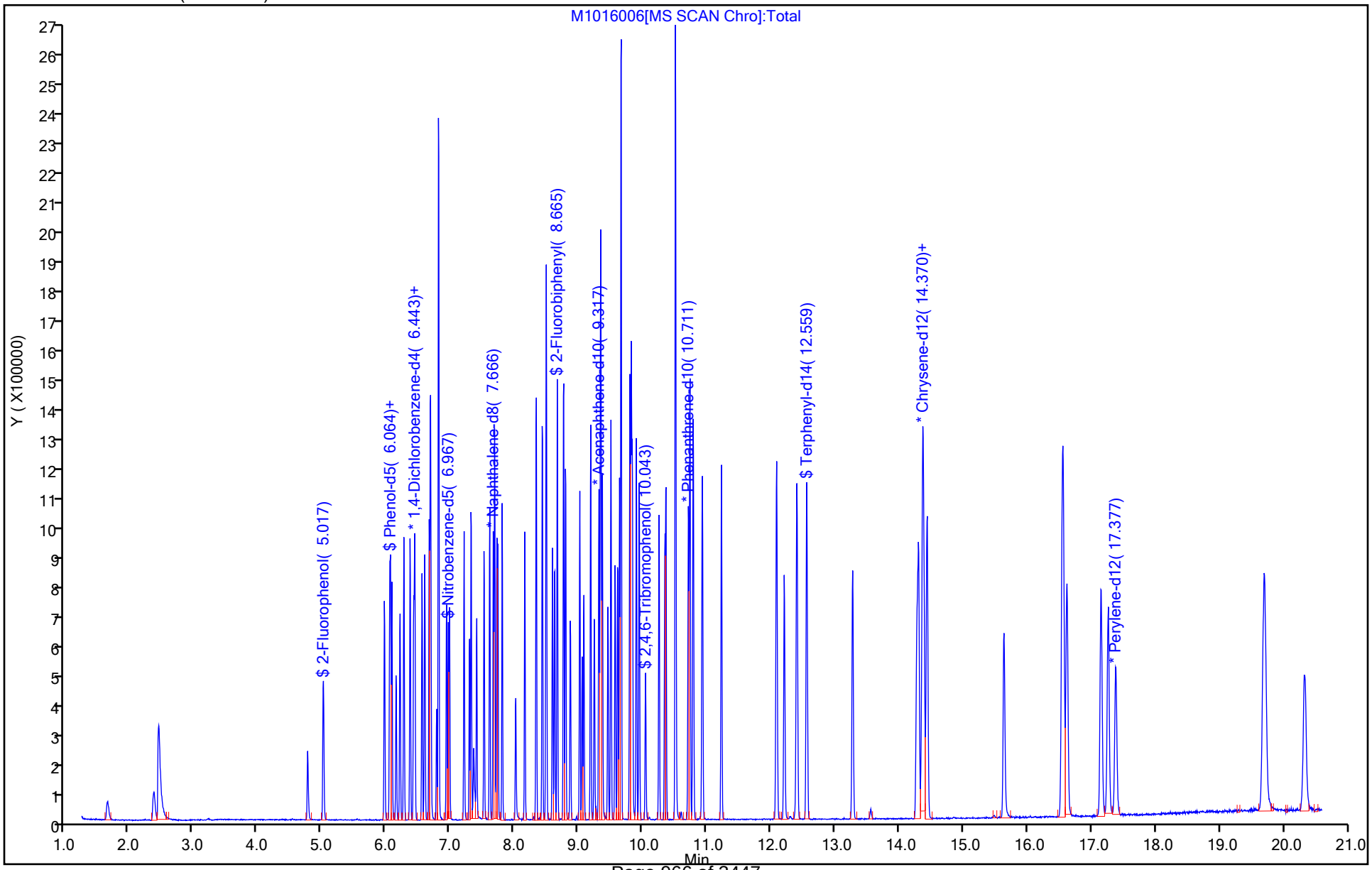

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016006.D				
Injection Date:	16-Oct-2019 07:14:30	Instrument ID:	CHMSD7		
Lims ID:	ICIS				
Client ID:					
Operator ID:	003200	ALS Bottle#:	5	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

52 Benzoic acid, CAS: 65-85-0

Signal: 1

Processing Integration Results

RT: 7.36
Area: 72812
Amount: 8.112725
Amount Units: ng

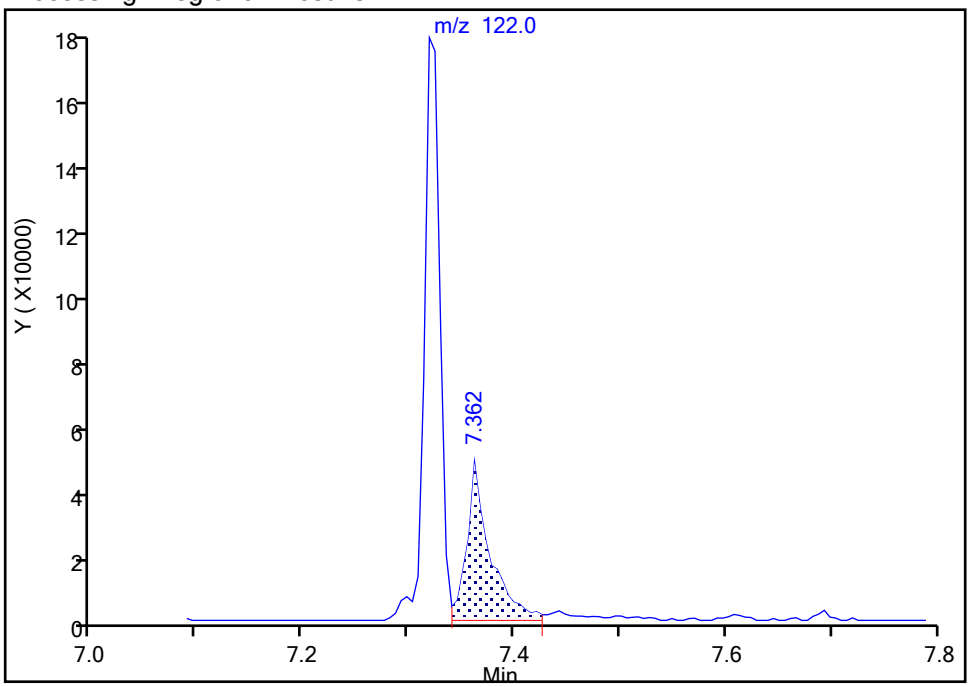

Manual Integration Results

RT: 7.36
Area: 80862
Amount: 8.315133
Amount Units: ng

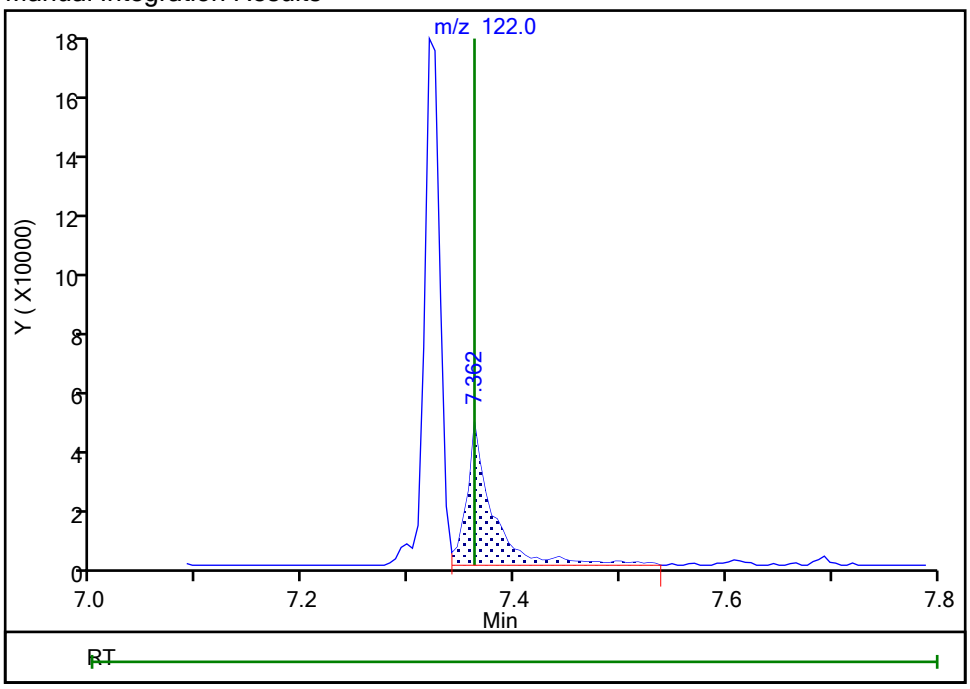

Reviewer: piccolinov, 16-Oct-2019 08:25:13

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016006.D				
Injection Date:	16-Oct-2019 07:14:30	Instrument ID:	CHMSD7		
Lims ID:	ICIS				
Client ID:					
Operator ID:	003200	ALS Bottle#:	5	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

217 Benzo[e]pyrene, CAS: 192-97-2

Signal: 1

Not Detected
Expected RT: 17.15

Processing Integration Results

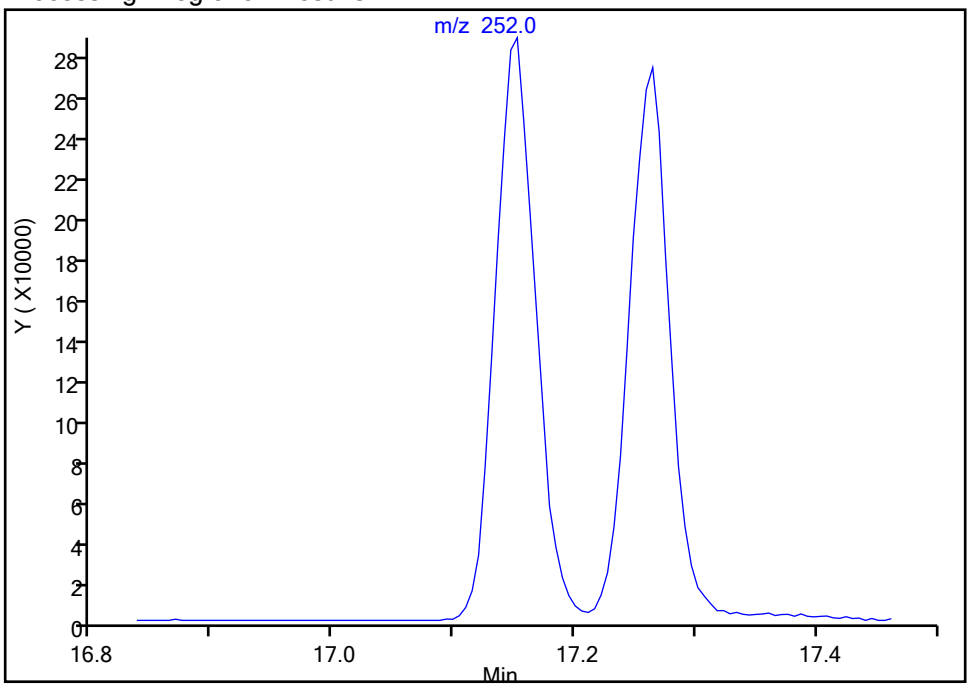

Manual Integration Results

RT: 17.15
Area: 674752
Amount: 9.856993
Amount Units: ng

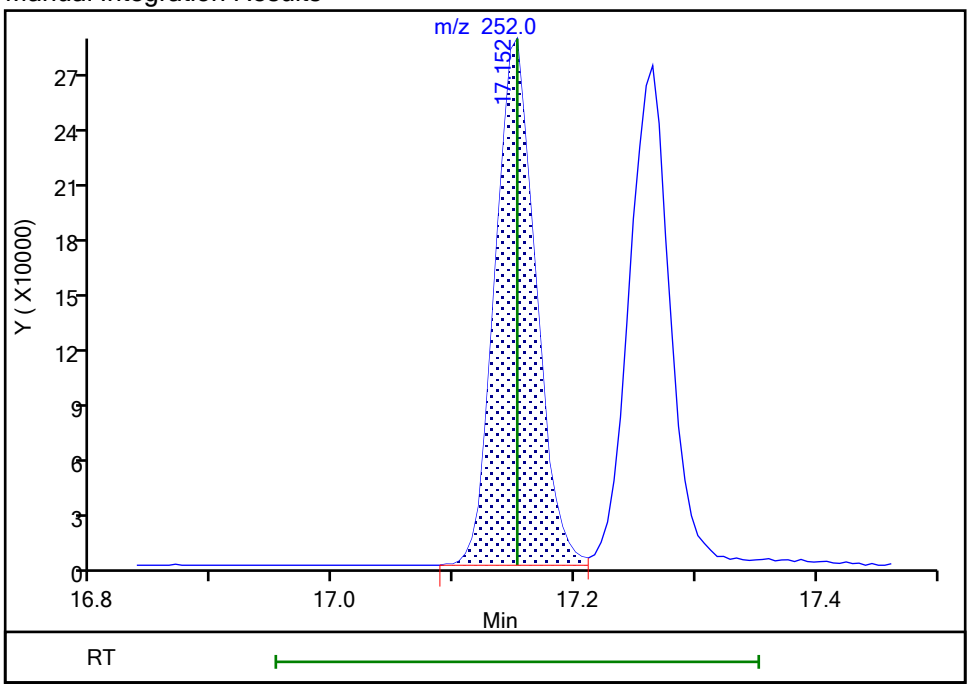

Reviewer: piccolinov, 16-Oct-2019 08:25:34
Audit Action: Assigned Compound ID Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016006.D				
Injection Date:	16-Oct-2019 07:14:30	Instrument ID:	CHMSD7		
Lims ID:	ICIS				
Client ID:					
Operator ID:	003200	ALS Bottle#:	5	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

154 Benzo[a]pyrene, CAS: 50-32-8

Signal: 1

Processing Integration Results

RT: 17.15
Area: 674752
Amount: 10.467503
Amount Units: ng

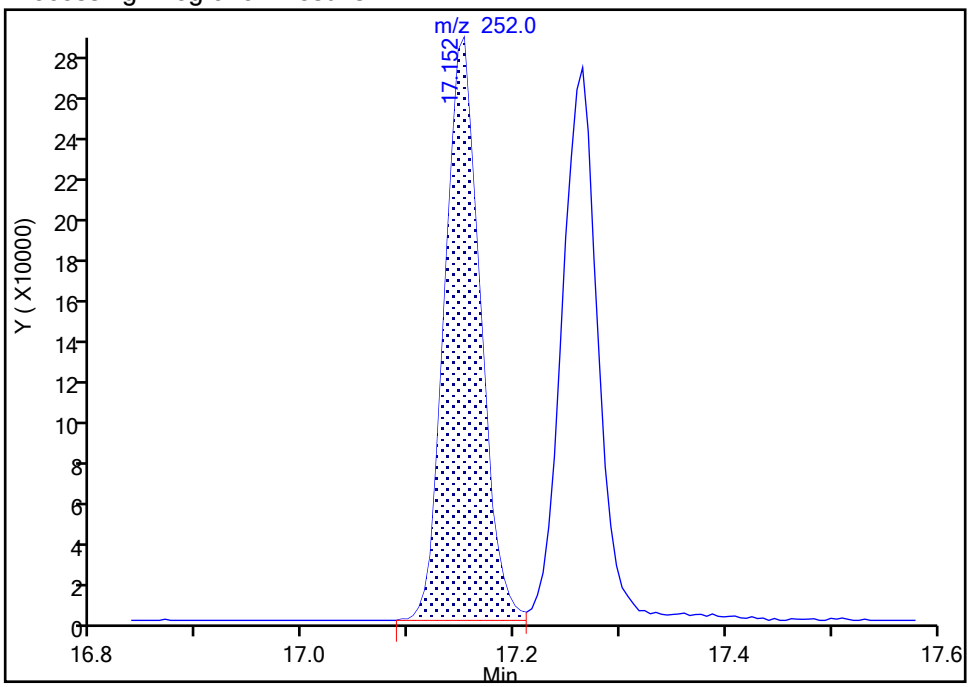

Manual Integration Results

RT: 17.26
Area: 644283
Amount: 10.005526
Amount Units: ng

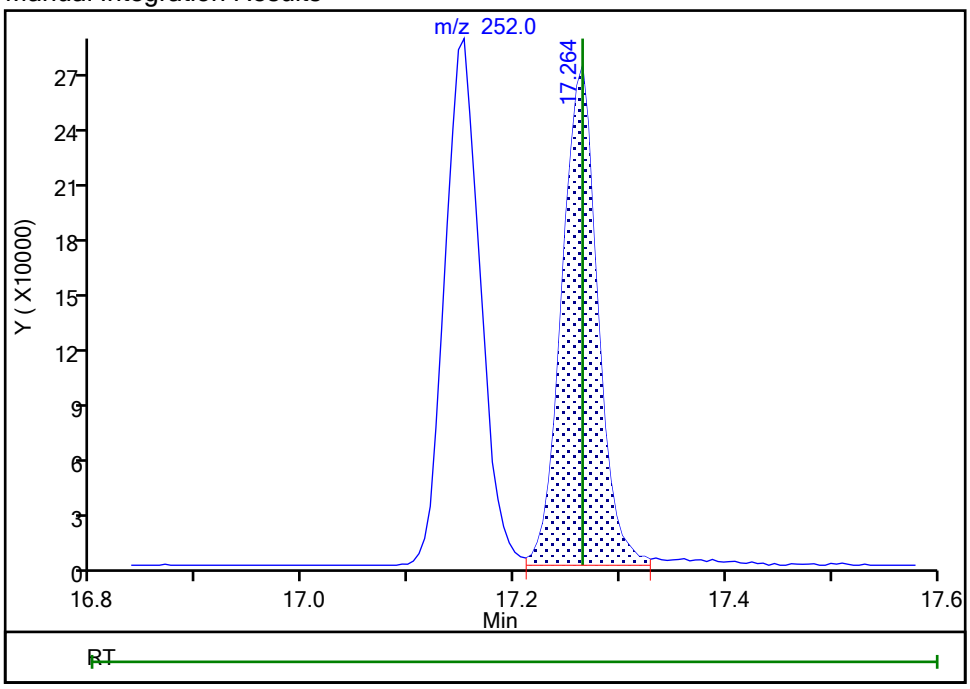

Reviewer: piccolinov, 16-Oct-2019 08:25:40

Audit Action: Assigned Compound ID Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016006.D				
Injection Date:	16-Oct-2019 07:14:30	Instrument ID:	CHMSD7		
Lims ID:	ICIS				
Client ID:					
Operator ID:	003200	ALS Bottle#:	5	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

157 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

Signal: 1

Not Detected
Expected RT: 19.69

Processing Integration Results

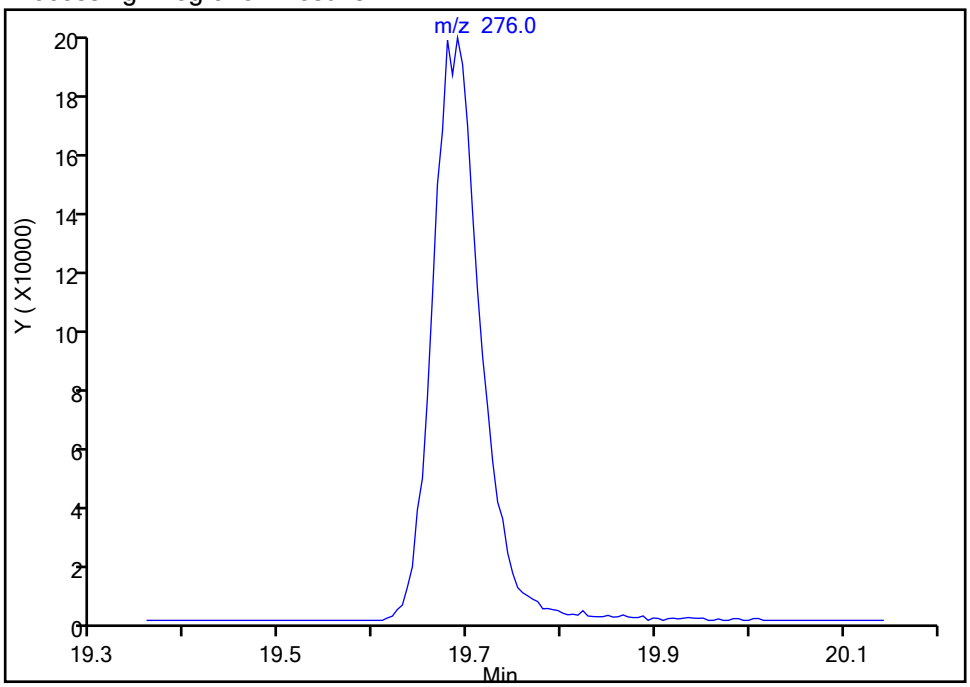

Manual Integration Results

RT: 19.69
Area: 719370
Amount: 10.015650
Amount Units: ng

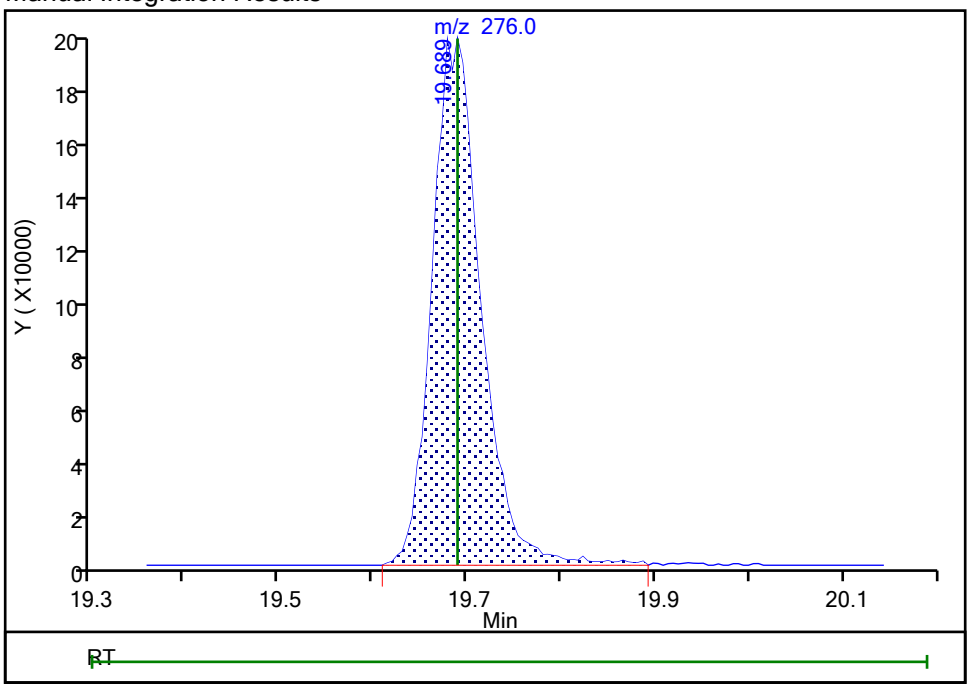

Reviewer: piccolinov, 16-Oct-2019 08:25:55
Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016007.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 16-Oct-2019 07:41:30 ALS Bottle#: 6 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029126-007
Operator ID: 003200 Instrument ID: CHMSD7
Sublist: chrom-BNA_CHMSD7*sub13

Method: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\BNA_CHMSD7.m
Limit Group: BNA 8270D ICAL
Last Update: 17-Oct-2019 06:05:52 Calib Date: 16-Oct-2019 09:05:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016010.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0331

First Level Reviewer: piccolinov Date: 16-Oct-2019 08:34:23

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.417	6.427	-0.010	96	127339	8.00	8.00	
* 2 Naphthalene-d8	136	7.661	7.666	-0.005	100	483878	8.00	8.00	
* 3 Acenaphthene-d10	164	9.306	9.317	-0.011	96	268017	8.00	8.00	
* 4 Phenanthrene-d10	188	10.700	10.711	-0.011	97	510669	8.00	8.00	
* 5 Chrysene-d12	240	14.375	14.380	-0.005	99	504861	8.00	8.00	
* 6 Perylene-d12	264	17.361	17.382	-0.021	98	433981	8.00	8.00	
$ 7 2-Fluorophenol	112	5.007	5.017	-0.010	93	367017	20.0	20.3	
$ 8 Phenol-d5	99	6.043	6.053	-0.010	99	480545	20.0	20.1	
$ 9 Nitrobenzene-d5	82	6.956	6.967	-0.011	90	444573	20.0	20.0	
$ 10 2-Fluorobiphenyl	172	8.660	8.665	-0.005	100	974756	20.0	19.6	
$ 11 2,4,6-Tribromophenol	330	10.038	10.043	-0.005	91	108928	20.0	19.8	
$ 12 Terphenyl-d14	244	12.548	12.559	-0.011	100	1137564	20.0	19.9	
13 1,4-Dioxane	88	1.642	1.652	-0.010	89	127632	20.0	19.9	
14 N-Nitrosodimethylamine	74	2.358	2.379	-0.021	92	202039	20.0	19.9	
15 Pyridine	79	2.427	2.448	-0.021	96	684288	40.0	41.1	
21 Methyl methanesulfonate	80	4.761	4.772	-0.011	89	220762	20.0	20.0	
25 Benzaldehyde	77	5.963	5.968	-0.005	95	351661	20.0	19.8	
26 Phenol	94	6.059	6.064	-0.005	98	559452	20.0	20.0	
27 Aniline	93	6.075	6.086	-0.011	97	642161	20.0	20.0	
29 Bis(2-chloroethyl)ether	93	6.144	6.150	-0.006	97	371841	20.0	19.7	
30 2-Chlorophenol	128	6.203	6.214	-0.011	97	410985	20.0	20.0	
31 n-Decane	43	6.267	6.272	-0.005	87	399935	20.0	19.2	
32 1,3-Dichlorobenzene	146	6.363	6.369	-0.006	98	489683	20.0	19.7	
33 1,4-Dichlorobenzene	146	6.433	6.443	-0.010	94	506081	20.0	19.8	
34 Benzyl alcohol	108	6.550	6.556	-0.006	91	262451	20.0	21.0	
35 1,2-Dichlorobenzene	146	6.588	6.598	-0.010	97	472282	20.0	19.9	
36 2-Methylphenol	108	6.663	6.668	-0.005	98	381685	20.0	20.3	
37 Indene	116	6.679	6.684	-0.005	90	712814	20.0	19.4	
38 2,2'-oxybis[1-chloropropan	45	6.684	6.694	-0.010	91	483461	20.0	19.2	
39 N-Nitrosopyrrolidine	100	6.775	6.785	-0.010	85	193097	20.0	20.6	
42 4-Methylphenol	108	6.807	6.812	-0.005	65	393792	20.0	19.6	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
41 N-Nitrosodi-n-propylamine	70	6.807	6.812	-0.005	70	311918	20.0	19.8	
40 Acetophenone	105	6.807	6.817	-0.010	79	576496	20.0	19.6	
45 Hexachloroethane	117	6.930	6.940	-0.010	91	180508	20.0	19.4	
46 Nitrobenzene	77	6.978	6.983	-0.005	88	448807	20.0	19.5	
48 Isophorone	82	7.207	7.212	-0.005	99	775124	20.0	19.6	
49 2-Nitrophenol	139	7.287	7.298	-0.011	98	223594	20.0	20.2	
50 2,4-Dimethylphenol	107	7.314	7.319	-0.005	97	434250	20.0	19.6	
52 Benzoic acid	122	7.368	7.362	0.006	90	184903	20.0	16.6	
53 Bis(2-chloroethoxy)methane	93	7.400	7.410	-0.010	100	446979	20.0	19.4	
54 2,4-Dichlorophenol	162	7.517	7.522	-0.005	95	369469	20.0	20.3	
56 1,2,4-Trichlorobenzene	180	7.603	7.613	-0.010	94	426557	20.0	19.6	
58 Naphthalene	128	7.683	7.688	-0.005	97	1268829	20.0	19.5	
59 4-Chloroaniline	127	7.715	7.725	-0.010	95	514482	20.0	19.9	
60 2,6-Dichlorophenol	162	7.731	7.741	-0.010	97	353546	20.0	19.8	
62 Hexachlorobutadiene	225	7.800	7.805	-0.005	94	267909	20.0	19.5	
64 Caprolactam	113	8.014	8.019	-0.005	79	110144	20.0	18.8	
67 4-Chloro-3-methylphenol	107	8.153	8.158	-0.005	96	388483	20.0	20.3	
69 2-Methylnaphthalene	142	8.329	8.339	-0.010	92	876475	20.0	19.3	
71 1-Methylnaphthalene	142	8.425	8.436	-0.011	92	803925	20.0	19.5	
72 Hexachlorocyclopentadiene	237	8.484	8.489	-0.005	95	344534	20.0	21.1	
73 1,2,4,5-Tetrachlorobenzene	216	8.489	8.500	-0.011	97	460292	20.0	19.4	
74 2,4,6-Trichlorophenol	196	8.585	8.590	-0.005	93	277311	20.0	20.6	
75 2,4,5-Trichlorophenol	196	8.617	8.628	-0.011	95	305876	20.0	21.0	
76 1,1'-Biphenyl	154	8.756	8.767	-0.011	95	1041223	20.0	19.4	
77 2-Chloronaphthalene	162	8.788	8.793	-0.005	97	800338	20.0	19.4	
79 2-Nitroaniline	65	8.863	8.868	-0.005	82	253065	20.0	20.9	
82 Dimethyl phthalate	163	9.013	9.018	-0.005	99	935749	20.0	19.8	
83 1,3-Dinitrobenzene	168	9.050	9.055	-0.005	85	145621	20.0	20.6	
84 2,6-Dinitrotoluene	165	9.071	9.082	-0.011	95	211378	20.0	20.3	
85 Acenaphthylene	152	9.178	9.189	-0.011	98	1253139	20.0	20.3	
86 3-Nitroaniline	138	9.237	9.242	-0.005	93	218082	20.0	20.9	
87 2,4-Dinitrophenol	184	9.333	9.338	-0.005	86	284461	40.0	35.5	
88 Acenaphthene	153	9.338	9.344	-0.006	91	830109	20.0	19.8	
89 4-Nitrophenol	109	9.365	9.370	-0.005	96	291264	40.0	39.4	
91 2,4-Dinitrotoluene	165	9.451	9.456	-0.005	94	285407	20.0	20.5	
93 Dibenzofuran	168	9.493	9.504	-0.011	96	1170876	20.0	19.7	
95 2,3,5,6-Tetrachlorophenol	232	9.563	9.568	-0.005	92	261234	20.0	20.4	
96 2,3,4,6-Tetrachlorophenol	232	9.600	9.611	-0.011	72	262630	20.0	19.9	
97 2-Naphthylamine	143	9.632	9.637	-0.005	96	857628	20.0	20.6	
98 Diethyl phthalate	149	9.654	9.659	-0.005	98	902997	20.0	19.9	
99 Hexadecane	57	9.654	9.664	-0.010	97	544132	20.0	19.2	
100 4-Chlorophenyl phenyl ethe	204	9.792	9.798	-0.006	91	495474	20.0	19.8	
101 4-Nitroaniline	138	9.803	9.808	-0.005	83	242055	20.0	21.3	
103 Fluorene	166	9.814	9.819	-0.005	95	938314	20.0	19.7	
104 4,6-Dinitro-2-methylphenol	198	9.830	9.840	-0.010	88	386195	40.0	41.0	
105 N-Nitrosodiphenylamine	169	9.894	9.899	-0.005	99	685047	20.0	19.5	
215 Azobenzene	77	9.937	9.942	-0.005	99	928785	20.0	19.4	
90 1,2-Diphenylhydrazine	77	9.937	9.942	-0.005	97	928785	20.0	19.4	
110 4-Bromophenyl phenyl ether	248	10.246	10.257	-0.011	65	285120	20.0	19.8	
112 Hexachlorobenzene	284	10.337	10.348	-0.011	94	272422	20.0	19.6	
113 Atrazine	200	10.353	10.364	-0.011	94	296827	20.0	20.8	
115 n-Octadecane	57	10.503	10.508	-0.005	96	562903	20.0	20.1	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
116 Pentachlorophenol	266	10.508	10.513	-0.005	91	382845	40.0	37.6	
121 Phenanthrene	178	10.727	10.738	-0.011	97	1397108	20.0	19.1	
122 Anthracene	178	10.780	10.786	-0.006	97	1435809	20.0	19.9	
124 Carbazole	167	10.919	10.930	-0.011	97	1272027	20.0	19.8	
126 Di-n-butyl phthalate	149	11.218	11.229	-0.011	100	1508042	20.0	20.7	
131 Fluoranthene	202	12.078	12.089	-0.011	97	1635307	20.0	19.8	
132 Benzidine	184	12.196	12.206	-0.010	99	955335	20.0	21.1	
133 Pyrene	202	12.393	12.404	-0.011	98	1650915	20.0	20.2	
138 Butyl benzyl phthalate	149	13.264	13.275	-0.011	98	641810	20.0	19.2	
144 3,3'-Dichlorobenzidine	252	14.263	14.279	-0.016	74	564106	20.0	19.2	
145 Bis(2-ethylhexyl) phthalat	149	14.290	14.305	-0.015	97	884416	20.0	19.1	
146 Benzo[a]anthracene	228	14.348	14.364	-0.016	98	1555708	20.0	19.8	
147 Chrysene	228	14.423	14.439	-0.016	97	1531676	20.0	19.8	
150 Di-n-octyl phthalate	149	15.619	15.635	-0.016	100	1385420	20.0	18.1	
151 7,12-Dimethylbenz(a)anthra	256	16.527	16.543	-0.016	92	689832	20.0	20.3	
152 Benzo[b]fluoranthene	252	16.549	16.565	-0.016	97	1544332	20.0	19.8	
153 Benzo[k]fluoranthene	252	16.608	16.618	-0.010	99	1557226	20.0	20.4	
217 Benzo[e]pyrene	252	17.136	17.152	-0.016	96	1357402	20.0	19.9	a
154 Benzo[a]pyrene	252	17.249	17.264	-0.015	77	1306651	20.0	20.4	a
157 Indeno[1,2,3-cd]pyrene	276	19.657	19.689	-0.032	98	1456932	20.0	20.4	a
158 Dibenz(a,h)anthracene	278	19.695	19.705	-0.010	89	1169684	20.0	20.2	
159 Benzo[g,h,i]perylene	276	20.309	20.325	-0.016	98	1202915	20.0	20.2	
S 199 Total Cresols	108				0		40.0	40.0	
S 197 Methyl Phenols,Total	108				0		40.0	40.0	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

SVTAPSTD20i_00018 Amount Added: 1.00 Units: mL

Report Date: 17-Oct-2019 06:05:53 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016007.D				
Injection Date:	16-Oct-2019 07:41:30	Instrument ID:	CHMSD7	Operator ID:	003200
Lims ID:	IC			Worklist Smp#:	7
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

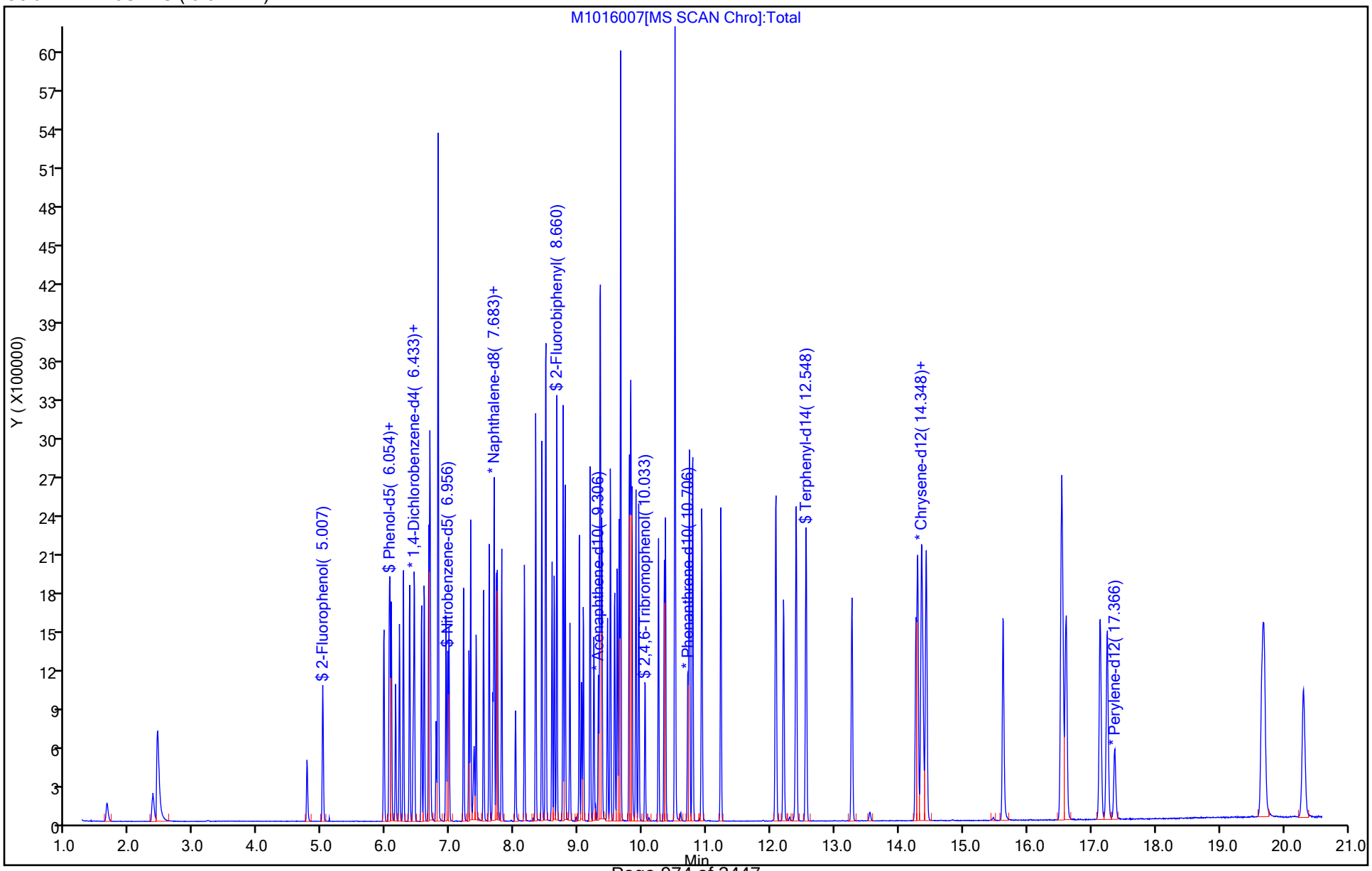

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016007.D				
Injection Date:	16-Oct-2019 07:41:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	6	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

217 Benzo[e]pyrene, CAS: 192-97-2

Signal: 1

Not Detected
Expected RT: 17.15

Processing Integration Results

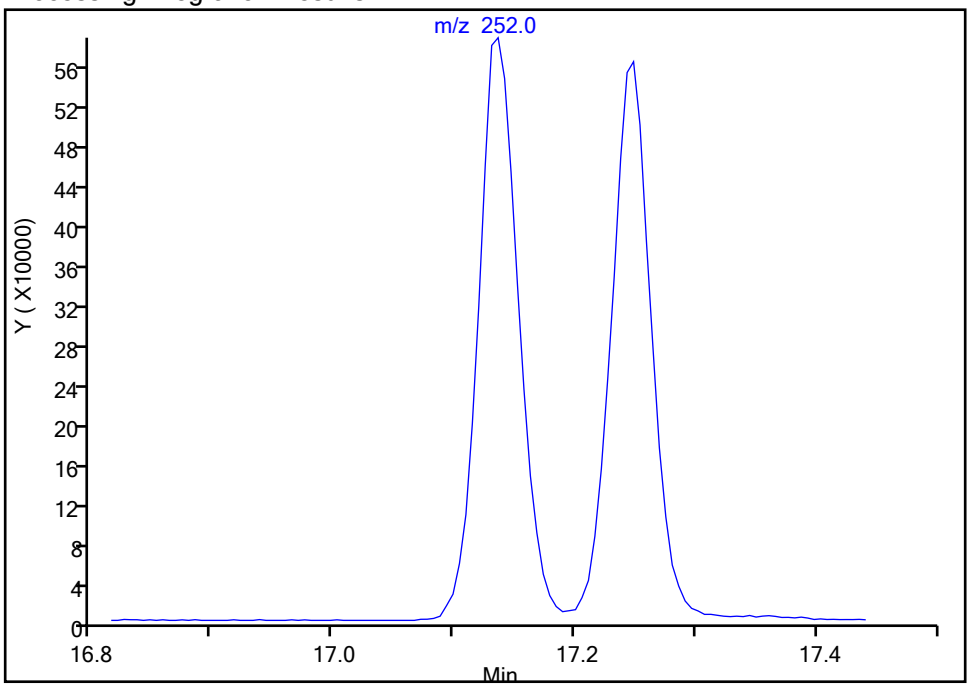

Manual Integration Results

RT: 17.14
Area: 1357402
Amount: 19.933129
Amount Units: ng

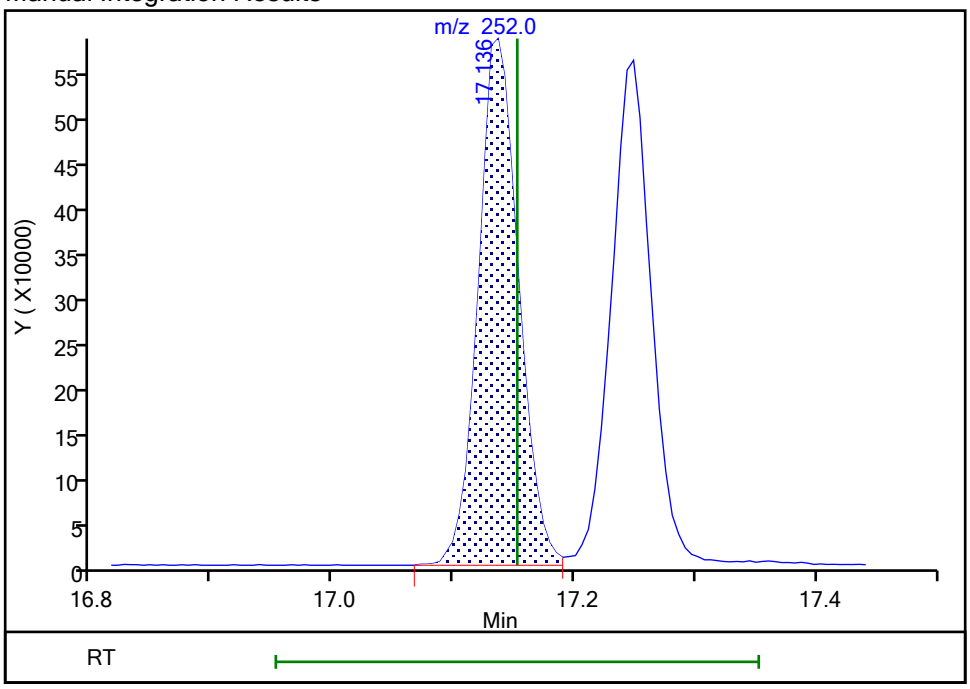

Reviewer: piccolinov, 16-Oct-2019 08:34:05
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016007.D				
Injection Date:	16-Oct-2019 07:41:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	6	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

154 Benzo[a]pyrene, CAS: 50-32-8

Signal: 1

Processing Integration Results

RT: 17.14
Area: 1357402
Amount: 21.977443
Amount Units: ng

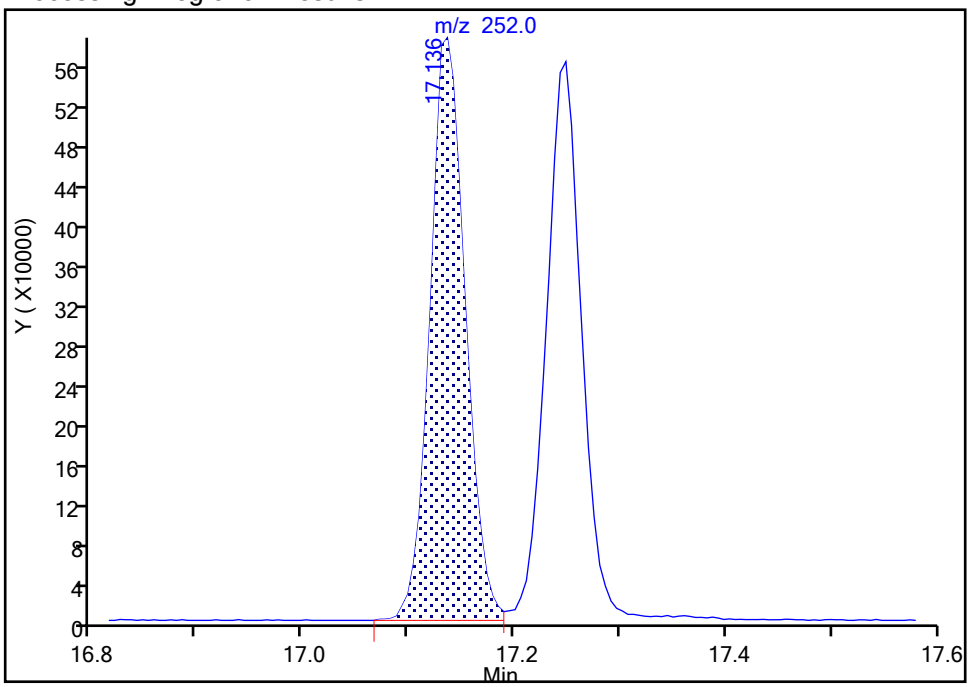

Manual Integration Results

RT: 17.25
Area: 1306651
Amount: 20.398094
Amount Units: ng

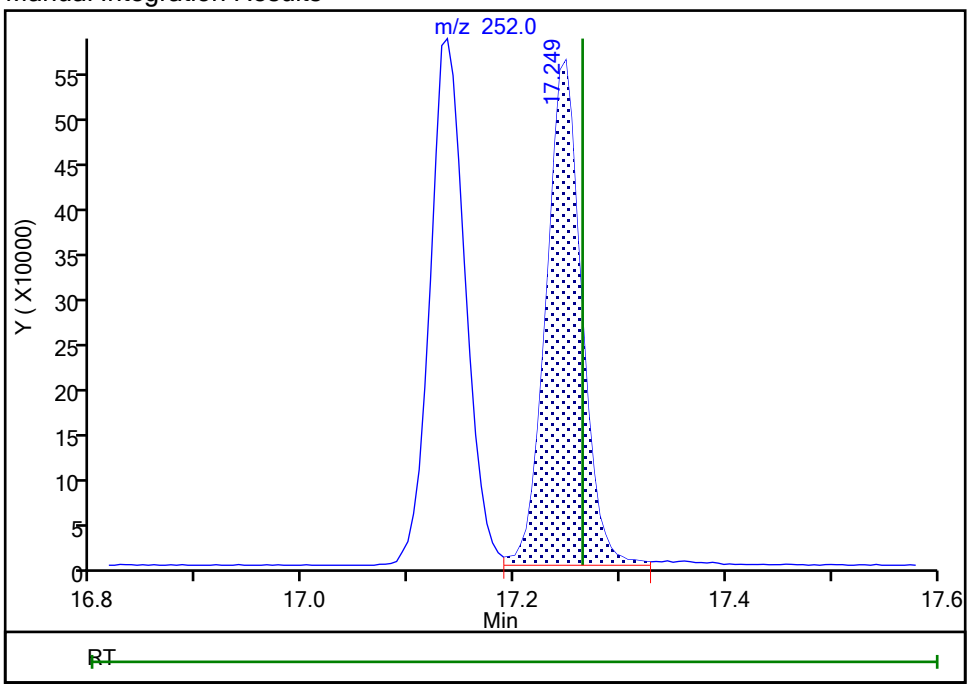

Reviewer: piccolinov, 16-Oct-2019 08:34:10

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016007.D				
Injection Date:	16-Oct-2019 07:41:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	6	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

157 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

Signal: 1

Processing Integration Results

RT: 19.77
Area: 5724
Amount: 0.095341
Amount Units: ng

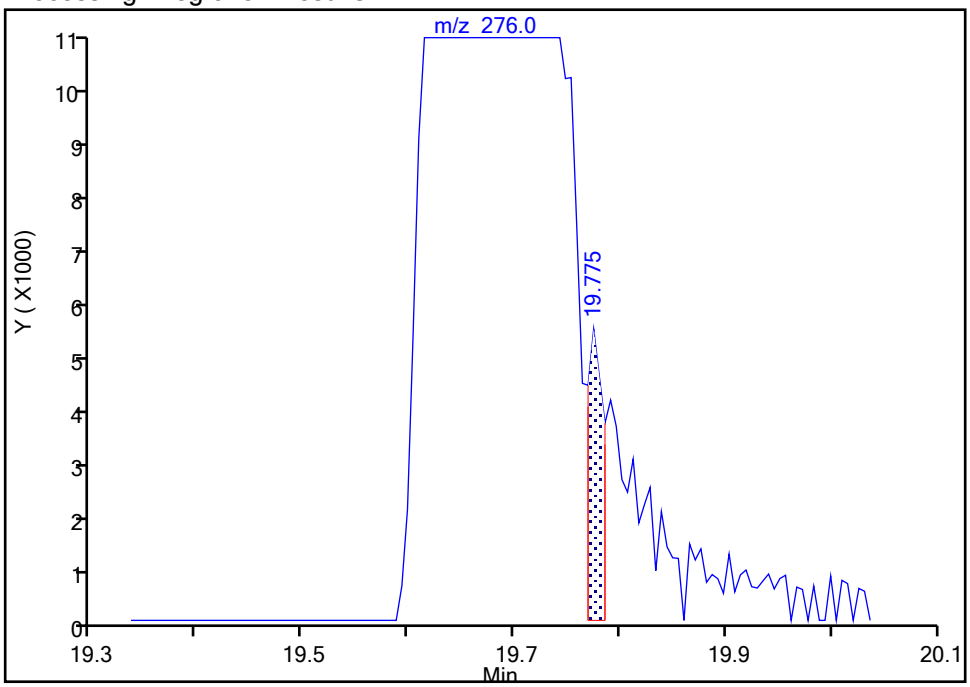

Manual Integration Results

RT: 19.66
Area: 1456932
Amount: 20.390732
Amount Units: ng

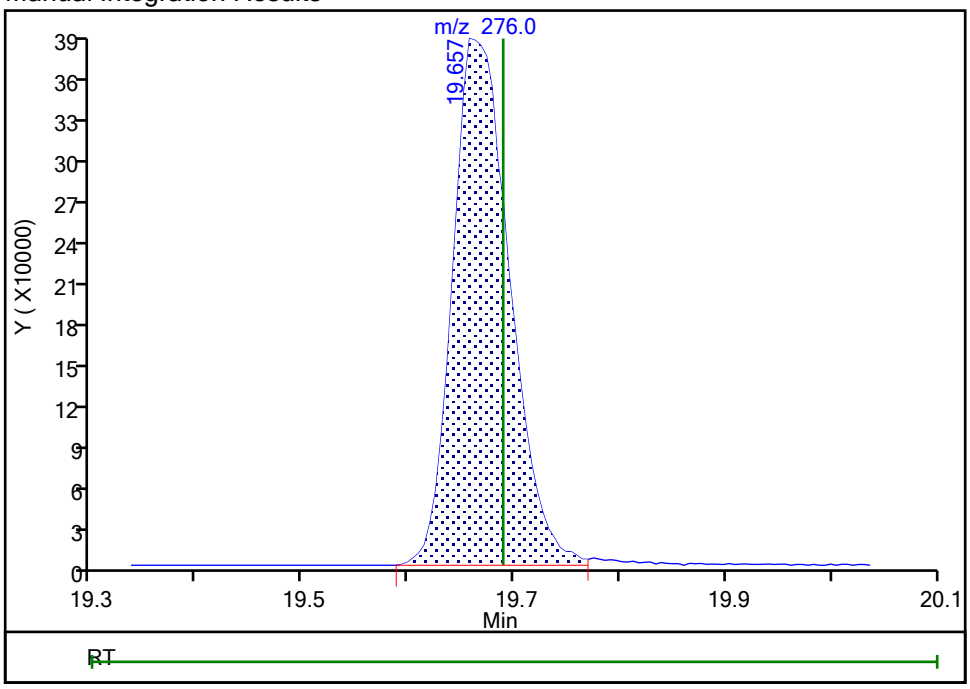

Reviewer: piccolinov, 16-Oct-2019 08:34:14

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016008.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 16-Oct-2019 08:07:30 ALS Bottle#: 7 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029126-008
Operator ID: 003200 Instrument ID: CHMSD7
Sublist: chrom-BNA_CHMSD7*sub13

Method: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\BNA_CHMSD7.m
Limit Group: BNA 8270D ICAL
Last Update: 17-Oct-2019 06:05:59 Calib Date: 16-Oct-2019 09:05:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016010.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0331

First Level Reviewer: piccolinov Date: 16-Oct-2019 08:35:07

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.419	6.427	-0.008	97	123290	8.00	8.00	
* 2 Naphthalene-d8	136	7.663	7.666	-0.003	100	460822	8.00	8.00	
* 3 Acenaphthene-d10	164	9.308	9.317	-0.009	93	260057	8.00	8.00	
* 4 Phenanthrene-d10	188	10.702	10.711	-0.009	97	494686	8.00	8.00	
* 5 Chrysene-d12	240	14.377	14.380	-0.003	99	483462	8.00	8.00	
* 6 Perylene-d12	264	17.373	17.382	-0.009	98	412696	8.00	8.00	
$ 7 2-Fluorophenol	112	5.009	5.017	-0.008	94	742657	40.0	42.4	
$ 8 Phenol-d5	99	6.050	6.053	-0.003	98	959361	40.0	41.5	
$ 9 Nitrobenzene-d5	82	6.963	6.967	-0.004	90	868137	40.0	40.9	
$ 10 2-Fluorobiphenyl	172	8.662	8.665	-0.003	100	1923857	40.0	39.9	
$ 11 2,4,6-Tribromophenol	330	10.040	10.043	-0.003	90	221043	40.0	41.5	
$ 12 Terphenyl-d14	244	12.550	12.559	-0.009	100	2272200	40.0	41.6	
13 1,4-Dioxane	88	1.644	1.652	-0.008	92	250110	40.0	40.3	
14 N-Nitrosodimethylamine	74	2.365	2.379	-0.014	90	405357	40.0	41.2	
15 Pyridine	79	2.429	2.448	-0.019	96	1406480	80.0	87.2	
21 Methyl methanesulfonate	80	4.763	4.772	-0.009	88	445690	40.0	41.7	
25 Benzaldehyde	77	5.965	5.968	-0.003	96	712279	40.0	41.5	
26 Phenol	94	6.061	6.064	-0.003	98	1096591	40.0	40.4	
27 Aniline	93	6.082	6.086	-0.004	96	1246155	40.0	40.1	
29 Bis(2-chloroethyl)ether	93	6.146	6.150	-0.004	97	719912	40.0	39.4	
30 2-Chlorophenol	128	6.205	6.214	-0.009	97	829373	40.0	41.8	
31 n-Decane	43	6.269	6.272	-0.003	88	798425	40.0	39.6	
32 1,3-Dichlorobenzene	146	6.365	6.369	-0.004	97	972493	40.0	40.3	
33 1,4-Dichlorobenzene	146	6.440	6.443	-0.003	94	985820	40.0	39.8	
34 Benzyl alcohol	108	6.552	6.556	-0.004	90	513811	40.0	42.4	
35 1,2-Dichlorobenzene	146	6.590	6.598	-0.008	96	928803	40.0	40.5	
36 2-Methylphenol	108	6.664	6.668	-0.004	98	742983	40.0	40.9	
37 Indene	116	6.680	6.684	-0.004	91	1414551	40.0	39.7	
38 2,2'-oxybis[1-chloropropan	45	6.686	6.694	-0.008	88	943706	40.0	38.8	
39 N-Nitrosopyrrolidine	100	6.782	6.785	-0.003	88	386698	40.0	42.6	
42 4-Methylphenol	108	6.808	6.812	-0.004	68	799241	40.0	41.1	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
41 N-Nitrosodi-n-propylamine	70	6.808	6.812	-0.004	70	622172	40.0	40.8	
40 Acetophenone	105	6.814	6.817	-0.003	80	1148903	40.0	40.2	
45 Hexachloroethane	117	6.931	6.940	-0.009	92	364534	40.0	40.5	
46 Nitrobenzene	77	6.979	6.983	-0.004	89	882345	40.0	40.2	
48 Isophorone	82	7.209	7.212	-0.003	99	1583229	40.0	42.0	
49 2-Nitrophenol	139	7.289	7.298	-0.009	98	462750	40.0	43.8	
50 2,4-Dimethylphenol	107	7.316	7.319	-0.003	96	868460	40.0	41.1	
52 Benzoic acid	122	7.391	7.362	0.029	88	431434	40.0	38.4	
53 Bis(2-chloroethoxy)methane	93	7.401	7.410	-0.009	98	868428	40.0	39.5	
54 2,4-Dichlorophenol	162	7.519	7.522	-0.003	95	733891	40.0	42.3	
56 1,2,4-Trichlorobenzene	180	7.604	7.613	-0.009	94	839299	40.0	40.5	
58 Naphthalene	128	7.684	7.688	-0.004	97	2488594	40.0	40.1	
59 4-Chloroaniline	127	7.716	7.725	-0.009	95	1016129	40.0	41.2	
60 2,6-Dichlorophenol	162	7.732	7.741	-0.009	97	706675	40.0	41.6	
62 Hexachlorobutadiene	225	7.802	7.805	-0.003	94	525939	40.0	40.1	
64 Caprolactam	113	8.026	8.019	0.007	79	233066	40.0	40.8	
67 4-Chloro-3-methylphenol	107	8.154	8.158	-0.004	96	792351	40.0	43.6	
69 2-Methylnaphthalene	142	8.331	8.339	-0.008	92	1755579	40.0	40.6	
71 1-Methylnaphthalene	142	8.427	8.436	-0.009	93	1612719	40.0	41.0	
72 Hexachlorocyclopentadiene	237	8.486	8.489	-0.003	94	697033	40.0	43.9	
73 1,2,4,5-Tetrachlorobenzene	216	8.491	8.500	-0.009	97	920189	40.0	40.0	
74 2,4,6-Trichlorophenol	196	8.587	8.590	-0.003	93	558965	40.0	42.8	
75 2,4,5-Trichlorophenol	196	8.624	8.628	-0.004	95	596310	40.0	42.2	
76 1,1'-Biphenyl	154	8.758	8.767	-0.009	95	2090596	40.0	40.2	
77 2-Chloronaphthalene	162	8.790	8.793	-0.003	97	1575887	40.0	39.3	
79 2-Nitroaniline	65	8.865	8.868	-0.003	82	502852	40.0	42.7	
82 Dimethyl phthalate	163	9.014	9.018	-0.004	99	1873541	40.0	40.9	
83 1,3-Dinitrobenzene	168	9.052	9.055	-0.003	86	293249	40.0	42.8	
84 2,6-Dinitrotoluene	165	9.078	9.082	-0.004	94	427746	40.0	42.4	
85 Acenaphthylene	152	9.180	9.189	-0.009	98	2480286	40.0	41.5	
86 3-Nitroaniline	138	9.239	9.242	-0.003	91	436950	40.0	43.1	
87 2,4-Dinitrophenol	184	9.335	9.338	-0.003	85	634340	80.0	78.4	
88 Acenaphthene	153	9.340	9.344	-0.004	92	1646352	40.0	40.5	
89 4-Nitrophenol	109	9.367	9.370	-0.003	96	596196	80.0	83.1	
91 2,4-Dinitrotoluene	165	9.452	9.456	-0.004	93	571867	40.0	42.3	
93 Dibenzofuran	168	9.500	9.504	-0.004	96	2329552	40.0	40.4	
95 2,3,5,6-Tetrachlorophenol	232	9.564	9.568	-0.004	92	541543	40.0	43.5	
96 2,3,4,6-Tetrachlorophenol	232	9.602	9.611	-0.009	71	534550	40.0	41.8	
97 2-Naphthylamine	143	9.634	9.637	-0.003	95	1702093	40.0	42.0	
98 Diethyl phthalate	149	9.655	9.659	-0.004	98	1841115	40.0	41.8	
99 Hexadecane	57	9.655	9.664	-0.009	74	1090722	40.0	40.4	
100 4-Chlorophenyl phenyl ethe	204	9.794	9.798	-0.004	91	985137	40.0	40.5	
101 4-Nitroaniline	138	9.810	9.808	0.002	82	476140	40.0	43.2	
103 Fluorene	166	9.816	9.819	-0.003	94	1873686	40.0	40.6	
104 4,6-Dinitro-2-methylphenol	198	9.837	9.840	-0.003	89	807234	80.0	88.4	
105 N-Nitrosodiphenylamine	169	9.896	9.899	-0.003	99	1361256	40.0	39.9	
215 Azobenzene	77	9.938	9.942	-0.004	100	1906674	40.0	41.1	
90 1,2-Diphenylhydrazine	77	9.938	9.942	-0.004	97	1906674	40.0	41.1	
110 4-Bromophenyl phenyl ether	248	10.248	10.257	-0.009	66	576446	40.0	41.4	
112 Hexachlorobenzene	284	10.339	10.348	-0.009	93	541022	40.0	40.1	
113 Atrazine	200	10.360	10.364	-0.004	94	587545	40.0	42.5	
115 n-Octadecane	57	10.505	10.508	-0.004	97	1140736	40.0	42.1	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
116 Pentachlorophenol	266	10.510	10.513	-0.003	92	823036	80.0	83.4	
121 Phenanthrene	178	10.729	10.738	-0.009	97	2791927	40.0	39.4	
122 Anthracene	178	10.782	10.786	-0.004	97	2848254	40.0	40.8	
124 Carbazole	167	10.921	10.930	-0.009	97	2561567	40.0	41.2	
126 Di-n-butyl phthalate	149	11.220	11.229	-0.009	100	3075469	40.0	43.5	
131 Fluoranthene	202	12.080	12.089	-0.009	97	3378295	40.0	42.2	
132 Benzidine	184	12.203	12.206	-0.003	99	1919816	40.0	44.4	
133 Pyrene	202	12.401	12.404	-0.003	98	3297844	40.0	42.2	
138 Butyl benzyl phthalate	149	13.266	13.275	-0.009	99	1353602	40.0	41.3	
144 3,3'-Dichlorobenzidine	252	14.270	14.279	-0.009	74	1161135	40.0	40.5	
145 Bis(2-ethylhexyl) phthalat	149	14.291	14.305	-0.014	97	1868166	40.0	41.1	
146 Benzo[a]anthracene	228	14.355	14.364	-0.009	98	3081142	40.0	40.8	
147 Chrysene	228	14.425	14.439	-0.014	97	2974287	40.0	40.2	
150 Di-n-octyl phthalate	149	15.627	15.635	-0.008	100	3102104	40.0	42.7	
151 7,12-Dimethylbenz(a)anthra	256	16.540	16.543	-0.003	91	1401548	40.0	43.5	
152 Benzo[b]fluoranthene	252	16.556	16.565	-0.009	97	3133348	40.0	42.2	
153 Benzo[k]fluoranthene	252	16.615	16.618	-0.003	99	2917247	40.0	40.2	
217 Benzo[e]pyrene	252	17.143	17.152	-0.009	97	2684248	40.0	41.5	
154 Benzo[a]pyrene	252	17.256	17.264	-0.008	84	2558186	40.0	42.0	
157 Indeno[1,2,3-cd]pyrene	276	19.680	19.689	-0.009	99	2912894	40.0	42.9	
158 Dibenz(a,h)anthracene	278	19.707	19.705	0.002	91	2346624	40.0	42.5	
159 Benzo[g,h,i]perylene	276	20.316	20.325	-0.009	98	2378514	40.0	41.9	
S 199 Total Cresols	108				0		80.0	82.0	
S 197 Methyl Phenols,Total	108				0		80.0	82.0	

Reagents:

SVTAPSTD40i_00018 Amount Added: 1.00 Units: mL

Report Date: 17-Oct-2019 06:06:00 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016008.D				
Injection Date:	16-Oct-2019 08:07:30	Instrument ID:	CHMSD7	Operator ID:	003200
Lims ID:	IC			Worklist Smp#:	8
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

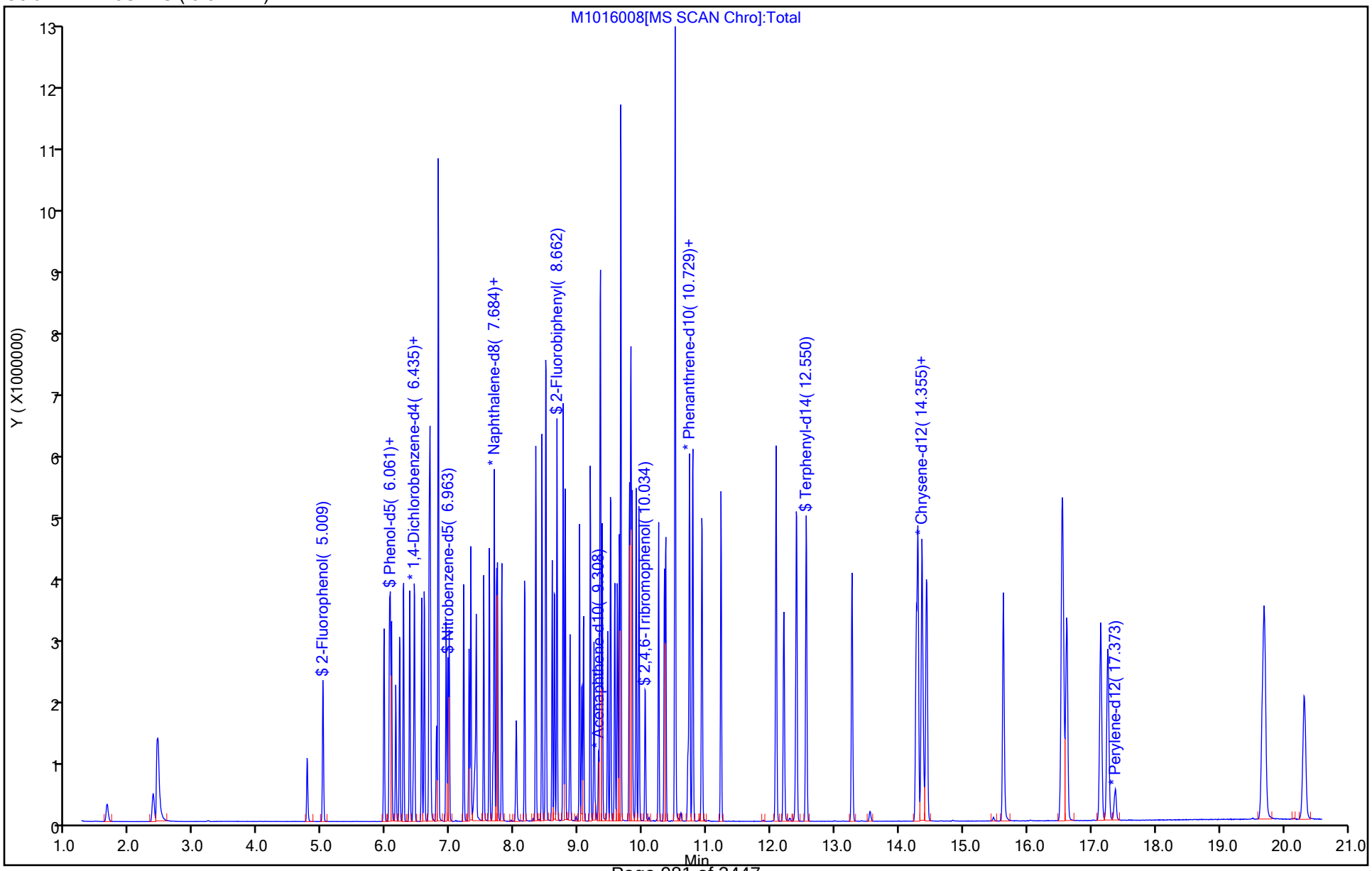

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016009.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 16-Oct-2019 08:34:30 ALS Bottle#: 8 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029126-009
Operator ID: 003200 Instrument ID: CHMSD7
Sublist: chrom-BNA_CHMSD7*sub13

Method: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\BNA_CHMSD7.m
Limit Group: BNA 8270D ICAL
Last Update: 17-Oct-2019 06:06:08 Calib Date: 16-Oct-2019 09:05:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016010.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0331

First Level Reviewer: piccolinov Date: 16-Oct-2019 09:09:10

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.419	6.427	-0.008	96	119423	8.00	8.00	
* 2 Naphthalene-d8	136	7.664	7.666	-0.002	100	447728	8.00	8.00	
* 3 Acenaphthene-d10	164	9.309	9.317	-0.008	95	253508	8.00	8.00	
* 4 Phenanthrene-d10	188	10.703	10.711	-0.008	97	482164	8.00	8.00	
* 5 Chrysene-d12	240	14.372	14.380	-0.008	99	470380	8.00	8.00	
* 6 Perylene-d12	264	17.363	17.382	-0.019	98	392423	8.00	8.00	
$ 7 2-Fluorophenol	112	5.009	5.017	-0.008	93	1074548	60.0	63.4	
$ 8 Phenol-d5	99	6.045	6.053	-0.008	98	1402726	60.0	62.7	
$ 9 Nitrobenzene-d5	82	6.959	6.967	-0.008	90	1278988	60.0	62.0	
$ 10 2-Fluorobiphenyl	172	8.657	8.665	-0.008	100	2808717	60.0	59.8	
$ 11 2,4,6-Tribromophenol	330	10.041	10.043	-0.002	93	327292	60.0	63.1	
$ 12 Terphenyl-d14	244	12.546	12.559	-0.013	100	3313977	60.0	62.3	
13 1,4-Dioxane	88	1.644	1.652	-0.008	93	366451	60.0	61.0	
14 N-Nitrosodimethylamine	74	2.371	2.379	-0.008	90	586108	60.0	61.5	
15 Pyridine	79	2.430	2.448	-0.018	96	1980592	120.0	126.8	
21 Methyl methanesulfonate	80	4.764	4.772	-0.008	89	653335	60.0	63.1	
25 Benzaldehyde	77	5.960	5.968	-0.008	95	1020260	60.0	61.3	
26 Phenol	94	6.062	6.064	-0.002	97	1617809	60.0	61.6	
27 Aniline	93	6.078	6.086	-0.008	98	1823736	60.0	60.6	
29 Bis(2-chloroethyl)ether	93	6.147	6.150	-0.003	96	1033749	60.0	58.4	
30 2-Chlorophenol	128	6.206	6.214	-0.008	97	1185656	60.0	61.6	
31 n-Decane	43	6.264	6.272	-0.008	88	1148552	60.0	58.7	
32 1,3-Dichlorobenzene	146	6.361	6.369	-0.008	97	1405863	60.0	60.2	
33 1,4-Dichlorobenzene	146	6.435	6.443	-0.008	94	1418755	60.0	59.2	
34 Benzyl alcohol	108	6.548	6.556	-0.008	90	751537	60.0	64.0	
35 1,2-Dichlorobenzene	146	6.590	6.598	-0.008	96	1328352	60.0	59.7	
36 2-Methylphenol	108	6.665	6.668	-0.003	98	1104210	60.0	62.7	
37 Indene	116	6.676	6.684	-0.008	91	2078827	60.0	60.2	
38 2,2'-oxybis[1-chloropropan	45	6.686	6.694	-0.008	89	1385186	60.0	58.7	
39 N-Nitrosopyrrolidine	100	6.783	6.785	-0.002	83	557682	60.0	63.4	
42 4-Methylphenol	108	6.809	6.812	-0.003	69	1162121	60.0	61.7	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
41 N-Nitrosodi-n-propylamine	70	6.809	6.812	-0.003	70	903528	60.0	61.1	
40 Acetophenone	105	6.809	6.817	-0.008	79	1647025	60.0	59.6	
45 Hexachloroethane	117	6.932	6.940	-0.008	91	526135	60.0	60.4	
46 Nitrobenzene	77	6.980	6.983	-0.003	89	1266248	60.0	59.3	
48 Isophorone	82	7.205	7.212	-0.008	99	2308551	60.0	63.0	
49 2-Nitrophenol	139	7.290	7.298	-0.008	97	676231	60.0	65.9	
50 2,4-Dimethylphenol	107	7.317	7.319	-0.002	97	1262476	60.0	61.5	
52 Benzoic acid	122	7.402	7.362	0.040	40	684838	60.0	61.7	a
53 Bis(2-chloroethoxy)methane	93	7.402	7.410	-0.008	99	1294315	60.0	60.7	
54 2,4-Dichlorophenol	162	7.520	7.522	-0.002	95	1066716	60.0	63.3	
56 1,2,4-Trichlorobenzene	180	7.605	7.613	-0.008	94	1222290	60.0	60.8	
58 Naphthalene	128	7.680	7.688	-0.008	97	3631780	60.0	60.2	
59 4-Chloroaniline	127	7.717	7.725	-0.008	95	1502539	60.0	62.7	
60 2,6-Dichlorophenol	162	7.733	7.741	-0.008	98	1033859	60.0	62.6	
62 Hexachlorobutadiene	225	7.797	7.805	-0.008	94	759897	60.0	59.7	
64 Caprolactam	113	8.032	8.019	0.013	79	349047	60.0	62.4	
67 4-Chloro-3-methylphenol	107	8.155	8.158	-0.003	96	1151021	60.0	65.1	
69 2-Methylnaphthalene	142	8.331	8.339	-0.008	92	2561531	60.0	61.0	
71 1-Methylnaphthalene	142	8.422	8.436	-0.014	93	2344862	60.0	61.3	
72 Hexachlorocyclopentadiene	237	8.481	8.489	-0.008	95	1019290	60.0	65.9	
73 1,2,4,5-Tetrachlorobenzene	216	8.492	8.500	-0.008	97	1346852	60.0	60.1	
74 2,4,6-Trichlorophenol	196	8.588	8.590	-0.002	93	831046	60.0	65.2	
75 2,4,5-Trichlorophenol	196	8.620	8.628	-0.008	95	856567	60.0	62.2	
76 1,1'-Biphenyl	154	8.753	8.767	-0.014	95	3035732	60.0	59.9	
77 2-Chloronaphthalene	162	8.791	8.793	-0.002	96	2294371	60.0	58.7	
79 2-Nitroaniline	65	8.866	8.868	-0.002	81	748975	60.0	65.3	
82 Dimethyl phthalate	163	9.010	9.018	-0.008	99	2738499	60.0	61.3	
83 1,3-Dinitrobenzene	168	9.047	9.055	-0.008	85	450614	60.0	67.5	
84 2,6-Dinitrotoluene	165	9.074	9.082	-0.008	94	611063	60.0	62.1	
85 Acenaphthylene	152	9.181	9.189	-0.008	98	3666003	60.0	62.9	
86 3-Nitroaniline	138	9.239	9.242	-0.003	92	640361	60.0	64.8	
87 2,4-Dinitrophenol	184	9.336	9.338	-0.002	84	969673	120.0	121.6	
88 Acenaphthene	153	9.341	9.344	-0.003	91	2405103	60.0	60.8	
89 4-Nitrophenol	109	9.368	9.370	-0.002	96	882539	120.0	126.2	
91 2,4-Dinitrotoluene	165	9.453	9.456	-0.003	93	840202	60.0	63.7	
93 Dibenzofuran	168	9.496	9.504	-0.008	96	3373955	60.0	60.0	
95 2,3,5,6-Tetrachlorophenol	232	9.560	9.568	-0.008	93	797129	60.0	65.7	
96 2,3,4,6-Tetrachlorophenol	232	9.603	9.611	-0.008	71	796318	60.0	63.9	
97 2-Naphthylamine	143	9.635	9.637	-0.002	96	2453107	60.0	62.2	
98 Diethyl phthalate	149	9.656	9.659	-0.003	98	2682608	60.0	62.5	
99 Hexadecane	57	9.656	9.664	-0.008	75	1611851	60.0	61.4	
100 4-Chlorophenyl phenyl ethe	204	9.790	9.798	-0.008	92	1445788	60.0	60.9	
101 4-Nitroaniline	138	9.806	9.808	-0.002	86	702976	60.0	65.4	
103 Fluorene	166	9.816	9.819	-0.003	95	2736816	60.0	60.8	
104 4,6-Dinitro-2-methylphenol	198	9.838	9.840	-0.002	89	1185335	120.0	133.3	
105 N-Nitrosodiphenylamine	169	9.896	9.899	-0.003	99	1991776	60.0	60.0	
215 Azobenzene	77	9.939	9.942	-0.003	99	2750125	60.0	60.8	
90 1,2-Diphenylhydrazine	77	9.939	9.942	-0.003	97	2757409	60.0	60.9	
110 4-Bromophenyl phenyl ether	248	10.244	10.257	-0.013	66	846928	60.0	62.4	
112 Hexachlorobenzene	284	10.340	10.348	-0.008	94	806988	60.0	61.4	
113 Atrazine	200	10.356	10.364	-0.008	94	853839	60.0	63.4	
115 n-Octadecane	57	10.500	10.508	-0.008	97	1678414	60.0	64.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
116 Pentachlorophenol	266	10.505	10.513	-0.008	93	1244363	120.0	129.3	
121 Phenanthrene	178	10.730	10.738	-0.008	97	4067634	60.0	58.9	
122 Anthracene	178	10.778	10.786	-0.008	97	4223921	60.0	62.0	
124 Carbazole	167	10.922	10.930	-0.008	97	3681934	60.0	60.8	
126 Di-n-butyl phthalate	149	11.221	11.229	-0.008	100	4541651	60.0	65.9	
131 Fluoranthene	202	12.076	12.089	-0.013	97	4938209	60.0	63.3	
132 Benzidine	184	12.198	12.206	-0.008	99	2784360	60.0	66.1	
133 Pyrene	202	12.396	12.404	-0.008	98	4899881	60.0	64.4	
138 Butyl benzyl phthalate	149	13.261	13.275	-0.014	98	1970697	60.0	61.4	
144 3,3'-Dichlorobenzidine	252	14.271	14.279	-0.008	74	1754190	60.0	62.5	
145 Bis(2-ethylhexyl) phthalat	149	14.287	14.305	-0.018	97	2753788	60.0	61.9	
146 Benzo[a]anthracene	228	14.356	14.364	-0.008	98	4497556	60.0	61.3	
147 Chrysene	228	14.431	14.439	-0.008	97	4359949	60.0	60.6	
150 Di-n-octyl phthalate	149	15.627	15.635	-0.008	100	4705295	60.0	68.1	
151 7,12-Dimethylbenz(a)anthra	256	16.541	16.543	-0.002	92	2066997	60.0	67.4	
152 Benzo[b]fluoranthene	252	16.557	16.565	-0.008	97	4401903	60.0	62.3	
153 Benzo[k]fluoranthene	252	16.615	16.618	-0.003	99	4441832	60.0	64.4	
217 Benzo[e]pyrene	252	17.150	17.152	-0.002	97	3932640	60.0	63.9	
154 Benzo[a]pyrene	252	17.256	17.264	-0.008	77	3777238	60.0	65.2	
157 Indeno[1,2,3-cd]pyrene	276	19.676	19.689	-0.013	99	4294009	60.0	66.5	
158 Dibenz(a,h)anthracene	278	19.703	19.705	-0.002	92	3466057	60.0	66.1	
159 Benzo[g,h,i]perylene	276	20.322	20.325	-0.003	98	3467545	60.0	64.3	
S 199 Total Cresols	108				0		120.0	124.5	
S 197 Methyl Phenols,Total	108				0		120.0	124.5	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

SVTAPSTD60i_00018 Amount Added: 1.00 Units: mL

Report Date: 17-Oct-2019 06:06:09 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016009.D				
Injection Date:	16-Oct-2019 08:34:30	Instrument ID:	CHMSD7	Operator ID:	003200
Lims ID:	IC			Worklist Smp#:	9
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

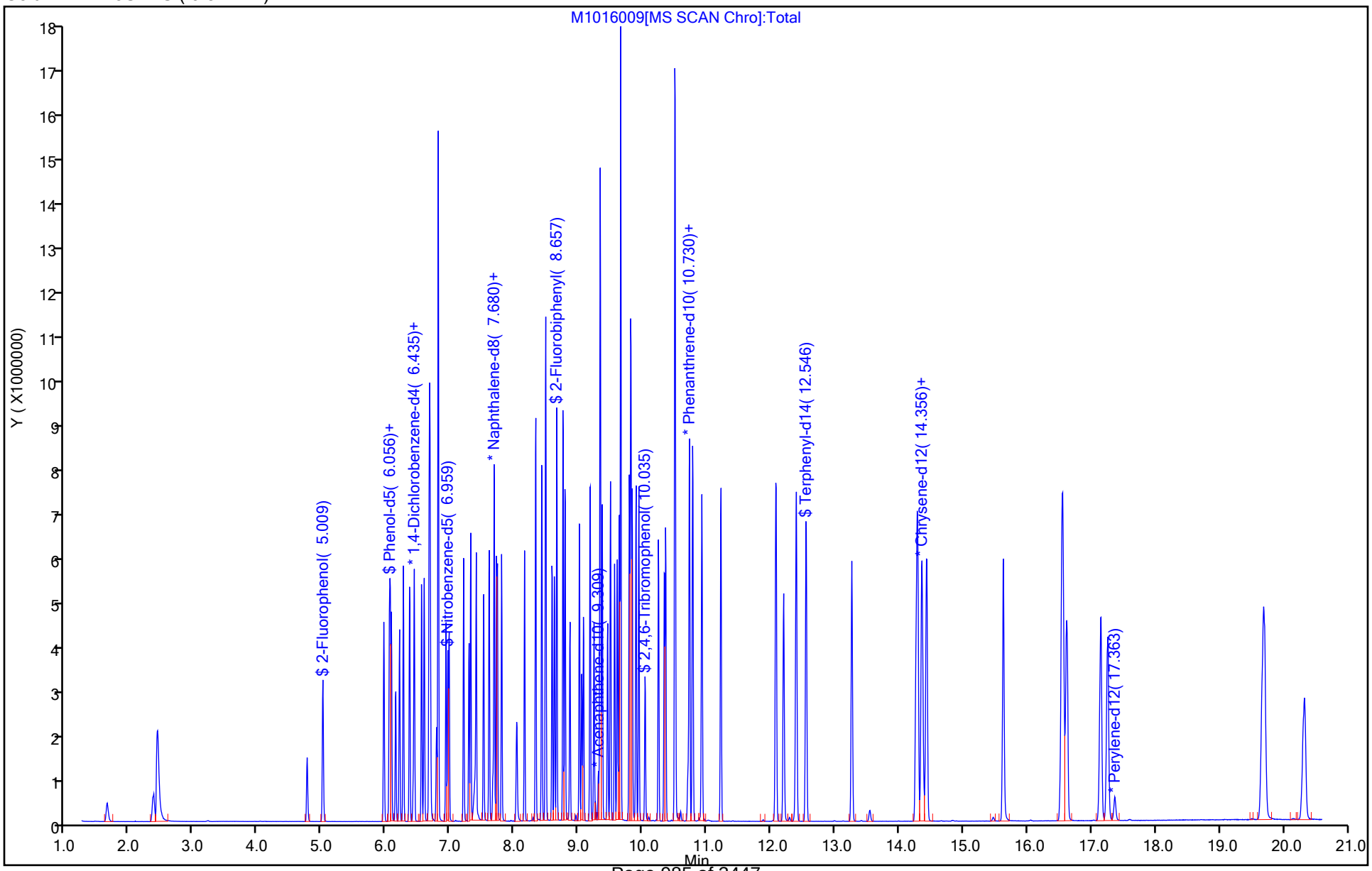

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016009.D				
Injection Date:	16-Oct-2019 08:34:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	8	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

52 Benzoic acid, CAS: 65-85-0

Signal: 1

Not Detected
Expected RT: 7.36

Processing Integration Results

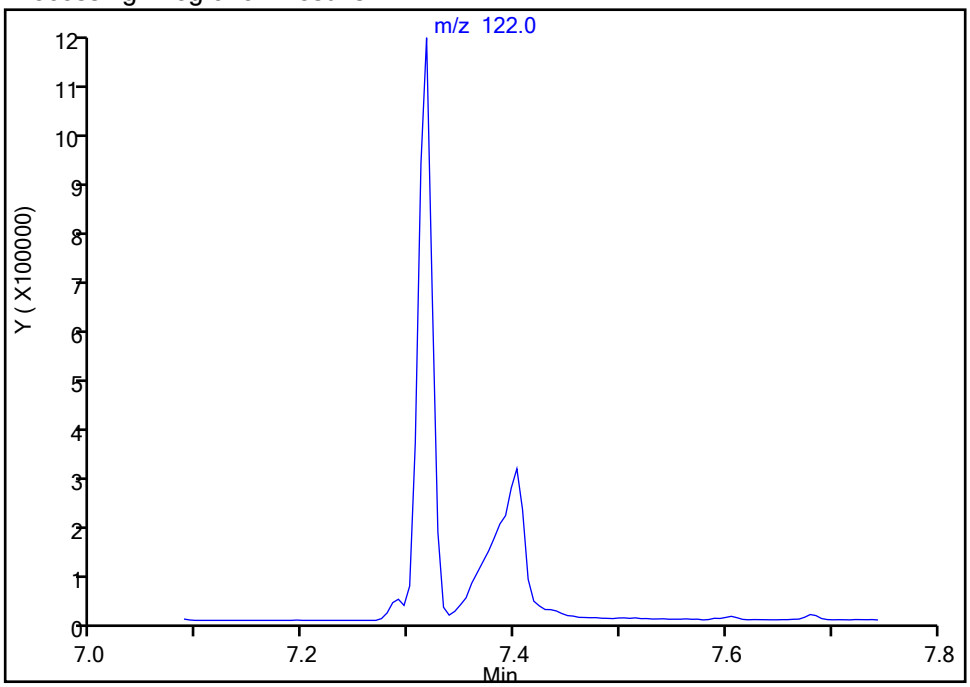

Manual Integration Results

RT: 7.40
Area: 684838
Amount: 61.701018
Amount Units: ng

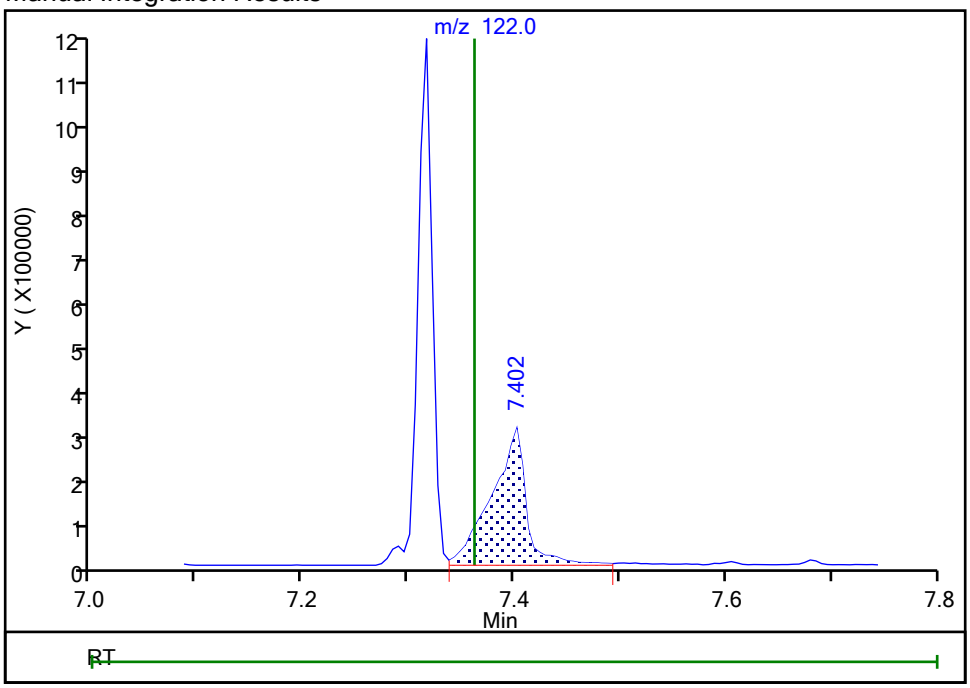

Reviewer: piccolinov, 16-Oct-2019 09:05:56
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016010.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 16-Oct-2019 09:05:30 ALS Bottle#: 9 Worklist Smp#: 10
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029126-010
Operator ID: 003200 Instrument ID: CHMSD7
Sublist: chrom-BNA_CHMSD7*sub13

Method: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\BNA_CHMSD7.m
Limit Group: BNA 8270D ICAL
Last Update: 17-Oct-2019 06:06:15 Calib Date: 16-Oct-2019 09:05:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016010.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0331

First Level Reviewer: piccolinov Date: 16-Oct-2019 09:36:11

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.420	6.427	-0.007	97	108913	8.00	8.00	
* 2 Naphthalene-d8	136	7.669	7.666	0.003	100	399868	8.00	8.00	
* 3 Acenaphthene-d10	164	9.320	9.317	0.003	94	223653	8.00	8.00	
* 4 Phenanthrene-d10	188	10.714	10.711	0.003	97	414535	8.00	8.00	
* 5 Chrysene-d12	240	14.394	14.380	0.014	99	408197	8.00	8.00	
* 6 Perylene-d12	264	17.395	17.382	0.013	98	356766	8.00	8.00	
$ 7 2-Fluorophenol	112	4.993	5.017	-0.024	94	1329538	80.0	86.0	
$ 8 Phenol-d5	99	6.046	6.053	-0.007	98	1720283	80.0	84.3	
$ 9 Nitrobenzene-d5	82	6.964	6.967	-0.003	90	1568116	80.0	85.2	
$ 10 2-Fluorobiphenyl	172	8.668	8.665	0.003	100	3361651	80.0	81.2	
$ 11 2,4,6-Tribromophenol	330	10.046	10.043	0.003	90	388366	80.0	87.1	
$ 12 Terphenyl-d14	244	12.562	12.559	0.003	100	3916460	80.0	84.8	
13 1,4-Dioxane	88	1.586	1.652	-0.066	93	452142	80.0	82.5	
14 N-Nitrosodimethylamine	74	2.302	2.379	-0.077	90	743834	80.0	85.5	
15 Pyridine	79	2.366	2.448	-0.082	95	2540047	160.0	178.3	
21 Methyl methanesulfonate	80	4.748	4.772	-0.024	88	803757	80.0	85.1	
25 Benzaldehyde	77	5.960	5.968	-0.008	95	1244406	80.0	82.0	
26 Phenol	94	6.062	6.064	-0.002	97	1971097	80.0	82.2	
27 Aniline	93	6.078	6.086	-0.008	98	2224261	80.0	81.1	a
29 Bis(2-chloroethyl)ether	93	6.147	6.150	-0.003	96	1285440	80.0	79.7	
30 2-Chlorophenol	128	6.206	6.214	-0.008	97	1450147	80.0	82.7	
31 n-Decane	43	6.265	6.272	-0.007	88	1476184	80.0	82.8	
32 1,3-Dichlorobenzene	146	6.361	6.369	-0.008	97	1712384	80.0	80.4	
33 1,4-Dichlorobenzene	146	6.436	6.443	-0.007	93	1736357	80.0	79.4	
34 Benzyl alcohol	108	6.553	6.556	-0.003	90	923486	80.0	86.3	
35 1,2-Dichlorobenzene	146	6.590	6.598	-0.008	96	1627848	80.0	80.3	
36 2-Methylphenol	108	6.671	6.668	0.003	97	1351406	80.0	84.2	
37 Indene	116	6.681	6.684	-0.003	91	2598098	80.0	82.5	
38 2,2'-oxybis[1-chloropropan	45	6.687	6.694	-0.007	88	1733283	80.0	80.6	
39 N-Nitrosopyrrolidine	100	6.788	6.785	0.003	83	686542	80.0	85.6	
42 4-Methylphenol	108	6.815	6.812	0.003	69	1436370	80.0	83.7	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
41 N-Nitrosodi-n-propylamine	70	6.815	6.812	0.003	74	1119940	80.0	83.1	
40 Acetophenone	105	6.815	6.817	-0.002	80	2037819	80.0	80.8	
45 Hexachloroethane	117	6.932	6.940	-0.008	91	640272	80.0	80.6	
46 Nitrobenzene	77	6.986	6.983	0.003	89	1595808	80.0	83.7	
48 Isophorone	82	7.210	7.212	-0.002	99	2846068	80.0	86.9	
49 2-Nitrophenol	139	7.295	7.298	-0.003	97	817737	80.0	89.2	
50 2,4-Dimethylphenol	107	7.322	7.319	0.003	97	1564980	80.0	85.3	
52 Benzoic acid	122	7.418	7.362	0.056	90	843130	80.0	84.5	a
53 Bis(2-chloroethoxy)methane	93	7.408	7.410	-0.002	99	1586488	80.0	83.2	
54 2,4-Dichlorophenol	162	7.525	7.522	0.003	95	1294009	80.0	85.9	
56 1,2,4-Trichlorobenzene	180	7.611	7.613	-0.002	94	1481510	80.0	82.5	
58 Naphthalene	128	7.691	7.688	0.003	97	4469288	80.0	82.9	
59 4-Chloroaniline	127	7.723	7.725	-0.002	95	1781789	80.0	83.3	
60 2,6-Dichlorophenol	162	7.739	7.741	-0.002	97	1255028	80.0	85.1	
62 Hexachlorobutadiene	225	7.808	7.805	0.003	94	920624	80.0	80.9	
64 Caprolactam	113	8.049	8.019	0.030	79	424976	80.0	84.8	M
67 4-Chloro-3-methylphenol	107	8.166	8.158	0.008	96	1400061	80.0	88.7	
69 2-Methylnaphthalene	142	8.337	8.339	-0.002	92	3151229	80.0	84.0	
71 1-Methylnaphthalene	142	8.433	8.436	-0.003	93	2882897	80.0	84.5	
72 Hexachlorocyclopentadiene	237	8.492	8.489	0.003	95	1247772	80.0	91.5	
73 1,2,4,5-Tetrachlorobenzene	216	8.497	8.500	-0.003	97	1649378	80.0	83.4	
74 2,4,6-Trichlorophenol	196	8.593	8.590	0.003	93	1007734	80.0	89.6	
75 2,4,5-Trichlorophenol	196	8.631	8.628	0.003	95	1033747	80.0	85.1	
76 1,1'-Biphenyl	154	8.764	8.767	-0.003	95	3646755	80.0	81.6	
77 2-Chloronaphthalene	162	8.796	8.793	0.003	96	2791858	80.0	81.0	
79 2-Nitroaniline	65	8.871	8.868	0.003	81	926895	80.0	91.6	
82 Dimethyl phthalate	163	9.021	9.018	0.003	99	3276631	80.0	83.2	
83 1,3-Dinitrobenzene	168	9.058	9.055	0.003	85	530024	80.0	90.0	
84 2,6-Dinitrotoluene	165	9.085	9.082	0.003	93	727099	80.0	83.8	
85 Acenaphthylene	152	9.192	9.189	0.003	98	4371684	80.0	85.0	
86 3-Nitroaniline	138	9.250	9.242	0.008	92	758337	80.0	87.0	
87 2,4-Dinitrophenol	184	9.346	9.338	0.008	84	1177179	160.0	166.3	
88 Acenaphthene	153	9.346	9.344	0.002	94	2919121	80.0	83.6	
89 4-Nitrophenol	109	9.384	9.370	0.014	97	1043990	160.0	169.2	
91 2,4-Dinitrotoluene	165	9.464	9.456	0.008	92	977254	80.0	84.0	
93 Dibenzofuran	168	9.507	9.504	0.003	96	4054651	80.0	81.7	
95 2,3,5,6-Tetrachlorophenol	232	9.571	9.568	0.003	93	928730	80.0	86.7	
96 2,3,4,6-Tetrachlorophenol	232	9.613	9.611	0.002	72	904813	80.0	82.3	
97 2-Naphthylamine	143	9.646	9.637	0.009	96	2848332	80.0	81.8	
98 Diethyl phthalate	149	9.667	9.659	0.008	98	3125251	80.0	82.5	
99 Hexadecane	57	9.667	9.664	0.003	80	1978991	80.0	84.4	
100 4-Chlorophenyl phenyl ethe	204	9.800	9.798	0.002	90	1730980	80.0	82.7	
101 4-Nitroaniline	138	9.822	9.808	0.014	82	843049	80.0	88.9	
103 Fluorene	166	9.827	9.819	0.008	94	3290442	80.0	82.8	
104 4,6-Dinitro-2-methylphenol	198	9.848	9.840	0.008	88	1413696	160.0	184.9	
105 N-Nitrosodiphenylamine	169	9.907	9.899	0.008	99	2352873	80.0	82.4	
215 Azobenzene	77	9.950	9.942	0.008	100	3306230	80.0	85.0	
90 1,2-Diphenylhydrazine	77	9.950	9.942	0.008	97	3306336	80.0	85.0	
110 4-Bromophenyl phenyl ether	248	10.254	10.257	-0.003	67	993600	80.0	85.2	
112 Hexachlorobenzene	284	10.351	10.348	0.003	94	930930	80.0	82.3	
113 Atrazine	200	10.367	10.364	0.003	94	957467	80.0	82.6	
115 n-Octadecane	57	10.511	10.508	0.003	97	2069282	80.0	86.5	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
116 Pentachlorophenol	266	10.516	10.513	0.003	93	1482448	160.0	179.2	
121 Phenanthrene	178	10.740	10.738	0.002	97	4958199	80.0	83.5	
122 Anthracene	178	10.789	10.786	0.002	97	4898514	80.0	83.7	
124 Carbazole	167	10.933	10.930	0.003	97	4412298	80.0	84.7	
126 Di-n-butyl phthalate	149	11.232	11.229	0.003	100	5327079	80.0	89.9	
131 Fluoranthene	202	12.092	12.089	0.003	97	5752032	80.0	85.7	
132 Benzidine	184	12.209	12.206	0.003	99	3122400	80.0	85.5	
133 Pyrene	202	12.412	12.404	0.008	98	5643182	80.0	85.5	
138 Butyl benzyl phthalate	149	13.283	13.275	0.008	98	2346981	80.0	84.0	
144 3,3'-Dichlorobenzidine	252	14.292	14.279	0.013	74	2098356	80.0	85.9	
145 Bis(2-ethylhexyl) phthalat	149	14.308	14.305	0.003	97	3303484	80.0	85.2	
146 Benzo[a]anthracene	228	14.372	14.364	0.008	98	5301873	80.0	83.2	
147 Chrysene	228	14.452	14.439	0.013	98	5228464	80.0	83.7	
150 Di-n-octyl phthalate	149	15.649	15.635	0.014	100	5782001	80.0	92.1	
151 7,12-Dimethylbenz(a)anthra	256	16.562	16.543	0.019	91	2522323	80.0	90.5	
152 Benzo[b]fluoranthene	252	16.589	16.565	0.024	97	5559718	80.0	86.6	a
153 Benzo[k]fluoranthene	252	16.642	16.618	0.024	99	5344217	80.0	85.2	a
217 Benzo[e]pyrene	252	17.171	17.152	0.019	97	4832199	80.0	86.3	
154 Benzo[a]pyrene	252	17.283	17.264	0.019	77	4597559	80.0	87.3	a
157 Indeno[1,2,3-cd]pyrene	276	19.719	19.689	0.030	99	5449790	80.0	92.8	
158 Dibenz(a,h)anthracene	278	19.735	19.705	0.030	90	4409618	80.0	92.5	
159 Benzo[g,h,i]perylene	276	20.360	20.325	0.035	98	4379782	80.0	89.3	
S 199 Total Cresols	108				0		160.0	167.9	
S 197 Methyl Phenols,Total	108				0		160.0	167.9	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

SVTAPSTD80i_00018 Amount Added: 1.00 Units: mL

Report Date: 17-Oct-2019 06:06:17 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016010.D				
Injection Date:	16-Oct-2019 09:05:30	Instrument ID:	CHMSD7	Operator ID:	003200
Lims ID:	IC			Worklist Smp#:	10
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

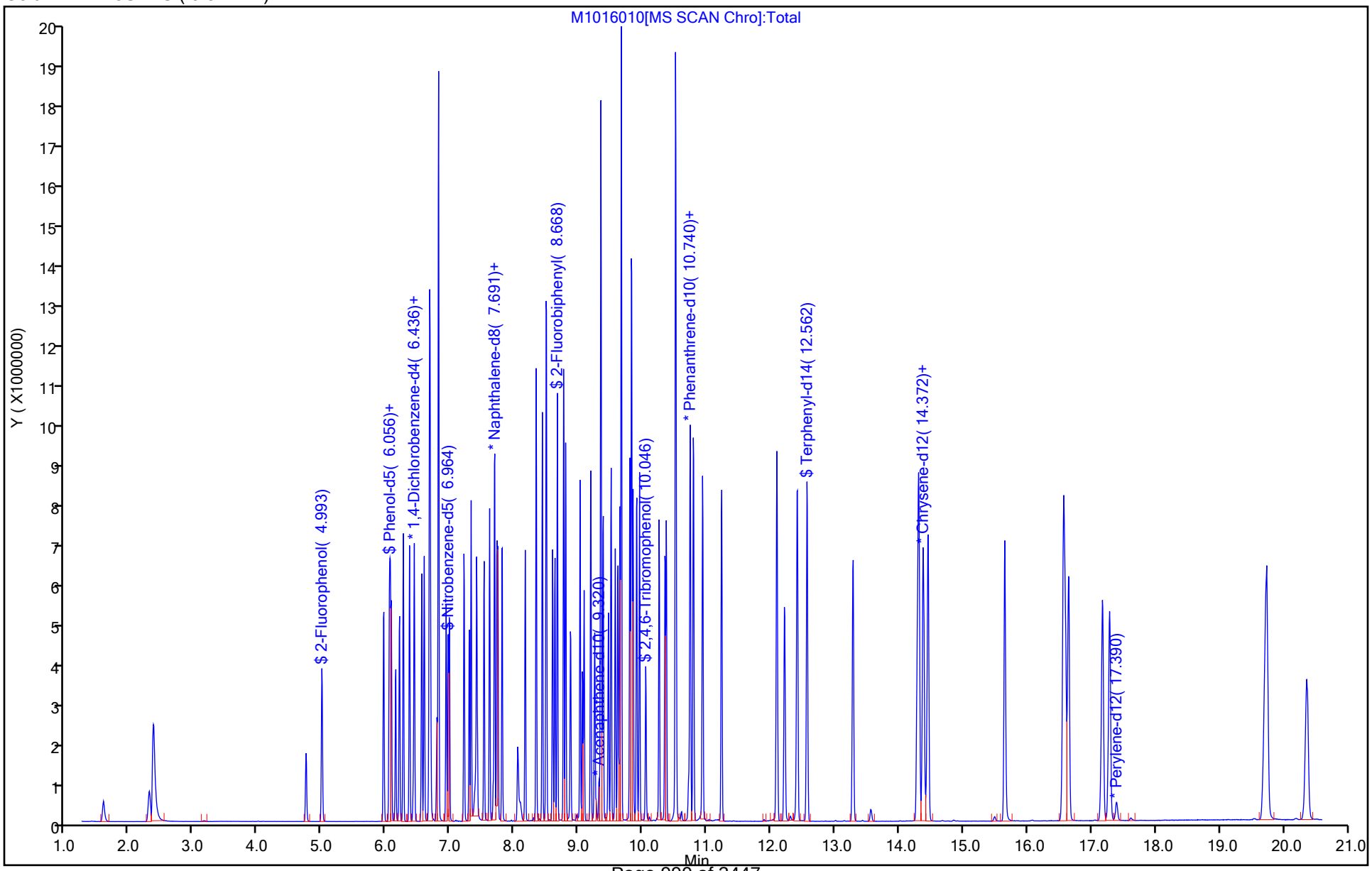

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016010.D				
Injection Date:	16-Oct-2019 09:05:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	9	Worklist Smp#:	10
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

27 Aniline, CAS: 62-53-3

Signal: 1

Not Detected
Expected RT: 6.09

Processing Integration Results

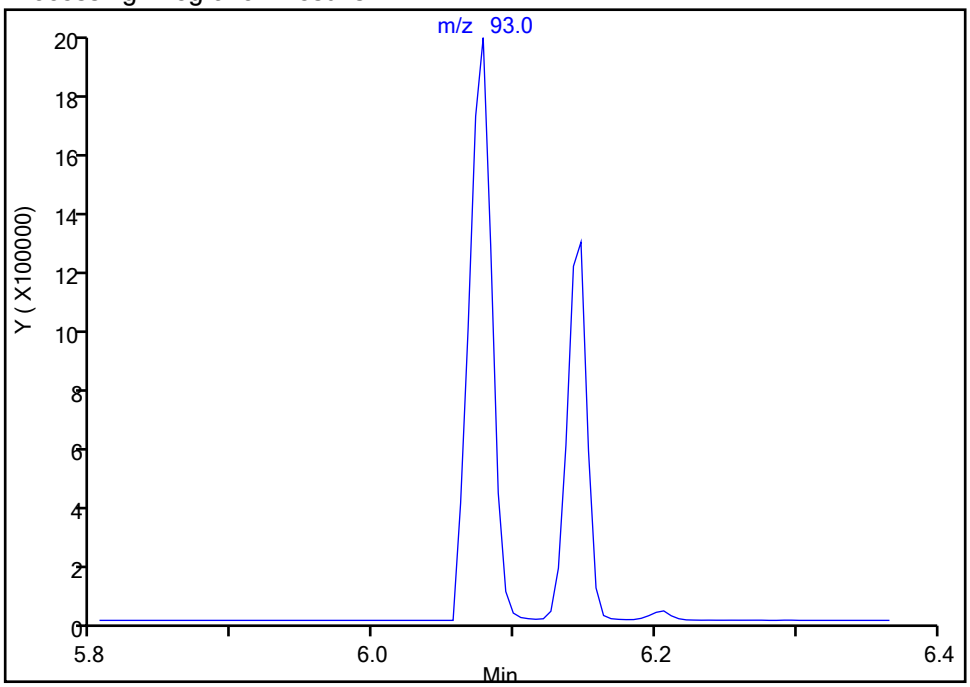

RT: 6.08
Area: 2224261
Amount: 81.078856
Amount Units: ng

Manual Integration Results

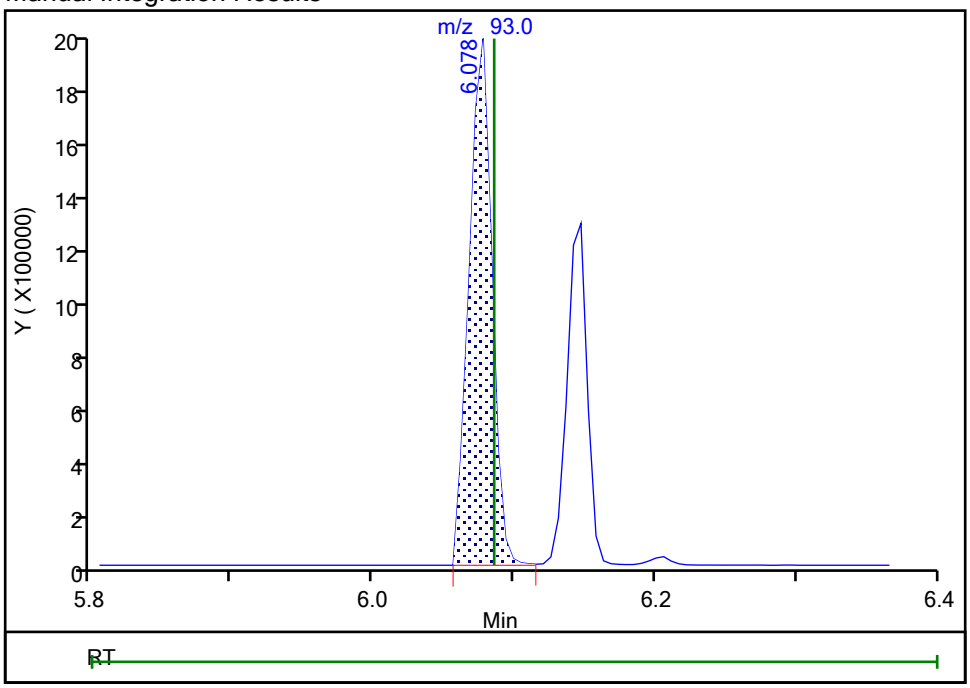

Reviewer: piccolinov, 16-Oct-2019 09:35:21
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016010.D				
Injection Date:	16-Oct-2019 09:05:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	9	Worklist Smp#:	10
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

52 Benzoic acid, CAS: 65-85-0

Signal: 1

Not Detected
Expected RT: 7.36

Processing Integration Results

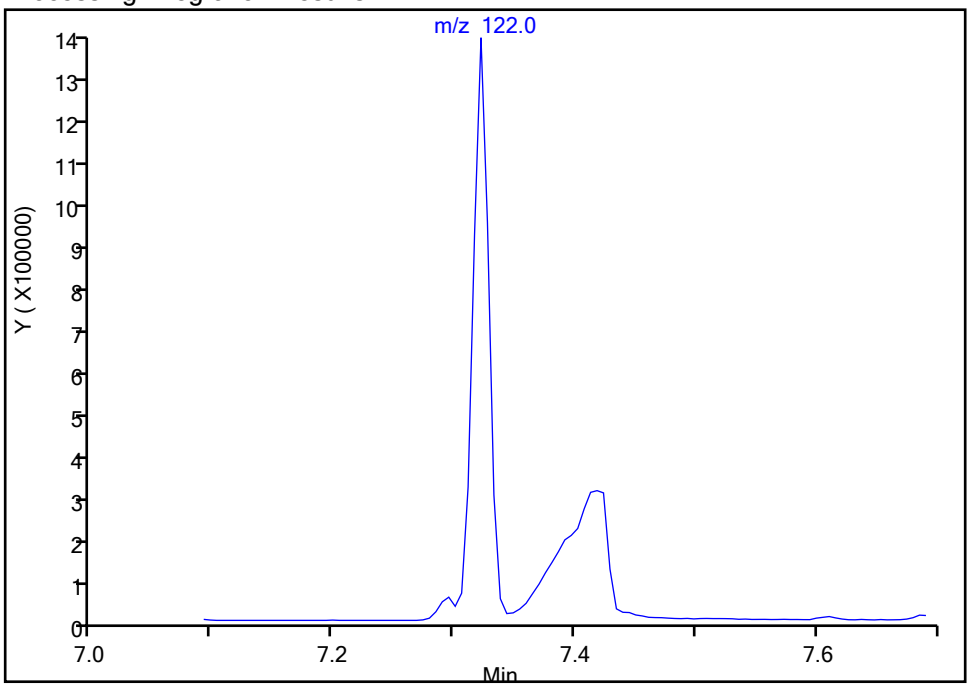

Manual Integration Results

RT: 7.42
Area: 843130
Amount: 84.475802
Amount Units: ng

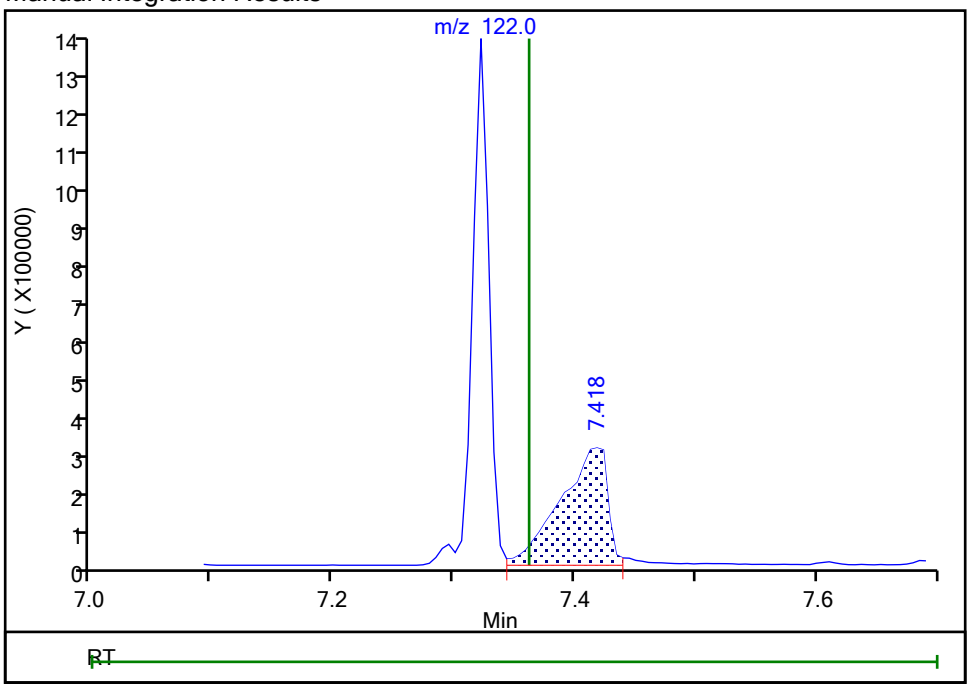

Reviewer: piccolinov, 16-Oct-2019 09:35:30
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016010.D				
Injection Date:	16-Oct-2019 09:05:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	9	Worklist Smp#:	10
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

64 Caprolactam, CAS: 105-60-2

Signal: 1

Processing Integration Results

RT: 8.05
Area: 341867
Amount: 78.566462
Amount Units: ng

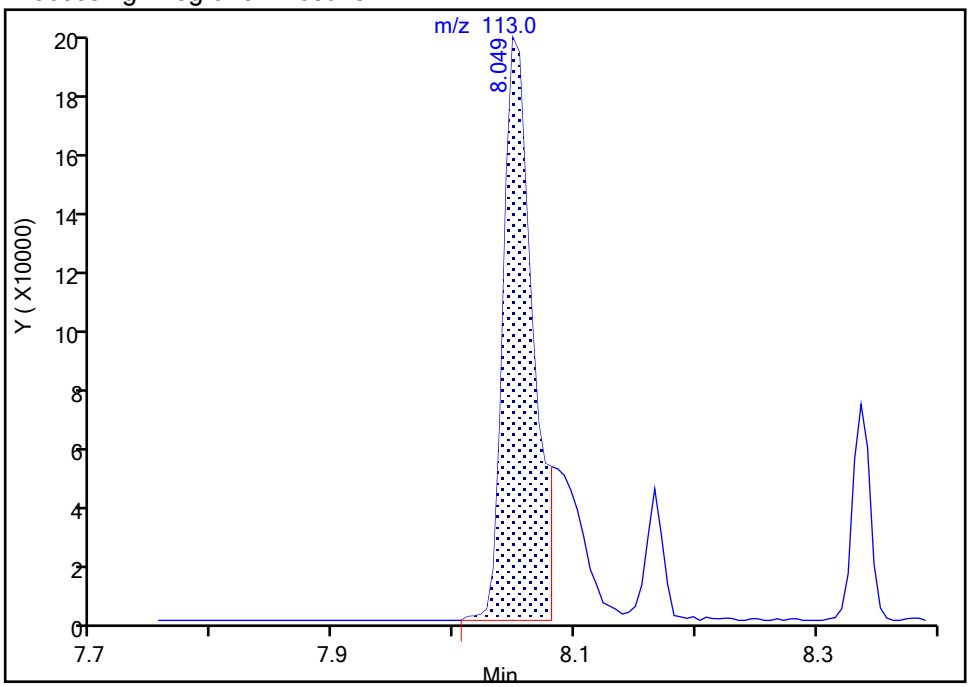

Manual Integration Results

RT: 8.05
Area: 424976
Amount: 84.820738
Amount Units: ng

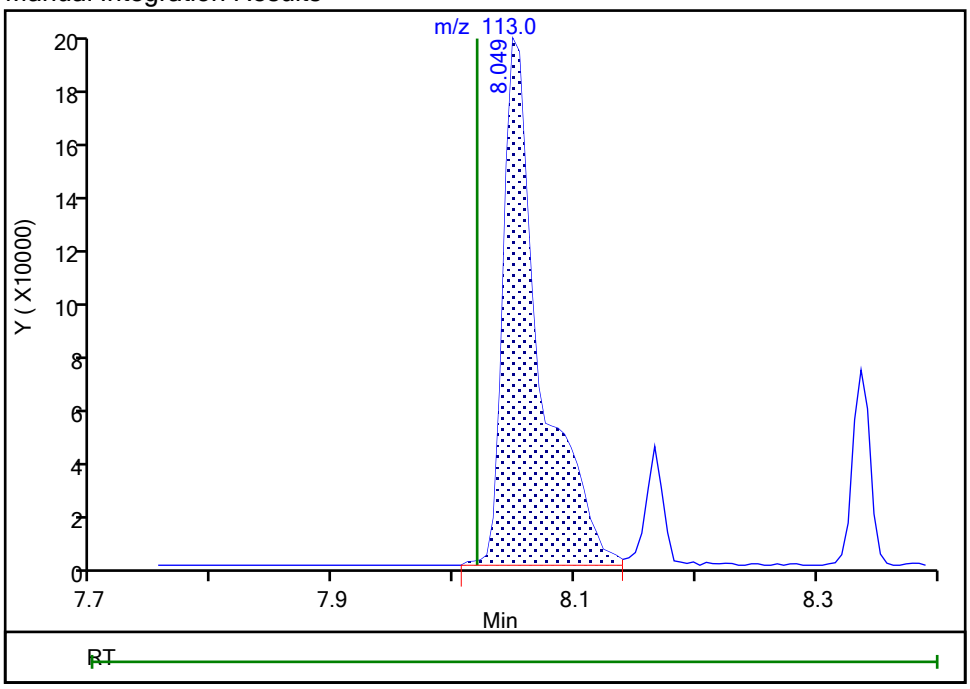

Reviewer: piccolinov, 17-Oct-2019 05:56:59

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016010.D				
Injection Date:	16-Oct-2019 09:05:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	9	Worklist Smp#:	10
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

152 Benzo[b]fluoranthene, CAS: 205-99-2

Signal: 1

Processing Integration Results

RT: 16.64
Area: 5344217
Amount: 83.664401
Amount Units: ng

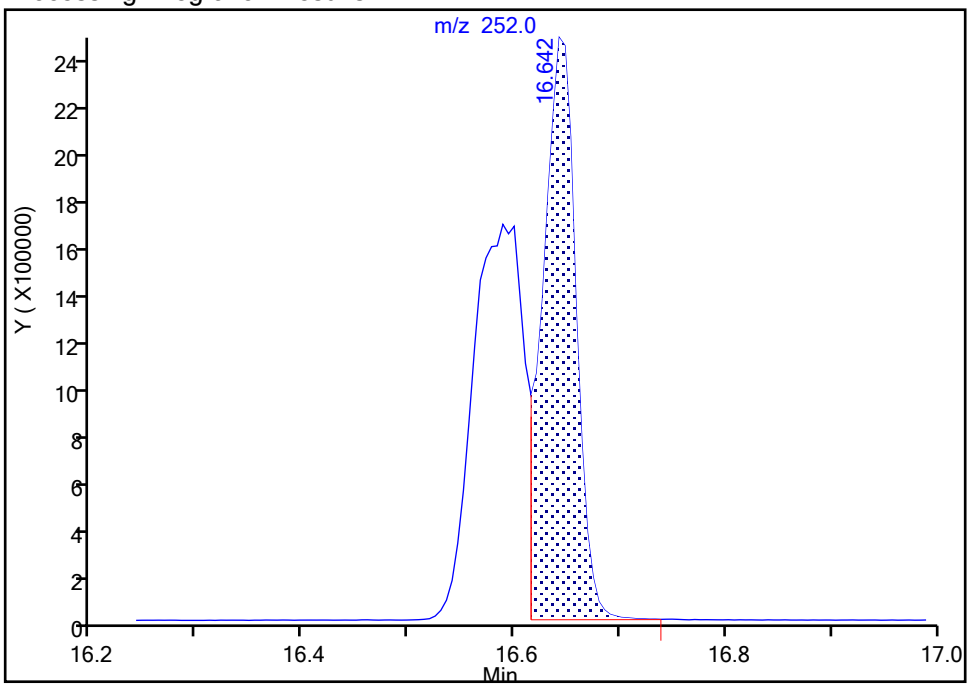

Manual Integration Results

RT: 16.59
Area: 5559718
Amount: 86.581690
Amount Units: ng

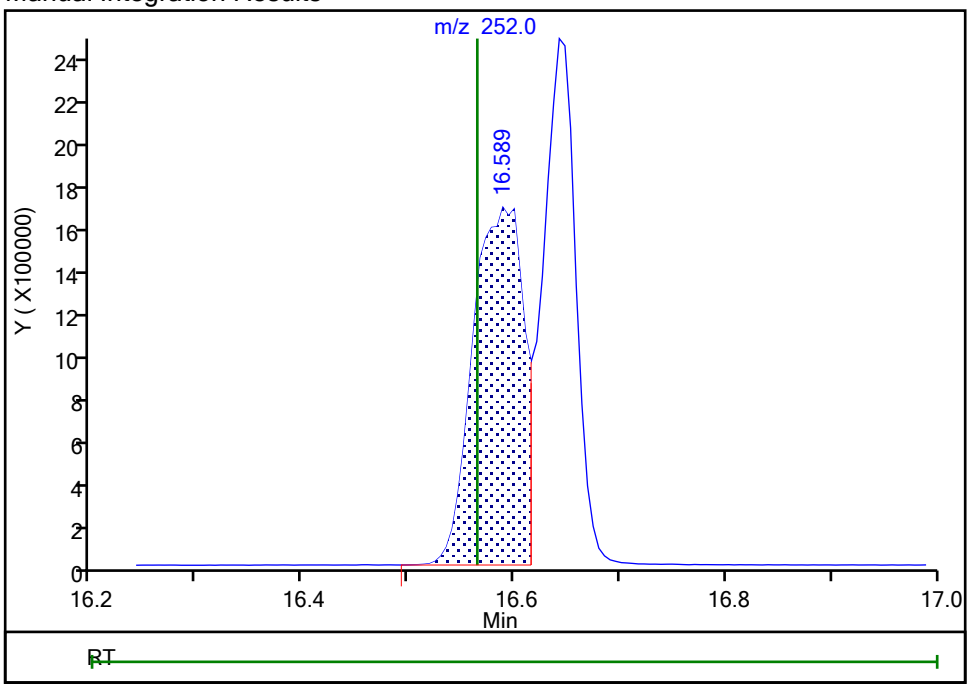

Reviewer: piccolinov, 16-Oct-2019 09:35:51

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016010.D				
Injection Date:	16-Oct-2019 09:05:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	9	Worklist Smp#:	10
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

153 Benzo[k]fluoranthene, CAS: 207-08-9

Signal: 1

Processing Integration Results

RT: 16.75
Area: 3252
Amount: 0.059789
Amount Units: ng

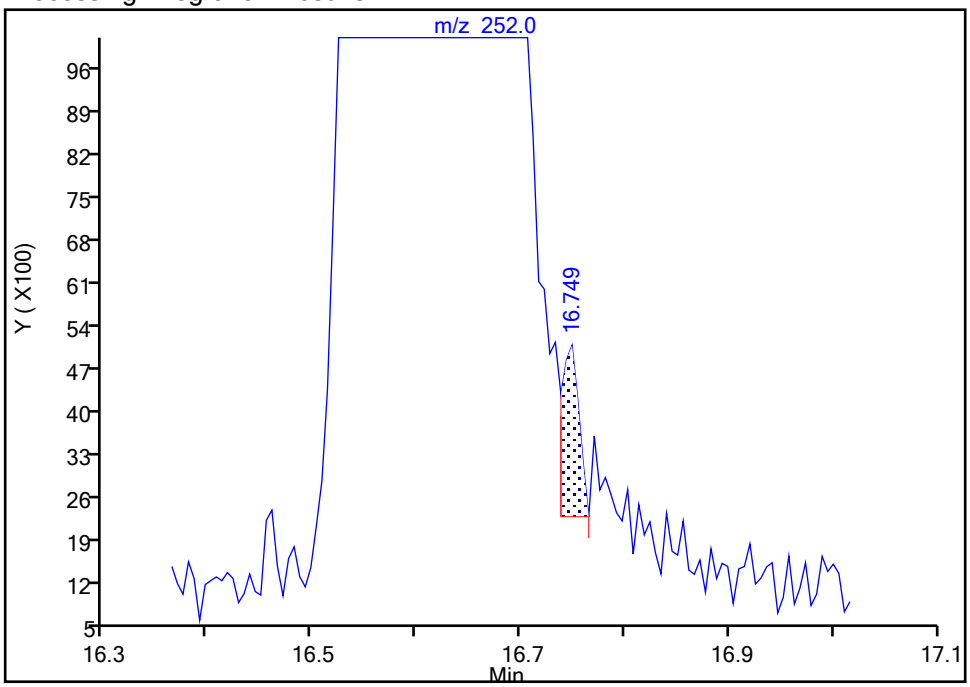

Manual Integration Results

RT: 16.64
Area: 5344217
Amount: 85.184576
Amount Units: ng

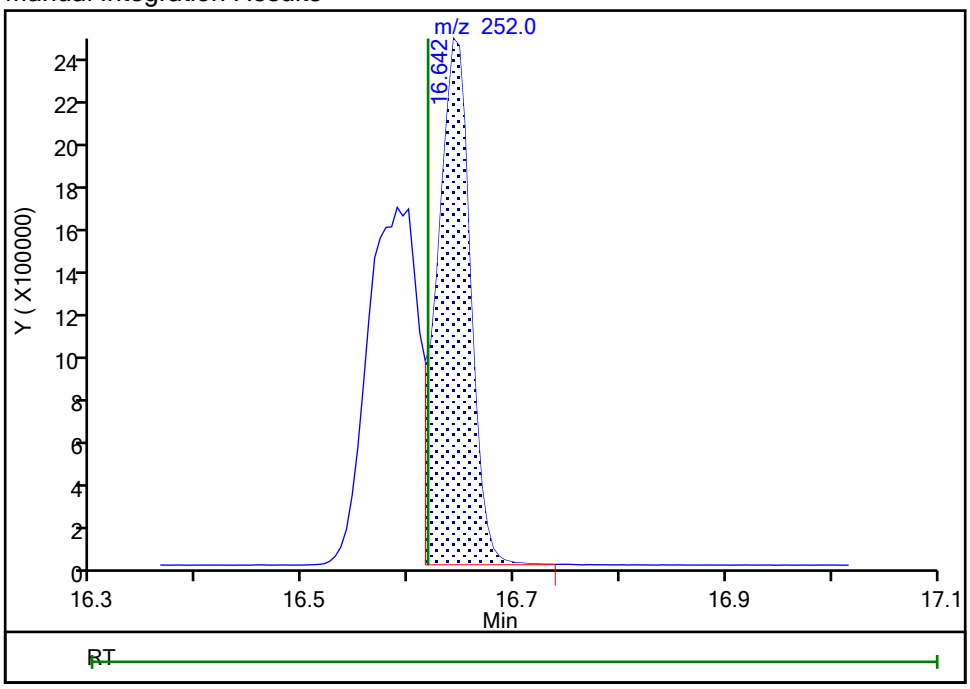

Reviewer: piccolinov, 16-Oct-2019 09:35:55

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016010.D				
Injection Date:	16-Oct-2019 09:05:30	Instrument ID:	CHMSD7		
Lims ID:	IC				
Client ID:					
Operator ID:	003200	ALS Bottle#:	9	Worklist Smp#:	10
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

154 Benzo[a]pyrene, CAS: 50-32-8

Signal: 1

Not Detected
Expected RT: 17.26

Processing Integration Results

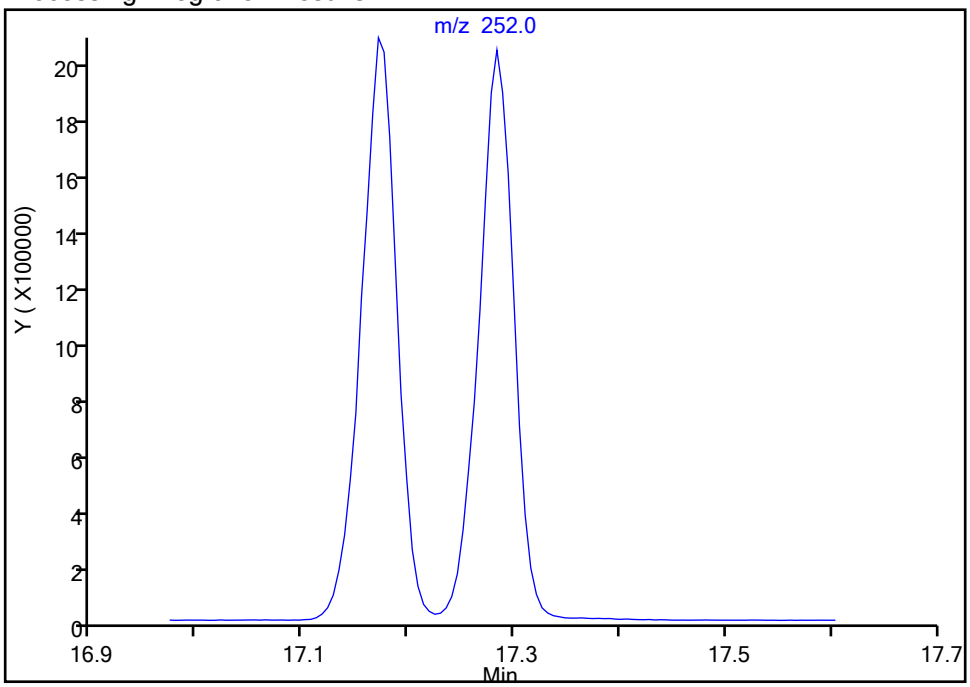

RT: 17.28
Area: 4597559
Amount: 87.306092
Amount Units: ng

Manual Integration Results

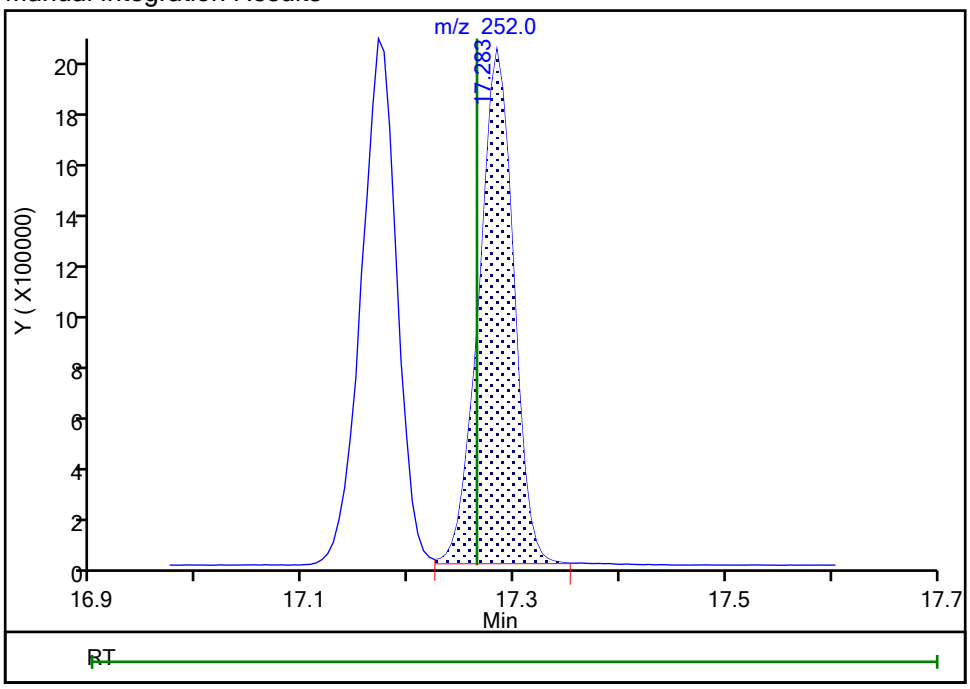

Reviewer: piccolinov, 16-Oct-2019 09:36:02
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 180-294955/11 Calibration Date: 10/16/2019 09:32

Instrument ID: CHMSD7 Calib Start Date: 10/16/2019 05:53

GC Column: Rxi-5SilMS ID: 0.32(mm) Calib End Date: 10/16/2019 09:05

Lab File ID: M1016011.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Pyridine	Ave	1.046	1.072	0.0100	20.5	20.0	2.5	50.0
Phenol	Ave	1.760	1.760	0.8000	10.0	10.0	-0.0	30.0
1,4-Dichlorobenzene	Ave	1.606	1.562	0.0100	9.73	10.0	-2.7	30.0
2-Methylphenol	Ave	1.179	1.174	0.7000	9.96	10.0	-0.4	30.0
Methylphenol, 3 & 4	Ave	1.261	1.248	0.6000	9.90	10.0	-1.0	30.0
Hexachloroethane	Ave	0.5837	0.5761	0.3000	9.87	10.0	-1.3	30.0
Nitrobenzene	Ave	0.3814	0.3714	0.2000	9.74	10.0	-2.6	30.0
Naphthalene	Ave	1.078	1.028	0.7000	9.53	10.0	-4.7	30.0
Hexachlorobutadiene	Ave	0.2276	0.2161	0.0100	9.50	10.0	-5.0	30.0
2-Methylnaphthalene	Ave	0.7504	0.7120	0.4000	9.49	10.0	-5.1	30.0
1-Methylnaphthalene	Ave	0.6829	0.6706	0.0100	9.82	10.0	-1.8	30.0
2,4,6-Trichlorophenol	Ave	0.4022	0.4283	0.2000	10.6	10.0	6.5	30.0
2,4,5-Trichlorophenol	Ave	0.4345	0.4581	0.2000	10.5	10.0	5.4	30.0
Acenaphthylene	Ave	1.840	1.859	0.9000	10.1	10.0	1.1	30.0
Acenaphthene	Ave	1.249	1.213	0.9000	9.71	10.0	-2.9	30.0
2,4-Dinitrotoluene	Ave	0.4160	0.4269	0.2000	10.3	10.0	2.6	30.0
Fluorene	Ave	1.421	1.406	0.9000	9.90	10.0	-1.0	30.0
Hexachlorobenzene	Ave	0.2182	0.2107	0.1000	9.65	10.0	-3.5	30.0
Pentachlorophenol	Ave	0.1597	0.1511	0.0500	18.9	20.0	-5.4	50.0
Phenanthrene	Ave	1.146	1.113	0.7000	9.71	10.0	-2.9	30.0
Fluoranthene	Ave	1.295	1.319	0.6000	10.2	10.0	1.8	30.0
Benzidine	Ave	0.7159	0.7499	0.0100	10.5	10.0	4.7	50.0
Pyrene	Ave	1.293	1.305	0.6000	10.1	10.0	0.9	30.0
Benzo[a]anthracene	Ave	1.248	1.239	0.8000	9.93	10.0	-0.7	30.0
Chrysene	Ave	1.224	1.206	0.7000	9.85	10.0	-1.5	30.0
Benzo[b]fluoranthene	Ave	1.440	1.432	0.7000	9.95	10.0	-0.5	30.0
Benzo[k]fluoranthene	Ave	1.407	1.405	0.7000	9.98	10.0	-0.2	30.0
Benzo[a]pyrene	Ave	1.181	1.193	0.7000	10.1	10.0	1.0	30.0
Indeno[1,2,3-cd]pyrene	Ave	1.317	1.336	0.5000	10.1	10.0	1.4	30.0
Dibenz(a,h)anthracene	Ave	1.069	1.072	0.4000	10.0	10.0	0.3	30.0
Benzo[g,h,i]perylene	Ave	1.100	1.100	0.5000	10.0	10.0	0.0	30.0
2-Fluorophenol (Surr)	Ave	1.135	1.162		10.2	10.0	2.3	30.0
Phenol-d5 (Surr)	Ave	1.499	1.525		10.2	10.0	1.7	30.0
Nitrobenzene-d5 (Surr)	Ave	0.3683	0.3700		10.0	10.0	0.5	30.0
2-Fluorobiphenyl	Ave	1.481	1.435		9.69	10.0	-3.1	30.0
2,4,6-Tribromophenol (Surr)	Ave	0.0861	0.0866	0.0100	10.1	10.0	0.6	30.0
Terphenyl-d14 (Surr)	Ave	0.9048	0.8938		9.88	10.0	-1.2	30.0

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016011.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 16-Oct-2019 09:32:30 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029126-011
Operator ID: 003200 Instrument ID: CHMSD7
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\BNA_CHMSD7.m
Limit Group: BNA 8270D ICAL
Last Update: 17-Oct-2019 06:04:52 Calib Date: 16-Oct-2019 09:05:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016010.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0331

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.420	6.427	-0.007	96	121667	8.00	8.00	
* 2 Naphthalene-d8	136	7.664	7.666	-0.002	99	465140	8.00	8.00	
* 3 Acenaphthene-d10	164	9.314	9.317	-0.003	93	254793	8.00	8.00	
* 4 Phenanthrene-d10	188	10.708	10.711	-0.003	97	477457	8.00	8.00	
* 5 Chrysene-d12	240	14.383	14.380	0.003	99	479766	8.00	8.00	
* 6 Perylene-d12	264	17.379	17.382	-0.003	98	411164	8.00	8.00	
$ 7 2-Fluorophenol	112	5.010	5.017	-0.007	94	353476	20.0	20.5	
$ 8 Phenol-d5	99	6.046	6.053	-0.007	98	463765	20.0	20.3	
$ 9 Nitrobenzene-d5	82	6.964	6.967	-0.003	90	430294	20.0	20.1	
$ 10 2-Fluorobiphenyl	172	8.663	8.665	-0.002	100	914363	20.0	19.4	
$ 11 2,4,6-Tribromophenol	330	10.041	10.043	-0.002	88	103337	20.0	20.1	
$ 12 Terphenyl-d14	244	12.556	12.559	-0.003	100	1072015	20.0	19.8	
13 1,4-Dioxane	88	1.639	1.652	-0.013	91	121583	20.0	19.9	
14 N-Nitrosodimethylamine	74	2.360	2.379	-0.019	90	189608	20.0	19.5	
15 Pyridine	79	2.430	2.448	-0.018	95	652374	40.0	41.0	
25 Benzaldehyde	77	5.966	5.968	-0.002	94	344092	20.0	20.3	
26 Phenol	94	6.062	6.064	-0.002	98	535318	20.0	20.0	
27 Aniline	93	6.078	6.086	-0.008	96	602628	20.0	19.7	
29 Bis(2-chloroethyl)ether	93	6.147	6.150	-0.003	96	348269	20.0	19.3	
30 2-Chlorophenol	128	6.206	6.214	-0.008	97	394815	20.0	20.1	
31 n-Decane	43	6.270	6.272	-0.002	88	383925	20.0	19.3	
32 1,3-Dichlorobenzene	146	6.366	6.369	-0.003	97	472414	20.0	19.8	
33 1,4-Dichlorobenzene	146	6.441	6.443	-0.002	94	475149	20.0	19.5	
34 Benzyl alcohol	108	6.553	6.556	-0.003	90	250428	20.0	20.9	
35 1,2-Dichlorobenzene	146	6.596	6.598	-0.002	96	444486	20.0	19.6	
36 2-Methylphenol	108	6.665	6.668	-0.003	98	357157	20.0	19.9	
37 Indene	116	6.681	6.684	-0.003	90	673179	20.0	19.1	
38 2,2'-oxybis[1-chloropropan	45	6.692	6.694	-0.002	88	460433	20.0	19.2	
42 4-Methylphenol	108	6.810	6.812	-0.002	66	379561	20.0	19.8	
41 N-Nitrosodi-n-propylamine	70	6.810	6.812	-0.002	71	299406	20.0	19.9	
40 Acetophenone	105	6.810	6.817	-0.007	80	559785	20.0	19.9	
45 Hexachloroethane	117	6.932	6.940	-0.008	91	175235	20.0	19.7	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
46 Nitrobenzene	77	6.980	6.983	-0.003	89	431859	20.0	19.5	
48 Isophorone	82	7.210	7.212	-0.002	99	750621	20.0	19.7	
49 2-Nitrophenol	139	7.290	7.298	-0.008	98	216813	20.0	20.3	
50 2,4-Dimethylphenol	107	7.317	7.319	-0.002	97	420375	20.0	19.7	
52 Benzoic acid	122	7.376	7.362	0.014	88	187270	20.0	17.4	
53 Bis(2-chloroethoxy)methane	93	7.402	7.410	-0.008	99	422452	20.0	19.1	
54 2,4-Dichlorophenol	162	7.520	7.522	-0.002	95	351706	20.0	20.1	
56 1,2,4-Trichlorobenzene	180	7.611	7.613	-0.002	94	405420	20.0	19.4	
58 Naphthalene	128	7.685	7.688	-0.003	98	1195454	20.0	19.1	
59 4-Chloroaniline	127	7.723	7.725	-0.002	95	488262	20.0	19.6	
60 2,6-Dichlorophenol	162	7.739	7.741	-0.002	97	342255	20.0	20.0	
62 Hexachlorobutadiene	225	7.803	7.805	-0.002	94	251271	20.0	19.0	
64 Caprolactam	113	8.017	8.019	-0.002	79	109476	20.0	19.4	
67 4-Chloro-3-methylphenol	107	8.155	8.158	-0.003	96	366144	20.0	19.9	
69 2-Methylnaphthalene	142	8.332	8.339	-0.007	92	827955	20.0	19.0	
71 1-Methylnaphthalene	142	8.428	8.436	-0.008	92	779785	20.0	19.6	
72 Hexachlorocyclopentadiene	237	8.487	8.489	-0.002	96	315472	20.0	20.3	
73 1,2,4,5-Tetrachlorobenzene	216	8.492	8.500	-0.008	97	437235	20.0	19.4	
74 2,4,6-Trichlorophenol	196	8.588	8.590	-0.002	93	272827	20.0	21.3	
75 2,4,5-Trichlorophenol	196	8.625	8.628	-0.003	94	291773	20.0	21.1	
76 1,1'-Biphenyl	154	8.764	8.767	-0.003	95	980472	20.0	19.3	
77 2-Chloronaphthalene	162	8.791	8.793	-0.002	97	767035	20.0	19.5	
79 2-Nitroaniline	65	8.866	8.868	-0.002	81	244770	20.0	21.2	
82 Dimethyl phthalate	163	9.015	9.018	-0.003	98	869335	20.0	19.4	
83 1,3-Dinitrobenzene	168	9.053	9.055	-0.002	86	142810	20.0	21.3	
84 2,6-Dinitrotoluene	165	9.079	9.082	-0.003	94	202553	20.0	20.5	
85 Acenaphthylene	152	9.186	9.189	-0.003	98	1184195	20.0	20.2	
86 3-Nitroaniline	138	9.240	9.242	-0.002	92	208478	20.0	21.0	
87 2,4-Dinitrophenol	184	9.336	9.338	-0.002	84	281108	40.0	36.8	
88 Acenaphthene	153	9.341	9.344	-0.003	91	772612	20.0	19.4	
89 4-Nitrophenol	109	9.368	9.370	-0.002	96	287009	40.0	40.8	
91 2,4-Dinitrotoluene	165	9.453	9.456	-0.003	93	271940	20.0	20.5	
93 Dibenzofuran	168	9.501	9.504	-0.003	96	1099964	20.0	19.5	
96 2,3,4,6-Tetrachlorophenol	232	9.608	9.611	-0.003	71	258375	20.0	20.6	
98 Diethyl phthalate	149	9.662	9.659	0.003	98	868770	20.0	20.1	
99 Hexadecane	57	9.662	9.664	-0.002	74	523996	20.0	19.2	
106 Diphenylamine	169	9.608	9.677	-0.069	57	21609	NC	NC	
100 4-Chlorophenyl phenyl ethe	204	9.795	9.798	-0.003	93	469450	20.0	19.7	
101 4-Nitroaniline	138	9.806	9.808	-0.002	82	224015	20.0	20.7	
103 Fluorene	166	9.822	9.819	0.003	94	895718	20.0	19.8	
104 4,6-Dinitro-2-methylphenol	198	9.838	9.840	-0.002	87	375496	40.0	42.6	
105 N-Nitrosodiphenylamine	169	9.897	9.899	-0.002	99	653704	20.0	19.9	
90 1,2-Diphenylhydrazine	77	9.945	9.942	0.003	97	897572	20.0	20.0	
215 Azobenzene	77	9.945	9.942	0.003	99	891757	20.0	19.9	
110 4-Bromophenyl phenyl ether	248	10.254	10.257	-0.003	67	264950	20.0	19.7	
112 Hexachlorobenzene	284	10.340	10.348	-0.008	93	251456	20.0	19.3	
113 Atrazine	200	10.361	10.364	-0.003	94	278505	20.0	20.9	
115 n-Octadecane	57	10.506	10.508	-0.002	97	543765	20.0	20.3	
116 Pentachlorophenol	266	10.511	10.513	-0.002	91	360602	40.0	37.8	
121 Phenanthrene	178	10.730	10.738	-0.008	98	1328091	20.0	19.4	
122 Anthracene	178	10.783	10.786	-0.003	97	1357131	20.0	20.1	
124 Carbazole	167	10.927	10.930	-0.003	97	1216658	20.0	20.3	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
126 Di-n-butyl phthalate	149	11.227	11.229	-0.002	100	1461290	20.0	21.4	
131 Fluoranthene	202	12.086	12.089	-0.003	97	1573824	20.0	20.4	
132 Benzidine	184	12.204	12.206	-0.002	99	899442	20.0	20.9	
133 Pyrene	202	12.402	12.404	-0.002	98	1565658	20.0	20.2	
138 Butyl benzyl phthalate	149	13.272	13.275	-0.003	98	619087	20.0	19.4	
144 3,3'-Dichlorobenzidine	252	14.276	14.279	-0.003	74	533056	20.0	19.1	
145 Bis(2-ethylhexyl) phthalat	149	14.303	14.305	-0.002	97	865342	20.0	19.6	
146 Benzo[a]anthracene	228	14.362	14.364	-0.002	98	1486502	20.0	19.9	
147 Chrysene	228	14.437	14.439	-0.002	97	1447018	20.0	19.7	
150 Di-n-octyl phthalate	149	15.633	15.635	-0.002	100	1360488	20.0	18.8	
152 Benzo[b]fluoranthene	252	16.562	16.565	-0.003	97	1472379	20.0	19.9	
153 Benzo[k]fluoranthene	252	16.616	16.618	-0.002	99	1443695	20.0	20.0	
154 Benzo[a]pyrene	252	17.262	17.264	-0.002	77	1226398	20.0	20.2	
157 Indeno[1,2,3-cd]pyrene	276	19.687	19.689	-0.002	97	1372947	20.0	20.3	
158 Dibenz(a,h)anthracene	278	19.708	19.705	0.003	93	1101953	20.0	20.1	
159 Benzo[g,h,i]perylene	276	20.333	20.325	0.008	98	1130795	20.0	20.0	
S 199 Total Cresols	108				0		40.0	39.7	
S 197 Methyl Phenols,Total	108				0		40.0	39.7	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

SVTAP2NDSRCEi_00028 Amount Added: 1.00 Units: mL

Report Date: 17-Oct-2019 06:04:53 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016011.D				
Injection Date:	16-Oct-2019 09:32:30	Instrument ID:	CHMSD7	Operator ID:	003200
Lims ID:	ICV			Worklist Smp#:	11
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

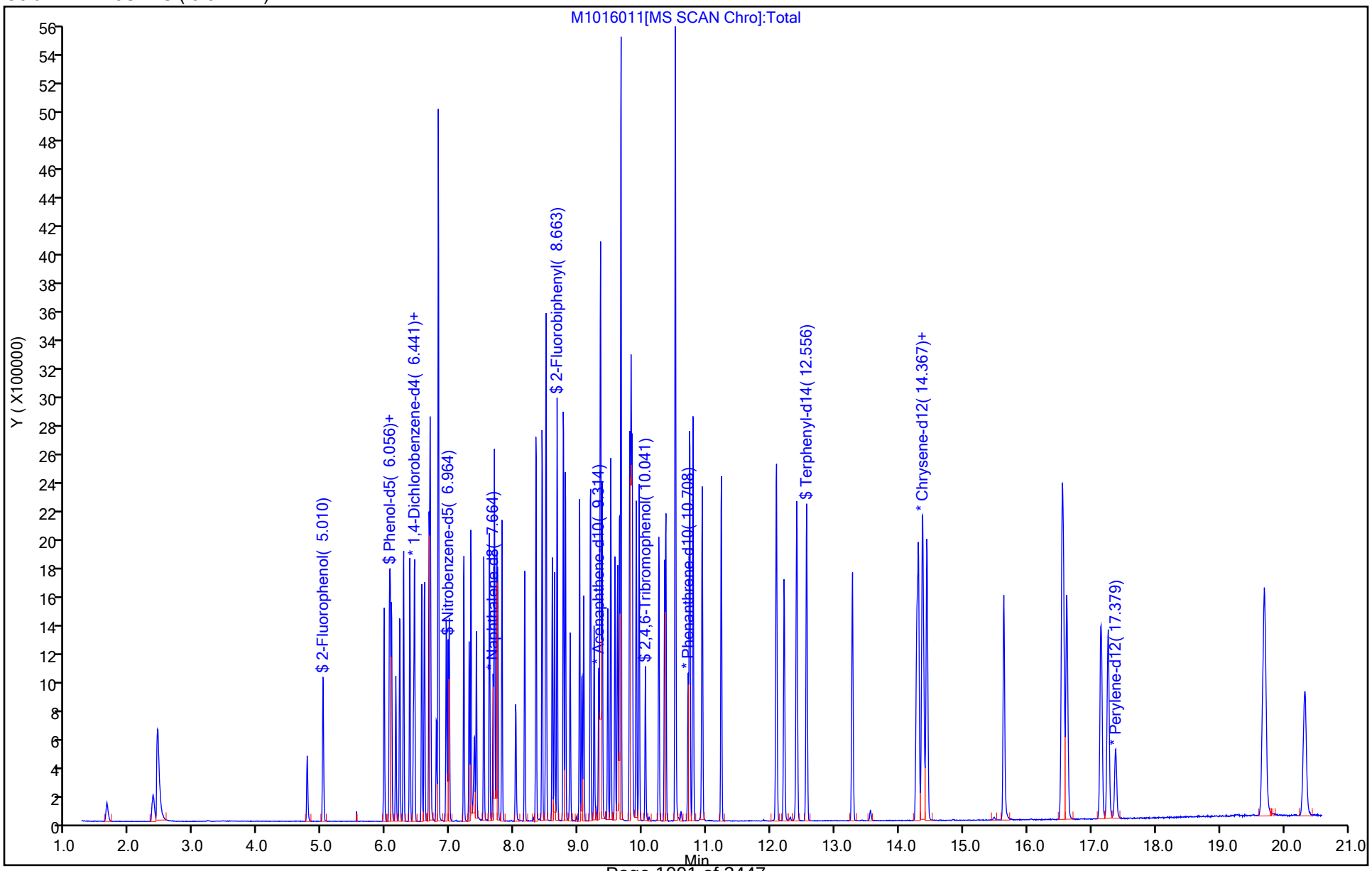

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCVIS 180-295453/3 Calibration Date: 10/19/2019 12:47

Instrument ID: CHMSD7 Calib Start Date: 10/16/2019 05:53

GC Column: Rxi-5SilMS ID: 0.32(mm) Calib End Date: 10/16/2019 09:05

Lab File ID: M1019003.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Pyridine	Ave	1.046	1.062	0.0100	10.2	10.0	1.5	20.0
Phenol	Ave	1.760	1.750	0.8000	4.97	5.00	-0.6	20.0
1,4-Dichlorobenzene	Ave	1.606	1.574	0.0100	4.90	5.00	-2.0	20.0
2-Methylphenol	Ave	1.179	1.180	0.7000	5.01	5.00	0.1	20.0
Methylphenol, 3 & 4	Ave	1.261	1.220	0.6000	4.84	5.00	-3.2	20.0
Hexachloroethane	Ave	0.5837	0.5969	0.3000	5.11	5.00	2.3	20.0
Nitrobenzene	Ave	0.3814	0.3768	0.2000	4.94	5.00	-1.2	20.0
Naphthalene	Ave	1.078	1.074	0.7000	4.98	5.00	-0.4	20.0
Hexachlorobutadiene	Ave	0.2276	0.2236	0.0100	4.91	5.00	-1.8	20.0
2-Methylnaphthalene	Ave	0.7504	0.7332	0.4000	4.89	5.00	-2.3	20.0
1-Methylnaphthalene	Ave	0.6829	0.6924	0.0100	5.07	5.00	1.4	20.0
2,4,6-Trichlorophenol	Ave	0.4022	0.4318	0.2000	5.37	5.00	7.4	20.0
2,4,5-Trichlorophenol	Ave	0.4345	0.4411	0.2000	5.08	5.00	1.5	20.0
Acenaphthylene	Ave	1.840	1.867	0.9000	5.07	5.00	1.5	20.0
Acenaphthene	Ave	1.249	1.241	0.9000	4.97	5.00	-0.6	20.0
2,4-Dinitrotoluene	Ave	0.4160	0.4054	0.2000	4.87	5.00	-2.5	20.0
Fluorene	Ave	1.421	1.407	0.9000	4.95	5.00	-0.9	20.0
Hexachlorobenzene	Ave	0.2182	0.2187	0.1000	5.01	5.00	0.2	20.0
Pentachlorophenol	Ave	0.1597	0.1589	0.0500	9.95	10.0	-0.5	20.0
Phenanthrene	Ave	1.146	1.131	0.7000	4.94	5.00	-1.3	20.0
Fluoranthene	Ave	1.295	1.279	0.6000	4.94	5.00	-1.2	20.0
Benzidine	Ave	0.7159	0.7367	0.0100	5.14	5.00	2.9	40.0
Pyrene	Ave	1.293	1.346	0.6000	5.20	5.00	4.1	20.0
Benzo[a]anthracene	Ave	1.248	1.265	0.8000	5.07	5.00	1.3	20.0
Chrysene	Ave	1.224	1.253	0.7000	5.12	5.00	2.3	20.0
Benzo[b]fluoranthene	Ave	1.440	1.380	0.7000	4.79	5.00	-4.2	20.0
Benzo[k]fluoranthene	Ave	1.407	1.407	0.7000	5.00	5.00	0.0	20.0
Benzo[a]pyrene	Ave	1.181	1.178	0.7000	4.99	5.00	-0.2	20.0
Indeno[1,2,3-cd]pyrene	Ave	1.317	1.312	0.5000	4.98	5.00	-0.4	20.0
Dibenz(a,h)anthracene	Ave	1.069	1.061	0.4000	4.96	5.00	-0.8	20.0
Benzo[g,h,i]perylene	Ave	1.100	1.099	0.5000	5.00	5.00	-0.0	20.0
2-Fluorophenol (Surr)	Ave	1.135	1.133		4.99	5.00	-0.3	20.0
Phenol-d5 (Surr)	Ave	1.499	1.483		4.95	5.00	-1.1	20.0
Nitrobenzene-d5 (Surr)	Ave	0.3683	0.3660		4.97	5.00	-0.6	20.0
2-Fluorobiphenyl	Ave	1.481	1.462		4.93	5.00	-1.3	20.0
2,4,6-Tribromophenol (Surr)	Ave	0.0861	0.0837	0.0100	4.86	5.00	-2.8	20.0
Terphenyl-d14 (Surr)	Ave	0.9048	0.9226		5.10	5.00	2.0	20.0

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191019-29192.b\M1019003.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 19-Oct-2019 12:47:30 ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029192-003
Operator ID: 003200 Instrument ID: CHMSD7
Sublist: chrom-BNA_CHMSD7*sub13

Method: \\chromna\Pittsburgh\ChromData\CHMSD7\20191019-29192.b\BNA_CHMSD7.m
Limit Group: BNA 8270D ICAL
Last Update: 21-Oct-2019 07:14:31 Calib Date: 16-Oct-2019 09:05:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016010.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0325

First Level Reviewer: piccolinov Date: 19-Oct-2019 13:10:05

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.381	6.381	0.000	96	137436	8.00	8.00	
* 2 Naphthalene-d8	136	7.631	7.631	0.000	99	517518	8.00	8.00	
* 3 Acenaphthene-d10	164	9.292	9.292	0.000	94	285699	8.00	8.00	
* 4 Phenanthrene-d10	188	10.692	10.692	0.000	97	514343	8.00	8.00	
* 5 Chrysene-d12	240	14.356	14.356	0.000	100	486642	8.00	8.00	
* 6 Perylene-d12	264	17.336	17.336	0.000	98	418614	8.00	8.00	
$ 7 2-Fluorophenol	112	4.966	4.966	0.000	94	194565	10.0	9.97	
$ 8 Phenol-d5	99	6.008	6.008	0.000	98	254755	10.0	9.89	
$ 9 Nitrobenzene-d5	82	6.926	6.926	0.000	91	236769	10.0	9.94	
$ 10 2-Fluorobiphenyl	172	8.635	8.635	0.000	100	522037	10.0	9.87	
$ 11 2,4,6-Tribromophenol	330	10.024	10.024	0.000	85	53796	10.0	9.72	
$ 12 Terphenyl-d14	244	12.540	12.540	0.000	100	561214	10.0	10.2	
13 1,4-Dioxane	88	1.585	1.585	0.000	91	67226	10.0	9.72	
14 N-Nitrosodimethylamine	74	2.290	2.290	0.000	92	106552	10.0	9.71	
15 Pyridine	79	2.370	2.370	0.000	96	364961	20.0	20.3	
21 Methyl methanesulfonate	80	4.720	4.720	0.000	89	118284	10.0	9.92	
25 Benzaldehyde	77	5.922	5.922	0.000	94	188090	10.0	9.83	
26 Phenol	94	6.024	6.024	0.000	98	300680	10.0	9.94	
27 Aniline	93	6.040	6.040	0.000	95	349554	10.0	10.1	
29 Bis(2-chloroethyl)ether	93	6.109	6.109	0.000	95	198360	10.0	9.74	
30 2-Chlorophenol	128	6.168	6.168	0.000	97	223728	10.0	10.1	
31 n-Decane	43	6.227	6.227	0.000	88	221880	10.0	9.86	
32 1,3-Dichlorobenzene	146	6.328	6.328	0.000	97	265598	10.0	9.88	
33 1,4-Dichlorobenzene	146	6.397	6.397	0.000	94	270390	10.0	9.80	
34 Benzyl alcohol	108	6.515	6.515	0.000	90	127030	10.0	9.41	
35 1,2-Dichlorobenzene	146	6.552	6.552	0.000	96	257614	10.0	10.1	
36 2-Methylphenol	108	6.627	6.627	0.000	98	202766	10.0	10.0	
37 Indene	116	6.643	6.643	0.000	91	392230	10.0	9.87	
38 2,2'-oxybis[1-chloropropan	45	6.648	6.648	0.000	88	268397	10.0	9.89	
39 N-Nitrosopyrrolidine	100	6.745	6.745	0.000	87	105597	10.0	10.4	
40 Acetophenone	105	6.771	6.771	0.000	80	323087	10.0	10.2	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
41 N-Nitrosodi-n-propylamine	70	6.771	6.771	0.000	71	167817	10.0	9.86	
42 4-Methylphenol	108	6.771	6.771	0.000	65	209608	10.0	9.68	
45 Hexachloroethane	117	6.894	6.894	0.000	91	102552	10.0	10.2	
46 Nitrobenzene	77	6.942	6.942	0.000	89	243723	10.0	9.88	
48 Isophorone	82	7.172	7.172	0.000	100	416700	10.0	9.83	
49 2-Nitrophenol	139	7.257	7.257	0.000	97	117600	10.0	9.91	
50 2,4-Dimethylphenol	107	7.284	7.284	0.000	97	237012	10.0	9.98	
52 Benzoic acid	122	7.332	7.332	0.000	87	94495	10.0	8.71	
53 Bis(2-chloroethoxy)methane	93	7.369	7.369	0.000	99	248938	10.0	10.1	
54 2,4-Dichlorophenol	162	7.487	7.487	0.000	95	195336	10.0	10.0	
56 1,2,4-Trichlorobenzene	180	7.572	7.572	0.000	94	234233	10.0	10.1	
58 Naphthalene	128	7.653	7.653	0.000	97	694937	10.0	9.96	
59 4-Chloroaniline	127	7.690	7.690	0.000	96	279596	10.0	10.1	
60 2,6-Dichlorophenol	162	7.706	7.706	0.000	98	196498	10.0	10.3	
62 Hexachlorobutadiene	225	7.770	7.770	0.000	94	144617	10.0	9.82	
64 Caprolactam	113	7.984	7.984	0.000	79	55054	10.0	9.24	
67 4-Chloro-3-methylphenol	107	8.128	8.128	0.000	96	205068	10.0	10.0	
69 2-Methylnaphthalene	142	8.304	8.304	0.000	91	474286	10.0	9.77	
71 1-Methylnaphthalene	142	8.400	8.400	0.000	93	447936	10.0	10.1	
72 Hexachlorocyclopentadiene	237	8.459	8.459	0.000	94	183286	10.0	10.5	
73 1,2,4,5-Tetrachlorobenzene	216	8.464	8.464	0.000	96	253266	10.0	10.0	
74 2,4,6-Trichlorophenol	196	8.561	8.561	0.000	93	154213	10.0	10.7	
75 2,4,5-Trichlorophenol	196	8.598	8.598	0.000	95	157533	10.0	10.2	
76 1,1'-Biphenyl	154	8.737	8.737	0.000	96	558374	10.0	9.78	
77 2-Chloronaphthalene	162	8.764	8.764	0.000	97	437523	10.0	9.94	
79 2-Nitroaniline	65	8.844	8.844	0.000	82	129448	10.0	10.0	
82 Dimethyl phthalate	163	8.993	8.993	0.000	99	487869	10.0	9.70	
83 1,3-Dinitrobenzene	168	9.031	9.031	0.000	85	75766	10.0	10.1	
84 2,6-Dinitrotoluene	165	9.057	9.057	0.000	93	111168	10.0	10.0	
85 Acenaphthylene	152	9.159	9.159	0.000	98	666625	10.0	10.1	
86 3-Nitroaniline	138	9.223	9.223	0.000	92	110544	10.0	9.93	
87 2,4-Dinitrophenol	184	9.319	9.319	0.000	83	135709	20.0	17.3	
88 Acenaphthene	153	9.324	9.324	0.000	92	443259	10.0	9.94	
89 4-Nitrophenol	109	9.351	9.351	0.000	96	139850	20.0	17.7	
91 2,4-Dinitrotoluene	165	9.436	9.436	0.000	95	144788	10.0	9.75	
93 Dibenzofuran	168	9.479	9.479	0.000	96	629088	10.0	9.93	
95 2,3,5,6-Tetrachlorophenol	232	9.549	9.549	0.000	92	134657	10.0	9.84	
96 2,3,4,6-Tetrachlorophenol	232	9.591	9.591	0.000	73	134547	10.0	9.58	
97 2-Naphthylamine	143	9.618	9.618	0.000	96	449985	10.0	10.1	
98 Diethyl phthalate	149	9.639	9.639	0.000	98	481056	10.0	9.94	
99 Hexadecane	57	9.645	9.645	0.000	97	303280	10.0	10.0	
100 4-Chlorophenyl phenyl ethe	204	9.778	9.778	0.000	92	267347	10.0	10.0	
101 4-Nitroaniline	138	9.789	9.789	0.000	82	123380	10.0	10.2	
103 Fluorene	166	9.800	9.800	0.000	93	502571	10.0	9.91	
104 4,6-Dinitro-2-methylphenol	198	9.821	9.821	0.000	88	193027	20.0	20.3	
105 N-Nitrosodiphenylamine	169	9.885	9.885	0.000	99	357588	10.0	10.1	
90 1,2-Diphenylhydrazine	77	9.928	9.928	0.000	97	506858	10.0	10.5	
215 Azobenzene	77	9.928	9.928	0.000	99	506858	10.0	10.5	
110 4-Bromophenyl phenyl ether	248	10.238	10.238	0.000	68	149275	10.0	10.3	
112 Hexachlorobenzene	284	10.323	10.323	0.000	93	140629	10.0	10.0	
113 Atrazine	200	10.350	10.350	0.000	93	148216	10.0	10.3	
115 n-Octadecane	57	10.494	10.494	0.000	97	306166	10.0	10.1	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
116 Pentachlorophenol	266	10.499	10.499	0.000	91	204358	20.0	19.9	
121 Phenanthrene	178	10.718	10.718	0.000	98	727095	10.0	9.87	
122 Anthracene	178	10.766	10.766	0.000	97	751396	10.0	10.3	
124 Carbazole	167	10.911	10.911	0.000	97	656788	10.0	10.2	
126 Di-n-butyl phthalate	149	11.210	11.210	0.000	100	749795	10.0	10.2	
131 Fluoranthene	202	12.064	12.064	0.000	98	822388	10.0	9.88	
132 Benzidine	184	12.187	12.187	0.000	99	448112	10.0	10.3	
133 Pyrene	202	12.385	12.385	0.000	98	818747	10.0	10.4	
138 Butyl benzyl phthalate	149	13.255	13.255	0.000	98	308335	10.0	9.91	
144 3,3'-Dichlorobenzidine	252	14.249	14.249	0.000	74	261413	10.0	9.60	
145 Bis(2-ethylhexyl) phthalat	149	14.275	14.275	0.000	96	433198	10.0	10.1	
146 Benzo[a]anthracene	228	14.334	14.334	0.000	99	769289	10.0	10.1	
147 Chrysene	228	14.409	14.409	0.000	97	762237	10.0	10.2	
150 Di-n-octyl phthalate	149	15.605	15.605	0.000	100	788427	10.0	10.7	
151 7,12-Dimethylbenz(a)anthra	256	16.503	16.503	0.000	91	325677	10.0	9.96	
152 Benzo[b]fluoranthene	252	16.519	16.519	0.000	97	721917	10.0	9.58	
153 Benzo[k]fluoranthene	252	16.577	16.577	0.000	99	736293	10.0	10.0	
217 Benzo[e]pyrene	252	17.106	17.106	0.000	97	650731	10.0	9.91	
154 Benzo[a]pyrene	252	17.218	17.218	0.000	77	616410	10.0	9.98	
157 Indeno[1,2,3-cd]pyrene	276	19.633	19.633	0.000	98	686727	10.0	9.96	
158 Dibenz(a,h)anthracene	278	19.649	19.649	0.000	91	555210	10.0	9.92	
159 Benzo[g,h,i]perylene	276	20.263	20.263	0.000	98	575144	10.0	10.0	
S 199 Total Cresols	108				0		20.0	19.7	
S 197 Methyl Phenols,Total	108				0		20.0	19.7	

Reagents:

SVTAPSTD10i_00346 Amount Added: 1.00 Units: mL

Report Date: 21-Oct-2019 07:14:33 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191019-29192.b\M1019003.D				
Injection Date:	19-Oct-2019 12:47:30	Instrument ID:	CHMSD7	Operator ID:	003200
Lims ID:	CCVIS			Worklist Smp#:	3
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

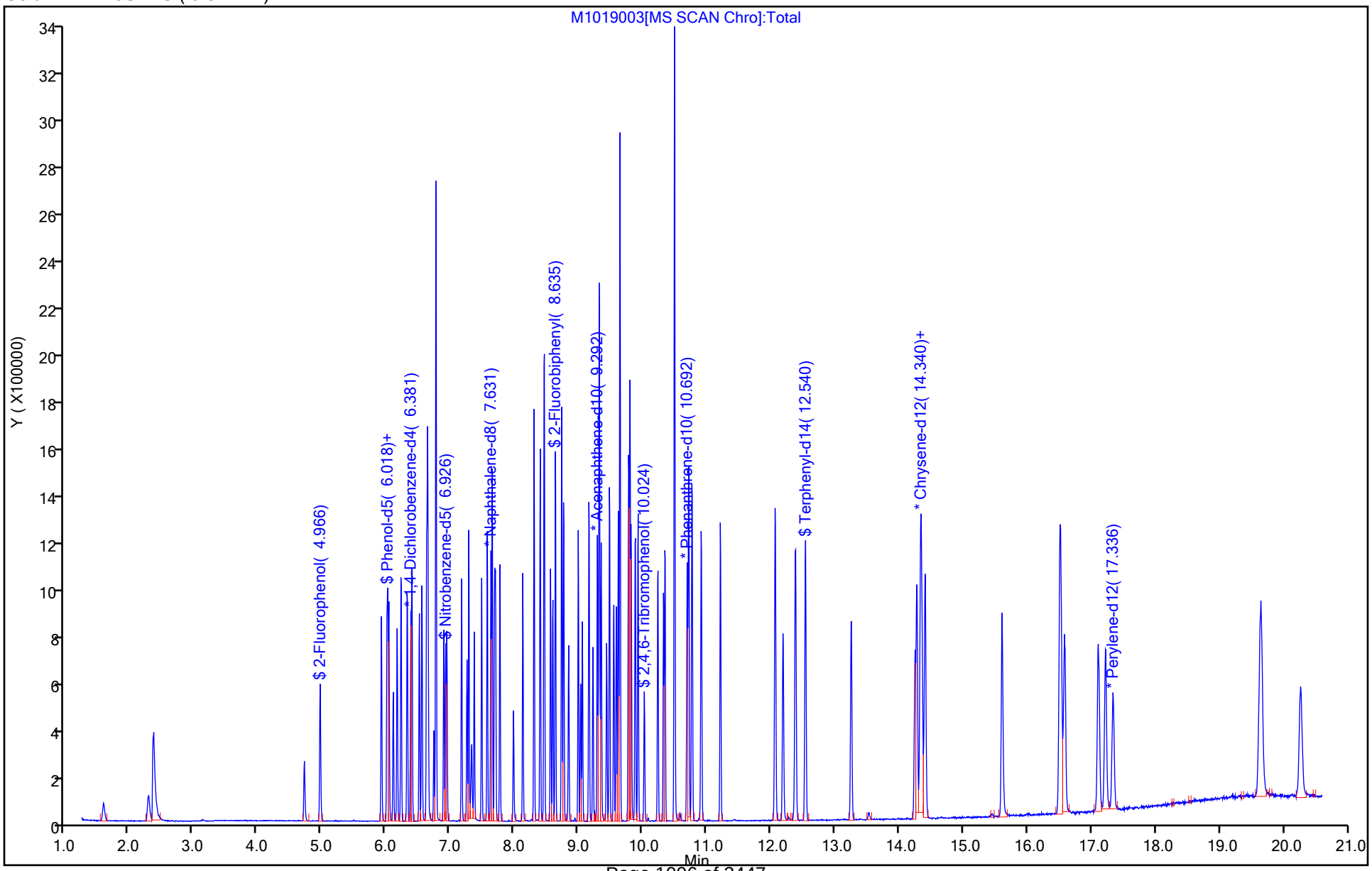

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016002.D
Lims ID: DFTPP
Client ID:
Sample Type: DFTPP
Inject. Date: 16-Oct-2019 05:38:30 ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029126-002
Misc. Info.: DFTPP
Operator ID: 003200 Instrument ID: CHMSD7

Method: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\BNA_CHMSD7.m
Limit Group: BNA 8270D ICAL
Last Update: 17-Oct-2019 06:01:18 Calib Date: 16-Oct-2019 09:05:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016010.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0331

First Level Reviewer: piccolinov Date: 16-Oct-2019 06:02:03

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
189 Pentachlorophenol_T	266	5.491	5.491	0.000	94	996784	NR	NR	
190 DFTPP									
191 Benzidine_T	184	8.114	8.114	0.000	99	6378891	NR	NR	
192 4,4'-DDE	246	8.466	8.466	0.000	1	1129		NR	
193 4,4'-DDD	235	9.129	9.129	0.000	92	5988		NR	
194 4,4'-DDT	235	9.684	9.684	0.000	99	2817848	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

SVDFTPP50i_00036 Amount Added: 1.00 Units: mL

Report Date: 17-Oct-2019 06:01:21 Chrom Revision: 2.3 09-Oct-2019 11:13:36

MS Tune Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016002.D				
Injection Date:	16-Oct-2019 05:38:30	Instrument ID:	CHMSD7		
Lims ID:	DFTPP				
Client ID:					
Operator ID:	003200	ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Tune Method:	DFTPP Method 8270				

190 DFTPP

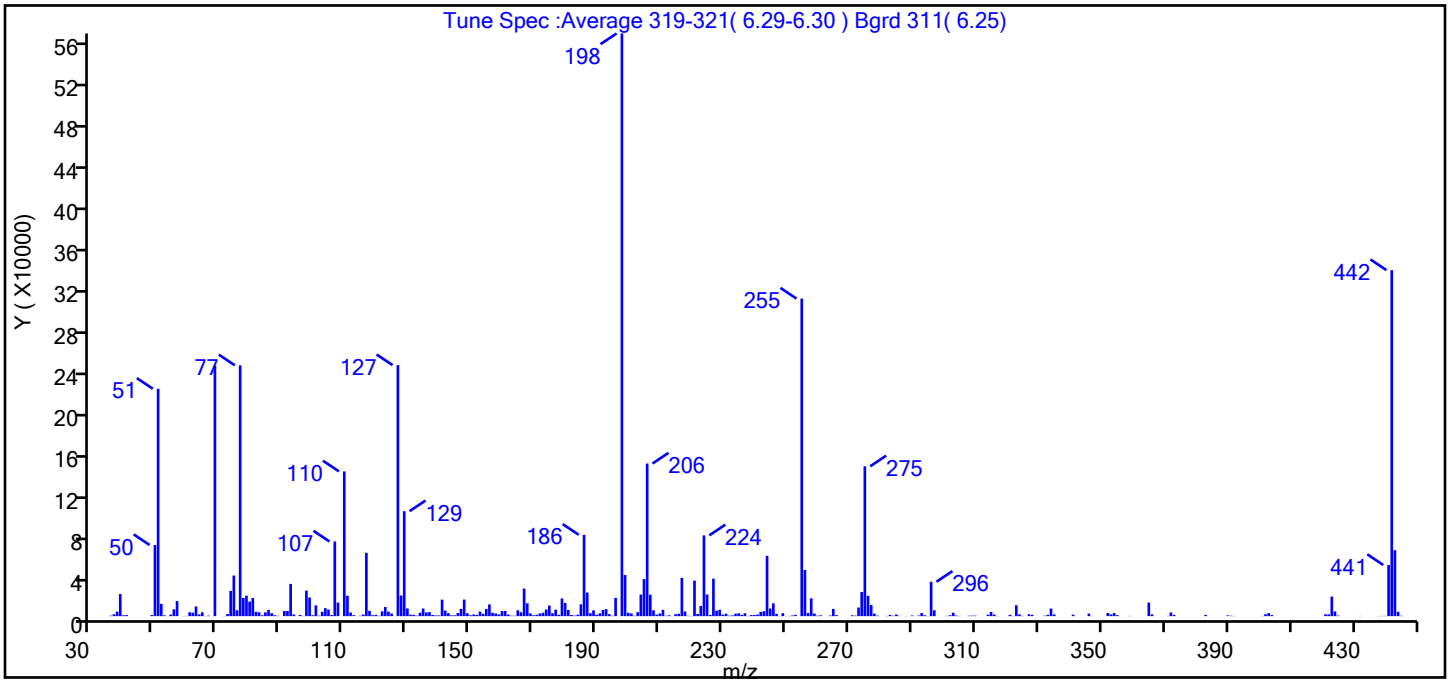

m/z	Ion Abundance Criteria	% Relative Abundance
198	Base peak, 100% relative abundance	100.0
51	30-60% of mass 198	39.0
68	<2% of mass 69	0.0 (0.0)
69	Present	43.0
70	<2% of mass 69	0.0 (0.0)
127	40-60% of mass 198	43.1
197	<1% of mass 198	0.0
199	5-9% of mass 198	7.1
275	10-30% of mass 198	25.7
365	>1% of mass 198	2.3
441	Present but less than mass 443	8.8 (77.6)
442	>40% of mass 198	59.4
443	17-23% of mass 442	11.3 (19.1)

Report Date: 17-Oct-2019 06:01:21 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Data File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016002.D\BNA_CHMSD7.rslt\spectra.d
Injection Date: 16-Oct-2019 05:38:30
Spectrum: Tune Spec :Average 319-321(6.29-6.30) Bgrd 311(6.25)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 290

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	459	124.00	4362	199.00	39872	282.00	208
37.00	1750	125.00	2521	200.00	3198	283.00	1165
38.00	4395	127.00	243392	201.00	2621	284.00	440
39.00	21416	128.00	20008	202.00	395	285.00	1613
40.00	918	129.00	101752	203.00	3856	286.00	250
41.00	1039	130.00	7458	204.00	20904	288.00	177
45.00	39	131.00	1455	205.00	35960	290.00	657
49.00	1071	132.00	1205	206.00	147968	292.00	610
50.00	68960	133.00	496	207.00	20792	293.00	2921
51.00	220480	134.00	3279	208.00	5679	294.00	890
52.00	11887	135.00	7396	209.00	1473	295.00	196
53.00	795	136.00	3594	210.00	2532	296.00	33336
55.00	1542	137.00	3932	211.00	6118	297.00	5667
56.00	6653	138.00	1104	212.00	417	301.00	313
57.00	14590	139.00	743	213.00	816	302.00	913
59.00	192	140.00	723	215.00	1878	303.00	3289
60.00	193	141.00	15999	216.00	2278	304.00	578
61.00	3727	142.00	5428	217.00	37064	305.00	185
62.00	3369	143.00	2940	218.00	4544	308.00	437
63.00	9381	144.00	820	219.00	340	309.00	480
64.00	1690	145.00	818	220.00	184	310.00	525
65.00	3738	146.00	3046	221.00	34424	314.00	1371
66.00	188	147.00	7031	222.00	2103	315.00	4037
67.00	487	148.00	16077	223.00	9889	316.00	1571
69.00	242880	149.00	2835	224.00	78312	317.00	196
72.00	192	150.00	870	225.00	20960	321.00	1271
73.00	2055	151.00	1628	226.00	1079	322.00	179
74.00	24512	152.00	1167	227.00	36328	323.00	10578
75.00	39360	153.00	4373	228.00	5301	324.00	1643
76.00	5706	154.00	2286	229.00	6165	325.00	242
77.00	243200	155.00	7019	230.00	1464	327.00	1837
78.00	17632	156.00	11362	231.00	2365	328.00	1257
79.00	19800	157.00	3233	232.00	453	332.00	490

Report Date: 17-Oct-2019 06:01:21 Chrom Revision: 2.3 09-Oct-2019 11:13:36
Data File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016002.D\BNA_CHMSD7.rslt\spectra.d
Injection Date: 16-Oct-2019 05:38:30
Spectrum: Tune Spec :Average 319-321(6.29-6.30) Bgrd 311(6.25)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 290

m/z	Y	m/z	Y	m/z	Y	m/z	Y
80.00	14128	158.00	2613	233.00	717	333.00	1292
81.00	17560	159.00	1665	234.00	2369	334.00	7325
82.00	4250	160.00	4904	235.00	2759	335.00	1695
83.00	3703	161.00	5069	236.00	1333	341.00	1422
84.00	824	162.00	1532	237.00	2799	346.00	2523
85.00	3682	163.00	468	238.00	180	347.00	174
86.00	6062	164.00	393	239.00	1091	352.00	3048
87.00	2809	165.00	5701	240.00	1167	353.00	1721
88.00	892	166.00	3776	241.00	1495	354.00	3014
89.00	285	167.00	26712	242.00	4090	355.00	1015
91.00	4989	168.00	12395	243.00	4749	359.00	229
92.00	5032	169.00	2576	244.00	58504	365.00	13206
93.00	31264	170.00	922	245.00	7396	366.00	1741
94.00	1577	171.00	1367	246.00	12459	371.00	218
96.00	1154	172.00	2578	247.00	2220	372.00	3590
97.00	248	173.00	3290	248.00	218	373.00	1225
98.00	24752	174.00	6427	249.00	2948	383.00	1170
99.00	18072	175.00	10275	250.00	201	390.00	772
100.00	885	176.00	2742	251.00	214	391.00	373
101.00	10423	177.00	6264	252.00	650	392.00	191
102.00	455	178.00	1257	253.00	1239	401.00	188
103.00	4220	179.00	17136	255.00	307904	402.00	1808
104.00	7732	180.00	12755	256.00	44760	403.00	2929
105.00	6351	181.00	6018	257.00	3110	404.00	1038
106.00	1078	182.00	1104	258.00	17272	421.00	1766
107.00	72384	183.00	583	259.00	2488	422.00	1717
108.00	13185	184.00	1361	260.00	483	423.00	18936
110.00	140352	185.00	11435	261.00	789	424.00	4544
111.00	19776	186.00	78872	264.00	617	425.00	554
112.00	3535	187.00	22824	265.00	7005	432.00	216
113.00	1021	188.00	2821	266.00	990	438.00	170
115.00	413	189.00	5638	271.00	825	439.00	256
116.00	1546	190.00	1334	272.00	478	440.00	251
117.00	61392	191.00	2709	273.00	8375	441.00	49584

Report Date: 17-Oct-2019 06:01:21 Chrom Revision: 2.3 09-Oct-2019 11:13:36
Data File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016002.D\BNA_CHMSD7.rslt\spectra.d
Injection Date: 16-Oct-2019 05:38:30
Spectrum: Tune Spec :Average 319-321(6.29-6.30) Bgrd 311(6.25)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 290

m/z	Y	m/z	Y	m/z	Y	m/z	Y
118.00	5140	192.00	6041	274.00	23360	442.00	335488
119.00	911	193.00	6831	275.00	145280	443.00	63936
120.00	1315	194.00	1911	276.00	19728	444.00	4201
121.00	307	195.00	345	277.00	10854	445.00	408
122.00	4681	196.00	17640	278.00	2392		
123.00	8913	198.00	564928	279.00	521		

Report Date: 17-Oct-2019 06:01:21 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016002.D				
Injection Date:	16-Oct-2019 05:38:30	Instrument ID:	CHMSD7	Operator ID:	003200
Lims ID:	DFTPP			Worklist Smp#:	2
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

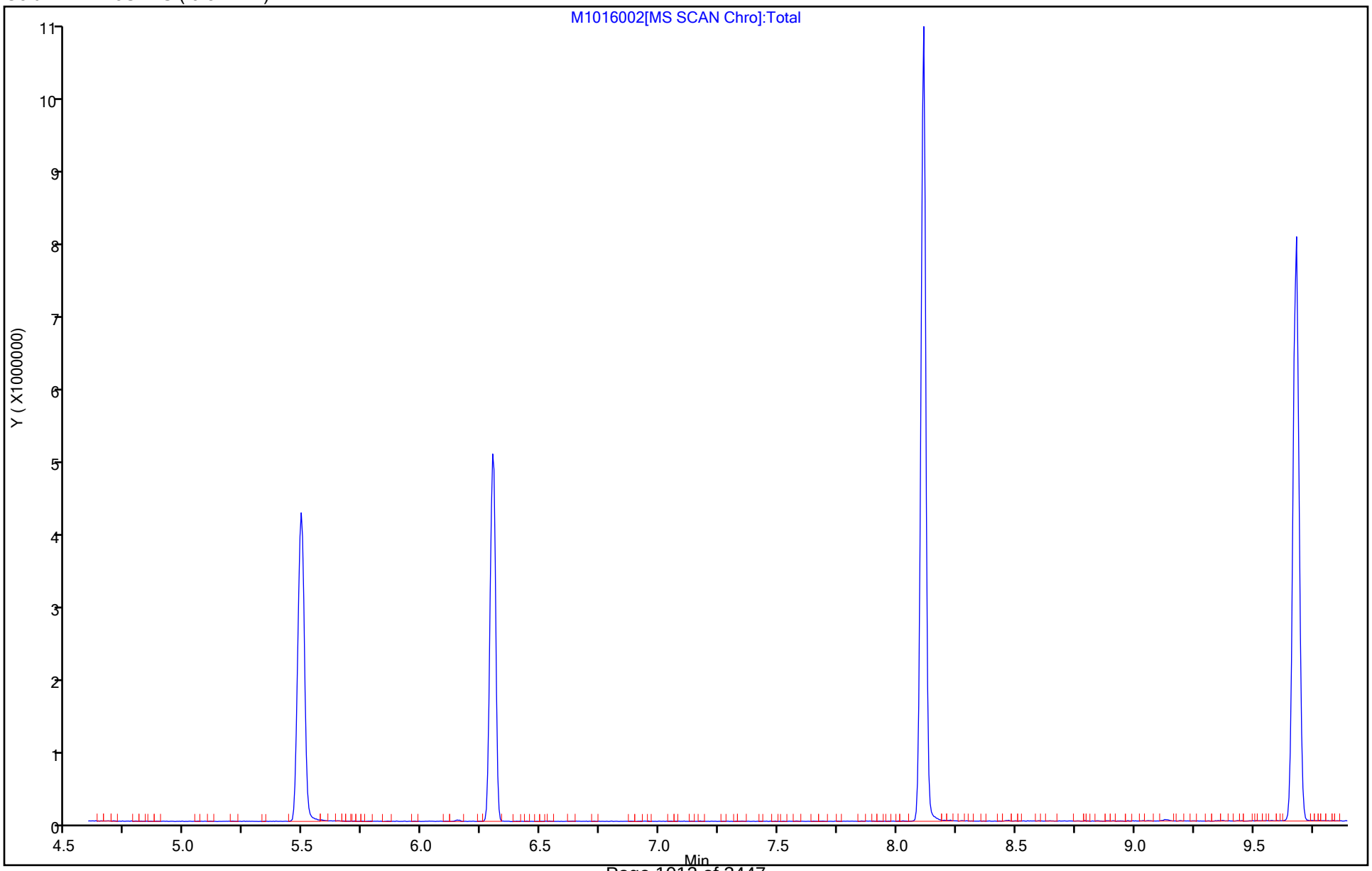

Report Date: 17-Oct-2019 06:01:21 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Breakdown Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016002.D				
Injection Date:	16-Oct-2019 05:38:30	Instrument ID:	CHMSD7		
Lims ID:	DFTPP				
Client ID:					
Operator ID:	003200	ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		

194 4,4'-DDT, Detector: MS SCAN

SW-846 Method

%Breakdown =
(Area Breakdown Cpnds/
Total Area Breakdown Cpnds) * 100

194 4,4'-DDT, Area = 2817848
192 4,4'-DDE, Area = 1129
193 4,4'-DDD, Area = 5988

%Breakdown: 0.25%, <= 20.00%
Passed

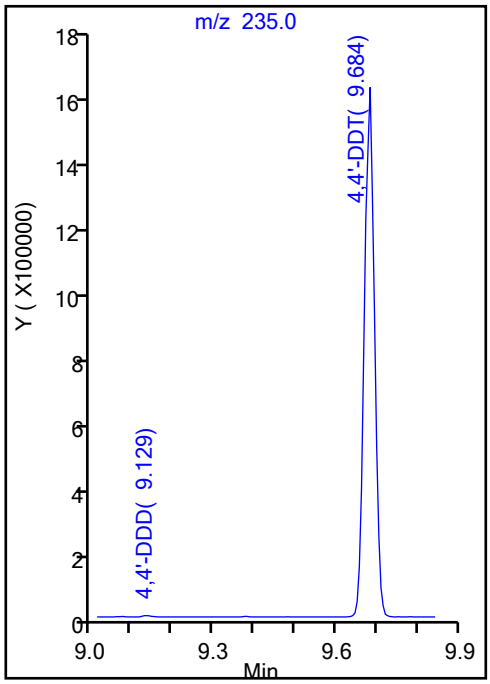

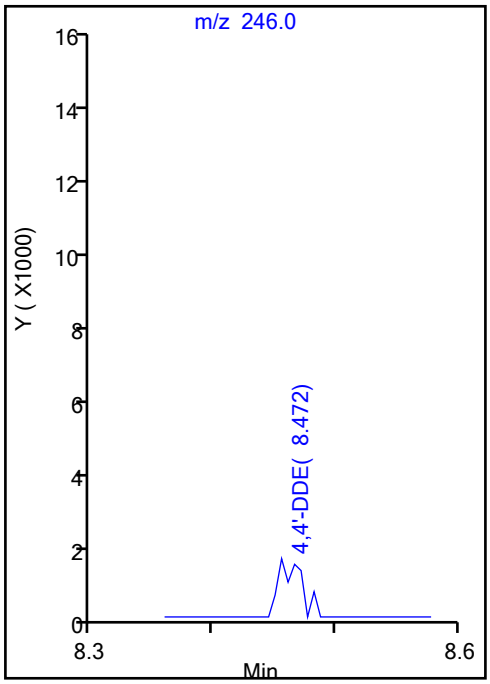

Report Date: 17-Oct-2019 06:01:21 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Peak Tailing Report

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016002.D
Injection Date: 16-Oct-2019 05:38:30 Instrument ID: CHMSD7
Lims ID: DFTPP
Client ID:
Operator ID: 003200 ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: BNA_CHMSD7 Limit Group: BNA 8270D ICAL

191 Benzidine_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.020 (min.)
Front Width = 0.023 (min.)

Tailing Factor = 0.9, Max. Tailing < 2.00
Passed

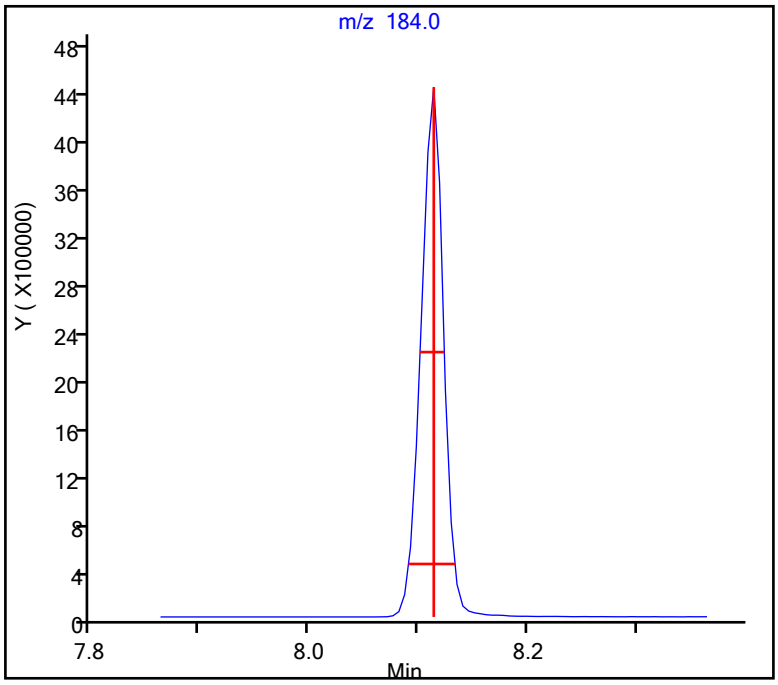

Report Date: 17-Oct-2019 06:01:21 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Peak Tailing Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016002.D				
Injection Date:	16-Oct-2019 05:38:30	Instrument ID:	CHMSD7		
Lims ID:	DFTPP				
Client ID:					
Operator ID:	003200	ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		

189 Pentachlorophenol_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.028 (min.)
Front Width = 0.026 (min.)

Tailing Factor = 1.1, Max. Tailing < 2.00
Passed

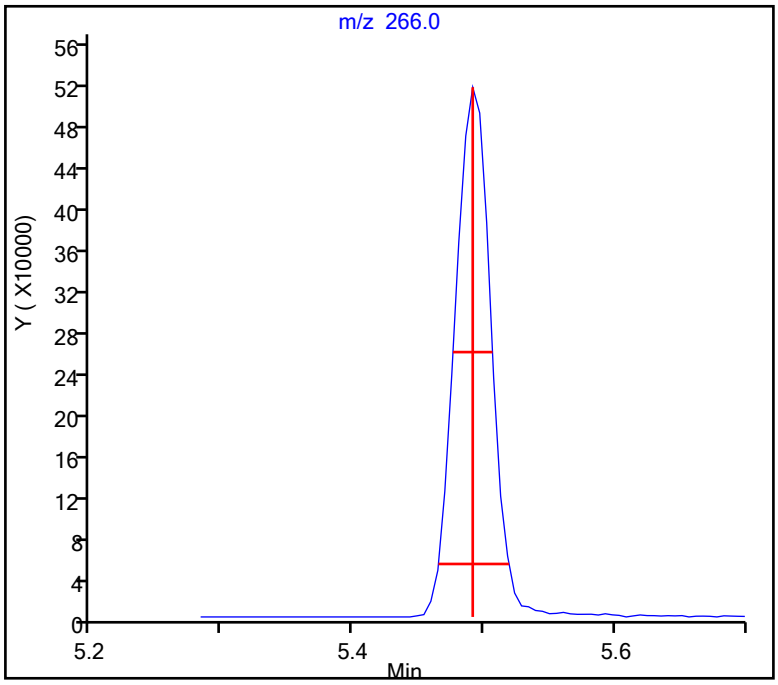

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191019-29192.b\M1019002.D
Lims ID: DFTPP
Client ID:
Sample Type: DFTPP
Inject. Date: 19-Oct-2019 12:31:30 ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029192-002
Misc. Info.: DFTPP
Operator ID: 003200 Instrument ID: CHMSD7

Method: \\chromna\Pittsburgh\ChromData\CHMSD7\20191019-29192.b\BNA_CHMSD7.m
Limit Group: BNA 8270D ICAL
Last Update: 21-Oct-2019 07:14:30 Calib Date: 16-Oct-2019 09:05:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016010.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0325

First Level Reviewer: piccolinov Date: 21-Oct-2019 06:58:00

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
189 Pentachlorophenol_T	266	5.473	5.473	0.000	93	1702578	NR	NR	
190 DFTPP									
191 Benzidine_T	184	8.095	8.095	0.000	99	10169539	NR	NR	
193 4,4'-DDD	235	9.121	9.121	0.000	90	8971		NR	
194 4,4'-DDT	235	9.660	9.660	0.000	99	5187737	NR	NR	

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Reagents:

SVDFTPP50i_00036 Amount Added: 1.00 Units: mL

Report Date: 21-Oct-2019 07:14:30 Chrom Revision: 2.3 09-Oct-2019 11:13:36

MS Tune Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191019-29192.b\M1019002.D				
Injection Date:	19-Oct-2019 12:31:30	Instrument ID:	CHMSD7		
Lims ID:	DFTPP				
Client ID:					
Operator ID:	003200	ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Tune Method:	DFTPP Method 8270				

190 DFTPP

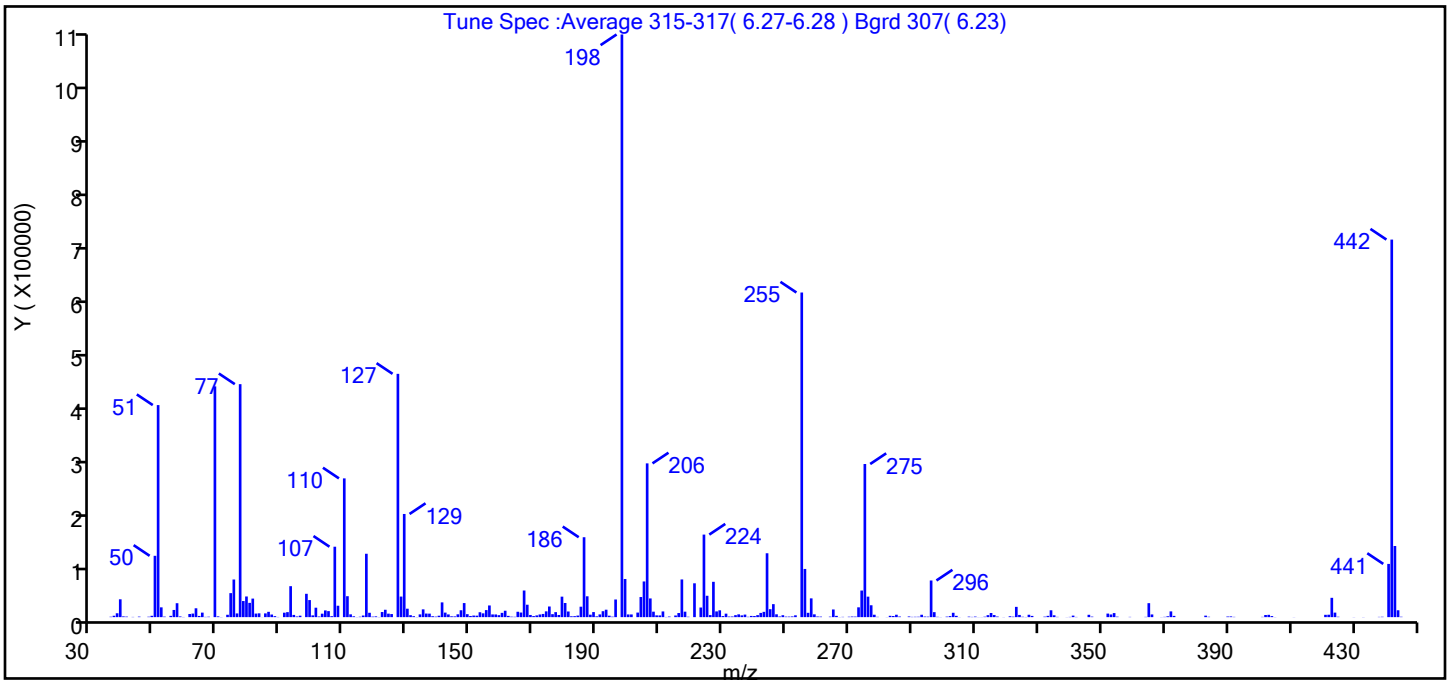

m/z	Ion Abundance Criteria	% Relative Abundance
198	Base peak, 100% relative abundance	100.0
51	30-60% of mass 198	36.4
68	<2% of mass 69	0.0 (0.0)
69	Present	39.6
70	<2% of mass 69	0.1 (0.3)
127	40-60% of mass 198	41.8
197	<1% of mass 198	0.0
199	5-9% of mass 198	6.5
275	10-30% of mass 198	26.3
365	>1% of mass 198	2.4
441	Present but less than mass 443	9.1 (74.8)
442	>40% of mass 198	64.8
443	17-23% of mass 442	12.2 (18.8)

Report Date: 21-Oct-2019 07:14:30 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Data File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191019-29192.b\M1019002.D\BNA_CHMSD7.rslt\spectra.d
Injection Date: 19-Oct-2019 12:31:30
Spectrum: Tune Spec :Average 315-317(6.27-6.28) Bgrd 307(6.23)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 312

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	737	125.00	5618	206.00	279296	295.00	882
37.00	2535	127.00	441920	207.00	33976	296.00	66584
38.00	7056	128.00	37368	208.00	9941	297.00	9074
39.00	32416	129.00	187392	209.00	3246	298.00	604
40.00	1356	130.00	15329	210.00	3114	299.00	199
41.00	985	131.00	3580	211.00	10363	301.00	909
43.00	402	132.00	1713	212.00	339	302.00	1878
45.00	944	133.00	269	213.00	1086	303.00	7915
48.00	770	134.00	5018	215.00	2984	304.00	2363
49.00	2448	135.00	14147	216.00	7466	305.00	194
50.00	111392	136.00	6520	217.00	68464	308.00	930
51.00	385152	137.00	6379	218.00	9944	309.00	453
52.00	17792	138.00	1663	219.00	726	310.00	997
53.00	955	139.00	932	221.00	61472	311.00	187
55.00	2344	140.00	2589	223.00	17456	312.00	189
56.00	13054	141.00	26808	224.00	149952	313.00	815
57.00	25312	142.00	8232	225.00	38832	314.00	3605
58.00	1253	143.00	4914	226.00	3718	315.00	7516
59.00	302	144.00	1509	227.00	64184	316.00	3807
61.00	5730	145.00	1324	228.00	10420	317.00	1085
62.00	6484	146.00	5124	229.00	12401	319.00	194
63.00	16104	147.00	12506	230.00	1950	321.00	1543
64.00	2189	148.00	25552	231.00	6332	322.00	858
65.00	8206	149.00	5380	232.00	1093	323.00	18672
66.00	467	150.00	2125	233.00	1180	324.00	4018
67.00	797	151.00	2885	234.00	3598	325.00	713
69.00	419136	152.00	2688	235.00	5062	326.00	292
70.00	1395	153.00	8894	236.00	3218	327.00	4341
71.00	242	154.00	6903	237.00	4626	328.00	2240
73.00	4328	155.00	12808	238.00	624	332.00	886
74.00	43616	156.00	21224	239.00	2219	333.00	2352
75.00	68368	157.00	4921	240.00	2006	334.00	12449
76.00	6754	158.00	4884	241.00	3650	335.00	3359

Report Date: 21-Oct-2019 07:14:30 Chrom Revision: 2.3 09-Oct-2019 11:13:36
Data File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191019-29192.b\M1019002.D\BNA_CHMSD7.rslt\spectra.d
Injection Date: 19-Oct-2019 12:31:30
Spectrum: Tune Spec :Average 315-317(6.27-6.28) Bgrd 307(6.23)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 312

m/z	Y	m/z	Y	m/z	Y	m/z	Y
77.00	423168	159.00	3582	242.00	7668	336.00	495
78.00	29264	160.00	7776	243.00	9607	339.00	173
79.00	37536	161.00	11632	244.00	116032	340.00	449
80.00	25928	162.00	2307	245.00	14450	341.00	2786
81.00	33688	163.00	870	246.00	23608	342.00	388
82.00	6484	164.00	645	247.00	5157	346.00	4271
83.00	6921	165.00	9771	248.00	1189	347.00	951
84.00	144	166.00	8346	249.00	3502	352.00	6468
85.00	6808	167.00	48384	250.00	938	353.00	4849
86.00	9685	168.00	22568	251.00	982	354.00	7370
87.00	4734	169.00	3950	252.00	1276	355.00	864
88.00	1797	170.00	1929	253.00	3301	359.00	468
89.00	340	171.00	3171	255.00	589632	364.00	485
91.00	8080	172.00	4850	256.00	87544	365.00	25384
92.00	9078	173.00	5799	257.00	7851	366.00	4907
93.00	56248	174.00	10533	258.00	34120	369.00	204
94.00	4041	175.00	19344	259.00	5094	370.00	515
95.00	1220	176.00	5402	260.00	1165	371.00	1575
96.00	2640	177.00	9101	261.00	946	372.00	10456
98.00	42400	178.00	3947	264.00	900	373.00	2282
99.00	31000	179.00	37216	265.00	13936	383.00	2715
100.00	3182	180.00	25672	266.00	2336	384.00	729
101.00	17152	181.00	10260	267.00	209	390.00	1121
102.00	1125	182.00	1570	268.00	491	391.00	1334
103.00	6291	183.00	1792	270.00	741	392.00	489
104.00	12198	184.00	2843	271.00	1102	401.00	490
105.00	10934	185.00	18960	272.00	990	402.00	3883
106.00	1765	186.00	145152	273.00	17840	403.00	4205
107.00	127920	187.00	37864	274.00	48312	404.00	1928
108.00	20720	188.00	4464	275.00	278144	405.00	208
110.00	252032	189.00	9204	276.00	37208	411.00	168
111.00	38032	190.00	1405	277.00	21584	421.00	4228
112.00	5084	191.00	4950	278.00	4375	422.00	4399
113.00	1523	192.00	10792	279.00	574	423.00	35104

Report Date: 21-Oct-2019 07:14:30 Chrom Revision: 2.3 09-Oct-2019 11:13:36
Data File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191019-29192.b\M1019002.D\BNA_CHMSD7.rslt\spectra.d
Injection Date: 19-Oct-2019 12:31:30
Spectrum: Tune Spec :Average 315-317(6.27-6.28) Bgrd 307(6.23)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 312

m/z	Y	m/z	Y	m/z	Y	m/z	Y
114.00	218	193.00	13504	282.00	181	424.00	8222
115.00	751	194.00	2627	283.00	2422	425.00	737
116.00	2951	195.00	858	284.00	2029	430.00	192
117.00	115136	196.00	32064	285.00	4378	433.00	209
118.00	7923	198.00	1058304	286.00	1148	438.00	476
119.00	931	199.00	69304	289.00	1245	439.00	683
120.00	1399	200.00	4905	290.00	505	441.00	96696
121.00	303	201.00	4906	291.00	647	442.00	685760
122.00	9281	203.00	8294	292.00	742	443.00	129208
123.00	13410	204.00	36544	293.00	4339	444.00	12513
124.00	6332	205.00	64832	294.00	1044	445.00	724

Report Date: 21-Oct-2019 07:14:30 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191019-29192.b\M1019002.D				
Injection Date:	19-Oct-2019 12:31:30	Instrument ID:	CHMSD7	Operator ID:	003200
Lims ID:	DFTPP			Worklist Smp#:	2
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

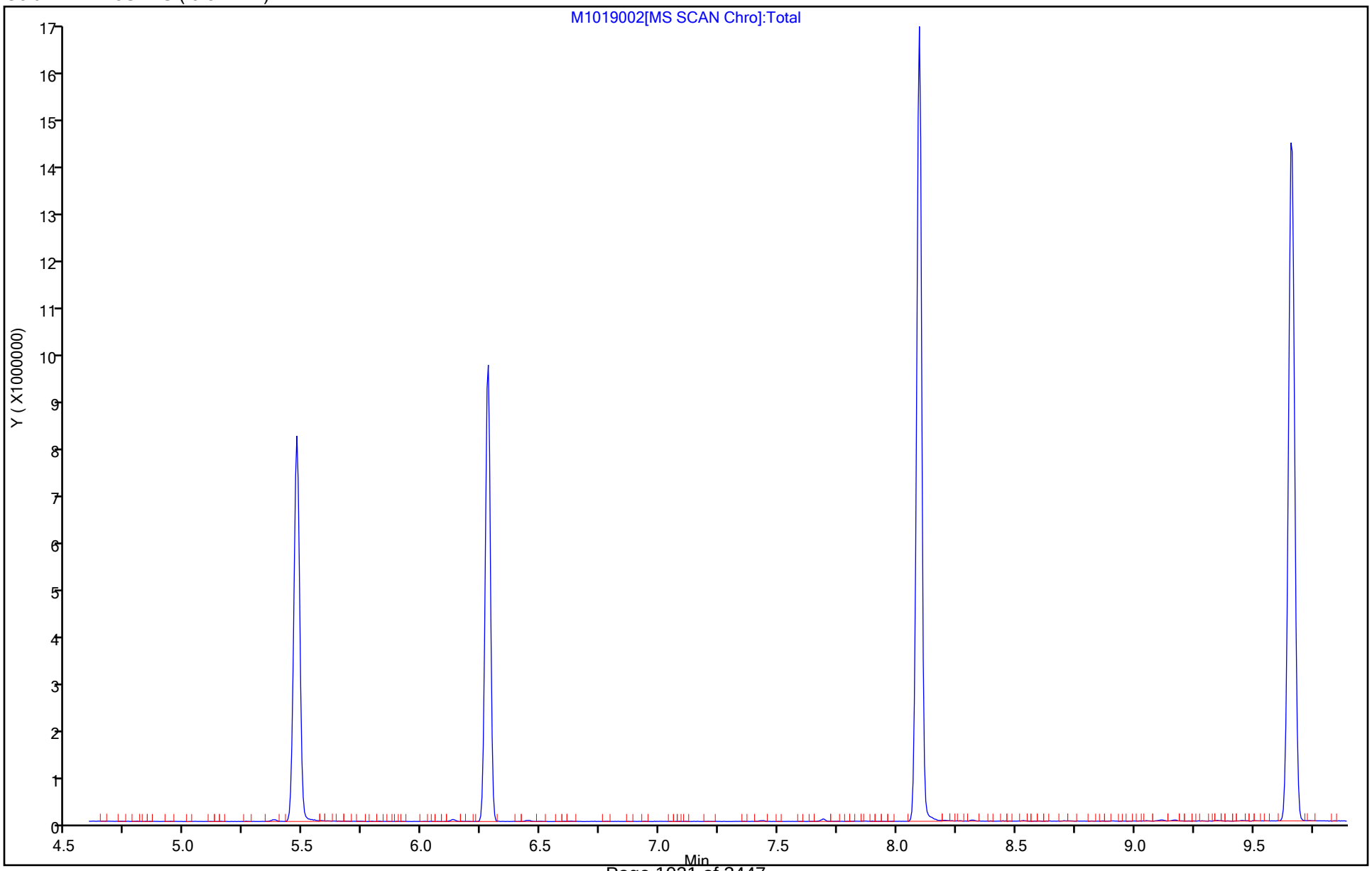

Report Date: 21-Oct-2019 07:14:30 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Breakdown Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191019-29192.b\M1019002.D				
Injection Date:	19-Oct-2019 12:31:30	Instrument ID:	CHMSD7		
Lims ID:	DFTPP				
Client ID:					
Operator ID:	003200	ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		

194 4,4'-DDT, Detector: MS SCAN

SW-846 Method

%Breakdown =
(Area Breakdown Cpnds/
Total Area Breakdown Cpnds) * 100

194 4,4'-DDT, Area = 5187737
192 4,4'-DDE, Area = 0
193 4,4'-DDD, Area = 8971

%Breakdown: 0.17%, <= 20.00%
Passed

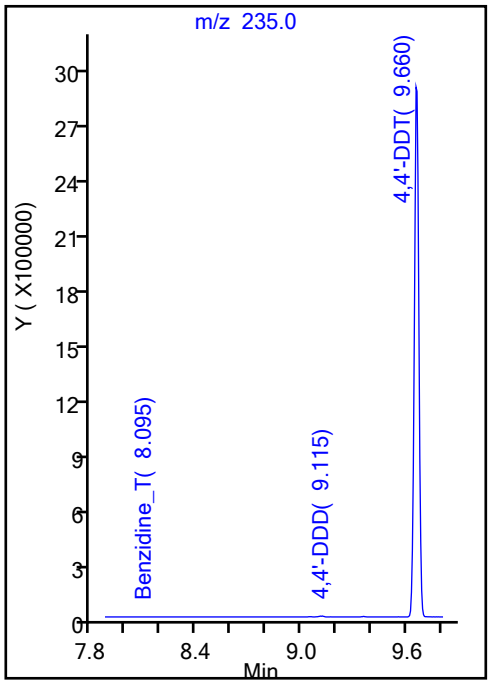

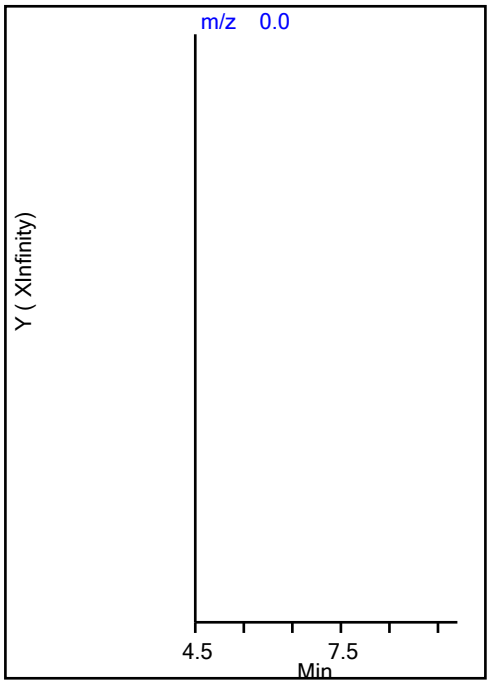

Report Date: 21-Oct-2019 07:14:30 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Peak Tailing Report

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191019-29192.b\M1019002.D
Injection Date: 19-Oct-2019 12:31:30 Instrument ID: CHMSD7
Lims ID: DFTPP
Client ID:
Operator ID: 003200 ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: BNA_CHMSD7 Limit Group: BNA 8270D ICAL

191 Benzidine_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.020 (min.)
Front Width = 0.023 (min.)

Tailing Factor = 0.9, Max. Tailing < 2.00
Passed

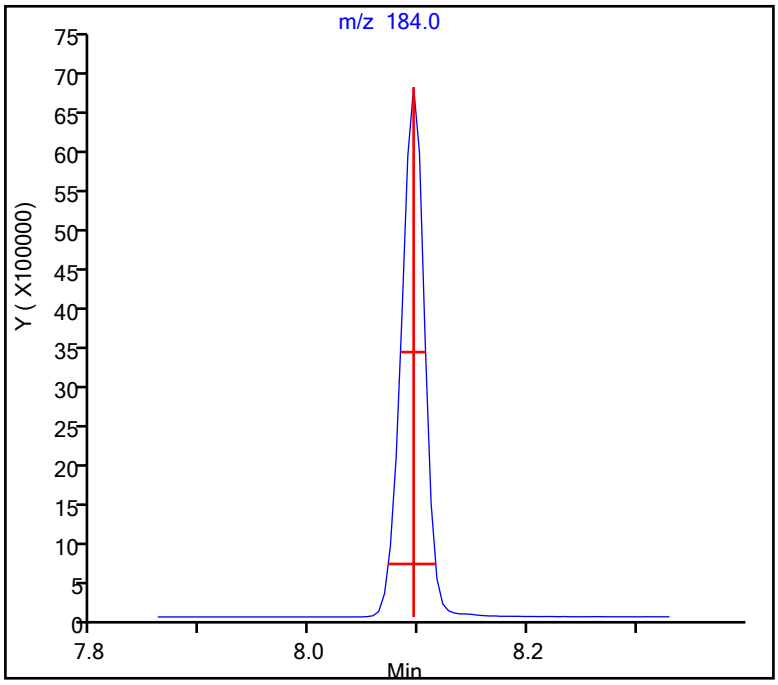

Report Date: 21-Oct-2019 07:14:30 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Peak Tailing Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191019-29192.b\M1019002.D				
Injection Date:	19-Oct-2019 12:31:30	Instrument ID:	CHMSD7		
Lims ID:	DFTPP				
Client ID:					
Operator ID:	003200	ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		

189 Pentachlorophenol_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.025 (min.)
Front Width = 0.024 (min.)

Tailing Factor = 1.0, Max. Tailing < 2.00
Passed

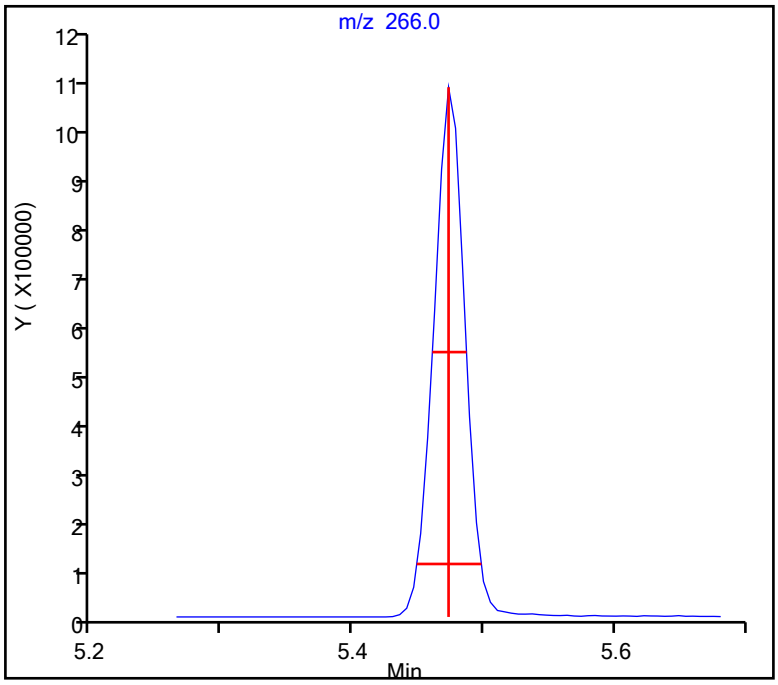

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-97287-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 180-295386/1-A
Matrix: Solid
Lab File ID: M1019005.D
Analysis Method: EPA 8270D
Date Collected:
Extract. Method: 3510C
Date Extracted: 10/18/2019 12:00
Sample wt/vol: 200(mL)
Date Analyzed: 10/19/2019 13:41
Con. Extract Vol.: 10.0(mL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 295453
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
106-46-7	1,4-Dichlorobenzene	ND		0.050	0.0045
95-95-4	2,4,5-Trichlorophenol	ND		0.050	0.0079
88-06-2	2,4,6-Trichlorophenol	ND		0.050	0.0095
121-14-2	2,4-Dinitrotoluene	ND		0.050	0.0079
95-48-7	2-Methylphenol	ND		0.050	0.0040
106-44-5	Methylphenol, 3 & 4	ND		0.050	0.0079
118-74-1	Hexachlorobenzene	ND		0.050	0.0055
87-68-3	Hexachlorobutadiene	ND		0.050	0.0084
67-72-1	Hexachloroethane	ND		0.050	0.0040
98-95-3	Nitrobenzene	ND		0.050	0.012
87-86-5	Pentachlorophenol	ND		0.25	0.0075
110-86-1	Pyridine	ND		0.10	0.0082

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	89		55-107
367-12-4	2-Fluorophenol (Surr)	88		60-108
118-79-6	2,4,6-Tribromophenol (Surr)	84		24-113
4165-60-0	Nitrobenzene-d5 (Surr)	88		62-115
4165-62-2	Phenol-d5 (Surr)	86		52-107
1718-51-0	Terphenyl-d14 (Surr)	94		44-116

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191019-29192.b\M1019005.D
Lims ID: MB 180-295386/1-A
Client ID:
Sample Type: MB
Inject. Date: 19-Oct-2019 13:41:30 ALS Bottle#: 4 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029192-005
Operator ID: 003200 Instrument ID: CHMSD7

Method: \\chromna\Pittsburgh\ChromData\CHMSD7\20191019-29192.b\BNA_CHMSD7.m
Limit Group: BNA 8270D ICAL
Last Update: 21-Oct-2019 07:08:14 Calib Date: 16-Oct-2019 09:05:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016010.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0325

First Level Reviewer: piccolinov Date: 21-Oct-2019 06:59:37

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.387	6.394	-0.007	96	153630	8.00	8.00	
* 2 Naphthalene-d8	136	7.637	7.644	-0.007	100	580497	8.00	8.00	
* 3 Acenaphthene-d10	164	9.298	9.305	-0.007	95	316038	8.00	8.00	
* 4 Phenanthrene-d10	188	10.703	10.704	-0.001	97	588428	8.00	8.00	
* 5 Chrysene-d12	240	14.367	14.379	-0.012	100	507210	8.00	8.00	
* 6 Perylene-d12	264	17.358	17.364	-0.006	98	428855	8.00	8.00	
$ 7 2-Fluorophenol	112	4.972	4.966	0.006	93	765337	40.0	35.1	
$ 8 Phenol-d5	99	6.013	6.008	0.005	99	985438	40.0	34.2	
$ 9 Nitrobenzene-d5	82	6.932	6.926	0.006	90	940899	40.0	35.2	
$ 10 2-Fluorobiphenyl	172	8.646	8.635	0.011	100	2077279	40.0	35.5	
$ 11 2,4,6-Tribromophenol	330	10.035	10.024	0.011	92	211463	40.0	33.4	
$ 12 Terphenyl-d14	244	12.551	12.540	0.011	100	2148774	40.0	37.5	

Reagents:

SVTAPITINTRNi_00023 Amount Added: 1.00 Units: uL Run Reagent

Report Date: 21-Oct-2019 07:13:44 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191019-29192.b\M1019005.D				
Injection Date:	19-Oct-2019 13:41:30	Instrument ID:	CHMSD7	Operator ID:	003200
Lims ID:	MB 180-295386/1-A			Worklist Smp#:	5
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

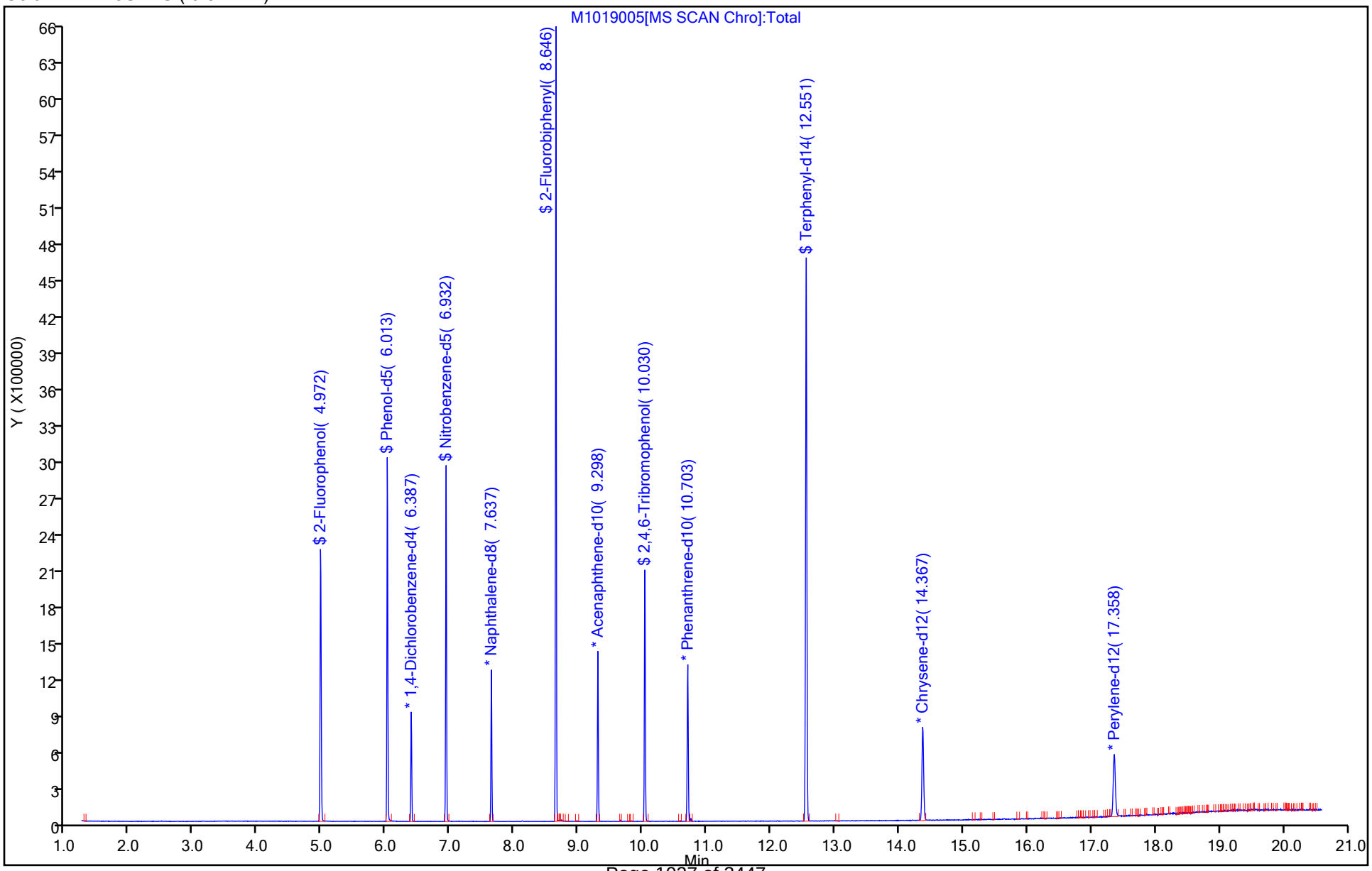

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191019-29192.b\M1019005.D
Lims ID: MB 180-295386/1-A
Client ID:
Sample Type: MB
Inject. Date: 19-Oct-2019 13:41:30 ALS Bottle#: 4 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029192-005
Operator ID: 003200 Instrument ID: CHMSD7

Method: \\chromna\Pittsburgh\ChromData\CHMSD7\20191019-29192.b\BNA_CHMSD7.m
Limit Group: BNA 8270D ICAL
Last Update: 21-Oct-2019 07:08:14 Calib Date: 16-Oct-2019 09:05:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016010.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0325

First Level Reviewer: piccolinov Date: 21-Oct-2019 06:59:37

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	40.0	35.1	87.75
$ 8 Phenol-d5	40.0	34.2	85.58
$ 9 Nitrobenzene-d5	40.0	35.2	88.01
$ 10 2-Fluorobiphenyl	40.0	35.5	88.73
$ 11 2,4,6-Tribromophenol	40.0	33.4	83.51
$ 12 Terphenyl-d14	40.0	37.5	93.65

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-97287-1
SDG No.:
Client Sample ID:
Lab Sample ID: LB 180-295177/16-C
Matrix: Solid (TCLP)
Lab File ID: M1019011.D
Analysis Method: EPA 8270D
Date Collected:
Extract. Method: 3510C
Date Extracted: 10/18/2019 12:00
Sample wt/vol: 200(mL)
Date Analyzed: 10/19/2019 16:25
Con. Extract Vol.: 10.0(mL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 295453
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
106-46-7	1,4-Dichlorobenzene	ND		0.050	0.0045
95-95-4	2,4,5-Trichlorophenol	ND		0.050	0.0079
88-06-2	2,4,6-Trichlorophenol	ND		0.050	0.0095
121-14-2	2,4-Dinitrotoluene	ND		0.050	0.0079
95-48-7	2-Methylphenol	ND		0.050	0.0040
106-44-5	Methylphenol, 3 & 4	ND		0.050	0.0079
118-74-1	Hexachlorobenzene	ND		0.050	0.0055
87-68-3	Hexachlorobutadiene	ND		0.050	0.0084
67-72-1	Hexachloroethane	ND		0.050	0.0040
98-95-3	Nitrobenzene	ND		0.050	0.012
87-86-5	Pentachlorophenol	ND		0.25	0.0075
110-86-1	Pyridine	ND		0.10	0.0082

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	88		55-107
367-12-4	2-Fluorophenol (Surr)	86		60-108
118-79-6	2,4,6-Tribromophenol (Surr)	82		24-113
4165-60-0	Nitrobenzene-d5 (Surr)	86		62-115
4165-62-2	Phenol-d5 (Surr)	86		52-107
1718-51-0	Terphenyl-d14 (Surr)	90		44-116

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191019-29192.b\M1019011.D
Lims ID: LB 180-295177/16-C
Client ID:
Sample Type: LB
Inject. Date: 19-Oct-2019 16:25:30 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029192-011
Operator ID: 003200 Instrument ID: CHMSD7

Method: \\chromna\Pittsburgh\ChromData\CHMSD7\20191019-29192.b\BNA_CHMSD7.m
Limit Group: BNA 8270D ICAL
Last Update: 21-Oct-2019 07:08:14 Calib Date: 16-Oct-2019 09:05:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016010.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0325

First Level Reviewer: piccolinov Date: 21-Oct-2019 07:05:15

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.392	6.394	-0.002	97	147402	8.00	8.00	
* 2 Naphthalene-d8	136	7.641	7.644	-0.003	99	571588	8.00	8.00	
* 3 Acenaphthene-d10	164	9.302	9.305	-0.003	95	310428	8.00	8.00	
* 4 Phenanthrene-d10	188	10.702	10.704	-0.002	97	580732	8.00	8.00	
* 5 Chrysene-d12	240	14.371	14.379	-0.008	100	524395	8.00	8.00	
* 6 Perylene-d12	264	17.362	17.364	-0.002	98	433296	8.00	8.00	
$ 7 2-Fluorophenol	112	4.976	4.966	0.010	93	716450	40.0	34.2	
$ 8 Phenol-d5	99	6.018	6.008	0.010	99	947510	40.0	34.3	
$ 9 Nitrobenzene-d5	82	6.931	6.926	0.005	90	900557	40.0	34.2	
$ 10 2-Fluorobiphenyl	172	8.646	8.635	0.011	100	2012963	40.0	35.0	
$ 11 2,4,6-Tribromophenol	330	10.034	10.024	0.010	90	204906	40.0	32.8	
$ 12 Terphenyl-d14	244	12.550	12.540	0.010	100	2138151	40.0	36.1	

Reagents:

SVTAPITINTRNi_00023 Amount Added: 1.00 Units: uL Run Reagent

Report Date: 21-Oct-2019 07:13:53 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191019-29192.b\M1019011.D				
Injection Date:	19-Oct-2019 16:25:30	Instrument ID:	CHMSD7	Operator ID:	003200
Lims ID:	LB 180-295177/16-C			Worklist Smp#:	11
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

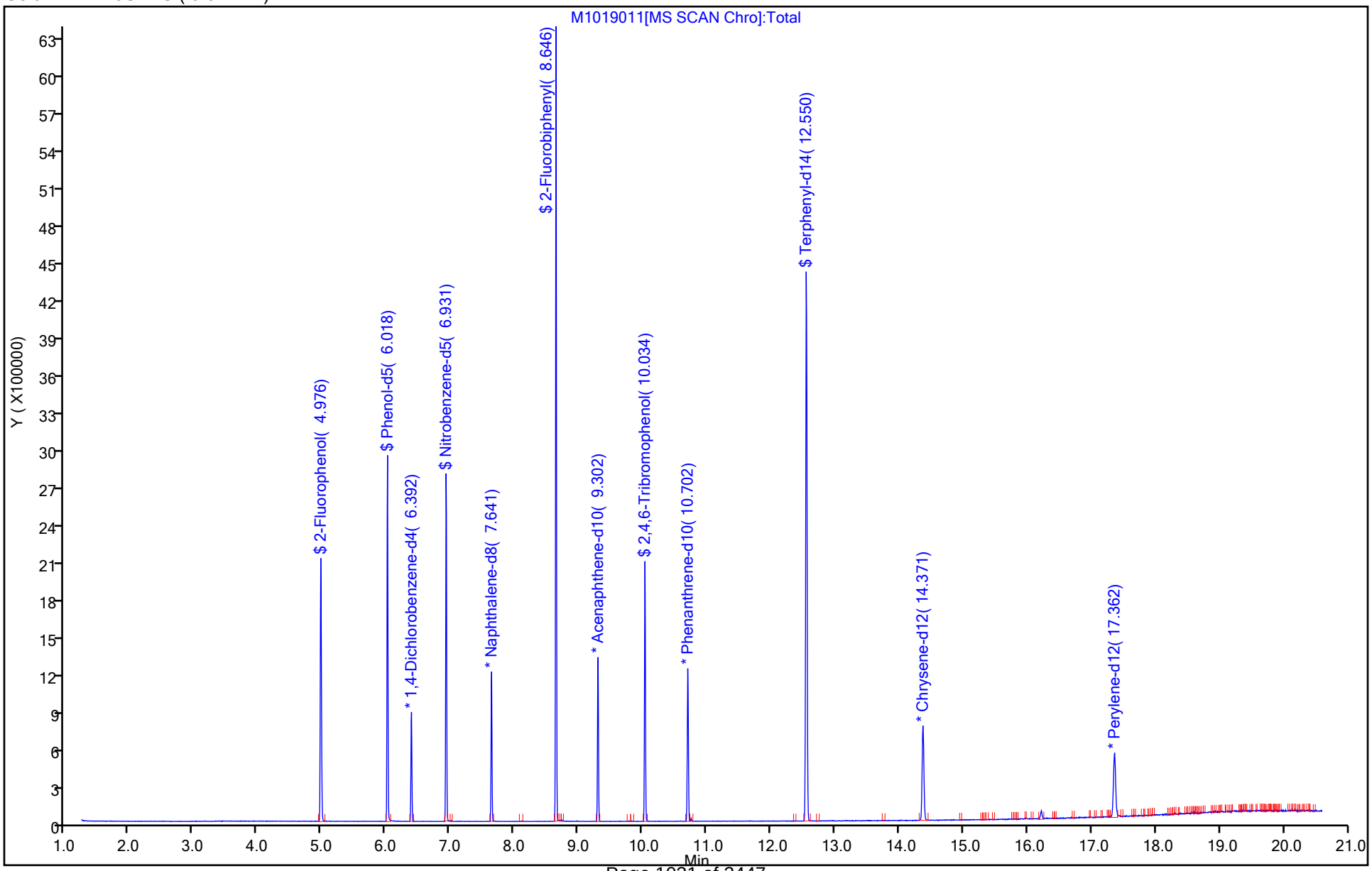

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191019-29192.b\M1019011.D
Lims ID: LB 180-295177/16-C
Client ID:
Sample Type: LB
Inject. Date: 19-Oct-2019 16:25:30 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029192-011
Operator ID: 003200 Instrument ID: CHMSD7

Method: \\chromna\Pittsburgh\ChromData\CHMSD7\20191019-29192.b\BNA_CHMSD7.m
Limit Group: BNA 8270D ICAL
Last Update: 21-Oct-2019 07:08:14 Calib Date: 16-Oct-2019 09:05:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016010.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0325

First Level Reviewer: piccolinov Date: 21-Oct-2019 07:05:15

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	40.0	34.2	85.62
$ 8 Phenol-d5	40.0	34.3	85.76
$ 9 Nitrobenzene-d5	40.0	34.2	85.55
$ 10 2-Fluorobiphenyl	40.0	35.0	87.54
$ 11 2,4,6-Tribromophenol	40.0	32.8	81.99
$ 12 Terphenyl-d14	40.0	36.1	90.13

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-97287-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 180-295386/2-A
Matrix: Solid
Lab File ID: M1019006.D
Analysis Method: EPA 8270D
Date Collected:
Extract. Method: 3510C
Date Extracted: 10/18/2019 12:00
Sample wt/vol: 200(mL)
Date Analyzed: 10/19/2019 14:08
Con. Extract Vol.: 10.0(mL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 295453
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
106-46-7	1,4-Dichlorobenzene	0.219		0.050	0.0045
95-95-4	2,4,5-Trichlorophenol	0.215		0.050	0.0079
88-06-2	2,4,6-Trichlorophenol	0.212		0.050	0.0095
121-14-2	2,4-Dinitrotoluene	0.181		0.050	0.0079
95-48-7	2-Methylphenol	0.210		0.050	0.0040
106-44-5	Methylphenol, 3 & 4	0.433		0.050	0.0079
118-74-1	Hexachlorobenzene	0.149		0.050	0.0055
87-68-3	Hexachlorobutadiene	0.217		0.050	0.0084
67-72-1	Hexachloroethane	0.226		0.050	0.0040
98-95-3	Nitrobenzene	0.219		0.050	0.012
87-86-5	Pentachlorophenol	0.158	J	0.25	0.0075
110-86-1	Pyridine	0.237		0.10	0.0082

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	90		55-107
367-12-4	2-Fluorophenol (Surr)	92		60-108
118-79-6	2,4,6-Tribromophenol (Surr)	90		24-113
4165-60-0	Nitrobenzene-d5 (Surr)	91		62-115
4165-62-2	Phenol-d5 (Surr)	92		52-107
1718-51-0	Terphenyl-d14 (Surr)	97		44-116

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191019-29192.b\M1019006.D
Lims ID: LCS 180-295386/2-A
Client ID:
Sample Type: LCS
Inject. Date: 19-Oct-2019 14:08:30 ALS Bottle#: 5 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029192-006
Operator ID: 003200 Instrument ID: CHMSD7

Method: \\chromna\Pittsburgh\ChromData\CHMSD7\20191019-29192.b\BNA_CHMSD7.m
Limit Group: BNA 8270D ICAL
Last Update: 21-Oct-2019 07:08:14 Calib Date: 16-Oct-2019 09:05:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016010.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0325

First Level Reviewer: piccolinov Date: 21-Oct-2019 06:59:57

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.382	6.394	-0.012	96	131822	8.00	8.00	
* 2 Naphthalene-d8	136	7.632	7.644	-0.012	100	510125	8.00	8.00	
* 3 Acenaphthene-d10	164	9.293	9.305	-0.012	95	287421	8.00	8.00	
* 4 Phenanthrene-d10	188	10.697	10.704	-0.007	97	533378	8.00	8.00	
* 5 Chrysene-d12	240	14.361	14.379	-0.018	100	490716	8.00	8.00	
* 6 Perylene-d12	264	17.352	17.364	-0.012	98	415285	8.00	8.00	
$ 7 2-Fluorophenol	112	4.972	4.966	0.006	93	691312	40.0	37.0	
$ 8 Phenol-d5	99	6.013	6.008	0.005	98	906492	40.0	36.7	
$ 9 Nitrobenzene-d5	82	6.927	6.926	0.001	90	851892	40.0	36.3	
$ 10 2-Fluorobiphenyl	172	8.641	8.635	0.006	100	1920511	40.0	36.1	
$ 11 2,4,6-Tribromophenol	330	10.030	10.024	0.006	93	207667	40.0	36.2	
$ 12 Terphenyl-d14	244	12.540	12.540	0.000	100	2143315	40.0	38.6	
15 Pyridine	79	2.392	2.392	0.022	96	163200	10.0	9.47	M
33 1,4-Dichlorobenzene	146	6.403	6.397	0.006	93	231461	10.0	8.75	
36 2-Methylphenol	108	6.627	6.627	0.000	98	163467	10.0	8.41	
42 4-Methylphenol	108	6.772	6.791	0.001	94	359716	20.0	17.3	
45 Hexachloroethane	117	6.900	6.894	0.006	92	86790	10.0	9.02	
46 Nitrobenzene	77	6.943	6.942	0.001	89	212724	10.0	8.75	
62 Hexachlorobutadiene	225	7.776	7.770	0.006	95	126236	10.0	8.70	
74 2,4,6-Trichlorophenol	196	8.561	8.561	0.000	93	122694	10.0	8.49	
75 2,4,5-Trichlorophenol	196	8.598	8.598	0.000	95	134385	10.0	8.61	
91 2,4-Dinitrotoluene	165	9.437	9.436	0.001	93	108024	10.0	7.23	
112 Hexachlorobenzene	284	10.329	10.323	0.006	94	86720	10.0	5.96	
116 Pentachlorophenol	266	10.500	10.499	0.001	89	67437	10.0	6.34	
S 199 Total Cresols	108				0		30.0	25.7	
S 197 Methyl Phenols,Total	108				0		30.0	25.7	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

SVTAPITINTRNi_00023	Amount Added:	1.00	Units: uL	Run Reagent

Report Date: 21-Oct-2019 07:13:46 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191019-29192.b\M1019006.D				
Injection Date:	19-Oct-2019 14:08:30	Instrument ID:	CHMSD7	Operator ID:	003200
Lims ID:	LCS 180-295386/2-A			Worklist Smp#:	6
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

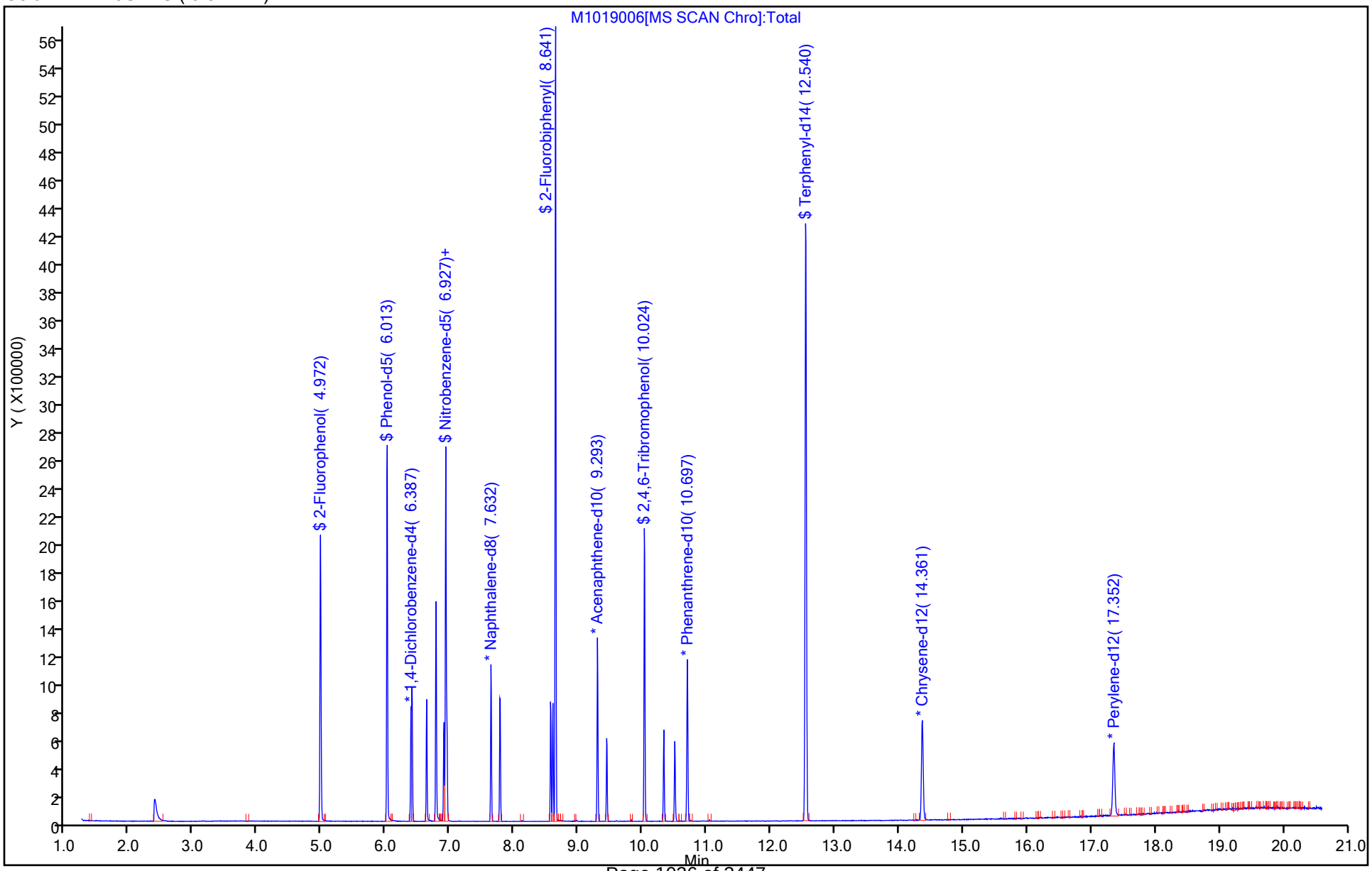

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191019-29192.b\M1019006.D
Lims ID: LCS 180-295386/2-A
Client ID:
Sample Type: LCS
Inject. Date: 19-Oct-2019 14:08:30 ALS Bottle#: 5 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029192-006
Operator ID: 003200 Instrument ID: CHMSD7

Method: \\chromna\Pittsburgh\ChromData\CHMSD7\20191019-29192.b\BNA_CHMSD7.m
Limit Group: BNA 8270D ICAL
Last Update: 21-Oct-2019 07:08:14 Calib Date: 16-Oct-2019 09:05:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016010.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0325

First Level Reviewer: piccolinov Date: 21-Oct-2019 06:59:57

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	40.0	37.0	92.38
$ 8 Phenol-d5	40.0	36.7	91.75
$ 9 Nitrobenzene-d5	40.0	36.3	90.68
$ 10 2-Fluorobiphenyl	40.0	36.1	90.21
$ 11 2,4,6-Tribromophenol	40.0	36.2	90.47
$ 12 Terphenyl-d14	40.0	38.6	96.55

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191019-29192.b\M1019006.D				
Injection Date:	19-Oct-2019 14:08:30	Instrument ID:	CHMSD7		
Lims ID:	LCS 180-295386/2-A				
Client ID:					
Operator ID:	003200	ALS Bottle#:	5	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

15 Pyridine, CAS: 110-86-1

Signal: 1

Processing Integration Results

RT: 2.39
Area: 123396
Amount: 7.158120
Amount Units: ng

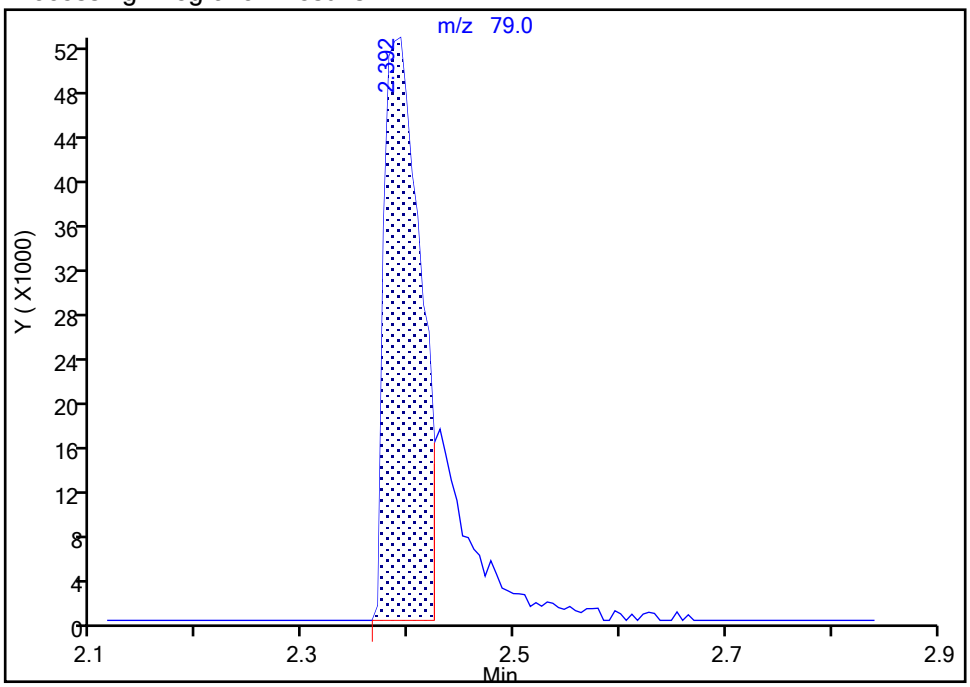

Manual Integration Results

RT: 2.39
Area: 163200
Amount: 9.467124
Amount Units: ng

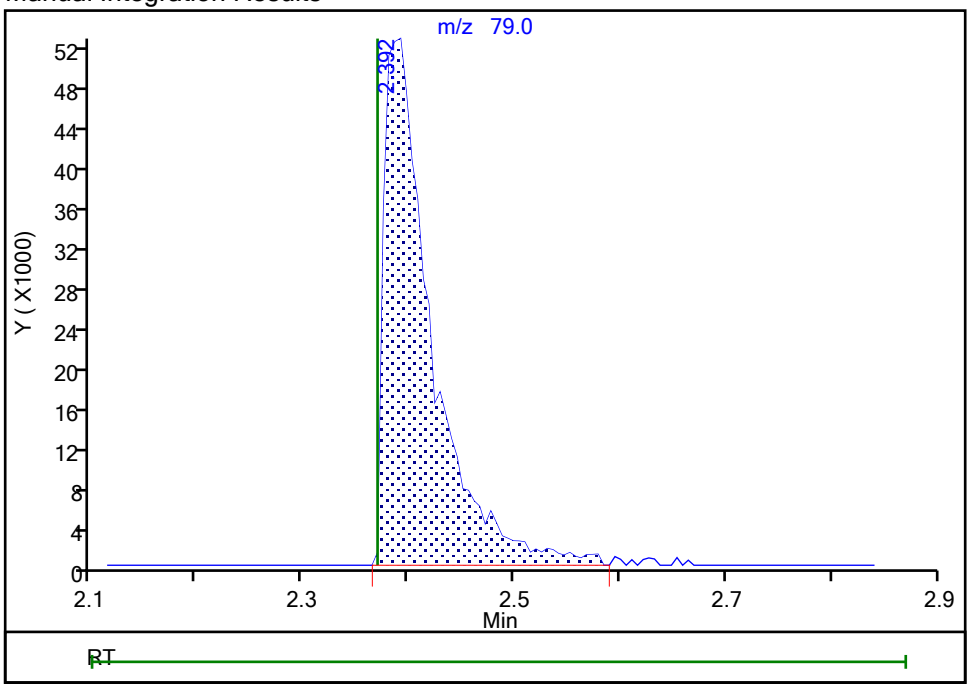

Reviewer: piccolinov, 21-Oct-2019 06:59:52

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-97287-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCSD 180-295386/3-A
Matrix: Solid
Lab File ID: M1019007.D
Analysis Method: EPA 8270D
Date Collected:
Extract. Method: 3510C
Date Extracted: 10/18/2019 12:00
Sample wt/vol: 200(mL)
Date Analyzed: 10/19/2019 14:35
Con. Extract Vol.: 10.0(mL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 295453
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
106-46-7	1,4-Dichlorobenzene	0.226		0.050	0.0045
95-95-4	2,4,5-Trichlorophenol	0.219		0.050	0.0079
88-06-2	2,4,6-Trichlorophenol	0.226		0.050	0.0095
121-14-2	2,4-Dinitrotoluene	0.185		0.050	0.0079
95-48-7	2-Methylphenol	0.215		0.050	0.0040
106-44-5	Methylphenol, 3 & 4	0.440		0.050	0.0079
118-74-1	Hexachlorobenzene	0.157		0.050	0.0055
87-68-3	Hexachlorobutadiene	0.226		0.050	0.0084
67-72-1	Hexachloroethane	0.232		0.050	0.0040
98-95-3	Nitrobenzene	0.231		0.050	0.012
87-86-5	Pentachlorophenol	0.163	J	0.25	0.0075
110-86-1	Pyridine	0.243		0.10	0.0082

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	96		55-107
367-12-4	2-Fluorophenol (Surr)	95		60-108
118-79-6	2,4,6-Tribromophenol (Surr)	96		24-113
4165-60-0	Nitrobenzene-d5 (Surr)	93		62-115
4165-62-2	Phenol-d5 (Surr)	91		52-107
1718-51-0	Terphenyl-d14 (Surr)	101		44-116

Report Date: 21-Oct-2019 07:13:47 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191019-29192.b\M1019007.D
Lims ID: LCSD 180-295386/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 19-Oct-2019 14:35:30 ALS Bottle#: 6 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029192-007
Operator ID: 003200 Instrument ID: CHMSD7

Method: \\chromna\Pittsburgh\ChromData\CHMSD7\20191019-29192.b\BNA_CHMSD7.m
Limit Group: BNA 8270D ICAL
Last Update: 21-Oct-2019 07:08:14 Calib Date: 16-Oct-2019 09:05:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016010.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0325

First Level Reviewer: piccolinov Date: 21-Oct-2019 07:00:09

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.387	6.394	-0.007	96	135055	8.00	8.00	
* 2 Naphthalene-d8	136	7.637	7.644	-0.007	100	514803	8.00	8.00	
* 3 Acenaphthene-d10	164	9.298	9.305	-0.007	95	287226	8.00	8.00	
* 4 Phenanthrene-d10	188	10.702	10.704	-0.002	97	543593	8.00	8.00	
* 5 Chrysene-d12	240	14.366	14.379	-0.013	99	487782	8.00	8.00	
* 6 Perylene-d12	264	17.352	17.364	-0.012	98	412178	8.00	8.00	
$ 7 2-Fluorophenol	112	4.977	4.966	0.011	93	725918	40.0	37.9	
$ 8 Phenol-d5	99	6.013	6.008	0.005	99	920020	40.0	36.4	
$ 9 Nitrobenzene-d5	82	6.932	6.926	0.006	90	885600	40.0	37.4	
$ 10 2-Fluorobiphenyl	172	8.646	8.635	0.011	100	2042943	40.0	38.4	
$ 11 2,4,6-Tribromophenol	330	10.035	10.024	0.011	93	224164	40.0	38.3	
$ 12 Terphenyl-d14	244	12.550	12.540	0.010	100	2229453	40.0	40.4	
15 Pyridine	79	2.392	2.392	0.022	96	171787	10.0	9.73	
33 1,4-Dichlorobenzene	146	6.403	6.397	0.006	94	244703	10.0	9.03	
36 2-Methylphenol	108	6.632	6.627	0.005	97	170808	10.0	8.58	
42 4-Methylphenol	108	6.777	6.791	0.006	94	374315	20.0	17.6	
45 Hexachloroethane	117	6.899	6.894	0.005	91	91499	10.0	9.29	
46 Nitrobenzene	77	6.948	6.942	0.006	88	227102	10.0	9.25	
62 Hexachlorobutadiene	225	7.781	7.770	0.011	95	132371	10.0	9.04	
74 2,4,6-Trichlorophenol	196	8.566	8.561	0.005	93	130261	10.0	9.02	
75 2,4,5-Trichlorophenol	196	8.603	8.598	0.005	95	136709	10.0	8.76	
91 2,4-Dinitrotoluene	165	9.442	9.436	0.006	93	110758	10.0	7.42	
112 Hexachlorobenzene	284	10.334	10.323	0.011	94	93019	10.0	6.27	
116 Pentachlorophenol	266	10.505	10.499	0.006	93	70537	10.0	6.50	
S 199 Total Cresols	108				0		30.0	26.2	
S 197 Methyl Phenols,Total	108				0		30.0	26.2	

Reagents:

SVTAPITINTRNi_00023 Amount Added: 1.00 Units: uL Run Reagent

Report Date: 21-Oct-2019 07:13:47 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHMSD7\20191019-29192.b\M1019007.D				
Injection Date:	19-Oct-2019 14:35:30	Instrument ID:	CHMSD7	Operator ID:	003200
Lims ID:	LCSD 180-295386/3-A			Worklist Smp#:	7
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	BNA_CHMSD7	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

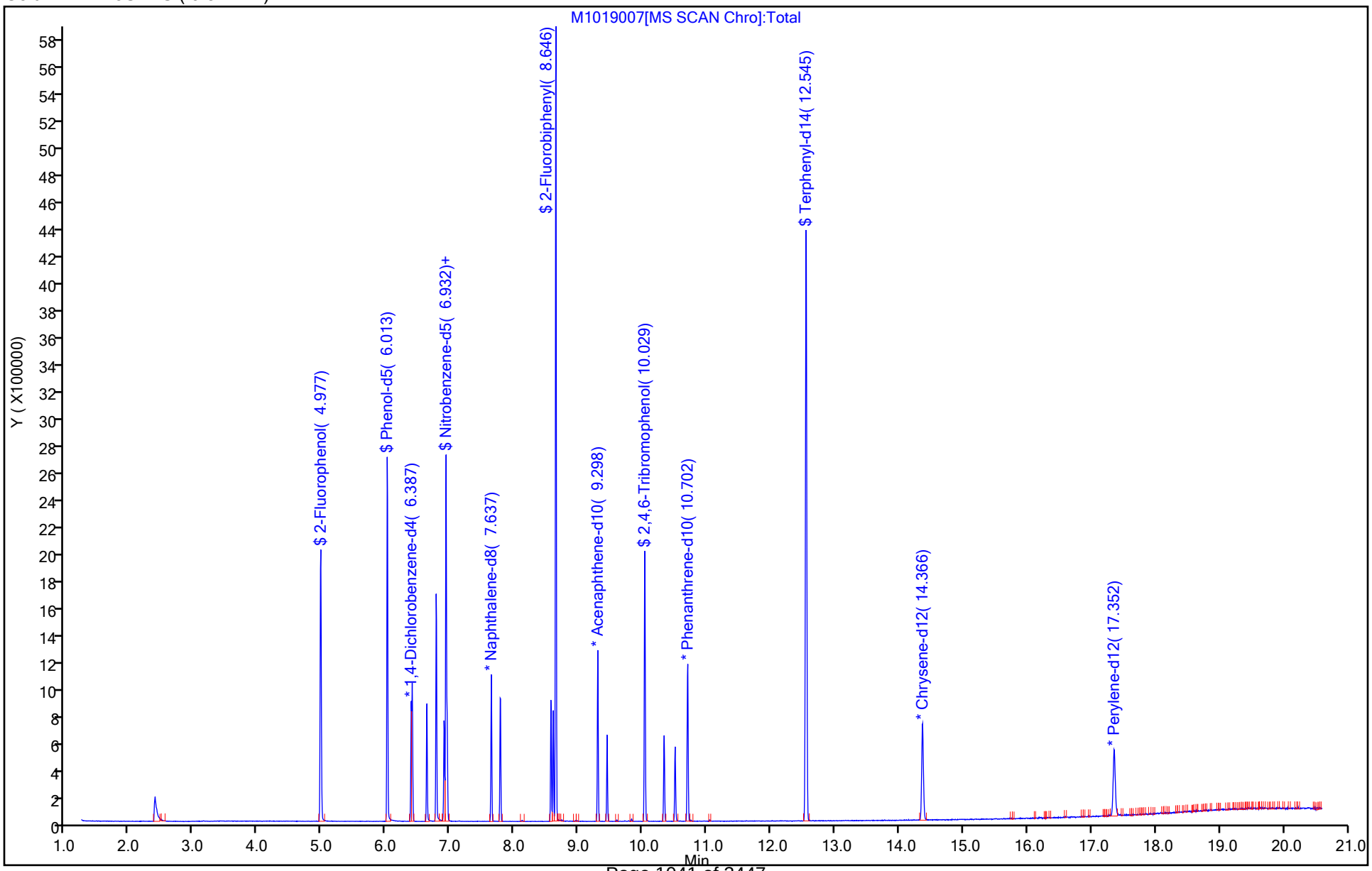

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191019-29192.b\M1019007.D
Lims ID: LCSD 180-295386/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 19-Oct-2019 14:35:30 ALS Bottle#: 6 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029192-007
Operator ID: 003200 Instrument ID: CHMSD7

Method: \\chromna\Pittsburgh\ChromData\CHMSD7\20191019-29192.b\BNA_CHMSD7.m
Limit Group: BNA 8270D ICAL
Last Update: 21-Oct-2019 07:08:14 Calib Date: 16-Oct-2019 09:05:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHMSD7\20191016-29126.b\M1016010.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0325

First Level Reviewer: piccolinov Date: 21-Oct-2019 07:00:09

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	40.0	37.9	94.68
$ 8 Phenol-d5	40.0	36.4	90.89
$ 9 Nitrobenzene-d5	40.0	37.4	93.41
$ 10 2-Fluorobiphenyl	40.0	38.4	96.02
$ 11 2,4,6-Tribromophenol	40.0	38.3	95.82
$ 12 Terphenyl-d14	40.0	40.4	101.04

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Instrument ID: CHMSD7 Start Date: 10/16/2019 05:38

Analysis Batch Number: 294955 End Date: 10/16/2019 10:30

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 180-294955/2		10/16/2019 05:38	1	M1016002.D	Rxi-5SilMS 0.32(mm)
IC 180-294955/3		10/16/2019 05:53	1	M1016003.D	Rxi-5SilMS 0.32(mm)
IC 180-294955/4		10/16/2019 06:20	1	M1016004.D	Rxi-5SilMS 0.32(mm)
IC 180-294955/5		10/16/2019 06:47	1	M1016005.D	Rxi-5SilMS 0.32(mm)
ICIS 180-294955/6		10/16/2019 07:14	1	M1016006.D	Rxi-5SilMS 0.32(mm)
IC 180-294955/7		10/16/2019 07:41	1	M1016007.D	Rxi-5SilMS 0.32(mm)
IC 180-294955/8		10/16/2019 08:07	1	M1016008.D	Rxi-5SilMS 0.32(mm)
IC 180-294955/9		10/16/2019 08:34	1	M1016009.D	Rxi-5SilMS 0.32(mm)
IC 180-294955/10		10/16/2019 09:05	1	M1016010.D	Rxi-5SilMS 0.32(mm)
ICV 180-294955/11		10/16/2019 09:32	1	M1016011.D	Rxi-5SilMS 0.32(mm)
ICV 180-294955/12		10/16/2019 10:30	1	M1016012.D	Rxi-5SilMS 0.32(mm)

EPA 8270D

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Instrument ID: CHMSD7 Start Date: 10/19/2019 11:04

Analysis Batch Number: 295453 End Date: 10/19/2019 23:14

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		10/19/2019 11:04	1		Rxi-5SilMS 0.32(mm)
DFTPP 180-295453/2		10/19/2019 12:31	1	M1019002.D	Rxi-5SilMS 0.32(mm)
CCVIS 180-295453/3		10/19/2019 12:47	1	M1019003.D	Rxi-5SilMS 0.32(mm)
MB 180-295386/1-A		10/19/2019 13:41	1	M1019005.D	Rxi-5SilMS 0.32(mm)
LCS 180-295386/2-A		10/19/2019 14:08	1	M1019006.D	Rxi-5SilMS 0.32(mm)
LCSD 180-295386/3-A		10/19/2019 14:35	1	M1019007.D	Rxi-5SilMS 0.32(mm)
ZZZZZ		10/19/2019 15:03	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		10/19/2019 15:30	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		10/19/2019 15:58	1		Rxi-5SilMS 0.32(mm)
LB 180-295177/16-C		10/19/2019 16:25	1	M1019011.D	Rxi-5SilMS 0.32(mm)
ZZZZZ		10/19/2019 18:14	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		10/19/2019 18:42	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		10/19/2019 19:09	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		10/19/2019 19:36	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		10/19/2019 20:03	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		10/19/2019 20:30	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		10/19/2019 20:58	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		10/19/2019 21:25	1		Rxi-5SilMS 0.32(mm)
180-97287-1		10/19/2019 21:53	1	M1019023.D	Rxi-5SilMS 0.32(mm)
ZZZZZ		10/19/2019 22:20	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		10/19/2019 22:47	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		10/19/2019 23:14	1		Rxi-5SilMS 0.32(mm)

EPA 8270D

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295177 Batch Start Date: 10/16/19 16:15 Batch Analyst: Stundon, Jeremy A

Batch Method: 1311 Batch End Date: 10/17/19 09:45

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	FiltCompDate	FiltCompTime	LeachatepH	AnalysisComment	
LB 180-295177/16		1311, 3510C, EPA 8270D		2000 mL	10/17/19	1030	2.88 SU	TCLP Fluid 2	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295177 Batch Start Date: 10/16/19 16:15 Batch Analyst: Stundon, Jeremy A

Batch Method: 1311 Batch End Date: 10/17/19 09:45

Batch Notes	
1N HCl ID	2948732
Balance ID	AND-14577823
pH Buffer 1 ID	3166975
pH Buffer 2 ID	2613652
pH Buffer 3 ID	2923701
pH Buffer 4 ID	3384621
First End time	1115
Filter ID	3409948
Lot # of Nitric Acid	2819852
Hot Plate ID	TCLP-2
pH Meter Calibration Slope	98.0/97.9
pH Meter ID	ACCUMET-XL-150
Probe ID	XV3-12485
Room Temperature Thermometer ID	FISHER-160719405
Analyst ID - Spike Analyst	JAS
First Start time	1030
TCLP Fluid 1 ID	3409948
TCLP Fluid 1 pH	4.93
TCLP Fluid 2 ID	2726101
TCLP Fluid 2 pH	2.88
Maximum Temperature	22 Degrees C
Minimum Temperature	22 Degrees C
Thermometer ID	TCLP-2
Tumbler Rotations per Minute	Tumbler 1: 31
Uncorrected Maximum Temperature	22 Degrees C
Uncorrected Minimum Temperature	22 Degrees C
Uncorrected Water Bath Temperature	50.0 Celsius
Water Bath ID	TCLP-2
Water Bath Temperature	50.0 Degrees C
Water Bath Thermometer ID	TCLP-2

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295177 Batch Start Date: 10/16/19 16:15 Batch Analyst: Stundon, Jeremy A

Batch Method: 1311 Batch End Date: 10/17/19 09:45

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295177 Batch Start Date: 10/16/19 16:15 Batch Analyst: Stundon, Jeremy A

Batch Method: EPA 1311 Batch End Date: 10/17/19 09:45

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	EFD_SampleWeight	EFD_VolumeWaterAdd	EFD_InitialpH	EFD_AddHClpH>5
180-97287-A-1	11187072-NORTH-IMPCT-INITIALS	EPA 1311, 3510C, EPA 8270D	P	100.00 g	2000 mL	5.00 g	96.5 mL	9.05 SU	3.50 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	EFD_HeatHeld	EFD_SecondpHCheck	FiltCompDate	FiltCompTime	LeachatepH	
180-97287-A-1	11187072-NORTH-IMPCT-INITIALS	EPA 1311, 3510C, EPA 8270D	P	50.0 Deg. C	1.78 SU	10/17/19	1030	6.17 SU	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295177 Batch Start Date: 10/16/19 16:15 Batch Analyst: Stundon, Jeremy A

Batch Method: EPA 1311 Batch End Date: 10/17/19 09:45

Batch Notes	
1N HCl ID	2948732
Balance ID	AND-14577823
pH Buffer 1 ID	3166975
pH Buffer 2 ID	2613652
pH Buffer 3 ID	2923701
pH Buffer 4 ID	3384621
First End time	1115
Filter ID	3409948
Lot # of Nitric Acid	2819852
Hot Plate ID	TCLP-2
pH Meter Calibration Slope	98.0/97.9
pH Meter ID	ACCUMET-XL-150
Probe ID	XV3-12485
Room Temperature Thermometer ID	FISHER-160719405
Analyst ID - Spike Analyst	JAS
First Start time	1030
TCLP Fluid 1 ID	3409948
TCLP Fluid 1 pH	4.93
TCLP Fluid 2 ID	2726101
TCLP Fluid 2 pH	2.88
Maximum Temperature	22 Degrees C
Minimum Temperature	22 Degrees C
Thermometer ID	TCLP-2
Tumbler Rotations per Minute	Tumbler 1: 31
Uncorrected Maximum Temperature	22 Degrees C
Uncorrected Minimum Temperature	22 Degrees C
Uncorrected Water Bath Temperature	50.0 Celsius
Water Bath ID	TCLP-2
Water Bath Temperature	50.0 Degrees C
Water Bath Thermometer ID	TCLP-2

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295177 Batch Start Date: 10/16/19 16:15 Batch Analyst: Stundon, Jeremy A

Batch Method: EPA 1311 Batch End Date: 10/17/19 09:45

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295386 Batch Start Date: 10/18/19 12:00 Batch Analyst: Yushinski, Charles

Batch Method: 3510C Batch End Date: 10/18/19 19:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ReceivedpH	FirstAdjustpH	SecondAdjustpH	OP8270TCLPSPi 00037
MB 180-295386/1		3510C, EPA 8270D		200 mL	10.0 mL	6 SU	2 SU	11 SU	
LCS 180-295386/2		3510C, EPA 8270D		200 mL	10.0 mL	6 SU	2 SU	11 SU	0.5 mL
LCSD 180-295386/3		3510C, EPA 8270D		200 mL	10.0 mL	6 SU	2 SU	11 SU	0.5 mL
LB 180-295177/16-A		3510C, EPA 8270D		200 mL	10.0 mL	3 SU	2 SU	11 SU	
180-97287-A-1-B	11187072-NORTH-I MPCT-INITIALS	3510C, EPA 8270D	P	200 mL	10.0 mL	7 SU	2 SU	11 SU	

Lab Sample ID	Client Sample ID	Method Chain	Basis	OPQL8270SURi 00086	AnalysisComment				
MB 180-295386/1		3510C, EPA 8270D		1 mL	Funnel 1				
LCS 180-295386/2		3510C, EPA 8270D		1 mL	Funnel 2				
LCSD 180-295386/3		3510C, EPA 8270D		1 mL	Funnel 3				
LB 180-295177/16-A		3510C, EPA 8270D		1 mL	Funnel 14				
180-97287-A-1-B	11187072-NORTH-I MPCT-INITIALS	3510C, EPA 8270D	P	1 mL	Funnel 15				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295386 Batch Start Date: 10/18/19 12:00 Batch Analyst: Yushinski, Charles

Batch Method: 3510C Batch End Date: 10/18/19 19:30

Batch Notes	
Acid Used for pH Adjustment ID	1:1 Sulfuric acid 3363493
Base Used to Adjust pH ID	10N sodium hydroxide 2994221
Analyst ID - Concentration	CBY
Concentration 1 Corrected Temperature	65 Degrees C
Concentration 2 Corrected Temperature	21 Degrees C
Equipment ID - Concentration 1	water bath 1
Equipment ID - Concentration 2	1
Analyst ID - Extraction	CBY
Filter ID	16939085
Na2SO4 ID	3327433
pH Indicator ID	Ph paper HC987808
Prep Solvent ID	Methylene chloride 3414342
Prep Solvent Volume Used	360 mL
Analyst ID - Spike Analyst	CBY
Sufficient Volume for Batch QC	no
Thermometer ID - Concentration 1	water bath 1
Thermometer ID - Concentration 2	1
Concentration 1 Uncorrected Temperature	65 Degrees C
Concentration 2 Uncorrected Temperature	21 Degrees C

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Method 8015D DAI Glycols

Glycols -Direct Injection (GC/FID) - Method 8015D

FORM II
GC VOA SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 180-97287-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): ZB-5 ID: 0.25(mm)

Client Sample ID	Lab Sample ID	14BD #
11187072-NORTH-IMP CT-INITIALS	180-97287-2	98
	MB 480-500888/1-A	95
	LCS 480-500888/2-A	102
11187072-NORTH-IMP CT-INITIALS MS	180-97287-2 MS	98
11187072-NORTH-IMP CT-INITIALS MSD	180-97287-2 MSD	95

	QC LIMITS
14BD = 1,4-Butanediol	66-130

Column to be used to flag recovery values

FORM II 8015D

FORM III
GC VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 180-97287-1

SDG No.:

Matrix: Water Level: Low Lab File ID: pe01-seq12_215.d

Lab ID: LCS 480-500888/2-A Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
Ethylene glycol	20.0	15.6	78	46-129	
2-Ethoxyethanol	20.0	17.2 J	86	44-144	
2-Methoxyethanol	20.0	16.9	85	48-138	

Column to be used to flag recovery and RPD values

FORM III 8015D

FORM III
GC VOA MATRIX SPIKE RECOVERY

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 180-97287-1

SDG No.:

Matrix: Water Level: Low Lab File ID: pe01-seq12_221.d

Lab ID: 180-97287-2 MS Client ID: 11187072-NORTH-IMPCT-INITIALS M

COMPOUND	SPIKE ADDED (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS CONCENTRATION (mg/L)	MS % REC	QC LIMITS REC	#
Ethylene glycol	20.0	ND	15.3	76	46-143	
2-Ethoxyethanol	20.0	ND	17.2 J	86	55-159	
2-Methoxyethanol	20.0	ND	16.2	81	66-147	

Column to be used to flag recovery and RPD values

FORM III 8015D

FORM III
GC VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 180-97287-1

SDG No.:

Matrix: Water Level: Low Lab File ID: pe01-seq12_222.d

Lab ID: 180-97287-2 MSD Client ID: 11187072-NORTH-IMPCT-INITIALS M

COMPOUND	SPIKE ADDED (mg/L)	MSD CONCENTRATION (mg/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Ethylene glycol	20.0	14.6	73	5	50	46-143	
2-Ethoxyethanol	20.0	17.0 J	85	1	50	55-159	
2-Methoxyethanol	20.0	16.5	82	2	50	66-147	

Column to be used to flag recovery and RPD values

FORM III 8015D

FORM IV
GC VOA METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 180-97287-1

SDG No.:

Lab File ID: pe01-seq12_214.d Lab Sample ID: MB 480-500888/1-A

Matrix: Water Heated Purge:(Y/N) N

Instrument ID: PE-01 Date Analyzed: 10/29/2019 10:28

GC Column: ZB-5 ID: 0.25(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 480-500888/2-A	pe01-seq12_215.d	10/29/2019 10:47
11187072-NORTH-IMPCT-INITIALS	180-97287-2	pe01-seq12_220.d	10/29/2019 12:19
11187072-NORTH-IMPCT-INITIALS MS	180-97287-2 MS	pe01-seq12_221.d	10/29/2019 12:38
11187072-NORTH-IMPCT-INITIALS MSD	180-97287-2 MSD	pe01-seq12_222.d	10/29/2019 12:56

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo
Job No.: 180-97287-1
SDG No.:
Client Sample ID: 11187072-NORTH-IMPCT-INITIALS
Lab Sample ID: 180-97287-2
Matrix: Water
Lab File ID: pe01-seq12_220.d
Analysis Method: 8015D
Date Collected: 10/24/2019 08:45
Sample wt/vol: .5(mL)
Date Analyzed: 10/29/2019 12:19
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: ZB-5 ID: 0.25(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 500914
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
107-21-1	Ethylene glycol	ND		10	1.9
110-80-5	2-Ethoxyethanol	ND		20	2.5
109-86-4	2-Methoxyethanol	ND		10	2.4

CAS NO.	SURROGATE	%REC	Q	LIMITS
110-63-4	1,4-Butanediol	98		66-130

Eurofins TestAmerica, Buffalo
Target Compound Quantitation Report

Data File:	\\chromna\Buffalo\ChromData\PE-01\20191029-85592.b\pe01-seq12_220.d				
Lims ID:	180-97287-A-2-A				
Client ID:	11187072-NORTH-IMPCT-INITIALS				
Sample Type:	Client				
Inject. Date:	29-Oct-2019 12:19:43	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#:				
Operator ID:	BufTCHROM	Instrument ID:	PE-01		

Method:	\\chromna\Buffalo\ChromData\PE-01\20191029-85592.b\8015-Gly-PE01.m		
Limit Group:	GC - 8015D DAI GLY ICAL		
Last Update:	29-Oct-2019 14:30:49	Calib Date:	12-Jun-2019 19:25:05
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d		

Column 1 : Det: Ch-B-9b36290
Process Host: CTX0314

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ul	Flags
$ 7 1,4-Butanediol					
6.728	6.727	0.001	42041952	49.7	
1 2,2'-Oxybisethanol					
6.956	6.965	-0.009	120161	0.2703	

Report Date: 29-Oct-2019 14:30:55 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Buffalo

Data File:	\\chromna\Buffalo\ChromData\PE-01\20191029-85592.b\pe01-seq12_220.d				
Injection Date:	29-Oct-2019 12:19:43	Instrument ID:	PE-01	Operator ID:	BufTCHROM
Lims ID:	180-97287-A-2-A	Lab Sample ID:	480-97287-2	Worklist Smp#:	11
Client ID:	11187072-NORTH-IMPCT-INITIALS				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015-Gly-PE01	Limit Group:	GC - 8015D DAI GLY ICAL		

Y Scaling: Method Defined: Set to Absolute Y Value

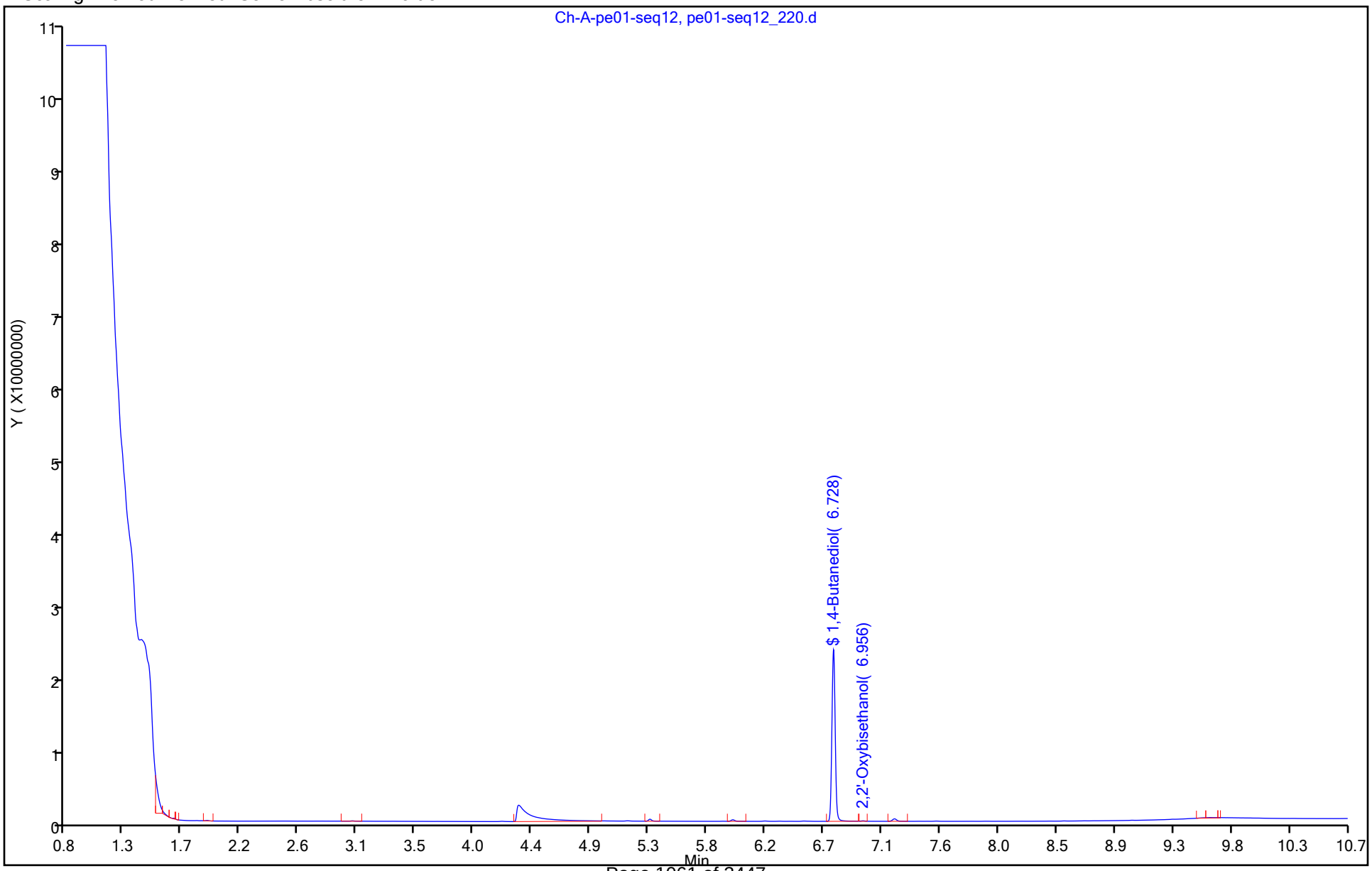

Eurofins TestAmerica, Buffalo
Recovery Report

Data File:	\\chromna\Buffalo\ChromData\PE-01\20191029-85592.b\pe01-seq12_220.d				
Lims ID:	180-97287-A-2-A				
Client ID:	11187072-NORTH-IMPCT-INITIALS				
Sample Type:	Client				
Inject. Date:	29-Oct-2019 12:19:43	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#:				
Operator ID:	BufTCHROM	Instrument ID:	PE-01		
Method:	\\chromna\Buffalo\ChromData\PE-01\20191029-85592.b\8015-Gly-PE01.m				
Limit Group:	GC - 8015D DAI GLY ICAL				
Last Update:	29-Oct-2019 14:30:49	Calib Date:	12-Jun-2019 19:25:05		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d				
Column 1 :			Det: Ch-B-9b36290		
Process Host:	CTX0314				

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,4-Butanediol	50.5	49.7	98.45

FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 180-97287-1 Analy Batch No.: 477460

SDG No.:

Instrument ID: PE-01 GC Column: ZB-5 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/12/2019 17:33 Calibration End Date: 06/12/2019 19:25 Calibration ID: 37129

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 480-477460/11	pe01-seq10_053-20190612-173401.d
Level 2	STD2 480-477460/12	pe01-seq10_054-20190612-175231.d
Level 3	STD3 480-477460/13	pe01-seq10_055-20190612-181107.d
Level 4	STD4 480-477460/14	pe01-seq10_056-20190612-182937.d
Level 5	STD5 480-477460/15	pe01-seq10_057-20190612-184822.d
Level 6	STD6 480-477460/16	pe01-seq10_058-20190612-190647.d
Level 7	STD7 480-477460/17	pe01-seq10_059-20190612-192533.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7				RT WINDOW	AVG RT
2-Methoxyethanol	2.872	2.863	2.852	2.849	2.841	2.828	+++++				2.802 - 2.902	2.851
2-Ethoxyethanol	3.031	3.024	3.015	3.013	3.007	2.995	+++++				2.965 - 3.065	3.014
Propylene glycol	5.067	5.067	5.060	5.064	5.061	5.055	5.063				5.010 - 5.110	5.062
Ethylene glycol	5.257	5.257	5.249	5.253	5.252	5.245	+++++				5.199 - 5.299	5.252
Diethylene glycol	7.063	7.063	7.057	7.061	7.061	7.053	+++++				7.007 - 7.107	7.060
Triethylene Glycol	8.569	8.571	8.564	8.568	8.568	8.564	+++++				8.514 - 8.614	8.567
1,4-Butanediol	6.821	6.821	6.816	6.821	6.820	6.812	6.823				6.766 - 6.866	6.819

FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 180-97287-1 Analy Batch No.: 477460

SDG No.:

Instrument ID: PE-01 GC Column: ZB-5 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/12/2019 17:33 Calibration End Date: 06/12/2019 19:25 Calibration ID: 37129

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 480-477460/11	pe01-seq10_053-20190612-173401.d
Level 2	STD2 480-477460/12	pe01-seq10_054-20190612-175231.d
Level 3	STD3 480-477460/13	pe01-seq10_055-20190612-181107.d
Level 4	STD4 480-477460/14	pe01-seq10_056-20190612-182937.d
Level 5	STD5 480-477460/15	pe01-seq10_057-20190612-184822.d
Level 6	STD6 480-477460/16	pe01-seq10_058-20190612-190647.d
Level 7	STD7 480-477460/17	pe01-seq10_059-20190612-192533.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4		B	M1	M2								
2-Methoxyethanol	327938 516296	392948 536383	432525 +++++	485808	Ave		448649.728				17.7		20.0			
2-Ethoxyethanol	462087 679391	523845 714831	552642 +++++	621654	Ave		592408.199				16.3		20.0			
Propylene glycol	434167 695982	522256 717481	575123 744944	647955	Ave		619701.093				18.4		20.0			
Ethylene glycol	292567 483549	360789 508262	393740 +++++	445776	Ave		414113.864				19.5		20.0			
Diethylene glycol	355339 483510	399517 527510	428813 +++++	472848	Ave		444589.533				14.0		20.0			
Triethylene Glycol	298836 397374	389886 512021	448706 +++++	491524	Ave		423057.719				18.4		20.0			
1,4-Butanediol	659696 896198	789307 902140	843047 937867	891303	Ave		845651.025				11.2		20.0			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 180-97287-1 Analy Batch No.: 477460

SDG No.:

Instrument ID: PE-01 GC Column: ZB-5 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/12/2019 17:33 Calibration End Date: 06/12/2019 19:25 Calibration ID: 37129

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 480-477460/11	pe01-seq10_053-20190612-173401.d
Level 2	STD2 480-477460/12	pe01-seq10_054-20190612-175231.d
Level 3	STD3 480-477460/13	pe01-seq10_055-20190612-181107.d
Level 4	STD4 480-477460/14	pe01-seq10_056-20190612-182937.d
Level 5	STD5 480-477460/15	pe01-seq10_057-20190612-184822.d
Level 6	STD6 480-477460/16	pe01-seq10_058-20190612-190647.d
Level 7	STD7 480-477460/17	pe01-seq10_059-20190612-192533.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (NG/UL)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
2-Methoxyethanol	Ave	1639692 26819160	3929477 +++++	8650505	14574248	20651822	5.00 50.0	10.0 +++++	20.0	30.0	40.0
2-Ethoxyethanol	Ave	2310435 35741533	5238450 +++++	11052838	18649618	27175628	5.00 50.0	10.0 +++++	20.0	30.0	40.0
Propylene glycol	Ave	2170833 35874057	5222560 44696661	11502451	19438648	27839283	5.00 50.0	10.0 60.0	20.0	30.0	40.0
Ethylene glycol	Ave	1462835 25413101	3607886 +++++	7874802	13373294	19341960	5.00 50.0	10.0 +++++	20.0	30.0	40.0
Diethylene glycol	Ave	1776697 26375475	3995171 +++++	8576259	14185446	19340402	5.00 50.0	10.0 +++++	20.0	30.0	40.0
Triethylene Glycol	Ave	1494179 25601050	3898855 +++++	8974116	14745722	15894966	5.00 50.0	10.0 +++++	20.0	30.0	40.0
1,4-Butanediol	Ave	3331463 54669665	15943992 66307184	25544331	36008655	45257995	5.05 60.6	20.2 70.7	30.3	40.4	50.5

Curve Type Legend:

Ave = Average

Eurofins TestAmerica, Buffalo
Target Compound Quantitation Report

Data File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_053-20190612-173401.d
Lims ID: std1
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 12-Jun-2019 17:33:39 ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #:
Operator ID: BufTCHROM Instrument ID: PE-01
Sublist: chrom-8015-Gly-PE01*sub1

Method: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\8015-Gly-PE01.m
Limit Group: GC - 8015D DAI GLY ICAL
Last Update: 13-Jun-2019 06:49:19 Calib Date: 12-Jun-2019 19:25:05
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d

Column 1 : Det: Ch-B-9b36290
Process Host: CTX0301

First Level Reviewer: NearyM Date: 13-Jun-2019 06:14:34

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ul	OnCol Amt ng/ul	Flags
6 2-Methoxyethanol							
	2.872	2.852	0.020	1639692	5.00	3.65	
2 2-Ethoxyethanol							
	3.031	3.015	0.016	2310435	5.00	3.90	
5 Propylene glycol							
	5.067	5.060	0.007	2170833	5.00	3.50	
8 Ethylene glycol							
	5.257	5.249	0.008	1462835	5.00	3.53	
$ 7 1,4-Butanediol							
	6.821	6.816	0.005	3331463	5.05	3.94	
1 2,2'-Oxybisethanol							
	7.063	7.057	0.006	1776697	5.00	4.00	
4 Triethylene Glycol							
	8.569	8.564	0.005	1494179	5.00	3.53	

Reagents:

GLY_CCV_1000_00109 Amount Added: 5.00 Units: uL
GLY_SURR1000_00103 Amount Added: 5.00 Units: uL

Report Date: 13-Jun-2019 06:49:20 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Buffalo

Data File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_053-20190612-173401.d

Injection Date:	12-Jun-2019 17:33:39	Instrument ID:	PE-01	Operator ID:	BufTCHROM
Lims ID:	std1			Worklist Smp#:	11
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015-Gly-PE01	Limit Group:	GC - 8015D DAI GLY ICAL		

Y Scaling: Method Defined: Set to Absolute Y Value

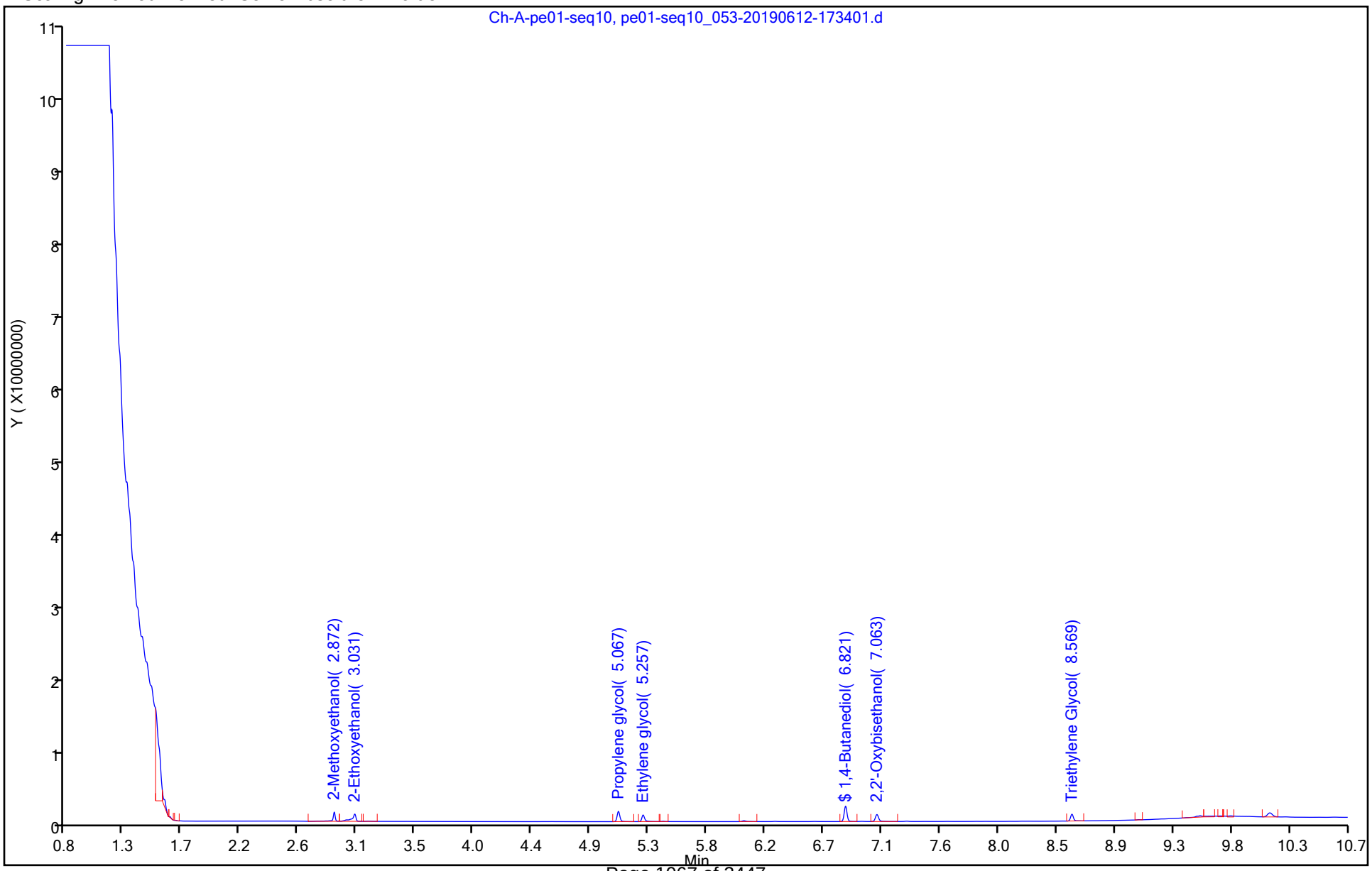

Eurofins TestAmerica, Buffalo
Target Compound Quantitation Report

Data File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_054-20190612-175231.d
Lims ID: std2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 12-Jun-2019 17:52:10 ALS Bottle#: 0 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #:
Operator ID: BufTCHROM Instrument ID: PE-01
Sublist: chrom-8015-Gly-PE01*sub1

Method: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\8015-Gly-PE01.m
Limit Group: GC - 8015D DAI GLY ICAL
Last Update: 13-Jun-2019 06:49:21 Calib Date: 12-Jun-2019 19:25:05
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d

Column 1 : Det: Ch-B-9b36290
Process Host: CTX0301

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ul	OnCol Amt ng/ul	Flags
6 2-Methoxyethanol							
	2.863	2.852	0.011	3929477	10.0	8.76	
2 2-Ethoxyethanol							
	3.024	3.015	0.009	5238450	10.0	8.84	
5 Propylene glycol							
	5.067	5.060	0.007	5222560	10.0	8.43	
8 Ethylene glycol							
	5.257	5.249	0.008	3607886	10.0	8.71	
$ 7 1,4-Butanediol							
	6.821	6.816	0.005	15943992	20.2	18.9	
1 2,2'-Oxybisethanol							
	7.063	7.057	0.006	3995171	10.0	8.99	
4 Triethylene Glycol							
	8.571	8.564	0.007	3898855	10.0	9.22	

Reagents:

GLY_SURR1000_00103 Amount Added: 20.00 Units: uL
GLY_CCV_1000_00109 Amount Added: 10.00 Units: uL

Report Date: 13-Jun-2019 06:49:21 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Buffalo

Data File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_054-20190612-175231.d

Injection Date:	12-Jun-2019 17:52:10	Instrument ID:	PE-01	Operator ID:	BufTCHROM
Lims ID:	std2			Worklist Smp#:	12
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015-Gly-PE01	Limit Group:	GC - 8015D DAI GLY ICAL		

Y Scaling: Method Defined: Set to Absolute Y Value

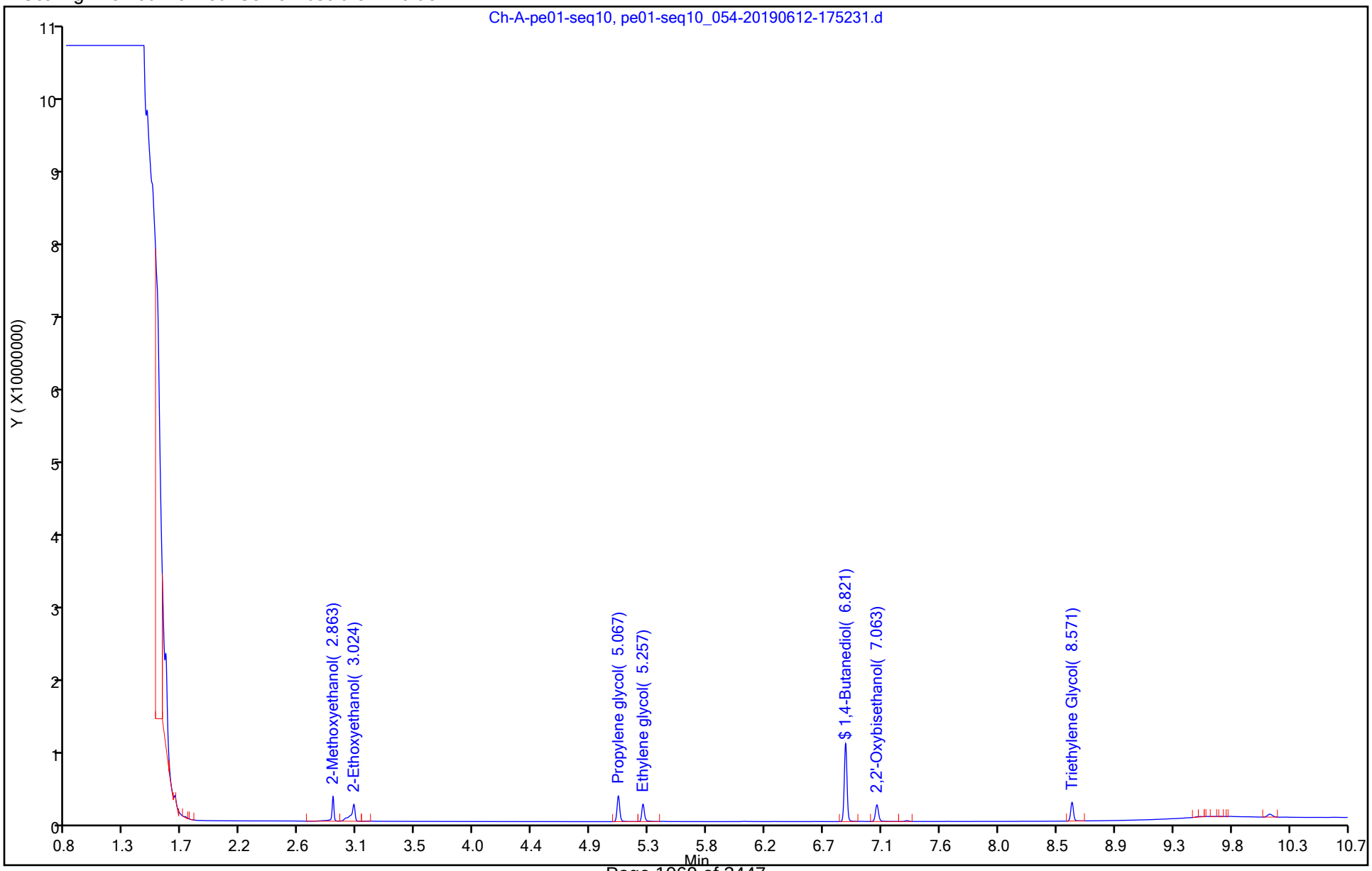

Eurofins TestAmerica, Buffalo
Target Compound Quantitation Report

Data File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_055-20190612-181107.d
Lims ID: std3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 12-Jun-2019 18:10:45 ALS Bottle#: 0 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #:
Operator ID: BufTCHROM Instrument ID: PE-01
Sublist: chrom-8015-Gly-PE01*sub1

Method: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\8015-Gly-PE01.m
Limit Group: GC - 8015D DAI GLY ICAL
Last Update: 13-Jun-2019 06:49:22 Calib Date: 12-Jun-2019 19:25:05
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d

Column 1 : Det: Ch-B-9b36290
Process Host: CTX0301

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ul	OnCol Amt ng/ul	Flags
6 2-Methoxyethanol						
2.852	2.852	0.000	8650505	20.0	19.3	
2 2-Ethoxyethanol						
3.015	3.015	0.000	11052838	20.0	18.7	
5 Propylene glycol						
5.060	5.060	0.000	11502451	20.0	18.6	
8 Ethylene glycol						
5.249	5.249	0.000	7874802	20.0	19.0	
$ 7 1,4-Butanediol						
6.816	6.816	0.000	25544331	30.3	30.2	
1 2,2'-Oxybisethanol						
7.057	7.057	0.000	8576259	20.0	19.3	
4 Triethylene Glycol						
8.564	8.564	0.000	8974116	20.0	21.2	

Reagents:

GLY_CCV_1000_00109 Amount Added: 20.00 Units: uL
GLY_SURR1000_00103 Amount Added: 30.00 Units: uL

Report Date: 13-Jun-2019 06:49:22 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Buffalo

Data File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_055-20190612-181107.d

Injection Date:	12-Jun-2019 18:10:45	Instrument ID:	PE-01	Operator ID:	BufTCHROM
Lims ID:	std3			Worklist Smp#:	13
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015-Gly-PE01	Limit Group:	GC - 8015D DAI GLY ICAL		

Y Scaling: Method Defined: Set to Absolute Y Value

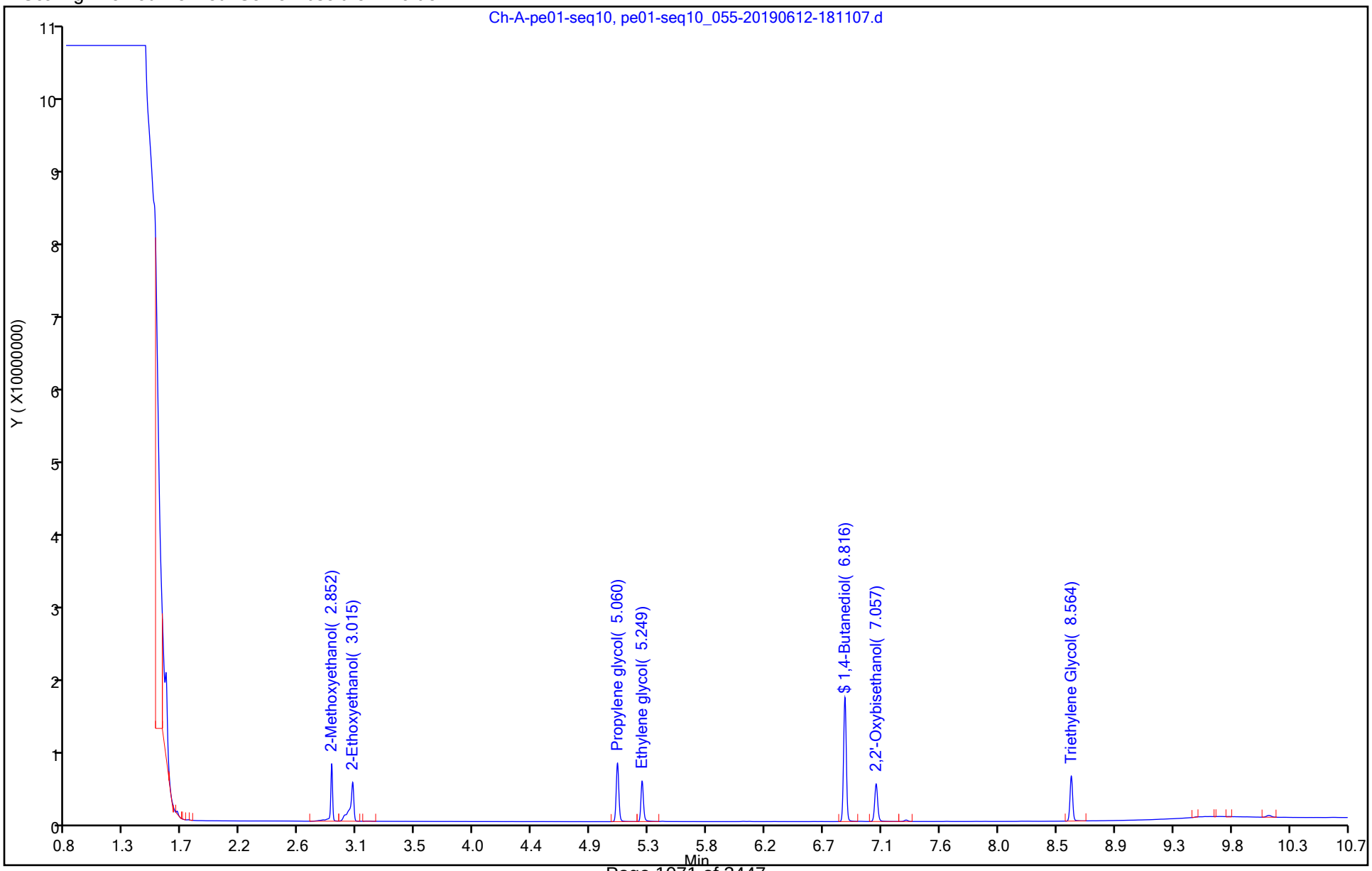

Eurofins TestAmerica, Buffalo
Target Compound Quantitation Report

Data File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_056-20190612-182937.d
Lims ID: std4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 12-Jun-2019 18:29:19 ALS Bottle#: 0 Worklist Smp#: 14
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #:
Operator ID: BufTCHROM Instrument ID: PE-01
Sublist: chrom-8015-Gly-PE01*sub1

Method: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\8015-Gly-PE01.m
Limit Group: GC - 8015D DAI GLY ICAL
Last Update: 13-Jun-2019 06:49:22 Calib Date: 12-Jun-2019 19:25:05
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d

Column 1 : Det: Ch-B-9b36290
Process Host: CTX0301

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ul	OnCol Amt ng/ul	Flags
6 2-Methoxyethanol							
	2.849	2.852	-0.003	14574248	30.0	32.5	
2 2-Ethoxyethanol							
	3.013	3.015	-0.002	18649618	30.0	31.5	
5 Propylene glycol							
	5.064	5.060	0.004	19438648	30.0	31.4	
8 Ethylene glycol							
	5.253	5.249	0.004	13373294	30.0	32.3	
$ 7 1,4-Butanediol							
	6.821	6.816	0.005	36008655	40.4	42.6	
1 2,2'-Oxybisethanol							
	7.061	7.057	0.004	14185446	30.0	31.9	
4 Triethylene Glycol							
	8.568	8.564	0.004	14745722	30.0	34.9	

Reagents:

GLY_SURR1000_00103 Amount Added: 40.00 Units: uL
GLY_CCV_1000_00109 Amount Added: 30.00 Units: uL

Report Date: 13-Jun-2019 06:49:22 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Buffalo

Data File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_056-20190612-182937.d

Injection Date:	12-Jun-2019 18:29:19	Instrument ID:	PE-01	Operator ID:	BufTCHROM
Lims ID:	std4			Worklist Smp#:	14
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015-Gly-PE01	Limit Group:	GC - 8015D DAI GLY ICAL		

Y Scaling: Method Defined: Set to Absolute Y Value

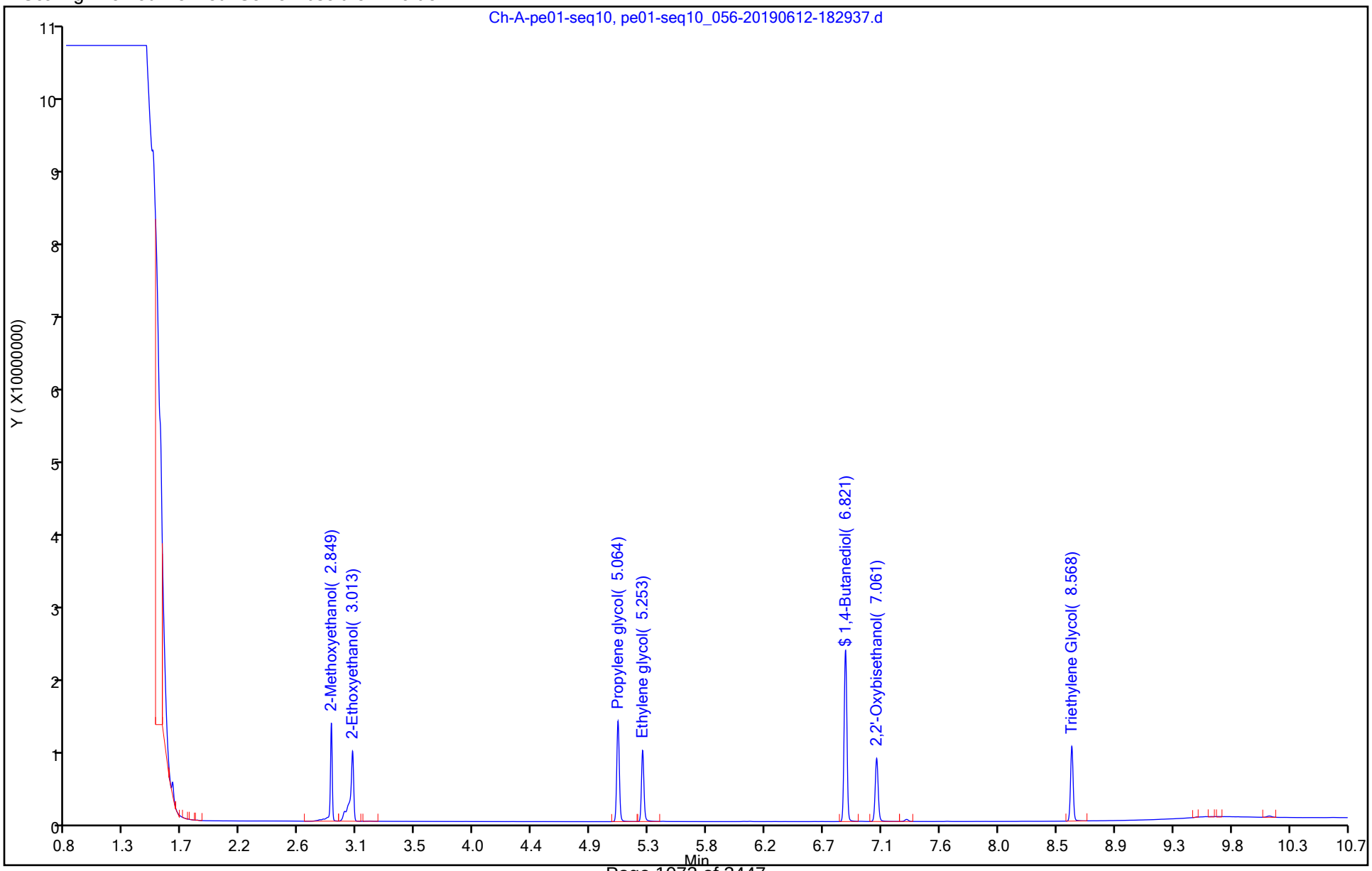

Eurofins TestAmerica, Buffalo
Target Compound Quantitation Report

Data File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_057-20190612-184822.d
Lims ID: std5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 12-Jun-2019 18:47:55 ALS Bottle#: 0 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #:
Operator ID: BufTCHROM Instrument ID: PE-01
Sublist: chrom-8015-Gly-PE01*sub1

Method: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\8015-Gly-PE01.m
Limit Group: GC - 8015D DAI GLY ICAL
Last Update: 13-Jun-2019 06:49:23 Calib Date: 12-Jun-2019 19:25:05
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d

Column 1 : Det: Ch-B-9b36290
Process Host: CTX0301

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ul	OnCol Amt ng/ul	Flags
6 2-Methoxyethanol							
	2.841	2.852	-0.011	20651822	40.0	46.0	
2 2-Ethoxyethanol							
	3.007	3.015	-0.008	27175628	40.0	45.9	
5 Propylene glycol							
	5.061	5.060	0.001	27839283	40.0	44.9	
8 Ethylene glycol							
	5.252	5.249	0.003	19341960	40.0	46.7	
$ 7 1,4-Butanediol							
	6.820	6.816	0.004	45257995	50.5	53.5	
1 2,2'-Oxybisethanol							
	7.061	7.057	0.004	19340402	40.0	43.5	
4 Triethylene Glycol							
	8.568	8.564	0.004	15894966	40.0	37.6	

Reagents:

GLY_CCV_1000_00109 Amount Added: 40.00 Units: uL
GLY_SURR1000_00103 Amount Added: 50.00 Units: uL

Report Date: 13-Jun-2019 06:49:23 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Buffalo

Data File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_057-20190612-184822.d

Injection Date:	12-Jun-2019 18:47:55	Instrument ID:	PE-01	Operator ID:	BufTCHROM
Lims ID:	std5			Worklist Smp#:	15
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015-Gly-PE01	Limit Group:	GC - 8015D DAI GLY ICAL		

Y Scaling: Method Defined: Set to Absolute Y Value

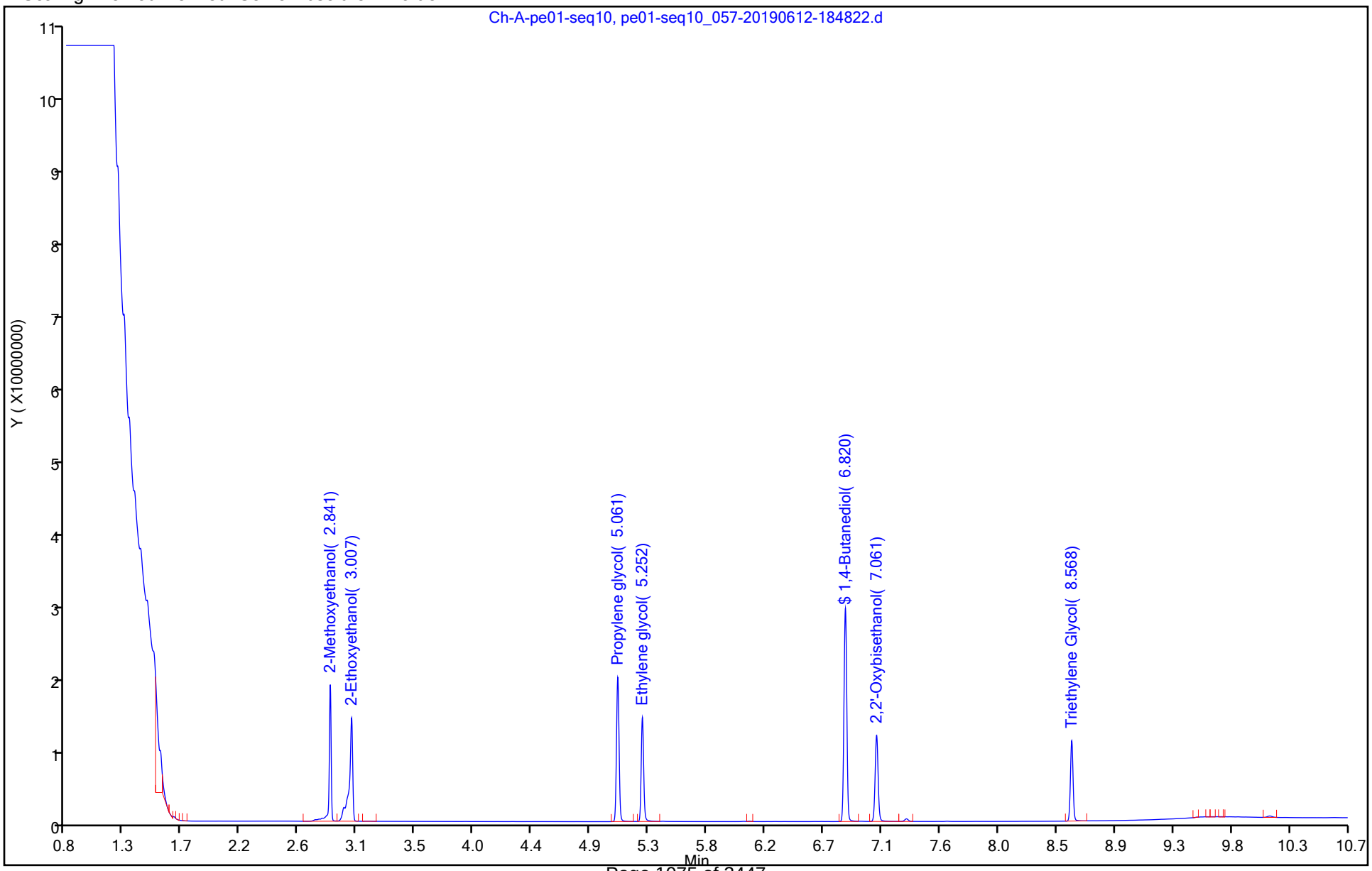

Eurofins TestAmerica, Buffalo
Target Compound Quantitation Report

Data File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_058-20190612-190647.d
Lims ID: std6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 12-Jun-2019 19:06:30 ALS Bottle#: 0 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #:
Operator ID: BufTCHROM Instrument ID: PE-01
Sublist: chrom-8015-Gly-PE01*sub1

Method: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\8015-Gly-PE01.m
Limit Group: GC - 8015D DAI GLY ICAL
Last Update: 13-Jun-2019 06:49:23 Calib Date: 12-Jun-2019 19:25:05
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d

Column 1 : Det: Ch-B-9b36290
Process Host: CTX0301

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ul	OnCol Amt ng/ul	Flags
6 2-Methoxyethanol							
	2.828	2.852	-0.024	26819160	50.0	59.8	
2 2-Ethoxyethanol							
	2.995	3.015	-0.020	35741533	50.0	60.3	
5 Propylene glycol							
	5.055	5.060	-0.005	35874057	50.0	57.9	
8 Ethylene glycol							
	5.245	5.249	-0.004	25413101	50.0	61.4	
$ 7 1,4-Butanediol							
	6.812	6.816	-0.004	54669665	60.6	64.6	
1 2,2'-Oxybisethanol							
	7.053	7.057	-0.004	26375475	50.0	59.3	
4 Triethylene Glycol							
	8.564	8.564	0.000	25601050	50.0	60.5	

Reagents:

GLY_SURR1000_00103 Amount Added: 60.00 Units: uL
GLY_CCV_1000_00109 Amount Added: 50.00 Units: uL

Report Date: 13-Jun-2019 06:49:23 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Buffalo

Data File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_058-20190612-190647.d

Injection Date:	12-Jun-2019 19:06:30	Instrument ID:	PE-01	Operator ID:	BufTCHROM
Lims ID:	std6			Worklist Smp#:	16
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015-Gly-PE01	Limit Group:	GC - 8015D DAI GLY ICAL		

Y Scaling: Method Defined: Set to Absolute Y Value

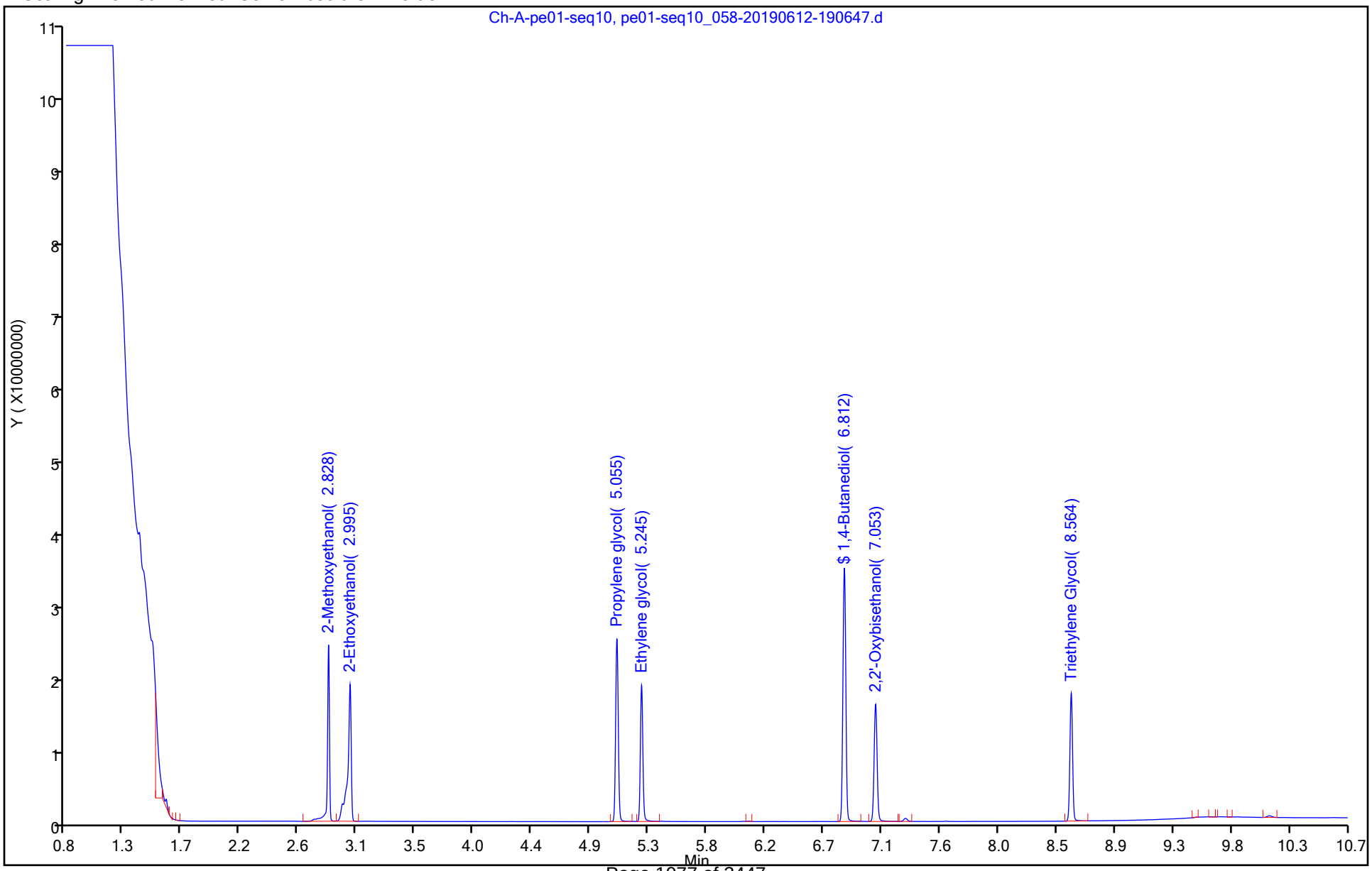

Eurofins TestAmerica, Buffalo
Target Compound Quantitation Report

Data File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d
Lims ID: std7
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 12-Jun-2019 19:25:05 ALS Bottle#: 0 Worklist Smp#: 17
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #:
Operator ID: BufTCHROM Instrument ID: PE-01
Sublist: chrom-8015-Gly-PE01*sub1

Method: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\8015-Gly-PE01.m
Limit Group: GC - 8015D DAI GLY ICAL
Last Update: 13-Jun-2019 06:49:24 Calib Date: 12-Jun-2019 19:25:05
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d

Column 1 : Det: Ch-B-9b36290
Process Host: CTX0301

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ul	OnCol Amt ng/ul	Flags
6 2-Methoxyethanol							
	2.828	2.852	-0.024	34483132	60.0	76.9	
2 2-Ethoxyethanol							
	2.996	3.015	-0.019	45947157	60.0	77.6	
5 Propylene glycol							
	5.063	5.060	0.003	44696661	60.0	72.1	
8 Ethylene glycol							
	5.253	5.249	0.004	32251536	60.0	77.9	
$ 7 1,4-Butanediol							
	6.823	6.816	0.007	66307184	70.7	78.4	
1 2,2'-Oxybisethanol							
	7.063	7.057	0.006	33615688	60.0	75.6	
4 Triethylene Glycol							
	8.572	8.564	0.008	35257972	60.0	83.3	

Reagents:

GLY_CCV_1000_00109 Amount Added: 60.00 Units: uL
GLY_SURR1000_00103 Amount Added: 70.00 Units: uL

Report Date: 13-Jun-2019 06:49:24 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Buffalo

Data File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d

Injection Date:	12-Jun-2019 19:25:05	Instrument ID:	PE-01	Operator ID:	BufTCHROM
Lims ID:	std7			Worklist Smp#:	17
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015-Gly-PE01	Limit Group:	GC - 8015D DAI GLY ICAL		

Y Scaling: Method Defined: Set to Absolute Y Value

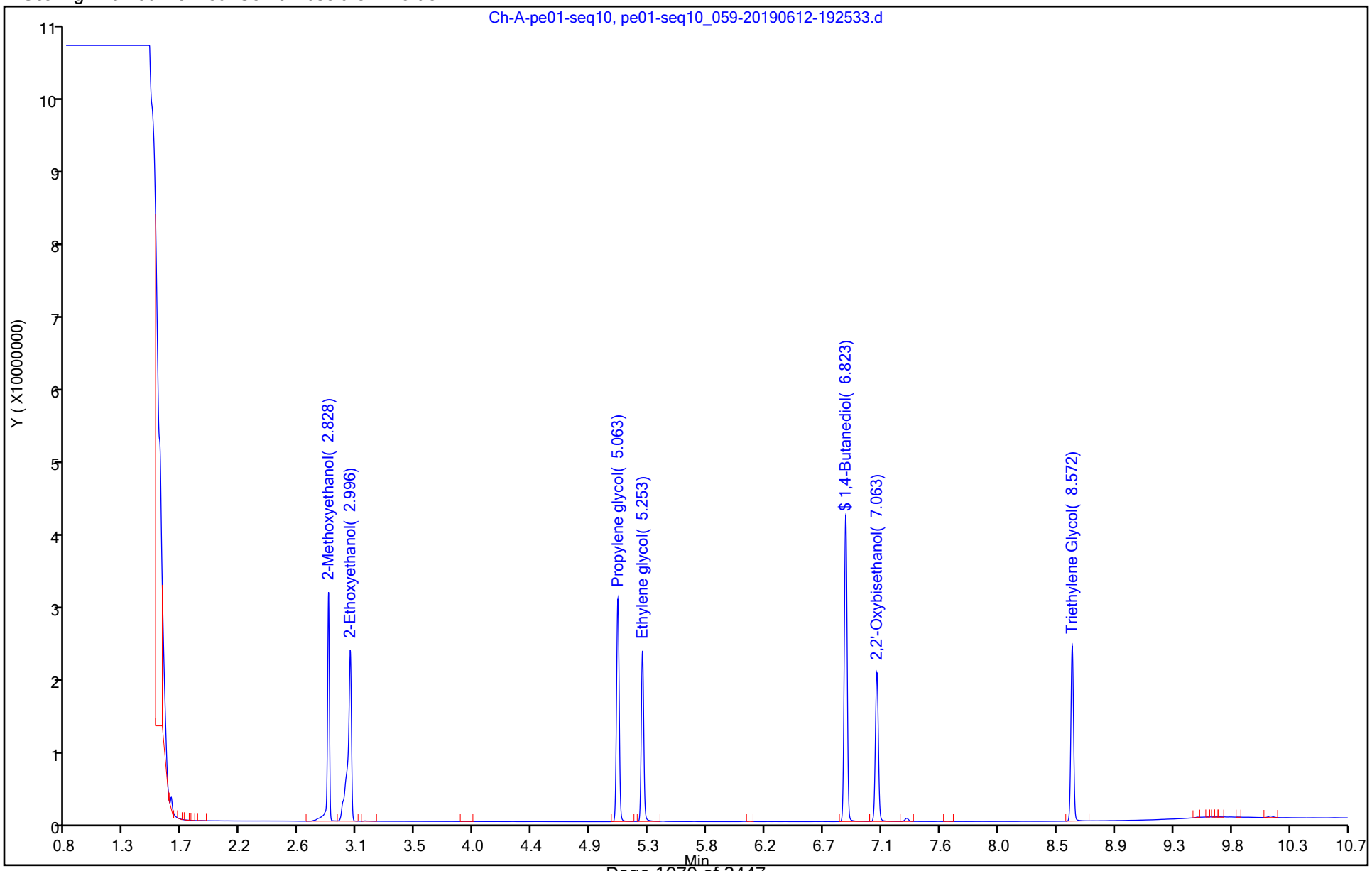

FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCV 480-500914/4 Calibration Date: 10/29/2019 09:58

Instrument ID: PE-01 Calib Start Date: 06/12/2019 17:33

GC Column: ZB-5 ID: 0.25(mm) Calib End Date: 06/12/2019 19:25

Lab File ID: pe01-seq12_213.d Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Methoxyethanol	Ave	448650	480485		21.4	20.0	7.1	20.0
2-Ethoxyethanol	Ave	592408	625899		21.1	20.0	5.7	20.0
Propylene glycol	Ave	619701	614880		19.8	20.0	-0.8	20.0
Ethylene glycol	Ave	414114	409106		19.8	20.0	-1.2	20.0
Diethylene glycol	Ave	444590	457158		20.6	20.0	2.8	20.0
Triethylene Glycol	Ave	423058	463699		21.9	20.0	9.6	20.0
1,4-Butanediol	Ave	845651	842528		50.3	50.5	-0.4	38.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCV 480-500914/4 Calibration Date: 10/29/2019 09:58

Instrument ID: PE-01 Calib Start Date: 06/12/2019 17:33

GC Column: ZB-5 ID: 0.25(mm) Calib End Date: 06/12/2019 19:25

Lab File ID: pe01-seq12_213.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
2-Methoxyethanol	2.75	2.70	2.80
2-Ethoxyethanol	2.91	2.86	2.96
Propylene glycol	4.96	4.91	5.01
Ethylene glycol	5.14	5.08	5.20
Diethylene glycol	6.97	6.92	7.02
Triethylene Glycol	8.50	8.45	8.55
1,4-Butanediol	6.73	6.67	6.79

Eurofins TestAmerica, Buffalo
Target Compound Quantitation Report

Data File: \\chromna\Buffalo\ChromData\PE-01\20191029-85592.b\pe01-seq12_213.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 29-Oct-2019 09:58:27 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #:
Operator ID: BufTCHROM Instrument ID: PE-01
Sublist: chrom-8015-Gly-PE01*sub1

Method: \\chromna\Buffalo\ChromData\PE-01\20191029-85592.b\8015-Gly-PE01.m
Limit Group: GC - 8015D DAI GLY ICAL
Last Update: 29-Oct-2019 14:30:45 Calib Date: 12-Jun-2019 19:25:05
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d

Column 1 : Det: Ch-B-9b36290
Process Host: CTX0314

First Level Reviewer: NearyM Date: 29-Oct-2019 10:27:39

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ul	OnCol Amt ng/ul	Flags
6 2-Methoxyethanol						
2.751	2.751	0.000	9609704	20.0	21.4	
2 2-Ethoxyethanol						
2.907	2.907	0.000	12517978	20.0	21.1	
5 Propylene glycol						
4.955	4.955	0.000	12297603	20.0	19.8	
8 Ethylene glycol						
5.144	5.144	0.000	8182110	20.0	19.8	
$ 7 1,4-Butanediol						
6.727	6.727	0.000	42547667	50.5	50.3	
1 2,2'-Oxybisethanol						
6.965	6.965	0.000	9143163	20.0	20.6	
4 Triethylene Glycol						
8.503	8.503	0.000	9273975	20.0	21.9	

Reagents:

GLY_SURR1000_00107 Amount Added: 50.00 Units: uL
GLY_CCV_1000_00113 Amount Added: 20.00 Units: uL

Report Date: 29-Oct-2019 14:30:45 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Buffalo

Data File: \\chromna\Buffalo\ChromData\PE-01\20191029-85592.b\pe01-seq12_213.d

Injection Date:	29-Oct-2019 09:58:27	Instrument ID:	PE-01	Operator ID:	BufTCHROM
Lims ID:	ccv			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015-Gly-PE01	Limit Group:	GC - 8015D DAI GLY ICAL		

Y Scaling: Method Defined: Set to Absolute Y Value

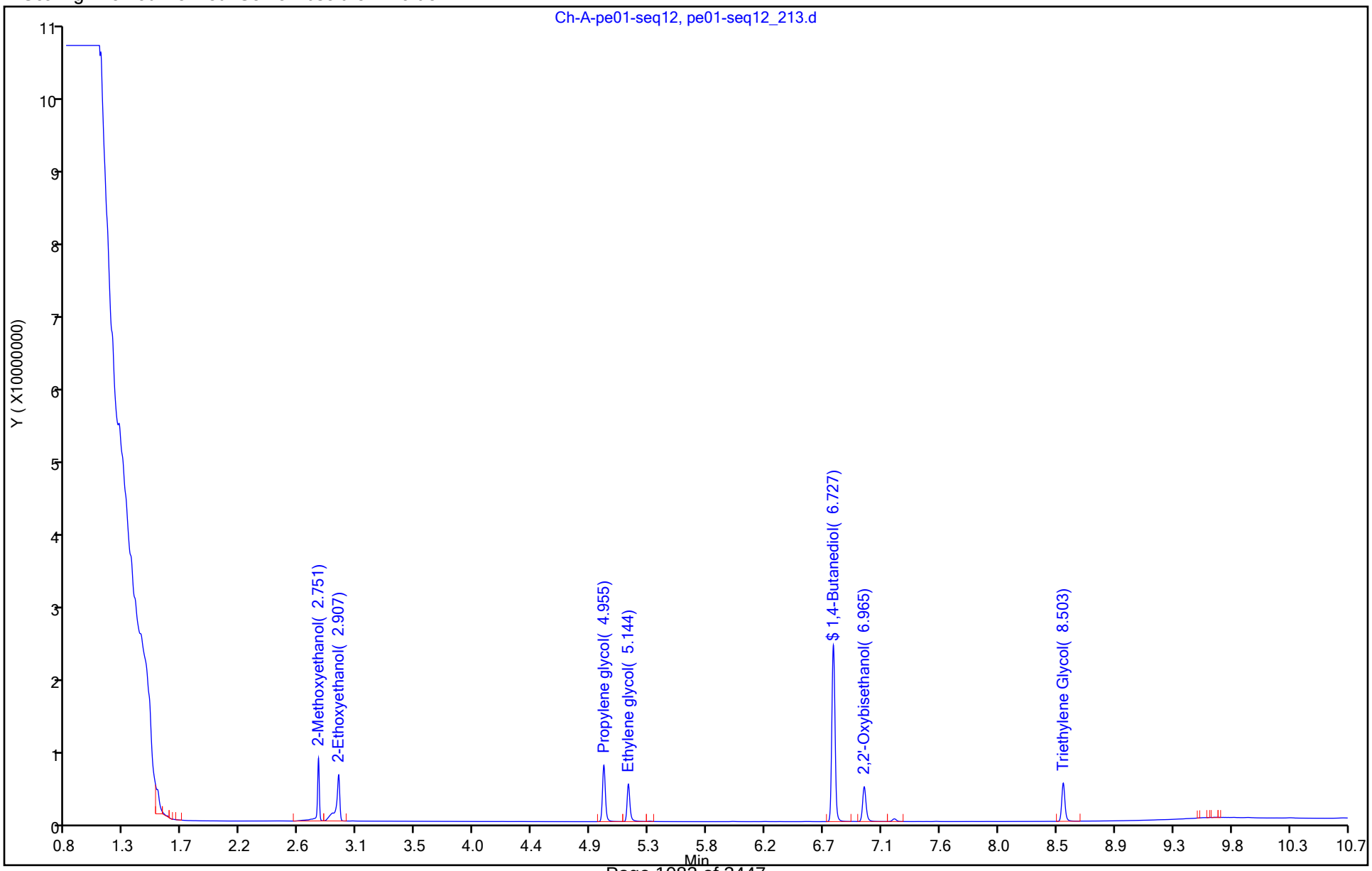

FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCV 480-500914/7 Calibration Date: 10/29/2019 11:05

Instrument ID: PE-01 Calib Start Date: 06/12/2019 17:33

GC Column: ZB-5 ID: 0.25(mm) Calib End Date: 06/12/2019 19:25

Lab File ID: pe01-seq12_216.d Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Methoxyethanol	Ave	448650	469839		20.9	20.0	4.7	20.0
2-Ethoxyethanol	Ave	592408	617359		20.8	20.0	4.2	20.0
Propylene glycol	Ave	619701	603157		19.5	20.0	-2.7	20.0
Ethylene glycol	Ave	414114	398768		19.3	20.0	-3.7	20.0
Diethylene glycol	Ave	444590	453077		20.4	20.0	1.9	20.0
Triethylene Glycol	Ave	423058	461039		21.8	20.0	9.0	20.0
1,4-Butanediol	Ave	845651	853195		51.0	50.5	0.9	38.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCV 480-500914/7 Calibration Date: 10/29/2019 11:05

Instrument ID: PE-01 Calib Start Date: 06/12/2019 17:33

GC Column: ZB-5 ID: 0.25(mm) Calib End Date: 06/12/2019 19:25

Lab File ID: pe01-seq12_216.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
2-Methoxyethanol	2.76	2.70	2.80
2-Ethoxyethanol	2.91	2.86	2.96
Propylene glycol	4.97	4.91	5.01
Ethylene glycol	5.16	5.08	5.20
Diethylene glycol	6.99	6.92	7.02
Triethylene Glycol	8.52	8.45	8.55
1,4-Butanediol	6.75	6.67	6.79

Eurofins TestAmerica, Buffalo
Target Compound Quantitation Report

Data File: \\chromna\Buffalo\ChromData\PE-01\20191029-85592.b\pe01-seq12_216.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 29-Oct-2019 11:05:50 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #:
Operator ID: BufTCHROM Instrument ID: PE-01
Sublist: chrom-8015-Gly-PE01*sub1

Method: \\chromna\Buffalo\ChromData\PE-01\20191029-85592.b\8015-Gly-PE01.m
Limit Group: GC - 8015D DAI GLY ICAL
Last Update: 29-Oct-2019 14:30:49 Calib Date: 12-Jun-2019 19:25:05
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d

Column 1 : Det: Ch-B-9b36290
Process Host: CTX0314

First Level Reviewer: NearyM Date: 29-Oct-2019 11:25:19

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ul	OnCol Amt ng/ul	Flags
6 2-Methoxyethanol							
	2.757	2.751	0.006	9396771	20.0	20.9	
2 2-Ethoxyethanol							
	2.913	2.907	0.006	12347186	20.0	20.8	
5 Propylene glycol							
	4.967	4.955	0.012	12063139	20.0	19.5	
8 Ethylene glycol							
	5.157	5.144	0.013	7975350	20.0	19.3	
$ 7 1,4-Butanediol							
	6.747	6.727	0.020	43086350	50.5	51.0	
1 2,2'-Oxybisethanol							
	6.985	6.965	0.020	9061544	20.0	20.4	
4 Triethylene Glycol							
	8.524	8.503	0.021	9220779	20.0	21.8	

Reagents:

GLY_CCV_1000_00113 Amount Added: 20.00 Units: uL
GLY_SURR1000_00107 Amount Added: 50.00 Units: uL

Report Date: 29-Oct-2019 14:30:50 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Buffalo

Data File:	\\chromna\Buffalo\ChromData\PE-01\20191029-85592.b\pe01-seq12_216.d				
Injection Date:	29-Oct-2019 11:05:50	Instrument ID:	PE-01	Operator ID:	BufTCHROM
Lims ID:	ccv			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015-Gly-PE01	Limit Group:	GC - 8015D DAI GLY ICAL		

Y Scaling: Method Defined: Set to Absolute Y Value

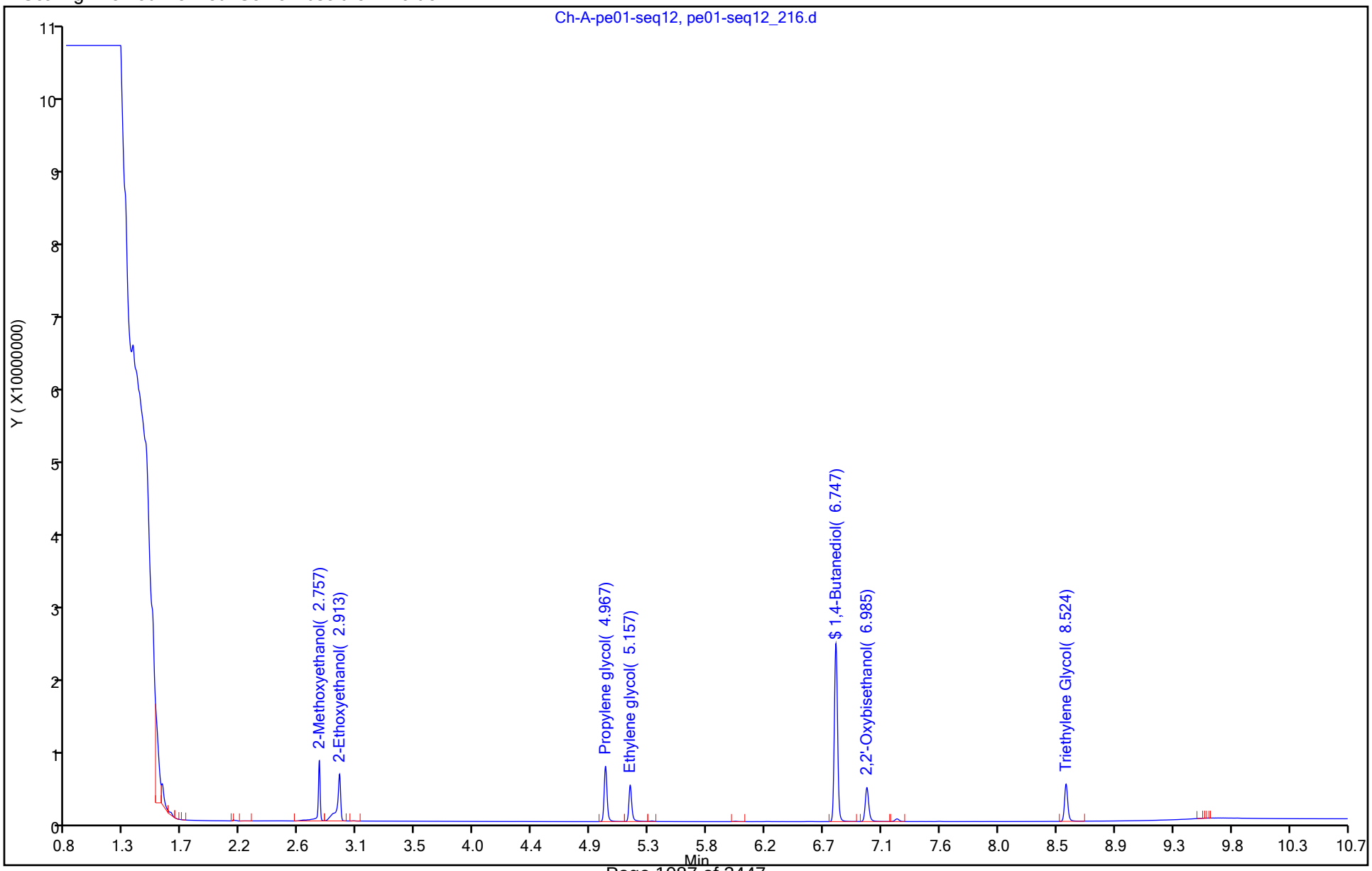

FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCV 480-500914/14 Calibration Date: 10/29/2019 13:15

Instrument ID: PE-01 Calib Start Date: 06/12/2019 17:33

GC Column: ZB-5 ID: 0.25(mm) Calib End Date: 06/12/2019 19:25

Lab File ID: pe01-seq12_223.d Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Methoxyethanol	Ave	448650	420145		18.7	20.0	-6.4	20.0
2-Ethoxyethanol	Ave	592408	546676		18.5	20.0	-7.7	20.0
Propylene glycol	Ave	619701	555210		17.9	20.0	-10.4	20.0
Ethylene glycol	Ave	414114	361544		17.5	20.0	-12.7	20.0
Diethylene glycol	Ave	444590	375282		16.9	20.0	-15.6	20.0
Triethylene Glycol	Ave	423058	360038		17.0	20.0	-14.9	20.0
1,4-Butanediol	Ave	845651	814200		48.6	50.5	-3.7	38.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCV 480-500914/14 Calibration Date: 10/29/2019 13:15

Instrument ID: PE-01 Calib Start Date: 06/12/2019 17:33

GC Column: ZB-5 ID: 0.25(mm) Calib End Date: 06/12/2019 19:25

Lab File ID: pe01-seq12_223.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
2-Methoxyethanol	2.74	2.70	2.80
2-Ethoxyethanol	2.90	2.86	2.96
Propylene glycol	4.93	4.91	5.01
Ethylene glycol	5.12	5.08	5.20
Diethylene glycol	6.93	6.92	7.02
Triethylene Glycol	8.47	8.45	8.55
1,4-Butanediol	6.70	6.67	6.79

Eurofins TestAmerica, Buffalo
Target Compound Quantitation Report

Data File: \\chromna\Buffalo\ChromData\PE-01\20191029-85592.b\pe01-seq12_223.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 29-Oct-2019 13:15:13 ALS Bottle#: 0 Worklist Smp#: 14
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #:
Operator ID: BufTCHROM Instrument ID: PE-01
Sublist: chrom-8015-Gly-PE01*sub1

Method: \\chromna\Buffalo\ChromData\PE-01\20191029-85592.b\8015-Gly-PE01.m
Limit Group: GC - 8015D DAI GLY ICAL
Last Update: 29-Oct-2019 14:30:58 Calib Date: 12-Jun-2019 19:25:05
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d

Column 1 : Det: Ch-B-9b36290
Process Host: CTX0314

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ul	OnCol Amt ng/ul	Flags
6 2-Methoxyethanol						
2.740	2.751	-0.011	8402892	20.0	18.7	
2 2-Ethoxyethanol						
2.895	2.907	-0.012	10933529	20.0	18.5	
5 Propylene glycol						
4.929	4.955	-0.026	11104192	20.0	17.9	
8 Ethylene glycol						
5.117	5.144	-0.027	7230887	20.0	17.5	
$ 7 1,4-Butanediol						
6.695	6.727	-0.032	41117114	50.5	48.6	
1 2,2'-Oxybisethanol						
6.932	6.965	-0.033	7505637	20.0	16.9	
4 Triethylene Glycol						
8.473	8.503	-0.030	7200768	20.0	17.0	

Reagents:

GLY_SURR1000_00107 Amount Added: 50.00 Units: uL
GLY_CCV_1000_00113 Amount Added: 20.00 Units: uL

Report Date: 29-Oct-2019 14:30:58 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Buffalo

Data File: \\chromna\Buffalo\ChromData\PE-01\20191029-85592.b\pe01-seq12_223.d

Injection Date:	29-Oct-2019 13:15:13	Instrument ID:	PE-01	Operator ID:	BufTCHROM
Lims ID:	ccv			Worklist Smp#:	14
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015-Gly-PE01	Limit Group:	GC - 8015D DAI GLY ICAL		

Y Scaling: Method Defined: Set to Absolute Y Value

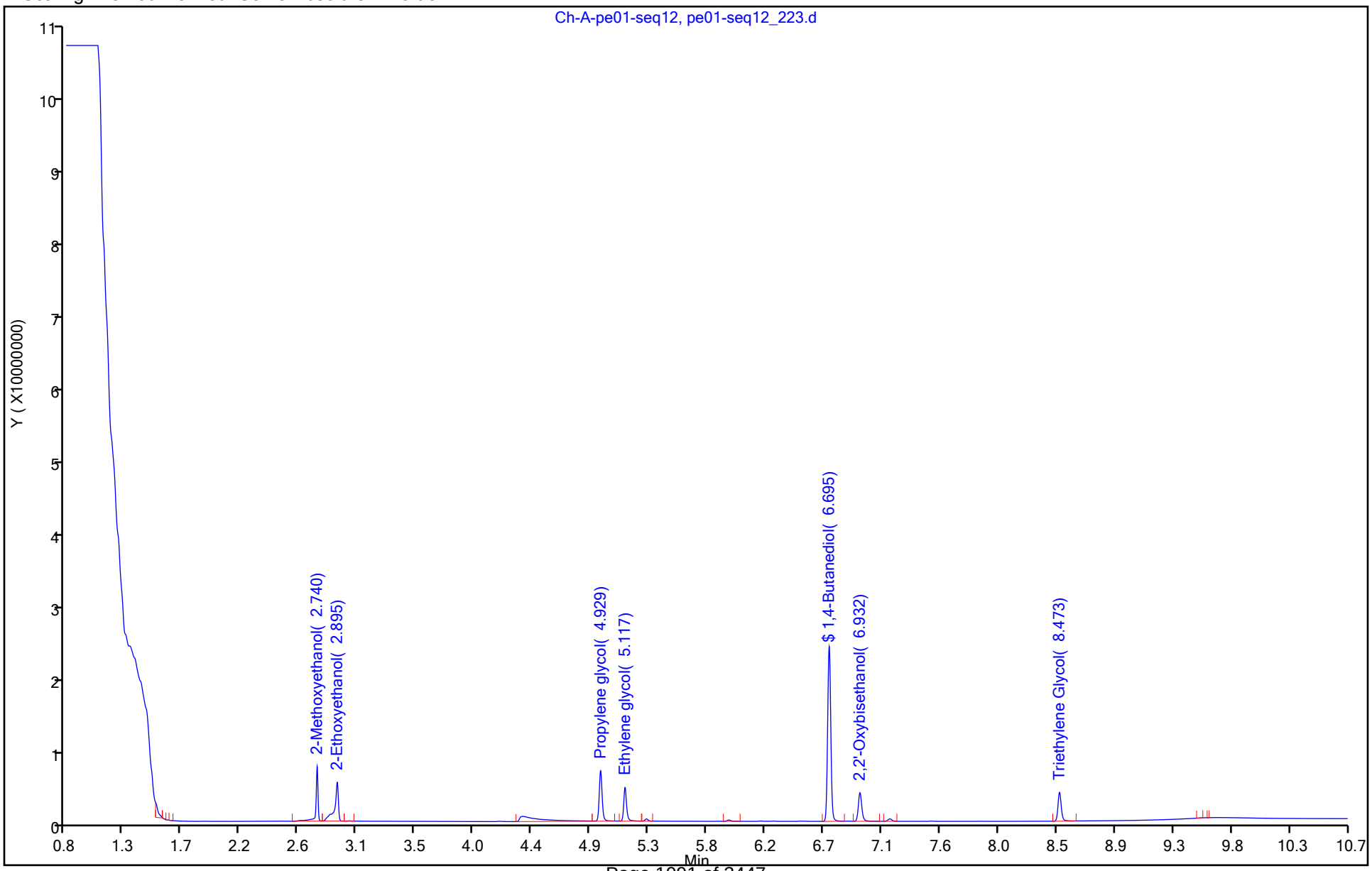

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 180-97287-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 480-500888/1-A

Matrix: Water Lab File ID: pe01-seq12_214.d

Analysis Method: 8015D Date Collected:

Sample wt/vol: .5(mL) Date Analyzed: 10/29/2019 10:28

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-5 ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 500914 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
107-21-1	Ethylene glycol	ND		10	1.9
110-80-5	2-Ethoxyethanol	ND		20	2.5
109-86-4	2-Methoxyethanol	ND		10	2.4

CAS NO.	SURROGATE	%REC	Q	LIMITS
110-63-4	1,4-Butanediol	95		66-130

Eurofins TestAmerica, Buffalo
Target Compound Quantitation Report

Data File: \\chromna\Buffalo\ChromData\PE-01\20191029-85592.b\pe01-seq12_214.d
Lims ID: MB 480-500888/1-A
Client ID:
Sample Type: MB
Inject. Date: 29-Oct-2019 10:28:55 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #:
Operator ID: BufTCHROM Instrument ID: PE-01

Method: \\chromna\Buffalo\ChromData\PE-01\20191029-85592.b\8015-Gly-PE01.m
Limit Group: GC - 8015D DAI GLY ICAL
Last Update: 29-Oct-2019 14:30:45 Calib Date: 12-Jun-2019 19:25:05
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d

Column 1 : Det: Ch-B-9b36290
Process Host: CTX0314

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ul	OnCol Amt ng/ul	Flags
$ 7 1,4-Butanediol						
6.703	6.727	-0.024	40420026	50.5	47.8	
1 2,2'-Oxybisethanol						
6.931	6.965	-0.034	139102		0.3129	
4 Triethylene Glycol						
8.481	8.503	-0.022	157533		0.3724	

Report Date: 29-Oct-2019 14:30:47 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Buffalo

Data File:	\\chromna\Buffalo\ChromData\PE-01\20191029-85592.b\pe01-seq12_214.d				
Injection Date:	29-Oct-2019 10:28:55	Instrument ID:	PE-01	Operator ID:	BufTCHROM
Lims ID:	MB 480-500888/1-A			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015-Gly-PE01	Limit Group:	GC - 8015D DAI GLY ICAL		

Y Scaling: Method Defined: Set to Absolute Y Value

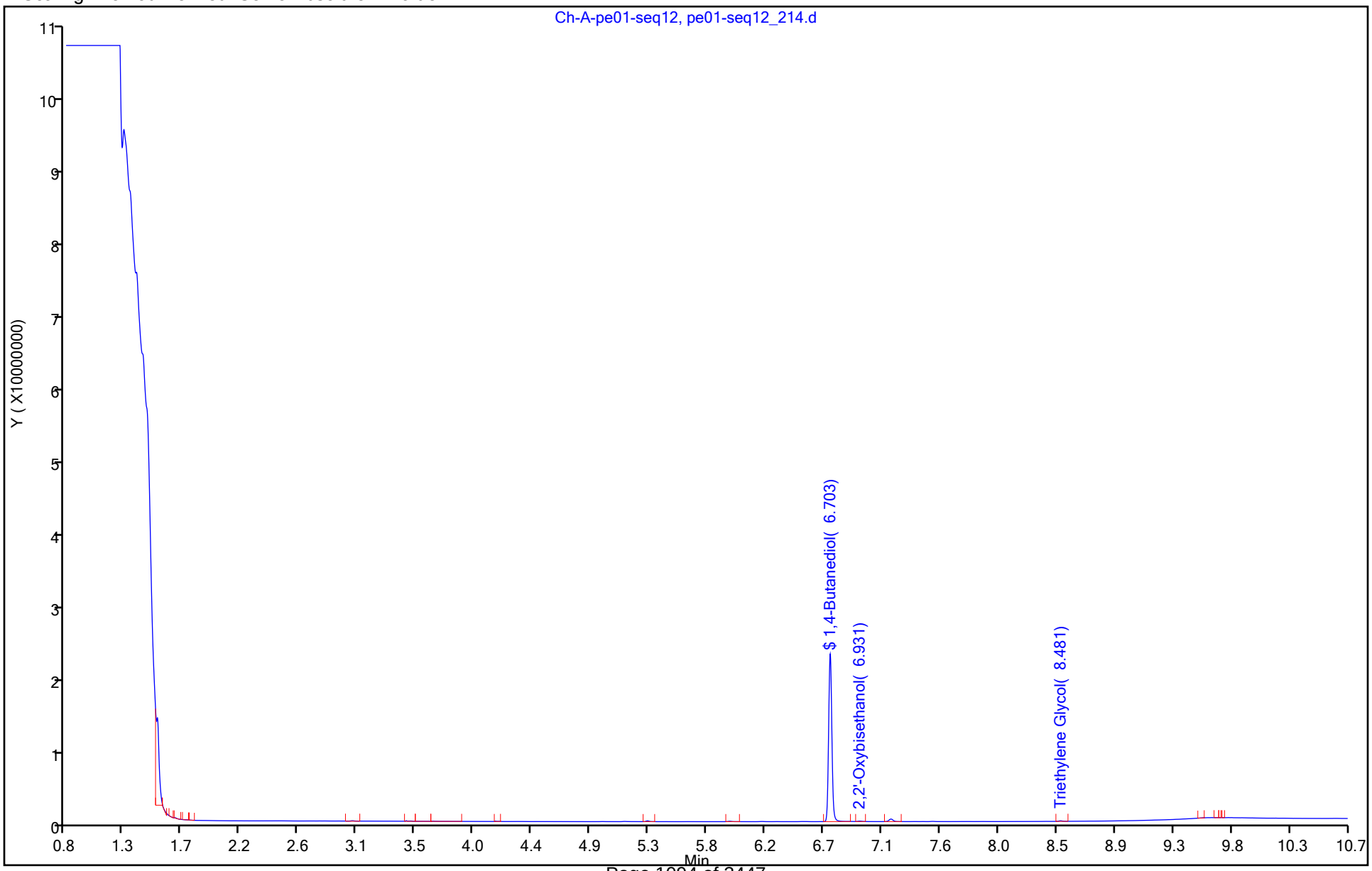

Eurofins TestAmerica, Buffalo
Recovery Report

Data File:	\\chromna\Buffalo\ChromData\PE-01\20191029-85592.b\pe01-seq12_214.d				
Lims ID:	MB 480-500888/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	29-Oct-2019 10:28:55	ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#:				
Operator ID:	BufTCHROM	Instrument ID:	PE-01		
Method:	\\chromna\Buffalo\ChromData\PE-01\20191029-85592.b\8015-Gly-PE01.m				
Limit Group:	GC - 8015D DAI GLY ICAL				
Last Update:	29-Oct-2019 14:30:45	Calib Date:	12-Jun-2019 19:25:05		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d				
Column 1 :			Det: Ch-B-9b36290		
Process Host:	CTX0314				

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,4-Butanediol	50.5	47.8	94.65

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 180-97287-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 480-500888/2-A

Matrix: Water Lab File ID: pe01-seq12_215.d

Analysis Method: 8015D Date Collected:

Sample wt/vol: .5(mL) Date Analyzed: 10/29/2019 10:47

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-5 ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 500914 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
107-21-1	Ethylene glycol	15.6		10	1.9
110-80-5	2-Ethoxyethanol	17.2	J	20	2.5
109-86-4	2-Methoxyethanol	16.9		10	2.4

CAS NO.	SURROGATE	%REC	Q	LIMITS
110-63-4	1,4-Butanediol	102		66-130

Eurofins TestAmerica, Buffalo
Target Compound Quantitation Report

Data File: \\chromna\Buffalo\ChromData\PE-01\20191029-85592.b\pe01-seq12_215.d
Lims ID: LCS 480-500888/2-A
Client ID:
Sample Type: LCS
Inject. Date: 29-Oct-2019 10:47:21 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #:
Operator ID: BufTCHROM Instrument ID: PE-01

Method: \\chromna\Buffalo\ChromData\PE-01\20191029-85592.b\8015-Gly-PE01.m
Limit Group: GC - 8015D DAI GLY ICAL
Last Update: 29-Oct-2019 14:30:45 Calib Date: 12-Jun-2019 19:25:05
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d

Column 1 : Det: Ch-B-9b36290
Process Host: CTX0314

First Level Reviewer: NearyM Date: 29-Oct-2019 11:20:22

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ul	OnCol Amt ng/ul	Flags
6 2-Methoxyethanol							
	2.753	2.751	0.002	3796233	10.0	8.46	
2 2-Ethoxyethanol							
	2.907	2.907	0.000	5106524	10.0	8.62	
5 Propylene glycol							
	4.941	4.955	-0.014	4870065	10.0	7.86	
8 Ethylene glycol							
	5.131	5.144	-0.013	3225606	10.0	7.79	
$ 7 1,4-Butanediol							
	6.707	6.727	-0.020	43620930	50.5	51.6	
1 2,2'-Oxybisethanol							
	6.945	6.965	-0.020	3864498	10.0	8.69	
4 Triethylene Glycol							
	8.483	8.503	-0.020	3634556	10.0	8.59	

Report Date: 29-Oct-2019 14:30:49 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Buffalo

Data File:	\\chromna\Buffalo\ChromData\PE-01\20191029-85592.b\pe01-seq12_215.d				
Injection Date:	29-Oct-2019 10:47:21	Instrument ID:	PE-01	Operator ID:	BufTCHROM
Lims ID:	LCS 480-500888/2-A			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015-Gly-PE01	Limit Group:	GC - 8015D DAI GLY ICAL		

Y Scaling: Method Defined: Set to Absolute Y Value

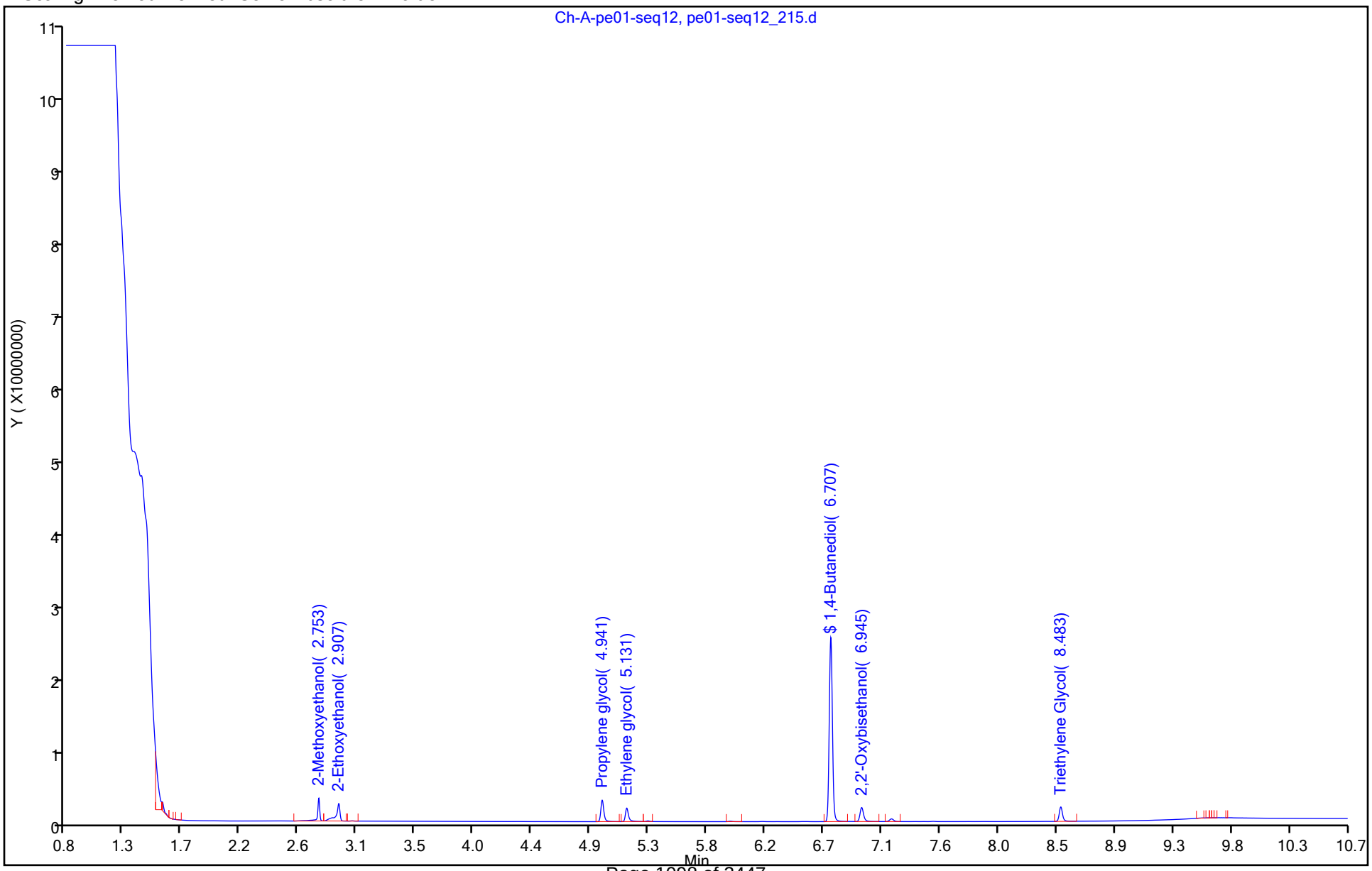

Eurofins TestAmerica, Buffalo
Recovery Report

Data File:	\\chromna\Buffalo\ChromData\PE-01\20191029-85592.b\pe01-seq12_215.d				
Lims ID:	LCS 480-500888/2-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	29-Oct-2019 10:47:21	ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#:				
Operator ID:	BufTCHROM	Instrument ID:	PE-01		
Method:	\\chromna\Buffalo\ChromData\PE-01\20191029-85592.b\8015-Gly-PE01.m				
Limit Group:	GC - 8015D DAI GLY ICAL				
Last Update:	29-Oct-2019 14:30:45	Calib Date:	12-Jun-2019 19:25:05		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d				
Column 1 :			Det: Ch-B-9b36290		
Process Host:	CTX0314				
First Level Reviewer: NearyM		Date:	29-Oct-2019 11:20:22		

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,4-Butanediol	50.5	51.6	102.14

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo
Job No.: 180-97287-1
SDG No.:
Client Sample ID: 11187072-NORTH-IMPCT-INITIALS MS
Lab Sample ID: 180-97287-2 MS
Matrix: Water
Lab File ID: pe01-seq12_221.d
Analysis Method: 8015D
Date Collected: 10/24/2019 08:45
Sample wt/vol: .5(mL)
Date Analyzed: 10/29/2019 12:38
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: ZB-5 ID: 0.25(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 500914
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
107-21-1	Ethylene glycol	15.3		10	1.9
110-80-5	2-Ethoxyethanol	17.2	J	20	2.5
109-86-4	2-Methoxyethanol	16.2		10	2.4

CAS NO.	SURROGATE	%REC	Q	LIMITS
110-63-4	1,4-Butanediol	98		66-130

Eurofins TestAmerica, Buffalo
Target Compound Quantitation Report

Data File: \\chromna\Buffalo\ChromData\PE-01\20191029-85592.b\pe01-seq12_221.d
Lims ID: 180-97287-A-2-B MS
Client ID:
Sample Type: MS
Inject. Date: 29-Oct-2019 12:38:12 ALS Bottle#: 0 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #:
Operator ID: BufTCHROM Instrument ID: PE-01

Method: \\chromna\Buffalo\ChromData\PE-01\20191029-85592.b\8015-Gly-PE01.m
Limit Group: GC - 8015D DAI GLY ICAL
Last Update: 29-Oct-2019 14:30:49 Calib Date: 12-Jun-2019 19:25:05
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d

Column 1 : Det: Ch-B-9b36290
Process Host: CTX0314

First Level Reviewer: NearyM Date: 29-Oct-2019 13:23:36

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ul	OnCol Amt ng/ul	Flags
6 2-Methoxyethanol							
	2.785	2.751	0.034	3623046	10.0	8.08	
2 2-Ethoxyethanol							
	2.935	2.907	0.028	5100706	10.0	8.61	
5 Propylene glycol							
	4.957	4.955	0.002	4892201	10.0	7.89	
8 Ethylene glycol							
	5.148	5.144	0.004	3160243	10.0	7.63	
$ 7 1,4-Butanediol							
	6.731	6.727	0.004	41831631	50.5	49.5	
1 2,2'-Oxybisethanol							
	6.969	6.965	0.004	3295564	10.0	7.41	
4 Triethylene Glycol							
	8.505	8.503	0.002	3134869	10.0	7.41	

Report Date: 29-Oct-2019 14:30:56 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Buffalo

Data File:	\\chromna\Buffalo\ChromData\PE-01\20191029-85592.b\pe01-seq12_221.d				
Injection Date:	29-Oct-2019 12:38:12	Instrument ID:	PE-01	Operator ID:	BufTCHROM
Lims ID:	180-97287-A-2-B MS			Worklist Smp#:	12
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015-Gly-PE01	Limit Group:	GC - 8015D DAI GLY ICAL		

Y Scaling: Method Defined: Set to Absolute Y Value

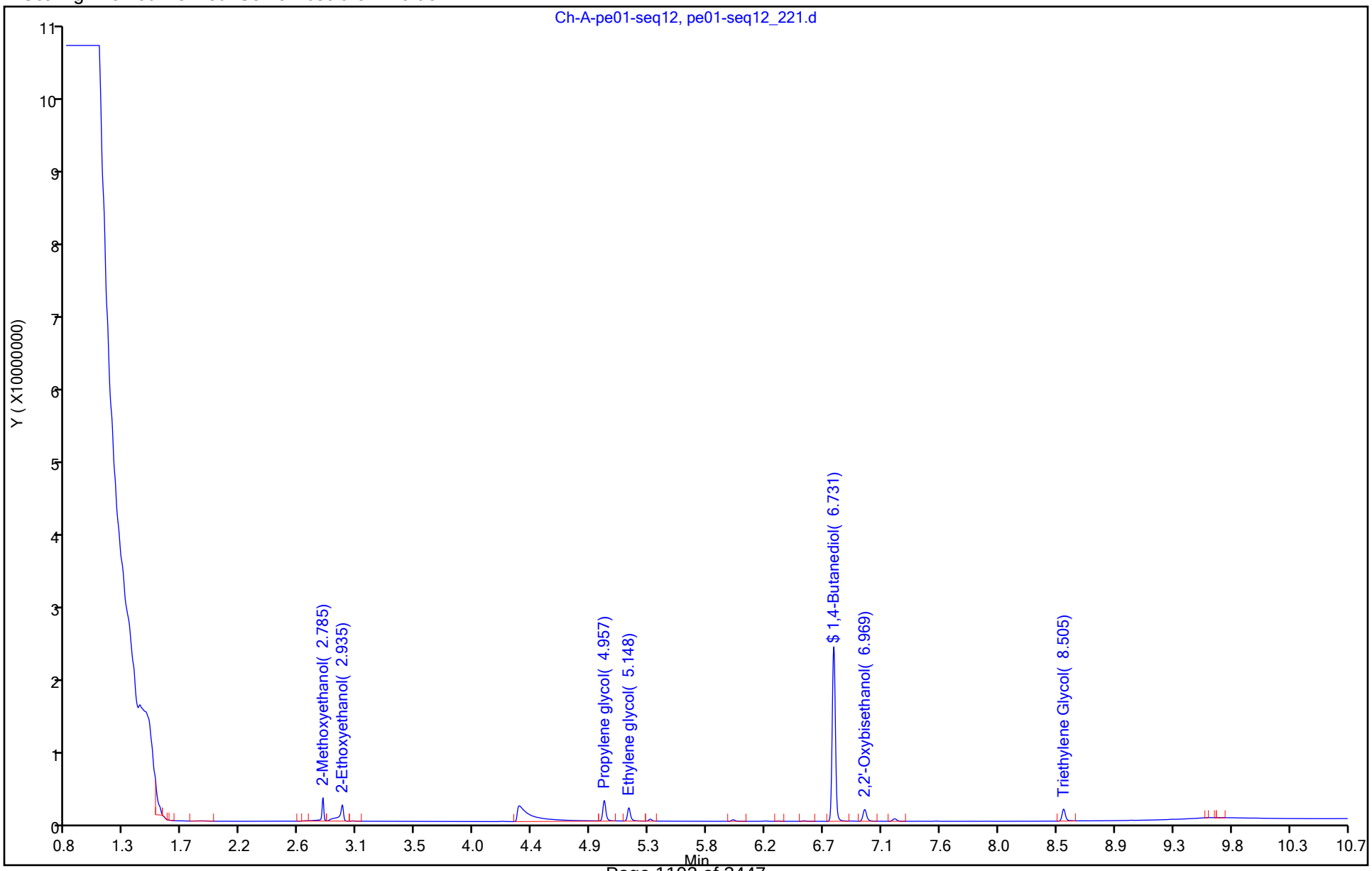

Eurofins TestAmerica, Buffalo
Recovery Report

Data File:	\\chromna\Buffalo\ChromData\PE-01\20191029-85592.b\pe01-seq12_221.d				
Lims ID:	180-97287-A-2-B MS				
Client ID:					
Sample Type:	MS				
Inject. Date:	29-Oct-2019 12:38:12	ALS Bottle#:	0	Worklist Smp#:	12
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#:				
Operator ID:	BufTCHROM	Instrument ID:	PE-01		
Method:	\\chromna\Buffalo\ChromData\PE-01\20191029-85592.b\8015-Gly-PE01.m				
Limit Group:	GC - 8015D DAI GLY ICAL				
Last Update:	29-Oct-2019 14:30:49	Calib Date:	12-Jun-2019 19:25:05		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d				
Column 1 :			Det: Ch-B-9b36290		
Process Host:	CTX0314				
First Level Reviewer: NearyM		Date:	29-Oct-2019 13:23:36		

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,4-Butanediol	50.5	49.5	97.95

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo
Job No.: 180-97287-1
SDG No.:
Client Sample ID: 11187072-NORTH-IMPCT-INITIALS MSD
Lab Sample ID: 180-97287-2 MSD
Matrix: Water
Lab File ID: pe01-seq12_222.d
Analysis Method: 8015D
Date Collected: 10/24/2019 08:45
Sample wt/vol: .5(mL)
Date Analyzed: 10/29/2019 12:56
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: ZB-5 ID: 0.25(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 500914
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
107-21-1	Ethylene glycol	14.6		10	1.9
110-80-5	2-Ethoxyethanol	17.0	J	20	2.5
109-86-4	2-Methoxyethanol	16.5		10	2.4

CAS NO.	SURROGATE	%REC	Q	LIMITS
110-63-4	1,4-Butanediol	95		66-130

Eurofins TestAmerica, Buffalo
Target Compound Quantitation Report

Data File: \\chromna\Buffalo\ChromData\PE-01\20191029-85592.b\pe01-seq12_222.d
Lims ID: 180-97287-A-2-C MSD
Client ID:
Sample Type: MSD
Inject. Date: 29-Oct-2019 12:56:43 ALS Bottle#: 0 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #:
Operator ID: BufTCHROM Instrument ID: PE-01

Method: \\chromna\Buffalo\ChromData\PE-01\20191029-85592.b\8015-Gly-PE01.m
Limit Group: GC - 8015D DAI GLY ICAL
Last Update: 29-Oct-2019 14:30:49 Calib Date: 12-Jun-2019 19:25:05
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d

Column 1 : Det: Ch-B-9b36290
Process Host: CTX0314

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ul	OnCol Amt ng/ul	Flags
6 2-Methoxyethanol							
	2.781	2.751	0.030	3697954	10.0	8.24	
2 2-Ethoxyethanol							
	2.931	2.907	0.024	5037793	10.0	8.50	
5 Propylene glycol							
	4.937	4.955	-0.018	4465228	10.0	7.21	
8 Ethylene glycol							
	5.127	5.144	-0.017	3013624	10.0	7.28	
$ 7 1,4-Butanediol							
	6.700	6.727	-0.027	40521118	50.5	47.9	
1 2,2'-Oxybisethanol							
	6.939	6.965	-0.026	3285714	10.0	7.39	
4 Triethylene Glycol							
	8.476	8.503	-0.027	2997385	10.0	7.09	

Report Date: 29-Oct-2019 14:30:57 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Buffalo

Data File: \\chromna\Buffalo\ChromData\PE-01\20191029-85592.b\pe01-seq12_222.d

Injection Date: 29-Oct-2019 12:56:43 Instrument ID: PE-01 Operator ID: BufTCHROM

Lims ID: 180-97287-A-2-C MSD Worklist Smp#: 13

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: 8015-Gly-PE01 Limit Group: GC - 8015D DAI GLY ICAL

Y Scaling: Method Defined: Set to Absolute Y Value

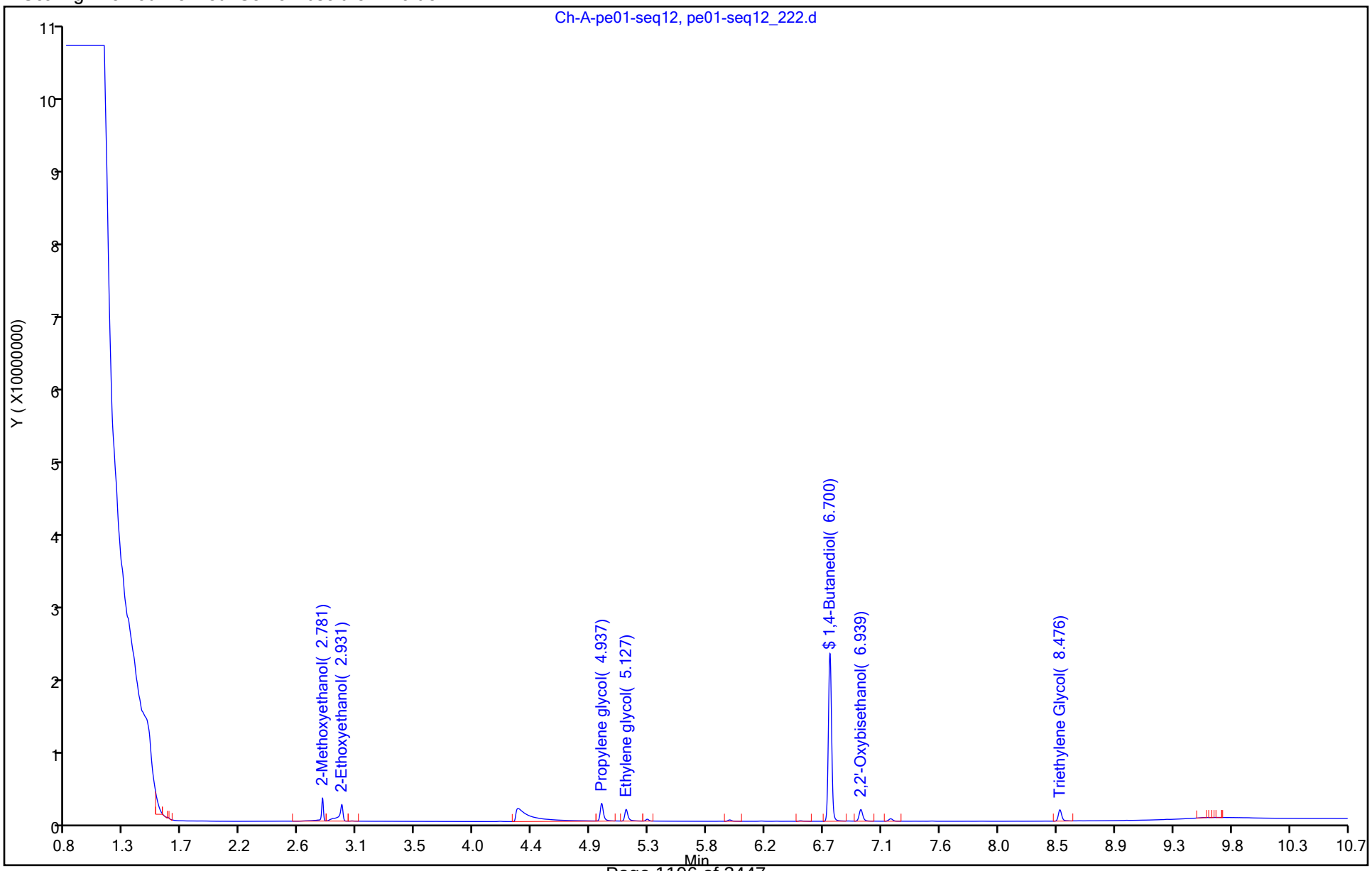

Eurofins TestAmerica, Buffalo
Recovery Report

Data File:	\\chromna\Buffalo\ChromData\PE-01\20191029-85592.b\pe01-seq12_222.d				
Lims ID:	180-97287-A-2-C MSD				
Client ID:					
Sample Type:	MSD				
Inject. Date:	29-Oct-2019 12:56:43	ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#:				
Operator ID:	BufTCHROM	Instrument ID:	PE-01		
Method:	\\chromna\Buffalo\ChromData\PE-01\20191029-85592.b\8015-Gly-PE01.m				
Limit Group:	GC - 8015D DAI GLY ICAL				
Last Update:	29-Oct-2019 14:30:49	Calib Date:	12-Jun-2019 19:25:05		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d				
Column 1 :			Det: Ch-B-9b36290		
Process Host:	CTX0314				

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,4-Butanediol	50.5	47.9	94.89

GC VOA ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 180-97287-1

SDG No.:

Instrument ID: PE-01 Start Date: 06/12/2019 17:33

Analysis Batch Number: 477460 End Date: 06/12/2019 19:43

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
STD1 480-477460/11 IC		06/12/2019 17:33	1	pe01-seq10_053-20190612-173401.d	ZB-5 0.25(mm)
STD2 480-477460/12 IC		06/12/2019 17:52	1	pe01-seq10_054-20190612-175231.d	ZB-5 0.25(mm)
STD3 480-477460/13 IC		06/12/2019 18:10	1	pe01-seq10_055-20190612-181107.d	ZB-5 0.25(mm)
STD4 480-477460/14 IC		06/12/2019 18:29	1	pe01-seq10_056-20190612-182937.d	ZB-5 0.25(mm)
STD5 480-477460/15 IC		06/12/2019 18:47	1	pe01-seq10_057-20190612-184822.d	ZB-5 0.25(mm)
STD6 480-477460/16 IC		06/12/2019 19:06	1	pe01-seq10_058-20190612-190647.d	ZB-5 0.25(mm)
STD7 480-477460/17 IC		06/12/2019 19:25	1	pe01-seq10_059-20190612-192533.d	ZB-5 0.25(mm)
ICV 480-477460/18		06/12/2019 19:43	1		ZB-5 0.25(mm)

8015D

GC VOA ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 180-97287-1

SDG No.:

Instrument ID: PE-01 Start Date: 10/29/2019 09:58

Analysis Batch Number: 500914 End Date: 10/29/2019 14:08

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 480-500914/4		10/29/2019 09:58	1	pe01-seq12_213.d	ZB-5 0.25(mm)
MB 480-500888/1-A		10/29/2019 10:28	1	pe01-seq12_214.d	ZB-5 0.25(mm)
LCS 480-500888/2-A		10/29/2019 10:47	1	pe01-seq12_215.d	ZB-5 0.25(mm)
CCV 480-500914/7		10/29/2019 11:05	1	pe01-seq12_216.d	ZB-5 0.25(mm)
ZZZZZ		10/29/2019 11:24	1		ZB-5 0.25(mm)
ZZZZZ		10/29/2019 11:42	1		ZB-5 0.25(mm)
ZZZZZ		10/29/2019 12:01	1		ZB-5 0.25(mm)
180-97287-2		10/29/2019 12:19	1	pe01-seq12_220.d	ZB-5 0.25(mm)
180-97287-2 MS		10/29/2019 12:38	1	pe01-seq12_221.d	ZB-5 0.25(mm)
180-97287-2 MSD		10/29/2019 12:56	1	pe01-seq12_222.d	ZB-5 0.25(mm)
CCV 480-500914/14		10/29/2019 13:15	1	pe01-seq12_223.d	ZB-5 0.25(mm)
ZZZZZ		10/29/2019 13:48	10000		ZB-5 0.25(mm)
CCV 480-500914/16		10/29/2019 14:08	1		ZB-5 0.25(mm)

8015D

GC VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 180-97287-1

SDG No.:

Batch Number: 500888 Batch Start Date: 10/29/19 09:03 Batch Analyst: Neary, Mary A

Batch Method: 8015 Prep Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	GLY_CCV_1000 00113	GLY_SURR1000 00107		
MB 480-500888/1		8015 Prep, 8015D		.5 mL	1 mL		50 uL		
LCS 480-500888/2		8015 Prep, 8015D		.5 mL	1 mL	10 uL	50 uL		
180-97287-A-2	11187072-NORTH-I MPCT-INITIALS	8015 Prep, 8015D	T	.5 mL	1 mL		50 uL		
180-97287-A-2 MS	11187072-NORTH-I MPCT-INITIALS	8015 Prep, 8015D	T	.5 mL	1 mL	10 uL	50 uL		
180-97287-A-2 MSD	11187072-NORTH-I MPCT-INITIALS	8015 Prep, 8015D	T	.5 mL	1 mL	10 uL	50 uL		

Batch Notes	

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Method 8081B

Organochlorine Pesticides (GC) by Method 8081B

FORM II
PESTICIDES SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Matrix: Solid (TCLP) Level: Low

GC Column (1): MR-1 ID: 0.53(mm) GC Column (2): MR-2 ID: 0.53(mm)

Client Sample ID	Lab Sample ID	TCX1 #	TCX2 #	DCB1 #	DCB2 #
11187072-NORTH-IMP CT-INITIALS	180-97287-1	70	71	87	86
	MB 180-295379/1-A	73	73	90	88
	LB 180-295177/1-B	70	73	88	88
	LCS 180-295379/2-A	71	74	90	88
	LCSD 180-295379/3-A	69	72	87	87

	QC LIMITS
TCX = Tetrachloro-m-xylene	54-138
DCB = DCB Decachlorobiphenyl (Surr)	62-150

Column to be used to flag recovery values

FORM II EPA 8081B

FORM III
PESTICIDES LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Matrix: Water Level: Low Lab File ID: Q1024190000008.D

Lab ID: LCS 180-295379/2-A Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
Endrin	0.0100	0.00902	90	71-134	
gamma-BHC (Lindane)	0.0100	0.00813	81	66-127	
Heptachlor	0.0100	0.00879	88	66-134	
Heptachlor epoxide	0.0100	0.00813	81	65-141	
Methoxychlor	0.0100	0.00998	100	59-131	
4,4'-DDD	0.0100	0.00852	85	71-136	
4,4'-DDE	0.0100	0.00873	87	75-133	
4,4'-DDT	0.0100	0.00859	86	56-132	
Dieldrin	0.0100	0.00932	93	75-131	
Endosulfan I	0.0100	0.00770	77	63-144	
Endosulfan sulfate	0.0100	0.00835	84	48-131	
Endosulfan II	0.0100	0.00974	97	76-136	

Column to be used to flag recovery and RPD values

FORM III EPA 8081B

FORM III
PESTICIDES LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Matrix: Water Level: Low Lab File ID: Q1024190000009.D

Lab ID: LCSD 180-295379/3-A Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCSD CONCENTRATION (mg/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Endrin	0.0100	0.00849	85	6	18	71-134	
gamma-BHC (Lindane)	0.0100	0.00802	80	1	15	66-127	
Heptachlor	0.0100	0.00856	86	3	15	66-134	
Heptachlor epoxide	0.0100	0.00814	81	0	15	65-141	
Methoxychlor	0.0100	0.00942	94	6	28	59-131	
4,4'-DDD	0.0100	0.00825	83	3	18	71-136	
4,4'-DDE	0.0100	0.00841	84	4	16	75-133	
4,4'-DDT	0.0100	0.00818	82	5	18	56-132	
Dieldrin	0.0100	0.00925	93	1	17	75-131	
Endosulfan I	0.0100	0.00739	74	4	15	63-144	
Endosulfan sulfate	0.0100	0.00810	81	3	24	48-131	
Endosulfan II	0.0100	0.00993	99	2	16	76-136	

Column to be used to flag recovery and RPD values

FORM III EPA 8081B

FORM IV
PESTICIDES METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: MB 180-295379/1-A

Matrix: Water Date Extracted: 10/18/2019 10:30

Lab File ID:(1) Q1024190000007.D Lab File ID:(2) Q1024190000007.D

Date Analyzed:(1) 10/24/2019 12:54 Date Analyzed:(2) 10/24/2019 12:54

Instrument ID:(1) CHGC15 Instrument ID:(2) CHGC15

GC Column:(1) MR-1 ID: 0.53(mm) GC Column:(2) MR-2 ID: 0.53(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
	LCS 180-295379/2-A	10/24/2019 13:09	10/24/2019 13:09
	LCSD 180-295379/3-A	10/24/2019 13:25	10/24/2019 13:25
	LB 180-295177/1-B	10/24/2019 13:40	10/24/2019 13:40
11187072-NORTH-IMPCT-INITIALS	180-97287-1	10/24/2019 13:56	10/24/2019 13:56

FORM VIII
PESTICIDES INTERNAL STANDARD HEIGHT AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Sample No.: CCVIS 180-295908/5 Date Analyzed: 10/24/2019 12:23

Instrument ID: CHGC15 GC Column: MR-1 ID: 0.53(mm)

Lab File ID (Standard): Q1024190000005.D Heated Purge: (Y/N) N

Calibration ID: 41543

		BNB		DBC			
		HEIGHT #	RT #	HEIGHT #	RT #	HEIGHT #	RT #
12/24 HOUR STD		150209497	3.77	99711002	8.18		
UPPER LIMIT		225314246	3.78	149566503	8.19		
LOWER LIMIT		75104749	3.76	49855501	8.17		
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 180-295379/1-A		170999647	3.77	114212220	8.18		
LCS 180-295379/2-A		175156862	3.77	113779340	8.18		
LCSD 180-295379/3-A		175883329	3.77	114596494	8.17		
LB 180-295177/1-B		173378791	3.77	114249203	8.17		
180-97287-1	11187072-NORTH-IMPCT-INITIALS	173642020	3.77	115534468	8.17		

BNB = 1-Bromo-2-nitrobenzene
DBC = Dibutylchlorendate ISTD

Area Limit = 50%-150% of internal standard area
RT Limit = ± 0.01 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8081B

FORM VIII
PESTICIDES INTERNAL STANDARD HEIGHT AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Sample No.: CCVIS 180-295908/5 Date Analyzed: 10/24/2019 12:23

Instrument ID: CHGC15 GC Column: MR-2 ID: 0.53(mm)

Lab File ID (Standard): Q1024190000005.D Heated Purge: (Y/N) N

Calibration ID: 41544

		BNB		DBC			
		HEIGHT #	RT #	HEIGHT #	RT #	HEIGHT #	RT #
12/24 HOUR STD		145275398	4.03	84171445	8.30		
UPPER LIMIT		217913097	4.04	126257168	8.31		
LOWER LIMIT		72637699	4.02	42085723	8.29		
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 180-295379/1-A		165157985	4.03	96262835	8.30		
LCS 180-295379/2-A		163855819	4.03	96633695	8.30		
LCSD 180-295379/3-A		165097690	4.03	96765394	8.30		
LB 180-295177/1-B		160913749	4.03	94455733	8.30		
180-97287-1	11187072-NORTH-IMPCT-INITIALS	163145620	4.03	97150534	8.30		

BNB = 1-Bromo-2-nitrobenzene
DBC = Dibutylchlorendate ISTD

Area Limit = 50%-150% of internal standard area
RT Limit = ± 0.01 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8081B

FORM X
IDENTIFICATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 180-295379/2-A

Instrument ID (1): CHGC15 Instrument ID (2): CHGC15

Date Analyzed (1): 10/24/2019 13:09 Date Analyzed (2): 10/24/2019 13:09

GC Column (1): MR-1 ID: 0.53(mm) GC Column (2): MR-2 ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
gamma-BHC (Lindane)	1		5.38	5.37	5.39	0.00813		12.6
	2		5.68	5.67	5.69	0.00923		
Heptachlor	1		5.85	5.84	5.86	0.00879		13.9
	2		6.00	5.99	6.01	0.00765		
Heptachlor epoxide	1		6.49	6.48	6.50	0.00813		2.8
	2		6.72	6.71	6.73	0.00790		
Endosulfan I	1		6.82	6.81	6.83	0.00770		11.2
	2		7.08	7.07	7.09	0.00861		
4,4'-DDE	1		6.92	6.92	6.94	0.00873		4.0
	2		7.15	7.14	7.16	0.00839		
Dieldrin	1		7.05	7.04	7.06	0.00932		6.2
	2		7.33	7.32	7.34	0.00876		
Endrin	1		7.25	7.24	7.26	0.00902		2.8
	2		7.60	7.59	7.61	0.00928		
4,4'-DDD	1		7.38	7.37	7.39	0.00852		0.3
	2		7.67	7.66	7.68	0.00854		
Endosulfan II	1		7.45	7.44	7.46	0.00974		4.8
	2		7.86	7.85	7.87	0.00928		
4,4'-DDT	1		7.66	7.65	7.67	0.00859		5.6
	2		7.92	7.91	7.93	0.00908		
Endosulfan sulfate	1		7.78	7.77	7.79	0.00835		1.7
	2		8.25	8.24	8.26	0.00822		
Methoxychlor	1		8.10	8.09	8.11	0.00998		5.7
	2		8.48	8.47	8.49	0.00943		

FORM X
IDENTIFICATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 180-295379/3-A

Instrument ID (1): CHGC15 Instrument ID (2): CHGC15

Date Analyzed (1): 10/24/2019 13:25 Date Analyzed (2): 10/24/2019 13:25

GC Column (1): MR-1 ID: 0.53(mm) GC Column (2): MR-2 ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
gamma-BHC (Lindane)	1		5.38	5.37	5.39	0.00802		11.4
	2		5.68	5.67	5.69	0.00899		
Heptachlor	1		5.85	5.84	5.86	0.00856		15.2
	2		6.00	5.99	6.01	0.00735		
Heptachlor epoxide	1		6.49	6.48	6.50	0.00814		8.5
	2		6.72	6.71	6.73	0.00747		
Endosulfan I	1		6.81	6.81	6.83	0.00739		11.3
	2		7.08	7.07	7.09	0.00827		
4,4'-DDE	1		6.92	6.92	6.94	0.00841		2.3
	2		7.15	7.14	7.16	0.00822		
Dieldrin	1		7.05	7.04	7.06	0.00925		4.4
	2		7.33	7.32	7.34	0.00886		
Endrin	1		7.25	7.24	7.26	0.00849		8.3
	2		7.60	7.59	7.61	0.00922		
4,4'-DDD	1		7.38	7.37	7.39	0.00825		0.9
	2		7.67	7.66	7.68	0.00818		
Endosulfan II	1		7.45	7.44	7.46	0.00993		9.2
	2		7.86	7.85	7.87	0.00906		
4,4'-DDT	1		7.66	7.65	7.67	0.00818		7.2
	2		7.92	7.91	7.93	0.00879		
Endosulfan sulfate	1		7.78	7.77	7.79	0.00810		1.4
	2		8.25	8.24	8.26	0.00822		
Methoxychlor	1		8.10	8.09	8.11	0.00942		3.9
	2		8.48	8.47	8.49	0.00906		

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-97287-1
SDG No.:
Client Sample ID: 11187072-NORTH-IMPCT-INITIALS
Lab Sample ID: 180-97287-1
Matrix: Solid (TCLP)
Lab File ID: Q1024190000011.D
Analysis Method: EPA 8081B
Date Collected: 10/15/2019 15:00
Extraction Method: 3510C
Date Extracted: 10/18/2019 10:30
Sample wt/vol: 100(mL)
Date Analyzed: 10/24/2019 13:56
Con. Extract Vol.: 40.0(mL)
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: MR-1 ID: 0.53(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 295908
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
12789-03-6	Chlordane (technical)	ND		0.0050	0.0029
72-20-8	Endrin	ND		0.00050	0.000091
58-89-9	gamma-BHC (Lindane)	ND		0.00050	0.00012
76-44-8	Heptachlor	ND		0.00050	0.00018
1024-57-3	Heptachlor epoxide	ND		0.00050	0.00014
72-43-5	Methoxychlor	ND		0.00050	0.00031
8001-35-2	Toxaphene	ND		0.040	0.020
72-54-8	4,4'-DDD	ND		0.00050	0.00021
72-55-9	4,4'-DDE	ND		0.00050	0.00012
50-29-3	4,4'-DDT	ND		0.00050	0.00012
60-57-1	Dieldrin	ND		0.00050	0.00011
959-98-8	Endosulfan I	ND		0.00050	0.00027
2385-85-5	Mirex	ND		0.00050	0.000084
1031-07-8	Endosulfan sulfate	ND		0.00050	0.00026
33213-65-9	Endosulfan II	ND		0.00050	0.00013

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	87		62-150
877-09-8	Tetrachloro-m-xylene	70		54-138

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000011.D
Lims ID: 180-97287-A-1-F
Client ID: 11187072-NORTH-IMPCT-INITIALS
Sample Type: Client
Inject. Date: 24-Oct-2019 13:56:25 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029258-011
Operator ID: 402331 Instrument ID: CHGC15

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Oct-2019 12:09:26 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: eppinged Date: 24-Oct-2019 14:11:58

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene						
1	3.769	3.769	0.000	173642020	H 0.1000	
2	4.029	4.029	0.000	163145620	H 0.1000	
$ 3 Tetrachloro-m-xylene						
1	4.757	4.758	-0.001	33425900	H 0.0140	
2	4.902	4.903	-0.001	31379333	H 0.0142	
					RPD = 2.06	
7 gamma-BHC (Lindane)						
1		5.382			ND	
2		5.675				
9 Chlordane (technical)						
1		5.677			ND	
1		5.850				
1		6.705				
1		6.774				
2		6.000				
2		6.359				
2		6.964				
2		7.011				
11 Heptachlor						
1		5.850			ND	
2		6.000				
16 Heptachlor epoxide						
1		6.487			ND	
2		6.723				
21 Endosulfan I						
1		6.815			ND	
2		7.081				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
23 4,4'-DDE						
1		6.925			ND	
2		7.149				
34 Toxaphene						
1		6.964			ND	
1		7.230				
1		7.611				
1		7.851				
2		7.184				
2		7.315				
2		7.817				
2		8.536				
24 Dieldrin						
1		7.053			ND	
2		7.327				
27 Endrin						
1		7.253			ND	
2		7.595				
29 4,4'-DDD						
1		7.381			ND	
2		7.670				
31 Endosulfan II						
1		7.451			ND	
2		7.860				
33 4,4'-DDT						
1		7.657			ND	
2		7.915				
35 Endosulfan sulfate						
1		7.776			ND	
2		8.250				
36 Methoxychlor						
1		8.099			ND	
2		8.483				
* 44 Dibutylchlorendate ISTD						
1	8.174	8.175	0.000	115534468H	0.1000	
2	8.296	8.296	0.000	97150534H	0.1000	
38 Mirex						
1		8.729			ND	
2		9.147				
$ 39 DCB Decachlorobiphenyl (Surr)						
1	9.935	9.935	0.000	13966599H	0.0175	
2	10.560	10.561	-0.001	11797154H	0.0172	
					RPD = 1.51	

Reagents:

GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 24-Oct-2019 14:12:01 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000011.D				
Injection Date:	24-Oct-2019 13:56:25	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	180-97287-A-1-F	Lab Sample ID:	180-97287-1	Worklist Smp#:	11
Client ID:	11187072-NORTH-IMPCT-INITIALS				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

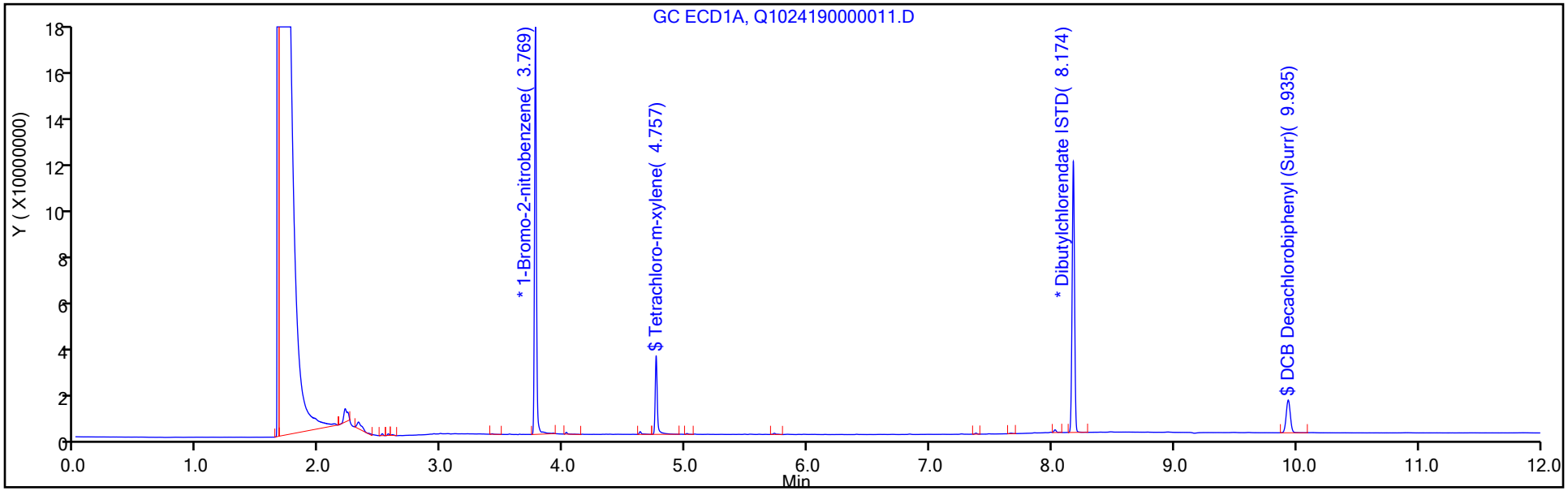

Column: MR-2 (0.53 mm)

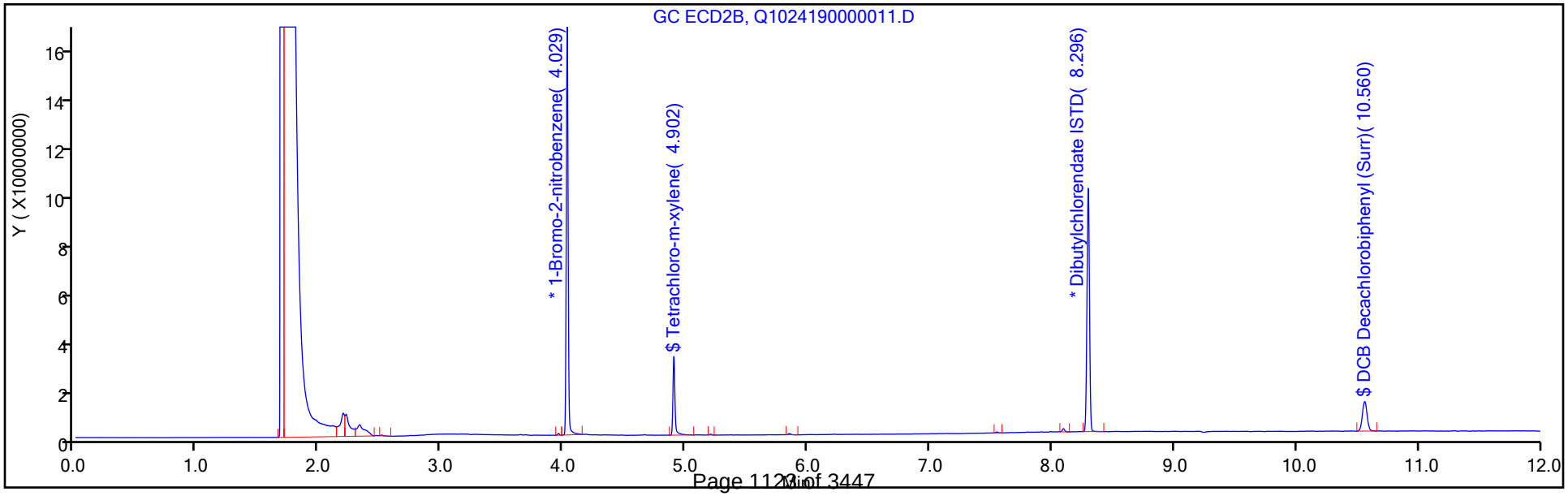

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000011.D				
Lims ID:	180-97287-A-1-F				
Client ID:	11187072-NORTH-IMPCT-INITIALS				
Sample Type:	Client				
Inject. Date:	24-Oct-2019 13:56:25	ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0029258-011				
Operator ID:	402331	Instrument ID:	CHGC15		
Method:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\IS PEST_CHGC15.m				
Limit Group:	GCS 8081B ICAL with IS				
Last Update:	24-Oct-2019 12:09:26	Calib Date:	17-Sep-2019 16:34:44		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D				
Column 1 :	MR-1 (0.53 mm)		Det: GC ECD1A		
Column 2 :	MR-2 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0310				
First Level Reviewer: eppinged		Date:	24-Oct-2019 14:11:58		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0140	69.76
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0175	87.38

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0142	71.22
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0172	86.06

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-97287-1
SDG No.:
Client Sample ID: 11187072-NORTH-IMPCT-INITIALS
Lab Sample ID: 180-97287-1
Matrix: Solid (TCLP)
Lab File ID: Q1024190000011.D
Analysis Method: EPA 8081B
Date Collected: 10/15/2019 15:00
Extraction Method: 3510C
Date Extracted: 10/18/2019 10:30
Sample wt/vol: 100(mL)
Date Analyzed: 10/24/2019 13:56
Con. Extract Vol.: 40.0(mL)
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: MR-2 ID: 0.53(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 295908
Units: mg/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	86		62-150
877-09-8	Tetrachloro-m-xylene	71		54-138

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000011.D
Lims ID: 180-97287-A-1-F
Client ID: 11187072-NORTH-IMPCT-INITIALS
Sample Type: Client
Inject. Date: 24-Oct-2019 13:56:25 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029258-011
Operator ID: 402331 Instrument ID: CHGC15

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Oct-2019 12:09:26 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: eppinged Date: 24-Oct-2019 14:11:58

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene						
1	3.769	3.769	0.000	173642020	H 0.1000	
2	4.029	4.029	0.000	163145620	H 0.1000	
$ 3 Tetrachloro-m-xylene						
1	4.757	4.758	-0.001	33425900	H 0.0140	
2	4.902	4.903	-0.001	31379333	H 0.0142	
					RPD = 2.06	
7 gamma-BHC (Lindane)						
1		5.382			ND	
2		5.675				
9 Chlordane (technical)						
1		5.677			ND	
1		5.850				
1		6.705				
1		6.774				
2		6.000				
2		6.359				
2		6.964				
2		7.011				
11 Heptachlor						
1		5.850			ND	
2		6.000				
16 Heptachlor epoxide						
1		6.487			ND	
2		6.723				
21 Endosulfan I						
1		6.815			ND	
2		7.081				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
23 4,4'-DDE						
1		6.925			ND	
2		7.149				
34 Toxaphene						
1		6.964			ND	
1		7.230				
1		7.611				
1		7.851				
2		7.184				
2		7.315				
2		7.817				
2		8.536				
24 Dieldrin						
1		7.053			ND	
2		7.327				
27 Endrin						
1		7.253			ND	
2		7.595				
29 4,4'-DDD						
1		7.381			ND	
2		7.670				
31 Endosulfan II						
1		7.451			ND	
2		7.860				
33 4,4'-DDT						
1		7.657			ND	
2		7.915				
35 Endosulfan sulfate						
1		7.776			ND	
2		8.250				
36 Methoxychlor						
1		8.099			ND	
2		8.483				
* 44 Dibutylchlorendate ISTD						
1	8.174	8.175	0.000	115534468H	0.1000	
2	8.296	8.296	0.000	97150534H	0.1000	
38 Mirex						
1		8.729			ND	
2		9.147				
$ 39 DCB Decachlorobiphenyl (Surr)						
1	9.935	9.935	0.000	13966599H	0.0175	
2	10.560	10.561	-0.001	11797154H	0.0172	
					RPD = 1.51	

Reagents:

GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 24-Oct-2019 14:12:02 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000011.D				
Injection Date:	24-Oct-2019 13:56:25	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	180-97287-A-1-F	Lab Sample ID:	180-97287-1	Worklist Smp#:	11
Client ID:	11187072-NORTH-IMPCT-INITIALS				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

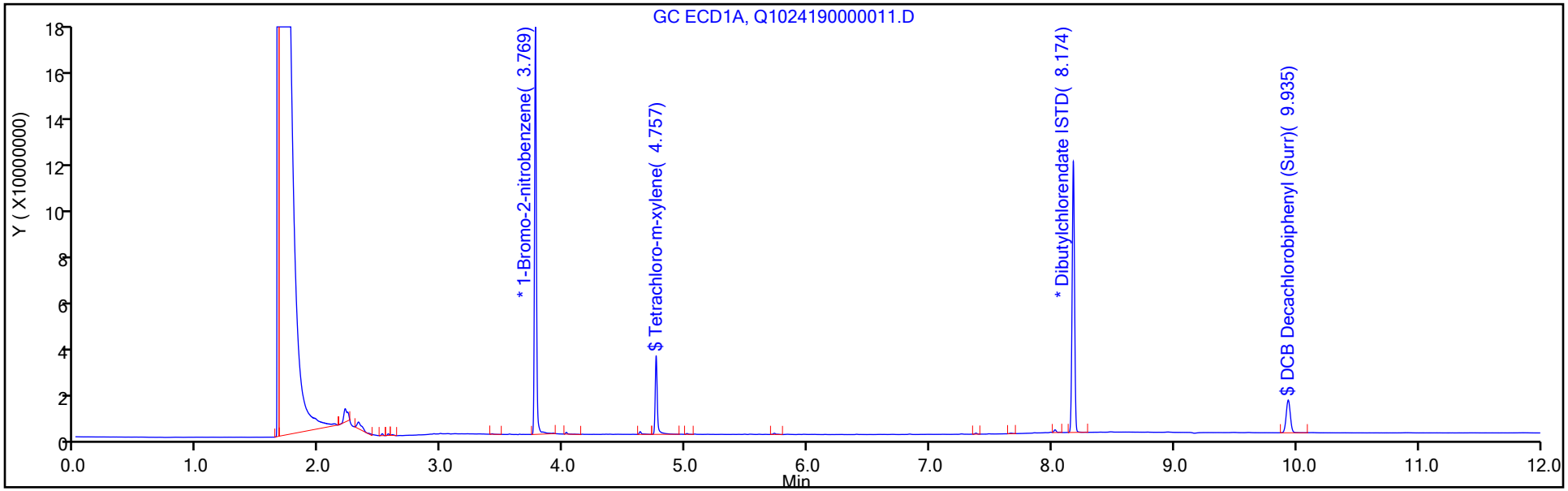

Column: MR-2 (0.53 mm)

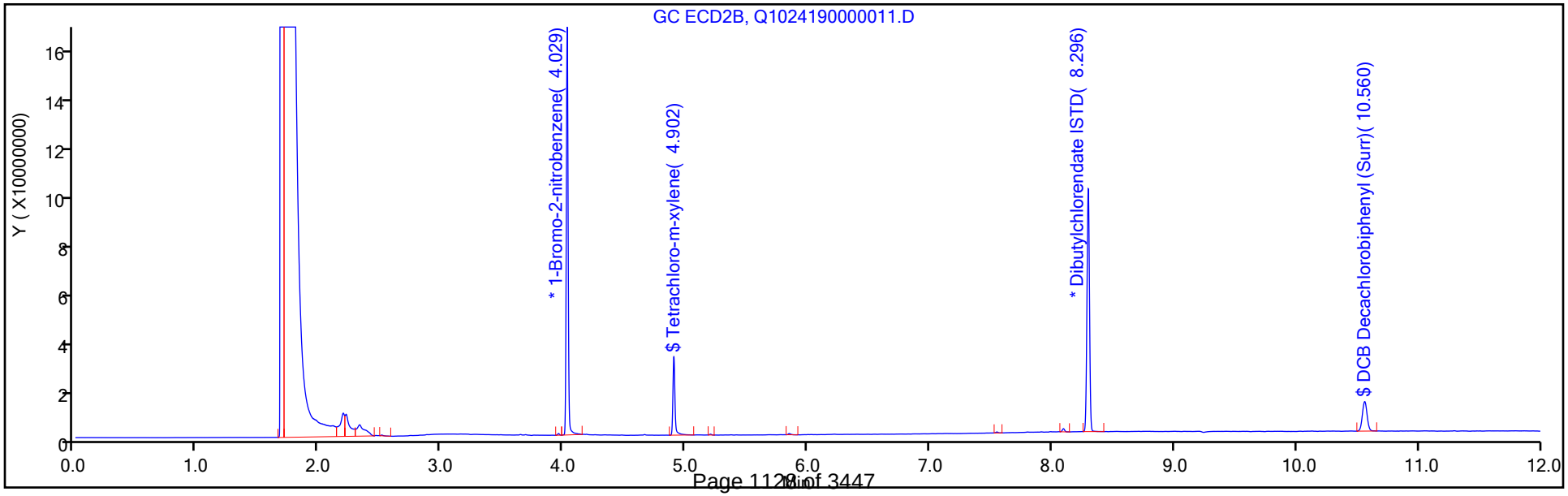

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000011.D				
Lims ID:	180-97287-A-1-F				
Client ID:	11187072-NORTH-IMPCT-INITIALS				
Sample Type:	Client				
Inject. Date:	24-Oct-2019 13:56:25	ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0029258-011				
Operator ID:	402331	Instrument ID:	CHGC15		
Method:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\IS PEST_CHGC15.m				
Limit Group:	GCS 8081B ICAL with IS				
Last Update:	24-Oct-2019 12:09:26	Calib Date:	17-Sep-2019 16:34:44		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D				
Column 1 :	MR-1 (0.53 mm)		Det: GC ECD1A		
Column 2 :	MR-2 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0310				
First Level Reviewer: eppinged		Date:	24-Oct-2019 14:11:58		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0140	69.76
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0175	87.38

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0142	71.22
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0172	86.06

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 279115

SDG No.:

Instrument ID: CHGC15 GC Column: MR-1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/18/2019 12:14 Calibration End Date: 05/18/2019 13:16 Calibration ID: 40515

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-279115/2	Q0518190000002.D
Level 2	IC 180-279115/3	Q0518190000003.D
Level 3	IC 180-279115/4	Q0518190000004.D
Level 4	IC 180-279115/5	Q0518190000005.D
Level 5	IC 180-279115/6	Q0518190000006.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Toxaphene Peak 1	0.0132	0.0142	0.0140	0.0130	0.0130	Ave		0.0135				4.2		20.0			
Toxaphene Peak 2	0.0163	0.0186	0.0190	0.0174	0.0176	Ave		0.0178				5.9		20.0			
Toxaphene Peak 3	0.0166	0.0169	0.0169	0.0157	0.0161	Ave		0.0164				3.1		20.0			
Toxaphene Peak 4	0.0165	0.0147	0.0149	0.0146	0.0150	Ave		0.0151				5.2		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 279115

SDG No.:

Instrument ID: CHGC15 GC Column: MR-1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/18/2019 12:14 Calibration End Date: 05/18/2019 13:16 Calibration ID: 40515

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-279115/2	Q0518190000002.D
Level 2	IC 180-279115/3	Q0518190000003.D
Level 3	IC 180-279115/4	Q0518190000004.D
Level 4	IC 180-279115/5	Q0518190000005.D
Level 5	IC 180-279115/6	Q0518190000006.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
Toxaphene Peak 1	BNB	Ave	305996	3258755	16795207	39325339	77201237	0.0200	0.200	1.00	2.50	5.00
Toxaphene Peak 2	BNB	Ave	379428	4256976	22844326	52546473	104554704	0.0200	0.200	1.00	2.50	5.00
Toxaphene Peak 3	BNB	Ave	385270	3870755	20300252	47529889	95111512	0.0200	0.200	1.00	2.50	5.00
Toxaphene Peak 4	BNB	Ave	383809	3360759	17884063	44103923	88645940	0.0200	0.200	1.00	2.50	5.00

Curve Type Legend:

Ave = Average ISTD by Height

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 279115

SDG No.:

Instrument ID: CHGC15 GC Column: MR-1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/18/2019 12:14 Calibration End Date: 05/18/2019 13:16 Calibration ID: 40515

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-279115/2	Q0518190000002.D
Level 2	IC 180-279115/3	Q0518190000003.D
Level 3	IC 180-279115/4	Q0518190000004.D
Level 4	IC 180-279115/5	Q0518190000005.D
Level 5	IC 180-279115/6	Q0518190000006.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #		LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	
Toxaphene Peak 1	-2.4	5.5	3.6	-3.4	-3.3		50	30	30	30	30	
Toxaphene Peak 2	-8.3	4.5	6.8	-2.2	-0.8		50	30	30	30	30	
Toxaphene Peak 3	0.9	2.8	2.7	-4.2	-2.2		50	30	30	30	30	
Toxaphene Peak 4	9.1	-3.0	-1.7	-3.4	-1.0		50	30	30	30	30	

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000002.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 18-May-2019 12:14:12 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026894-002
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub4

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 20-May-2019 05:51:30 Calib Date: 18-May-2019 20:36:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0306

First Level Reviewer: eppinged Date: 18-May-2019 12:37:38

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.823	3.791	0.032	116332630H	0.1000	0.1000	
2	4.081	4.066	0.015	144557317H	0.1000	0.1000	
34 Toxaphene							Ma
1	7.050	7.010	0.040	305996H	0.0200	0.0195	M
1	7.317	7.276	0.041	379428H	0.0200	0.0183	M
1	7.698	7.658	0.040	385270H	0.0200	0.0202	M
1	7.947	7.900	0.047	383809H	0.0200	0.0218	M
		Average of Peak Amounts =				0.0200	
2	7.260	7.241	0.019	200846H	0.0200	0.0186	M
2	7.393	7.372	0.021	400640H	0.0200	0.0229	M
2	7.896	7.875	0.021	1005486H	0.0200	0.0198	M
2	8.630	8.607	0.023	472965H	0.0200	0.0235	M
		Average of Peak Amounts =				0.0212	
						RPD = 5.99	
* 44 Dibutylchlorendate ISTD							M
1	8.280	8.235	0.045	86996897H	0.1000	0.1000	M
2	8.391	8.368	0.023	87130595H	0.1000	0.1000	M

QC Flag Legend

Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

GCTOXLEVEL1_00011 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 20-May-2019 05:51:32 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000002.D				
Injection Date:	18-May-2019 12:14:12	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

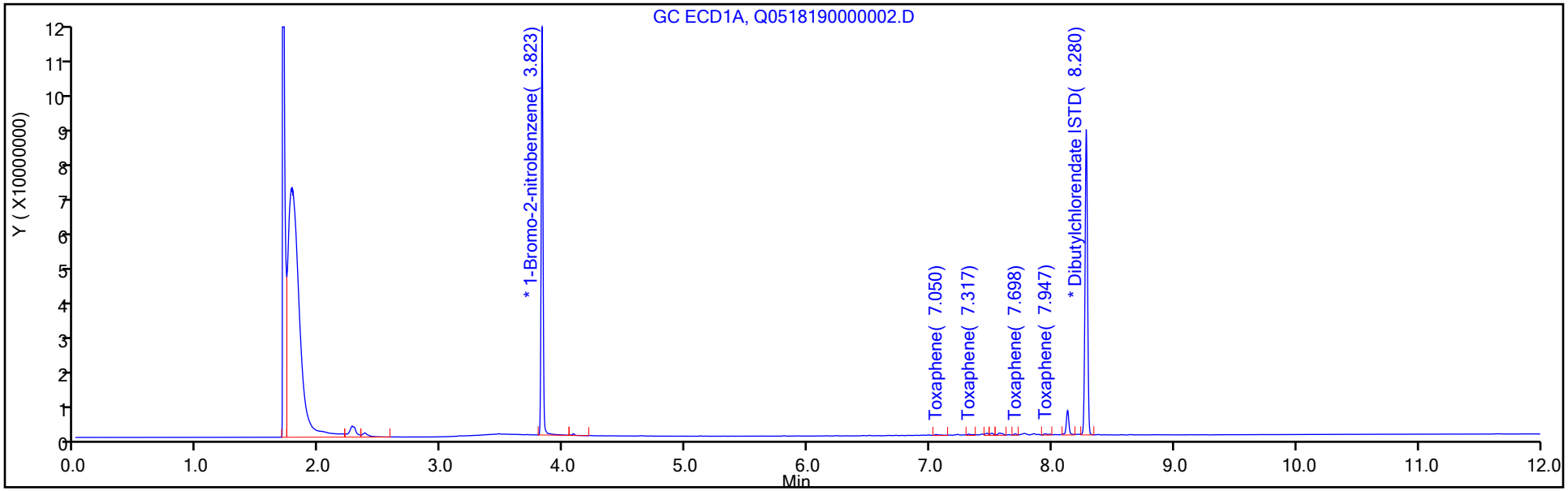

Column: MR-2 (0.53 mm)

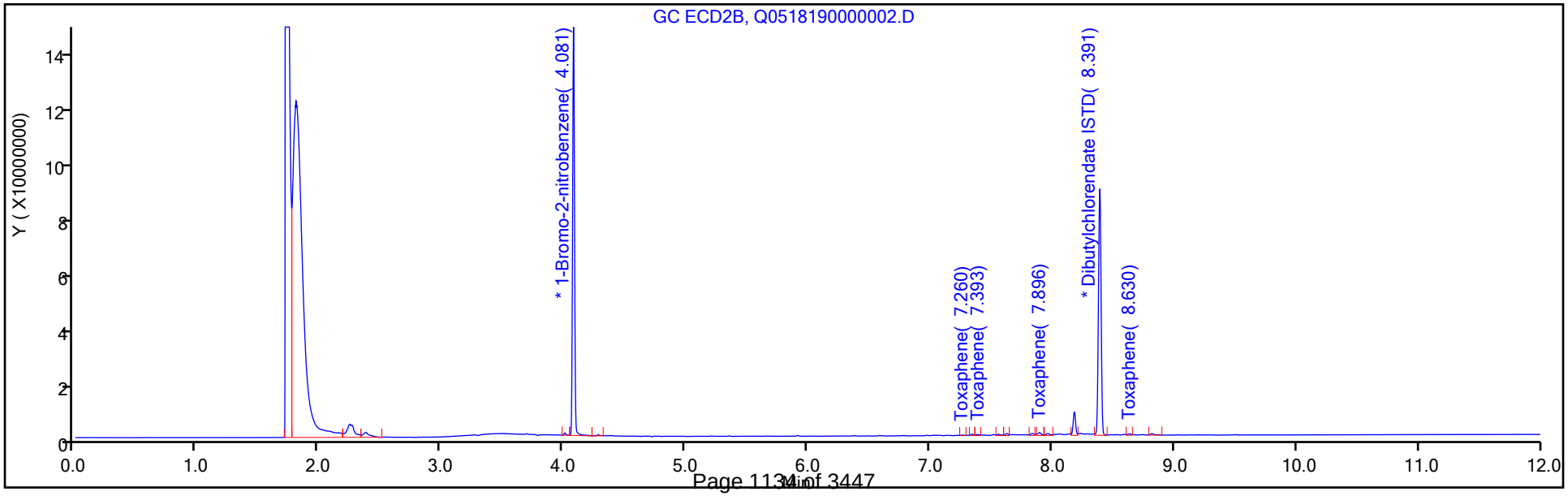

Report Date: 20-May-2019 05:51:32 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000002.D				
Injection Date:	18-May-2019 12:14:12	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

34 Toxaphene, CAS: 8001-35-2

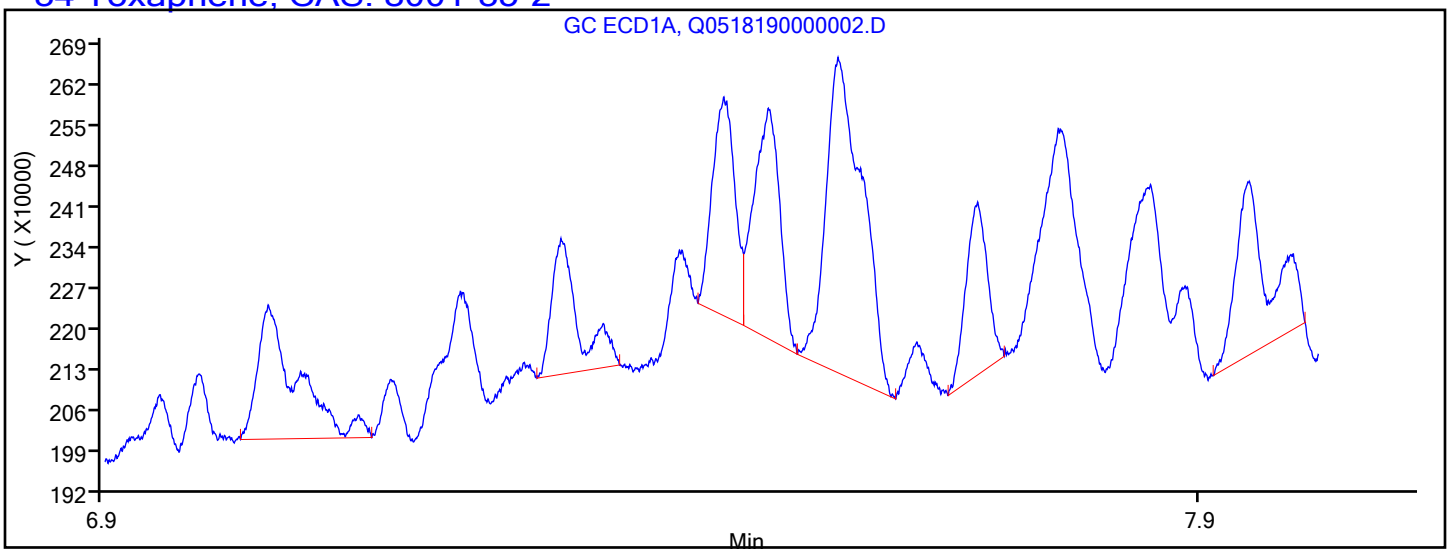

Processing Integration Results

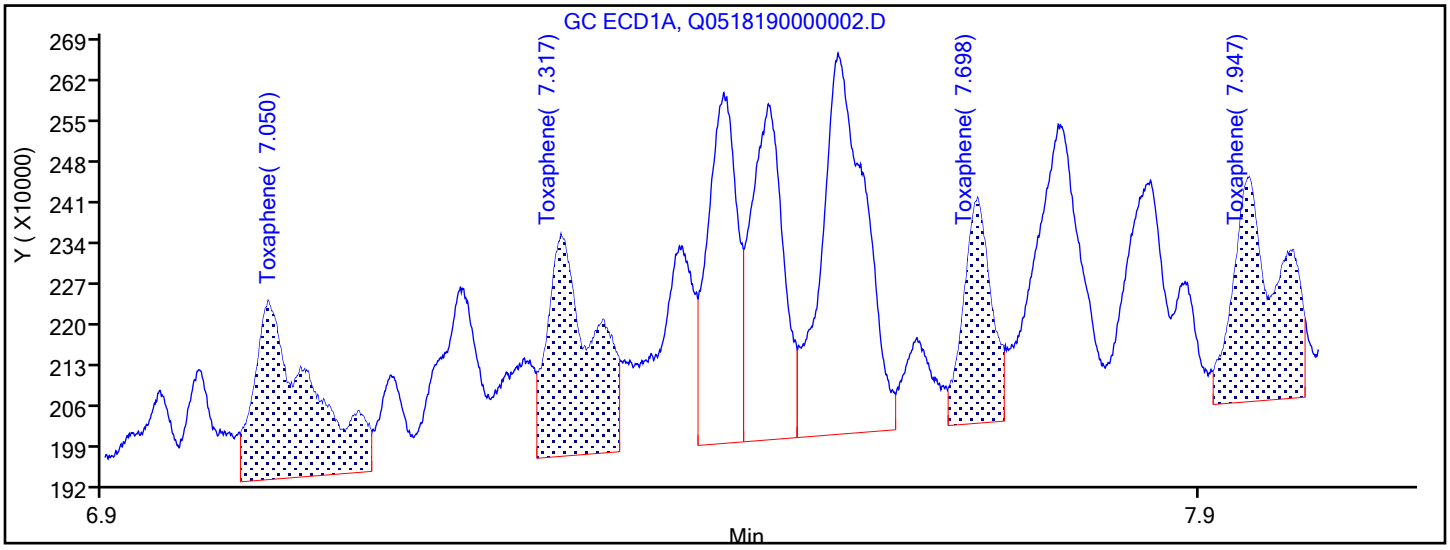

Manual Integration Results

7.050	Response = 305996	M
7.317	Response = 379428	M
7.698	Response = 385270	M
7.947	Response = 383809	M

Reviewer: eppinged, 18-May-2019 12:35:16

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000002.D				
Injection Date:	18-May-2019 12:14:12	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

* 44 Dibutylchlorendate ISTD, CAS: 1770-80-5

Signal: 1

Processing Integration Results

RT: 8.28
Height: 86924572
Amount: 0.100000
Amount Units: ng

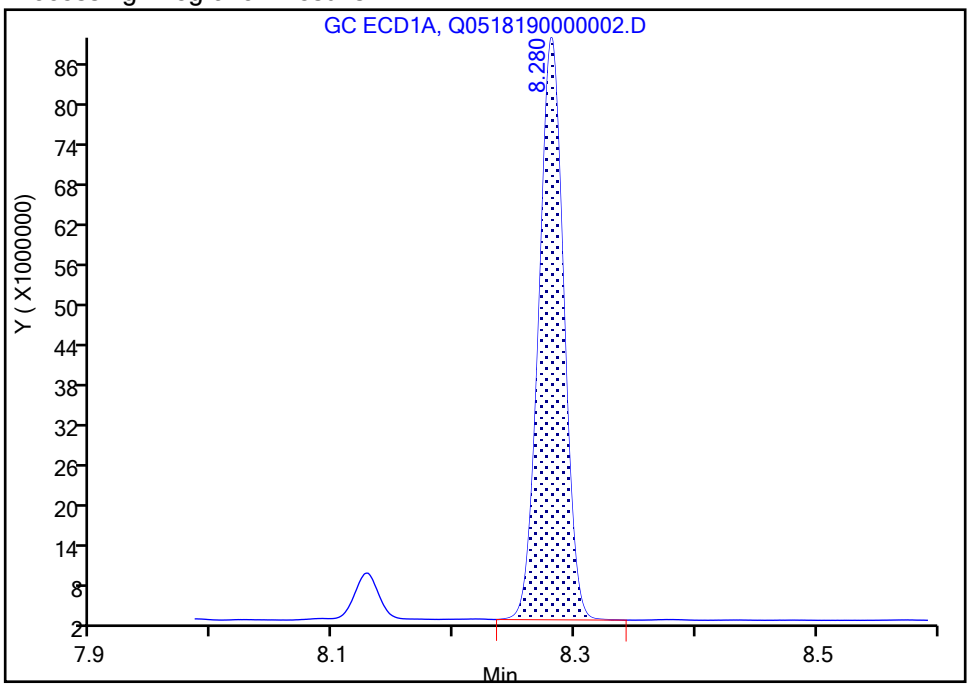

Manual Integration Results

RT: 8.28
Height: 86996897
Amount: 0.100000
Amount Units: ng

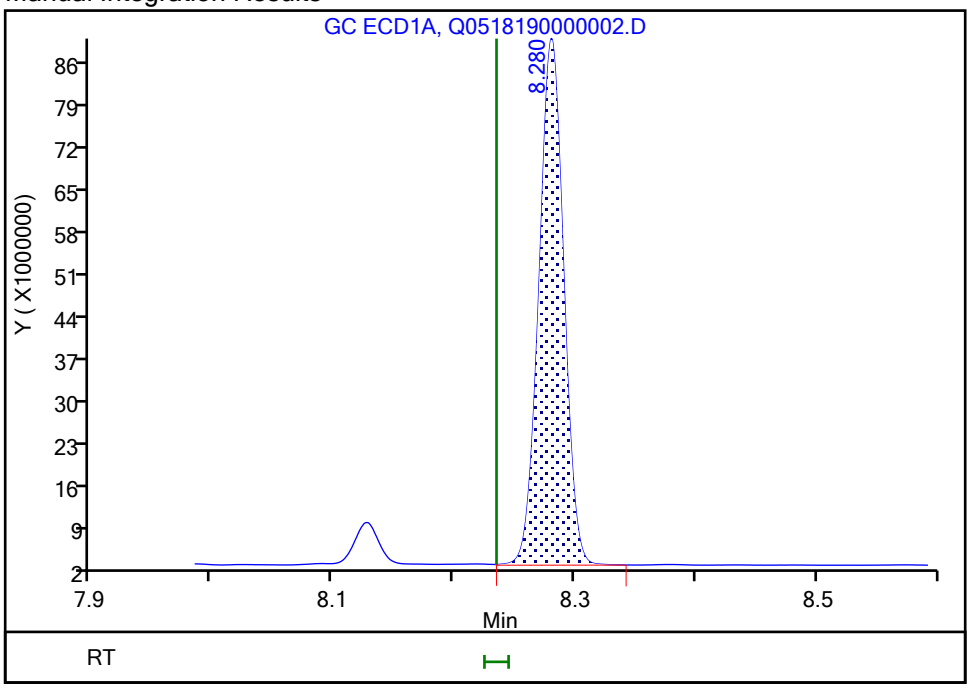

Reviewer: eppinged, 18-May-2019 12:35:06

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000003.D				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	2		
Inject. Date:	18-May-2019 12:29:45	ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0026894-003				
Operator ID:	402331	Instrument ID:	CHGC15		
Sublist:	chrom-IS PEST_CHGC15*sub4				
Method:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m				
Limit Group:	GCS 8081B ICAL with IS				
Last Update:	20-May-2019 05:51:34	Calib Date:	18-May-2019 20:36:24		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D				
Column 1 :	MR-1 (0.53 mm)		Det: GC ECD1A		
Column 2 :	MR-2 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0306				

First Level Reviewer: eppinged Date: 18-May-2019 12:47:10

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.823	3.791	0.032	114616114H	0.1000	0.1000	
2	4.080	4.066	0.014	143078455H	0.1000	0.1000	
34 Toxaphene							M
1	7.051	7.010	0.041	3258755H	0.2000	0.2110	M
1	7.318	7.276	0.042	4256976H	0.2000	0.2089	M
1	7.700	7.658	0.042	3870755H	0.2000	0.2057	M
1	7.942	7.900	0.042	3360759H	0.2000	0.1940	M
		Average of Peak Amounts =				0.2049	
2	7.263	7.241	0.022	2387621H	0.2000	0.2237	M
2	7.393	7.372	0.021	3771195H	0.2000	0.2178	M
2	7.896	7.875	0.021	6651398H	0.2000	0.2229	M
2	8.633	8.607	0.026	3880183H	0.2000	0.1949	M
		Average of Peak Amounts =				0.2148	
						RPD = 4.72	
* 44 Dibutylchlorendate ISTD							M
1	8.280	8.235	0.045	85146236H	0.1000	0.1000	M
2	8.391	8.368	0.023	89193881H	0.1000	0.1000	M

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCTOXLEVEL2_00009	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 20-May-2019 05:51:36 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000003.D				
Injection Date:	18-May-2019 12:29:45	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

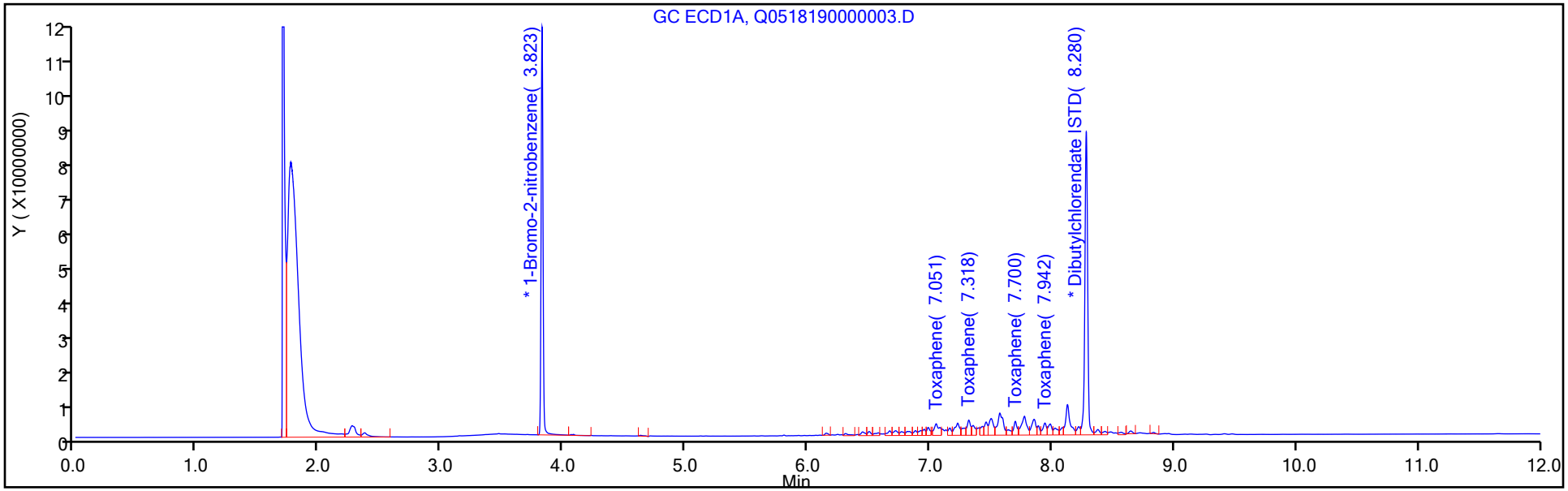

Column: MR-2 (0.53 mm)

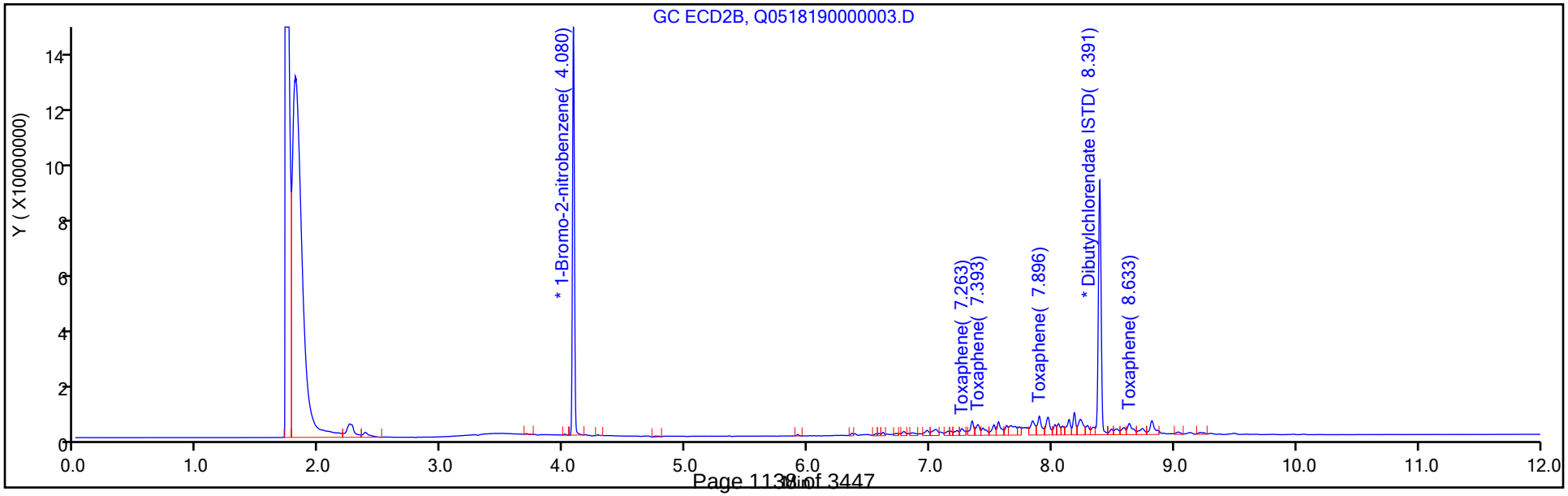

Report Date: 20-May-2019 05:51:36 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000003.D				
Injection Date:	18-May-2019 12:29:45	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

34 Toxaphene, CAS: 8001-35-2

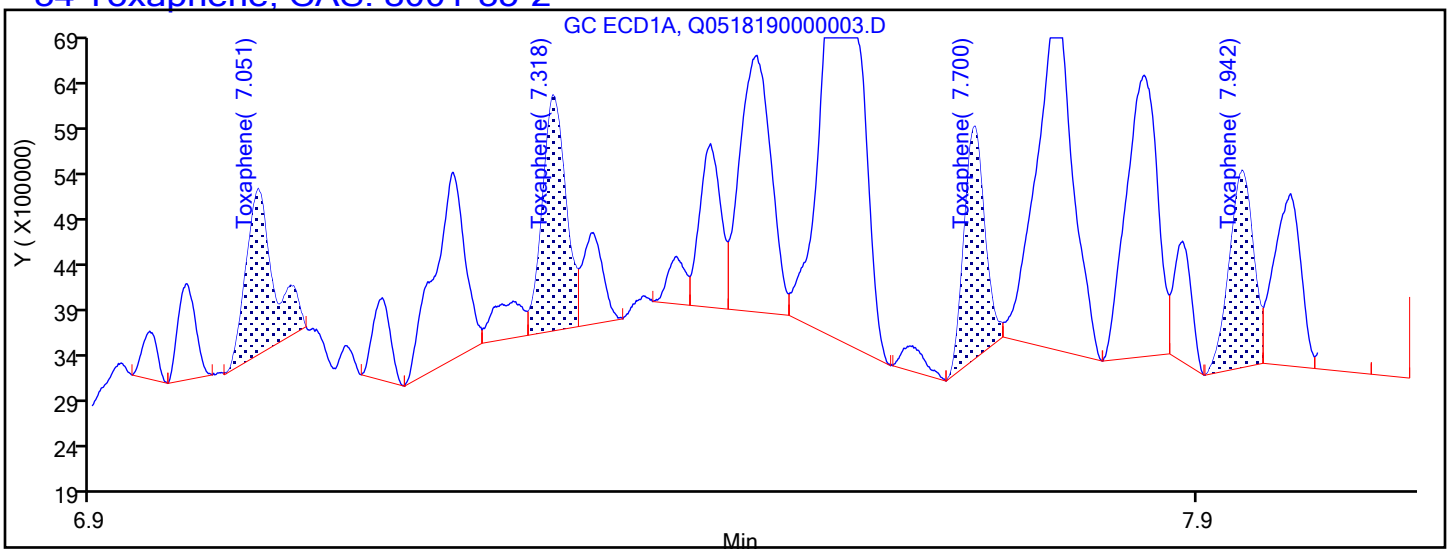

Processing Integration Results

7.051	Response = 1821330
7.318	Response = 2588058
7.700	Response = 2549584
7.942	Response = 2164152

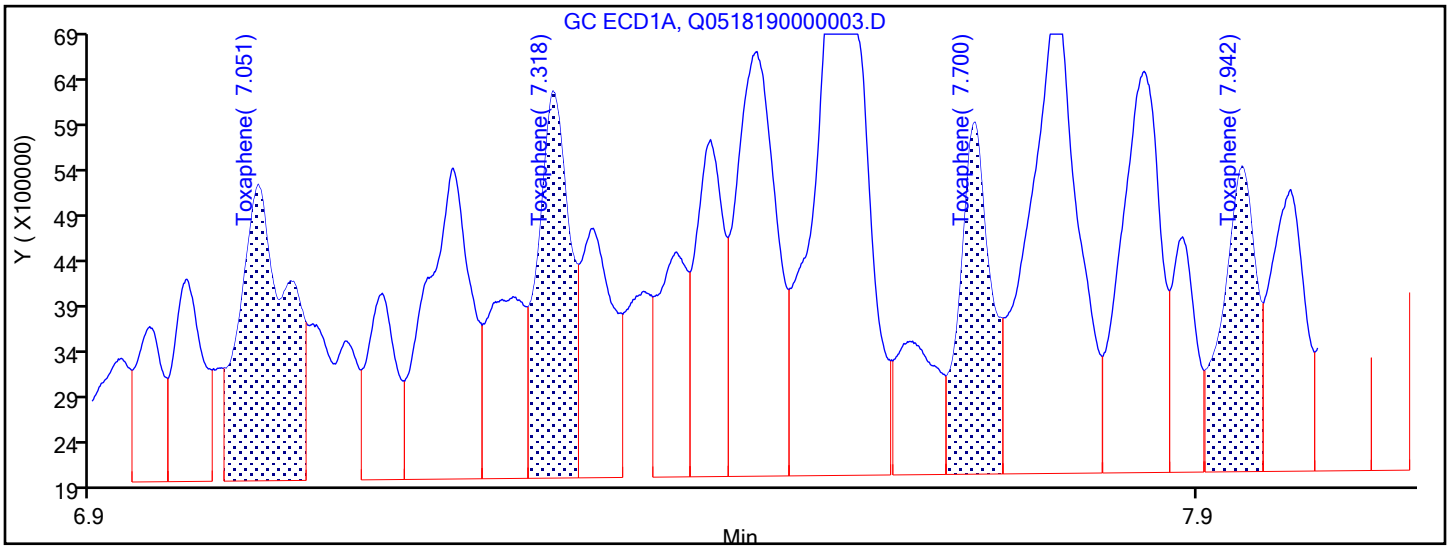

Manual Integration Results

7.051	Response = 3258755	M
7.318	Response = 4256976	M
7.700	Response = 3870755	M
7.942	Response = 3360759	M

Reviewer: eppinged, 18-May-2019 12:49:22

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000003.D				
Injection Date:	18-May-2019 12:29:45	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

* 44 Dibutylchlorendate ISTD, CAS: 1770-80-5

Signal: 1

Processing Integration Results

RT: 8.28
Height: 84370446
Amount: 0.100000
Amount Units: ng

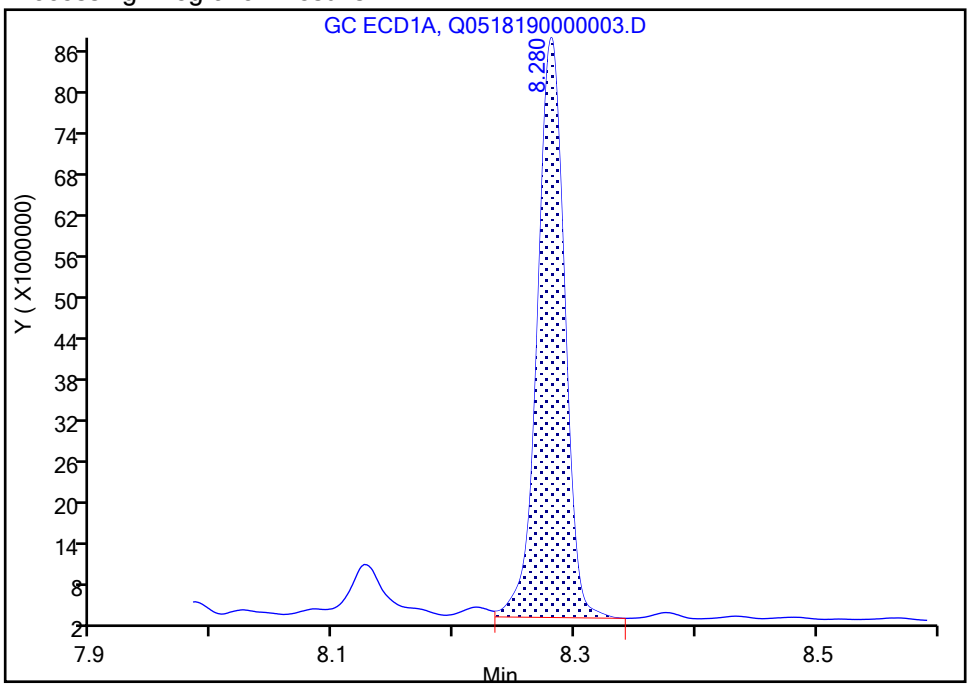

Manual Integration Results

RT: 8.28
Height: 85146236
Amount: 0.100000
Amount Units: ng

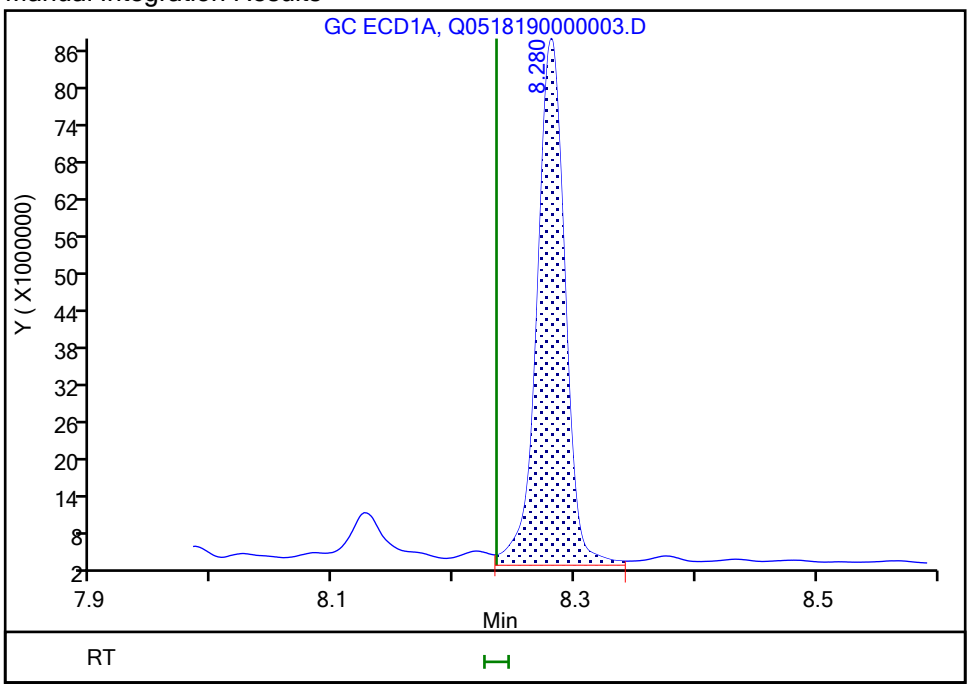

Reviewer: eppinged, 18-May-2019 12:49:22

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000004.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 18-May-2019 12:45:09 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026894-004
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub4

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 20-May-2019 05:51:37 Calib Date: 18-May-2019 20:36:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0306

First Level Reviewer: eppinged Date: 18-May-2019 13:04:41

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.823	3.823	0.000	120360084H	0.1000	0.1000	
2	4.081	4.081	0.000	147486512H	0.1000	0.1000	
34 Toxaphene							M
1	7.049	7.049	0.000	16795207H	1.00	1.04	M
1	7.316	7.316	0.000	22844326H	1.00	1.07	M
1	7.699	7.699	0.000	20300252H	1.00	1.03	M
1	7.941	7.941	0.000	17884063H	1.00	0.9831	M
		Average of Peak Amounts =				1.03	
2	7.262	7.262	0.000	11773898H	1.00	1.07	M
2	7.392	7.392	0.000	18027554H	1.00	1.01	M
2	7.895	7.895	0.000	30951600H	1.00	1.06	M
2	8.632	8.632	0.000	20988358H	1.00	1.02	M
		Average of Peak Amounts =				1.04	
						RPD = 1.25	
* 44 Dibutylchlorendate ISTD							M
1	8.280	8.280	0.000	100476513H	0.1000	0.1000	M
2	8.390	8.390	0.000	105293773H	0.1000	0.1000	M

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

GCTOXLEVEL3_00018 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 20-May-2019 05:51:39 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000004.D				
Injection Date:	18-May-2019 12:45:09	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

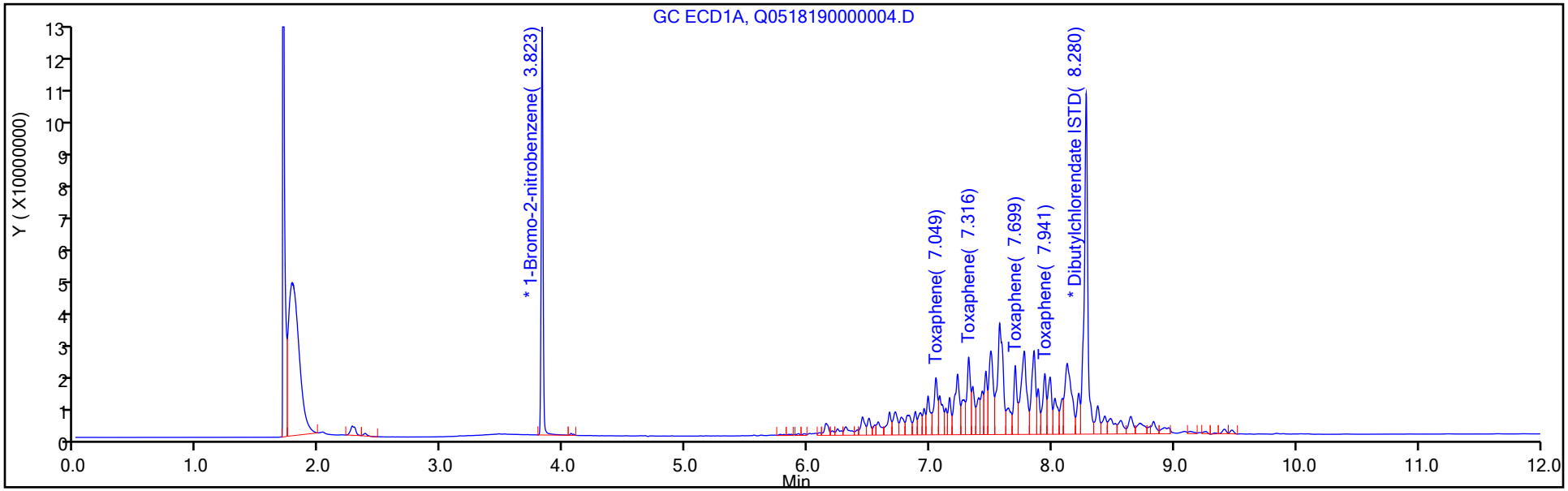

Column: MR-2 (0.53 mm)

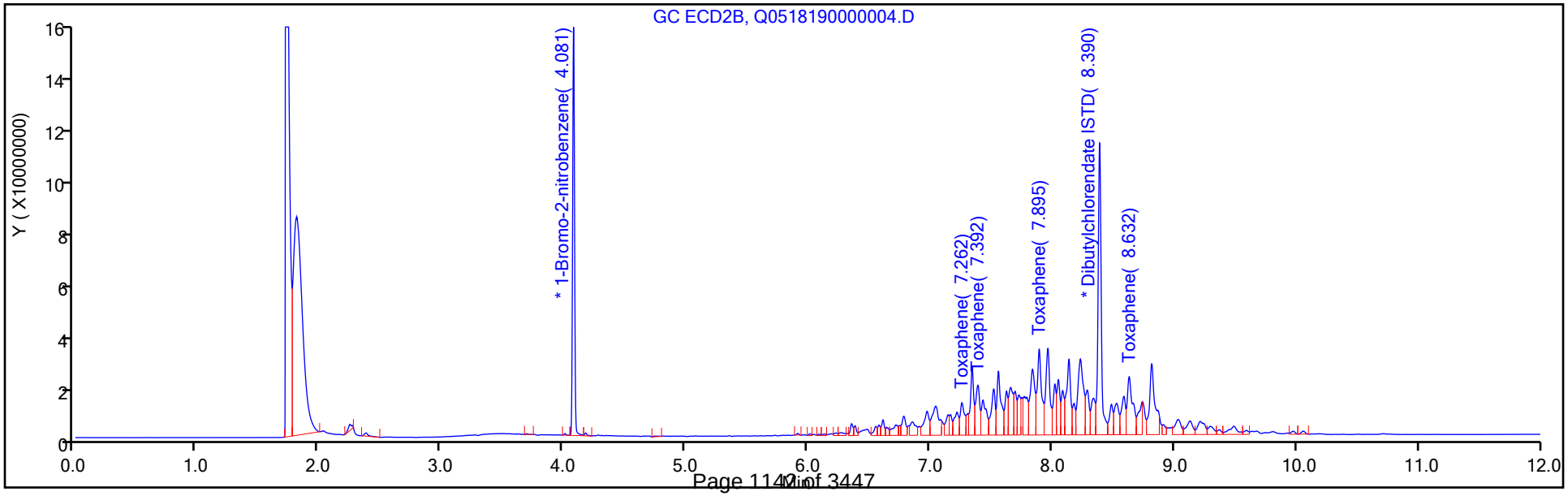

Report Date: 20-May-2019 05:51:40 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000004.D				
Injection Date:	18-May-2019 12:45:09	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

34 Toxaphene, CAS: 8001-35-2

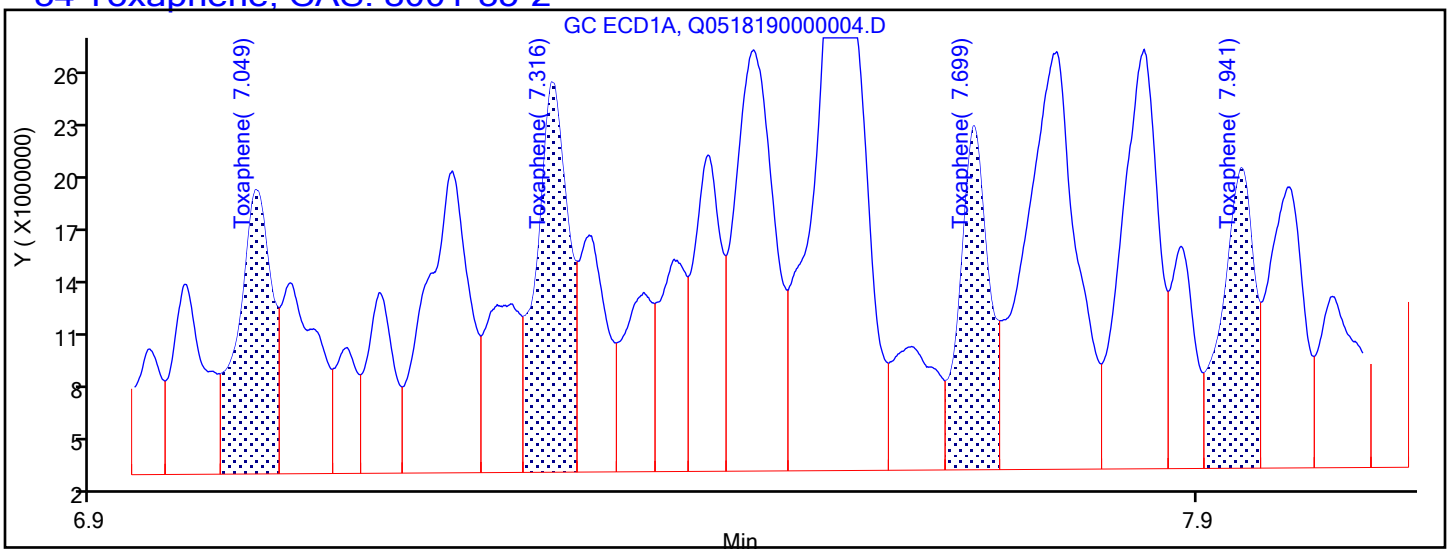

Processing Integration Results

7.049	Response = 16110027
7.316	Response = 22104865
7.699	Response = 19483187
7.941	Response = 17017922

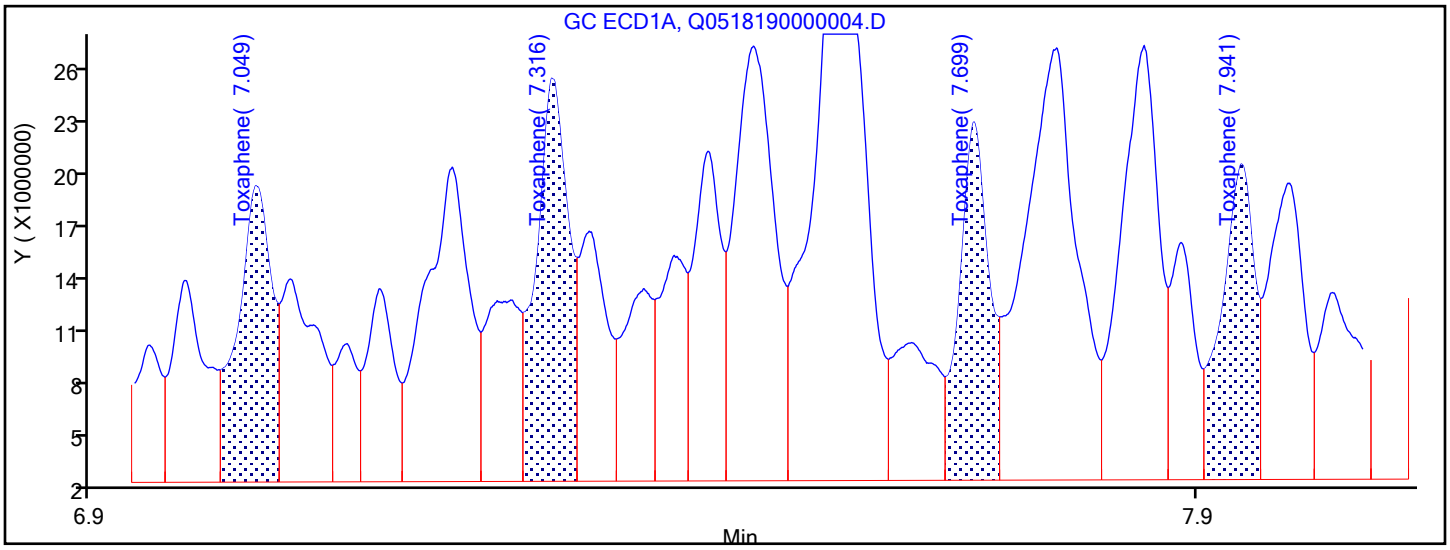

Manual Integration Results

7.049	Response = 16795207	M
7.316	Response = 22844326	M
7.699	Response = 20300252	M
7.941	Response = 17884063	M

Reviewer: eppinged, 18-May-2019 13:04:25

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000004.D				
Injection Date:	18-May-2019 12:45:09	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

* 44 Dibutylchlorendate ISTD, CAS: 1770-80-5

Signal: 1

Processing Integration Results

RT: 8.28
Height: 99541693
Amount: 0.100000
Amount Units: ng

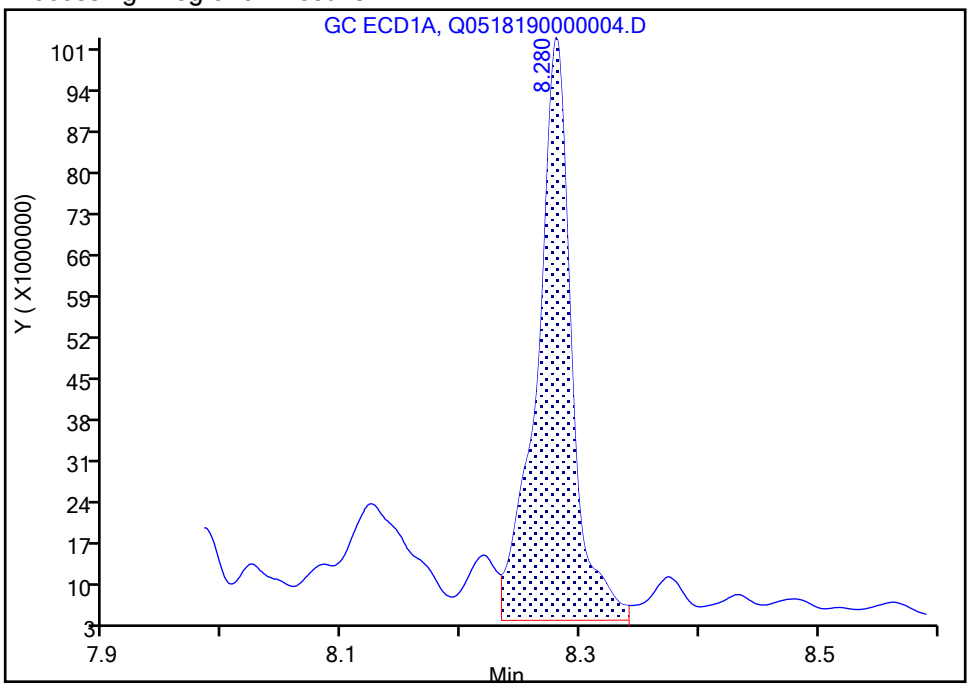

Manual Integration Results

RT: 8.28
Height: 100476513
Amount: 0.100000
Amount Units: ng

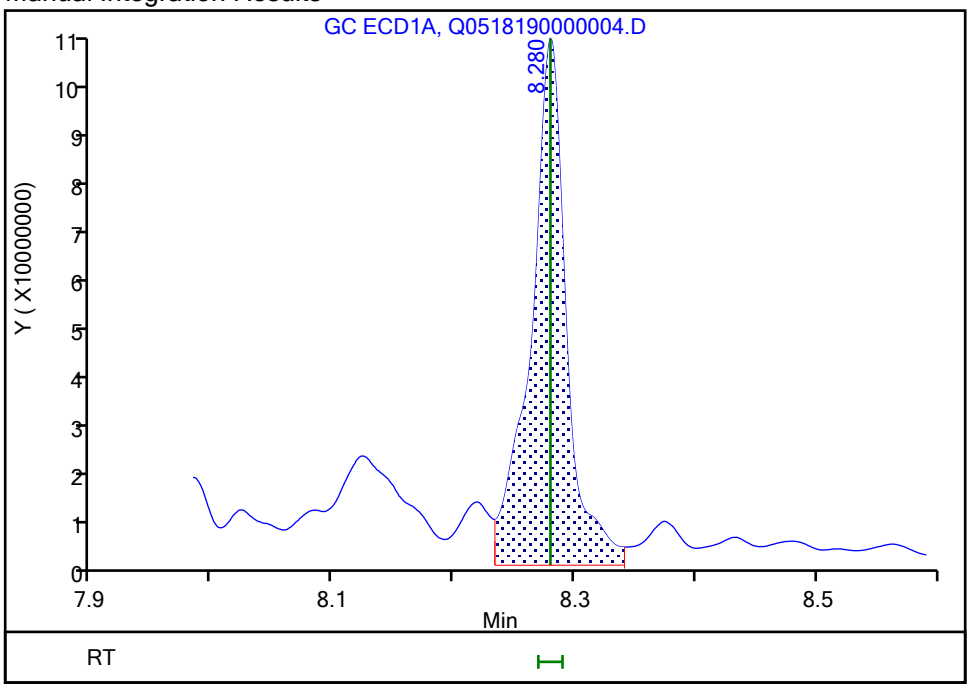

Reviewer: eppinged, 18-May-2019 13:04:25

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000005.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 18-May-2019 13:00:35 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026894-005
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub4

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 20-May-2019 05:51:42 Calib Date: 18-May-2019 20:36:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0306

First Level Reviewer: eppinged Date: 18-May-2019 13:17:58

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.823	3.791	0.032	120855539H	0.1000	0.1000	
2	4.080	4.066	0.015	145043241H	0.1000	0.1000	
34 Toxaphene							M
1	7.051	7.049	0.002	39325339H	2.50	2.42	
1	7.318	7.316	0.002	52546473H	2.50	2.45	
1	7.700	7.699	0.001	47529889H	2.50	2.40	
1	7.943	7.941	0.002	44103923H	2.50	2.41	
		Average of Peak Amounts =				2.42	
2	7.262	7.262	0.000	26101945H	2.50	2.41	M
2	7.392	7.392	0.000	40032664H	2.50	2.28	M
2	7.894	7.895	-0.001	67246914H	2.50	2.37	M
2	8.633	8.632	0.001	47277820H	2.50	2.34	M
		Average of Peak Amounts =				2.35	
					RPD =	2.82	
* 44 Dibutylchlorendate ISTD							M
1	8.280	8.235	0.045	112746425H	0.1000	0.1000	
2	8.390	8.368	0.023	124795391H	0.1000	0.1000	M

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

GCTOXLEVEL4_00010 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 20-May-2019 05:51:43 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000005.D				
Injection Date:	18-May-2019 13:00:35	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

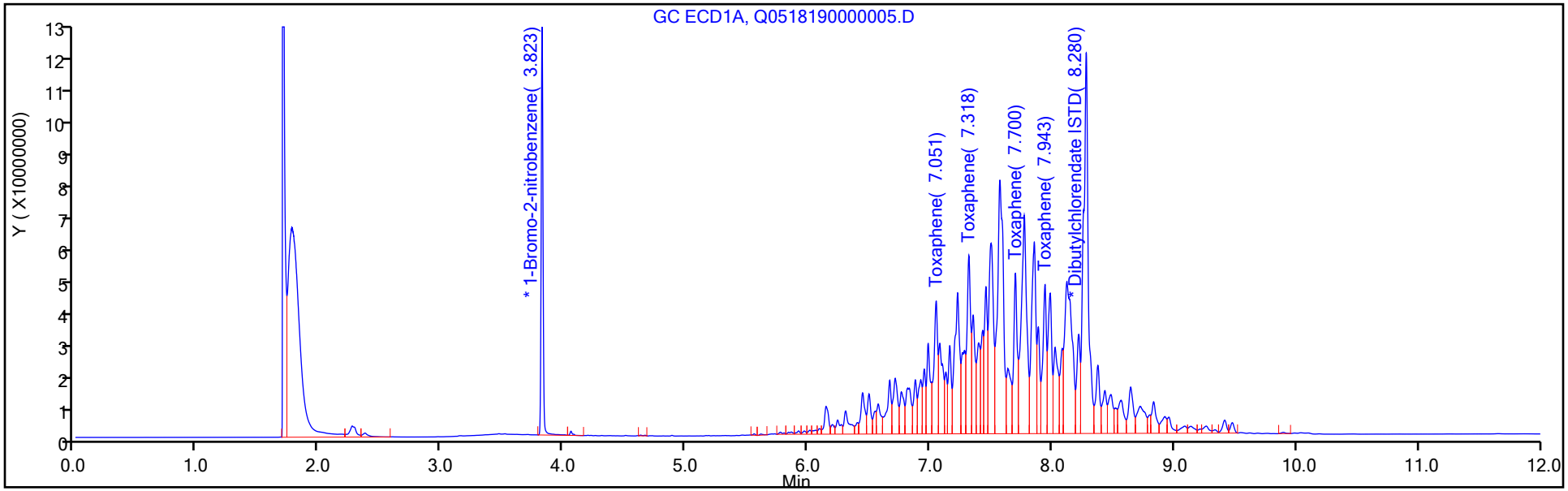

Column: MR-2 (0.53 mm)

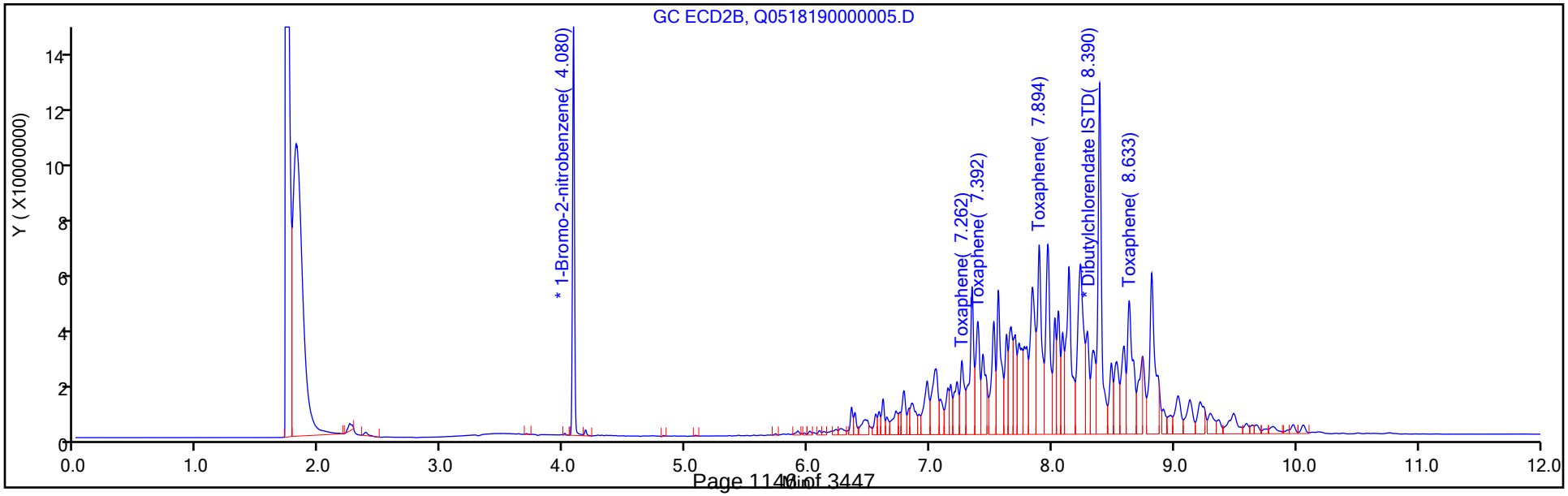

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000006.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 18-May-2019 13:16:01 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026894-006
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub4

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 20-May-2019 05:51:45 Calib Date: 18-May-2019 20:36:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0306

First Level Reviewer: eppinged Date: 18-May-2019 13:34:02

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.823	3.791	0.032	118506327H	0.1000	0.1000	
2	4.080	4.066	0.015	145705985H	0.1000	0.1000	
34 Toxaphene							M
1	7.050	7.049	0.001	77201237H	5.00	4.84	M
1	7.317	7.316	0.001	104554704H	5.00	4.96	M
1	7.699	7.699	0.000	95111512H	5.00	4.89	M
1	7.942	7.941	0.001	88645940H	5.00	4.95	M
		Average of Peak Amounts =				4.91	
2	7.262	7.262	0.000	49745021H	5.00	4.58	M
2	7.392	7.392	0.000	74343297H	5.00	4.22	M
2	7.895	7.895	0.000	126427332H	5.00	4.44	M
2	8.632	8.632	0.000	90314019H	5.00	4.45	M
		Average of Peak Amounts =				4.42	
						RPD = 10.42	
* 44 Dibutylchlorendate ISTD							M
1	8.280	8.235	0.045	141562567H	0.1000	0.1000	M
2	8.392	8.368	0.024	158730464H	0.1000	0.1000	M

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

GCTOXLEVEL5_00013 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 20-May-2019 05:51:47 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000006.D				
Injection Date:	18-May-2019 13:16:01	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

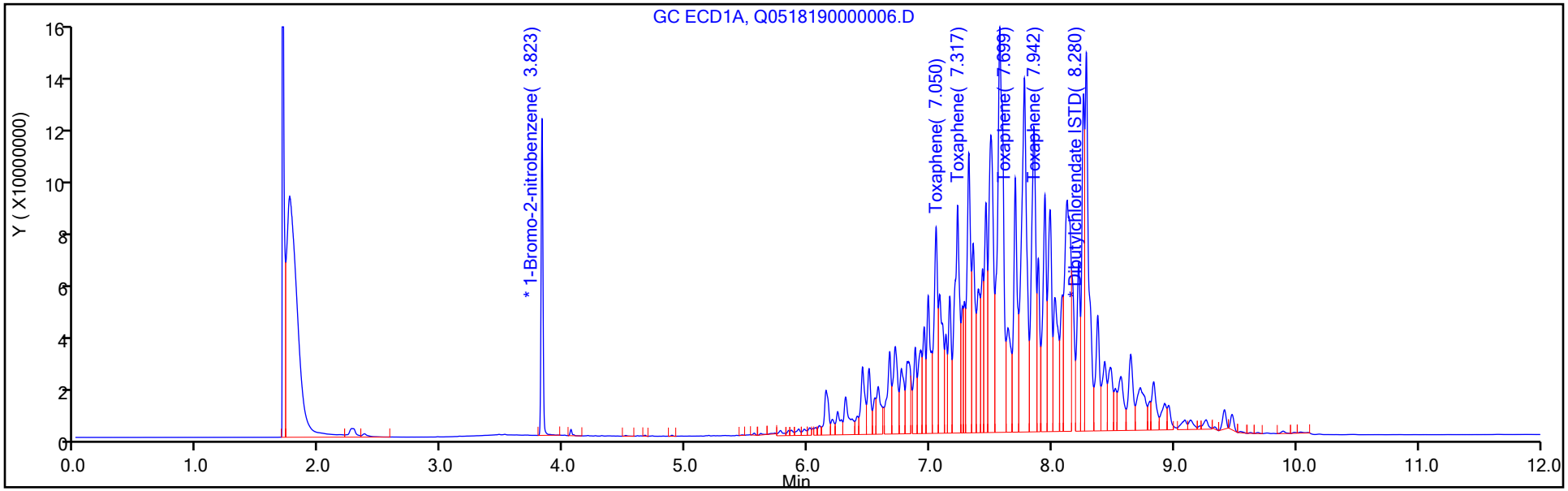

Column: MR-2 (0.53 mm)

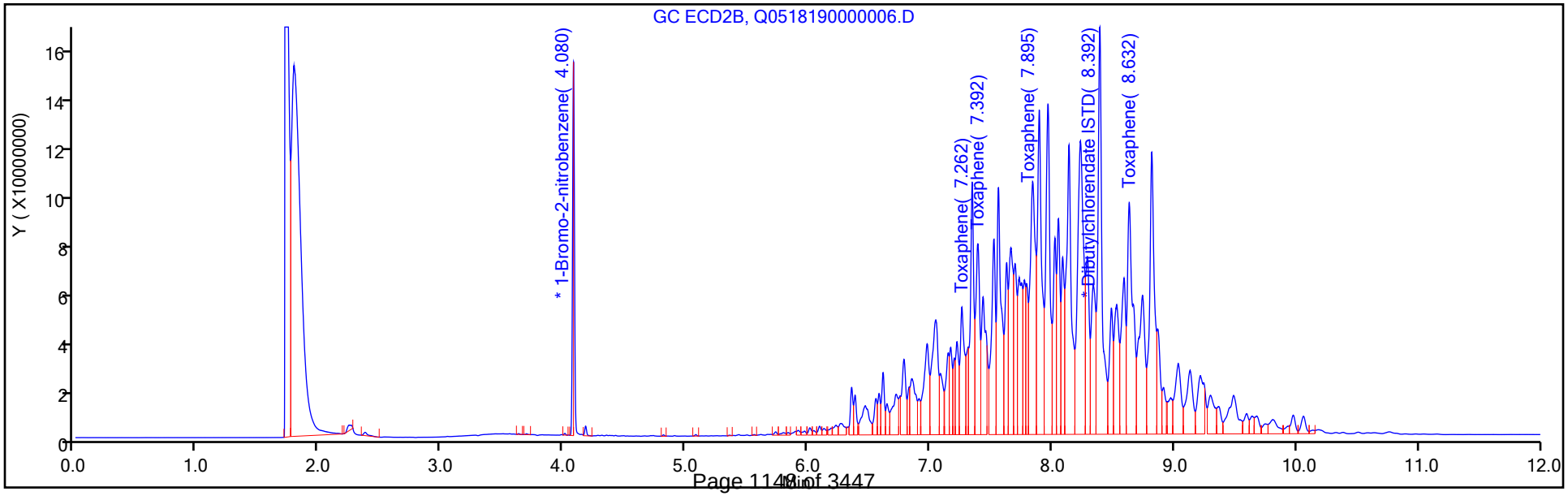

Report Date: 20-May-2019 05:51:47 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000006.D				
Injection Date:	18-May-2019 13:16:01	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

34 Toxaphene, CAS: 8001-35-2

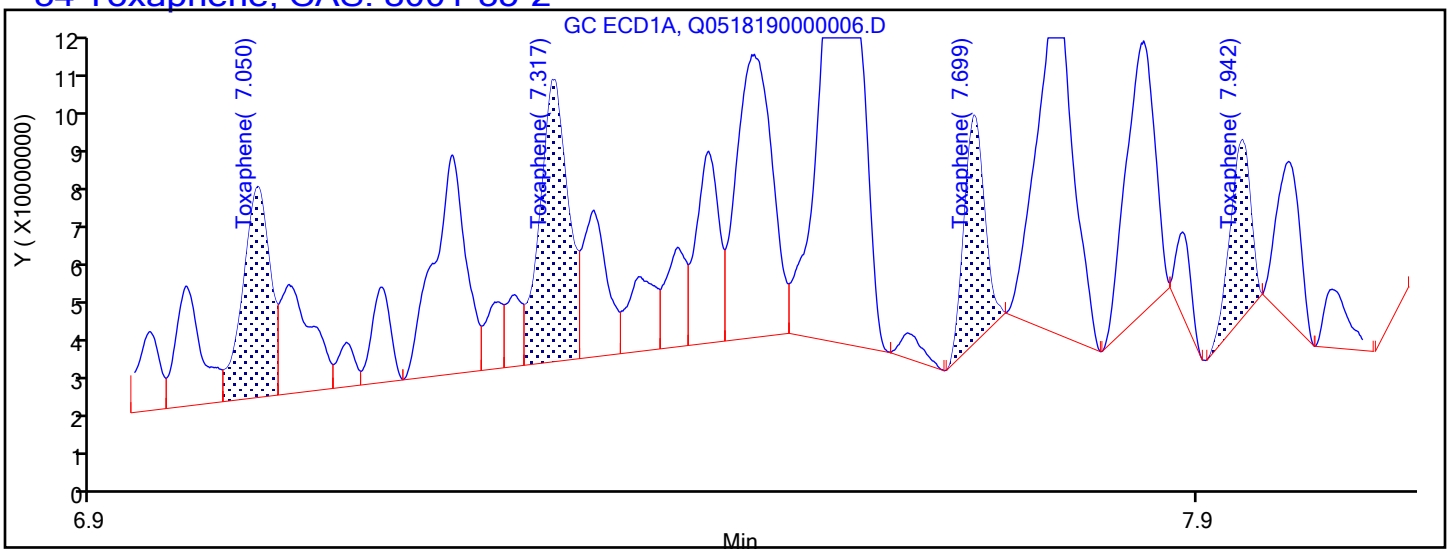

Processing Integration Results

7.050	Response = 54374086
7.317	Response = 72732875
7.699	Response = 58794451
7.942	Response = 45888288

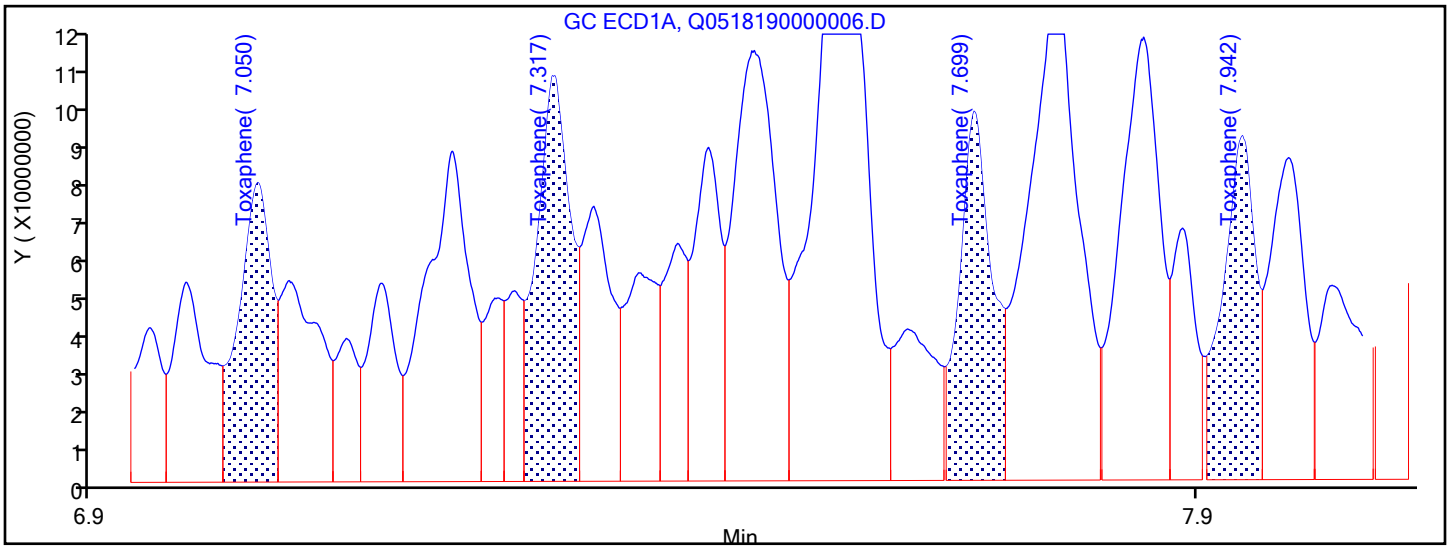

Manual Integration Results

7.050	Response = 77201237	M
7.317	Response = 104554704	M
7.699	Response = 95111512	M
7.942	Response = 88645940	M

Reviewer: eppinged, 18-May-2019 13:32:02

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000006.D				
Injection Date:	18-May-2019 13:16:01	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

* 44 Dibutylchlorendate ISTD, CAS: 1770-80-5

Signal: 1

Processing Integration Results

RT: 8.28
Height: 118018036
Amount: 0.100000
Amount Units: ng

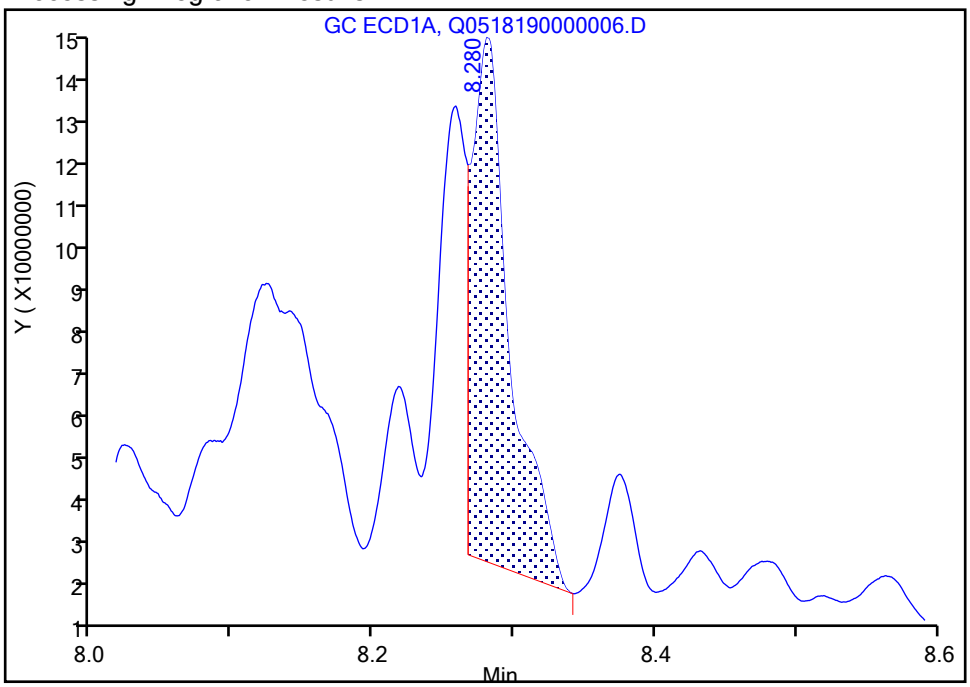

Manual Integration Results

RT: 8.28
Height: 141562567
Amount: 0.100000
Amount Units: ng

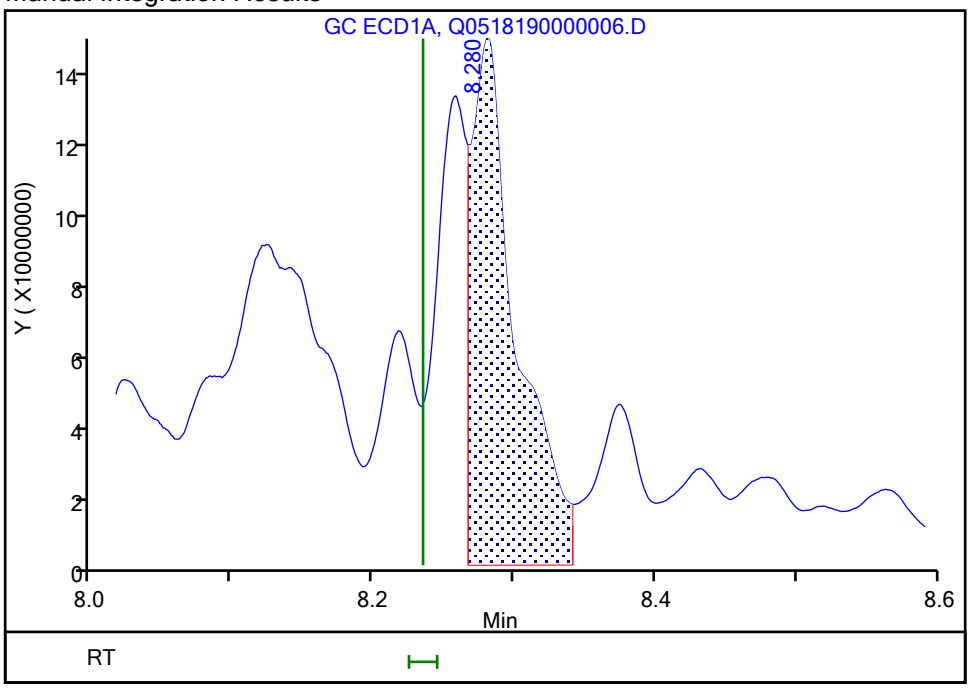

Reviewer: eppinged, 18-May-2019 13:32:02

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 279115

SDG No.:

Instrument ID: CHGC15 GC Column: MR-2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/18/2019 12:14 Calibration End Date: 05/18/2019 13:16 Calibration ID: 40516

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-279115/2	Q0518190000002.D
Level 2	IC 180-279115/3	Q0518190000003.D
Level 3	IC 180-279115/4	Q0518190000004.D
Level 4	IC 180-279115/5	Q0518190000005.D
Level 5	IC 180-279115/6	Q0518190000006.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Toxaphene Peak 1	0.0069	0.0083	0.0080	0.0072	0.0068	Ave		0.0075				9.0		20.0			
Toxaphene Peak 2	0.0139	0.0132	0.0122	0.0110	0.0102	Ave		0.0121				12.4		20.0			
Toxaphene Peak 3	0.0348	0.0232	0.0210	0.0185	0.0174	Lin1	0.0003	0.0195							0.9910		0.9900
Toxaphene Peak 4	0.0164	0.0136	0.0142	0.0130	0.0124	Ave		0.0139				10.9		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 279115

SDG No.:

Instrument ID: CHGC15 GC Column: MR-2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/18/2019 12:14 Calibration End Date: 05/18/2019 13:16 Calibration ID: 40516

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-279115/2	Q0518190000002.D
Level 2	IC 180-279115/3	Q0518190000003.D
Level 3	IC 180-279115/4	Q0518190000004.D
Level 4	IC 180-279115/5	Q0518190000005.D
Level 5	IC 180-279115/6	Q0518190000006.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
Toxaphene Peak 1	BNB	Ave	200846	2387621	11773898	26101945	49745021	0.0200	0.200	1.00	2.50	5.00
Toxaphene Peak 2	BNB	Ave	400640	3771195	18027554	40032664	74343297	0.0200	0.200	1.00	2.50	5.00
Toxaphene Peak 3	BNB	Lin1	1005486	6651398	30951600	67246914	126427332	0.0200	0.200	1.00	2.50	5.00
Toxaphene Peak 4	BNB	Ave	472965	3880183	20988358	47277820	90314019	0.0200	0.200	1.00	2.50	5.00

Curve Type Legend:

Ave = Average ISTD by Height
Lin1 = Linear 1/Conc^2 ISTD by Height

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 279115

SDG No.:

Instrument ID: CHGC15 GC Column: MR-2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/18/2019 12:14 Calibration End Date: 05/18/2019 13:16 Calibration ID: 40516

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-279115/2	Q0518190000002.D
Level 2	IC 180-279115/3	Q0518190000003.D
Level 3	IC 180-279115/4	Q0518190000004.D
Level 4	IC 180-279115/5	Q0518190000005.D
Level 5	IC 180-279115/6	Q0518190000006.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #		LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	
Toxaphene Peak 1	-6.9	11.8	7.0	-3.5	-8.5		50	30	30	30	30	
Toxaphene Peak 2	14.5	8.9	1.0	-8.8	-15.7		50	30	30	30	30	
Toxaphene Peak 3	-1.2	11.4	6.2	-5.3	-11.2		50	30	30	30	30	
Toxaphene Peak 4	17.5	-2.6	2.3	-6.3	-10.9		50	30	30	30	30	

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000002.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 18-May-2019 12:14:12 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026894-002
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub4

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 20-May-2019 05:51:30 Calib Date: 18-May-2019 20:36:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0306

First Level Reviewer: eppinged Date: 18-May-2019 12:37:38

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.823	3.791	0.032	116332630H	0.1000	0.1000	
2	4.081	4.066	0.015	144557317H	0.1000	0.1000	
34 Toxaphene							Ma
1	7.050	7.010	0.040	305996H	0.0200	0.0195	M
1	7.317	7.276	0.041	379428H	0.0200	0.0183	M
1	7.698	7.658	0.040	385270H	0.0200	0.0202	M
1	7.947	7.900	0.047	383809H	0.0200	0.0218	M
		Average of Peak Amounts =				0.0200	
2	7.260	7.241	0.019	200846H	0.0200	0.0186	M
2	7.393	7.372	0.021	400640H	0.0200	0.0229	M
2	7.896	7.875	0.021	1005486H	0.0200	0.0198	M
2	8.630	8.607	0.023	472965H	0.0200	0.0235	M
		Average of Peak Amounts =				0.0212	
						RPD = 5.99	
* 44 Dibutylchlorendate ISTD							M
1	8.280	8.235	0.045	86996897H	0.1000	0.1000	M
2	8.391	8.368	0.023	87130595H	0.1000	0.1000	M

QC Flag Legend

Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

GCTOXLEVEL1_00011 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 20-May-2019 05:51:32 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000002.D				
Injection Date:	18-May-2019 12:14:12	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

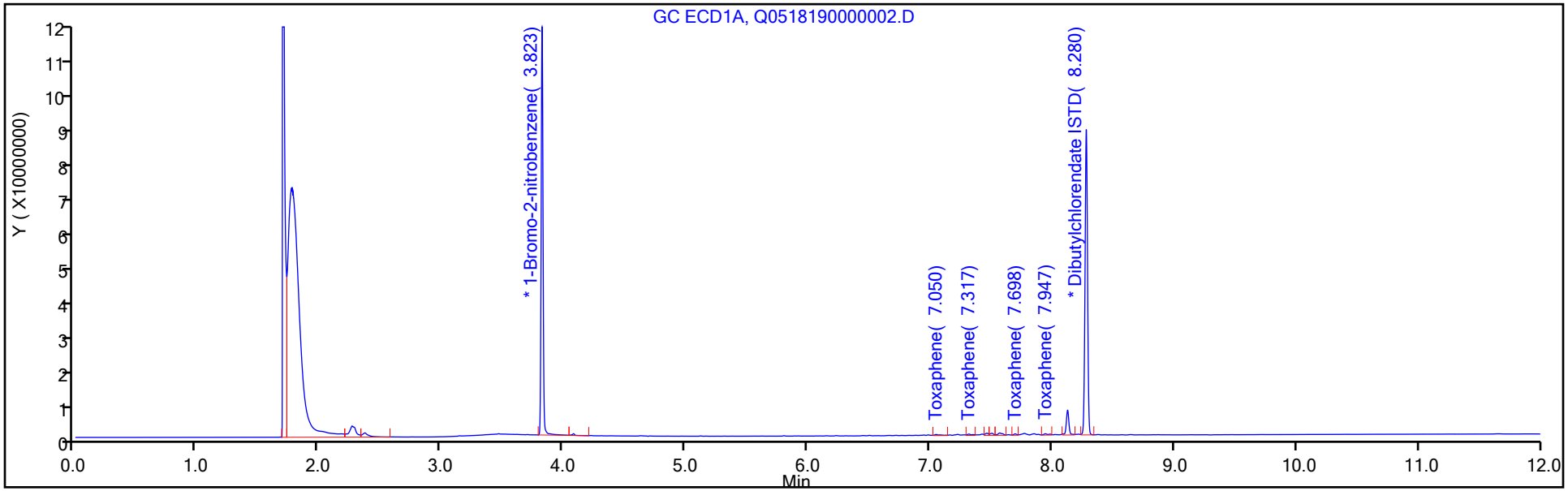

Column: MR-2 (0.53 mm)

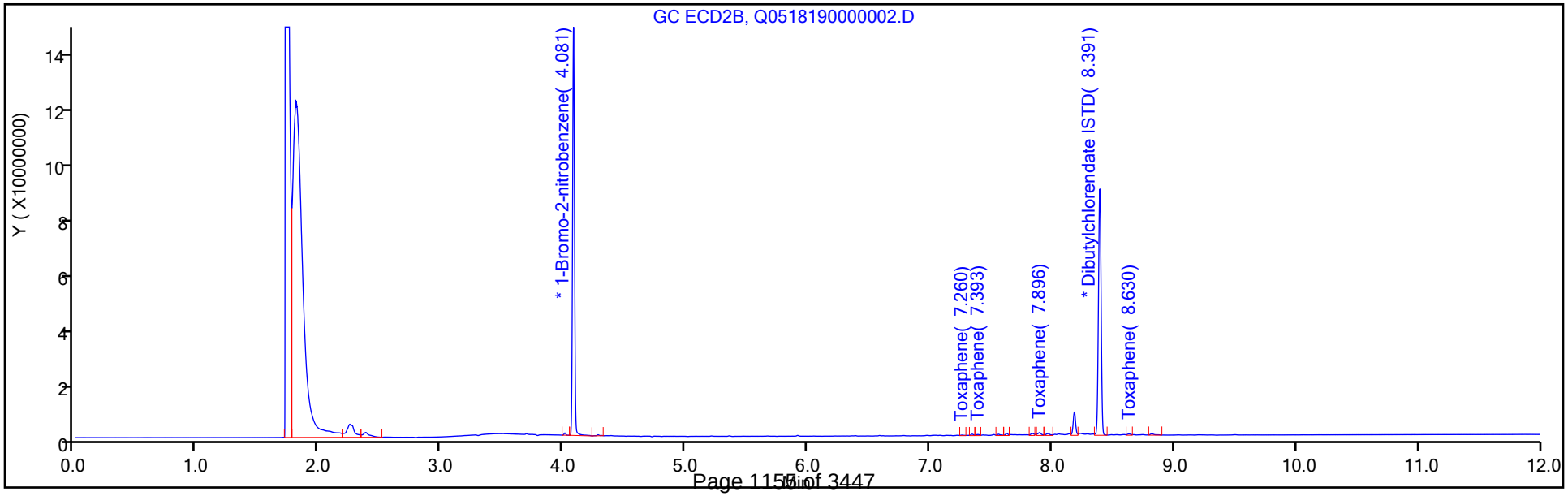

Report Date: 20-May-2019 05:51:32 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000002.D				
Injection Date:	18-May-2019 12:14:12	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

34 Toxaphene, CAS: 8001-35-2

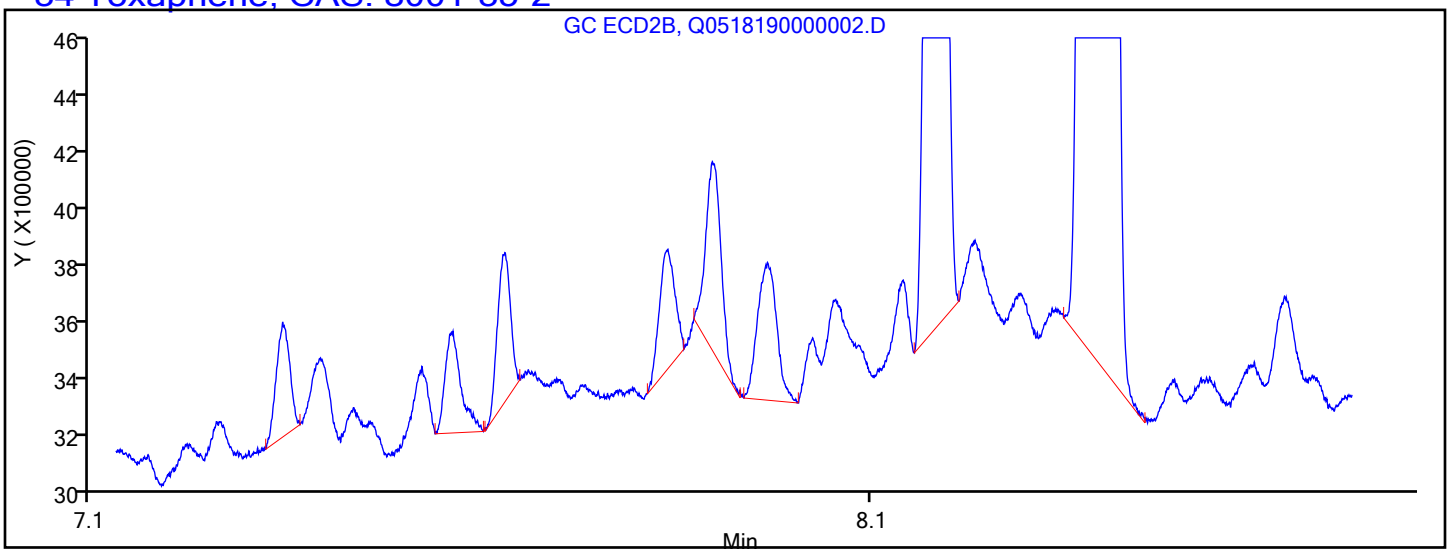

Processing Integration Results

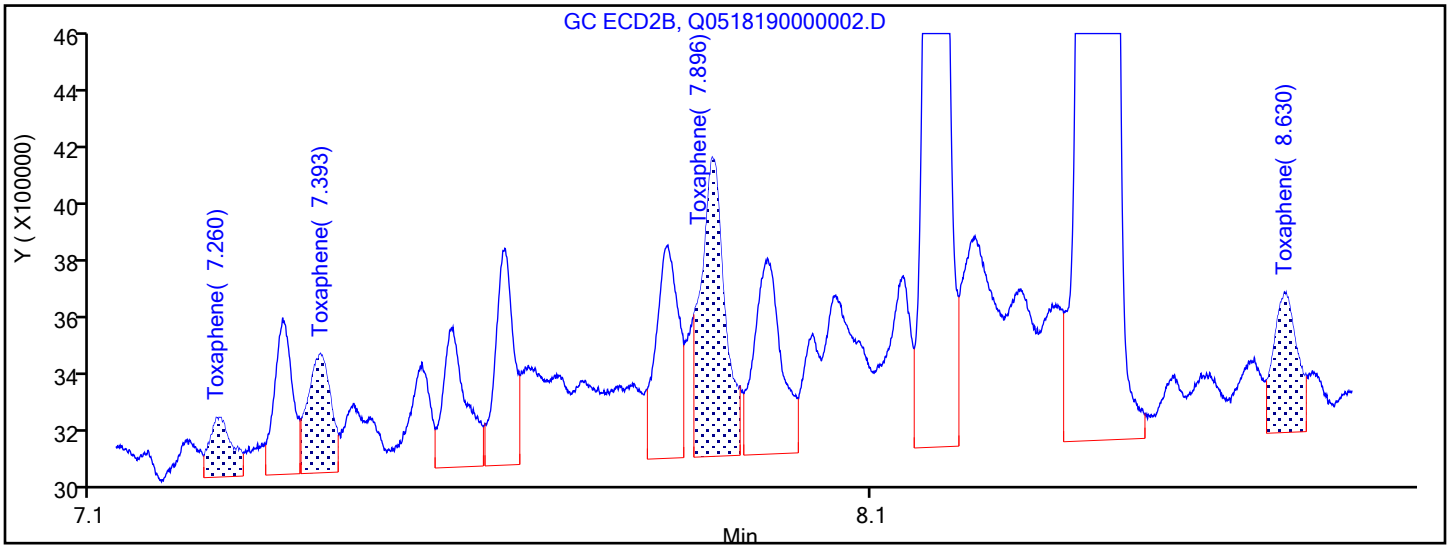

Manual Integration Results

7.260	Response = 200846	M
7.393	Response = 400640	M
7.896	Response = 1005486	M
8.630	Response = 472965	M

Reviewer: eppinged, 18-May-2019 12:35:47

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000002.D				
Injection Date:	18-May-2019 12:14:12	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

* 44 Dibutylchlorendate ISTD, CAS: 1770-80-5

Signal: 2

Processing Integration Results

RT: 8.39
Height: 86854182
Amount: 0.100000
Amount Units: ng

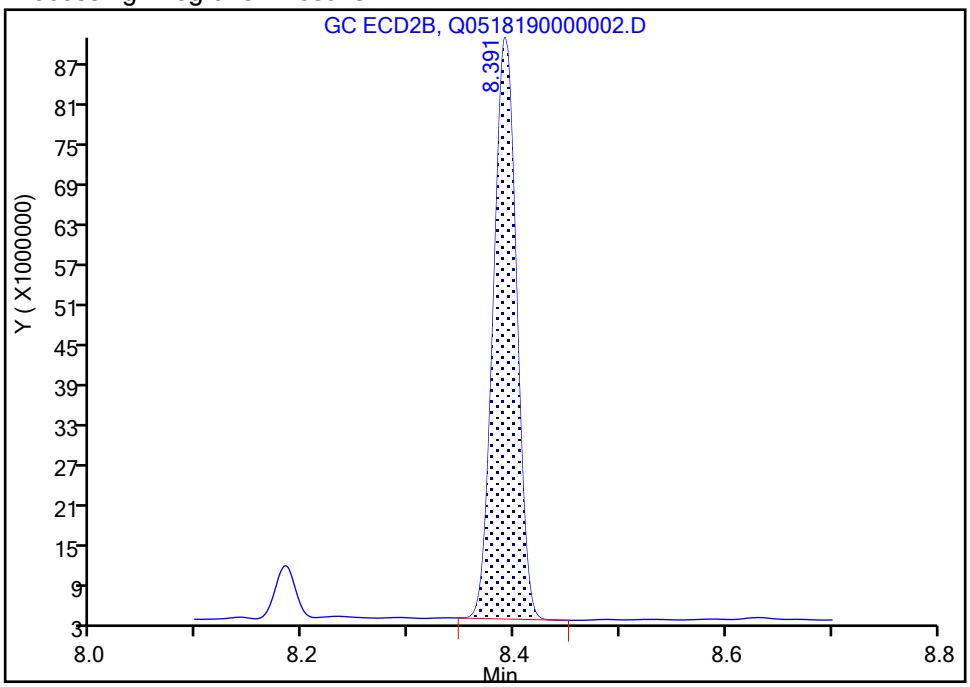

Manual Integration Results

RT: 8.39
Height: 87130595
Amount: 0.100000
Amount Units: ng

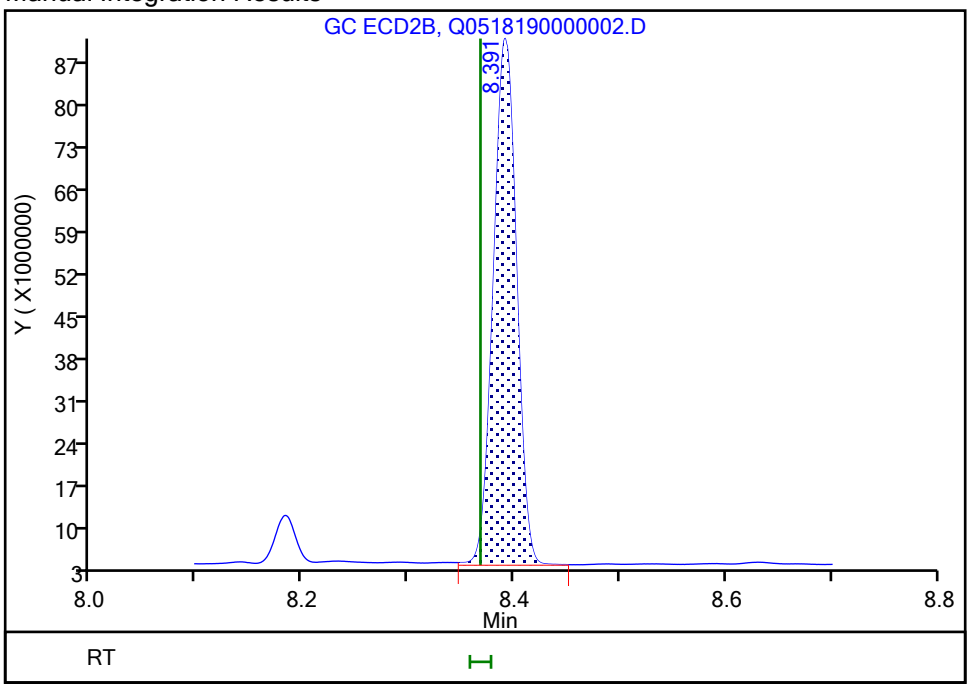

Reviewer: eppinged, 18-May-2019 12:34:57

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000003.D				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	2		
Inject. Date:	18-May-2019 12:29:45	ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0026894-003				
Operator ID:	402331	Instrument ID:	CHGC15		
Sublist:	chrom-IS PEST_CHGC15*sub4				
Method:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m				
Limit Group:	GCS 8081B ICAL with IS				
Last Update:	20-May-2019 05:51:34	Calib Date:	18-May-2019 20:36:24		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D				
Column 1 :	MR-1 (0.53 mm)		Det: GC ECD1A		
Column 2 :	MR-2 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0306				

First Level Reviewer: eppinged Date: 18-May-2019 12:47:10

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.823	3.791	0.032	114616114H	0.1000	0.1000	
2	4.080	4.066	0.014	143078455H	0.1000	0.1000	
34 Toxaphene							M
1	7.051	7.010	0.041	3258755H	0.2000	0.2110	M
1	7.318	7.276	0.042	4256976H	0.2000	0.2089	M
1	7.700	7.658	0.042	3870755H	0.2000	0.2057	M
1	7.942	7.900	0.042	3360759H	0.2000	0.1940	M
		Average of Peak Amounts =				0.2049	
2	7.263	7.241	0.022	2387621H	0.2000	0.2237	M
2	7.393	7.372	0.021	3771195H	0.2000	0.2178	M
2	7.896	7.875	0.021	6651398H	0.2000	0.2229	M
2	8.633	8.607	0.026	3880183H	0.2000	0.1949	M
		Average of Peak Amounts =				0.2148	
						RPD = 4.72	
* 44 Dibutylchlorendate ISTD							M
1	8.280	8.235	0.045	85146236H	0.1000	0.1000	M
2	8.391	8.368	0.023	89193881H	0.1000	0.1000	M

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCTOXLEVEL2_00009	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 20-May-2019 05:51:36 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000003.D

Injection Date:	18-May-2019 12:29:45	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

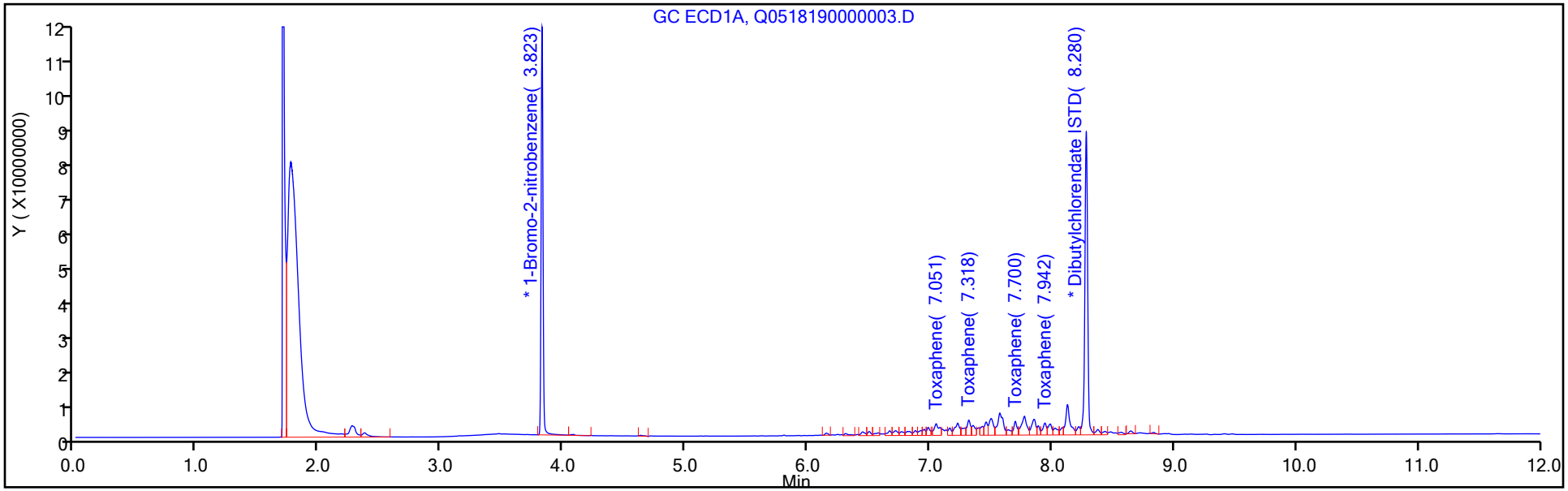

Column: MR-2 (0.53 mm)

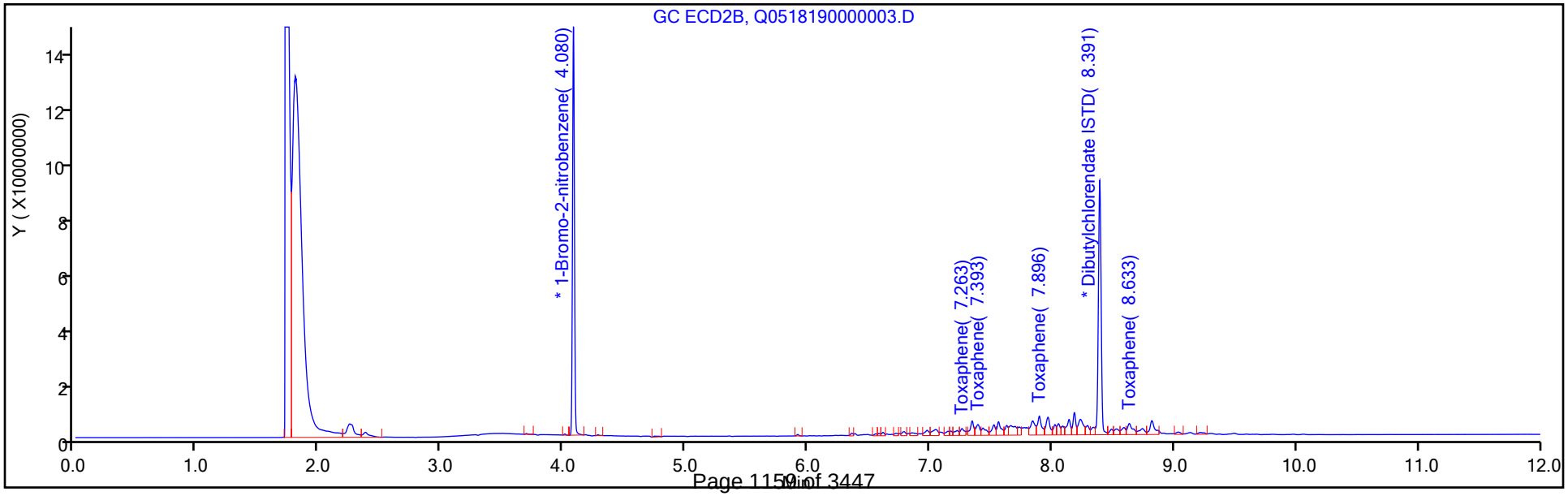

Report Date: 20-May-2019 05:51:36 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000003.D				
Injection Date:	18-May-2019 12:29:45	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

34 Toxaphene, CAS: 8001-35-2

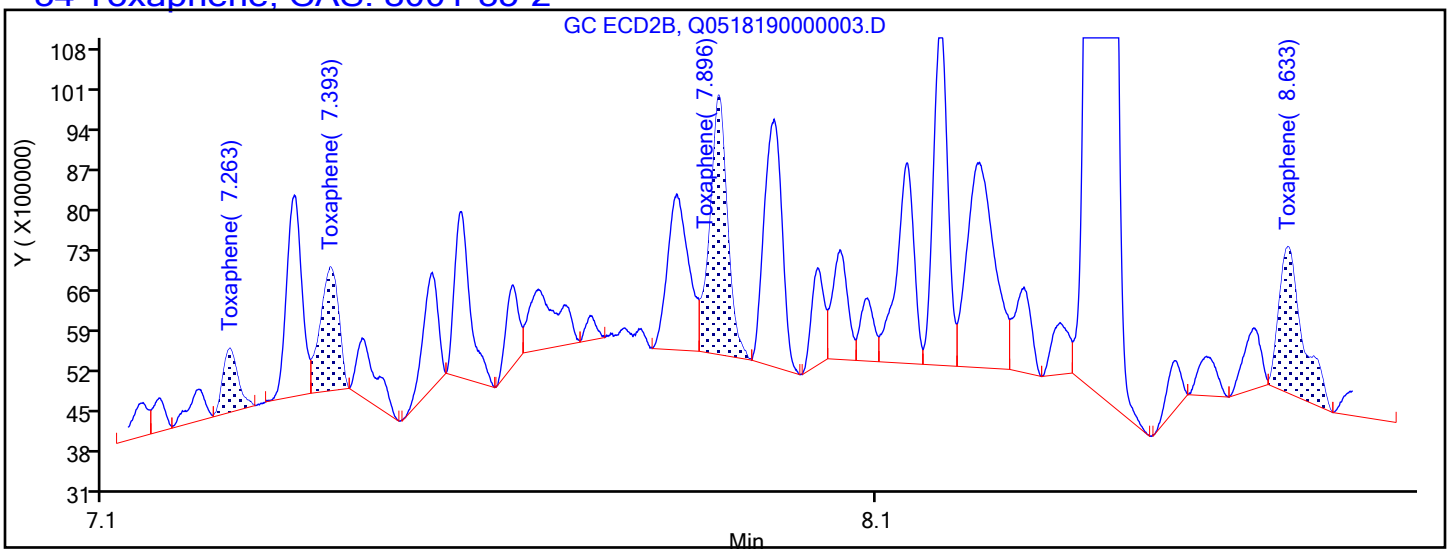

Processing Integration Results

7.263	Response = 1111709
7.393	Response = 2146743
7.896	Response = 4498235
8.633	Response = 2537885

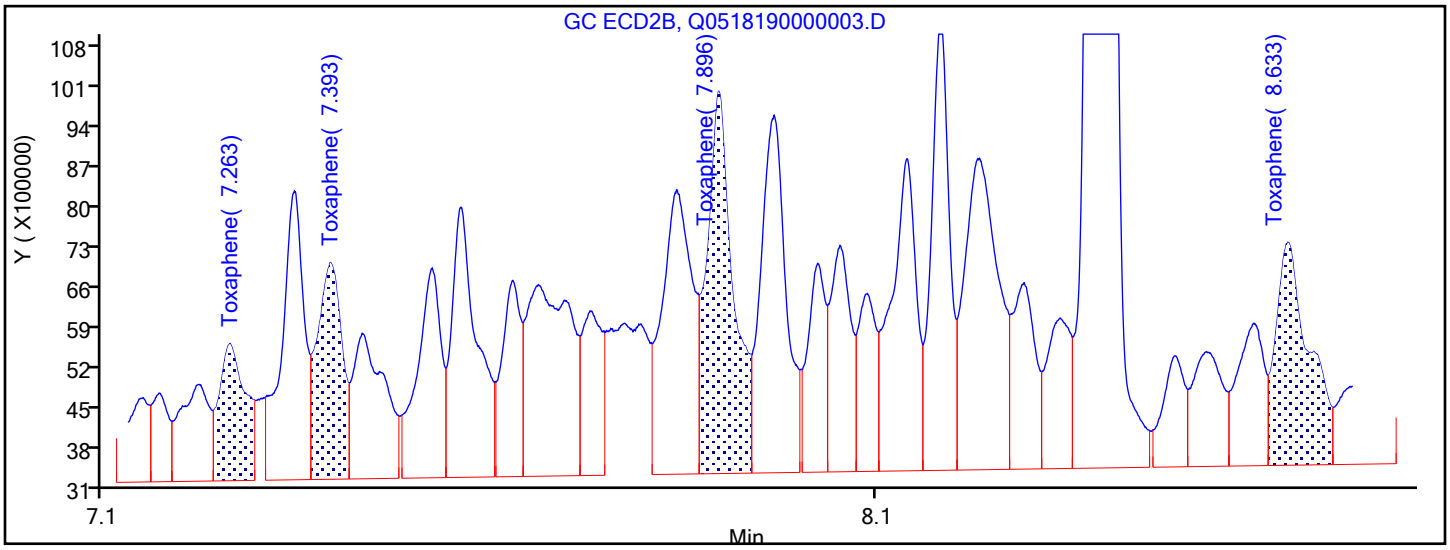

Manual Integration Results

7.263	Response = 2387621	M
7.393	Response = 3771195	M
7.896	Response = 6651398	M
8.633	Response = 3880183	M

Reviewer: eppinged, 18-May-2019 12:49:15

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000003.D				
Injection Date:	18-May-2019 12:29:45	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

* 44 Dibutylchlorendate ISTD, CAS: 1770-80-5

Signal: 2

Processing Integration Results

RT: 8.39
Height: 87864628
Amount: 0.100000
Amount Units: ng

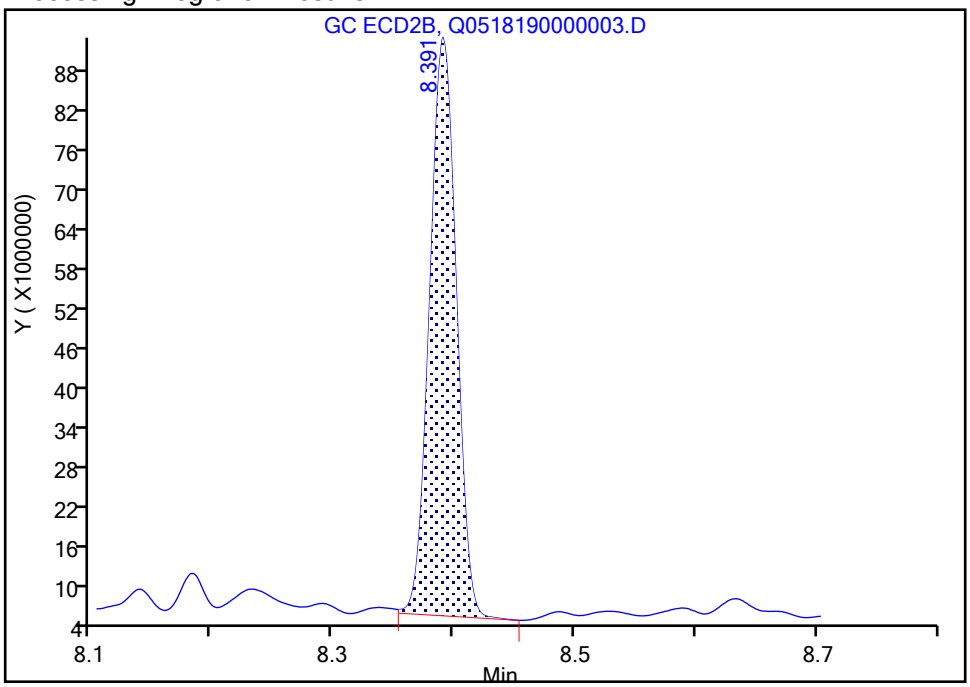

Manual Integration Results

RT: 8.39
Height: 89193881
Amount: 0.100000
Amount Units: ng

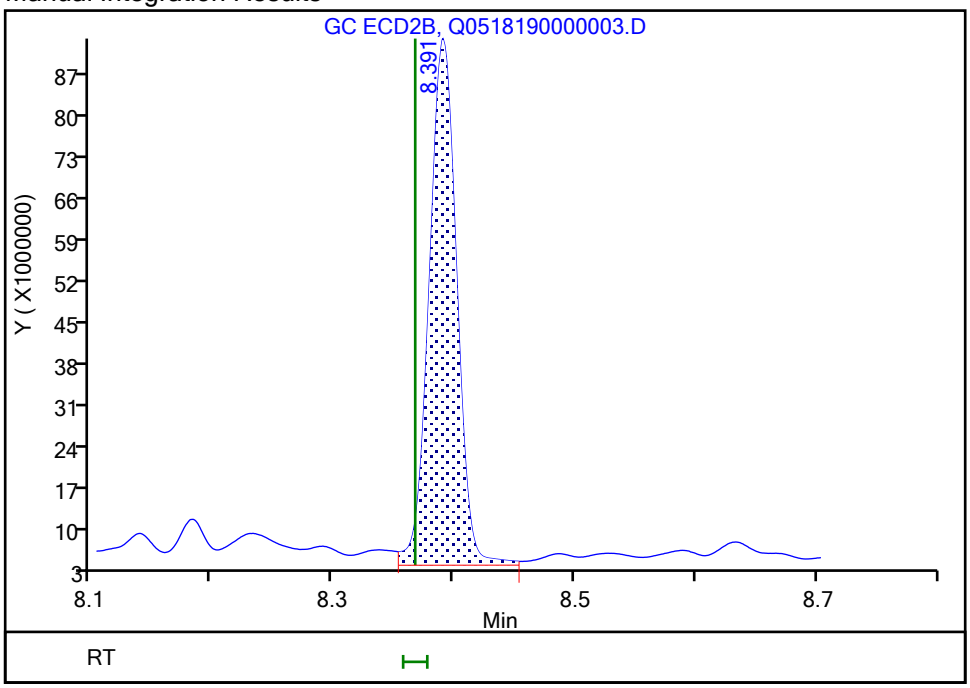

Reviewer: eppinged, 18-May-2019 12:49:15

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000004.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 18-May-2019 12:45:09 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026894-004
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub4

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 20-May-2019 05:51:37 Calib Date: 18-May-2019 20:36:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0306

First Level Reviewer: eppinged Date: 18-May-2019 13:04:41

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.823	3.823	0.000	120360084H	0.1000	0.1000	
2	4.081	4.081	0.000	147486512H	0.1000	0.1000	
34 Toxaphene							M
1	7.049	7.049	0.000	16795207H	1.00	1.04	M
1	7.316	7.316	0.000	22844326H	1.00	1.07	M
1	7.699	7.699	0.000	20300252H	1.00	1.03	M
1	7.941	7.941	0.000	17884063H	1.00	0.9831	M
		Average of Peak Amounts =				1.03	
2	7.262	7.262	0.000	11773898H	1.00	1.07	M
2	7.392	7.392	0.000	18027554H	1.00	1.01	M
2	7.895	7.895	0.000	30951600H	1.00	1.06	M
2	8.632	8.632	0.000	20988358H	1.00	1.02	M
		Average of Peak Amounts =				1.04	
						RPD = 1.25	
* 44 Dibutylchlorendate ISTD							M
1	8.280	8.280	0.000	100476513H	0.1000	0.1000	M
2	8.390	8.390	0.000	105293773H	0.1000	0.1000	M

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

GCTOXLEVEL3_00018 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 20-May-2019 05:51:40 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000004.D				
Injection Date:	18-May-2019 12:45:09	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

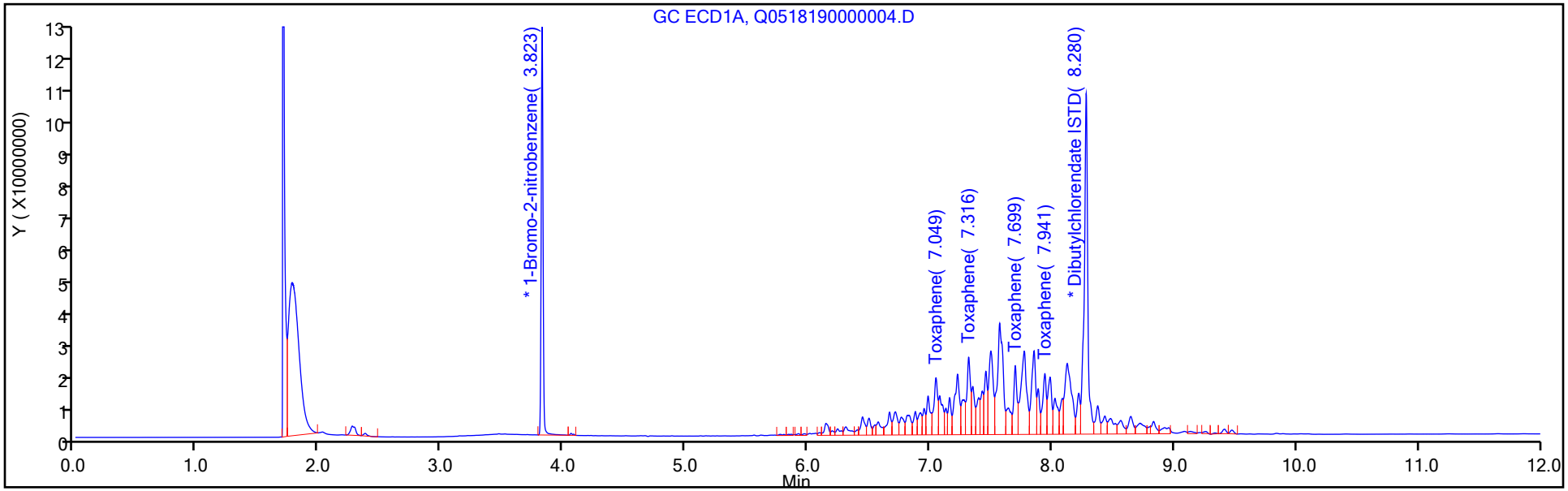

Column: MR-2 (0.53 mm)

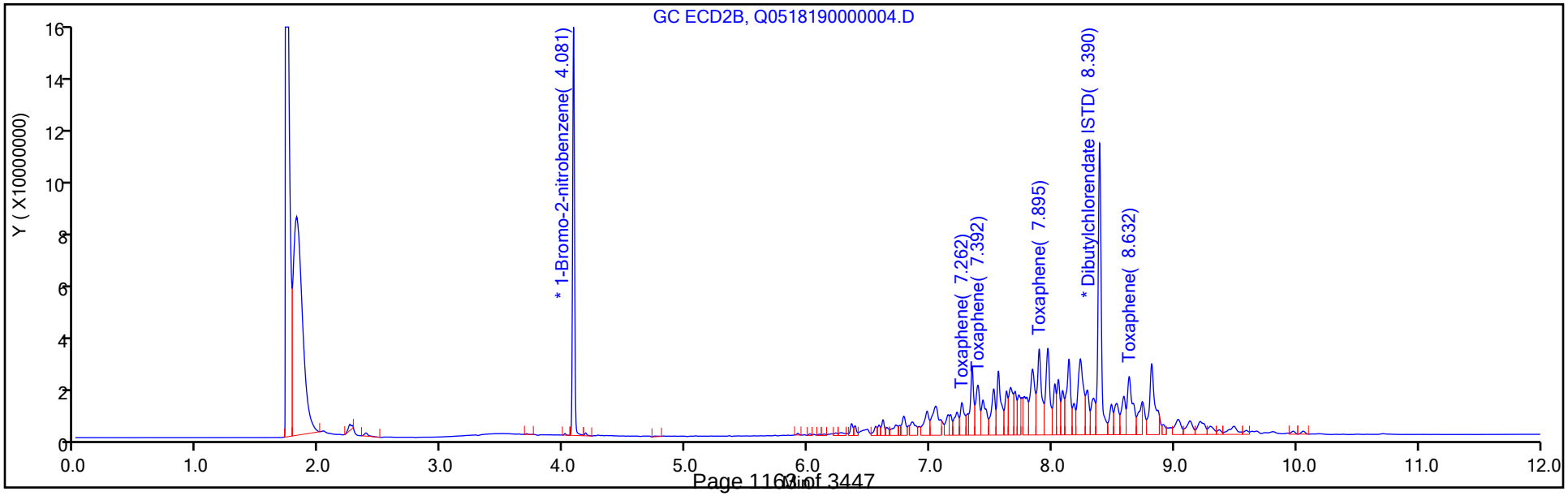

Report Date: 20-May-2019 05:51:40 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000004.D				
Injection Date:	18-May-2019 12:45:09	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

34 Toxaphene, CAS: 8001-35-2

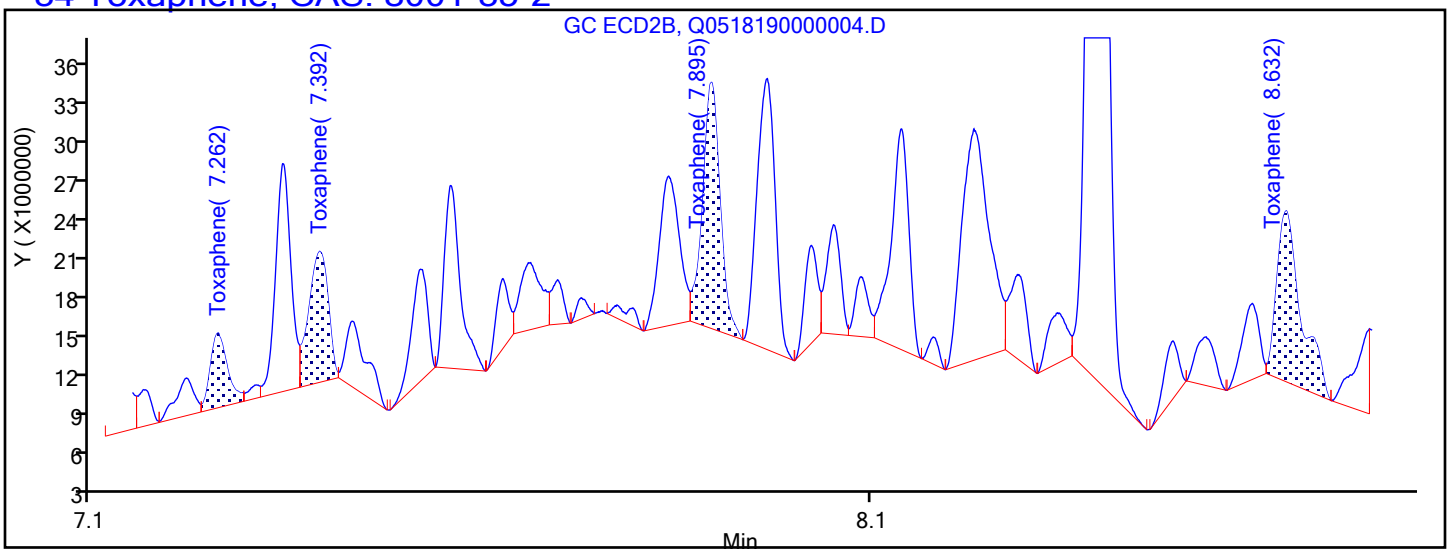

Processing Integration Results

7.262	Response = 5746590
7.392	Response = 10068929
7.895	Response = 18912421
8.632	Response = 13143150

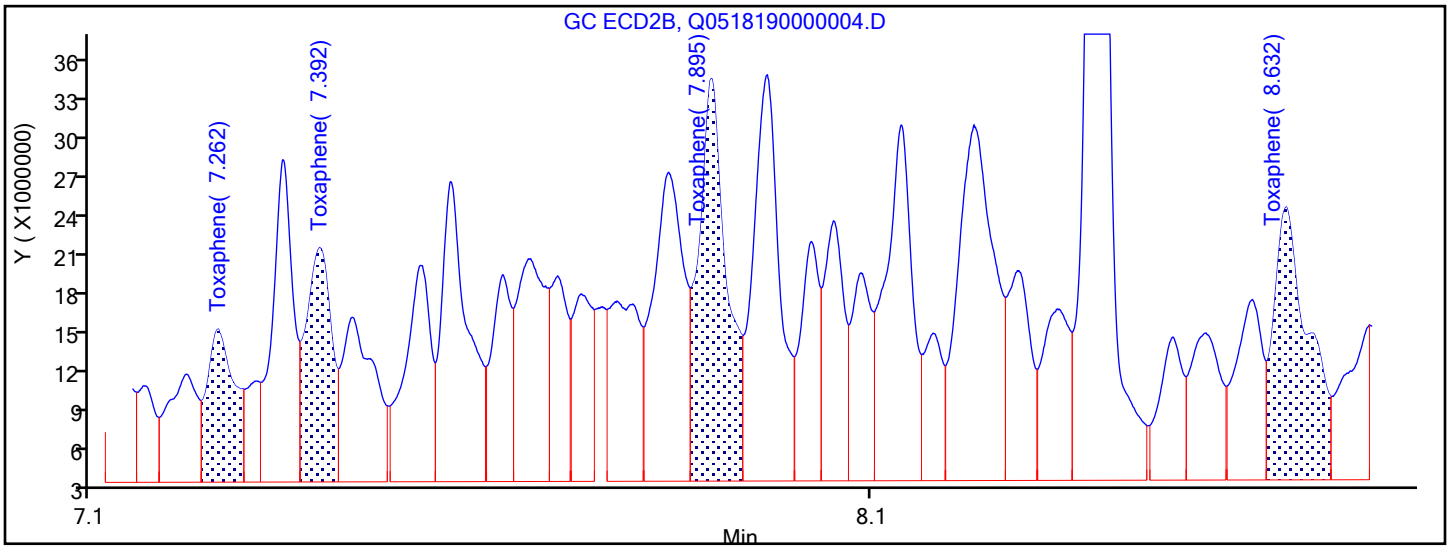

Manual Integration Results

7.262	Response = 11773898	M
7.392	Response = 18027554	M
7.895	Response = 30951600	M
8.632	Response = 20988358	M

Reviewer: eppinged, 18-May-2019 13:04:19

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000004.D				
Injection Date:	18-May-2019 12:45:09	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

* 44 Dibutylchlorendate ISTD, CAS: 1770-80-5

Signal: 2

Processing Integration Results

RT: 8.39
Height: 97319294
Amount: 0.100000
Amount Units: ng

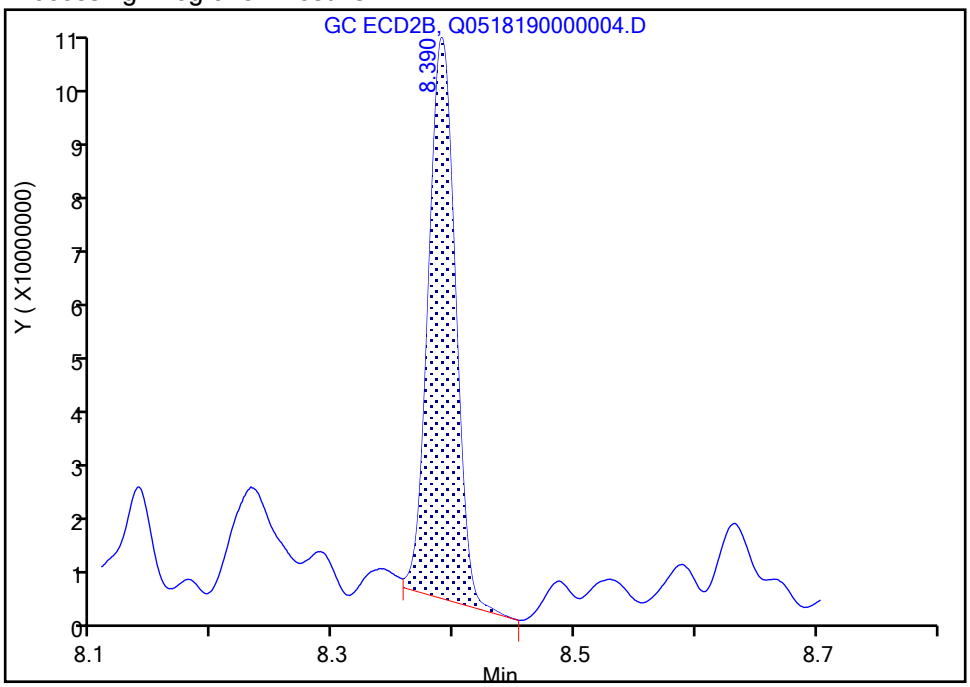

Manual Integration Results

RT: 8.39
Height: 105293773
Amount: 0.100000
Amount Units: ng

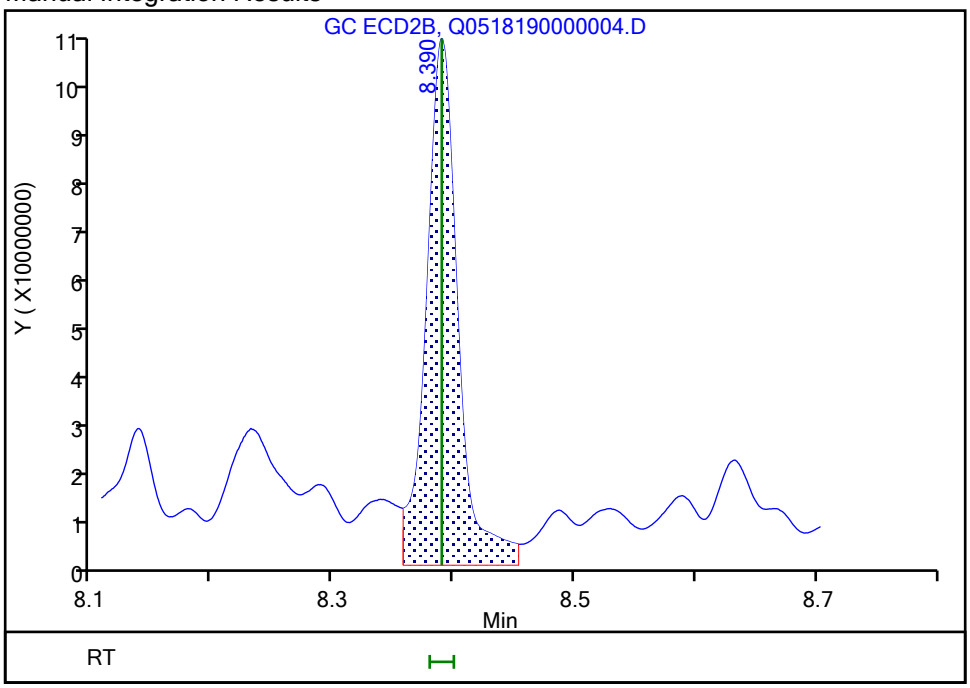

Reviewer: eppinged, 18-May-2019 13:04:19

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000005.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 18-May-2019 13:00:35 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026894-005
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub4

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 20-May-2019 05:51:42 Calib Date: 18-May-2019 20:36:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0306

First Level Reviewer: eppinged Date: 18-May-2019 13:17:58

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.823	3.791	0.032	120855539H	0.1000	0.1000	
2	4.080	4.066	0.015	145043241H	0.1000	0.1000	
34 Toxaphene							M
1	7.051	7.049	0.002	39325339H	2.50	2.42	
1	7.318	7.316	0.002	52546473H	2.50	2.45	
1	7.700	7.699	0.001	47529889H	2.50	2.40	
1	7.943	7.941	0.002	44103923H	2.50	2.41	
		Average of Peak Amounts =				2.42	
2	7.262	7.262	0.000	26101945H	2.50	2.41	M
2	7.392	7.392	0.000	40032664H	2.50	2.28	M
2	7.894	7.895	-0.001	67246914H	2.50	2.37	M
2	8.633	8.632	0.001	47277820H	2.50	2.34	M
		Average of Peak Amounts =				2.35	
					RPD =	2.82	
* 44 Dibutylchlorendate ISTD							M
1	8.280	8.235	0.045	112746425H	0.1000	0.1000	
2	8.390	8.368	0.023	124795391H	0.1000	0.1000	M

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

GCTOXLEVEL4_00010 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 20-May-2019 05:51:44 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000005.D				
Injection Date:	18-May-2019 13:00:35	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

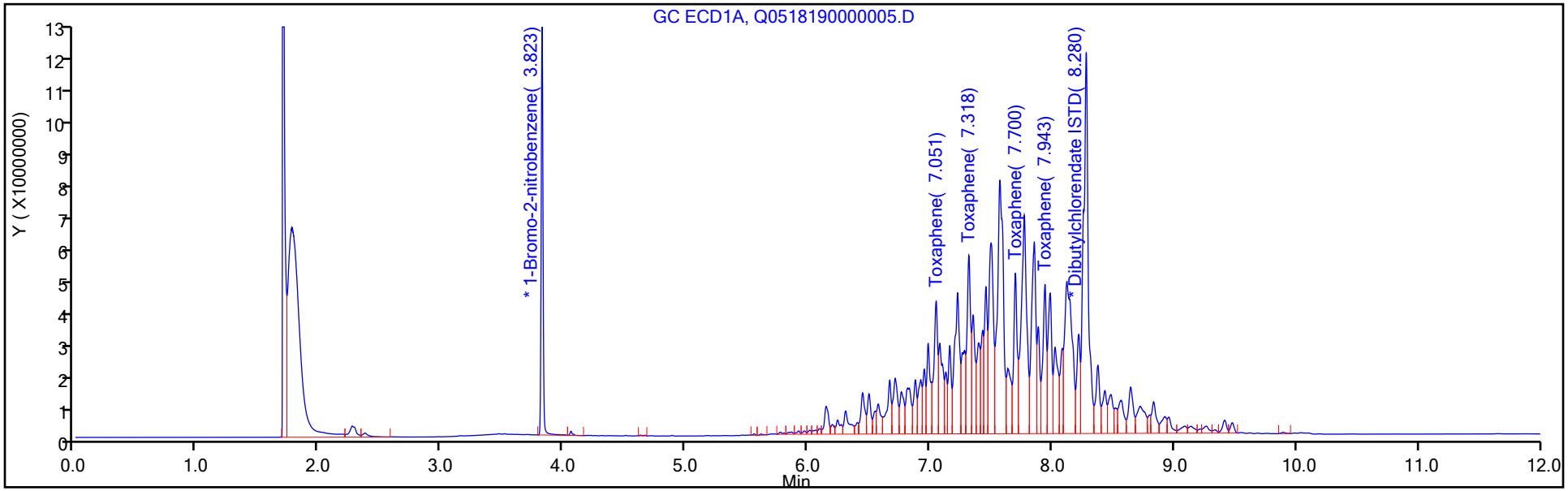

Column: MR-2 (0.53 mm)

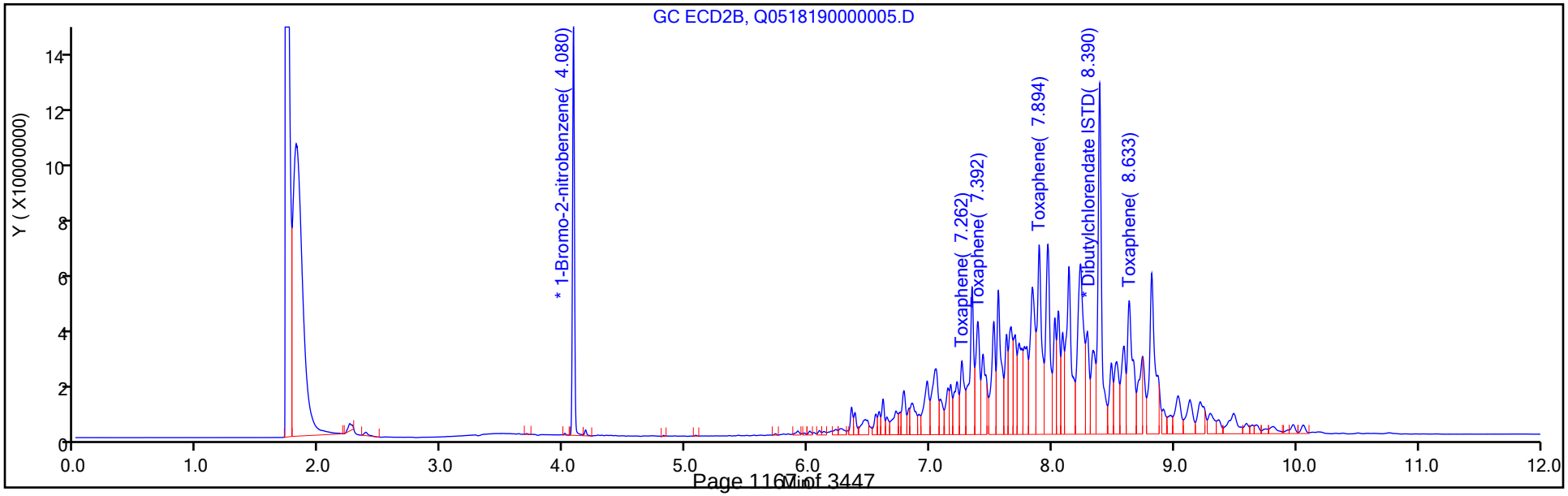

Report Date: 20-May-2019 05:51:44 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000005.D				
Injection Date:	18-May-2019 13:00:35	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

34 Toxaphene, CAS: 8001-35-2

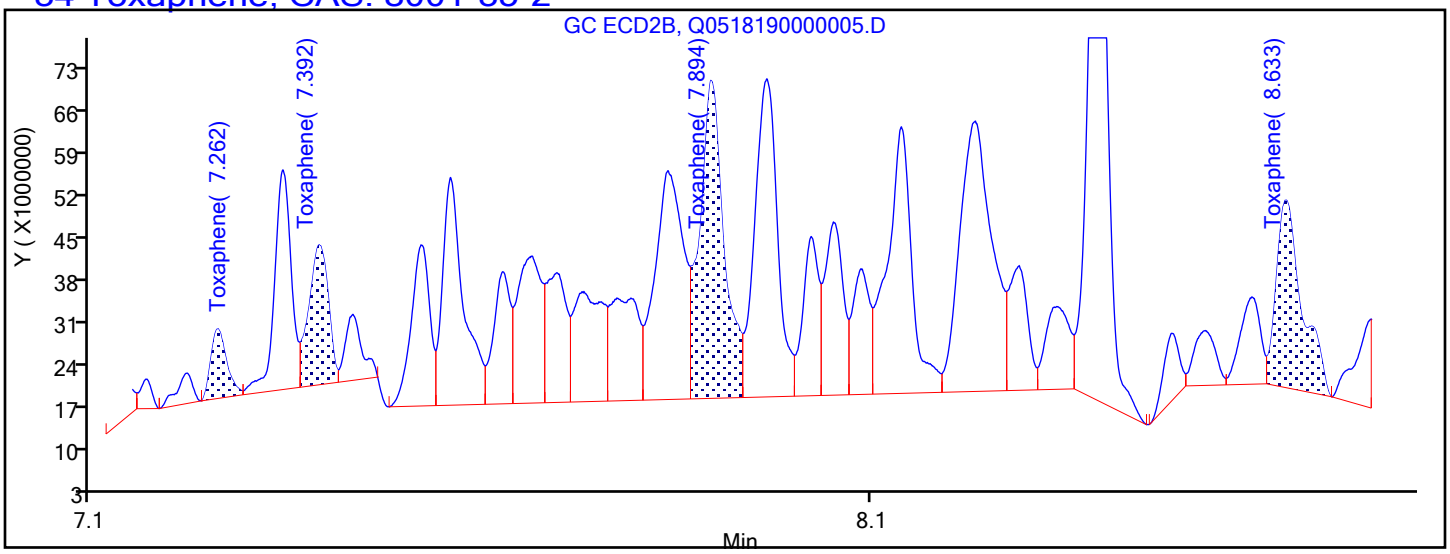

Processing Integration Results

7.262	Response = 11541227
7.392	Response = 23222912
7.894	Response = 52759341
8.633	Response = 31122256

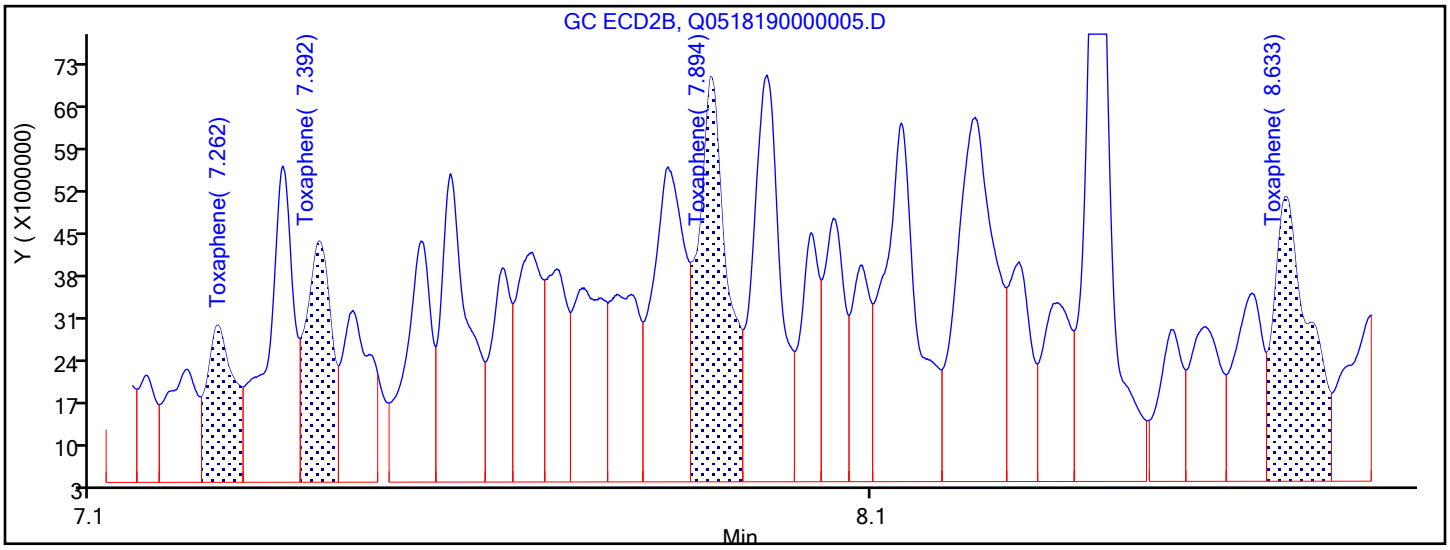

Manual Integration Results

7.262	Response = 26101945	M
7.392	Response = 40032664	M
7.894	Response = 67246914	M
8.633	Response = 47277820	M

Reviewer: eppinged, 18-May-2019 13:18:37

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000005.D				
Injection Date:	18-May-2019 13:00:35	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

* 44 Dibutylchlorendate ISTD, CAS: 1770-80-5

Signal: 2

Processing Integration Results

RT: 8.39
Height: 110716080
Amount: 0.100000
Amount Units: ng

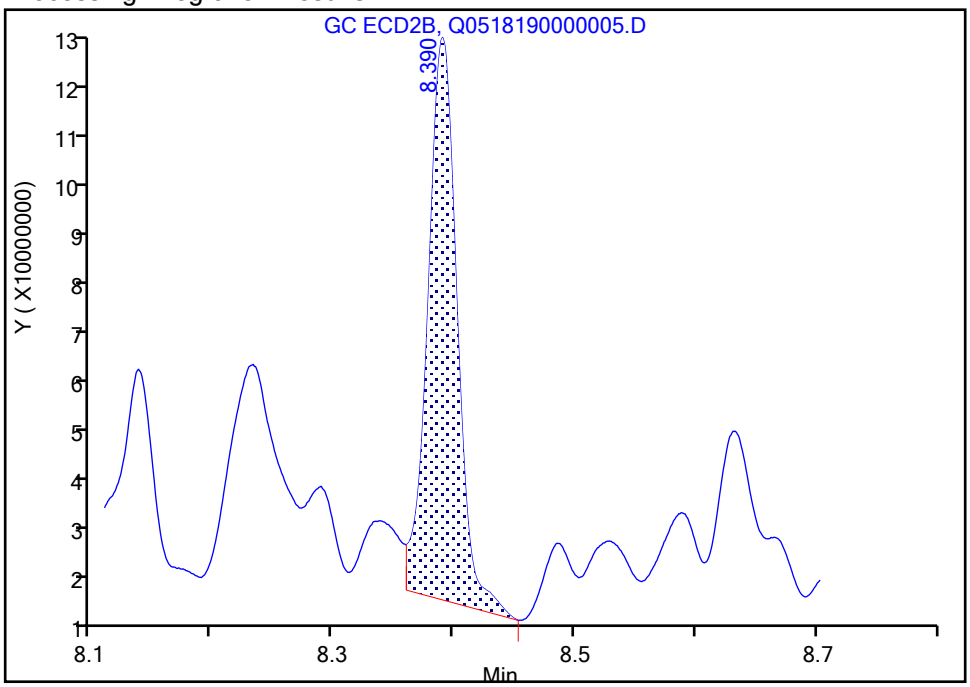

Manual Integration Results

RT: 8.39
Height: 124795391
Amount: 0.100000
Amount Units: ng

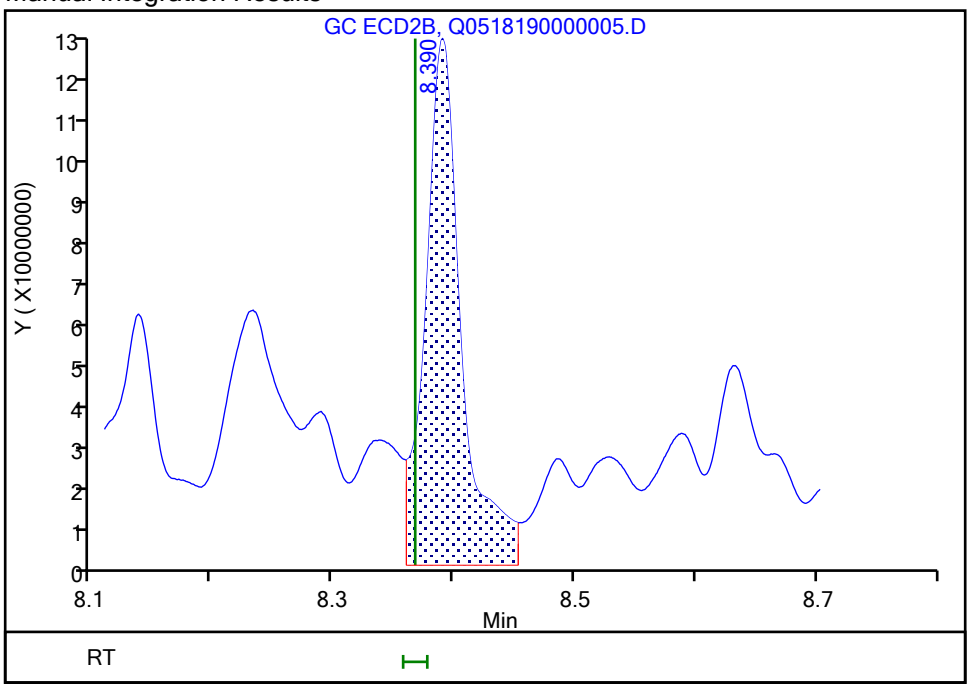

Reviewer: eppinged, 18-May-2019 13:18:37

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000006.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 18-May-2019 13:16:01 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026894-006
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub4

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 20-May-2019 05:51:45 Calib Date: 18-May-2019 20:36:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0306

First Level Reviewer: eppinged Date: 18-May-2019 13:34:02

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.823	3.791	0.032	118506327H	0.1000	0.1000	
2	4.080	4.066	0.015	145705985H	0.1000	0.1000	
34 Toxaphene							M
1	7.050	7.049	0.001	77201237H	5.00	4.84	M
1	7.317	7.316	0.001	104554704H	5.00	4.96	M
1	7.699	7.699	0.000	95111512H	5.00	4.89	M
1	7.942	7.941	0.001	88645940H	5.00	4.95	M
		Average of Peak Amounts =				4.91	
2	7.262	7.262	0.000	49745021H	5.00	4.58	M
2	7.392	7.392	0.000	74343297H	5.00	4.22	M
2	7.895	7.895	0.000	126427332H	5.00	4.44	M
2	8.632	8.632	0.000	90314019H	5.00	4.45	M
		Average of Peak Amounts =				4.42	
						RPD = 10.42	
* 44 Dibutylchlorendate ISTD							M
1	8.280	8.235	0.045	141562567H	0.1000	0.1000	M
2	8.392	8.368	0.024	158730464H	0.1000	0.1000	M

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

GCTOXLEVEL5_00013 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 20-May-2019 05:51:47 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000006.D				
Injection Date:	18-May-2019 13:16:01	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

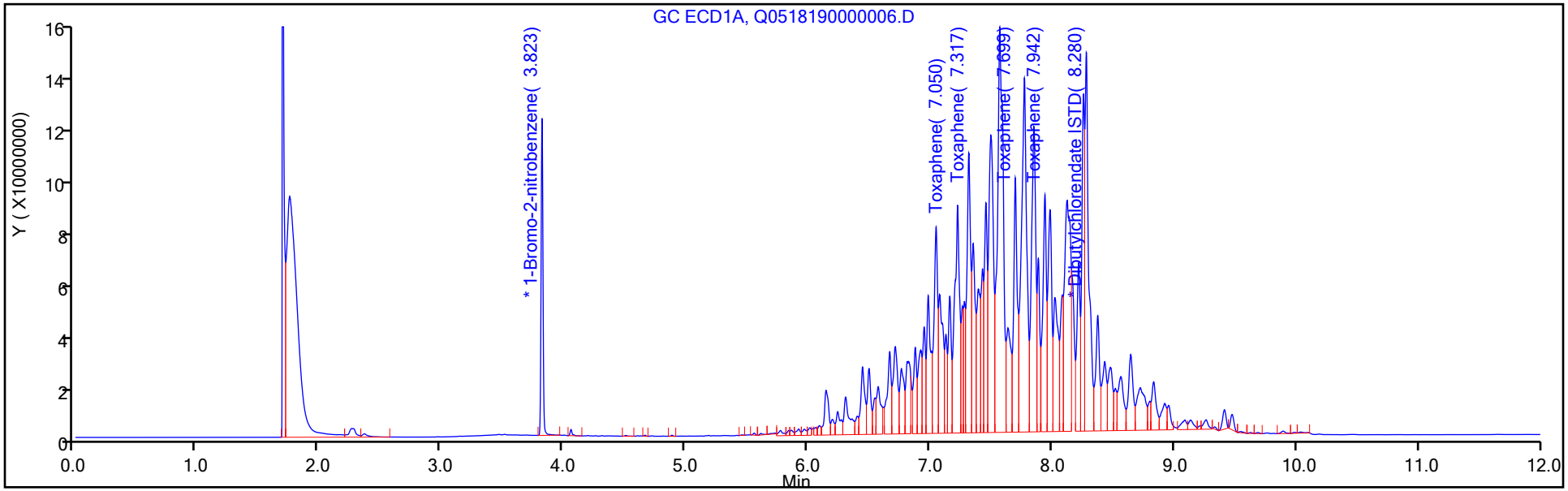

Column: MR-2 (0.53 mm)

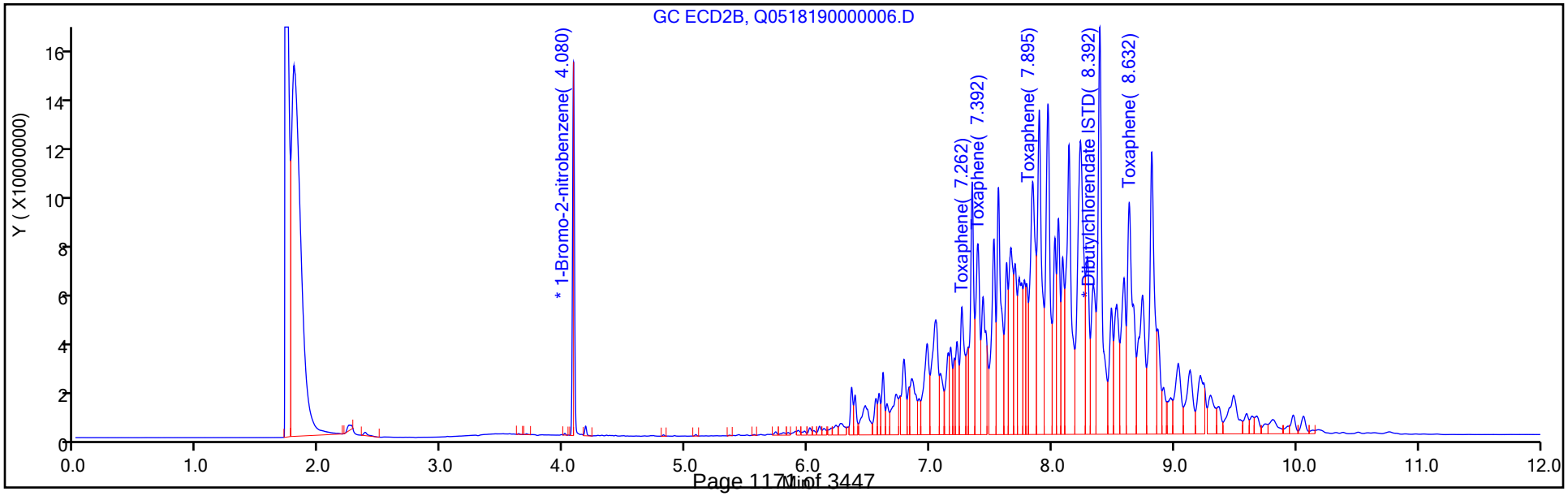

Report Date: 20-May-2019 05:51:48 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000006.D				
Injection Date:	18-May-2019 13:16:01	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

34 Toxaphene, CAS: 8001-35-2

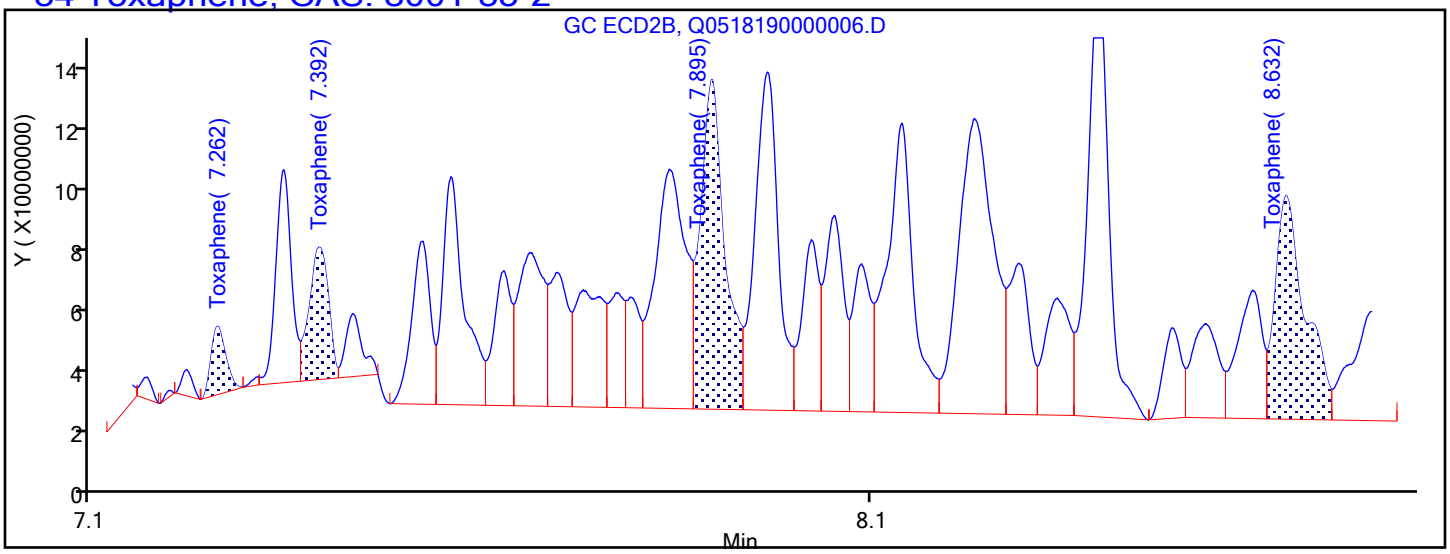

Processing Integration Results

7.262	Response = 21212512
7.392	Response = 41177730
7.895	Response = 102561433
8.632	Response = 69652306

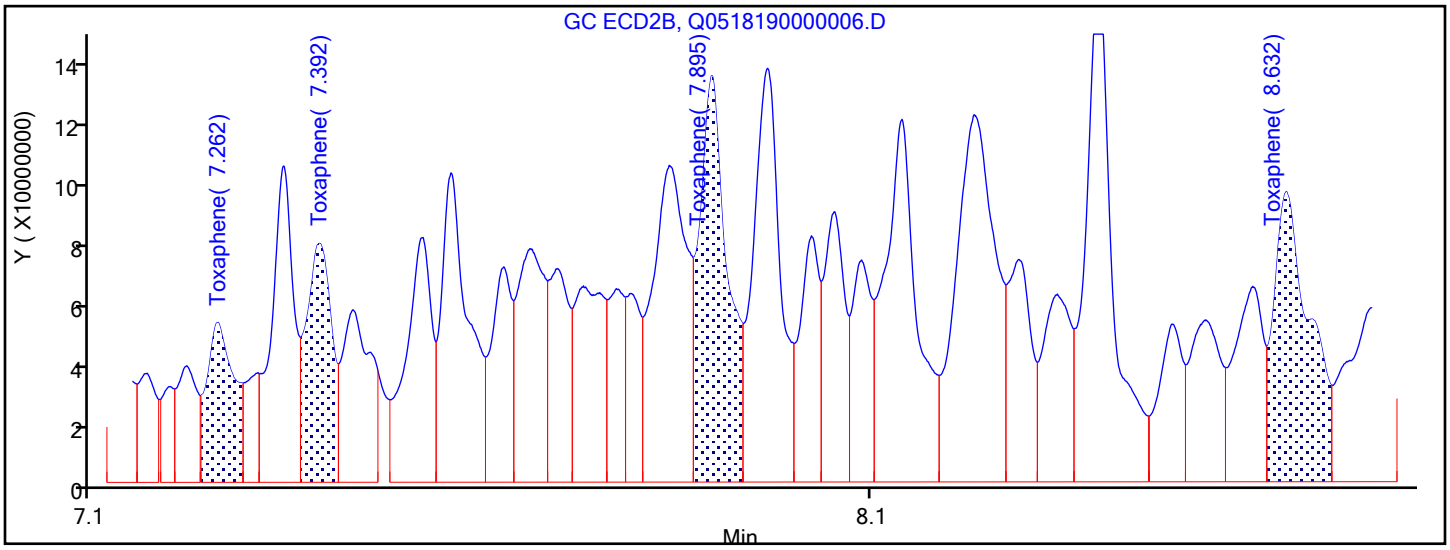

Manual Integration Results

7.262	Response = 49745021	M
7.392	Response = 74343297	M
7.895	Response = 126427332	M
8.632	Response = 90314019	M

Reviewer: eppinged, 18-May-2019 13:32:07

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000006.D				
Injection Date:	18-May-2019 13:16:01	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

* 44 Dibutylchlorendate ISTD, CAS: 1770-80-5

Signal: 2

Processing Integration Results

RT: 8.39
Height: 137341623
Amount: 0.100000
Amount Units: ng

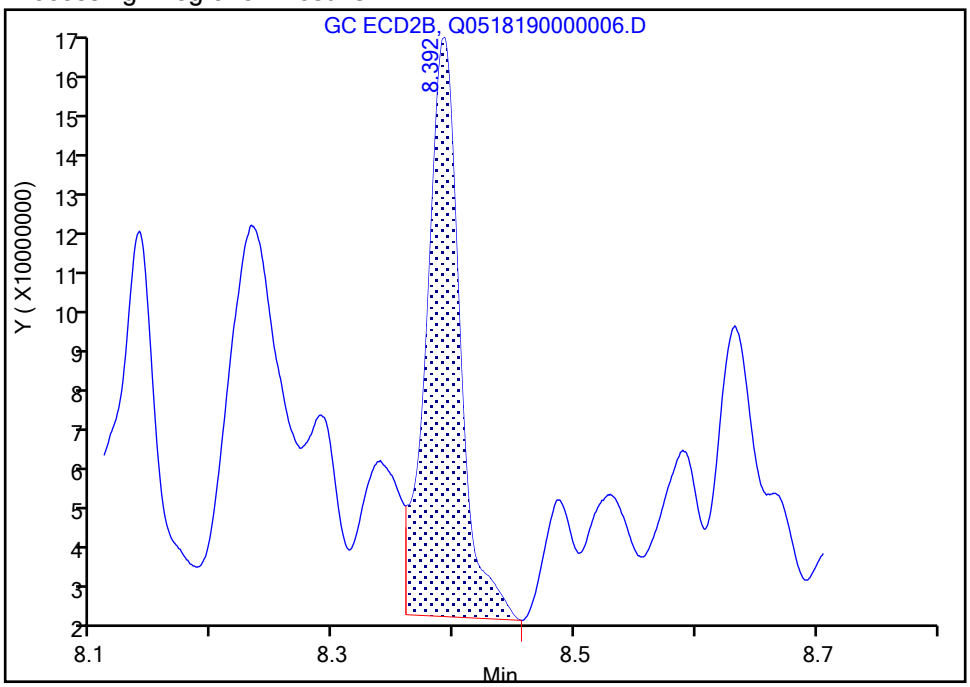

Manual Integration Results

RT: 8.39
Height: 158730464
Amount: 0.100000
Amount Units: ng

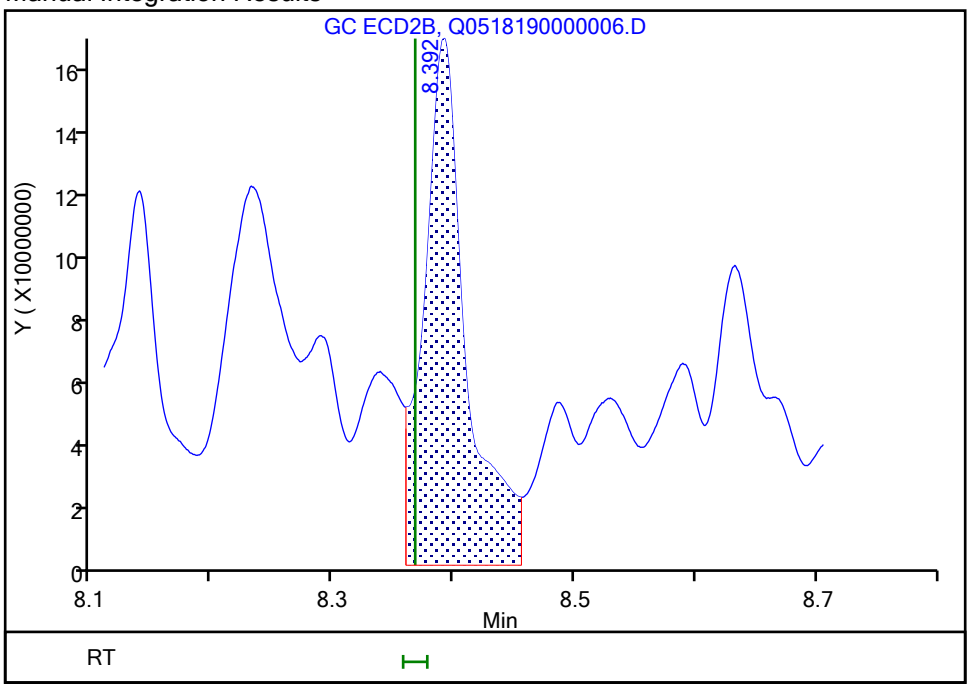

Reviewer: eppinged, 18-May-2019 13:32:07

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 279115

SDG No.:

Instrument ID: CHGC15 GC Column: MR-1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/18/2019 14:56 Calibration End Date: 05/18/2019 15:57 Calibration ID: 40521

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-279115/7	Q0518190000007.D
Level 2	IC 180-279115/8	Q0518190000008.D
Level 3	IC 180-279115/9	Q0518190000009.D
Level 4	IC 180-279115/10	Q0518190000010.D
Level 5	IC 180-279115/11	Q0518190000011.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Chlordane (technical) Peak 1	0.0515	0.0493	0.0460	0.0431	0.0412	Ave		0.0462				9.2		20.0			
Chlordane (technical) Peak 2	0.0685	0.0617	0.0558	0.0507	0.0487	Ave		0.0571				14.2		20.0			
Chlordane (technical) Peak 3	0.1748	0.1807	0.1750	0.1592	0.1567	Ave		0.1693				6.3		20.0			
Chlordane (technical) Peak 4	0.2053	0.1961	0.1864	0.1718	0.1709	Ave		0.1861				8.1		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 279115

SDG No.:

Instrument ID: CHGC15 GC Column: MR-1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/18/2019 14:56 Calibration End Date: 05/18/2019 15:57 Calibration ID: 40521

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-279115/7	Q0518190000007.D
Level 2	IC 180-279115/8	Q0518190000008.D
Level 3	IC 180-279115/9	Q0518190000009.D
Level 4	IC 180-279115/10	Q0518190000010.D
Level 5	IC 180-279115/11	Q0518190000011.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
Chlordane (technical) Peak 1	BNB	Ave	257179	1280004	12238890	61575745	118174922	0.00500	0.0250	0.250	1.25	2.50
Chlordane (technical) Peak 2	BNB	Ave	342238	1602208	14836153	72392675	139727431	0.00500	0.0250	0.250	1.25	2.50
Chlordane (technical) Peak 3	BNB	Ave	872640	4694721	46506909	227251290	449773131	0.00500	0.0250	0.250	1.25	2.50
Chlordane (technical) Peak 4	BNB	Ave	1025275	5095451	49530488	245255972	490451777	0.00500	0.0250	0.250	1.25	2.50

Curve Type Legend:

Ave = Average ISTD by Height

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 279115

SDG No.:

Instrument ID: CHGC15 GC Column: MR-1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/18/2019 14:56 Calibration End Date: 05/18/2019 15:57 Calibration ID: 40521

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-279115/7	Q0518190000007.D
Level 2	IC 180-279115/8	Q0518190000008.D
Level 3	IC 180-279115/9	Q0518190000009.D
Level 4	IC 180-279115/10	Q0518190000010.D
Level 5	IC 180-279115/11	Q0518190000011.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #		LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	
Chlordane (technical) Peak 1	11.4	6.6	-0.4	-6.7	-10.9		50	30	30	30	30	
Chlordane (technical) Peak 2	20.1	8.0	-2.2	-11.1	-14.7		50	30	30	30	30	
Chlordane (technical) Peak 3	3.2	6.8	3.4	-5.9	-7.4		50	30	30	30	30	
Chlordane (technical) Peak 4	10.3	5.4	0.1	-7.7	-8.2		50	30	30	30	30	

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000007.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 18-May-2019 14:56:07 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026894-007
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub5

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 20-May-2019 05:51:49 Calib Date: 18-May-2019 20:36:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0306

First Level Reviewer: eppinged Date: 18-May-2019 15:14:14

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							M
1	3.797	3.791	0.006	99872177H	0.1000	0.1000	
2	4.063	4.066	-0.003	130615691H	0.1000	0.1000	M
9 Chlordane (technical)							Ma
1	5.730	5.721	0.009	257179H	0.005000	0.005570	
1	5.905	5.895	0.010	342238H	0.005000	0.006003	
1	6.762	6.754	0.008	872640H	0.005000	0.005162	
1	6.835	6.824	0.011	1025275H	0.005000	0.005516	
		Average of Peak Amounts =				0.005563	
2	6.053	6.054	-0.001	643580H	0.005000	0.002863	M
2	6.413	6.413	0.000	466004H	0.005000	0.003044	M
2	7.023	7.023	0.000	1453339H	0.005000	0.002512	M
2	7.071	7.070	0.001	985324H	0.005000	0.002692	M
		Average of Peak Amounts =				0.002778	
						RPD = 66.78	
* 44 Dibutylchlorendate ISTD							Ma
1	8.252	8.235	0.017	74808620H	0.1000	0.1000	a
2	8.372	8.368	0.004	84034964H	0.1000	0.1000	M

QC Flag Legend

Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

GCCHLORLEVEL1_00011 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 20-May-2019 05:51:51 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000007.D				
Injection Date:	18-May-2019 14:56:07	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

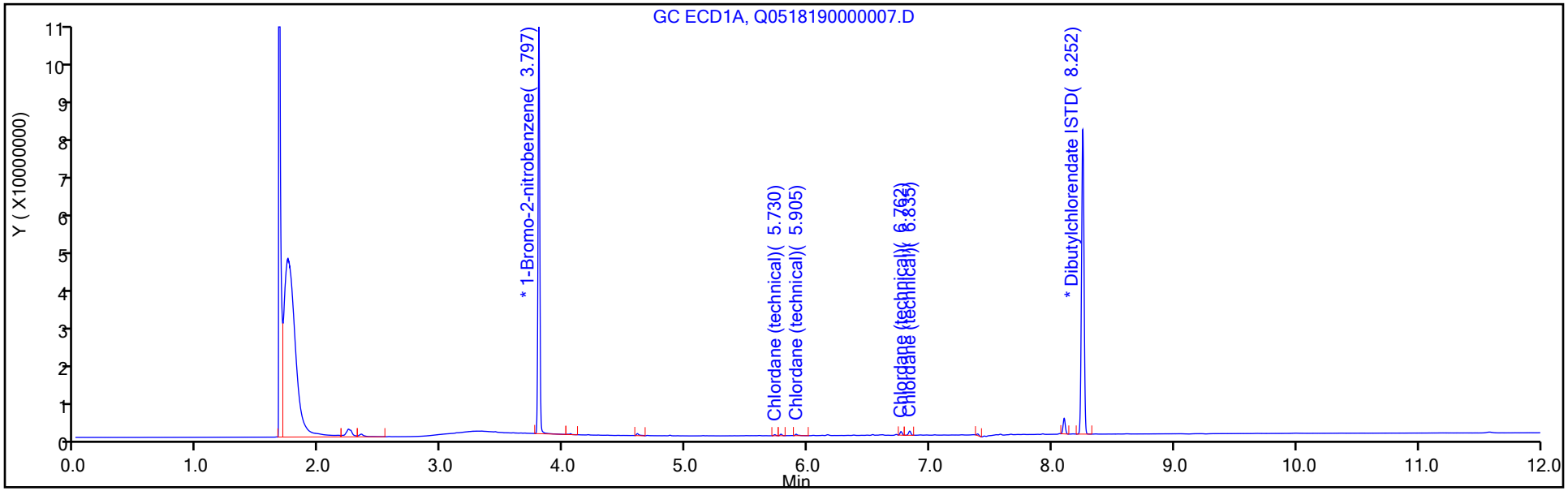

Column: MR-2 (0.53 mm)

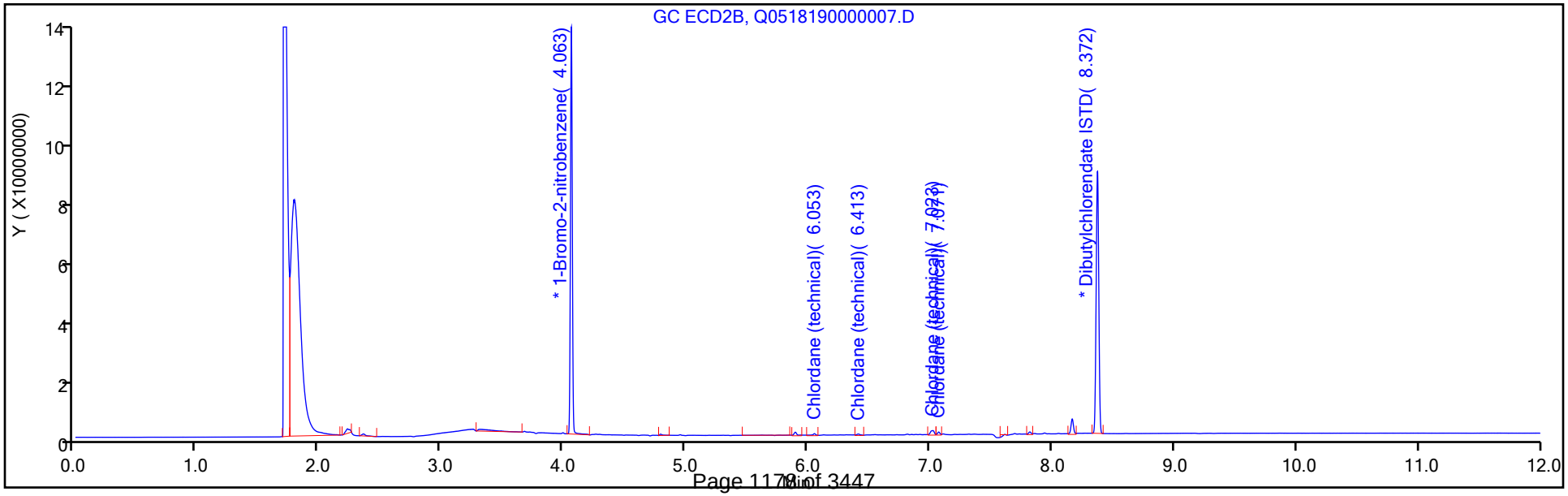

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000007.D				
Injection Date:	18-May-2019 14:56:07	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

* 44 Dibutylchlorendate ISTD, CAS: 1770-80-5

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 8.24

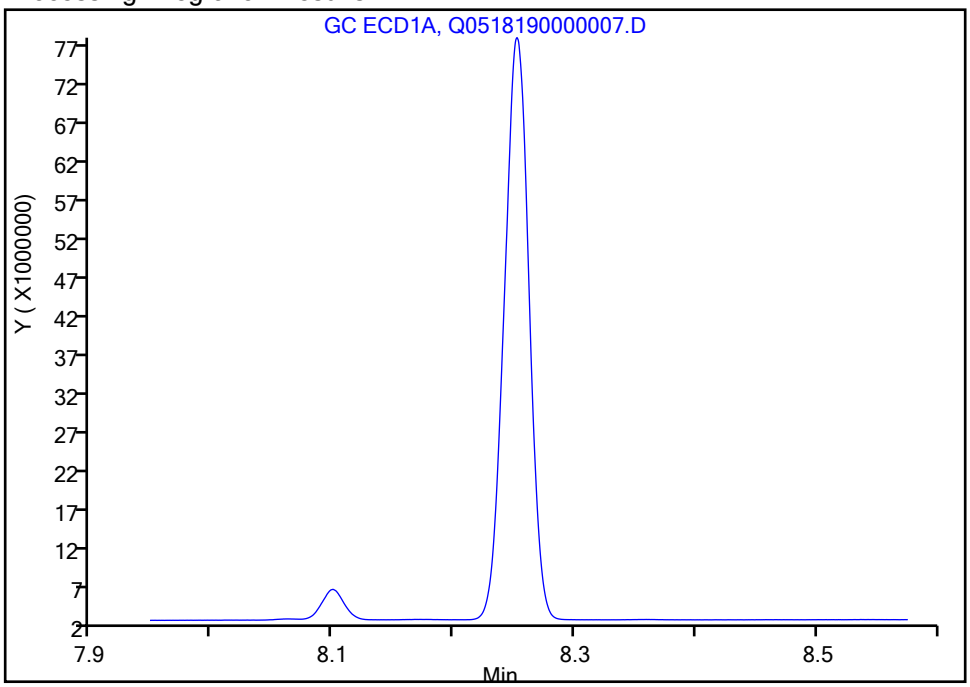

Manual Integration Results

RT: 8.25
Height: 74808620
Amount: 0.100000
Amount Units: ng

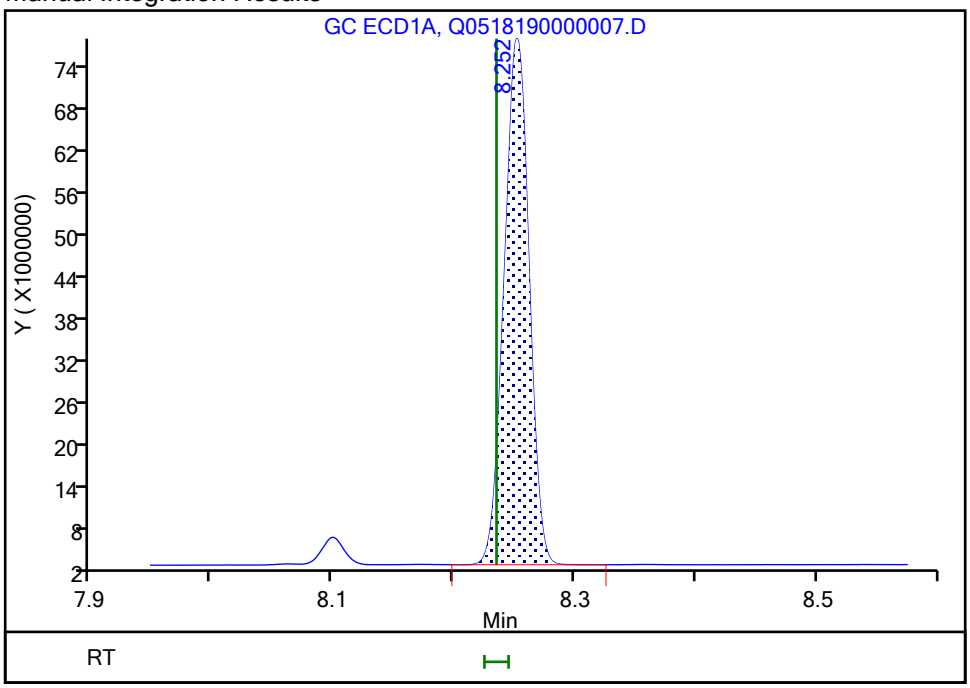

Reviewer: eppinged, 18-May-2019 15:35:45
Audit Action: Assigned Compound ID Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000008.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 18-May-2019 15:11:31 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026894-008
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub5

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 20-May-2019 05:51:52 Calib Date: 18-May-2019 20:36:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0306

First Level Reviewer: eppinged Date: 18-May-2019 15:32:40

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.794	3.791	0.003	103917836H	0.1000	0.1000	
2	4.067	4.066	0.001	135344109H	0.1000	0.1000	
9 Chlordane (technical)							
1	5.722	5.721	0.001	1280004H	0.0250	0.0266	
1	5.897	5.895	0.002	1602208H	0.0250	0.0270	
1	6.755	6.754	0.001	4694721H	0.0250	0.0267	
1	6.826	6.824	0.002	5095451H	0.0250	0.0263	
		Average of Peak Amounts =				0.0267	
2	6.054	6.054	0.000	2250016H	0.0250	0.0295	
2	6.412	6.413	-0.001	1404647H	0.0250	0.0282	
2	7.024	7.023	0.001	6142658H	0.0250	0.0310	
2	7.071	7.070	0.001	3836732H	0.0250	0.0303	
		Average of Peak Amounts =				0.0297	
						RPD = 10.90	
* 44 Dibutylchlorendate ISTD							
1	8.242	8.235	0.007	75079993H	0.1000	0.1000	
2	8.370	8.368	0.002	85252851H	0.1000	0.1000	

Reagents:

GCCHLORLEVEL2_00009 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 20-May-2019 05:51:54 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000008.D				
Injection Date:	18-May-2019 15:11:31	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

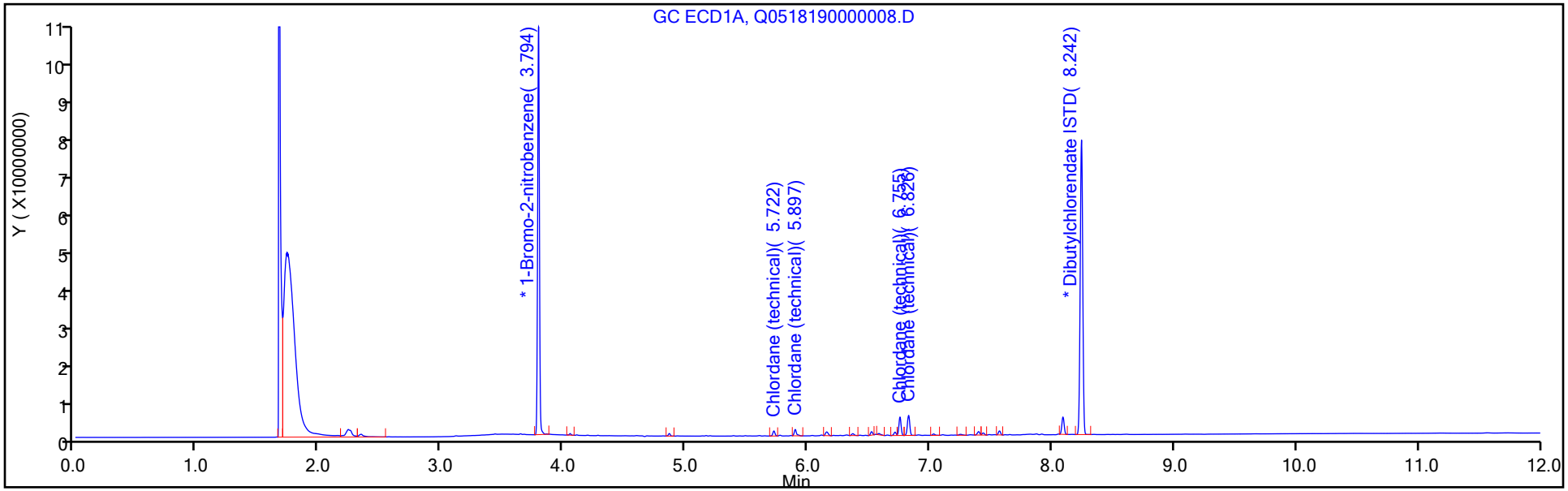

Column: MR-2 (0.53 mm)

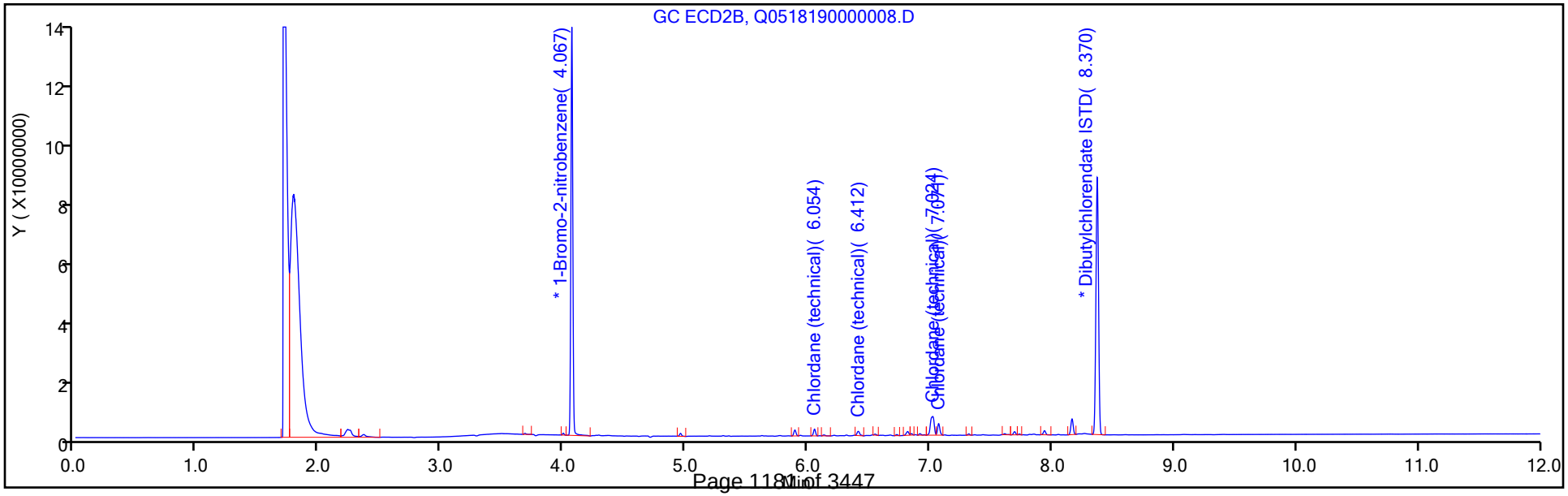

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000009.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 18-May-2019 15:26:57 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026894-009
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub5

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 20-May-2019 05:51:55 Calib Date: 18-May-2019 20:36:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0306

First Level Reviewer: eppinged Date: 18-May-2019 15:46:57

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.793	3.793	0.000	106316237H	0.1000	0.1000	
2	4.067	4.067	0.000	137321753H	0.1000	0.1000	
9 Chlordane (technical)							M
1	5.721	5.721	0.000	12238890H	0.2500	0.2490	
1	5.895	5.895	0.000	14836153H	0.2500	0.2444	
1	6.754	6.754	0.000	46506909H	0.2500	0.2584	
1	6.824	6.824	0.000	49530488H	0.2500	0.2503	
		Average of Peak Amounts =				0.2505	
2	6.054	6.054	0.000	19472528H	0.2500	0.3149	
2	6.413	6.413	0.000	12265744H	0.2500	0.3198	M
2	7.023	7.023	0.000	54091135H	0.2500	0.3207	M
2	7.070	7.070	0.000	33648586H	0.2500	0.3175	M
		Average of Peak Amounts =				0.3182	
						RPD = 23.79	
* 44 Dibutylchlorendate ISTD							
1	8.240	8.240	0.000	78811573H	0.1000	0.1000	
2	8.369	8.369	0.000	88037501H	0.1000	0.1000	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

GCCHLORLEVEL3_00015 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 20-May-2019 05:51:57 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000009.D				
Injection Date:	18-May-2019 15:26:57	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	9
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

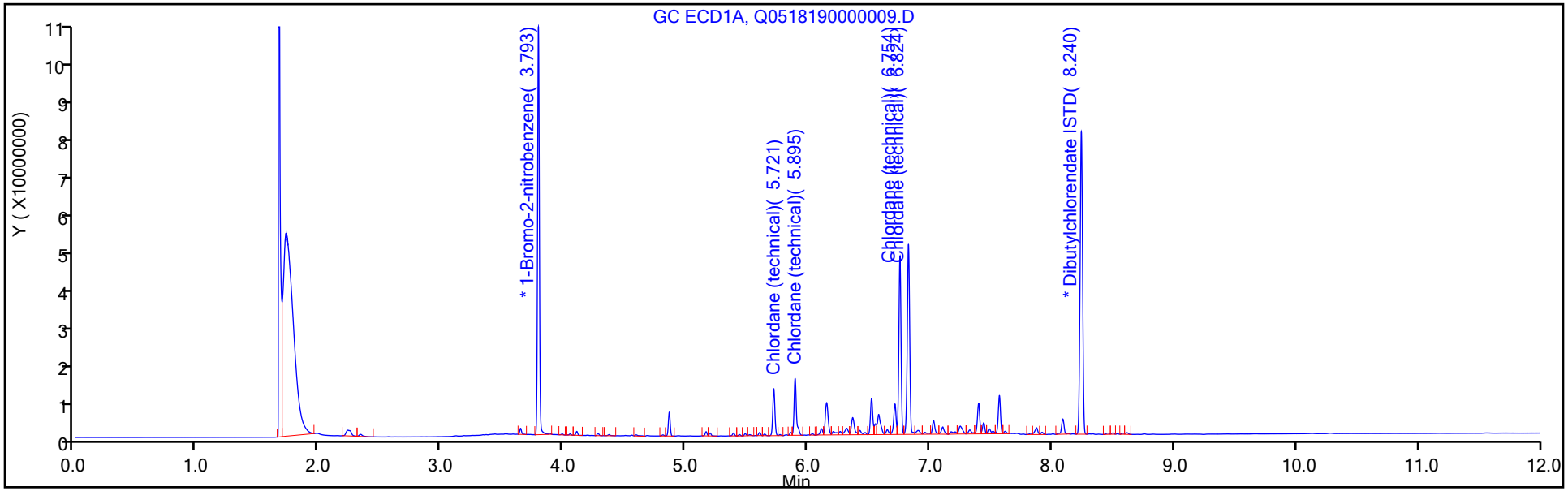

Column: MR-2 (0.53 mm)

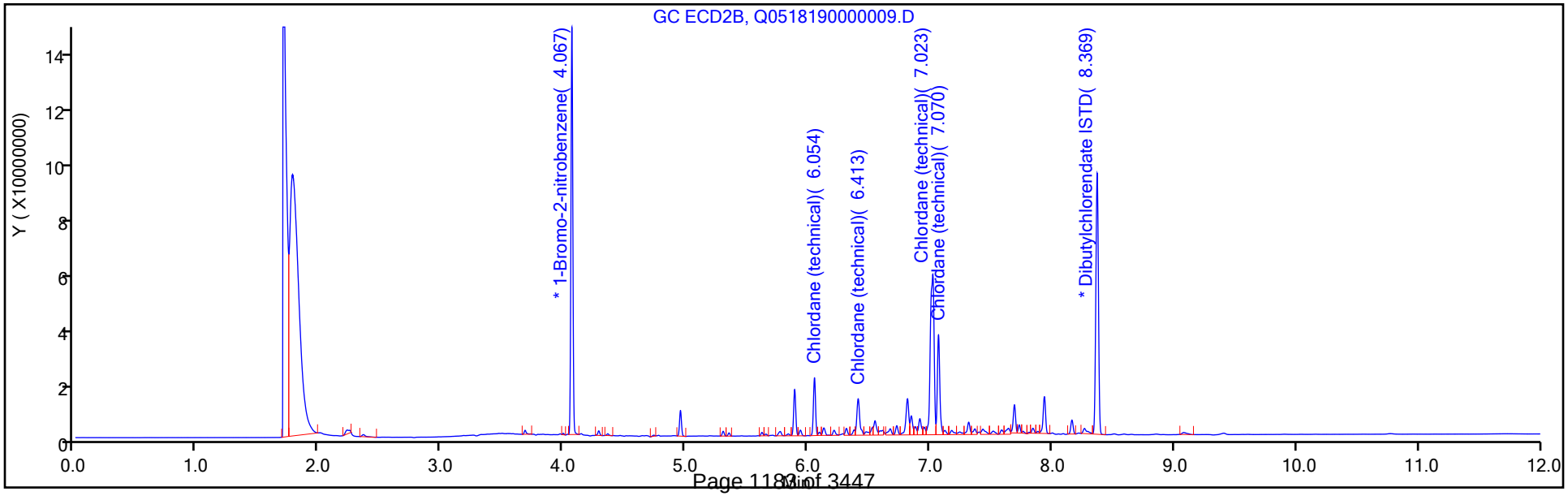

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000010.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 18-May-2019 15:42:22 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026894-010
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub5

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 20-May-2019 05:51:59 Calib Date: 18-May-2019 20:36:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0306

First Level Reviewer: eppinged Date: 18-May-2019 16:06:00

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.793	3.791	0.002	114173283H	0.1000	0.1000	
2	4.067	4.066	0.002	145725620H	0.1000	0.1000	
9 Chlordane (technical)							
1	5.720	5.721	-0.001	61575745H	1.25	1.17	
1	5.894	5.895	-0.001	72392675H	1.25	1.11	
1	6.753	6.754	-0.001	227251290H	1.25	1.18	
1	6.824	6.824	0.000	245255972H	1.25	1.15	
		Average of Peak Amounts =				1.15	
2	6.054	6.054	0.000	82665061H	1.25	1.28	
2	6.412	6.413	-0.001	50952790H	1.25	1.28	
2	7.023	7.023	0.000	222563535H	1.25	1.26	
2	7.071	7.070	0.001	140693315H	1.25	1.27	
		Average of Peak Amounts =				1.28	
						RPD = 10.17	
* 44 Dibutylchlorendate ISTD							
1	8.239	8.235	0.004	86714159H	0.1000	0.1000	
2	8.369	8.368	0.001	93081367H	0.1000	0.1000	

Reagents:

GCCHLORLEVEL4_00009 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 20-May-2019 05:52:01 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000010.D				
Injection Date:	18-May-2019 15:42:22	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	10
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

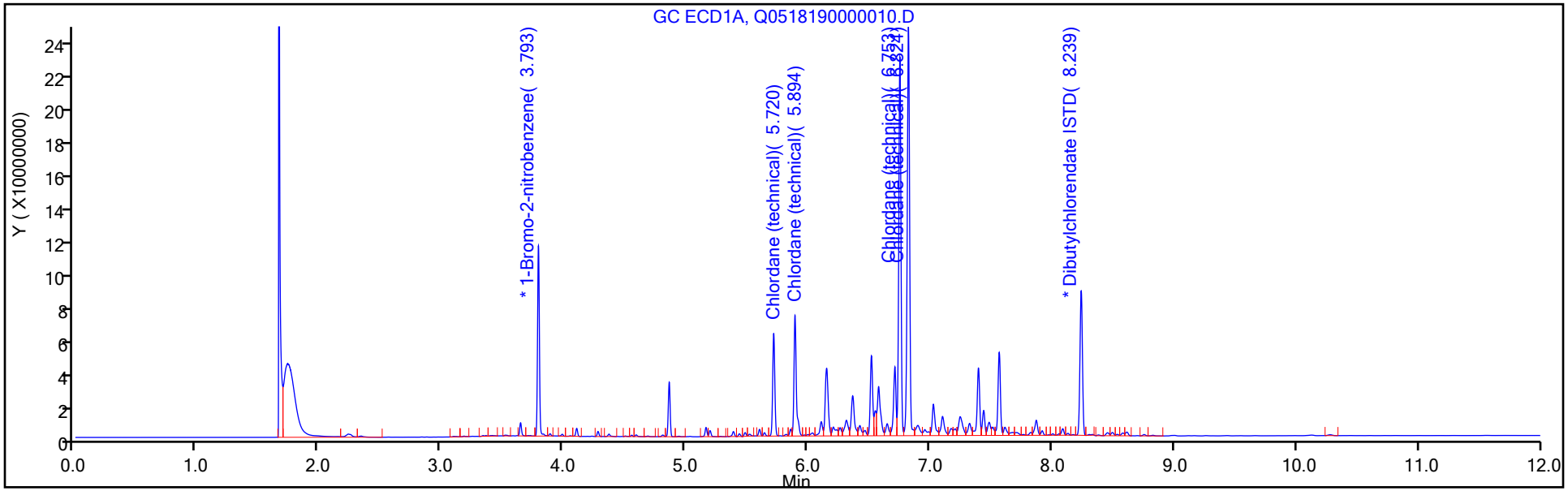

Column: MR-2 (0.53 mm)

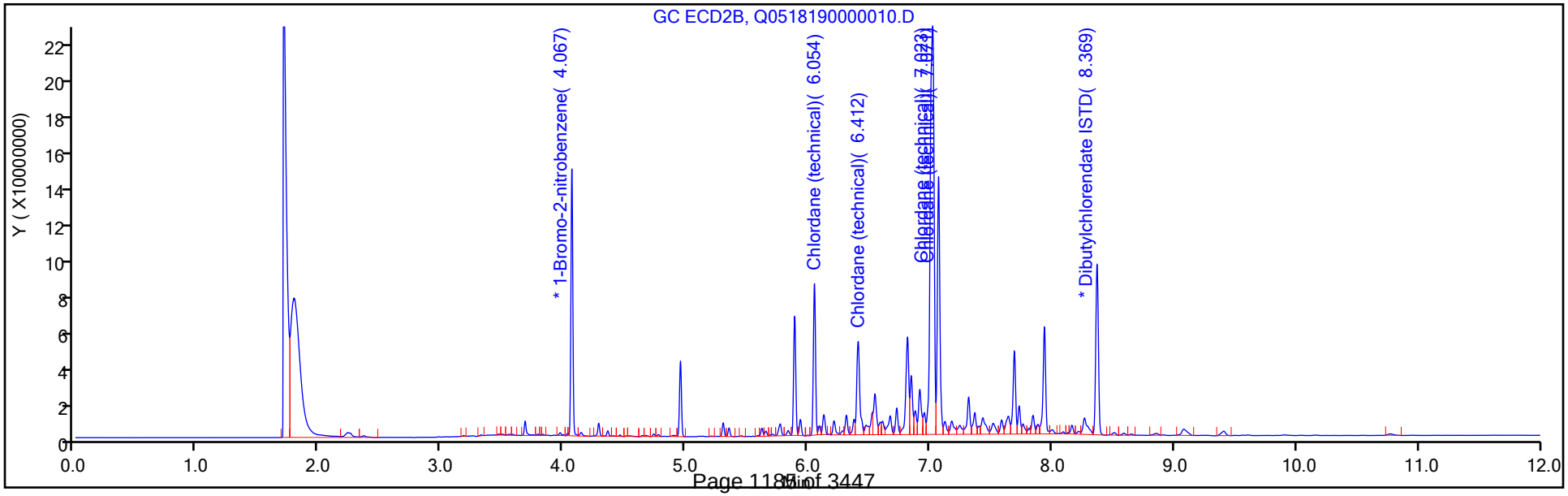

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000011.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 18-May-2019 15:57:59 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026894-011
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub5

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 20-May-2019 05:52:05 Calib Date: 18-May-2019 20:36:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0306

First Level Reviewer: eppinged Date: 18-May-2019 16:17:48

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.792	3.791	0.001	114789869H	0.1000	0.1000	
2	4.067	4.066	0.001	144116736H	0.1000	0.1000	
9 Chlordane (technical)							M
1	5.720	5.721	-0.001	118174922H	2.50	2.23	
1	5.895	5.895	0.000	139727431H	2.50	2.13	
1	6.754	6.754	0.000	449773131H	2.50	2.31	
1	6.825	6.824	0.001	490451777H	2.50	2.30	
		Average of Peak Amounts =				2.24	
2	6.054	6.054	0.000	152143795H	2.50	2.40	M
2	6.412	6.413	-0.001	93953313H	2.50	2.40	M
2	7.024	7.023	0.001	419591000H	2.50	2.41	M
2	7.071	7.070	0.001	262476328H	2.50	2.41	M
		Average of Peak Amounts =				2.40	
						RPD = 6.96	
* 44 Dibutylchlorendate ISTD							M
1	8.239	8.235	0.004	89487474H	0.1000	0.1000	
2	8.369	8.368	0.002	92635058H	0.1000	0.1000	M

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

GCCHLORLEVEL5_00011 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 20-May-2019 05:52:06 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000011.D				
Injection Date:	18-May-2019 15:57:59	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	11
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

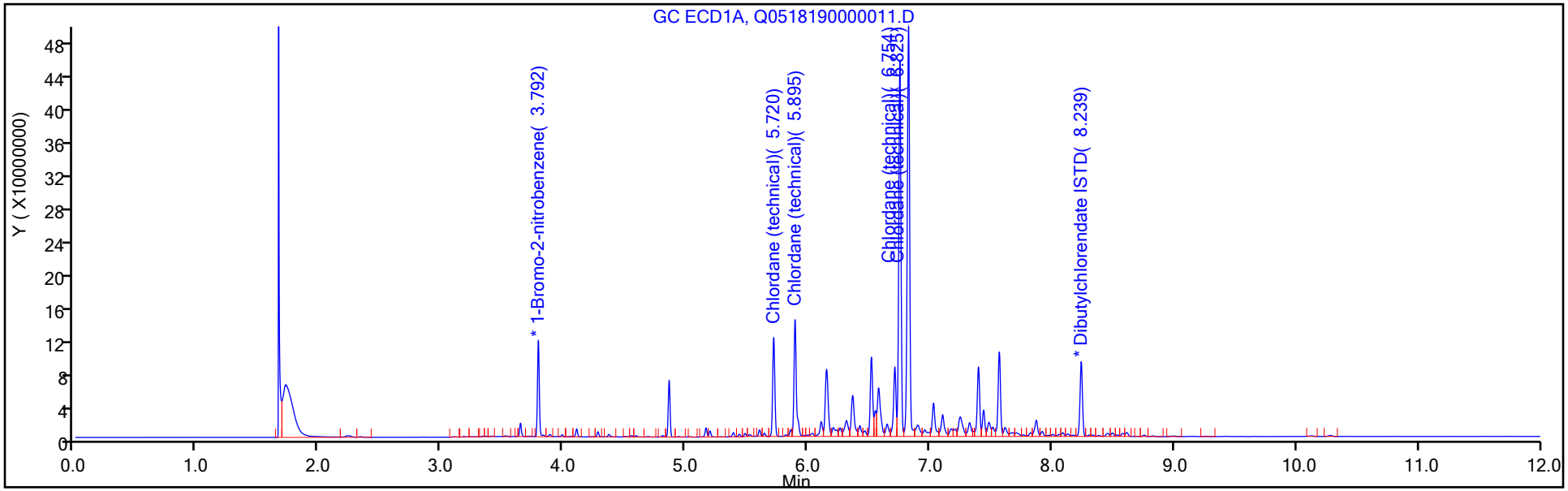

Column: MR-2 (0.53 mm)

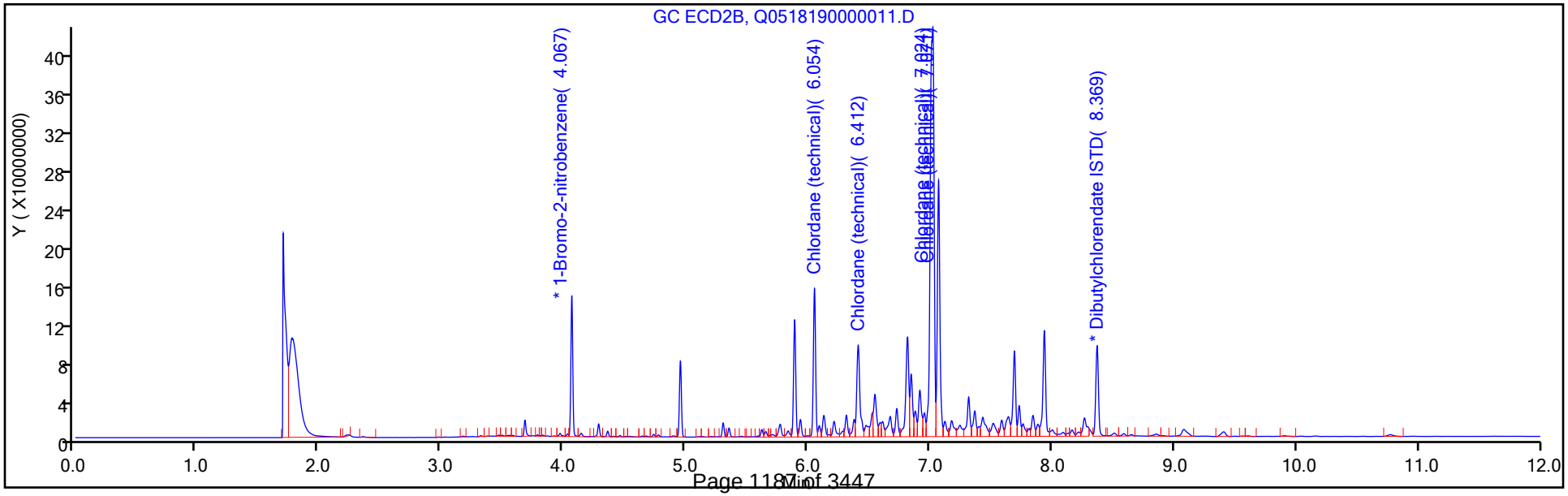

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 279115

SDG No.:

Instrument ID: CHGC15 GC Column: MR-2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/18/2019 14:56 Calibration End Date: 05/18/2019 15:57 Calibration ID: 40522

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-279115/7	Q0518190000007.D
Level 2	IC 180-279115/8	Q0518190000008.D
Level 3	IC 180-279115/9	Q0518190000009.D
Level 4	IC 180-279115/10	Q0518190000010.D
Level 5	IC 180-279115/11	Q0518190000011.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Chlordane (technical) Peak 1	0.0985	0.0665	0.0567	0.0454	0.0422	Lin1	0.0004	0.0439							0.9940		0.9900
Chlordane (technical) Peak 2	0.0714	0.0415	0.0357	0.0280	0.0261	Lin1	0.0003	0.0271							0.9940		0.9900
Chlordane (technical) Peak 3	0.2225	0.1815	0.1576	0.1222	0.1165	Lin1	0.0008	0.1203							0.9930		0.9900
Chlordane (technical) Peak 4	0.1509	0.1134	0.0980	0.0772	0.0729	Lin1	0.0006	0.0754							0.9940		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 279115

SDG No.:

Instrument ID: CHGC15 GC Column: MR-2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/18/2019 14:56 Calibration End Date: 05/18/2019 15:57 Calibration ID: 40522

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-279115/7	Q0518190000007.D
Level 2	IC 180-279115/8	Q0518190000008.D
Level 3	IC 180-279115/9	Q0518190000009.D
Level 4	IC 180-279115/10	Q0518190000010.D
Level 5	IC 180-279115/11	Q0518190000011.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
Chlordane (technical) Peak 1	BNB	Lin1	643580	2250016	19472528	82665061	152143795	0.00500	0.0250	0.250	1.25	2.50
Chlordane (technical) Peak 2	BNB	Lin1	466004	1404647	12265744	50952790	93953313	0.00500	0.0250	0.250	1.25	2.50
Chlordane (technical) Peak 3	BNB	Lin1	1453339	6142658	54091135	222563535	419591000	0.00500	0.0250	0.250	1.25	2.50
Chlordane (technical) Peak 4	BNB	Lin1	985324	3836732	33648586	140693315	262476328	0.00500	0.0250	0.250	1.25	2.50

Curve Type Legend:
Lin1 = Linear 1/Conc ISTD by Height

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 279115

SDG No.:

Instrument ID: CHGC15 GC Column: MR-2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/18/2019 14:56 Calibration End Date: 05/18/2019 15:57 Calibration ID: 40522

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-279115/7	Q0518190000007.D
Level 2	IC 180-279115/8	Q0518190000008.D
Level 3	IC 180-279115/9	Q0518190000009.D
Level 4	IC 180-279115/10	Q0518190000010.D
Level 5	IC 180-279115/11	Q0518190000011.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #		LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	
Chlordane (technical) Peak 1	-42.7	18.1	25.9	2.8	-4.1		50	30	30	30	30	
Chlordane (technical) Peak 2	-39.1	12.8	27.9	2.5	-4.1		50	30	30	30	30	
Chlordane (technical) Peak 3	-49.8	23.9	28.3	1.0	-3.5		50	30	30	30	30	
Chlordane (technical) Peak 4	-46.2	21.1	27.0	1.8	-3.7		50	30	30	30	30	

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000007.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 18-May-2019 14:56:07 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026894-007
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub5

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 20-May-2019 05:51:49 Calib Date: 18-May-2019 20:36:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0306

First Level Reviewer: eppinged Date: 18-May-2019 15:14:14

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							M
1	3.797	3.791	0.006	99872177H	0.1000	0.1000	
2	4.063	4.066	-0.003	130615691H	0.1000	0.1000	M
9 Chlordane (technical)							Ma
1	5.730	5.721	0.009	257179H	0.005000	0.005570	
1	5.905	5.895	0.010	342238H	0.005000	0.006003	
1	6.762	6.754	0.008	872640H	0.005000	0.005162	
1	6.835	6.824	0.011	1025275H	0.005000	0.005516	
		Average of Peak Amounts =				0.005563	
2	6.053	6.054	-0.001	643580H	0.005000	0.002863	M
2	6.413	6.413	0.000	466004H	0.005000	0.003044	M
2	7.023	7.023	0.000	1453339H	0.005000	0.002512	M
2	7.071	7.070	0.001	985324H	0.005000	0.002692	M
		Average of Peak Amounts =				0.002778	
						RPD = 66.78	
* 44 Dibutylchlorendate ISTD							Ma
1	8.252	8.235	0.017	74808620H	0.1000	0.1000	a
2	8.372	8.368	0.004	84034964H	0.1000	0.1000	M

QC Flag Legend

Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

GCCHLORLEVEL1_00011 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 20-May-2019 05:51:51 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000007.D

Injection Date:	18-May-2019 14:56:07	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

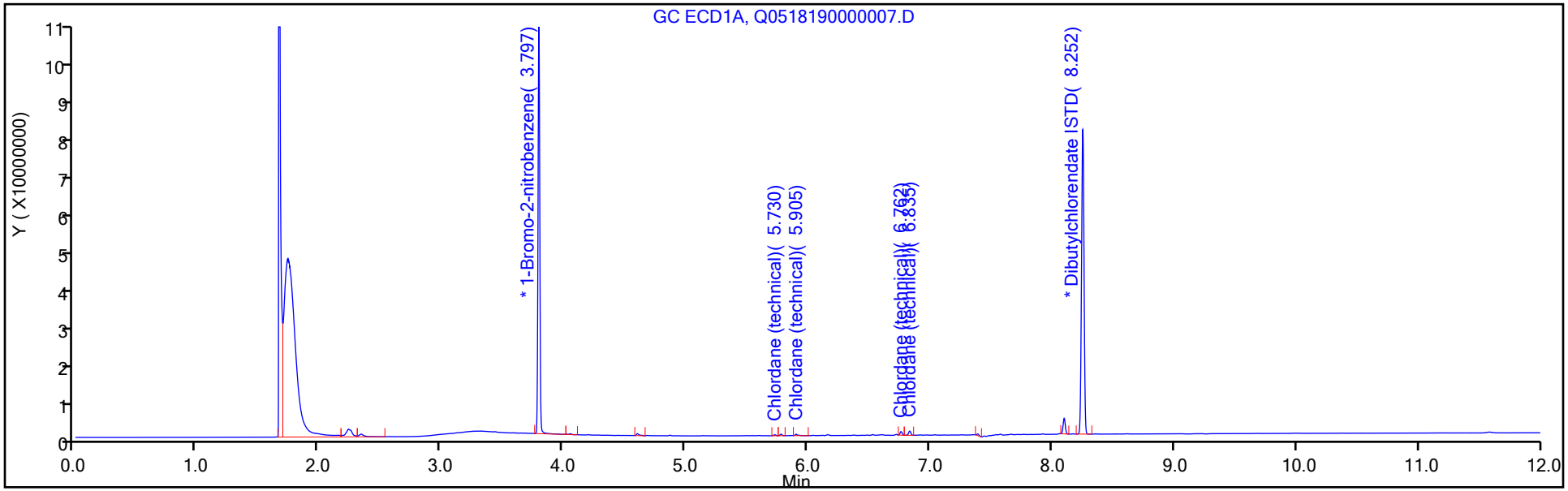

Column: MR-2 (0.53 mm)

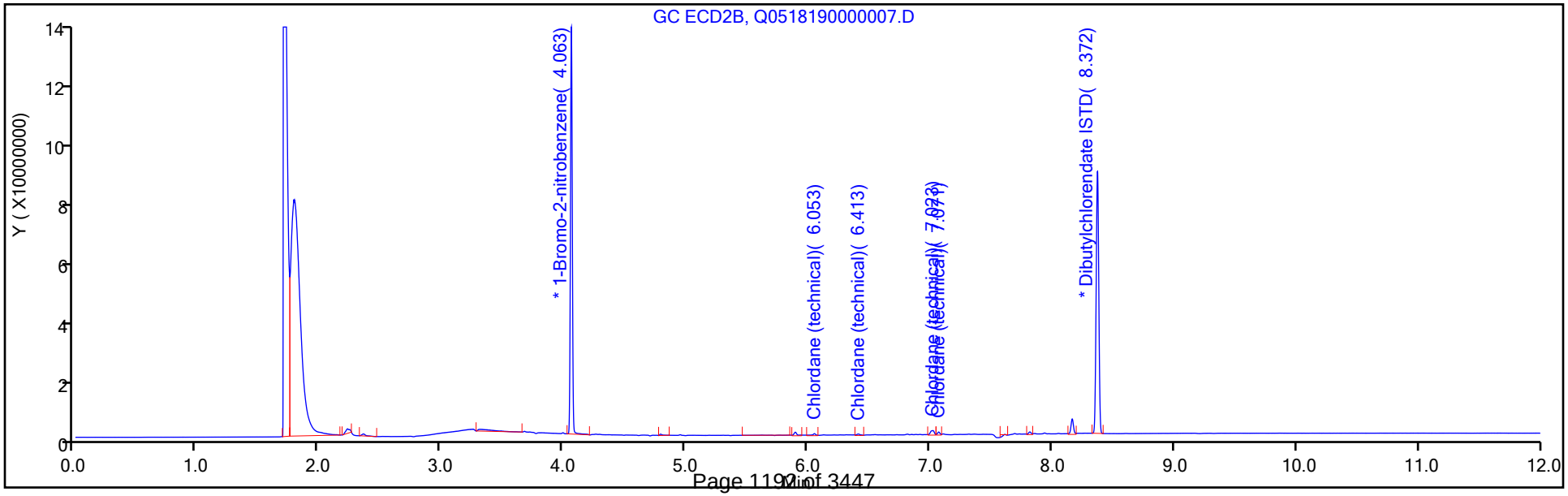

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000007.D				
Injection Date:	18-May-2019 14:56:07	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

* 43 1-Bromo-2-nitrobenzene, CAS: 577-19-5

Signal: 2

Processing Integration Results

RT: 4.06
Height: 130639600
Amount: 0.100000
Amount Units: ng

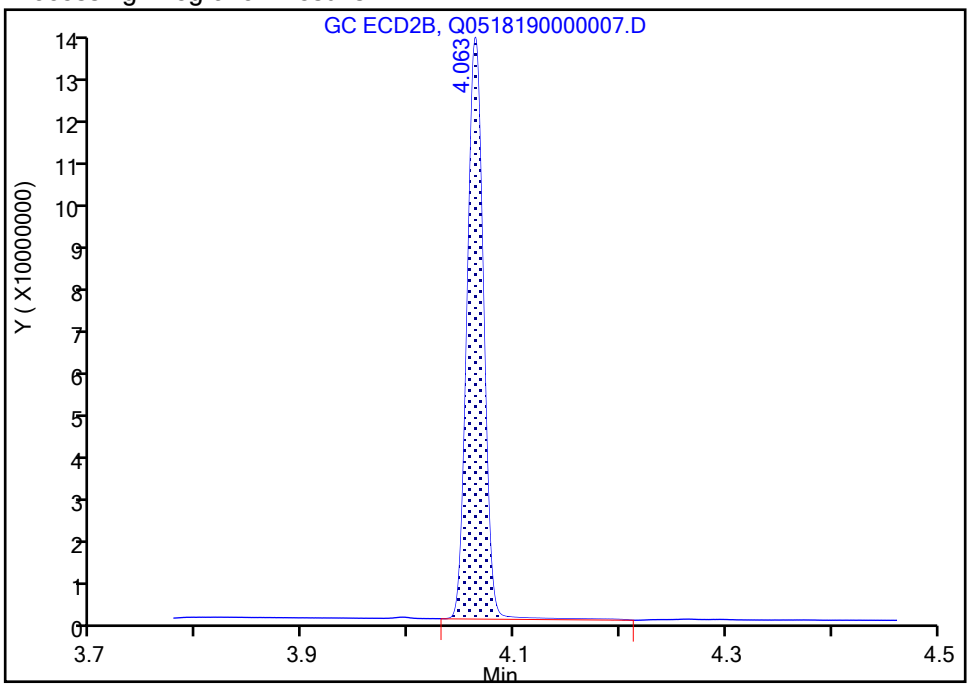

Manual Integration Results

RT: 4.06
Height: 130615691
Amount: 0.100000
Amount Units: ng

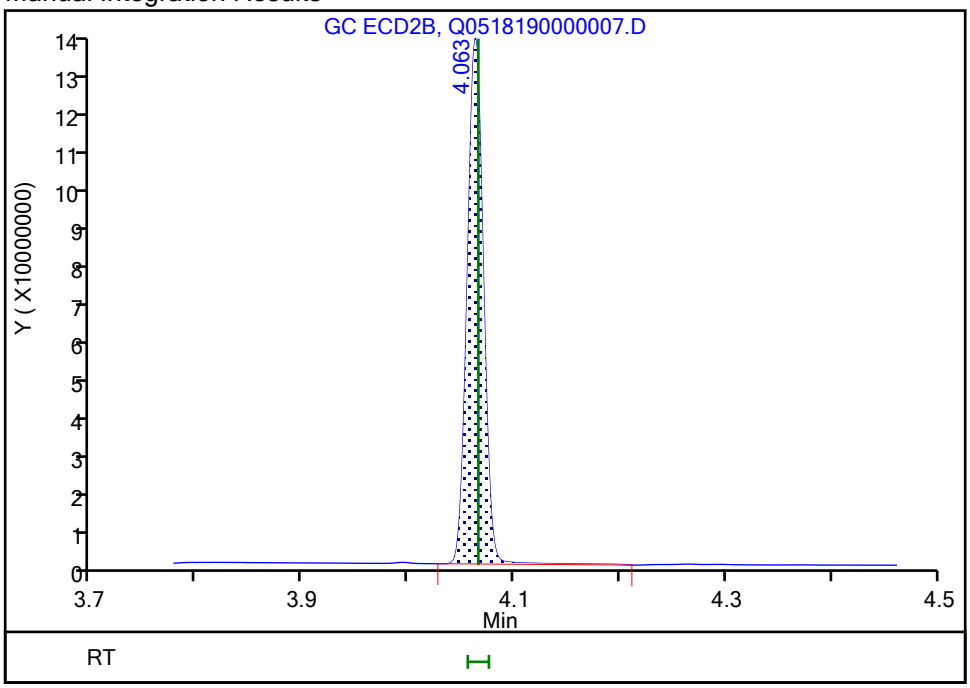

Reviewer: eppinged, 18-May-2019 16:26:55

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Report Date: 20-May-2019 05:51:51 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000007.D				
Injection Date:	18-May-2019 14:56:07	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

9 Chlordane (technical), CAS: 12789-03-6

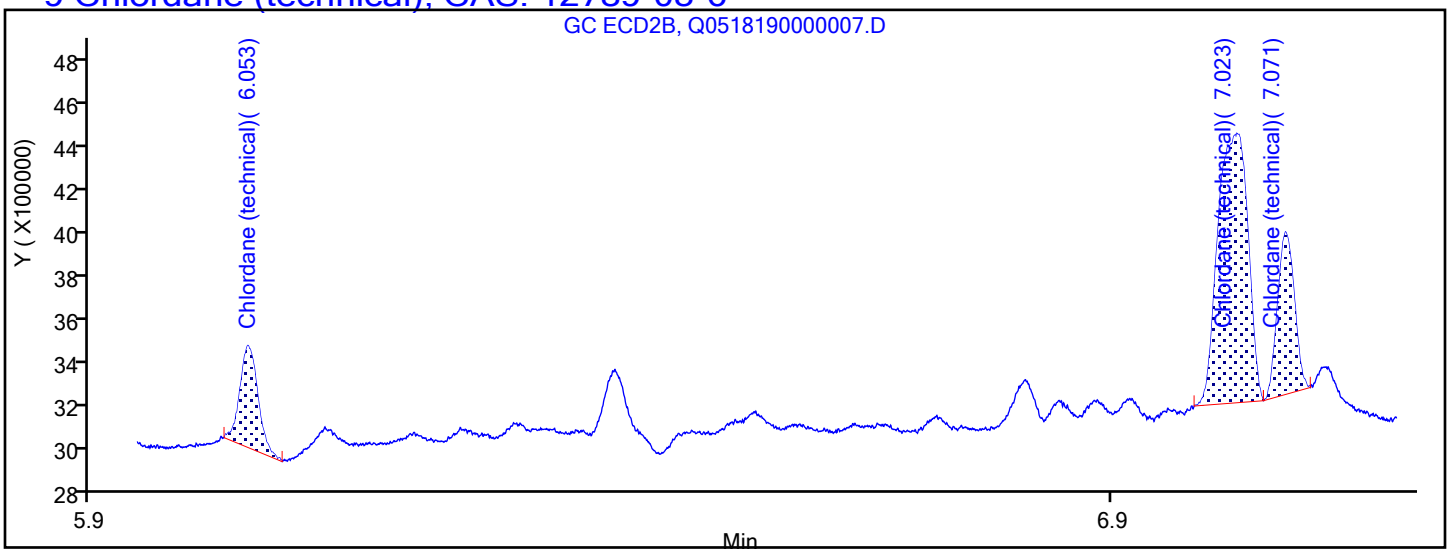

Processing Integration Results

6.053	Response = 474854
6.413	Response = 0
7.023	Response = 1254596
7.071	Response = 756802

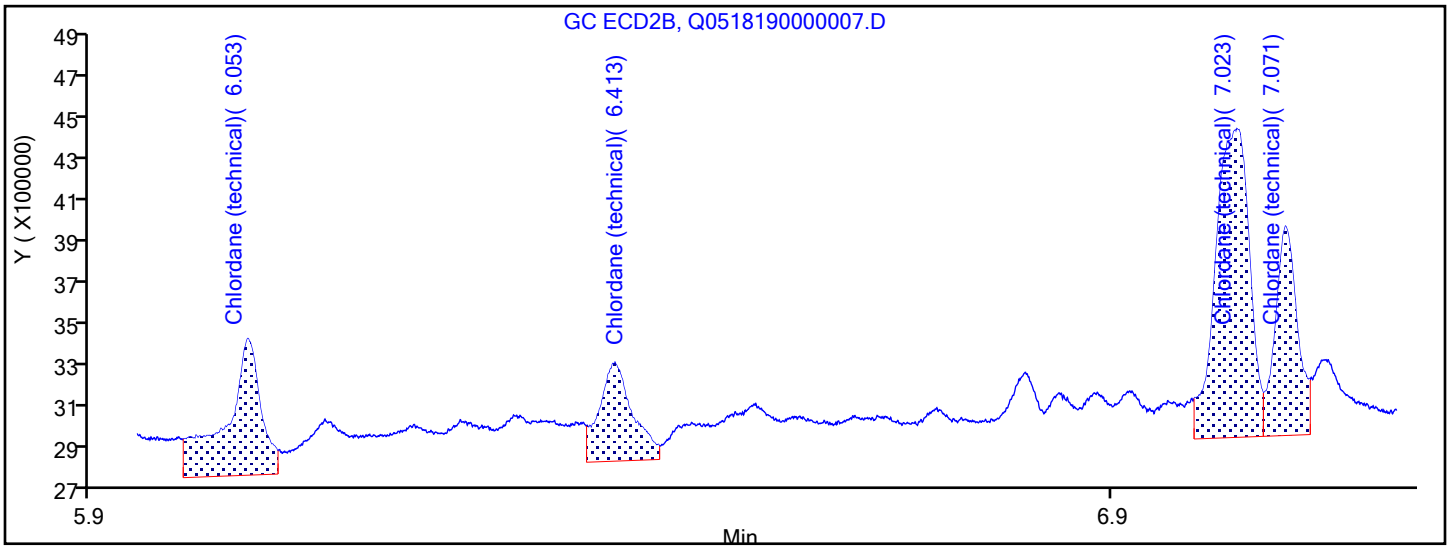

Manual Integration Results

6.053	Response = 643580	M
6.413	Response = 466004	M
7.023	Response = 1453339	M
7.071	Response = 985324	M

Reviewer: eppinged, 18-May-2019 16:31:43

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000007.D				
Injection Date:	18-May-2019 14:56:07	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

* 44 Dibutylchlorendate ISTD, CAS: 1770-80-5

Signal: 2

Not Detected
Expected RT: 8.37

Processing Integration Results

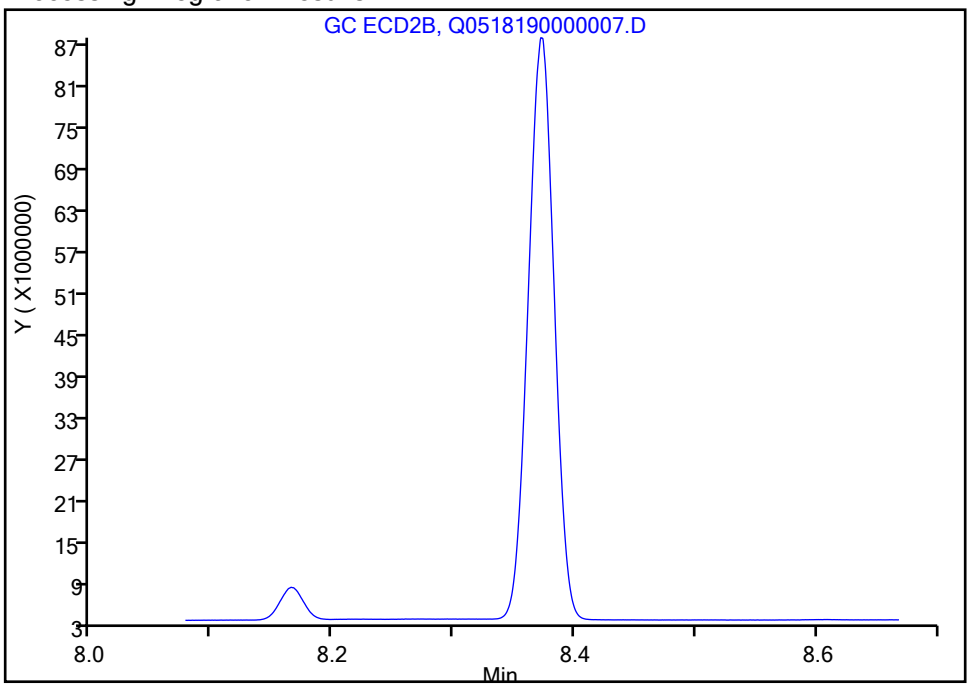

RT: 8.37
Height: 84034964
Amount: 0.100000
Amount Units: ng

Manual Integration Results

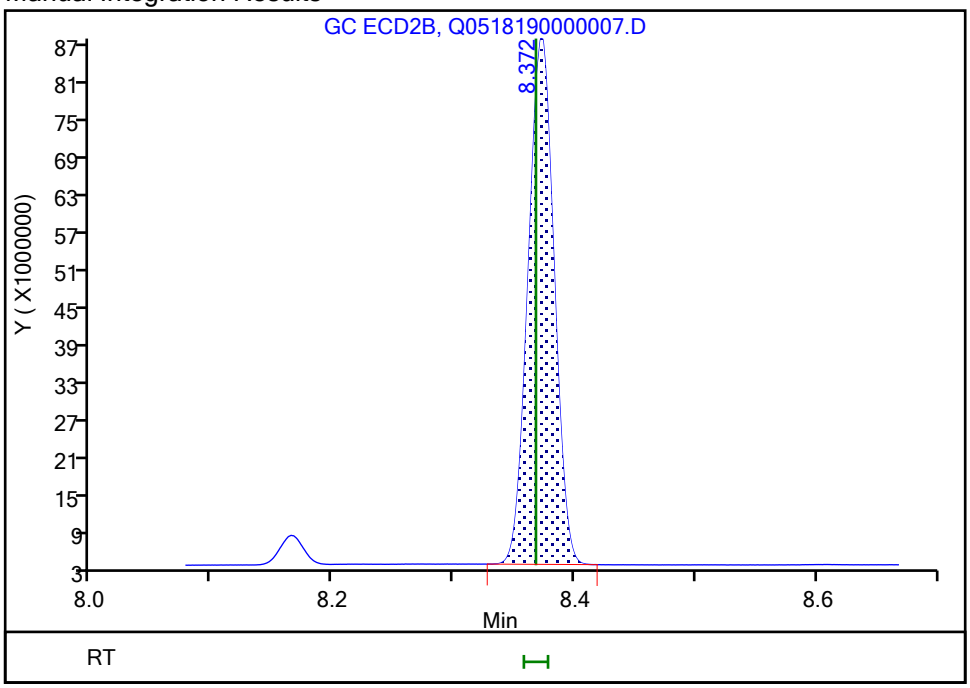

Reviewer: eppinged, 18-May-2019 16:30:23
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000008.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 18-May-2019 15:11:31 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026894-008
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub5

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 20-May-2019 05:51:52 Calib Date: 18-May-2019 20:36:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0306

First Level Reviewer: eppinged Date: 18-May-2019 15:32:40

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.794	3.791	0.003	103917836H	0.1000	0.1000	
2	4.067	4.066	0.001	135344109H	0.1000	0.1000	
9 Chlordane (technical)							
1	5.722	5.721	0.001	1280004H	0.0250	0.0266	
1	5.897	5.895	0.002	1602208H	0.0250	0.0270	
1	6.755	6.754	0.001	4694721H	0.0250	0.0267	
1	6.826	6.824	0.002	5095451H	0.0250	0.0263	
		Average of Peak Amounts =				0.0267	
2	6.054	6.054	0.000	2250016H	0.0250	0.0295	
2	6.412	6.413	-0.001	1404647H	0.0250	0.0282	
2	7.024	7.023	0.001	6142658H	0.0250	0.0310	
2	7.071	7.070	0.001	3836732H	0.0250	0.0303	
		Average of Peak Amounts =				0.0297	
						RPD = 10.90	
* 44 Dibutylchlorendate ISTD							
1	8.242	8.235	0.007	75079993H	0.1000	0.1000	
2	8.370	8.368	0.002	85252851H	0.1000	0.1000	

Reagents:

GCCHLORLEVEL2_00009 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 20-May-2019 05:51:54 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000008.D				
Injection Date:	18-May-2019 15:11:31	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

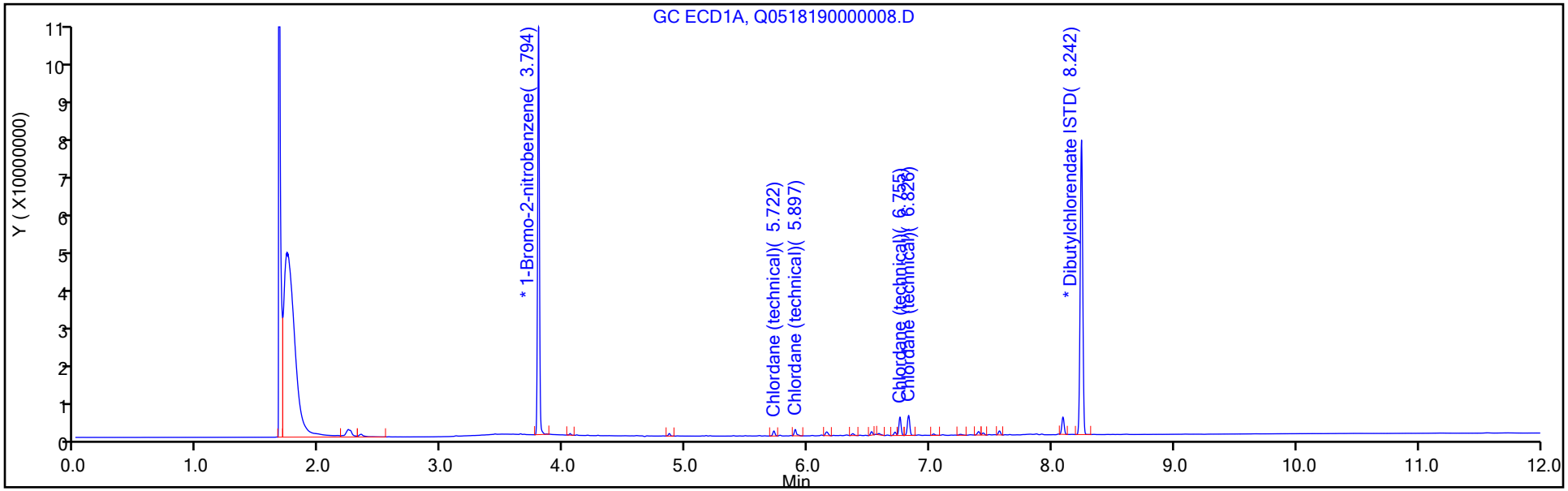

Column: MR-2 (0.53 mm)

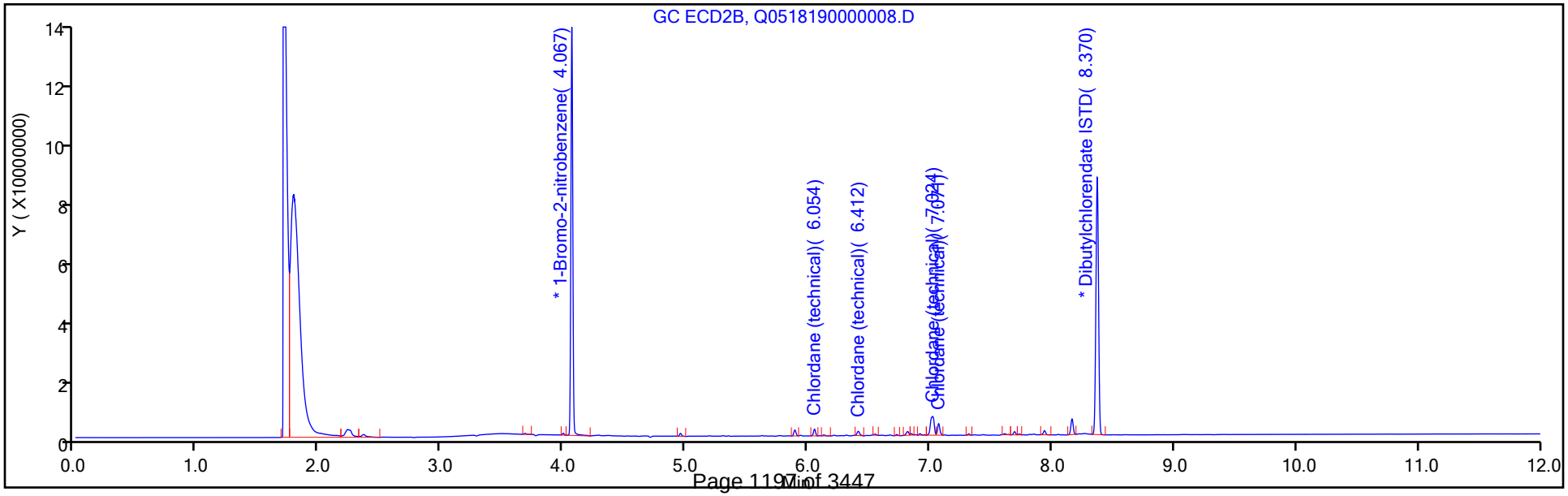

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000009.D				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	3		
Inject. Date:	18-May-2019 15:26:57	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0026894-009				
Operator ID:	402331	Instrument ID:	CHGC15		
Sublist:	chrom-IS PEST_CHGC15*sub5				
Method:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m				
Limit Group:	GCS 8081B ICAL with IS				
Last Update:	20-May-2019 05:51:55	Calib Date:	18-May-2019 20:36:24		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D				
Column 1 :	MR-1 (0.53 mm)			Det: GC ECD1A	
Column 2 :	MR-2 (0.53 mm)			Det: GC ECD2B	
Process Host:	CTX0306				

First Level Reviewer: eppinged Date: 18-May-2019 15:46:57

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.793	3.793	0.000	106316237H	0.1000	0.1000	
2	4.067	4.067	0.000	137321753H	0.1000	0.1000	
9 Chlordane (technical)							M
1	5.721	5.721	0.000	12238890H	0.2500	0.2490	
1	5.895	5.895	0.000	14836153H	0.2500	0.2444	
1	6.754	6.754	0.000	46506909H	0.2500	0.2584	
1	6.824	6.824	0.000	49530488H	0.2500	0.2503	
		Average of Peak Amounts =				0.2505	
2	6.054	6.054	0.000	19472528H	0.2500	0.3149	
2	6.413	6.413	0.000	12265744H	0.2500	0.3198	M
2	7.023	7.023	0.000	54091135H	0.2500	0.3207	M
2	7.070	7.070	0.000	33648586H	0.2500	0.3175	M
		Average of Peak Amounts =				0.3182	
						RPD = 23.79	
* 44 Dibutylchlorendate ISTD							
1	8.240	8.240	0.000	78811573H	0.1000	0.1000	
2	8.369	8.369	0.000	88037501H	0.1000	0.1000	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCCHLORLEVEL3_00015	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 20-May-2019 05:51:58 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000009.D				
Injection Date:	18-May-2019 15:26:57	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	9
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

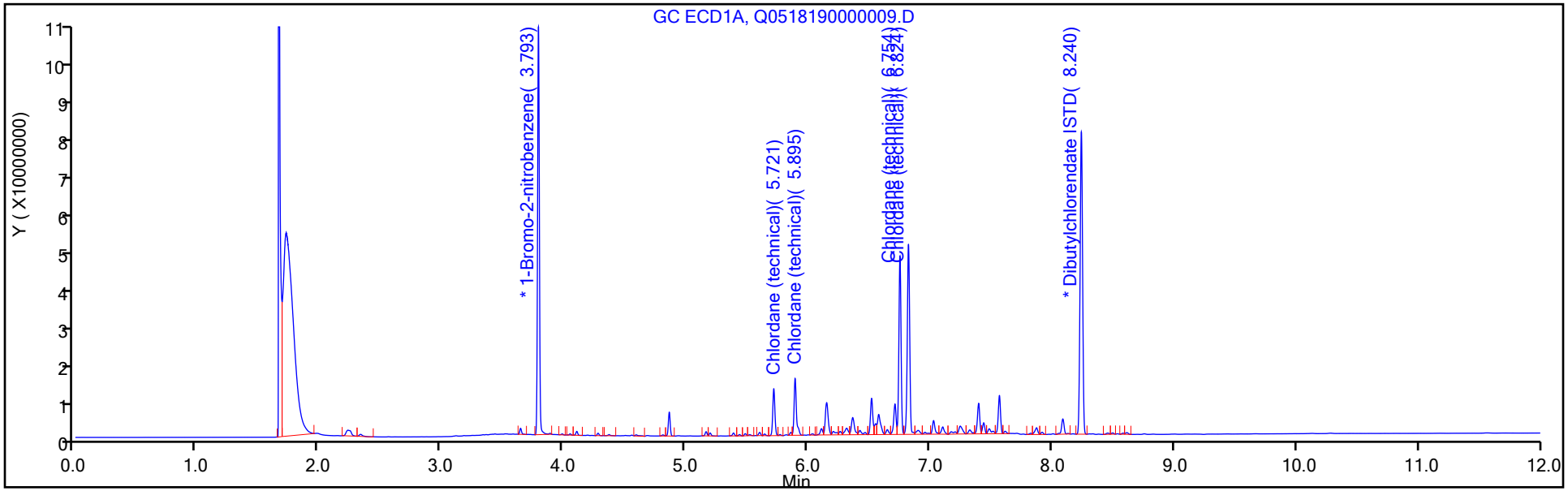

Column: MR-2 (0.53 mm)

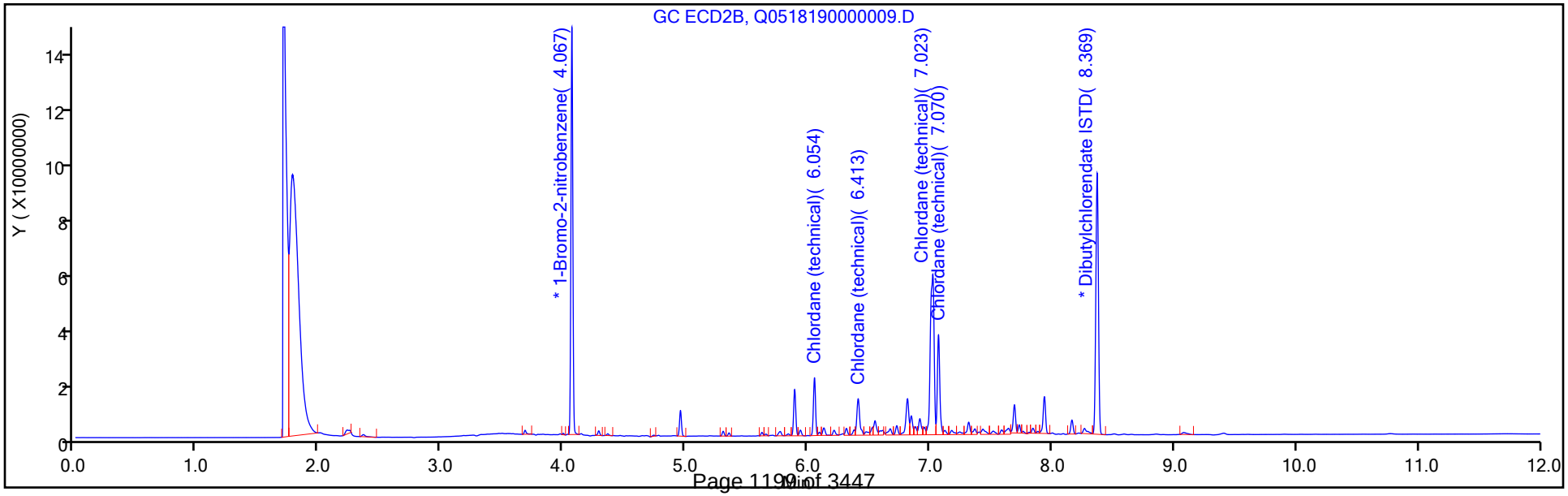

Report Date: 20-May-2019 05:51:58 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000009.D				
Injection Date:	18-May-2019 15:26:57	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

9 Chlordane (technical), CAS: 12789-03-6

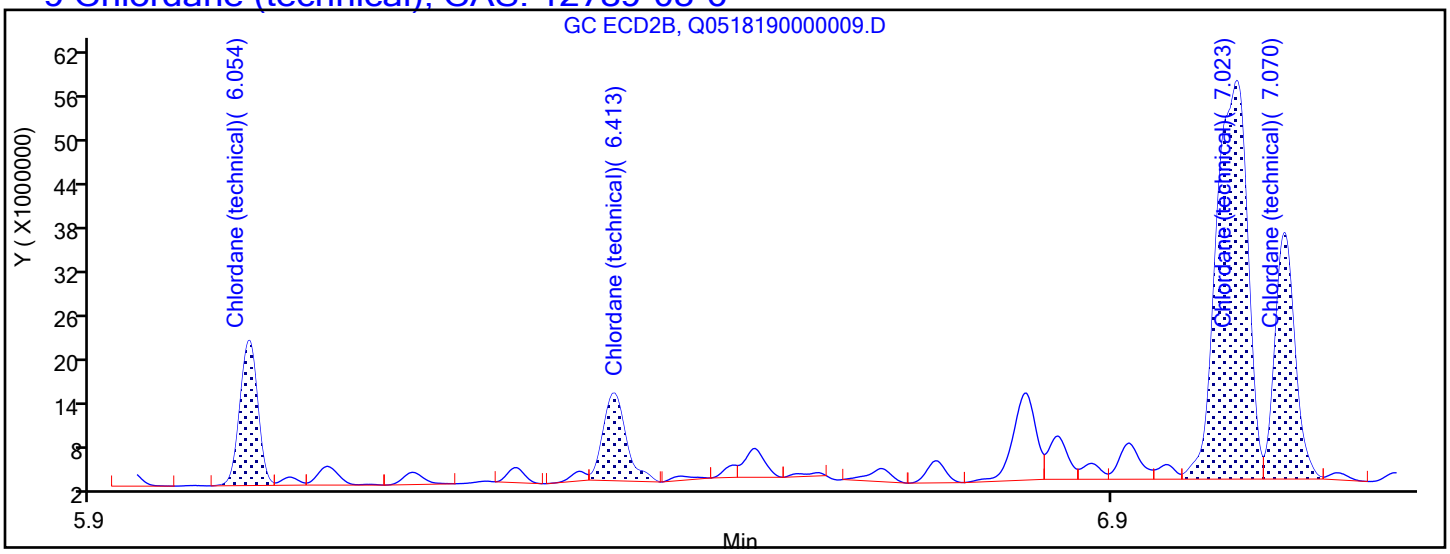

Processing Integration Results

6.054	Response = 19472528
6.413	Response = 11744085
7.023	Response = 53510907
7.070	Response = 33074121

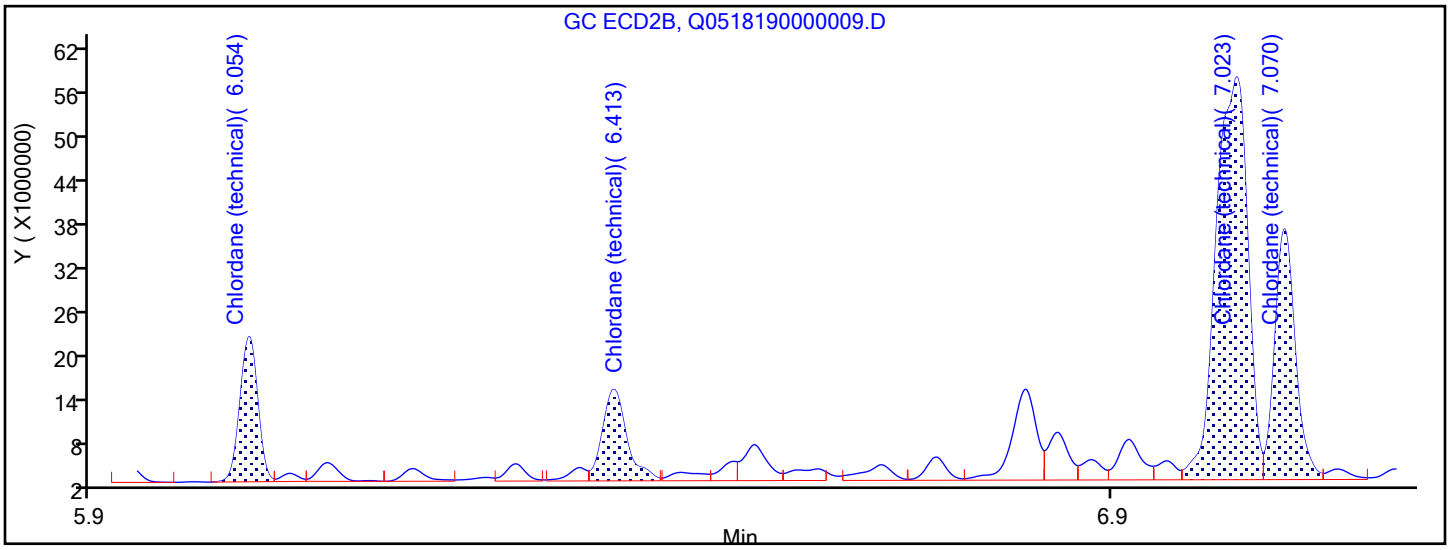

Manual Integration Results

6.054	Response = 19472528	
6.413	Response = 12265744	M
7.023	Response = 54091135	M
7.070	Response = 33648586	M

Reviewer: eppinged, 18-May-2019 15:46:18

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000010.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 18-May-2019 15:42:22 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026894-010
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub5

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 20-May-2019 05:51:59 Calib Date: 18-May-2019 20:36:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0306

First Level Reviewer: eppinged Date: 18-May-2019 16:06:00

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.793	3.791	0.002	114173283H	0.1000	0.1000	
2	4.067	4.066	0.002	145725620H	0.1000	0.1000	
9 Chlordane (technical)							
1	5.720	5.721	-0.001	61575745H	1.25	1.17	
1	5.894	5.895	-0.001	72392675H	1.25	1.11	
1	6.753	6.754	-0.001	227251290H	1.25	1.18	
1	6.824	6.824	0.000	245255972H	1.25	1.15	
		Average of Peak Amounts =				1.15	
2	6.054	6.054	0.000	82665061H	1.25	1.28	
2	6.412	6.413	-0.001	50952790H	1.25	1.28	
2	7.023	7.023	0.000	222563535H	1.25	1.26	
2	7.071	7.070	0.001	140693315H	1.25	1.27	
		Average of Peak Amounts =				1.28	
						RPD = 10.17	
* 44 Dibutylchlorendate ISTD							
1	8.239	8.235	0.004	86714159H	0.1000	0.1000	
2	8.369	8.368	0.001	93081367H	0.1000	0.1000	

Reagents:

GCCHLORLEVEL4_00009 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 20-May-2019 05:52:01 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000010.D				
Injection Date:	18-May-2019 15:42:22	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	10
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

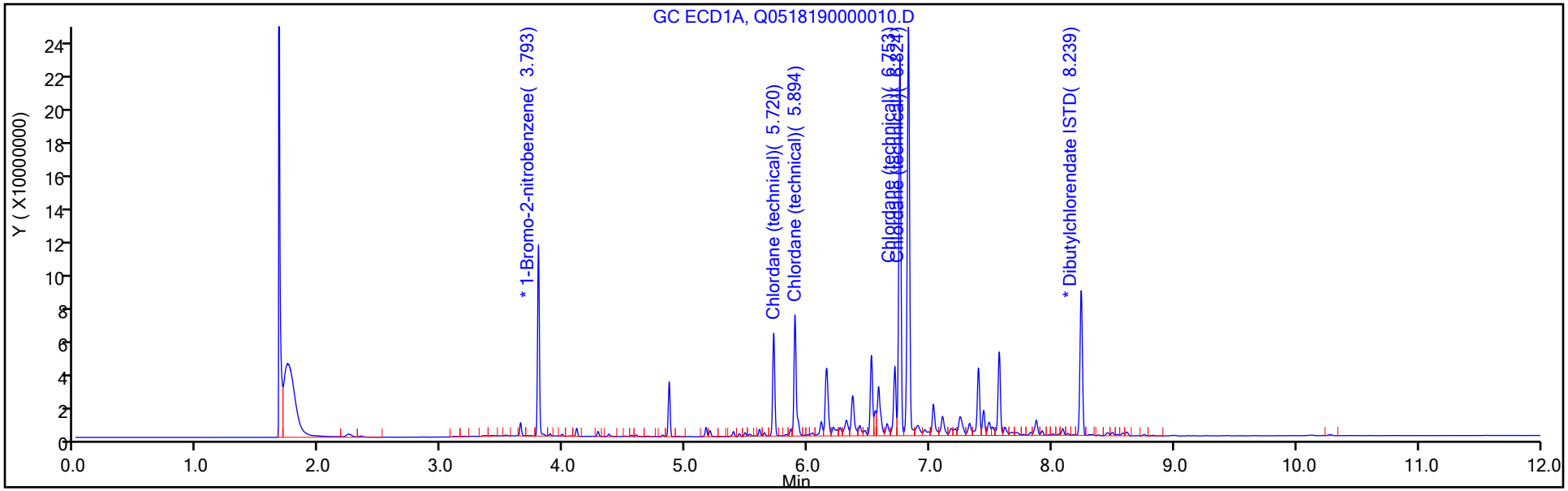

Column: MR-2 (0.53 mm)

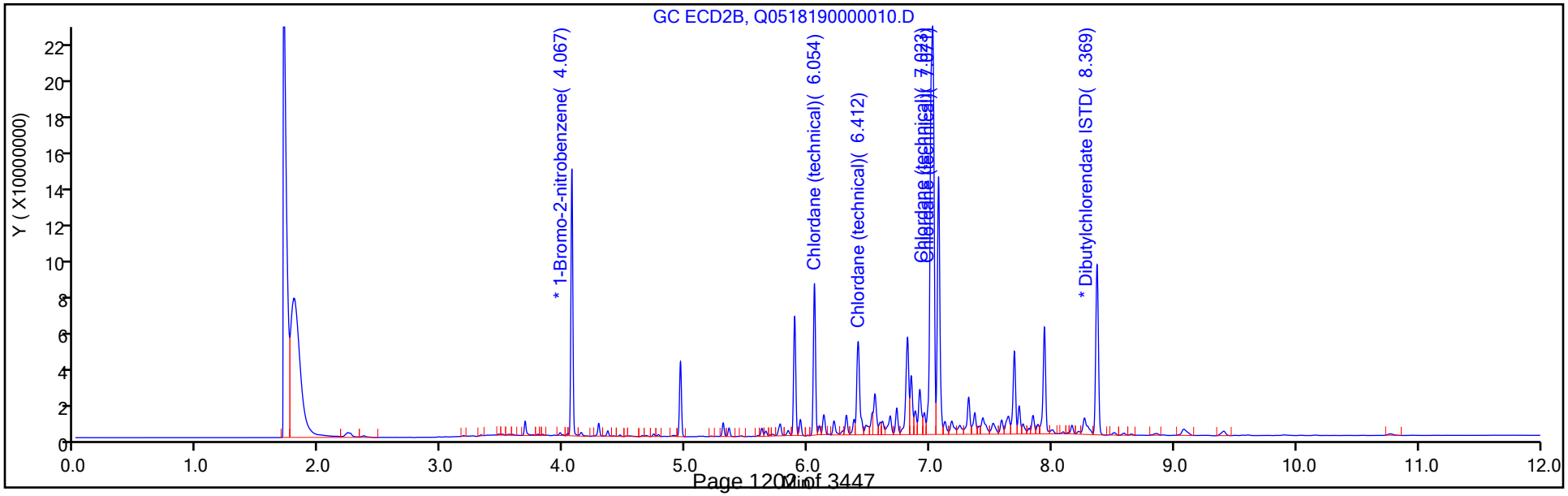

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000011.D				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	5		
Inject. Date:	18-May-2019 15:57:59	ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0026894-011				
Operator ID:	402331	Instrument ID:	CHGC15		
Sublist:	chrom-IS PEST_CHGC15*sub5				
Method:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m				
Limit Group:	GCS 8081B ICAL with IS				
Last Update:	20-May-2019 05:52:05	Calib Date:	18-May-2019 20:36:24		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D				
Column 1 :	MR-1 (0.53 mm)		Det: GC ECD1A		
Column 2 :	MR-2 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0306				

First Level Reviewer: eppinged Date: 18-May-2019 16:17:48

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.792	3.791	0.001	114789869H	0.1000	0.1000	
2	4.067	4.066	0.001	144116736H	0.1000	0.1000	
9 Chlordane (technical)							M
1	5.720	5.721	-0.001	118174922H	2.50	2.23	
1	5.895	5.895	0.000	139727431H	2.50	2.13	
1	6.754	6.754	0.000	449773131H	2.50	2.31	
1	6.825	6.824	0.001	490451777H	2.50	2.30	
		Average of Peak Amounts =				2.24	
2	6.054	6.054	0.000	152143795H	2.50	2.40	M
2	6.412	6.413	-0.001	93953313H	2.50	2.40	M
2	7.024	7.023	0.001	419591000H	2.50	2.41	M
2	7.071	7.070	0.001	262476328H	2.50	2.41	M
		Average of Peak Amounts =				2.40	
						RPD = 6.96	
* 44 Dibutylchlorendate ISTD							M
1	8.239	8.235	0.004	89487474H	0.1000	0.1000	
2	8.369	8.368	0.002	92635058H	0.1000	0.1000	M

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCCHLORLEVEL5_00011	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 20-May-2019 05:52:07 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000011.D				
Injection Date:	18-May-2019 15:57:59	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	11
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

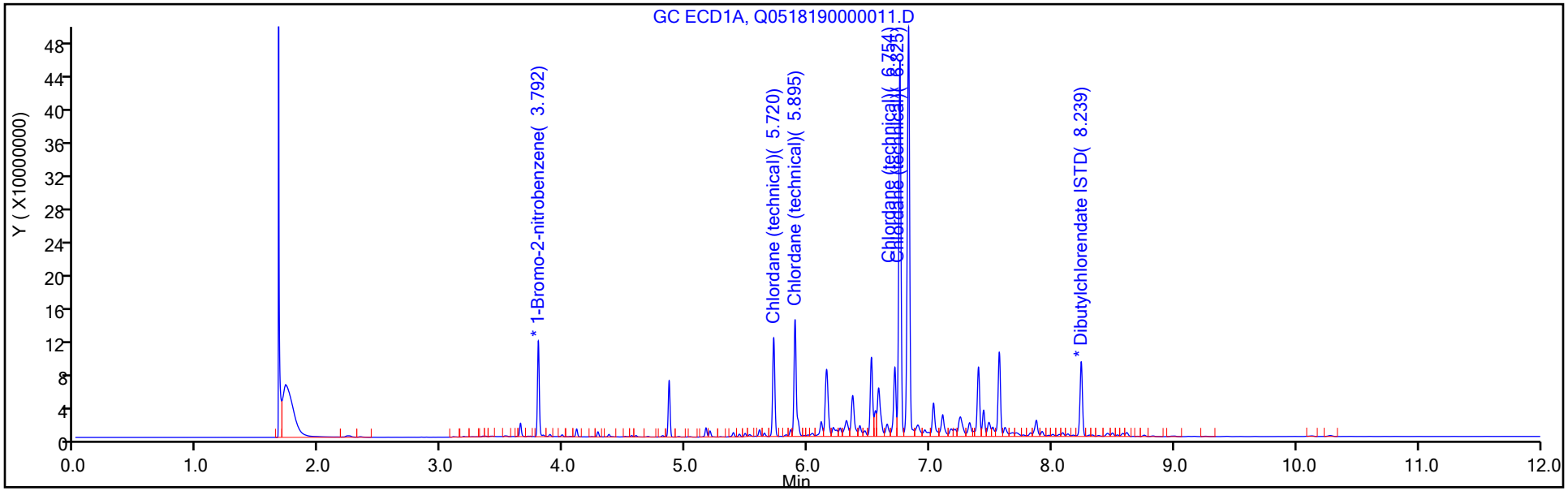

Column: MR-2 (0.53 mm)

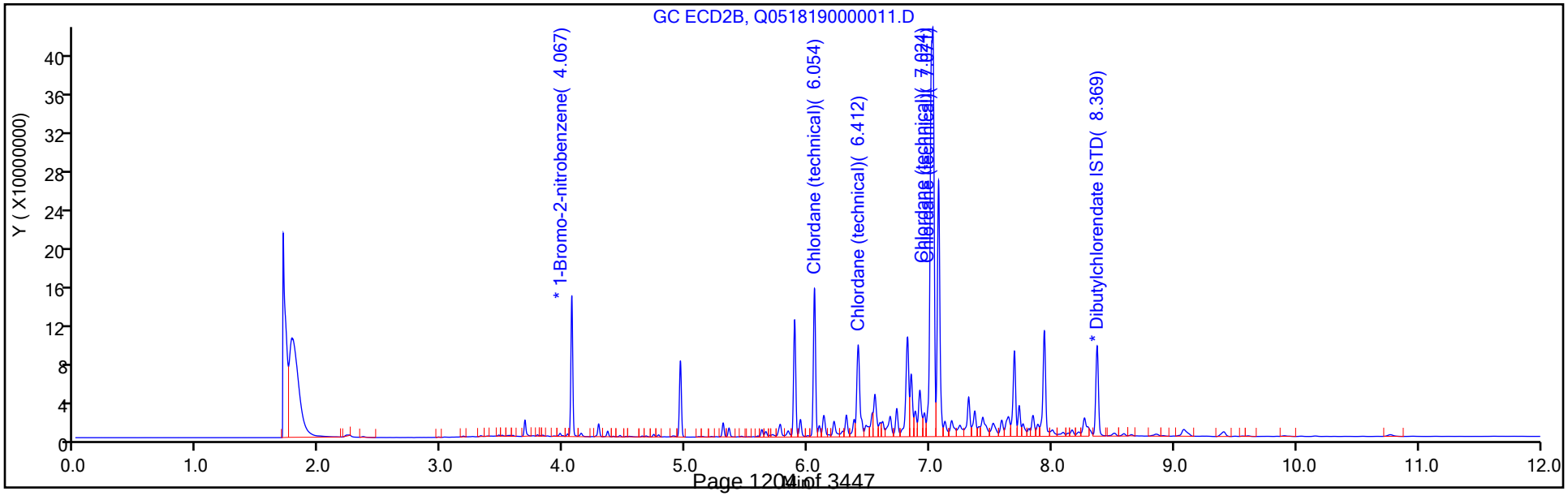

Report Date: 20-May-2019 05:52:07 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000011.D				
Injection Date:	18-May-2019 15:57:59	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

9 Chlordane (technical), CAS: 12789-03-6

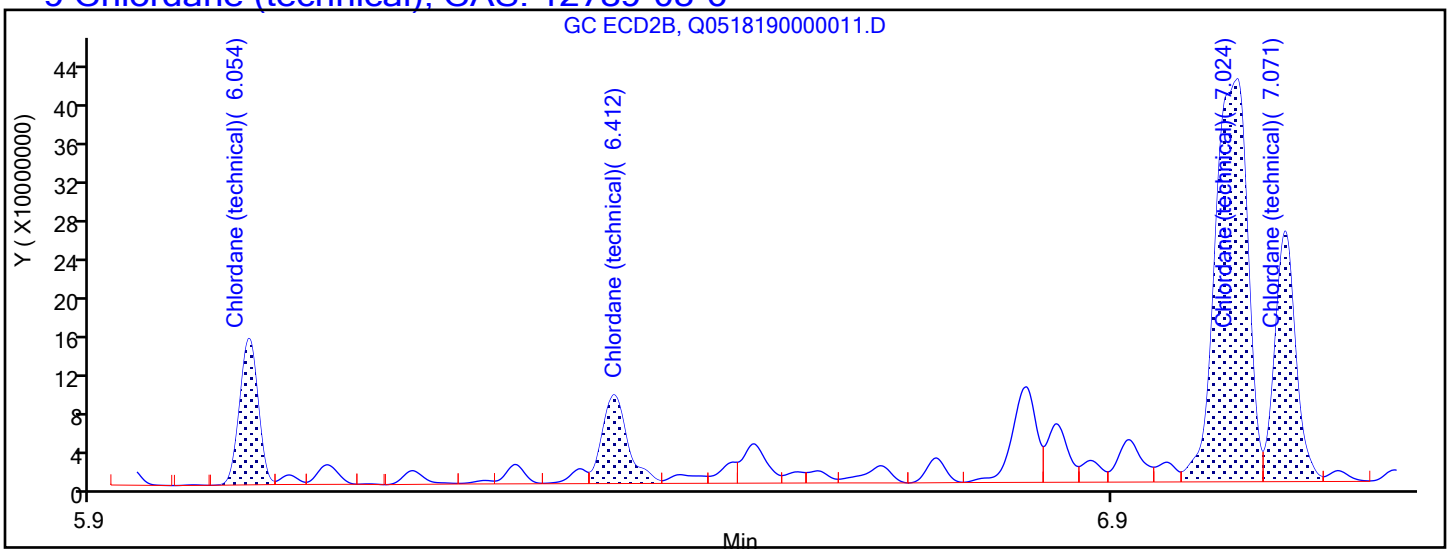

Processing Integration Results

6.054	Response = 150821096
6.412	Response = 91410723
7.024	Response = 415412570
7.071	Response = 258173160

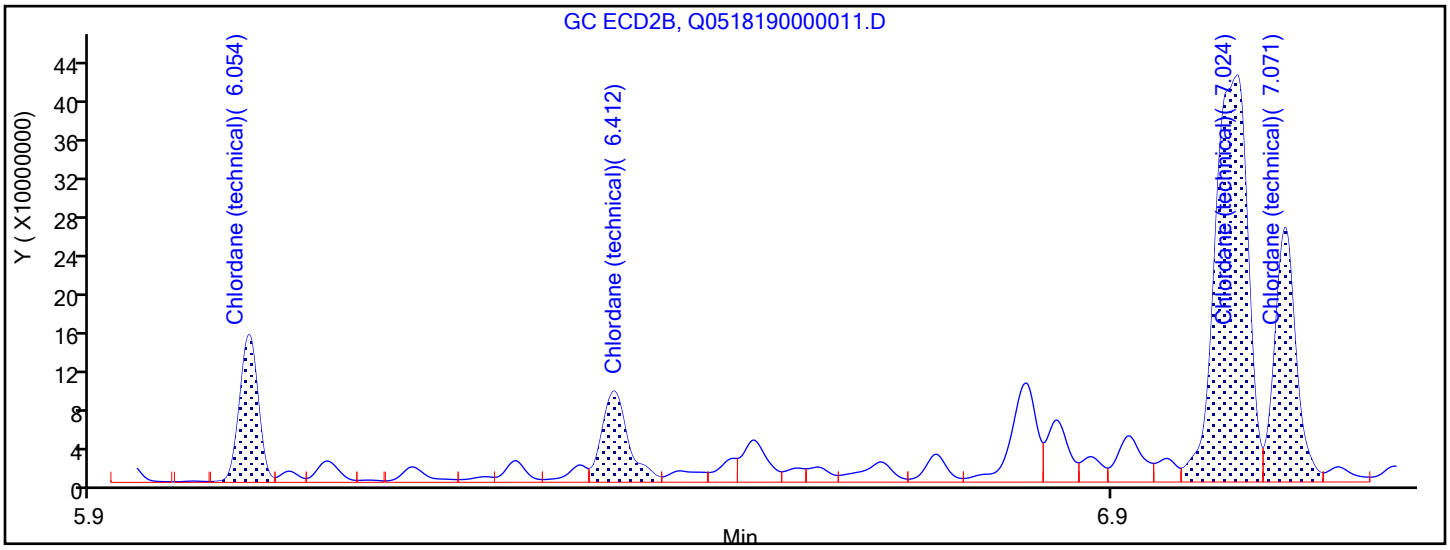

Manual Integration Results

6.054	Response = 152143795	M
6.412	Response = 93953313	M
7.024	Response = 419591000	M
7.071	Response = 262476328	M

Reviewer: eppinged, 18-May-2019 16:15:18

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000011.D				
Injection Date:	18-May-2019 15:57:59	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

* 44 Dibutylchlorendate ISTD, CAS: 1770-80-5

Signal: 2

Processing Integration Results

RT: 8.37
Height: 91235587
Amount: 0.100000
Amount Units: ng

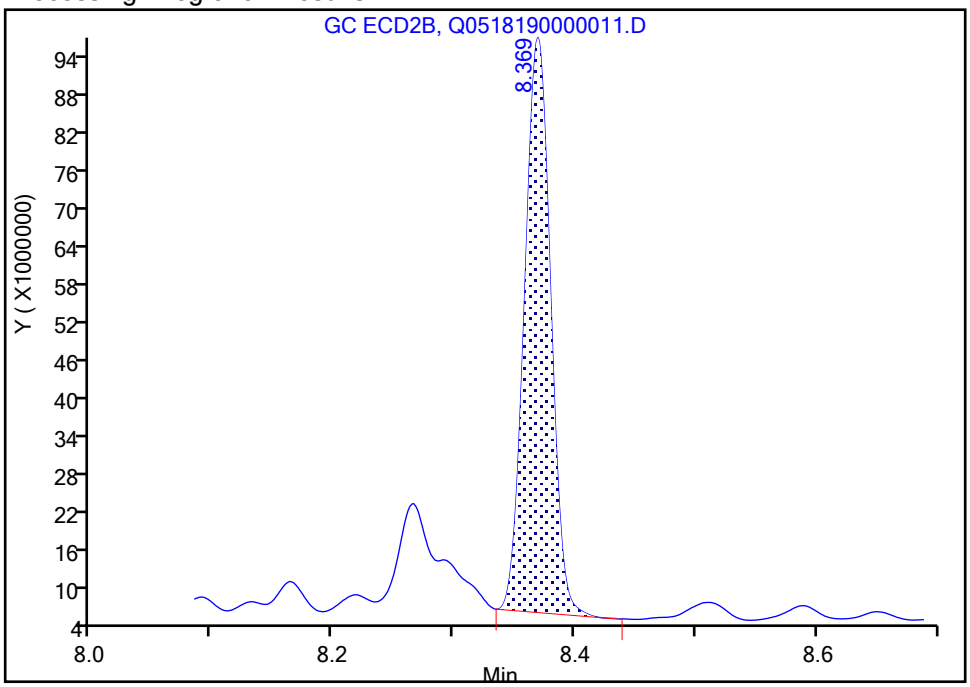

Manual Integration Results

RT: 8.37
Height: 92635058
Amount: 0.100000
Amount Units: ng

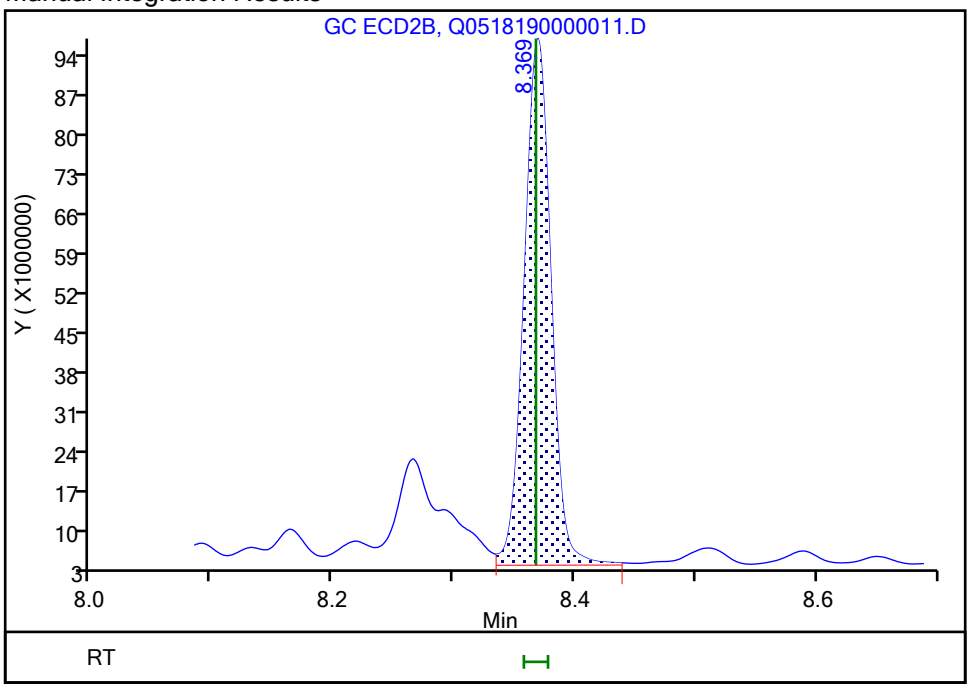

Reviewer: eppinged, 18-May-2019 16:15:18

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 283759

SDG No.:

Instrument ID: CHGC15 GC Column: MR-1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/02/2019 15:33 Calibration End Date: 07/02/2019 16:50 Calibration ID: 40697

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-283759/2	Q070219A0000002.D
Level 2	IC 180-283759/3	Q070219A0000003.D
Level 3	ICIS 180-283759/4	Q070219A0000004.D
Level 4	IC 180-283759/5	Q070219A0000005.D
Level 5	IC 180-283759/6	Q070219A0000006.D
Level 6	IC 180-283759/7	Q070219A0000007.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
alpha-BHC	1.4544 1.5142	1.6888	1.6812	1.5879	1.5778	Ave		1.5841				5.8		20.0			
gamma-BHC (Lindane)	1.3190 1.2979	1.4907	1.4774	1.4044	1.3879	Ave		1.3962				5.7		20.0			
beta-BHC	0.6179 0.5298	0.6243	0.5501	0.5600	0.5376	Ave		0.5699				7.2		20.0			
delta-BHC	1.1600 1.2200	1.3454	1.3835	1.3074	1.3105	Ave		1.2878				6.4		20.0			
Heptachlor	1.2520 1.0973	1.3285	1.3053	1.2665	1.1610	Ave		1.2351				7.2		20.0			
Aldrin	1.2078 1.1704	1.3630	1.3807	1.3088	1.2312	Ave		1.2770				6.8		20.0			
Heptachlor epoxide	1.1218 0.9710	1.2222	1.1778	1.1256	1.0466	Ave		1.1108				8.1		20.0			
trans-Chlordane	1.1322 1.0610	1.2345	1.2162	1.1592	1.1079	Ave		1.1518				5.7		20.0			
cis-Chlordane	1.1210 1.0304	1.2015	1.1947	1.1548	1.0634	Ave		1.1276				6.2		20.0			
Endosulfan I	1.0038 0.9084	1.1022	1.0944	1.0291	0.9574	Ave		1.0159				7.5		20.0			
4,4'-DDE	1.4051 1.3107	1.5294	1.5007	1.4758	1.3276	Ave		1.4249				6.4		20.0			
Dieldrin	1.4907 1.3095	1.6427	1.4869	1.5012	1.3802	Ave		1.4685				7.8		20.0			
Endrin	1.2227 1.0426	1.3506	1.1364	1.1788	1.1165	Ave		1.1746				9.0		20.0			
4,4'-DDD	1.4190 0.9986	1.2767	1.1332	1.1134	1.0631	Ave		1.1673				13.2		20.0			
Endosulfan II	1.0823 0.9444	1.2151	1.0805	1.1009	1.0033	Ave		1.0711				8.6		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 283759

SDG No.:

Instrument ID: CHGC15 GC Column: MR-1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/02/2019 15:33 Calibration End Date: 07/02/2019 16:50 Calibration ID: 40697

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Endrin aldehyde	0.8730 0.8056	1.0299	0.9389	0.9412	0.8619	Ave		0.9084				8.6		20.0			
4,4'-DDT	0.8531 0.9374	0.9066	0.9497	0.9417	0.9519	Ave		0.9234				4.1		20.0			
Endosulfan sulfate	1.2182 1.0362	1.2997	1.1673	1.1279	1.0733	Ave		1.1538				8.4		20.0			
Methoxychlor	0.4276 0.3930	0.3966	0.4016	0.4013	0.4010	Ave		0.4035				3.0		20.0			
Endrin ketone	1.0993 0.9203	1.1686	1.0712	1.0513	0.9314	Ave		1.0404				9.3		20.0			
Tetrachloro-m-xylene	1.3795 1.2601	1.4945	1.4717	1.3535	1.3190	Ave		1.3797				6.5		20.0			
DCB Decachlorobiphenyl (Surr)	0.7747 0.5947	0.7772	0.7009	0.6883	0.6147	Ave		0.6918				11.1		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 283759

SDG No.:

Instrument ID: CHGC15 GC Column: MR-1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/02/2019 15:33 Calibration End Date: 07/02/2019 16:50 Calibration ID: 40697

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-283759/2	Q070219A0000002.D
Level 2	IC 180-283759/3	Q070219A0000003.D
Level 3	ICIS 180-283759/4	Q070219A0000004.D
Level 4	IC 180-283759/5	Q070219A0000005.D
Level 5	IC 180-283759/6	Q070219A0000006.D
Level 6	IC 180-283759/7	Q070219A0000007.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
alpha-BHC	BNB	Ave	1971348 451879422	11590791	56627140	110931113	231686599	0.00100 0.200	0.00500	0.0250	0.0500	0.100
gamma-BHC (Lindane)	BNB	Ave	1787885 387323512	10231399	49762728	98106565	203801432	0.00100 0.200	0.00500	0.0250	0.0500	0.100
beta-BHC	BNB	Ave	837544 158096293	4284585	18529847	39121214	78943016	0.00100 0.200	0.00500	0.0250	0.0500	0.100
delta-BHC	BNB	Ave	1572288 364096452	9233916	46599582	91334892	192429442	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Heptachlor	BNB	Ave	1697008 327482449	9117922	43964489	88477634	170485322	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Aldrin	BNB	Ave	1637155 349274141	9354962	46503340	91430283	180787104	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Heptachlor epoxide	BNB	Ave	1520528 289780219	8388728	39669842	78634029	153673569	0.00100 0.200	0.00500	0.0250	0.0500	0.100
trans-Chlordane	BNB	Ave	1534595 316624517	8472873	40965161	80980332	162688244	0.00100 0.200	0.00500	0.0250	0.0500	0.100
cis-Chlordane	BNB	Ave	1519415 307507543	8246101	40240274	80670687	156147417	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Endosulfan I	BNB	Ave	1360572 271099075	7565053	36860436	71888745	140588433	0.00100 0.200	0.00500	0.0250	0.0500	0.100
4,4'-DDE	DBC	Ave	1439631 307301442	7934988	39905011	81234371	157013228	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Dieldrin	DBC	Ave	1527340 307016408	8523069	39539616	82630996	163230347	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Endrin	DBC	Ave	1252819 244436882	7007470	30217332	64884205	132039614	0.00100 0.200	0.00500	0.0250	0.0500	0.100
4,4'-DDD	DBC	Ave	1453893 234129054	6624073	30133979	61288773	125725826	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Endosulfan II	DBC	Ave	1108947 221420031	6304396	28732230	60598209	118662807	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Endrin aldehyde	DBC	Ave	894491 188877077	5343520	24965258	51807698	101938655	0.00100 0.200	0.00500	0.0250	0.0500	0.100

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 283759

SDG No.:

Instrument ID: CHGC15 GC Column: MR-1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/02/2019 15:33 Calibration End Date: 07/02/2019 16:50 Calibration ID: 40697

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
4,4'-DDT	DBC	Ave	874045 219776259	4703883	25253961	51832991	112573721	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Endosulfan sulfate	DBC	Ave	1248139 242935995	6743296	31039318	62085211	126937392	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Methoxychlor	DBC	Ave	438089 92138892	2057810	10678849	22088404	47421187	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Endrin ketone	DBC	Ave	1126327 215771725	6063372	28484045	57868536	110158978	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Tetrachloro-m-xylene	BNB	Ave	1869808 376043302	10257000	49570340	94555396	193673600	0.00100 0.200	0.00500	0.0250	0.0500	0.100
DCB Decachlorobiphenyl (Surr)	DBC	Ave	793737 139438691	4032706	18636943	37887621	72700543	0.00100 0.200	0.00500	0.0250	0.0500	0.100

Curve Type Legend:
Ave = Average ISTD by Height

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 283759

SDG No.:

Instrument ID: CHGC15 GC Column: MR-1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/02/2019 15:33 Calibration End Date: 07/02/2019 16:50 Calibration ID: 40697

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-283759/2	Q070219A0000002.D
Level 2	IC 180-283759/3	Q070219A0000003.D
Level 3	ICIS 180-283759/4	Q070219A0000004.D
Level 4	IC 180-283759/5	Q070219A0000005.D
Level 5	IC 180-283759/6	Q070219A0000006.D
Level 6	IC 180-283759/7	Q070219A0000007.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
alpha-BHC	-8.2	6.6	6.1	0.2	-0.4	-4.4	50	30	30	30	30	30
gamma-BHC (Lindane)	-5.5	6.8	5.8	0.6	-0.6	-7.0	50	30	30	30	30	30
beta-BHC	8.4	9.5	-3.5	-1.7	-5.7	-7.1	50	30	30	30	30	30
delta-BHC	-9.9	4.5	7.4	1.5	1.8	-5.3	50	30	30	30	30	30
Heptachlor	1.4	7.6	5.7	2.5	-6.0	-11.2	50	30	30	30	30	30
Aldrin	-5.4	6.7	8.1	2.5	-3.6	-8.3	50	30	30	30	30	30
Heptachlor epoxide	1.0	10.0	6.0	1.3	-5.8	-12.6	50	30	30	30	30	30
trans-Chlordane	-1.7	7.2	5.6	0.6	-3.8	-7.9	50	30	30	30	30	30
cis-Chlordane	-0.6	6.5	5.9	2.4	-5.7	-8.6	50	30	30	30	30	30
Endosulfan I	-1.2	8.5	7.7	1.3	-5.8	-10.6	50	30	30	30	30	30
4,4'-DDE	-1.4	7.3	5.3	3.6	-6.8	-8.0	50	30	30	30	30	30
Dieldrin	1.5	11.9	1.3	2.2	-6.0	-10.8	50	30	30	30	30	30
Endrin	4.1	15.0	-3.3	0.4	-4.9	-11.2	50	30	30	30	30	30
4,4'-DDD	21.6	9.4	-2.9	-4.6	-8.9	-14.5	50	30	30	30	30	30
Endosulfan II	1.0	13.4	0.9	2.8	-6.3	-11.8	50	30	30	30	30	30
Endrin aldehyde	-3.9	13.4	3.4	3.6	-5.1	-11.3	50	30	30	30	30	30
4,4'-DDT	-7.6	-1.8	2.9	2.0	3.1	1.5	50	30	30	30	30	30
Endosulfan sulfate	5.6	12.6	1.2	-2.2	-7.0	-10.2	50	30	30	30	30	30
Methoxychlor	6.0	-1.7	-0.5	-0.5	-0.6	-2.6	50	30	30	30	30	30
Endrin ketone	5.7	12.3	3.0	1.1	-10.5	-11.5	50	30	30	30	30	30
Tetrachloro-m-xylene	0.0	8.3	6.7	-1.9	-4.4	-8.7	50	30	30	30	30	30
DCB Decachlorobiphenyl (Surr)	12.0	12.4	1.3	-0.5	-11.1	-14.0	50	30	30	30	30	30

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000002.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 02-Jul-2019 15:33:05 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0027593-002
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub6

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Jul-2019 07:33:17 Calib Date: 02-Jul-2019 16:50:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000007.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0303

First Level Reviewer: eppinged Date: 03-Jul-2019 07:17:10

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.790	3.790	0.000	135545010H	0.1000	0.1000	
2	4.050	4.050	0.000	142661991H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.786	4.786	0.000	1869808H	0.001000	0.001000	
2	4.927	4.926	0.001	2117545H	0.001000	0.001099	
						RPD = 9.46	
5 alpha-BHC							
1	5.152	5.152	0.000	1971348H	0.001000	0.000918	
2	5.397	5.397	0.000	2226800H	0.001000	0.001030	
						RPD = 11.47	
7 gamma-BHC (Lindane)							
1	5.416	5.416	0.000	1787885H	0.001000	0.000945	
2	5.702	5.702	0.000	1771748H	0.001000	0.001025	
						RPD = 8.19	
8 beta-BHC							
1	5.575	5.574	0.001	837544H	0.001000	0.001084	
2	5.941	5.941	0.000	965127H	0.001000	0.001129	
						RPD = 4.09	
10 delta-BHC							
1	5.774	5.775	-0.001	1572288H	0.001000	0.000901	
2	6.176	6.175	0.001	1683579H	0.001000	0.000982	
						RPD = 8.67	
11 Heptachlor							
1	5.891	5.891	0.000	1697008H	0.001000	0.001014	
2	6.032	6.031	0.001	1784911H	0.001000	0.001110	
						RPD = 9.05	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
13 Aldrin							
1	6.173	6.173	0.000	1637155H	0.001000	0.000946	
2	6.304	6.303	0.001	1661360H	0.001000	0.001044	
						RPD = 9.87	
16 Heptachlor epoxide							
1	6.530	6.531	-0.001	1520528H	0.001000	0.001010	
2	6.754	6.753	0.001	1556051H	0.001000	0.001115	
						RPD = 9.88	
18 trans-Chlordane							
1	6.748	6.748	0.000	1534595H	0.001000	0.000983	
2	6.982	6.982	0.000	1550054H	0.001000	0.001061	
						RPD = 7.68	
20 cis-Chlordane							
1	6.815	6.816	-0.001	1519415H	0.001000	0.000994	
2	7.043	7.043	0.000	1557095H	0.001000	0.001100	
						RPD = 10.13	
21 Endosulfan I							
1	6.860	6.860	0.000	1360572H	0.001000	0.000988	
2	7.112	7.112	0.000	1345894H	0.001000	0.001105	
						RPD = 11.18	
23 4,4'-DDE							
1	6.967	6.966	0.001	1439631H	0.001000	0.000986	
2	7.177	7.177	0.000	1505911H	0.001000	0.001093	
						RPD = 10.31	
24 Dieldrin							
1	7.098	7.098	0.000	1527340H	0.001000	0.001015	
2	7.359	7.359	0.000	1549024H	0.001000	0.001106	
						RPD = 8.60	
27 Endrin							
1	7.300	7.299	0.001	1252819H	0.001000	0.001041	
2	7.627	7.628	-0.001	1223436H	0.001000	0.001117	
						RPD = 7.01	
29 4,4'-DDD							
1	7.422	7.423	-0.001	1453893H	0.001000	0.001216	
2	7.698	7.698	0.000	1195472H	0.001000	0.001086	
						RPD = 11.27	
31 Endosulfan II							
1	7.495	7.496	-0.001	1108947H	0.001000	0.001010	
2	7.890	7.890	0.000	1149760H	0.001000	0.001119	
						RPD = 10.21	
32 Endrin aldehyde							
1	7.611	7.613	-0.002	894491H	0.001000	0.000961	
2	8.057	8.058	-0.001	878371H	0.001000	0.001065	
						RPD = 10.28	
33 4,4'-DDT							
1	7.702	7.702	0.000	874045H	0.001000	0.000924	
2	7.945	7.944	0.001	695826H	0.001000	0.000798	
						RPD = 14.62	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
35 Endosulfan sulfate							
1	7.821	7.822	-0.001	1248139H	0.001000	0.001056	
2	8.284	8.284	0.000	1087540H	0.001000	0.001114	
						RPD = 5.35	
36 Methoxychlor							
1	8.146	8.148	-0.002	438089H	0.001000	0.001060	
2	8.518	8.518	0.000	351440H	0.001000	0.000974	
						RPD = 8.44	
* 44 Dibutylchlorendate ISTD							M
1	8.231	8.231	0.000	102459947H	0.1000	0.1000	M
2	8.334	8.333	0.000	83395254H	0.1000	0.1000	
37 Endrin ketone							Ma
1	8.276	8.278	-0.002	1126327H	0.001000	0.001057	M
2	8.910	8.911	-0.001	942829H	0.001000	0.001076	a
						RPD = 1.78	
$ 39 DCB Decachlorobiphenyl (Surr)							M
1	10.024	10.022	0.002	793737H	0.001000	0.001120	
2	10.623	10.624	-0.001	727105H	0.001000	0.001236	M
						RPD = 9.85	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

GCPest L1_00026	Amount Added: 1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added: 0.02	Units: mL	Run Reagent

Report Date: 03-Jul-2019 07:33:17 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000002.D				
Injection Date:	02-Jul-2019 15:33:05	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

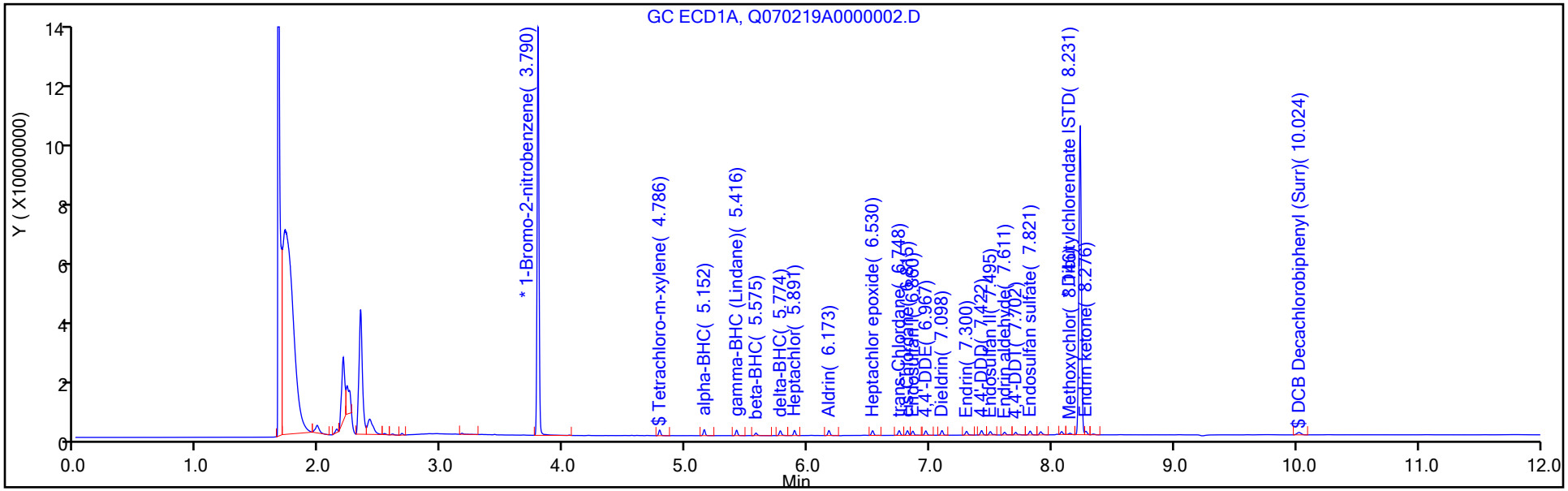

Column: MR-2 (0.53 mm)

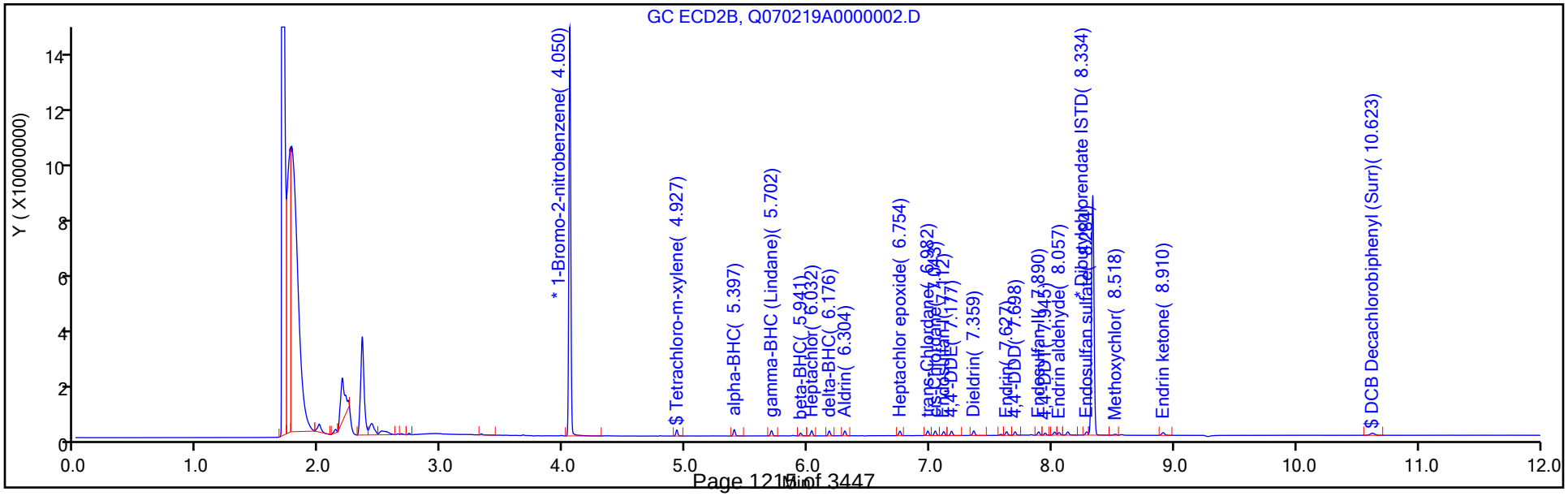

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000002.D				
Injection Date:	02-Jul-2019 15:33:05	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

* 44 Dibutylchlorendate ISTD, CAS: 1770-80-5

Signal: 1

Processing Integration Results

RT: 8.23
Height: 102459929
Amount: 0.100000
Amount Units: ng

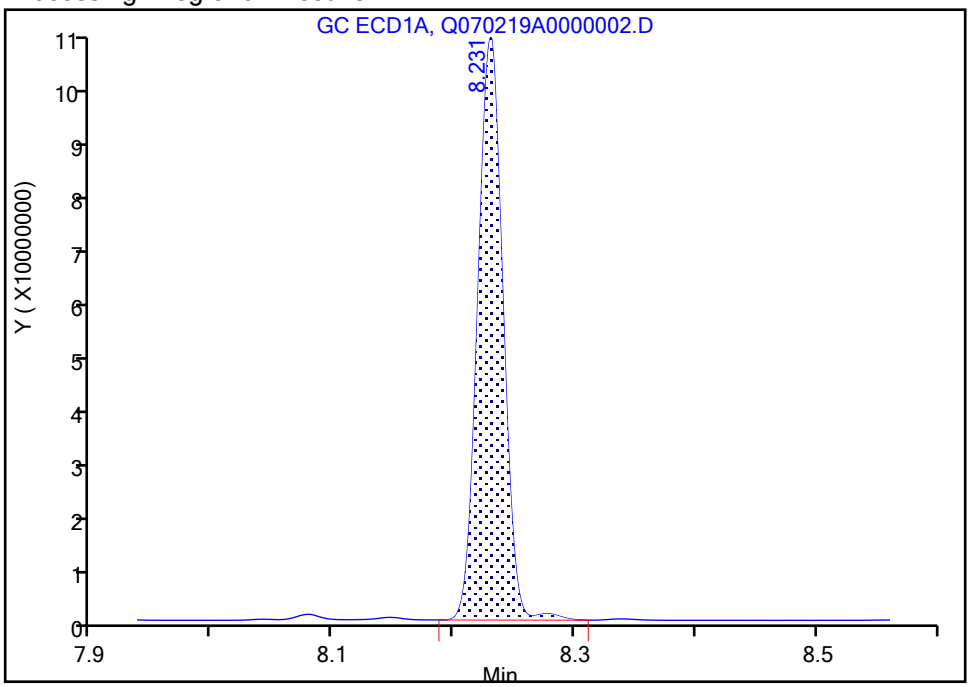

Manual Integration Results

RT: 8.23
Height: 102459947
Amount: 0.100000
Amount Units: ng

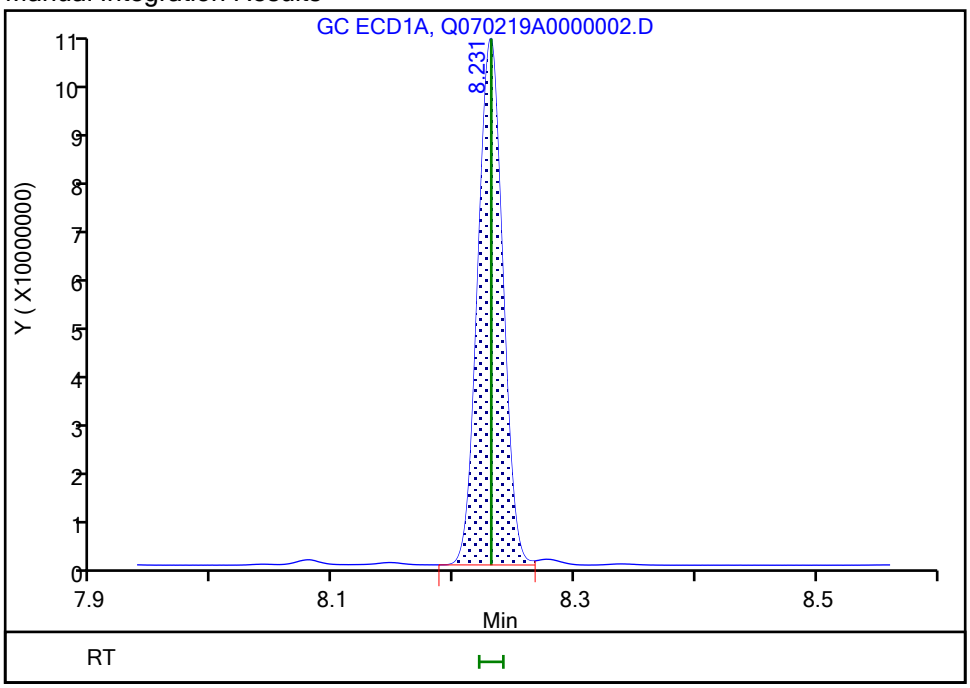

Reviewer: eppinged, 03-Jul-2019 07:17:59

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000002.D				
Injection Date:	02-Jul-2019 15:33:05	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

37 Endrin ketone, CAS: 53494-70-5

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 8.28

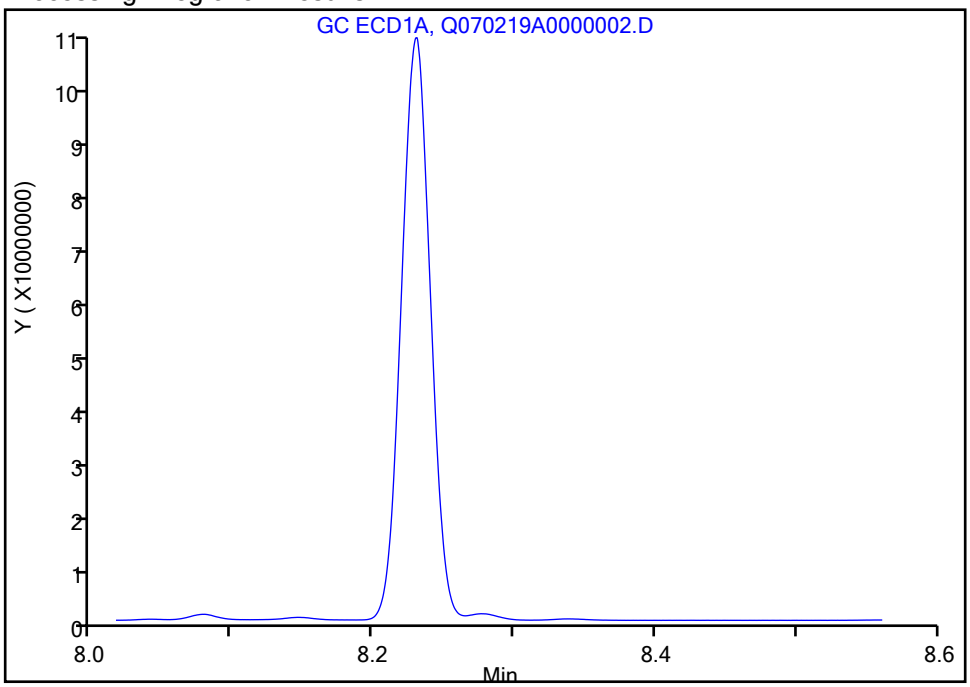

Manual Integration Results

RT: 8.28
Height: 1126327
Amount: 0.001057
Amount Units: ng

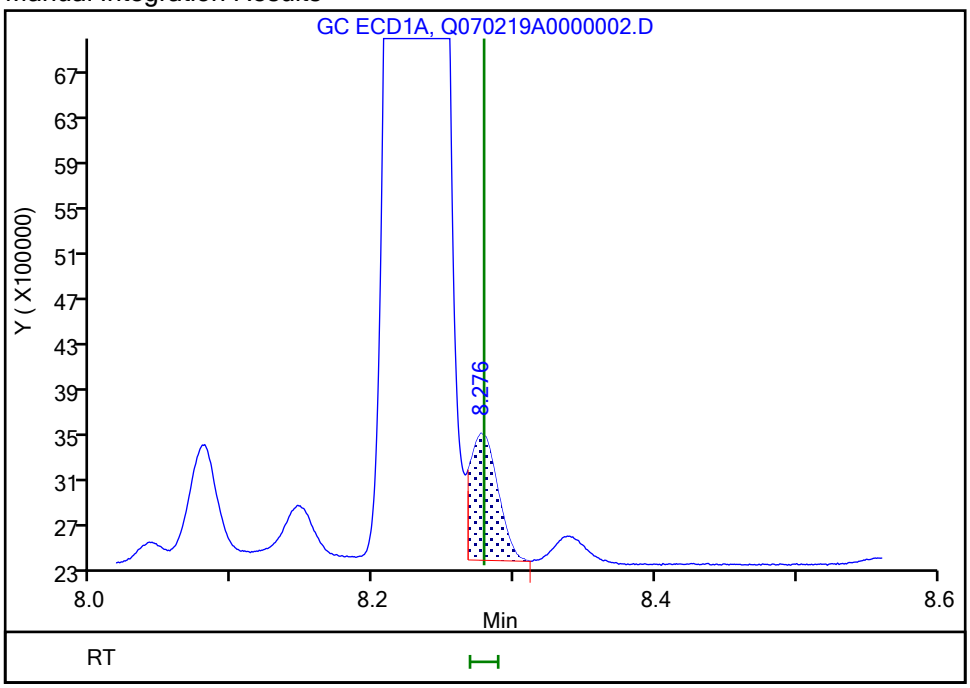

Reviewer: eppinged, 03-Jul-2019 07:18:05
Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000003.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 02-Jul-2019 15:48:40 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0027593-003
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub6

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Jul-2019 07:33:25 Calib Date: 02-Jul-2019 16:50:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000007.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0303

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.790	3.790	0.000	137267512H	0.1000	0.1000	
2	4.050	4.050	0.000	145178058H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.786	4.786	0.000	10257000H	0.005000	0.005416	
2	4.926	4.926	0.000	11304521H	0.005000	0.005766	
						RPD = 6.27	
5 alpha-BHC							
1	5.152	5.152	0.000	11590791H	0.005000	0.005331	
2	5.397	5.397	0.000	12354599H	0.005000	0.005615	
						RPD = 5.19	
7 gamma-BHC (Lindane)							
1	5.416	5.416	0.000	10231399H	0.005000	0.005338	
2	5.702	5.702	0.000	10249223H	0.005000	0.005829	
						RPD = 8.78	
8 beta-BHC							
1	5.574	5.574	0.000	4284585H	0.005000	0.005477	
2	5.941	5.941	0.000	4856079H	0.005000	0.005584	
						RPD = 1.95	
10 delta-BHC							
1	5.775	5.775	0.000	9233916H	0.005000	0.005224	
2	6.175	6.175	0.000	9736023H	0.005000	0.005582	
						RPD = 6.64	
11 Heptachlor							
1	5.891	5.891	0.000	9117922H	0.005000	0.005378	
2	6.031	6.031	0.000	9219606H	0.005000	0.005633	
						RPD = 4.63	
13 Aldrin							
1	6.173	6.173	0.000	9354962H	0.005000	0.005337	
2	6.303	6.303	0.000	9117793H	0.005000	0.005631	
						RPD = 5.35	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
16 Heptachlor epoxide							
1	6.530	6.531	-0.001	8388728H	0.005000	0.005501	
2	6.754	6.753	0.001	8239575H	0.005000	0.005801	
						RPD = 5.30	
18 trans-Chlordane							
1	6.749	6.748	0.001	8472873H	0.005000	0.005359	
2	6.983	6.982	0.001	8267839H	0.005000	0.005564	
						RPD = 3.75	
20 cis-Chlordane							
1	6.815	6.816	-0.001	8246101H	0.005000	0.005327	
2	7.043	7.043	0.000	8196263H	0.005000	0.005691	
						RPD = 6.60	
21 Endosulfan I							
1	6.860	6.860	0.000	7565053H	0.005000	0.005425	
2	7.113	7.112	0.001	7309694H	0.005000	0.005898	
						RPD = 8.35	
23 4,4'-DDE							
1	6.966	6.966	0.000	7934988H	0.005000	0.005367	
2	7.178	7.177	0.001	8029732H	0.005000	0.005572	
						RPD = 3.75	
24 Dieldrin							
1	7.098	7.098	0.000	8523069H	0.005000	0.005593	
2	7.358	7.359	-0.001	8231358H	0.005000	0.005619	
						RPD = 0.46	
27 Endrin							
1	7.300	7.299	0.001	7007470H	0.005000	0.005749	
2	7.628	7.628	0.000	6570065H	0.005000	0.005731	
						RPD = 0.31	
29 4,4'-DDD							
1	7.423	7.423	0.000	6624073H	0.005000	0.005468	
2	7.698	7.698	0.000	6365986H	0.005000	0.005527	
						RPD = 1.06	
31 Endosulfan II							
1	7.495	7.496	-0.001	6304396H	0.005000	0.005672	
2	7.891	7.890	0.001	6144588H	0.005000	0.005717	
						RPD = 0.78	
32 Endrin aldehyde							
1	7.612	7.613	-0.001	5343520H	0.005000	0.005669	
2	8.058	8.058	0.000	4900727H	0.005000	0.005680	
						RPD = 0.20	
33 4,4'-DDT							
1	7.703	7.702	0.001	4703883H	0.005000	0.004909	
2	7.944	7.944	0.000	4406262H	0.005000	0.004829	
						RPD = 1.64	
35 Endosulfan sulfate							
1	7.821	7.822	-0.001	6743296H	0.005000	0.005632	
2	8.284	8.284	0.000	5812772H	0.005000	0.005690	
						RPD = 1.02	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Methoxychlor							
1	8.147	8.148	-0.001	2057810H	0.005000	0.004915	
2	8.518	8.518	0.000	1818014H	0.005000	0.004815	
						RPD = 2.05	
* 44 Dibutylchlorendate ISTD							
1	8.230	8.231	0.000	103768708H	0.1000	0.1000	
2	8.333	8.333	0.000	87256197H	0.1000	0.1000	
37 Endrin ketone							
1	8.277	8.278	-0.001	6063372H	0.005000	0.005616	
2	8.911	8.911	0.000	5207977H	0.005000	0.005679	
						RPD = 1.10	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.025	10.022	0.003	4032706H	0.005000	0.005618	
2	10.625	10.624	0.001	3449354H	0.005000	0.005604	
						RPD = 0.26	

Reagents:

GCPestL2_00022 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 03-Jul-2019 07:33:26 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000003.D				
Injection Date:	02-Jul-2019 15:48:40	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

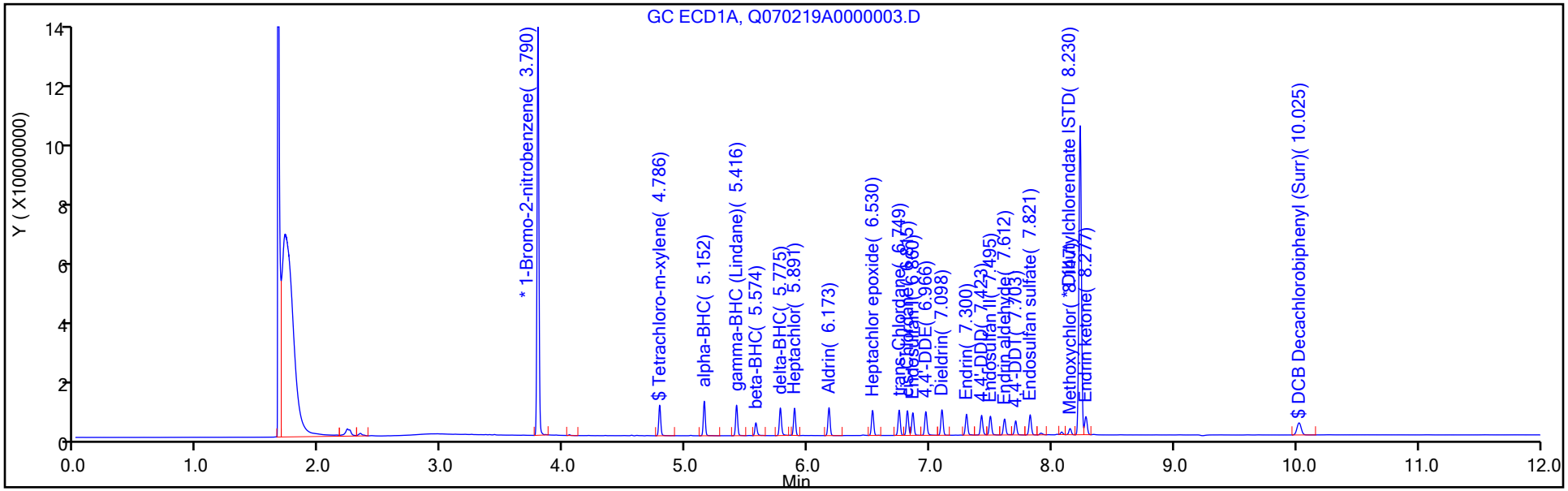

Column: MR-2 (0.53 mm)

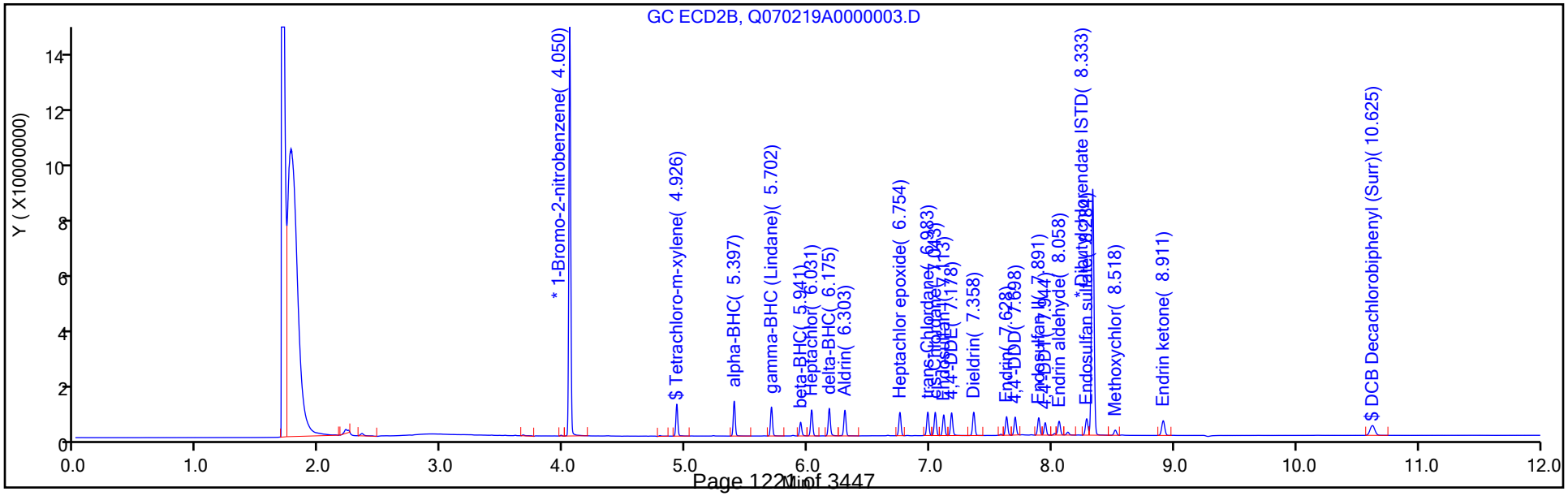

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000004.D
Lims ID: ICIS
Client ID:
Sample Type: ICIS Calib Level: 3
Inject. Date: 02-Jul-2019 16:04:11 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0027593-004
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub6

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Jul-2019 07:33:30 Calib Date: 02-Jul-2019 16:50:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000007.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0303

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.790	3.790	0.000	134728476H	0.1000	0.1000	
2	4.050	4.050	0.000	139364553H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.786	4.786	0.000	49570340H	0.0250	0.0267	
2	4.926	4.926	0.000	50834390H	0.0250	0.0270	
						RPD = 1.28	
5 alpha-BHC							
1	5.152	5.152	0.000	56627140H	0.0250	0.0265	
2	5.397	5.397	0.000	56543319H	0.0250	0.0268	
						RPD = 0.88	
7 gamma-BHC (Lindane)							
1	5.416	5.416	0.000	49762728H	0.0250	0.0265	
2	5.702	5.702	0.000	41615868H	0.0250	0.0247	
						RPD = 7.04	
8 beta-BHC							
1	5.574	5.574	0.000	18529847H	0.0250	0.0241	
2	5.941	5.941	0.000	21846719H	0.0250	0.0262	
						RPD = 8.11	
10 delta-BHC							
1	5.775	5.775	0.000	46599582H	0.0250	0.0269	
2	6.175	6.175	0.000	45487250H	0.0250	0.0272	
						RPD = 1.15	
11 Heptachlor							
1	5.891	5.891	0.000	43964489H	0.0250	0.0264	
2	6.031	6.031	0.000	42216816H	0.0250	0.0269	
						RPD = 1.69	
13 Aldrin							
1	6.173	6.173	0.000	46503340H	0.0250	0.0270	
2	6.303	6.303	0.000	42736382H	0.0250	0.0275	
						RPD = 1.70	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
16 Heptachlor epoxide							
1	6.531	6.531	0.000	39669842H	0.0250	0.0265	
2	6.753	6.753	0.000	35311704H	0.0250	0.0259	
						RPD = 2.32	
18 trans-Chlordane							
1	6.748	6.748	0.000	40965161H	0.0250	0.0264	
2	6.982	6.982	0.000	38686957H	0.0250	0.0271	
						RPD = 2.70	
20 cis-Chlordane							
1	6.816	6.816	0.000	40240274H	0.0250	0.0265	
2	7.043	7.043	0.000	36497959H	0.0250	0.0264	
						RPD = 0.34	
21 Endosulfan I							
1	6.860	6.860	0.000	36860436H	0.0250	0.0269	
2	7.112	7.112	0.000	29095955H	0.0250	0.0245	
						RPD = 9.64	
23 4,4'-DDE							
1	6.966	6.966	0.000	39905011H	0.0250	0.0263	
2	7.177	7.177	0.000	37479016H	0.0250	0.0263	
						RPD = 0.07	
24 Dieldrin							
1	7.098	7.098	0.000	39539616H	0.0250	0.0253	
2	7.359	7.359	0.000	38734829H	0.0250	0.0268	
						RPD = 5.66	
27 Endrin							
1	7.299	7.299	0.000	30217332H	0.0250	0.0242	
2	7.628	7.628	0.000	30042801H	0.0250	0.0266	
						RPD = 9.33	
29 4,4'-DDD							
1	7.423	7.423	0.000	30133979H	0.0250	0.0243	
2	7.698	7.698	0.000	29747857H	0.0250	0.0262	
						RPD = 7.52	
31 Endosulfan II							
1	7.496	7.496	0.000	28732230H	0.0250	0.0252	
2	7.890	7.890	0.000	28196744H	0.0250	0.0266	
						RPD = 5.25	
32 Endrin aldehyde							
1	7.613	7.613	0.000	24965258H	0.0250	0.0258	
2	8.058	8.058	0.000	22594648H	0.0250	0.0265	
						RPD = 2.65	
33 4,4'-DDT							
1	7.702	7.702	0.000	25253961H	0.0250	0.0257	
2	7.944	7.944	0.000	24882266H	0.0250	0.0276	
						RPD = 7.19	
35 Endosulfan sulfate							
1	7.822	7.822	0.000	31039318H	0.0250	0.0253	
2	8.284	8.284	0.000	26494128H	0.0250	0.0263	
						RPD = 3.81	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Methoxychlor							
1	8.148	8.148	0.000	10678849H	0.0250	0.0249	
2	8.518	8.518	0.000	10044910H	0.0250	0.0270	
						RPD = 8.00	
* 44 Dibutylchlorendate ISTD							
1	8.231	8.231	0.000	106364717H	0.1000	0.1000	
2	8.333	8.333	0.000	86123216H	0.1000	0.1000	
37 Endrin ketone							
1	8.278	8.278	0.000	28484045H	0.0250	0.0257	
2	8.911	8.911	0.000	24054751H	0.0250	0.0266	
						RPD = 3.19	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.022	10.022	0.000	18636943H	0.0250	0.0253	
2	10.624	10.624	0.000	15394847H	0.0250	0.0253	
						RPD = 0.04	

Reagents:

GCPestL3_00028 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 03-Jul-2019 07:33:31 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000004.D				
Injection Date:	02-Jul-2019 16:04:11	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	ICIS			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

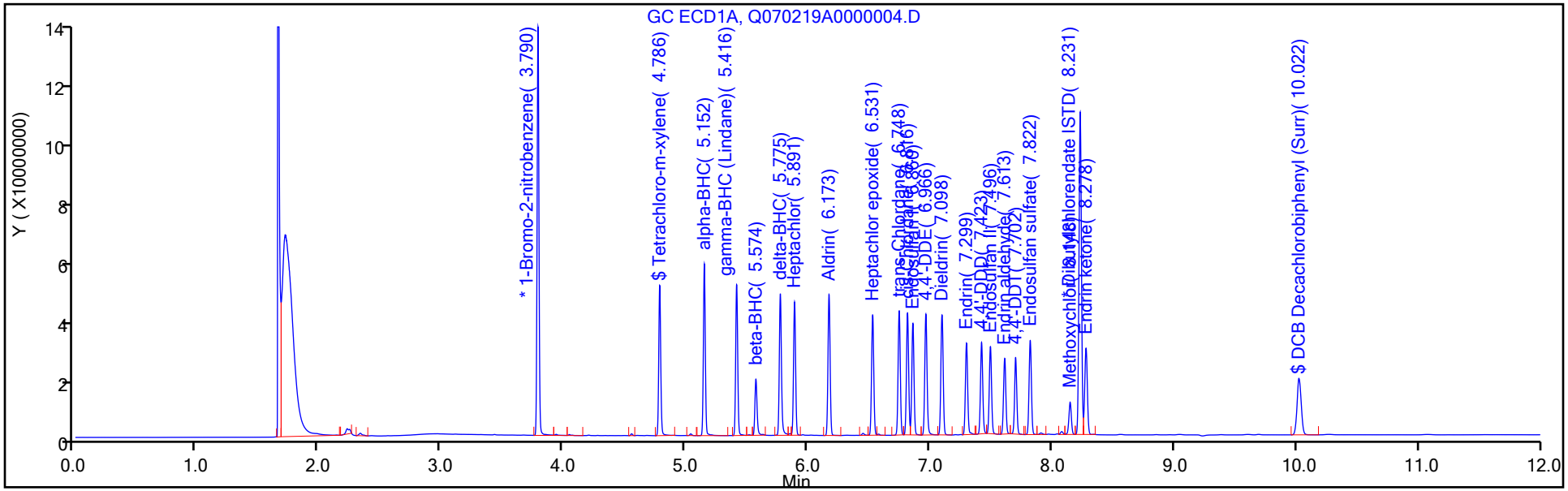

Column: MR-2 (0.53 mm)

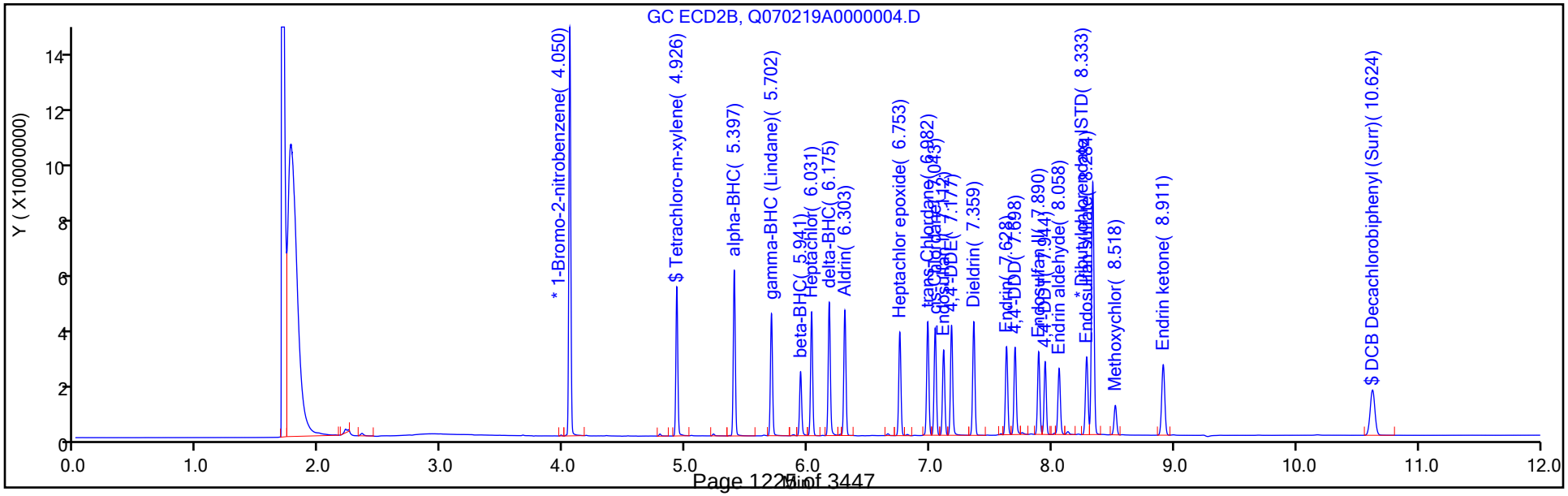

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000005.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 02-Jul-2019 16:19:38 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0027593-005
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub6

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Jul-2019 07:33:39 Calib Date: 02-Jul-2019 16:50:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000007.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0303

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.789	3.790	-0.001	139717397H	0.1000	0.1000	
2	4.050	4.050	0.000	146939526H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.786	4.786	0.000	94555396H	0.0500	0.0491	
2	4.927	4.926	0.001	95267385H	0.0500	0.0480	
						RPD = 2.14	
5 alpha-BHC							
1	5.152	5.152	0.000	110931113H	0.0500	0.0501	
2	5.397	5.397	0.000	109891836H	0.0500	0.0493	
						RPD = 1.57	
7 gamma-BHC (Lindane)							
1	5.417	5.416	0.001	98106565H	0.0500	0.0503	
2	5.702	5.702	0.000	90339526H	0.0500	0.0508	
						RPD = 0.93	
8 beta-BHC							
1	5.574	5.574	0.000	39121214H	0.0500	0.0491	
2	5.941	5.941	0.000	42549910H	0.0500	0.0483	
						RPD = 1.61	
10 delta-BHC							
1	5.774	5.775	-0.001	91334892H	0.0500	0.0508	
2	6.175	6.175	0.000	88817927H	0.0500	0.0503	
						RPD = 0.88	
11 Heptachlor							
1	5.891	5.891	0.000	88477634H	0.0500	0.0513	
2	6.031	6.031	0.000	81076882H	0.0500	0.0489	
						RPD = 4.65	
13 Aldrin							
1	6.173	6.173	0.000	91430283H	0.0500	0.0512	
2	6.304	6.303	0.001	80259739H	0.0500	0.0490	
						RPD = 4.54	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
16 Heptachlor epoxide							
1	6.530	6.531	-0.001	78634029H	0.0500	0.0507	
2	6.754	6.753	0.001	71180275H	0.0500	0.0495	
						RPD = 2.30	
18 trans-Chlordane							
1	6.746	6.748	-0.002	80980332H	0.0500	0.0503	
2	6.982	6.982	0.000	73708352H	0.0500	0.0490	
						RPD = 2.65	
20 cis-Chlordane							
1	6.815	6.816	-0.001	80670687H	0.0500	0.0512	
2	7.044	7.043	0.001	71643263H	0.0500	0.0491	
						RPD = 4.10	
21 Endosulfan I							
1	6.859	6.860	-0.001	71888745H	0.0500	0.0506	
2	7.113	7.112	0.001	64345269H	0.0500	0.0513	
						RPD = 1.27	
23 4,4'-DDE							
1	6.966	6.966	0.000	81234371H	0.0500	0.0518	
2	7.177	7.177	0.000	73455869H	0.0500	0.0499	
						RPD = 3.67	
24 Dieldrin							
1	7.099	7.098	0.001	82630996H	0.0500	0.0511	
2	7.359	7.359	0.000	74140784H	0.0500	0.0496	
						RPD = 3.07	
27 Endrin							
1	7.299	7.299	0.000	64884205H	0.0500	0.0502	
2	7.628	7.628	0.000	57556749H	0.0500	0.0492	
						RPD = 2.02	
29 4,4'-DDD							
1	7.423	7.423	0.000	61288773H	0.0500	0.0477	
2	7.697	7.698	-0.001	58278174H	0.0500	0.0496	
						RPD = 3.83	
31 Endosulfan II							
1	7.495	7.496	-0.001	60598209H	0.0500	0.0514	
2	7.891	7.890	0.001	53475969H	0.0500	0.0487	
						RPD = 5.32	
32 Endrin aldehyde							
1	7.611	7.613	-0.002	51807698H	0.0500	0.0518	
2	8.058	8.058	0.000	44764508H	0.0500	0.0508	
						RPD = 1.93	
33 4,4'-DDT							
1	7.701	7.702	-0.001	51832991H	0.0500	0.0510	
2	7.944	7.944	0.000	51006738H	0.0500	0.0548	
						RPD = 7.12	
35 Endosulfan sulfate							
1	7.821	7.822	-0.001	62085211H	0.0500	0.0489	
2	8.283	8.284	-0.001	51546603H	0.0500	0.0494	
						RPD = 1.10	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Methoxychlor							
1	8.148	8.148	0.000	22088404H	0.0500	0.0497	
2	8.519	8.518	0.001	19977262H	0.0500	0.0518	
						RPD = 4.12	
* 44 Dibutylchlorendate ISTD							
1	8.230	8.231	0.000	110088335H	0.1000	0.1000	
2	8.334	8.333	0.000	89092403H	0.1000	0.1000	
37 Endrin ketone							
1	8.278	8.278	0.000	57868536H	0.0500	0.0505	
2	8.911	8.911	0.000	46810022H	0.0500	0.0500	
						RPD = 1.07	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.023	10.022	0.001	37887621H	0.0500	0.0498	
2	10.626	10.624	0.002	30341087H	0.0500	0.0483	
						RPD = 3.01	

Reagents:

GCPestL4_00021 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 03-Jul-2019 07:33:40 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000005.D				
Injection Date:	02-Jul-2019 16:19:38	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

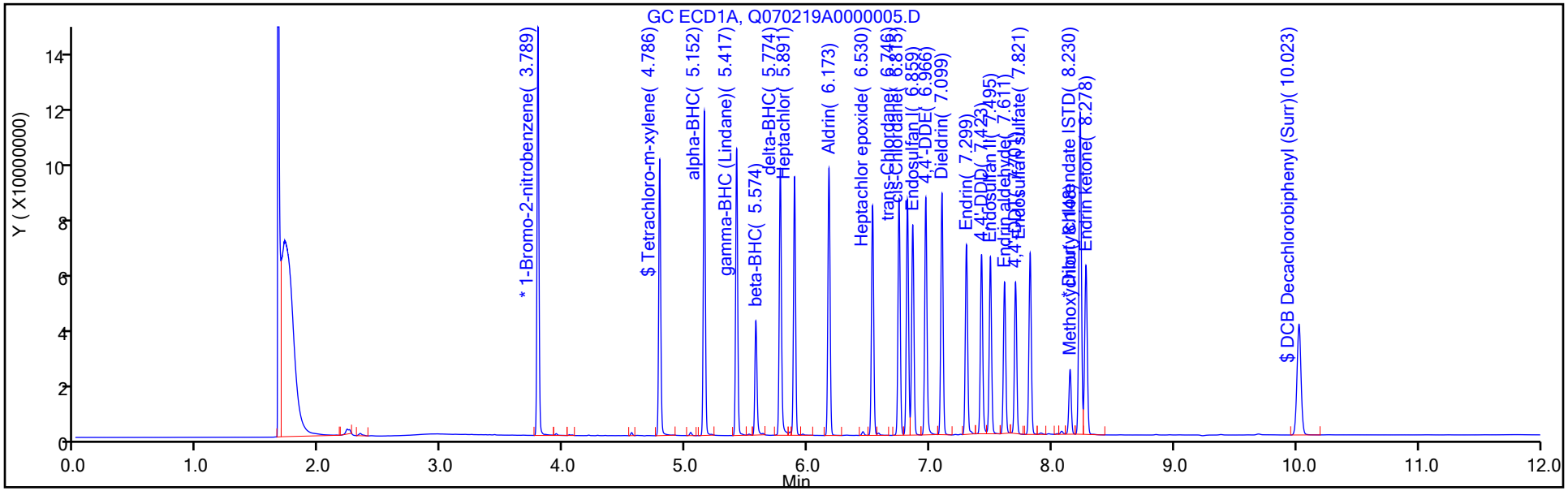

Column: MR-2 (0.53 mm)

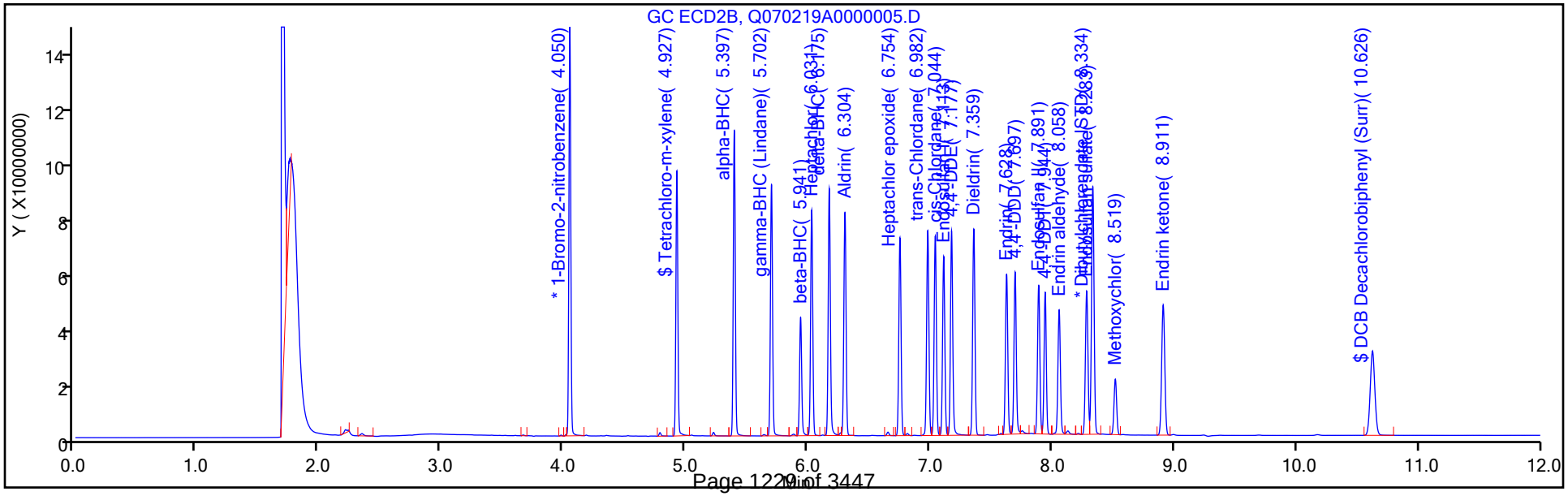

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000006.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 02-Jul-2019 16:35:11 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0027593-006
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub6

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Jul-2019 07:33:45 Calib Date: 02-Jul-2019 16:50:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000007.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0303

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.789	3.790	-0.001	146837425H	0.1000	0.1000	
2	4.051	4.050	0.000	154945898H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.786	4.786	0.000	193673600H	0.1000	0.0956	
2	4.927	4.926	0.001	183461136H	0.1000	0.0877	
						RPD = 8.64	
5 alpha-BHC							
1	5.152	5.152	0.000	231686599H	0.1000	0.0996	
2	5.397	5.397	0.000	214465513H	0.1000	0.0913	
						RPD = 8.68	
7 gamma-BHC (Lindane)							
1	5.416	5.416	0.000	203801432H	0.1000	0.0994	
2	5.702	5.702	0.000	171559392H	0.1000	0.0914	
						RPD = 8.38	
8 beta-BHC							
1	5.574	5.574	0.000	78943016H	0.1000	0.0943	
2	5.940	5.941	-0.001	82900267H	0.1000	0.0893	
						RPD = 5.45	
10 delta-BHC							
1	5.774	5.775	-0.001	192429442H	0.1000	0.1018	
2	6.175	6.175	0.000	171513755H	0.1000	0.0921	
						RPD = 9.92	
11 Heptachlor							
1	5.891	5.891	0.000	170485322H	0.1000	0.0940	
2	6.031	6.031	0.000	153023660H	0.1000	0.0876	
						RPD = 7.05	
13 Aldrin							
1	6.173	6.173	0.000	180787104H	0.1000	0.0964	
2	6.304	6.303	0.001	157021197H	0.1000	0.0909	
						RPD = 5.94	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
16 Heptachlor epoxide							
1	6.530	6.531	-0.001	153673569H	0.1000	0.0942	
2	6.754	6.753	0.001	133369120H	0.1000	0.0880	
						RPD = 6.84	
18 trans-Chlordane							
1	6.747	6.748	-0.001	162688244H	0.1000	0.0962	
2	6.982	6.982	0.000	144028880H	0.1000	0.0908	
						RPD = 5.75	
20 cis-Chlordane							
1	6.816	6.816	0.000	156147417H	0.1000	0.0943	
2	7.043	7.043	0.000	135814370H	0.1000	0.0884	
						RPD = 6.51	
21 Endosulfan I							
1	6.860	6.860	0.000	140588433H	0.1000	0.0942	
2	7.112	7.112	0.000	116783952H	0.1000	0.0883	
						RPD = 6.53	
23 4,4'-DDE							
1	6.965	6.966	-0.001	157013228H	0.1000	0.0932	
2	7.177	7.177	0.000	142540987H	0.1000	0.0895	
						RPD = 4.02	
24 Dieldrin							
1	7.099	7.098	0.001	163230347H	0.1000	0.0940	
2	7.360	7.359	0.001	140182828H	0.1000	0.0866	
						RPD = 8.19	
27 Endrin							
1	7.299	7.299	0.000	132039614H	0.1000	0.0951	
2	7.628	7.628	0.000	109731944H	0.1000	0.0866	
						RPD = 9.28	
29 4,4'-DDD							
1	7.422	7.423	-0.001	125725826H	0.1000	0.0911	
2	7.697	7.698	-0.001	115836094H	0.1000	0.0910	
						RPD = 0.07	
31 Endosulfan II							
1	7.494	7.496	-0.002	118662807H	0.1000	0.0937	
2	7.891	7.890	0.001	103885415H	0.1000	0.0875	
						RPD = 6.86	
32 Endrin aldehyde							
1	7.611	7.613	-0.002	101938655H	0.1000	0.0949	
2	8.058	8.058	0.000	85599428H	0.1000	0.0898	
						RPD = 5.53	
33 4,4'-DDT							
1	7.701	7.702	-0.001	112573721H	0.1000	0.1031	
2	7.944	7.944	0.000	104673667H	0.1000	0.1038	
						RPD = 0.70	
35 Endosulfan sulfate							
1	7.820	7.822	-0.002	126937392H	0.1000	0.0930	
2	8.285	8.284	0.001	98756309H	0.1000	0.0875	
						RPD = 6.15	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Methoxychlor							
1	8.146	8.148	-0.002	47421187H	0.1000	0.0994	
2	8.518	8.518	0.000	41235733H	0.1000	0.0988	
						RPD = 0.55	
* 44 Dibutylchlorendate ISTD							
1	8.230	8.231	0.000	118266735H	0.1000	0.1000	
2	8.334	8.333	0.001	96426742H	0.1000	0.1000	
37 Endrin ketone							
1	8.277	8.278	-0.001	110158978H	0.1000	0.0895	
2	8.911	8.911	0.000	89834162H	0.1000	0.0886	
						RPD = 1.00	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.022	10.022	0.000	72700543H	0.1000	0.0889	
2	10.625	10.624	0.001	57649966H	0.1000	0.0847	
						RPD = 4.74	

Reagents:

GCPestL5_00021	Amount Added: 1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added: 0.02	Units: mL	Run Reagent

Report Date: 03-Jul-2019 07:33:46 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000006.D				
Injection Date:	02-Jul-2019 16:35:11	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

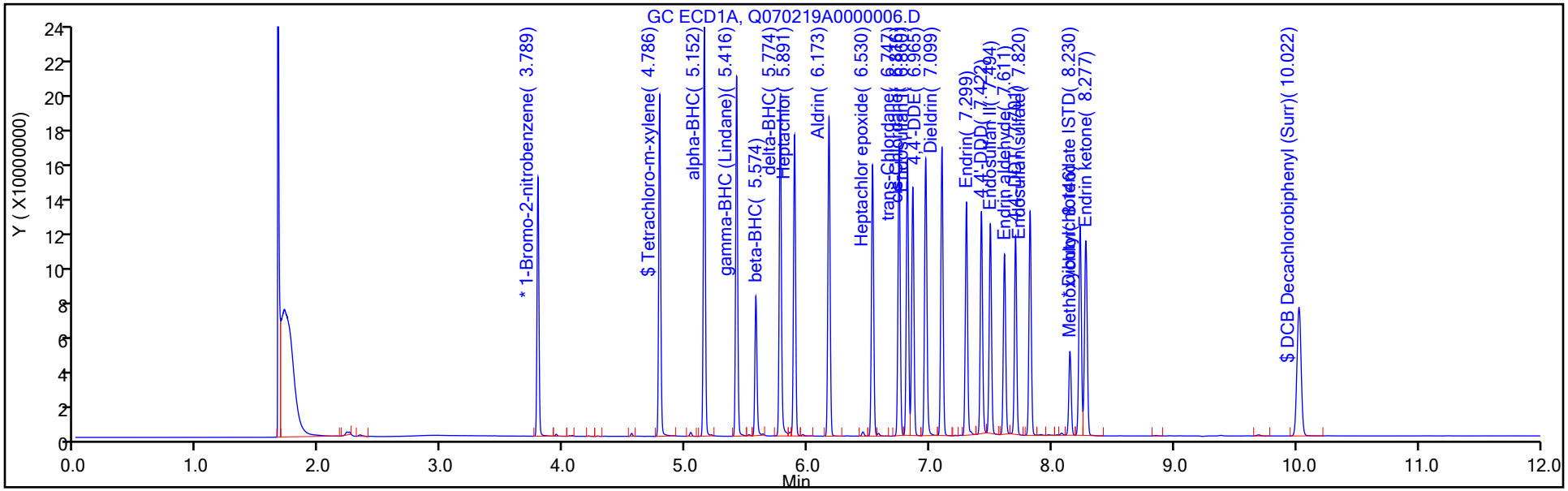

Column: MR-2 (0.53 mm)

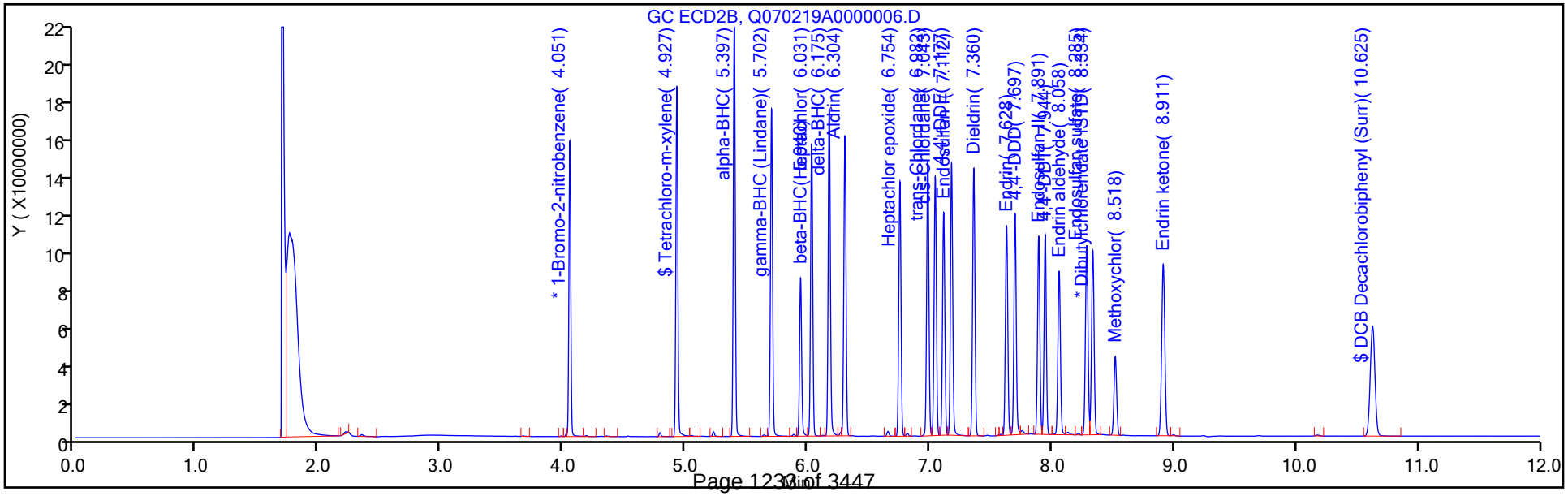

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000007.D				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	6		
Inject. Date:	02-Jul-2019 16:50:46	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0027593-007				
Operator ID:	402331	Instrument ID:	CHGC15		
Sublist:	chrom-IS PEST_CHGC15*sub6				
Method:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\IS PEST_CHGC15.m				
Limit Group:	GCS 8081B ICAL with IS				
Last Update:	03-Jul-2019 07:33:52	Calib Date:	02-Jul-2019 16:50:46		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000007.D				
Column 1 :	MR-1 (0.53 mm)		Det: GC ECD1A		
Column 2 :	MR-2 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0303				

First Level Reviewer: eppinged Date: 03-Jul-2019 07:29:30

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.789	3.790	0.000	149217071H	0.1000	0.1000	
2	4.050	4.050	0.000	153864406H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.787	4.786	0.001	376043302H	0.2000	0.1827	
2	4.927	4.926	0.001	344970277H	0.2000	0.1660	
						RPD = 9.54	
5 alpha-BHC							
1	5.152	5.152	0.000	451879422H	0.2000	0.1912	
2	5.398	5.397	0.001	408778231H	0.2000	0.1753	
						RPD = 8.67	
7 gamma-BHC (Lindane)							
1	5.416	5.416	0.000	387323512H	0.2000	0.1859	
2	5.702	5.702	0.000	333010934H	0.2000	0.1787	
						RPD = 3.96	
8 beta-BHC							
1	5.574	5.574	0.000	158096293H	0.2000	0.1859	
2	5.941	5.941	0.000	156069095H	0.2000	0.1693	
						RPD = 9.32	
10 delta-BHC							
1	5.775	5.775	0.000	364096452H	0.2000	0.1895	
2	6.175	6.175	0.000	327786953H	0.2000	0.1773	
						RPD = 6.62	
11 Heptachlor							
1	5.890	5.891	-0.001	327482449H	0.2000	0.1777	
2	6.031	6.031	0.000	289335081H	0.2000	0.1668	
						RPD = 6.32	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
13 Aldrin							
1	6.173	6.173	0.000	349274141H	0.2000	0.1833	
2	6.304	6.303	0.001	289103662H	0.2000	0.1685	
						RPD = 8.44	
16 Heptachlor epoxide							
1	6.530	6.531	-0.001	289780219H	0.2000	0.1748	
2	6.755	6.753	0.002	246550496H	0.2000	0.1638	
						RPD = 6.52	
18 trans-Chlordane							
1	6.747	6.748	-0.001	316624517H	0.2000	0.1842	
2	6.982	6.982	0.000	268655136H	0.2000	0.1706	
						RPD = 7.69	
20 cis-Chlordane							
1	6.816	6.816	0.000	307507543H	0.2000	0.1828	
2	7.044	7.043	0.001	256179531H	0.2000	0.1678	
						RPD = 8.51	
21 Endosulfan I							
1	6.860	6.860	0.000	271099075H	0.2000	0.1788	
2	7.113	7.112	0.001	217597309H	0.2000	0.1657	
						RPD = 7.65	
23 4,4'-DDE							
1	6.966	6.966	0.000	307301442H	0.2000	0.1840	
2	7.177	7.177	0.000	262418619H	0.2000	0.1690	
						RPD = 8.50	
24 Dieldrin							
1	7.099	7.098	0.001	307016408H	0.2000	0.1783	
2	7.359	7.359	0.000	265657589H	0.2000	0.1683	
						RPD = 5.81	
27 Endrin							
1	7.300	7.299	0.001	244436882H	0.2000	0.1775	
2	7.628	7.628	0.000	203905580H	0.2000	0.1651	
						RPD = 7.28	
29 4,4'-DDD							
1	7.422	7.423	-0.001	234129054H	0.2000	0.1711	
2	7.697	7.698	-0.001	213777836H	0.2000	0.1722	
						RPD = 0.66	
31 Endosulfan II							
1	7.495	7.496	-0.001	221420031H	0.2000	0.1763	
2	7.890	7.890	0.000	191152311H	0.2000	0.1650	
						RPD = 6.63	
32 Endrin aldehyde							
1	7.611	7.613	-0.002	188877077H	0.2000	0.1774	
2	8.058	8.058	0.000	153130569H	0.2000	0.1647	
						RPD = 7.41	
33 4,4'-DDT							
1	7.702	7.702	0.000	219776259H	0.2000	0.2030	
2	7.944	7.944	0.000	196219157H	0.2000	0.1996	
						RPD = 1.73	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
35 Endosulfan sulfate							
1	7.821	7.822	-0.001	242935995H	0.2000	0.1796	
2	8.284	8.284	0.000	183597930H	0.2000	0.1668	
						RPD = 7.42	
36 Methoxychlor							
1	8.147	8.148	-0.001	92138892H	0.2000	0.1948	
2	8.519	8.518	0.001	78151929H	0.2000	0.1921	
						RPD = 1.41	
* 44 Dibutylchlorendate ISTD							
1	8.230	8.231	-0.001	117230090H	0.1000	0.1000	
2	8.334	8.333	0.001	94035760H	0.1000	0.1000	
37 Endrin ketone							
1	8.277	8.278	-0.001	215771725H	0.2000	0.1769	
2	8.910	8.911	-0.001	165941269H	0.2000	0.1679	
						RPD = 5.23	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.022	10.022	0.000	139438691H	0.2000	0.1719	
2	10.625	10.624	0.001	108385207H	0.2000	0.1634	
						RPD = 5.11	

Reagents:

GCPestL6_00021	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 03-Jul-2019 07:33:52 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000007.D				
Injection Date:	02-Jul-2019 16:50:46	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

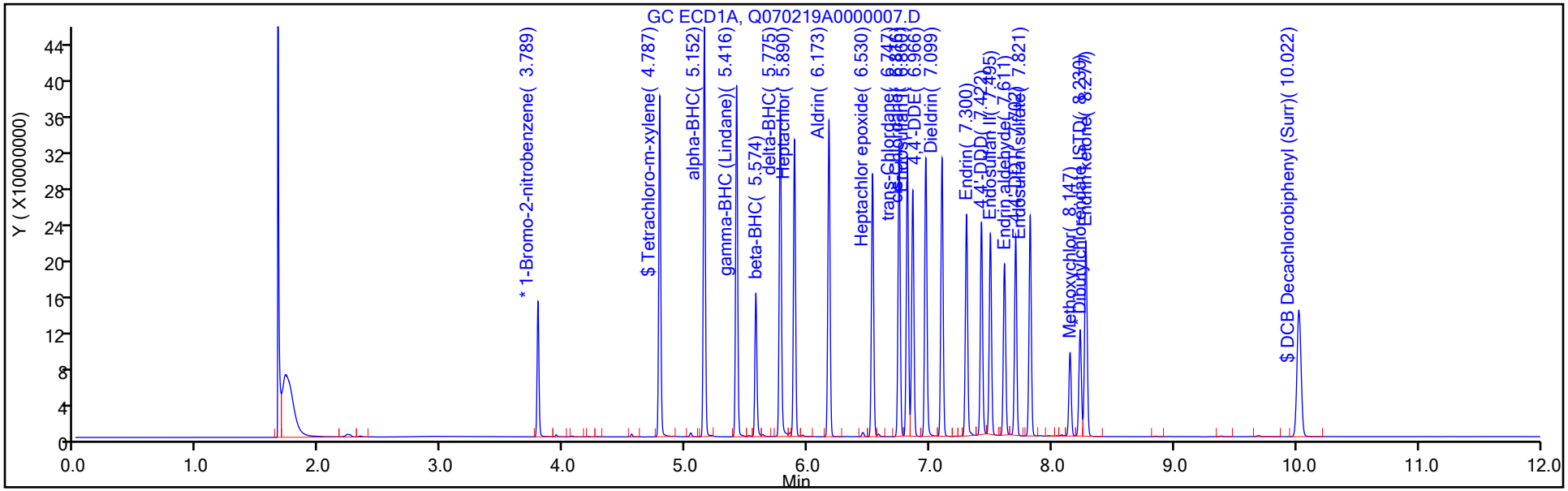

Column: MR-2 (0.53 mm)

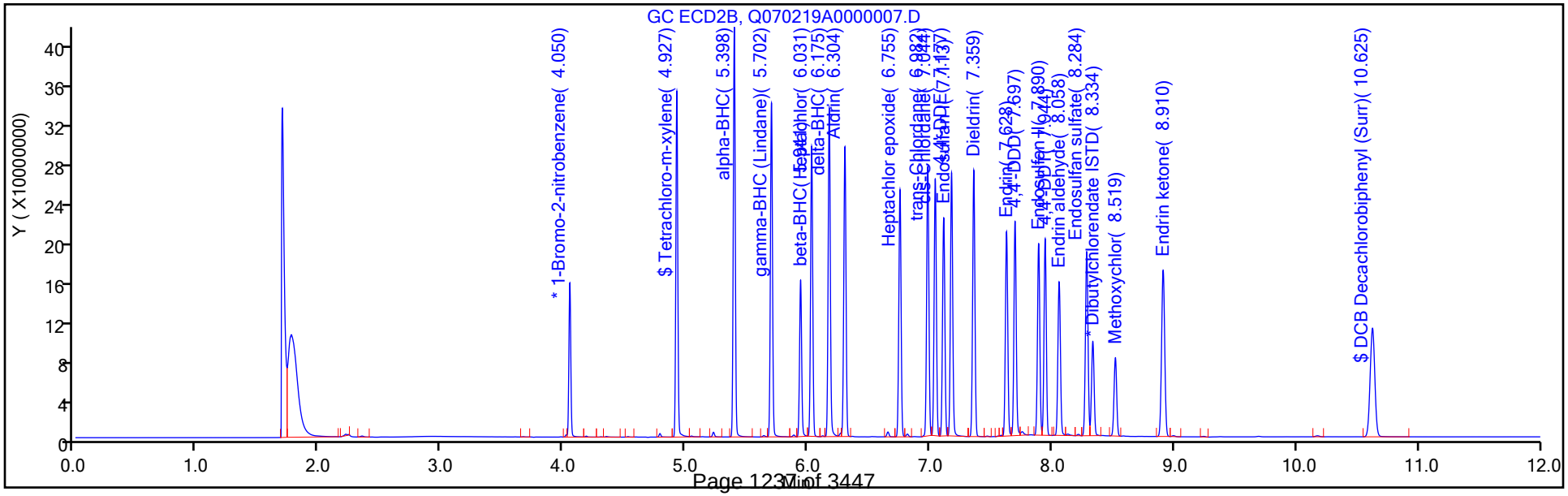

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 283759

SDG No.:

Instrument ID: CHGC15 GC Column: MR-2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/02/2019 15:33 Calibration End Date: 07/02/2019 16:50 Calibration ID: 40698

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-283759/2	Q070219A0000002.D
Level 2	IC 180-283759/3	Q070219A0000003.D
Level 3	ICIS 180-283759/4	Q070219A0000004.D
Level 4	IC 180-283759/5	Q070219A0000005.D
Level 5	IC 180-283759/6	Q070219A0000006.D
Level 6	IC 180-283759/7	Q070219A0000007.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
alpha-BHC	1.5609 1.3284	1.7020	1.6229	1.4957	1.3841	Ave		1.5157				9.4		20.0			
gamma-BHC (Lindane)	1.2419 1.0822	1.4120	1.1944	1.2296	1.1072	Ave		1.2112				9.7		20.0			
beta-BHC	0.6765 0.5072	0.6690	0.6270	0.5791	0.5350	Ave		0.5990				11.7		20.0			
Heptachlor	1.2511 0.9402	1.2701	1.2117	1.1035	0.9876	Ave		1.1274				12.4		20.0			
delta-BHC	1.1801 1.0652	1.3413	1.3056	1.2089	1.1069	Ave		1.2013				9.0		20.0			
Aldrin	1.1645 0.9395	1.2561	1.2266	1.0924	1.0134	Ave		1.1154				11.1		20.0			
Heptachlor epoxide	1.0907 0.8012	1.1351	1.0135	0.9688	0.8607	Ave		0.9784				13.2		20.0			
trans-Chlordane	1.0865 0.8730	1.1390	1.1104	1.0032	0.9295	Ave		1.0236				10.4		20.0			
cis-Chlordane	1.0915 0.8325	1.1291	1.0476	0.9751	0.8765	Ave		0.9920				12.0		20.0			
Endosulfan I	0.9434 0.7071	1.0070	0.8351	0.8758	0.7537	Ave		0.8537				13.2		20.0			
4,4'-DDE	1.8058 1.3953	1.8405	1.7407	1.6490	1.4782	Ave		1.6516				10.9		20.0			
Dieldrin	1.8574 1.4125	1.8867	1.7990	1.6644	1.4538	Ave		1.6790				12.2		20.0			
Endrin	1.4670 1.0842	1.5059	1.3953	1.2921	1.1380	Ave		1.3138				13.2		20.0			
4,4'-DDD	1.4335 1.1367	1.4591	1.3816	1.3083	1.2013	Ave		1.3201				9.8		20.0			
Endosulfan II	1.3787 1.0164	1.4084	1.3096	1.2005	1.0774	Ave		1.2318				13.1		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 283759

SDG No.:

Instrument ID: CHGC15 GC Column: MR-2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/02/2019 15:33 Calibration End Date: 07/02/2019 16:50 Calibration ID: 40698

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
4,4'-DDT	0.8344 1.0433	1.0100	1.1557	1.1450	1.0855	Ave		1.0456				11.3		20.0			
Endrin aldehyde	1.0533 0.8142	1.1233	1.0494	1.0049	0.8877	Ave		0.9888				11.7		20.0			
Endosulfan sulfate	1.3041 0.9762	1.3323	1.2305	1.1571	1.0242	Ave		1.1707				12.5		20.0			
Methoxychlor	0.4214 0.4155	0.4167	0.4665	0.4485	0.4276	Ave		0.4327				4.7		20.0			
Endrin ketone	1.1306 0.8823	1.1937	1.1172	1.0508	0.9316	Ave		1.0510				11.6		20.0			
Tetrachloro-m-xylene	1.4843 1.1210	1.5573	1.4590	1.2967	1.1840	Ave		1.3504				13.1		20.0			
DCB Decachlorobiphenyl (Surr)	0.8719 0.5763	0.7906	0.7150	0.6811	0.5979	Ave		0.7055				16.0		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 283759

SDG No.:

Instrument ID: CHGC15 GC Column: MR-2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/02/2019 15:33 Calibration End Date: 07/02/2019 16:50 Calibration ID: 40698

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-283759/2	Q070219A0000002.D
Level 2	IC 180-283759/3	Q070219A0000003.D
Level 3	ICIS 180-283759/4	Q070219A0000004.D
Level 4	IC 180-283759/5	Q070219A0000005.D
Level 5	IC 180-283759/6	Q070219A0000006.D
Level 6	IC 180-283759/7	Q070219A0000007.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
alpha-BHC	BNB	Ave	2226800 408778231	12354599	56543319	109891836	214465513	0.00100 0.200	0.00500	0.0250	0.0500	0.100
gamma-BHC (Lindane)	BNB	Ave	1771748 333010934	10249223	41615868	90339526	171559392	0.00100 0.200	0.00500	0.0250	0.0500	0.100
beta-BHC	BNB	Ave	965127 156069095	4856079	21846719	42549910	82900267	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Heptachlor	BNB	Ave	1784911 289335081	9219606	42216816	81076882	153023660	0.00100 0.200	0.00500	0.0250	0.0500	0.100
delta-BHC	BNB	Ave	1683579 327786953	9736023	45487250	88817927	171513755	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Aldrin	BNB	Ave	1661360 289103662	9117793	42736382	80259739	157021197	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Heptachlor epoxide	BNB	Ave	1556051 246550496	8239575	35311704	71180275	133369120	0.00100 0.200	0.00500	0.0250	0.0500	0.100
trans-Chlordane	BNB	Ave	1550054 268655136	8267839	38686957	73708352	144028880	0.00100 0.200	0.00500	0.0250	0.0500	0.100
cis-Chlordane	BNB	Ave	1557095 256179531	8196263	36497959	71643263	135814370	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Endosulfan I	BNB	Ave	1345894 217597309	7309694	29095955	64345269	116783952	0.00100 0.200	0.00500	0.0250	0.0500	0.100
4,4'-DDE	DBC	Ave	1505911 262418619	8029732	37479016	73455869	142540987	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Dieldrin	DBC	Ave	1549024 265657589	8231358	38734829	74140784	140182828	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Endrin	DBC	Ave	1223436 203905580	6570065	30042801	57556749	109731944	0.00100 0.200	0.00500	0.0250	0.0500	0.100
4,4'-DDD	DBC	Ave	1195472 213777836	6365986	29747857	58278174	115836094	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Endosulfan II	DBC	Ave	1149760 191152311	6144588	28196744	53475969	103885415	0.00100 0.200	0.00500	0.0250	0.0500	0.100
4,4'-DDT	DBC	Ave	695826 196219157	4406262	24882266	51006738	104673667	0.00100 0.200	0.00500	0.0250	0.0500	0.100

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 283759

SDG No.:

Instrument ID: CHGC15 GC Column: MR-2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/02/2019 15:33 Calibration End Date: 07/02/2019 16:50 Calibration ID: 40698

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Endrin aldehyde	DBC	Ave	878371 153130569	4900727	22594648	44764508	85599428	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Endosulfan sulfate	DBC	Ave	1087540 183597930	5812772	26494128	51546603	98756309	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Methoxychlor	DBC	Ave	351440 78151929	1818014	10044910	19977262	41235733	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Endrin ketone	DBC	Ave	942829 165941269	5207977	24054751	46810022	89834162	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Tetrachloro-m-xylene	BNB	Ave	2117545 344970277	11304521	50834390	95267385	183461136	0.00100 0.200	0.00500	0.0250	0.0500	0.100
DCB Decachlorobiphenyl (Surr)	DBC	Ave	727105 108385207	3449354	15394847	30341087	57649966	0.00100 0.200	0.00500	0.0250	0.0500	0.100

Curve Type Legend:
Ave = Average ISTD by Height

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 283759

SDG No.:

Instrument ID: CHGC15 GC Column: MR-2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/02/2019 15:33 Calibration End Date: 07/02/2019 16:50 Calibration ID: 40698

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-283759/2	Q070219A0000002.D
Level 2	IC 180-283759/3	Q070219A0000003.D
Level 3	ICIS 180-283759/4	Q070219A0000004.D
Level 4	IC 180-283759/5	Q070219A0000005.D
Level 5	IC 180-283759/6	Q070219A0000006.D
Level 6	IC 180-283759/7	Q070219A0000007.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
alpha-BHC	3.0	12.3	7.1	-1.3	-8.7	-12.4	50	30	30	30	30	30
gamma-BHC (Lindane)	2.5	16.6	-1.4	1.5	-8.6	-10.7	50	30	30	30	30	30
beta-BHC	12.9	11.7	4.7	-3.3	-10.7	-15.3	50	30	30	30	30	30
Heptachlor	11.0	12.7	7.5	-2.1	-12.4	-16.6	50	30	30	30	30	30
delta-BHC	-1.8	11.6	8.7	0.6	-7.9	-11.3	50	30	30	30	30	30
Aldrin	4.4	12.6	10.0	-2.1	-9.1	-15.8	50	30	30	30	30	30
Heptachlor epoxide	11.5	16.0	3.6	-1.0	-12.0	-18.1	50	30	30	30	30	30
trans-Chlordane	6.1	11.3	8.5	-2.0	-9.2	-14.7	50	30	30	30	30	30
cis-Chlordane	10.0	13.8	5.6	-1.7	-11.6	-16.1	50	30	30	30	30	30
Endosulfan I	10.5	18.0	-2.2	2.6	-11.7	-17.2	50	30	30	30	30	30
4,4'-DDE	9.3	11.4	5.4	-0.2	-10.5	-15.5	50	30	30	30	30	30
Dieldrin	10.6	12.4	7.2	-0.9	-13.4	-15.9	50	30	30	30	30	30
Endrin	11.7	14.6	6.2	-1.7	-13.4	-17.5	50	30	30	30	30	30
4,4'-DDD	8.6	10.5	4.7	-0.9	-9.0	-13.9	50	30	30	30	30	30
Endosulfan II	11.9	14.3	6.3	-2.5	-12.5	-17.5	50	30	30	30	30	30
4,4'-DDT	-20.2	-3.4	10.5	9.5	3.8	-0.2	50	30	30	30	30	30
Endrin aldehyde	6.5	13.6	6.1	1.6	-10.2	-17.7	50	30	30	30	30	30
Endosulfan sulfate	11.4	13.8	5.1	-1.2	-12.5	-16.6	50	30	30	30	30	30
Methoxychlor	-2.6	-3.7	7.8	3.6	-1.2	-4.0	50	30	30	30	30	30
Endrin ketone	7.6	13.6	6.3	0.0	-11.4	-16.1	50	30	30	30	30	30
Tetrachloro-m-xylene	9.9	15.3	8.0	-4.0	-12.3	-17.0	50	30	30	30	30	30
DCB Decachlorobiphenyl (Surr)	23.6	12.1	1.4	-3.5	-15.3	-18.3	50	30	30	30	30	30

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000002.D				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	1		
Inject. Date:	02-Jul-2019 15:33:05	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0027593-002				
Operator ID:	402331	Instrument ID:	CHGC15		
Sublist:	chrom-IS PEST_CHGC15*sub6				
Method:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\IS PEST_CHGC15.m				
Limit Group:	GCS 8081B ICAL with IS				
Last Update:	03-Jul-2019 07:33:17	Calib Date:	02-Jul-2019 16:50:46		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000007.D				
Column 1 :	MR-1 (0.53 mm)		Det: GC ECD1A		
Column 2 :	MR-2 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0303				

First Level Reviewer: eppinged Date: 03-Jul-2019 07:17:10

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.790	3.790	0.000	135545010H	0.1000	0.1000	
2	4.050	4.050	0.000	142661991H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.786	4.786	0.000	1869808H	0.001000	0.001000	
2	4.927	4.926	0.001	2117545H	0.001000	0.001099	
						RPD = 9.46	
5 alpha-BHC							
1	5.152	5.152	0.000	1971348H	0.001000	0.000918	
2	5.397	5.397	0.000	2226800H	0.001000	0.001030	
						RPD = 11.47	
7 gamma-BHC (Lindane)							
1	5.416	5.416	0.000	1787885H	0.001000	0.000945	
2	5.702	5.702	0.000	1771748H	0.001000	0.001025	
						RPD = 8.19	
8 beta-BHC							
1	5.575	5.574	0.001	837544H	0.001000	0.001084	
2	5.941	5.941	0.000	965127H	0.001000	0.001129	
						RPD = 4.09	
10 delta-BHC							
1	5.774	5.775	-0.001	1572288H	0.001000	0.000901	
2	6.176	6.175	0.001	1683579H	0.001000	0.000982	
						RPD = 8.67	
11 Heptachlor							
1	5.891	5.891	0.000	1697008H	0.001000	0.001014	
2	6.032	6.031	0.001	1784911H	0.001000	0.001110	
						RPD = 9.05	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
13 Aldrin							
1	6.173	6.173	0.000	1637155H	0.001000	0.000946	
2	6.304	6.303	0.001	1661360H	0.001000	0.001044	
						RPD = 9.87	
16 Heptachlor epoxide							
1	6.530	6.531	-0.001	1520528H	0.001000	0.001010	
2	6.754	6.753	0.001	1556051H	0.001000	0.001115	
						RPD = 9.88	
18 trans-Chlordane							
1	6.748	6.748	0.000	1534595H	0.001000	0.000983	
2	6.982	6.982	0.000	1550054H	0.001000	0.001061	
						RPD = 7.68	
20 cis-Chlordane							
1	6.815	6.816	-0.001	1519415H	0.001000	0.000994	
2	7.043	7.043	0.000	1557095H	0.001000	0.001100	
						RPD = 10.13	
21 Endosulfan I							
1	6.860	6.860	0.000	1360572H	0.001000	0.000988	
2	7.112	7.112	0.000	1345894H	0.001000	0.001105	
						RPD = 11.18	
23 4,4'-DDE							
1	6.967	6.966	0.001	1439631H	0.001000	0.000986	
2	7.177	7.177	0.000	1505911H	0.001000	0.001093	
						RPD = 10.31	
24 Dieldrin							
1	7.098	7.098	0.000	1527340H	0.001000	0.001015	
2	7.359	7.359	0.000	1549024H	0.001000	0.001106	
						RPD = 8.60	
27 Endrin							
1	7.300	7.299	0.001	1252819H	0.001000	0.001041	
2	7.627	7.628	-0.001	1223436H	0.001000	0.001117	
						RPD = 7.01	
29 4,4'-DDD							
1	7.422	7.423	-0.001	1453893H	0.001000	0.001216	
2	7.698	7.698	0.000	1195472H	0.001000	0.001086	
						RPD = 11.27	
31 Endosulfan II							
1	7.495	7.496	-0.001	1108947H	0.001000	0.001010	
2	7.890	7.890	0.000	1149760H	0.001000	0.001119	
						RPD = 10.21	
32 Endrin aldehyde							
1	7.611	7.613	-0.002	894491H	0.001000	0.000961	
2	8.057	8.058	-0.001	878371H	0.001000	0.001065	
						RPD = 10.28	
33 4,4'-DDT							
1	7.702	7.702	0.000	874045H	0.001000	0.000924	
2	7.945	7.944	0.001	695826H	0.001000	0.000798	
						RPD = 14.62	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
35 Endosulfan sulfate							
1	7.821	7.822	-0.001	1248139H	0.001000	0.001056	
2	8.284	8.284	0.000	1087540H	0.001000	0.001114	
						RPD = 5.35	
36 Methoxychlor							
1	8.146	8.148	-0.002	438089H	0.001000	0.001060	
2	8.518	8.518	0.000	351440H	0.001000	0.000974	
						RPD = 8.44	
* 44 Dibutylchlorendate ISTD							M
1	8.231	8.231	0.000	102459947H	0.1000	0.1000	M
2	8.334	8.333	0.000	83395254H	0.1000	0.1000	
37 Endrin ketone							Ma
1	8.276	8.278	-0.002	1126327H	0.001000	0.001057	M
2	8.910	8.911	-0.001	942829H	0.001000	0.001076	a
						RPD = 1.78	
$ 39 DCB Decachlorobiphenyl (Surr)							M
1	10.024	10.022	0.002	793737H	0.001000	0.001120	
2	10.623	10.624	-0.001	727105H	0.001000	0.001236	M
						RPD = 9.85	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

GCPest L1_00026	Amount Added: 1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added: 0.02	Units: mL	Run Reagent

Report Date: 03-Jul-2019 07:33:18 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000002.D				
Injection Date:	02-Jul-2019 15:33:05	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

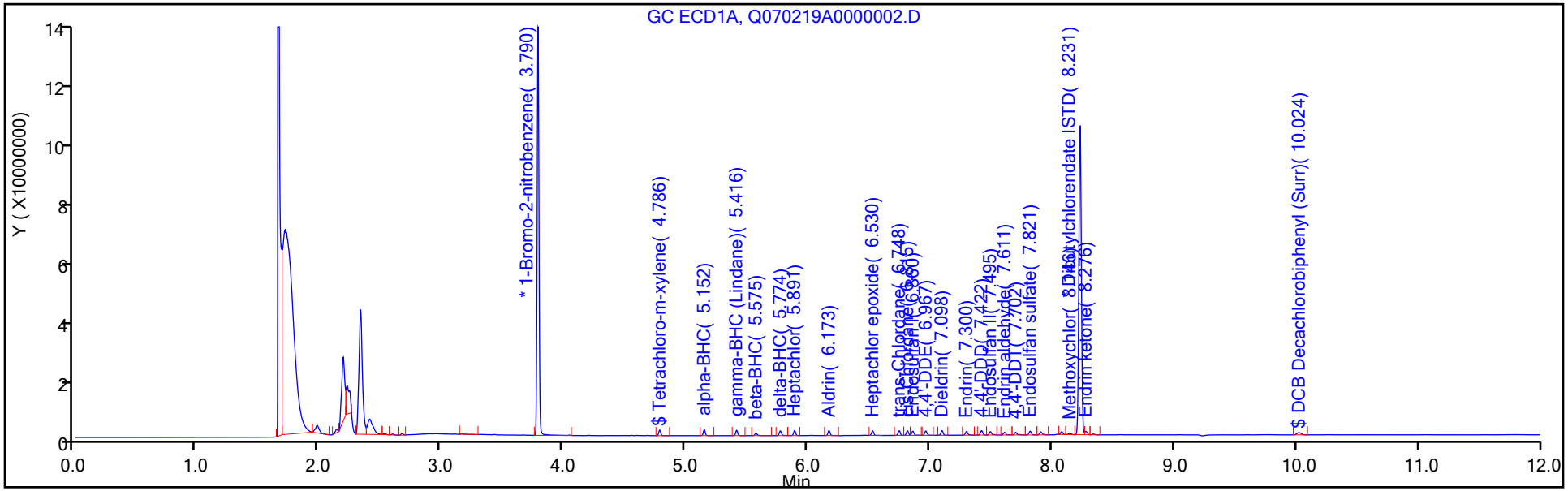

Column: MR-2 (0.53 mm)

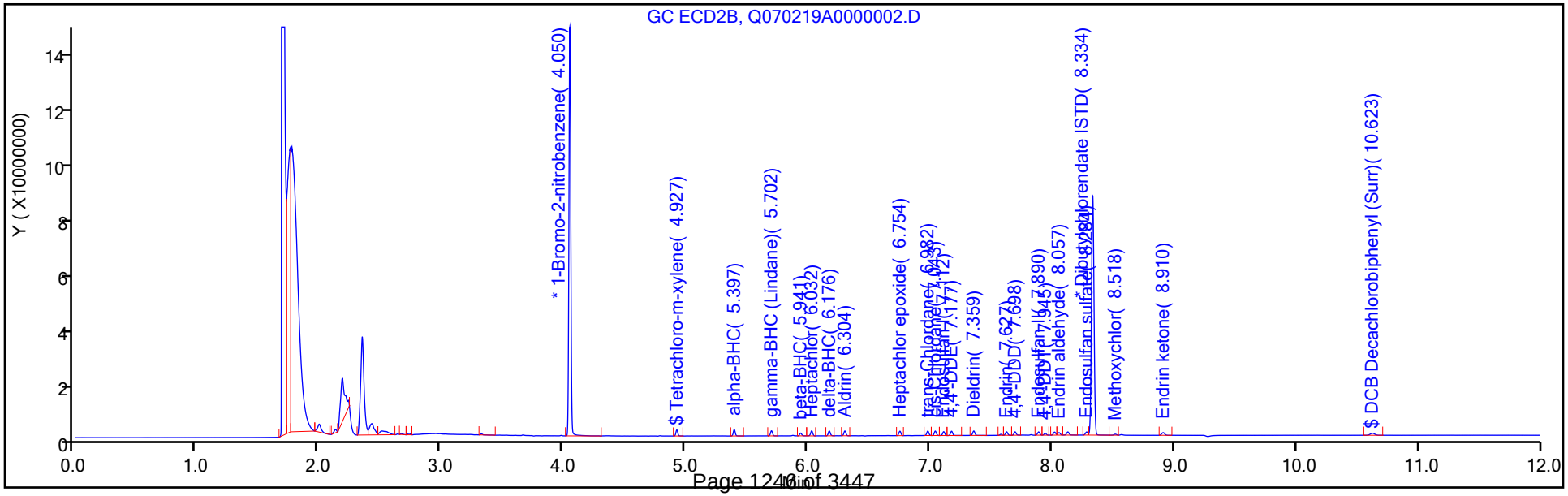

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000002.D				
Injection Date:	02-Jul-2019 15:33:05	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

37 Endrin ketone, CAS: 53494-70-5

Signal: 2

Processing Integration Results

Not Detected
Expected RT: 8.91

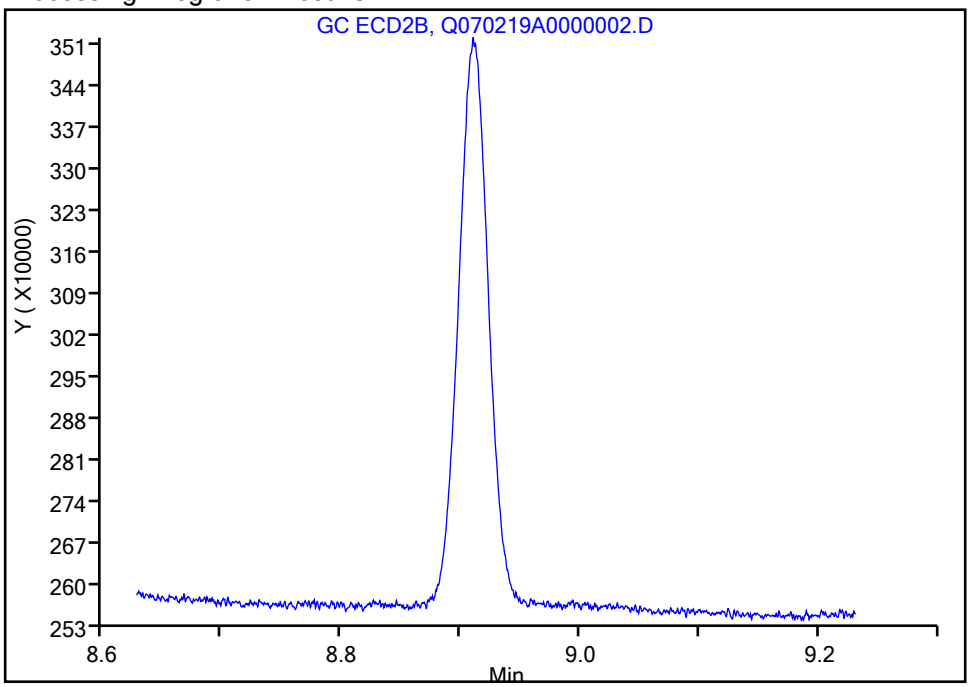

Manual Integration Results

RT: 8.91
Height: 942829
Amount: 0.001076
Amount Units: ng

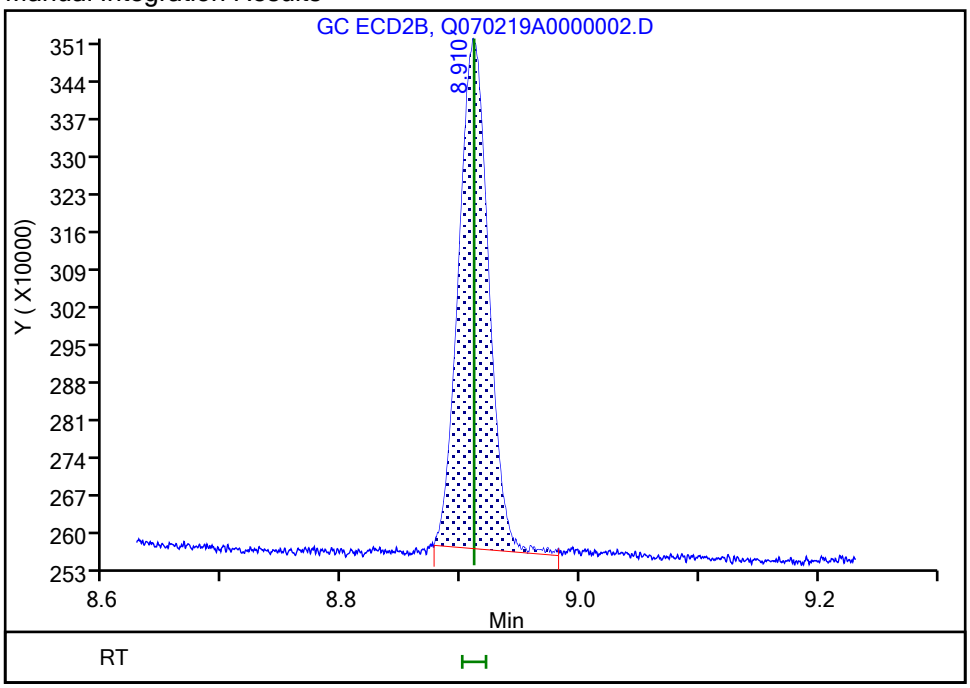

Reviewer: eppinged, 03-Jul-2019 07:18:13
Audit Action: Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000002.D				
Injection Date:	02-Jul-2019 15:33:05	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

$ 39 DCB Decachlorobiphenyl (Surr), CAS: 2051-24-3

Signal: 2

Processing Integration Results

RT: 10.62
Height: 668950
Amount: 0.001156
Amount Units: ng

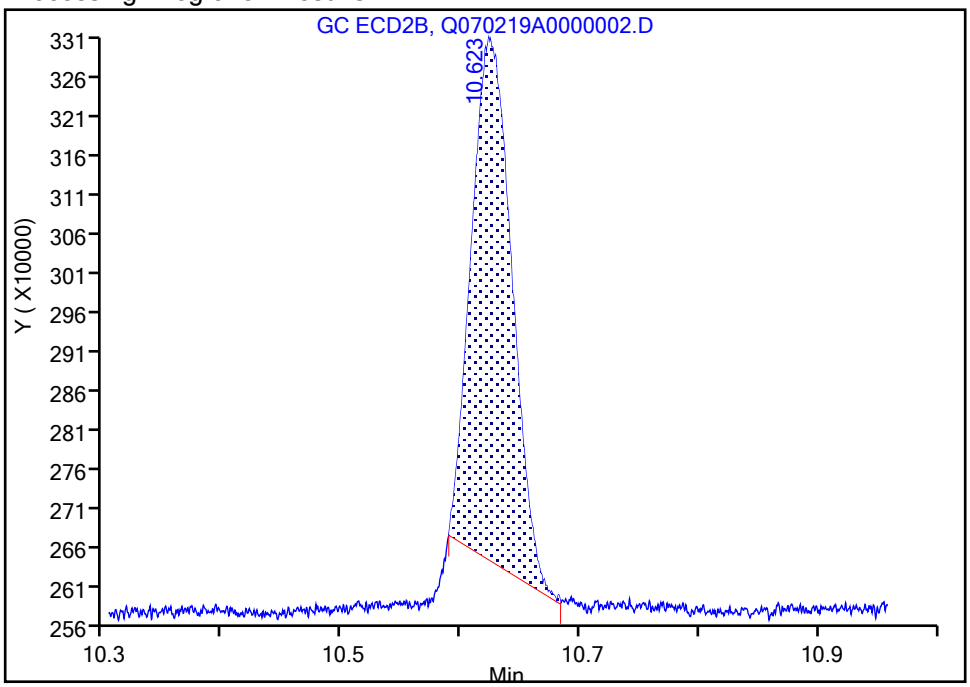

Manual Integration Results

RT: 10.62
Height: 727105
Amount: 0.001236
Amount Units: ng

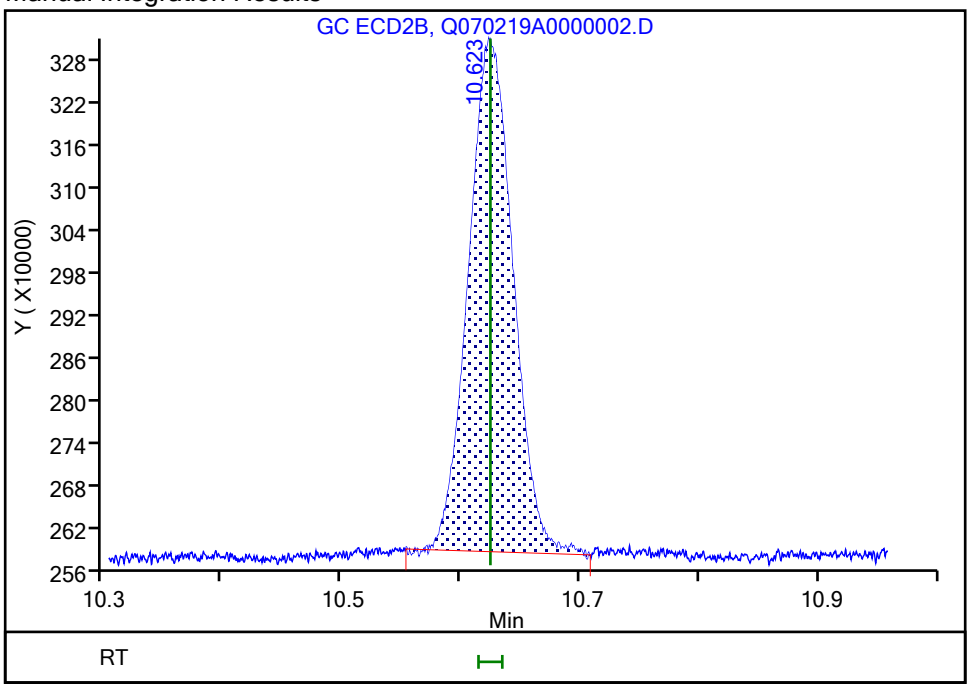

Reviewer: eppinged, 03-Jul-2019 07:18:26

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000003.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 02-Jul-2019 15:48:40 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0027593-003
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub6

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Jul-2019 07:33:25 Calib Date: 02-Jul-2019 16:50:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000007.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0303

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.790	3.790	0.000	137267512H	0.1000	0.1000	
2	4.050	4.050	0.000	145178058H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.786	4.786	0.000	10257000H	0.005000	0.005416	
2	4.926	4.926	0.000	11304521H	0.005000	0.005766	
						RPD = 6.27	
5 alpha-BHC							
1	5.152	5.152	0.000	11590791H	0.005000	0.005331	
2	5.397	5.397	0.000	12354599H	0.005000	0.005615	
						RPD = 5.19	
7 gamma-BHC (Lindane)							
1	5.416	5.416	0.000	10231399H	0.005000	0.005338	
2	5.702	5.702	0.000	10249223H	0.005000	0.005829	
						RPD = 8.78	
8 beta-BHC							
1	5.574	5.574	0.000	4284585H	0.005000	0.005477	
2	5.941	5.941	0.000	4856079H	0.005000	0.005584	
						RPD = 1.95	
10 delta-BHC							
1	5.775	5.775	0.000	9233916H	0.005000	0.005224	
2	6.175	6.175	0.000	9736023H	0.005000	0.005582	
						RPD = 6.64	
11 Heptachlor							
1	5.891	5.891	0.000	9117922H	0.005000	0.005378	
2	6.031	6.031	0.000	9219606H	0.005000	0.005633	
						RPD = 4.63	
13 Aldrin							
1	6.173	6.173	0.000	9354962H	0.005000	0.005337	
2	6.303	6.303	0.000	9117793H	0.005000	0.005631	
						RPD = 5.35	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
16 Heptachlor epoxide							
1	6.530	6.531	-0.001	8388728H	0.005000	0.005501	
2	6.754	6.753	0.001	8239575H	0.005000	0.005801	
						RPD = 5.30	
18 trans-Chlordane							
1	6.749	6.748	0.001	8472873H	0.005000	0.005359	
2	6.983	6.982	0.001	8267839H	0.005000	0.005564	
						RPD = 3.75	
20 cis-Chlordane							
1	6.815	6.816	-0.001	8246101H	0.005000	0.005327	
2	7.043	7.043	0.000	8196263H	0.005000	0.005691	
						RPD = 6.60	
21 Endosulfan I							
1	6.860	6.860	0.000	7565053H	0.005000	0.005425	
2	7.113	7.112	0.001	7309694H	0.005000	0.005898	
						RPD = 8.35	
23 4,4'-DDE							
1	6.966	6.966	0.000	7934988H	0.005000	0.005367	
2	7.178	7.177	0.001	8029732H	0.005000	0.005572	
						RPD = 3.75	
24 Dieldrin							
1	7.098	7.098	0.000	8523069H	0.005000	0.005593	
2	7.358	7.359	-0.001	8231358H	0.005000	0.005619	
						RPD = 0.46	
27 Endrin							
1	7.300	7.299	0.001	7007470H	0.005000	0.005749	
2	7.628	7.628	0.000	6570065H	0.005000	0.005731	
						RPD = 0.31	
29 4,4'-DDD							
1	7.423	7.423	0.000	6624073H	0.005000	0.005468	
2	7.698	7.698	0.000	6365986H	0.005000	0.005527	
						RPD = 1.06	
31 Endosulfan II							
1	7.495	7.496	-0.001	6304396H	0.005000	0.005672	
2	7.891	7.890	0.001	6144588H	0.005000	0.005717	
						RPD = 0.78	
32 Endrin aldehyde							
1	7.612	7.613	-0.001	5343520H	0.005000	0.005669	
2	8.058	8.058	0.000	4900727H	0.005000	0.005680	
						RPD = 0.20	
33 4,4'-DDT							
1	7.703	7.702	0.001	4703883H	0.005000	0.004909	
2	7.944	7.944	0.000	4406262H	0.005000	0.004829	
						RPD = 1.64	
35 Endosulfan sulfate							
1	7.821	7.822	-0.001	6743296H	0.005000	0.005632	
2	8.284	8.284	0.000	5812772H	0.005000	0.005690	
						RPD = 1.02	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Methoxychlor							
1	8.147	8.148	-0.001	2057810H	0.005000	0.004915	
2	8.518	8.518	0.000	1818014H	0.005000	0.004815	
						RPD = 2.05	
* 44 Dibutylchlorendate ISTD							
1	8.230	8.231	0.000	103768708H	0.1000	0.1000	
2	8.333	8.333	0.000	87256197H	0.1000	0.1000	
37 Endrin ketone							
1	8.277	8.278	-0.001	6063372H	0.005000	0.005616	
2	8.911	8.911	0.000	5207977H	0.005000	0.005679	
						RPD = 1.10	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.025	10.022	0.003	4032706H	0.005000	0.005618	
2	10.625	10.624	0.001	3449354H	0.005000	0.005604	
						RPD = 0.26	

Reagents:

GCPestL2_00022 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 03-Jul-2019 07:33:26 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000003.D				
Injection Date:	02-Jul-2019 15:48:40	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

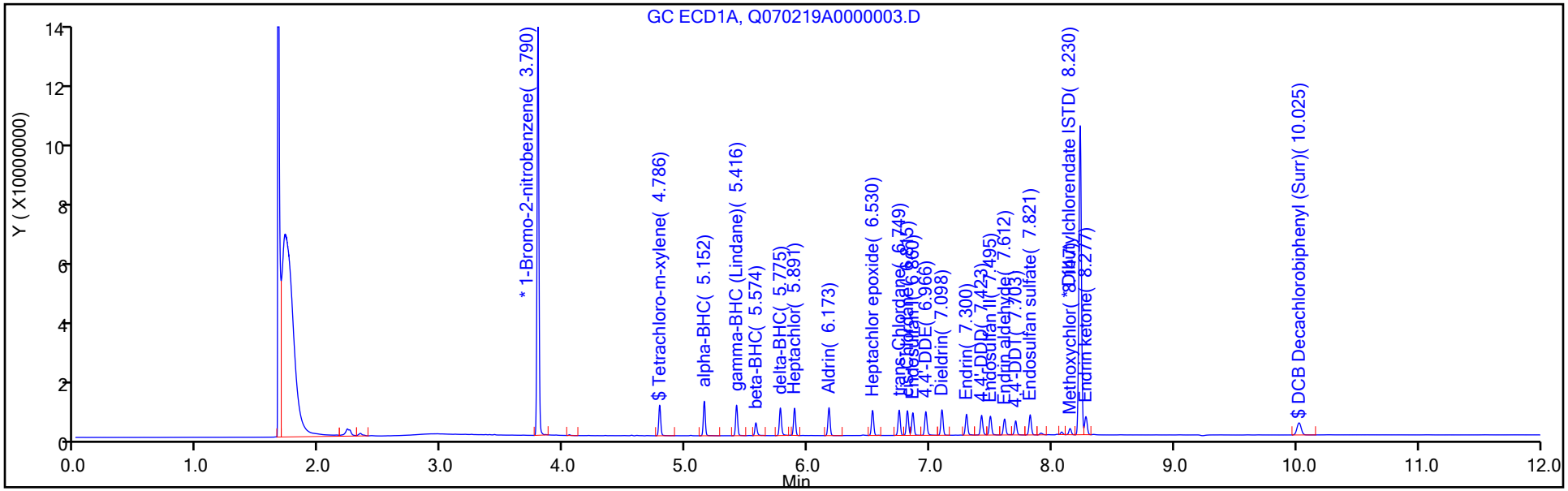

Column: MR-2 (0.53 mm)

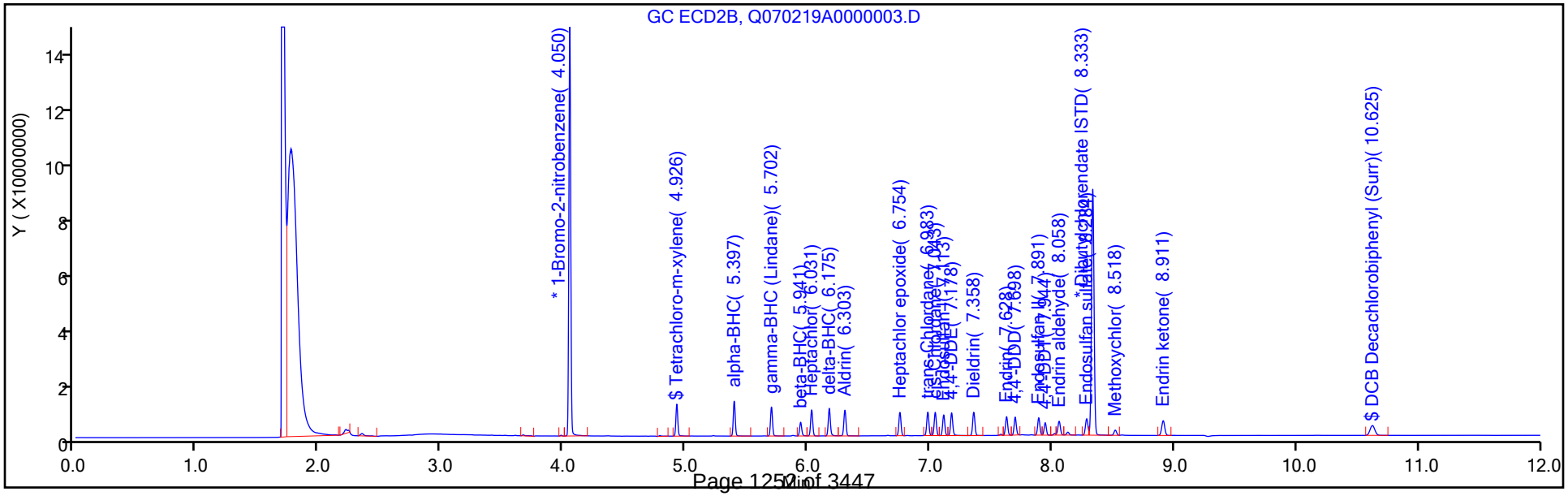

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000004.D
Lims ID: ICIS
Client ID:
Sample Type: ICIS Calib Level: 3
Inject. Date: 02-Jul-2019 16:04:11 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0027593-004
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub6

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Jul-2019 07:33:30 Calib Date: 02-Jul-2019 16:50:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000007.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0303

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.790	3.790	0.000	134728476H	0.1000	0.1000	
2	4.050	4.050	0.000	139364553H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.786	4.786	0.000	49570340H	0.0250	0.0267	
2	4.926	4.926	0.000	50834390H	0.0250	0.0270	
						RPD = 1.28	
5 alpha-BHC							
1	5.152	5.152	0.000	56627140H	0.0250	0.0265	
2	5.397	5.397	0.000	56543319H	0.0250	0.0268	
						RPD = 0.88	
7 gamma-BHC (Lindane)							
1	5.416	5.416	0.000	49762728H	0.0250	0.0265	
2	5.702	5.702	0.000	41615868H	0.0250	0.0247	
						RPD = 7.04	
8 beta-BHC							
1	5.574	5.574	0.000	18529847H	0.0250	0.0241	
2	5.941	5.941	0.000	21846719H	0.0250	0.0262	
						RPD = 8.11	
10 delta-BHC							
1	5.775	5.775	0.000	46599582H	0.0250	0.0269	
2	6.175	6.175	0.000	45487250H	0.0250	0.0272	
						RPD = 1.15	
11 Heptachlor							
1	5.891	5.891	0.000	43964489H	0.0250	0.0264	
2	6.031	6.031	0.000	42216816H	0.0250	0.0269	
						RPD = 1.69	
13 Aldrin							
1	6.173	6.173	0.000	46503340H	0.0250	0.0270	
2	6.303	6.303	0.000	42736382H	0.0250	0.0275	
						RPD = 1.70	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
16 Heptachlor epoxide							
1	6.531	6.531	0.000	39669842H	0.0250	0.0265	
2	6.753	6.753	0.000	35311704H	0.0250	0.0259	
						RPD = 2.32	
18 trans-Chlordane							
1	6.748	6.748	0.000	40965161H	0.0250	0.0264	
2	6.982	6.982	0.000	38686957H	0.0250	0.0271	
						RPD = 2.70	
20 cis-Chlordane							
1	6.816	6.816	0.000	40240274H	0.0250	0.0265	
2	7.043	7.043	0.000	36497959H	0.0250	0.0264	
						RPD = 0.34	
21 Endosulfan I							
1	6.860	6.860	0.000	36860436H	0.0250	0.0269	
2	7.112	7.112	0.000	29095955H	0.0250	0.0245	
						RPD = 9.64	
23 4,4'-DDE							
1	6.966	6.966	0.000	39905011H	0.0250	0.0263	
2	7.177	7.177	0.000	37479016H	0.0250	0.0263	
						RPD = 0.07	
24 Dieldrin							
1	7.098	7.098	0.000	39539616H	0.0250	0.0253	
2	7.359	7.359	0.000	38734829H	0.0250	0.0268	
						RPD = 5.66	
27 Endrin							
1	7.299	7.299	0.000	30217332H	0.0250	0.0242	
2	7.628	7.628	0.000	30042801H	0.0250	0.0266	
						RPD = 9.33	
29 4,4'-DDD							
1	7.423	7.423	0.000	30133979H	0.0250	0.0243	
2	7.698	7.698	0.000	29747857H	0.0250	0.0262	
						RPD = 7.52	
31 Endosulfan II							
1	7.496	7.496	0.000	28732230H	0.0250	0.0252	
2	7.890	7.890	0.000	28196744H	0.0250	0.0266	
						RPD = 5.25	
32 Endrin aldehyde							
1	7.613	7.613	0.000	24965258H	0.0250	0.0258	
2	8.058	8.058	0.000	22594648H	0.0250	0.0265	
						RPD = 2.65	
33 4,4'-DDT							
1	7.702	7.702	0.000	25253961H	0.0250	0.0257	
2	7.944	7.944	0.000	24882266H	0.0250	0.0276	
						RPD = 7.19	
35 Endosulfan sulfate							
1	7.822	7.822	0.000	31039318H	0.0250	0.0253	
2	8.284	8.284	0.000	26494128H	0.0250	0.0263	
						RPD = 3.81	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Methoxychlor							
1	8.148	8.148	0.000	10678849H	0.0250	0.0249	
2	8.518	8.518	0.000	10044910H	0.0250	0.0270	
						RPD = 8.00	
* 44 Dibutylchlorendate ISTD							
1	8.231	8.231	0.000	106364717H	0.1000	0.1000	
2	8.333	8.333	0.000	86123216H	0.1000	0.1000	
37 Endrin ketone							
1	8.278	8.278	0.000	28484045H	0.0250	0.0257	
2	8.911	8.911	0.000	24054751H	0.0250	0.0266	
						RPD = 3.19	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.022	10.022	0.000	18636943H	0.0250	0.0253	
2	10.624	10.624	0.000	15394847H	0.0250	0.0253	
						RPD = 0.04	

Reagents:

GCPestL3_00028 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 03-Jul-2019 07:33:31 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000004.D				
Injection Date:	02-Jul-2019 16:04:11	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	ICIS			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

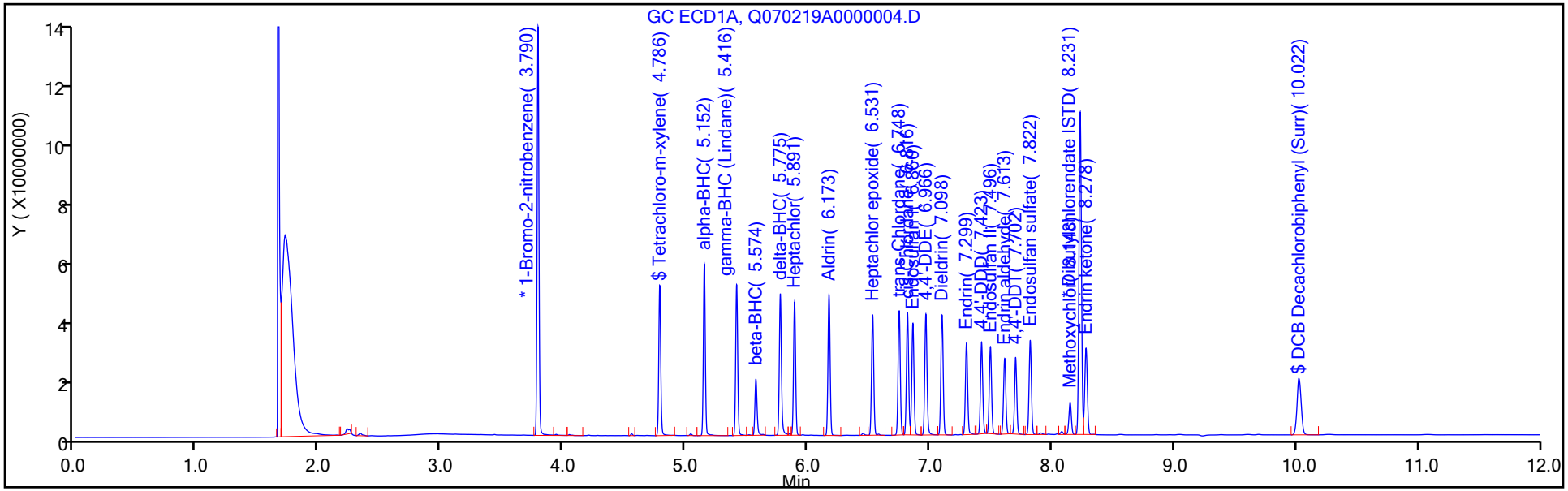

Column: MR-2 (0.53 mm)

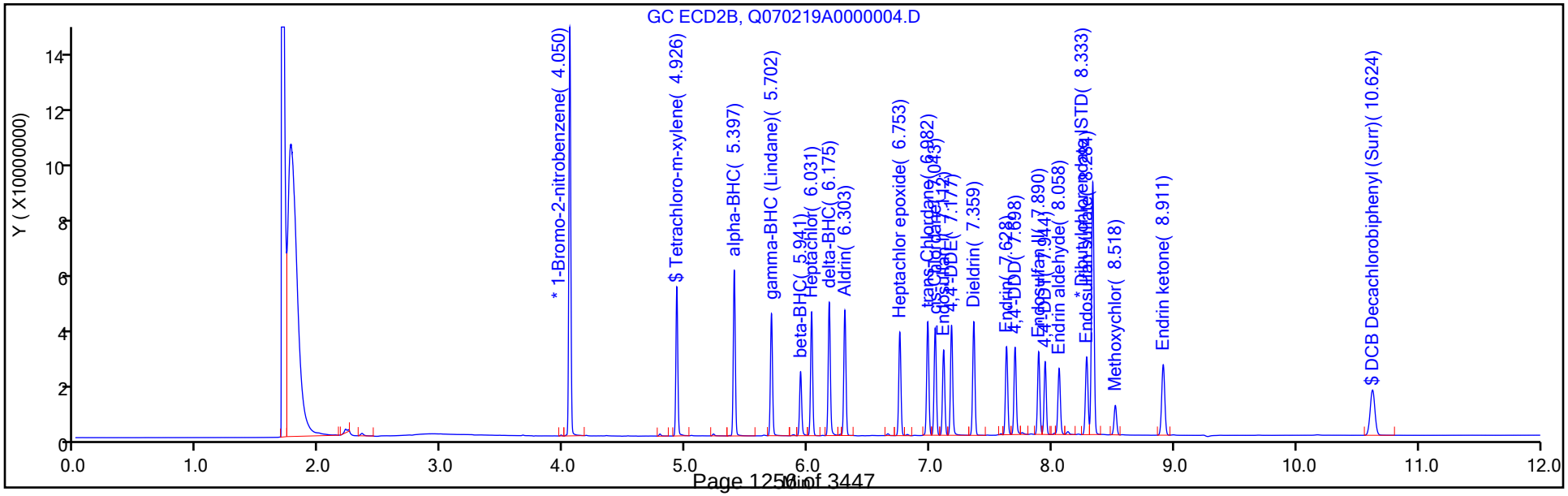

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000005.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 02-Jul-2019 16:19:38 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0027593-005
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub6

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Jul-2019 07:33:39 Calib Date: 02-Jul-2019 16:50:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000007.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0303

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.789	3.790	-0.001	139717397H	0.1000	0.1000	
2	4.050	4.050	0.000	146939526H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.786	4.786	0.000	94555396H	0.0500	0.0491	
2	4.927	4.926	0.001	95267385H	0.0500	0.0480	
						RPD = 2.14	
5 alpha-BHC							
1	5.152	5.152	0.000	110931113H	0.0500	0.0501	
2	5.397	5.397	0.000	109891836H	0.0500	0.0493	
						RPD = 1.57	
7 gamma-BHC (Lindane)							
1	5.417	5.416	0.001	98106565H	0.0500	0.0503	
2	5.702	5.702	0.000	90339526H	0.0500	0.0508	
						RPD = 0.93	
8 beta-BHC							
1	5.574	5.574	0.000	39121214H	0.0500	0.0491	
2	5.941	5.941	0.000	42549910H	0.0500	0.0483	
						RPD = 1.61	
10 delta-BHC							
1	5.774	5.775	-0.001	91334892H	0.0500	0.0508	
2	6.175	6.175	0.000	88817927H	0.0500	0.0503	
						RPD = 0.88	
11 Heptachlor							
1	5.891	5.891	0.000	88477634H	0.0500	0.0513	
2	6.031	6.031	0.000	81076882H	0.0500	0.0489	
						RPD = 4.65	
13 Aldrin							
1	6.173	6.173	0.000	91430283H	0.0500	0.0512	
2	6.304	6.303	0.001	80259739H	0.0500	0.0490	
						RPD = 4.54	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
16 Heptachlor epoxide							
1	6.530	6.531	-0.001	78634029H	0.0500	0.0507	
2	6.754	6.753	0.001	71180275H	0.0500	0.0495	
						RPD = 2.30	
18 trans-Chlordane							
1	6.746	6.748	-0.002	80980332H	0.0500	0.0503	
2	6.982	6.982	0.000	73708352H	0.0500	0.0490	
						RPD = 2.65	
20 cis-Chlordane							
1	6.815	6.816	-0.001	80670687H	0.0500	0.0512	
2	7.044	7.043	0.001	71643263H	0.0500	0.0491	
						RPD = 4.10	
21 Endosulfan I							
1	6.859	6.860	-0.001	71888745H	0.0500	0.0506	
2	7.113	7.112	0.001	64345269H	0.0500	0.0513	
						RPD = 1.27	
23 4,4'-DDE							
1	6.966	6.966	0.000	81234371H	0.0500	0.0518	
2	7.177	7.177	0.000	73455869H	0.0500	0.0499	
						RPD = 3.67	
24 Dieldrin							
1	7.099	7.098	0.001	82630996H	0.0500	0.0511	
2	7.359	7.359	0.000	74140784H	0.0500	0.0496	
						RPD = 3.07	
27 Endrin							
1	7.299	7.299	0.000	64884205H	0.0500	0.0502	
2	7.628	7.628	0.000	57556749H	0.0500	0.0492	
						RPD = 2.02	
29 4,4'-DDD							
1	7.423	7.423	0.000	61288773H	0.0500	0.0477	
2	7.697	7.698	-0.001	58278174H	0.0500	0.0496	
						RPD = 3.83	
31 Endosulfan II							
1	7.495	7.496	-0.001	60598209H	0.0500	0.0514	
2	7.891	7.890	0.001	53475969H	0.0500	0.0487	
						RPD = 5.32	
32 Endrin aldehyde							
1	7.611	7.613	-0.002	51807698H	0.0500	0.0518	
2	8.058	8.058	0.000	44764508H	0.0500	0.0508	
						RPD = 1.93	
33 4,4'-DDT							
1	7.701	7.702	-0.001	51832991H	0.0500	0.0510	
2	7.944	7.944	0.000	51006738H	0.0500	0.0548	
						RPD = 7.12	
35 Endosulfan sulfate							
1	7.821	7.822	-0.001	62085211H	0.0500	0.0489	
2	8.283	8.284	-0.001	51546603H	0.0500	0.0494	
						RPD = 1.10	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Methoxychlor							
1	8.148	8.148	0.000	22088404H	0.0500	0.0497	
2	8.519	8.518	0.001	19977262H	0.0500	0.0518	
						RPD = 4.12	
* 44 Dibutylchlorendate ISTD							
1	8.230	8.231	0.000	110088335H	0.1000	0.1000	
2	8.334	8.333	0.000	89092403H	0.1000	0.1000	
37 Endrin ketone							
1	8.278	8.278	0.000	57868536H	0.0500	0.0505	
2	8.911	8.911	0.000	46810022H	0.0500	0.0500	
						RPD = 1.07	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.023	10.022	0.001	37887621H	0.0500	0.0498	
2	10.626	10.624	0.002	30341087H	0.0500	0.0483	
						RPD = 3.01	

Reagents:

GCPestL4_00021 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 03-Jul-2019 07:33:40 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000005.D				
Injection Date:	02-Jul-2019 16:19:38	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

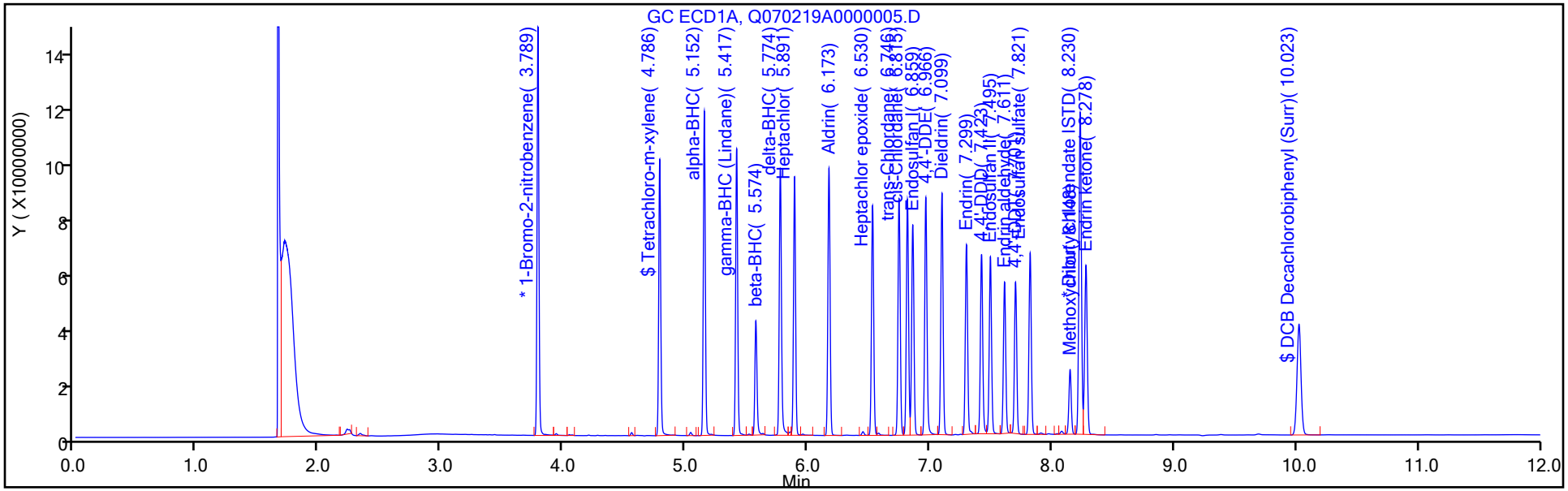

Column: MR-2 (0.53 mm)

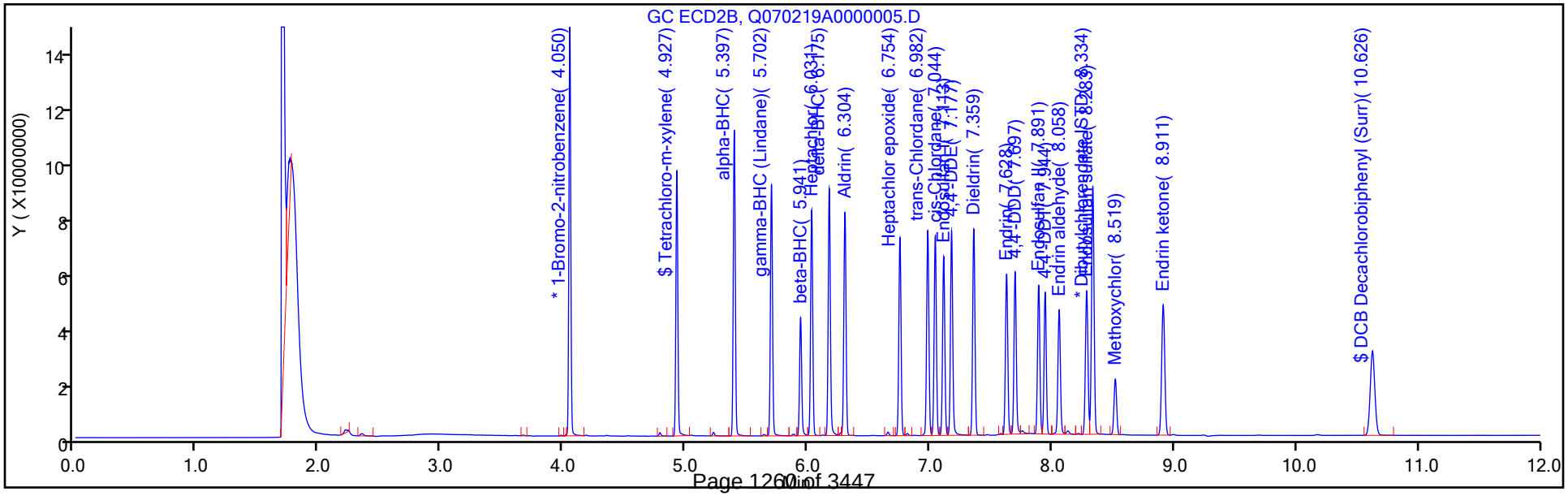

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000006.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 02-Jul-2019 16:35:11 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0027593-006
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub6

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Jul-2019 07:33:45 Calib Date: 02-Jul-2019 16:50:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000007.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0303

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.789	3.790	-0.001	146837425H	0.1000	0.1000	
2	4.051	4.050	0.000	154945898H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.786	4.786	0.000	193673600H	0.1000	0.0956	
2	4.927	4.926	0.001	183461136H	0.1000	0.0877	
						RPD = 8.64	
5 alpha-BHC							
1	5.152	5.152	0.000	231686599H	0.1000	0.0996	
2	5.397	5.397	0.000	214465513H	0.1000	0.0913	
						RPD = 8.68	
7 gamma-BHC (Lindane)							
1	5.416	5.416	0.000	203801432H	0.1000	0.0994	
2	5.702	5.702	0.000	171559392H	0.1000	0.0914	
						RPD = 8.38	
8 beta-BHC							
1	5.574	5.574	0.000	78943016H	0.1000	0.0943	
2	5.940	5.941	-0.001	82900267H	0.1000	0.0893	
						RPD = 5.45	
10 delta-BHC							
1	5.774	5.775	-0.001	192429442H	0.1000	0.1018	
2	6.175	6.175	0.000	171513755H	0.1000	0.0921	
						RPD = 9.92	
11 Heptachlor							
1	5.891	5.891	0.000	170485322H	0.1000	0.0940	
2	6.031	6.031	0.000	153023660H	0.1000	0.0876	
						RPD = 7.05	
13 Aldrin							
1	6.173	6.173	0.000	180787104H	0.1000	0.0964	
2	6.304	6.303	0.001	157021197H	0.1000	0.0909	
						RPD = 5.94	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
16 Heptachlor epoxide							
1	6.530	6.531	-0.001	153673569H	0.1000	0.0942	
2	6.754	6.753	0.001	133369120H	0.1000	0.0880	
						RPD = 6.84	
18 trans-Chlordane							
1	6.747	6.748	-0.001	162688244H	0.1000	0.0962	
2	6.982	6.982	0.000	144028880H	0.1000	0.0908	
						RPD = 5.75	
20 cis-Chlordane							
1	6.816	6.816	0.000	156147417H	0.1000	0.0943	
2	7.043	7.043	0.000	135814370H	0.1000	0.0884	
						RPD = 6.51	
21 Endosulfan I							
1	6.860	6.860	0.000	140588433H	0.1000	0.0942	
2	7.112	7.112	0.000	116783952H	0.1000	0.0883	
						RPD = 6.53	
23 4,4'-DDE							
1	6.965	6.966	-0.001	157013228H	0.1000	0.0932	
2	7.177	7.177	0.000	142540987H	0.1000	0.0895	
						RPD = 4.02	
24 Dieldrin							
1	7.099	7.098	0.001	163230347H	0.1000	0.0940	
2	7.360	7.359	0.001	140182828H	0.1000	0.0866	
						RPD = 8.19	
27 Endrin							
1	7.299	7.299	0.000	132039614H	0.1000	0.0951	
2	7.628	7.628	0.000	109731944H	0.1000	0.0866	
						RPD = 9.28	
29 4,4'-DDD							
1	7.422	7.423	-0.001	125725826H	0.1000	0.0911	
2	7.697	7.698	-0.001	115836094H	0.1000	0.0910	
						RPD = 0.07	
31 Endosulfan II							
1	7.494	7.496	-0.002	118662807H	0.1000	0.0937	
2	7.891	7.890	0.001	103885415H	0.1000	0.0875	
						RPD = 6.86	
32 Endrin aldehyde							
1	7.611	7.613	-0.002	101938655H	0.1000	0.0949	
2	8.058	8.058	0.000	85599428H	0.1000	0.0898	
						RPD = 5.53	
33 4,4'-DDT							
1	7.701	7.702	-0.001	112573721H	0.1000	0.1031	
2	7.944	7.944	0.000	104673667H	0.1000	0.1038	
						RPD = 0.70	
35 Endosulfan sulfate							
1	7.820	7.822	-0.002	126937392H	0.1000	0.0930	
2	8.285	8.284	0.001	98756309H	0.1000	0.0875	
						RPD = 6.15	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Methoxychlor							
1	8.146	8.148	-0.002	47421187H	0.1000	0.0994	
2	8.518	8.518	0.000	41235733H	0.1000	0.0988	
						RPD = 0.55	
* 44 Dibutylchlorendate ISTD							
1	8.230	8.231	0.000	118266735H	0.1000	0.1000	
2	8.334	8.333	0.001	96426742H	0.1000	0.1000	
37 Endrin ketone							
1	8.277	8.278	-0.001	110158978H	0.1000	0.0895	
2	8.911	8.911	0.000	89834162H	0.1000	0.0886	
						RPD = 1.00	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.022	10.022	0.000	72700543H	0.1000	0.0889	
2	10.625	10.624	0.001	57649966H	0.1000	0.0847	
						RPD = 4.74	

Reagents:

GCPestL5_00021	Amount Added: 1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added: 0.02	Units: mL	Run Reagent

Report Date: 03-Jul-2019 07:33:46 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000006.D				
Injection Date:	02-Jul-2019 16:35:11	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

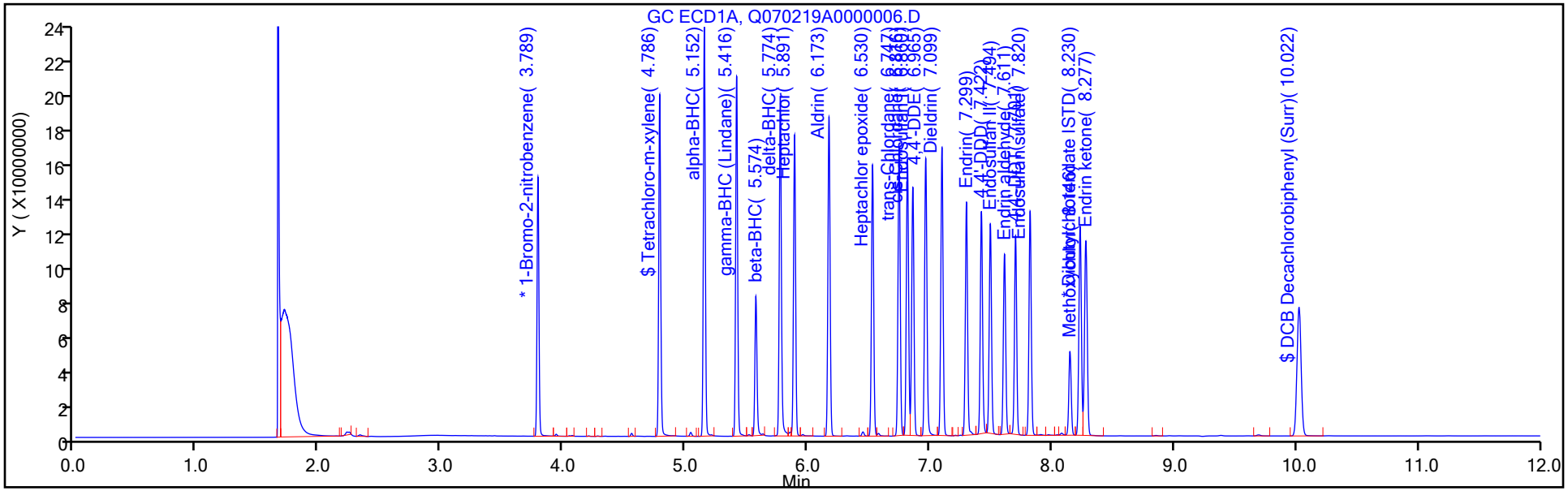

Column: MR-2 (0.53 mm)

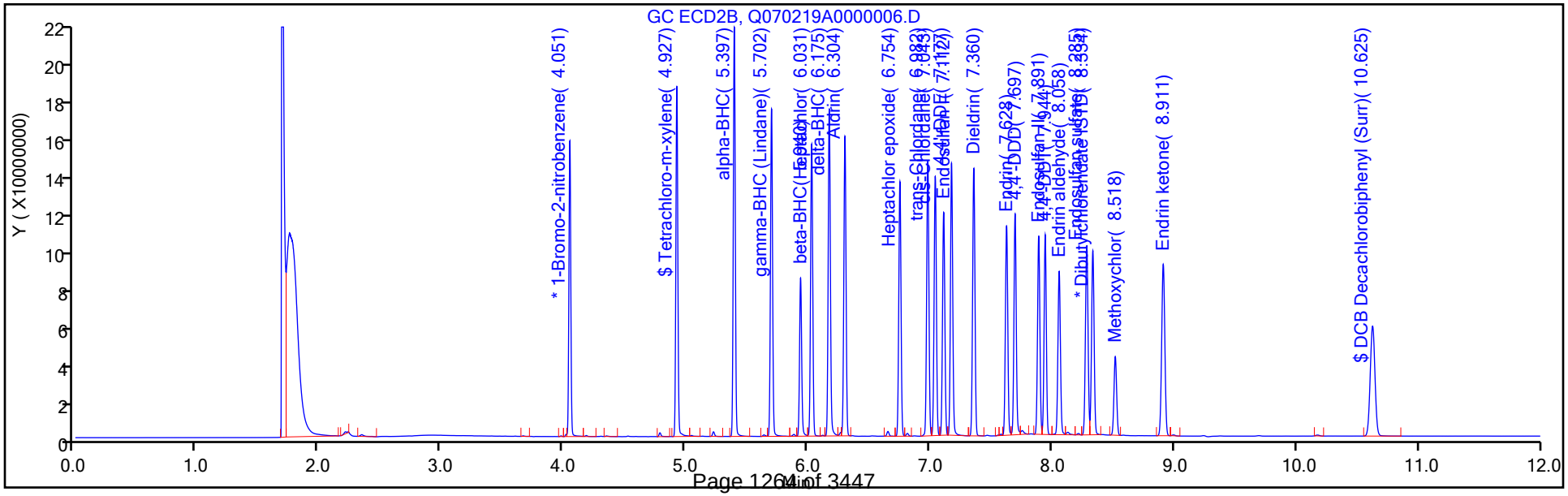

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000007.D				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	6		
Inject. Date:	02-Jul-2019 16:50:46	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0027593-007				
Operator ID:	402331	Instrument ID:	CHGC15		
Sublist:	chrom-IS PEST_CHGC15*sub6				
Method:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\IS PEST_CHGC15.m				
Limit Group:	GCS 8081B ICAL with IS				
Last Update:	03-Jul-2019 07:33:52	Calib Date:	02-Jul-2019 16:50:46		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000007.D				
Column 1 :	MR-1 (0.53 mm)		Det: GC ECD1A		
Column 2 :	MR-2 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0303				

First Level Reviewer: eppinged Date: 03-Jul-2019 07:29:30

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.789	3.790	0.000	149217071H	0.1000	0.1000	
2	4.050	4.050	0.000	153864406H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.787	4.786	0.001	376043302H	0.2000	0.1827	
2	4.927	4.926	0.001	344970277H	0.2000	0.1660	
						RPD = 9.54	
5 alpha-BHC							
1	5.152	5.152	0.000	451879422H	0.2000	0.1912	
2	5.398	5.397	0.001	408778231H	0.2000	0.1753	
						RPD = 8.67	
7 gamma-BHC (Lindane)							
1	5.416	5.416	0.000	387323512H	0.2000	0.1859	
2	5.702	5.702	0.000	333010934H	0.2000	0.1787	
						RPD = 3.96	
8 beta-BHC							
1	5.574	5.574	0.000	158096293H	0.2000	0.1859	
2	5.941	5.941	0.000	156069095H	0.2000	0.1693	
						RPD = 9.32	
10 delta-BHC							
1	5.775	5.775	0.000	364096452H	0.2000	0.1895	
2	6.175	6.175	0.000	327786953H	0.2000	0.1773	
						RPD = 6.62	
11 Heptachlor							
1	5.890	5.891	-0.001	327482449H	0.2000	0.1777	
2	6.031	6.031	0.000	289335081H	0.2000	0.1668	
						RPD = 6.32	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
13 Aldrin							
1	6.173	6.173	0.000	349274141H	0.2000	0.1833	
2	6.304	6.303	0.001	289103662H	0.2000	0.1685	
						RPD = 8.44	
16 Heptachlor epoxide							
1	6.530	6.531	-0.001	289780219H	0.2000	0.1748	
2	6.755	6.753	0.002	246550496H	0.2000	0.1638	
						RPD = 6.52	
18 trans-Chlordane							
1	6.747	6.748	-0.001	316624517H	0.2000	0.1842	
2	6.982	6.982	0.000	268655136H	0.2000	0.1706	
						RPD = 7.69	
20 cis-Chlordane							
1	6.816	6.816	0.000	307507543H	0.2000	0.1828	
2	7.044	7.043	0.001	256179531H	0.2000	0.1678	
						RPD = 8.51	
21 Endosulfan I							
1	6.860	6.860	0.000	271099075H	0.2000	0.1788	
2	7.113	7.112	0.001	217597309H	0.2000	0.1657	
						RPD = 7.65	
23 4,4'-DDE							
1	6.966	6.966	0.000	307301442H	0.2000	0.1840	
2	7.177	7.177	0.000	262418619H	0.2000	0.1690	
						RPD = 8.50	
24 Dieldrin							
1	7.099	7.098	0.001	307016408H	0.2000	0.1783	
2	7.359	7.359	0.000	265657589H	0.2000	0.1683	
						RPD = 5.81	
27 Endrin							
1	7.300	7.299	0.001	244436882H	0.2000	0.1775	
2	7.628	7.628	0.000	203905580H	0.2000	0.1651	
						RPD = 7.28	
29 4,4'-DDD							
1	7.422	7.423	-0.001	234129054H	0.2000	0.1711	
2	7.697	7.698	-0.001	213777836H	0.2000	0.1722	
						RPD = 0.66	
31 Endosulfan II							
1	7.495	7.496	-0.001	221420031H	0.2000	0.1763	
2	7.890	7.890	0.000	191152311H	0.2000	0.1650	
						RPD = 6.63	
32 Endrin aldehyde							
1	7.611	7.613	-0.002	188877077H	0.2000	0.1774	
2	8.058	8.058	0.000	153130569H	0.2000	0.1647	
						RPD = 7.41	
33 4,4'-DDT							
1	7.702	7.702	0.000	219776259H	0.2000	0.2030	
2	7.944	7.944	0.000	196219157H	0.2000	0.1996	
						RPD = 1.73	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
35 Endosulfan sulfate							
1	7.821	7.822	-0.001	242935995H	0.2000	0.1796	
2	8.284	8.284	0.000	183597930H	0.2000	0.1668	
						RPD = 7.42	
36 Methoxychlor							
1	8.147	8.148	-0.001	92138892H	0.2000	0.1948	
2	8.519	8.518	0.001	78151929H	0.2000	0.1921	
						RPD = 1.41	
* 44 Dibutylchlorendate ISTD							
1	8.230	8.231	-0.001	117230090H	0.1000	0.1000	
2	8.334	8.333	0.001	94035760H	0.1000	0.1000	
37 Endrin ketone							
1	8.277	8.278	-0.001	215771725H	0.2000	0.1769	
2	8.910	8.911	-0.001	165941269H	0.2000	0.1679	
						RPD = 5.23	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.022	10.022	0.000	139438691H	0.2000	0.1719	
2	10.625	10.624	0.001	108385207H	0.2000	0.1634	
						RPD = 5.11	

Reagents:

GCPestL6_00021	Amount Added: 1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added: 0.02	Units: mL	Run Reagent

Report Date: 03-Jul-2019 07:33:52 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000007.D				
Injection Date:	02-Jul-2019 16:50:46	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

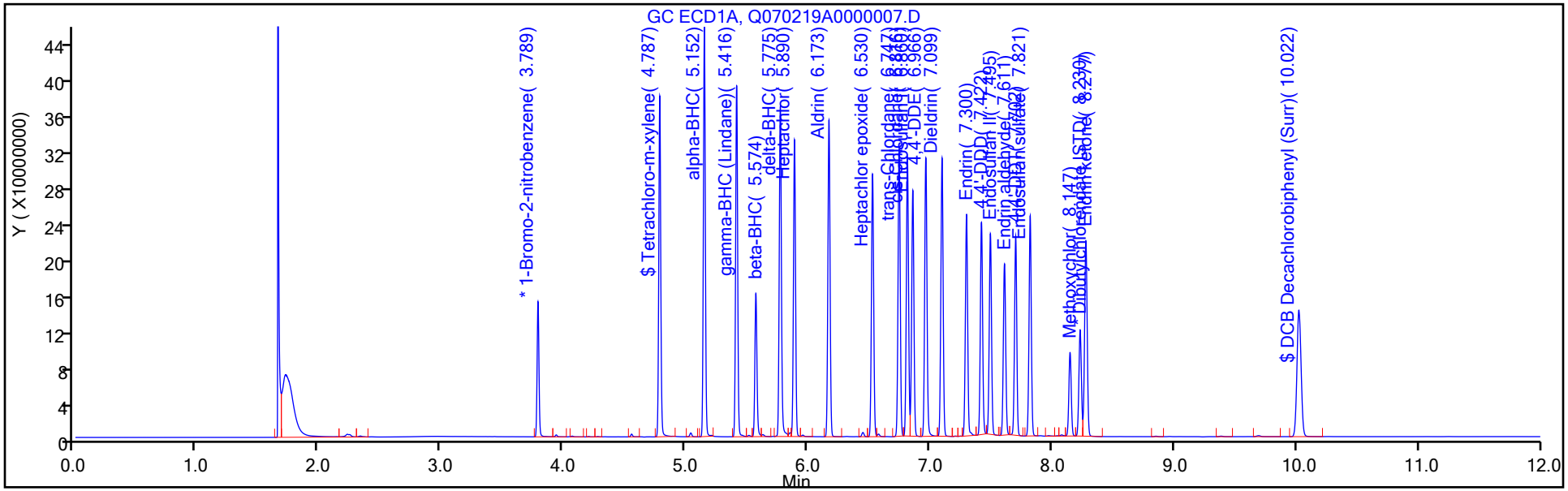

Column: MR-2 (0.53 mm)

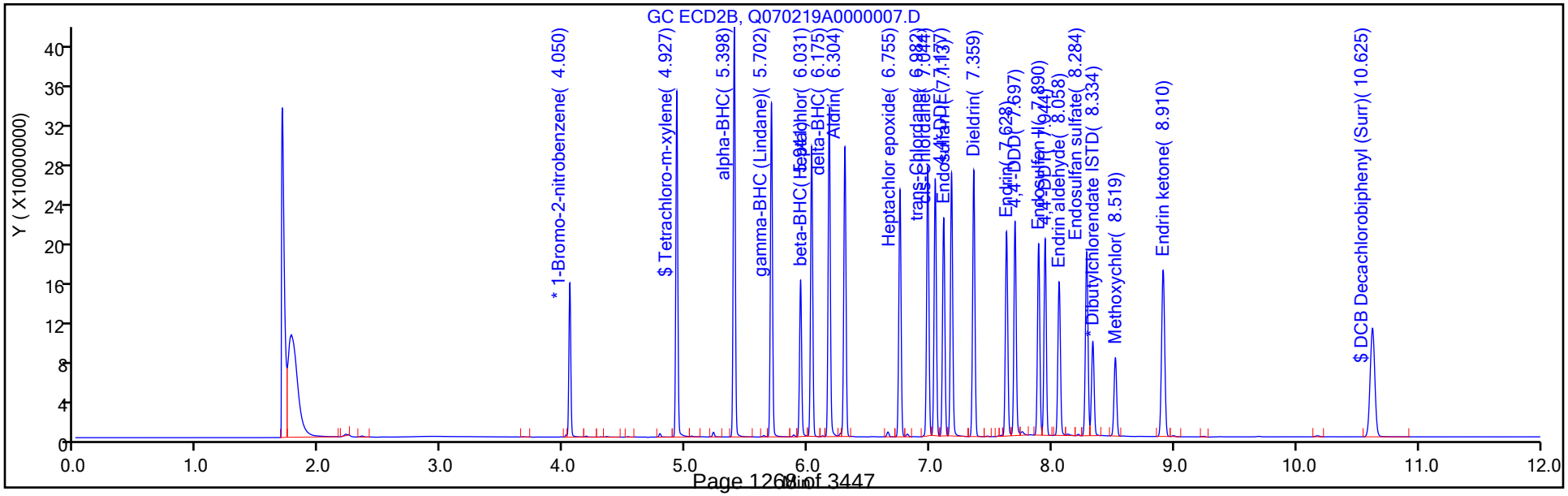

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 291631

SDG No.:

Instrument ID: CHGC15 GC Column: MR-1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 13:44 Calibration End Date: 09/17/2019 15:01 Calibration ID: 41537

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-291631/2	Q0917190000002.D
Level 2	IC 180-291631/3	Q0917190000003.D
Level 3	IC 180-291631/4	Q0917190000004.D
Level 4	IC 180-291631/5	Q0917190000005.D
Level 5	IC 180-291631/6	Q0917190000006.D
Level 6	IC 180-291631/7	Q0917190000007.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Hexachlorobenzene	1.2945 1.1901	1.2837	1.1647	1.1536	1.2183	Ave		1.2175				4.9		20.0			
DCPA	0.9506 0.7898	0.9416	0.8452	0.8339	0.8240	Ave		0.8642				7.7		20.0			
Isodrin	1.0358 0.9625	1.0515	0.9917	0.9140	0.9913	Ave		0.9911				5.0		20.0			
oxy-Chlordane	1.0206 0.9369	1.0464	0.9352	0.9157	0.9457	Ave		0.9667				5.5		20.0			
Chlorobenside	0.3818 +++++	0.4350	0.4984	0.5264	0.6215	Ave		0.4926				18.5		20.0			
Mirex	0.7639 0.6555	0.7687	0.6665	0.6729	0.6827	Ave		0.7017				7.2		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 291631

SDG No.:

Instrument ID: CHGC15 GC Column: MR-1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 13:44 Calibration End Date: 09/17/2019 15:01 Calibration ID: 41537

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-291631/2	Q0917190000002.D
Level 2	IC 180-291631/3	Q0917190000003.D
Level 3	IC 180-291631/4	Q0917190000004.D
Level 4	IC 180-291631/5	Q0917190000005.D
Level 5	IC 180-291631/6	Q0917190000006.D
Level 6	IC 180-291631/7	Q0917190000007.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Hexachlorobenzene	BNB	Ave	1893284 353600804	8919199	43560184	86332638	176640162	0.00100 0.200	0.00500	0.0250	0.0500	0.100
DCPA	BNB	Ave	1390298 234653439	6541923	31610319	62404864	119471511	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Isodrin	BNB	Ave	1514965 285973399	7305724	37088664	68399520	143734615	0.00100 0.200	0.00500	0.0250	0.0500	0.100
oxy-Chlordane	BNB	Ave	1492653 278354836	7270122	34976254	68526717	137118110	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Chlorobenside	BNB	Ave	1116733 +++++	6044219	37279336	78784273	180229792	0.00200 +++++	0.0100	0.0500	0.100	0.200
Mirex	DBC	Ave	788720 141350066	3762593	17763770	35949369	71601401	0.00100 0.200	0.00500	0.0250	0.0500	0.100

Curve Type Legend:
Ave = Average ISTD by Height

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 291631

SDG No.:

Instrument ID: CHGC15 GC Column: MR-1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 13:44 Calibration End Date: 09/17/2019 15:01 Calibration ID: 41537

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-291631/2	Q0917190000002.D
Level 2	IC 180-291631/3	Q0917190000003.D
Level 3	IC 180-291631/4	Q0917190000004.D
Level 4	IC 180-291631/5	Q0917190000005.D
Level 5	IC 180-291631/6	Q0917190000006.D
Level 6	IC 180-291631/7	Q0917190000007.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
Hexachlorobenzene	6.3	5.4	-4.3	-5.2	0.1	-2.2	50	30	30	30	30	30
DCPA	10.0	9.0	-2.2	-3.5	-4.6	-8.6	50	30	30	30	30	30
Isodrin	4.5	6.1	0.1	-7.8	0.0	-2.9	50	30	30	30	30	30
oxy-Chlordane	5.6	8.2	-3.3	-5.3	-2.2	-3.1	50	30	30	30	30	30
Chlorobenside	-22.5	-11.7	1.2	6.9	26.2	+++++	50	30	30	30	30	
Mirex	8.9	9.6	-5.0	-4.1	-2.7	-6.6	50	30	30	30	30	30

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000002.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 17-Sep-2019 13:44:18 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028689-002
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub8

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 18-Sep-2019 08:30:18 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0308

First Level Reviewer: eppinged Date: 18-Sep-2019 07:51:00

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.784	3.783	0.000	146253926H	0.1000	0.1000	
2	4.043	4.043	0.000	145599203H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.170	5.171	-0.001	1893284H	0.001000	0.001063	
2	5.348	5.349	-0.001	2176010H	0.001000	0.001109	
						RPD = 4.23	
12 DCPA							
1	6.081	6.082	-0.001	1390298H	0.001000	0.001100	
2	6.285	6.285	0.000	1419139H	0.001000	0.001093	
						RPD = 0.62	
14 Isodrin							
1	6.425	6.426	-0.001	1514965H	0.001000	0.001045	
2	6.646	6.646	0.000	2574212H	0.001000	0.001060	
						RPD = 1.39	
15 oxy-Chlordane							
1	6.462	6.462	0.000	1492653H	0.001000	0.001056	
2	6.646	6.646	0.000	2574212H	0.001000	0.001060	
						RPD = 0.38	
19 Chlorobenside							
1	6.751	6.747	0.004	1116733H	0.002000	0.001550	
2	7.057	7.054	0.003	1195832H	0.002000	0.001635	
						RPD = 5.36	
* 44 Dibutylchlorendate ISTD							
1	8.194	8.192	0.001	103242793H	0.1000	0.1000	
2	8.319	8.317	0.001	84261755H	0.1000	0.1000	
38 Mirex							
1	8.753	8.751	0.002	788720H	0.001000	0.001089	
2	9.176	9.179	-0.003	650754H	0.001000	0.001063	
						RPD = 2.35	

Reagents:

GCAPPIX1L1_00025	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 18-Sep-2019 08:30:18 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000002.D

Injection Date: 17-Sep-2019 13:44:18 Instrument ID: CHGC15 Operator ID: 402331

Lims ID: IC Worklist Smp#: 2

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 2

Method: IS PEST_CHGC15 Limit Group: GCS 8081B ICAL with IS

Column: MR-1 (0.53 mm)

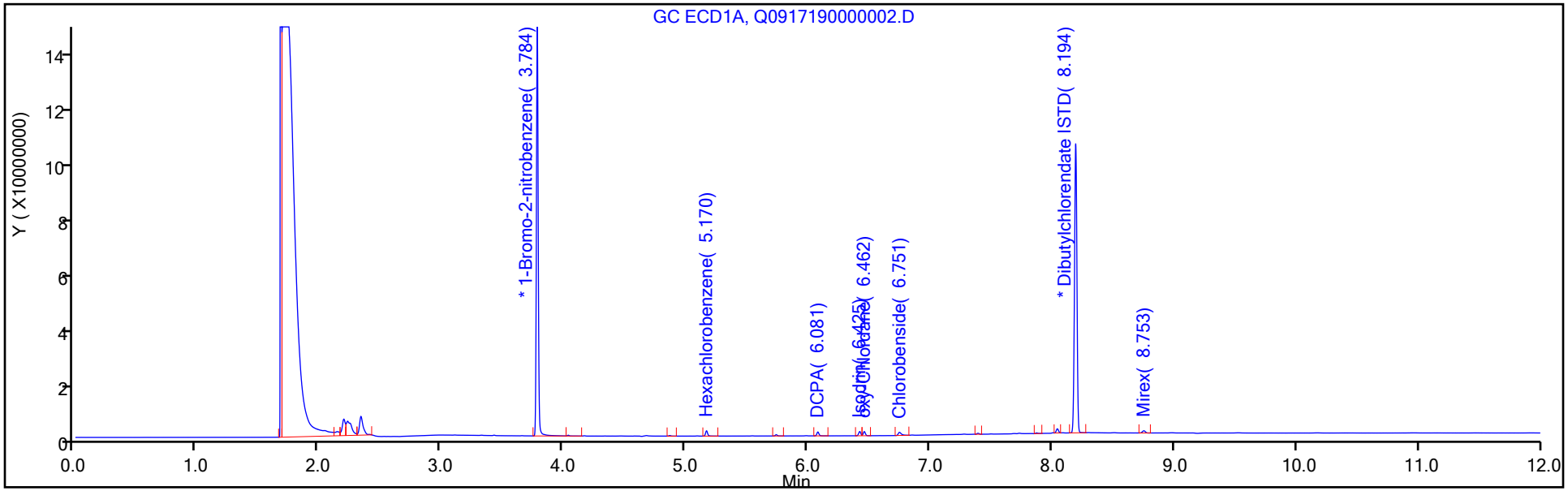

Column: MR-2 (0.53 mm)

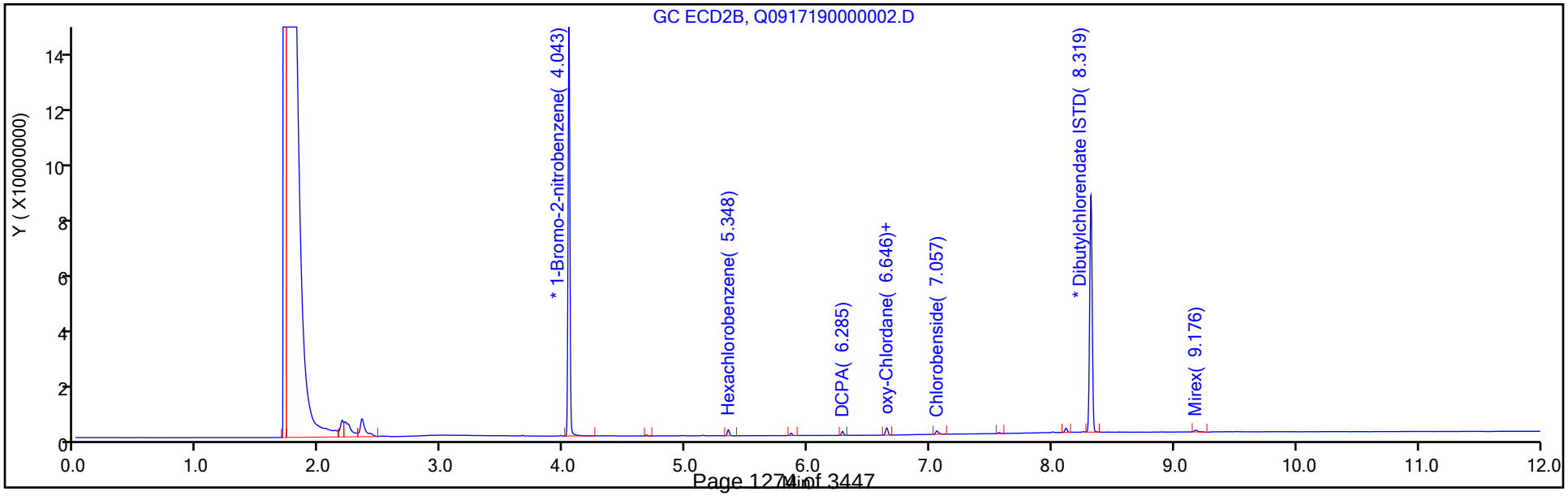

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000003.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 17-Sep-2019 13:59:53 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028689-003
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub8

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 18-Sep-2019 08:30:24 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0308

First Level Reviewer: eppinged Date: 18-Sep-2019 07:51:10

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.783	3.783	0.000	138958289H	0.1000	0.1000	
2	4.043	4.043	0.000	136632422H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.169	5.171	-0.002	8919199H	0.005000	0.005272	
2	5.348	5.349	-0.001	10425335H	0.005000	0.005663	
						RPD = 7.16	
12 DCPA							
1	6.082	6.082	0.000	6541923H	0.005000	0.005448	
2	6.284	6.285	-0.001	6848756H	0.005000	0.005622	
						RPD = 3.15	
14 Isodrin							
1	6.425	6.426	-0.001	7305724H	0.005000	0.005304	
2	6.647	6.646	0.001	13066309H	0.005000	0.005732	
						RPD = 7.74	
15 oxy-Chlordane							
1	6.462	6.462	0.000	7270122H	0.005000	0.005412	
2	6.647	6.646	0.001	13066309H	0.005000	0.005732	
						RPD = 5.74	
19 Chlorobenside							
1	6.751	6.747	0.004	6044219H	0.0100	0.008830	
2	7.056	7.054	0.002	6539481H	0.0100	0.009531	
						RPD = 7.63	
* 44 Dibutylchlorendate ISTD							
1	8.193	8.192	0.001	97889586H	0.1000	0.1000	
2	8.318	8.317	0.001	78733932H	0.1000	0.1000	
38 Mirex							
1	8.751	8.751	0.000	3762593H	0.005000	0.005478	
2	9.176	9.179	-0.003	3206004H	0.005000	0.005607	
						RPD = 2.33	

Reagents:

GCAPPIX1L2_00024	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 18-Sep-2019 08:30:25 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000003.D				
Injection Date:	17-Sep-2019 13:59:53	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

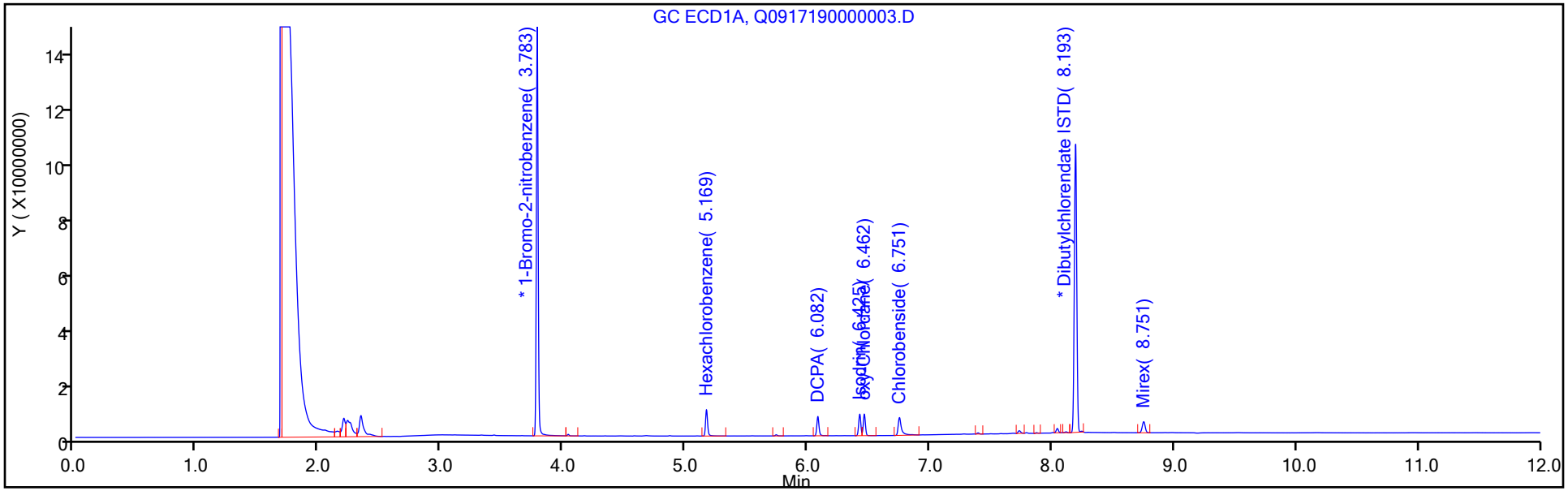

Column: MR-2 (0.53 mm)

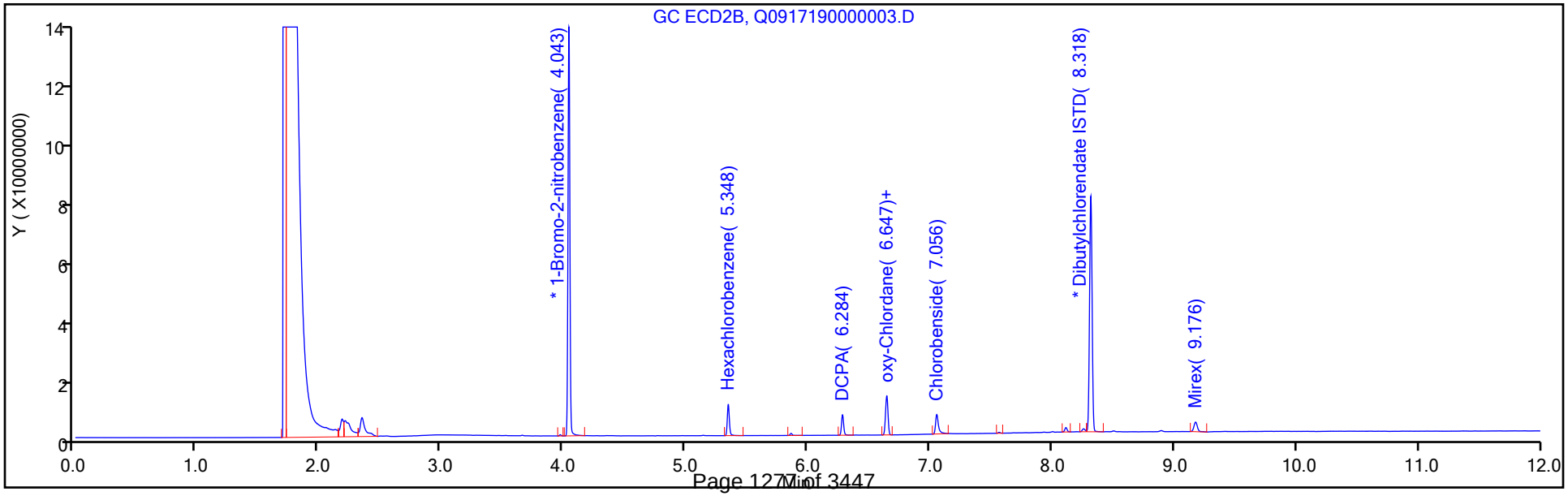

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000004.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 17-Sep-2019 14:15:20 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028689-004
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub8

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 18-Sep-2019 08:30:29 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0308

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.784	3.783	0.001	149595105H	0.1000	0.1000	
2	4.044	4.043	0.001	147381401H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.171	5.171	0.000	43560184H	0.0250	0.0239	
2	5.349	5.349	0.000	48002641H	0.0250	0.0242	
						RPD = 1.07	
12 DCPA							
1	6.082	6.082	0.000	31610319H	0.0250	0.0245	
2	6.285	6.285	0.000	32821799H	0.0250	0.0250	
						RPD = 2.13	
14 Isodrin							
1	6.426	6.426	0.000	37088664H	0.0250	0.0250	
2	6.646	6.646	0.000	61920442H	0.0250	0.0252	
						RPD = 0.67	
15 oxy-Chlordane							
1	6.462	6.462	0.000	34976254H	0.0250	0.0242	
2	6.646	6.646	0.000	61920442H	0.0250	0.0252	
						RPD = 4.04	
19 Chlorobenside							
1	6.747	6.747	0.000	37279336H	0.0500	0.0506	
2	7.054	7.054	0.000	36984636H	0.0500	0.0500	
						RPD = 1.23	
* 44 Dibutylchlorendate ISTD							
1	8.194	8.192	0.001	106615768H	0.1000	0.1000	
2	8.319	8.317	0.002	85748701H	0.1000	0.1000	
38 Mirex							
1	8.751	8.751	0.000	17763770H	0.0250	0.0237	
2	9.179	9.179	0.000	15175284H	0.0250	0.0244	
						RPD = 2.59	

Reagents:

GCAPPIX1L3_00032	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 18-Sep-2019 08:30:30 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000004.D

Injection Date: 17-Sep-2019 14:15:20 Instrument ID: CHGC15 Operator ID: 402331

Lims ID: IC Worklist Smp#: 4

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 4

Method: IS PEST_CHGC15 Limit Group: GCS 8081B ICAL with IS

Column: MR-1 (0.53 mm)

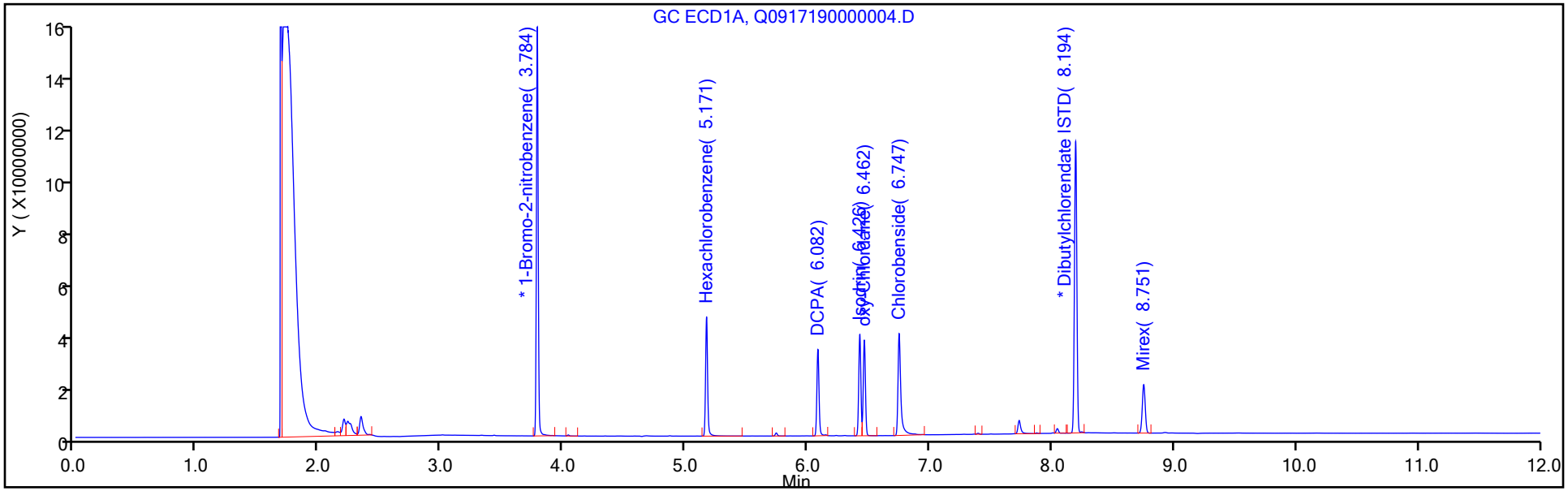

Column: MR-2 (0.53 mm)

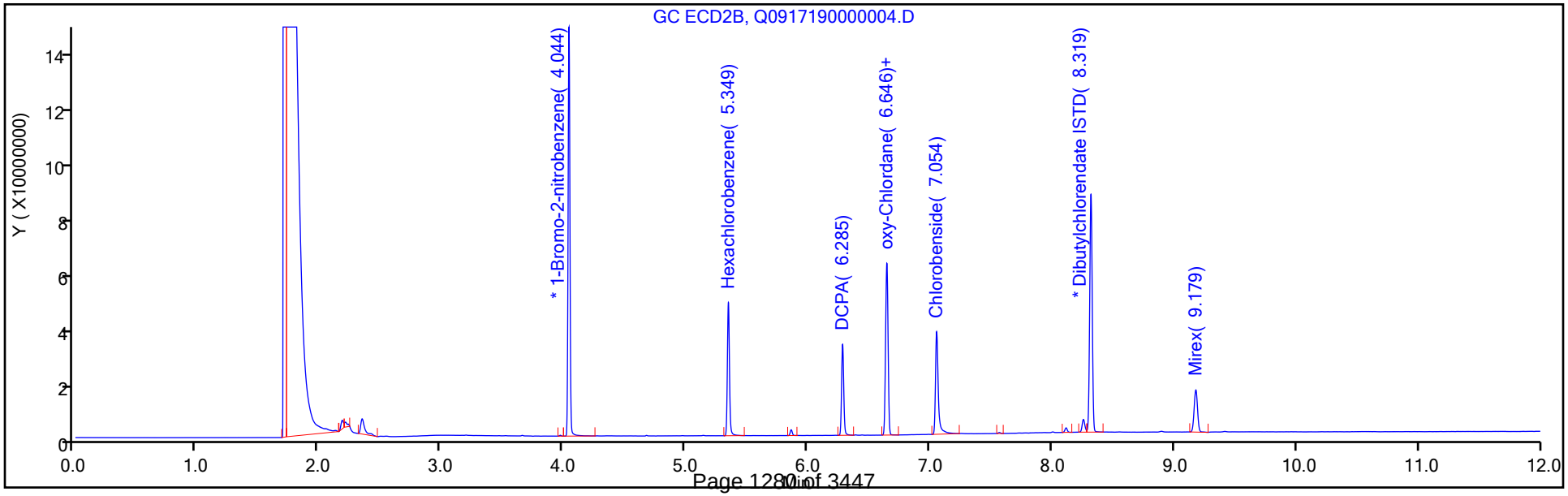

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000005.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 17-Sep-2019 14:30:47 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028689-005
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub8

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 18-Sep-2019 08:30:37 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0308

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.784	3.783	0.000	149672261H	0.1000	0.1000	
2	4.043	4.043	0.000	147106349H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.170	5.171	-0.001	86332638H	0.0500	0.0474	
2	5.349	5.349	0.000	94228667H	0.0500	0.0475	
						RPD = 0.35	
12 DCPA							
1	6.082	6.082	0.000	62404864H	0.0500	0.0482	
2	6.284	6.285	-0.001	62680844H	0.0500	0.0478	
						RPD = 0.95	
14 Isodrin							
1	6.426	6.426	0.000	68399520H	0.0500	0.0461	
2	6.647	6.646	0.001	116452067H	0.0500	0.0474	
						RPD = 2.86	
15 oxy-Chlordane							
1	6.464	6.462	0.002	68526717H	0.0500	0.0474	
2	6.647	6.646	0.001	116452067H	0.0500	0.0474	
						RPD = 0.18	
19 Chlorobenside							
1	6.747	6.747	0.000	78784273H	0.1000	0.1069	
2	7.054	7.054	0.000	80166424H	0.1000	0.1085	
						RPD = 1.54	
* 44 Dibutylchlorendate ISTD							
1	8.193	8.192	0.001	106847896H	0.1000	0.1000	
2	8.319	8.317	0.002	85277850H	0.1000	0.1000	
38 Mirex							
1	8.752	8.751	0.001	35949369H	0.0500	0.0479	
2	9.178	9.179	-0.001	29491101H	0.0500	0.0476	
						RPD = 0.69	

Reagents:

GCAPPIX1L4_00024	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 18-Sep-2019 08:30:37 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000005.D

Injection Date: 17-Sep-2019 14:30:47 Instrument ID: CHGC15 Operator ID: 402331

Lims ID: IC Worklist Smp#: 5

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 5

Method: IS PEST_CHGC15 Limit Group: GCS 8081B ICAL with IS

Column: MR-1 (0.53 mm)

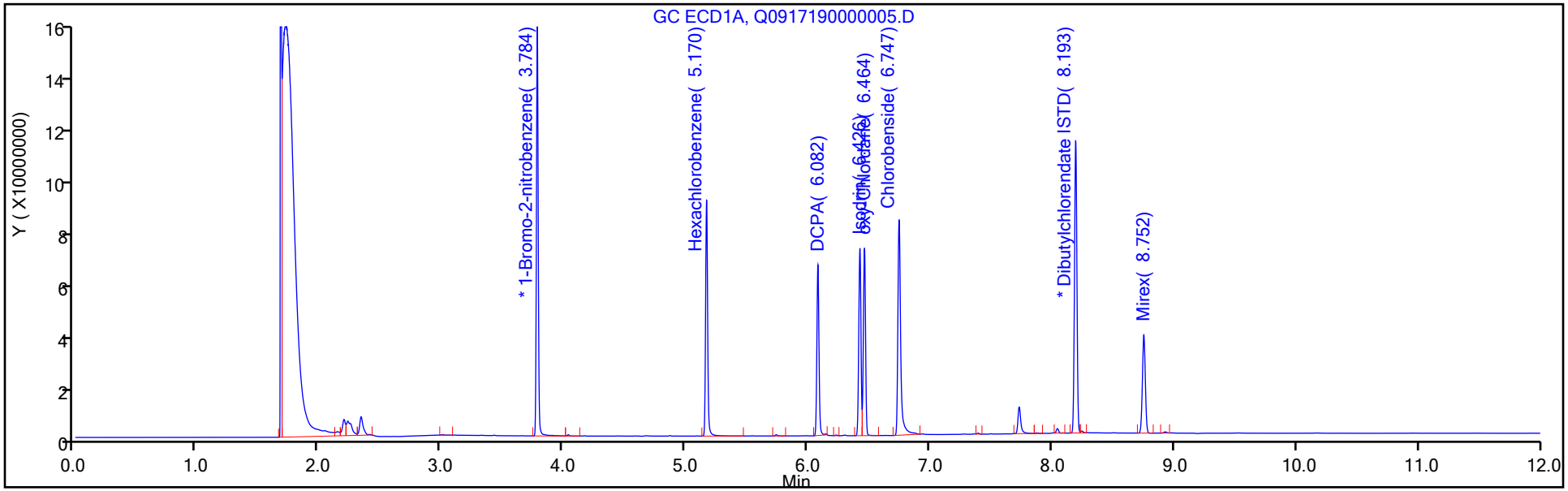

Column: MR-2 (0.53 mm)

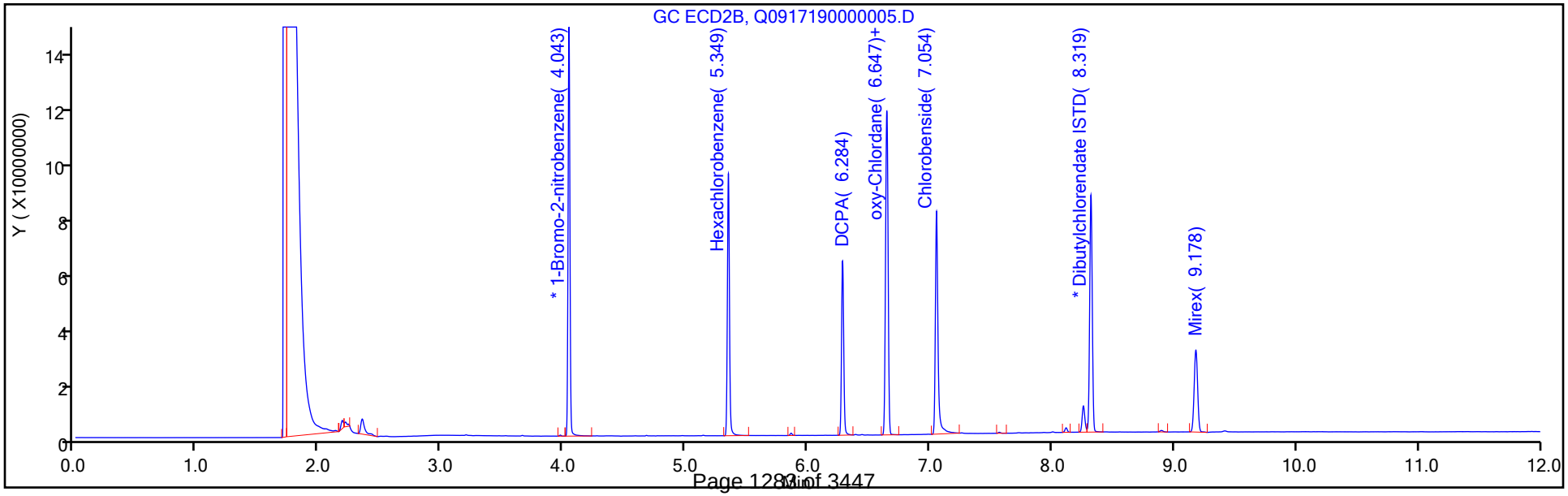

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000006.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 17-Sep-2019 14:46:12 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028689-006
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub8

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 18-Sep-2019 08:30:42 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0308

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.784	3.783	0.000	144990725H	0.1000	0.1000	
2	4.043	4.043	0.000	143352106H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.170	5.171	-0.001	176640162H	0.1000	0.1001	
2	5.349	5.349	0.000	183182493H	0.1000	0.0948	
						RPD = 5.36	
12 DCPA							
1	6.082	6.082	0.000	119471511H	0.1000	0.0954	
2	6.284	6.285	-0.001	122178408H	0.1000	0.0956	
						RPD = 0.26	
14 Isodrin							
1	6.425	6.426	-0.001	143734615H	0.1000	0.1000	
2	6.646	6.646	0.000	229075786H	0.1000	0.0958	
						RPD = 4.33	
15 oxy-Chlordane							
1	6.463	6.462	0.001	137118110H	0.1000	0.0978	
2	6.646	6.646	0.000	229075786H	0.1000	0.0958	
						RPD = 2.11	
19 Chlorobenside							
1	6.745	6.747	-0.002	180229792H	0.2000	0.2523	
2	7.052	7.054	-0.002	164807303H	0.2000	0.2289	
						RPD = 9.73	
* 44 Dibutylchlorendate ISTD							
1	8.194	8.192	0.002	104883951H	0.1000	0.1000	
2	8.318	8.317	0.000	82730287H	0.1000	0.1000	
38 Mirex							
1	8.750	8.751	-0.001	71601401H	0.1000	0.0973	
2	9.177	9.179	-0.002	59000075H	0.1000	0.0982	
						RPD = 0.93	

Reagents:

GCAPPIX1L5_00022	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 18-Sep-2019 08:30:43 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000006.D				
Injection Date:	17-Sep-2019 14:46:12	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

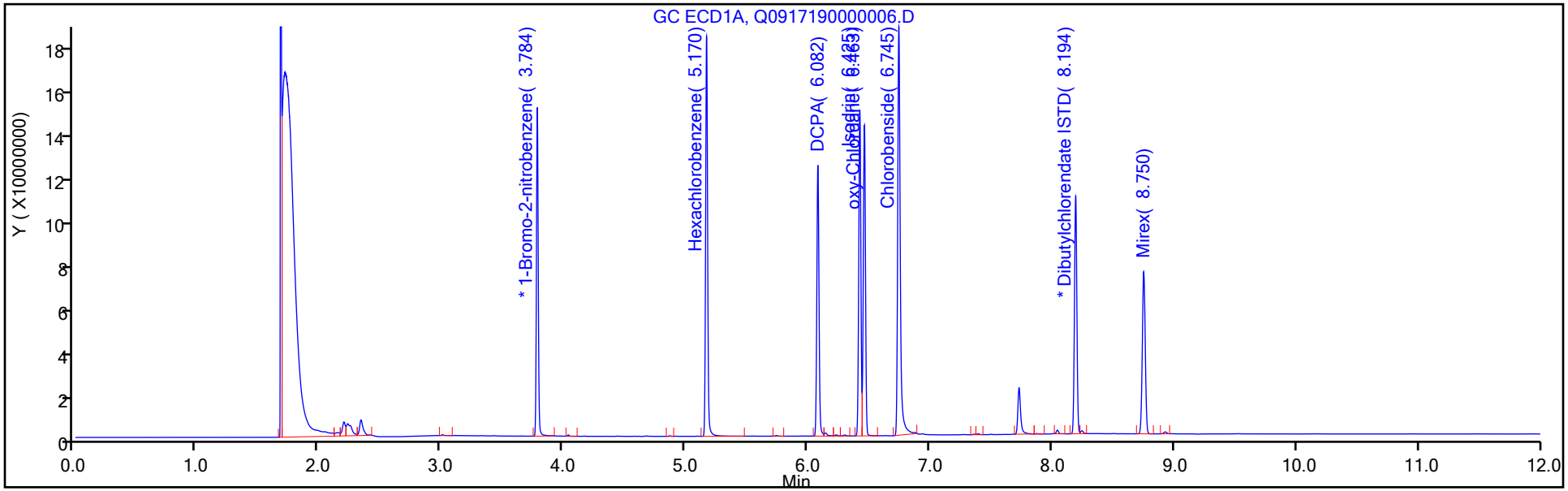

Column: MR-2 (0.53 mm)

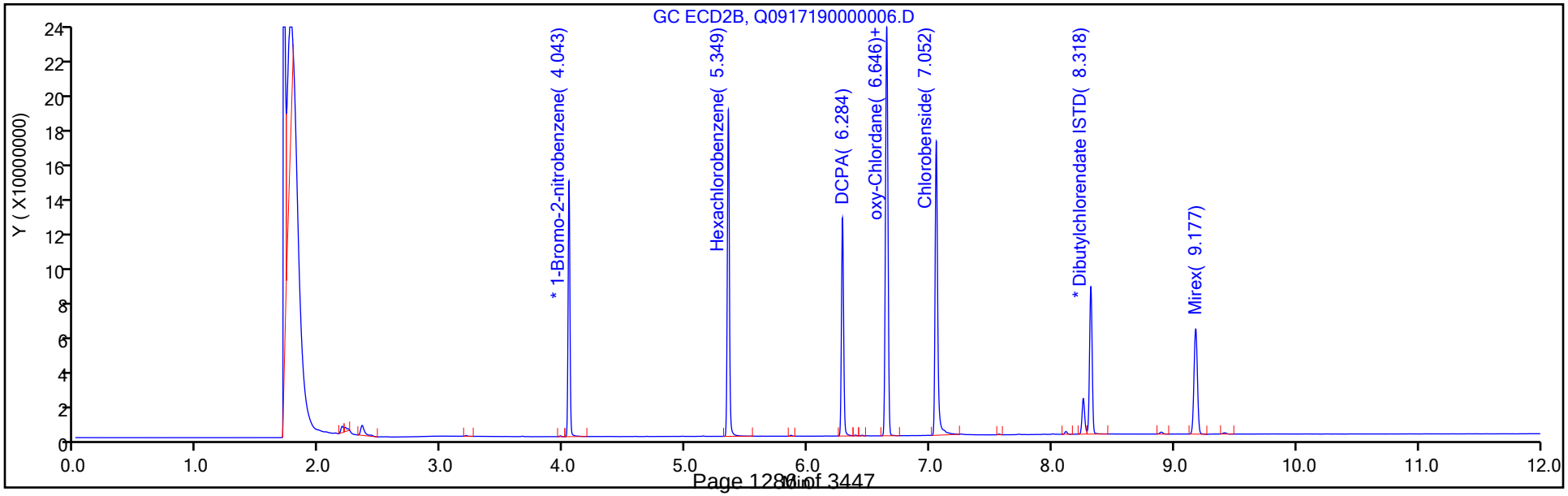

Report Date: 18-Sep-2019 08:30:49 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000007.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 17-Sep-2019 15:01:51 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028689-007
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub8

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 18-Sep-2019 08:30:49 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0308

First Level Reviewer: eppinged Date: 18-Sep-2019 07:53:57

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.784	3.783	0.000	148557666H	0.1000	0.1000	
2	4.043	4.043	0.000	147283303H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.170	5.171	-0.001	353600804H	0.2000	0.1955	
2	5.349	5.349	0.000	353962215H	0.2000	0.1784	
						RPD = 9.16	
12 DCPA							
1	6.083	6.082	0.001	234653439H	0.2000	0.1828	
2	6.284	6.285	-0.001	228859270H	0.2000	0.1743	
						RPD = 4.76	
14 Isodrin							
1	6.426	6.426	0.000	285973399H	0.2000	0.1942	
2	6.646	6.646	0.000	432486278H	0.2000	0.1760	
						RPD = 9.84	
15 oxy-Chlordane							
1	6.463	6.462	0.001	278354836H	0.2000	0.1938	
2	6.646	6.646	0.000	432486278H	0.2000	0.1760	
						RPD = 9.64	
19 Chlorobenside							
1	6.744	6.747	-0.003	393988766H	0.4000	0.5384	
2	7.051	7.054	-0.003	341152280H	0.4000	0.4612	
						RPD = 15.43	
* 44 Dibutylchlorendate ISTD							
1	8.192	8.192	0.000	107819479H	0.1000	0.1000	
2	8.318	8.317	0.001	87462009H	0.1000	0.1000	
38 Mirex							
1	8.750	8.751	-0.001	141350066H	0.2000	0.1868	
2	9.176	9.179	-0.003	115107211H	0.2000	0.1812	
						RPD = 3.05	

Reagents:

GCAPPIX1L6_00022	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 18-Sep-2019 08:30:49 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000007.D				
Injection Date:	17-Sep-2019 15:01:51	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

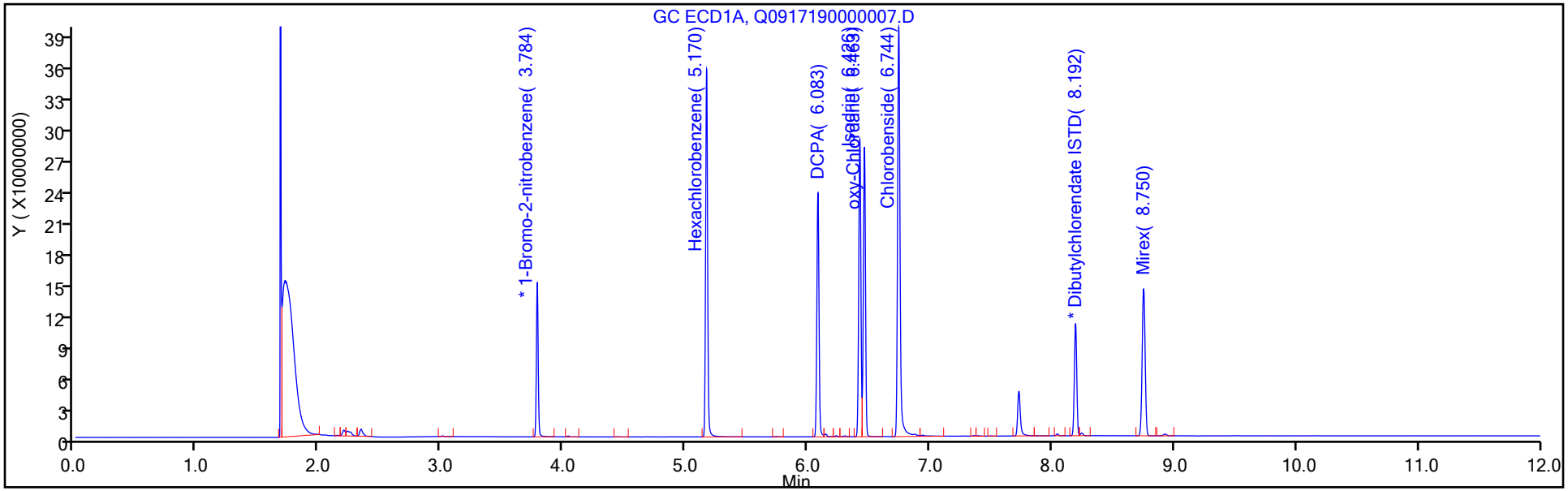

Column: MR-2 (0.53 mm)

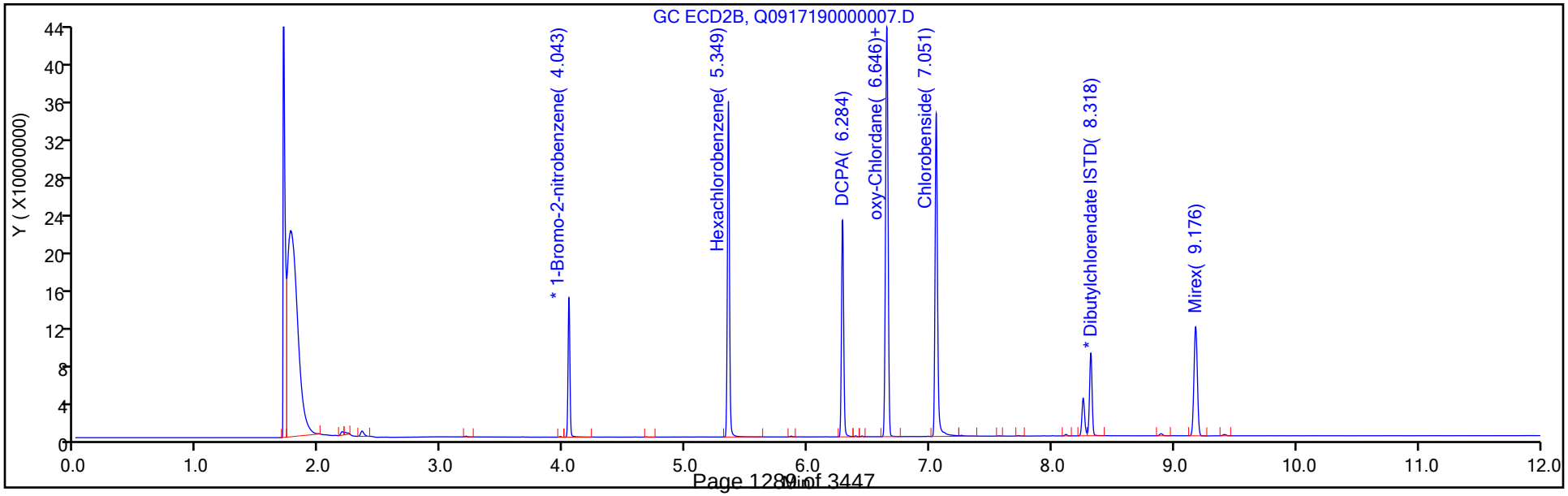

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 291631

SDG No.:

Instrument ID: CHGC15 GC Column: MR-2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 13:44 Calibration End Date: 09/17/2019 15:01 Calibration ID: 41538

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-291631/2	Q0917190000002.D
Level 2	IC 180-291631/3	Q0917190000003.D
Level 3	IC 180-291631/4	Q0917190000004.D
Level 4	IC 180-291631/5	Q0917190000005.D
Level 5	IC 180-291631/6	Q0917190000006.D
Level 6	IC 180-291631/7	Q0917190000007.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Hexachlorobenzene	1.4945 1.2016	1.5260	1.3028	1.2811	1.2779	Ave		1.3473				9.7		20.0			
DCPA	0.9747 0.7769	1.0025	0.8908	0.8522	0.8523	Ave		0.8916				9.4		20.0			
Isodrin	1.7680 1.4682	1.9126	1.6805	1.5832	1.5980	Ave		1.6684				9.4		20.0			
oxy-Chlordane	1.7680 1.4682	1.9126	1.6805	1.5832	1.5980	Ave		1.6684				9.4		20.0			
Chlorobenside	0.4107 +++++	0.4786	0.5019	0.5450	0.5748	Ave		0.5022				12.6		20.0			
Mirex	0.7723 0.6580	0.8144	0.7079	0.6916	0.7132	Ave		0.7262				7.8		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 291631

SDG No.:

Instrument ID: CHGC15 GC Column: MR-2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 13:44 Calibration End Date: 09/17/2019 15:01 Calibration ID: 41538

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-291631/2	Q0917190000002.D
Level 2	IC 180-291631/3	Q0917190000003.D
Level 3	IC 180-291631/4	Q0917190000004.D
Level 4	IC 180-291631/5	Q0917190000005.D
Level 5	IC 180-291631/6	Q0917190000006.D
Level 6	IC 180-291631/7	Q0917190000007.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Hexachlorobenzene	BNB	Ave	2176010 353962215	10425335	48002641	94228667	183182493	0.00100 0.200	0.00500	0.0250	0.0500	0.100
DCPA	BNB	Ave	1419139 228859270	6848756	32821799	62680844	122178408	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Isodrin	BNB	Ave	2574212 432486278	13066309	61920442	116452067	229075786	0.00100 0.200	0.00500	0.0250	0.0500	0.100
oxy-Chlordane	BNB	Ave	2574212 432486278	13066309	61920442	116452067	229075786	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Chlorobenside	BNB	Ave	1195832 +++++	6539481	36984636	80166424	164807303	0.00200 +++++	0.0100	0.0500	0.100	0.200
Mirex	DBC	Ave	650754 115107211	3206004	15175284	29491101	59000075	0.00100 0.200	0.00500	0.0250	0.0500	0.100

Curve Type Legend:
Ave = Average ISTD by Height

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 291631

SDG No.:

Instrument ID: CHGC15 GC Column: MR-2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 13:44 Calibration End Date: 09/17/2019 15:01 Calibration ID: 41538

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-291631/2	Q0917190000002.D
Level 2	IC 180-291631/3	Q0917190000003.D
Level 3	IC 180-291631/4	Q0917190000004.D
Level 4	IC 180-291631/5	Q0917190000005.D
Level 5	IC 180-291631/6	Q0917190000006.D
Level 6	IC 180-291631/7	Q0917190000007.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
Hexachlorobenzene	10.9	13.3	-3.3	-4.9	-5.2	-10.8	50	30	30	30	30	30
DCPA	9.3	12.4	-0.1	-4.4	-4.4	-12.9	50	30	30	30	30	30
Isodrin	6.0	14.6	0.7	-5.1	-4.2	-12.0	50	30	30	30	30	30
oxy-Chlordane	6.0	14.6	0.7	-5.1	-4.2	-12.0	50	30	30	30	30	30
Chlorobenside	-18.2	-4.7	-0.1	8.5	14.5	+++++	50	30	30	30	30	
Mirex	6.3	12.1	-2.5	-4.8	-1.8	-9.4	50	30	30	30	30	30

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000002.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 17-Sep-2019 13:44:18 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028689-002
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub8

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 18-Sep-2019 08:30:18 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0308

First Level Reviewer: eppinged Date: 18-Sep-2019 07:51:00

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.784	3.783	0.000	146253926H	0.1000	0.1000	
2	4.043	4.043	0.000	145599203H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.170	5.171	-0.001	1893284H	0.001000	0.001063	
2	5.348	5.349	-0.001	2176010H	0.001000	0.001109	
						RPD = 4.23	
12 DCPA							
1	6.081	6.082	-0.001	1390298H	0.001000	0.001100	
2	6.285	6.285	0.000	1419139H	0.001000	0.001093	
						RPD = 0.62	
14 Isodrin							
1	6.425	6.426	-0.001	1514965H	0.001000	0.001045	
2	6.646	6.646	0.000	2574212H	0.001000	0.001060	
						RPD = 1.39	
15 oxy-Chlordane							
1	6.462	6.462	0.000	1492653H	0.001000	0.001056	
2	6.646	6.646	0.000	2574212H	0.001000	0.001060	
						RPD = 0.38	
19 Chlorobenside							
1	6.751	6.747	0.004	1116733H	0.002000	0.001550	
2	7.057	7.054	0.003	1195832H	0.002000	0.001635	
						RPD = 5.36	
* 44 Dibutylchlorendate ISTD							
1	8.194	8.192	0.001	103242793H	0.1000	0.1000	
2	8.319	8.317	0.001	84261755H	0.1000	0.1000	
38 Mirex							
1	8.753	8.751	0.002	788720H	0.001000	0.001089	
2	9.176	9.179	-0.003	650754H	0.001000	0.001063	
						RPD = 2.35	

Reagents:

GCAPPIX1L1_00025	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 18-Sep-2019 08:30:18 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000002.D

Injection Date: 17-Sep-2019 13:44:18 Instrument ID: CHGC15 Operator ID: 402331

Lims ID: IC Worklist Smp#: 2

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 2

Method: IS PEST_CHGC15 Limit Group: GCS 8081B ICAL with IS

Column: MR-1 (0.53 mm)

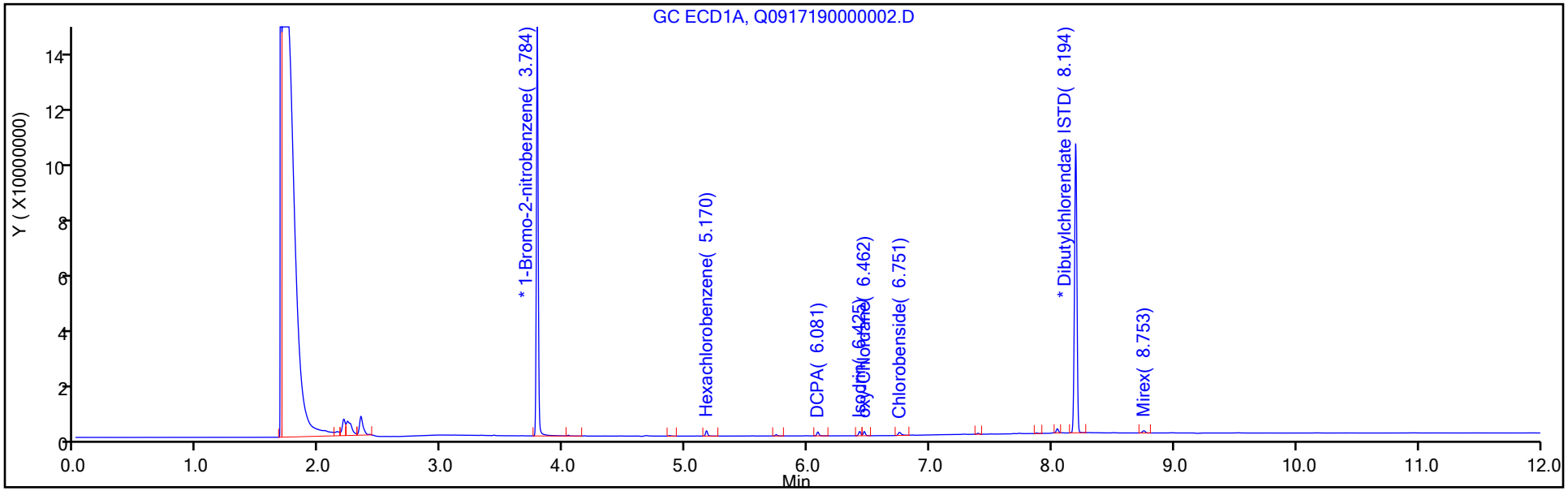

Column: MR-2 (0.53 mm)

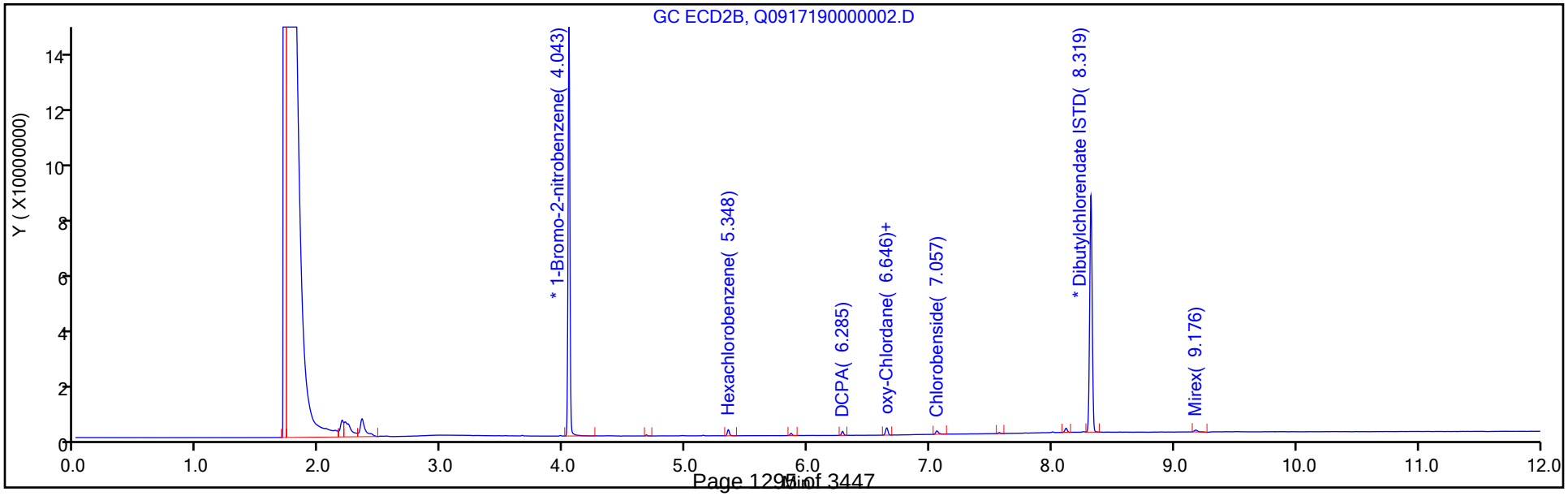

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000003.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 17-Sep-2019 13:59:53 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028689-003
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub8

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 18-Sep-2019 08:30:24 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0308

First Level Reviewer: eppinged Date: 18-Sep-2019 07:51:10

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.783	3.783	0.000	138958289H	0.1000	0.1000	
2	4.043	4.043	0.000	136632422H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.169	5.171	-0.002	8919199H	0.005000	0.005272	
2	5.348	5.349	-0.001	10425335H	0.005000	0.005663	
						RPD = 7.16	
12 DCPA							
1	6.082	6.082	0.000	6541923H	0.005000	0.005448	
2	6.284	6.285	-0.001	6848756H	0.005000	0.005622	
						RPD = 3.15	
14 Isodrin							
1	6.425	6.426	-0.001	7305724H	0.005000	0.005304	
2	6.647	6.646	0.001	13066309H	0.005000	0.005732	
						RPD = 7.74	
15 oxy-Chlordane							
1	6.462	6.462	0.000	7270122H	0.005000	0.005412	
2	6.647	6.646	0.001	13066309H	0.005000	0.005732	
						RPD = 5.74	
19 Chlorobenside							
1	6.751	6.747	0.004	6044219H	0.0100	0.008830	
2	7.056	7.054	0.002	6539481H	0.0100	0.009531	
						RPD = 7.63	
* 44 Dibutylchlorendate ISTD							
1	8.193	8.192	0.001	97889586H	0.1000	0.1000	
2	8.318	8.317	0.001	78733932H	0.1000	0.1000	
38 Mirex							
1	8.751	8.751	0.000	3762593H	0.005000	0.005478	
2	9.176	9.179	-0.003	3206004H	0.005000	0.005607	
						RPD = 2.33	

Reagents:

GCAPPIX1L2_00024	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 18-Sep-2019 08:30:25 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000003.D

Injection Date: 17-Sep-2019 13:59:53 Instrument ID: CHGC15 Operator ID: 402331

Lims ID: IC Worklist Smp#: 3

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 3

Method: IS PEST_CHGC15 Limit Group: GCS 8081B ICAL with IS

Column: MR-1 (0.53 mm)

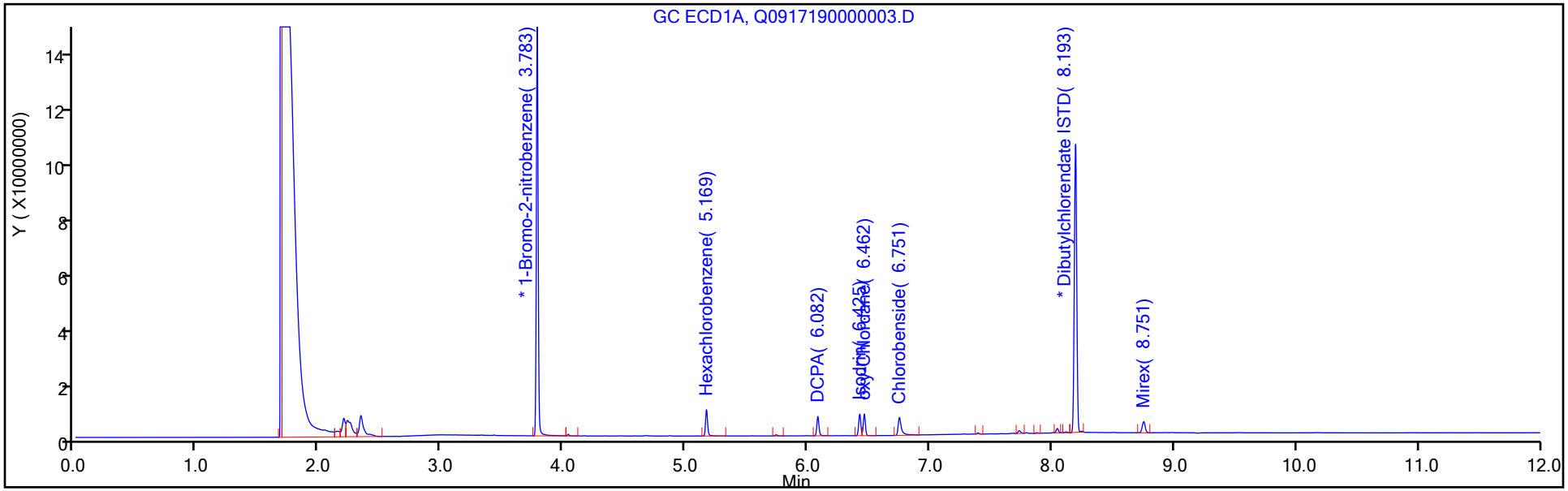

Column: MR-2 (0.53 mm)

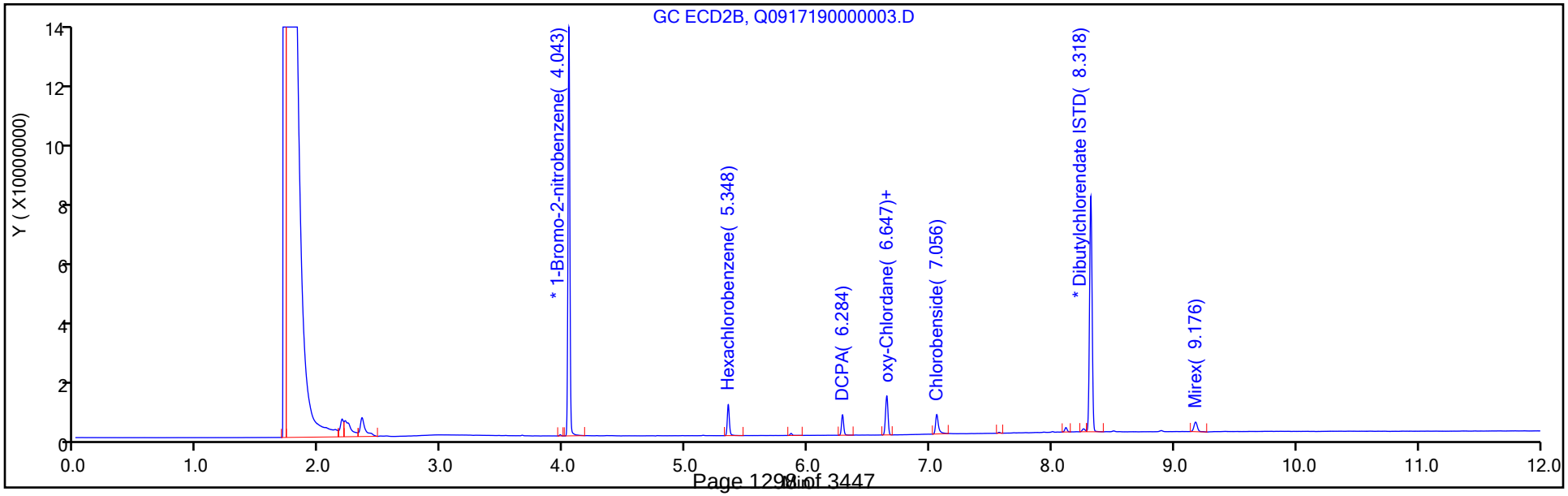

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000004.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 17-Sep-2019 14:15:20 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028689-004
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub8

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 18-Sep-2019 08:30:29 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0308

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.784	3.783	0.001	149595105H	0.1000	0.1000	
2	4.044	4.043	0.001	147381401H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.171	5.171	0.000	43560184H	0.0250	0.0239	
2	5.349	5.349	0.000	48002641H	0.0250	0.0242	
						RPD = 1.07	
12 DCPA							
1	6.082	6.082	0.000	31610319H	0.0250	0.0245	
2	6.285	6.285	0.000	32821799H	0.0250	0.0250	
						RPD = 2.13	
14 Isodrin							
1	6.426	6.426	0.000	37088664H	0.0250	0.0250	
2	6.646	6.646	0.000	61920442H	0.0250	0.0252	
						RPD = 0.67	
15 oxy-Chlordane							
1	6.462	6.462	0.000	34976254H	0.0250	0.0242	
2	6.646	6.646	0.000	61920442H	0.0250	0.0252	
						RPD = 4.04	
19 Chlorobenside							
1	6.747	6.747	0.000	37279336H	0.0500	0.0506	
2	7.054	7.054	0.000	36984636H	0.0500	0.0500	
						RPD = 1.23	
* 44 Dibutylchlorendate ISTD							
1	8.194	8.192	0.001	106615768H	0.1000	0.1000	
2	8.319	8.317	0.002	85748701H	0.1000	0.1000	
38 Mirex							
1	8.751	8.751	0.000	17763770H	0.0250	0.0237	
2	9.179	9.179	0.000	15175284H	0.0250	0.0244	
						RPD = 2.59	

Reagents:

GCAPPIX1L3_00032	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 18-Sep-2019 08:30:30 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000004.D

Injection Date: 17-Sep-2019 14:15:20 Instrument ID: CHGC15 Operator ID: 402331

Lims ID: IC Worklist Smp#: 4

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 4

Method: IS PEST_CHGC15 Limit Group: GCS 8081B ICAL with IS

Column: MR-1 (0.53 mm)

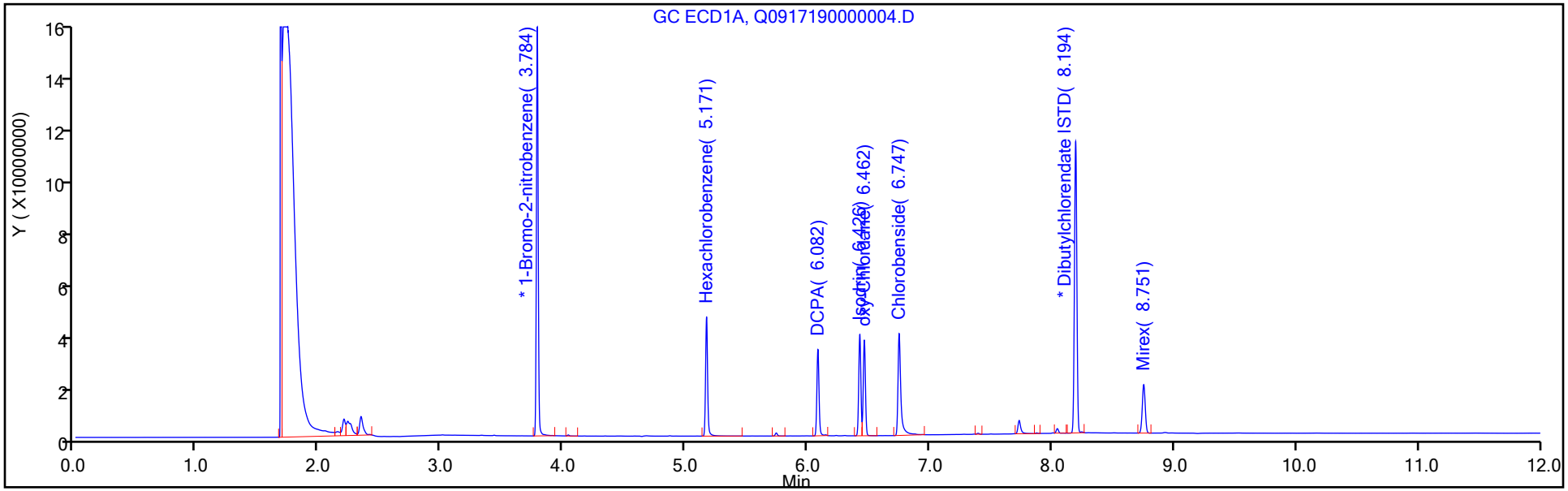

Column: MR-2 (0.53 mm)

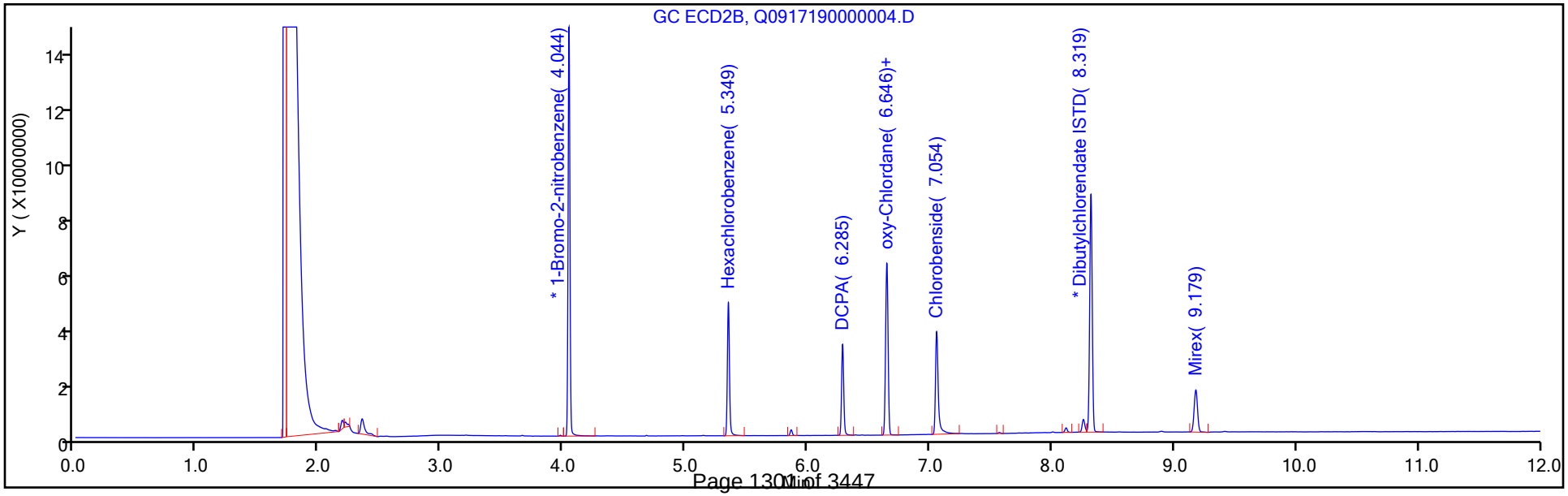

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000005.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 17-Sep-2019 14:30:47 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028689-005
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub8

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 18-Sep-2019 08:30:37 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0308

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.784	3.783	0.000	149672261H	0.1000	0.1000	
2	4.043	4.043	0.000	147106349H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.170	5.171	-0.001	86332638H	0.0500	0.0474	
2	5.349	5.349	0.000	94228667H	0.0500	0.0475	
						RPD = 0.35	
12 DCPA							
1	6.082	6.082	0.000	62404864H	0.0500	0.0482	
2	6.284	6.285	-0.001	62680844H	0.0500	0.0478	
						RPD = 0.95	
14 Isodrin							
1	6.426	6.426	0.000	68399520H	0.0500	0.0461	
2	6.647	6.646	0.001	116452067H	0.0500	0.0474	
						RPD = 2.86	
15 oxy-Chlordane							
1	6.464	6.462	0.002	68526717H	0.0500	0.0474	
2	6.647	6.646	0.001	116452067H	0.0500	0.0474	
						RPD = 0.18	
19 Chlorobenside							
1	6.747	6.747	0.000	78784273H	0.1000	0.1069	
2	7.054	7.054	0.000	80166424H	0.1000	0.1085	
						RPD = 1.54	
* 44 Dibutylchlorendate ISTD							
1	8.193	8.192	0.001	106847896H	0.1000	0.1000	
2	8.319	8.317	0.002	85277850H	0.1000	0.1000	
38 Mirex							
1	8.752	8.751	0.001	35949369H	0.0500	0.0479	
2	9.178	9.179	-0.001	29491101H	0.0500	0.0476	
						RPD = 0.69	

Reagents:

GCAPPIX1L4_00024	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 18-Sep-2019 08:30:37 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000005.D				
Injection Date:	17-Sep-2019 14:30:47	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

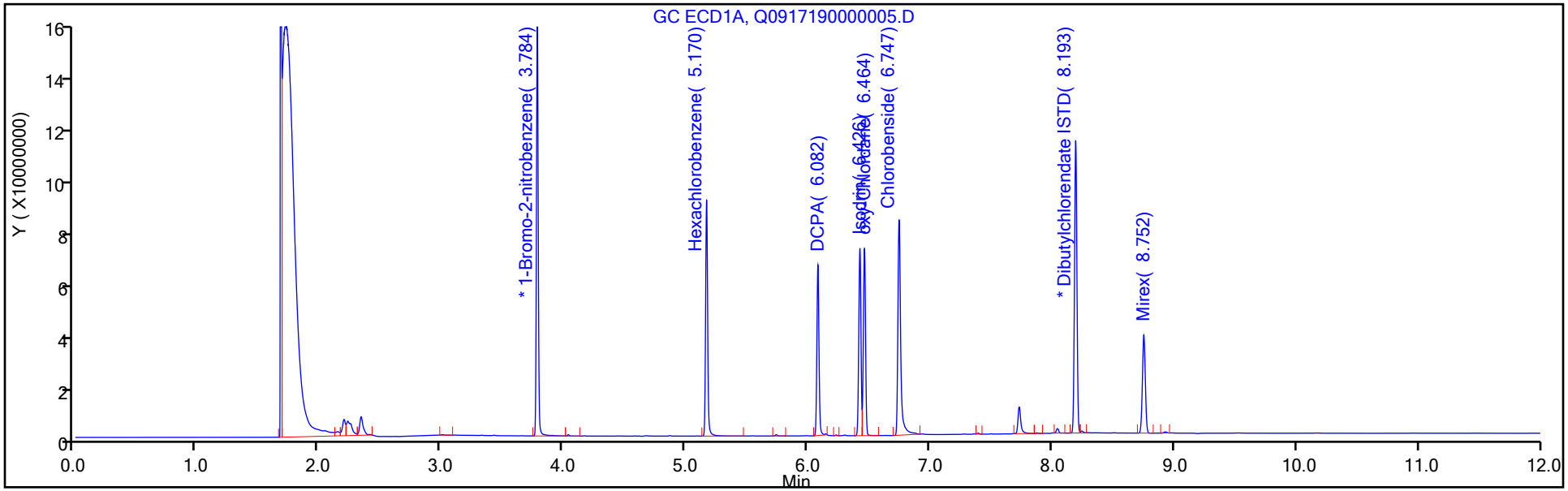

Column: MR-2 (0.53 mm)

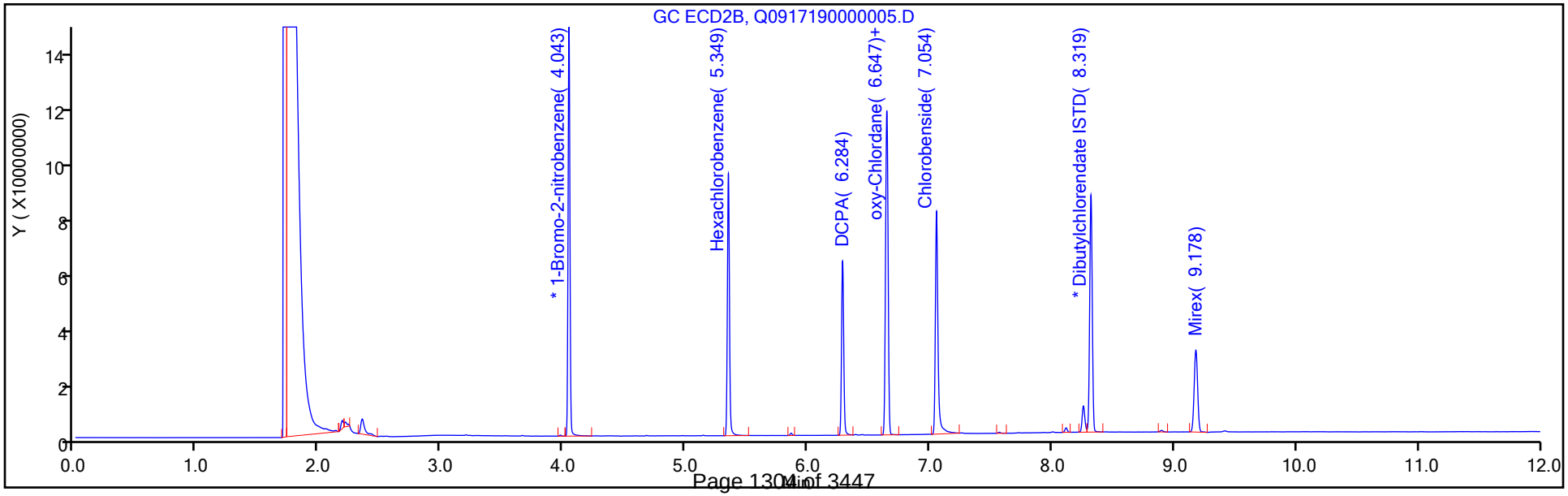

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000006.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 17-Sep-2019 14:46:12 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028689-006
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub8

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 18-Sep-2019 08:30:42 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0308

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.784	3.783	0.000	144990725H	0.1000	0.1000	
2	4.043	4.043	0.000	143352106H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.170	5.171	-0.001	176640162H	0.1000	0.1001	
2	5.349	5.349	0.000	183182493H	0.1000	0.0948	
						RPD = 5.36	
12 DCPA							
1	6.082	6.082	0.000	119471511H	0.1000	0.0954	
2	6.284	6.285	-0.001	122178408H	0.1000	0.0956	
						RPD = 0.26	
14 Isodrin							
1	6.425	6.426	-0.001	143734615H	0.1000	0.1000	
2	6.646	6.646	0.000	229075786H	0.1000	0.0958	
						RPD = 4.33	
15 oxy-Chlordane							
1	6.463	6.462	0.001	137118110H	0.1000	0.0978	
2	6.646	6.646	0.000	229075786H	0.1000	0.0958	
						RPD = 2.11	
19 Chlorobenside							
1	6.745	6.747	-0.002	180229792H	0.2000	0.2523	
2	7.052	7.054	-0.002	164807303H	0.2000	0.2289	
						RPD = 9.73	
* 44 Dibutylchlorendate ISTD							
1	8.194	8.192	0.002	104883951H	0.1000	0.1000	
2	8.318	8.317	0.000	82730287H	0.1000	0.1000	
38 Mirex							
1	8.750	8.751	-0.001	71601401H	0.1000	0.0973	
2	9.177	9.179	-0.002	59000075H	0.1000	0.0982	
						RPD = 0.93	

Reagents:

GCAPPIX1L5_00022	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 18-Sep-2019 08:30:43 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000006.D				
Injection Date:	17-Sep-2019 14:46:12	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

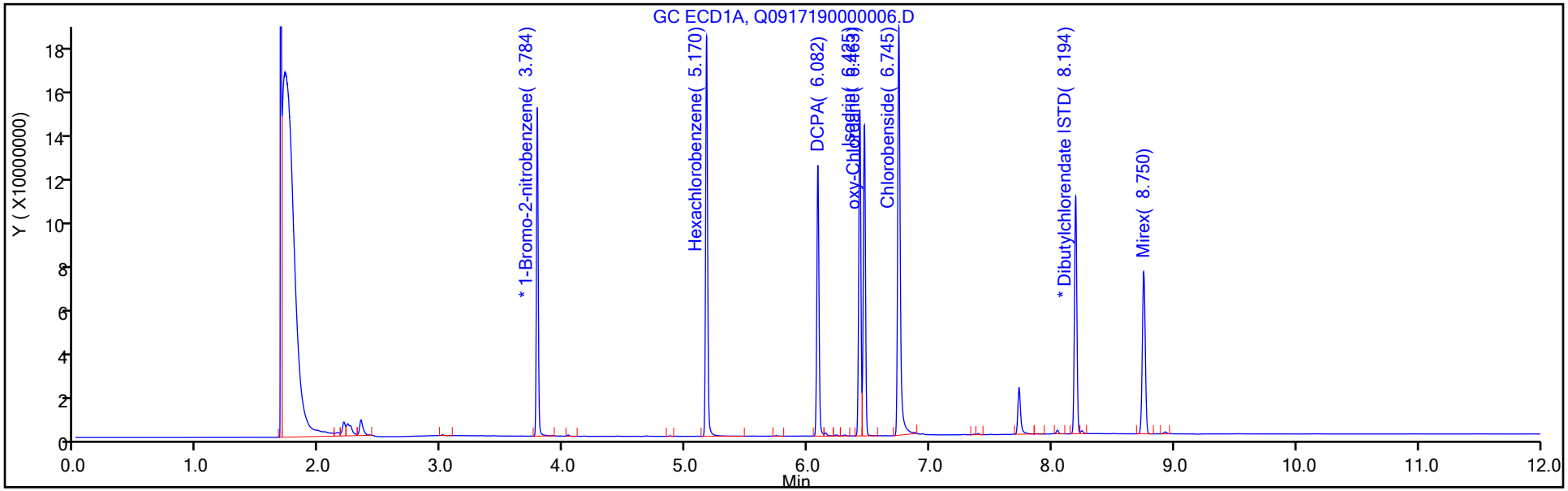

Column: MR-2 (0.53 mm)

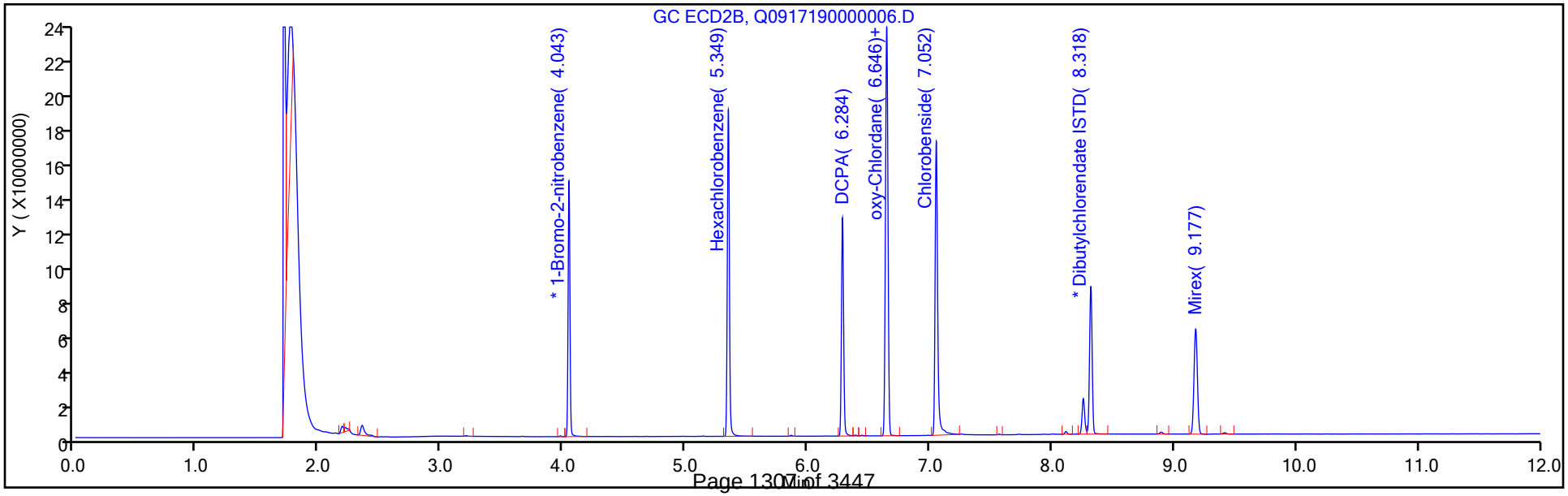

Report Date: 18-Sep-2019 08:30:49 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000007.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 17-Sep-2019 15:01:51 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028689-007
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub8

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 18-Sep-2019 08:30:49 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0308

First Level Reviewer: eppinged Date: 18-Sep-2019 07:53:57

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.784	3.783	0.000	148557666H	0.1000	0.1000	
2	4.043	4.043	0.000	147283303H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.170	5.171	-0.001	353600804H	0.2000	0.1955	
2	5.349	5.349	0.000	353962215H	0.2000	0.1784	
						RPD = 9.16	
12 DCPA							
1	6.083	6.082	0.001	234653439H	0.2000	0.1828	
2	6.284	6.285	-0.001	228859270H	0.2000	0.1743	
						RPD = 4.76	
14 Isodrin							
1	6.426	6.426	0.000	285973399H	0.2000	0.1942	
2	6.646	6.646	0.000	432486278H	0.2000	0.1760	
						RPD = 9.84	
15 oxy-Chlordane							
1	6.463	6.462	0.001	278354836H	0.2000	0.1938	
2	6.646	6.646	0.000	432486278H	0.2000	0.1760	
						RPD = 9.64	
19 Chlorobenside							
1	6.744	6.747	-0.003	393988766H	0.4000	0.5384	
2	7.051	7.054	-0.003	341152280H	0.4000	0.4612	
						RPD = 15.43	
* 44 Dibutylchlorendate ISTD							
1	8.192	8.192	0.000	107819479H	0.1000	0.1000	
2	8.318	8.317	0.001	87462009H	0.1000	0.1000	
38 Mirex							
1	8.750	8.751	-0.001	141350066H	0.2000	0.1868	
2	9.176	9.179	-0.003	115107211H	0.2000	0.1812	
						RPD = 3.05	

Reagents:

GCAPPIX1L6_00022	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 18-Sep-2019 08:30:49 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000007.D				
Injection Date:	17-Sep-2019 15:01:51	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

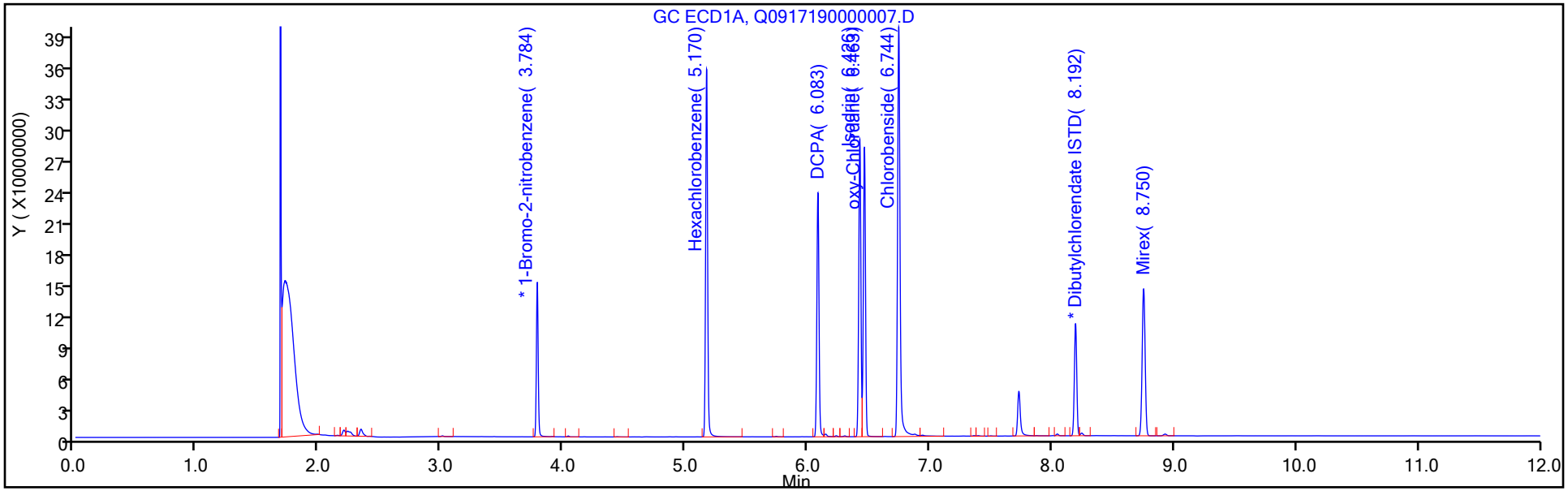

Column: MR-2 (0.53 mm)

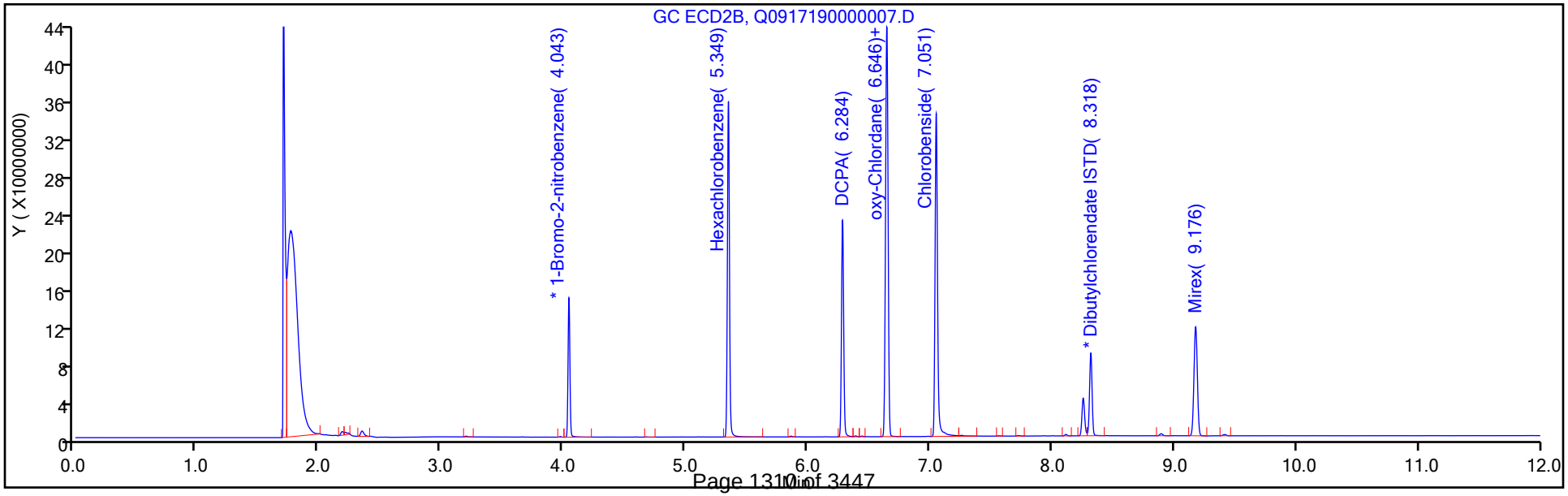

FORM VII
PESTICIDES PERFORMANCE EVALUATION MIXTURE (PEM)

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: PEM 180-295908/1 Calibration Date: 10/24/2019 11:21

Instrument ID: CHGC15 Calib Start Date: 07/02/2019 15:33

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 07/02/2019 16:50

Lab File ID: Q1024190000001.D Conc. Units: ng/uL

ANALYTE	RT	RESPONSE	BREAKDOWN (%)	LIMIT	#
Endrin	7.26	43853303	1.71	15	
Endrin aldehyde		0			
Endrin ketone	8.23	761109			

ANALYTE	RT	RESPONSE	BREAKDOWN (%)	LIMIT	#
4,4'-DDT	7.66	70101663	6.79	15	
4,4'-DDD	7.38	3567742			
4,4'-DDE	6.93	1540294			

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000001.D
Lims ID: PEM
Client ID:
Sample Type: PEM
Inject. Date: 24-Oct-2019 11:21:22 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029246-001
Operator ID: 402331 Instrument ID: CHGC15
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Oct-2019 10:53:20 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: eppinged Date: 24-Oct-2019 11:45:21

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.769	3.769	0.000	147250021H	0.1000	0.1000	
2	4.029	4.029	0.000	141744501H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.759	4.758	0.001	43350439H	0.0250	0.0213	
2	4.903	4.903	0.000	40712209H	0.0250	0.0213	
						RPD = 0.32	
23 4,4'-DDE							a
1	6.927	6.925	0.002	1037569H		0.000779	a
2	7.150	7.149	0.001	1017456H		0.000770	a
						RPD = 1.23	
27 Endrin							a
1	7.255	7.253	0.002	33197367H	0.0250	0.0302	a
2	7.596	7.595	0.001	30349002H	0.0250	0.0289	a
						RPD = 4.68	
29 4,4'-DDD							a
1	7.383	7.381	0.002	2039793H		0.001870	a
2	7.673	7.670	0.003	1944078H		0.001840	a
						RPD = 1.61	
32 Endrin aldehyde							
1		7.567				ND	
2		8.026					
33 4,4'-DDT							a
1	7.659	7.657	0.002	54427752H	0.0500	0.0631	a
2	7.916	7.915	0.001	50874504H	0.0500	0.0608	a
						RPD = 3.70	
* 44 Dibutylchlorendate ISTD							Ma
1	8.175	8.175	0.001	93438318H	0.1000	0.1000	M
2	8.297	8.296	0.001	80030010H	0.1000	0.1000	a

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
37 Endrin ketone							Ma
1	8.227	8.226	0.001	543961H		0.000560	M
2	8.869	8.870	-0.001	338818H		0.000403	M
						RPD = 32.58	
$ 39 DCB Decachlorobiphenyl (Surr)							a
1	9.936	9.935	0.001	16470583H	0.0250	0.0255	a
2	10.562	10.561	0.001	13987326H	0.0250	0.0248	a
						RPD = 2.81	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

GCPESTPEMSTD_00040	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 24-Oct-2019 12:56:56 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000001.D				
Injection Date:	24-Oct-2019 11:21:22	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	PEM			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

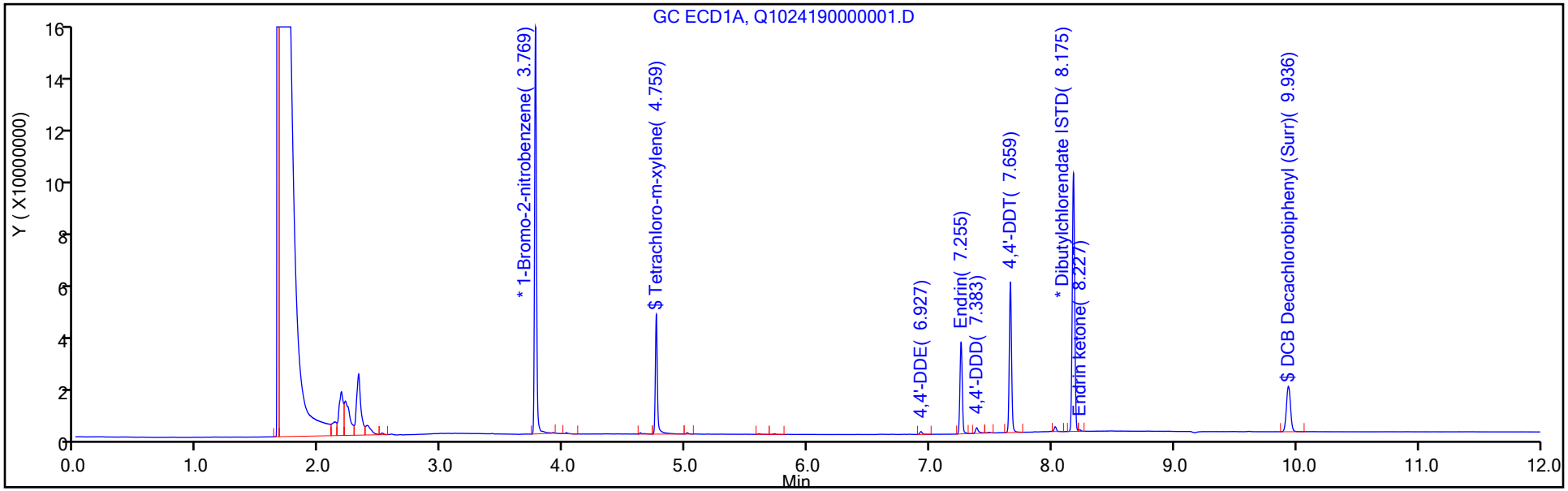

Column: MR-2 (0.53 mm)

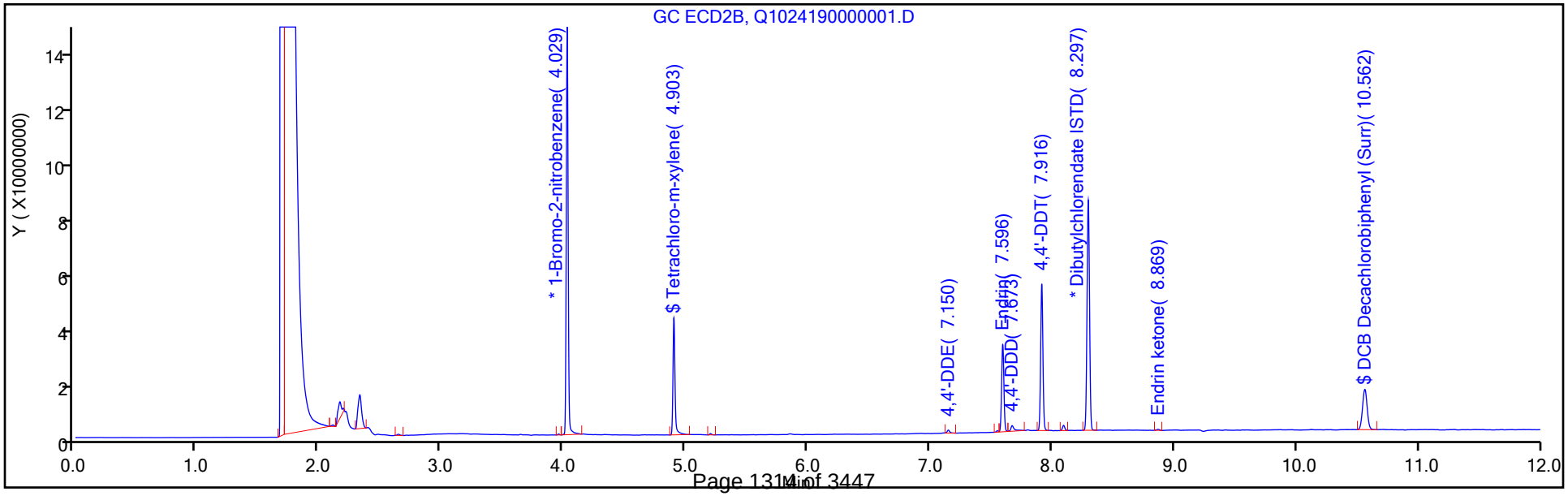

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000001.D				
Injection Date:	24-Oct-2019 11:21:22	Instrument ID:	CHGC15		
Lims ID:	PEM				
Client ID:					
Operator ID:	402331	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

23 4,4'-DDE, CAS: 72-55-9

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 6.92

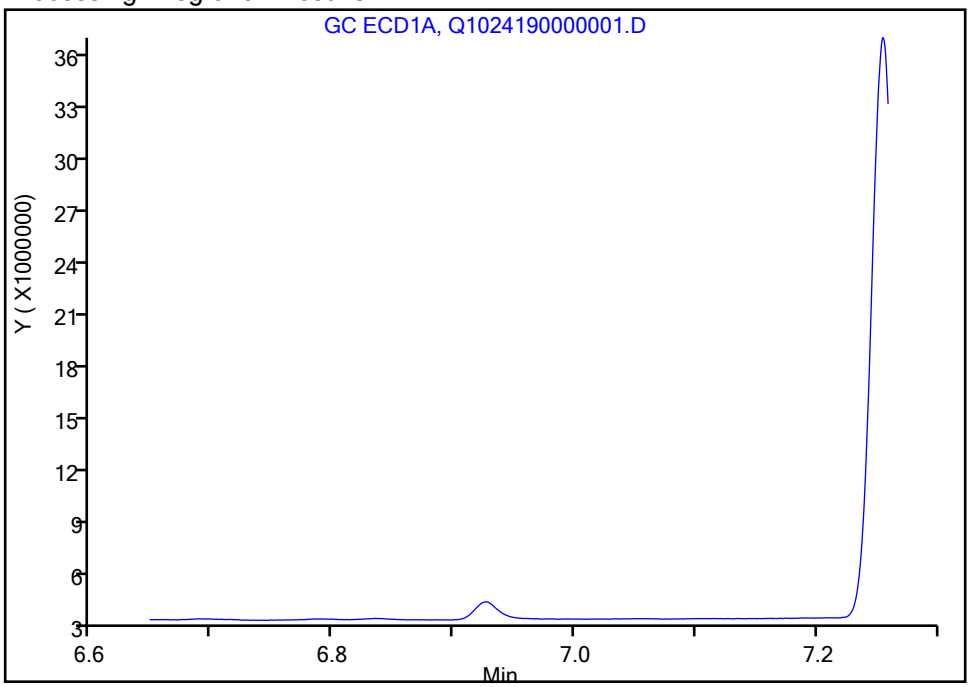

Manual Integration Results

RT: 6.93
Height: 1037569
Amount: 0.000779
Amount Units: ng

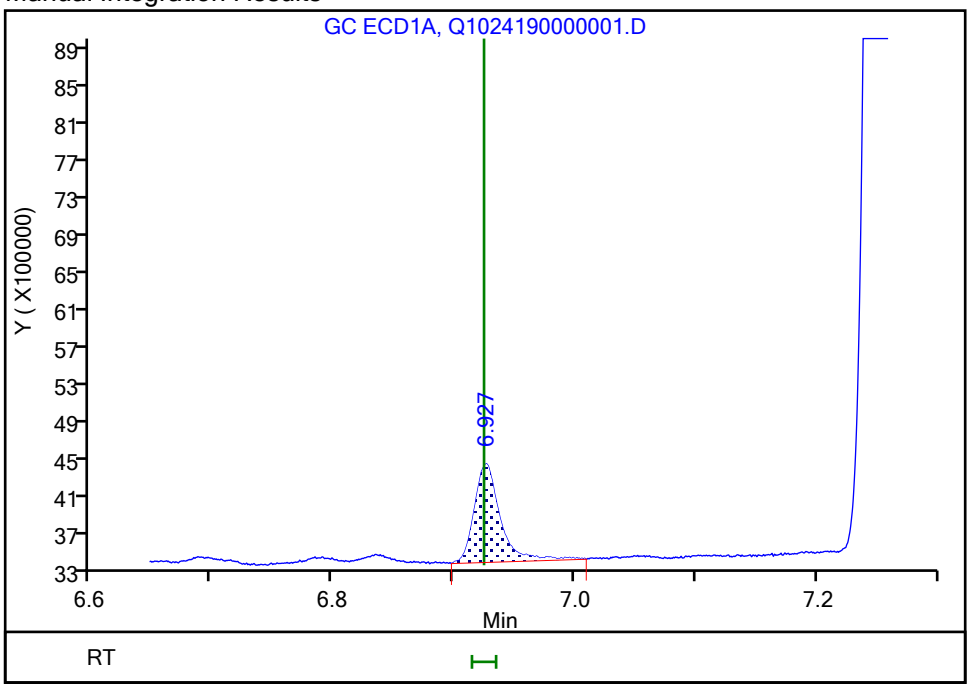

Reviewer: eppinged, 24-Oct-2019 11:38:33
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000001.D				
Injection Date:	24-Oct-2019 11:21:22	Instrument ID:	CHGC15		
Lims ID:	PEM				
Client ID:					
Operator ID:	402331	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

27 Endrin, CAS: 72-20-8

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 7.25

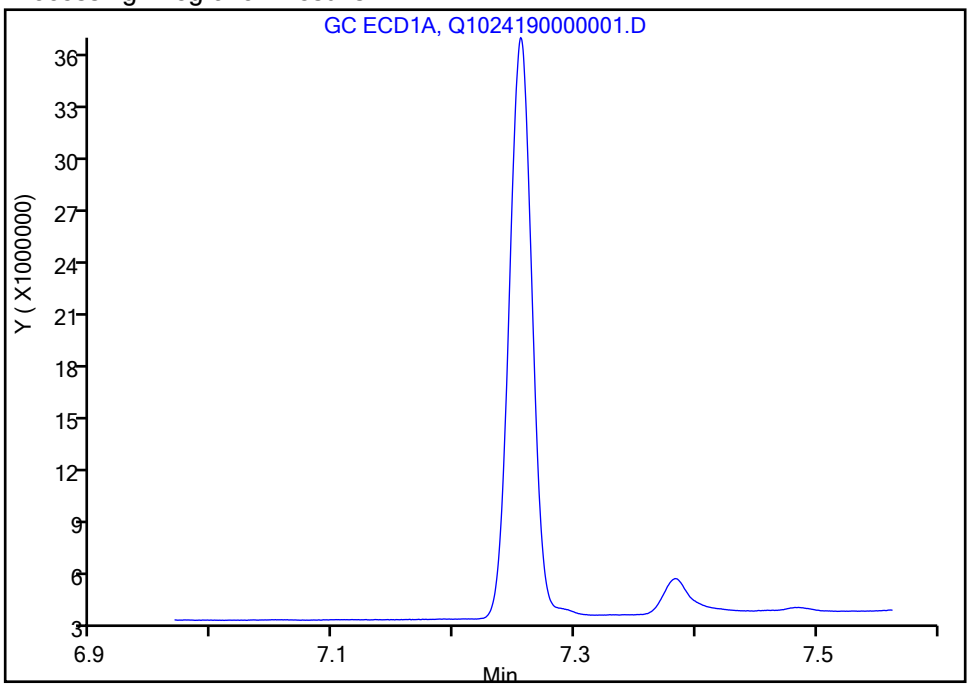

Manual Integration Results

RT: 7.26
Height: 33197367
Amount: 0.030248
Amount Units: ng

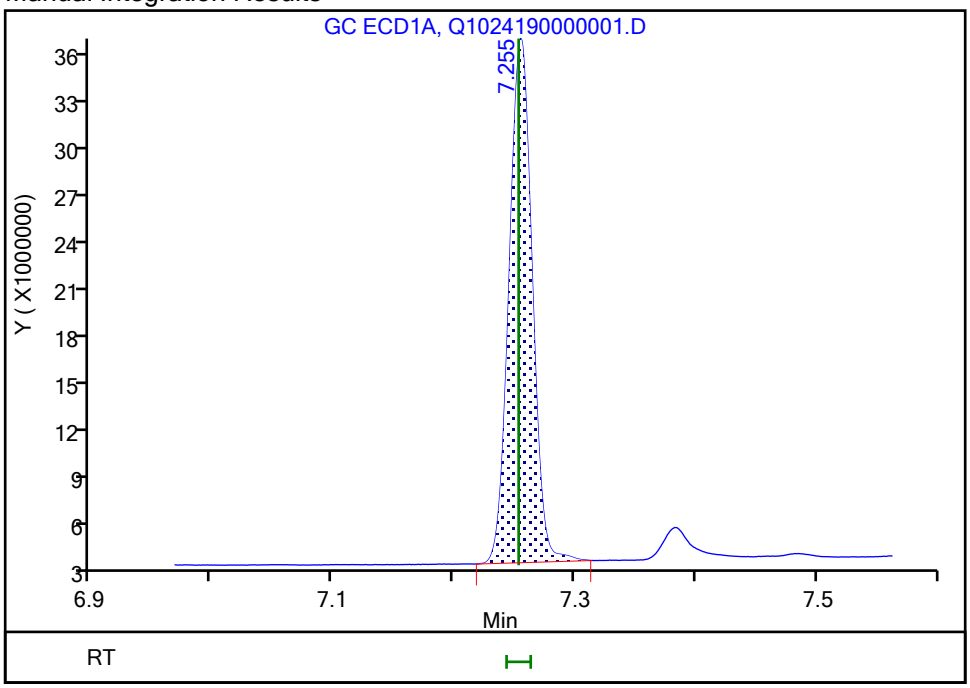

Reviewer: eppinged, 24-Oct-2019 11:38:06
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000001.D				
Injection Date:	24-Oct-2019 11:21:22	Instrument ID:	CHGC15		
Lims ID:	PEM				
Client ID:					
Operator ID:	402331	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

29 4,4'-DDD, CAS: 72-54-8

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 7.38

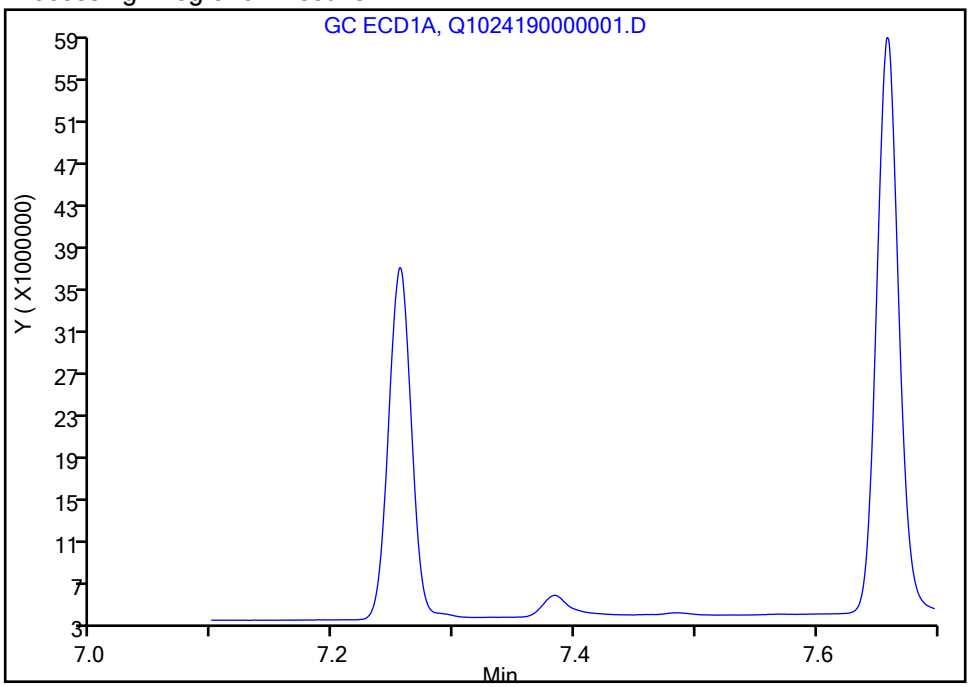

Manual Integration Results

RT: 7.38
Height: 2039793
Amount: 0.001870
Amount Units: ng

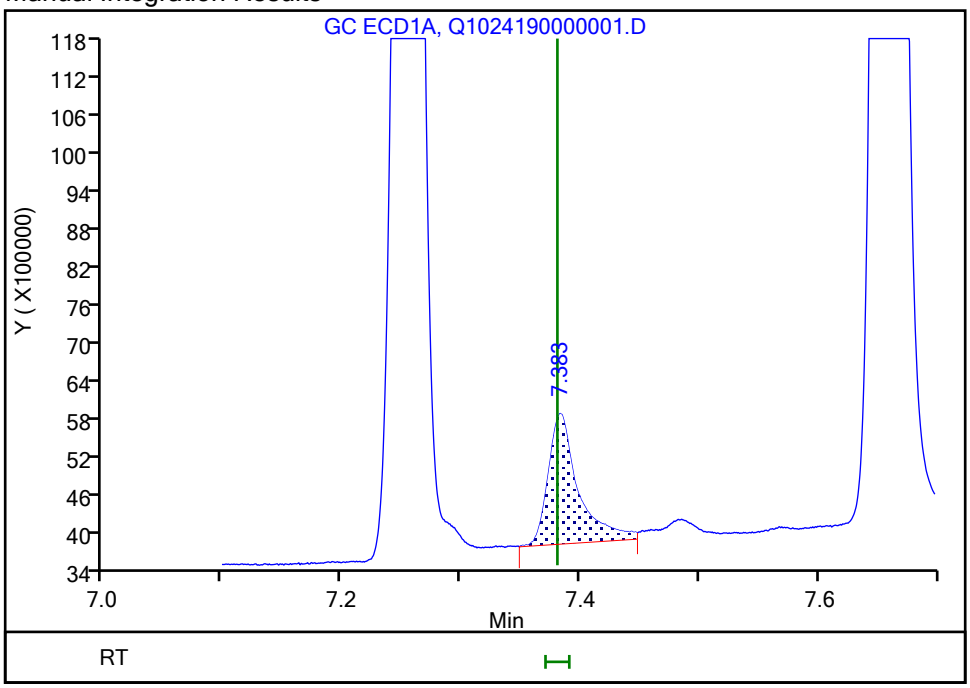

Reviewer: eppinged, 24-Oct-2019 11:38:47
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000001.D				
Injection Date:	24-Oct-2019 11:21:22	Instrument ID:	CHGC15		
Lims ID:	PEM				
Client ID:					
Operator ID:	402331	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

33 4,4'-DDT, CAS: 50-29-3

Signal: 1

Not Detected
Expected RT: 7.66

Processing Integration Results

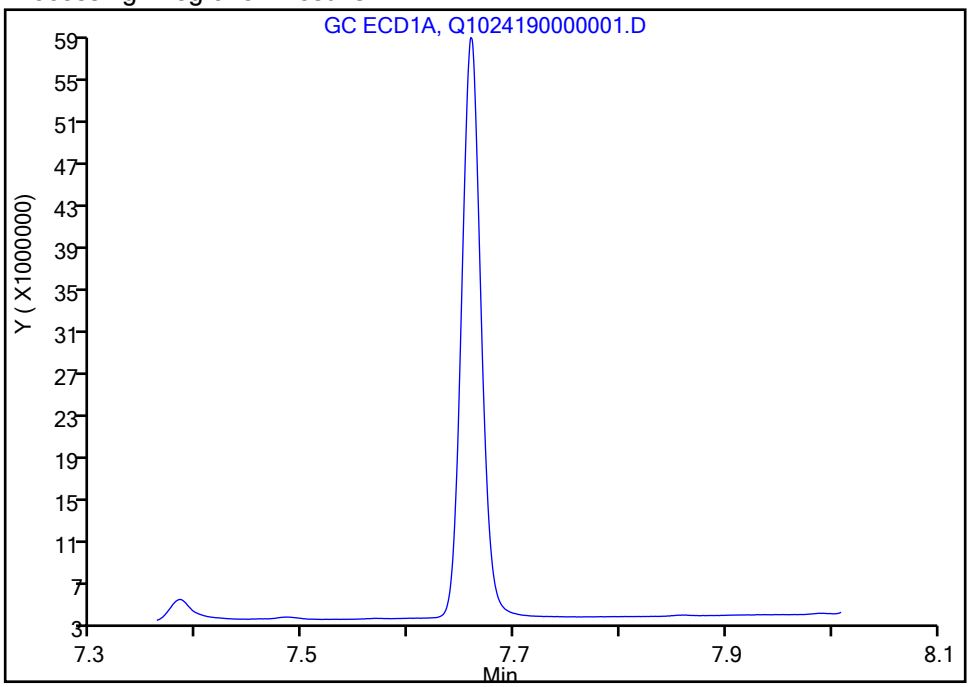

Manual Integration Results

RT: 7.66
Height: 54427752
Amount: 0.063083
Amount Units: ng

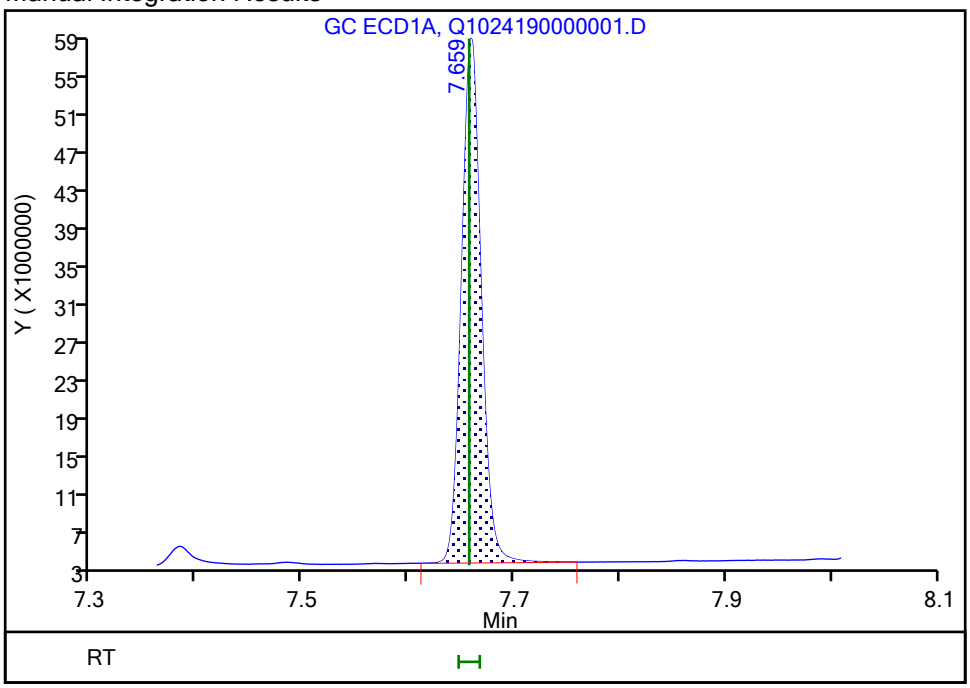

Reviewer: eppinged, 24-Oct-2019 11:38:19
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000001.D				
Injection Date:	24-Oct-2019 11:21:22	Instrument ID:	CHGC15		
Lims ID:	PEM				
Client ID:					
Operator ID:	402331	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

37 Endrin ketone, CAS: 53494-70-5

Signal: 1

Not Detected
Expected RT: 8.23

Processing Integration Results

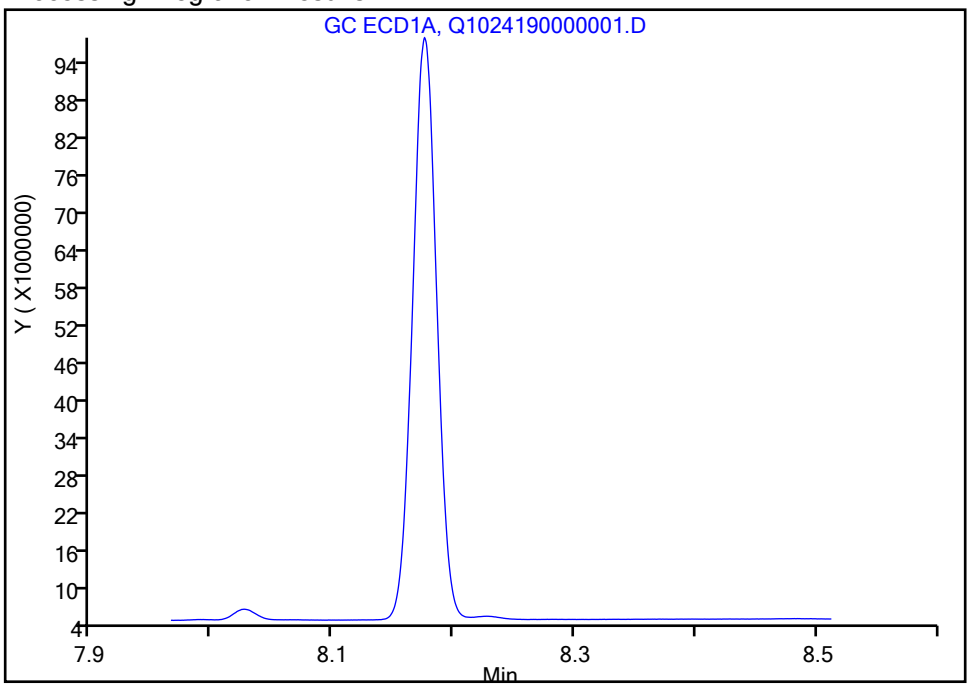

Manual Integration Results

RT: 8.23
Height: 543961
Amount: 0.000560
Amount Units: ng

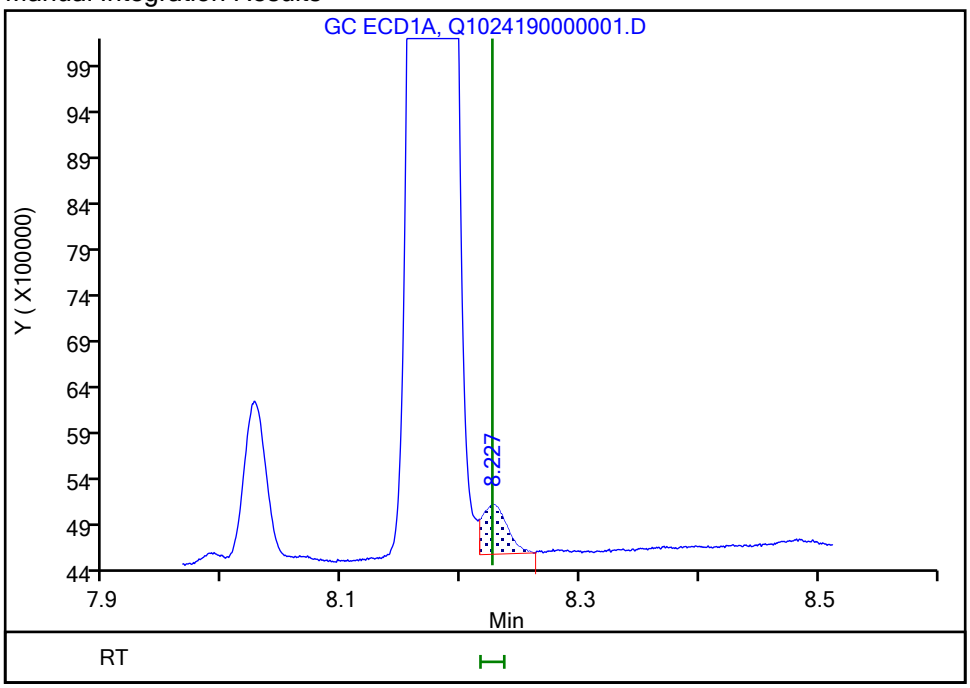

Reviewer: eppinged, 24-Oct-2019 11:39:19
Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000001.D				
Injection Date:	24-Oct-2019 11:21:22	Instrument ID:	CHGC15		
Lims ID:	PEM				
Client ID:					
Operator ID:	402331	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

$ 39 DCB Decachlorobiphenyl (Surr), CAS: 2051-24-3

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 9.94

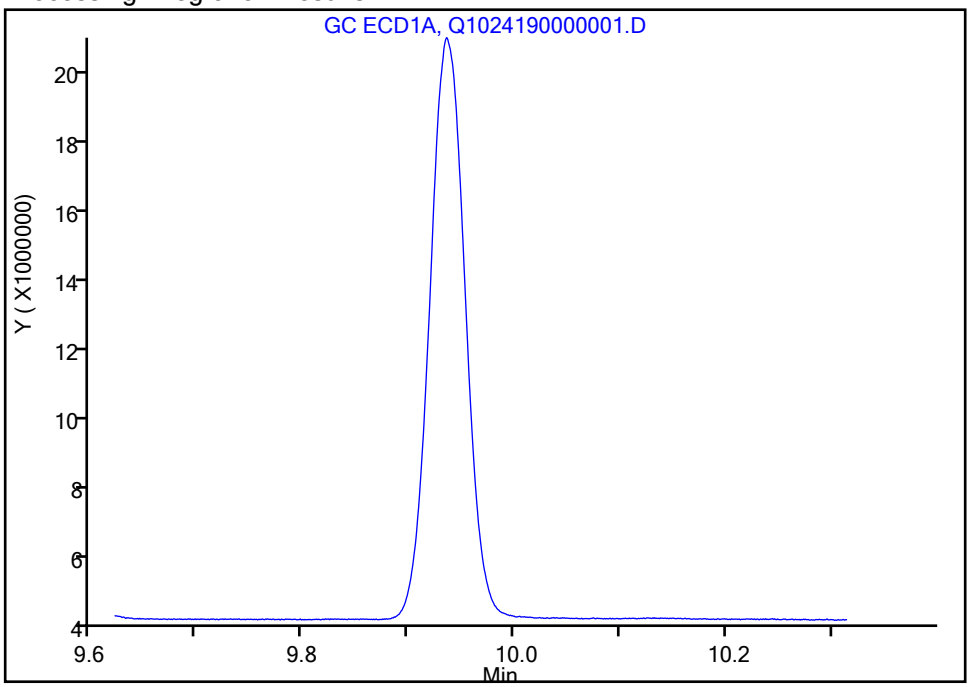

Manual Integration Results

RT: 9.94
Height: 16470583
Amount: 0.025482
Amount Units: ng

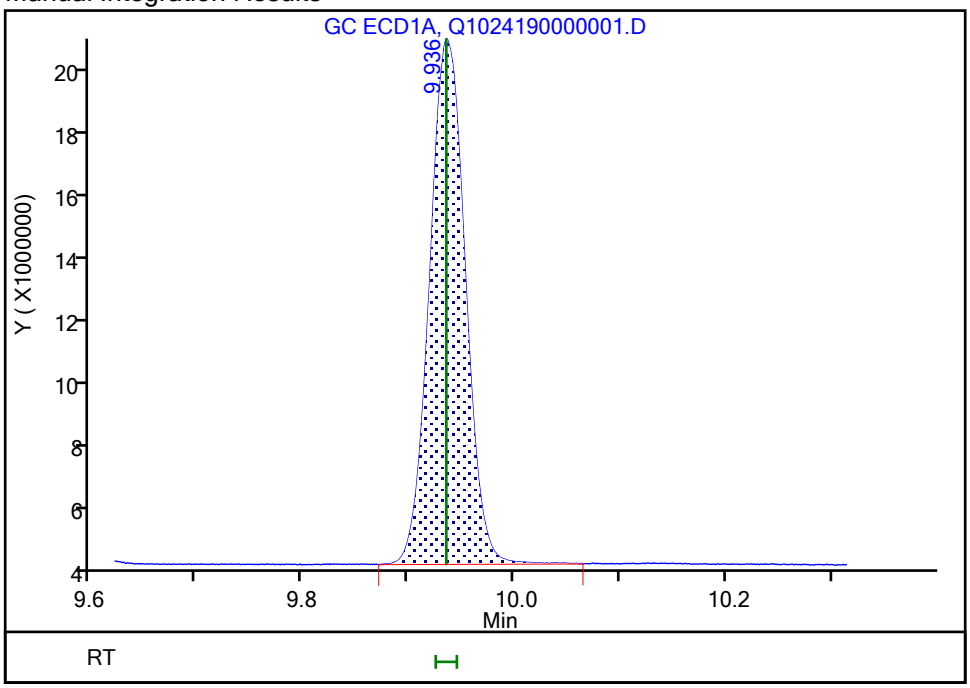

Reviewer: eppinged, 24-Oct-2019 11:37:54
Audit Action: Assigned Compound ID Audit Reason:

FORM VII
PESTICIDES PERFORMANCE EVALUATION MIXTURE (PEM)

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: PEM 180-295908/1 Calibration Date: 10/24/2019 11:21

Instrument ID: CHGC15 Calib Start Date: 07/02/2019 15:33

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 07/02/2019 16:50

Lab File ID: Q1024190000001.D Conc. Units: ng/uL

ANALYTE	RT	RESPONSE	BREAKDOWN (%)	LIMIT	#
Endrin	7.60	39972556	1.37	15	
Endrin aldehyde		0			
Endrin ketone	8.87	555544			

ANALYTE	RT	RESPONSE	BREAKDOWN (%)	LIMIT	#
4,4'-DDT	7.92	65341645	7.66	15	
4,4'-DDD	7.67	3972045			
4,4'-DDE	7.15	1450649			

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000001.D
Lims ID: PEM
Client ID:
Sample Type: PEM
Inject. Date: 24-Oct-2019 11:21:22 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029246-001
Operator ID: 402331 Instrument ID: CHGC15
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Oct-2019 10:53:20 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: eppinged Date: 24-Oct-2019 11:45:21

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.769	3.769	0.000	147250021H	0.1000	0.1000	
2	4.029	4.029	0.000	141744501H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.759	4.758	0.001	43350439H	0.0250	0.0213	
2	4.903	4.903	0.000	40712209H	0.0250	0.0213	
						RPD = 0.32	
23 4,4'-DDE							a
1	6.927	6.925	0.002	1037569H		0.000779	a
2	7.150	7.149	0.001	1017456H		0.000770	a
						RPD = 1.23	
27 Endrin							a
1	7.255	7.253	0.002	33197367H	0.0250	0.0302	a
2	7.596	7.595	0.001	30349002H	0.0250	0.0289	a
						RPD = 4.68	
29 4,4'-DDD							a
1	7.383	7.381	0.002	2039793H		0.001870	a
2	7.673	7.670	0.003	1944078H		0.001840	a
						RPD = 1.61	
32 Endrin aldehyde							
1		7.567				ND	
2		8.026					
33 4,4'-DDT							a
1	7.659	7.657	0.002	54427752H	0.0500	0.0631	a
2	7.916	7.915	0.001	50874504H	0.0500	0.0608	a
						RPD = 3.70	
* 44 Dibutylchlorendate ISTD							Ma
1	8.175	8.175	0.001	93438318H	0.1000	0.1000	M
2	8.297	8.296	0.001	80030010H	0.1000	0.1000	a

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
37 Endrin ketone							Ma
1	8.227	8.226	0.001	543961H		0.000560	M
2	8.869	8.870	-0.001	338818H		0.000403	M
						RPD = 32.58	
$ 39 DCB Decachlorobiphenyl (Surr)							a
1	9.936	9.935	0.001	16470583H	0.0250	0.0255	a
2	10.562	10.561	0.001	13987326H	0.0250	0.0248	a
						RPD = 2.81	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

GCPESTPEMSTD_00040	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 24-Oct-2019 12:56:57 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000001.D

Injection Date: 24-Oct-2019 11:21:22 Instrument ID: CHGC15 Operator ID: 402331

Lims ID: PEM Worklist Smp#: 1

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 1

Method: IS PEST_CHGC15 Limit Group: GCS 8081B ICAL with IS

Column: MR-1 (0.53 mm)

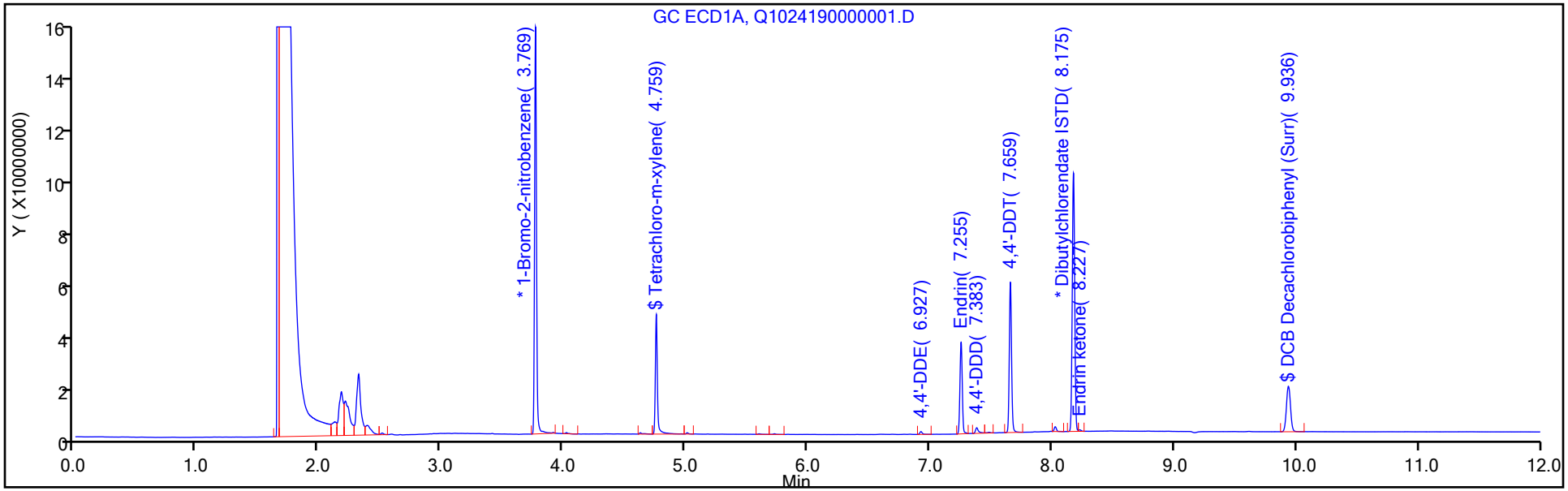

Column: MR-2 (0.53 mm)

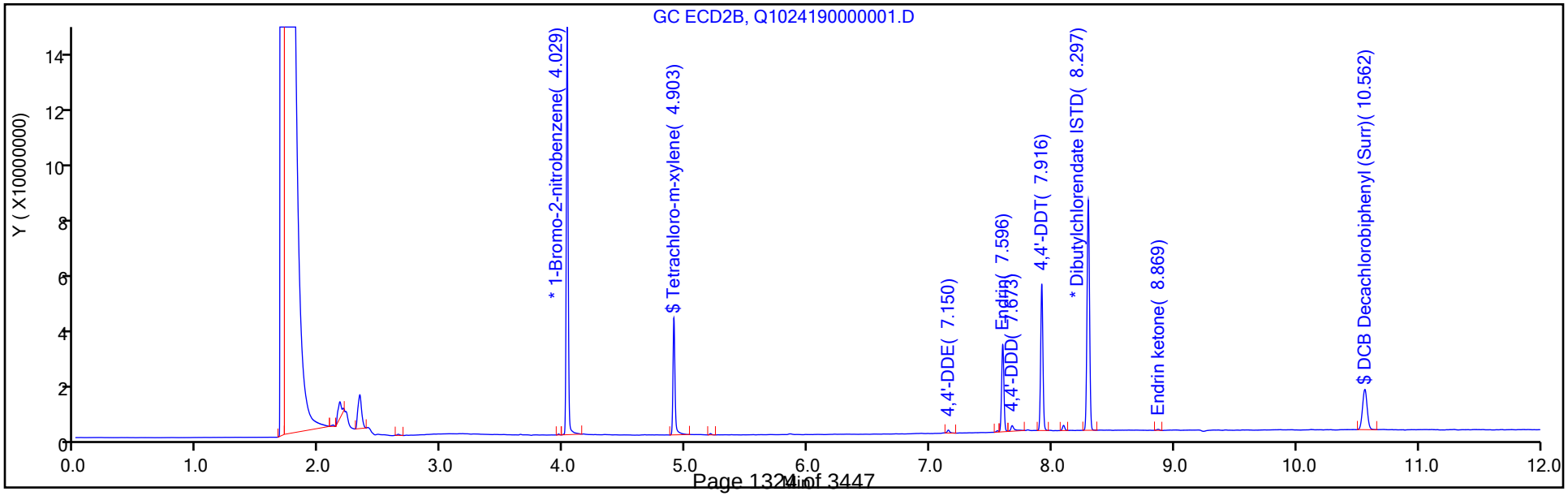

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000001.D				
Injection Date:	24-Oct-2019 11:21:22	Instrument ID:	CHGC15		
Lims ID:	PEM				
Client ID:					
Operator ID:	402331	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

23 4,4'-DDE, CAS: 72-55-9

Signal: 2

Not Detected
Expected RT: 7.15

Processing Integration Results

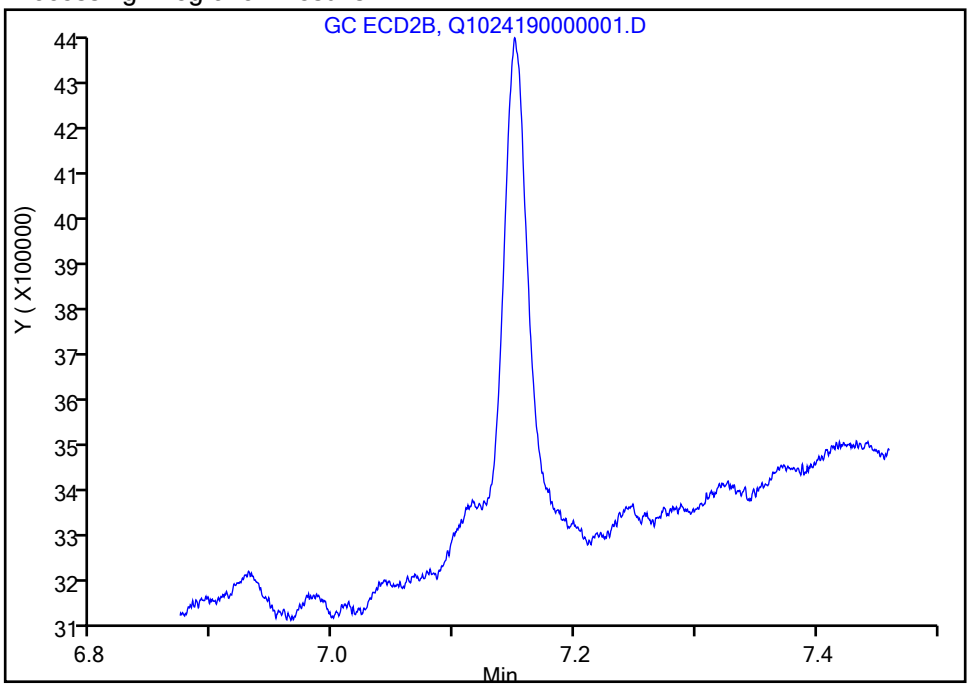

Manual Integration Results

RT: 7.15
Height: 1017456
Amount: 0.000770
Amount Units: ng

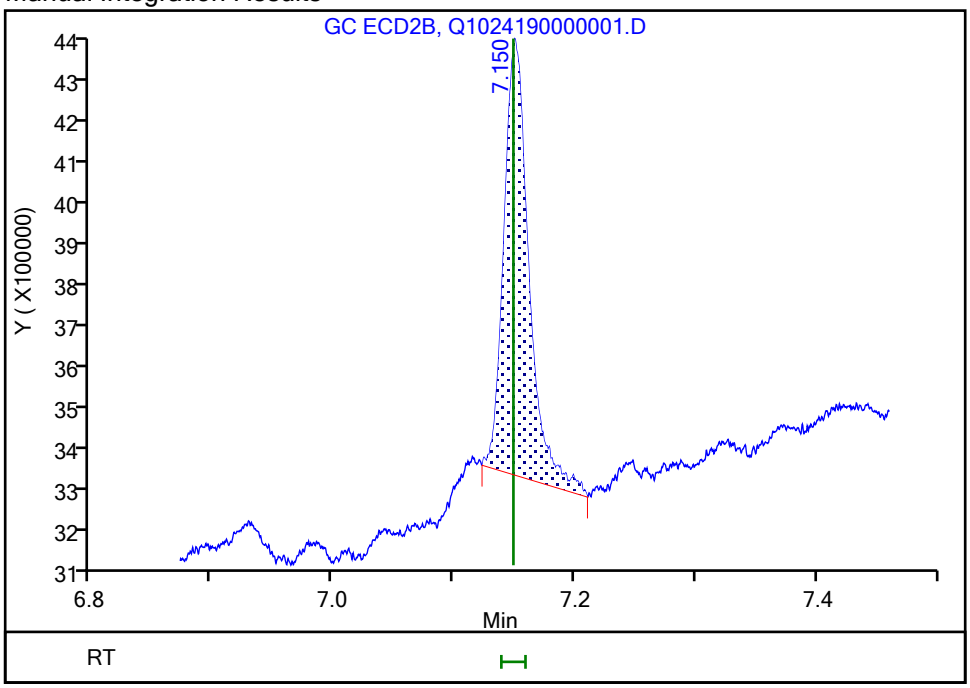

Reviewer: eppinged, 24-Oct-2019 11:38:40
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000001.D				
Injection Date:	24-Oct-2019 11:21:22	Instrument ID:	CHGC15		
Lims ID:	PEM				
Client ID:					
Operator ID:	402331	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

27 Endrin, CAS: 72-20-8

Signal: 2

Not Detected
Expected RT: 7.60

Processing Integration Results

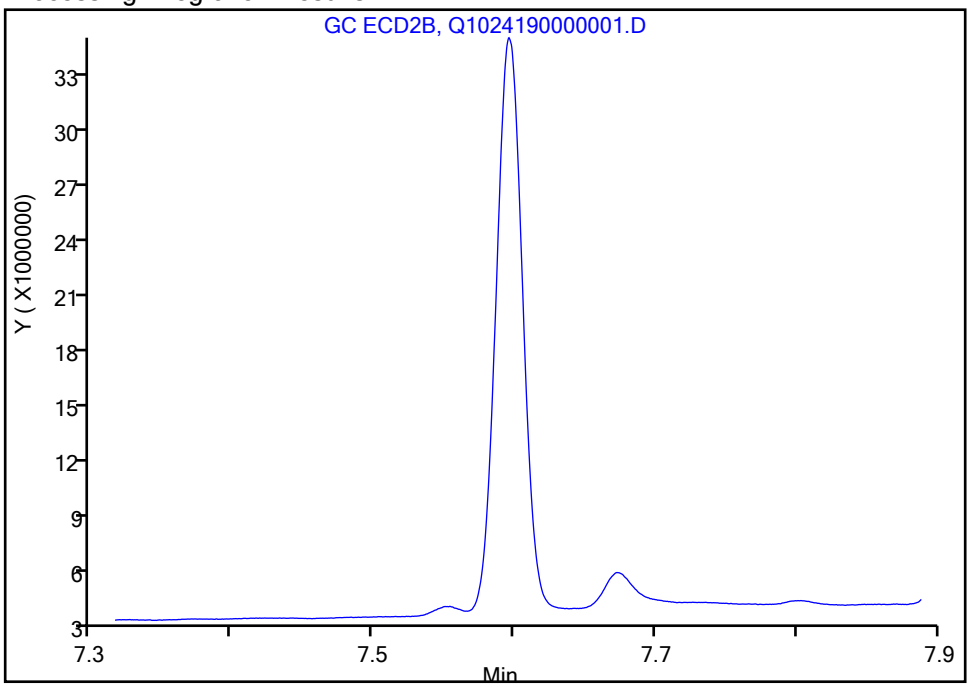

Manual Integration Results

RT: 7.60
Height: 30349002
Amount: 0.028865
Amount Units: ng

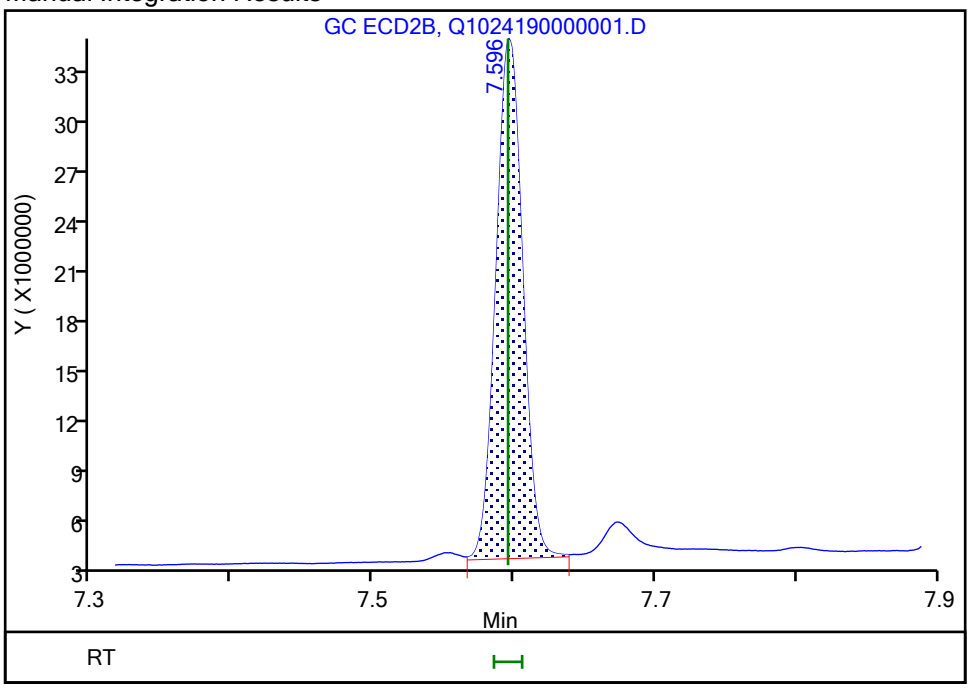

Reviewer: eppinged, 24-Oct-2019 11:38:12
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000001.D				
Injection Date:	24-Oct-2019 11:21:22	Instrument ID:	CHGC15		
Lims ID:	PEM				
Client ID:					
Operator ID:	402331	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

29 4,4'-DDD, CAS: 72-54-8

Signal: 2

Not Detected
Expected RT: 7.67

Processing Integration Results

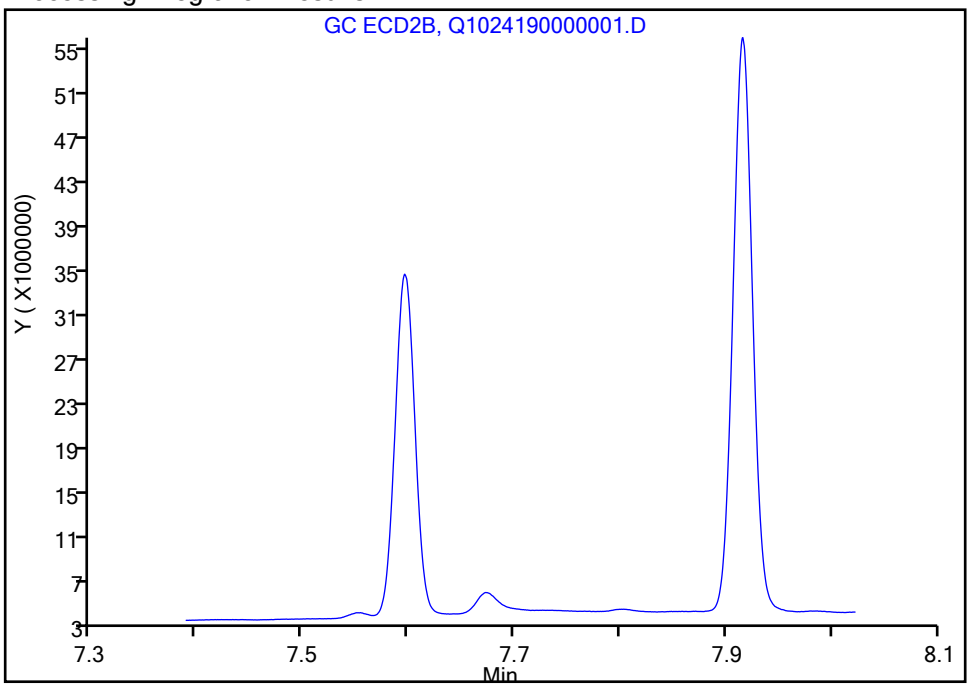

RT: 7.67
Height: 1944078
Amount: 0.001840
Amount Units: ng

Manual Integration Results

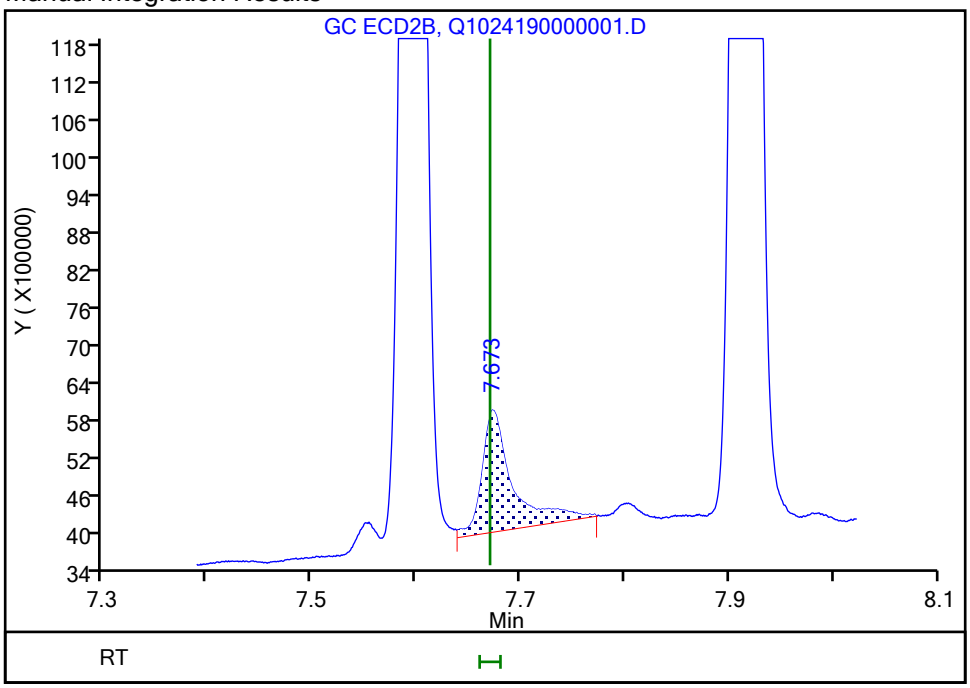

Reviewer: eppinged, 24-Oct-2019 11:38:53
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000001.D				
Injection Date:	24-Oct-2019 11:21:22	Instrument ID:	CHGC15		
Lims ID:	PEM				
Client ID:					
Operator ID:	402331	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

33 4,4'-DDT, CAS: 50-29-3

Signal: 2

Not Detected
Expected RT: 7.91

Processing Integration Results

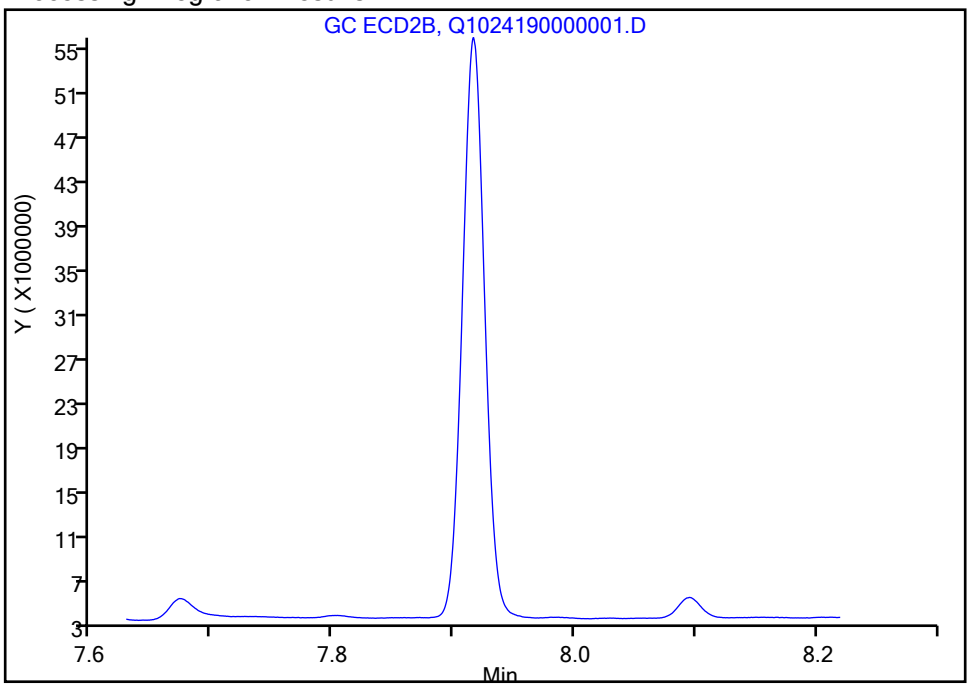

RT: 7.92
Height: 50874504
Amount: 0.060794
Amount Units: ng

Manual Integration Results

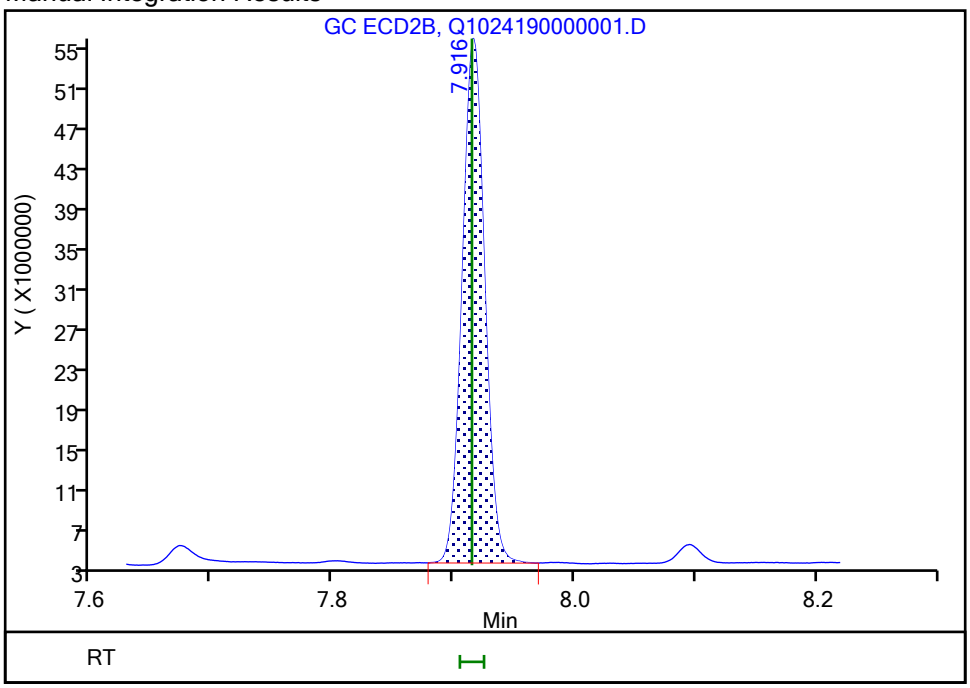

Reviewer: eppinged, 24-Oct-2019 11:38:26
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000001.D				
Injection Date:	24-Oct-2019 11:21:22	Instrument ID:	CHGC15		
Lims ID:	PEM				
Client ID:					
Operator ID:	402331	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

37 Endrin ketone, CAS: 53494-70-5

Signal: 2

Not Detected
Expected RT: 8.87

Processing Integration Results

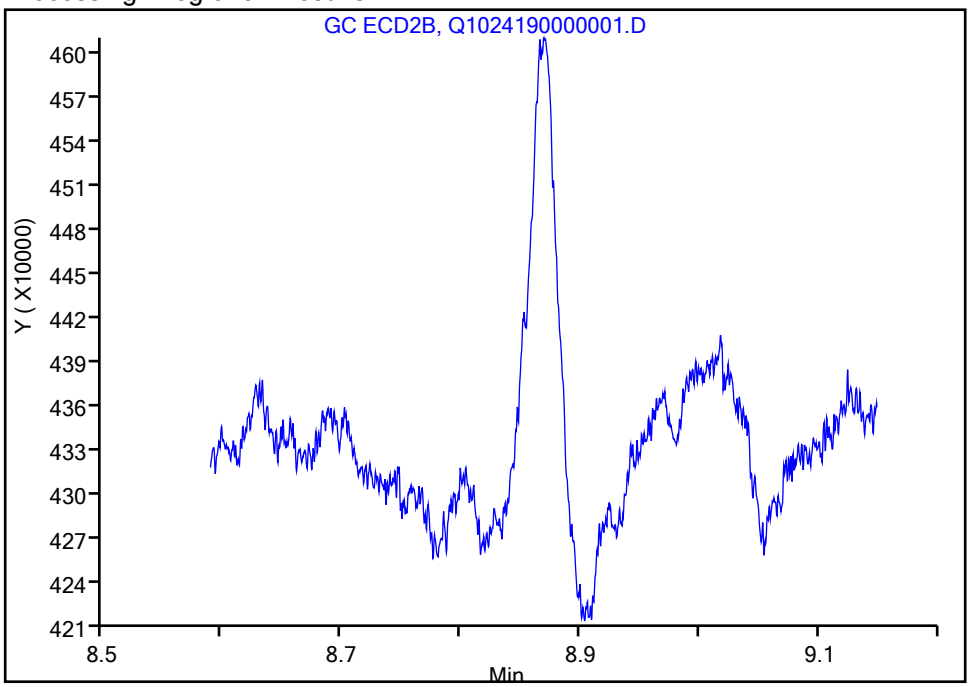

RT: 8.87
Height: 338818
Amount: 0.000403
Amount Units: ng

Manual Integration Results

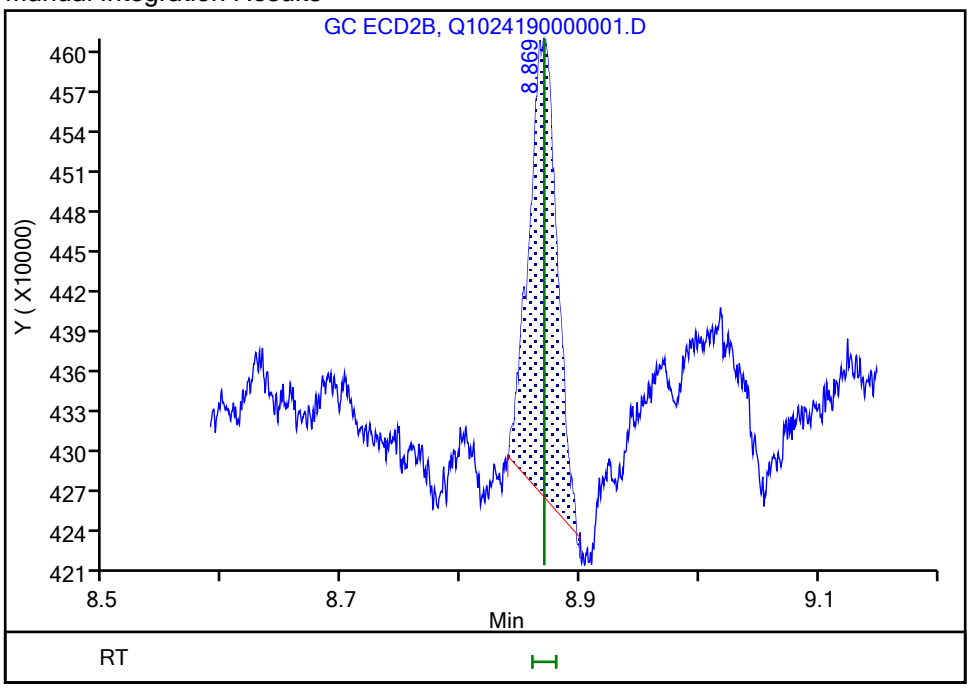

Reviewer: eppinged, 24-Oct-2019 11:39:41
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000001.D				
Injection Date:	24-Oct-2019 11:21:22	Instrument ID:	CHGC15		
Lims ID:	PEM				
Client ID:					
Operator ID:	402331	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

$ 39 DCB Decachlorobiphenyl (Surr), CAS: 2051-24-3

Signal: 2

Not Detected
Expected RT: 10.56

Processing Integration Results

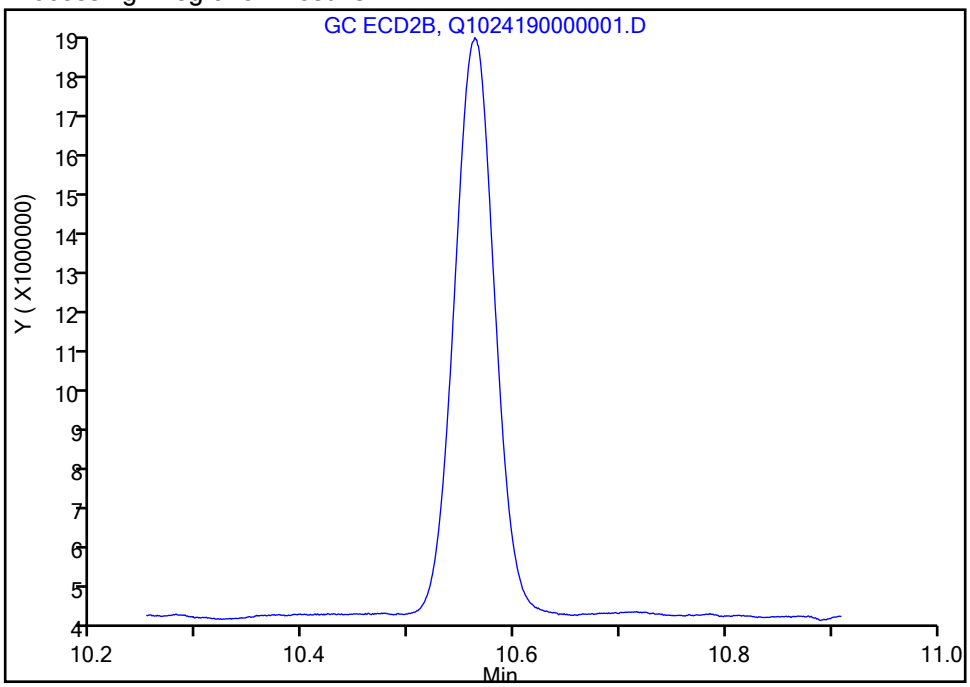

Manual Integration Results

RT: 10.56
Height: 13987326
Amount: 0.024775
Amount Units: ng

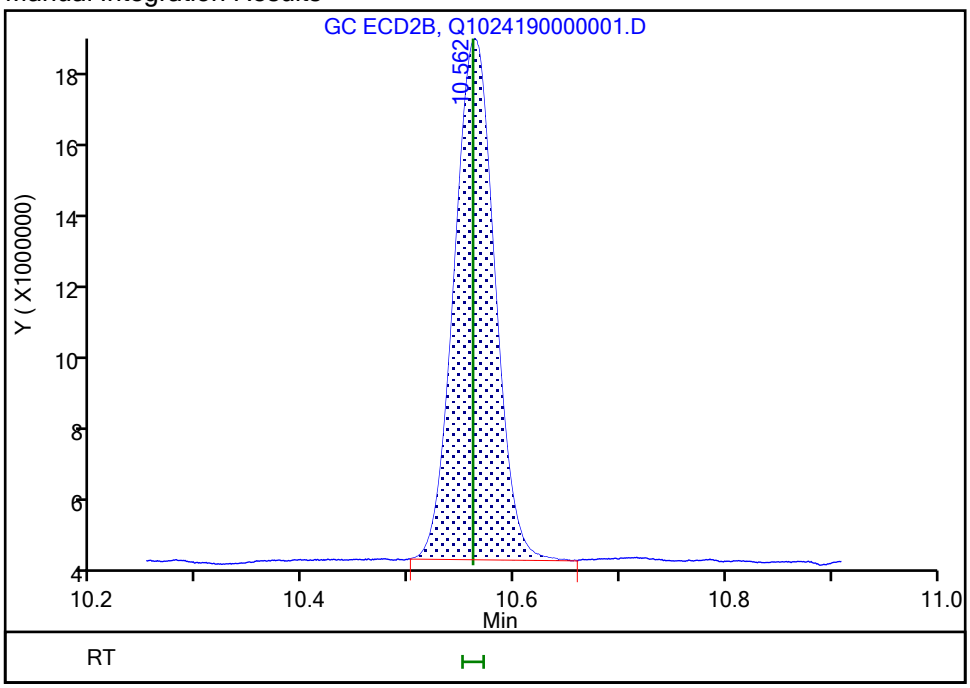

Reviewer: eppinged, 24-Oct-2019 11:37:59
Audit Action: Assigned Compound ID Audit Reason:

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 180-279115/30 Calibration Date: 05/18/2019 20:51

Instrument ID: CHGC15 Calib Start Date: 05/18/2019 12:14

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 05/18/2019 13:16

Lab File ID: Q0518190000030.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Toxaphene Peak 1	Ave	0.0135	0.0130		0.965	1.00	-3.5	20.0
Toxaphene Peak 2	Ave	0.0178	0.0180		1.01	1.00	1.2	20.0
Toxaphene Peak 3	Ave	0.0164	0.0160		0.973	1.00	-2.7	20.0
Toxaphene Peak 4	Ave	0.0151	0.0137		0.909	1.00	-9.1	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 180-279115/30 Calibration Date: 05/18/2019 20:51

Instrument ID: CHGC15 Calib Start Date: 05/18/2019 12:14

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 05/18/2019 13:16

Lab File ID: Q0518190000030.D

Analyte	RT	RT WINDOW	
		FROM	TO
Toxaphene Peak 1	7.01	7.04	7.06
Toxaphene Peak 2	7.28	7.31	7.33
Toxaphene Peak 3	7.66	7.69	7.71
Toxaphene Peak 4	7.90	7.93	7.95

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000030.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 18-May-2019 20:51:51 ALS Bottle#: 30 Worklist Smp#: 30
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026894-030
Operator ID: 402331 Instrument ID: CHGC15
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 20-May-2019 05:53:15 Calib Date: 18-May-2019 20:36:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0306

First Level Reviewer: eppinged Date: 20-May-2019 04:52:07

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.792	3.791	0.001	130953712H	0.1000	0.1000	
2	4.066	4.066	0.001	151667759H	0.1000	0.1000	
34 Toxaphene							Ma
1	7.010	7.049	-0.039	17029230H	1.00	0.9652	a
1	7.276	7.316	-0.040	23551723H	1.00	1.01	a
1	7.658	7.699	-0.041	20913607H	1.00	0.9727	a
1	7.900	7.941	-0.041	17996307H	1.00	0.9092	a
		Average of Peak Amounts =				0.9647	
2	7.241	7.262	-0.021	11556055H	1.00	1.02	M
2	7.372	7.392	-0.020	18500188H	1.00	1.01	M
2	7.875	7.895	-0.020	31142140H	1.00	1.04	M
2	8.607	8.632	-0.025	21490073H	1.00	1.02	M
		Average of Peak Amounts =				1.02	
					RPD =	5.74	
* 44 Dibutylchlorendate ISTD							sM
1	8.236	8.235	0.001	110821286H	0.1000	0.1000	
2	8.366	8.368	-0.001	110850739H	0.1000	0.1000	M

QC Flag Legend

Processing Flags
- s - Failed ISTD Recovery Test
- H - Response Measured by Height

Review Flags
- M - Manually Integrated
- a - User Assigned ID

Reagents:

GCTOXICV_00010	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 20-May-2019 05:53:22 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000030.D				
Injection Date:	18-May-2019 20:51:51	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	ICV			Worklist Smp#:	30
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	30
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

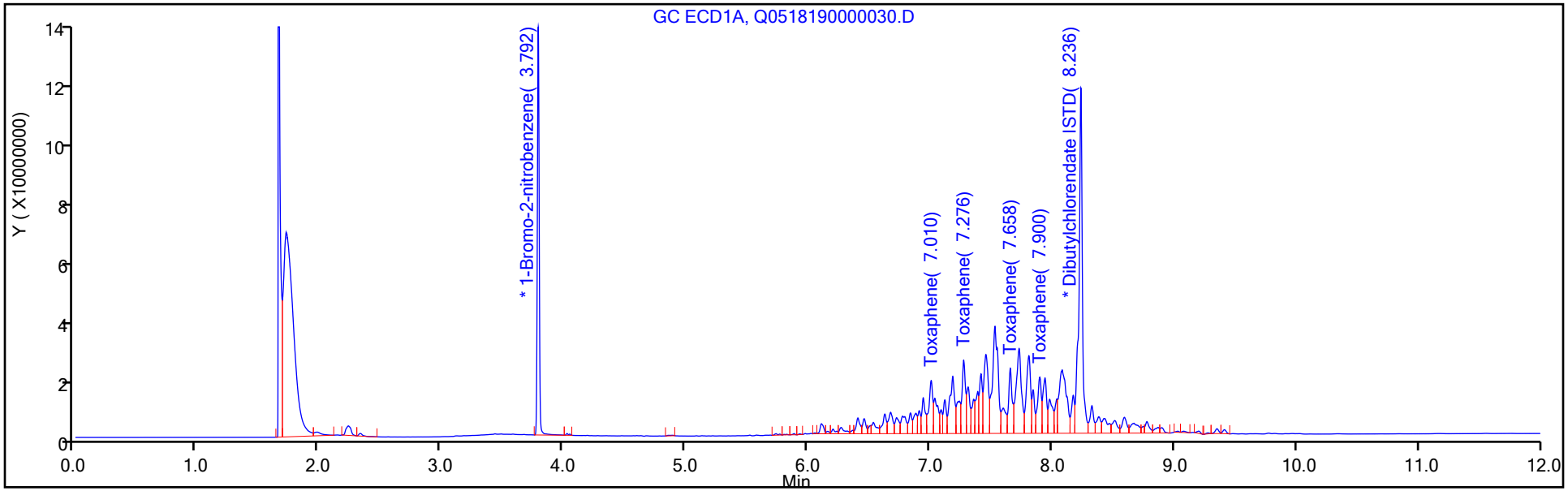

Column: MR-2 (0.53 mm)

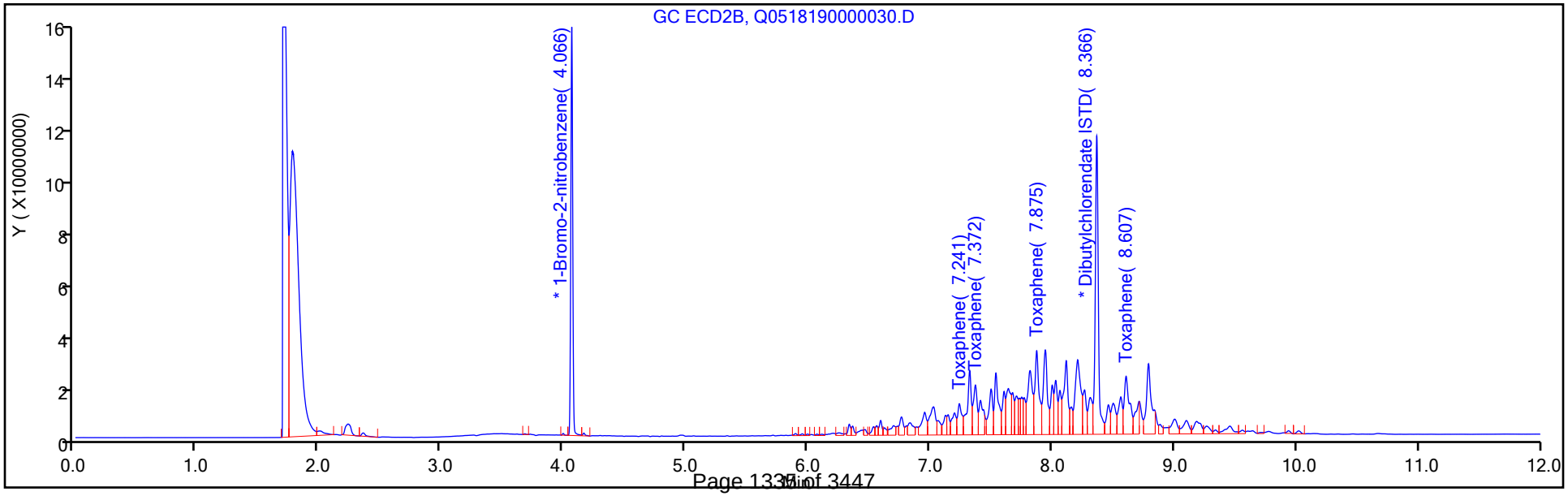

Report Date: 20-May-2019 05:53:22 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000030.D				
Injection Date:	18-May-2019 20:51:51	Instrument ID:	CHGC15		
Lims ID:	ICV				
Client ID:					
Operator ID:	402331	ALS Bottle#:	30	Worklist Smp#:	30
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

34 Toxaphene, CAS: 8001-35-2

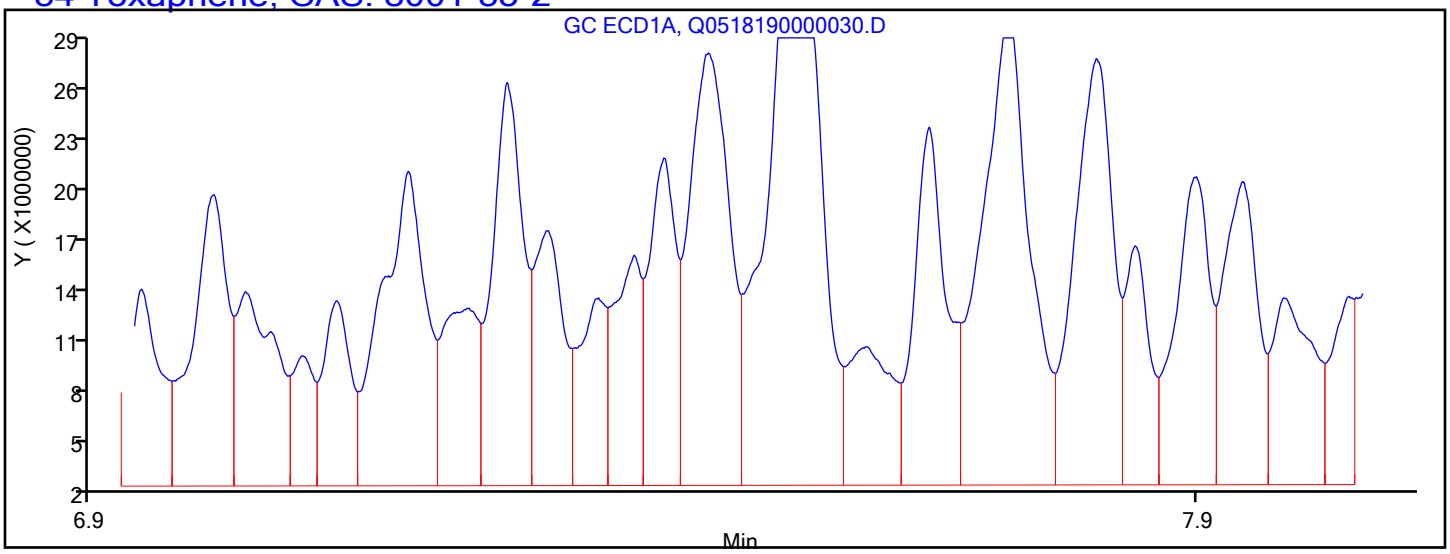

Processing Integration Results

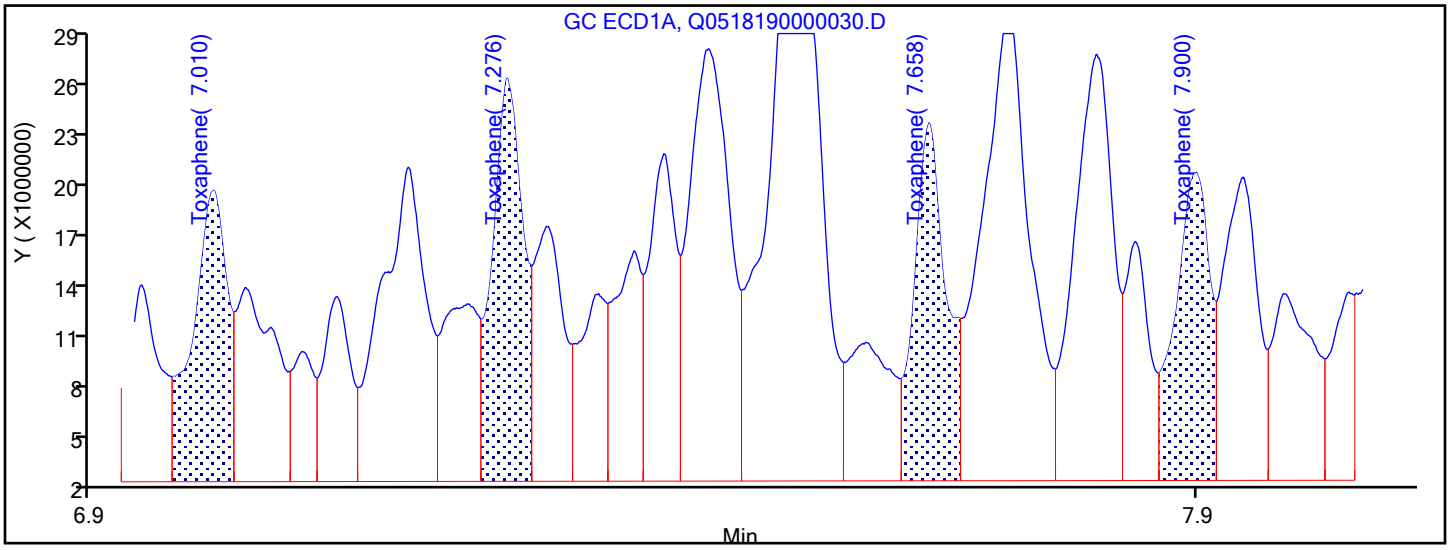

Manual Integration Results

7.010	Response = 17029230	M
7.276	Response = 23551723	M
7.658	Response = 20913607	M
7.900	Response = 17996307	M

Reviewer: eppinged, 20-May-2019 04:50:27

Audit Action: Assigned Compound ID Audit Reason: Baseline Smoothing

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 180-279115/30 Calibration Date: 05/18/2019 20:51

Instrument ID: CHGC15 Calib Start Date: 05/18/2019 12:14

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 05/18/2019 13:16

Lab File ID: Q0518190000030.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Toxaphene Peak 1	Ave	0.0075	0.0076		1.02	1.00	2.1	20.0
Toxaphene Peak 2	Ave	0.0121	0.0122		1.01	1.00	0.8	20.0
Toxaphene Peak 3	Lin1		0.0205		1.04	1.00	3.9	20.0
Toxaphene Peak 4	Ave	0.0139	0.0142		1.02	1.00	1.8	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 180-279115/30 Calibration Date: 05/18/2019 20:51

Instrument ID: CHGC15 Calib Start Date: 05/18/2019 12:14

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 05/18/2019 13:16

Lab File ID: Q0518190000030.D

Analyte	RT	RT WINDOW	
		FROM	TO
Toxaphene Peak 1	7.24	7.25	7.27
Toxaphene Peak 2	7.37	7.38	7.40
Toxaphene Peak 3	7.88	7.89	7.91
Toxaphene Peak 4	8.61	8.62	8.64

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000030.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 18-May-2019 20:51:51 ALS Bottle#: 30 Worklist Smp#: 30
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026894-030
Operator ID: 402331 Instrument ID: CHGC15
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 20-May-2019 05:53:15 Calib Date: 18-May-2019 20:36:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0306

First Level Reviewer: eppinged Date: 20-May-2019 04:52:07

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.792	3.791	0.001	130953712H	0.1000	0.1000	
2	4.066	4.066	0.001	151667759H	0.1000	0.1000	
34 Toxaphene							Ma
1	7.010	7.049	-0.039	17029230H	1.00	0.9652	a
1	7.276	7.316	-0.040	23551723H	1.00	1.01	a
1	7.658	7.699	-0.041	20913607H	1.00	0.9727	a
1	7.900	7.941	-0.041	17996307H	1.00	0.9092	a
		Average of Peak Amounts =				0.9647	
2	7.241	7.262	-0.021	11556055H	1.00	1.02	M
2	7.372	7.392	-0.020	18500188H	1.00	1.01	M
2	7.875	7.895	-0.020	31142140H	1.00	1.04	M
2	8.607	8.632	-0.025	21490073H	1.00	1.02	M
		Average of Peak Amounts =				1.02	
					RPD =	5.74	
* 44 Dibutylchlorendate ISTD							sM
1	8.236	8.235	0.001	110821286H	0.1000	0.1000	
2	8.366	8.368	-0.001	110850739H	0.1000	0.1000	M

QC Flag Legend

Processing Flags
- s - Failed ISTD Recovery Test
- H - Response Measured by Height

Review Flags
- M - Manually Integrated
- a - User Assigned ID

Reagents:

GCTOXICV_00010	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 20-May-2019 05:53:22 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000030.D				
Injection Date:	18-May-2019 20:51:51	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	ICV			Worklist Smp#:	30
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	30
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

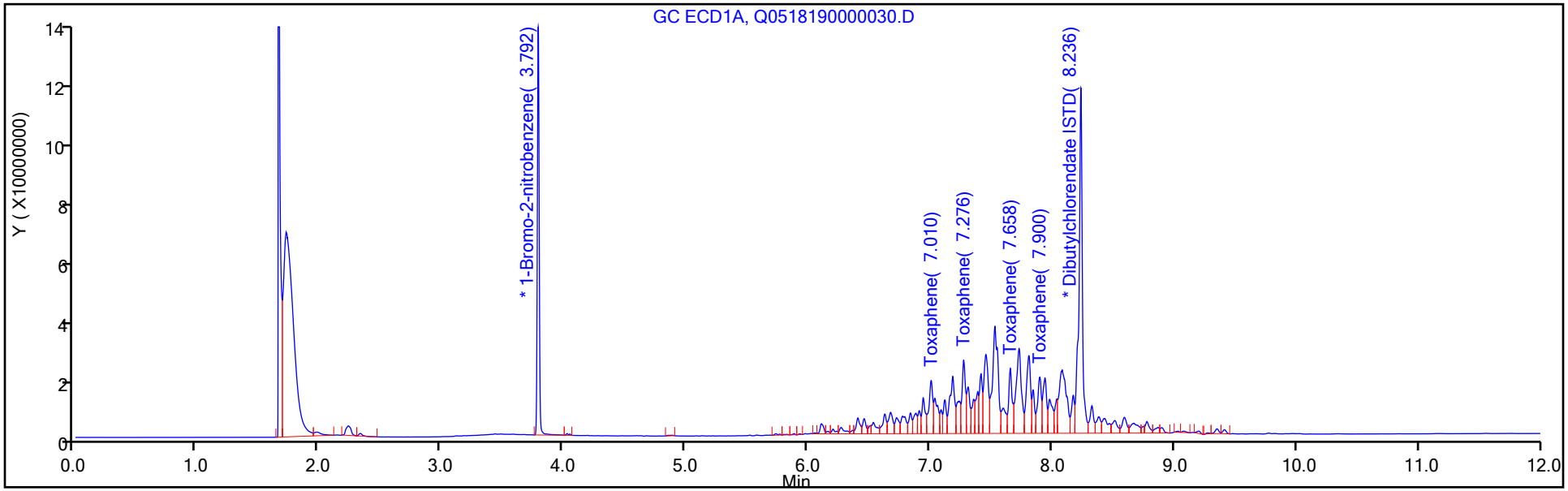

Column: MR-2 (0.53 mm)

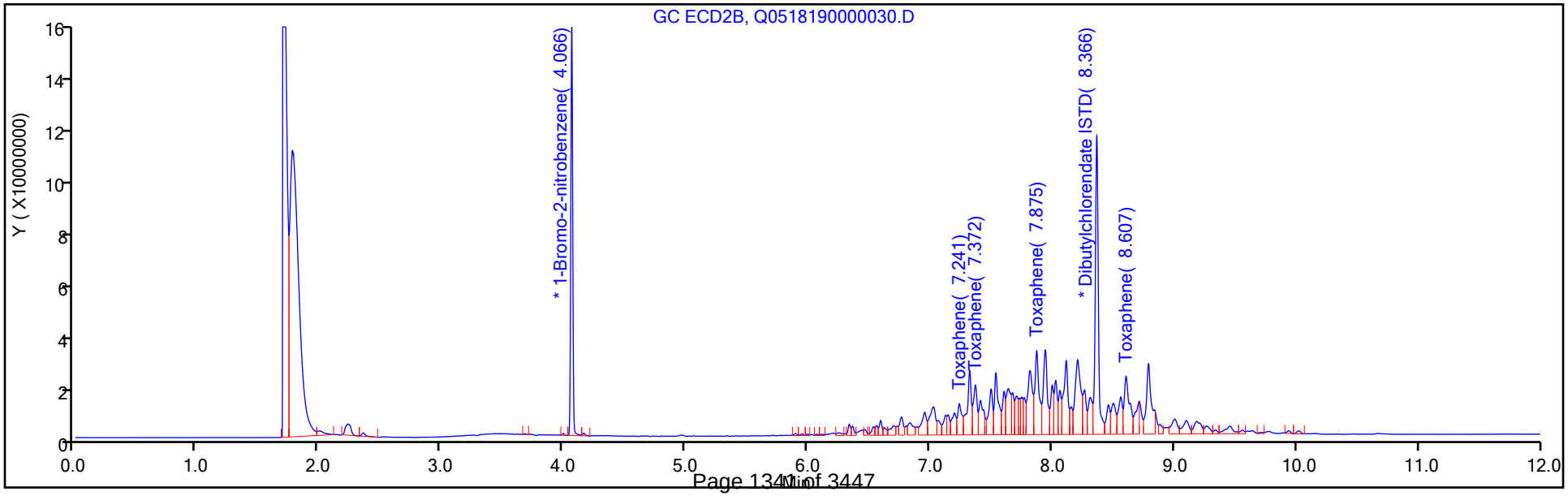

Report Date: 20-May-2019 05:53:23 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000030.D				
Injection Date:	18-May-2019 20:51:51	Instrument ID:	CHGC15		
Lims ID:	ICV				
Client ID:					
Operator ID:	402331	ALS Bottle#:	30	Worklist Smp#:	30
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

34 Toxaphene, CAS: 8001-35-2

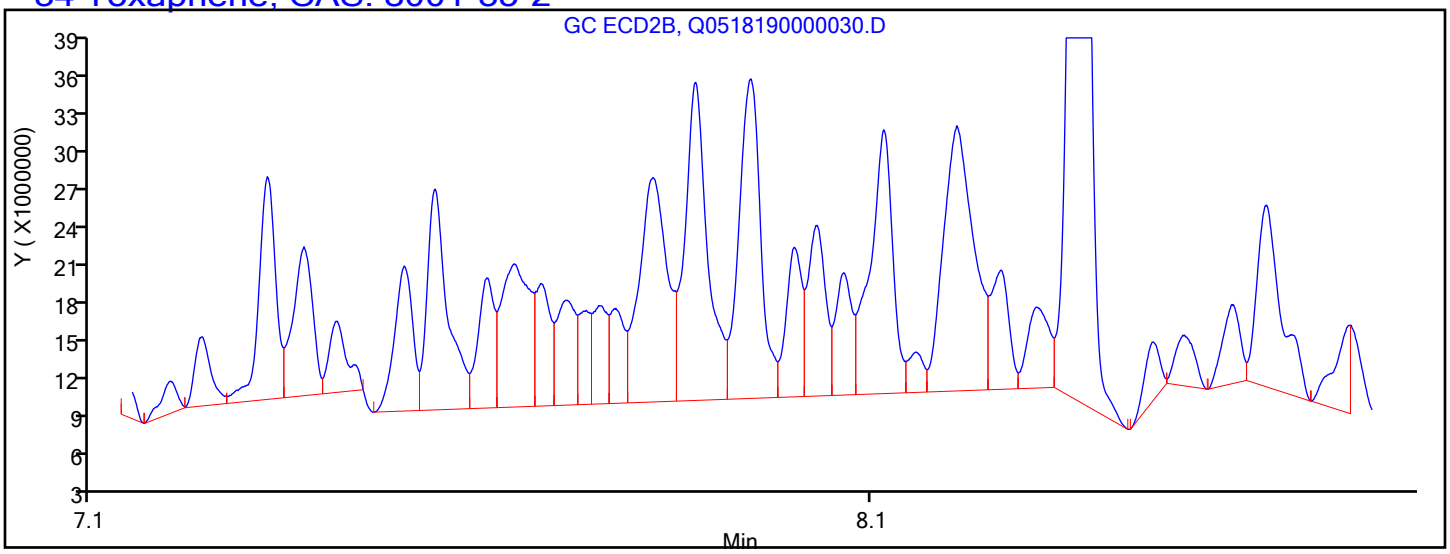

Processing Integration Results

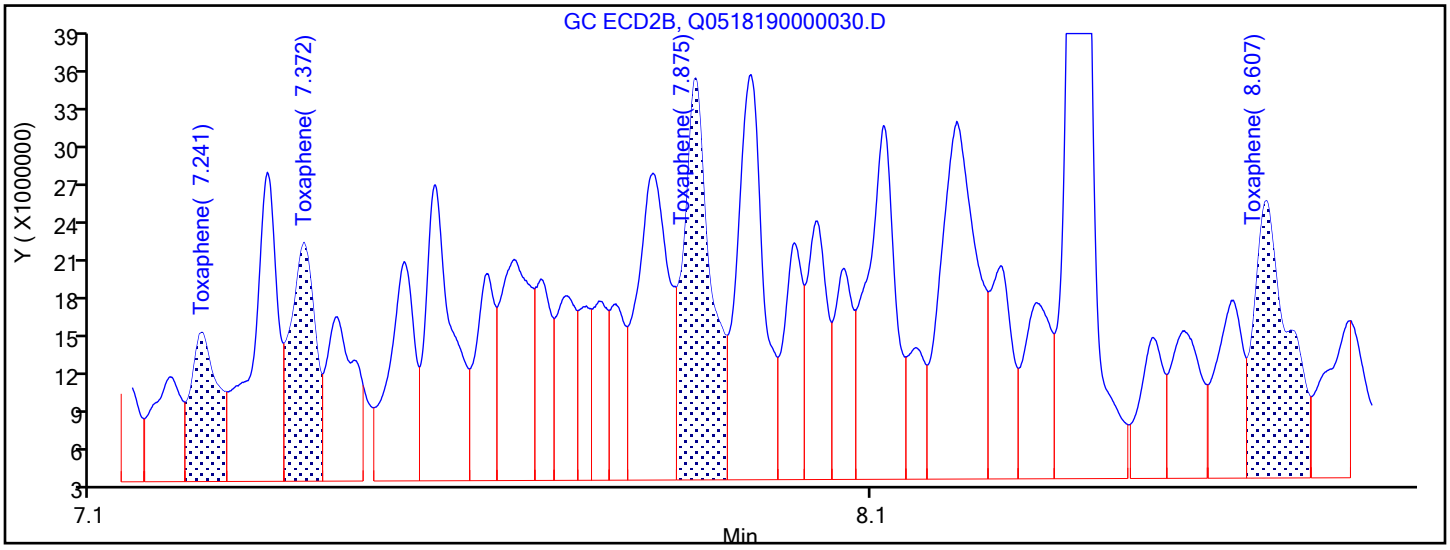

Manual Integration Results

7.241	Response = 11556055	M
7.372	Response = 18500188	M
7.875	Response = 31142140	M
8.607	Response = 21490073	M

Reviewer: eppinged, 20-May-2019 04:51:19

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 180-279115/31 Calibration Date: 05/18/2019 21:07

Instrument ID: CHGC15 Calib Start Date: 05/18/2019 14:56

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 05/18/2019 15:57

Lab File ID: Q0518190000031.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Chlordane (technical) Peak 1	Ave	0.0462	0.0406		0.220	0.250	-12.2	20.0
Chlordane (technical) Peak 2	Ave	0.0571	0.0477		0.209	0.250	-16.5	20.0
Chlordane (technical) Peak 3	Ave	0.1693	0.1563		0.231	0.250	-7.7	20.0
Chlordane (technical) Peak 4	Ave	0.1861	0.1681		0.226	0.250	-9.7	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 180-279115/31 Calibration Date: 05/18/2019 21:07

Instrument ID: CHGC15 Calib Start Date: 05/18/2019 14:56

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 05/18/2019 15:57

Lab File ID: Q0518190000031.D

Analyte	RT	RT WINDOW	
		FROM	TO
Chlordane (technical) Peak 1	5.72	5.71	5.73
Chlordane (technical) Peak 2	5.89	5.89	5.91
Chlordane (technical) Peak 3	6.75	6.74	6.76
Chlordane (technical) Peak 4	6.82	6.81	6.83

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000031.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 18-May-2019 21:07:25 ALS Bottle#: 31 Worklist Smp#: 31
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026894-031
Operator ID: 402331 Instrument ID: CHGC15
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 20-May-2019 05:53:15 Calib Date: 18-May-2019 20:36:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0306

First Level Reviewer: eppinged Date: 20-May-2019 04:52:22

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.791	3.791	0.000	139748475H	0.1000	0.1000	
2	4.065	4.066	0.000	158559934H	0.1000	0.1000	
9 Chlordane (technical)							
1	5.718	5.721	-0.003	14187123H	0.2500	0.2196	
1	5.892	5.895	-0.003	16661564H	0.2500	0.2088	
1	6.751	6.754	-0.003	54593931H	0.2500	0.2308	
1	6.821	6.824	-0.003	58738250H	0.2500	0.2258	
		Average of Peak Amounts =				0.2213	
2	6.053	6.054	-0.001	20802213H	0.2500	0.2907	
2	6.410	6.413	-0.003	12050812H	0.2500	0.2706	
2	7.021	7.023	-0.002	53081549H	0.2500	0.2715	
2	7.069	7.070	-0.001	33215856H	0.2500	0.2704	
		Average of Peak Amounts =				0.2758	
						RPD = 21.94	
* 44 Dibutylchlorendate ISTD							
1	8.236	8.235	0.001	101086870H	0.1000	0.1000	
2	8.368	8.368	0.000	100817785H	0.1000	0.1000	

Reagents:

GCCHLORICV_00011 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 20-May-2019 05:53:26 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000031.D				
Injection Date:	18-May-2019 21:07:25	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	ICV			Worklist Smp#:	31
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	31
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

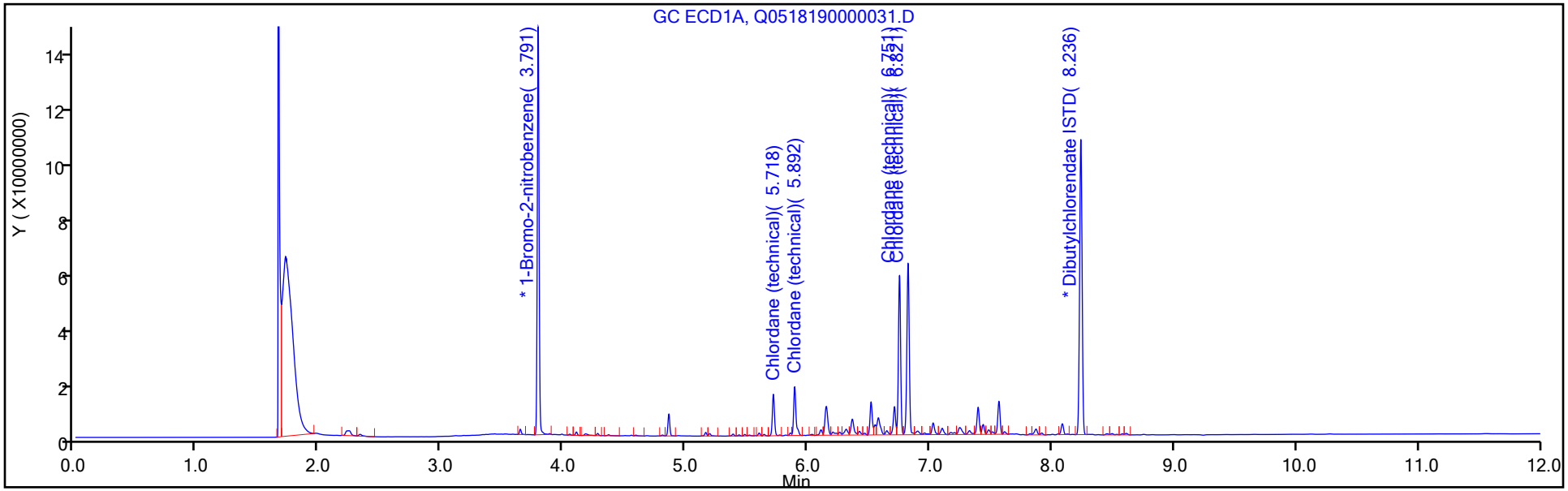

Column: MR-2 (0.53 mm)

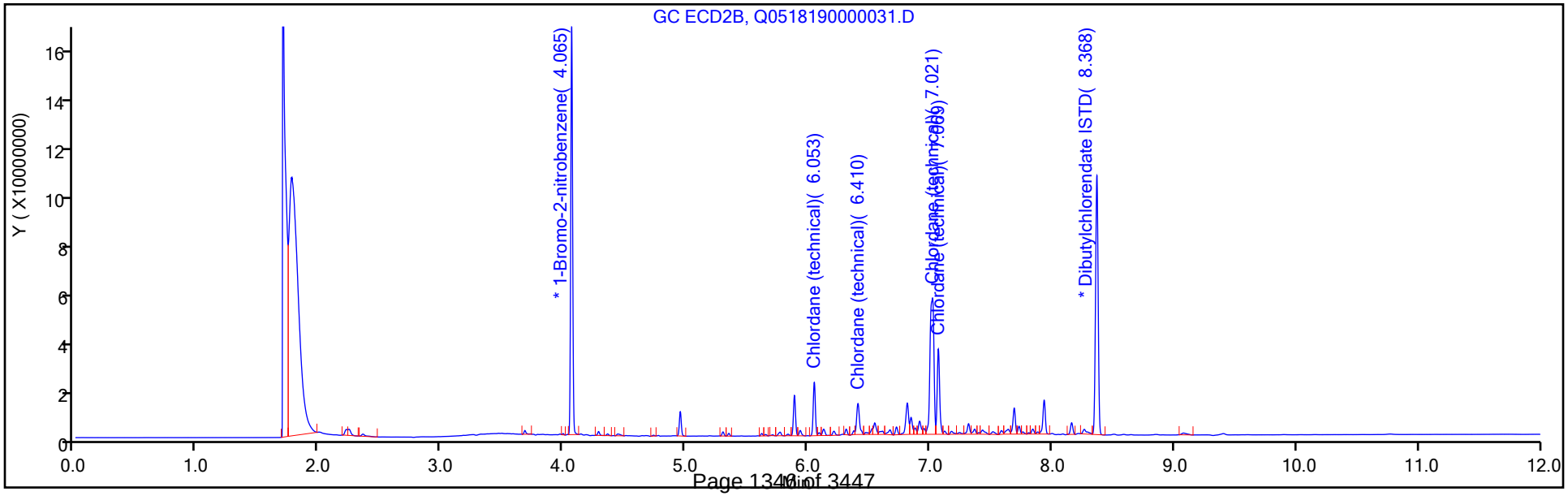

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 180-279115/31 Calibration Date: 05/18/2019 21:07

Instrument ID: CHGC15 Calib Start Date: 05/18/2019 14:56

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 05/18/2019 15:57

Lab File ID: Q0518190000031.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Chlordane (technical) Peak 1	Lin1		0.0525		0.291	0.250	16.3	20.0
Chlordane (technical) Peak 2	Lin1		0.0304		0.271	0.250	8.2	20.0
Chlordane (technical) Peak 3	Lin1		0.1339		0.272	0.250	8.6	20.0
Chlordane (technical) Peak 4	Lin1		0.0838		0.270	0.250	8.2	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 180-279115/31 Calibration Date: 05/18/2019 21:07

Instrument ID: CHGC15 Calib Start Date: 05/18/2019 14:56

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 05/18/2019 15:57

Lab File ID: Q0518190000031.D

Analyte	RT	RT WINDOW	
		FROM	TO
Chlordane (technical) Peak 1	6.05	6.04	6.06
Chlordane (technical) Peak 2	6.41	6.40	6.42
Chlordane (technical) Peak 3	7.02	7.01	7.03
Chlordane (technical) Peak 4	7.07	7.06	7.08

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000031.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 18-May-2019 21:07:25 ALS Bottle#: 31 Worklist Smp#: 31
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026894-031
Operator ID: 402331 Instrument ID: CHGC15
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 20-May-2019 05:53:15 Calib Date: 18-May-2019 20:36:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0306

First Level Reviewer: eppinged Date: 20-May-2019 04:52:22

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.791	3.791	0.000	139748475H	0.1000	0.1000	
2	4.065	4.066	0.000	158559934H	0.1000	0.1000	
9 Chlordane (technical)							
1	5.718	5.721	-0.003	14187123H	0.2500	0.2196	
1	5.892	5.895	-0.003	16661564H	0.2500	0.2088	
1	6.751	6.754	-0.003	54593931H	0.2500	0.2308	
1	6.821	6.824	-0.003	58738250H	0.2500	0.2258	
		Average of Peak Amounts =				0.2213	
2	6.053	6.054	-0.001	20802213H	0.2500	0.2907	
2	6.410	6.413	-0.003	12050812H	0.2500	0.2706	
2	7.021	7.023	-0.002	53081549H	0.2500	0.2715	
2	7.069	7.070	-0.001	33215856H	0.2500	0.2704	
		Average of Peak Amounts =				0.2758	
						RPD = 21.94	
* 44 Dibutylchlorendate ISTD							
1	8.236	8.235	0.001	101086870H	0.1000	0.1000	
2	8.368	8.368	0.000	100817785H	0.1000	0.1000	

Reagents:

GCCHLORICV_00011 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 20-May-2019 05:53:26 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000031.D				
Injection Date:	18-May-2019 21:07:25	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	ICV			Worklist Smp#:	31
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	31
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

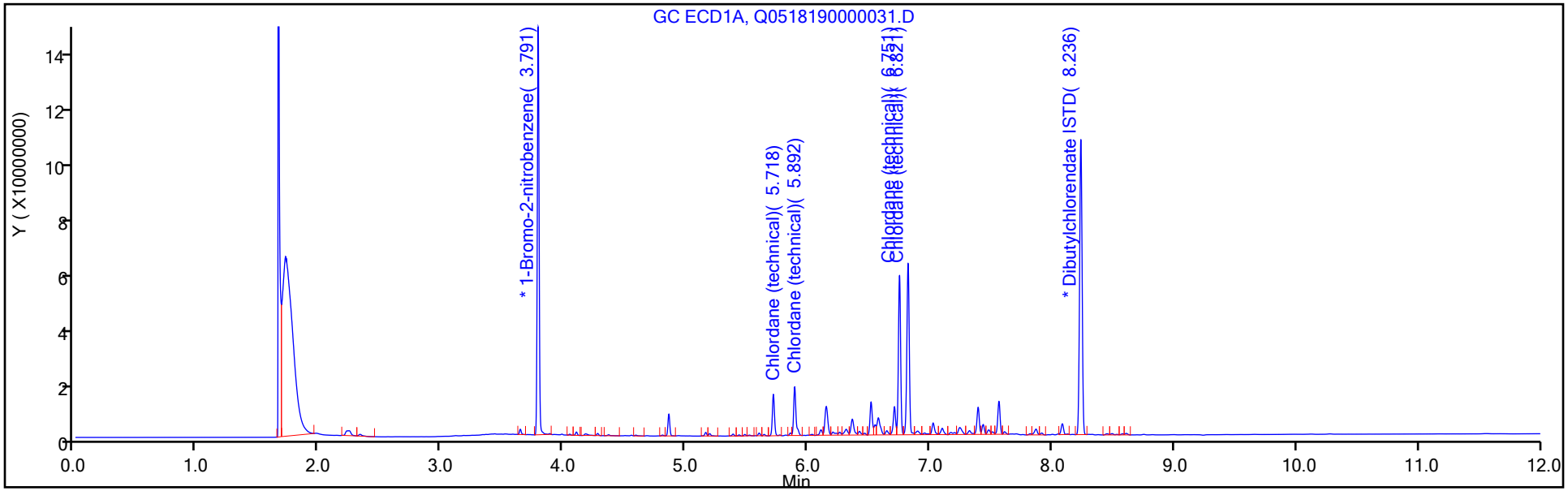

Column: MR-2 (0.53 mm)

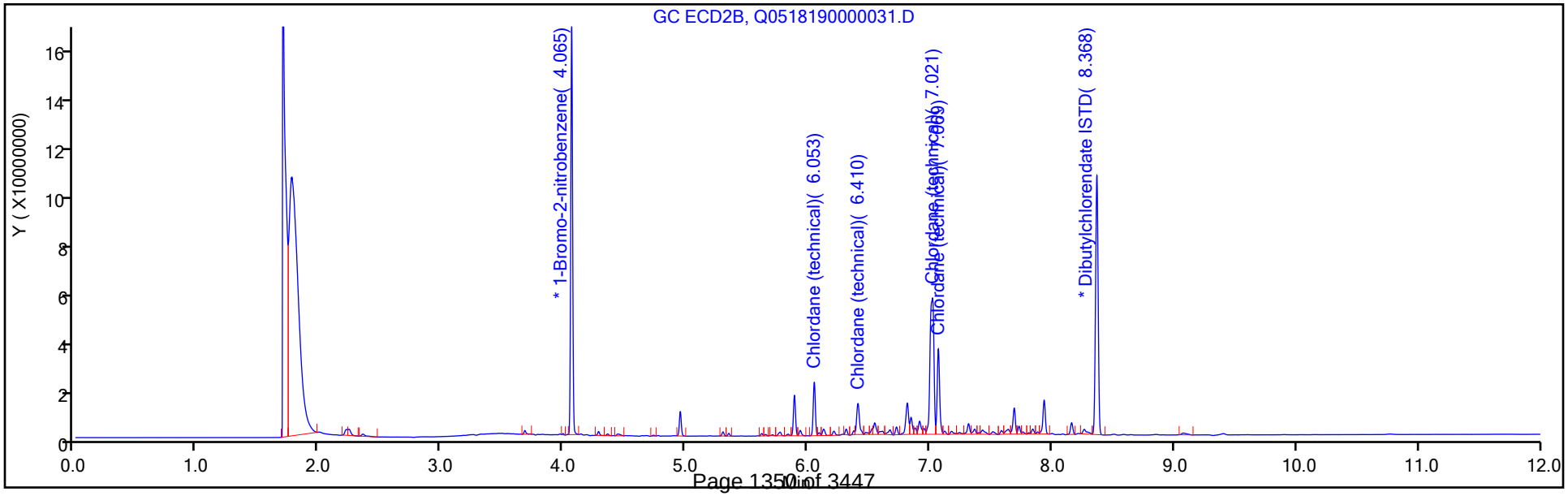

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 180-283820/2 Calibration Date: 07/03/2019 09:56

Instrument ID: CHGC15 Calib Start Date: 07/02/2019 15:33

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 07/02/2019 16:50

Lab File ID: Q0703190000002.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
alpha-BHC	Ave	1.584	1.712		0.0540	0.0500	8.1	20.0
gamma-BHC (Lindane)	Ave	1.396	1.488		0.0533	0.0500	6.6	20.0
beta-BHC	Ave	0.5699	0.6200		0.0544	0.0500	8.8	20.0
delta-BHC	Ave	1.288	1.462		0.0568	0.0500	13.5	20.0
Heptachlor	Ave	1.235	1.293		0.0524	0.0500	4.7	20.0
Aldrin	Ave	1.277	1.361		0.0533	0.0500	6.5	20.0
Heptachlor epoxide	Ave	1.111	1.150		0.0518	0.0500	3.6	20.0
trans-Chlordane	Ave	1.152	1.216		0.0528	0.0500	5.6	20.0
cis-Chlordane	Ave	1.128	1.195		0.0530	0.0500	6.0	20.0
Endosulfan I	Ave	1.016	1.100		0.0542	0.0500	8.3	20.0
4,4'-DDE	Ave	1.425	1.529		0.0537	0.0500	7.3	20.0
Dieldrin	Ave	1.469	1.556		0.0530	0.0500	6.0	20.0
Endrin	Ave	1.175	1.206		0.0513	0.0500	2.7	20.0
4,4'-DDD	Ave	1.167	1.161		0.0497	0.0500	-0.5	20.0
Endosulfan II	Ave	1.071	1.212		0.0566	0.0500	13.1	20.0
Endrin aldehyde	Ave	0.9084	0.9220		0.0507	0.0500	1.5	20.0
4,4'-DDT	Ave	0.9234	0.9629		0.0521	0.0500	4.3	20.0
Endosulfan sulfate	Ave	1.154	1.080		0.0468	0.0500	-6.4	20.0
Methoxychlor	Ave	0.4035	0.4052		0.0502	0.0500	0.4	20.0
Endrin ketone	Ave	1.040	1.051		0.0505	0.0500	1.0	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 180-283820/2 Calibration Date: 07/03/2019 09:56

Instrument ID: CHGC15 Calib Start Date: 07/02/2019 15:33

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 07/02/2019 16:50

Lab File ID: Q0703190000002.D

Analyte	RT	RT WINDOW	
		FROM	TO
alpha-BHC	5.15	5.14	5.16
gamma-BHC (Lindane)	5.42	5.41	5.43
beta-BHC	5.58	5.56	5.58
delta-BHC	5.78	5.77	5.79
Heptachlor	5.89	5.88	5.90
Aldrin	6.17	6.16	6.18
Heptachlor epoxide	6.53	6.52	6.54
trans-Chlordane	6.75	6.74	6.76
cis-Chlordane	6.82	6.81	6.83
Endosulfan I	6.86	6.85	6.87
4,4'-DDE	6.97	6.96	6.98
Dieldrin	7.10	7.09	7.11
Endrin	7.30	7.29	7.31
4,4'-DDD	7.42	7.41	7.43
Endosulfan II	7.50	7.49	7.51
Endrin aldehyde	7.61	7.60	7.62
4,4'-DDT	7.70	7.69	7.71
Endosulfan sulfate	7.82	7.81	7.83
Methoxychlor	8.15	8.14	8.16
Endrin ketone	8.28	8.27	8.29

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190703-27606.b\Q0703190000002.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 03-Jul-2019 09:56:33 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0027606-002
Operator ID: 402331 Instrument ID: CHGC15
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190703-27606.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Jul-2019 10:09:58 Calib Date: 02-Jul-2019 16:50:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000007.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0303

First Level Reviewer: eppinged Date: 03-Jul-2019 10:14:01

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.790	3.790	0.001	145807249H	0.1000	0.1000	
2	4.051	4.050	0.001	156208447H	0.1000	0.1000	
5 alpha-BHC							
1	5.153	5.152	0.001	124834887H	0.0500	0.0540	
2	5.398	5.397	0.001	126575615H	0.0500	0.0535	
						RPD = 1.09	
7 gamma-BHC (Lindane)							
1	5.417	5.416	0.001	108483915H	0.0500	0.0533	
2	5.702	5.702	0.000	99275460H	0.0500	0.0525	
						RPD = 1.55	
8 beta-BHC							
1	5.575	5.574	0.001	45200016H	0.0500	0.0544	
2	5.941	5.941	0.000	49423906H	0.0500	0.0528	
						RPD = 2.92	
10 delta-BHC							
1	5.775	5.775	0.000	106582934H	0.0500	0.0568	
2	6.176	6.175	0.001	103994937H	0.0500	0.0554	
						RPD = 2.40	
11 Heptachlor							
1	5.891	5.891	0.000	94296064H	0.0500	0.0524	
2	6.032	6.031	0.001	90536986H	0.0500	0.0514	
						RPD = 1.83	
13 Aldrin							
1	6.173	6.173	0.000	99189851H	0.0500	0.0533	
2	6.304	6.303	0.001	91447513H	0.0500	0.0525	
						RPD = 1.49	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
16 Heptachlor epoxide							
1	6.530	6.531	-0.001	83872474H	0.0500	0.0518	
2	6.755	6.753	0.002	78391989H	0.0500	0.0513	
						RPD = 0.95	
18 trans-Chlordane							
1	6.748	6.748	0.000	88683329H	0.0500	0.0528	
2	6.983	6.982	0.001	82568102H	0.0500	0.0516	
						RPD = 2.23	
20 cis-Chlordane							
1	6.815	6.816	-0.001	87129041H	0.0500	0.0530	
2	7.044	7.043	0.001	79910050H	0.0500	0.0516	
						RPD = 2.73	
21 Endosulfan I							
1	6.860	6.860	0.000	80219958H	0.0500	0.0542	
2	7.113	7.112	0.001	69378493H	0.0500	0.0520	
						RPD = 4.02	
23 4,4'-DDE							
1	6.966	6.966	0.000	89452263H	0.0500	0.0537	
2	7.178	7.177	0.001	80237962H	0.0500	0.0499	
						RPD = 7.21	
24 Dieldrin							
1	7.099	7.098	0.001	91037311H	0.0500	0.0530	
2	7.359	7.359	0.000	80977276H	0.0500	0.0496	
						RPD = 6.67	
27 Endrin							
1	7.299	7.299	0.000	70532944H	0.0500	0.0513	
2	7.628	7.628	0.000	64032611H	0.0500	0.0501	
						RPD = 2.44	
29 4,4'-DDD							
1	7.422	7.423	-0.001	67939250H	0.0500	0.0497	
2	7.698	7.698	0.000	65916217H	0.0500	0.0513	
						RPD = 3.11	
31 Endosulfan II							
1	7.495	7.496	-0.001	70871637H	0.0500	0.0566	
2	7.892	7.890	0.002	67181692H	0.0500	0.0560	
						RPD = 0.90	
32 Endrin aldehyde							
1	7.610	7.613	-0.003	53935252H	0.0500	0.0507	
2	8.059	8.058	0.001	47618988H	0.0500	0.0495	
						RPD = 2.51	
33 4,4'-DDT							
1	7.702	7.702	0.000	56328912H	0.0500	0.0521	
2	7.945	7.944	0.001	57569864H	0.0500	0.0566	
						RPD = 8.17	
35 Endosulfan sulfate							
1	7.821	7.822	-0.001	63182945H	0.0500	0.0468	
2	8.285	8.284	0.001	54734482H	0.0500	0.0480	
						RPD = 2.61	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Methoxychlor							
1	8.147	8.148	-0.001	23700673H	0.0500	0.0502	
2	8.519	8.518	0.001	23243765H	0.0500	0.0552	
						RPD = 9.48	
* 44 Dibutylchlorendate ISTD							
1	8.230	8.231	-0.001	116998207H	0.1000	0.1000	
2	8.334	8.333	0.001	97309645H	0.1000	0.1000	
37 Endrin ketone							
1	8.278	8.278	0.000	61493731H	0.0500	0.0505	
2	8.912	8.911	0.001	50975139H	0.0500	0.0498	
						RPD = 1.36	

Reagents:

GCPESTICVSTD_00022	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 03-Jul-2019 10:14:09 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190703-27606.b\Q0703190000002.D				
Injection Date:	03-Jul-2019 09:56:33	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	ICV			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

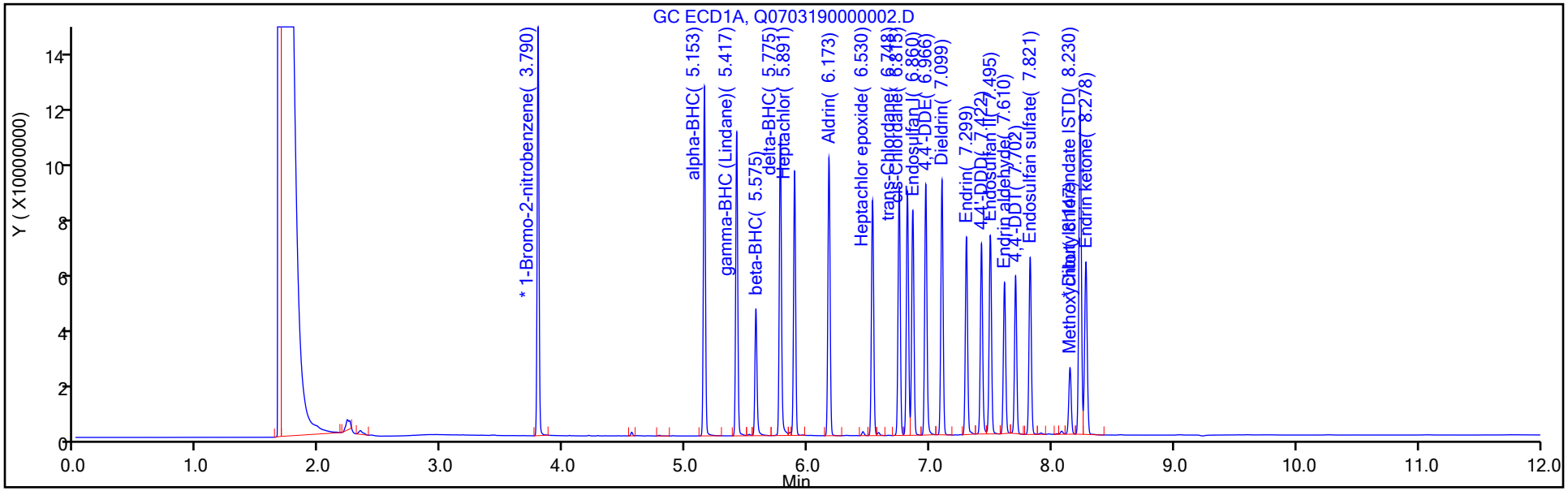

Column: MR-2 (0.53 mm)

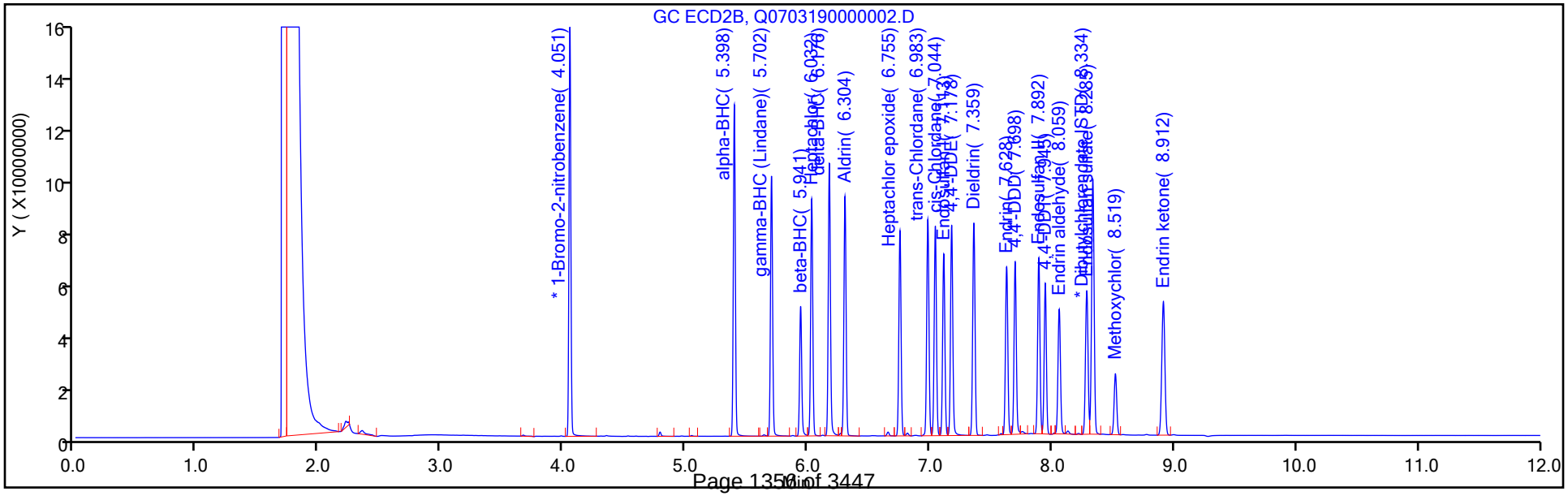

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 180-283820/2 Calibration Date: 07/03/2019 09:56

Instrument ID: CHGC15 Calib Start Date: 07/02/2019 15:33

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 07/02/2019 16:50

Lab File ID: Q0703190000002.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
alpha-BHC	Ave	1.516	1.621		0.0535	0.0500	6.9	20.0
gamma-BHC (Lindane)	Ave	1.211	1.271		0.0525	0.0500	4.9	20.0
beta-BHC	Ave	0.5990	0.6328		0.0528	0.0500	5.6	20.0
Heptachlor	Ave	1.127	1.159		0.0514	0.0500	2.8	20.0
delta-BHC	Ave	1.201	1.331		0.0554	0.0500	10.8	20.0
Aldrin	Ave	1.115	1.171		0.0525	0.0500	5.0	20.0
Heptachlor epoxide	Ave	0.9784	1.004		0.0513	0.0500	2.6	20.0
trans-Chlordane	Ave	1.024	1.057		0.0516	0.0500	3.3	20.0
cis-Chlordane	Ave	0.9920	1.023		0.0516	0.0500	3.1	20.0
Endosulfan I	Ave	0.8537	0.8883		0.0520	0.0500	4.1	20.0
4,4'-DDE	Ave	1.652	1.649		0.0499	0.0500	-0.1	20.0
Dieldrin	Ave	1.679	1.664		0.0496	0.0500	-0.9	20.0
Endrin	Ave	1.314	1.316		0.0501	0.0500	0.2	20.0
4,4'-DDD	Ave	1.320	1.355		0.0513	0.0500	2.6	20.0
Endosulfan II	Ave	1.232	1.381		0.0560	0.0500	12.1	20.0
4,4'-DDT	Ave	1.046	1.183		0.0566	0.0500	13.2	20.0
Endrin aldehyde	Ave	0.9888	0.9787		0.0495	0.0500	-1.0	20.0
Endosulfan sulfate	Ave	1.171	1.125		0.0480	0.0500	-3.9	20.0
Methoxychlor	Ave	0.4327	0.4777		0.0552	0.0500	10.4	20.0
Endrin ketone	Ave	1.051	1.048		0.0498	0.0500	-0.3	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 180-283820/2 Calibration Date: 07/03/2019 09:56

Instrument ID: CHGC15 Calib Start Date: 07/02/2019 15:33

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 07/02/2019 16:50

Lab File ID: Q0703190000002.D

Analyte	RT	RT WINDOW	
		FROM	TO
alpha-BHC	5.40	5.39	5.41
gamma-BHC (Lindane)	5.70	5.69	5.71
beta-BHC	5.94	5.93	5.95
Heptachlor	6.03	6.02	6.04
delta-BHC	6.18	6.17	6.19
Aldrin	6.30	6.29	6.31
Heptachlor epoxide	6.76	6.74	6.76
trans-Chlordane	6.98	6.97	6.99
cis-Chlordane	7.04	7.03	7.05
Endosulfan I	7.11	7.10	7.12
4,4'-DDE	7.18	7.17	7.19
Dieldrin	7.36	7.35	7.37
Endrin	7.63	7.62	7.64
4,4'-DDD	7.70	7.69	7.71
Endosulfan II	7.89	7.88	7.90
4,4'-DDT	7.95	7.93	7.95
Endrin aldehyde	8.06	8.05	8.07
Endosulfan sulfate	8.29	8.27	8.29
Methoxychlor	8.52	8.51	8.53
Endrin ketone	8.91	8.90	8.92

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190703-27606.b\Q0703190000002.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 03-Jul-2019 09:56:33 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0027606-002
Operator ID: 402331 Instrument ID: CHGC15
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190703-27606.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Jul-2019 10:09:58 Calib Date: 02-Jul-2019 16:50:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000007.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0303

First Level Reviewer: eppinged Date: 03-Jul-2019 10:14:01

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.790	3.790	0.001	145807249H	0.1000	0.1000	
2	4.051	4.050	0.001	156208447H	0.1000	0.1000	
5 alpha-BHC							
1	5.153	5.152	0.001	124834887H	0.0500	0.0540	
2	5.398	5.397	0.001	126575615H	0.0500	0.0535	
						RPD = 1.09	
7 gamma-BHC (Lindane)							
1	5.417	5.416	0.001	108483915H	0.0500	0.0533	
2	5.702	5.702	0.000	99275460H	0.0500	0.0525	
						RPD = 1.55	
8 beta-BHC							
1	5.575	5.574	0.001	45200016H	0.0500	0.0544	
2	5.941	5.941	0.000	49423906H	0.0500	0.0528	
						RPD = 2.92	
10 delta-BHC							
1	5.775	5.775	0.000	106582934H	0.0500	0.0568	
2	6.176	6.175	0.001	103994937H	0.0500	0.0554	
						RPD = 2.40	
11 Heptachlor							
1	5.891	5.891	0.000	94296064H	0.0500	0.0524	
2	6.032	6.031	0.001	90536986H	0.0500	0.0514	
						RPD = 1.83	
13 Aldrin							
1	6.173	6.173	0.000	99189851H	0.0500	0.0533	
2	6.304	6.303	0.001	91447513H	0.0500	0.0525	
						RPD = 1.49	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
16 Heptachlor epoxide							
1	6.530	6.531	-0.001	83872474H	0.0500	0.0518	
2	6.755	6.753	0.002	78391989H	0.0500	0.0513	
						RPD = 0.95	
18 trans-Chlordane							
1	6.748	6.748	0.000	88683329H	0.0500	0.0528	
2	6.983	6.982	0.001	82568102H	0.0500	0.0516	
						RPD = 2.23	
20 cis-Chlordane							
1	6.815	6.816	-0.001	87129041H	0.0500	0.0530	
2	7.044	7.043	0.001	79910050H	0.0500	0.0516	
						RPD = 2.73	
21 Endosulfan I							
1	6.860	6.860	0.000	80219958H	0.0500	0.0542	
2	7.113	7.112	0.001	69378493H	0.0500	0.0520	
						RPD = 4.02	
23 4,4'-DDE							
1	6.966	6.966	0.000	89452263H	0.0500	0.0537	
2	7.178	7.177	0.001	80237962H	0.0500	0.0499	
						RPD = 7.21	
24 Dieldrin							
1	7.099	7.098	0.001	91037311H	0.0500	0.0530	
2	7.359	7.359	0.000	80977276H	0.0500	0.0496	
						RPD = 6.67	
27 Endrin							
1	7.299	7.299	0.000	70532944H	0.0500	0.0513	
2	7.628	7.628	0.000	64032611H	0.0500	0.0501	
						RPD = 2.44	
29 4,4'-DDD							
1	7.422	7.423	-0.001	67939250H	0.0500	0.0497	
2	7.698	7.698	0.000	65916217H	0.0500	0.0513	
						RPD = 3.11	
31 Endosulfan II							
1	7.495	7.496	-0.001	70871637H	0.0500	0.0566	
2	7.892	7.890	0.002	67181692H	0.0500	0.0560	
						RPD = 0.90	
32 Endrin aldehyde							
1	7.610	7.613	-0.003	53935252H	0.0500	0.0507	
2	8.059	8.058	0.001	47618988H	0.0500	0.0495	
						RPD = 2.51	
33 4,4'-DDT							
1	7.702	7.702	0.000	56328912H	0.0500	0.0521	
2	7.945	7.944	0.001	57569864H	0.0500	0.0566	
						RPD = 8.17	
35 Endosulfan sulfate							
1	7.821	7.822	-0.001	63182945H	0.0500	0.0468	
2	8.285	8.284	0.001	54734482H	0.0500	0.0480	
						RPD = 2.61	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Methoxychlor							
1	8.147	8.148	-0.001	23700673H	0.0500	0.0502	
2	8.519	8.518	0.001	23243765H	0.0500	0.0552	
						RPD = 9.48	
* 44 Dibutylchlorendate ISTD							
1	8.230	8.231	-0.001	116998207H	0.1000	0.1000	
2	8.334	8.333	0.001	97309645H	0.1000	0.1000	
37 Endrin ketone							
1	8.278	8.278	0.000	61493731H	0.0500	0.0505	
2	8.912	8.911	0.001	50975139H	0.0500	0.0498	
						RPD = 1.36	

Reagents:

GCPESTICVSTD_00022	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 03-Jul-2019 10:14:09 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190703-27606.b\Q0703190000002.D				
Injection Date:	03-Jul-2019 09:56:33	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	ICV			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

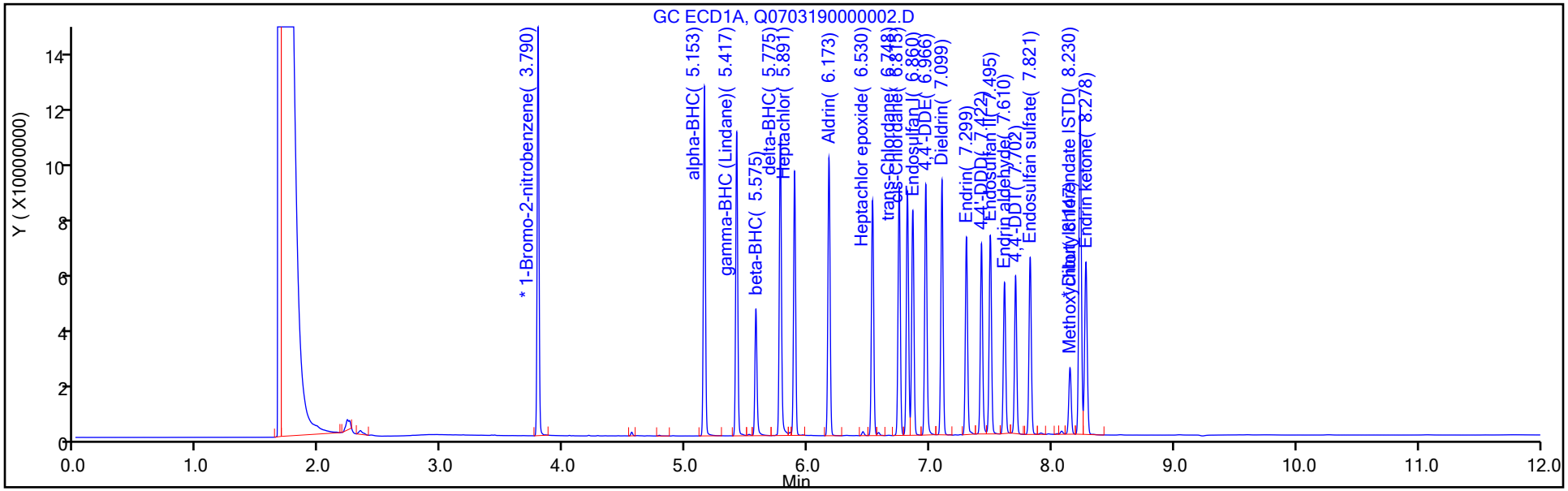

Column: MR-2 (0.53 mm)

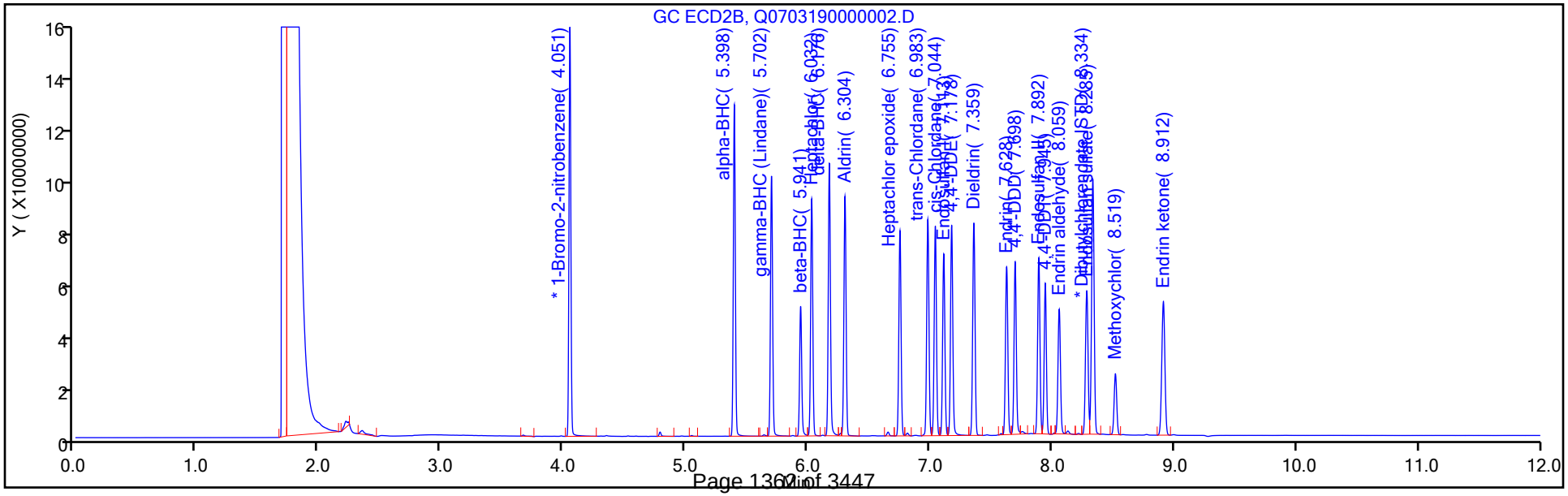

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 180-291631/14 Calibration Date: 09/17/2019 16:50

Instrument ID: CHGC15 Calib Start Date: 09/17/2019 13:44

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 09/17/2019 15:01

Lab File ID: Q0917190000014.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Mirex	Ave	0.7017	0.6553		0.0280	0.0300	-6.6	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 180-291631/14 Calibration Date: 09/17/2019 16:50

Instrument ID: CHGC15 Calib Start Date: 09/17/2019 13:44

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 09/17/2019 15:01

Lab File ID: Q0917190000014.D

Analyte	RT	RT WINDOW	
		FROM	TO
Mirex	8.75	8.74	8.76

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000014.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 17-Sep-2019 16:50:11 ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028689-014
Operator ID: 402331 Instrument ID: CHGC15
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 18-Sep-2019 08:31:27 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0308

First Level Reviewer: eppinged Date: 18-Sep-2019 08:02:19

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.784	3.783	0.000	157266544H	0.1000	0.1000	
2	4.043	4.043	0.000	152950601H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.170	5.171	-0.001	61863377H	0.0375	0.0323	
2	5.348	5.349	-0.001	65709002H	0.0375	0.0319	
						RPD = 1.32	
12 DCPA							
1	6.081	6.082	-0.001	93910334H	0.0750	0.0691	
2	6.283	6.285	-0.002	94480110H	0.0750	0.0693	
						RPD = 0.27	
14 Isodrin							
1	6.425	6.426	-0.001	22427981H	0.0150	0.0144	
2	6.645	6.646	-0.001	37828360H	0.0150	0.0148	
						RPD = 2.98	
15 oxy-Chlordane							
1	6.463	6.462	0.001	21076624H	0.0150	0.0139	
2	6.645	6.646	-0.001	37828360H	0.0150	0.0148	
						RPD = 6.70	
19 Chlorobenside							
1	6.747	6.747	0.000	62062614H	0.0750	0.0801	
2	7.052	7.054	-0.002	63836921H	0.0750	0.0831	
						RPD = 3.67	
* 44 Dibutylchlorendate ISTD							
1	8.192	8.192	-0.001	111392570H	0.1000	0.1000	
2	8.317	8.317	0.000	90491487H	0.1000	0.1000	
38 Mirex							
1	8.750	8.751	-0.001	21899575H	0.0300	0.0280	
2	9.176	9.179	-0.003	19241666H	0.0300	0.0293	
						RPD = 4.40	

Reagents:

GCAPPX1ICV_00023	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 18-Sep-2019 08:31:34 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000014.D				
Injection Date:	17-Sep-2019 16:50:11	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	ICV			Worklist Smp#:	14
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

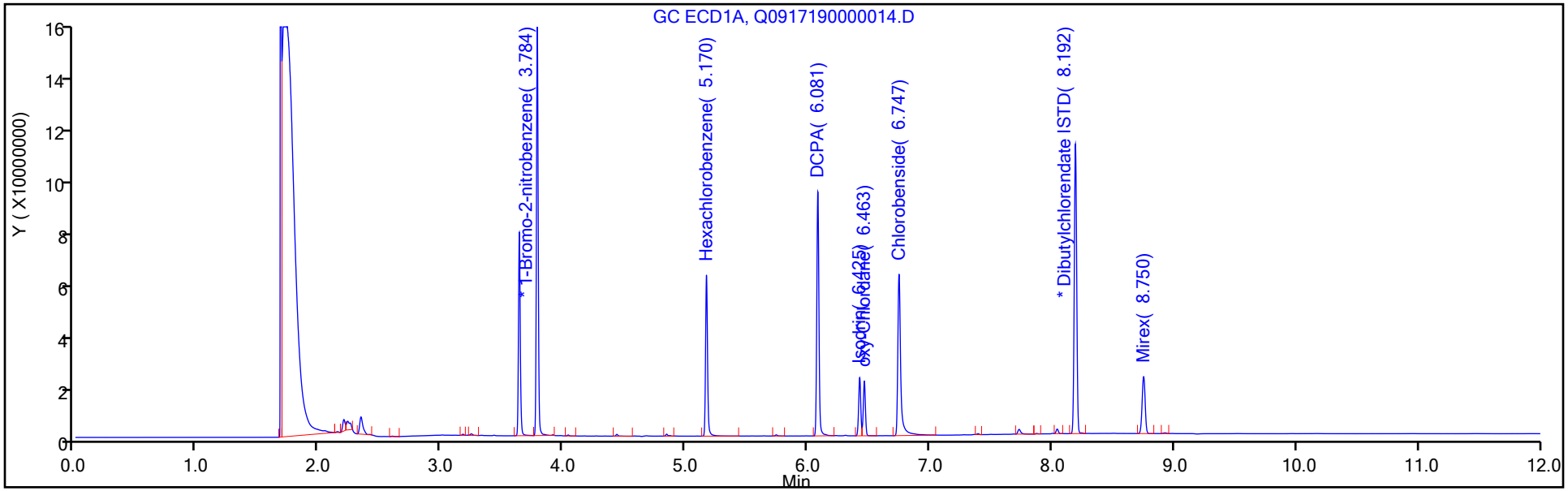

Column: MR-2 (0.53 mm)

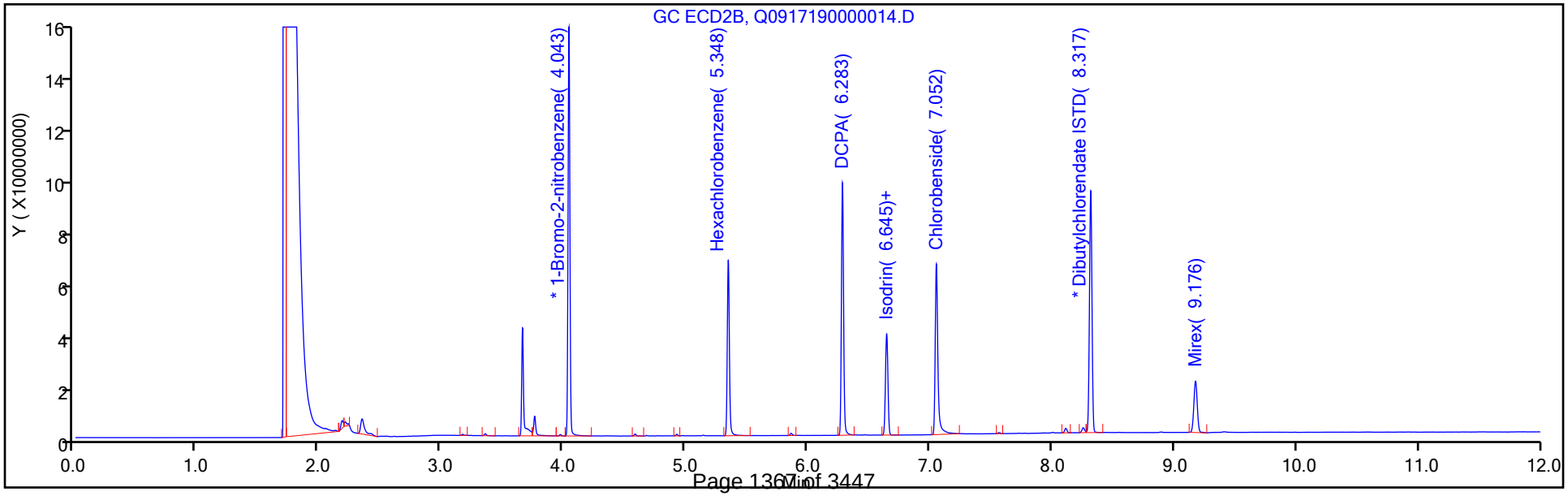

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 180-291631/14 Calibration Date: 09/17/2019 16:50

Instrument ID: CHGC15 Calib Start Date: 09/17/2019 13:44

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 09/17/2019 15:01

Lab File ID: Q0917190000014.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Mirex	Ave	0.7262	0.7088		0.0293	0.0300	-2.4	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 180-291631/14 Calibration Date: 09/17/2019 16:50

Instrument ID: CHGC15 Calib Start Date: 09/17/2019 13:44

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 09/17/2019 15:01

Lab File ID: Q0917190000014.D

Analyte	RT	RT WINDOW	
		FROM	TO
Mirex	9.18	9.17	9.19

Form VII EPA 8081B

Report Date: 18-Sep-2019 08:31:34 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000014.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 17-Sep-2019 16:50:11 ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028689-014
Operator ID: 402331 Instrument ID: CHGC15
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 18-Sep-2019 08:31:27 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0308

First Level Reviewer: eppinged Date: 18-Sep-2019 08:02:19

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.784	3.783	0.000	157266544H	0.1000	0.1000	
2	4.043	4.043	0.000	152950601H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.170	5.171	-0.001	61863377H	0.0375	0.0323	
2	5.348	5.349	-0.001	65709002H	0.0375	0.0319	
						RPD = 1.32	
12 DCPA							
1	6.081	6.082	-0.001	93910334H	0.0750	0.0691	
2	6.283	6.285	-0.002	94480110H	0.0750	0.0693	
						RPD = 0.27	
14 Isodrin							
1	6.425	6.426	-0.001	22427981H	0.0150	0.0144	
2	6.645	6.646	-0.001	37828360H	0.0150	0.0148	
						RPD = 2.98	
15 oxy-Chlordane							
1	6.463	6.462	0.001	21076624H	0.0150	0.0139	
2	6.645	6.646	-0.001	37828360H	0.0150	0.0148	
						RPD = 6.70	
19 Chlorobenside							
1	6.747	6.747	0.000	62062614H	0.0750	0.0801	
2	7.052	7.054	-0.002	63836921H	0.0750	0.0831	
						RPD = 3.67	
* 44 Dibutylchlorendate ISTD							
1	8.192	8.192	-0.001	111392570H	0.1000	0.1000	
2	8.317	8.317	0.000	90491487H	0.1000	0.1000	
38 Mirex							
1	8.750	8.751	-0.001	21899575H	0.0300	0.0280	
2	9.176	9.179	-0.003	19241666H	0.0300	0.0293	
						RPD = 4.40	

Reagents:

GCAPPX1ICV_00023	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 18-Sep-2019 08:31:34 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000014.D				
Injection Date:	17-Sep-2019 16:50:11	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	ICV			Worklist Smp#:	14
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

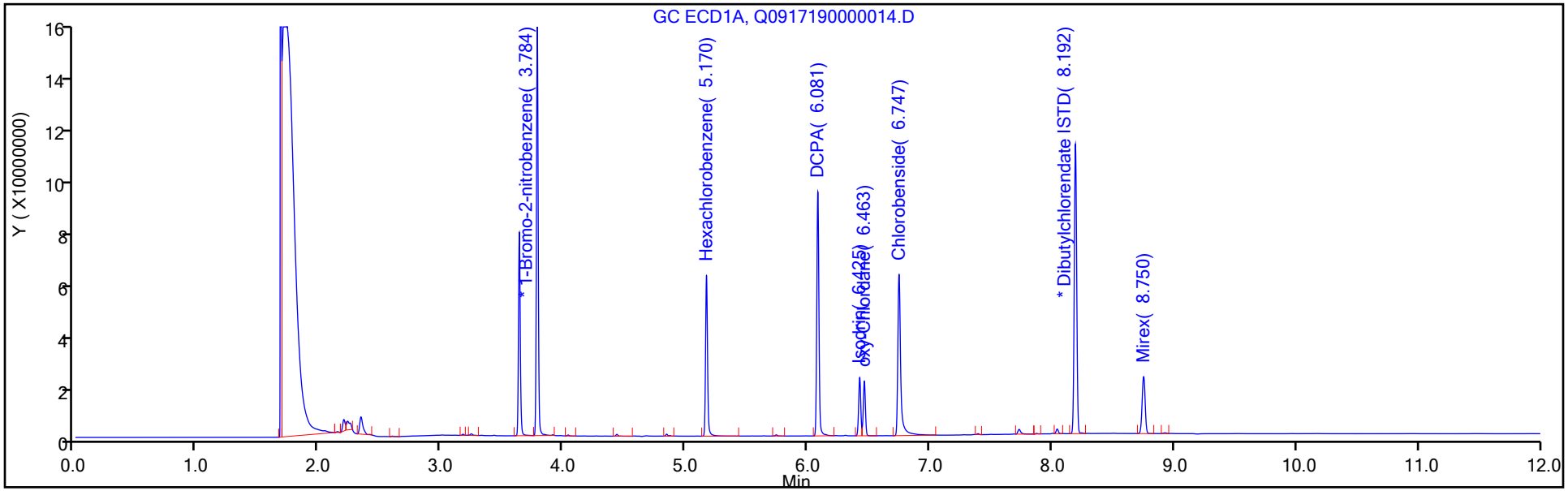

Column: MR-2 (0.53 mm)

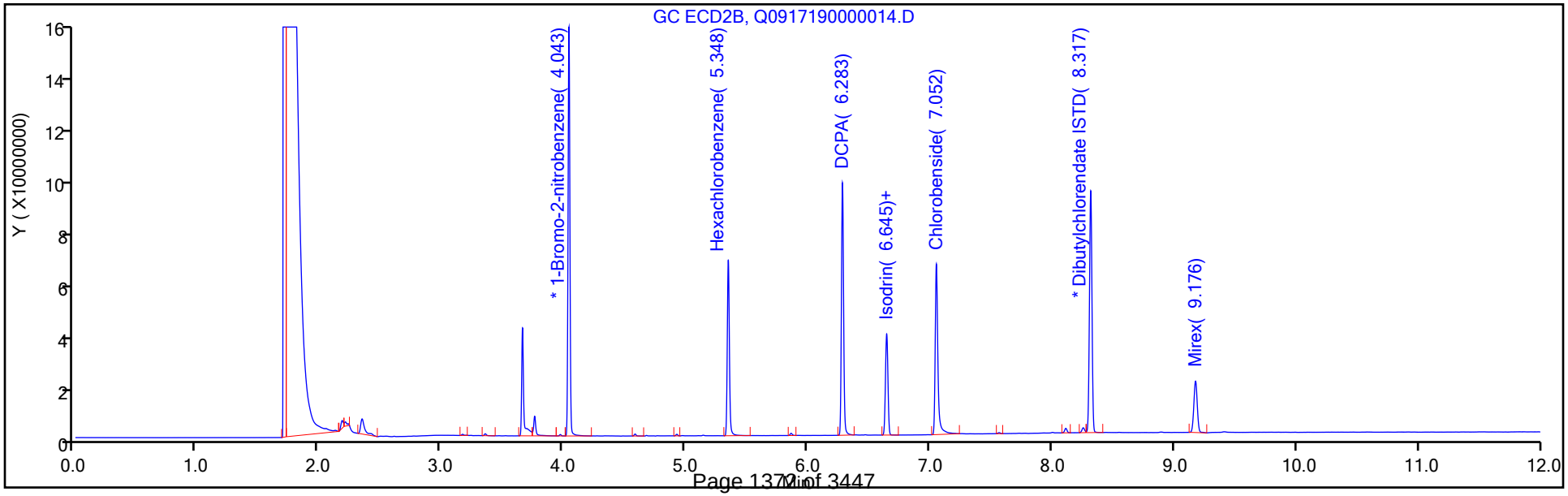

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCV 180-295908/2 Calibration Date: 10/24/2019 11:36

Instrument ID: CHGC15 Calib Start Date: 05/18/2019 12:14

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 05/18/2019 13:16

Lab File ID: Q1024190000002.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Toxaphene Peak 1	Ave	0.0135	0.0140		1.04	1.00	4.2	20.0
Toxaphene Peak 2	Ave	0.0178	0.0184		1.03	1.00	3.5	20.0
Toxaphene Peak 3	Ave	0.0164	0.0160		0.972	1.00	-2.8	20.0
Toxaphene Peak 4	Ave	0.0151	0.0138		0.915	1.00	-8.5	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCV 180-295908/2 Calibration Date: 10/24/2019 11:36

Instrument ID: CHGC15 Calib Start Date: 05/18/2019 12:14

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 05/18/2019 13:16

Lab File ID: Q1024190000002.D

Analyte	RT	RT WINDOW	
		FROM	TO
Toxaphene Peak 1	6.96	6.95	6.97
Toxaphene Peak 2	7.23	7.22	7.24
Toxaphene Peak 3	7.61	7.60	7.62
Toxaphene Peak 4	7.85	7.84	7.86

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000002.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 24-Oct-2019 11:36:59 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029246-002
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub4

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Oct-2019 12:57:00 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: eppinged Date: 24-Oct-2019 12:03:05

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.769	3.769	0.000	144513752H	0.1000	0.1000	
2	4.029	4.029	0.000	137929113H	0.1000	0.1000	
34 Toxaphene							M
1	6.964	6.964	0.000	20284553H	1.00	1.04	
1	7.230	7.230	0.000	26581240H	1.00	1.03	
1	7.611	7.611	0.000	23052651H	1.00	0.9716	
1	7.851	7.851	0.000	19988458H	1.00	0.9151	
		Average of Peak Amounts =				0.99	
2	7.184	7.184	0.000	11055448H	1.00	1.07	M
2	7.315	7.315	0.000	16978684H	1.00	1.02	M
2	7.817	7.817	0.000	30125244H	1.00	1.11	M
2	8.536	8.536	0.000	19064731H	1.00	0.99	M
		Average of Peak Amounts =				1.05	
						RPD = 5.60	
* 44 Dibutylchlorendate ISTD							M
1	8.175	8.175	0.001	104887748H	0.1000	0.1000	
2	8.297	8.296	0.001	94149293H	0.1000	0.1000	M

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

GCTOXLEVEL3_00020 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 24-Oct-2019 12:57:00 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000002.D				
Injection Date:	24-Oct-2019 11:36:59	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	CCV			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

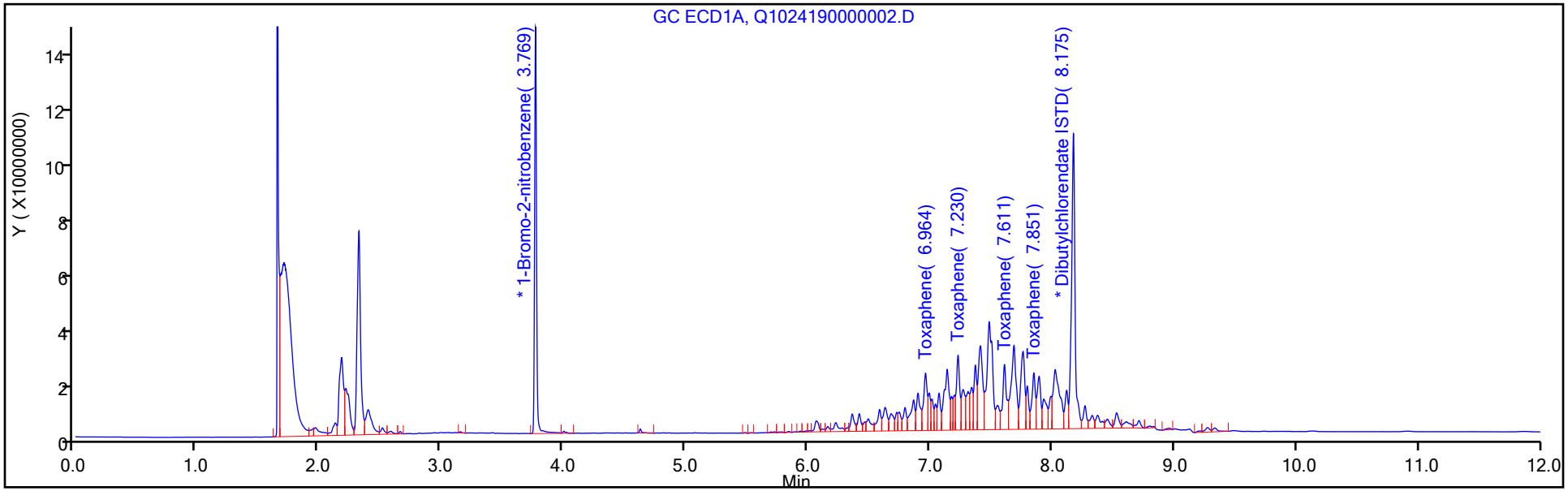

Column: MR-2 (0.53 mm)

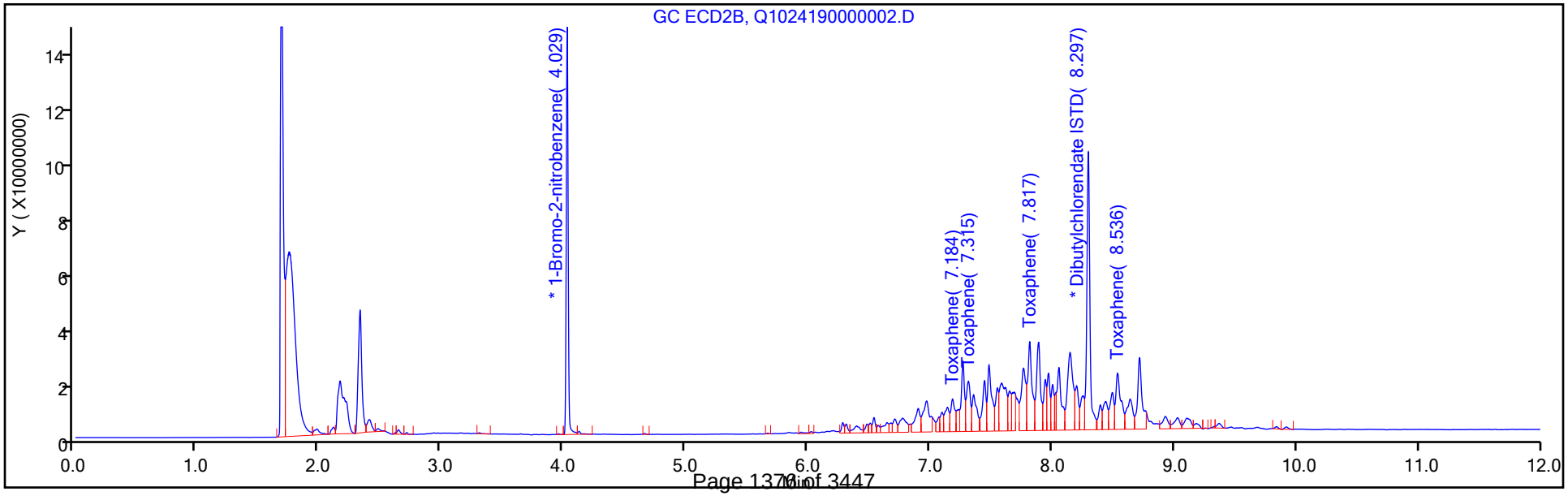

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCV 180-295908/2 Calibration Date: 10/24/2019 11:36

Instrument ID: CHGC15 Calib Start Date: 05/18/2019 12:14

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 05/18/2019 13:16

Lab File ID: Q1024190000002.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Toxaphene Peak 1	Ave	0.0075	0.0080		1.07	1.00	7.4	20.0
Toxaphene Peak 2	Ave	0.0121	0.0123		1.02	1.00	1.7	20.0
Toxaphene Peak 3	Lin1		0.0218		1.11	1.00	10.6	20.0
Toxaphene Peak 4	Ave	0.0139	0.0138		0.993	1.00	-0.7	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCV 180-295908/2 Calibration Date: 10/24/2019 11:36

Instrument ID: CHGC15 Calib Start Date: 05/18/2019 12:14

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 05/18/2019 13:16

Lab File ID: Q1024190000002.D

Analyte	RT	RT WINDOW	
		FROM	TO
Toxaphene Peak 1	7.18	7.17	7.19
Toxaphene Peak 2	7.32	7.31	7.33
Toxaphene Peak 3	7.82	7.81	7.83
Toxaphene Peak 4	8.54	8.53	8.55

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000002.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 24-Oct-2019 11:36:59 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029246-002
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub4

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Oct-2019 12:57:00 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: eppinged Date: 24-Oct-2019 12:03:05

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.769	3.769	0.000	144513752H	0.1000	0.1000	
2	4.029	4.029	0.000	137929113H	0.1000	0.1000	
34 Toxaphene							M
1	6.964	6.964	0.000	20284553H	1.00	1.04	
1	7.230	7.230	0.000	26581240H	1.00	1.03	
1	7.611	7.611	0.000	23052651H	1.00	0.9716	
1	7.851	7.851	0.000	19988458H	1.00	0.9151	
		Average of Peak Amounts =				0.99	
2	7.184	7.184	0.000	11055448H	1.00	1.07	M
2	7.315	7.315	0.000	16978684H	1.00	1.02	M
2	7.817	7.817	0.000	30125244H	1.00	1.11	M
2	8.536	8.536	0.000	19064731H	1.00	0.99	M
		Average of Peak Amounts =				1.05	
						RPD = 5.60	
* 44 Dibutylchlorendate ISTD							M
1	8.175	8.175	0.001	104887748H	0.1000	0.1000	
2	8.297	8.296	0.001	94149293H	0.1000	0.1000	M

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

GCTOXLEVEL3_00020 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 24-Oct-2019 12:57:02 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000002.D				
Injection Date:	24-Oct-2019 11:36:59	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	CCV			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

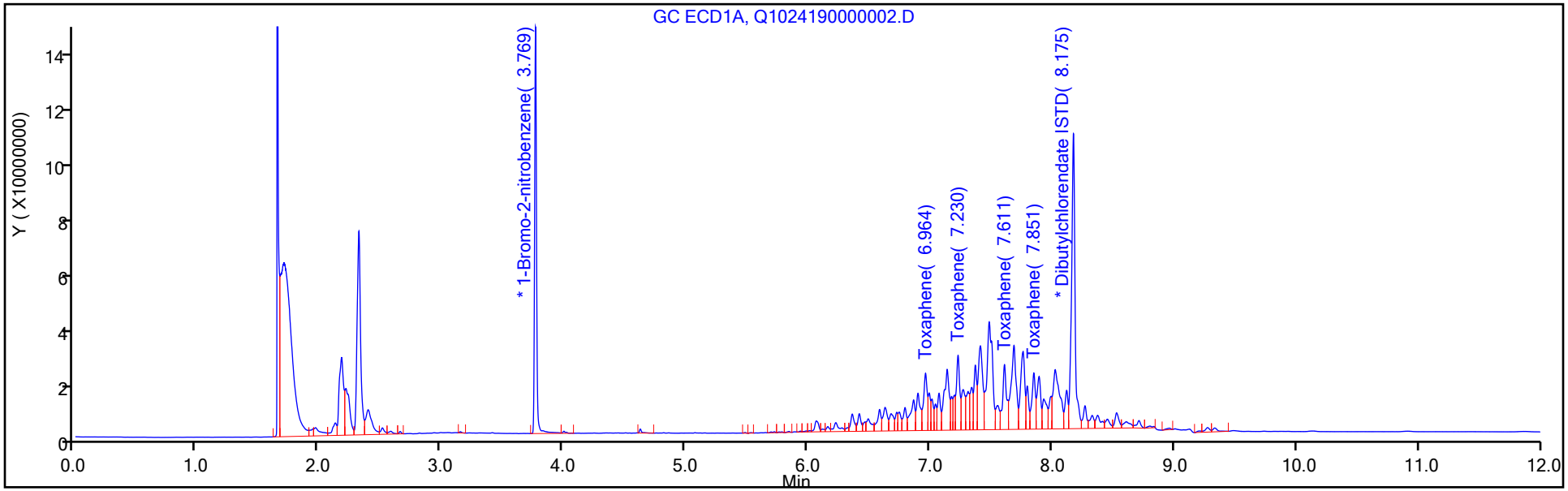

Column: MR-2 (0.53 mm)

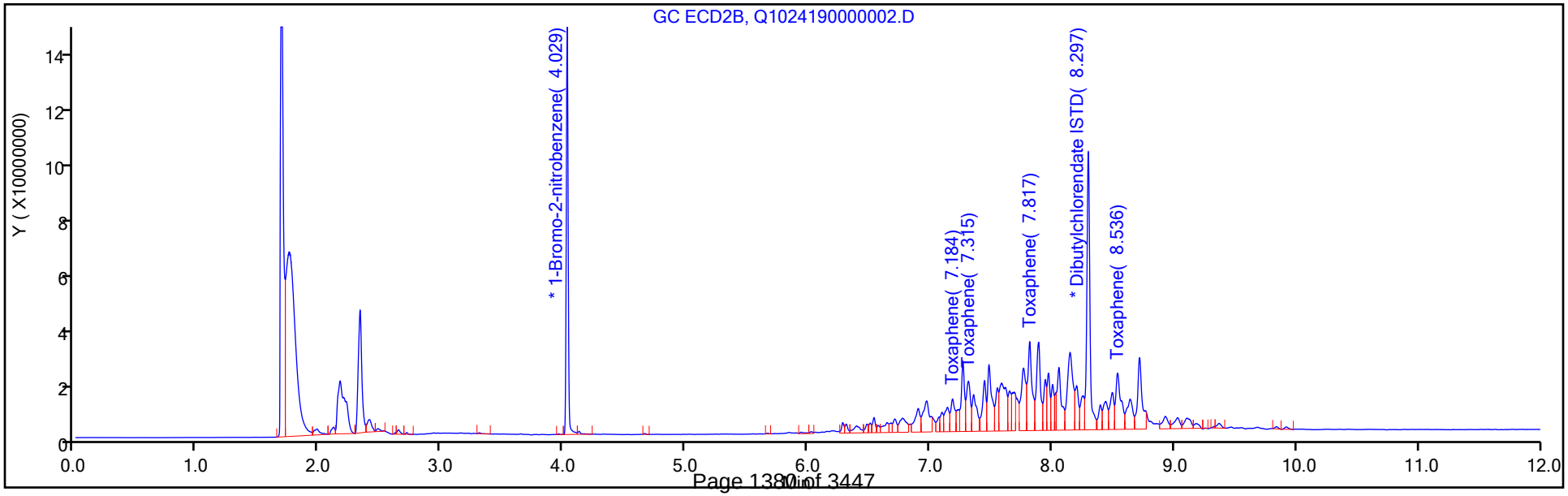

Report Date: 24-Oct-2019 12:57:02 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000002.D				
Injection Date:	24-Oct-2019 11:36:59	Instrument ID:	CHGC15		
Lims ID:	CCV				
Client ID:					
Operator ID:	402331	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

34 Toxaphene, CAS: 8001-35-2

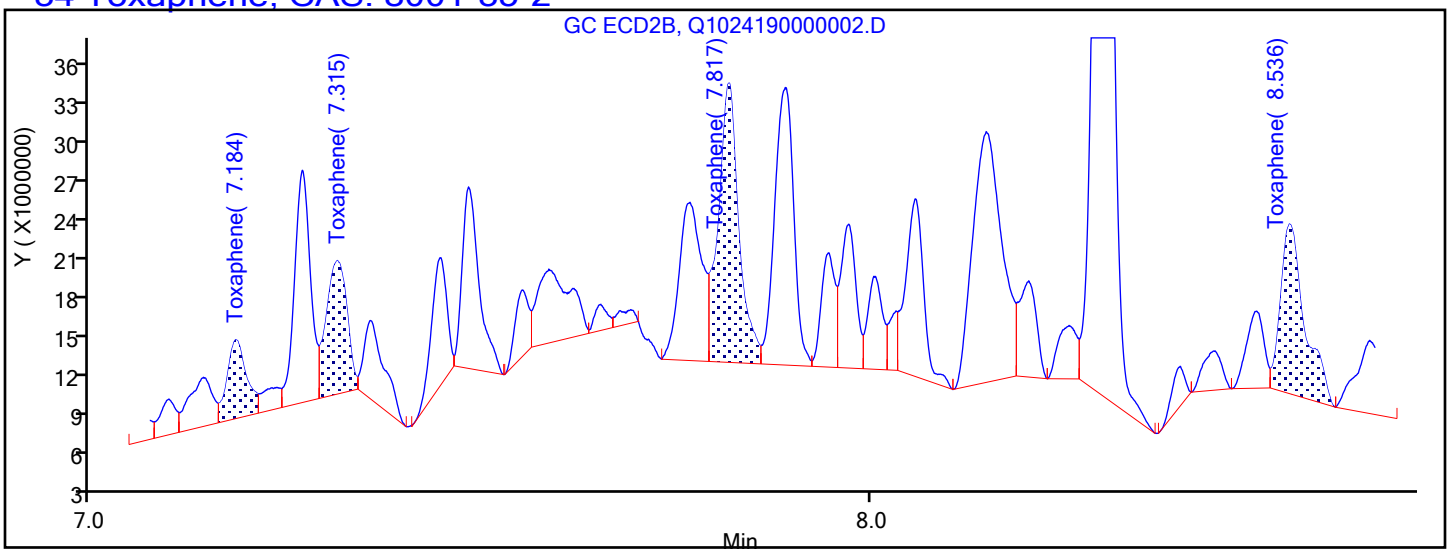

Processing Integration Results

7.184	Response = 5961679
7.315	Response = 10096135
7.817	Response = 21125439
8.536	Response = 12824618

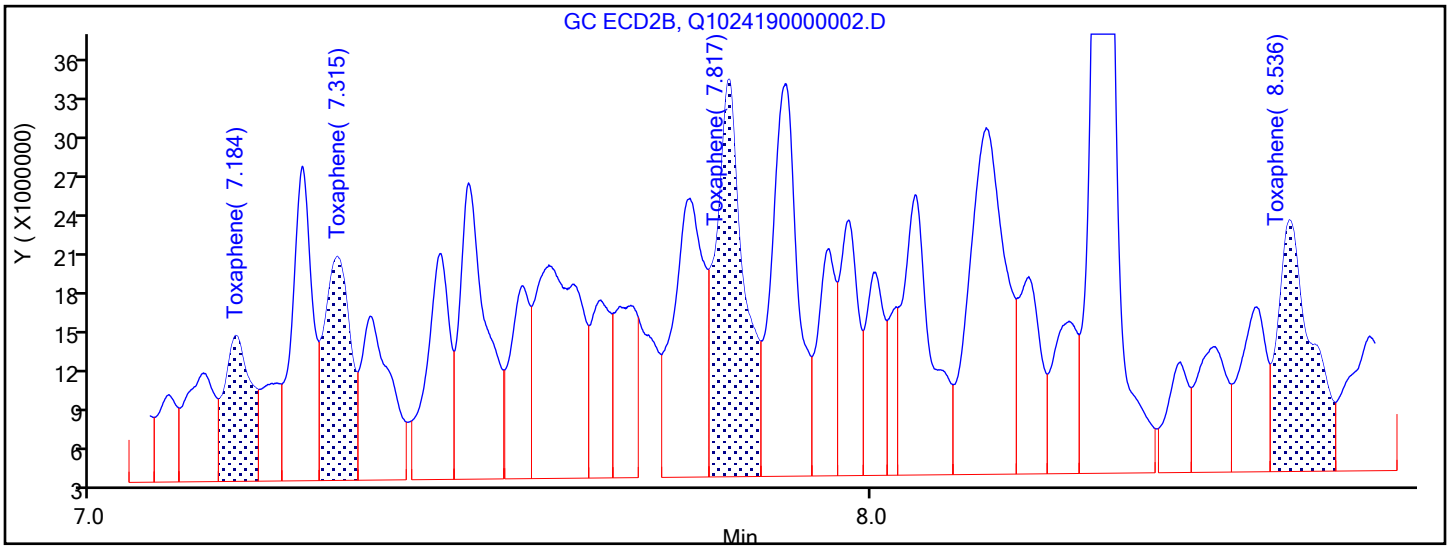

Manual Integration Results

7.184	Response = 11055448	M
7.315	Response = 16978684	M
7.817	Response = 30125244	M
8.536	Response = 19064731	M

Reviewer: eppinged, 24-Oct-2019 12:00:06

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCV 180-295908/3 Calibration Date: 10/24/2019 11:52

Instrument ID: CHGC15 Calib Start Date: 05/18/2019 14:56

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 05/18/2019 15:57

Lab File ID: Q1024190000003.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Chlordane (technical) Peak 1	Ave	0.0462	0.0414		0.224	0.250	-10.4	20.0
Chlordane (technical) Peak 2	Ave	0.0571	0.0576		0.252	0.250	0.8	20.0
Chlordane (technical) Peak 3	Ave	0.1693	0.1645		0.243	0.250	-2.8	20.0
Chlordane (technical) Peak 4	Ave	0.1861	0.1792		0.241	0.250	-3.7	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCV 180-295908/3 Calibration Date: 10/24/2019 11:52

Instrument ID: CHGC15 Calib Start Date: 05/18/2019 14:56

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 05/18/2019 15:57

Lab File ID: Q1024190000003.D

Analyte	RT	RT WINDOW	
		FROM	TO
Chlordane (technical) Peak 1	5.68	5.67	5.69
Chlordane (technical) Peak 2	5.85	5.84	5.86
Chlordane (technical) Peak 3	6.71	6.70	6.72
Chlordane (technical) Peak 4	6.77	6.76	6.78

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000003.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 24-Oct-2019 11:52:23 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029246-003
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub5

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Oct-2019 12:57:07 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: eppinged Date: 24-Oct-2019 12:13:06

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.770	3.769	0.001	139625400H	0.1000	0.1000	
2	4.029	4.029	0.000	134518017H	0.1000	0.1000	
9 Chlordane (technical)							
1	5.677	5.677	0.000	14457434H	0.2500	0.2240	
1	5.850	5.850	0.000	20087775H	0.2500	0.2520	
1	6.705	6.705	0.000	57430253H	0.2500	0.2430	
1	6.774	6.774	0.000	62534798H	0.2500	0.2406	
		Average of Peak Amounts =				0.2399	
2	6.000	6.000	0.000	16444386H	0.2500	0.2703	
2	6.359	6.359	0.000	9130301H	0.2500	0.2406	
2	6.964	6.964	0.000	49739127H	0.2500	0.3006	
2	7.011	7.011	0.000	29875535H	0.2500	0.2871	
		Average of Peak Amounts =				0.2746	
						RPD = 13.50	
* 44 Dibutylchlorendate ISTD							
1	8.175	8.175	0.000	91981183H	0.1000	0.1000	
2	8.296	8.296	0.000	76809286H	0.1000	0.1000	

Reagents:

GCCHLORLEVEL3_00017 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 24-Oct-2019 12:57:07 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000003.D				
Injection Date:	24-Oct-2019 11:52:23	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	CCV			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

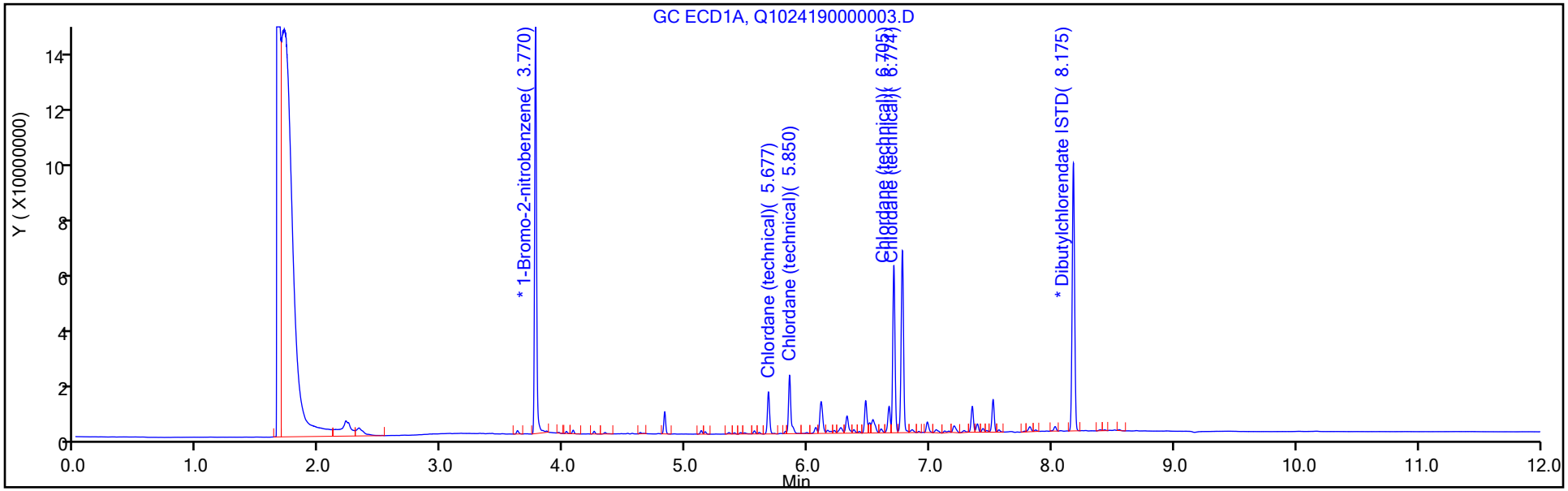

Column: MR-2 (0.53 mm)

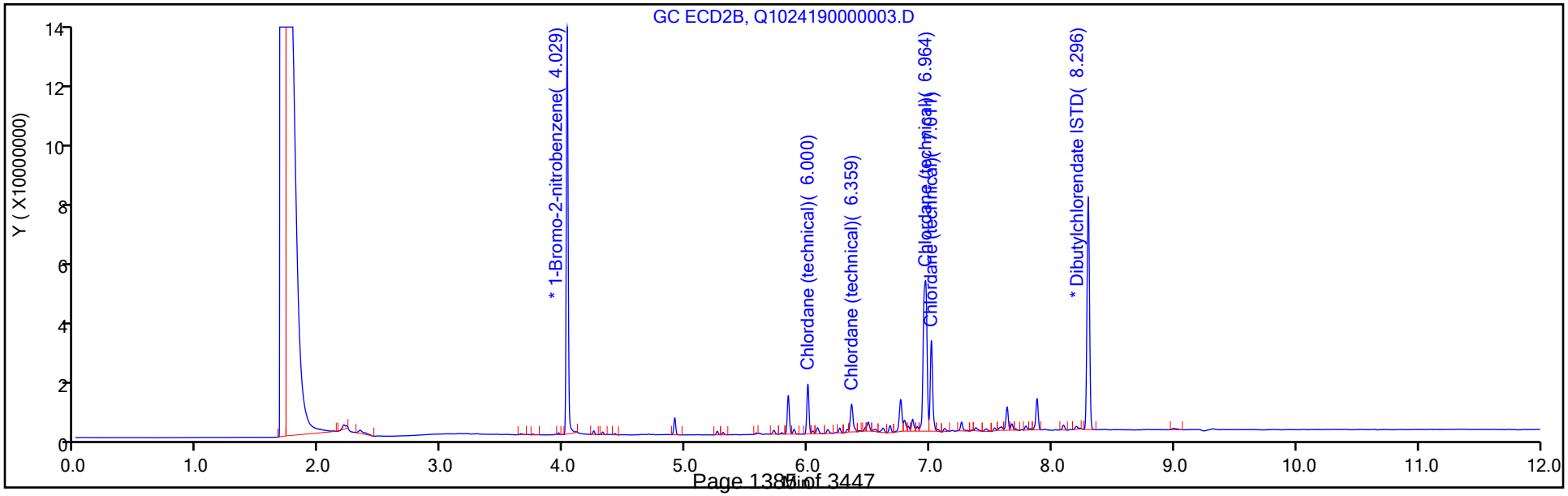

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCV 180-295908/3 Calibration Date: 10/24/2019 11:52

Instrument ID: CHGC15 Calib Start Date: 05/18/2019 14:56

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 05/18/2019 15:57

Lab File ID: Q1024190000003.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Chlordane (technical) Peak 1	Lin1		0.0489		0.270	0.250	8.1	20.0
Chlordane (technical) Peak 2	Lin1		0.0272		0.241	0.250	-3.8	20.0
Chlordane (technical) Peak 3	Lin1		0.1479		0.301	0.250	20.2*	20.0
Chlordane (technical) Peak 4	Lin1		0.0888		0.287	0.250	14.8	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCV 180-295908/3 Calibration Date: 10/24/2019 11:52

Instrument ID: CHGC15 Calib Start Date: 05/18/2019 14:56

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 05/18/2019 15:57

Lab File ID: Q1024190000003.D

Analyte	RT	RT WINDOW	
		FROM	TO
Chlordane (technical) Peak 1	6.00	5.99	6.01
Chlordane (technical) Peak 2	6.36	6.35	6.37
Chlordane (technical) Peak 3	6.96	6.95	6.97
Chlordane (technical) Peak 4	7.01	7.00	7.02

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000003.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 24-Oct-2019 11:52:23 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029246-003
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub5

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Oct-2019 12:57:07 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: eppinged Date: 24-Oct-2019 12:13:06

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.770	3.769	0.001	139625400H	0.1000	0.1000	
2	4.029	4.029	0.000	134518017H	0.1000	0.1000	
9 Chlordane (technical)							
1	5.677	5.677	0.000	14457434H	0.2500	0.2240	
1	5.850	5.850	0.000	20087775H	0.2500	0.2520	
1	6.705	6.705	0.000	57430253H	0.2500	0.2430	
1	6.774	6.774	0.000	62534798H	0.2500	0.2406	
		Average of Peak Amounts =				0.2399	
2	6.000	6.000	0.000	16444386H	0.2500	0.2703	
2	6.359	6.359	0.000	9130301H	0.2500	0.2406	
2	6.964	6.964	0.000	49739127H	0.2500	0.3006	
2	7.011	7.011	0.000	29875535H	0.2500	0.2871	
		Average of Peak Amounts =				0.2746	
						RPD = 13.50	
* 44 Dibutylchlorendate ISTD							
1	8.175	8.175	0.000	91981183H	0.1000	0.1000	
2	8.296	8.296	0.000	76809286H	0.1000	0.1000	

Reagents:

GCCHLORLEVEL3_00017 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 24-Oct-2019 12:57:08 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000003.D				
Injection Date:	24-Oct-2019 11:52:23	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	CCV			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

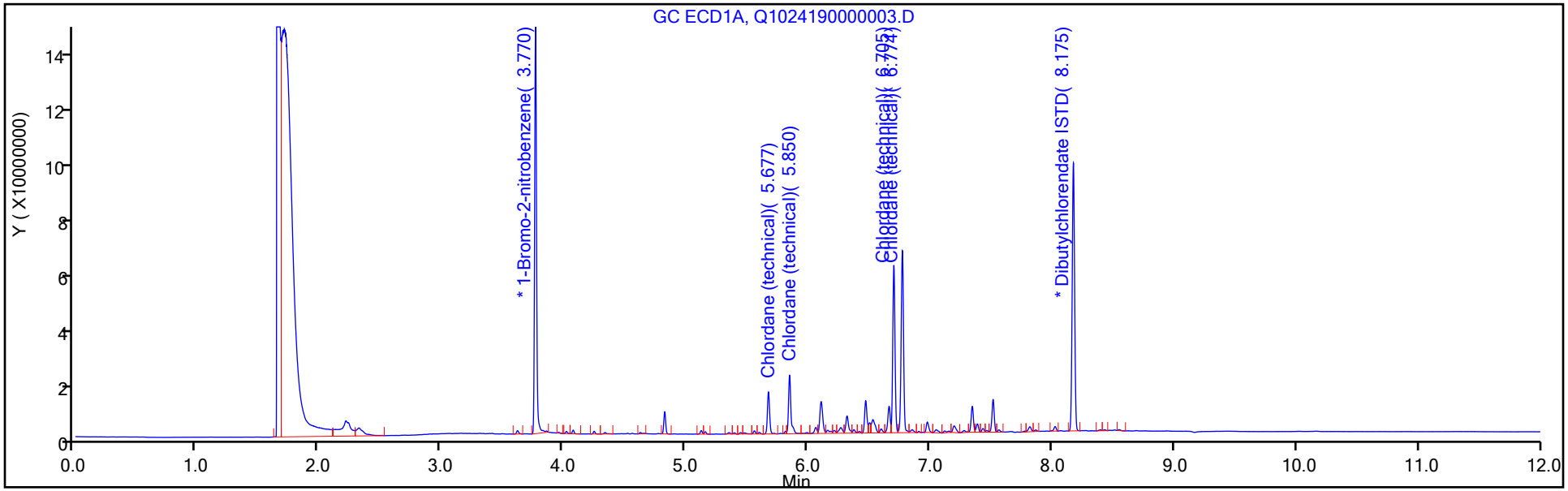

Column: MR-2 (0.53 mm)

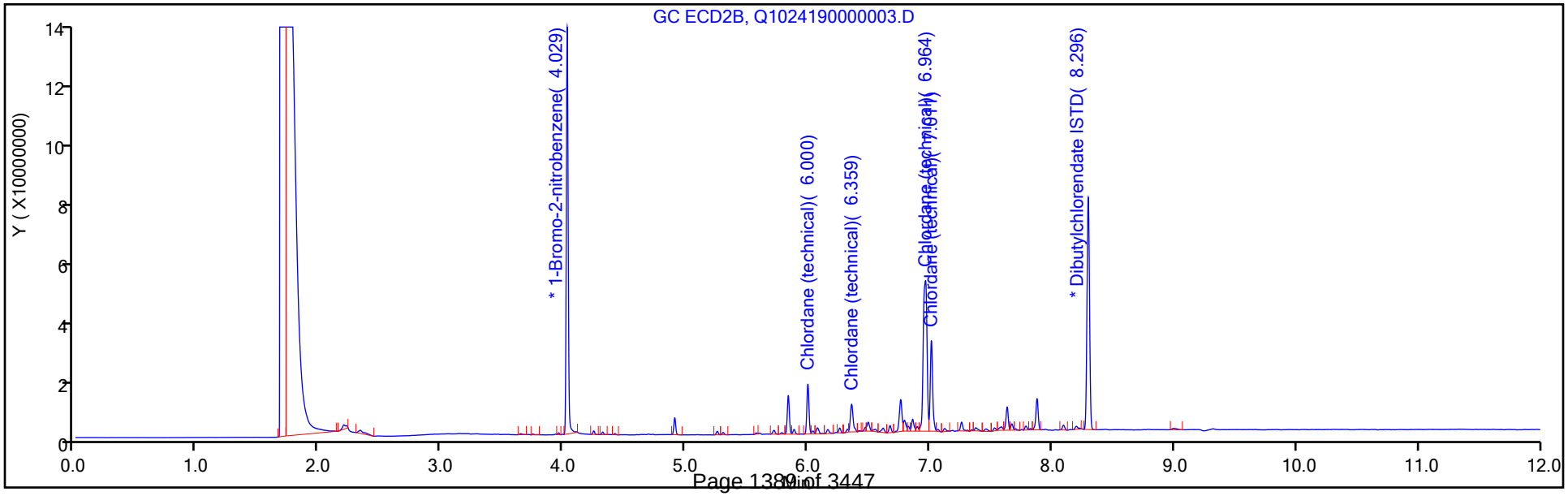

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCV 180-295908/4 Calibration Date: 10/24/2019 12:07

Instrument ID: CHGC15 Calib Start Date: 09/17/2019 13:44

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 09/17/2019 15:01

Lab File ID: Q1024190000004.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Mirex	Ave	0.7017	0.7005		0.0250	0.0250	-0.2	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCV 180-295908/4 Calibration Date: 10/24/2019 12:07

Instrument ID: CHGC15 Calib Start Date: 09/17/2019 13:44

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 09/17/2019 15:01

Lab File ID: Q1024190000004.D

Analyte	RT	RT WINDOW	
		FROM	TO
Mirex	8.73	8.72	8.74

Form VII EPA 8081B

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000004.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 24-Oct-2019 12:07:49 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029246-004
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub8

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Oct-2019 15:03:16 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: eppinged Date: 24-Oct-2019 12:37:29

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.769	3.769	0.000	148767851H	0.1000	0.1000	
2	4.029	4.029	0.000	140485392H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.157	5.157	0.000	46158617H	0.0250	0.0255	
2	5.334	5.334	0.000	42389427H	0.0250	0.0224	
						RPD = 12.90	
12 DCPA							
1	6.067	6.067	0.000	33668942H	0.0250	0.0262	
2	6.268	6.268	0.000	31474175H	0.0250	0.0251	
						RPD = 4.13	
14 Isodrin							
1	6.408	6.408	0.000	37975248H	0.0250	0.0258	
2	6.629	6.629	0.000	60804690H	0.0250	0.0259	
						RPD = 0.72	
15 oxy-Chlordane							
1	6.446	6.446	0.000	36833240H	0.0250	0.0256	
2	6.629	6.629	0.000	60804690H	0.0250	0.0259	
						RPD = 1.28	
19 Chlorobenside							a
1	6.740	6.740	0.000	30563881H	0.0500	0.0417	a
2	7.043	7.043	0.000	33147851H	0.0500	0.0470	a
						RPD = 11.90	
* 44 Dibutylchlorendate ISTD							
1	8.175	8.175	0.001	95327770H	0.1000	0.1000	
2	8.296	8.296	0.000	80639286H	0.1000	0.1000	
38 Mirex							a
1	8.729	8.729	0.000	16694844H	0.0250	0.0250	a
2	9.147	9.147	0.000	15147896H	0.0250	0.0259	a
						RPD = 3.57	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

GCAPPIX1L3_00032	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 24-Oct-2019 15:03:16 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000004.D

Injection Date: 24-Oct-2019 12:07:49 Instrument ID: CHGC15 Operator ID: 402331

Lims ID: CCV Worklist Smp#: 4

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 4

Method: IS PEST_CHGC15 Limit Group: GCS 8081B ICAL with IS

Column: MR-1 (0.53 mm)

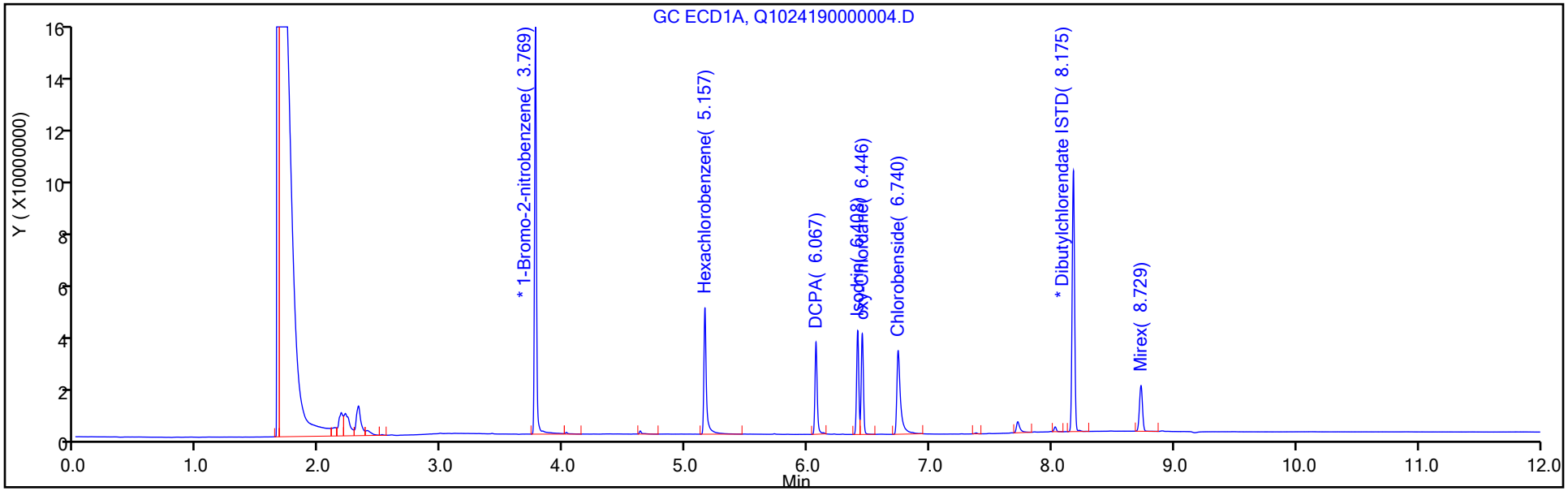

Column: MR-2 (0.53 mm)

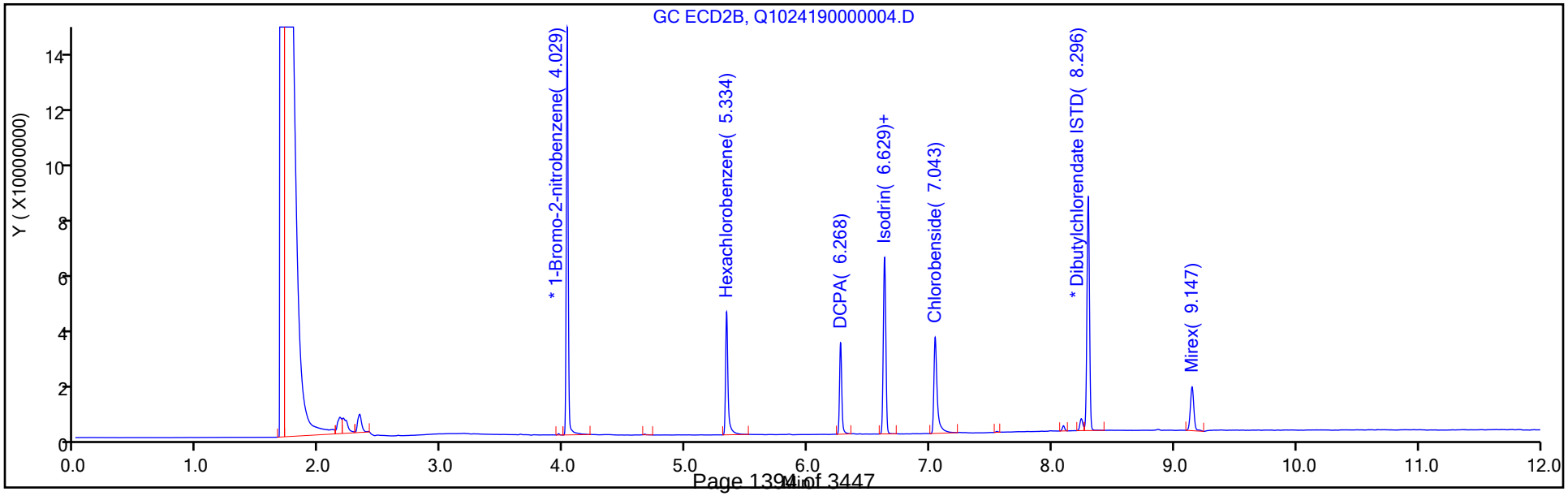

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000004.D				
Injection Date:	24-Oct-2019 12:07:49	Instrument ID:	CHGC15		
Lims ID:	CCV				
Client ID:					
Operator ID:	402331	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

38 Mirex, CAS: 2385-85-5

Signal: 1

Not Detected
Expected RT: 8.73

Processing Integration Results

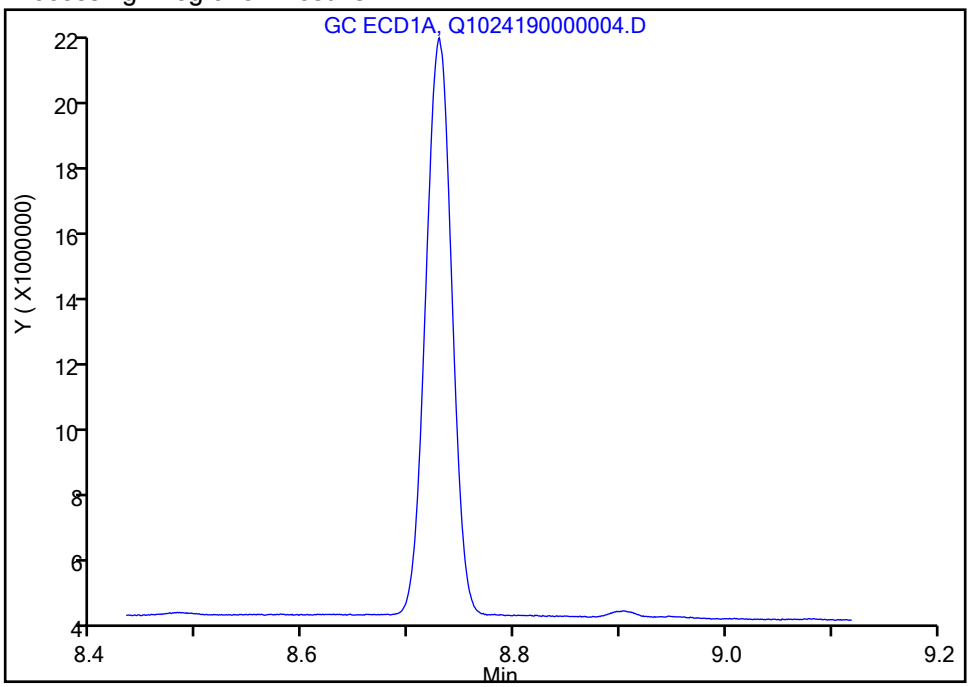

Manual Integration Results

RT: 8.73
Height: 16694844
Amount: 0.024958
Amount Units: ng

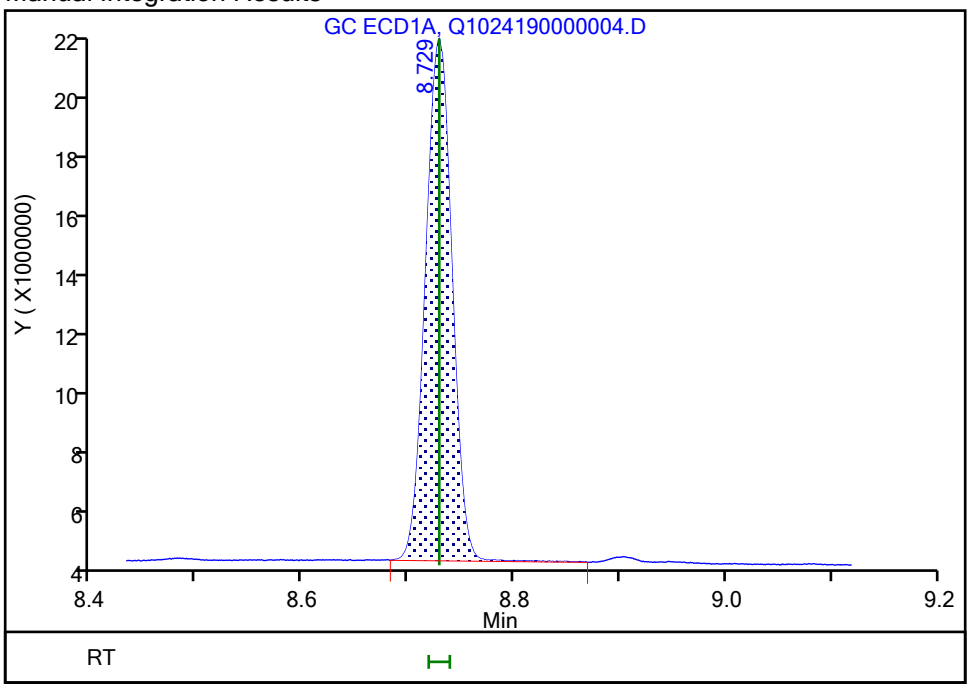

Reviewer: eppinged, 24-Oct-2019 12:22:08
Audit Action: Assigned Compound ID Audit Reason:

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCV 180-295908/4 Calibration Date: 10/24/2019 12:07

Instrument ID: CHGC15 Calib Start Date: 09/17/2019 13:44

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 09/17/2019 15:01

Lab File ID: Q1024190000004.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Mirex	Ave	0.7262	0.7514		0.0259	0.0250	3.5	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCV 180-295908/4 Calibration Date: 10/24/2019 12:07

Instrument ID: CHGC15 Calib Start Date: 09/17/2019 13:44

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 09/17/2019 15:01

Lab File ID: Q1024190000004.D

Analyte	RT	RT WINDOW	
		FROM	TO
Mirex	9.15	9.14	9.16

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000004.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 24-Oct-2019 12:07:49 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029246-004
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub8

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Oct-2019 15:03:16 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: eppinged Date: 24-Oct-2019 12:37:29

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.769	3.769	0.000	148767851H	0.1000	0.1000	
2	4.029	4.029	0.000	140485392H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.157	5.157	0.000	46158617H	0.0250	0.0255	
2	5.334	5.334	0.000	42389427H	0.0250	0.0224	
						RPD = 12.90	
12 DCPA							
1	6.067	6.067	0.000	33668942H	0.0250	0.0262	
2	6.268	6.268	0.000	31474175H	0.0250	0.0251	
						RPD = 4.13	
14 Isodrin							
1	6.408	6.408	0.000	37975248H	0.0250	0.0258	
2	6.629	6.629	0.000	60804690H	0.0250	0.0259	
						RPD = 0.72	
15 oxy-Chlordane							
1	6.446	6.446	0.000	36833240H	0.0250	0.0256	
2	6.629	6.629	0.000	60804690H	0.0250	0.0259	
						RPD = 1.28	
19 Chlorobenside							a
1	6.740	6.740	0.000	30563881H	0.0500	0.0417	a
2	7.043	7.043	0.000	33147851H	0.0500	0.0470	a
						RPD = 11.90	
* 44 Dibutylchlorendate ISTD							
1	8.175	8.175	0.001	95327770H	0.1000	0.1000	
2	8.296	8.296	0.000	80639286H	0.1000	0.1000	
38 Mirex							a
1	8.729	8.729	0.000	16694844H	0.0250	0.0250	a
2	9.147	9.147	0.000	15147896H	0.0250	0.0259	a
						RPD = 3.57	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

GCAPPIX1L3_00032	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 24-Oct-2019 15:03:17 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000004.D

Injection Date: 24-Oct-2019 12:07:49 Instrument ID: CHGC15 Operator ID: 402331

Lims ID: CCV Worklist Smp#: 4

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 4

Method: IS PEST_CHGC15 Limit Group: GCS 8081B ICAL with IS

Column: MR-1 (0.53 mm)

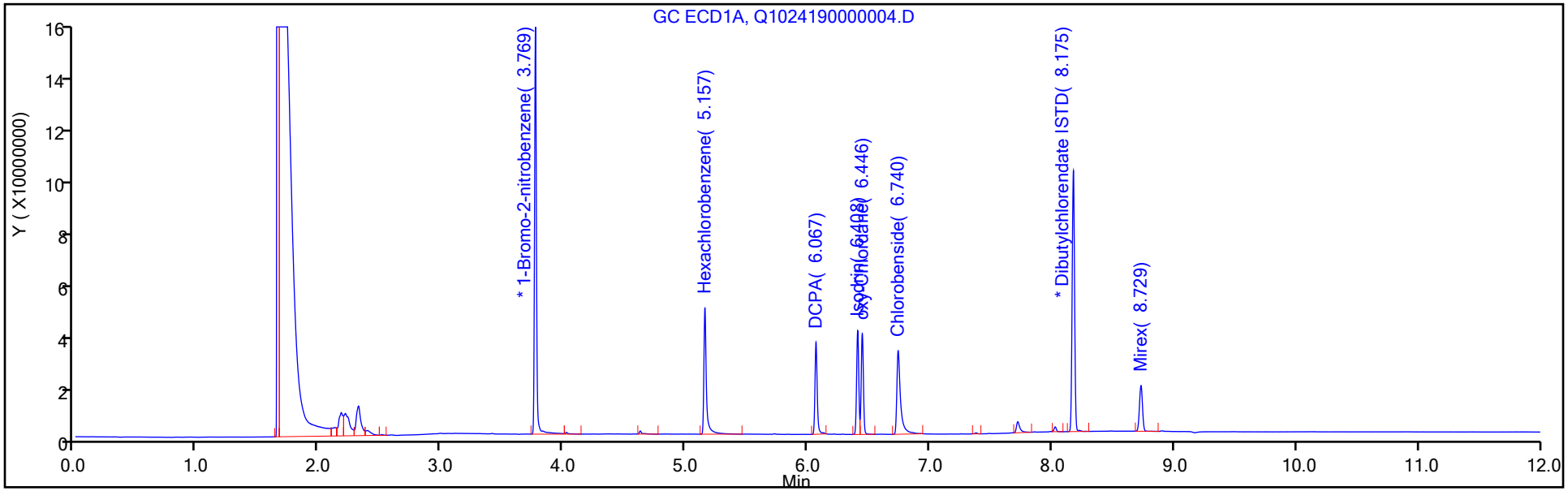

Column: MR-2 (0.53 mm)

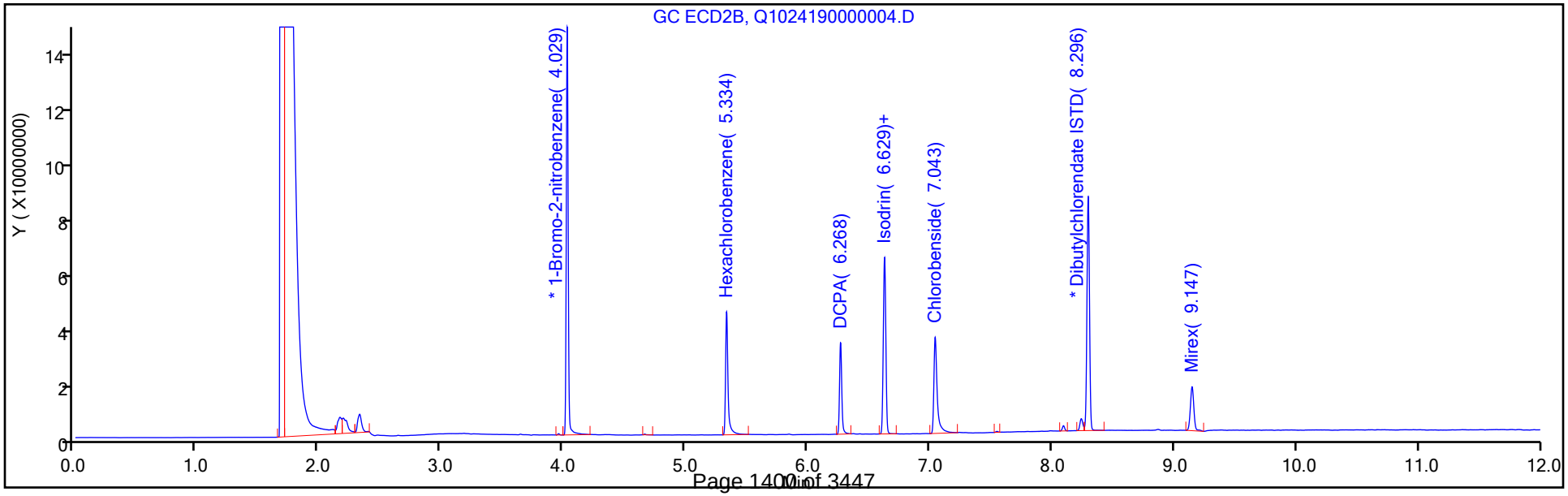

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000004.D				
Injection Date:	24-Oct-2019 12:07:49	Instrument ID:	CHGC15		
Lims ID:	CCV				
Client ID:					
Operator ID:	402331	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

38 Mirex, CAS: 2385-85-5

Signal: 2

Not Detected
Expected RT: 9.15

Processing Integration Results

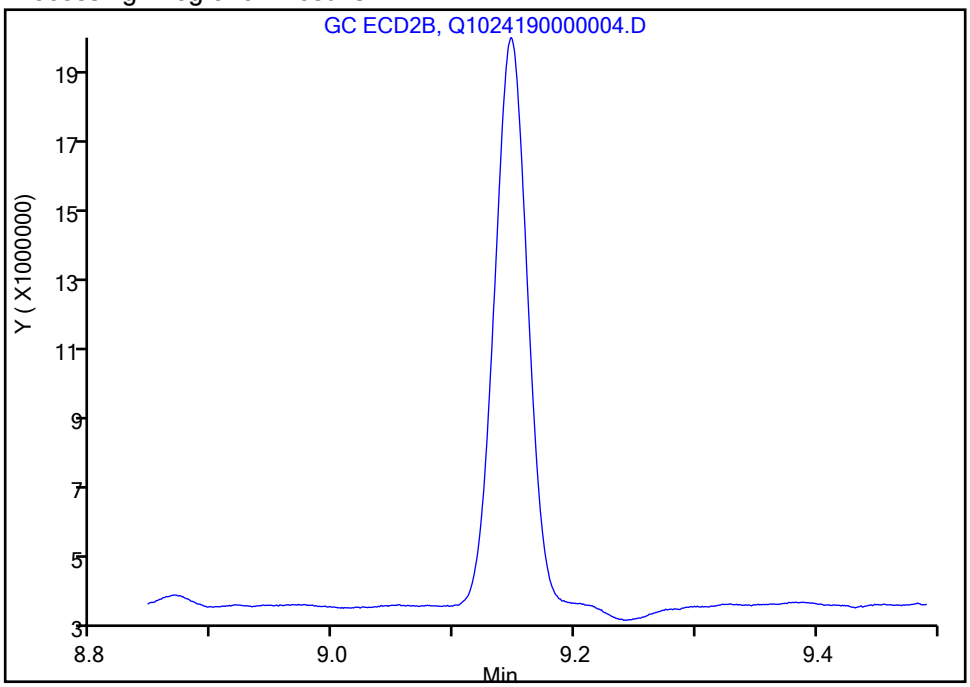

Manual Integration Results

RT: 9.15
Height: 15147896
Amount: 0.025866
Amount Units: ng

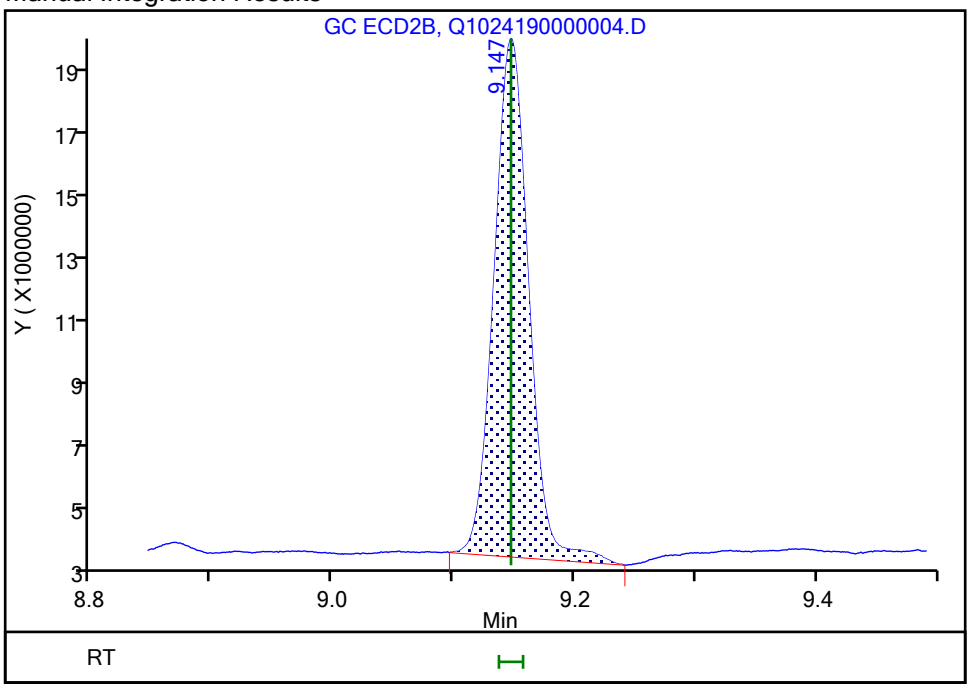

Reviewer: eppinged, 24-Oct-2019 12:22:14
Audit Action: Assigned Compound ID Audit Reason:

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCVIS 180-295908/5 Calibration Date: 10/24/2019 12:23

Instrument ID: CHGC15 Calib Start Date: 07/02/2019 15:33

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 07/02/2019 16:50

Lab File ID: Q1024190000005.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
alpha-BHC	Ave	1.584	1.632		0.0258	0.0250	3.0	20.0
gamma-BHC (Lindane)	Ave	1.396	1.387		0.0248	0.0250	-0.6	20.0
beta-BHC	Ave	0.5699	0.5078		0.0223	0.0250	-10.9	20.0
delta-BHC	Ave	1.288	1.131		0.0220	0.0250	-12.2	20.0
Heptachlor	Ave	1.235	1.307		0.0264	0.0250	5.8	20.0
Aldrin	Ave	1.277	1.296		0.0254	0.0250	1.5	20.0
Heptachlor epoxide	Ave	1.111	1.105		0.0249	0.0250	-0.5	20.0
trans-Chlordane	Ave	1.152	1.111		0.0241	0.0250	-3.5	20.0
cis-Chlordane	Ave	1.128	1.068		0.0237	0.0250	-5.3	20.0
Endosulfan I	Ave	1.016	0.9682		0.0238	0.0250	-4.7	20.0
4,4'-DDE	Ave	1.425	1.429		0.0251	0.0250	0.3	20.0
Dieldrin	Ave	1.469	1.658		0.0282	0.0250	12.9	20.0
Endrin	Ave	1.175	1.327		0.0283	0.0250	13.0	20.0
4,4'-DDD	Ave	1.167	1.155		0.0247	0.0250	-1.1	20.0
Endosulfan II	Ave	1.071	1.191		0.0278	0.0250	11.2	20.0
Endrin aldehyde	Ave	0.9084	0.999		0.0275	0.0250	10.0	20.0
4,4'-DDT	Ave	0.9234	1.009		0.0273	0.0250	9.3	20.0
Endosulfan sulfate	Ave	1.154	1.154		0.0250	0.0250	0.0	20.0
Methoxychlor	Ave	0.4035	0.4590		0.0284	0.0250	13.7	20.0
Endrin ketone	Ave	1.040	1.157		0.0278	0.0250	11.2	20.0
Tetrachloro-m-xylene	Ave	1.380	1.095		0.0198	0.0250	-20.6*	20.0
DCB Decachlorobiphenyl (Surr)	Ave	0.6918	0.6494		0.0235	0.0250	-6.1	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCVIS 180-295908/5 Calibration Date: 10/24/2019 12:23

Instrument ID: CHGC15 Calib Start Date: 07/02/2019 15:33

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 07/02/2019 16:50

Lab File ID: Q1024190000005.D

Analyte	RT	RT WINDOW	
		FROM	TO
alpha-BHC	5.12	5.11	5.13
gamma-BHC (Lindane)	5.38	5.37	5.39
beta-BHC	5.55	5.54	5.56
delta-BHC	5.74	5.73	5.75
Heptachlor	5.85	5.84	5.86
Aldrin	6.13	6.12	6.14
Heptachlor epoxide	6.49	6.48	6.50
trans-Chlordane	6.70	6.69	6.71
cis-Chlordane	6.77	6.76	6.78
Endosulfan I	6.82	6.81	6.83
4,4'-DDE	6.93	6.92	6.94
Dieldrin	7.05	7.04	7.06
Endrin	7.25	7.24	7.26
4,4'-DDD	7.38	7.37	7.39
Endosulfan II	7.45	7.44	7.46
Endrin aldehyde	7.57	7.56	7.58
4,4'-DDT	7.66	7.65	7.67
Endosulfan sulfate	7.78	7.77	7.79
Methoxychlor	8.10	8.09	8.11
Endrin ketone	8.23	8.22	8.24
Tetrachloro-m-xylene	4.76	4.75	4.77
DCB Decachlorobiphenyl (Surr)	9.94	9.93	9.95

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000005.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 24-Oct-2019 12:23:16 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029246-005
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub6

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Oct-2019 12:57:15 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: eppinged Date: 24-Oct-2019 12:44:20

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.769	3.769	0.000	150209497H	0.1000	0.1000	
2	4.029	4.029	0.000	145275398H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.758	4.758	0.000	41125617H	0.0250	0.0198	
2	4.903	4.903	0.000	39286716H	0.0250	0.0200	
						RPD = 0.91	
5 alpha-BHC							
1	5.119	5.119	0.000	61297547H	0.0250	0.0258	
2	5.371	5.371	0.000	55594514H	0.0250	0.0252	
						RPD = 2.01	
7 gamma-BHC (Lindane)							
1	5.382	5.382	0.000	52100396H	0.0250	0.0248	
2	5.675	5.675	0.000	48370148H	0.0250	0.0275	
						RPD = 10.12	
8 beta-BHC							
1	5.545	5.545	0.000	19070761H	0.0250	0.0223	
2	5.918	5.918	0.000	19461031H	0.0250	0.0224	
						RPD = 0.40	
10 delta-BHC							
1	5.743	5.743	0.000	42466794H	0.0250	0.0220	
2	6.151	6.151	0.000	41364120H	0.0250	0.0237	
						RPD = 7.66	
11 Heptachlor							
1	5.850	5.850	0.000	49065974H	0.0250	0.0264	
2	6.000	6.000	0.000	39147977H	0.0250	0.0239	
						RPD = 10.11	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
13 Aldrin							
1	6.130	6.130	0.000	48675926H	0.0250	0.0254	
2	6.272	6.272	0.000	42982163H	0.0250	0.0265	
						RPD = 4.43	
16 Heptachlor epoxide							
1	6.487	6.487	0.000	41489458H	0.0250	0.0249	
2	6.723	6.723	0.000	34785096H	0.0250	0.0245	
						RPD = 1.59	
18 trans-Chlordane							
1	6.704	6.704	0.000	41722582H	0.0250	0.0241	
2	6.951	6.951	0.000	38365834H	0.0250	0.0258	
						RPD = 6.75	
20 cis-Chlordane							
1	6.771	6.771	0.000	40096119H	0.0250	0.0237	
2	7.012	7.012	0.000	36694774H	0.0250	0.0255	
						RPD = 7.28	
21 Endosulfan I							
1	6.815	6.815	0.000	36356748H	0.0250	0.0238	
2	7.081	7.081	0.000	32156774H	0.0250	0.0259	
						RPD = 8.45	
23 4,4'-DDE							
1	6.925	6.925	0.000	35622038H	0.0250	0.0251	
2	7.149	7.149	0.000	35092317H	0.0250	0.0252	
						RPD = 0.68	
24 Dieldrin							
1	7.053	7.053	0.000	41336950H	0.0250	0.0282	
2	7.327	7.327	0.000	39026594H	0.0250	0.0276	
						RPD = 2.20	
27 Endrin							
1	7.253	7.253	0.000	33087589H	0.0250	0.0283	
2	7.595	7.595	0.000	29834650H	0.0250	0.0270	
						RPD = 4.60	
29 4,4'-DDD							
1	7.381	7.381	0.000	28783481H	0.0250	0.0247	
2	7.670	7.670	0.000	27939735H	0.0250	0.0251	
						RPD = 1.67	
31 Endosulfan II							
1	7.451	7.451	0.000	29681526H	0.0250	0.0278	
2	7.860	7.860	0.000	26645496H	0.0250	0.0257	
						RPD = 7.83	
32 Endrin aldehyde							
1	7.567	7.567	0.000	24904432H	0.0250	0.0275	
2	8.026	8.026	0.000	22269892H	0.0250	0.0268	
						RPD = 2.72	
33 4,4'-DDT							
1	7.657	7.657	0.000	25156632H	0.0250	0.0273	
2	7.915	7.915	0.000	24131496H	0.0250	0.0274	
						RPD = 0.35	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
35 Endosulfan sulfate							a
1	7.776	7.776	0.000	28767105H	0.0250	0.0250	a
2	8.250	8.250	0.000	24952205H	0.0250	0.0253	a
						RPD = 1.25	
36 Methoxychlor							
1	8.099	8.099	0.000	11441330H	0.0250	0.0284	
2	8.483	8.483	0.000	9859391H	0.0250	0.0271	
						RPD = 4.93	
* 44 Dibutylchlorendate ISTD							
1	8.175	8.175	0.000	99711002H	0.1000	0.1000	
2	8.296	8.296	0.000	84171445H	0.1000	0.1000	
37 Endrin ketone							
1	8.226	8.226	0.000	28842583H	0.0250	0.0278	
2	8.870	8.870	0.000	23277223H	0.0250	0.0263	
						RPD = 5.52	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	9.935	9.935	0.000	16188993H	0.0250	0.0235	
2	10.561	10.561	0.000	13708728H	0.0250	0.0231	
						RPD = 1.65	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

GCPestL3_00032	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 24-Oct-2019 12:57:15 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000005.D				
Injection Date:	24-Oct-2019 12:23:16	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	CCVIS			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

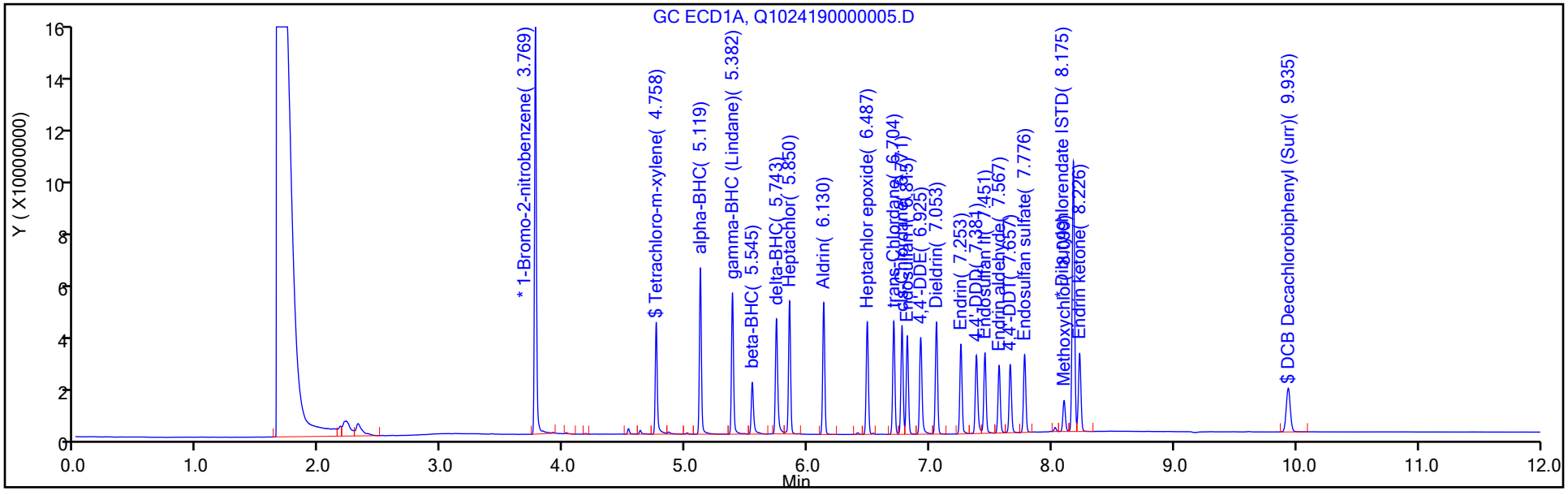

Column: MR-2 (0.53 mm)

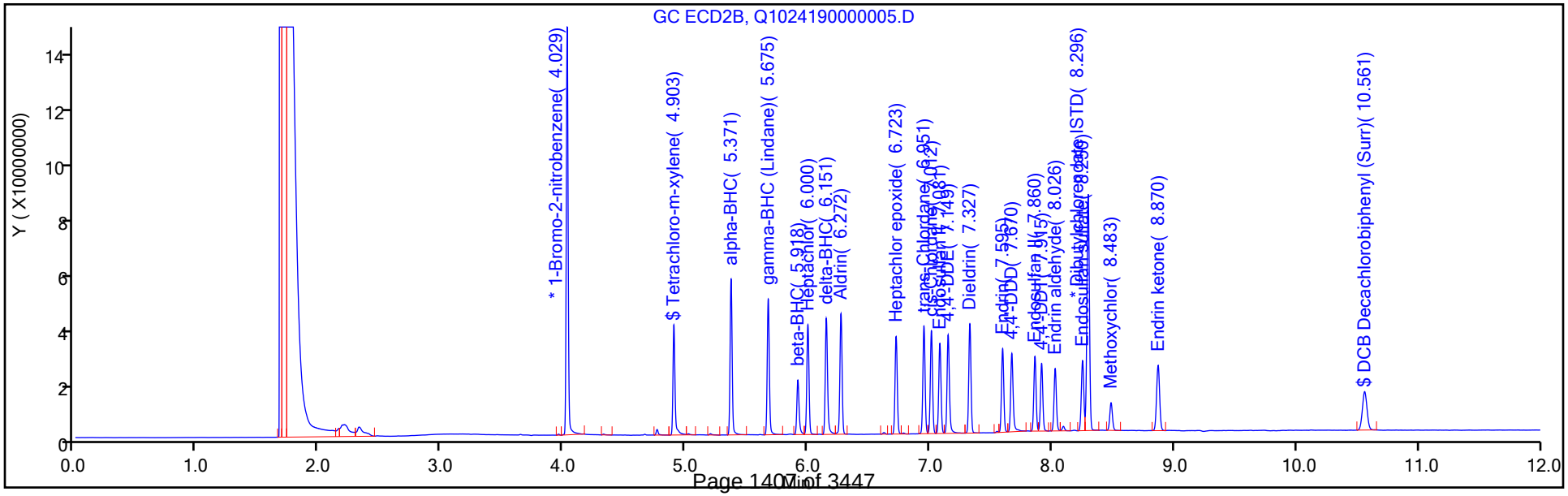

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000005.D				
Injection Date:	24-Oct-2019 12:23:16	Instrument ID:	CHGC15		
Lims ID:	CCVIS				
Client ID:					
Operator ID:	402331	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

35 Endosulfan sulfate, CAS: 1031-07-8

Signal: 1

Not Detected
Expected RT: 7.78

Processing Integration Results

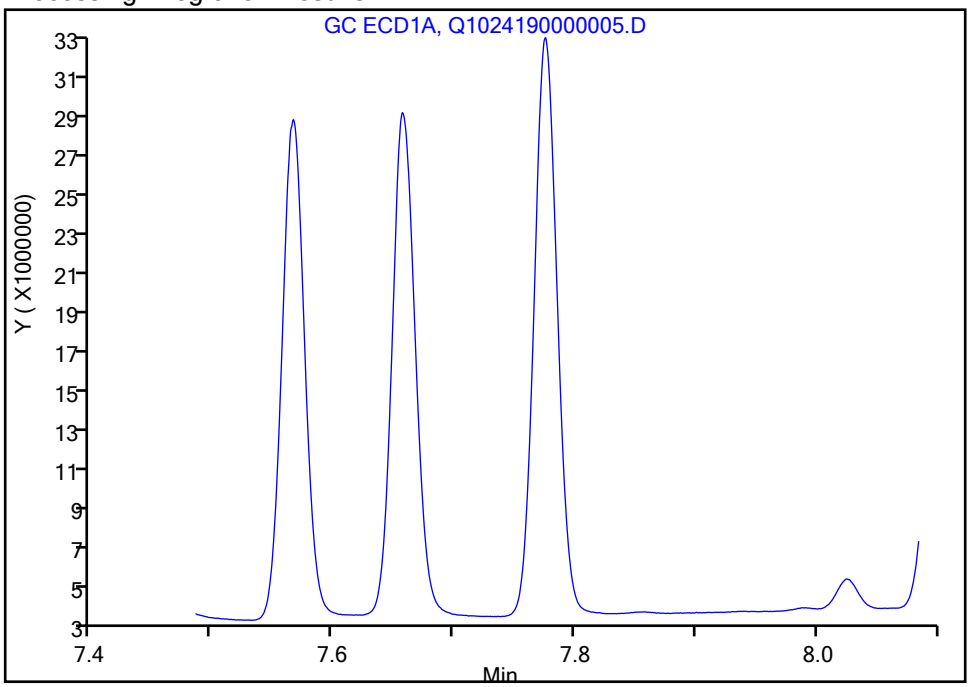

Manual Integration Results

RT: 7.78
Height: 28767105
Amount: 0.025006
Amount Units: ng

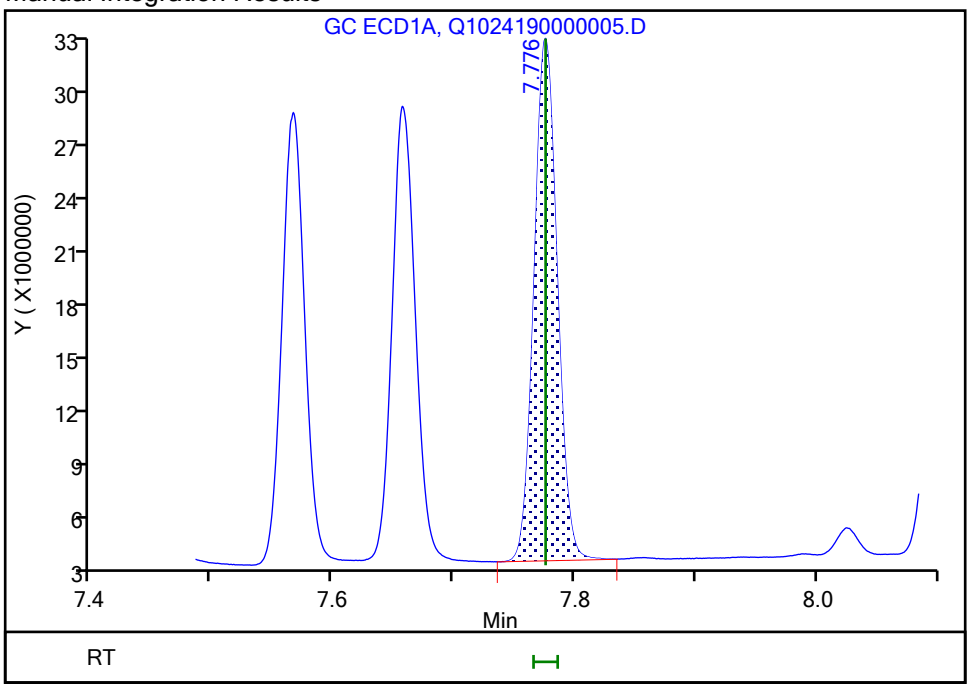

Reviewer: eppinged, 24-Oct-2019 12:38:37
Audit Action: Assigned Compound ID Audit Reason:

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCVIS 180-295908/5 Calibration Date: 10/24/2019 12:23

Instrument ID: CHGC15 Calib Start Date: 07/02/2019 15:33

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 07/02/2019 16:50

Lab File ID: Q1024190000005.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
alpha-BHC	Ave	1.516	1.531		0.0252	0.0250	1.0	20.0
gamma-BHC (Lindane)	Ave	1.211	1.332		0.0275	0.0250	10.0	20.0
beta-BHC	Ave	0.5990	0.5358		0.0224	0.0250	-10.5	20.0
Heptachlor	Ave	1.127	1.078		0.0239	0.0250	-4.4	20.0
delta-BHC	Ave	1.201	1.139		0.0237	0.0250	-5.2	20.0
Aldrin	Ave	1.115	1.183		0.0265	0.0250	6.1	20.0
Heptachlor epoxide	Ave	0.9784	0.9578		0.0245	0.0250	-2.1	20.0
trans-Chlordane	Ave	1.024	1.056		0.0258	0.0250	3.2	20.0
cis-Chlordane	Ave	0.9920	1.010		0.0255	0.0250	1.8	20.0
Endosulfan I	Ave	0.8537	0.8854		0.0259	0.0250	3.7	20.0
4,4'-DDE	Ave	1.652	1.668		0.0252	0.0250	1.0	20.0
Dieldrin	Ave	1.679	1.855		0.0276	0.0250	10.5	20.0
Endrin	Ave	1.314	1.418		0.0270	0.0250	7.9	20.0
4,4'-DDD	Ave	1.320	1.328		0.0251	0.0250	0.6	20.0
Endosulfan II	Ave	1.232	1.266		0.0257	0.0250	2.8	20.0
4,4'-DDT	Ave	1.046	1.147		0.0274	0.0250	9.7	20.0
Endrin aldehyde	Ave	0.9888	1.058		0.0268	0.0250	7.0	20.0
Endosulfan sulfate	Ave	1.171	1.186		0.0253	0.0250	1.3	20.0
Methoxychlor	Ave	0.4327	0.4685		0.0271	0.0250	8.3	20.0
Endrin ketone	Ave	1.051	1.106		0.0263	0.0250	5.2	20.0
Tetrachloro-m-xylene	Ave	1.350	1.082		0.0200	0.0250	-19.9	20.0
DCB Decachlorobiphenyl (Surr)	Ave	0.7055	0.6515		0.0231	0.0250	-7.7	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCVIS 180-295908/5 Calibration Date: 10/24/2019 12:23

Instrument ID: CHGC15 Calib Start Date: 07/02/2019 15:33

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 07/02/2019 16:50

Lab File ID: Q1024190000005.D

Analyte	RT	RT WINDOW	
		FROM	TO
alpha-BHC	5.37	5.36	5.38
gamma-BHC (Lindane)	5.68	5.67	5.69
beta-BHC	5.92	5.91	5.93
Heptachlor	6.00	5.99	6.01
delta-BHC	6.15	6.14	6.16
Aldrin	6.27	6.26	6.28
Heptachlor epoxide	6.72	6.71	6.73
trans-Chlordane	6.95	6.94	6.96
cis-Chlordane	7.01	7.00	7.02
Endosulfan I	7.08	7.07	7.09
4,4'-DDE	7.15	7.14	7.16
Dieldrin	7.33	7.32	7.34
Endrin	7.60	7.59	7.61
4,4'-DDD	7.67	7.66	7.68
Endosulfan II	7.86	7.85	7.87
4,4'-DDT	7.92	7.91	7.93
Endrin aldehyde	8.03	8.02	8.04
Endosulfan sulfate	8.25	8.24	8.26
Methoxychlor	8.48	8.47	8.49
Endrin ketone	8.87	8.86	8.88
Tetrachloro-m-xylene	4.90	4.89	4.91
DCB Decachlorobiphenyl (Surr)	10.56	10.55	10.57

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000005.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 24-Oct-2019 12:23:16 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029246-005
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub6

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Oct-2019 12:57:15 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: eppinged Date: 24-Oct-2019 12:44:20

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.769	3.769	0.000	150209497H	0.1000	0.1000	
2	4.029	4.029	0.000	145275398H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.758	4.758	0.000	41125617H	0.0250	0.0198	
2	4.903	4.903	0.000	39286716H	0.0250	0.0200	
						RPD = 0.91	
5 alpha-BHC							
1	5.119	5.119	0.000	61297547H	0.0250	0.0258	
2	5.371	5.371	0.000	55594514H	0.0250	0.0252	
						RPD = 2.01	
7 gamma-BHC (Lindane)							
1	5.382	5.382	0.000	52100396H	0.0250	0.0248	
2	5.675	5.675	0.000	48370148H	0.0250	0.0275	
						RPD = 10.12	
8 beta-BHC							
1	5.545	5.545	0.000	19070761H	0.0250	0.0223	
2	5.918	5.918	0.000	19461031H	0.0250	0.0224	
						RPD = 0.40	
10 delta-BHC							
1	5.743	5.743	0.000	42466794H	0.0250	0.0220	
2	6.151	6.151	0.000	41364120H	0.0250	0.0237	
						RPD = 7.66	
11 Heptachlor							
1	5.850	5.850	0.000	49065974H	0.0250	0.0264	
2	6.000	6.000	0.000	39147977H	0.0250	0.0239	
						RPD = 10.11	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
13 Aldrin							
1	6.130	6.130	0.000	48675926H	0.0250	0.0254	
2	6.272	6.272	0.000	42982163H	0.0250	0.0265	
						RPD = 4.43	
16 Heptachlor epoxide							
1	6.487	6.487	0.000	41489458H	0.0250	0.0249	
2	6.723	6.723	0.000	34785096H	0.0250	0.0245	
						RPD = 1.59	
18 trans-Chlordane							
1	6.704	6.704	0.000	41722582H	0.0250	0.0241	
2	6.951	6.951	0.000	38365834H	0.0250	0.0258	
						RPD = 6.75	
20 cis-Chlordane							
1	6.771	6.771	0.000	40096119H	0.0250	0.0237	
2	7.012	7.012	0.000	36694774H	0.0250	0.0255	
						RPD = 7.28	
21 Endosulfan I							
1	6.815	6.815	0.000	36356748H	0.0250	0.0238	
2	7.081	7.081	0.000	32156774H	0.0250	0.0259	
						RPD = 8.45	
23 4,4'-DDE							
1	6.925	6.925	0.000	35622038H	0.0250	0.0251	
2	7.149	7.149	0.000	35092317H	0.0250	0.0252	
						RPD = 0.68	
24 Dieldrin							
1	7.053	7.053	0.000	41336950H	0.0250	0.0282	
2	7.327	7.327	0.000	39026594H	0.0250	0.0276	
						RPD = 2.20	
27 Endrin							
1	7.253	7.253	0.000	33087589H	0.0250	0.0283	
2	7.595	7.595	0.000	29834650H	0.0250	0.0270	
						RPD = 4.60	
29 4,4'-DDD							
1	7.381	7.381	0.000	28783481H	0.0250	0.0247	
2	7.670	7.670	0.000	27939735H	0.0250	0.0251	
						RPD = 1.67	
31 Endosulfan II							
1	7.451	7.451	0.000	29681526H	0.0250	0.0278	
2	7.860	7.860	0.000	26645496H	0.0250	0.0257	
						RPD = 7.83	
32 Endrin aldehyde							
1	7.567	7.567	0.000	24904432H	0.0250	0.0275	
2	8.026	8.026	0.000	22269892H	0.0250	0.0268	
						RPD = 2.72	
33 4,4'-DDT							
1	7.657	7.657	0.000	25156632H	0.0250	0.0273	
2	7.915	7.915	0.000	24131496H	0.0250	0.0274	
						RPD = 0.35	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
35 Endosulfan sulfate							a
1	7.776	7.776	0.000	28767105H	0.0250	0.0250	a
2	8.250	8.250	0.000	24952205H	0.0250	0.0253	a
						RPD = 1.25	
36 Methoxychlor							
1	8.099	8.099	0.000	11441330H	0.0250	0.0284	
2	8.483	8.483	0.000	9859391H	0.0250	0.0271	
						RPD = 4.93	
* 44 Dibutylchlorendate ISTD							
1	8.175	8.175	0.000	99711002H	0.1000	0.1000	
2	8.296	8.296	0.000	84171445H	0.1000	0.1000	
37 Endrin ketone							
1	8.226	8.226	0.000	28842583H	0.0250	0.0278	
2	8.870	8.870	0.000	23277223H	0.0250	0.0263	
						RPD = 5.52	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	9.935	9.935	0.000	16188993H	0.0250	0.0235	
2	10.561	10.561	0.000	13708728H	0.0250	0.0231	
						RPD = 1.65	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

GCPestL3_00032	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 24-Oct-2019 12:57:16 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000005.D				
Injection Date:	24-Oct-2019 12:23:16	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	CCVIS			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

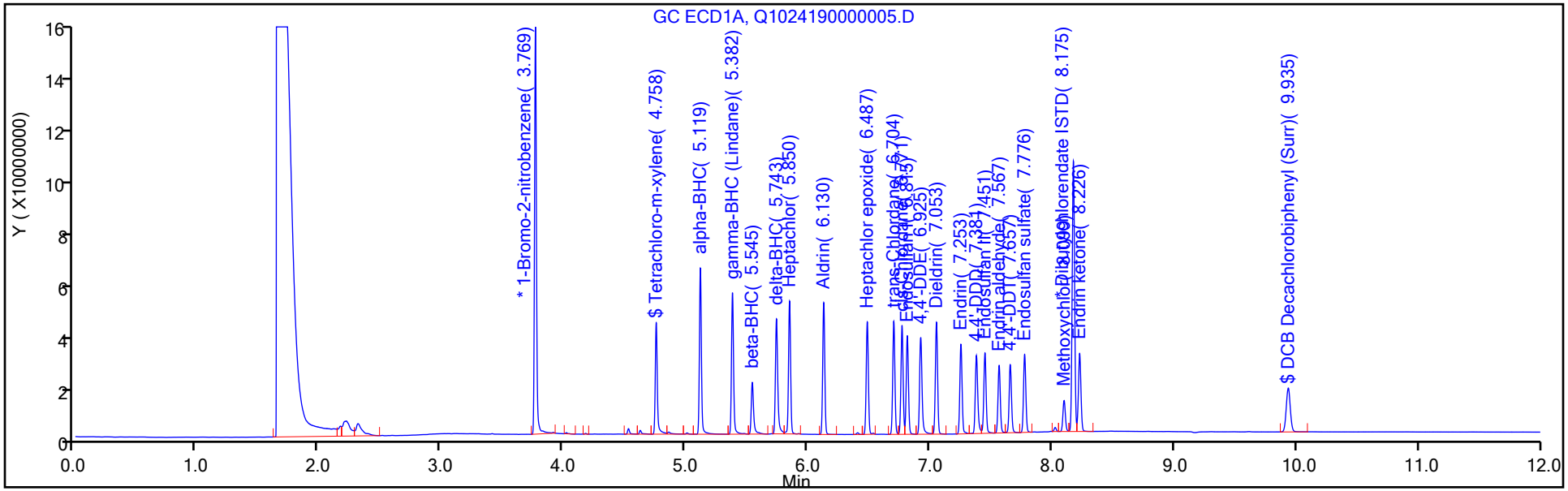

Column: MR-2 (0.53 mm)

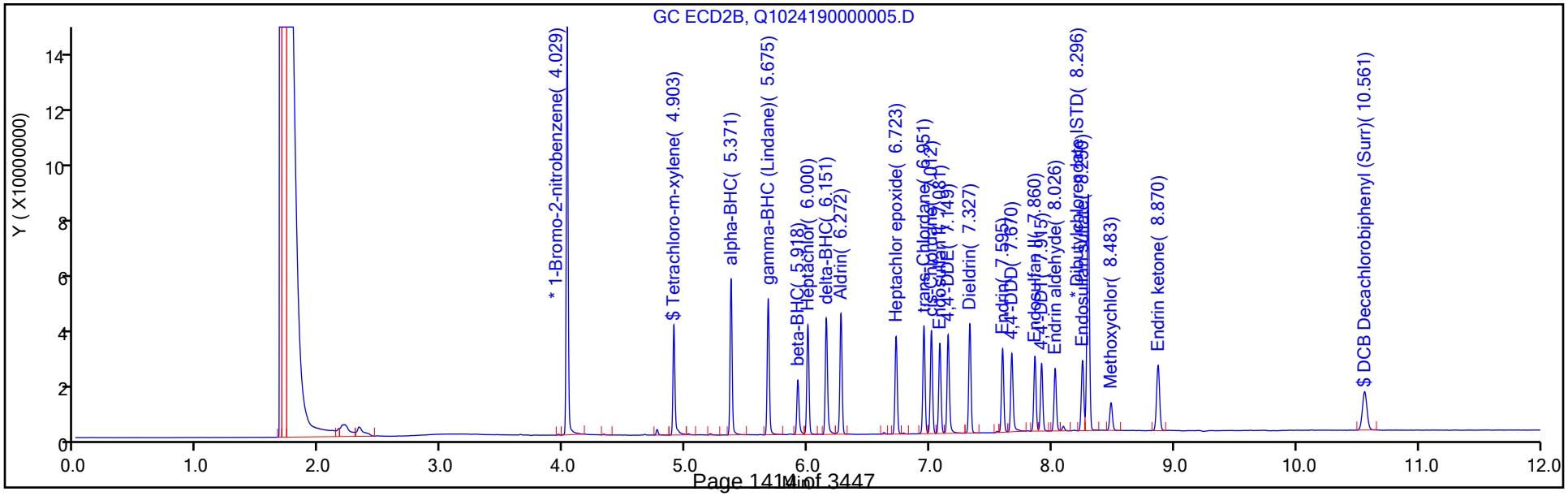

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000005.D				
Injection Date:	24-Oct-2019 12:23:16	Instrument ID:	CHGC15		
Lims ID:	CCVIS				
Client ID:					
Operator ID:	402331	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

35 Endosulfan sulfate, CAS: 1031-07-8

Signal: 2

Not Detected
Expected RT: 8.25

Processing Integration Results

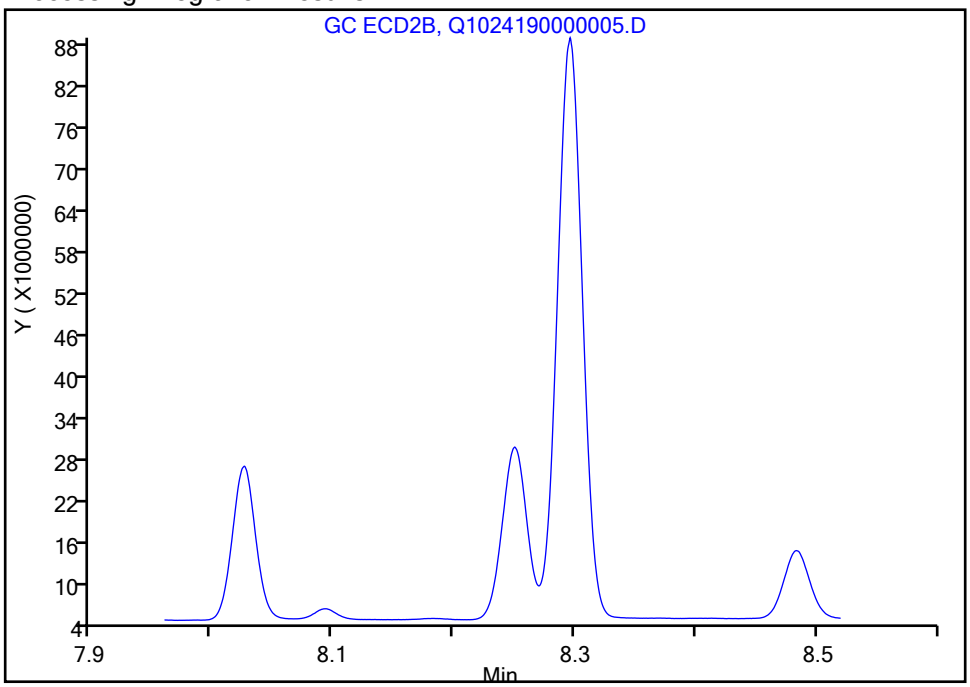

Manual Integration Results

RT: 8.25
Height: 24952205
Amount: 0.025321
Amount Units: ng

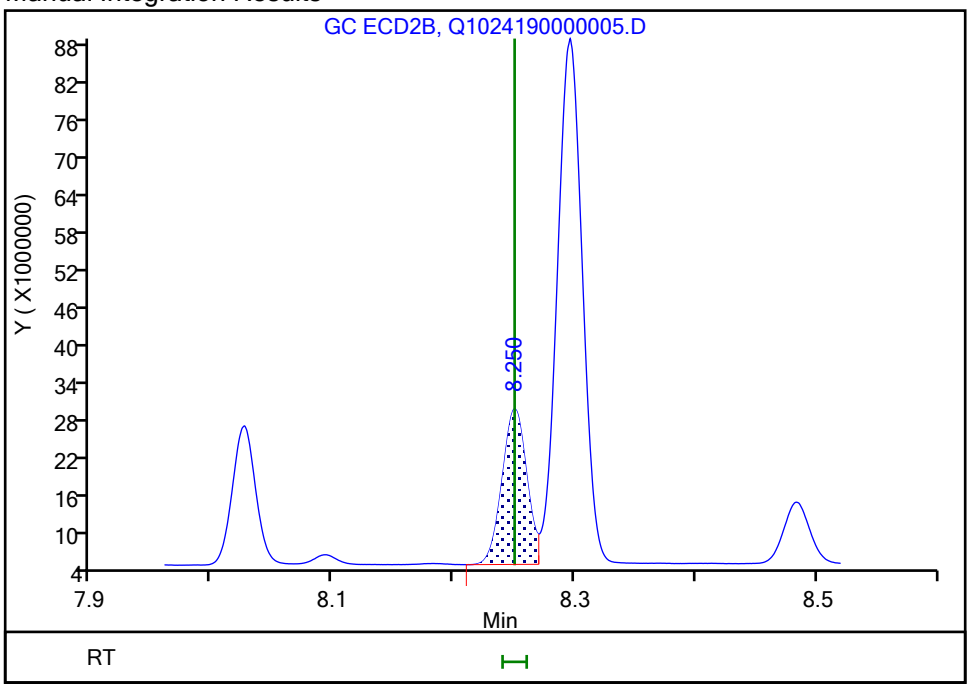

Reviewer: eppinged, 24-Oct-2019 12:38:46
Audit Action: Assigned Compound ID Audit Reason:

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-97287-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 180-295379/1-A
Matrix: Solid
Lab File ID: Q1024190000007.D
Analysis Method: EPA 8081B
Date Collected:
Extraction Method: 3510C
Date Extracted: 10/18/2019 10:30
Sample wt/vol: 100(mL)
Date Analyzed: 10/24/2019 12:54
Con. Extract Vol.: 40.0(mL)
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: MR-1 ID: 0.53(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 295908
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
12789-03-6	Chlordane (technical)	ND		0.0050	0.0029
72-20-8	Endrin	ND		0.00050	0.000091
58-89-9	gamma-BHC (Lindane)	ND		0.00050	0.00012
76-44-8	Heptachlor	ND		0.00050	0.00018
1024-57-3	Heptachlor epoxide	ND		0.00050	0.00014
72-43-5	Methoxychlor	ND		0.00050	0.00031
8001-35-2	Toxaphene	ND		0.040	0.020
72-54-8	4,4'-DDD	ND		0.00050	0.00021
72-55-9	4,4'-DDE	ND		0.00050	0.00012
50-29-3	4,4'-DDT	ND		0.00050	0.00012
60-57-1	Dieldrin	ND		0.00050	0.00011
959-98-8	Endosulfan I	ND		0.00050	0.00027
2385-85-5	Mirex	ND		0.00050	0.000084
1031-07-8	Endosulfan sulfate	ND		0.00050	0.00026
33213-65-9	Endosulfan II	ND		0.00050	0.00013

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	90		62-150
877-09-8	Tetrachloro-m-xylene	73		54-138

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000007.D
Lims ID: MB 180-295379/1-A
Client ID:
Sample Type: MB
Inject. Date: 24-Oct-2019 12:54:23 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029258-007
Operator ID: 402331 Instrument ID: CHGC15

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Oct-2019 11:07:34 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: eppinged Date: 24-Oct-2019 13:12:57

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.769	3.769	0.000	170999647H	0.1000	0.1000	
2	4.029	4.029	0.000	165157985H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.758	4.758	0.000	34671700H	0.0200	0.0147	
2	4.902	4.903	-0.001	32491041H	0.0200	0.0146	
						RPD = 0.87	
4 Diallate							
1		4.902				ND	
1		4.990					
2		5.013					
2		5.098					
5 alpha-BHC							
1		5.119				ND	
2		5.371					
6 Hexachlorobenzene							
1		5.157				ND	
2		5.334					
7 gamma-BHC (Lindane)							
1		5.382				ND	
2		5.675					
8 beta-BHC							
1		5.545				ND	
2		5.918					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 Chlordane (technical)							
1		5.677				ND	
1		5.850					
1		6.705					
1		6.774					
2		6.000					
2		6.359					
2		6.964					
2		7.011					
10 delta-BHC							
1		5.743				ND	
2		6.151					
11 Heptachlor							
1		5.850				ND	
2		6.000					
12 DCPA							
1		6.067				ND	
2		6.268					
13 Aldrin							
1		6.130				ND	
2		6.272					
14 Isodrin							
1		6.408				ND	
2		6.629					
15 oxy-Chlordane							
1		6.446				ND	
2		6.629					
16 Heptachlor epoxide							
1		6.487				ND	
2		6.723					
17 2,4'-DDE							
1		6.619				ND	
2		6.856					
18 trans-Chlordane							
1		6.704				ND	
2		6.951					
19 Chlorobenside							
1		6.740				ND	
2		7.043					
22 trans-Nonachlor							
1		6.769				ND	
2		6.957					
20 cis-Chlordane							
1		6.771				ND	
2		7.012					
21 Endosulfan I							
1		6.815				ND	
2		7.081					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
23 4,4'-DDE							
1		6.925				ND	
2		7.149					
34 Toxaphene							
1		6.964				ND	
1		7.230					
1		7.611					
1		7.851					
2		7.184					
2		7.315					
2		7.817					
2		8.536					
25 2,4'-DDD							
1		7.007				ND	
2		7.301					
24 Dieldrin							
1		7.053				ND	
2		7.327					
27 Endrin							
1		7.253				ND	
2		7.595					
28 2,4'-DDT							
1		7.281				ND	
2		7.548					
30 cis-Nonachlor							
1		7.340				ND	
2		7.624					
29 4,4'-DDD							
1		7.381				ND	
2		7.670					
31 Endosulfan II							
1		7.451				ND	
2		7.860					
32 Endrin aldehyde							
1		7.567				ND	
2		8.026					
33 4,4'-DDT							
1		7.657				ND	
2		7.915					
35 Endosulfan sulfate							
1		7.776				ND	
2		8.250					
36 Methoxychlor							
1		8.099				ND	
2		8.483					
* 44 Dibutylchlorendate ISTD							
1	8.175	8.175	0.000	114212220H	0.1000	0.1000	
2	8.295	8.296	-0.001	96262835H	0.1000	0.1000	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
37 Endrin ketone							
1		8.226				ND	
2		8.870					
38 Mirex							
1		8.729				ND	
2		9.147					
$ 39 DCB Decachlorobiphenyl (Surr)							
1	9.936	9.935	0.001	14259972H	0.0200	0.0180	
2	10.561	10.561	0.000	11979768H	0.0200	0.0176	
						RPD = 2.29	

Reagents:

GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 24-Oct-2019 13:13:01 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000007.D				
Injection Date:	24-Oct-2019 12:54:23	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	MB 180-295379/1-A			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

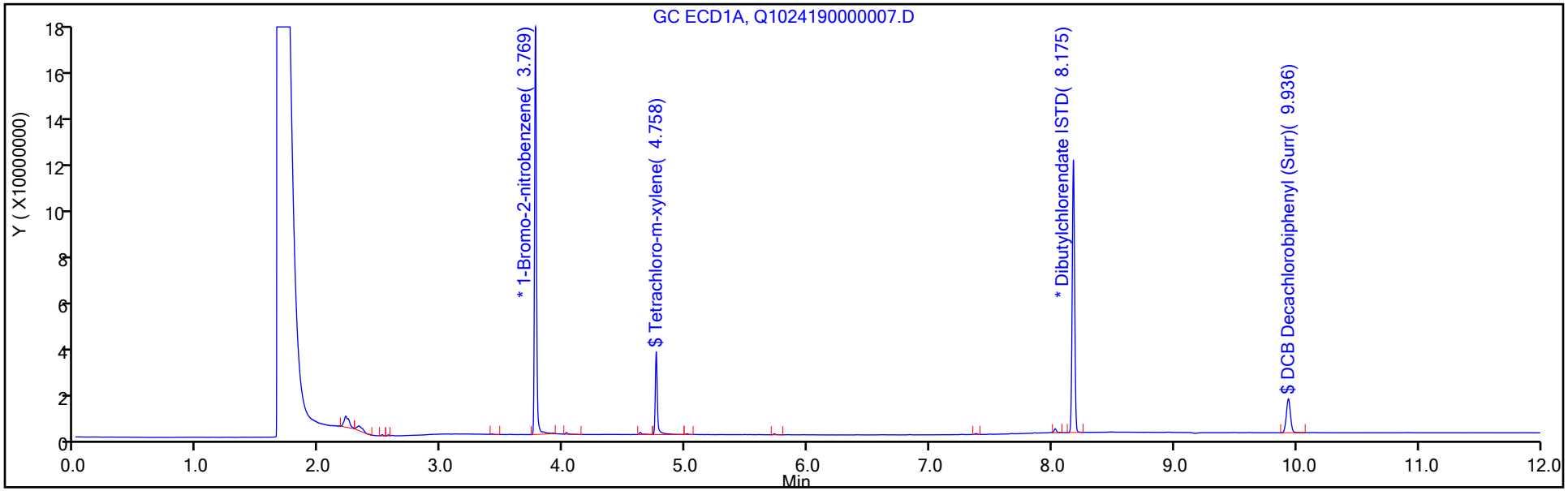

Column: MR-2 (0.53 mm)

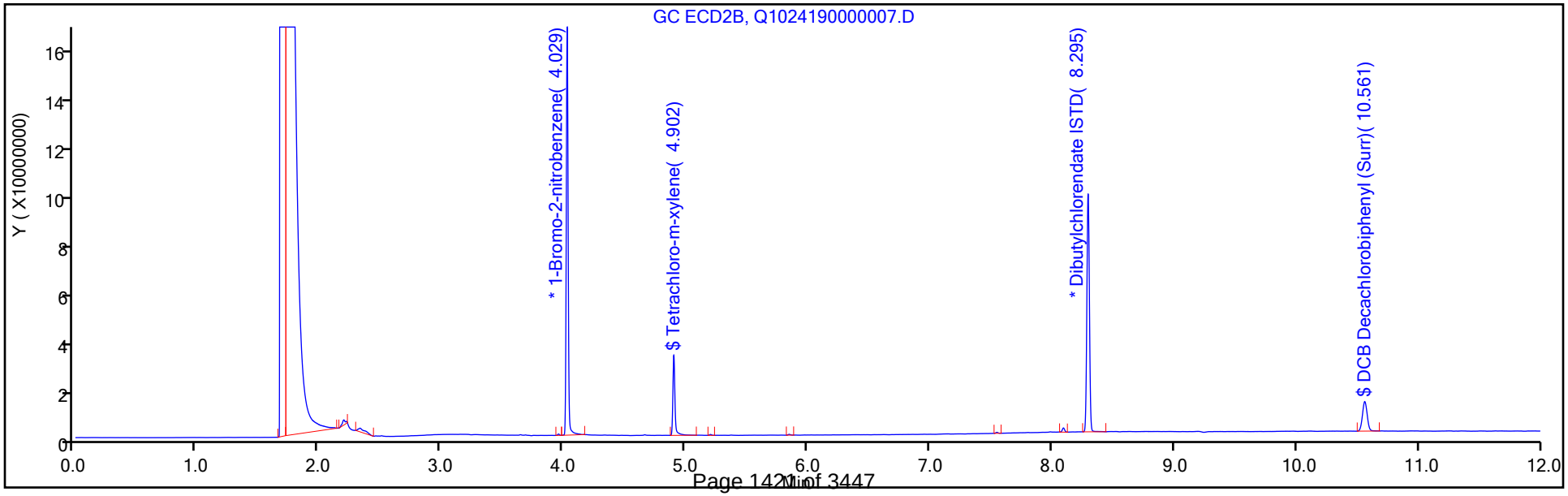

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000007.D				
Lims ID:	MB 180-295379/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	24-Oct-2019 12:54:23	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0029258-007				
Operator ID:	402331	Instrument ID:	CHGC15		
Method:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\IS PEST_CHGC15.m				
Limit Group:	GCS 8081B ICAL with IS				
Last Update:	24-Oct-2019 11:07:34	Calib Date:	17-Sep-2019 16:34:44		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D				
Column 1 :	MR-1 (0.53 mm)		Det: GC ECD1A		
Column 2 :	MR-2 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0310				
First Level Reviewer: eppinged		Date:	24-Oct-2019 13:12:57		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0147	73.48
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0180	90.24

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0146	72.84
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0176	88.20

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 180-295379/1-A

Matrix: Solid Lab File ID: Q1024190000007.D

Analysis Method: EPA 8081B Date Collected:

Extraction Method: 3510C Date Extracted: 10/18/2019 10:30

Sample wt/vol: 100(mL) Date Analyzed: 10/24/2019 12:54

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: MR-2 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 295908 Units: mg/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	88		62-150
877-09-8	Tetrachloro-m-xylene	73		54-138

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000007.D
Lims ID: MB 180-295379/1-A
Client ID:
Sample Type: MB
Inject. Date: 24-Oct-2019 12:54:23 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029258-007
Operator ID: 402331 Instrument ID: CHGC15

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Oct-2019 11:07:34 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: eppinged Date: 24-Oct-2019 13:12:57

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.769	3.769	0.000	170999647H	0.1000	0.1000	
2	4.029	4.029	0.000	165157985H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.758	4.758	0.000	34671700H	0.0200	0.0147	
2	4.902	4.903	-0.001	32491041H	0.0200	0.0146	
						RPD = 0.87	
4 Diallate							
1		4.902				ND	
1		4.990					
2		5.013					
2		5.098					
5 alpha-BHC							
1		5.119				ND	
2		5.371					
6 Hexachlorobenzene							
1		5.157				ND	
2		5.334					
7 gamma-BHC (Lindane)							
1		5.382				ND	
2		5.675					
8 beta-BHC							
1		5.545				ND	
2		5.918					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 Chlordane (technical)							
1		5.677				ND	
1		5.850					
1		6.705					
1		6.774					
2		6.000					
2		6.359					
2		6.964					
2		7.011					
10 delta-BHC							
1		5.743				ND	
2		6.151					
11 Heptachlor							
1		5.850				ND	
2		6.000					
12 DCPA							
1		6.067				ND	
2		6.268					
13 Aldrin							
1		6.130				ND	
2		6.272					
14 Isodrin							
1		6.408				ND	
2		6.629					
15 oxy-Chlordane							
1		6.446				ND	
2		6.629					
16 Heptachlor epoxide							
1		6.487				ND	
2		6.723					
17 2,4'-DDE							
1		6.619				ND	
2		6.856					
18 trans-Chlordane							
1		6.704				ND	
2		6.951					
19 Chlorobenside							
1		6.740				ND	
2		7.043					
22 trans-Nonachlor							
1		6.769				ND	
2		6.957					
20 cis-Chlordane							
1		6.771				ND	
2		7.012					
21 Endosulfan I							
1		6.815				ND	
2		7.081					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
23 4,4'-DDE							
1		6.925				ND	
2		7.149					
34 Toxaphene							
1		6.964				ND	
1		7.230					
1		7.611					
1		7.851					
2		7.184					
2		7.315					
2		7.817					
2		8.536					
25 2,4'-DDD							
1		7.007				ND	
2		7.301					
24 Dieldrin							
1		7.053				ND	
2		7.327					
27 Endrin							
1		7.253				ND	
2		7.595					
28 2,4'-DDT							
1		7.281				ND	
2		7.548					
30 cis-Nonachlor							
1		7.340				ND	
2		7.624					
29 4,4'-DDD							
1		7.381				ND	
2		7.670					
31 Endosulfan II							
1		7.451				ND	
2		7.860					
32 Endrin aldehyde							
1		7.567				ND	
2		8.026					
33 4,4'-DDT							
1		7.657				ND	
2		7.915					
35 Endosulfan sulfate							
1		7.776				ND	
2		8.250					
36 Methoxychlor							
1		8.099				ND	
2		8.483					
* 44 Dibutylchlorendate ISTD							
1	8.175	8.175	0.000	114212220H	0.1000	0.1000	
2	8.295	8.296	-0.001	96262835H	0.1000	0.1000	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
37 Endrin ketone							
1		8.226				ND	
2		8.870					
38 Mirex							
1		8.729				ND	
2		9.147					
$ 39 DCB Decachlorobiphenyl (Surr)							
1	9.936	9.935	0.001	14259972H	0.0200	0.0180	
2	10.561	10.561	0.000	11979768H	0.0200	0.0176	
						RPD = 2.29	

Reagents:

GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 24-Oct-2019 13:13:01 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000007.D				
Injection Date:	24-Oct-2019 12:54:23	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	MB 180-295379/1-A			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

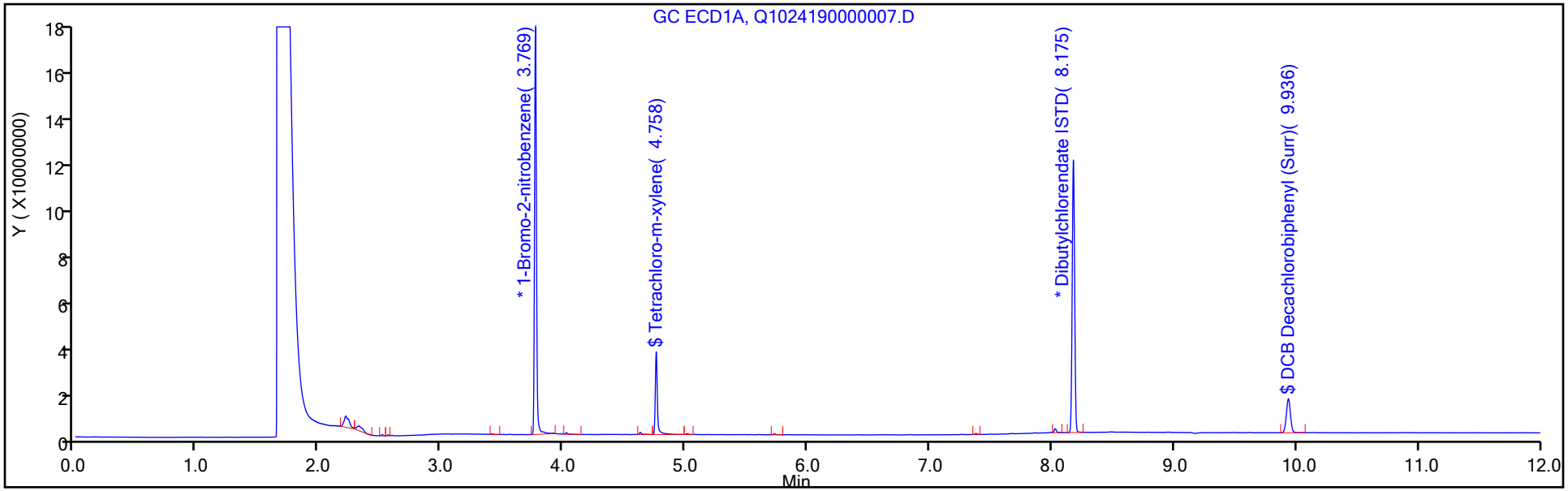

Column: MR-2 (0.53 mm)

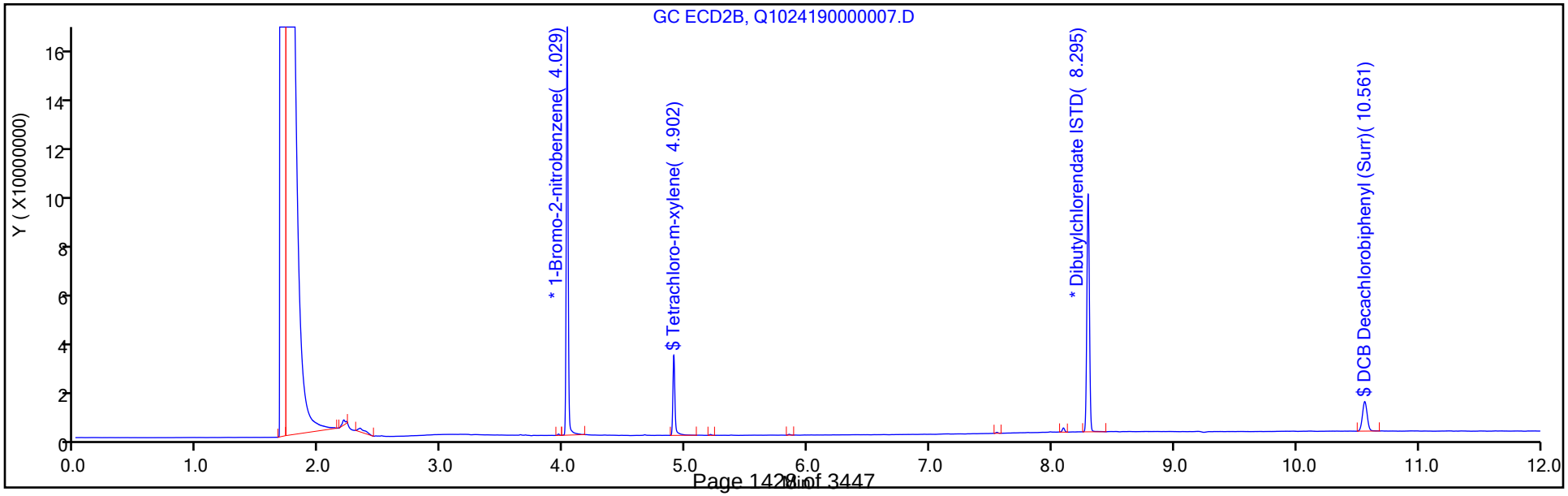

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000007.D				
Lims ID:	MB 180-295379/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	24-Oct-2019 12:54:23	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0029258-007				
Operator ID:	402331	Instrument ID:	CHGC15		
Method:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\IS PEST_CHGC15.m				
Limit Group:	GCS 8081B ICAL with IS				
Last Update:	24-Oct-2019 11:07:34	Calib Date:	17-Sep-2019 16:34:44		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D				
Column 1 :	MR-1 (0.53 mm)		Det: GC ECD1A		
Column 2 :	MR-2 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0310				
First Level Reviewer: eppinged		Date:	24-Oct-2019 13:12:57		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0147	73.48
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0180	90.24

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0146	72.84
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0176	88.20

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Client Sample ID: Lab Sample ID: LB 180-295177/1-B

Matrix: Solid (TCLP) Lab File ID: Q1024190000010.D

Analysis Method: EPA 8081B Date Collected:

Extraction Method: 3510C Date Extracted: 10/18/2019 10:30

Sample wt/vol: 100(mL) Date Analyzed: 10/24/2019 13:40

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: MR-1 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 295908 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
12789-03-6	Chlordane (technical)	ND		0.0050	0.0029
72-20-8	Endrin	ND		0.00050	0.000091
58-89-9	gamma-BHC (Lindane)	ND		0.00050	0.00012
76-44-8	Heptachlor	ND		0.00050	0.00018
1024-57-3	Heptachlor epoxide	ND		0.00050	0.00014
72-43-5	Methoxychlor	ND		0.00050	0.00031
8001-35-2	Toxaphene	ND		0.040	0.020
72-54-8	4,4'-DDD	ND		0.00050	0.00021
72-55-9	4,4'-DDE	ND		0.00050	0.00012
50-29-3	4,4'-DDT	ND		0.00050	0.00012
60-57-1	Dieldrin	ND		0.00050	0.00011
959-98-8	Endosulfan I	ND		0.00050	0.00027
2385-85-5	Mirex	ND		0.00050	0.000084
1031-07-8	Endosulfan sulfate	ND		0.00050	0.00026
33213-65-9	Endosulfan II	ND		0.00050	0.00013

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	88		62-150
877-09-8	Tetrachloro-m-xylene	70		54-138

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000010.D
Lims ID: LB 180-295177/1-B
Client ID:
Sample Type: LB
Inject. Date: 24-Oct-2019 13:40:57 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029258-010
Operator ID: 402331 Instrument ID: CHGC15

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Oct-2019 11:55:30 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: eppinged Date: 24-Oct-2019 14:02:27

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.769	3.769	0.000	173378791H	0.1000	0.1000	
2	4.029	4.029	0.000	160913749H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.757	4.758	-0.001	33341716H	0.0200	0.0139	
2	4.903	4.903	0.000	31628784H	0.0200	0.0146	
						RPD = 4.33	
4 Diallate							
1		4.902				ND	
1		4.990					
2		5.013					
2		5.098					
5 alpha-BHC							
1		5.119				ND	
2		5.371					
6 Hexachlorobenzene							
1		5.157				ND	
2		5.334					
7 gamma-BHC (Lindane)							
1		5.382				ND	
2		5.675					
8 beta-BHC							
1		5.545				ND	
2		5.918					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 Chlordane (technical)							
1		5.677				ND	
1		5.850					
1		6.705					
1		6.774					
2		6.000					
2		6.359					
2		6.964					
2		7.011					
10 delta-BHC							
1		5.743				ND	
2		6.151					
11 Heptachlor							
1		5.850				ND	
2		6.000					
12 DCPA							
1		6.067				ND	
2		6.268					
13 Aldrin							
1		6.130				ND	
2		6.272					
14 Isodrin							
1		6.408				ND	
2		6.629					
15 oxy-Chlordane							
1		6.446				ND	
2		6.629					
16 Heptachlor epoxide							
1		6.487				ND	
2		6.723					
17 2,4'-DDE							
1		6.619				ND	
2		6.856					
18 trans-Chlordane							
1		6.704				ND	
2		6.951					
19 Chlorobenside							
1		6.740				ND	
2		7.043					
22 trans-Nonachlor							
1		6.769				ND	
2		6.957					
20 cis-Chlordane							
1		6.771				ND	
2		7.012					
21 Endosulfan I							
1		6.815				ND	
2		7.081					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
23 4,4'-DDE							
1		6.925				ND	
2		7.149					
34 Toxaphene							
1		6.964				ND	
1		7.230					
1		7.611					
1		7.851					
2		7.184					
2		7.315					
2		7.817					
2		8.536					
25 2,4'-DDD							
1		7.007				ND	
2		7.301					
24 Dieldrin							
1		7.053				ND	
2		7.327					
27 Endrin							
1		7.253				ND	
2		7.595					
28 2,4'-DDT							
1		7.281				ND	
2		7.548					
30 cis-Nonachlor							
1		7.340				ND	
2		7.624					
29 4,4'-DDD							
1		7.381				ND	
2		7.670					
31 Endosulfan II							
1		7.451				ND	
2		7.860					
32 Endrin aldehyde							
1		7.567				ND	
2		8.026					
33 4,4'-DDT							
1		7.657				ND	
2		7.915					
35 Endosulfan sulfate							
1		7.776				ND	
2		8.250					
36 Methoxychlor							
1		8.099				ND	
2		8.483					
* 44 Dibutylchlorendate ISTD							
1	8.174	8.175	-0.001	114249203H	0.1000	0.1000	
2	8.296	8.296	0.000	94455733H	0.1000	0.1000	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
37 Endrin ketone							
1		8.226				ND	
2		8.870					
38 Mirex							
1		8.729				ND	
2		9.147					
$ 39 DCB Decachlorobiphenyl (Surr)							
1	9.935	9.935	0.000	13842283H	0.0200	0.0175	
2	10.560	10.561	-0.001	11739573H	0.0200	0.0176	
						RPD = 0.59	

Reagents:

GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 24-Oct-2019 14:02:33 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000010.D				
Injection Date:	24-Oct-2019 13:40:57	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	LB 180-295177/1-B			Worklist Smp#:	10
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

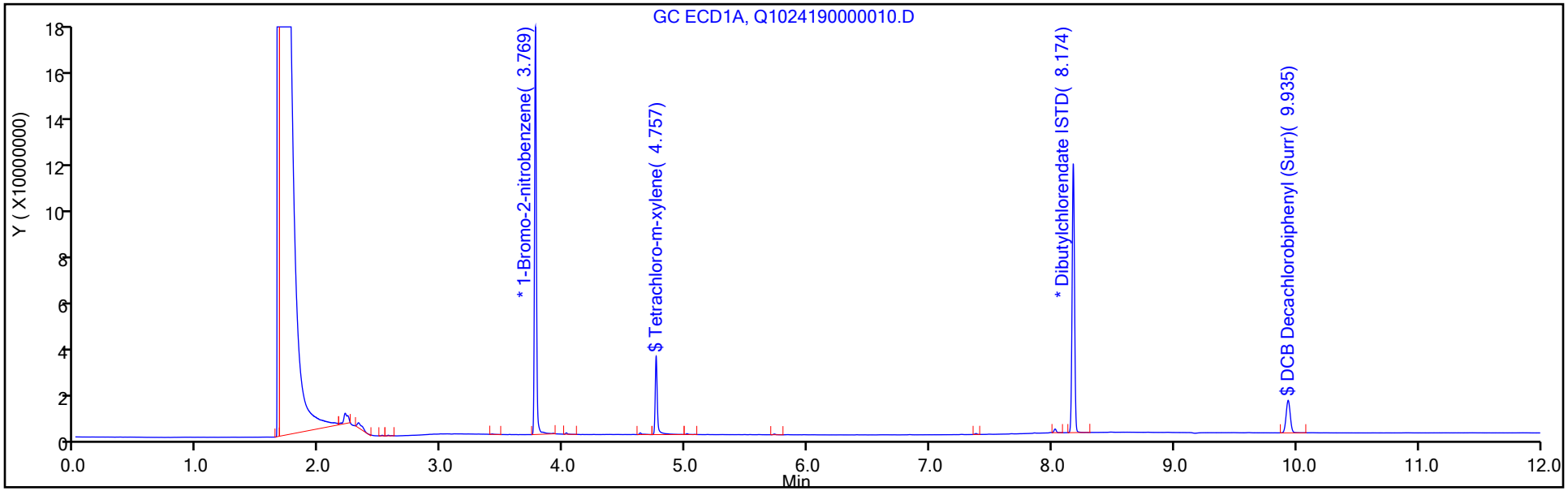

Column: MR-2 (0.53 mm)

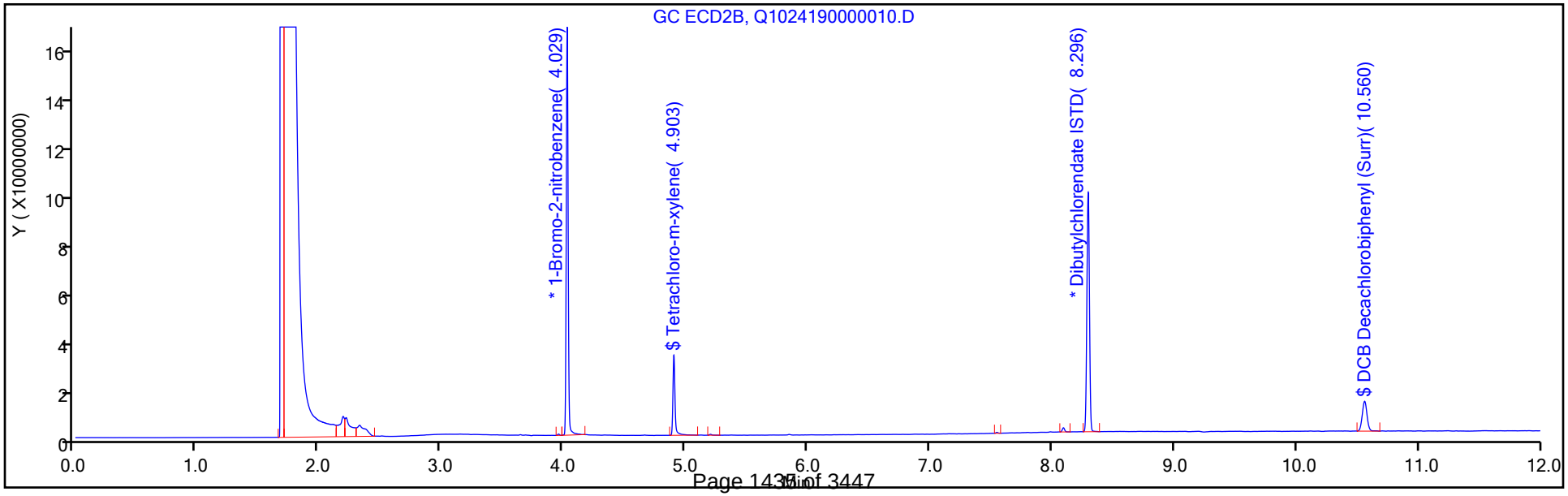

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000010.D				
Lims ID:	LB 180-295177/1-B				
Client ID:					
Sample Type:	LB				
Inject. Date:	24-Oct-2019 13:40:57	ALS Bottle#:	10	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0029258-010				
Operator ID:	402331	Instrument ID:	CHGC15		

Method:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\IS PEST_CHGC15.m		
Limit Group:	GCS 8081B ICAL with IS		
Last Update:	24-Oct-2019 11:55:30	Calib Date:	17-Sep-2019 16:34:44
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D		

Column 1 :	MR-1 (0.53 mm)	Det: GC ECD1A
Column 2 :	MR-2 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0310	

First Level Reviewer: eppinged Date: 24-Oct-2019 14:02:27

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0139	69.69
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0175	87.57

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0146	72.78
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0176	88.09

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Client Sample ID: Lab Sample ID: LB 180-295177/1-B

Matrix: Solid (TCLP) Lab File ID: Q1024190000010.D

Analysis Method: EPA 8081B Date Collected:

Extraction Method: 3510C Date Extracted: 10/18/2019 10:30

Sample wt/vol: 100(mL) Date Analyzed: 10/24/2019 13:40

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: MR-2 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 295908 Units: mg/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	88		62-150
877-09-8	Tetrachloro-m-xylene	73		54-138

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000010.D
Lims ID: LB 180-295177/1-B
Client ID:
Sample Type: LB
Inject. Date: 24-Oct-2019 13:40:57 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029258-010
Operator ID: 402331 Instrument ID: CHGC15

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Oct-2019 11:55:30 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: eppinged Date: 24-Oct-2019 14:02:27

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.769	3.769	0.000	173378791H	0.1000	0.1000	
2	4.029	4.029	0.000	160913749H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.757	4.758	-0.001	33341716H	0.0200	0.0139	
2	4.903	4.903	0.000	31628784H	0.0200	0.0146	
						RPD = 4.33	
4 Diallate							
1		4.902				ND	
1		4.990					
2		5.013					
2		5.098					
5 alpha-BHC							
1		5.119				ND	
2		5.371					
6 Hexachlorobenzene							
1		5.157				ND	
2		5.334					
7 gamma-BHC (Lindane)							
1		5.382				ND	
2		5.675					
8 beta-BHC							
1		5.545				ND	
2		5.918					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 Chlordane (technical)							
1		5.677				ND	
1		5.850					
1		6.705					
1		6.774					
2		6.000					
2		6.359					
2		6.964					
2		7.011					
10 delta-BHC							
1		5.743				ND	
2		6.151					
11 Heptachlor							
1		5.850				ND	
2		6.000					
12 DCPA							
1		6.067				ND	
2		6.268					
13 Aldrin							
1		6.130				ND	
2		6.272					
14 Isodrin							
1		6.408				ND	
2		6.629					
15 oxy-Chlordane							
1		6.446				ND	
2		6.629					
16 Heptachlor epoxide							
1		6.487				ND	
2		6.723					
17 2,4'-DDE							
1		6.619				ND	
2		6.856					
18 trans-Chlordane							
1		6.704				ND	
2		6.951					
19 Chlorobenside							
1		6.740				ND	
2		7.043					
22 trans-Nonachlor							
1		6.769				ND	
2		6.957					
20 cis-Chlordane							
1		6.771				ND	
2		7.012					
21 Endosulfan I							
1		6.815				ND	
2		7.081					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
23 4,4'-DDE							
1		6.925				ND	
2		7.149					
34 Toxaphene							
1		6.964				ND	
1		7.230					
1		7.611					
1		7.851					
2		7.184					
2		7.315					
2		7.817					
2		8.536					
25 2,4'-DDD							
1		7.007				ND	
2		7.301					
24 Dieldrin							
1		7.053				ND	
2		7.327					
27 Endrin							
1		7.253				ND	
2		7.595					
28 2,4'-DDT							
1		7.281				ND	
2		7.548					
30 cis-Nonachlor							
1		7.340				ND	
2		7.624					
29 4,4'-DDD							
1		7.381				ND	
2		7.670					
31 Endosulfan II							
1		7.451				ND	
2		7.860					
32 Endrin aldehyde							
1		7.567				ND	
2		8.026					
33 4,4'-DDT							
1		7.657				ND	
2		7.915					
35 Endosulfan sulfate							
1		7.776				ND	
2		8.250					
36 Methoxychlor							
1		8.099				ND	
2		8.483					
* 44 Dibutylchlorendate ISTD							
1	8.174	8.175	-0.001	114249203H	0.1000	0.1000	
2	8.296	8.296	0.000	94455733H	0.1000	0.1000	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
37 Endrin ketone							
1		8.226				ND	
2		8.870					
38 Mirex							
1		8.729				ND	
2		9.147					
$ 39 DCB Decachlorobiphenyl (Surr)							
1	9.935	9.935	0.000	13842283H	0.0200	0.0175	
2	10.560	10.561	-0.001	11739573H	0.0200	0.0176	
						RPD = 0.59	

Reagents:

GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 24-Oct-2019 14:02:33 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000010.D				
Injection Date:	24-Oct-2019 13:40:57	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	LB 180-295177/1-B			Worklist Smp#:	10
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

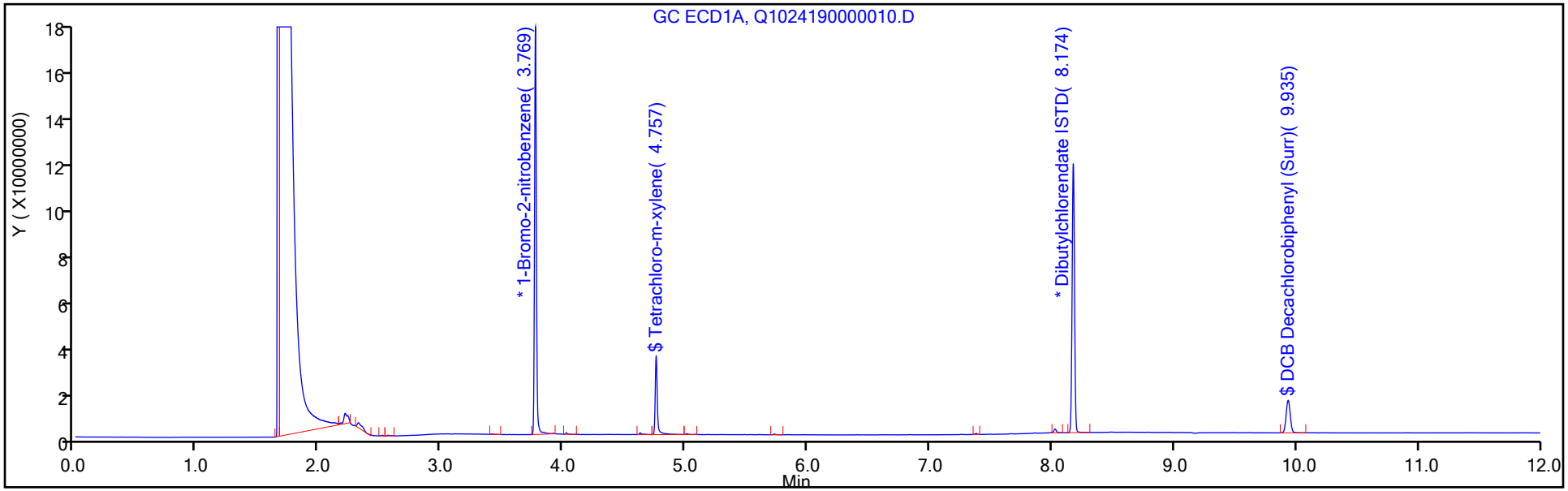

Column: MR-2 (0.53 mm)

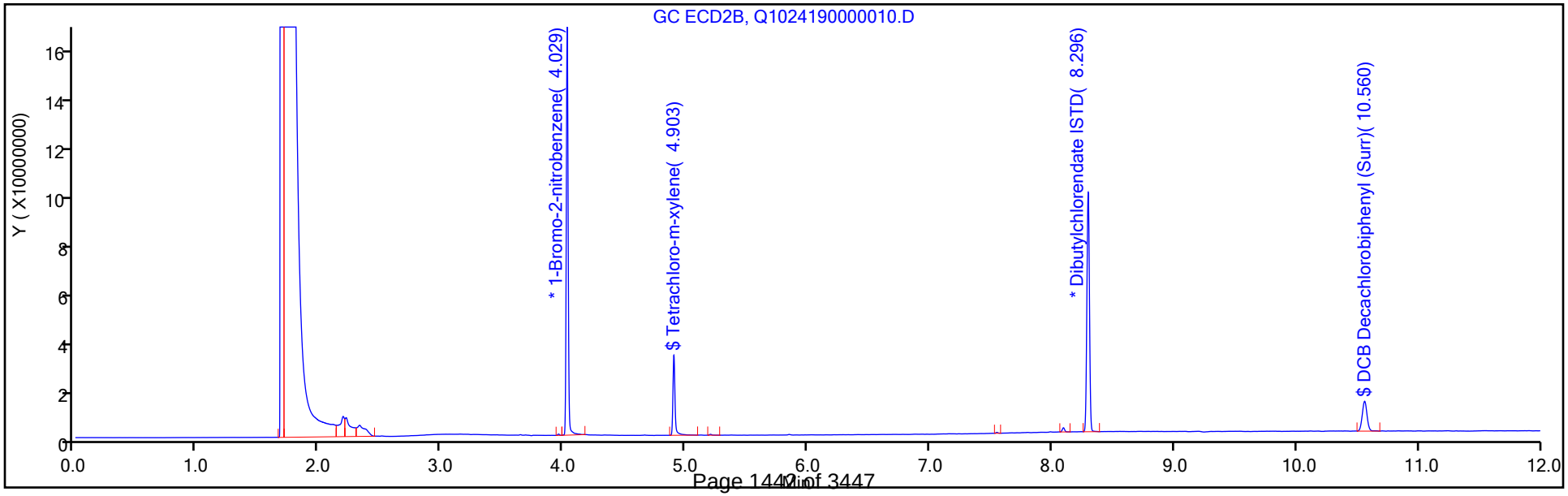

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000010.D				
Lims ID:	LB 180-295177/1-B				
Client ID:					
Sample Type:	LB				
Inject. Date:	24-Oct-2019 13:40:57	ALS Bottle#:	10	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0029258-010				
Operator ID:	402331	Instrument ID:	CHGC15		

Method:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\IS PEST_CHGC15.m		
Limit Group:	GCS 8081B ICAL with IS		
Last Update:	24-Oct-2019 11:55:30	Calib Date:	17-Sep-2019 16:34:44
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D		

Column 1 :	MR-1 (0.53 mm)	Det: GC ECD1A
Column 2 :	MR-2 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0310	

First Level Reviewer: eppinged Date: 24-Oct-2019 14:02:27

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0139	69.69
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0175	87.57

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0146	72.78
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0176	88.09

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-97287-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 180-295379/2-A
Matrix: Solid
Lab File ID: Q1024190000008.D
Analysis Method: EPA 8081B
Date Collected:
Extraction Method: 3510C
Date Extracted: 10/18/2019 10:30
Sample wt/vol: 100(mL)
Date Analyzed: 10/24/2019 13:09
Con. Extract Vol.: 40.0(mL)
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: MR-1 ID: 0.53(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 295908
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
72-20-8	Endrin	0.00902		0.00050	0.000091
58-89-9	gamma-BHC (Lindane)	0.00813		0.00050	0.00012
76-44-8	Heptachlor	0.00879		0.00050	0.00018
1024-57-3	Heptachlor epoxide	0.00813		0.00050	0.00014
72-43-5	Methoxychlor	0.00998		0.00050	0.00031
72-54-8	4,4'-DDD	0.00852		0.00050	0.00021
72-55-9	4,4'-DDE	0.00873		0.00050	0.00012
50-29-3	4,4'-DDT	0.00859		0.00050	0.00012
60-57-1	Dieldrin	0.00932		0.00050	0.00011
959-98-8	Endosulfan I	0.00770		0.00050	0.00027
1031-07-8	Endosulfan sulfate	0.00835		0.00050	0.00026
33213-65-9	Endosulfan II	0.00974		0.00050	0.00013

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	90		62-150
877-09-8	Tetrachloro-m-xylene	71		54-138

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000008.D
Lims ID: LCS 180-295379/2-A
Client ID:
Sample Type: LCS
Inject. Date: 24-Oct-2019 13:09:51 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029258-008
Operator ID: 402331 Instrument ID: CHGC15

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Oct-2019 11:23:37 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: eppinged Date: 24-Oct-2019 13:29:01

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.768	3.769	0.000	175156862H	0.1000	0.1000	
2	4.028	4.029	0.000	163855819H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.757	4.758	-0.001	34243527H	0.0200	0.0142	
2	4.902	4.903	-0.001	32889339H	0.0200	0.0149	
						RPD = 4.78	
5 alpha-BHC							
1	5.119	5.119	0.000	57613037H	0.0250	0.0208	
2	5.371	5.371	0.000	53335856H	0.0250	0.0215	
						RPD = 3.37	
7 gamma-BHC (Lindane)							
1	5.383	5.382	0.001	49709637H	0.0250	0.0203	
2	5.675	5.675	0.000	45784715H	0.0250	0.0231	
						RPD = 12.64	
8 beta-BHC							
1	5.544	5.545	-0.001	18479040H	0.0250	0.0185	
2	5.918	5.918	0.000	19301327H	0.0250	0.0197	
						RPD = 6.05	
10 delta-BHC							
1	5.743	5.743	0.000	41302324H	0.0250	0.0183	
2	6.151	6.151	0.000	39898307H	0.0250	0.0203	
						RPD = 10.15	
11 Heptachlor							
1	5.850	5.850	0.000	47539274H	0.0250	0.0220	
2	6.001	6.000	0.001	35329334H	0.0250	0.0191	
						RPD = 13.87	
13 Aldrin							
1	6.130	6.130	0.000	47401823H	0.0250	0.0212	
2	6.271	6.272	-0.001	42066299H	0.0250	0.0230	
						RPD = 8.25	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
16 Heptachlor epoxide							
1	6.487	6.487	0.000	39522055H	0.0250	0.0203	
2	6.723	6.723	0.000	31652849H	0.0250	0.0197	
						RPD = 2.83	
18 trans-Chlordane							
1	6.704	6.704	0.000	38706070H	0.0250	0.0192	
2	6.951	6.951	0.000	36399667H	0.0250	0.0217	
						RPD = 12.31	
20 cis-Chlordane							
1	6.771	6.771	0.000	38943896H	0.0250	0.0197	
2	7.012	7.012	0.000	35178229H	0.0250	0.0216	
						RPD = 9.30	
21 Endosulfan I							
1	6.815	6.815	0.000	34265689H	0.0250	0.0193	
2	7.081	7.081	0.000	30126585H	0.0250	0.0215	
						RPD = 11.18	
23 4,4'-DDE							
1	6.924	6.925	-0.001	35383775H	0.0250	0.0218	
2	7.149	7.149	0.000	33477550H	0.0250	0.0210	
						RPD = 3.97	
24 Dieldrin							
1	7.053	7.053	0.000	38937525H	0.0250	0.0233	
2	7.327	7.327	0.000	35530550H	0.0250	0.0219	
						RPD = 6.21	
27 Endrin							
1	7.253	7.253	0.000	30130310H	0.0250	0.0225	
2	7.595	7.595	0.000	29444486H	0.0250	0.0232	
						RPD = 2.83	
29 4,4'-DDD							
1	7.380	7.381	-0.001	28283462H	0.0250	0.0213	
2	7.671	7.670	0.001	27240145H	0.0250	0.0214	
						RPD = 0.28	
31 Endosulfan II							
1	7.450	7.451	-0.001	29670944H	0.0250	0.0243	
2	7.860	7.860	0.000	27627337H	0.0250	0.0232	
						RPD = 4.78	
32 Endrin aldehyde							
1	7.567	7.567	0.000	23481382H	0.0250	0.0227	
2	8.026	8.026	0.000	20589333H	0.0250	0.0215	
						RPD = 5.29	
33 4,4'-DDT							
1	7.658	7.657	0.001	22551268H	0.0250	0.0215	
2	7.916	7.915	0.001	22929065H	0.0250	0.0227	
						RPD = 5.56	
35 Endosulfan sulfate							
1	7.776	7.776	0.000	27412493H	0.0250	0.0209	
2	8.250	8.250	0.000	23237915H	0.0250	0.0205	
						RPD = 1.65	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Methoxychlor							
1	8.098	8.099	-0.001	11459884H	0.0250	0.0250	
2	8.484	8.483	0.001	9856545H	0.0250	0.0236	
						RPD = 5.73	
* 44 Dibutylchlorendate ISTD							
1	8.175	8.175	0.000	113779340H	0.1000	0.1000	
2	8.297	8.296	0.001	96633695H	0.1000	0.1000	
37 Endrin ketone							
1	8.226	8.226	0.000	26663384H	0.0250	0.0225	
2	8.870	8.870	0.000	22551566H	0.0250	0.0222	
						RPD = 1.44	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	9.935	9.935	0.000	14201890H	0.0200	0.0180	
2	10.562	10.561	0.001	11949322H	0.0200	0.0175	
						RPD = 2.90	

Reagents:

GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 24-Oct-2019 13:29:05 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000008.D

Injection Date: 24-Oct-2019 13:09:51 Instrument ID: CHGC15 Operator ID: 402331

Lims ID: LCS 180-295379/2-A Worklist Smp#: 8

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 8

Method: IS PEST_CHGC15 Limit Group: GCS 8081B ICAL with IS

Column: MR-1 (0.53 mm)

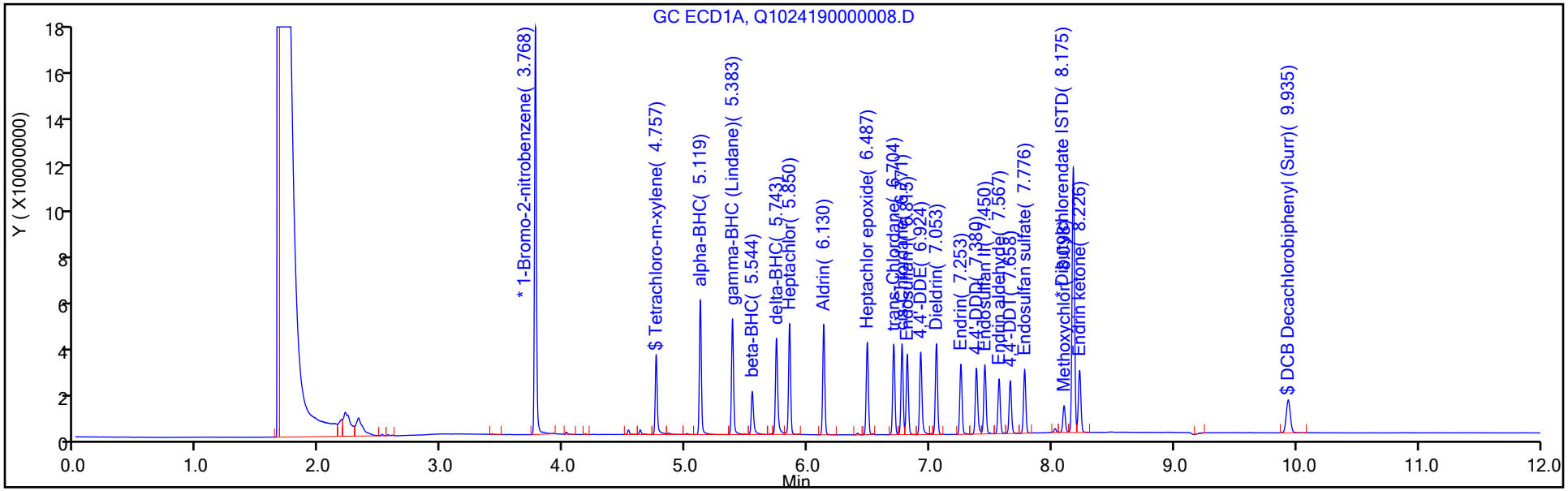

Column: MR-2 (0.53 mm)

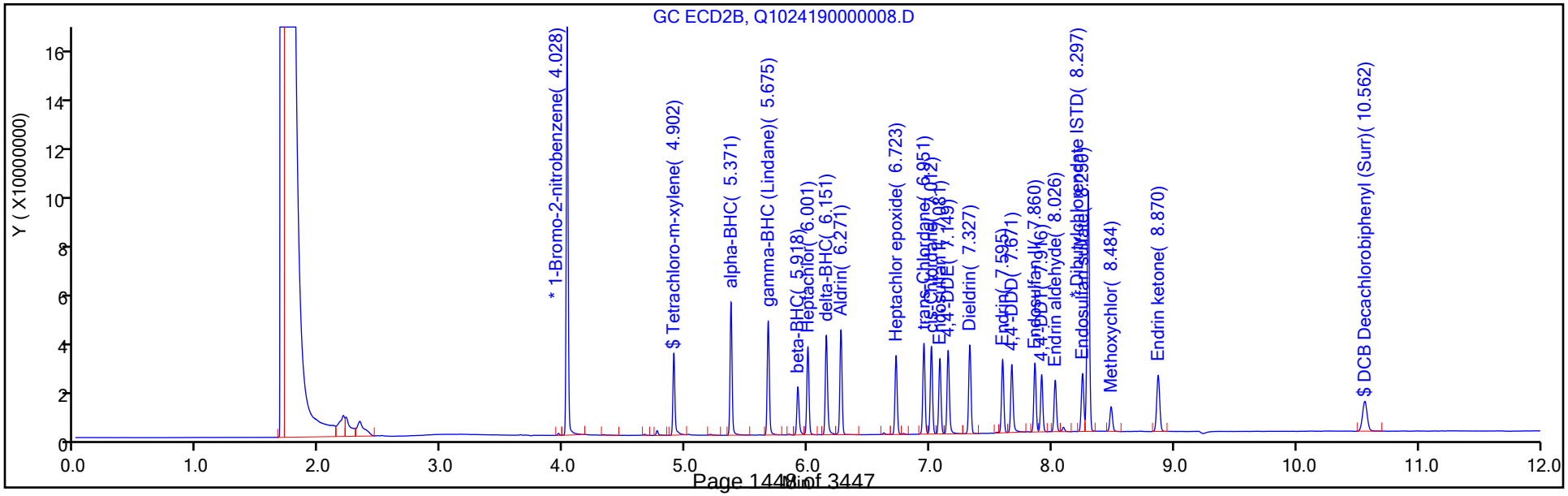

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000008.D				
Lims ID:	LCS 180-295379/2-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	24-Oct-2019 13:09:51	ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0029258-008				
Operator ID:	402331	Instrument ID:	CHGC15		
Method:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\IS PEST_CHGC15.m				
Limit Group:	GCS 8081B ICAL with IS				
Last Update:	24-Oct-2019 11:23:37	Calib Date:	17-Sep-2019 16:34:44		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D				
Column 1 :	MR-1 (0.53 mm)		Det: GC ECD1A		
Column 2 :	MR-2 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0310				
First Level Reviewer: eppinged		Date:	24-Oct-2019 13:29:01		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0142	70.85
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0180	90.22

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0149	74.32
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0175	87.64

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 180-295379/2-A

Matrix: Solid Lab File ID: Q1024190000008.D

Analysis Method: EPA 8081B Date Collected:

Extraction Method: 3510C Date Extracted: 10/18/2019 10:30

Sample wt/vol: 100(mL) Date Analyzed: 10/24/2019 13:09

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: MR-2 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 295908 Units: mg/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	88		62-150
877-09-8	Tetrachloro-m-xylene	74		54-138

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000008.D
Lims ID: LCS 180-295379/2-A
Client ID:
Sample Type: LCS
Inject. Date: 24-Oct-2019 13:09:51 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029258-008
Operator ID: 402331 Instrument ID: CHGC15

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Oct-2019 11:23:37 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: eppinged Date: 24-Oct-2019 13:29:01

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.768	3.769	0.000	175156862H	0.1000	0.1000	
2	4.028	4.029	0.000	163855819H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.757	4.758	-0.001	34243527H	0.0200	0.0142	
2	4.902	4.903	-0.001	32889339H	0.0200	0.0149	
						RPD = 4.78	
5 alpha-BHC							
1	5.119	5.119	0.000	57613037H	0.0250	0.0208	
2	5.371	5.371	0.000	53335856H	0.0250	0.0215	
						RPD = 3.37	
7 gamma-BHC (Lindane)							
1	5.383	5.382	0.001	49709637H	0.0250	0.0203	
2	5.675	5.675	0.000	45784715H	0.0250	0.0231	
						RPD = 12.64	
8 beta-BHC							
1	5.544	5.545	-0.001	18479040H	0.0250	0.0185	
2	5.918	5.918	0.000	19301327H	0.0250	0.0197	
						RPD = 6.05	
10 delta-BHC							
1	5.743	5.743	0.000	41302324H	0.0250	0.0183	
2	6.151	6.151	0.000	39898307H	0.0250	0.0203	
						RPD = 10.15	
11 Heptachlor							
1	5.850	5.850	0.000	47539274H	0.0250	0.0220	
2	6.001	6.000	0.001	35329334H	0.0250	0.0191	
						RPD = 13.87	
13 Aldrin							
1	6.130	6.130	0.000	47401823H	0.0250	0.0212	
2	6.271	6.272	-0.001	42066299H	0.0250	0.0230	
						RPD = 8.25	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
16 Heptachlor epoxide							
1	6.487	6.487	0.000	39522055H	0.0250	0.0203	
2	6.723	6.723	0.000	31652849H	0.0250	0.0197	
						RPD = 2.83	
18 trans-Chlordane							
1	6.704	6.704	0.000	38706070H	0.0250	0.0192	
2	6.951	6.951	0.000	36399667H	0.0250	0.0217	
						RPD = 12.31	
20 cis-Chlordane							
1	6.771	6.771	0.000	38943896H	0.0250	0.0197	
2	7.012	7.012	0.000	35178229H	0.0250	0.0216	
						RPD = 9.30	
21 Endosulfan I							
1	6.815	6.815	0.000	34265689H	0.0250	0.0193	
2	7.081	7.081	0.000	30126585H	0.0250	0.0215	
						RPD = 11.18	
23 4,4'-DDE							
1	6.924	6.925	-0.001	35383775H	0.0250	0.0218	
2	7.149	7.149	0.000	33477550H	0.0250	0.0210	
						RPD = 3.97	
24 Dieldrin							
1	7.053	7.053	0.000	38937525H	0.0250	0.0233	
2	7.327	7.327	0.000	35530550H	0.0250	0.0219	
						RPD = 6.21	
27 Endrin							
1	7.253	7.253	0.000	30130310H	0.0250	0.0225	
2	7.595	7.595	0.000	29444486H	0.0250	0.0232	
						RPD = 2.83	
29 4,4'-DDD							
1	7.380	7.381	-0.001	28283462H	0.0250	0.0213	
2	7.671	7.670	0.001	27240145H	0.0250	0.0214	
						RPD = 0.28	
31 Endosulfan II							
1	7.450	7.451	-0.001	29670944H	0.0250	0.0243	
2	7.860	7.860	0.000	27627337H	0.0250	0.0232	
						RPD = 4.78	
32 Endrin aldehyde							
1	7.567	7.567	0.000	23481382H	0.0250	0.0227	
2	8.026	8.026	0.000	20589333H	0.0250	0.0215	
						RPD = 5.29	
33 4,4'-DDT							
1	7.658	7.657	0.001	22551268H	0.0250	0.0215	
2	7.916	7.915	0.001	22929065H	0.0250	0.0227	
						RPD = 5.56	
35 Endosulfan sulfate							
1	7.776	7.776	0.000	27412493H	0.0250	0.0209	
2	8.250	8.250	0.000	23237915H	0.0250	0.0205	
						RPD = 1.65	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Methoxychlor							
1	8.098	8.099	-0.001	11459884H	0.0250	0.0250	
2	8.484	8.483	0.001	9856545H	0.0250	0.0236	
						RPD = 5.73	
* 44 Dibutylchlorendate ISTD							
1	8.175	8.175	0.000	113779340H	0.1000	0.1000	
2	8.297	8.296	0.001	96633695H	0.1000	0.1000	
37 Endrin ketone							
1	8.226	8.226	0.000	26663384H	0.0250	0.0225	
2	8.870	8.870	0.000	22551566H	0.0250	0.0222	
						RPD = 1.44	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	9.935	9.935	0.000	14201890H	0.0200	0.0180	
2	10.562	10.561	0.001	11949322H	0.0200	0.0175	
						RPD = 2.90	

Reagents:

GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 24-Oct-2019 13:29:05 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000008.D				
Injection Date:	24-Oct-2019 13:09:51	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	LCS 180-295379/2-A			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

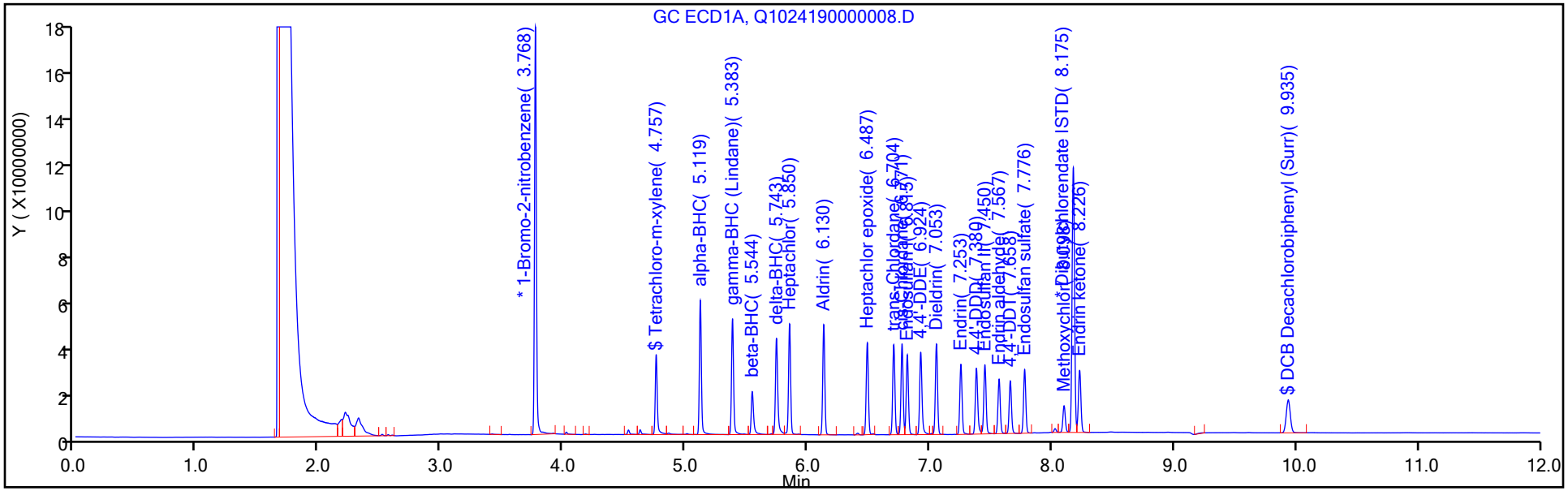

Column: MR-2 (0.53 mm)

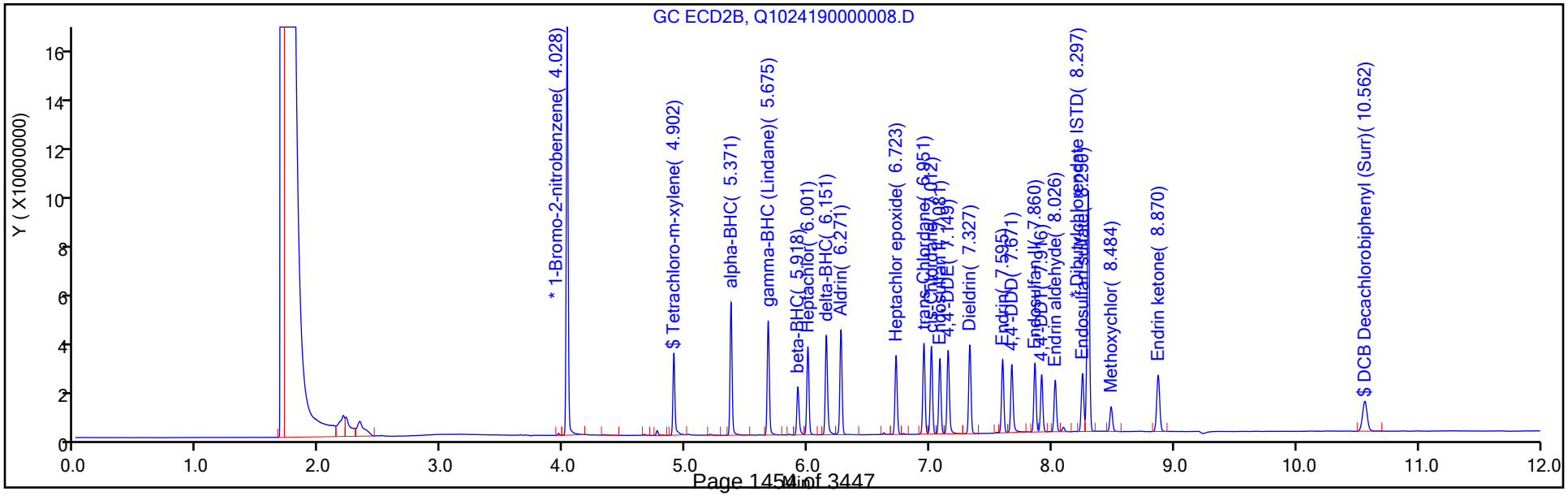

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000008.D				
Lims ID:	LCS 180-295379/2-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	24-Oct-2019 13:09:51	ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0029258-008				
Operator ID:	402331	Instrument ID:	CHGC15		
Method:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\IS PEST_CHGC15.m				
Limit Group:	GCS 8081B ICAL with IS				
Last Update:	24-Oct-2019 11:23:37	Calib Date:	17-Sep-2019 16:34:44		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D				
Column 1 :	MR-1 (0.53 mm)		Det: GC ECD1A		
Column 2 :	MR-2 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0310				
First Level Reviewer: eppinged		Date:	24-Oct-2019 13:29:01		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0142	70.85
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0180	90.22

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0149	74.32
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0175	87.64

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-97287-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCSD 180-295379/3-A
Matrix: Solid
Lab File ID: Q1024190000009.D
Analysis Method: EPA 8081B
Date Collected:
Extraction Method: 3510C
Date Extracted: 10/18/2019 10:30
Sample wt/vol: 100(mL)
Date Analyzed: 10/24/2019 13:25
Con. Extract Vol.: 40.0(mL)
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: MR-1 ID: 0.53(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 295908
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
72-20-8	Endrin	0.00849		0.00050	0.000091
58-89-9	gamma-BHC (Lindane)	0.00802		0.00050	0.00012
76-44-8	Heptachlor	0.00856		0.00050	0.00018
1024-57-3	Heptachlor epoxide	0.00814		0.00050	0.00014
72-43-5	Methoxychlor	0.00942		0.00050	0.00031
72-54-8	4,4'-DDD	0.00825		0.00050	0.00021
72-55-9	4,4'-DDE	0.00841		0.00050	0.00012
50-29-3	4,4'-DDT	0.00818		0.00050	0.00012
60-57-1	Dieldrin	0.00925		0.00050	0.00011
959-98-8	Endosulfan I	0.00739		0.00050	0.00027
1031-07-8	Endosulfan sulfate	0.00810		0.00050	0.00026
33213-65-9	Endosulfan II	0.00993		0.00050	0.00013

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	87		62-150
877-09-8	Tetrachloro-m-xylene	69		54-138

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000009.D
Lims ID: LCSD 180-295379/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 24-Oct-2019 13:25:17 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029258-009
Operator ID: 402331 Instrument ID: CHGC15

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Oct-2019 13:45:21 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: eppinged Date: 24-Oct-2019 13:45:36

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.768	3.769	0.000	175883329H	0.1000	0.1000	
2	4.028	4.029	0.000	165097690H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.758	4.758	0.000	33658286H	0.0200	0.0139	
2	4.902	4.903	-0.001	32044151H	0.0200	0.0144	
						RPD = 3.56	
5 alpha-BHC							
1	5.119	5.119	0.000	56573411H	0.0250	0.0203	
2	5.370	5.371	-0.001	53076809H	0.0250	0.0212	
						RPD = 4.36	
7 gamma-BHC (Lindane)							
1	5.383	5.382	0.001	49231018H	0.0250	0.0200	
2	5.675	5.675	0.000	44956333H	0.0250	0.0225	
						RPD = 11.45	
8 beta-BHC							
1	5.546	5.545	0.001	18252844H	0.0250	0.0182	
2	5.918	5.918	0.000	18341187H	0.0250	0.0185	
						RPD = 1.84	
10 delta-BHC							
1	5.742	5.743	-0.001	39106759H	0.0250	0.0173	
2	6.151	6.151	0.000	38810250H	0.0250	0.0196	
						RPD = 12.50	
11 Heptachlor							
1	5.850	5.850	0.000	46487971H	0.0250	0.0214	
2	6.000	6.000	0.000	34219869H	0.0250	0.0184	
						RPD = 15.16	
13 Aldrin							
1	6.130	6.130	0.000	46292265H	0.0250	0.0206	
2	6.271	6.272	-0.001	40951824H	0.0250	0.0222	
						RPD = 7.59	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
16 Heptachlor epoxide							
1	6.486	6.487	-0.001	39739465H	0.0250	0.0203	
2	6.723	6.723	0.000	30181708H	0.0250	0.0187	
						RPD = 8.48	
18 trans-Chlordane							
1	6.704	6.704	0.000	38537165H	0.0250	0.0190	
2	6.950	6.951	-0.001	36713001H	0.0250	0.0217	
						RPD = 13.26	
20 cis-Chlordane							
1	6.770	6.771	-0.001	38426350H	0.0250	0.0194	
2	7.012	7.012	0.000	35020048H	0.0250	0.0214	
						RPD = 9.85	
21 Endosulfan I							
1	6.814	6.815	-0.001	32992284H	0.0250	0.0185	
2	7.081	7.081	0.000	29144551H	0.0250	0.0207	
						RPD = 11.31	
23 4,4'-DDE							
1	6.924	6.925	-0.001	34339290H	0.0250	0.0210	
2	7.149	7.149	0.000	32843845H	0.0250	0.0206	
						RPD = 2.31	
24 Dieldrin							
1	7.053	7.053	0.000	38925883H	0.0250	0.0231	
2	7.327	7.327	0.000	35972542H	0.0250	0.0221	
						RPD = 4.37	
27 Endrin							
1	7.254	7.253	0.001	28565168H	0.0250	0.0212	
2	7.595	7.595	0.000	29313769H	0.0250	0.0231	
						RPD = 8.30	
29 4,4'-DDD							
1	7.380	7.381	-0.001	27601183H	0.0250	0.0206	
2	7.670	7.670	0.000	26119350H	0.0250	0.0204	
						RPD = 0.90	
31 Endosulfan II							
1	7.450	7.451	-0.001	30481491H	0.0250	0.0248	
2	7.860	7.860	0.000	26991645H	0.0250	0.0226	
						RPD = 9.22	
32 Endrin aldehyde							
1	7.566	7.567	-0.001	23049722H	0.0250	0.0221	
2	8.025	8.026	-0.001	20165478H	0.0250	0.0211	
						RPD = 4.93	
33 4,4'-DDT							
1	7.657	7.657	0.000	21631606H	0.0250	0.0204	
2	7.915	7.915	0.000	22234235H	0.0250	0.0220	
						RPD = 7.22	
35 Endosulfan sulfate							
1	7.775	7.776	-0.001	26780505H	0.0250	0.0203	
2	8.250	8.250	0.000	23280721H	0.0250	0.0206	
						RPD = 1.45	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Methoxychlor							
1	8.098	8.099	-0.001	10889411H	0.0250	0.0235	
2	8.484	8.483	0.001	9486798H	0.0250	0.0227	
						RPD = 3.87	
* 44 Dibutylchlorendate ISTD							
1	8.174	8.175	0.000	114596494H	0.1000	0.1000	
2	8.296	8.296	0.000	96765394H	0.1000	0.1000	
37 Endrin ketone							
1	8.226	8.226	0.000	26635316H	0.0250	0.0223	
2	8.868	8.870	-0.002	22238311H	0.0250	0.0219	
						RPD = 2.15	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	9.933	9.935	-0.002	13718097H	0.0200	0.0173	
2	10.560	10.561	-0.001	11900145H	0.0200	0.0174	
						RPD = 0.73	

Reagents:

GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 24-Oct-2019 13:45:40 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000009.D				
Injection Date:	24-Oct-2019 13:25:17	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	LCSD 180-295379/3-A			Worklist Smp#:	9
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

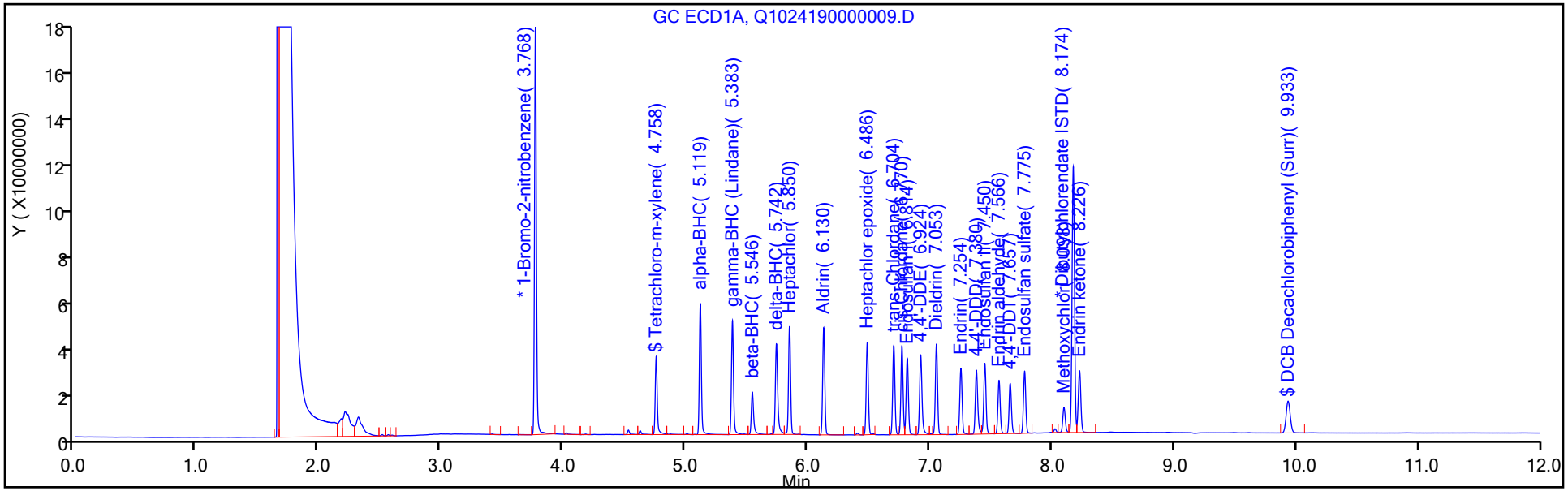

Column: MR-2 (0.53 mm)

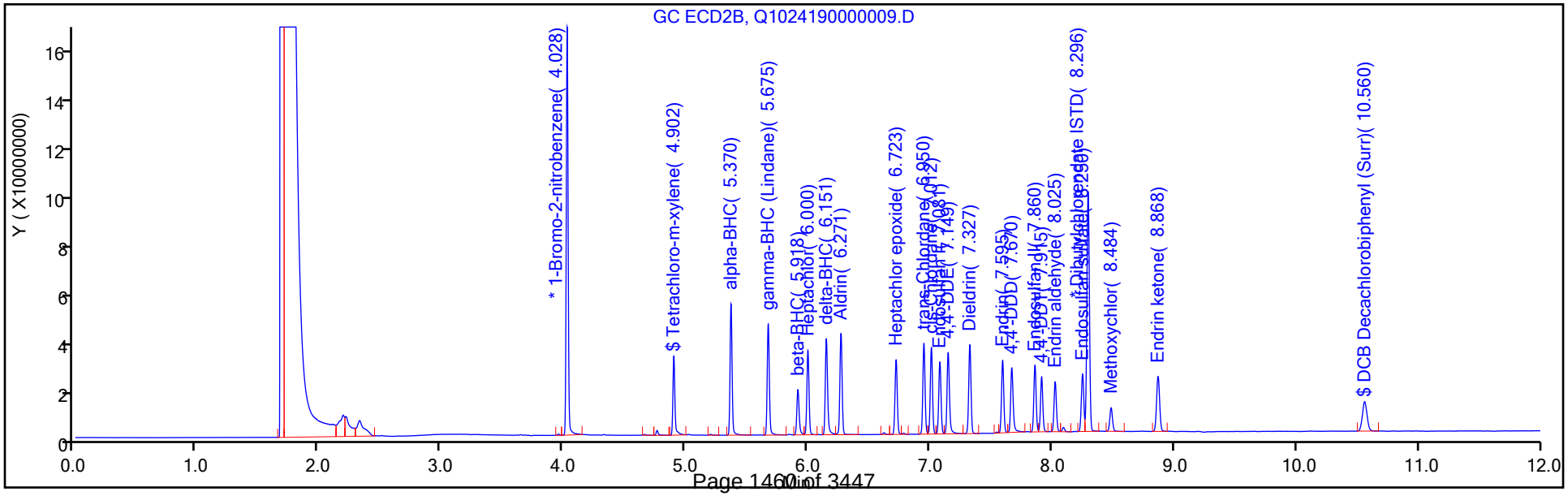

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000009.D				
Lims ID:	LCSD 180-295379/3-A				
Client ID:					
Sample Type:	LCSD				
Inject. Date:	24-Oct-2019 13:25:17	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0029258-009				
Operator ID:	402331	Instrument ID:	CHGC15		
Method:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\IS PEST_CHGC15.m				
Limit Group:	GCS 8081B ICAL with IS				
Last Update:	24-Oct-2019 13:45:21	Calib Date:	17-Sep-2019 16:34:44		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D				
Column 1 :	MR-1 (0.53 mm)		Det: GC ECD1A		
Column 2 :	MR-2 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0310				
First Level Reviewer: eppinged		Date:	24-Oct-2019 13:45:36		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0139	69.35
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0173	86.52

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0144	71.86
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0174	87.16

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 180-295379/3-A

Matrix: Solid Lab File ID: Q1024190000009.D

Analysis Method: EPA 8081B Date Collected:

Extraction Method: 3510C Date Extracted: 10/18/2019 10:30

Sample wt/vol: 100(mL) Date Analyzed: 10/24/2019 13:25

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: MR-2 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 295908 Units: mg/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	87		62-150
877-09-8	Tetrachloro-m-xylene	72		54-138

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000009.D
Lims ID: LCSD 180-295379/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 24-Oct-2019 13:25:17 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029258-009
Operator ID: 402331 Instrument ID: CHGC15

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Oct-2019 13:45:21 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: eppinged Date: 24-Oct-2019 13:45:36

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.768	3.769	0.000	175883329H	0.1000	0.1000	
2	4.028	4.029	0.000	165097690H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.758	4.758	0.000	33658286H	0.0200	0.0139	
2	4.902	4.903	-0.001	32044151H	0.0200	0.0144	
						RPD = 3.56	
5 alpha-BHC							
1	5.119	5.119	0.000	56573411H	0.0250	0.0203	
2	5.370	5.371	-0.001	53076809H	0.0250	0.0212	
						RPD = 4.36	
7 gamma-BHC (Lindane)							
1	5.383	5.382	0.001	49231018H	0.0250	0.0200	
2	5.675	5.675	0.000	44956333H	0.0250	0.0225	
						RPD = 11.45	
8 beta-BHC							
1	5.546	5.545	0.001	18252844H	0.0250	0.0182	
2	5.918	5.918	0.000	18341187H	0.0250	0.0185	
						RPD = 1.84	
10 delta-BHC							
1	5.742	5.743	-0.001	39106759H	0.0250	0.0173	
2	6.151	6.151	0.000	38810250H	0.0250	0.0196	
						RPD = 12.50	
11 Heptachlor							
1	5.850	5.850	0.000	46487971H	0.0250	0.0214	
2	6.000	6.000	0.000	34219869H	0.0250	0.0184	
						RPD = 15.16	
13 Aldrin							
1	6.130	6.130	0.000	46292265H	0.0250	0.0206	
2	6.271	6.272	-0.001	40951824H	0.0250	0.0222	
						RPD = 7.59	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
16 Heptachlor epoxide							
1	6.486	6.487	-0.001	39739465H	0.0250	0.0203	
2	6.723	6.723	0.000	30181708H	0.0250	0.0187	
						RPD = 8.48	
18 trans-Chlordane							
1	6.704	6.704	0.000	38537165H	0.0250	0.0190	
2	6.950	6.951	-0.001	36713001H	0.0250	0.0217	
						RPD = 13.26	
20 cis-Chlordane							
1	6.770	6.771	-0.001	38426350H	0.0250	0.0194	
2	7.012	7.012	0.000	35020048H	0.0250	0.0214	
						RPD = 9.85	
21 Endosulfan I							
1	6.814	6.815	-0.001	32992284H	0.0250	0.0185	
2	7.081	7.081	0.000	29144551H	0.0250	0.0207	
						RPD = 11.31	
23 4,4'-DDE							
1	6.924	6.925	-0.001	34339290H	0.0250	0.0210	
2	7.149	7.149	0.000	32843845H	0.0250	0.0206	
						RPD = 2.31	
24 Dieldrin							
1	7.053	7.053	0.000	38925883H	0.0250	0.0231	
2	7.327	7.327	0.000	35972542H	0.0250	0.0221	
						RPD = 4.37	
27 Endrin							
1	7.254	7.253	0.001	28565168H	0.0250	0.0212	
2	7.595	7.595	0.000	29313769H	0.0250	0.0231	
						RPD = 8.30	
29 4,4'-DDD							
1	7.380	7.381	-0.001	27601183H	0.0250	0.0206	
2	7.670	7.670	0.000	26119350H	0.0250	0.0204	
						RPD = 0.90	
31 Endosulfan II							
1	7.450	7.451	-0.001	30481491H	0.0250	0.0248	
2	7.860	7.860	0.000	26991645H	0.0250	0.0226	
						RPD = 9.22	
32 Endrin aldehyde							
1	7.566	7.567	-0.001	23049722H	0.0250	0.0221	
2	8.025	8.026	-0.001	20165478H	0.0250	0.0211	
						RPD = 4.93	
33 4,4'-DDT							
1	7.657	7.657	0.000	21631606H	0.0250	0.0204	
2	7.915	7.915	0.000	22234235H	0.0250	0.0220	
						RPD = 7.22	
35 Endosulfan sulfate							
1	7.775	7.776	-0.001	26780505H	0.0250	0.0203	
2	8.250	8.250	0.000	23280721H	0.0250	0.0206	
						RPD = 1.45	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Methoxychlor							
1	8.098	8.099	-0.001	10889411H	0.0250	0.0235	
2	8.484	8.483	0.001	9486798H	0.0250	0.0227	
						RPD = 3.87	
* 44 Dibutylchlorendate ISTD							
1	8.174	8.175	0.000	114596494H	0.1000	0.1000	
2	8.296	8.296	0.000	96765394H	0.1000	0.1000	
37 Endrin ketone							
1	8.226	8.226	0.000	26635316H	0.0250	0.0223	
2	8.868	8.870	-0.002	22238311H	0.0250	0.0219	
						RPD = 2.15	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	9.933	9.935	-0.002	13718097H	0.0200	0.0173	
2	10.560	10.561	-0.001	11900145H	0.0200	0.0174	
						RPD = 0.73	

Reagents:

GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 24-Oct-2019 13:45:41 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000009.D				
Injection Date:	24-Oct-2019 13:25:17	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	LCSD 180-295379/3-A			Worklist Smp#:	9
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

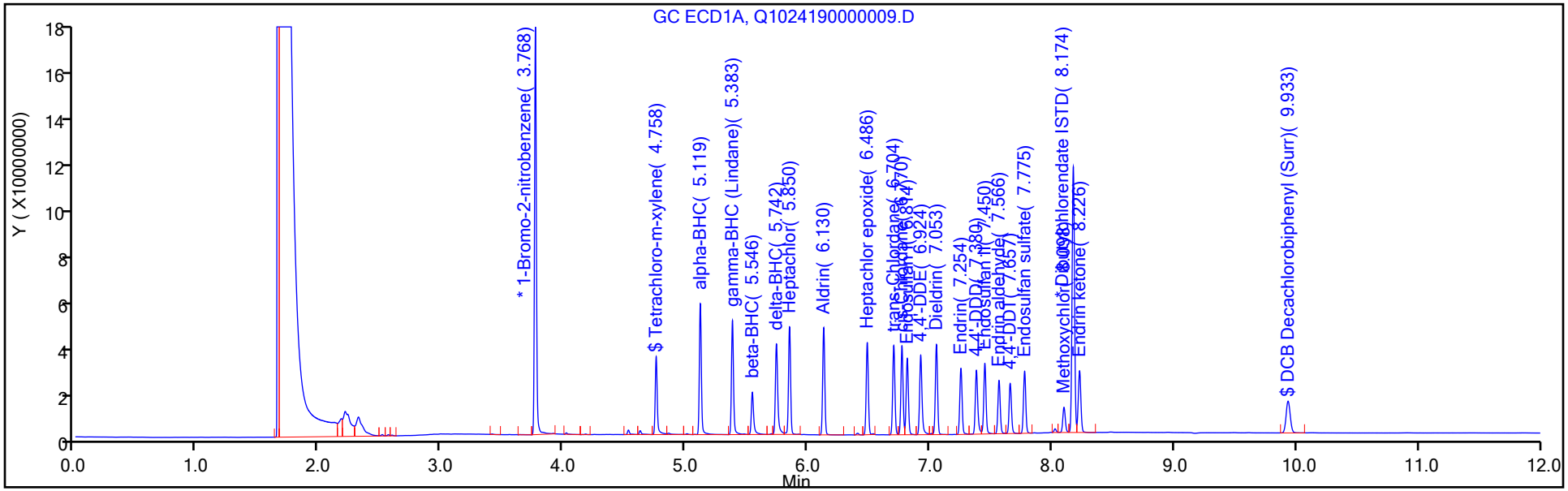

Column: MR-2 (0.53 mm)

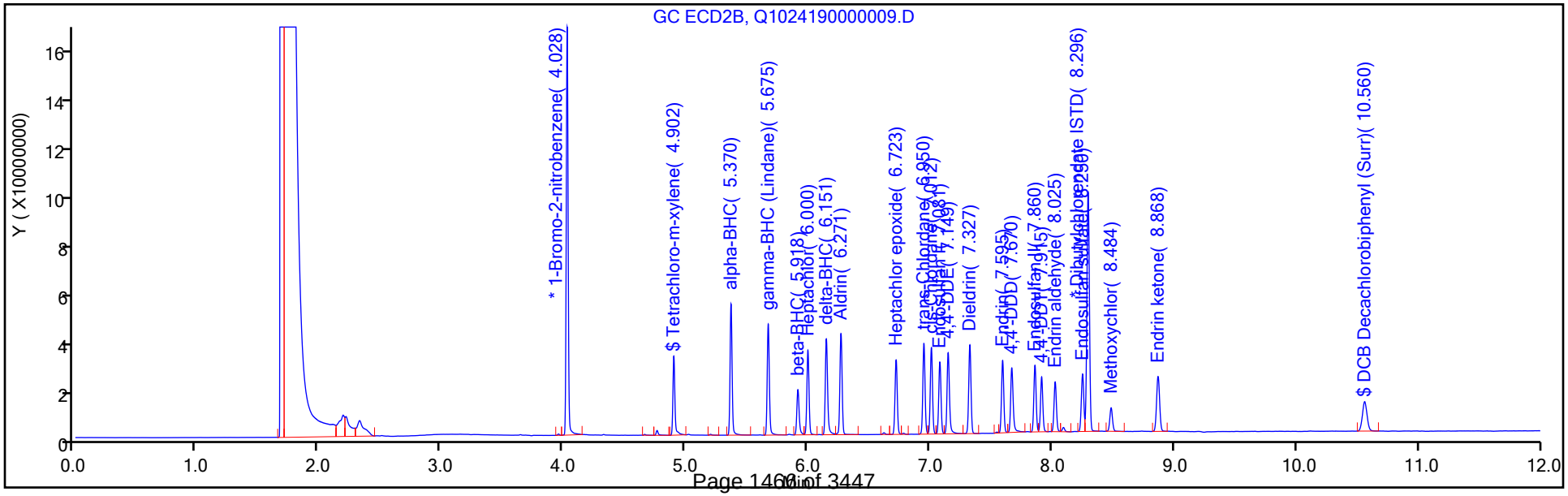

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\Q1024190000009.D				
Lims ID:	LCSD 180-295379/3-A				
Client ID:					
Sample Type:	LCSD				
Inject. Date:	24-Oct-2019 13:25:17	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0029258-009				
Operator ID:	402331	Instrument ID:	CHGC15		
Method:	\\chromna\Pittsburgh\ChromData\CHGC15\20191024-29258.b\IS PEST_CHGC15.m				
Limit Group:	GCS 8081B ICAL with IS				
Last Update:	24-Oct-2019 13:45:21	Calib Date:	17-Sep-2019 16:34:44		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D				
Column 1 :	MR-1 (0.53 mm)		Det: GC ECD1A		
Column 2 :	MR-2 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0310				
First Level Reviewer: eppinged		Date:	24-Oct-2019 13:45:36		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0139	69.35
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0173	86.52

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0144	71.86
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0174	87.16

PESTICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Instrument ID: CHGC15 Start Date: 05/18/2019 11:58

Analysis Batch Number: 279115 End Date: 05/18/2019 23:57

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
PEM 180-279115/1		05/18/2019 11:58	1		MR-1 0.53(mm)
PEM 180-279115/1		05/18/2019 11:58	1		MR-2 0.53(mm)
IC 180-279115/2		05/18/2019 12:14	1	Q0518190000002.D	MR-1 0.53(mm)
IC 180-279115/2		05/18/2019 12:14	1	Q0518190000002.D	MR-2 0.53(mm)
IC 180-279115/3		05/18/2019 12:29	1	Q0518190000003.D	MR-1 0.53(mm)
IC 180-279115/3		05/18/2019 12:29	1	Q0518190000003.D	MR-2 0.53(mm)
IC 180-279115/4		05/18/2019 12:45	1	Q0518190000004.D	MR-1 0.53(mm)
IC 180-279115/4		05/18/2019 12:45	1	Q0518190000004.D	MR-2 0.53(mm)
IC 180-279115/5		05/18/2019 13:00	1	Q0518190000005.D	MR-1 0.53(mm)
IC 180-279115/5		05/18/2019 13:00	1	Q0518190000005.D	MR-2 0.53(mm)
IC 180-279115/6		05/18/2019 13:16	1	Q0518190000006.D	MR-1 0.53(mm)
IC 180-279115/6		05/18/2019 13:16	1	Q0518190000006.D	MR-2 0.53(mm)
IC 180-279115/7		05/18/2019 14:56	1	Q0518190000007.D	MR-1 0.53(mm)
IC 180-279115/7		05/18/2019 14:56	1	Q0518190000007.D	MR-2 0.53(mm)
IC 180-279115/8		05/18/2019 15:11	1	Q0518190000008.D	MR-1 0.53(mm)
IC 180-279115/8		05/18/2019 15:11	1	Q0518190000008.D	MR-2 0.53(mm)
IC 180-279115/9		05/18/2019 15:26	1	Q0518190000009.D	MR-1 0.53(mm)
IC 180-279115/9		05/18/2019 15:26	1	Q0518190000009.D	MR-2 0.53(mm)
IC 180-279115/10		05/18/2019 15:42	1	Q0518190000010.D	MR-1 0.53(mm)
IC 180-279115/10		05/18/2019 15:42	1	Q0518190000010.D	MR-2 0.53(mm)
IC 180-279115/11		05/18/2019 15:57	1	Q0518190000011.D	MR-1 0.53(mm)
IC 180-279115/11		05/18/2019 15:57	1	Q0518190000011.D	MR-2 0.53(mm)
IC 180-279115/12		05/18/2019 16:13	1		MR-1 0.53(mm)
IC 180-279115/12		05/18/2019 16:13	1		MR-2 0.53(mm)
IC 180-279115/13		05/18/2019 16:28	1		MR-1 0.53(mm)
IC 180-279115/13		05/18/2019 16:28	1		MR-2 0.53(mm)
IC 180-279115/14		05/18/2019 16:44	1		MR-1 0.53(mm)
IC 180-279115/14		05/18/2019 16:44	1		MR-2 0.53(mm)
IC 180-279115/15		05/18/2019 16:59	1		MR-1 0.53(mm)
IC 180-279115/15		05/18/2019 16:59	1		MR-2 0.53(mm)
IC 180-279115/16		05/18/2019 17:15	1		MR-1 0.53(mm)
IC 180-279115/16		05/18/2019 17:15	1		MR-2 0.53(mm)
IC 180-279115/17		05/18/2019 17:30	1		MR-1 0.53(mm)
IC 180-279115/17		05/18/2019 17:30	1		MR-2 0.53(mm)
IC 180-279115/18		05/18/2019 17:46	1		MR-1 0.53(mm)
IC 180-279115/18		05/18/2019 17:46	1		MR-2 0.53(mm)

EPA 8081B

PESTICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Instrument ID: CHGC15 Start Date: 05/18/2019 11:58

Analysis Batch Number: 279115 End Date: 05/18/2019 23:57

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 180-279115/19		05/18/2019 18:01	1		MR-1 0.53(mm)
IC 180-279115/19		05/18/2019 18:01	1		MR-2 0.53(mm)
IC 180-279115/20		05/18/2019 18:17	1		MR-1 0.53(mm)
IC 180-279115/20		05/18/2019 18:17	1		MR-2 0.53(mm)
IC 180-279115/21		05/18/2019 18:32	1		MR-1 0.53(mm)
IC 180-279115/21		05/18/2019 18:32	1		MR-2 0.53(mm)
IC 180-279115/22		05/18/2019 18:48	1		MR-1 0.53(mm)
IC 180-279115/22		05/18/2019 18:48	1		MR-2 0.53(mm)
IC 180-279115/23		05/18/2019 19:03	1		MR-1 0.53(mm)
IC 180-279115/23		05/18/2019 19:03	1		MR-2 0.53(mm)
IC 180-279115/24		05/18/2019 19:19	1		MR-1 0.53(mm)
IC 180-279115/24		05/18/2019 19:19	1		MR-2 0.53(mm)
IC 180-279115/25		05/18/2019 19:34	1		MR-1 0.53(mm)
IC 180-279115/25		05/18/2019 19:34	1		MR-2 0.53(mm)
ICIS 180-279115/26		05/18/2019 19:49	1		MR-1 0.53(mm)
ICIS 180-279115/26		05/18/2019 19:49	1		MR-2 0.53(mm)
IC 180-279115/27		05/18/2019 20:05	1		MR-1 0.53(mm)
IC 180-279115/27		05/18/2019 20:05	1		MR-2 0.53(mm)
IC 180-279115/28		05/18/2019 20:21	1		MR-1 0.53(mm)
IC 180-279115/28		05/18/2019 20:21	1		MR-2 0.53(mm)
IC 180-279115/29		05/18/2019 20:36	1		MR-1 0.53(mm)
IC 180-279115/29		05/18/2019 20:36	1		MR-2 0.53(mm)
ICV 180-279115/30		05/18/2019 20:51	1	Q0518190000030.D	MR-1 0.53(mm)
ICV 180-279115/30		05/18/2019 20:51	1	Q0518190000030.D	MR-2 0.53(mm)
ICV 180-279115/31		05/18/2019 21:07	1	Q0518190000031.D	MR-1 0.53(mm)
ICV 180-279115/31		05/18/2019 21:07	1	Q0518190000031.D	MR-2 0.53(mm)
ICV 180-279115/32		05/18/2019 21:22	1		MR-1 0.53(mm)
ICV 180-279115/32		05/18/2019 21:22	1		MR-2 0.53(mm)
ICV 180-279115/33		05/18/2019 21:38	1		MR-1 0.53(mm)
ICV 180-279115/33		05/18/2019 21:38	1		MR-2 0.53(mm)
ICV 180-279115/34		05/18/2019 21:53	1		MR-1 0.53(mm)
ICV 180-279115/34		05/18/2019 21:53	1		MR-2 0.53(mm)
ICV 180-279115/35		05/18/2019 22:09	1		MR-1 0.53(mm)
ICV 180-279115/35		05/18/2019 22:09	1		MR-2 0.53(mm)
PEM 180-279115/36		05/18/2019 22:24	1		MR-1 0.53(mm)
PEM 180-279115/36		05/18/2019 22:24	1		MR-2 0.53(mm)
ZZZZZ		05/18/2019 22:40	1		MR-1 0.53(mm)
ZZZZZ		05/18/2019 22:40	1		MR-2 0.53(mm)
ZZZZZ		05/18/2019 22:55	1		MR-1 0.53(mm)
ZZZZZ		05/18/2019 22:55	1		MR-2 0.53(mm)
ZZZZZ		05/18/2019 23:11	1		MR-1 0.53(mm)
ZZZZZ		05/18/2019 23:11	1		MR-2 0.53(mm)
ZZZZZ		05/18/2019 23:26	1		MR-1 0.53(mm)

EPA 8081B

PESTICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Instrument ID: CHGC15 Start Date: 05/18/2019 11:58

Analysis Batch Number: 279115 End Date: 05/18/2019 23:57

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		05/18/2019 23:26	1		MR-2 0.53(mm)
ZZZZZ		05/18/2019 23:42	1		MR-1 0.53(mm)
ZZZZZ		05/18/2019 23:42	1		MR-2 0.53(mm)
ZZZZZ		05/18/2019 23:57	1		MR-1 0.53(mm)
ZZZZZ		05/18/2019 23:57	1		MR-2 0.53(mm)

EPA 8081B

PESTICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Instrument ID: CHGC15 Start Date: 07/02/2019 15:17

Analysis Batch Number: 283759 End Date: 07/02/2019 17:21

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
PEM 180-283759/1		07/02/2019 15:17	1		MR-1 0.53(mm)
PEM 180-283759/1		07/02/2019 15:17	1		MR-2 0.53(mm)
IC 180-283759/2		07/02/2019 15:33	1	Q070219A0000002.D	MR-1 0.53(mm)
IC 180-283759/2		07/02/2019 15:33	1	Q070219A0000002.D	MR-2 0.53(mm)
IC 180-283759/3		07/02/2019 15:48	1	Q070219A0000003.D	MR-1 0.53(mm)
IC 180-283759/3		07/02/2019 15:48	1	Q070219A0000003.D	MR-2 0.53(mm)
ICIS 180-283759/4		07/02/2019 16:04	1	Q070219A0000004.D	MR-1 0.53(mm)
ICIS 180-283759/4		07/02/2019 16:04	1	Q070219A0000004.D	MR-2 0.53(mm)
IC 180-283759/5		07/02/2019 16:19	1	Q070219A0000005.D	MR-1 0.53(mm)
IC 180-283759/5		07/02/2019 16:19	1	Q070219A0000005.D	MR-2 0.53(mm)
IC 180-283759/6		07/02/2019 16:35	1	Q070219A0000006.D	MR-1 0.53(mm)
IC 180-283759/6		07/02/2019 16:35	1	Q070219A0000006.D	MR-2 0.53(mm)
IC 180-283759/7		07/02/2019 16:50	1	Q070219A0000007.D	MR-1 0.53(mm)
IC 180-283759/7		07/02/2019 16:50	1	Q070219A0000007.D	MR-2 0.53(mm)
PEM 180-283759/9		07/02/2019 17:21	1		MR-1 0.53(mm)
PEM 180-283759/9		07/02/2019 17:21	1		MR-2 0.53(mm)

EPA 8081B

PESTICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Instrument ID: CHGC15 Start Date: 07/03/2019 09:41

Analysis Batch Number: 283820 End Date: 07/03/2019 17:26

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
PEM 180-283820/1		07/03/2019 09:41	1		MR-1 0.53(mm)
PEM 180-283820/1		07/03/2019 09:41	1		MR-2 0.53(mm)
ICV 180-283820/2		07/03/2019 09:56	1	Q0703190000002.D	MR-1 0.53(mm)
ICV 180-283820/2		07/03/2019 09:56	1	Q0703190000002.D	MR-2 0.53(mm)
CCV 180-283820/20		07/03/2019 14:35	1		MR-1 0.53(mm)
CCV 180-283820/20		07/03/2019 14:35	1		MR-2 0.53(mm)
CCV 180-283820/21		07/03/2019 14:51	1		MR-1 0.53(mm)
CCV 180-283820/21		07/03/2019 14:51	1		MR-2 0.53(mm)
CCVIS 180-283820/22		07/03/2019 15:06	1		MR-1 0.53(mm)
CCVIS 180-283820/22		07/03/2019 15:06	1		MR-2 0.53(mm)
ZZZZZ		07/03/2019 15:22	1		MR-1 0.53(mm)
ZZZZZ		07/03/2019 15:22	1		MR-2 0.53(mm)
ZZZZZ		07/03/2019 15:37	1		MR-1 0.53(mm)
ZZZZZ		07/03/2019 15:37	1		MR-2 0.53(mm)
ZZZZZ		07/03/2019 15:53	1		MR-1 0.53(mm)
ZZZZZ		07/03/2019 15:53	1		MR-2 0.53(mm)
ZZZZZ		07/03/2019 16:08	1		MR-1 0.53(mm)
ZZZZZ		07/03/2019 16:08	1		MR-2 0.53(mm)
ZZZZZ		07/03/2019 16:24	1		MR-1 0.53(mm)
ZZZZZ		07/03/2019 16:24	1		MR-2 0.53(mm)
ZZZZZ		07/03/2019 16:39	1		MR-1 0.53(mm)
ZZZZZ		07/03/2019 16:39	1		MR-2 0.53(mm)
ZZZZZ		07/03/2019 16:55	1		MR-1 0.53(mm)
ZZZZZ		07/03/2019 16:55	1		MR-2 0.53(mm)
ZZZZZ		07/03/2019 17:10	1		MR-1 0.53(mm)
ZZZZZ		07/03/2019 17:10	1		MR-2 0.53(mm)
CCVL 180-283820/31		07/03/2019 17:26	1		MR-1 0.53(mm)
CCVL 180-283820/31		07/03/2019 17:26	1		MR-2 0.53(mm)

EPA 8081B

PESTICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Instrument ID: CHGC15 Start Date: 09/17/2019 13:28

Analysis Batch Number: 291631 End Date: 09/17/2019 20:57

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
PEM 180-291631/1		09/17/2019 13:28	1		MR-1 0.53(mm)
PEM 180-291631/1		09/17/2019 13:28	1		MR-2 0.53(mm)
IC 180-291631/2		09/17/2019 13:44	1	Q0917190000002.D	MR-1 0.53(mm)
IC 180-291631/2		09/17/2019 13:44	1	Q0917190000002.D	MR-2 0.53(mm)
IC 180-291631/3		09/17/2019 13:59	1	Q0917190000003.D	MR-1 0.53(mm)
IC 180-291631/3		09/17/2019 13:59	1	Q0917190000003.D	MR-2 0.53(mm)
IC 180-291631/4		09/17/2019 14:15	1	Q0917190000004.D	MR-1 0.53(mm)
IC 180-291631/4		09/17/2019 14:15	1	Q0917190000004.D	MR-2 0.53(mm)
IC 180-291631/5		09/17/2019 14:30	1	Q0917190000005.D	MR-1 0.53(mm)
IC 180-291631/5		09/17/2019 14:30	1	Q0917190000005.D	MR-2 0.53(mm)
IC 180-291631/6		09/17/2019 14:46	1	Q0917190000006.D	MR-1 0.53(mm)
IC 180-291631/6		09/17/2019 14:46	1	Q0917190000006.D	MR-2 0.53(mm)
IC 180-291631/7		09/17/2019 15:01	1	Q0917190000007.D	MR-1 0.53(mm)
IC 180-291631/7		09/17/2019 15:01	1	Q0917190000007.D	MR-2 0.53(mm)
IC 180-291631/8		09/17/2019 15:17	1		MR-1 0.53(mm)
IC 180-291631/8		09/17/2019 15:17	1		MR-2 0.53(mm)
IC 180-291631/9		09/17/2019 15:32	1		MR-1 0.53(mm)
IC 180-291631/9		09/17/2019 15:32	1		MR-2 0.53(mm)
IC 180-291631/10		09/17/2019 15:48	1		MR-1 0.53(mm)
IC 180-291631/10		09/17/2019 15:48	1		MR-2 0.53(mm)
IC 180-291631/11		09/17/2019 16:03	1		MR-1 0.53(mm)
IC 180-291631/11		09/17/2019 16:03	1		MR-2 0.53(mm)
IC 180-291631/12		09/17/2019 16:19	1		MR-1 0.53(mm)
IC 180-291631/12		09/17/2019 16:19	1		MR-2 0.53(mm)
IC 180-291631/13		09/17/2019 16:34	1		MR-1 0.53(mm)
IC 180-291631/13		09/17/2019 16:34	1		MR-2 0.53(mm)
ICV 180-291631/14		09/17/2019 16:50	1	Q0917190000014.D	MR-1 0.53(mm)
ICV 180-291631/14		09/17/2019 16:50	1	Q0917190000014.D	MR-2 0.53(mm)
ICV 180-291631/15		09/17/2019 17:05	1		MR-1 0.53(mm)
ICV 180-291631/15		09/17/2019 17:05	1		MR-2 0.53(mm)
ICV 180-291631/16		09/17/2019 17:21	1		MR-1 0.53(mm)
ICV 180-291631/16		09/17/2019 17:21	1		MR-2 0.53(mm)
CCVIS 180-291631/17		09/17/2019 17:36	1		MR-1 0.53(mm)
CCVIS 180-291631/17		09/17/2019 17:36	1		MR-2 0.53(mm)
PEM 180-291631/18		09/17/2019 17:52	1		MR-1 0.53(mm)
PEM 180-291631/18		09/17/2019 17:52	1		MR-2 0.53(mm)
ZZZZZ		09/17/2019 18:07	1		MR-1 0.53(mm)
ZZZZZ		09/17/2019 18:07	1		MR-2 0.53(mm)
ZZZZZ		09/17/2019 18:23	1		MR-1 0.53(mm)

EPA 8081B

PESTICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Instrument ID: CHGC15 Start Date: 09/17/2019 13:28

Analysis Batch Number: 291631 End Date: 09/17/2019 20:57

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		09/17/2019 18:23	1		MR-2 0.53(mm)
ZZZZZ		09/17/2019 18:38	1		MR-1 0.53(mm)
ZZZZZ		09/17/2019 18:38	1		MR-2 0.53(mm)
ZZZZZ		09/17/2019 18:54	1		MR-1 0.53(mm)
ZZZZZ		09/17/2019 18:54	1		MR-2 0.53(mm)
ZZZZZ		09/17/2019 19:09	1		MR-1 0.53(mm)
ZZZZZ		09/17/2019 19:09	1		MR-2 0.53(mm)
ZZZZZ		09/17/2019 19:25	1		MR-1 0.53(mm)
ZZZZZ		09/17/2019 19:25	1		MR-2 0.53(mm)
ZZZZZ		09/17/2019 19:40	1		MR-1 0.53(mm)
ZZZZZ		09/17/2019 19:40	1		MR-2 0.53(mm)
ZZZZZ		09/17/2019 19:55	1		MR-1 0.53(mm)
ZZZZZ		09/17/2019 19:55	1		MR-2 0.53(mm)
ZZZZZ		09/17/2019 20:11	1		MR-1 0.53(mm)
ZZZZZ		09/17/2019 20:11	1		MR-2 0.53(mm)
ZZZZZ		09/17/2019 20:26	1		MR-1 0.53(mm)
ZZZZZ		09/17/2019 20:26	1		MR-2 0.53(mm)
ZZZZZ		09/17/2019 20:42	1		MR-1 0.53(mm)
ZZZZZ		09/17/2019 20:42	1		MR-2 0.53(mm)
ZZZZZ		09/17/2019 20:57	1		MR-1 0.53(mm)
ZZZZZ		09/17/2019 20:57	1		MR-2 0.53(mm)

EPA 8081B

PESTICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Instrument ID: CHGC15 Start Date: 10/24/2019 11:21

Analysis Batch Number: 295908 End Date: 10/24/2019 17:33

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
PEM 180-295908/1		10/24/2019 11:21	1	Q1024190000001.D	MR-1 0.53(mm)
PEM 180-295908/1		10/24/2019 11:21	1	Q1024190000001.D	MR-2 0.53(mm)
CCV 180-295908/2		10/24/2019 11:36	1	Q1024190000002.D	MR-1 0.53(mm)
CCV 180-295908/2		10/24/2019 11:36	1	Q1024190000002.D	MR-2 0.53(mm)
CCV 180-295908/3		10/24/2019 11:52	1	Q1024190000003.D	MR-1 0.53(mm)
CCV 180-295908/3		10/24/2019 11:52	1	Q1024190000003.D	MR-2 0.53(mm)
CCV 180-295908/4		10/24/2019 12:07	1	Q1024190000004.D	MR-1 0.53(mm)
CCV 180-295908/4		10/24/2019 12:07	1	Q1024190000004.D	MR-2 0.53(mm)
CCVIS 180-295908/5		10/24/2019 12:23	1	Q1024190000005.D	MR-1 0.53(mm)
CCVIS 180-295908/5		10/24/2019 12:23	1	Q1024190000005.D	MR-2 0.53(mm)
MB 180-295379/1-A		10/24/2019 12:54	1	Q1024190000007.D	MR-1 0.53(mm)
MB 180-295379/1-A		10/24/2019 12:54	1	Q1024190000007.D	MR-2 0.53(mm)
LCS 180-295379/2-A		10/24/2019 13:09	1	Q1024190000008.D	MR-1 0.53(mm)
LCS 180-295379/2-A		10/24/2019 13:09	1	Q1024190000008.D	MR-2 0.53(mm)
LCSD 180-295379/3-A		10/24/2019 13:25	1	Q1024190000009.D	MR-1 0.53(mm)
LCSD 180-295379/3-A		10/24/2019 13:25	1	Q1024190000009.D	MR-2 0.53(mm)
LB 180-295177/1-B		10/24/2019 13:40	1	Q1024190000010.D	MR-1 0.53(mm)
LB 180-295177/1-B		10/24/2019 13:40	1	Q1024190000010.D	MR-2 0.53(mm)
180-97287-1		10/24/2019 13:56	1	Q1024190000011.D	MR-1 0.53(mm)
180-97287-1		10/24/2019 13:56	1	Q1024190000011.D	MR-2 0.53(mm)
ZZZZZ		10/24/2019 16:31	1		MR-1 0.53(mm)
ZZZZZ		10/24/2019 16:31	1		MR-2 0.53(mm)
ZZZZZ		10/24/2019 16:47	20		MR-1 0.53(mm)
ZZZZZ		10/24/2019 16:47	20		MR-2 0.53(mm)
ZZZZZ		10/24/2019 17:02	20		MR-1 0.53(mm)
ZZZZZ		10/24/2019 17:02	20		MR-2 0.53(mm)
ZZZZZ		10/24/2019 17:17	1		MR-1 0.53(mm)
ZZZZZ		10/24/2019 17:17	1		MR-2 0.53(mm)
ZZZZZ		10/24/2019 17:33	1		MR-1 0.53(mm)
ZZZZZ		10/24/2019 17:33	1		MR-2 0.53(mm)

EPA 8081B

PESTICIDES BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295177 Batch Start Date: 10/16/19 16:15 Batch Analyst: Stundon, Jeremy A

Batch Method: 1311 Batch End Date: 10/17/19 09:45

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	FiltCompDate	FiltCompTime	LeachatepH		
LB 180-295177/1		1311, 3510C, EPA 8081B		2000 mL	10/17/19	1030	4.93 SU		

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

PESTICIDES BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295177 Batch Start Date: 10/16/19 16:15 Batch Analyst: Stundon, Jeremy A

Batch Method: 1311 Batch End Date: 10/17/19 09:45

Batch Notes	
1N HCl ID	2948732
Balance ID	AND-14577823
pH Buffer 1 ID	3166975
pH Buffer 2 ID	2613652
pH Buffer 3 ID	2923701
pH Buffer 4 ID	3384621
First End time	1115
Filter ID	3409948
Lot # of Nitric Acid	2819852
Hot Plate ID	TCLP-2
pH Meter Calibration Slope	98.0/97.9
pH Meter ID	ACCUMET-XL-150
Probe ID	XV3-12485
Room Temperature Thermometer ID	FISHER-160719405
Analyst ID - Spike Analyst	JAS
First Start time	1030
TCLP Fluid 1 ID	3409948
TCLP Fluid 1 pH	4.93
TCLP Fluid 2 ID	2726101
TCLP Fluid 2 pH	2.88
Maximum Temperature	22 Degrees C
Minimum Temperature	22 Degrees C
Thermometer ID	TCLP-2
Tumbler Rotations per Minute	Tumbler 1: 31
Uncorrected Maximum Temperature	22 Degrees C
Uncorrected Minimum Temperature	22 Degrees C
Uncorrected Water Bath Temperature	50.0 Celsius
Water Bath ID	TCLP-2
Water Bath Temperature	50.0 Degrees C
Water Bath Thermometer ID	TCLP-2

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

PESTICIDES BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295177 Batch Start Date: 10/16/19 16:15 Batch Analyst: Stundon, Jeremy A

Batch Method: 1311 Batch End Date: 10/17/19 09:45

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

PESTICIDES BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295177 Batch Start Date: 10/16/19 16:15 Batch Analyst: Stundon, Jeremy A

Batch Method: EPA 1311 Batch End Date: 10/17/19 09:45

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	EFD_SampleWeight	EFD_VolumeWaterAdd	EFD_InitialpH	EFD_AddHClpH>5
180-97287-A-1	11187072-NORTH-IMPCT-INITIALS	EPA 1311, 3510C, EPA 8081B	P	100.00 g	2000 mL	5.00 g	96.5 mL	9.05 SU	3.50 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	EFD_HeatHeld	EFD_SecondpHCheck	FiltCompDate	FiltCompTime	LeachatepH	
180-97287-A-1	11187072-NORTH-IMPCT-INITIALS	EPA 1311, 3510C, EPA 8081B	P	50.0 Deg. C	1.78 SU	10/17/19	1030	6.17 SU	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

PESTICIDES BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295177 Batch Start Date: 10/16/19 16:15 Batch Analyst: Stundon, Jeremy A

Batch Method: EPA 1311 Batch End Date: 10/17/19 09:45

Batch Notes	
1N HCl ID	2948732
Balance ID	AND-14577823
pH Buffer 1 ID	3166975
pH Buffer 2 ID	2613652
pH Buffer 3 ID	2923701
pH Buffer 4 ID	3384621
First End time	1115
Filter ID	3409948
Lot # of Nitric Acid	2819852
Hot Plate ID	TCLP-2
pH Meter Calibration Slope	98.0/97.9
pH Meter ID	ACCUMET-XL-150
Probe ID	XV3-12485
Room Temperature Thermometer ID	FISHER-160719405
Analyst ID - Spike Analyst	JAS
First Start time	1030
TCLP Fluid 1 ID	3409948
TCLP Fluid 1 pH	4.93
TCLP Fluid 2 ID	2726101
TCLP Fluid 2 pH	2.88
Maximum Temperature	22 Degrees C
Minimum Temperature	22 Degrees C
Thermometer ID	TCLP-2
Tumbler Rotations per Minute	Tumbler 1: 31
Uncorrected Maximum Temperature	22 Degrees C
Uncorrected Minimum Temperature	22 Degrees C
Uncorrected Water Bath Temperature	50.0 Celsius
Water Bath ID	TCLP-2
Water Bath Temperature	50.0 Degrees C
Water Bath Thermometer ID	TCLP-2

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

PESTICIDES BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295177 Batch Start Date: 10/16/19 16:15 Batch Analyst: Stundon, Jeremy A

Batch Method: EPA 1311 Batch End Date: 10/17/19 09:45

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

PESTICIDES BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295379 Batch Start Date: 10/18/19 10:30 Batch Analyst: Yushinski, Charles

Batch Method: 3510C Batch End Date: 10/18/19 19:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ReceivedpH	op-p/pcb sur 00024	OPPESTMATRIX 00036	AnalysisComment
MB 180-295379/1		3510C, EPA 8081B		100 mL	40.0 mL	6 SU	1 mL		Funnel 1
LCS 180-295379/2		3510C, EPA 8081B		100 mL	40.0 mL	6 SU	1 mL	1 mL	Funnel 2
LCSD 180-295379/3		3510C, EPA 8081B		100 mL	40.0 mL	6 SU	1 mL	1 mL	Funnel 3
LB 180-295177/1-A		3510C, EPA 8081B		100 mL	40.0 mL	5 SU	1 mL		Funnel 4
180-97287-A-1-B	11187072-NORTH-I MPCT-INITIALS	3510C, EPA 8081B	P	100 mL	40.0 mL	7 SU	1 mL		Funnel 5

Batch Notes	
Analyst ID - Concentration	CBY
Concentration 1 Corrected Temperature	65 Degrees C
Concentration 2 Corrected Temperature	21 Degrees C
Equipment ID - Concentration 1	water bath 1
Equipment ID - Concentration 2	1
Exchange Solvent ID	Hexane 3383237
Analyst ID - Extraction	CBY
Filter ID	16939085
Na2SO4 ID	3327433
pH Indicator ID	Ph paper HC987808
Prep Solvent ID	Methylene chloride 3414342
Prep Solvent Volume Used	180 mL
Analyst ID - Spike Analyst	CBY
Sufficient Volume for Batch QC	no
Thermometer ID - Concentration 1	water bath 1
Thermometer ID - Concentration 2	1
Concentration 1 Uncorrected Temperature	65 Degrees C
Concentration 2 Uncorrected Temperature	21 Degrees C

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

PESTICIDES BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295379 Batch Start Date: 10/18/19 10:30 Batch Analyst: Yushinski, Charles

Batch Method: 3510C Batch End Date: 10/18/19 19:30

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Method 8082A

Polychlorinated Biphenyls (PCBs) (GC) by Method 8082A

FORM II
PCBS SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Matrix: Solid (TCLP) Level: Low

GC Column (1): RTX-CLP1 ID: 0.53(mm) GC Column (2): RTX-CLP2 ID: 0.53(mm)

Client Sample ID	Lab Sample ID	TCX1 #	TCX2 #	DCB1 #	DCB2 #
11187072-NORTH-IMP CT-INITIALS	180-97287-1	83	92	85	90
	MB 180-295380/1-A	84	83	88	91
	LB 180-295177/1-C	91	98	87	95
	LCS 180-295380/2-A	87	97	92	96
	LCSD 180-295380/3-A	89	94	86	92

	QC LIMITS
TCX = Tetrachloro-m-xylene (Surr)	45-133
DCB = DCB Decachlorobiphenyl (Surr)	59-144

Column to be used to flag recovery values

FORM II EPA 8082A

FORM III
PCBS LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Matrix: Water Level: Low Lab File ID: S1021976.D

Lab ID: LCS 180-295380/2-A Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
PCB-1016	0.0400	0.0385	96	55-124	
PCB-1260	0.0400	0.0414	103	56-122	

Column to be used to flag recovery and RPD values

FORM III EPA 8082A

FORM III
PCBS LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Matrix: Water Level: Low Lab File ID: S1021977.D

Lab ID: LCSD 180-295380/3-A Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCSD CONCENTRATION (mg/L)	LCSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
PCB-1016	0.0400	0.0378	94	2	23	55-124	
PCB-1260	0.0400	0.0376	94	10	20	56-122	

Column to be used to flag recovery and RPD values

FORM III EPA 8082A

FORM IV
PCBS METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: MB 180-295380/1-A

Matrix: Water Date Extracted: 10/18/2019 10:30

Lab File ID:(1) S1021975.D Lab File ID:(2) S1021975.D

Date Analyzed:(1) 10/22/2019 07:39 Date Analyzed:(2) 10/22/2019 07:39

Instrument ID:(1) CHGC10 Instrument ID:(2) CHGC10

GC Column:(1) RTX-CLP1 ID: 0.53(mm) GC Column:(2) RTX-CLP2 ID: 0.53(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
	LCS 180-295380/2-A	10/22/2019 08:42	10/22/2019 08:42
	LCSD 180-295380/3-A	10/22/2019 09:02	10/22/2019 09:02
	LB 180-295177/1-C	10/22/2019 09:22	10/22/2019 09:22
11187072-NORTH-IMPCT-INITIALS	180-97287-1	10/22/2019 09:43	10/22/2019 09:43

FORM VIII
PCBS INTERNAL STANDARD HEIGHT AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Sample No.: ICIS 180-292146/8 Date Analyzed: 09/21/2019 10:43

Instrument ID: CHGC10 GC Column: RTX-CLP1 ID: 0.53(mm)

Lab File ID (Standard): S0921909.D Heated Purge: (Y/N) N

Calibration ID: 41572

		BNB		PCB205			
		HEIGHT #	RT #	HEIGHT #	RT #	HEIGHT #	RT #
INITIAL CALIBRATION MID-POINT		511889197	2.75	482499706	10.92		
UPPER LIMIT		767833796	2.78	723749559	10.95		
LOWER LIMIT		255944599	2.72	241249853	10.89		
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 180-292146/12		500366459	2.75	497036510	10.92		
ICV 180-292146/13		491330909	2.75	508994084	10.92		
ICV 180-292146/14		492968390	2.75	520904645	10.92		
ICV 180-292146/15		485504732	2.75	500375151	10.92		
ICV 180-292146/36		636498679	2.75	568106272	10.92		

BNB = 1-Bromo-2-nitrobenzene
PCB205 = PCB-205 (IS)

Area Limit = 50%-150% of internal standard area
RT Limit = ± 0.03 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8082A

FORM VIII
PCBS INTERNAL STANDARD HEIGHT AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Sample No.: ICIS 180-292146/8 Date Analyzed: 09/21/2019 10:43

Instrument ID: CHGC10 GC Column: RTX-CLP2 ID: 0.53(mm)

Lab File ID (Standard): S0921909.D Heated Purge: (Y/N) N

Calibration ID: 41573

		BNB		PCB205			
		HEIGHT #	RT #	HEIGHT #	RT #	HEIGHT #	RT #
INITIAL CALIBRATION MID-POINT		164036125	2.94	115027624	12.23		
UPPER LIMIT		246054188	2.97	172541436	12.26		
LOWER LIMIT		82018063	2.91	57513812	12.20		
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 180-292146/12		162806018	2.94	115194219	12.23		
ICV 180-292146/13		159789142	2.94	116302303	12.23		
ICV 180-292146/14		171898478	2.94	119627107	12.23		
ICV 180-292146/15		144556760	2.94	111154443	12.23		
ICV 180-292146/36		187019869	2.94	131758048	12.23		

BNB = 1-Bromo-2-nitrobenzene
PCB205 = PCB-205 (IS)

Area Limit = 50%-150% of internal standard area
RT Limit = ± 0.03 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8082A

FORM VIII
PCBS INTERNAL STANDARD HEIGHT AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Sample No.: CCVIS 180-295495/68 Date Analyzed: 10/22/2019 05:20

Instrument ID: CHGC10 GC Column: RTX-CLP1 ID: 0.53(mm)

Lab File ID (Standard): S1021968.D Heated Purge: (Y/N) N

Calibration ID: 41572

		BNB		PCB205			
		HEIGHT #	RT #	HEIGHT #	RT #	HEIGHT #	RT #
12/24 HOUR STD		556347871	2.74	485729548	10.90		
UPPER LIMIT		834521807	2.77	728594322	10.93		
LOWER LIMIT		278173936	2.71	242864774	10.87		
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 180-295380/1-A		572127138	2.74	498956605	10.90		
LCS 180-295380/2-A		660702188	2.74	533923987	10.90		
LCSD 180-295380/3-A		645321616	2.74	606403199	10.90		
LB 180-295177/1-C		641550295	2.74	599271834	10.90		
180-97287-1	11187072-NORTH-IMPCT-INITIALS	677653213	2.74	609000196	10.90		

BNB = 1-Bromo-2-nitrobenzene
PCB205 = PCB-205 (IS)

Area Limit = 50%-150% of internal standard area
RT Limit = ± 0.03 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8082A

FORM VIII
PCBS INTERNAL STANDARD HEIGHT AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Sample No.: CCVIS 180-295495/68 Date Analyzed: 10/22/2019 05:20

Instrument ID: CHGC10 GC Column: RTX-CLP2 ID: 0.53(mm)

Lab File ID (Standard): S1021968.D Heated Purge: (Y/N) N

Calibration ID: 41573

		BNB		PCB205			
		HEIGHT #	RT #	HEIGHT #	RT #	HEIGHT #	RT #
12/24 HOUR STD		178773699	2.93	128188707	12.21		
UPPER LIMIT		268160549	2.96	192283061	12.24		
LOWER LIMIT		89386850	2.90	64094354	12.18		
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 180-295380/1-A		196282508	2.93	144603607	12.21		
LCS 180-295380/2-A		204547291	2.92	150766289	12.20		
LCSD 180-295380/3-A		213406086	2.92	163410760	12.21		
LB 180-295177/1-C		211602682	2.93	159157266	12.21		
180-97287-1	11187072-NORTH-IMPCT-INITIALS	213083840	2.93	171219259	12.21		

BNB = 1-Bromo-2-nitrobenzene
PCB205 = PCB-205 (IS)

Area Limit = 50%-150% of internal standard area
RT Limit = ± 0.03 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8082A

FORM X
IDENTIFICATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 180-295380/2-A

Instrument ID (1): CHGC10 Instrument ID (2): CHGC10

Date Analyzed (1): 10/22/2019 08:42 Date Analyzed (2): 10/22/2019 08:42

GC Column (1): RTX-CLP1 ID: 0.53(mm) GC Column (2): RTX-CLP2 ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
PCB-1016	1	1	3.68	3.67	3.71	0.0351	0.0369	4.2
		2	4.55	4.53	4.57	0.0376		
		3	4.71	4.69	4.73	0.0366		
		4	5.23	5.21	5.25	0.0366		
		5	5.76	5.75	5.79	0.0385		
	2	1	4.32	4.32	4.36	0.0368	0.0385	
		2	5.48	5.48	5.52	0.0402		
		3	5.68	5.68	5.72	0.0390		
		4	6.45	6.44	6.48	0.0386		
		5	6.66	6.66	6.70	0.0377		
PCB-1260	1	1	7.65	7.64	7.68	0.0454	0.0414	9.1
		2	8.21	8.19	8.23	0.0463		
		3	8.88	8.86	8.90	0.0379		
		4	9.42	9.40	9.44	0.0385		
		5	9.88	9.86	9.90	0.0389		
	2	1	8.87	8.87	8.91	0.0380	0.0378	
		2	9.24	9.24	9.28	0.0378		
		3	9.85	9.85	9.89	0.0408		
		4	10.84	10.83	10.87	0.0362		
		5	11.37	11.36	11.40	0.0363		

FORM X
IDENTIFICATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 180-295380/3-A

Instrument ID (1): CHGC10 Instrument ID (2): CHGC10

Date Analyzed (1): 10/22/2019 09:02 Date Analyzed (2): 10/22/2019 09:02

GC Column (1): RTX-CLP1 ID: 0.53(mm) GC Column (2): RTX-CLP2 ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
PCB-1016	1	1	3.68	3.67	3.71	0.0357	0.0378	0.3
		2	4.55	4.53	4.57	0.0386		
		3	4.70	4.69	4.73	0.0375		
		4	5.22	5.21	5.25	0.0368		
		5	5.75	5.75	5.79	0.0403		
	2	1	4.33	4.32	4.36	0.0358	0.0377	
		2	5.49	5.48	5.52	0.0387		
		3	5.69	5.68	5.72	0.0378		
		4	6.45	6.44	6.48	0.0381		
		5	6.67	6.66	6.70	0.0380		
PCB-1260	1	1	7.65	7.64	7.68	0.0408	0.0376	1.7
		2	8.20	8.19	8.23	0.0427		
		3	8.87	8.86	8.90	0.0335		
		4	9.41	9.40	9.44	0.0358		
		5	9.87	9.86	9.90	0.0354		
	2	1	8.87	8.87	8.91	0.0379	0.0370	
		2	9.25	9.24	9.28	0.0365		
		3	9.86	9.85	9.89	0.0398		
		4	10.85	10.83	10.87	0.0360		
		5	11.38	11.36	11.40	0.0349		

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-97287-1
SDG No.:
Client Sample ID: 11187072-NORTH-IMPCT-INITIALS
Lab Sample ID: 180-97287-1
Matrix: Solid (TCLP)
Lab File ID: S1021979.D
Analysis Method: EPA 8082A
Date Collected: 10/15/2019 15:00
Extraction Method: 3510C
Date Extracted: 10/18/2019 10:30
Sample wt/vol: 1030(mL)
Date Analyzed: 10/22/2019 09:43
Con. Extract Vol.: 40.0(mL)
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: RTX-CLP1 ID: 0.53(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 295495
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
12674-11-2	PCB-1016	ND		0.00039	0.00018
11104-28-2	PCB-1221	ND		0.00039	0.00022
11141-16-5	PCB-1232	ND		0.00039	0.00020
53469-21-9	PCB-1242	ND		0.00039	0.00035
12672-29-6	PCB-1248	ND		0.00039	0.00012
11097-69-1	PCB-1254	ND		0.00039	0.00037
11096-82-5	PCB-1260	ND		0.00039	0.00015

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene (Surr)	83		45-133
2051-24-3	DCB Decachlorobiphenyl (Surr)	85		59-144

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021979.D
Lims ID: 180-97287-A-1-G
Client ID: 11187072-NORTH-IMPCT-INITIALS
Sample Type: Client
Inject. Date: 22-Oct-2019 09:43:12 ALS Bottle#: 79 Worklist Smp#: 79
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029208-079
Operator ID: Instrument ID: CHGC10

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Oct-2019 08:56:02 Calib Date: 16-Oct-2019 14:52:38
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20191016-29144.b\S1016906.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: oravecj Date: 23-Oct-2019 08:56:02

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene						
1	2.741	2.744	-0.003	677653213	H 0.1000	
2	2.927	2.930	-0.003	213083840	H 0.1000	
$ 2 Tetrachloro-m-xylene						
1	3.361	3.364	-0.003	133946629	H 0.0167	
2	3.791	3.796	-0.005	36369534	H 0.0183	
					RPD = 9.50	
3 PCB-1221						U
1		3.505			ND	
1		3.643				
1		3.683				
2		3.313				
2		4.092				
2		4.330				
4 PCB-1232						U
1		3.506			ND	
1		3.684				
1		4.033				
1		4.708				
1		5.226				
2		4.093				
2		4.331				
2		4.839				
2		5.492				
2		5.696				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
6 PCB-1016						
1		3.687			ND	
1		4.554				
1		4.712				
1		5.230				
1		5.765				
2		4.335				
2		5.497				
2		5.700				
2		6.462				
2		6.679				
7 PCB-1248						
1		4.029			ND	
1		4.928				
1		5.221				
1		5.820				
1		6.807				
2		4.840				
2		6.000				
2		6.673				
2		7.219				
2		7.668				
5 PCB-1242						
1		4.034			ND	
1		4.550				
1		5.224				
1		5.824				
1		5.868				
2		4.331				
2		4.839				
2		5.695				
2		6.456				
2		7.668				
8 PCB-1254						
1		5.759			ND	
1		6.154				
1		6.810				
1		7.303				
1		7.652				
2		7.210				
2		8.514				
2		8.937				
2		9.550				
2		9.863				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
9 PCB-1260						
1		7.658			ND	
1		8.213				
1		8.883				
1		9.423				
1		9.881				
2		8.886				
2		9.259				
2		9.868				
2		10.852				
2		11.382				
10 PCB-1262						
1		8.426			ND	
1		8.877				
1		9.418				
1		9.876				
1		10.000				
2		9.256				
2		10.010				
2		10.476				
2		10.849				
2		11.371				
11 PCB-1268						
1		9.934			ND	
1		9.996				
1		10.293				
1		11.229				
2		11.366				
2		11.431				
2		11.783				
2		12.589				
* 46 PCB-205 (IS)						
1	10.899	10.905	-0.006	609000196H	0.1000	
2	12.207	12.212	-0.005	171219259H	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)						
1	11.486	11.491	-0.005	78763335H	0.0171	
2	12.920	12.924	-0.004	23234850H	0.0180	
					RPD = 5.09	
15 1260 Res 1						
1		0.000			ND	
2		0.000				
14 1260 Res 3						
1		0.000			ND	
2		0.000				
13 1260 Res 2						
1		0.000			ND	
2		0.000				

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

PCBINT_00010	Amount Added:	0.01	Units: mL	Run Reagent

Report Date: 23-Oct-2019 08:56:28 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021979.D				
Injection Date:	22-Oct-2019 09:43:12	Instrument ID:	CHGC10		
Lims ID:	180-97287-A-1-G	Lab Sample ID:	180-97287-1		
Client ID:	11187072-NORTH-IMPCT-INITIALS				
Operator ID:		ALS Bottle#:	79	Worklist Smp#:	79
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

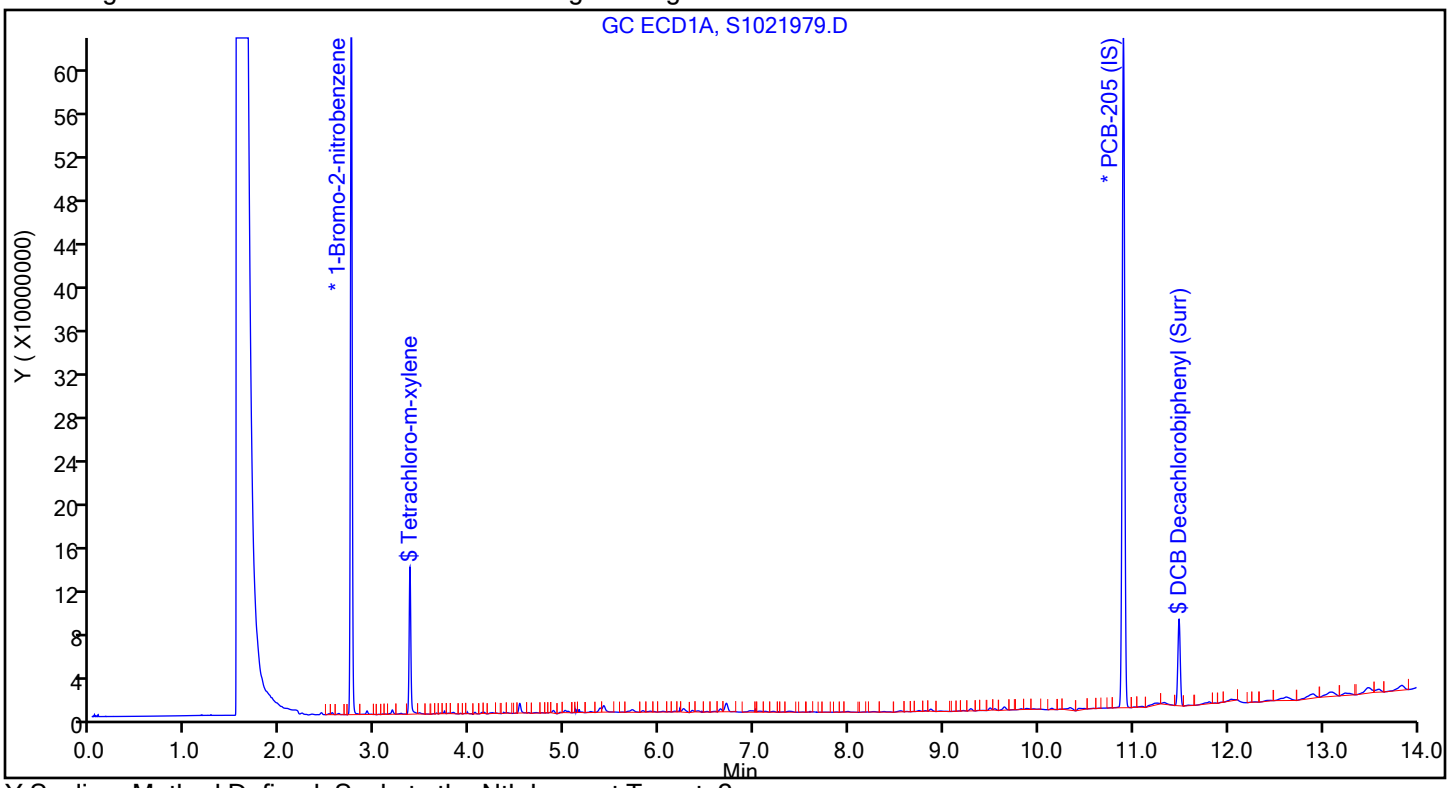

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

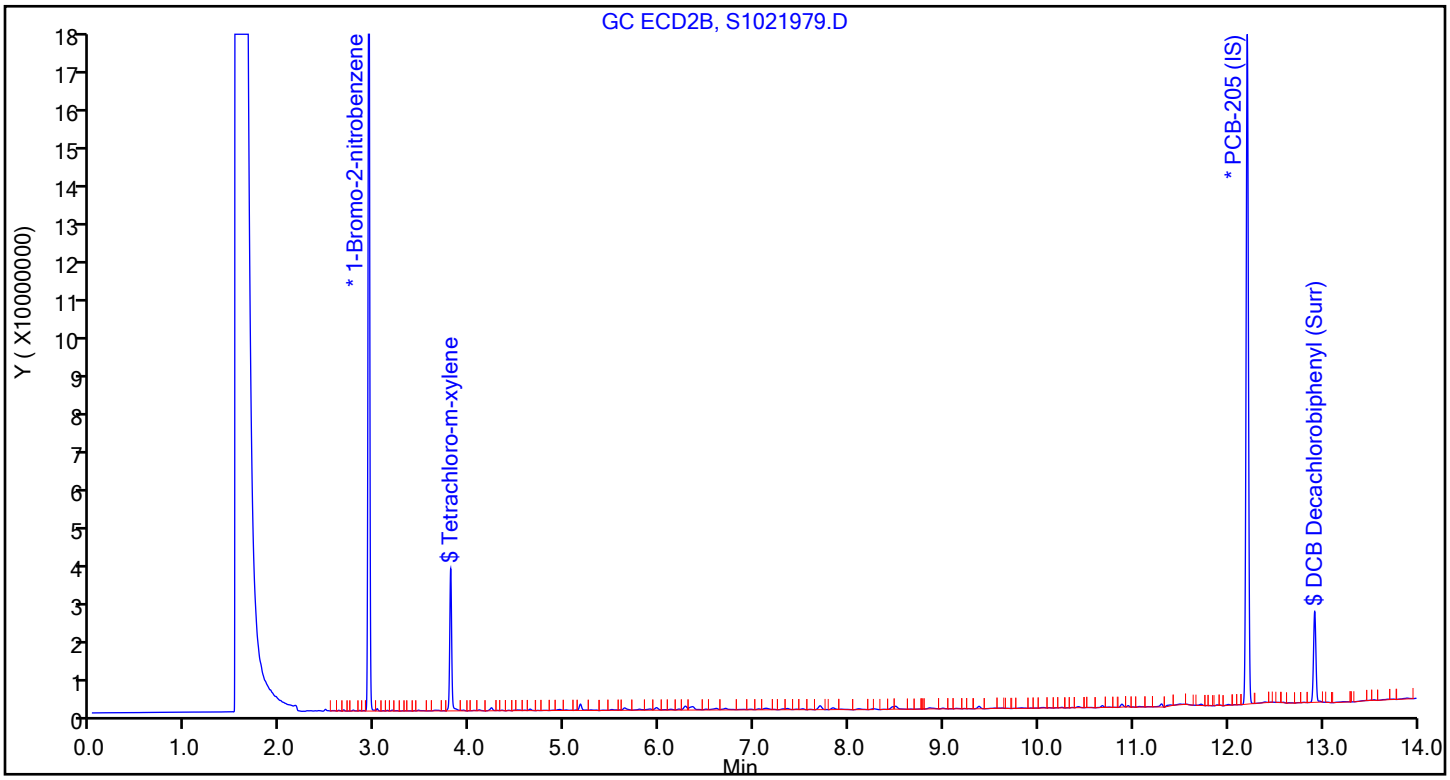

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021979.D				
Lims ID:	180-97287-A-1-G				
Client ID:	11187072-NORTH-IMPCT-INITIALS				
Sample Type:	Client				
Inject. Date:	22-Oct-2019 09:43:12	ALS Bottle#:	79	Worklist Smp#:	79
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0029208-079				
Operator ID:		Instrument ID:	CHGC10		

Method:	\\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\IS PCB_CHGC10DUAL.m		
Limit Group:	GCS 8082A ICAL with IS		
Last Update:	23-Oct-2019 08:56:02	Calib Date:	16-Oct-2019 14:52:38
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC10\20191016-29144.b\S1016906.D		

Column 1 :			Det: GC ECD1A
Column 2 :			Det: GC ECD2B
Process Host:	CTX0310		

First Level Reviewer: oravecj Date: 23-Oct-2019 08:56:02

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0167	83.36
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0171	85.46

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0183	91.68
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0180	89.93

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-97287-1
SDG No.:
Client Sample ID: 11187072-NORTH-IMPCT-INITIALS
Lab Sample ID: 180-97287-1
Matrix: Solid (TCLP)
Lab File ID: S1021979.D
Analysis Method: EPA 8082A
Date Collected: 10/15/2019 15:00
Extraction Method: 3510C
Date Extracted: 10/18/2019 10:30
Sample wt/vol: 1030(mL)
Date Analyzed: 10/22/2019 09:43
Con. Extract Vol.: 40.0(mL)
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: RTX-CLP2 ID: 0.53(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 295495
Units: mg/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene (Surr)	92		45-133
2051-24-3	DCB Decachlorobiphenyl (Surr)	90		59-144

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021979.D
Lims ID: 180-97287-A-1-G
Client ID: 11187072-NORTH-IMPCT-INITIALS
Sample Type: Client
Inject. Date: 22-Oct-2019 09:43:12 ALS Bottle#: 79 Worklist Smp#: 79
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029208-079
Operator ID: Instrument ID: CHGC10

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Oct-2019 08:56:02 Calib Date: 16-Oct-2019 14:52:38
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20191016-29144.b\S1016906.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: oravecj Date: 23-Oct-2019 08:56:02

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene						
1	2.741	2.744	-0.003	677653213	H 0.1000	
2	2.927	2.930	-0.003	213083840	H 0.1000	
$ 2 Tetrachloro-m-xylene						
1	3.361	3.364	-0.003	133946629	H 0.0167	
2	3.791	3.796	-0.005	36369534	H 0.0183	
					RPD = 9.50	
3 PCB-1221						U
1		3.505			ND	
1		3.643				
1		3.683				
2		3.313				
2		4.092				
2		4.330				
4 PCB-1232						U
1		3.506			ND	
1		3.684				
1		4.033				
1		4.708				
1		5.226				
2		4.093				
2		4.331				
2		4.839				
2		5.492				
2		5.696				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
6 PCB-1016						
1		3.687			ND	
1		4.554				
1		4.712				
1		5.230				
1		5.765				
2		4.335				
2		5.497				
2		5.700				
2		6.462				
2		6.679				
7 PCB-1248						
1		4.029			ND	
1		4.928				
1		5.221				
1		5.820				
1		6.807				
2		4.840				
2		6.000				
2		6.673				
2		7.219				
2		7.668				
5 PCB-1242						
1		4.034			ND	
1		4.550				
1		5.224				
1		5.824				
1		5.868				
2		4.331				
2		4.839				
2		5.695				
2		6.456				
2		7.668				
8 PCB-1254						
1		5.759			ND	
1		6.154				
1		6.810				
1		7.303				
1		7.652				
2		7.210				
2		8.514				
2		8.937				
2		9.550				
2		9.863				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
9 PCB-1260						
1		7.658			ND	
1		8.213				
1		8.883				
1		9.423				
1		9.881				
2		8.886				
2		9.259				
2		9.868				
2		10.852				
2		11.382				
10 PCB-1262						
1		8.426			ND	
1		8.877				
1		9.418				
1		9.876				
1		10.000				
2		9.256				
2		10.010				
2		10.476				
2		10.849				
2		11.371				
11 PCB-1268						
1		9.934			ND	
1		9.996				
1		10.293				
1		11.229				
2		11.366				
2		11.431				
2		11.783				
2		12.589				
* 46 PCB-205 (IS)						
1	10.899	10.905	-0.006	609000196H	0.1000	
2	12.207	12.212	-0.005	171219259H	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)						
1	11.486	11.491	-0.005	78763335H	0.0171	
2	12.920	12.924	-0.004	23234850H	0.0180	
					RPD = 5.09	
15 1260 Res 1						
1		0.000			ND	
2		0.000				
14 1260 Res 3						
1		0.000			ND	
2		0.000				
13 1260 Res 2						
1		0.000			ND	
2		0.000				

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

PCBINT_00010	Amount Added:	0.01	Units: mL	Run Reagent

Report Date: 23-Oct-2019 08:56:28 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021979.D				
Injection Date:	22-Oct-2019 09:43:12	Instrument ID:	CHGC10		
Lims ID:	180-97287-A-1-G	Lab Sample ID:	180-97287-1		
Client ID:	11187072-NORTH-IMPCT-INITIALS				
Operator ID:		ALS Bottle#:	79	Worklist Smp#:	79
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

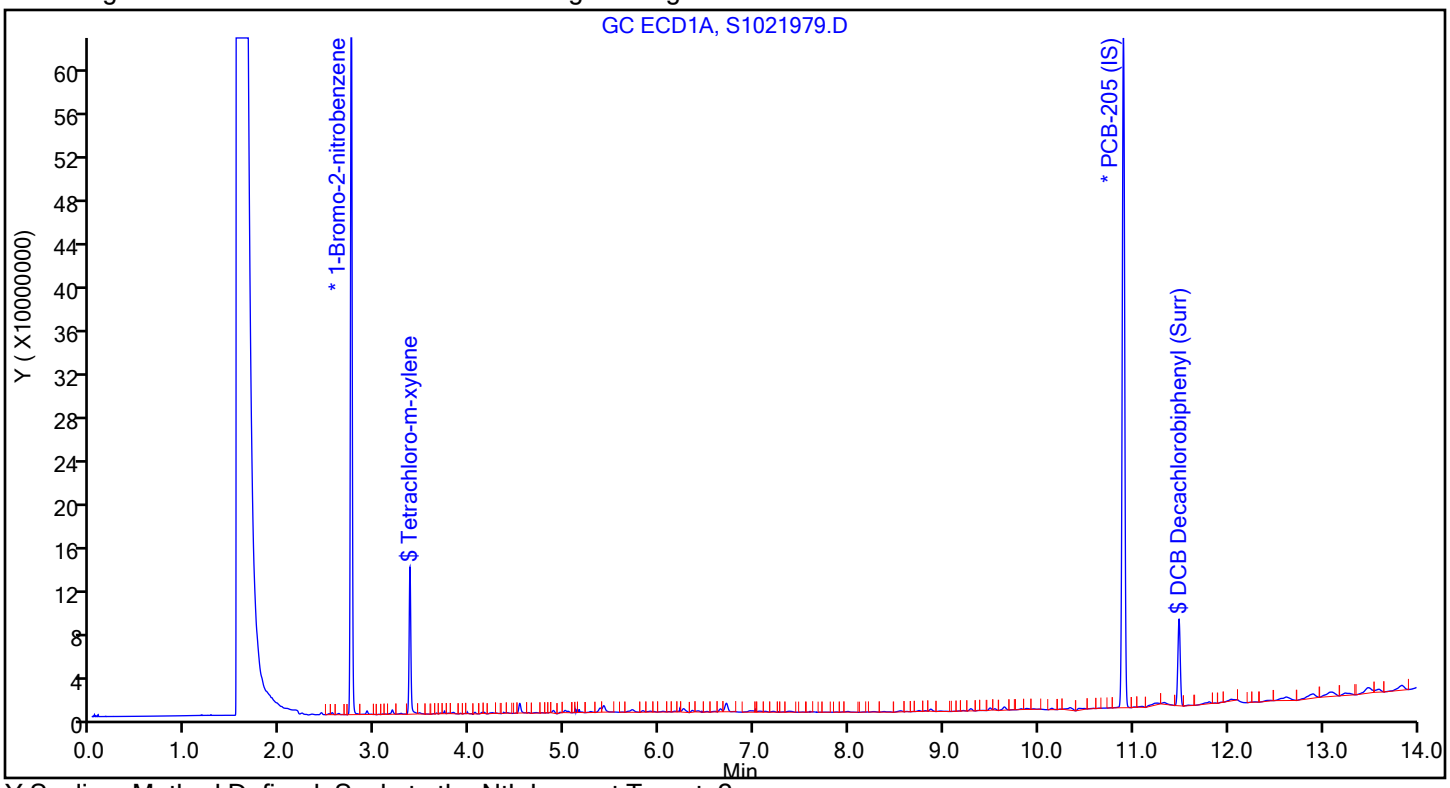

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

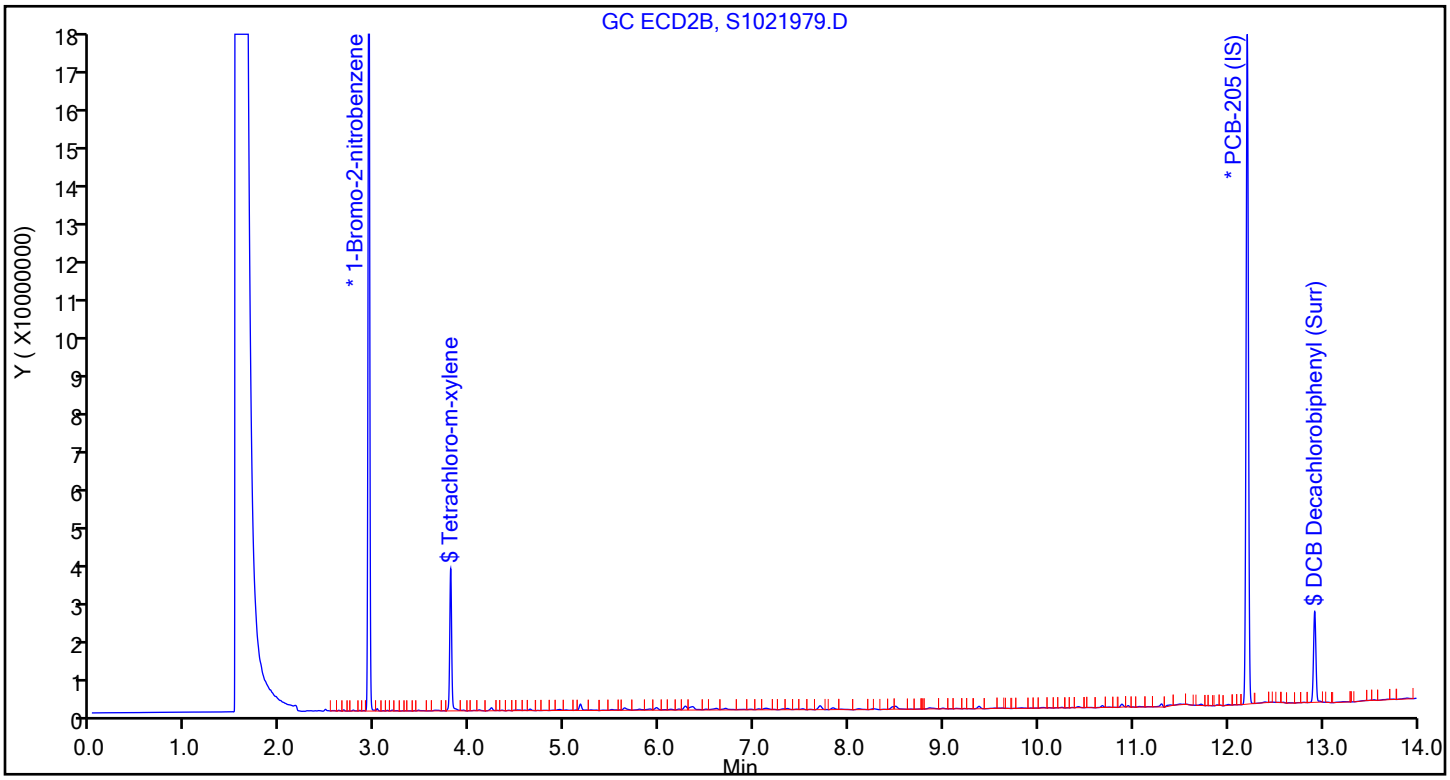

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021979.D				
Lims ID:	180-97287-A-1-G				
Client ID:	11187072-NORTH-IMPCT-INITIALS				
Sample Type:	Client				
Inject. Date:	22-Oct-2019 09:43:12	ALS Bottle#:	79	Worklist Smp#:	79
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0029208-079				
Operator ID:		Instrument ID:	CHGC10		

Method:	\\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\IS PCB_CHGC10DUAL.m		
Limit Group:	GCS 8082A ICAL with IS		
Last Update:	23-Oct-2019 08:56:02	Calib Date:	16-Oct-2019 14:52:38
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC10\20191016-29144.b\S1016906.D		

Column 1 :		Det: GC ECD1A
Column 2 :		Det: GC ECD2B
Process Host:	CTX0310	

First Level Reviewer: oravecj Date: 23-Oct-2019 08:56:02

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0167	83.36
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0171	85.46

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0183	91.68
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0180	89.93

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 08:24 Calibration End Date: 09/21/2019 08:24 Calibration ID: 41578

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/1	S0921902.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1221 Peak 1	0.0128					Ave		0.0128						20.0			
PCB-1221 Peak 2	0.0080					Ave		0.0080						20.0			
PCB-1221 Peak 3	0.0280					Ave		0.0280						20.0			
PCB-1254 Peak 1	0.0284					Ave		0.0284						20.0			
PCB-1254 Peak 2	0.0364					Ave		0.0364						20.0			
PCB-1254 Peak 3	0.0519					Ave		0.0519						20.0			
PCB-1254 Peak 4	0.0374					Ave		0.0374						20.0			
PCB-1254 Peak 5	0.0293					Ave		0.0293						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 08:24 Calibration End Date: 09/21/2019 08:24 Calibration ID: 41578

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/1	S0921902.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1					LVL 1				
PCB-1221 Peak 1	BNB	Ave	32144702					0.500				
PCB-1221 Peak 2	BNB	Ave	19959353					0.500				
PCB-1221 Peak 3	BNB	Ave	70409132					0.500				
PCB-1254 Peak 1	PCB20	Ave	68621518					0.500				
PCB-1254 Peak 2	PCB20	Ave	87858157					0.500				
PCB-1254 Peak 3	PCB20	Ave	125183312					0.500				
PCB-1254 Peak 4	PCB20	Ave	90272178					0.500				
PCB-1254 Peak 5	PCB20	Ave	70765853					0.500				

Curve Type Legend:

Ave = Average ISTD by Height

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 08:24 Calibration End Date: 09/21/2019 08:24 Calibration ID: 41578

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/1	S0921902.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #						LVL 1					
PCB-1221 Peak 1	0.0						50					
PCB-1221 Peak 2	0.0						50					
PCB-1221 Peak 3	0.0						50					
PCB-1254 Peak 1	0.0						50					
PCB-1254 Peak 2	0.0						50					
PCB-1254 Peak 3	0.0						50					
PCB-1254 Peak 4	0.0						50					
PCB-1254 Peak 5	0.0						50					

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921902.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 21-Sep-2019 08:24:29 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-001
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub21

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:51:17 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.746	2.748	-0.003	502084993H	0.1000	0.1000	
2	2.936	2.939	-0.003	159461512H	0.1000	0.1000	
3 PCB-1221							
1	3.511	3.511	0.000	32144702H	0.5000	0.5000	
1	3.649	3.649	0.000	19959353H	0.5000	0.5000	
1	3.689	3.689	0.000	70409132H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	3.326	3.326	0.000	5781295H	0.5000	0.5000	
2	4.107	4.107	0.000	7722245H	0.5000	0.5000	
2	4.346	4.346	0.000	15817220H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	
8 PCB-1254							
1	5.770	5.770	0.000	68621518H	0.5000	0.5000	
1	6.166	6.166	0.000	87858157H	0.5000	0.5000	
1	6.824	6.824	0.000	125183312H	0.5000	0.5000	
1	7.317	7.317	0.000	90272178H	0.5000	0.5000	
1	7.669	7.669	0.000	70765853H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	7.236	7.236	0.000	17261740H	0.5000	0.5000	
2	8.539	8.539	0.000	29604964H	0.5000	0.5000	
2	8.961	8.961	0.000	22261397H	0.5000	0.5000	
2	9.571	9.571	0.000	16804059H	0.5000	0.5000	
2	9.884	9.884	0.000	25449167H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	
* 46 PCB-205 (IS)							
1	10.911	10.916	-0.004	482592697H	0.1000	0.1000	
2	12.226	12.227	-0.001	109452127H	0.1000	0.1000	

Reagents:

GCAR2154CALL4_00021	Amount Added:	1.00	Units: mL	
PCBINT_00010	Amount Added:	0.01	Units: mL	Run Reagent

Report Date: 23-Sep-2019 06:51:18 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921902.D				
Injection Date:	21-Sep-2019 08:24:29	Instrument ID:	CHGC10		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

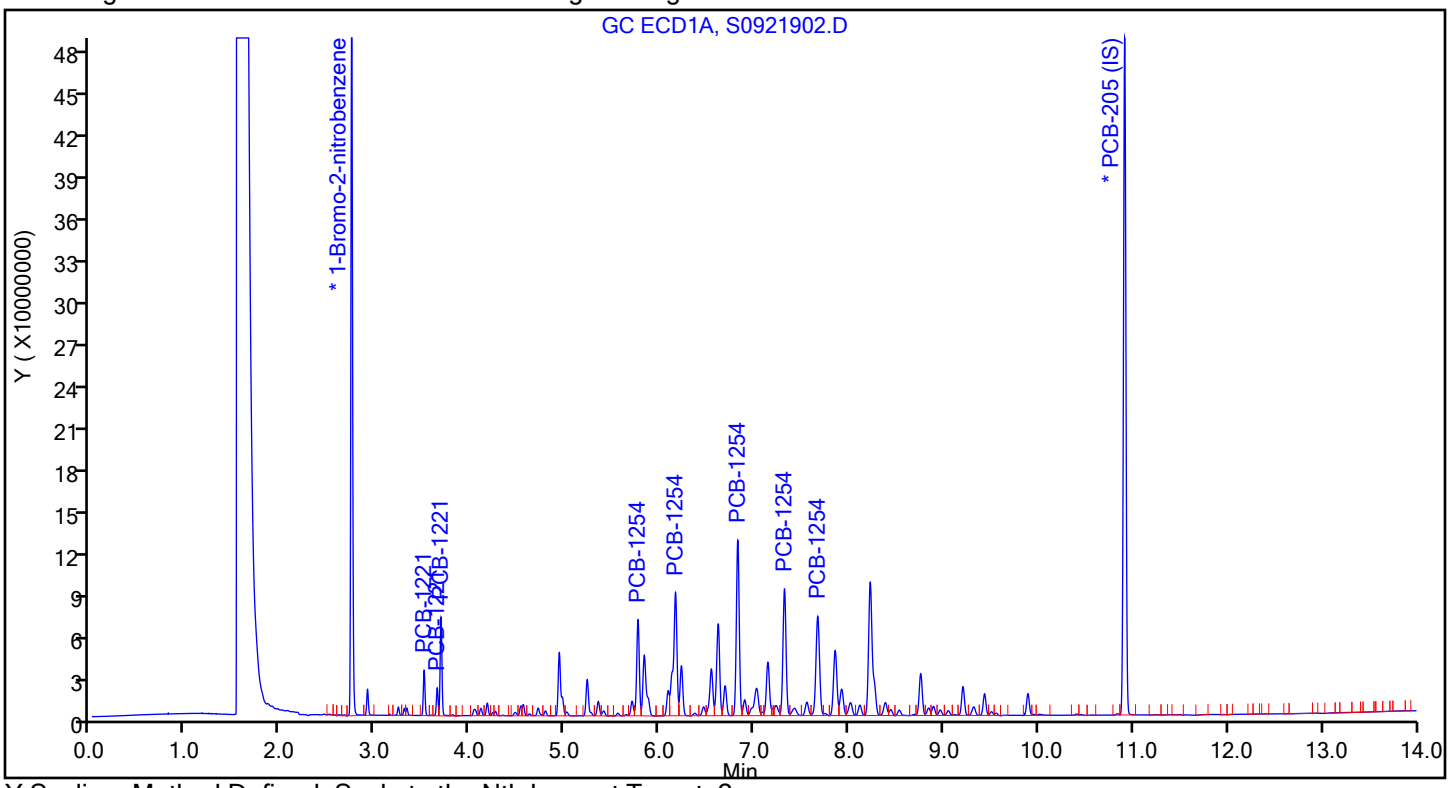

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

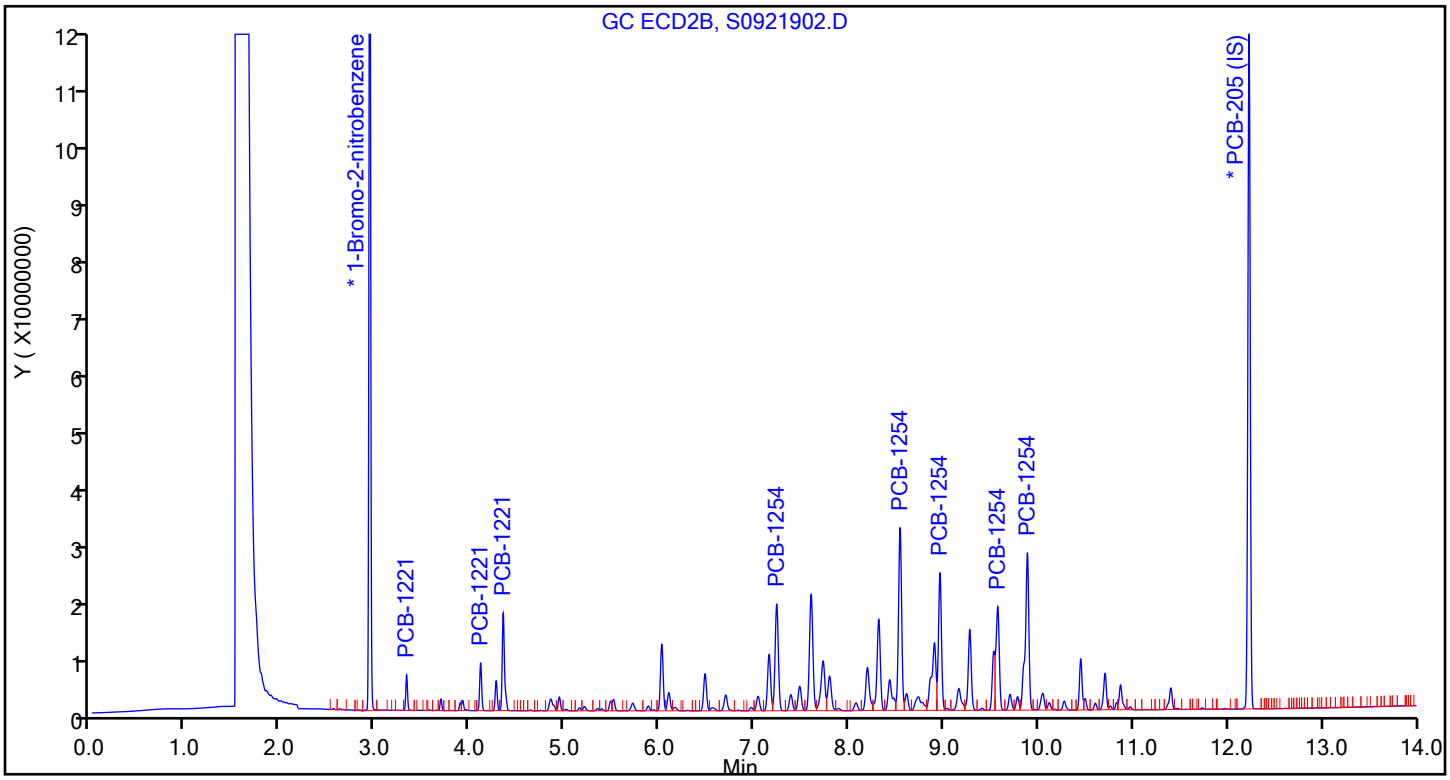

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 08:24 Calibration End Date: 09/21/2019 08:24 Calibration ID: 41579

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/1	S0921902.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1221 Peak 1	0.0073					Ave		0.0073						20.0			
PCB-1221 Peak 2	0.0097					Ave		0.0097						20.0			
PCB-1221 Peak 3	0.0198					Ave		0.0198						20.0			
PCB-1254 Peak 1	0.0315					Ave		0.0315						20.0			
PCB-1254 Peak 2	0.0541					Ave		0.0541						20.0			
PCB-1254 Peak 3	0.0407					Ave		0.0407						20.0			
PCB-1254 Peak 4	0.0307					Ave		0.0307						20.0			
PCB-1254 Peak 5	0.0465					Ave		0.0465						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 08:24 Calibration End Date: 09/21/2019 08:24 Calibration ID: 41579

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/1	S0921902.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1					LVL 1				
PCB-1221 Peak 1	BNB	Ave	5781295					0.500				
PCB-1221 Peak 2	BNB	Ave	7722245					0.500				
PCB-1221 Peak 3	BNB	Ave	15817220					0.500				
PCB-1254 Peak 1	PCB20	Ave	17261740					0.500				
PCB-1254 Peak 2	PCB20	Ave	29604964					0.500				
PCB-1254 Peak 3	PCB20	Ave	22261397					0.500				
PCB-1254 Peak 4	PCB20	Ave	16804059					0.500				
PCB-1254 Peak 5	PCB20	Ave	25449167					0.500				

Curve Type Legend:

Ave = Average ISTD by Height

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 08:24 Calibration End Date: 09/21/2019 08:24 Calibration ID: 41579

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/1	S0921902.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #						LVL 1					
PCB-1221 Peak 1	0.0						50					
PCB-1221 Peak 2	0.0						50					
PCB-1221 Peak 3	0.0						50					
PCB-1254 Peak 1	0.0						50					
PCB-1254 Peak 2	0.0						50					
PCB-1254 Peak 3	0.0						50					
PCB-1254 Peak 4	0.0						50					
PCB-1254 Peak 5	0.0						50					

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921902.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 21-Sep-2019 08:24:29 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-001
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub21

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:51:17 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.746	2.748	-0.003	502084993H	0.1000	0.1000	
2	2.936	2.939	-0.003	159461512H	0.1000	0.1000	
3 PCB-1221							
1	3.511	3.511	0.000	32144702H	0.5000	0.5000	
1	3.649	3.649	0.000	19959353H	0.5000	0.5000	
1	3.689	3.689	0.000	70409132H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	3.326	3.326	0.000	5781295H	0.5000	0.5000	
2	4.107	4.107	0.000	7722245H	0.5000	0.5000	
2	4.346	4.346	0.000	15817220H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	
8 PCB-1254							
1	5.770	5.770	0.000	68621518H	0.5000	0.5000	
1	6.166	6.166	0.000	87858157H	0.5000	0.5000	
1	6.824	6.824	0.000	125183312H	0.5000	0.5000	
1	7.317	7.317	0.000	90272178H	0.5000	0.5000	
1	7.669	7.669	0.000	70765853H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	7.236	7.236	0.000	17261740H	0.5000	0.5000	
2	8.539	8.539	0.000	29604964H	0.5000	0.5000	
2	8.961	8.961	0.000	22261397H	0.5000	0.5000	
2	9.571	9.571	0.000	16804059H	0.5000	0.5000	
2	9.884	9.884	0.000	25449167H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	
* 46 PCB-205 (IS)							
1	10.911	10.916	-0.004	482592697H	0.1000	0.1000	
2	12.226	12.227	-0.001	109452127H	0.1000	0.1000	

Reagents:

GCAR2154CALL4_00021	Amount Added:	1.00	Units: mL	
PCBINT_00010	Amount Added:	0.01	Units: mL	Run Reagent

Report Date: 23-Sep-2019 06:51:18 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921902.D				
Injection Date:	21-Sep-2019 08:24:29	Instrument ID:	CHGC10		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

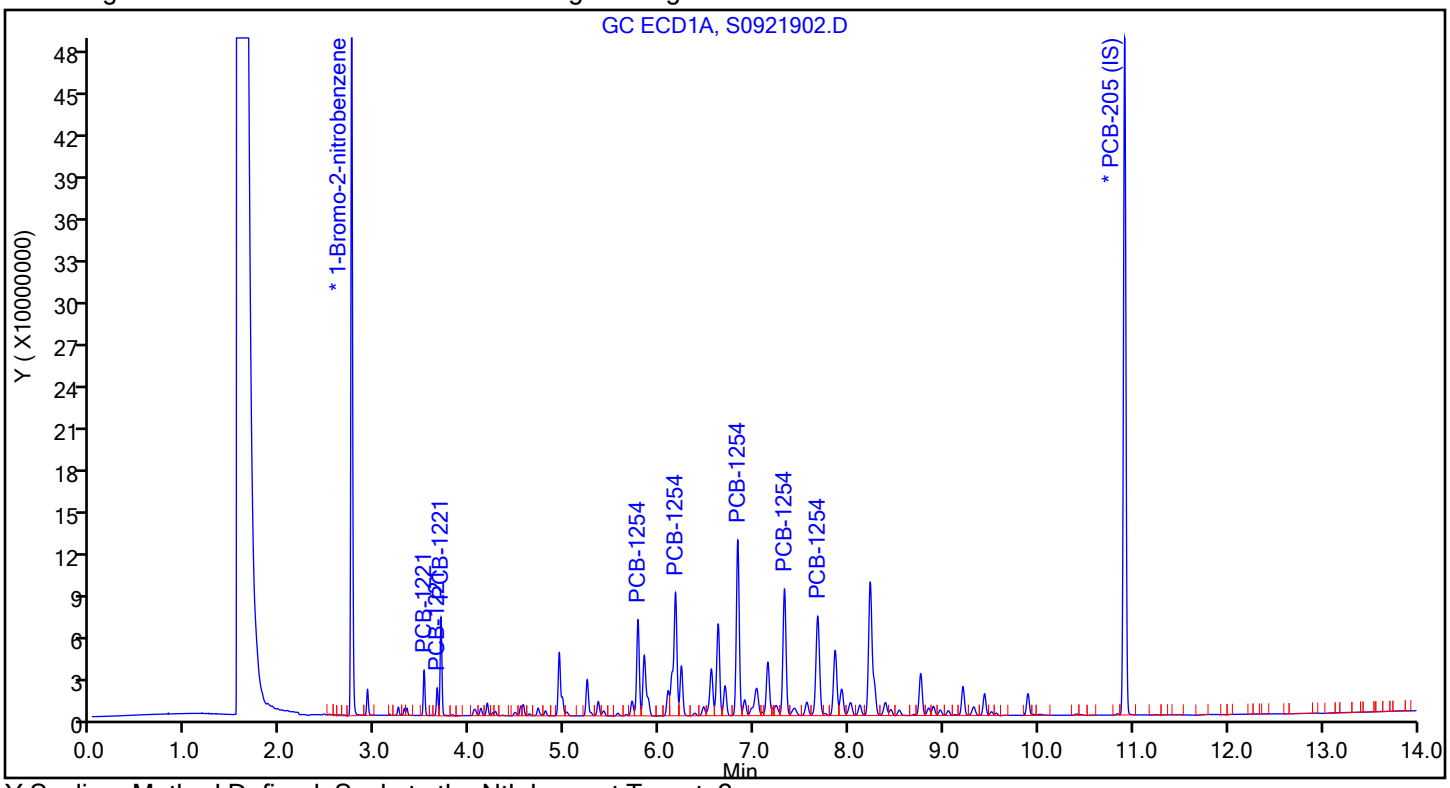

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

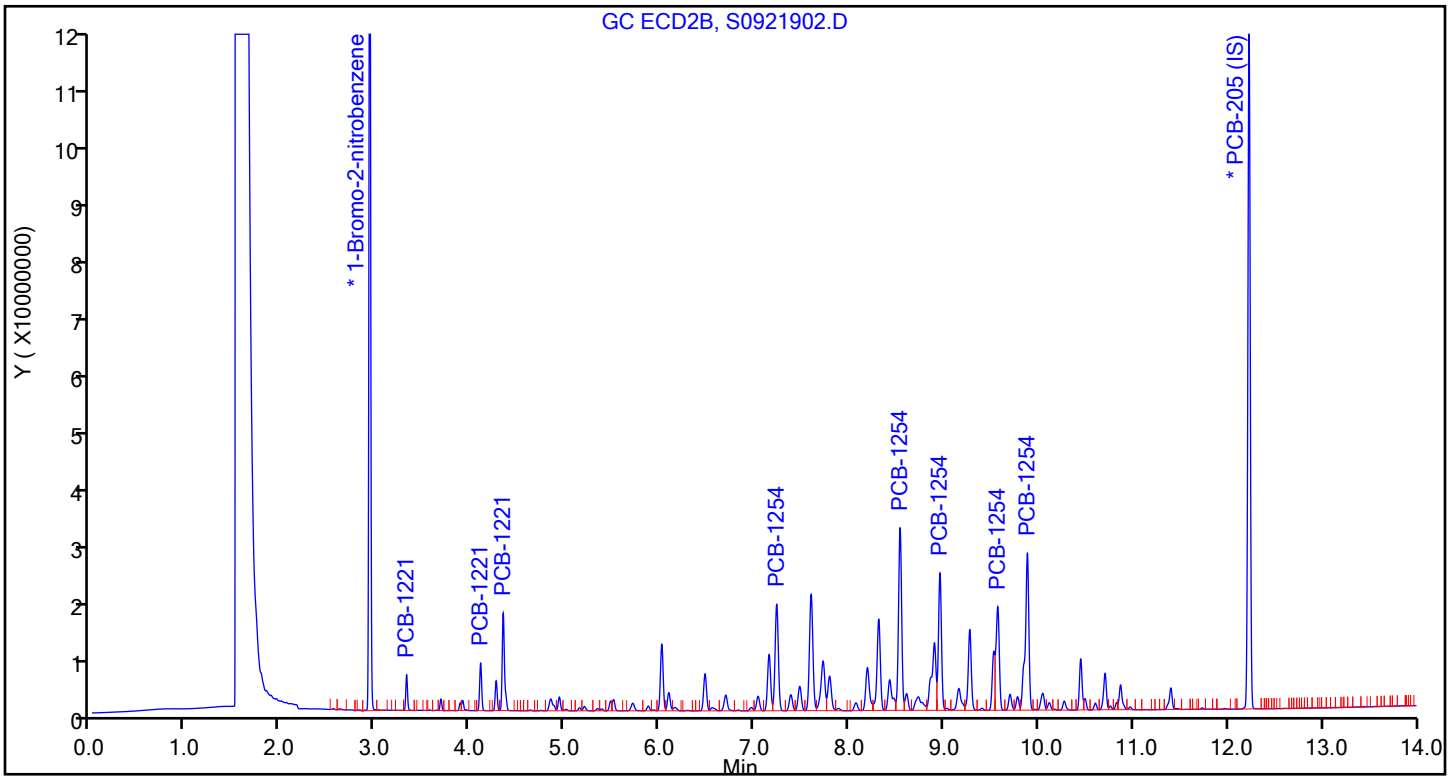

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 08:44 Calibration End Date: 09/21/2019 08:44 Calibration ID: 41584

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/2	S0921903.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1232 Peak 1	0.0111					Ave		0.0111						20.0			
PCB-1232 Peak 2	0.0302					Ave		0.0302						20.0			
PCB-1232 Peak 3	0.0137					Ave		0.0137						20.0			
PCB-1232 Peak 4	0.0171					Ave		0.0171						20.0			
PCB-1232 Peak 5	0.0130					Ave		0.0130						20.0			
PCB-1262 Peak 1	0.0533					Ave		0.0533						20.0			
PCB-1262 Peak 2	0.0550					Ave		0.0550						20.0			
PCB-1262 Peak 3	0.1313					Ave		0.1313						20.0			
PCB-1262 Peak 4	0.0465					Ave		0.0465						20.0			
PCB-1262 Peak 5	0.0406					Ave		0.0406						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 08:44 Calibration End Date: 09/21/2019 08:44 Calibration ID: 41584

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/2	S0921903.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1					LVL 1				
PCB-1232 Peak 1	BNB	Ave	25261390					0.500				
PCB-1232 Peak 2	BNB	Ave	68582400					0.500				
PCB-1232 Peak 3	BNB	Ave	30978329					0.500				
PCB-1232 Peak 4	BNB	Ave	38704959					0.500				
PCB-1232 Peak 5	BNB	Ave	29441519					0.500				
PCB-1262 Peak 1	PCB20	Ave	125444892					0.500				
PCB-1262 Peak 2	PCB20	Ave	129485103					0.500				
PCB-1262 Peak 3	PCB20	Ave	308988223					0.500				
PCB-1262 Peak 4	PCB20	Ave	109430144					0.500				
PCB-1262 Peak 5	PCB20	Ave	95471023					0.500				

Curve Type Legend:

Ave = Average ISTD by Height

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 08:44 Calibration End Date: 09/21/2019 08:44 Calibration ID: 41584

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/2	S0921903.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #						LVL 1					
PCB-1232 Peak 1	0.0						50					
PCB-1232 Peak 2	0.0						50					
PCB-1232 Peak 3	0.0						50					
PCB-1232 Peak 4	0.0						50					
PCB-1232 Peak 5	0.0						50					
PCB-1262 Peak 1	0.0						50					
PCB-1262 Peak 2	0.0						50					
PCB-1262 Peak 3	0.0						50					
PCB-1262 Peak 4	0.0						50					
PCB-1262 Peak 5	0.0						50					

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921903.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 21-Sep-2019 08:44:43 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-002
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub22

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:51:13 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.748	2.748	-0.001	453767079H	0.1000	0.1000	
2	2.938	2.939	-0.002	151720452H	0.1000	0.1000	
4 PCB-1232							
1	3.513	3.513	0.000	25261390H	0.5000	0.5000	
1	3.693	3.693	0.000	68582400H	0.5000	0.5000	
1	4.043	4.043	0.000	30978329H	0.5000	0.5000	
1	4.719	4.719	0.000	38704959H	0.5000	0.5000	
1	5.238	5.238	0.000	29441519H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	4.108	4.108	0.000	5817295H	0.5000	0.5000	
2	4.348	4.348	0.000	15376954H	0.5000	0.5000	
2	4.858	4.858	0.000	9002351H	0.5000	0.5000	
2	5.513	5.513	0.000	14863180H	0.5000	0.5000	
2	5.716	5.716	0.000	8264294H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
10 PCB-1262							
1	8.445	8.445	0.000	125444892H	0.5000	0.5000	
1	8.894	8.894	0.000	129485103H	0.5000	0.5000	
1	9.435	9.435	0.000	308988223H	0.5000	0.5000	
1	9.892	9.892	0.000	109430144H	0.5000	0.5000	
1	10.017	10.017	0.000	95471023H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	9.277	9.277	0.000	23644905H	0.5000	0.5000	
2	10.030	10.030	0.000	37119151H	0.5000	0.5000	
2	10.494	10.494	0.000	34634196H	0.5000	0.5000	
2	10.868	10.868	0.000	75585009H	0.5000	0.5000	
2	11.391	11.391	0.000	43944641H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	
* 46 PCB-205 (IS)							
1	10.915	10.916	-0.001	470586746H	0.1000	0.1000	
2	12.227	12.227	-0.001	114075095H	0.1000	0.1000	

Reagents:

GCAR3262CALL4_00014 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Sep-2019 06:51:13 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921903.D				
Injection Date:	21-Sep-2019 08:44:43	Instrument ID:	CHGC10		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

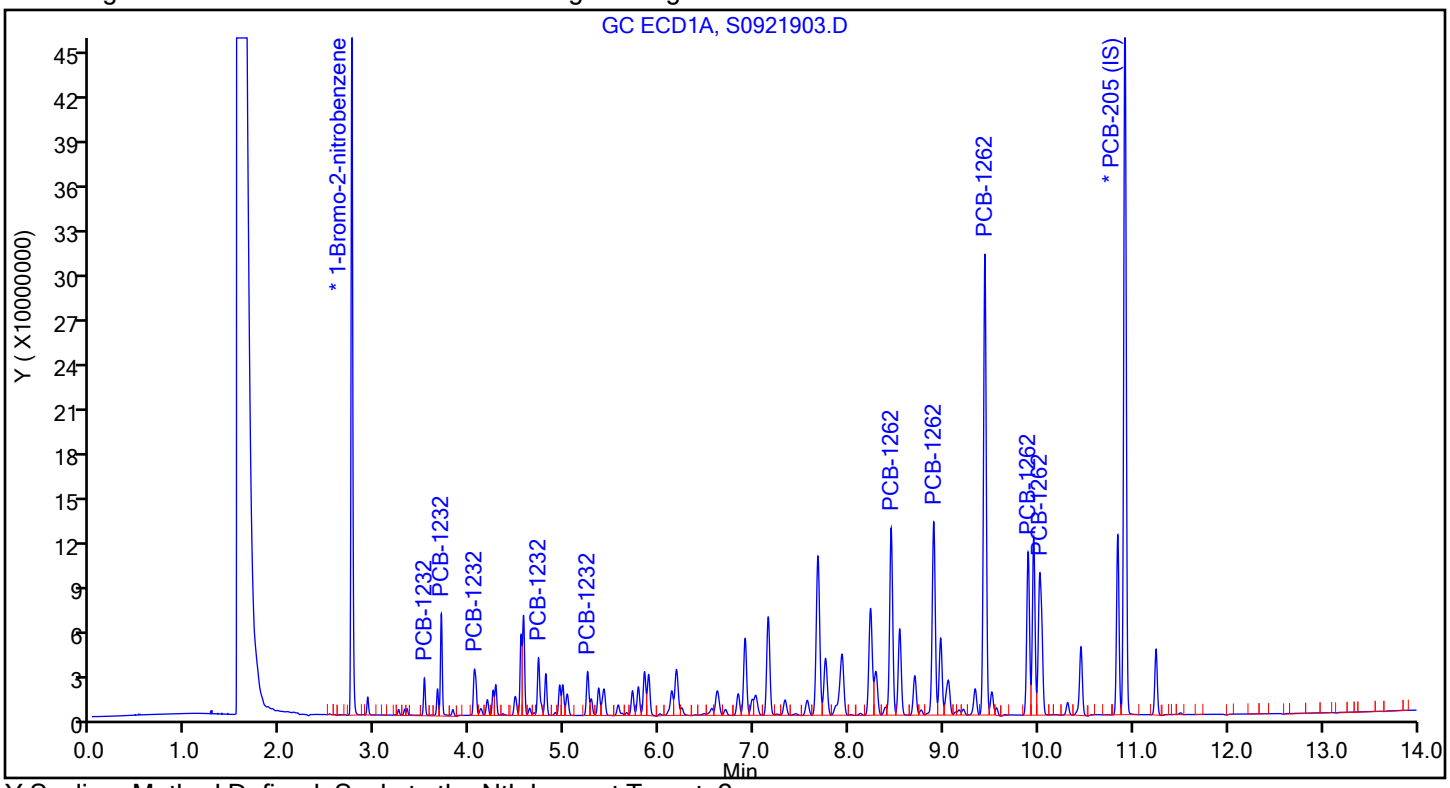

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

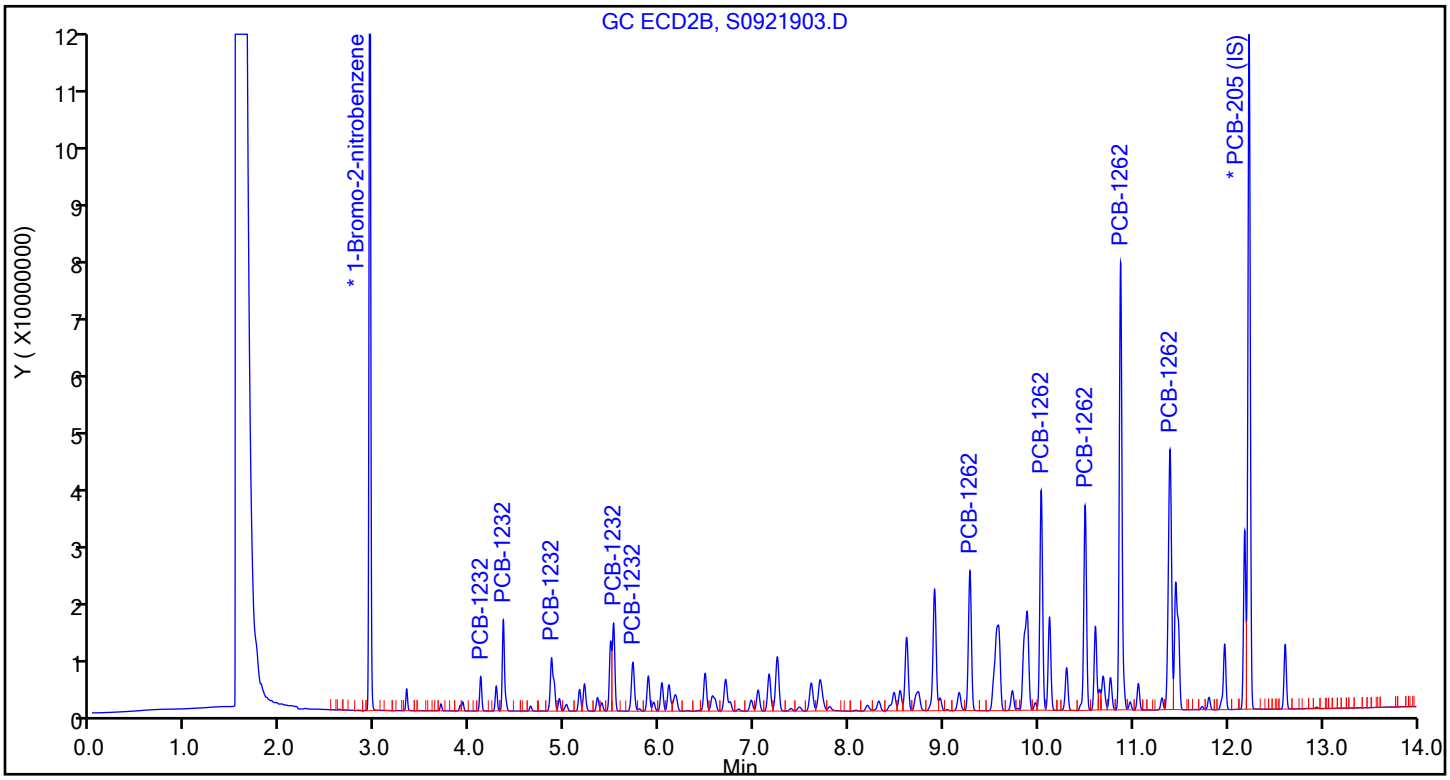

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 08:44 Calibration End Date: 09/21/2019 08:44 Calibration ID: 41585

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/2	S0921903.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1232 Peak 1	0.0077					Ave		0.0077						20.0			
PCB-1232 Peak 2	0.0203					Ave		0.0203						20.0			
PCB-1232 Peak 3	0.0119					Ave		0.0119						20.0			
PCB-1232 Peak 4	0.0196					Ave		0.0196						20.0			
PCB-1232 Peak 5	0.0109					Ave		0.0109						20.0			
PCB-1262 Peak 1	0.0415					Ave		0.0415						20.0			
PCB-1262 Peak 2	0.0651					Ave		0.0651						20.0			
PCB-1262 Peak 3	0.0607					Ave		0.0607						20.0			
PCB-1262 Peak 4	0.1325					Ave		0.1325						20.0			
PCB-1262 Peak 5	0.0770					Ave		0.0770						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 08:44 Calibration End Date: 09/21/2019 08:44 Calibration ID: 41585

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/2	S0921903.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1					LVL 1				
PCB-1232 Peak 1	BNB	Ave	5817295					0.500				
PCB-1232 Peak 2	BNB	Ave	15376954					0.500				
PCB-1232 Peak 3	BNB	Ave	9002351					0.500				
PCB-1232 Peak 4	BNB	Ave	14863180					0.500				
PCB-1232 Peak 5	BNB	Ave	8264294					0.500				
PCB-1262 Peak 1	PCB20	Ave	23644905					0.500				
PCB-1262 Peak 2	PCB20	Ave	37119151					0.500				
PCB-1262 Peak 3	PCB20	Ave	34634196					0.500				
PCB-1262 Peak 4	PCB20	Ave	75585009					0.500				
PCB-1262 Peak 5	PCB20	Ave	43944641					0.500				

Curve Type Legend:

Ave = Average ISTD by Height

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 08:44 Calibration End Date: 09/21/2019 08:44 Calibration ID: 41585

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/2	S0921903.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #						LVL 1					
PCB-1232 Peak 1	0.0						50					
PCB-1232 Peak 2	0.0						50					
PCB-1232 Peak 3	0.0						50					
PCB-1232 Peak 4	0.0						50					
PCB-1232 Peak 5	0.0						50					
PCB-1262 Peak 1	0.0						50					
PCB-1262 Peak 2	0.0						50					
PCB-1262 Peak 3	0.0						50					
PCB-1262 Peak 4	0.0						50					
PCB-1262 Peak 5	0.0						50					

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921903.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 21-Sep-2019 08:44:43 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-002
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub22

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:51:13 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.748	2.748	-0.001	453767079H	0.1000	0.1000	
2	2.938	2.939	-0.002	151720452H	0.1000	0.1000	
4 PCB-1232							
1	3.513	3.513	0.000	25261390H	0.5000	0.5000	
1	3.693	3.693	0.000	68582400H	0.5000	0.5000	
1	4.043	4.043	0.000	30978329H	0.5000	0.5000	
1	4.719	4.719	0.000	38704959H	0.5000	0.5000	
1	5.238	5.238	0.000	29441519H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	4.108	4.108	0.000	5817295H	0.5000	0.5000	
2	4.348	4.348	0.000	15376954H	0.5000	0.5000	
2	4.858	4.858	0.000	9002351H	0.5000	0.5000	
2	5.513	5.513	0.000	14863180H	0.5000	0.5000	
2	5.716	5.716	0.000	8264294H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
10 PCB-1262							
1	8.445	8.445	0.000	125444892H	0.5000	0.5000	
1	8.894	8.894	0.000	129485103H	0.5000	0.5000	
1	9.435	9.435	0.000	308988223H	0.5000	0.5000	
1	9.892	9.892	0.000	109430144H	0.5000	0.5000	
1	10.017	10.017	0.000	95471023H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	9.277	9.277	0.000	23644905H	0.5000	0.5000	
2	10.030	10.030	0.000	37119151H	0.5000	0.5000	
2	10.494	10.494	0.000	34634196H	0.5000	0.5000	
2	10.868	10.868	0.000	75585009H	0.5000	0.5000	
2	11.391	11.391	0.000	43944641H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	
* 46 PCB-205 (IS)							
1	10.915	10.916	-0.001	470586746H	0.1000	0.1000	
2	12.227	12.227	-0.001	114075095H	0.1000	0.1000	

Reagents:

GCAR3262CALL4_00014 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Sep-2019 06:51:13 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921903.D				
Injection Date:	21-Sep-2019 08:44:43	Instrument ID:	CHGC10		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

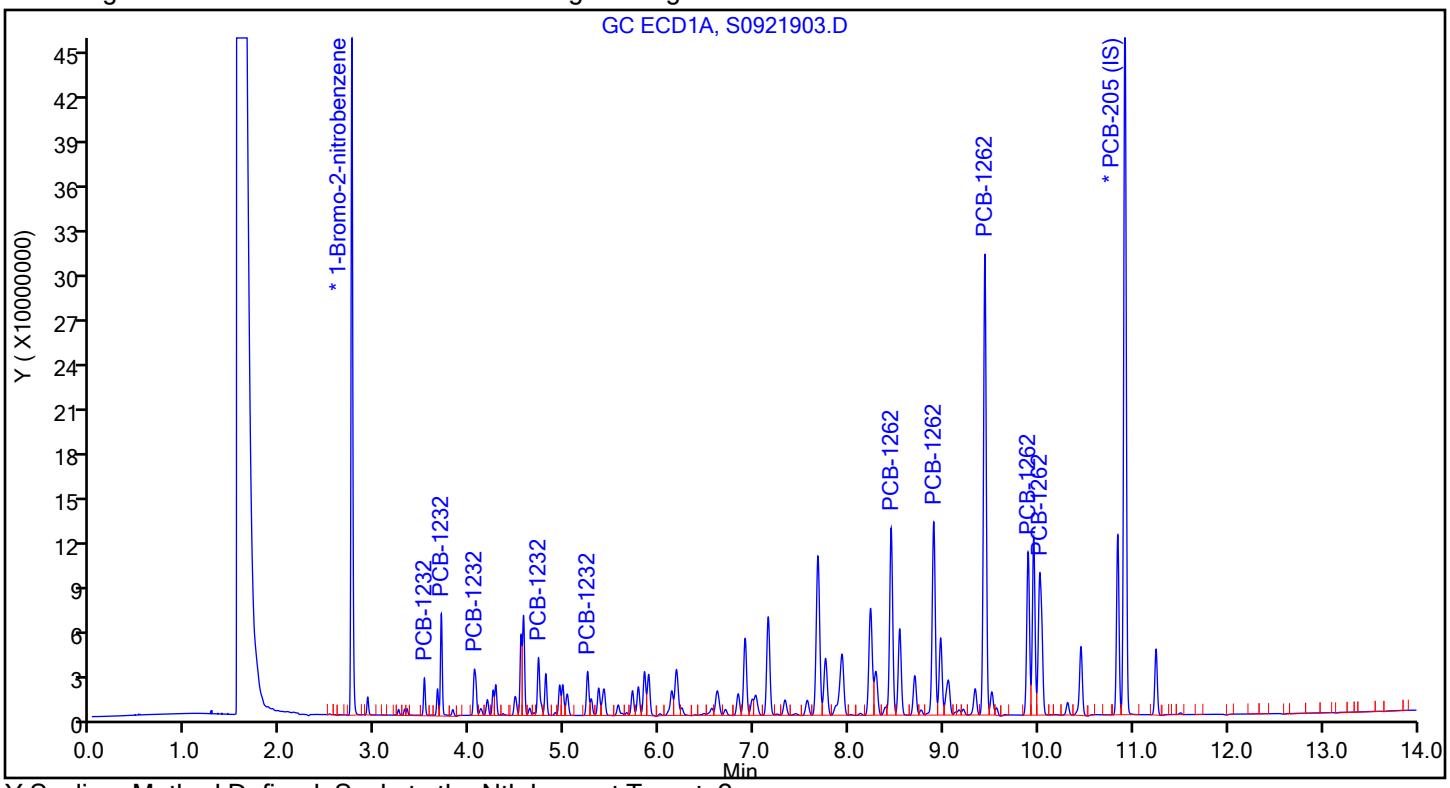

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

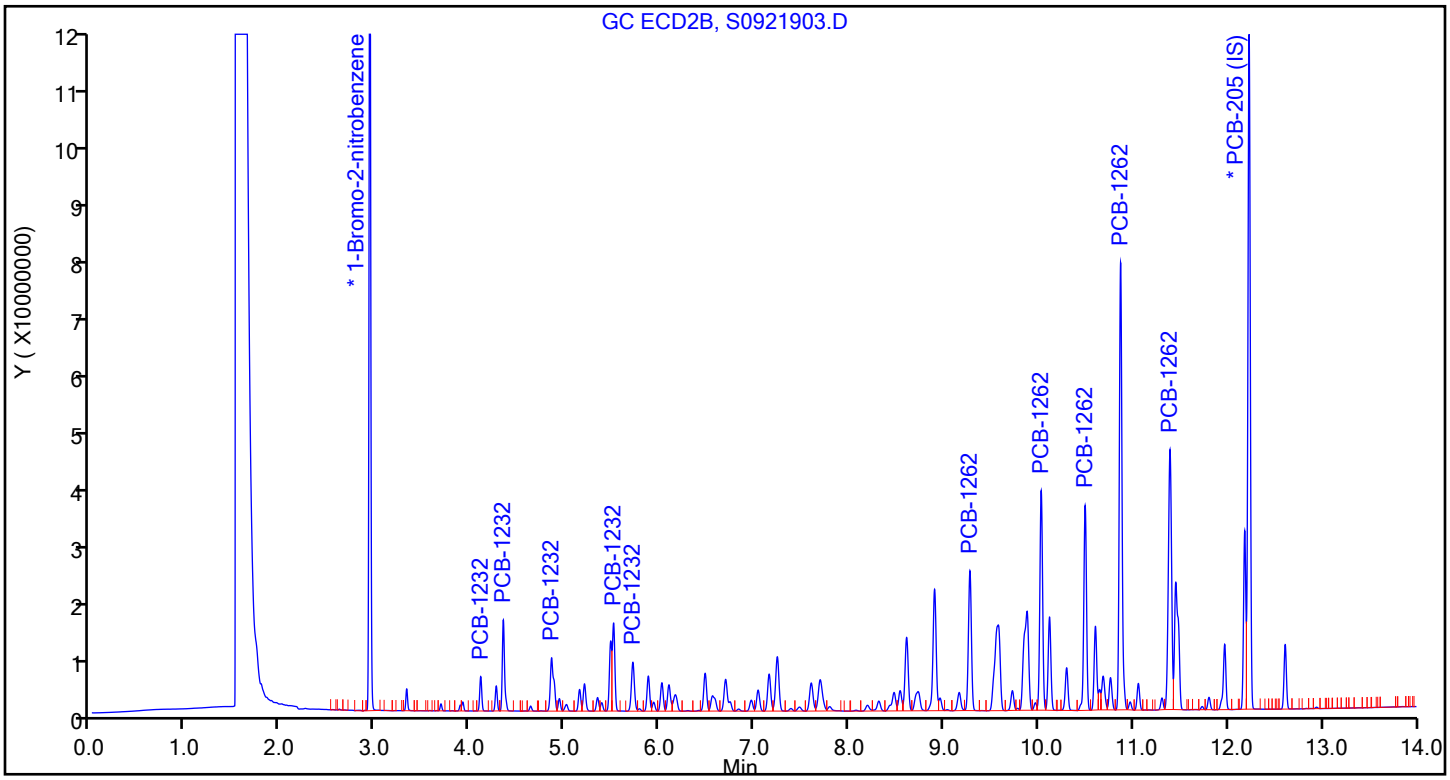

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 09:04 Calibration End Date: 09/21/2019 09:04 Calibration ID: 41590

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/3	S0921904.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1242 Peak 1	0.0199					Ave		0.0199						20.0			
PCB-1242 Peak 2	0.0436					Ave		0.0436						20.0			
PCB-1242 Peak 3	0.0204					Ave		0.0204						20.0			
PCB-1242 Peak 4	0.0200					Ave		0.0200						20.0			
PCB-1242 Peak 5	0.0189					Ave		0.0189						20.0			
PCB-1268 Peak 1	0.1284					Ave		0.1284						20.0			
PCB-1268 Peak 2	0.1110					Ave		0.1110						20.0			
PCB-1268 Peak 3	0.1113					Ave		0.1113						20.0			
PCB-1268 Peak 4	0.3438					Ave		0.3438						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 09:04 Calibration End Date: 09/21/2019 09:04 Calibration ID: 41590

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/3	S0921904.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1					LVL 1				
PCB-1242 Peak 1	BNB	Ave	44066524					0.500				
PCB-1242 Peak 2	BNB	Ave	96853081					0.500				
PCB-1242 Peak 3	BNB	Ave	45205639					0.500				
PCB-1242 Peak 4	BNB	Ave	44391748					0.500				
PCB-1242 Peak 5	BNB	Ave	41969059					0.500				
PCB-1268 Peak 1	PCB20	Ave	313131859					0.500				
PCB-1268 Peak 2	PCB20	Ave	270649982					0.500				
PCB-1268 Peak 3	PCB20	Ave	271456026					0.500				
PCB-1268 Peak 4	PCB20	Ave	838335835					0.500				

Curve Type Legend:
Ave = Average ISTD by Height

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 09:04 Calibration End Date: 09/21/2019 09:04 Calibration ID: 41590

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/3	S0921904.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #						LVL 1					
PCB-1242 Peak 1	0.0						50					
PCB-1242 Peak 2	0.0						50					
PCB-1242 Peak 3	0.0						50					
PCB-1242 Peak 4	0.0						50					
PCB-1242 Peak 5	0.0						50					
PCB-1268 Peak 1	0.0						50					
PCB-1268 Peak 2	0.0						50					
PCB-1268 Peak 3	0.0						50					
PCB-1268 Peak 4	0.0						50					

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921904.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 21-Sep-2019 09:04:59 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-003
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub23

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:51:09 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.747	2.748	-0.001	443923794H	0.1000	0.1000	
2	2.938	2.939	-0.001	149754982H	0.1000	0.1000	
5 PCB-1242							
1	4.044	4.044	0.000	44066524H	0.5000	0.5000	
1	4.562	4.562	0.000	96853081H	0.5000	0.5000	
1	5.239	5.239	0.000	45205639H	0.5000	0.5000	
1	5.839	5.839	0.000	44391748H	0.5000	0.5000	
1	5.884	5.884	0.000	41969059H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	4.349	4.349	0.000	9225656H	0.5000	0.5000	
2	4.858	4.858	0.000	12398671H	0.5000	0.5000	
2	5.717	5.717	0.000	11869382H	0.5000	0.5000	
2	6.479	6.479	0.000	10067576H	0.5000	0.5000	
2	7.694	7.694	0.000	8200767H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	
11 PCB-1268							
1	9.951	9.951	0.000	313131859H	0.5000	0.5000	
1	10.011	10.011	0.000	270649982H	0.5000	0.5000	
1	10.308	10.308	0.000	271456026H	0.5000	0.5000	
1	11.243	11.243	0.000	838335835H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	11.386	11.386	0.000	76885528H	0.5000	0.5000	
2	11.451	11.451	0.000	66013247H	0.5000	0.5000	
2	11.803	11.803	0.000	64668598H	0.5000	0.5000	
2	12.608	12.608	0.000	196983579H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 46 PCB-205 (IS)							
1	10.914	10.916	-0.001	487715820H	0.1000	0.1000	
2	12.227	12.227	-0.001	114645098H	0.1000	0.1000	

Reagents:

GCAR4268CALL4_00014 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Sep-2019 06:51:10 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921904.D				
Injection Date:	21-Sep-2019 09:04:59	Instrument ID:	CHGC10		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

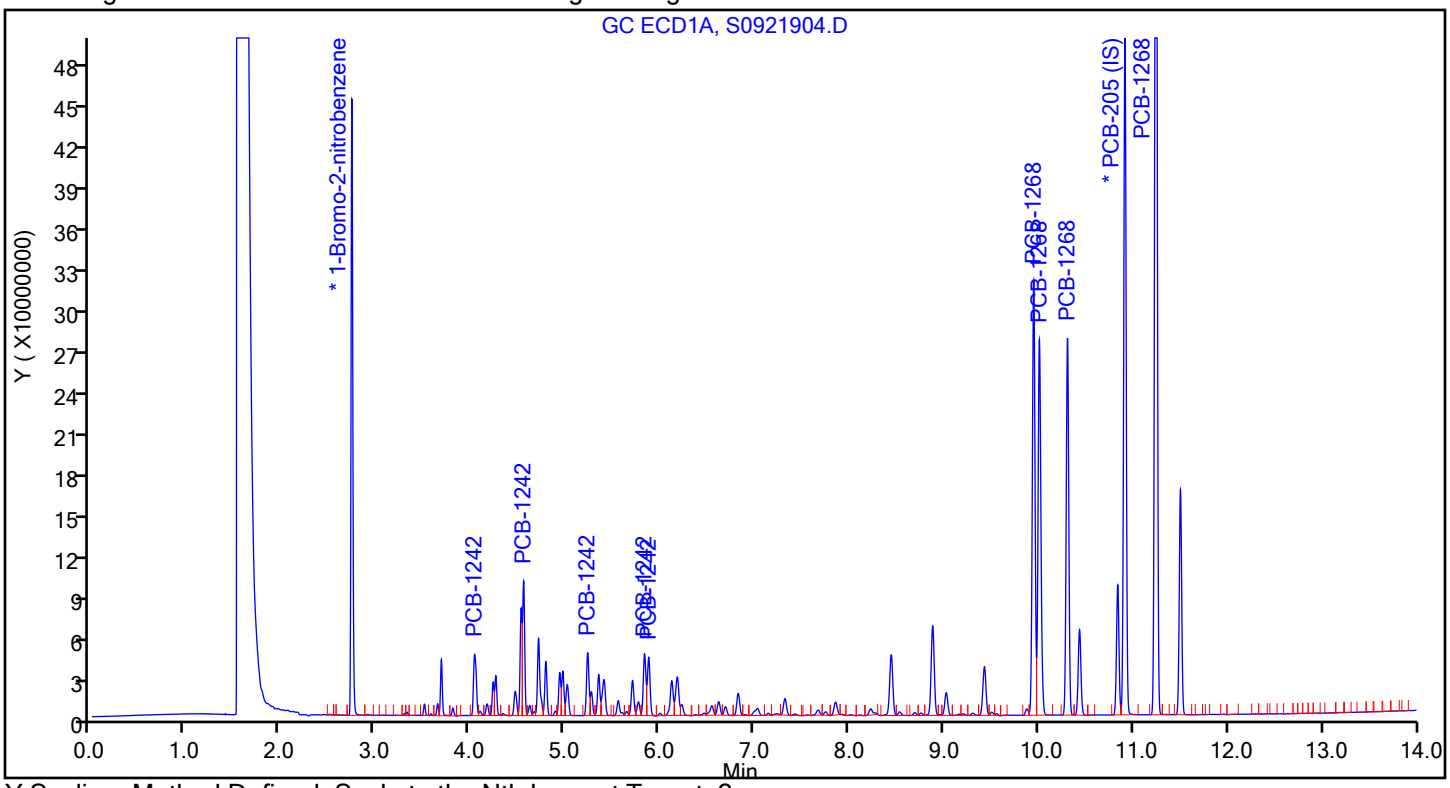

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

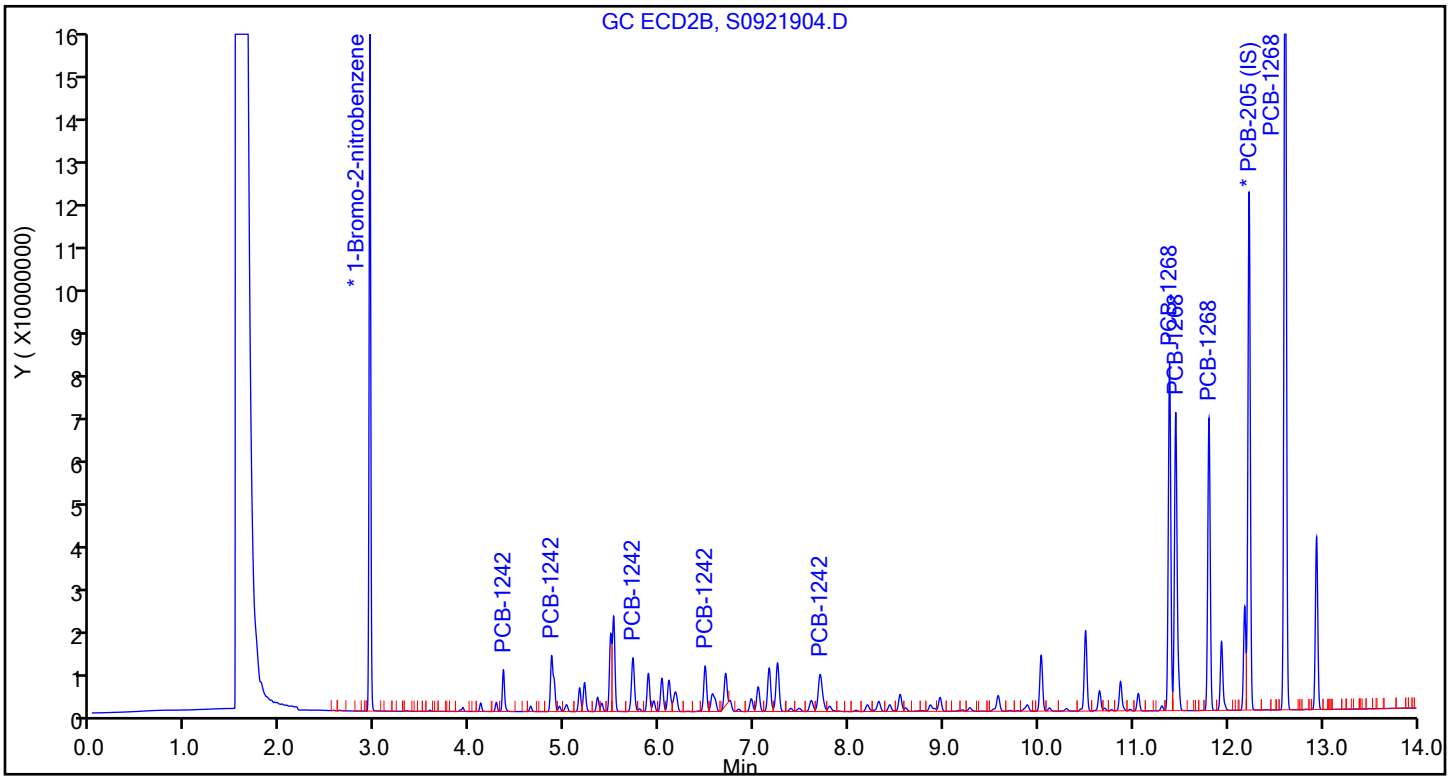

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 09:04 Calibration End Date: 09/21/2019 09:04 Calibration ID: 41591

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/3	S0921904.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1242 Peak 1	0.0123					Ave		0.0123						20.0			
PCB-1242 Peak 2	0.0166					Ave		0.0166						20.0			
PCB-1242 Peak 3	0.0159					Ave		0.0159						20.0			
PCB-1242 Peak 4	0.0134					Ave		0.0134						20.0			
PCB-1242 Peak 5	0.0110					Ave		0.0110						20.0			
PCB-1268 Peak 1	0.1341					Ave		0.1341						20.0			
PCB-1268 Peak 2	0.1152					Ave		0.1152						20.0			
PCB-1268 Peak 3	0.1128					Ave		0.1128						20.0			
PCB-1268 Peak 4	0.3436					Ave		0.3436						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 09:04 Calibration End Date: 09/21/2019 09:04 Calibration ID: 41591

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/3	S0921904.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1					LVL 1				
PCB-1242 Peak 1	BNB	Ave	9225656					0.500				
PCB-1242 Peak 2	BNB	Ave	12398671					0.500				
PCB-1242 Peak 3	BNB	Ave	11869382					0.500				
PCB-1242 Peak 4	BNB	Ave	10067576					0.500				
PCB-1242 Peak 5	BNB	Ave	8200767					0.500				
PCB-1268 Peak 1	PCB20	Ave	76885528					0.500				
PCB-1268 Peak 2	PCB20	Ave	66013247					0.500				
PCB-1268 Peak 3	PCB20	Ave	64668598					0.500				
PCB-1268 Peak 4	PCB20	Ave	196983579					0.500				

Curve Type Legend:
Ave = Average ISTD by Height

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 09:04 Calibration End Date: 09/21/2019 09:04 Calibration ID: 41591

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/3	S0921904.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #						LVL 1					
PCB-1242 Peak 1	0.0						50					
PCB-1242 Peak 2	0.0						50					
PCB-1242 Peak 3	0.0						50					
PCB-1242 Peak 4	0.0						50					
PCB-1242 Peak 5	0.0						50					
PCB-1268 Peak 1	0.0						50					
PCB-1268 Peak 2	0.0						50					
PCB-1268 Peak 3	0.0						50					
PCB-1268 Peak 4	0.0						50					

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921904.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 21-Sep-2019 09:04:59 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-003
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub23

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:51:09 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.747	2.748	-0.001	443923794H	0.1000	0.1000	
2	2.938	2.939	-0.001	149754982H	0.1000	0.1000	
5 PCB-1242							
1	4.044	4.044	0.000	44066524H	0.5000	0.5000	
1	4.562	4.562	0.000	96853081H	0.5000	0.5000	
1	5.239	5.239	0.000	45205639H	0.5000	0.5000	
1	5.839	5.839	0.000	44391748H	0.5000	0.5000	
1	5.884	5.884	0.000	41969059H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	4.349	4.349	0.000	9225656H	0.5000	0.5000	
2	4.858	4.858	0.000	12398671H	0.5000	0.5000	
2	5.717	5.717	0.000	11869382H	0.5000	0.5000	
2	6.479	6.479	0.000	10067576H	0.5000	0.5000	
2	7.694	7.694	0.000	8200767H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	
11 PCB-1268							
1	9.951	9.951	0.000	313131859H	0.5000	0.5000	
1	10.011	10.011	0.000	270649982H	0.5000	0.5000	
1	10.308	10.308	0.000	271456026H	0.5000	0.5000	
1	11.243	11.243	0.000	838335835H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	11.386	11.386	0.000	76885528H	0.5000	0.5000	
2	11.451	11.451	0.000	66013247H	0.5000	0.5000	
2	11.803	11.803	0.000	64668598H	0.5000	0.5000	
2	12.608	12.608	0.000	196983579H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 46 PCB-205 (IS)							
1	10.914	10.916	-0.001	487715820H	0.1000	0.1000	
2	12.227	12.227	-0.001	114645098H	0.1000	0.1000	

Reagents:

GCAR4268CALL4_00014 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Sep-2019 06:51:10 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921904.D				
Injection Date:	21-Sep-2019 09:04:59	Instrument ID:	CHGC10		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

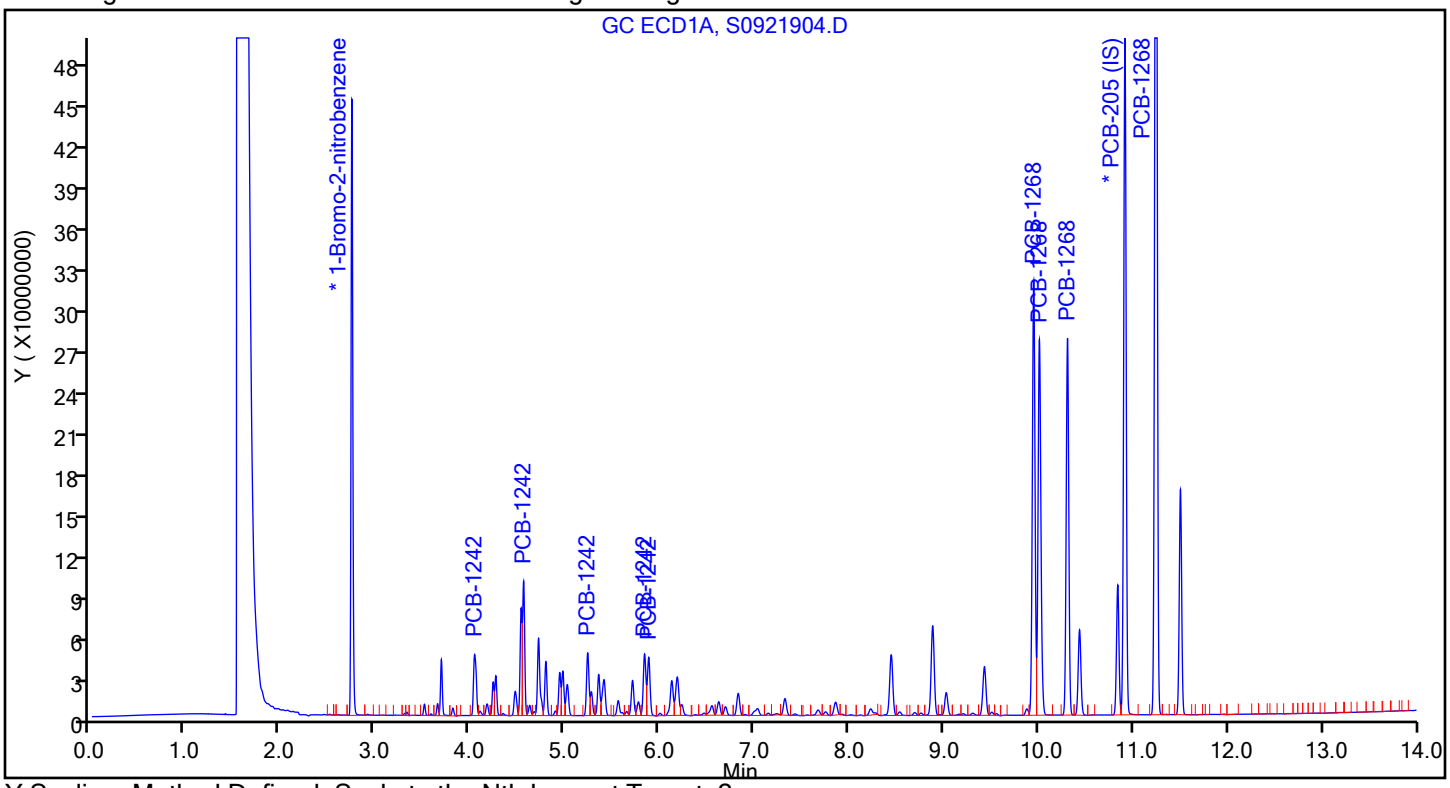

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

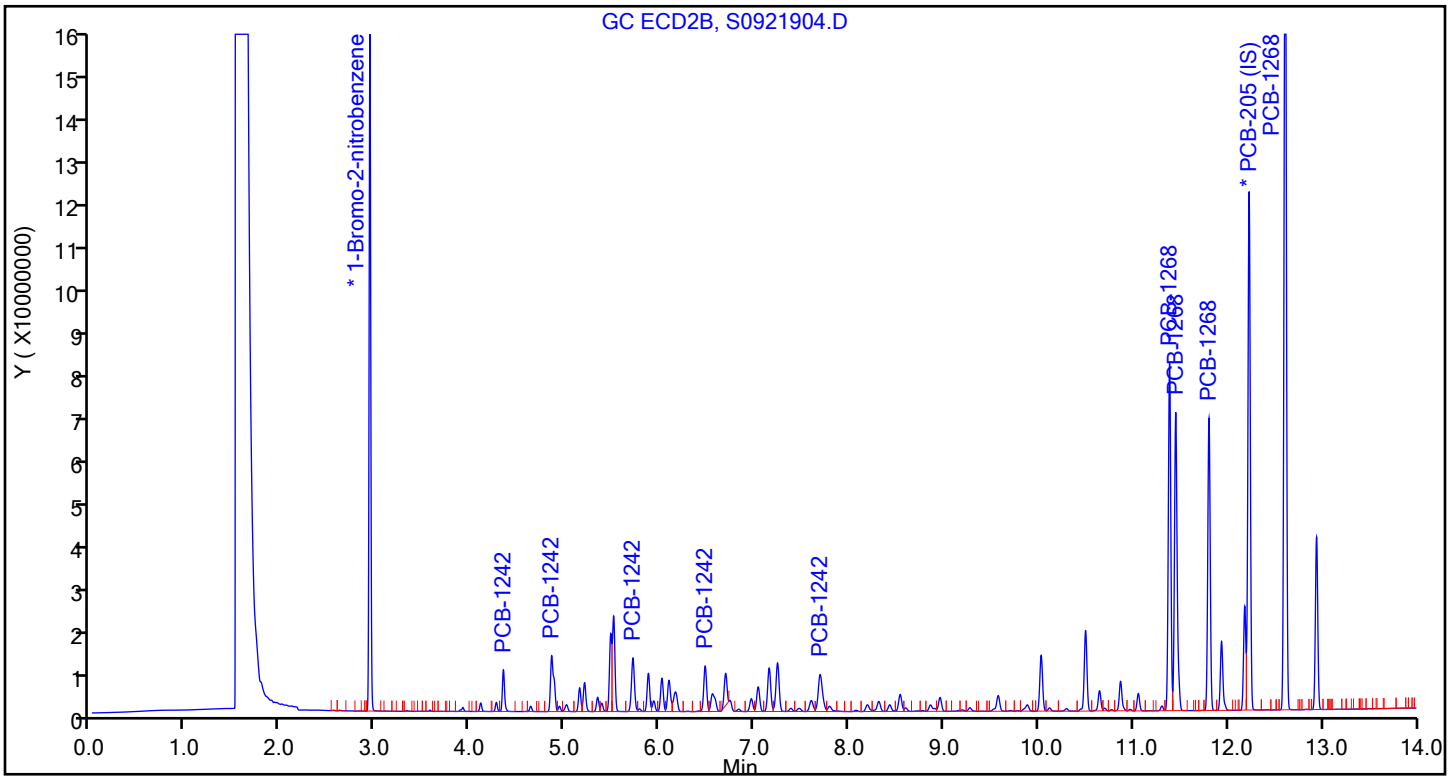

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 09:25 Calibration End Date: 09/21/2019 09:25 Calibration ID: 41596

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/4	S0921905.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1248 Peak 1	0.0107					Ave		0.0107						20.0			
PCB-1248 Peak 2	0.0199					Ave		0.0199						20.0			
PCB-1248 Peak 3	0.0262					Ave		0.0262						20.0			
PCB-1248 Peak 4	0.0289					Ave		0.0289						20.0			
PCB-1248 Peak 5	0.0137					Ave		0.0137						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 09:25 Calibration End Date: 09/21/2019 09:25 Calibration ID: 41596

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/4	S0921905.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1					LVL 1				
PCB-1248 Peak 1	BNB	Ave	31441532					0.500				
PCB-1248 Peak 2	BNB	Ave	58495226					0.500				
PCB-1248 Peak 3	BNB	Ave	76760389					0.500				
PCB-1248 Peak 4	BNB	Ave	84664042					0.500				
PCB-1248 Peak 5	BNB	Ave	40222202					0.500				

Curve Type Legend:
Ave = Average ISTD by Height

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 09:25 Calibration End Date: 09/21/2019 09:25 Calibration ID: 41596

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/4	S0921905.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #						LVL 1					
PCB-1248 Peak 1	0.0						50					
PCB-1248 Peak 2	0.0						50					
PCB-1248 Peak 3	0.0						50					
PCB-1248 Peak 4	0.0						50					
PCB-1248 Peak 5	0.0						50					

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921905.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 21-Sep-2019 09:25:16 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-004
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub24

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:51:06 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.748	2.748	0.000	586812395H	0.1000	0.1000	
2	2.937	2.939	-0.002	165807736H	0.1000	0.1000	
7 PCB-1248							
1	4.041	4.041	0.000	31441532H	0.5000	0.5000	
1	4.942	4.942	0.000	58495226H	0.5000	0.5000	
1	5.237	5.237	0.000	76760389H	0.5000	0.5000	
1	5.837	5.837	0.000	84664042H	0.5000	0.5000	
1	6.827	6.827	0.000	40222202H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	4.857	4.857	0.000	7209203H	0.5000	0.5000	
2	6.021	6.021	0.000	13303793H	0.5000	0.5000	
2	6.695	6.695	0.000	13778515H	0.5000	0.5000	
2	7.242	7.242	0.000	18899551H	0.5000	0.5000	
2	7.693	7.693	0.000	13653229H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	
* 46 PCB-205 (IS)							
1	10.913	10.916	-0.002	483736962H	0.1000	0.1000	
2	12.225	12.227	-0.002	114239376H	0.1000	0.1000	

Reagents:

GCAR1248CALL4_00022 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Sep-2019 06:51:06 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921905.D

Injection Date: 21-Sep-2019 09:25:16 Instrument ID: CHGC10

Lims ID: IC

Client ID:

Operator ID: ALS Bottle#: 4 Worklist Smp#: 4

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

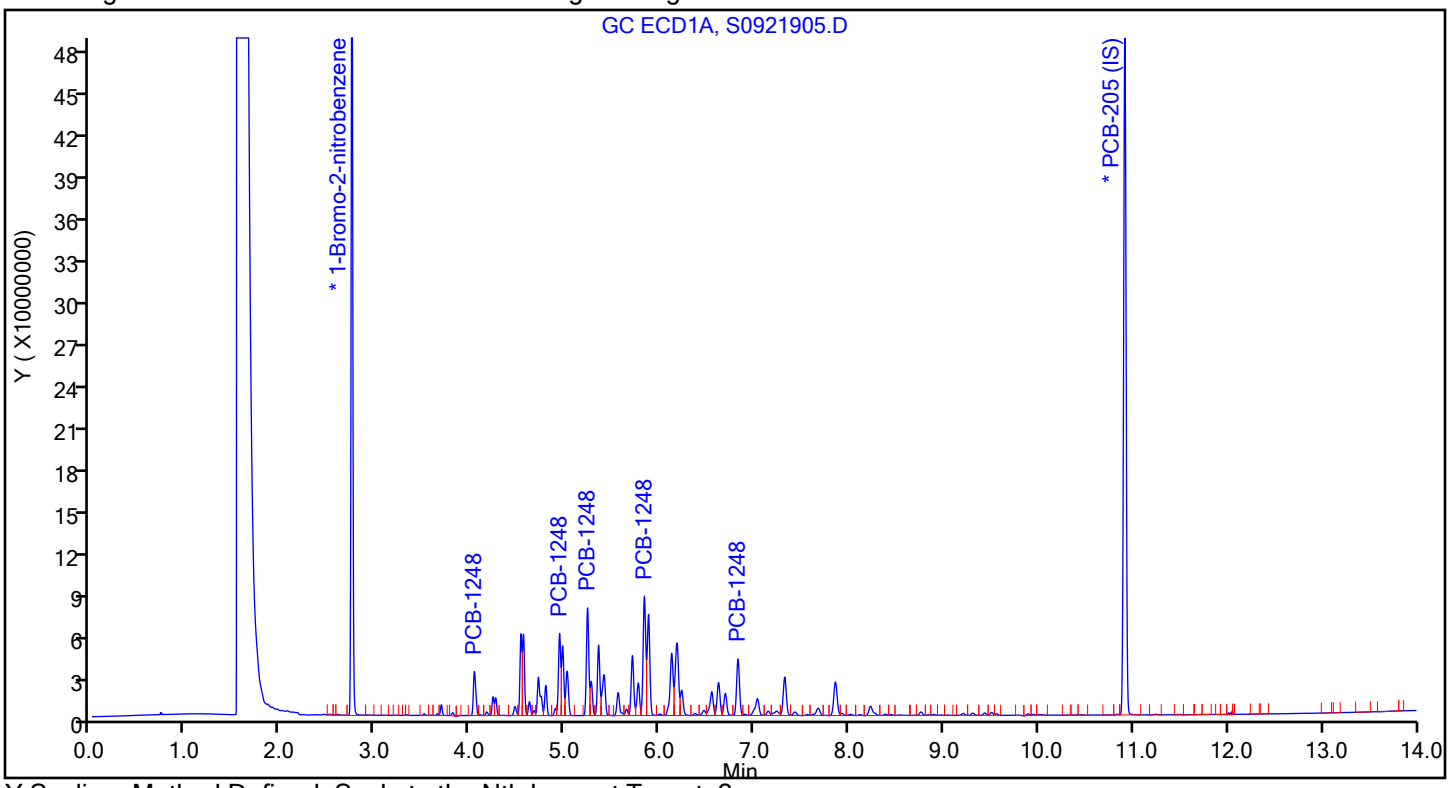

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

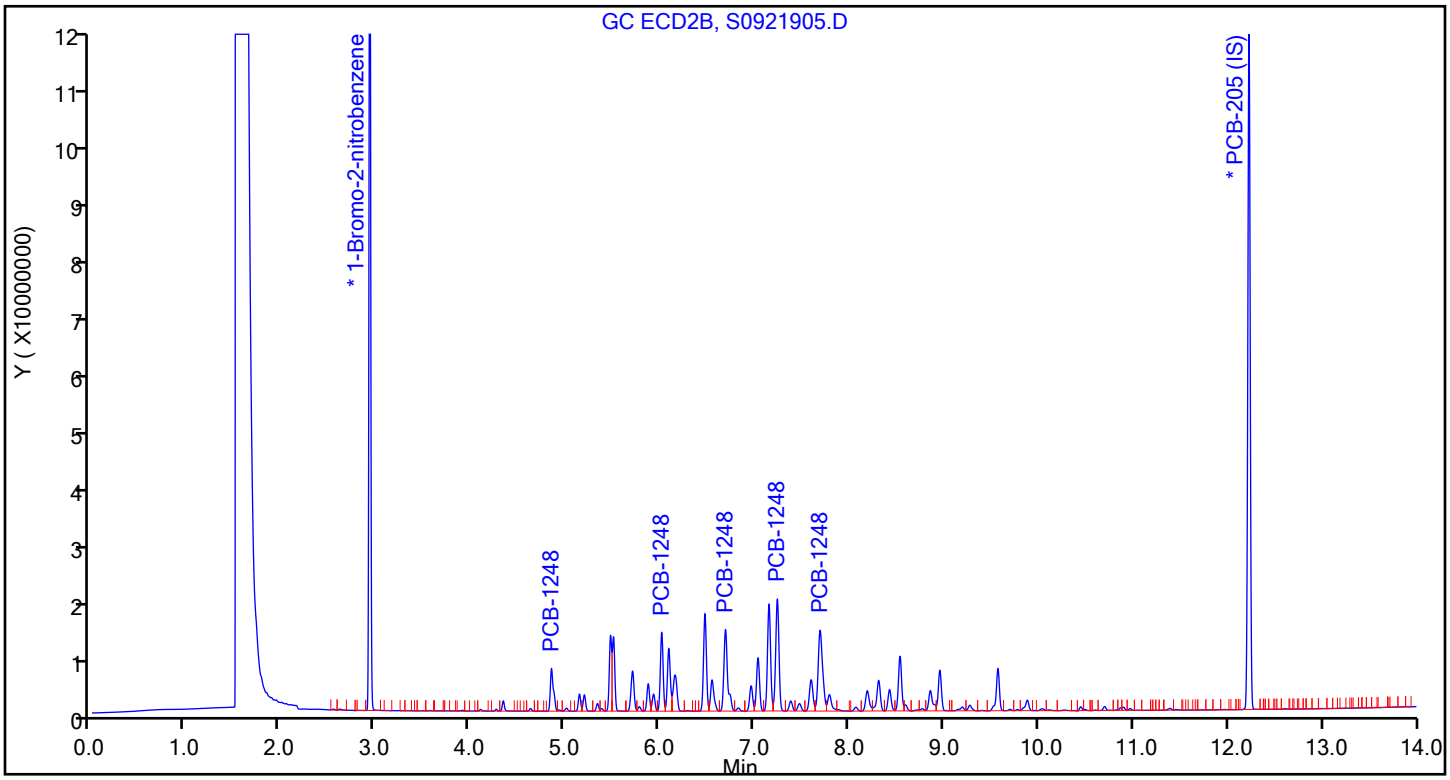

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 09:25 Calibration End Date: 09/21/2019 09:25 Calibration ID: 41597

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/4	S0921905.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1248 Peak 1	0.0087					Ave		0.0087						20.0			
PCB-1248 Peak 2	0.0160					Ave		0.0160						20.0			
PCB-1248 Peak 3	0.0166					Ave		0.0166						20.0			
PCB-1248 Peak 4	0.0228					Ave		0.0228						20.0			
PCB-1248 Peak 5	0.0165					Ave		0.0165						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 09:25 Calibration End Date: 09/21/2019 09:25 Calibration ID: 41597

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/4	S0921905.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1					LVL 1				
PCB-1248 Peak 1	BNB	Ave	7209203					0.500				
PCB-1248 Peak 2	BNB	Ave	13303793					0.500				
PCB-1248 Peak 3	BNB	Ave	13778515					0.500				
PCB-1248 Peak 4	BNB	Ave	18899551					0.500				
PCB-1248 Peak 5	BNB	Ave	13653229					0.500				

Curve Type Legend:
Ave = Average ISTD by Height

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 09:25 Calibration End Date: 09/21/2019 09:25 Calibration ID: 41597

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/4	S0921905.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #						LVL 1					
PCB-1248 Peak 1	0.0						50					
PCB-1248 Peak 2	0.0						50					
PCB-1248 Peak 3	0.0						50					
PCB-1248 Peak 4	0.0						50					
PCB-1248 Peak 5	0.0						50					

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921905.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 21-Sep-2019 09:25:16 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-004
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub24

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:51:06 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.748	2.748	0.000	586812395H	0.1000	0.1000	
2	2.937	2.939	-0.002	165807736H	0.1000	0.1000	
7 PCB-1248							
1	4.041	4.041	0.000	31441532H	0.5000	0.5000	
1	4.942	4.942	0.000	58495226H	0.5000	0.5000	
1	5.237	5.237	0.000	76760389H	0.5000	0.5000	
1	5.837	5.837	0.000	84664042H	0.5000	0.5000	
1	6.827	6.827	0.000	40222202H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	4.857	4.857	0.000	7209203H	0.5000	0.5000	
2	6.021	6.021	0.000	13303793H	0.5000	0.5000	
2	6.695	6.695	0.000	13778515H	0.5000	0.5000	
2	7.242	7.242	0.000	18899551H	0.5000	0.5000	
2	7.693	7.693	0.000	13653229H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
					RPD =	0.00	
* 46 PCB-205 (IS)							
1	10.913	10.916	-0.002	483736962H	0.1000	0.1000	
2	12.225	12.227	-0.002	114239376H	0.1000	0.1000	

Reagents:

GCAR1248CALL4_00022 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Sep-2019 06:51:06 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921905.D

Injection Date: 21-Sep-2019 09:25:16 Instrument ID: CHGC10

Lims ID: IC

Client ID:

Operator ID: ALS Bottle#: 4 Worklist Smp#: 4

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

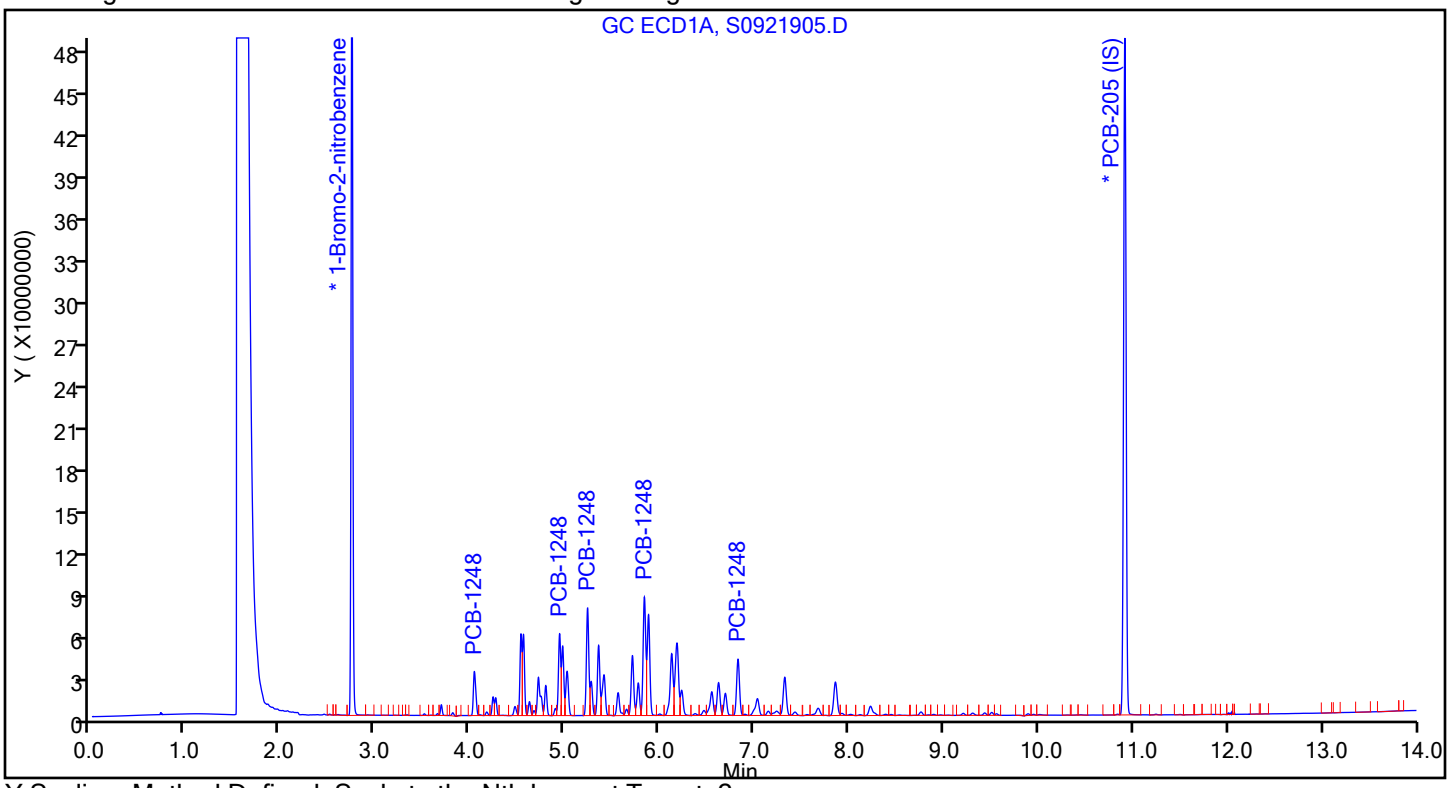

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

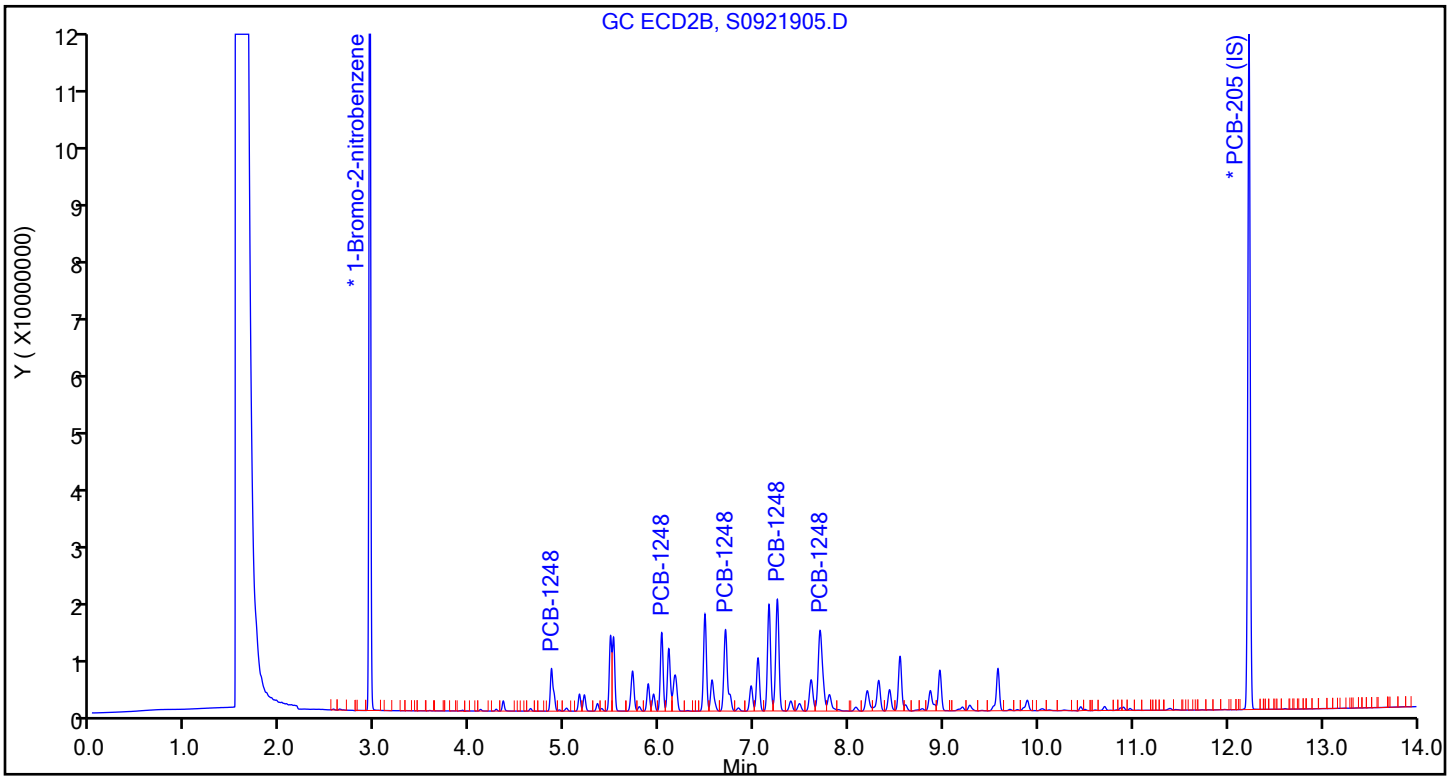

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 09:45 Calibration End Date: 09/21/2019 11:44 Calibration ID: 41572

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/5	S0921906.D
Level 2	IC 180-292146/6	S0921907.D
Level 3	IC 180-292146/7	S0921908.D
Level 4	ICIS 180-292146/8	S0921909.D
Level 5	IC 180-292146/9	S0921910.D
Level 6	IC 180-292146/10	S0921911.D
Level 7	IC 180-292146/11	S0921912.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
PCB-1016 Peak 1	0.0210 0.0138	0.0173 0.0154	0.0160	0.0168	0.0142	Ave		0.0163				14.7		20.0			
PCB-1016 Peak 2	0.0458 0.0337	0.0388 0.0371	0.0353	0.0396	0.0347	Ave		0.0379				10.8		20.0			
PCB-1016 Peak 3	0.0279 0.0183	0.0229 0.0200	0.0199	0.0225	0.0194	Ave		0.0215				15.1		20.0			
PCB-1016 Peak 4	0.0220 0.0156	0.0190 0.0171	0.0169	0.0181	0.0163	Ave		0.0179				12.0		20.0			
PCB-1016 Peak 5	0.0148 0.0100	0.0131 0.0111	0.0110	0.0120	0.0106	Ave		0.0118				14.3		20.0			
PCB-1260 Peak 1	0.0531 0.0426	0.0425 0.0413	0.0397	0.0430	0.0382	Ave		0.0429				11.2		20.0			
PCB-1260 Peak 2	0.0487 0.0382	0.0384 0.0387	0.0362	0.0395	0.0355	Ave		0.0393				11.1		20.0			
PCB-1260 Peak 3	0.0339 0.0273	0.0281 0.0275	0.0255	0.0278	0.0252	Ave		0.0279				10.3		20.0			
PCB-1260 Peak 4	0.0800 0.0735	0.0677 0.0750	0.0663	0.0703	0.0644	Ave		0.0710				7.7		20.0			
PCB-1260 Peak 5	0.0517 0.0391	0.0380 0.0393	0.0358	0.0379	0.0350	Ave		0.0395				14.2		20.0			
Tetrachloro-m-xylene (Surr)	1.3583 1.1170	1.0635 1.3071	1.1288	1.2341	1.0903	Ave		1.1856				9.7		20.0			
DCB Decachlorobiphenyl (Surr)	0.9577 0.7526	0.7370 0.7723	0.7117	0.7046	0.6606	Ave		0.7566				12.7		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 09:45 Calibration End Date: 09/21/2019 11:44 Calibration ID: 41572

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/5	S0921906.D
Level 2	IC 180-292146/6	S0921907.D
Level 3	IC 180-292146/7	S0921908.D
Level 4	ICIS 180-292146/8	S0921909.D
Level 5	IC 180-292146/9	S0921910.D
Level 6	IC 180-292146/10	S0921911.D
Level 7	IC 180-292146/11	S0921912.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
PCB-1016 Peak 1	BNB	Ave	1215117 146478286	7757348 297683567	19465012	43011355	68984311	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1016 Peak 2	BNB	Ave	2650183 357879738	17422255 718318050	42870814	101479442	169029996	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1016 Peak 3	BNB	Ave	1616774 194331631	10274819 387398138	24095778	57484278	94293443	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1016 Peak 4	BNB	Ave	1274564 165919737	8531720 331923571	20495624	46231346	79194729	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1016 Peak 5	BNB	Ave	859011 105686964	5904816 215491843	13300023	30588902	51382965	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1260 Peak 1	PCB2 05	Ave	2713959 373471781	20258773 748697841	45464608	103793343	184837813	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1260 Peak 2	PCB2 05	Ave	2489131 335362989	18330543 701106011	41516910	95246941	171393567	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1260 Peak 3	PCB2 05	Ave	1733597 239780330	13389901 497713780	29204098	67078533	121602077	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1260 Peak 4	PCB2 05	Ave	4092261 645052703	32278171 1358258724	75955835	169586422	311148205	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1260 Peak 5	PCB2 05	Ave	2646642 343286798	18120979 712230375	40995963	91397085	168964818	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
Tetrachloro-m-xylene (Surr)	BNB	Ave	3933517 593197064	23879978 1265766620	68462844	157929430	265426609	0.000500 0.100	0.00500 0.200	0.0125	0.0250	0.0500
DCB Decachlorobiphenyl (Surr)	PCB2 05	Ave	2449552 330247569	17574289 699680251	40763898	84996667	159625471	0.000500 0.100	0.00500 0.200	0.0125	0.0250	0.0500

Curve Type Legend:

Ave = Average ISTD by Height

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 09:45 Calibration End Date: 09/21/2019 11:44 Calibration ID: 41572

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/5	S0921906.D
Level 2	IC 180-292146/6	S0921907.D
Level 3	IC 180-292146/7	S0921908.D
Level 4	ICIS 180-292146/8	S0921909.D
Level 5	IC 180-292146/9	S0921910.D
Level 6	IC 180-292146/10	S0921911.D
Level 7	IC 180-292146/11	S0921912.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
PCB-1016 Peak 1	28.3 -6.0	5.7	-1.8	2.8	-13.3	-15.6	50 30	30	30	30	30	30
PCB-1016 Peak 2	20.9 -2.0	2.5	-6.7	4.7	-8.3	-11.0	50 30	30	30	30	30	30
PCB-1016 Peak 3	29.6 -7.1	6.2	-7.8	4.3	-10.1	-15.1	50 30	30	30	30	30	30
PCB-1016 Peak 4	23.2 -4.0	6.4	-5.4	1.2	-8.9	-12.5	50 30	30	30	30	30	30
PCB-1016 Peak 5	25.8 -5.6	11.5	-7.0	1.4	-10.5	-15.6	50 30	30	30	30	30	30
PCB-1260 Peak 1	23.6 -3.7	-1.0	-7.5	0.3	-10.9	-0.8	50 30	30	30	30	30	30
PCB-1260 Peak 2	23.8 -1.6	-2.2	-7.8	0.4	-9.8	-2.8	50 30	30	30	30	30	30
PCB-1260 Peak 3	21.5 -1.5	0.7	-8.6	-0.3	-9.8	-2.0	50 30	30	30	30	30	30
PCB-1260 Peak 4	12.6 5.5	-4.7	-6.6	-1.0	-9.3	3.5	50 30	30	30	30	30	30
PCB-1260 Peak 5	30.8 -0.6	-3.9	-9.5	-4.2	-11.6	-1.1	50 30	30	30	30	30	30
Tetrachloro-m-xylene (Surr)	14.6 10.2	-10.3	-4.8	4.1	-8.0	-5.8	50 30	30	30	30	30	30
DCB Decachlorobiphenyl (Surr)	26.6 2.1	-2.6	-5.9	-6.9	-12.7	-0.5	50 30	30	30	30	30	30

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921906.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 21-Sep-2019 09:45:33 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-005
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:50:57 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

First Level Reviewer: oravecj Date: 23-Sep-2019 06:41:32

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.749	2.748	0.001	579186423H	0.1000	0.1000	
2	2.939	2.939	0.000	167887646H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.371	3.370	0.001	3933517H	0.000500	0.000573	
2	3.808	3.807	0.001	882478H	0.000500	0.000565	
						RPD = 1.43	
6 PCB-1016							M
1	3.694	3.693	0.001	1215117H	0.0100	0.0128	M
1	4.563	4.562	0.001	2650183H	0.0100	0.0121	
1	4.720	4.720	0.000	1616774H	0.0100	0.0130	
1	5.239	5.239	0.000	1274564H	0.0100	0.0123	
1	5.777	5.775	0.002	859011H	0.0100	0.0126	M
		Average of Peak Amounts =				0.0126	
2	4.350	4.349	0.001	301900H	0.0100	0.0140	M
2	5.514	5.514	0.000	553018H	0.0100	0.0117	M
2	5.716	5.717	-0.001	337551H	0.0100	0.0125	M
2	6.481	6.482	-0.001	280459H	0.0100	0.0125	
2	6.698	6.698	0.000	233976H	0.0100	0.0125	
		Average of Peak Amounts =				0.0126	
						RPD = 0.61	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							M
1	7.671	7.672	-0.001	2713959H	0.0100	0.0124	
1	8.228	8.229	-0.001	2489131H	0.0100	0.0124	
1	8.896	8.897	-0.001	1733597H	0.0100	0.0122	
1	9.436	9.435	0.001	4092261H	0.0100	0.0113	
1	9.893	9.894	-0.001	2646642H	0.0100	0.0131	
		Average of Peak Amounts =				0.0122	
2	8.905	8.905	0.000	497463H	0.0100	0.0129	
2	9.278	9.277	0.001	591928H	0.0100	0.0122	
2	9.883	9.885	-0.002	570204H	0.0100	0.0122	
2	10.869	10.870	-0.001	1077919H	0.0100	0.0121	M
2	11.397	11.397	0.000	626880H	0.0100	0.0124	
		Average of Peak Amounts =				0.0124	
						RPD = 0.96	
* 46 PCB-205 (IS)							
1	10.916	10.916	0.000	511545763H	0.1000	0.1000	
2	12.226	12.227	-0.002	118520037H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.501	11.502	-0.001	2449552H	0.000500	0.000633	
2	12.938	12.940	-0.002	578308H	0.000500	0.000647	
						RPD = 2.16	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCAR1660CALL1_00025 Amount Added: 1.00 Units: mL

PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Sep-2019 06:50:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921906.D

Injection Date: 21-Sep-2019 09:45:33 Instrument ID: CHGC10

Lims ID: IC

Client ID:

Operator ID: ALS Bottle#: 5 Worklist Smp#: 5

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

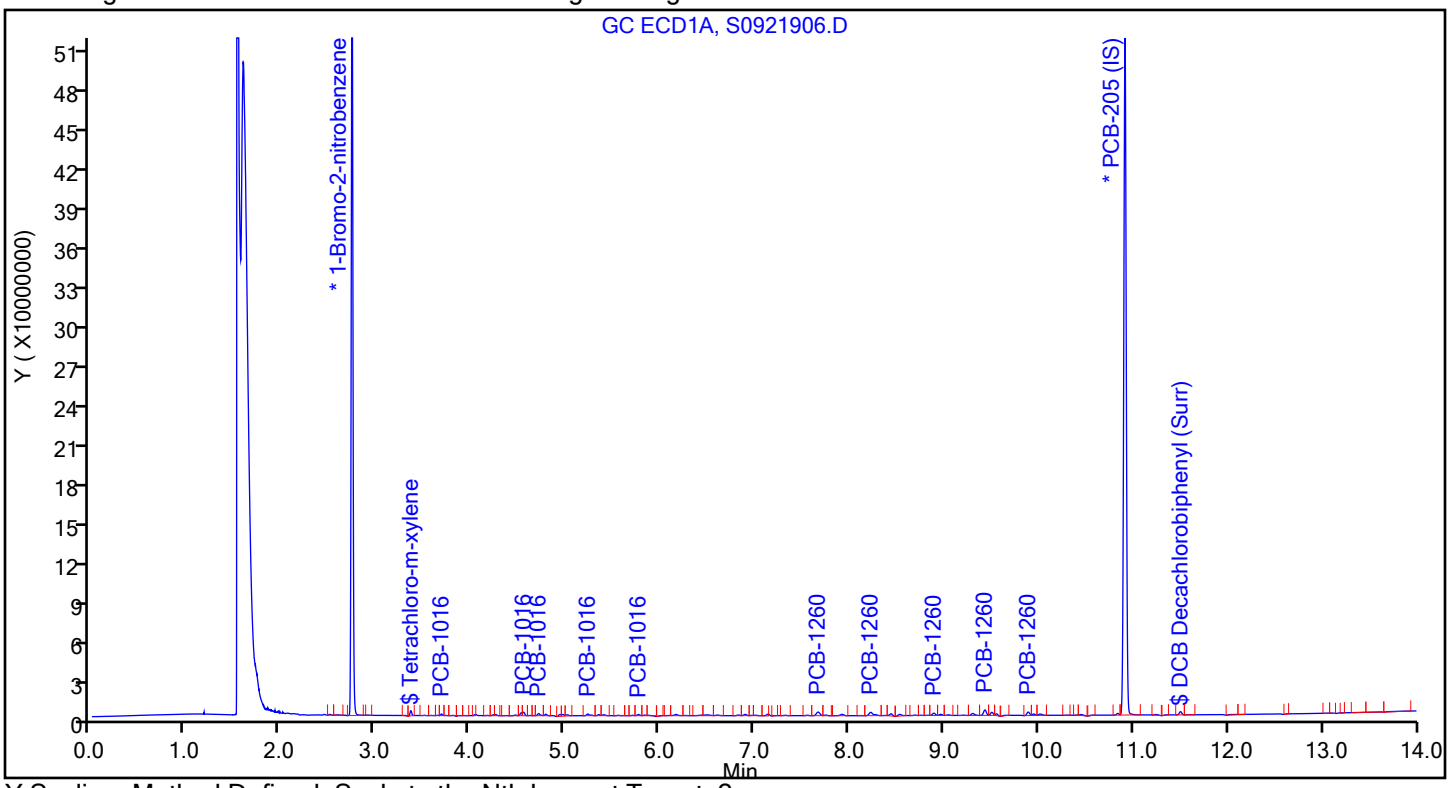

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

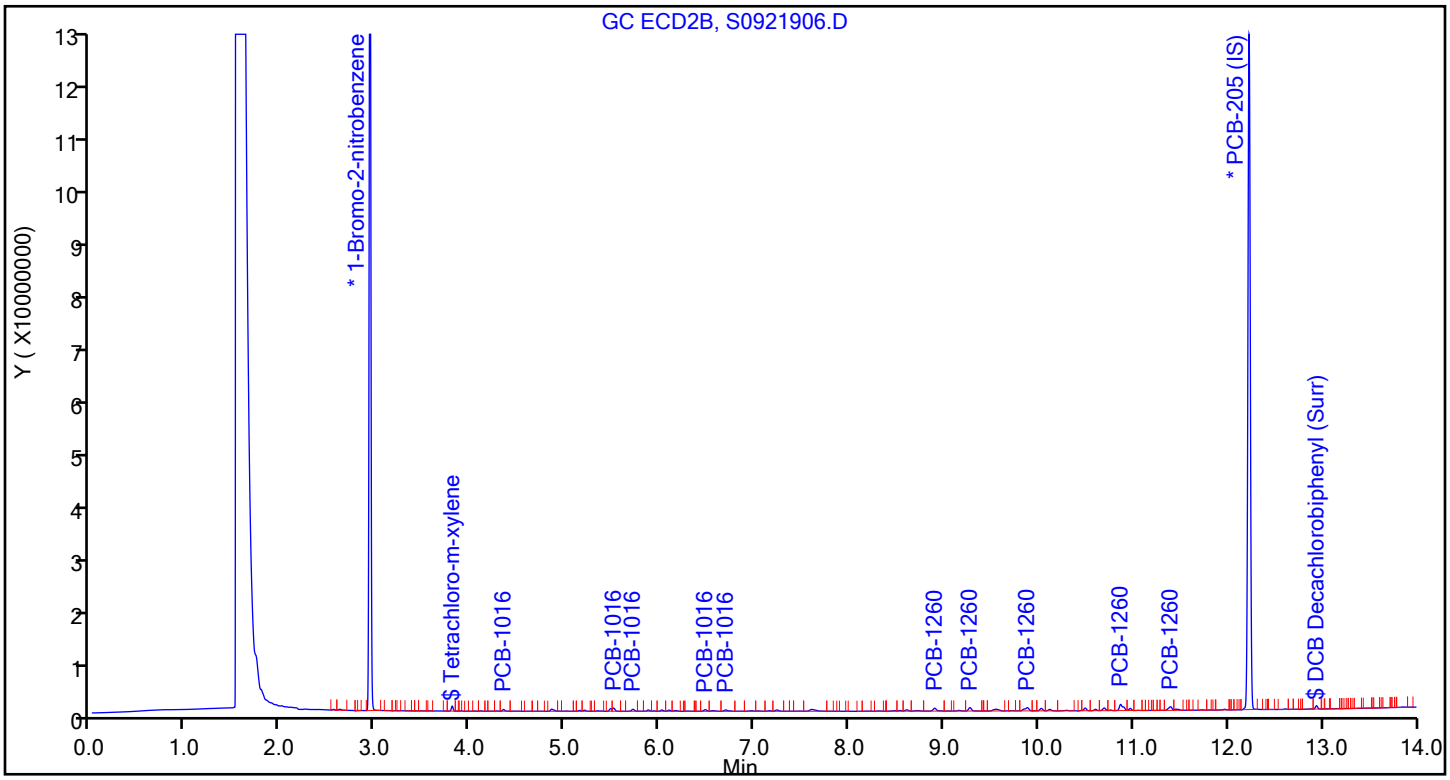

Report Date: 23-Sep-2019 06:50:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921906.D

Injection Date: 21-Sep-2019 09:45:33 Instrument ID: CHGC10

Lims ID: IC

Client ID:

Operator ID: ALS Bottle#: 5 Worklist Smp#: 5

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Column: Detector GC ECD1A

6 PCB-1016, CAS: 12674-11-2

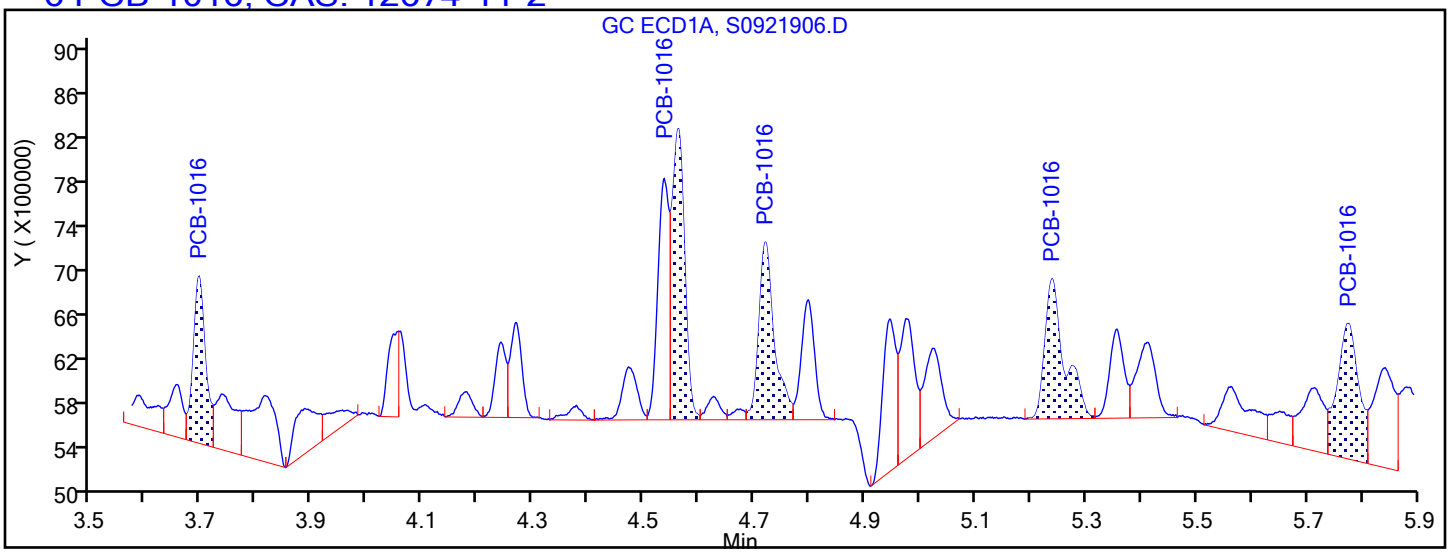

Processing Integration Results

3.694	Response = 1520749
4.563	Response = 2650183
4.720	Response = 1616774
5.239	Response = 1274564
5.777	Response = 1233400

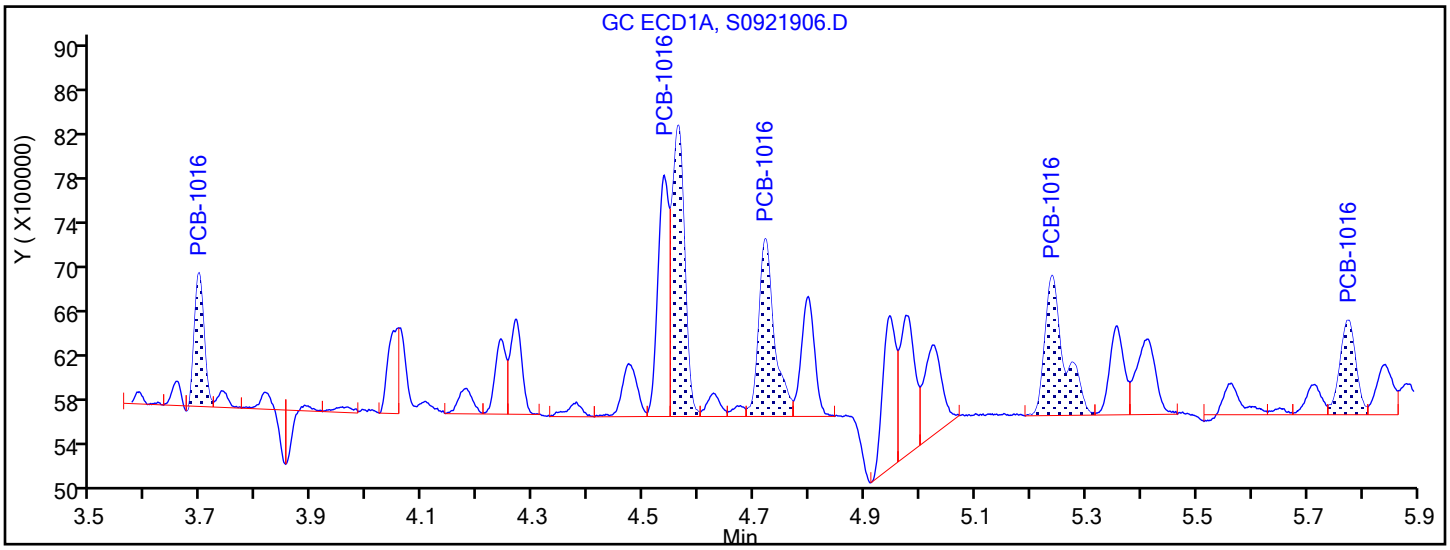

Manual Integration Results

3.694	Response = 1215117	M
4.563	Response = 2650183	
4.720	Response = 1616774	
5.239	Response = 1274564	
5.777	Response = 859011	M

Reviewer: oravecj, 23-Sep-2019 06:40:54

Audit Action: Assigned New Baseline Audit Reason: Instrument noise

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921907.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 21-Sep-2019 10:02:42 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-006
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:50:53 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

First Level Reviewer: oravecj Date: 23-Sep-2019 06:42:25

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.742	2.748	-0.006	449092696H	0.1000	0.1000	
2	2.938	2.939	-0.001	139376234H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.362	3.370	-0.008	23879978H	0.005000	0.004485	
2	3.806	3.807	-0.001	5879261H	0.005000	0.004532	
						RPD = 1.03	
6 PCB-1016							M
1	3.685	3.693	-0.008	7757348H	0.1000	0.1057	M
1	4.552	4.562	-0.010	17422255H	0.1000	0.1025	
1	4.710	4.720	-0.010	10274819H	0.1000	0.1062	
1	5.228	5.239	-0.011	8531720H	0.1000	0.1064	
1	5.764	5.775	-0.011	5904816H	0.1000	0.1115	
		Average of Peak Amounts =				0.1065	
2	4.348	4.349	-0.001	1798270H	0.1000	0.1003	
2	5.511	5.514	-0.003	3827127H	0.1000	0.0972	
2	5.715	5.717	-0.002	2248966H	0.1000	0.1001	
2	6.480	6.482	-0.002	1889754H	0.1000	0.1017	
2	6.696	6.698	-0.002	1582660H	0.1000	0.1020	
		Average of Peak Amounts =				0.1003	
						RPD = 5.98	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	7.660	7.672	-0.012	20258773H	0.1000	0.0990	
1	8.215	8.229	-0.014	18330543H	0.1000	0.0978	
1	8.885	8.897	-0.012	13389901H	0.1000	0.1007	
1	9.425	9.435	-0.010	32278171H	0.1000	0.0953	
1	9.884	9.894	-0.010	18120979H	0.1000	0.0961	
		Average of Peak Amounts =				0.0978	
2	8.903	8.905	-0.002	3637378H	0.1000	0.1041	
2	9.275	9.277	-0.002	4635055H	0.1000	0.1056	
2	9.882	9.885	-0.003	4365390H	0.1000	0.1029	
2	10.868	10.870	-0.002	8314936H	0.1000	0.1028	
2	11.396	11.397	-0.001	4741016H	0.1000	0.1031	
		Average of Peak Amounts =				0.1037	
						RPD = 5.90	
* 46 PCB-205 (IS)							
1	10.909	10.916	-0.007	476926570H	0.1000	0.1000	
2	12.225	12.227	-0.002	107577341H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.496	11.502	-0.006	17574289H	0.005000	0.004870	
2	12.938	12.940	-0.002	4231696H	0.005000	0.005214	
						RPD = 6.81	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCAR1660CALL2_00019 Amount Added: 1.00 Units: mL

PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Sep-2019 06:50:54 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921907.D				
Injection Date:	21-Sep-2019 10:02:42	Instrument ID:	CHGC10		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

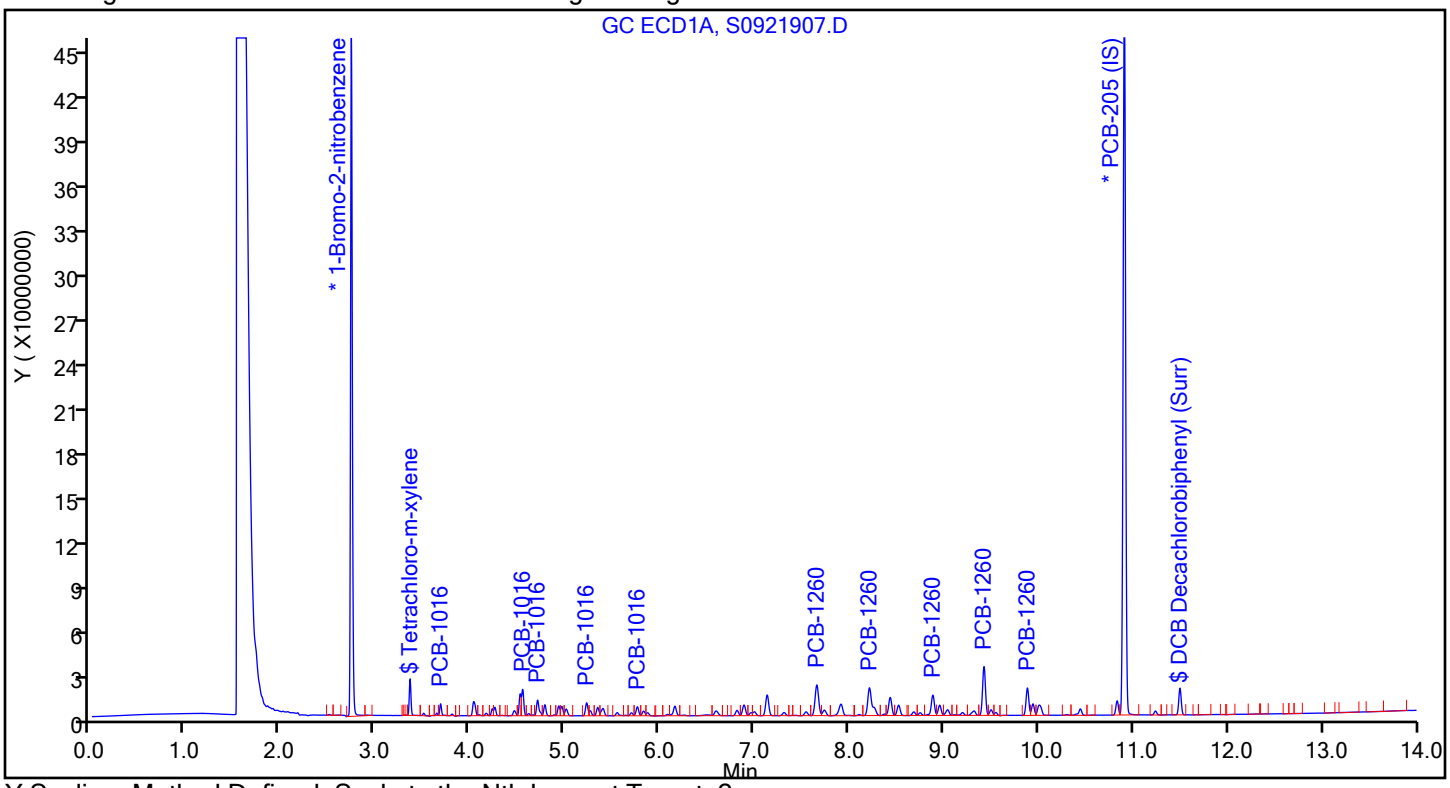

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

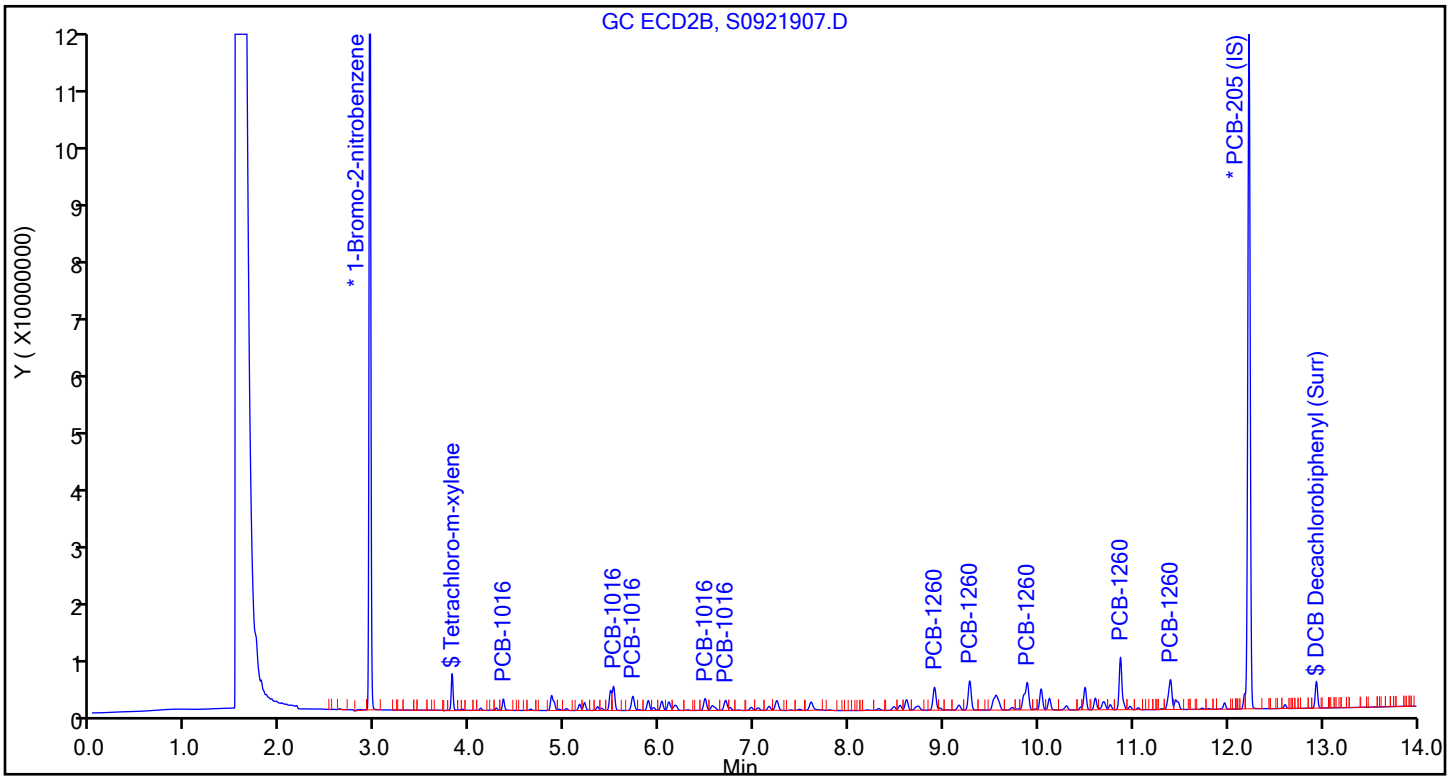

Report Date: 23-Sep-2019 06:50:54 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921907.D				
Injection Date:	21-Sep-2019 10:02:42	Instrument ID:	CHGC10		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		
Column:		Detector	GC ECD1A		

6 PCB-1016, CAS: 12674-11-2

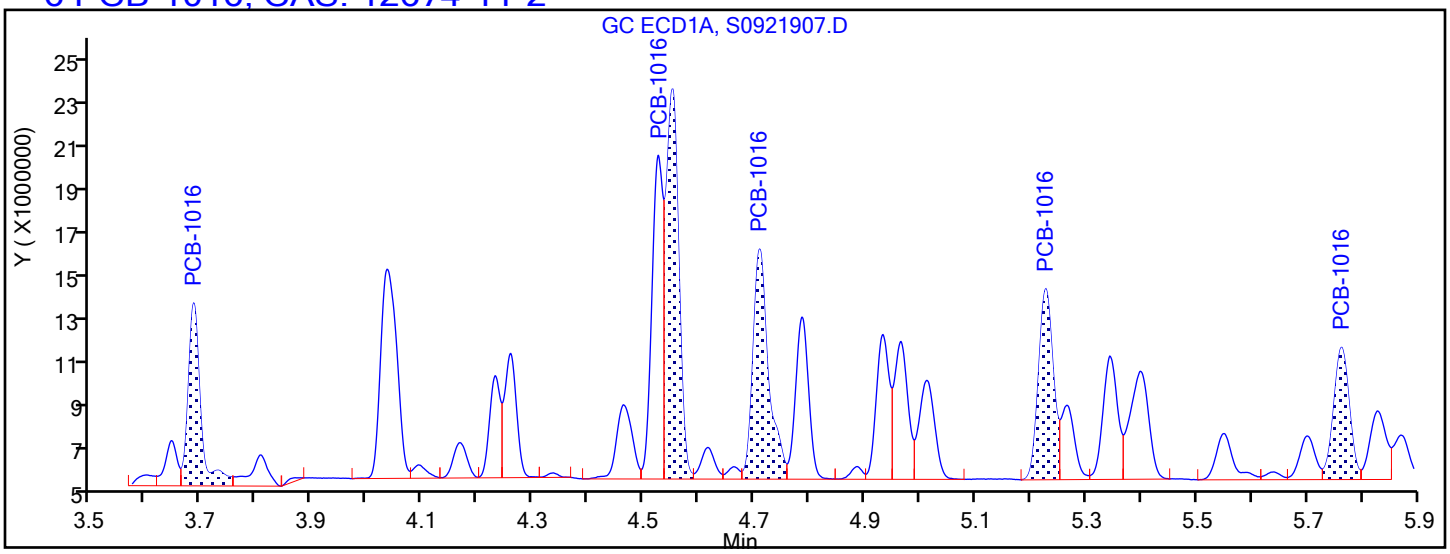

Processing Integration Results

3.685	Response = 8160873
4.552	Response = 17422255
4.710	Response = 10274819
5.228	Response = 8531720
5.764	Response = 5904816

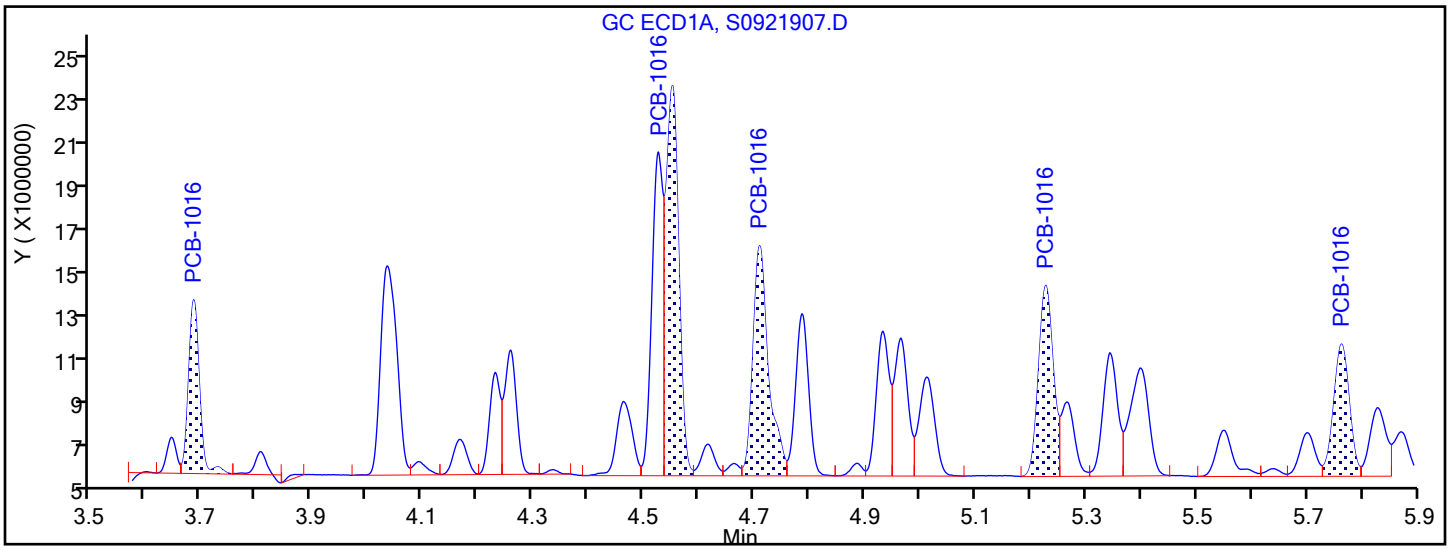

Manual Integration Results

3.685	Response = 7757348	M
4.552	Response = 17422255	
4.710	Response = 10274819	
5.228	Response = 8531720	
5.764	Response = 5904816	

Reviewer: oravecj, 23-Sep-2019 06:41:50

Audit Action: Assigned New Baseline Audit Reason: Instrument noise

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921908.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 21-Sep-2019 10:23:00 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-007
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:50:50 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.748	2.748	-0.001	485226757H	0.1000	0.1000	
2	2.938	2.939	-0.001	150776360H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.369	3.370	-0.001	68462844H	0.0125	0.0119	
2	3.807	3.807	0.000	17364877H	0.0125	0.0124	
						RPD = 3.88	
6 PCB-1016							
1	3.693	3.693	0.000	19465012H	0.2500	0.2454	
1	4.561	4.562	-0.001	42870814H	0.2500	0.2333	
1	4.719	4.720	-0.001	24095778H	0.2500	0.2305	
1	5.239	5.239	0.000	20495624H	0.2500	0.2366	
1	5.775	5.775	0.000	13300023H	0.2500	0.2325	
		Average of Peak Amounts =				0.2357	
2	4.348	4.349	-0.001	4846849H	0.2500	0.2500	
2	5.513	5.514	-0.001	10609096H	0.2500	0.2491	
2	5.717	5.717	0.000	6125446H	0.2500	0.2520	
2	6.481	6.482	-0.001	4982408H	0.2500	0.2480	
2	6.698	6.698	0.000	4150037H	0.2500	0.2472	
		Average of Peak Amounts =				0.2492	
						RPD = 5.60	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	7.673	7.672	0.001	45464608H	0.2500	0.2312	
1	8.227	8.229	-0.002	41516910H	0.2500	0.2305	
1	8.896	8.897	-0.001	29204098H	0.2500	0.2285	
1	9.434	9.435	-0.001	75955835H	0.2500	0.2334	
1	9.893	9.894	-0.001	40995963H	0.2500	0.2263	
		Average of Peak Amounts =				0.2300	
2	8.904	8.905	-0.001	8779289H	0.2500	0.2427	
2	9.277	9.277	0.000	10972709H	0.2500	0.2415	
2	9.883	9.885	-0.002	10380019H	0.2500	0.2365	
2	10.869	10.870	-0.001	20082780H	0.2500	0.2398	
2	11.398	11.397	0.001	11525990H	0.2500	0.2422	
		Average of Peak Amounts =				0.2405	
						RPD = 4.48	
* 46 PCB-205 (IS)							
1	10.914	10.916	-0.001	458191075H	0.1000	0.1000	
2	12.227	12.227	-0.001	111349161H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.502	11.502	0.000	40763898H	0.0125	0.0118	
2	12.938	12.940	-0.002	10191748H	0.0125	0.0121	
						RPD = 3.12	

Reagents:

GCAR1660CALL3_00018	Amount Added: 1.00	Units: mL	
PCBINT_00010	Amount Added: 0.01	Units: mL	Run Reagent

Report Date: 23-Sep-2019 06:50:50 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921908.D				
Injection Date:	21-Sep-2019 10:23:00	Instrument ID:	CHGC10		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

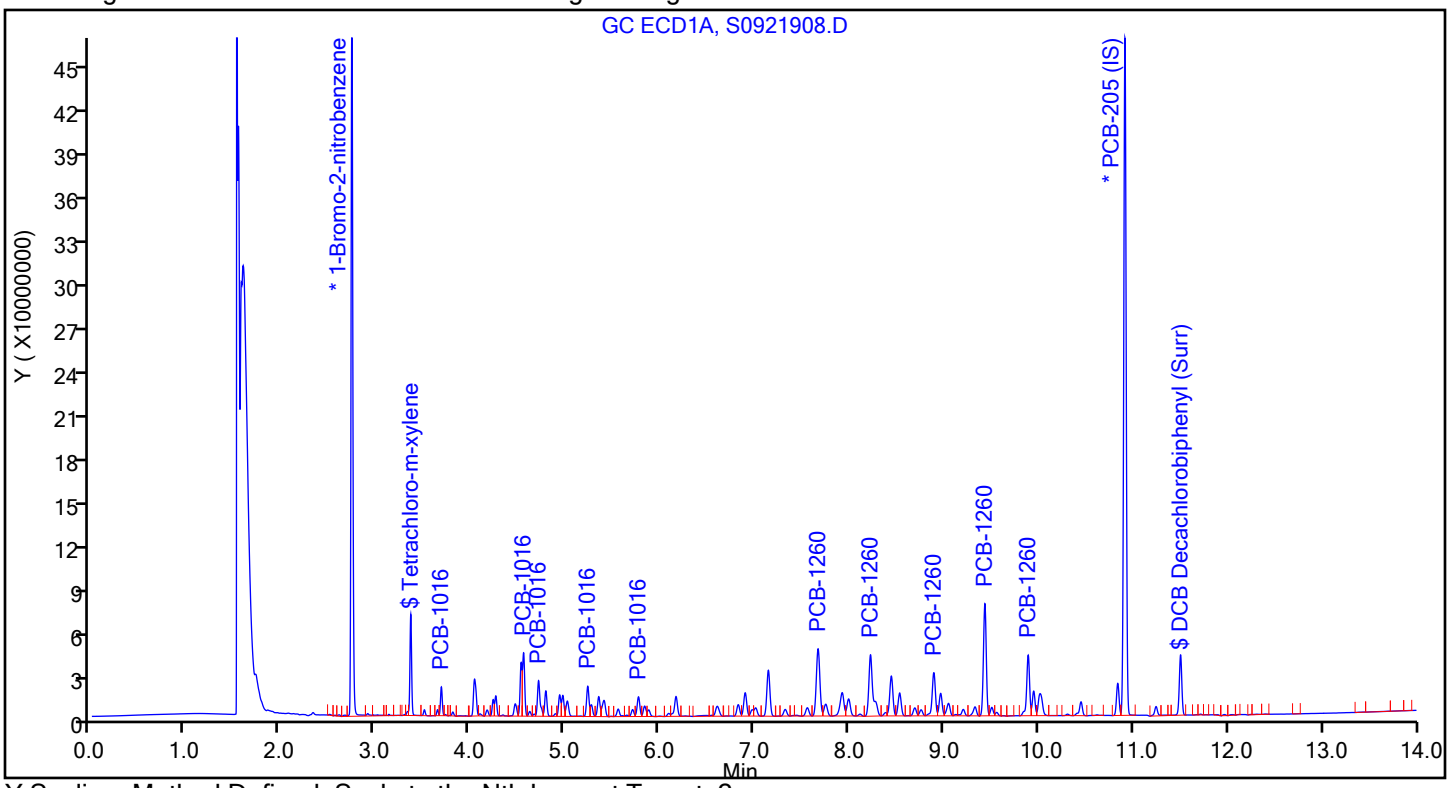

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

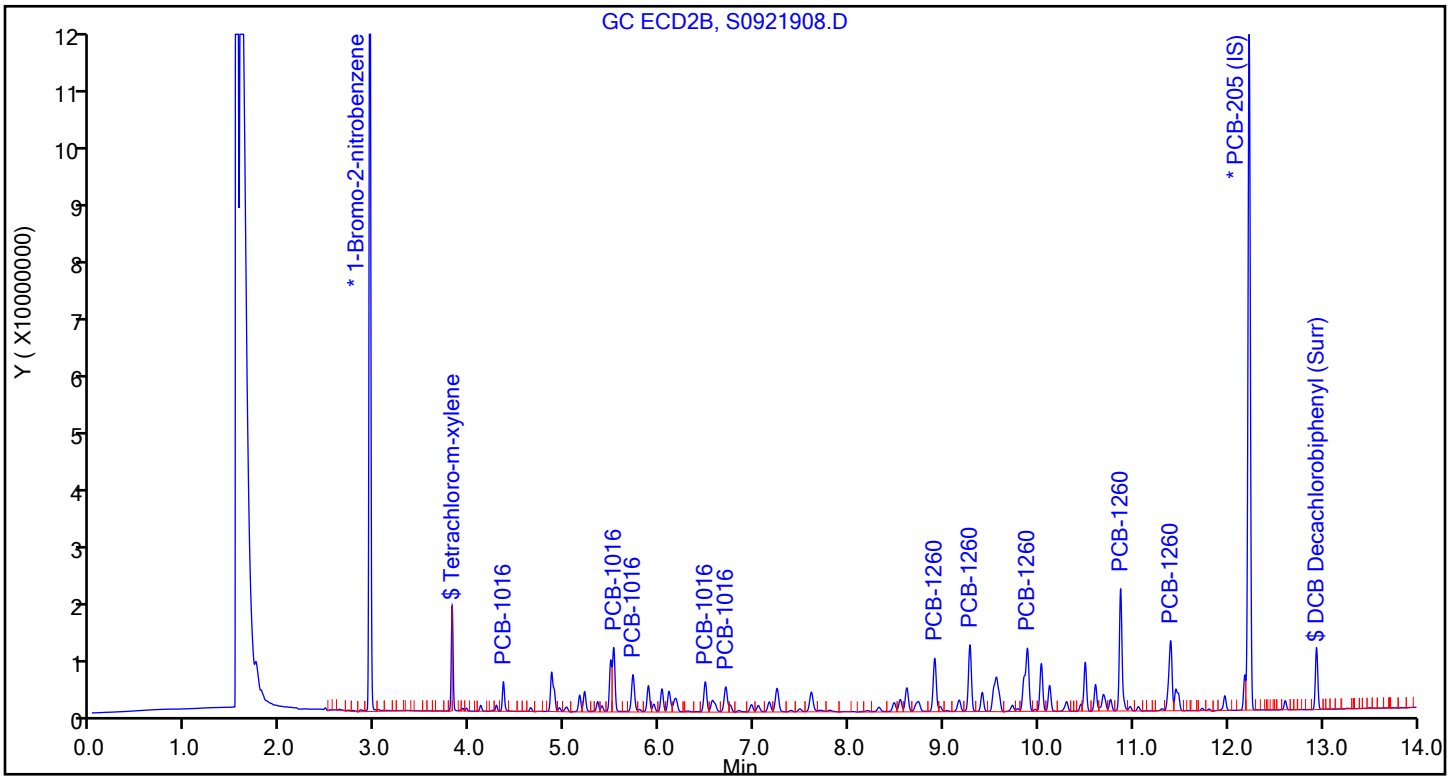

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921909.D
Lims ID: ICIS
Client ID:
Sample Type: ICIS Calib Level: 4
Inject. Date: 21-Sep-2019 10:43:16 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-008
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:50:46 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

First Level Reviewer: oravecj Date: 23-Sep-2019 06:40:31

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.748	2.748	0.000	511889197H	0.1000	0.1000	
2	2.939	2.939	0.000	164036125H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.370	3.370	0.000	157929430H	0.0250	0.0260	
2	3.807	3.807	0.000	38452543H	0.0250	0.0252	
						RPD = 3.28	
6 PCB-1016							
1	3.693	3.693	0.000	43011355H	0.5000	0.5140	
1	4.562	4.562	0.000	101479442H	0.5000	0.5236	
1	4.720	4.720	0.000	57484278H	0.5000	0.5213	
1	5.239	5.239	0.000	46231346H	0.5000	0.5058	
1	5.775	5.775	0.000	30588902H	0.5000	0.5069	
		Average of Peak Amounts =				0.5143	
2	4.349	4.349	0.000	10165005H	0.5000	0.4819	
2	5.514	5.514	0.000	22851496H	0.5000	0.4932	
2	5.717	5.717	0.000	12789537H	0.5000	0.4836	
2	6.482	6.482	0.000	10512408H	0.5000	0.4809	
2	6.698	6.698	0.000	8744313H	0.5000	0.4787	
		Average of Peak Amounts =				0.4837	
						RPD = 6.14	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	7.672	7.672	0.000	103793343H	0.5000	0.5013	
1	8.229	8.229	0.000	95246941H	0.5000	0.5021	
1	8.897	8.897	0.000	67078533H	0.5000	0.4985	
1	9.435	9.435	0.000	169586422H	0.5000	0.4949	
1	9.894	9.894	0.000	91397085H	0.5000	0.4790	
		Average of Peak Amounts =				0.4952	
2	8.905	8.905	0.000	18883129H	0.5000	0.5053	
2	9.277	9.277	0.000	23983861H	0.5000	0.5111	
2	9.885	9.885	0.000	23177185H	0.5000	0.5112	
2	10.870	10.870	0.000	43162891H	0.5000	0.4990	
2	11.397	11.397	0.000	23906070H	0.5000	0.4863	
		Average of Peak Amounts =				0.5025	
						RPD = 1.48	
* 46 PCB-205 (IS)							
1	10.916	10.916	0.000	482499706H	0.1000	0.1000	
2	12.227	12.227	0.000	115027624H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.502	11.502	0.000	84996667H	0.0250	0.0233	
2	12.940	12.940	0.000	20461165H	0.0250	0.0236	
						RPD = 1.26	

Reagents:

GCAR1660CALL4_00019 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Sep-2019 06:50:46 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921909.D

Injection Date: 21-Sep-2019 10:43:16 Instrument ID: CHGC10

Lims ID: ICIS

Client ID:

Operator ID: ALS Bottle#: 8 Worklist Smp#: 8

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

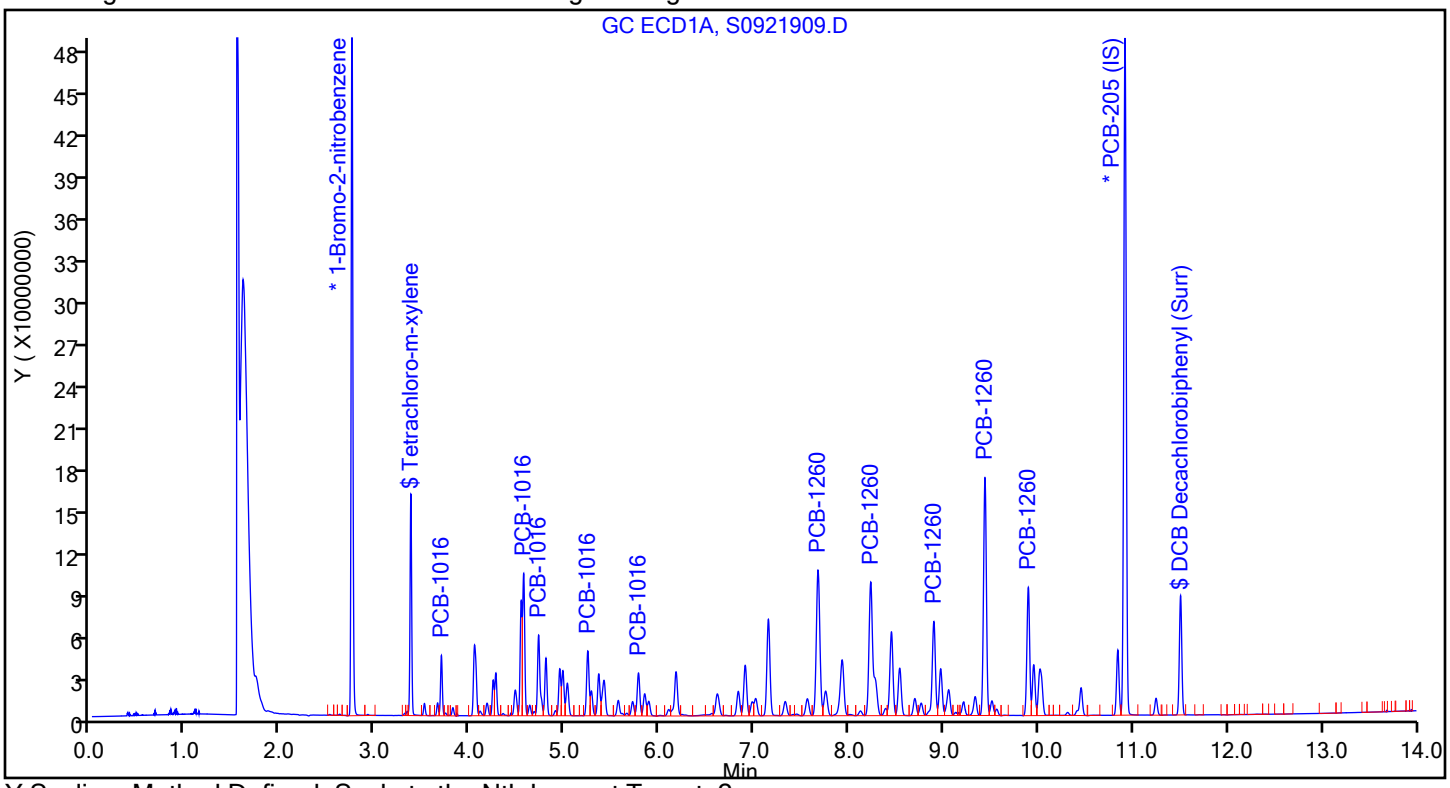

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

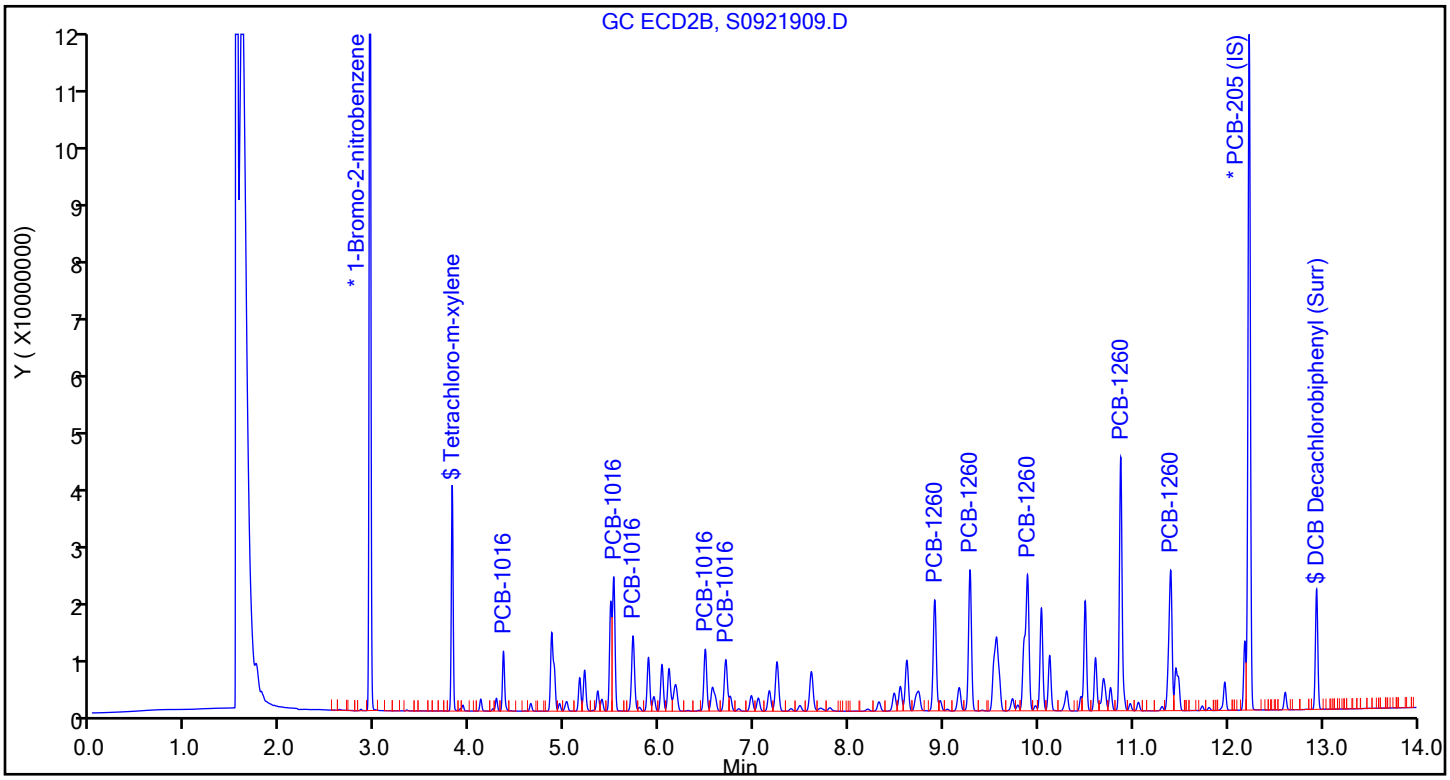

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921910.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 21-Sep-2019 11:03:44 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-009
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:50:42 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.747	2.748	-0.001	486898373H	0.1000	0.1000	
2	2.937	2.939	-0.002	145147868H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.370	3.370	0.000	265426609H	0.0500	0.0460	
2	3.806	3.807	-0.001	62757427H	0.0500	0.0464	
						RPD = 1.01	
6 PCB-1016							
1	3.693	3.693	0.000	68984311H	1.00	0.8667	
1	4.561	4.562	-0.001	169029996H	1.00	0.9169	
1	4.720	4.720	0.000	94293443H	1.00	0.8991	
1	5.239	5.239	0.000	79194729H	1.00	0.9109	
1	5.775	5.775	0.000	51382965H	1.00	0.8952	
		Average of Peak Amounts =				0.8977	
2	4.348	4.349	-0.001	16125319H	1.00	0.8640	
2	5.513	5.514	-0.001	38172898H	1.00	0.9311	
2	5.716	5.717	-0.001	21055775H	1.00	0.8997	
2	6.480	6.482	-0.002	17224077H	1.00	0.8905	
2	6.697	6.698	-0.001	14577808H	1.00	0.9020	
		Average of Peak Amounts =				0.8975	
						RPD = 0.03	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	7.673	7.672	0.001	184837813H	1.00	0.8914	
1	8.228	8.229	-0.001	171393567H	1.00	0.9022	
1	8.896	8.897	-0.001	121602077H	1.00	0.9023	
1	9.436	9.435	0.001	311148205H	1.00	0.9066	
1	9.893	9.894	-0.001	168964818H	1.00	0.8842	
		Average of Peak Amounts =				0.8973	
2	8.905	8.905	0.000	32695592H	1.00	0.8626	
2	9.276	9.277	-0.001	41407640H	1.00	0.8700	
2	9.884	9.885	-0.001	40753408H	1.00	0.8862	
2	10.869	10.870	-0.001	79749385H	1.00	0.9090	
2	11.397	11.397	0.000	44620675H	1.00	0.8949	
		Average of Peak Amounts =				0.8845	
						RPD = 1.44	
* 46 PCB-205 (IS)							
1	10.915	10.916	0.000	483249465H	0.1000	0.1000	
2	12.226	12.227	-0.001	116660848H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.502	11.502	0.000	159625471H	0.0500	0.0437	
2	12.940	12.940	0.000	38543080H	0.0500	0.0438	
						RPD = 0.30	

Reagents:

GCAR1660CALL5_00019 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Sep-2019 06:50:43 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921910.D				
Injection Date:	21-Sep-2019 11:03:44	Instrument ID:	CHGC10		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

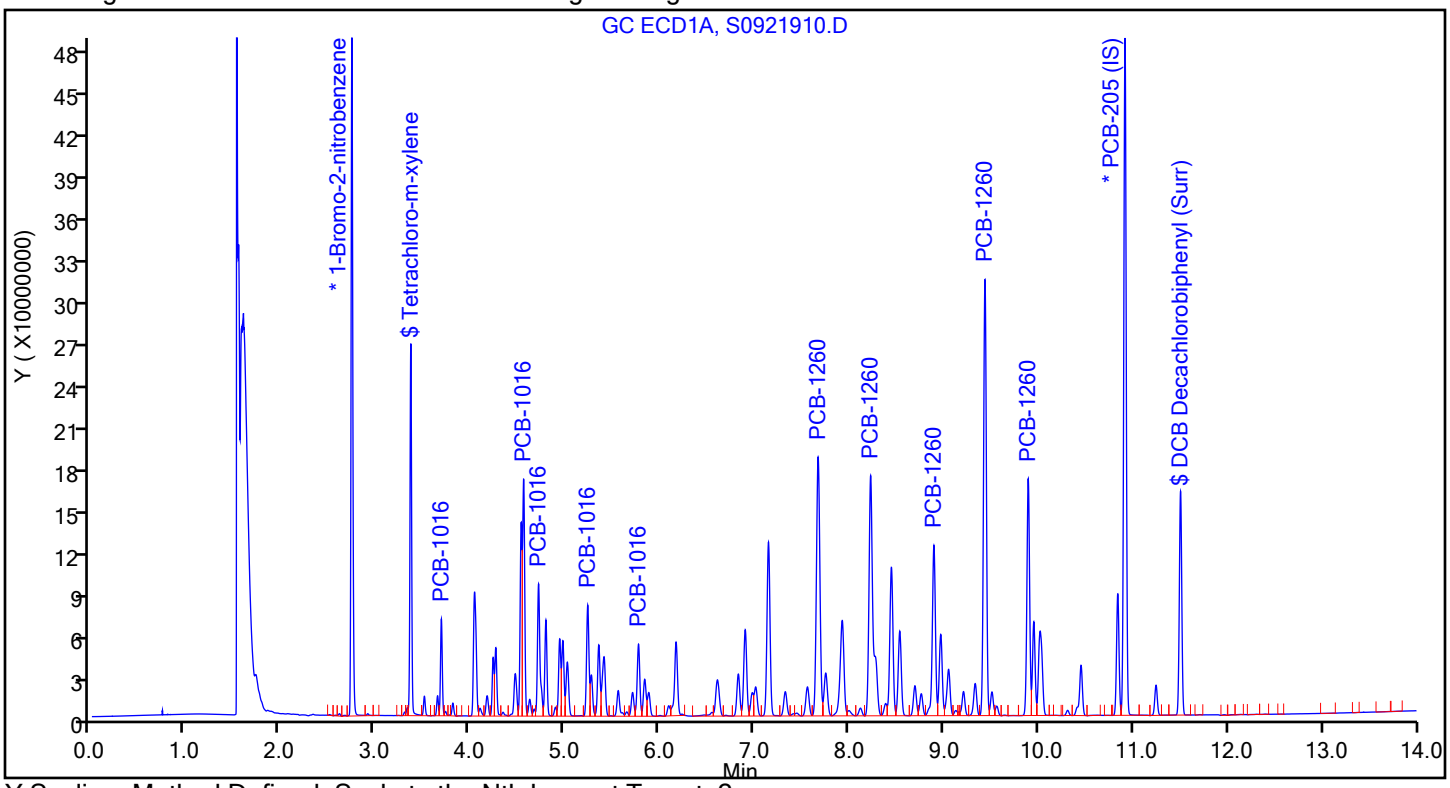

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

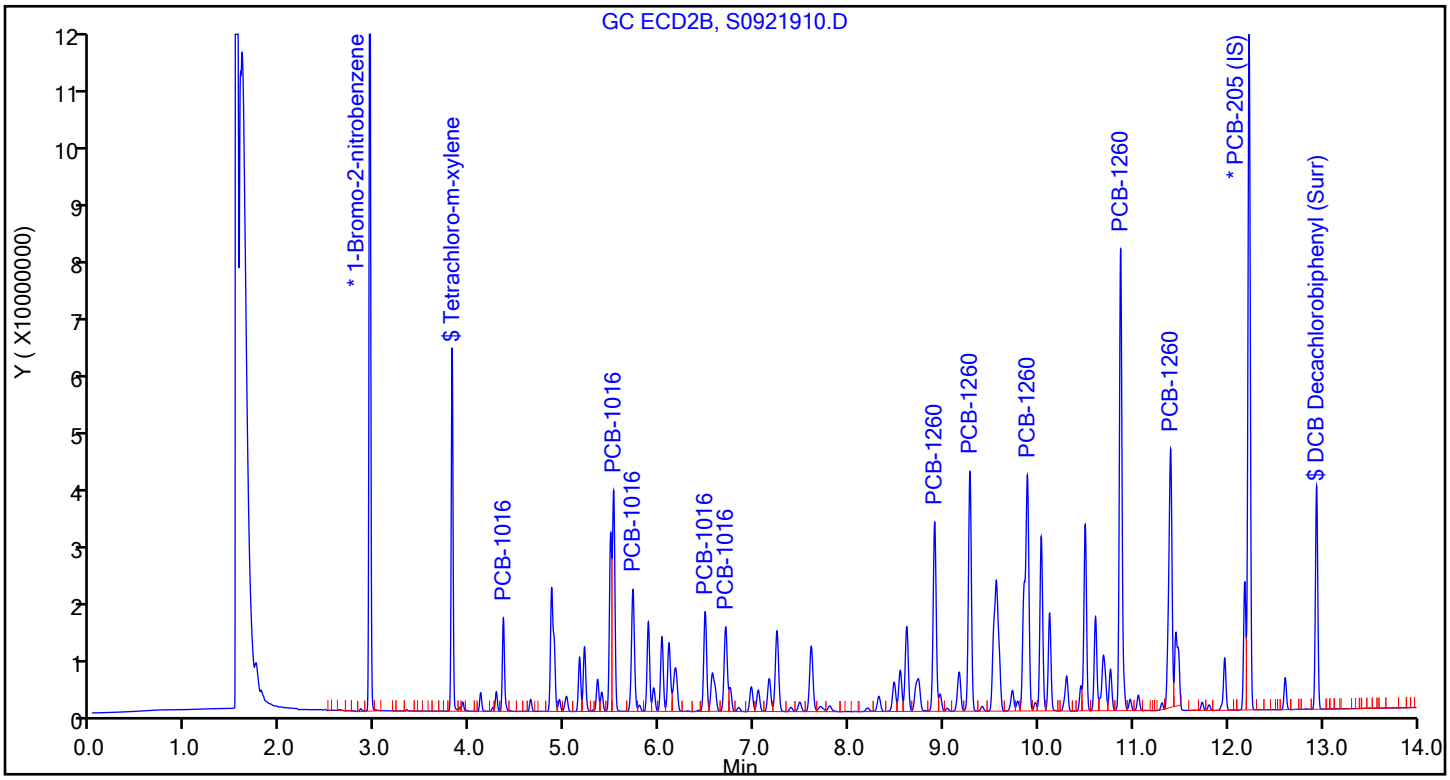

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921911.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 21-Sep-2019 11:24:03 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-010
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:50:38 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.747	2.748	-0.001	531073284H	0.1000	0.1000	
2	2.936	2.939	-0.003	147624344H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.370	3.370	0.000	593197064H	0.1000	0.0942	
2	3.805	3.807	-0.002	136871204H	0.1000	0.0996	
						RPD = 5.56	
6 PCB-1016							
1	3.693	3.693	0.000	146478286H	2.00	1.69	
1	4.560	4.562	-0.002	357879738H	2.00	1.78	
1	4.720	4.720	0.000	194331631H	2.00	1.70	
1	5.239	5.239	0.000	165919737H	2.00	1.75	
1	5.775	5.775	0.000	105686964H	2.00	1.69	
		Average of Peak Amounts =				1.72	
2	4.347	4.349	-0.002	33543708H	2.00	1.77	
2	5.512	5.514	-0.002	81726863H	2.00	1.96	
2	5.715	5.717	-0.002	44974420H	2.00	1.89	
2	6.479	6.482	-0.003	37447080H	2.00	1.90	
2	6.695	6.698	-0.003	31120155H	2.00	1.89	
		Average of Peak Amounts =				1.88	
						RPD = 8.99	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	7.671	7.672	-0.001	373471781H	2.00	1.98	
1	8.228	8.229	-0.001	335362989H	2.00	1.94	
1	8.896	8.897	-0.001	239780330H	2.00	1.96	
1	9.436	9.435	0.001	645052703H	2.00	2.07	
1	9.893	9.894	-0.001	343286798H	2.00	1.98	
		Average of Peak Amounts =				1.99	
2	8.904	8.905	-0.001	67625733H	2.00	1.80	
2	9.276	9.277	-0.001	87761388H	2.00	1.86	
2	9.883	9.885	-0.002	85146647H	2.00	1.87	
2	10.869	10.870	-0.001	157781207H	2.00	1.82	
2	11.397	11.397	0.000	91045846H	2.00	1.85	
		Average of Peak Amounts =				1.84	
						RPD = 7.63	
* 46 PCB-205 (IS)							
1	10.915	10.916	0.000	438806448H	0.1000	0.1000	
2	12.227	12.227	0.000	115386234H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.503	11.502	0.001	330247569H	0.1000	0.0995	
2	12.939	12.940	-0.001	78624611H	0.1000	0.0903	
						RPD = 9.65	

Reagents:

GCAR1660CALL6_00017 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Sep-2019 06:50:38 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921911.D

Injection Date: 21-Sep-2019 11:24:03 Instrument ID: CHGC10

Lims ID: IC

Client ID:

Operator ID: ALS Bottle#: 10 Worklist Smp#: 10

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

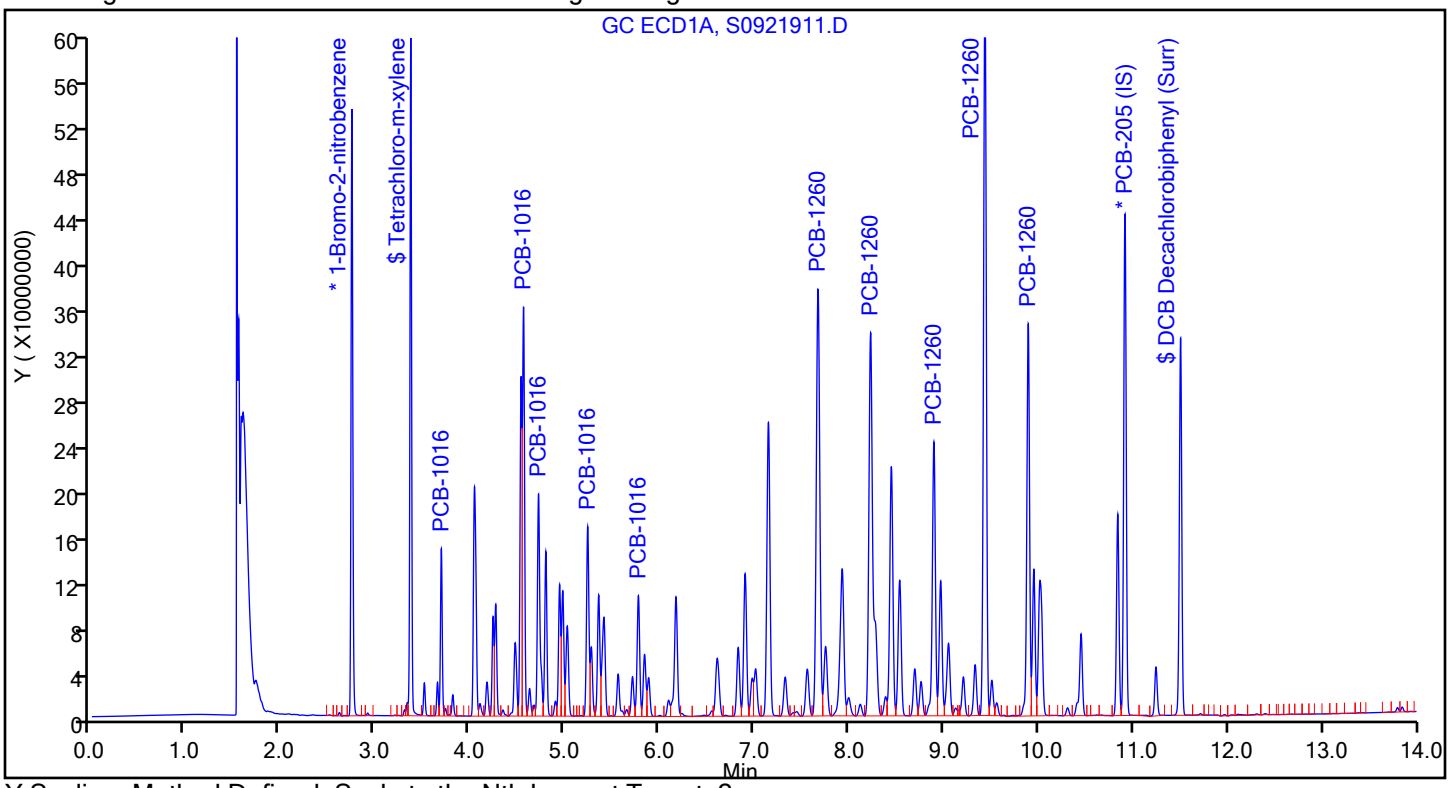

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

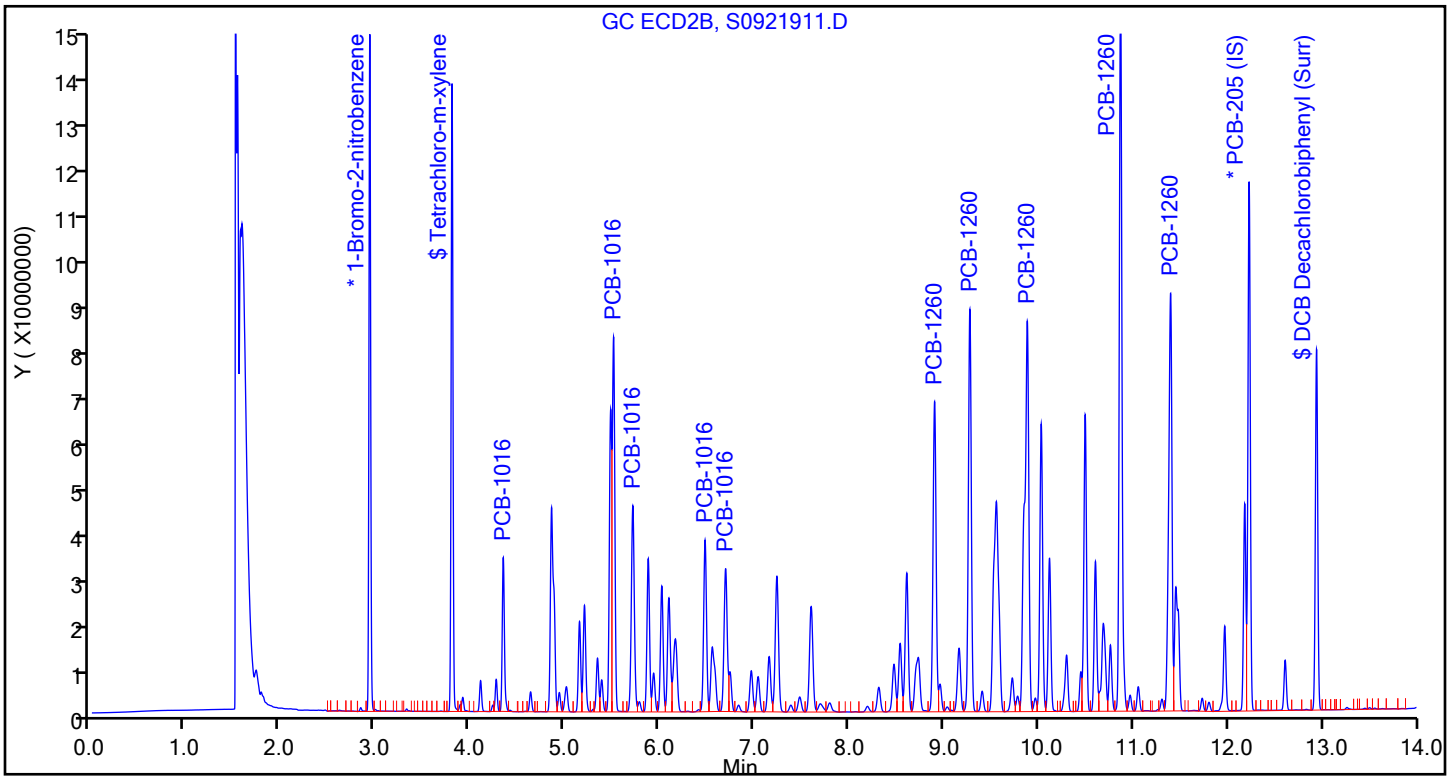

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 21-Sep-2019 11:44:24 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-011
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:50:34 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.748	2.748	0.000	484206744H	0.1000	0.1000	
2	2.938	2.939	-0.001	150217241H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.371	3.370	0.001	1265766620H	0.2000	0.2205	
2	3.808	3.807	0.001	291444322H	0.2000	0.2084	
						RPD = 5.63	
6 PCB-1016							
1	3.694	3.693	0.001	297683567H	4.00	3.76	
1	4.563	4.562	0.001	718318050H	4.00	3.92	
1	4.721	4.720	0.001	387398138H	4.00	3.71	
1	5.241	5.239	0.002	331923571H	4.00	3.84	
1	5.777	5.775	0.002	215491843H	4.00	3.77	
		Average of Peak Amounts =				3.80	
2	4.349	4.349	0.000	68504176H	4.00	3.55	
2	5.514	5.514	0.000	164277483H	4.00	3.87	
2	5.718	5.717	0.001	90339652H	4.00	3.73	
2	6.483	6.482	0.001	74715074H	4.00	3.73	
2	6.699	6.698	0.001	62476014H	4.00	3.74	
		Average of Peak Amounts =				3.72	
						RPD = 2.08	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	7.674	7.672	0.002	748697841	H	4.00	3.85
1	8.229	8.229	0.000	701106011	H	4.00	3.94
1	8.897	8.897	0.000	497713780	H	4.00	3.94
1	9.437	9.435	0.002	1358258724	H	4.00	4.22
1	9.895	9.894	0.001	712230375	H	4.00	3.98
		Average of Peak Amounts =					3.99
2	8.906	8.905	0.001	134000871	H	4.00	3.69
2	9.278	9.277	0.001	169648913	H	4.00	3.72
2	9.885	9.885	0.000	169212213	H	4.00	3.84
2	10.871	10.870	0.001	332281068	H	4.00	3.95
2	11.399	11.397	0.002	185906716	H	4.00	3.89
		Average of Peak Amounts =					3.82
						RPD =	4.34
* 46 PCB-205 (IS)							
1	10.917	10.916	0.001	453013003	H	0.1000	0.1000
2	12.229	12.227	0.002	111866344	H	0.1000	0.1000
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.503	11.502	0.001	699680251	H	0.2000	0.2041
2	12.941	12.940	0.001	163998015	H	0.2000	0.1943
						RPD =	4.93

Reagents:

GCAR1660CALL7_00018 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Sep-2019 06:50:35 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Injection Date: 21-Sep-2019 11:44:24 Instrument ID: CHGC10

Lims ID: IC

Client ID:

Operator ID: ALS Bottle#: 11 Worklist Smp#: 11

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

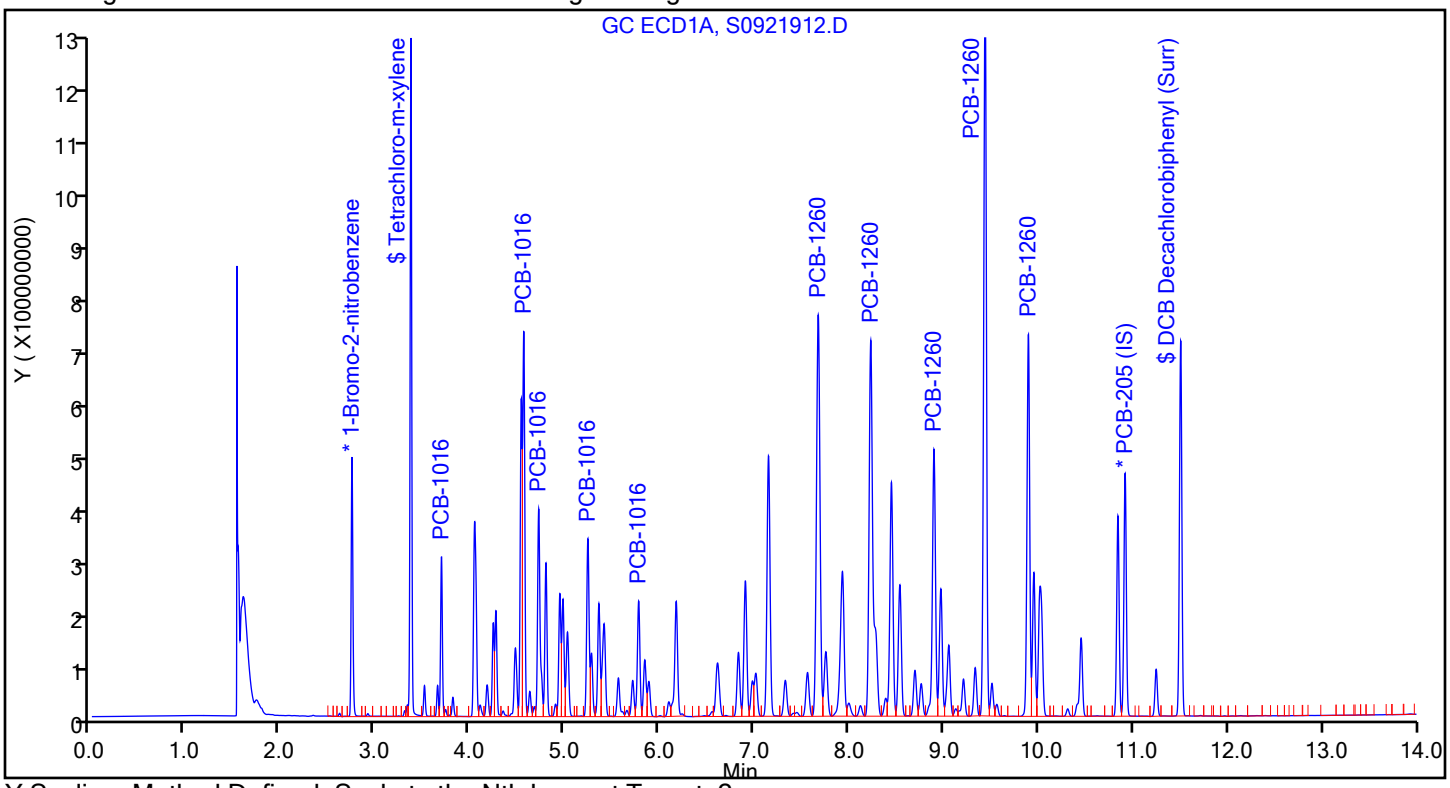

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

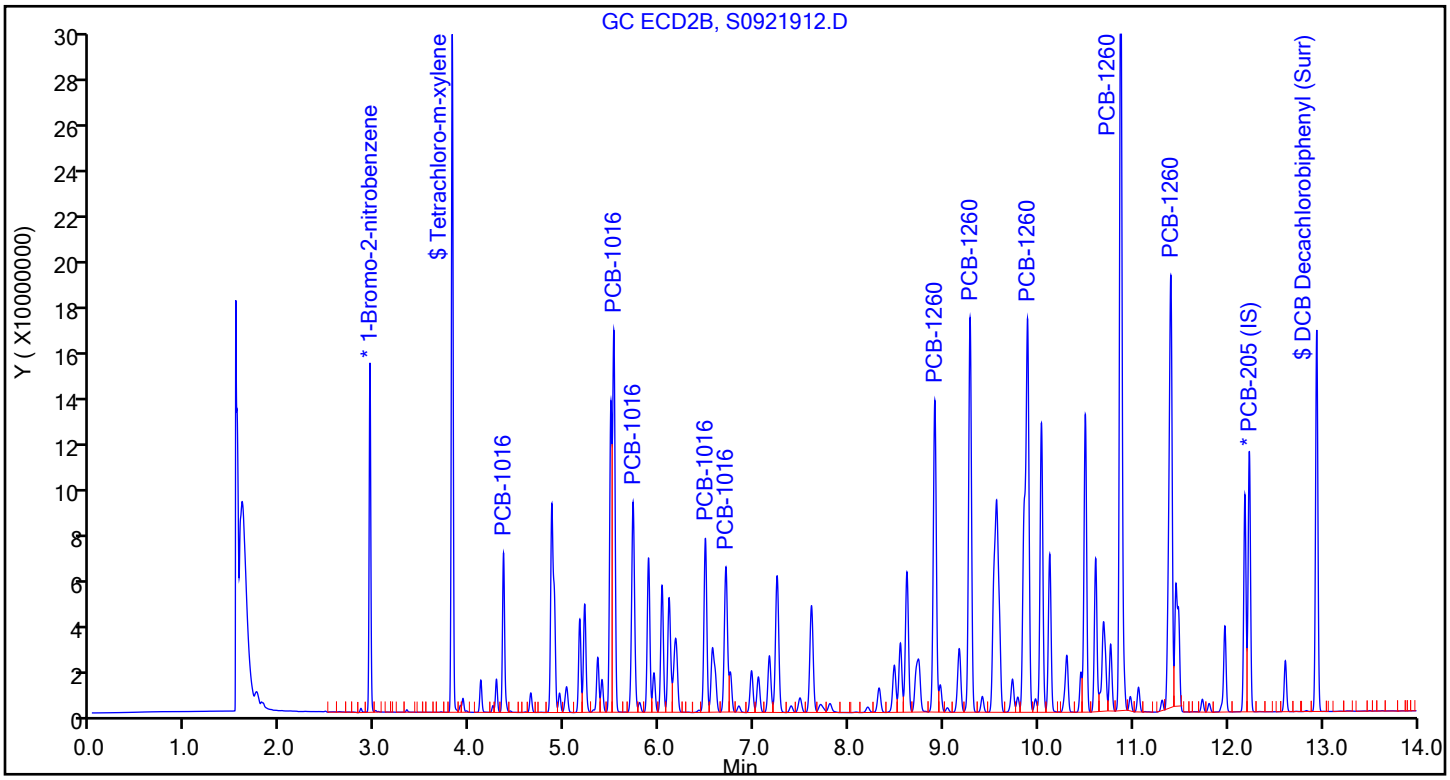

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 09:45 Calibration End Date: 09/21/2019 11:44 Calibration ID: 41573

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/5	S0921906.D
Level 2	IC 180-292146/6	S0921907.D
Level 3	IC 180-292146/7	S0921908.D
Level 4	ICIS 180-292146/8	S0921909.D
Level 5	IC 180-292146/9	S0921910.D
Level 6	IC 180-292146/10	S0921911.D
Level 7	IC 180-292146/11	S0921912.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
PCB-1016 Peak 1	0.0180 0.0114	0.0129 0.0114	0.0129	0.0124	0.0111	Ave		0.0129				18.5		20.0			
PCB-1016 Peak 2	0.0329 0.0277	0.0275 0.0273	0.0281	0.0279	0.0263	Ave		0.0282				7.6		20.0			
PCB-1016 Peak 3	0.0201 0.0152	0.0161 0.0150	0.0163	0.0156	0.0145	Ave		0.0161				11.5		20.0			
PCB-1016 Peak 4	0.0167 0.0127	0.0136 0.0124	0.0132	0.0128	0.0119	Ave		0.0133				11.9		20.0			
PCB-1016 Peak 5	0.0139 0.0105	0.0114 0.0104	0.0110	0.0107	0.0100	Ave		0.0111				11.7		20.0			
PCB-1260 Peak 1	0.0420 0.0293	0.0338 0.0299	0.0315	0.0328	0.0280	Ave		0.0325				14.3		20.0			
PCB-1260 Peak 2	0.0499 0.0380	0.0431 0.0379	0.0394	0.0417	0.0355	Ave		0.0408				11.7		20.0			
PCB-1260 Peak 3	0.0481 0.0369	0.0406 0.0378	0.0373	0.0403	0.0349	Ave		0.0394				10.9		20.0			
PCB-1260 Peak 4	0.0909 0.0684	0.0773 0.0743	0.0721	0.0750	0.0684	Ave		0.0752				10.2		20.0			
PCB-1260 Peak 5	0.0529 0.0395	0.0441 0.0415	0.0414	0.0416	0.0382	Ave		0.0427				11.3		20.0			
Tetrachloro-m-xylene (Surr)	1.0513 0.9272	0.8437 0.9701	0.9214	0.9377	0.8647	Ave		0.9308				7.4		20.0			
DCB Decachlorobiphenyl (Surr)	0.9759 0.6814	0.7867 0.7330	0.7322	0.7115	0.6608	Ave		0.7545				14.0		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 09:45 Calibration End Date: 09/21/2019 11:44 Calibration ID: 41573

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/5	S0921906.D
Level 2	IC 180-292146/6	S0921907.D
Level 3	IC 180-292146/7	S0921908.D
Level 4	ICIS 180-292146/8	S0921909.D
Level 5	IC 180-292146/9	S0921910.D
Level 6	IC 180-292146/10	S0921911.D
Level 7	IC 180-292146/11	S0921912.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
PCB-1016 Peak 1	BNB	Ave	301900 33543708	1798270 68504176	4846849	10165005	16125319	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1016 Peak 2	BNB	Ave	553018 81726863	3827127 164277483	10609096	22851496	38172898	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1016 Peak 3	BNB	Ave	337551 44974420	2248966 90339652	6125446	12789537	21055775	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1016 Peak 4	BNB	Ave	280459 37447080	1889754 74715074	4982408	10512408	17224077	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1016 Peak 5	BNB	Ave	233976 31120155	1582660 62476014	4150037	8744313	14577808	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1260 Peak 1	PCB2 05	Ave	497463 67625733	3637378 134000871	8779289	18883129	32695592	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1260 Peak 2	PCB2 05	Ave	591928 87761388	4635055 169648913	10972709	23983861	41407640	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1260 Peak 3	PCB2 05	Ave	570204 85146647	4365390 169212213	10380019	23177185	40753408	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1260 Peak 4	PCB2 05	Ave	1077919 157781207	8314936 332281068	20082780	43162891	79749385	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1260 Peak 5	PCB2 05	Ave	626880 91045846	4741016 185906716	11525990	23906070	44620675	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
Tetrachloro-m-xylene (Surr)	BNB	Ave	882478 136871204	5879261 291444322	17364877	38452543	62757427	0.000500 0.100	0.00500 0.200	0.0125	0.0250	0.0500
DCB Decachlorobiphenyl (Surr)	PCB2 05	Ave	578308 78624611	4231696 163998015	10191748	20461165	38543080	0.000500 0.100	0.00500 0.200	0.0125	0.0250	0.0500

Curve Type Legend:
Ave = Average ISTD by Height

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 292146

SDG No.:

Instrument ID: CHGC10 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/21/2019 09:45 Calibration End Date: 09/21/2019 11:44 Calibration ID: 41573

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-292146/5	S0921906.D
Level 2	IC 180-292146/6	S0921907.D
Level 3	IC 180-292146/7	S0921908.D
Level 4	ICIS 180-292146/8	S0921909.D
Level 5	IC 180-292146/9	S0921910.D
Level 6	IC 180-292146/10	S0921911.D
Level 7	IC 180-292146/11	S0921912.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
PCB-1016 Peak 1	39.8 -11.3	0.3	0.0	-3.6	-13.6	-11.6	50 30	30	30	30	30	30
PCB-1016 Peak 2	16.6 -3.2	-2.8	-0.4	-1.4	-6.9	-2.0	50 30	30	30	30	30	30
PCB-1016 Peak 3	24.7 -6.7	0.1	0.8	-3.3	-10.0	-5.5	50 30	30	30	30	30	30
PCB-1016 Peak 4	25.4 -6.7	1.7	-0.8	-3.8	-11.0	-4.8	50 30	30	30	30	30	30
PCB-1016 Peak 5	25.2 -6.6	2.0	-1.1	-4.3	-9.8	-5.3	50 30	30	30	30	30	30
PCB-1260 Peak 1	29.2 -7.8	4.1	-2.9	1.1	-13.7	-9.8	50 30	30	30	30	30	30
PCB-1260 Peak 2	22.4 -7.1	5.6	-3.4	2.2	-13.0	-6.8	50 30	30	30	30	30	30
PCB-1260 Peak 3	22.1 -4.1	2.9	-5.4	2.2	-11.4	-6.4	50 30	30	30	30	30	30
PCB-1260 Peak 4	20.9 -1.3	2.8	-4.1	-0.2	-9.1	-9.1	50 30	30	30	30	30	30
PCB-1260 Peak 5	23.8 -2.8	3.1	-3.1	-2.7	-10.5	-7.7	50 30	30	30	30	30	30
Tetrachloro-m-xylene (Surr)	12.9 4.2	-9.4	-1.0	0.7	-7.1	-0.4	50 30	30	30	30	30	30
DCB Decachlorobiphenyl (Surr)	29.3 -2.8	4.3	-3.0	-5.7	-12.4	-9.7	50 30	30	30	30	30	30

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921906.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 21-Sep-2019 09:45:33 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-005
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:50:57 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

First Level Reviewer: oravecj Date: 23-Sep-2019 06:41:32

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.749	2.748	0.001	579186423H	0.1000	0.1000	
2	2.939	2.939	0.000	167887646H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.371	3.370	0.001	3933517H	0.000500	0.000573	
2	3.808	3.807	0.001	882478H	0.000500	0.000565	
						RPD = 1.43	
6 PCB-1016							M
1	3.694	3.693	0.001	1215117H	0.0100	0.0128	M
1	4.563	4.562	0.001	2650183H	0.0100	0.0121	
1	4.720	4.720	0.000	1616774H	0.0100	0.0130	
1	5.239	5.239	0.000	1274564H	0.0100	0.0123	
1	5.777	5.775	0.002	859011H	0.0100	0.0126	M
		Average of Peak Amounts =				0.0126	
2	4.350	4.349	0.001	301900H	0.0100	0.0140	M
2	5.514	5.514	0.000	553018H	0.0100	0.0117	M
2	5.716	5.717	-0.001	337551H	0.0100	0.0125	M
2	6.481	6.482	-0.001	280459H	0.0100	0.0125	
2	6.698	6.698	0.000	233976H	0.0100	0.0125	
		Average of Peak Amounts =				0.0126	
						RPD = 0.61	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							M
1	7.671	7.672	-0.001	2713959H	0.0100	0.0124	
1	8.228	8.229	-0.001	2489131H	0.0100	0.0124	
1	8.896	8.897	-0.001	1733597H	0.0100	0.0122	
1	9.436	9.435	0.001	4092261H	0.0100	0.0113	
1	9.893	9.894	-0.001	2646642H	0.0100	0.0131	
		Average of Peak Amounts =				0.0122	
2	8.905	8.905	0.000	497463H	0.0100	0.0129	
2	9.278	9.277	0.001	591928H	0.0100	0.0122	
2	9.883	9.885	-0.002	570204H	0.0100	0.0122	
2	10.869	10.870	-0.001	1077919H	0.0100	0.0121	M
2	11.397	11.397	0.000	626880H	0.0100	0.0124	
		Average of Peak Amounts =				0.0124	
						RPD = 0.96	
* 46 PCB-205 (IS)							
1	10.916	10.916	0.000	511545763H	0.1000	0.1000	
2	12.226	12.227	-0.002	118520037H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.501	11.502	-0.001	2449552H	0.000500	0.000633	
2	12.938	12.940	-0.002	578308H	0.000500	0.000647	
						RPD = 2.16	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCAR1660CALL1_00025 Amount Added: 1.00 Units: mL

PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Sep-2019 06:50:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921906.D				
Injection Date:	21-Sep-2019 09:45:33	Instrument ID:	CHGC10		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

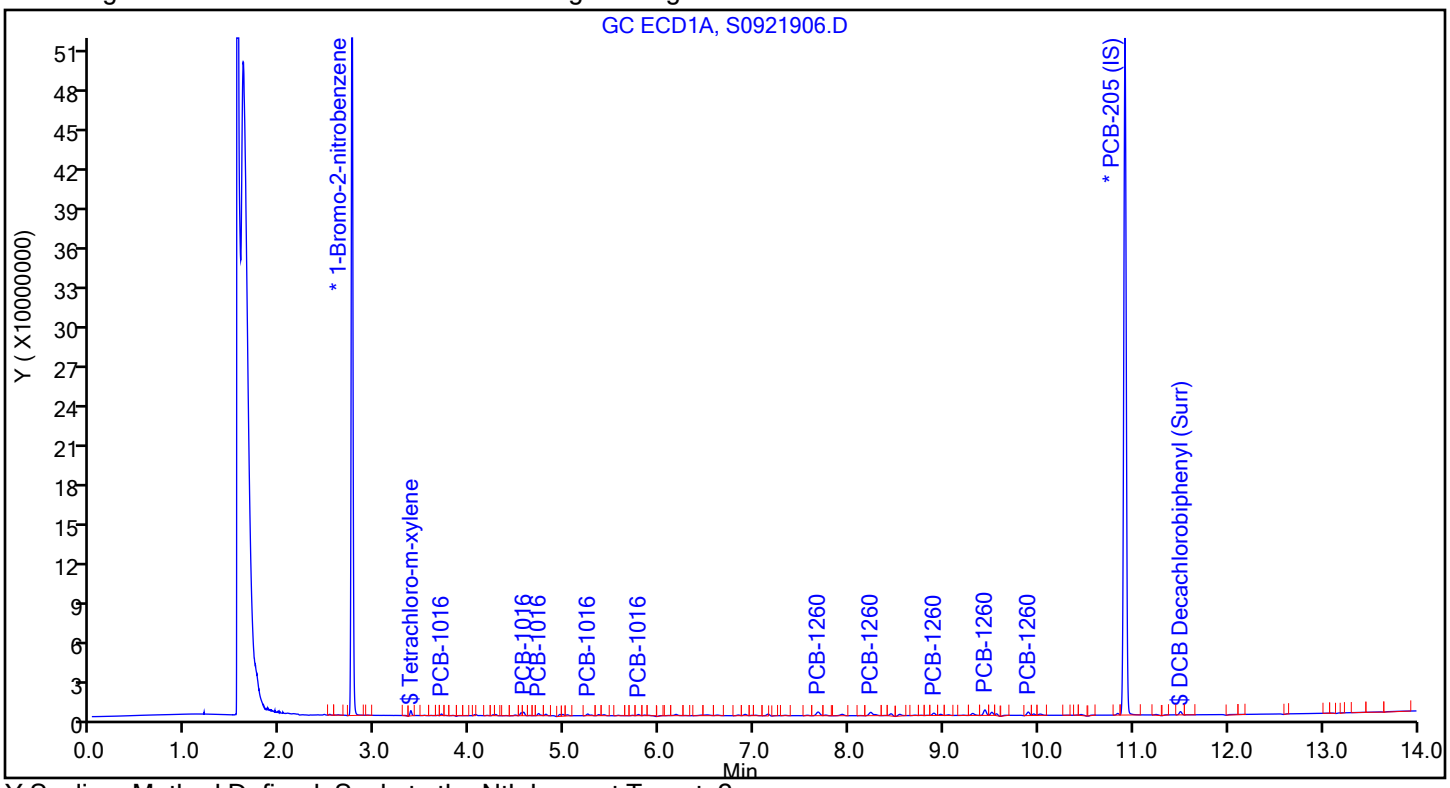

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

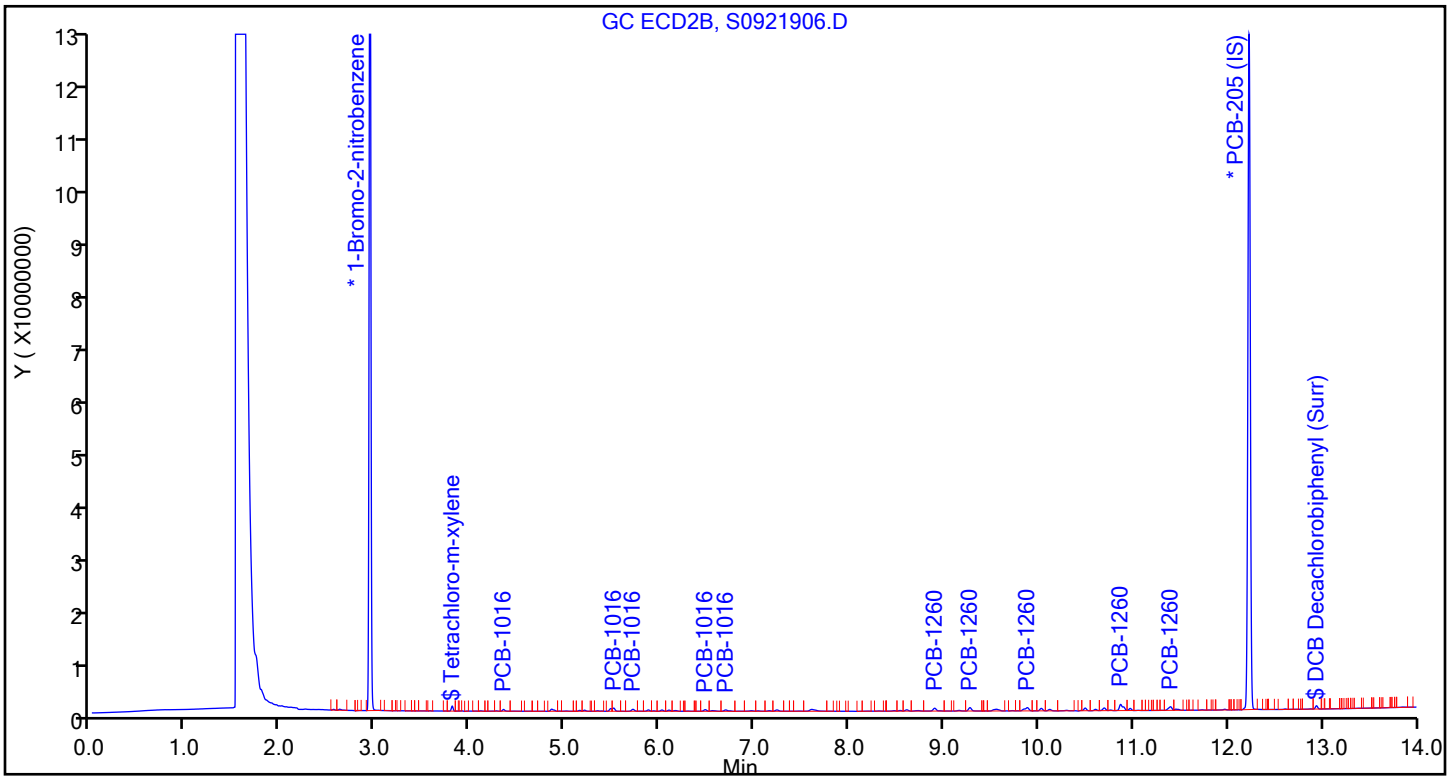

Report Date: 23-Sep-2019 06:50:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921906.D				
Injection Date:	21-Sep-2019 09:45:33	Instrument ID:	CHGC10		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		
Column:		Detector	GC ECD2B		

6 PCB-1016, CAS: 12674-11-2

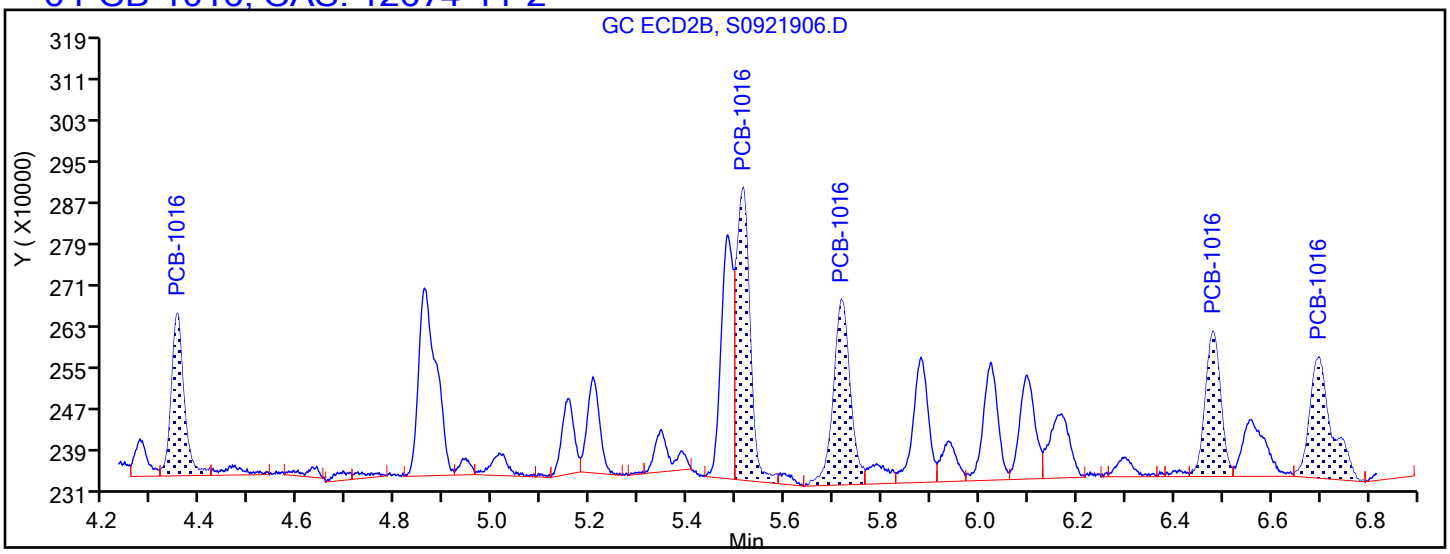

Processing Integration Results

4.350	Response = 313451
5.514	Response = 564768
5.716	Response = 357553
6.481	Response = 280459
6.698	Response = 233976

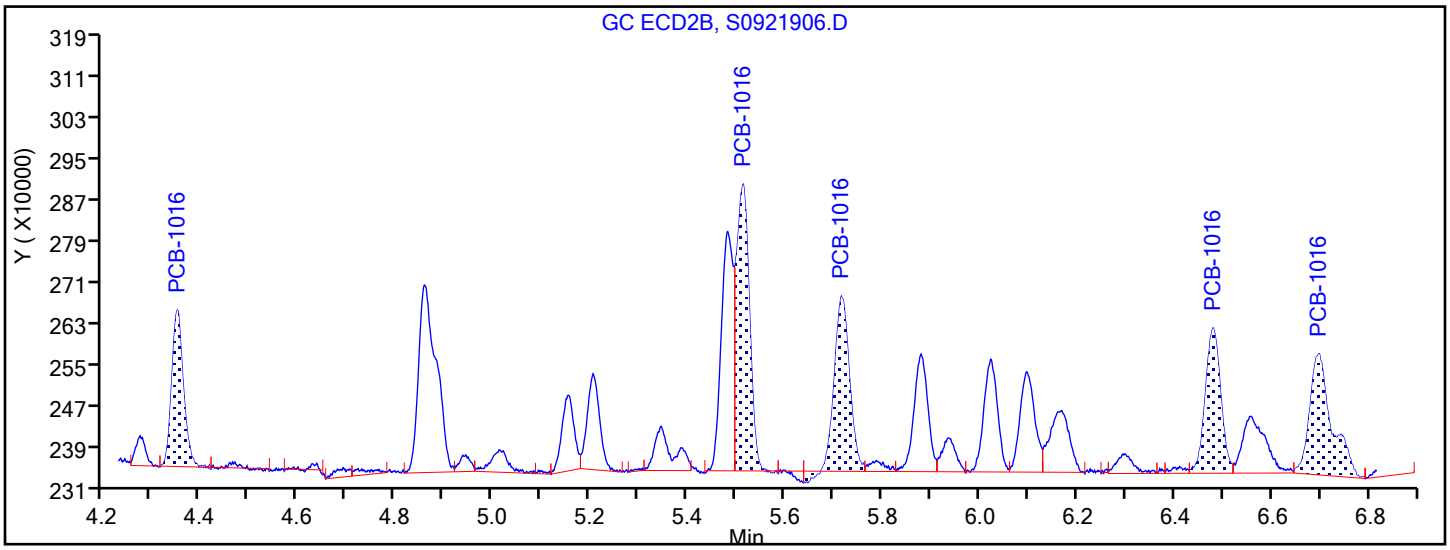

Manual Integration Results

4.350	Response = 301900	M
5.514	Response = 553018	M
5.716	Response = 337551	M
6.481	Response = 280459	
6.698	Response = 233976	

Reviewer: oravecj, 23-Sep-2019 06:42:40

Audit Action: Assigned New Baseline Audit Reason: Instrument noise

Report Date: 23-Sep-2019 06:50:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921906.D				
Injection Date:	21-Sep-2019 09:45:33	Instrument ID:	CHGC10		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		
Column:		Detector	GC ECD2B		

9 PCB-1260, CAS: 11096-82-5

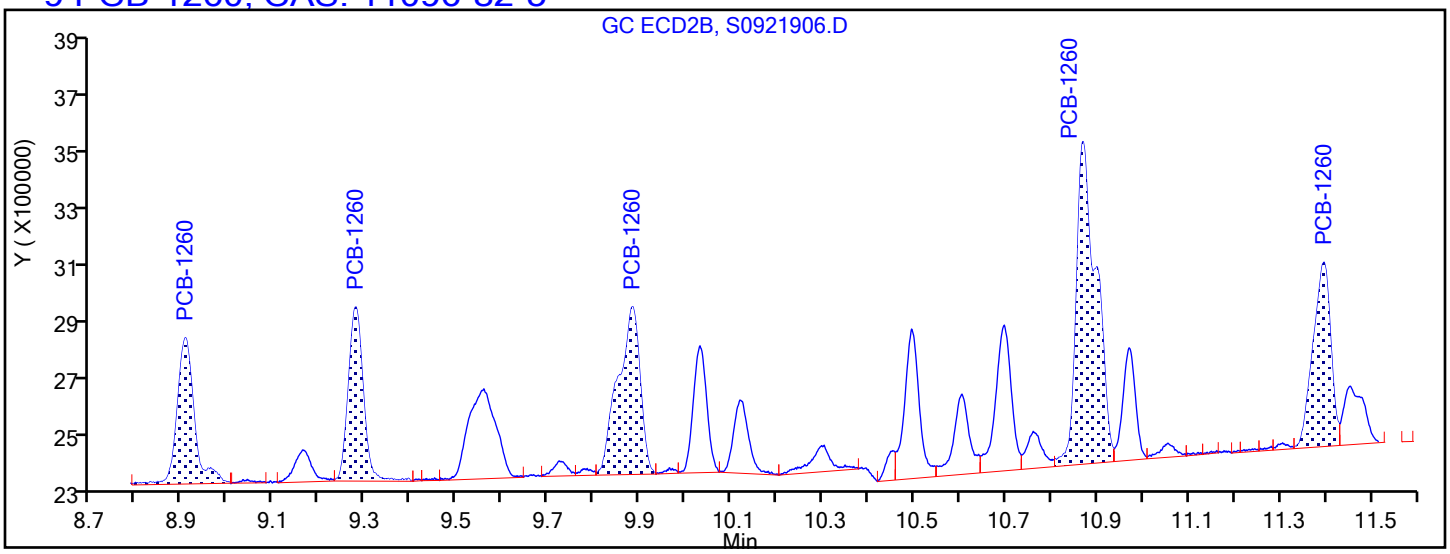

Processing Integration Results

8.905	Response = 497463
9.278	Response = 591928
9.883	Response = 570204
10.869	Response = 1097293
11.397	Response = 626880

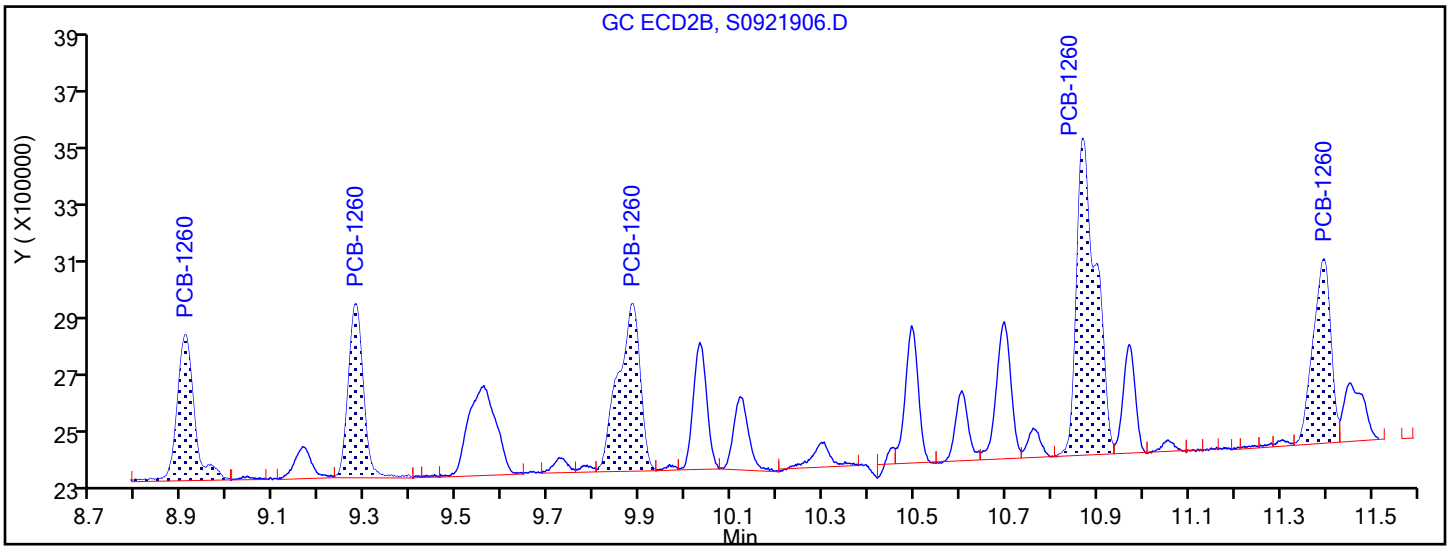

Manual Integration Results

8.905	Response = 497463	
9.278	Response = 591928	
9.883	Response = 570204	
10.869	Response = 1077919	M
11.397	Response = 626880	

Reviewer: oravecj, 23-Sep-2019 06:42:58

Audit Action: Assigned New Baseline Audit Reason: Instrument noise

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921907.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 21-Sep-2019 10:02:42 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-006
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:50:53 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

First Level Reviewer: oravecj Date: 23-Sep-2019 06:42:25

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.742	2.748	-0.006	449092696H	0.1000	0.1000	
2	2.938	2.939	-0.001	139376234H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.362	3.370	-0.008	23879978H	0.005000	0.004485	
2	3.806	3.807	-0.001	5879261H	0.005000	0.004532	
						RPD = 1.03	
6 PCB-1016							M
1	3.685	3.693	-0.008	7757348H	0.1000	0.1057	M
1	4.552	4.562	-0.010	17422255H	0.1000	0.1025	
1	4.710	4.720	-0.010	10274819H	0.1000	0.1062	
1	5.228	5.239	-0.011	8531720H	0.1000	0.1064	
1	5.764	5.775	-0.011	5904816H	0.1000	0.1115	
		Average of Peak Amounts =				0.1065	
2	4.348	4.349	-0.001	1798270H	0.1000	0.1003	
2	5.511	5.514	-0.003	3827127H	0.1000	0.0972	
2	5.715	5.717	-0.002	2248966H	0.1000	0.1001	
2	6.480	6.482	-0.002	1889754H	0.1000	0.1017	
2	6.696	6.698	-0.002	1582660H	0.1000	0.1020	
		Average of Peak Amounts =				0.1003	
						RPD = 5.98	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	7.660	7.672	-0.012	20258773H	0.1000	0.0990	
1	8.215	8.229	-0.014	18330543H	0.1000	0.0978	
1	8.885	8.897	-0.012	13389901H	0.1000	0.1007	
1	9.425	9.435	-0.010	32278171H	0.1000	0.0953	
1	9.884	9.894	-0.010	18120979H	0.1000	0.0961	
		Average of Peak Amounts =				0.0978	
2	8.903	8.905	-0.002	3637378H	0.1000	0.1041	
2	9.275	9.277	-0.002	4635055H	0.1000	0.1056	
2	9.882	9.885	-0.003	4365390H	0.1000	0.1029	
2	10.868	10.870	-0.002	8314936H	0.1000	0.1028	
2	11.396	11.397	-0.001	4741016H	0.1000	0.1031	
		Average of Peak Amounts =				0.1037	
						RPD = 5.90	
* 46 PCB-205 (IS)							
1	10.909	10.916	-0.007	476926570H	0.1000	0.1000	
2	12.225	12.227	-0.002	107577341H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.496	11.502	-0.006	17574289H	0.005000	0.004870	
2	12.938	12.940	-0.002	4231696H	0.005000	0.005214	
						RPD = 6.81	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCAR1660CALL2_00019 Amount Added: 1.00 Units: mL

PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Sep-2019 06:50:54 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921907.D				
Injection Date:	21-Sep-2019 10:02:42	Instrument ID:	CHGC10		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

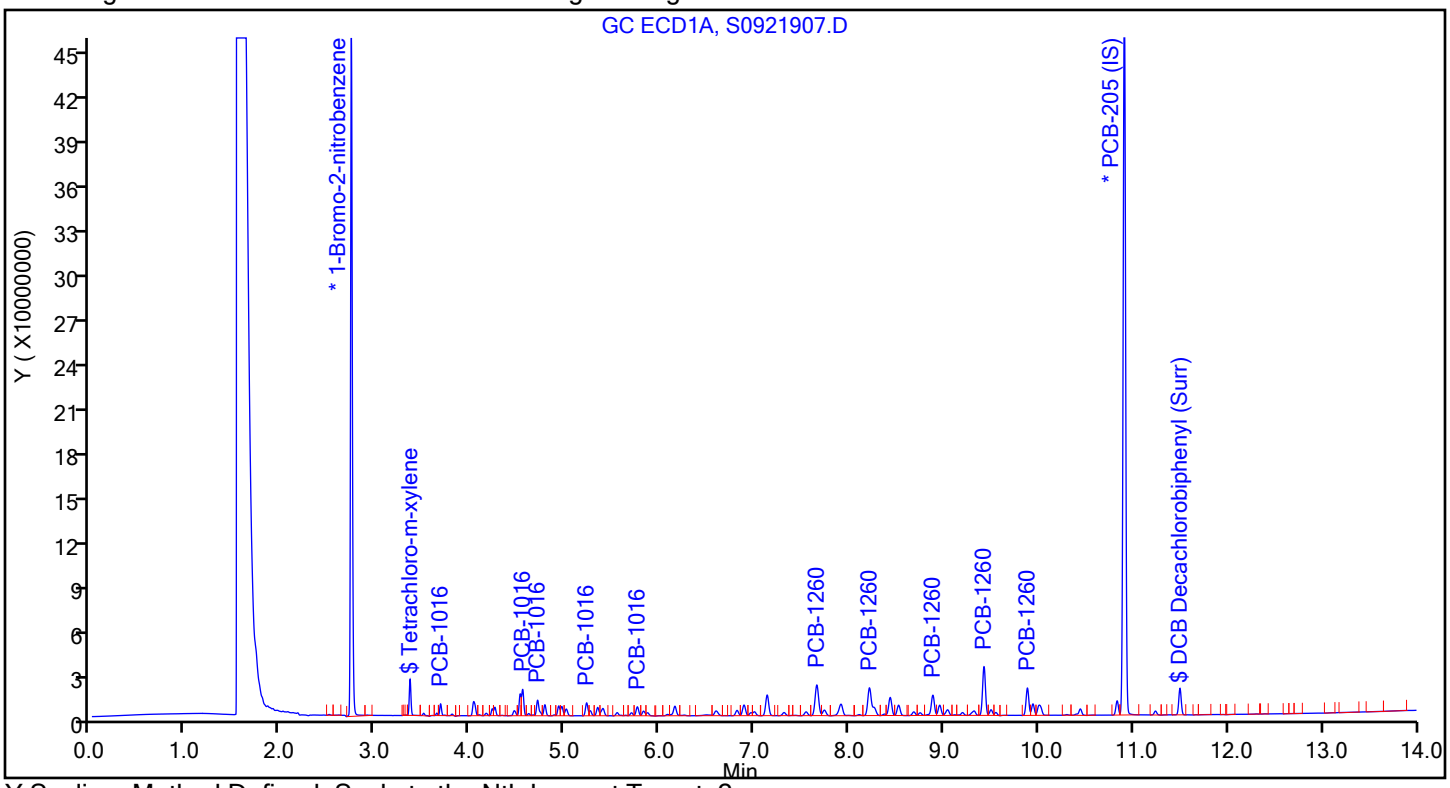

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

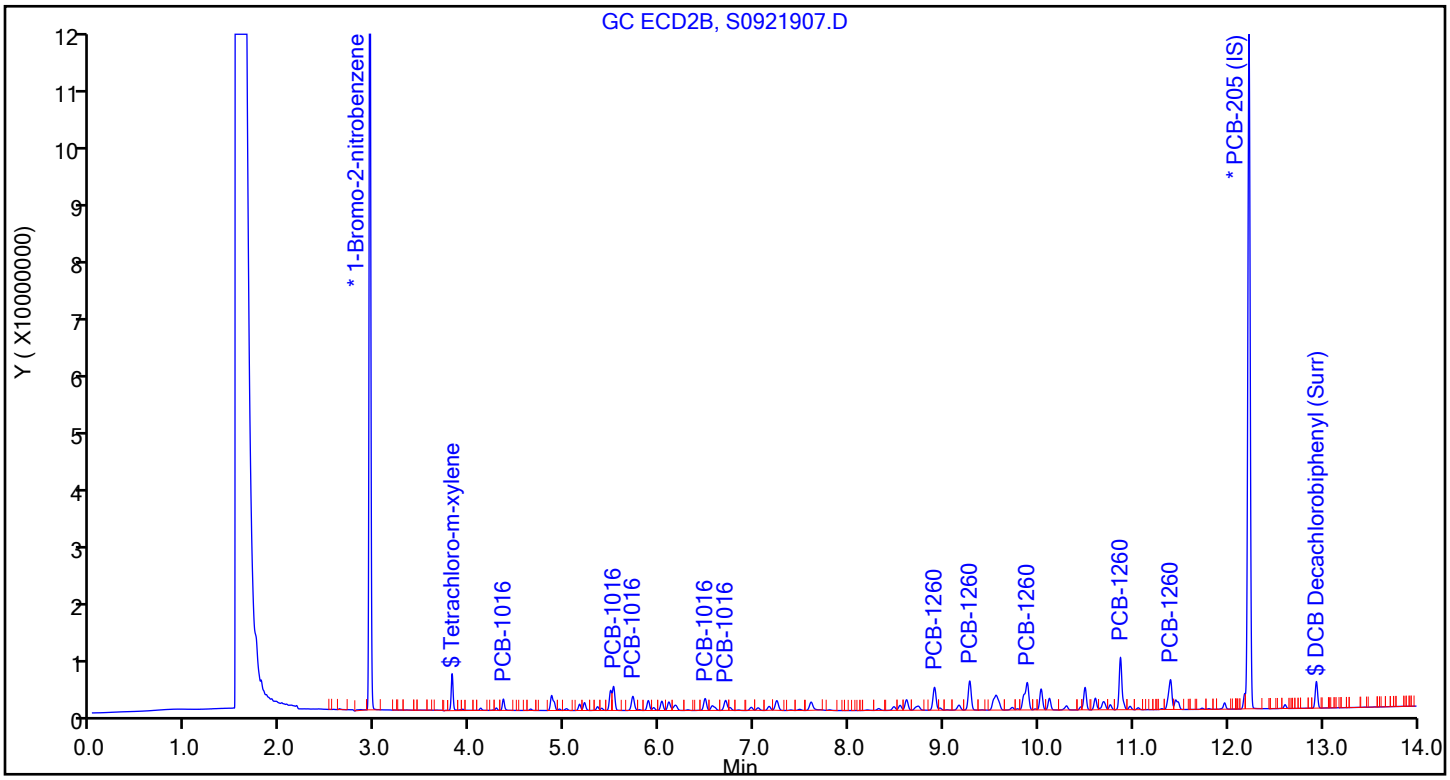

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921908.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 21-Sep-2019 10:23:00 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-007
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:50:50 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.748	2.748	-0.001	485226757H	0.1000	0.1000	
2	2.938	2.939	-0.001	150776360H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.369	3.370	-0.001	68462844H	0.0125	0.0119	
2	3.807	3.807	0.000	17364877H	0.0125	0.0124	
						RPD = 3.88	
6 PCB-1016							
1	3.693	3.693	0.000	19465012H	0.2500	0.2454	
1	4.561	4.562	-0.001	42870814H	0.2500	0.2333	
1	4.719	4.720	-0.001	24095778H	0.2500	0.2305	
1	5.239	5.239	0.000	20495624H	0.2500	0.2366	
1	5.775	5.775	0.000	13300023H	0.2500	0.2325	
		Average of Peak Amounts =				0.2357	
2	4.348	4.349	-0.001	4846849H	0.2500	0.2500	
2	5.513	5.514	-0.001	10609096H	0.2500	0.2491	
2	5.717	5.717	0.000	6125446H	0.2500	0.2520	
2	6.481	6.482	-0.001	4982408H	0.2500	0.2480	
2	6.698	6.698	0.000	4150037H	0.2500	0.2472	
		Average of Peak Amounts =				0.2492	
						RPD = 5.60	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	7.673	7.672	0.001	45464608H	0.2500	0.2312	
1	8.227	8.229	-0.002	41516910H	0.2500	0.2305	
1	8.896	8.897	-0.001	29204098H	0.2500	0.2285	
1	9.434	9.435	-0.001	75955835H	0.2500	0.2334	
1	9.893	9.894	-0.001	40995963H	0.2500	0.2263	
		Average of Peak Amounts =				0.2300	
2	8.904	8.905	-0.001	8779289H	0.2500	0.2427	
2	9.277	9.277	0.000	10972709H	0.2500	0.2415	
2	9.883	9.885	-0.002	10380019H	0.2500	0.2365	
2	10.869	10.870	-0.001	20082780H	0.2500	0.2398	
2	11.398	11.397	0.001	11525990H	0.2500	0.2422	
		Average of Peak Amounts =				0.2405	
						RPD = 4.48	
* 46 PCB-205 (IS)							
1	10.914	10.916	-0.001	458191075H	0.1000	0.1000	
2	12.227	12.227	-0.001	111349161H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.502	11.502	0.000	40763898H	0.0125	0.0118	
2	12.938	12.940	-0.002	10191748H	0.0125	0.0121	
						RPD = 3.12	

Reagents:

GCAR1660CALL3_00018	Amount Added: 1.00	Units: mL	
PCBINT_00010	Amount Added: 0.01	Units: mL	Run Reagent

Report Date: 23-Sep-2019 06:50:50 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921908.D				
Injection Date:	21-Sep-2019 10:23:00	Instrument ID:	CHGC10		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

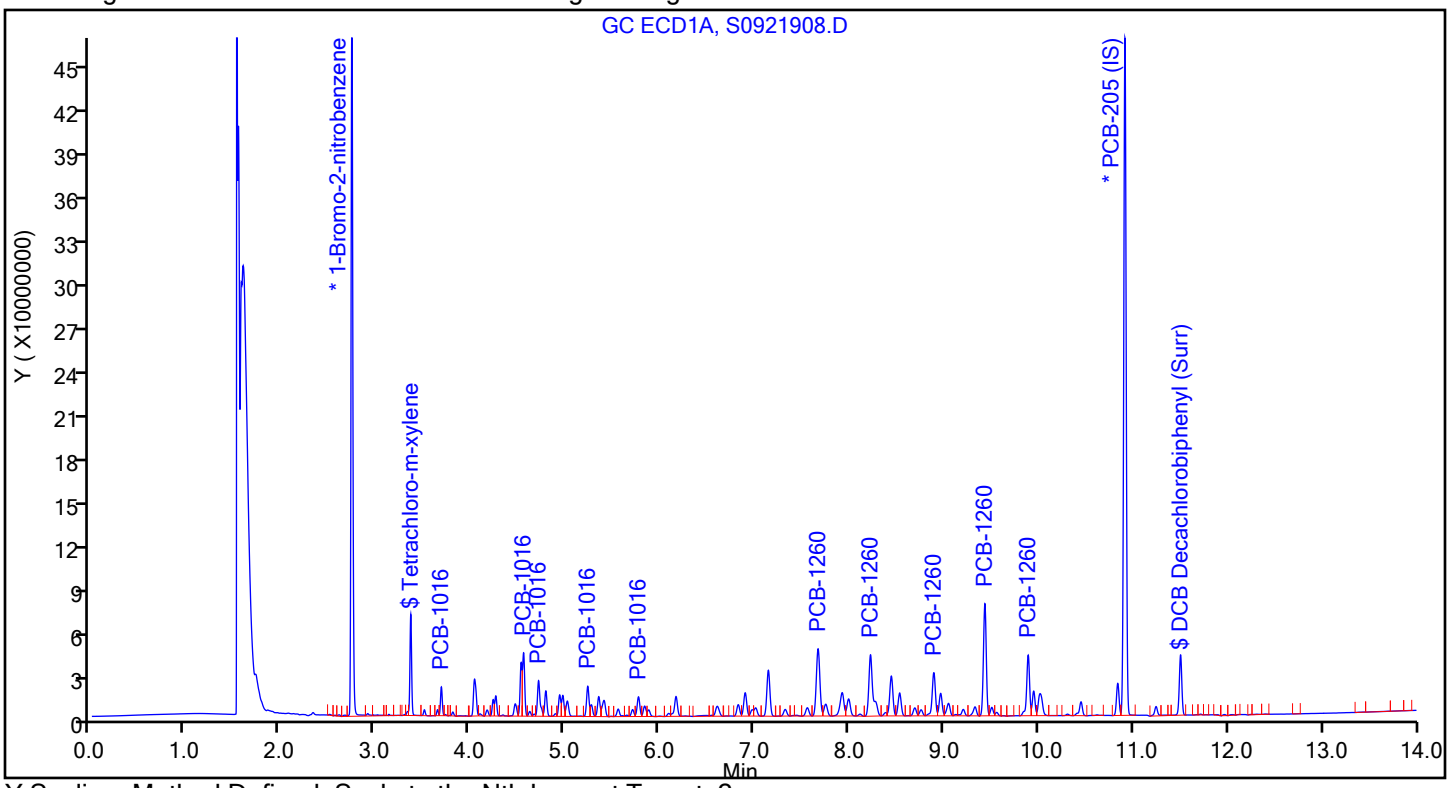

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

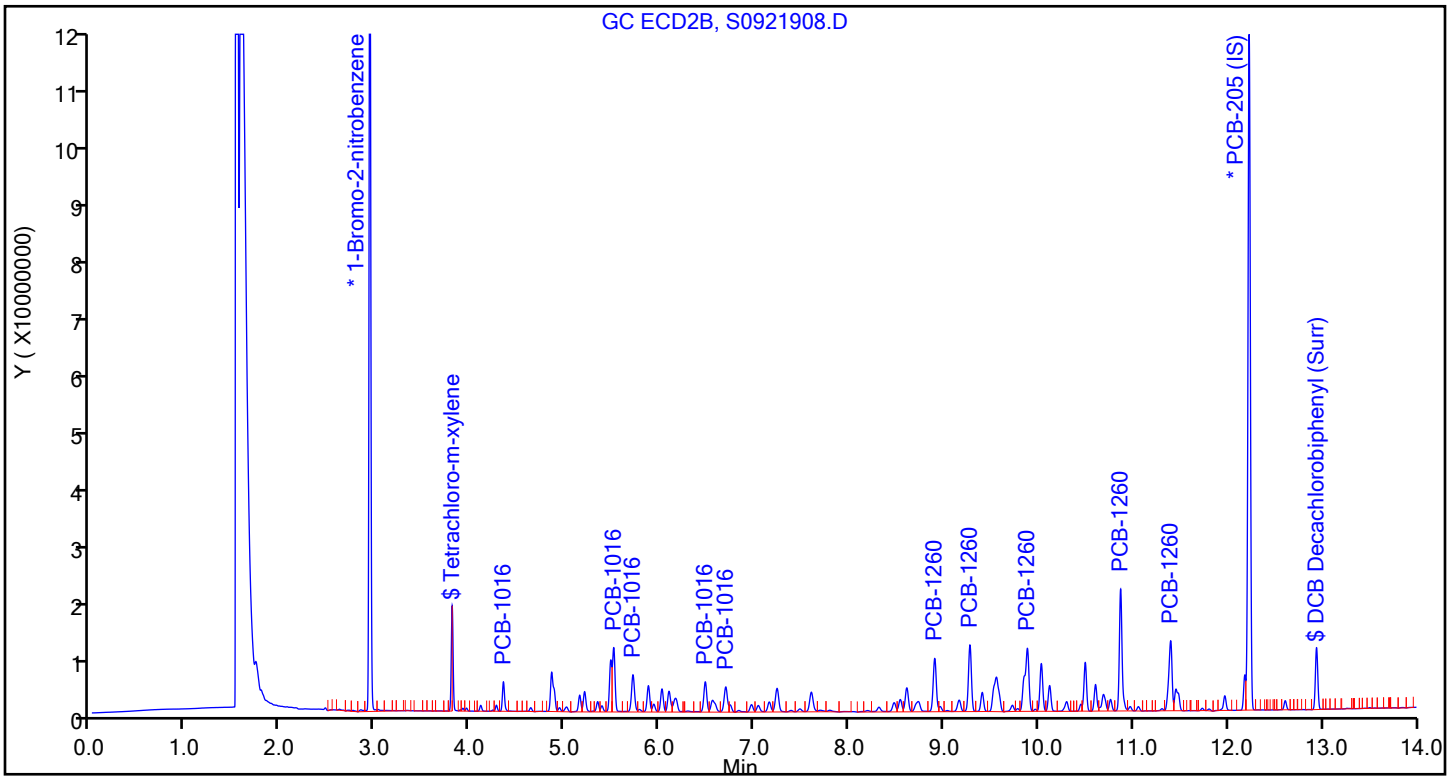

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921909.D
Lims ID: ICIS
Client ID:
Sample Type: ICIS Calib Level: 4
Inject. Date: 21-Sep-2019 10:43:16 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-008
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:50:46 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

First Level Reviewer: oravecj Date: 23-Sep-2019 06:40:31

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.748	2.748	0.000	511889197H	0.1000	0.1000	
2	2.939	2.939	0.000	164036125H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.370	3.370	0.000	157929430H	0.0250	0.0260	
2	3.807	3.807	0.000	38452543H	0.0250	0.0252	
						RPD = 3.28	
6 PCB-1016							
1	3.693	3.693	0.000	43011355H	0.5000	0.5140	
1	4.562	4.562	0.000	101479442H	0.5000	0.5236	
1	4.720	4.720	0.000	57484278H	0.5000	0.5213	
1	5.239	5.239	0.000	46231346H	0.5000	0.5058	
1	5.775	5.775	0.000	30588902H	0.5000	0.5069	
		Average of Peak Amounts =				0.5143	
2	4.349	4.349	0.000	10165005H	0.5000	0.4819	
2	5.514	5.514	0.000	22851496H	0.5000	0.4932	
2	5.717	5.717	0.000	12789537H	0.5000	0.4836	
2	6.482	6.482	0.000	10512408H	0.5000	0.4809	
2	6.698	6.698	0.000	8744313H	0.5000	0.4787	
		Average of Peak Amounts =				0.4837	
						RPD = 6.14	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	7.672	7.672	0.000	103793343H	0.5000	0.5013	
1	8.229	8.229	0.000	95246941H	0.5000	0.5021	
1	8.897	8.897	0.000	67078533H	0.5000	0.4985	
1	9.435	9.435	0.000	169586422H	0.5000	0.4949	
1	9.894	9.894	0.000	91397085H	0.5000	0.4790	
		Average of Peak Amounts =				0.4952	
2	8.905	8.905	0.000	18883129H	0.5000	0.5053	
2	9.277	9.277	0.000	23983861H	0.5000	0.5111	
2	9.885	9.885	0.000	23177185H	0.5000	0.5112	
2	10.870	10.870	0.000	43162891H	0.5000	0.4990	
2	11.397	11.397	0.000	23906070H	0.5000	0.4863	
		Average of Peak Amounts =				0.5025	
						RPD = 1.48	
* 46 PCB-205 (IS)							
1	10.916	10.916	0.000	482499706H	0.1000	0.1000	
2	12.227	12.227	0.000	115027624H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.502	11.502	0.000	84996667H	0.0250	0.0233	
2	12.940	12.940	0.000	20461165H	0.0250	0.0236	
						RPD = 1.26	

Reagents:

GCAR1660CALL4_00019 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Sep-2019 06:50:47 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921909.D

Injection Date: 21-Sep-2019 10:43:16 Instrument ID: CHGC10

Lims ID: ICIS

Client ID:

Operator ID: ALS Bottle#: 8 Worklist Smp#: 8

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

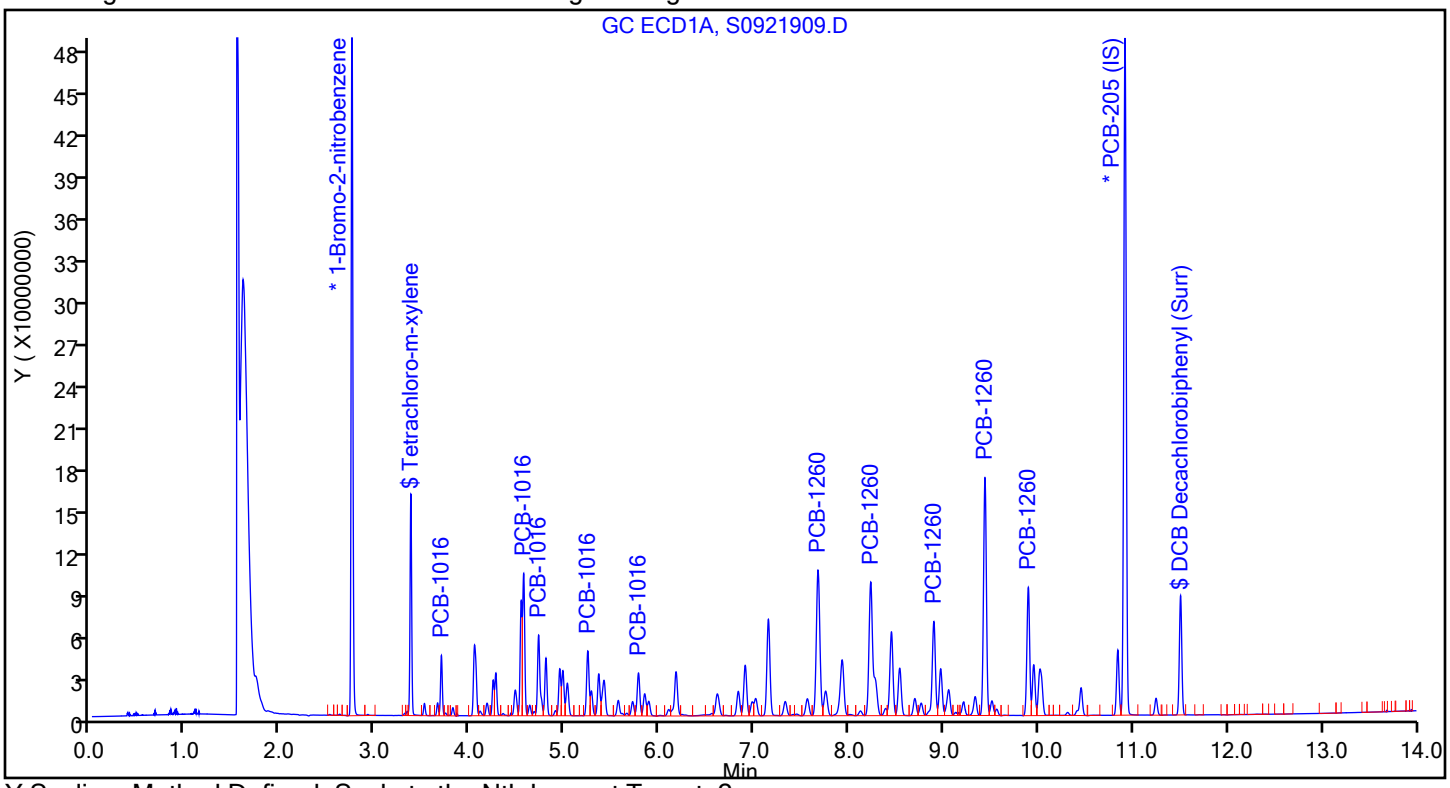

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

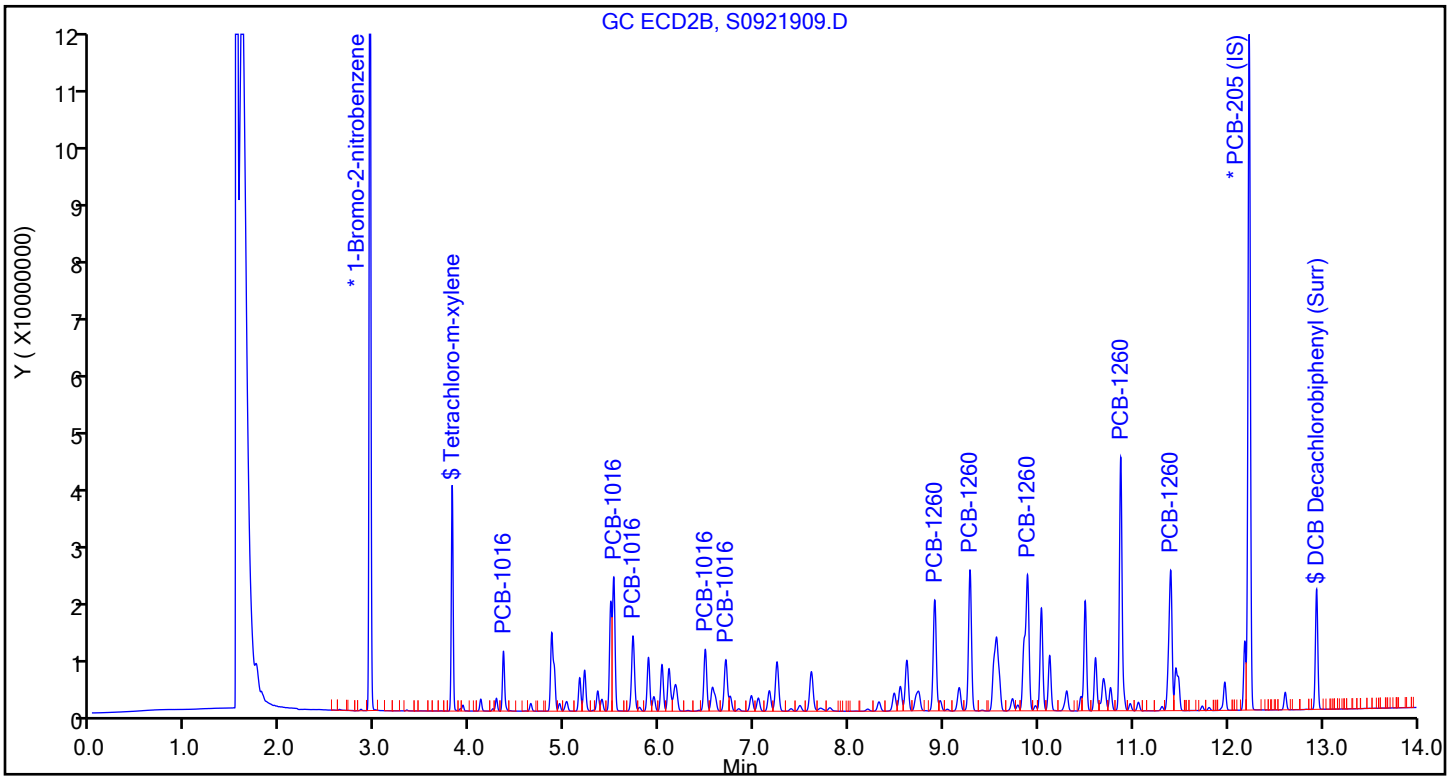

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921910.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 21-Sep-2019 11:03:44 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-009
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:50:42 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.747	2.748	-0.001	486898373H	0.1000	0.1000	
2	2.937	2.939	-0.002	145147868H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.370	3.370	0.000	265426609H	0.0500	0.0460	
2	3.806	3.807	-0.001	62757427H	0.0500	0.0464	
						RPD = 1.01	
6 PCB-1016							
1	3.693	3.693	0.000	68984311H	1.00	0.8667	
1	4.561	4.562	-0.001	169029996H	1.00	0.9169	
1	4.720	4.720	0.000	94293443H	1.00	0.8991	
1	5.239	5.239	0.000	79194729H	1.00	0.9109	
1	5.775	5.775	0.000	51382965H	1.00	0.8952	
		Average of Peak Amounts =				0.8977	
2	4.348	4.349	-0.001	16125319H	1.00	0.8640	
2	5.513	5.514	-0.001	38172898H	1.00	0.9311	
2	5.716	5.717	-0.001	21055775H	1.00	0.8997	
2	6.480	6.482	-0.002	17224077H	1.00	0.8905	
2	6.697	6.698	-0.001	14577808H	1.00	0.9020	
		Average of Peak Amounts =				0.8975	
						RPD = 0.03	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	7.673	7.672	0.001	184837813H	1.00	0.8914	
1	8.228	8.229	-0.001	171393567H	1.00	0.9022	
1	8.896	8.897	-0.001	121602077H	1.00	0.9023	
1	9.436	9.435	0.001	311148205H	1.00	0.9066	
1	9.893	9.894	-0.001	168964818H	1.00	0.8842	
		Average of Peak Amounts =				0.8973	
2	8.905	8.905	0.000	32695592H	1.00	0.8626	
2	9.276	9.277	-0.001	41407640H	1.00	0.8700	
2	9.884	9.885	-0.001	40753408H	1.00	0.8862	
2	10.869	10.870	-0.001	79749385H	1.00	0.9090	
2	11.397	11.397	0.000	44620675H	1.00	0.8949	
		Average of Peak Amounts =				0.8845	
						RPD = 1.44	
* 46 PCB-205 (IS)							
1	10.915	10.916	0.000	483249465H	0.1000	0.1000	
2	12.226	12.227	-0.001	116660848H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.502	11.502	0.000	159625471H	0.0500	0.0437	
2	12.940	12.940	0.000	38543080H	0.0500	0.0438	
						RPD = 0.30	

Reagents:

GCAR1660CALL5_00019	Amount Added: 1.00	Units: mL	
PCBINT_00010	Amount Added: 0.01	Units: mL	Run Reagent

Report Date: 23-Sep-2019 06:50:43 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921910.D

Injection Date: 21-Sep-2019 11:03:44 Instrument ID: CHGC10

Lims ID: IC

Client ID:

Operator ID: ALS Bottle#: 9 Worklist Smp#: 9

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

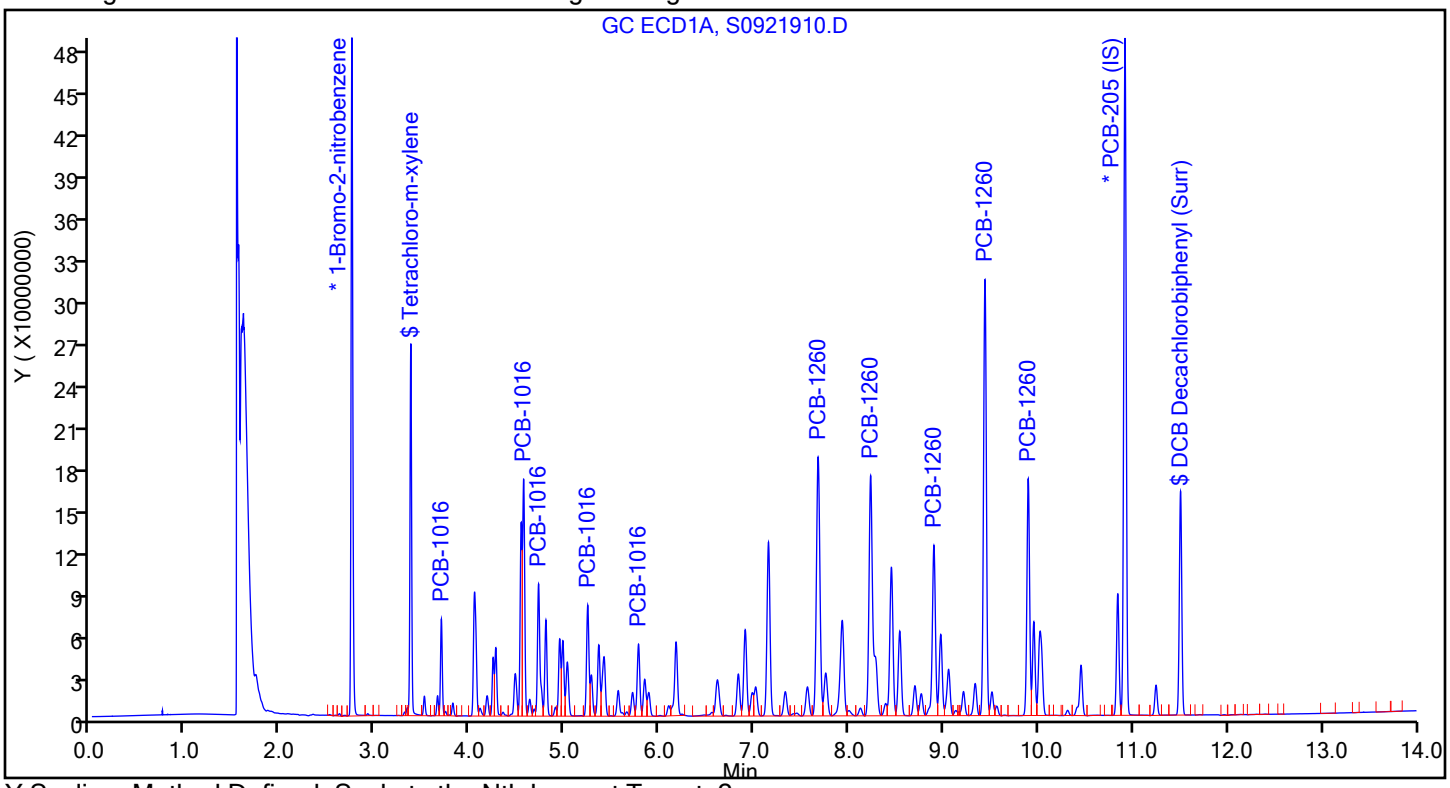

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

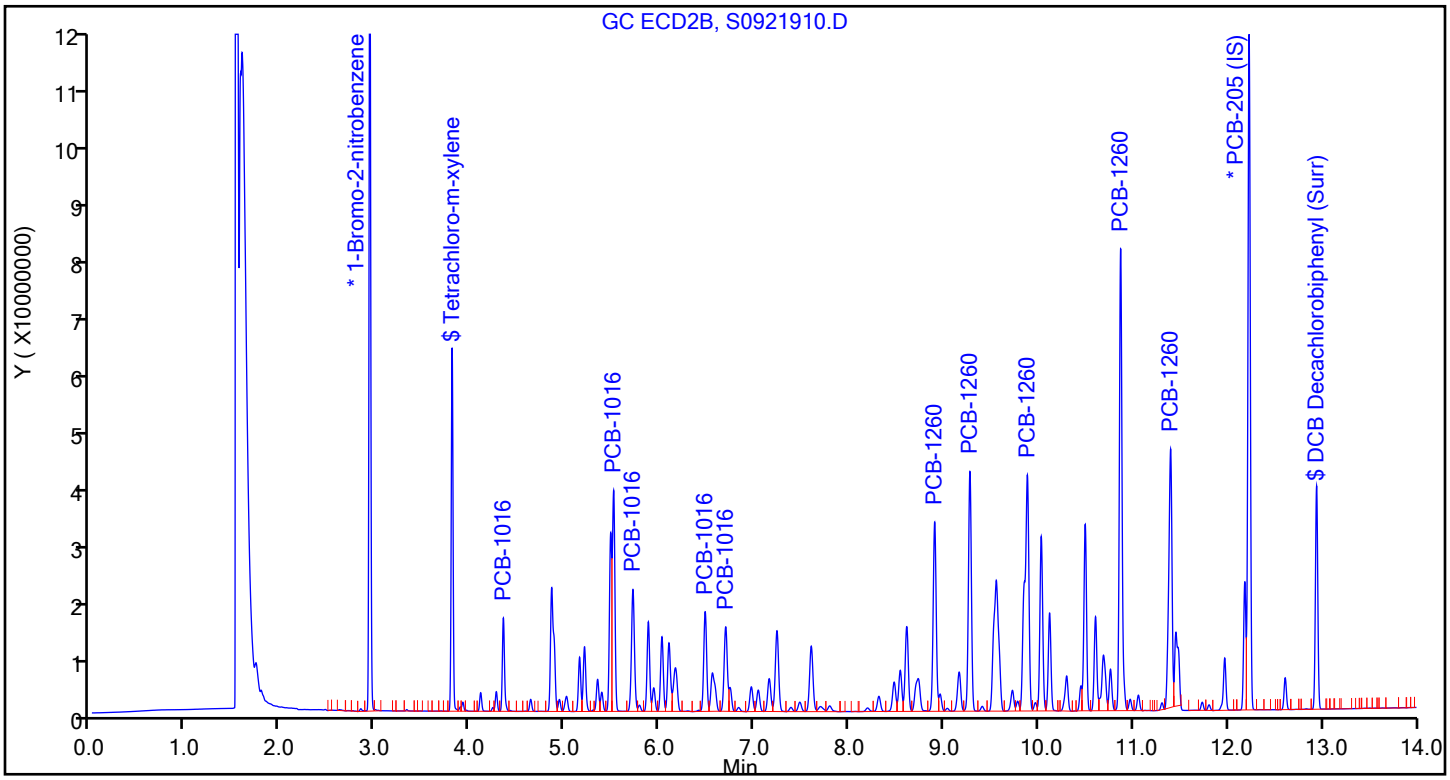

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921911.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 21-Sep-2019 11:24:03 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-010
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:50:38 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.747	2.748	-0.001	531073284H	0.1000	0.1000	
2	2.936	2.939	-0.003	147624344H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.370	3.370	0.000	593197064H	0.1000	0.0942	
2	3.805	3.807	-0.002	136871204H	0.1000	0.0996	
						RPD = 5.56	
6 PCB-1016							
1	3.693	3.693	0.000	146478286H	2.00	1.69	
1	4.560	4.562	-0.002	357879738H	2.00	1.78	
1	4.720	4.720	0.000	194331631H	2.00	1.70	
1	5.239	5.239	0.000	165919737H	2.00	1.75	
1	5.775	5.775	0.000	105686964H	2.00	1.69	
		Average of Peak Amounts =				1.72	
2	4.347	4.349	-0.002	33543708H	2.00	1.77	
2	5.512	5.514	-0.002	81726863H	2.00	1.96	
2	5.715	5.717	-0.002	44974420H	2.00	1.89	
2	6.479	6.482	-0.003	37447080H	2.00	1.90	
2	6.695	6.698	-0.003	31120155H	2.00	1.89	
		Average of Peak Amounts =				1.88	
						RPD = 8.99	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	7.671	7.672	-0.001	373471781H	2.00	1.98	
1	8.228	8.229	-0.001	335362989H	2.00	1.94	
1	8.896	8.897	-0.001	239780330H	2.00	1.96	
1	9.436	9.435	0.001	645052703H	2.00	2.07	
1	9.893	9.894	-0.001	343286798H	2.00	1.98	
		Average of Peak Amounts =				1.99	
2	8.904	8.905	-0.001	67625733H	2.00	1.80	
2	9.276	9.277	-0.001	87761388H	2.00	1.86	
2	9.883	9.885	-0.002	85146647H	2.00	1.87	
2	10.869	10.870	-0.001	157781207H	2.00	1.82	
2	11.397	11.397	0.000	91045846H	2.00	1.85	
		Average of Peak Amounts =				1.84	
						RPD = 7.63	
* 46 PCB-205 (IS)							
1	10.915	10.916	0.000	438806448H	0.1000	0.1000	
2	12.227	12.227	0.000	115386234H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.503	11.502	0.001	330247569H	0.1000	0.0995	
2	12.939	12.940	-0.001	78624611H	0.1000	0.0903	
						RPD = 9.65	

Reagents:

GCAR1660CALL6_00017 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Sep-2019 06:50:39 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921911.D

Injection Date: 21-Sep-2019 11:24:03 Instrument ID: CHGC10

Lims ID: IC

Client ID:

Operator ID: ALS Bottle#: 10 Worklist Smp#: 10

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

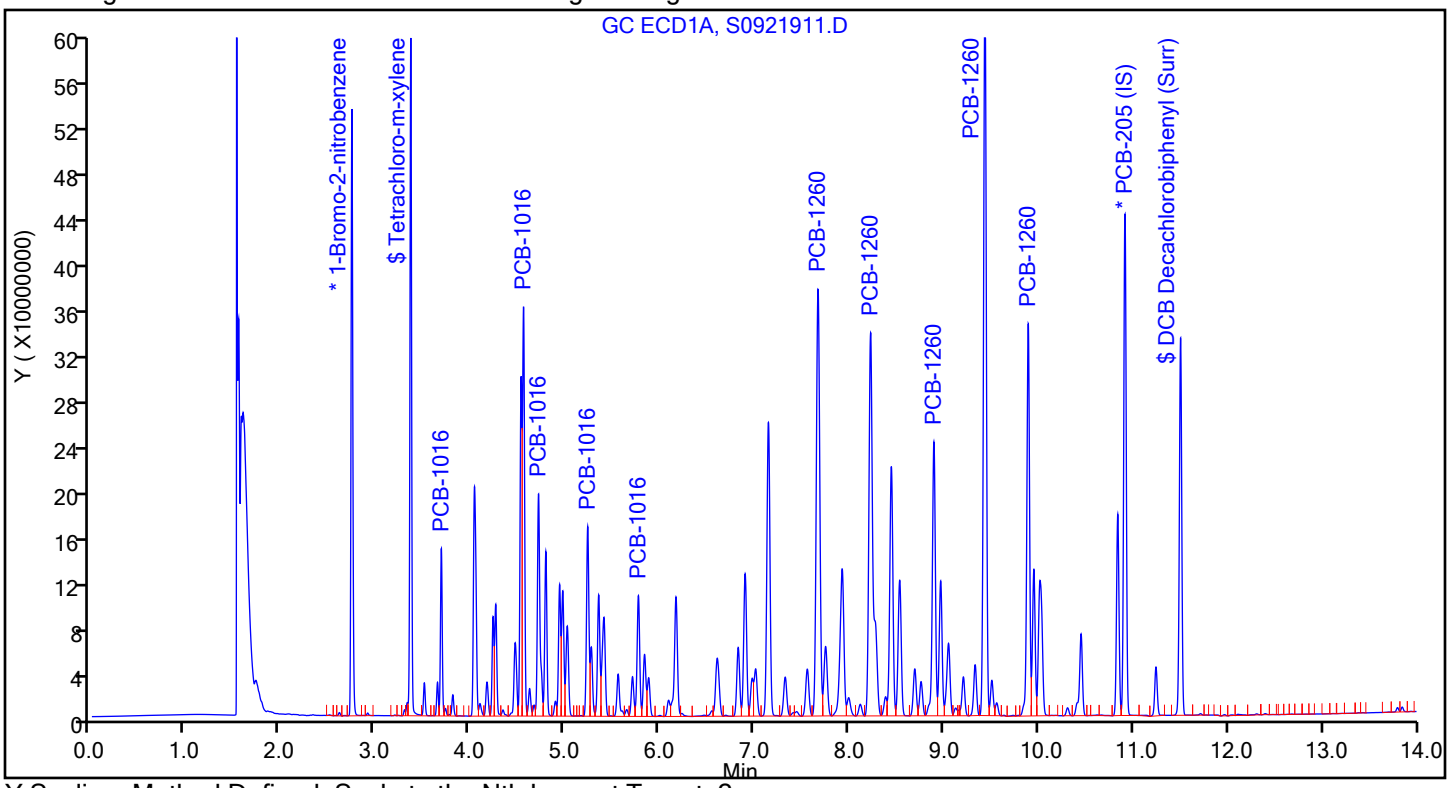

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

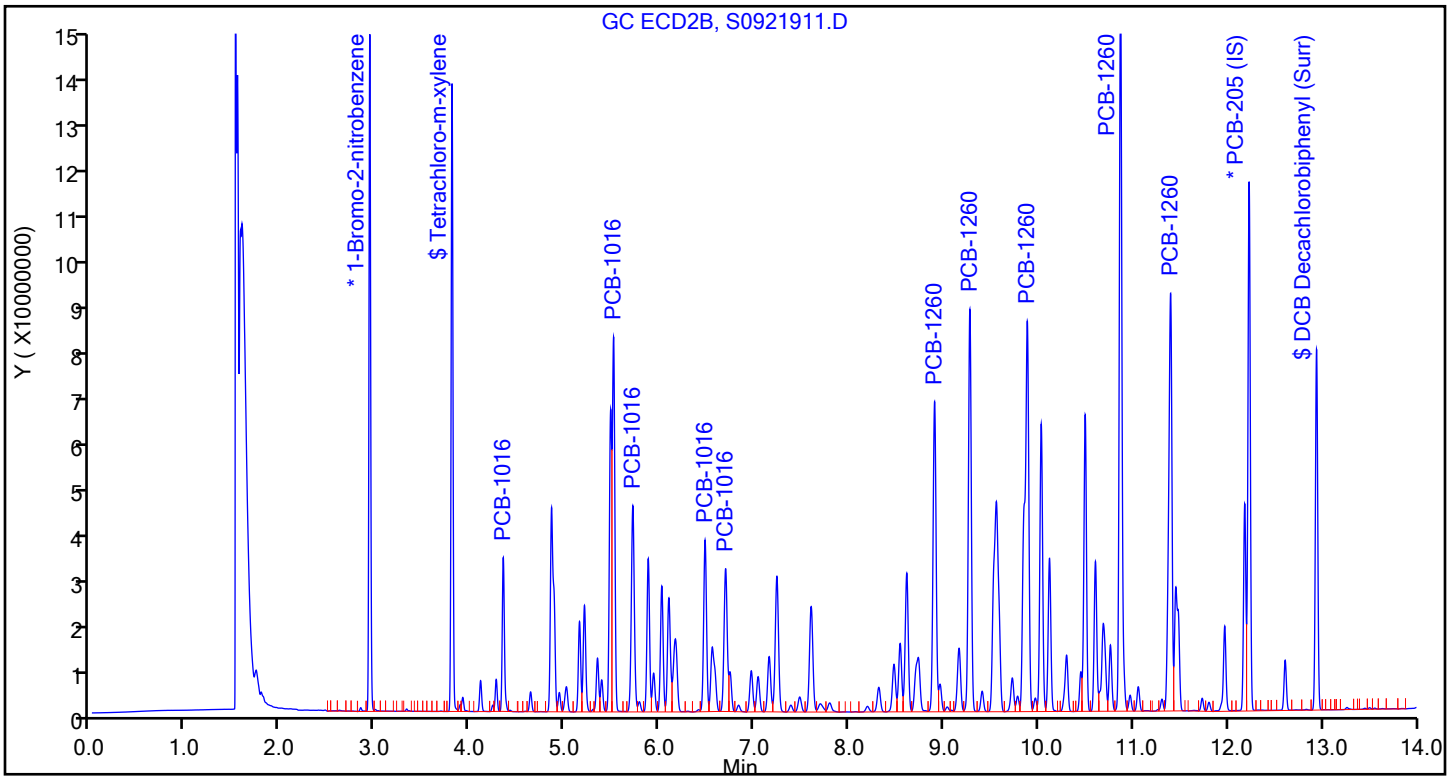

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 21-Sep-2019 11:44:24 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-011
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 06:50:34 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.748	2.748	0.000	484206744H	0.1000	0.1000	
2	2.938	2.939	-0.001	150217241H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.371	3.370	0.001	1265766620H	0.2000	0.2205	
2	3.808	3.807	0.001	291444322H	0.2000	0.2084	
						RPD = 5.63	
6 PCB-1016							
1	3.694	3.693	0.001	297683567H	4.00	3.76	
1	4.563	4.562	0.001	718318050H	4.00	3.92	
1	4.721	4.720	0.001	387398138H	4.00	3.71	
1	5.241	5.239	0.002	331923571H	4.00	3.84	
1	5.777	5.775	0.002	215491843H	4.00	3.77	
		Average of Peak Amounts =				3.80	
2	4.349	4.349	0.000	68504176H	4.00	3.55	
2	5.514	5.514	0.000	164277483H	4.00	3.87	
2	5.718	5.717	0.001	90339652H	4.00	3.73	
2	6.483	6.482	0.001	74715074H	4.00	3.73	
2	6.699	6.698	0.001	62476014H	4.00	3.74	
		Average of Peak Amounts =				3.72	
						RPD = 2.08	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	7.674	7.672	0.002	748697841	H	4.00	3.85
1	8.229	8.229	0.000	701106011	H	4.00	3.94
1	8.897	8.897	0.000	497713780	H	4.00	3.94
1	9.437	9.435	0.002	1358258724	H	4.00	4.22
1	9.895	9.894	0.001	712230375	H	4.00	3.98
		Average of Peak Amounts =					3.99
2	8.906	8.905	0.001	134000871	H	4.00	3.69
2	9.278	9.277	0.001	169648913	H	4.00	3.72
2	9.885	9.885	0.000	169212213	H	4.00	3.84
2	10.871	10.870	0.001	332281068	H	4.00	3.95
2	11.399	11.397	0.002	185906716	H	4.00	3.89
		Average of Peak Amounts =					3.82
						RPD =	4.34
* 46 PCB-205 (IS)							
1	10.917	10.916	0.001	453013003	H	0.1000	0.1000
2	12.229	12.227	0.002	111866344	H	0.1000	0.1000
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.503	11.502	0.001	699680251	H	0.2000	0.2041
2	12.941	12.940	0.001	163998015	H	0.2000	0.1943
						RPD =	4.93

Reagents:

GCAR1660CALL7_00018 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Sep-2019 06:50:35 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Injection Date: 21-Sep-2019 11:44:24 Instrument ID: CHGC10

Lims ID: IC

Client ID:

Operator ID: ALS Bottle#: 11 Worklist Smp#: 11

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

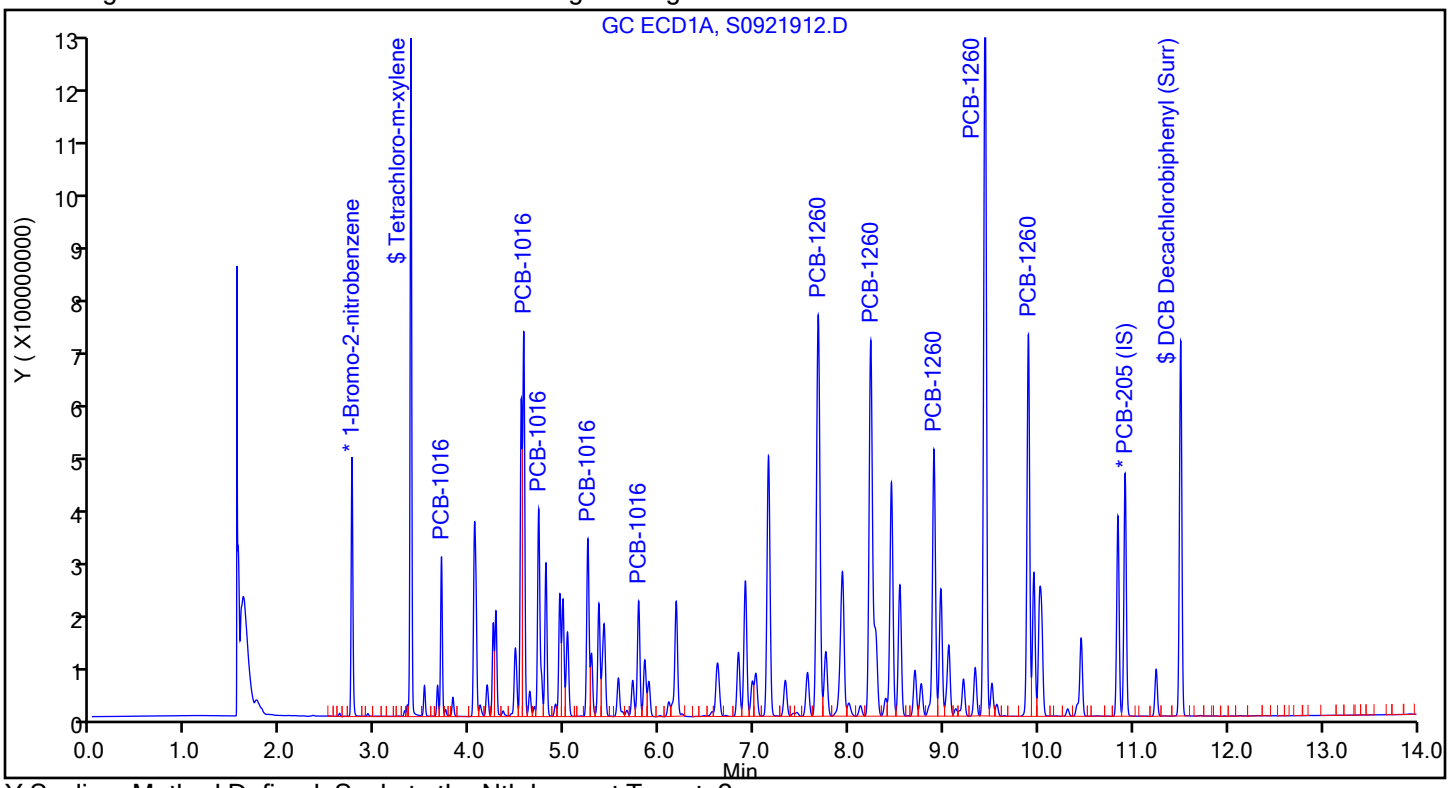

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

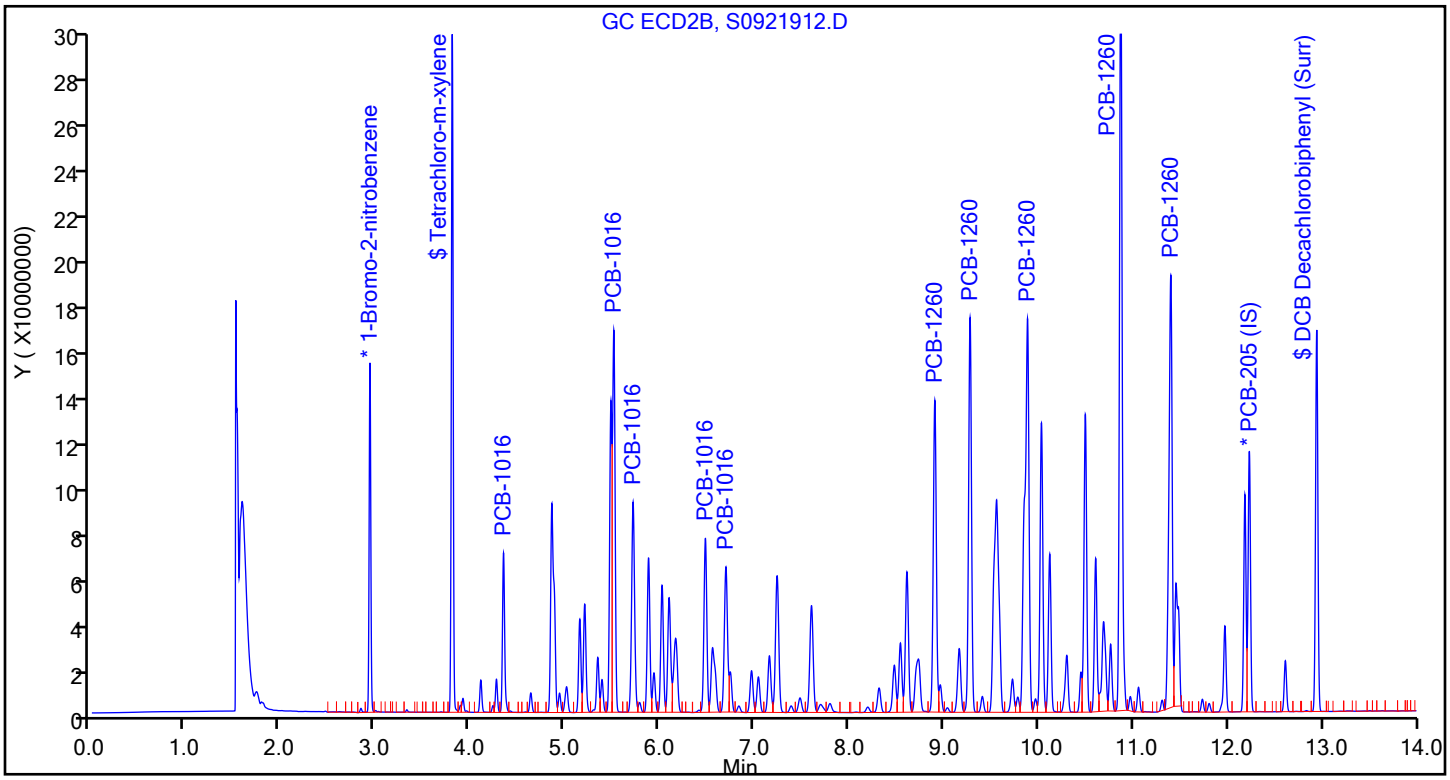

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 180-292146/12 Calibration Date: 09/21/2019 12:04

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 08:24

GC Column: RTX-CLP1 ID: 0.53(mm) Calib End Date: 09/21/2019 08:24

Lab File ID: S0921913.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1221 Peak 1	Ave	0.0128	0.0133		0.519	0.500	3.9	20.0
PCB-1221 Peak 2	Ave	0.0080	0.0083		0.523	0.500	4.6	20.0
PCB-1221 Peak 3	Ave	0.0280	0.0295		0.525	0.500	5.0	20.0
PCB-1254 Peak 1	Ave	0.0284	0.0292		0.513	0.500	2.6	20.0
PCB-1254 Peak 2	Ave	0.0364	0.0372		0.511	0.500	2.3	20.0
PCB-1254 Peak 3	Ave	0.0519	0.0514		0.495	0.500	-0.9	20.0
PCB-1254 Peak 4	Ave	0.0374	0.0371		0.496	0.500	-0.9	20.0
PCB-1254 Peak 5	Ave	0.0293	0.0288		0.490	0.500	-1.9	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 180-292146/12 Calibration Date: 09/21/2019 12:04

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 08:24

GC Column: RTX-CLP1 ID: 0.53(mm) Calib End Date: 09/21/2019 08:24

Lab File ID: S0921913.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1221 Peak 1	3.52	3.49	3.53
PCB-1221 Peak 2	3.65	3.63	3.67
PCB-1221 Peak 3	3.69	3.67	3.71
PCB-1254 Peak 1	5.78	5.75	5.79
PCB-1254 Peak 2	6.17	6.15	6.19
PCB-1254 Peak 3	6.83	6.80	6.84
PCB-1254 Peak 4	7.32	7.30	7.34
PCB-1254 Peak 5	7.68	7.65	7.69

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921913.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 21-Sep-2019 12:04:50 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-012
Operator ID: Instrument ID: CHGC10
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 08:56:45 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

First Level Reviewer: oravecj Date: 23-Sep-2019 06:46:29

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.749	2.748	0.001	500366459H	0.1000	0.1000	
2	2.940	2.939	0.001	162806018H	0.1000	0.1000	
3 PCB-1221							
1	3.516	3.511	0.005	33280311H	0.5000	0.5194	
1	3.654	3.649	0.005	20798139H	0.5000	0.5228	
1	3.694	3.689	0.005	73702848H	0.5000	0.5252	
		Average of Peak Amounts =				0.5225	
2	3.328	3.326	0.002	6002875H	0.5000	0.5085	
2	4.111	4.107	0.004	7924258H	0.5000	0.5025	
2	4.350	4.346	0.004	16231633H	0.5000	0.5026	
		Average of Peak Amounts =				0.5045	
						RPD = 3.49	
8 PCB-1254							
1	5.776	5.770	0.006	72547502H	0.5000	0.5132	
1	6.173	6.166	0.007	92546311H	0.5000	0.5114	
1	6.830	6.824	0.006	127732956H	0.5000	0.4954	
1	7.323	7.317	0.006	92182140H	0.5000	0.4957	
1	7.675	7.669	0.006	71475199H	0.5000	0.4903	
		Average of Peak Amounts =				0.5012	
2	7.238	7.236	0.002	17996351H	0.5000	0.4953	
2	8.542	8.539	0.003	30445823H	0.5000	0.4886	
2	8.963	8.961	0.002	23299025H	0.5000	0.4972	
2	9.573	9.571	0.002	17232557H	0.5000	0.4872	
2	9.886	9.884	0.002	26479006H	0.5000	0.4943	
		Average of Peak Amounts =				0.4925	
						RPD = 1.75	
* 46 PCB-205 (IS)							
1	10.916	10.916	0.000	497036510H	0.1000	0.1000	
2	12.228	12.227	0.001	115194219H	0.1000	0.1000	

Reagents:

GCAR2154ICV_00021	Amount Added:	1.00	Units: mL	
PCBINT_00010	Amount Added:	0.01	Units: mL	Run Reagent

Report Date: 23-Sep-2019 08:57:13 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921913.D				
Injection Date:	21-Sep-2019 12:04:50	Instrument ID:	CHGC10		
Lims ID:	ICV				
Client ID:					
Operator ID:		ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

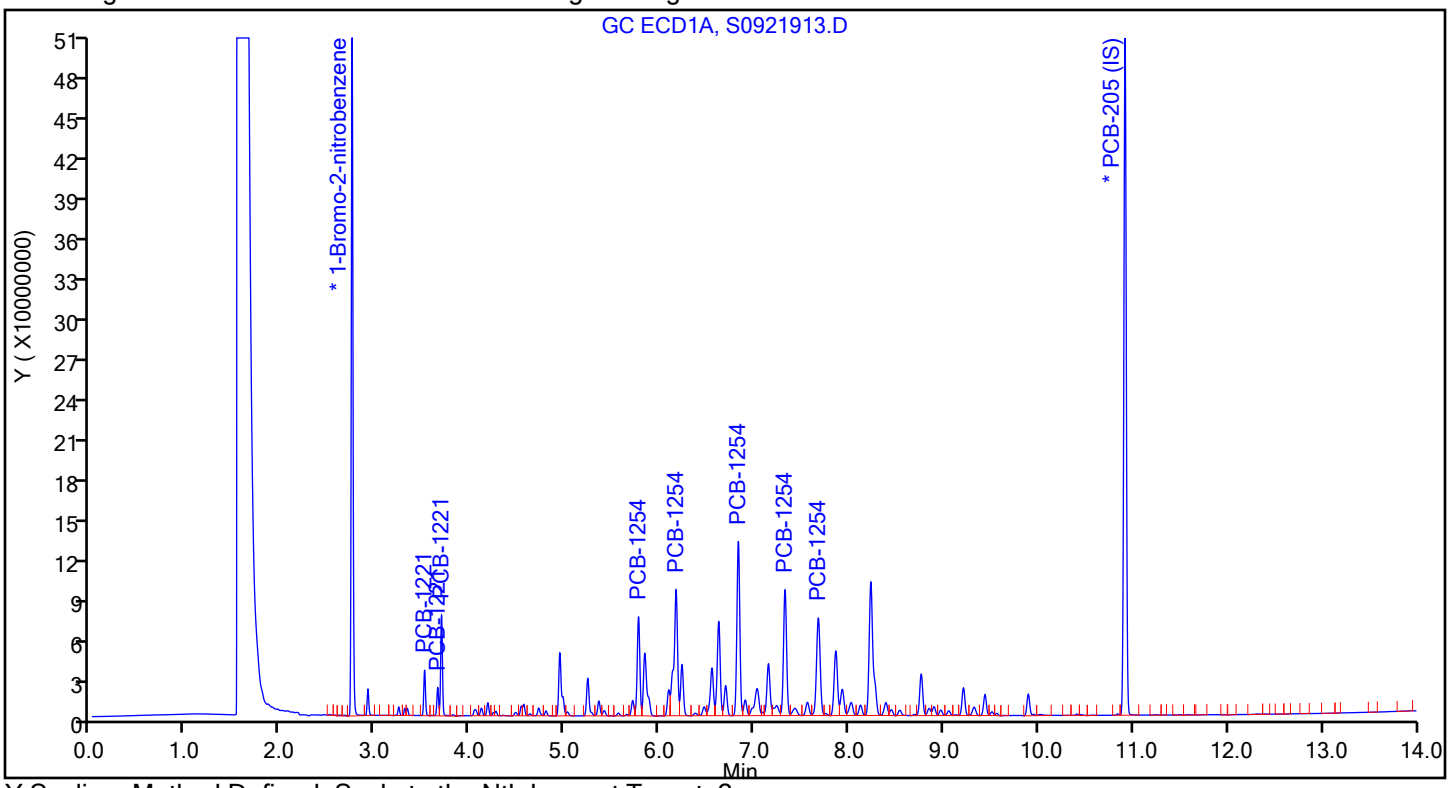

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

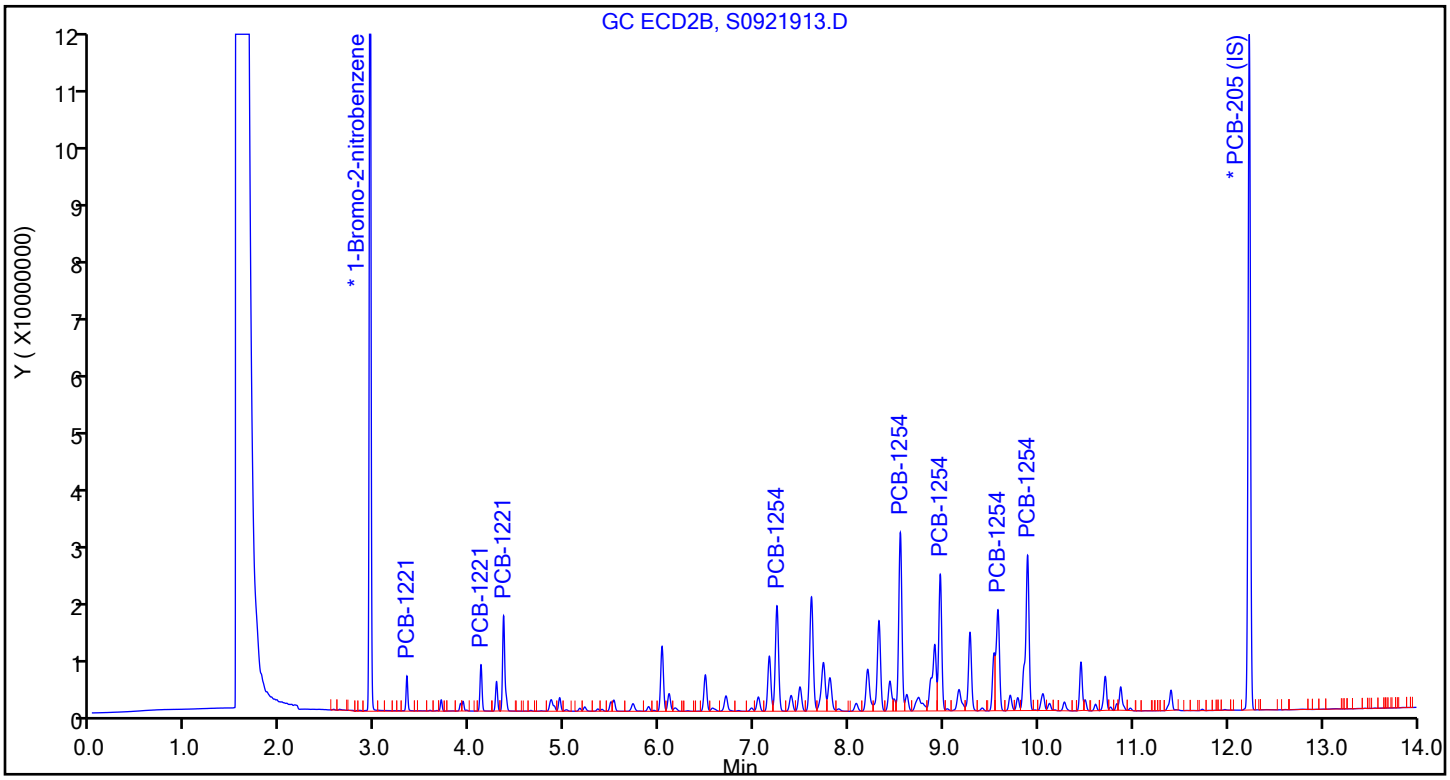

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 180-292146/12 Calibration Date: 09/21/2019 12:04

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 08:24

GC Column: RTX-CLP2 ID: 0.53(mm) Calib End Date: 09/21/2019 08:24

Lab File ID: S0921913.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1221 Peak 1	Ave	0.0073	0.0074		0.508	0.500	1.7	20.0
PCB-1221 Peak 2	Ave	0.0097	0.0097		0.503	0.500	0.5	20.0
PCB-1221 Peak 3	Ave	0.0198	0.0199		0.503	0.500	0.5	20.0
PCB-1254 Peak 1	Ave	0.0315	0.0313		0.495	0.500	-0.9	20.0
PCB-1254 Peak 2	Ave	0.0541	0.0529		0.489	0.500	-2.3	20.0
PCB-1254 Peak 3	Ave	0.0407	0.0405		0.497	0.500	-0.6	20.0
PCB-1254 Peak 4	Ave	0.0307	0.0299		0.487	0.500	-2.6	20.0
PCB-1254 Peak 5	Ave	0.0465	0.0460		0.494	0.500	-1.1	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 180-292146/12 Calibration Date: 09/21/2019 12:04

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 08:24

GC Column: RTX-CLP2 ID: 0.53(mm) Calib End Date: 09/21/2019 08:24

Lab File ID: S0921913.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1221 Peak 1	3.33	3.31	3.35
PCB-1221 Peak 2	4.11	4.09	4.13
PCB-1221 Peak 3	4.35	4.33	4.37
PCB-1254 Peak 1	7.24	7.22	7.26
PCB-1254 Peak 2	8.54	8.52	8.56
PCB-1254 Peak 3	8.96	8.94	8.98
PCB-1254 Peak 4	9.57	9.55	9.59
PCB-1254 Peak 5	9.89	9.86	9.90

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921913.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 21-Sep-2019 12:04:50 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-012
Operator ID: Instrument ID: CHGC10
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 08:56:45 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

First Level Reviewer: oravecj Date: 23-Sep-2019 06:46:29

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.749	2.748	0.001	500366459H	0.1000	0.1000	
2	2.940	2.939	0.001	162806018H	0.1000	0.1000	
3 PCB-1221							
1	3.516	3.511	0.005	33280311H	0.5000	0.5194	
1	3.654	3.649	0.005	20798139H	0.5000	0.5228	
1	3.694	3.689	0.005	73702848H	0.5000	0.5252	
		Average of Peak Amounts =				0.5225	
2	3.328	3.326	0.002	6002875H	0.5000	0.5085	
2	4.111	4.107	0.004	7924258H	0.5000	0.5025	
2	4.350	4.346	0.004	16231633H	0.5000	0.5026	
		Average of Peak Amounts =				0.5045	
						RPD = 3.49	
8 PCB-1254							
1	5.776	5.770	0.006	72547502H	0.5000	0.5132	
1	6.173	6.166	0.007	92546311H	0.5000	0.5114	
1	6.830	6.824	0.006	127732956H	0.5000	0.4954	
1	7.323	7.317	0.006	92182140H	0.5000	0.4957	
1	7.675	7.669	0.006	71475199H	0.5000	0.4903	
		Average of Peak Amounts =				0.5012	
2	7.238	7.236	0.002	17996351H	0.5000	0.4953	
2	8.542	8.539	0.003	30445823H	0.5000	0.4886	
2	8.963	8.961	0.002	23299025H	0.5000	0.4972	
2	9.573	9.571	0.002	17232557H	0.5000	0.4872	
2	9.886	9.884	0.002	26479006H	0.5000	0.4943	
		Average of Peak Amounts =				0.4925	
						RPD = 1.75	
* 46 PCB-205 (IS)							
1	10.916	10.916	0.000	497036510H	0.1000	0.1000	
2	12.228	12.227	0.001	115194219H	0.1000	0.1000	

Reagents:

GCAR2154ICV_00021	Amount Added:	1.00	Units: mL	
PCBINT_00010	Amount Added:	0.01	Units: mL	Run Reagent

Report Date: 23-Sep-2019 08:57:13 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921913.D				
Injection Date:	21-Sep-2019 12:04:50	Instrument ID:	CHGC10		
Lims ID:	ICV				
Client ID:					
Operator ID:		ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

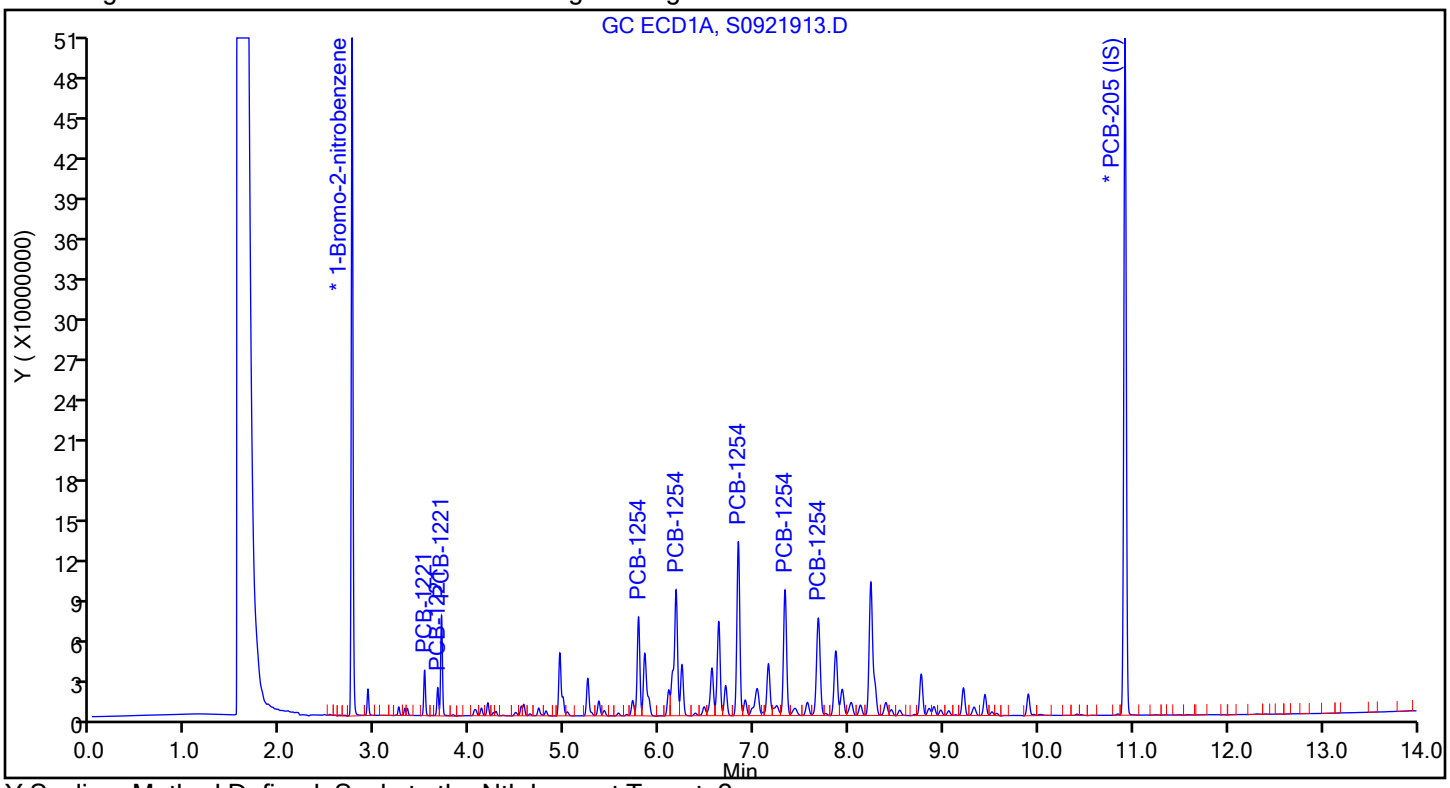

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

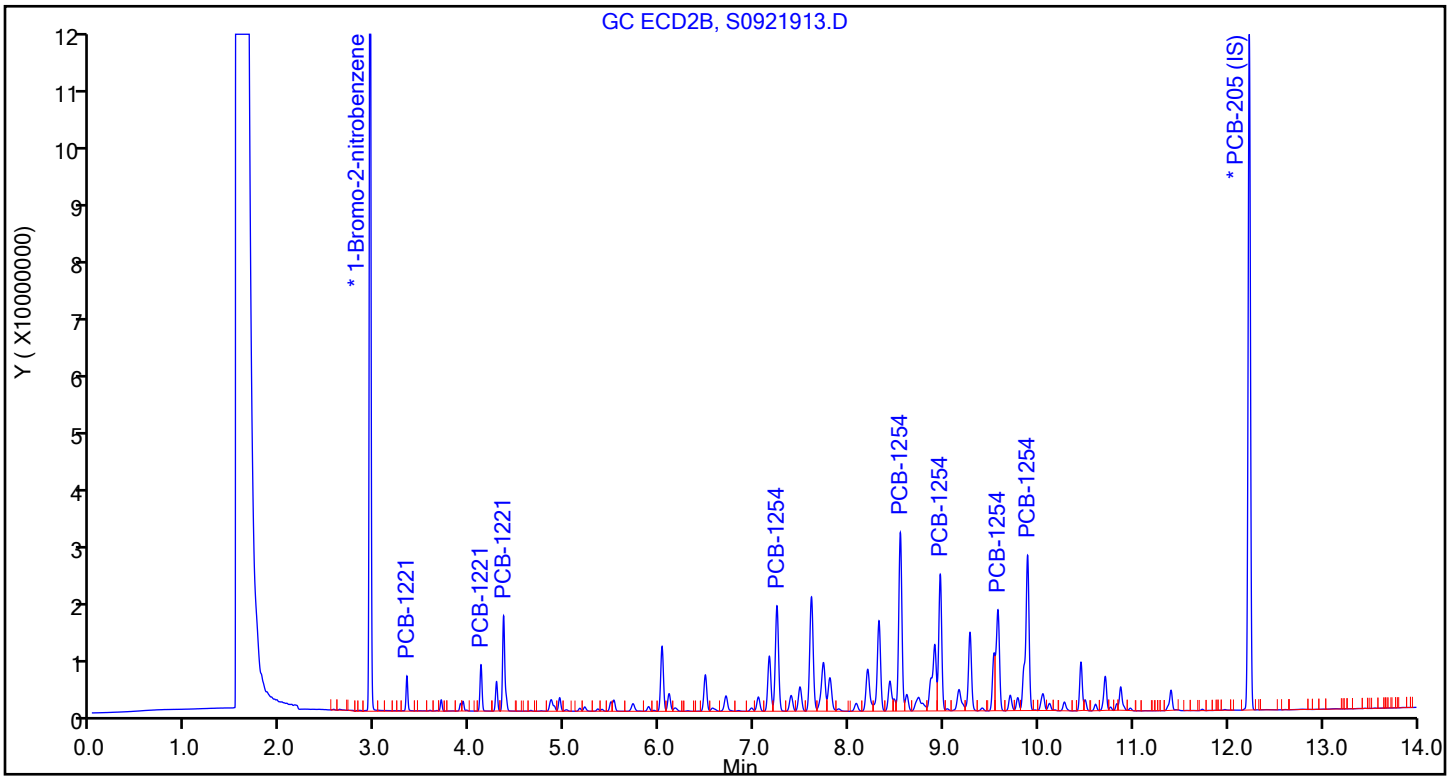

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 180-292146/13 Calibration Date: 09/21/2019 12:25

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 08:44

GC Column: RTX-CLP1 ID: 0.53(mm) Calib End Date: 09/21/2019 08:44

Lab File ID: S0921914.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1232 Peak 1	Ave	0.0111	0.0108		0.483	0.500	-3.4	20.0
PCB-1232 Peak 2	Ave	0.0302	0.0294		0.486	0.500	-2.8	20.0
PCB-1232 Peak 3	Ave	0.0137	0.0131		0.480	0.500	-3.9	20.0
PCB-1232 Peak 4	Ave	0.0171	0.0167		0.489	0.500	-2.1	20.0
PCB-1262 Peak 1	Ave	0.0533	0.0515		0.483	0.500	-3.3	20.0
PCB-1262 Peak 2	Ave	0.0550	0.0529		0.481	0.500	-3.9	20.0
PCB-1262 Peak 3	Ave	0.1313	0.1257		0.478	0.500	-4.3	20.0
PCB-1262 Peak 4	Ave	0.0465	0.0454		0.488	0.500	-2.5	20.0
PCB-1262 Peak 5	Ave	0.0406	0.0394		0.485	0.500	-2.9	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 180-292146/13 Calibration Date: 09/21/2019 12:25

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 08:44

GC Column: RTX-CLP1 ID: 0.53(mm) Calib End Date: 09/21/2019 08:44

Lab File ID: S0921914.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1232 Peak 1	3.51	3.49	3.53
PCB-1232 Peak 2	3.69	3.67	3.71
PCB-1232 Peak 3	4.04	4.02	4.06
PCB-1232 Peak 4	4.72	4.70	4.74
PCB-1262 Peak 1	8.45	8.43	8.47
PCB-1262 Peak 2	8.90	8.87	8.91
PCB-1262 Peak 3	9.44	9.42	9.46
PCB-1262 Peak 4	9.89	9.87	9.91
PCB-1262 Peak 5	10.02	10.00	10.04

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921914.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 21-Sep-2019 12:25:09 ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-013
Operator ID: Instrument ID: CHGC10
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 08:56:45 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

First Level Reviewer: oravecj Date: 23-Sep-2019 06:46:34

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.747	2.748	-0.001	491330909H	0.1000	0.1000	
2	2.938	2.939	-0.001	159789142H	0.1000	0.1000	
4 PCB-1232							
1	3.514	3.513	0.001	26417119H	0.5000	0.4829	
1	3.693	3.693	0.000	72204156H	0.5000	0.4862	
1	4.044	4.043	0.001	32232330H	0.5000	0.4805	
1	4.719	4.719	0.000	41016663H	0.5000	0.4894	
1	5.239	5.238	0.001	31467746H	0.5000	0.4936	
		Average of Peak Amounts =				0.4865	
2	4.109	4.108	0.001	6056035H	0.5000	0.4942	
2	4.348	4.348	0.000	15959368H	0.5000	0.4927	
2	4.858	4.858	0.000	9245521H	0.5000	0.4876	
2	5.513	5.513	0.000	15228993H	0.5000	0.4864	
2	5.717	5.716	0.001	8441341H	0.5000	0.4849	
		Average of Peak Amounts =				0.4892	
						RPD = 0.55	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
10 PCB-1262							
1	8.445	8.445	0.000	131147630H	0.5000	0.4833	
1	8.895	8.894	0.001	134603025H	0.5000	0.4805	
1	9.436	9.435	0.001	319802404H	0.5000	0.4785	
1	9.891	9.892	-0.001	115417386H	0.5000	0.4876	
1	10.016	10.017	-0.001	100224650H	0.5000	0.4853	
		Average of Peak Amounts =				0.4830	
2	9.277	9.277	0.000	24819237H	0.5000	0.5148	
2	10.030	10.030	0.000	37564587H	0.5000	0.4963	
2	10.495	10.494	0.001	35641719H	0.5000	0.5047	
2	10.869	10.868	0.001	77668928H	0.5000	0.5039	
2	11.390	11.391	-0.001	44431919H	0.5000	0.4959	
		Average of Peak Amounts =				0.5031	
						RPD = 4.07	
* 46 PCB-205 (IS)							
1	10.915	10.916	0.000	508994084H	0.1000	0.1000	
2	12.227	12.227	0.000	116302303H	0.1000	0.1000	

Reagents:

GCAR3262ICV_00012 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Sep-2019 08:57:07 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921914.D				
Injection Date:	21-Sep-2019 12:25:09	Instrument ID:	CHGC10		
Lims ID:	ICV				
Client ID:					
Operator ID:		ALS Bottle#:	13	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

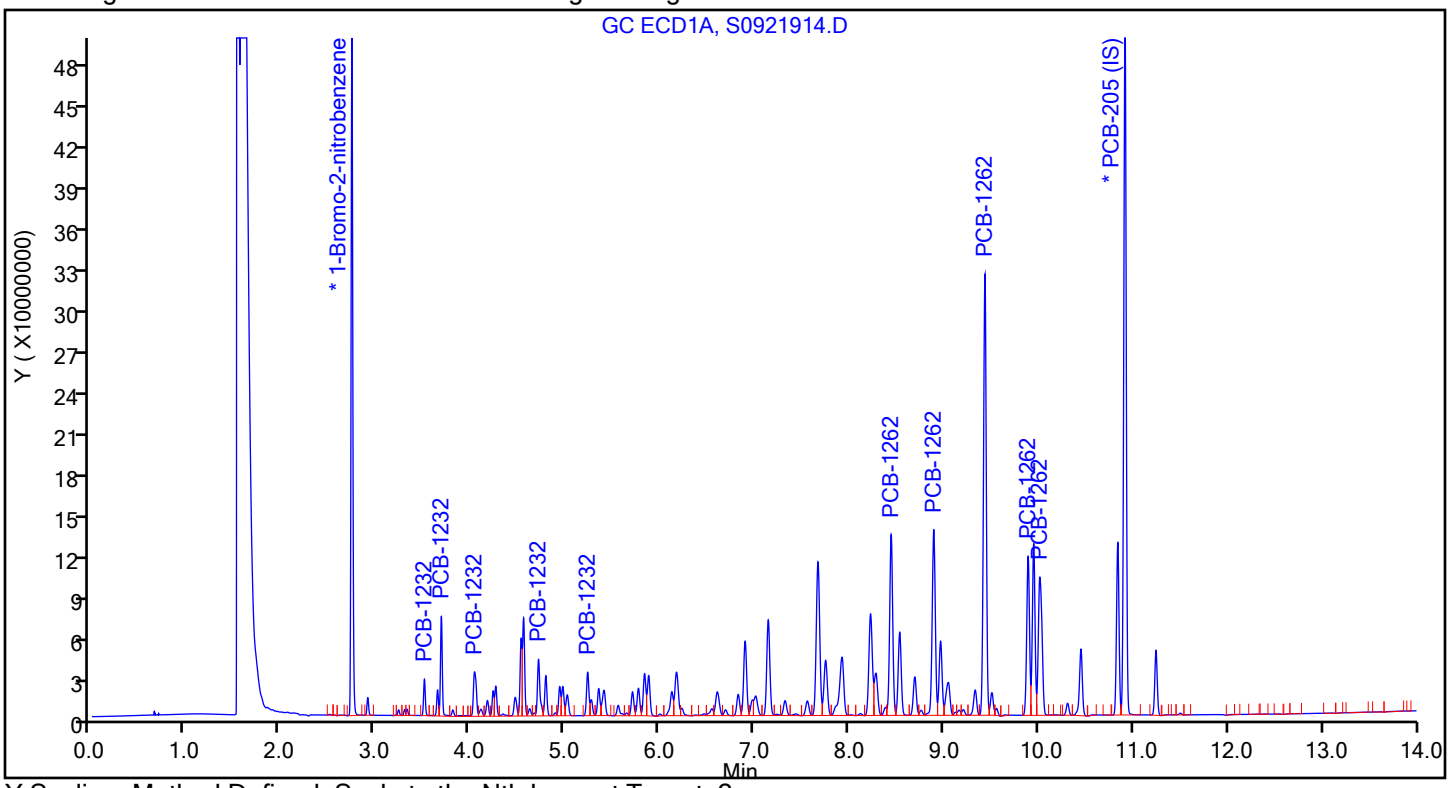

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

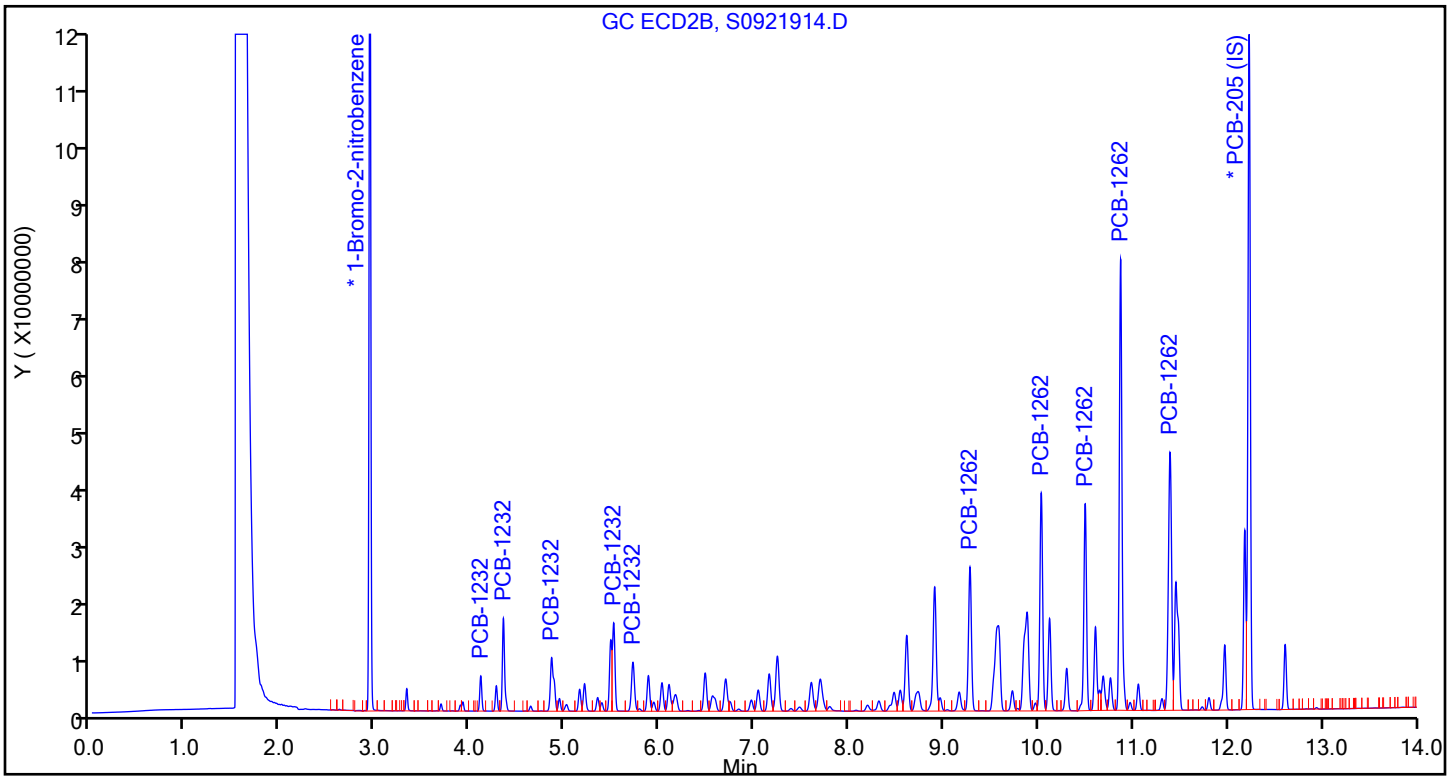

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 180-292146/13 Calibration Date: 09/21/2019 12:25

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 08:44

GC Column: RTX-CLP2 ID: 0.53(mm) Calib End Date: 09/21/2019 08:44

Lab File ID: S0921914.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1232 Peak 1	Ave	0.0077	0.0076		0.494	0.500	-1.2	20.0
PCB-1232 Peak 2	Ave	0.0203	0.0200		0.493	0.500	-1.5	20.0
PCB-1232 Peak 3	Ave	0.0119	0.0116		0.488	0.500	-2.5	20.0
PCB-1232 Peak 4	Ave	0.0196	0.0191		0.486	0.500	-2.7	20.0
PCB-1262 Peak 1	Ave	0.0415	0.0427		0.515	0.500	3.0	20.0
PCB-1262 Peak 2	Ave	0.0651	0.0646		0.496	0.500	-0.7	20.0
PCB-1262 Peak 3	Ave	0.0607	0.0613		0.505	0.500	0.9	20.0
PCB-1262 Peak 4	Ave	0.1325	0.1336		0.504	0.500	0.8	20.0
PCB-1262 Peak 5	Ave	0.0770	0.0764		0.496	0.500	-0.8	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 180-292146/13 Calibration Date: 09/21/2019 12:25

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 08:44

GC Column: RTX-CLP2 ID: 0.53(mm) Calib End Date: 09/21/2019 08:44

Lab File ID: S0921914.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1232 Peak 1	4.11	4.09	4.13
PCB-1232 Peak 2	4.35	4.33	4.37
PCB-1232 Peak 3	4.86	4.84	4.88
PCB-1232 Peak 4	5.51	5.49	5.53
PCB-1262 Peak 1	9.28	9.26	9.30
PCB-1262 Peak 2	10.03	10.01	10.05
PCB-1262 Peak 3	10.50	10.47	10.51
PCB-1262 Peak 4	10.87	10.85	10.89
PCB-1262 Peak 5	11.39	11.37	11.41

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921914.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 21-Sep-2019 12:25:09 ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-013
Operator ID: Instrument ID: CHGC10
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 08:56:45 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

First Level Reviewer: oravecj Date: 23-Sep-2019 06:46:34

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.747	2.748	-0.001	491330909H	0.1000	0.1000	
2	2.938	2.939	-0.001	159789142H	0.1000	0.1000	
4 PCB-1232							
1	3.514	3.513	0.001	26417119H	0.5000	0.4829	
1	3.693	3.693	0.000	72204156H	0.5000	0.4862	
1	4.044	4.043	0.001	32232330H	0.5000	0.4805	
1	4.719	4.719	0.000	41016663H	0.5000	0.4894	
1	5.239	5.238	0.001	31467746H	0.5000	0.4936	
		Average of Peak Amounts =				0.4865	
2	4.109	4.108	0.001	6056035H	0.5000	0.4942	
2	4.348	4.348	0.000	15959368H	0.5000	0.4927	
2	4.858	4.858	0.000	9245521H	0.5000	0.4876	
2	5.513	5.513	0.000	15228993H	0.5000	0.4864	
2	5.717	5.716	0.001	8441341H	0.5000	0.4849	
		Average of Peak Amounts =				0.4892	
						RPD = 0.55	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
10 PCB-1262							
1	8.445	8.445	0.000	131147630H	0.5000	0.4833	
1	8.895	8.894	0.001	134603025H	0.5000	0.4805	
1	9.436	9.435	0.001	319802404H	0.5000	0.4785	
1	9.891	9.892	-0.001	115417386H	0.5000	0.4876	
1	10.016	10.017	-0.001	100224650H	0.5000	0.4853	
		Average of Peak Amounts =				0.4830	
2	9.277	9.277	0.000	24819237H	0.5000	0.5148	
2	10.030	10.030	0.000	37564587H	0.5000	0.4963	
2	10.495	10.494	0.001	35641719H	0.5000	0.5047	
2	10.869	10.868	0.001	77668928H	0.5000	0.5039	
2	11.390	11.391	-0.001	44431919H	0.5000	0.4959	
		Average of Peak Amounts =				0.5031	
						RPD = 4.07	
* 46 PCB-205 (IS)							
1	10.915	10.916	0.000	508994084H	0.1000	0.1000	
2	12.227	12.227	0.000	116302303H	0.1000	0.1000	

Reagents:

GCAR3262ICV_00012 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Sep-2019 08:57:08 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921914.D

Injection Date: 21-Sep-2019 12:25:09 Instrument ID: CHGC10

Lims ID: ICV

Client ID:

Operator ID: ALS Bottle#: 13 Worklist Smp#: 13

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

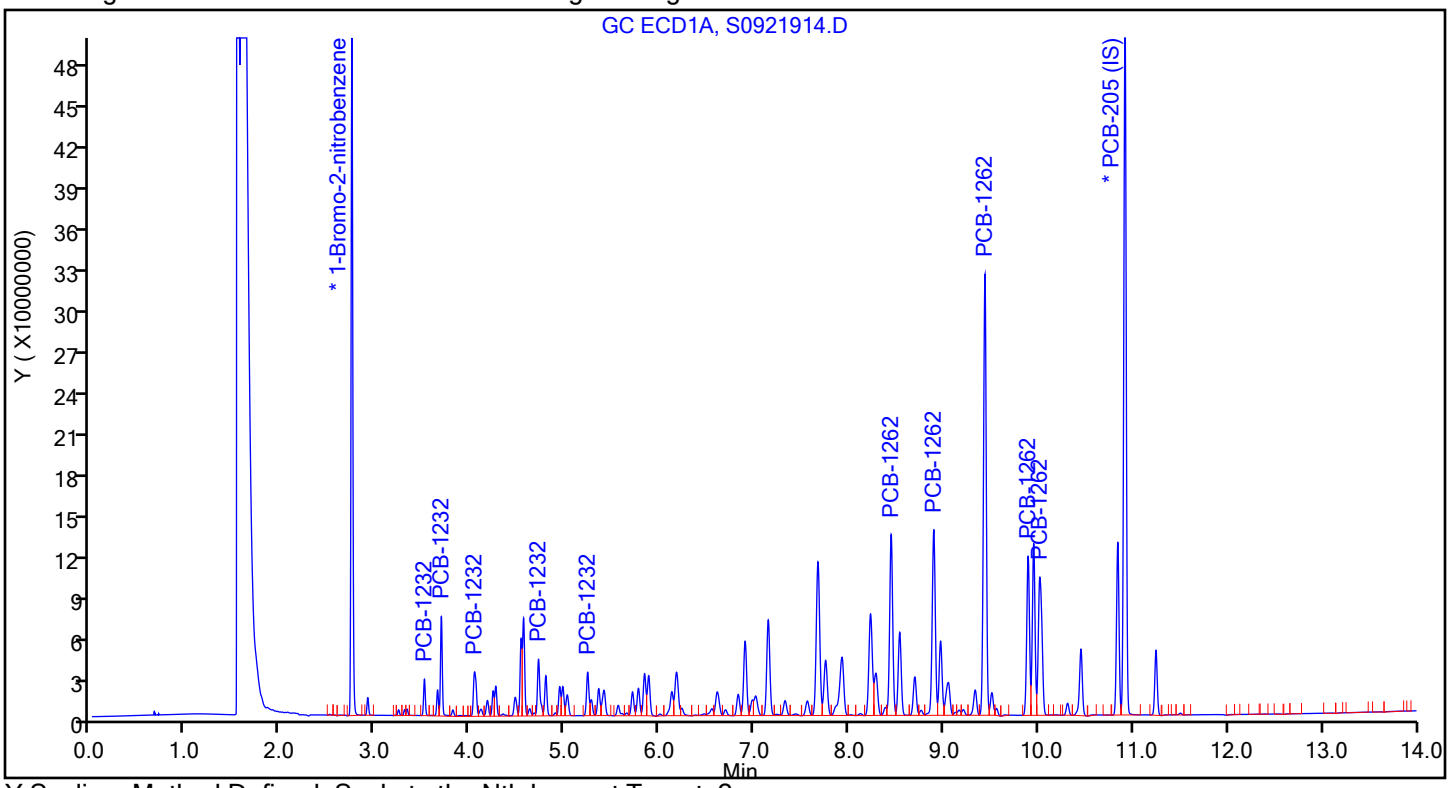

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

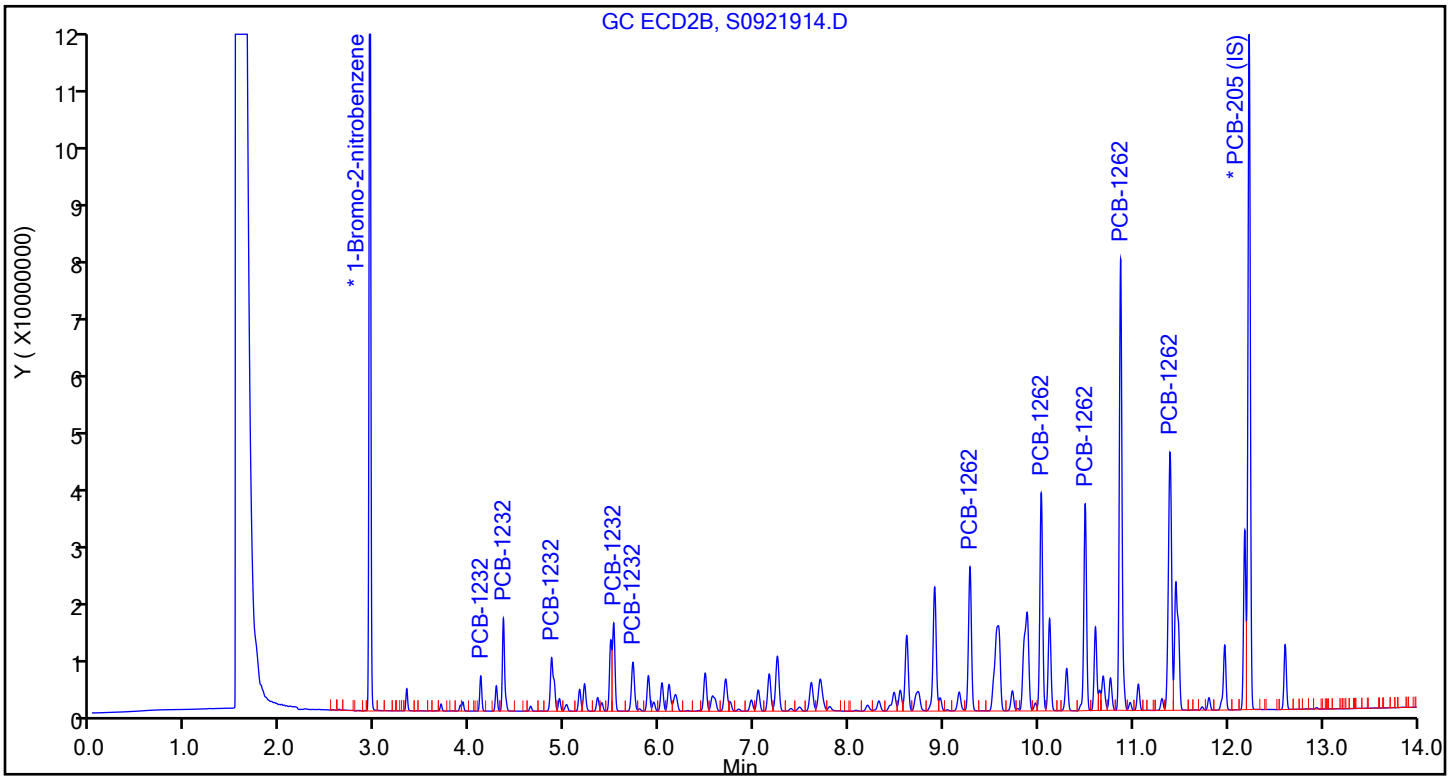

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 180-292146/14 Calibration Date: 09/21/2019 12:45

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 09:04

GC Column: RTX-CLP1 ID: 0.53(mm) Calib End Date: 09/21/2019 09:04

Lab File ID: S0921915.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1242 Peak 1	Ave	0.0199	0.0182		0.458	0.500	-8.4	20.0
PCB-1242 Peak 2	Ave	0.0436	0.0430		0.493	0.500	-1.5	20.0
PCB-1242 Peak 3	Ave	0.0204	0.0201		0.493	0.500	-1.5	20.0
PCB-1242 Peak 4	Ave	0.0200	0.0198		0.494	0.500	-1.2	20.0
PCB-1242 Peak 5	Ave	0.0189	0.0187		0.494	0.500	-1.1	20.0
PCB-1268 Peak 1	Ave	0.1284	0.1310		0.510	0.500	2.0	20.0
PCB-1268 Peak 2	Ave	0.1110	0.1120		0.505	0.500	0.9	20.0
PCB-1268 Peak 3	Ave	0.1113	0.1099		0.494	0.500	-1.3	20.0
PCB-1268 Peak 4	Ave	0.3438	0.3378		0.491	0.500	-1.7	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 180-292146/14 Calibration Date: 09/21/2019 12:45

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 09:04

GC Column: RTX-CLP1 ID: 0.53(mm) Calib End Date: 09/21/2019 09:04

Lab File ID: S0921915.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1242 Peak 1	4.04	4.02	4.06
PCB-1242 Peak 2	4.56	4.54	4.58
PCB-1242 Peak 3	5.24	5.22	5.26
PCB-1242 Peak 4	5.84	5.82	5.86
PCB-1242 Peak 5	5.89	5.86	5.90
PCB-1268 Peak 1	9.95	9.93	9.97
PCB-1268 Peak 2	10.01	9.99	10.03
PCB-1268 Peak 3	10.31	10.29	10.33
PCB-1268 Peak 4	11.25	11.22	11.26

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921915.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 21-Sep-2019 12:45:33 ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-014
Operator ID: Instrument ID: CHGC10
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 08:56:45 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

First Level Reviewer: oravecj Date: 23-Sep-2019 06:46:40

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.749	2.748	0.000	492968390H	0.1000	0.1000	
2	2.939	2.939	0.000	171898478H	0.1000	0.1000	
5 PCB-1242							
1	4.044	4.044	0.000	44823802H	0.5000	0.4580	
1	4.563	4.562	0.001	105942166H	0.5000	0.4925	
1	5.240	5.239	0.001	49452208H	0.5000	0.4926	
1	5.840	5.839	0.001	48702148H	0.5000	0.4940	
1	5.885	5.884	0.001	46091375H	0.5000	0.4945	
		Average of Peak Amounts =				0.4863	
2	4.349	4.349	0.000	10057498H	0.5000	0.4749	
2	4.859	4.858	0.001	13396273H	0.5000	0.4706	
2	5.717	5.717	0.000	12658586H	0.5000	0.4646	
2	6.481	6.479	0.002	10726388H	0.5000	0.4641	
2	7.697	7.694	0.003	8849762H	0.5000	0.4701	
		Average of Peak Amounts =				0.4688	
						RPD = 3.66	
11 PCB-1268							
1	9.951	9.951	0.000	341244141H	0.5000	0.5102	
1	10.012	10.011	0.001	291736903H	0.5000	0.5046	
1	10.310	10.308	0.002	286249985H	0.5000	0.4937	
1	11.245	11.243	0.002	879823980H	0.5000	0.4913	
		Average of Peak Amounts =				0.4999	
2	11.387	11.386	0.001	80580344H	0.5000	0.5022	
2	11.453	11.451	0.002	70052045H	0.5000	0.5085	
2	11.805	11.803	0.002	68189782H	0.5000	0.5053	
2	12.609	12.608	0.001	202796591H	0.5000	0.4933	
		Average of Peak Amounts =				0.5023	
						RPD = 0.48	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 46 PCB-205 (IS)							
1	10.915	10.916	0.000	520904645H	0.1000	0.1000	
2	12.228	12.227	0.000	119627107H	0.1000	0.1000	

Reagents:

GCAR4268ICV_00012 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Sep-2019 08:57:00 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921915.D

Injection Date: 21-Sep-2019 12:45:33 Instrument ID: CHGC10

Lims ID: ICV

Client ID:

Operator ID: ALS Bottle#: 14 Worklist Smp#: 14

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

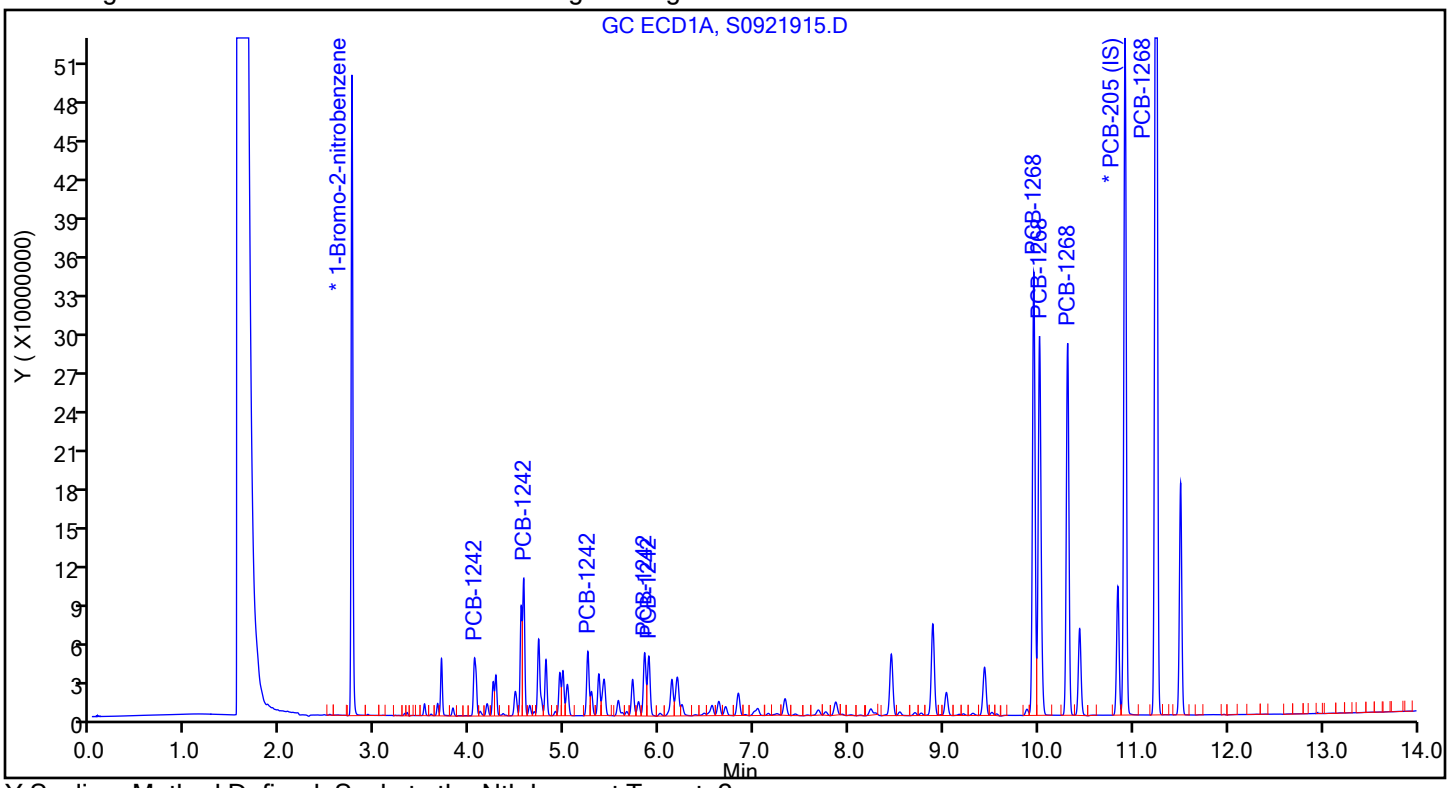

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

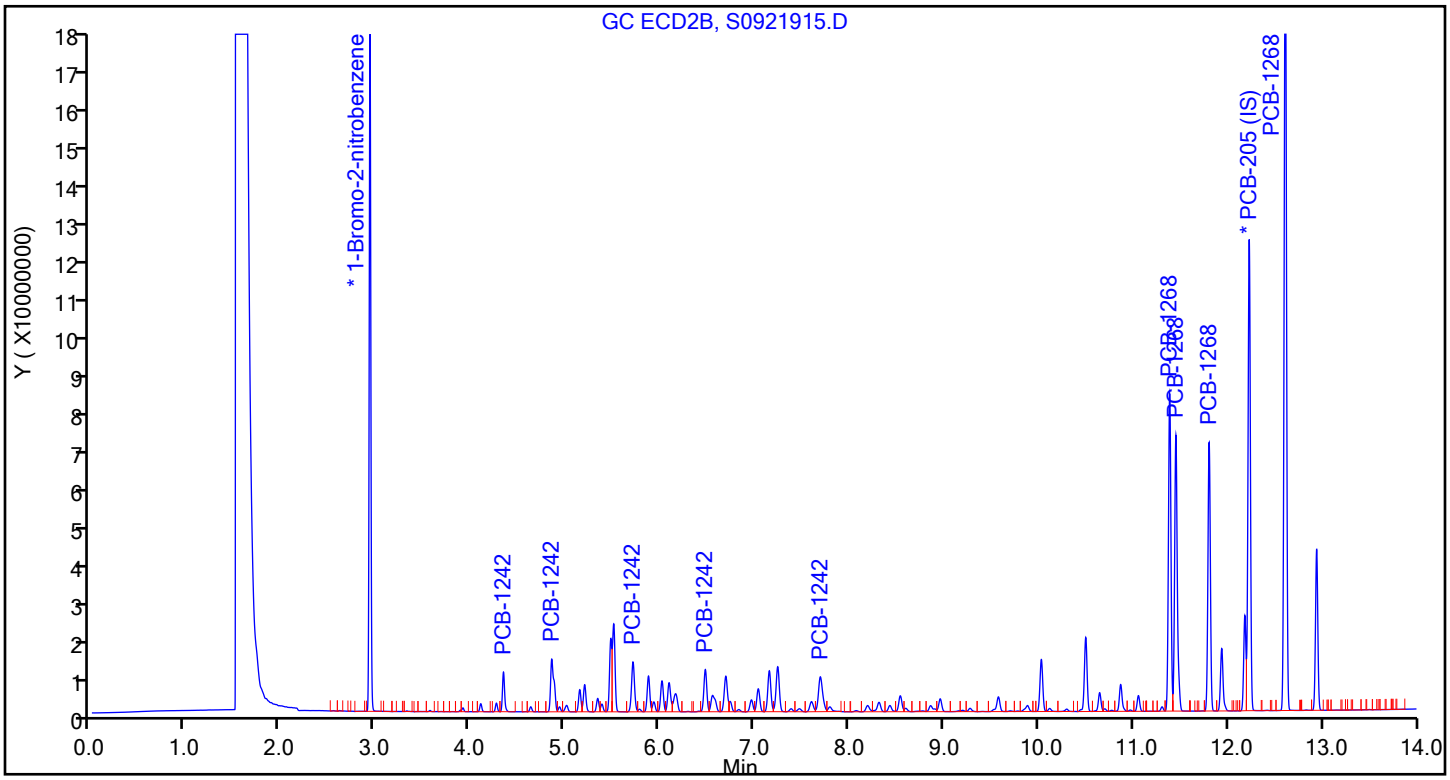

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 180-292146/14 Calibration Date: 09/21/2019 12:45

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 09:04

GC Column: RTX-CLP2 ID: 0.53(mm) Calib End Date: 09/21/2019 09:04

Lab File ID: S0921915.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1242 Peak 1	Ave	0.0123	0.0117		0.475	0.500	-5.0	20.0
PCB-1242 Peak 2	Ave	0.0166	0.0156		0.471	0.500	-5.9	20.0
PCB-1242 Peak 3	Ave	0.0159	0.0147		0.465	0.500	-7.1	20.0
PCB-1242 Peak 4	Ave	0.0134	0.0125		0.464	0.500	-7.2	20.0
PCB-1242 Peak 5	Ave	0.0110	0.0103		0.470	0.500	-6.0	20.0
PCB-1268 Peak 1	Ave	0.1341	0.1347		0.502	0.500	0.4	20.0
PCB-1268 Peak 2	Ave	0.1152	0.1171		0.508	0.500	1.7	20.0
PCB-1268 Peak 3	Ave	0.1128	0.1140		0.505	0.500	1.1	20.0
PCB-1268 Peak 4	Ave	0.3436	0.3391		0.493	0.500	-1.3	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 180-292146/14 Calibration Date: 09/21/2019 12:45

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 09:04

GC Column: RTX-CLP2 ID: 0.53(mm) Calib End Date: 09/21/2019 09:04

Lab File ID: S0921915.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1242 Peak 1	4.35	4.33	4.37
PCB-1242 Peak 2	4.86	4.84	4.88
PCB-1242 Peak 3	5.72	5.70	5.74
PCB-1242 Peak 4	6.48	6.46	6.50
PCB-1242 Peak 5	7.70	7.67	7.71
PCB-1268 Peak 1	11.39	11.37	11.41
PCB-1268 Peak 2	11.45	11.43	11.47
PCB-1268 Peak 3	11.81	11.78	11.82
PCB-1268 Peak 4	12.61	12.59	12.63

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921915.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 21-Sep-2019 12:45:33 ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-014
Operator ID: Instrument ID: CHGC10
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 08:56:45 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

First Level Reviewer: oravecj Date: 23-Sep-2019 06:46:40

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.749	2.748	0.000	492968390H	0.1000	0.1000	
2	2.939	2.939	0.000	171898478H	0.1000	0.1000	
5 PCB-1242							
1	4.044	4.044	0.000	44823802H	0.5000	0.4580	
1	4.563	4.562	0.001	105942166H	0.5000	0.4925	
1	5.240	5.239	0.001	49452208H	0.5000	0.4926	
1	5.840	5.839	0.001	48702148H	0.5000	0.4940	
1	5.885	5.884	0.001	46091375H	0.5000	0.4945	
		Average of Peak Amounts =				0.4863	
2	4.349	4.349	0.000	10057498H	0.5000	0.4749	
2	4.859	4.858	0.001	13396273H	0.5000	0.4706	
2	5.717	5.717	0.000	12658586H	0.5000	0.4646	
2	6.481	6.479	0.002	10726388H	0.5000	0.4641	
2	7.697	7.694	0.003	8849762H	0.5000	0.4701	
		Average of Peak Amounts =				0.4688	
						RPD = 3.66	
11 PCB-1268							
1	9.951	9.951	0.000	341244141H	0.5000	0.5102	
1	10.012	10.011	0.001	291736903H	0.5000	0.5046	
1	10.310	10.308	0.002	286249985H	0.5000	0.4937	
1	11.245	11.243	0.002	879823980H	0.5000	0.4913	
		Average of Peak Amounts =				0.4999	
2	11.387	11.386	0.001	80580344H	0.5000	0.5022	
2	11.453	11.451	0.002	70052045H	0.5000	0.5085	
2	11.805	11.803	0.002	68189782H	0.5000	0.5053	
2	12.609	12.608	0.001	202796591H	0.5000	0.4933	
		Average of Peak Amounts =				0.5023	
						RPD = 0.48	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 46 PCB-205 (IS)							
1	10.915	10.916	0.000	520904645H	0.1000	0.1000	
2	12.228	12.227	0.000	119627107H	0.1000	0.1000	

Reagents:

GCAR4268ICV_00012 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Sep-2019 08:57:01 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921915.D

Injection Date: 21-Sep-2019 12:45:33 Instrument ID: CHGC10

Lims ID: ICV

Client ID:

Operator ID: ALS Bottle#: 14 Worklist Smp#: 14

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

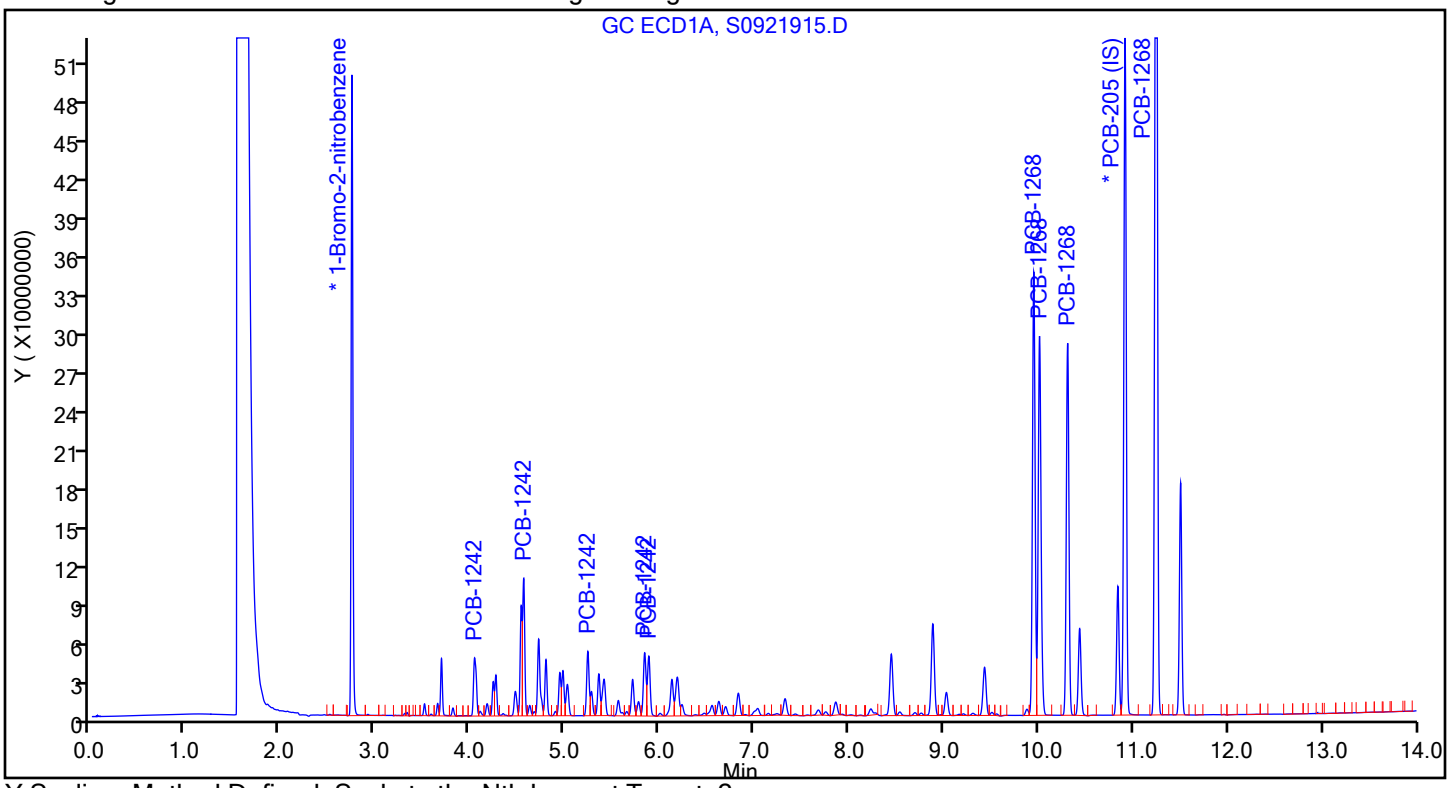

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

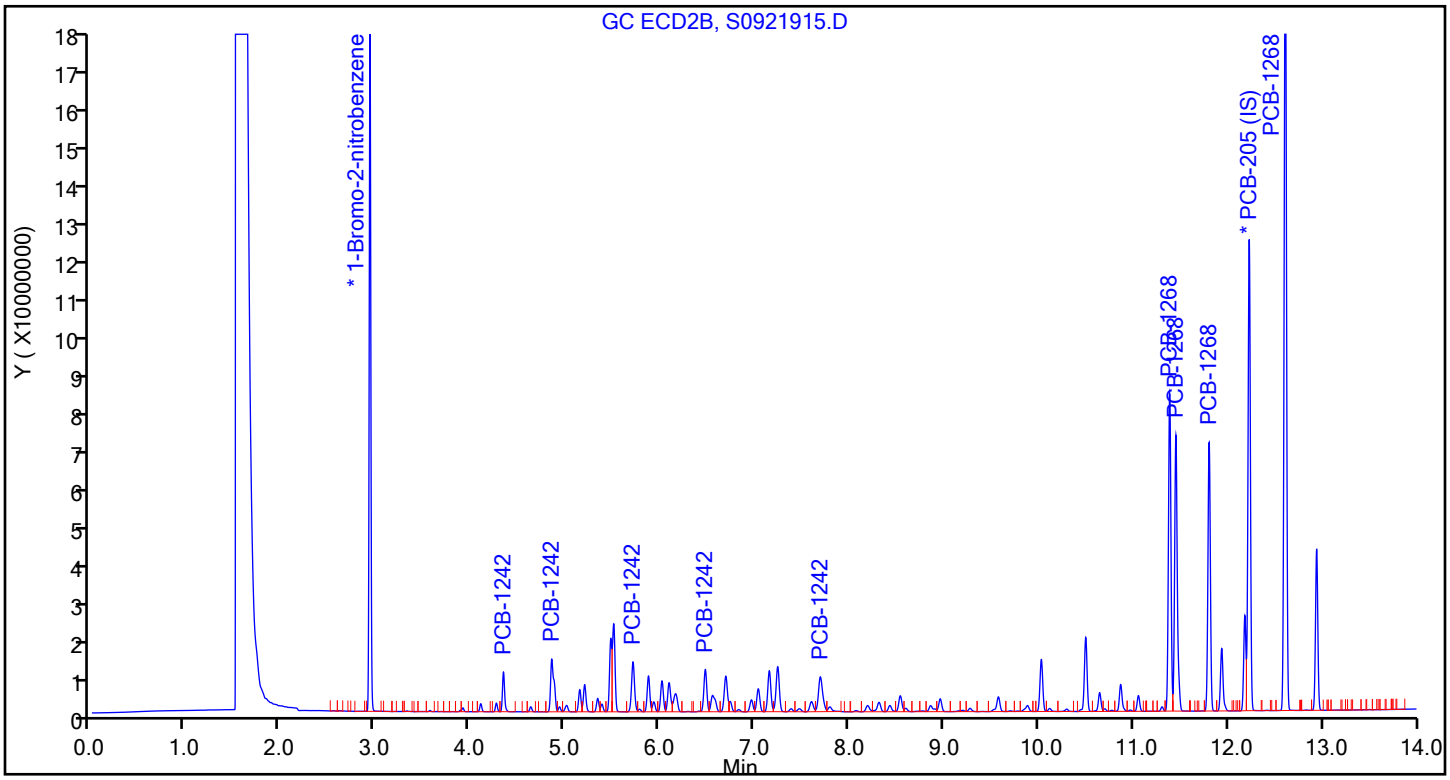

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 180-292146/15 Calibration Date: 09/21/2019 13:06

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 09:25

GC Column: RTX-CLP1 ID: 0.53(mm) Calib End Date: 09/21/2019 09:25

Lab File ID: S0921916.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1248 Peak 1	Ave	0.0107	0.0110		0.512	0.500	2.3	20.0
PCB-1248 Peak 2	Ave	0.0199	0.0239		0.600	0.500	20.0	20.0
PCB-1248 Peak 3	Ave	0.0262	0.0308		0.589	0.500	17.8	20.0
PCB-1248 Peak 4	Ave	0.0289	0.0347		0.601	0.500	20.3*	20.0
PCB-1248 Peak 5	Ave	0.0137	0.0162		0.592	0.500	18.4	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 180-292146/15 Calibration Date: 09/21/2019 13:06

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 09:25

GC Column: RTX-CLP1 ID: 0.53(mm) Calib End Date: 09/21/2019 09:25

Lab File ID: S0921916.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1248 Peak 1	4.04	4.02	4.06
PCB-1248 Peak 2	4.95	4.92	4.96
PCB-1248 Peak 3	5.24	5.22	5.26
PCB-1248 Peak 4	5.84	5.82	5.86
PCB-1248 Peak 5	6.83	6.81	6.85

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921916.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 21-Sep-2019 13:06:04 ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-015
Operator ID: Instrument ID: CHGC10
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 08:56:45 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

First Level Reviewer: oravecj Date: 23-Sep-2019 06:46:58

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.749	2.748	0.001	485504732H	0.1000	0.1000	
2	2.938	2.939	-0.001	144556760H	0.1000	0.1000	
7 PCB-1248							
1	4.044	4.041	0.003	26616474H	0.5000	0.5116	
1	4.946	4.942	0.004	58065080H	0.5000	0.5999	
1	5.240	5.237	0.003	74831031H	0.5000	0.5891	
1	5.842	5.837	0.005	84238529H	0.5000	0.6013	
1	6.832	6.827	0.005	39398440H	0.5000	0.5920	
		Average of Peak Amounts =				0.5788	
2	4.860	4.857	0.003	6873892H	0.5000	0.5468	
2	6.025	6.021	0.004	12879226H	0.5000	0.5552	
2	6.699	6.695	0.004	13457705H	0.5000	0.5602	
2	7.247	7.242	0.005	18351285H	0.5000	0.5569	
2	7.700	7.693	0.007	12862493H	0.5000	0.5403	
		Average of Peak Amounts =				0.5519	
						RPD = 4.76	
* 46 PCB-205 (IS)							
1	10.916	10.916	0.000	500375151H	0.1000	0.1000	
2	12.228	12.227	0.001	111154443H	0.1000	0.1000	

Reagents:

GCAR1248ICV_00020 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Sep-2019 08:56:56 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921916.D

Injection Date: 21-Sep-2019 13:06:04 Instrument ID: CHGC10

Lims ID: ICV

Client ID:

Operator ID: ALS Bottle#: 15 Worklist Smp#: 15

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

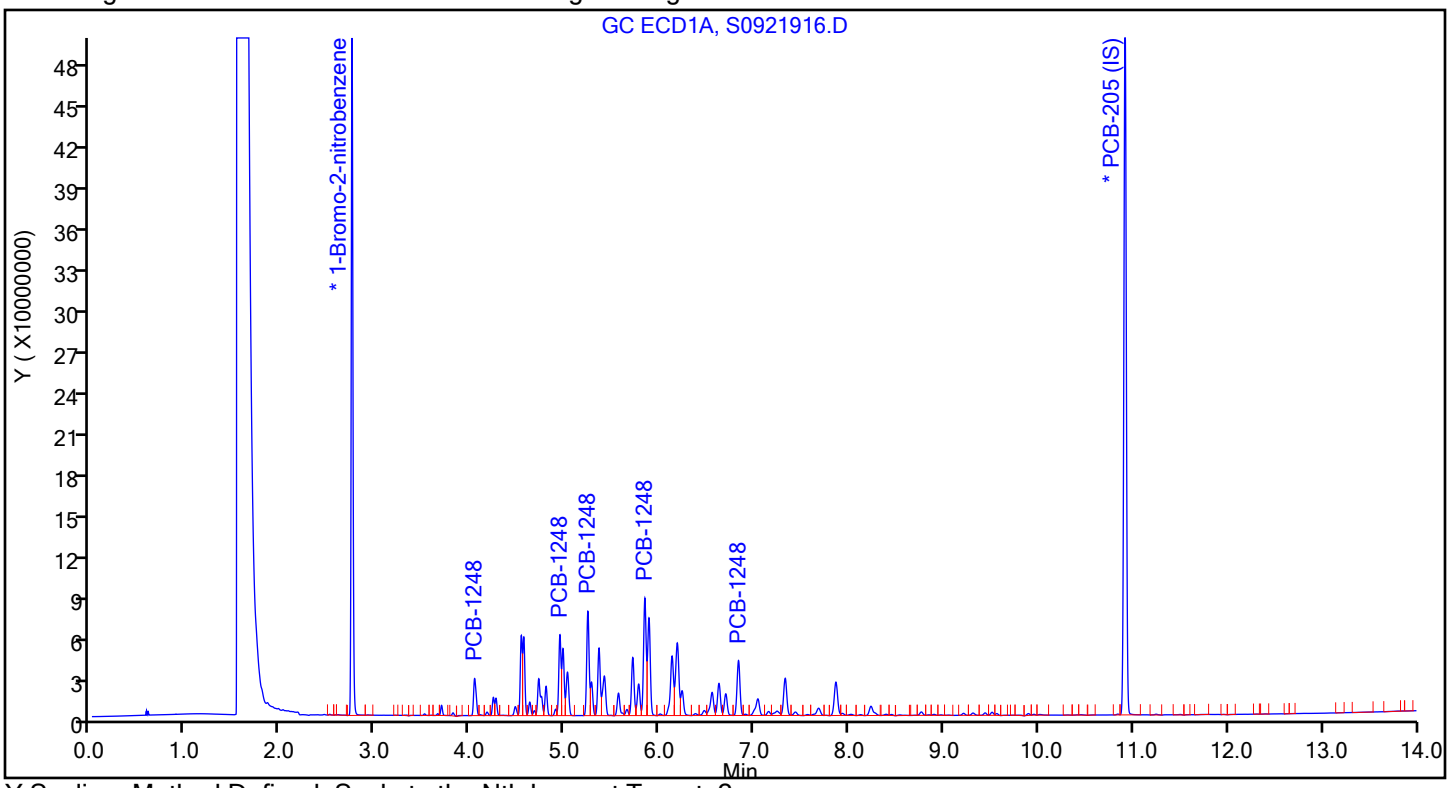

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

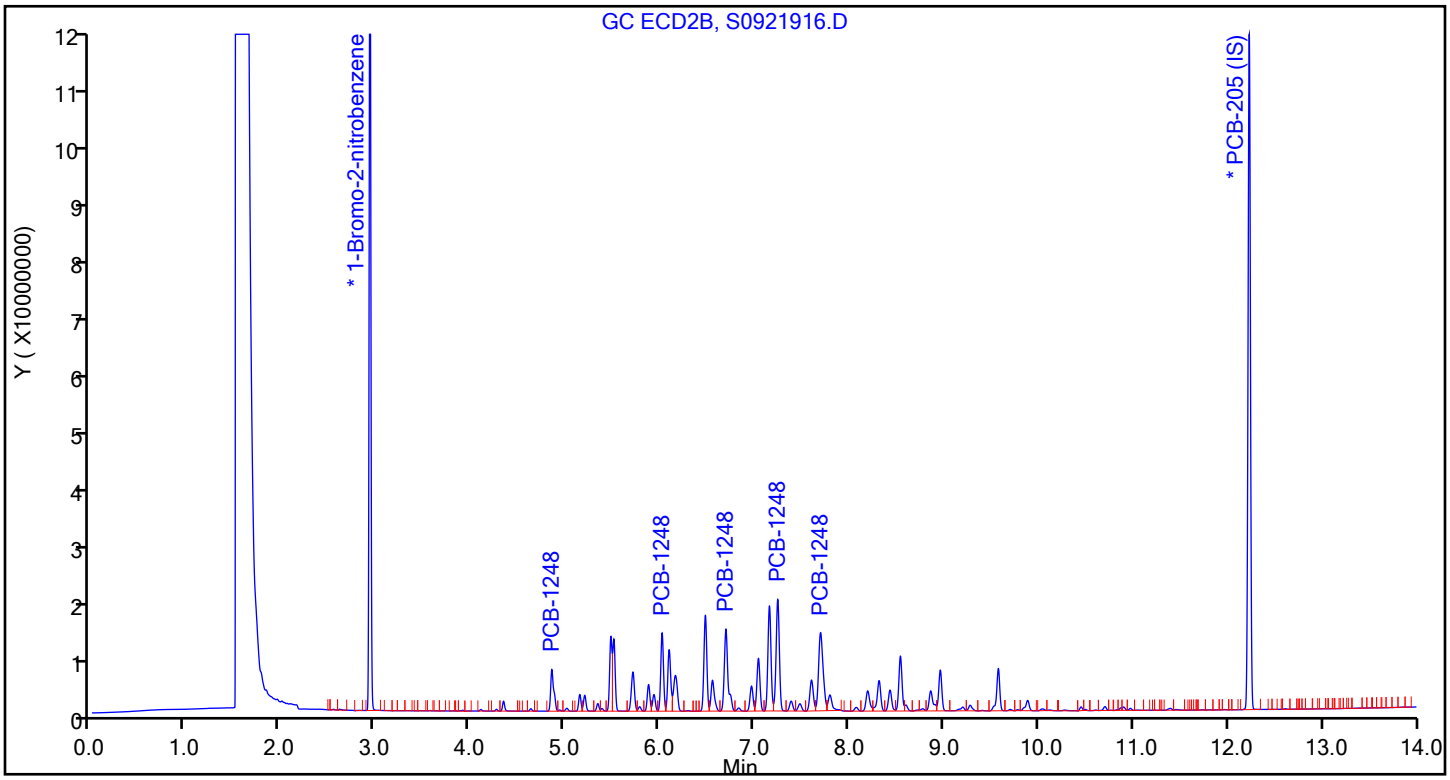

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 180-292146/15 Calibration Date: 09/21/2019 13:06

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 09:25

GC Column: RTX-CLP2 ID: 0.53(mm) Calib End Date: 09/21/2019 09:25

Lab File ID: S0921916.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1248 Peak 1	Ave	0.0087	0.0095		0.547	0.500	9.4	20.0
PCB-1248 Peak 2	Ave	0.0160	0.0178		0.555	0.500	11.0	20.0
PCB-1248 Peak 3	Ave	0.0166	0.0186		0.560	0.500	12.0	20.0
PCB-1248 Peak 4	Ave	0.0228	0.0254		0.557	0.500	11.4	20.0
PCB-1248 Peak 5	Ave	0.0165	0.0178		0.540	0.500	8.1	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 180-292146/15 Calibration Date: 09/21/2019 13:06

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 09:25

GC Column: RTX-CLP2 ID: 0.53(mm) Calib End Date: 09/21/2019 09:25

Lab File ID: S0921916.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1248 Peak 1	4.86	4.84	4.88
PCB-1248 Peak 2	6.03	6.00	6.04
PCB-1248 Peak 3	6.70	6.68	6.72
PCB-1248 Peak 4	7.25	7.22	7.26
PCB-1248 Peak 5	7.70	7.67	7.71

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921916.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 21-Sep-2019 13:06:04 ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-015
Operator ID: Instrument ID: CHGC10
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Sep-2019 08:56:45 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0329

First Level Reviewer: oravecj Date: 23-Sep-2019 06:46:58

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.749	2.748	0.001	485504732H	0.1000	0.1000	
2	2.938	2.939	-0.001	144556760H	0.1000	0.1000	
7 PCB-1248							
1	4.044	4.041	0.003	26616474H	0.5000	0.5116	
1	4.946	4.942	0.004	58065080H	0.5000	0.5999	
1	5.240	5.237	0.003	74831031H	0.5000	0.5891	
1	5.842	5.837	0.005	84238529H	0.5000	0.6013	
1	6.832	6.827	0.005	39398440H	0.5000	0.5920	
		Average of Peak Amounts =				0.5788	
2	4.860	4.857	0.003	6873892H	0.5000	0.5468	
2	6.025	6.021	0.004	12879226H	0.5000	0.5552	
2	6.699	6.695	0.004	13457705H	0.5000	0.5602	
2	7.247	7.242	0.005	18351285H	0.5000	0.5569	
2	7.700	7.693	0.007	12862493H	0.5000	0.5403	
		Average of Peak Amounts =				0.5519	
						RPD = 4.76	
* 46 PCB-205 (IS)							
1	10.916	10.916	0.000	500375151H	0.1000	0.1000	
2	12.228	12.227	0.001	111154443H	0.1000	0.1000	

Reagents:

GCAR1248ICV_00020 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Sep-2019 08:56:57 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921916.D

Injection Date: 21-Sep-2019 13:06:04 Instrument ID: CHGC10

Lims ID: ICV

Client ID:

Operator ID: ALS Bottle#: 15 Worklist Smp#: 15

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

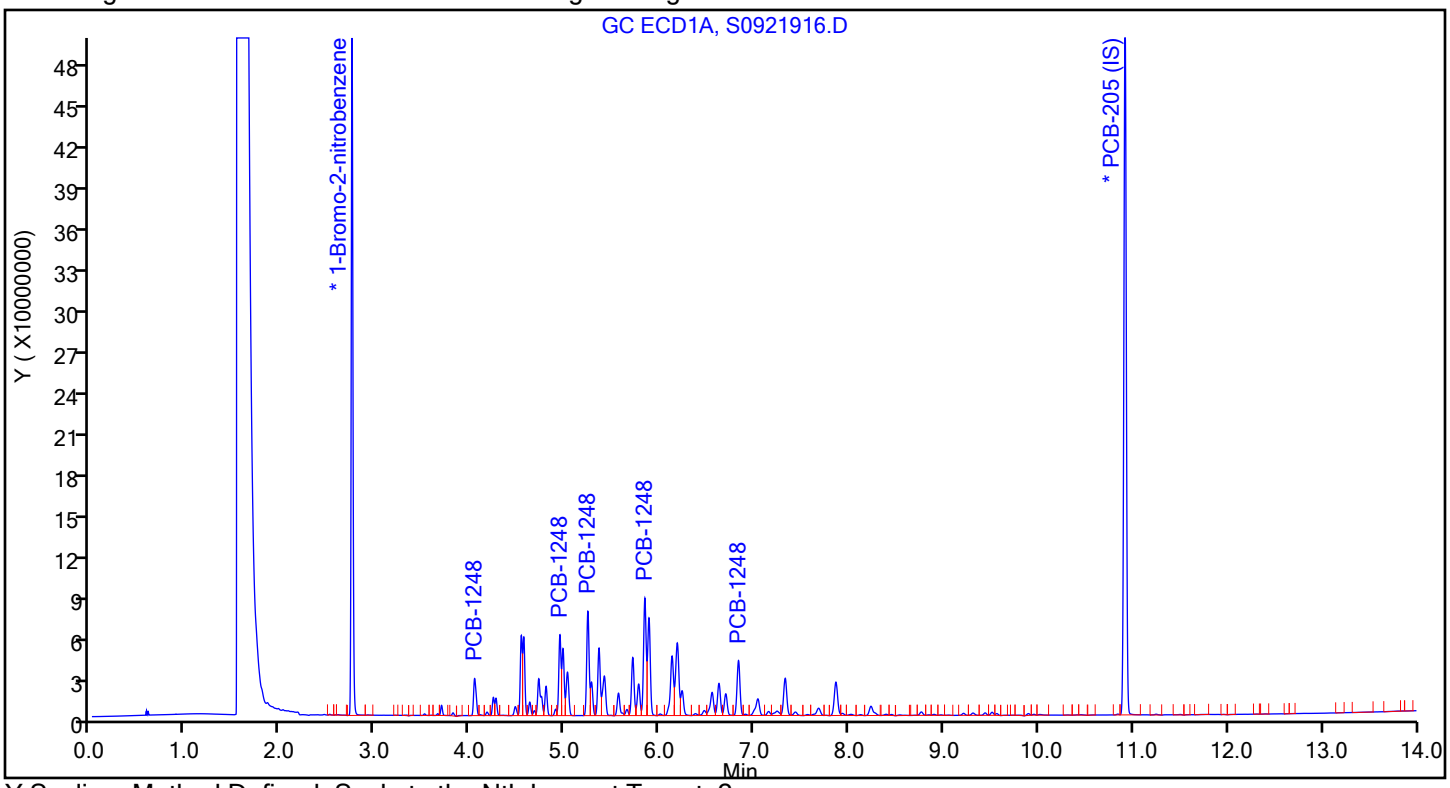

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

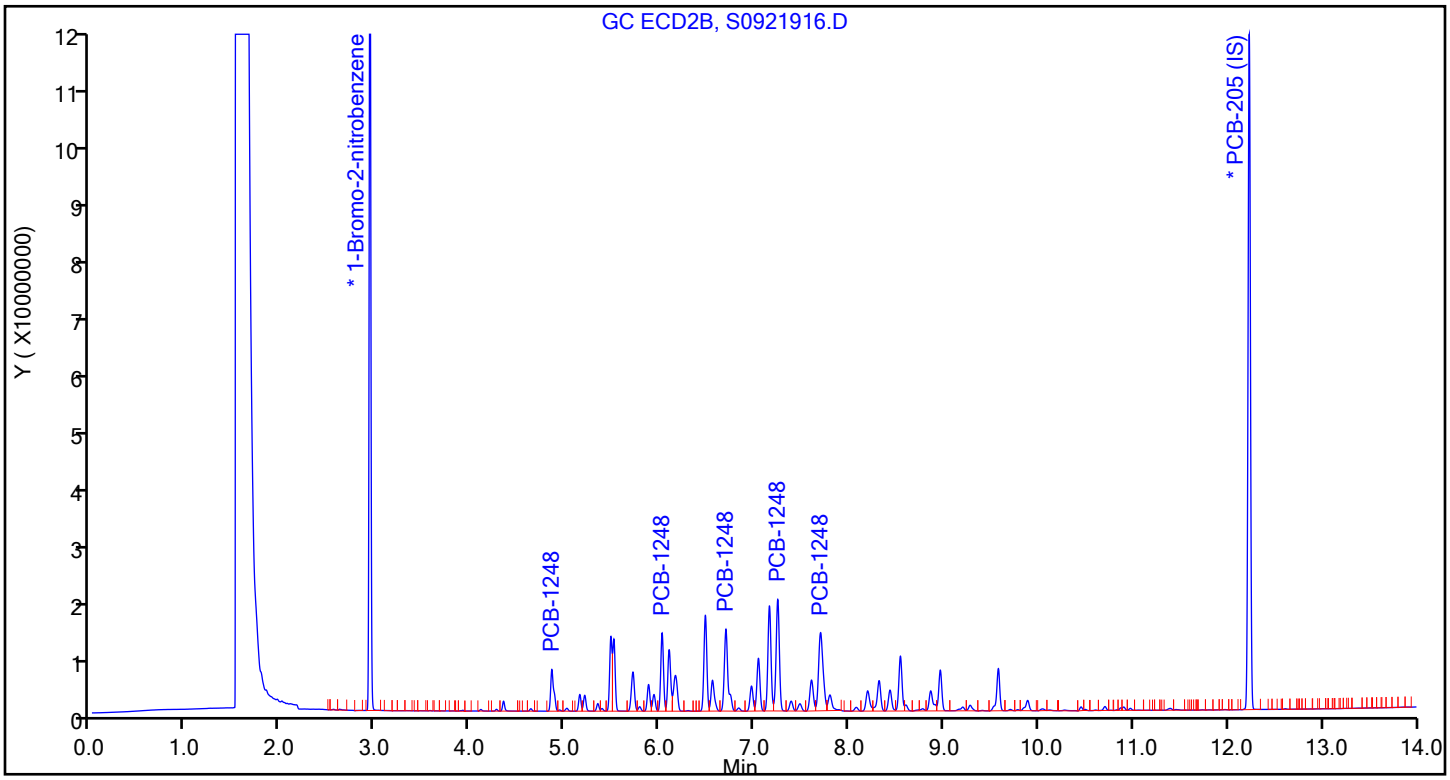

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 180-292146/36 Calibration Date: 09/21/2019 20:12

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 09:45

GC Column: RTX-CLP1 ID: 0.53(mm) Calib End Date: 09/21/2019 11:44

Lab File ID: S0921937.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Ave	0.0163	0.0147		0.450	0.500	-10.0	20.0
PCB-1016 Peak 2	Ave	0.0379	0.0338		0.447	0.500	-10.7	20.0
PCB-1016 Peak 3	Ave	0.0215	0.0193		0.448	0.500	-10.3	20.0
PCB-1016 Peak 4	Ave	0.0179	0.0157		0.441	0.500	-11.8	20.0
PCB-1016 Peak 5	Ave	0.0118	0.0102		0.430	0.500	-13.9	20.0
PCB-1260 Peak 1	Ave	0.0429	0.0389		0.453	0.500	-9.4	20.0
PCB-1260 Peak 2	Ave	0.0393	0.0362		0.460	0.500	-8.0	20.0
PCB-1260 Peak 3	Ave	0.0279	0.0250		0.447	0.500	-10.5	20.0
PCB-1260 Peak 4	Ave	0.0710	0.0644		0.453	0.500	-9.3	20.0
PCB-1260 Peak 5	Ave	0.0395	0.0339		0.429	0.500	-14.2	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 180-292146/36 Calibration Date: 09/21/2019 20:12

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 09:45

GC Column: RTX-CLP1 ID: 0.53(mm) Calib End Date: 09/21/2019 11:44

Lab File ID: S0921937.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	3.70	3.68	3.72
PCB-1016 Peak 2	4.56	4.54	4.58
PCB-1016 Peak 3	4.72	4.70	4.74
PCB-1016 Peak 4	5.24	5.22	5.26
PCB-1016 Peak 5	5.78	5.76	5.80
PCB-1260 Peak 1	7.68	7.66	7.70
PCB-1260 Peak 2	8.23	8.21	8.25
PCB-1260 Peak 3	8.90	8.88	8.92
PCB-1260 Peak 4	9.44	9.42	9.46
PCB-1260 Peak 5	9.90	9.88	9.92

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921937.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 21-Sep-2019 20:12:54 ALS Bottle#: 36 Worklist Smp#: 36
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-036
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 09-Oct-2019 09:07:13 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0331

First Level Reviewer: oravecj Date: 23-Sep-2019 06:48:06

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.750	2.750	0.000	636498679H	0.1000	0.1000	
2	2.940	2.940	0.000	187019869H	0.1000	0.1000	
6 PCB-1016							
1	3.695	3.695	0.000	46810229H	0.5000	0.4499	
1	4.563	4.563	0.000	107608353H	0.5000	0.4465	
1	4.722	4.722	0.000	61461018H	0.5000	0.4483	
1	5.241	5.241	0.000	50094936H	0.5000	0.4408	
1	5.776	5.776	0.000	32297019H	0.5000	0.4304	
		Average of Peak Amounts =				0.4432	
2	4.350	4.350	0.000	10711522H	0.5000	0.4454	
2	5.515	5.515	0.000	23748042H	0.5000	0.4495	
2	5.720	5.720	0.000	13314491H	0.5000	0.4416	
2	6.483	6.483	0.000	11039950H	0.5000	0.4430	
2	6.700	6.700	0.000	9204580H	0.5000	0.4420	
		Average of Peak Amounts =				0.4443	
						RPD = 0.25	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	7.675	7.675	0.000	110453250H	0.5000	0.4531	
1	8.230	8.230	0.000	102781623H	0.5000	0.4602	
1	8.898	8.898	0.000	70870700H	0.5000	0.4473	
1	9.436	9.436	0.000	182962226H	0.5000	0.4535	
1	9.895	9.895	0.000	96382217H	0.5000	0.4291	
		Average of Peak Amounts =				0.4486	
2	8.907	8.907	0.000	19765747H	0.5000	0.4617	
2	9.279	9.279	0.000	25497760H	0.5000	0.4743	
2	9.885	9.885	0.000	23367590H	0.5000	0.4499	
2	10.870	10.870	0.000	44651995H	0.5000	0.4506	
2	11.399	11.399	0.000	25558958H	0.5000	0.4539	
		Average of Peak Amounts =				0.4581	
						RPD = 2.09	
* 46 PCB-205 (IS)							
1	10.916	10.916	0.000	568106272H	0.1000	0.1000	
2	12.229	12.229	0.000	131758048H	0.1000	0.1000	

Reagents:

GCAR1660ICV_00015 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 09-Oct-2019 09:07:15 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921937.D

Injection Date: 21-Sep-2019 20:12:54 Instrument ID: CHGC10

Lims ID: ICV

Client ID:

Operator ID: ALS Bottle#: 36 Worklist Smp#: 36

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

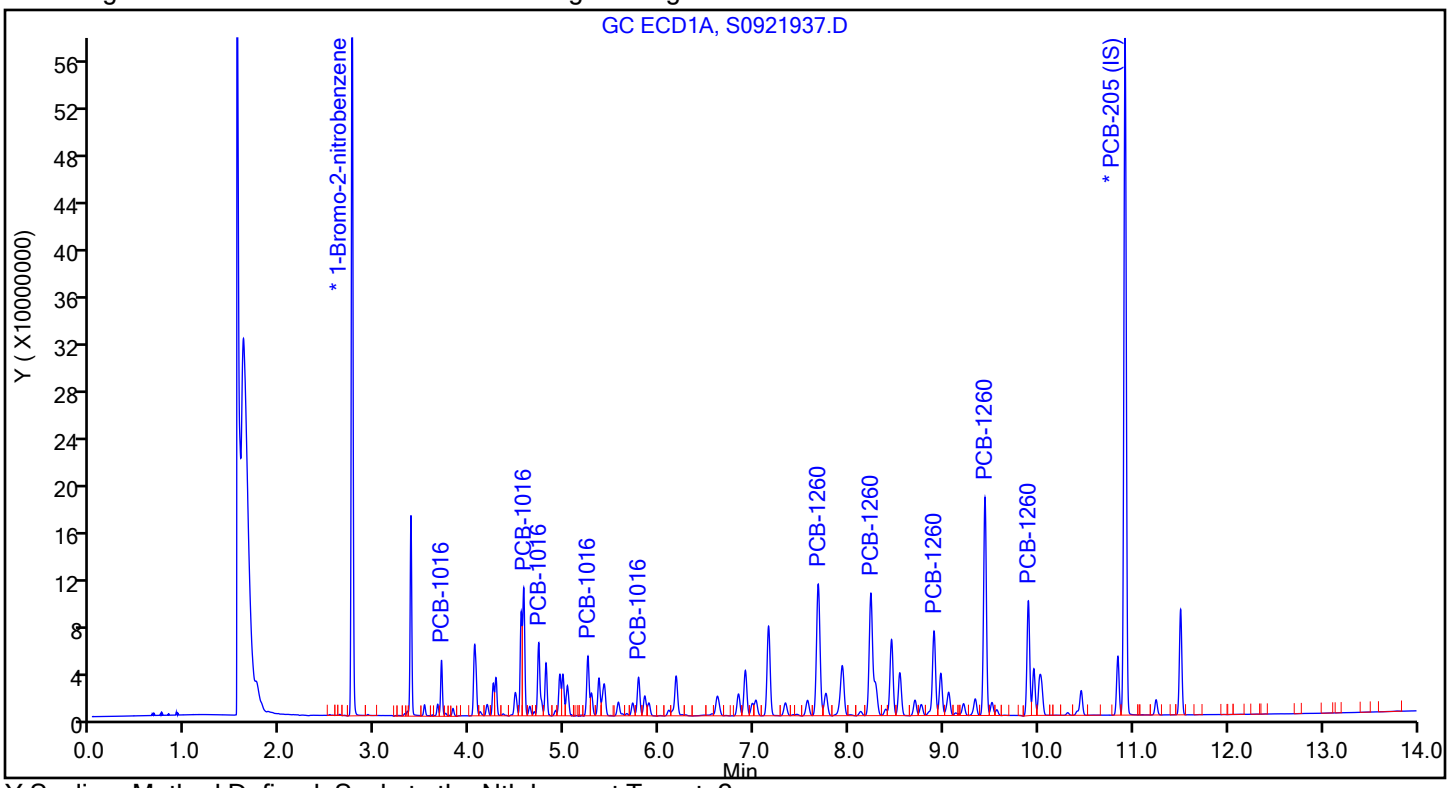

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

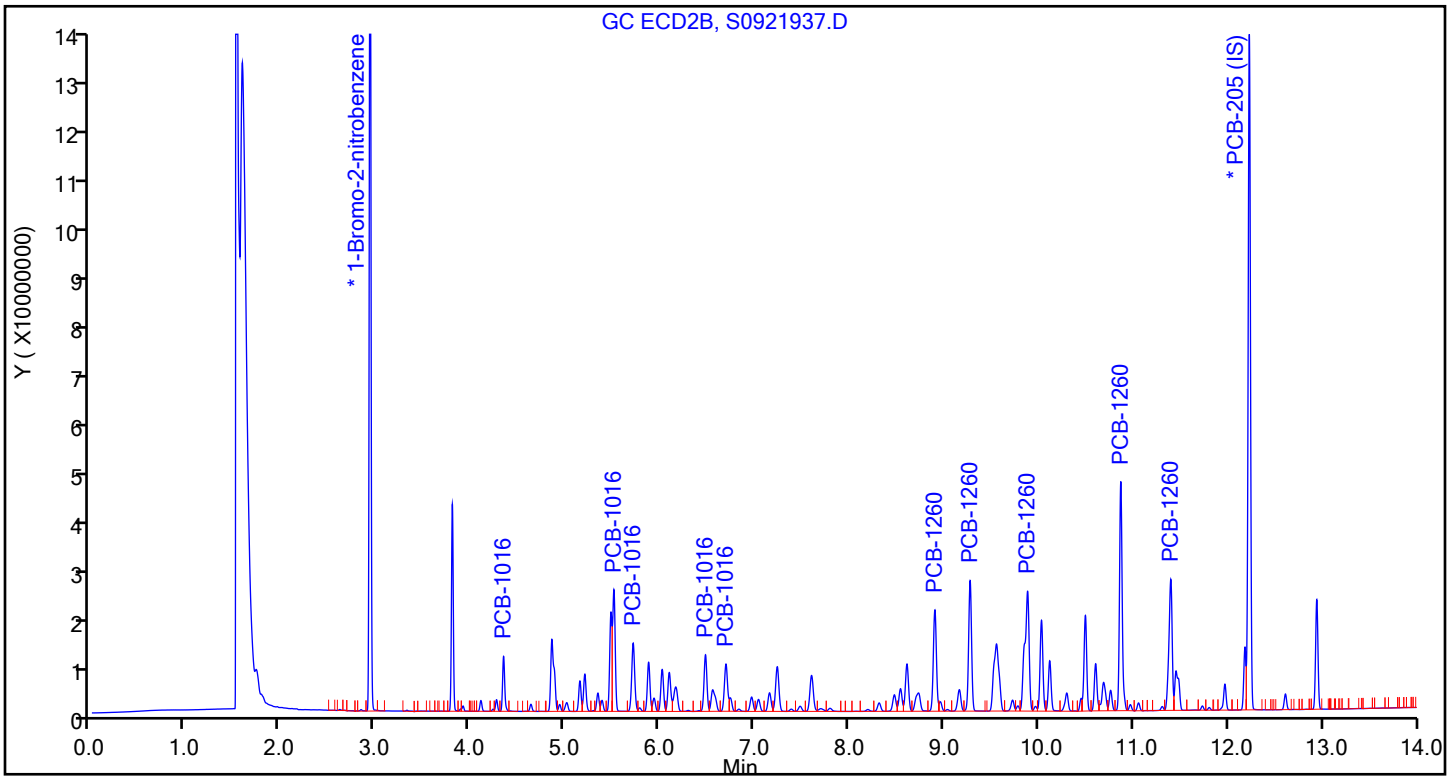

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 180-292146/36 Calibration Date: 09/21/2019 20:12

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 09:45

GC Column: RTX-CLP2 ID: 0.53(mm) Calib End Date: 09/21/2019 11:44

Lab File ID: S0921937.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Ave	0.0129	0.0115		0.445	0.500	-10.9	20.0
PCB-1016 Peak 2	Ave	0.0282	0.0254		0.450	0.500	-10.1	20.0
PCB-1016 Peak 3	Ave	0.0161	0.0142		0.442	0.500	-11.7	20.0
PCB-1016 Peak 4	Ave	0.0133	0.0118		0.443	0.500	-11.4	20.0
PCB-1016 Peak 5	Ave	0.0111	0.0098		0.442	0.500	-11.6	20.0
PCB-1260 Peak 1	Ave	0.0325	0.0300		0.462	0.500	-7.7	20.0
PCB-1260 Peak 2	Ave	0.0408	0.0387		0.474	0.500	-5.1	20.0
PCB-1260 Peak 3	Ave	0.0394	0.0355		0.450	0.500	-10.0	20.0
PCB-1260 Peak 4	Ave	0.0752	0.0678		0.451	0.500	-9.9	20.0
PCB-1260 Peak 5	Ave	0.0427	0.0388		0.454	0.500	-9.2	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 180-292146/36 Calibration Date: 09/21/2019 20:12

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 09:45

GC Column: RTX-CLP2 ID: 0.53(mm) Calib End Date: 09/21/2019 11:44

Lab File ID: S0921937.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	4.35	4.33	4.37
PCB-1016 Peak 2	5.52	5.50	5.54
PCB-1016 Peak 3	5.72	5.70	5.74
PCB-1016 Peak 4	6.48	6.46	6.50
PCB-1016 Peak 5	6.70	6.68	6.72
PCB-1260 Peak 1	8.91	8.89	8.93
PCB-1260 Peak 2	9.28	9.26	9.30
PCB-1260 Peak 3	9.89	9.87	9.91
PCB-1260 Peak 4	10.87	10.85	10.89
PCB-1260 Peak 5	11.40	11.38	11.42

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921937.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 21-Sep-2019 20:12:54 ALS Bottle#: 36 Worklist Smp#: 36
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028749-036
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 09-Oct-2019 09:07:13 Calib Date: 21-Sep-2019 11:44:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921912.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0331

First Level Reviewer: oravecj Date: 23-Sep-2019 06:48:06

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.750	2.750	0.000	636498679H	0.1000	0.1000	
2	2.940	2.940	0.000	187019869H	0.1000	0.1000	
6 PCB-1016							
1	3.695	3.695	0.000	46810229H	0.5000	0.4499	
1	4.563	4.563	0.000	107608353H	0.5000	0.4465	
1	4.722	4.722	0.000	61461018H	0.5000	0.4483	
1	5.241	5.241	0.000	50094936H	0.5000	0.4408	
1	5.776	5.776	0.000	32297019H	0.5000	0.4304	
		Average of Peak Amounts =				0.4432	
2	4.350	4.350	0.000	10711522H	0.5000	0.4454	
2	5.515	5.515	0.000	23748042H	0.5000	0.4495	
2	5.720	5.720	0.000	13314491H	0.5000	0.4416	
2	6.483	6.483	0.000	11039950H	0.5000	0.4430	
2	6.700	6.700	0.000	9204580H	0.5000	0.4420	
		Average of Peak Amounts =				0.4443	
						RPD = 0.25	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	7.675	7.675	0.000	110453250H	0.5000	0.4531	
1	8.230	8.230	0.000	102781623H	0.5000	0.4602	
1	8.898	8.898	0.000	70870700H	0.5000	0.4473	
1	9.436	9.436	0.000	182962226H	0.5000	0.4535	
1	9.895	9.895	0.000	96382217H	0.5000	0.4291	
		Average of Peak Amounts =				0.4486	
2	8.907	8.907	0.000	19765747H	0.5000	0.4617	
2	9.279	9.279	0.000	25497760H	0.5000	0.4743	
2	9.885	9.885	0.000	23367590H	0.5000	0.4499	
2	10.870	10.870	0.000	44651995H	0.5000	0.4506	
2	11.399	11.399	0.000	25558958H	0.5000	0.4539	
		Average of Peak Amounts =				0.4581	
						RPD = 2.09	
* 46 PCB-205 (IS)							
1	10.916	10.916	0.000	568106272H	0.1000	0.1000	
2	12.229	12.229	0.000	131758048H	0.1000	0.1000	

Reagents:

GCAR1660ICV_00015 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 09-Oct-2019 09:07:16 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20190921-28749.b\S0921937.D

Injection Date: 21-Sep-2019 20:12:54 Instrument ID: CHGC10

Lims ID: ICV

Client ID:

Operator ID: ALS Bottle#: 36 Worklist Smp#: 36

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

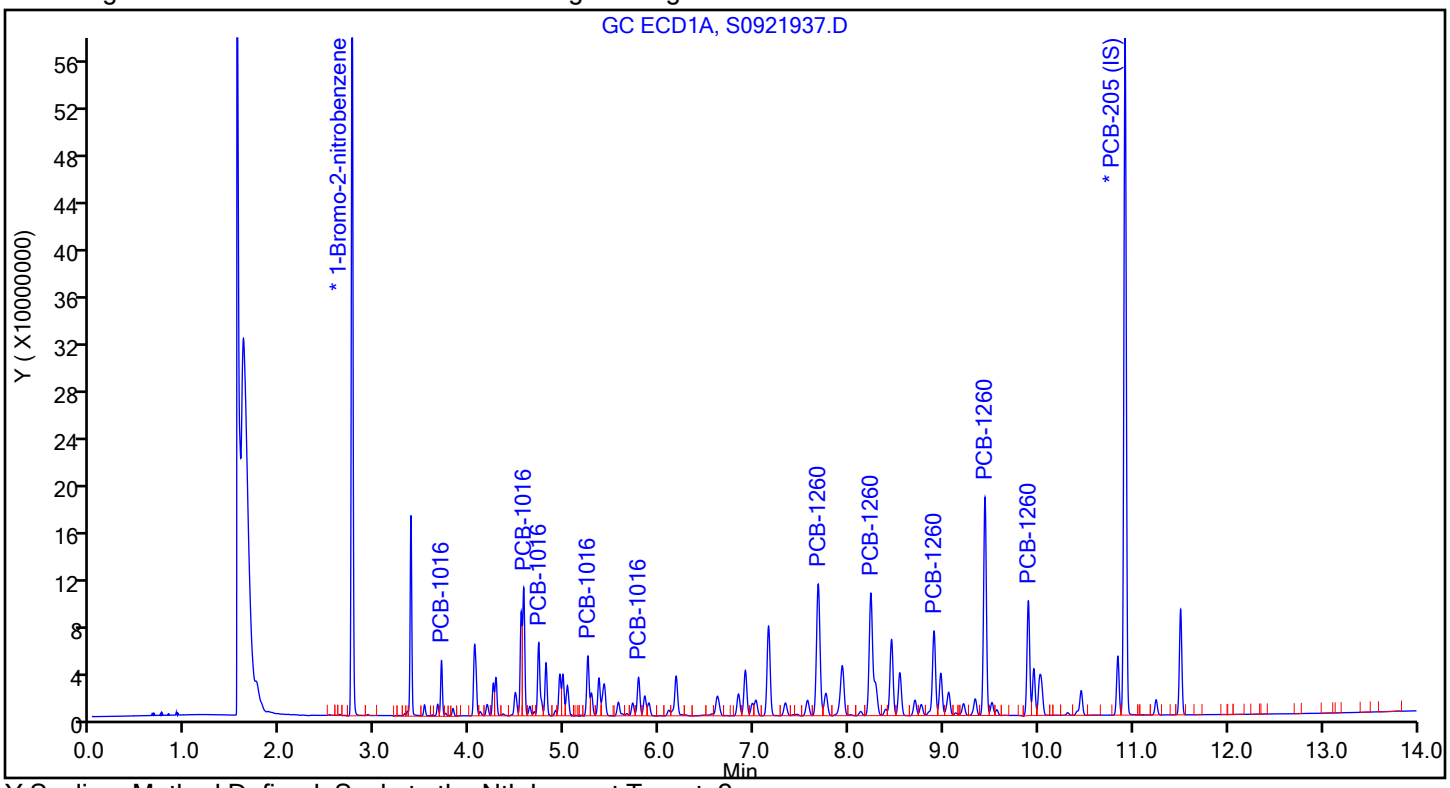

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

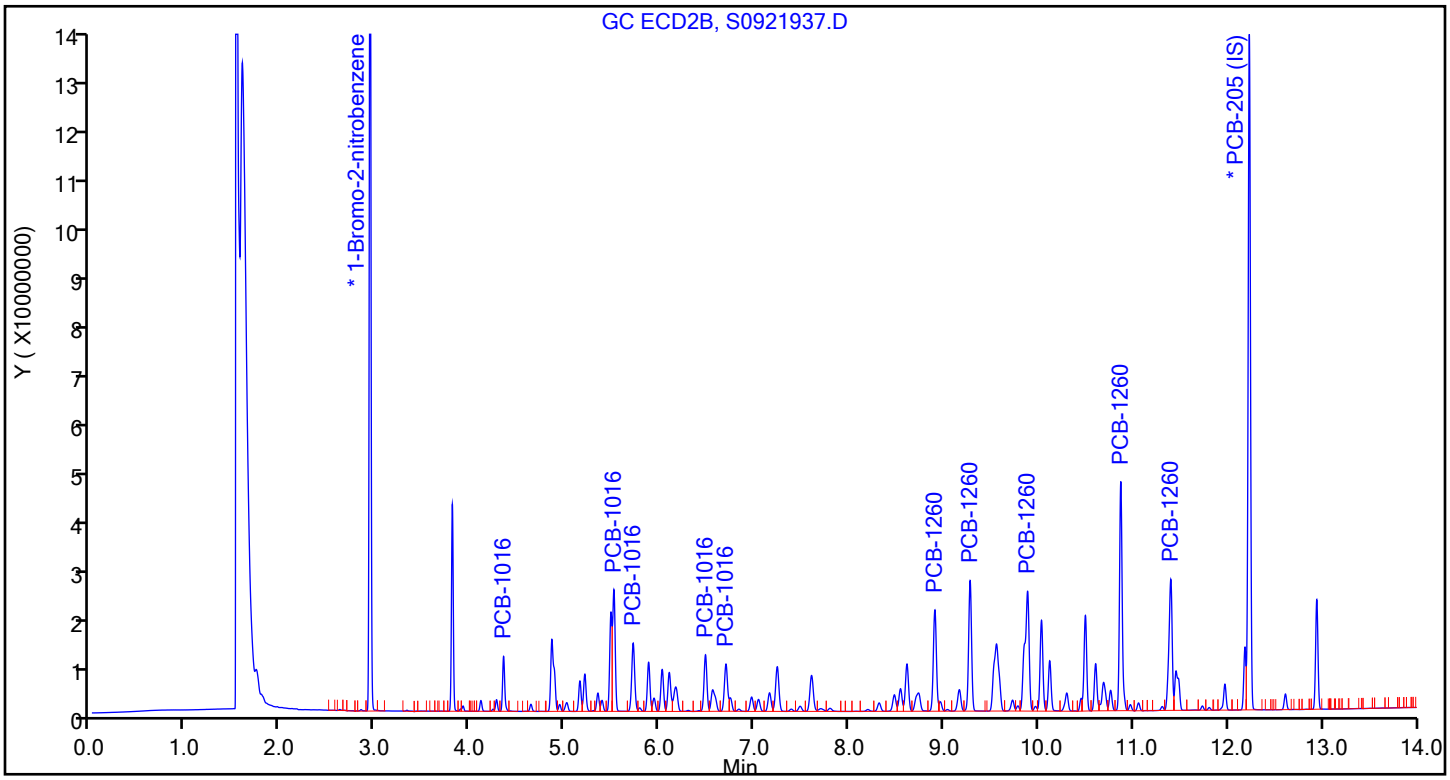

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCV 180-295495/1 Calibration Date: 10/21/2019 07:24

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 08:24

GC Column: RTX-CLP1 ID: 0.53(mm) Calib End Date: 09/21/2019 08:24

Lab File ID: S1021901.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1221 Peak 1	Ave	0.0128	0.0123		0.479	0.500	-4.2	20.0
PCB-1221 Peak 2	Ave	0.0080	0.0076		0.477	0.500	-4.7	20.0
PCB-1221 Peak 3	Ave	0.0280	0.0272		0.485	0.500	-2.9	20.0
PCB-1254 Peak 1	Ave	0.0284	0.0270		0.475	0.500	-5.0	20.0
PCB-1254 Peak 2	Ave	0.0364	0.0340		0.467	0.500	-6.6	20.0
PCB-1254 Peak 3	Ave	0.0519	0.0467		0.450	0.500	-10.1	20.0
PCB-1254 Peak 4	Ave	0.0374	0.0328		0.438	0.500	-12.4	20.0
PCB-1254 Peak 5	Ave	0.0293	0.0262		0.446	0.500	-10.8	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCV 180-295495/1 Calibration Date: 10/21/2019 07:24

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 08:24

GC Column: RTX-CLP1 ID: 0.53(mm) Calib End Date: 09/21/2019 08:24

Lab File ID: S1021901.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1221 Peak 1	3.51	3.49	3.53
PCB-1221 Peak 2	3.64	3.62	3.66
PCB-1221 Peak 3	3.68	3.66	3.70
PCB-1254 Peak 1	5.76	5.74	5.78
PCB-1254 Peak 2	6.15	6.13	6.17
PCB-1254 Peak 3	6.81	6.79	6.83
PCB-1254 Peak 4	7.30	7.28	7.32
PCB-1254 Peak 5	7.65	7.63	7.67

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021901.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 21-Oct-2019 07:24:37 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029208-001
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub21

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 21-Oct-2019 12:08:23 Calib Date: 16-Oct-2019 14:52:38
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20191016-29144.b\S1016906.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0340

First Level Reviewer: oravecj Date: 21-Oct-2019 08:25:54

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.740	2.740	0.000	558896749H	0.1000	0.1000	
2	2.926	2.926	0.000	194912987H	0.1000	0.1000	
3 PCB-1221							
1	3.505	3.505	0.000	34279585H	0.5000	0.4790	
1	3.643	3.643	0.000	21176466H	0.5000	0.4766	
1	3.683	3.683	0.000	76084672H	0.5000	0.4854	
		Average of Peak Amounts =				0.4803	
2	3.313	3.313	0.000	7067075H	0.5000	0.5000	
2	4.092	4.092	0.000	9233834H	0.5000	0.4891	
2	4.330	4.330	0.000	18739795H	0.5000	0.4846	
		Average of Peak Amounts =				0.4913	
						RPD = 2.25	
8 PCB-1254							M
1	5.759	5.759	0.000	71196634H	0.5000	0.4749	
1	6.154	6.154	0.000	89644291H	0.5000	0.4670	
1	6.810	6.810	0.000	122965845H	0.5000	0.4496	
1	7.303	7.303	0.000	86394123H	0.5000	0.4380	
1	7.652	7.652	0.000	68983338H	0.5000	0.4462	
		Average of Peak Amounts =				0.4551	
2	7.210	7.210	0.000	19931408H	0.5000	0.4009	M
2	8.514	8.514	0.000	33507782H	0.5000	0.3930	M
2	8.937	8.937	0.000	25047086H	0.5000	0.3906	M
2	9.550	9.550	0.000	19446418H	0.5000	0.4018	M
2	9.863	9.863	0.000	29984776H	0.5000	0.4091	M
		Average of Peak Amounts =				0.3991	
						RPD = 13.13	
* 46 PCB-205 (IS)							
1	10.899	10.899	0.000	527190381H	0.1000	0.1000	
2	12.207	12.207	0.000	157622064H	0.1000	0.1000	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCAR2154CALL4_00021	Amount Added:	1.00	Units: mL	
PCBINT_00010	Amount Added:	0.01	Units: mL	Run Reagent

Report Date: 21-Oct-2019 12:08:24 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021901.D				
Injection Date:	21-Oct-2019 07:24:37	Instrument ID:	CHGC10		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

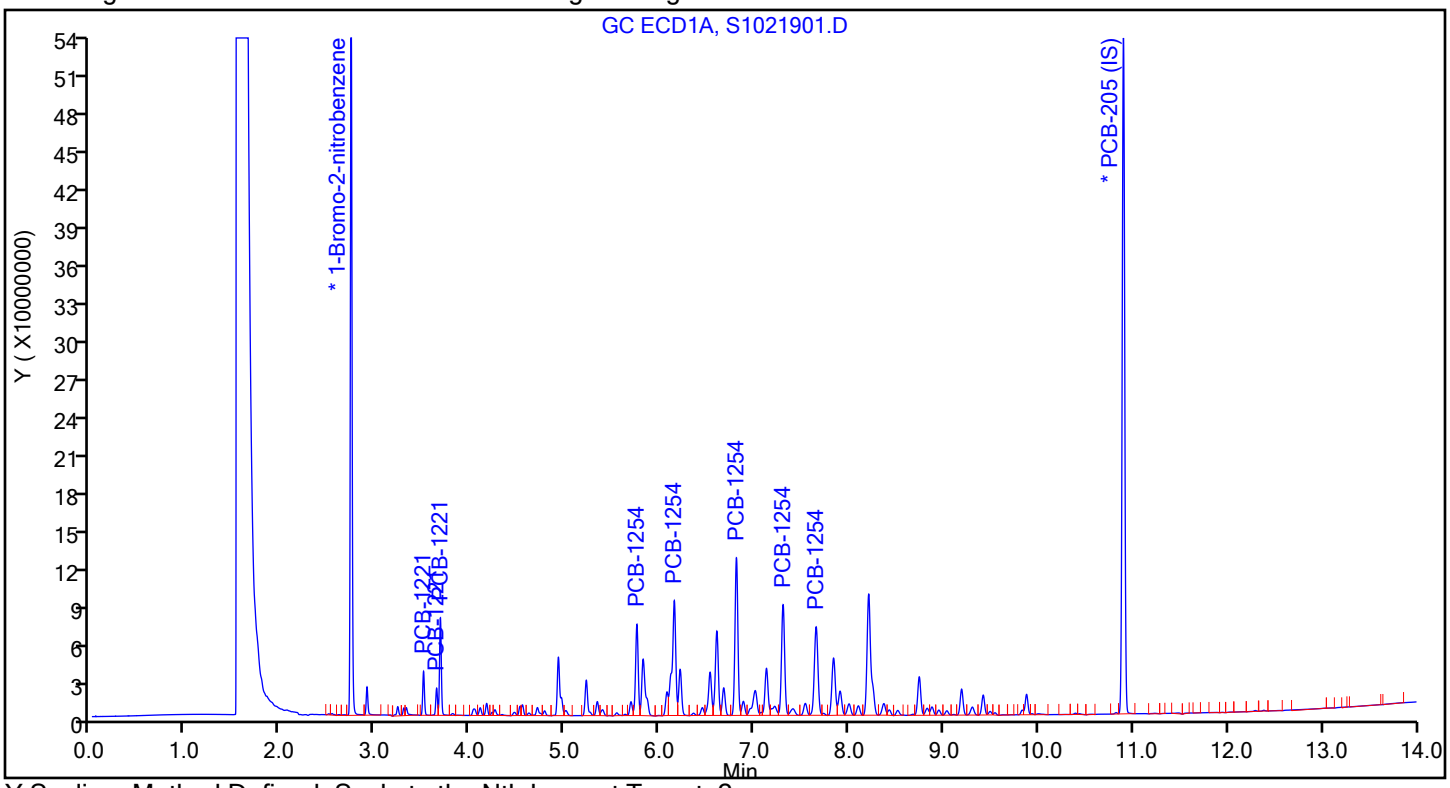

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

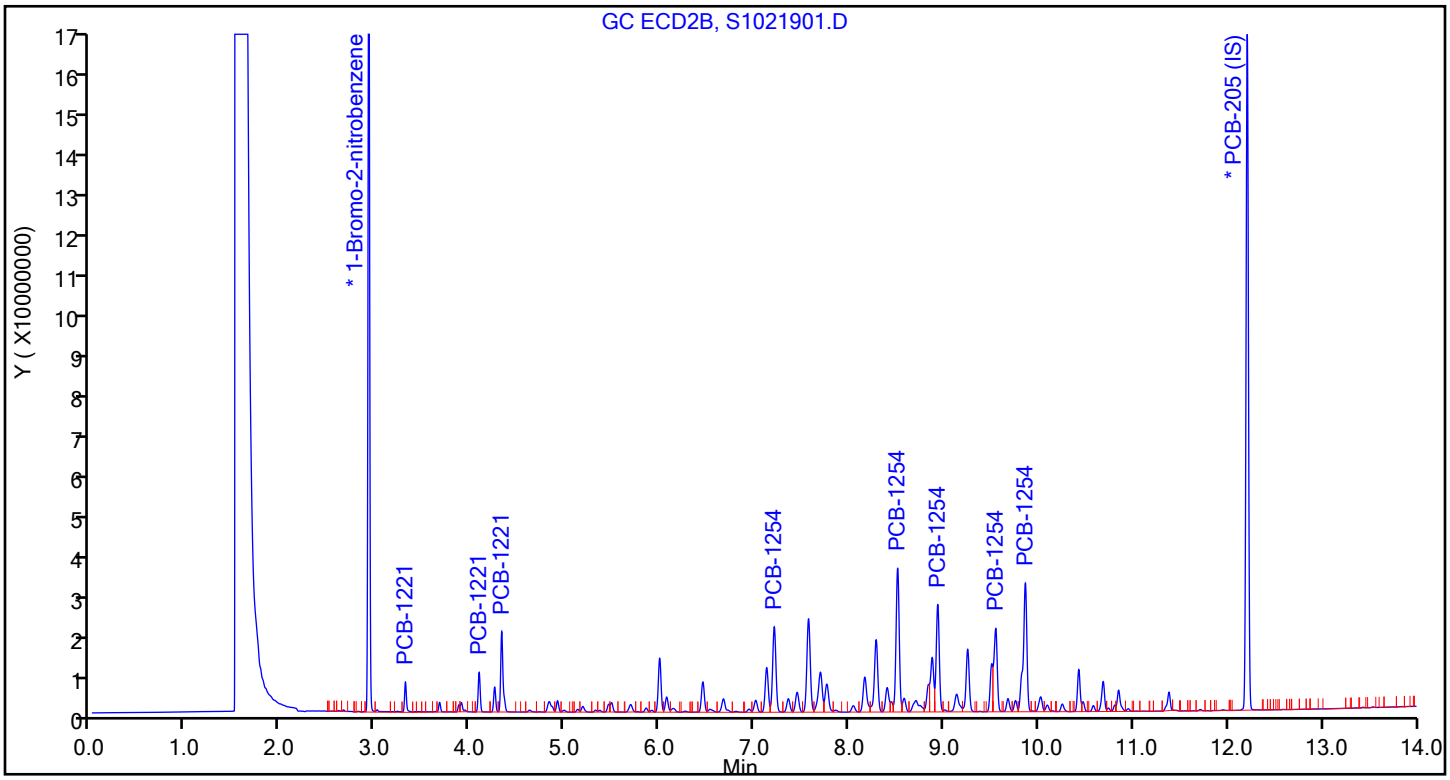

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCV 180-295495/1 Calibration Date: 10/21/2019 07:24

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 08:24

GC Column: RTX-CLP2 ID: 0.53(mm) Calib End Date: 09/21/2019 08:24

Lab File ID: S1021901.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1221 Peak 1	Ave	0.0073	0.0073		0.500	0.500	0.0	20.0
PCB-1221 Peak 2	Ave	0.0097	0.0095		0.489	0.500	-2.2	20.0
PCB-1221 Peak 3	Ave	0.0198	0.0192		0.485	0.500	-3.1	20.0
PCB-1254 Peak 1	Ave	0.0315	0.0253		0.401	0.500	-19.8	20.0
PCB-1254 Peak 2	Ave	0.0541	0.0425		0.393	0.500	-21.4*	20.0
PCB-1254 Peak 3	Ave	0.0407	0.0318		0.391	0.500	-21.9*	20.0
PCB-1254 Peak 4	Ave	0.0307	0.0247		0.402	0.500	-19.6	20.0
PCB-1254 Peak 5	Ave	0.0465	0.0381		0.409	0.500	-18.2	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCV 180-295495/1 Calibration Date: 10/21/2019 07:24

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 08:24

GC Column: RTX-CLP2 ID: 0.53(mm) Calib End Date: 09/21/2019 08:24

Lab File ID: S1021901.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1221 Peak 1	3.31	3.29	3.33
PCB-1221 Peak 2	4.09	4.07	4.11
PCB-1221 Peak 3	4.33	4.31	4.35
PCB-1254 Peak 1	7.21	7.19	7.23
PCB-1254 Peak 2	8.51	8.49	8.53
PCB-1254 Peak 3	8.94	8.92	8.96
PCB-1254 Peak 4	9.55	9.53	9.57
PCB-1254 Peak 5	9.86	9.84	9.88

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021901.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 21-Oct-2019 07:24:37 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029208-001
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub21

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 21-Oct-2019 12:08:23 Calib Date: 16-Oct-2019 14:52:38
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20191016-29144.b\S1016906.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0340

First Level Reviewer: oravecj Date: 21-Oct-2019 08:25:54

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.740	2.740	0.000	558896749H	0.1000	0.1000	
2	2.926	2.926	0.000	194912987H	0.1000	0.1000	
3 PCB-1221							
1	3.505	3.505	0.000	34279585H	0.5000	0.4790	
1	3.643	3.643	0.000	21176466H	0.5000	0.4766	
1	3.683	3.683	0.000	76084672H	0.5000	0.4854	
		Average of Peak Amounts =				0.4803	
2	3.313	3.313	0.000	7067075H	0.5000	0.5000	
2	4.092	4.092	0.000	9233834H	0.5000	0.4891	
2	4.330	4.330	0.000	18739795H	0.5000	0.4846	
		Average of Peak Amounts =				0.4913	
						RPD = 2.25	
8 PCB-1254							M
1	5.759	5.759	0.000	71196634H	0.5000	0.4749	
1	6.154	6.154	0.000	89644291H	0.5000	0.4670	
1	6.810	6.810	0.000	122965845H	0.5000	0.4496	
1	7.303	7.303	0.000	86394123H	0.5000	0.4380	
1	7.652	7.652	0.000	68983338H	0.5000	0.4462	
		Average of Peak Amounts =				0.4551	
2	7.210	7.210	0.000	19931408H	0.5000	0.4009	M
2	8.514	8.514	0.000	33507782H	0.5000	0.3930	M
2	8.937	8.937	0.000	25047086H	0.5000	0.3906	M
2	9.550	9.550	0.000	19446418H	0.5000	0.4018	M
2	9.863	9.863	0.000	29984776H	0.5000	0.4091	M
		Average of Peak Amounts =				0.3991	
						RPD = 13.13	
* 46 PCB-205 (IS)							
1	10.899	10.899	0.000	527190381H	0.1000	0.1000	
2	12.207	12.207	0.000	157622064H	0.1000	0.1000	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCAR2154CALL4_00021	Amount Added:	1.00	Units: mL	
PCBINT_00010	Amount Added:	0.01	Units: mL	Run Reagent

Report Date: 21-Oct-2019 12:08:24 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021901.D

Injection Date: 21-Oct-2019 07:24:37 Instrument ID: CHGC10

Lims ID: CCV

Client ID:

Operator ID: ALS Bottle#: 1 Worklist Smp#: 1

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

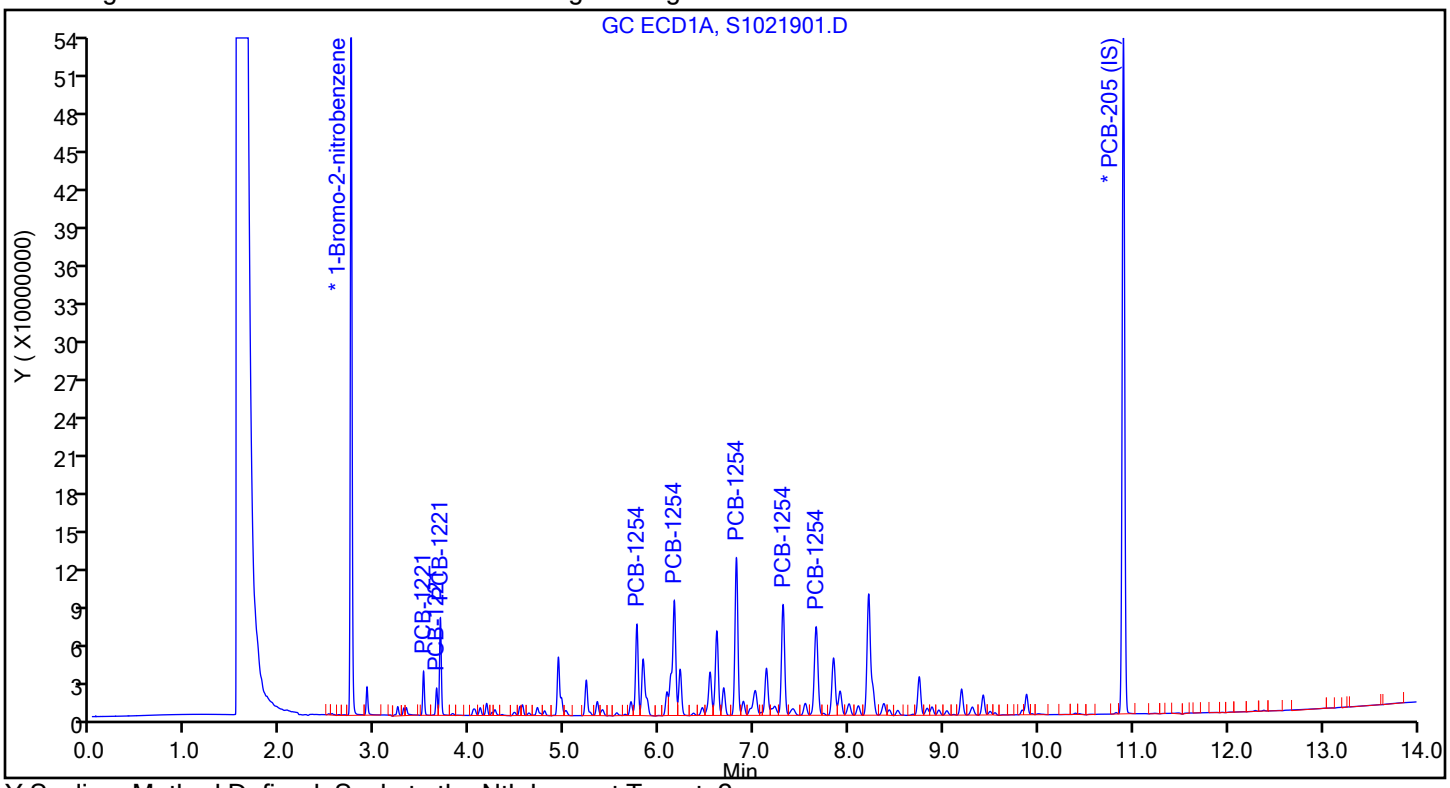

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

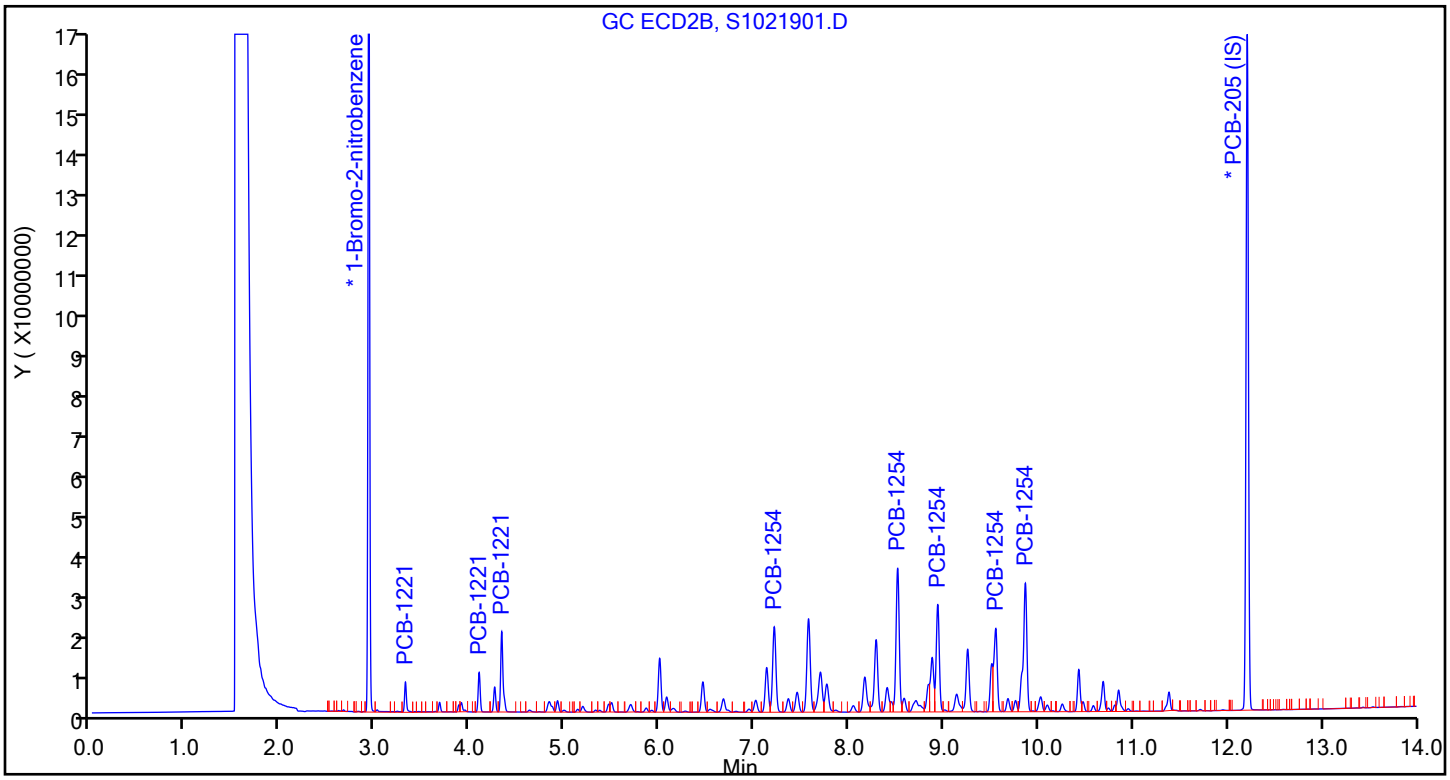

Report Date: 21-Oct-2019 12:08:24 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021901.D				
Injection Date:	21-Oct-2019 07:24:37	Instrument ID:	CHGC10		
Lims ID:	CCV				
Client ID:					
Operator ID:		ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		
Column:		Detector	GC ECD2B		

8 PCB-1254, CAS: 11097-69-1

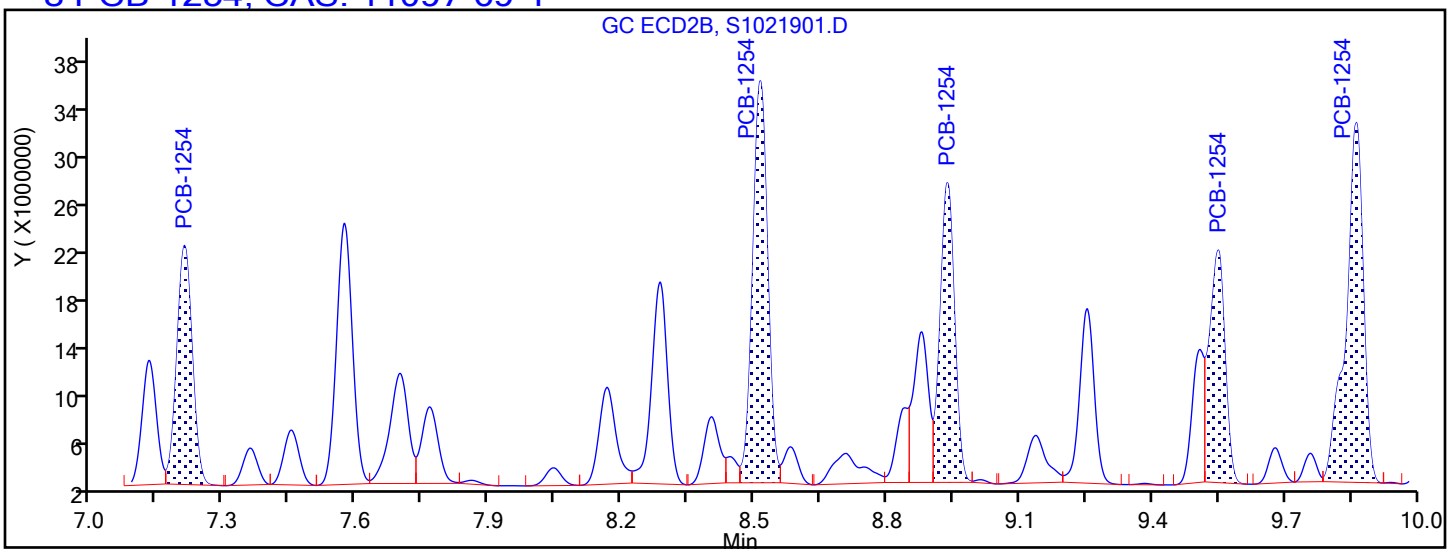

Processing Integration Results

7.210	Response = 19796285
8.514	Response = 33284762
8.937	Response = 24811381
9.550	Response = 19256821
9.863	Response = 29789627

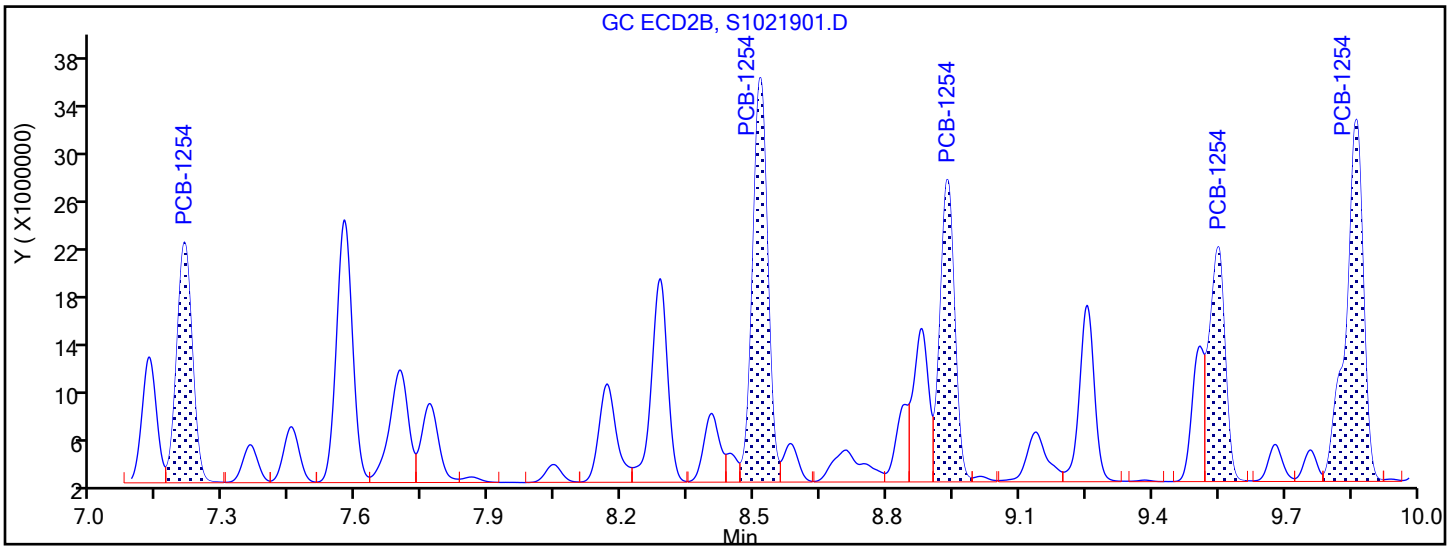

Manual Integration Results

7.210	Response = 19931408	M
8.514	Response = 33507782	M
8.937	Response = 25047086	M
9.550	Response = 19446418	M
9.863	Response = 29984776	M

Reviewer: oravecj, 21-Oct-2019 08:25:46

Audit Action: Assigned New Baseline Audit Reason: Instrument noise

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCV 180-295495/4 Calibration Date: 10/21/2019 08:23

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 09:25

GC Column: RTX-CLP1 ID: 0.53(mm) Calib End Date: 09/21/2019 09:25

Lab File ID: S1021904.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1248 Peak 1	Ave	0.0107	0.0098		0.455	0.500	-8.9	20.0
PCB-1248 Peak 2	Ave	0.0199	0.0205		0.513	0.500	2.6	20.0
PCB-1248 Peak 3	Ave	0.0262	0.0278		0.531	0.500	6.2	20.0
PCB-1248 Peak 4	Ave	0.0289	0.0302		0.523	0.500	4.6	20.0
PCB-1248 Peak 5	Ave	0.0137	0.0143		0.521	0.500	4.2	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCV 180-295495/4 Calibration Date: 10/21/2019 08:23

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 09:25

GC Column: RTX-CLP1 ID: 0.53(mm) Calib End Date: 09/21/2019 09:25

Lab File ID: S1021904.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1248 Peak 1	4.03	4.01	4.05
PCB-1248 Peak 2	4.93	4.91	4.95
PCB-1248 Peak 3	5.22	5.20	5.24
PCB-1248 Peak 4	5.82	5.80	5.84
PCB-1248 Peak 5	6.81	6.79	6.83

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021904.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 21-Oct-2019 08:23:53 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029208-004
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub24

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 21-Oct-2019 12:08:11 Calib Date: 16-Oct-2019 14:52:38
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20191016-29144.b\S1016906.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0340

First Level Reviewer: oravecj Date: 21-Oct-2019 09:19:40

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.738	2.738	0.000	491981912H	0.1000	0.1000	
2	2.928	2.928	0.000	171359809H	0.1000	0.1000	
7 PCB-1248							
1	4.029	4.029	0.000	24008531H	0.5000	0.4554	
1	4.928	4.928	0.000	50337254H	0.5000	0.5132	
1	5.221	5.221	0.000	68362527H	0.5000	0.5311	
1	5.820	5.820	0.000	74248734H	0.5000	0.5230	
1	6.807	6.807	0.000	35145781H	0.5000	0.5211	
		Average of Peak Amounts =				0.5088	
2	4.840	4.840	0.000	8007117H	0.5000	0.5373	
2	6.000	6.000	0.000	14127181H	0.5000	0.5137	
2	6.673	6.673	0.000	14468632H	0.5000	0.5080	
2	7.219	7.219	0.000	19299412H	0.5000	0.4940	
2	7.668	7.668	0.000	13696477H	0.5000	0.4853	
		Average of Peak Amounts =				0.5077	
						RPD = 0.21	
* 46 PCB-205 (IS)							
1	10.899	10.899	0.000	497149842H	0.1000	0.1000	
2	12.208	12.208	0.000	146235079H	0.1000	0.1000	

Reagents:

GCAR1248CALL4_00022 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 21-Oct-2019 12:08:12 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021904.D

Injection Date: 21-Oct-2019 08:23:53 Instrument ID: CHGC10

Lims ID: CCV

Client ID:

Operator ID: ALS Bottle#: 4 Worklist Smp#: 4

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

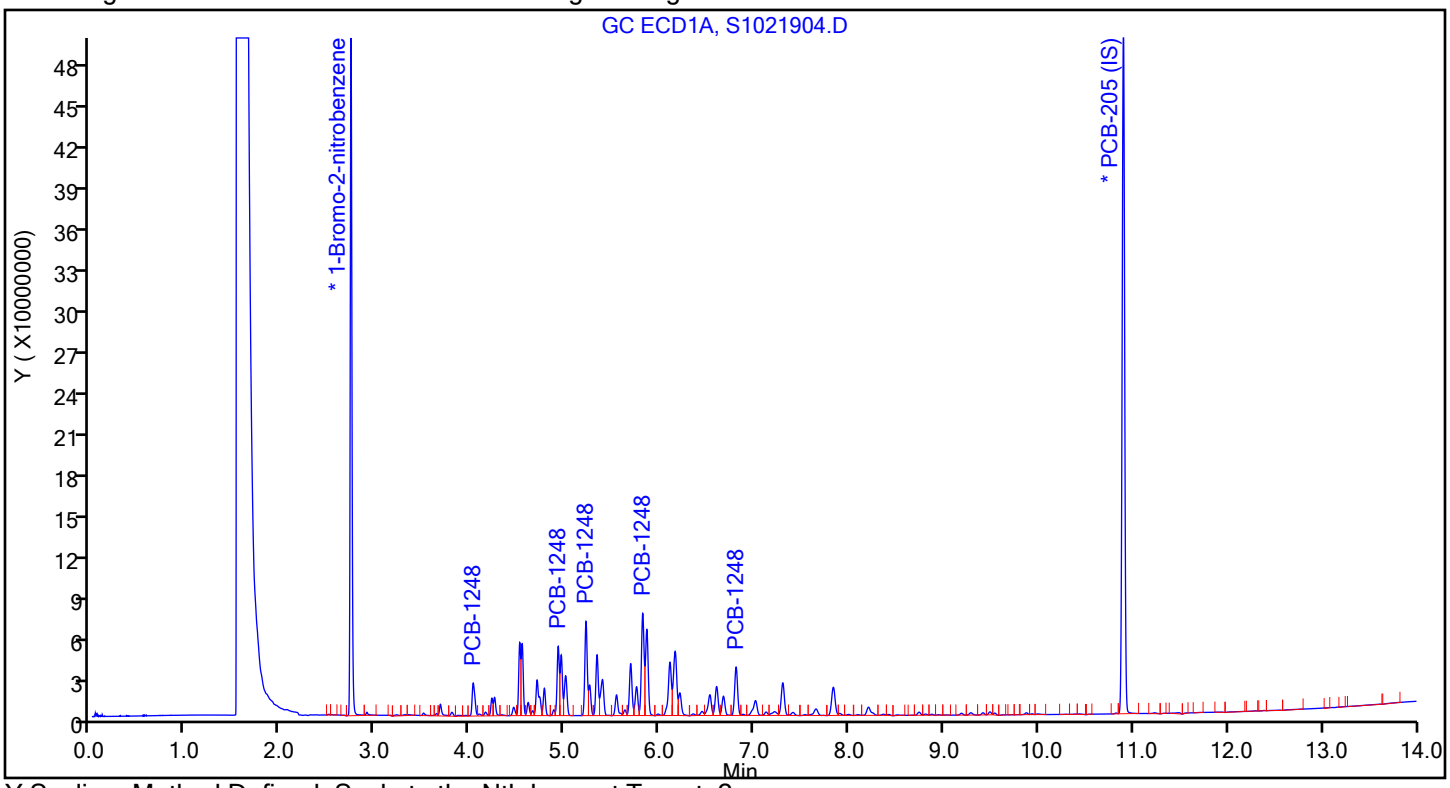

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

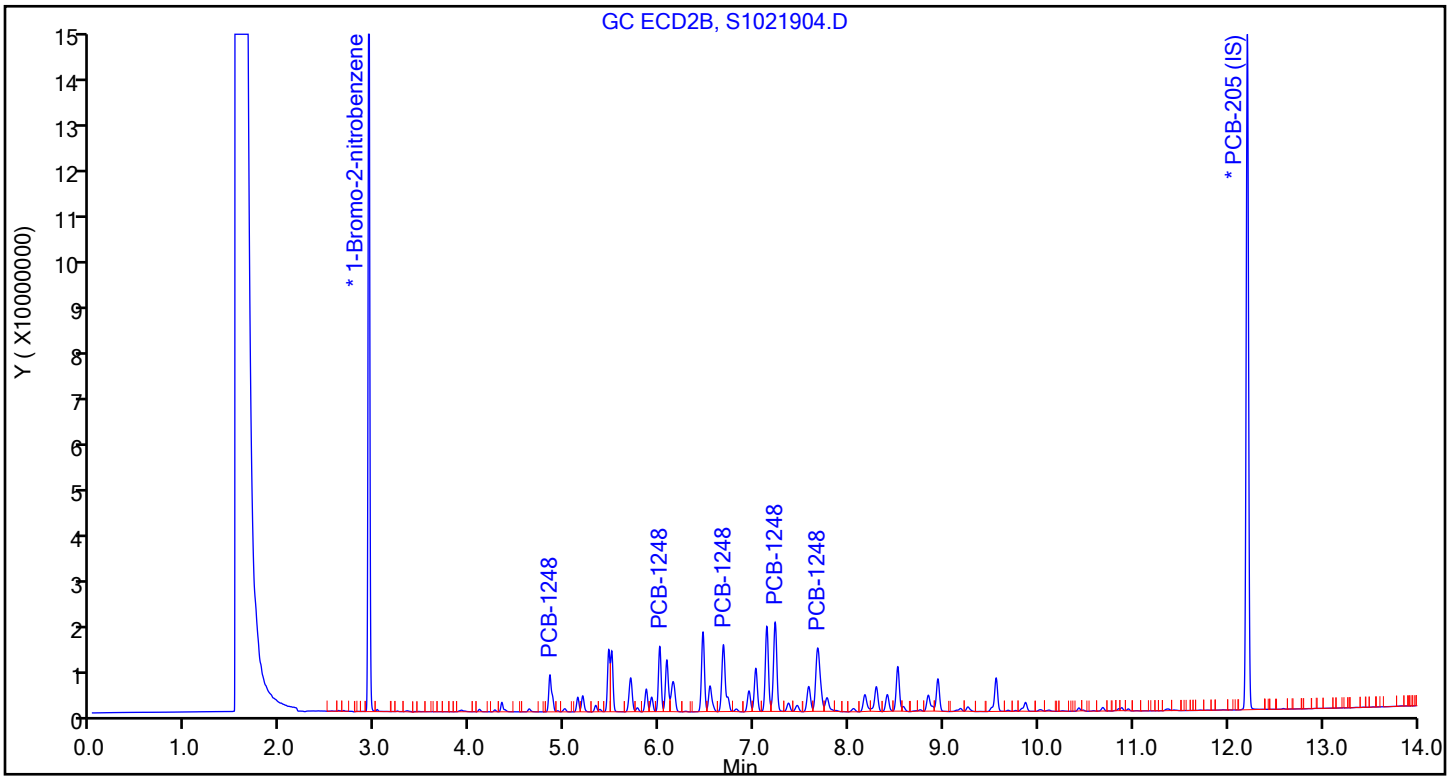

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCV 180-295495/4 Calibration Date: 10/21/2019 08:23

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 09:25

GC Column: RTX-CLP2 ID: 0.53(mm) Calib End Date: 09/21/2019 09:25

Lab File ID: S1021904.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1248 Peak 1	Ave	0.0087	0.0094		0.537	0.500	7.5	20.0
PCB-1248 Peak 2	Ave	0.0160	0.0165		0.514	0.500	2.7	20.0
PCB-1248 Peak 3	Ave	0.0166	0.0169		0.508	0.500	1.6	20.0
PCB-1248 Peak 4	Ave	0.0228	0.0225		0.494	0.500	-1.2	20.0
PCB-1248 Peak 5	Ave	0.0165	0.0160		0.485	0.500	-2.9	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCV 180-295495/4 Calibration Date: 10/21/2019 08:23

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 09:25

GC Column: RTX-CLP2 ID: 0.53(mm) Calib End Date: 09/21/2019 09:25

Lab File ID: S1021904.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1248 Peak 1	4.84	4.82	4.86
PCB-1248 Peak 2	6.00	5.98	6.02
PCB-1248 Peak 3	6.67	6.65	6.69
PCB-1248 Peak 4	7.22	7.20	7.24
PCB-1248 Peak 5	7.67	7.65	7.69

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021904.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 21-Oct-2019 08:23:53 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029208-004
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub24

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 21-Oct-2019 12:08:11 Calib Date: 16-Oct-2019 14:52:38
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20191016-29144.b\S1016906.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0340

First Level Reviewer: oravecj Date: 21-Oct-2019 09:19:40

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.738	2.738	0.000	491981912H	0.1000	0.1000	
2	2.928	2.928	0.000	171359809H	0.1000	0.1000	
7 PCB-1248							
1	4.029	4.029	0.000	24008531H	0.5000	0.4554	
1	4.928	4.928	0.000	50337254H	0.5000	0.5132	
1	5.221	5.221	0.000	68362527H	0.5000	0.5311	
1	5.820	5.820	0.000	74248734H	0.5000	0.5230	
1	6.807	6.807	0.000	35145781H	0.5000	0.5211	
		Average of Peak Amounts =				0.5088	
2	4.840	4.840	0.000	8007117H	0.5000	0.5373	
2	6.000	6.000	0.000	14127181H	0.5000	0.5137	
2	6.673	6.673	0.000	14468632H	0.5000	0.5080	
2	7.219	7.219	0.000	19299412H	0.5000	0.4940	
2	7.668	7.668	0.000	13696477H	0.5000	0.4853	
		Average of Peak Amounts =				0.5077	
						RPD = 0.21	
* 46 PCB-205 (IS)							
1	10.899	10.899	0.000	497149842H	0.1000	0.1000	
2	12.208	12.208	0.000	146235079H	0.1000	0.1000	

Reagents:

GCAR1248CALL4_00022 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 21-Oct-2019 12:08:12 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021904.D

Injection Date: 21-Oct-2019 08:23:53 Instrument ID: CHGC10

Lims ID: CCV

Client ID:

Operator ID: ALS Bottle#: 4 Worklist Smp#: 4

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

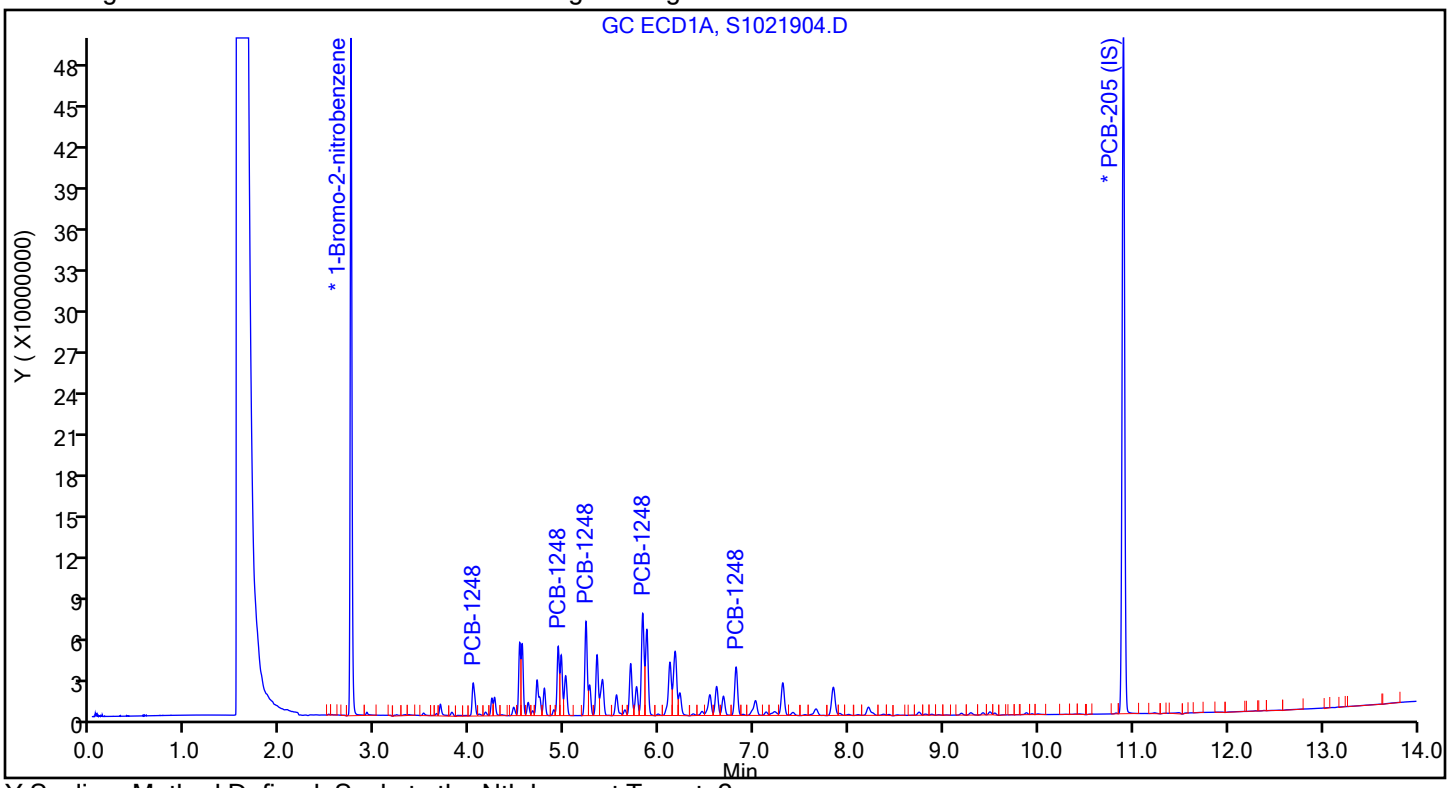

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

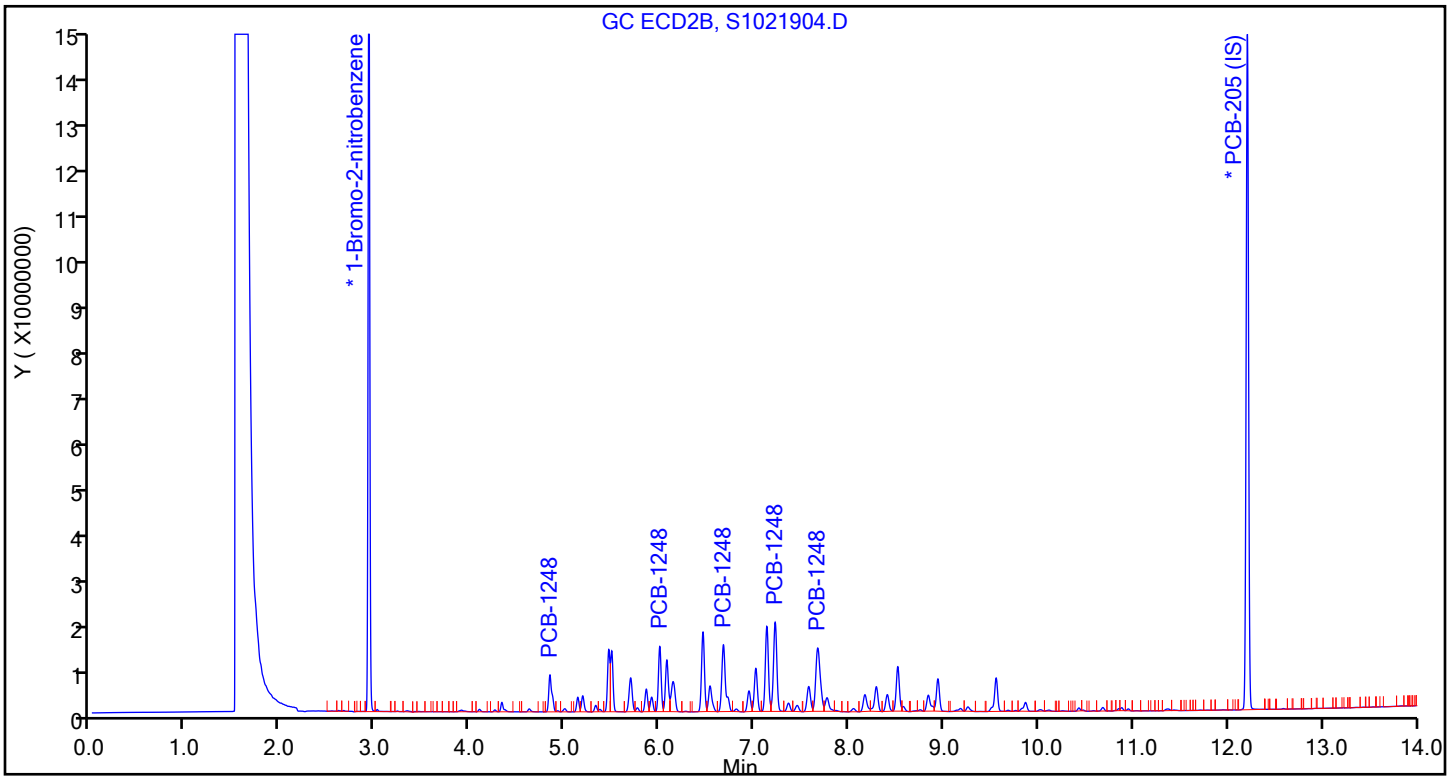

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCVIS 180-295495/68 Calibration Date: 10/22/2019 05:20

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 09:45

GC Column: RTX-CLP1 ID: 0.53(mm) Calib End Date: 09/21/2019 11:44

Lab File ID: S1021968.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Ave	0.0163	0.0160		0.488	0.500	-2.4	20.0
PCB-1016 Peak 2	Ave	0.0379	0.0363		0.479	0.500	-4.1	20.0
PCB-1016 Peak 3	Ave	0.0215	0.0206		0.478	0.500	-4.4	20.0
PCB-1016 Peak 4	Ave	0.0179	0.0166		0.465	0.500	-6.9	20.0
PCB-1016 Peak 5	Ave	0.0118	0.0111		0.469	0.500	-6.3	20.0
PCB-1260 Peak 1	Ave	0.0429	0.0436		0.508	0.500	1.6	20.0
PCB-1260 Peak 2	Ave	0.0393	0.0399		0.508	0.500	1.6	20.0
PCB-1260 Peak 3	Ave	0.0279	0.0281		0.504	0.500	0.8	20.0
PCB-1260 Peak 4	Ave	0.0710	0.0700		0.493	0.500	-1.5	20.0
PCB-1260 Peak 5	Ave	0.0395	0.0373		0.471	0.500	-5.8	20.0
Tetrachloro-m-xylene (Surr)	Ave	1.186	1.101		0.0232	0.0250	-7.2	20.0
DCB Decachlorobiphenyl (Surr)	Ave	0.7566	0.6352		0.0210	0.0250	-16.1	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCVIS 180-295495/68 Calibration Date: 10/22/2019 05:20

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 09:45

GC Column: RTX-CLP1 ID: 0.53(mm) Calib End Date: 09/21/2019 11:44

Lab File ID: S1021968.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	3.68	3.66	3.70
PCB-1016 Peak 2	4.55	4.53	4.57
PCB-1016 Peak 3	4.70	4.68	4.72
PCB-1016 Peak 4	5.22	5.20	5.24
PCB-1016 Peak 5	5.76	5.74	5.78
PCB-1260 Peak 1	7.65	7.63	7.67
PCB-1260 Peak 2	8.20	8.18	8.22
PCB-1260 Peak 3	8.87	8.85	8.89
PCB-1260 Peak 4	9.41	9.39	9.43
PCB-1260 Peak 5	9.87	9.85	9.89
Tetrachloro-m-xylene (Surr)	3.36	3.34	3.38
DCB Decachlorobiphenyl (Surr)	11.49	11.47	11.51

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021968.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 22-Oct-2019 05:20:39 ALS Bottle#: 68 Worklist Smp#: 68
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029208-068
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Oct-2019 08:45:52 Calib Date: 16-Oct-2019 14:52:38
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20191016-29144.b\S1016906.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: oravecj Date: 23-Oct-2019 08:45:20

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.740	2.740	0.000	556347871H	0.1000	0.1000	
2	2.927	2.927	0.000	178773699H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.359	3.359	0.000	153081715H	0.0250	0.0232	
2	3.792	3.792	0.000	41663883H	0.0250	0.0250	
						RPD = 7.58	
6 PCB-1016							
1	3.681	3.681	0.000	44405665H	0.5000	0.4882	
1	4.546	4.546	0.000	100996636H	0.5000	0.4795	
1	4.703	4.703	0.000	57263502H	0.5000	0.4778	
1	5.221	5.221	0.000	46225853H	0.5000	0.4653	
1	5.756	5.756	0.000	30734735H	0.5000	0.4686	
		Average of Peak Amounts =				0.4759	
2	4.331	4.331	0.000	11412134H	0.5000	0.4965	
2	5.492	5.492	0.000	24955070H	0.5000	0.4942	
2	5.695	5.695	0.000	13971009H	0.5000	0.4847	
2	6.456	6.456	0.000	11064996H	0.5000	0.4645	
2	6.673	6.673	0.000	9612197H	0.5000	0.4829	
		Average of Peak Amounts =				0.4845	
						RPD = 1.80	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	7.646	7.646	0.000	105872987H	0.5000	0.5080	
1	8.203	8.203	0.000	96962398H	0.5000	0.5078	
1	8.874	8.874	0.000	68276154H	0.5000	0.5040	
1	9.414	9.414	0.000	169952178H	0.5000	0.4927	
1	9.874	9.874	0.000	90506333H	0.5000	0.4712	
		Average of Peak Amounts =				0.4967	
2	8.881	8.881	0.000	19079992H	0.5000	0.4581	
2	9.255	9.255	0.000	25531919H	0.5000	0.4882	
2	9.863	9.863	0.000	23525216H	0.5000	0.4656	
2	10.849	10.849	0.000	45126209H	0.5000	0.4681	
2	11.376	11.376	0.000	25795968H	0.5000	0.4708	
		Average of Peak Amounts =				0.4702	
						RPD = 5.50	
* 46 PCB-205 (IS)							
1	10.898	10.898	0.000	485729548H	0.1000	0.1000	
2	12.209	12.209	0.000	128188707H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.485	11.485	0.000	77131062H	0.0250	0.0210	
2	12.920	12.920	0.000	22521937H	0.0250	0.0233	
						RPD = 10.39	

Reagents:

GCAR1660CALL4_00019 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Oct-2019 08:45:53 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021968.D

Injection Date: 22-Oct-2019 05:20:39 Instrument ID: CHGC10

Lims ID: CCVIS

Client ID:

Operator ID: ALS Bottle#: 68 Worklist Smp#: 68

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

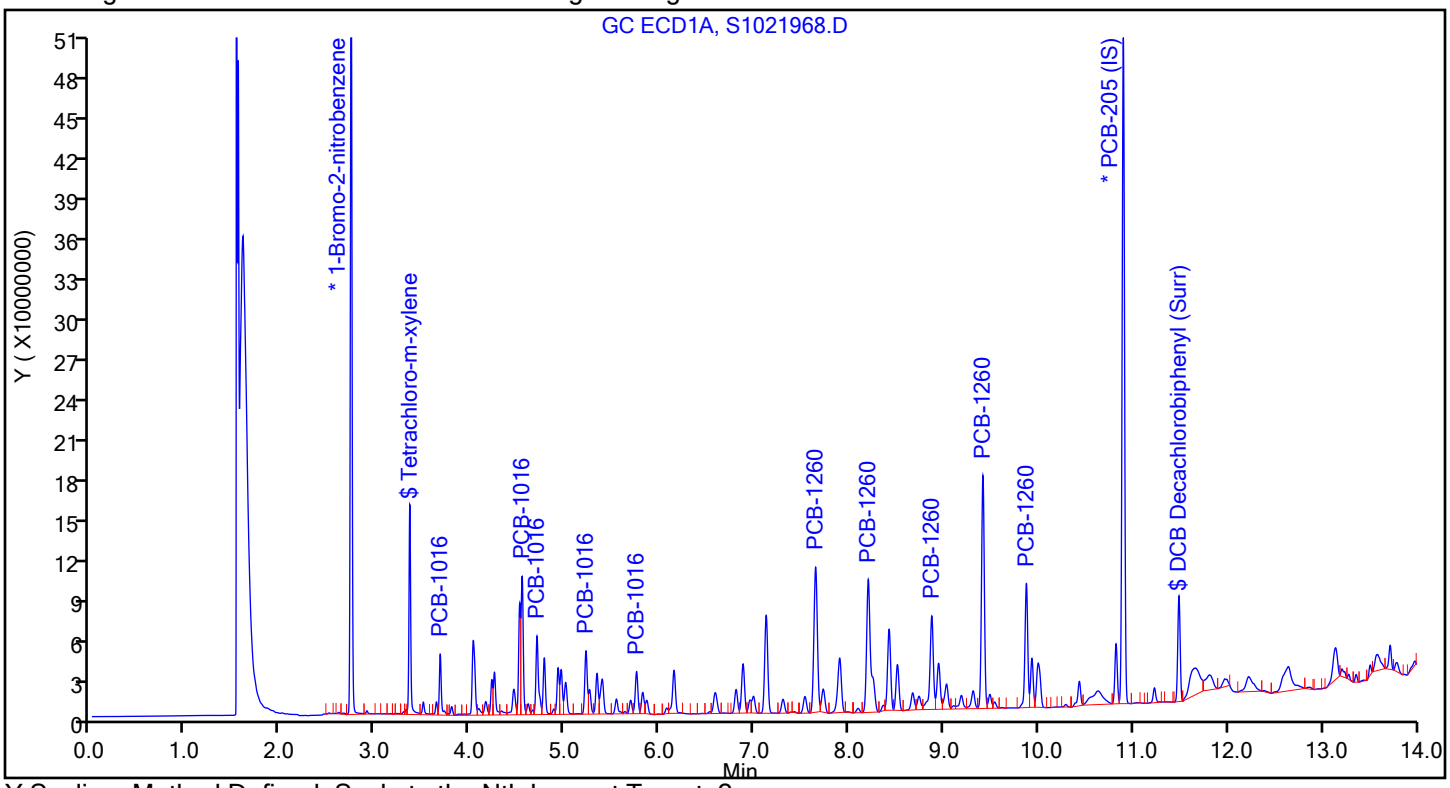

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

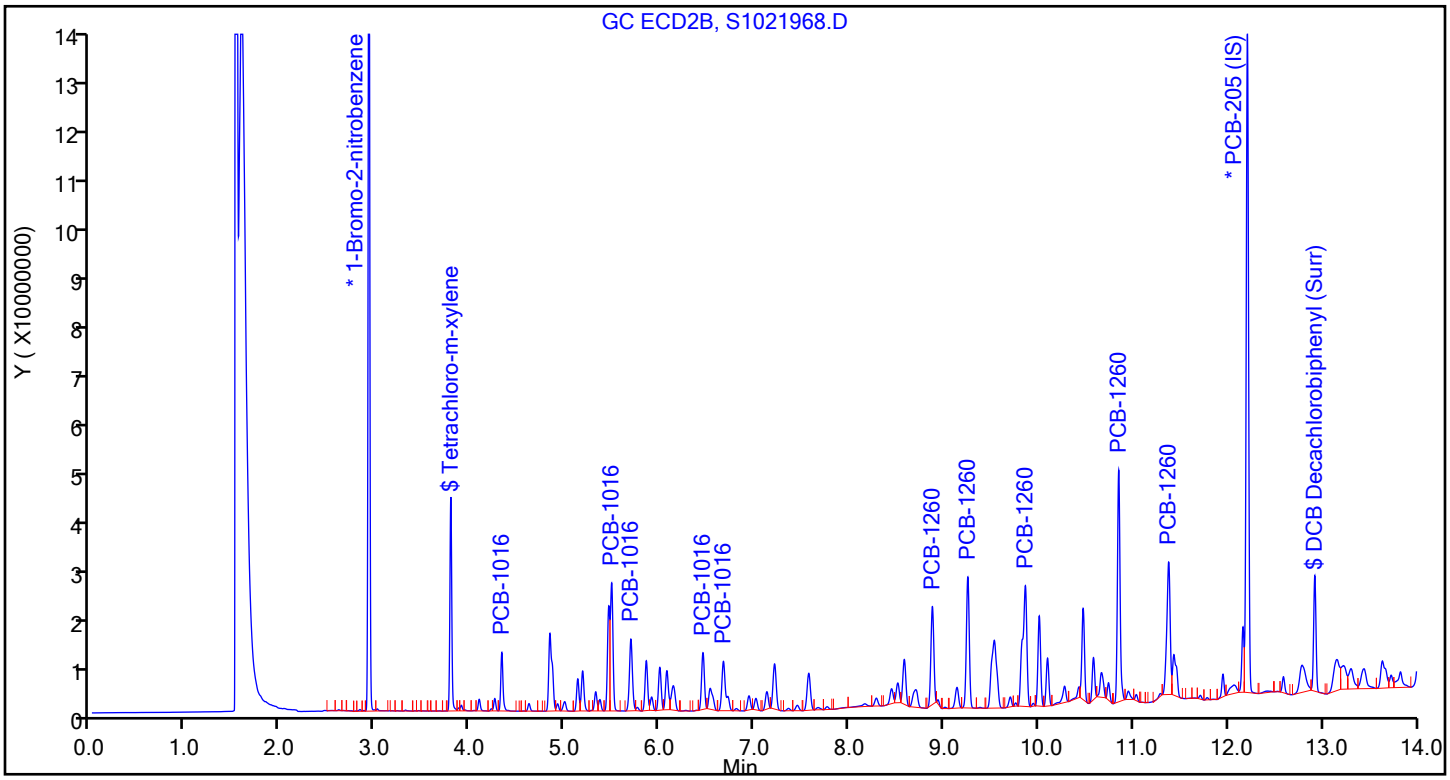

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCVIS 180-295495/68 Calibration Date: 10/22/2019 05:20

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 09:45

GC Column: RTX-CLP2 ID: 0.53(mm) Calib End Date: 09/21/2019 11:44

Lab File ID: S1021968.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Ave	0.0129	0.0128		0.496	0.500	-0.7	20.0
PCB-1016 Peak 2	Ave	0.0282	0.0279		0.494	0.500	-1.2	20.0
PCB-1016 Peak 3	Ave	0.0161	0.0156		0.485	0.500	-3.1	20.0
PCB-1016 Peak 4	Ave	0.0133	0.0124		0.464	0.500	-7.1	20.0
PCB-1016 Peak 5	Ave	0.0111	0.0108		0.483	0.500	-3.4	20.0
PCB-1260 Peak 1	Ave	0.0325	0.0298		0.458	0.500	-8.4	20.0
PCB-1260 Peak 2	Ave	0.0408	0.0398		0.488	0.500	-2.4	20.0
PCB-1260 Peak 3	Ave	0.0394	0.0367		0.466	0.500	-6.9	20.0
PCB-1260 Peak 4	Ave	0.0752	0.0704		0.468	0.500	-6.4	20.0
PCB-1260 Peak 5	Ave	0.0427	0.0403		0.471	0.500	-5.8	20.0
Tetrachloro-m-xylene (Surr)	Ave	0.9308	0.9322		0.0250	0.0250	0.1	20.0
DCB Decachlorobiphenyl (Surr)	Ave	0.7545	0.7028		0.0233	0.0250	-6.9	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCVIS 180-295495/68 Calibration Date: 10/22/2019 05:20

Instrument ID: CHGC10 Calib Start Date: 09/21/2019 09:45

GC Column: RTX-CLP2 ID: 0.53(mm) Calib End Date: 09/21/2019 11:44

Lab File ID: S1021968.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	4.33	4.31	4.35
PCB-1016 Peak 2	5.49	5.47	5.51
PCB-1016 Peak 3	5.70	5.68	5.72
PCB-1016 Peak 4	6.46	6.44	6.48
PCB-1016 Peak 5	6.67	6.65	6.69
PCB-1260 Peak 1	8.88	8.86	8.90
PCB-1260 Peak 2	9.26	9.24	9.28
PCB-1260 Peak 3	9.86	9.84	9.88
PCB-1260 Peak 4	10.85	10.83	10.87
PCB-1260 Peak 5	11.38	11.36	11.40
Tetrachloro-m-xylene (Surr)	3.79	3.77	3.81
DCB Decachlorobiphenyl (Surr)	12.92	12.90	12.94

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021968.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 22-Oct-2019 05:20:39 ALS Bottle#: 68 Worklist Smp#: 68
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029208-068
Operator ID: Instrument ID: CHGC10
Sublist: chrom-IS PCB_CHGC10DUAL*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Oct-2019 08:45:52 Calib Date: 16-Oct-2019 14:52:38
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20191016-29144.b\S1016906.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: oravecj Date: 23-Oct-2019 08:45:20

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.740	2.740	0.000	556347871H	0.1000	0.1000	
2	2.927	2.927	0.000	178773699H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.359	3.359	0.000	153081715H	0.0250	0.0232	
2	3.792	3.792	0.000	41663883H	0.0250	0.0250	
						RPD = 7.58	
6 PCB-1016							
1	3.681	3.681	0.000	44405665H	0.5000	0.4882	
1	4.546	4.546	0.000	100996636H	0.5000	0.4795	
1	4.703	4.703	0.000	57263502H	0.5000	0.4778	
1	5.221	5.221	0.000	46225853H	0.5000	0.4653	
1	5.756	5.756	0.000	30734735H	0.5000	0.4686	
		Average of Peak Amounts =				0.4759	
2	4.331	4.331	0.000	11412134H	0.5000	0.4965	
2	5.492	5.492	0.000	24955070H	0.5000	0.4942	
2	5.695	5.695	0.000	13971009H	0.5000	0.4847	
2	6.456	6.456	0.000	11064996H	0.5000	0.4645	
2	6.673	6.673	0.000	9612197H	0.5000	0.4829	
		Average of Peak Amounts =				0.4845	
						RPD = 1.80	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	7.646	7.646	0.000	105872987H	0.5000	0.5080	
1	8.203	8.203	0.000	96962398H	0.5000	0.5078	
1	8.874	8.874	0.000	68276154H	0.5000	0.5040	
1	9.414	9.414	0.000	169952178H	0.5000	0.4927	
1	9.874	9.874	0.000	90506333H	0.5000	0.4712	
		Average of Peak Amounts =				0.4967	
2	8.881	8.881	0.000	19079992H	0.5000	0.4581	
2	9.255	9.255	0.000	25531919H	0.5000	0.4882	
2	9.863	9.863	0.000	23525216H	0.5000	0.4656	
2	10.849	10.849	0.000	45126209H	0.5000	0.4681	
2	11.376	11.376	0.000	25795968H	0.5000	0.4708	
		Average of Peak Amounts =				0.4702	
						RPD = 5.50	
* 46 PCB-205 (IS)							
1	10.898	10.898	0.000	485729548H	0.1000	0.1000	
2	12.209	12.209	0.000	128188707H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.485	11.485	0.000	77131062H	0.0250	0.0210	
2	12.920	12.920	0.000	22521937H	0.0250	0.0233	
						RPD = 10.39	

Reagents:

GCAR1660CALL4_00019 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Oct-2019 08:45:59 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021968.D

Injection Date: 22-Oct-2019 05:20:39 Instrument ID: CHGC10

Lims ID: CCVIS

Client ID:

Operator ID: ALS Bottle#: 68 Worklist Smp#: 68

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

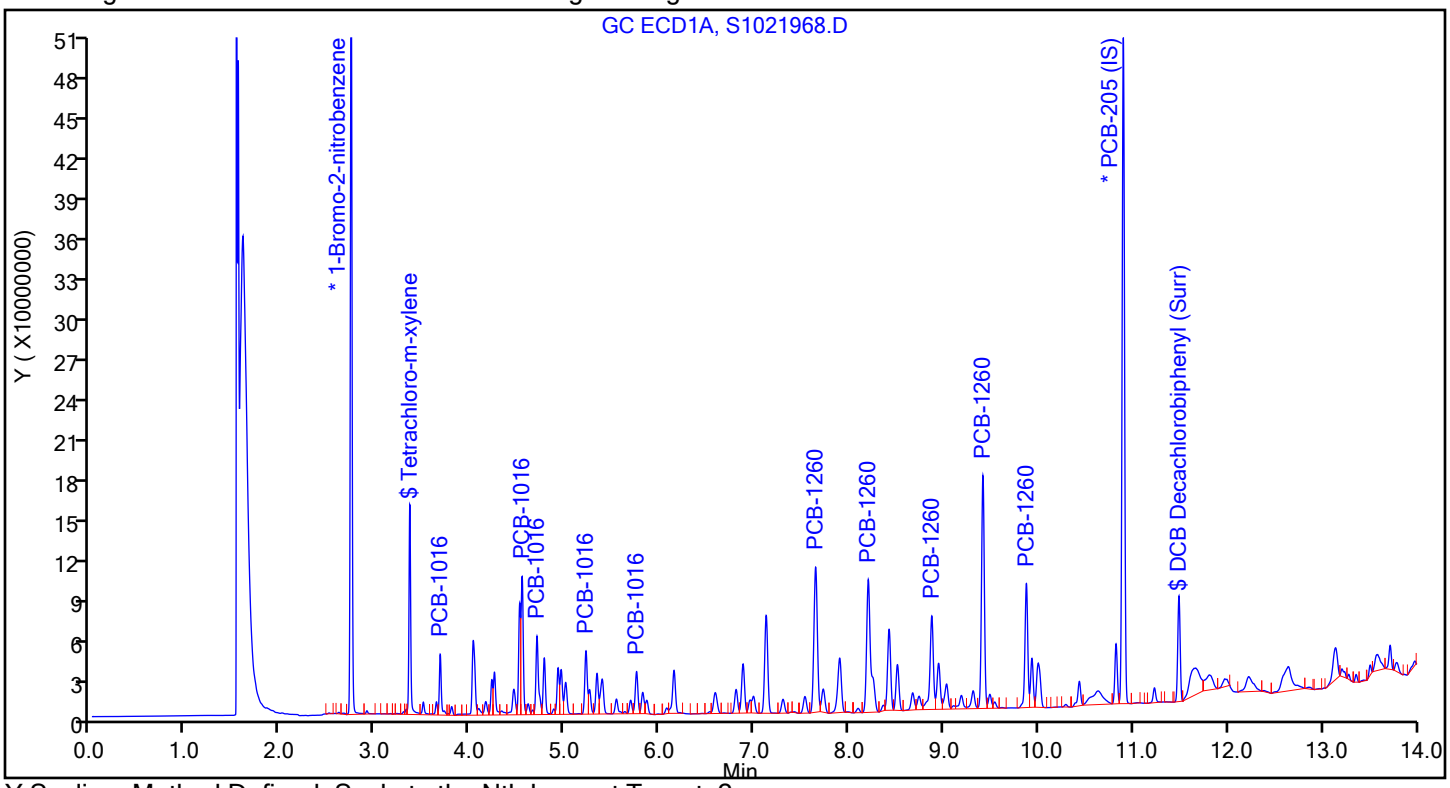

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

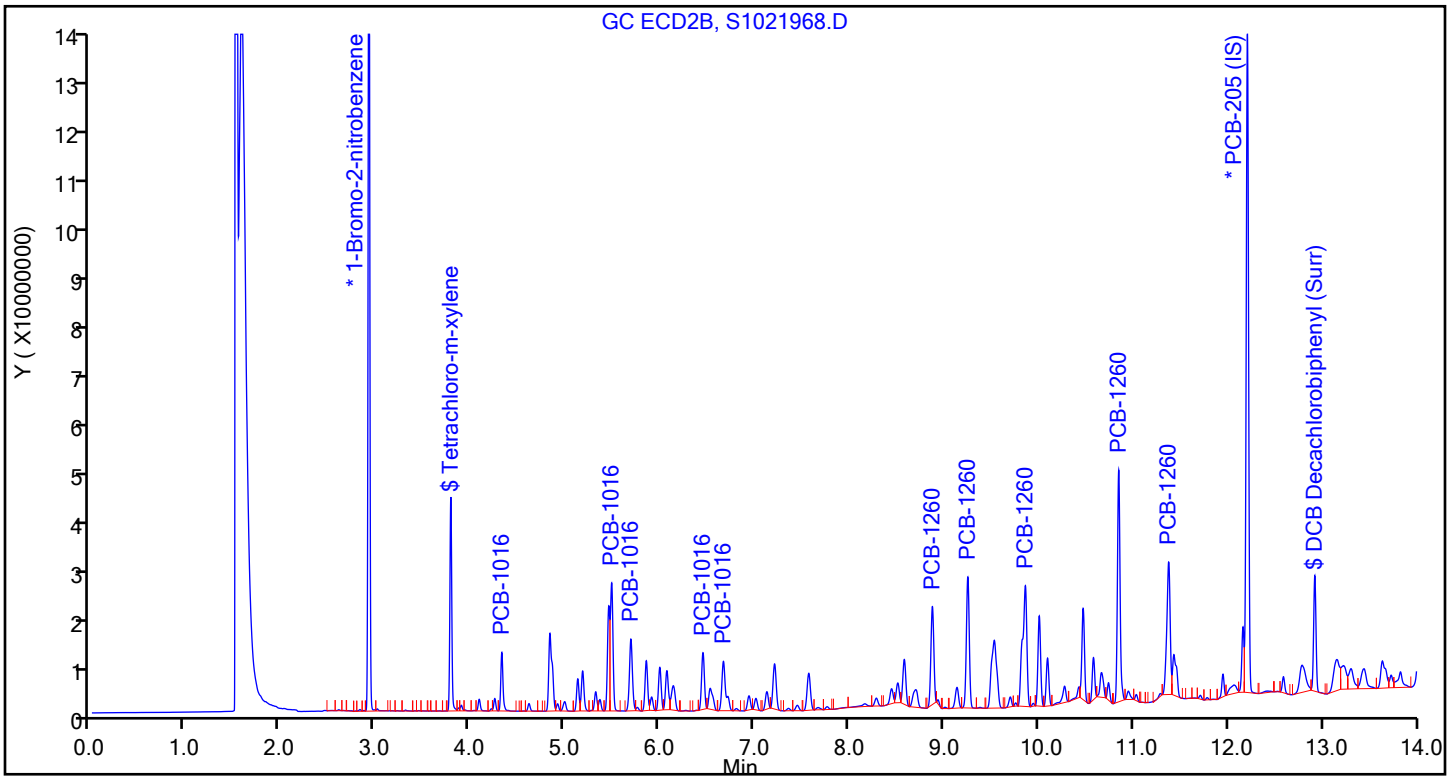

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 180-295380/1-A

Matrix: Solid Lab File ID: S1021975.D

Analysis Method: EPA 8082A Date Collected:

Extraction Method: 3510C Date Extracted: 10/18/2019 10:30

Sample wt/vol: 1000(mL) Date Analyzed: 10/22/2019 07:39

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: RTX-CLP1 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 295495 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
12674-11-2	PCB-1016	ND		0.00040	0.00019
11104-28-2	PCB-1221	ND		0.00040	0.00023
11141-16-5	PCB-1232	ND		0.00040	0.00021
53469-21-9	PCB-1242	ND		0.00040	0.00037
12672-29-6	PCB-1248	ND		0.00040	0.00012
11097-69-1	PCB-1254	ND		0.00040	0.00038
11096-82-5	PCB-1260	ND		0.00040	0.00016

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene (Surr)	84		45-133
2051-24-3	DCB Decachlorobiphenyl (Surr)	88		59-144

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021975.D
Lims ID: MB 180-295380/1-A
Client ID:
Sample Type: MB
Inject. Date: 22-Oct-2019 07:39:58 ALS Bottle#: 75 Worklist Smp#: 75
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029208-075
Operator ID: Instrument ID: CHGC10

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Oct-2019 08:56:02 Calib Date: 16-Oct-2019 14:52:38
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20191016-29144.b\S1016906.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: oravecj Date: 23-Oct-2019 08:55:33

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.743	2.744	-0.001	572127138H	0.1000	0.1000	
2	2.929	2.930	-0.001	196282508H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.363	3.364	-0.001	113717560H	0.0200	0.0168	
2	3.794	3.796	-0.002	30441578H	0.0200	0.0167	
						RPD = 0.62	
3 PCB-1221							
1		3.505				ND	
1		3.643					
1		3.683					
2		3.313					
2		4.092					
2		4.330					
4 PCB-1232							
1		3.506				ND	
1		3.684					
1		4.033					
1		4.708					
1		5.226					
2		4.093					
2		4.331					
2		4.839					
2		5.492					
2		5.696					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
6 PCB-1016							
1		3.687				ND	
1		4.554					
1		4.712					
1		5.230					
1		5.765					
2		4.335					
2		5.497					
2		5.700					
2		6.462					
2		6.679					
7 PCB-1248							
1		4.029				ND	
1		4.928					
1		5.221					
1		5.820					
1		6.807					
2		4.840					
2		6.000					
2		6.673					
2		7.219					
2		7.668					
5 PCB-1242							
1		4.034				ND	
1		4.550					
1		5.224					
1		5.824					
1		5.868					
2		4.331					
2		4.839					
2		5.695					
2		6.456					
2		7.668					
8 PCB-1254							
1		5.759				ND	
1		6.154					
1		6.810					
1		7.303					
1		7.652					
2		7.210					
2		8.514					
2		8.937					
2		9.550					
2		9.863					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1		7.658				ND	
1		8.213					
1		8.883					
1		9.423					
1		9.881					
2		8.886					
2		9.259					
2		9.868					
2		10.852					
2		11.382					
10 PCB-1262							
1		8.426				ND	
1		8.877					
1		9.418					
1		9.876					
1		10.000					
2		9.256					
2		10.010					
2		10.476					
2		10.849					
2		11.371					
11 PCB-1268							
1		9.934				ND	
1		9.996					
1		10.293					
1		11.229					
2		11.366					
2		11.431					
2		11.783					
2		12.589					
* 46 PCB-205 (IS)							
1	10.901	10.905	-0.003	498956605H	0.1000	0.1000	
2	12.209	12.212	-0.003	144603607H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.488	11.491	-0.003	66290812H	0.0200	0.0176	
2	12.921	12.924	-0.003	19817721H	0.0200	0.0182	
						RPD = 3.39	
15 1260 Res 1							
1		0.000				ND	
2		0.000					
14 1260 Res 3							
1		0.000				ND	
2		0.000					
13 1260 Res 2							
1		0.000				ND	
2		0.000					

Reagents:

PCBINT_00010	Amount Added:	0.01	Units: mL	Run Reagent

Report Date: 23-Oct-2019 08:56:33 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021975.D				
Injection Date:	22-Oct-2019 07:39:58	Instrument ID:	CHGC10		
Lims ID:	MB 180-295380/1-A				
Client ID:					
Operator ID:		ALS Bottle#:	75	Worklist Smp#:	75
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

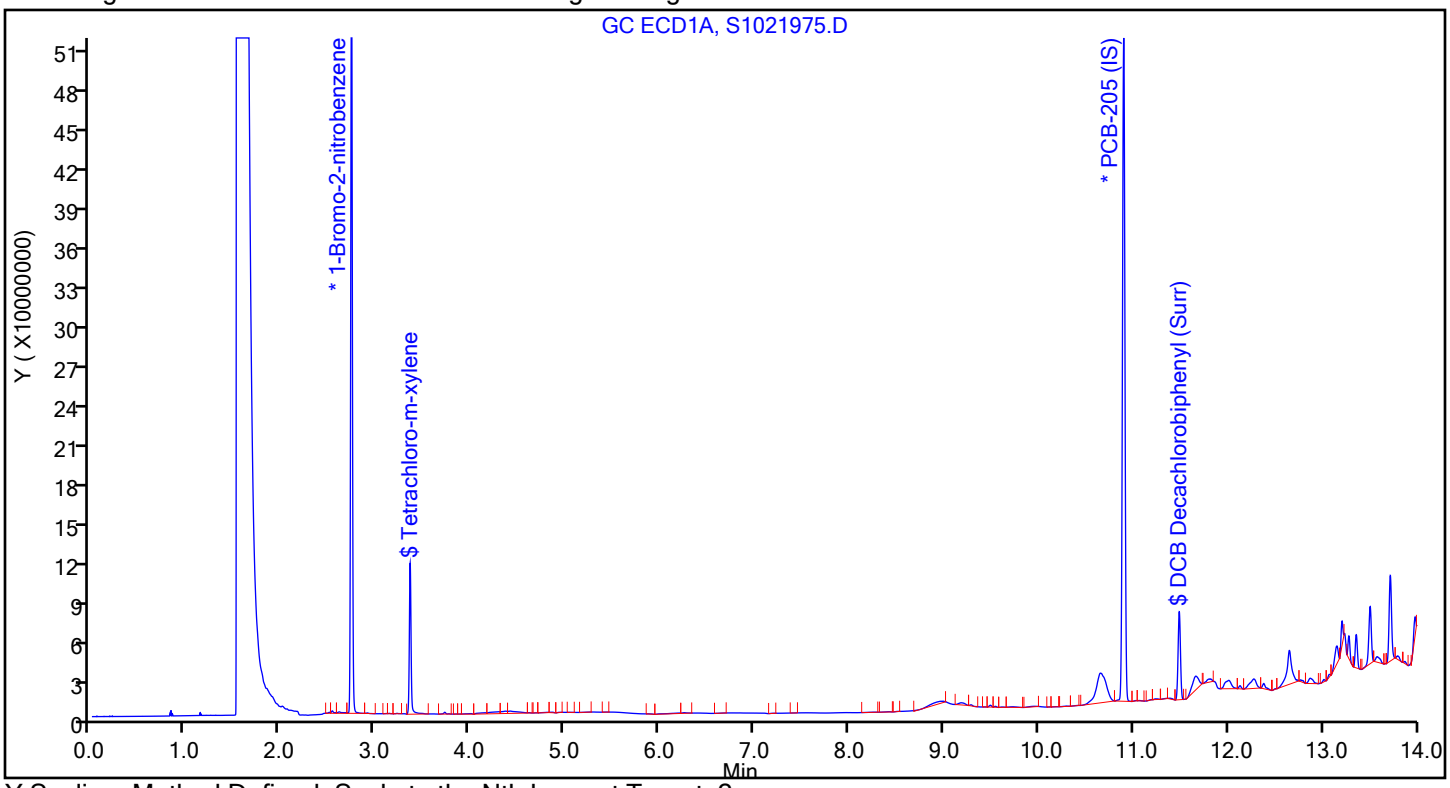

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

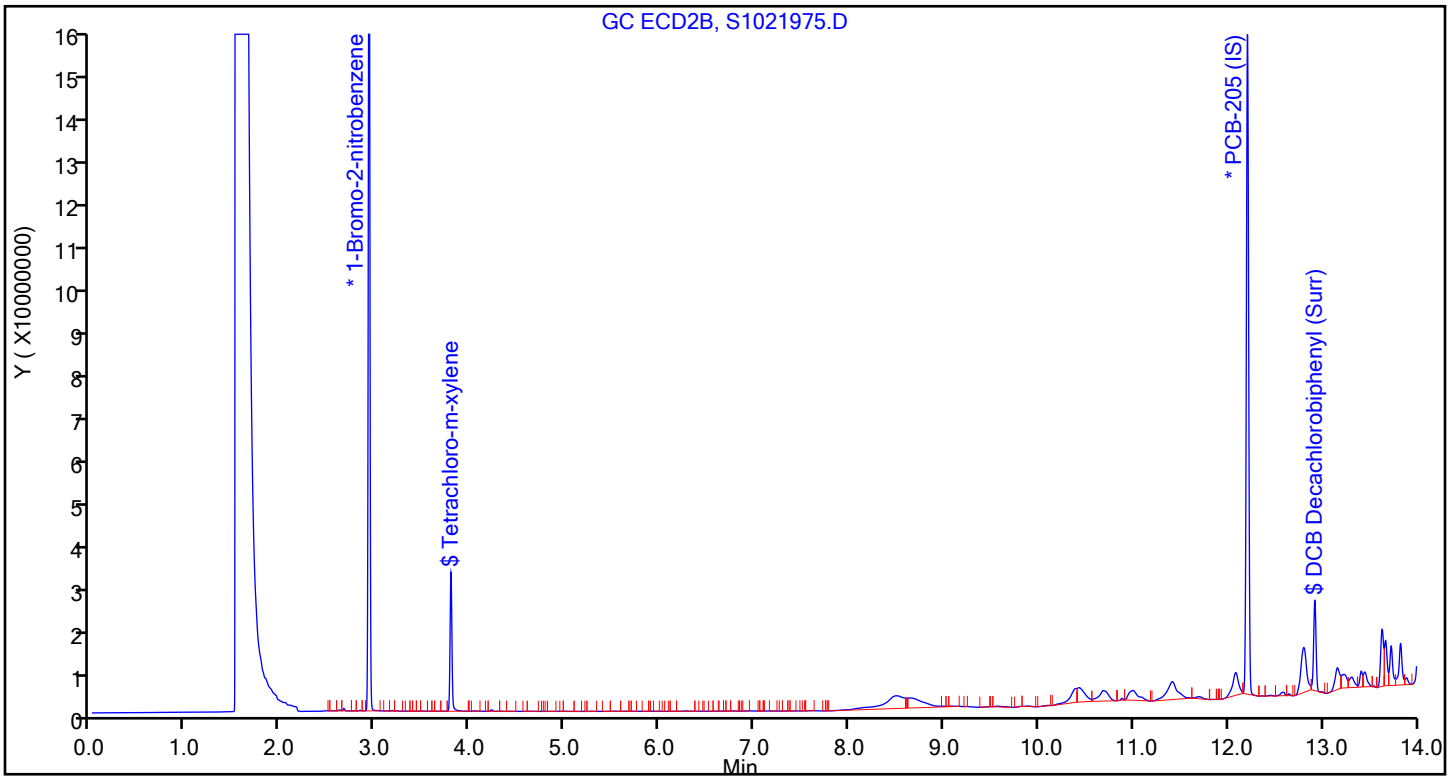

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021975.D				
Lims ID:	MB 180-295380/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	22-Oct-2019 07:39:58	ALS Bottle#:	75	Worklist Smp#:	75
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0029208-075				
Operator ID:		Instrument ID:	CHGC10		
Method:	\\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\IS PCB_CHGC10DUAL.m				
Limit Group:	GCS 8082A ICAL with IS				
Last Update:	23-Oct-2019 08:56:02	Calib Date:	16-Oct-2019 14:52:38		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC10\20191016-29144.b\S1016906.D				
Column 1 :			Det: GC ECD1A		
Column 2 :			Det: GC ECD2B		
Process Host:	CTX0310				
First Level Reviewer: oravecj		Date:	23-Oct-2019 08:55:33		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0168	83.83
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0176	87.79

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0167	83.31
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0182	90.82

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 180-295380/1-A

Matrix: Solid Lab File ID: S1021975.D

Analysis Method: EPA 8082A Date Collected:

Extraction Method: 3510C Date Extracted: 10/18/2019 10:30

Sample wt/vol: 1000(mL) Date Analyzed: 10/22/2019 07:39

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: RTX-CLP2 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 295495 Units: mg/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene (Surr)	83		45-133
2051-24-3	DCB Decachlorobiphenyl (Surr)	91		59-144

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021975.D
Lims ID: MB 180-295380/1-A
Client ID:
Sample Type: MB
Inject. Date: 22-Oct-2019 07:39:58 ALS Bottle#: 75 Worklist Smp#: 75
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029208-075
Operator ID: Instrument ID: CHGC10

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Oct-2019 08:56:02 Calib Date: 16-Oct-2019 14:52:38
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20191016-29144.b\S1016906.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: oravecj Date: 23-Oct-2019 08:55:33

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.743	2.744	-0.001	572127138H	0.1000	0.1000	
2	2.929	2.930	-0.001	196282508H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.363	3.364	-0.001	113717560H	0.0200	0.0168	
2	3.794	3.796	-0.002	30441578H	0.0200	0.0167	
						RPD = 0.62	
3 PCB-1221							
1		3.505				ND	
1		3.643					
1		3.683					
2		3.313					
2		4.092					
2		4.330					
4 PCB-1232							
1		3.506				ND	
1		3.684					
1		4.033					
1		4.708					
1		5.226					
2		4.093					
2		4.331					
2		4.839					
2		5.492					
2		5.696					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
6 PCB-1016							
1		3.687				ND	
1		4.554					
1		4.712					
1		5.230					
1		5.765					
2		4.335					
2		5.497					
2		5.700					
2		6.462					
2		6.679					
7 PCB-1248							
1		4.029				ND	
1		4.928					
1		5.221					
1		5.820					
1		6.807					
2		4.840					
2		6.000					
2		6.673					
2		7.219					
2		7.668					
5 PCB-1242							
1		4.034				ND	
1		4.550					
1		5.224					
1		5.824					
1		5.868					
2		4.331					
2		4.839					
2		5.695					
2		6.456					
2		7.668					
8 PCB-1254							
1		5.759				ND	
1		6.154					
1		6.810					
1		7.303					
1		7.652					
2		7.210					
2		8.514					
2		8.937					
2		9.550					
2		9.863					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1		7.658				ND	
1		8.213					
1		8.883					
1		9.423					
1		9.881					
2		8.886					
2		9.259					
2		9.868					
2		10.852					
2		11.382					
10 PCB-1262							
1		8.426				ND	
1		8.877					
1		9.418					
1		9.876					
1		10.000					
2		9.256					
2		10.010					
2		10.476					
2		10.849					
2		11.371					
11 PCB-1268							
1		9.934				ND	
1		9.996					
1		10.293					
1		11.229					
2		11.366					
2		11.431					
2		11.783					
2		12.589					
* 46 PCB-205 (IS)							
1	10.901	10.905	-0.003	498956605H	0.1000	0.1000	
2	12.209	12.212	-0.003	144603607H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.488	11.491	-0.003	66290812H	0.0200	0.0176	
2	12.921	12.924	-0.003	19817721H	0.0200	0.0182	
						RPD = 3.39	
15 1260 Res 1							
1		0.000				ND	
2		0.000					
14 1260 Res 3							
1		0.000				ND	
2		0.000					
13 1260 Res 2							
1		0.000				ND	
2		0.000					

Reagents:

PCBINT_00010	Amount Added:	0.01	Units: mL	Run Reagent

Report Date: 23-Oct-2019 08:56:34 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021975.D

Injection Date: 22-Oct-2019 07:39:58 Instrument ID: CHGC10

Lims ID: MB 180-295380/1-A

Client ID:

Operator ID: ALS Bottle#: 75 Worklist Smp#: 75

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

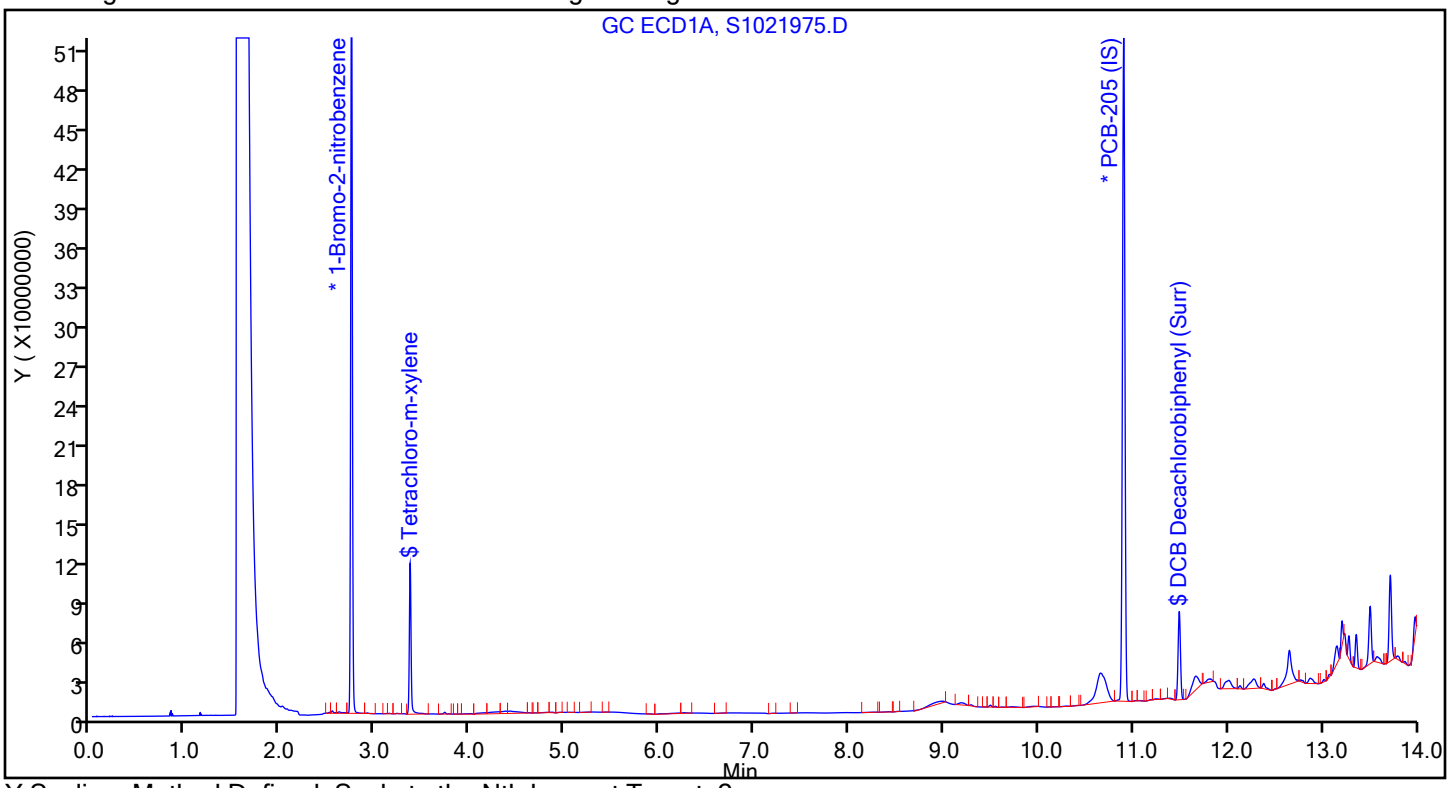

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

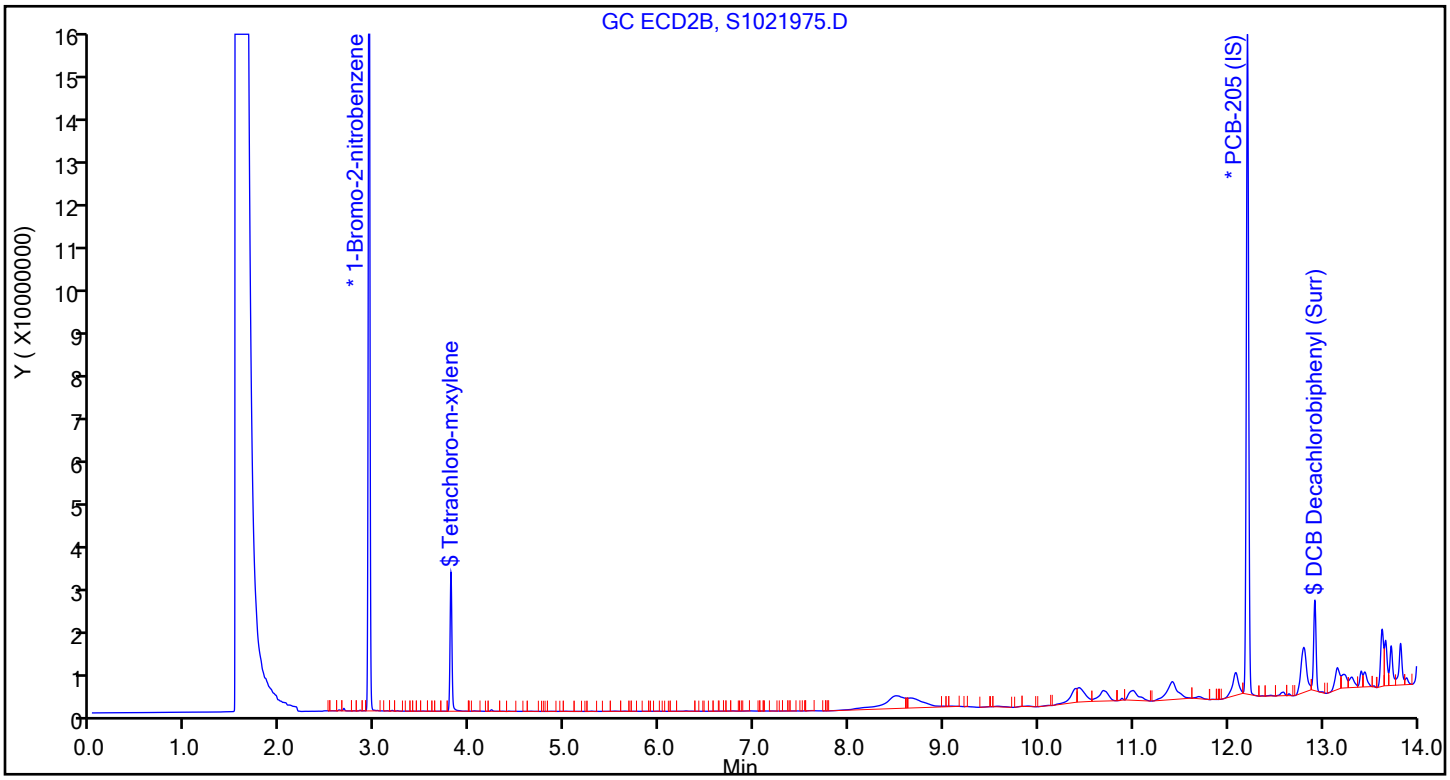

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021975.D				
Lims ID:	MB 180-295380/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	22-Oct-2019 07:39:58	ALS Bottle#:	75	Worklist Smp#:	75
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0029208-075				
Operator ID:		Instrument ID:	CHGC10		
Method:	\\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\IS PCB_CHGC10DUAL.m				
Limit Group:	GCS 8082A ICAL with IS				
Last Update:	23-Oct-2019 08:56:02	Calib Date:	16-Oct-2019 14:52:38		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC10\20191016-29144.b\S1016906.D				
Column 1 :			Det: GC ECD1A		
Column 2 :			Det: GC ECD2B		
Process Host:	CTX0310				
First Level Reviewer: oravecj		Date:	23-Oct-2019 08:55:33		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0168	83.83
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0176	87.79

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0167	83.31
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0182	90.82

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Client Sample ID: Lab Sample ID: LB 180-295177/1-C

Matrix: Solid (TCLP) Lab File ID: S1021978.D

Analysis Method: EPA 8082A Date Collected:

Extraction Method: 3510C Date Extracted: 10/18/2019 10:30

Sample wt/vol: 1030(mL) Date Analyzed: 10/22/2019 09:22

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: RTX-CLP1 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 295495 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
12674-11-2	PCB-1016	ND		0.00039	0.00018
11104-28-2	PCB-1221	ND		0.00039	0.00022
11141-16-5	PCB-1232	ND		0.00039	0.00020
53469-21-9	PCB-1242	ND		0.00039	0.00035
12672-29-6	PCB-1248	ND		0.00039	0.00012
11097-69-1	PCB-1254	ND		0.00039	0.00037
11096-82-5	PCB-1260	ND		0.00039	0.00015

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene (Surr)	91		45-133
2051-24-3	DCB Decachlorobiphenyl (Surr)	87		59-144

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021978.D
Lims ID: LB 180-295177/1-C
Client ID:
Sample Type: LB
Inject. Date: 22-Oct-2019 09:22:46 ALS Bottle#: 78 Worklist Smp#: 78
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029208-078
Operator ID: Instrument ID: CHGC10

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Oct-2019 08:56:02 Calib Date: 16-Oct-2019 14:52:38
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20191016-29144.b\S1016906.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: oravecj Date: 23-Oct-2019 08:55:51

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.740	2.744	-0.004	641550295H	0.1000	0.1000	
2	2.926	2.930	-0.004	211602682H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.359	3.364	-0.005	138137681H	0.0200	0.0182	
2	3.790	3.796	-0.006	38413472H	0.0200	0.0195	
						RPD = 7.12	
3 PCB-1221							
1		3.505				ND	
1		3.643					
1		3.683					
2		3.313					
2		4.092					
2		4.330					
4 PCB-1232							
1		3.506				ND	
1		3.684					
1		4.033					
1		4.708					
1		5.226					
2		4.093					
2		4.331					
2		4.839					
2		5.492					
2		5.696					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
6 PCB-1016							
1		3.687				ND	
1		4.554					
1		4.712					
1		5.230					
1		5.765					
2		4.335					
2		5.497					
2		5.700					
2		6.462					
2		6.679					
7 PCB-1248							
1		4.029				ND	
1		4.928					
1		5.221					
1		5.820					
1		6.807					
2		4.840					
2		6.000					
2		6.673					
2		7.219					
2		7.668					
5 PCB-1242							
1		4.034				ND	
1		4.550					
1		5.224					
1		5.824					
1		5.868					
2		4.331					
2		4.839					
2		5.695					
2		6.456					
2		7.668					
8 PCB-1254							
1		5.759				ND	
1		6.154					
1		6.810					
1		7.303					
1		7.652					
2		7.210					
2		8.514					
2		8.937					
2		9.550					
2		9.863					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1		7.658				ND	
1		8.213					
1		8.883					
1		9.423					
1		9.881					
2		8.886					
2		9.259					
2		9.868					
2		10.852					
2		11.382					
10 PCB-1262							
1		8.426				ND	
1		8.877					
1		9.418					
1		9.876					
1		10.000					
2		9.256					
2		10.010					
2		10.476					
2		10.849					
2		11.371					
11 PCB-1268							
1		9.934				ND	
1		9.996					
1		10.293					
1		11.229					
2		11.366					
2		11.431					
2		11.783					
2		12.589					
* 46 PCB-205 (IS)							
1	10.899	10.905	-0.006	599271834H	0.1000	0.1000	
2	12.206	12.212	-0.005	159157266H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.486	11.491	-0.005	78528204H	0.0200	0.0173	
2	12.919	12.924	-0.005	22912923H	0.0200	0.0191	
						RPD = 9.68	
15 1260 Res 1							
1		0.000				ND	
2		0.000					
14 1260 Res 3							
1		0.000				ND	
2		0.000					
13 1260 Res 2							
1		0.000				ND	
2		0.000					

Reagents:

PCBINT_00010	Amount Added:	0.01	Units: mL	Run Reagent

Report Date: 23-Oct-2019 08:56:29 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021978.D

Injection Date: 22-Oct-2019 09:22:46 Instrument ID: CHGC10

Lims ID: LB 180-295177/1-C

Client ID:

Operator ID: ALS Bottle#: 78 Worklist Smp#: 78

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

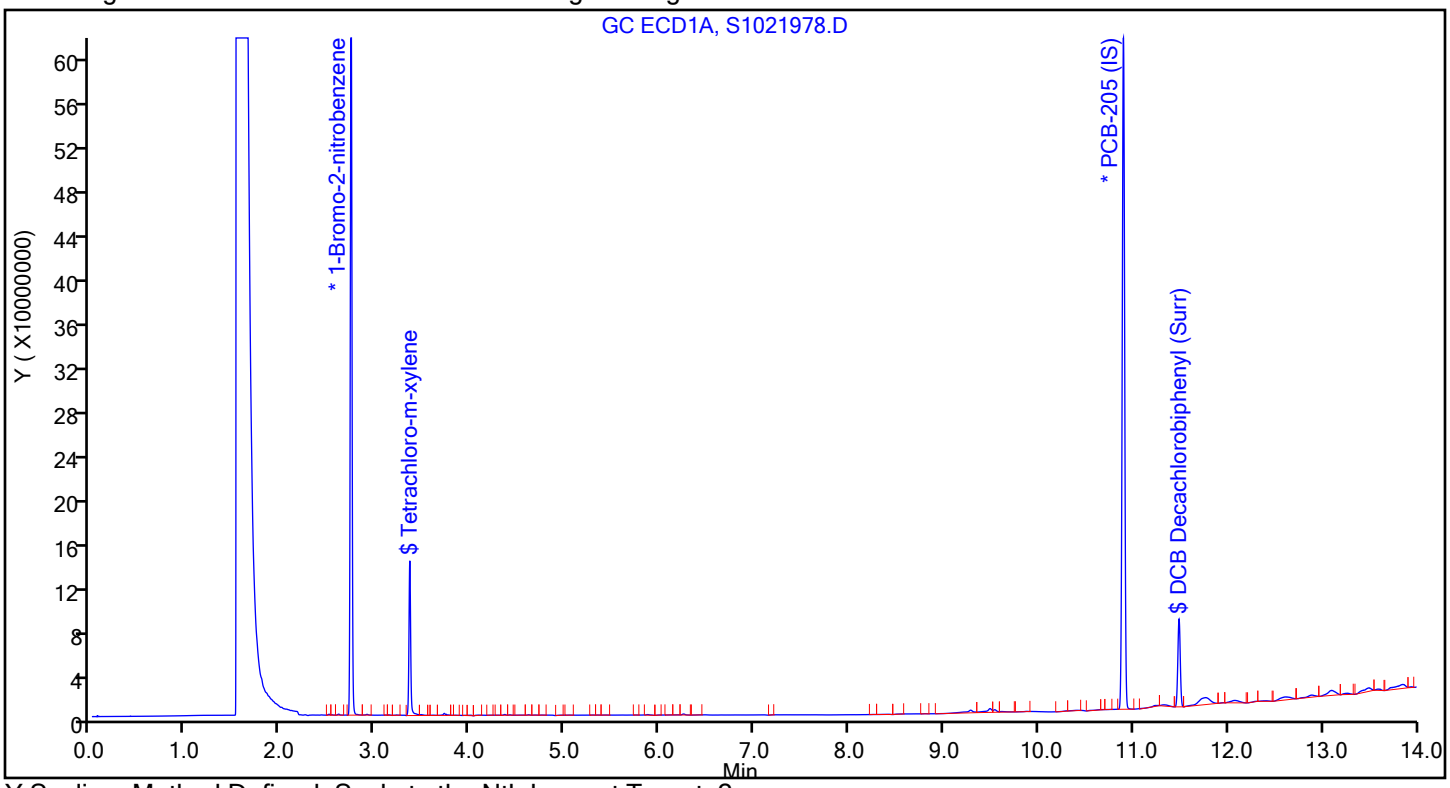

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

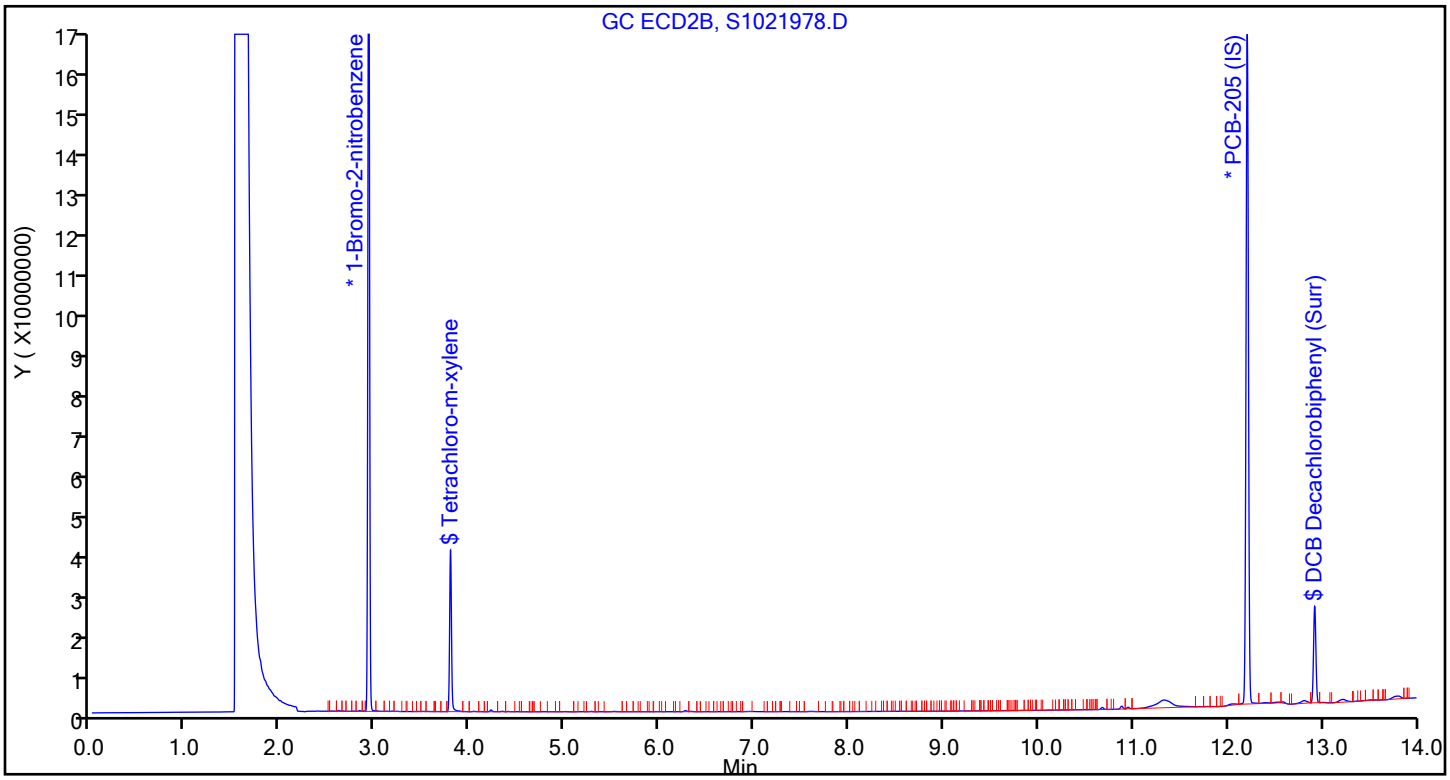

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021978.D				
Lims ID:	LB 180-295177/1-C				
Client ID:					
Sample Type:	LB				
Inject. Date:	22-Oct-2019 09:22:46	ALS Bottle#:	78	Worklist Smp#:	78
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0029208-078				
Operator ID:		Instrument ID:	CHGC10		
Method:	\\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\IS PCB_CHGC10DUAL.m				
Limit Group:	GCS 8082A ICAL with IS				
Last Update:	23-Oct-2019 08:56:02	Calib Date:	16-Oct-2019 14:52:38		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC10\20191016-29144.b\S1016906.D				
Column 1 :			Det: GC ECD1A		
Column 2 :			Det: GC ECD2B		
Process Host:	CTX0310				
First Level Reviewer: oravecj		Date:	23-Oct-2019 08:55:51		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0182	90.81
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0173	86.59

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0195	97.51
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0191	95.40

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Client Sample ID: Lab Sample ID: LB 180-295177/1-C

Matrix: Solid (TCLP) Lab File ID: S1021978.D

Analysis Method: EPA 8082A Date Collected:

Extraction Method: 3510C Date Extracted: 10/18/2019 10:30

Sample wt/vol: 1030(mL) Date Analyzed: 10/22/2019 09:22

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: RTX-CLP2 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 295495 Units: mg/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene (Surr)	98		45-133
2051-24-3	DCB Decachlorobiphenyl (Surr)	95		59-144

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021978.D
Lims ID: LB 180-295177/1-C
Client ID:
Sample Type: LB
Inject. Date: 22-Oct-2019 09:22:46 ALS Bottle#: 78 Worklist Smp#: 78
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029208-078
Operator ID: Instrument ID: CHGC10

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Oct-2019 08:56:02 Calib Date: 16-Oct-2019 14:52:38
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20191016-29144.b\S1016906.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: oravecj Date: 23-Oct-2019 08:55:51

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.740	2.744	-0.004	641550295H	0.1000	0.1000	
2	2.926	2.930	-0.004	211602682H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.359	3.364	-0.005	138137681H	0.0200	0.0182	
2	3.790	3.796	-0.006	38413472H	0.0200	0.0195	
						RPD = 7.12	
3 PCB-1221							
1		3.505				ND	
1		3.643					
1		3.683					
2		3.313					
2		4.092					
2		4.330					
4 PCB-1232							
1		3.506				ND	
1		3.684					
1		4.033					
1		4.708					
1		5.226					
2		4.093					
2		4.331					
2		4.839					
2		5.492					
2		5.696					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
6 PCB-1016							
1		3.687				ND	
1		4.554					
1		4.712					
1		5.230					
1		5.765					
2		4.335					
2		5.497					
2		5.700					
2		6.462					
2		6.679					
7 PCB-1248							
1		4.029				ND	
1		4.928					
1		5.221					
1		5.820					
1		6.807					
2		4.840					
2		6.000					
2		6.673					
2		7.219					
2		7.668					
5 PCB-1242							
1		4.034				ND	
1		4.550					
1		5.224					
1		5.824					
1		5.868					
2		4.331					
2		4.839					
2		5.695					
2		6.456					
2		7.668					
8 PCB-1254							
1		5.759				ND	
1		6.154					
1		6.810					
1		7.303					
1		7.652					
2		7.210					
2		8.514					
2		8.937					
2		9.550					
2		9.863					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1		7.658				ND	
1		8.213					
1		8.883					
1		9.423					
1		9.881					
2		8.886					
2		9.259					
2		9.868					
2		10.852					
2		11.382					
10 PCB-1262							
1		8.426				ND	
1		8.877					
1		9.418					
1		9.876					
1		10.000					
2		9.256					
2		10.010					
2		10.476					
2		10.849					
2		11.371					
11 PCB-1268							
1		9.934				ND	
1		9.996					
1		10.293					
1		11.229					
2		11.366					
2		11.431					
2		11.783					
2		12.589					
* 46 PCB-205 (IS)							
1	10.899	10.905	-0.006	599271834H	0.1000	0.1000	
2	12.206	12.212	-0.005	159157266H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.486	11.491	-0.005	78528204H	0.0200	0.0173	
2	12.919	12.924	-0.005	22912923H	0.0200	0.0191	
						RPD = 9.68	
15 1260 Res 1							
1		0.000				ND	
2		0.000					
14 1260 Res 3							
1		0.000				ND	
2		0.000					
13 1260 Res 2							
1		0.000				ND	
2		0.000					

Reagents:

PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Oct-2019 08:56:30 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021978.D

Injection Date: 22-Oct-2019 09:22:46 Instrument ID: CHGC10

Lims ID: LB 180-295177/1-C

Client ID:

Operator ID: ALS Bottle#: 78 Worklist Smp#: 78

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

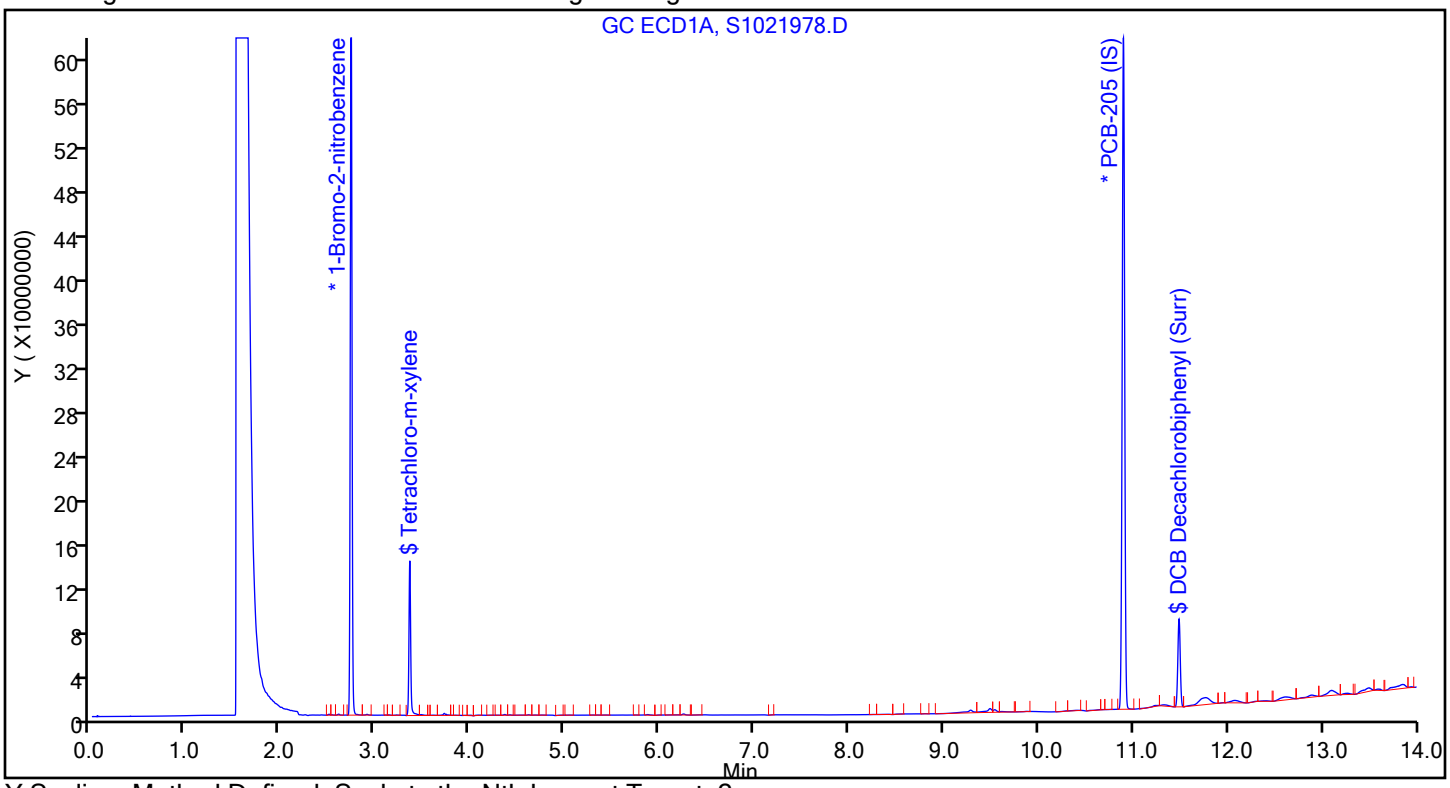

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

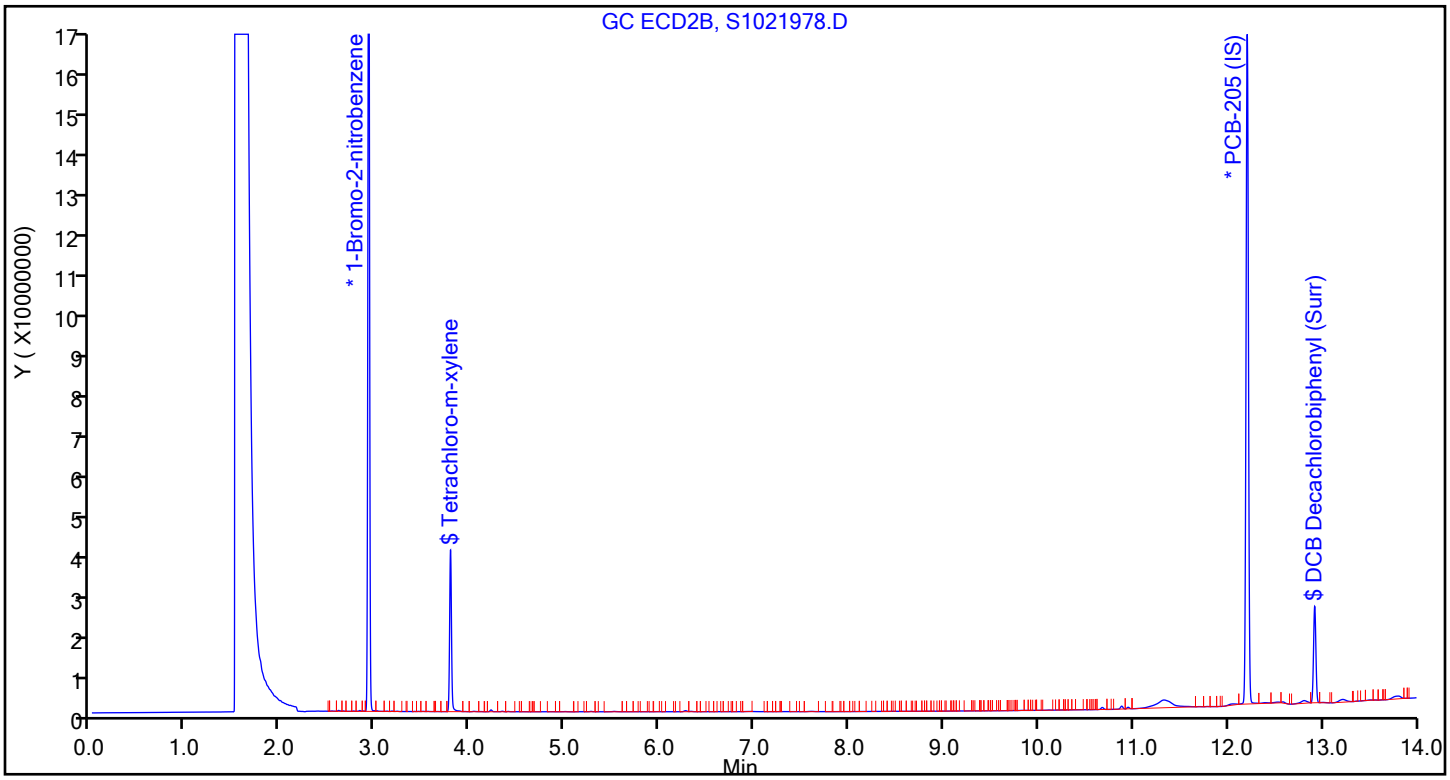

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021978.D				
Lims ID:	LB 180-295177/1-C				
Client ID:					
Sample Type:	LB				
Inject. Date:	22-Oct-2019 09:22:46	ALS Bottle#:	78	Worklist Smp#:	78
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0029208-078				
Operator ID:		Instrument ID:	CHGC10		

Method:	\\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\IS PCB_CHGC10DUAL.m		
Limit Group:	GCS 8082A ICAL with IS		
Last Update:	23-Oct-2019 08:56:02	Calib Date:	16-Oct-2019 14:52:38
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC10\20191016-29144.b\S1016906.D		

Column 1 :			Det: GC ECD1A
Column 2 :			Det: GC ECD2B
Process Host:	CTX0310		

First Level Reviewer: oravecj Date: 23-Oct-2019 08:55:51

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0182	90.81
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0173	86.59

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0195	97.51
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0191	95.40

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 180-295380/2-A

Matrix: Solid Lab File ID: S1021976.D

Analysis Method: EPA 8082A Date Collected:

Extraction Method: 3510C Date Extracted: 10/18/2019 10:30

Sample wt/vol: 1000(mL) Date Analyzed: 10/22/2019 08:42

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: RTX-CLP1 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 295495 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
11096-82-5	PCB-1260	0.0414		0.00040	0.00016

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene (Surr)	87		45-133
2051-24-3	DCB Decachlorobiphenyl (Surr)	92		59-144

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021976.D
Lims ID: LCS 180-295380/2-A
Client ID:
Sample Type: LCS
Inject. Date: 22-Oct-2019 08:42:13 ALS Bottle#: 76 Worklist Smp#: 76
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029208-076
Operator ID: Instrument ID: CHGC10

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Oct-2019 08:56:02 Calib Date: 16-Oct-2019 14:52:38
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20191016-29144.b\S1016906.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: oravecj Date: 23-Oct-2019 08:55:41

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.740	2.744	-0.004	660702188H	0.1000	0.1000	
2	2.921	2.930	-0.009	204547291H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.361	3.364	-0.003	136918910H	0.0200	0.0175	
2	3.784	3.796	-0.012	36841827H	0.0200	0.0193	
						RPD = 10.15	
6 PCB-1016							
1	3.684	3.687	-0.003	94765625H	1.00	0.8774	
1	4.550	4.554	-0.004	235309433H	1.00	0.9406	
1	4.709	4.712	-0.003	130220870H	1.00	0.9150	
1	5.226	5.230	-0.004	107836361H	1.00	0.9141	
1	5.761	5.765	-0.004	75024138H	1.00	0.9632	
		Average of Peak Amounts =				0.9221	
2	4.322	4.335	-0.013	24209620H	1.00	0.9205	
2	5.481	5.497	-0.016	58102437H	1.00	1.01	
2	5.684	5.700	-0.016	32170277H	1.00	0.9755	
2	6.445	6.462	-0.017	26317615H	1.00	0.9655	
2	6.661	6.679	-0.018	21458296H	1.00	0.9421	
		Average of Peak Amounts =				0.9618	
						RPD = 4.22	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	7.654	7.658	-0.004	259974285H	1.00	1.13	
1	8.209	8.213	-0.004	243005672H	1.00	1.16	
1	8.879	8.883	-0.004	141078264H	1.00	0.9475	
1	9.419	9.423	-0.004	364742687H	1.00	0.9619	
1	9.876	9.881	-0.005	205312515H	1.00	0.9725	
		Average of Peak Amounts =				1.03	
2	8.869	8.886	-0.017	46493186H	1.00	0.9491	
2	9.244	9.259	-0.015	58177476H	1.00	0.9458	
2	9.854	9.868	-0.014	60646693H	1.00	1.02	
2	10.841	10.852	-0.011	102469611H	1.00	0.9038	
2	11.371	11.382	-0.011	58437433H	1.00	0.9069	
		Average of Peak Amounts =				0.9452	
						RPD = 9.05	
* 46 PCB-205 (IS)							
1	10.901	10.905	-0.004	533923987H	0.1000	0.1000	
2	12.202	12.212	-0.010	150766289H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.487	11.491	-0.004	74553885H	0.0200	0.0185	
2	12.914	12.924	-0.010	21778735H	0.0200	0.0191	
						RPD = 3.68	

Reagents:

PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Oct-2019 08:56:32 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021976.D

Injection Date: 22-Oct-2019 08:42:13 Instrument ID: CHGC10

Lims ID: LCS 180-295380/2-A

Client ID:

Operator ID: ALS Bottle#: 76 Worklist Smp#: 76

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

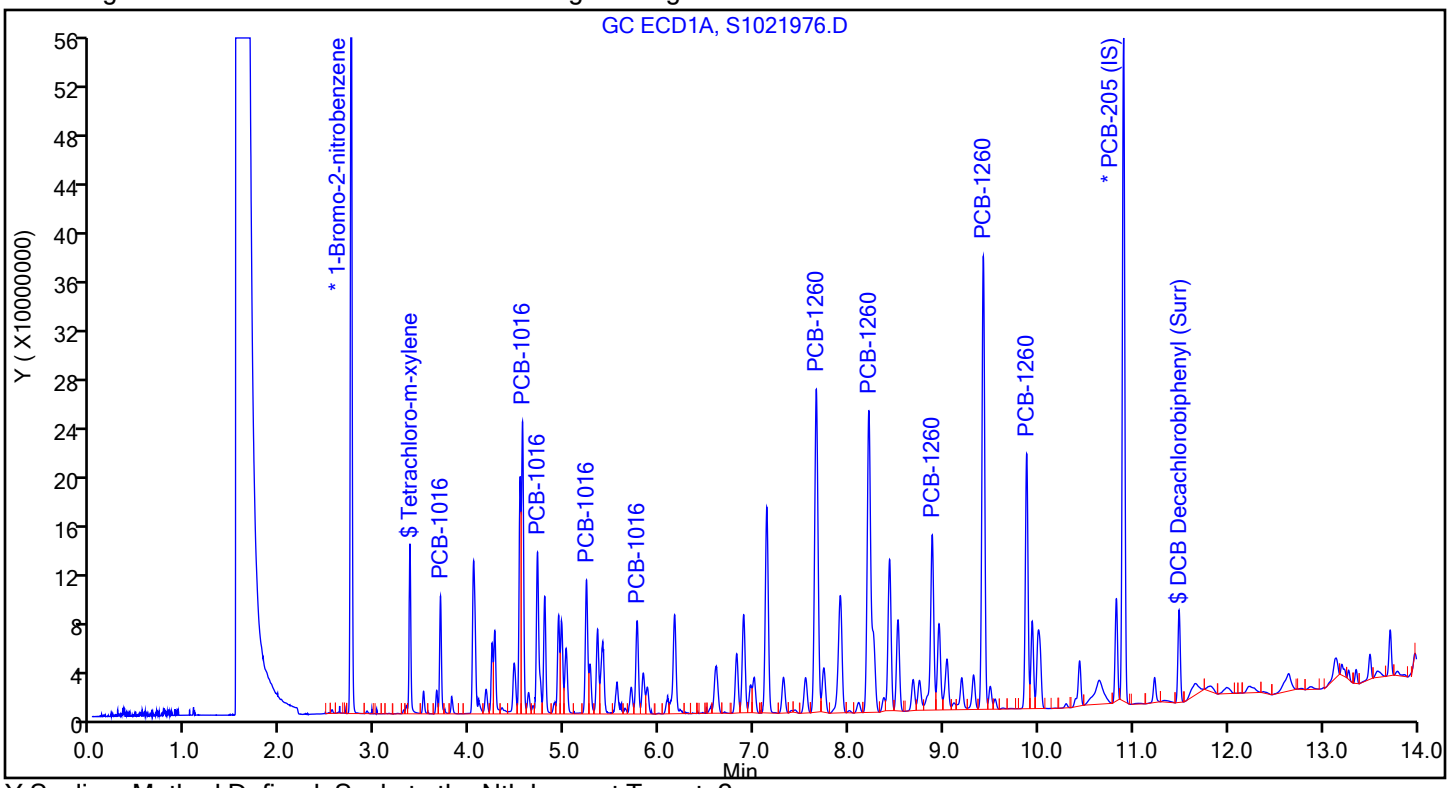

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

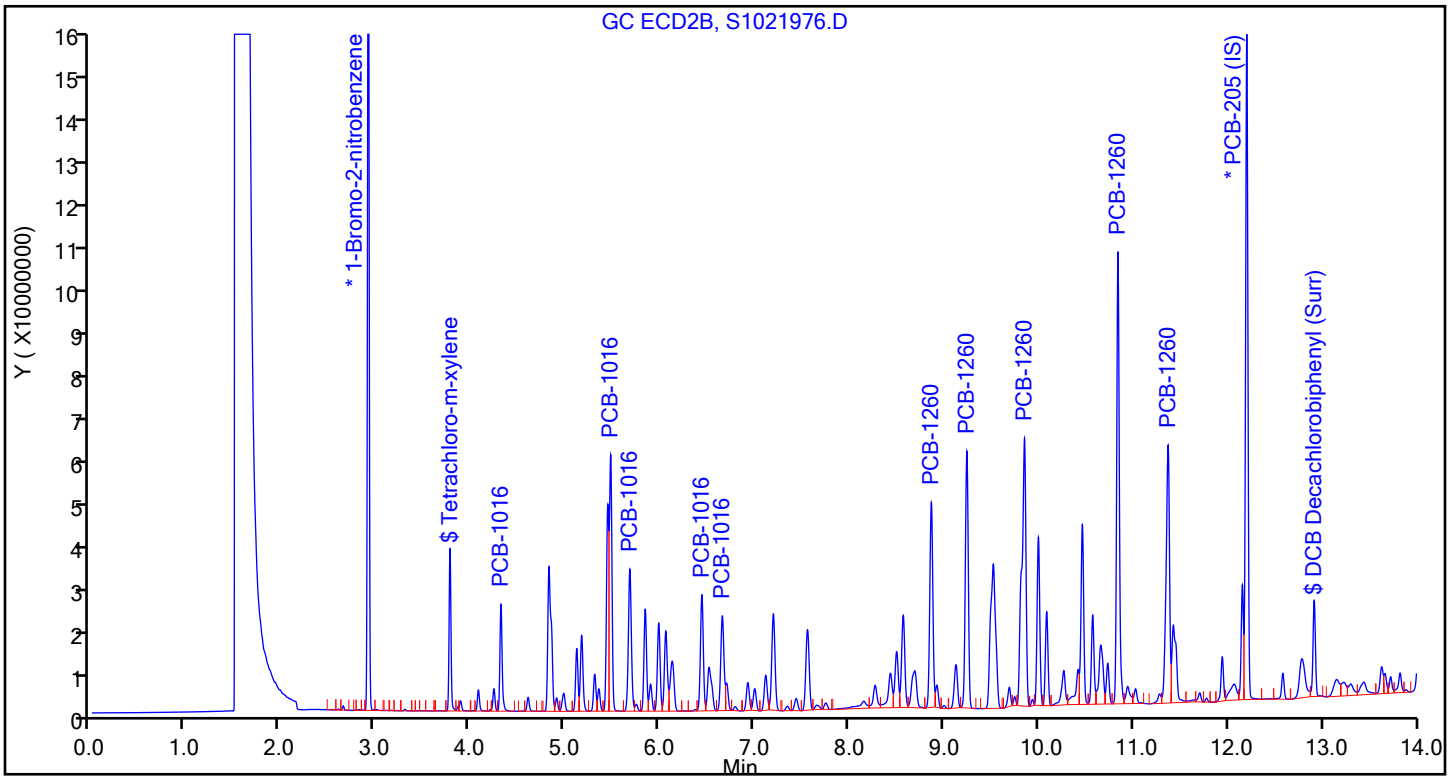

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021976.D				
Lims ID:	LCS 180-295380/2-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	22-Oct-2019 08:42:13	ALS Bottle#:	76	Worklist Smp#:	76
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0029208-076				
Operator ID:		Instrument ID:	CHGC10		
Method:	\\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\IS PCB_CHGC10DUAL.m				
Limit Group:	GCS 8082A ICAL with IS				
Last Update:	23-Oct-2019 08:56:02	Calib Date:	16-Oct-2019 14:52:38		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC10\20191016-29144.b\S1016906.D				
Column 1 :			Det: GC ECD1A		
Column 2 :			Det: GC ECD2B		
Process Host:	CTX0310				
First Level Reviewer: oravecj		Date:	23-Oct-2019 08:55:41		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0175	87.40
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0185	92.27

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0193	96.75
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0191	95.73

Report Date: 23-Oct-2019 08:56:32 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021976.D				
Injection Date:	22-Oct-2019 08:42:13	Instrument ID:	CHGC10		
Lims ID:	LCS 180-295380/2-A				
Client ID:					
Operator ID:		ALS Bottle#:	76	Worklist Smp#:	76
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		
Column:		Detector	GC ECD1A		

6 PCB-1016, CAS: 12674-11-2

Calibration Sample, Level: 7

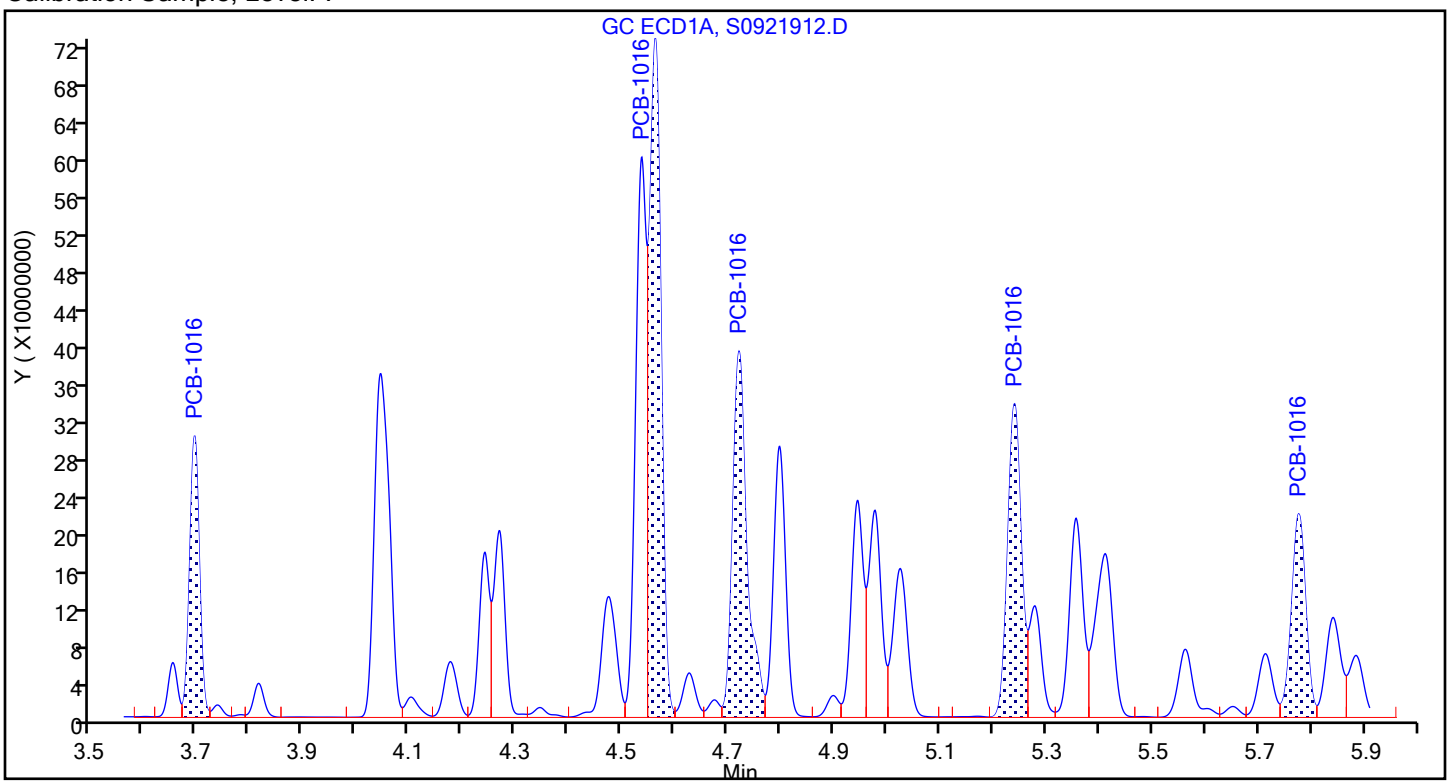

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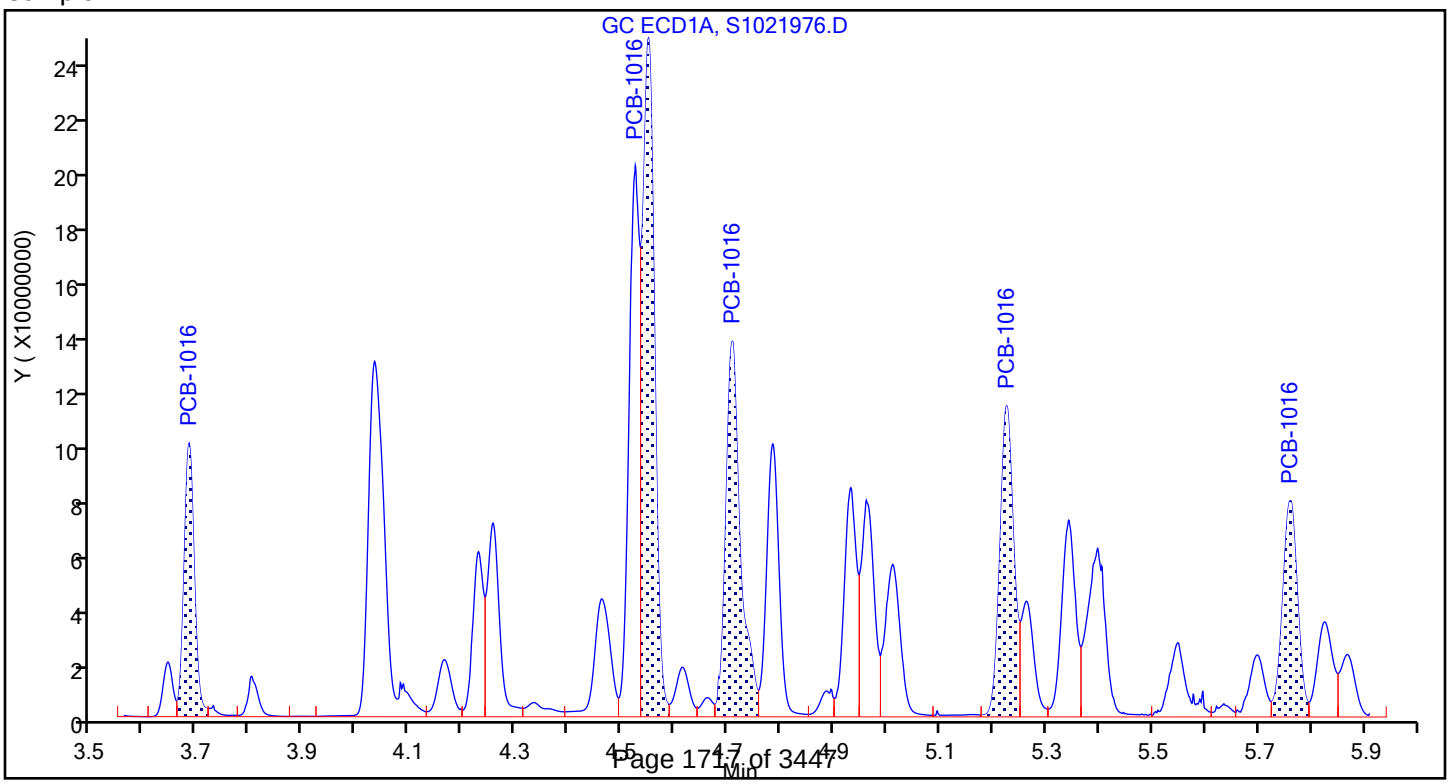

Report Date: 23-Oct-2019 08:56:32 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021976.D				
Injection Date:	22-Oct-2019 08:42:13	Instrument ID:	CHGC10		
Lims ID:	LCS 180-295380/2-A				
Client ID:					
Operator ID:		ALS Bottle#:	76	Worklist Smp#:	76
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		
Column:		Detector	GC ECD1A		

9 PCB-1260, CAS: 11096-82-5

Calibration Sample, Level: 7

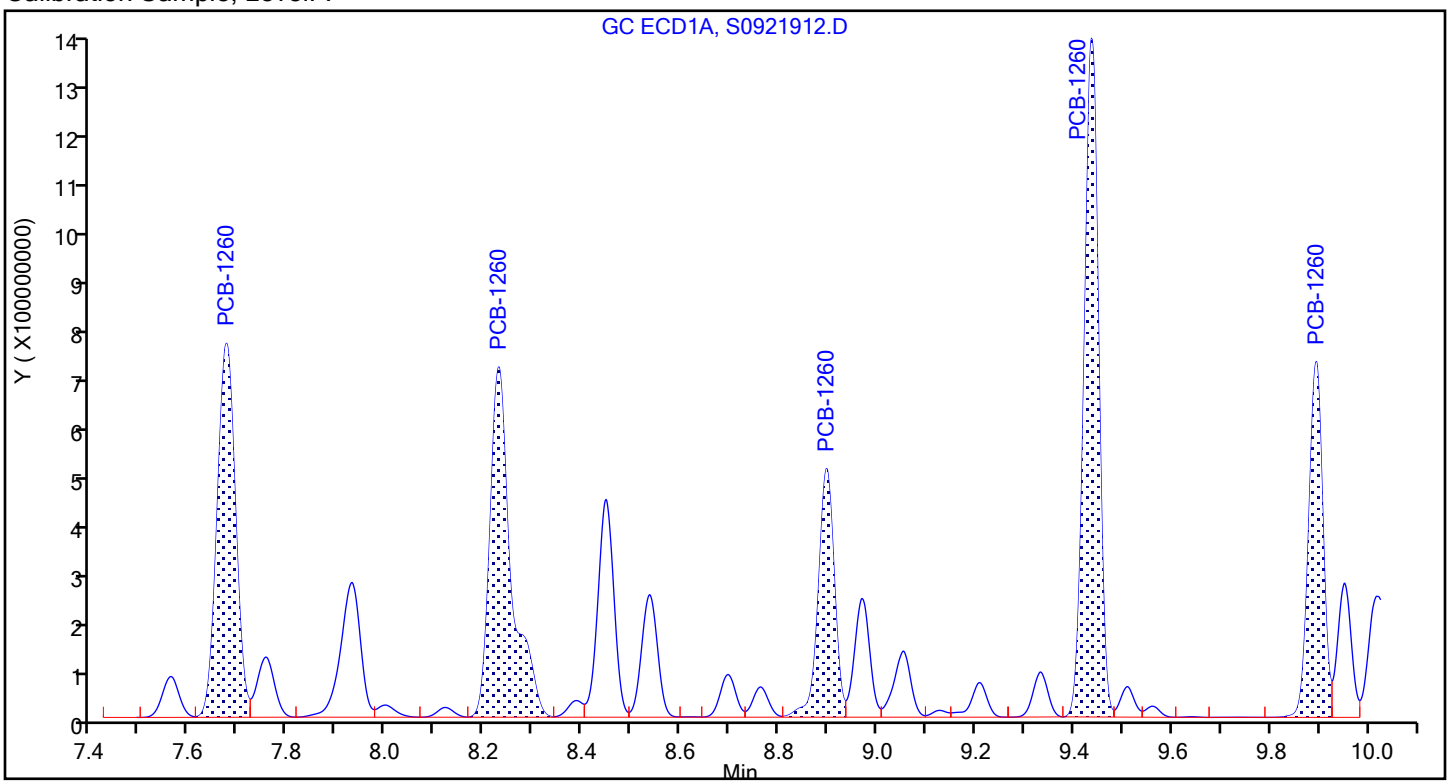

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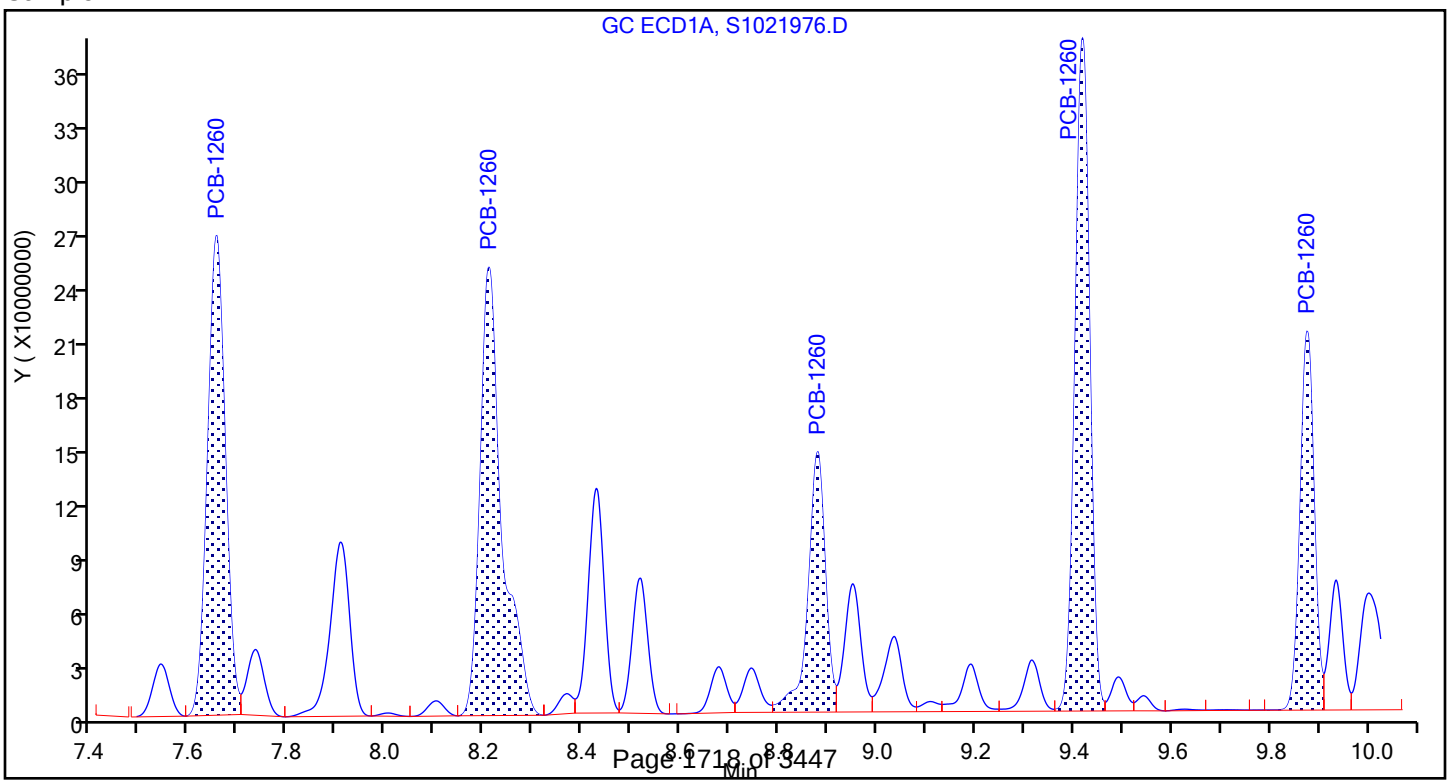

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 180-295380/2-A

Matrix: Solid Lab File ID: S1021976.D

Analysis Method: EPA 8082A Date Collected:

Extraction Method: 3510C Date Extracted: 10/18/2019 10:30

Sample wt/vol: 1000(mL) Date Analyzed: 10/22/2019 08:42

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: RTX-CLP2 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 295495 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
12674-11-2	PCB-1016	0.0385		0.00040	0.00019

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene (Surr)	97		45-133
2051-24-3	DCB Decachlorobiphenyl (Surr)	96		59-144

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021976.D
Lims ID: LCS 180-295380/2-A
Client ID:
Sample Type: LCS
Inject. Date: 22-Oct-2019 08:42:13 ALS Bottle#: 76 Worklist Smp#: 76
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029208-076
Operator ID: Instrument ID: CHGC10

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Oct-2019 08:56:02 Calib Date: 16-Oct-2019 14:52:38
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20191016-29144.b\S1016906.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: oravecj Date: 23-Oct-2019 08:55:41

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.740	2.744	-0.004	660702188H	0.1000	0.1000	
2	2.921	2.930	-0.009	204547291H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.361	3.364	-0.003	136918910H	0.0200	0.0175	
2	3.784	3.796	-0.012	36841827H	0.0200	0.0193	
						RPD = 10.15	
6 PCB-1016							
1	3.684	3.687	-0.003	94765625H	1.00	0.8774	
1	4.550	4.554	-0.004	235309433H	1.00	0.9406	
1	4.709	4.712	-0.003	130220870H	1.00	0.9150	
1	5.226	5.230	-0.004	107836361H	1.00	0.9141	
1	5.761	5.765	-0.004	75024138H	1.00	0.9632	
		Average of Peak Amounts =				0.9221	
2	4.322	4.335	-0.013	24209620H	1.00	0.9205	
2	5.481	5.497	-0.016	58102437H	1.00	1.01	
2	5.684	5.700	-0.016	32170277H	1.00	0.9755	
2	6.445	6.462	-0.017	26317615H	1.00	0.9655	
2	6.661	6.679	-0.018	21458296H	1.00	0.9421	
		Average of Peak Amounts =				0.9618	
						RPD = 4.22	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	7.654	7.658	-0.004	259974285H	1.00	1.13	
1	8.209	8.213	-0.004	243005672H	1.00	1.16	
1	8.879	8.883	-0.004	141078264H	1.00	0.9475	
1	9.419	9.423	-0.004	364742687H	1.00	0.9619	
1	9.876	9.881	-0.005	205312515H	1.00	0.9725	
		Average of Peak Amounts =				1.03	
2	8.869	8.886	-0.017	46493186H	1.00	0.9491	
2	9.244	9.259	-0.015	58177476H	1.00	0.9458	
2	9.854	9.868	-0.014	60646693H	1.00	1.02	
2	10.841	10.852	-0.011	102469611H	1.00	0.9038	
2	11.371	11.382	-0.011	58437433H	1.00	0.9069	
		Average of Peak Amounts =				0.9452	
						RPD = 9.05	
* 46 PCB-205 (IS)							
1	10.901	10.905	-0.004	533923987H	0.1000	0.1000	
2	12.202	12.212	-0.010	150766289H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.487	11.491	-0.004	74553885H	0.0200	0.0185	
2	12.914	12.924	-0.010	21778735H	0.0200	0.0191	
						RPD = 3.68	

Reagents:

PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Oct-2019 08:56:32 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021976.D				
Injection Date:	22-Oct-2019 08:42:13	Instrument ID:	CHGC10		
Lims ID:	LCS 180-295380/2-A				
Client ID:					
Operator ID:		ALS Bottle#:	76	Worklist Smp#:	76
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

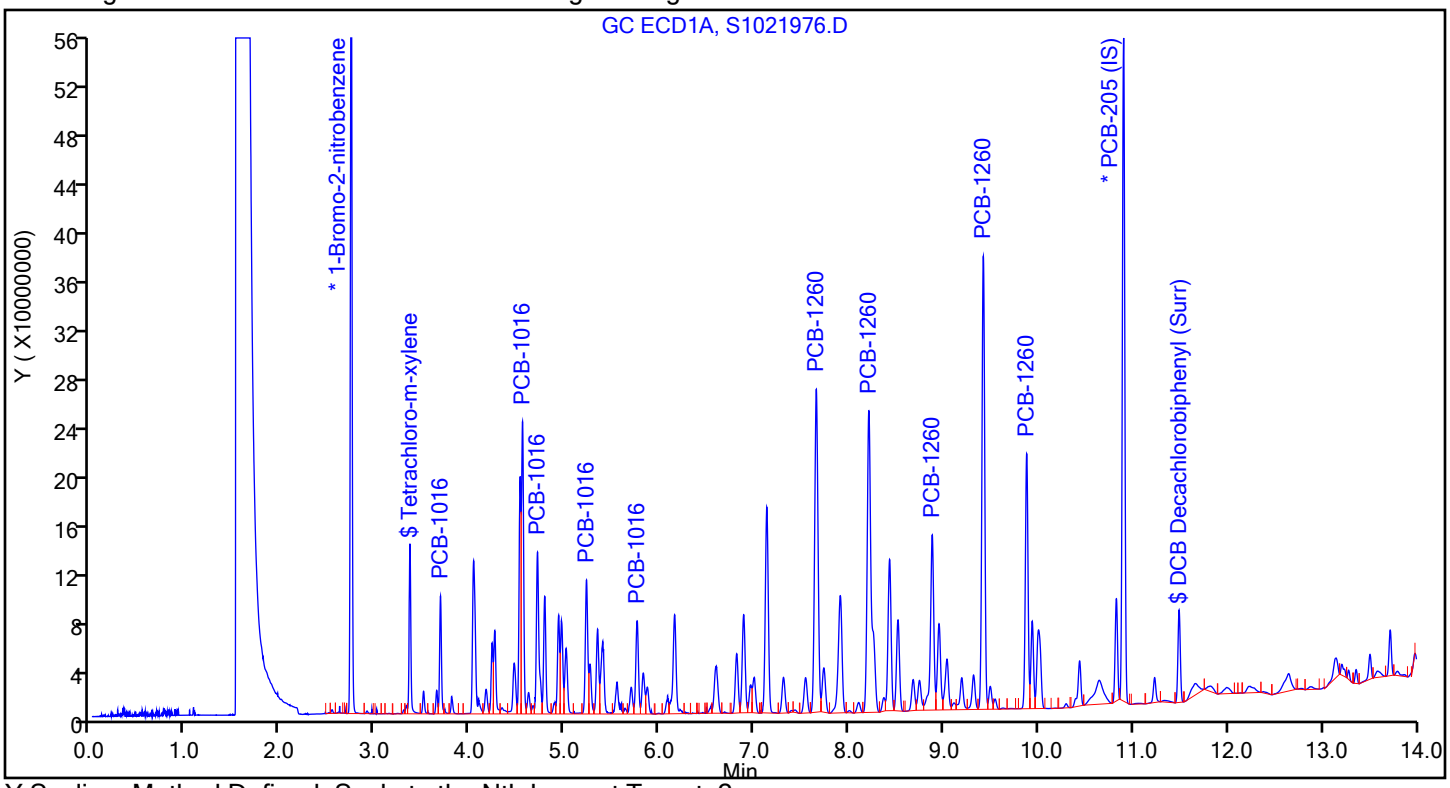

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

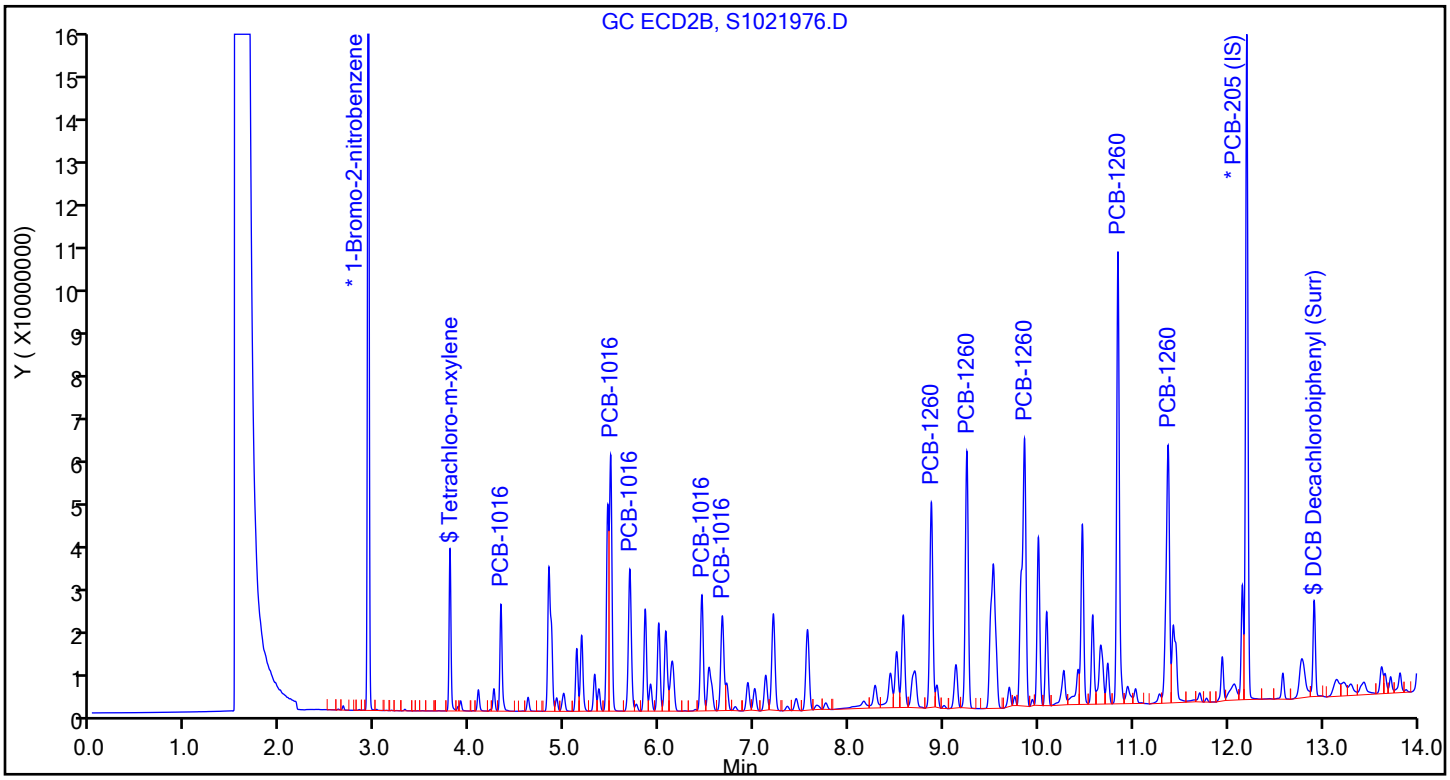

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021976.D				
Lims ID:	LCS 180-295380/2-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	22-Oct-2019 08:42:13	ALS Bottle#:	76	Worklist Smp#:	76
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0029208-076				
Operator ID:		Instrument ID:	CHGC10		
Method:	\\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\IS PCB_CHGC10DUAL.m				
Limit Group:	GCS 8082A ICAL with IS				
Last Update:	23-Oct-2019 08:56:02	Calib Date:	16-Oct-2019 14:52:38		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC10\20191016-29144.b\S1016906.D				
Column 1 :			Det: GC ECD1A		
Column 2 :			Det: GC ECD2B		
Process Host:	CTX0310				
First Level Reviewer: oravecj		Date:	23-Oct-2019 08:55:41		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0175	87.40
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0185	92.27

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0193	96.75
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0191	95.73

Report Date: 23-Oct-2019 08:56:33 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021976.D				
Injection Date:	22-Oct-2019 08:42:13	Instrument ID:	CHGC10		
Lims ID:	LCS 180-295380/2-A				
Client ID:					
Operator ID:		ALS Bottle#:	76	Worklist Smp#:	76
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		
Column:		Detector	GC ECD2B		

6 PCB-1016, CAS: 12674-11-2

Calibration Sample, Level: 7

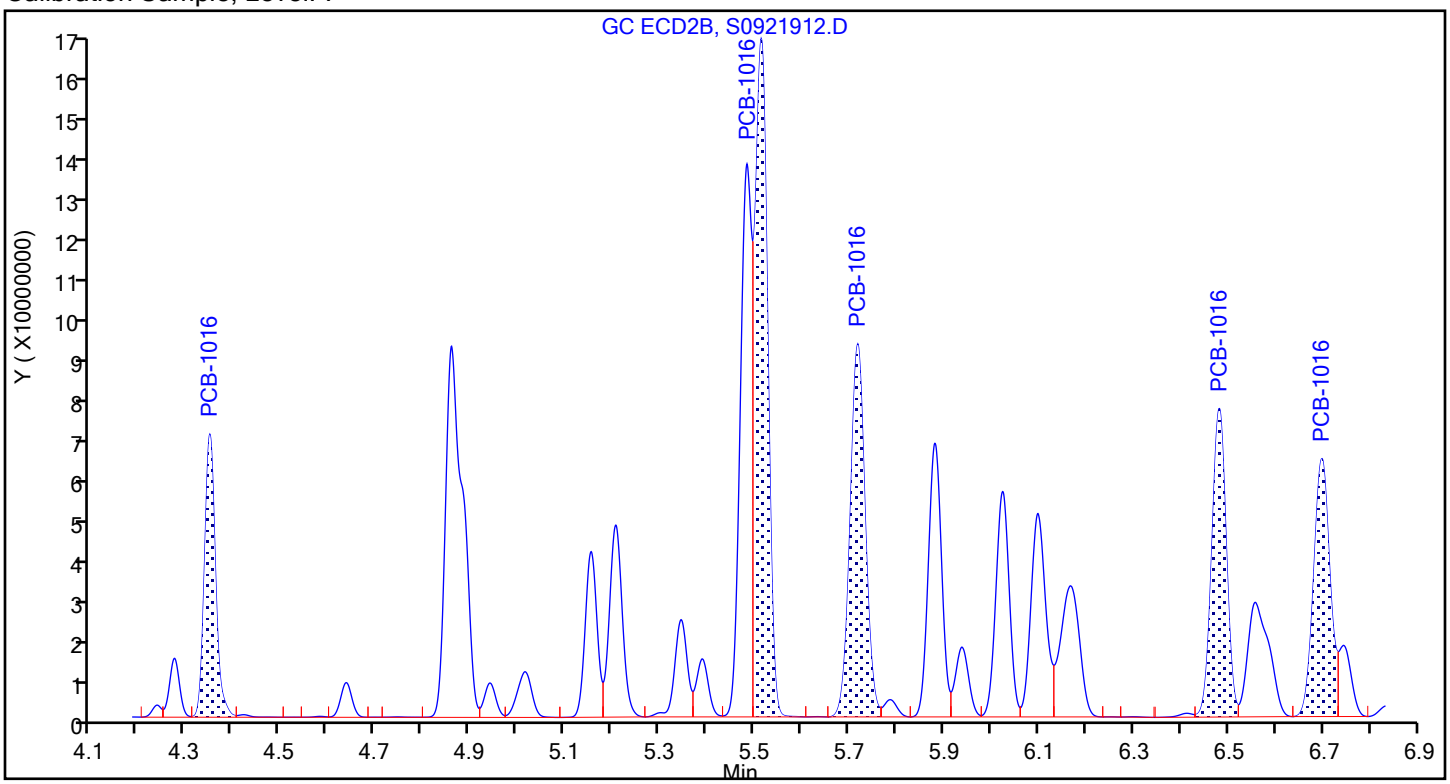

Sample

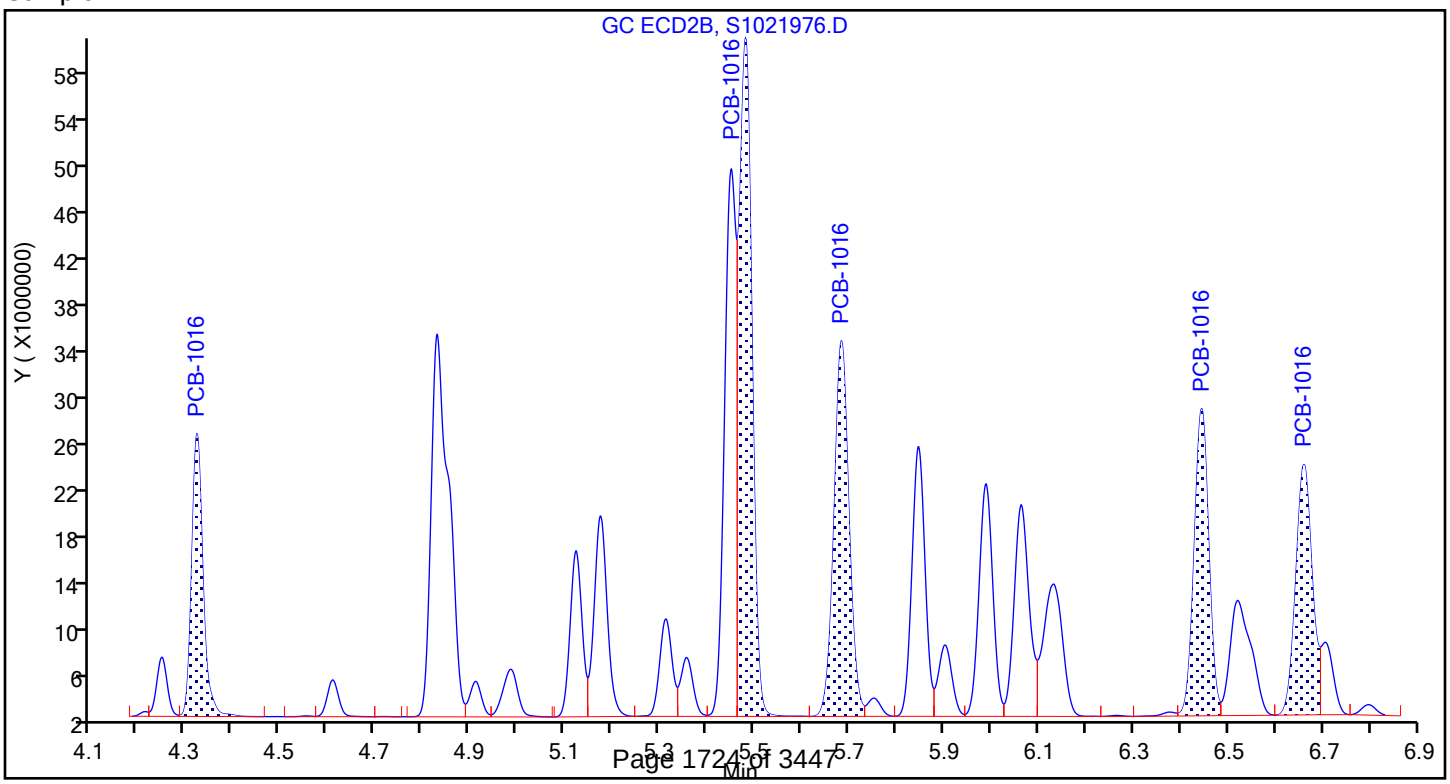

Report Date: 23-Oct-2019 08:56:33 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021976.D				
Injection Date:	22-Oct-2019 08:42:13	Instrument ID:	CHGC10		
Lims ID:	LCS 180-295380/2-A				
Client ID:					
Operator ID:		ALS Bottle#:	76	Worklist Smp#:	76
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		
Column:		Detector	GC ECD2B		

9 PCB-1260, CAS: 11096-82-5

Calibration Sample, Level: 7

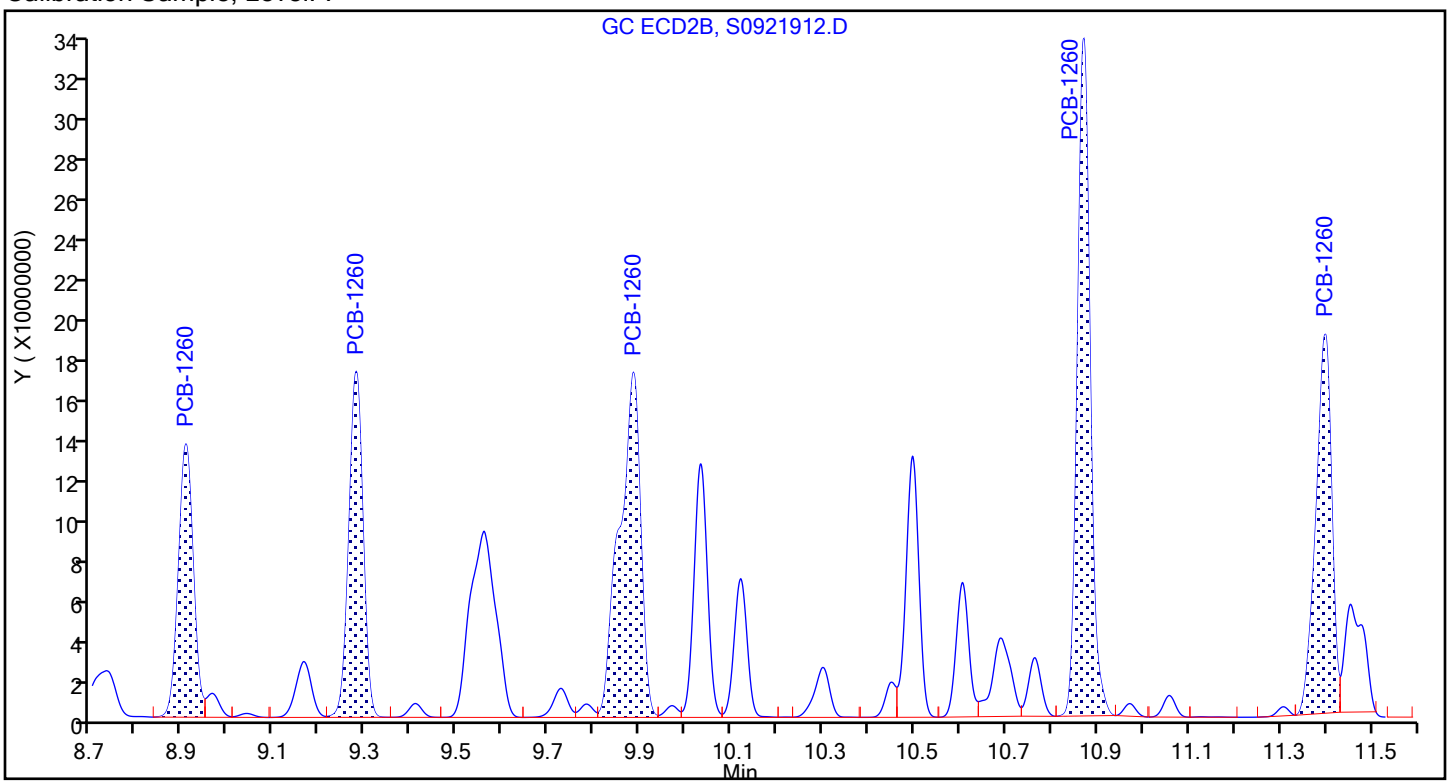

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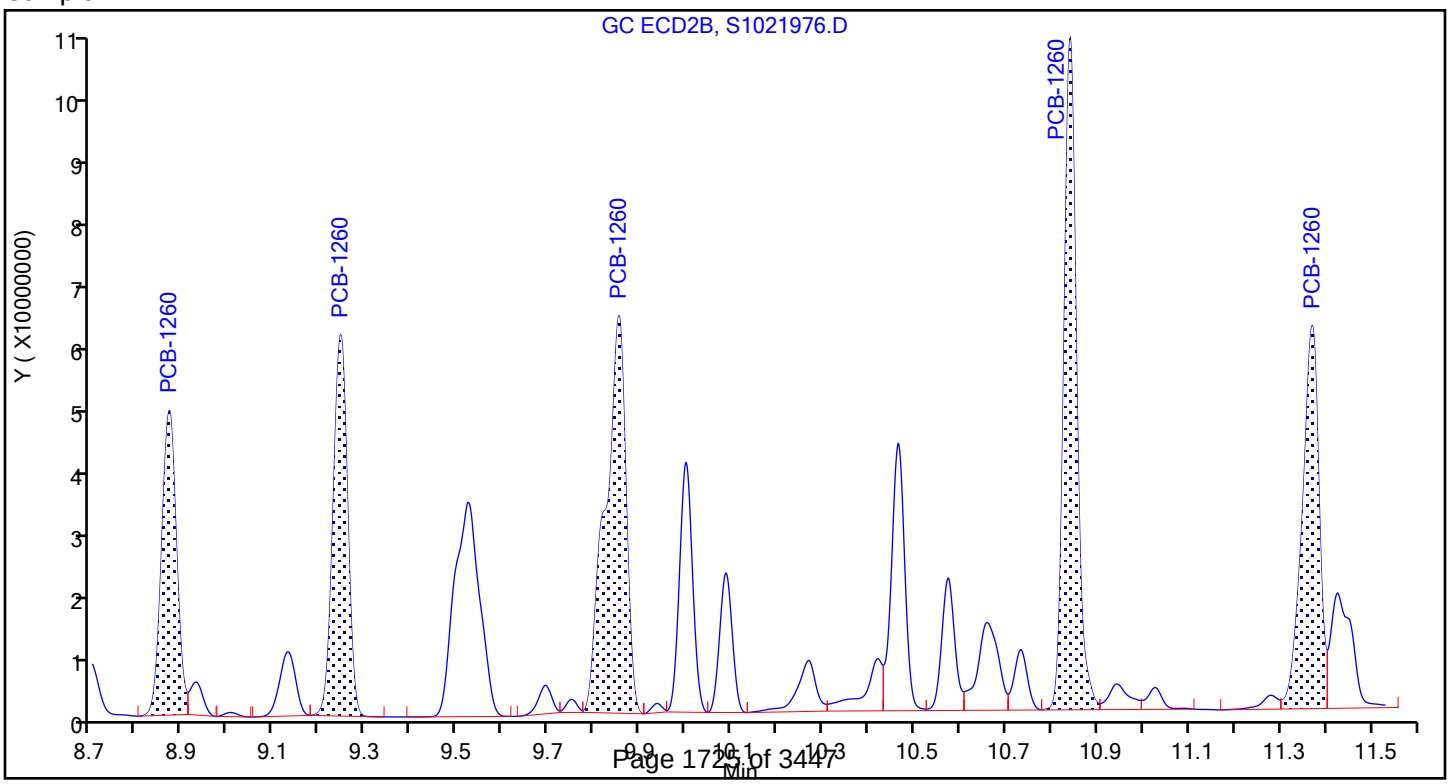

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 180-295380/3-A

Matrix: Solid Lab File ID: S1021977.D

Analysis Method: EPA 8082A Date Collected:

Extraction Method: 3510C Date Extracted: 10/18/2019 10:30

Sample wt/vol: 1000(mL) Date Analyzed: 10/22/2019 09:02

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: RTX-CLP1 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 295495 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
12674-11-2	PCB-1016	0.0378		0.00040	0.00019
11096-82-5	PCB-1260	0.0376		0.00040	0.00016

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene (Surr)	89		45-133
2051-24-3	DCB Decachlorobiphenyl (Surr)	86		59-144

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021977.D
Lims ID: LCSD 180-295380/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 22-Oct-2019 09:02:30 ALS Bottle#: 77 Worklist Smp#: 77
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029208-077
Operator ID: Instrument ID: CHGC10

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Oct-2019 08:56:02 Calib Date: 16-Oct-2019 14:52:38
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20191016-29144.b\S1016906.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0310

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.738	2.744	-0.006	645321616H	0.1000	0.1000	
2	2.923	2.930	-0.006	213406086H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.358	3.364	-0.006	136033071H	0.0200	0.0178	
2	3.787	3.796	-0.009	37317959H	0.0200	0.0188	
						RPD = 5.50	
6 PCB-1016							
1	3.679	3.687	-0.008	94126794H	1.00	0.8922	
1	4.546	4.554	-0.008	235590792H	1.00	0.9642	
1	4.703	4.712	-0.009	130418147H	1.00	0.9382	
1	5.220	5.230	-0.010	105892576H	1.00	0.9190	
1	5.754	5.765	-0.011	76712743H	1.00	1.01	
		Average of Peak Amounts =				0.9444	
2	4.325	4.335	-0.010	24591032H	1.00	0.8962	
2	5.486	5.497	-0.011	58366718H	1.00	0.9683	
2	5.688	5.700	-0.012	32472579H	1.00	0.9438	
2	6.450	6.462	-0.012	27062265H	1.00	0.9516	
2	6.667	6.679	-0.012	22569301H	1.00	0.9498	
		Average of Peak Amounts =				0.9419	
						RPD = 0.26	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	7.648	7.658	-0.010	265661662H	1.00	1.02	
1	8.203	8.213	-0.010	254352235H	1.00	1.07	
1	8.873	8.883	-0.010	141462520H	1.00	0.8365	
1	9.414	9.423	-0.009	385914145H	1.00	0.8961	
1	9.873	9.881	-0.008	212063131H	1.00	0.8844	
		Average of Peak Amounts =				0.9410	
2	8.874	8.886	-0.012	50275829H	1.00	0.9469	
2	9.249	9.259	-0.010	60770308H	1.00	0.9115	
2	9.858	9.868	-0.010	64088635H	1.00	0.99	
2	10.846	10.852	-0.006	110745126H	1.00	0.9012	
2	11.375	11.382	-0.007	60979695H	1.00	0.8731	
		Average of Peak Amounts =				0.9255	
						RPD = 1.65	
* 46 PCB-205 (IS)							
1	10.899	10.905	-0.006	606403199H	0.1000	0.1000	
2	12.207	12.212	-0.005	163410760H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.487	11.491	-0.004	79294013H	0.0200	0.0173	
2	12.918	12.924	-0.006	22597817H	0.0200	0.0183	
						RPD = 5.88	

Reagents:

PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Oct-2019 08:56:30 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021977.D

Injection Date: 22-Oct-2019 09:02:30 Instrument ID: CHGC10

Lims ID: LCSD 180-295380/3-A

Client ID:

Operator ID: ALS Bottle#: 77 Worklist Smp#: 77

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

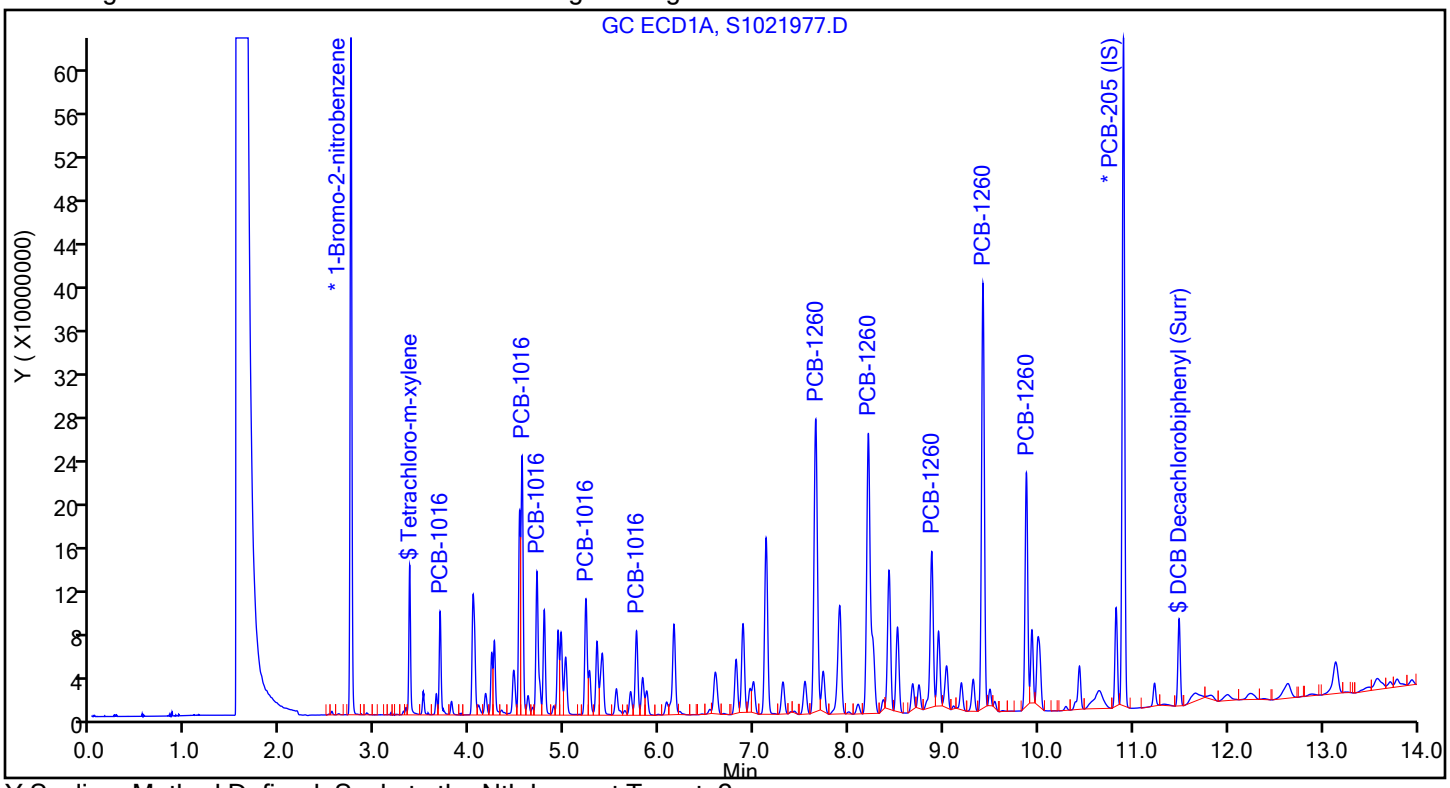

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

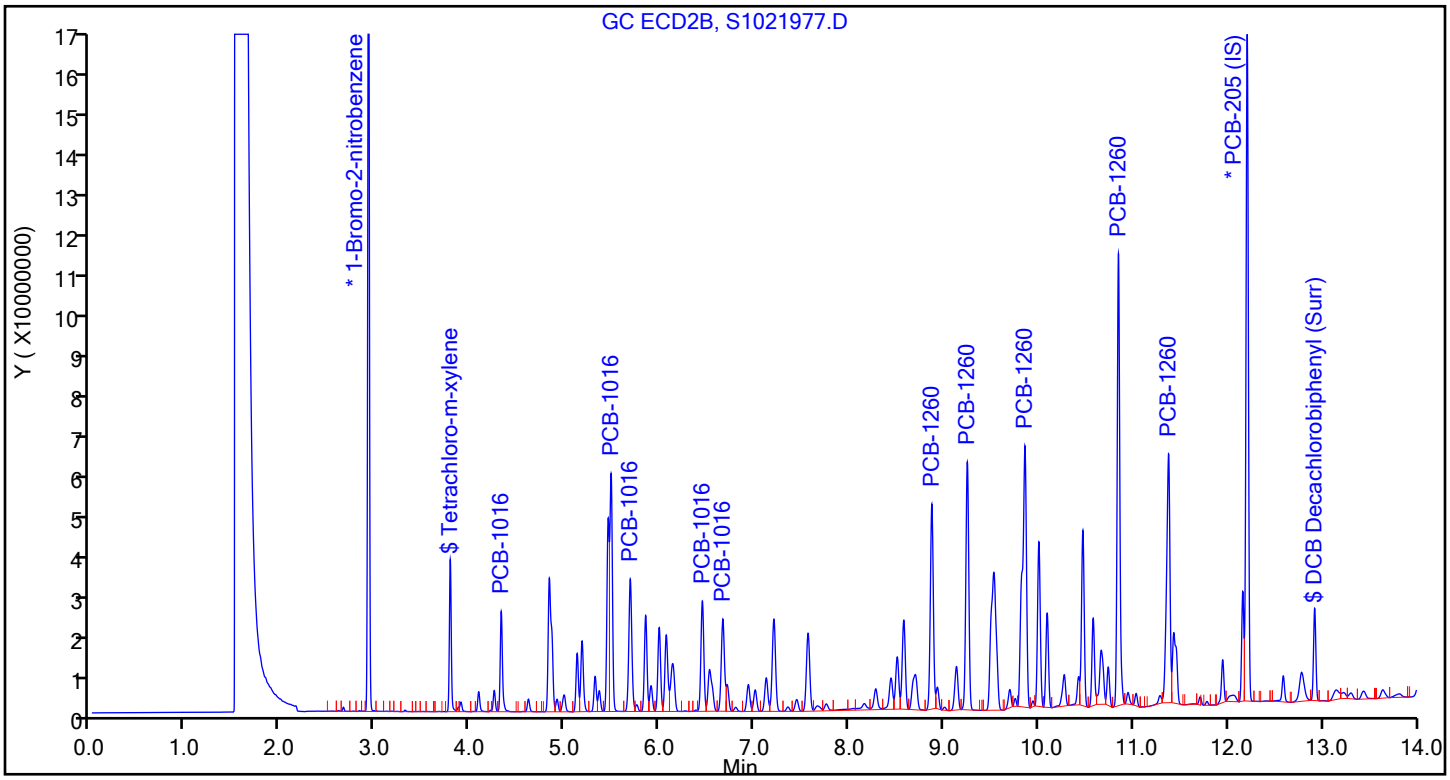

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021977.D				
Lims ID:	LCSD 180-295380/3-A				
Client ID:					
Sample Type:	LCSD				
Inject. Date:	22-Oct-2019 09:02:30	ALS Bottle#:	77	Worklist Smp#:	77
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0029208-077				
Operator ID:		Instrument ID:	CHGC10		
Method:	\\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\IS PCB_CHGC10DUAL.m				
Limit Group:	GCS 8082A ICAL with IS				
Last Update:	23-Oct-2019 08:56:02	Calib Date:	16-Oct-2019 14:52:38		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC10\20191016-29144.b\S1016906.D				
Column 1 :			Det: GC ECD1A		
Column 2 :			Det: GC ECD2B		
Process Host:	CTX0310				

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0178	88.90
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0173	86.41

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0188	93.93
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0183	91.64

Report Date: 23-Oct-2019 08:56:31 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021977.D				
Injection Date:	22-Oct-2019 09:02:30	Instrument ID:	CHGC10		
Lims ID:	LCSD 180-295380/3-A				
Client ID:					
Operator ID:		ALS Bottle#:	77	Worklist Smp#:	77
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		
Column:		Detector	GC ECD1A		

6 PCB-1016, CAS: 12674-11-2

Calibration Sample, Level: 7

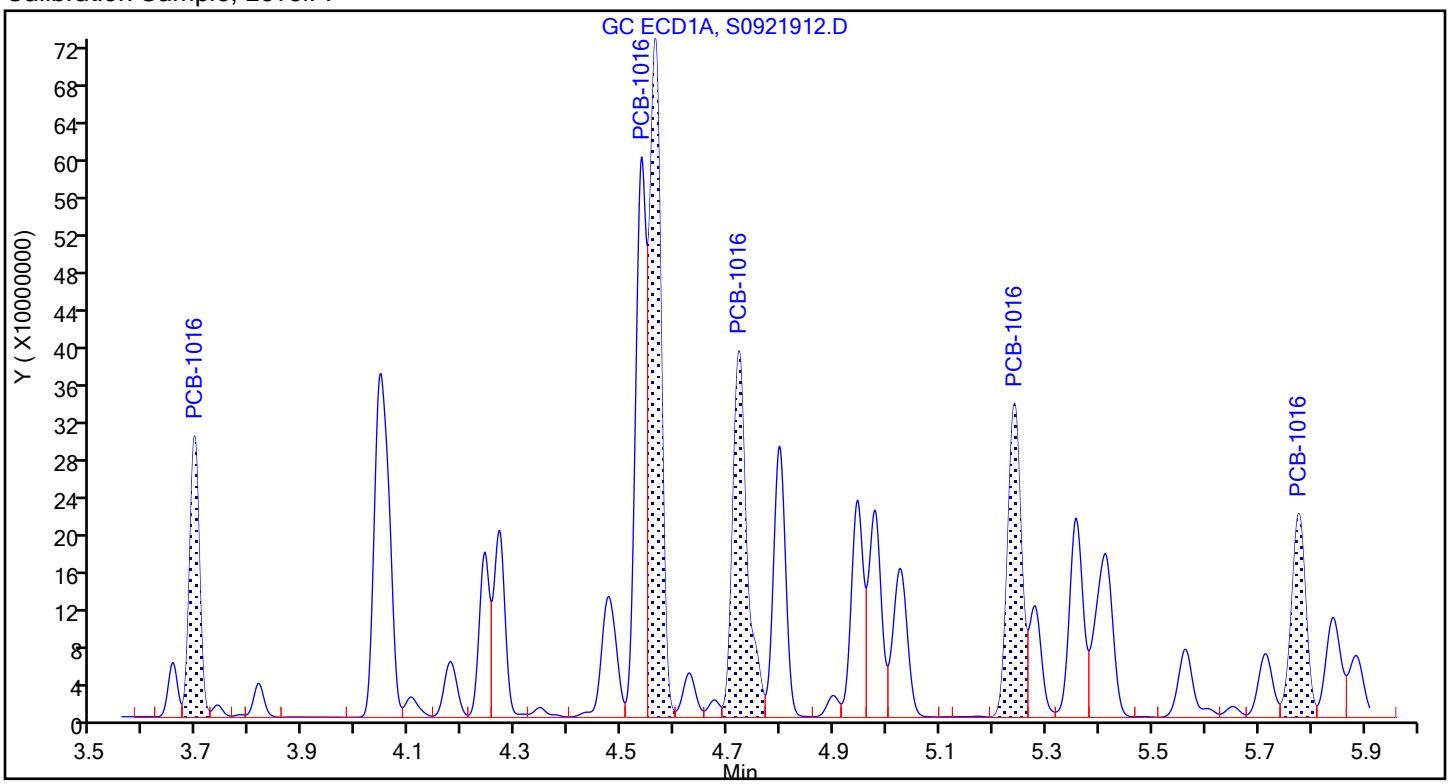

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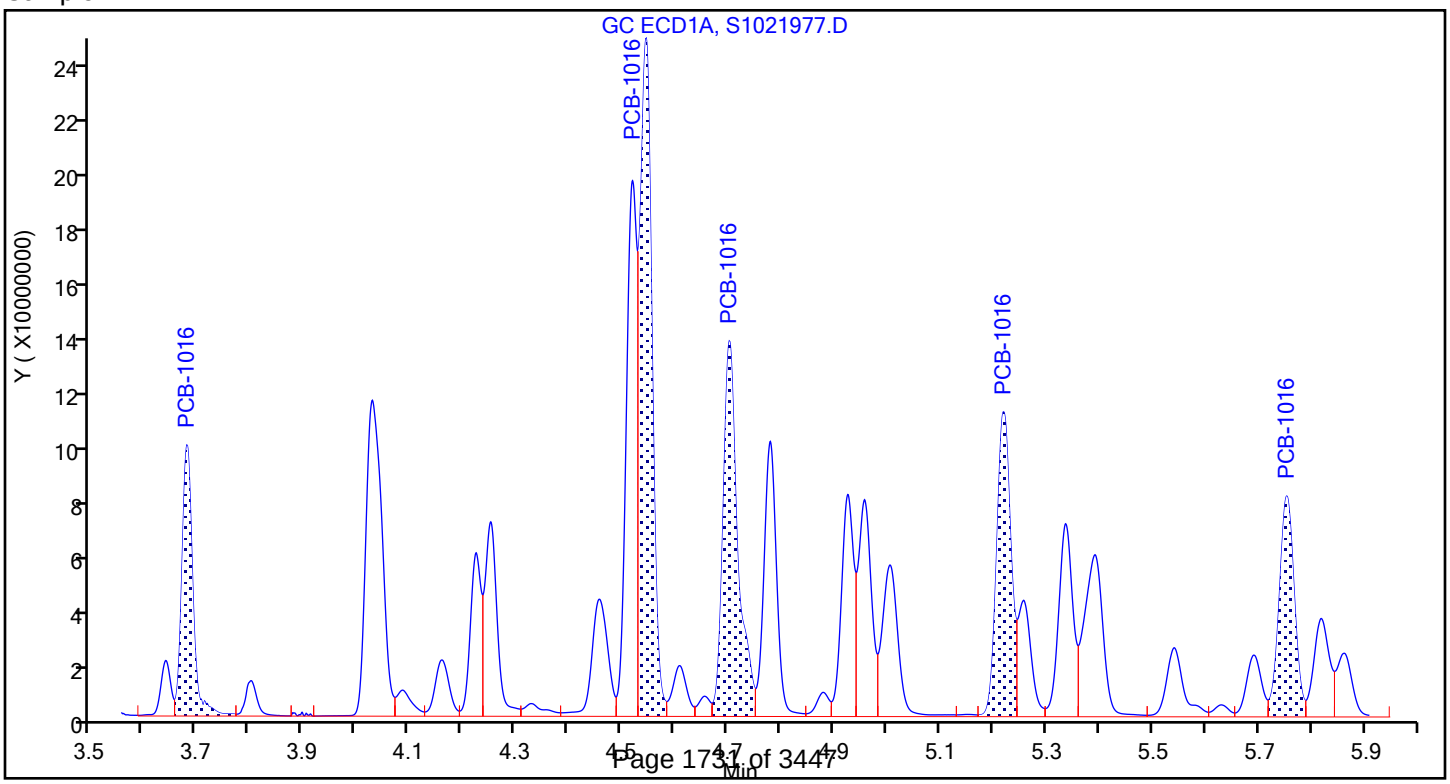

Report Date: 23-Oct-2019 08:56:31 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021977.D				
Injection Date:	22-Oct-2019 09:02:30	Instrument ID:	CHGC10		
Lims ID:	LCSD 180-295380/3-A				
Client ID:					
Operator ID:		ALS Bottle#:	77	Worklist Smp#:	77
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		
Column:		Detector	GC ECD1A		

9 PCB-1260, CAS: 11096-82-5

Calibration Sample, Level: 7

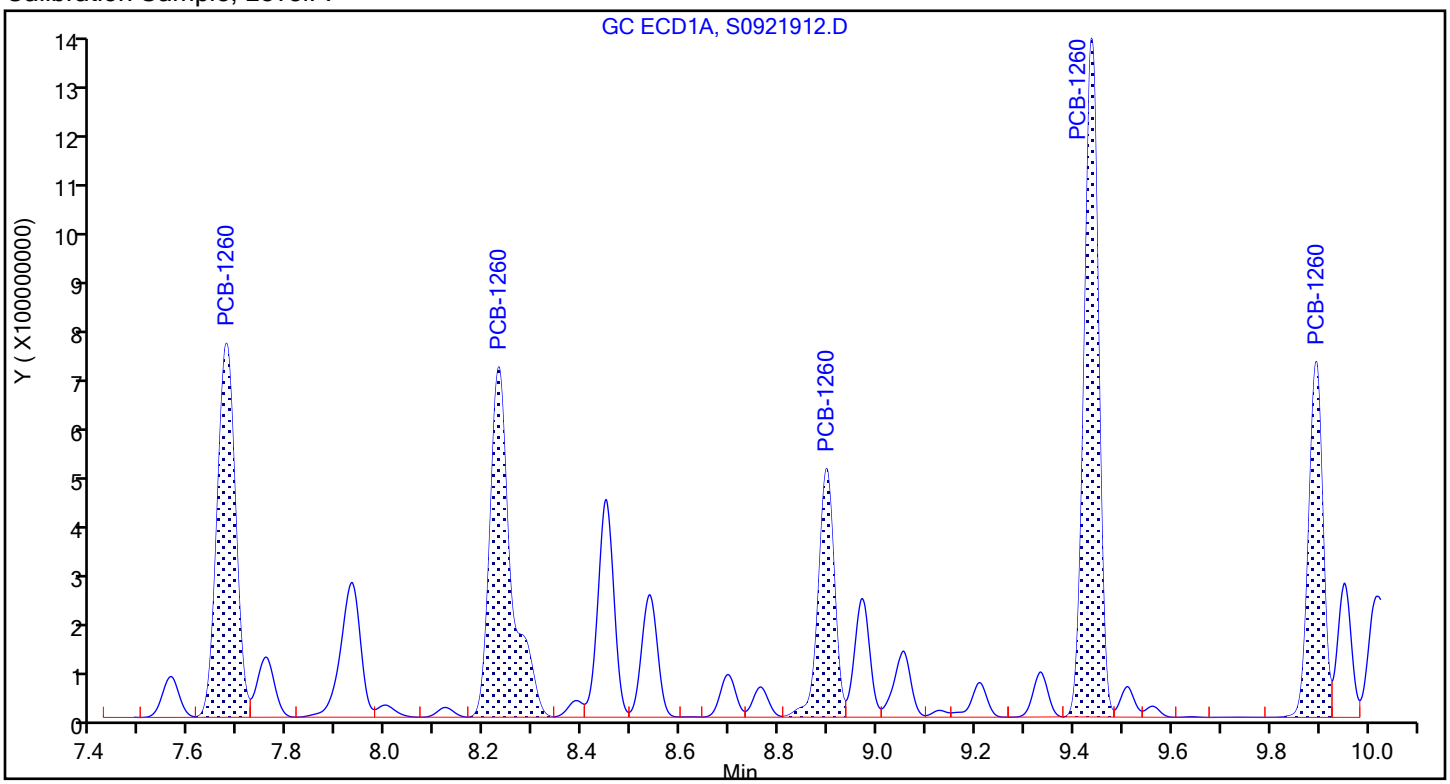

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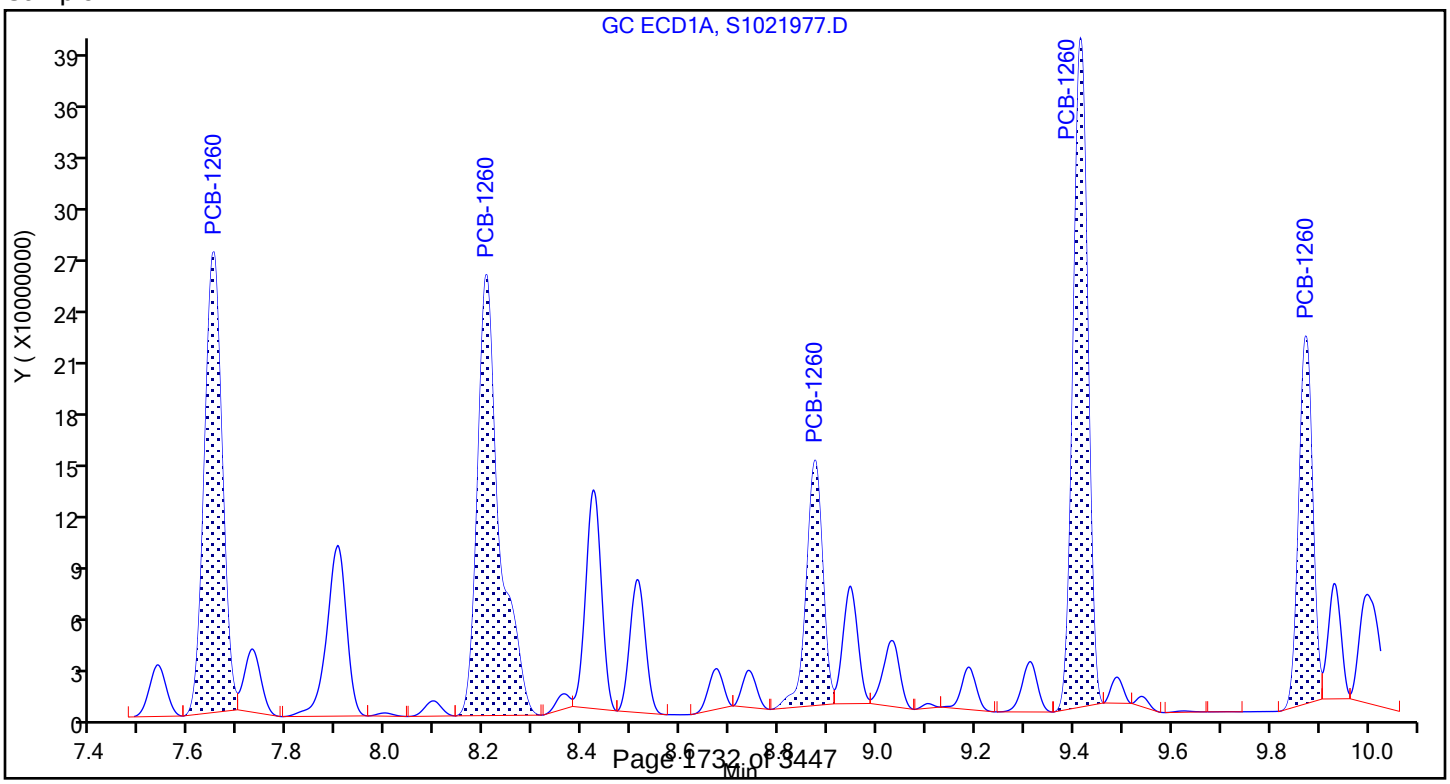

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 180-295380/3-A

Matrix: Solid Lab File ID: S1021977.D

Analysis Method: EPA 8082A Date Collected:

Extraction Method: 3510C Date Extracted: 10/18/2019 10:30

Sample wt/vol: 1000(mL) Date Analyzed: 10/22/2019 09:02

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: RTX-CLP2 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 295495 Units: mg/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene (Surr)	94		45-133
2051-24-3	DCB Decachlorobiphenyl (Surr)	92		59-144

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021977.D
Lims ID: LCSD 180-295380/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 22-Oct-2019 09:02:30 ALS Bottle#: 77 Worklist Smp#: 77
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029208-077
Operator ID: Instrument ID: CHGC10

Method: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\IS PCB_CHGC10DUAL.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 23-Oct-2019 08:56:02 Calib Date: 16-Oct-2019 14:52:38
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC10\20191016-29144.b\S1016906.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0310

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.738	2.744	-0.006	645321616H	0.1000	0.1000	
2	2.923	2.930	-0.006	213406086H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.358	3.364	-0.006	136033071H	0.0200	0.0178	
2	3.787	3.796	-0.009	37317959H	0.0200	0.0188	
						RPD = 5.50	
6 PCB-1016							
1	3.679	3.687	-0.008	94126794H	1.00	0.8922	
1	4.546	4.554	-0.008	235590792H	1.00	0.9642	
1	4.703	4.712	-0.009	130418147H	1.00	0.9382	
1	5.220	5.230	-0.010	105892576H	1.00	0.9190	
1	5.754	5.765	-0.011	76712743H	1.00	1.01	
		Average of Peak Amounts =				0.9444	
2	4.325	4.335	-0.010	24591032H	1.00	0.8962	
2	5.486	5.497	-0.011	58366718H	1.00	0.9683	
2	5.688	5.700	-0.012	32472579H	1.00	0.9438	
2	6.450	6.462	-0.012	27062265H	1.00	0.9516	
2	6.667	6.679	-0.012	22569301H	1.00	0.9498	
		Average of Peak Amounts =				0.9419	
						RPD = 0.26	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	7.648	7.658	-0.010	265661662H	1.00	1.02	
1	8.203	8.213	-0.010	254352235H	1.00	1.07	
1	8.873	8.883	-0.010	141462520H	1.00	0.8365	
1	9.414	9.423	-0.009	385914145H	1.00	0.8961	
1	9.873	9.881	-0.008	212063131H	1.00	0.8844	
		Average of Peak Amounts =				0.9410	
2	8.874	8.886	-0.012	50275829H	1.00	0.9469	
2	9.249	9.259	-0.010	60770308H	1.00	0.9115	
2	9.858	9.868	-0.010	64088635H	1.00	0.99	
2	10.846	10.852	-0.006	110745126H	1.00	0.9012	
2	11.375	11.382	-0.007	60979695H	1.00	0.8731	
		Average of Peak Amounts =				0.9255	
						RPD = 1.65	
* 46 PCB-205 (IS)							
1	10.899	10.905	-0.006	606403199H	0.1000	0.1000	
2	12.207	12.212	-0.005	163410760H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.487	11.491	-0.004	79294013H	0.0200	0.0173	
2	12.918	12.924	-0.006	22597817H	0.0200	0.0183	
						RPD = 5.88	

Reagents:

PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 23-Oct-2019 08:56:31 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021977.D

Injection Date: 22-Oct-2019 09:02:30 Instrument ID: CHGC10

Lims ID: LCSD 180-295380/3-A

Client ID:

Operator ID: ALS Bottle#: 77 Worklist Smp#: 77

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PCB_CHGC10DUAL Limit Group: GCS 8082A ICAL with IS

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

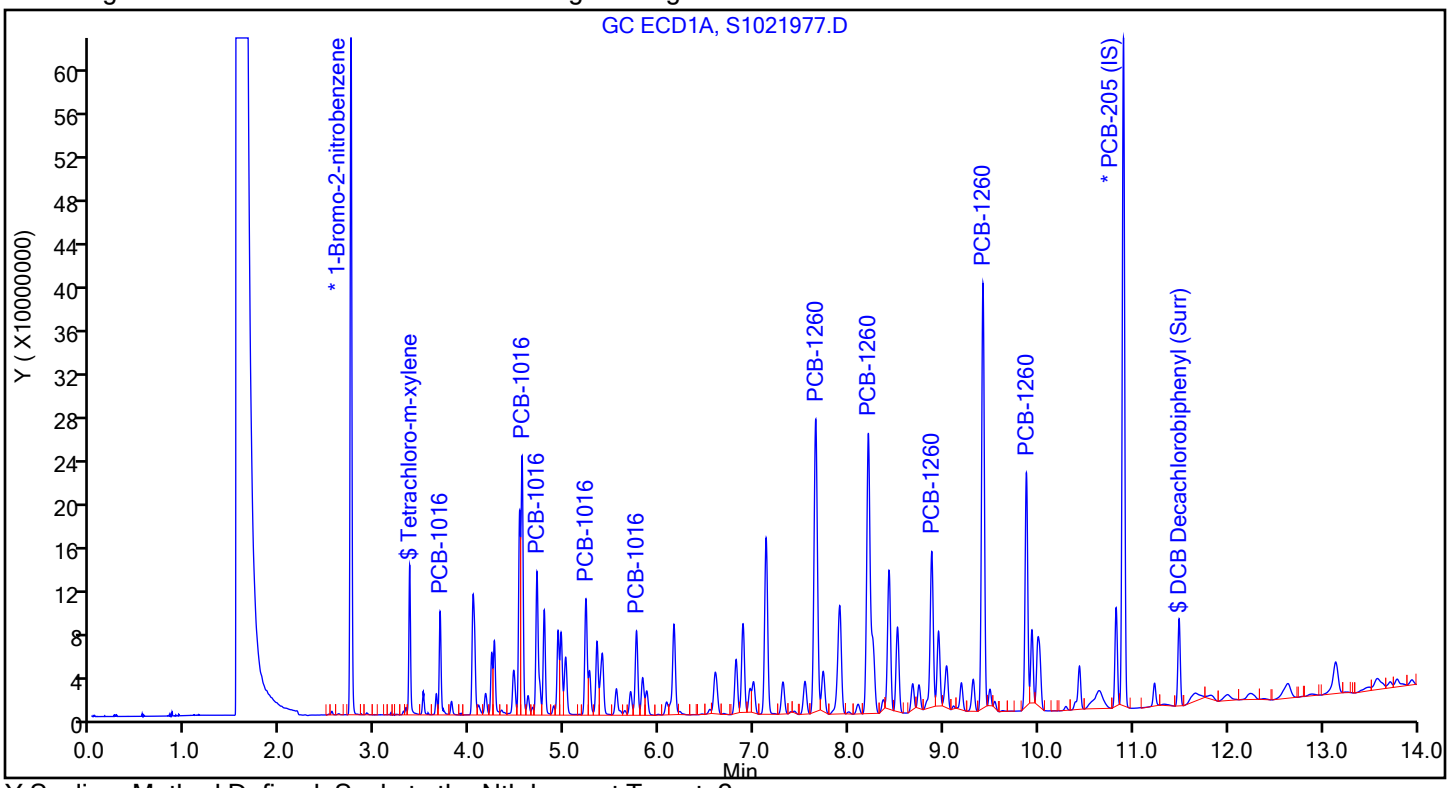

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

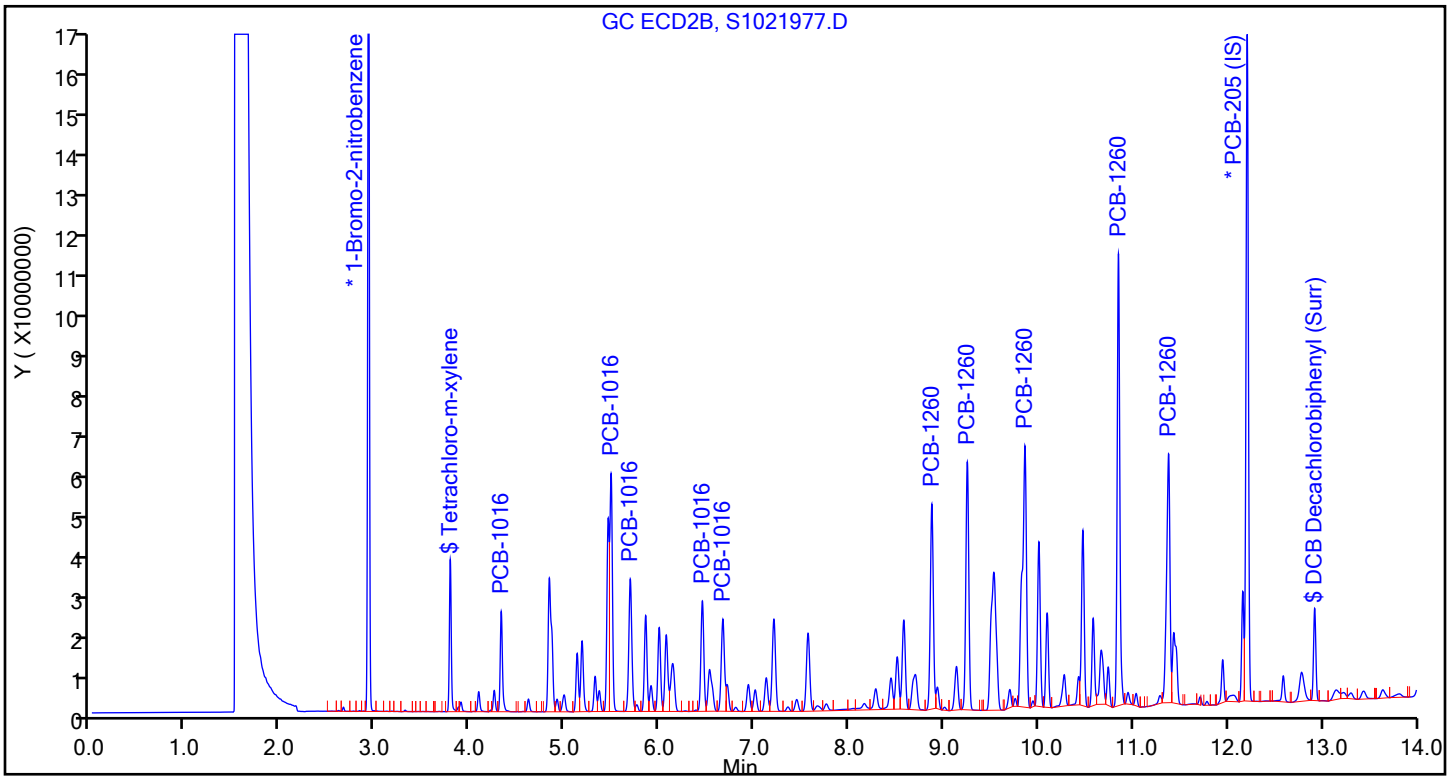

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021977.D				
Lims ID:	LCSD 180-295380/3-A				
Client ID:					
Sample Type:	LCSD				
Inject. Date:	22-Oct-2019 09:02:30	ALS Bottle#:	77	Worklist Smp#:	77
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0029208-077				
Operator ID:		Instrument ID:	CHGC10		
Method:	\\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\IS PCB_CHGC10DUAL.m				
Limit Group:	GCS 8082A ICAL with IS				
Last Update:	23-Oct-2019 08:56:02	Calib Date:	16-Oct-2019 14:52:38		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC10\20191016-29144.b\S1016906.D				
Column 1 :			Det: GC ECD1A		
Column 2 :			Det: GC ECD2B		
Process Host:	CTX0310				

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0178	88.90
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0173	86.41

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0188	93.93
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0183	91.64

Report Date: 23-Oct-2019 08:56:31 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021977.D				
Injection Date:	22-Oct-2019 09:02:30	Instrument ID:	CHGC10		
Lims ID:	LCSD 180-295380/3-A				
Client ID:					
Operator ID:		ALS Bottle#:	77	Worklist Smp#:	77
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		
Column:		Detector	GC ECD2B		

6 PCB-1016, CAS: 12674-11-2

Calibration Sample, Level: 7

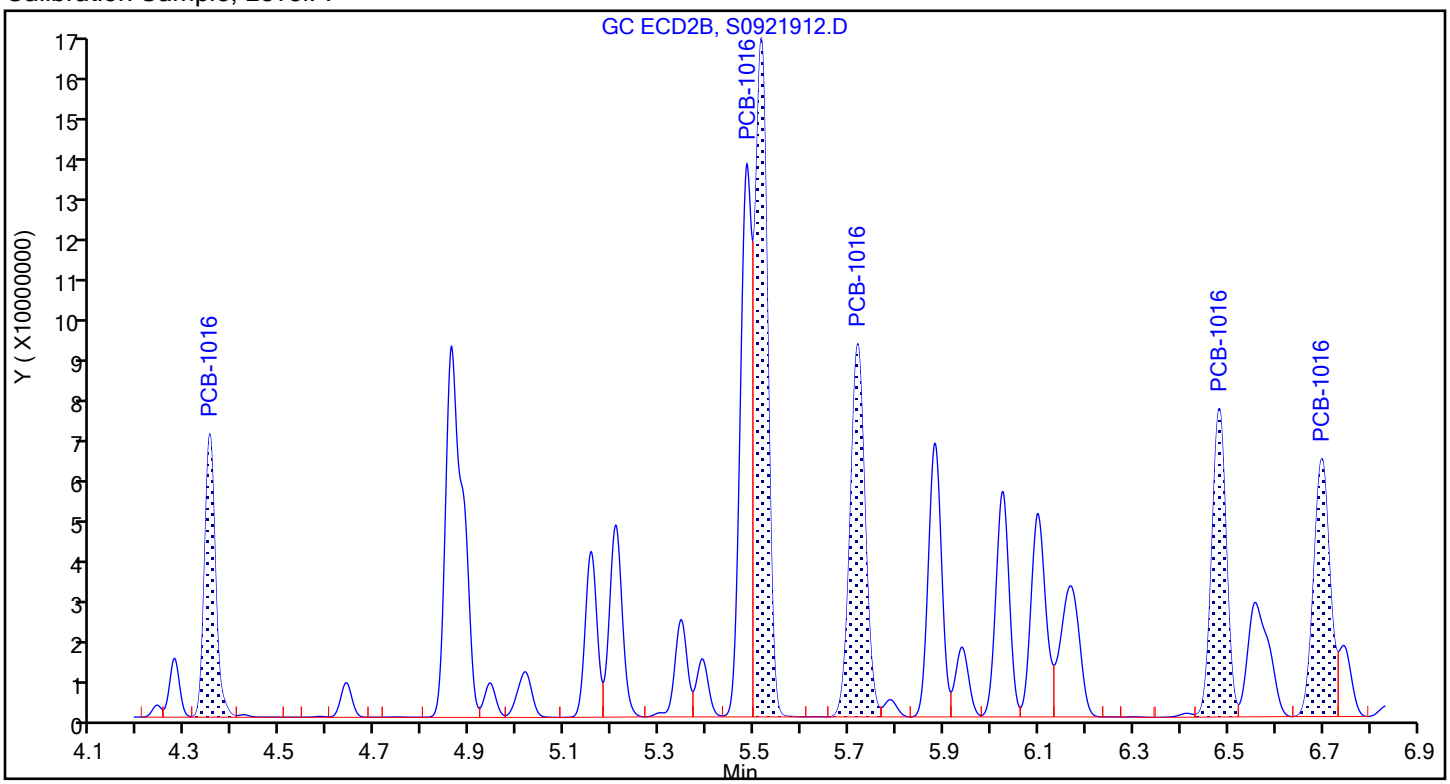

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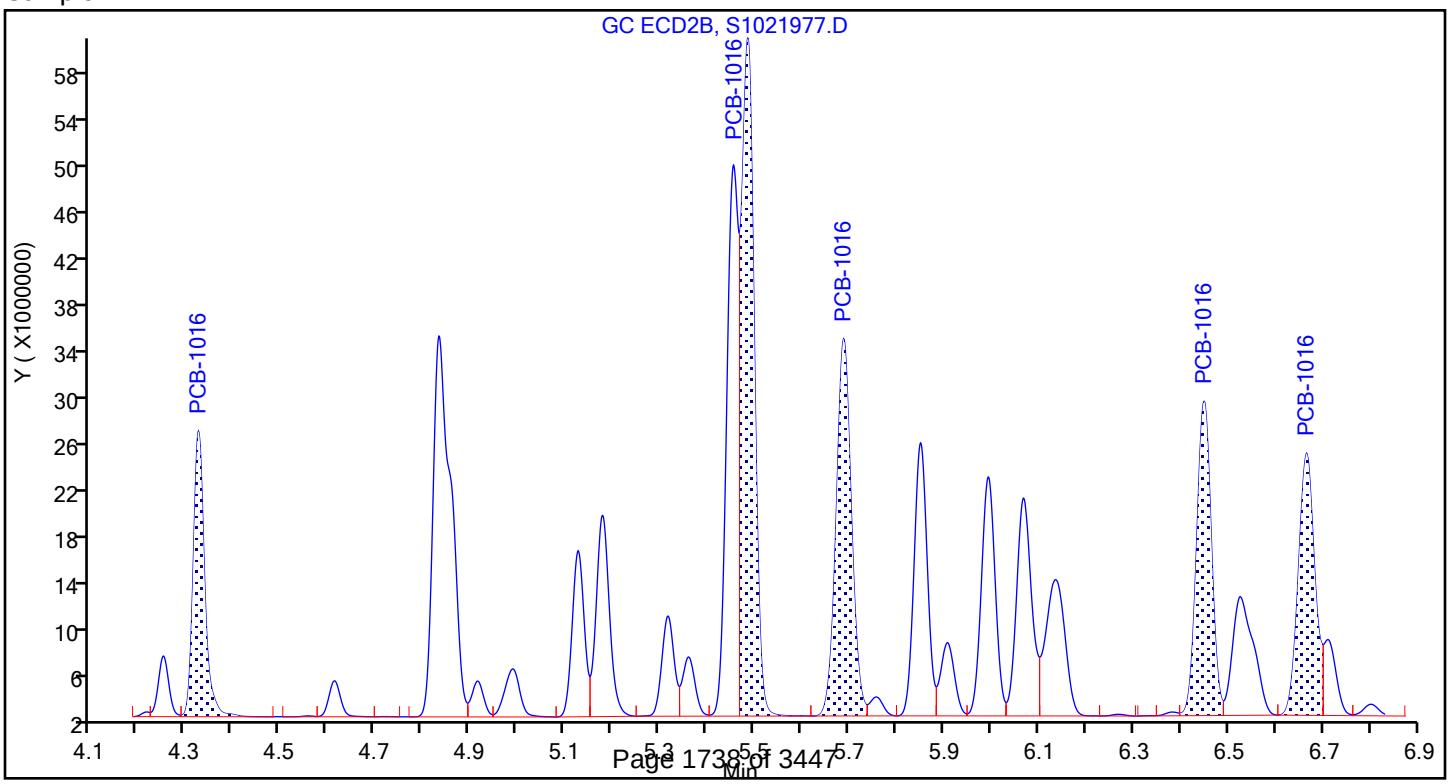

Report Date: 23-Oct-2019 08:56:31 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC10\20191021-29208.b\S1021977.D				
Injection Date:	22-Oct-2019 09:02:30	Instrument ID:	CHGC10		
Lims ID:	LCSD 180-295380/3-A				
Client ID:					
Operator ID:		ALS Bottle#:	77	Worklist Smp#:	77
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PCB_CHGC10DUAL	Limit Group:	GCS 8082A ICAL with IS		
Column:		Detector	GC ECD2B		

9 PCB-1260, CAS: 11096-82-5

Calibration Sample, Level: 7

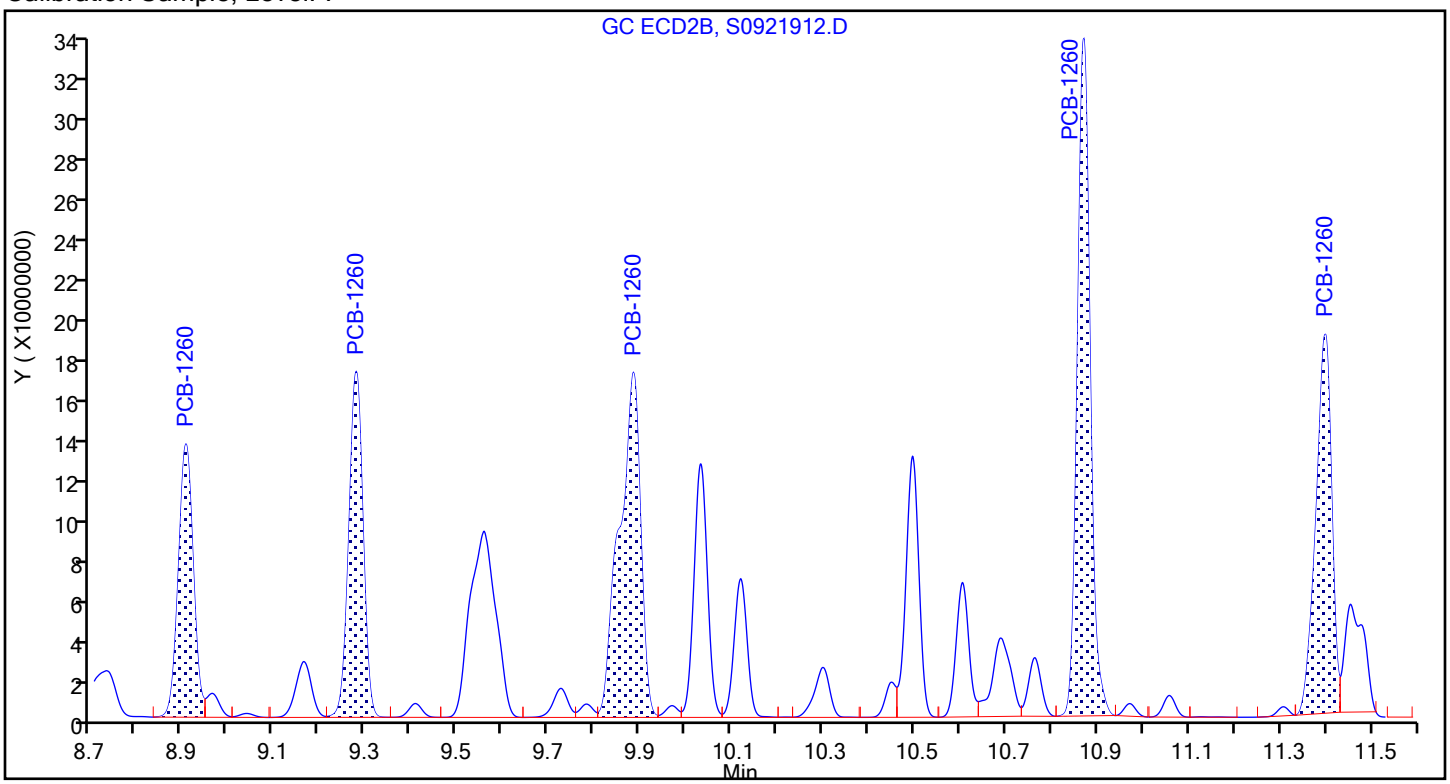

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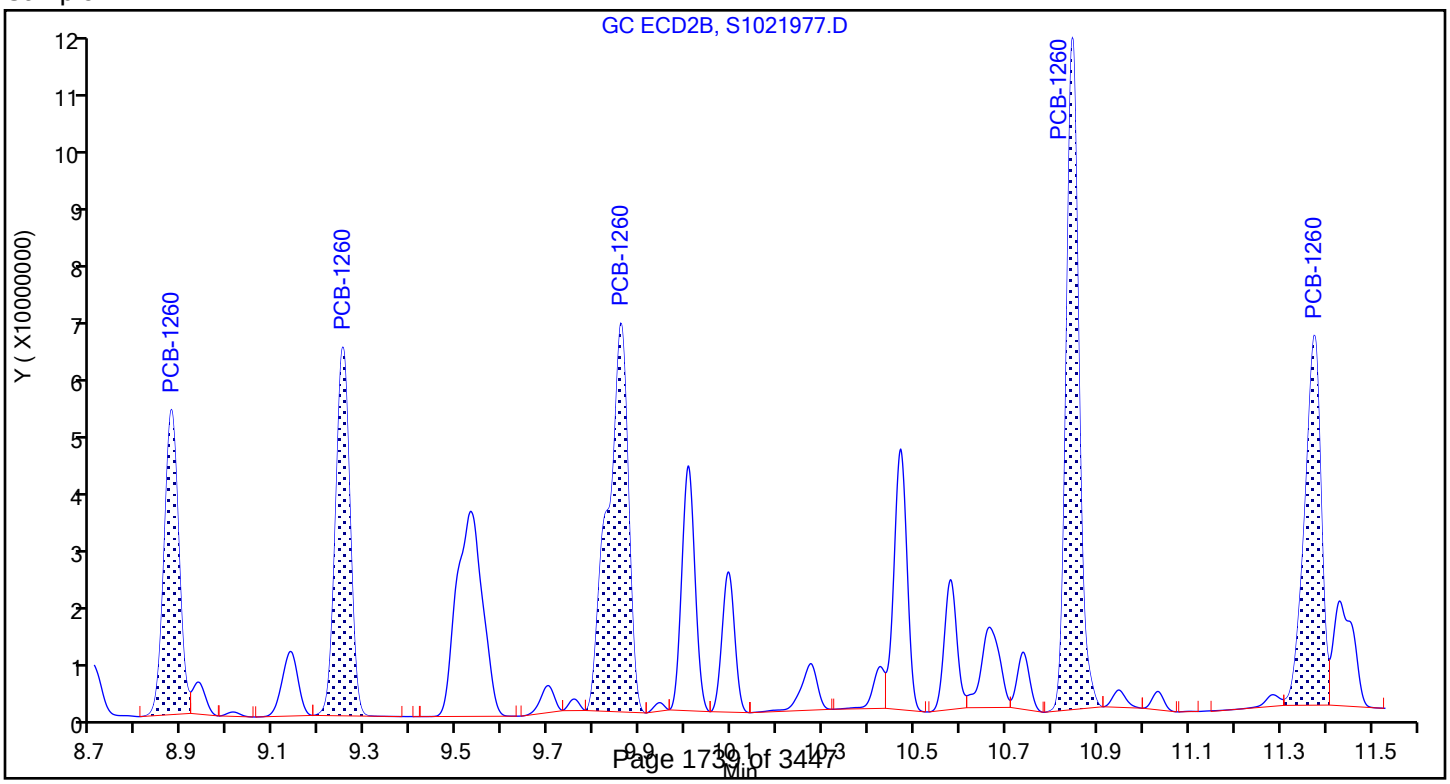

PCBS ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Instrument ID: CHGC10 Start Date: 09/21/2019 08:24

Analysis Batch Number: 292146 End Date: 09/21/2019 20:12

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 180-292146/1		09/21/2019 08:24	1	S0921902.D	RTX-CLP1 0.53(mm)
IC 180-292146/1		09/21/2019 08:24	1	S0921902.D	RTX-CLP2 0.53(mm)
IC 180-292146/2		09/21/2019 08:44	1	S0921903.D	RTX-CLP1 0.53(mm)
IC 180-292146/2		09/21/2019 08:44	1	S0921903.D	RTX-CLP2 0.53(mm)
IC 180-292146/3		09/21/2019 09:04	1	S0921904.D	RTX-CLP1 0.53(mm)
IC 180-292146/3		09/21/2019 09:04	1	S0921904.D	RTX-CLP2 0.53(mm)
IC 180-292146/4		09/21/2019 09:25	1	S0921905.D	RTX-CLP1 0.53(mm)
IC 180-292146/4		09/21/2019 09:25	1	S0921905.D	RTX-CLP2 0.53(mm)
IC 180-292146/5		09/21/2019 09:45	1	S0921906.D	RTX-CLP1 0.53(mm)
IC 180-292146/5		09/21/2019 09:45	1	S0921906.D	RTX-CLP2 0.53(mm)
IC 180-292146/6		09/21/2019 10:02	1	S0921907.D	RTX-CLP1 0.53(mm)
IC 180-292146/6		09/21/2019 10:02	1	S0921907.D	RTX-CLP2 0.53(mm)
IC 180-292146/7		09/21/2019 10:23	1	S0921908.D	RTX-CLP1 0.53(mm)
IC 180-292146/7		09/21/2019 10:23	1	S0921908.D	RTX-CLP2 0.53(mm)
ICIS 180-292146/8		09/21/2019 10:43	1	S0921909.D	RTX-CLP1 0.53(mm)
ICIS 180-292146/8		09/21/2019 10:43	1	S0921909.D	RTX-CLP2 0.53(mm)
IC 180-292146/9		09/21/2019 11:03	1	S0921910.D	RTX-CLP1 0.53(mm)
IC 180-292146/9		09/21/2019 11:03	1	S0921910.D	RTX-CLP2 0.53(mm)
IC 180-292146/10		09/21/2019 11:24	1	S0921911.D	RTX-CLP1 0.53(mm)
IC 180-292146/10		09/21/2019 11:24	1	S0921911.D	RTX-CLP2 0.53(mm)
IC 180-292146/11		09/21/2019 11:44	1	S0921912.D	RTX-CLP1 0.53(mm)
IC 180-292146/11		09/21/2019 11:44	1	S0921912.D	RTX-CLP2 0.53(mm)
ICV 180-292146/12		09/21/2019 12:04	1	S0921913.D	RTX-CLP1 0.53(mm)
ICV 180-292146/12		09/21/2019 12:04	1	S0921913.D	RTX-CLP2 0.53(mm)
ICV 180-292146/13		09/21/2019 12:25	1	S0921914.D	RTX-CLP1 0.53(mm)
ICV 180-292146/13		09/21/2019 12:25	1	S0921914.D	RTX-CLP2 0.53(mm)
ICV 180-292146/14		09/21/2019 12:45	1	S0921915.D	RTX-CLP1 0.53(mm)
ICV 180-292146/14		09/21/2019 12:45	1	S0921915.D	RTX-CLP2 0.53(mm)
ICV 180-292146/15		09/21/2019 13:06	1	S0921916.D	RTX-CLP1 0.53(mm)
ICV 180-292146/15		09/21/2019 13:06	1	S0921916.D	RTX-CLP2 0.53(mm)
ZZZZZ		09/21/2019 13:46	1		RTX-CLP1 0.53(mm)
ZZZZZ		09/21/2019 13:46	1		RTX-CLP2 0.53(mm)
ZZZZZ		09/21/2019 14:07	1		RTX-CLP1 0.53(mm)
ZZZZZ		09/21/2019 14:07	1		RTX-CLP2 0.53(mm)
ZZZZZ		09/21/2019 14:27	1		RTX-CLP1 0.53(mm)
ZZZZZ		09/21/2019 14:27	1		RTX-CLP2 0.53(mm)
ZZZZZ		09/21/2019 14:47	1		RTX-CLP1 0.53(mm)
ZZZZZ		09/21/2019 14:47	1		RTX-CLP2 0.53(mm)
ZZZZZ		09/21/2019 15:08	1		RTX-CLP1 0.53(mm)
ZZZZZ		09/21/2019 15:08	1		RTX-CLP2 0.53(mm)
ZZZZZ		09/21/2019 15:28	1		RTX-CLP1 0.53(mm)
ZZZZZ		09/21/2019 15:28	1		RTX-CLP2 0.53(mm)
ZZZZZ		09/21/2019 15:48	1		RTX-CLP1 0.53(mm)
ZZZZZ		09/21/2019 15:48	1		RTX-CLP2 0.53(mm)
ZZZZZ		09/21/2019 16:09	1		RTX-CLP1 0.53(mm)

EPA 8082A

PCBS ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Instrument ID: CHGC10 Start Date: 09/21/2019 08:24

Analysis Batch Number: 292146 End Date: 09/21/2019 20:12

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		09/21/2019 16:09	1		RTX-CLP2 0.53(mm)
ZZZZZ		09/21/2019 16:29	1		RTX-CLP1 0.53(mm)
ZZZZZ		09/21/2019 16:29	1		RTX-CLP2 0.53(mm)
ZZZZZ		09/21/2019 16:49	1		RTX-CLP1 0.53(mm)
ZZZZZ		09/21/2019 16:49	1		RTX-CLP2 0.53(mm)
ZZZZZ		09/21/2019 17:10	1		RTX-CLP1 0.53(mm)
ZZZZZ		09/21/2019 17:10	1		RTX-CLP2 0.53(mm)
ICV 180-292146/36		09/21/2019 20:12	1	S0921937.D	RTX-CLP1 0.53(mm)
ICV 180-292146/36		09/21/2019 20:12	1	S0921937.D	RTX-CLP2 0.53(mm)

EPA 8082A

PCBS ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Instrument ID: CHGC10 Start Date: 10/21/2019 07:24

Analysis Batch Number: 295495 End Date: 10/22/2019 09:43

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 180-295495/1		10/21/2019 07:24	1	S1021901.D	RTX-CLP1 0.53(mm)
CCV 180-295495/1		10/21/2019 07:24	1	S1021901.D	RTX-CLP2 0.53(mm)
RTC 180-295495/2		10/21/2019 07:44	1	S1021902.D	RTX-CLP1 0.53(mm)
RTC 180-295495/2		10/21/2019 07:44	1	S1021902.D	RTX-CLP2 0.53(mm)
RTC 180-295495/3		10/21/2019 08:05	1	S1021903.D	RTX-CLP1 0.53(mm)
RTC 180-295495/3		10/21/2019 08:05	1	S1021903.D	RTX-CLP2 0.53(mm)
CCV 180-295495/4		10/21/2019 08:23	1	S1021904.D	RTX-CLP1 0.53(mm)
CCV 180-295495/4		10/21/2019 08:23	1	S1021904.D	RTX-CLP2 0.53(mm)
CCVIS 180-295495/5		10/21/2019 08:44	1		RTX-CLP1 0.53(mm)
CCVIS 180-295495/5		10/21/2019 08:44	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 09:04	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 09:04	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 09:24	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 09:24	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 09:45	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 09:45	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 10:05	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 10:05	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 10:25	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 10:25	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 10:46	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 10:46	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 11:06	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 11:06	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 11:26	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 11:26	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 11:47	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 11:47	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 12:07	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 12:07	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 12:27	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 12:27	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 12:48	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 12:48	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 13:08	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 13:08	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 13:28	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 13:28	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 13:48	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 13:48	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 14:09	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 14:09	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 14:29	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 14:29	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 14:49	1		RTX-CLP1 0.53(mm)

EPA 8082A

PCBS ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Instrument ID: CHGC10 Start Date: 10/21/2019 07:24

Analysis Batch Number: 295495 End Date: 10/22/2019 09:43

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		10/21/2019 14:49	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 15:09	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 15:09	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 15:30	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 15:30	1		RTX-CLP2 0.53(mm)
CCVIS 180-295495/26		10/21/2019 15:50	1		RTX-CLP1 0.53(mm)
CCVIS 180-295495/26		10/21/2019 15:50	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 16:10	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 16:10	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 16:31	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 16:31	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 16:51	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 16:51	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 17:11	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 17:11	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 17:30	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 17:30	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 17:49	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 17:49	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 18:08	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 18:08	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 18:27	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 18:27	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 18:45	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 18:45	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 19:06	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 19:06	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 19:24	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 19:24	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 19:43	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 19:43	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 20:02	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 20:02	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 20:22	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 20:22	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 20:41	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 20:41	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 21:00	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 21:00	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 21:19	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 21:19	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 21:39	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 21:39	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 21:59	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 21:59	1		RTX-CLP2 0.53(mm)

EPA 8082A

PCBS ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Instrument ID: CHGC10 Start Date: 10/21/2019 07:24

Analysis Batch Number: 295495 End Date: 10/22/2019 09:43

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		10/21/2019 22:18	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 22:18	1		RTX-CLP2 0.53(mm)
CCVIS 180-295495/47		10/21/2019 22:39	1		RTX-CLP1 0.53(mm)
CCVIS 180-295495/47		10/21/2019 22:39	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 22:57	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 22:57	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 23:16	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 23:16	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 23:35	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 23:35	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/21/2019 23:54	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/21/2019 23:54	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/22/2019 00:13	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/22/2019 00:13	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/22/2019 00:32	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/22/2019 00:32	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/22/2019 00:52	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/22/2019 00:52	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/22/2019 01:11	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/22/2019 01:11	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/22/2019 01:30	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/22/2019 01:30	1		RTX-CLP2 0.53(mm)
ZZZZZ		10/22/2019 05:01	1		RTX-CLP1 0.53(mm)
ZZZZZ		10/22/2019 05:01	1		RTX-CLP2 0.53(mm)
CCVIS 180-295495/68		10/22/2019 05:20	1	S1021968.D	RTX-CLP1 0.53(mm)
CCVIS 180-295495/68		10/22/2019 05:20	1	S1021968.D	RTX-CLP2 0.53(mm)
MB 180-295380/1-A		10/22/2019 07:39	1	S1021975.D	RTX-CLP1 0.53(mm)
MB 180-295380/1-A		10/22/2019 07:39	1	S1021975.D	RTX-CLP2 0.53(mm)
LCS 180-295380/2-A		10/22/2019 08:42	1	S1021976.D	RTX-CLP1 0.53(mm)
LCS 180-295380/2-A		10/22/2019 08:42	1	S1021976.D	RTX-CLP2 0.53(mm)
LCSD 180-295380/3-A		10/22/2019 09:02	1	S1021977.D	RTX-CLP1 0.53(mm)
LCSD 180-295380/3-A		10/22/2019 09:02	1	S1021977.D	RTX-CLP2 0.53(mm)
LB 180-295177/1-C		10/22/2019 09:22	1	S1021978.D	RTX-CLP1 0.53(mm)
LB 180-295177/1-C		10/22/2019 09:22	1	S1021978.D	RTX-CLP2 0.53(mm)
180-97287-1		10/22/2019 09:43	1	S1021979.D	RTX-CLP1 0.53(mm)
180-97287-1		10/22/2019 09:43	1	S1021979.D	RTX-CLP2 0.53(mm)

EPA 8082A

PCBS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295177 Batch Start Date: 10/16/19 16:15 Batch Analyst: Stundon, Jeremy A

Batch Method: 1311 Batch End Date: 10/17/19 09:45

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	FiltCompDate	FiltCompTime	LeachatepH		
LB 180-295177/1		1311, 3510C, EPA 8082A		2000 mL	10/17/19	1030	4.93 SU		

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

PCBS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295177 Batch Start Date: 10/16/19 16:15 Batch Analyst: Stundon, Jeremy A

Batch Method: 1311 Batch End Date: 10/17/19 09:45

Batch Notes	
1N HCl ID	2948732
Balance ID	AND-14577823
pH Buffer 1 ID	3166975
pH Buffer 2 ID	2613652
pH Buffer 3 ID	2923701
pH Buffer 4 ID	3384621
First End time	1115
Filter ID	3409948
Lot # of Nitric Acid	2819852
Hot Plate ID	TCLP-2
pH Meter Calibration Slope	98.0/97.9
pH Meter ID	ACCUMET-XL-150
Probe ID	XV3-12485
Room Temperature Thermometer ID	FISHER-160719405
Analyst ID - Spike Analyst	JAS
First Start time	1030
TCLP Fluid 1 ID	3409948
TCLP Fluid 1 pH	4.93
TCLP Fluid 2 ID	2726101
TCLP Fluid 2 pH	2.88
Maximum Temperature	22 Degrees C
Minimum Temperature	22 Degrees C
Thermometer ID	TCLP-2
Tumbler Rotations per Minute	Tumbler 1: 31
Uncorrected Maximum Temperature	22 Degrees C
Uncorrected Minimum Temperature	22 Degrees C
Uncorrected Water Bath Temperature	50.0 Celsius
Water Bath ID	TCLP-2
Water Bath Temperature	50.0 Degrees C
Water Bath Thermometer ID	TCLP-2

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

PCBS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295177 Batch Start Date: 10/16/19 16:15 Batch Analyst: Stundon, Jeremy A

Batch Method: 1311 Batch End Date: 10/17/19 09:45

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

PCBS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295177 Batch Start Date: 10/16/19 16:15 Batch Analyst: Stundon, Jeremy A

Batch Method: EPA 1311 Batch End Date: 10/17/19 09:45

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	EFD_SampleWeight	EFD_VolumeWater Add	EFD_InitialpH	EFD_AddHClpH>5
180-97287-A-1	11187072-NORTH-I MPCT-INITIALS	EPA 1311, 3510C, EPA 8082A	P	100.00 g	2000 mL	5.00 g	96.5 mL	9.05 SU	3.50 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	EFD_HeatHeld	EFD_SecondpHCheck	FiltCompDate	FiltCompTime	LeachatepH	
180-97287-A-1	11187072-NORTH-I MPCT-INITIALS	EPA 1311, 3510C, EPA 8082A	P	50.0 Deg. C	1.78 SU	10/17/19	1030	6.17 SU	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

PCBS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295177 Batch Start Date: 10/16/19 16:15 Batch Analyst: Stundon, Jeremy A

Batch Method: EPA 1311 Batch End Date: 10/17/19 09:45

Batch Notes	
1N HCl ID	2948732
Balance ID	AND-14577823
pH Buffer 1 ID	3166975
pH Buffer 2 ID	2613652
pH Buffer 3 ID	2923701
pH Buffer 4 ID	3384621
First End time	1115
Filter ID	3409948
Lot # of Nitric Acid	2819852
Hot Plate ID	TCLP-2
pH Meter Calibration Slope	98.0/97.9
pH Meter ID	ACCUMET-XL-150
Probe ID	XV3-12485
Room Temperature Thermometer ID	FISHER-160719405
Analyst ID - Spike Analyst	JAS
First Start time	1030
TCLP Fluid 1 ID	3409948
TCLP Fluid 1 pH	4.93
TCLP Fluid 2 ID	2726101
TCLP Fluid 2 pH	2.88
Maximum Temperature	22 Degrees C
Minimum Temperature	22 Degrees C
Thermometer ID	TCLP-2
Tumbler Rotations per Minute	Tumbler 1: 31
Uncorrected Maximum Temperature	22 Degrees C
Uncorrected Minimum Temperature	22 Degrees C
Uncorrected Water Bath Temperature	50.0 Celsius
Water Bath ID	TCLP-2
Water Bath Temperature	50.0 Degrees C
Water Bath Thermometer ID	TCLP-2

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

PCBS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295177 Batch Start Date: 10/16/19 16:15 Batch Analyst: Stundon, Jeremy A

Batch Method: EPA 1311 Batch End Date: 10/17/19 09:45

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

PCBS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295380 Batch Start Date: 10/18/19 10:30 Batch Analyst: Yushinski, Charles

Batch Method: 3510C Batch End Date: 10/18/19 19:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ReceivedpH	GCMATRIXWORKS 00034	op-p/pcb sur 00024	AnalysisComment
MB 180-295380/1		3510C, EPA 8082A		1000 mL	40.0 mL	6 SU		1 mL	Funnel 6
LCS 180-295380/2		3510C, EPA 8082A		1000 mL	40.0 mL	6 SU	1 mL	1 mL	Funnel 7
LCSD 180-295380/3		3510C, EPA 8082A		1000 mL	40.0 mL	6 SU	1 mL	1 mL	Funnel 8
LB 180-295177/1-A		3510C, EPA 8082A		1030 mL	40.0 mL	5 SU		1 mL	Funnel 9
180-97287-A-1-B	11187072-NORTH-I MPCT-INITIALS	3510C, EPA 8082A	P	1030 mL	40.0 mL	7 SU		1 mL	Funnel 10

Batch Notes	
Analyst ID - Concentration	CBY
Concentration 1 Corrected Temperature	65 Degrees C
Concentration 2 Corrected Temperature	21 Degrees C
Equipment ID - Concentration 1	water bath 1
Equipment ID - Concentration 2	1
Exchange Solvent ID	Hexane 3383237
Analyst ID - Extraction	CBY
Filter ID	16939085
Na2SO4 ID	3327433
pH Indicator ID	Ph paper HC987808
Prep Solvent ID	Methylene chloride 3414342
Prep Solvent Volume Used	180 mL
Analyst ID - Spike Analyst	CBY
Sufficient Volume for Batch QC	no
Thermometer ID - Concentration 1	water bath 1
Thermometer ID - Concentration 2	1
Concentration 1 Uncorrected Temperature	65 Degrees C
Concentration 2 Uncorrected Temperature	21 Degrees C

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

PCBS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295380 Batch Start Date: 10/18/19 10:30 Batch Analyst: Yushinski, Charles

Batch Method: 3510C Batch End Date: 10/18/19 19:30

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Method 8151A

Herbicides (GC) by Method 8151A

FORM II
HERBICIDES SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Matrix: Solid (TCLP) Level: Low

GC Column (1): RTX-50 ID: 0.53(mm) GC Column (2): RTX-1701 ID: 0.53(mm)

Client Sample ID	Lab Sample ID	DCPAA1 #	DCPAA2 #
11187072-NORTH-IMP CT-INITIALS	180-97287-1	75	70
	MB 180-295398/1-A	26	29
	LB 180-295177/1-F	40	36
	LCS 180-295398/2-A	54	49

	QC LIMITS
DCPAA = 2,4-Dichlorophenylacetic acid	23-122

Column to be used to flag recovery values

FORM II EPA 8151A

FORM III
HERBICIDES LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 1022190000012.D

Lab ID: LCS 180-295398/2-A Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
2,4-D	0.0200	0.00520	26	19-127	p
Silvex (2,4,5-TP)	0.00500	0.00258	52	24-128	
Dinoseb	0.0200	0.0146	73	10-150	

Column to be used to flag recovery and RPD values

FORM III EPA 8151A

FORM IV
HERBICIDES METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: MB 180-295398/1-A

Matrix: Water Date Extracted: 10/18/2019 13:00

Lab File ID:(1) 1022190000004.D Lab File ID:(2) 1022190000004.D

Date Analyzed:(1) 10/23/2019 07:05 Date Analyzed:(2) 10/23/2019 07:05

Instrument ID:(1) CGC1 Instrument ID:(2) CGC1

GC Column:(1) RTX-50 ID: 0.53(mm) GC Column:(2) RTX-1701 ID: 0.53(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
	LB 180-295177/1-F	10/23/2019 09:34	10/23/2019 09:34
11187072-NORTH-IMPCT-INITIALS	180-97287-1	10/23/2019 09:59	10/23/2019 09:59
	LCS 180-295398/2-A	10/23/2019 10:24	10/23/2019 10:24

FORM VIII
HERBICIDES ANALYTICAL SEQUENCE

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Sample No.: CCVRT 180-295605/1 Date Analyzed: 10/23/2019 06:40

Instrument ID: CGC1 GC Column: RTX-50 ID: 0.53(mm)

Lab File ID (Standard): 1022190000003.D Heated Purge: (Y/N) N

Calibration ID: 41303

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, STANDARDS, MS/MSDs AND LCSs IS GIVEN BELOW:

				DCPAA		
				RT #		
CONTINUING CALIBRATION SURROGATE				7.85		
UPPER LIMIT				7.88		
LOWER LIMIT				7.82		
LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	LAB FILE ID			
CCVRT 180-295605/1		10/23/2019 06:40	1022190000003.D	7.85		
MB 180-295398/1-A		10/23/2019 07:05	1022190000004.D	7.85		
LB 180-295177/1-F		10/23/2019 09:34	1022190000010.D	7.86		
180-97287-1	11187072-NORTH-IMPCT-INITIALS	10/23/2019 09:59	1022190000011.D	7.86		
LCS 180-295398/2-A		10/23/2019 10:24	1022190000012.D	7.86		
CCV 180-295605/11		10/23/2019 10:49	1022190000013.D	7.86		

DCPAA = 2,4-Dichlorophenylacetic acid

DCPAA RT Limit = ± 0.03 minutes of surrogate RT

Column used to flag values outside QC limits

FORM VIII EPA 8151A

FORM VIII
HERBICIDES ANALYTICAL SEQUENCE

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Sample No.: CCVRT 180-295605/1 Date Analyzed: 10/23/2019 06:40

Instrument ID: CGC1 GC Column: RTX-1701 ID: 0.53(mm)

Lab File ID (Standard): 1022190000003.D Heated Purge: (Y/N) N

Calibration ID: 41304

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, STANDARDS, MS/MSDs AND LCSs IS GIVEN BELOW:

				DCPAA		
				RT #		
CONTINUING CALIBRATION SURROGATE				8.00		
UPPER LIMIT				8.03		
LOWER LIMIT				7.97		
LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	LAB FILE ID			
CCVRT 180-295605/1		10/23/2019 06:40	1022190000003.D	8.00		
MB 180-295398/1-A		10/23/2019 07:05	1022190000004.D	8.00		
LB 180-295177/1-F		10/23/2019 09:34	1022190000010.D	8.00		
180-97287-1	11187072-NORTH-IMPCT-INITIALS	10/23/2019 09:59	1022190000011.D	8.01		
LCS 180-295398/2-A		10/23/2019 10:24	1022190000012.D	8.00		
CCV 180-295605/11		10/23/2019 10:49	1022190000013.D	8.00		

DCPAA = 2,4-Dichlorophenylacetic acid

DCPAA RT Limit = ± 0.03 minutes of surrogate RT

Column used to flag values outside QC limits

FORM VIII EPA 8151A

FORM X
IDENTIFICATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 180-295398/2-A

Instrument ID (1): CGC1 Instrument ID (2): CGC1

Date Analyzed (1): 10/23/2019 10:24 Date Analyzed (2): 10/23/2019 10:24

GC Column (1): RTX-50 ID: 0.53(mm) GC Column (2): RTX-1701 ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
2,4-D	1		9.26	9.23	9.29	0.00520		87.4
	2		9.49	9.46	9.52	0.0133		
Silvex (2,4,5-TP)	1		9.94	9.91	9.97	0.00258		7.2
	2		10.26	10.23	10.29	0.00240		
Dinoseb	1		10.75	10.69	10.79	0.0146		16.2
	2		11.80	11.76	11.82	0.0124		

FORM I
HERBICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-97287-1
SDG No.:
Client Sample ID: 11187072-NORTH-IMPCT-INITIALS
Lab Sample ID: 180-97287-1
Matrix: Solid (TCLP)
Lab File ID: 1022190000011.D
Analysis Method: EPA 8151A
Date Collected: 10/15/2019 15:00
Extraction Method: 8151A
Date Extracted: 10/18/2019 13:00
Sample wt/vol: 100(mL)
Date Analyzed: 10/23/2019 09:59
Con. Extract Vol.: 10.0(mL)
Dilution Factor: 20
Injection Volume: 1(uL)
GC Column: RTX-50 ID: 0.53(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 295605
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
94-75-7	2,4-D	ND		0.040	0.020
93-72-1	Silvex (2,4,5-TP)	ND		0.010	0.0030
88-85-7	Dinoseb	ND		0.040	0.038

CAS NO.	SURROGATE	%REC	Q	LIMITS
19719-28-9	2,4-Dichlorophenylacetic acid	75		23-122

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\1022190000011.D				
Lims ID:	180-97287-A-1-J				
Client ID:	11187072-NORTH-IMPCT-INITIALS				
Sample Type:	Client				
Inject. Date:	23-Oct-2019 09:59:27	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	180-0029220-009				
Operator ID:		Instrument ID:	CGC1		

Method:	\\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\Herbicides_CGC1.m		
Limit Group:	GCS 8151A ICAL		
Last Update:	23-Oct-2019 11:29:44	Calib Date:	19-Aug-2019 21:09:17
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D		

Column 1 :	RTX-50 (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-1701 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0310	

First Level Reviewer: oravecj Date: 23-Oct-2019 11:28:08

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
$ 2 2,4-Dichlorophenylacetic acid						
1	7.856	7.854	0.002	4107281	0.0377	H
2	8.005	8.002	0.003	7375785	0.0350	H
					RPD = 7.64	
7 2,4-D						
1		9.258			ND	
2		9.492				
9 Silvex (2,4,5-TP)						
1		9.941			ND	
2		10.262				
11 Dinoseb						
1		10.744			ND	
2		11.791				

Report Date: 23-Oct-2019 11:29:49 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\1022190000011.D				
Injection Date:	23-Oct-2019 09:59:27	Instrument ID:	CGC1	Operator ID:	
Lims ID:	180-97287-A-1-J	Lab Sample ID:	180-97287-1	Worklist Smp#:	9
Client ID:	11187072-NORTH-IMPCT-INITIALS				
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	9
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

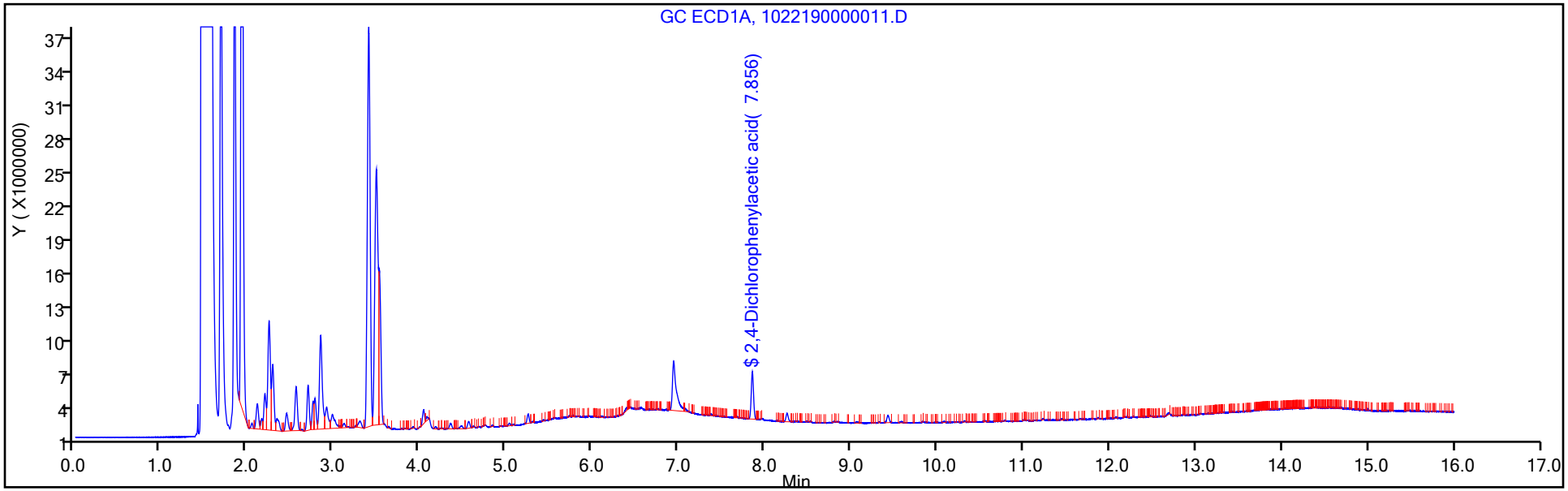

Column: RTX-1701 (0.53 mm)

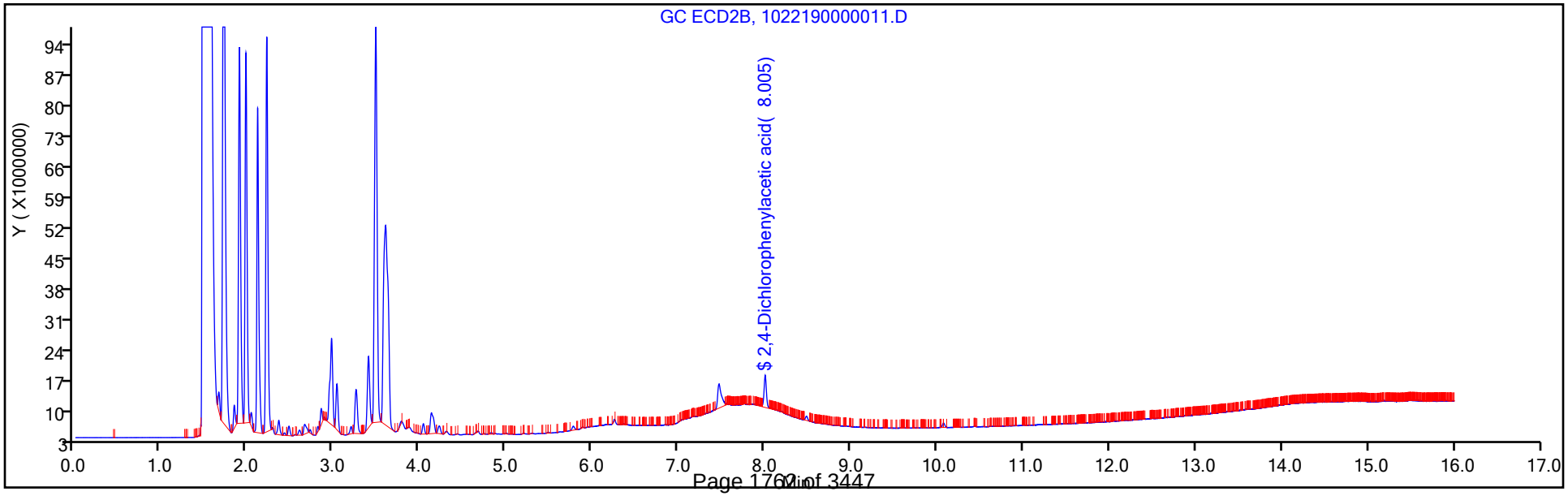

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\1022190000011.D				
Lims ID:	180-97287-A-1-J				
Client ID:	11187072-NORTH-IMPCT-INITIALS				
Sample Type:	Client				
Inject. Date:	23-Oct-2019 09:59:27	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	180-0029220-009				
Operator ID:		Instrument ID:	CGC1		

Method:	\\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\Herbicides_CGC1.m		
Limit Group:	GCS 8151A ICAL		
Last Update:	23-Oct-2019 11:29:44	Calib Date:	19-Aug-2019 21:09:17
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D		

Column 1 :	RTX-50 (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-1701 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0310	

First Level Reviewer: oravecj Date: 23-Oct-2019 11:28:08

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0377	75.49

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0350	69.94

FORM I
HERBICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-97287-1
SDG No.:
Client Sample ID: 11187072-NORTH-IMPCT-INITIALS
Lab Sample ID: 180-97287-1
Matrix: Solid (TCLP)
Lab File ID: 1022190000011.D
Analysis Method: EPA 8151A
Date Collected: 10/15/2019 15:00
Extraction Method: 8151A
Date Extracted: 10/18/2019 13:00
Sample wt/vol: 100(mL)
Date Analyzed: 10/23/2019 09:59
Con. Extract Vol.: 10.0(mL)
Dilution Factor: 20
Injection Volume: 1(uL)
GC Column: RTX-1701 ID: 0.53(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 295605
Units: mg/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
19719-28-9	2,4-Dichlorophenylacetic acid	70		23-122

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\1022190000011.D				
Lims ID:	180-97287-A-1-J				
Client ID:	11187072-NORTH-IMPCT-INITIALS				
Sample Type:	Client				
Inject. Date:	23-Oct-2019 09:59:27	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	180-0029220-009				
Operator ID:		Instrument ID:	CGC1		

Method:	\\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\Herbicides_CGC1.m		
Limit Group:	GCS 8151A ICAL		
Last Update:	23-Oct-2019 11:29:44	Calib Date:	19-Aug-2019 21:09:17
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D		

Column 1 :	RTX-50 (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-1701 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0310	

First Level Reviewer: oravecj Date: 23-Oct-2019 11:28:08

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
$ 2 2,4-Dichlorophenylacetic acid						
1	7.856	7.854	0.002	4107281	H 0.0377	
2	8.005	8.002	0.003	7375785	H 0.0350	
					RPD = 7.64	
7 2,4-D						
1		9.258			ND	
2		9.492				
9 Silvex (2,4,5-TP)						
1		9.941			ND	
2		10.262				
11 Dinoseb						
1		10.744			ND	
2		11.791				

Report Date: 23-Oct-2019 11:29:51 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\1022190000011.D				
Injection Date:	23-Oct-2019 09:59:27	Instrument ID:	CGC1	Operator ID:	
Lims ID:	180-97287-A-1-J	Lab Sample ID:	180-97287-1	Worklist Smp#:	9
Client ID:	11187072-NORTH-IMPCT-INITIALS				
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	9
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

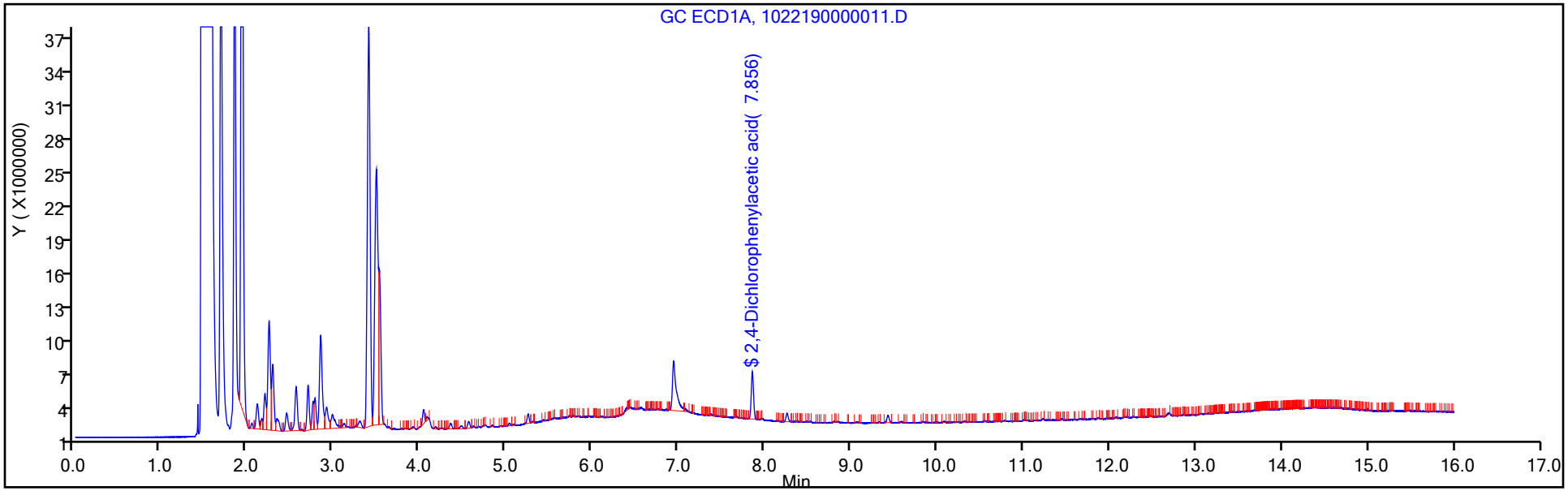

Column: RTX-1701 (0.53 mm)

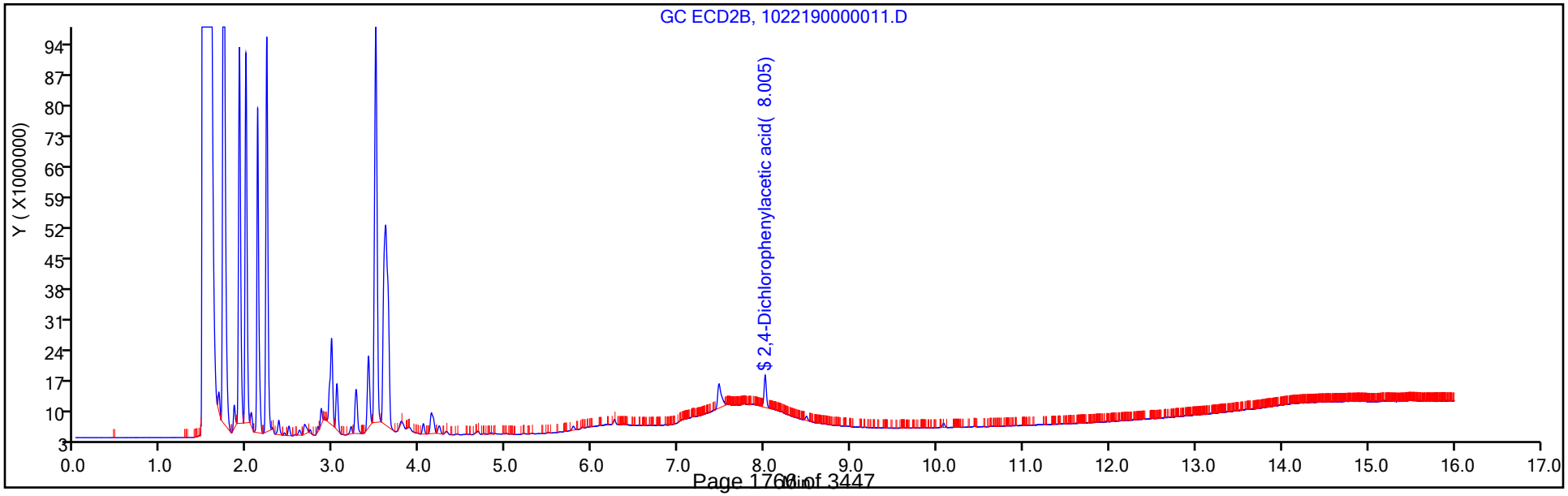

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\1022190000011.D				
Lims ID:	180-97287-A-1-J				
Client ID:	11187072-NORTH-IMPCT-INITIALS				
Sample Type:	Client				
Inject. Date:	23-Oct-2019 09:59:27	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	180-0029220-009				
Operator ID:		Instrument ID:	CGC1		

Method:	\\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\Herbicides_CGC1.m		
Limit Group:	GCS 8151A ICAL		
Last Update:	23-Oct-2019 11:29:44	Calib Date:	19-Aug-2019 21:09:17
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D		

Column 1 :	RTX-50 (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-1701 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0310	

First Level Reviewer: oravecj Date: 23-Oct-2019 11:28:08

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0377	75.49

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0350	69.94

FORM VI
HERBICIDES BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 288571

SDG No.:

Instrument ID: CGC1 GC Column: RTX-50 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/19/2019 18:39 Calibration End Date: 08/19/2019 21:09 Calibration ID: 41303

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-288571/2	0819190000015.D
Level 2	IC 180-288571/3	0819190000016.D
Level 3	IC 180-288571/4	0819190000017.D
Level 4	ICRT 180-288571/5	0819190000018.D
Level 5	IC 180-288571/6	0819190000019.D
Level 6	IC 180-288571/7	0819190000020.D
Level 7	IC 180-288571/8	0819190000021.D

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7				RT WINDOW	AVG RT
Dalapon	2.180	2.180	2.180	2.179	2.180	2.179	2.180				2.149 - 2.209	2.180
MCPP	8.246	8.247	8.245	8.246	8.245	8.245	8.246				8.216 - 8.276	8.246
Dicamba	8.328	8.325	8.325	8.326	8.325	8.327	8.327				8.296 - 8.356	8.326
MCPA	8.668	8.668	8.667	8.667	8.667	8.667	8.668				8.637 - 8.697	8.667
Dichlorprop	8.949	8.947	8.946	8.947	8.946	8.947	8.946				8.917 - 8.977	8.947
2,4-D	9.440	9.440	9.440	9.439	9.439	9.439	9.439				9.409 - 9.469	9.439
Pentachlorophenol	9.970	9.969	9.970	9.969	9.968	9.968	9.969				9.939 - 9.999	9.969
Silvex (2,4,5-TP)	10.124	10.123	10.124	10.124	10.122	10.123	10.123				10.094 - 10.154	10.123
2,4,5-T	10.673	10.672	10.673	10.673	10.672	10.672	10.672				10.643 - 10.703	10.672
Dinoseb	10.928	10.928	10.928	10.928	10.927	10.927	10.928				10.878 - 10.978	10.928
2,4-DB	11.057	11.056	11.056	11.056	11.055	11.056	11.056				11.026 - 11.086	11.056
2,4-Dichlorophenylacetic acid	8.031	8.030	8.030	8.030	8.027	8.029	8.028				8.000 - 8.060	8.029

FORM VI
HERBICIDES BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 288571

SDG No.:

Instrument ID: CGC1 GC Column: RTX-50 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/19/2019 18:39 Calibration End Date: 08/19/2019 21:09 Calibration ID: 41303

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-288571/2	0819190000015.D
Level 2	IC 180-288571/3	0819190000016.D
Level 3	IC 180-288571/4	0819190000017.D
Level 4	ICRT 180-288571/5	0819190000018.D
Level 5	IC 180-288571/6	0819190000019.D
Level 6	IC 180-288571/7	0819190000020.D
Level 7	IC 180-288571/8	0819190000021.D

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4		B	M1	M2								
Dalapon	160286600 131431331	170903900 136276659	158301550 145817422	140291188	Ave		149044093				9.7		20.0			
MCPP	341535 345395	455498 360245	447974 443949	371839	Ave		395204.933				13.0		20.0			
Dicamba	356212200 304232875	400469400 341317575	378813800 460959563	311265900	Ave		364753045				15.0		20.0			
MCPA	727075 502619	797458 531925	712791 659819	557609	Ave		641328.018				17.5		20.0			
Dichlorprop	102113700 79303013	111712550 86229731	104827675 110020338	83546638	Ave		96821949.1				13.9		20.0			
2,4-D	116153200 88240100	129138050 99128803	118457800 125038273	93229725	Ave		109912279				14.7		20.0			
Pentachlorophenol	2240999200 1923748025	2584593600 2178923663	2434617400 2763045963	1953862600	Ave		2297112921				13.7		20.0			
Silvex (2,4,5-TP)	499654800 403324200	566587400 452343438	526926600 563209406	417512350	Ave		489936885				13.7		20.0			
2,4,5-T	481588400 381033900	543877400 419470263	500321000 523603844	396153250	Ave		463721151				13.9		20.0			
Dinoseb	197126200 158552275	219559100 179837416	203051125 229113877	160240175	Ave		192497167				14.3		20.0			
2,4-DB	71888700 52353250	78670000 57642153	70412850 75359228	55251813	Ave		65939713.4				16.1		20.0			
2,4-Dichlorophenylacetic acid	106851700 91484756	125446850 97214675	117835850 127690266	95169625	Ave		108813389				13.7		20.0			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HERBICIDES BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 288571

SDG No.:

Instrument ID: CGC1 GC Column: RTX-50 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/19/2019 18:39 Calibration End Date: 08/19/2019 21:09 Calibration ID: 41303

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-288571/2	0819190000015.D
Level 2	IC 180-288571/3	0819190000016.D
Level 3	IC 180-288571/4	0819190000017.D
Level 4	ICRT 180-288571/5	0819190000018.D
Level 5	IC 180-288571/6	0819190000019.D
Level 6	IC 180-288571/7	0819190000020.D
Level 7	IC 180-288571/8	0819190000021.D

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Dalapon	Ave	1602866 43608531	3418078 93323150	6332062	11223295	21029013	0.0100 0.320	0.0200 0.640	0.0400	0.0800	0.160
MCPP	Ave	341535 11527851	910995 28412748	1791894	2974715	5526314	1.00 32.0	2.00 64.0	4.00	8.00	16.0
Dicamba	Ave	1781061 54610812	4004694 147507060	7576276	12450636	24338630	0.00500 0.160	0.0100 0.320	0.0200	0.0400	0.0800
MCPA	Ave	727075 17021609	1594916 42228426	2851165	4460869	8041901	1.00 32.0	2.00 64.0	4.00	8.00	16.0
Dichlorprop	Ave	1021137 27593514	2234251 70413016	4193107	6683731	12688482	0.0100 0.320	0.0200 0.640	0.0400	0.0800	0.160
2,4-D	Ave	1161532 31721217	2582761 80024495	4738312	7458378	14118416	0.0100 0.320	0.0200 0.640	0.0400	0.0800	0.160
Pentachlorophenol	Ave	5602498 174313893	12922968 442087354	24346174	39077252	76949921	0.00250 0.0800	0.00500 0.160	0.0100	0.0200	0.0400
Silvex (2,4,5-TP)	Ave	1249137 36187475	2832937 90113505	5269266	8350247	16132968	0.00250 0.0800	0.00500 0.160	0.0100	0.0200	0.0400
2,4,5-T	Ave	1203971 33557621	2719387 83776615	5003210	7923065	15241356	0.00250 0.0800	0.00500 0.160	0.0100	0.0200	0.0400
Dinoseb	Ave	1971262 57547973	4391182 146632881	8122045	12819214	25368364	0.0100 0.320	0.0200 0.640	0.0400	0.0800	0.160
2,4-DB	Ave	718887 18445489	1573400 48229906	2816514	4420145	8376520	0.0100 0.320	0.0200 0.640	0.0400	0.0800	0.160
2,4-Dichlorophenylacetic acid	Ave	1068517 31108696	2508937 81721770	4713434	7613570	14637561	0.0100 0.320	0.0200 0.640	0.0400	0.0800	0.160

Curve Type Legend:
Ave = Average by Height

FORM VI
HERBICIDES BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 288571

SDG No.:

Instrument ID: CGC1 GC Column: RTX-50 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/19/2019 18:39 Calibration End Date: 08/19/2019 21:09 Calibration ID: 41303

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-288571/2	0819190000015.D
Level 2	IC 180-288571/3	0819190000016.D
Level 3	IC 180-288571/4	0819190000017.D
Level 4	ICRT 180-288571/5	0819190000018.D
Level 5	IC 180-288571/6	0819190000019.D
Level 6	IC 180-288571/7	0819190000020.D
Level 7	IC 180-288571/8	0819190000021.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
Dalapon	7.5 -2.2	14.7	6.2	-5.9	-11.8	-8.6	50 30	30	30	30	30	30
MCPP	-13.6 12.3	15.3	13.4	-5.9	-12.6	-8.8	50 30	30	30	30	30	30
Dicamba	-2.3 26.4	9.8	3.9	-14.7	-16.6	-6.4	50 30	30	30	30	30	30
MCPA	13.4 2.9	24.3	11.1	-13.1	-21.6	-17.1	50 30	30	30	30	30	30
Dichlorprop	5.5 13.6	15.4	8.3	-13.7	-18.1	-10.9	50 30	30	30	30	30	30
2,4-D	5.7 13.8	17.5	7.8	-15.2	-19.7	-9.8	50 30	30	30	30	30	30
Pentachlorophenol	-2.4 20.3	12.5	6.0	-14.9	-16.3	-5.1	50 30	30	30	30	30	30
Silvex (2,4,5-TP)	2.0 15.0	15.6	7.5	-14.8	-17.7	-7.7	50 30	30	30	30	30	30
2,4,5-T	3.9 12.9	17.3	7.9	-14.6	-17.8	-9.5	50 30	30	30	30	30	30
Dinoseb	2.4 19.0	14.1	5.5	-16.8	-17.6	-6.6	50 30	30	30	30	30	30
2,4-DB	9.0 14.3	19.3	6.8	-16.2	-20.6	-12.6	50 30	30	30	30	30	30
2,4-Dichlorophenylacetic acid	-1.8 17.3	15.3	8.3	-12.5	-15.9	-10.7	50 30	30	30	30	30	30

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000015.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 19-Aug-2019 18:39:37 ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-002
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:59 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:30:51

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.180	2.179	0.001	1602866H	0.0100	0.0108	
2	2.351	2.348	0.003	3496867H	0.0100	0.0104	
						RPD = 3.17	
$ 2 2,4-Dichlorophenylacetic acid							M
1	8.031	8.030	0.001	1068517H	0.0100	0.009820	M
2	7.996	7.996	0.000	2025382H	0.0100	0.009603	M
						RPD = 2.24	
3 MCPP							M
1	8.246	8.246	0.000	341535H	1.00	0.8642	
2	8.426	8.423	0.003	702287	1.00	0.9494	M
						RPD = 9.39	
4 Dicamba							
1	8.328	8.326	0.002	1781061H	0.005000	0.004883	
2	8.266	8.265	0.001	3182091H	0.005000	0.004538	
						RPD = 7.33	
5 MCPA							M
1	8.668	8.667	0.001	727075H	1.00	1.13	M
2	8.732	8.732	0.000	1239711H	1.00	1.01	M
						RPD = 11.90	
6 Dichlorprop							
1	8.949	8.947	0.002	1021137H	0.0100	0.0105	
2	9.097	9.095	0.002	1841176H	0.0100	0.0099	
						RPD = 6.01	
7 2,4-D							
1	9.440	9.439	0.001	1161532H	0.0100	0.0106	
2	9.495	9.494	0.001	2165042H	0.0100	0.0100	
						RPD = 5.77	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.970	9.969	0.001	5602498	0.002500	0.002439	
2	9.693	9.691	0.002	5047386H	0.002500	0.002354	
						RPD = 3.55	
9 Silvex (2,4,5-TP)							
1	10.124	10.124	0.000	1249137H	0.002500	0.002550	
2	10.264	10.263	0.001	2296435H	0.002500	0.002440	
						RPD = 4.40	
10 2,4,5-T							
1	10.673	10.673	0.000	1203971H	0.002500	0.002596	
2	10.720	10.719	0.001	2235899H	0.002500	0.002467	
						RPD = 5.11	
11 Dinoseb							M
1	10.928	10.928	0.000	1971262H	0.0100	0.0102	
2	11.802	11.800	0.002	3730870H	0.0100	0.009544	M
						RPD = 7.04	
12 2,4-DB							M
1	11.057	11.056	0.001	718887H	0.0100	0.0109	
2	11.150	11.149	0.001	1190823H	0.0100	0.009653	M
						RPD = 12.15	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCHERBCALSL7_00011 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:26:00 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000015.D

Injection Date: 19-Aug-2019 18:39:37 Instrument ID: CGC1 Operator ID:

Lims ID: ic Worklist Smp#: 2

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 1

Method: Herbicides_CGC1 Limit Group: GCS 8151A ICAL

Column: RTX-50 (0.53 mm)

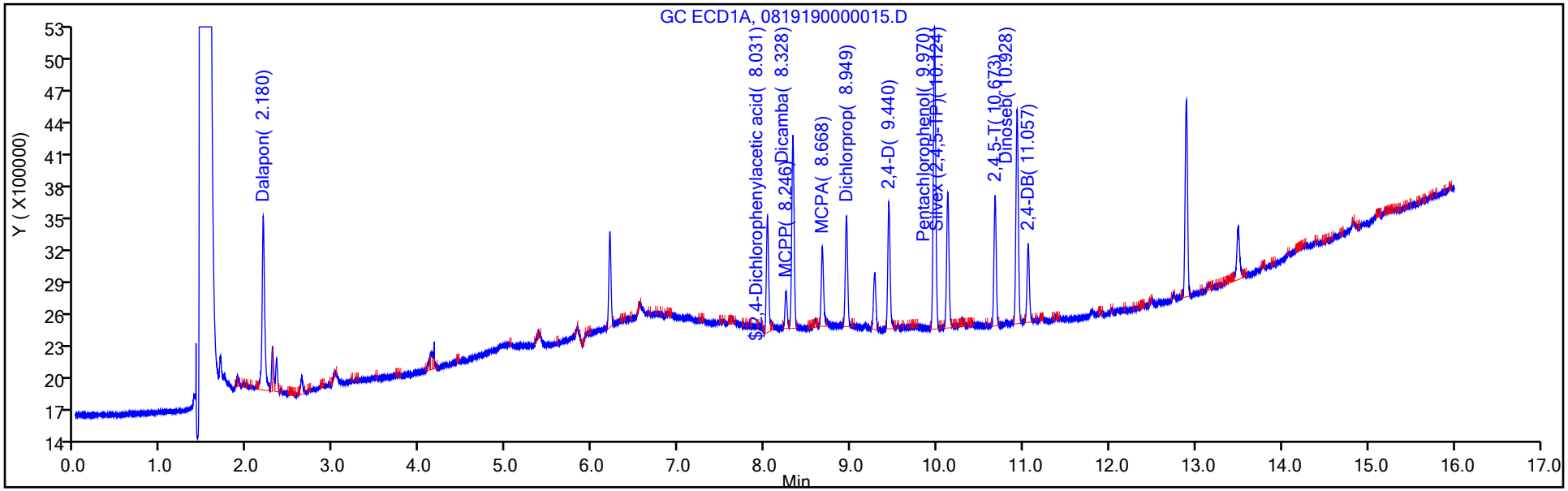

Column: RTX-1701 (0.53 mm)

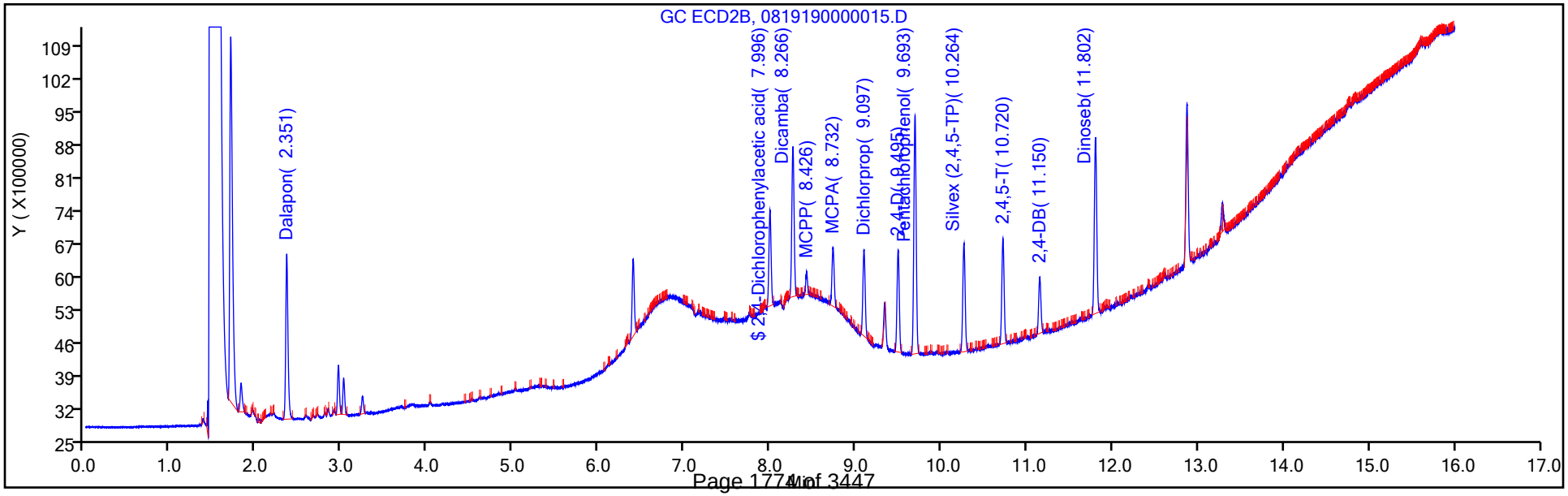

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000015.D				
Injection Date:	19-Aug-2019 18:39:37	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

$ 2 2,4-Dichlorophenylacetic acid, CAS: 19719-28-9

Signal: 1

Processing Integration Results

RT: 8.03
Height: 1045328
Amount: -0.067352
Amount Units: ng

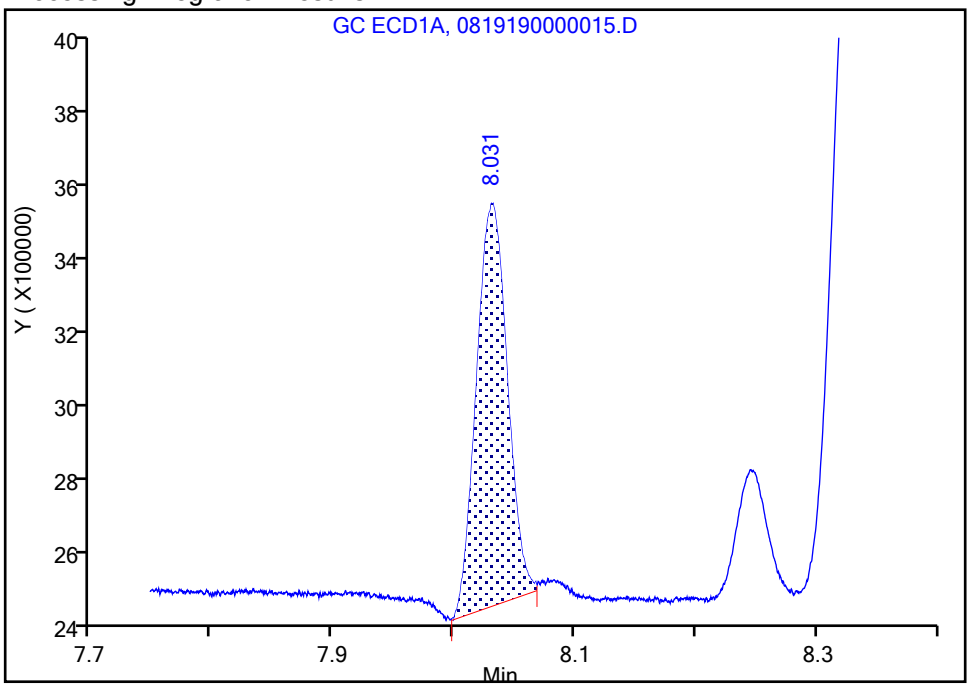

Manual Integration Results

RT: 8.03
Height: 1068517
Amount: 0.009820
Amount Units: ng

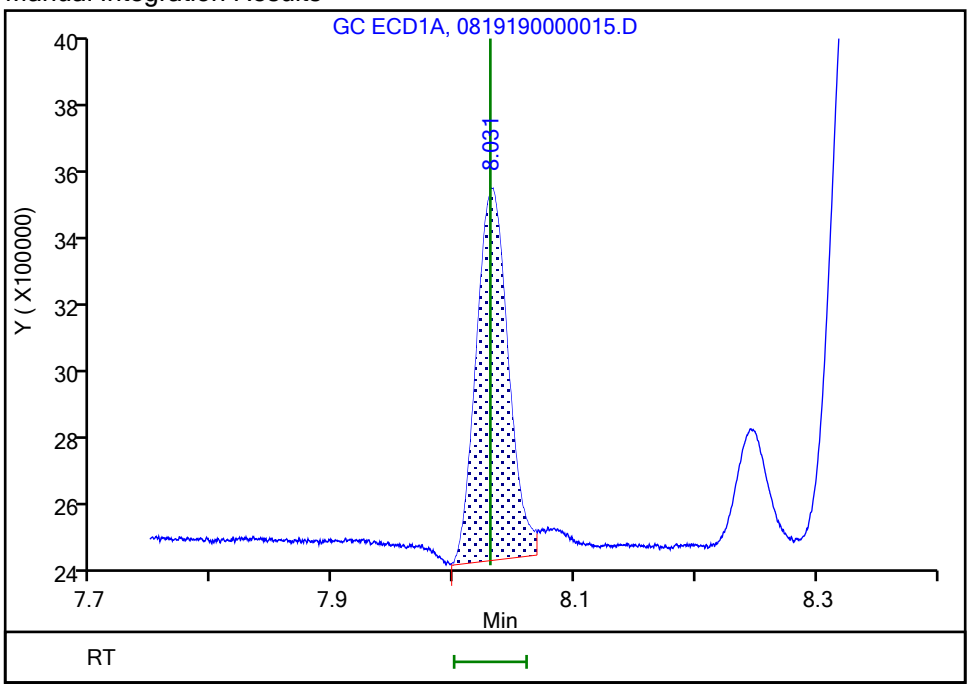

Reviewer: fritschj, 20-Aug-2019 08:28:41

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000015.D				
Injection Date:	19-Aug-2019 18:39:37	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

5 MCPA, CAS: 94-74-6

Signal: 1

Processing Integration Results

RT: 8.67
Height: 717753
Amount: 0.968753
Amount Units: ng

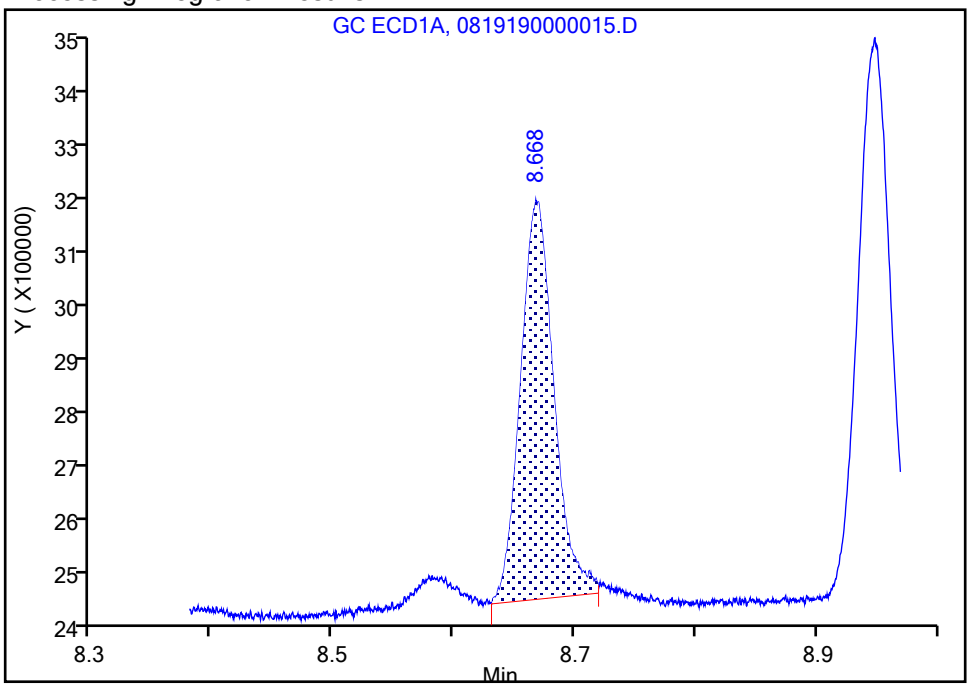

Manual Integration Results

RT: 8.67
Height: 727075
Amount: 1.133702
Amount Units: ng

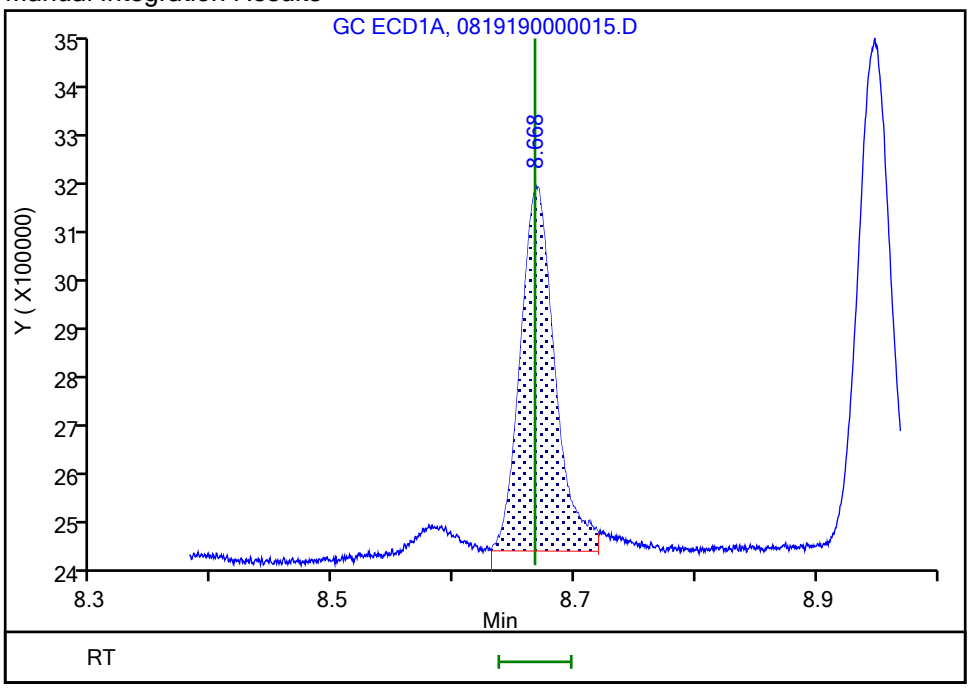

Reviewer: fritschj, 20-Aug-2019 08:30:20
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000016.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 19-Aug-2019 19:04:40 ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-003
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:54 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:33:13

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.180	2.179	0.001	3418078H	0.0200	0.0229	
2	2.351	2.348	0.003	7623859H	0.0200	0.0227	
						RPD = 0.96	
$ 2 2,4-Dichlorophenylacetic acid							M
1	8.030	8.030	0.000	2508937H	0.0200	0.0231	M
2	7.997	7.996	0.001	4812705H	0.0200	0.0228	M
						RPD = 1.04	
3 MCPP							M
1	8.247	8.246	0.001	910995H	2.00	2.31	
2	8.423	8.423	0.000	2326811	2.00	2.14	M
						RPD = 7.53	
4 Dicamba							
1	8.325	8.326	-0.001	4004694H	0.0100	0.0110	
2	8.265	8.265	0.000	7573096H	0.0100	0.0108	
						RPD = 1.66	
5 MCPA							
1	8.668	8.667	0.001	1594916H	2.00	2.49	
2	8.734	8.732	0.002	2949336H	2.00	2.39	
						RPD = 3.80	
6 Dichlorprop							
1	8.947	8.947	0.000	2234251H	0.0200	0.0231	
2	9.095	9.095	0.000	4268906H	0.0200	0.0230	
						RPD = 0.22	
7 2,4-D							
1	9.440	9.439	0.001	2582761H	0.0200	0.0235	
2	9.495	9.494	0.001	5071949H	0.0200	0.0234	
						RPD = 0.55	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.969	9.969	0.000	12922968	0.005000	0.005626	
2	9.692	9.691	0.001	11942592H	0.005000	0.005569	
						RPD = 1.01	
9 Silvex (2,4,5-TP)							
1	10.123	10.124	-0.001	2832937H	0.005000	0.005782	
2	10.263	10.263	0.000	5429675H	0.005000	0.005769	
						RPD = 0.24	
10 2,4,5-T							
1	10.672	10.673	-0.001	2719387H	0.005000	0.005864	
2	10.719	10.719	0.000	5238330H	0.005000	0.005779	
						RPD = 1.46	
11 Dinoseb							
1	10.928	10.928	0.000	4391182H	0.0200	0.0228	
2	11.801	11.800	0.001	8755118H	0.0200	0.0224	
						RPD = 1.83	
12 2,4-DB							
1	11.056	11.056	0.000	1573400H	0.0200	0.0239	
2	11.150	11.149	0.001	2842702H	0.0200	0.0230	
						RPD = 3.48	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCHERBCALSL1_00027 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:25:55 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000016.D				
Injection Date:	19-Aug-2019 19:04:40	Instrument ID:	CGC1	Operator ID:	
Lims ID:	ic			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

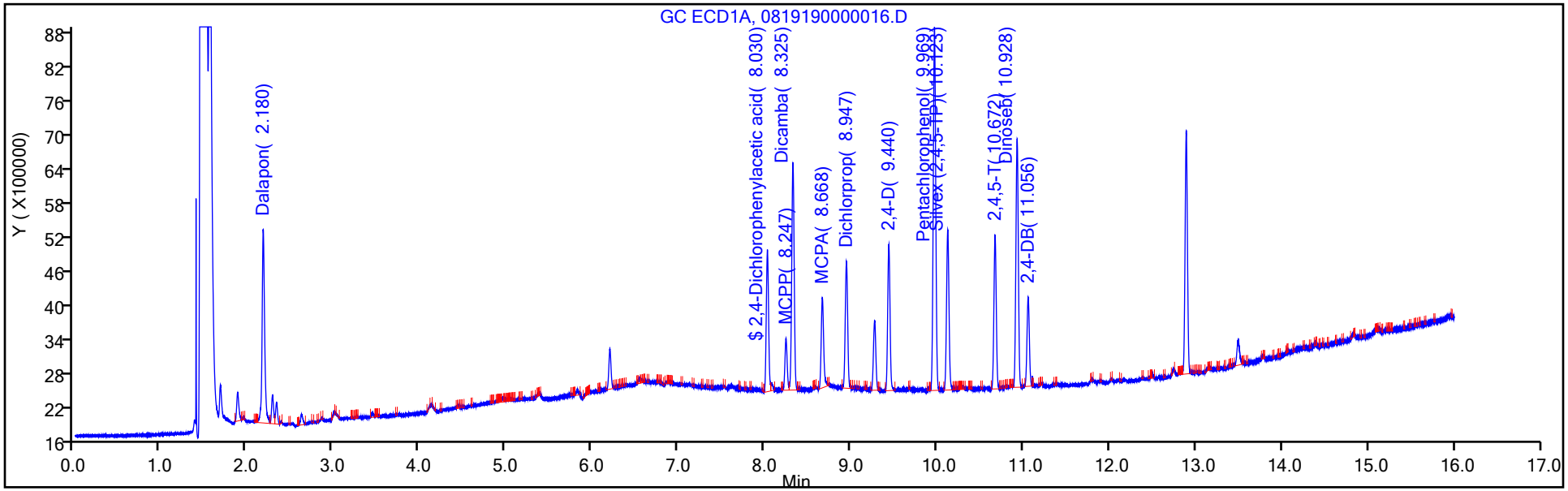

Column: RTX-1701 (0.53 mm)

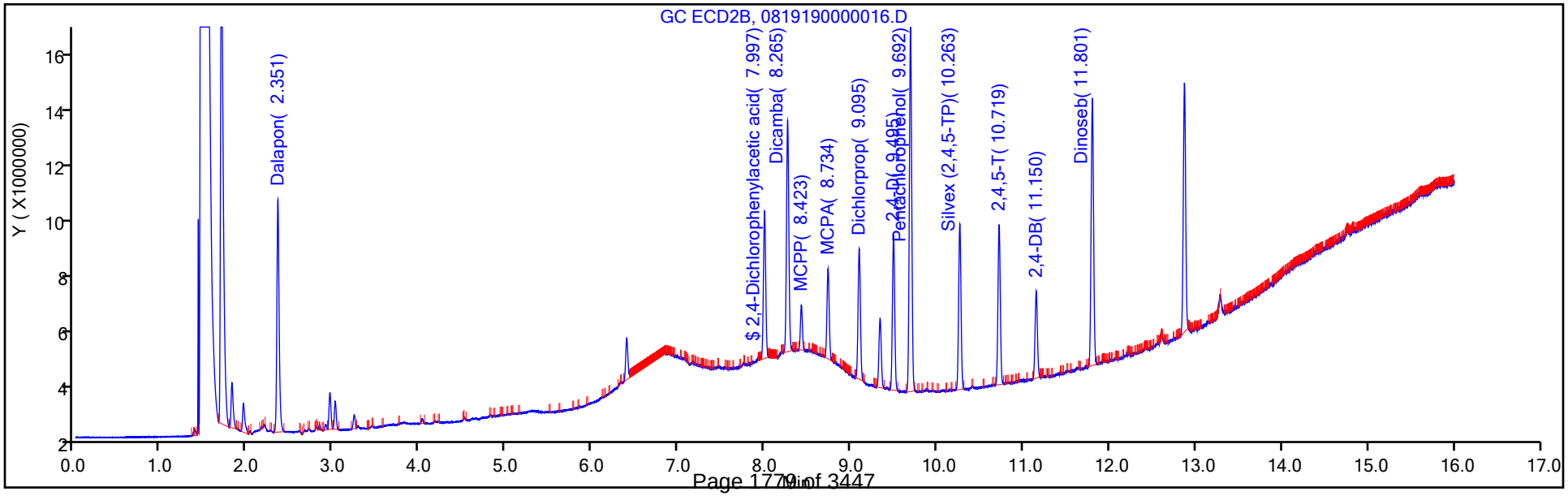

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000016.D				
Injection Date:	19-Aug-2019 19:04:40	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

$ 2 2,4-Dichlorophenylacetic acid, CAS: 19719-28-9

Signal: 1

Processing Integration Results

RT: 8.03
Height: 2498886
Amount: 0.037905
Amount Units: ng

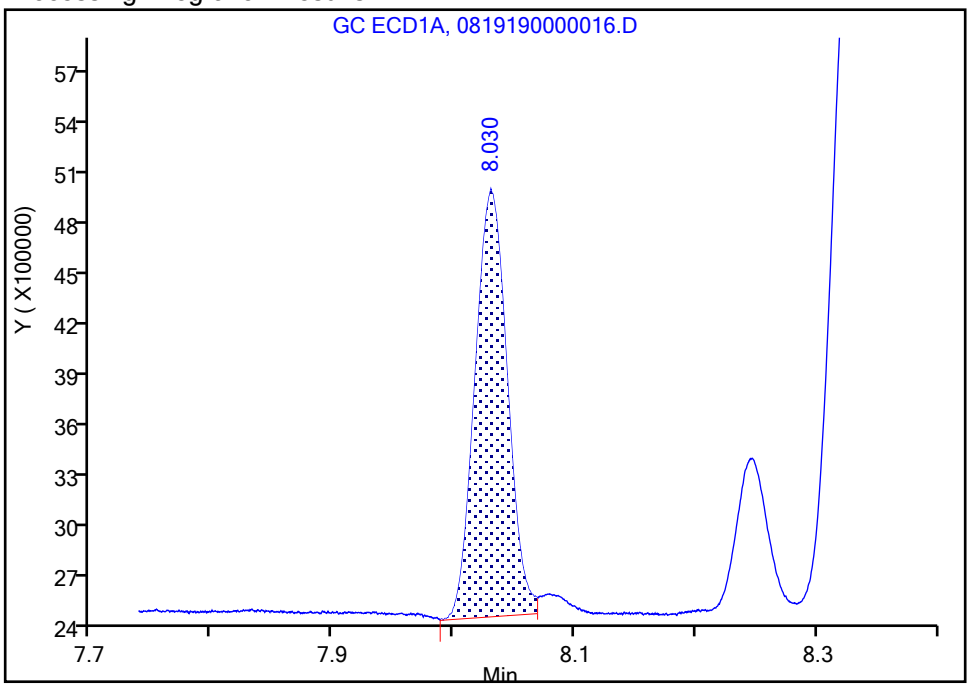

Manual Integration Results

RT: 8.03
Height: 2508937
Amount: 0.023057
Amount Units: ng

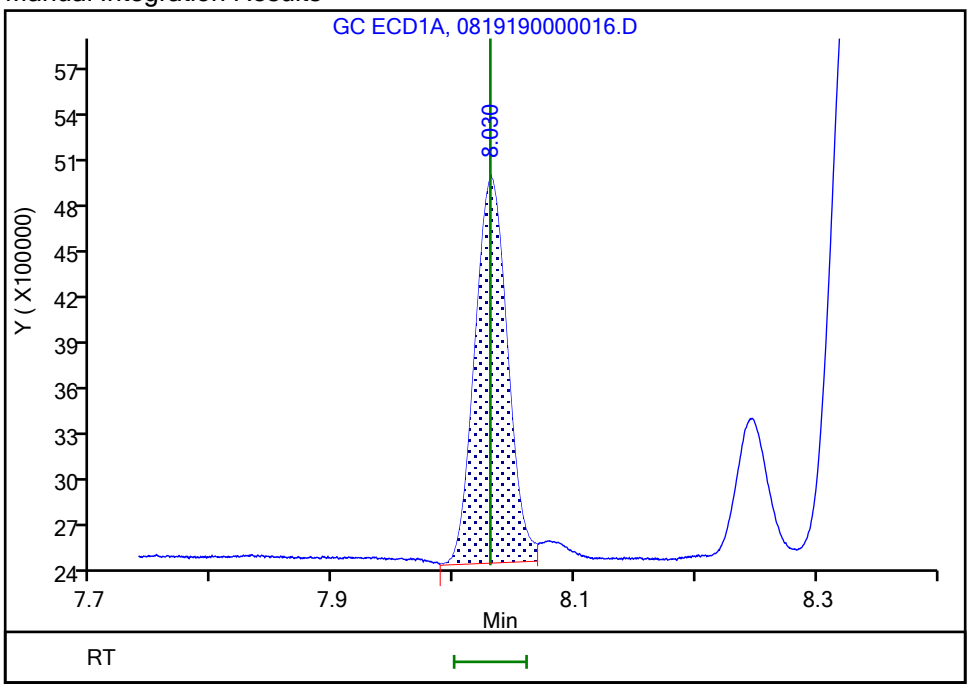

Reviewer: fritschj, 20-Aug-2019 08:32:43

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000017.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 19-Aug-2019 19:29:38 ALS Bottle#: 3 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-004
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:51 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:33:38

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.180	2.179	0.001	6332062H	0.0400	0.0425	
2	2.349	2.348	0.001	14337210H	0.0400	0.0427	
						RPD = 0.54	
$ 2 2,4-Dichlorophenylacetic acid							
1	8.030	8.030	0.000	4713434H	0.0400	0.0433	
2	7.996	7.996	0.000	9171540H	0.0400	0.0435	
						RPD = 0.38	
3 MCPP							
1	8.245	8.246	-0.001	1791894H	4.00	4.53	
2	8.424	8.423	0.001	5452918	4.00	4.43	
						RPD = 2.43	
4 Dicamba							
1	8.325	8.326	-0.001	7576276H	0.0200	0.0208	
2	8.264	8.265	-0.001	14653717H	0.0200	0.0209	
						RPD = 0.60	
5 MCPA							
1	8.667	8.667	0.000	2851165H	4.00	4.45	
2	8.733	8.732	0.001	5563689H	4.00	4.52	
						RPD = 1.58	
6 Dichlorprop							
1	8.946	8.947	-0.001	4193107H	0.0400	0.0433	
2	9.095	9.095	0.000	8138700H	0.0400	0.0439	
						RPD = 1.35	
7 2,4-D							
1	9.440	9.439	0.001	4738312H	0.0400	0.0431	
2	9.492	9.494	-0.002	9501459H	0.0400	0.0438	
						RPD = 1.54	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.970	9.969	0.001	24346174	0.0100	0.0106	
2	9.691	9.691	0.000	22869753H	0.0100	0.0107	
						RPD = 0.63	
9 Silvex (2,4,5-TP)							
1	10.124	10.124	0.000	5269266H	0.0100	0.0108	
2	10.263	10.263	0.000	10301266H	0.0100	0.0109	
						RPD = 1.74	
10 2,4,5-T							
1	10.673	10.673	0.000	5003210H	0.0100	0.0108	
2	10.719	10.719	0.000	9933044H	0.0100	0.0110	
						RPD = 1.56	
11 Dinoseb							
1	10.928	10.928	0.000	8122045H	0.0400	0.0422	
2	11.801	11.800	0.001	16720974H	0.0400	0.0428	
						RPD = 1.37	
12 2,4-DB							
1	11.056	11.056	0.000	2816514H	0.0400	0.0427	
2	11.150	11.149	0.001	5369567H	0.0400	0.0435	
						RPD = 1.89	

Reagents:

GCHERBCALSL2_00024 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:25:51 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000017.D

Injection Date: 19-Aug-2019 19:29:38 Instrument ID: CGC1 Operator ID:

Lims ID: ic Worklist Smp#: 4

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 3

Method: Herbicides_CGC1 Limit Group: GCS 8151A ICAL

Column: RTX-50 (0.53 mm)

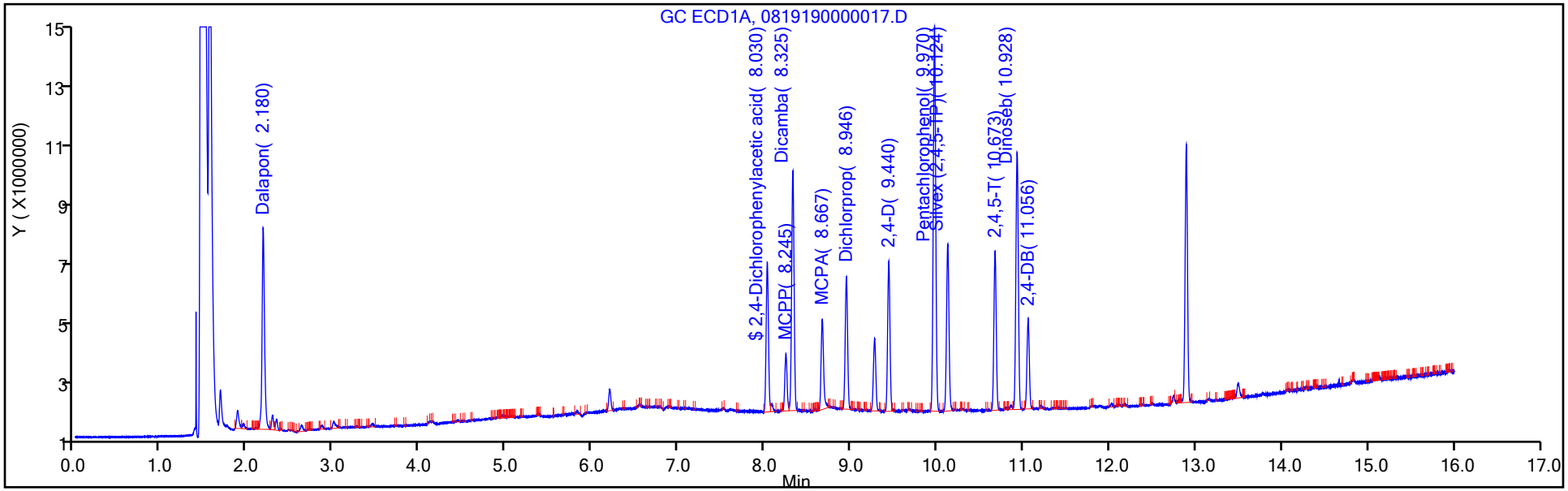

Column: RTX-1701 (0.53 mm)

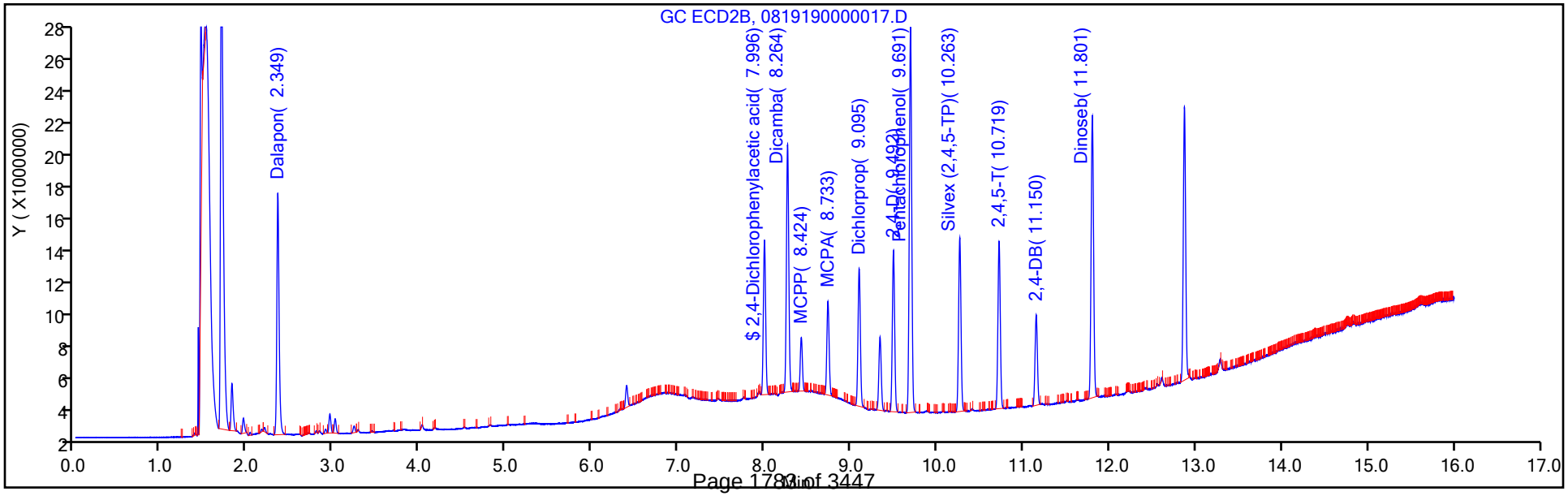

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D
Lims ID: icrt
Client ID:
Sample Type: ICRT Calib Level: 3
Inject. Date: 19-Aug-2019 19:54:39 ALS Bottle#: 4 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-005
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:45 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:28:11

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							a
1	2.179	2.179	0.000	11223295H	0.0800	0.0753	a
2	2.348	2.348	0.000	25411026H	0.0800	0.0757	a
						RPD = 0.54	
$ 2 2,4-Dichlorophenylacetic acid							a
1	8.030	8.030	0.000	7613570H	0.0800	0.0700	a
2	7.996	7.996	0.000	14765553H	0.0800	0.0700	a
						RPD = 0.05	
3 MCPP							Ma
1	8.246	8.246	0.000	2974715H	8.00	7.53	a
2	8.423	8.423	0.000	9866795	8.00	7.65	M
						RPD = 1.68	
4 Dicamba							a
1	8.326	8.326	0.000	12450636H	0.0400	0.0341	a
2	8.265	8.265	0.000	24433399H	0.0400	0.0348	a
						RPD = 2.05	
5 MCPA							a
1	8.667	8.667	0.000	4460869H	8.00	6.96	a
2	8.732	8.732	0.000	8744680H	8.00	7.10	a
						RPD = 2.04	
6 Dichlorprop							a
1	8.947	8.947	0.000	6683731H	0.0800	0.0690	a
2	9.095	9.095	0.000	13013520H	0.0800	0.0702	a
						RPD = 1.67	
7 2,4-D							a
1	9.439	9.439	0.000	7458378H	0.0800	0.0679	a
2	9.494	9.494	0.000	15308071H	0.0800	0.0705	a
						RPD = 3.86	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							a
1	9.969	9.969	0.000	39077252	0.0200	0.0170	a
2	9.691	9.691	0.000	36992114H	0.0200	0.0173	a
						RPD = 1.40	
9 Silvex (2,4,5-TP)							a
1	10.124	10.124	0.000	8350247H	0.0200	0.0170	a
2	10.263	10.263	0.000	16465579H	0.0200	0.0175	a
						RPD = 2.60	
10 2,4,5-T							a
1	10.673	10.673	0.000	7923065H	0.0200	0.0171	a
2	10.719	10.719	0.000	15848356H	0.0200	0.0175	a
						RPD = 2.31	
11 Dinoseb							a
1	10.928	10.928	0.000	12819214H	0.0800	0.0666	a
2	11.800	11.800	0.000	27183193H	0.0800	0.0695	a
						RPD = 4.33	
12 2,4-DB							a
1	11.056	11.056	0.000	4420145H	0.0800	0.0670	a
2	11.149	11.149	0.000	8459711H	0.0800	0.0686	a
						RPD = 2.28	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

GCHERBCALSL3_00028 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:25:46 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D

Injection Date: 19-Aug-2019 19:54:39 Instrument ID: CGC1 Operator ID:

Lims ID: icrt Worklist Smp#: 5

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 4

Method: Herbicides_CGC1 Limit Group: GCS 8151A ICAL

Column: RTX-50 (0.53 mm)

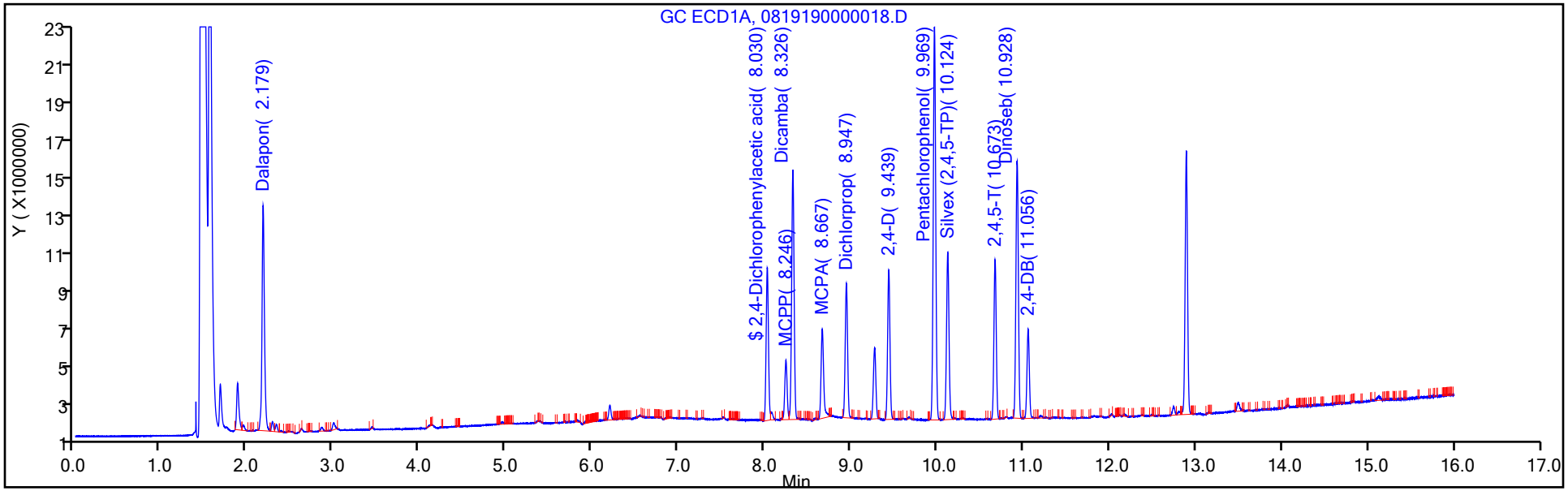

Column: RTX-1701 (0.53 mm)

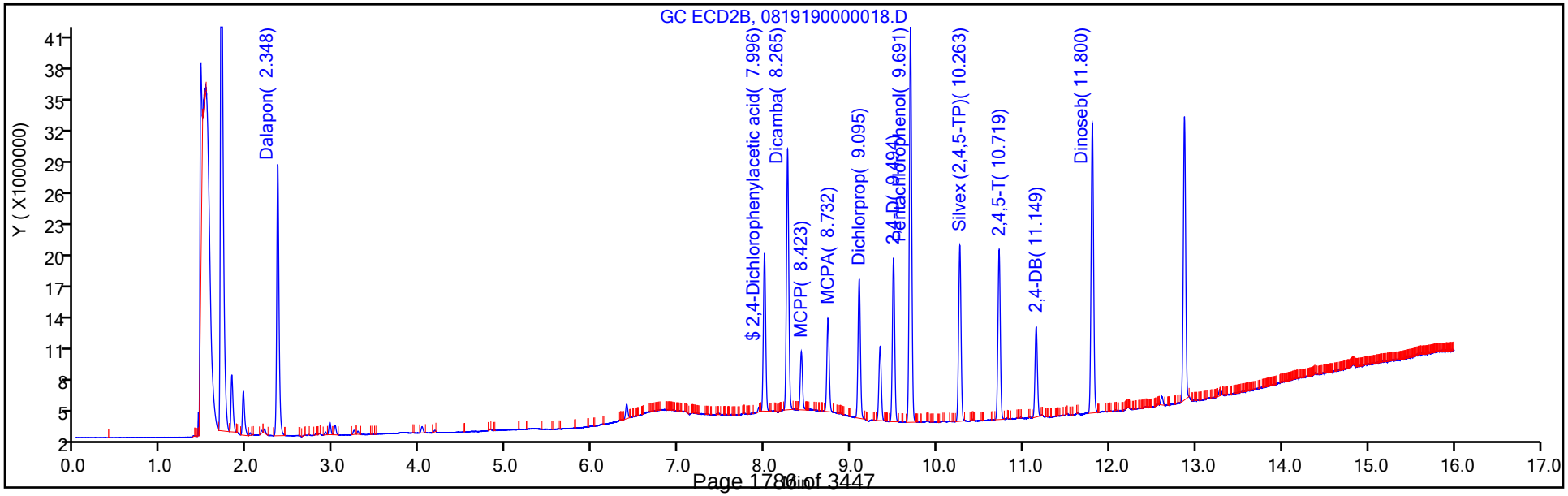

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

1 Dalapon, CAS: 75-99-0

Signal: 1

Not Detected
Expected RT: 2.18

Processing Integration Results

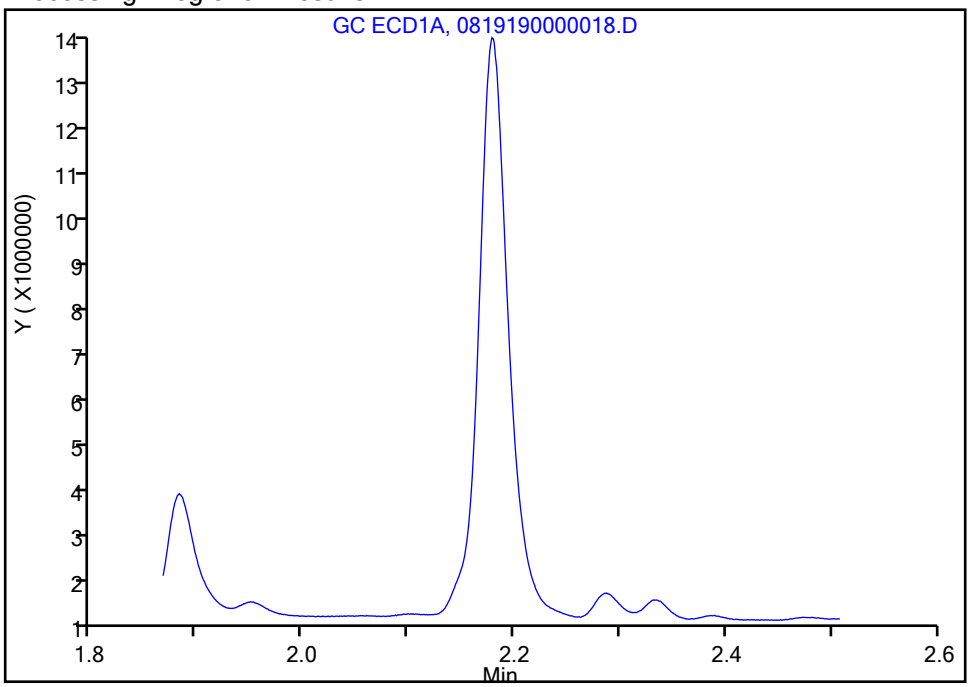

Manual Integration Results

RT: 2.18
Height: 11223295
Amount: 0.075302
Amount Units: ng

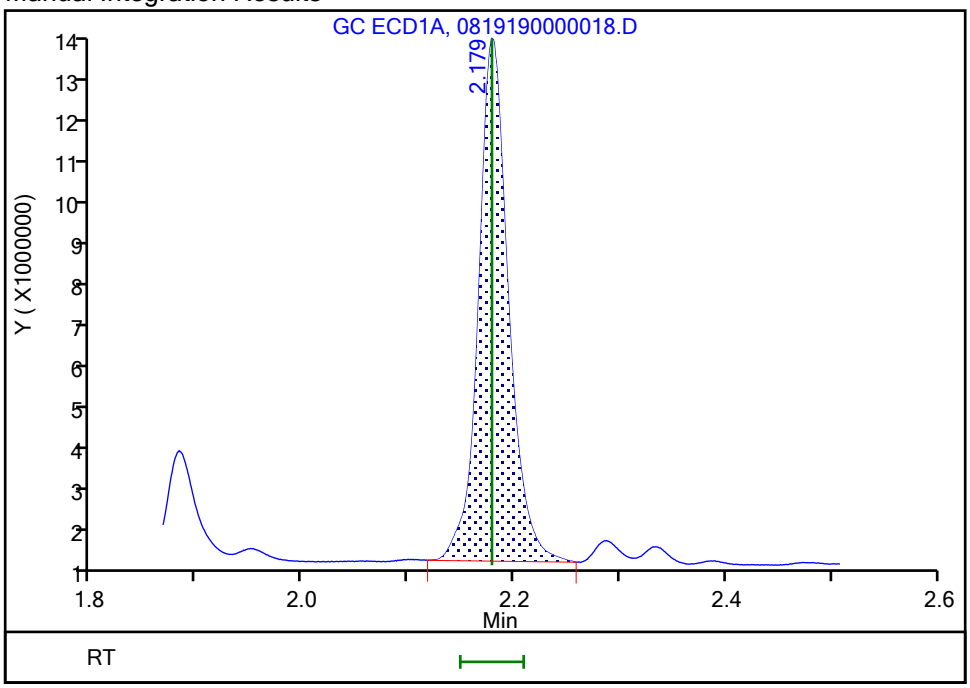

Reviewer: fritschj, 20-Aug-2019 08:15:43
Audit Action: Assigned Compound ID Audit Reason:

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

$ 2 2,4-Dichlorophenylacetic acid, CAS: 19719-28-9

Signal: 1

Processing Integration Results

RT: 8.20
Height: 97884
Amount: 0.377061
Amount Units: ng

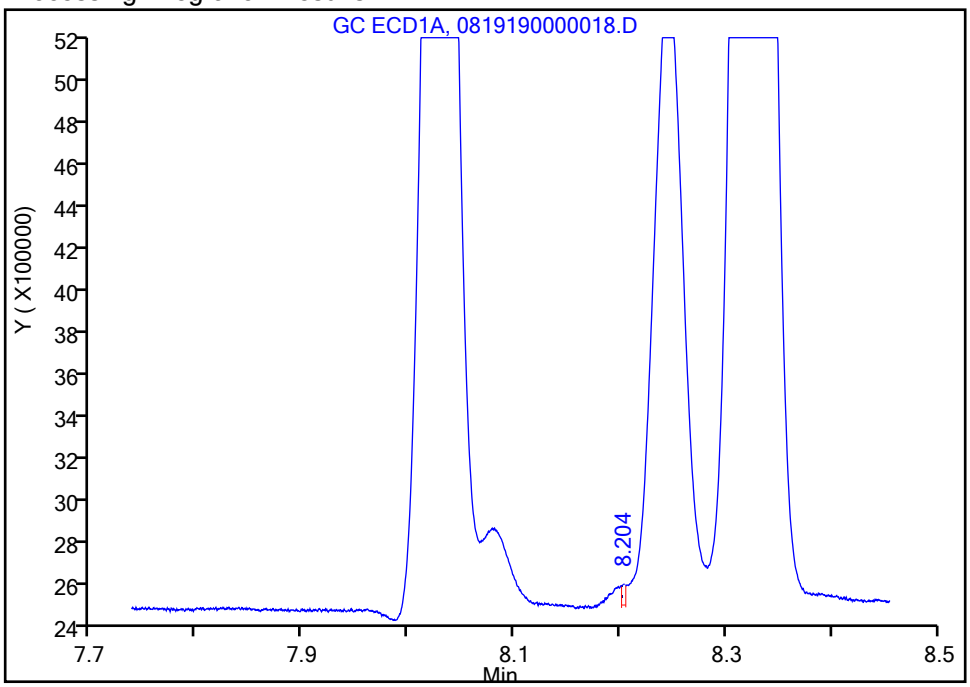

Manual Integration Results

RT: 8.03
Height: 7613570
Amount: 0.069969
Amount Units: ng

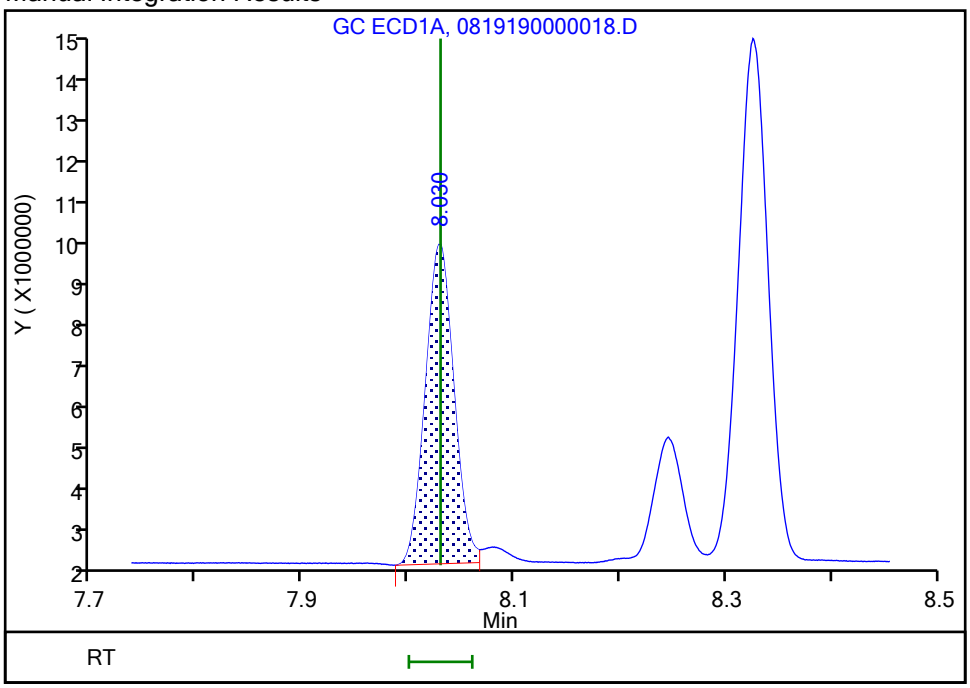

Reviewer: fritschj, 20-Aug-2019 08:15:55
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

3 MCPP, CAS: 93-65-2

Signal: 1

Processing Integration Results

RT: 8.67
Height: 4460869
Amount: 6.970161
Amount Units: ng

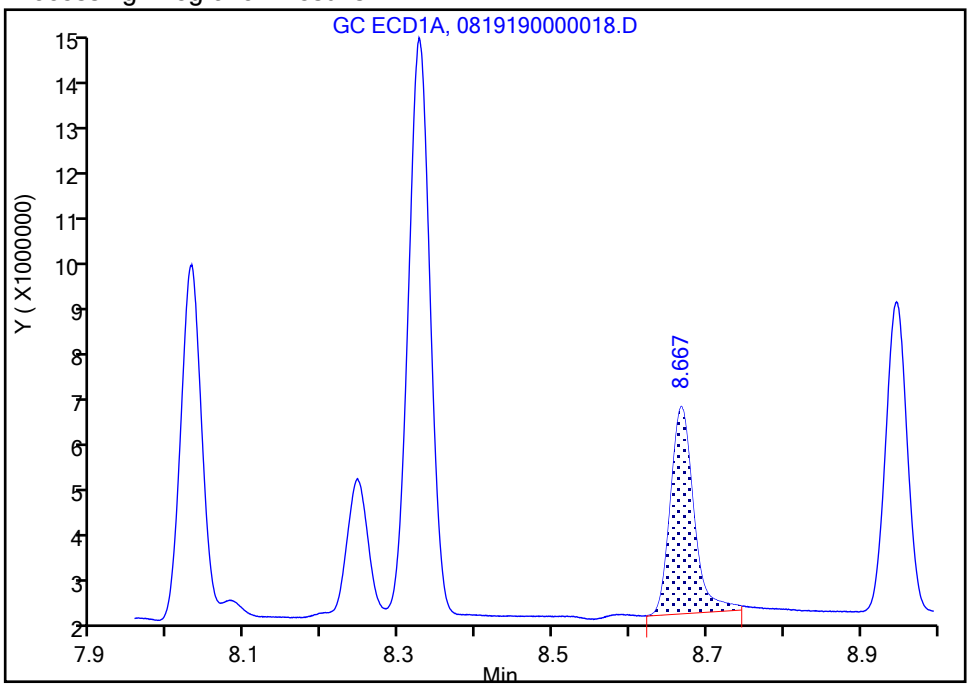

Manual Integration Results

RT: 8.25
Height: 2974715
Amount: 7.527019
Amount Units: ng

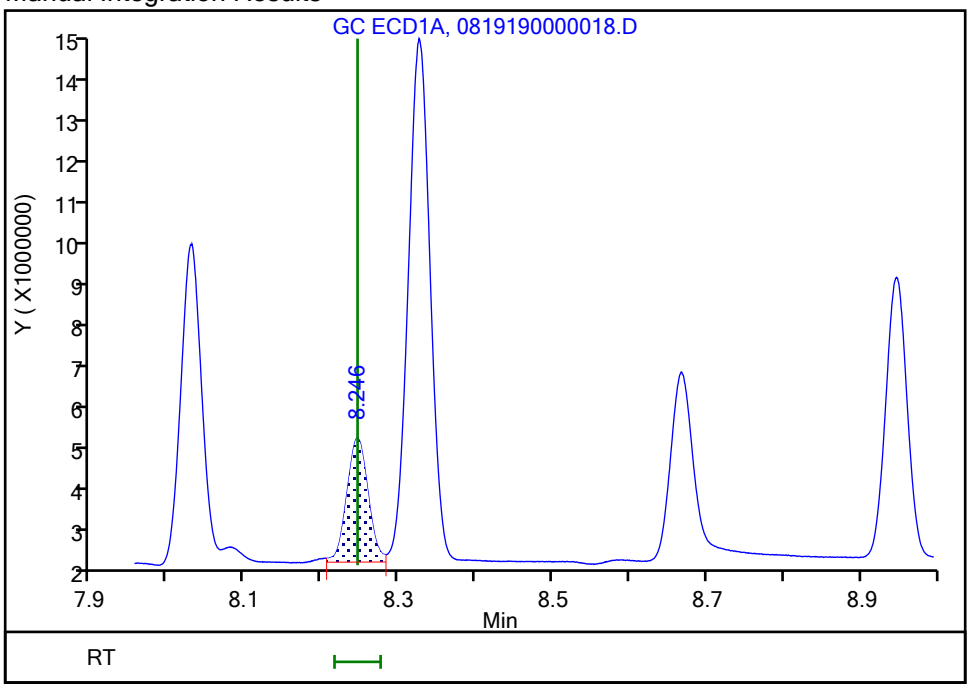

Reviewer: fritschj, 20-Aug-2019 08:17:56
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

4 Dicamba, CAS: 1918-00-9

Signal: 1

Processing Integration Results

RT: 8.49
Height: 19946
Amount: -0.082749
Amount Units: ng

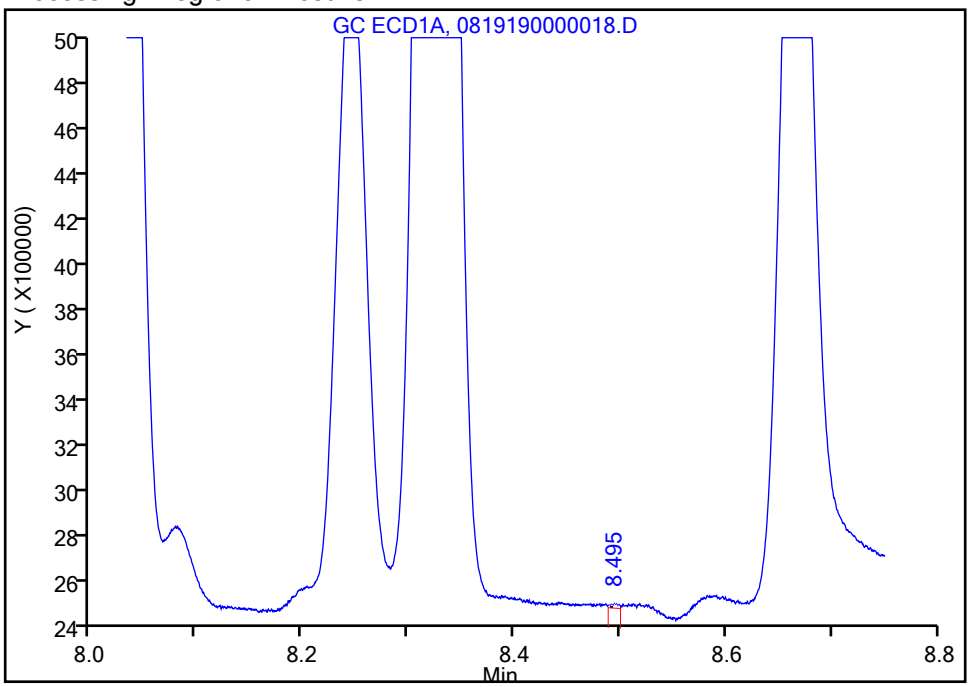

Manual Integration Results

RT: 8.33
Height: 12450636
Amount: 0.034134
Amount Units: ng

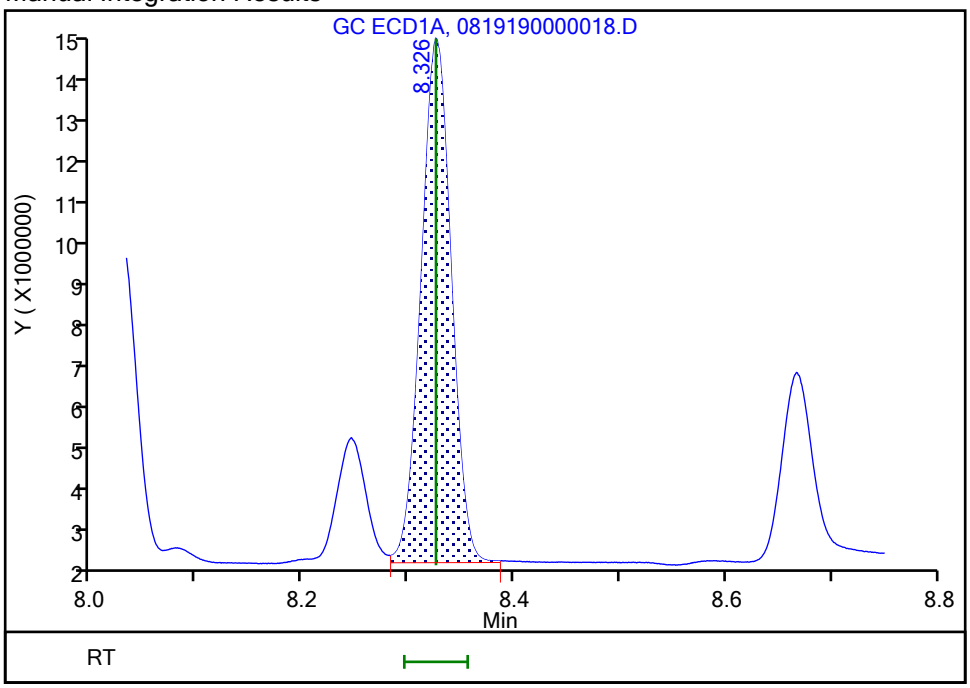

Reviewer: fritschj, 20-Aug-2019 08:18:07
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

5 MCPA, CAS: 94-74-6

Signal: 1

Not Detected
Expected RT: 8.67

Processing Integration Results

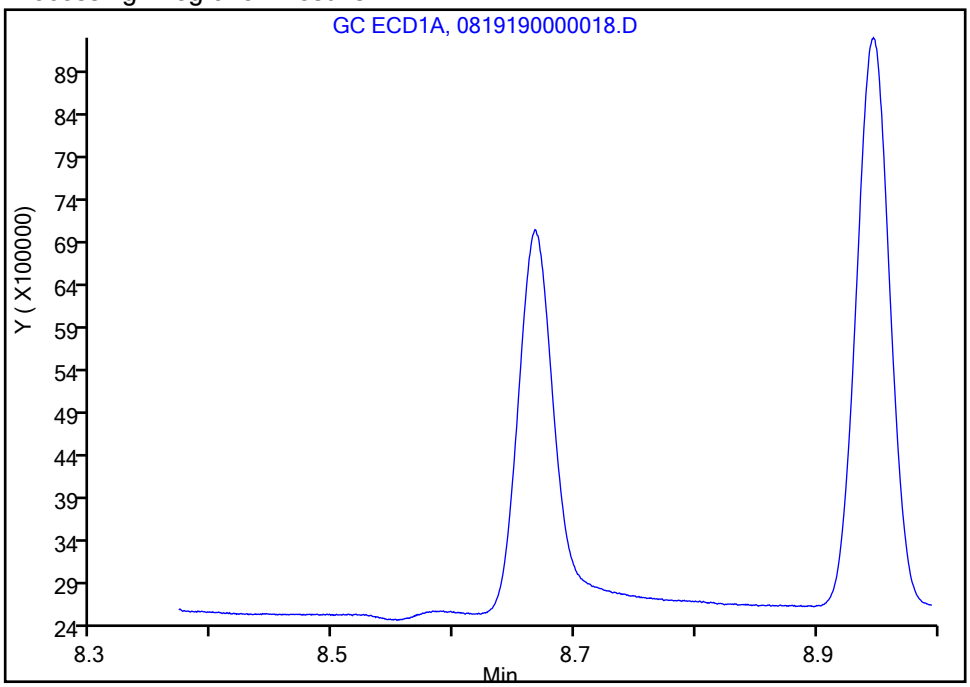

Manual Integration Results

RT: 8.67
Height: 4460869
Amount: 6.955675
Amount Units: ng

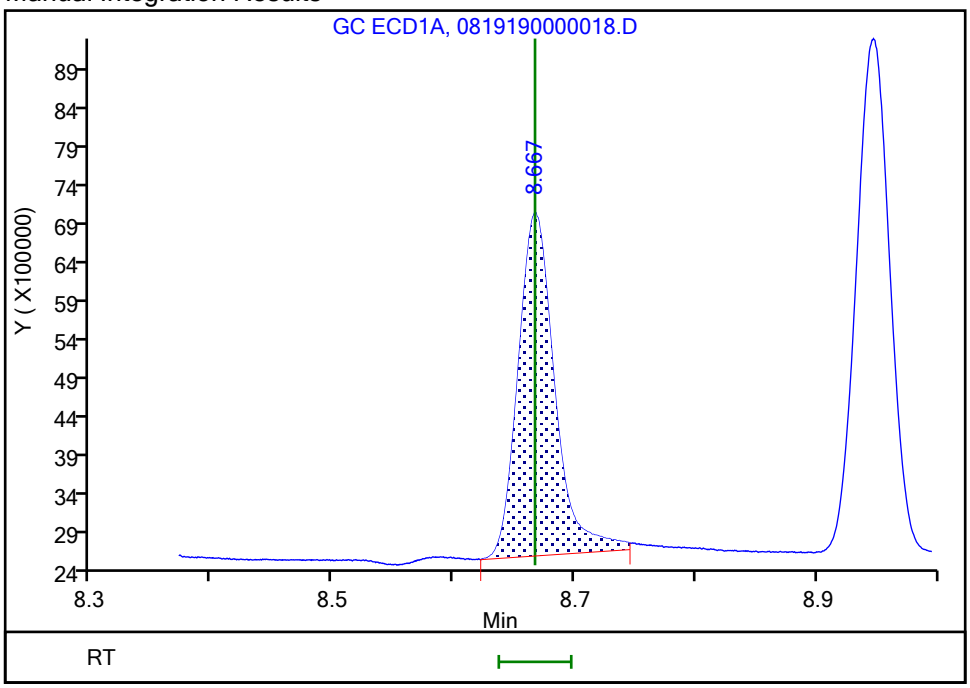

Reviewer: fritschj, 20-Aug-2019 08:18:28
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

6 Dichlorprop, CAS: 120-36-5

Signal: 1

Not Detected
Expected RT: 8.95

Processing Integration Results

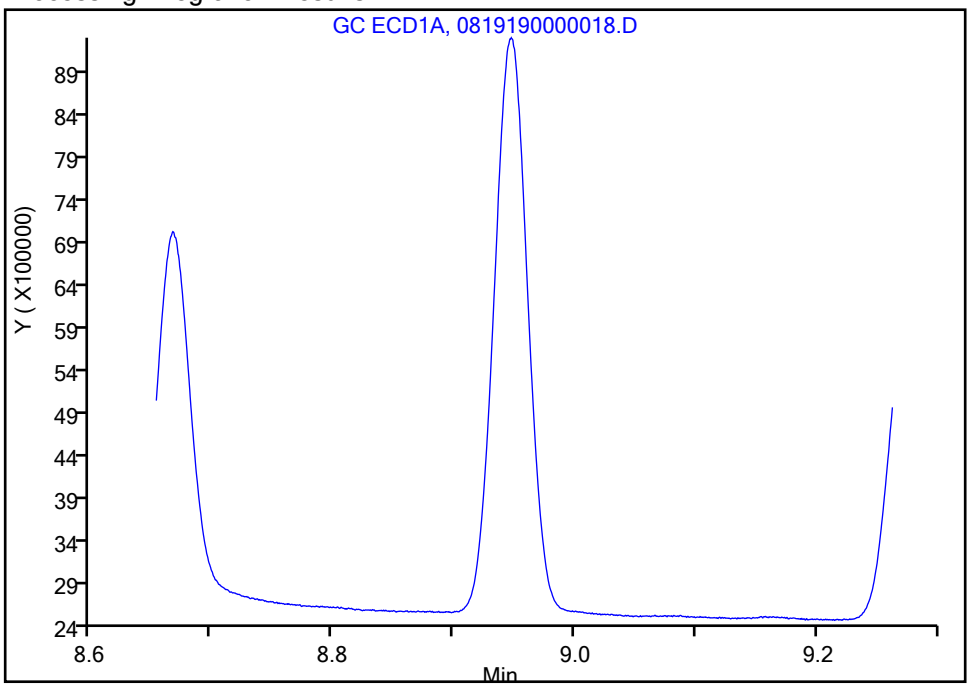

Manual Integration Results

RT: 8.95
Height: 6683731
Amount: 0.069031
Amount Units: ng

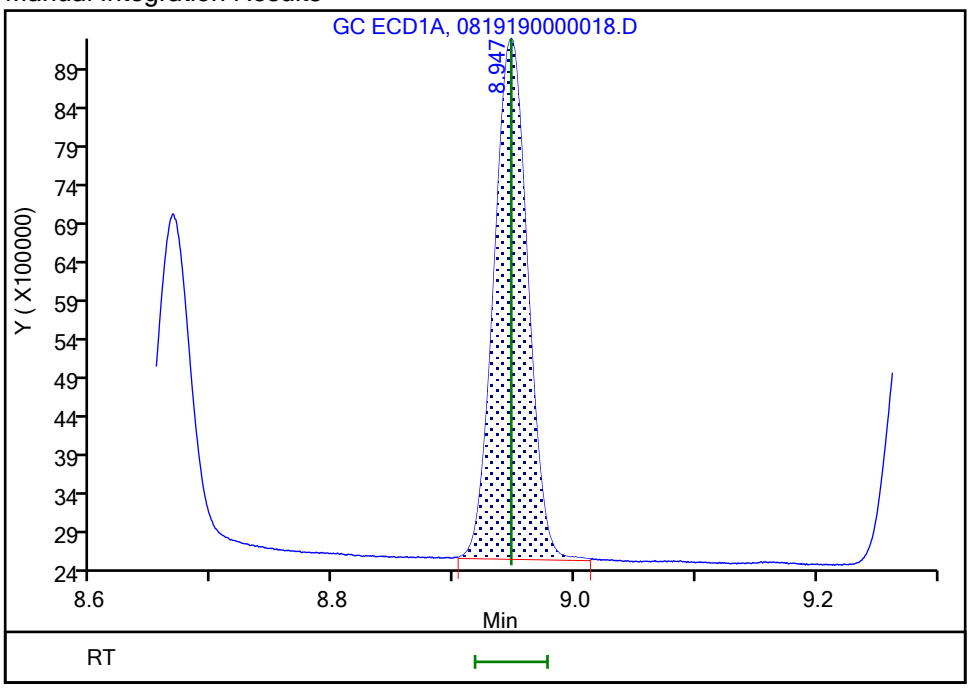

Reviewer: fritschj, 20-Aug-2019 08:19:16
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

7 2,4-D, CAS: 94-75-7

Signal: 1

Not Detected
Expected RT: 9.44

Processing Integration Results

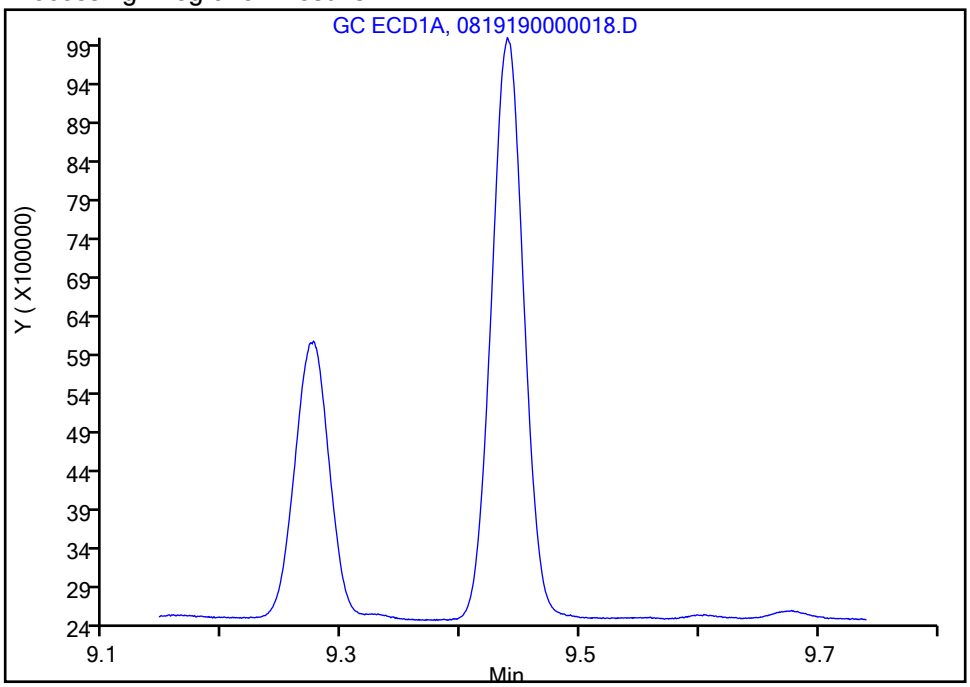

Manual Integration Results

RT: 9.44
Height: 7458378
Amount: 0.067858
Amount Units: ng

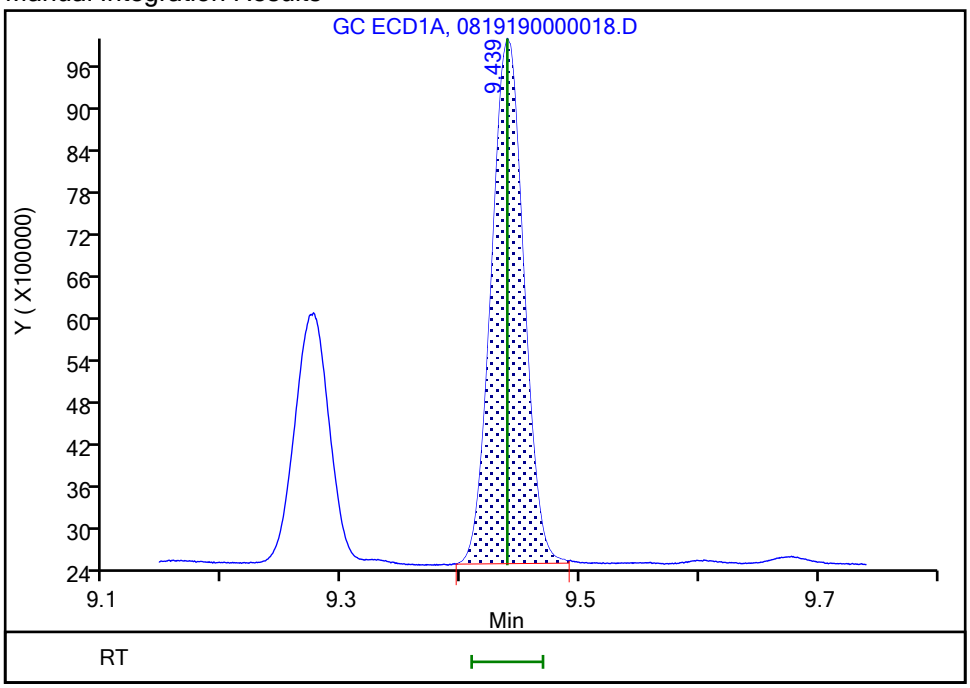

Reviewer: fritschj, 20-Aug-2019 08:19:37
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

8 Pentachlorophenol, CAS: 87-86-5

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 9.97

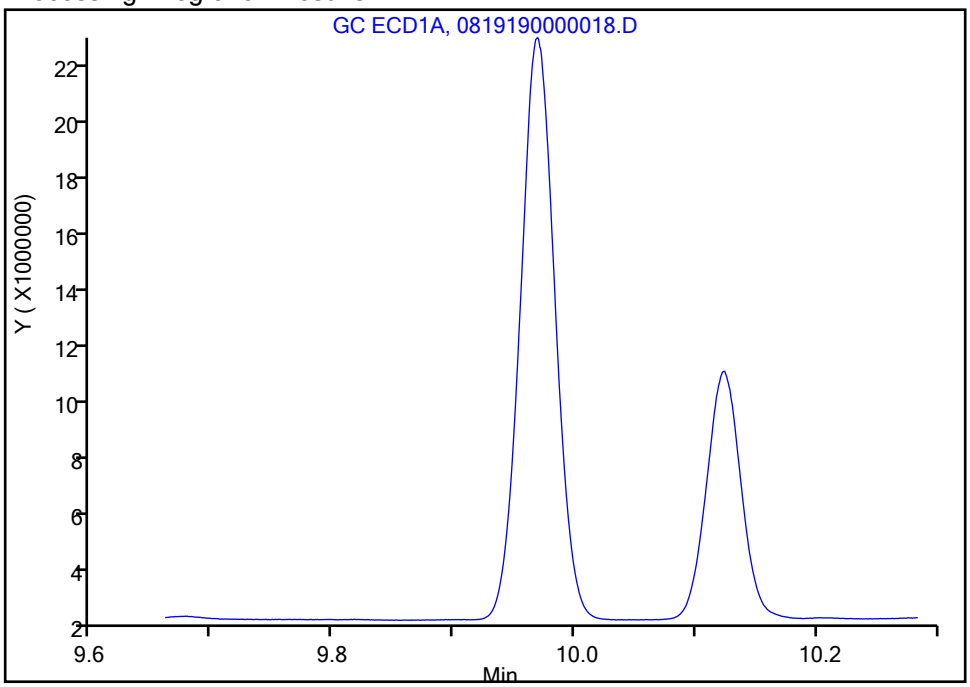

Manual Integration Results

RT: 9.97
Area: 39077252
Amount: 0.017011
Amount Units: ng

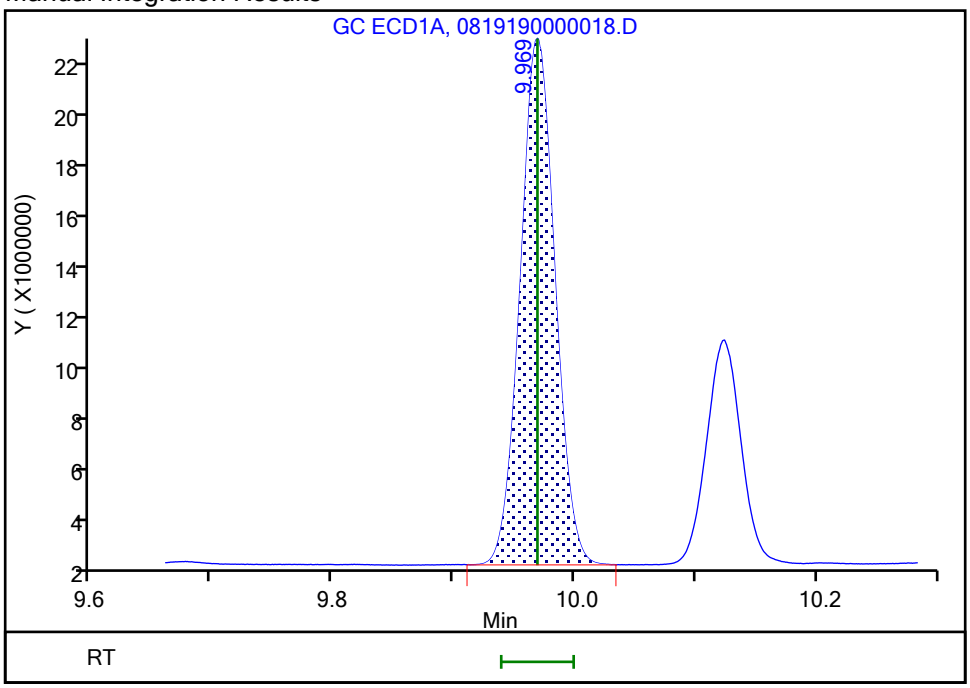

Reviewer: fritschj, 20-Aug-2019 08:21:49
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

9 Silvex (2,4,5-TP), CAS: 93-72-1

Signal: 1

Not Detected
Expected RT: 10.12

Processing Integration Results

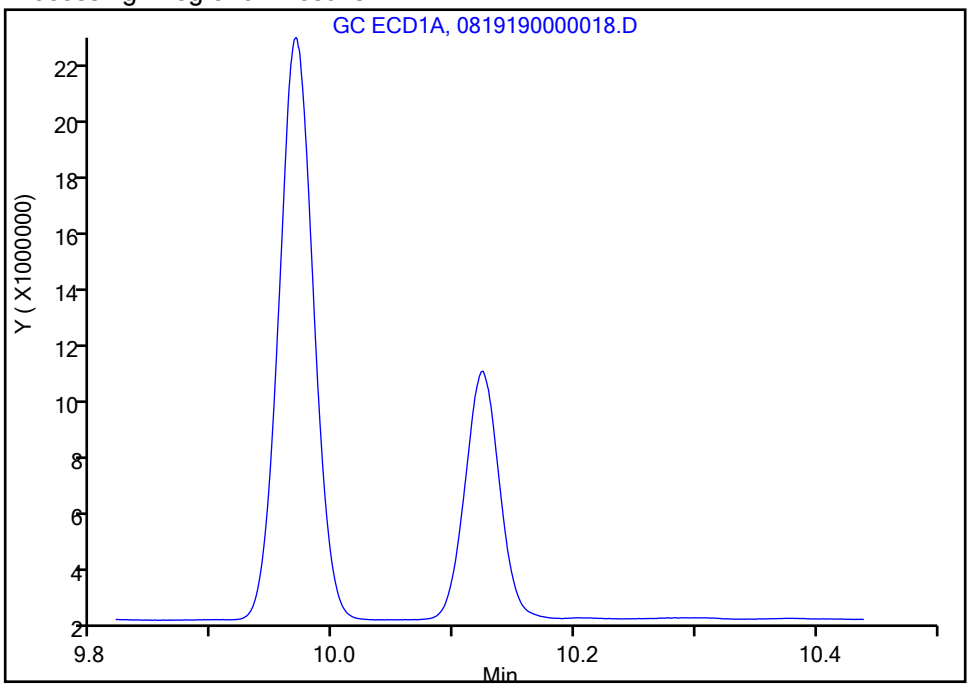

Manual Integration Results

RT: 10.12
Height: 8350247
Amount: 0.017044
Amount Units: ng

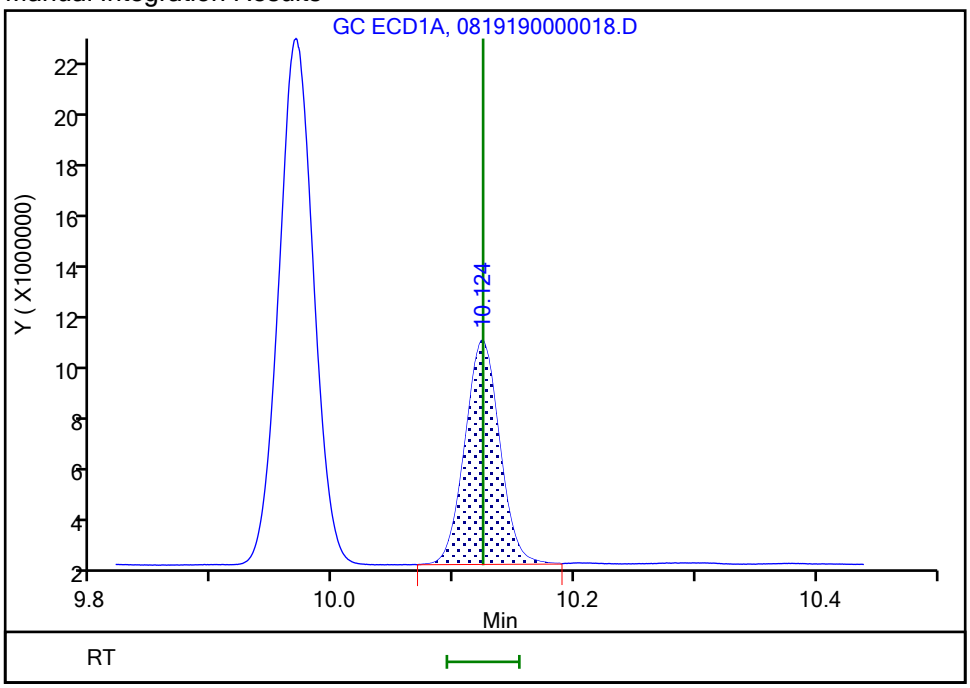

Reviewer: fritschj, 20-Aug-2019 08:22:17
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

10 2,4,5-T, CAS: 93-76-5

Signal: 1

Not Detected
Expected RT: 10.67

Processing Integration Results

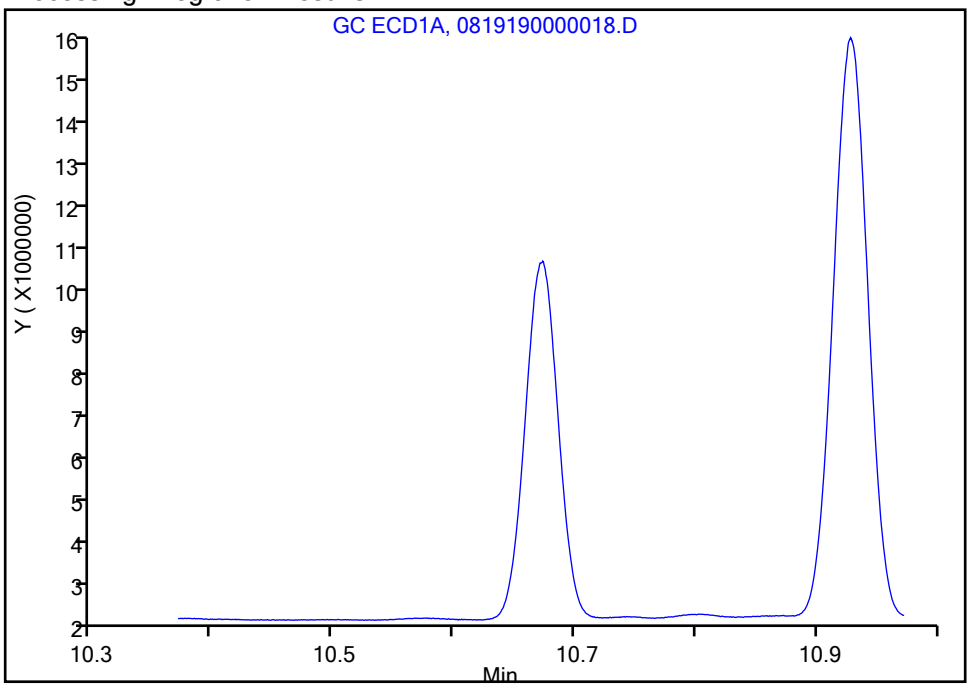

Manual Integration Results

RT: 10.67
Height: 7923065
Amount: 0.017086
Amount Units: ng

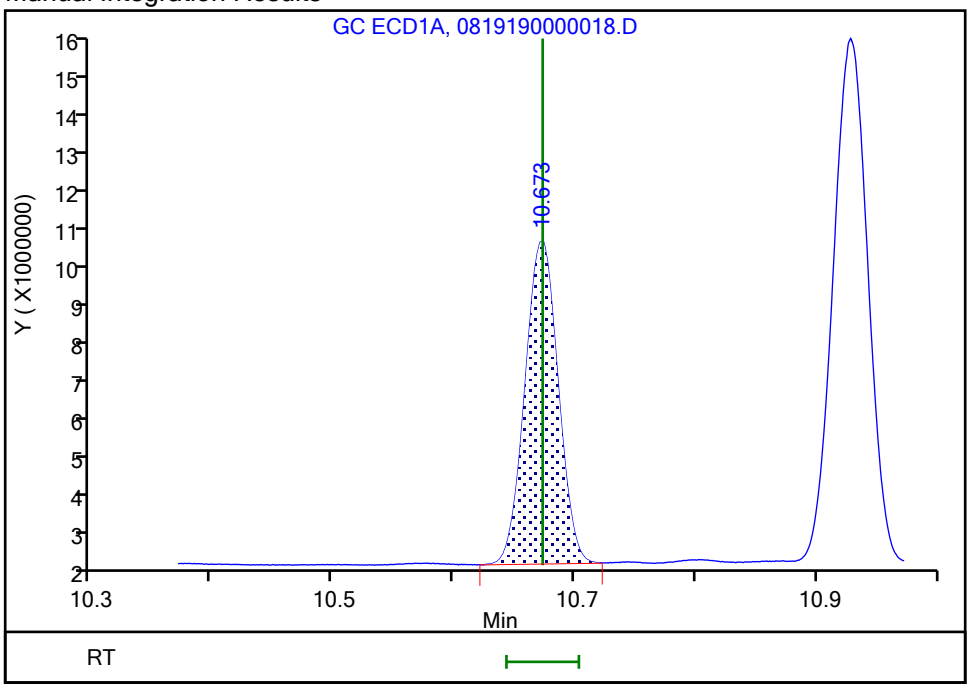

Reviewer: fritschj, 20-Aug-2019 08:23:59
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

11 Dinoseb, CAS: 88-85-7

Signal: 1

Processing Integration Results

RT: 12.07
Height: 29656
Amount: 0.035802
Amount Units: ng

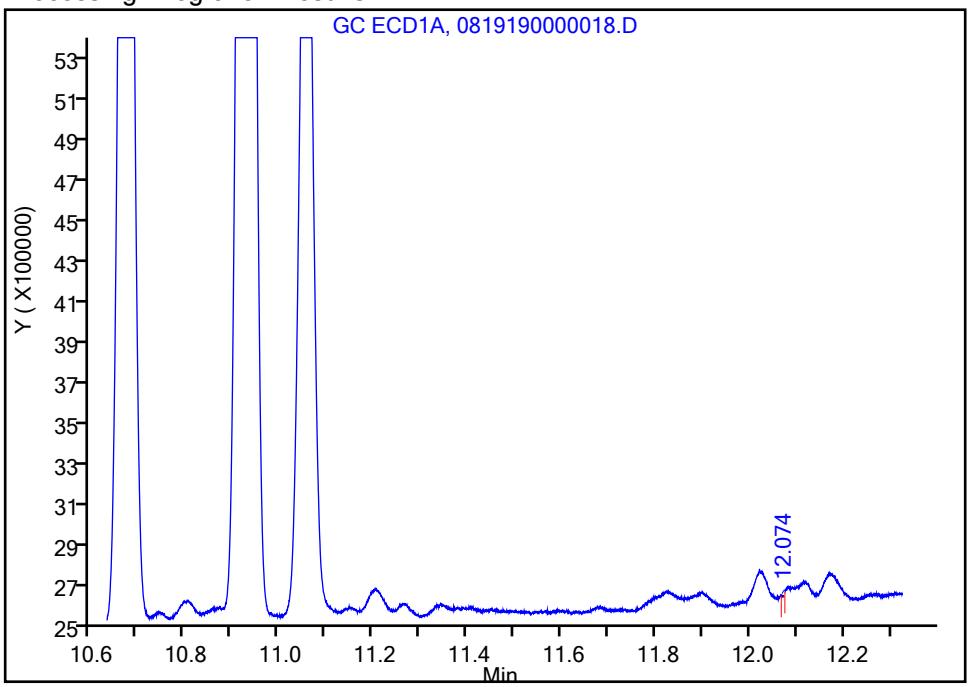

Manual Integration Results

RT: 10.93
Height: 12819214
Amount: 0.066594
Amount Units: ng

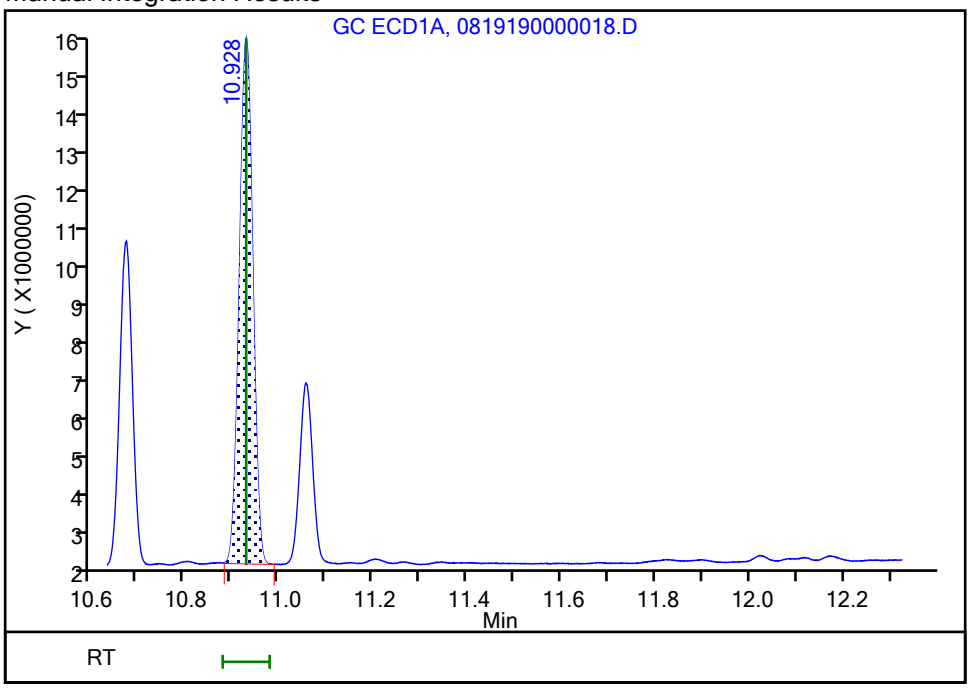

Reviewer: fritschj, 20-Aug-2019 08:24:17
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

12 2,4-DB, CAS: 94-82-6

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 11.06

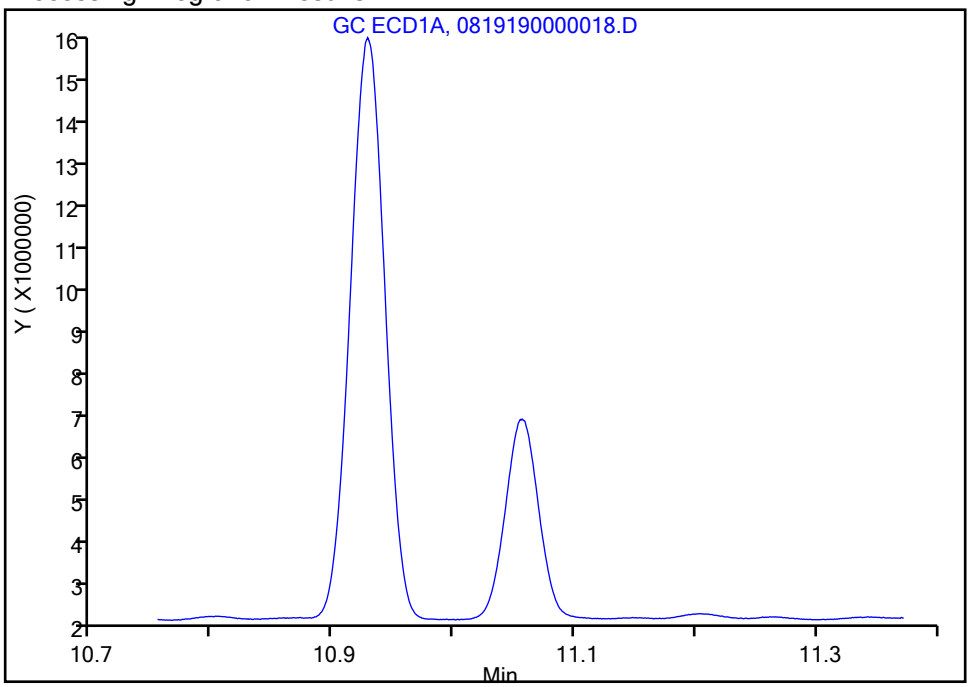

Manual Integration Results

RT: 11.06
Height: 4420145
Amount: 0.067033
Amount Units: ng

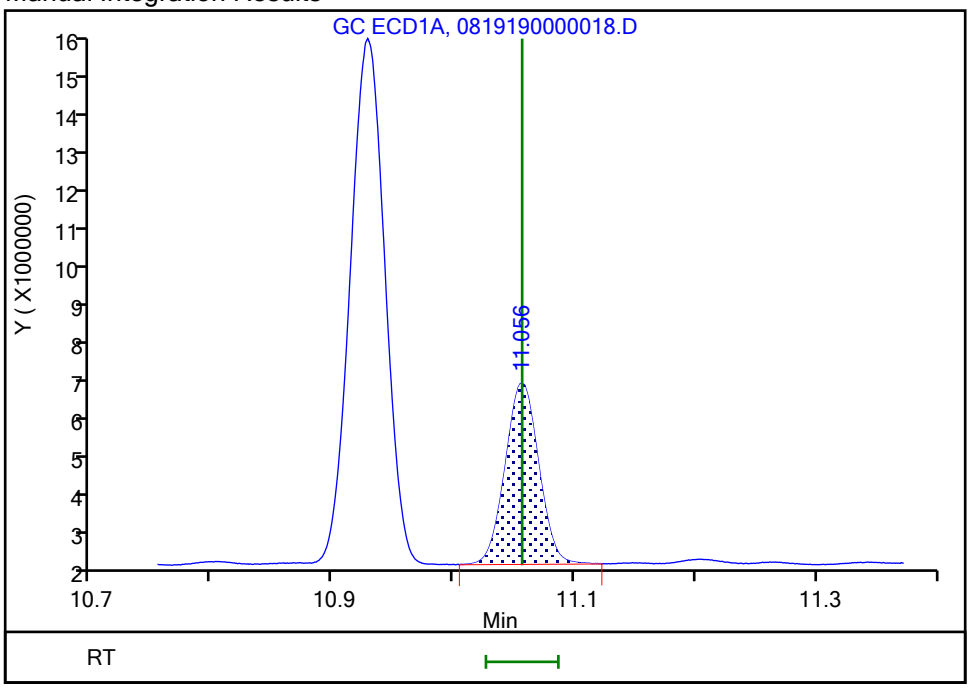

Reviewer: fritschj, 20-Aug-2019 08:24:51
Audit Action: Assigned Compound ID Audit Reason:

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000019.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 19-Aug-2019 20:19:37 ALS Bottle#: 5 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-006
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:41 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:36:14

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.180	2.179	0.001	21029013H	0.1600	0.1411	
2	2.349	2.348	0.001	47108347H	0.1600	0.1404	
						RPD = 0.53	
$ 2 2,4-Dichlorophenylacetic acid							M
1	8.027	8.030	-0.003	14637561H	0.1600	0.1345	
2	7.996	7.996	0.000	28362876H	0.1600	0.1345	M
						RPD = 0.04	
3 MCPP							M
1	8.245	8.246	-0.001	5526314H	16.0	14.0	
2	8.423	8.423	0.000	19552026	16.0	14.7	M
						RPD = 5.27	
4 Dicamba							
1	8.325	8.326	-0.001	24338630H	0.0800	0.0667	
2	8.265	8.265	0.000	48128489H	0.0800	0.0686	
						RPD = 2.81	
5 MCPA							
1	8.667	8.667	0.000	8041901H	16.0	12.5	
2	8.733	8.732	0.001	16184172H	16.0	13.1	
						RPD = 4.66	
6 Dichlorprop							
1	8.946	8.947	-0.001	12688482H	0.1600	0.1310	
2	9.095	9.095	0.000	24921509H	0.1600	0.1344	
						RPD = 2.54	
7 2,4-D							
1	9.439	9.439	0.000	14118416H	0.1600	0.1285	
2	9.493	9.494	-0.001	28835678H	0.1600	0.1329	
						RPD = 3.37	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.968	9.969	-0.001	76949921	0.0400	0.0335	
2	9.690	9.691	-0.001	72319636	0.0400	0.0337	H
						RPD = 0.68	
9 Silvex (2,4,5-TP)							
1	10.122	10.124	-0.002	16132968	0.0400	0.0329	H
2	10.262	10.263	-0.001	31885085	0.0400	0.0339	H
						RPD = 2.83	
10 2,4,5-T							
1	10.672	10.673	-0.001	15241356	0.0400	0.0329	H
2	10.717	10.719	-0.002	30784000	0.0400	0.0340	H
						RPD = 3.28	
11 Dinoseb							
1	10.927	10.928	-0.001	25368364	0.1600	0.1318	H
2	11.801	11.800	0.001	53199332	0.1600	0.1361	H
						RPD = 3.22	
12 2,4-DB							
1	11.055	11.056	-0.001	8376520	0.1600	0.1270	H
2	11.147	11.149	-0.002	16504494	0.1600	0.1338	H
						RPD = 5.18	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCHERBCALSL4_00027 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:25:42 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000019.D				
Injection Date:	19-Aug-2019 20:19:37	Instrument ID:	CGC1	Operator ID:	
Lims ID:	ic			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

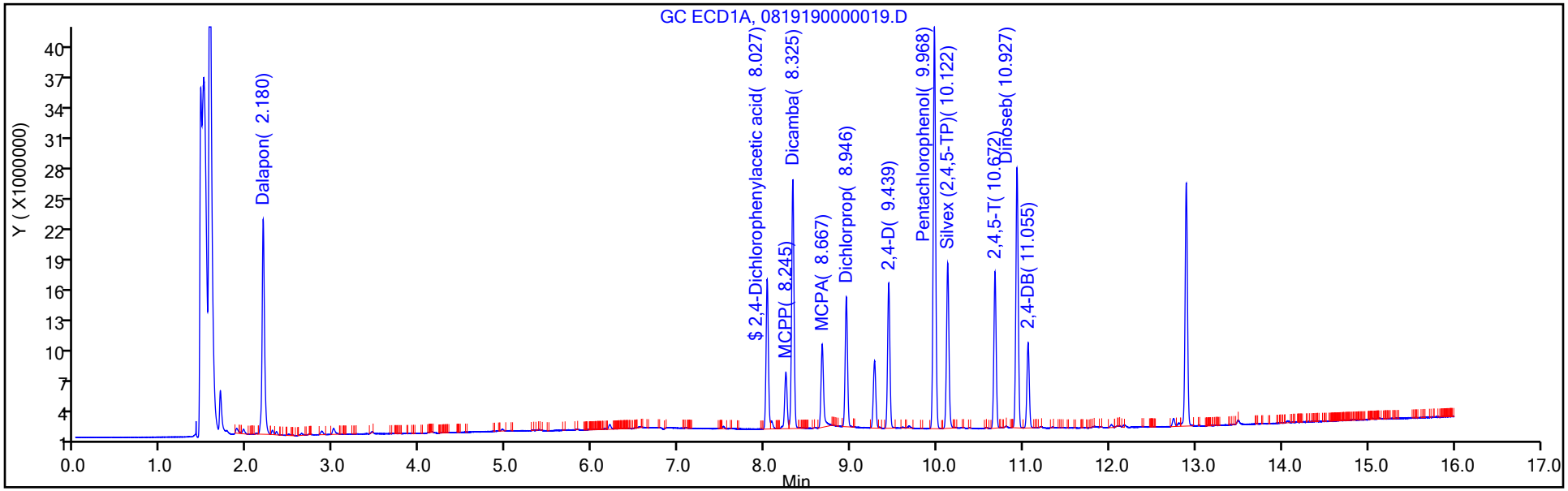

Column: RTX-1701 (0.53 mm)

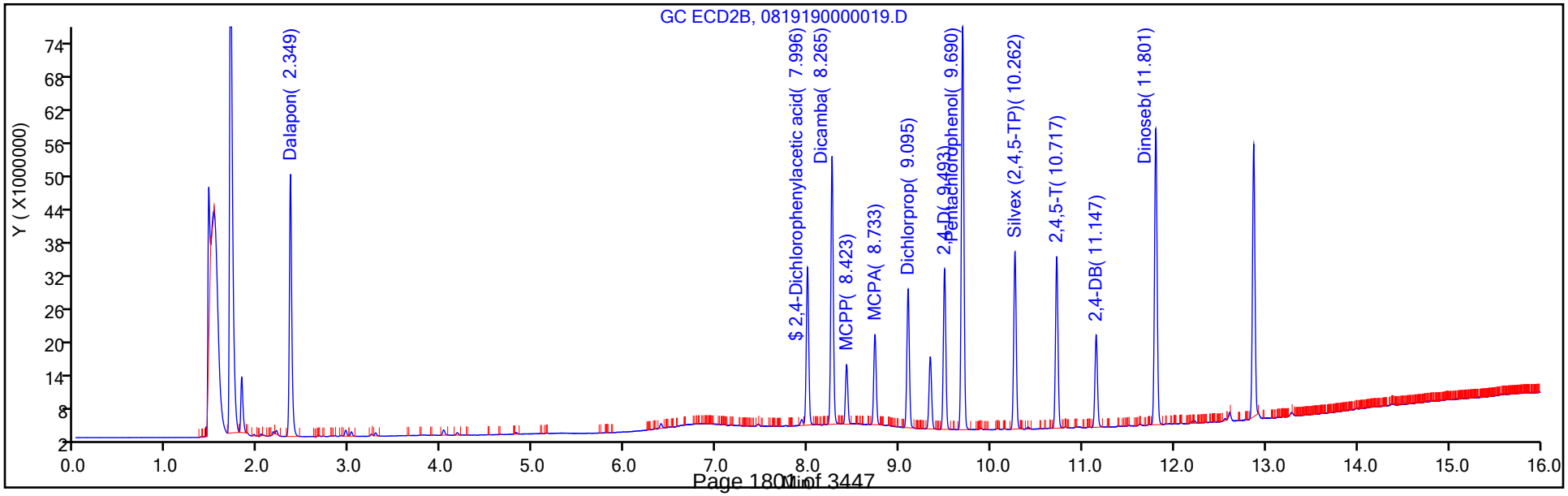

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000020.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 19-Aug-2019 20:44:28 ALS Bottle#: 6 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-007
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:36 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:39:36

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.179	2.179	0.000	43608531H	0.3200	0.2926	
2	2.348	2.348	0.000	99838456H	0.3200	0.2975	
						RPD = 1.65	
$ 2 2,4-Dichlorophenylacetic acid							M
1	8.029	8.030	-0.001	31108696H	0.3200	0.2859	
2	7.995	7.996	-0.001	61366883H	0.3200	0.2909	M
						RPD = 1.75	
3 MCPP							M
1	8.245	8.246	-0.001	11527851H	32.0	29.2	
2	8.423	8.423	0.000	43025874	32.0	31.9	M
						RPD = 8.99	
4 Dicamba							
1	8.327	8.326	0.001	54610812H	0.1600	0.1497	
2	8.264	8.265	-0.001	108308115H	0.1600	0.1544	
						RPD = 3.11	
5 MCPA							M
1	8.667	8.667	0.000	17021609H	32.0	26.5	M
2	8.732	8.732	0.000	34629475H	32.0	28.1	
						RPD = 5.75	
6 Dichlorprop							M
1	8.947	8.947	0.000	27593514H	0.3200	0.2850	M
2	9.094	9.095	-0.001	54016213H	0.3200	0.2913	
						RPD = 2.21	
7 2,4-D							
1	9.439	9.439	0.000	31721217H	0.3200	0.2886	
2	9.493	9.494	-0.001	63139895H	0.3200	0.2909	
						RPD = 0.80	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.968	9.969	-0.001	174313893	0.0800	0.0759	
2	9.690	9.691	-0.001	165194490H	0.0800	0.0770	
						RPD = 1.51	
9 Silvex (2,4,5-TP)							
1	10.123	10.124	-0.001	36187475H	0.0800	0.0739	
2	10.262	10.263	-0.001	69623321H	0.0800	0.0740	
						RPD = 0.15	
10 2,4,5-T							
1	10.672	10.673	-0.001	33557621H	0.0800	0.0724	
2	10.719	10.719	0.000	67021283H	0.0800	0.0739	
						RPD = 2.16	
11 Dinoseb							
1	10.927	10.928	-0.001	57547973H	0.3200	0.2990	
2	11.800	11.800	0.000	118949912H	0.3200	0.3043	
						RPD = 1.77	
12 2,4-DB							
1	11.056	11.056	0.000	18445489H	0.3200	0.2797	
2	11.148	11.149	-0.001	36748566H	0.3200	0.2979	
						RPD = 6.29	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCHERBCALSL5_00024 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:25:37 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000020.D

Injection Date: 19-Aug-2019 20:44:28 Instrument ID: CGC1 Operator ID:

Lims ID: ic Worklist Smp#: 7

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 6

Method: Herbicides_CGC1 Limit Group: GCS 8151A ICAL

Column: RTX-50 (0.53 mm)

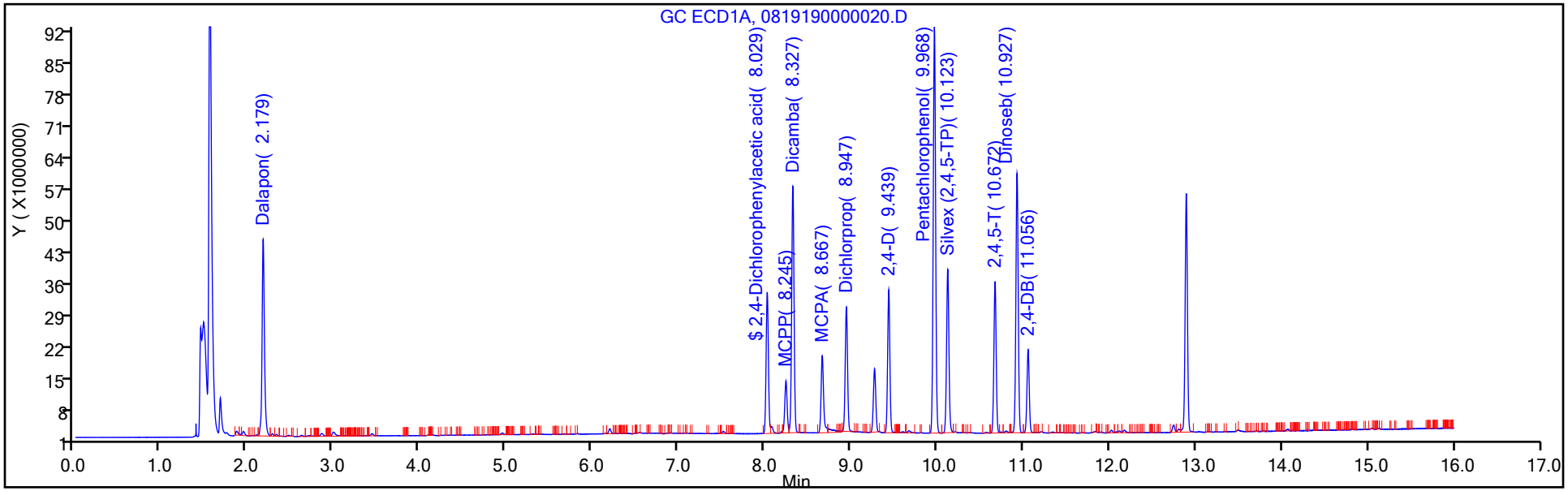

Column: RTX-1701 (0.53 mm)

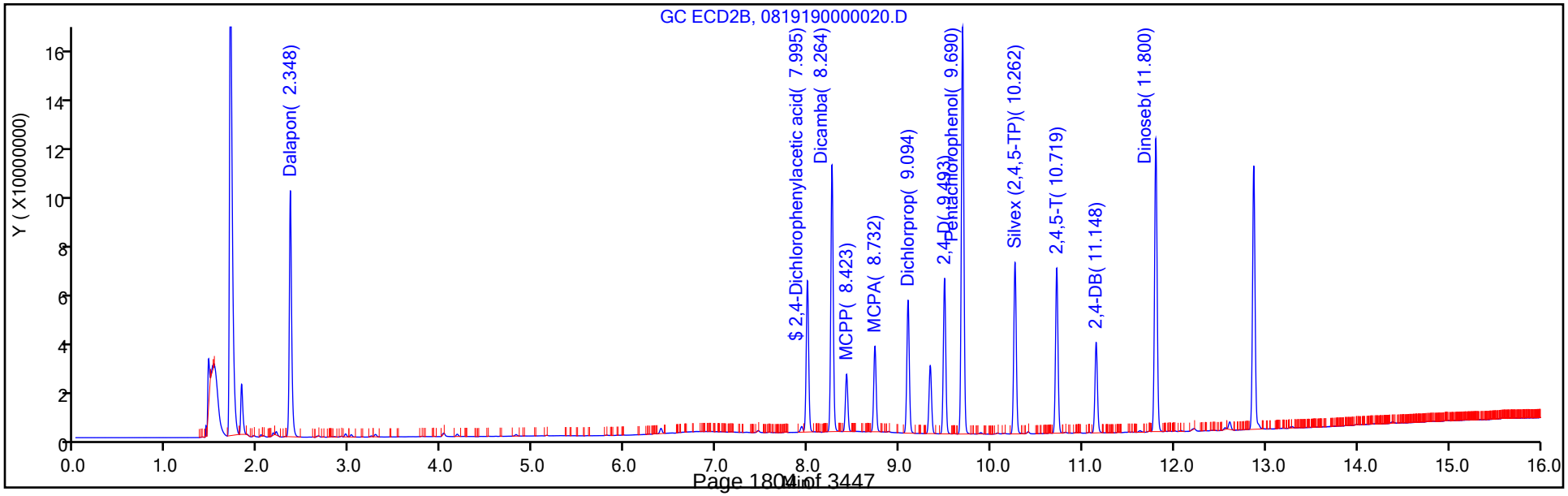

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000020.D				
Injection Date:	19-Aug-2019 20:44:28	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	6	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

5 MCPA, CAS: 94-74-6

Signal: 1

Processing Integration Results

RT: 8.67
Height: 17021582
Amount: 26.541197
Amount Units: ng

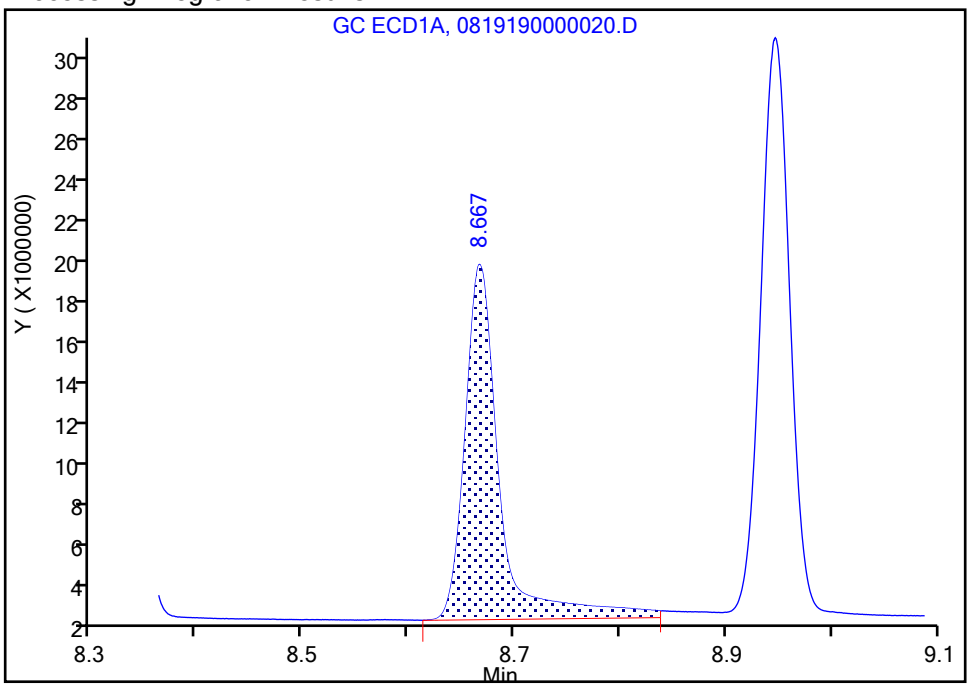

Manual Integration Results

RT: 8.67
Height: 17021609
Amount: 26.541190
Amount Units: ng

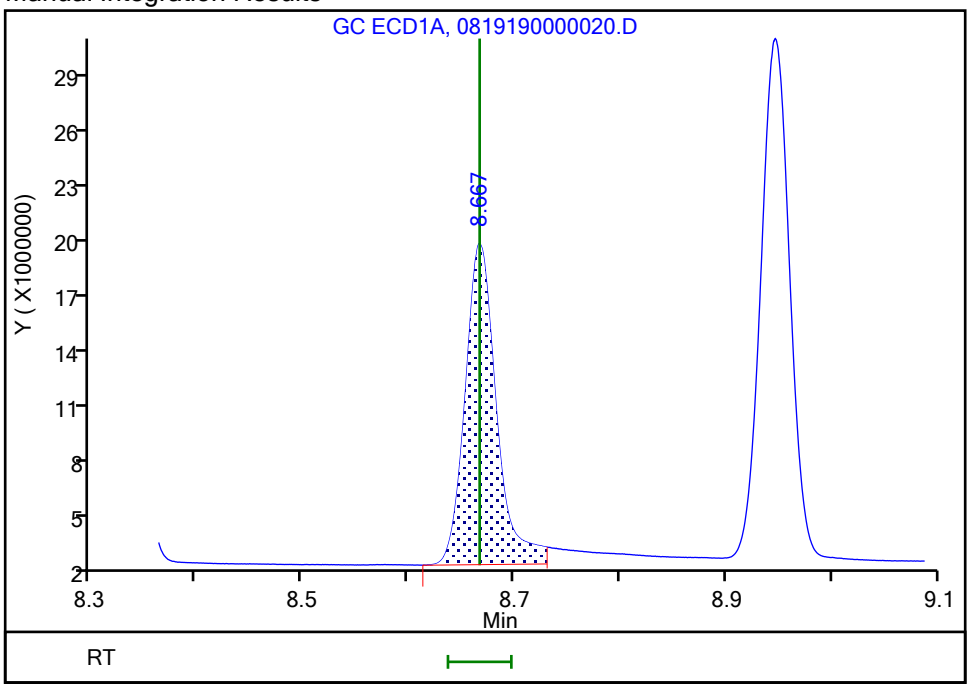

Reviewer: fritschj, 20-Aug-2019 08:39:19

Audit Action: Split an Integrated Peak Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000020.D				
Injection Date:	19-Aug-2019 20:44:28	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	6	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

6 Dichlorprop, CAS: 120-36-5

Signal: 1

Processing Integration Results

RT: 8.95
Height: 27737122
Amount: 0.286286
Amount Units: ng

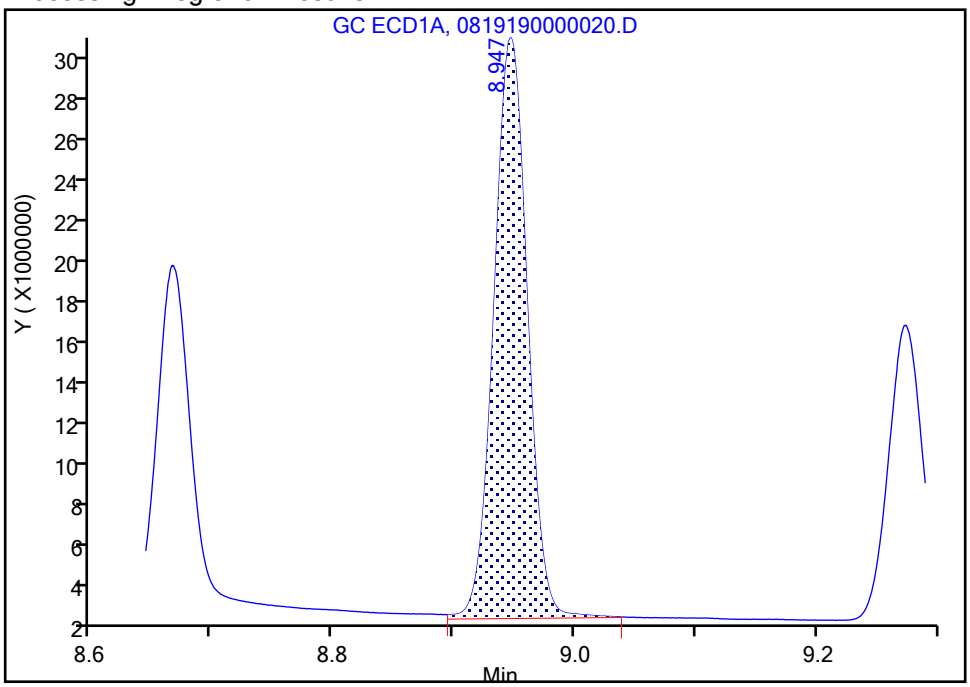

Manual Integration Results

RT: 8.95
Height: 27593514
Amount: 0.284992
Amount Units: ng

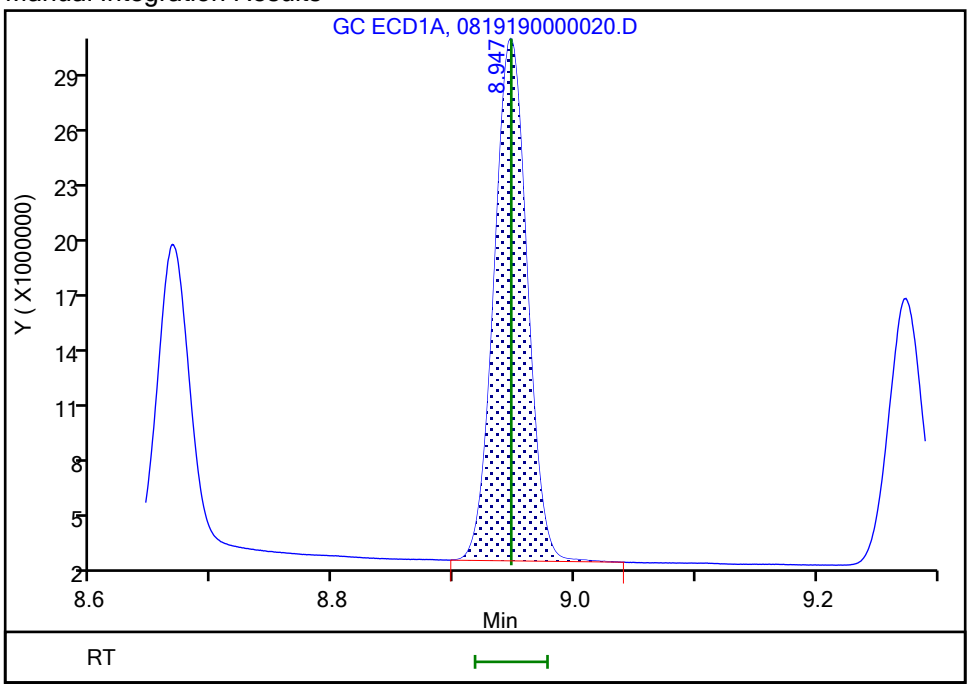

Reviewer: fritschj, 20-Aug-2019 08:39:29

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 19-Aug-2019 21:09:17 ALS Bottle#: 7 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-008
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:30 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:41:54

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.180	2.179	0.001	93323150H	0.6400	0.6261	
2	2.349	2.348	0.001	215136032H	0.6400	0.6410	
						RPD = 2.34	
$ 2 2,4-Dichlorophenylacetic acid							M
1	8.028	8.030	-0.002	81721770H	0.6400	0.7510	
2	7.995	7.996	-0.001	160232905H	0.6400	0.7597	M
						RPD = 1.15	
3 MCPP							M
1	8.246	8.246	0.000	28412748H	64.0	71.9	M
2	8.424	8.423	0.001	105028103	64.0	77.3	M
						RPD = 7.22	
4 Dicamba							
1	8.327	8.326	0.001	147507060H	0.3200	0.4044	
2	8.264	8.265	-0.001	285831491H	0.3200	0.4076	
						RPD = 0.78	
5 MCPA							M
1	8.668	8.667	0.001	42228426H	64.0	65.8	M
2	8.733	8.732	0.001	85179526H	64.0	69.1	
						RPD = 4.89	
6 Dichlorprop							
1	8.946	8.947	-0.001	70413016H	0.6400	0.7272	
2	9.095	9.095	0.000	134112070H	0.6400	0.7234	
						RPD = 0.54	
7 2,4-D							
1	9.439	9.439	0.000	80024495H	0.6400	0.7281	
2	9.492	9.494	-0.002	155353592H	0.6400	0.7158	
						RPD = 1.70	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.969	9.969	0.000	442087354	0.1600	0.1925	
2	9.690	9.691	-0.001	414942166	0.1600	0.1935	H
						RPD = 0.55	
9 Silvex (2,4,5-TP)							
1	10.123	10.124	-0.001	90113505	0.1600	0.1839	H
2	10.261	10.263	-0.002	170145013	0.1600	0.1808	H
						RPD = 1.73	
10 2,4,5-T							
1	10.672	10.673	-0.001	83776615	0.1600	0.1807	H
2	10.717	10.719	-0.002	161521889	0.1600	0.1782	H
						RPD = 1.37	
11 Dinoseb							
1	10.928	10.928	0.000	146632881	0.6400	0.7617	H
2	11.800	11.800	0.000	296590424	0.6400	0.7587	H
						RPD = 0.39	
12 2,4-DB							
1	11.056	11.056	0.000	48229906	0.6400	0.7314	H
2	11.148	11.149	-0.001	92368969	0.6400	0.7488	H
						RPD = 2.34	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCHERBCALSL6_00012 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:25:32 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D				
Injection Date:	19-Aug-2019 21:09:17	Instrument ID:	CGC1	Operator ID:	
Lims ID:	ic			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

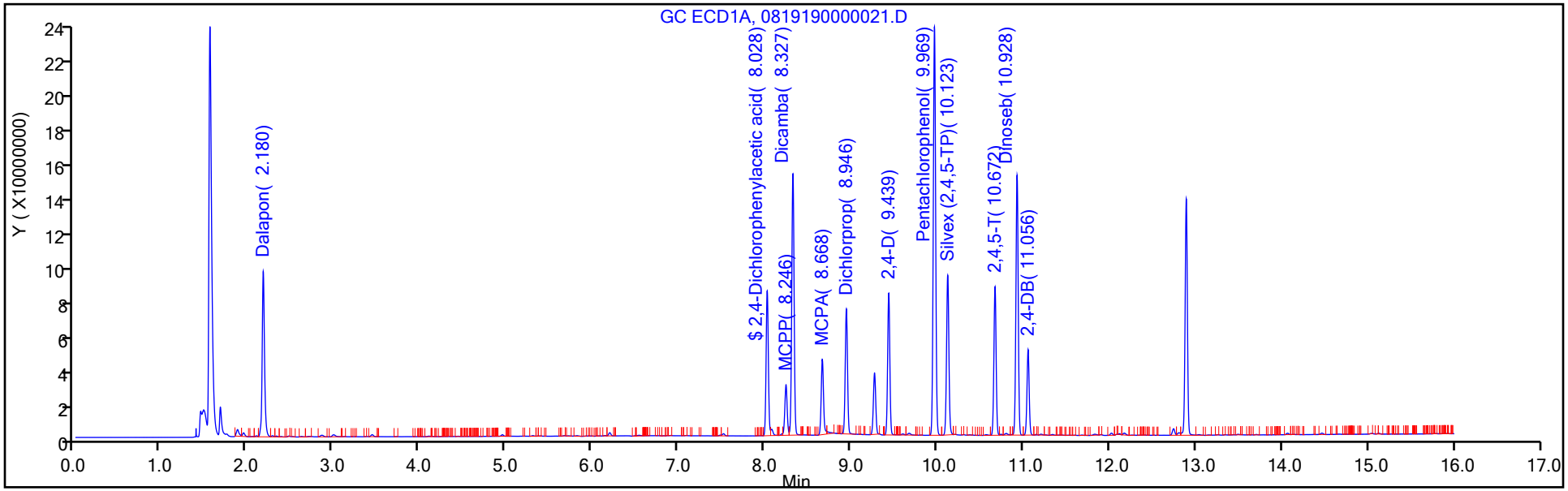

Column: RTX-1701 (0.53 mm)

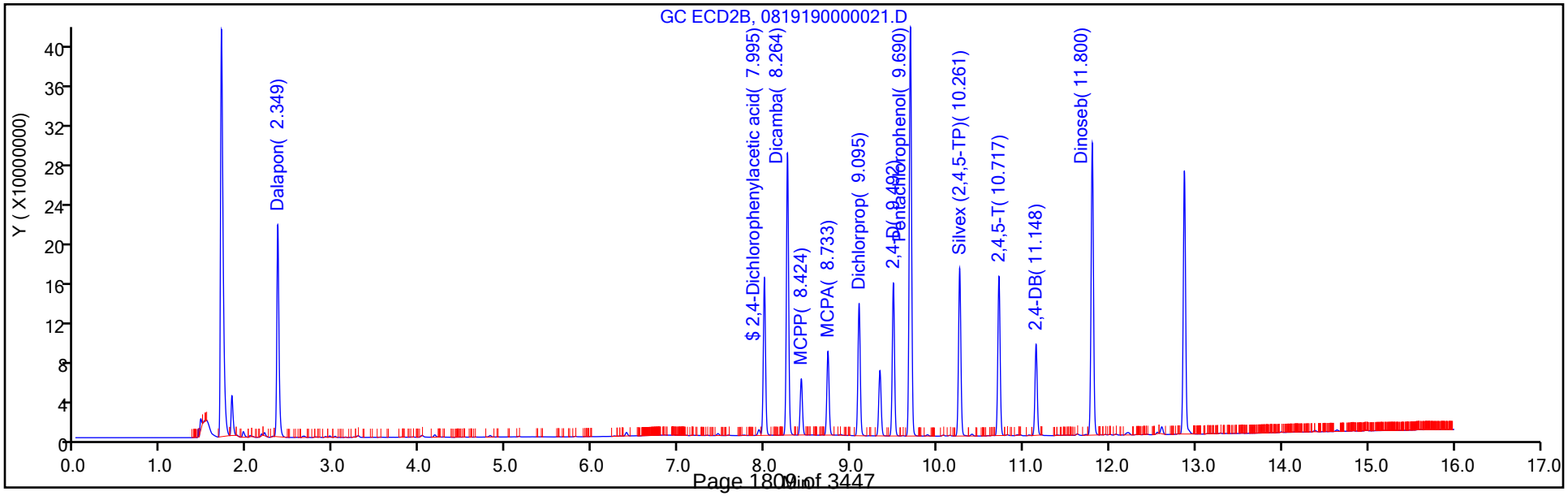

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D				
Injection Date:	19-Aug-2019 21:09:17	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	7	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

3 MCPP, CAS: 93-65-2

Signal: 1

Processing Integration Results

RT: 8.25
Height: 28412713
Amount: 71.893634
Amount Units: ng

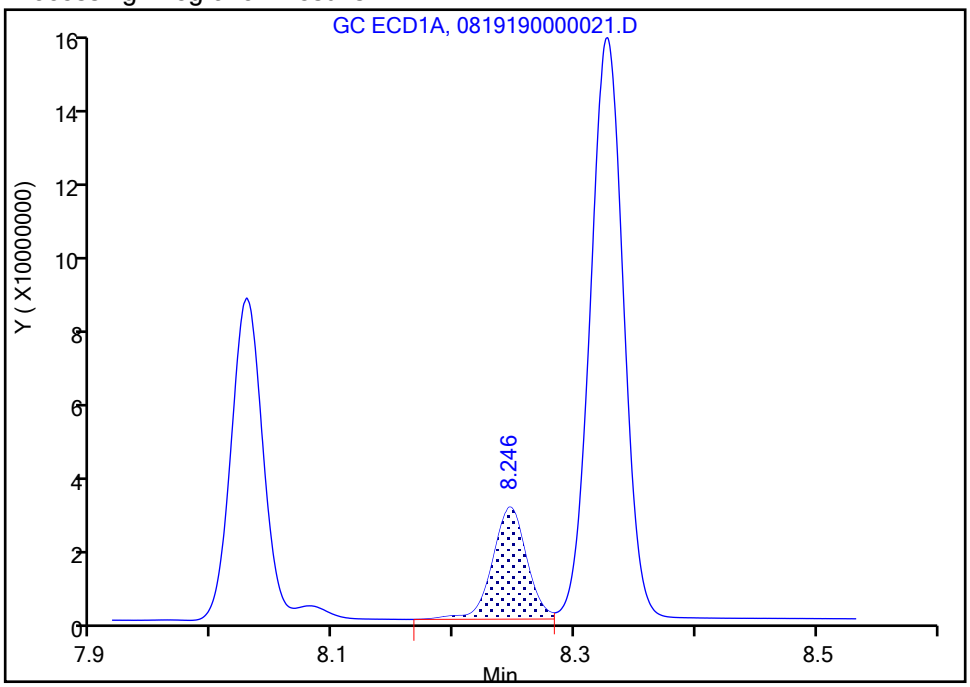

Manual Integration Results

RT: 8.25
Height: 28412748
Amount: 71.893708
Amount Units: ng

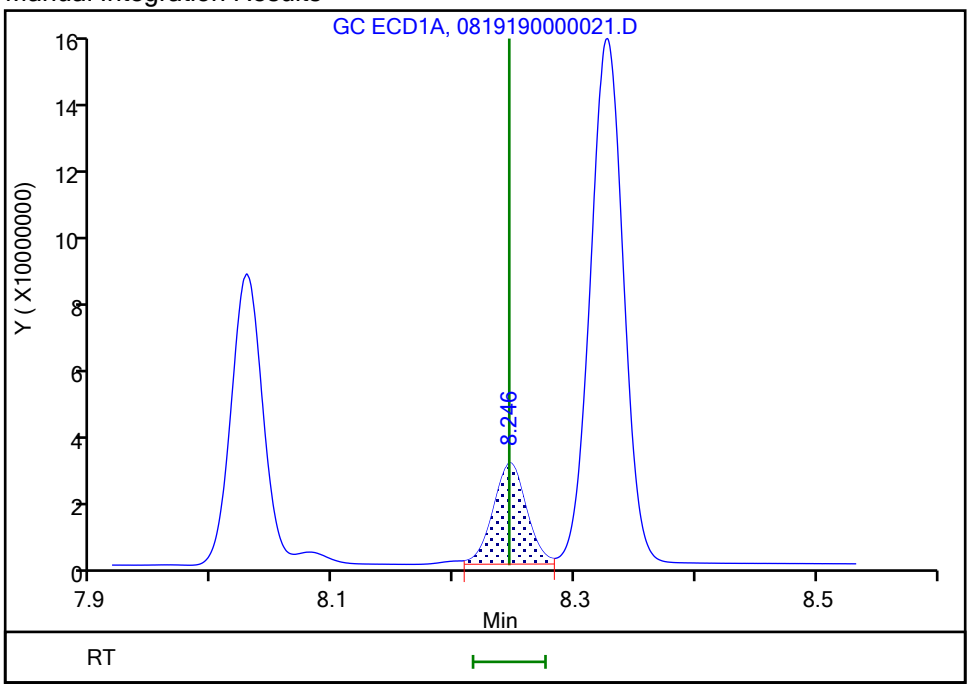

Reviewer: fritschj, 20-Aug-2019 08:40:00

Audit Action: Split an Integrated Peak Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D				
Injection Date:	19-Aug-2019 21:09:17	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	7	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

5 MCPA, CAS: 94-74-6

Signal: 1

Processing Integration Results

RT: 8.67
Height: 42227953
Amount: 65.844656
Amount Units: ng

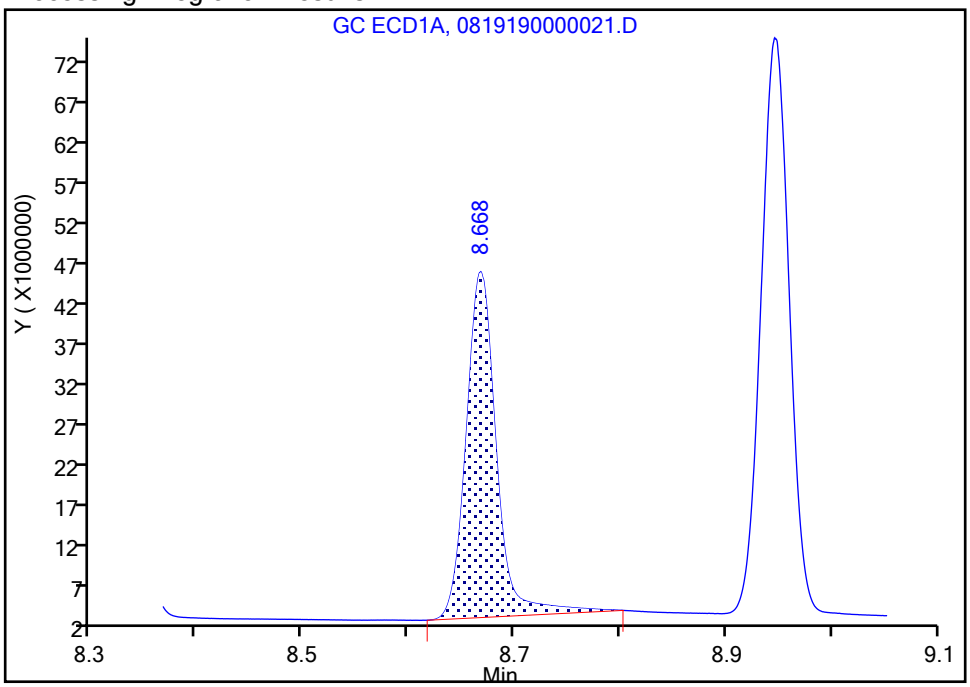

Manual Integration Results

RT: 8.67
Height: 42228426
Amount: 65.845285
Amount Units: ng

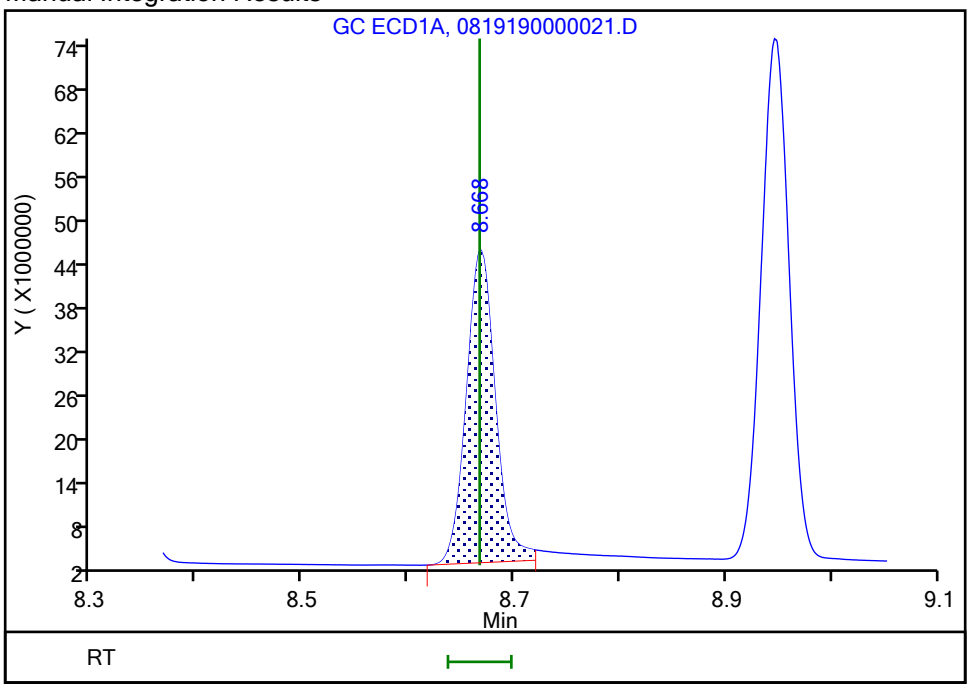

Reviewer: fritschj, 20-Aug-2019 08:40:12

Audit Action: Split an Integrated Peak Audit Reason: Baseline Smoothing

FORM VI
HERBICIDES BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 288571

SDG No.:

Instrument ID: CGC1 GC Column: RTX-1701 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/19/2019 18:39 Calibration End Date: 08/19/2019 21:09 Calibration ID: 41304

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-288571/2	0819190000015.D
Level 2	IC 180-288571/3	0819190000016.D
Level 3	IC 180-288571/4	0819190000017.D
Level 4	ICRT 180-288571/5	0819190000018.D
Level 5	IC 180-288571/6	0819190000019.D
Level 6	IC 180-288571/7	0819190000020.D
Level 7	IC 180-288571/8	0819190000021.D

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7				RT WINDOW	AVG RT
Dalapon	2.351	2.351	2.349	2.348	2.349	2.348	2.349				2.318 - 2.378	2.349
Dicamba	8.266	8.265	8.264	8.265	8.265	8.264	8.264				8.235 - 8.295	8.265
MCPP	8.426	8.423	8.424	8.423	8.423	8.423	+++++				8.393 - 8.453	8.424
MCPA	8.732	8.734	8.733	8.732	8.733	8.732	8.733				8.702 - 8.762	8.733
Dichlorprop	9.097	9.095	9.095	9.095	9.095	9.094	9.095				9.065 - 9.125	9.095
2,4-D	9.495	9.495	9.492	9.494	9.493	9.493	9.492				9.464 - 9.524	9.493
Pentachlorophenol	9.693	9.692	9.691	9.691	9.690	9.690	9.690				9.661 - 9.721	9.691
Silvex (2,4,5-TP)	10.264	10.263	10.263	10.263	10.262	10.262	10.261				10.233 - 10.293	10.263
2,4,5-T	10.720	10.719	10.719	10.719	10.717	10.719	10.717				10.689 - 10.749	10.719
2,4-DB	11.150	11.150	11.150	11.149	11.147	11.148	11.148				11.119 - 11.179	11.149
Dinoseb	11.802	11.801	11.801	11.800	11.801	11.800	11.800				11.770 - 11.830	11.801
2,4-Dichlorophenylacetic acid	7.996	7.997	7.996	7.996	7.996	7.995	7.995				7.966 - 8.026	7.996

FORM VI
HERBICIDES BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 288571

SDG No.:

Instrument ID: CGC1 GC Column: RTX-1701 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/19/2019 18:39 Calibration End Date: 08/19/2019 21:09 Calibration ID: 41304

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-288571/2	0819190000015.D
Level 2	IC 180-288571/3	0819190000016.D
Level 3	IC 180-288571/4	0819190000017.D
Level 4	ICRT 180-288571/5	0819190000018.D
Level 5	IC 180-288571/6	0819190000019.D
Level 6	IC 180-288571/7	0819190000020.D
Level 7	IC 180-288571/8	0819190000021.D

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4		B	M1	M2								
Dalapon	349686700 294427169	381192950 311995175	358430250 336150050	317637825	Ave		335645731				8.9		20.0			
Dicamba	636418200 601606113	757309600 676925719	732685850 893223409	610834975	Ave		701286267				14.7		20.0			
MCPP	702287 1222002	1163406 1344559	1363230 +++++	1233349	Lin2	-595298.44	1366804.23							0.9910		0.9900
MCPA	1239711 1011511	1474668 1082171	1390922 1330930	1093085	Ave		1231856.88				14.2		20.0			
Dichlorprop	184117600 155759431	213445300 168800666	203467500 209550109	162669000	Ave		185401372				12.8		20.0			
2,4-D	216504200 180222988	253597450 197312172	237536475 242739988	191350888	Ave		217037737				13.1		20.0			
Pentachlorophenol	2018954400 1807990900	2388518400 2064931125	2286975300 2593388538	1849605700	Ave		2144337766				13.5		20.0			
Silvex (2,4,5-TP)	918574000 797127125	1085935000 870291513	1030126600 1063406331	823278950	Ave		941248503				12.6		20.0			
2,4,5-T	894359600 769600000	1047666000 837766038	993304400 1009511806	792417800	Ave		906375092				12.3		20.0			
2,4-DB	119082300 103153088	142135100 114839269	134239175 144326514	105746388	Ave		123360262				13.7		20.0			
Dinoseb	373087000 332495825	437755900 371718475	418024350 463422538	339789913	Ave		390899143				12.7		20.0			
2,4-Dichlorophenylacetic acid	202538200 177267975	240635250 191771509	229288500 250363914	184569413	Ave		210919252				13.7		20.0			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HERBICIDES BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 288571

SDG No.:

Instrument ID: CGC1 GC Column: RTX-1701 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/19/2019 18:39 Calibration End Date: 08/19/2019 21:09 Calibration ID: 41304

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-288571/2	0819190000015.D
Level 2	IC 180-288571/3	0819190000016.D
Level 3	IC 180-288571/4	0819190000017.D
Level 4	ICRT 180-288571/5	0819190000018.D
Level 5	IC 180-288571/6	0819190000019.D
Level 6	IC 180-288571/7	0819190000020.D
Level 7	IC 180-288571/8	0819190000021.D

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Dalapon	Ave	3496867 99838456	7623859 215136032	14337210	25411026	47108347	0.0100 0.320	0.0200 0.640	0.0400	0.0800	0.160
Dicamba	Ave	3182091 108308115	7573096 285831491	14653717	24433399	48128489	0.00500 0.160	0.0100 0.320	0.0200	0.0400	0.0800
MCPP	Lin2	702287 43025874	2326811 +++++	5452918	9866795	19552026	1.00 32.0	2.00 +++++	4.00	8.00	16.0
MCPA	Ave	1239711 34629475	2949336 85179526	5563689	8744680	16184172	1.00 32.0	2.00 64.0	4.00	8.00	16.0
Dichlorprop	Ave	1841176 54016213	4268906 134112070	8138700	13013520	24921509	0.0100 0.320	0.0200 0.640	0.0400	0.0800	0.160
2,4-D	Ave	2165042 63139895	5071949 155353592	9501459	15308071	28835678	0.0100 0.320	0.0200 0.640	0.0400	0.0800	0.160
Pentachlorophenol	Ave	5047386 165194490	11942592 414942166	22869753	36992114	72319636	0.00250 0.0800	0.00500 0.160	0.0100	0.0200	0.0400
Silvex (2,4,5-TP)	Ave	2296435 69623321	5429675 170145013	10301266	16465579	31885085	0.00250 0.0800	0.00500 0.160	0.0100	0.0200	0.0400
2,4,5-T	Ave	2235899 67021283	5238330 161521889	9933044	15848356	30784000	0.00250 0.0800	0.00500 0.160	0.0100	0.0200	0.0400
2,4-DB	Ave	1190823 36748566	2842702 92368969	5369567	8459711	16504494	0.0100 0.320	0.0200 0.640	0.0400	0.0800	0.160
Dinoseb	Ave	3730870 118949912	8755118 296590424	16720974	27183193	53199332	0.0100 0.320	0.0200 0.640	0.0400	0.0800	0.160
2,4-Dichlorophenylacetic acid	Ave	2025382 61366883	4812705 160232905	9171540	14765553	28362876	0.0100 0.320	0.0200 0.640	0.0400	0.0800	0.160

Curve Type Legend:

Ave = Average by Height
Lin2 = Linear 1/conc^2

FORM VI
HERBICIDES BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1 Analy Batch No.: 288571

SDG No.:

Instrument ID: CGC1 GC Column: RTX-1701 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/19/2019 18:39 Calibration End Date: 08/19/2019 21:09 Calibration ID: 41304

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-288571/2	0819190000015.D
Level 2	IC 180-288571/3	0819190000016.D
Level 3	IC 180-288571/4	0819190000017.D
Level 4	ICRT 180-288571/5	0819190000018.D
Level 5	IC 180-288571/6	0819190000019.D
Level 6	IC 180-288571/7	0819190000020.D
Level 7	IC 180-288571/8	0819190000021.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
Dalapon	4.2 0.2	13.6	6.8	-5.4	-12.3	-7.0	50 30	30	30	30	30	30
Dicamba	-9.2 27.4	8.0	4.5	-12.9	-14.2	-3.5	50 30	30	30	30	30	30
MCPP	-5.1 +++++	6.9	10.6	-4.3	-7.9	-0.3	50	30	30	30	30	30
MCPA	0.6 8.0	19.7	12.9	-11.3	-17.9	-12.2	50 30	30	30	30	30	30
Dichlorprop	-0.7 13.0	15.1	9.7	-12.3	-16.0	-9.0	50 30	30	30	30	30	30
2,4-D	-0.2 11.8	16.8	9.4	-11.8	-17.0	-9.1	50 30	30	30	30	30	30
Pentachlorophenol	-5.8 20.9	11.4	6.7	-13.7	-15.7	-3.7	50 30	30	30	30	30	30
Silvex (2,4,5-TP)	-2.4 13.0	15.4	9.4	-12.5	-15.3	-7.5	50 30	30	30	30	30	30
2,4,5-T	-1.3 11.4	15.6	9.6	-12.6	-15.1	-7.6	50 30	30	30	30	30	30
2,4-DB	-3.5 17.0	15.2	8.8	-14.3	-16.4	-6.9	50 30	30	30	30	30	30
Dinoseb	-4.6 18.6	12.0	6.9	-13.1	-14.9	-4.9	50 30	30	30	30	30	30
2,4-Dichlorophenylacetic acid	-4.0 18.7	14.1	8.7	-12.5	-16.0	-9.1	50 30	30	30	30	30	30

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000015.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 19-Aug-2019 18:39:37 ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-002
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:59 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:30:51

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.180	2.179	0.001	1602866H	0.0100	0.0108	
2	2.351	2.348	0.003	3496867H	0.0100	0.0104	
						RPD = 3.17	
$ 2 2,4-Dichlorophenylacetic acid							M
1	8.031	8.030	0.001	1068517H	0.0100	0.009820	M
2	7.996	7.996	0.000	2025382H	0.0100	0.009603	M
						RPD = 2.24	
3 MCPP							M
1	8.246	8.246	0.000	341535H	1.00	0.8642	
2	8.426	8.423	0.003	702287	1.00	0.9494	M
						RPD = 9.39	
4 Dicamba							
1	8.328	8.326	0.002	1781061H	0.005000	0.004883	
2	8.266	8.265	0.001	3182091H	0.005000	0.004538	
						RPD = 7.33	
5 MCPA							M
1	8.668	8.667	0.001	727075H	1.00	1.13	M
2	8.732	8.732	0.000	1239711H	1.00	1.01	M
						RPD = 11.90	
6 Dichlorprop							
1	8.949	8.947	0.002	1021137H	0.0100	0.0105	
2	9.097	9.095	0.002	1841176H	0.0100	0.0099	
						RPD = 6.01	
7 2,4-D							
1	9.440	9.439	0.001	1161532H	0.0100	0.0106	
2	9.495	9.494	0.001	2165042H	0.0100	0.0100	
						RPD = 5.77	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.970	9.969	0.001	5602498	0.002500	0.002439	
2	9.693	9.691	0.002	5047386H	0.002500	0.002354	
						RPD = 3.55	
9 Silvex (2,4,5-TP)							
1	10.124	10.124	0.000	1249137H	0.002500	0.002550	
2	10.264	10.263	0.001	2296435H	0.002500	0.002440	
						RPD = 4.40	
10 2,4,5-T							
1	10.673	10.673	0.000	1203971H	0.002500	0.002596	
2	10.720	10.719	0.001	2235899H	0.002500	0.002467	
						RPD = 5.11	
11 Dinoseb							M
1	10.928	10.928	0.000	1971262H	0.0100	0.0102	
2	11.802	11.800	0.002	3730870H	0.0100	0.009544	M
						RPD = 7.04	
12 2,4-DB							M
1	11.057	11.056	0.001	718887H	0.0100	0.0109	
2	11.150	11.149	0.001	1190823H	0.0100	0.009653	M
						RPD = 12.15	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCHERBCALSL7_00011 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:26:01 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000015.D

Injection Date: 19-Aug-2019 18:39:37 Instrument ID: CGC1 Operator ID:

Lims ID: ic Worklist Smp#: 2

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 1

Method: Herbicides_CGC1 Limit Group: GCS 8151A ICAL

Column: RTX-50 (0.53 mm)

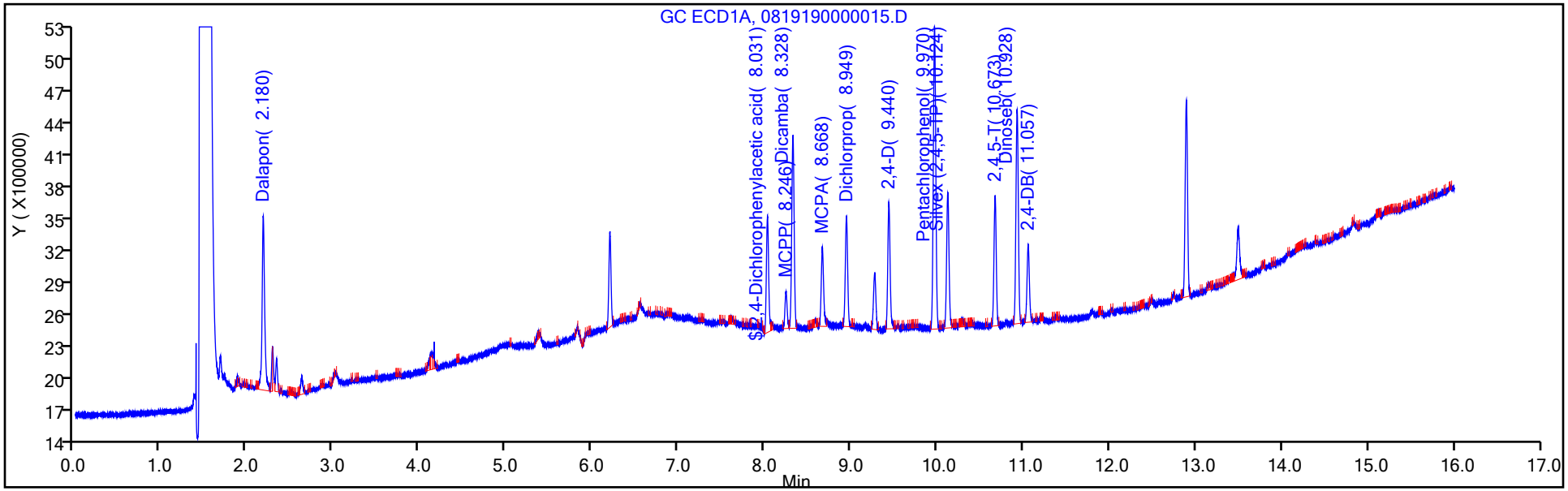

Column: RTX-1701 (0.53 mm)

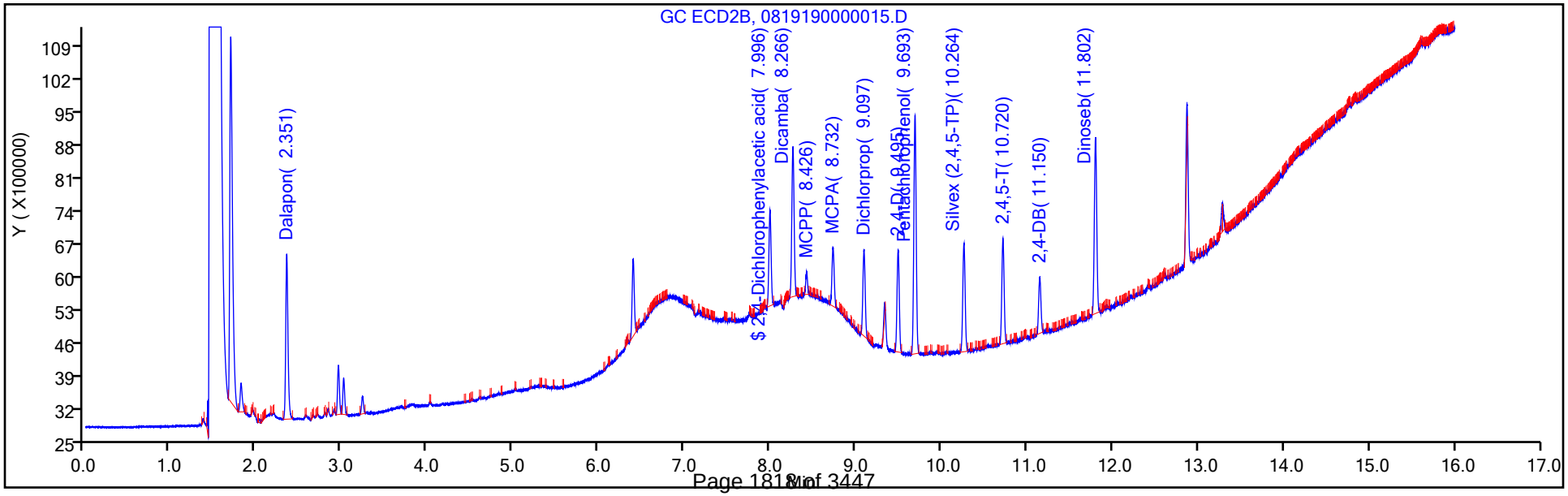

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000015.D				
Injection Date:	19-Aug-2019 18:39:37	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

$ 2 2,4-Dichlorophenylacetic acid, CAS: 19719-28-9

Signal: 2

Processing Integration Results

RT: 8.00
Height: 2033369
Amount: 0.011853
Amount Units: ng

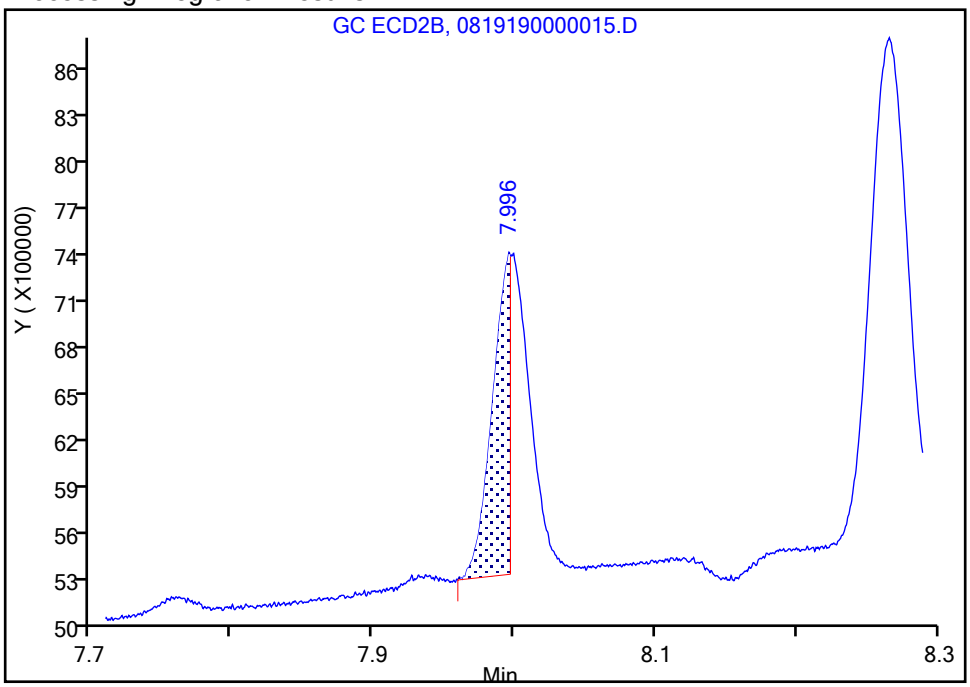

Manual Integration Results

RT: 8.00
Height: 2025382
Amount: 0.009603
Amount Units: ng

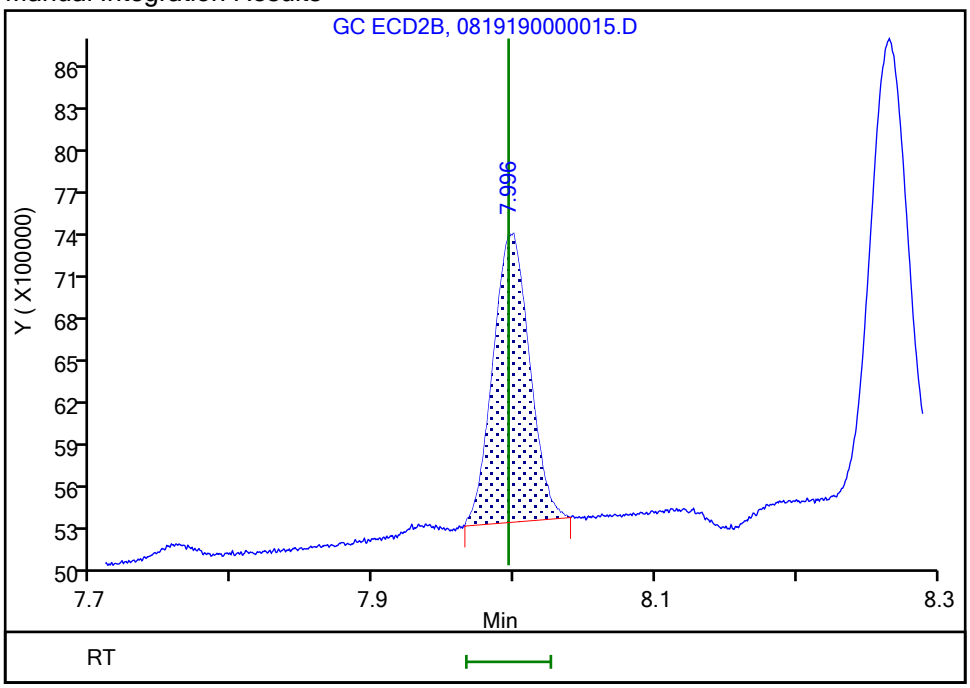

Reviewer: fritschj, 20-Aug-2019 08:28:30

Audit Action: Manually Integrated Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000015.D				
Injection Date:	19-Aug-2019 18:39:37	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

3 MCPP, CAS: 93-65-2

Signal: 2

Processing Integration Results

RT: 8.42
Area: 148086
Amount: 0.346453
Amount Units: ng

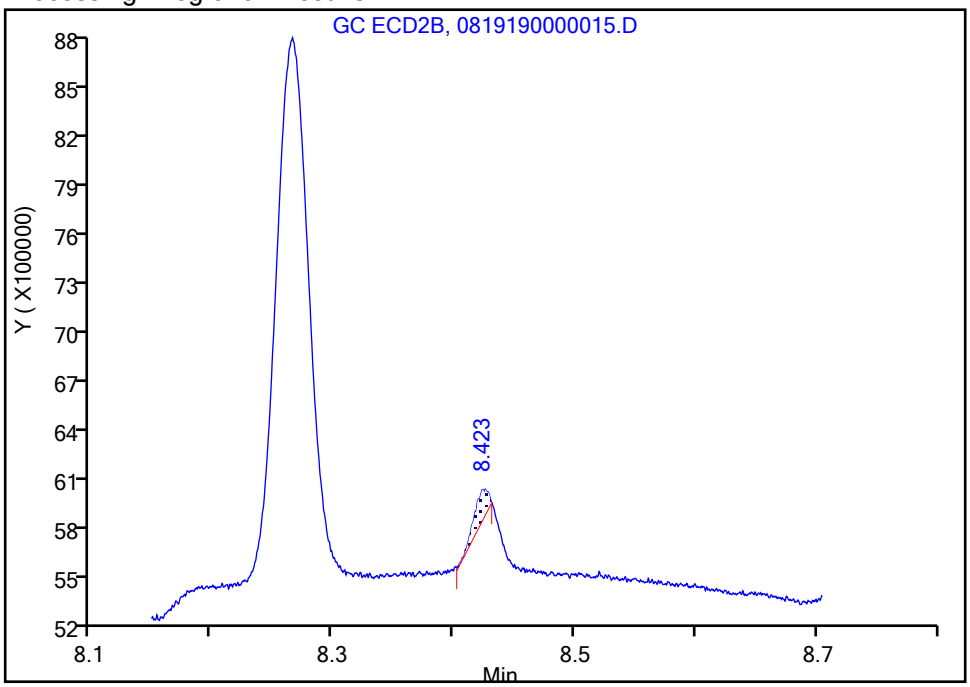

Manual Integration Results

RT: 8.43
Area: 702287
Amount: 0.949357
Amount Units: ng

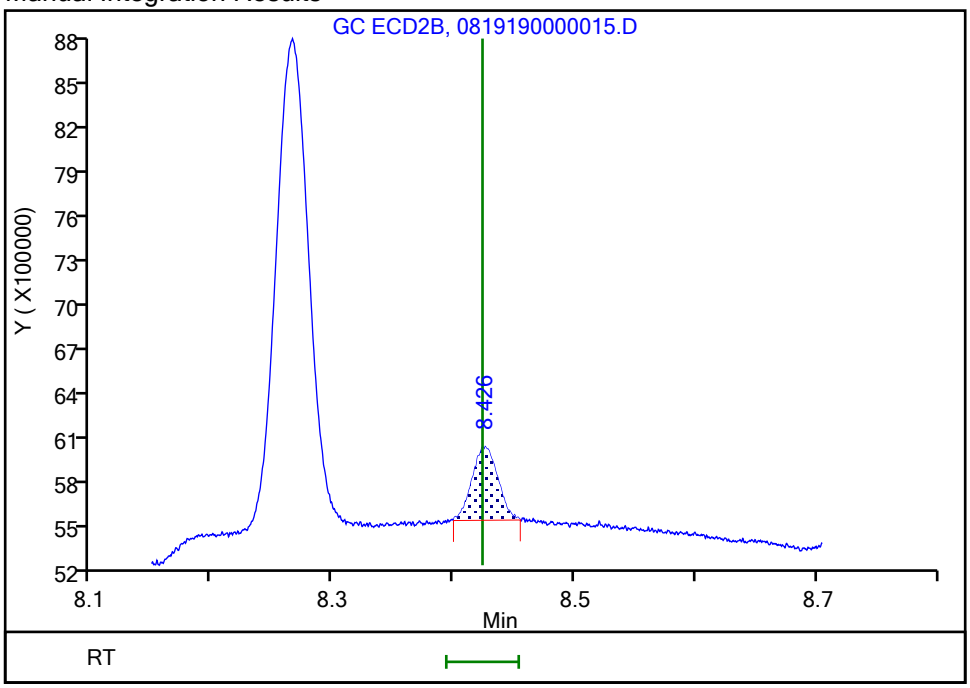

Reviewer: fritschj, 20-Aug-2019 08:28:56

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000015.D				
Injection Date:	19-Aug-2019 18:39:37	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

5 MCPA, CAS: 94-74-6

Signal: 2

Processing Integration Results

RT: 8.74
Height: 1224181
Amount: 0.804941
Amount Units: ng

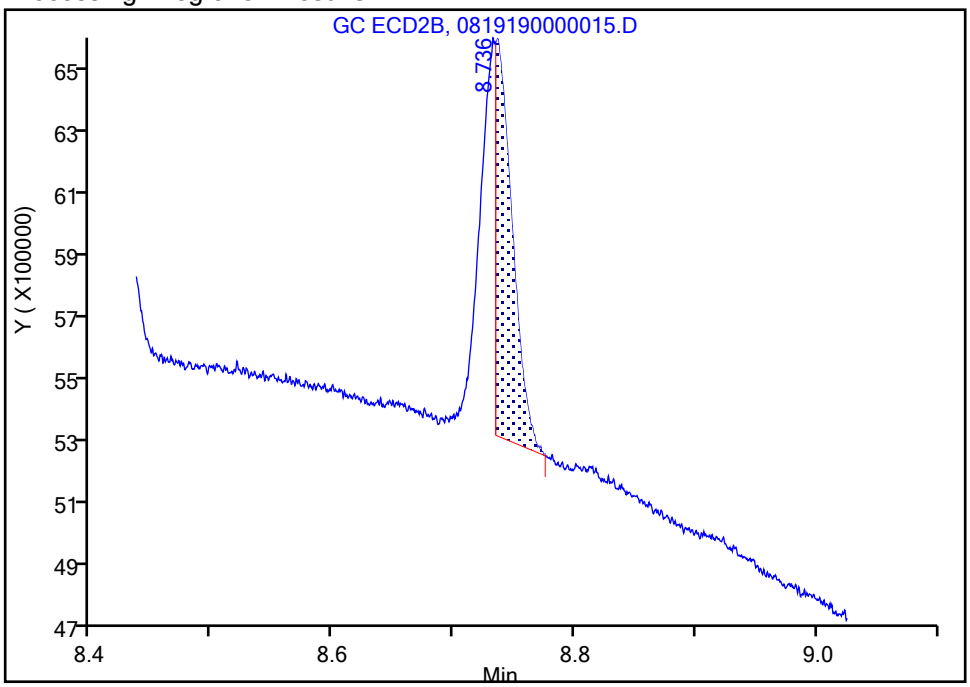

Manual Integration Results

RT: 8.73
Height: 1239711
Amount: 1.006376
Amount Units: ng

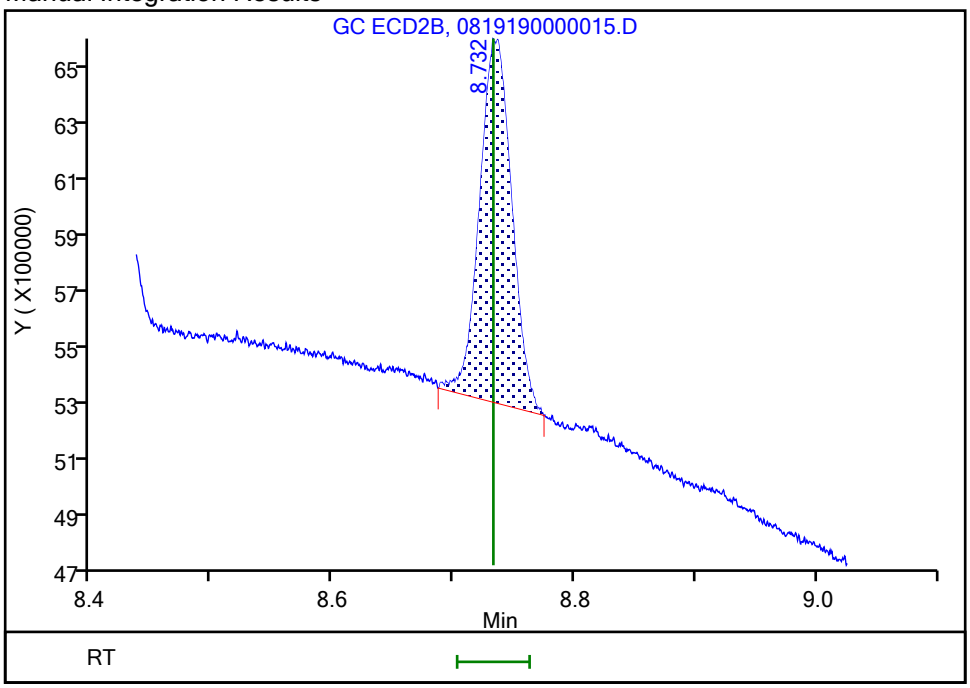

Reviewer: fritschj, 20-Aug-2019 08:29:08

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000015.D				
Injection Date:	19-Aug-2019 18:39:37	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

12 2,4-DB, CAS: 94-82-6

Signal: 2

Processing Integration Results

RT: 11.15
Height: 330938
Amount: 0.518941
Amount Units: ng

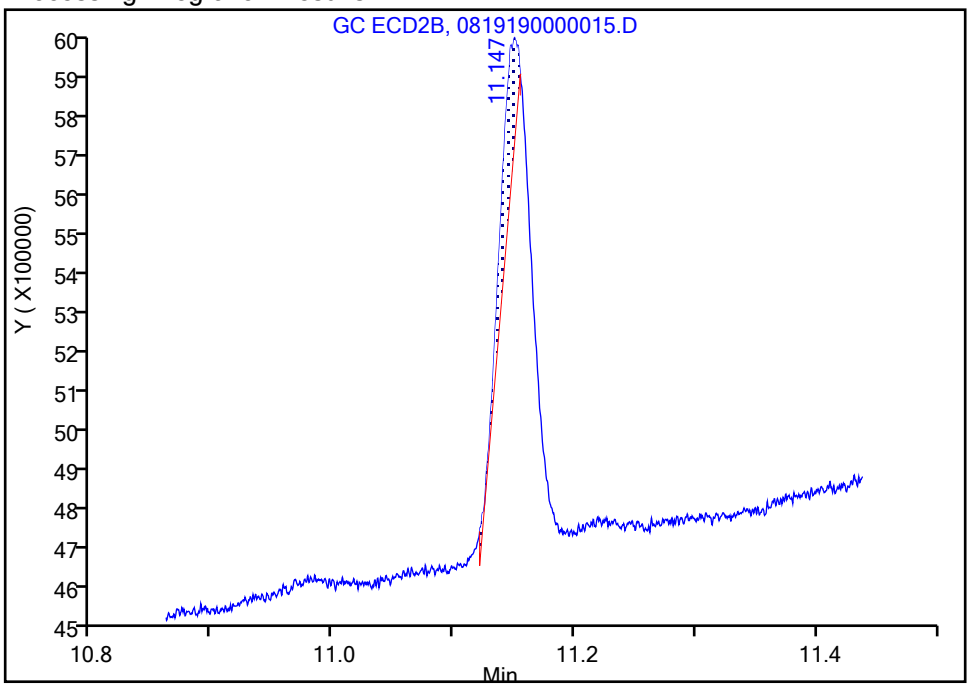

Manual Integration Results

RT: 11.15
Height: 1190823
Amount: 0.009653
Amount Units: ng

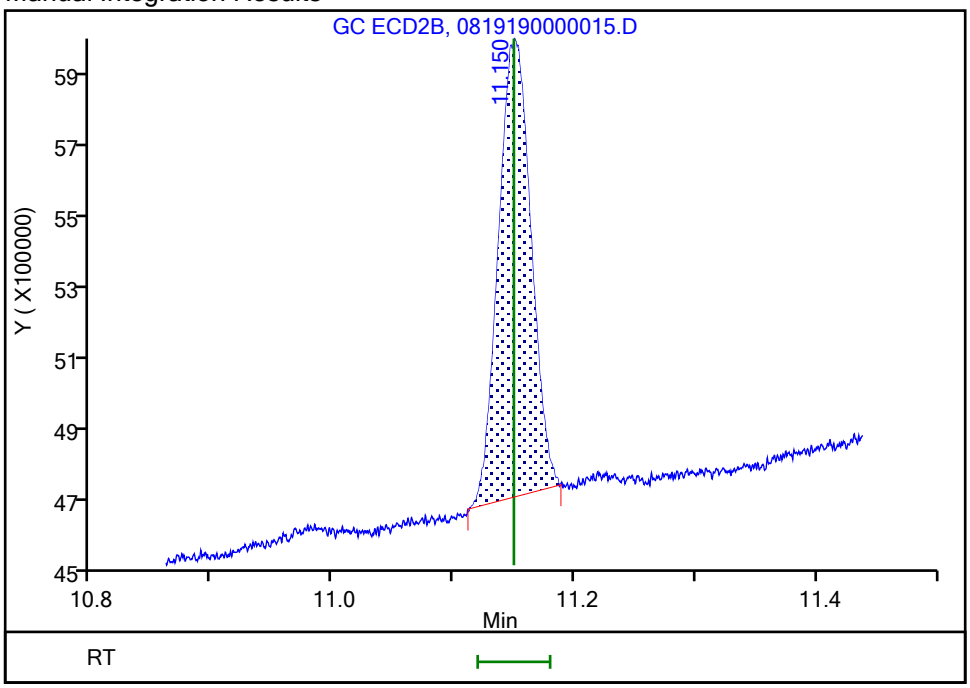

Reviewer: fritschj, 20-Aug-2019 08:30:49

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000015.D				
Injection Date:	19-Aug-2019 18:39:37	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

11 Dinoseb, CAS: 88-85-7

Signal: 2

Processing Integration Results

RT: 11.80
Height: 1022056
Amount: 0.005511
Amount Units: ng

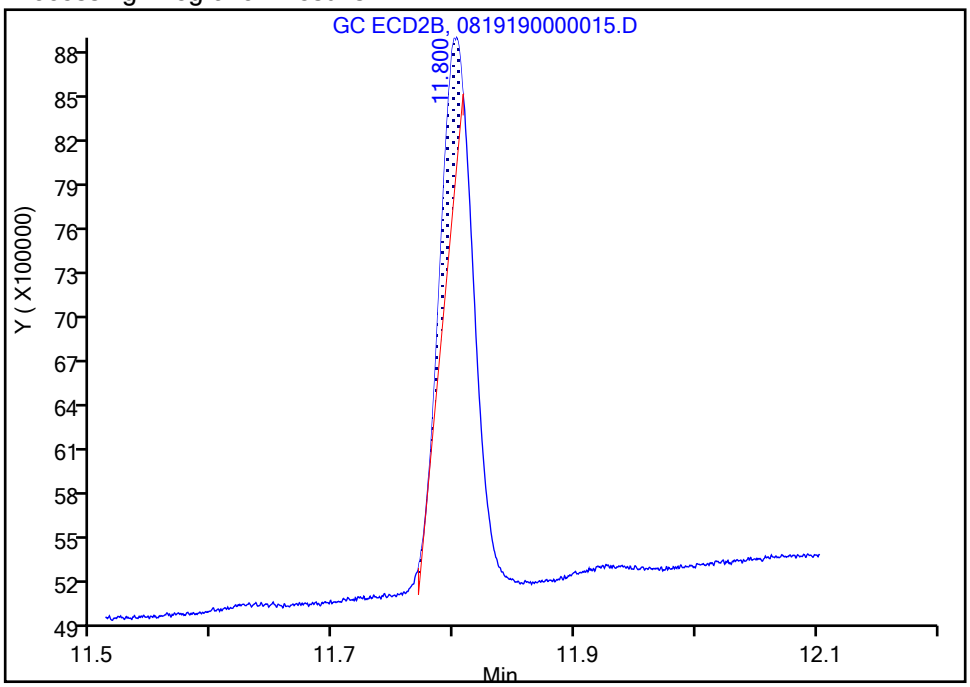

Manual Integration Results

RT: 11.80
Height: 3730870
Amount: 0.009544
Amount Units: ng

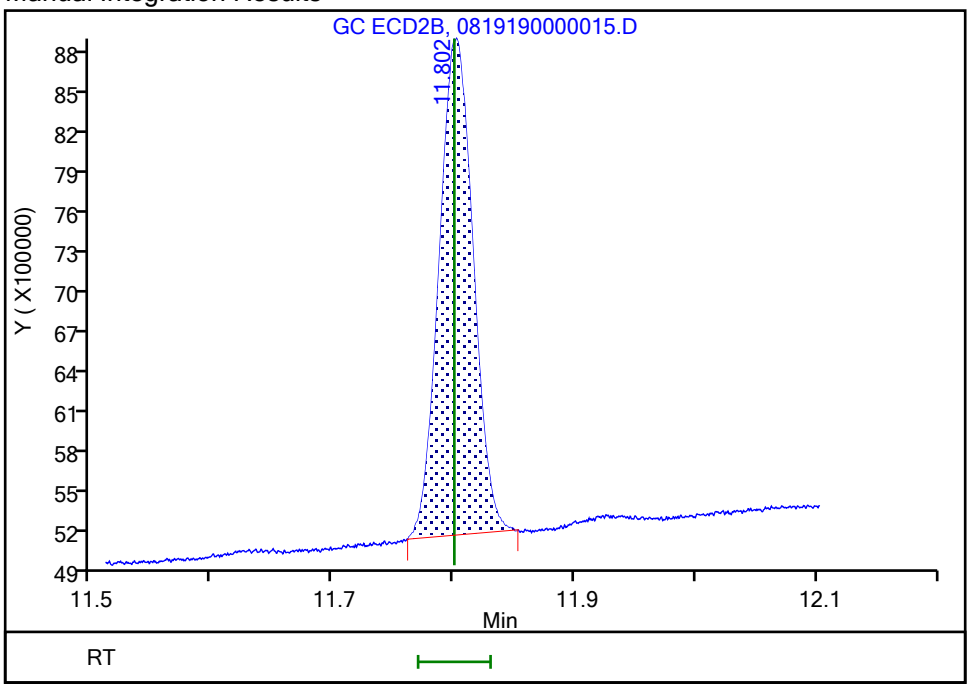

Reviewer: fritschj, 20-Aug-2019 08:30:41

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000016.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 19-Aug-2019 19:04:40 ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-003
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:54 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:33:13

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.180	2.179	0.001	3418078H	0.0200	0.0229	
2	2.351	2.348	0.003	7623859H	0.0200	0.0227	
						RPD = 0.96	
$ 2 2,4-Dichlorophenylacetic acid							M
1	8.030	8.030	0.000	2508937H	0.0200	0.0231	M
2	7.997	7.996	0.001	4812705H	0.0200	0.0228	M
						RPD = 1.04	
3 MCPP							M
1	8.247	8.246	0.001	910995H	2.00	2.31	
2	8.423	8.423	0.000	2326811	2.00	2.14	M
						RPD = 7.53	
4 Dicamba							
1	8.325	8.326	-0.001	4004694H	0.0100	0.0110	
2	8.265	8.265	0.000	7573096H	0.0100	0.0108	
						RPD = 1.66	
5 MCPA							
1	8.668	8.667	0.001	1594916H	2.00	2.49	
2	8.734	8.732	0.002	2949336H	2.00	2.39	
						RPD = 3.80	
6 Dichlorprop							
1	8.947	8.947	0.000	2234251H	0.0200	0.0231	
2	9.095	9.095	0.000	4268906H	0.0200	0.0230	
						RPD = 0.22	
7 2,4-D							
1	9.440	9.439	0.001	2582761H	0.0200	0.0235	
2	9.495	9.494	0.001	5071949H	0.0200	0.0234	
						RPD = 0.55	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.969	9.969	0.000	12922968	0.005000	0.005626	
2	9.692	9.691	0.001	11942592H	0.005000	0.005569	
						RPD = 1.01	
9 Silvex (2,4,5-TP)							
1	10.123	10.124	-0.001	2832937H	0.005000	0.005782	
2	10.263	10.263	0.000	5429675H	0.005000	0.005769	
						RPD = 0.24	
10 2,4,5-T							
1	10.672	10.673	-0.001	2719387H	0.005000	0.005864	
2	10.719	10.719	0.000	5238330H	0.005000	0.005779	
						RPD = 1.46	
11 Dinoseb							
1	10.928	10.928	0.000	4391182H	0.0200	0.0228	
2	11.801	11.800	0.001	8755118H	0.0200	0.0224	
						RPD = 1.83	
12 2,4-DB							
1	11.056	11.056	0.000	1573400H	0.0200	0.0239	
2	11.150	11.149	0.001	2842702H	0.0200	0.0230	
						RPD = 3.48	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCHERBCALSL1_00027 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:25:56 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000016.D				
Injection Date:	19-Aug-2019 19:04:40	Instrument ID:	CGC1	Operator ID:	
Lims ID:	ic			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

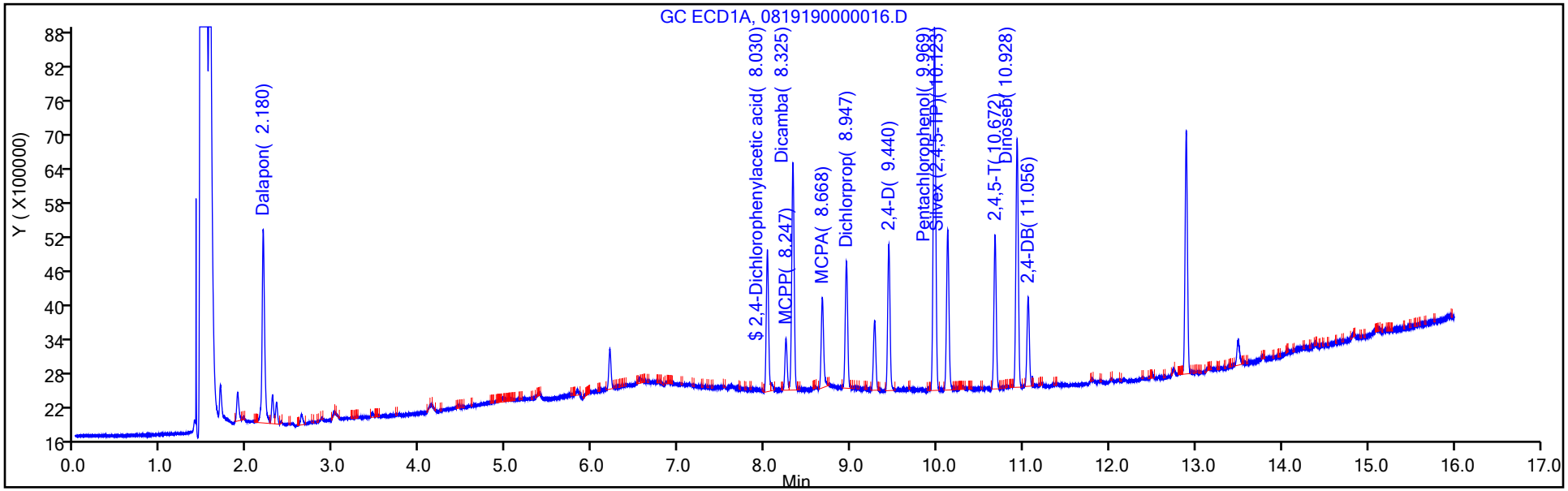

Column: RTX-1701 (0.53 mm)

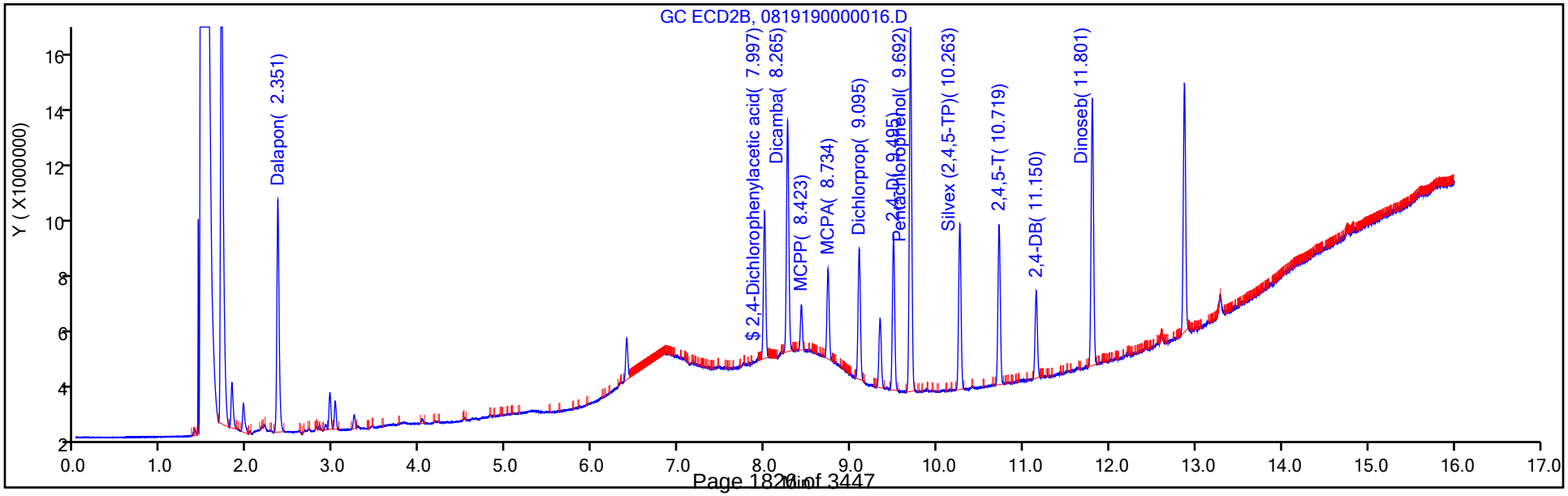

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000016.D				
Injection Date:	19-Aug-2019 19:04:40	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

$ 2 2,4-Dichlorophenylacetic acid, CAS: 19719-28-9

Signal: 2

Processing Integration Results

RT: 8.00
Height: 4807379
Amount: 0.028048
Amount Units: ng

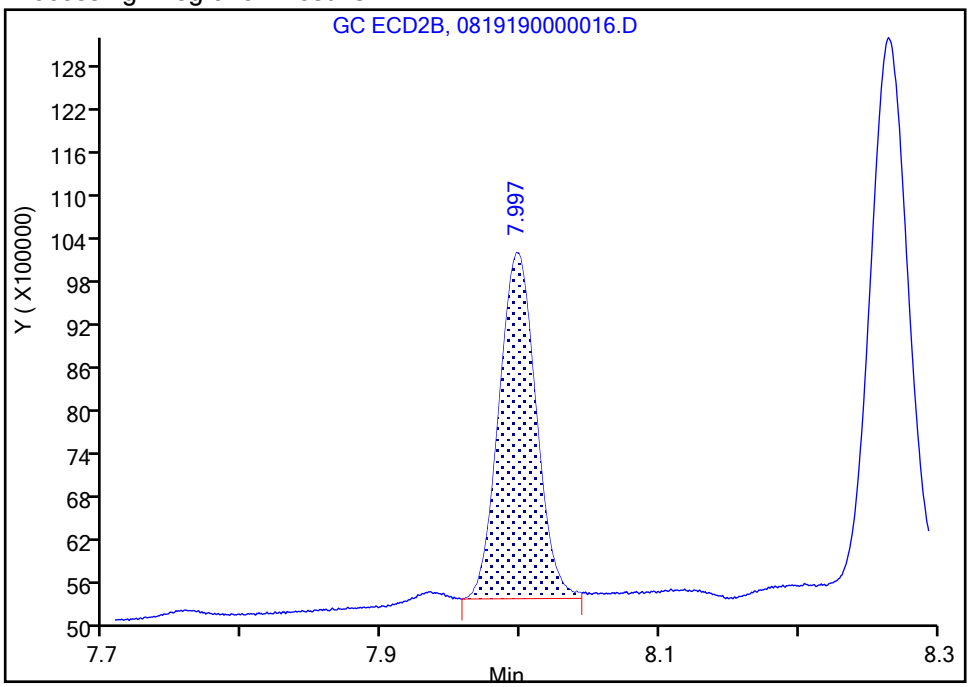

Manual Integration Results

RT: 8.00
Height: 4812705
Amount: 0.022818
Amount Units: ng

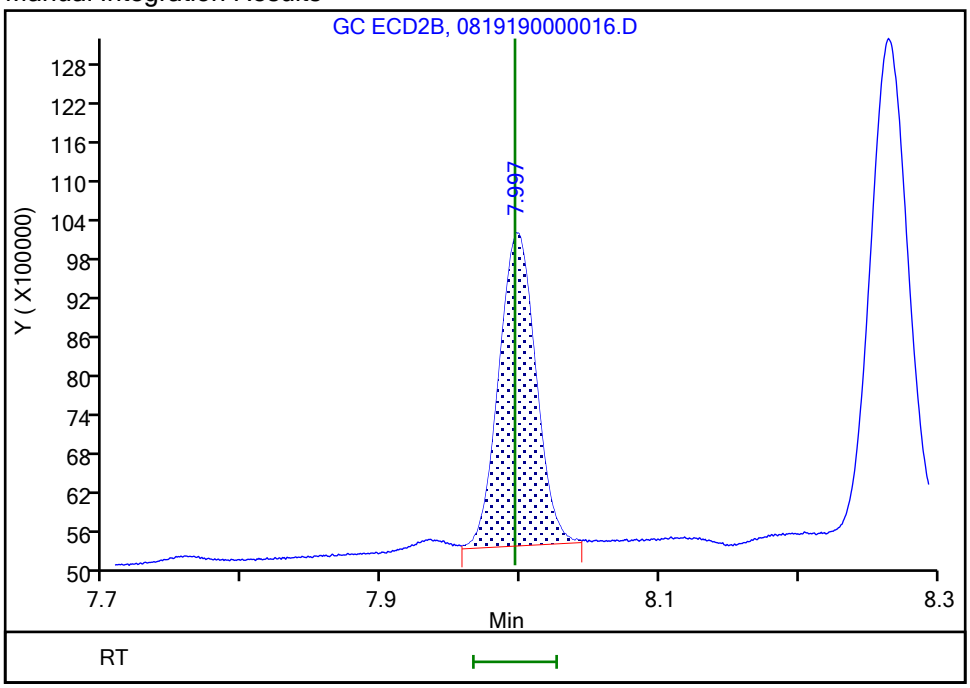

Reviewer: fritschj, 20-Aug-2019 08:32:49

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000016.D				
Injection Date:	19-Aug-2019 19:04:40	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

3 MCPP, CAS: 93-65-2

Signal: 2

Processing Integration Results

RT: 8.42
Area: 530884
Amount: 1.047922
Amount Units: ng

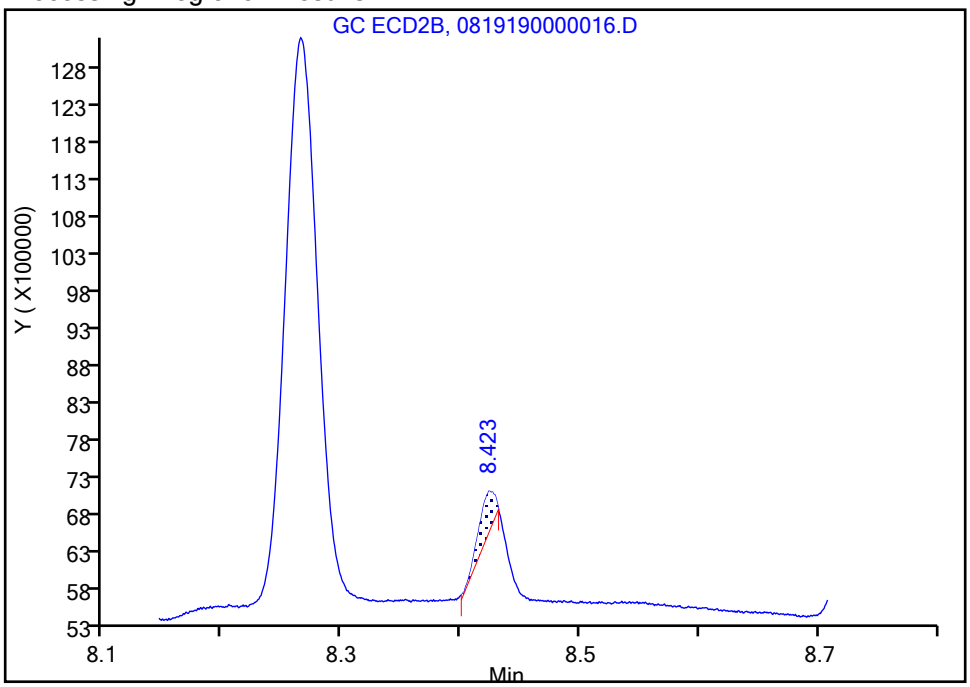

Manual Integration Results

RT: 8.42
Area: 2326811
Amount: 2.137914
Amount Units: ng

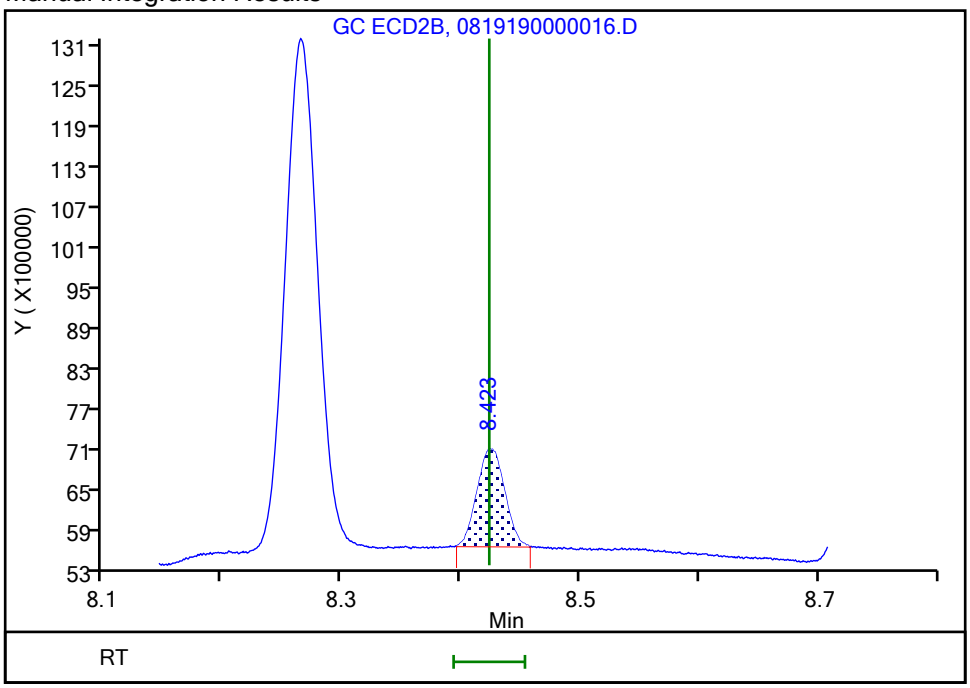

Reviewer: fritschj, 20-Aug-2019 08:33:00

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000017.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 19-Aug-2019 19:29:38 ALS Bottle#: 3 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-004
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:51 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:33:38

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.180	2.179	0.001	6332062H	0.0400	0.0425	
2	2.349	2.348	0.001	14337210H	0.0400	0.0427	
						RPD = 0.54	
$ 2 2,4-Dichlorophenylacetic acid							
1	8.030	8.030	0.000	4713434H	0.0400	0.0433	
2	7.996	7.996	0.000	9171540H	0.0400	0.0435	
						RPD = 0.38	
3 MCPP							
1	8.245	8.246	-0.001	1791894H	4.00	4.53	
2	8.424	8.423	0.001	5452918	4.00	4.43	
						RPD = 2.43	
4 Dicamba							
1	8.325	8.326	-0.001	7576276H	0.0200	0.0208	
2	8.264	8.265	-0.001	14653717H	0.0200	0.0209	
						RPD = 0.60	
5 MCPA							
1	8.667	8.667	0.000	2851165H	4.00	4.45	
2	8.733	8.732	0.001	5563689H	4.00	4.52	
						RPD = 1.58	
6 Dichlorprop							
1	8.946	8.947	-0.001	4193107H	0.0400	0.0433	
2	9.095	9.095	0.000	8138700H	0.0400	0.0439	
						RPD = 1.35	
7 2,4-D							
1	9.440	9.439	0.001	4738312H	0.0400	0.0431	
2	9.492	9.494	-0.002	9501459H	0.0400	0.0438	
						RPD = 1.54	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.970	9.969	0.001	24346174	0.0100	0.0106	
2	9.691	9.691	0.000	22869753H	0.0100	0.0107	
						RPD = 0.63	
9 Silvex (2,4,5-TP)							
1	10.124	10.124	0.000	5269266H	0.0100	0.0108	
2	10.263	10.263	0.000	10301266H	0.0100	0.0109	
						RPD = 1.74	
10 2,4,5-T							
1	10.673	10.673	0.000	5003210H	0.0100	0.0108	
2	10.719	10.719	0.000	9933044H	0.0100	0.0110	
						RPD = 1.56	
11 Dinoseb							
1	10.928	10.928	0.000	8122045H	0.0400	0.0422	
2	11.801	11.800	0.001	16720974H	0.0400	0.0428	
						RPD = 1.37	
12 2,4-DB							
1	11.056	11.056	0.000	2816514H	0.0400	0.0427	
2	11.150	11.149	0.001	5369567H	0.0400	0.0435	
						RPD = 1.89	

Reagents:

GCHERBCALSL2_00024 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:25:52 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000017.D				
Injection Date:	19-Aug-2019 19:29:38	Instrument ID:	CGC1	Operator ID:	
Lims ID:	ic			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

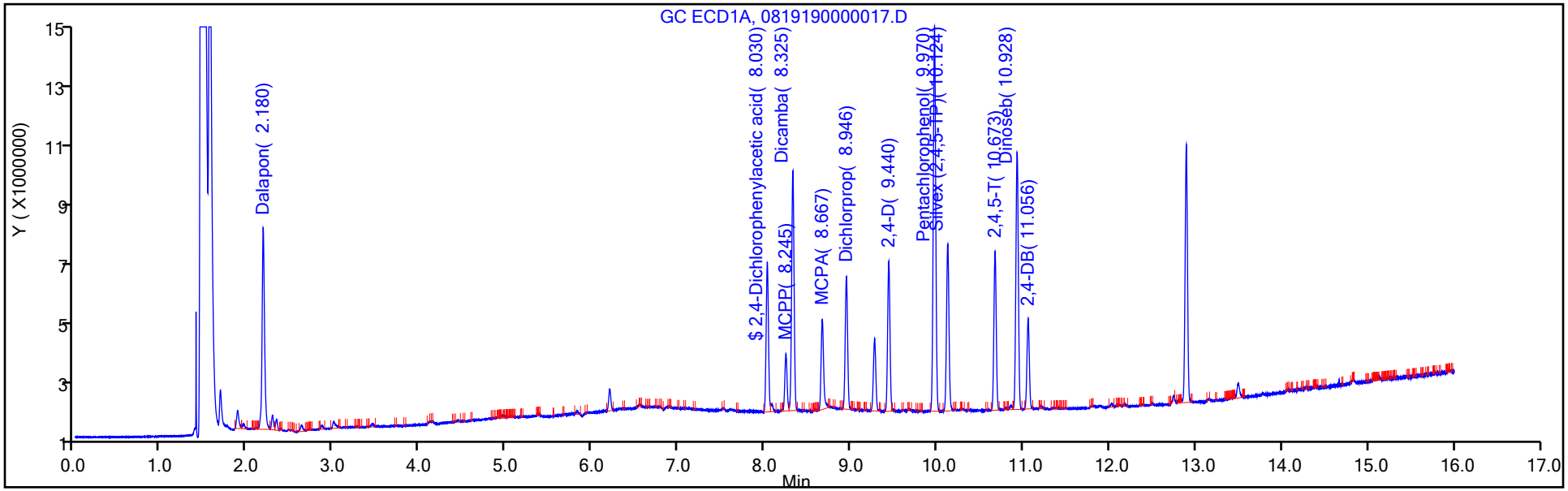

Column: RTX-1701 (0.53 mm)

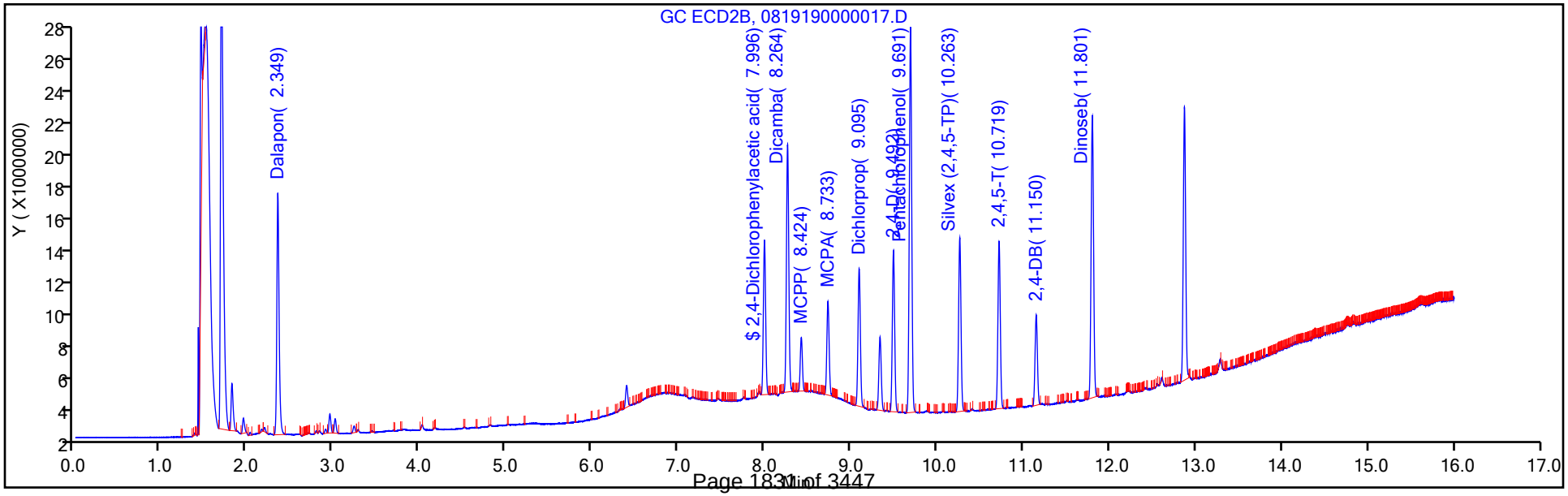

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D
Lims ID: icrt
Client ID:
Sample Type: ICRT Calib Level: 3
Inject. Date: 19-Aug-2019 19:54:39 ALS Bottle#: 4 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-005
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:45 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:28:11

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							a
1	2.179	2.179	0.000	11223295H	0.0800	0.0753	a
2	2.348	2.348	0.000	25411026H	0.0800	0.0757	a
						RPD = 0.54	
$ 2 2,4-Dichlorophenylacetic acid							a
1	8.030	8.030	0.000	7613570H	0.0800	0.0700	a
2	7.996	7.996	0.000	14765553H	0.0800	0.0700	a
						RPD = 0.05	
3 MCPP							Ma
1	8.246	8.246	0.000	2974715H	8.00	7.53	a
2	8.423	8.423	0.000	9866795	8.00	7.65	M
						RPD = 1.68	
4 Dicamba							a
1	8.326	8.326	0.000	12450636H	0.0400	0.0341	a
2	8.265	8.265	0.000	24433399H	0.0400	0.0348	a
						RPD = 2.05	
5 MCPA							a
1	8.667	8.667	0.000	4460869H	8.00	6.96	a
2	8.732	8.732	0.000	8744680H	8.00	7.10	a
						RPD = 2.04	
6 Dichlorprop							a
1	8.947	8.947	0.000	6683731H	0.0800	0.0690	a
2	9.095	9.095	0.000	13013520H	0.0800	0.0702	a
						RPD = 1.67	
7 2,4-D							a
1	9.439	9.439	0.000	7458378H	0.0800	0.0679	a
2	9.494	9.494	0.000	15308071H	0.0800	0.0705	a
						RPD = 3.86	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							a
1	9.969	9.969	0.000	39077252	0.0200	0.0170	a
2	9.691	9.691	0.000	36992114H	0.0200	0.0173	a
						RPD = 1.40	
9 Silvex (2,4,5-TP)							a
1	10.124	10.124	0.000	8350247H	0.0200	0.0170	a
2	10.263	10.263	0.000	16465579H	0.0200	0.0175	a
						RPD = 2.60	
10 2,4,5-T							a
1	10.673	10.673	0.000	7923065H	0.0200	0.0171	a
2	10.719	10.719	0.000	15848356H	0.0200	0.0175	a
						RPD = 2.31	
11 Dinoseb							a
1	10.928	10.928	0.000	12819214H	0.0800	0.0666	a
2	11.800	11.800	0.000	27183193H	0.0800	0.0695	a
						RPD = 4.33	
12 2,4-DB							a
1	11.056	11.056	0.000	4420145H	0.0800	0.0670	a
2	11.149	11.149	0.000	8459711H	0.0800	0.0686	a
						RPD = 2.28	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

GCHERBCALSL3_00028 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:25:47 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D

Injection Date: 19-Aug-2019 19:54:39 Instrument ID: CGC1 Operator ID:

Lims ID: icrt Worklist Smp#: 5

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 4

Method: Herbicides_CGC1 Limit Group: GCS 8151A ICAL

Column: RTX-50 (0.53 mm)

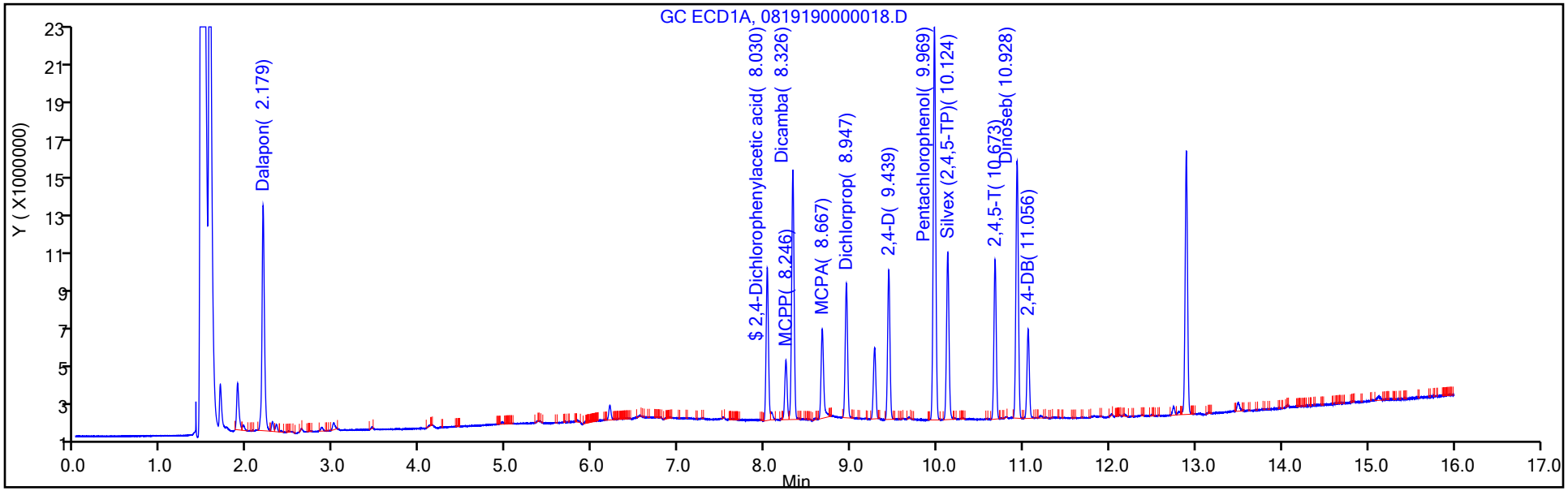

Column: RTX-1701 (0.53 mm)

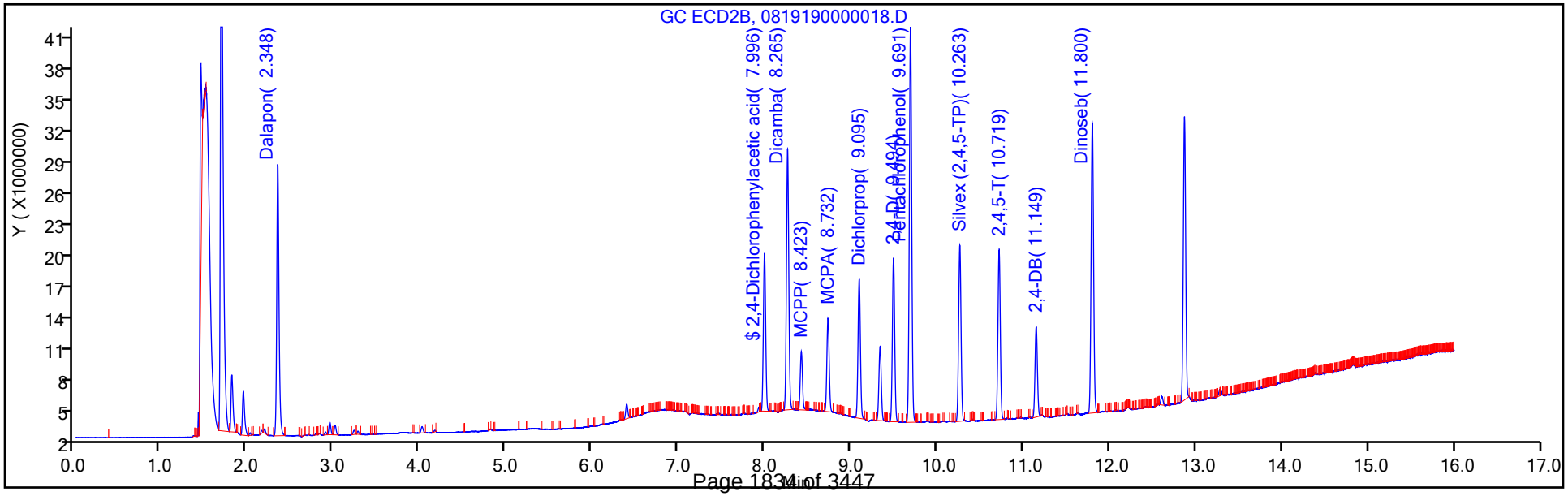

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

1 Dalapon, CAS: 75-99-0

Signal: 2

Processing Integration Results

Not Detected
Expected RT: 2.35

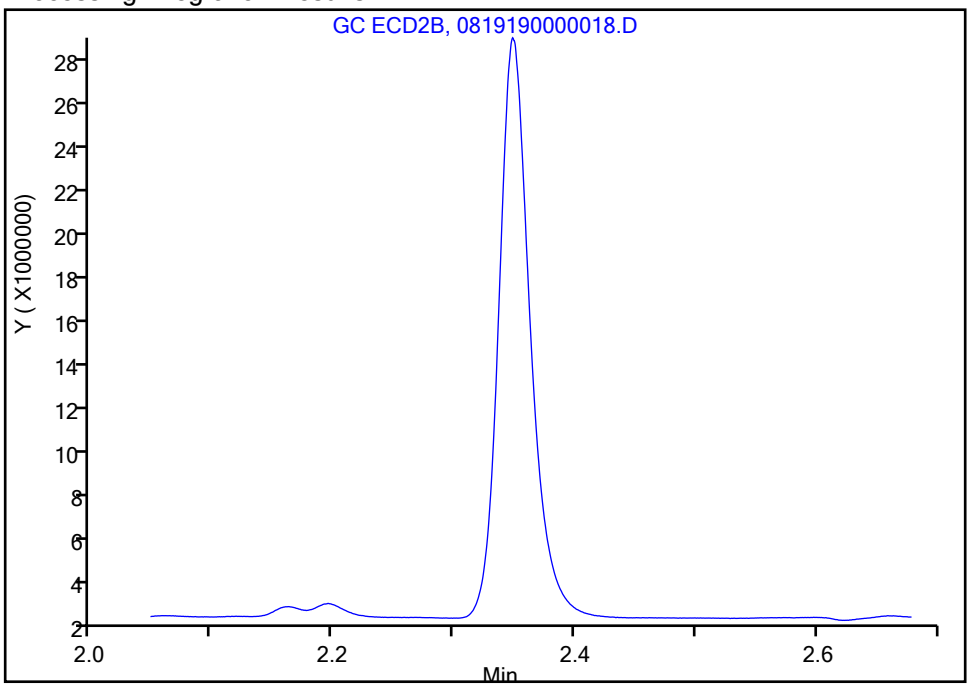

Manual Integration Results

RT: 2.35
Height: 25411026
Amount: 0.075708
Amount Units: ng

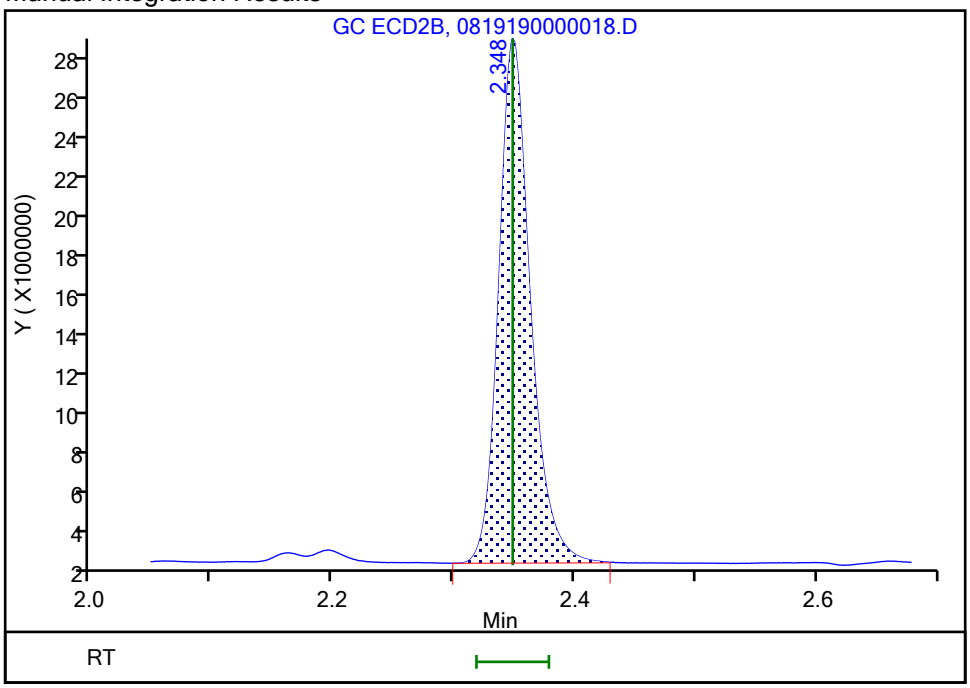

Reviewer: fritschj, 20-Aug-2019 08:15:36
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

$ 2 2,4-Dichlorophenylacetic acid, CAS: 19719-28-9

Signal: 2

Processing Integration Results

RT: 8.16
Height: 15399
Amount: 0.011043
Amount Units: ng

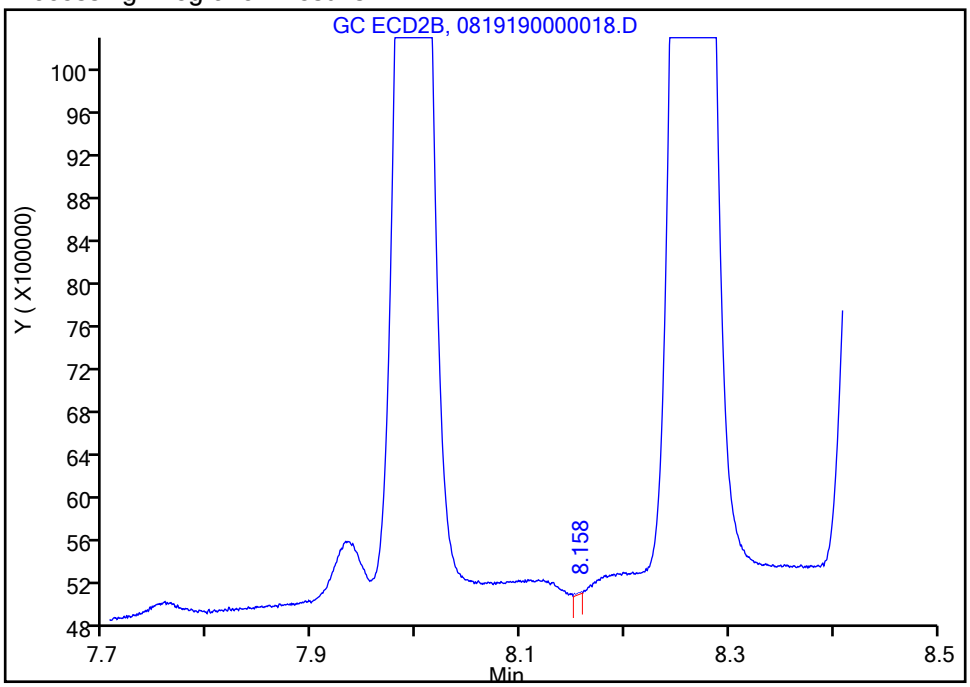

Manual Integration Results

RT: 8.00
Height: 14765553
Amount: 0.070006
Amount Units: ng

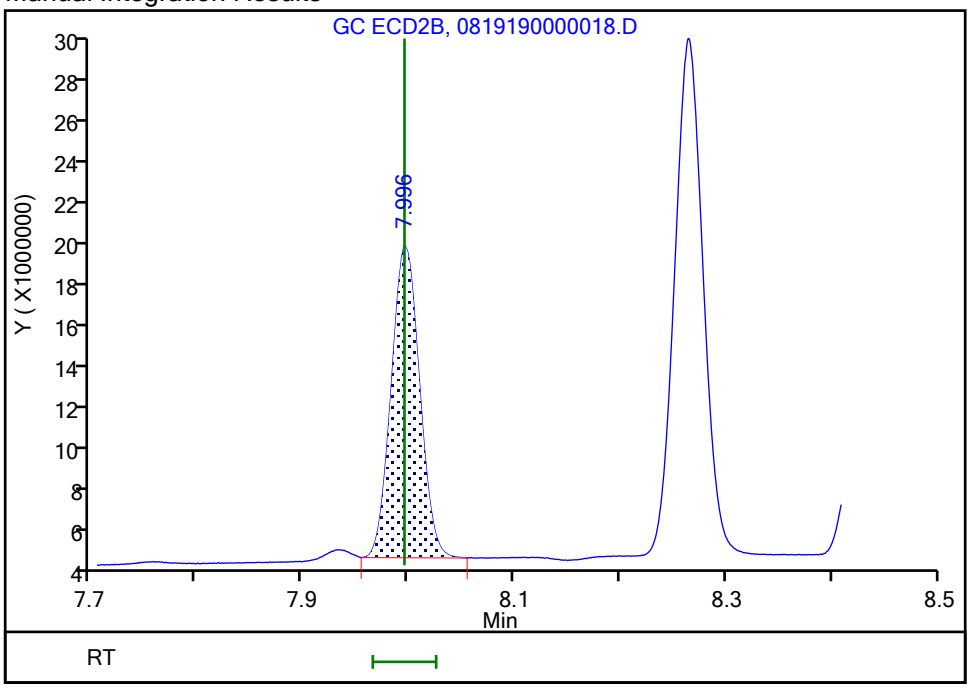

Reviewer: fritschj, 20-Aug-2019 08:16:00
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

4 Dicamba, CAS: 1918-00-9

Signal: 2

Processing Integration Results

RT: 8.48
Height: 39177
Amount: 0.030374
Amount Units: ng

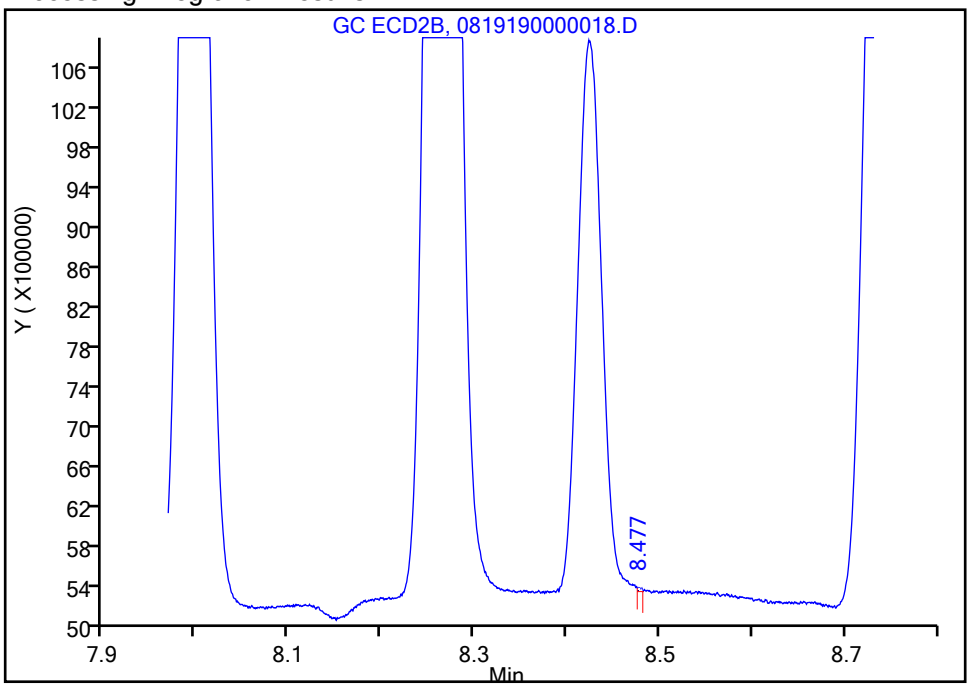

Manual Integration Results

RT: 8.26
Height: 24433399
Amount: 0.034841
Amount Units: ng

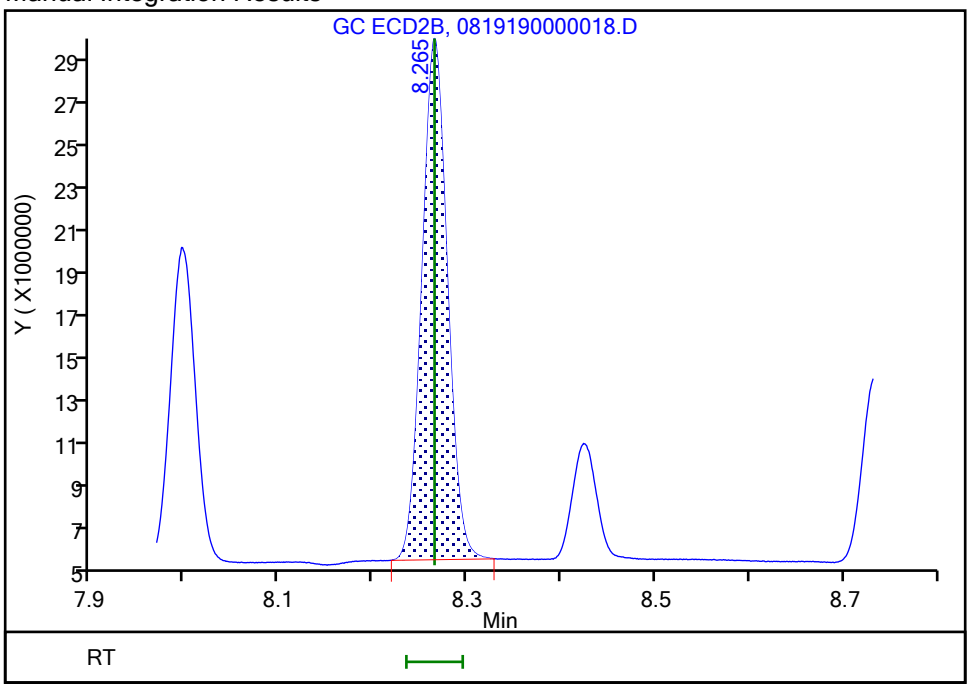

Reviewer: fritschj, 20-Aug-2019 08:18:12
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

3 MCPP, CAS: 93-65-2

Signal: 2

Processing Integration Results

RT: 8.37
Area: 6937
Amount: 3.720368
Amount Units: ng

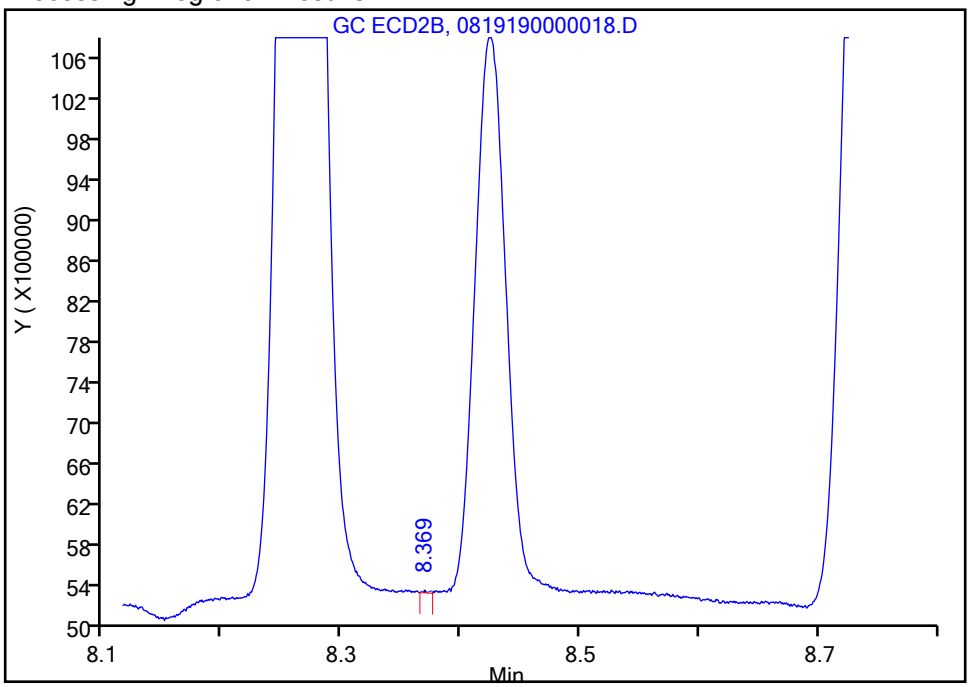

Manual Integration Results

RT: 8.42
Area: 9866795
Amount: 7.654420
Amount Units: ng

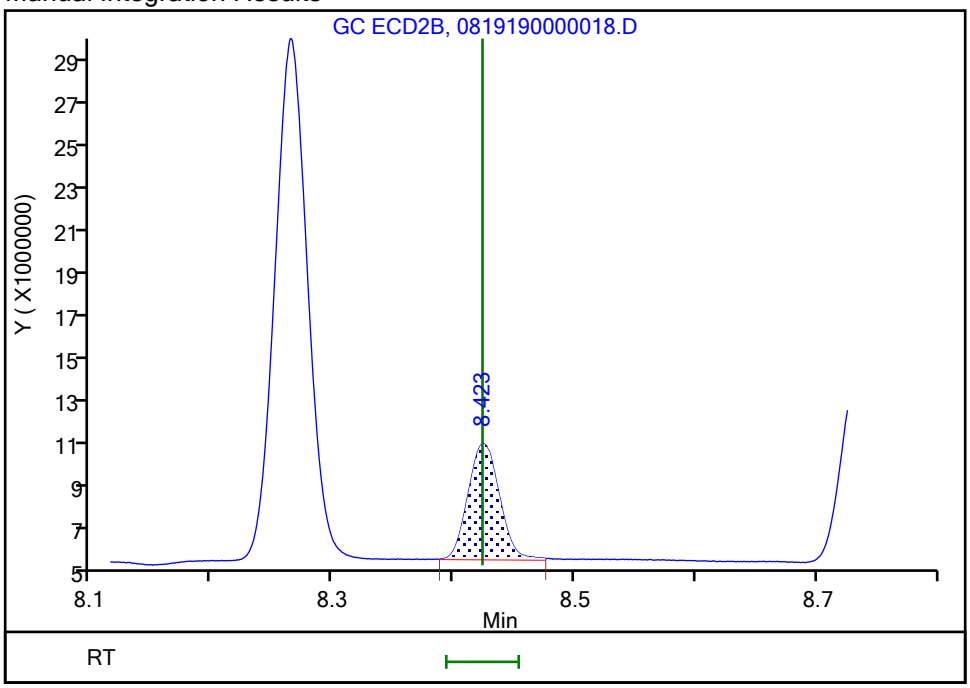

Reviewer: fritschj, 20-Aug-2019 09:09:08

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

5 MCPA, CAS: 94-74-6

Signal: 2

Processing Integration Results

Not Detected
Expected RT: 8.73

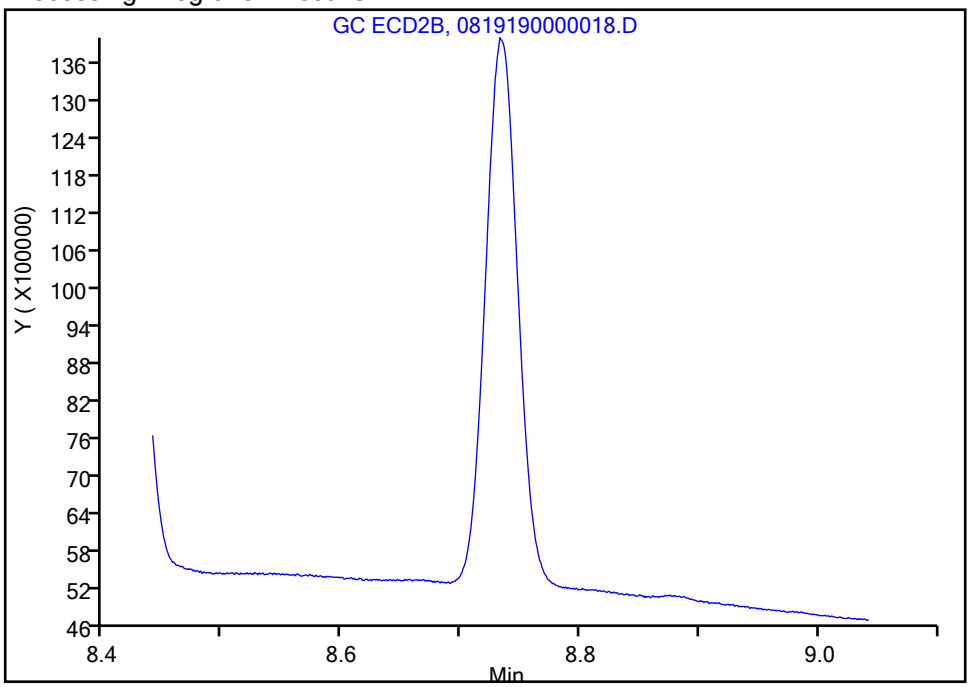

Manual Integration Results

RT: 8.73
Height: 8744680
Amount: 7.098779
Amount Units: ng

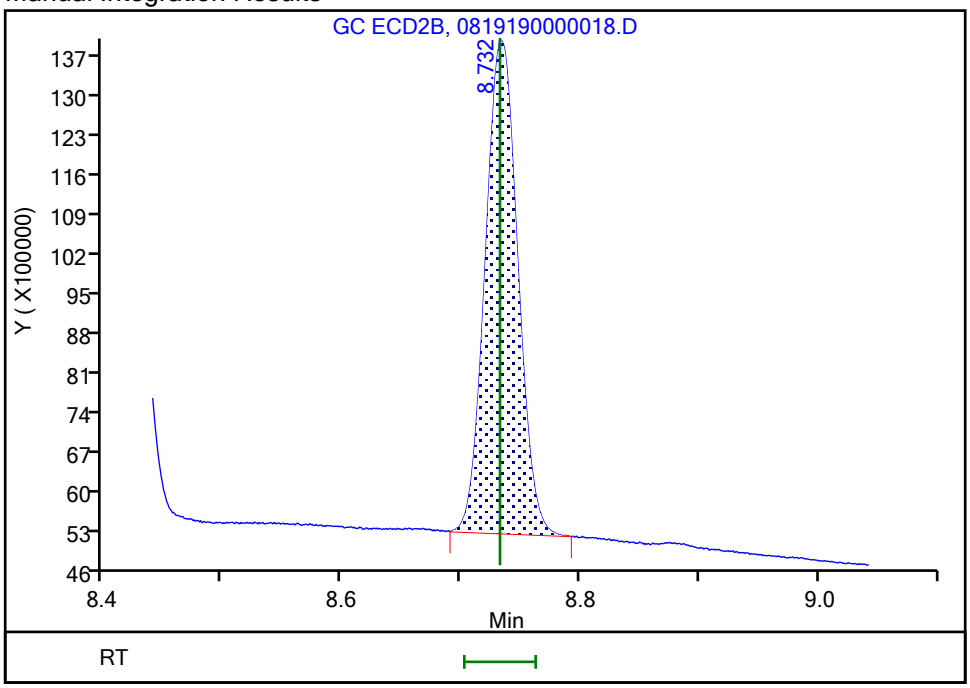

Reviewer: fritschj, 20-Aug-2019 08:18:38
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

6 Dichlorprop, CAS: 120-36-5

Signal: 2

Not Detected
Expected RT: 9.10

Processing Integration Results

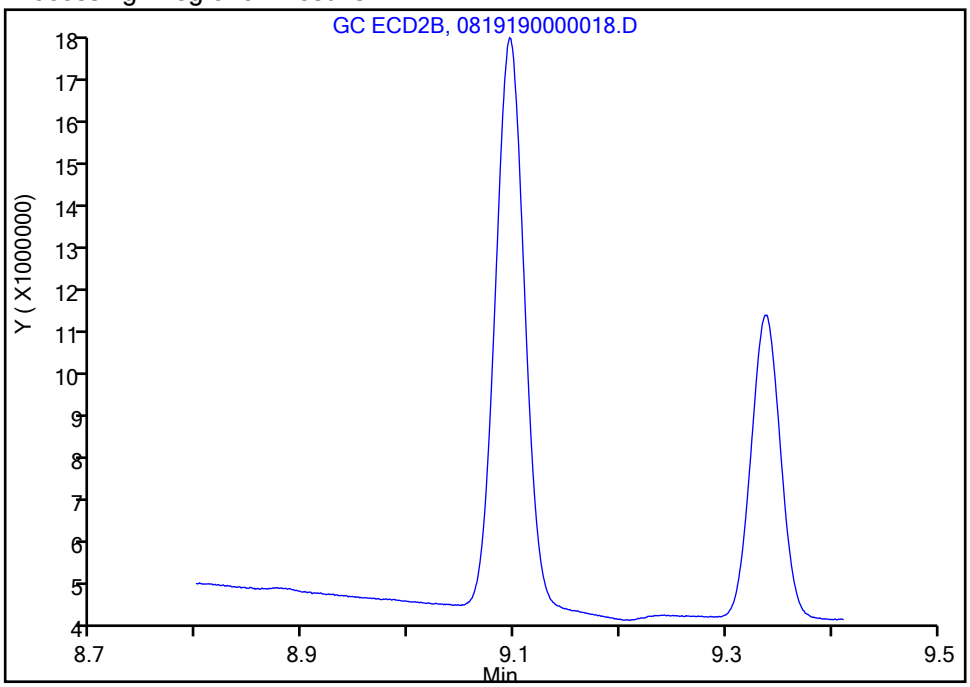

Manual Integration Results

RT: 9.10
Height: 13013520
Amount: 0.070191
Amount Units: ng

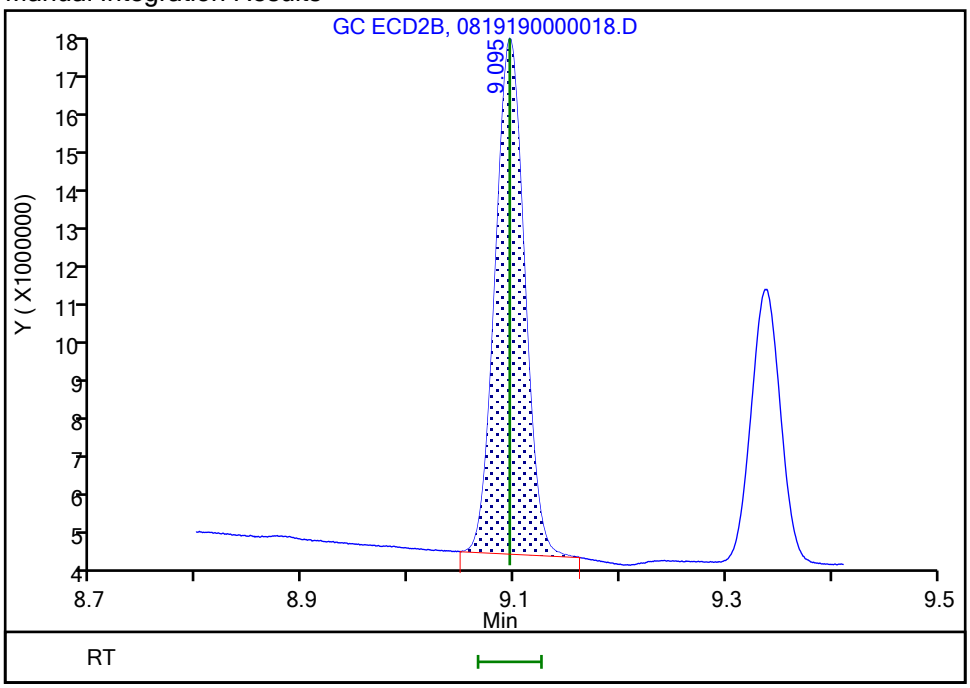

Reviewer: fritschj, 20-Aug-2019 08:19:23
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

7 2,4-D, CAS: 94-75-7

Signal: 2

Not Detected
Expected RT: 9.49

Processing Integration Results

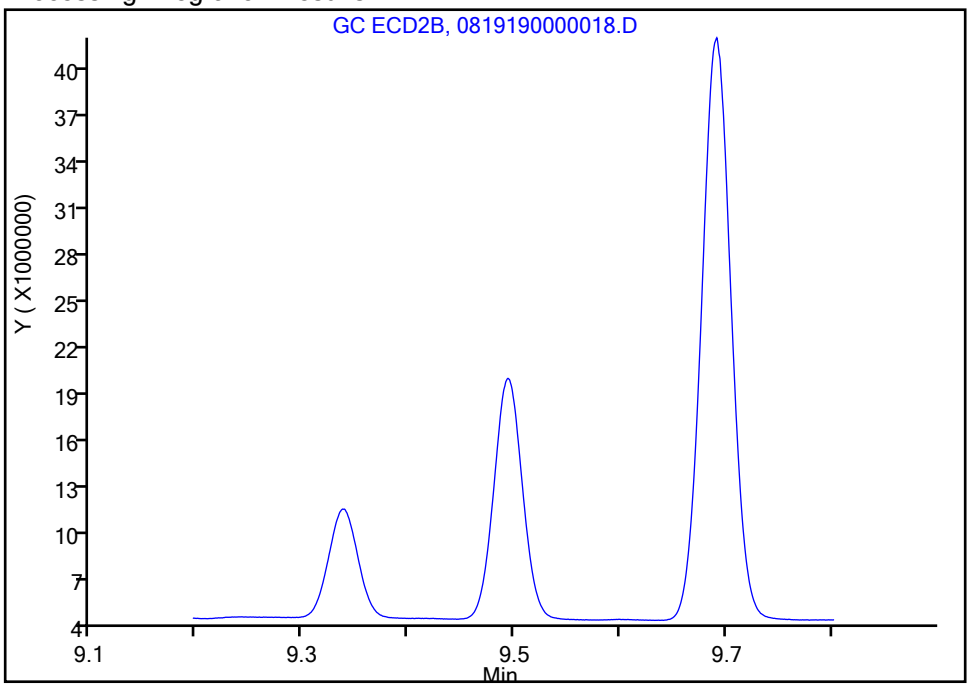

Manual Integration Results

RT: 9.49
Height: 15308071
Amount: 0.070532
Amount Units: ng

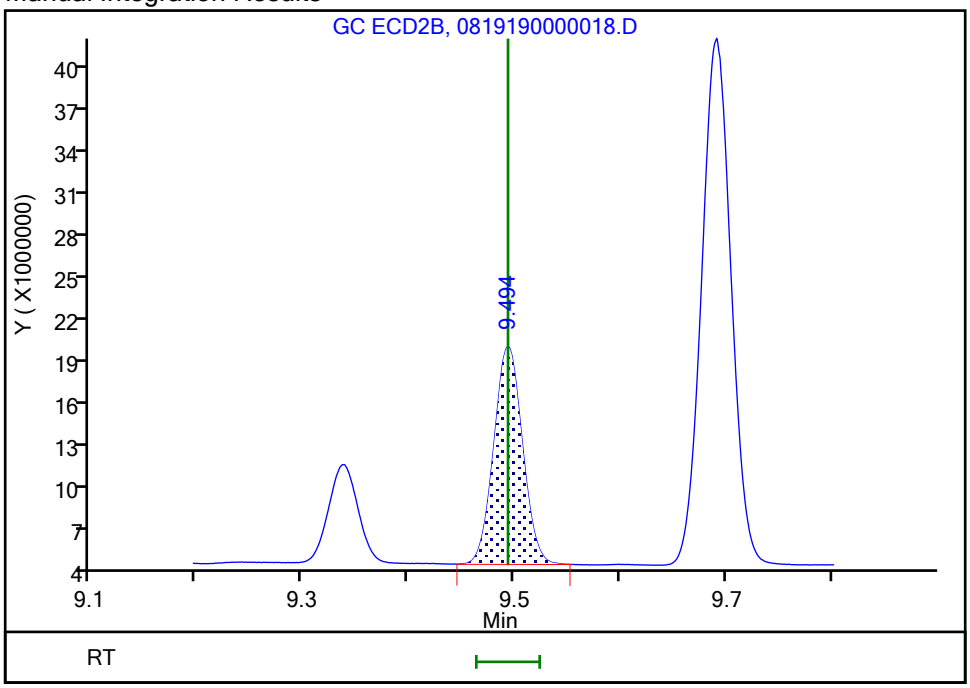

Reviewer: fritschj, 20-Aug-2019 08:19:49
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

8 Pentachlorophenol, CAS: 87-86-5

Signal: 2

Processing Integration Results

Not Detected
Expected RT: 9.69

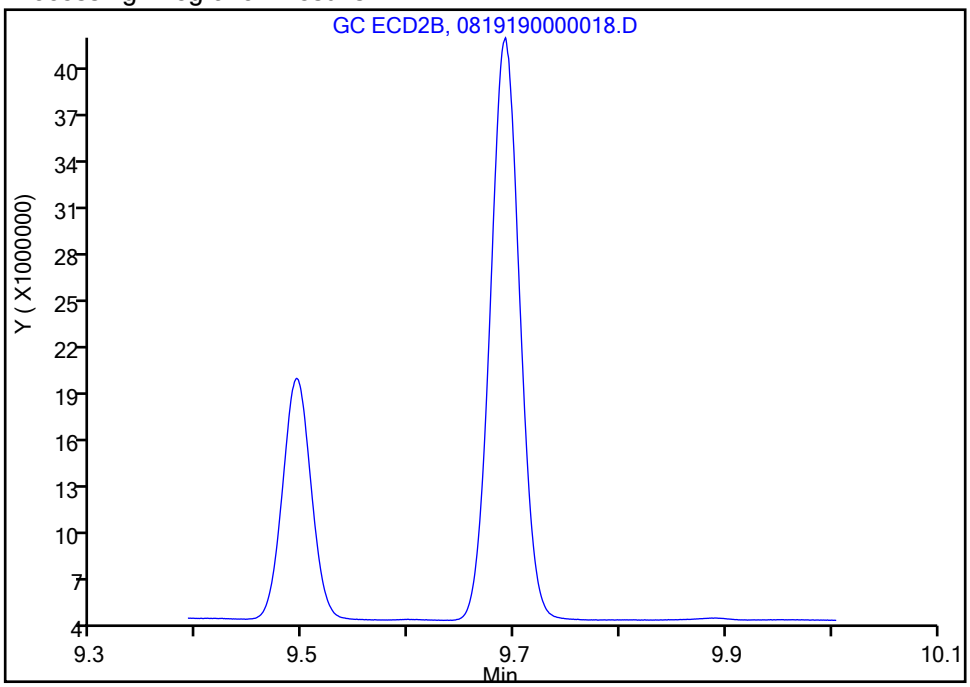

Manual Integration Results

RT: 9.69
Height: 36992114
Amount: 0.017251
Amount Units: ng

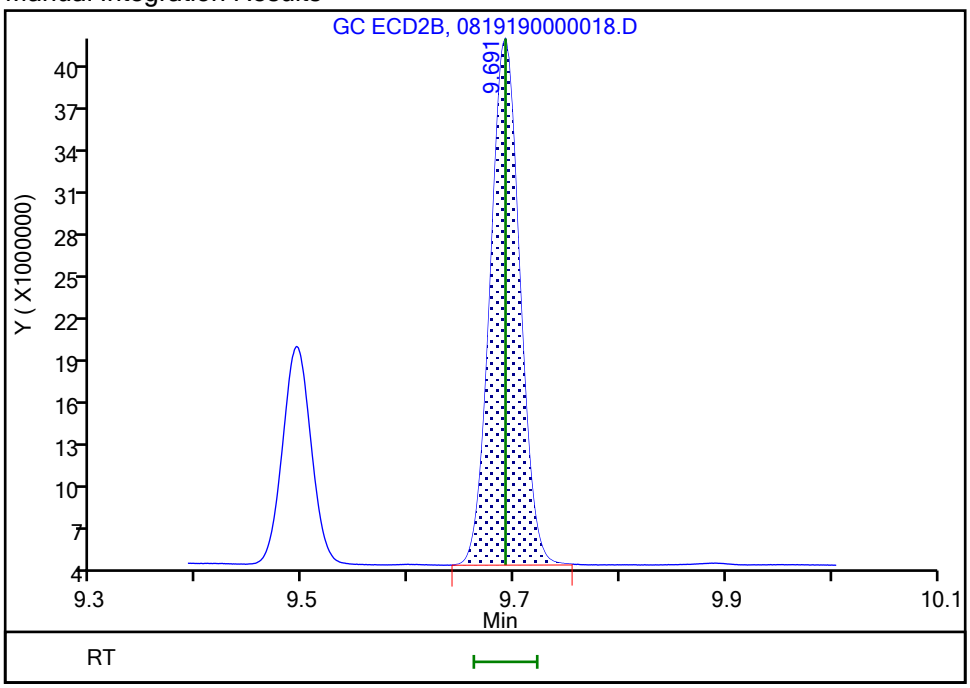

Reviewer: fritschj, 20-Aug-2019 08:22:05
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

9 Silvex (2,4,5-TP), CAS: 93-72-1

Signal: 2

Processing Integration Results

Not Detected
Expected RT: 10.26

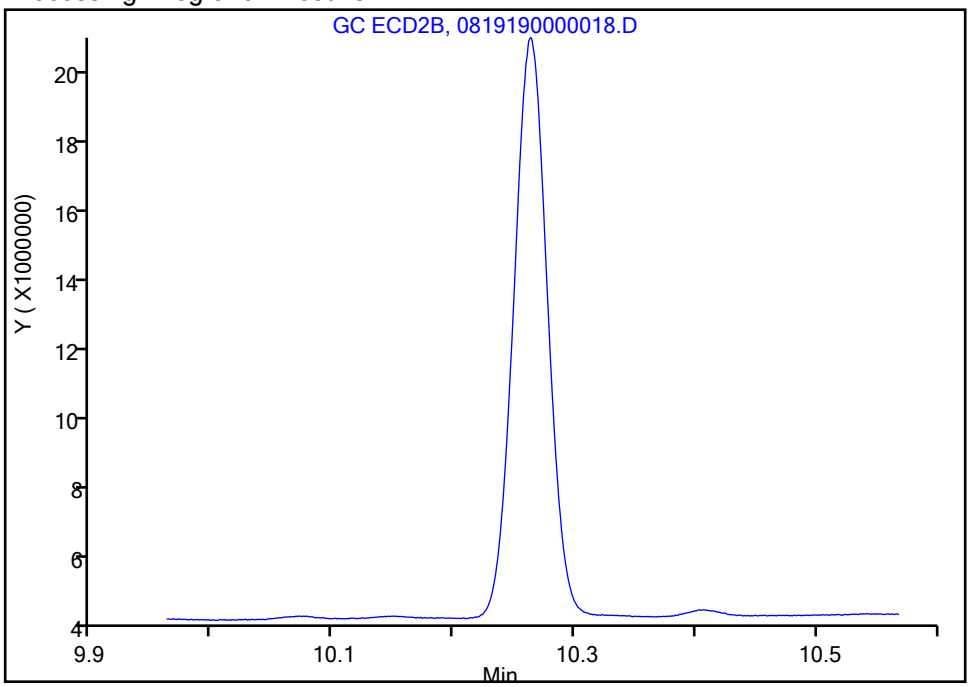

Manual Integration Results

RT: 10.26
Height: 16465579
Amount: 0.017493
Amount Units: ng

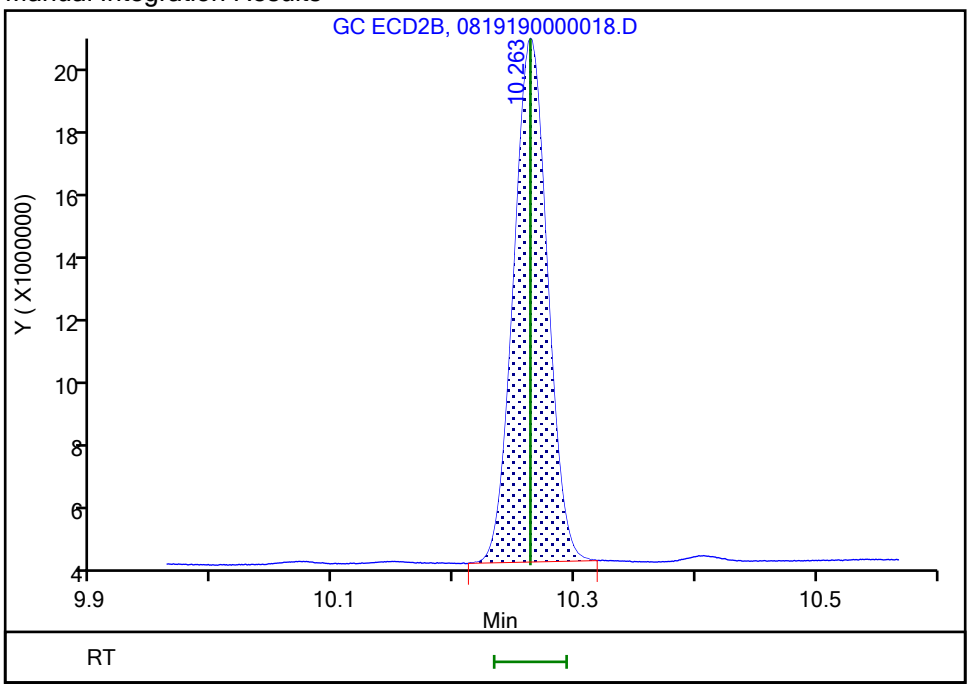

Reviewer: fritschj, 20-Aug-2019 08:22:24
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

10 2,4,5-T, CAS: 93-76-5

Signal: 2

Not Detected
Expected RT: 10.72

Processing Integration Results

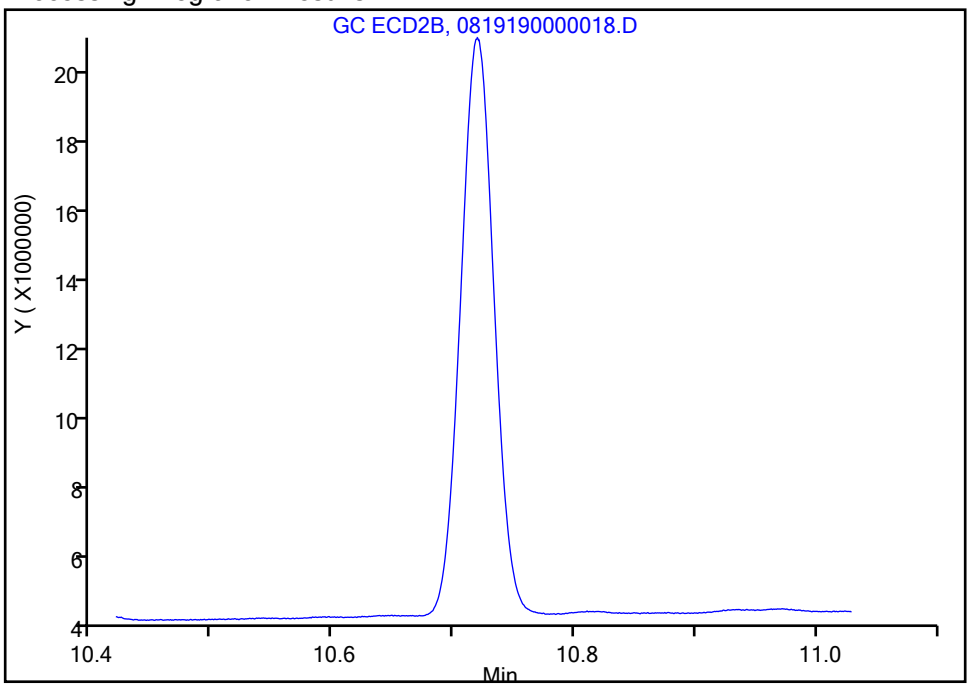

Manual Integration Results

RT: 10.72
Height: 15848356
Amount: 0.017485
Amount Units: ng

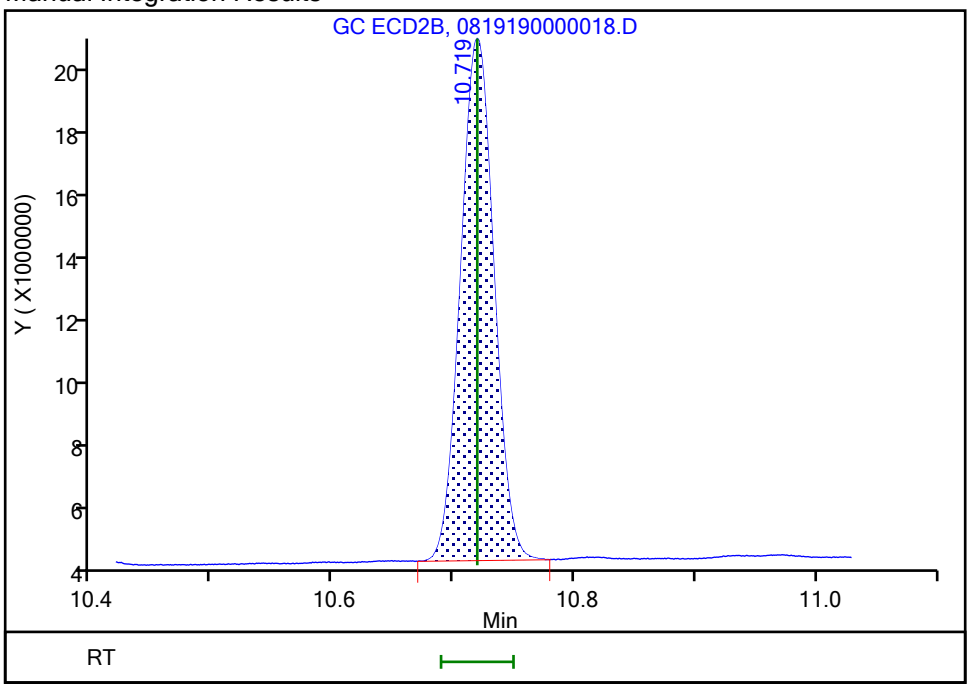

Reviewer: fritschj, 20-Aug-2019 08:23:43
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

12 2,4-DB, CAS: 94-82-6

Signal: 2

Processing Integration Results

Not Detected
Expected RT: 11.15

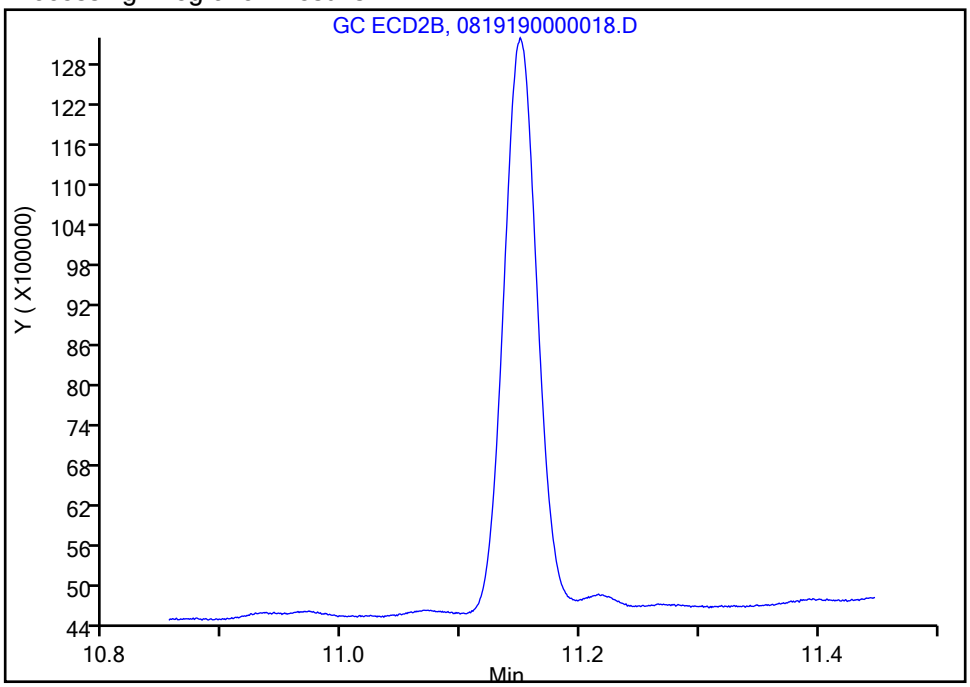

Manual Integration Results

RT: 11.15
Height: 8459711
Amount: 0.068577
Amount Units: ng

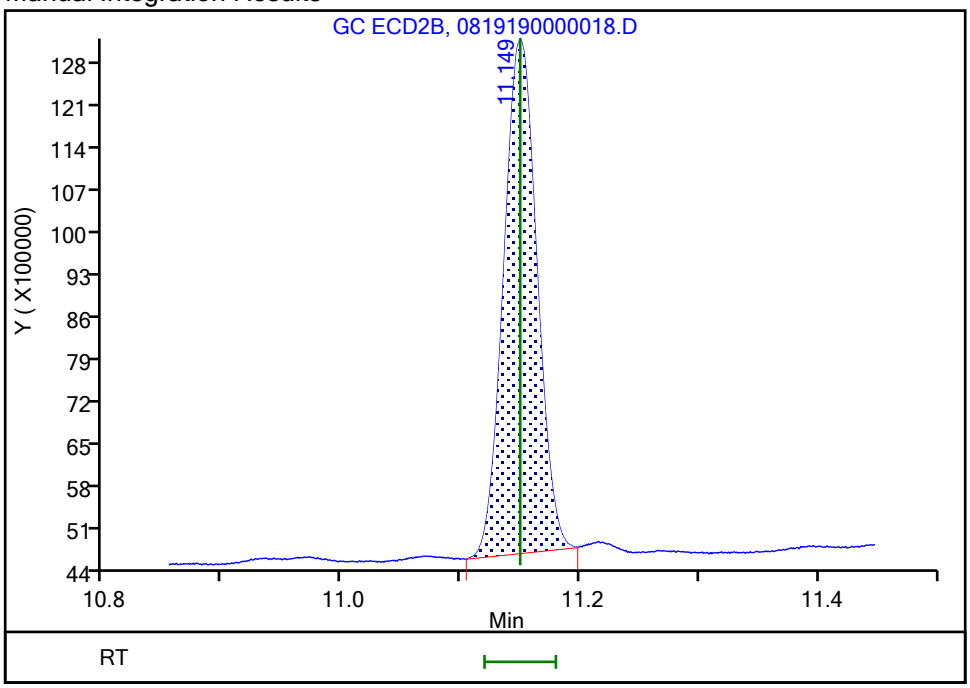

Reviewer: fritschj, 20-Aug-2019 08:24:57
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

11 Dinoseb, CAS: 88-85-7

Signal: 2

Processing Integration Results

RT: 12.99
Height: 34851
Amount: 0.039627
Amount Units: ng

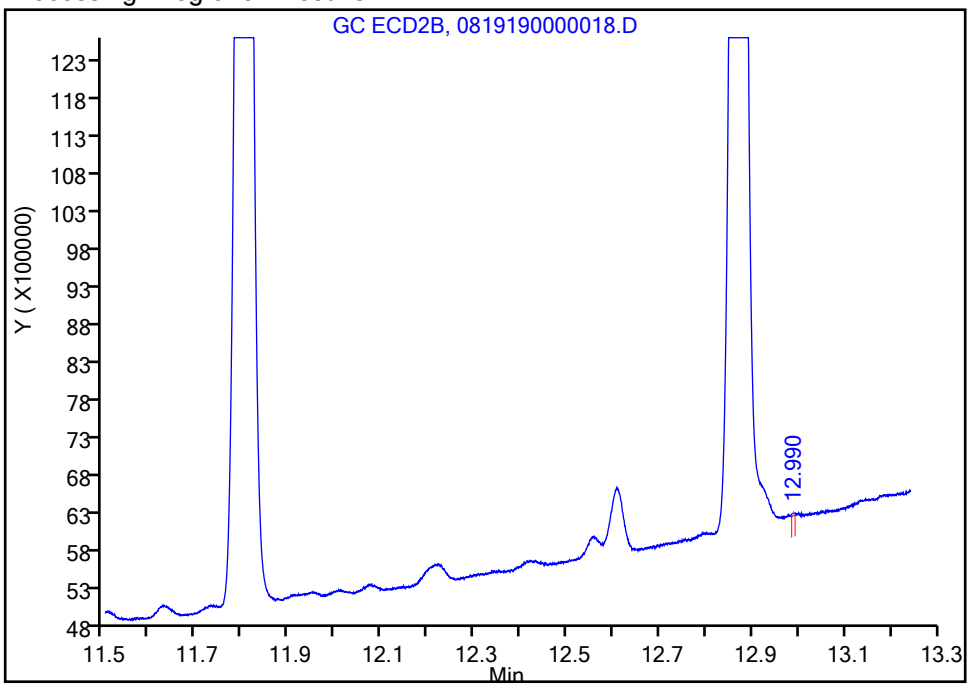

Manual Integration Results

RT: 11.80
Height: 27183193
Amount: 0.069540
Amount Units: ng

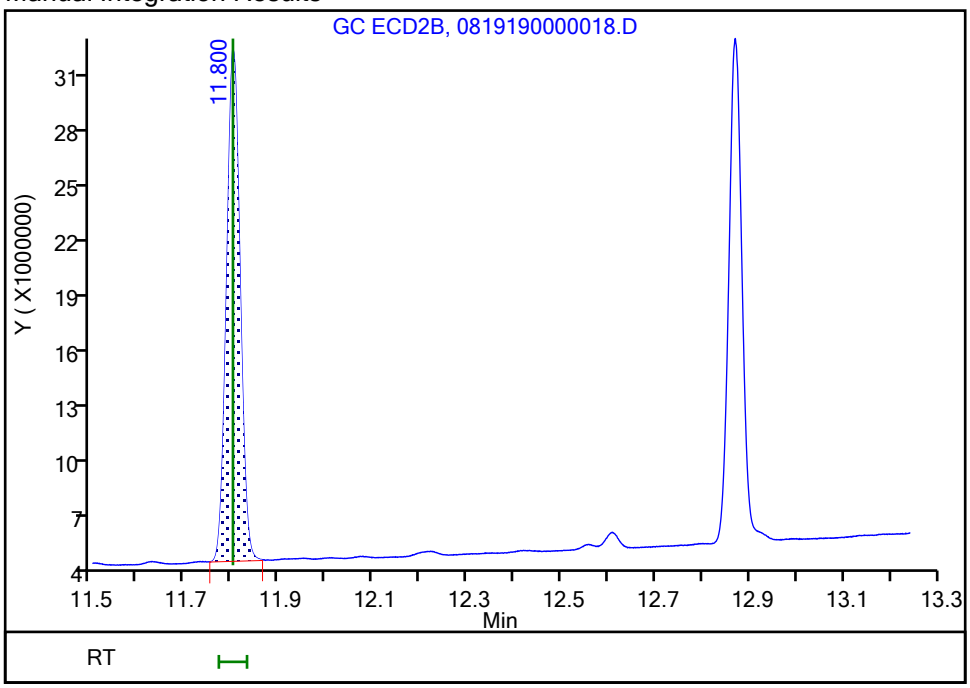

Reviewer: fritschj, 20-Aug-2019 08:24:29
Audit Action: Assigned Compound ID Audit Reason:

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000019.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 19-Aug-2019 20:19:37 ALS Bottle#: 5 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-006
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:41 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:36:14

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.180	2.179	0.001	21029013H	0.1600	0.1411	
2	2.349	2.348	0.001	47108347H	0.1600	0.1404	
						RPD = 0.53	
$ 2 2,4-Dichlorophenylacetic acid							M
1	8.027	8.030	-0.003	14637561H	0.1600	0.1345	
2	7.996	7.996	0.000	28362876H	0.1600	0.1345	M
						RPD = 0.04	
3 MCPP							M
1	8.245	8.246	-0.001	5526314H	16.0	14.0	
2	8.423	8.423	0.000	19552026	16.0	14.7	M
						RPD = 5.27	
4 Dicamba							
1	8.325	8.326	-0.001	24338630H	0.0800	0.0667	
2	8.265	8.265	0.000	48128489H	0.0800	0.0686	
						RPD = 2.81	
5 MCPA							
1	8.667	8.667	0.000	8041901H	16.0	12.5	
2	8.733	8.732	0.001	16184172H	16.0	13.1	
						RPD = 4.66	
6 Dichlorprop							
1	8.946	8.947	-0.001	12688482H	0.1600	0.1310	
2	9.095	9.095	0.000	24921509H	0.1600	0.1344	
						RPD = 2.54	
7 2,4-D							
1	9.439	9.439	0.000	14118416H	0.1600	0.1285	
2	9.493	9.494	-0.001	28835678H	0.1600	0.1329	
						RPD = 3.37	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.968	9.969	-0.001	76949921	0.0400	0.0335	
2	9.690	9.691	-0.001	72319636	0.0400	0.0337	H
						RPD = 0.68	
9 Silvex (2,4,5-TP)							
1	10.122	10.124	-0.002	16132968	0.0400	0.0329	H
2	10.262	10.263	-0.001	31885085	0.0400	0.0339	H
						RPD = 2.83	
10 2,4,5-T							
1	10.672	10.673	-0.001	15241356	0.0400	0.0329	H
2	10.717	10.719	-0.002	30784000	0.0400	0.0340	H
						RPD = 3.28	
11 Dinoseb							
1	10.927	10.928	-0.001	25368364	0.1600	0.1318	H
2	11.801	11.800	0.001	53199332	0.1600	0.1361	H
						RPD = 3.22	
12 2,4-DB							
1	11.055	11.056	-0.001	8376520	0.1600	0.1270	H
2	11.147	11.149	-0.002	16504494	0.1600	0.1338	H
						RPD = 5.18	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCHERBCALSL4_00027 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:25:43 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000019.D

Injection Date: 19-Aug-2019 20:19:37 Instrument ID: CGC1 Operator ID:

Lims ID: ic Worklist Smp#: 6

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 5

Method: Herbicides_CGC1 Limit Group: GCS 8151A ICAL

Column: RTX-50 (0.53 mm)

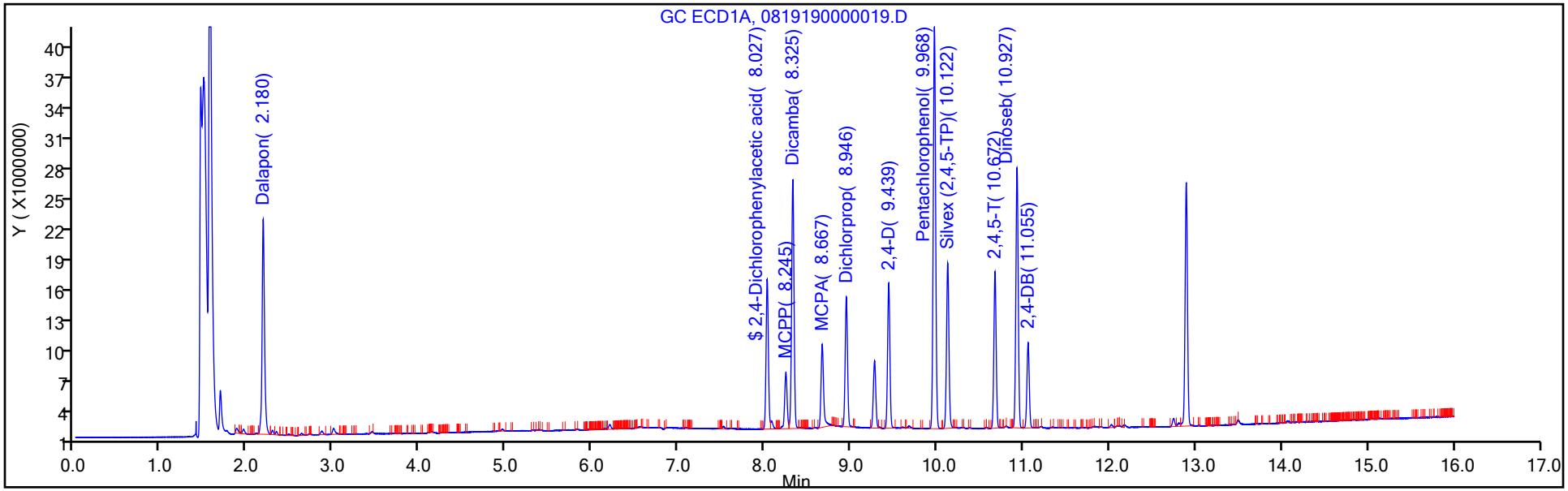

Column: RTX-1701 (0.53 mm)

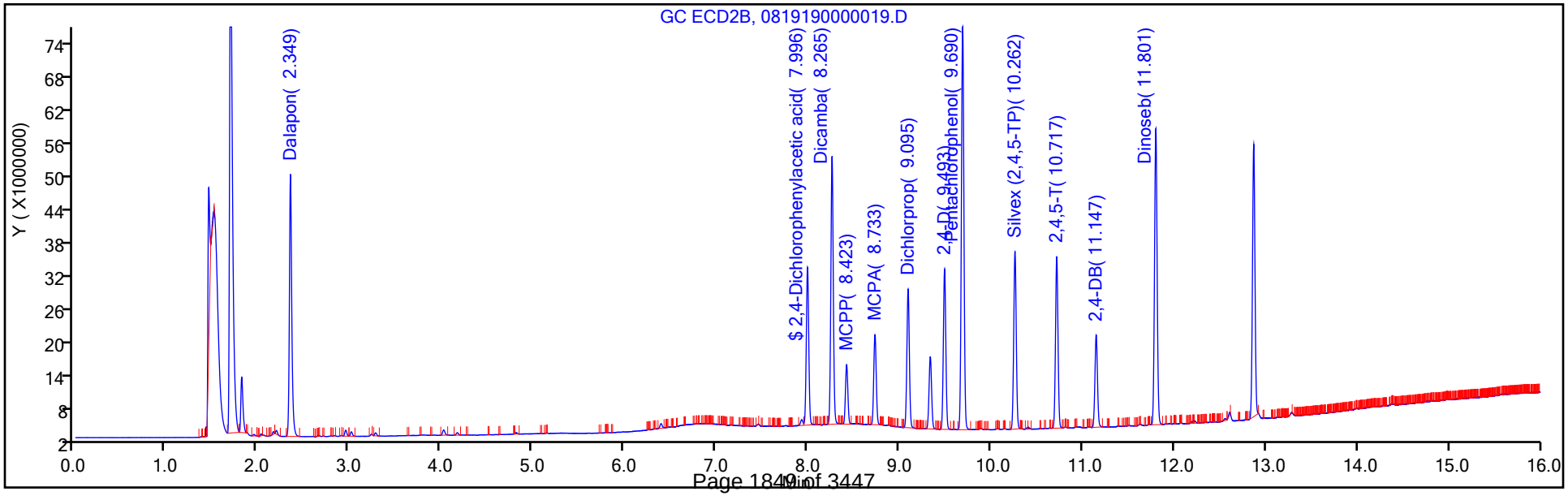

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000019.D				
Injection Date:	19-Aug-2019 20:19:37	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	5	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

$ 2 2,4-Dichlorophenylacetic acid, CAS: 19719-28-9

Signal: 2

Processing Integration Results

RT: 8.00
Height: 28190894
Amount: 0.134033
Amount Units: ng

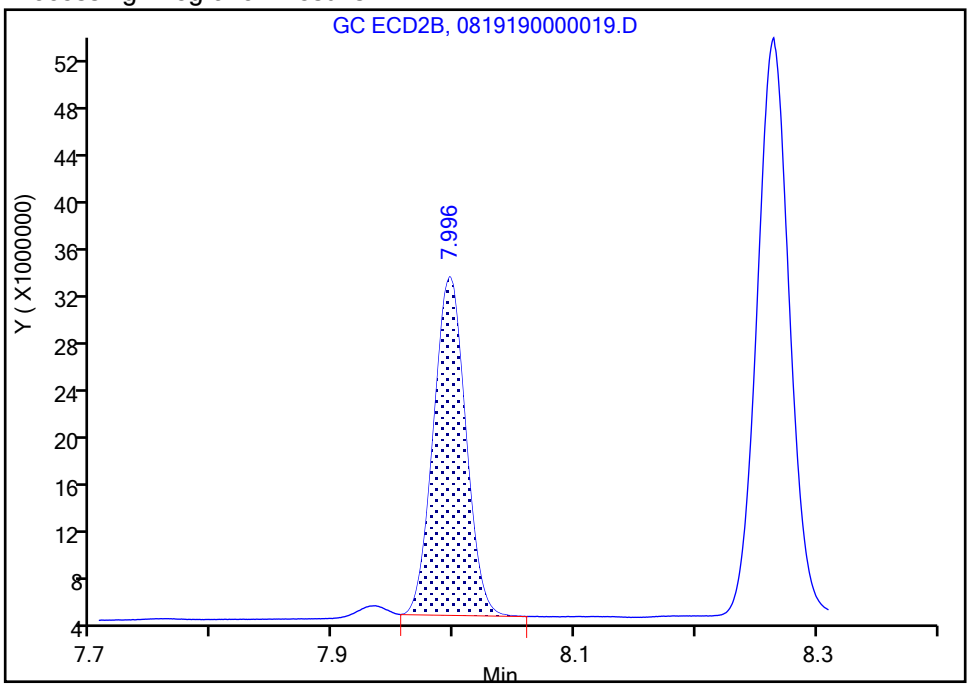

Manual Integration Results

RT: 8.00
Height: 28362876
Amount: 0.134473
Amount Units: ng

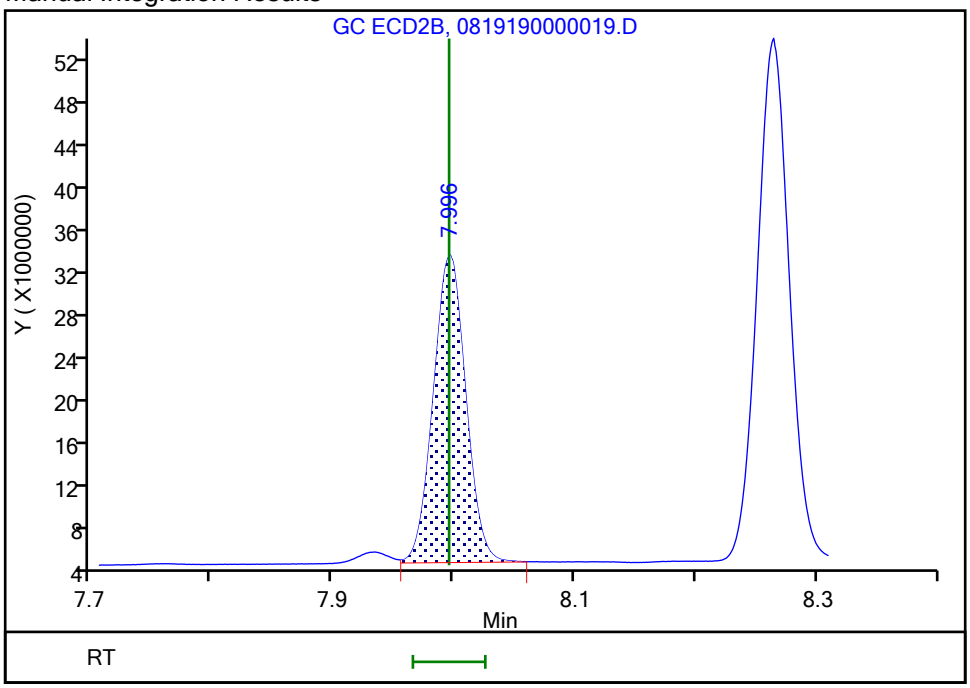

Reviewer: fritschj, 20-Aug-2019 08:38:28

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000019.D				
Injection Date:	19-Aug-2019 20:19:37	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	5	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

3 MCPP, CAS: 93-65-2

Signal: 2

Processing Integration Results

RT: 8.42
Area: 19360884
Amount: 15.027734
Amount Units: ng

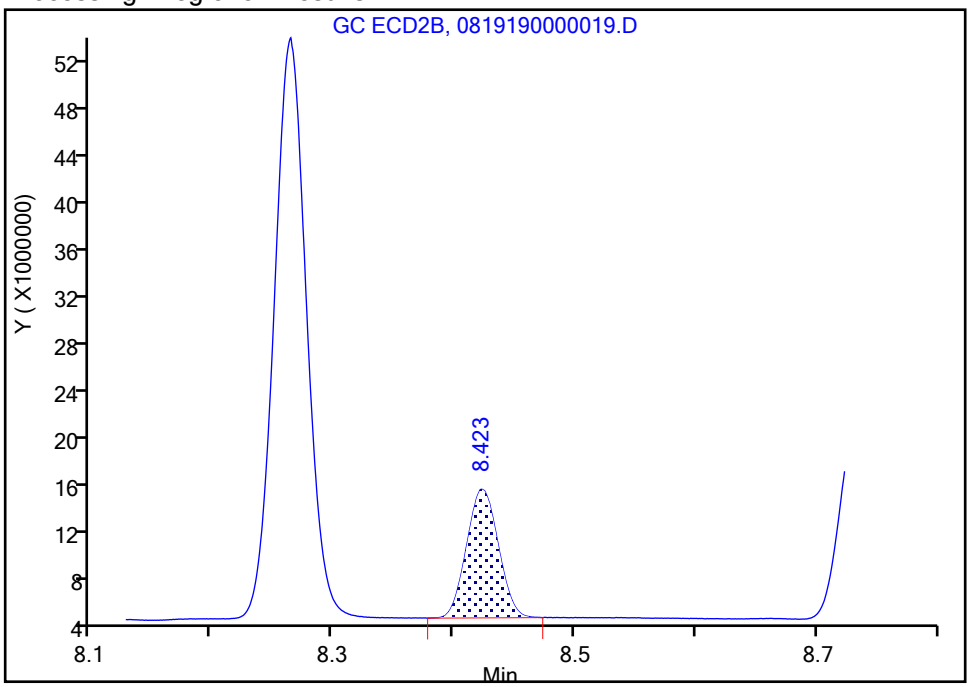

Manual Integration Results

RT: 8.42
Area: 19552026
Amount: 14.740461
Amount Units: ng

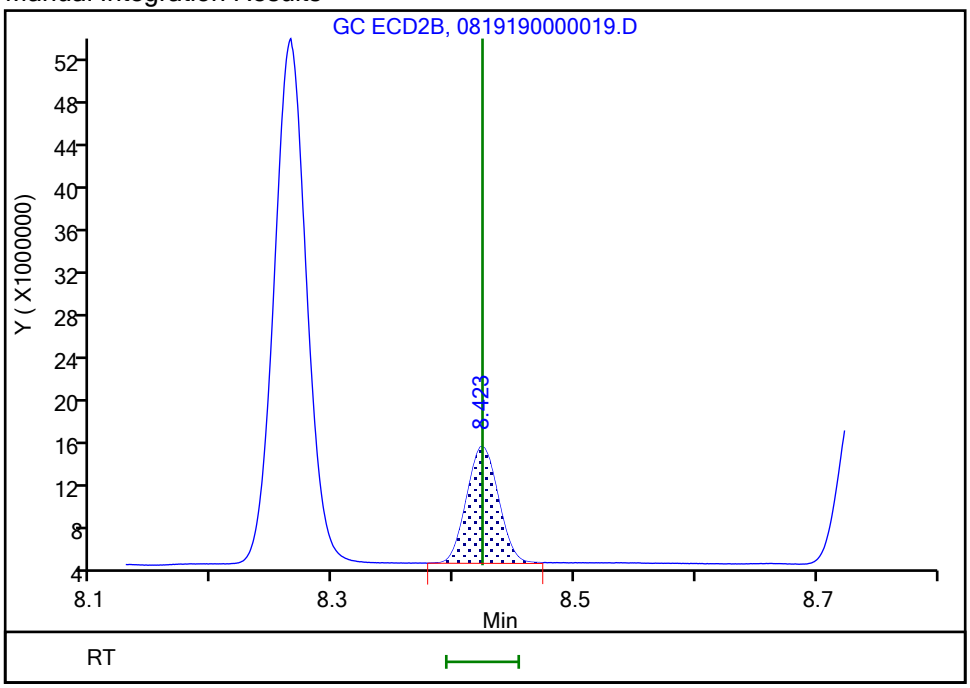

Reviewer: fritschj, 20-Aug-2019 09:01:54
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000020.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 19-Aug-2019 20:44:28 ALS Bottle#: 6 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-007
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:36 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:39:36

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.179	2.179	0.000	43608531H	0.3200	0.2926	
2	2.348	2.348	0.000	99838456H	0.3200	0.2975	
						RPD = 1.65	
$ 2 2,4-Dichlorophenylacetic acid							M
1	8.029	8.030	-0.001	31108696H	0.3200	0.2859	
2	7.995	7.996	-0.001	61366883H	0.3200	0.2909	M
						RPD = 1.75	
3 MCPP							M
1	8.245	8.246	-0.001	11527851H	32.0	29.2	
2	8.423	8.423	0.000	43025874	32.0	31.9	M
						RPD = 8.99	
4 Dicamba							
1	8.327	8.326	0.001	54610812H	0.1600	0.1497	
2	8.264	8.265	-0.001	108308115H	0.1600	0.1544	
						RPD = 3.11	
5 MCPA							M
1	8.667	8.667	0.000	17021609H	32.0	26.5	M
2	8.732	8.732	0.000	34629475H	32.0	28.1	
						RPD = 5.75	
6 Dichlorprop							M
1	8.947	8.947	0.000	27593514H	0.3200	0.2850	M
2	9.094	9.095	-0.001	54016213H	0.3200	0.2913	
						RPD = 2.21	
7 2,4-D							
1	9.439	9.439	0.000	31721217H	0.3200	0.2886	
2	9.493	9.494	-0.001	63139895H	0.3200	0.2909	
						RPD = 0.80	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.968	9.969	-0.001	174313893	0.0800	0.0759	
2	9.690	9.691	-0.001	165194490	0.0800	0.0770	H
						RPD = 1.51	
9 Silvex (2,4,5-TP)							
1	10.123	10.124	-0.001	36187475	0.0800	0.0739	H
2	10.262	10.263	-0.001	69623321	0.0800	0.0740	H
						RPD = 0.15	
10 2,4,5-T							
1	10.672	10.673	-0.001	33557621	0.0800	0.0724	H
2	10.719	10.719	0.000	67021283	0.0800	0.0739	H
						RPD = 2.16	
11 Dinoseb							
1	10.927	10.928	-0.001	57547973	0.3200	0.2990	H
2	11.800	11.800	0.000	118949912	0.3200	0.3043	H
						RPD = 1.77	
12 2,4-DB							
1	11.056	11.056	0.000	18445489	0.3200	0.2797	H
2	11.148	11.149	-0.001	36748566	0.3200	0.2979	H
						RPD = 6.29	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCHERBCALSL5_00024 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:25:38 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000020.D

Injection Date: 19-Aug-2019 20:44:28 Instrument ID: CGC1 Operator ID:

Lims ID: ic Worklist Smp#: 7

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 6

Method: Herbicides_CGC1 Limit Group: GCS 8151A ICAL

Column: RTX-50 (0.53 mm)

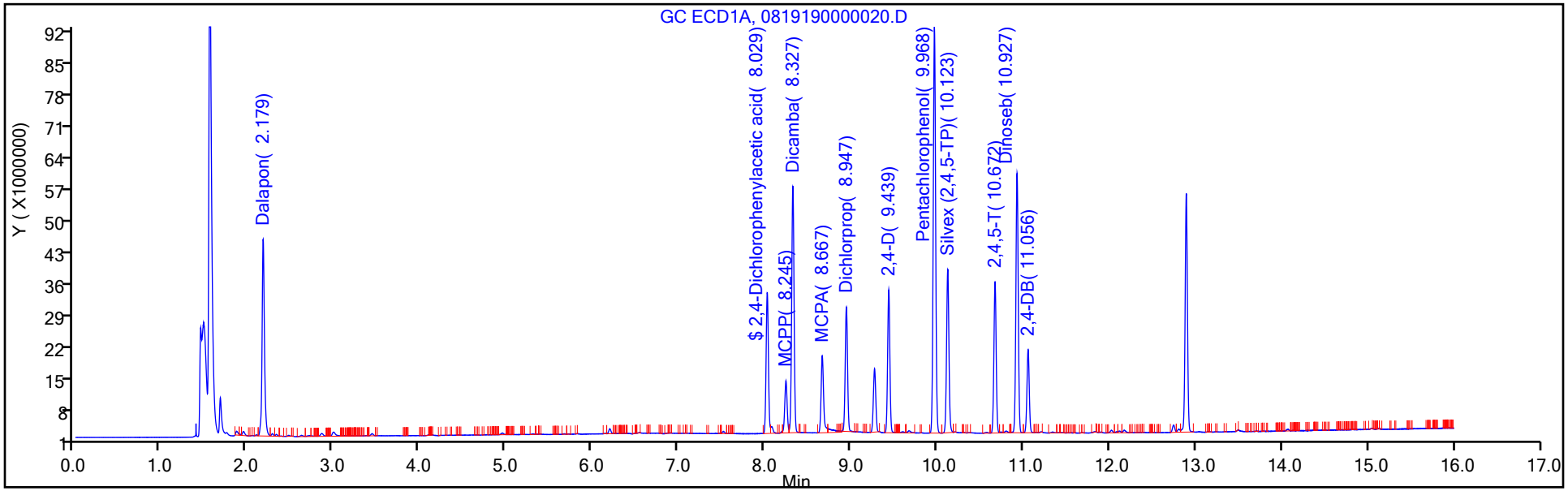

Column: RTX-1701 (0.53 mm)

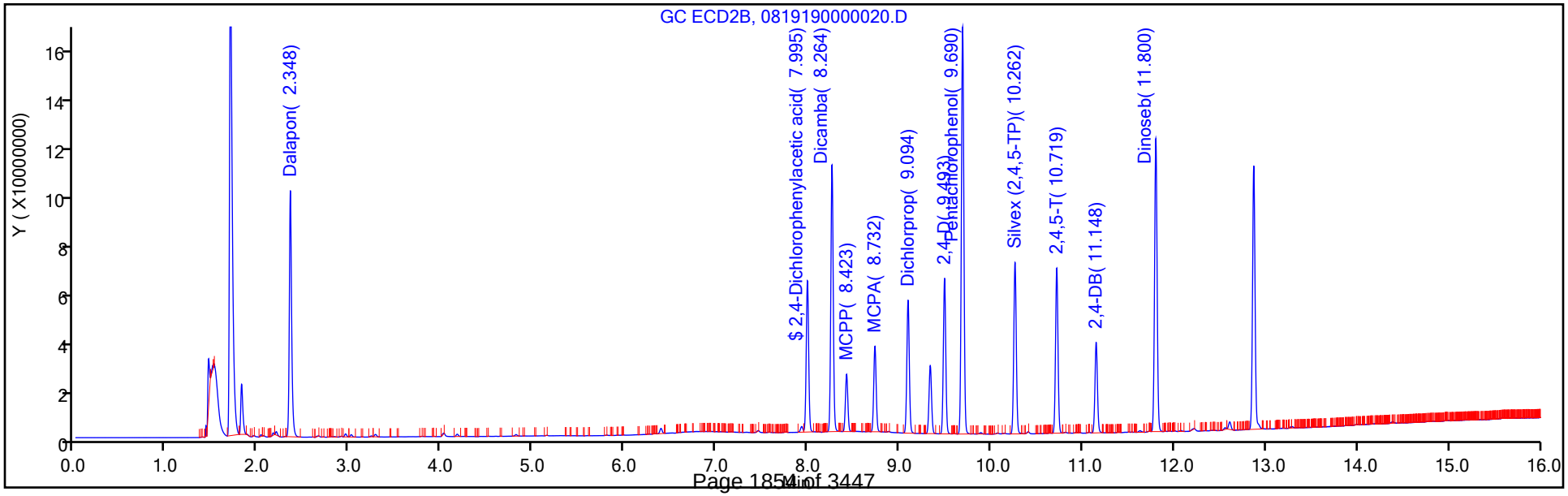

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000020.D				
Injection Date:	19-Aug-2019 20:44:28	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	6	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

$ 2 2,4-Dichlorophenylacetic acid, CAS: 19719-28-9

Signal: 2

Processing Integration Results

RT: 8.00
Height: 60948828
Amount: 0.289569
Amount Units: ng

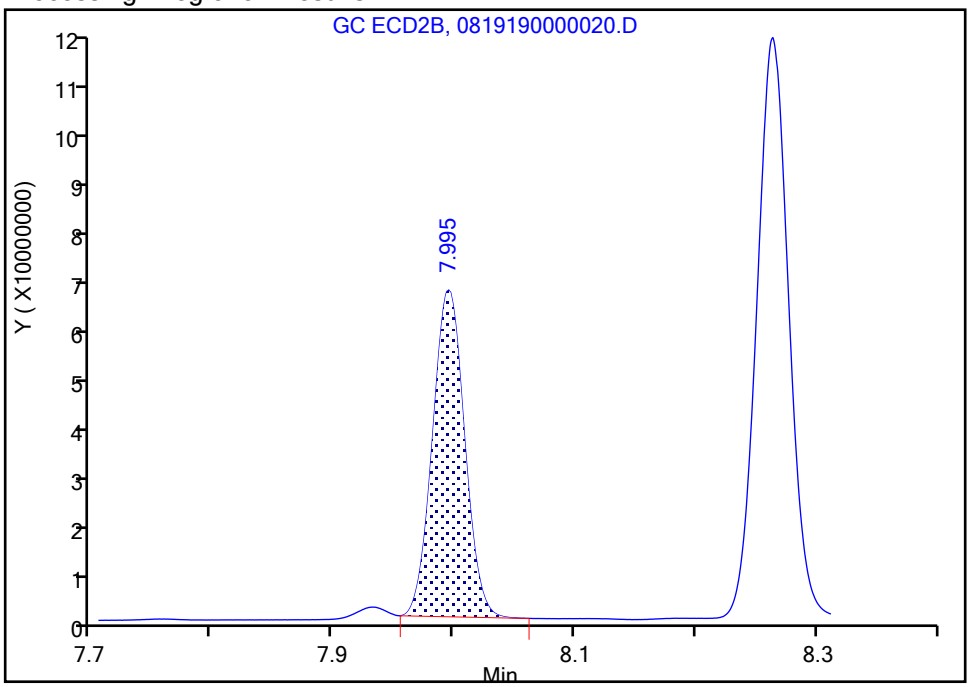

Manual Integration Results

RT: 8.00
Height: 61366883
Amount: 0.290950
Amount Units: ng

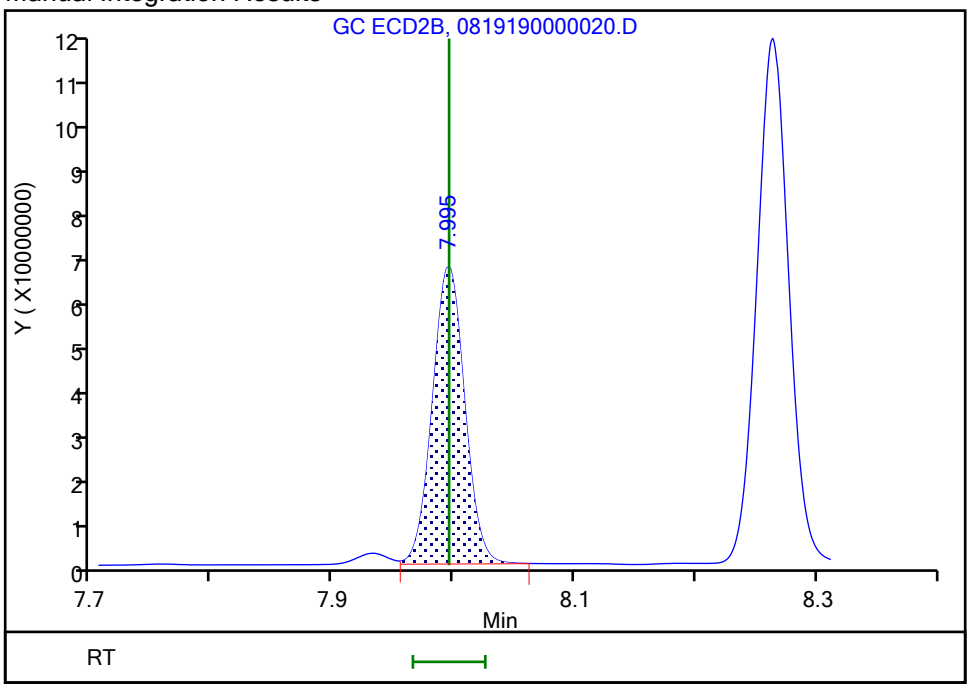

Reviewer: fritschj, 20-Aug-2019 08:39:04

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000020.D				
Injection Date:	19-Aug-2019 20:44:28	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	6	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

3 MCPP, CAS: 93-65-2

Signal: 2

Processing Integration Results

RT: 8.42
Area: 42736423
Amount: 32.786741
Amount Units: ng

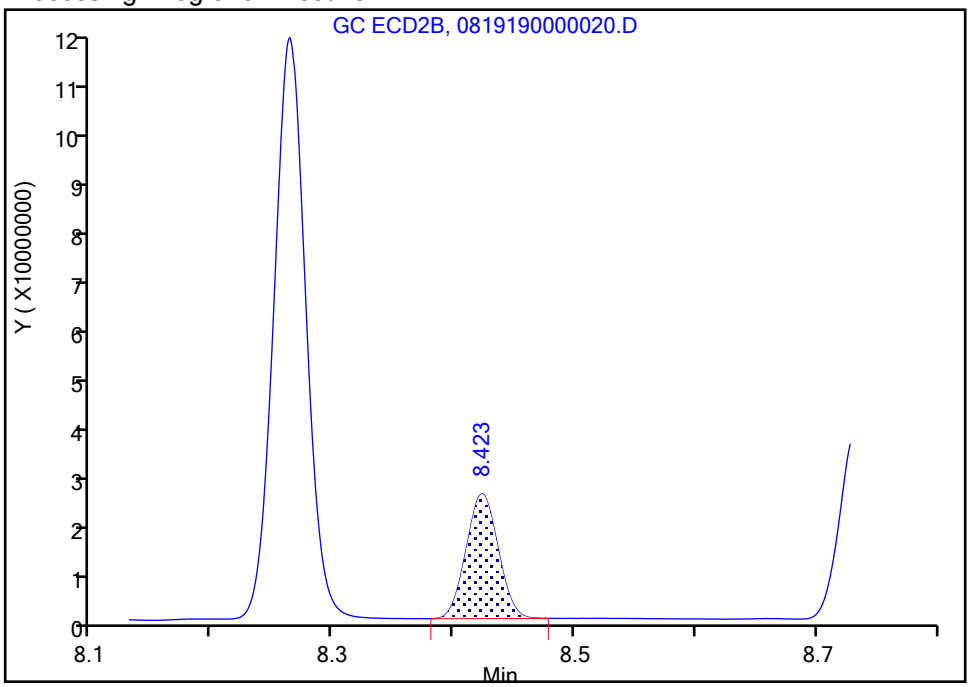

Manual Integration Results

RT: 8.42
Area: 43025874
Amount: 31.914719
Amount Units: ng

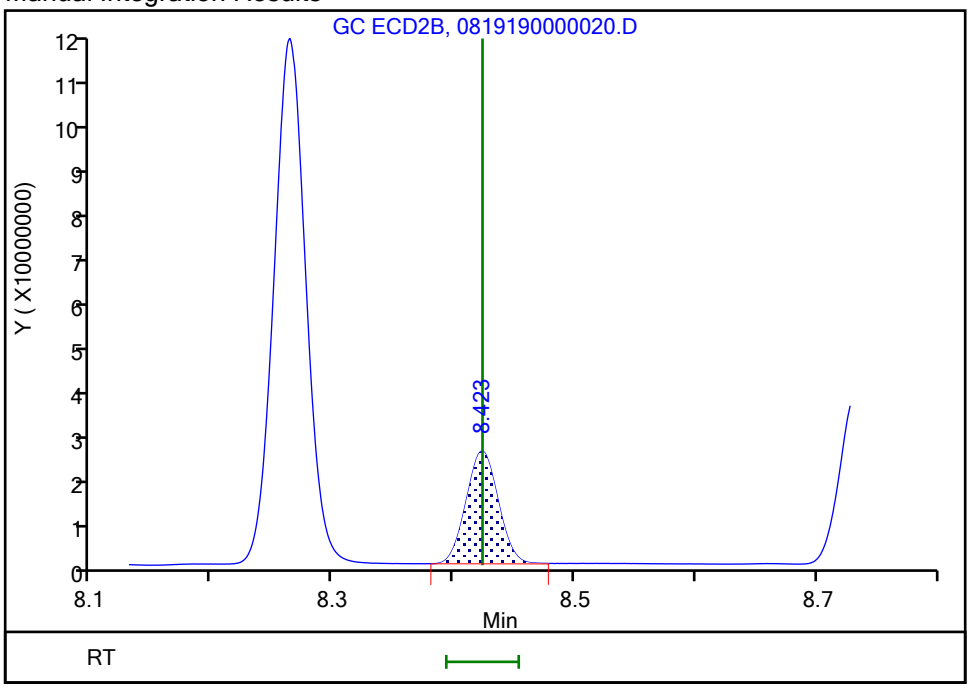

Reviewer: fritschj, 20-Aug-2019 09:01:36

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 19-Aug-2019 21:09:17 ALS Bottle#: 7 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-008
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:30 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:41:54

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.180	2.179	0.001	93323150H	0.6400	0.6261	
2	2.349	2.348	0.001	215136032H	0.6400	0.6410	
						RPD = 2.34	
$ 2 2,4-Dichlorophenylacetic acid							M
1	8.028	8.030	-0.002	81721770H	0.6400	0.7510	
2	7.995	7.996	-0.001	160232905H	0.6400	0.7597	M
						RPD = 1.15	
3 MCPP							M
1	8.246	8.246	0.000	28412748H	64.0	71.9	M
2	8.424	8.423	0.001	105028103	64.0	77.3	M
						RPD = 7.22	
4 Dicamba							
1	8.327	8.326	0.001	147507060H	0.3200	0.4044	
2	8.264	8.265	-0.001	285831491H	0.3200	0.4076	
						RPD = 0.78	
5 MCPA							M
1	8.668	8.667	0.001	42228426H	64.0	65.8	M
2	8.733	8.732	0.001	85179526H	64.0	69.1	
						RPD = 4.89	
6 Dichlorprop							
1	8.946	8.947	-0.001	70413016H	0.6400	0.7272	
2	9.095	9.095	0.000	134112070H	0.6400	0.7234	
						RPD = 0.54	
7 2,4-D							
1	9.439	9.439	0.000	80024495H	0.6400	0.7281	
2	9.492	9.494	-0.002	155353592H	0.6400	0.7158	
						RPD = 1.70	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.969	9.969	0.000	442087354	0.1600	0.1925	
2	9.690	9.691	-0.001	414942166	0.1600	0.1935	H
						RPD = 0.55	
9 Silvex (2,4,5-TP)							
1	10.123	10.124	-0.001	90113505	0.1600	0.1839	H
2	10.261	10.263	-0.002	170145013	0.1600	0.1808	H
						RPD = 1.73	
10 2,4,5-T							
1	10.672	10.673	-0.001	83776615	0.1600	0.1807	H
2	10.717	10.719	-0.002	161521889	0.1600	0.1782	H
						RPD = 1.37	
11 Dinoseb							
1	10.928	10.928	0.000	146632881	0.6400	0.7617	H
2	11.800	11.800	0.000	296590424	0.6400	0.7587	H
						RPD = 0.39	
12 2,4-DB							
1	11.056	11.056	0.000	48229906	0.6400	0.7314	H
2	11.148	11.149	-0.001	92368969	0.6400	0.7488	H
						RPD = 2.34	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCHERBCALSL6_00012 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:25:33 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D				
Injection Date:	19-Aug-2019 21:09:17	Instrument ID:	CGC1	Operator ID:	
Lims ID:	ic			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

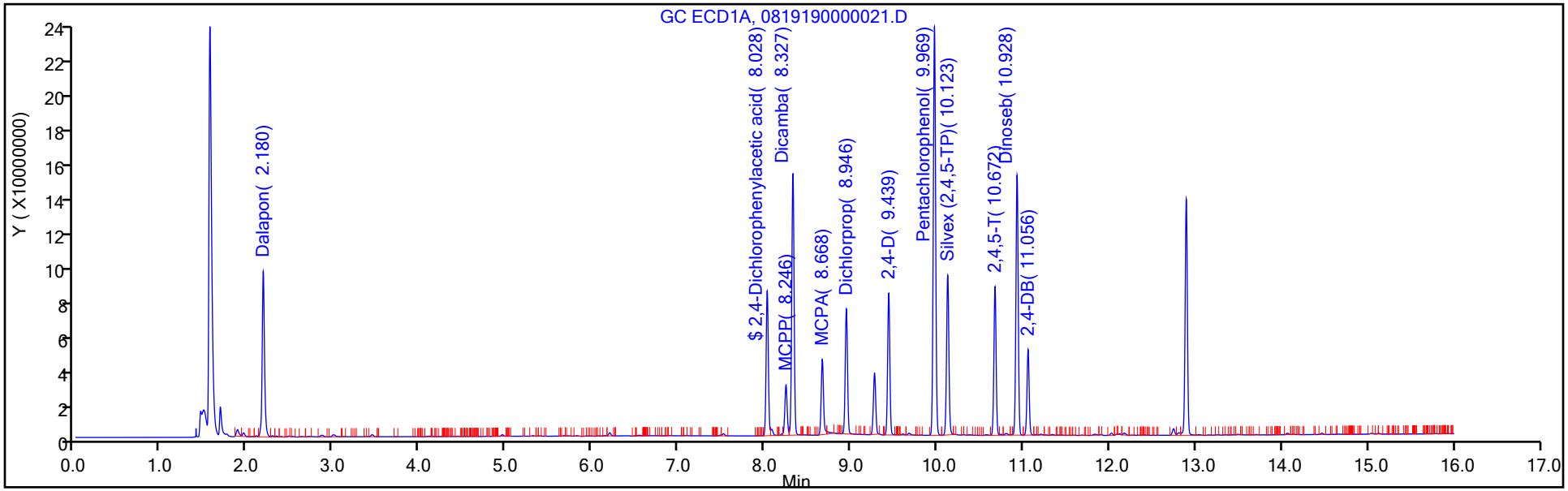

Column: RTX-1701 (0.53 mm)

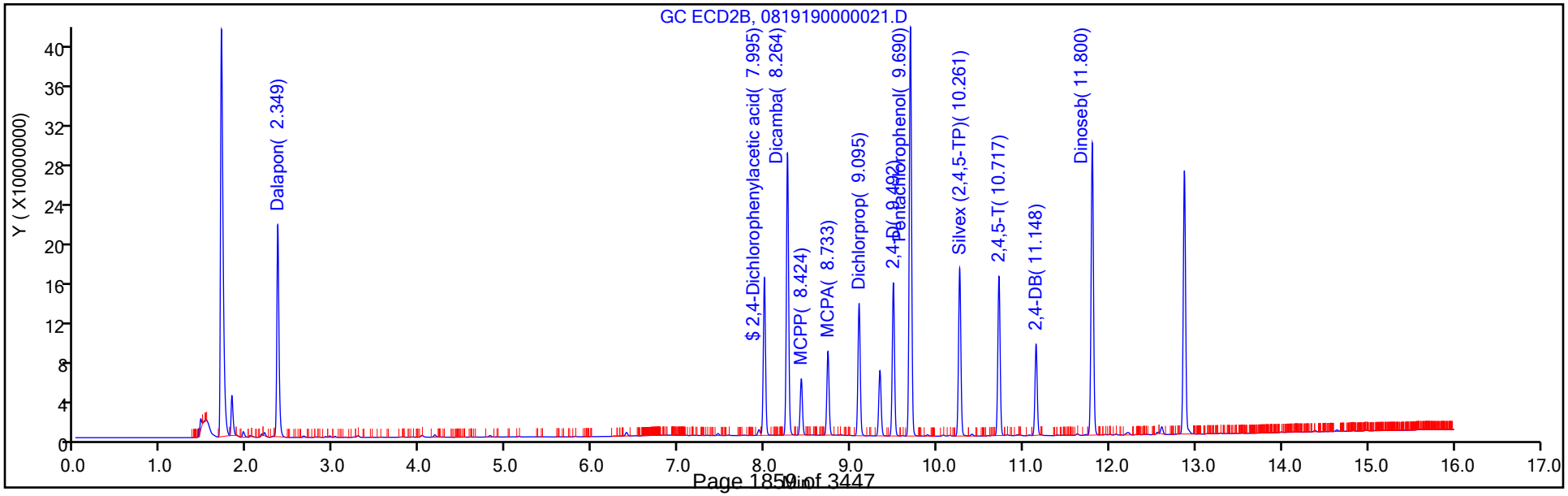

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D				
Injection Date:	19-Aug-2019 21:09:17	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	7	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

$ 2 2,4-Dichlorophenylacetic acid, CAS: 19719-28-9

Signal: 2

Processing Integration Results

RT: 8.00
Height: 159105466
Amount: 0.755244
Amount Units: ng

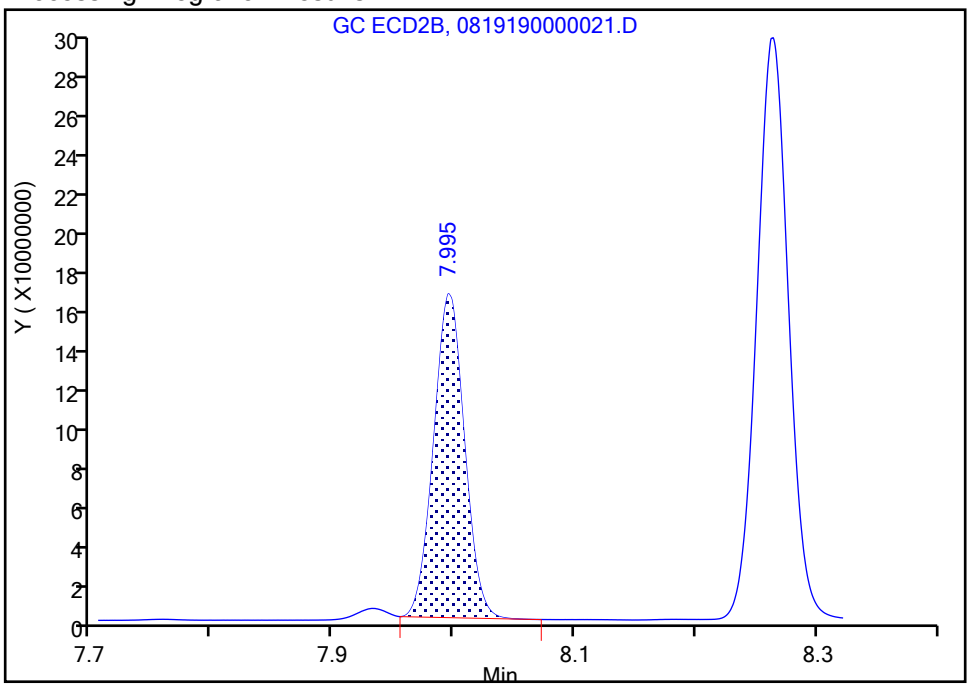

Manual Integration Results

RT: 8.00
Height: 160232905
Amount: 0.759688
Amount Units: ng

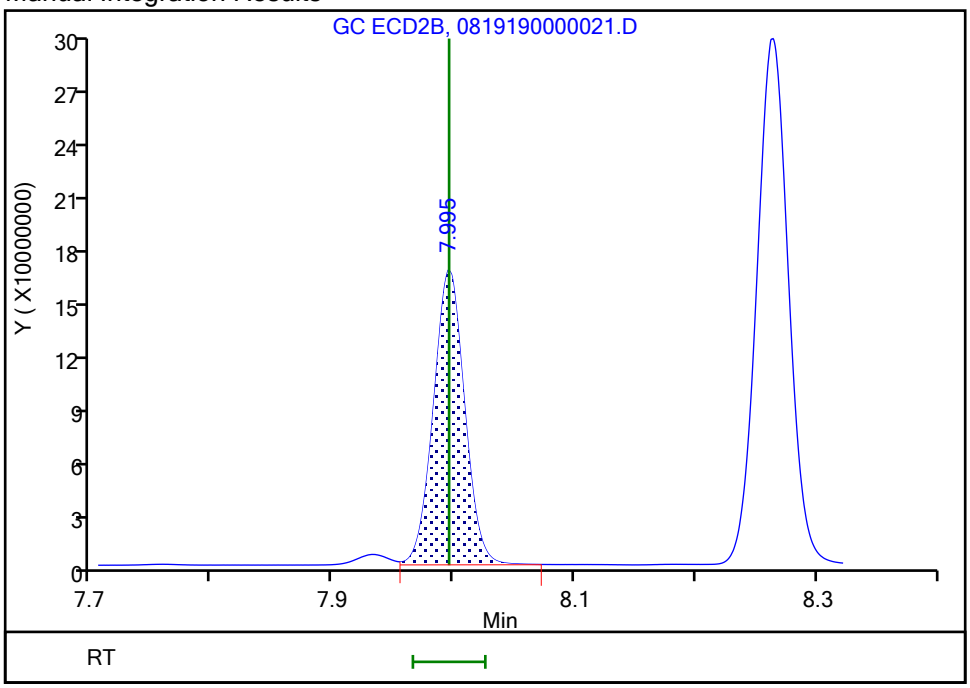

Reviewer: fritschj, 20-Aug-2019 08:39:52
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D				
Injection Date:	19-Aug-2019 21:09:17	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	7	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

3 MCPP, CAS: 93-65-2

Signal: 2

Processing Integration Results

RT: 8.42
Area: 105105493
Amount: 85.245776
Amount Units: ng

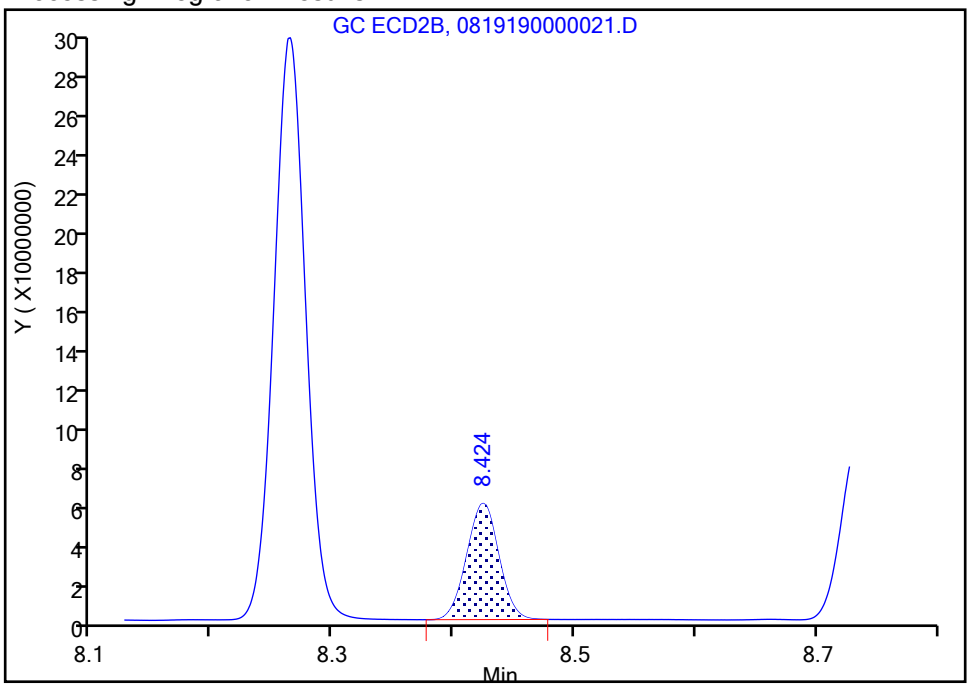

Manual Integration Results

RT: 8.42
Area: 105028103
Amount: 77.277637
Amount Units: ng

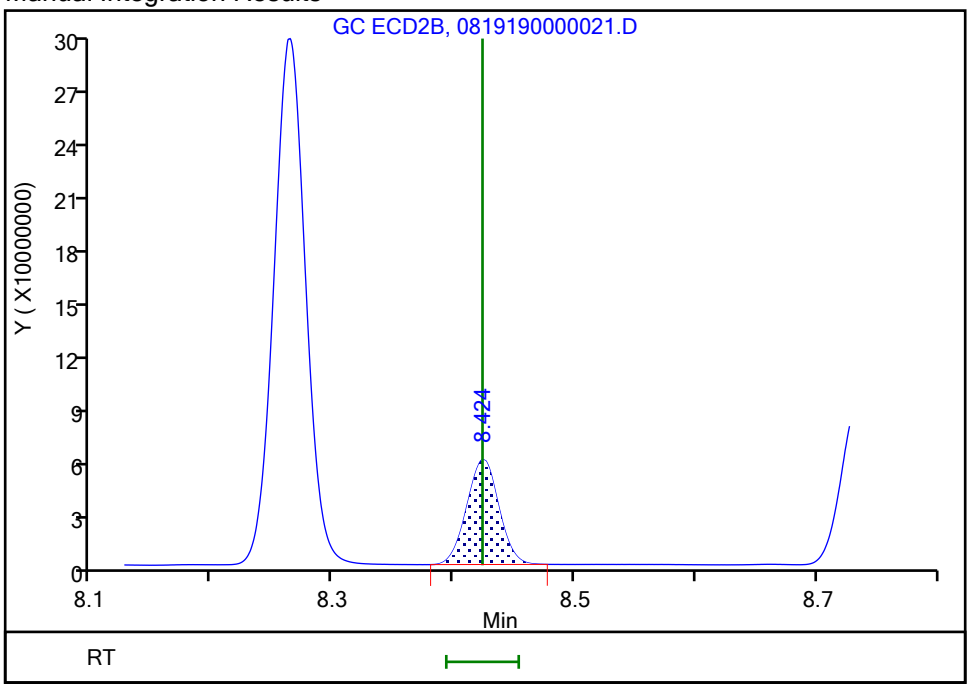

Reviewer: fritschj, 20-Aug-2019 08:59:24

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VII
HERBICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCVRT 180-295605/1 Calibration Date: 10/23/2019 06:40

Instrument ID: CGC1 Calib Start Date: 08/19/2019 18:39

GC Column: RTX-50 ID: 0.53(mm) Calib End Date: 08/19/2019 21:09

Lab File ID: 1022190000003.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,4-D	Ave	109912279	105754906		0.154	0.160	-3.8	15.0
Pentachlorophenol	Ave	2297112921	2122603200		0.0370	0.0400	-7.6	15.0
Silvex (2,4,5-TP)	Ave	489936885	477002775		0.0389	0.0400	-2.6	15.0
2,4,5-T	Ave	463721151	458309150		0.0395	0.0400	-1.2	15.0
Dinoseb	Ave	192497167	214955169		0.179	0.160	11.7	15.0
2,4-DB	Ave	65939713	61490319		0.149	0.160	-6.7	15.0
2,4-Dichlorophenylacetic acid	Ave	108813389	105553181		0.155	0.160	-3.0	15.0

FORM VII
HERBICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCVRT 180-295605/1 Calibration Date: 10/23/2019 06:40

Instrument ID: CGC1 Calib Start Date: 08/19/2019 18:39

GC Column: RTX-50 ID: 0.53(mm) Calib End Date: 08/19/2019 21:09

Lab File ID: 1022190000003.D

Analyte	RT	RT WINDOW	
		FROM	TO
2,4-D	9.26	9.23	9.29
Pentachlorophenol	9.77	9.74	9.80
Silvex (2,4,5-TP)	9.94	9.91	9.97
2,4,5-T	10.49	10.46	10.52
Dinoseb	10.74	10.69	10.79
2,4-DB	10.87	10.84	10.90
2,4-Dichlorophenylacetic acid	7.85	7.82	7.88

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\1022190000003.D
Lims ID: CCVRT
Client ID:
Sample Type: CCVRT
Inject. Date: 23-Oct-2019 06:40:33 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029220-001
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 23-Oct-2019 11:30:26 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: oravecj Date: 23-Oct-2019 11:27:27

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.140	2.140	0.000	28472252H	0.1600	0.1910	
2	2.369	2.369	0.000	57268891H	0.1600	0.1706	
						RPD = 11.29	
$ 2 2,4-Dichlorophenylacetic acid							
1	7.854	7.854	0.000	16888509H	0.1600	0.1552	
2	8.002	8.002	0.000	31877470H	0.1600	0.1511	
						RPD = 2.66	
3 MCPP							
1	8.074	8.074	0.000	7159178H	16.0	18.1	
2	8.423	8.423	0.000	22254945	16.0	16.7	
						RPD = 8.02	
4 Dicamba							
1	8.145	8.145	0.000	27941689H	0.0800	0.0766	
2	8.267	8.267	0.000	52847451H	0.0800	0.0754	
						RPD = 1.64	
5 MCPA							
1	8.491	8.491	0.000	10298656H	16.0	16.1	
2	8.733	8.733	0.000	19134795H	16.0	15.5	
						RPD = 3.32	
6 Dichlorprop							
1	8.771	8.771	0.000	14967842H	0.1600	0.1546	
2	9.094	9.094	0.000	28020682H	0.1600	0.1511	
						RPD = 2.26	
7 2,4-D							
1	9.258	9.258	0.000	16920785H	0.1600	0.1539	
2	9.492	9.492	0.000	32670982H	0.1600	0.1505	
						RPD = 2.24	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.773	9.773	0.000	84904128	0.0400	0.0370	
2	9.703	9.703	0.000	81157995H	0.0400	0.0378	
						RPD = 2.37	
9 Silvex (2,4,5-TP)							
1	9.941	9.941	0.000	19080111H	0.0400	0.0389	
2	10.262	10.262	0.000	35520272H	0.0400	0.0377	
						RPD = 3.15	
10 2,4,5-T							
1	10.486	10.486	0.000	18332366H	0.0400	0.0395	
2	10.717	10.717	0.000	34040706H	0.0400	0.0376	
						RPD = 5.13	
11 Dinoseb							
1	10.744	10.744	0.000	34392827H	0.1600	0.1787	
2	11.791	11.791	0.000	61557319H	0.1600	0.1575	
						RPD = 12.61	
12 2,4-DB							
1	10.871	10.871	0.000	9838451H	0.1600	0.1492	
2	11.145	11.145	0.000	18544271H	0.1600	0.1503	
						RPD = 0.75	

Reagents:

GCHERBCALSL4_00027 Amount Added: 1.00 Units: mL

Report Date: 23-Oct-2019 11:30:28 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\1022190000003.D

Injection Date: 23-Oct-2019 06:40:33 Instrument ID: CGC1 Operator ID:

Lims ID: CCVRT Worklist Smp#: 1

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 1

Method: Herbicides_CGC1 Limit Group: GCS 8151A ICAL

Column: RTX-50 (0.53 mm)

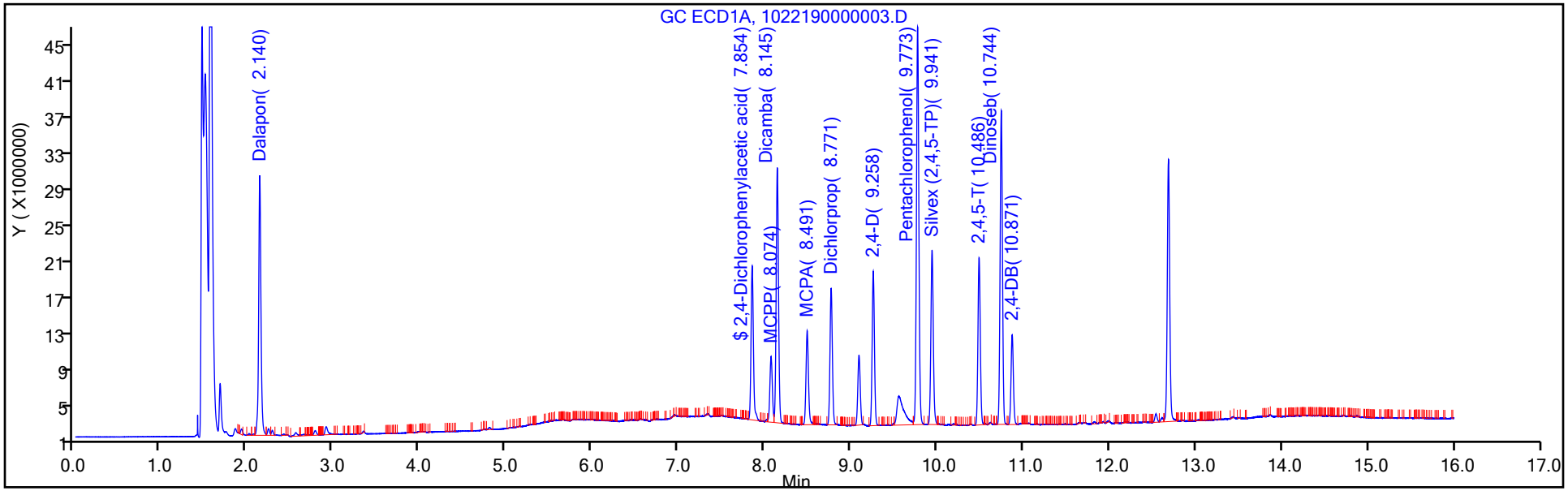

Column: RTX-1701 (0.53 mm)

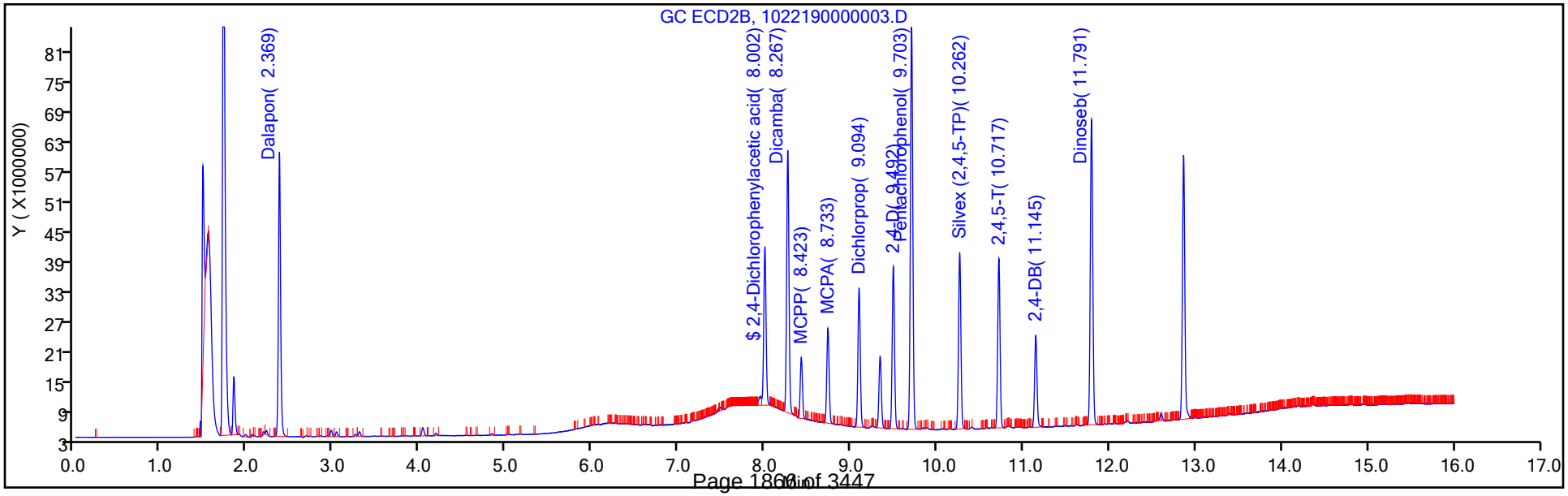

FORM VII
HERBICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCVRT 180-295605/1 Calibration Date: 10/23/2019 06:40

Instrument ID: CGC1 Calib Start Date: 08/19/2019 18:39

GC Column: RTX-1701 ID: 0.53(mm) Calib End Date: 08/19/2019 21:09

Lab File ID: 1022190000003.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,4-D	Ave	217037737	204193638		0.151	0.160	-5.9	15.0
Pentachlorophenol	Ave	2144337766	2028949875		0.0378	0.0400	-5.4	15.0
Silvex (2,4,5-TP)	Ave	941248503	888006800		0.0377	0.0400	-5.7	15.0
2,4,5-T	Ave	906375092	851017650		0.0376	0.0400	-6.1	15.0
2,4-DB	Ave	123360262	115901694		0.150	0.160	-6.0	15.0
Dinoseb	Ave	390899143	384733244		0.157	0.160	-1.6	15.0
2,4-Dichlorophenylacetic acid	Ave	210919252	199234188		0.151	0.160	-5.5	15.0

FORM VII
HERBICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCVRT 180-295605/1 Calibration Date: 10/23/2019 06:40

Instrument ID: CGC1 Calib Start Date: 08/19/2019 18:39

GC Column: RTX-1701 ID: 0.53(mm) Calib End Date: 08/19/2019 21:09

Lab File ID: 1022190000003.D

Analyte	RT	RT WINDOW	
		FROM	TO
2,4-D	9.49	9.46	9.52
Pentachlorophenol	9.70	9.67	9.73
Silvex (2,4,5-TP)	10.26	10.23	10.29
2,4,5-T	10.72	10.69	10.75
2,4-DB	11.15	11.12	11.18
Dinoseb	11.79	11.76	11.82
2,4-Dichlorophenylacetic acid	8.00	7.97	8.03

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\1022190000003.D
Lims ID: CCVRT
Client ID:
Sample Type: CCVRT
Inject. Date: 23-Oct-2019 06:40:33 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029220-001
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 23-Oct-2019 11:30:26 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: oravecj Date: 23-Oct-2019 11:27:27

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.140	2.140	0.000	28472252H	0.1600	0.1910	
2	2.369	2.369	0.000	57268891H	0.1600	0.1706	
						RPD = 11.29	
$ 2 2,4-Dichlorophenylacetic acid							
1	7.854	7.854	0.000	16888509H	0.1600	0.1552	
2	8.002	8.002	0.000	31877470H	0.1600	0.1511	
						RPD = 2.66	
3 MCPP							
1	8.074	8.074	0.000	7159178H	16.0	18.1	
2	8.423	8.423	0.000	22254945	16.0	16.7	
						RPD = 8.02	
4 Dicamba							
1	8.145	8.145	0.000	27941689H	0.0800	0.0766	
2	8.267	8.267	0.000	52847451H	0.0800	0.0754	
						RPD = 1.64	
5 MCPA							
1	8.491	8.491	0.000	10298656H	16.0	16.1	
2	8.733	8.733	0.000	19134795H	16.0	15.5	
						RPD = 3.32	
6 Dichlorprop							
1	8.771	8.771	0.000	14967842H	0.1600	0.1546	
2	9.094	9.094	0.000	28020682H	0.1600	0.1511	
						RPD = 2.26	
7 2,4-D							
1	9.258	9.258	0.000	16920785H	0.1600	0.1539	
2	9.492	9.492	0.000	32670982H	0.1600	0.1505	
						RPD = 2.24	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.773	9.773	0.000	84904128	0.0400	0.0370	
2	9.703	9.703	0.000	81157995H	0.0400	0.0378	
						RPD = 2.37	
9 Silvex (2,4,5-TP)							
1	9.941	9.941	0.000	19080111H	0.0400	0.0389	
2	10.262	10.262	0.000	35520272H	0.0400	0.0377	
						RPD = 3.15	
10 2,4,5-T							
1	10.486	10.486	0.000	18332366H	0.0400	0.0395	
2	10.717	10.717	0.000	34040706H	0.0400	0.0376	
						RPD = 5.13	
11 Dinoseb							
1	10.744	10.744	0.000	34392827H	0.1600	0.1787	
2	11.791	11.791	0.000	61557319H	0.1600	0.1575	
						RPD = 12.61	
12 2,4-DB							
1	10.871	10.871	0.000	9838451H	0.1600	0.1492	
2	11.145	11.145	0.000	18544271H	0.1600	0.1503	
						RPD = 0.75	

Reagents:

GCHERBCALSL4_00027 Amount Added: 1.00 Units: mL

Report Date: 23-Oct-2019 11:30:30 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\1022190000003.D

Injection Date: 23-Oct-2019 06:40:33 Instrument ID: CGC1 Operator ID:

Lims ID: CCVRT Worklist Smp#: 1

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 1

Method: Herbicides_CGC1 Limit Group: GCS 8151A ICAL

Column: RTX-50 (0.53 mm)

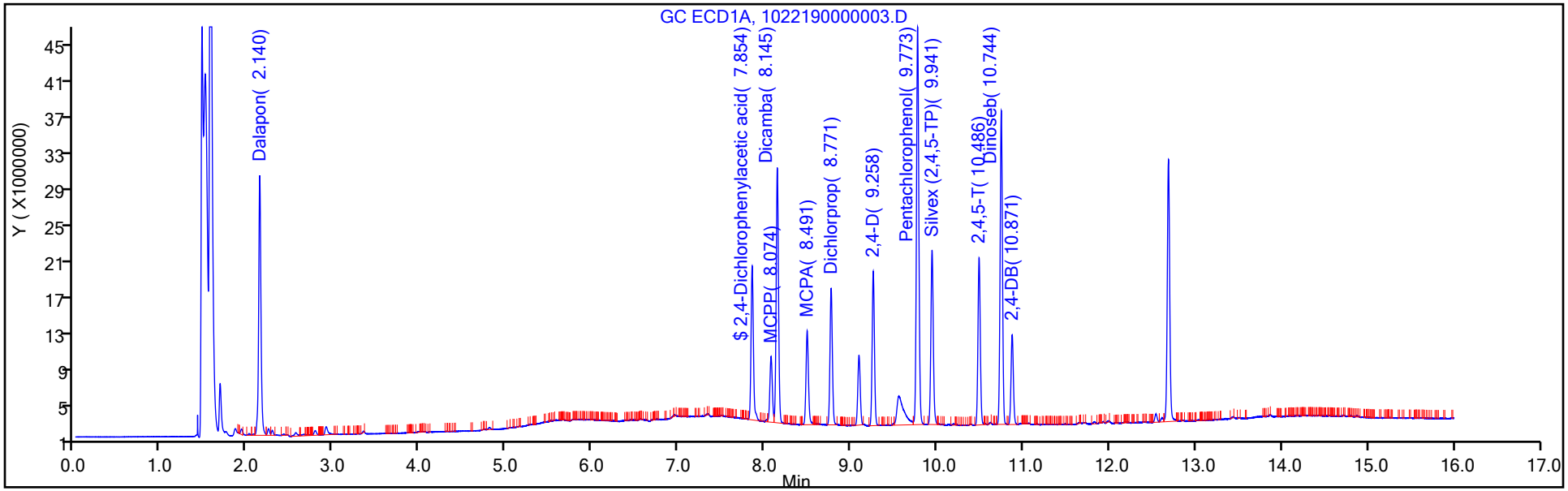

Column: RTX-1701 (0.53 mm)

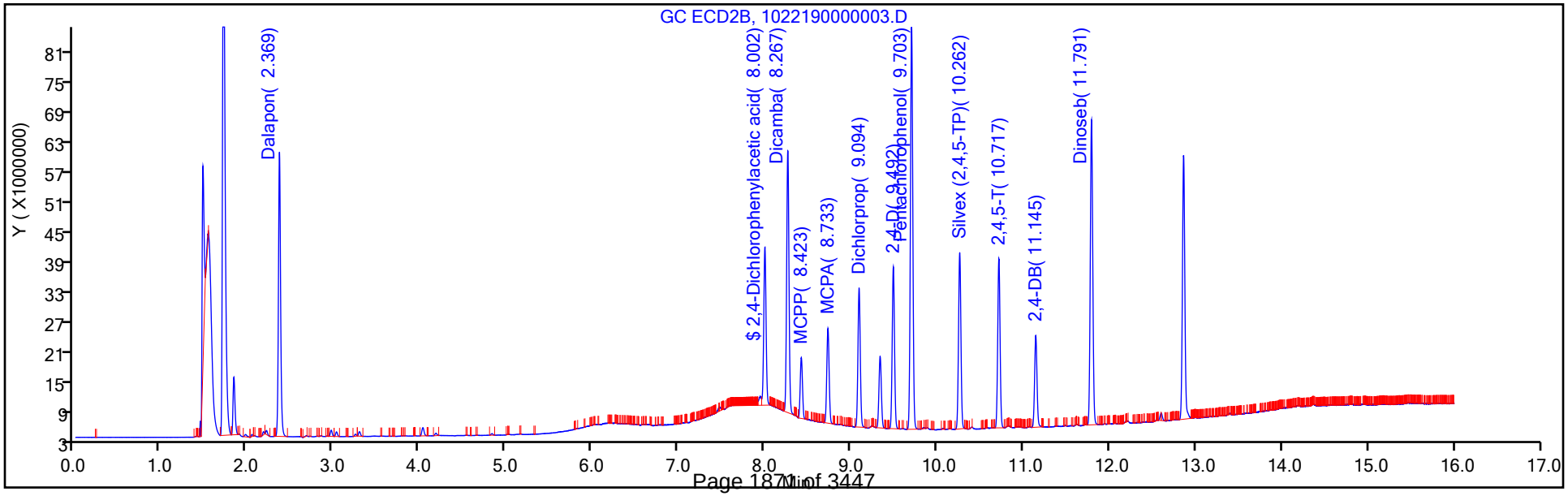

FORM VII
HERBICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCV 180-295605/11 Calibration Date: 10/23/2019 10:49

Instrument ID: CGC1 Calib Start Date: 08/19/2019 18:39

GC Column: RTX-50 ID: 0.53(mm) Calib End Date: 08/19/2019 21:09

Lab File ID: 1022190000013.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,4-D	Ave	109912279	109870025		0.160	0.160	-0.0	15.0
Pentachlorophenol	Ave	2297112921	2157322300		0.0376	0.0400	-6.1	15.0
Silvex (2,4,5-TP)	Ave	489936885	486226575		0.0397	0.0400	-0.8	15.0
2,4,5-T	Ave	463721151	473570175		0.0408	0.0400	2.1	15.0
Dinoseb	Ave	192497167	220981500		0.184	0.160	14.8	15.0
2,4-DB	Ave	65939713	64143025		0.156	0.160	-2.7	15.0
2,4-Dichlorophenylacetic acid	Ave	108813389	107948344		0.159	0.160	-0.8	15.0

FORM VII
HERBICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCV 180-295605/11 Calibration Date: 10/23/2019 10:49

Instrument ID: CGC1 Calib Start Date: 08/19/2019 18:39

GC Column: RTX-50 ID: 0.53(mm) Calib End Date: 08/19/2019 21:09

Lab File ID: 1022190000013.D

Analyte	RT	RT WINDOW	
		FROM	TO
2,4-D	9.26	9.23	9.29
Pentachlorophenol	9.77	9.74	9.80
Silvex (2,4,5-TP)	9.94	9.91	9.97
2,4,5-T	10.49	10.46	10.52
Dinoseb	10.74	10.69	10.79
2,4-DB	10.87	10.84	10.90
2,4-Dichlorophenylacetic acid	7.86	7.82	7.88

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\1022190000013.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 23-Oct-2019 10:49:14 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029220-011
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 23-Oct-2019 11:29:44 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: oravecj Date: 23-Oct-2019 11:28:43

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.140	2.140	0.000	28630904H	0.1600	0.1921	
2	2.370	2.369	0.001	56066799H	0.1600	0.1670	
						RPD = 13.95	
$ 2 2,4-Dichlorophenylacetic acid							
1	7.855	7.854	0.001	17271735H	0.1600	0.1587	
2	8.003	8.002	0.001	30686553H	0.1600	0.1455	
						RPD = 8.70	
3 MCPP							M
1	8.074	8.074	0.000	7255048H	16.0	18.4	
2	8.425	8.423	0.002	22647095	16.0	17.0	M
						RPD = 7.65	
4 Dicamba							
1	8.147	8.145	0.002	28389469H	0.0800	0.0778	
2	8.270	8.267	0.003	52401726H	0.0800	0.0747	
						RPD = 4.08	
5 MCPA							
1	8.493	8.491	0.002	10286211H	16.0	16.0	
2	8.735	8.733	0.002	18877214H	16.0	15.3	
						RPD = 4.56	
6 Dichlorprop							
1	8.771	8.771	0.000	15454405H	0.1600	0.1596	
2	9.098	9.094	0.004	27752620H	0.1600	0.1497	
						RPD = 6.42	
7 2,4-D							
1	9.260	9.258	0.002	17579204H	0.1600	0.1599	
2	9.495	9.492	0.003	32080320H	0.1600	0.1478	
						RPD = 7.88	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.774	9.773	0.001	86292892	0.0400	0.0376	
2	9.707	9.703	0.004	80559902H	0.0400	0.0376	
						RPD = 0.01	
9 Silvex (2,4,5-TP)							
1	9.941	9.941	0.000	19449063H	0.0400	0.0397	
2	10.264	10.262	0.002	35082691H	0.0400	0.0373	
						RPD = 6.30	
10 2,4,5-T							
1	10.488	10.486	0.002	18942807H	0.0400	0.0408	
2	10.720	10.717	0.003	34327230H	0.0400	0.0379	
						RPD = 7.56	
11 Dinoseb							
1	10.744	10.744	0.000	35357040H	0.1600	0.1837	
2	11.795	11.791	0.004	61977377H	0.1600	0.1586	
						RPD = 14.68	
12 2,4-DB							
1	10.871	10.871	0.000	10262884H	0.1600	0.1556	
2	11.147	11.145	0.002	18001005H	0.1600	0.1459	
						RPD = 6.45	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCHERBCALSL4_00027 Amount Added: 1.00 Units: mL

Report Date: 23-Oct-2019 11:29:45 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\1022190000013.D				
Injection Date:	23-Oct-2019 10:49:14	Instrument ID:	CGC1	Operator ID:	
Lims ID:	CCV			Worklist Smp#:	11
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

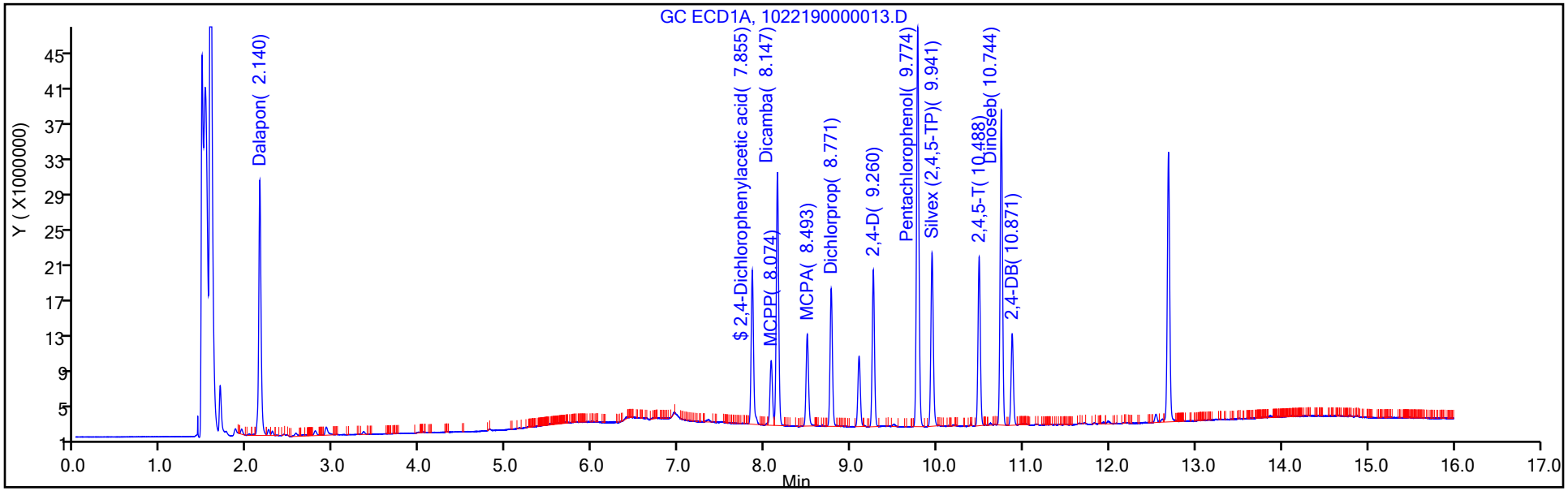

Column: RTX-1701 (0.53 mm)

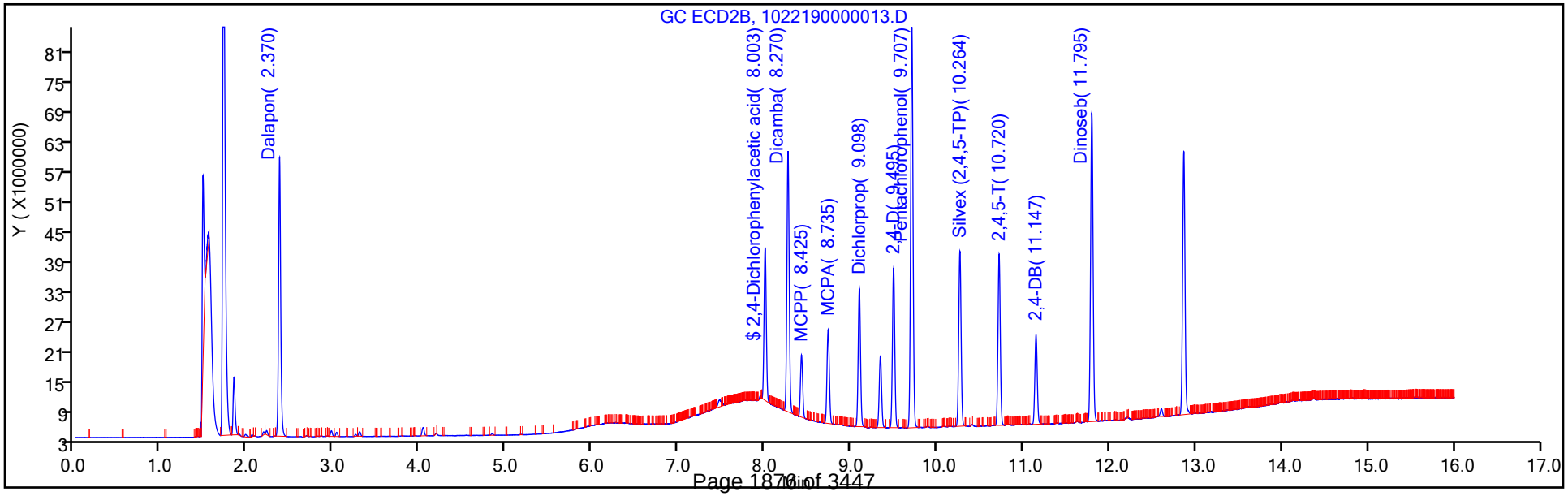

FORM VII
HERBICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCV 180-295605/11 Calibration Date: 10/23/2019 10:49

Instrument ID: CGC1 Calib Start Date: 08/19/2019 18:39

GC Column: RTX-1701 ID: 0.53(mm) Calib End Date: 08/19/2019 21:09

Lab File ID: 1022190000013.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,4-D	Ave	217037737	200502000		0.148	0.160	-7.6	15.0
Pentachlorophenol	Ave	2144337766	2013997550		0.0376	0.0400	-6.1	15.0
Silvex (2,4,5-TP)	Ave	941248503	877067275		0.0373	0.0400	-6.8	15.0
2,4,5-T	Ave	906375092	858180750		0.0379	0.0400	-5.3	15.0
2,4-DB	Ave	123360262	112506281		0.146	0.160	-8.8	15.0
Dinoseb	Ave	390899143	387358606		0.159	0.160	-0.9	15.0
2,4-Dichlorophenylacetic acid	Ave	210919252	191790956		0.145	0.160	-9.1	15.0

FORM VII
HERBICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCV 180-295605/11 Calibration Date: 10/23/2019 10:49

Instrument ID: CGC1 Calib Start Date: 08/19/2019 18:39

GC Column: RTX-1701 ID: 0.53(mm) Calib End Date: 08/19/2019 21:09

Lab File ID: 1022190000013.D

Analyte	RT	RT WINDOW	
		FROM	TO
2,4-D	9.50	9.46	9.52
Pentachlorophenol	9.71	9.67	9.73
Silvex (2,4,5-TP)	10.26	10.23	10.29
2,4,5-T	10.72	10.69	10.75
2,4-DB	11.15	11.12	11.18
Dinoseb	11.80	11.76	11.82
2,4-Dichlorophenylacetic acid	8.00	7.97	8.03

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\1022190000013.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 23-Oct-2019 10:49:14 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0029220-011
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 23-Oct-2019 11:29:44 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: oravecj Date: 23-Oct-2019 11:28:43

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.140	2.140	0.000	28630904H	0.1600	0.1921	
2	2.370	2.369	0.001	56066799H	0.1600	0.1670	
						RPD = 13.95	
$ 2 2,4-Dichlorophenylacetic acid							
1	7.855	7.854	0.001	17271735H	0.1600	0.1587	
2	8.003	8.002	0.001	30686553H	0.1600	0.1455	
						RPD = 8.70	
3 MCPP							M
1	8.074	8.074	0.000	7255048H	16.0	18.4	
2	8.425	8.423	0.002	22647095	16.0	17.0	M
						RPD = 7.65	
4 Dicamba							
1	8.147	8.145	0.002	28389469H	0.0800	0.0778	
2	8.270	8.267	0.003	52401726H	0.0800	0.0747	
						RPD = 4.08	
5 MCPA							
1	8.493	8.491	0.002	10286211H	16.0	16.0	
2	8.735	8.733	0.002	18877214H	16.0	15.3	
						RPD = 4.56	
6 Dichlorprop							
1	8.771	8.771	0.000	15454405H	0.1600	0.1596	
2	9.098	9.094	0.004	27752620H	0.1600	0.1497	
						RPD = 6.42	
7 2,4-D							
1	9.260	9.258	0.002	17579204H	0.1600	0.1599	
2	9.495	9.492	0.003	32080320H	0.1600	0.1478	
						RPD = 7.88	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.774	9.773	0.001	86292892	0.0400	0.0376	
2	9.707	9.703	0.004	80559902H	0.0400	0.0376	
						RPD = 0.01	
9 Silvex (2,4,5-TP)							
1	9.941	9.941	0.000	19449063H	0.0400	0.0397	
2	10.264	10.262	0.002	35082691H	0.0400	0.0373	
						RPD = 6.30	
10 2,4,5-T							
1	10.488	10.486	0.002	18942807H	0.0400	0.0408	
2	10.720	10.717	0.003	34327230H	0.0400	0.0379	
						RPD = 7.56	
11 Dinoseb							
1	10.744	10.744	0.000	35357040H	0.1600	0.1837	
2	11.795	11.791	0.004	61977377H	0.1600	0.1586	
						RPD = 14.68	
12 2,4-DB							
1	10.871	10.871	0.000	10262884H	0.1600	0.1556	
2	11.147	11.145	0.002	18001005H	0.1600	0.1459	
						RPD = 6.45	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCHERBCALSL4_00027 Amount Added: 1.00 Units: mL

Report Date: 23-Oct-2019 11:29:45 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\1022190000013.D				
Injection Date:	23-Oct-2019 10:49:14	Instrument ID:	CGC1	Operator ID:	
Lims ID:	CCV			Worklist Smp#:	11
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

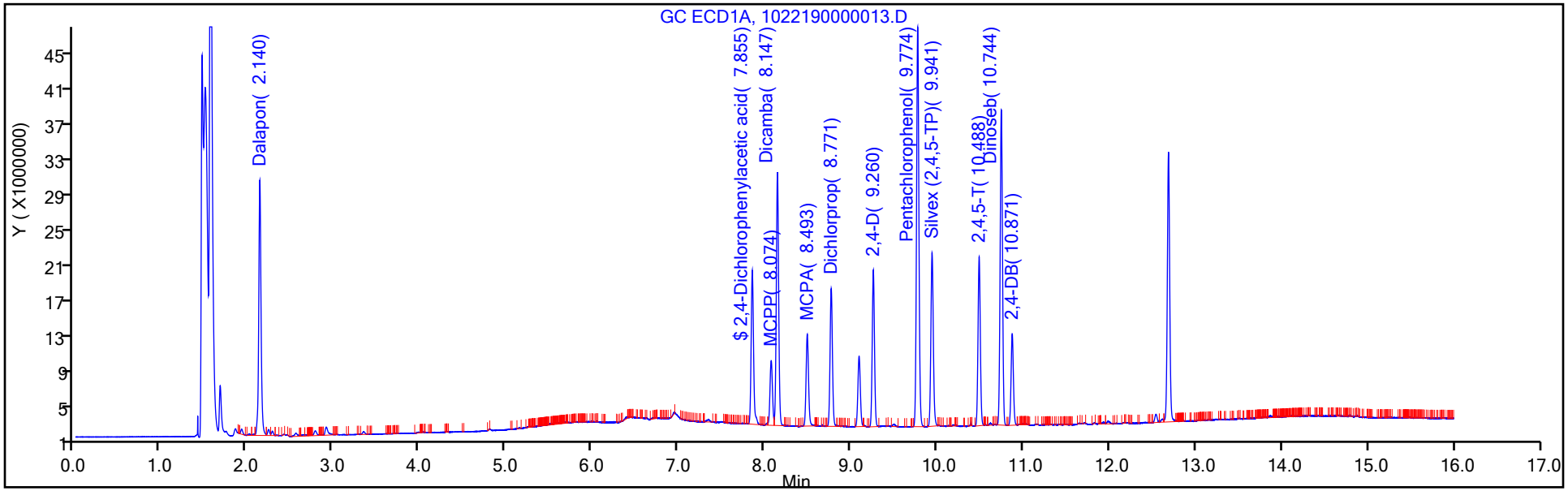

Column: RTX-1701 (0.53 mm)

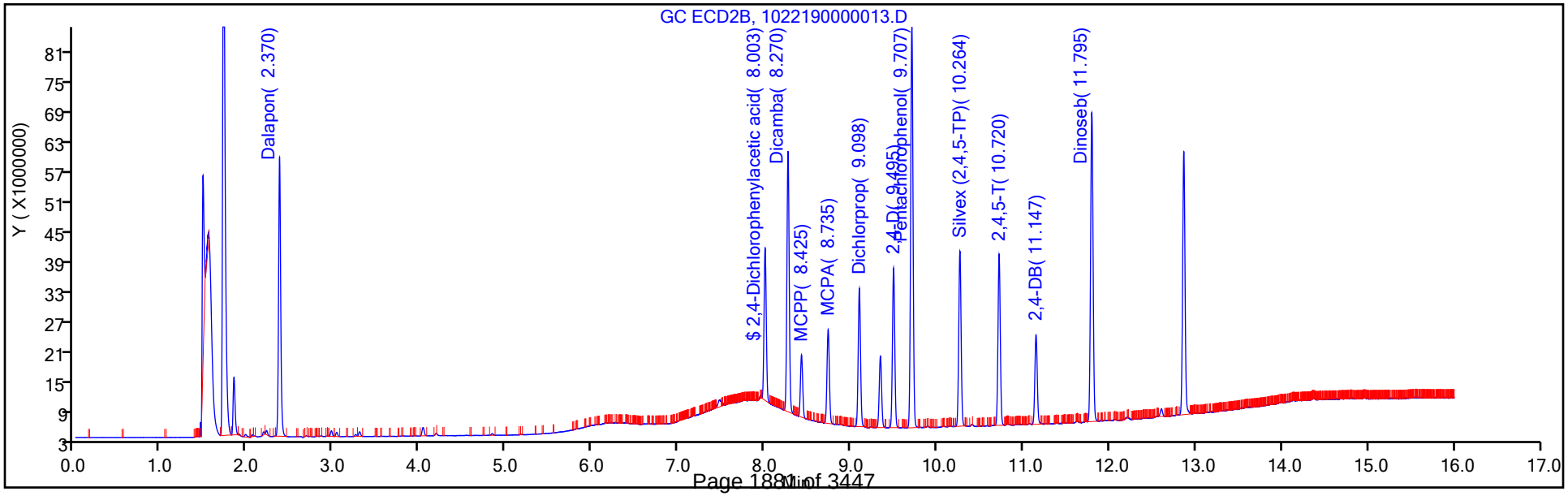

FORM I
HERBICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 180-295398/1-A

Matrix: Solid Lab File ID: 1022190000004.D

Analysis Method: EPA 8151A Date Collected:

Extraction Method: 8151A Date Extracted: 10/18/2019 13:00

Sample wt/vol: 1000(mL) Date Analyzed: 10/23/2019 07:05

Con. Extract Vol.: 10.0(mL) Dilution Factor: 20

Injection Volume: 1(uL) GC Column: RTX-50 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 295605 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
94-75-7	2,4-D	ND		0.0040	0.0020
93-72-1	Silvex (2,4,5-TP)	ND		0.0010	0.00030
88-85-7	Dinoseb	ND		0.0040	0.0038

CAS NO.	SURROGATE	%REC	Q	LIMITS
19719-28-9	2,4-Dichlorophenylacetic acid	26		23-122

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\1022190000004.D
Lims ID: MB 180-295398/1-A
Client ID:
Sample Type: MB
Inject. Date: 23-Oct-2019 07:05:15 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 20.0000
Sample Info: 180-0029220-002
Operator ID: Instrument ID: CGC1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 23-Oct-2019 11:29:44 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: oravecj Date: 23-Oct-2019 09:22:23

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							U
1		2.140				ND	
2		2.369					
$ 2 2,4-Dichlorophenylacetic acid							
1	7.854	7.854	0.000	1422360H	0.0500	0.0131	
2	8.001	8.002	-0.001	3074542H	0.0500	0.0146	
						RPD = 10.89	
3 MCPP							U
1		8.074				ND	
2		8.423					
4 Dicamba							
1		8.145				ND	
2		8.267					
5 MCPA							
1		8.491				ND	
2		8.733					
6 Dichlorprop							
1		8.771				ND	
2		9.094					
7 2,4-D							
1		9.258				ND	
2		9.492					
8 Pentachlorophenol							
1		9.773				ND	
2		9.703					
9 Silvex (2,4,5-TP)							
1		9.941				ND	
2		10.262					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
10 2,4,5-T							
1		10.486				ND	
2		10.717					
11 Dinoseb							
1		10.744				ND	
2		11.791					
12 2,4-DB							
1		10.871				ND	
2		11.145					

QC Flag Legend

Review Flags

U - Marked Undetected

Report Date: 23-Oct-2019 11:30:22 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\1022190000004.D				
Injection Date:	23-Oct-2019 07:05:15	Instrument ID:	CGC1	Operator ID:	
Lims ID:	MB 180-295398/1-A			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	2
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

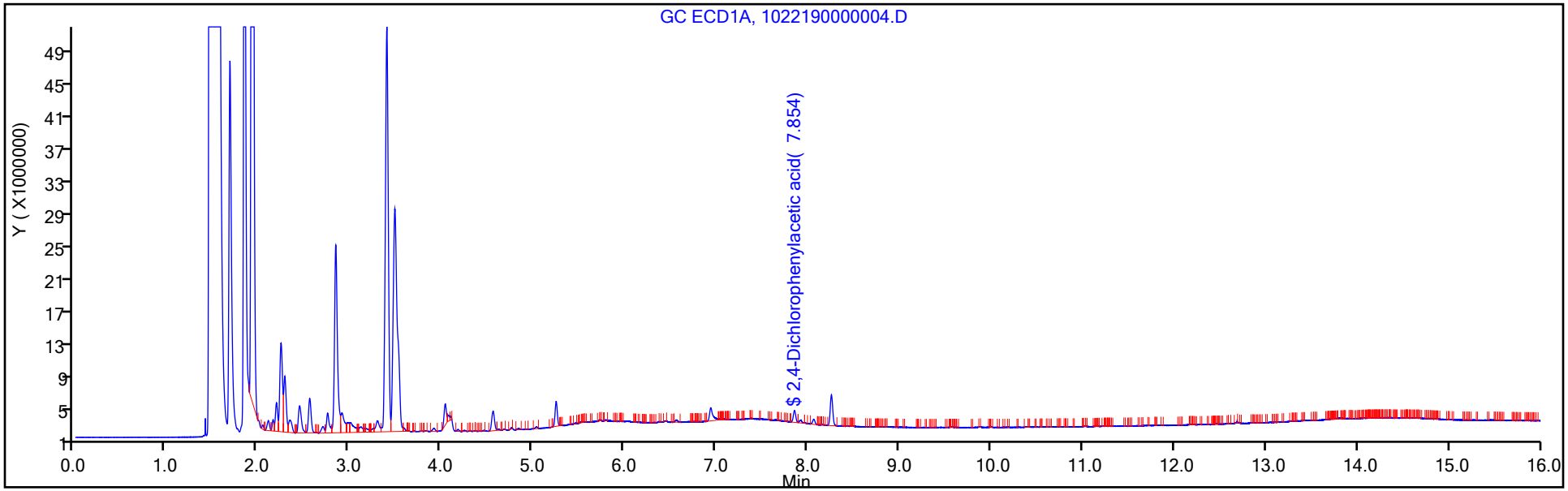

Column: RTX-1701 (0.53 mm)

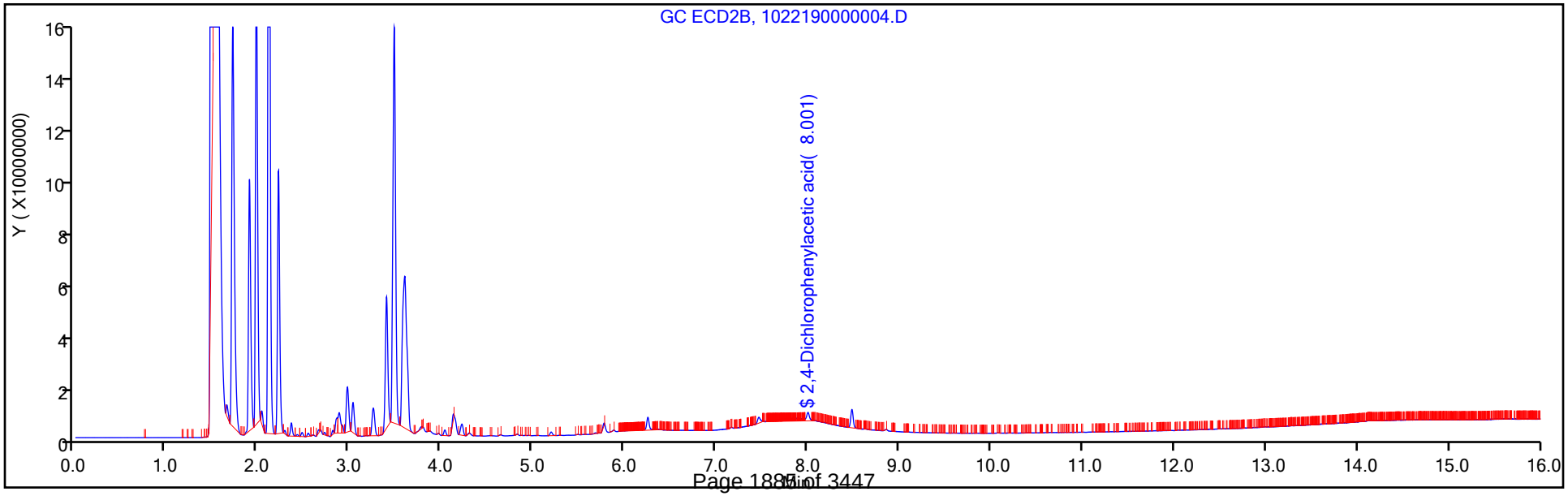

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\1022190000004.D				
Lims ID:	MB 180-295398/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	23-Oct-2019 07:05:15	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	180-0029220-002				
Operator ID:		Instrument ID:	CGC1		
Method:	\\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\Herbicides_CGC1.m				
Limit Group:	GCS 8151A ICAL				
Last Update:	23-Oct-2019 11:29:44	Calib Date:	19-Aug-2019 21:09:17		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D				
Column 1 :	RTX-50 (0.53 mm)		Det: GC ECD1A		
Column 2 :	RTX-1701 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0310				
First Level Reviewer: oravecj		Date:	23-Oct-2019 09:22:23		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0131	26.14

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0146	29.15

FORM I
HERBICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 180-295398/1-A

Matrix: Solid Lab File ID: 1022190000004.D

Analysis Method: EPA 8151A Date Collected:

Extraction Method: 8151A Date Extracted: 10/18/2019 13:00

Sample wt/vol: 1000(mL) Date Analyzed: 10/23/2019 07:05

Con. Extract Vol.: 10.0(mL) Dilution Factor: 20

Injection Volume: 1(uL) GC Column: RTX-1701 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 295605 Units: mg/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
19719-28-9	2,4-Dichlorophenylacetic acid	29		23-122

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\1022190000004.D
Lims ID: MB 180-295398/1-A
Client ID:
Sample Type: MB
Inject. Date: 23-Oct-2019 07:05:15 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 20.0000
Sample Info: 180-0029220-002
Operator ID: Instrument ID: CGC1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 23-Oct-2019 11:29:44 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: oravecj Date: 23-Oct-2019 09:22:23

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							U
1		2.140				ND	
2		2.369					
$ 2 2,4-Dichlorophenylacetic acid							
1	7.854	7.854	0.000	1422360H	0.0500	0.0131	
2	8.001	8.002	-0.001	3074542H	0.0500	0.0146	
						RPD = 10.89	
3 MCPP							U
1		8.074				ND	
2		8.423					
4 Dicamba							
1		8.145				ND	
2		8.267					
5 MCPA							
1		8.491				ND	
2		8.733					
6 Dichlorprop							
1		8.771				ND	
2		9.094					
7 2,4-D							
1		9.258				ND	
2		9.492					
8 Pentachlorophenol							
1		9.773				ND	
2		9.703					
9 Silvex (2,4,5-TP)							
1		9.941				ND	
2		10.262					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
10 2,4,5-T							
1		10.486				ND	
2		10.717					
11 Dinoseb							
1		10.744				ND	
2		11.791					
12 2,4-DB							
1		10.871				ND	
2		11.145					

QC Flag Legend

Review Flags

U - Marked Undetected

Report Date: 23-Oct-2019 11:30:24 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\1022190000004.D

Injection Date: 23-Oct-2019 07:05:15 Instrument ID: CGC1 Operator ID:

Lims ID: MB 180-295398/1-A Worklist Smp#: 2

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 20.0000 ALS Bottle#: 2

Method: Herbicides_CGC1 Limit Group: GCS 8151A ICAL

Column: RTX-50 (0.53 mm)

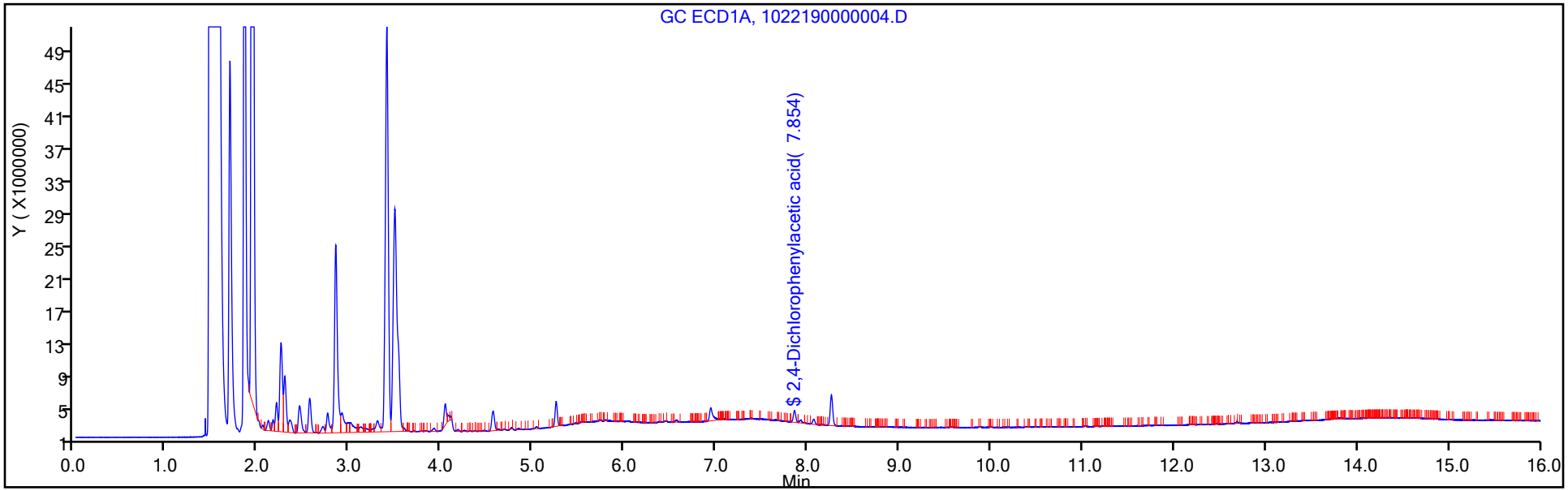

Column: RTX-1701 (0.53 mm)

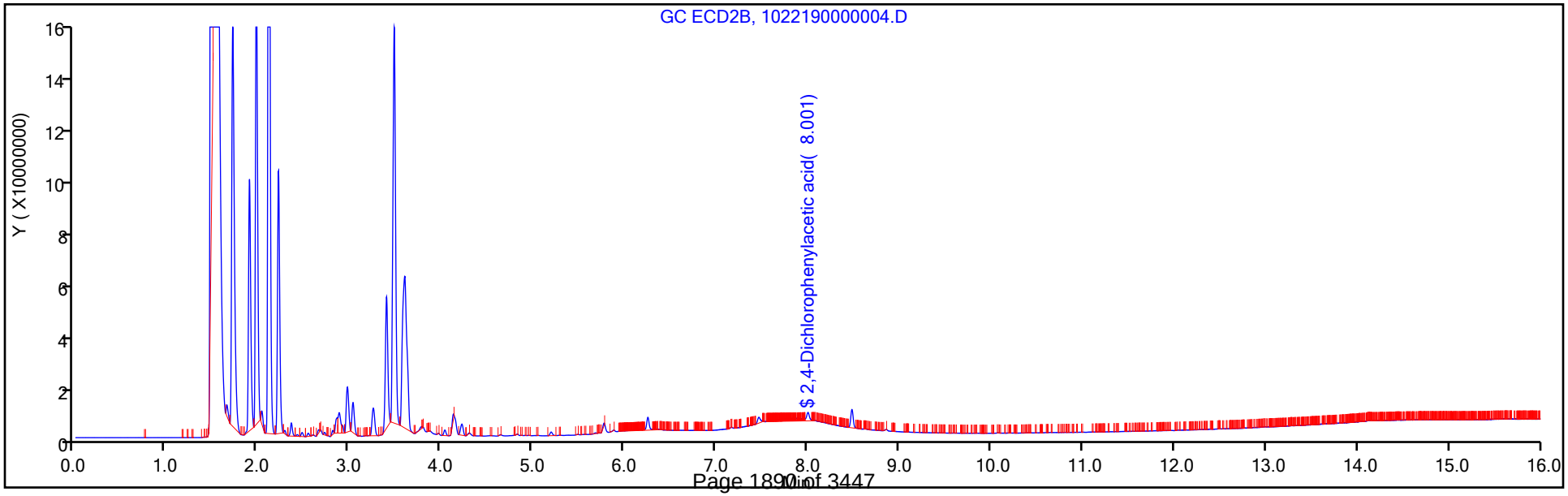

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\1022190000004.D				
Lims ID:	MB 180-295398/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	23-Oct-2019 07:05:15	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	180-0029220-002				
Operator ID:		Instrument ID:	CGC1		
Method:	\\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\Herbicides_CGC1.m				
Limit Group:	GCS 8151A ICAL				
Last Update:	23-Oct-2019 11:29:44	Calib Date:	19-Aug-2019 21:09:17		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D				
Column 1 :	RTX-50 (0.53 mm)		Det: GC ECD1A		
Column 2 :	RTX-1701 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0310				
First Level Reviewer: oravecj		Date:	23-Oct-2019 09:22:23		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0131	26.14

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0146	29.15

FORM I
HERBICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Client Sample ID: Lab Sample ID: LB 180-295177/1-F

Matrix: Solid (TCLP) Lab File ID: 1022190000010.D

Analysis Method: EPA 8151A Date Collected:

Extraction Method: 8151A Date Extracted: 10/18/2019 13:00

Sample wt/vol: 100(mL) Date Analyzed: 10/23/2019 09:34

Con. Extract Vol.: 10.0(mL) Dilution Factor: 20

Injection Volume: 1(uL) GC Column: RTX-50 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 295605 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
94-75-7	2,4-D	ND		0.040	0.020
93-72-1	Silvex (2,4,5-TP)	ND		0.010	0.0030
88-85-7	Dinoseb	ND		0.040	0.038

CAS NO.	SURROGATE	%REC	Q	LIMITS
19719-28-9	2,4-Dichlorophenylacetic acid	40		23-122

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\1022190000010.D
Lims ID: LB 180-295177/1-F
Client ID:
Sample Type: LB
Inject. Date: 23-Oct-2019 09:34:37 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 20.0000
Sample Info: 180-0029220-008
Operator ID: Instrument ID: CGC1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 23-Oct-2019 11:29:44 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: oravecj Date: 23-Oct-2019 11:28:01

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							U
1		2.140				ND	
2		2.369					
$ 2 2,4-Dichlorophenylacetic acid							
1	7.856	7.854	0.002	2164148H	0.0500	0.0199	
2	8.004	8.002	0.002	3826452H	0.0500	0.0181	
						RPD = 9.19	
3 MCPP							U
1		8.074				ND	
2		8.423					
4 Dicamba							
1		8.145				ND	
2		8.267					
5 MCPA							
1		8.491				ND	
2		8.733					
6 Dichlorprop							
1		8.771				ND	
2		9.094					
7 2,4-D							
1		9.258				ND	
2		9.492					
8 Pentachlorophenol							
1		9.773				ND	
2		9.703					
9 Silvex (2,4,5-TP)							
1		9.941				ND	
2		10.262					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
10 2,4,5-T							
1		10.486				ND	
2		10.717					
11 Dinoseb							
1		10.744				ND	
2		11.791					
12 2,4-DB							
1		10.871				ND	
2		11.145					

QC Flag Legend

Review Flags

U - Marked Undetected

Report Date: 23-Oct-2019 11:29:52 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\1022190000010.D				
Injection Date:	23-Oct-2019 09:34:37	Instrument ID:	CGC1	Operator ID:	
Lims ID:	LB 180-295177/1-F			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	8
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

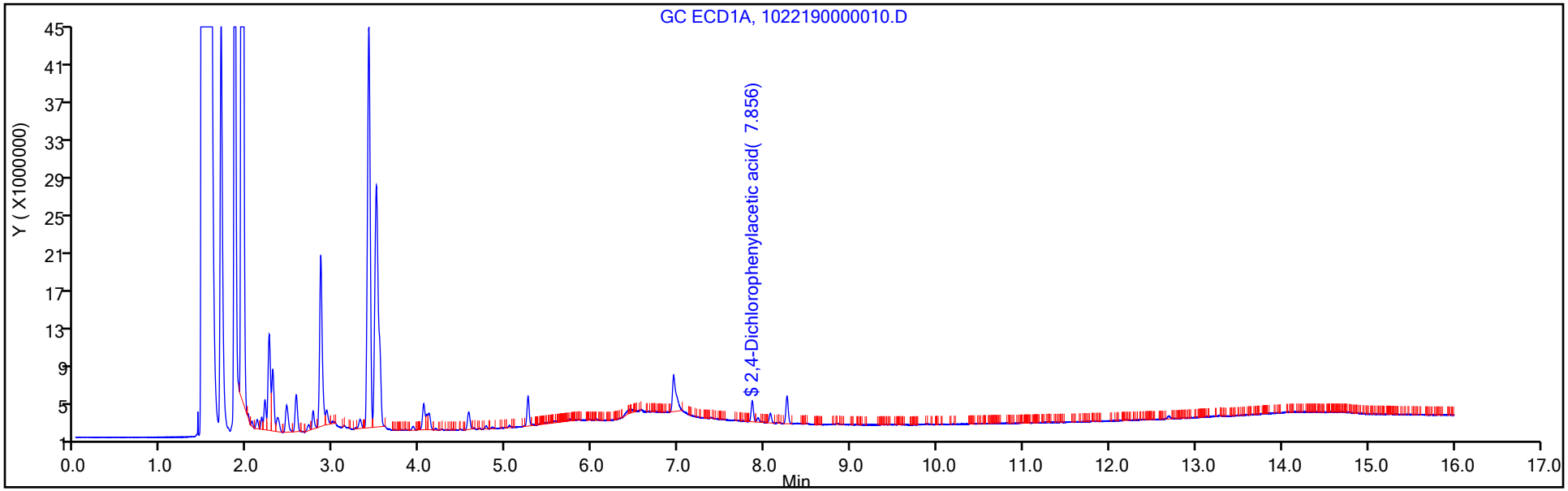

Column: RTX-1701 (0.53 mm)

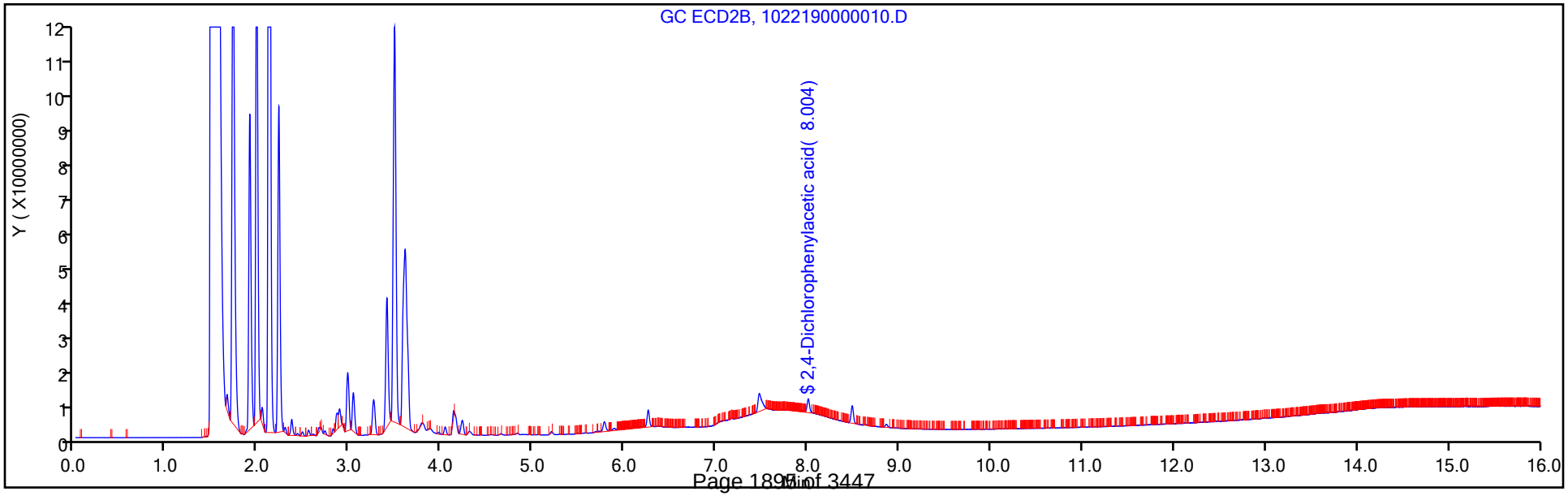

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\1022190000010.D				
Lims ID:	LB 180-295177/1-F				
Client ID:					
Sample Type:	LB				
Inject. Date:	23-Oct-2019 09:34:37	ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	180-0029220-008				
Operator ID:		Instrument ID:	CGC1		

Method:	\\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\Herbicides_CGC1.m		
Limit Group:	GCS 8151A ICAL		
Last Update:	23-Oct-2019 11:29:44	Calib Date:	19-Aug-2019 21:09:17
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D		

Column 1 :	RTX-50 (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-1701 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0310	

First Level Reviewer: oravecj Date: 23-Oct-2019 11:28:01

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0199	39.78

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0181	36.28

FORM I
HERBICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Client Sample ID: Lab Sample ID: LB 180-295177/1-F

Matrix: Solid (TCLP) Lab File ID: 1022190000010.D

Analysis Method: EPA 8151A Date Collected:

Extraction Method: 8151A Date Extracted: 10/18/2019 13:00

Sample wt/vol: 100(mL) Date Analyzed: 10/23/2019 09:34

Con. Extract Vol.: 10.0(mL) Dilution Factor: 20

Injection Volume: 1(uL) GC Column: RTX-1701 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 295605 Units: mg/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
19719-28-9	2,4-Dichlorophenylacetic acid	36		23-122

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\1022190000010.D
Lims ID: LB 180-295177/1-F
Client ID:
Sample Type: LB
Inject. Date: 23-Oct-2019 09:34:37 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 20.0000
Sample Info: 180-0029220-008
Operator ID: Instrument ID: CGC1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 23-Oct-2019 11:29:44 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: oravecj Date: 23-Oct-2019 11:28:01

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							U
1		2.140				ND	
2		2.369					
$ 2 2,4-Dichlorophenylacetic acid							
1	7.856	7.854	0.002	2164148H	0.0500	0.0199	
2	8.004	8.002	0.002	3826452H	0.0500	0.0181	
						RPD = 9.19	
3 MCPP							U
1		8.074				ND	
2		8.423					
4 Dicamba							
1		8.145				ND	
2		8.267					
5 MCPA							
1		8.491				ND	
2		8.733					
6 Dichlorprop							
1		8.771				ND	
2		9.094					
7 2,4-D							
1		9.258				ND	
2		9.492					
8 Pentachlorophenol							
1		9.773				ND	
2		9.703					
9 Silvex (2,4,5-TP)							
1		9.941				ND	
2		10.262					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
10 2,4,5-T							
1		10.486				ND	
2		10.717					
11 Dinoseb							
1		10.744				ND	
2		11.791					
12 2,4-DB							
1		10.871				ND	
2		11.145					

QC Flag Legend

Review Flags

U - Marked Undetected

Report Date: 23-Oct-2019 11:29:53 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\1022190000010.D				
Injection Date:	23-Oct-2019 09:34:37	Instrument ID:	CGC1	Operator ID:	
Lims ID:	LB 180-295177/1-F			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	8
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

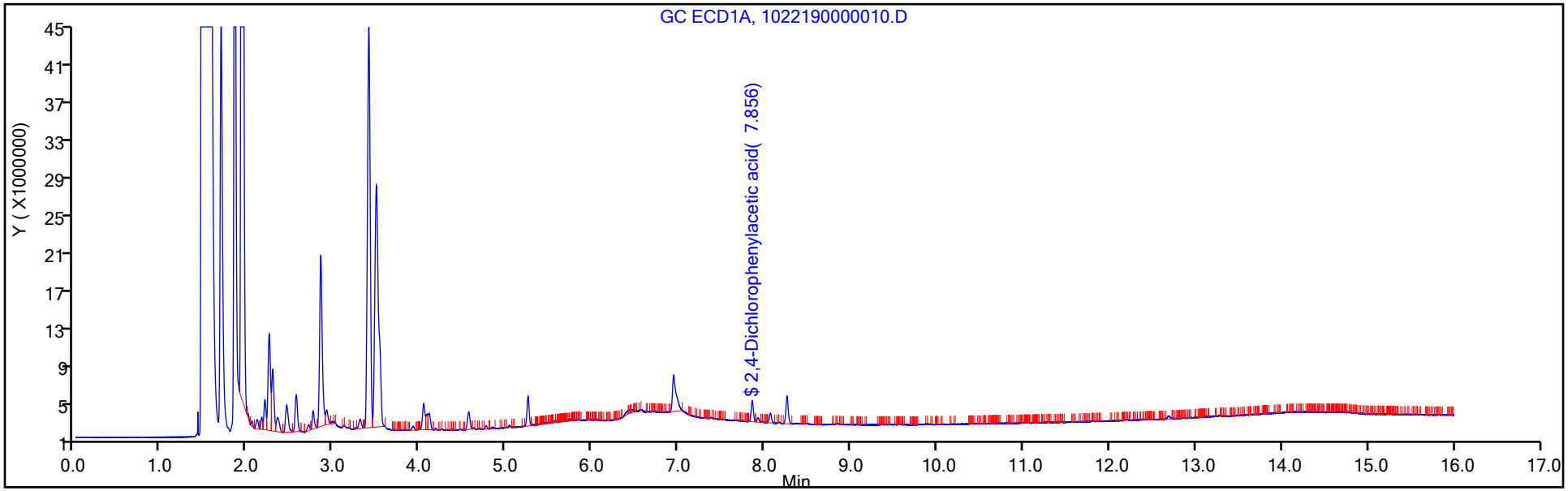

Column: RTX-1701 (0.53 mm)

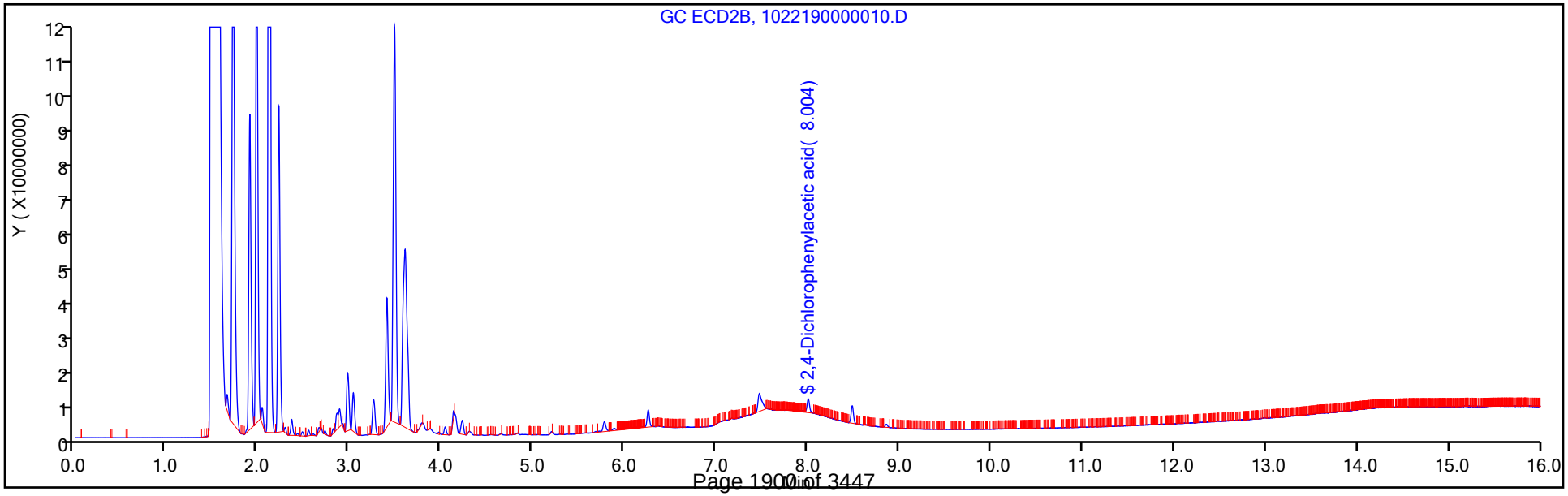

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\1022190000010.D				
Lims ID:	LB 180-295177/1-F				
Client ID:					
Sample Type:	LB				
Inject. Date:	23-Oct-2019 09:34:37	ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	180-0029220-008				
Operator ID:		Instrument ID:	CGC1		
Method:	\\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\Herbicides_CGC1.m				
Limit Group:	GCS 8151A ICAL				
Last Update:	23-Oct-2019 11:29:44	Calib Date:	19-Aug-2019 21:09:17		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D				
Column 1 :	RTX-50 (0.53 mm)		Det: GC ECD1A		
Column 2 :	RTX-1701 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0310				
First Level Reviewer: oravecj		Date:	23-Oct-2019 11:28:01		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0199	39.78

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0181	36.28

FORM I
HERBICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-97287-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 180-295398/2-A
Matrix: Solid
Lab File ID: 1022190000012.D
Analysis Method: EPA 8151A
Date Collected:
Extraction Method: 8151A
Date Extracted: 10/18/2019 13:00
Sample wt/vol: 1000(mL)
Date Analyzed: 10/23/2019 10:24
Con. Extract Vol.: 10.0(mL)
Dilution Factor: 20
Injection Volume: 1(uL)
GC Column: RTX-50 ID: 0.53(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 295605
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
94-75-7	2,4-D	0.00520		0.0040	0.0020
93-72-1	Silvex (2,4,5-TP)	0.00258		0.0010	0.00030
88-85-7	Dinoseb	0.0146		0.0040	0.0038

CAS NO.	SURROGATE	%REC	Q	LIMITS
19719-28-9	2,4-Dichlorophenylacetic acid	54		23-122

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\1022190000012.D
Lims ID: LCS 180-295398/2-A
Client ID:
Sample Type: LCS
Inject. Date: 23-Oct-2019 10:24:24 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 20.0000
Sample Info: 180-0029220-010
Operator ID: Instrument ID: CGC1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 23-Oct-2019 11:29:44 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: oravecj Date: 23-Oct-2019 11:28:16

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.141	2.140	0.001	10902729H	0.1000	0.0732	
2	2.371	2.369	0.002	20846797H	0.1000	0.0621	
						RPD = 16.33	
$ 2 2,4-Dichlorophenylacetic acid							
1	7.857	7.854	0.003	2958811H	0.0500	0.0272	
2	8.004	8.002	0.002	5167712H	0.0500	0.0245	
						RPD = 10.41	
3 MCPP							
1	8.075	8.074	0.001	2275440H	10.0	5.76	
2	8.427	8.423	0.004	5187566	10.0	4.23	
						RPD = 30.57	
4 Dicamba							
1	8.148	8.145	0.003	17252123H	0.0500	0.0473	
2	8.271	8.267	0.004	32046238H	0.0500	0.0457	
						RPD = 3.44	
5 MCPA							
1	8.495	8.491	0.004	2556632H	10.0	3.99	
2	8.737	8.733	0.004	4403134H	10.0	3.57	
						RPD = 10.90	
6 Dichlorprop							
1	8.773	8.771	0.002	3539254H	0.1000	0.0366	
2	9.098	9.094	0.004	6267750H	0.1000	0.0338	
						RPD = 7.81	
7 2,4-D							
1	9.261	9.258	0.003	2858454H	0.1000	0.0260	
2	9.491	9.492	-0.001	14413396H	0.1000	0.0664	
						RPD = 87.44	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.775	9.773	0.002	63109496	0.0250	0.0275	
2	9.707	9.703	0.004	59166176H	0.0250	0.0276	
						RPD = 0.43	
9 Silvex (2,4,5-TP)							
1	9.942	9.941	0.001	6320944H	0.0250	0.0129	
2	10.264	10.262	0.002	11300337H	0.0250	0.0120	
						RPD = 7.19	
10 2,4,5-T							
1	10.489	10.486	0.003	3174764H	0.0250	0.006846	
2	10.720	10.717	0.003	5515029H	0.0250	0.006085	
						RPD = 11.78	
11 Dinoseb							
1	10.745	10.744	0.001	14062316H	0.1000	0.0731	
2	11.795	11.791	0.004	24288727H	0.1000	0.0621	
						RPD = 16.15	
12 2,4-DB							
1	10.872	10.871	0.001	2966377H	0.1000	0.0450	
2	11.148	11.145	0.003	4612252H	0.1000	0.0374	
						RPD = 18.45	

Report Date: 23-Oct-2019 11:29:47 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\1022190000012.D				
Injection Date:	23-Oct-2019 10:24:24	Instrument ID:	CGC1	Operator ID:	
Lims ID:	LCS 180-295398/2-A			Worklist Smp#:	10
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	10
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

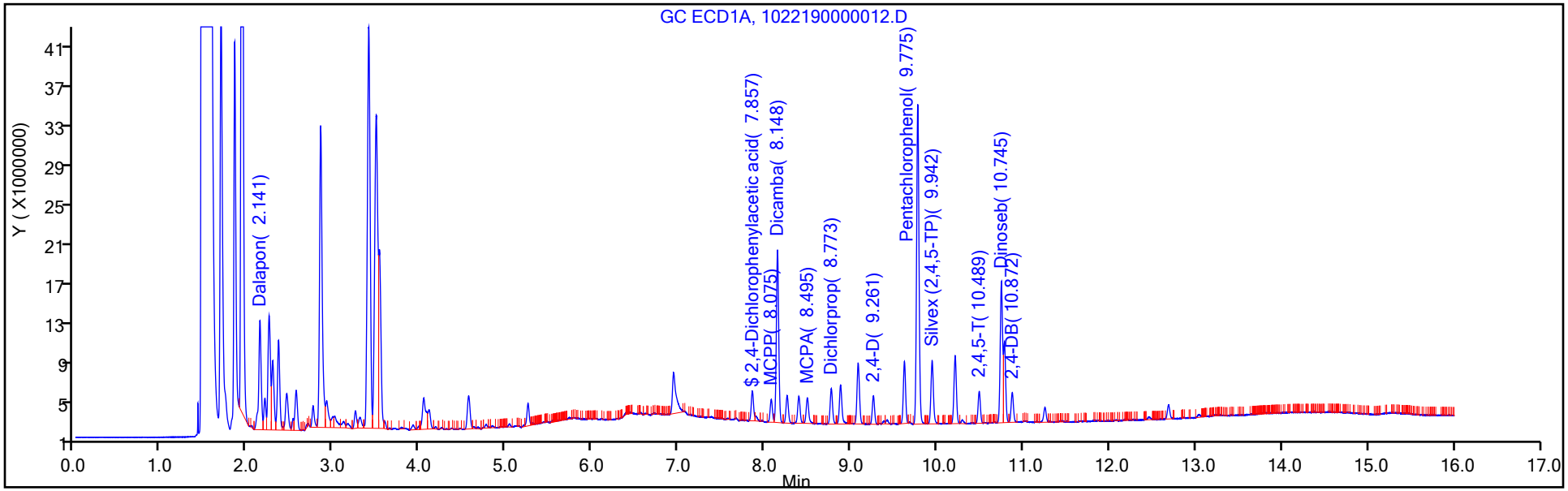

Column: RTX-1701 (0.53 mm)

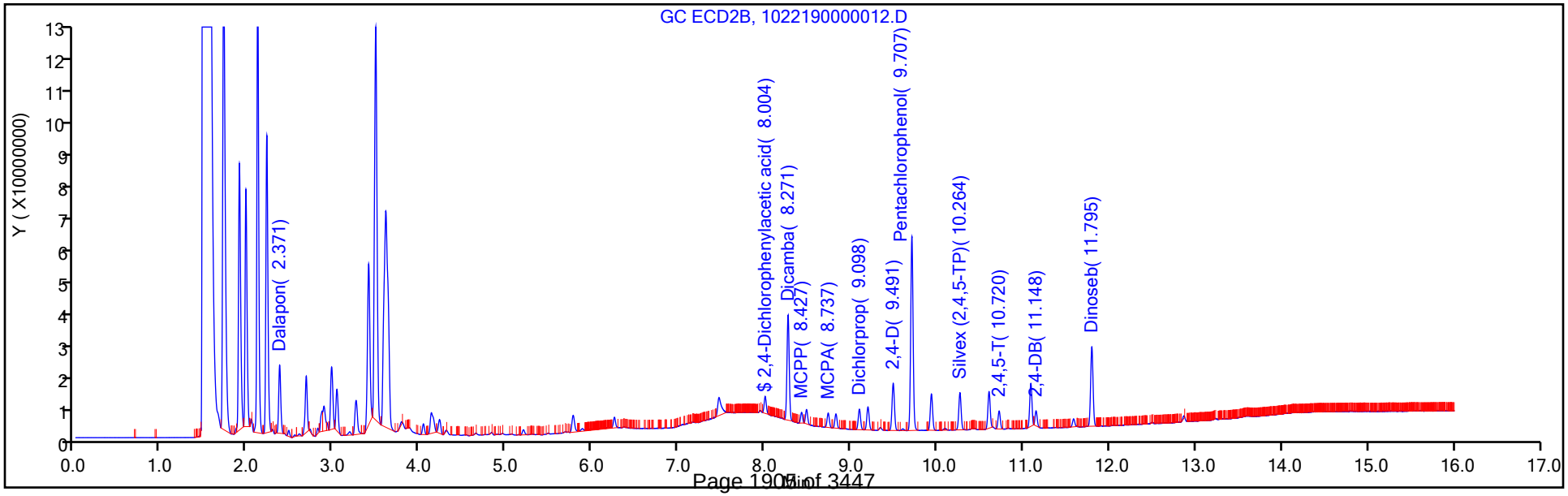

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\1022190000012.D				
Lims ID:	LCS 180-295398/2-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	23-Oct-2019 10:24:24	ALS Bottle#:	10	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	180-0029220-010				
Operator ID:		Instrument ID:	CGC1		
Method:	\\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\Herbicides_CGC1.m				
Limit Group:	GCS 8151A ICAL				
Last Update:	23-Oct-2019 11:29:44	Calib Date:	19-Aug-2019 21:09:17		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D				
Column 1 :	RTX-50 (0.53 mm)		Det: GC ECD1A		
Column 2 :	RTX-1701 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0310				
First Level Reviewer: oravecj		Date:	23-Oct-2019 11:28:16		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0272	54.38

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0245	49.00

FORM I
HERBICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 180-295398/2-A

Matrix: Solid Lab File ID: 1022190000012.D

Analysis Method: EPA 8151A Date Collected:

Extraction Method: 8151A Date Extracted: 10/18/2019 13:00

Sample wt/vol: 1000(mL) Date Analyzed: 10/23/2019 10:24

Con. Extract Vol.: 10.0(mL) Dilution Factor: 20

Injection Volume: 1(uL) GC Column: RTX-1701 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 295605 Units: mg/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
19719-28-9	2,4-Dichlorophenylacetic acid	49		23-122

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\1022190000012.D
Lims ID: LCS 180-295398/2-A
Client ID:
Sample Type: LCS
Inject. Date: 23-Oct-2019 10:24:24 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 20.0000
Sample Info: 180-0029220-010
Operator ID: Instrument ID: CGC1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 23-Oct-2019 11:29:44 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0310

First Level Reviewer: oravecj Date: 23-Oct-2019 11:28:16

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.141	2.140	0.001	10902729H	0.1000	0.0732	
2	2.371	2.369	0.002	20846797H	0.1000	0.0621	
						RPD = 16.33	
$ 2 2,4-Dichlorophenylacetic acid							
1	7.857	7.854	0.003	2958811H	0.0500	0.0272	
2	8.004	8.002	0.002	5167712H	0.0500	0.0245	
						RPD = 10.41	
3 MCPP							
1	8.075	8.074	0.001	2275440H	10.0	5.76	
2	8.427	8.423	0.004	5187566	10.0	4.23	
						RPD = 30.57	
4 Dicamba							
1	8.148	8.145	0.003	17252123H	0.0500	0.0473	
2	8.271	8.267	0.004	32046238H	0.0500	0.0457	
						RPD = 3.44	
5 MCPA							
1	8.495	8.491	0.004	2556632H	10.0	3.99	
2	8.737	8.733	0.004	4403134H	10.0	3.57	
						RPD = 10.90	
6 Dichlorprop							
1	8.773	8.771	0.002	3539254H	0.1000	0.0366	
2	9.098	9.094	0.004	6267750H	0.1000	0.0338	
						RPD = 7.81	
7 2,4-D							
1	9.261	9.258	0.003	2858454H	0.1000	0.0260	
2	9.491	9.492	-0.001	14413396H	0.1000	0.0664	
						RPD = 87.44	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.775	9.773	0.002	63109496	0.0250	0.0275	
2	9.707	9.703	0.004	59166176H	0.0250	0.0276	
						RPD = 0.43	
9 Silvex (2,4,5-TP)							
1	9.942	9.941	0.001	6320944H	0.0250	0.0129	
2	10.264	10.262	0.002	11300337H	0.0250	0.0120	
						RPD = 7.19	
10 2,4,5-T							
1	10.489	10.486	0.003	3174764H	0.0250	0.006846	
2	10.720	10.717	0.003	5515029H	0.0250	0.006085	
						RPD = 11.78	
11 Dinoseb							
1	10.745	10.744	0.001	14062316H	0.1000	0.0731	
2	11.795	11.791	0.004	24288727H	0.1000	0.0621	
						RPD = 16.15	
12 2,4-DB							
1	10.872	10.871	0.001	2966377H	0.1000	0.0450	
2	11.148	11.145	0.003	4612252H	0.1000	0.0374	
						RPD = 18.45	

Report Date: 23-Oct-2019 11:29:48 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\1022190000012.D				
Injection Date:	23-Oct-2019 10:24:24	Instrument ID:	CGC1	Operator ID:	
Lims ID:	LCS 180-295398/2-A			Worklist Smp#:	10
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	10
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

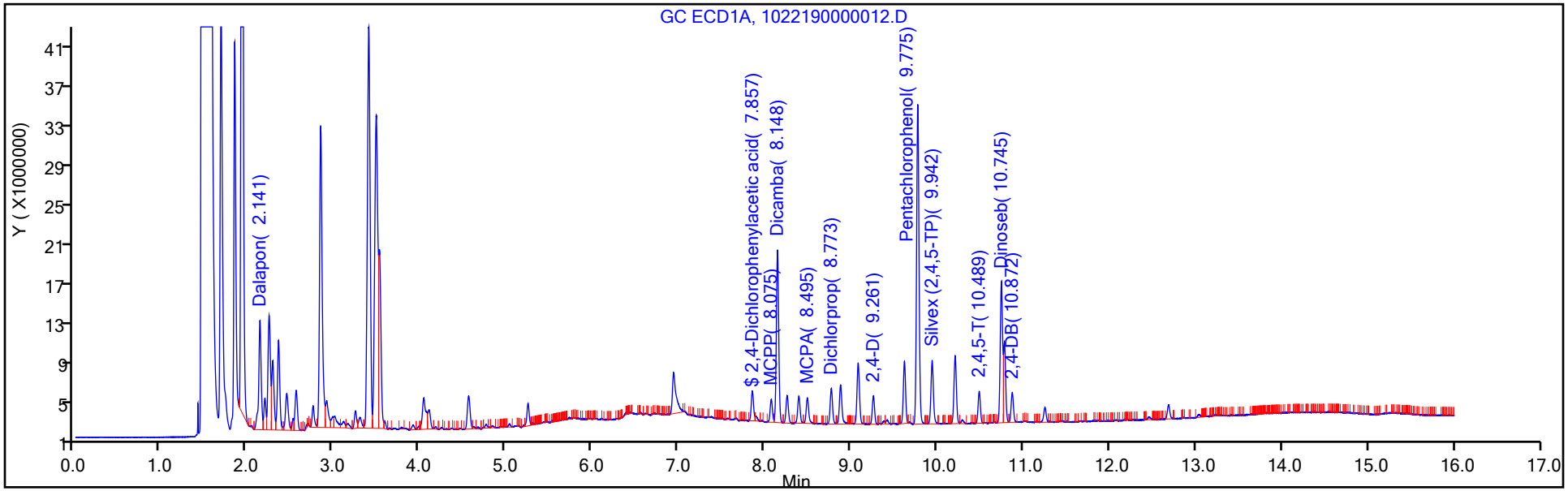

Column: RTX-1701 (0.53 mm)

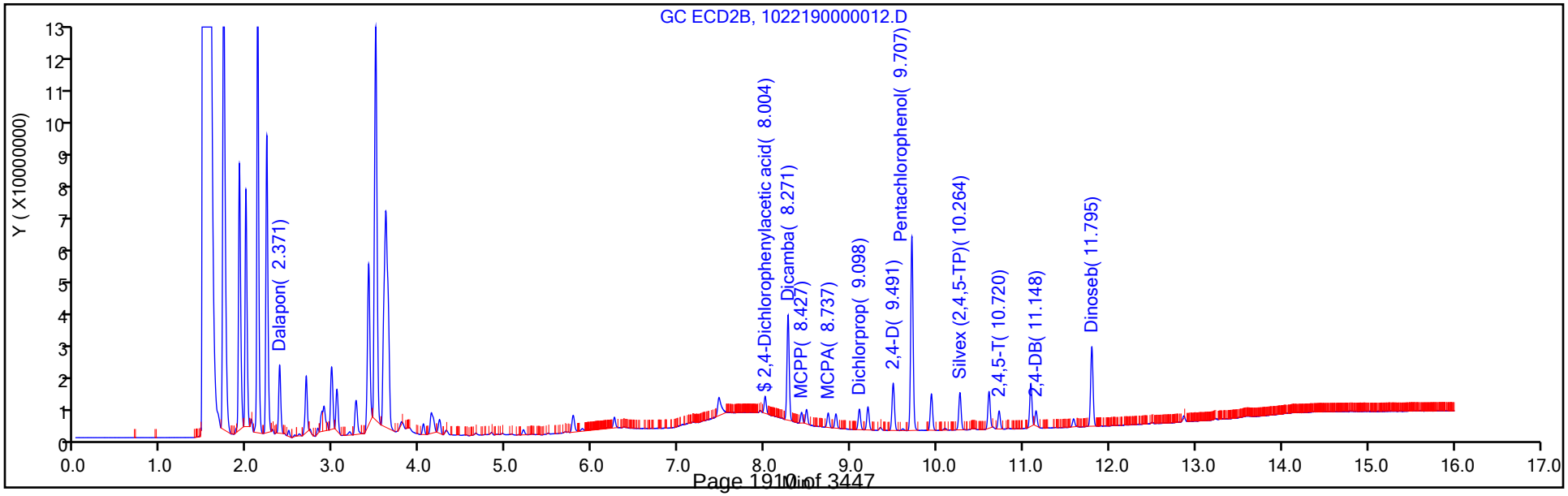

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\1022190000012.D				
Lims ID:	LCS 180-295398/2-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	23-Oct-2019 10:24:24	ALS Bottle#:	10	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	180-0029220-010				
Operator ID:		Instrument ID:	CGC1		
Method:	\\chromna\Pittsburgh\ChromData\CGC1\20191022-29220.b\Herbicides_CGC1.m				
Limit Group:	GCS 8151A ICAL				
Last Update:	23-Oct-2019 11:29:44	Calib Date:	19-Aug-2019 21:09:17		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D				
Column 1 :	RTX-50 (0.53 mm)		Det: GC ECD1A		
Column 2 :	RTX-1701 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0310				
First Level Reviewer: oravecj		Date:	23-Oct-2019 11:28:16		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0272	54.38

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0245	49.00

HERBICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Instrument ID: CGC1 Start Date: 08/19/2019 16:32

Analysis Batch Number: 288571 End Date: 08/20/2019 17:22

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
RINSE 180-288571/1		08/19/2019 16:32	1		RTX-50 0.53(mm)
RINSE 180-288571/1		08/19/2019 16:32	1		RTX-1701 0.53(mm)
IC 180-288571/2		08/19/2019 18:39	1	0819190000015.D	RTX-50 0.53(mm)
IC 180-288571/2		08/19/2019 18:39	1	0819190000015.D	RTX-1701 0.53(mm)
IC 180-288571/3		08/19/2019 19:04	1	0819190000016.D	RTX-50 0.53(mm)
IC 180-288571/3		08/19/2019 19:04	1	0819190000016.D	RTX-1701 0.53(mm)
IC 180-288571/4		08/19/2019 19:29	1	0819190000017.D	RTX-50 0.53(mm)
IC 180-288571/4		08/19/2019 19:29	1	0819190000017.D	RTX-1701 0.53(mm)
ICRT 180-288571/5		08/19/2019 19:54	1	0819190000018.D	RTX-50 0.53(mm)
ICRT 180-288571/5		08/19/2019 19:54	1	0819190000018.D	RTX-1701 0.53(mm)
IC 180-288571/6		08/19/2019 20:19	1	0819190000019.D	RTX-50 0.53(mm)
IC 180-288571/6		08/19/2019 20:19	1	0819190000019.D	RTX-1701 0.53(mm)
IC 180-288571/7		08/19/2019 20:44	1	0819190000020.D	RTX-50 0.53(mm)
IC 180-288571/7		08/19/2019 20:44	1	0819190000020.D	RTX-1701 0.53(mm)
IC 180-288571/8		08/19/2019 21:09	1	0819190000021.D	RTX-50 0.53(mm)
IC 180-288571/8		08/19/2019 21:09	1	0819190000021.D	RTX-1701 0.53(mm)
ICV 180-288571/9		08/19/2019 21:34	1		RTX-50 0.53(mm)
ICV 180-288571/9		08/19/2019 21:34	1		RTX-1701 0.53(mm)
CCV 180-288571/10		08/19/2019 21:58	1		RTX-50 0.53(mm)
CCV 180-288571/10		08/19/2019 21:58	1		RTX-1701 0.53(mm)
ZZZZZ		08/19/2019 22:23	1		RTX-50 0.53(mm)
ZZZZZ		08/19/2019 22:23	1		RTX-1701 0.53(mm)
ZZZZZ		08/19/2019 22:48	1		RTX-50 0.53(mm)
ZZZZZ		08/19/2019 22:48	1		RTX-1701 0.53(mm)
ZZZZZ		08/19/2019 23:13	20		RTX-50 0.53(mm)
ZZZZZ		08/19/2019 23:13	20		RTX-1701 0.53(mm)
ZZZZZ		08/19/2019 23:38	20		RTX-50 0.53(mm)
ZZZZZ		08/19/2019 23:38	20		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 00:03	20		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 00:03	20		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 00:28	20		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 00:28	20		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 00:53	20		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 00:53	20		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 01:17	20		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 01:17	20		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 01:42	20		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 01:42	20		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 02:07	20		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 02:07	20		RTX-1701 0.53(mm)
CCV 180-288571/21		08/20/2019 02:32	1		RTX-50 0.53(mm)
CCV 180-288571/21		08/20/2019 02:32	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 02:57	20		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 02:57	20		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 03:21	20		RTX-50 0.53(mm)

EPA 8151A

HERBICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Instrument ID: CGC1 Start Date: 08/19/2019 16:32

Analysis Batch Number: 288571 End Date: 08/20/2019 17:22

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		08/20/2019 03:21	20		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 03:46	20		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 03:46	20		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 04:11	20		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 04:11	20		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 04:36	20		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 04:36	20		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 05:01	20		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 05:01	20		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 05:25	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 05:25	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 05:50	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 05:50	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 06:15	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 06:15	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 06:40	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 06:40	1		RTX-1701 0.53(mm)
CCV 180-288571/32		08/20/2019 07:05	1		RTX-50 0.53(mm)
CCV 180-288571/32		08/20/2019 07:05	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 07:30	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 07:30	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 07:55	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 07:55	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 08:20	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 08:20	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 08:47	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 08:47	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 09:13	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 09:13	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 09:40	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 09:40	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 10:07	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 10:07	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 10:35	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 10:35	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 11:01	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 11:01	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 11:29	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 11:29	1		RTX-1701 0.53(mm)
CCV 180-288571/43		08/20/2019 11:56	1		RTX-50 0.53(mm)
CCV 180-288571/43		08/20/2019 11:56	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 12:23	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 12:23	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 12:50	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 12:50	1		RTX-1701 0.53(mm)

EPA 8151A

HERBICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Instrument ID: CGC1 Start Date: 08/19/2019 16:32

Analysis Batch Number: 288571 End Date: 08/20/2019 17:22

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		08/20/2019 13:16	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 13:16	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 13:43	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 13:43	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 14:10	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 14:10	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 14:38	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 14:38	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 15:05	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 15:05	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 15:32	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 15:32	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 16:00	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 16:00	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 16:28	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 16:28	1		RTX-1701 0.53(mm)
CCV 180-288571/54		08/20/2019 16:55	1		RTX-50 0.53(mm)
CCV 180-288571/54		08/20/2019 16:55	1		RTX-1701 0.53(mm)
CCVL 180-288571/55		08/20/2019 17:22	1		RTX-50 0.53(mm)
CCVL 180-288571/55		08/20/2019 17:22	1		RTX-1701 0.53(mm)

EPA 8151A

HERBICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Instrument ID: CGC1 Start Date: 10/23/2019 06:40

Analysis Batch Number: 295605 End Date: 10/23/2019 10:49

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVRT 180-295605/1		10/23/2019 06:40	1	1022190000003.D	RTX-50 0.53(mm)
CCVRT 180-295605/1		10/23/2019 06:40	1	1022190000003.D	RTX-1701 0.53(mm)
MB 180-295398/1-A		10/23/2019 07:05	20	1022190000004.D	RTX-50 0.53(mm)
MB 180-295398/1-A		10/23/2019 07:05	20	1022190000004.D	RTX-1701 0.53(mm)
ZZZZZ		10/23/2019 07:30	20		RTX-50 0.53(mm)
ZZZZZ		10/23/2019 07:30	20		RTX-1701 0.53(mm)
ZZZZZ		10/23/2019 07:55	20		RTX-50 0.53(mm)
ZZZZZ		10/23/2019 07:55	20		RTX-1701 0.53(mm)
ZZZZZ		10/23/2019 08:20	20		RTX-50 0.53(mm)
ZZZZZ		10/23/2019 08:20	20		RTX-1701 0.53(mm)
ZZZZZ		10/23/2019 08:44	20		RTX-50 0.53(mm)
ZZZZZ		10/23/2019 08:44	20		RTX-1701 0.53(mm)
ZZZZZ		10/23/2019 09:09	20		RTX-50 0.53(mm)
ZZZZZ		10/23/2019 09:09	20		RTX-1701 0.53(mm)
LB 180-295177/1-F		10/23/2019 09:34	20	1022190000010.D	RTX-50 0.53(mm)
LB 180-295177/1-F		10/23/2019 09:34	20	1022190000010.D	RTX-1701 0.53(mm)
180-97287-1		10/23/2019 09:59	20	1022190000011.D	RTX-50 0.53(mm)
180-97287-1		10/23/2019 09:59	20	1022190000011.D	RTX-1701 0.53(mm)
LCS 180-295398/2-A		10/23/2019 10:24	20	1022190000012.D	RTX-50 0.53(mm)
LCS 180-295398/2-A		10/23/2019 10:24	20	1022190000012.D	RTX-1701 0.53(mm)
CCV 180-295605/11		10/23/2019 10:49	1	1022190000013.D	RTX-50 0.53(mm)
CCV 180-295605/11		10/23/2019 10:49	1	1022190000013.D	RTX-1701 0.53(mm)

EPA 8151A

HERBICIDES BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295177 Batch Start Date: 10/16/19 16:15 Batch Analyst: Stundon, Jeremy A

Batch Method: 1311 Batch End Date: 10/17/19 09:45

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	FiltCompDate	FiltCompTime	LeachatepH		
LB 180-295177/1		1311, 8151A, EPA 8151A		2000 mL	10/17/19	1030	4.93 SU		

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

HERBICIDES BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295177 Batch Start Date: 10/16/19 16:15 Batch Analyst: Stundon, Jeremy A

Batch Method: 1311 Batch End Date: 10/17/19 09:45

Batch Notes	
1N HCl ID	2948732
Balance ID	AND-14577823
pH Buffer 1 ID	3166975
pH Buffer 2 ID	2613652
pH Buffer 3 ID	2923701
pH Buffer 4 ID	3384621
First End time	1115
Filter ID	3409948
Lot # of Nitric Acid	2819852
Hot Plate ID	TCLP-2
pH Meter Calibration Slope	98.0/97.9
pH Meter ID	ACCUMET-XL-150
Probe ID	XV3-12485
Room Temperature Thermometer ID	FISHER-160719405
Analyst ID - Spike Analyst	JAS
First Start time	1030
TCLP Fluid 1 ID	3409948
TCLP Fluid 1 pH	4.93
TCLP Fluid 2 ID	2726101
TCLP Fluid 2 pH	2.88
Maximum Temperature	22 Degrees C
Minimum Temperature	22 Degrees C
Thermometer ID	TCLP-2
Tumbler Rotations per Minute	Tumbler 1: 31
Uncorrected Maximum Temperature	22 Degrees C
Uncorrected Minimum Temperature	22 Degrees C
Uncorrected Water Bath Temperature	50.0 Celsius
Water Bath ID	TCLP-2
Water Bath Temperature	50.0 Degrees C
Water Bath Thermometer ID	TCLP-2

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

HERBICIDES BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295177 Batch Start Date: 10/16/19 16:15 Batch Analyst: Stundon, Jeremy A

Batch Method: 1311 Batch End Date: 10/17/19 09:45

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

HERBICIDES BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295177 Batch Start Date: 10/16/19 16:15 Batch Analyst: Stundon, Jeremy A

Batch Method: EPA 1311 Batch End Date: 10/17/19 09:45

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	EFD_SampleWeight	EFD_VolumeWater Add	EFD_InitialpH	EFD_AddHClpH>5
180-97287-A-1	11187072-NORTH-I MPCT-INITIALS	EPA 1311, 8151A, EPA 8151A	P	100.00 g	2000 mL	5.00 g	96.5 mL	9.05 SU	3.50 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	EFD_HeatHeld	EFD_SecondpHCheck	FiltCompDate	FiltCompTime	LeachatepH	
180-97287-A-1	11187072-NORTH-I MPCT-INITIALS	EPA 1311, 8151A, EPA 8151A	P	50.0 Deg. C	1.78 SU	10/17/19	1030	6.17 SU	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

HERBICIDES BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295177 Batch Start Date: 10/16/19 16:15 Batch Analyst: Stundon, Jeremy A

Batch Method: EPA 1311 Batch End Date: 10/17/19 09:45

Batch Notes	
1N HCl ID	2948732
Balance ID	AND-14577823
pH Buffer 1 ID	3166975
pH Buffer 2 ID	2613652
pH Buffer 3 ID	2923701
pH Buffer 4 ID	3384621
First End time	1115
Filter ID	3409948
Lot # of Nitric Acid	2819852
Hot Plate ID	TCLP-2
pH Meter Calibration Slope	98.0/97.9
pH Meter ID	ACCUMET-XL-150
Probe ID	XV3-12485
Room Temperature Thermometer ID	FISHER-160719405
Analyst ID - Spike Analyst	JAS
First Start time	1030
TCLP Fluid 1 ID	3409948
TCLP Fluid 1 pH	4.93
TCLP Fluid 2 ID	2726101
TCLP Fluid 2 pH	2.88
Maximum Temperature	22 Degrees C
Minimum Temperature	22 Degrees C
Thermometer ID	TCLP-2
Tumbler Rotations per Minute	Tumbler 1: 31
Uncorrected Maximum Temperature	22 Degrees C
Uncorrected Minimum Temperature	22 Degrees C
Uncorrected Water Bath Temperature	50.0 Celsius
Water Bath ID	TCLP-2
Water Bath Temperature	50.0 Degrees C
Water Bath Thermometer ID	TCLP-2

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

HERBICIDES BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295177 Batch Start Date: 10/16/19 16:15 Batch Analyst: Stundon, Jeremy A

Batch Method: EPA 1311 Batch End Date: 10/17/19 09:45

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

HERBICIDES BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295398 Batch Start Date: 10/18/19 13:00 Batch Analyst: Yushinski, Charles

Batch Method: 8151A Batch End Date: 10/21/19 14:40

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ReceivedpH	FirstAdjustpH	SecondAdjustpH	Herb(RTS)spk 00010
MB 180-295398/1		8151A, EPA 8151A		1000 mL	10.0 mL	6 SU	12 SU	2	
LCS 180-295398/2		8151A, EPA 8151A		1000 mL	10.0 mL	6 SU	12 SU	2	1 mL
LB 180-295177/1-A		8151A, EPA 8151A		100 mL	10.0 mL	5 SU	12 SU	2	
180-97287-A-1-B	11187072-NORTH-I MPCT-INITIALS	8151A, EPA 8151A	P	100 mL	10.0 mL	7 SU	12 SU	2	

Lab Sample ID	Client Sample ID	Method Chain	Basis	OPHERBRTSSURR 00010	AnalysisComment				
MB 180-295398/1		8151A, EPA 8151A		1 mL	Funnel 1				
LCS 180-295398/2		8151A, EPA 8151A		1 mL	Funnel 2				
LB 180-295177/1-A		8151A, EPA 8151A		1 mL	Funnel 8				
180-97287-A-1-B	11187072-NORTH-I MPCT-INITIALS	8151A, EPA 8151A	P	1 mL	Funnel 9				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

HERBICIDES BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295398 Batch Start Date: 10/18/19 13:00 Batch Analyst: Yushinski, Charles

Batch Method: 8151A Batch End Date: 10/21/19 14:40

Batch Notes	
Acid Used for pH Adjustment ID	3363493
Base Used to Adjust pH ID	2843181
Concentration 1 Equipment ID	water bath 2
Concentration 1 Thermometer ID	water bath 2 CF 2.0
Concentration 2 Equipment ID	1
Concentration 2 Thermometer ID	1 CF 0.0
Analyst ID - Concentration	EPS
Concentration 1 Corrected Temperature	67 Degrees C
Concentration 2 Corrected Temperature	21 Degrees C
Diethyl Ether ID	3371483
Analyst ID - Extraction	CBY
Sulfuric Acid Lot Number	3363493
MeCL2 ID	3414342
Acidified Na2SO4 ID	2976468
NaCl ID	3328945
pH Indicator ID	Ph paper HC987808
Analyst ID - Spike Analyst	CBY
Sufficient Volume for Batch QC	yes
TMSDM ID	3410525
Concentration 1 Uncorrected Temperature	65 Degrees C
Concentration 2 Uncorrected Temperature	21 Degrees C

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

1613B

Dioxins and Furans (HRGC/HRMS)

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Matrix: Solid (TCLP) Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCDF #	TCDD #	37TCDD #	PeCDF #	PeCF #	PeCDD #	HxCDF #	HxDF #
	LCS 320-334214/2-A	79	83	110	79	84	70	104	88
	LCSD 320-334214/3-A	76	87	109	84	93	90	84	81

	QC LIMITS
TCDF = 13C-2,3,7,8-TCDF	22-152
TCDD = 13C-2,3,7,8-TCDD	20-175
37TCDD = 37Cl4-2,3,7,8-TCDD	31-191
PeCDF = 13C-1,2,3,7,8-PeCDF	21-192
PeCF = 13C-2,3,4,7,8-PeCDF	13-328
PeCDD = 13C-1,2,3,7,8-PeCDD	21-227
HxCDF = 13C-1,2,3,4,7,8-HxCDF	19-202
HxDF = 13C-1,2,3,6,7,8-HxCDF	21-159

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Matrix: Solid (TCLP) Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	13CHxCF #	HxCDD #	HxDD #	HxCF #	HpCDF #	HpCDD #	HpCDF2 #	OCDD #
	LCS 320-334214/2-A	93	84	78	100	79	93	88	68
	LCSD 320-334214/3-A	82	95	83	80	83	87	90	77

	QC LIMITS
13CHxCF = 13C-2,3,4,6,7,8-HxCDF	22-176
HxCDD = 13C-1,2,3,4,7,8-HxCDD	21-193
HxDD = 13C-1,2,3,6,7,8-HxCDD	25-163
HxCF = 13C-1,2,3,7,8,9-HxCDF	17-205
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF	21-158
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD	26-166
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF	20-186
OCDD = 13C-OCDD	13-199

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Matrix: Solid (TCLP) Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCDF #	TCDD #	37TCDD #	PeCDF #	PeCF #	PeCDD #	HxCDF #	HxDF #
11187072-NORTH-IMP CT-INITIALS	180-97287-1	79	87	111	86	93	77	115	95
	MB 320-334214/1-A	77	82	105	79	85	72	105	85
	LB 320-334214/5-A	73	83	105	83	83	71	106	89

	QC LIMITS
TCDF = 13C-2,3,7,8-TCDF	24-169
TCDD = 13C-2,3,7,8-TCDD	25-164
37TCDD = 37Cl4-2,3,7,8-TCDD	35-197
PeCDF = 13C-1,2,3,7,8-PeCDF	24-185
PeCF = 13C-2,3,4,7,8-PeCDF	21-178
PeCDD = 13C-1,2,3,7,8-PeCDD	25-181
HxCDF = 13C-1,2,3,4,7,8-HxCDF	26-152
HxDF = 13C-1,2,3,6,7,8-HxCDF	26-123

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Matrix: Solid (TCLP) Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	13CHxCF #	HxCDD #	HxDD #	HxCF #	HpCDF #	HpCDD #	HpCDF2 #	OCDD #
11187072-NORTH-IMP CT-INITIALS	180-97287-1	97	90	83	107	91	100	104	85
	MB 320-334214/1-A	91	84	80	99	83	81	86	69
	LB 320-334214/5-A	91	86	75	99	85	86	94	75

	QC LIMITS
13CHxCF = 13C-2,3,4,6,7,8-HxCDF	28-136
HxCDD = 13C-1,2,3,4,7,8-HxCDD	32-141
HxDD = 13C-1,2,3,6,7,8-HxCDD	28-130
HxCF = 13C-1,2,3,7,8,9-HxCDF	29-147
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF	28-143
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD	23-140
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF	26-138
OCDD = 13C-OCDD	17-157

Column to be used to flag recovery values

FORM II 1613B

FORM III
DIOXIN LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 30OC19B3D5_6.d

Lab ID: LCS 320-334214/2-A Client ID:

COMPOUND	SPIKE ADDED (pg/L)	LCS CONCENTRATION (pg/L)	LCS % REC	QC LIMITS REC	#
2,3,7,8-TCDD	200	217	109	67-158	
2,3,7,8-TCDF	200	155	78	75-158	
1,2,3,7,8-PeCDD	1000	1370	137	70-142	
1,2,3,7,8-PeCDF	1000	1240	124	80-134	
2,3,4,7,8-PeCDF	1000	1200	120	68-160	
1,2,3,4,7,8-HxCDD	1000	1190	119	70-164	
1,2,3,6,7,8-HxCDD	1000	1270	127	76-134	
1,2,3,7,8,9-HxCDD	1000	1250	125	64-162	
1,2,3,4,7,8-HxCDF	1000	979	98	72-134	
1,2,3,6,7,8-HxCDF	1000	1060	106	84-130	
1,2,3,7,8,9-HxCDF	1000	1090	109	78-130	
2,3,4,6,7,8-HxCDF	1000	1090	109	70-156	
1,2,3,4,6,7,8-HpCDD	1000	979	98	70-140	
1,2,3,4,6,7,8-HpCDF	1000	903	90	82-122	
1,2,3,4,7,8,9-HpCDF	1000	830	83	78-138	
OCDD	2000	2220	111	78-144	
OCDF	2000	2300	115	63-170	
13C-2,3,7,8-TCDD	2000	1650	83	20-175	
13C-2,3,7,8-TCDF	2000	1580	79	22-152	
13C-1,2,3,7,8-PeCDD	2000	1390	70	21-227	
13C-1,2,3,7,8-PeCDF	2000	1590	79	21-192	
13C-2,3,4,7,8-PeCDF	2000	1690	84	13-328	
13C-1,2,3,4,7,8-HxCDD	2000	1690	84	21-193	
13C-1,2,3,6,7,8-HxCDD	2000	1550	78	25-163	
13C-1,2,3,4,7,8-HxCDF	2000	2090	104	19-202	
13C-1,2,3,6,7,8-HxCDF	2000	1760	88	21-159	
13C-1,2,3,7,8,9-HxCDF	2000	2000	100	17-205	
13C-2,3,4,6,7,8-HxCDF	2000	1860	93	22-176	
13C-1,2,3,4,6,7,8-HpCDD	2000	1860	93	26-166	
13C-1,2,3,4,6,7,8-HpCDF	2000	1590	79	21-158	
13C-1,2,3,4,7,8,9-HpCDF	2000	1750	88	20-186	
13C-OCDD	4000	2730	68	13-199	

Column to be used to flag recovery and RPD values

FORM III 1613B

FORM III
DIOXIN LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 31OC1910D5_7.d

Lab ID: LCSD 320-334214/3-A Client ID:

COMPOUND	SPIKE ADDED (pg/L)	LCSD CONCENTRATION (pg/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
2,3,7,8-TCDD	200	206	103	5	50	67-158	
2,3,7,8-TCDF	200	220	110	34	50	75-158	
1,2,3,7,8-PeCDD	1000	1170	117	16	50	70-142	
1,2,3,7,8-PeCDF	1000	1080	108	14	50	80-134	
2,3,4,7,8-PeCDF	1000	1010	101	17	50	68-160	
1,2,3,4,7,8-HxCDD	1000	1010	101	16	50	70-164	
1,2,3,6,7,8-HxCDD	1000	1100	110	15	50	76-134	
1,2,3,7,8,9-HxCDD	1000	1010	101	21	50	64-162	
1,2,3,4,7,8-HxCDF	1000	1030	103	5	50	72-134	
1,2,3,6,7,8-HxCDF	1000	1090	109	3	50	84-130	
1,2,3,7,8,9-HxCDF	1000	1080	108	1	50	78-130	
2,3,4,6,7,8-HxCDF	1000	1110	111	1	50	70-156	
1,2,3,4,6,7,8-HpCDD	1000	1120	112	13	50	70-140	
1,2,3,4,6,7,8-HpCDF	1000	1050	105	15	50	82-122	
1,2,3,4,7,8,9-HpCDF	1000	995	99	18	50	78-138	
OCDD	2000	2060	103	7	50	78-144	
OCDF	2000	2160	108	6	50	63-170	
13C-2,3,7,8-TCDD	2000	1750	87			20-175	
13C-2,3,7,8-TCDF	2000	1520	76			22-152	
13C-1,2,3,7,8-PeCDD	2000	1800	90			21-227	
13C-1,2,3,7,8-PeCDF	2000	1690	84			21-192	
13C-2,3,4,7,8-PeCDF	2000	1860	93			13-328	
13C-1,2,3,4,7,8-HxCDD	2000	1890	95			21-193	
13C-1,2,3,6,7,8-HxCDD	2000	1670	83			25-163	
13C-1,2,3,4,7,8-HxCDF	2000	1690	84			19-202	
13C-1,2,3,6,7,8-HxCDF	2000	1610	81			21-159	
13C-1,2,3,7,8,9-HxCDF	2000	1600	80			17-205	
13C-2,3,4,6,7,8-HxCDF	2000	1630	82			22-176	
13C-1,2,3,4,6,7,8-HpCDD	2000	1740	87			26-166	
13C-1,2,3,4,6,7,8-HpCDF	2000	1650	83			21-158	
13C-1,2,3,4,7,8,9-HpCDF	2000	1800	90			20-186	
13C-OCDD	4000	3080	77			13-199	

Column to be used to flag recovery and RPD values

FORM III 1613B

FORM IV
DIOXIN METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Lab File ID: 30OC19B3D5_4.d Lab Sample ID: MB 320-334214/1-A

Matrix: Water Date Extracted: 10/28/2019 14:05

Instrument ID: 3D5 Date Analyzed: 10/30/2019 23:59

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LB 320-334214/5-A	30OC19B3D5_5.d	10/31/2019 00:46
	LCS 320-334214/2-A	30OC19B3D5_6.d	10/31/2019 01:34
11187072-NORTH-IMPCT-INITIALS	180-97287-1	30OC19B3D5_8.d	10/31/2019 03:09
	LCSD 320-334214/3-A	31OC1910D5_7.d	10/31/2019 18:09

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 180-97287-1
SDG No.:
Client Sample ID: 11187072-NORTH-IMPCT-INITIALS
Lab Sample ID: 180-97287-1
Matrix: Solid (TCLP)
Lab File ID: 30OC19B3D5_8.d
Analysis Method: 1613B
Date Collected: 10/15/2019 15:00
Extract. Method: HRMS-Sep
Date Extracted: 10/28/2019 14:05
Sample wt/vol: 200.50(g)
Date Analyzed: 10/31/2019 03:09
Con. Extract Vol.: 20.0(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 334889
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		50	3.4
51207-31-9	2,3,7,8-TCDF	ND		50	2.8
40321-76-4	1,2,3,7,8-PeCDD	ND		250	8.4
57117-41-6	1,2,3,7,8-PeCDF	ND		250	4.6
57117-31-4	2,3,4,7,8-PeCDF	ND		250	4.6
39227-28-6	1,2,3,4,7,8-HxCDD	ND		250	4.5
57653-85-7	1,2,3,6,7,8-HxCDD	ND		250	4.7
19408-74-3	1,2,3,7,8,9-HxCDD	ND		250	4.3
70648-26-9	1,2,3,4,7,8-HxCDF	ND		250	2.9
57117-44-9	1,2,3,6,7,8-HxCDF	ND		250	3.1
72918-21-9	1,2,3,7,8,9-HxCDF	ND		250	2.2
60851-34-5	2,3,4,6,7,8-HxCDF	ND		250	2.5
35822-46-9	1,2,3,4,6,7,8-HpCDD	ND		250	3.4
67562-39-4	1,2,3,4,6,7,8-HpCDF	ND		250	5.3
55673-89-7	1,2,3,4,7,8,9-HpCDF	ND		250	6.2
3268-87-9	OCDD	34	J B	500	6.1
39001-02-0	OCDF	ND		500	7.6
41903-57-5	Total TCDD	4.4	J q B	50	3.4
30402-14-3	Total TCDF	ND		50	2.8
36088-22-9	Total PeCDD	ND		250	8.4
30402-15-4	Total PeCDF	ND		250	4.6
34465-46-8	Total HxCDD	ND		250	4.7
55684-94-1	Total HxCDF	ND		250	3.1
37871-00-4	Total HpCDD	ND		250	10
38998-75-3	Total HpCDF	ND		250	6.2

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 180-97287-1
SDG No.:
Client Sample ID: 11187072-NORTH-IMPCT-INITIALS
Lab Sample ID: 180-97287-1
Matrix: Solid (TCLP)
Lab File ID: 30OC19B3D5_8.d
Analysis Method: 1613B
Date Collected: 10/15/2019 15:00
Extract. Method: HRMS-Sep
Date Extracted: 10/28/2019 14:05
Sample wt/vol: 200.50(g)
Date Analyzed: 10/31/2019 03:09
Con. Extract Vol.: 20.0(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 334889
Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	87		25-164
89059-46-1	13C-2,3,7,8-TCDF	79		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	77		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	86		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	93		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	90		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	83		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	115		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	95		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	107		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	97		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	100		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	91		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	104		26-138
114423-97-1	13C-OCDD	85		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	111		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_8.d
Lims ID: 180-97287-C-1-B
Client ID: 11187072-NORTH-IMPCT-INITIALS
Sample Type: Client
Inject. Date: 31-Oct-2019 03:09:50 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-97287-C-1-B 180-97287-C-1-B
Misc. Info.: 30OC19B3D5
Operator ID: ALM Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 01-Nov-2019 10:15:31 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0312

First Level Reviewer: arghestanis Date: 31-Oct-2019 10:57:34

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.626	183753024	0.80	3.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.127	203059943	0.70	1.3908	79.5	79.5	0.1862	0.1862	79.46	
2,3,7,8-TCDF	17.142						0.0276	0.0276		
A Non-2,3,7,8-sub-TCDF	16.462						0.0276	0.0276		
S Total TCDF							0.0276	0.0276		
D 13C-2,3,7,8-TCDD	17.823	157454525	0.81	0.9819	87.3	87.3	0.1695	0.1695	87.27	
2,3,7,8-TCDD	17.838						0.0339	0.0339		
$ 37Cl4-2,3,7,8-TCDD	17.837	99337140		1.2205	44.3	44.3	0.0398	0.0398	111	
A Non-2,3,7,8-sub-TCDD	16.908	72874	0.77	1.0447	0.1318	0.0443	0.0339	0.0443		RQM
S Total TCDD					0.1318	0.0443	0.0339	0.0339		RQ
D 13C-1,2,3,7,8-PeCDF	22.057	182058135	1.62	1.1585	85.5	85.5	0.2295	0.2295	85.52	
1,2,3,7,8-PeCDF	22.071						0.0457	0.0457		
D 13C-2,3,4,7,8-PeCDF	23.366	197039831	1.61	1.1532	93.0	93.0	0.2306	0.2306	92.99	
2,3,4,7,8-PeCDF	23.393						0.0458	0.0458		
A F1 PeCDFs	19.335						0.0464	0.0464		
A Non-2,3,7,8-sub-PeCDF	22.226						0.0458	0.0458		
S Total PeCDF							0.0464	0.0464		
D 13C-1,2,3,7,8-PeCDD	24.075	105122643	1.63	0.7431	77.0	77.0	0.1128	0.1128	76.99	
1,2,3,7,8-PeCDD	24.103						0.0845	0.0845		
A Non-2,3,7,8-sub-PeCDD	22.018						0.0845	0.0845		
S Total PeCDD							0.0845	0.0845		
D 13C-1,2,3,4,7,8-HxCDF	30.204	181316844	0.52	0.9837	115.2	115.2	0.3168	0.3168	115	
1,2,3,4,7,8-HxCDF	30.231						0.0289	0.0289		
D 13C-1,2,3,6,7,8-HxCDF	30.417	174693624	0.54	1.1554	94.5	94.5	0.2697	0.2697	94.51	
1,2,3,6,7,8-HxCDF	30.431						0.0313	0.0313		
D 13C-2,3,4,6,7,8-HxCDF	31.323	160983781	0.52	1.0361	97.1	97.1	0.3008	0.3008	97.12	
2,3,4,6,7,8-HxCDF	31.323						0.0251	0.0251		
D 13C-1,2,3,7,8,9-HxCDF	32.161	154595078	0.53	0.9034	107.0	107.0	0.3449	0.3449	107	
1,2,3,7,8,9-HxCDF	32.175						0.0225	0.0225		
A Non-2,3,7,8-sub-HxCDF	28.997						0.0265	0.0265		
S Total HxCDF							0.0313	0.0313		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.975	159979079	1.27	2.6E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.522	119252502	1.28	0.8287	90.0	90.0	0.2589	0.2589	89.95	
1,2,3,4,7,8-HxCDD	31.549						0.0454	0.0454		U
D 13C-1,2,3,6,7,8-HxCDD	31.629	125884175	1.32	0.9495	82.9	82.9	0.2260	0.2260	82.88	
1,2,3,6,7,8-HxCDD	31.549						0.0469	0.0469		U
1,2,3,7,8,9-HxCDD	31.975						0.0435	0.0435		
A Non-2,3,7,8-sub-HxCDD	30.544						0.0452	0.0452		U
S Total HxCDD							0.0469	0.0469		
D 13C-1,2,3,4,6,7,8-HpCDF	33.629	105702407	0.43	0.7285	90.7	90.7	0.7974	0.7974	90.70	
1,2,3,4,6,7,8-HpCDF	33.630						0.0534	0.0534		
D 13C-1,2,3,4,7,8,9-HpCDF	34.711	108993893	0.42	0.6556	103.9	103.9	0.8861	0.8861	104	
1,2,3,4,7,8,9-HpCDF	34.711						0.0617	0.0617		
A Non-2,3,7,8-sub-HpCDF	34.170						0.0573	0.0573		
S Total HpCDF							0.0617	0.0617		
D 13C-1,2,3,4,6,7,8-HpCDD	34.431	111593780	1.08	0.6978	100.0	100.0	0.4512	0.4512	99.96	
1,2,3,4,6,7,8-HpCDD	34.431						0.0340	0.0340		
A Non-2,3,7,8-sub-HpCDD	34.990						0.0340	0.1050		RQU
S Total HpCDD							0.1050	0.1050		
D 13C-OCDD	36.773	130454168	0.96	0.4780	170.6	170.6	0.3184	0.3184	85.30	
OCDF	36.869						0.0760	0.0760		
OCDD	36.797	238325	0.83	1.0627	0.3438	0.3438	0.0615	0.0615		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_8.d
Lims ID: 180-97287-C-1-B
Client ID: 11187072-NORTH-IMPCT-INITIALS
Sample Type: Client
Inject. Date: 31-Oct-2019 03:09:50 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-97287-C-1-B 180-97287-C-1-B
Misc. Info.: 30OC19B3D5
Operator ID: ALM Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 01-Nov-2019 10:15:31 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0312

First Level Reviewer: arghestanis Date: 31-Oct-2019 10:57:34

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.626	17.626	0		81665729	20010276	20876	52190	959		
333.9339	17.626	17.626	0		102087295	25341107	9318	23295	2720	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.127	17.127	0	0.972	83449698	21513259	30997	77492	694		
317.9389	17.127	17.127	0	0.972	119610245	30329331	15982	39955	1898	0.70(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.142						2176	5440			
305.8987	17.142						3388	8470			
A Non-2,3,7,8-sub-TCDF											
303.9016	16.462						2176	5440			
305.8987	16.462						3388	8470			
13C-2,3,7,8-TCDD											
331.9368	17.823	17.807	1	1.011	70295907	16979829	20876	52190	813		
333.9339	17.823	17.807	1	1.011	87158618	21017695	9318	23295	2256	0.81(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.838						3857	9642			
321.8936	17.838						1520	3800			
37Cl4-2,3,7,8-TCDD											
327.8847	17.837	17.838	0	1.012	99337140	24248668	8812	22030	2752		
A Non-2,3,7,8-sub-TCDD											RQM
319.8965	17.127	16.908	13	0.961	175617	50023	3857	9642	13		
	Empc Correction				31702	8499	3857	9642	2		
321.8936	17.127	16.908	13	0.961	41172	11038	1520	3800	7	4.27(0.65-0.89)	M

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	22.057	22.043	1	1.251	112681412	20397255	27718	69295	736		
353.8970	22.057	22.043	1	1.251	69376723	12476529	20520	51300	608	1.62(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.071						1599	3997			
341.8567	22.071						4196	10490			
13C-2,3,4,7,8-PeCDF											
351.9000	23.366	23.339	2	1.326	121435688	20582155	27718	69295	743		
353.8970	23.366	23.339	2	1.326	75604143	12703188	20520	51300	619	1.61(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.393						1599	3997			
341.8567	23.393						4196	10490			
A F1 PeCDFs											
339.8597	19.335						1517	3792			
341.8567	19.335						4354	10885			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.226						1599	3997			
341.8567	22.226						4196	10490			
13C-1,2,3,7,8-PeCDD											
367.8949	24.075	24.062	1	1.366	65152375	10687612	8193	20482	1304		
369.8919	24.075	24.062	1	1.366	39970268	6001840	7012	17530	856	1.63(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.103						4528	11320			
357.8516	24.103						1469	3672			
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.018						4528	11320			
357.8516	22.018						1469	3672			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.204	30.164	2	0.945	61763104	10233418	16828	42070	608		
385.8610	30.204	30.164	2	0.945	119553740	19548449	31527	78817	620	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.231						2388	5970			
375.8178	30.231						1802	4505			
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.417	30.417	0	0.951	61004769	10485892	16828	42070	623		
385.8610	30.417	30.417	0	0.951	113688855	19116778	31527	78817	606	0.54(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.431						2388	5970			
375.8178	30.431						1802	4505			
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.323	31.309	1	0.980	55061583	12290262	16828	42070	730		
385.8610	31.323	31.309	1	0.980	105922198	23340562	31527	78817	740	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.323						2388	5970			
375.8178	31.323						1802	4505			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.161	32.161	0	1.006	53286499	13638104	16828	42070	810		
385.8610	32.161	32.161	0	1.006	101308579	25855182	31527	78817	820	0.53(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.175						2388	5970			
375.8178	32.175						1802	4505			
A Non-2,3,7,8-sub-HxCDF											
373.8208	28.997						2388	5970			
375.8178	28.997						1802	4505			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.975	31.962	1		89486736	21197075	17540	43850	1208		
403.8529	31.975	31.962	1		70492343	17596134	15757	39392	1117	1.27(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.522	31.496	2	0.986	66991058	16046493	17540	43850	915		
403.8529	31.522	31.496	2	0.986	52261444	13045090	15757	39392	828	1.28(1.05-1.43)	
1,2,3,4,7,8-HxCDD											U
389.8157	31.522						2167	5417			
391.8127	31.522						3259	8147			
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.629	31.629	0	0.989	71581487	16669916	17540	43850	950		
403.8529	31.629	31.629	0	0.989	54302688	12962711	15757	39392	823	1.32(1.05-1.43)	
1,2,3,6,7,8-HxCDD											U
389.8157	31.642						2167	5417			
391.8127	31.642						3259	8147			
1,2,3,7,8,9-HxCDD											
389.8157	31.975						2167	5417			
391.8127	31.975						3259	8147			
A Non-2,3,7,8-sub-HxCDD											U
389.8157	30.544						2167	5417			
391.8127	30.544						3259	8147			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.629	33.630	0	1.052	31604978	9650937	31713	79282	304		
419.8220	33.629	33.630	0	1.052	74097429	23265249	58432	146080	398	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.630						7690	19225			
409.7789	33.630						2420	6050			
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.711	34.699	1	1.086	32227283	9689044	31713	79282	306		
419.8220	34.711	34.699	1	1.086	76766610	21596823	58432	146080	370	0.42(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.711						7690	19225			
409.7789	34.711						2420	6050			
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.170						7690	19225			
409.7789	34.170						2420	6050			

Report Date: 01-Nov-2019 10:15:34 Chrom Revision: 2.3 17-Sep-2019 16:19:08
Data File: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_8.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.431	34.419	1	1.077	57933838	16307997	26557	66392	614		
437.8140	34.431	34.419	1	1.077	53659942	14867148	22303	55757	667	1.08(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.431						2633	6582			
425.7737	34.431						1651	4127			
A Non-2,3,7,8-sub-HpCDD											U
423.7766	34.711	34.990	-17	1.008	149976	45635	2633	6582	17		
	Empc Correction				60328	14647	2633	6582	6		
425.7737	34.711	34.990	-17	1.008	58008	14084	1651	4127	9	2.59(0.88-1.20)	
13C-OCDD											
469.7779	36.773	36.773	0	1.150	63981738	15055811	11202	28005	1344		
471.7750	36.773	36.773	0	1.150	66472430	15785388	12416	31040	1271	0.96(0.76-1.02)	
OCDF											
441.7428	36.869						2240	5600			
443.7399	36.869						4090	10225			
OCDD											
457.7377	36.797	36.785	1	1.001	107952	27650	2089	5222	13		
459.7348	36.785	36.785	0	1.000	130373	28840	1939	4847	15	0.83(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

U - Marked Undetected

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_8.d
Lims ID: 180-97287-C-1-B
Client ID: 11187072-NORTH-IMPCT-INITIALS
Inject. Date: 31-Oct-2019 03:09:50 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5 Operator: ALM
Lims Batch ID: 334889 Lims Sample ID: 8

Non-2,3,7,8-sub-TCDD, RT: 16.908

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.045	D 13C-2,3,7,8-TCDD	100.000	157454525	37997524

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.045		100.000	157454525	37997524

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
17.127	175617	50023	41172	11038	0.1318	4.27	RQM
17.127	31702	8499	41172	11038	0.0443		Empc Correction
Signal Totals:							
	31702	8499	41172	11038			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	216789	61061				4.27	RQM
	72874	19537					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.1318 = (216789 * 100.000) / (157454525 * 1.045)
Empc Amount: 0.0443 = (72874 * 100.000) / (157454525 * 1.045)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_8.d
Lims ID: 180-97287-C-1-B
Client ID: 11187072-NORTH-IMPCT-INITIALS
Inject. Date: 31-Oct-2019 03:09:50 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5 Operator: ALM
Lims Batch ID: 334889 Lims Sample ID: 8

Non-2,3,7,8-sub-HxCDD, RT: 30.544

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.027	D 13C-1,2,3,4,7,8-HxCDD	100.000	119252502	29091583
1,2,3,6,7,8-HxCDD	0.977	D 13C-1,2,3,6,7,8-HxCDD	100.000	125884175	29632627
1,2,3,7,8,9-HxCDD	1.062				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.022		100.000	122568338	29362105

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags

Compound is Marked ND

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_8.d
Lims ID: 180-97287-C-1-B
Client ID: 11187072-NORTH-IMPCT-INITIALS
Inject. Date: 31-Oct-2019 03:09:50 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5 Operator: ALM
Lims Batch ID: 334889 Lims Sample ID: 8

Non-2,3,7,8-sub-HpCDD, RT: 34.990

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.010	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	111593780	31175145

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.010		100.000	111593780	31175145

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.711	149976	45635	58008	14084	0.1845	2.59	RQ
34.711	60328	14647	58008	14084	0.1050		Empc Correction

Compound is Marked ND

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_8.d				
Injection Date:	31-Oct-2019 03:09:50	Instrument ID:	3D5		
Lims ID:	180-97287-C-1-B	Lab Sample ID:	320-97287-1		
Client ID:	11187072-NORTH-IMPCT-INITIALS				
Operator ID:	ALM	ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

Non-2,3,7,8-sub-TCDD, Signal: 2, m/z: 321.8936, RT: (15.62- 18.20)

Signal: 2

Processing Integration Results

RT = 17.127 Area = 62516

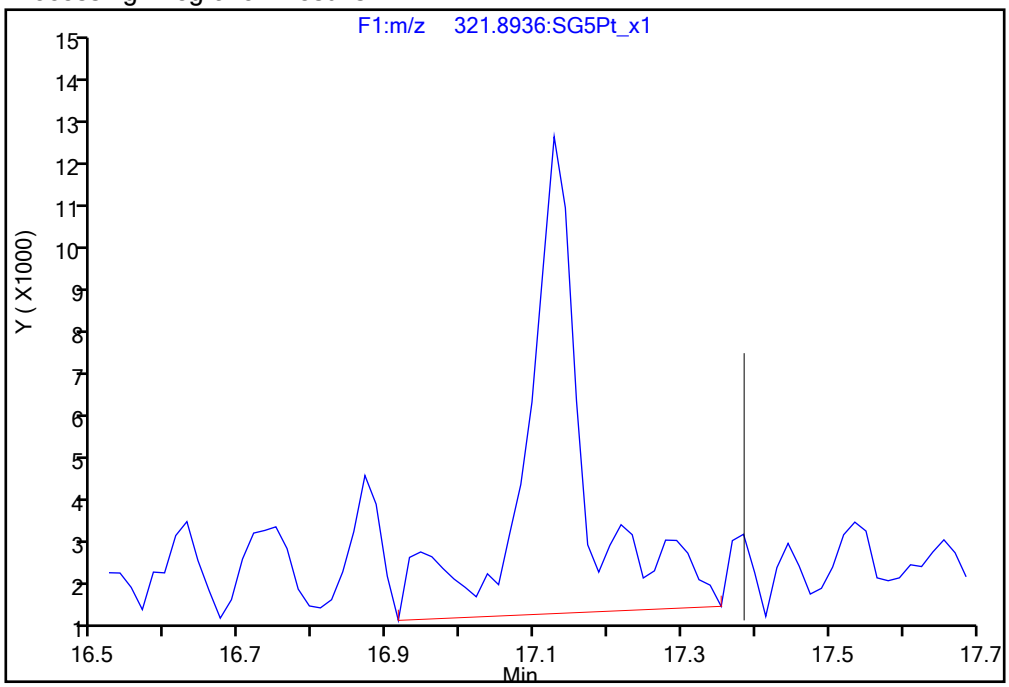

Manual Integration Results

RT = 17.127 Area = 41172 M

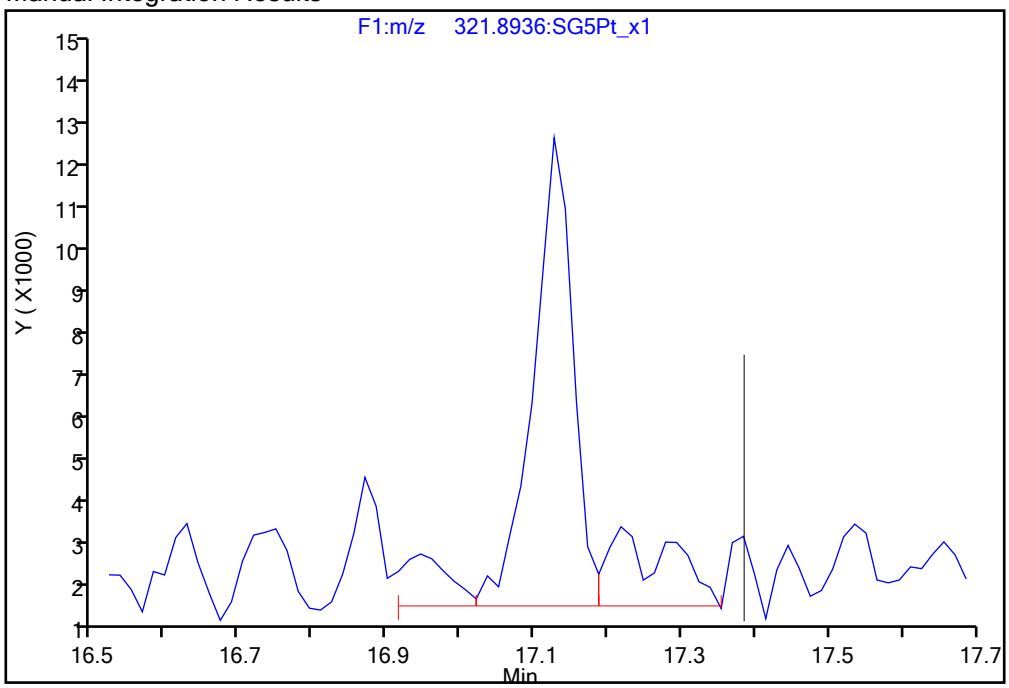

Reviewer: dadunj, 01-Nov-2019 10:14:11

Audit Action: Split an Integrated Peak Audit Reason: Baseline

Report Date: 01-Nov-2019 10:15:34 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_8.d		
Injection Date:	31-Oct-2019 03:09:50	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-NORTH-IMPCT-INITIALS		
Worklist#:	334889	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

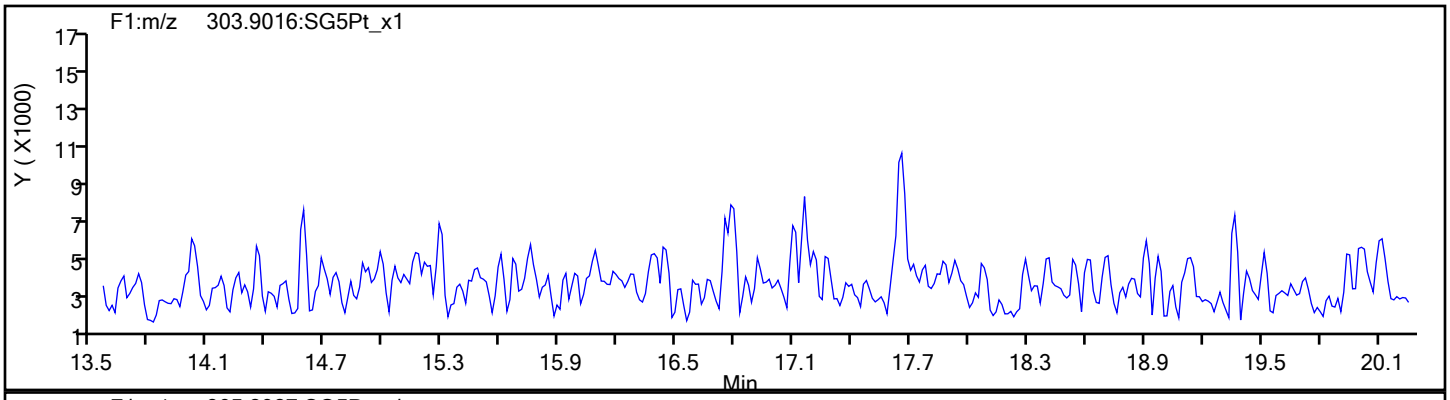

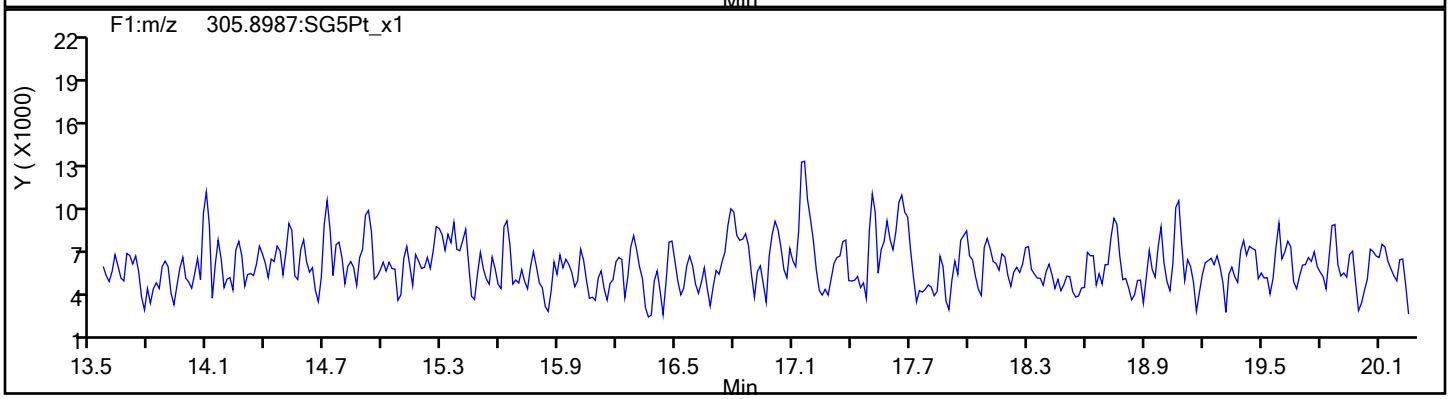

TCDF Standards

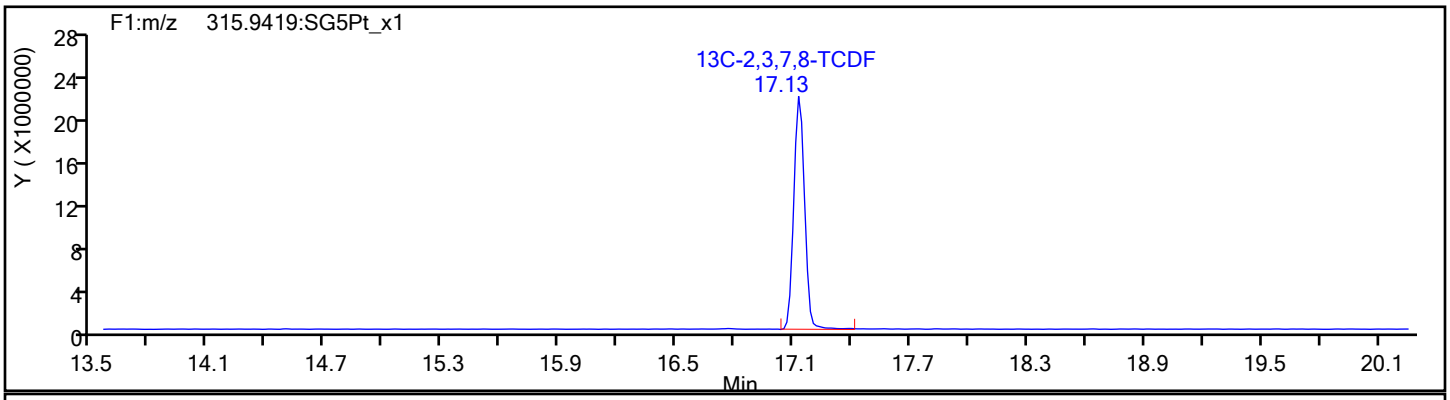

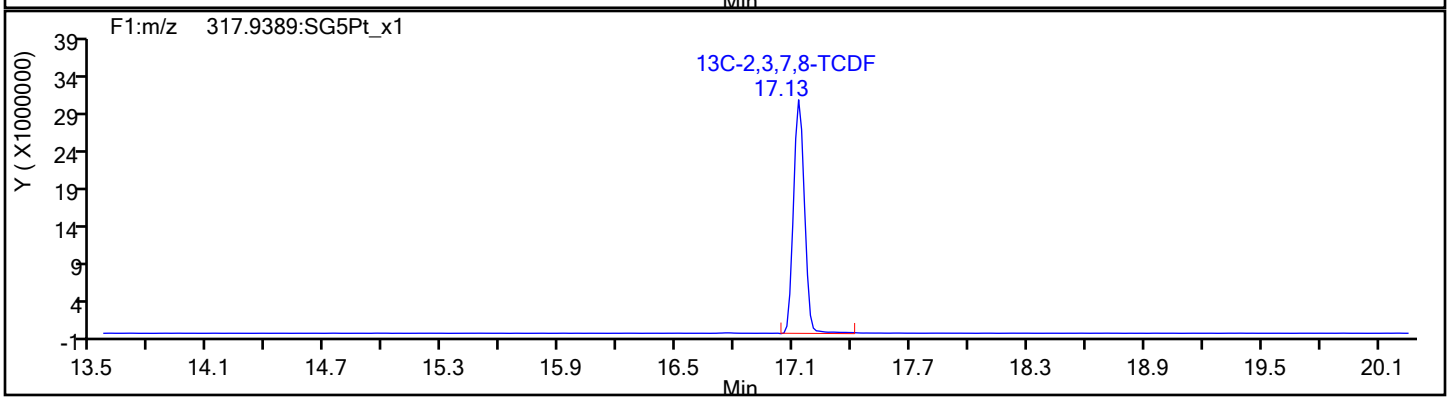

Report Date: 01-Nov-2019 10:15:34 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_8.d		
Injection Date:	31-Oct-2019 03:09:50	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-NORTH-IMPCT-INITIALS		
Worklist#:	334889	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

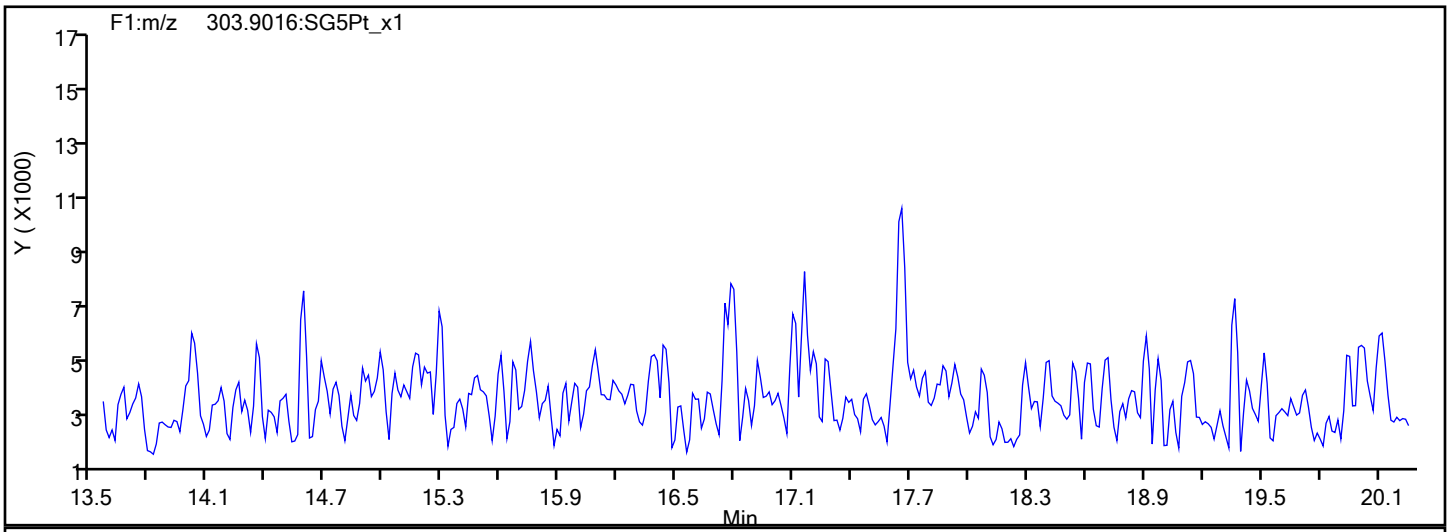

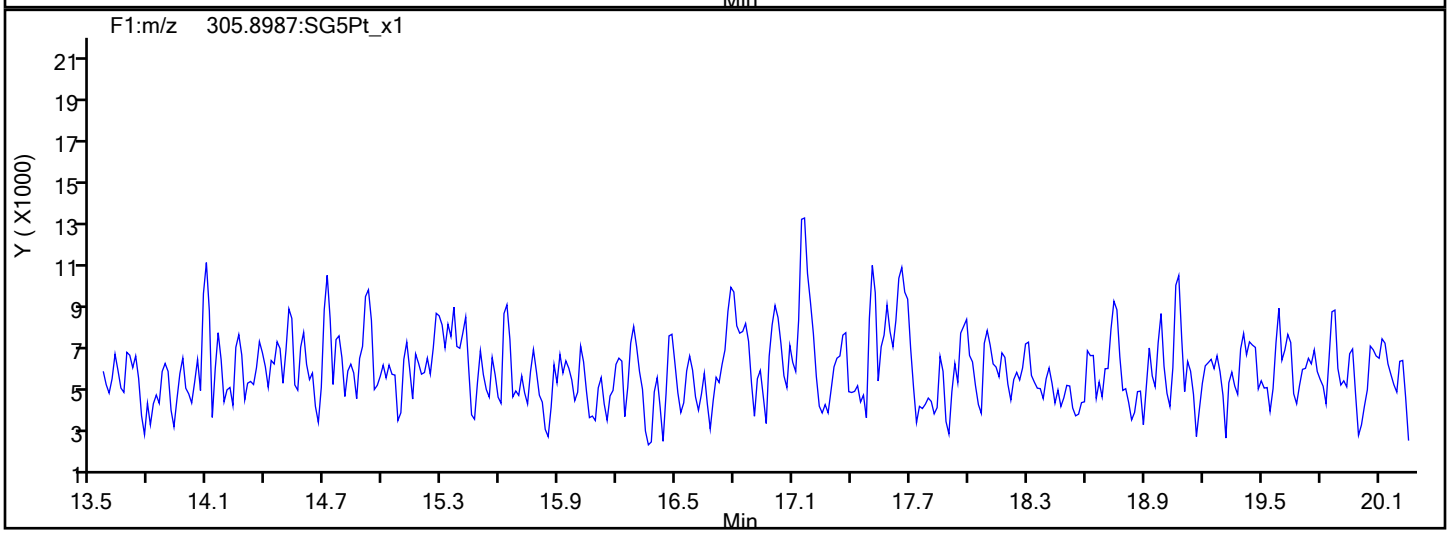

TCDF Interference Mass

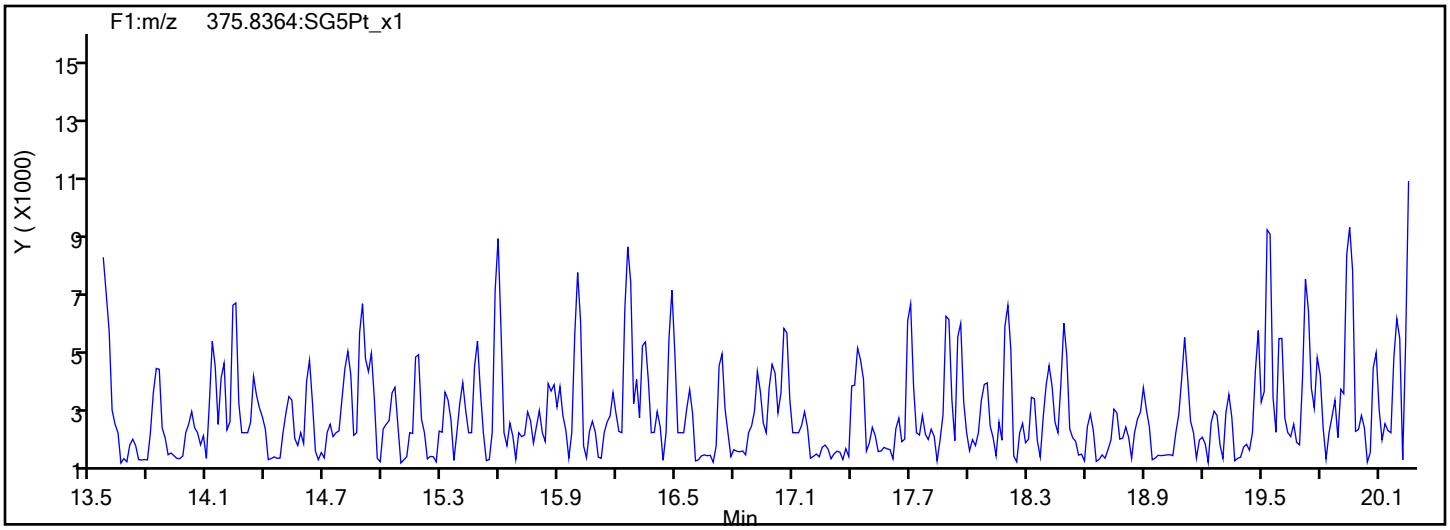

Report Date: 01-Nov-2019 10:15:34 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_8.d		
Injection Date:	31-Oct-2019 03:09:50	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-NORTH-IMPCT-INITIALS		
Worklist#:	334889	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

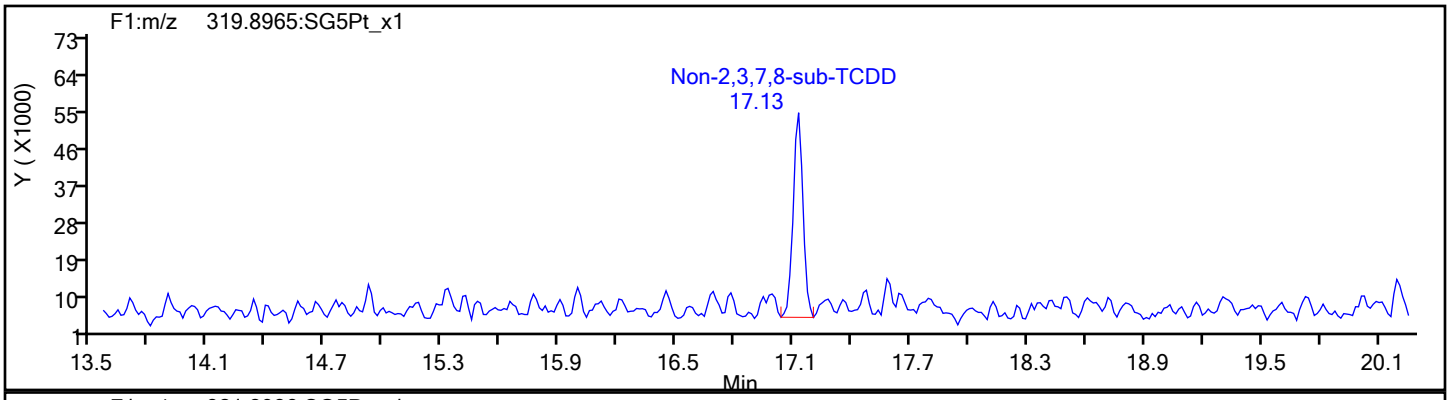

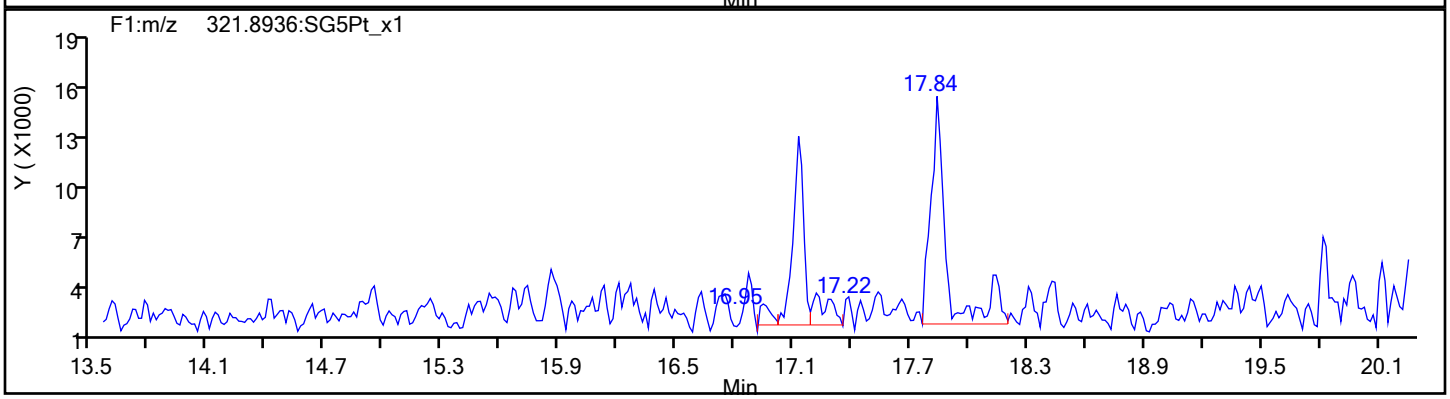

TCDD Standards

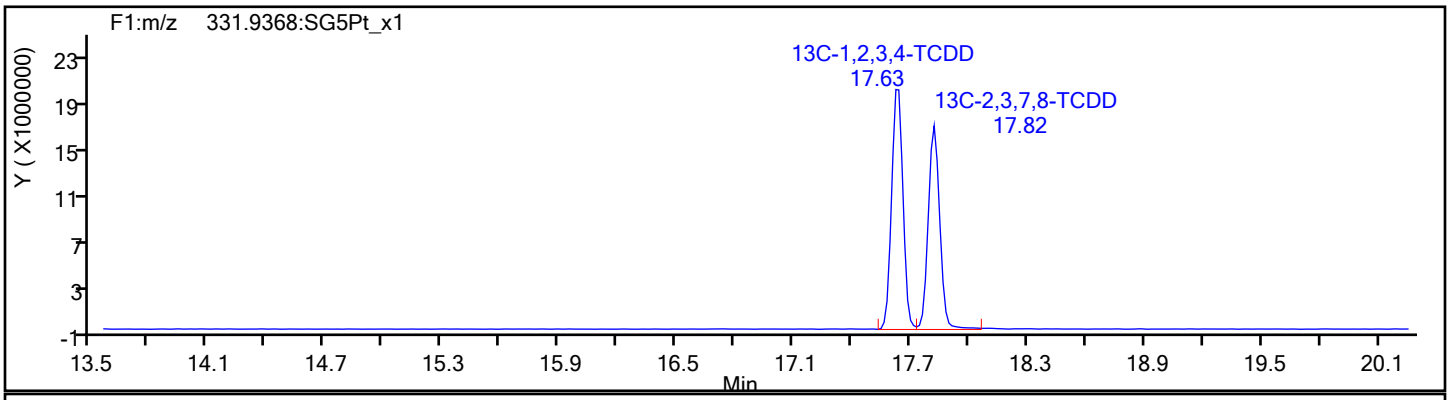

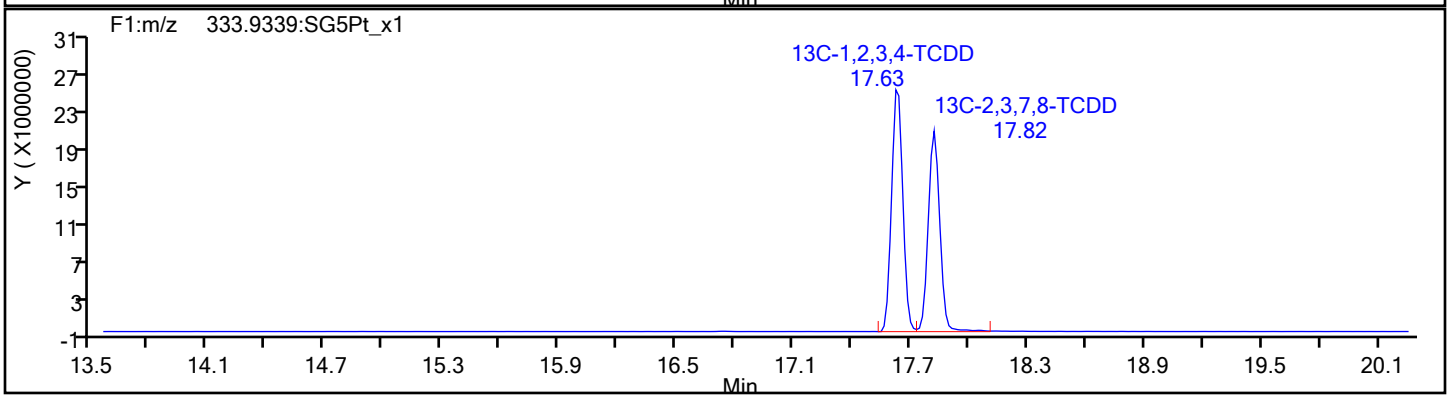

Report Date: 01-Nov-2019 10:15:34 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_8.d		
Injection Date:	31-Oct-2019 03:09:50	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-NORTH-IMPCT-INITIALS		
Worklist#:	334889	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

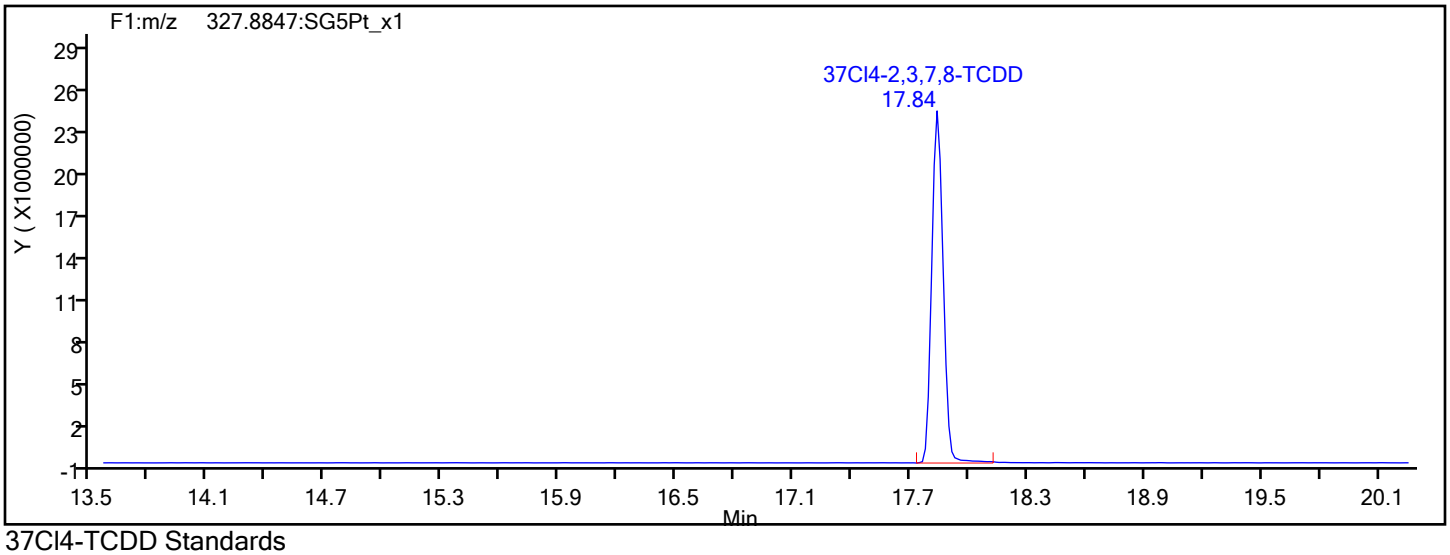

37Cl4-TCDD Standards

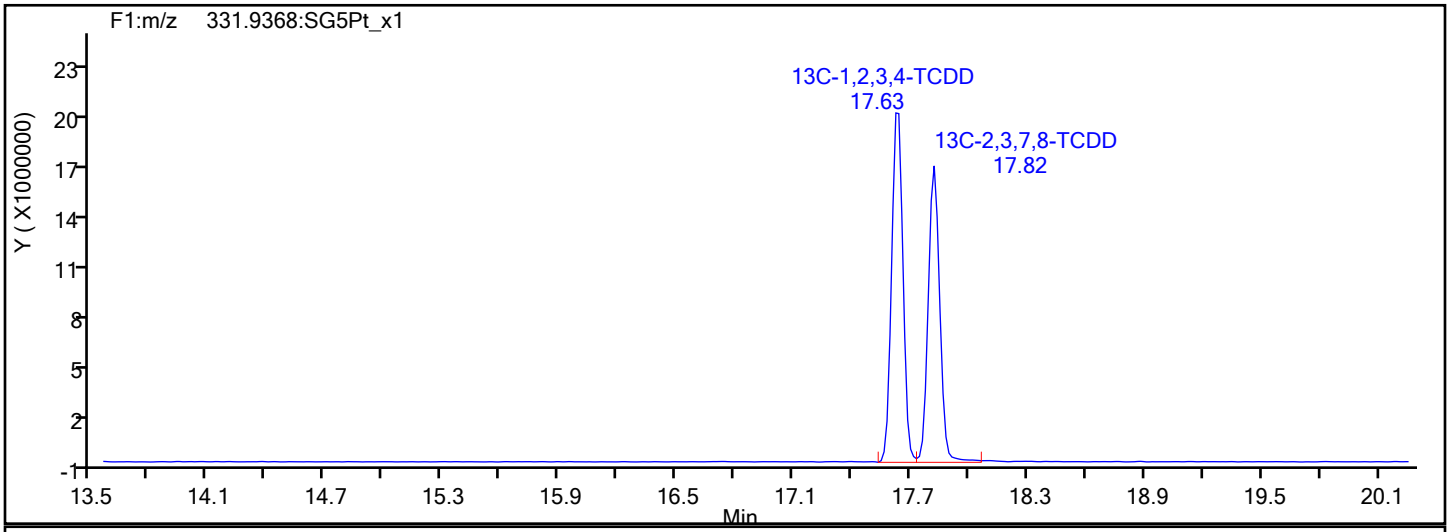

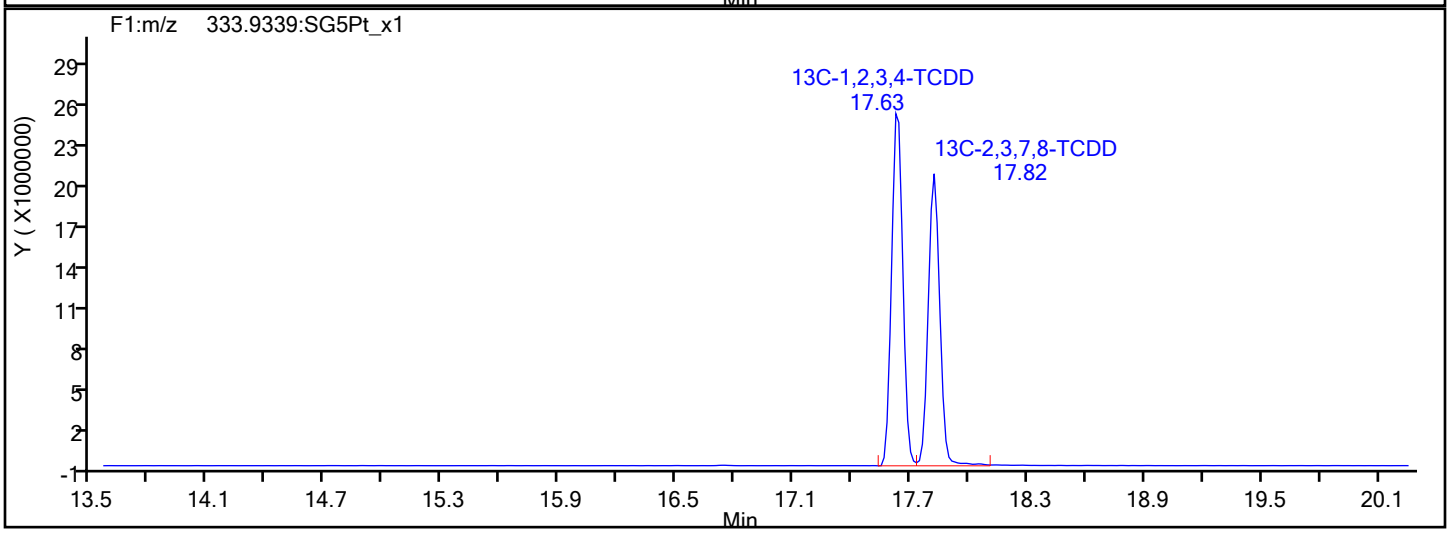

Report Date: 01-Nov-2019 10:15:34 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_8.d		
Injection Date:	31-Oct-2019 03:09:50	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-NORTH-IMPCT-INITIALS		
Worklist#:	334889	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

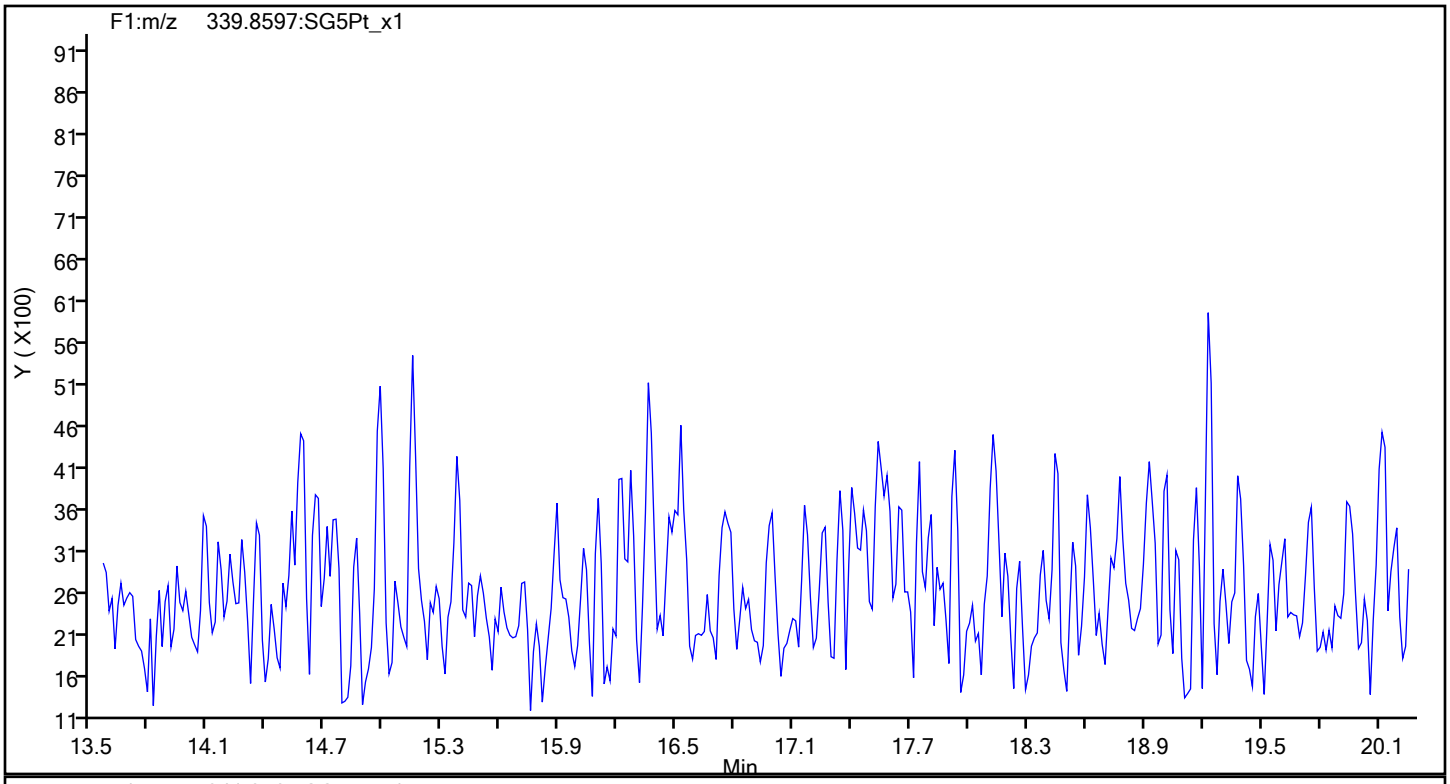

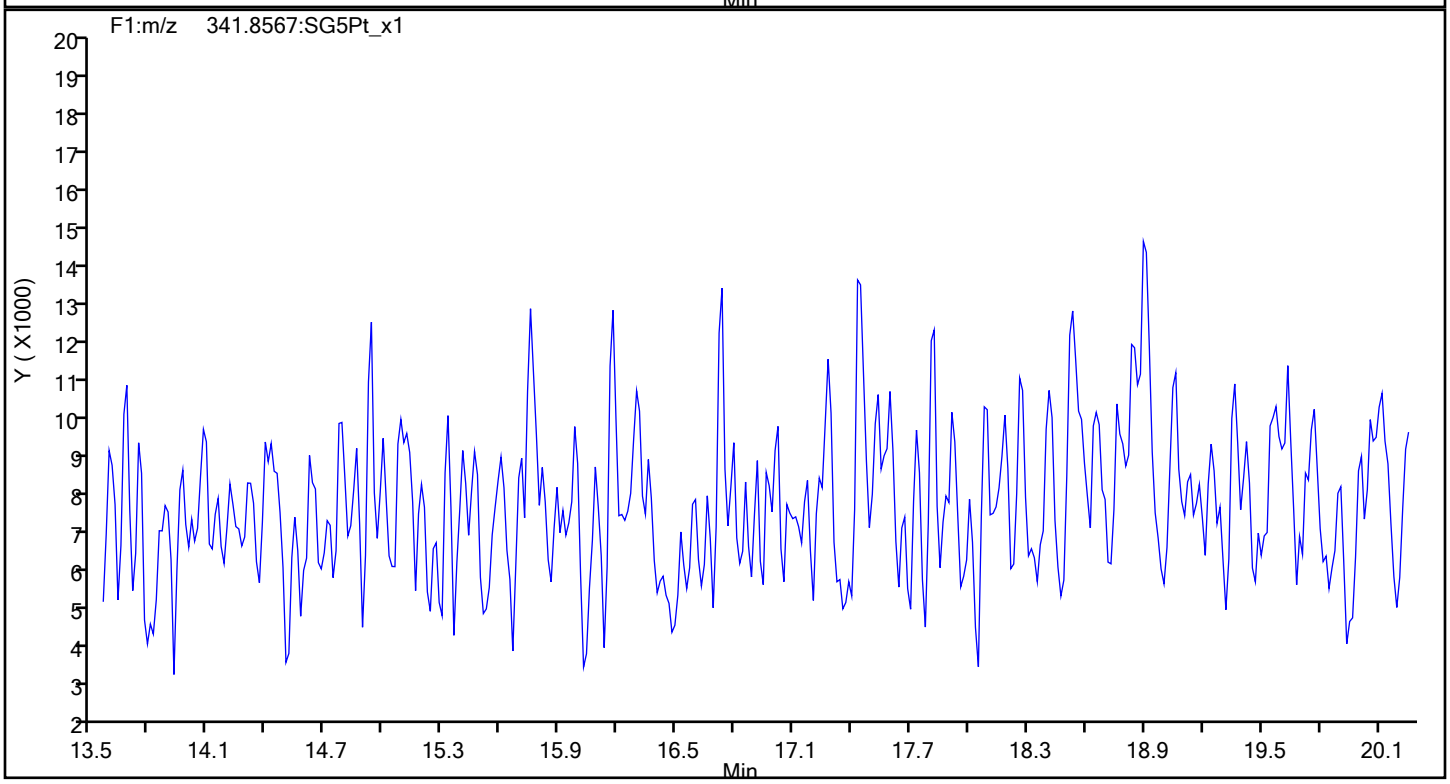

Report Date: 01-Nov-2019 10:15:34 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_8.d		
Injection Date:	31-Oct-2019 03:09:50	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-NORTH-IMPCT-INITIALS		
Worklist#:	334889	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

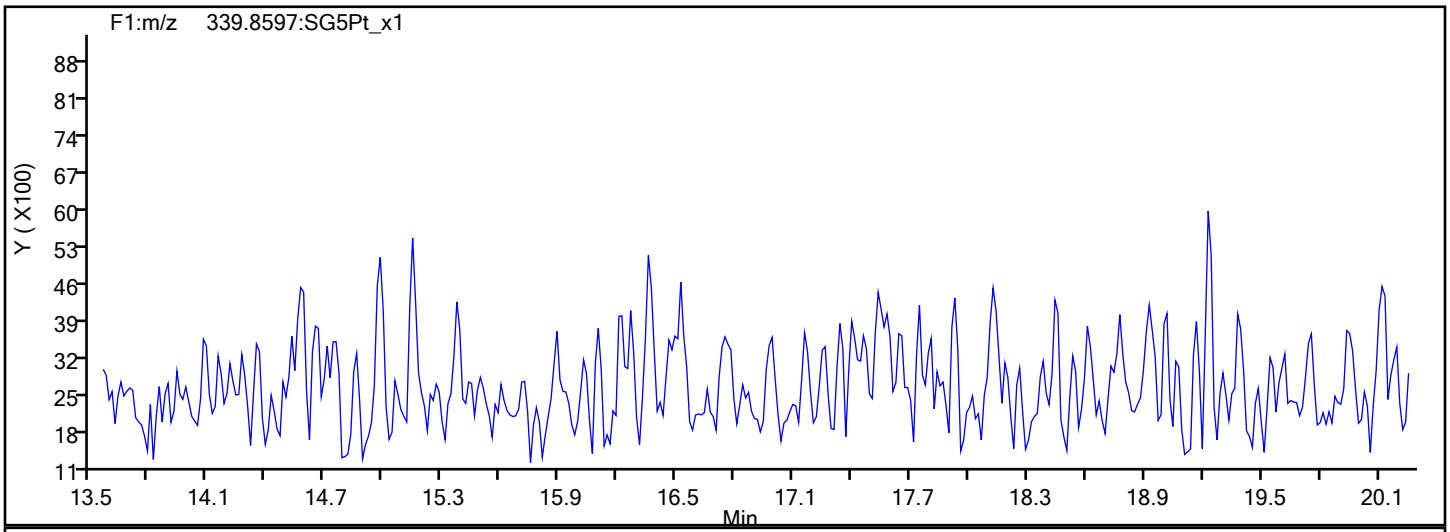

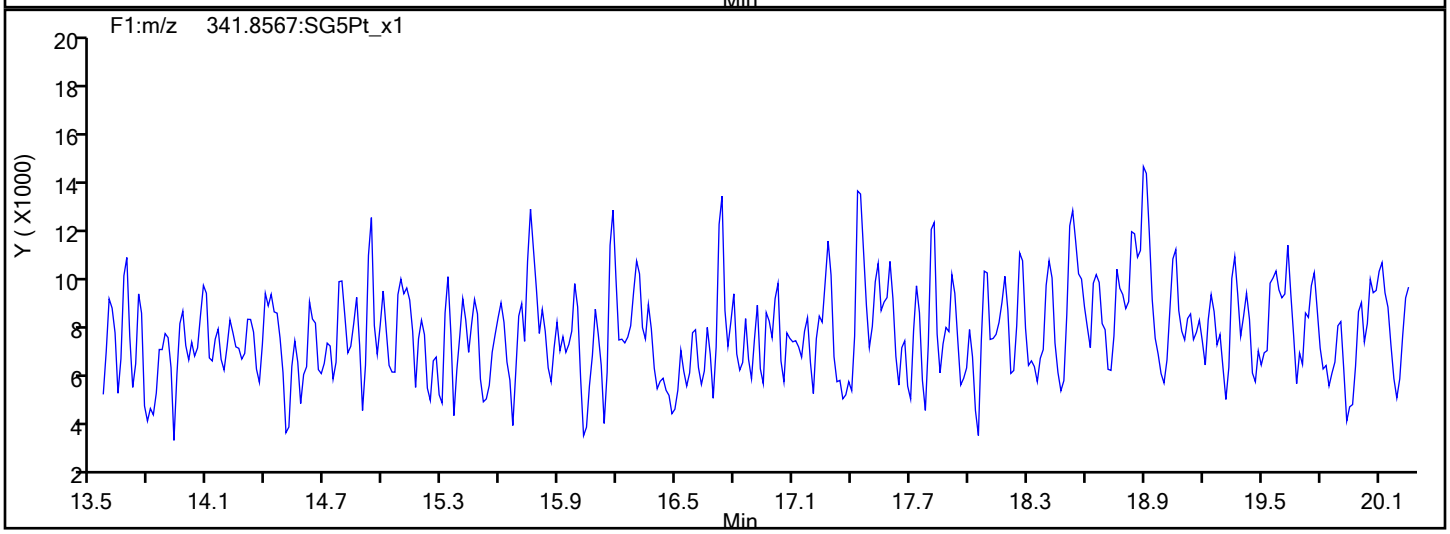

F1 PeCDFs Interference Mass

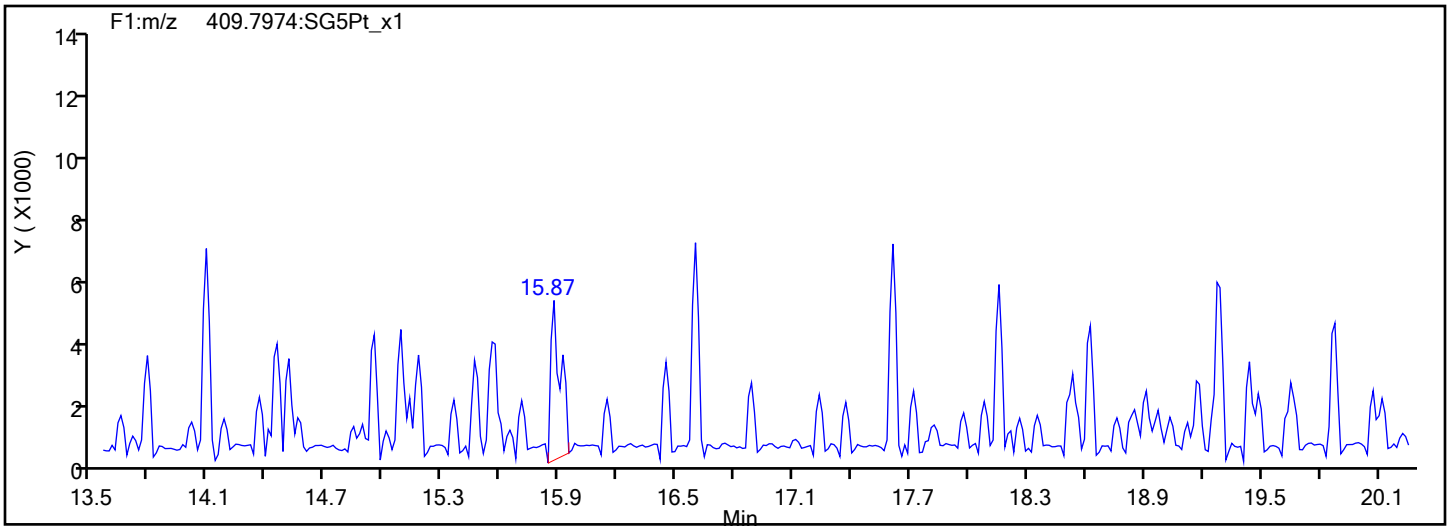

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Eurofins TestAmerica, Sacramento

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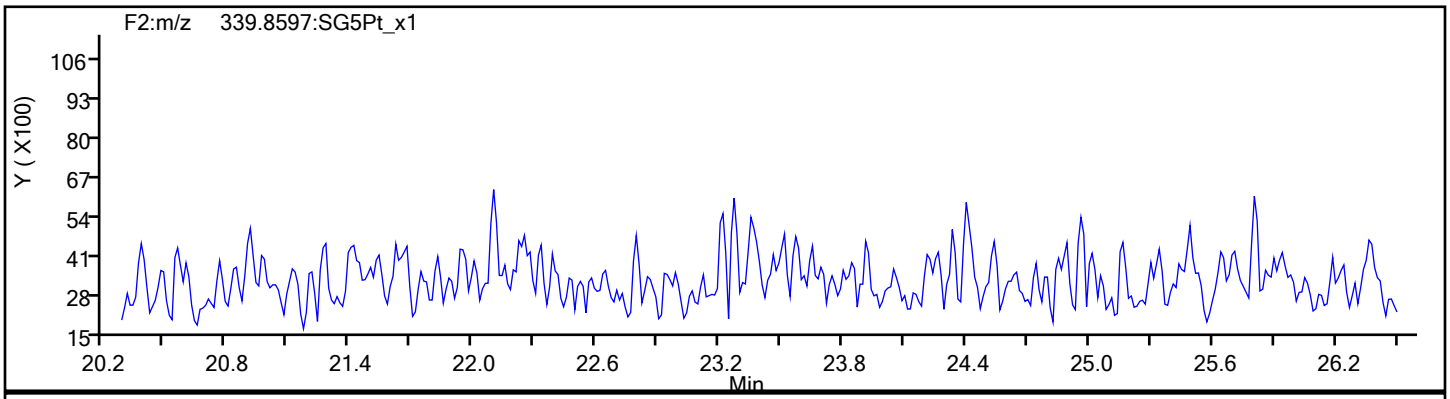

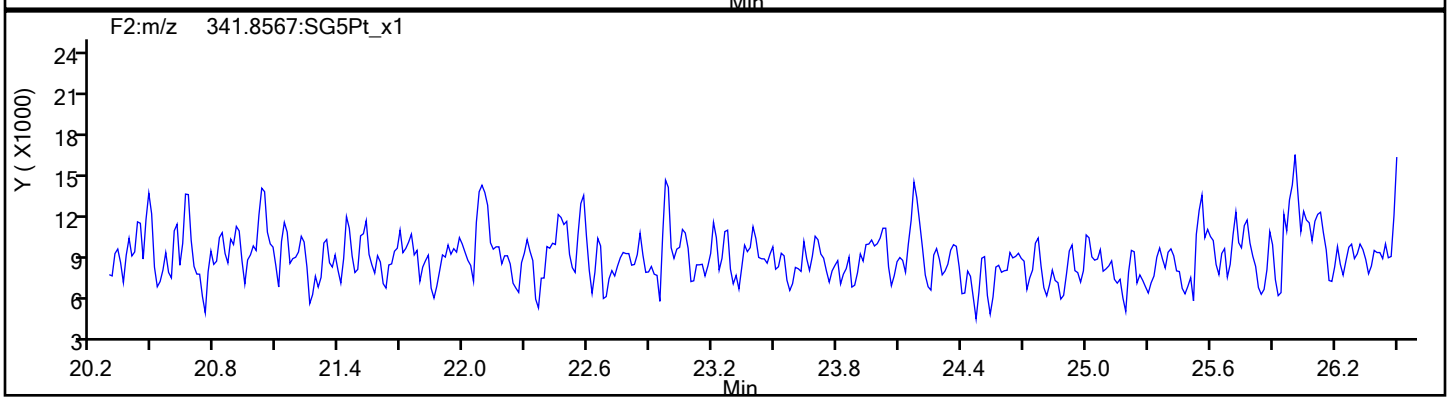

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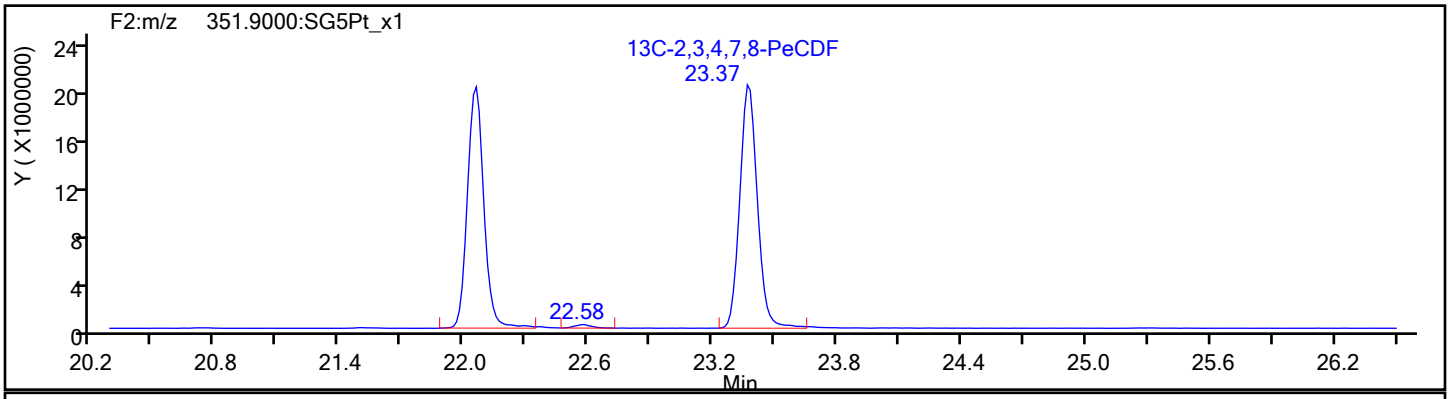

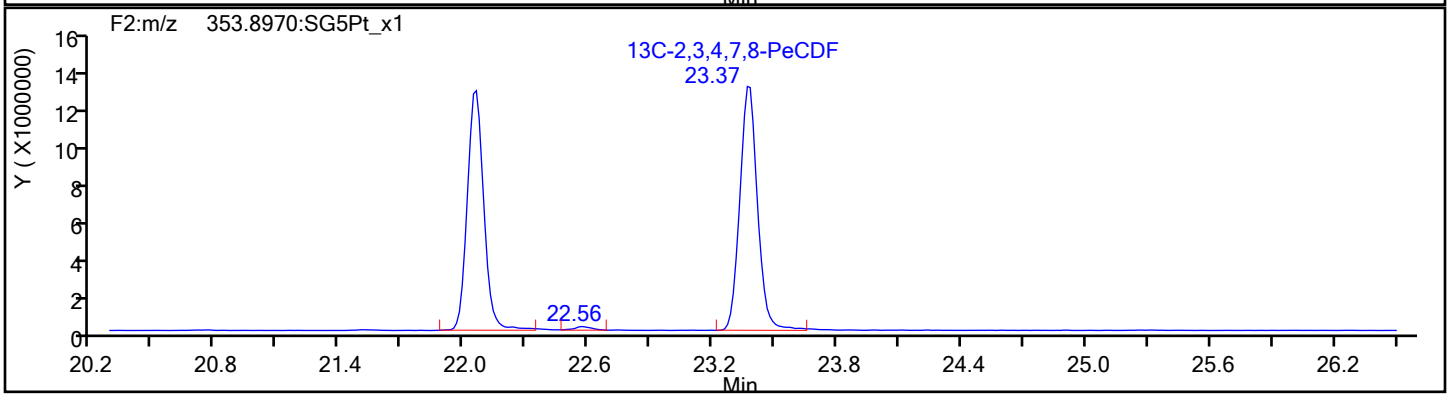

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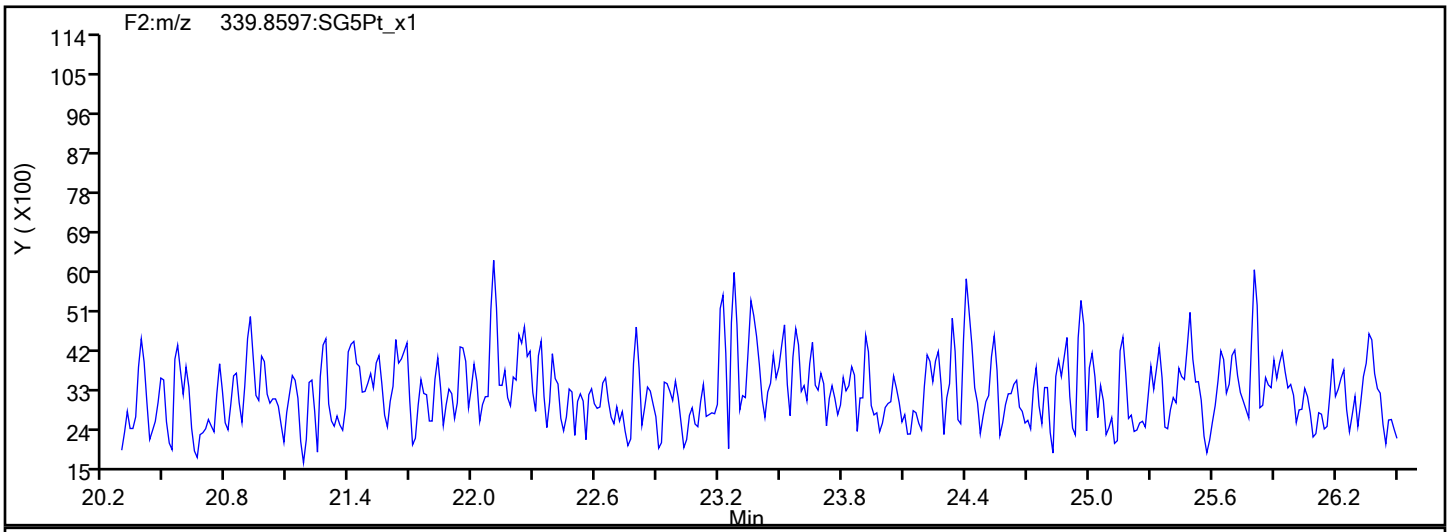

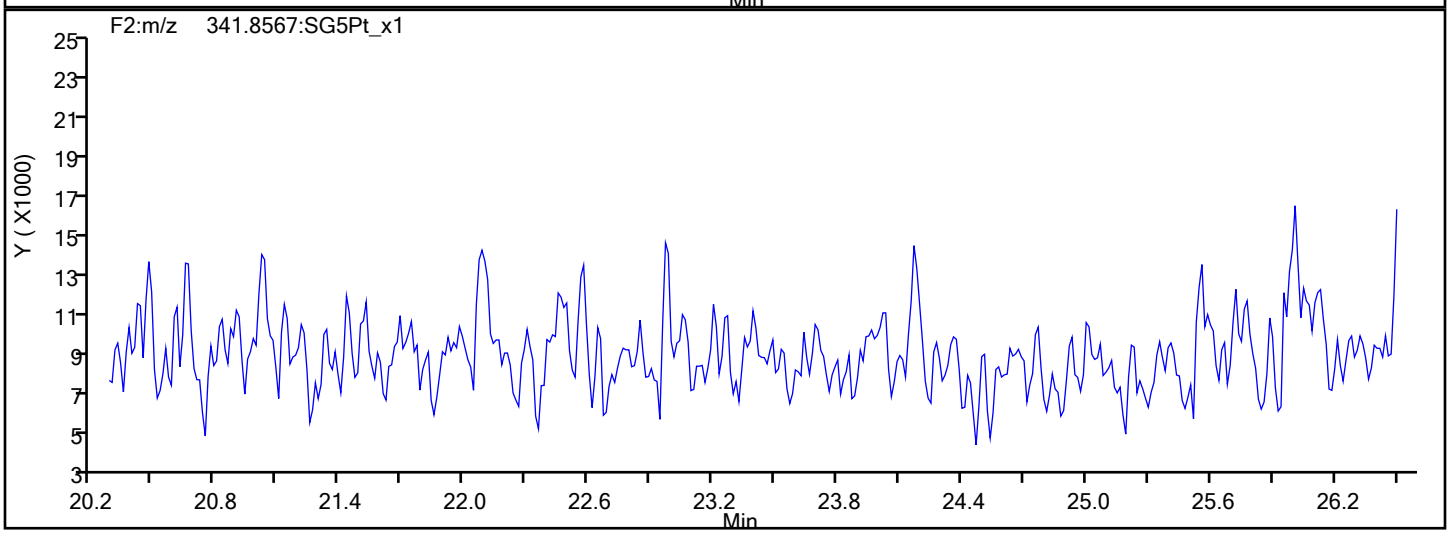

PeCDF Interference Mass

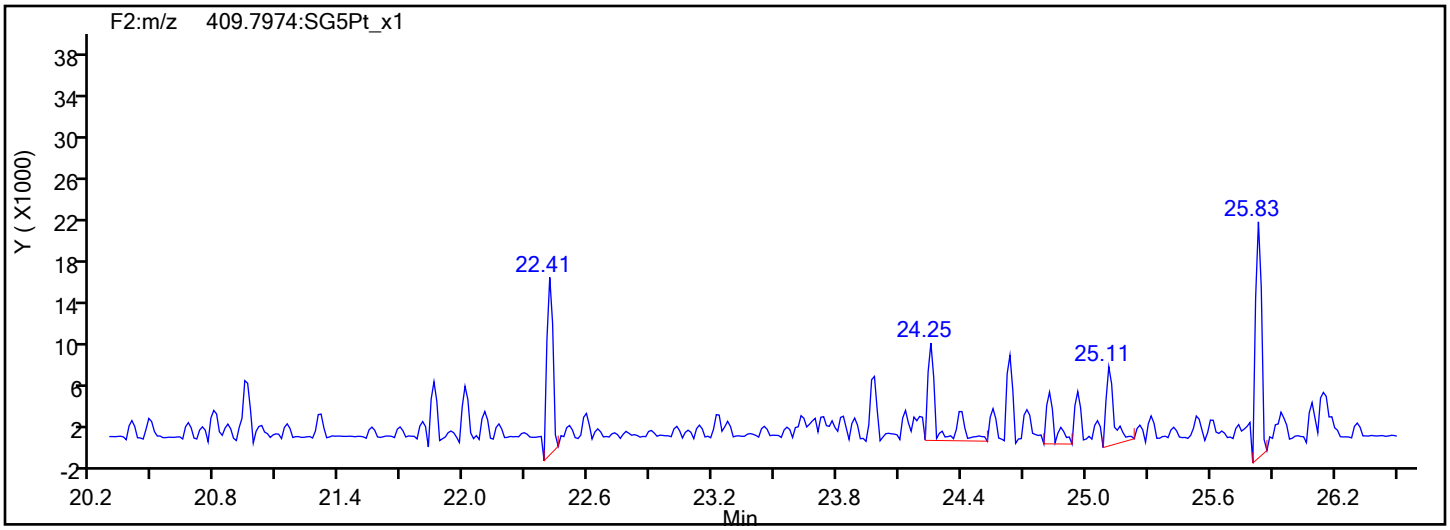

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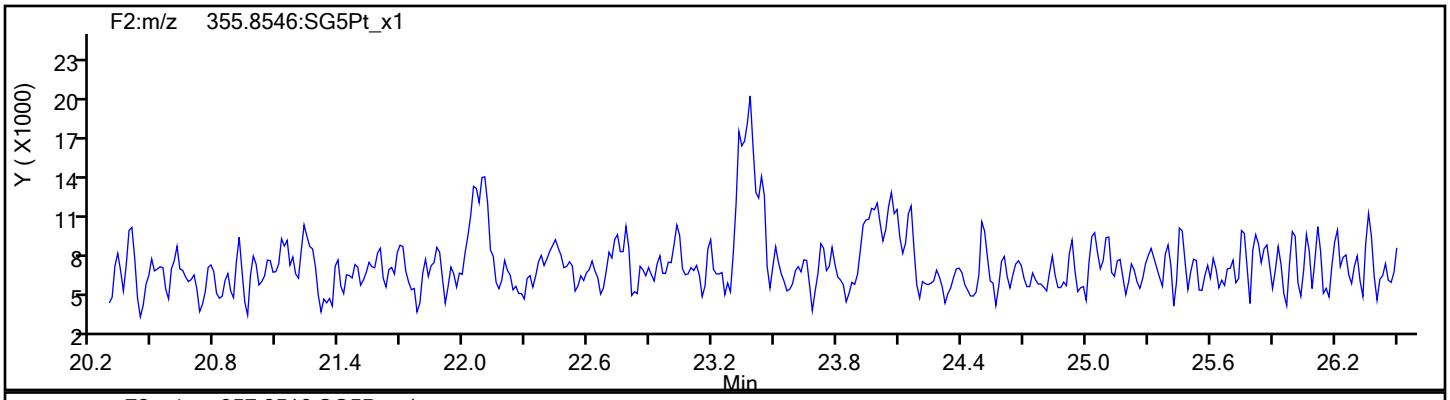

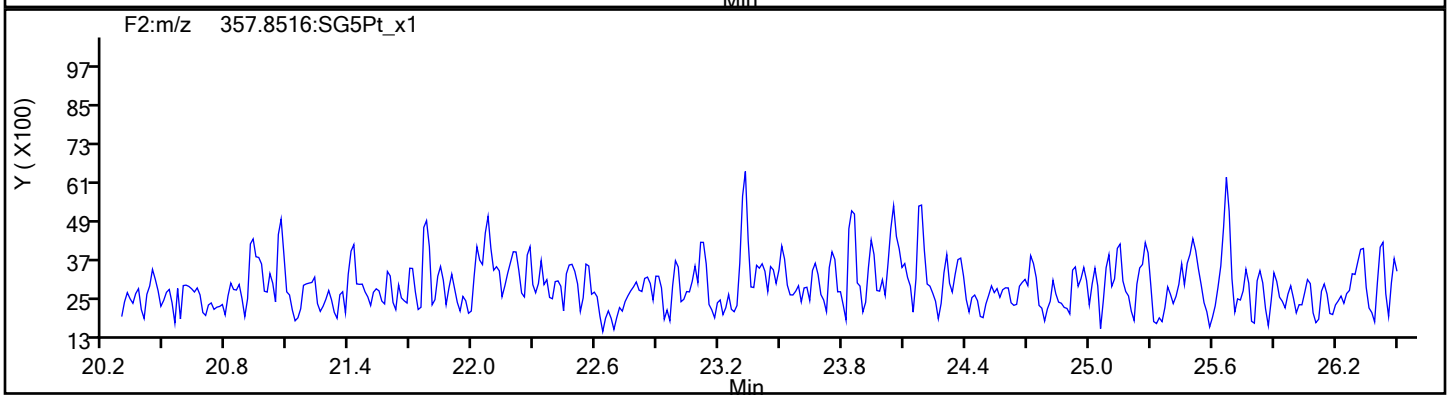

PeCDD Standards

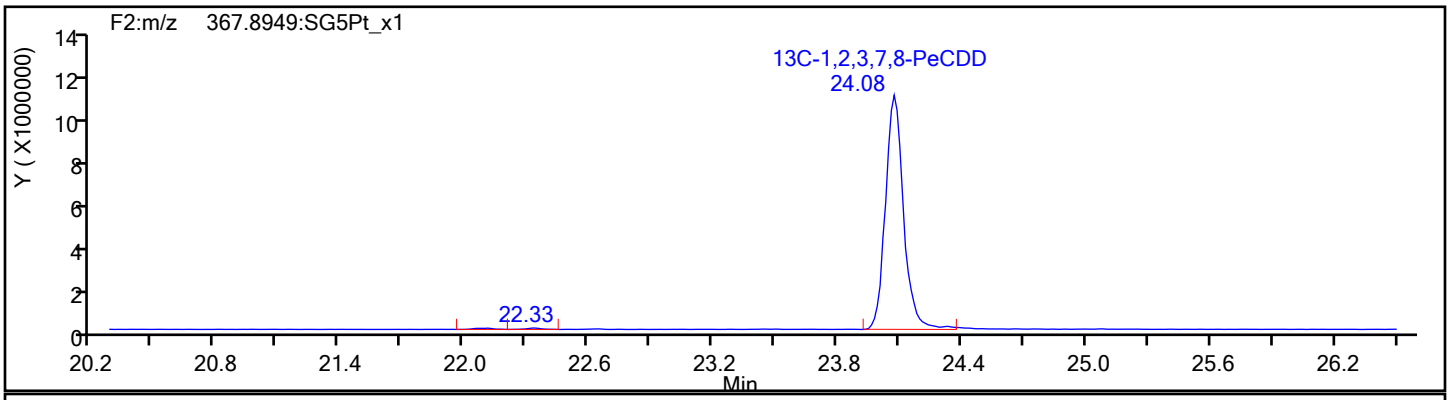

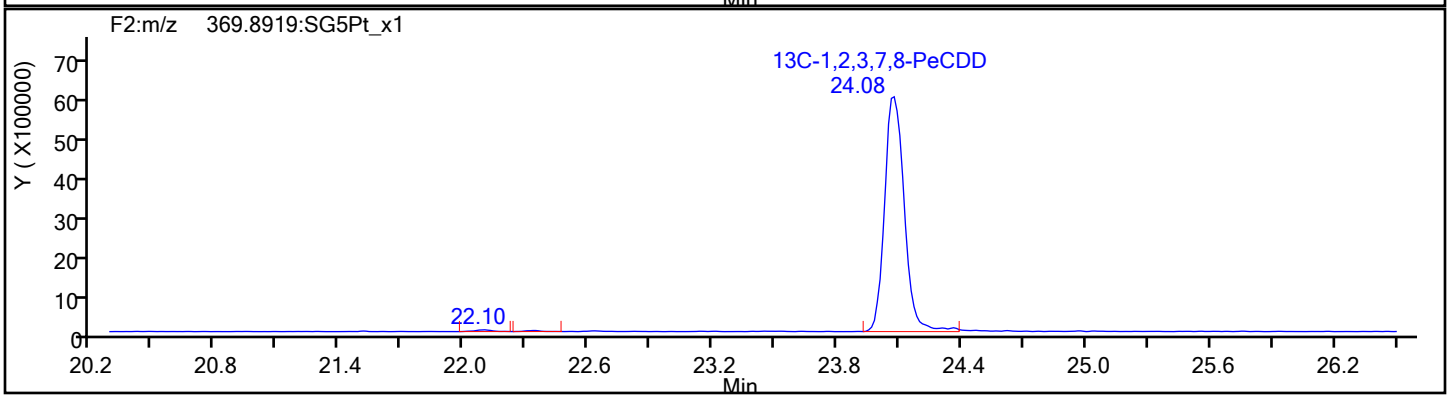

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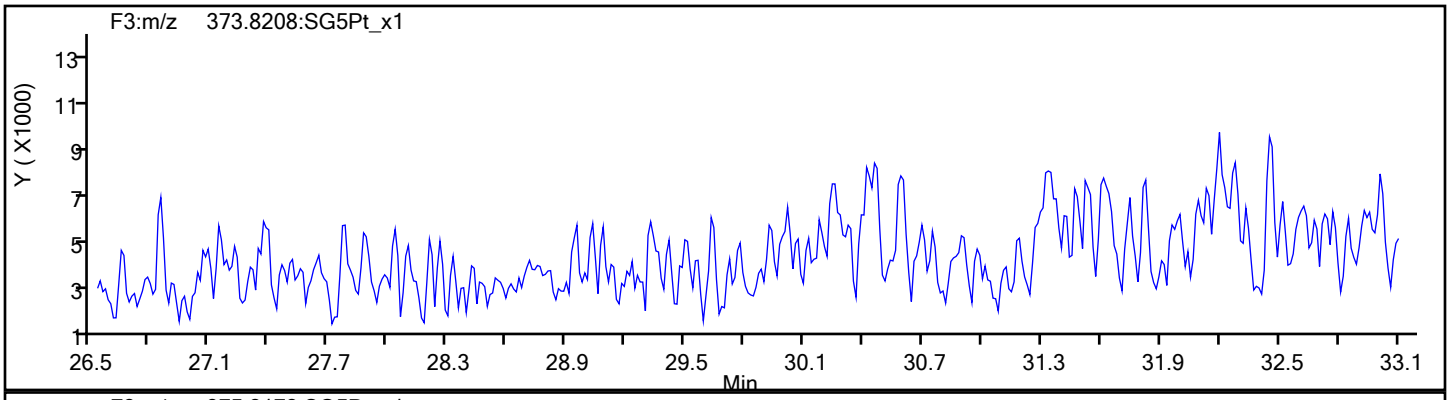

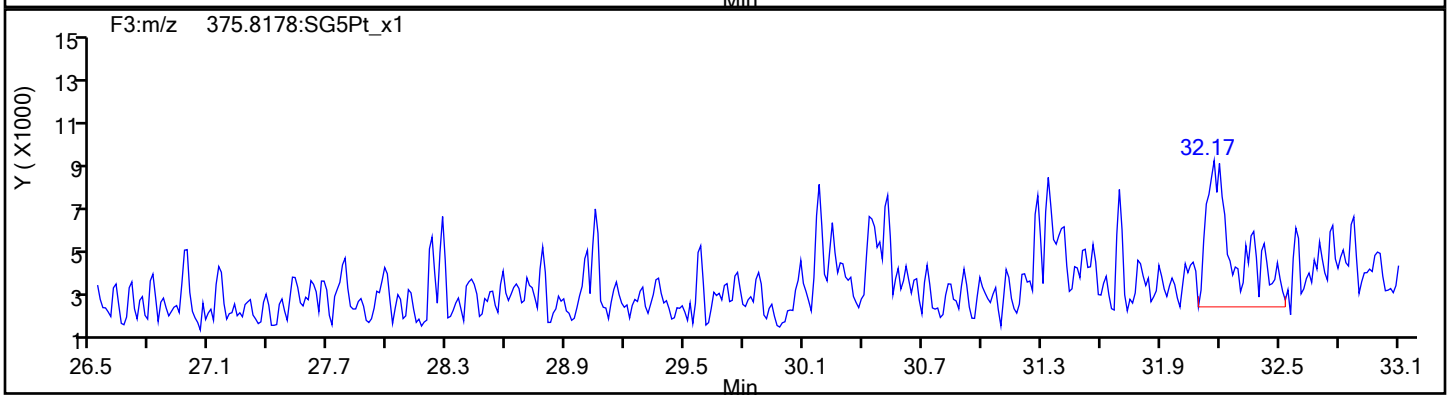

HxCDF Standards

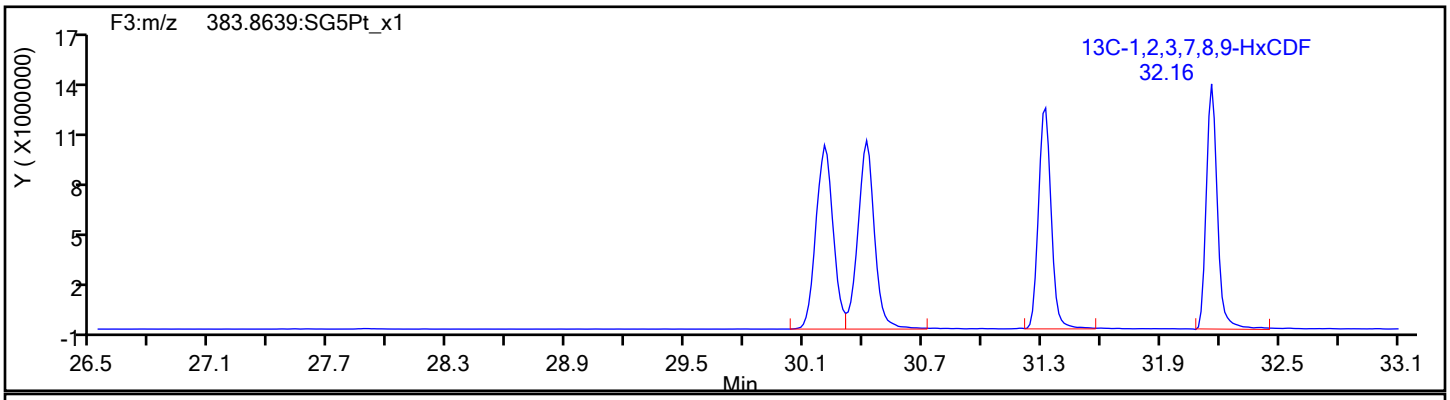

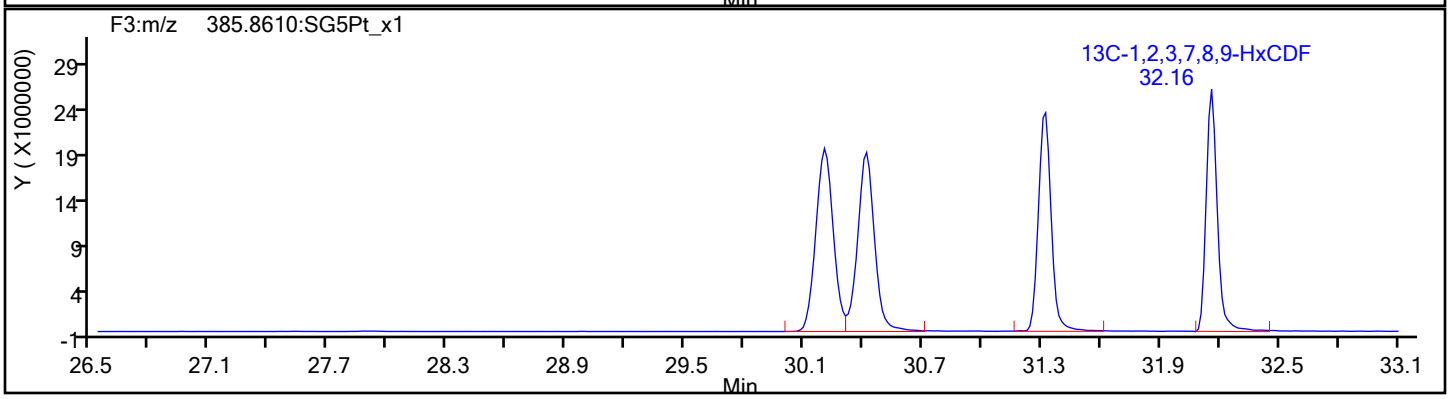

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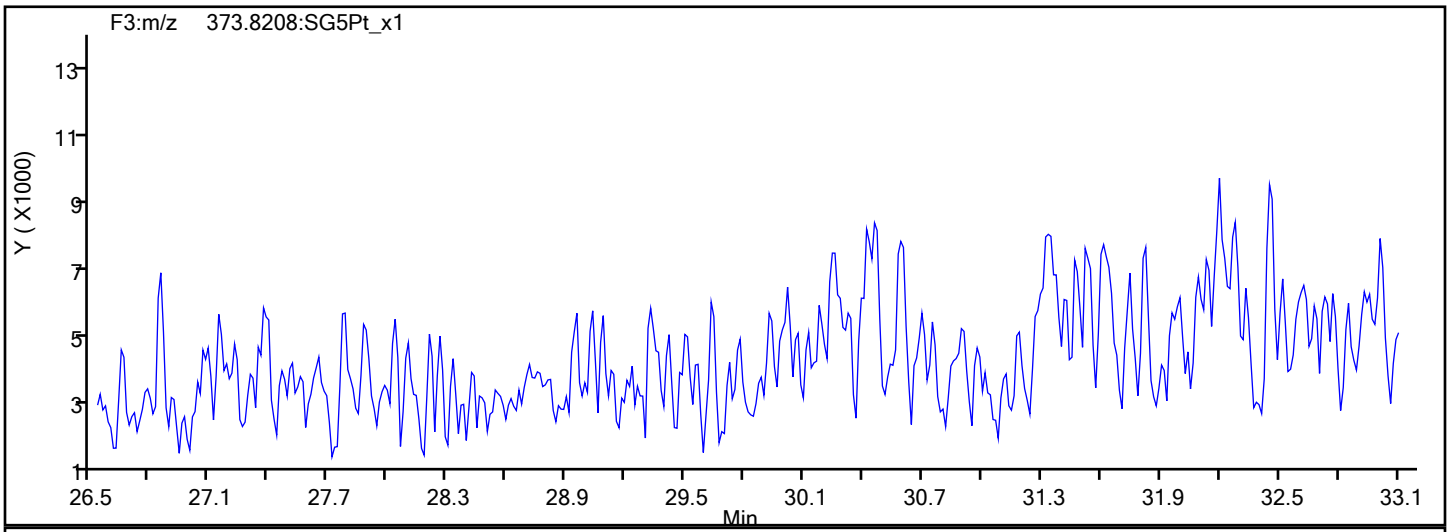

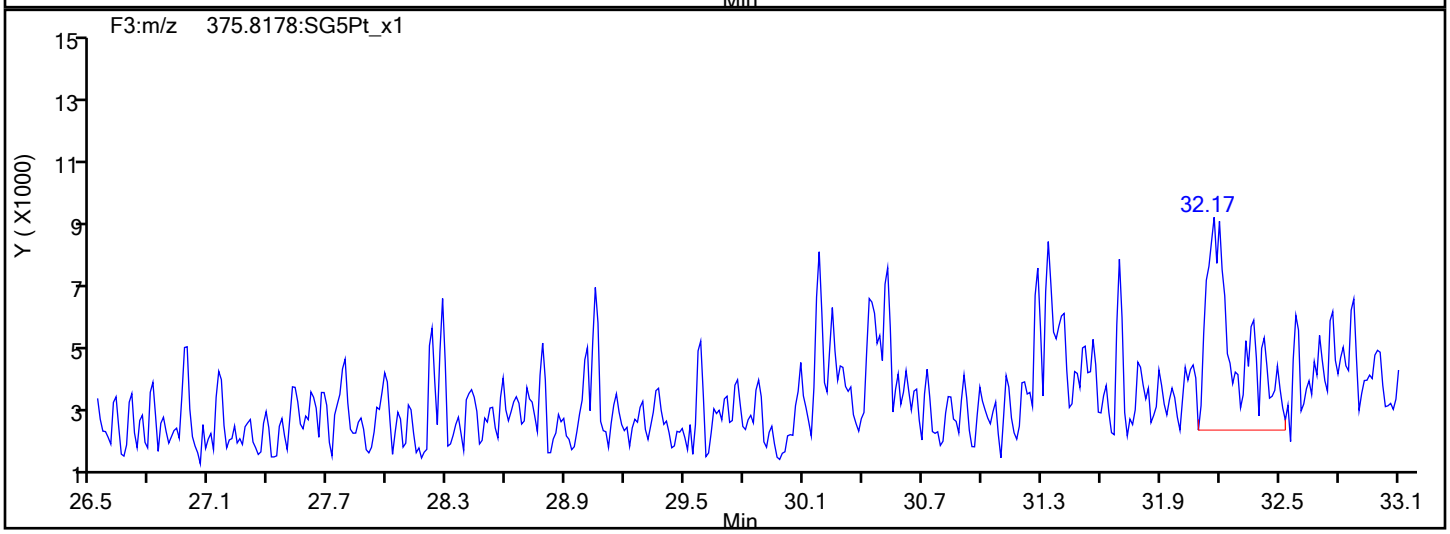

HxCDF Interference Mass

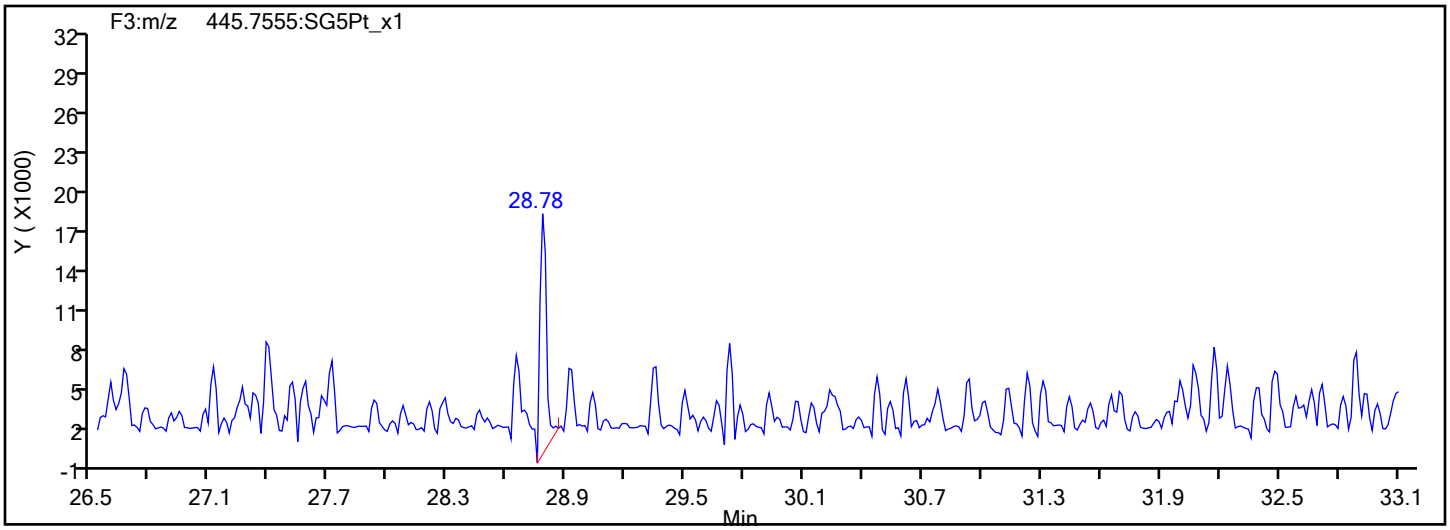

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Eurofins TestAmerica, Sacramento

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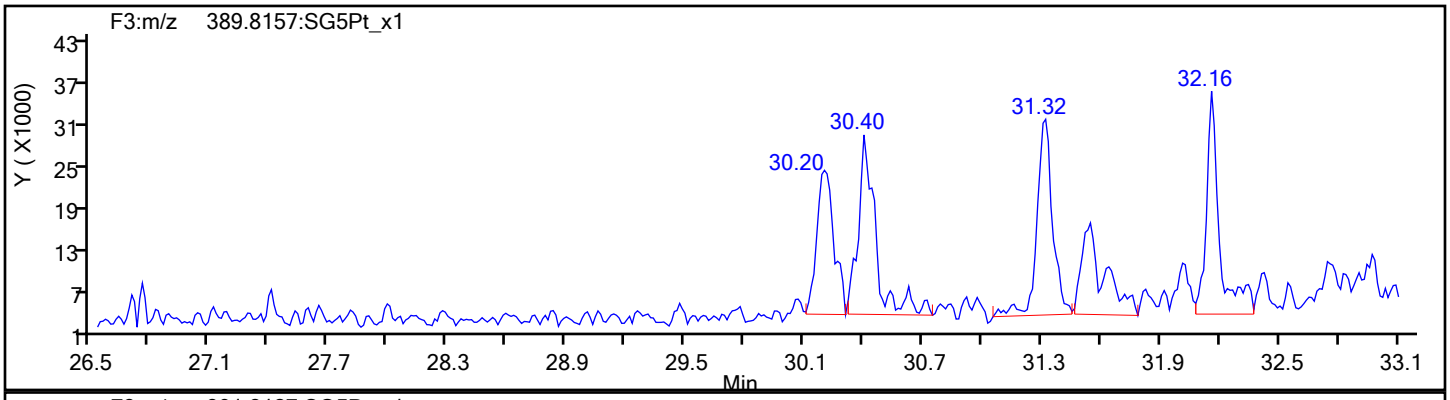

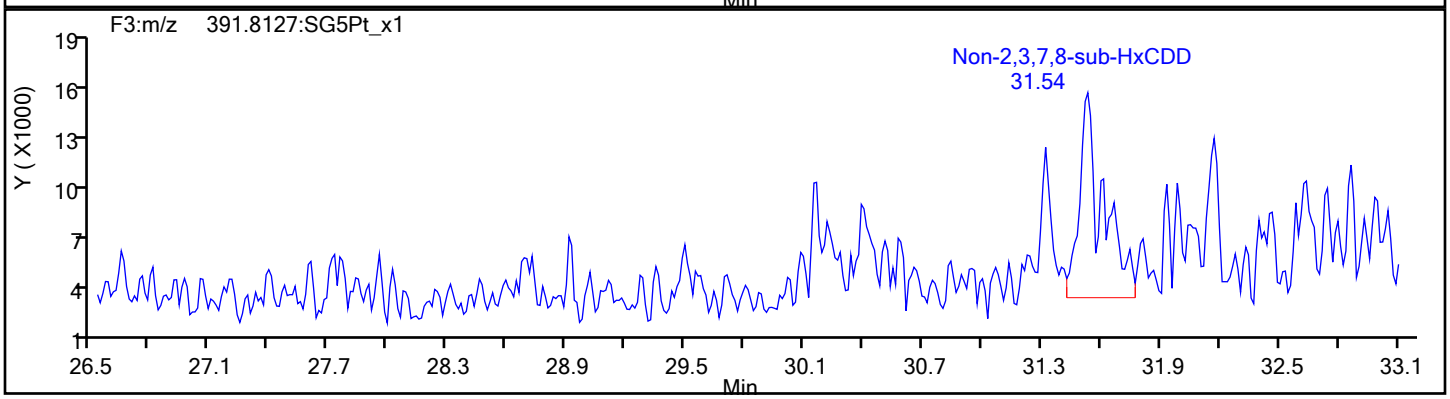

HxCDD Standards

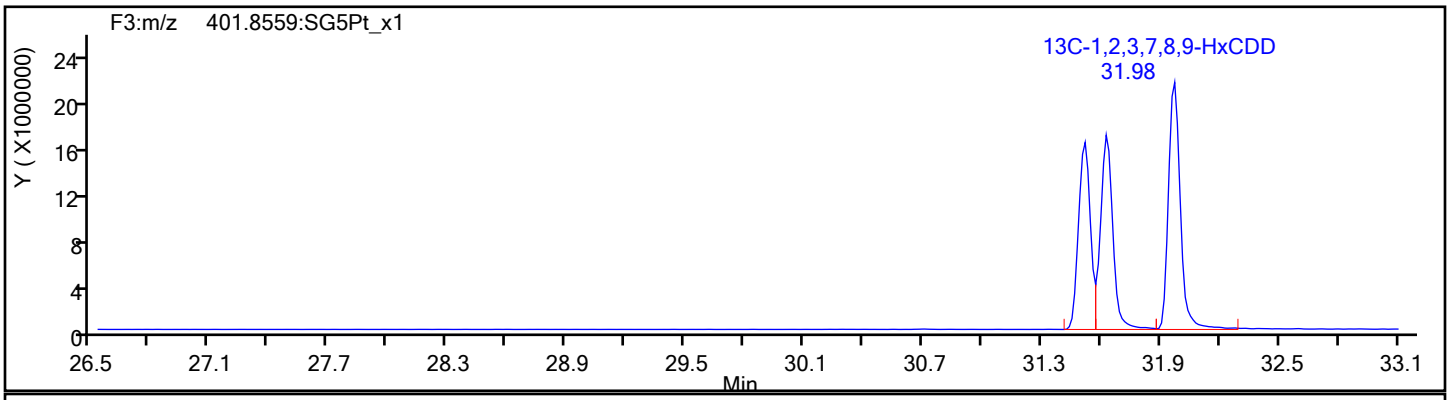

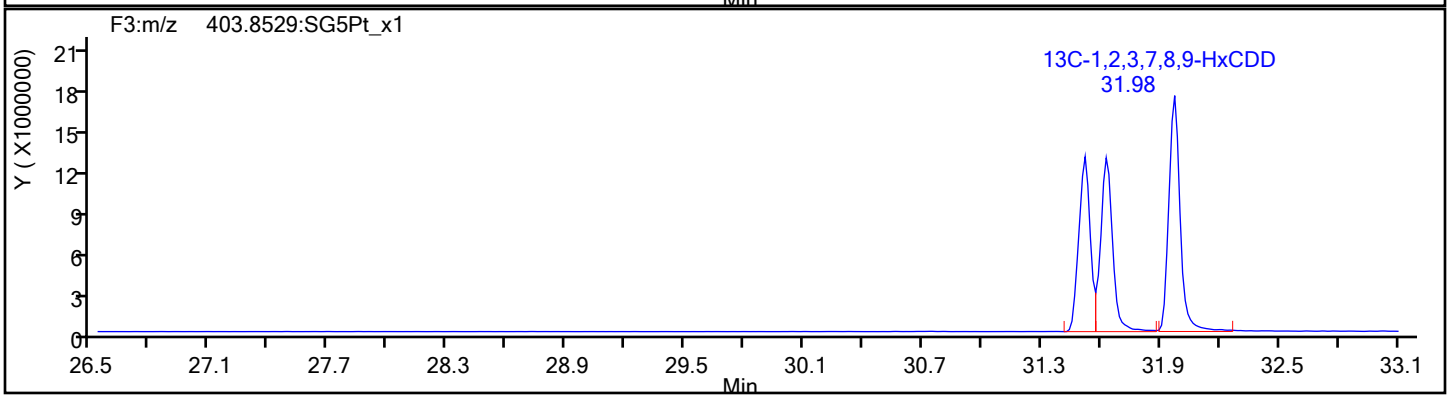

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Eurofins TestAmerica, Sacramento

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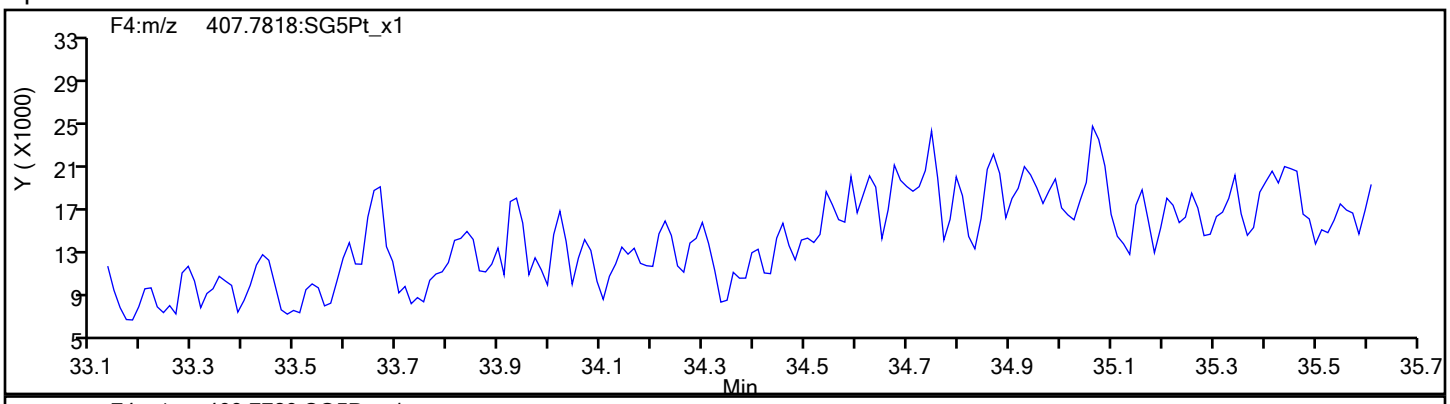

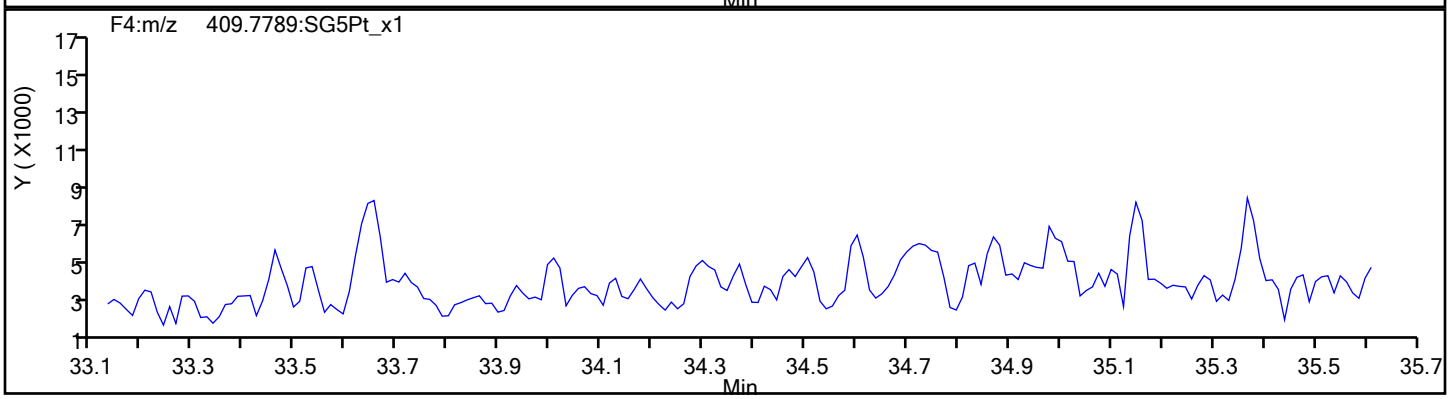

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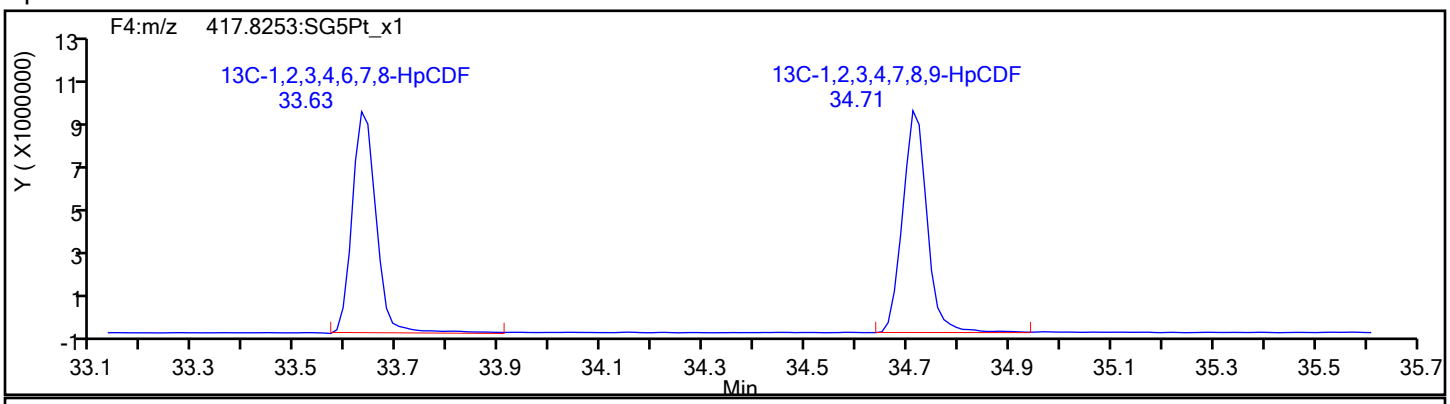

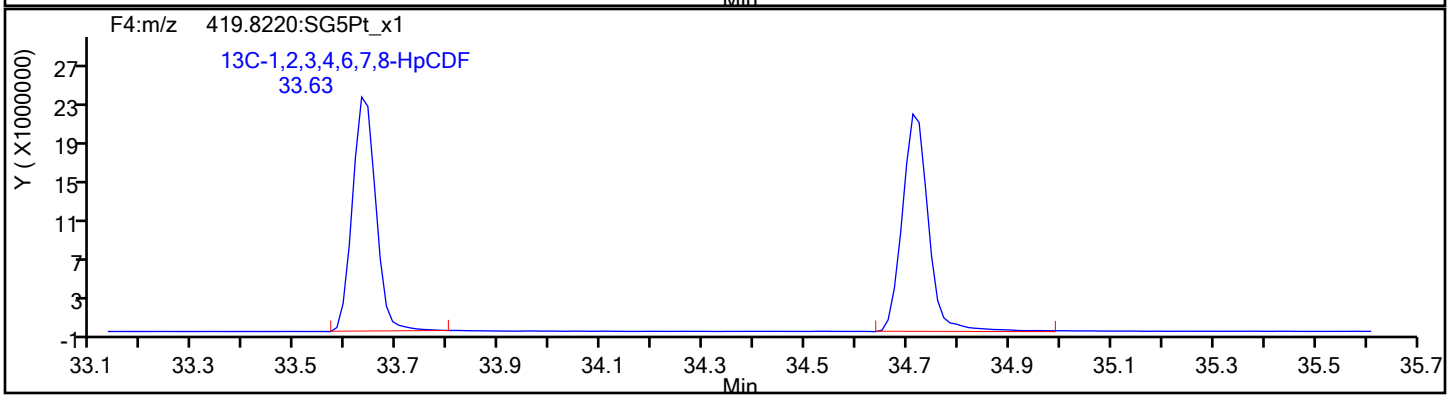

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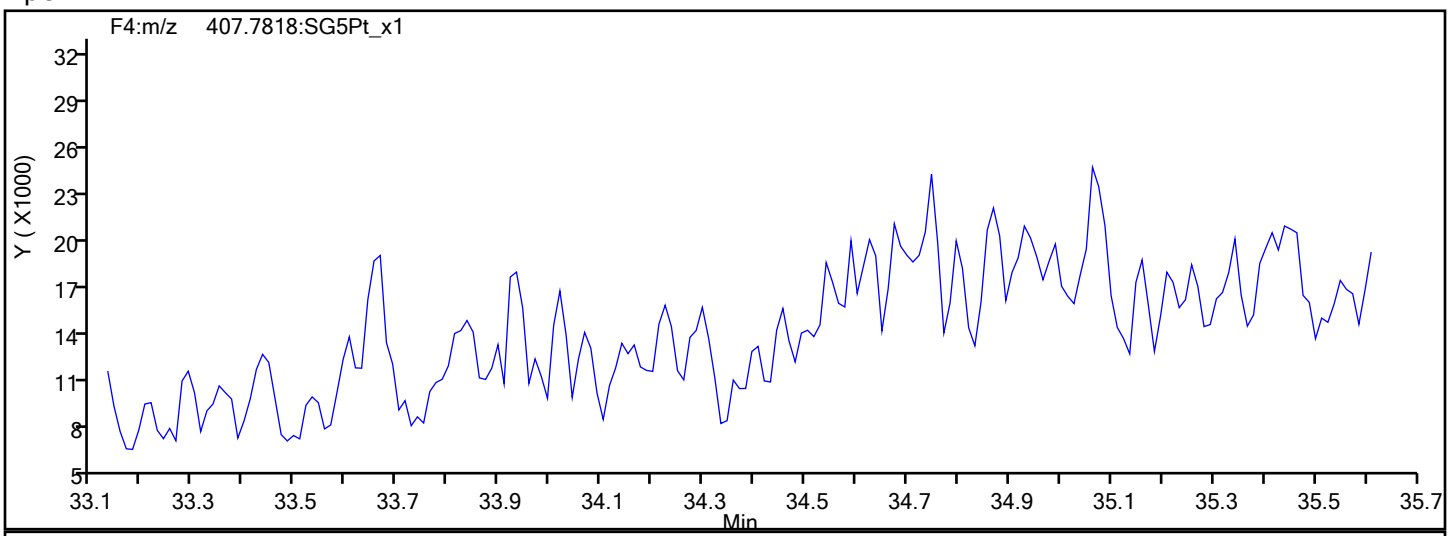

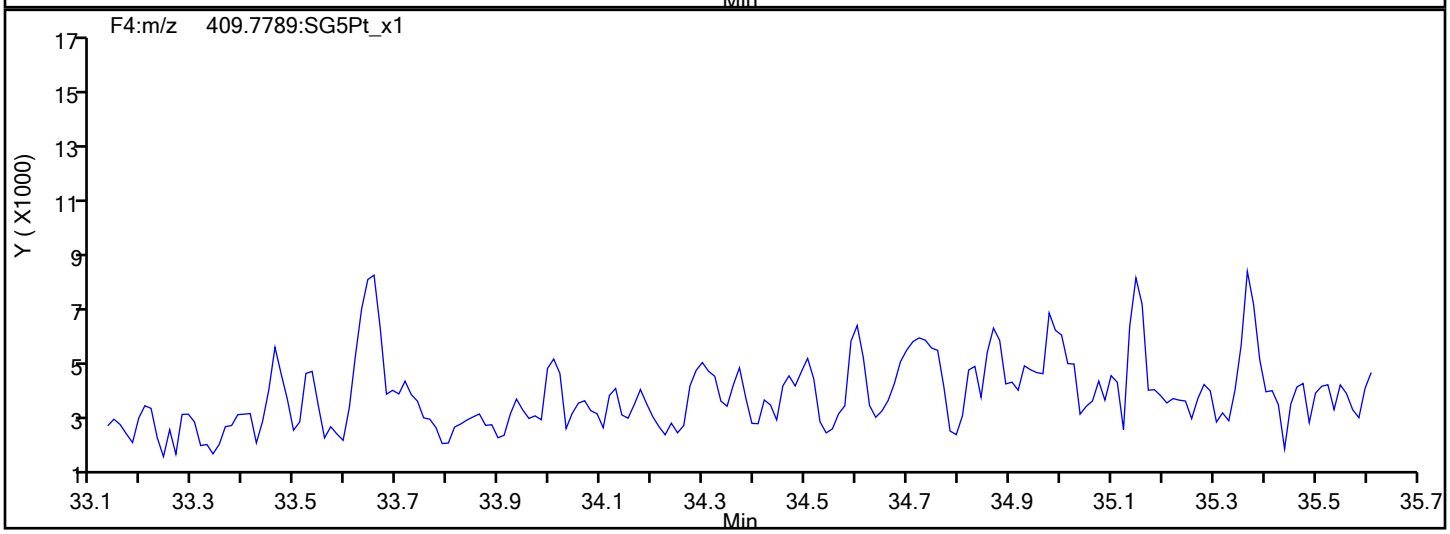

HpCDF Interference Mass

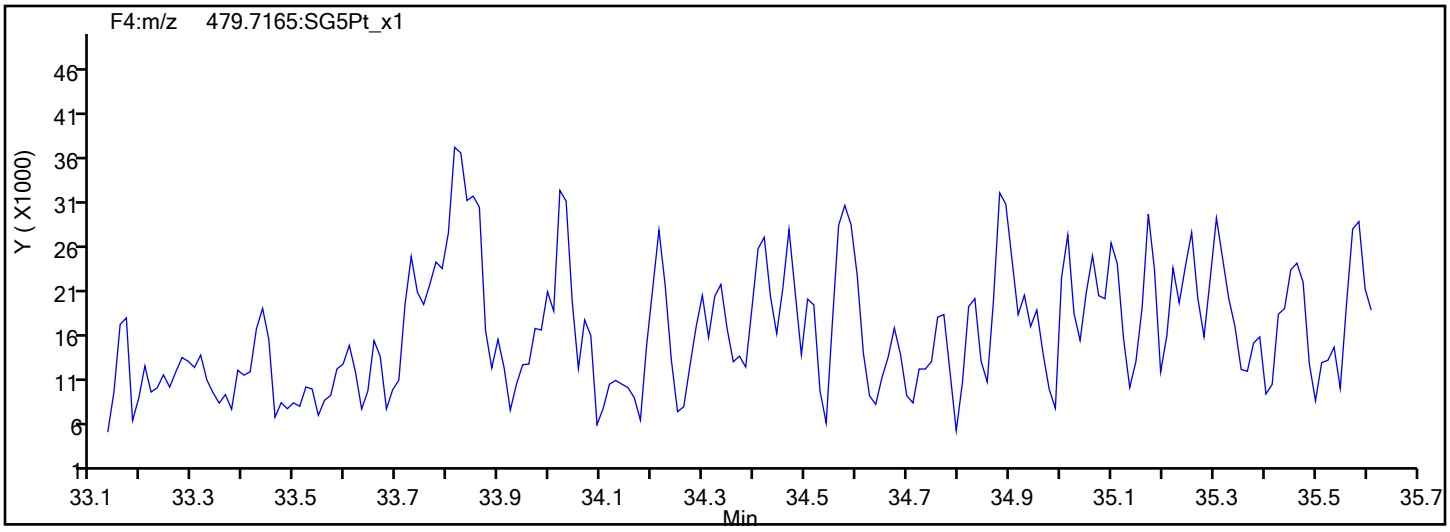

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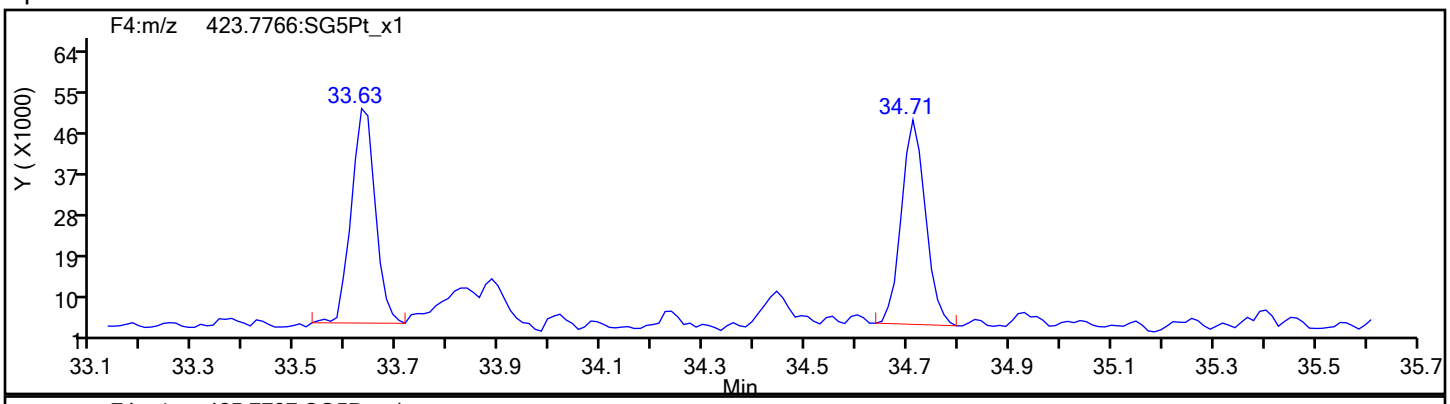

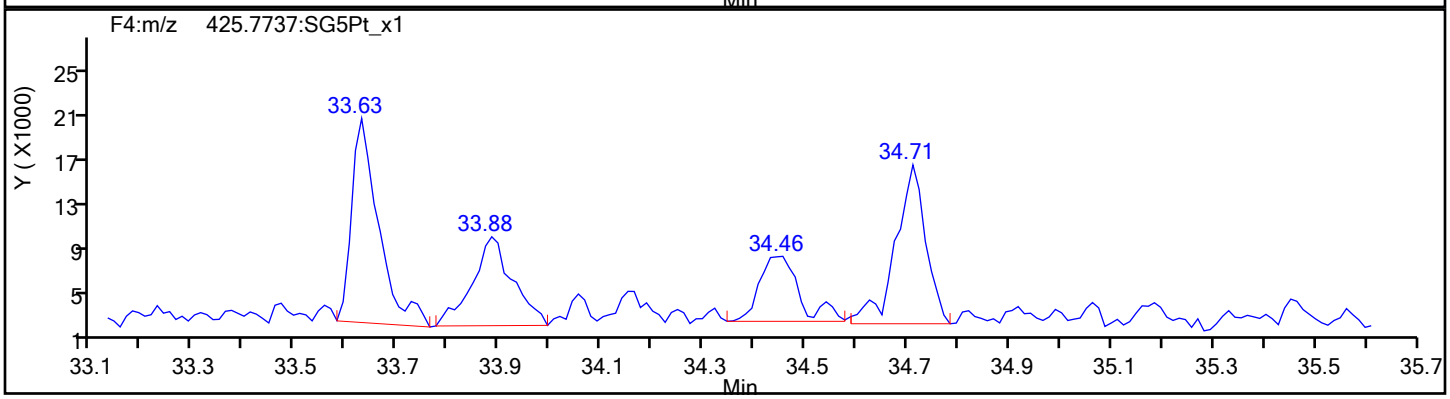

HpCDD Standards

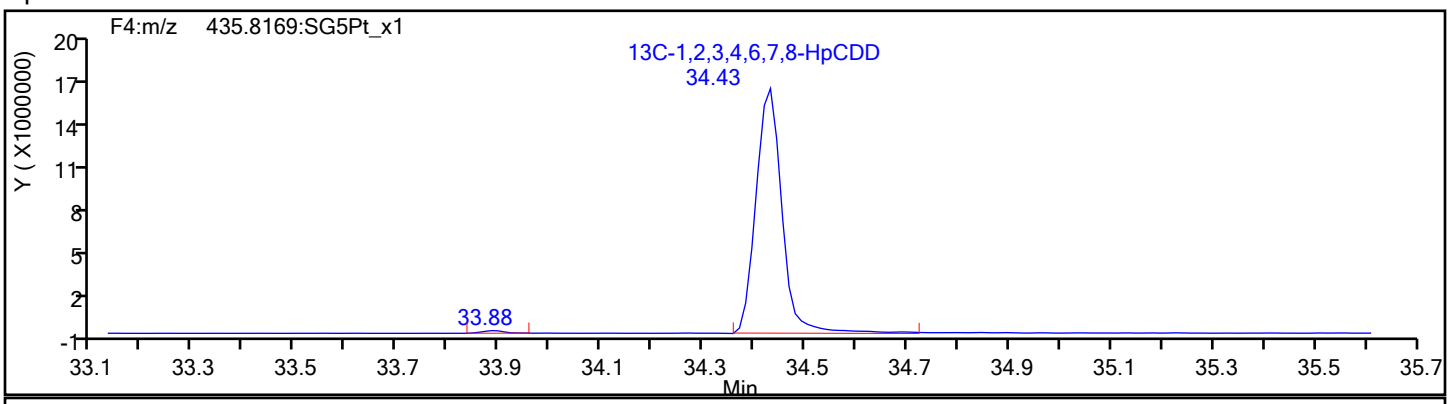

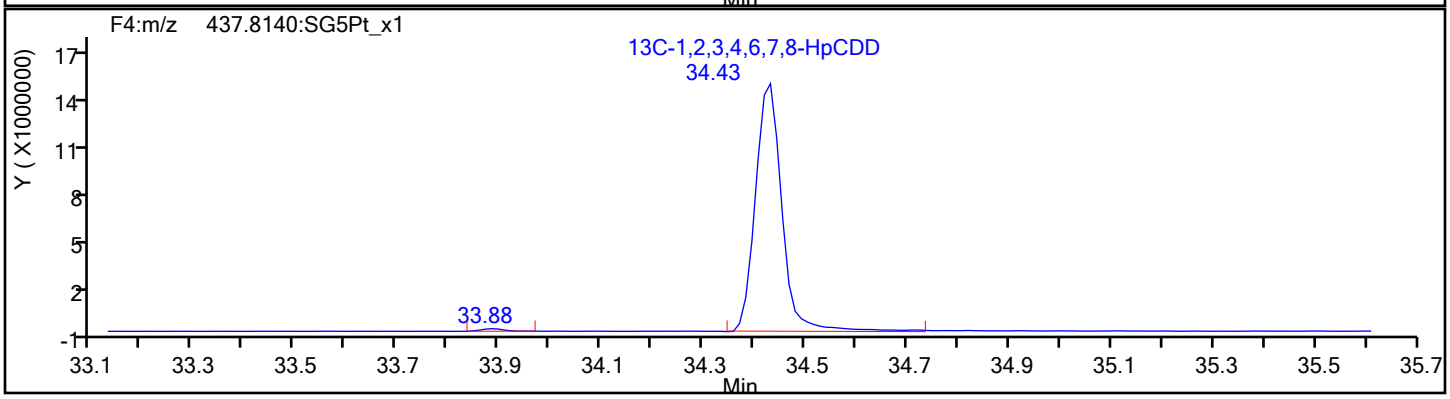

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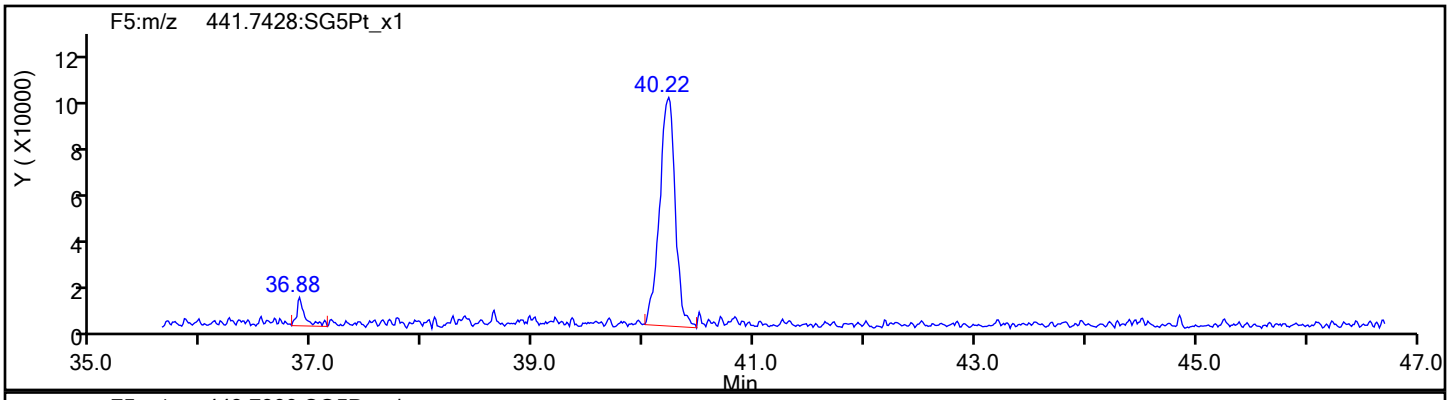

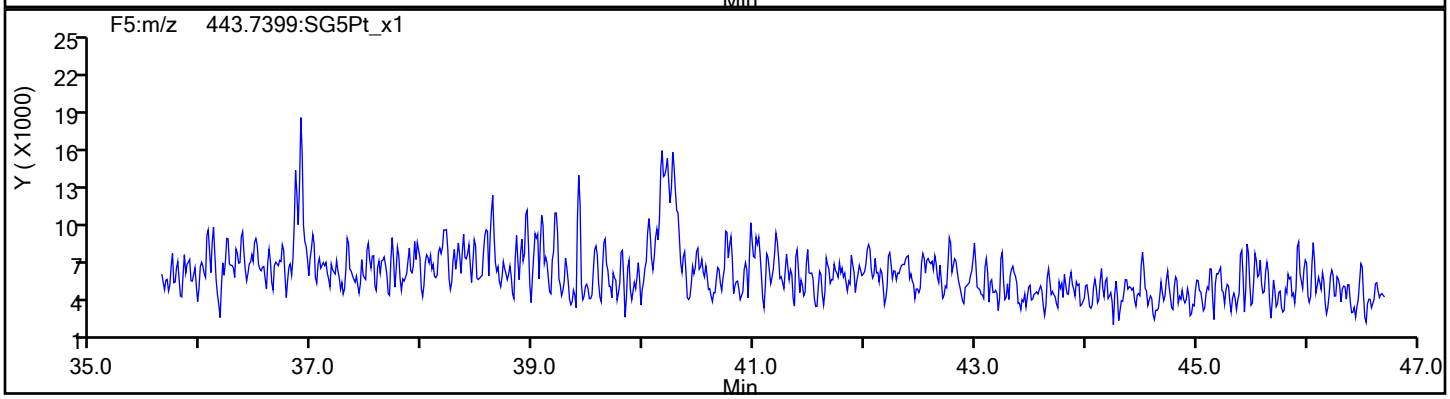

OCDF Standards

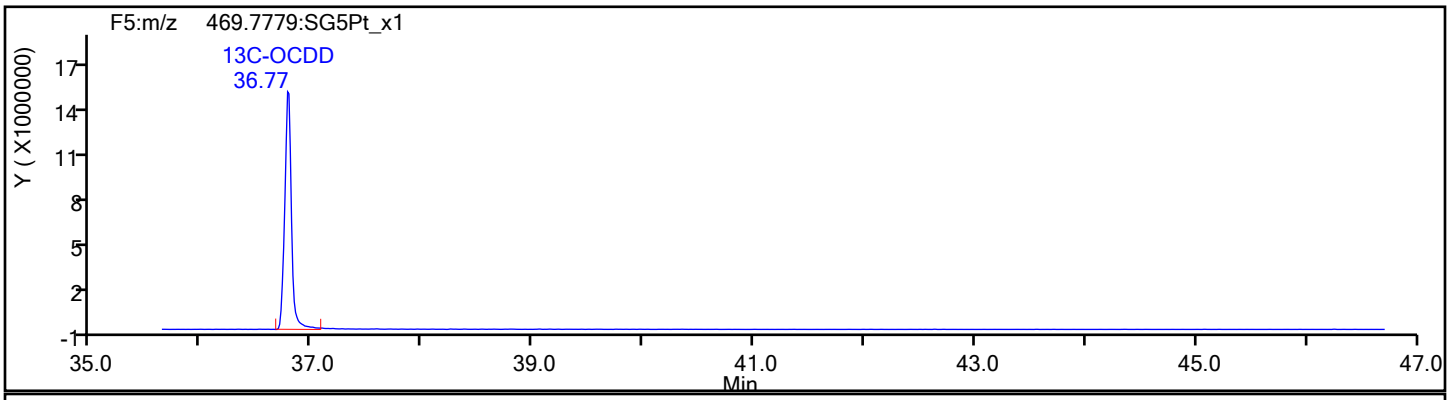

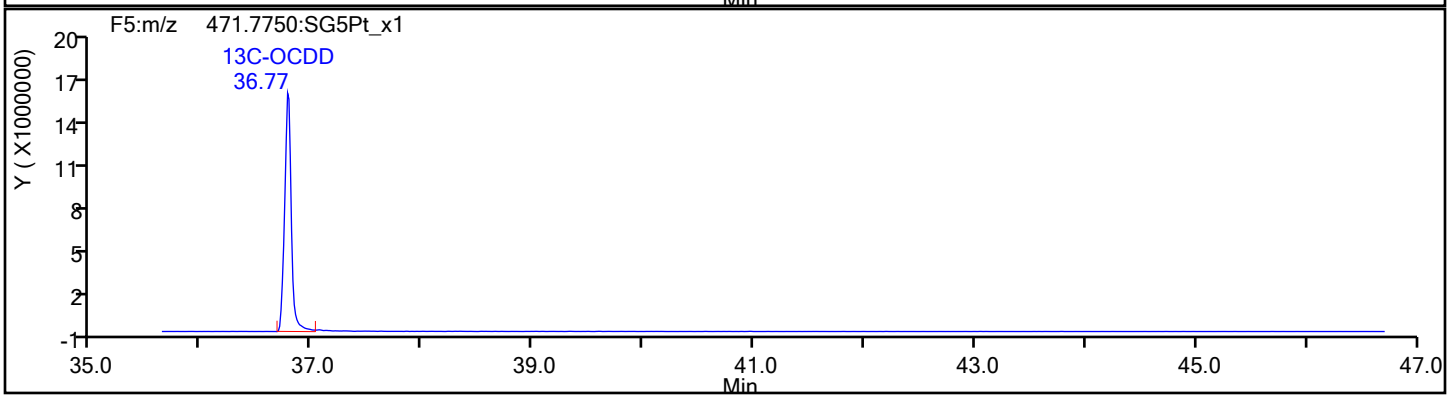

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Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

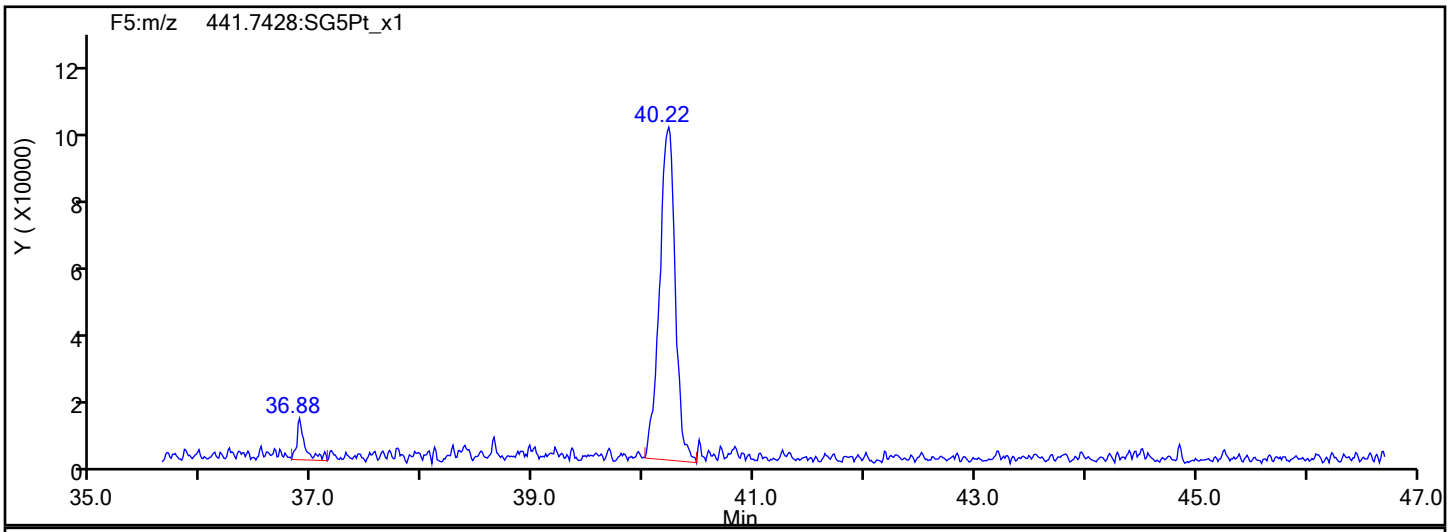

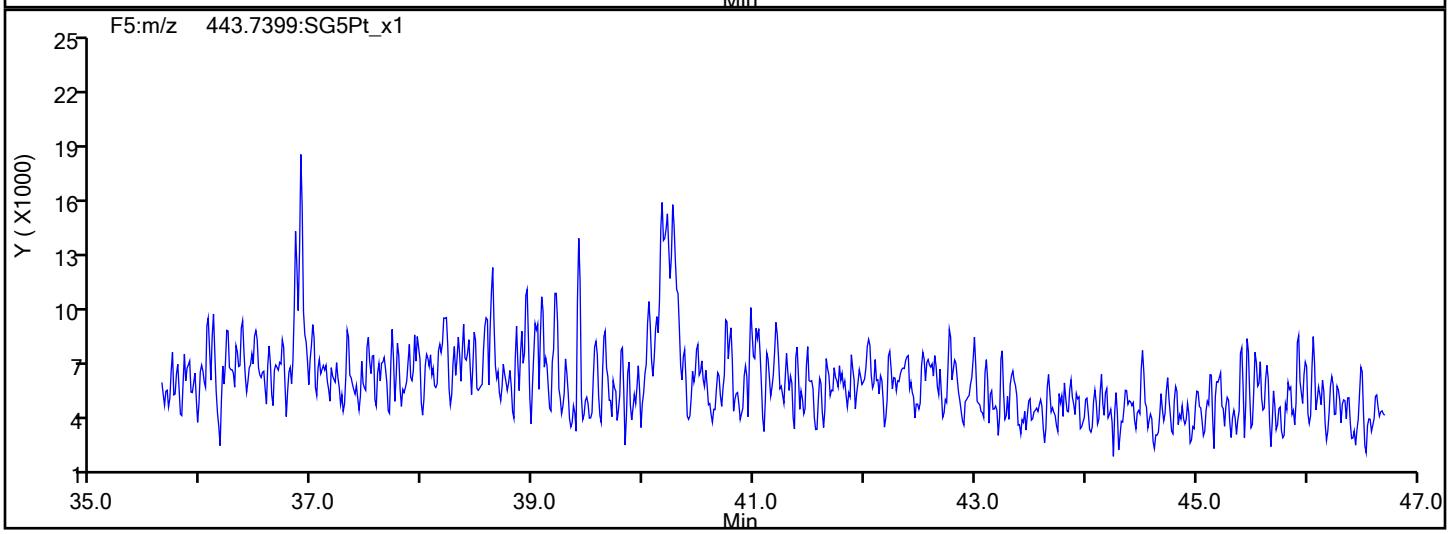

OCDF Interference Mass

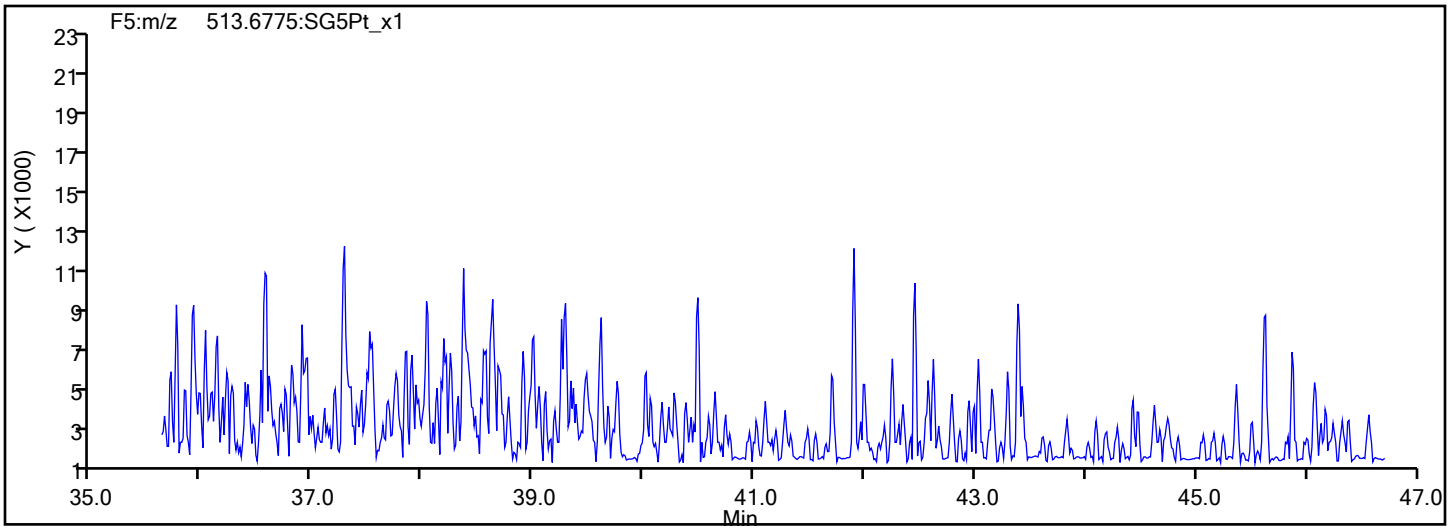

Report Date: 01-Nov-2019 10:15:35 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_8.d		
Injection Date:	31-Oct-2019 03:09:50	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-NORTH-IMPCT-INITIALS		
Worklist#:	334889	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

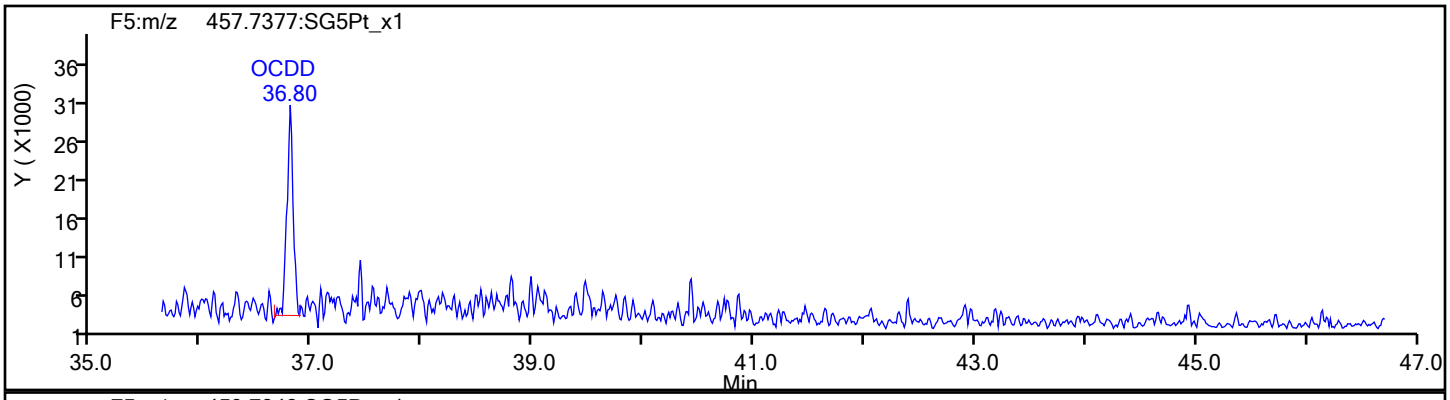

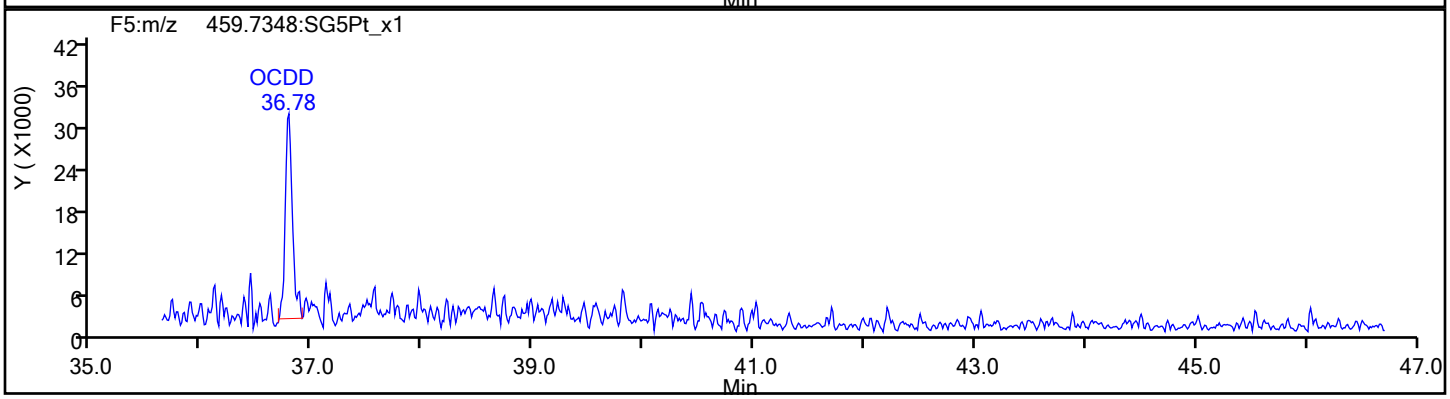

OCDD Standards

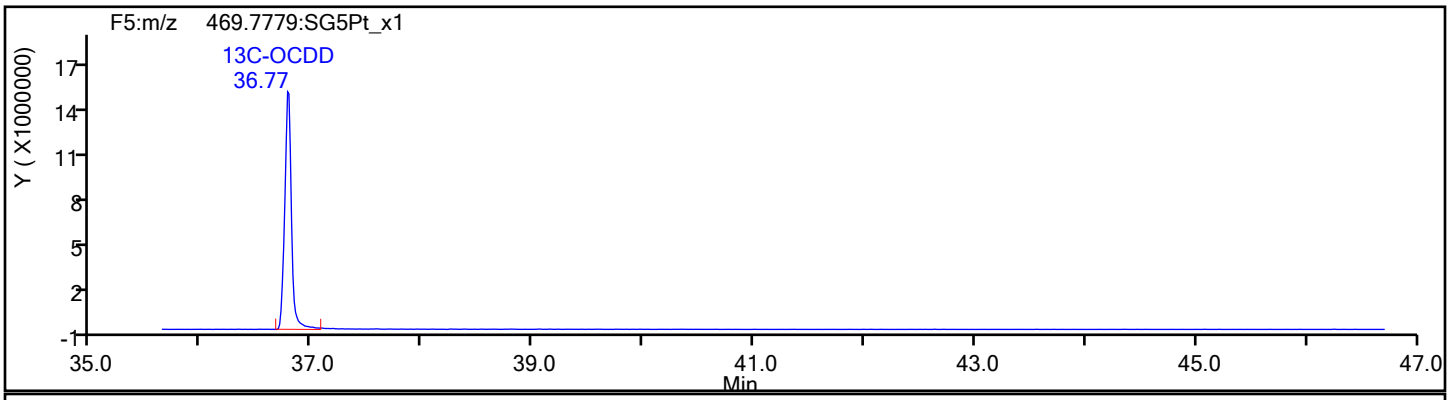

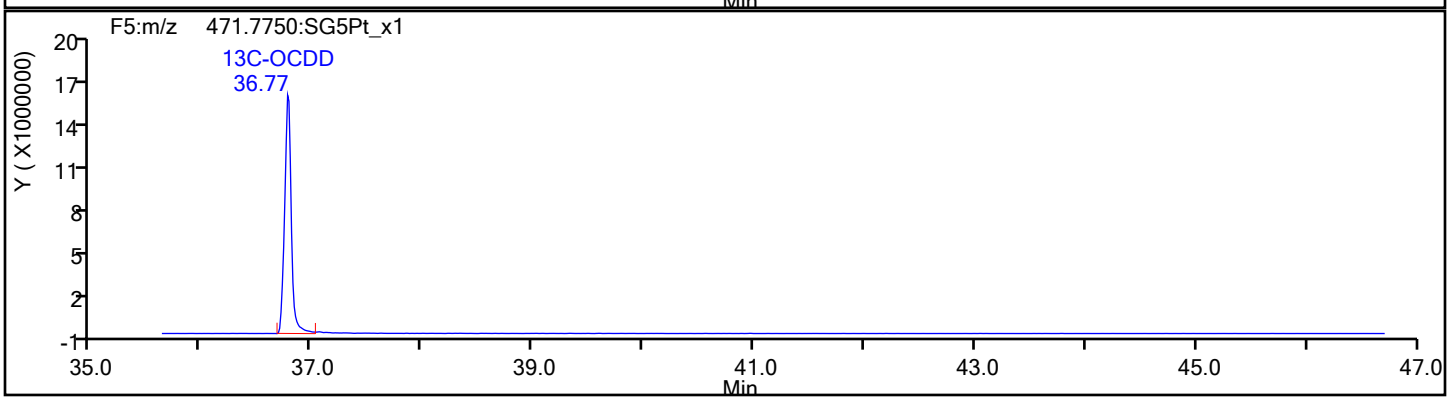

Report Date: 01-Nov-2019 10:15:35 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_8.d		
Injection Date:	31-Oct-2019 03:09:50	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-NORTH-IMPCT-INITIALS		
Worklist#:	334889	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

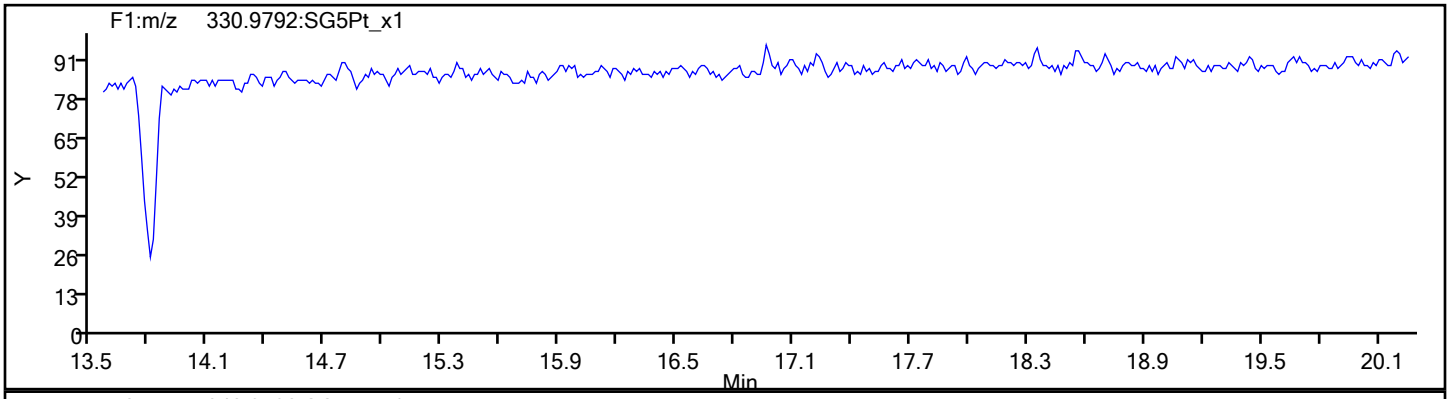

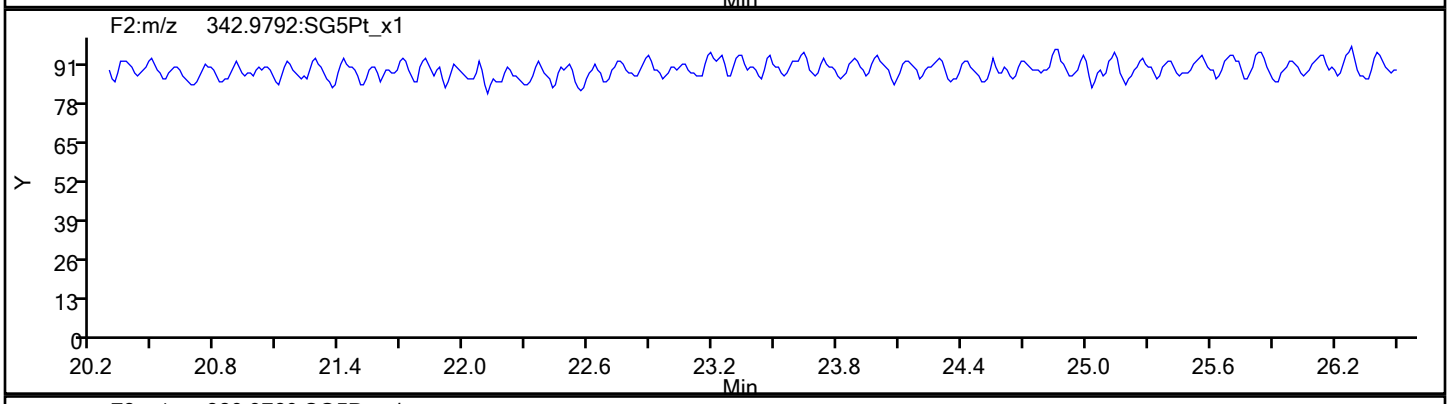

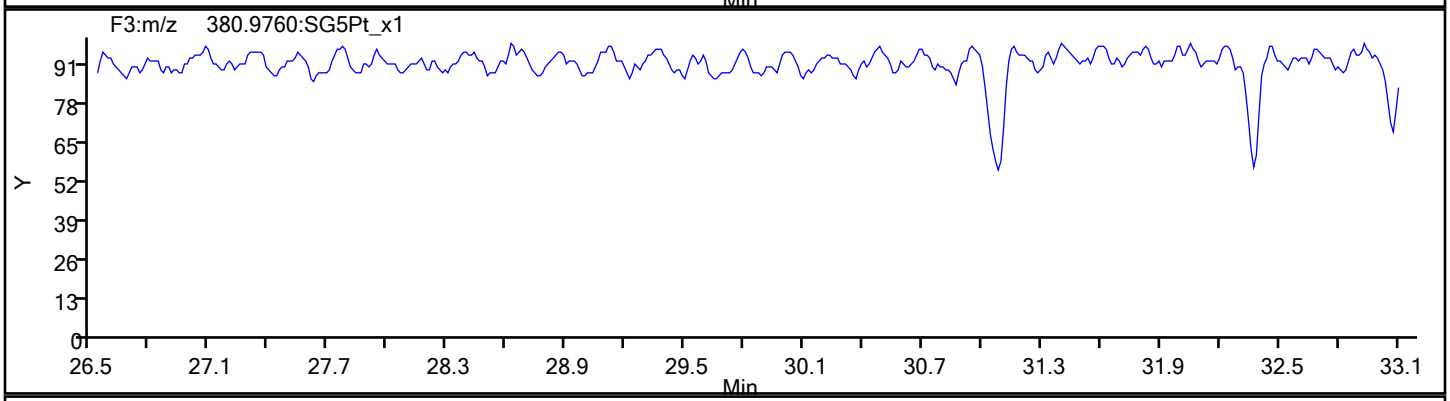

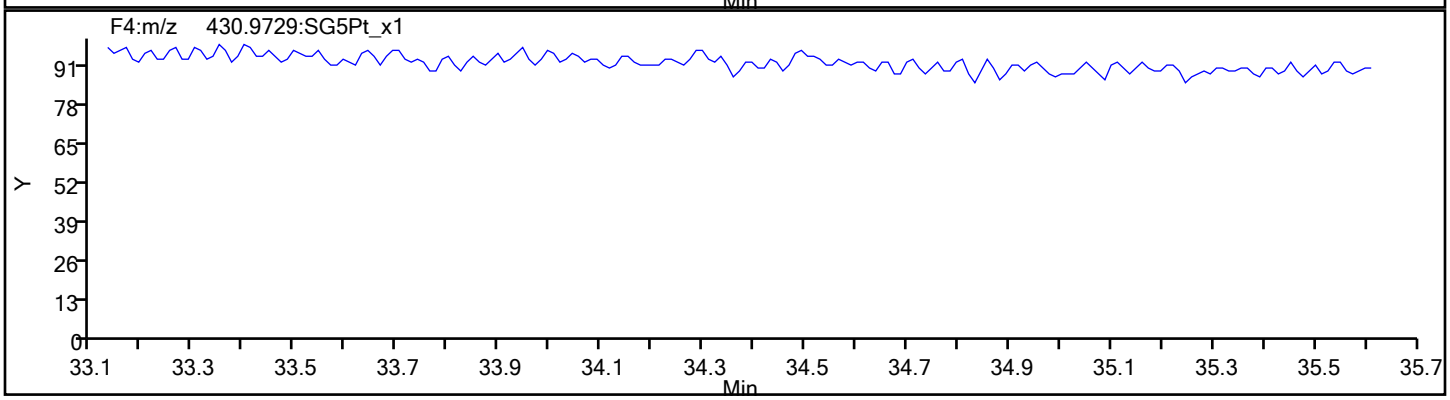

Report Date: 01-Nov-2019 10:15:35 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_8.d		
Injection Date:	31-Oct-2019 03:09:50	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-NORTH-IMPCT-INITIALS		
Worklist#:	334889	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

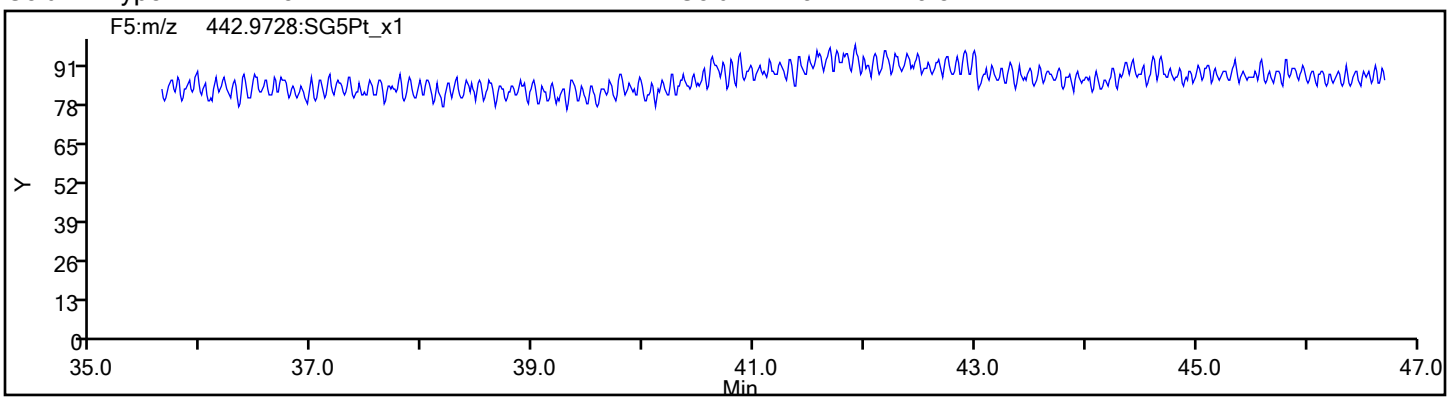

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1 Analy Batch No.: 324128

SDG No.:

Instrument ID: 10D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 13:03 Calibration End Date: 09/17/2019 16:55 Calibration ID: 47423

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-324128/3	17SE1910D5_3.d
Level 2	IC 320-324128/4	17SE1910D5_4.d
Level 3	IC 320-324128/7	17SE1910D5_7.d
Level 4	IC 320-324128/6	17SE1910D5_6.d
Level 5	IC 320-324128/8	17SE1910D5_8.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
2,3,7,8-TCDF	1.0712	1.1022	0.9929	1.0616	1.0257	AveID		1.0507				4.0		20.0			
2,3,7,8-TCDD	1.1677	1.1266	1.0239	1.1261	1.0877	AveID		1.1064				4.9		20.0			
1,2,3,7,8-PeCDF	1.0011	1.1601	1.0432	1.1331	1.0737	AveID		1.0822				6.0		20.0			
2,3,4,7,8-PeCDF	0.9626	1.1888	1.0864	1.1728	1.1054	AveID		1.1032				8.1		20.0			
1,2,3,7,8-PeCDD	0.8594	0.9576	0.8670	0.9410	0.9001	AveID		0.9050				4.8		20.0			
1,2,3,4,7,8-HxCDF	1.1004	1.2643	1.1561	1.2645	1.2013	AveID		1.1973				5.9		20.0			
1,2,3,6,7,8-HxCDF	1.0669	1.2704	1.1534	1.2334	1.1792	AveID		1.1807				6.6		20.0			
2,3,4,6,7,8-HxCDF	1.1327	1.2683	1.1855	1.2657	1.2056	AveID		1.2116				4.7		20.0			
1,2,3,4,7,8-HxCDD	1.0497	1.1313	1.0762	1.1585	1.1282	AveID		1.1088				4.0		20.0			
1,2,3,6,7,8-HxCDD	1.0225	1.1526	1.0496	1.1177	1.0648	AveID		1.0814				4.9		20.0			
1,2,3,7,8,9-HxCDD	1.1542	1.3138	1.1887	1.2433	1.1615	AveID		1.2123				5.5		20.0			
1,2,3,7,8,9-HxCDF	1.2253	1.2976	1.2100	1.2716	1.2212	AveID		1.2451				3.0		20.0			
1,2,3,4,6,7,8-HpCDF	1.5175	1.6415	1.5201	1.5867	1.5119	AveID		1.5555				3.7		20.0			
1,2,3,4,6,7,8-HpCDD	0.8498	0.9887	0.9182	0.9754	0.9258	AveID		0.9316				5.9		20.0			
1,2,3,4,7,8,9-HpCDF	1.2548	1.4796	1.3480	1.4704	1.3785	AveID		1.3862				6.7		20.0			
OCDD	0.9991	1.1715	1.0189	1.0914	1.0295	AveID		1.0621				6.6		20.0			
OCDF	1.1420	1.3314	1.2399	1.3172	1.2675	AveID		1.2596				6.0		20.0			
13C-2,3,7,8-TCDF	1.4608	1.4445	1.4059	1.4451	1.4357	Ave		1.4384				1.4		35.0			
13C-2,3,7,8-TCDD	0.9625	0.9452	0.9420	0.9578	0.9591	Ave		0.9533				1.0		35.0			
13C-1,2,3,7,8-PeCDF	1.0011	0.9736	1.0018	1.0725	1.0941	Ave		1.0286				5.0		35.0			
13C-2,3,4,7,8-PeCDF	0.9468	0.9409	0.9284	1.0290	1.0682	Ave		0.9827				6.3		35.0			
13C-1,2,3,7,8-PeCDD	0.7126	0.6892	0.7253	0.7912	0.8222	Ave		0.7481				7.5		35.0			
13C-1,2,3,4,7,8-HxCDF	1.1695	1.1696	1.1139	1.1554	1.1519	Ave		1.1520				2.0		35.0			
13C-1,2,3,6,7,8-HxCDF	1.2574	1.2360	1.2152	1.2646	1.2439	Ave		1.2434				1.6		35.0			
13C-2,3,4,6,7,8-HxCDF	1.1808	1.1525	1.1326	1.1890	1.2049	Ave		1.1720				2.5		35.0			
13C-1,2,3,4,7,8-HxCDD	0.7524	0.7624	0.7637	0.8053	0.8223	Ave		0.7812				3.9		35.0			
13C-1,2,3,6,7,8-HxCDD	0.8902	0.8874	0.9034	0.9518	0.9544	Ave		0.9175				3.6		35.0			
13C-1,2,3,7,8,9-HxCDF	1.0743	1.0692	1.0512	1.0728	1.0598	Ave		1.0655				0.9		35.0			
13C-1,2,3,4,6,7,8-HpCDF	0.8693	0.8034	0.8768	0.8898	0.8745	Ave		0.8628				3.9		35.0			
13C-1,2,3,4,6,7,8-HpCDD	0.8645	0.8231	0.8669	0.9030	0.9118	Ave		0.8739				4.0		35.0			
13C-1,2,3,4,7,8,9-HpCDF	0.8125	0.7593	0.7819	0.8143	0.8272	Ave		0.7991				3.5		35.0			
13C-OCDD	0.7944	0.6967	0.7385	0.7965	0.8457	Ave		0.7744				7.4		35.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1 Analy Batch No.: 324128

SDG No.:

Instrument ID: 10D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 13:03 Calibration End Date: 09/17/2019 16:55 Calibration ID: 47423

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
37Cl4-2,3,7,8-TCDD	1.1192	1.2125	1.2082	1.2900	1.2821	Ave		1.2224				5.7					

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1 Analy Batch No.: 324128

SDG No.:

Instrument ID: 10D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 13:03 Calibration End Date: 09/17/2019 16:55 Calibration ID: 47423

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-324128/3	17SE1910D5_3.d
Level 2	IC 320-324128/4	17SE1910D5_4.d
Level 3	IC 320-324128/7	17SE1910D5_7.d
Level 4	IC 320-324128/6	17SE1910D5_6.d
Level 5	IC 320-324128/8	17SE1910D5_8.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (PG/UL)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
2,3,7,8-TCDF		AveID	172042	1529056	16312729	83942362	462672519	0.500	2.00	10.0	40.0	200
2,3,7,8-TCDD		AveID	123575	1022744	11272193	59019056	327747086	0.500	2.00	10.0	40.0	200
1,2,3,7,8-PeCDF		AveID	550940	5424212	61060330	332470884	1845377073	2.50	10.0	50.0	200	1000
2,3,4,7,8-PeCDF		AveID	501008	5371777	58935693	330153847	1854754260	2.50	10.0	50.0	200	1000
1,2,3,7,8-PeCDD		AveID	336661	3169429	36740998	203688899	1162563715	2.50	10.0	50.0	200	1000
1,2,3,4,7,8-HxCDF		AveID	452083	4604517	51431784	291651831	1688948701	2.50	10.0	50.0	200	1000
1,2,3,6,7,8-HxCDF		AveID	471238	4889511	55977084	311373058	1790437956	2.50	10.0	50.0	200	1000
2,3,4,6,7,8-HxCDF		AveID	469856	4551517	53626165	300428448	1773083873	2.50	10.0	50.0	200	1000
1,2,3,4,7,8-HxCDD		AveID	277444	2685740	32825472	186227471	1132407299	2.50	10.0	50.0	200	1000
1,2,3,6,7,8-HxCDD		AveID	319747	3184984	37867080	212361866	1240444751	2.50	10.0	50.0	200	1000
1,2,3,7,8,9-HxCDD		AveID	333001	3374687	39571199	218049333	1259477463	2.50	10.0	50.0	200	1000
1,2,3,7,8,9-HxCDF		AveID	462420	4319986	50802364	272303395	1579646001	2.50	10.0	50.0	200	1000
1,2,3,4,6,7,8-HpCDF		AveID	463407	4106440	53230505	281845286	1613842335	2.50	10.0	50.0	200	1000
1,2,3,4,6,7,8-HpCDD		AveID	258090	2534205	31792117	175833007	1030391820	2.50	10.0	50.0	200	1000
1,2,3,4,7,8,9-HpCDF		AveID	358162	3498041	42098592	239010564	1391884877	2.50	10.0	50.0	200	1000
OCDD		AveID	557610	5082981	60102277	347055077	2125514466	5.00	20.0	100	400	2000
OCDF		AveID	637327	5776792	73138090	418862104	2616959337	5.00	20.0	100	400	2000
13C-2,3,7,8-TCDF	13CTC	Ave	32121801	69364385	164292495	197671153	225533576	100	100	100	100	100
13C-2,3,7,8-TCDD	13CTC	Ave	21165335	45389691	110088290	131023361	150666513	100	100	100	100	100
13C-1,2,3,7,8-PeCDF	13CTC	Ave	22013977	46755351	117067384	146707284	171862914	100	100	100	100	100
13C-2,3,4,7,8-PeCDF	13CTC	Ave	20818900	45184985	108494277	140755634	167797734	100	100	100	100	100
13C-1,2,3,7,8-PeCDD	13CTC	Ave	15668897	33098301	84755636	108225317	129152474	100	100	100	100	100
13C-1,2,3,4,7,8-HxCDF	13CHx	Ave	16433122	36418536	88972191	115322048	140595624	100	100	100	100	100
13C-1,2,3,6,7,8-HxCDF	13CHx	Ave	17668349	38486861	97064883	126224651	151833452	100	100	100	100	100
13C-2,3,4,6,7,8-HxCDF	13CHx	Ave	16591902	35886090	90467566	118677202	147071003	100	100	100	100	100
13C-1,2,3,4,7,8-HxCDD	13CHx	Ave	10572054	23739455	61001305	80372897	100374877	100	100	100	100	100
13C-1,2,3,6,7,8-HxCDD	13CHx	Ave	12508423	27633426	72157657	95002970	116499868	100	100	100	100	100
13C-1,2,3,7,8,9-HxCDF	13CHx	Ave	15096147	33293009	83967924	107073331	129353689	100	100	100	100	100
13C-1,2,3,4,6,7,8-HpCDF	13CHx	Ave	12214839	25015698	70034446	88816288	106743815	100	100	100	100	100
13C-1,2,3,4,6,7,8-HpCDD	13CHx	Ave	12148019	25630510	69249272	90130025	111298169	100	100	100	100	100
13C-1,2,3,4,7,8,9-HpCDF	13CHx	Ave	11417456	23641905	62459777	81274920	100973962	100	100	100	100	100
13C-OCDD	13CHx	Ave	22323676	43388861	117978202	158997965	206464776	200	200	200	200	200
37Cl4-2,3,7,8-TCDD	13CTC	Ave	123050	1164531	11295580	70585275	402794059	0.500	2.00	8.00	40.0	200

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1 Analy Batch No.: 324128

SDG No.:

Instrument ID: 10D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 13:03 Calibration End Date: 09/17/2019 16:55 Calibration ID: 47423

Curve Type Legend:

Ave = Average ISTD
AveID = Average isotope dilution

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #
1	17SE1910D5_1	WDM HRDXNCP_00038	WDM 091719	Tray01:1	---	
2	17SE1910D5_2	Solvent Blank C-14	SB 091719	Tray01:3	---	
3	17SE1910D5_3	CS-2 HRDXNL2_00027	IC 091719	Tray01:4	Dioxin	
4	17SE1910D5_4	CS-3 HRDXNL3_00025	IC 091719A	Tray01:5	Dioxin	
5	17SE1910D5_5	Mis-inject (wrong standard)	Mis-inject (wrong standard)	Tray01:2	Dioxin	
6	17SE1910D5_6	CS-5 HRDXNL5_00028	IC 091719C	Tray01:6	Dioxin	
7	17SE1910D5_7	CS-4 HRDXNL4_00084	IC 091719B	Tray01:2	Dioxin	
8	17SE1910D5_8	CS-6 HRDXNL6_00024	IC 091719D	Tray01:7	Dioxin	
9	17SE1910D5_9	Solvent Blank C-14	SB 091719A	Tray01:3	---	
10	17SE1910D5_10	ICV HRDXNIC_00042	ICV 091719	Tray01:8	Dioxin	
11	17SE1910D5_11	Solvent Blank C-14	SB 091619A	Tray01:3	---	
12	17SE1910D5_12	WDM HRDXNCP_00038	WDM 091719A	Tray01:1	---	
13	17SE1910D5_13	CS-4 HRDXNL4_00084	CCV 091719	Tray01:2	Dioxin	
14	17SE1910D5_14	Solvent Blank C-14	SB 091719B	Tray01:3	---	
15	17SE1910D5_15	MB 320-521530/1-A	MB 320-521530/1-A	Tray01:15	8290/Solid	50
16	17SE1910D5_16	LCS 320-521530/2-A	LCS 320-521530/2-A	Tray01:16	8290/Solid	
17	17SE1910D5_17	320-53987-E-2-A	320-53987-E-2-A	Tray01:17	8290/Solid	
18	17SE1910D5_18	320-53987-E-3-A	320-53987-E-3-A	Tray01:18	8290/Solid	
19	17SE1910D5_19	320-53988-E-2-A	320-53988-E-2-A	Tray01:19	8290/Solid	
20	17SE1910D5_20	320-53989-E-2-A	320-53989-E-2-A	Tray01:20	8290/Solid	
21	17SE1910D5_21	320-53989-E-3-A	320-53989-E-3-A	Tray01:21	8290/Solid	
22	17SE1910D5_22	320-53989-E-4-A	320-53989-E-4-A	Tray01:22	8290/Solid	
23	17SE1910D5_23	320-53989-E-5-A	320-53989-E-5-A	Tray01:23	8290/Solid	
24	17SE1910D5_24	Solvent Blank C-14	SB 091619C	Tray01:3	---	
25	17SE1910D5_25	CS-4 HRDXNL4_00084	CCV 091719A	Tray01:2	Dioxin	
26	17SE1910D5_26	WDM HRDXNCP_00038	WDM 091719B	Tray01:1	---	
27	17SE1910D5_27	Solvent Blank C-14	SB 091719D	Tray01:3	---	
28	17SE1910D5_28	320-53989-E-6-A	320-53989-E-6-A	Tray01:29	8290/Solid	50
29	17SE1910D5_29	320-53989-E-7-A	320-53989-E-7-A	Tray01:30	8290/Solid	
30	17SE1910D5_30	320-53989-E-8-A	320-53989-E-8-A	Tray01:31	8290/Solid	
31	17SE1910D5_31	320-53989-E-9-A	320-53989-E-9-A	Tray01:32	8290/Solid	
32	17SE1910D5_32	320-53989-E-10-A	320-53989-E-10-A	Tray01:33	8290/Solid	
33	17SE1910D5_33	320-53989-E-11-A	320-53989-E-11-A	Tray01:34	8290/Solid	
34	17SE1910D5_34	320-53989-E-12-A	320-53989-E-12-A	Tray01:35	8290/Solid	
35	17SE1910D5_35	320-53989-E-13-A	320-53989-E-13-A	Tray01:36	8290/Solid	
36	17SE1910D5_36	320-53989-E-14-A	320-53989-E-14-A	Tray01:37	8290/Solid	
37	17SE1910D5_37	Solvent Blank C-14	SB 091619E	Tray01:3	---	
38	17SE1910D5_38	CS-4 HRDXNL4_00084	CCV 091719B	Tray01:2	Dioxin	
39	17SE1910D5_39	WDM HRDXNCP_00038	WDM 091719C	Tray01:1	---	
40	17SE1910D5_40	Solvent Blank C-14	SB 091719F	Tray01:3	---	

Logfile checked
09/18/19 SMA

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed: Tuesday, September 17, 2019 11:25:01 Pacific Daylight Time

M 292.9824 R 12824

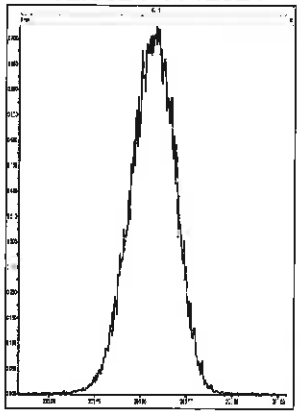

M 304.9824 R 13022

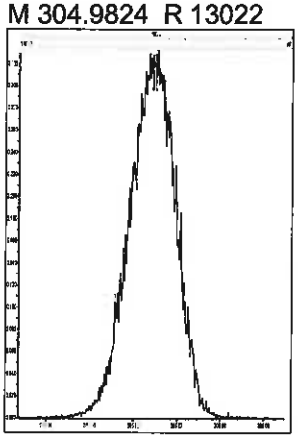

M 318.9792 R 12690

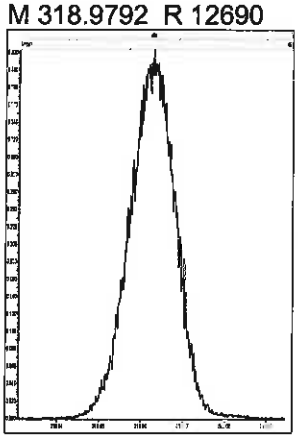

M 330.9792 R 12694

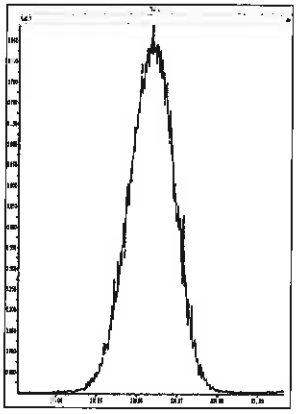

M 342.9792 R 13090

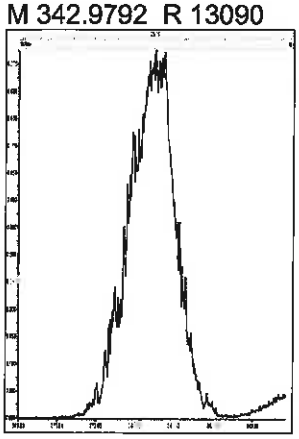

M 354.9792 R 12499

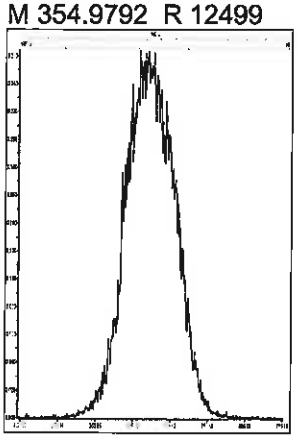

M 366.9792 R 11902

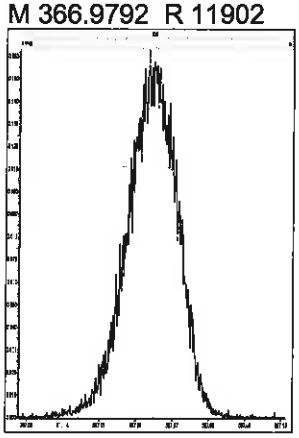

M 380.9760 R 11789

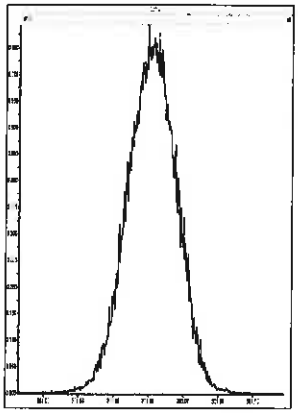

M 392.9760 R 12018

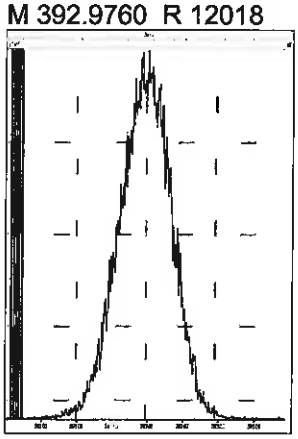

M 404.9760 R 11626

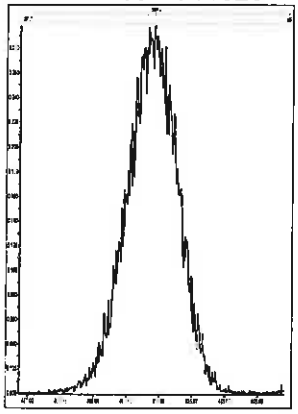

M 416.9760 R 11958

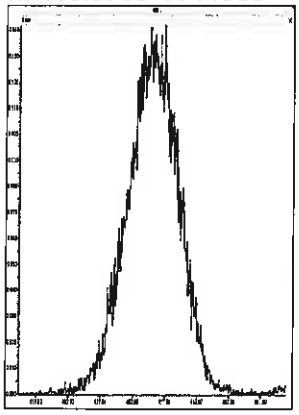

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 2 @ 200 (ppm)

Printed: Tuesday, September 17, 2019 11:25:25 Pacific Daylight Time

M 318.9792 R 13513

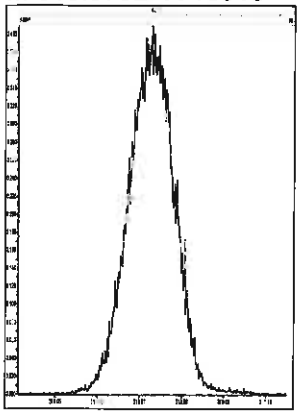

M 330.9792 R 12694

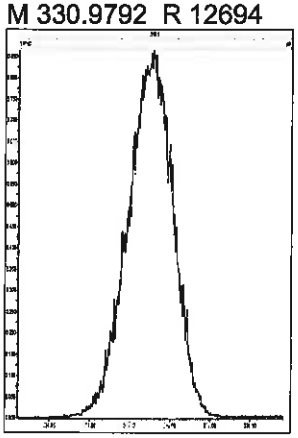

M 342.9792 R 12949

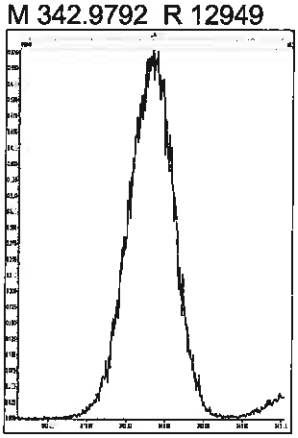

M 354.9792 R 13021

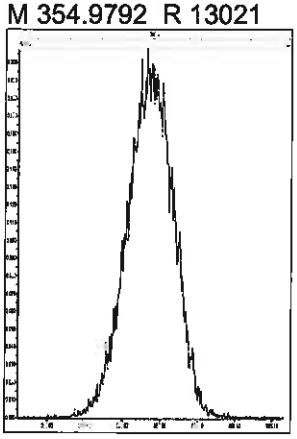

M 366.9792 R 12824

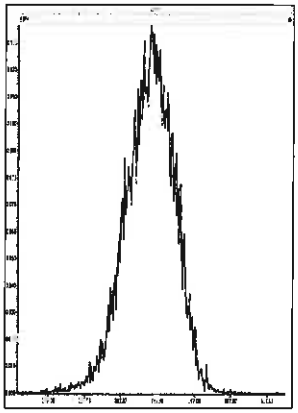

M 380.9760 R 12687

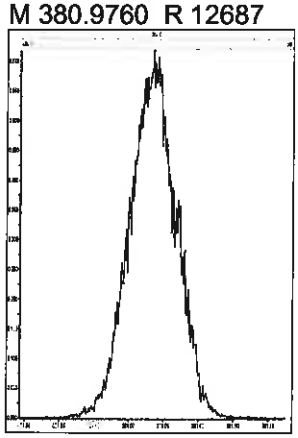

M 392.9760 R 12558

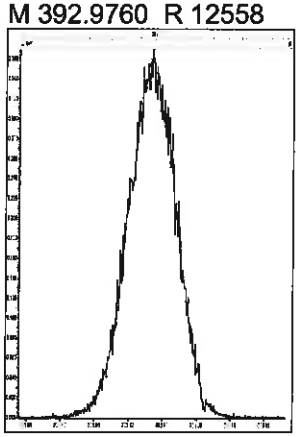

M 404.9760 R 11740

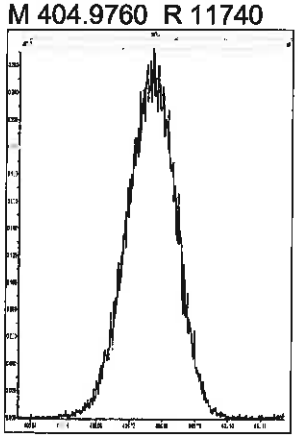

M 416.9760 R 11906

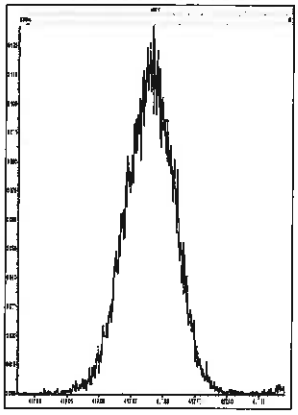

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

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M 366.9792 R 13089

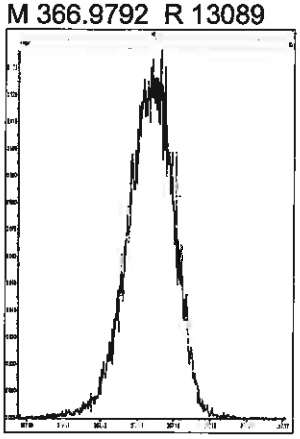

M 380.9760 R 12561

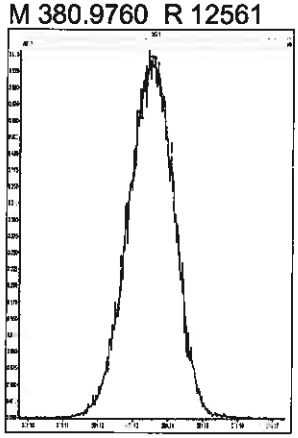

M 392.9760 R 12497

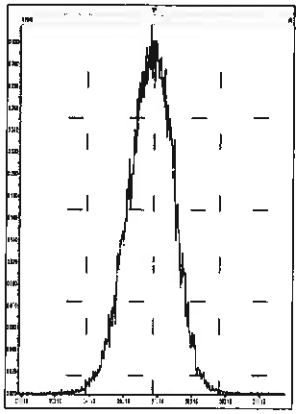

M 404.9760 R 12690

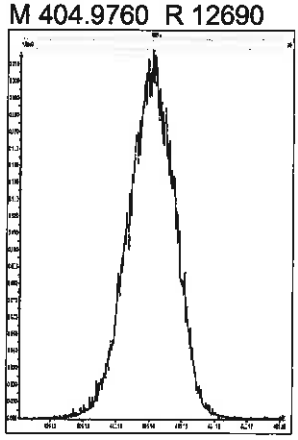

M 416.9760 R 12689

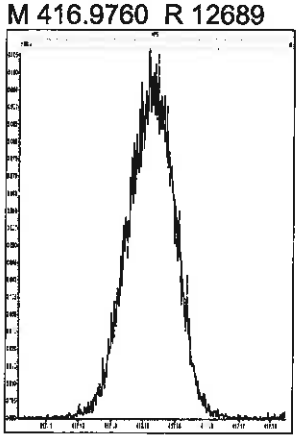

M 430.9728 R 12197

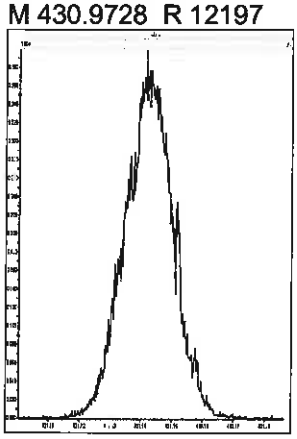

M 442.9728 R 12132

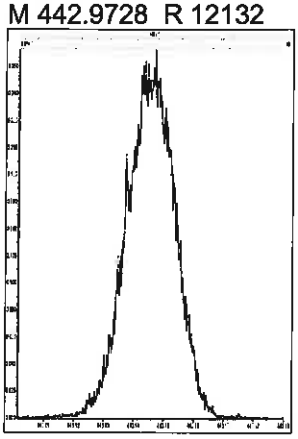

M 454.9728 R 12194

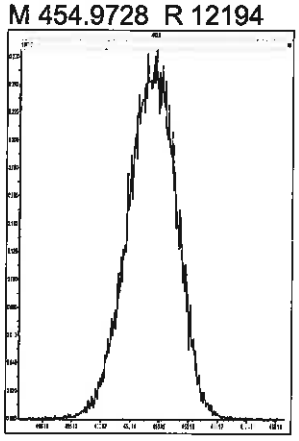

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 4 @ 200 (ppm)

Printed: Tuesday, September 17, 2019 11:26:23 Pacific Daylight Time

M 380.9760 R 12621

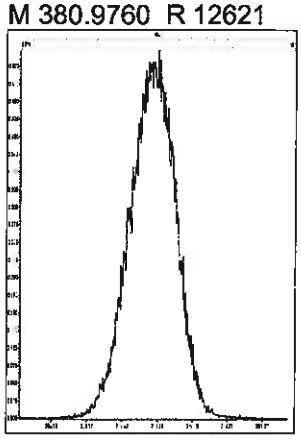

M 392.9760 R 12561

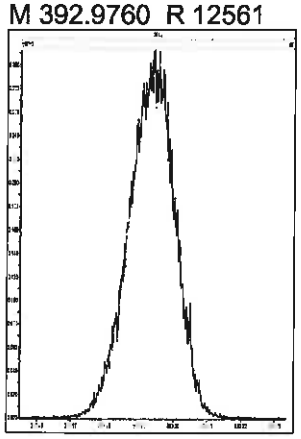

M 404.9760 R 12950

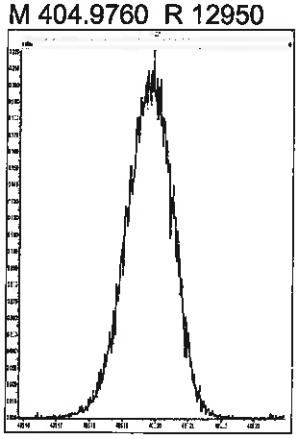

M 416.9760 R 12887

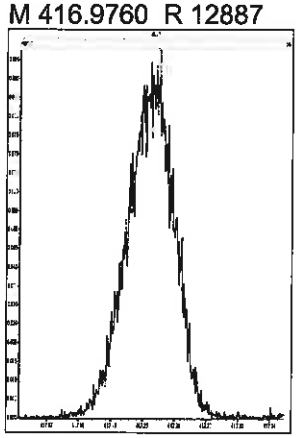

M 430.9728 R 11961

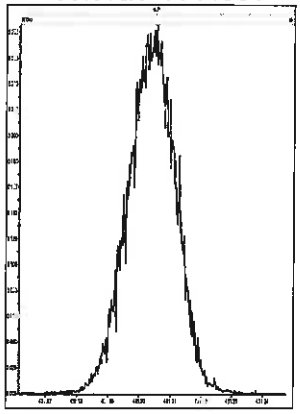

M 442.9728 R 12134

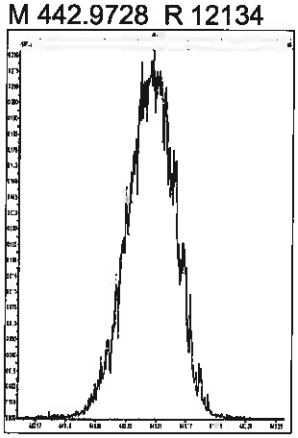

M 454.9728 R 12074

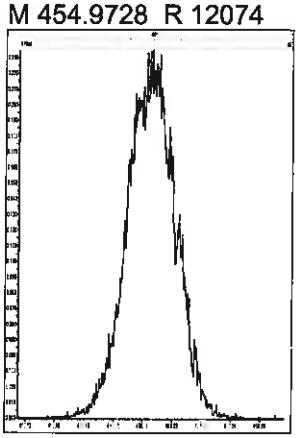

M 466.9728 R 12254

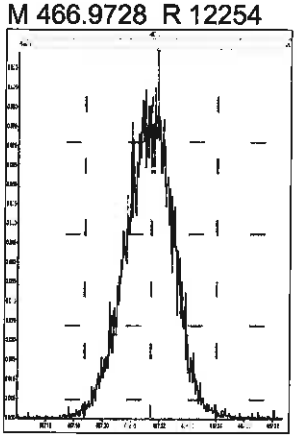

M 480.9696 R 12193

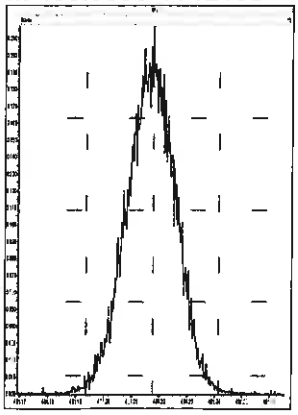

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 5 @ 200 (ppm)

Printed: Tuesday, September 17, 2019 11:26:56 Pacific Daylight Time

M 380.9760 R 13158

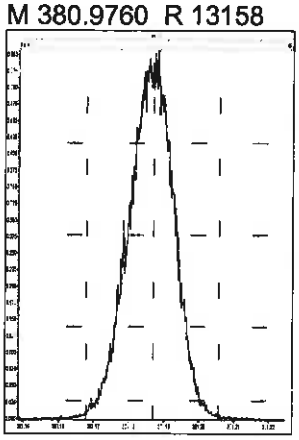

M 392.9760 R 12819

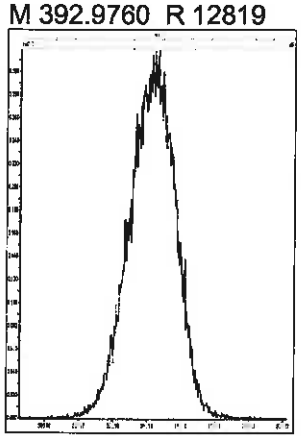

M 404.9760 R 12373

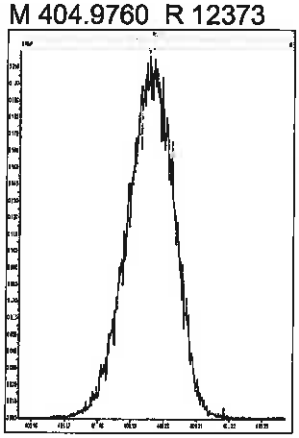

M 416.9760 R 12563

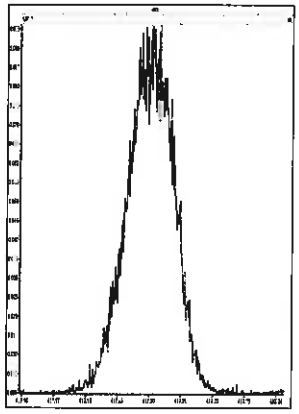

M 430.9728 R 12886

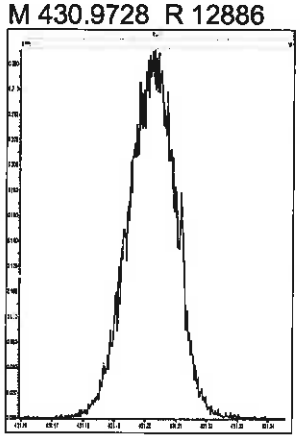

M 442.9728 R 12436

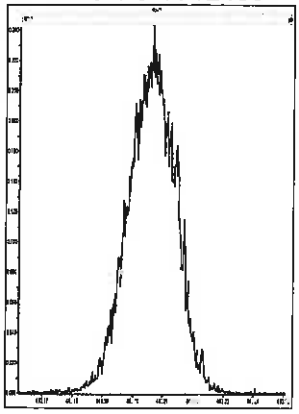

M 454.9728 R 12954

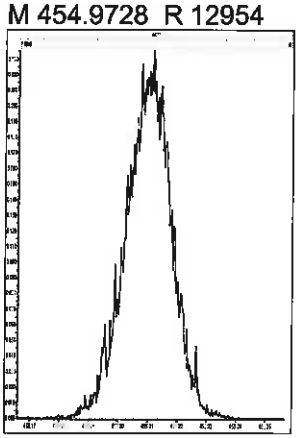

M 466.9728 R 12375

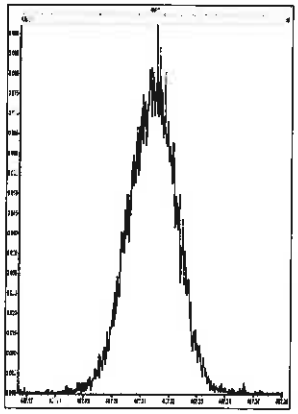

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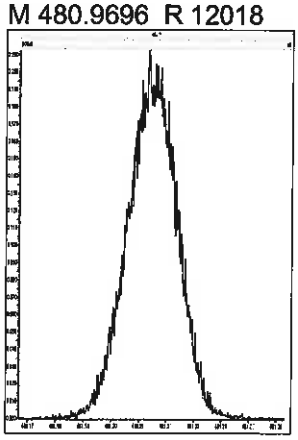

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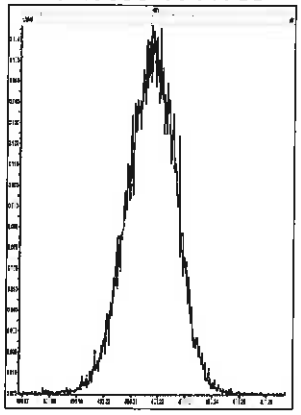

M 504.9696 R 11682

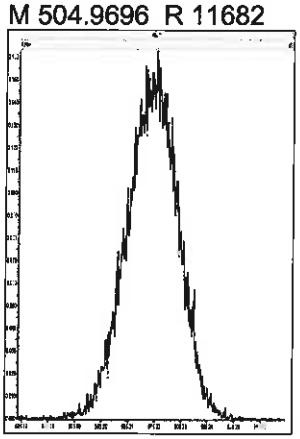

M 516.9697 R 11903

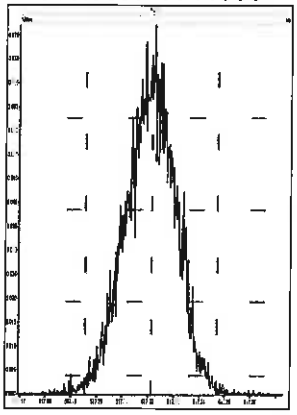

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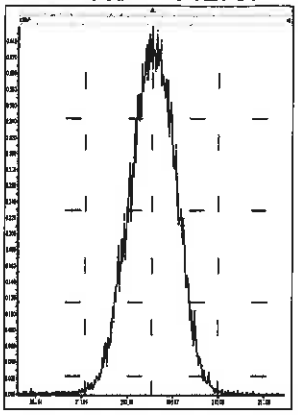

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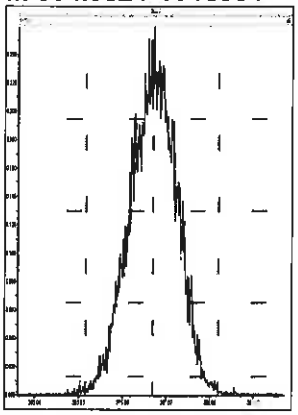

M 318.9792 R 12440

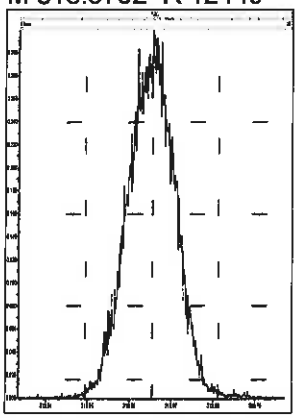

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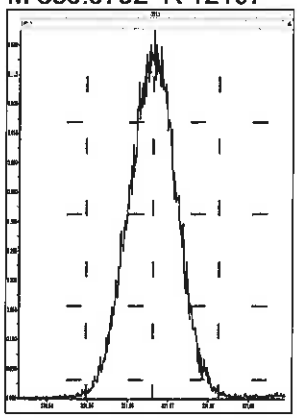

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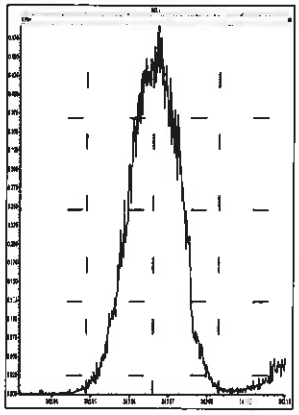

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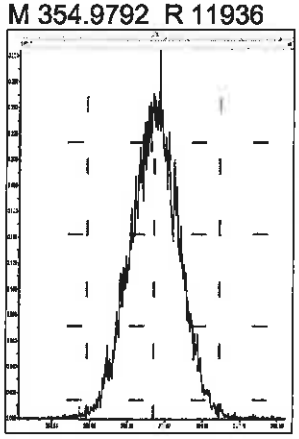

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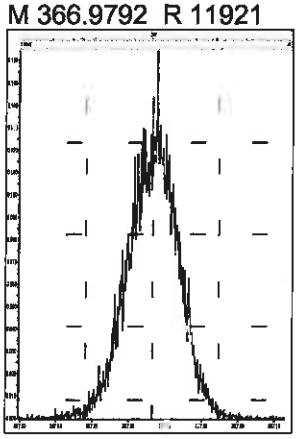

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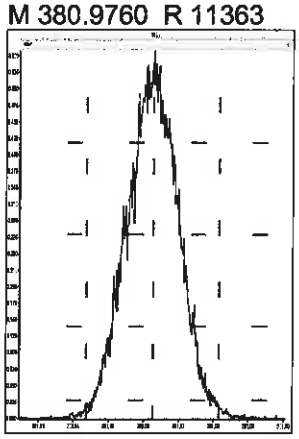

M 392.9760 R 11063

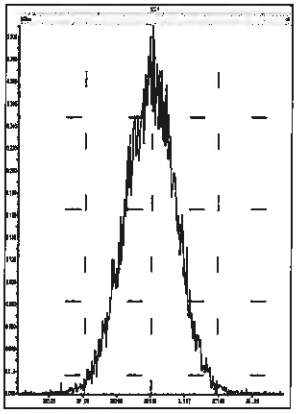

M 404.9760 R 11365

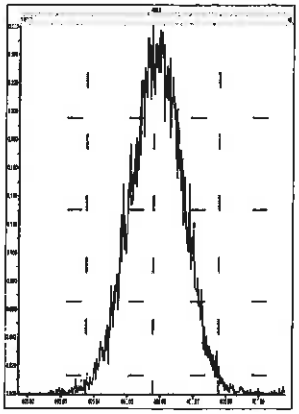

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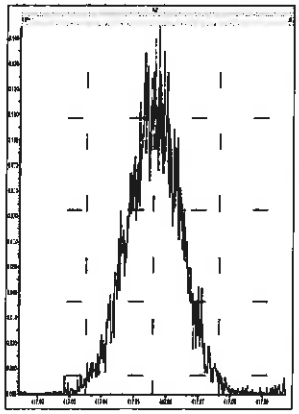

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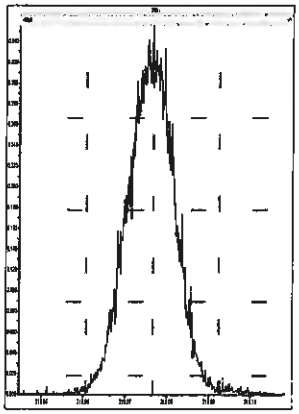

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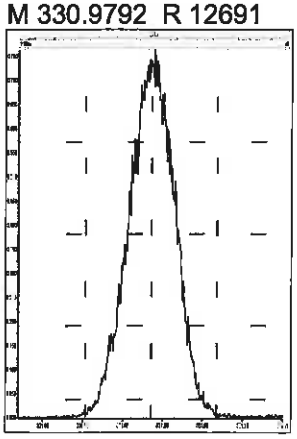

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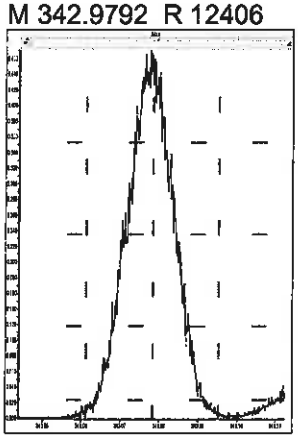

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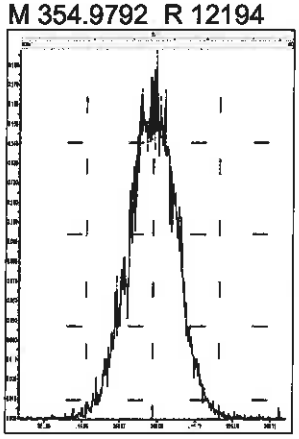

M 366.9792 R 12510

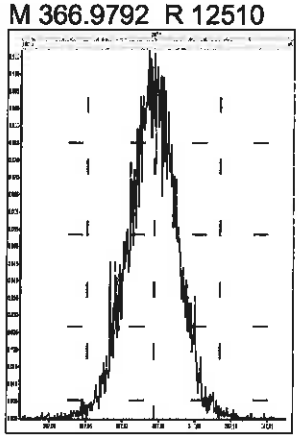

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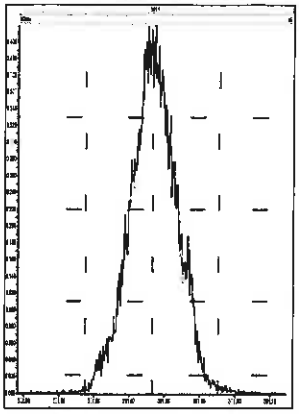

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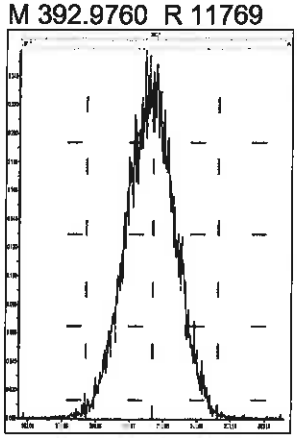

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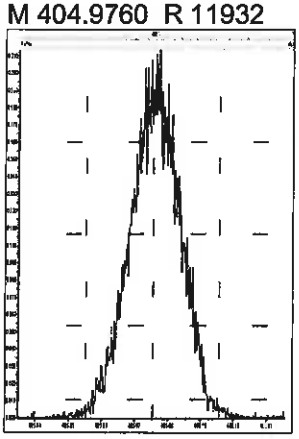

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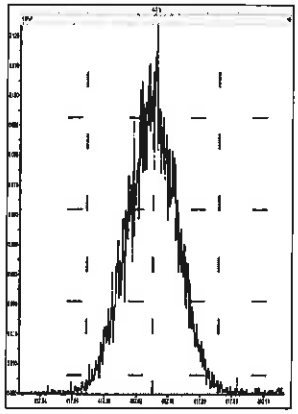

M 366.9792 R 12255

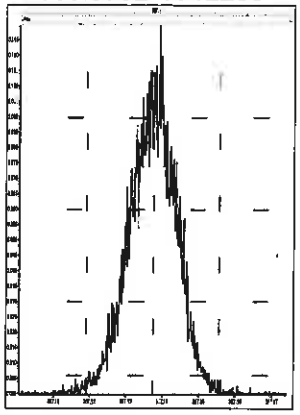

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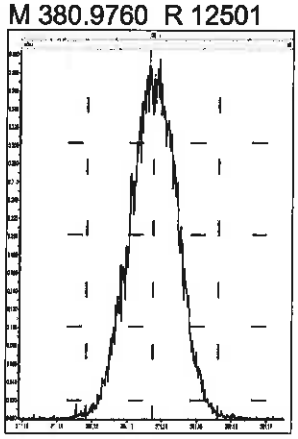

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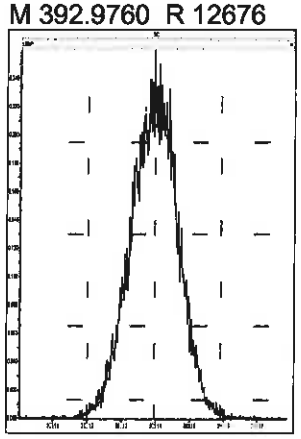

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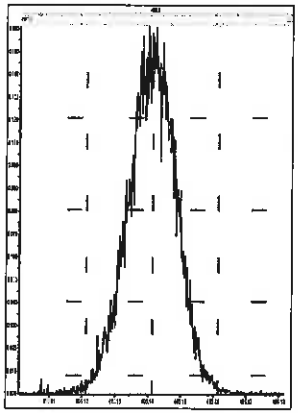

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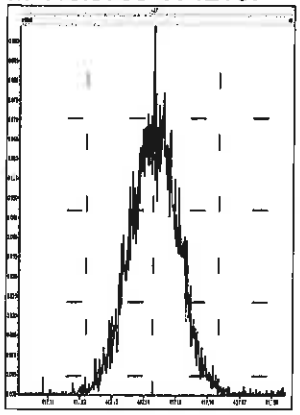

M 430.9728 R 11971

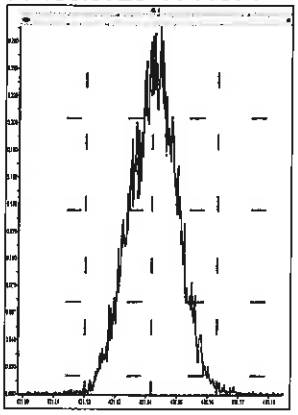

M 442.9728 R 11991

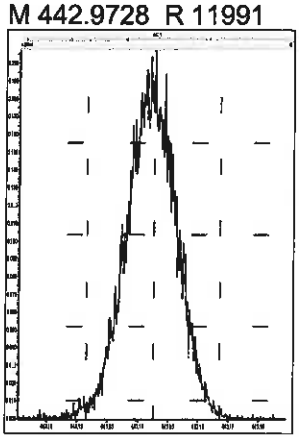

M 454.9728 R 12140

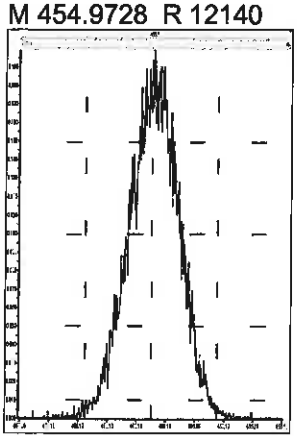

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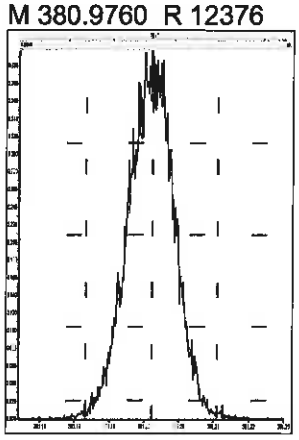

M 392.9760 R 12530

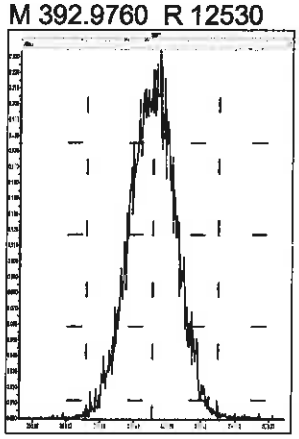

M 404.9760 R 12410

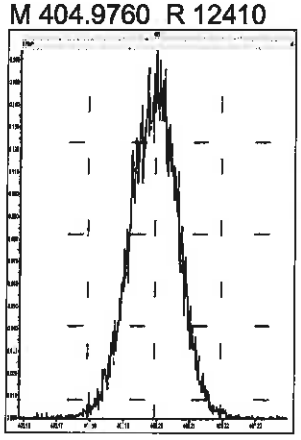

M 416.9760 R 13257

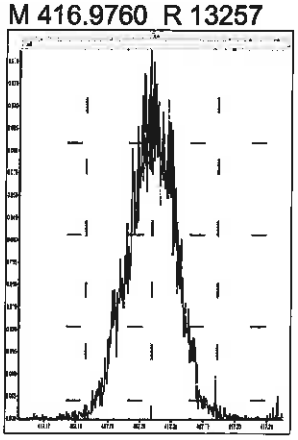

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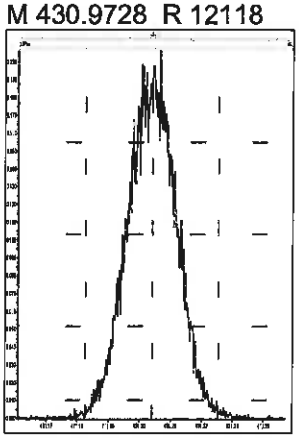

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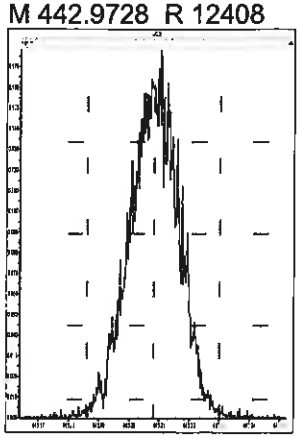

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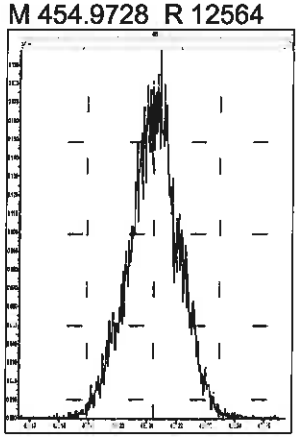

M 466.9728 R 13333

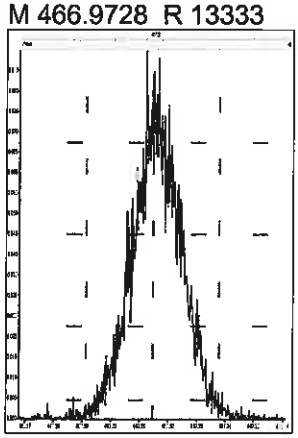

M 480.9696 R 11886

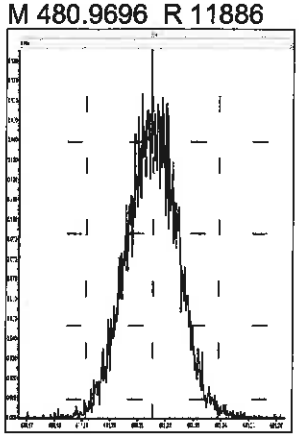

M 380.9760 R 12531

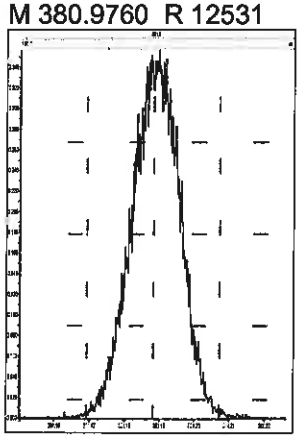

M 392.9760 R 12445

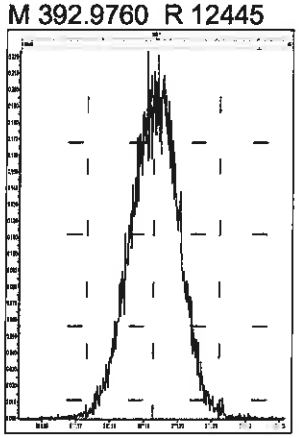

M 404.9760 R 12577

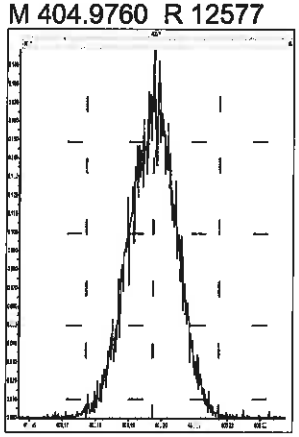

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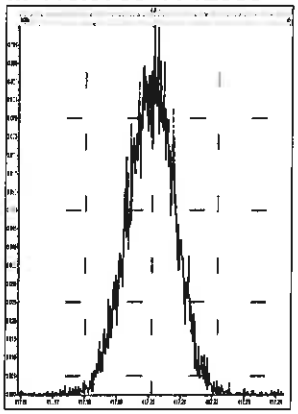

M 430.9728 R 12167

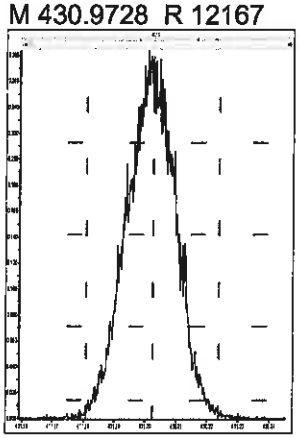

M 442.9728 R 12199

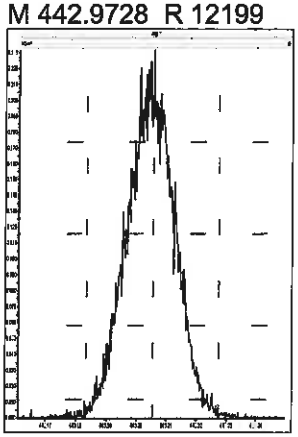

M 454.9728 R 12347

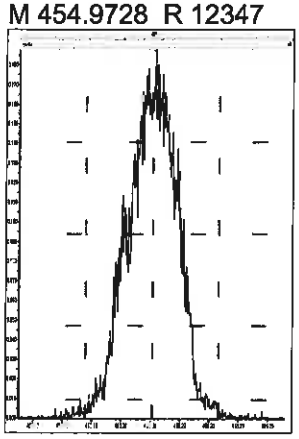

M 466.9728 R 12105

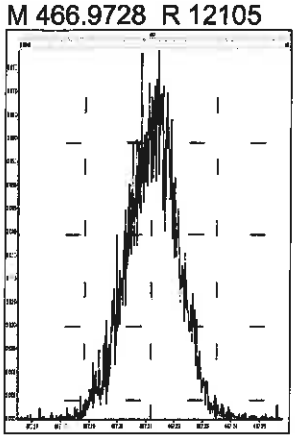

M 480.9696 R 11712

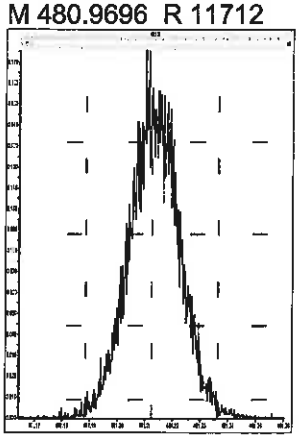

M 492.9696 R 11769

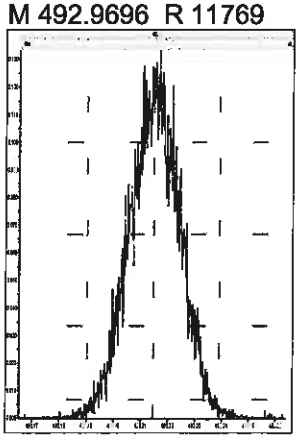

M 504.9696 R 11683

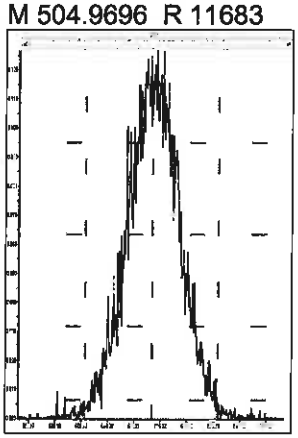

Printed: Tuesday, September 17, 2019 19:23:28 Pacific Daylight Time

M 516.9697 R 12766

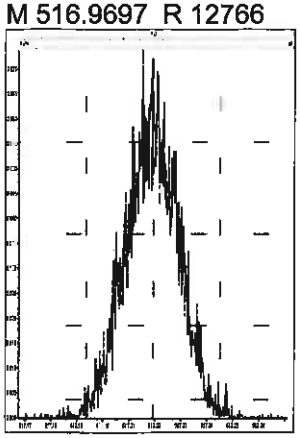

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 17-Sep-2019 13:03:20 ALS Bottle#: 4 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719 CS-2 HRDXNL2_00027
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:08 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:04:52

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.300	21989821	0.79	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.801	32121801	0.77	1.4384	101.6	101.6	0.4773	0.4773	102	
2,3,7,8-TCDF	16.816	172042	0.74	1.0507	0.5097	0.5097	0.0449	0.0449	102	
S Total TCDF					0.5097	0.5097	0.0449	0.0449		
D 13C-2,3,7,8-TCDD	17.481	21165335	0.76	0.9533	101.0	101.0	0.3928	0.3928	101	
$ 37Cl4-2,3,7,8-TCDD	17.496	123050		1.2224	0.4578	0.4578	0.0312	0.0312	91.55	
2,3,7,8-TCDD	17.481	123575	0.80	1.1064	0.5277	0.5277	0.0804	0.0804	106	n
S Total TCDD					0.5277	0.5277	0.0804	0.0804		
D 13C-1,2,3,7,8-PeCDF	21.631	22013977	1.60	1.0286	97.3	97.3	0.2946	0.2946	97.33	
1,2,3,7,8-PeCDF	21.659	550940	1.70	1.0822	2.312	2.312	0.0703	0.0703	92.50	
D 13C-2,3,4,7,8-PeCDF	22.927	20818900	1.62	0.9827	96.3	96.3	0.3084	0.3084	96.35	
2,3,4,7,8-PeCDF	22.940	501008	1.61	1.1032	2.181	2.181	0.0759	0.0759	87.26	
S Total PeCDF					4.494	4.494	0.0731	0.0731		
D 13C-1,2,3,7,8-PeCDD	23.622	15668897	1.56	0.7481	95.3	95.3	0.2373	0.2373	95.25	
1,2,3,7,8-PeCDD	23.649	336661	1.69	0.9050	2.374	2.374	0.1036	0.1036	94.96	
S Total PeCDD					2.374	2.374	0.1036	0.1036		
D 13C-1,2,3,4,7,8-HxCDF	29.749	16433122	0.52	1.1520	101.5	101.5	0.6239	0.6239	102	
1,2,3,4,7,8-HxCDF	29.789	452083	1.14	1.1973	2.298	2.298	0.1101	0.1101	91.91	
D 13C-1,2,3,6,7,8-HxCDF	30.015	17668349	0.51	1.2434	101.1	101.1	0.5781	0.5781	101	
1,2,3,6,7,8-HxCDF	30.028	471238	1.23	1.1807	2.259	2.259	0.0922	0.0922	90.36	
D 13C-2,3,4,6,7,8-HxCDF	31.040	16591902	0.51	1.1720	100.8	100.8	0.6133	0.6133	101	
2,3,4,6,7,8-HxCDF	31.053	469856	1.22	1.2116	2.337	2.337	0.0626	0.0626	93.49	
D 13C-1,2,3,7,8,9-HxCDF	31.932	15096147	0.51	1.0655	100.8	100.8	0.6746	0.6746	101	
1,2,3,7,8,9-HxCDF	31.945	462420	1.18	1.2451	2.460	2.460	0.0606	0.0606	98.40	
S Total HxCDF					9.354	9.354	0.0814	0.0814		
* 13C-1,2,3,7,8,9-HxCDD	31.745	14051438	1.31	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.253	10572054	1.29	0.7812	96.3	96.3	0.6394	0.6394	96.31	
1,2,3,4,7,8-HxCDD	31.266	277444	1.10	1.1088	2.367	2.367	0.0800	0.0800	94.67	
D 13C-1,2,3,6,7,8-HxCDD	31.372	12508423	1.30	0.9175	97.0	97.0	0.5444	0.5444	97.03	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.399	319747	1.23	1.0814	2.364	2.364	0.0780	0.0780	94.55	
1,2,3,7,8,9-HxCDD	31.758	333001	1.05	1.2123	2.380	2.380	0.0713	0.0713	95.21	a
S Total HxCDD					7.111	7.111	0.0764	0.0764		
D 13C-1,2,3,4,6,7,8-HpCDF	33.447	12214839	0.45	0.8628	100.8	100.8	2.432	2.432	101	
1,2,3,4,6,7,8-HpCDF	33.459	463407	1.08	1.5555	2.439	2.439	0.0665	0.0665	97.56	
D 13C-1,2,3,4,7,8,9-HpCDF	34.492	11417456	0.43	0.7991	101.7	101.7	2.626	2.626	102	
1,2,3,4,7,8,9-HpCDF	34.504	358162	1.15	1.3862	2.263	2.263	0.0888	0.0888	90.52	
S Total HpCDF					4.702	4.702	0.0776	0.0776		
D 13C-1,2,3,4,6,7,8-HpCDD	34.225	12148019	1.04	0.8739	98.9	98.9	1.265	1.265	98.93	
1,2,3,4,6,7,8-HpCDD	34.225	258090	1.02	0.9316	2.281	2.281	0.0675	0.0675	91.22	
S Total HpCDD					2.281	2.281	0.0675	0.0675		
D 13C-OCDD	36.481	22323676	0.90	0.7744	205.2	205.2	0.5053	0.5053	103	
OCDF	36.576	637327	0.85	1.2596	4.533	4.533	0.0809	0.0809	90.66	
OCDD	36.493	557610	0.87	1.0621	4.704	4.704	0.0841	0.0841	94.07	

QC Flag Legend

Processing Flags
n - Failed Sig-To-Noise Test
Review Flags
a - User Assigned ID

Reagents:

HRDXNL2_00027 Amount Added: 1.00 Units: mL

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 17-Sep-2019 13:03:20 ALS Bottle#: 4 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719 CS-2 HRDXNL2_00027
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:08 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:04:52

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.300	17.303	0		9690887	2505804	5138	12845	488		
333.9339	17.300	17.303	0		12298934	3113659	3280	8200	949	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.801	16.810	-1	0.971	14016338	3733692	11470	28675	326		
317.9389	16.801	16.810	-1	0.971	18105463	4683284	3963	9907	1182	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.816	16.825	-1	1.001	73063	16422	605	1512	27		
305.8987	16.816	16.825	-1	1.001	98979	22949	985	2462	23	0.74(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.481	17.490	-1	1.010	9130723	2237743	5138	12845	436		
333.9339	17.481	17.490	-1	1.010	12034612	3027581	3280	8200	923	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.496	17.505	-1	1.011	123050	30762	856	2140	36		
2,3,7,8-TCDD											n
319.8965	17.481	17.505	-1	1.000	55077	9940	1181	2952	8		
321.8936	17.496	17.505	-1	1.001	68498	15008	693	1732	22	0.80(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	21.631	21.637	0	1.250	13538943	2446204	3736	9340	655		
353.8970	21.631	21.637	0	1.250	8475034	1535096	3076	7690	499	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.659	21.661	0	1.001	346537	63107	477	1192	132		
341.8567	21.659	21.661	0	1.001	204403	36937	734	1835	50	1.70(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	22.927	22.932	0	1.325	12876171	2247350	3736	9340	602		
353.8970	22.927	22.932	0	1.325	7942729	1369022	3076	7690	445	1.62(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.940	22.954	-1	1.001	309291	49872	477	1192	105		
341.8567	22.940	22.954	-1	1.001	191717	32344	734	1835	44	1.61(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.622	23.625	0	1.365	9559667	1575307	2284	5710	690		
369.8919	23.622	23.625	0	1.365	6109230	995410	1706	4265	583	1.56(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.649	23.649	0	1.001	211682	31533	616	1540	51		
357.8516	23.636	23.649	-1	1.001	124979	21165	348	870	61	1.69(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.749	29.754	0	0.937	5613748	749447	3310	8275	226		
385.8610	29.749	29.754	0	0.937	10819374	1402669	5959	14897	235	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.789	29.789	0	1.001	240484	35863	546	1365	66		
375.8178	29.762	29.789	-2	1.000	211599	28700	589	1472	49	1.14(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.015	30.015	0	0.945	5969557	865919	3310	8275	262		
385.8610	30.002	30.015	-1	0.945	11698792	1738856	5959	14897	292	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.028	30.039	-1	1.000	259918	40834	546	1365	75		
375.8178	30.028	30.039	-1	1.000	211320	30654	589	1472	52	1.23(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.040	31.043	0	0.978	5612853	1245433	3310	8275	376		
385.8610	31.040	31.043	0	0.978	10979049	2494852	5959	14897	419	0.51(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.053	31.059	0	1.000	257999	59556	546	1365	109		
375.8178	31.053	31.059	0	1.000	211857	47785	589	1472	81	1.22(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.932	31.942	-1	1.006	5127023	1276569	3310	8275	386		
385.8610	31.932	31.942	-1	1.006	9969124	2483754	5959	14897	417	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.945	31.956	-1	1.000	250582	59386	546	1365	109		
375.8178	31.945	31.956	-1	1.000	211838	48028	589	1472	82	1.18(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.745	31.748	0		7962026	1846184	3652	9130	506		
403.8529	31.745	31.748	0		6089412	1377609	2789	6972	494	1.31(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.253	31.261	0	0.984	5953058	1483942	3652	9130	406		
403.8529	31.253	31.261	0	0.984	4618996	1187991	2789	6972	426	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.266	31.280	-1	1.000	145178	36647	426	1065	86		
391.8127	31.266	31.280	-1	1.000	132266	35409	522	1305	68	1.10(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.372	31.383	-1	0.988	7061273	1582952	3652	9130	433		
403.8529	31.372	31.383	-1	0.988	5447150	1228199	2789	6972	440	1.30(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.399	31.402	0	1.001	176287	43996	426	1065	103		
391.8127	31.399	31.402	0	1.001	143460	32388	522	1305	62	1.23(1.05-1.43)	
1,2,3,7,8,9-HxCDD											a
389.8157	31.758	31.761	0	1.016	170841	43295	426	1065	102		a
391.8127	31.745	31.761	-1	1.016	162160	33233	522	1305	64	1.05(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.447	33.457	-1	1.054	3779241	1261566	6785	16962	186		
419.8220	33.447	33.457	-1	1.054	8435598	2721447	20272	50680	134	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.459	33.469	-1	1.000	240121	76906	736	1840	104		
409.7789	33.459	33.469	-1	1.000	223286	71700	913	2282	79	1.08(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.492	34.502	-1	1.087	3454300	1028385	6785	16962	152		
419.8220	34.492	34.502	-1	1.087	7963156	2321827	20272	50680	115	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.504	34.509	0	1.000	191761	54375	736	1840	74		
409.7789	34.504	34.509	0	1.000	166401	51183	913	2282	56	1.15(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.225	34.227	0	1.078	6191349	1869122	6907	17267	271		
437.8140	34.213	34.227	-1	1.078	5956670	1788163	7344	18360	243	1.04(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.225	34.235	-1	1.000	130161	41792	539	1347	78		
425.7737	34.225	34.235	-1	1.000	127929	39414	381	952	103	1.02(0.88-1.20)	
13C-OCDD											
469.7779	36.481	36.486	0	1.149	10560642	2745879	1937	4842	1418		
471.7750	36.481	36.486	0	1.149	11763034	3056374	3109	7772	983	0.90(0.76-1.02)	
OCDF											
441.7428	36.576	36.581	0	1.003	292923	77485	428	1070	181		
443.7399	36.564	36.581	-1	1.002	344404	90221	754	1885	120	0.85(0.76-1.02)	
OCDD											
457.7377	36.493	36.497	0	1.000	259867	66125	554	1385	119		
459.7348	36.481	36.497	-1	1.000	297743	73262	482	1205	152	0.87(0.76-1.02)	

QC Flag Legend

Processing Flags

n - Failed Sig-To-Noise Test

Review Flags

a - User Assigned ID

Reagents:

HRDXNL2_00027 Amount Added: 1.00 Units: mL

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d				
Injection Date:	17-Sep-2019 13:03:20	Instrument ID:	10D5		
Lims ID:	IC				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 2

Processing Integration Results

RT: 31.75
Area: 162160
Amount: 2.380231
Amount Units: pg/ul

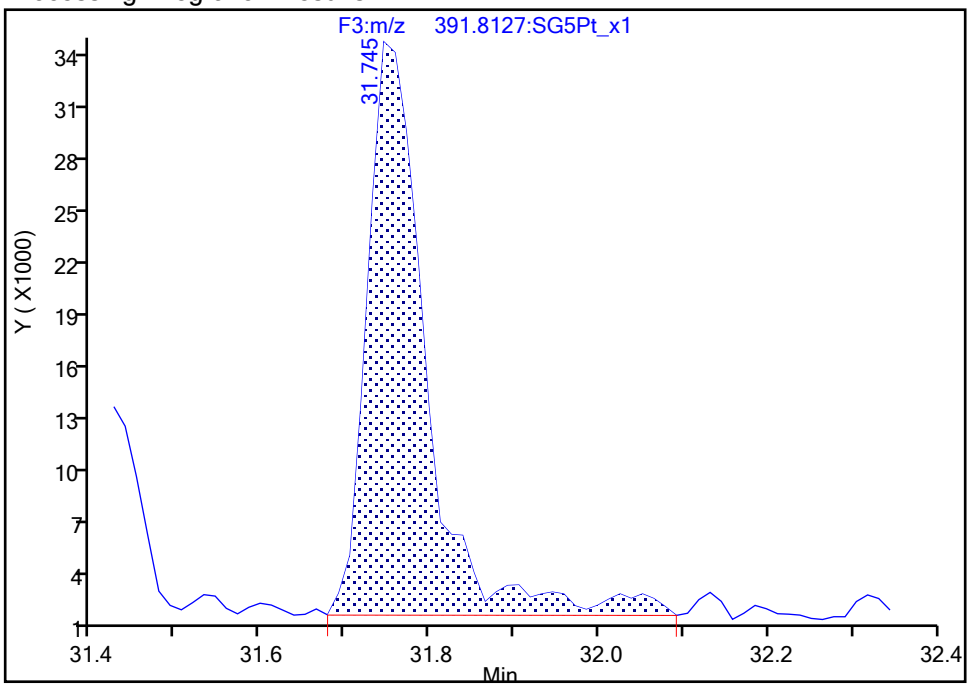

Manual Integration Results

RT: 31.75
Area: 162160
Amount: 2.380231
Amount Units: pg/ul

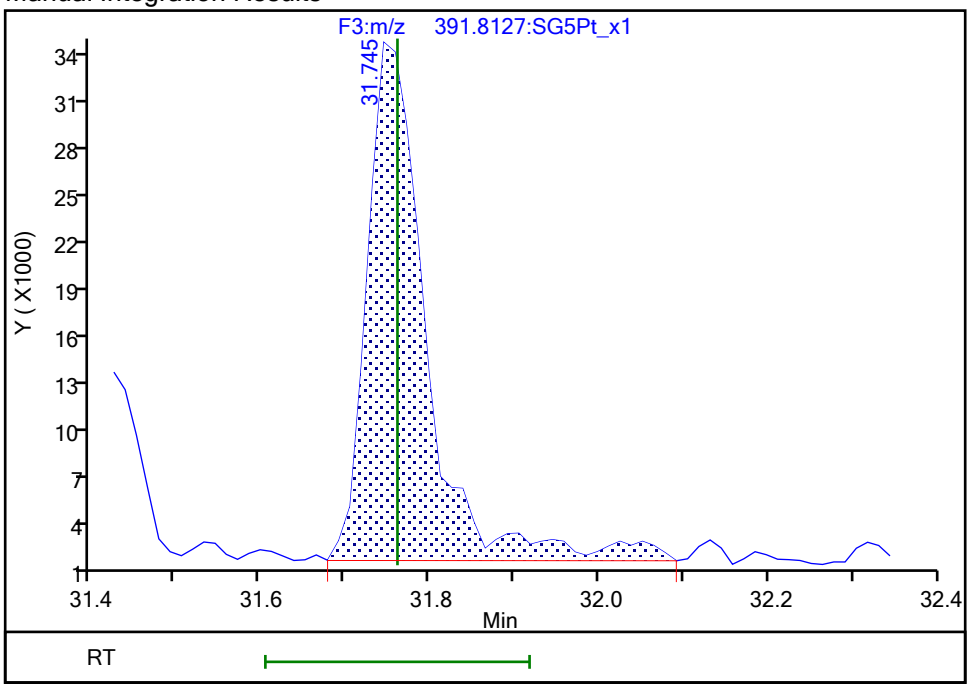

Reviewer: shardaa, 17-Sep-2019 18:02:41

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d				
Injection Date:	17-Sep-2019 13:03:20	Instrument ID:	10D5		
Lims ID:	IC				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 3

Processing Integration Results

RT: 31.76
Area: 333001
Amount: 2.380231
Amount Units: pg/ul

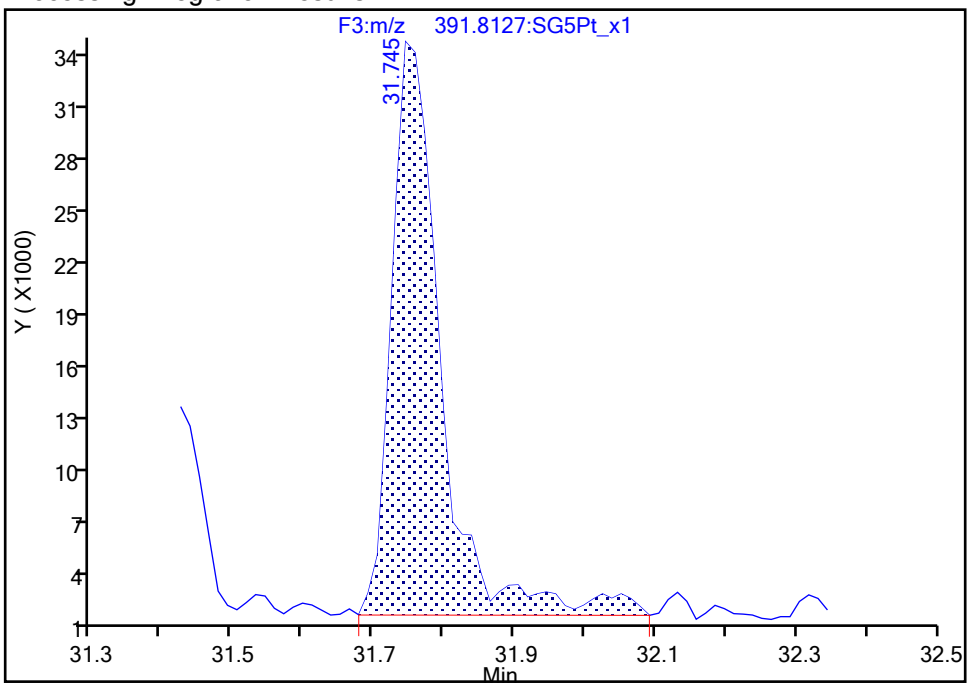

Manual Integration Results

RT: 31.76
Area: 333001
Amount: 2.380231
Amount Units: pg/ul
Reviewer: shardaa, 17-Sep-2019 18:02:41
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d				
Injection Date:	17-Sep-2019 13:03:20	Instrument ID:	10D5		
Lims ID:	IC				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 1

Processing Integration Results

RT: 31.76
Area: 170841
Amount: 2.380231
Amount Units: pg/ul

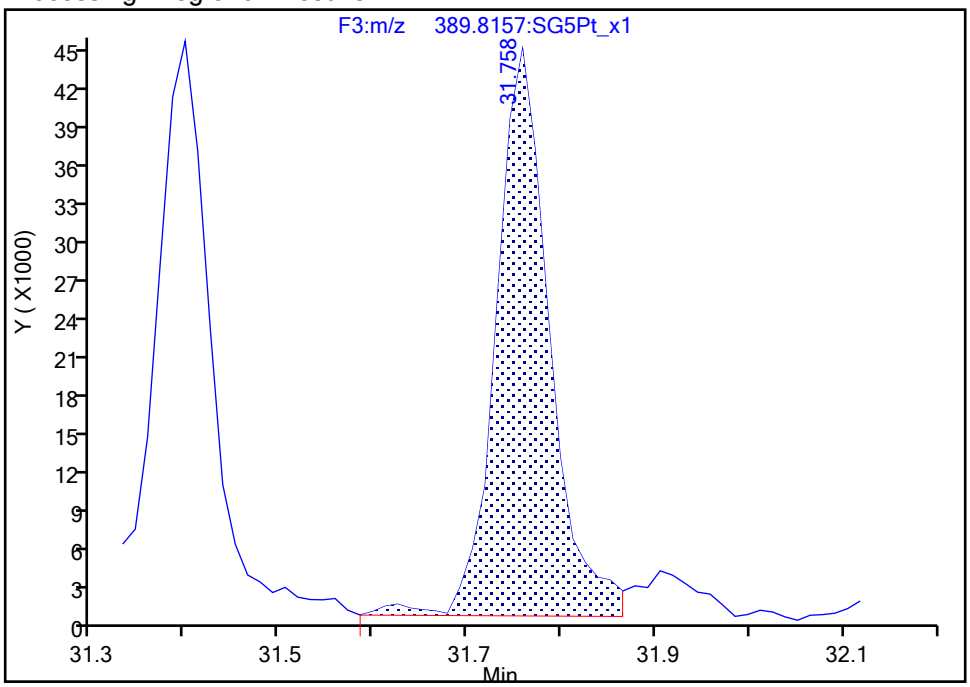

Manual Integration Results

RT: 31.76
Area: 170841
Amount: 2.380231
Amount Units: pg/ul

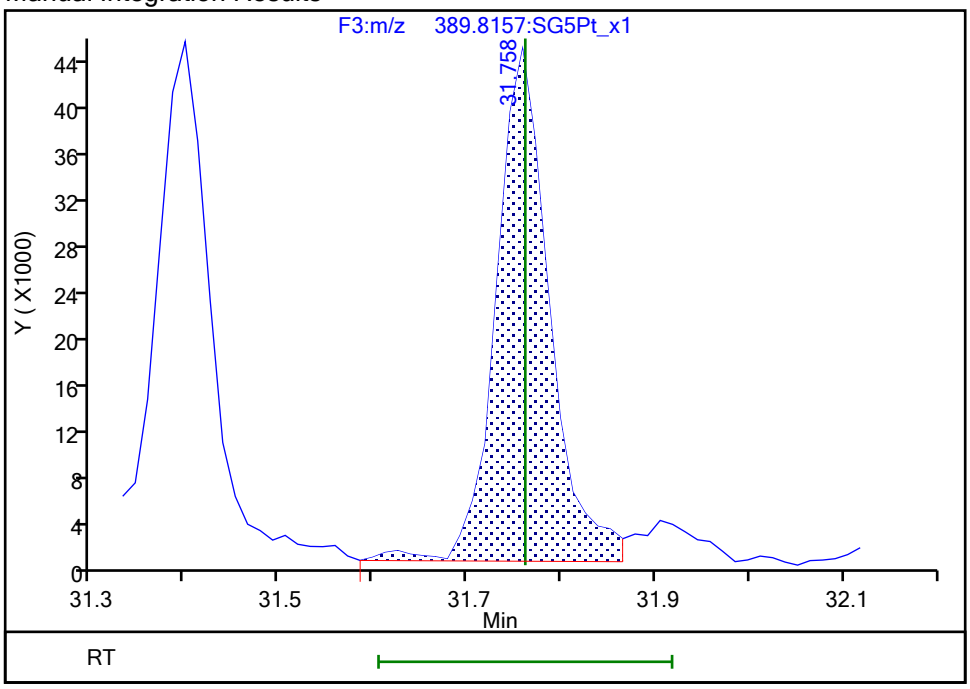

Reviewer: shardaa, 17-Sep-2019 18:02:44

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
Injection Date:	17-Sep-2019 13:03:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

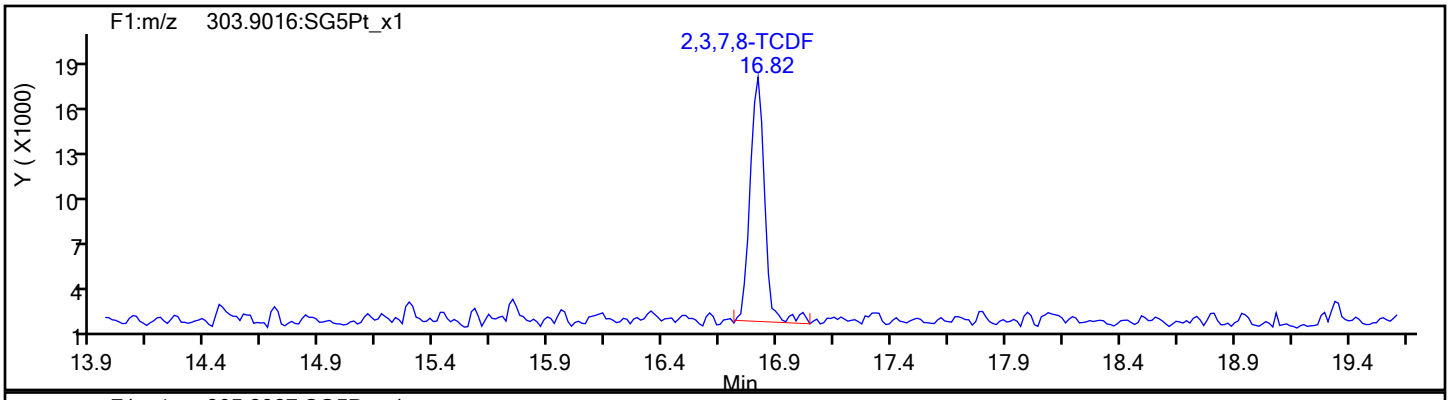

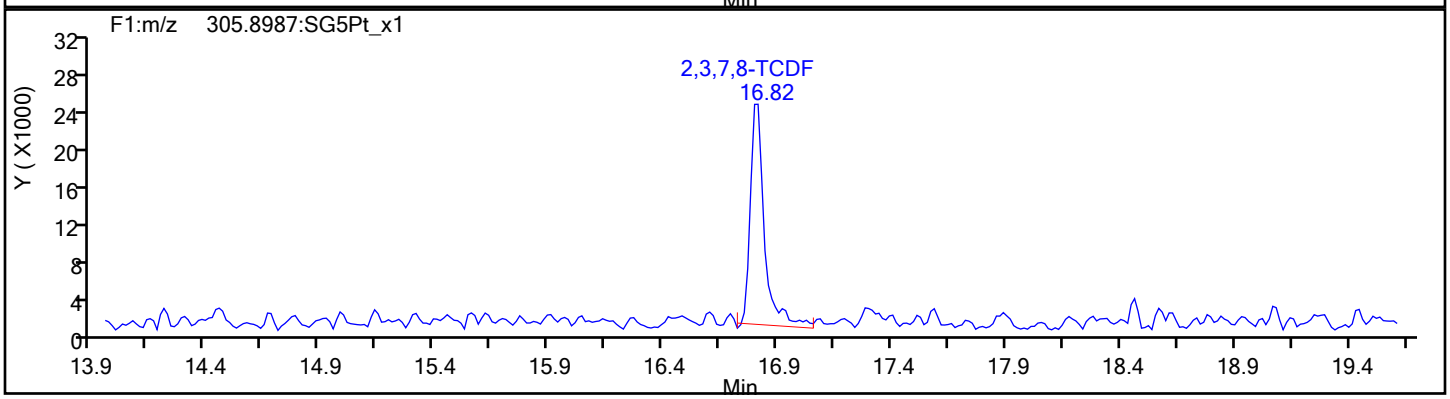

TCDF Standards

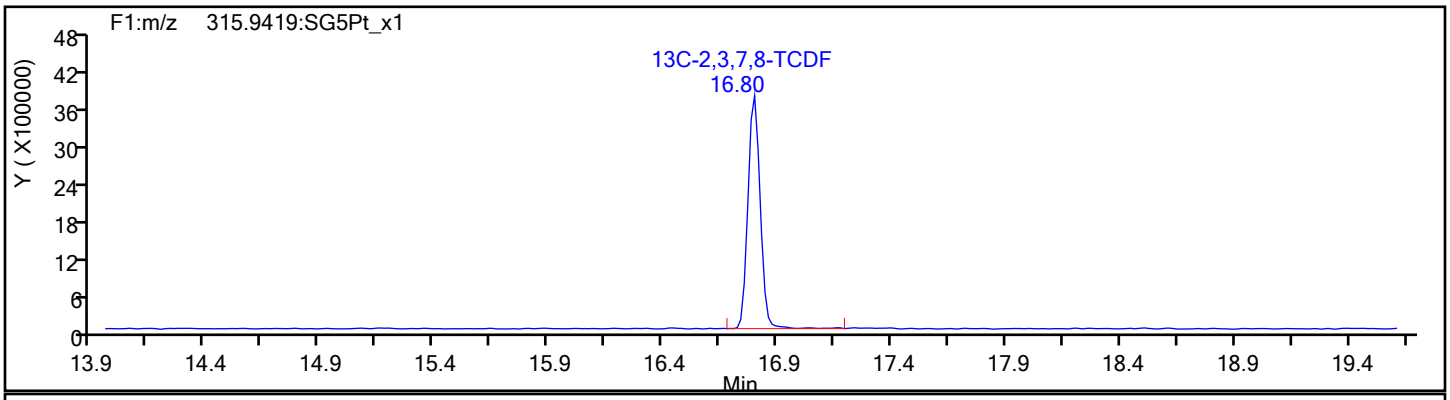

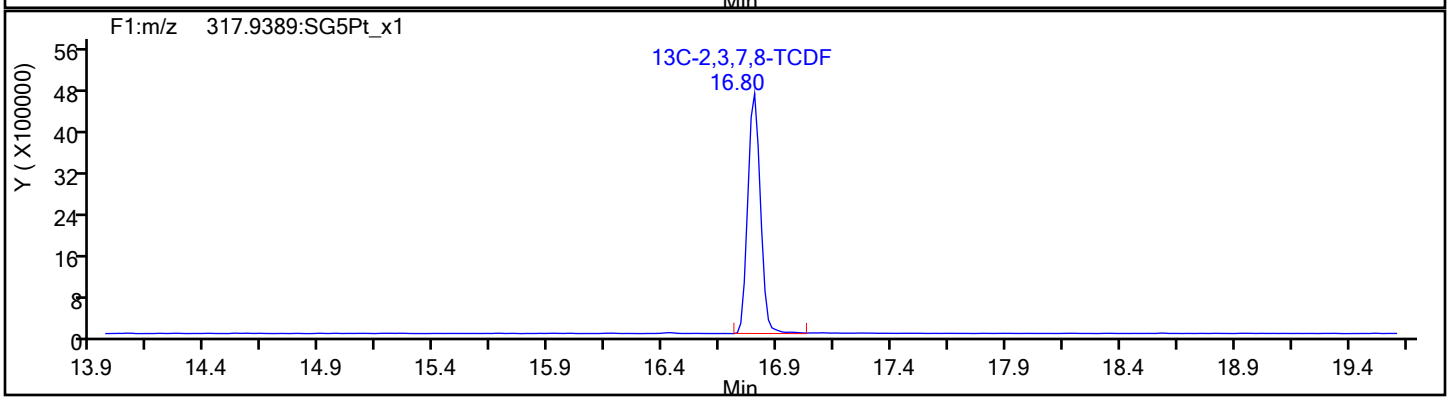

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
Injection Date:	17-Sep-2019 13:03:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

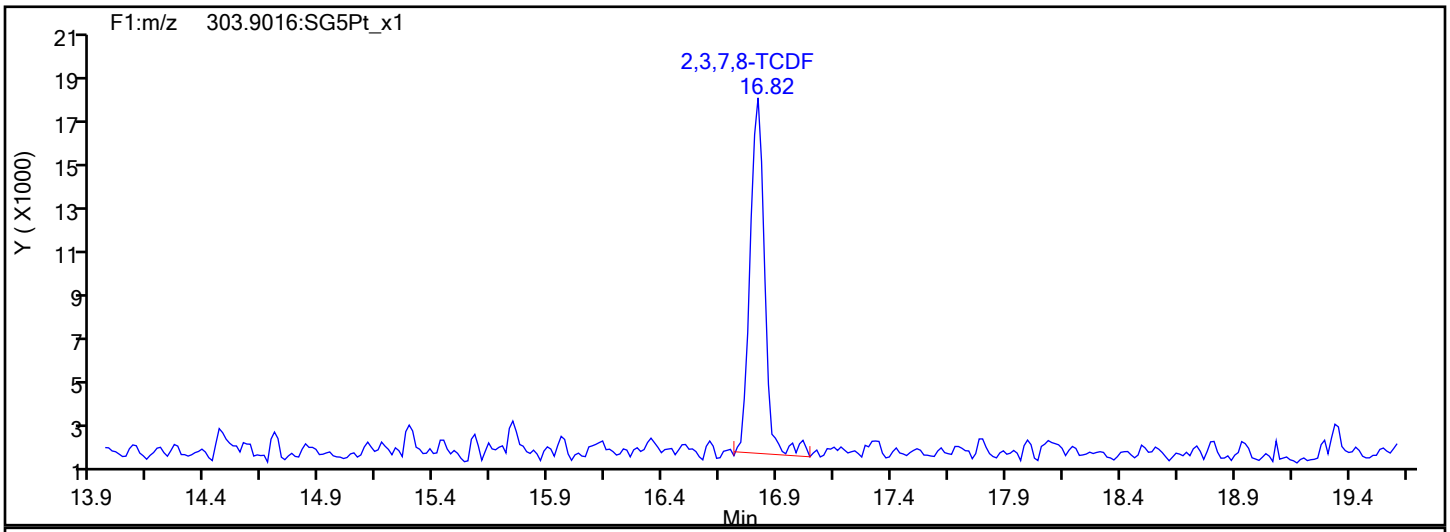

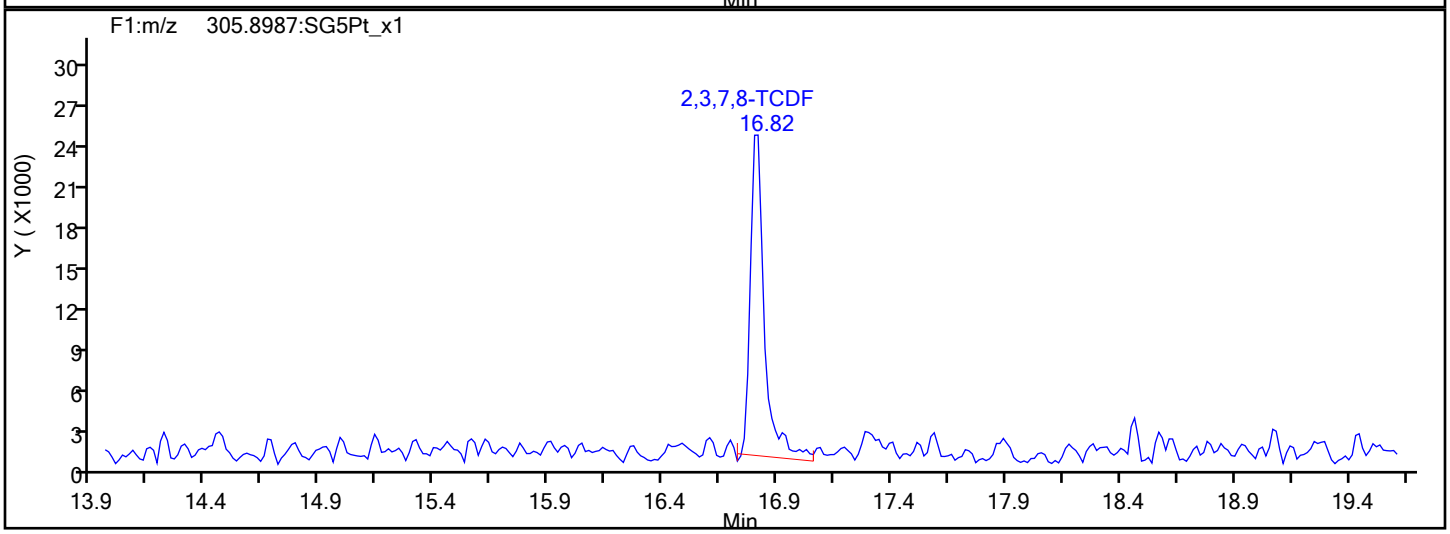

TCDF Interference Mass

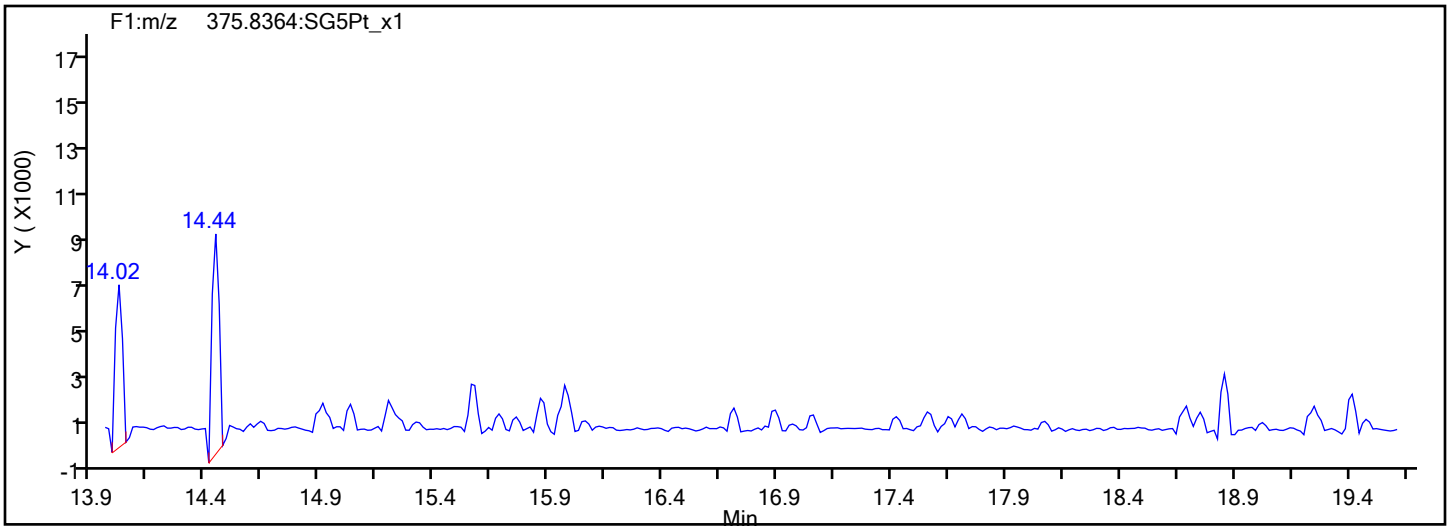

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
Injection Date:	17-Sep-2019 13:03:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

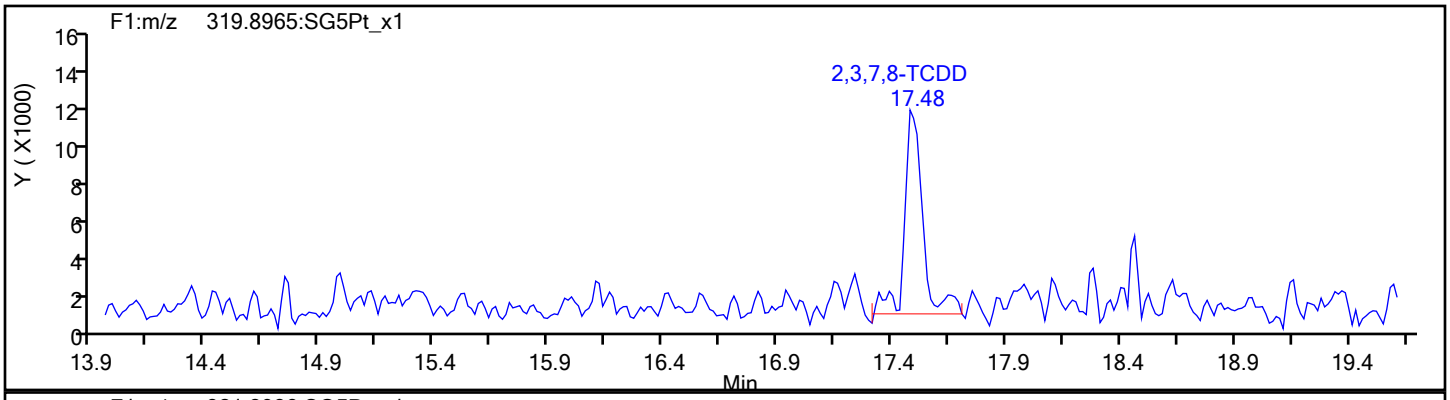

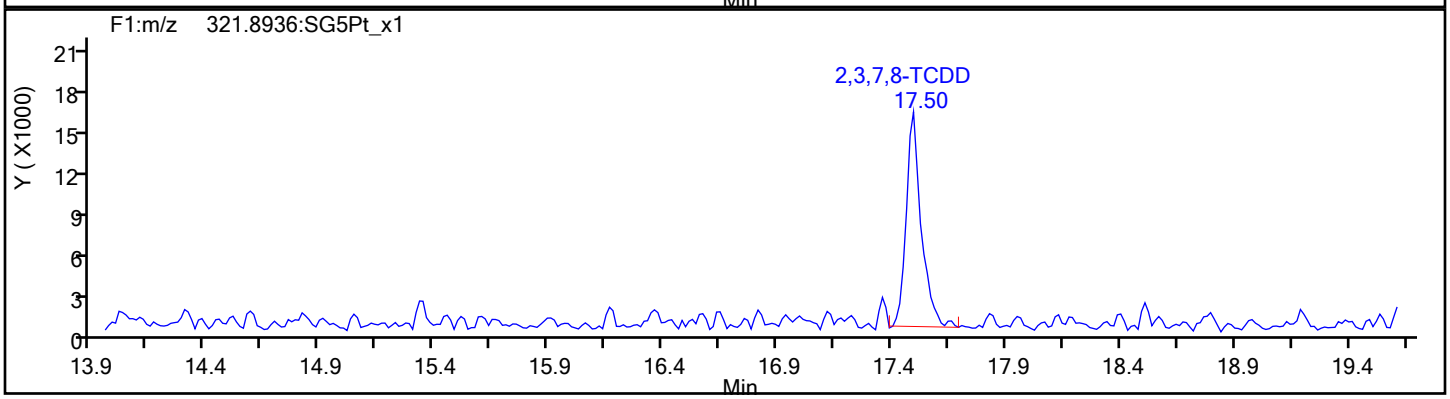

TCDD Standards

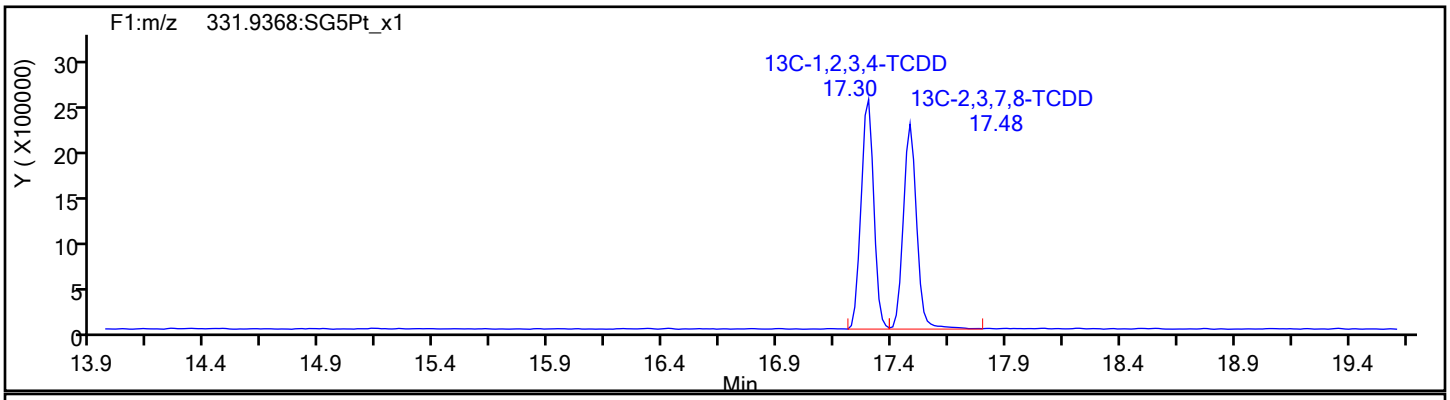

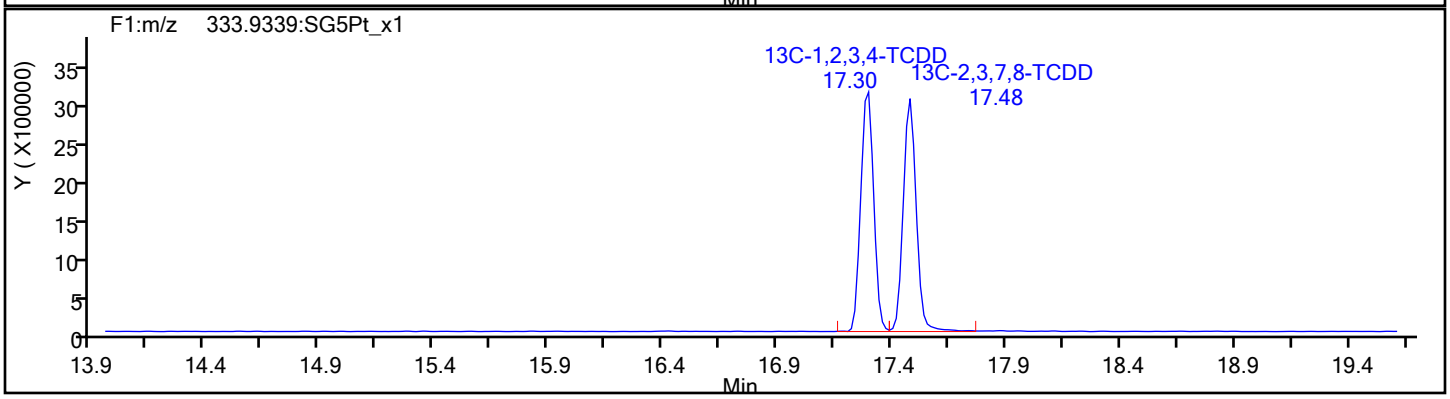

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
Injection Date:	17-Sep-2019 13:03:20	Injection Vol:	2.0 ul
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

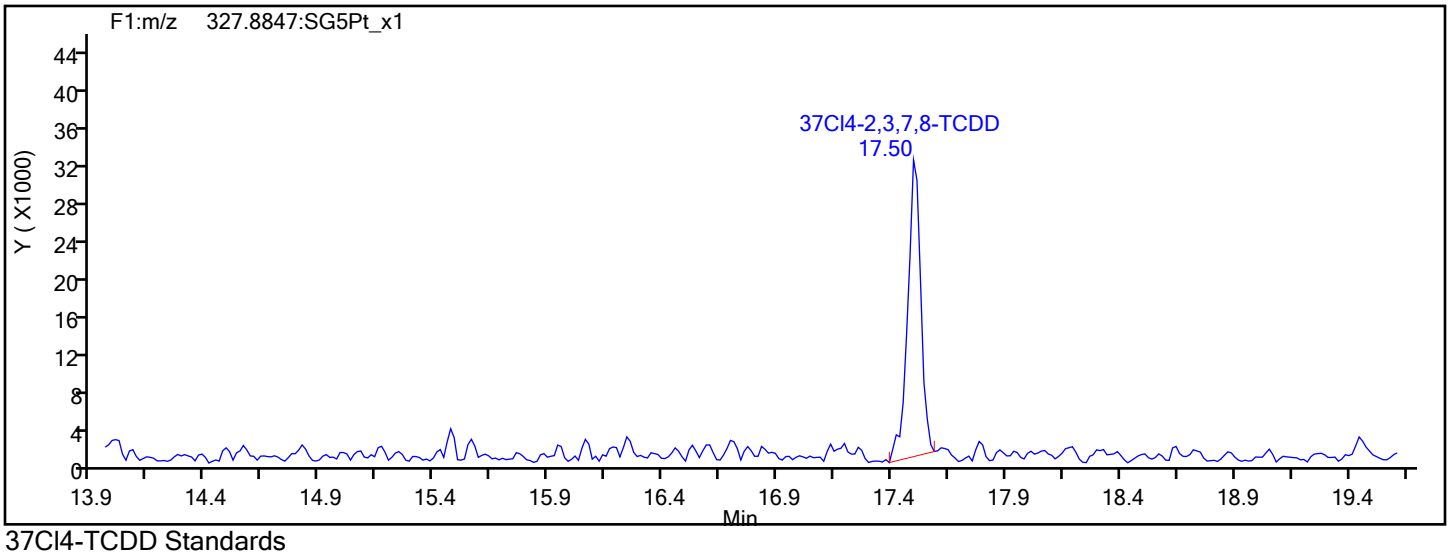

37Cl4-TCDD Standards

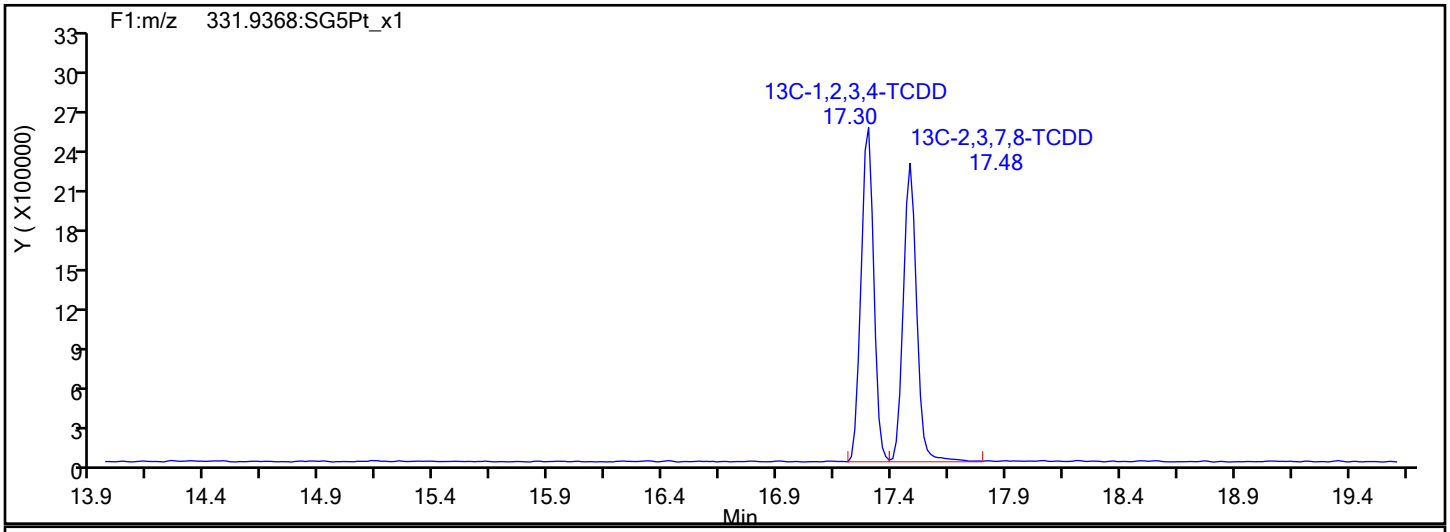

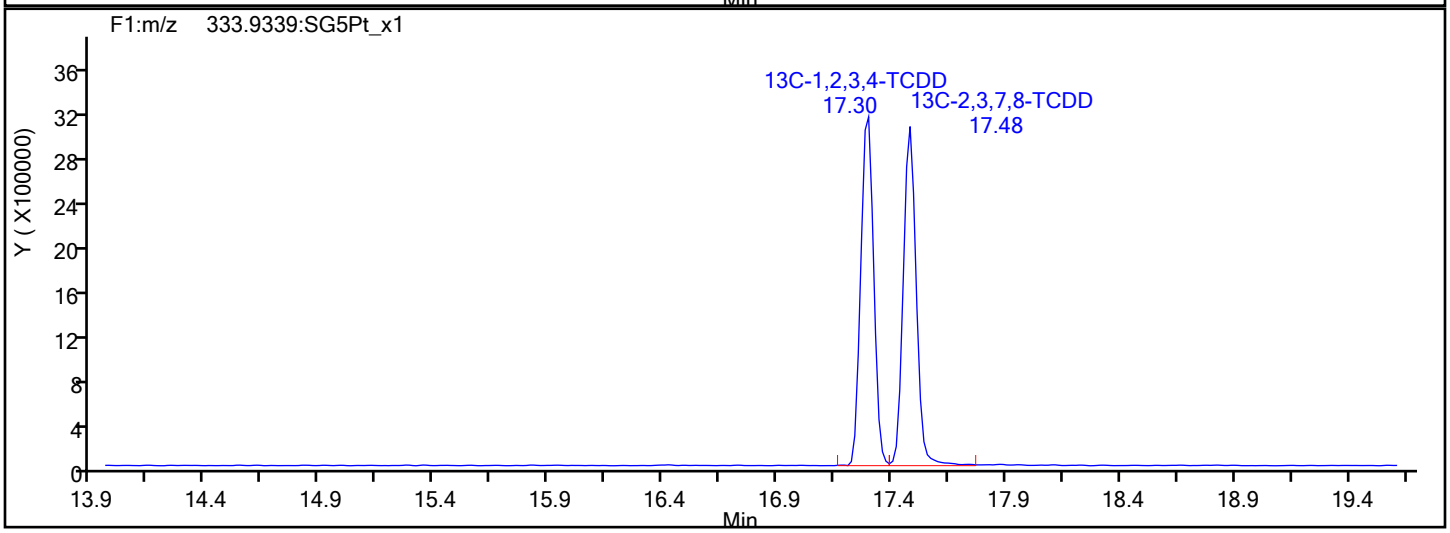

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
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Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

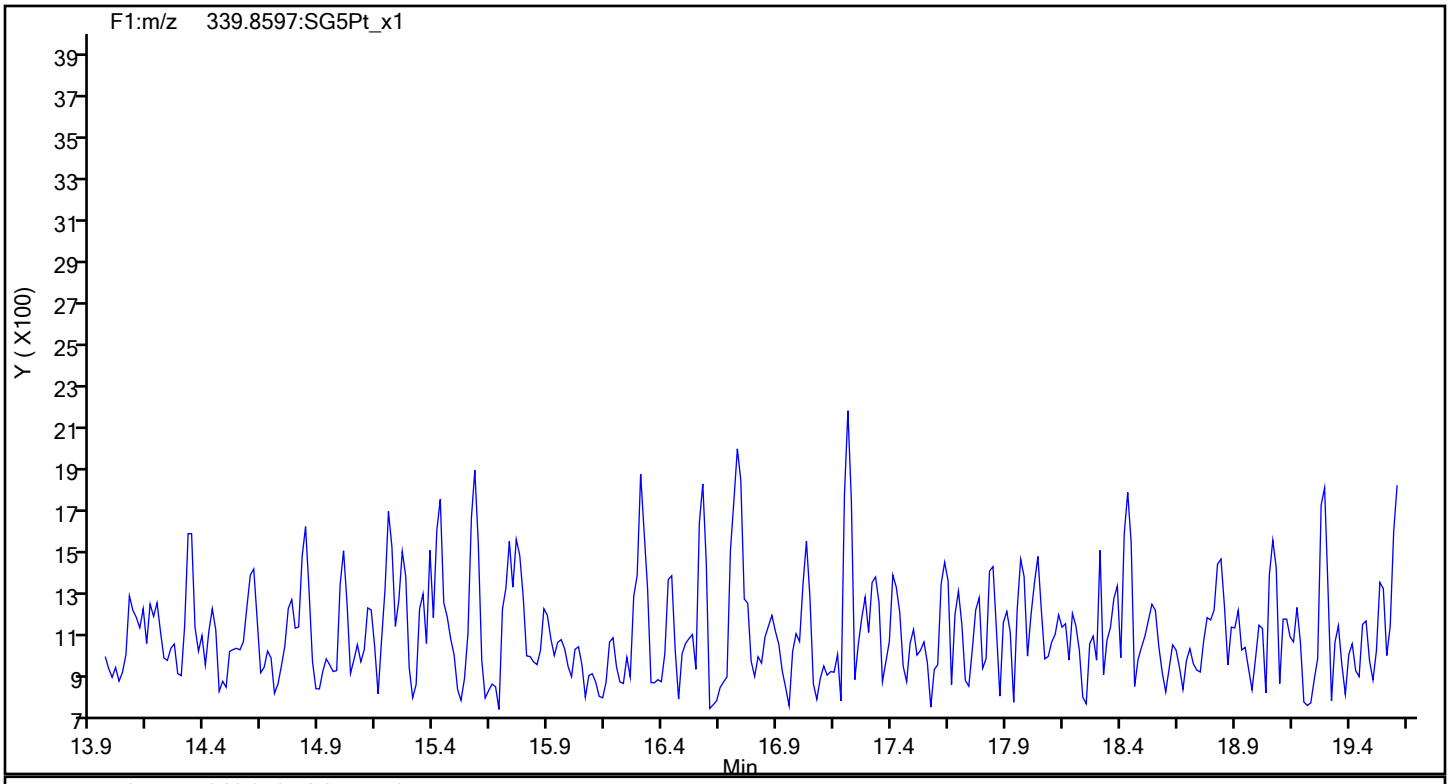

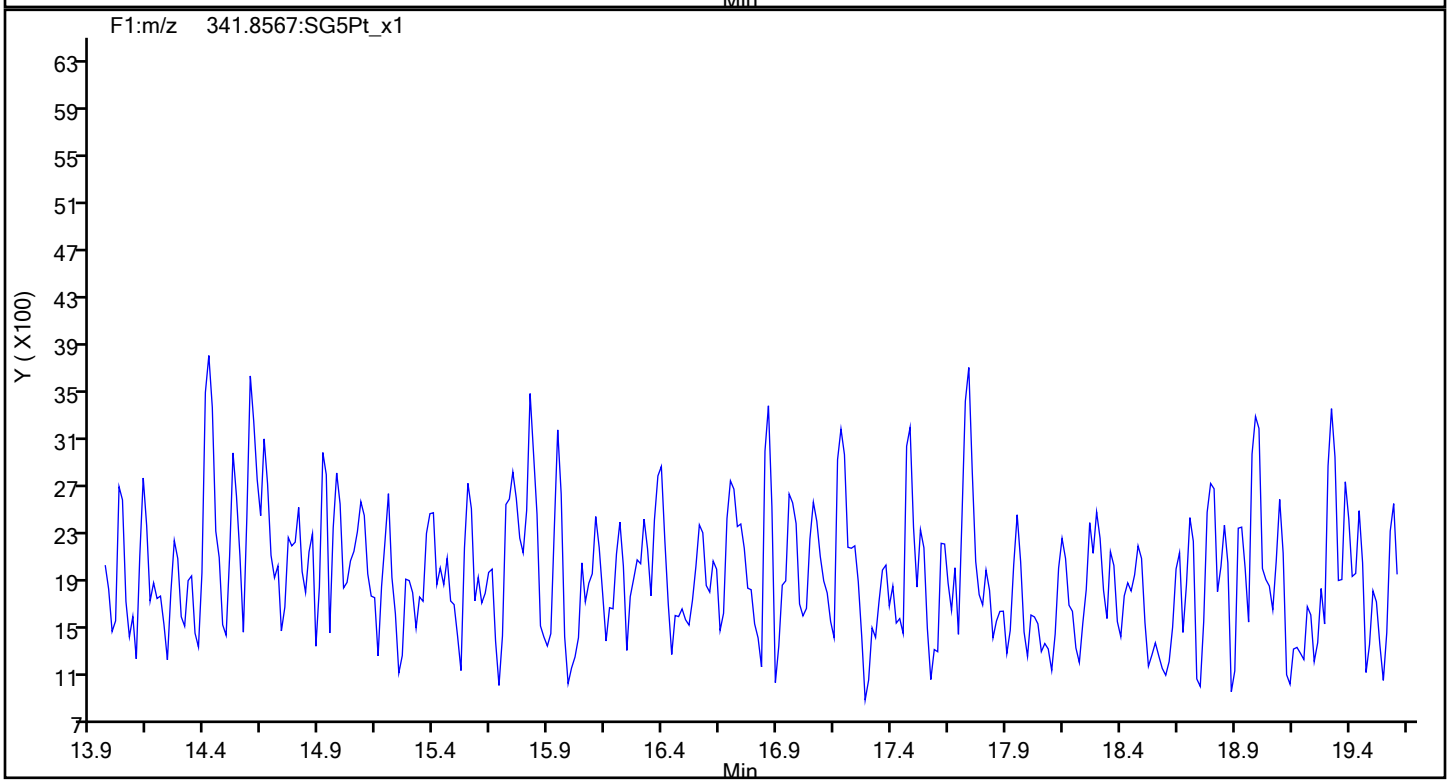

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
Injection Date:	17-Sep-2019 13:03:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

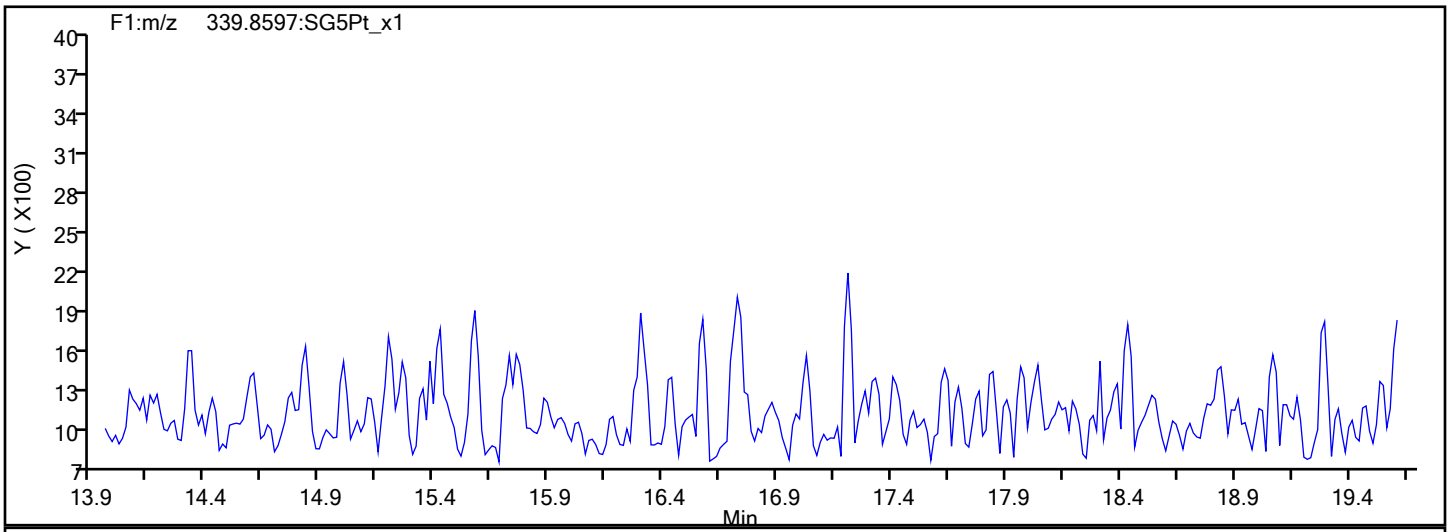

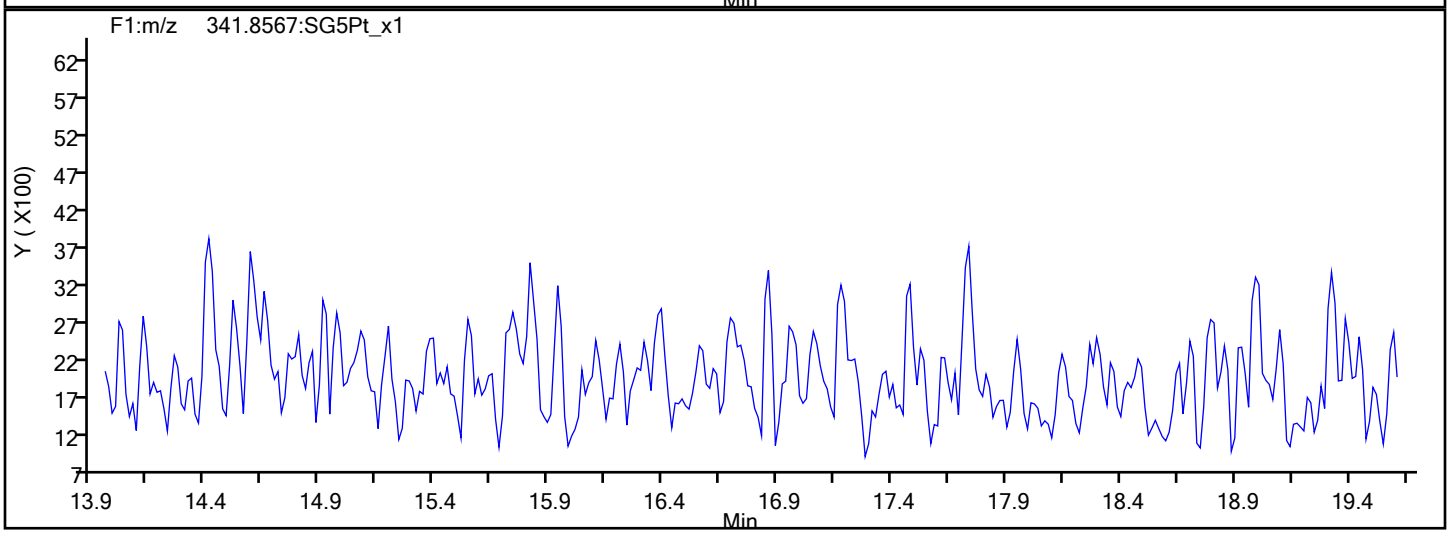

F1 PeCDFs Interference Mass

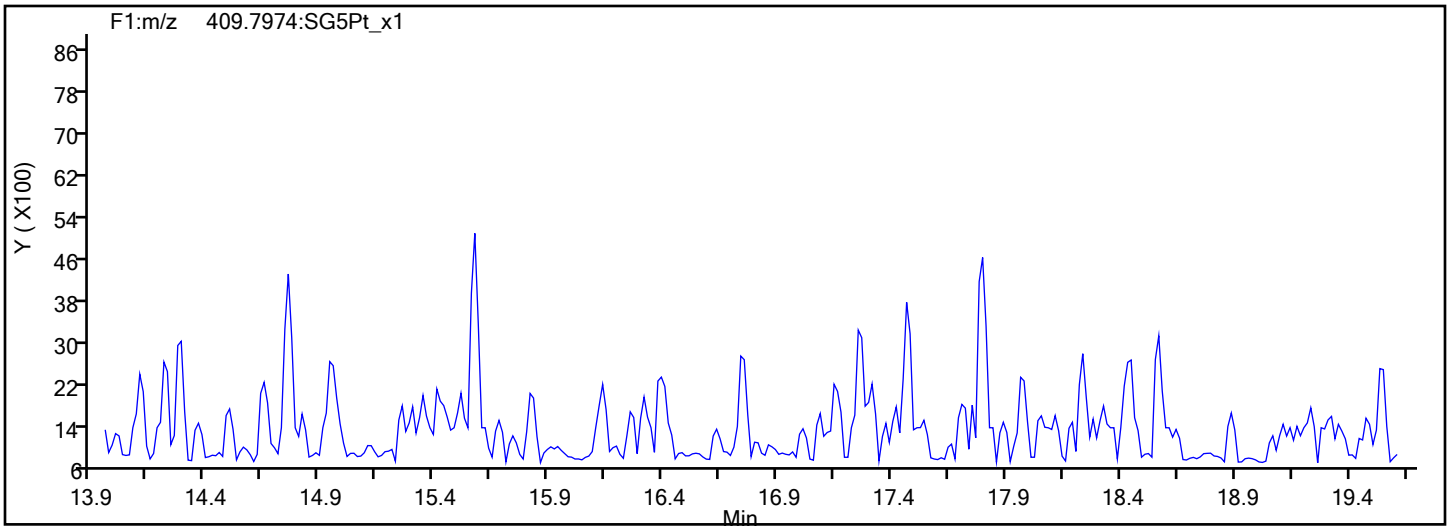

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
Injection Date:	17-Sep-2019 13:03:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

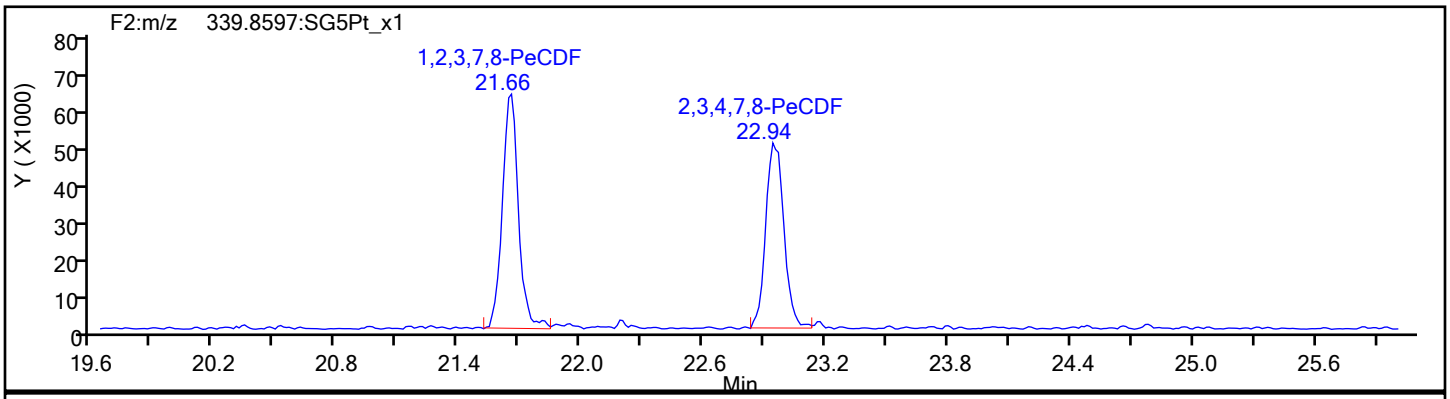

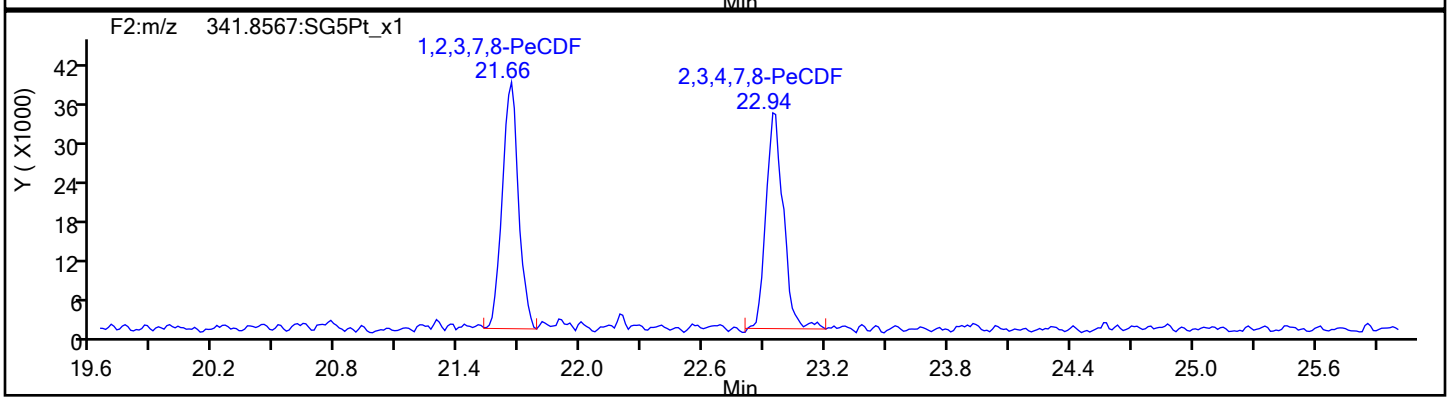

PeCDF Standards

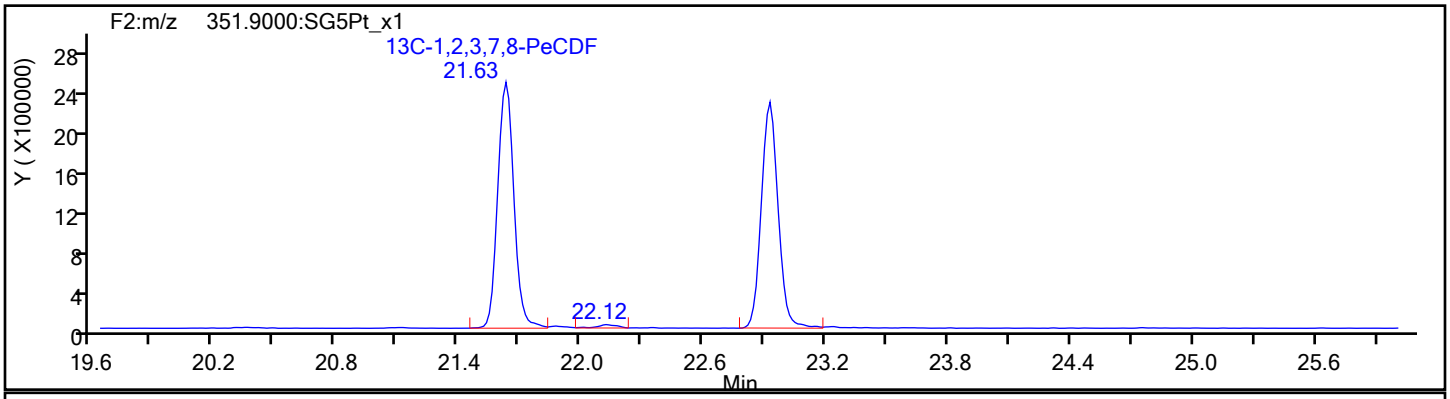

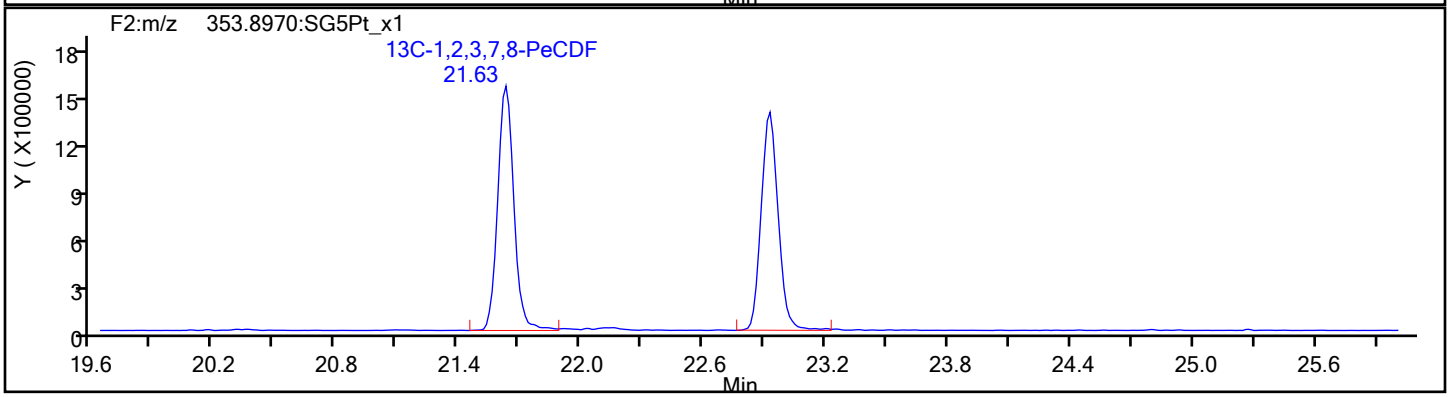

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
Injection Date:	17-Sep-2019 13:03:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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PeCDF

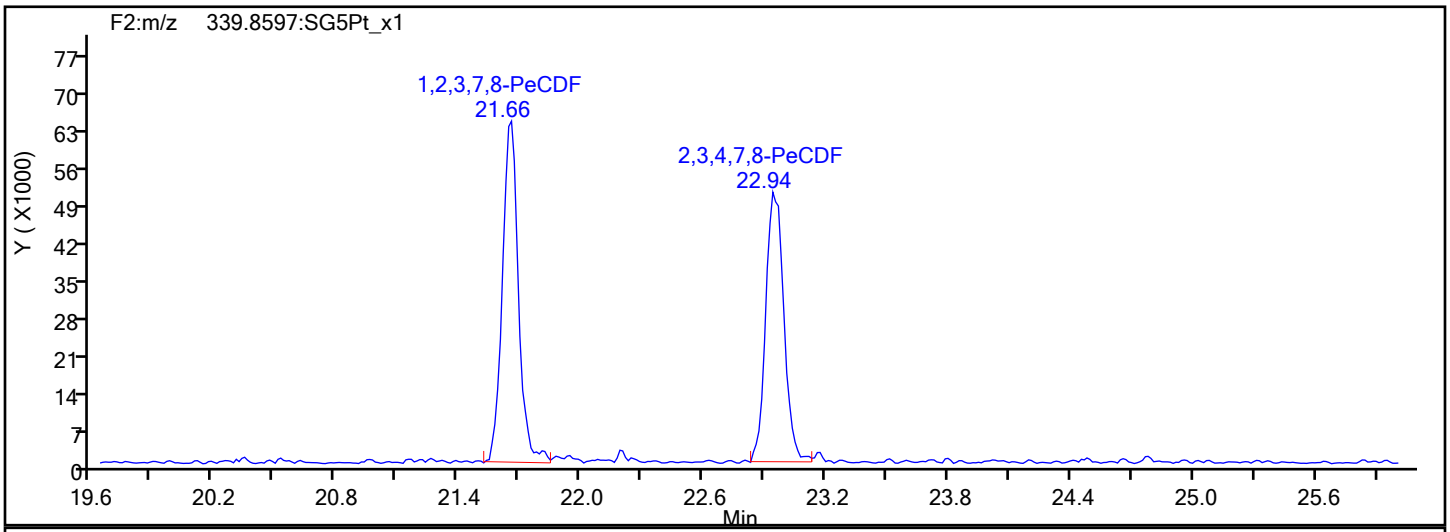

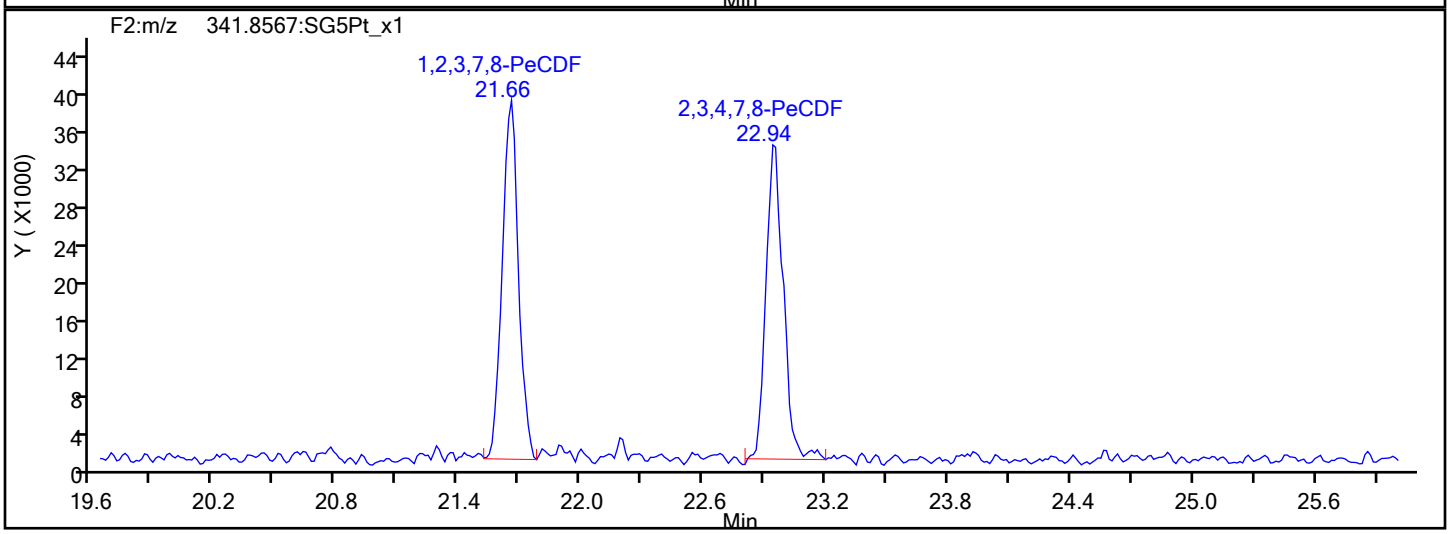

PeCDF Interference Mass

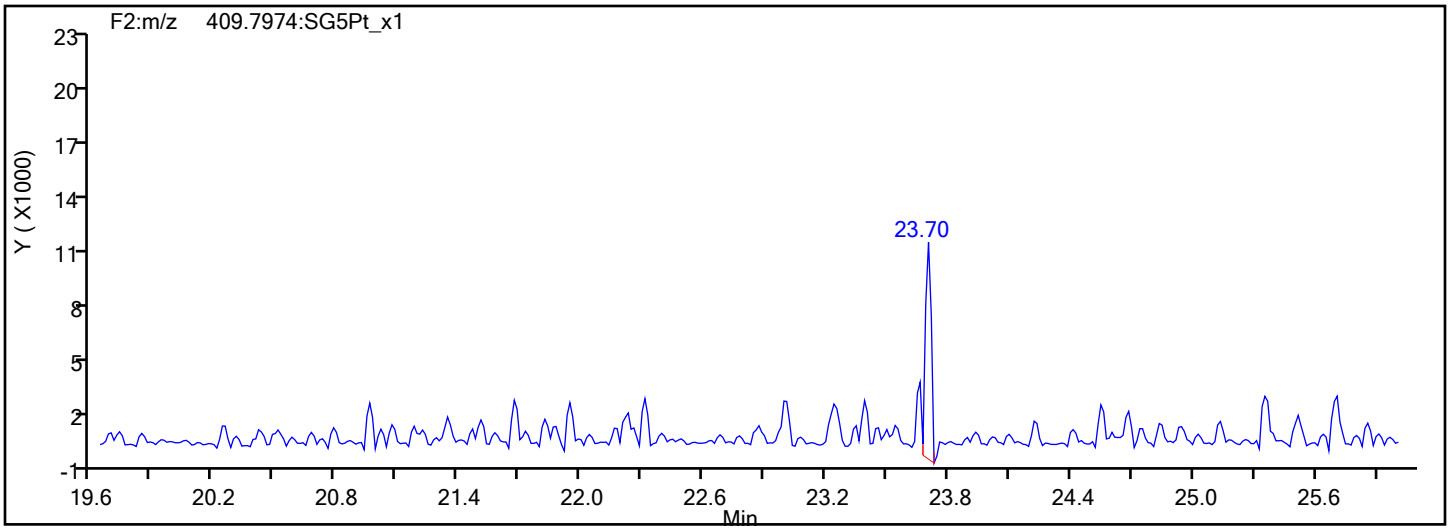

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
Injection Date:	17-Sep-2019 13:03:20	Injection Vol:	2.0 ul
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

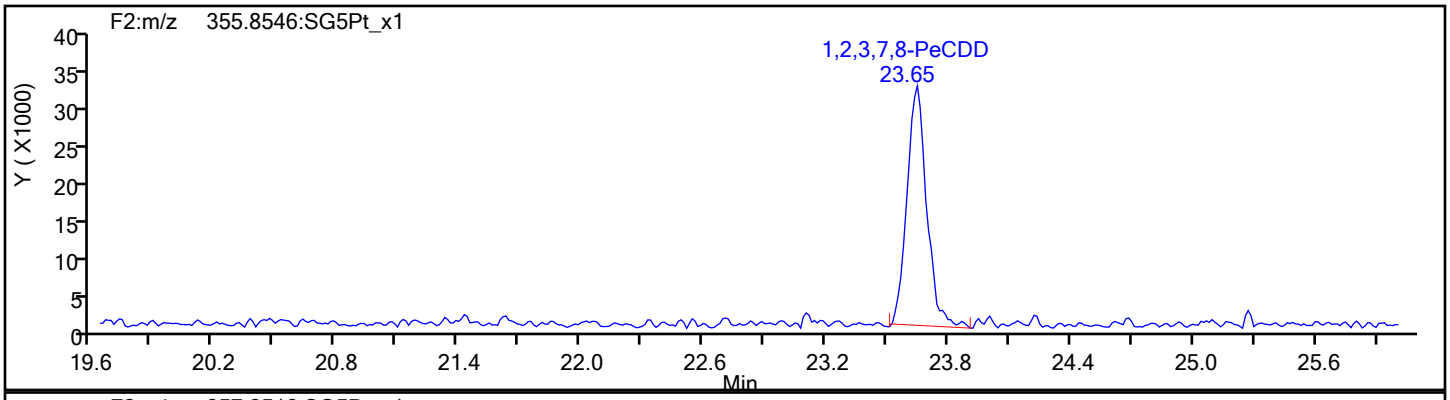

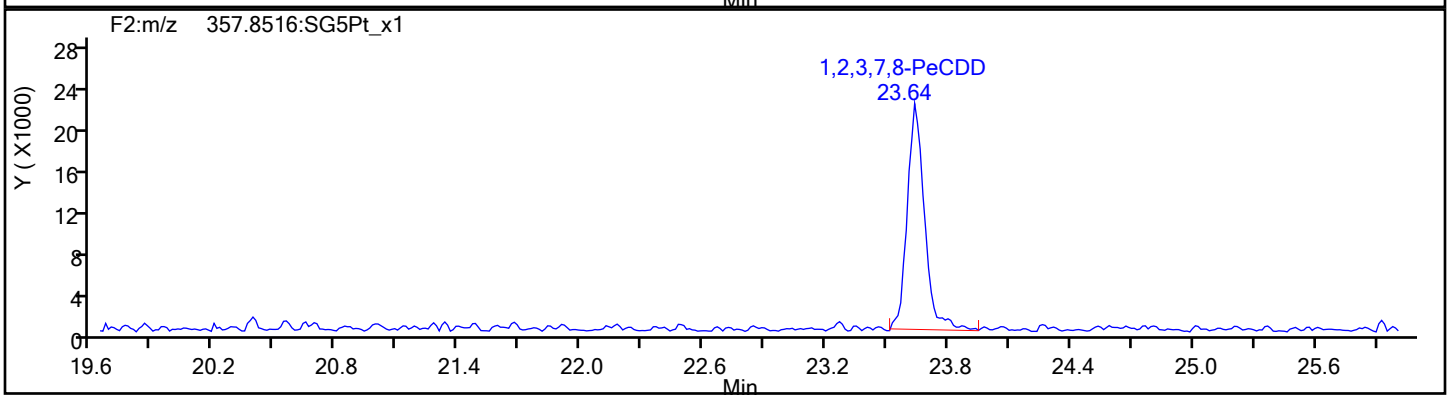

PeCDD Standards

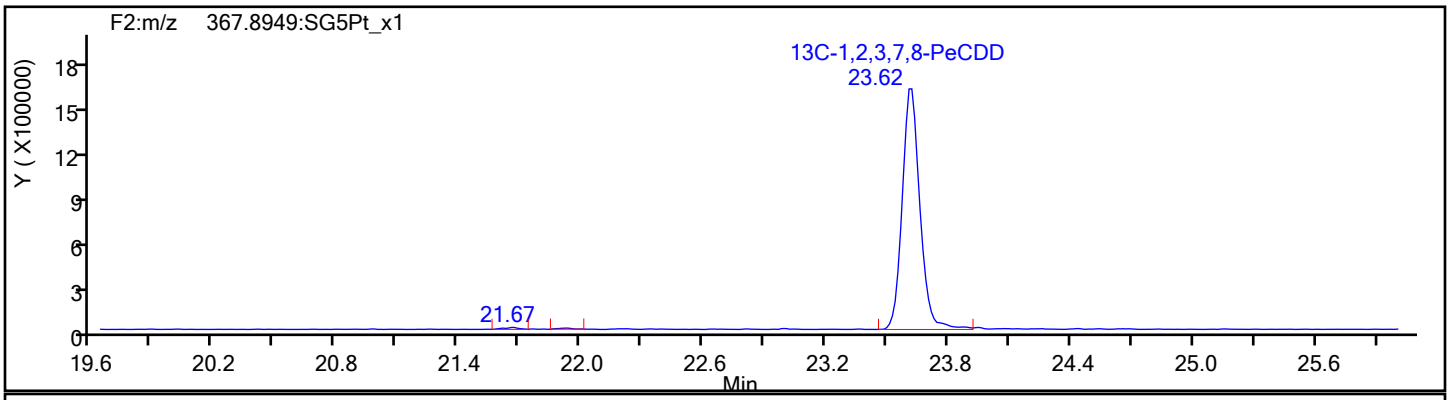

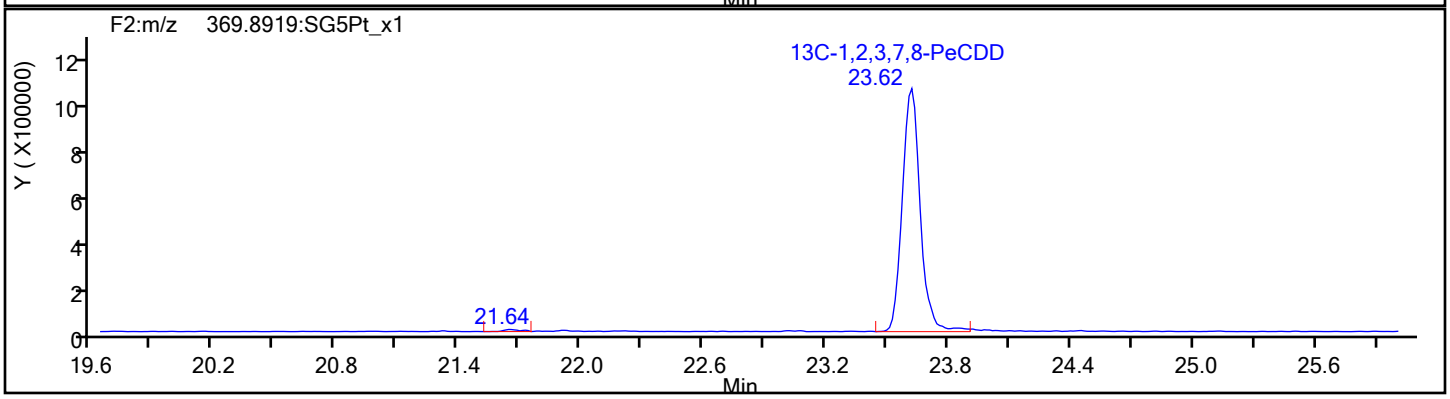

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
Injection Date:	17-Sep-2019 13:03:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

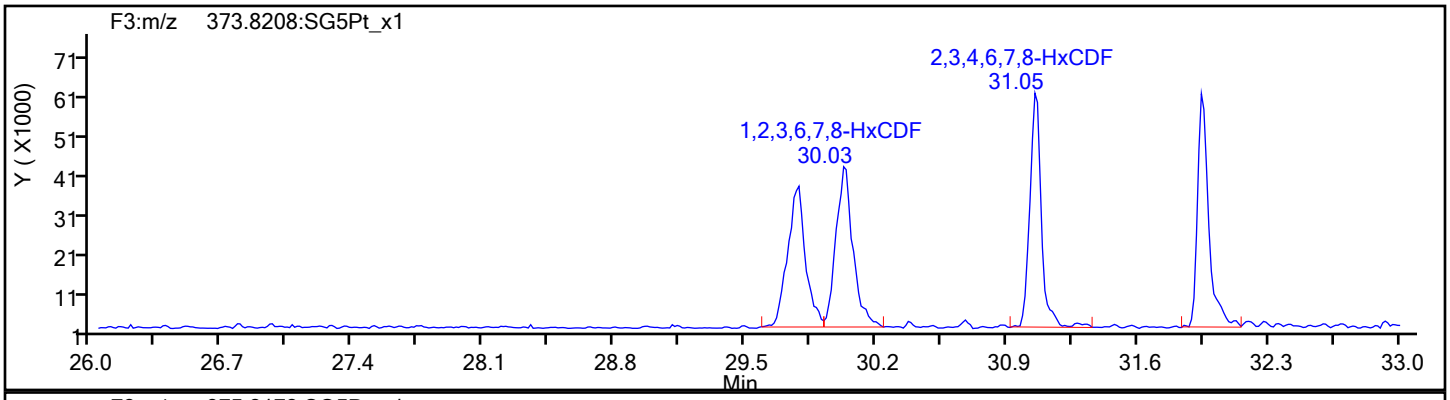

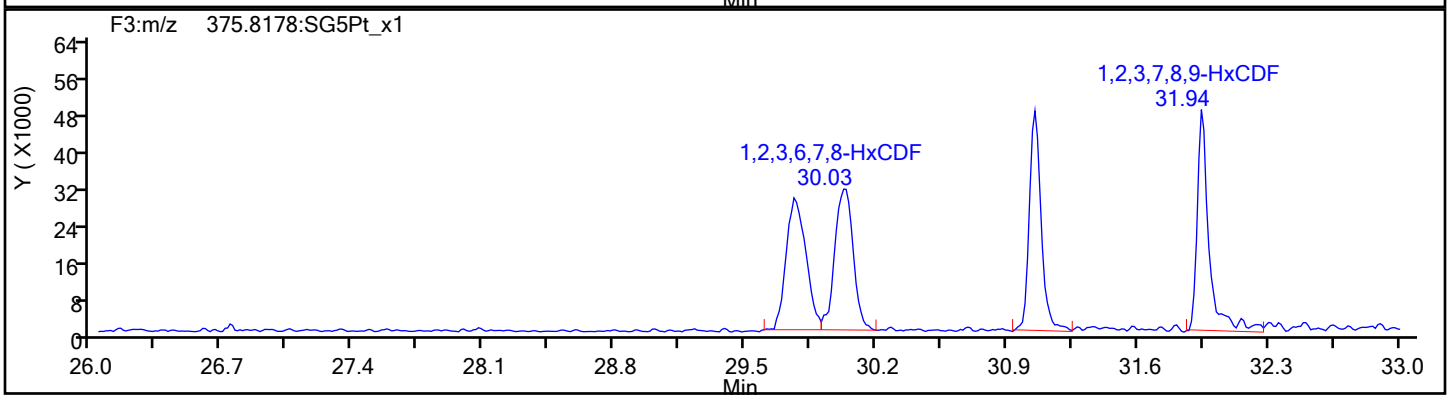

HxCDF Standards

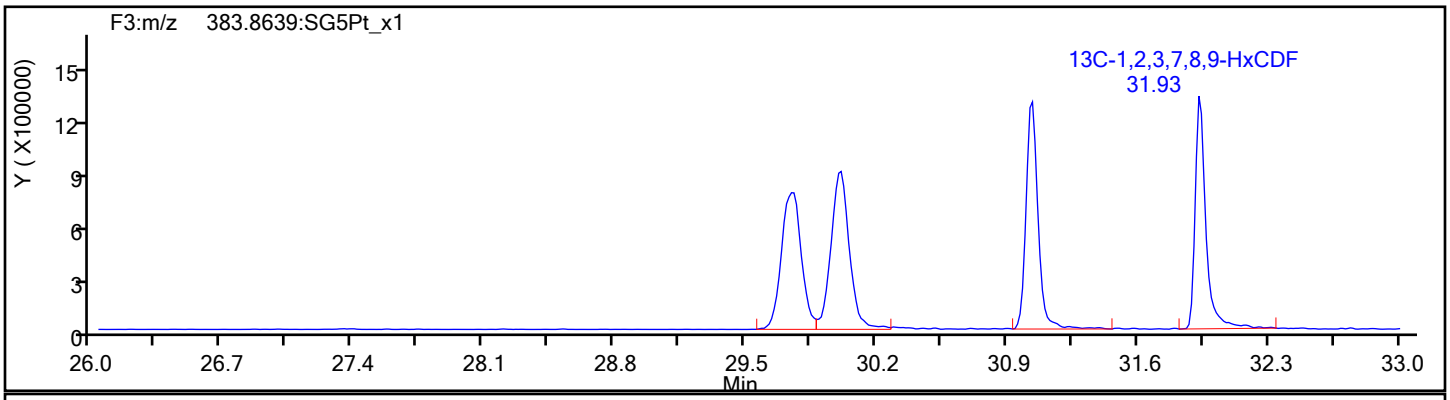

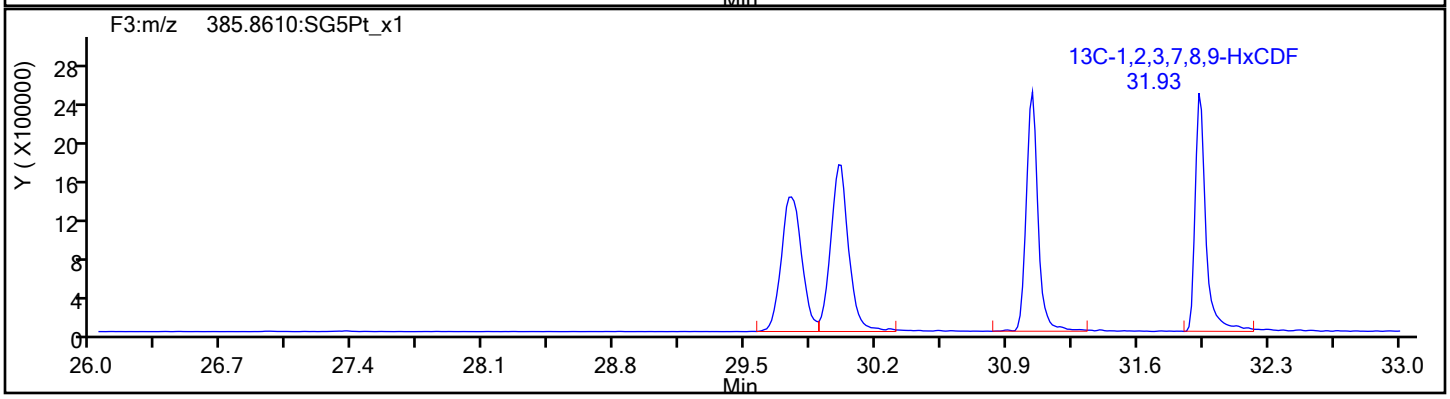

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
Injection Date:	17-Sep-2019 13:03:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

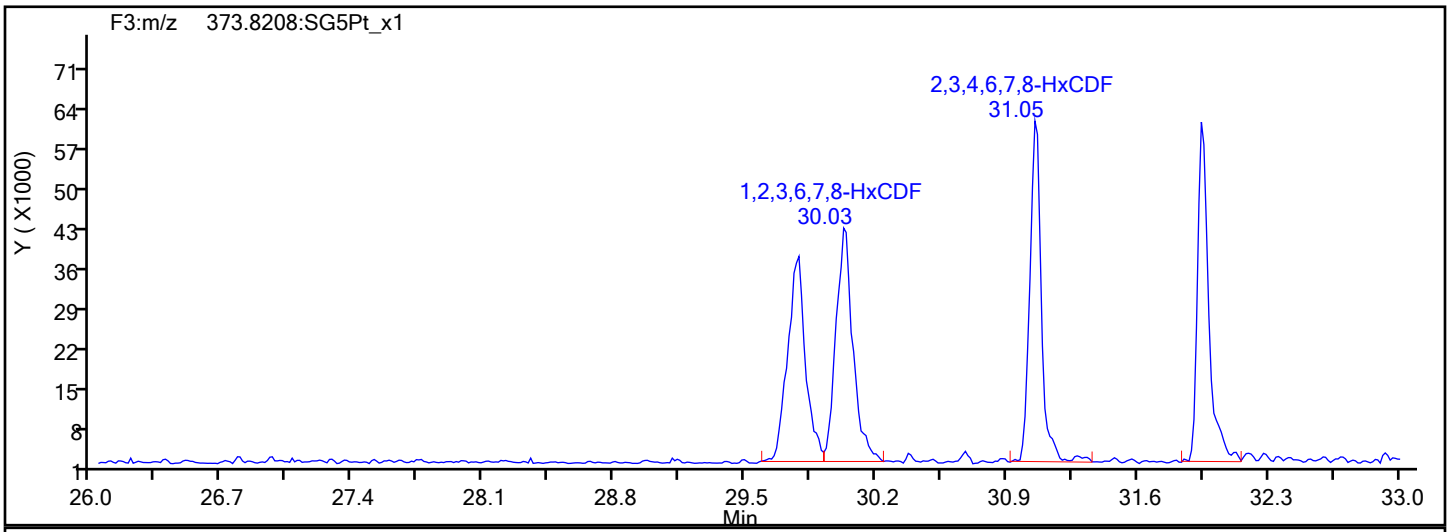

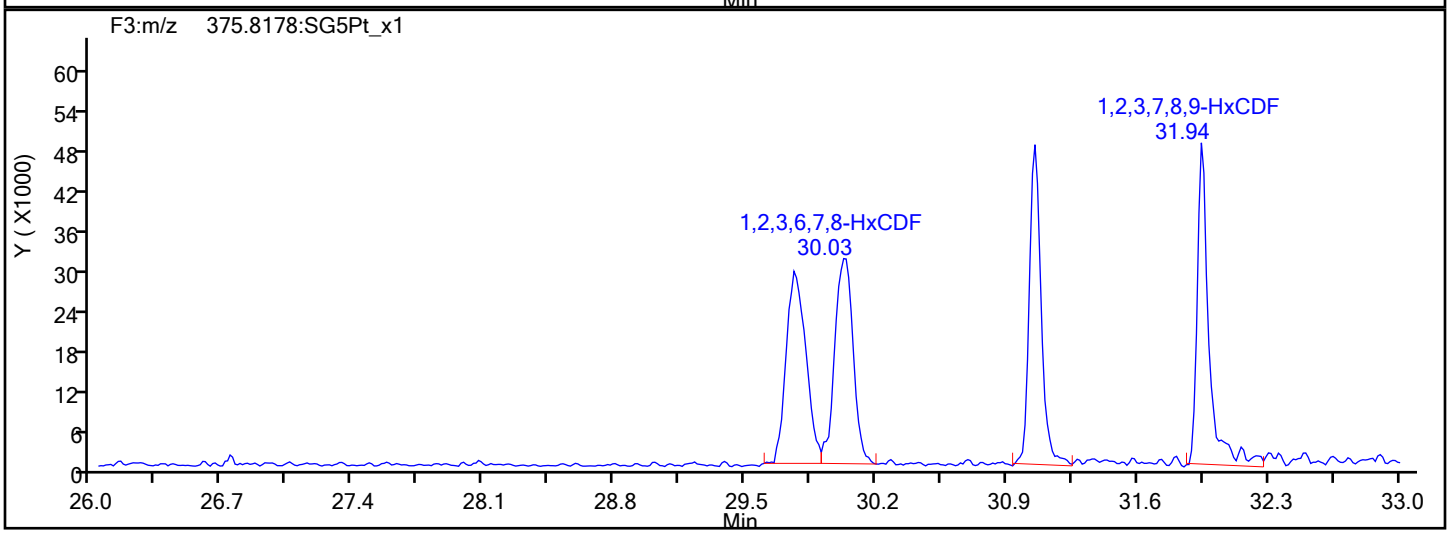

HxCDF Interference Mass

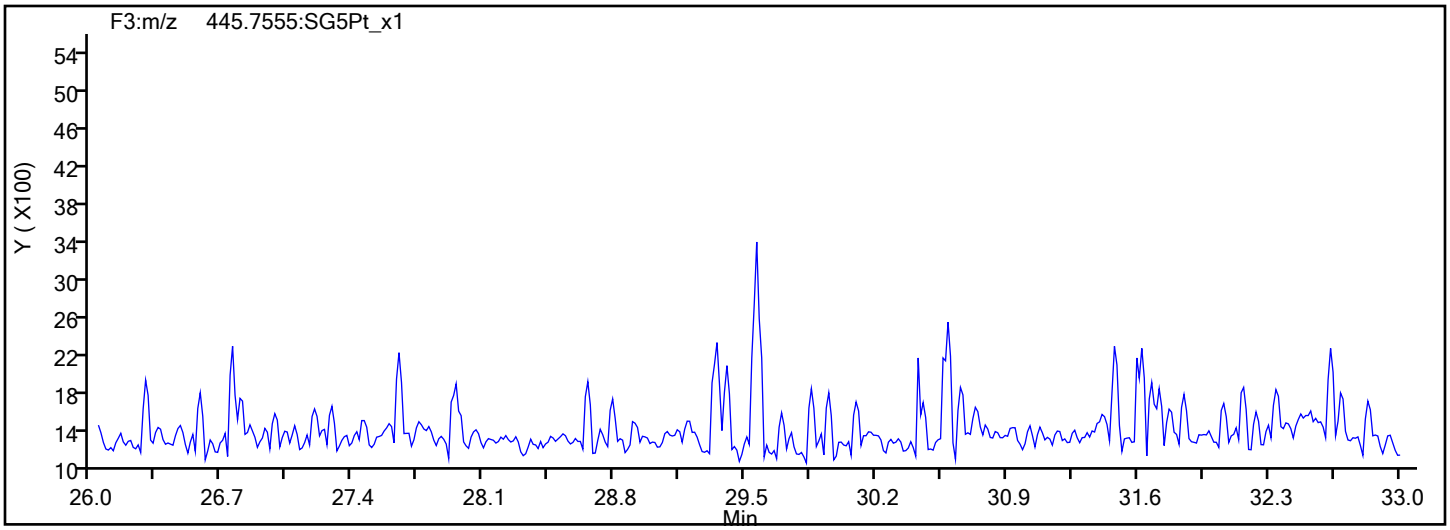

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

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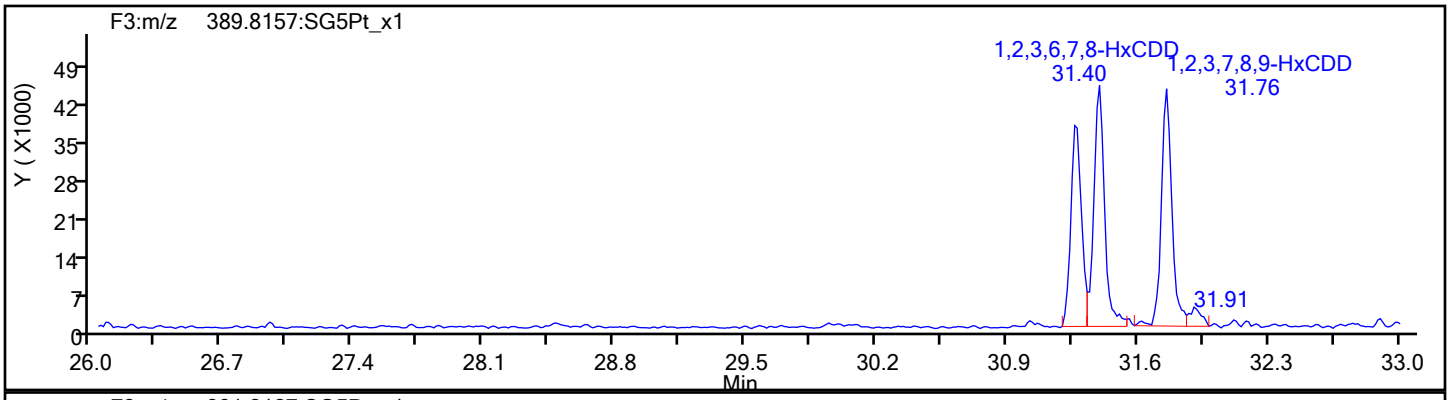

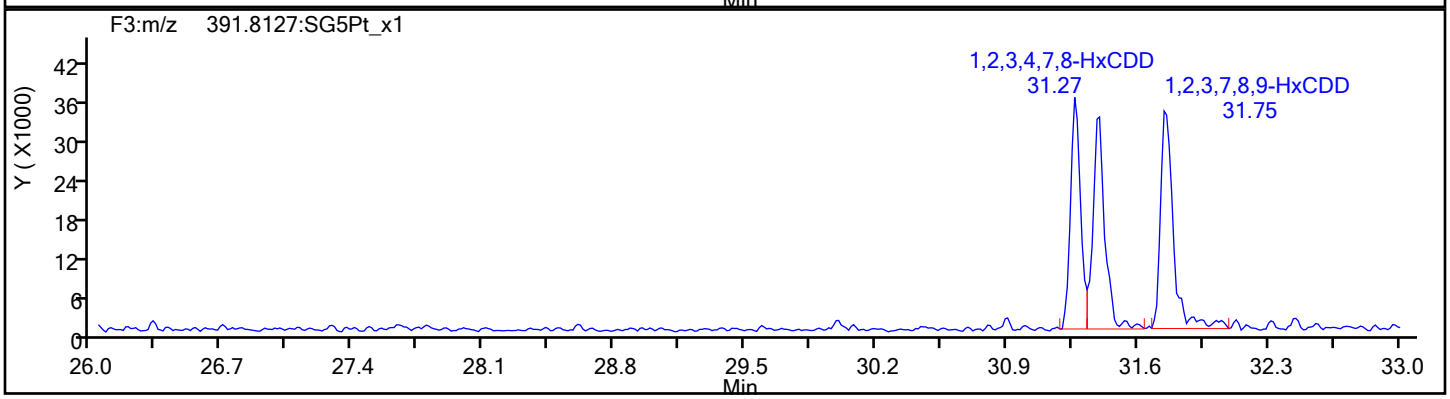

HxCDD Standards

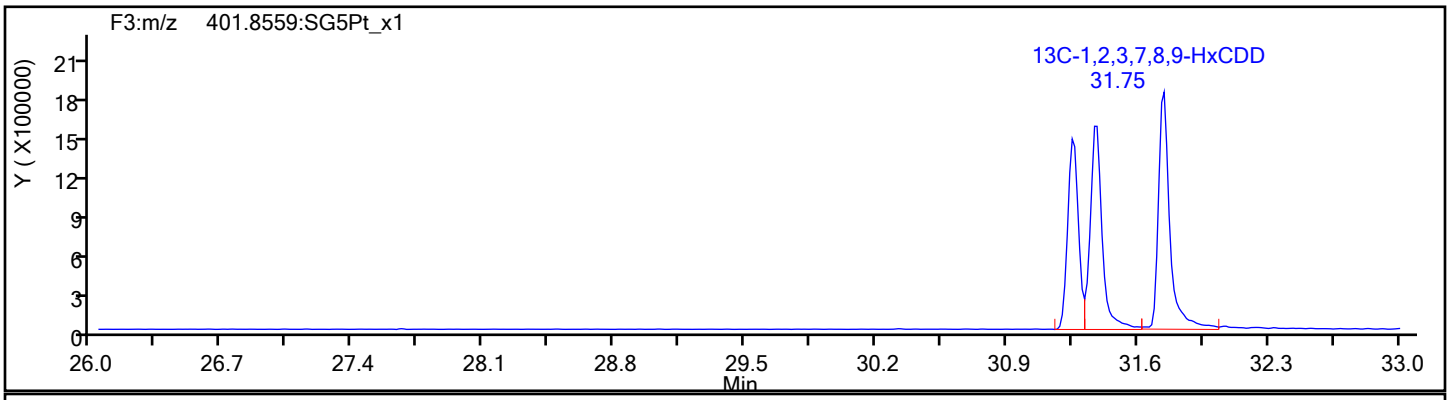

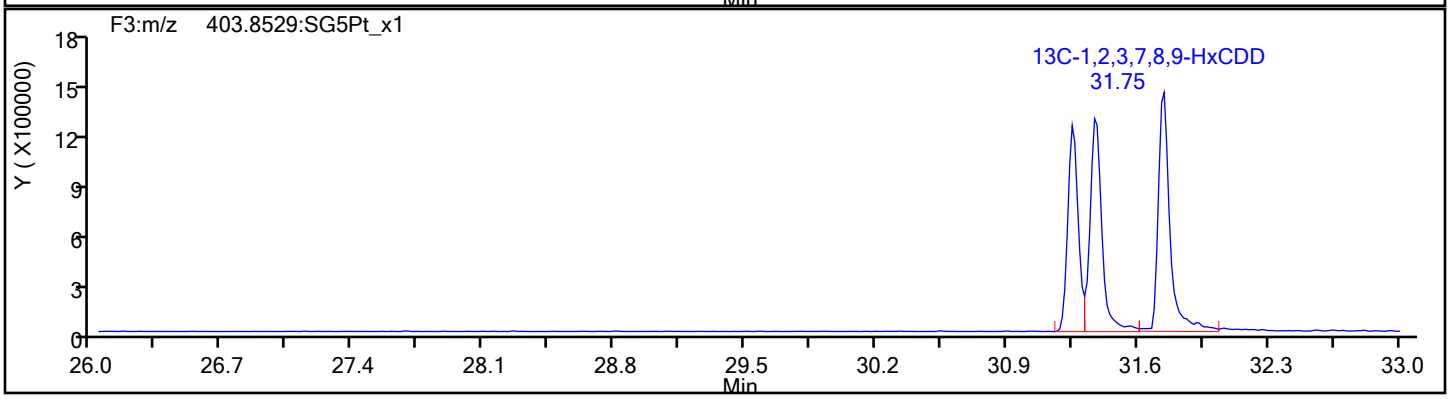

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
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HpCDF

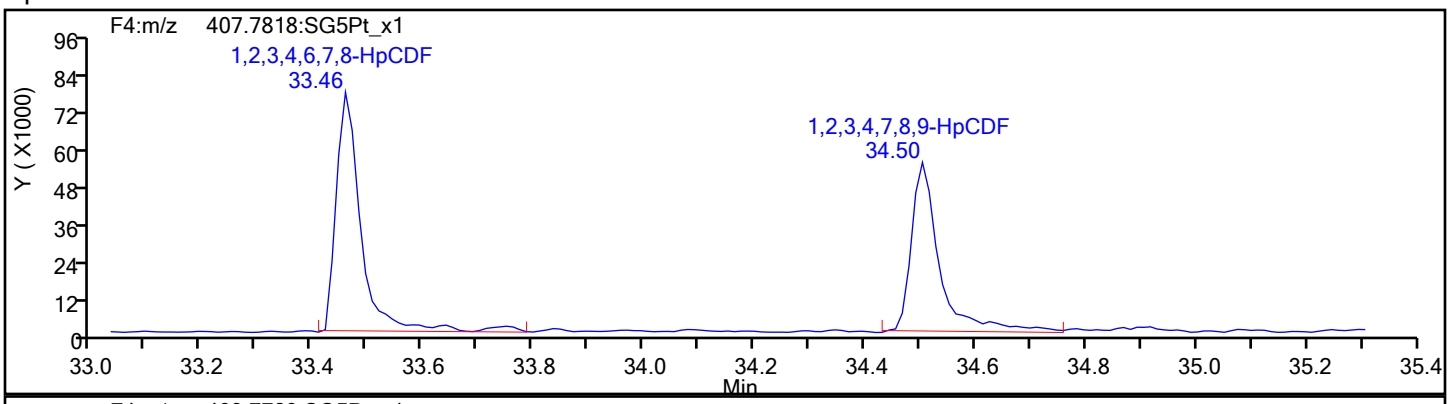

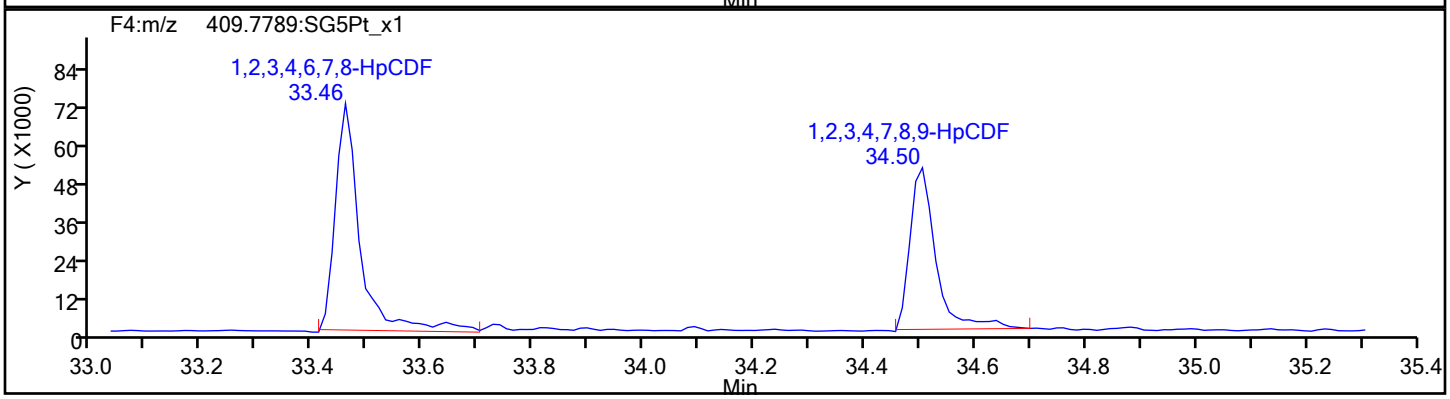

HpCDF Standards

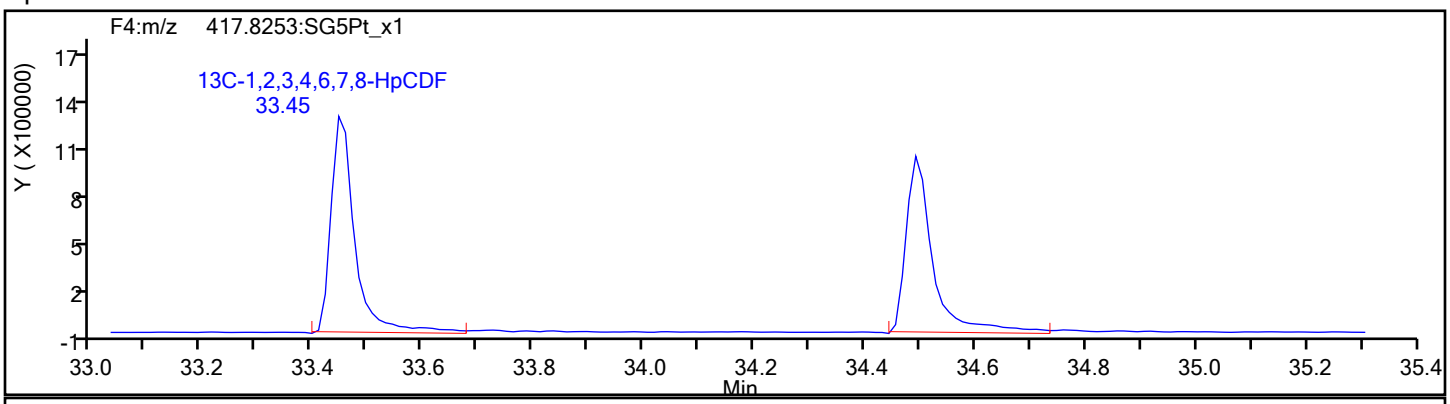

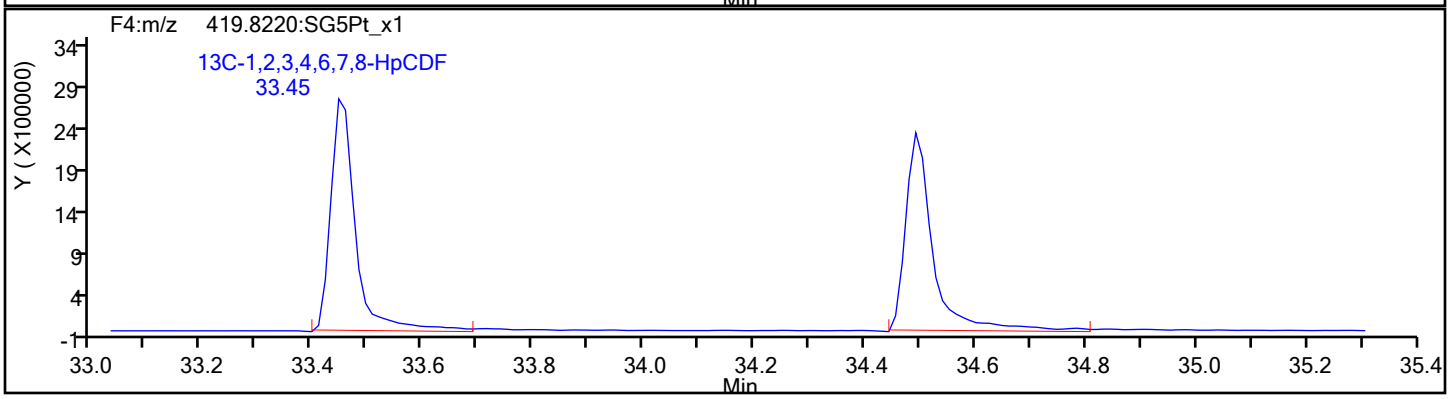

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

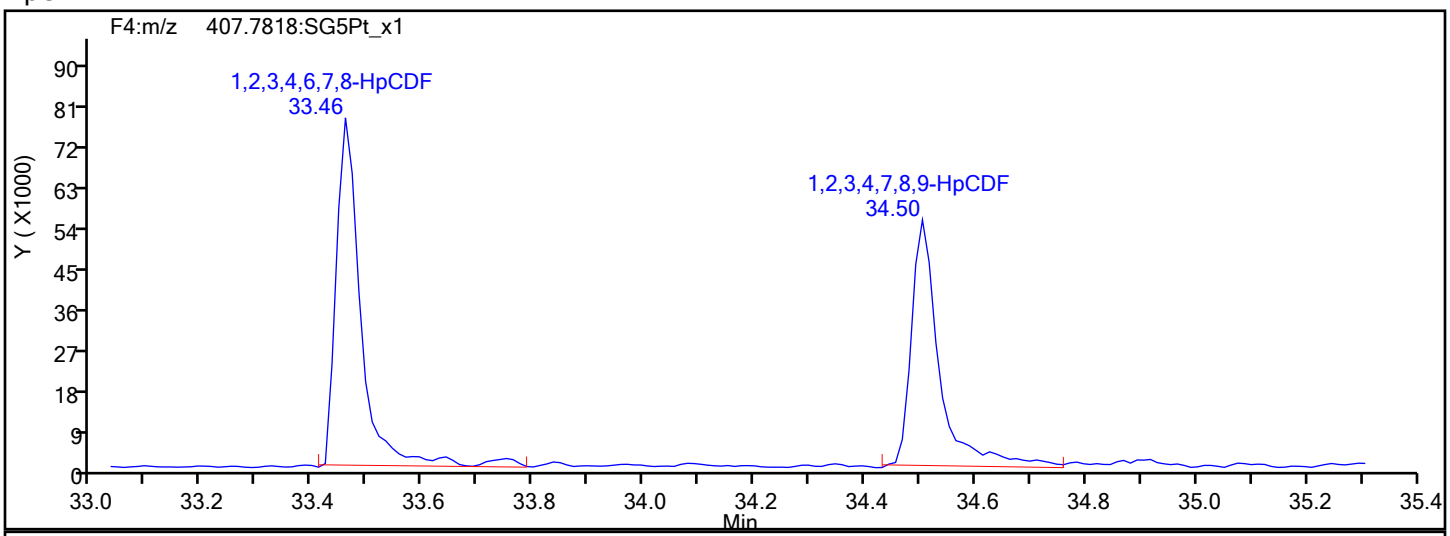

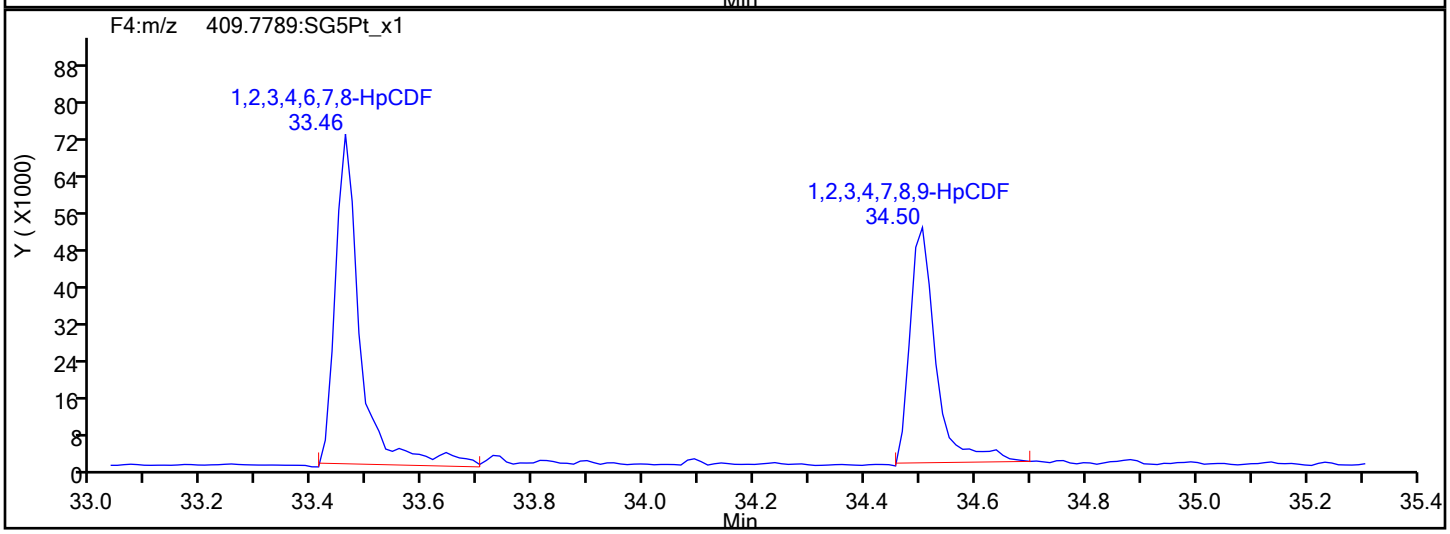

HpCDF Interference Mass

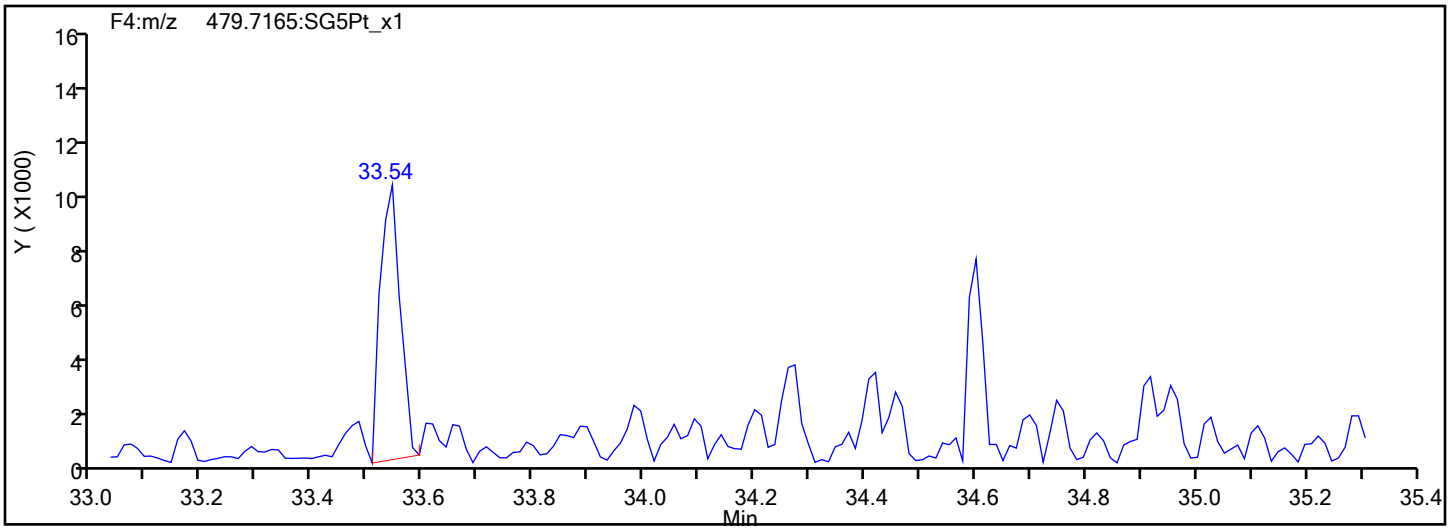

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

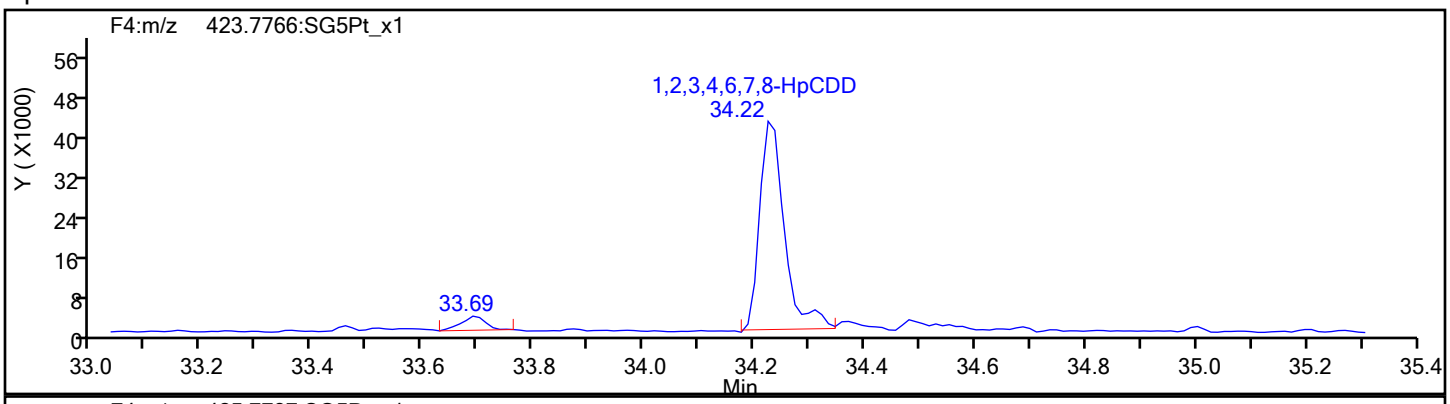

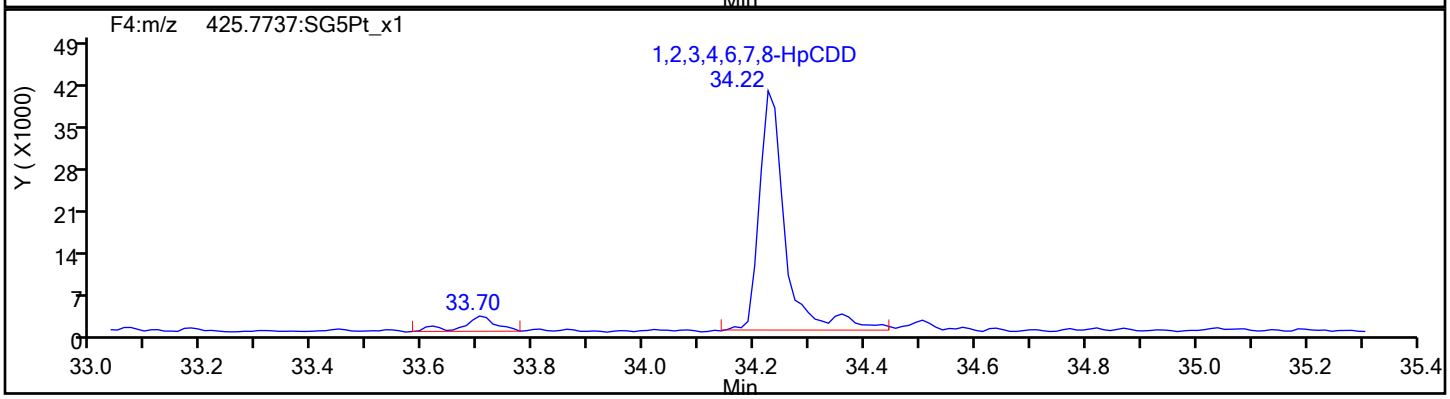

HpCDD Standards

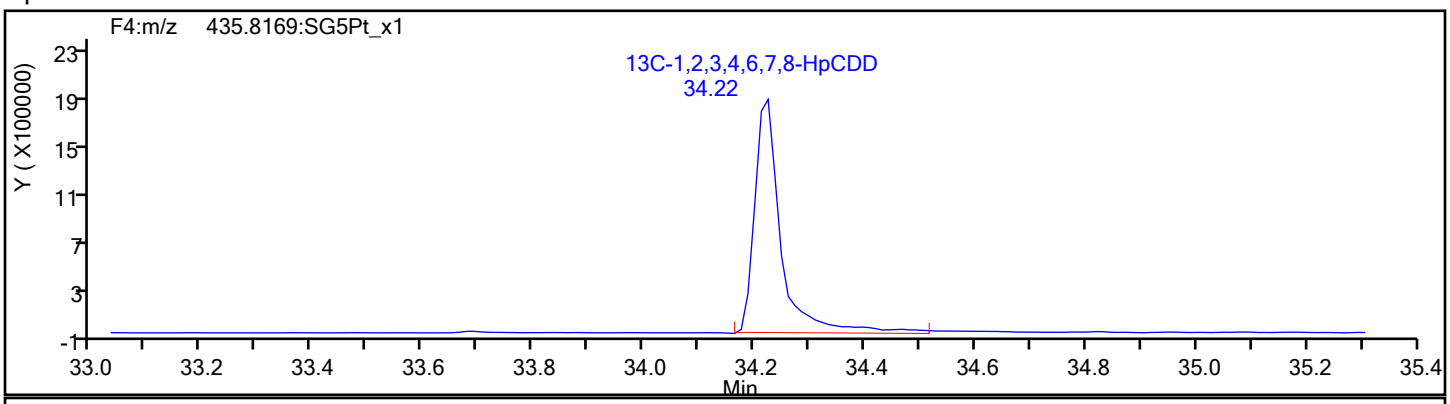

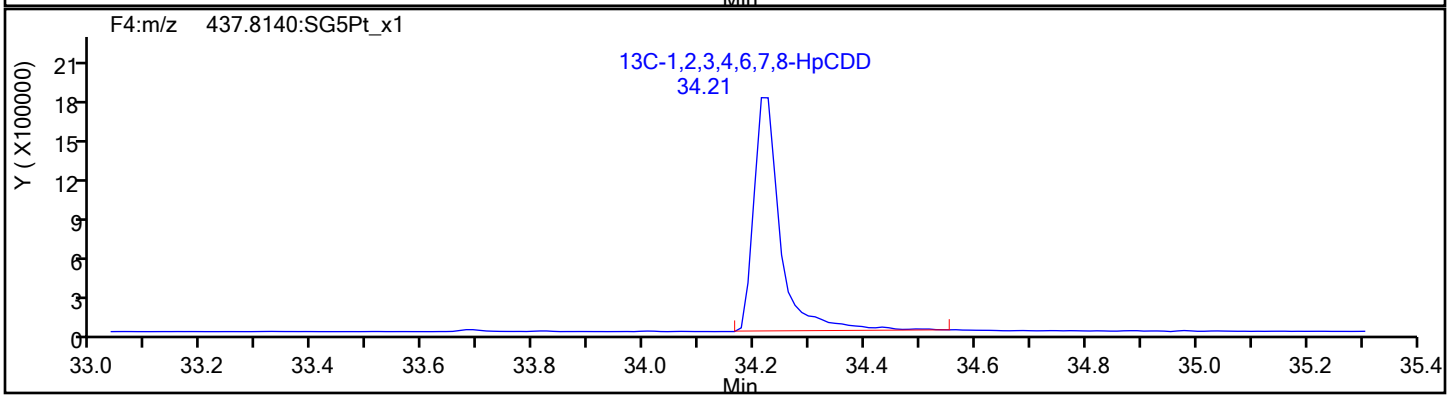

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Client ID:			
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OCDF

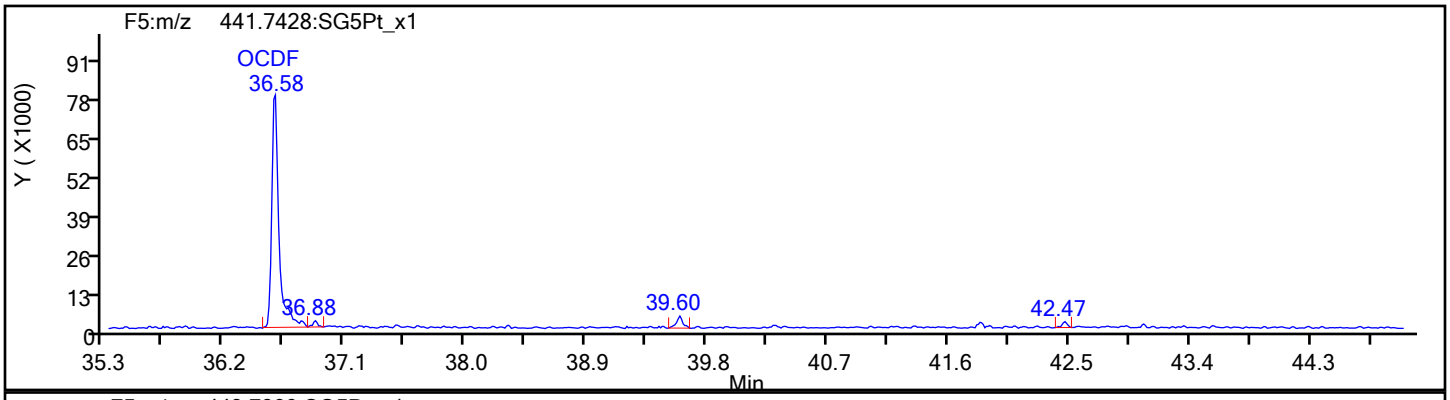

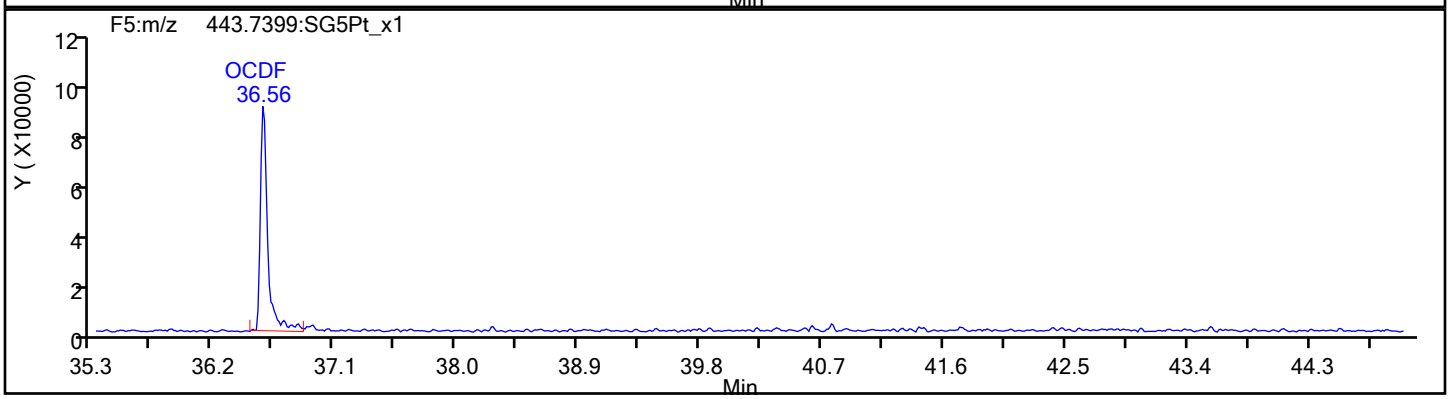

OCDF Standards

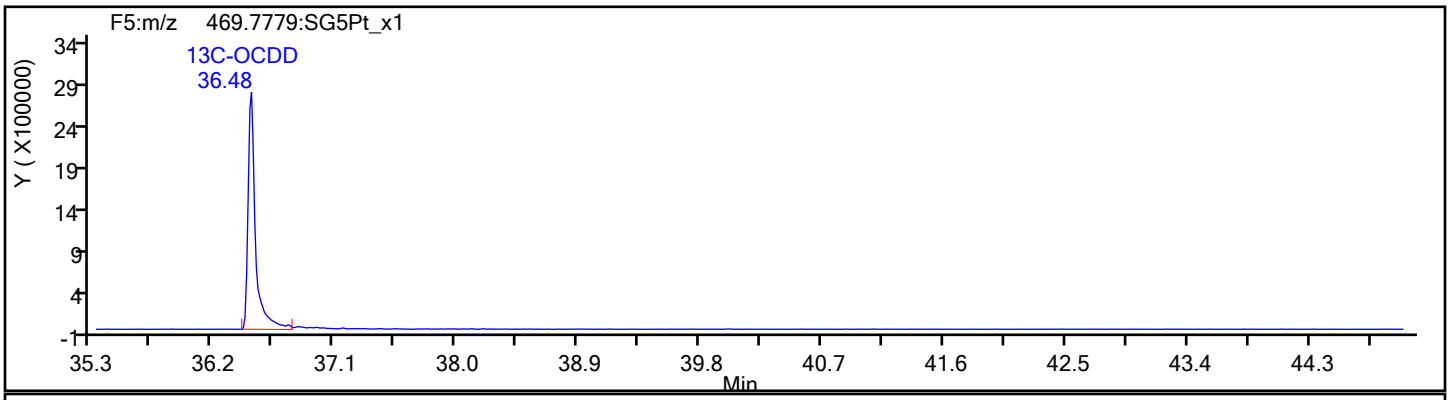

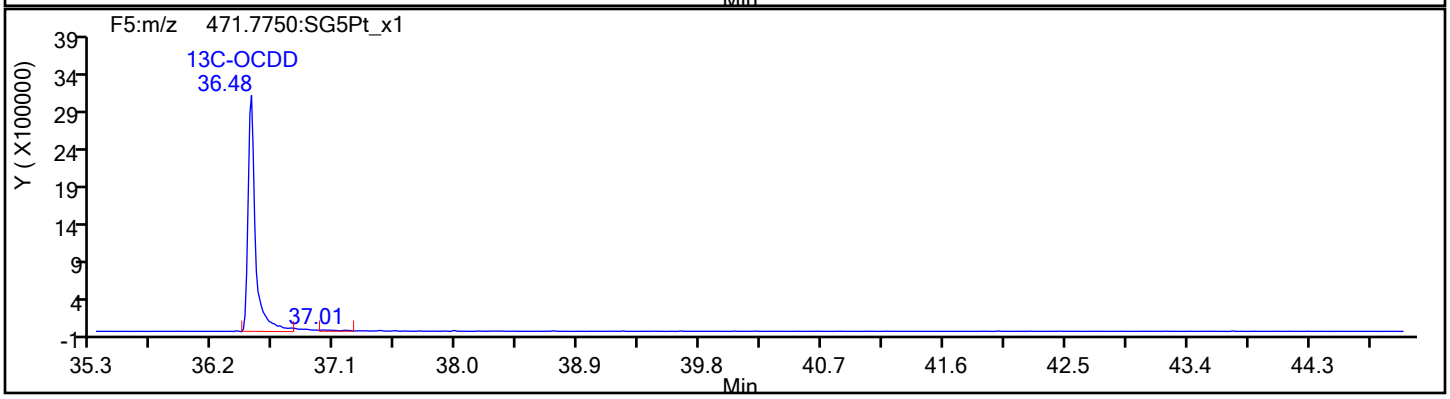

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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OCDF

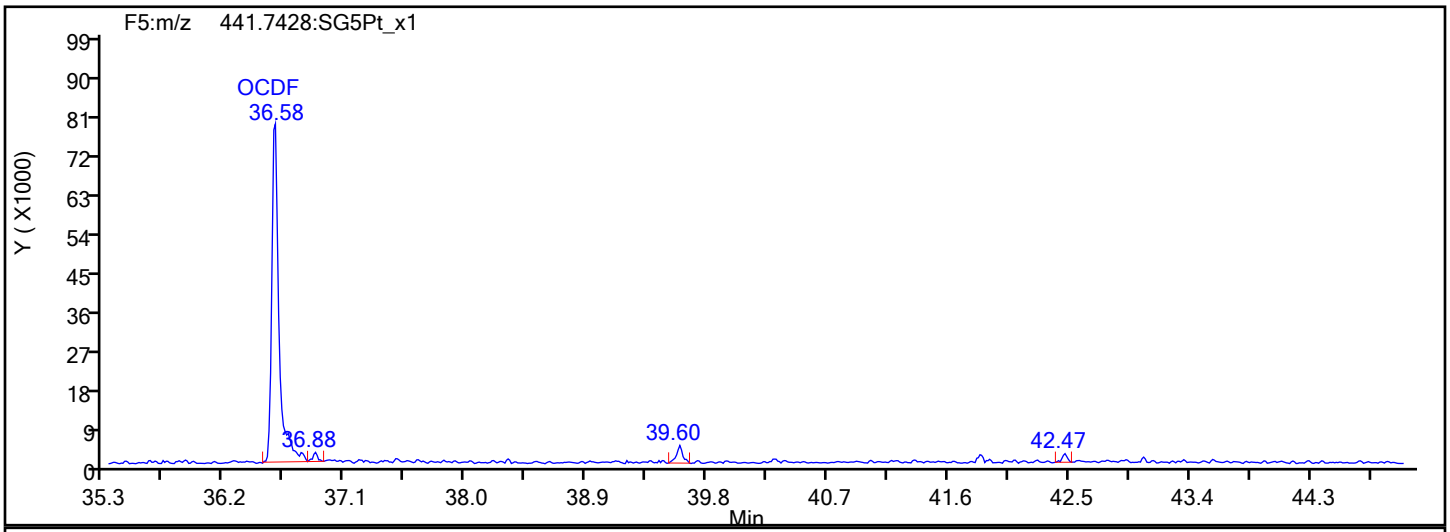

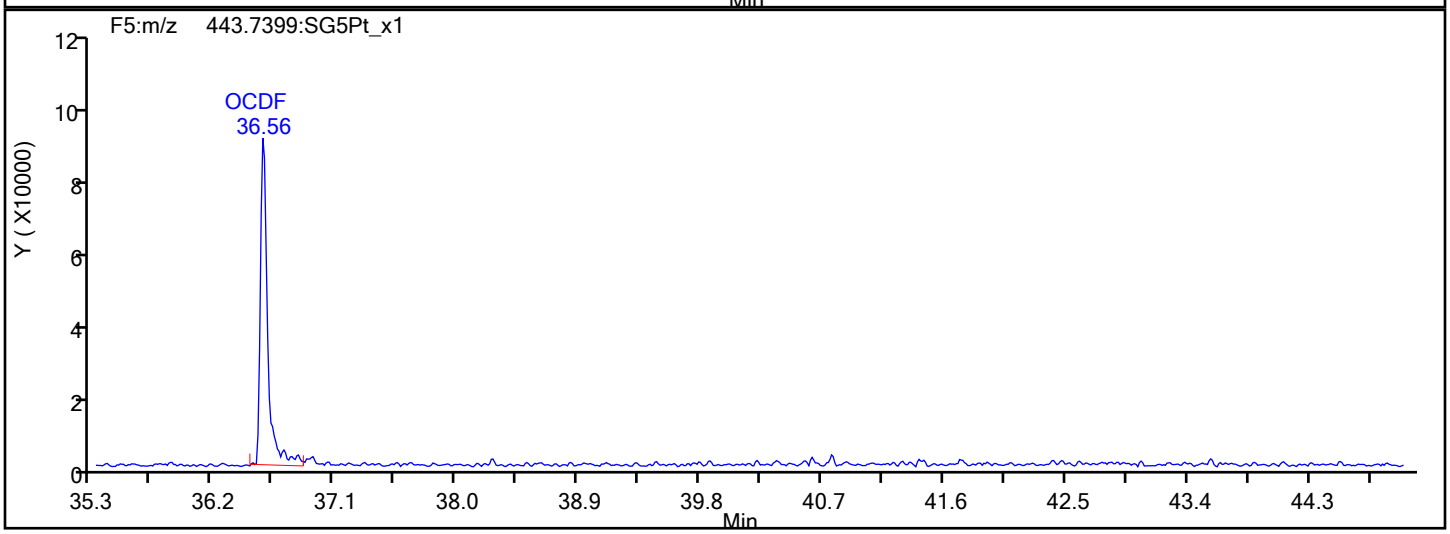

OCDF Interference Mass

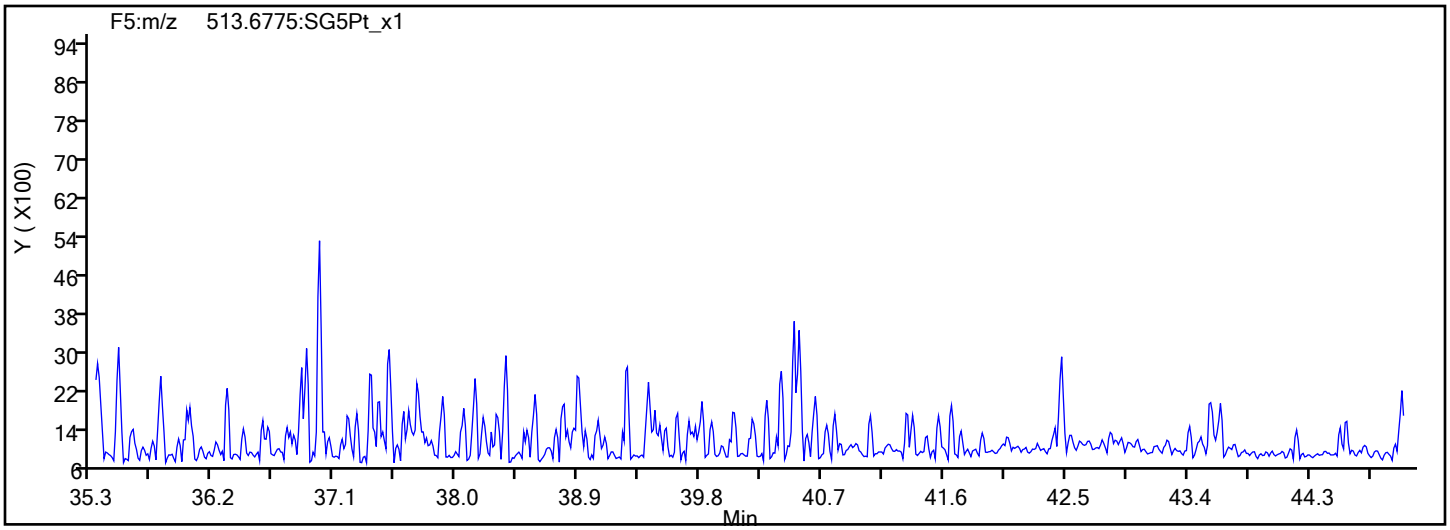

Report Date: 18-Sep-2019 10:22:16 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
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Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

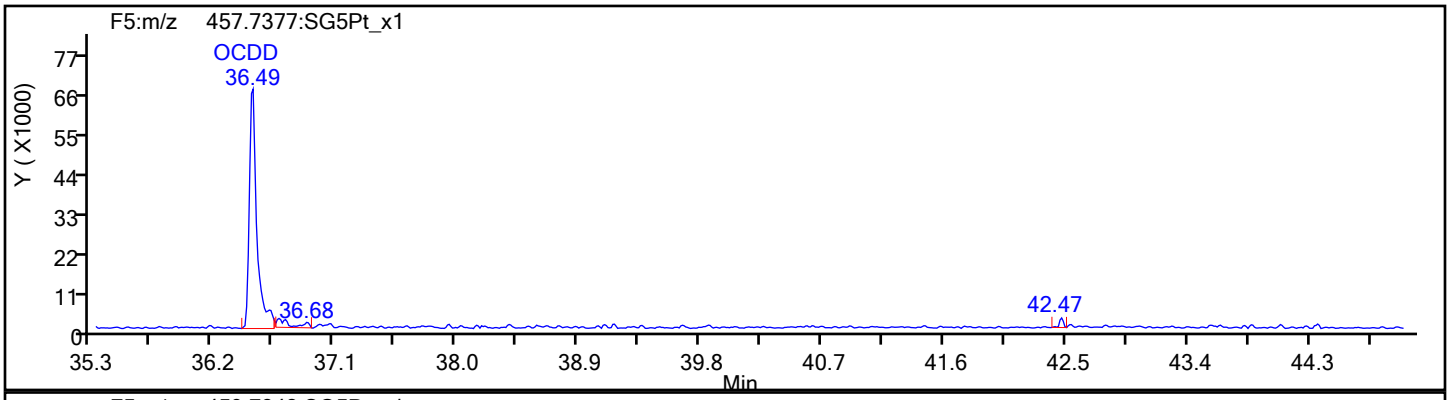

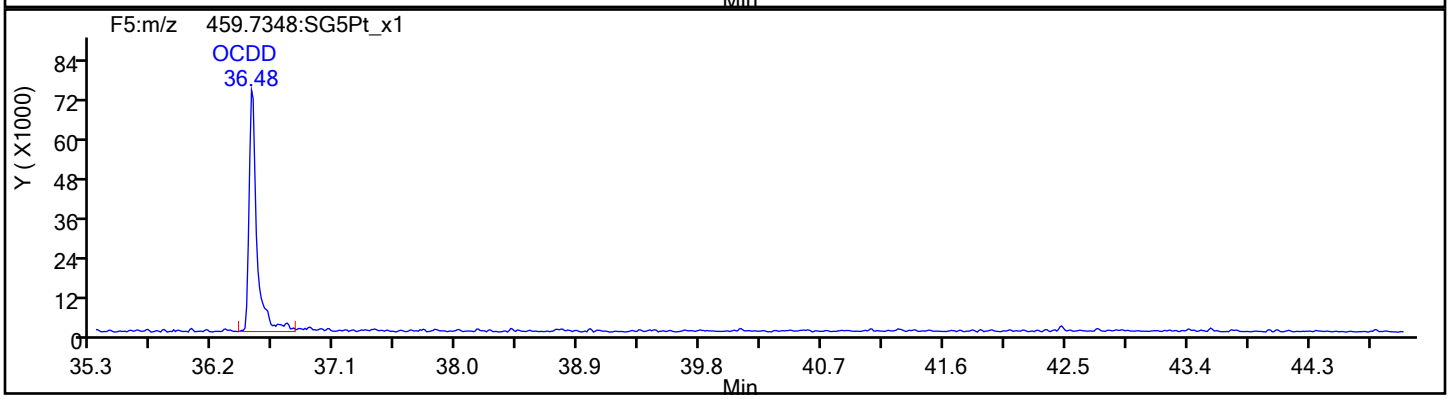

OCDD Standards

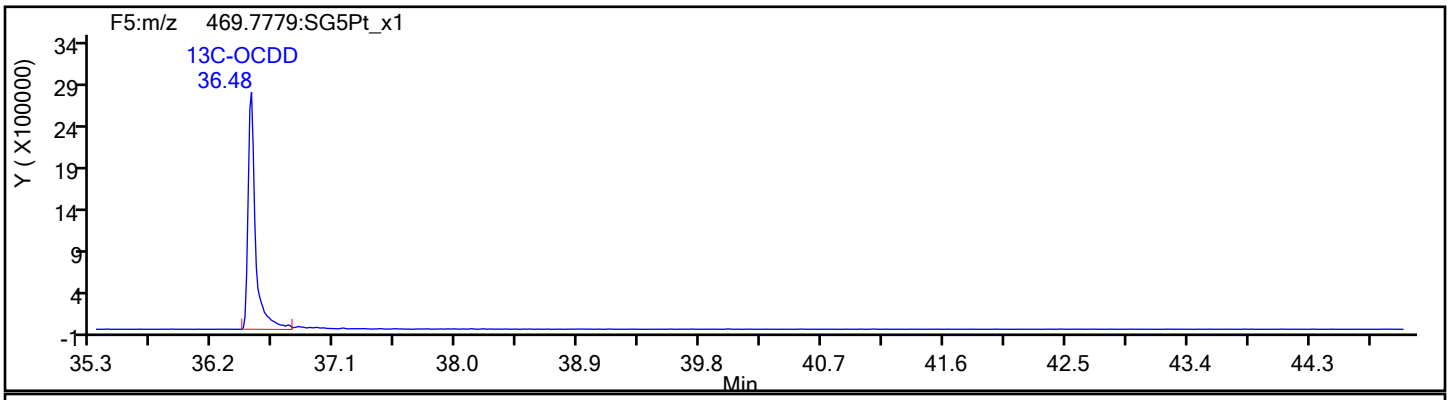

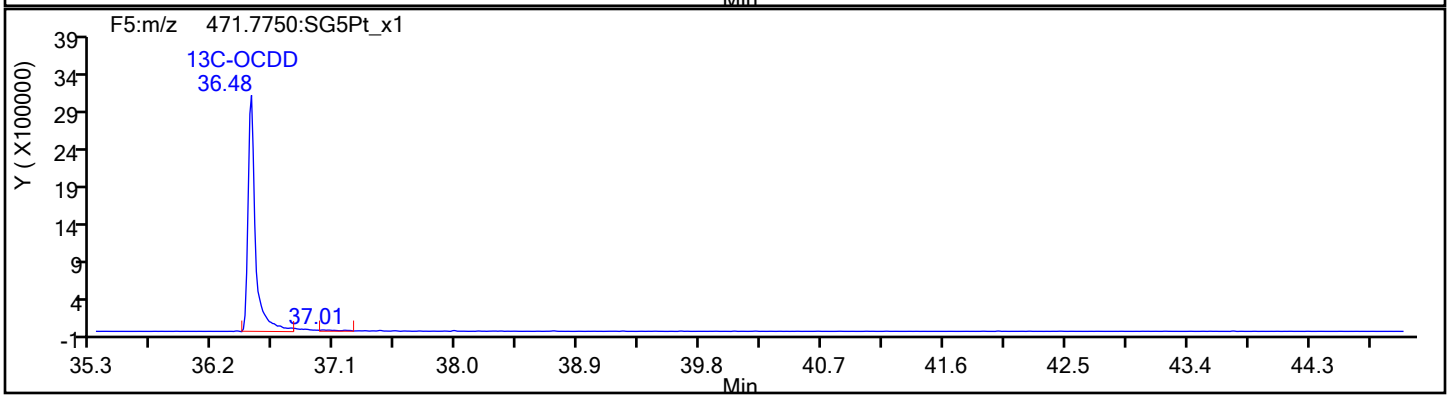

Report Date: 18-Sep-2019 10:22:16 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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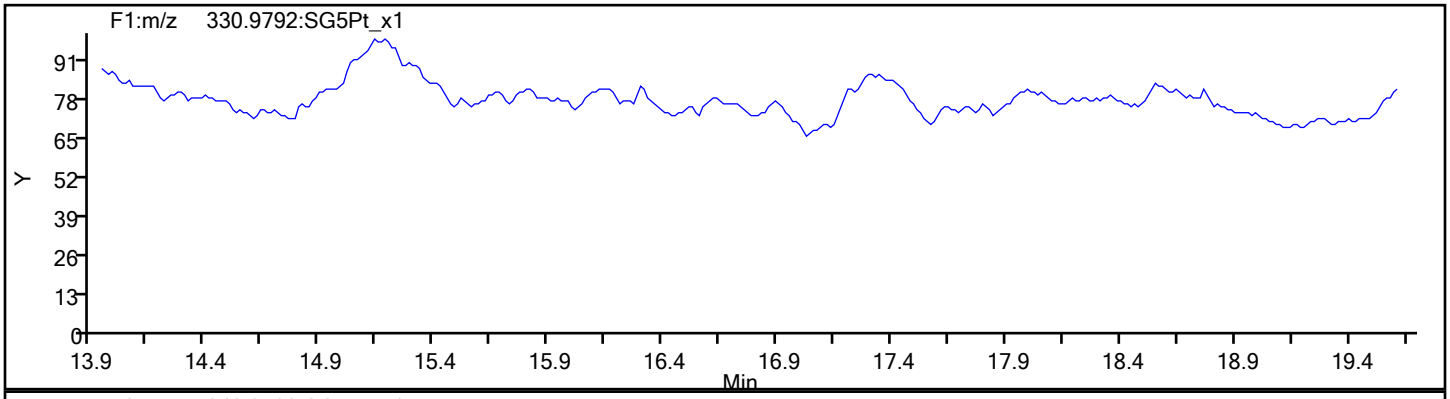

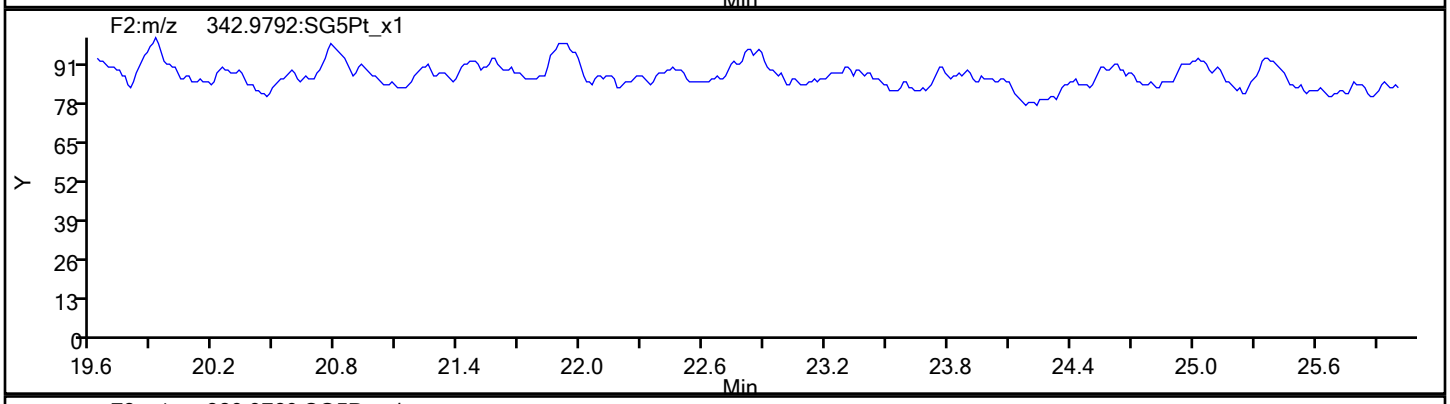

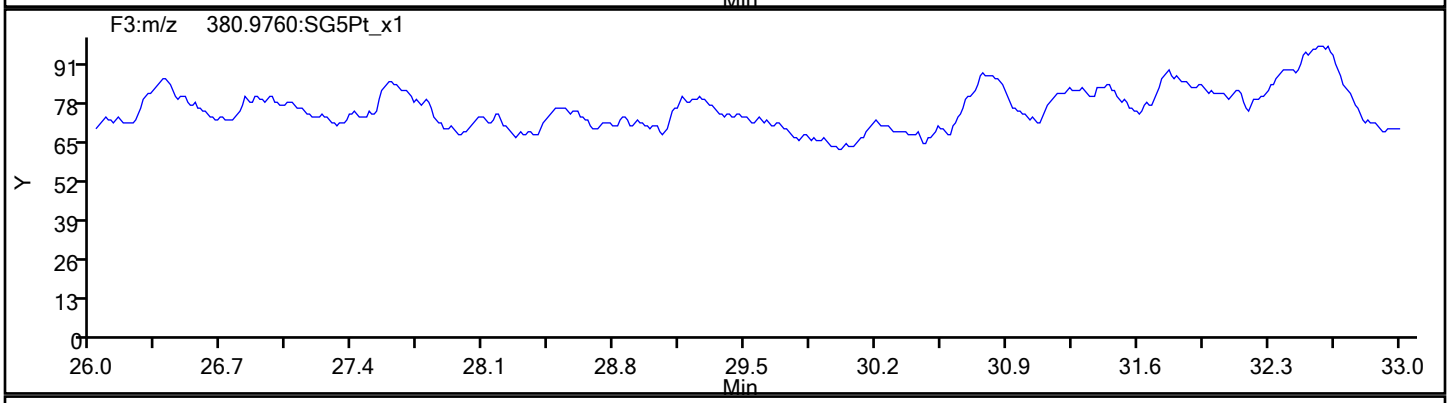

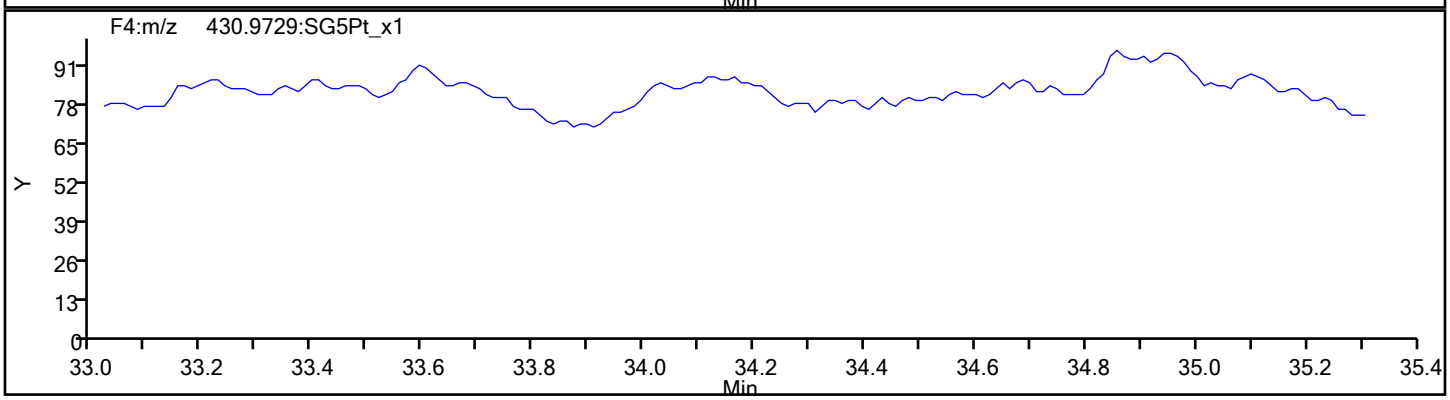

Report Date: 18-Sep-2019 10:22:16 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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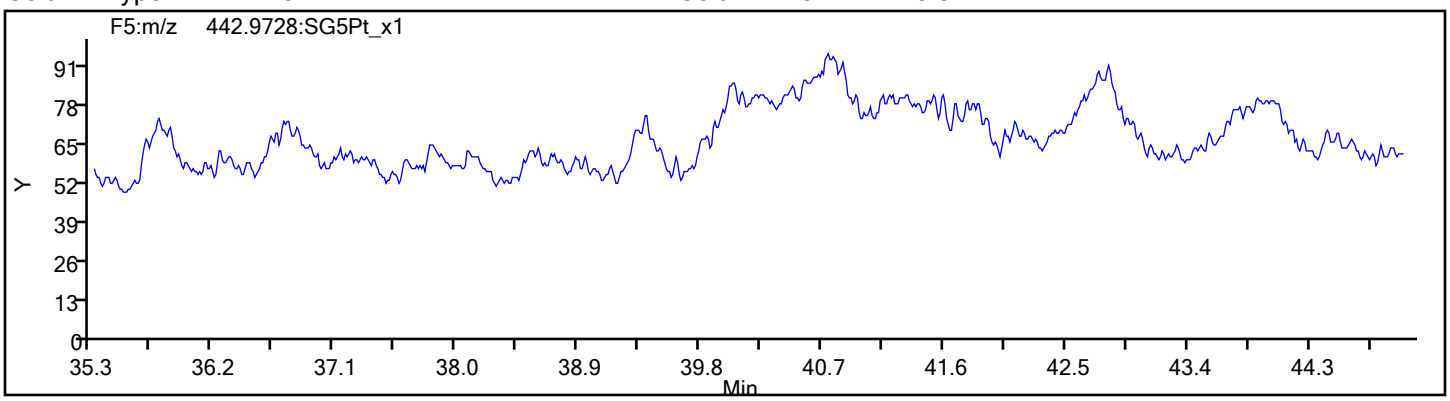

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 17-Sep-2019 13:49:24 ALS Bottle#: 5 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719A CS-3 HRDXNL3_00025
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:19 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:05:30

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.300	48020971	0.78	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.816	69364385	0.79	1.4384	100.4	100.4	0.2642	0.2642	100	
2,3,7,8-TCDF	16.831	1529056	0.76	1.0507	2.098	2.098	0.0285	0.0285	105	
S Total TCDF					2.098	2.098	0.0285	0.0285		
D 13C-2,3,7,8-TCDD	17.497	45389691	0.78	0.9533	99.1	99.1	0.2368	0.2368	99.15	
$ 37Cl4-2,3,7,8-TCDD	17.511	1164531		1.2224	1.984	1.984	0.0211	0.0211	99.19	
2,3,7,8-TCDD	17.511	1022744	0.76	1.1064	2.037	2.037	0.0433	0.0433	102	
S Total TCDD					2.037	2.037	0.0433	0.0433		
D 13C-1,2,3,7,8-PeCDF	21.631	46755351	1.61	1.0286	94.7	94.7	0.2555	0.2555	94.66	
1,2,3,7,8-PeCDF	21.659	5424212	1.59	1.0822	10.7	10.7	0.0895	0.0895	107	
D 13C-2,3,4,7,8-PeCDF	22.927	45184985	1.62	0.9827	95.8	95.8	0.2675	0.2675	95.76	
2,3,4,7,8-PeCDF	22.954	5371777	1.62	1.1032	10.8	10.8	0.0948	0.0948	108	
S Total PeCDF					21.5	21.5	0.0922	0.0922		
D 13C-1,2,3,7,8-PeCDD	23.622	33098301	1.55	0.7481	92.1	92.1	0.1767	0.1767	92.14	
1,2,3,7,8-PeCDD	23.636	3169429	1.60	0.9050	10.6	10.6	0.0951	0.0951	106	
S Total PeCDD					10.6	10.6	0.0951	0.0951		
D 13C-1,2,3,4,7,8-HxCDF	29.736	36418536	0.52	1.1520	101.5	101.5	0.5052	0.5052	102	
1,2,3,4,7,8-HxCDF	29.775	4604517	1.28	1.1973	10.6	10.6	0.1137	0.1137	106	
D 13C-1,2,3,6,7,8-HxCDF	30.002	38486861	0.53	1.2434	99.4	99.4	0.4681	0.4681	99.40	
1,2,3,6,7,8-HxCDF	30.028	4889511	1.24	1.1807	10.8	10.8	0.0994	0.0994	108	
D 13C-2,3,4,6,7,8-HxCDF	31.040	35886090	0.52	1.1720	98.3	98.3	0.4966	0.4966	98.34	
2,3,4,6,7,8-HxCDF	31.053	4551517	1.24	1.2116	10.5	10.5	0.0696	0.0696	105	
D 13C-1,2,3,7,8,9-HxCDF	31.945	33293009	0.51	1.0655	100.4	100.4	0.5463	0.5463	100	
1,2,3,7,8,9-HxCDF	31.958	4319986	1.26	1.2451	10.4	10.4	0.0644	0.0644	104	
S Total HxCDF					42.2	42.2	0.0868	0.0868		
* 13C-1,2,3,7,8,9-HxCDD	31.746	31138249	1.26	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.253	23739455	1.30	0.7812	97.6	97.6	0.5185	0.5185	97.59	
1,2,3,4,7,8-HxCDD	31.280	2685740	1.29	1.1088	10.2	10.2	0.0768	0.0768	102	
D 13C-1,2,3,6,7,8-HxCDD	31.386	27633426	1.27	0.9175	96.7	96.7	0.4415	0.4415	96.73	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.399	3184984	1.24	1.0814	10.7	10.7	0.0746	0.0746	107	
1,2,3,7,8,9-HxCDD	31.759	3374687	1.23	1.2123	10.8	10.8	0.0684	0.0684	108	
S Total HxCDD					31.7	31.7	0.0733	0.0733		
D 13C-1,2,3,4,6,7,8-HpCDF	33.459	25015698	0.45	0.8628	93.1	93.1	1.693	1.693	93.12	
1,2,3,4,6,7,8-HpCDF	33.472	4106440	1.02	1.5555	10.6	10.6	0.1585	0.1585	106	
D 13C-1,2,3,4,7,8,9-HpCDF	34.505	23641905	0.45	0.7991	95.0	95.0	1.828	1.828	95.02	
1,2,3,4,7,8,9-HpCDF	34.517	3498041	1.02	1.3862	10.7	10.7	0.2064	0.2064	107	
S Total HpCDF					21.2	21.2	0.1824	0.1824		
D 13C-1,2,3,4,6,7,8-HpCDD	34.225	25630510	1.05	0.8739	94.2	94.2	0.7704	0.7704	94.19	
1,2,3,4,6,7,8-HpCDD	34.237	2534205	1.08	0.9316	10.6	10.6	0.1098	0.1098	106	
S Total HpCDD					10.6	10.6	0.1098	0.1098		
D 13C-OCDD	36.481	43388861	0.89	0.7744	179.9	179.9	0.3226	0.3226	89.97	
OCDF	36.576	5776792	0.88	1.2596	21.1	21.1	0.0659	0.0659	106	
OCDD	36.493	5082981	0.91	1.0621	22.1	22.1	0.0435	0.0435	110	

Reagents:

HRDXNL3_00025 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 17-Sep-2019 13:49:24 ALS Bottle#: 5 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719A CS-3 HRDXNL3_00025
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:19 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:05:30

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.300	17.303	0		20974964	5440414	6907	17267	788		
333.9339	17.300	17.303	0		27046007	7081542	4401	11002	1609	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.816	16.810	0	0.972	30651979	7996237	9530	23825	839		
317.9389	16.816	16.810	0	0.972	38712406	9934901	9507	23767	1045	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.831	16.825	0	1.001	662231	175822	896	2240	196		
305.8987	16.816	16.825	-1	1.000	866825	219868	1254	3135	175	0.76(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.497	17.490	0	1.011	19932104	4784387	6907	17267	693		
333.9339	17.497	17.490	0	1.011	25457587	6033501	4401	11002	1371	0.78(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.511	17.505	0	1.012	1164531	282528	1292	3230	219		
2,3,7,8-TCDD											
319.8965	17.511	17.505	0	1.001	441524	105506	1328	3320	79		
321.8936	17.511	17.505	0	1.001	581220	143982	745	1862	193	0.76(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	21.631	21.637	0	1.250	28830075	5337132	7805	19512	684		
353.8970	21.631	21.637	0	1.250	17925276	3287495	5360	13400	613	1.61(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.659	21.661	0	1.001	3332281	606608	1384	3460	438		
341.8567	21.659	21.661	0	1.001	2091931	384200	1956	4890	196	1.59(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	22.927	22.932	0	1.325	27936496	4963352	7805	19512	636		
353.8970	22.927	22.932	0	1.325	17248489	3016941	5360	13400	563	1.62(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.954	22.954	0	1.001	3318716	579906	1384	3460	419		
341.8567	22.954	22.954	0	1.001	2053061	350098	1956	4890	179	1.62(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.622	23.625	0	1.365	20140801	3312973	3677	9192	901		
369.8919	23.622	23.625	0	1.365	12957500	2145657	2944	7360	729	1.55(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.636	23.649	-1	1.001	1948199	306163	1167	2917	262		
357.8516	23.636	23.649	-1	1.001	1221230	203548	713	1782	285	1.60(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.736	29.754	-1	0.937	12434463	1670692	6140	15350	272		
385.8610	29.736	29.754	-1	0.937	23984073	3285602	11505	28762	286	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.775	29.789	-1	1.001	2582089	364887	1448	3620	252		
375.8178	29.775	29.789	-1	1.001	2022428	279399	1250	3125	224	1.28(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.002	30.015	-1	0.945	13305598	1990616	6140	15350	324		
385.8610	30.002	30.015	-1	0.945	25181263	3755911	11505	28762	326	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.028	30.039	-1	1.001	2703771	385416	1448	3620	266		
375.8178	30.028	30.039	-1	1.001	2185740	311020	1250	3125	249	1.24(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.040	31.043	0	0.978	12200251	2715531	6140	15350	442		
385.8610	31.040	31.043	0	0.978	23685839	5277600	11505	28762	459	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.053	31.059	0	1.000	2519385	561452	1448	3620	388		
375.8178	31.053	31.059	0	1.000	2032132	450929	1250	3125	361	1.24(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.945	31.942	0	1.006	11294314	2854603	6140	15350	465		
385.8610	31.945	31.942	0	1.006	21998695	5560445	11505	28762	483	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.958	31.956	0	1.000	2410054	592393	1448	3620	409		
375.8178	31.958	31.956	0	1.000	1909932	473961	1250	3125	379	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.746	31.748	0		17348498	4270052	6927	17317	616		
403.8529	31.746	31.748	0		13789751	3309146	5354	13385	618	1.26(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.253	31.261	0	0.984	13398901	3308138	6927	17317	478		
403.8529	31.266	31.261	0	0.985	10340554	2572354	5354	13385	480	1.30(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.280	31.280	0	1.001	1512390	375482	976	2440	385		
391.8127	31.280	31.280	0	1.001	1173350	295553	1027	2567	288	1.29(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.386	31.383	0	0.989	15440618	3468444	6927	17317	501		
403.8529	31.386	31.383	0	0.989	12192808	2735657	5354	13385	511	1.27(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.399	31.402	0	1.000	1761134	403725	976	2440	414		
391.8127	31.399	31.402	0	1.000	1423850	307508	1027	2567	299	1.24(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.759	31.761	0	1.016	1859918	455161	976	2440	466		
391.8127	31.759	31.761	0	1.016	1514769	367872	1027	2567	358	1.23(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.459	33.457	0	1.054	7716742	2566124	14405	36012	178		
419.8220	33.459	33.457	0	1.054	17298956	5707303	29871	74677	191	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.472	33.469	0	1.000	2075359	698893	3992	9980	175		
409.7789	33.472	33.469	0	1.000	2031081	642835	4168	10420	154	1.02(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.505	34.502	0	1.087	7363985	2239195	14405	36012	155		
419.8220	34.505	34.502	0	1.087	16277920	4892131	29871	74677	164	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.517	34.509	0	1.000	1766633	514034	3992	9980	129		
409.7789	34.505	34.509	0	1.000	1731408	520165	4168	10420	125	1.02(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.225	34.227	0	1.078	13114345	4054784	9475	23687	428		
437.8140	34.225	34.227	0	1.078	12516165	3859079	10936	27340	353	1.05(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.237	34.235	0	1.000	1317899	403714	1570	3925	257		
425.7737	34.237	34.235	0	1.000	1216306	375677	1669	4172	225	1.08(0.88-1.20)	
13C-OCDD											
469.7779	36.481	36.486	0	1.149	20384484	5322735	3975	9937	1339		
471.7750	36.481	36.486	0	1.149	23004377	6112123	3599	8997	1698	0.89(0.76-1.02)	
OCDF											
441.7428	36.576	36.581	0	1.003	2698881	719825	815	2037	883		
443.7399	36.576	36.581	0	1.003	3077911	834185	1083	2707	770	0.88(0.76-1.02)	
OCDD											
457.7377	36.493	36.497	0	1.000	2421846	617373	541	1352	1141		
459.7348	36.493	36.497	0	1.000	2661135	682611	516	1290	1323	0.91(0.76-1.02)	

Reagents:

HRDXNL3_00025 Amount Added: 1.00 Units: mL

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d		
Injection Date:	17-Sep-2019 13:49:24	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

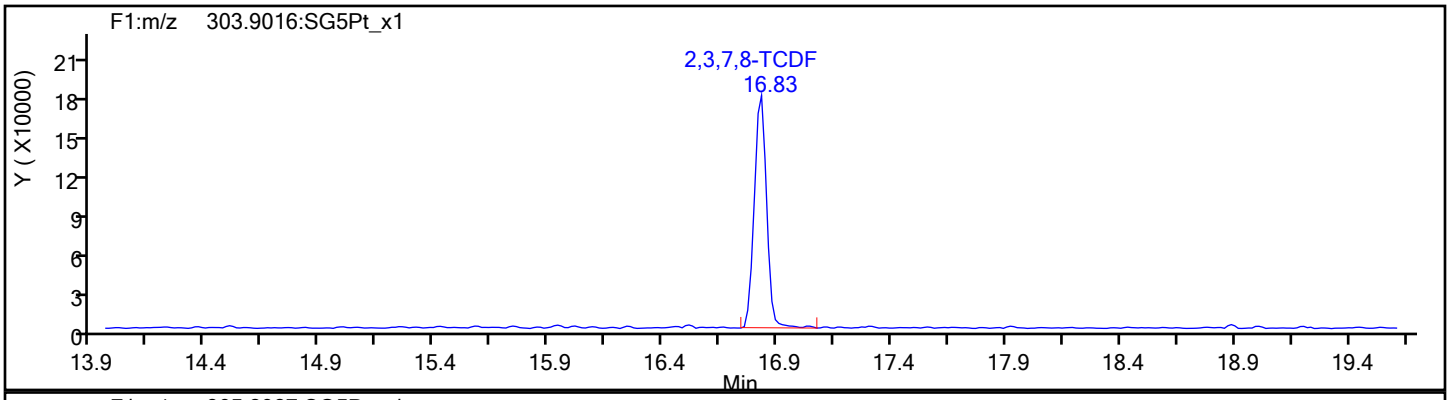

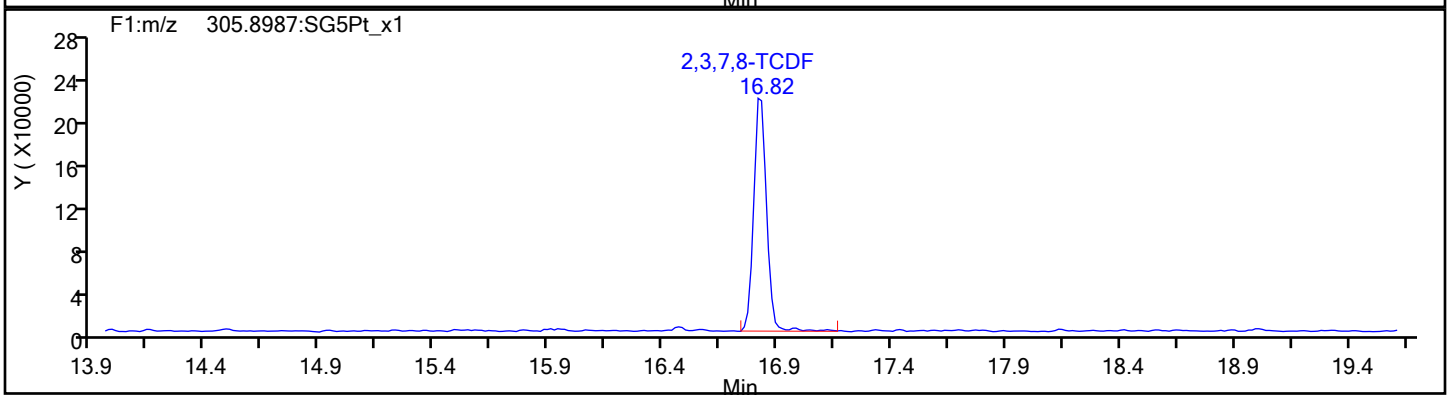

TCDF Standards

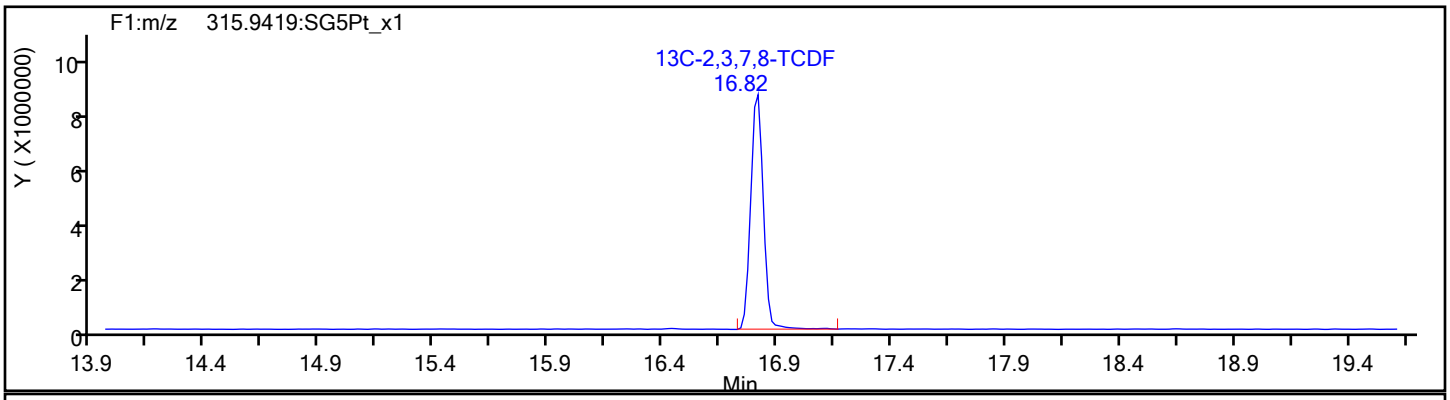

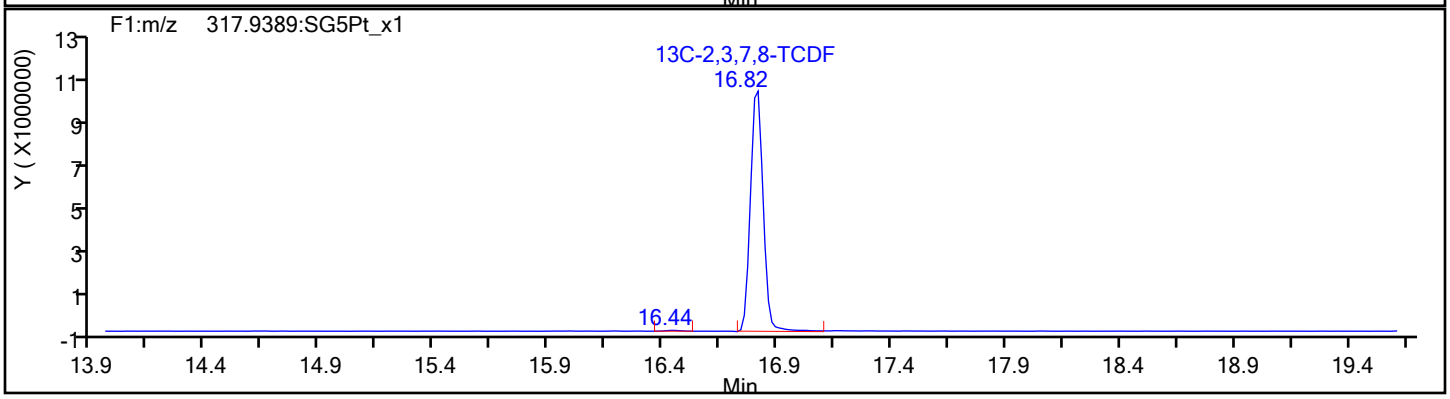

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d		
Injection Date:	17-Sep-2019 13:49:24	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

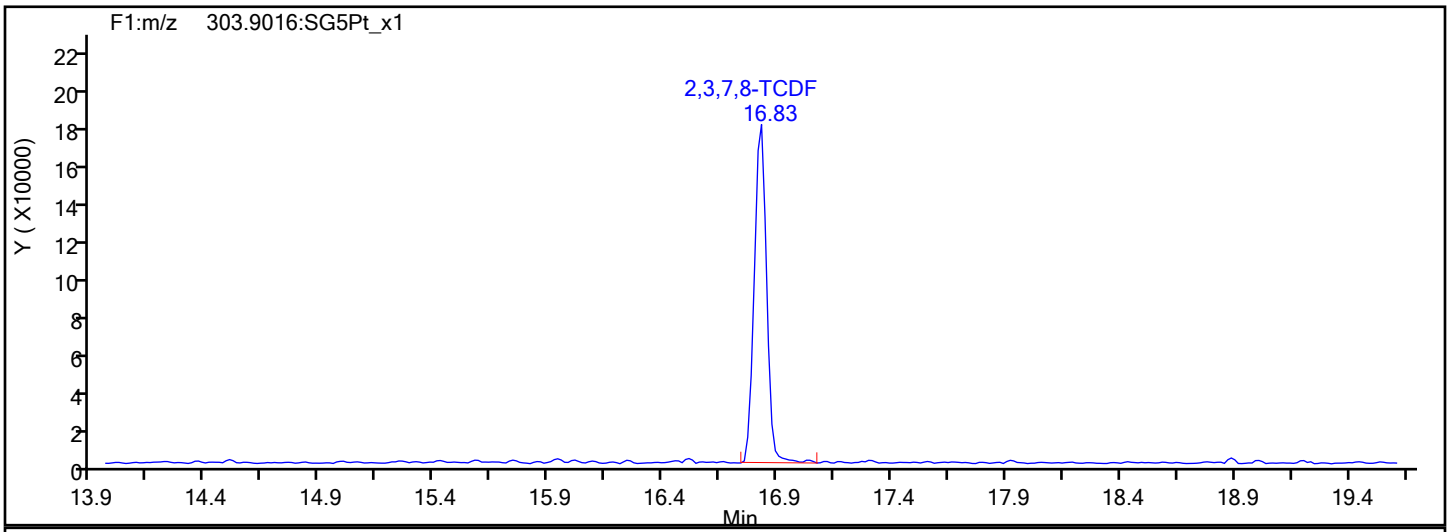

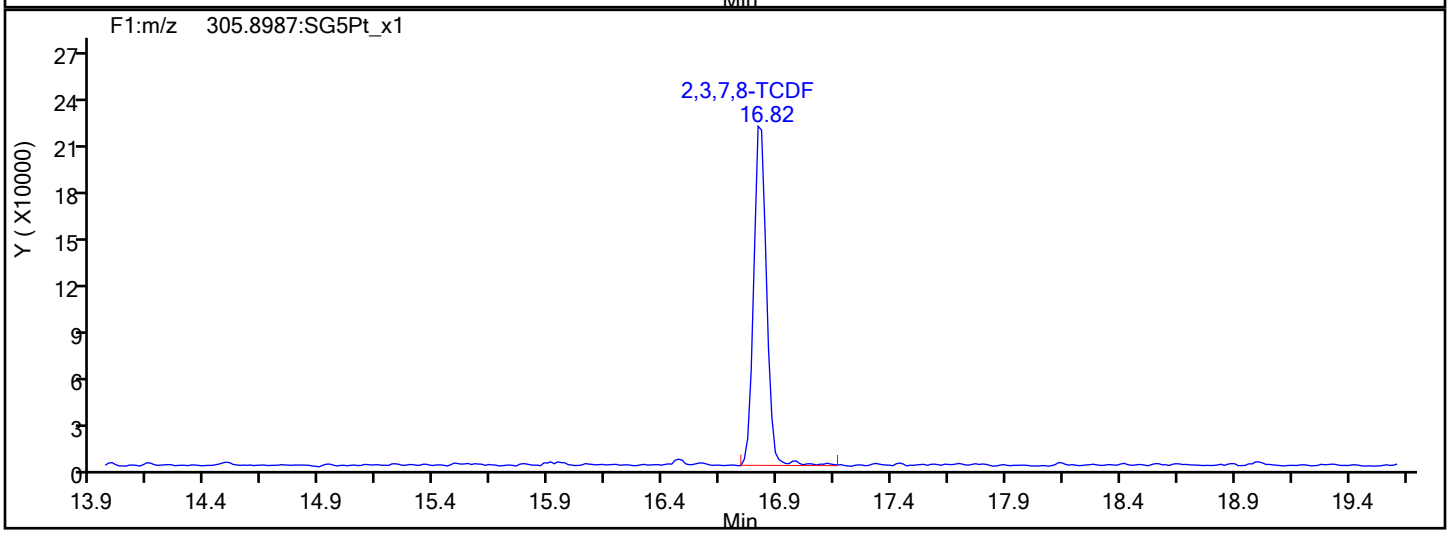

TCDF Interference Mass

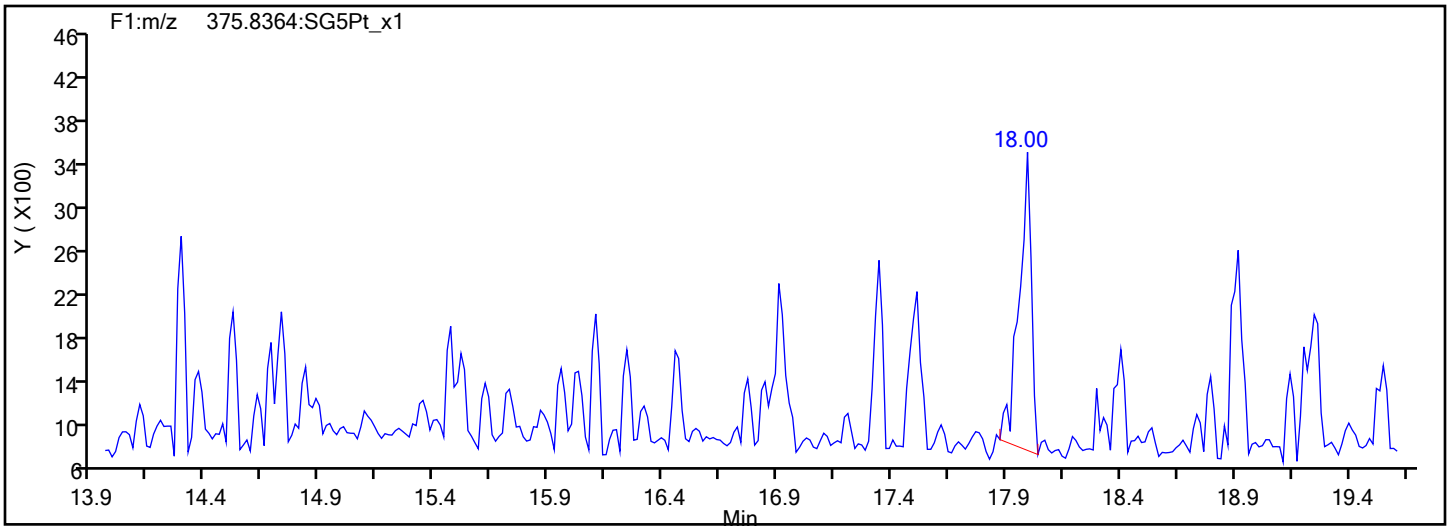

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d		
Injection Date:	17-Sep-2019 13:49:24	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

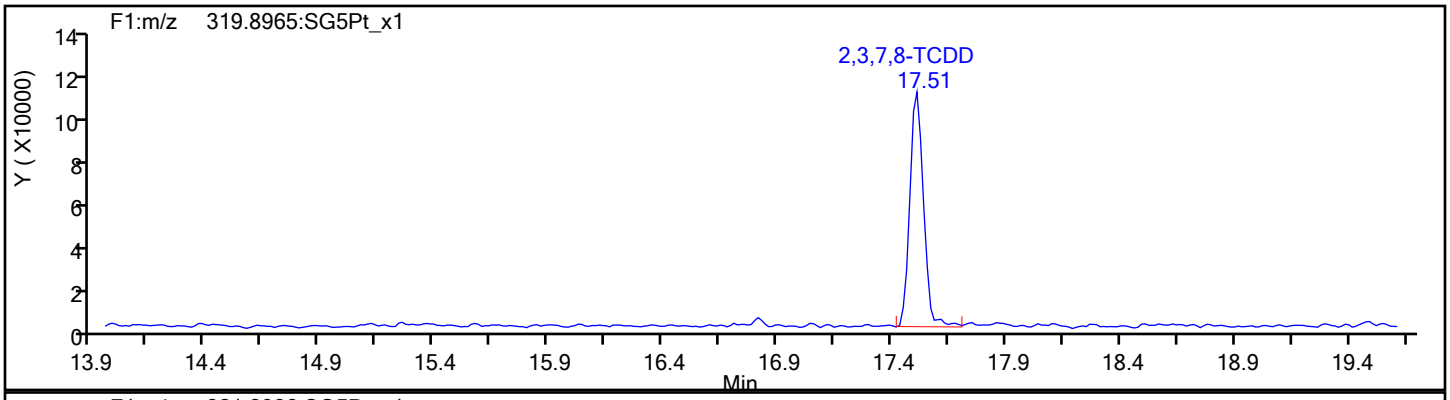

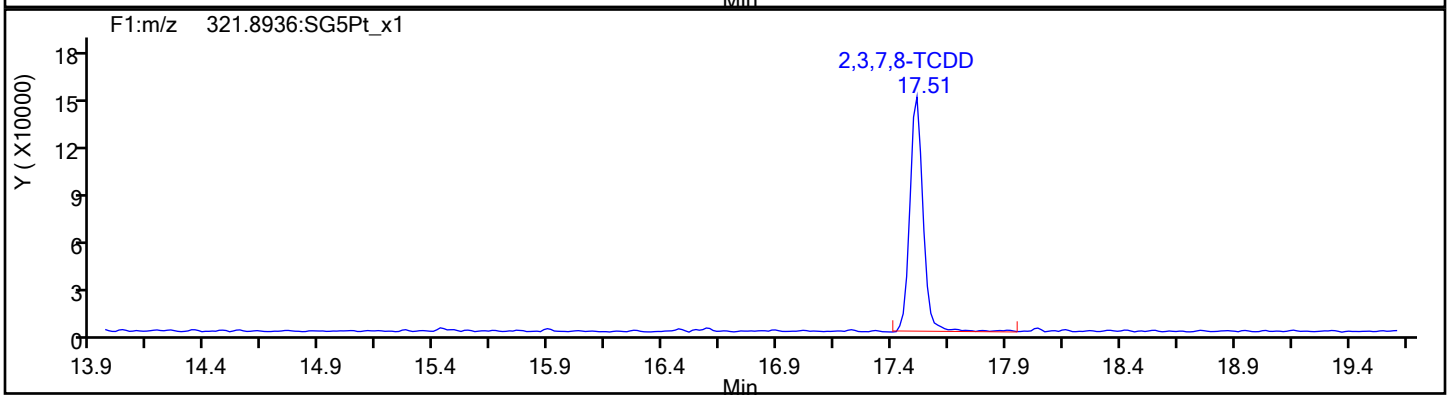

TCDD Standards

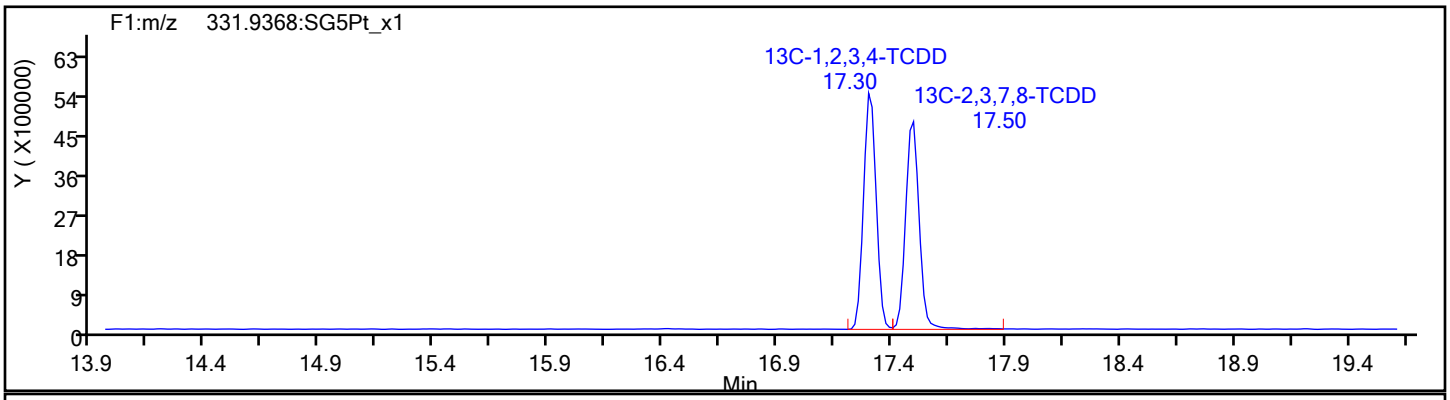

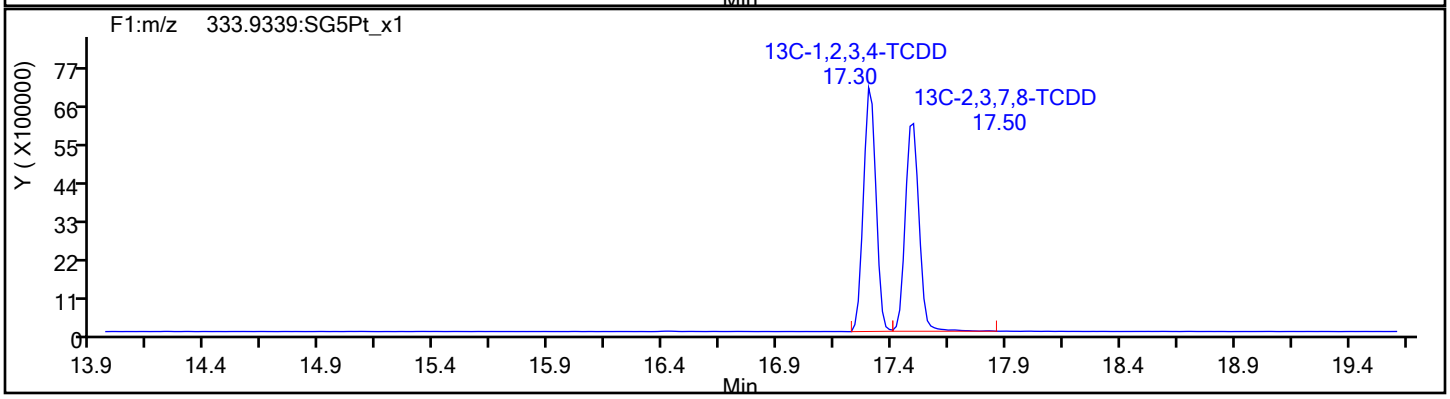

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d		
Injection Date:	17-Sep-2019 13:49:24	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

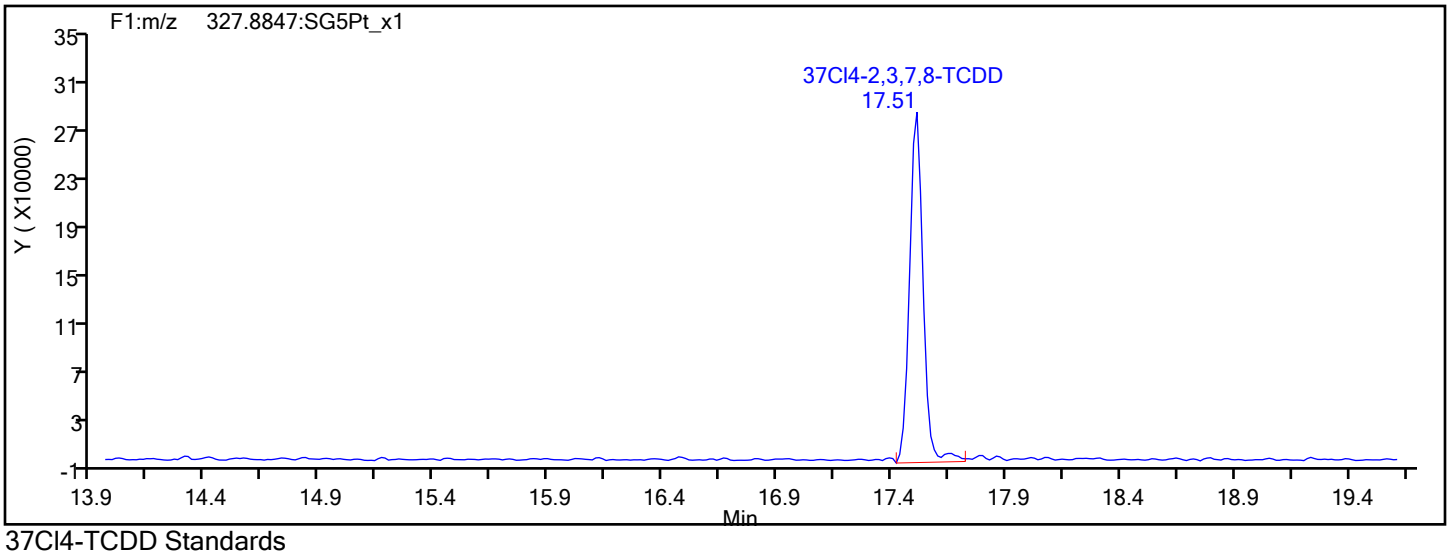

37Cl4-TCDD Standards

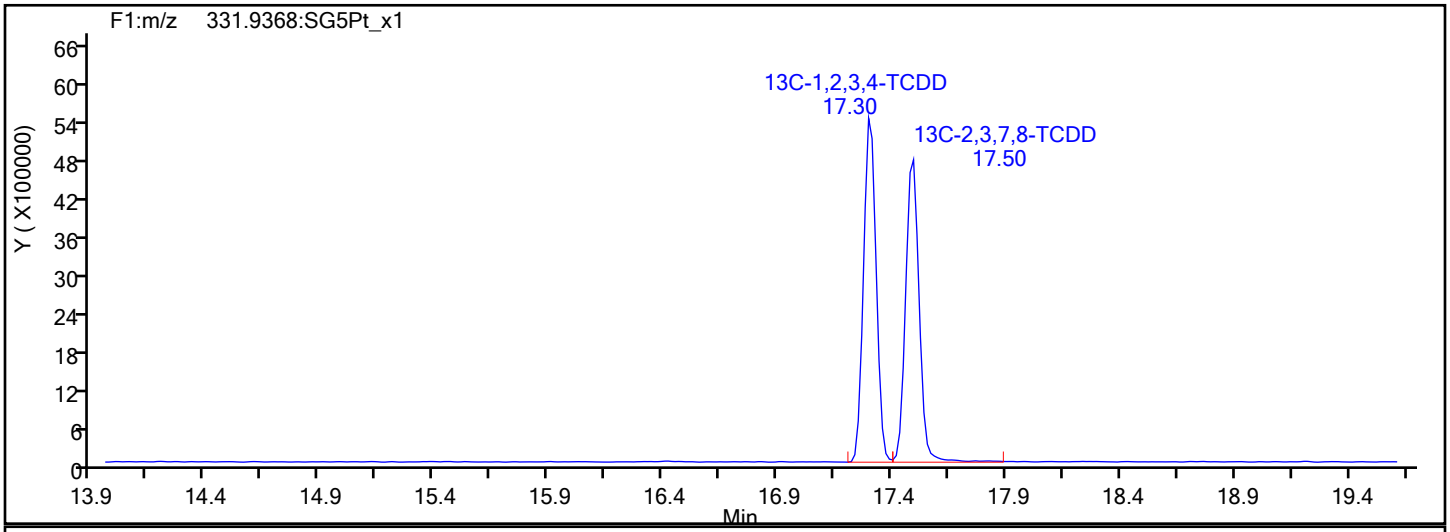

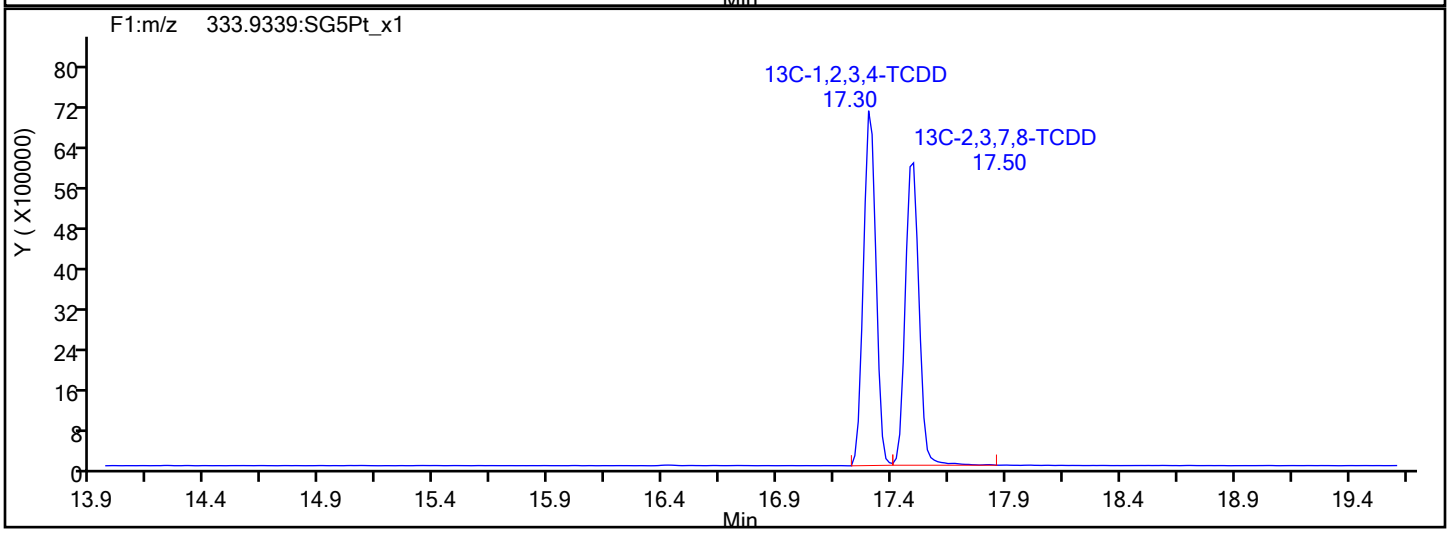

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

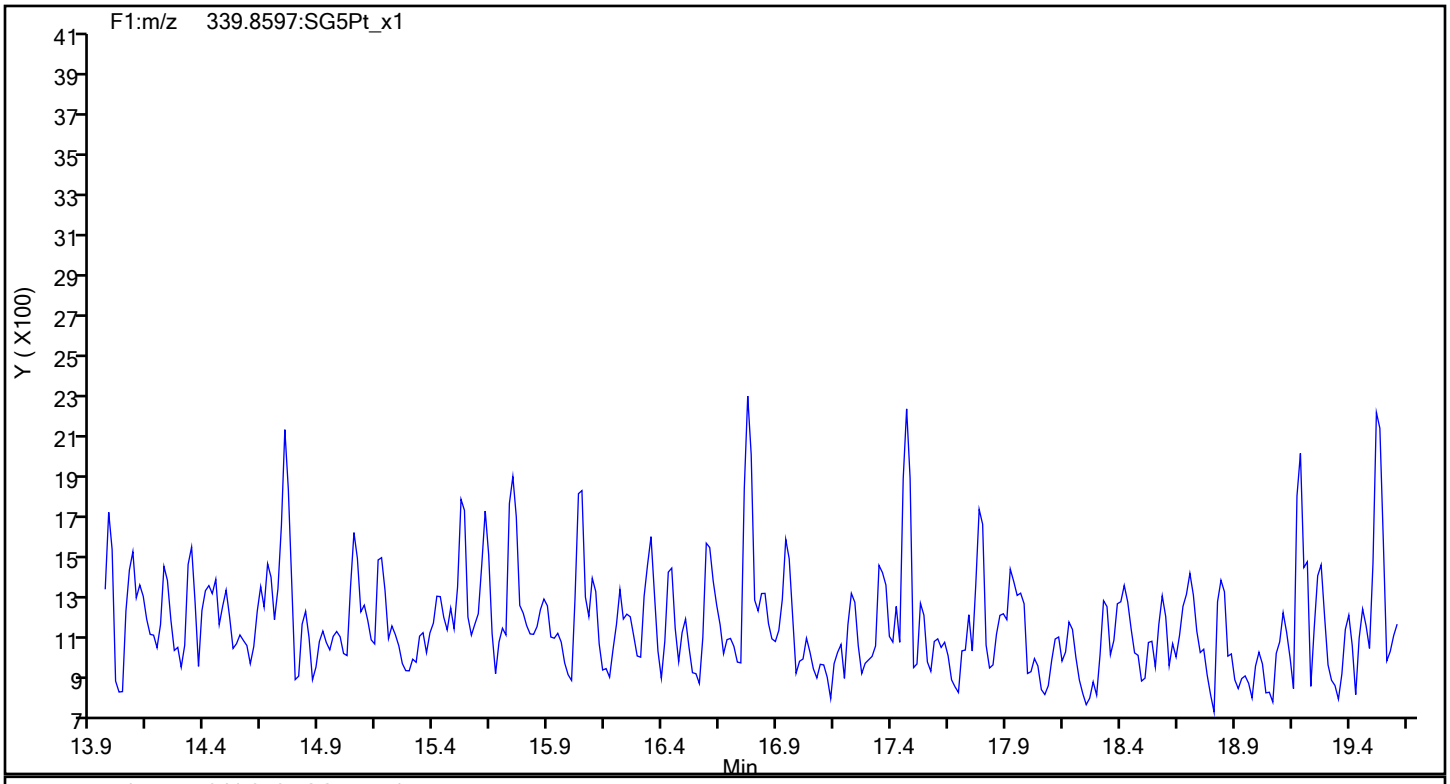

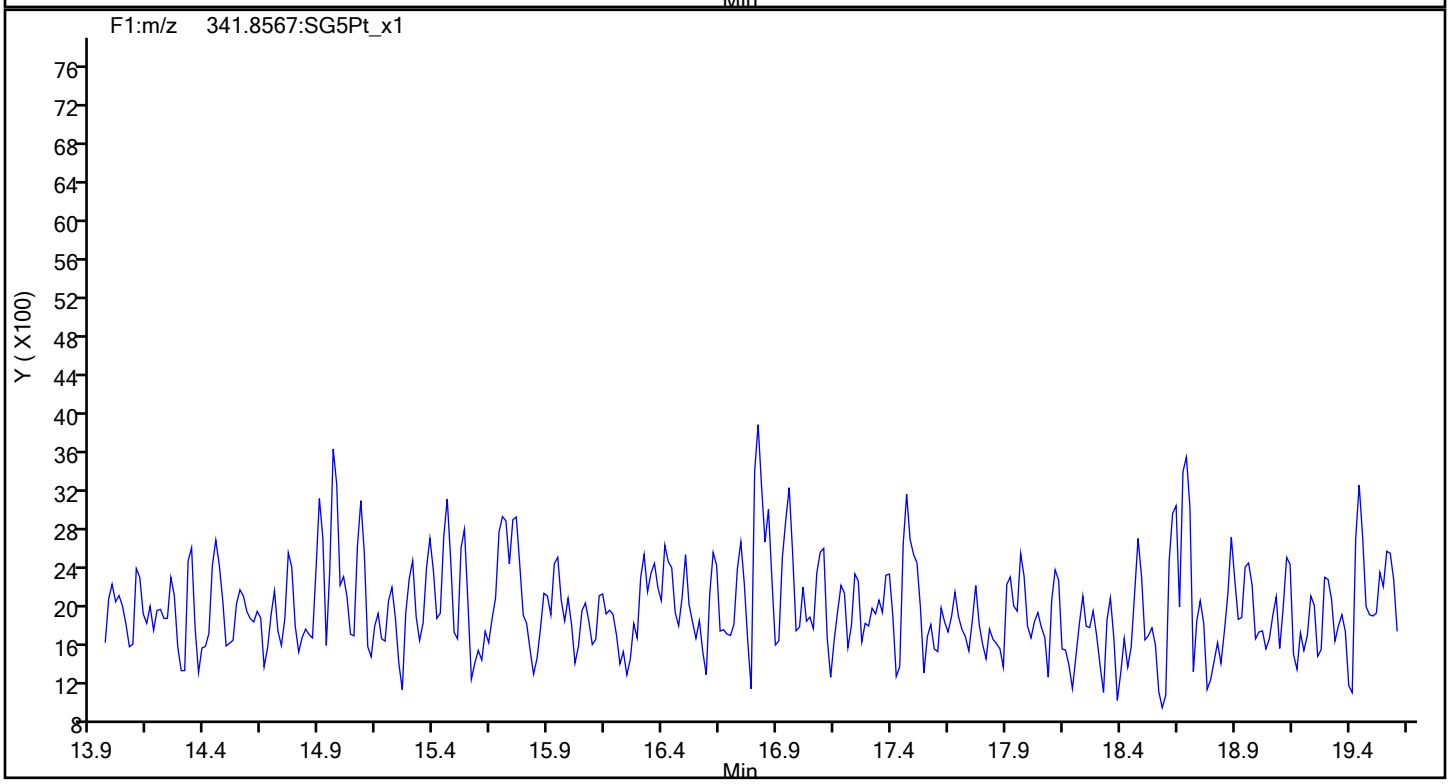

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

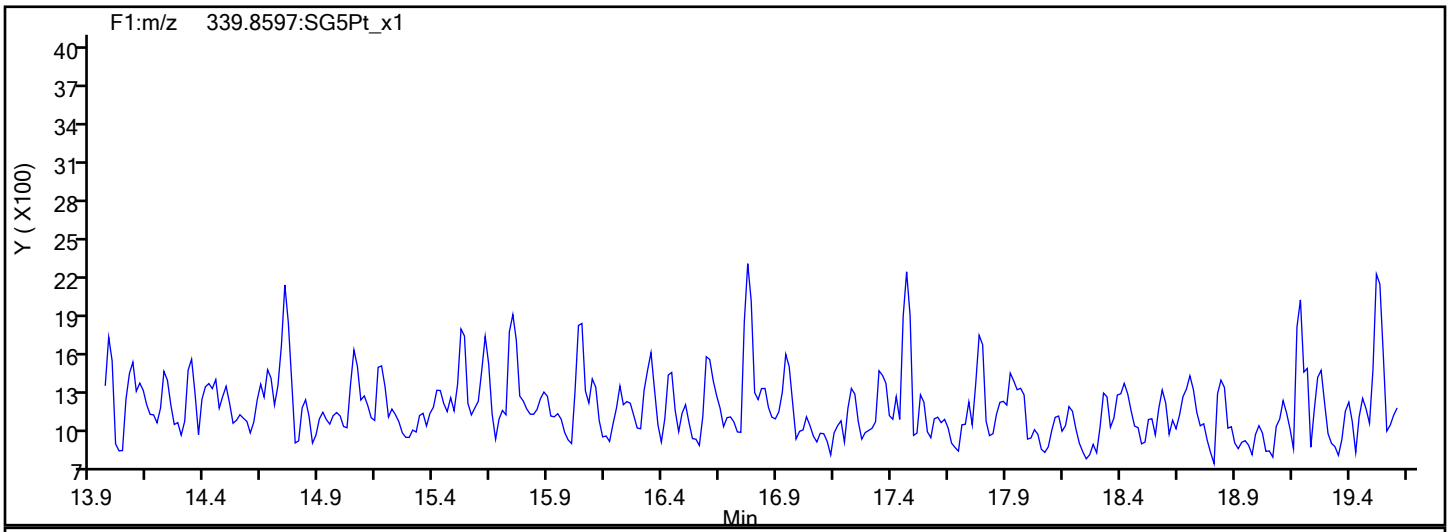

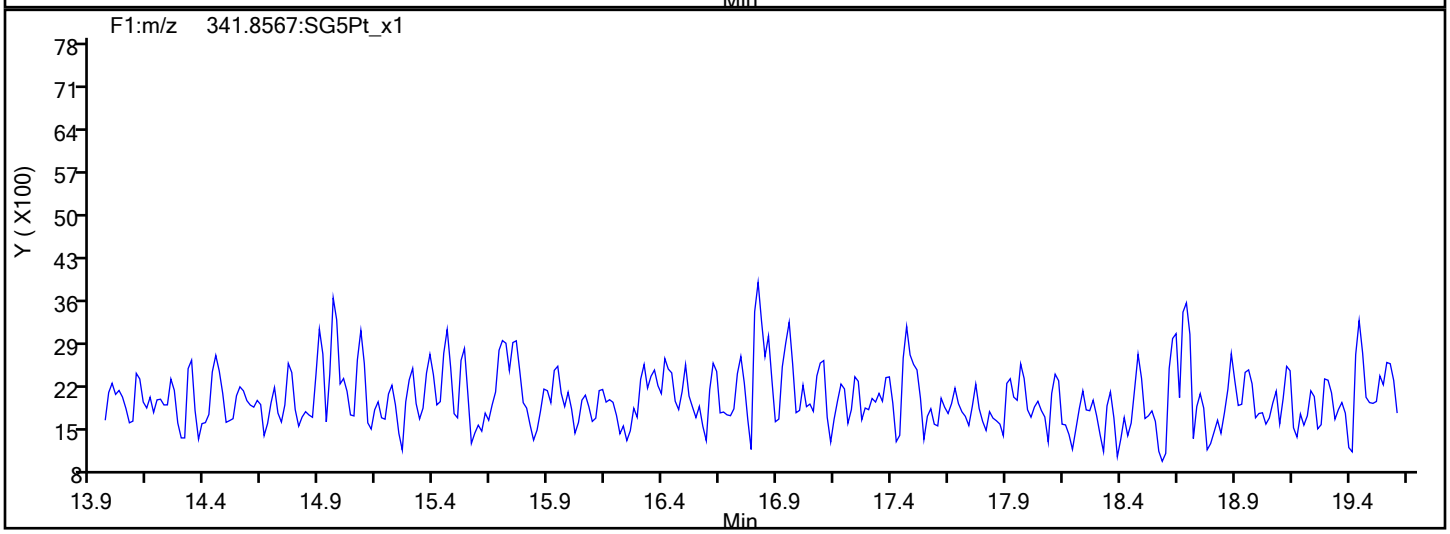

F1 PeCDFs Interference Mass

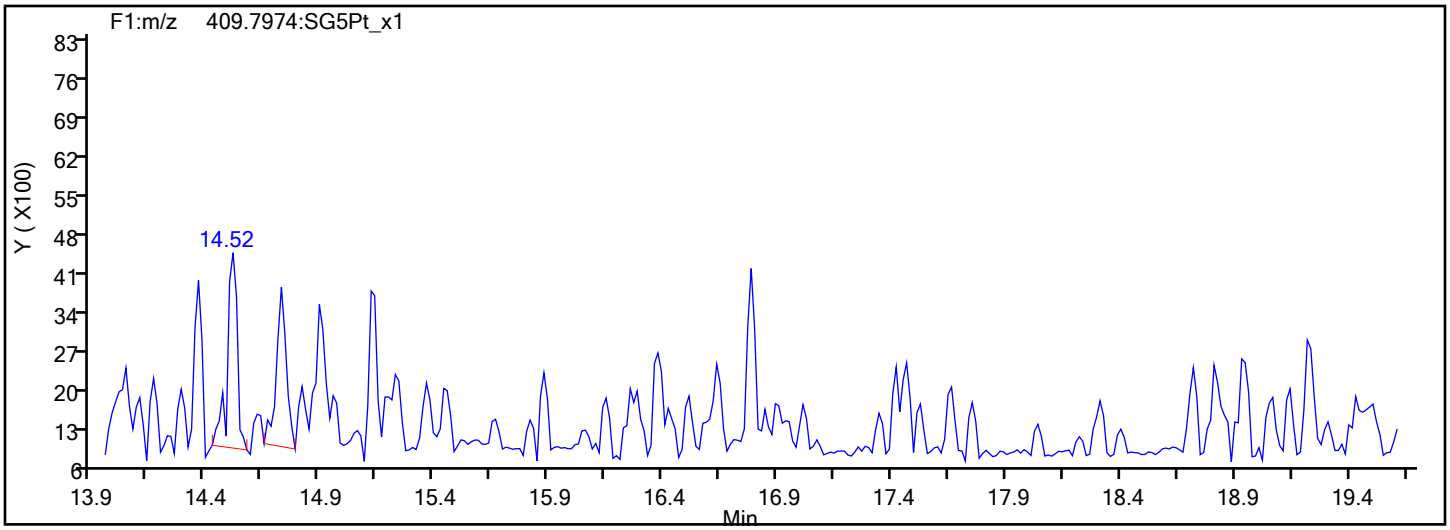

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Eurofins TestAmerica, Sacramento

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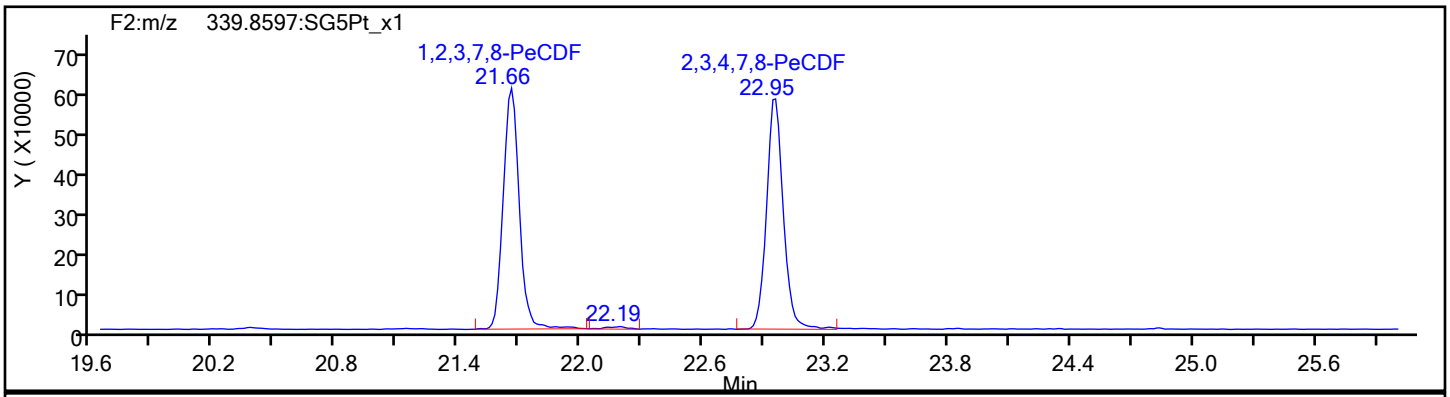

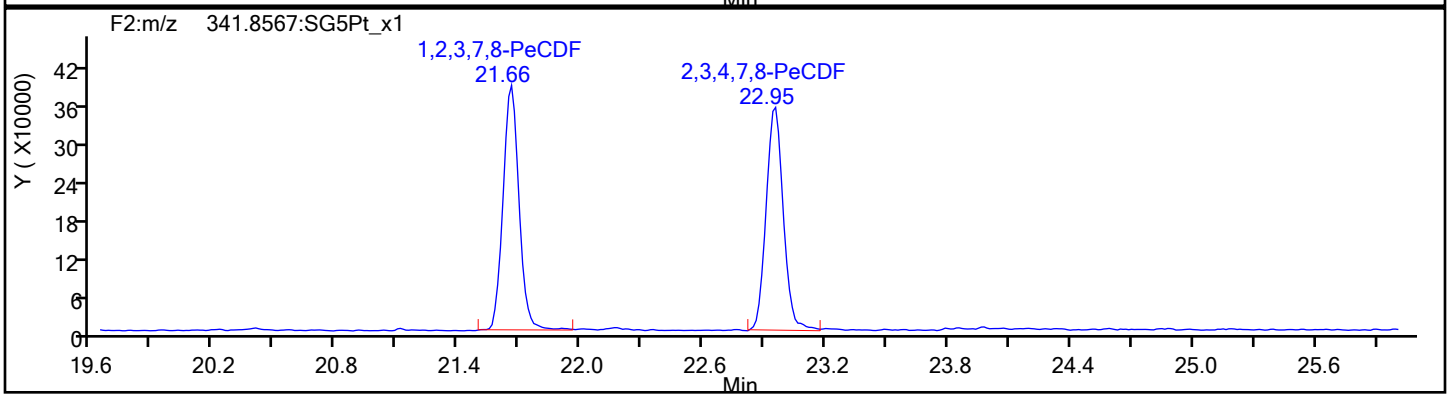

PeCDF Standards

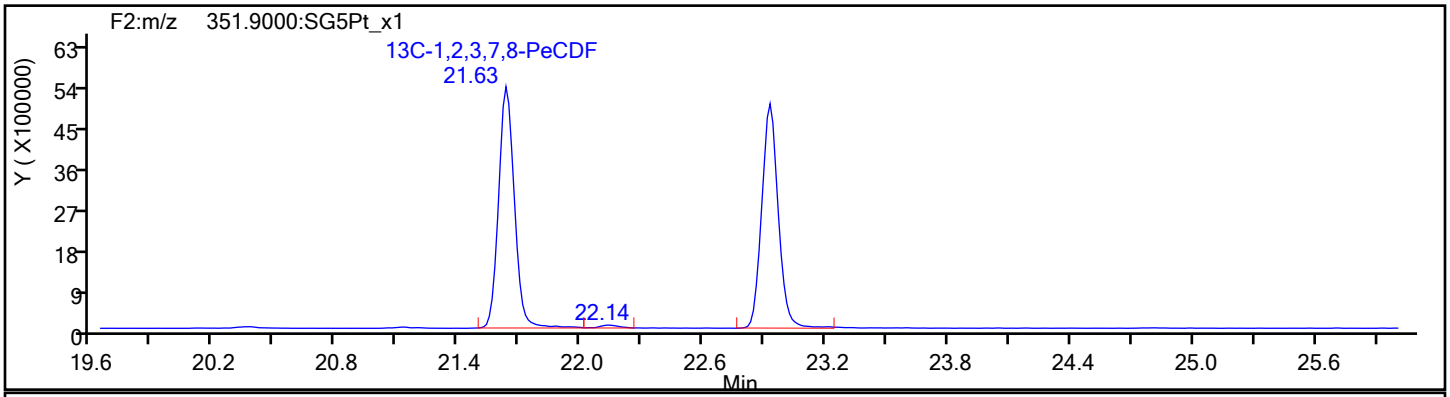

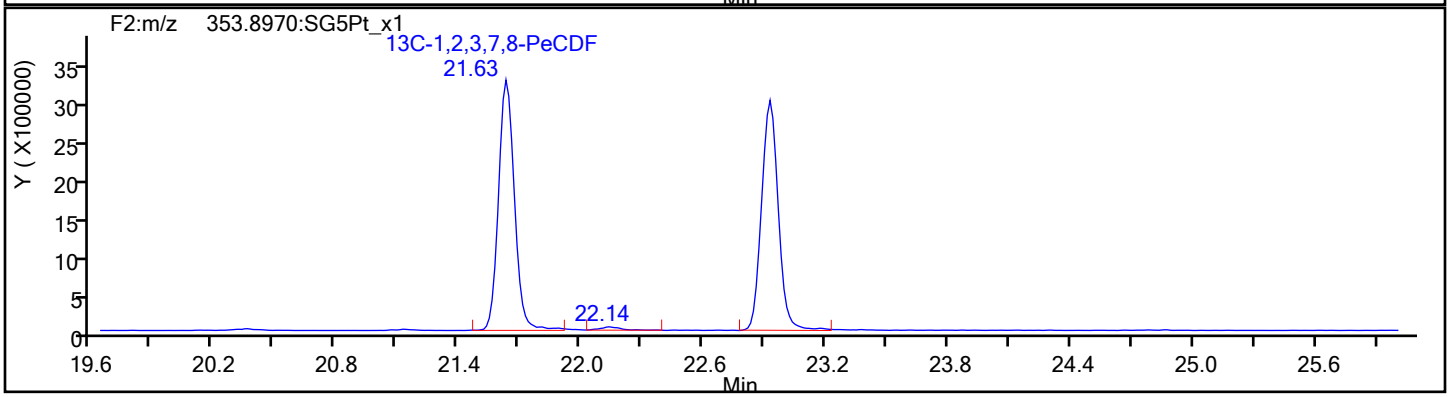

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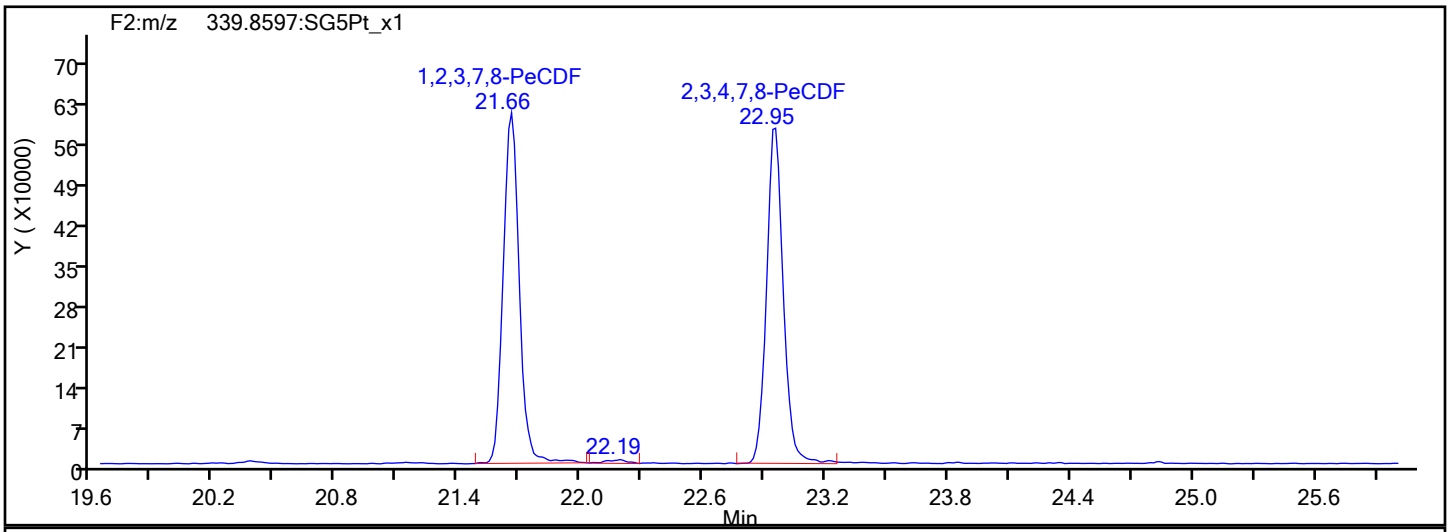

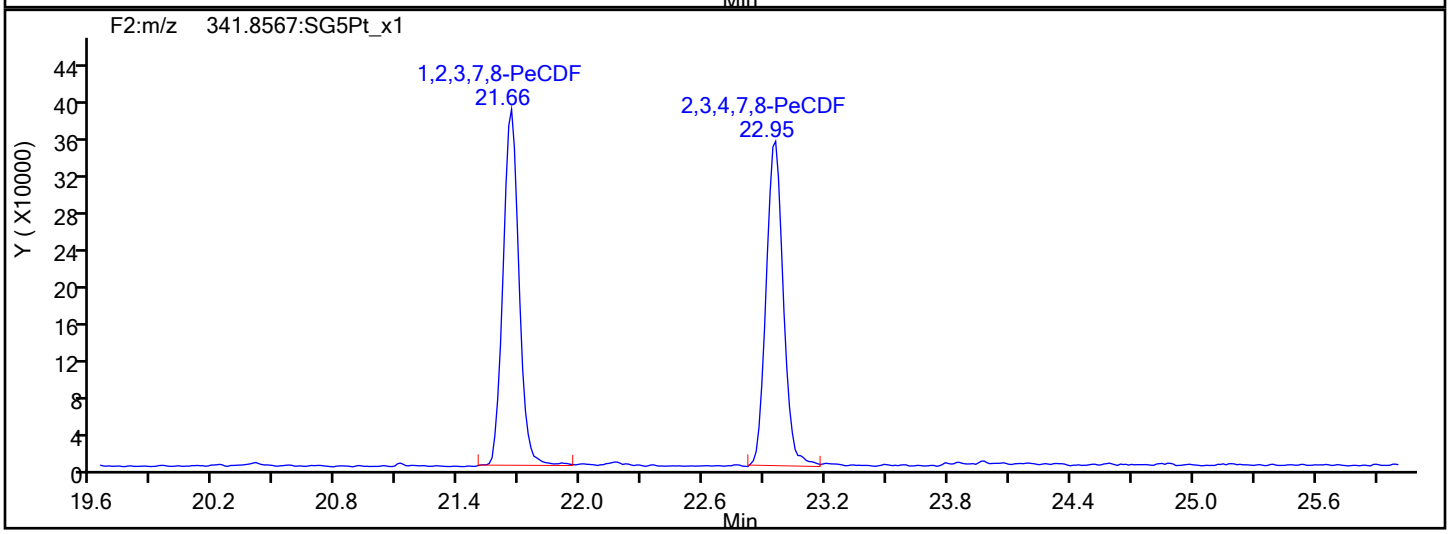

PeCDF Interference Mass

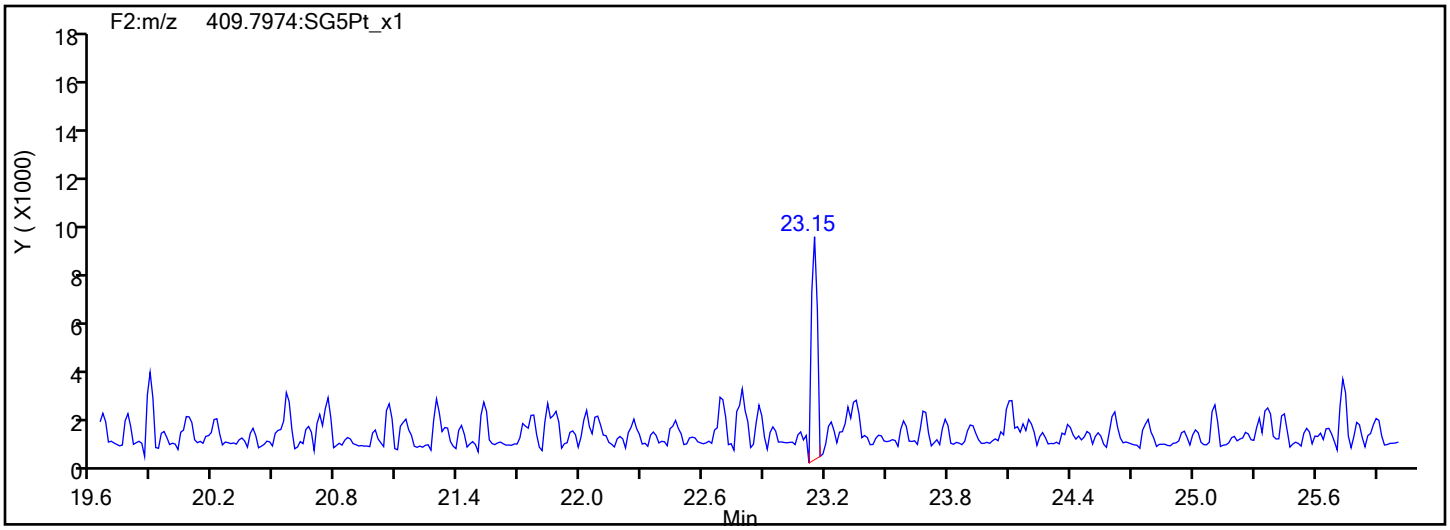

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Eurofins TestAmerica, Sacramento

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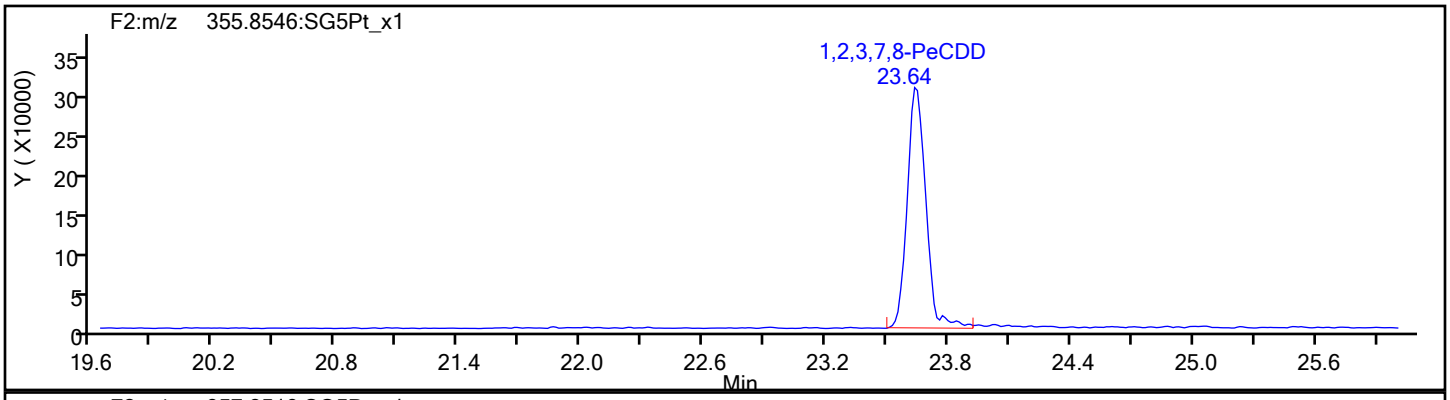

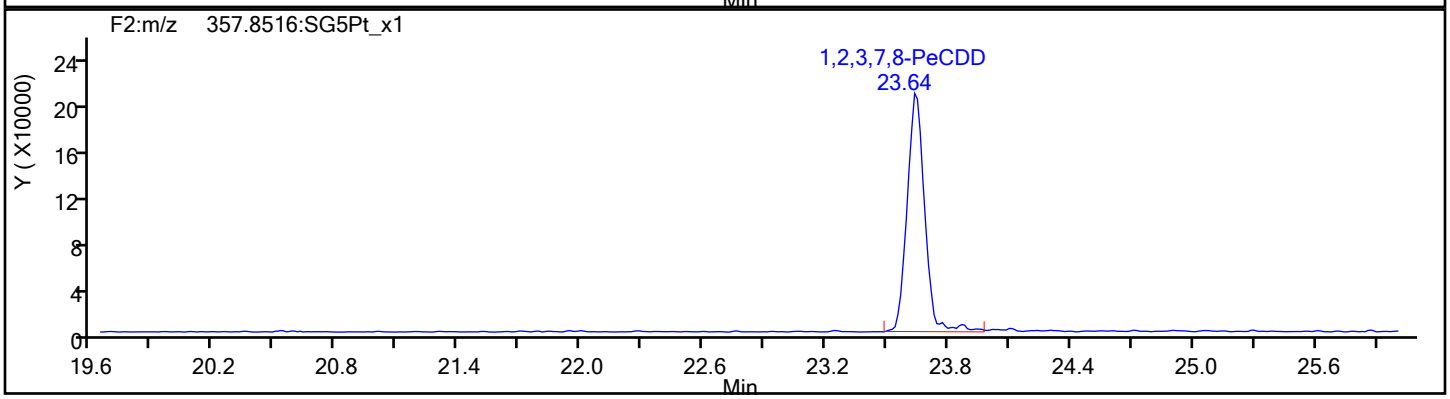

PeCDD Standards

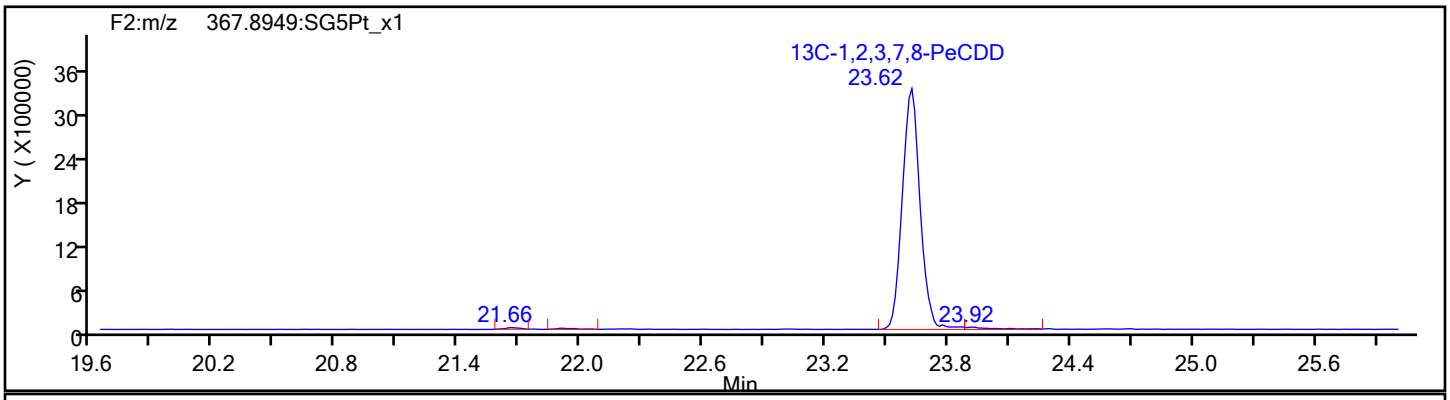

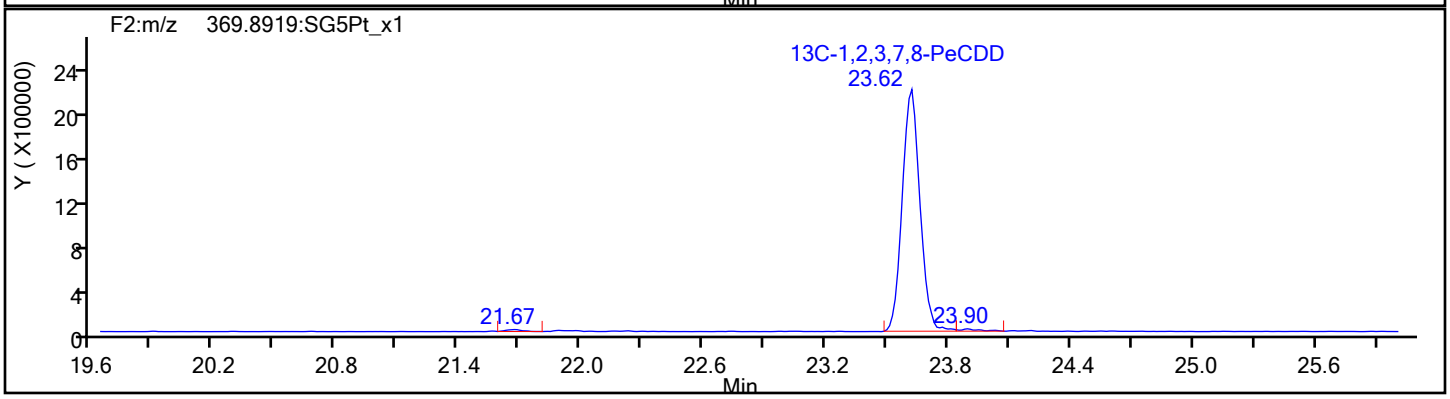

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Eurofins TestAmerica, Sacramento

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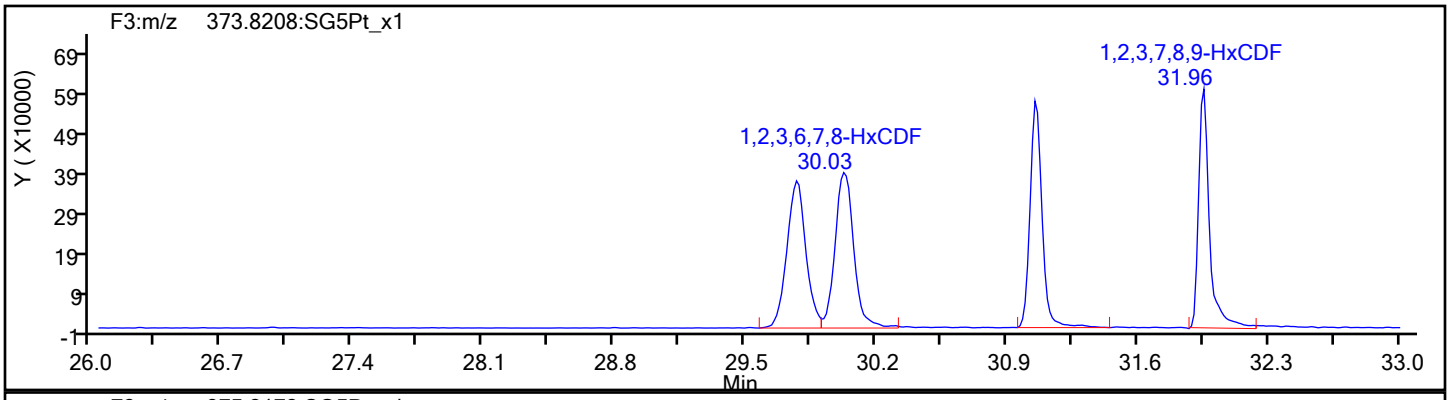

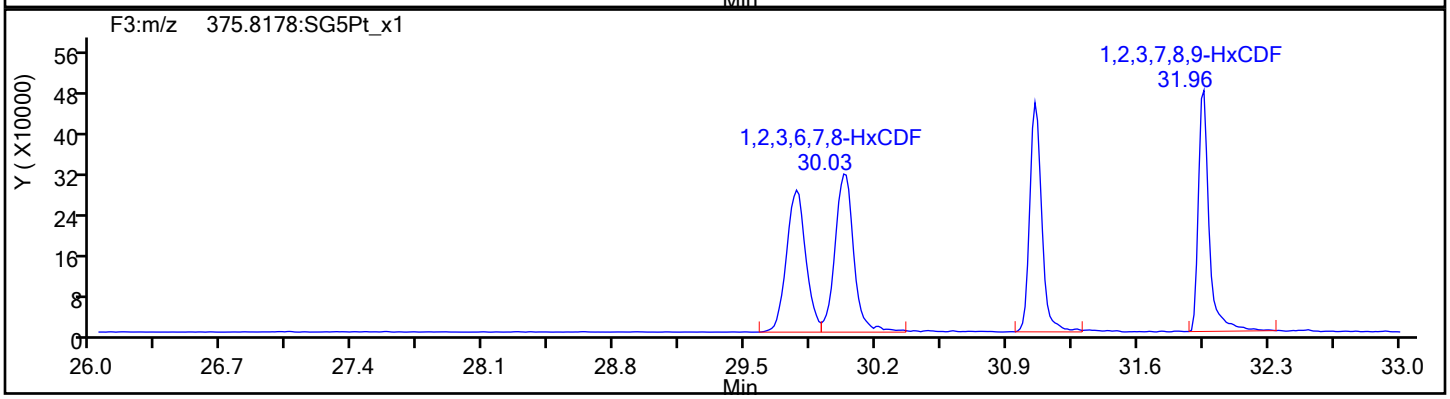

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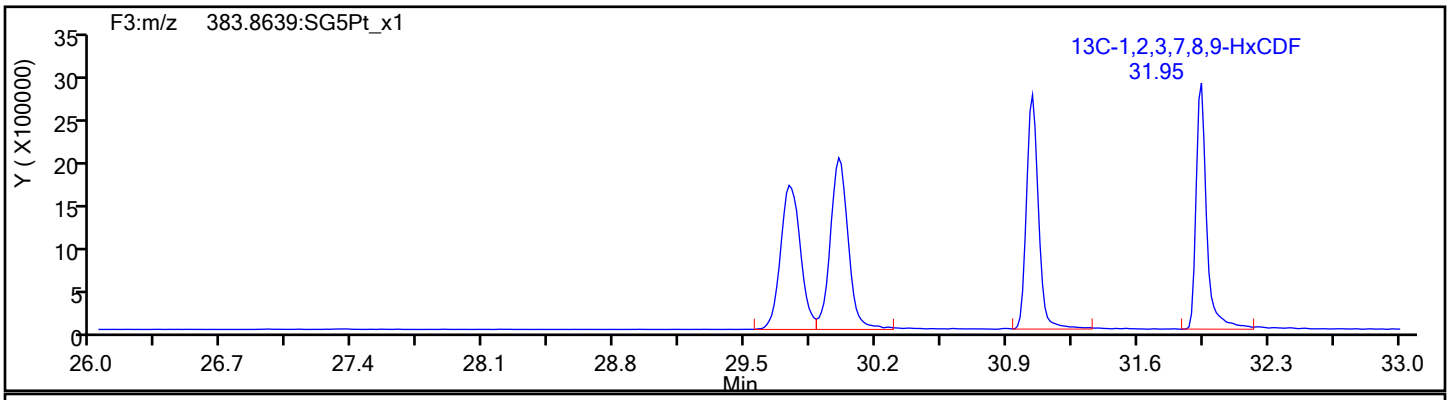

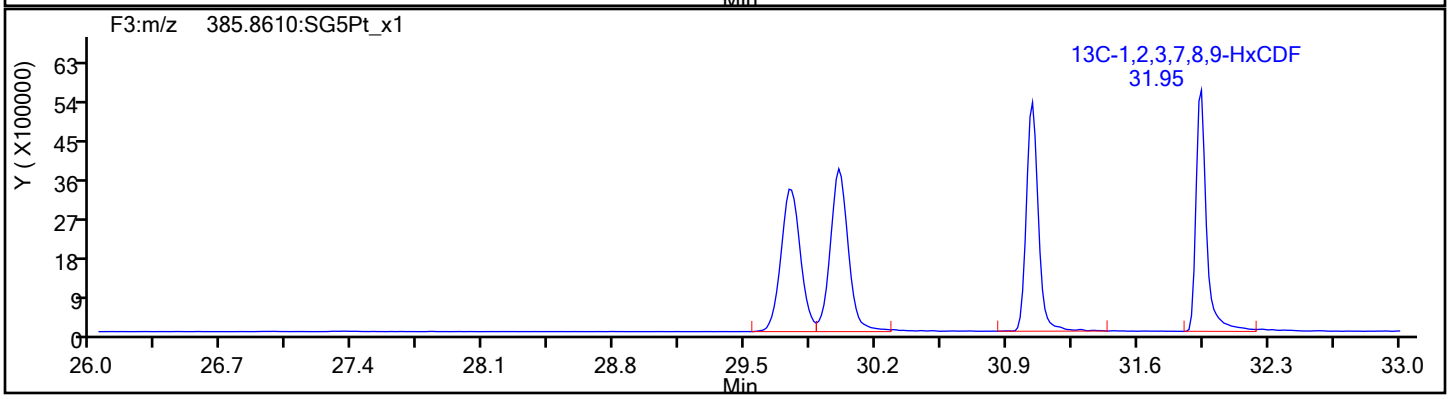

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Eurofins TestAmerica, Sacramento

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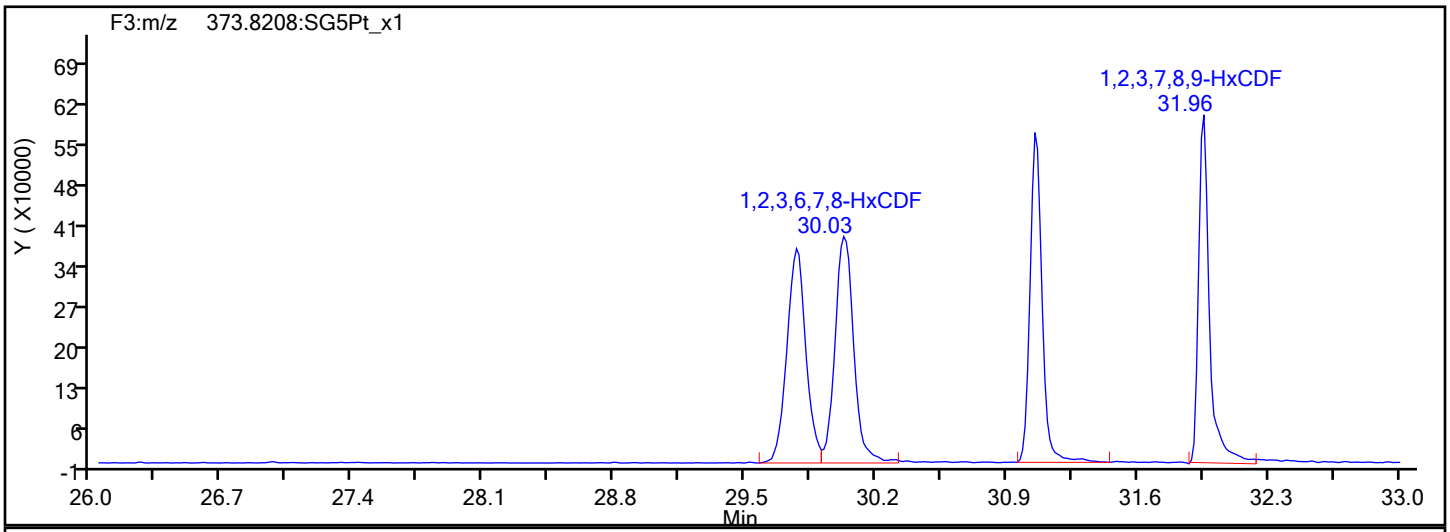

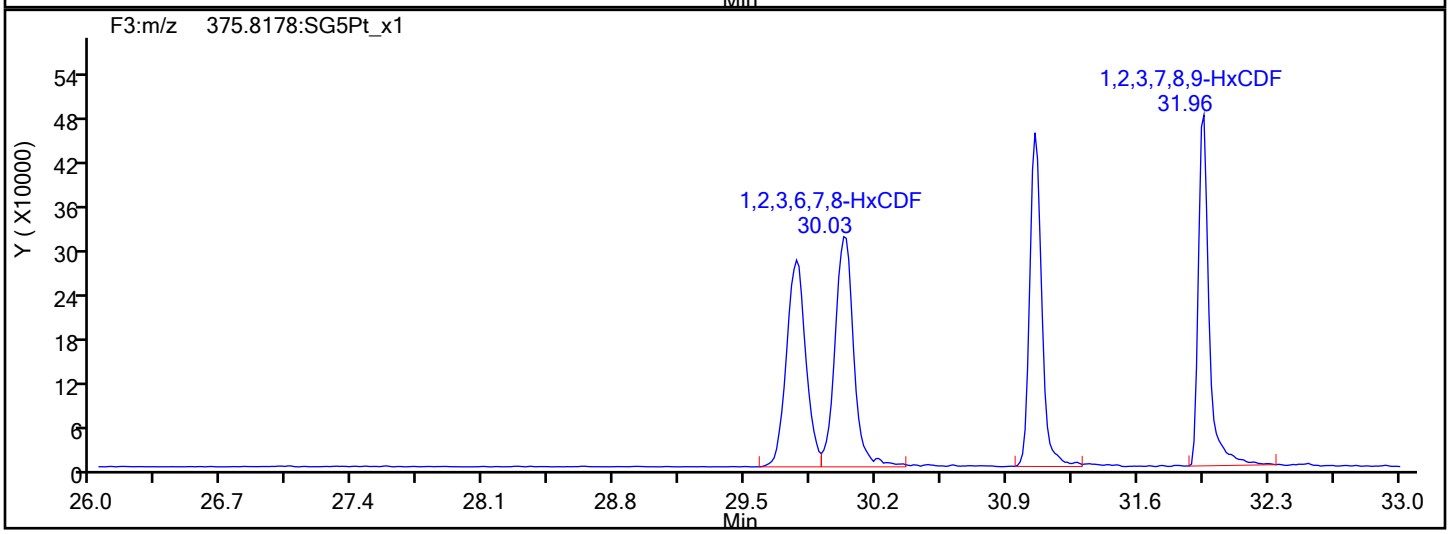

HxCDF Interference Mass

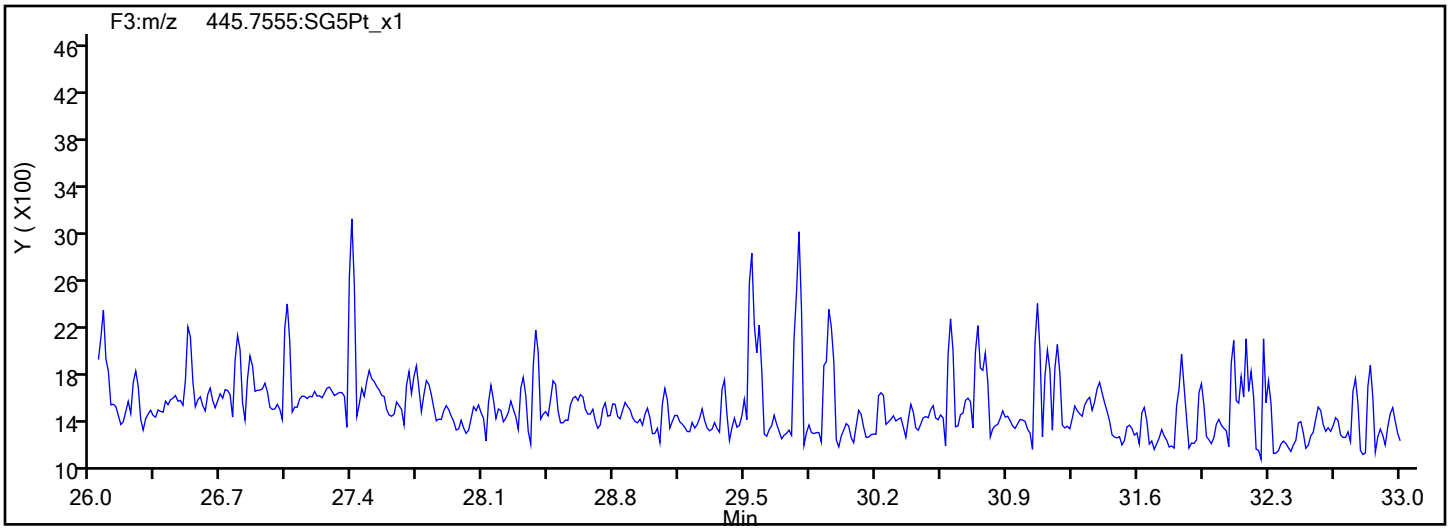

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Eurofins TestAmerica, Sacramento

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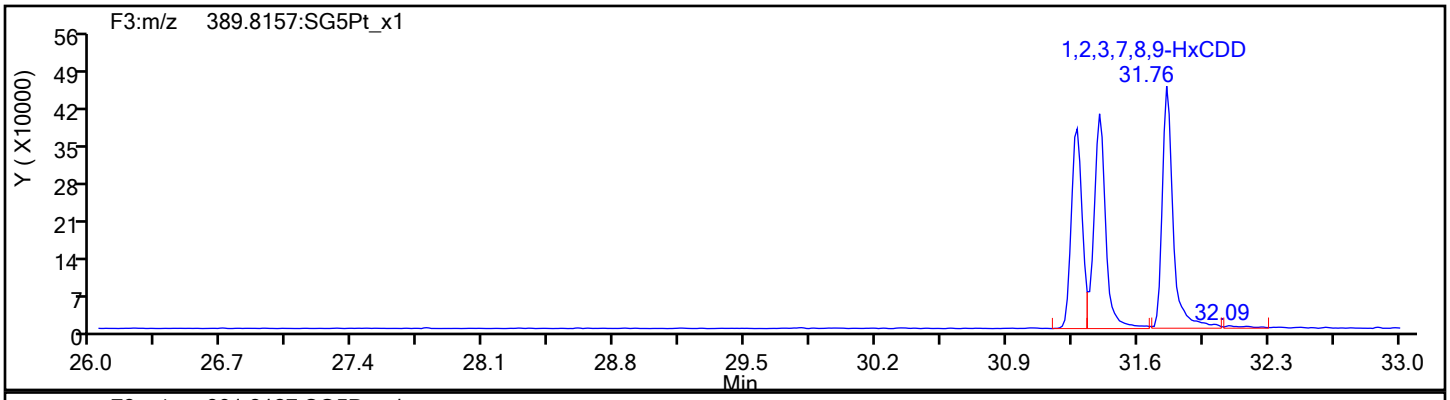

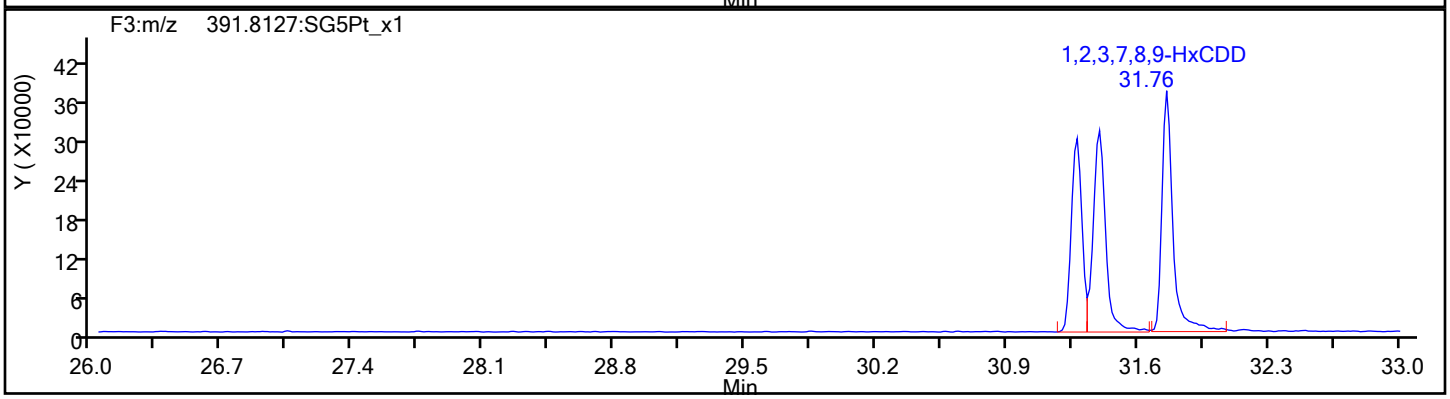

HxCDD Standards

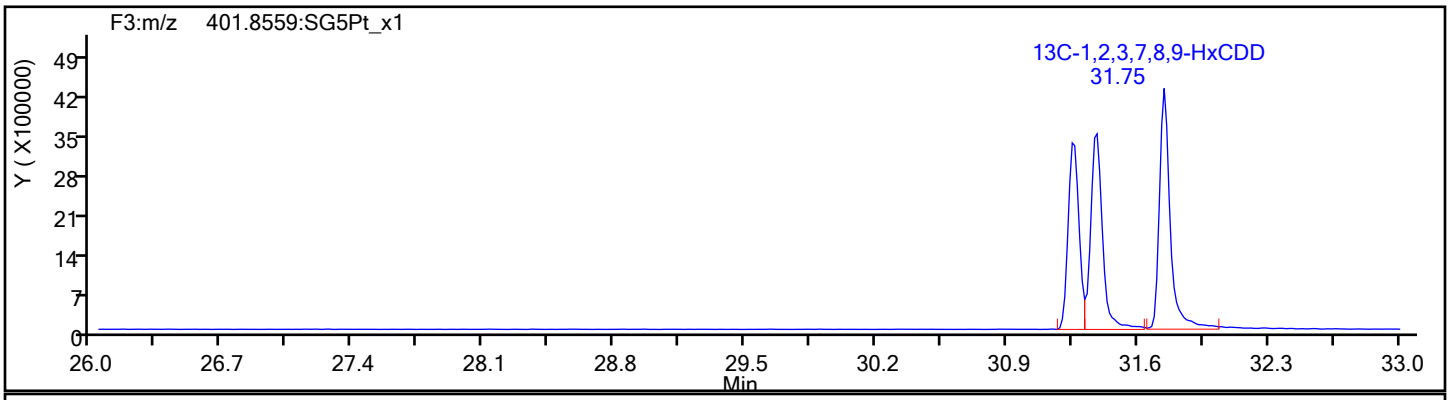

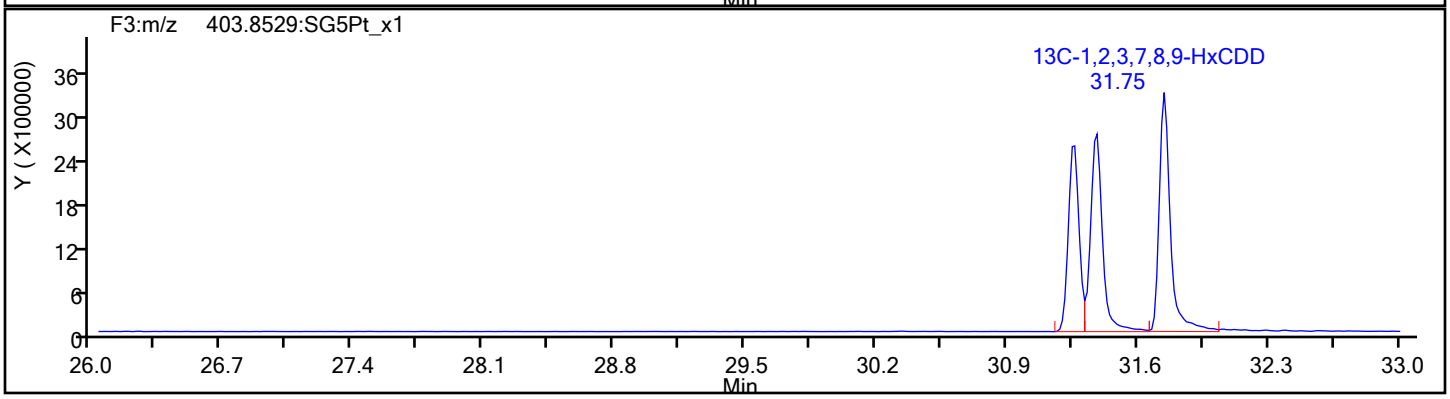

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Eurofins TestAmerica, Sacramento

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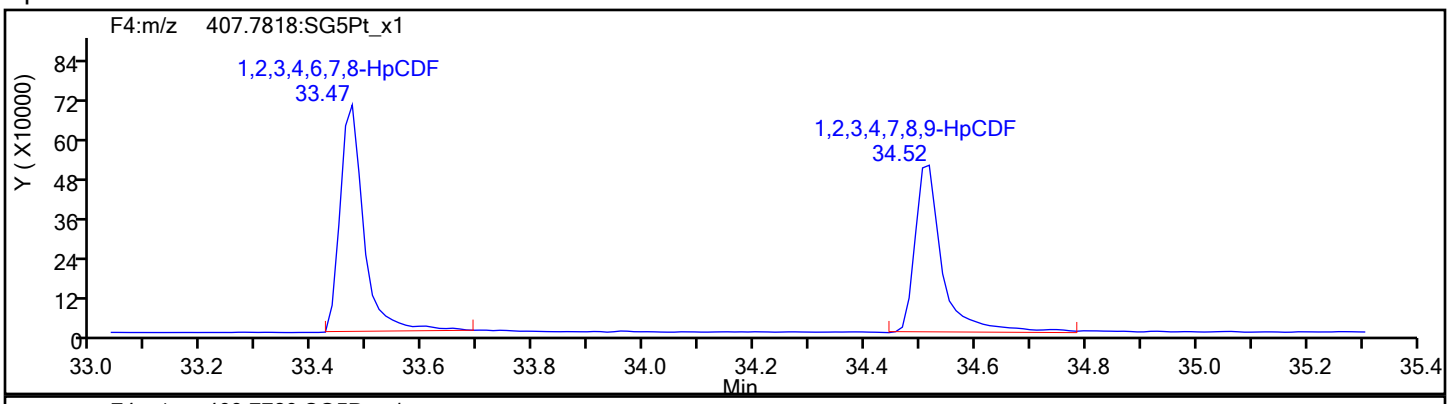

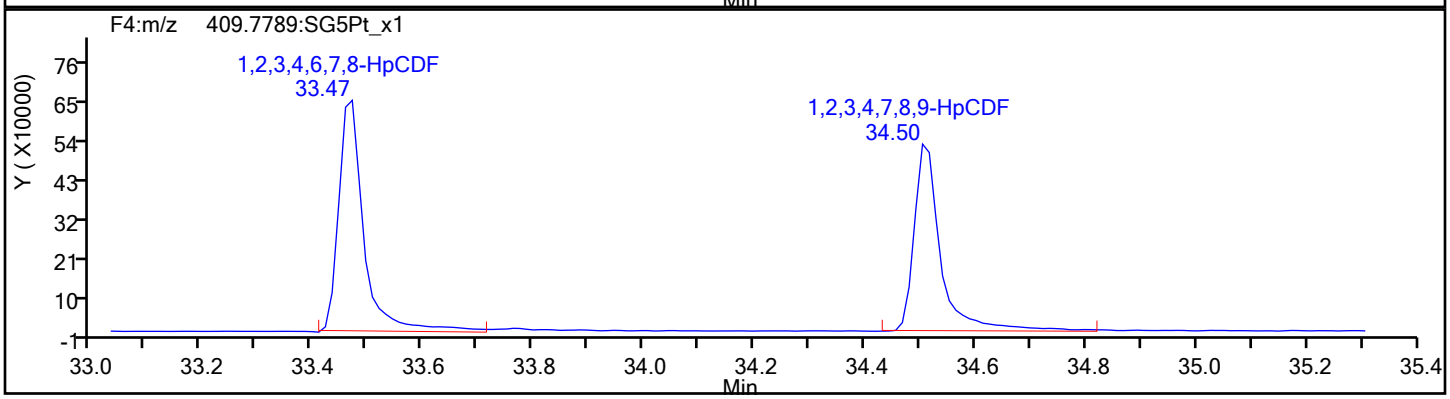

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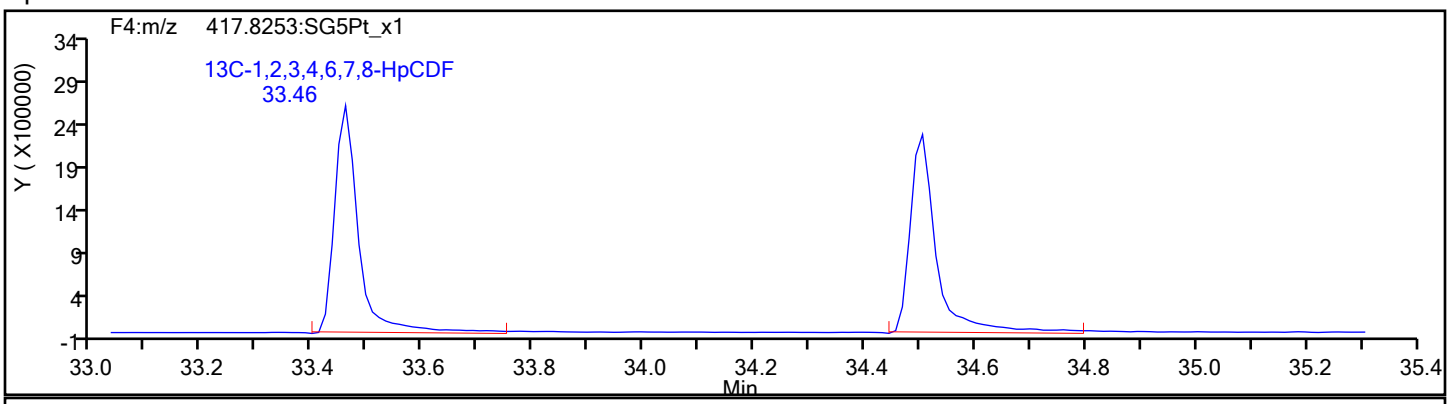

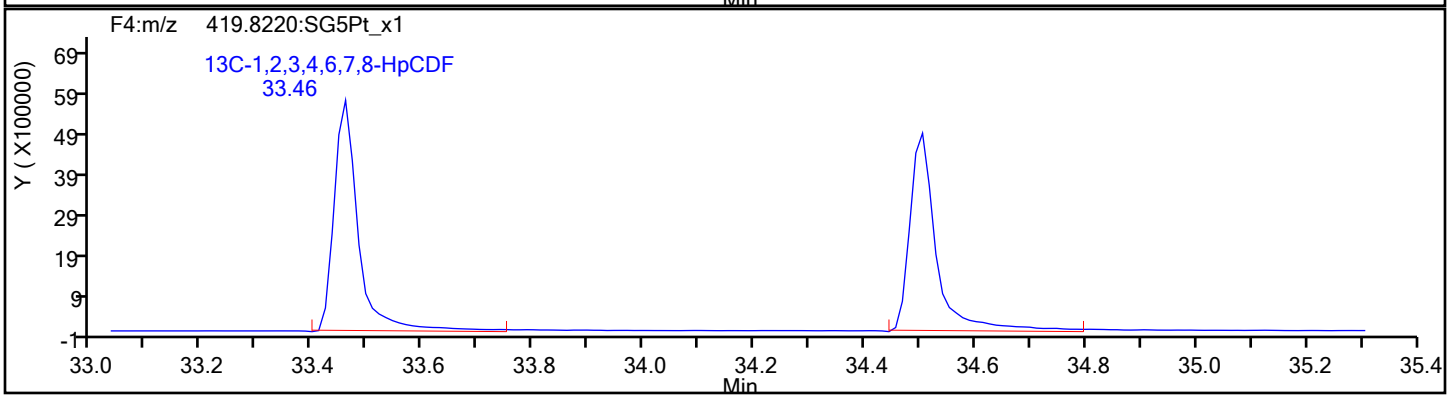

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Eurofins TestAmerica, Sacramento

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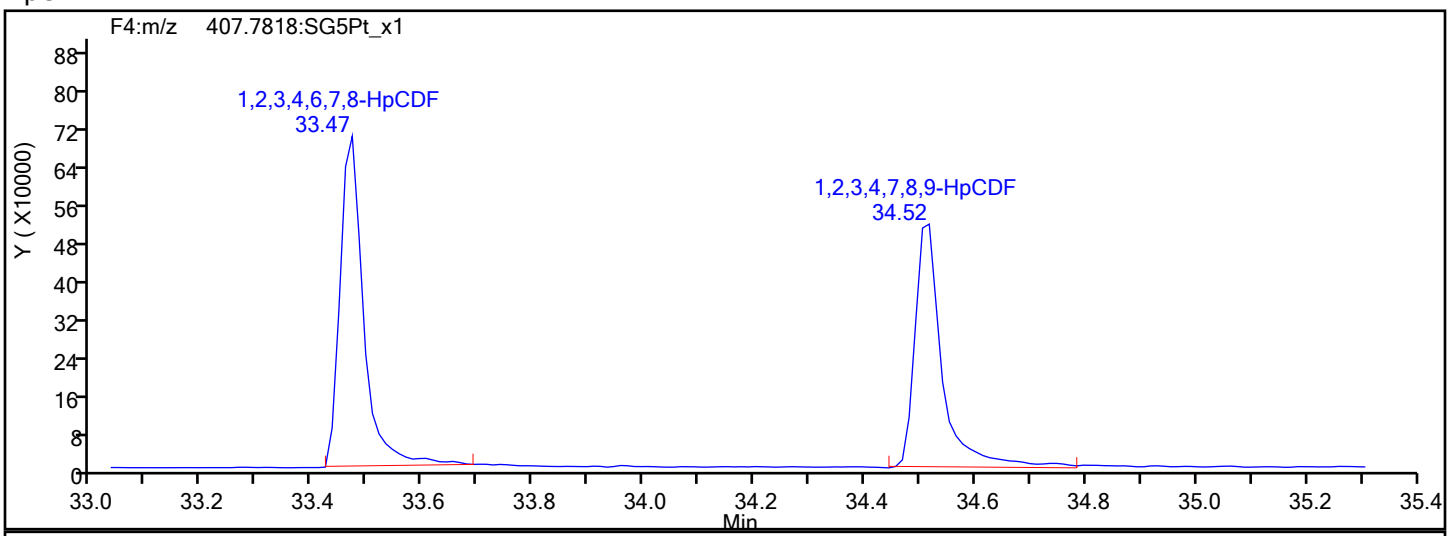

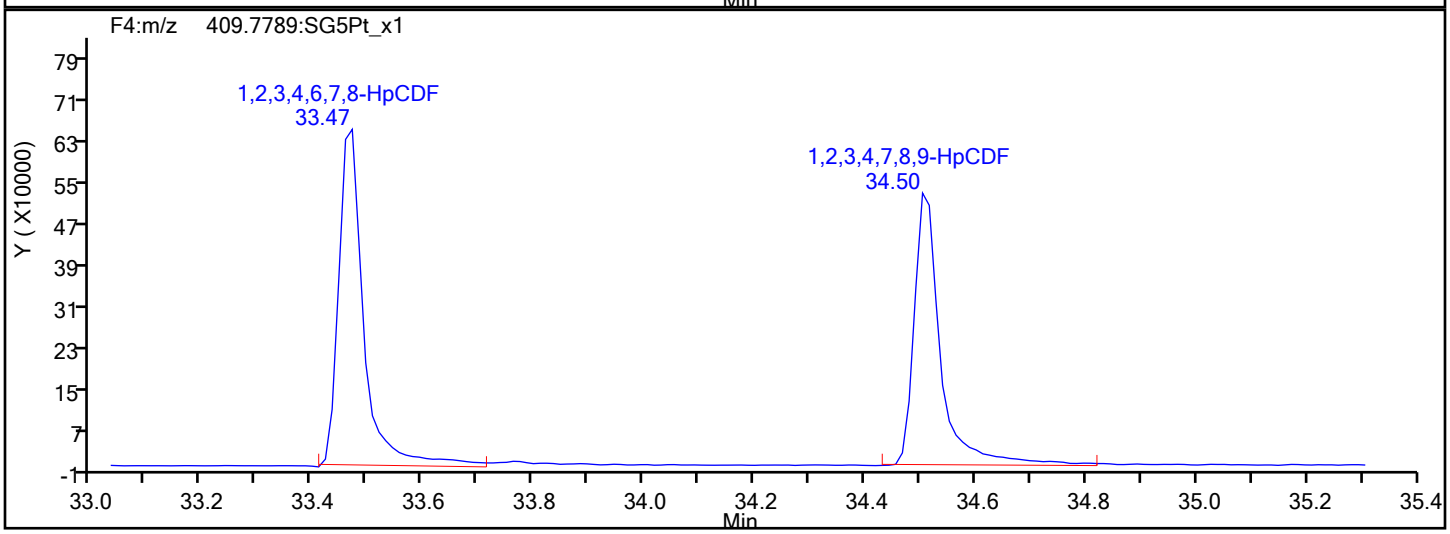

HpCDF Interference Mass

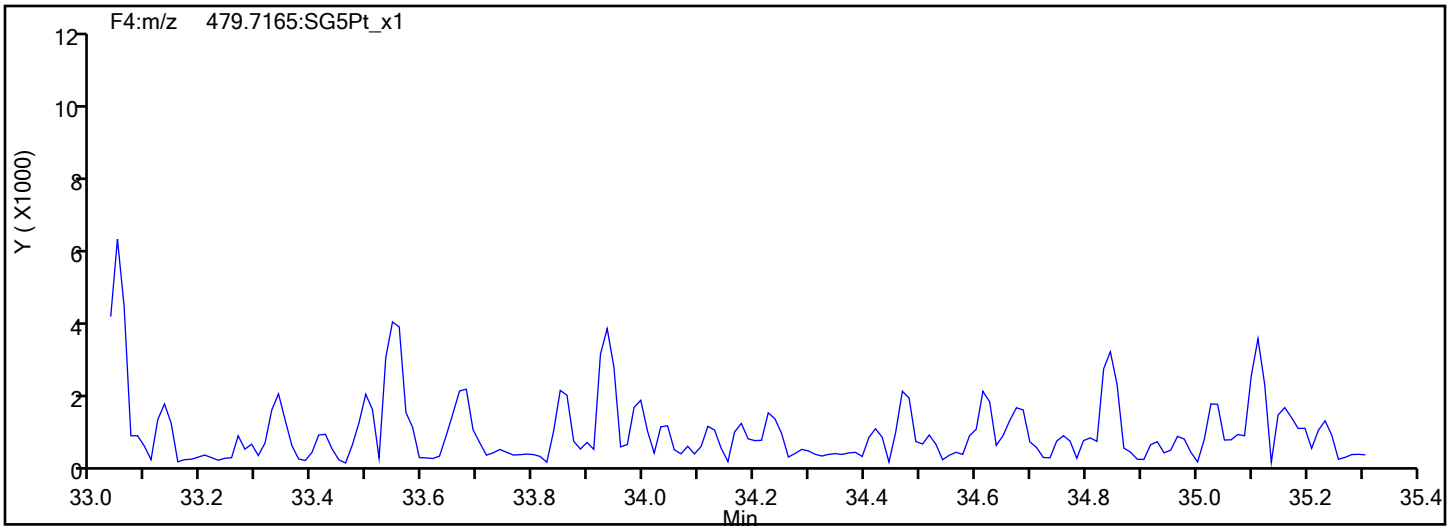

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Eurofins TestAmerica, Sacramento

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HpCDD

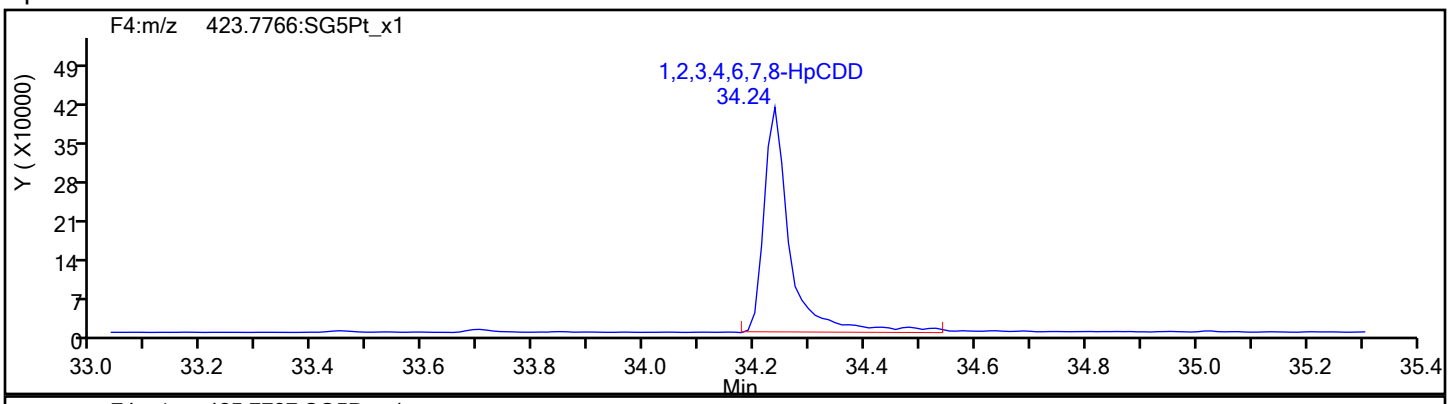

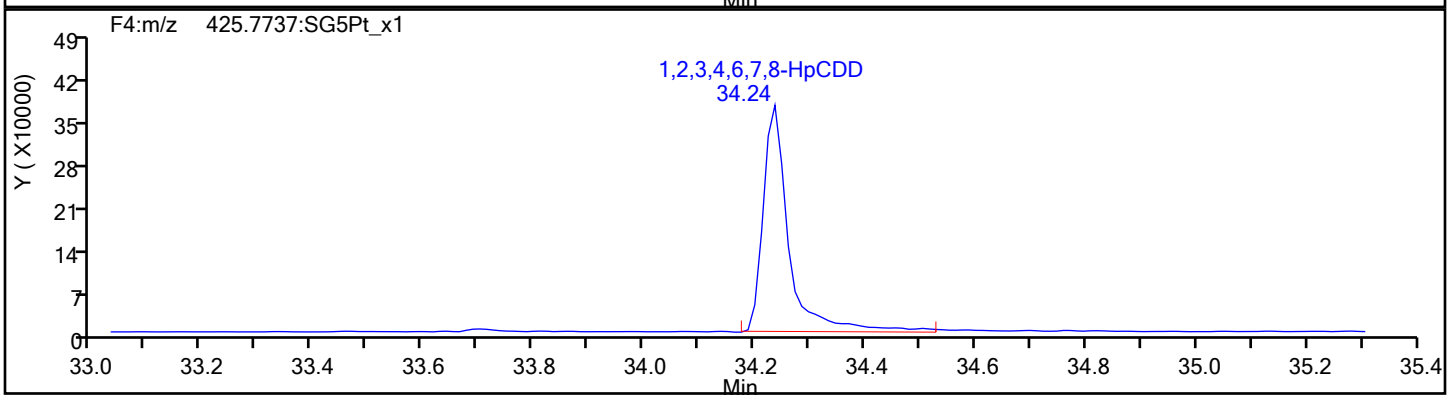

HpCDD Standards

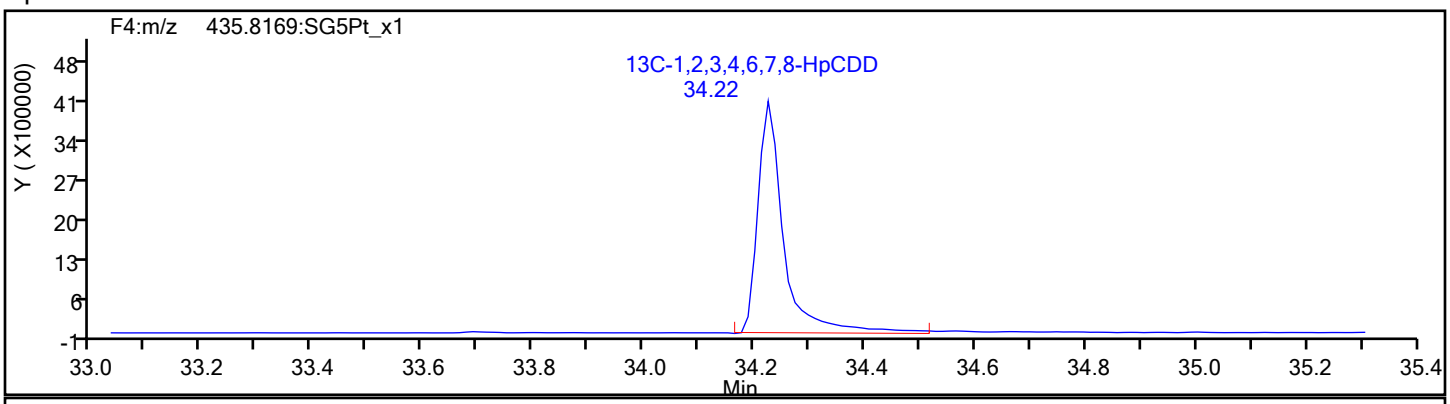

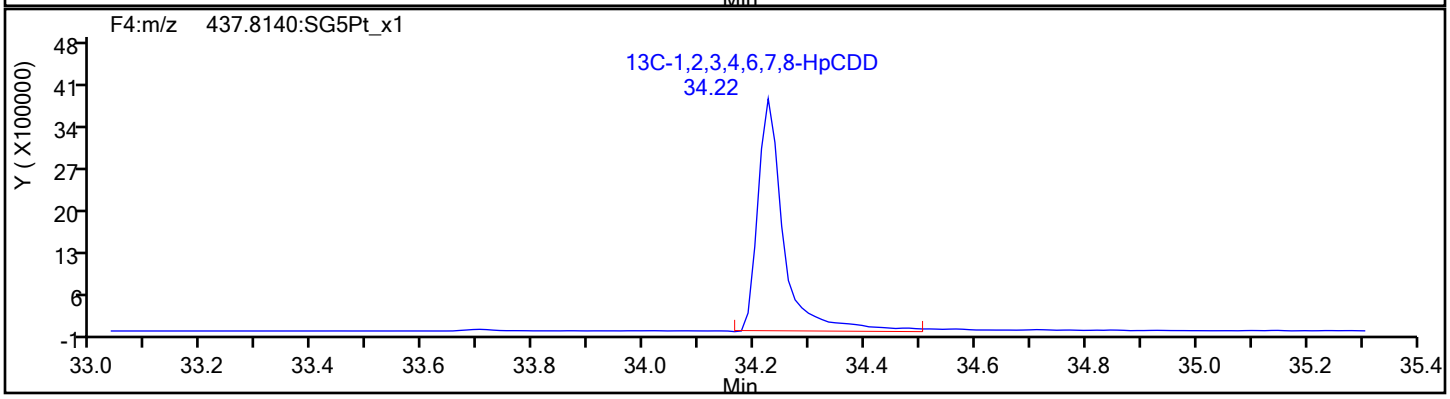

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Eurofins TestAmerica, Sacramento

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Injection Date:	17-Sep-2019 13:49:24	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

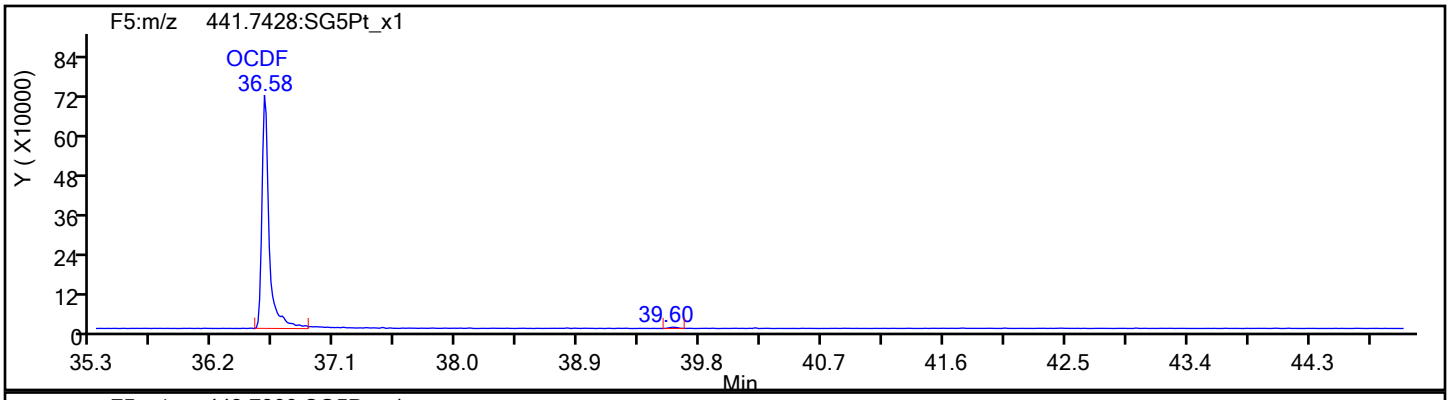

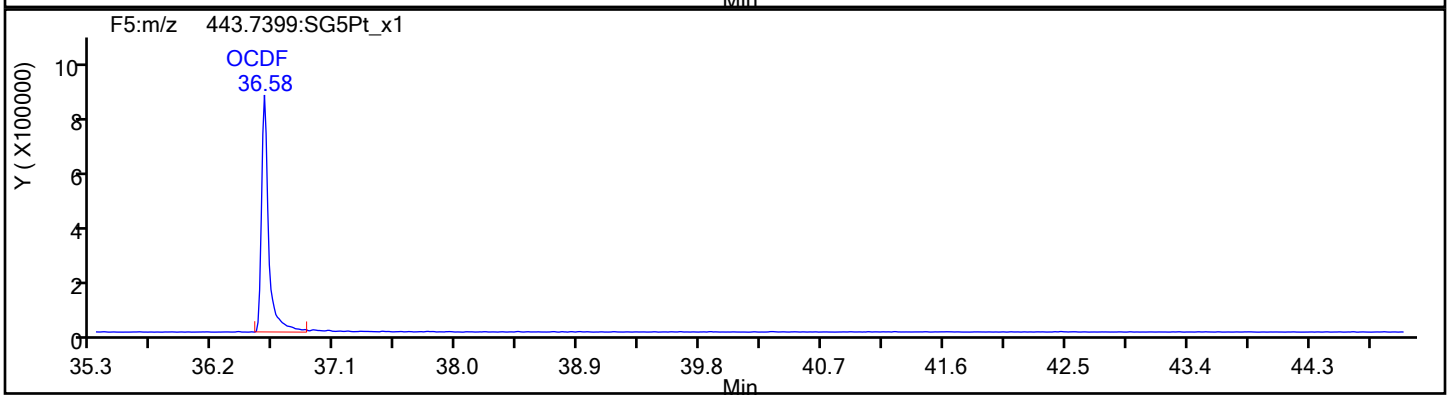

OCDF Standards

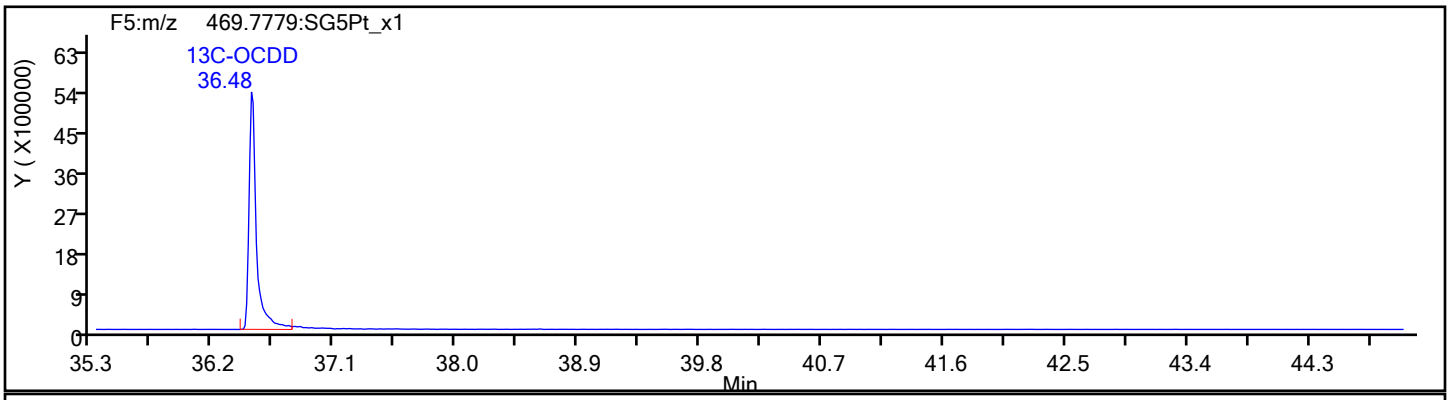

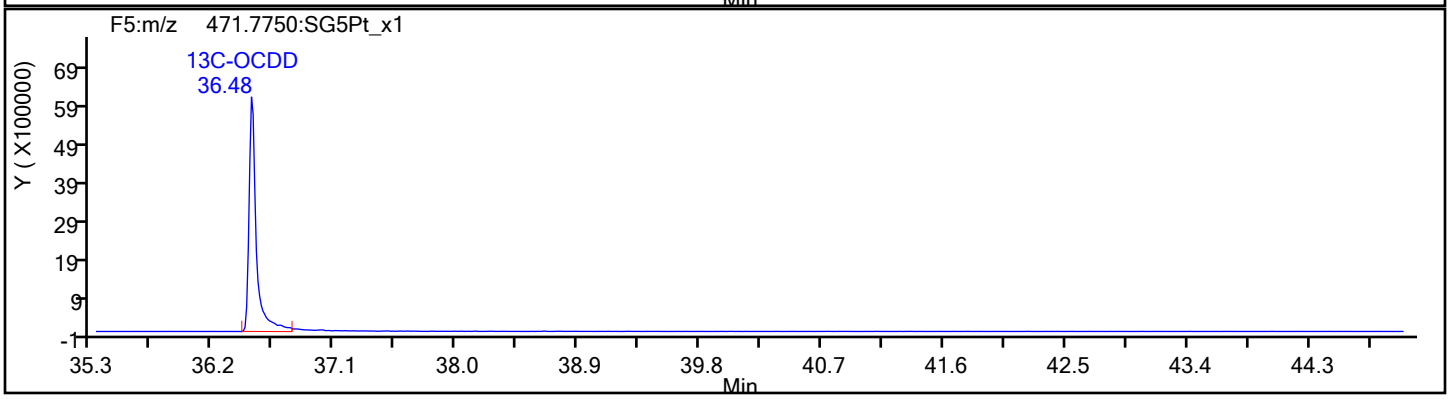

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d		
Injection Date:	17-Sep-2019 13:49:24	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

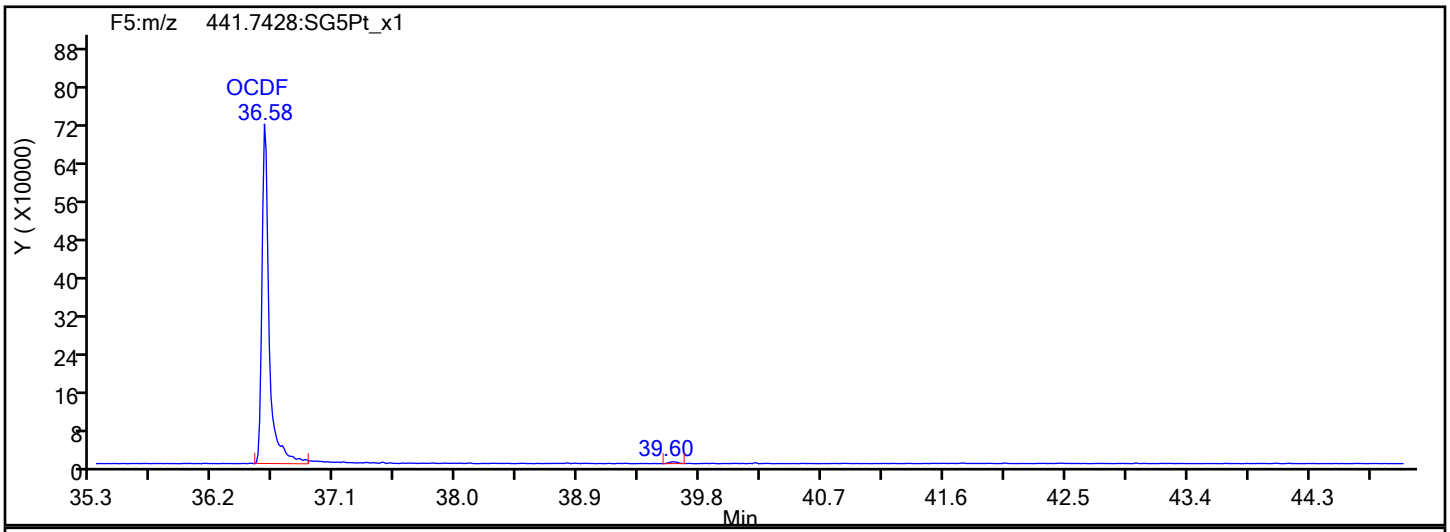

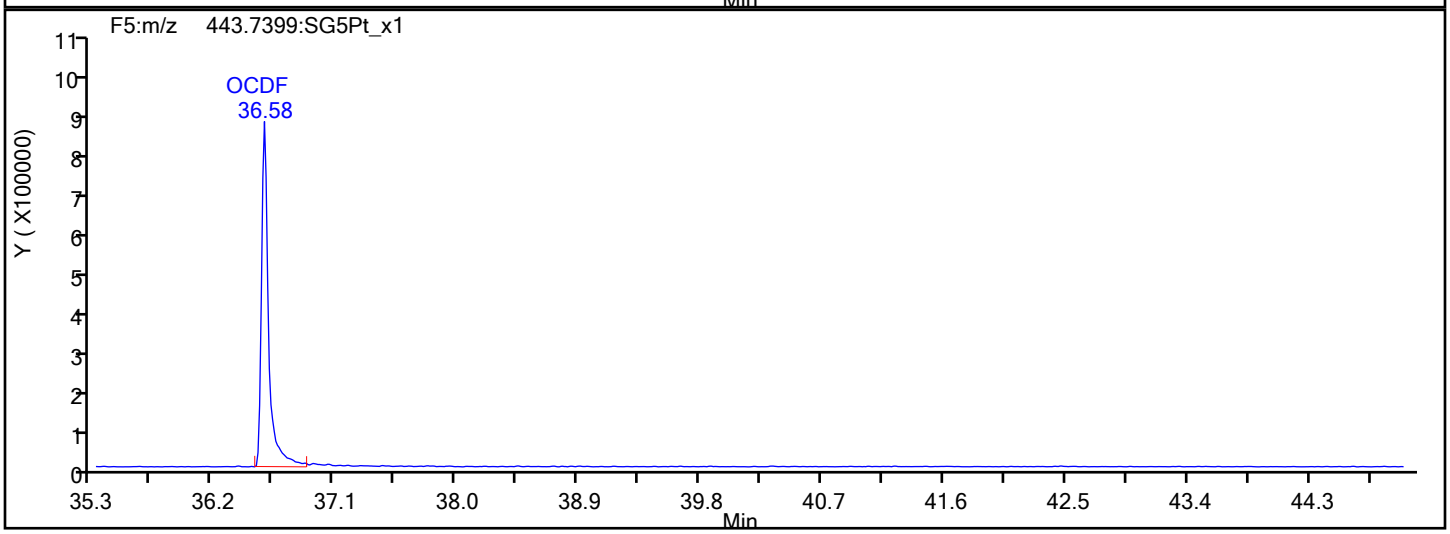

OCDF Interference Mass

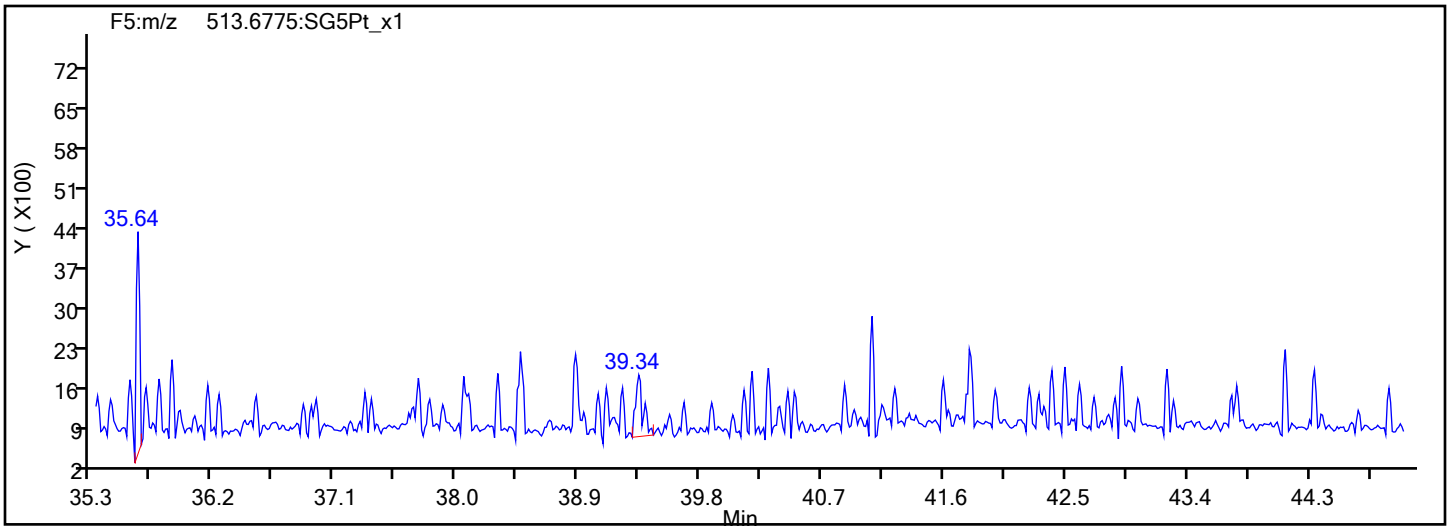

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d		
Injection Date:	17-Sep-2019 13:49:24	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

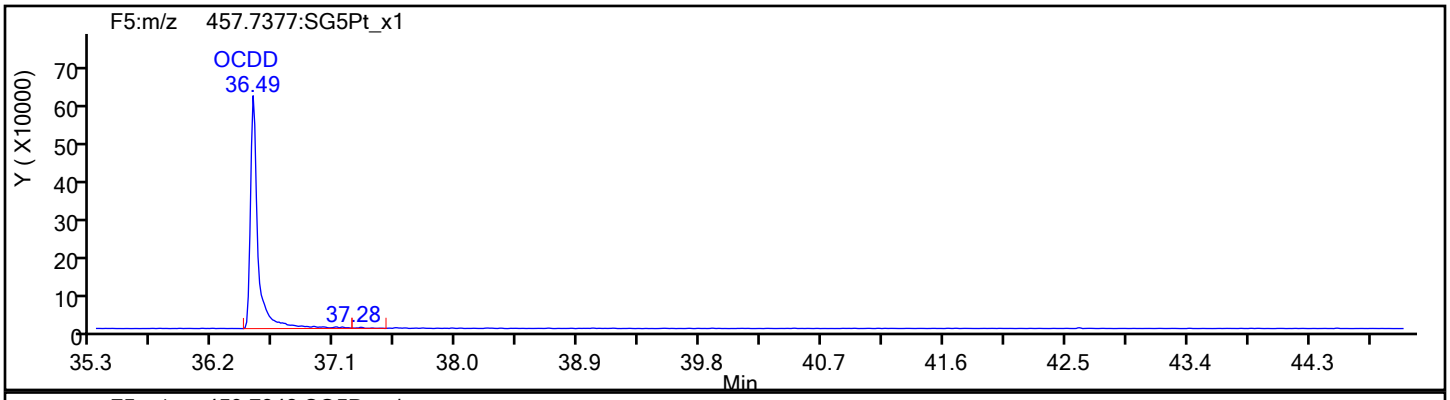

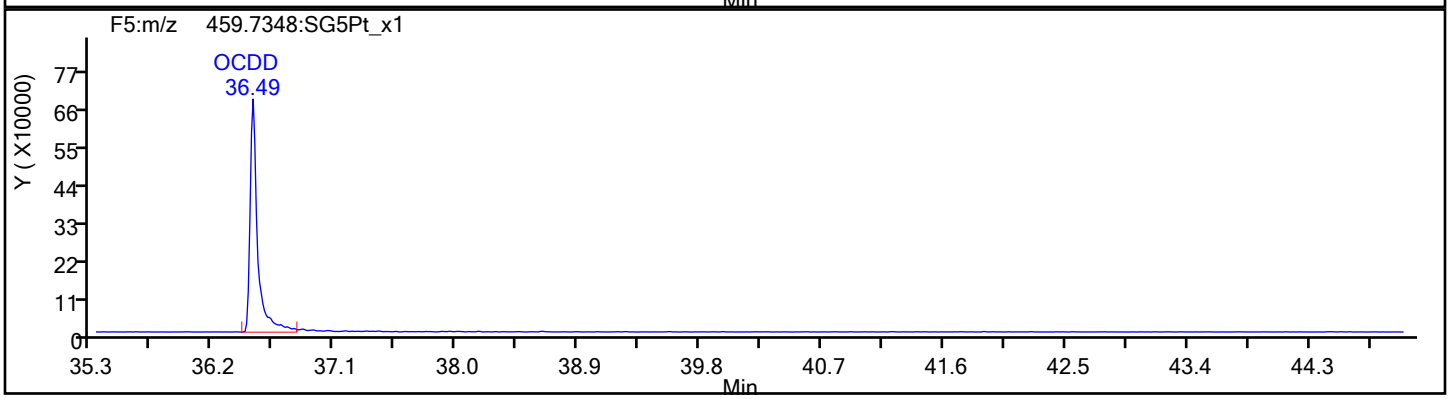

OCDD Standards

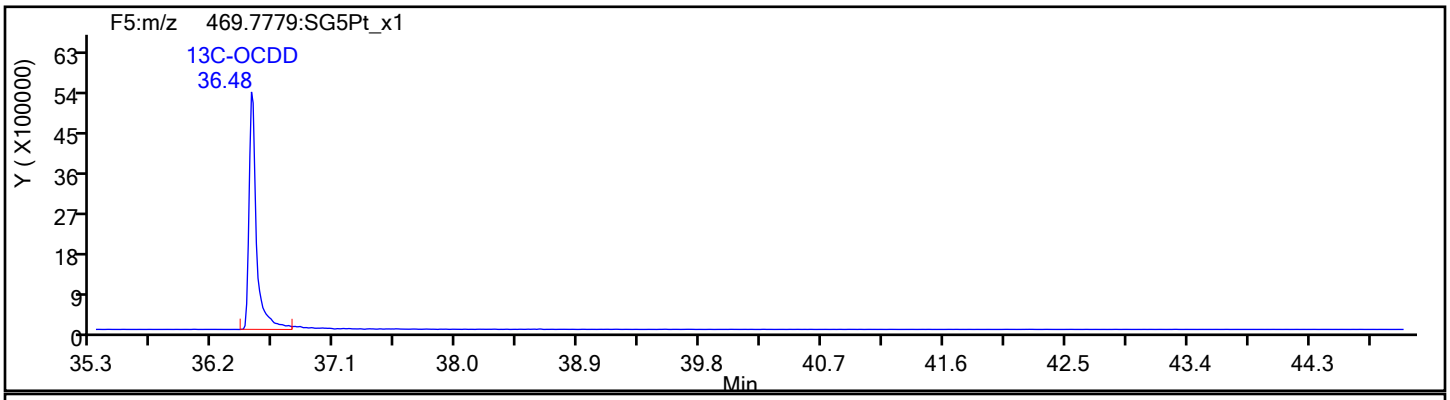

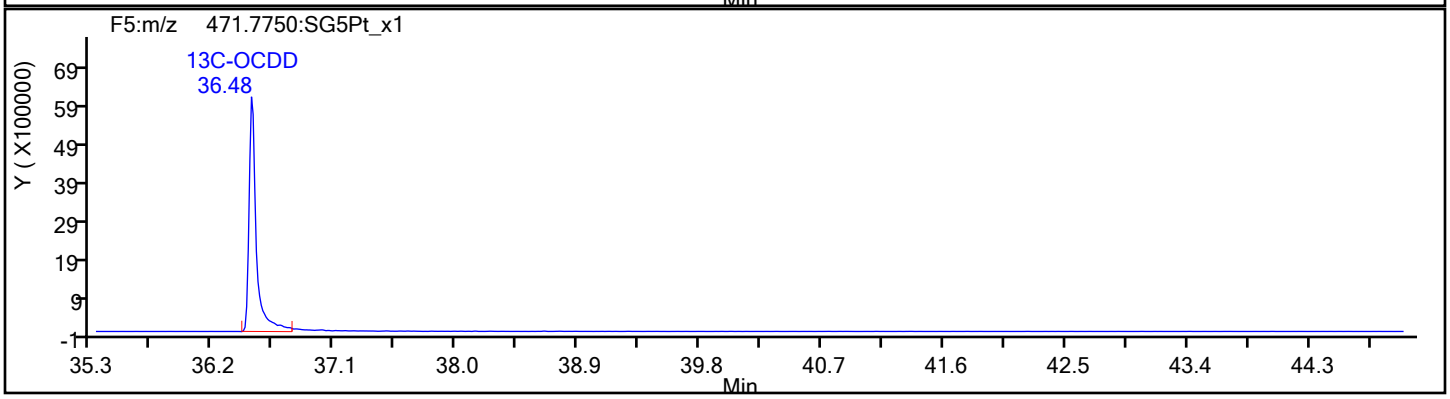

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d		
Injection Date:	17-Sep-2019 13:49:24	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

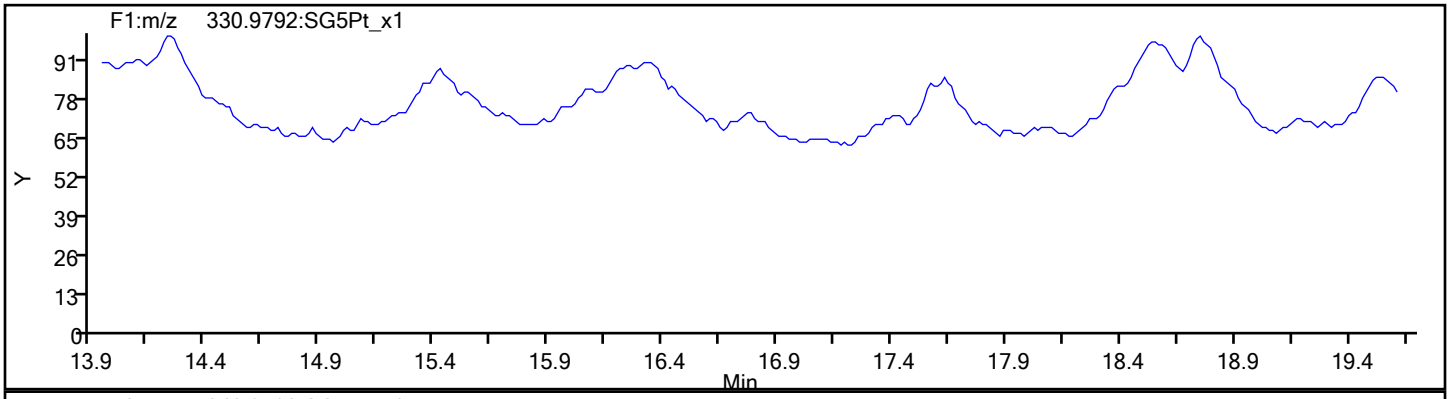

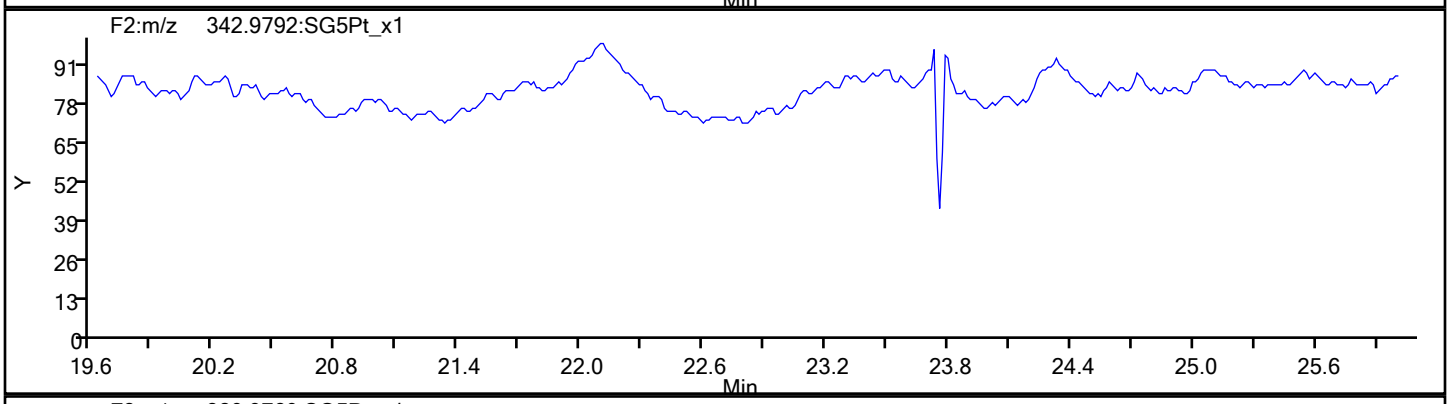

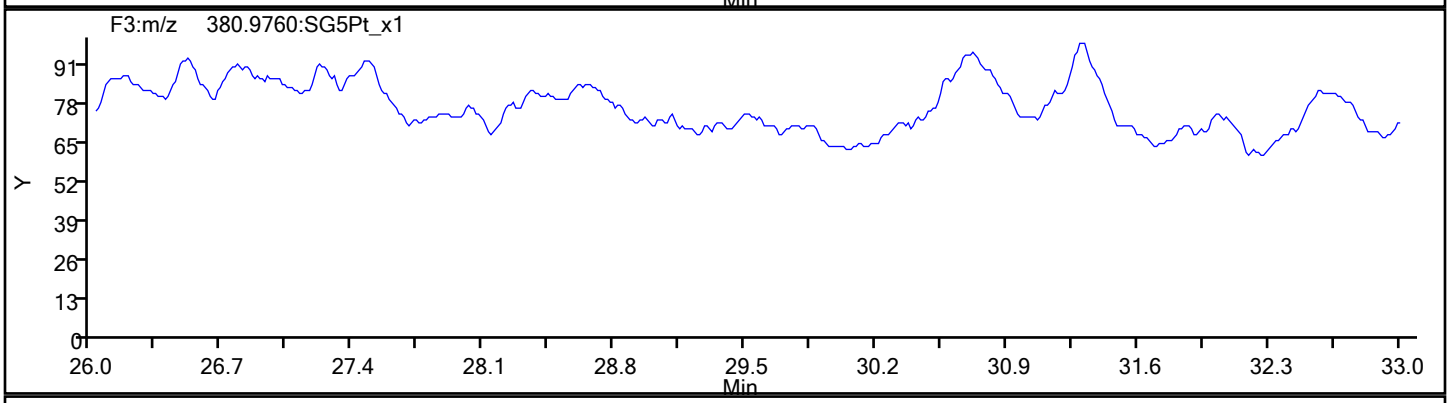

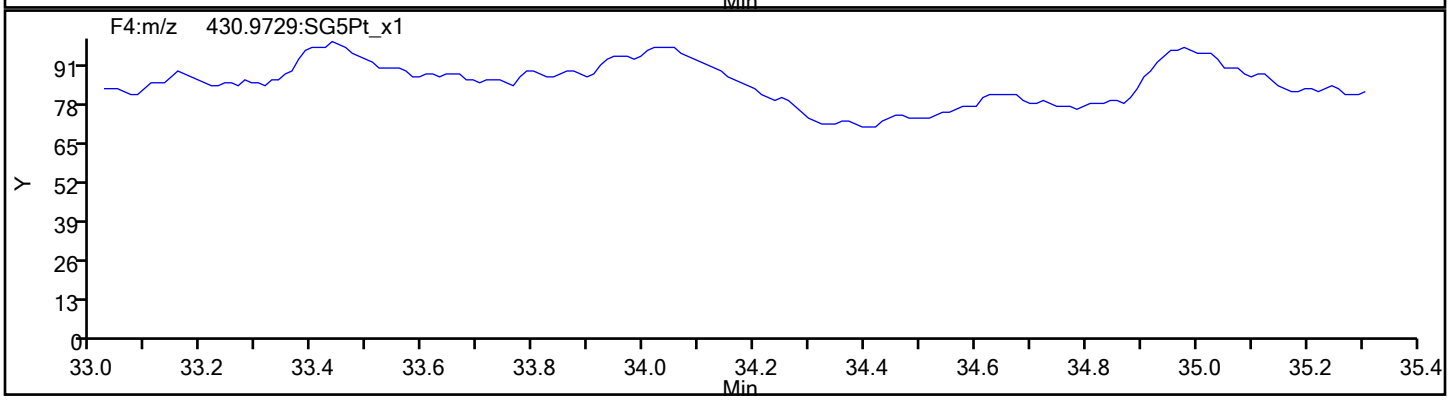

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d		
Injection Date:	17-Sep-2019 13:49:24	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

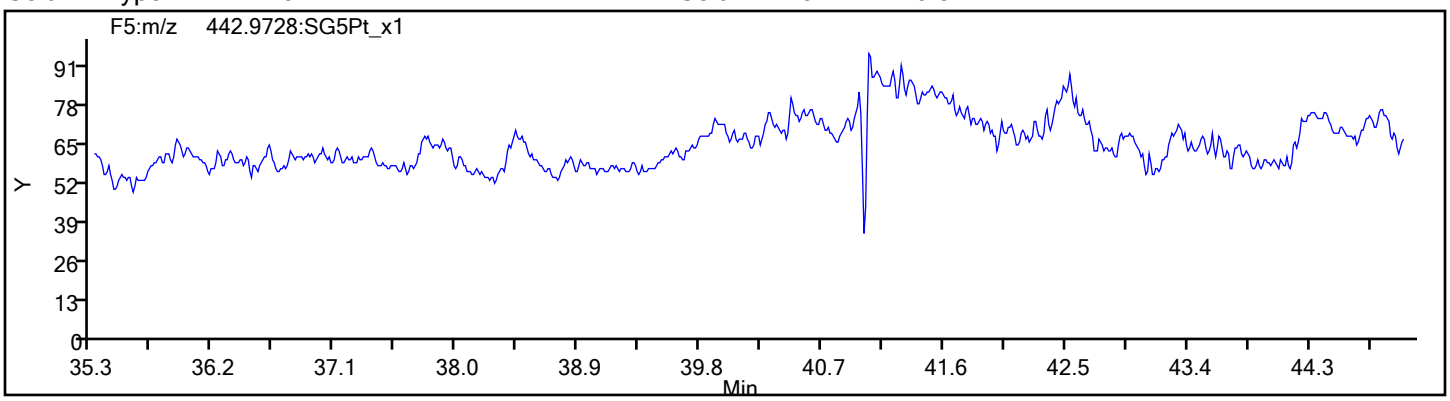

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_6.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 17-Sep-2019 15:21:22 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719C CS-5 HRDXNL5_00028
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:28 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:06:18

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.315	136791650	0.77	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.816	197671153	0.80	1.4384	100.5	100.5	0.1444	0.1444	100	
2,3,7,8-TCDF	16.831	83942362	0.79	1.0507	40.4	40.4	0.0684	0.0684	101	
S Total TCDF					40.4	40.4	0.0684	0.0684		
D 13C-2,3,7,8-TCDD	17.496	131023361	0.76	0.9533	100.5	100.5	0.1754	0.1754	100	
$ 37Cl4-2,3,7,8-TCDD	17.511	70585275		1.2224	42.2	42.2	0.0502	0.0502	106	
2,3,7,8-TCDD	17.511	59019056	0.79	1.1064	40.7	40.7	0.0423	0.0423	102	
S Total TCDD					40.7	40.7	0.0423	0.0423		
D 13C-1,2,3,7,8-PeCDF	21.645	146707284	1.60	1.0286	104.3	104.3	0.2271	0.2271	104	
1,2,3,7,8-PeCDF	21.672	332470884	1.58	1.0822	209.4	209.4	0.5823	0.5823	105	
D 13C-2,3,4,7,8-PeCDF	22.940	140755634	1.62	0.9827	104.7	104.7	0.2377	0.2377	105	
2,3,4,7,8-PeCDF	22.968	330153847	1.57	1.1032	212.6	212.6	0.6510	0.6510	106	
S Total PeCDF					422.0	422.0	0.6166	0.6166		
D 13C-1,2,3,7,8-PeCDD	23.636	108225317	1.55	0.7481	105.8	105.8	0.1282	0.1282	106	
1,2,3,7,8-PeCDD	23.663	203688899	1.58	0.9050	208.0	208.0	0.2341	0.2341	104	
S Total PeCDD					208.0	208.0	0.2341	0.2341		
D 13C-1,2,3,4,7,8-HxCDF	29.762	115322048	0.51	1.1520	100.3	100.3	0.4565	0.4565	100	
1,2,3,4,7,8-HxCDF	29.802	291651831	1.26	1.1973	211.2	211.2	1.539	1.539	106	
D 13C-1,2,3,6,7,8-HxCDF	30.028	126224651	0.53	1.2434	101.7	101.7	0.4229	0.4229	102	
1,2,3,6,7,8-HxCDF	30.055	311373058	1.26	1.1807	208.9	208.9	1.338	1.338	104	
D 13C-2,3,4,6,7,8-HxCDF	31.053	118677202	0.52	1.1720	101.5	101.5	0.4487	0.4487	101	
2,3,4,6,7,8-HxCDF	31.067	300428448	1.26	1.2116	208.9	208.9	0.9123	0.9123	104	
D 13C-1,2,3,7,8,9-HxCDF	31.945	107073331	0.52	1.0655	100.7	100.7	0.4935	0.4935	101	
1,2,3,7,8,9-HxCDF	31.958	272303395	1.26	1.2451	204.2	204.2	0.8892	0.8892	102	
S Total HxCDF					833.3	833.3	1.170	1.170		
* 13C-1,2,3,7,8,9-HxCDD	31.759	99810625	1.29	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.266	80372897	1.29	0.7812	103.1	103.1	0.3822	0.3822	103	
1,2,3,4,7,8-HxCDD	31.293	186227471	1.26	1.1088	209.0	209.0	0.6104	0.6104	104	
D 13C-1,2,3,6,7,8-HxCDD	31.386	95002970	1.27	0.9175	103.7	103.7	0.3254	0.3254	104	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.413	212361866	1.27	1.0814	206.7	206.7	0.5785	0.5785	103	
1,2,3,7,8,9-HxCDD	31.772	218049333	1.25	1.2123	205.1	205.1	0.5363	0.5363	103	
S Total HxCDD					620.8	620.8	0.5751	0.5751		
D 13C-1,2,3,4,6,7,8-HpCDF	33.459	88816288	0.46	0.8628	103.1	103.1	2.079	2.079	103	
1,2,3,4,6,7,8-HpCDF	33.472	281845286	1.05	1.5555	204.0	204.0	3.635	3.635	102	
D 13C-1,2,3,4,7,8,9-HpCDF	34.504	81274920	0.45	0.7991	101.9	101.9	2.245	2.245	102	
1,2,3,4,7,8,9-HpCDF	34.516	239010564	1.05	1.3862	212.1	212.1	4.800	4.800	106	
S Total HpCDF					416.1	416.1	4.218	4.218		
D 13C-1,2,3,4,6,7,8-HpCDD	34.237	90130025	1.04	0.8739	103.3	103.3	1.148	1.148	103	
1,2,3,4,6,7,8-HpCDD	34.237	175833007	1.05	0.9316	209.4	209.4	2.167	2.167	105	
S Total HpCDD					209.4	209.4	2.167	2.167		
D 13C-OCDD	36.493	158997965	0.88	0.7744	205.7	205.7	0.3551	0.3551	103	
OCDF	36.589	418862104	0.89	1.2596	418.3	418.3	0.4537	0.4537	105	
OCDD	36.505	347055077	0.89	1.0621	411.0	411.0	0.6571	0.6571	103	

Reagents:

HRDXNL5_00028 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_6.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 17-Sep-2019 15:21:22 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719C CS-5 HRDXNL5_00028
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:28 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:06:18

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.315	17.303	1		59594664	15287135	9225	23062	1657		
333.9339	17.315	17.303	1		77196986	19734133	14193	35482	1390	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.816	16.810	0	0.971	87712948	23127802	13754	34385	1682		
317.9389	16.816	16.810	0	0.971	109958205	28845594	15339	38347	1881	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.831	16.825	0	1.001	36949180	9674667	6043	15107	1601		
305.8987	16.831	16.825	0	1.001	46993182	12302542	8902	22255	1382	0.79(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.496	17.490	0	1.010	56708135	13975530	9225	23062	1515		
333.9339	17.496	17.490	0	1.010	74315226	18338786	14193	35482	1292	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.511	17.505	0	1.011	70585275	17605066	8592	21480	2049		
2,3,7,8-TCDD											
319.8965	17.511	17.505	0	1.001	26067676	6503532	2993	7482	2173		
321.8936	17.511	17.505	0	1.001	32951380	8185513	3053	7632	2681	0.79(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	21.645	21.637	0	1.250	90246004	16955643	19974	49935	849		
353.8970	21.645	21.637	0	1.250	56461280	10556577	12749	31872	828	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.672	21.661	1	1.001	203793856	37432282	42262	105655	886		
341.8567	21.672	21.661	1	1.001	128677028	23626725	27084	67710	872	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	22.940	22.932	0	1.325	87007765	14859467	19974	49935	744		
353.8970	22.940	22.932	0	1.325	53747869	9280455	12749	31872	728	1.62(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.968	22.954	1	1.001	201570262	34626412	42262	105655	819		
341.8567	22.968	22.954	1	1.001	128583585	22276079	27084	67710	822	1.57(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.636	23.625	1	1.365	65730378	10862933	7904	19760	1374		
369.8919	23.636	23.625	1	1.365	42494939	6954914	5526	13815	1259	1.55(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.663	23.649	1	1.001	124750517	20269910	9274	23185	2186		
357.8516	23.663	23.649	1	1.001	78938382	12735405	5825	14562	2186	1.58(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.762	29.754	0	0.937	39196947	5461495	18152	45380	301		
385.8610	29.762	29.754	0	0.937	76125101	10409265	31962	79905	326	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.802	29.789	1	1.001	162403041	22433624	65844	164610	341		
375.8178	29.789	29.789	0	1.001	129248790	17859839	51149	127872	349	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.028	30.015	1	0.946	43639188	6387099	18152	45380	352		
385.8610	30.028	30.015	1	0.946	82585463	12130808	31962	79905	380	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.055	30.039	1	1.001	173687895	26264182	65844	164610	399		
375.8178	30.055	30.039	1	1.001	137685163	20987234	51149	127872	410	1.26(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.053	31.043	1	0.978	40788407	9120663	18152	45380	502		
385.8610	31.053	31.043	1	0.978	77888795	17340792	31962	79905	543	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.067	31.059	0	1.000	167309786	37576842	65844	164610	571		
375.8178	31.067	31.059	0	1.000	133118662	29904554	51149	127872	585	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.945	31.942	0	1.006	36791830	9139865	18152	45380	504		
385.8610	31.945	31.942	0	1.006	70281501	17276995	31962	79905	541	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.958	31.956	0	1.000	151855406	36977671	65844	164610	562		
375.8178	31.958	31.956	0	1.000	120447989	30006929	51149	127872	587	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.759	31.748	1		56270617	13452314	14607	36517	921		
403.8529	31.759	31.748	1		43540008	10372903	13848	34620	749	1.29(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.266	31.261	0	0.984	45227277	11150175	14607	36517	763		
403.8529	31.266	31.261	0	0.984	35145620	8735365	13848	34620	631	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.293	31.280	1	1.001	103691748	26080947	29902	74755	872		
391.8127	31.279	31.280	0	1.000	82535723	20584143	23933	59832	860	1.26(1.05-1.43)	

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Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_6.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.386	31.383	0	0.988	53174636	12056504	14607	36517	825		
403.8529	31.386	31.383	0	0.988	41828334	9455739	13848	34620	683	1.27(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.413	31.402	1	1.001	118924223	27338827	29902	74755	914		
391.8127	31.413	31.402	1	1.001	93437643	21365407	23933	59832	893	1.27(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.772	31.761	1	1.016	121151996	28954994	29902	74755	968		
391.8127	31.772	31.761	1	1.016	96897337	23073240	23933	59832	964	1.25(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.459	33.457	0	1.054	28029452	9006809	51228	128070	176		
419.8220	33.459	33.457	0	1.054	60786836	19574017	119701	299252	164	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.472	33.469	0	1.000	144194629	47922295	320097	800242	150		
409.7789	33.472	33.469	0	1.000	137650657	45921753	326367	815917	141	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.504	34.502	0	1.086	25205698	7508483	51228	128070	147		
419.8220	34.504	34.502	0	1.086	56069222	16780818	119701	299252	140	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.516	34.509	0	1.000	122343291	36942029	320097	800242	115		
409.7789	34.516	34.509	0	1.000	116667273	34848749	326367	815917	107	1.05(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.237	34.227	1	1.078	45952113	13244990	41516	103790	319		
437.8140	34.225	34.227	0	1.078	44177912	12813430	54131	135327	237	1.04(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.237	34.235	0	1.000	90154256	26778982	103826	259565	258		
425.7737	34.237	34.235	0	1.000	85678751	25940196	106590	266475	243	1.05(0.88-1.20)	
13C-OCDD											
469.7779	36.493	36.486	0	1.149	74572520	18801270	9864	24660	1906		
471.7750	36.493	36.486	0	1.149	84425445	21269549	16343	40857	1301	0.88(0.76-1.02)	
OCDF											
441.7428	36.589	36.581	0	1.003	197544150	51410039	20935	52337	2456		
443.7399	36.589	36.581	0	1.003	221317954	56864509	24864	62160	2287	0.89(0.76-1.02)	
OCDD											
457.7377	36.505	36.497	0	1.000	163350934	40607331	33690	84225	1205		
459.7348	36.505	36.497	0	1.000	183704143	44957614	22242	55605	2021	0.89(0.76-1.02)	

Reagents:

HRDXNL5_00028 Amount Added: 1.00 Units: mL

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Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_6.d		
Injection Date:	17-Sep-2019 15:21:22	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

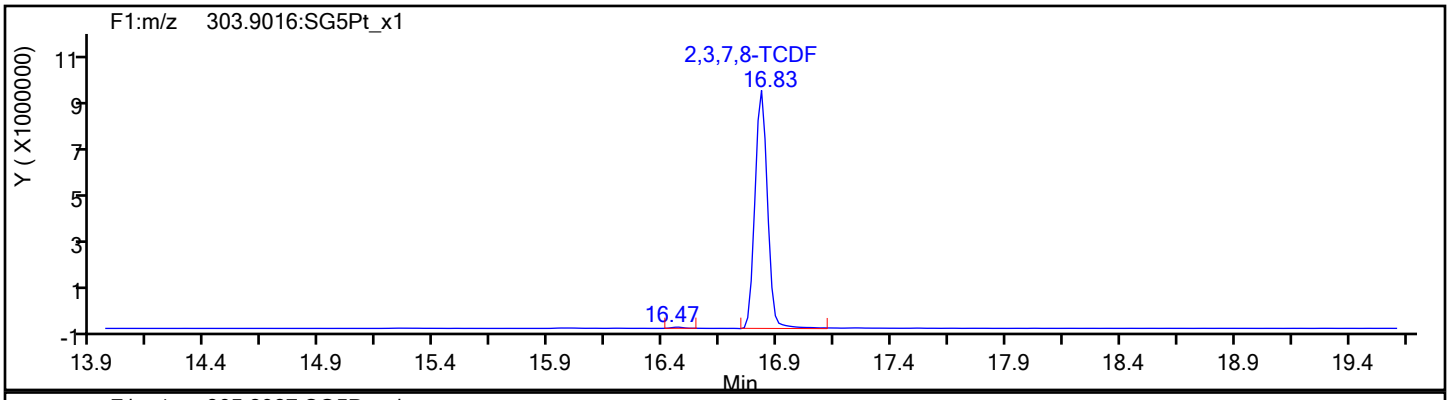

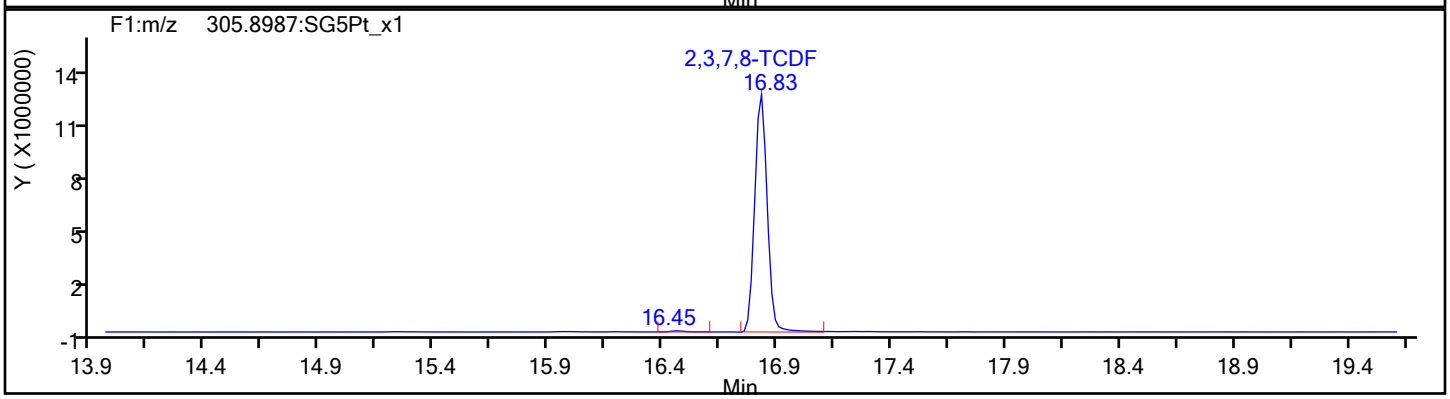

TCDF Standards

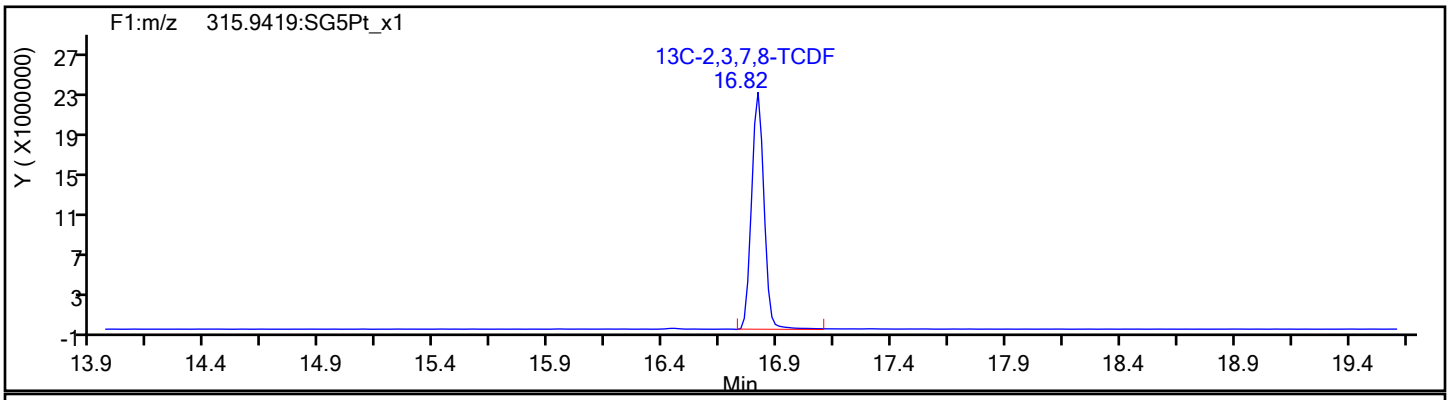

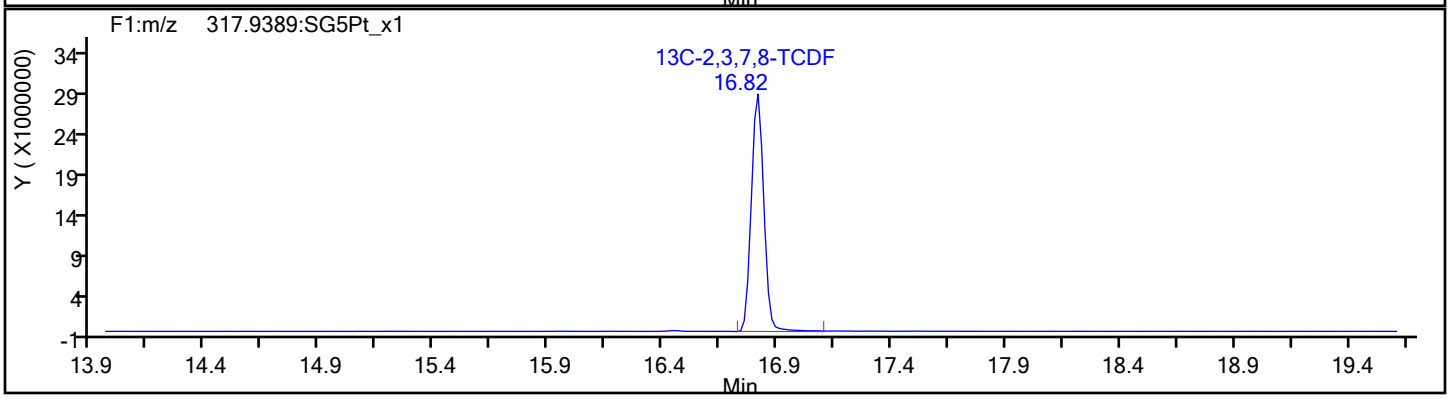

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

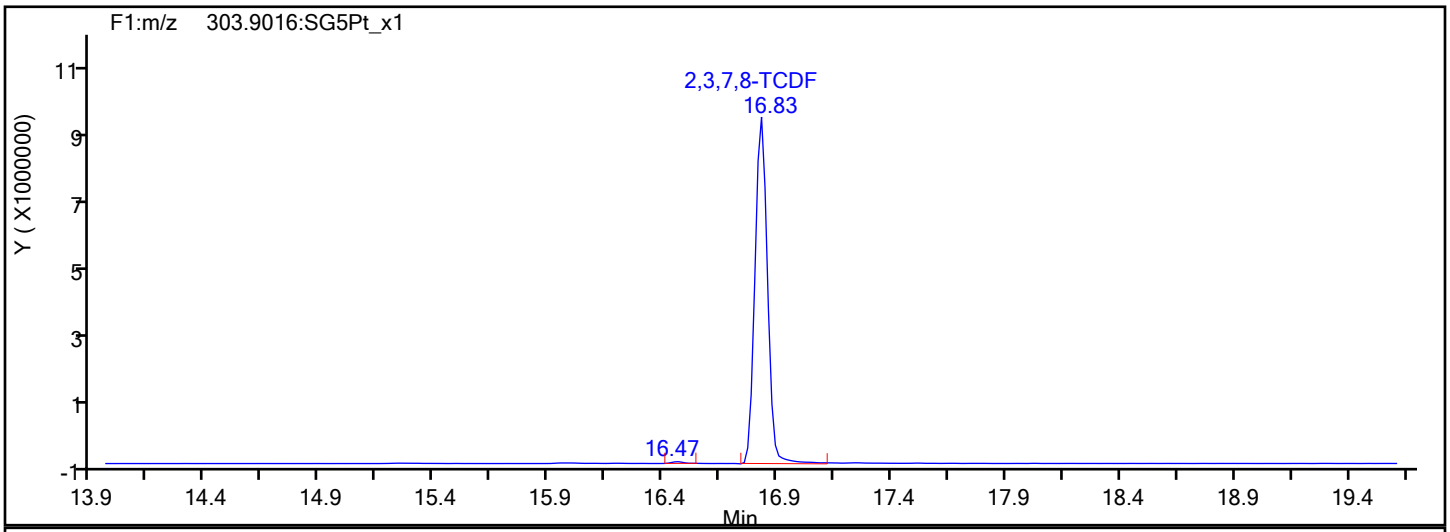

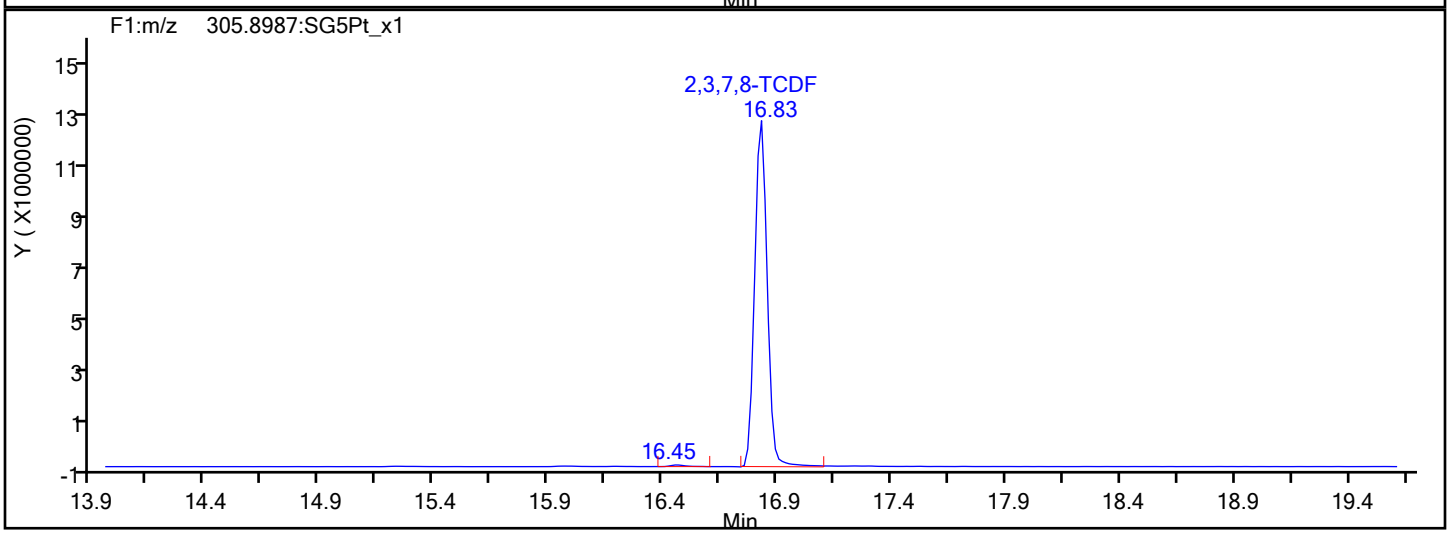

TCDF Interference Mass

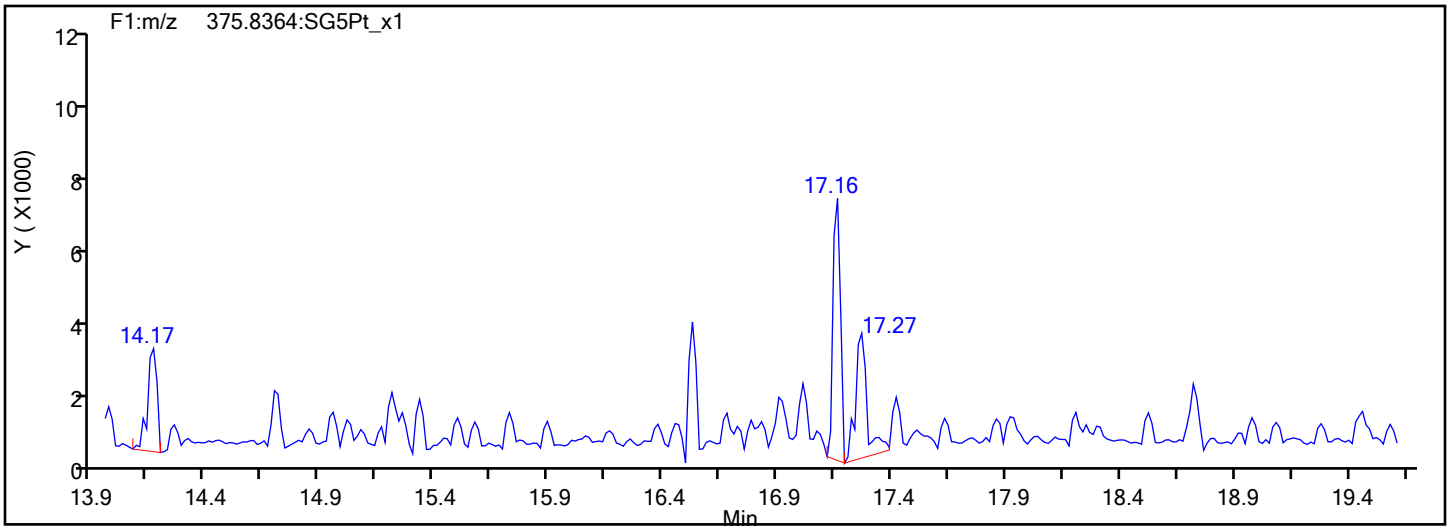

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Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

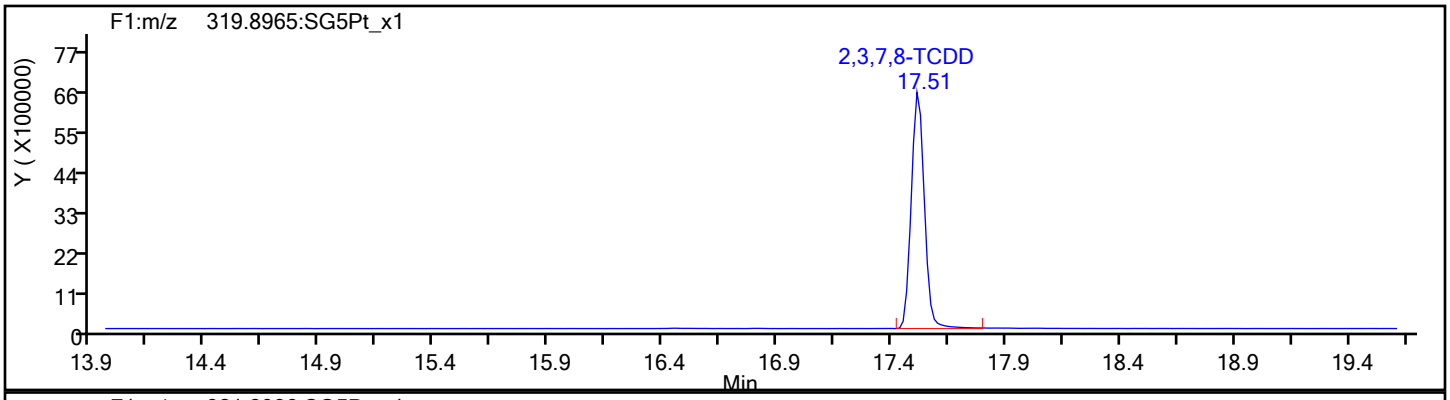

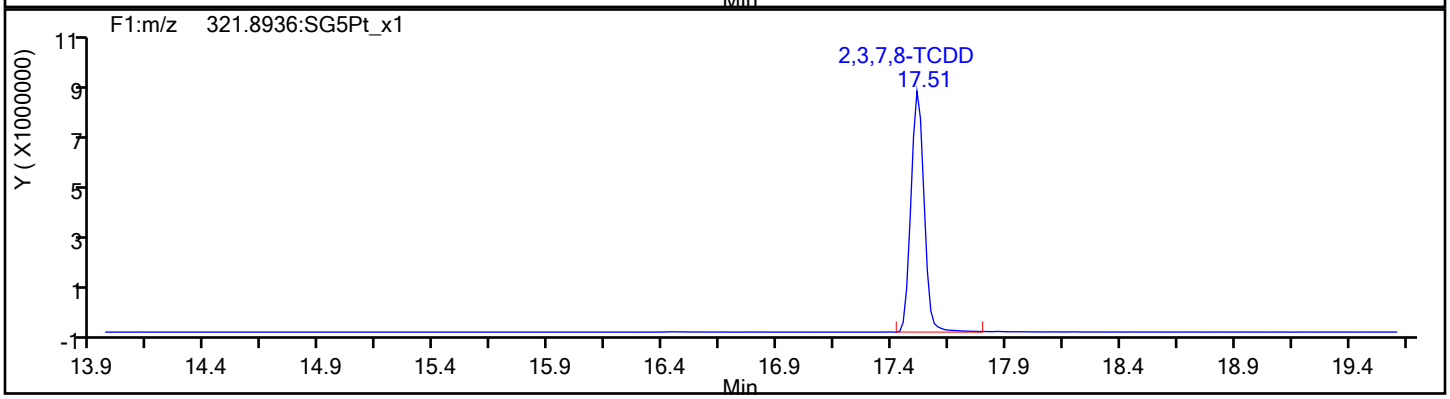

TCDD Standards

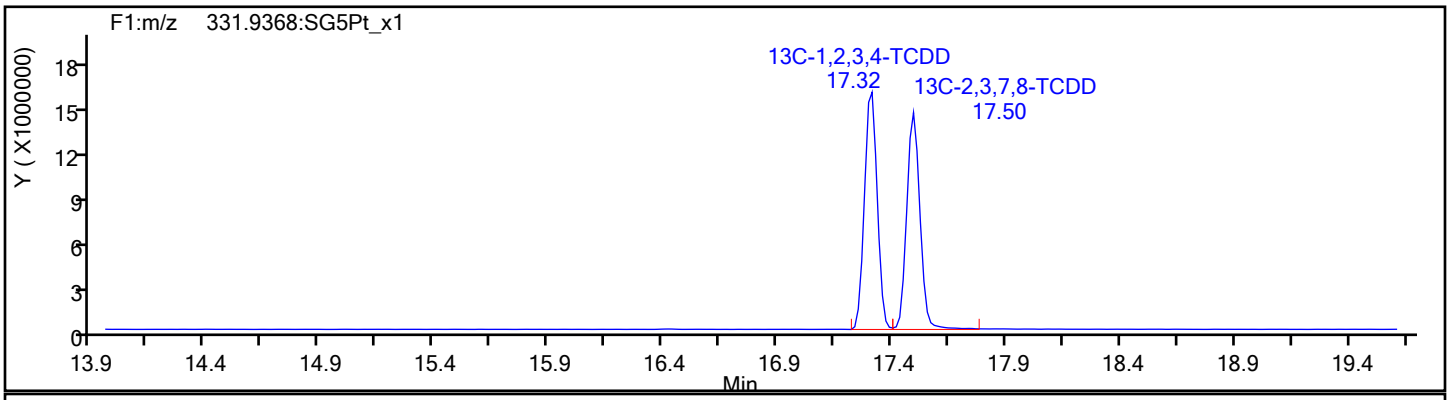

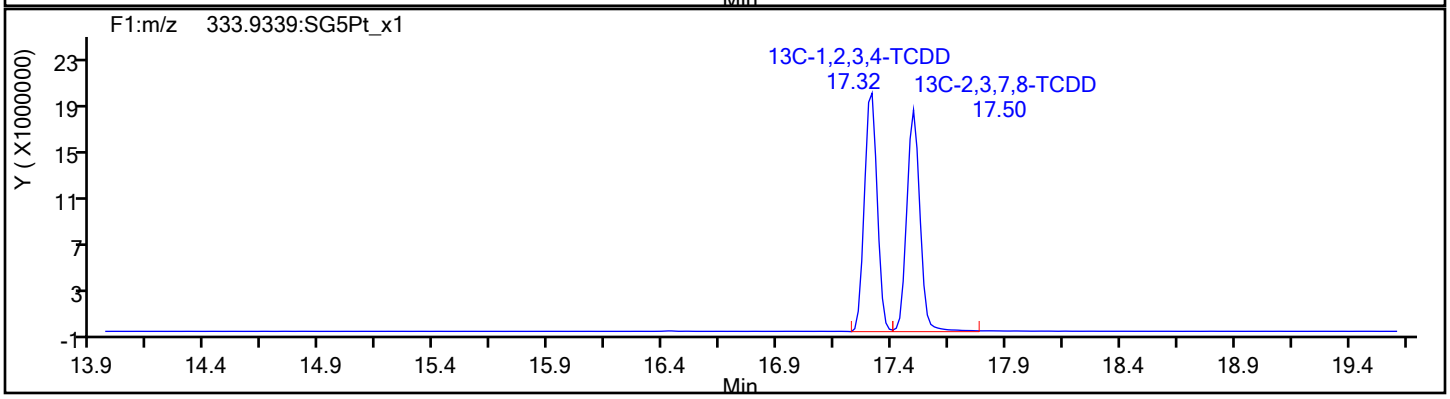

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

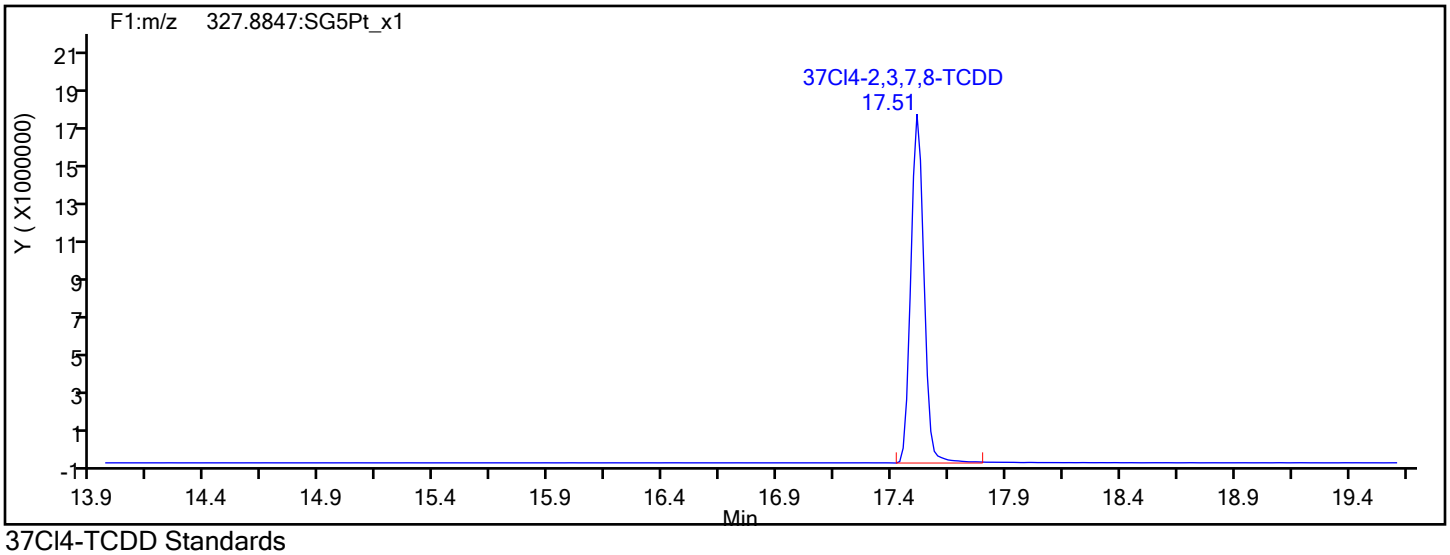

37Cl4-TCDD Standards

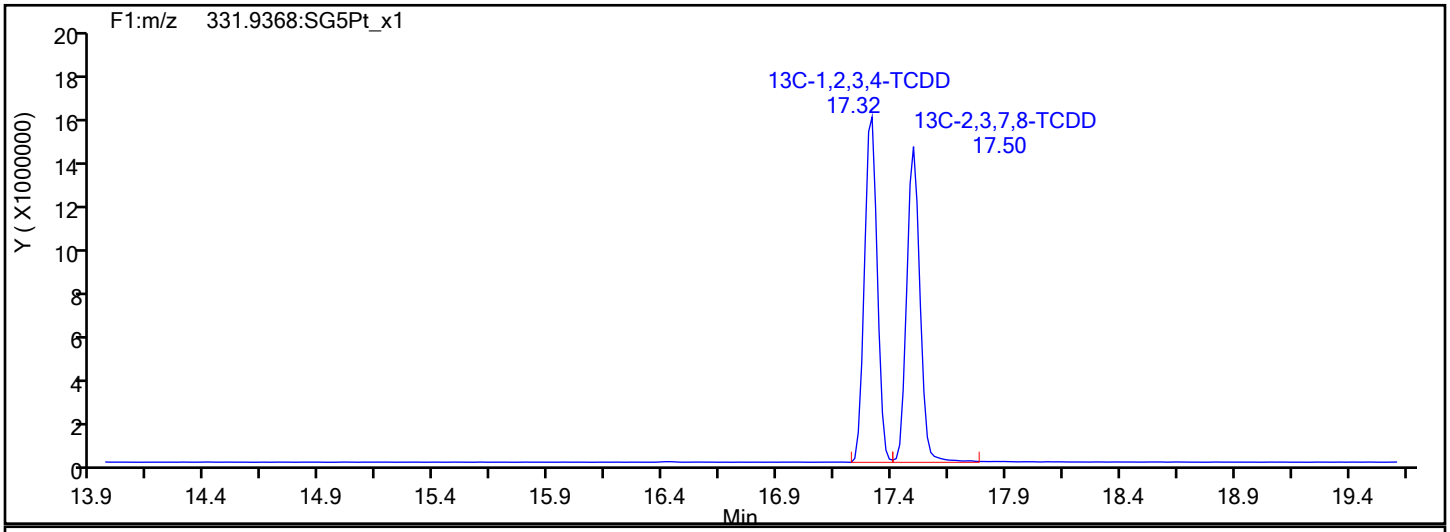

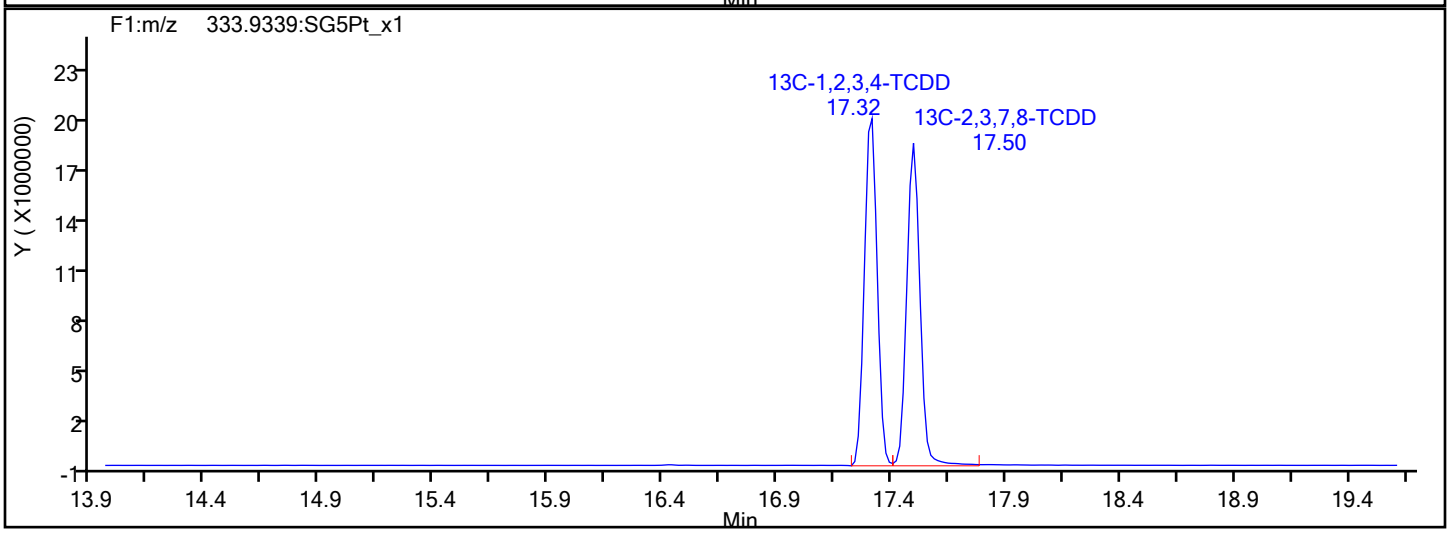

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

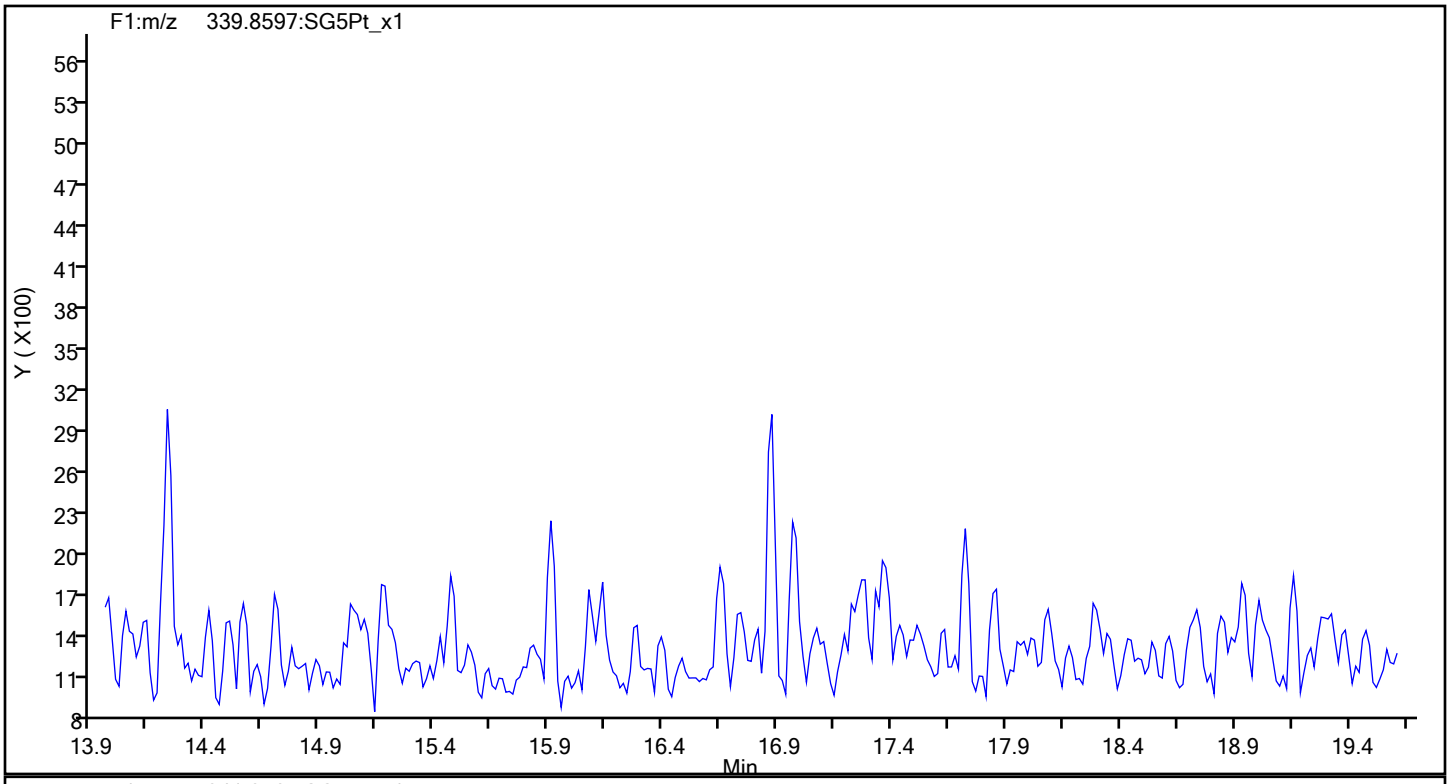

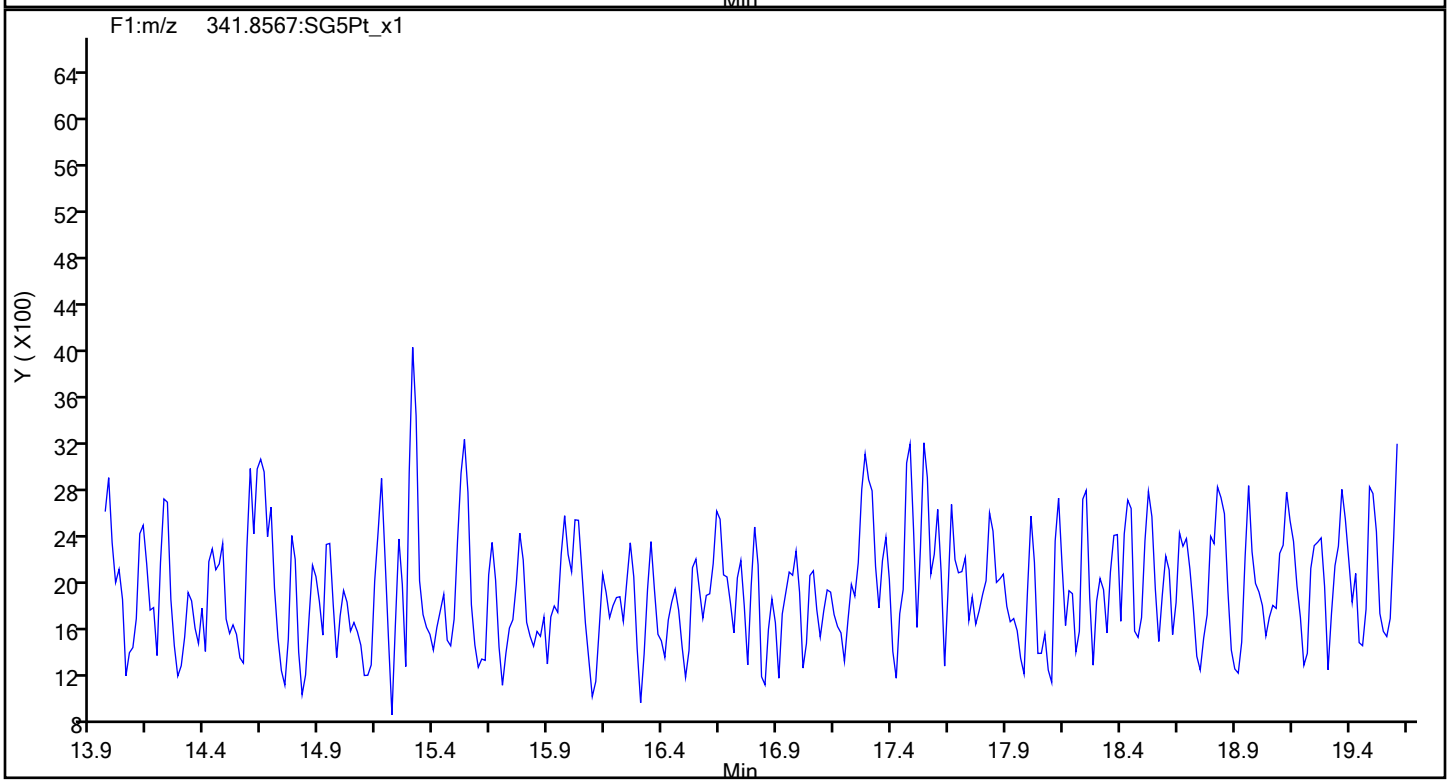

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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F1 PeCDFs

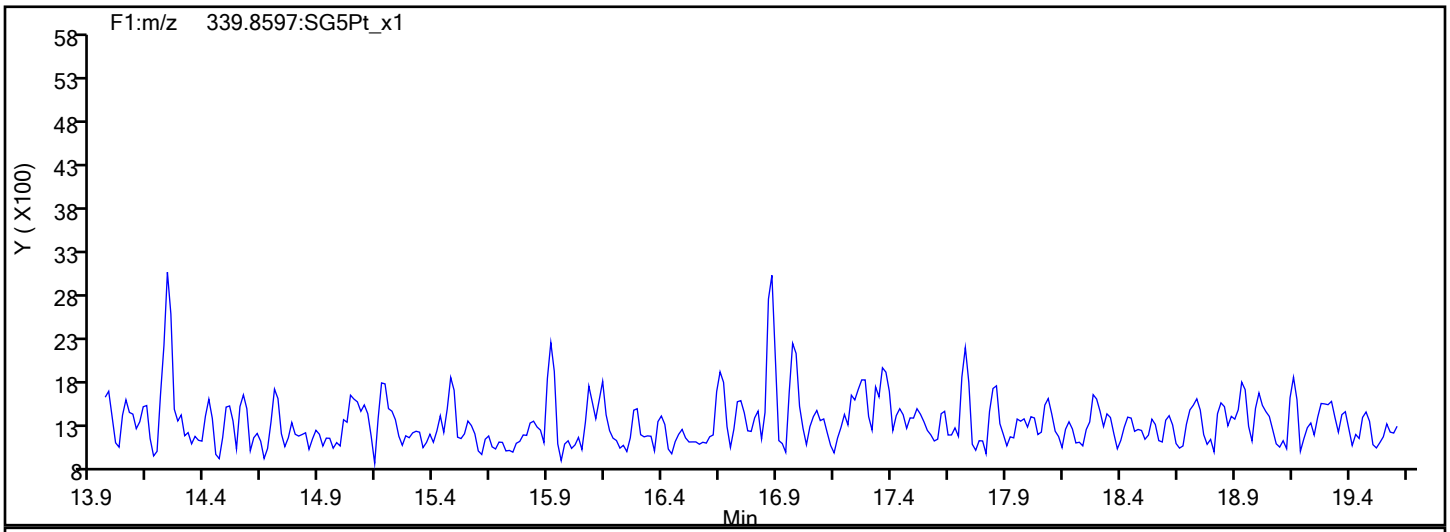

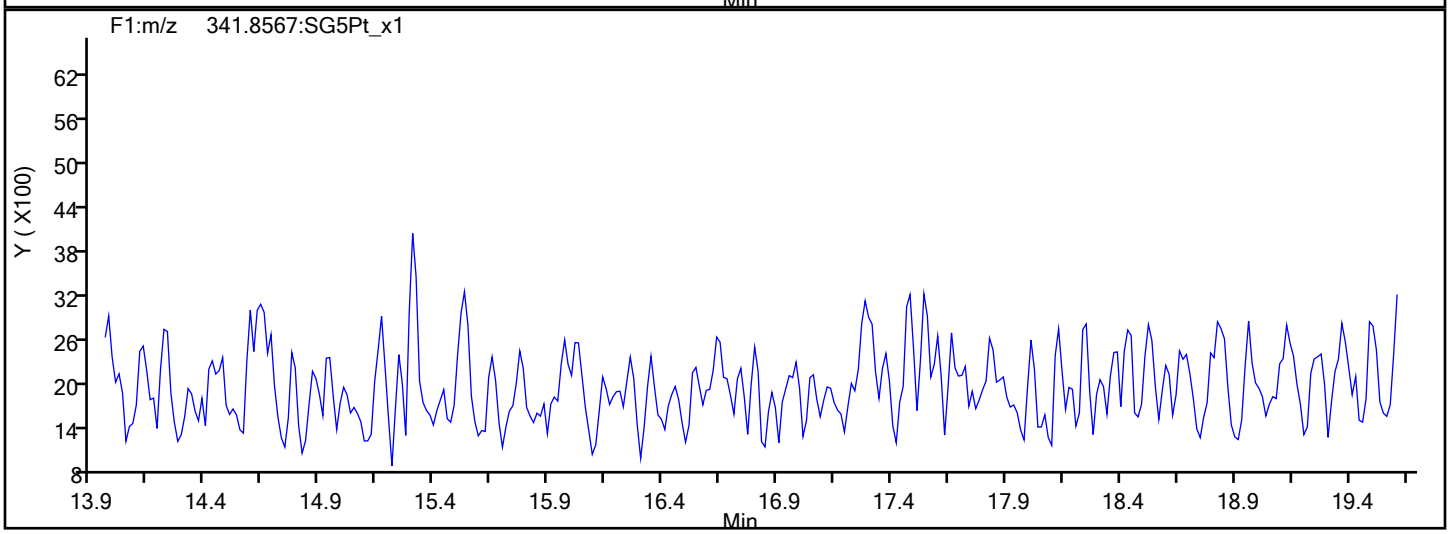

F1 PeCDFs Interference Mass

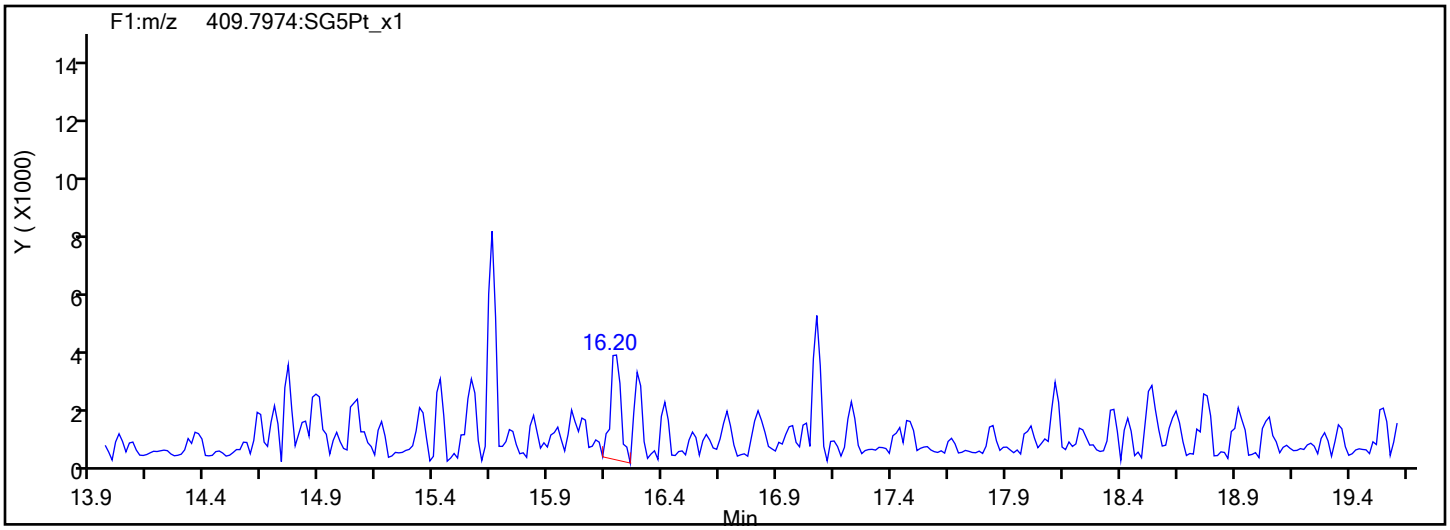

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

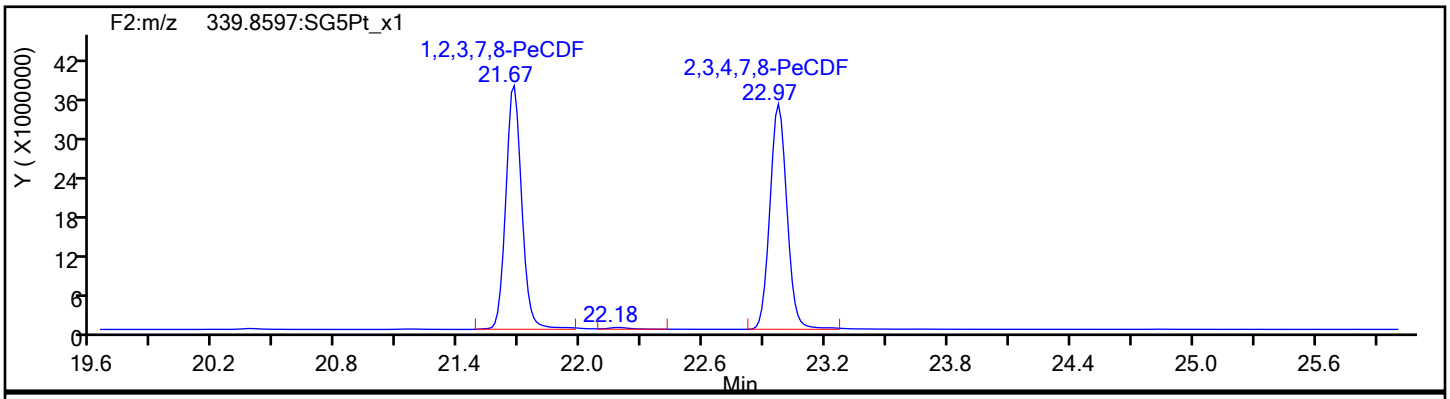

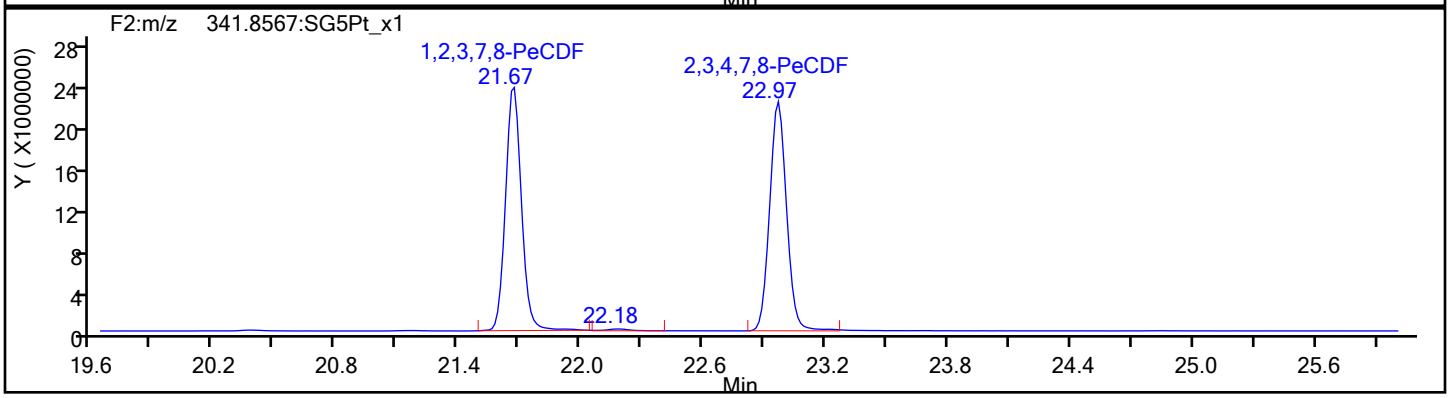

PeCDF Standards

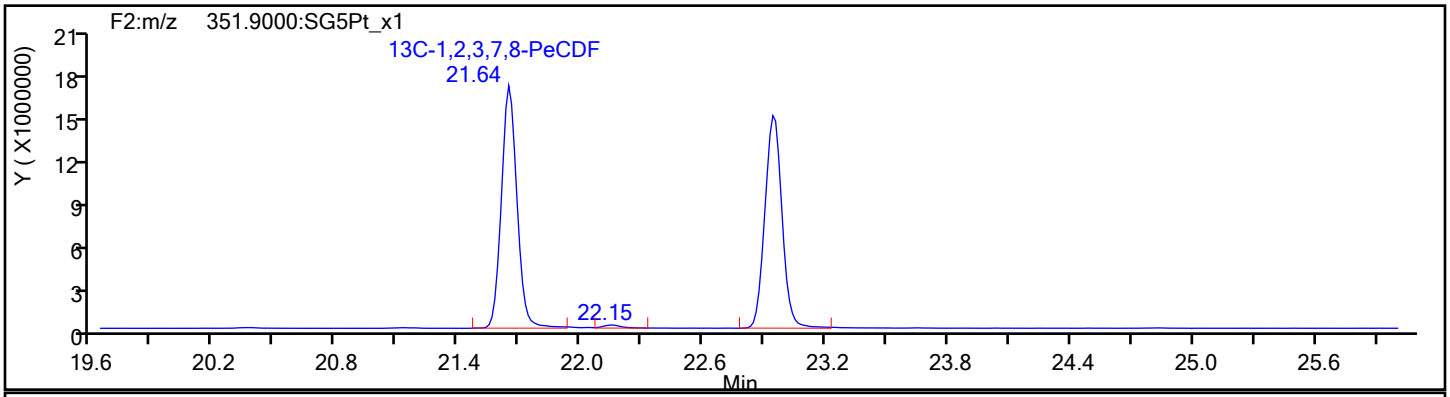

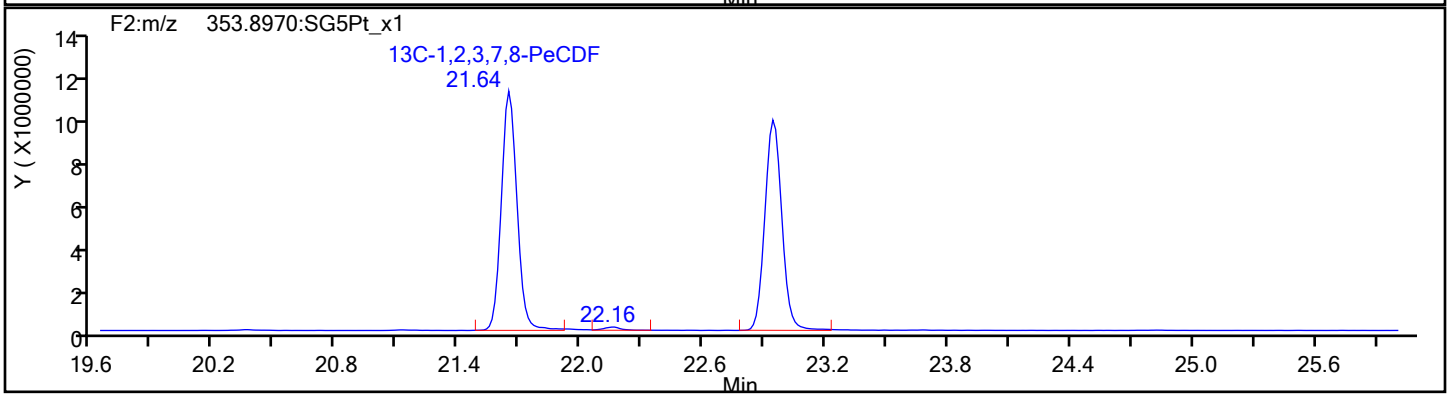

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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PeCDF

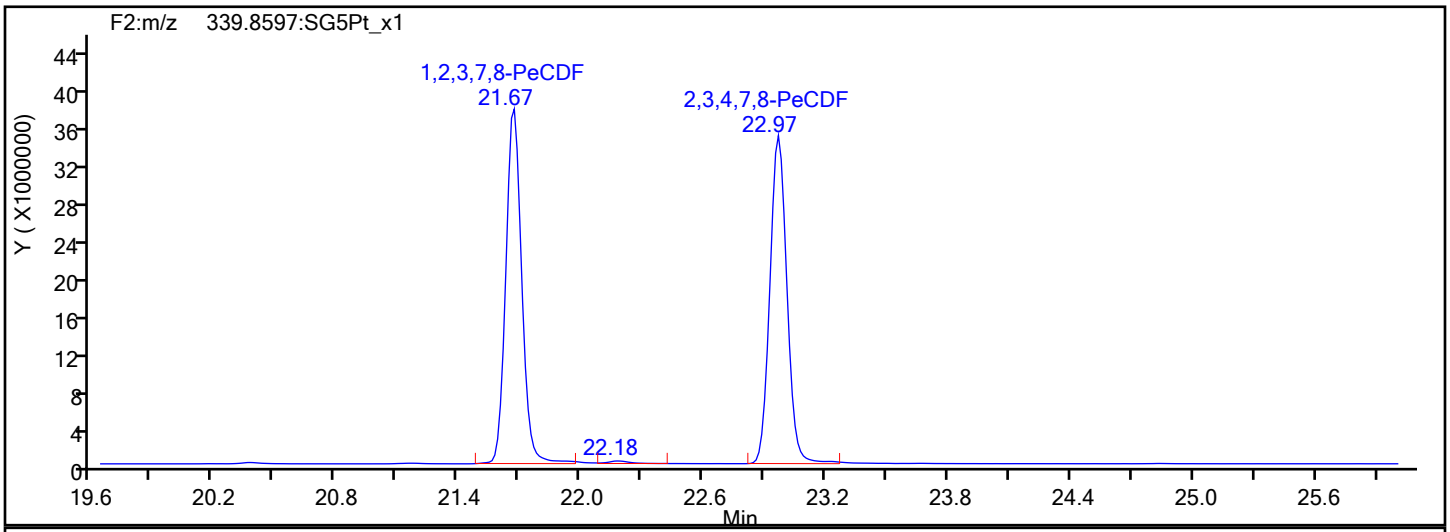

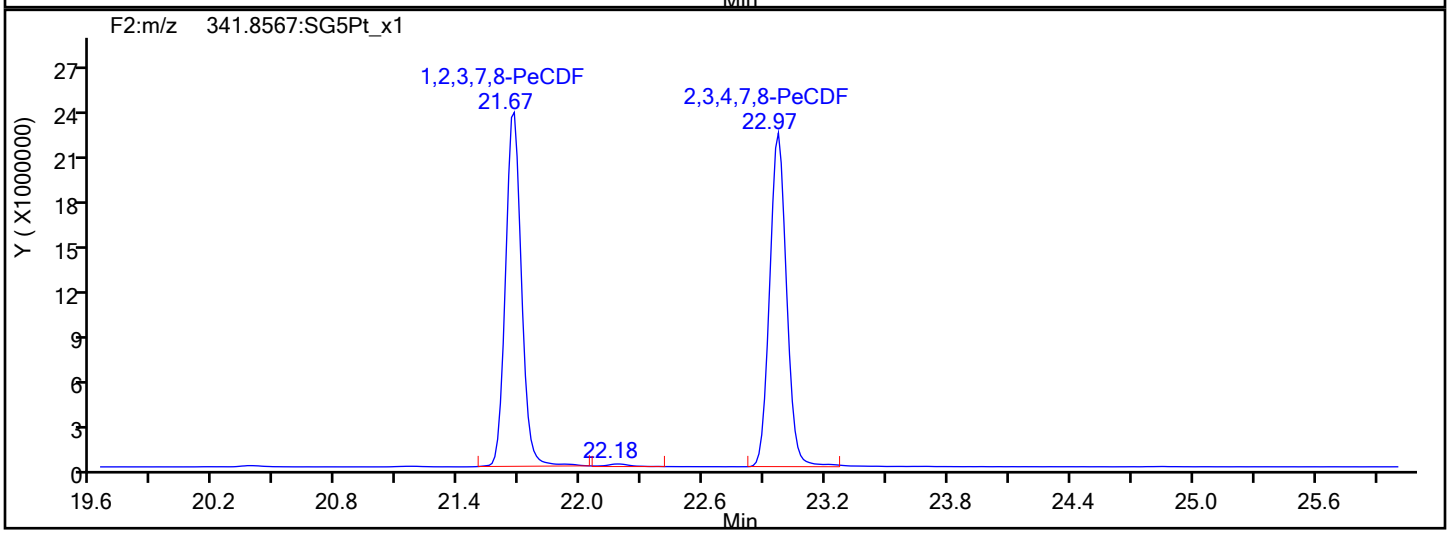

PeCDF Interference Mass

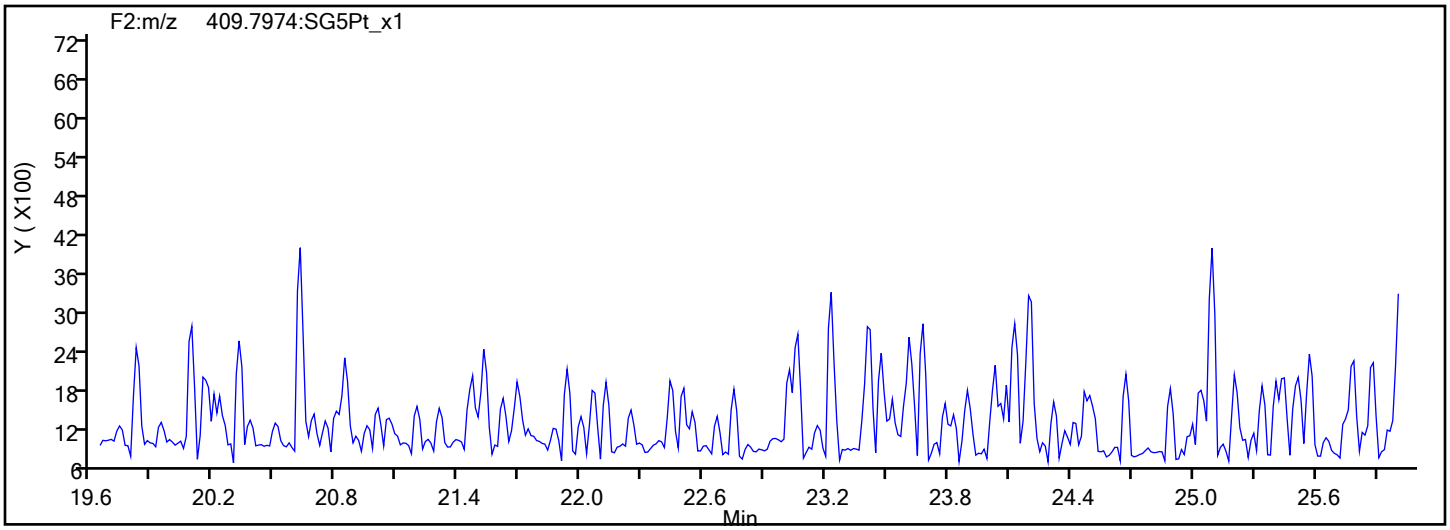

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Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

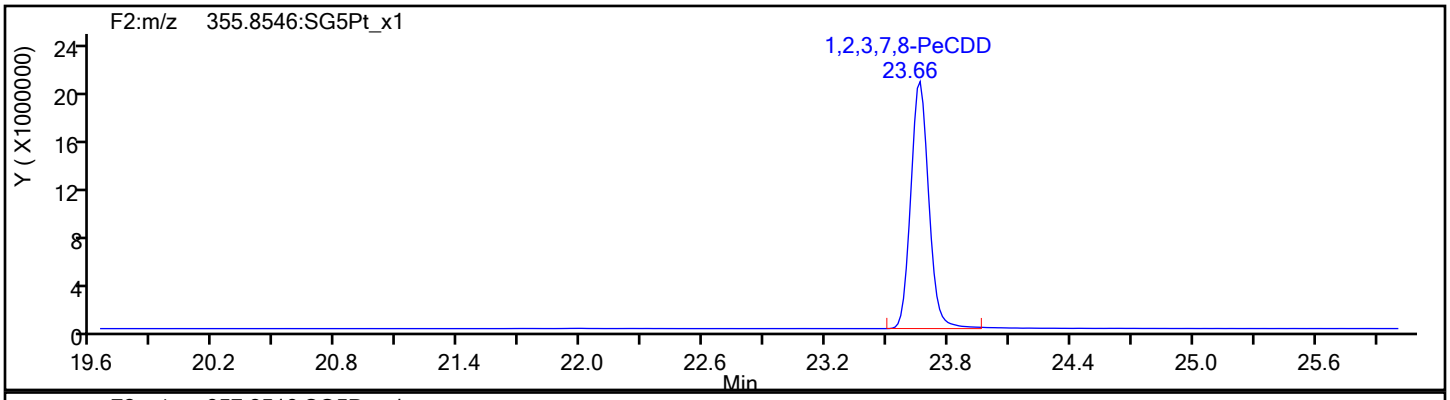

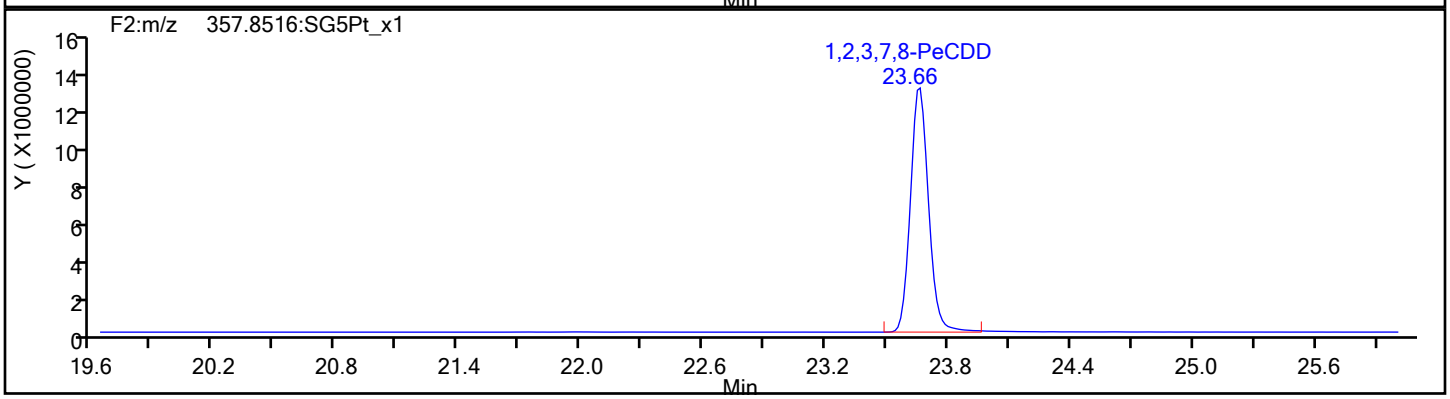

PeCDD Standards

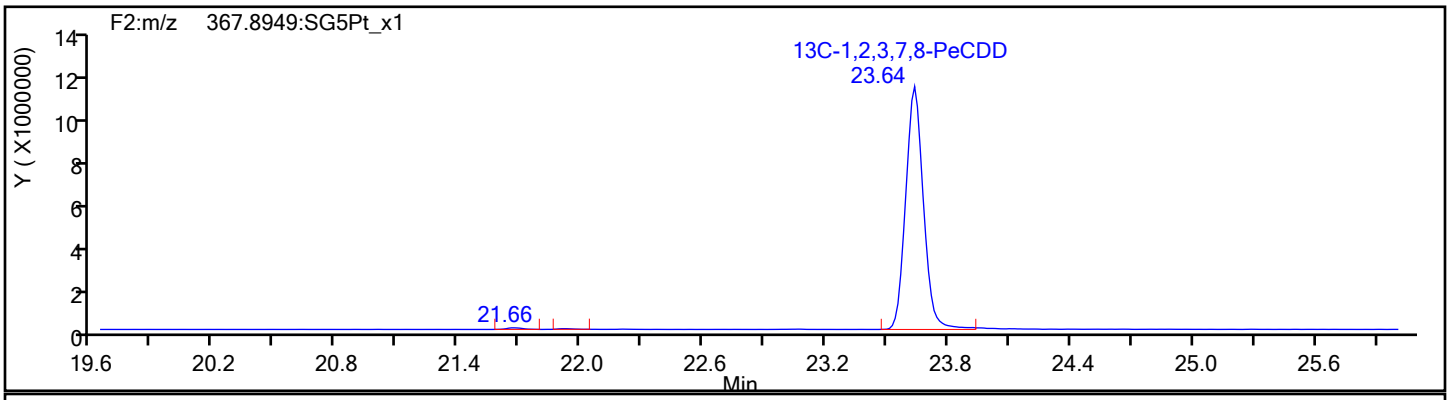

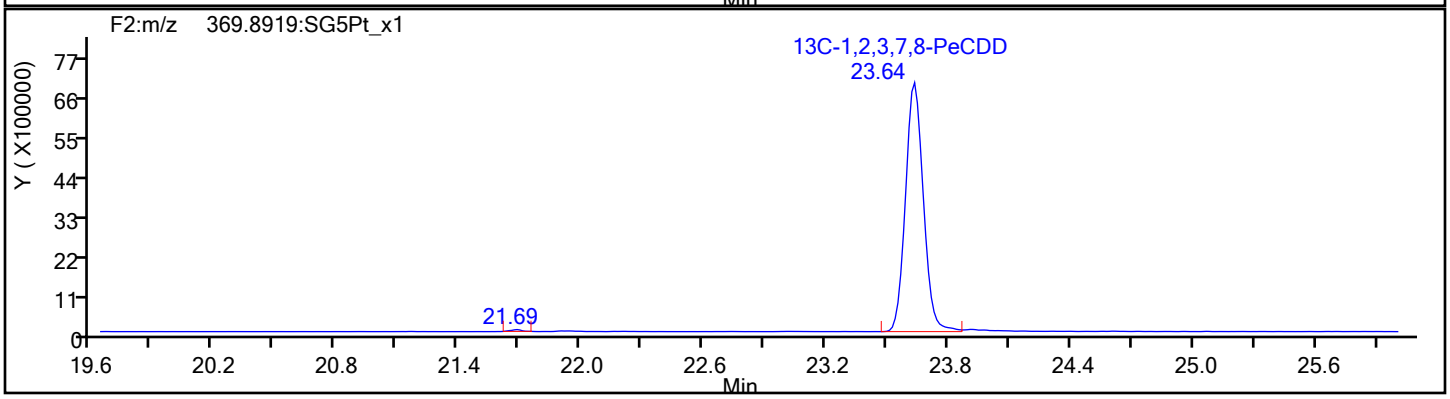

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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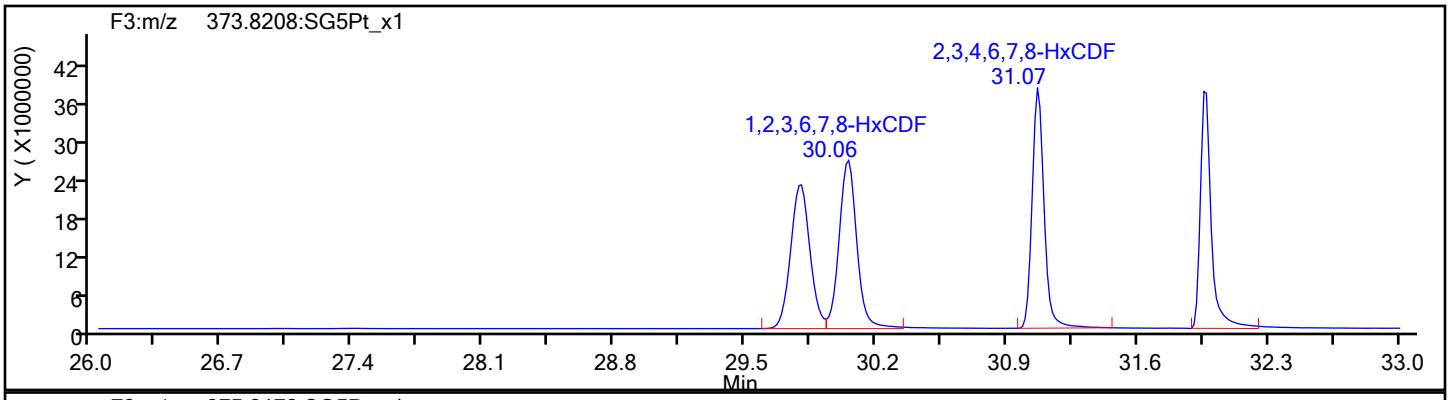

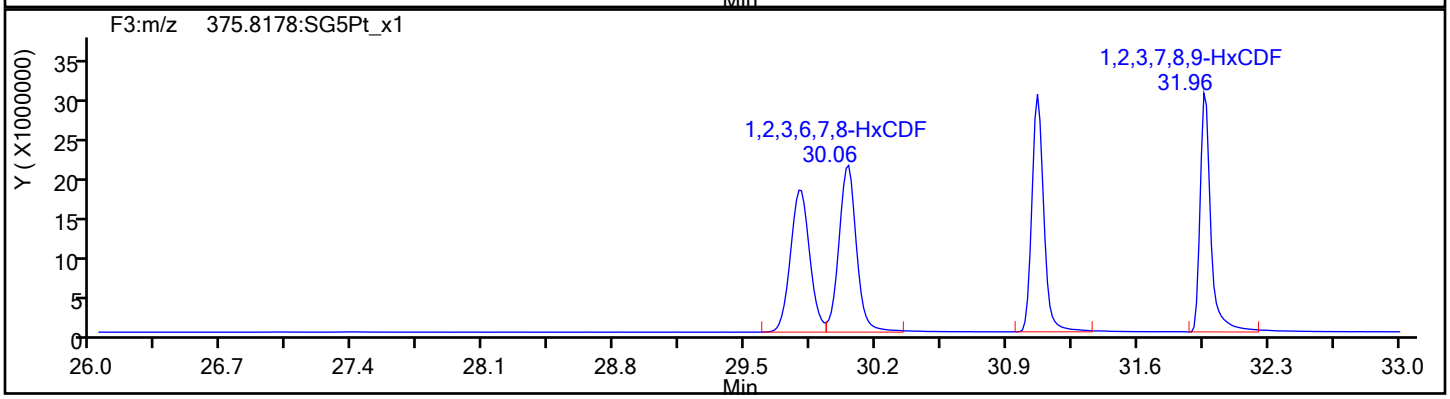

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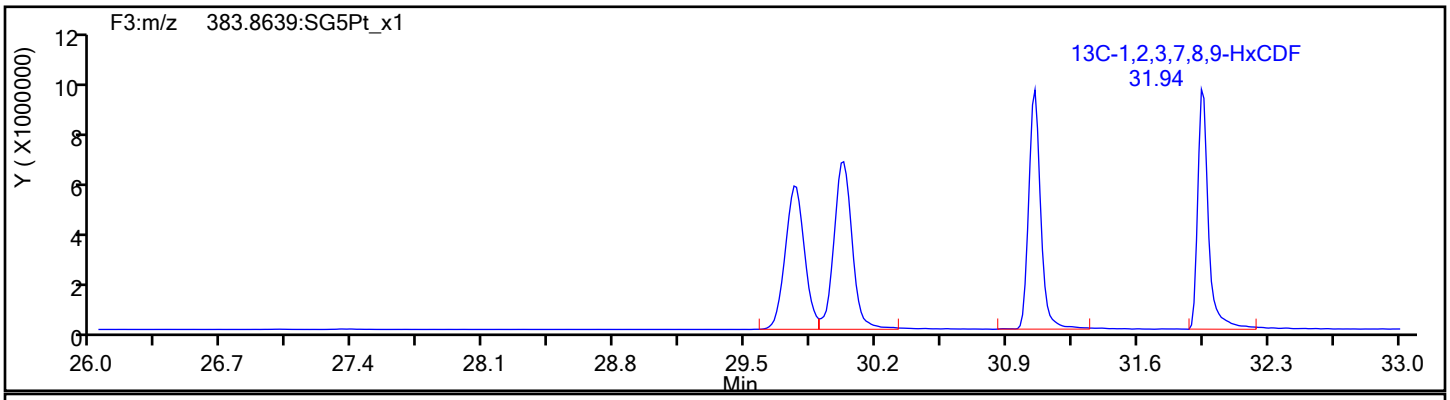

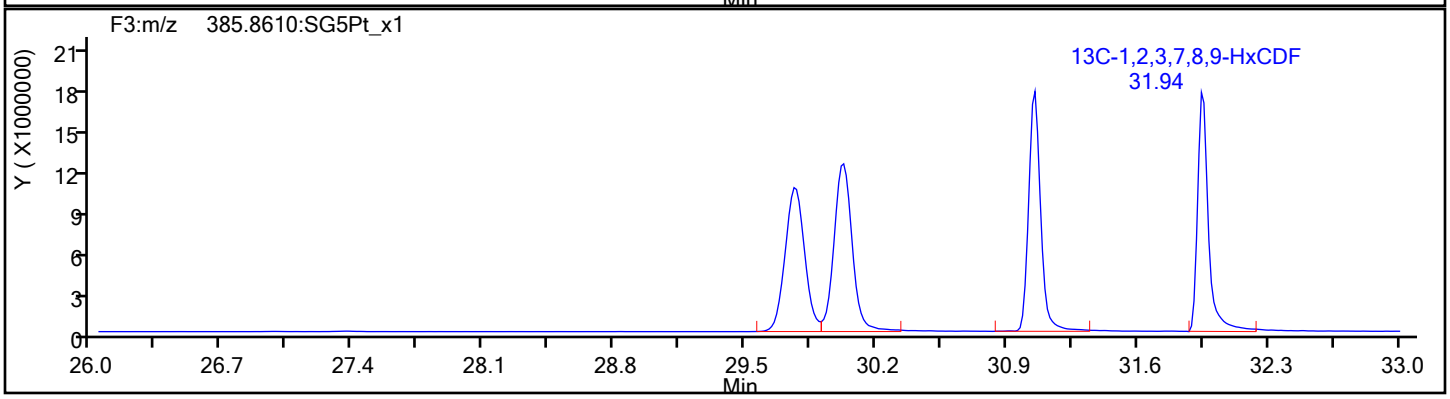

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Eurofins TestAmerica, Sacramento

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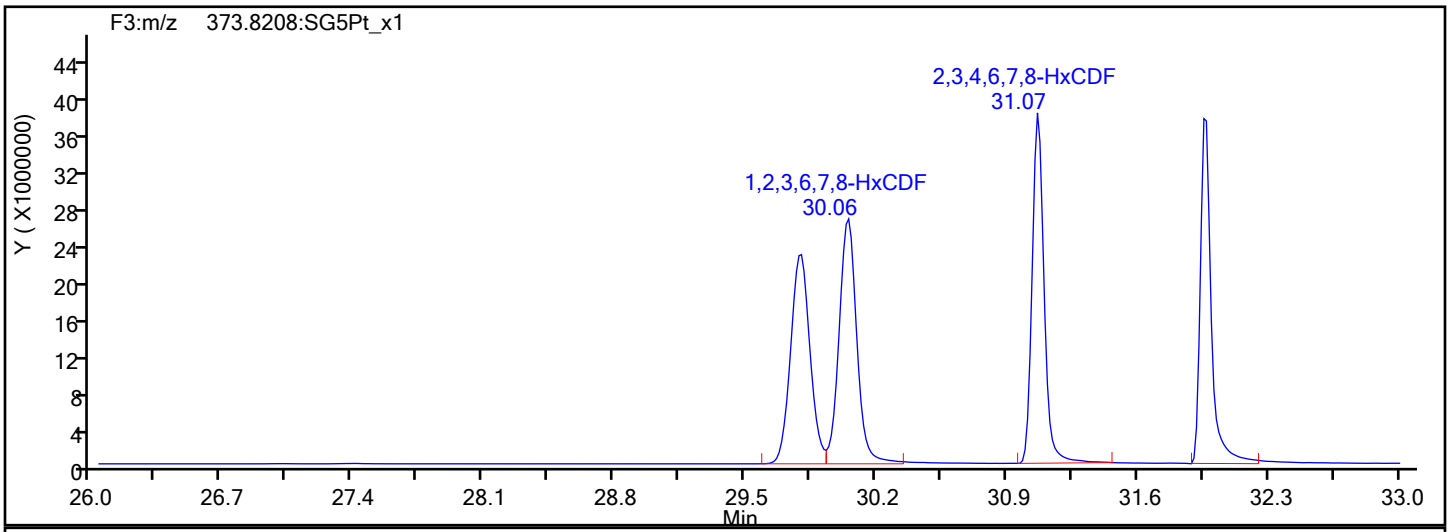

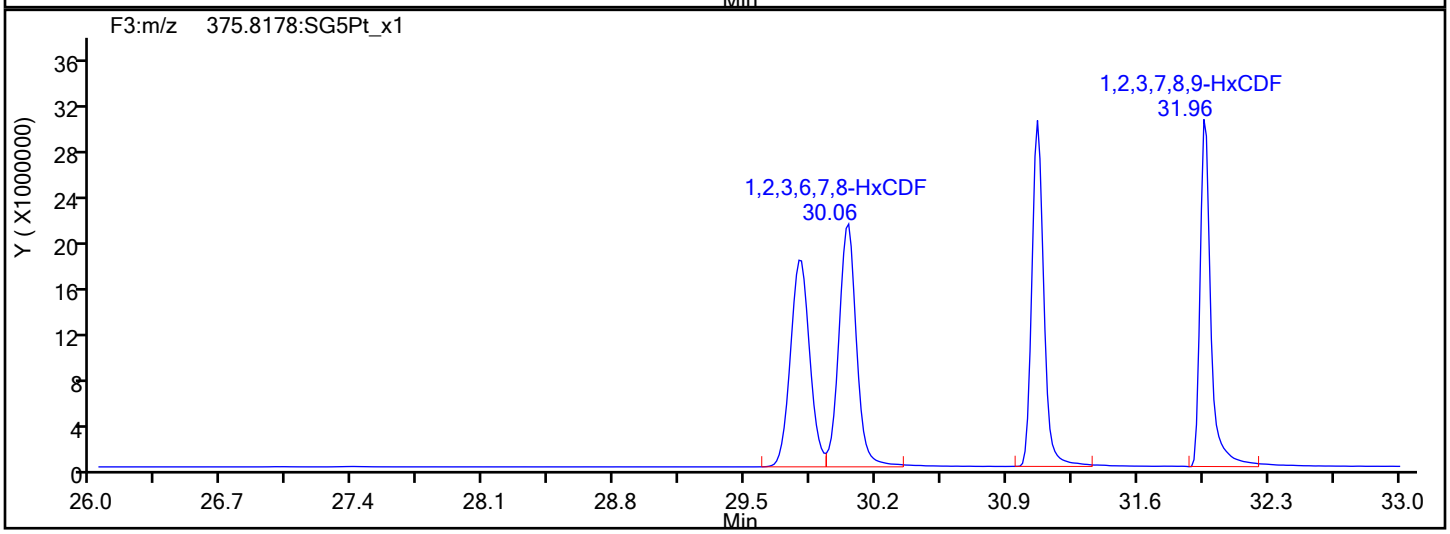

HxCDF Interference Mass

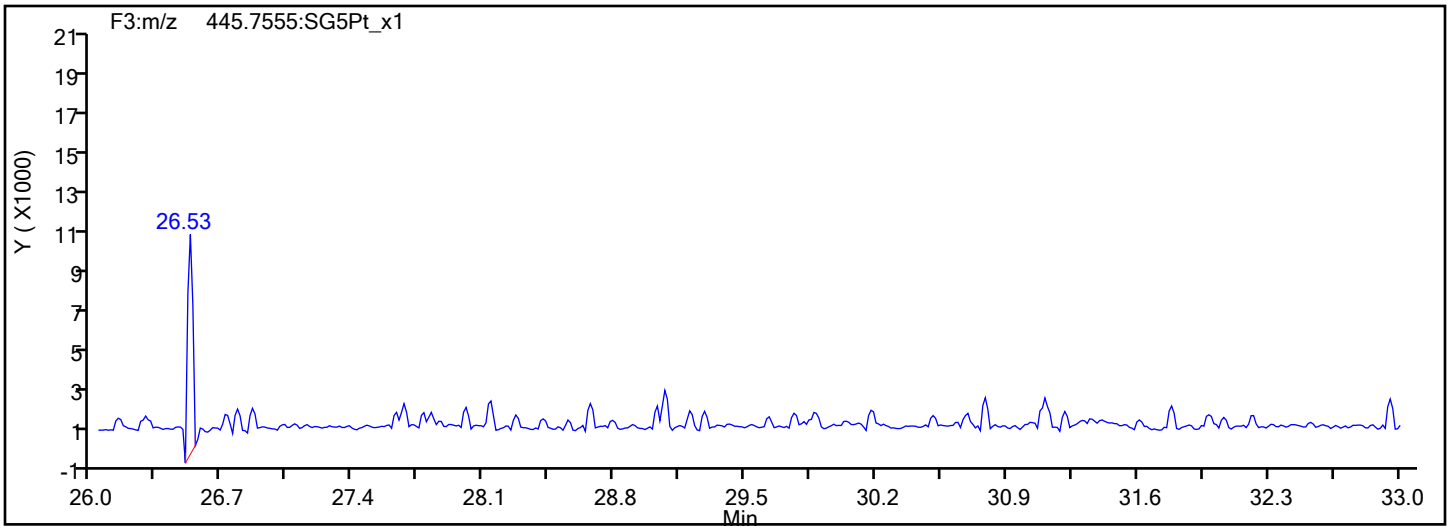

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Eurofins TestAmerica, Sacramento

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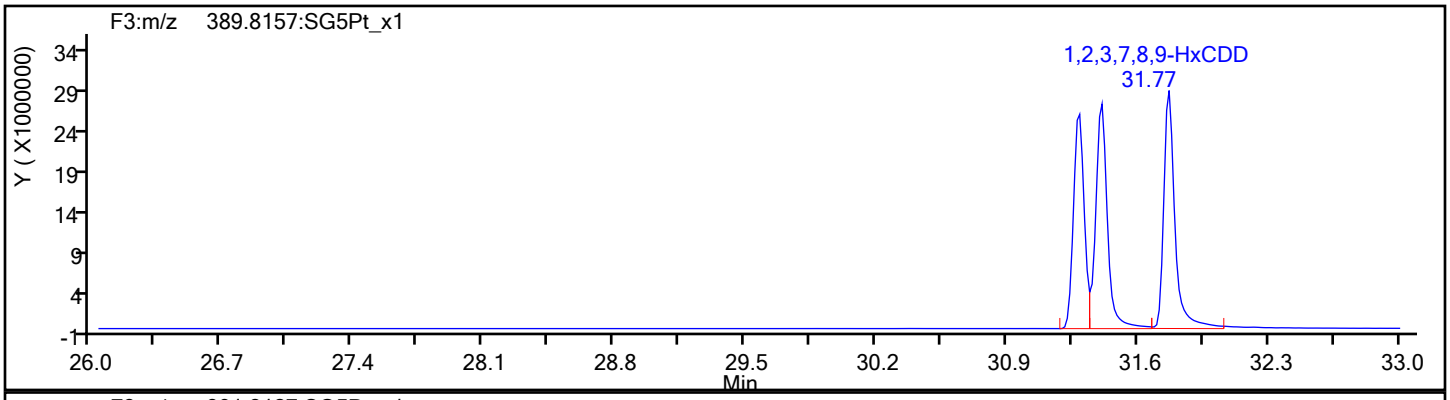

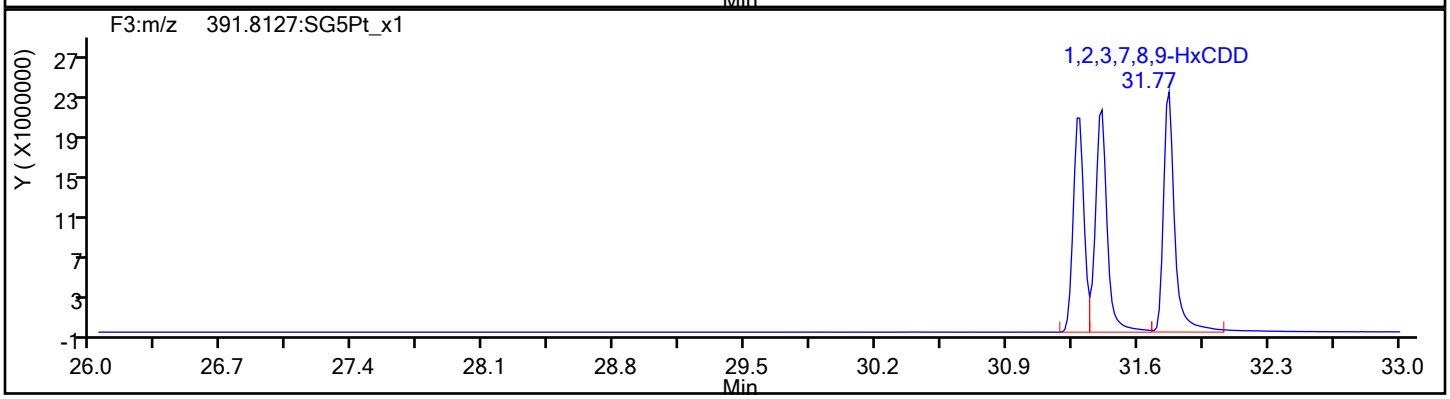

HxCDD Standards

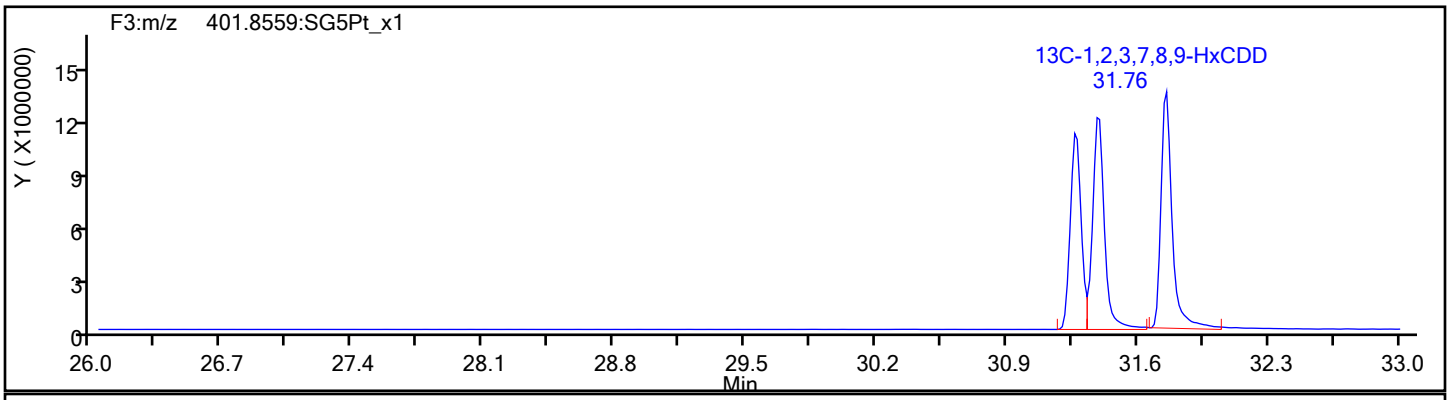

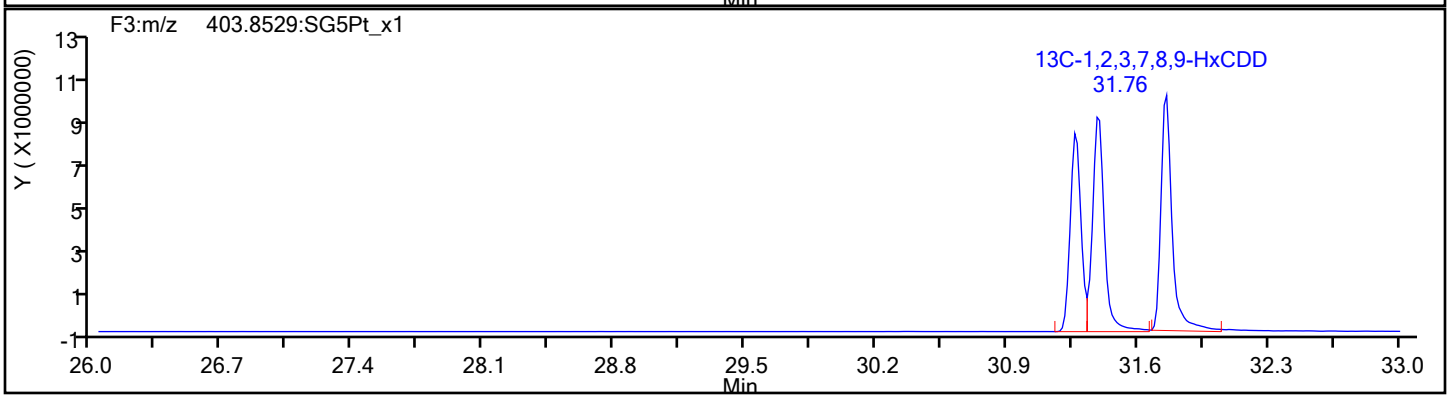

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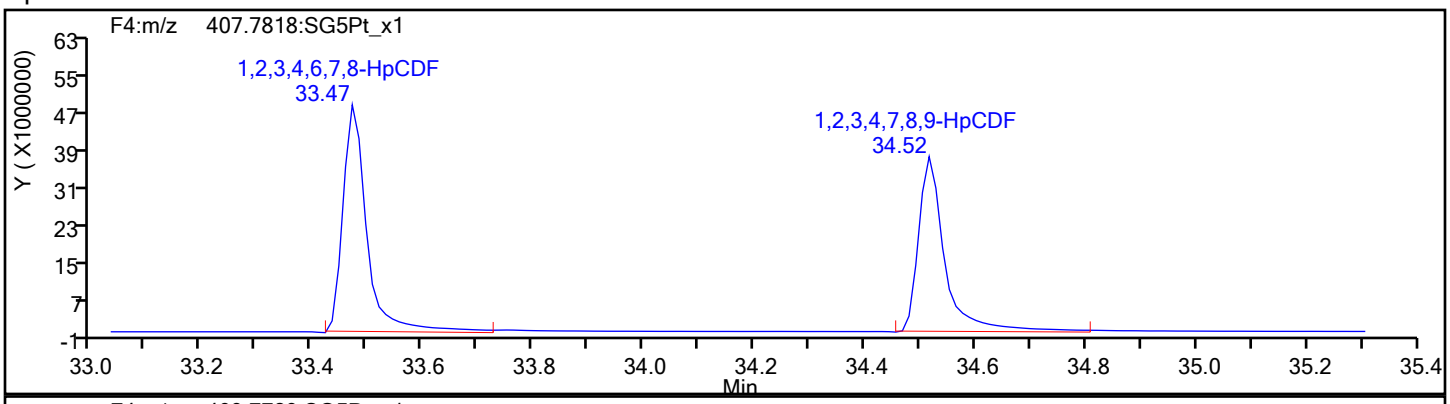

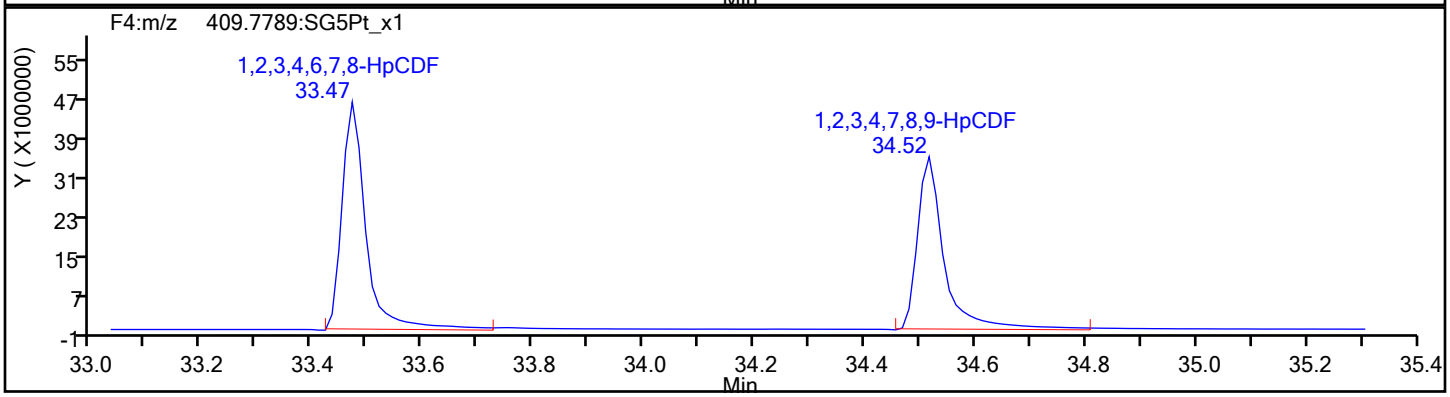

HpCDF Standards

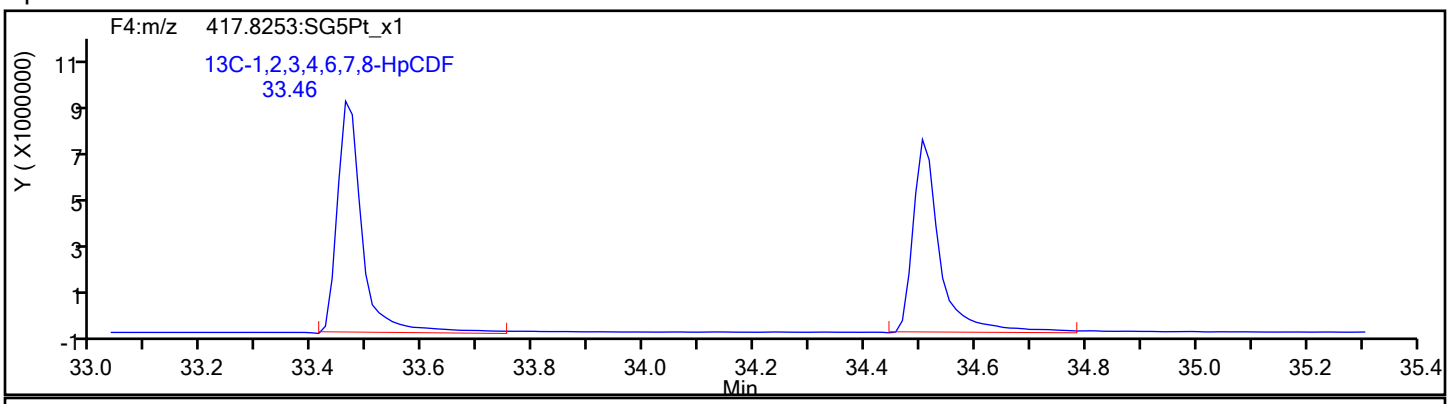

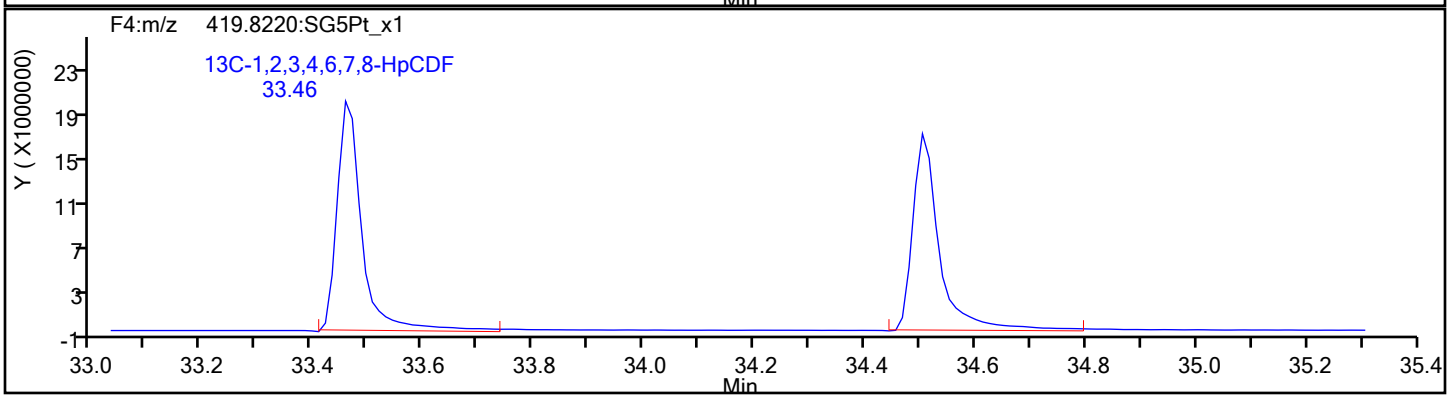

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Eurofins TestAmerica, Sacramento

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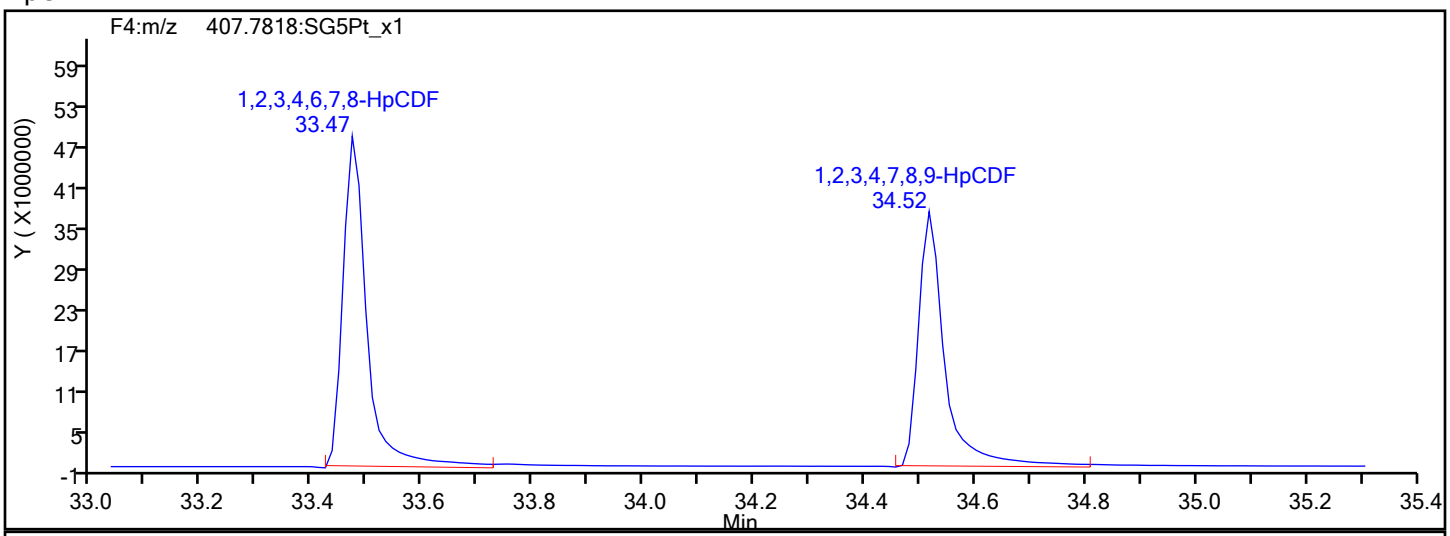

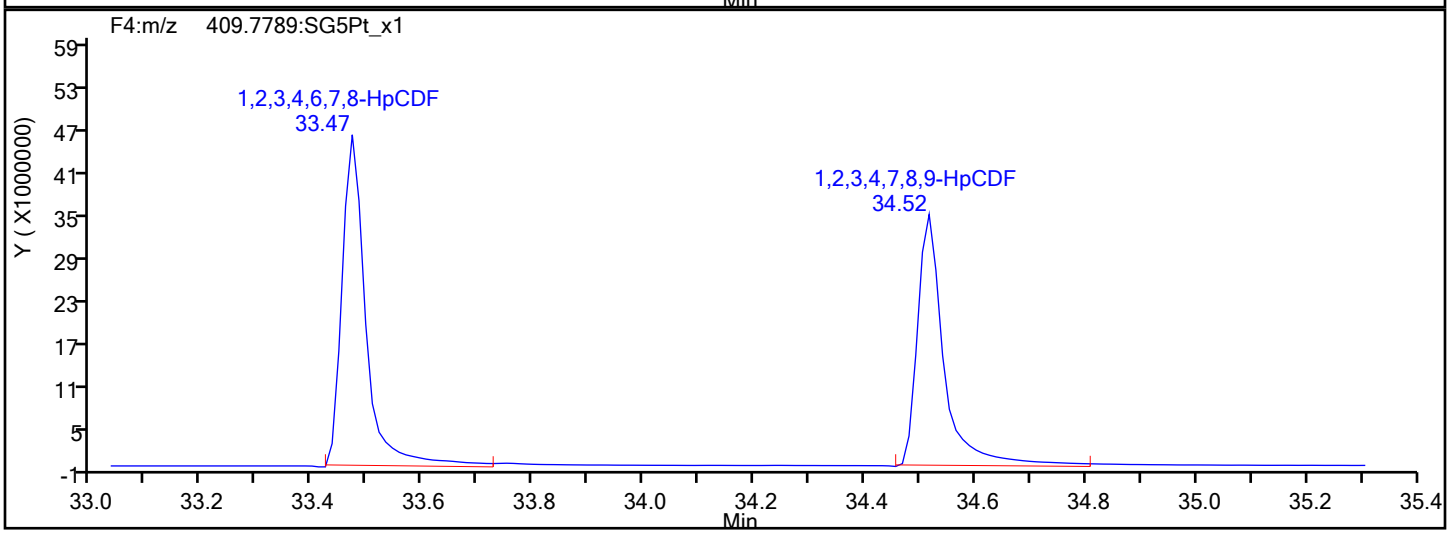

HpCDF Interference Mass

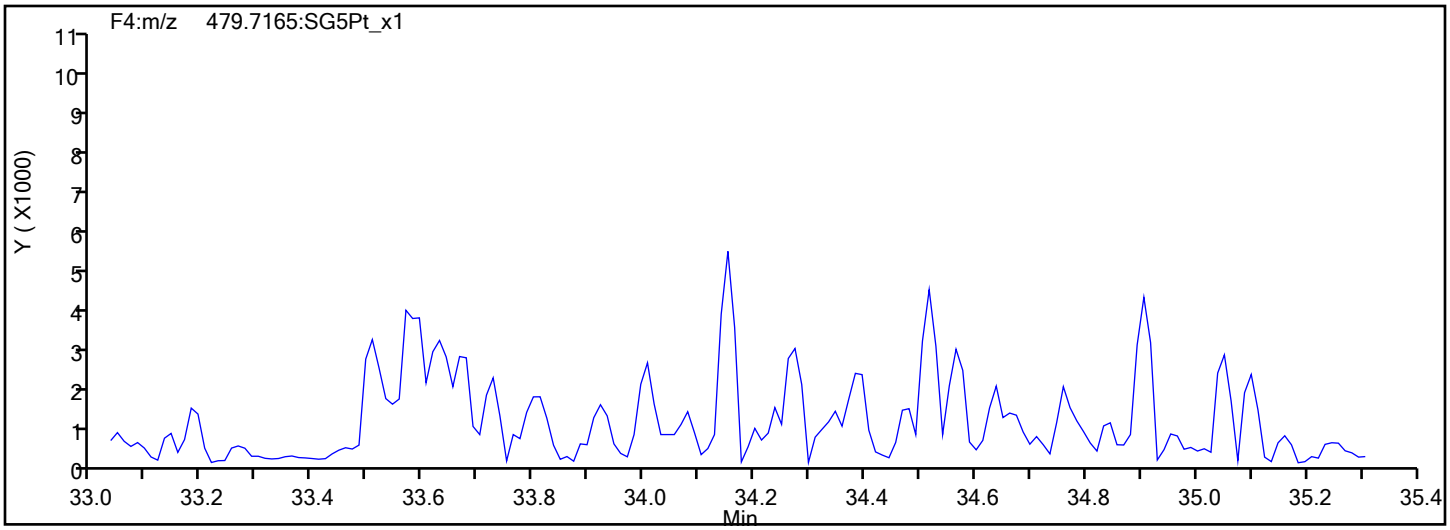

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Eurofins TestAmerica, Sacramento

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HpCDD

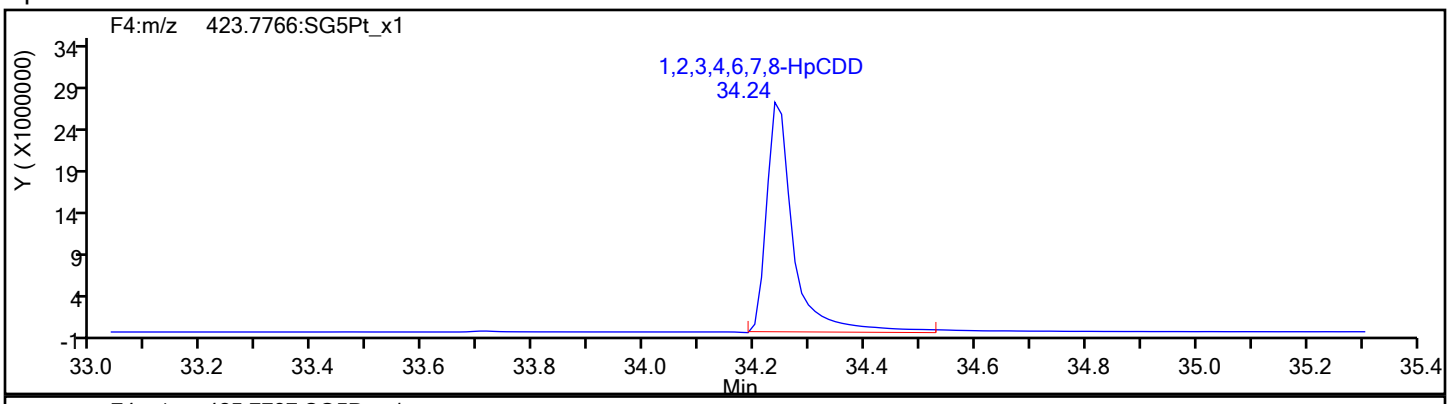

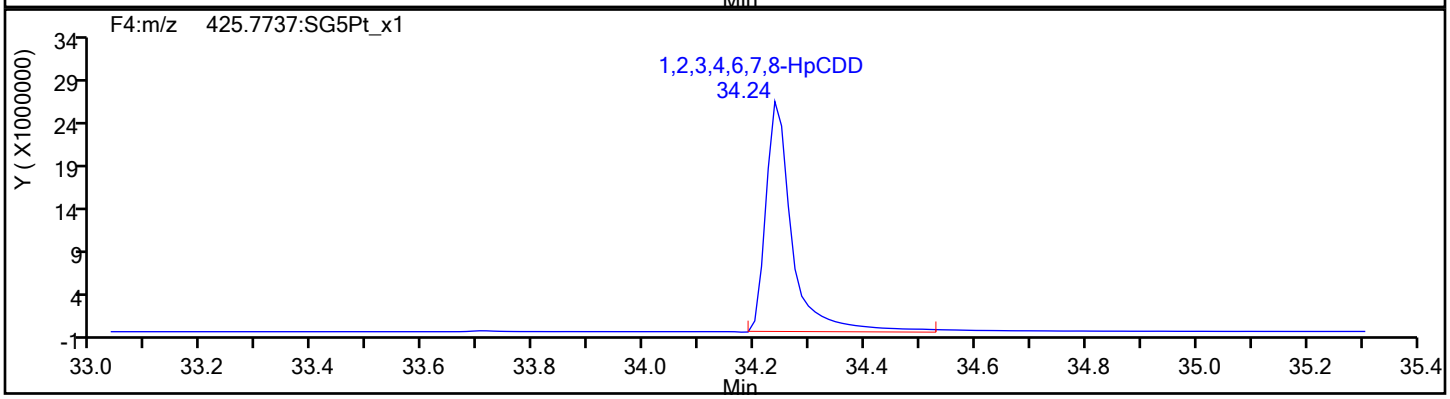

HpCDD Standards

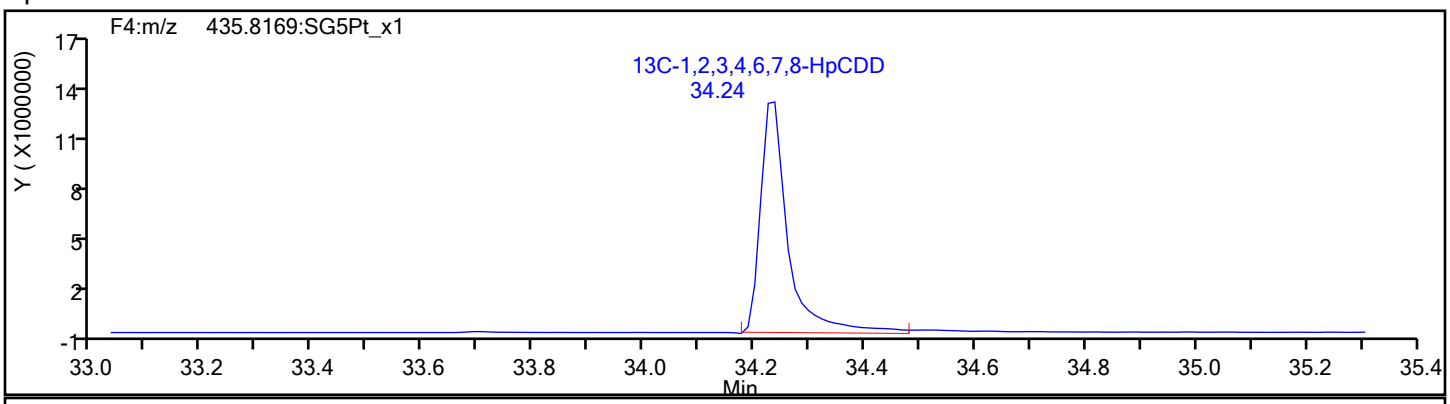

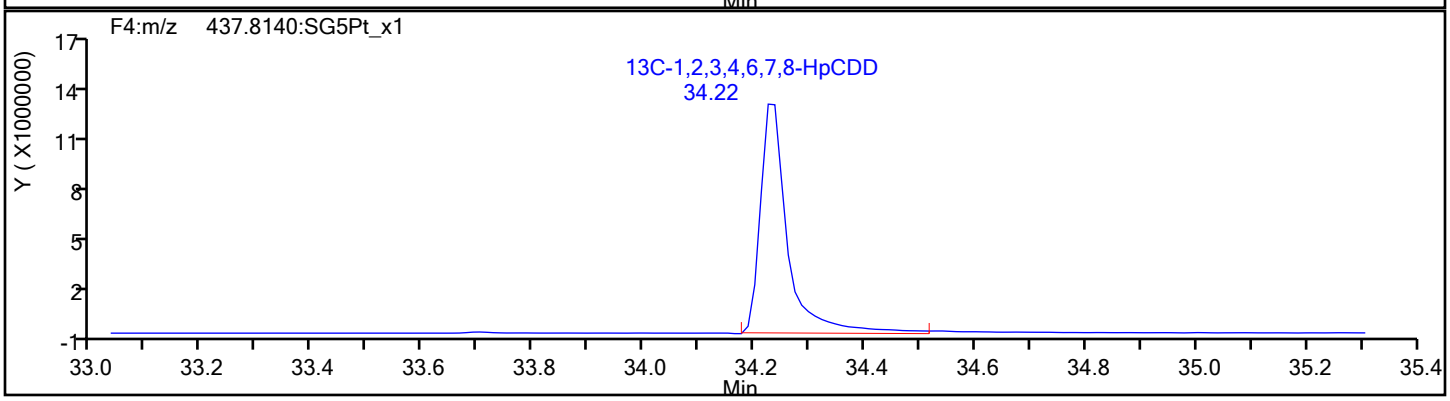

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Eurofins TestAmerica, Sacramento

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OCDF

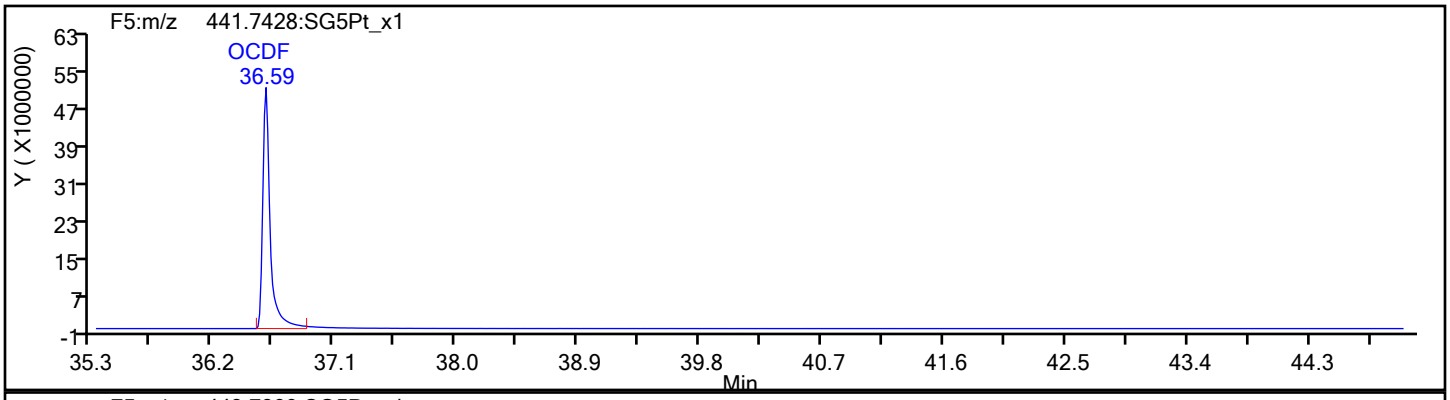

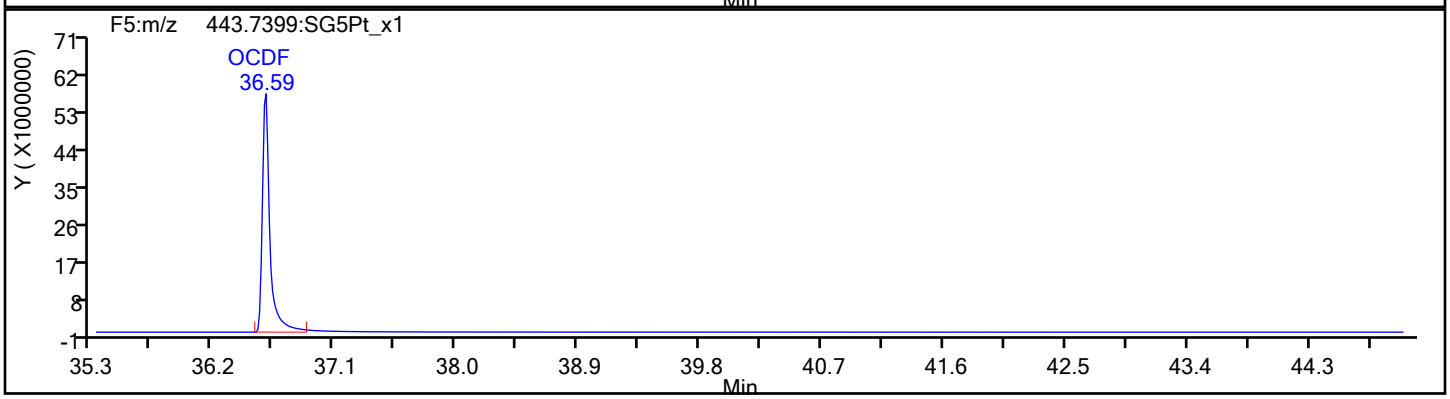

OCDF Standards

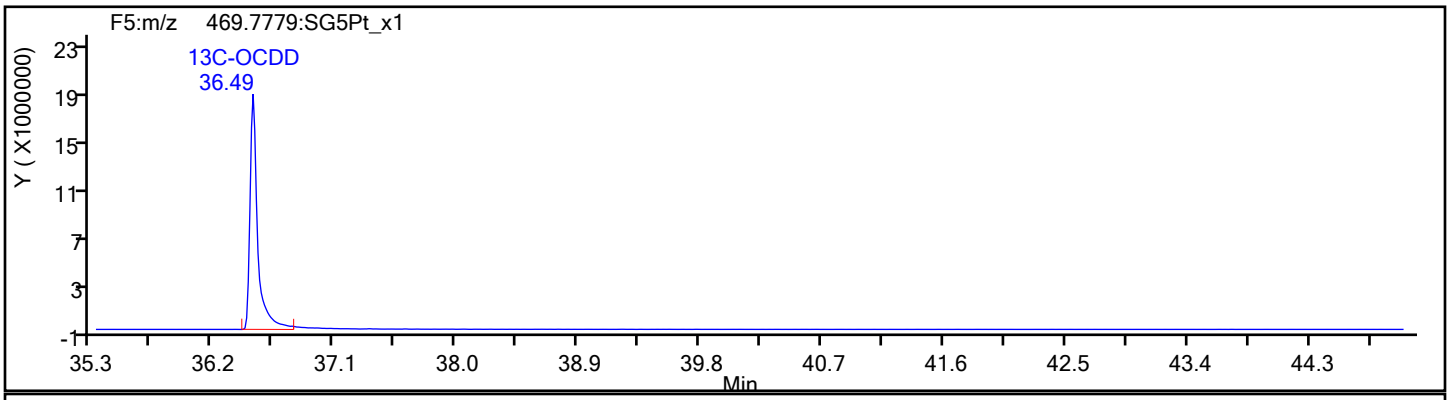

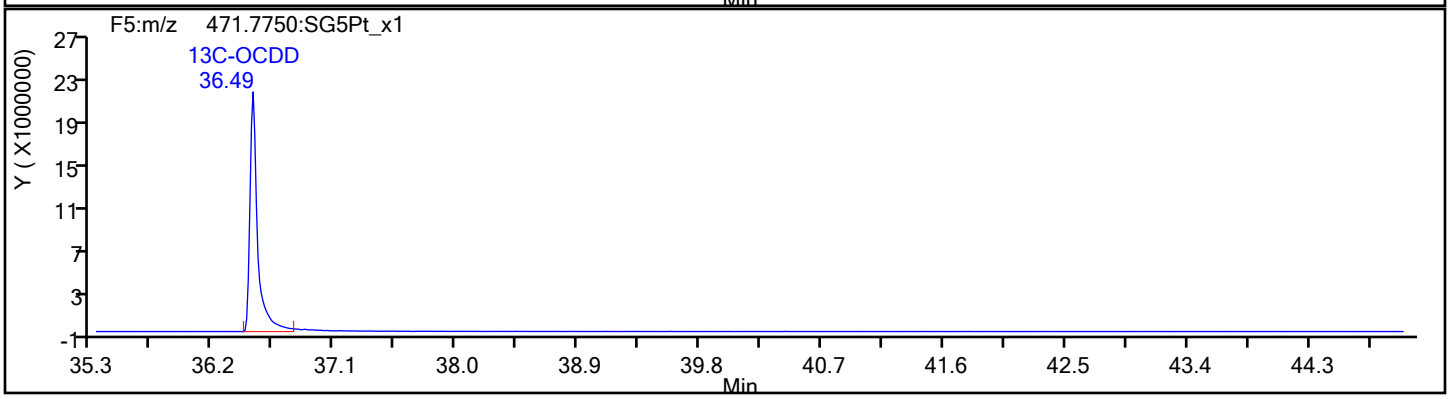

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Eurofins TestAmerica, Sacramento

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OCDF

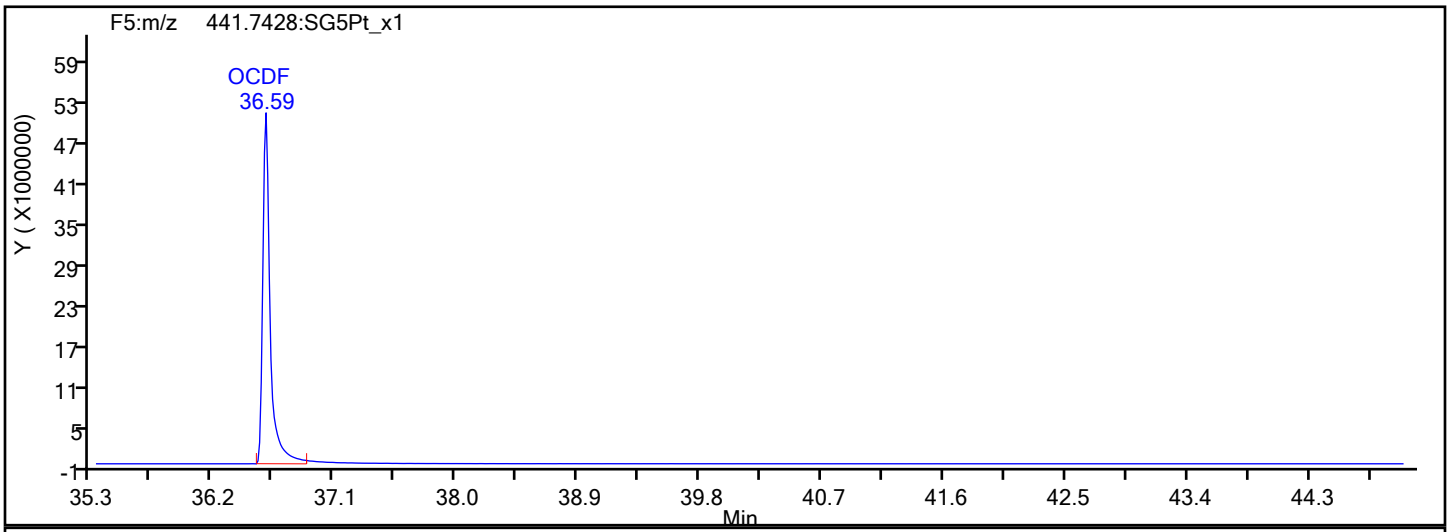

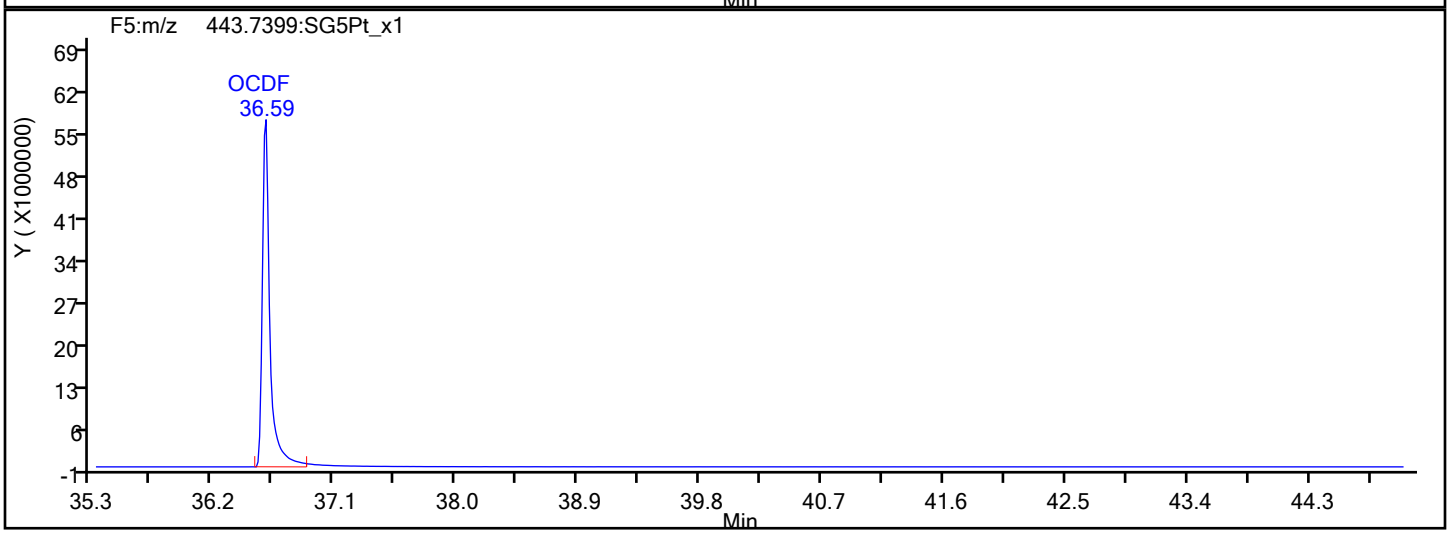

OCDF Interference Mass

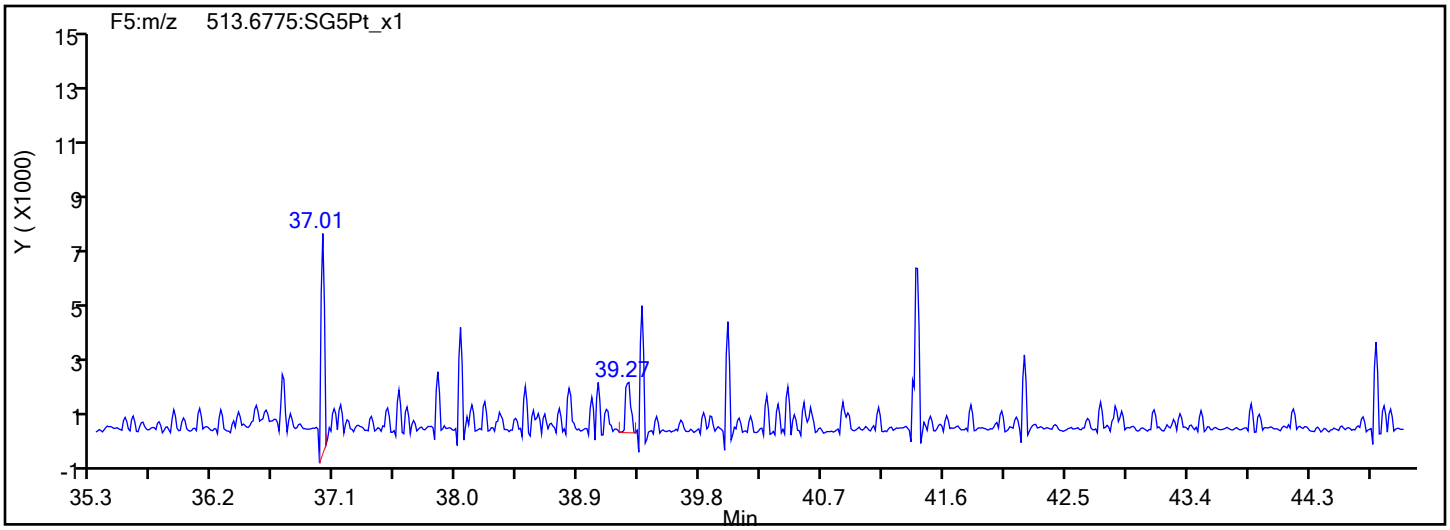

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Eurofins TestAmerica, Sacramento

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OCDD

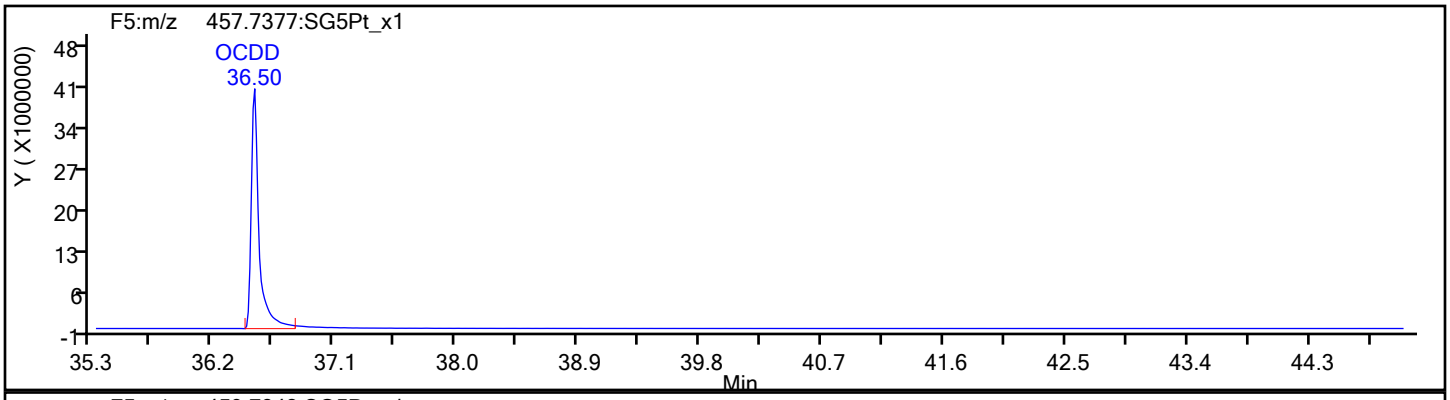

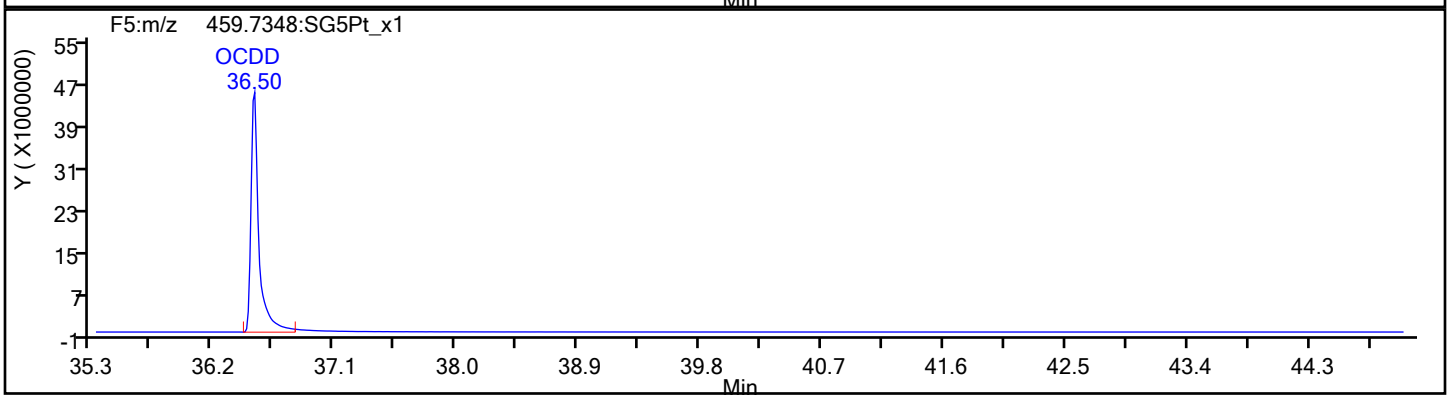

OCDD Standards

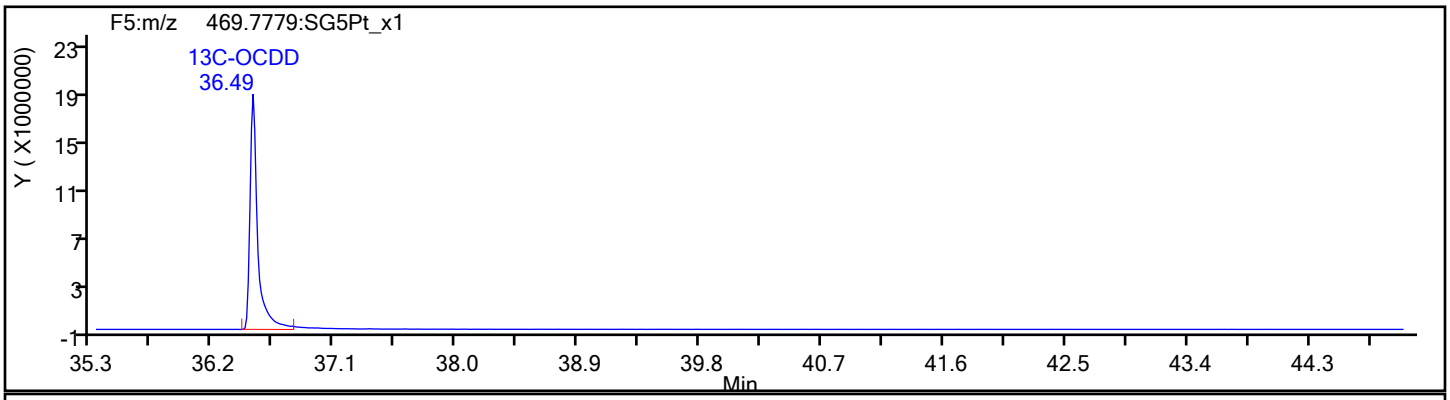

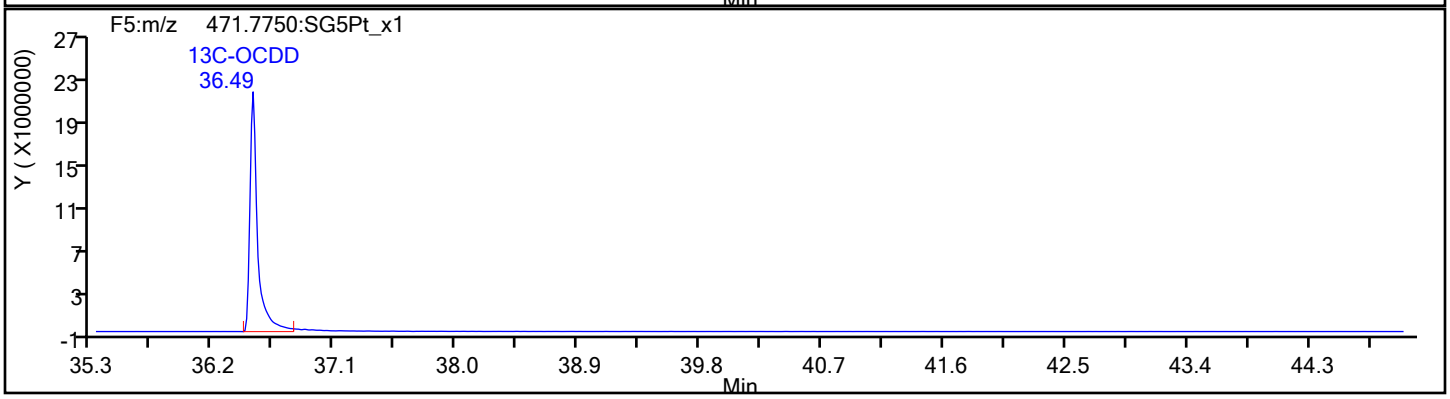

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Eurofins TestAmerica, Sacramento

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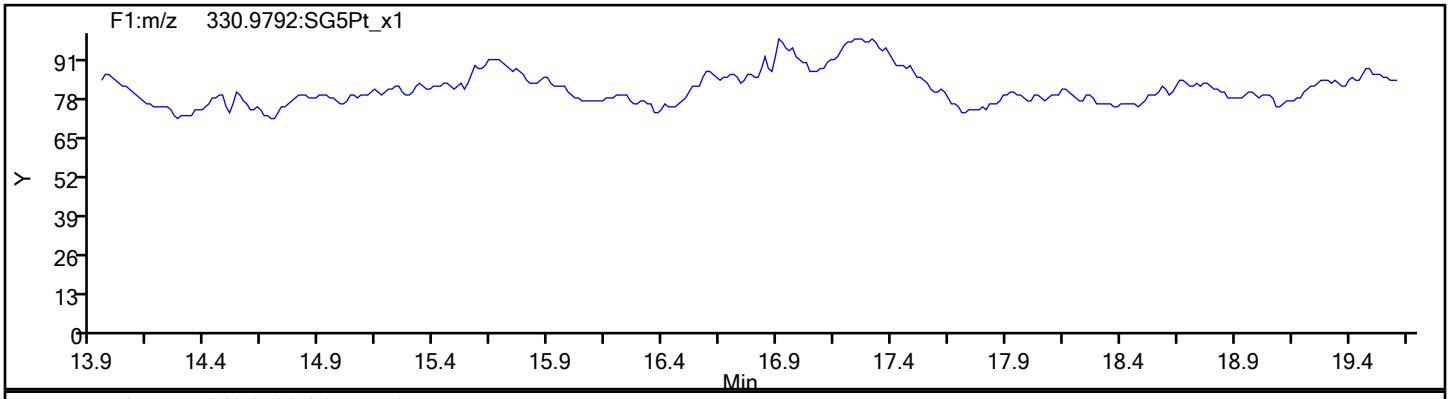

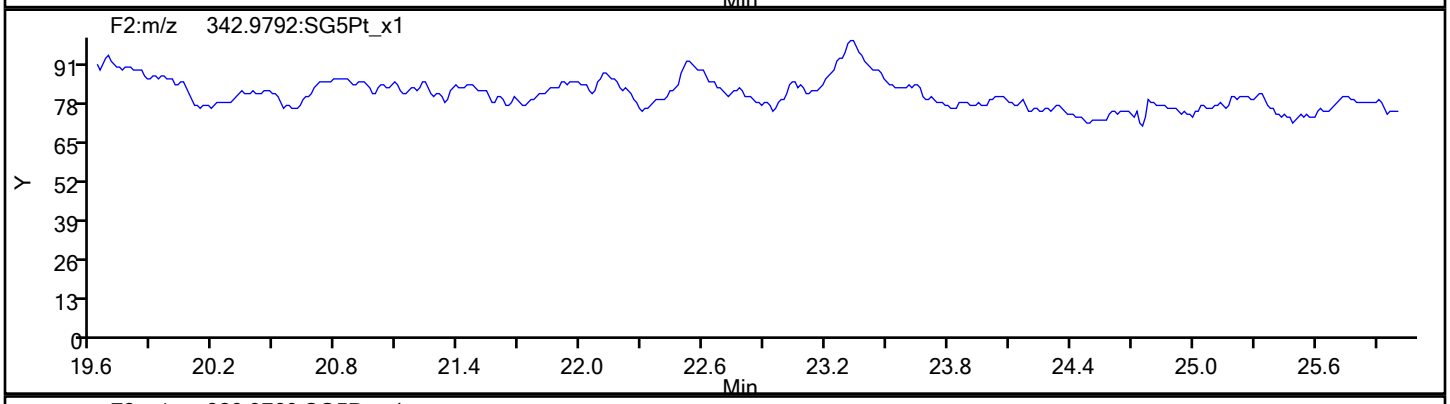

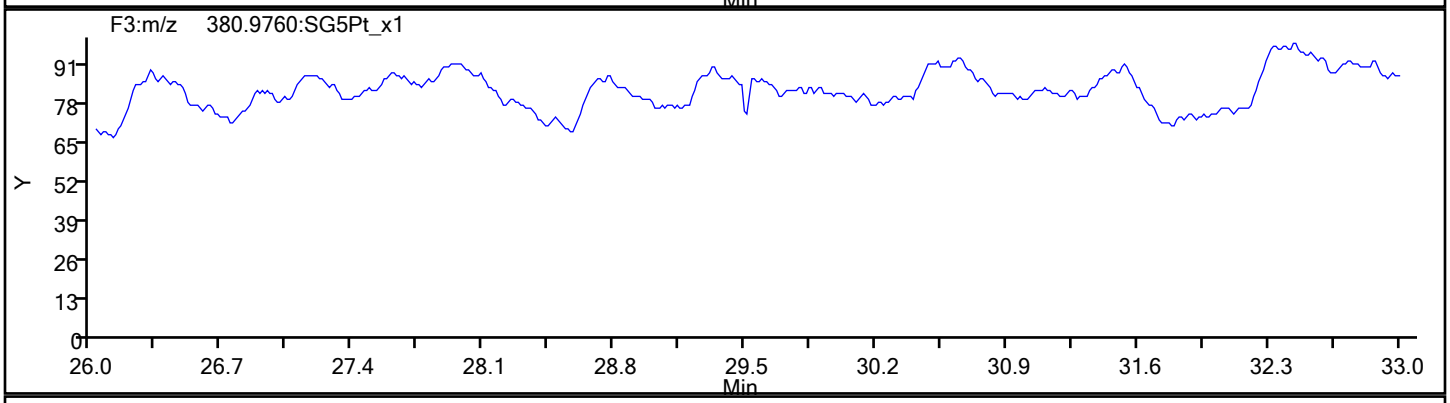

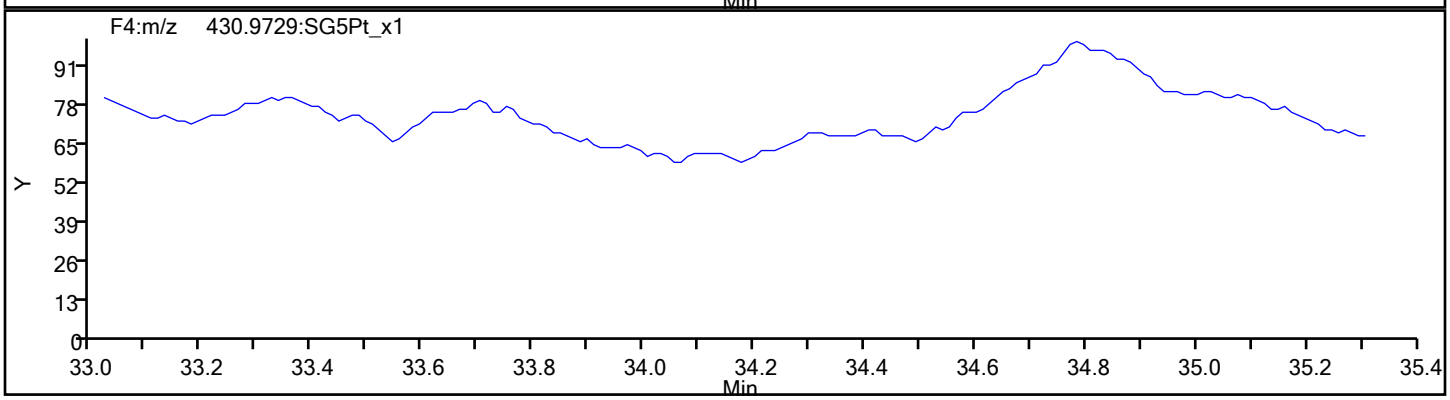

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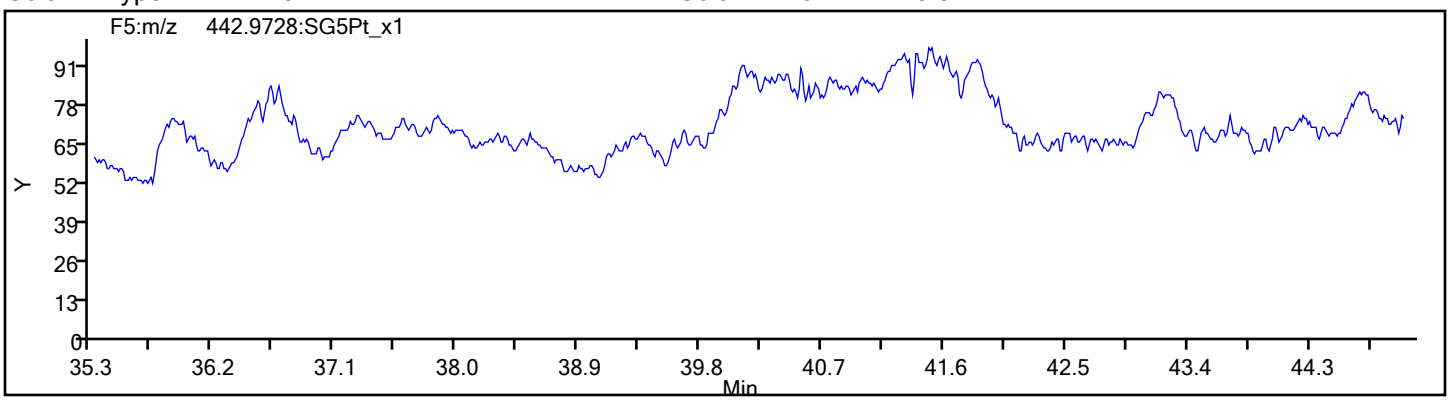

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

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Inject. Date: 17-Sep-2019 16:09:27 ALS Bottle#: 2 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719B CS-4 HRDXNL4_00084
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:37 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:03:31

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.300	116862140	0.78	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.816	164292495	0.81	1.4384	97.7	97.7	0.2030	0.2030	97.74	
2,3,7,8-TCDF	16.831	16312729	0.78	1.0507	9.450	9.450	0.0288	0.0288	94.50	
S Total TCDF					9.450	9.450	0.0288	0.0288		
D 13C-2,3,7,8-TCDD	17.497	110088290	0.77	0.9533	98.8	98.8	0.1811	0.1811	98.81	
$ 37Cl4-2,3,7,8-TCDD	17.511	11295580		1.2224	7.907	7.907	0.0161	0.0161	98.84	
2,3,7,8-TCDD	17.511	11272193	0.80	1.1064	9.254	9.254	0.0249	0.0249	92.54	
S Total TCDD					9.254	9.254	0.0249	0.0249		
D 13C-1,2,3,7,8-PeCDF	21.632	117067384	1.60	1.0286	97.4	97.4	0.2355	0.2355	97.39	
1,2,3,7,8-PeCDF	21.659	61060330	1.61	1.0822	48.2	48.2	0.1753	0.1753	96.39	
D 13C-2,3,4,7,8-PeCDF	22.927	108494277	1.59	0.9827	94.5	94.5	0.2465	0.2465	94.48	
2,3,4,7,8-PeCDF	22.954	58935693	1.60	1.1032	49.2	49.2	0.1981	0.1981	98.48	
S Total PeCDF					97.4	97.4	0.1867	0.1867		
D 13C-1,2,3,7,8-PeCDD	23.622	84755636	1.56	0.7481	96.9	96.9	0.1346	0.1346	96.95	
1,2,3,7,8-PeCDD	23.650	36740998	1.60	0.9050	47.9	47.9	0.0846	0.0846	95.80	
S Total PeCDD					47.9	47.9	0.0846	0.0846		
D 13C-1,2,3,4,7,8-HxCDF	29.749	88972191	0.52	1.1520	96.7	96.7	0.5009	0.5009	96.69	
1,2,3,4,7,8-HxCDF	29.776	51431784	1.25	1.1973	48.3	48.3	0.4285	0.4285	96.56	
D 13C-1,2,3,6,7,8-HxCDF	30.015	97064883	0.52	1.2434	97.7	97.7	0.4641	0.4641	97.73	
1,2,3,6,7,8-HxCDF	30.042	55977084	1.25	1.1807	48.8	48.8	0.3660	0.3660	97.69	
D 13C-2,3,4,6,7,8-HxCDF	31.040	90467566	0.52	1.1720	96.6	96.6	0.4924	0.4924	96.64	
2,3,4,6,7,8-HxCDF	31.053	53626165	1.26	1.2116	48.9	48.9	0.2565	0.2565	97.85	
D 13C-1,2,3,7,8,9-HxCDF	31.945	83967924	0.52	1.0655	98.7	98.7	0.5416	0.5416	98.66	
1,2,3,7,8,9-HxCDF	31.958	50802364	1.28	1.2451	48.6	48.6	0.2521	0.2521	97.18	
S Total HxCDF					194.6	194.6	0.3258	0.3258		
* 13C-1,2,3,7,8,9-HxCDD	31.746	79877165	1.26	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.266	61001305	1.29	0.7812	97.8	97.8	0.4169	0.4169	97.76	
1,2,3,4,7,8-HxCDD	31.280	32825472	1.25	1.1088	48.5	48.5	0.1882	0.1882	97.06	
D 13C-1,2,3,6,7,8-HxCDD	31.386	72157657	1.29	0.9175	98.5	98.5	0.3550	0.3550	98.46	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.399	37867080	1.26	1.0814	48.5	48.5	0.1789	0.1789	97.05	
1,2,3,7,8,9-HxCDD	31.759	39571199	1.26	1.2123	49.0	49.0	0.1656	0.1656	98.05	
S Total HxCDD					146.1	146.1	0.1776	0.1776		
D 13C-1,2,3,4,6,7,8-HpCDF	33.460	70034446	0.45	0.8628	101.6	101.6	1.887	1.887	102	
1,2,3,4,6,7,8-HpCDF	33.472	53230505	1.05	1.5555	48.9	48.9	0.7328	0.7328	97.72	
D 13C-1,2,3,4,7,8,9-HpCDF	34.505	62459777	0.45	0.7991	97.9	97.9	2.038	2.038	97.86	
1,2,3,4,7,8,9-HpCDF	34.505	42098592	1.05	1.3862	48.6	48.6	1.030	1.030	97.24	
S Total HpCDF					97.5	97.5	0.8815	0.8815		
D 13C-1,2,3,4,6,7,8-HpCDD	34.225	69249272	1.01	0.8739	99.2	99.2	0.8707	0.8707	99.21	
1,2,3,4,6,7,8-HpCDD	34.237	31792117	1.05	0.9316	49.3	49.3	0.3574	0.3574	98.56	
S Total HpCDD					49.3	49.3	0.3574	0.3574		
D 13C-OCDD	36.481	117978202	0.90	0.7744	190.7	190.7	0.3164	0.3164	95.37	
OCDF	36.577	73138090	0.89	1.2596	98.4	98.4	0.0928	0.0928	98.43	
OCDD	36.493	60102277	0.88	1.0621	95.9	95.9	0.1528	0.1528	95.93	

Reagents:

HRDXNL4_00084 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 17-Sep-2019 16:09:27 ALS Bottle#: 2 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719B CS-4 HRDXNL4_00084
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:37 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:03:31

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.300	17.303	0		51188431	13221592	10308	25770	1283		
333.9339	17.300	17.303	0		65673709	17067918	10612	26530	1608	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.816	16.810	0	0.972	73273257	18643279	16682	41705	1118		
317.9389	16.816	16.810	0	0.972	91019238	23348376	18701	46752	1249	0.81(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.831	16.825	0	1.001	7146505	1866474	1748	4370	1068		
305.8987	16.831	16.825	0	1.001	9166224	2309204	3335	8337	692	0.78(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.497	17.490	0	1.011	47890197	11504119	10308	25770	1116		
333.9339	17.497	17.490	0	1.011	62198093	14897345	10612	26530	1404	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.511	17.505	0	1.012	11295580	2759721	2389	5972	1155		
2,3,7,8-TCDD											
319.8965	17.511	17.505	0	1.001	5006379	1229603	1679	4197	732		
321.8936	17.511	17.505	0	1.001	6265814	1552760	1232	3080	1260	0.80(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	21.632	21.637	0	1.250	72085037	13290906	17975	44937	739		
353.8970	21.632	21.637	0	1.250	44982347	8135550	11370	28425	716	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.659	21.661	0	1.001	37645378	6988113	9632	24080	726		
341.8567	21.659	21.661	0	1.001	23414952	4333779	6628	16570	654	1.61(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	22.927	22.932	0	1.325	66667406	11411081	17975	44937	635		
353.8970	22.927	22.932	0	1.325	41826871	7189733	11370	28425	632	1.59(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.954	22.954	0	1.001	36249920	6246701	9632	24080	649		
341.8567	22.954	22.954	0	1.001	22685773	3975349	6628	16570	600	1.60(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.622	23.625	0	1.365	51615468	8403431	7024	17560	1196		
369.8919	23.622	23.625	0	1.365	33140168	5441011	5174	12935	1052	1.56(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.650	23.649	0	1.001	22616992	3684612	2542	6355	1449		
357.8516	23.650	23.649	0	1.001	14124006	2284855	1697	4242	1346	1.60(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.749	29.754	0	0.937	30622454	4262368	15646	39115	272		
385.8610	29.749	29.754	0	0.937	58349737	7978660	27510	68775	290	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.776	29.789	-1	1.001	28572669	3966552	14037	35092	283		
375.8178	29.776	29.789	-1	1.001	22859115	3184716	11085	27712	287	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.015	30.015	0	0.945	33334673	4974859	15646	39115	318		
385.8610	30.015	30.015	0	0.945	63730210	9557829	27510	68775	347	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.042	30.039	0	1.001	31100201	4648576	14037	35092	331		
375.8178	30.028	30.039	-1	1.000	24876883	3736483	11085	27712	337	1.25(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.040	31.043	0	0.978	31041442	6949049	15646	39115	444		
385.8610	31.040	31.043	0	0.978	59426124	13257904	27510	68775	482	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.053	31.059	0	1.000	29867122	6669756	14037	35092	475		
375.8178	31.053	31.059	0	1.000	23759043	5329537	11085	27712	481	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.945	31.942	0	1.006	28810187	6889378	15646	39115	440		
385.8610	31.945	31.942	0	1.006	55157737	13121620	27510	68775	477	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.958	31.956	0	1.000	28484868	6927852	14037	35092	494		
375.8178	31.958	31.956	0	1.000	22317496	5417368	11085	27712	489	1.28(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.746	31.748	0		44590033	10388597	13953	34882	745		
403.8529	31.746	31.748	0		35287132	8307576	10402	26005	799	1.26(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.266	31.261	0	0.985	34418121	8538114	13953	34882	612		
403.8529	31.253	31.261	0	0.984	26583184	6542155	10402	26005	629	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.280	31.280	0	1.000	18210328	4676373	6796	16990	688		
391.8127	31.280	31.280	0	1.000	14615144	3685627	5791	14477	636	1.25(1.05-1.43)	

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24
Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.386	31.383	0	0.989	40713057	9165140	13953	34882	657		
403.8529	31.386	31.383	0	0.989	31444600	7098259	10402	26005	682	1.29(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.399	31.402	0	1.000	21129707	4810731	6796	16990	708		
391.8127	31.399	31.402	0	1.000	16737373	3882456	5791	14477	670	1.26(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.759	31.761	0	1.016	22036967	5199355	6796	16990	765		
391.8127	31.759	31.761	0	1.016	17534232	4154993	5791	14477	717	1.26(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.460	33.457	0	1.054	21694702	6802754	38569	96422	176		
419.8220	33.460	33.457	0	1.054	48339744	14980925	83187	207967	180	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.472	33.469	0	1.000	27303098	8321332	48031	120077	173		
409.7789	33.460	33.469	-1	1.000	25927407	8013389	51301	128252	156	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.505	34.502	0	1.087	19495147	5459139	38569	96422	142		
419.8220	34.505	34.502	0	1.087	42964630	11931602	83187	207967	143	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.505	34.509	0	1.000	21594067	6125765	48031	120077	128		
409.7789	34.505	34.509	0	1.000	20504525	5997687	51301	128252	117	1.05(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.225	34.227	0	1.078	34873988	10385149	28867	72167	360		
437.8140	34.225	34.227	0	1.078	34375284	10126378	28038	70095	361	1.01(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.237	34.235	0	1.000	16297283	4845800	14038	35095	345		
425.7737	34.237	34.235	0	1.000	15494834	4492519	13280	33200	338	1.05(0.88-1.20)	
13C-OCDD											
469.7779	36.481	36.486	0	1.149	55925656	13683141	9939	24847	1377		
471.7750	36.481	36.486	0	1.149	62052546	15254711	8386	20965	1819	0.90(0.76-1.02)	
OCDF											
441.7428	36.577	36.581	0	1.003	34484063	8952540	3122	7805	2868		
443.7399	36.577	36.581	0	1.003	38654027	9970777	3641	9102	2738	0.89(0.76-1.02)	
OCDD											
457.7377	36.493	36.497	0	1.000	28100552	7029079	3330	8325	2111		
459.7348	36.493	36.497	0	1.000	32001725	7995829	6061	15152	1319	0.88(0.76-1.02)	

Reagents:

HRDXNL4_00084 Amount Added: 1.00 Units: mL

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
Injection Date:	17-Sep-2019 16:09:27	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

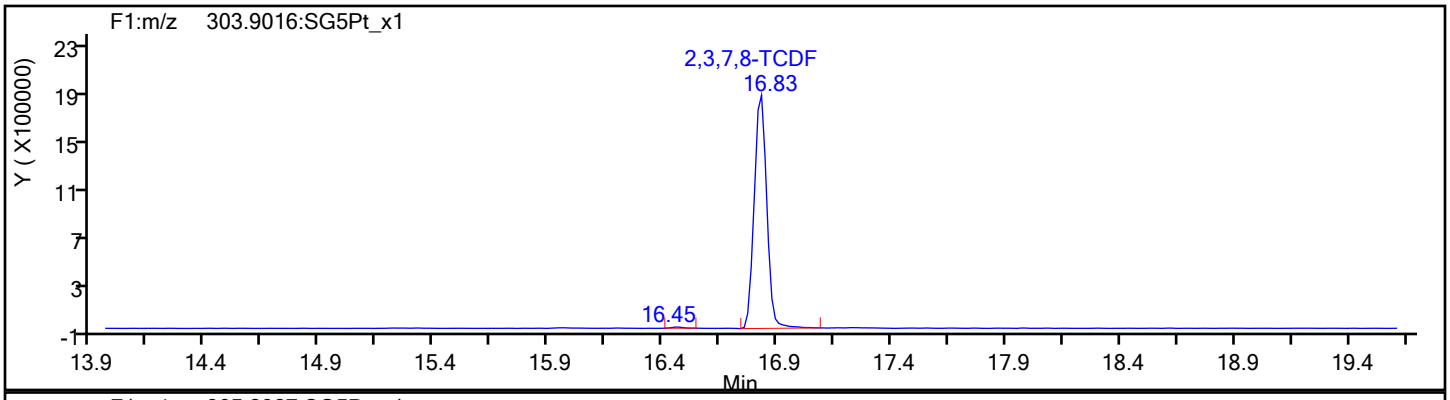

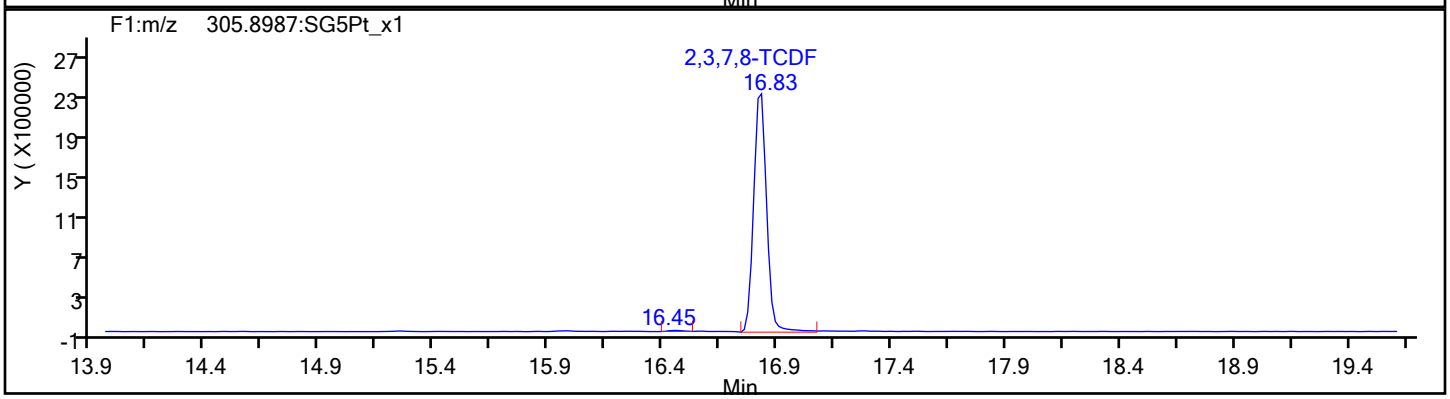

TCDF Standards

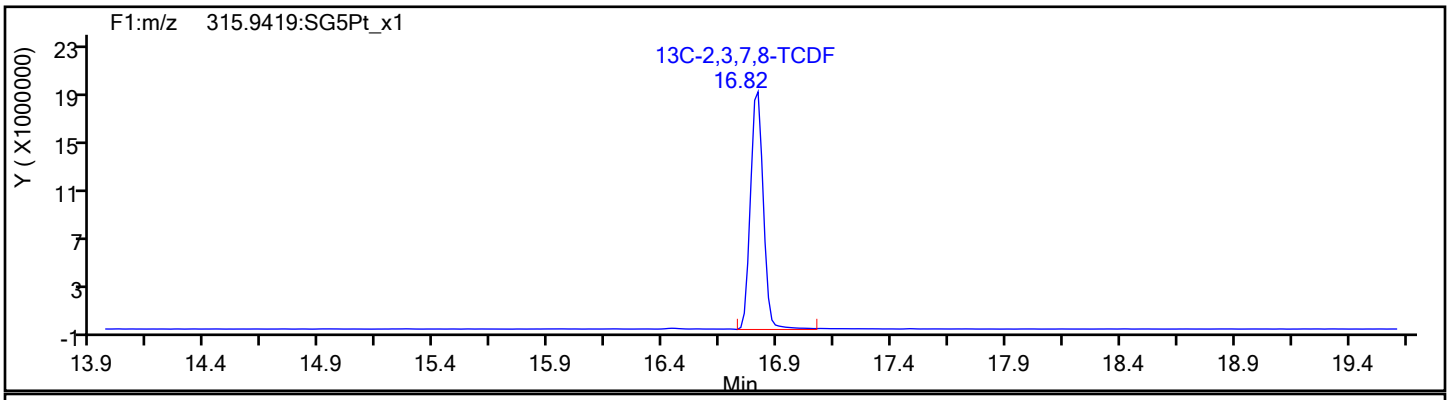

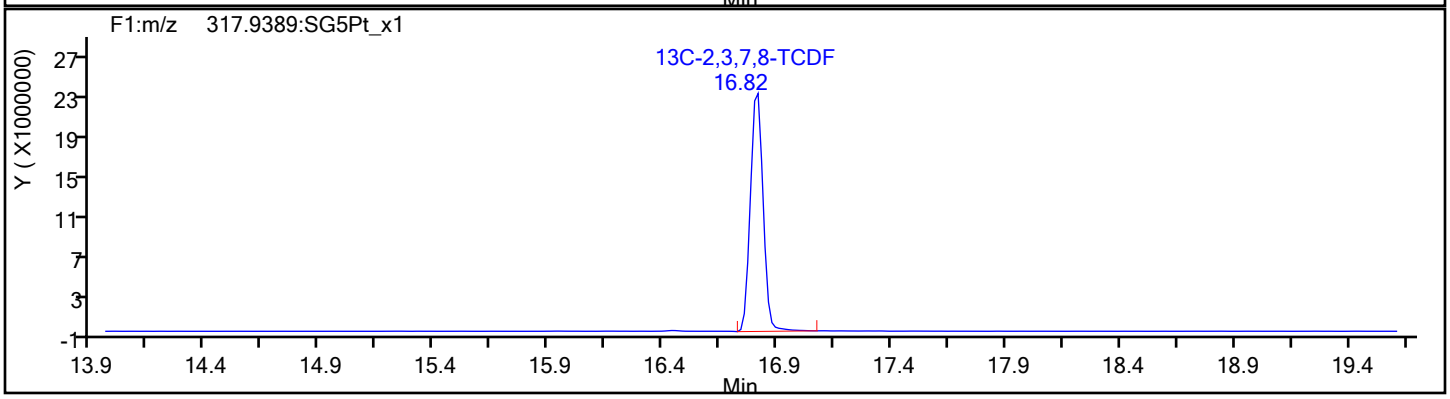

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
Injection Date:	17-Sep-2019 16:09:27	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

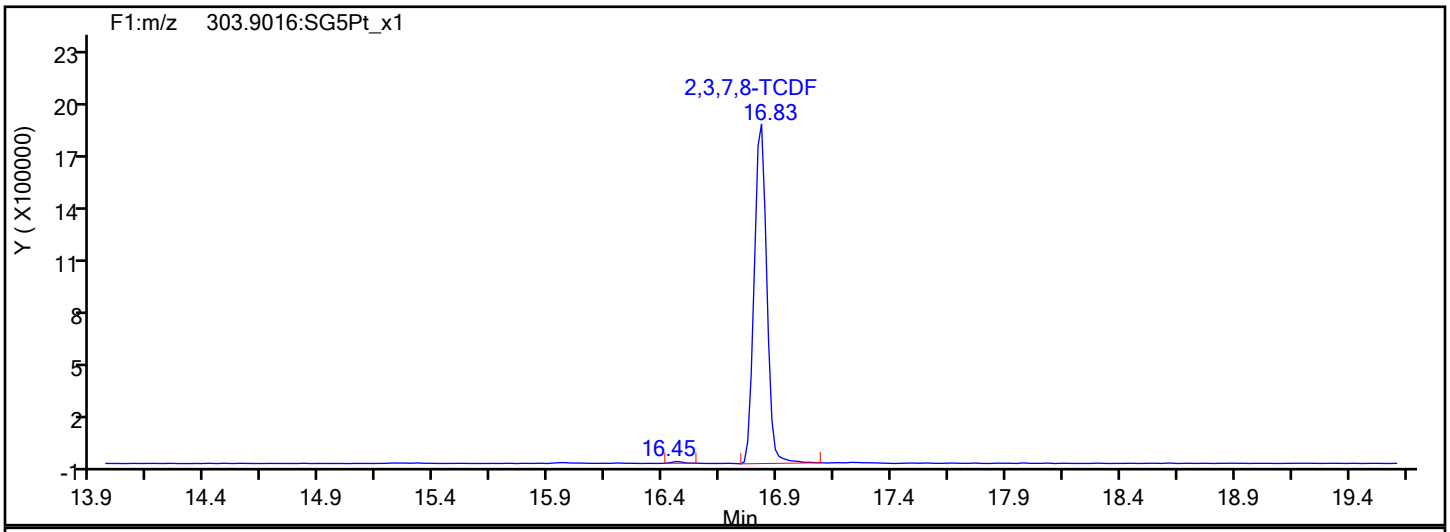

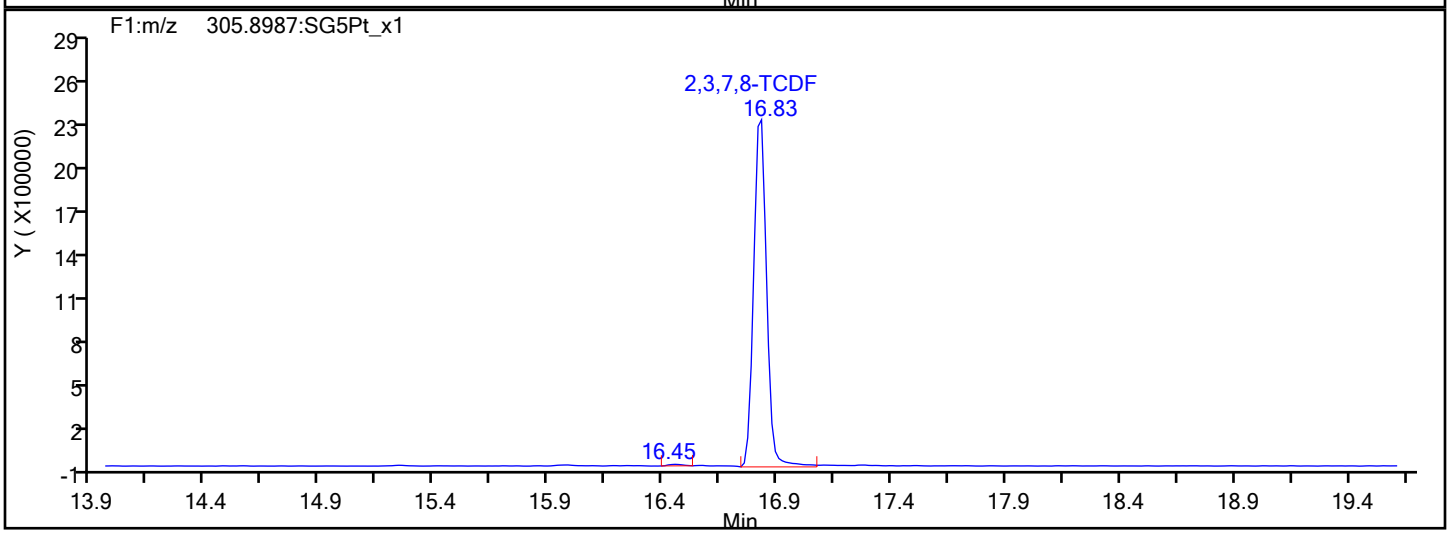

TCDF Interference Mass

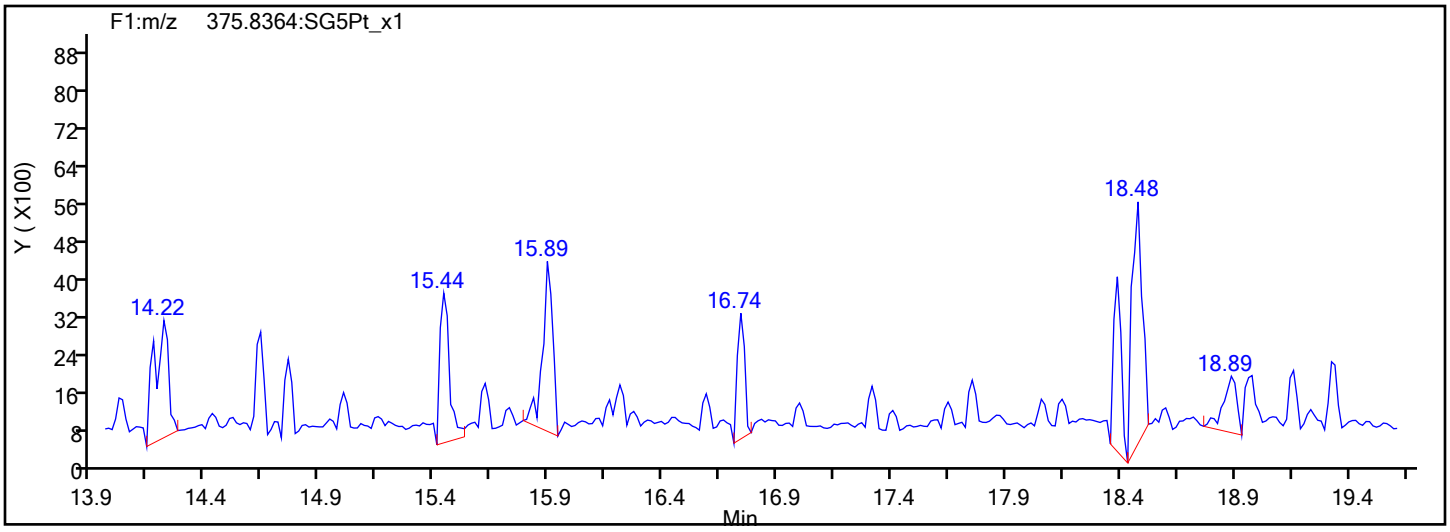

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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TCDD

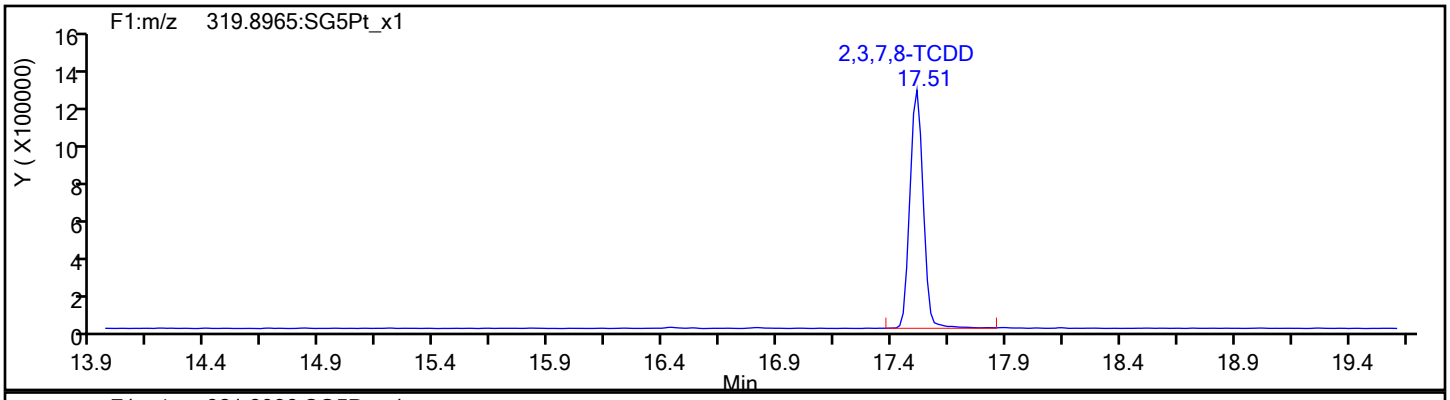

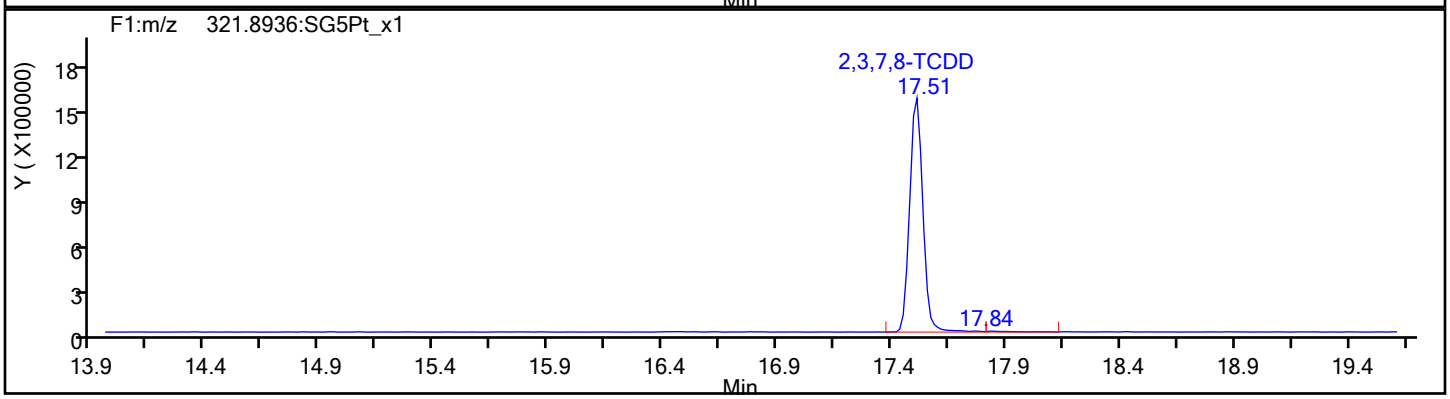

TCDD Standards

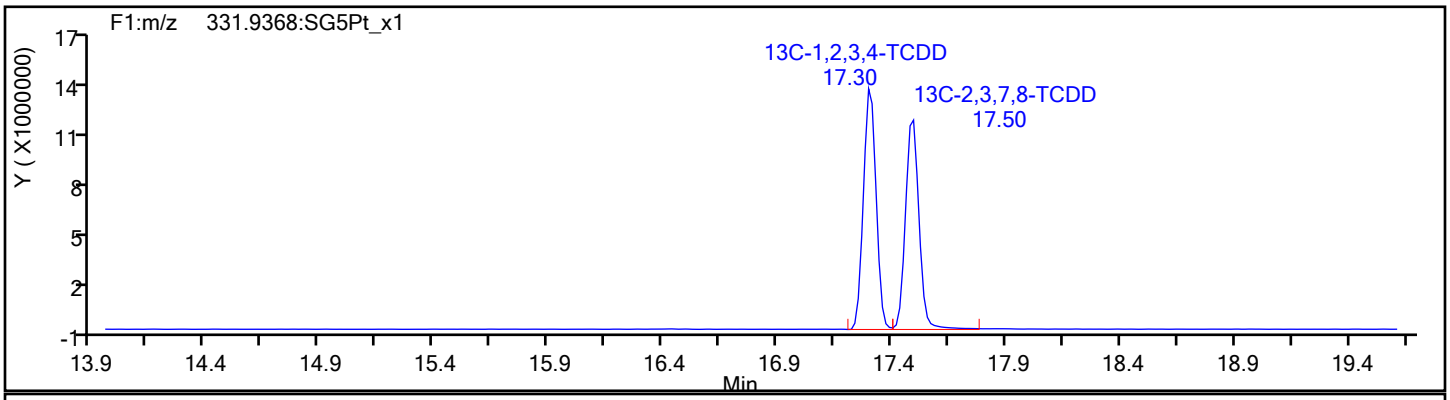

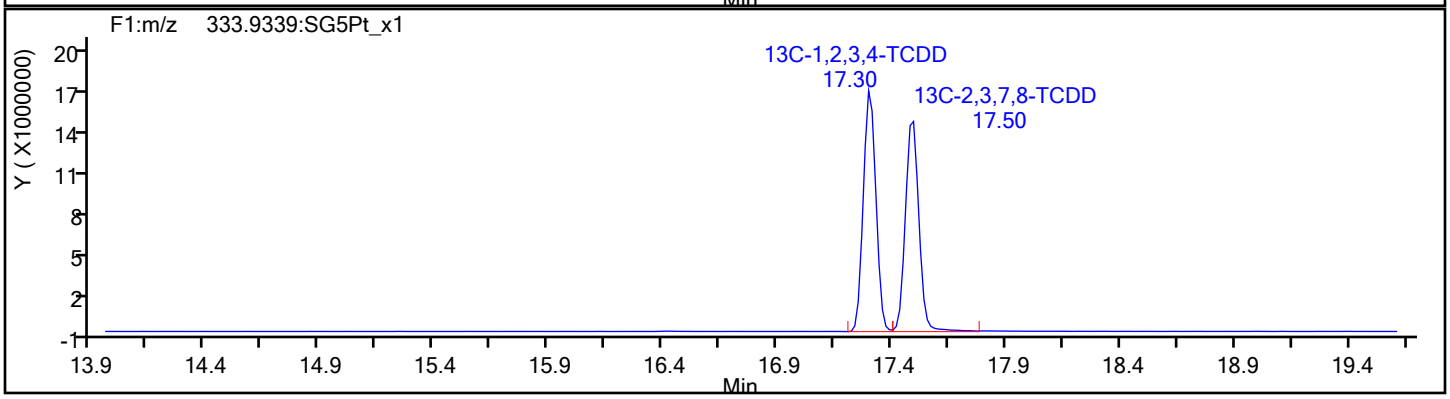

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Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

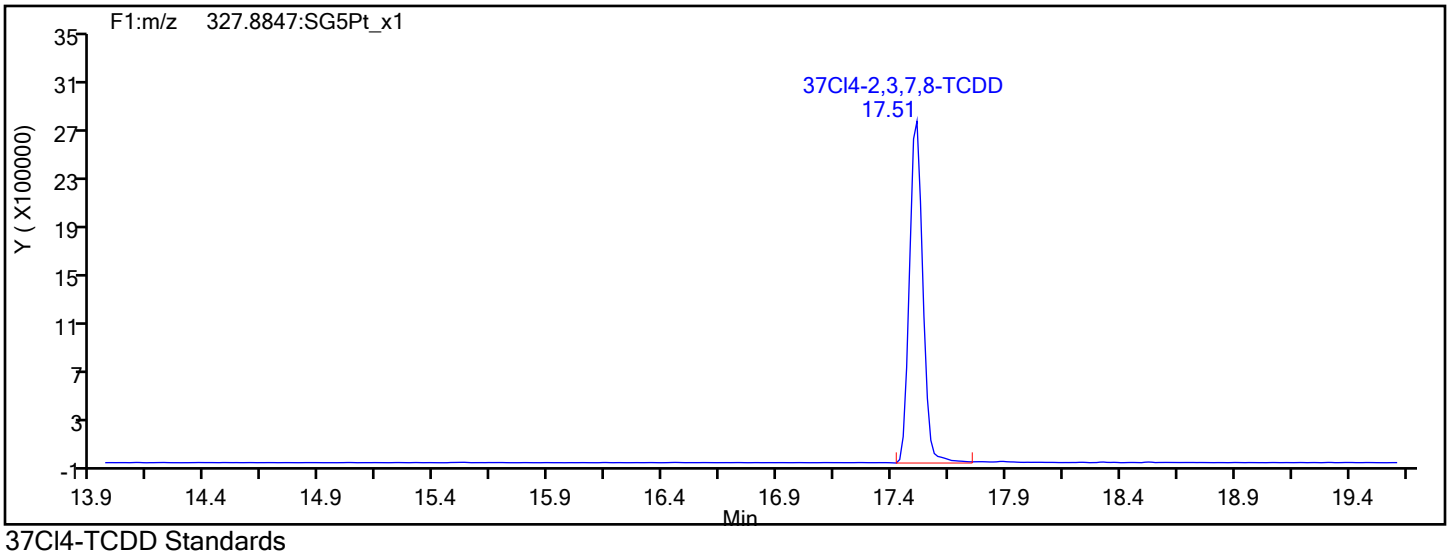

37Cl4-TCDD Standards

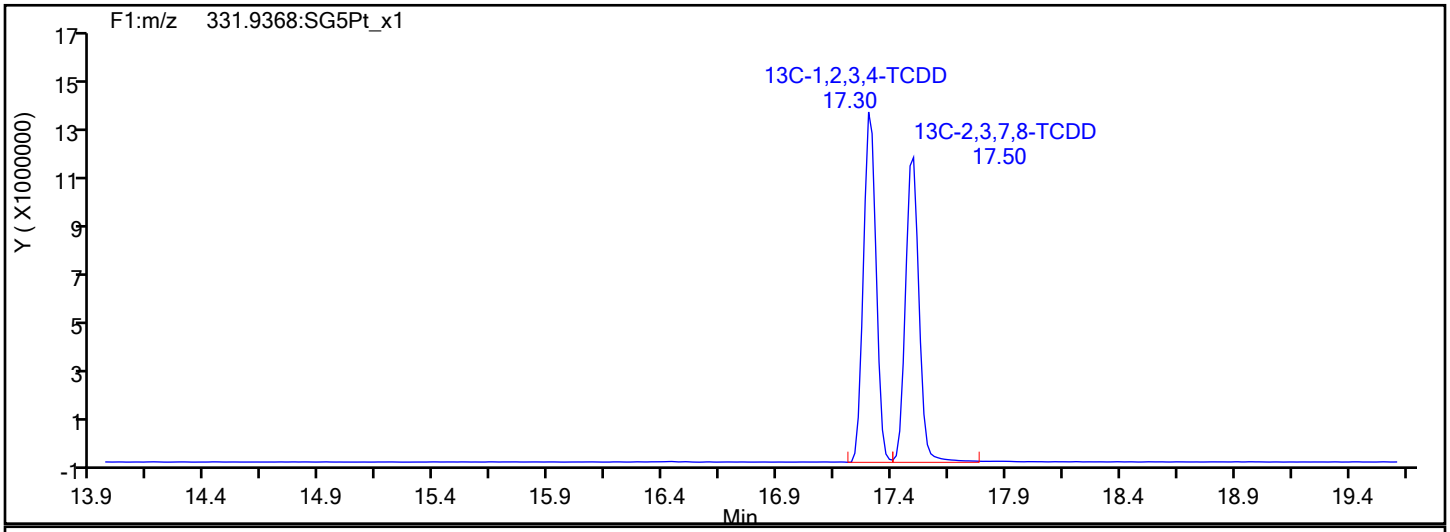

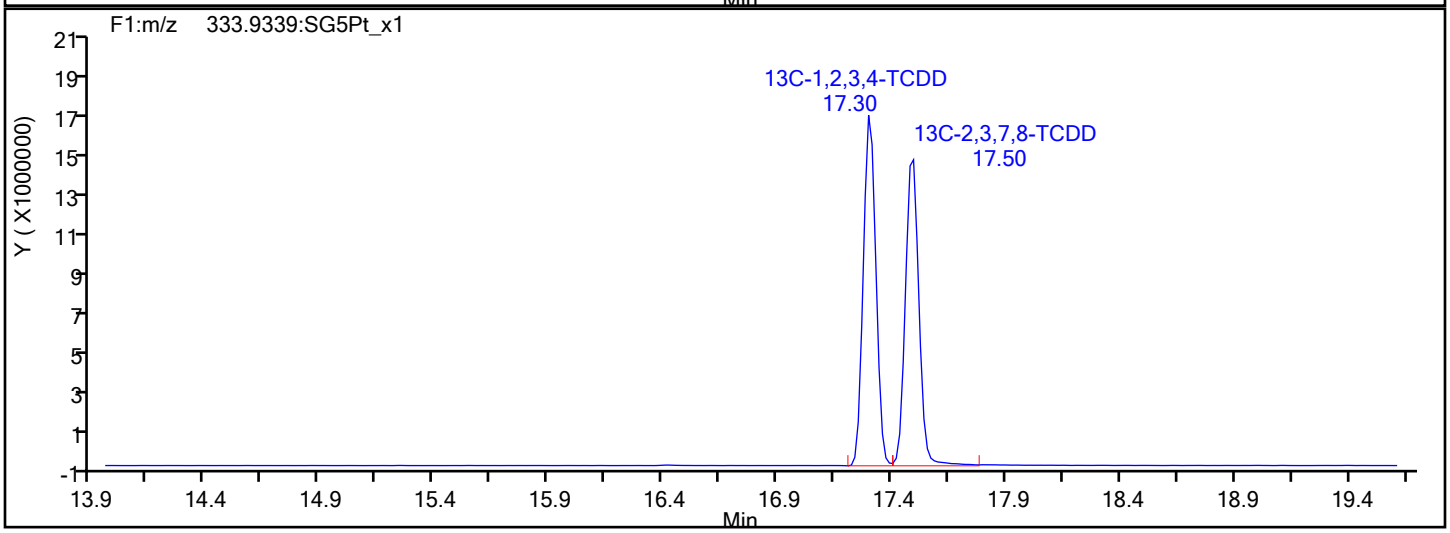

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

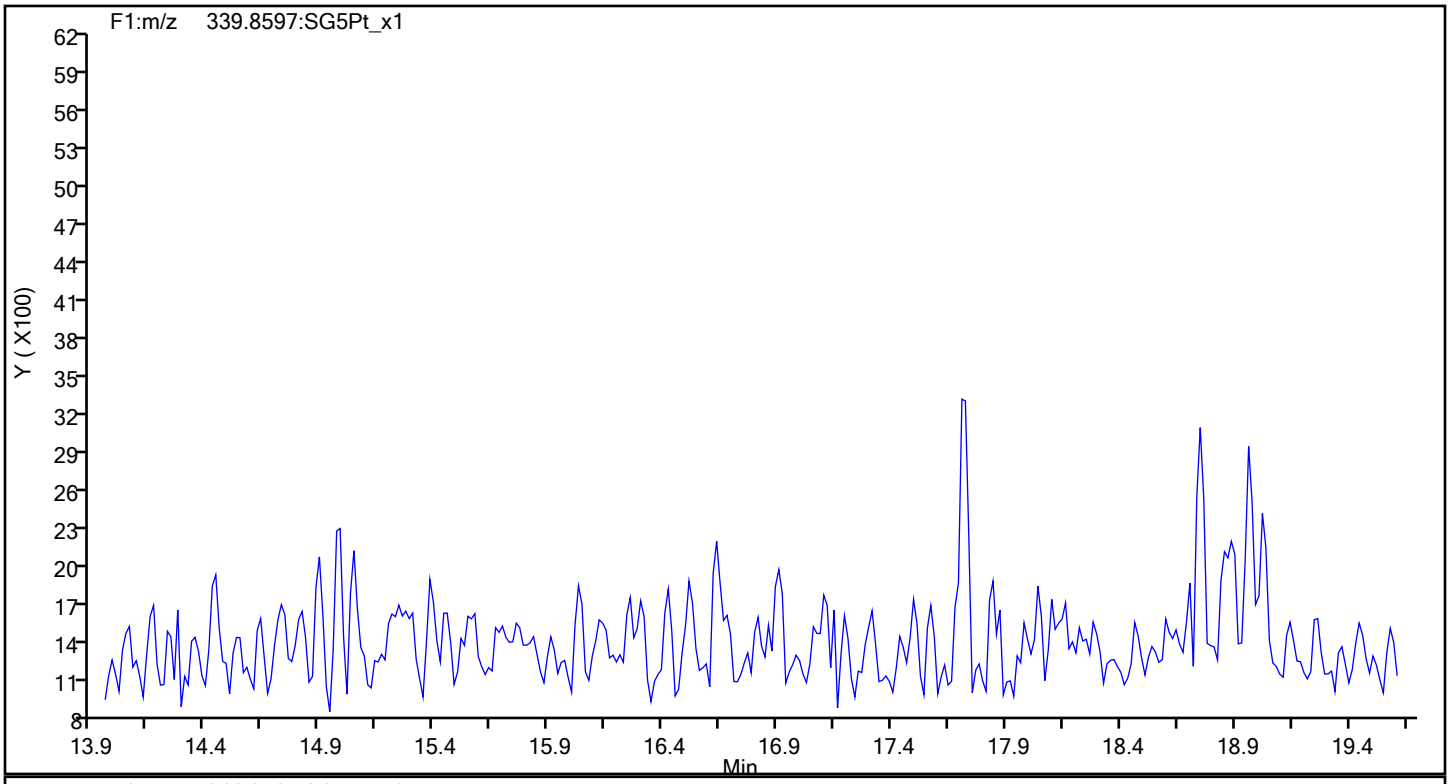

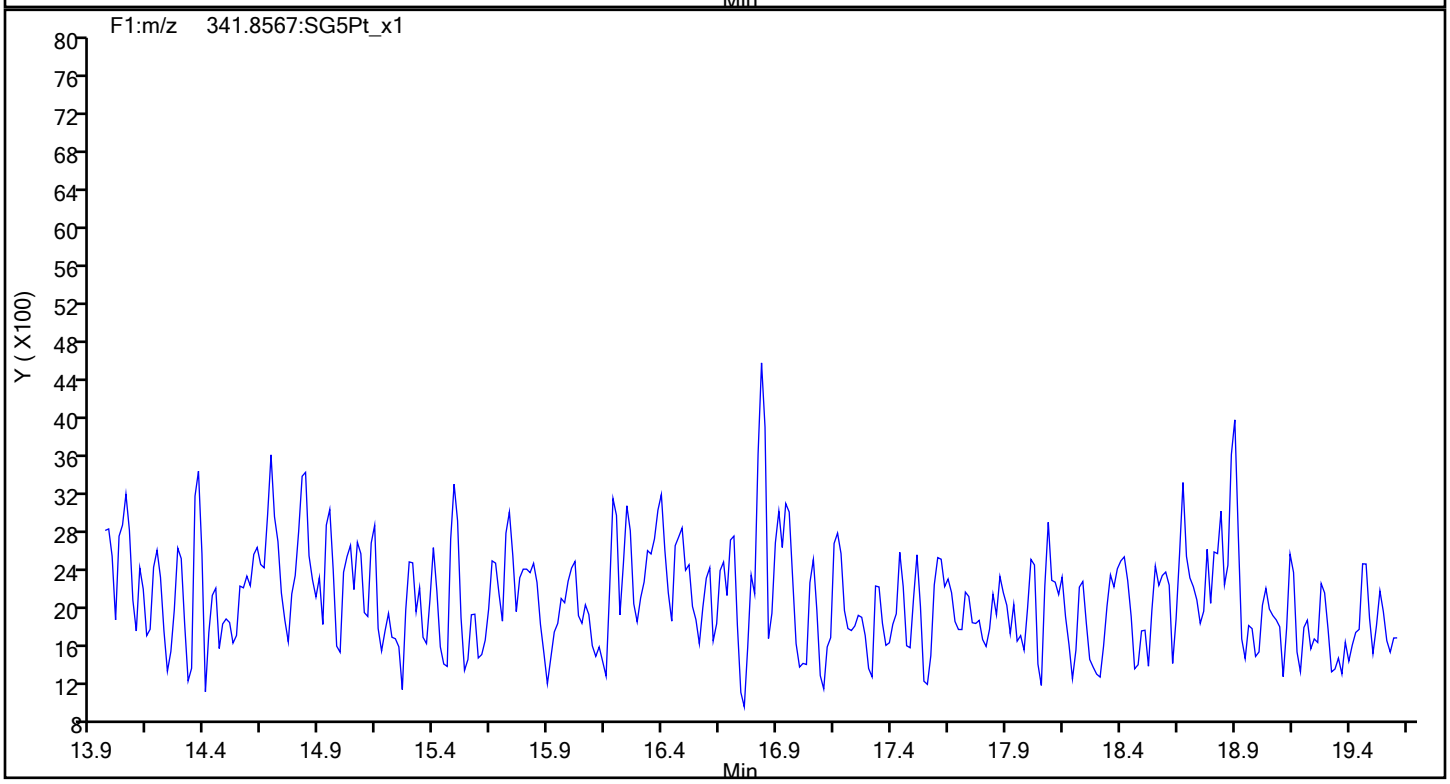

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

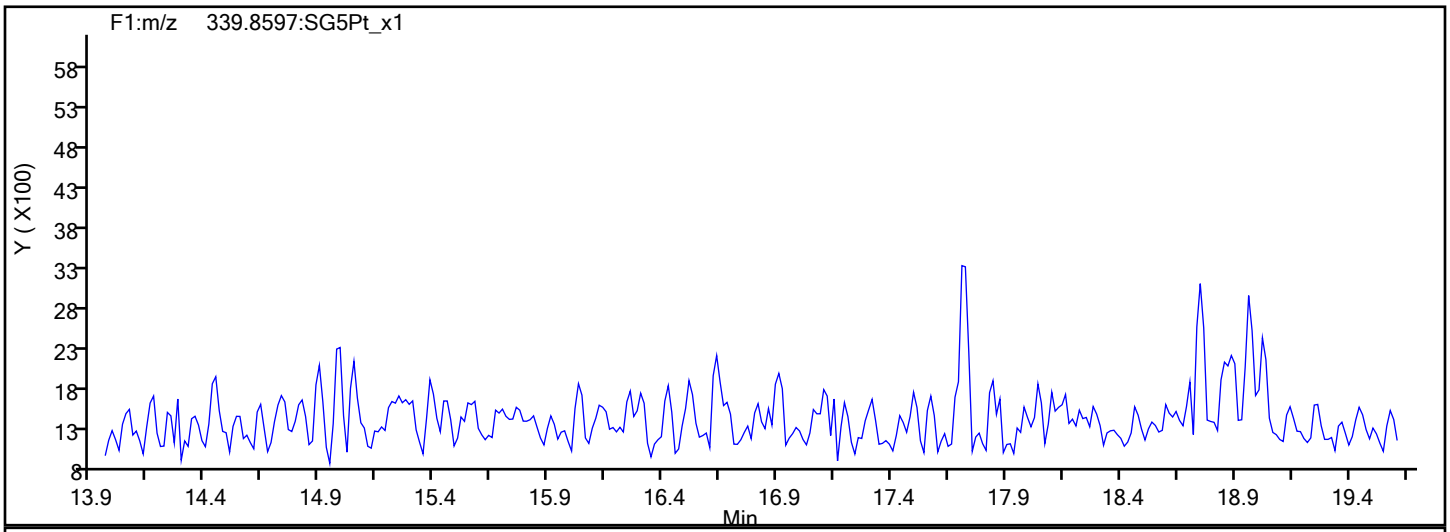

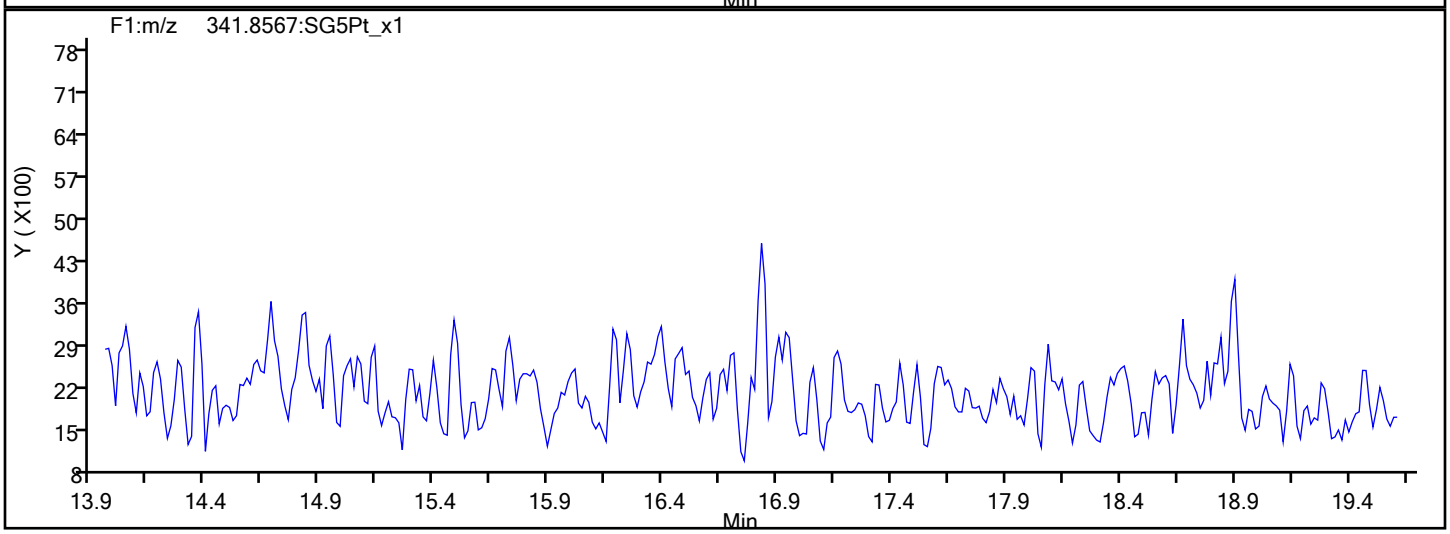

F1 PeCDFs Interference Mass

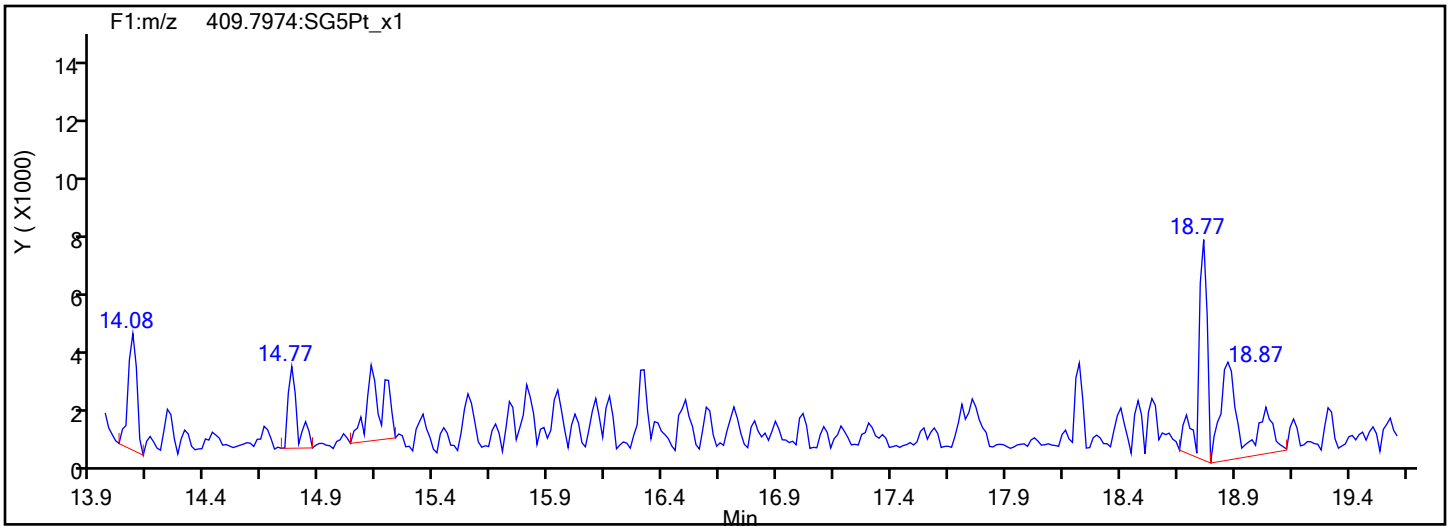

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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PeCDF

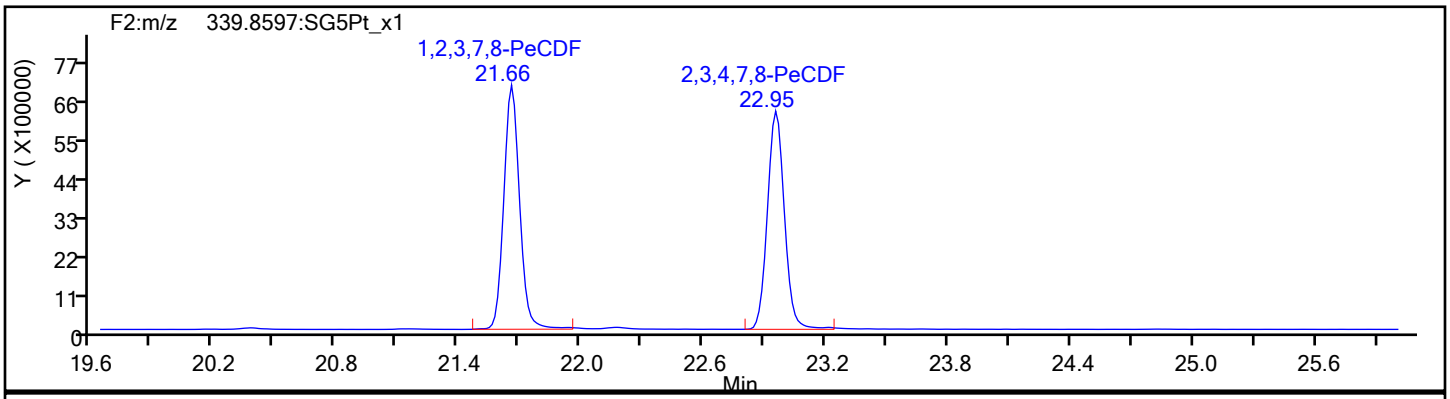

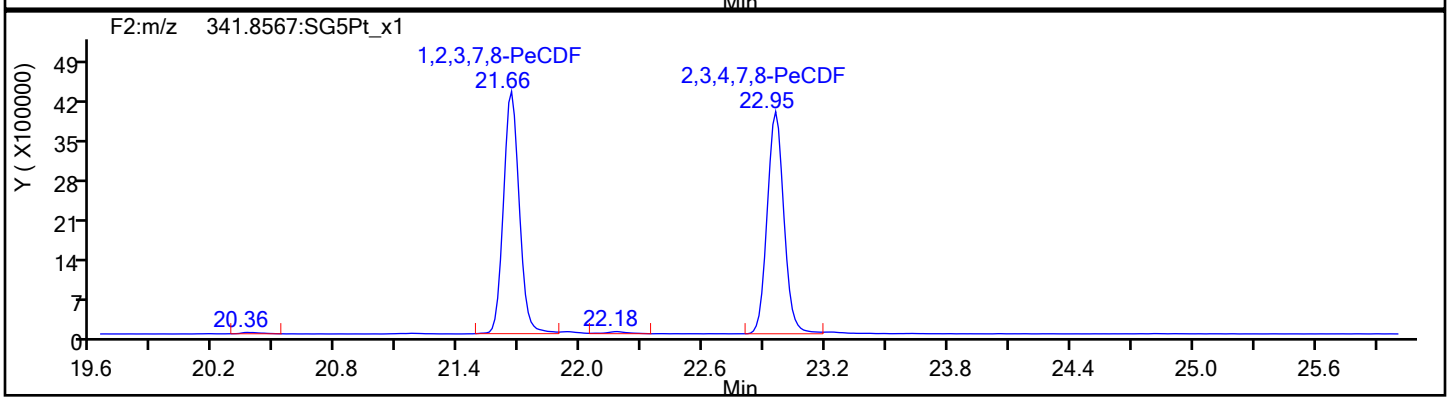

PeCDF Standards

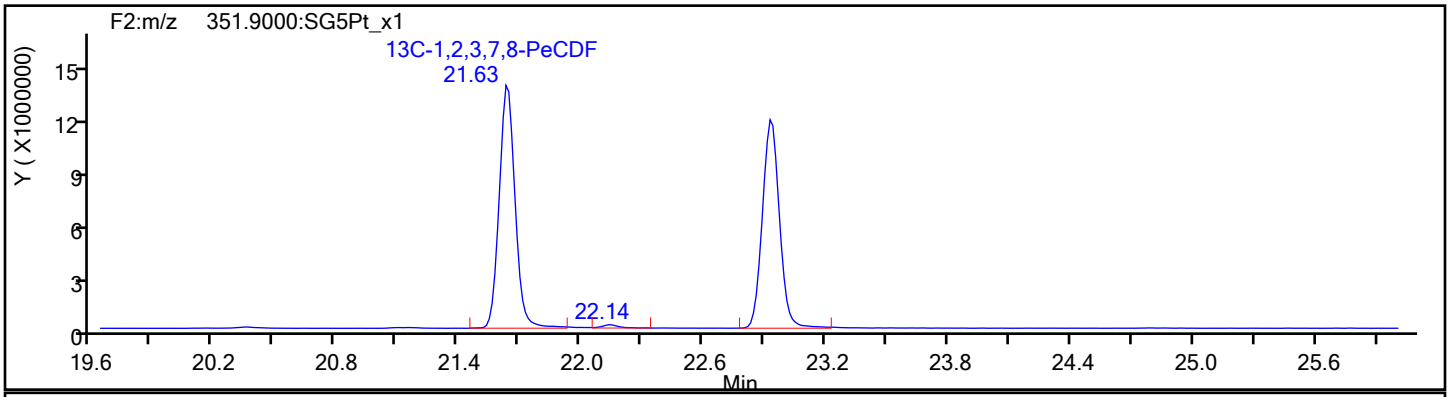

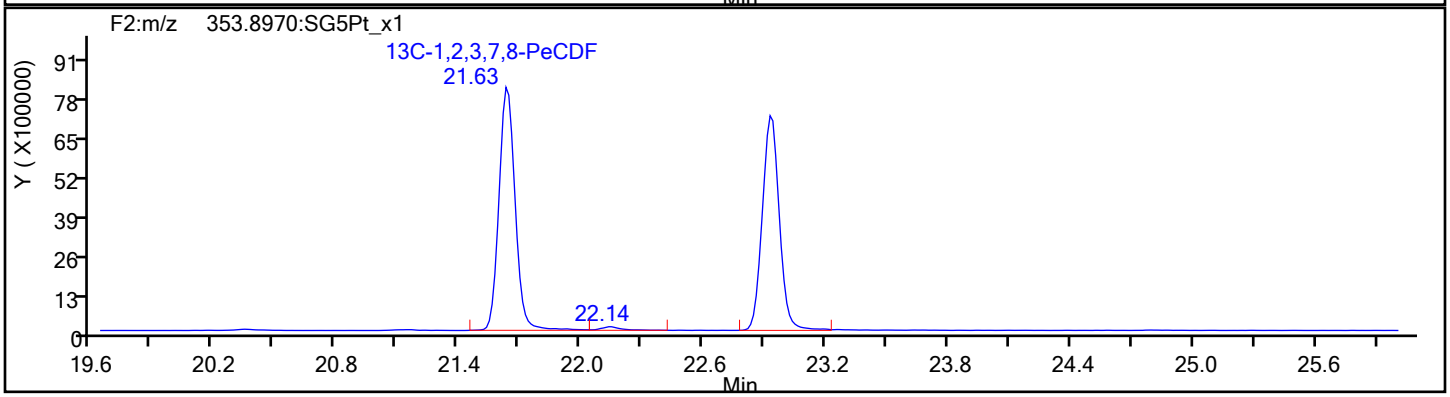

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Eurofins TestAmerica, Sacramento

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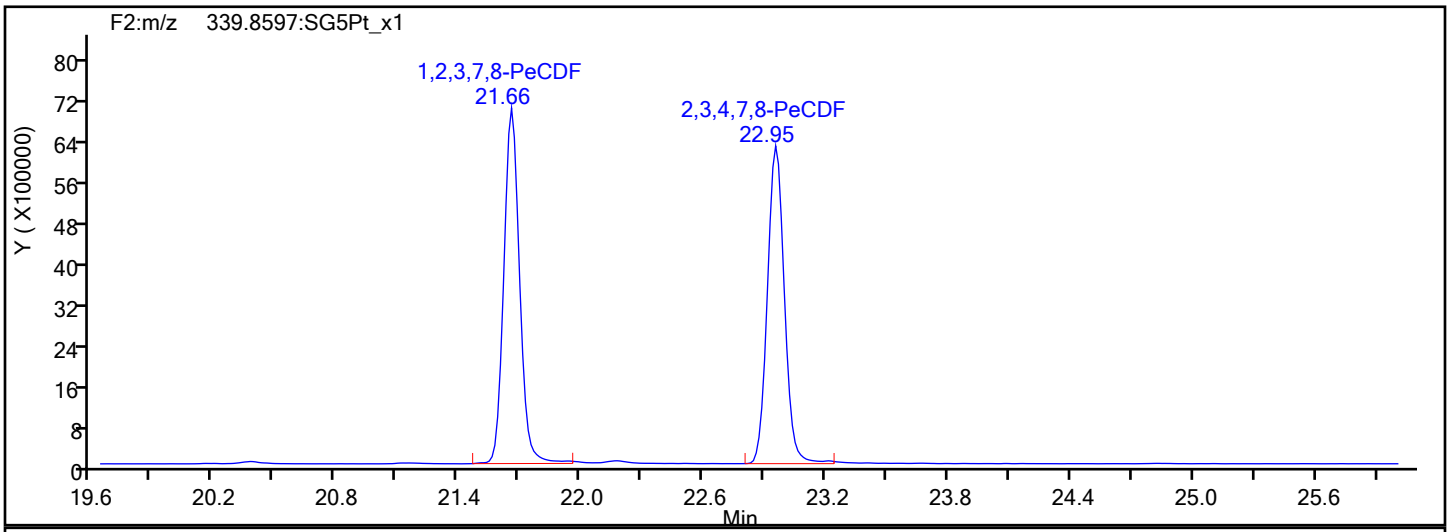

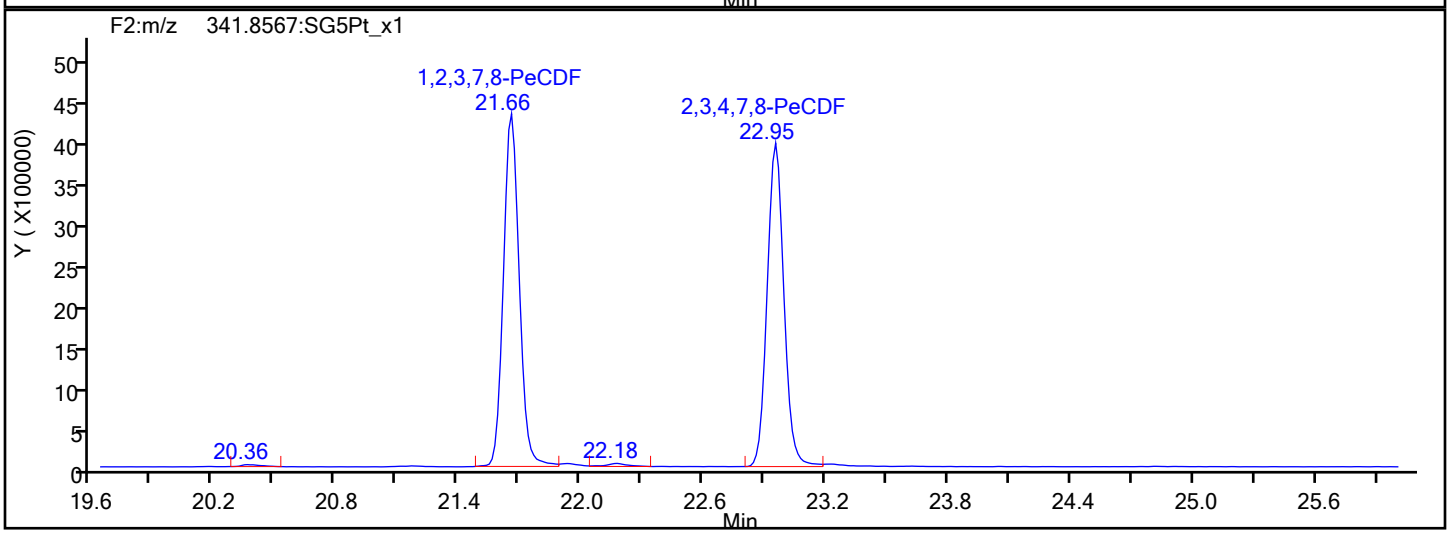

PeCDF Interference Mass

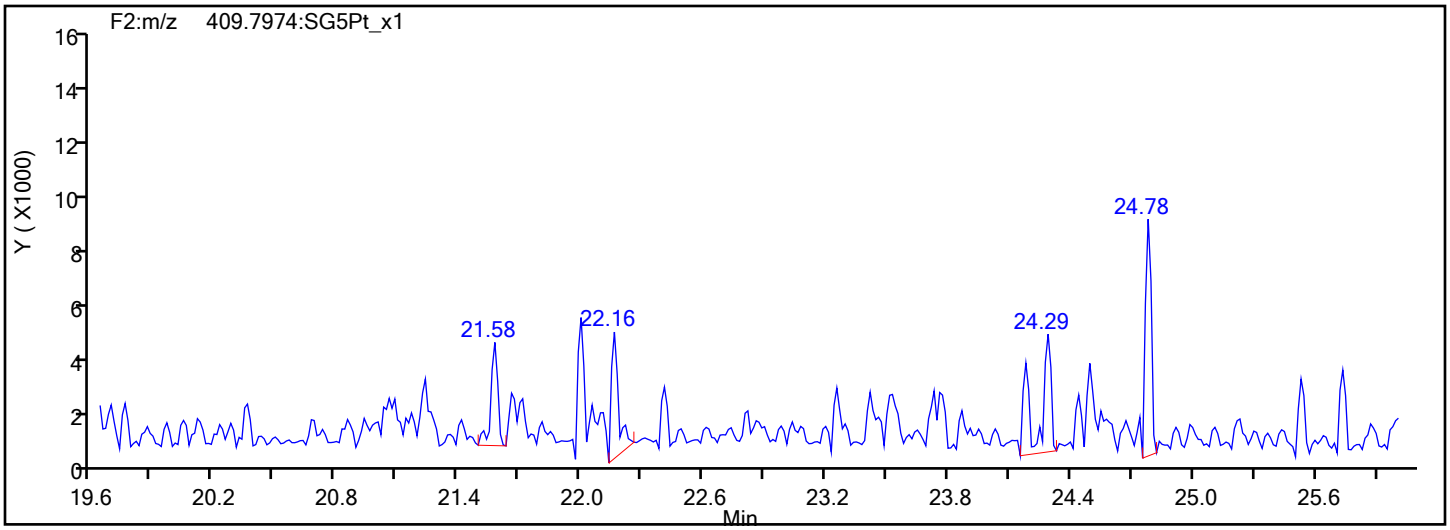

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Eurofins TestAmerica, Sacramento

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PeCDD

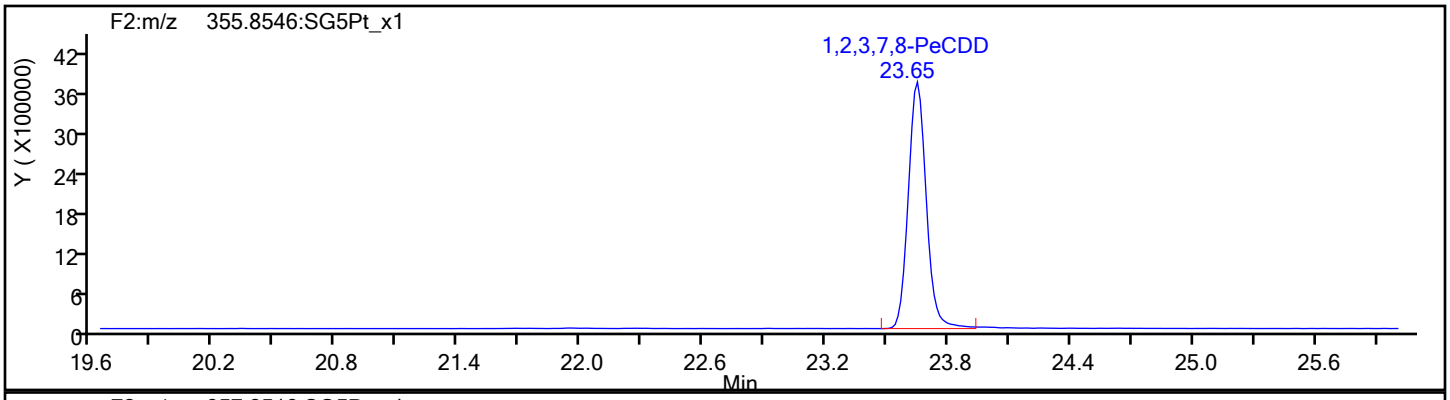

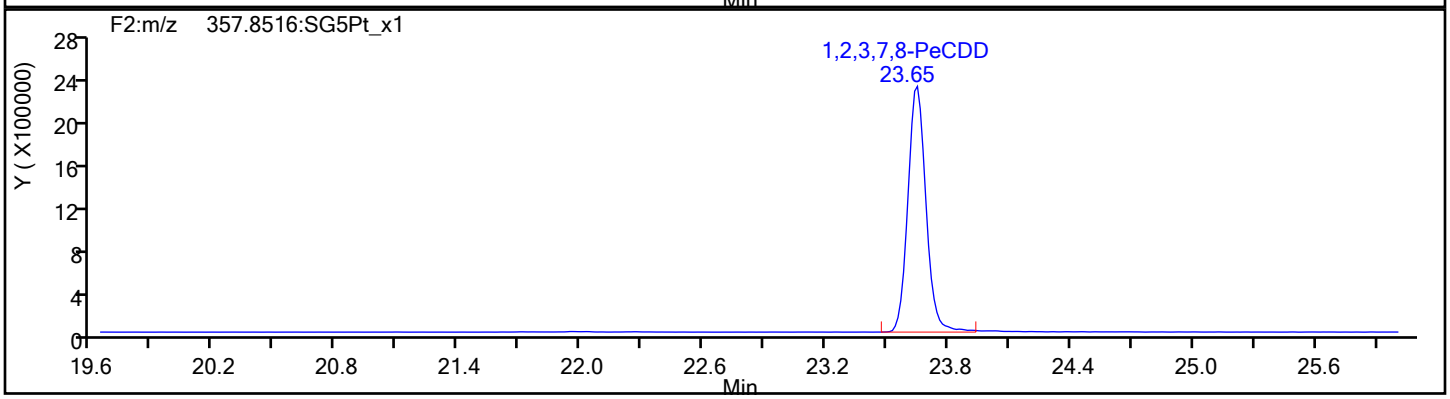

PeCDD Standards

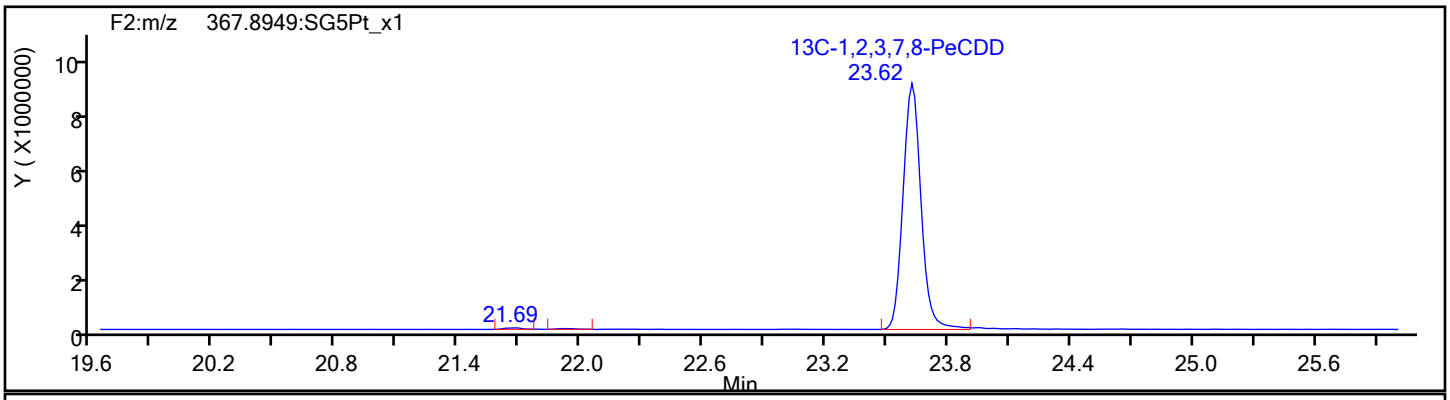

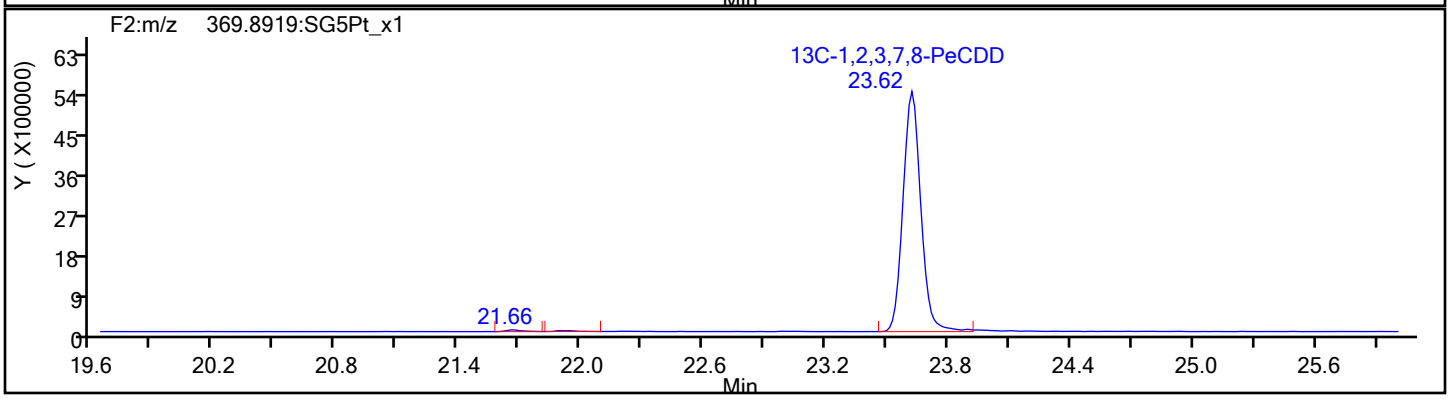

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Eurofins TestAmerica, Sacramento

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HxCDF

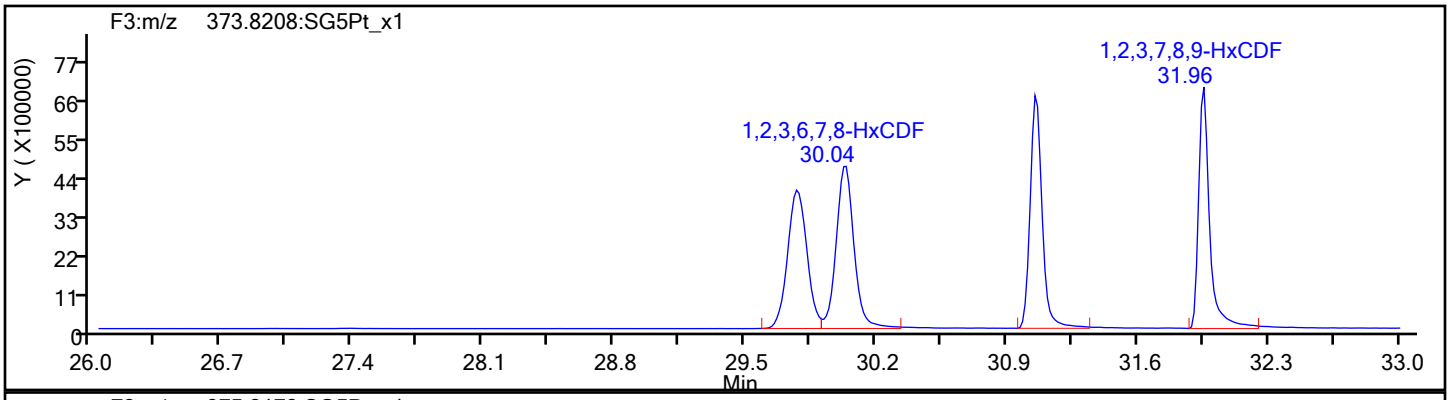

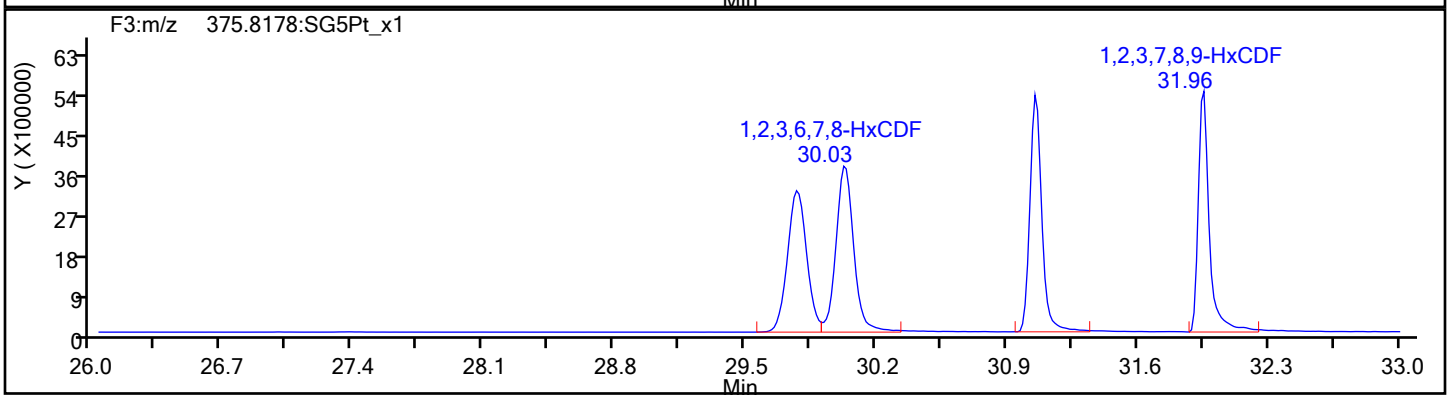

HxCDF Standards

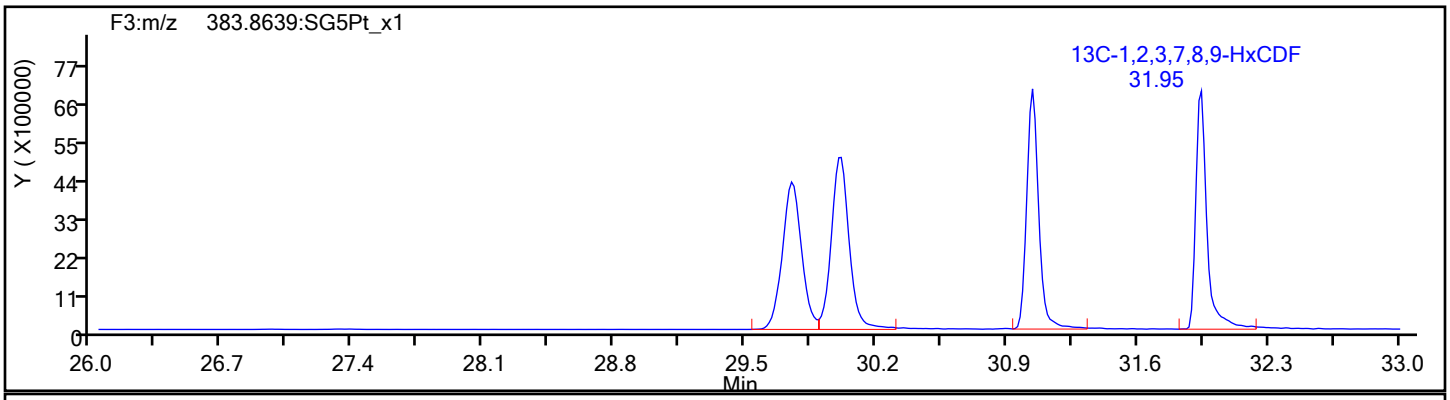

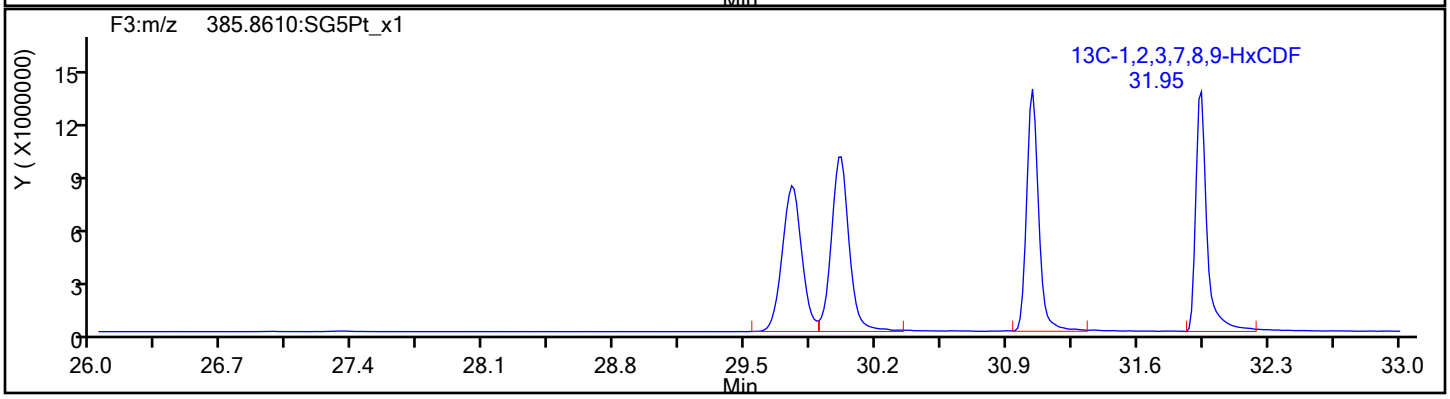

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Eurofins TestAmerica, Sacramento

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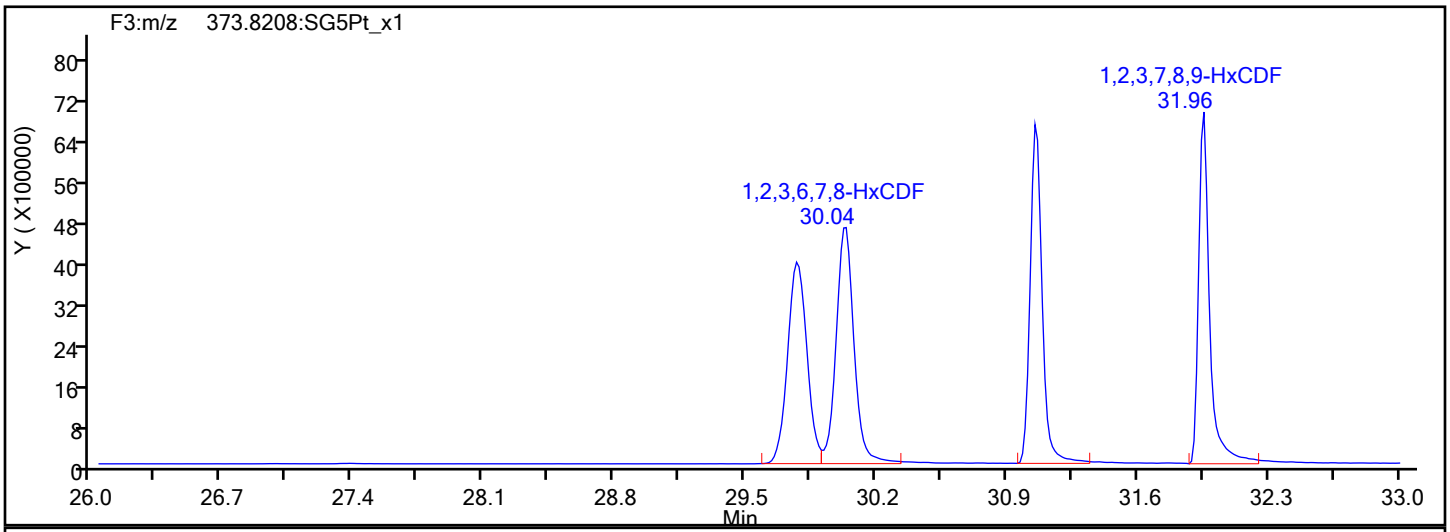

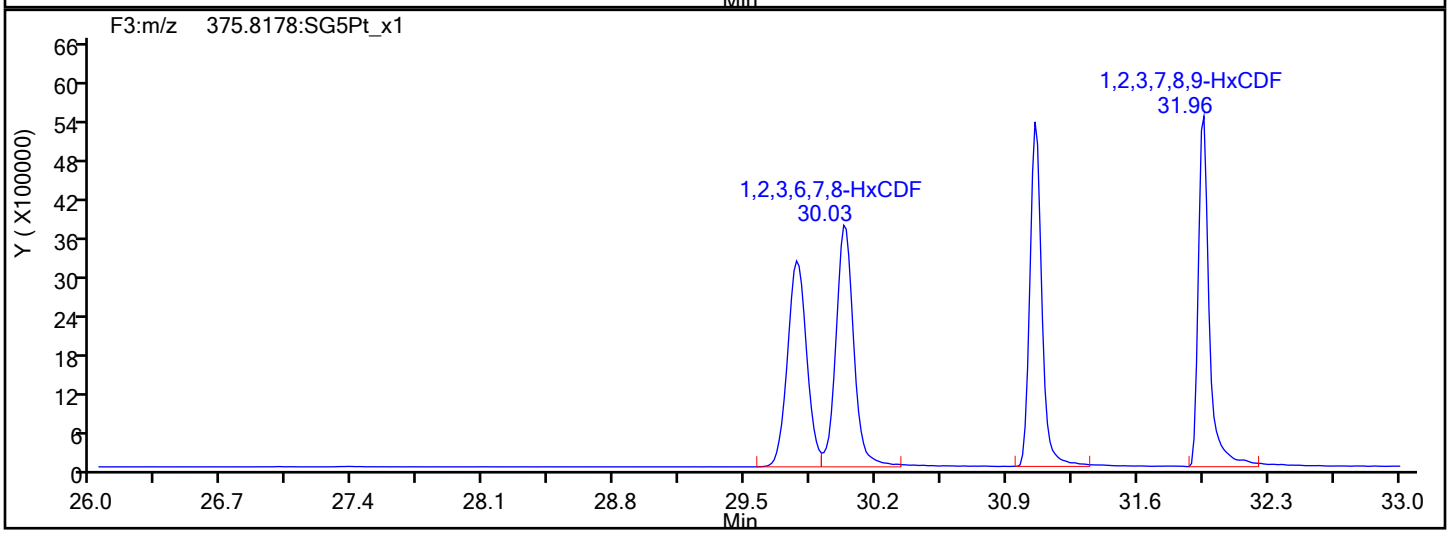

HxCDF Interference Mass

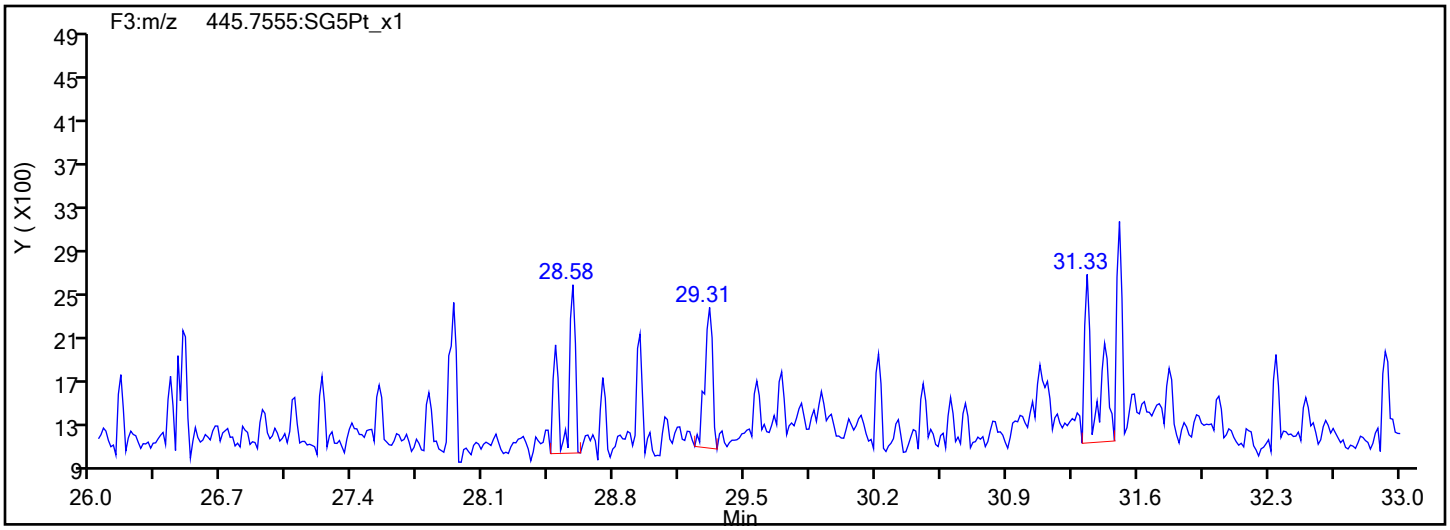

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HxCDD

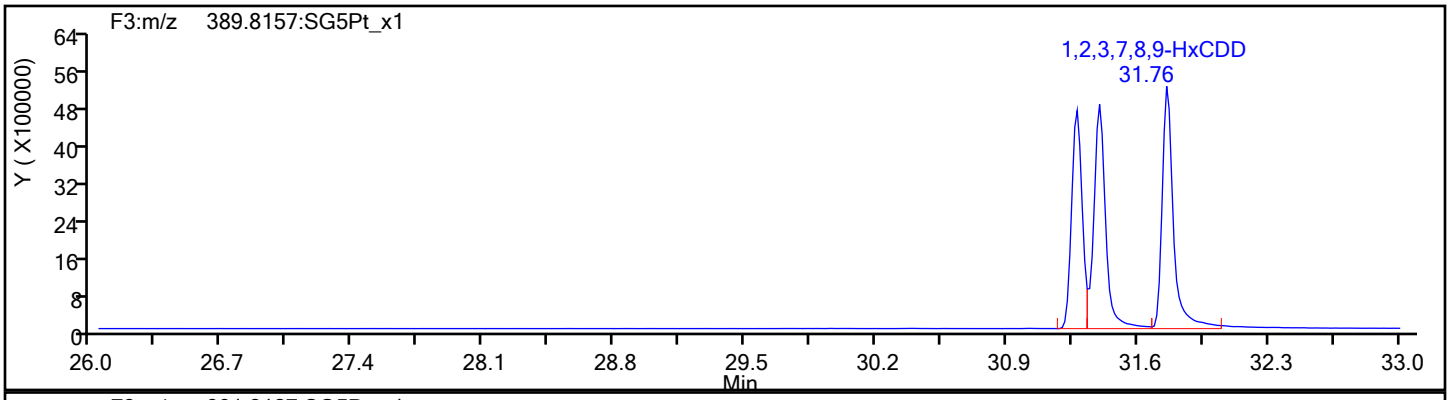

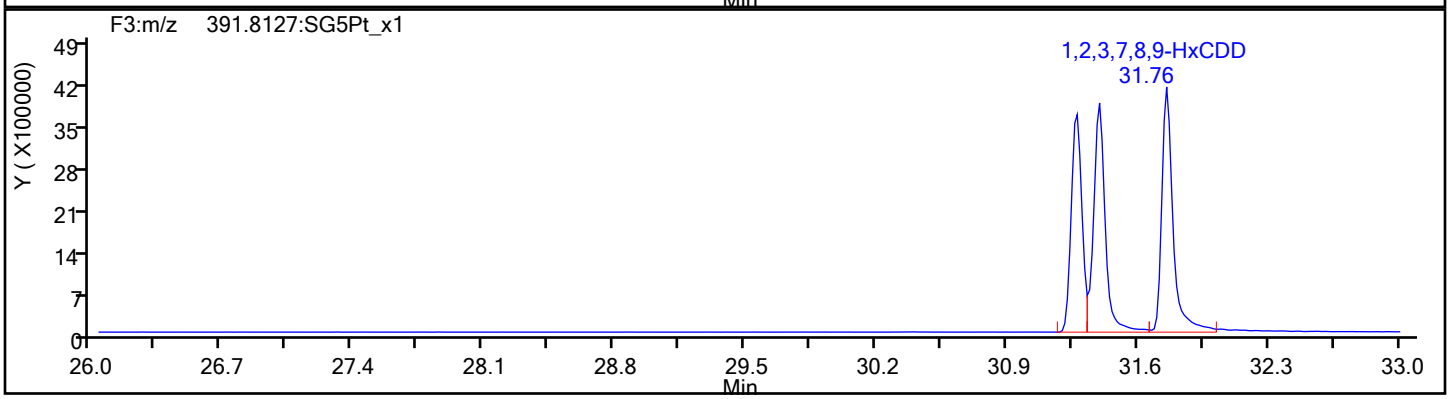

HxCDD Standards

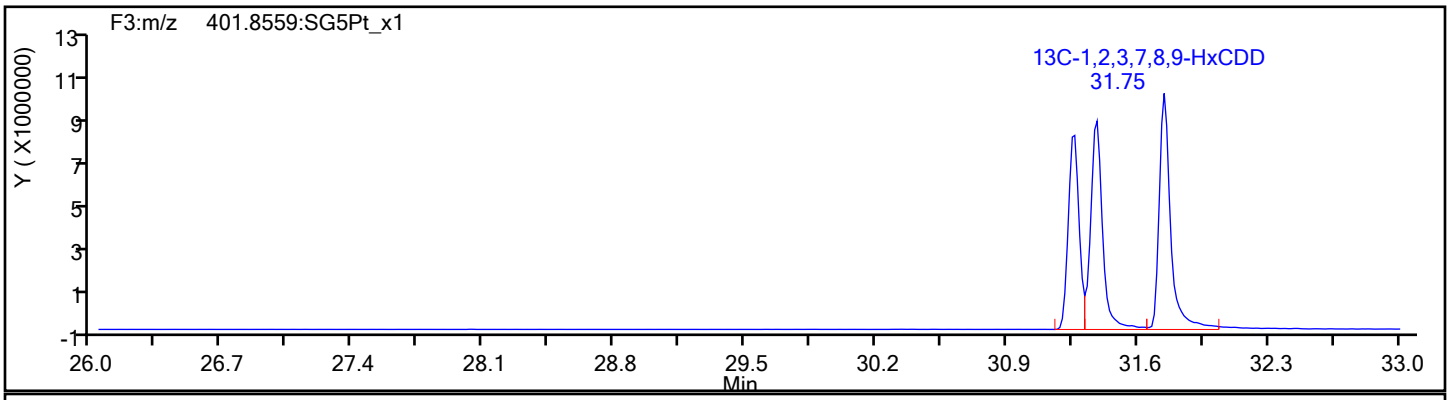

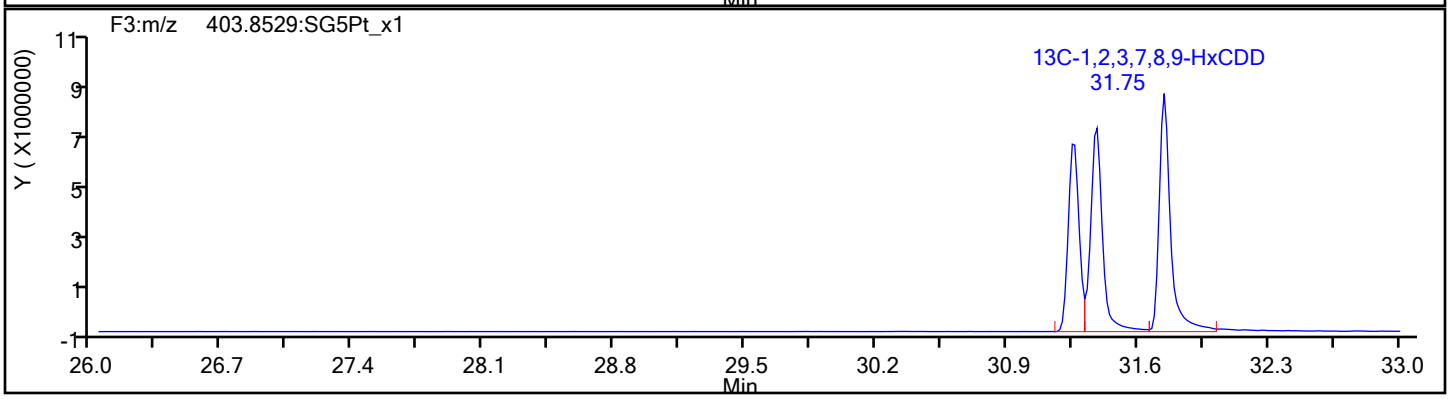

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HpCDF

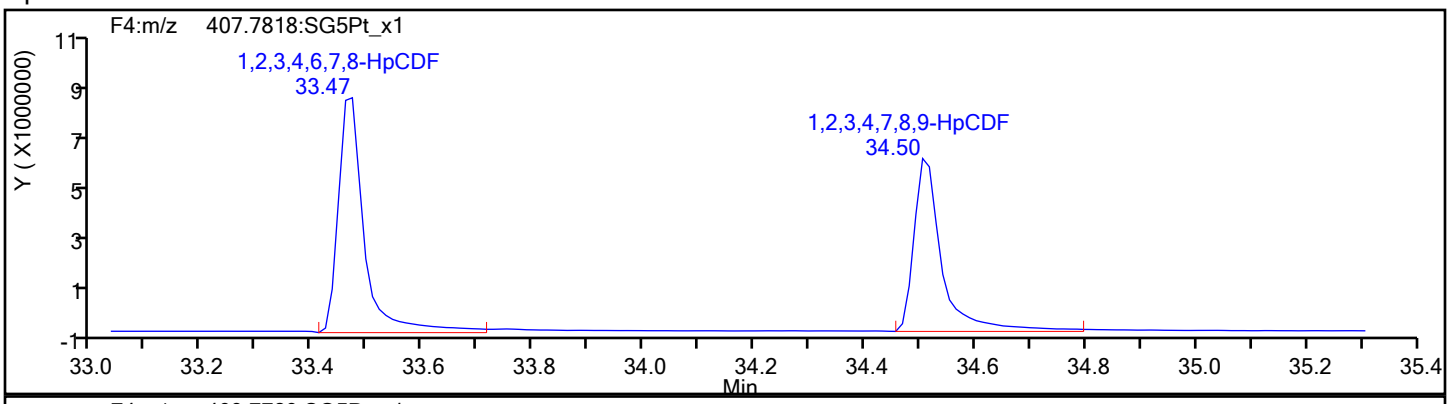

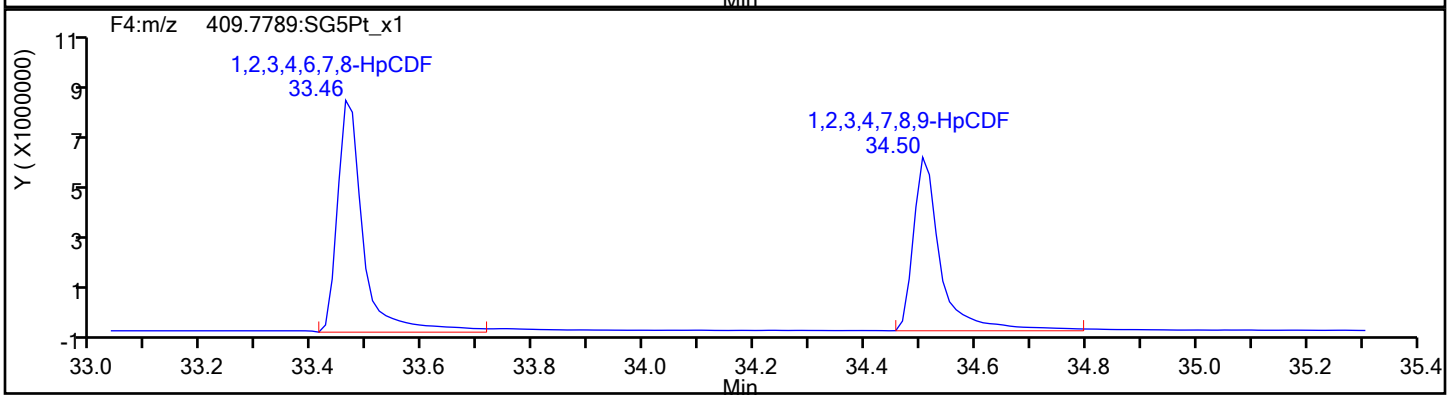

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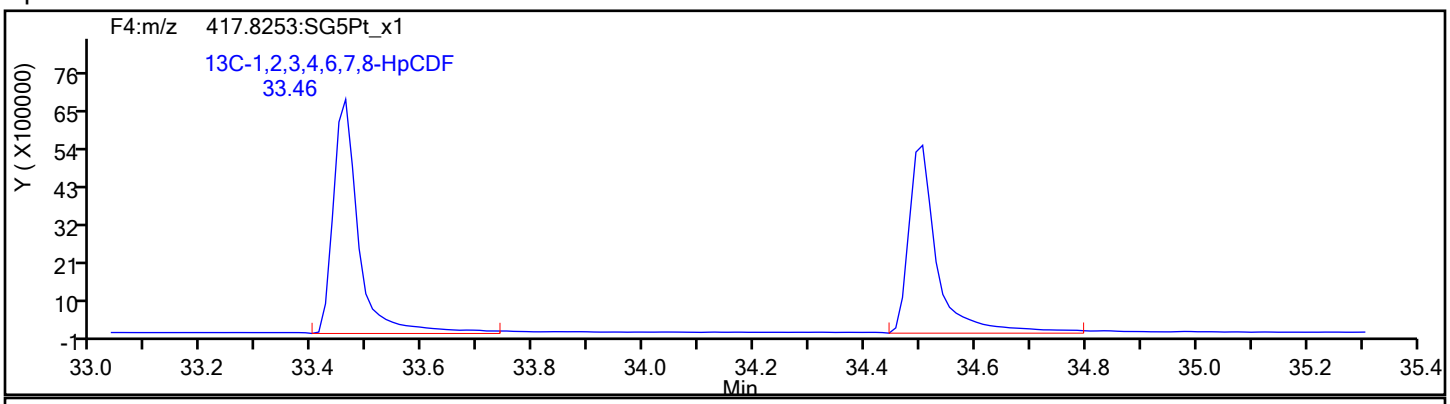

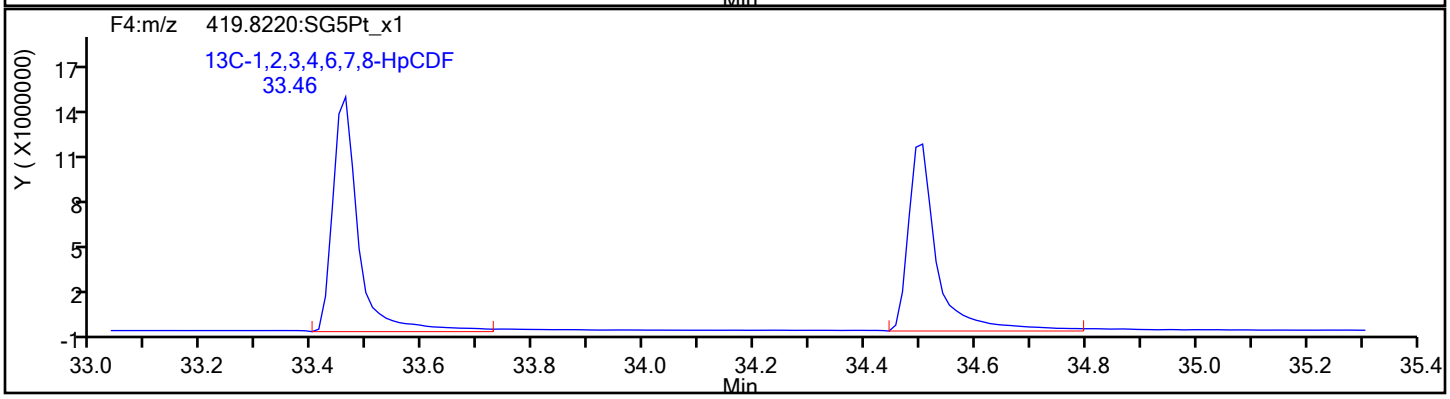

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
Injection Date:	17-Sep-2019 16:09:27	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

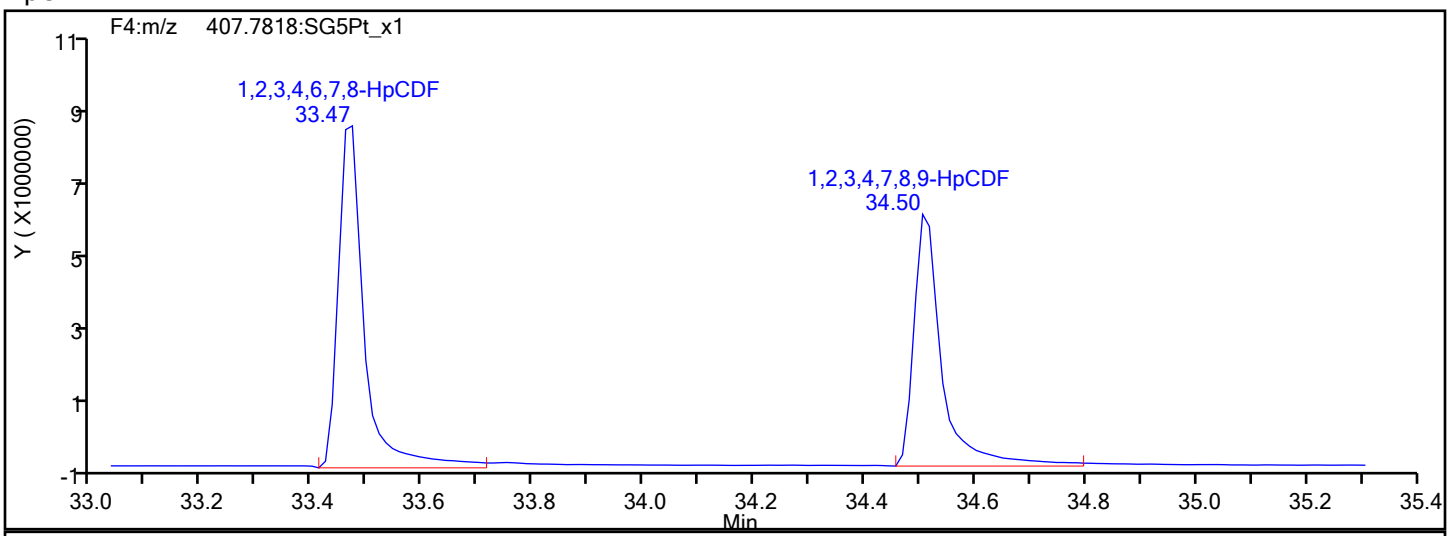

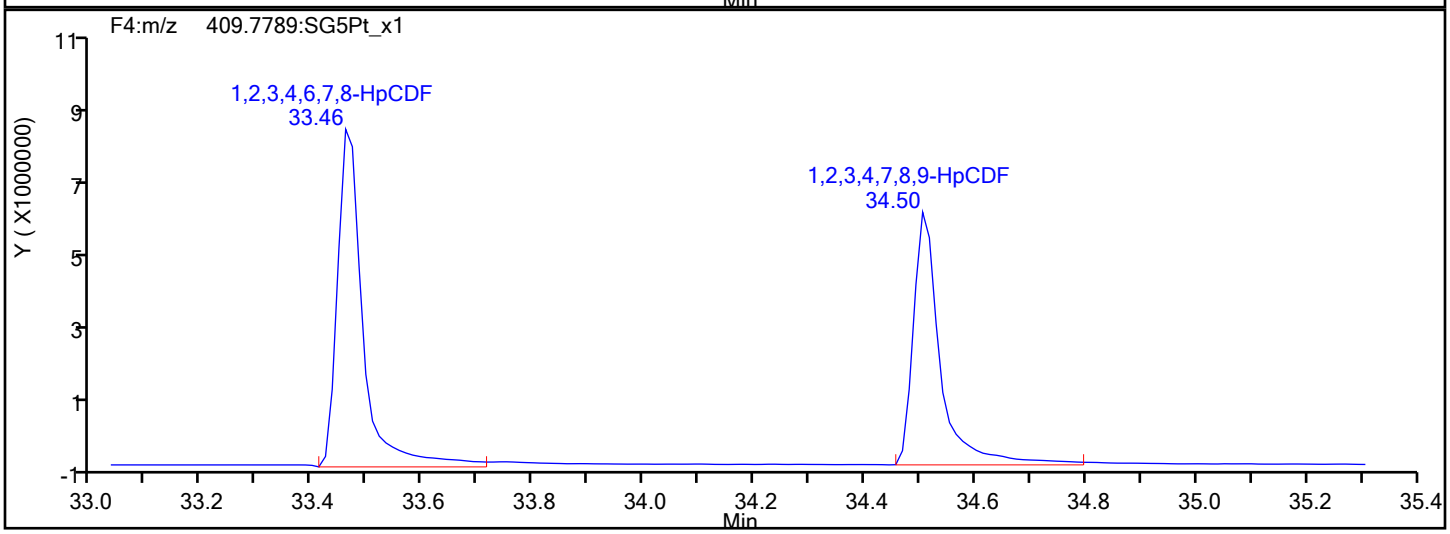

HpCDF Interference Mass

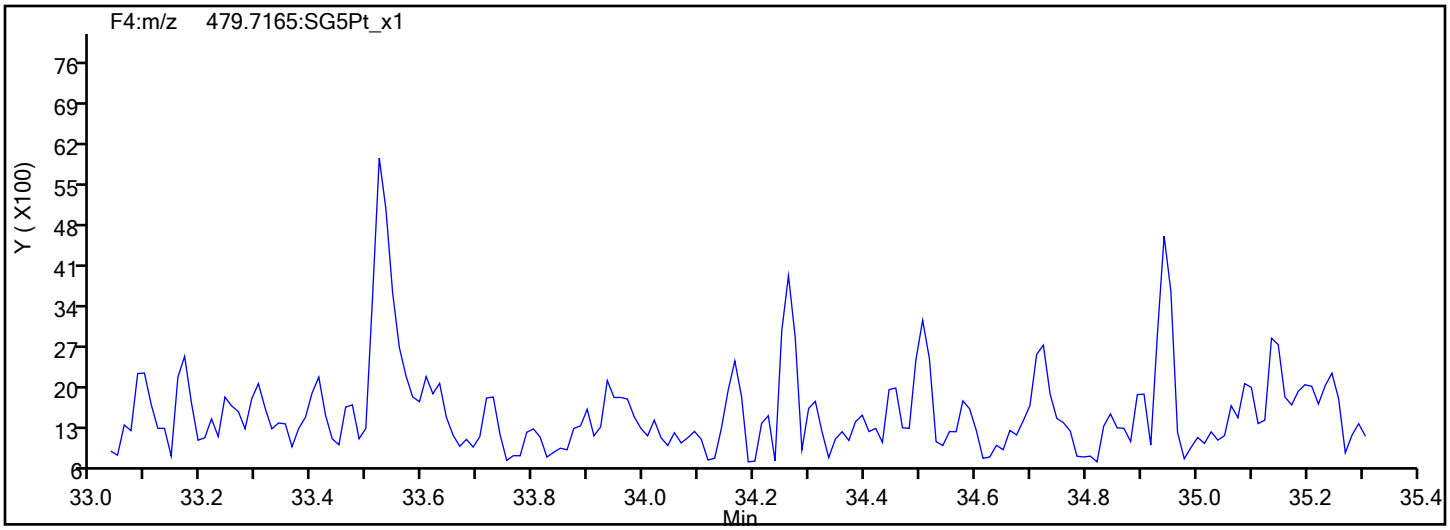

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
Injection Date:	17-Sep-2019 16:09:27	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

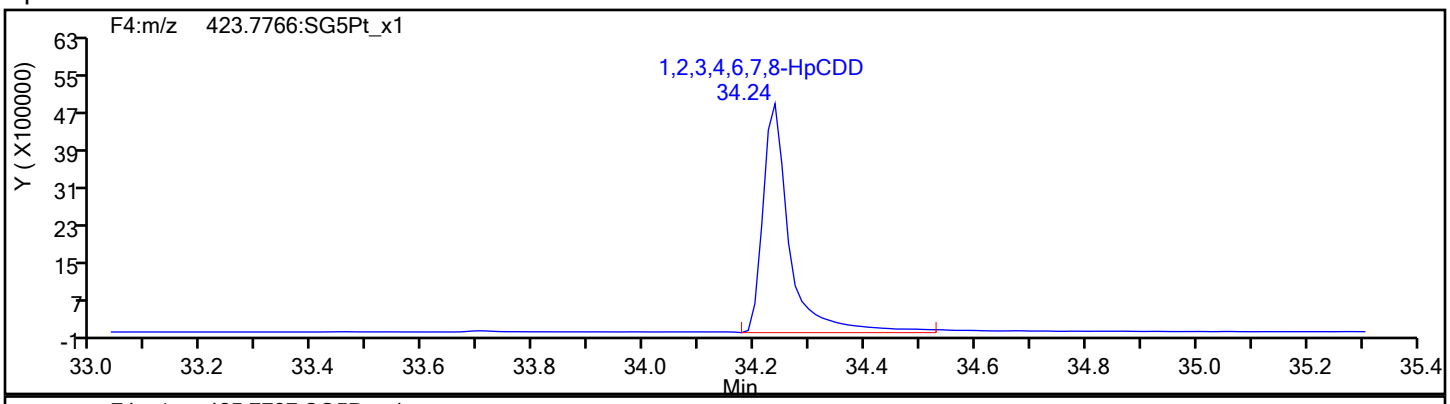

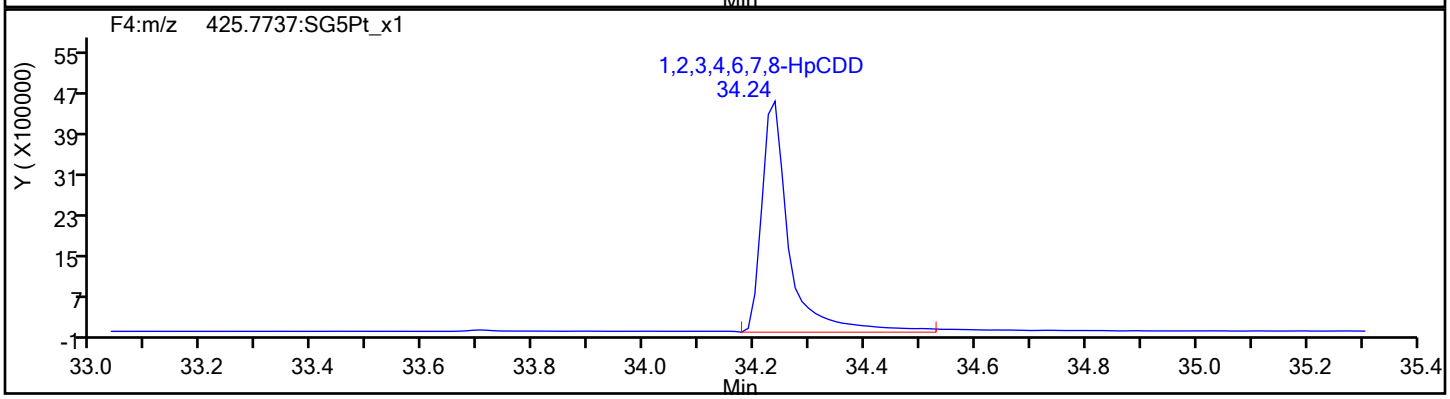

HpCDD Standards

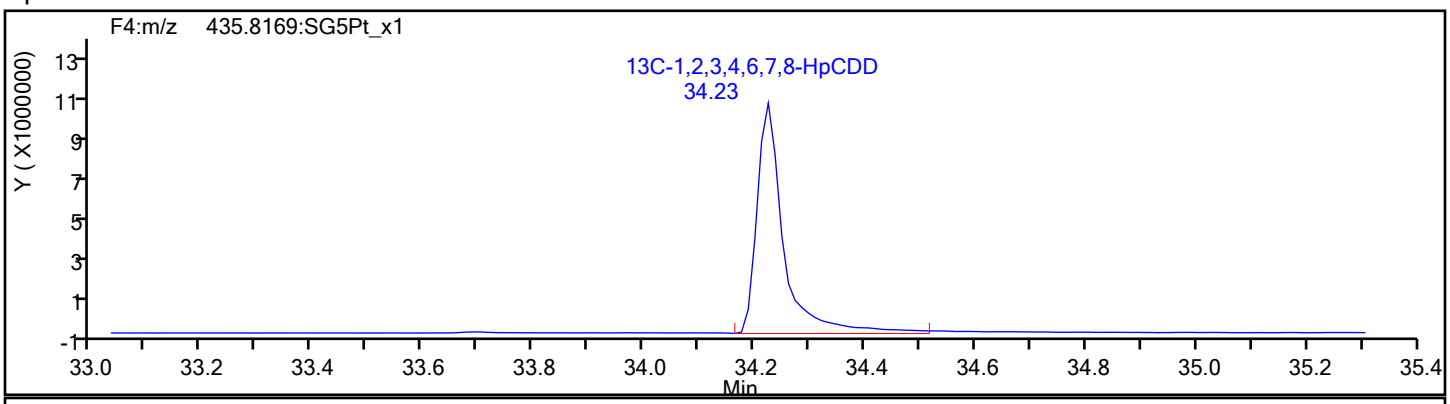

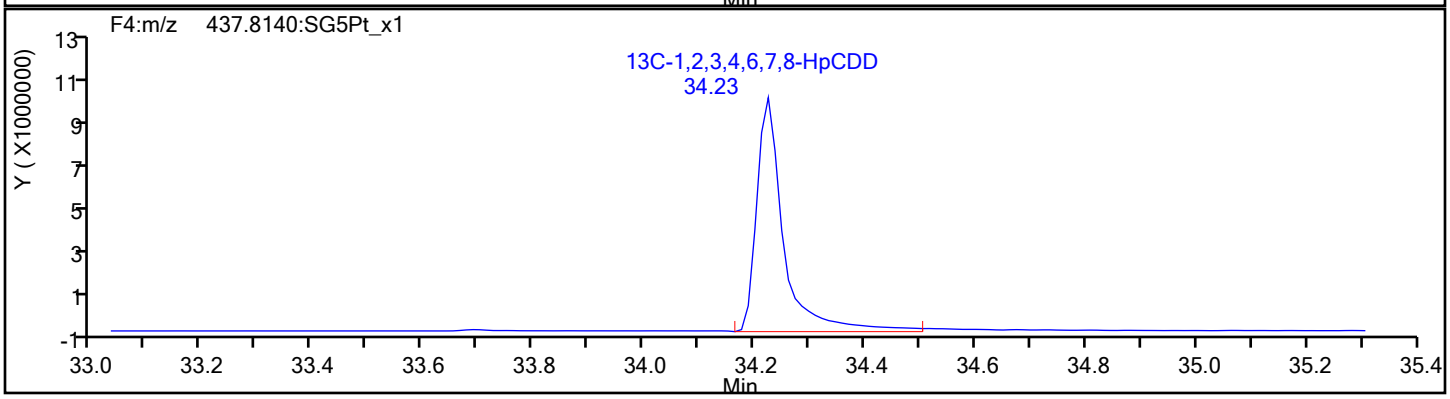

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
Injection Date:	17-Sep-2019 16:09:27	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

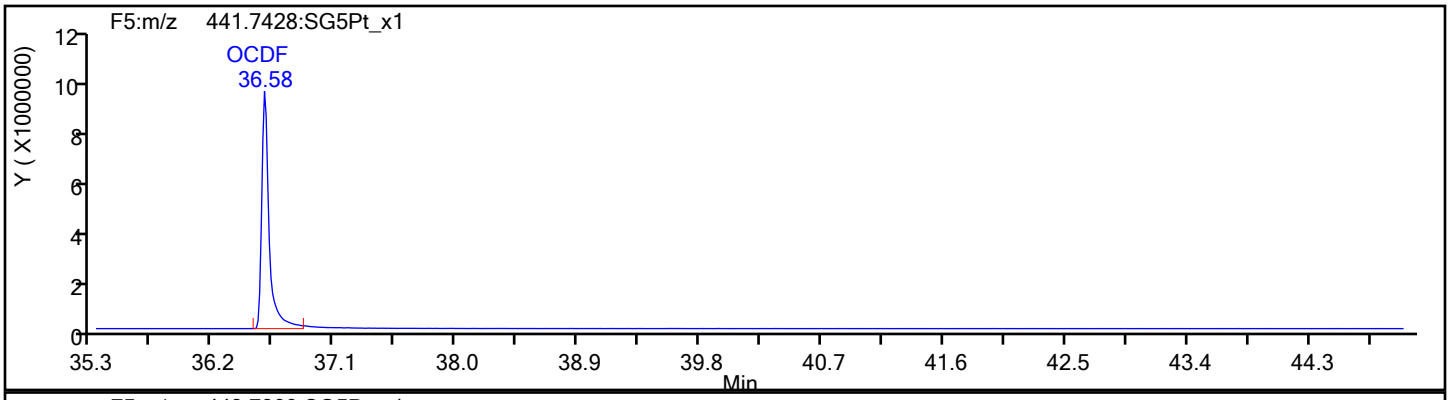

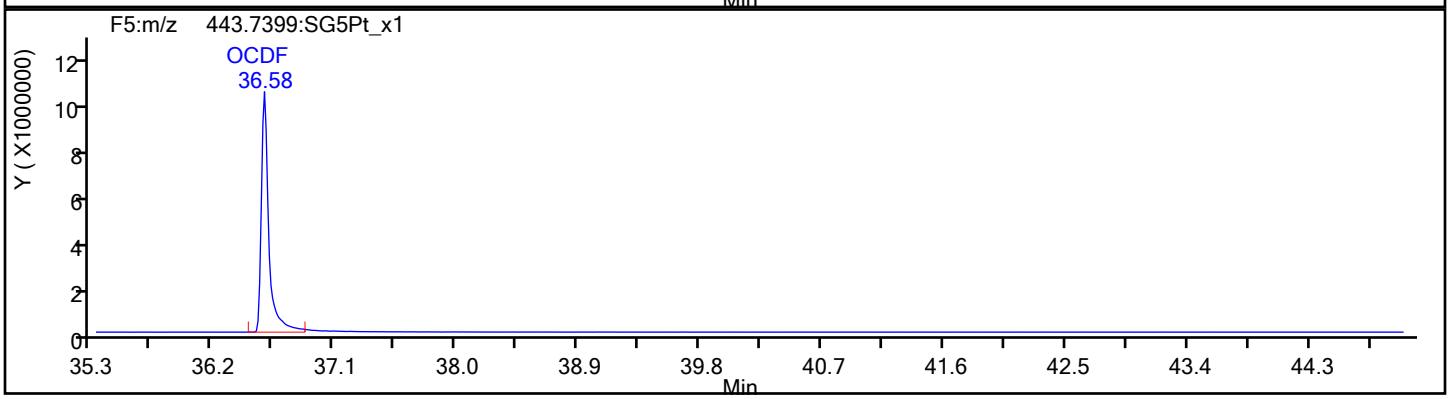

OCDF Standards

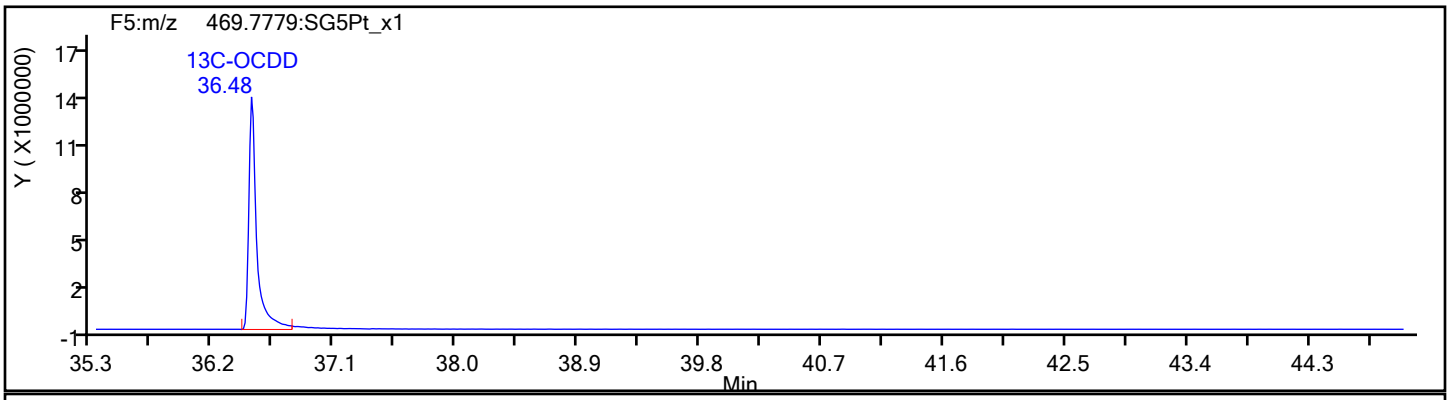

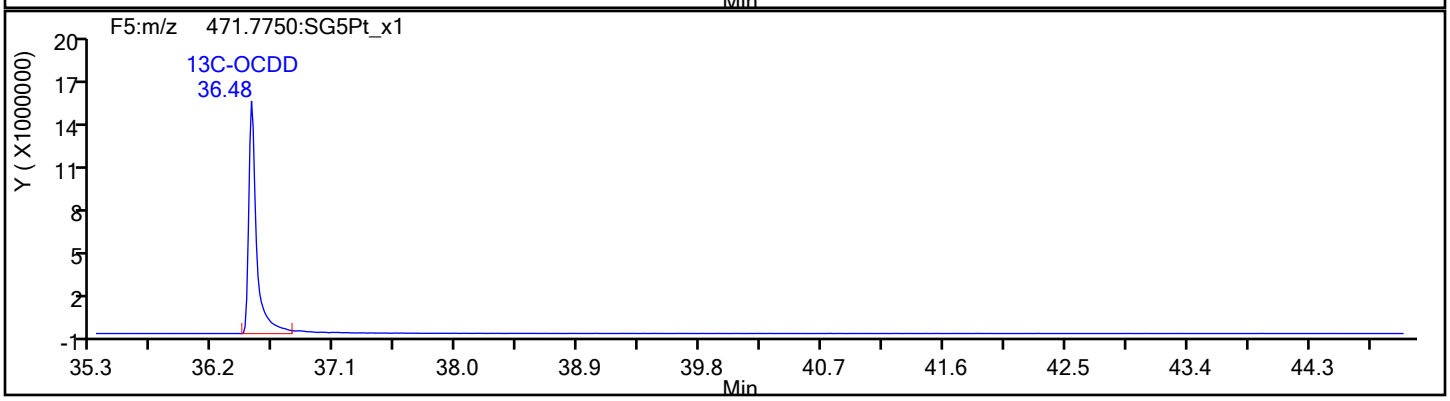

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
Injection Date:	17-Sep-2019 16:09:27	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

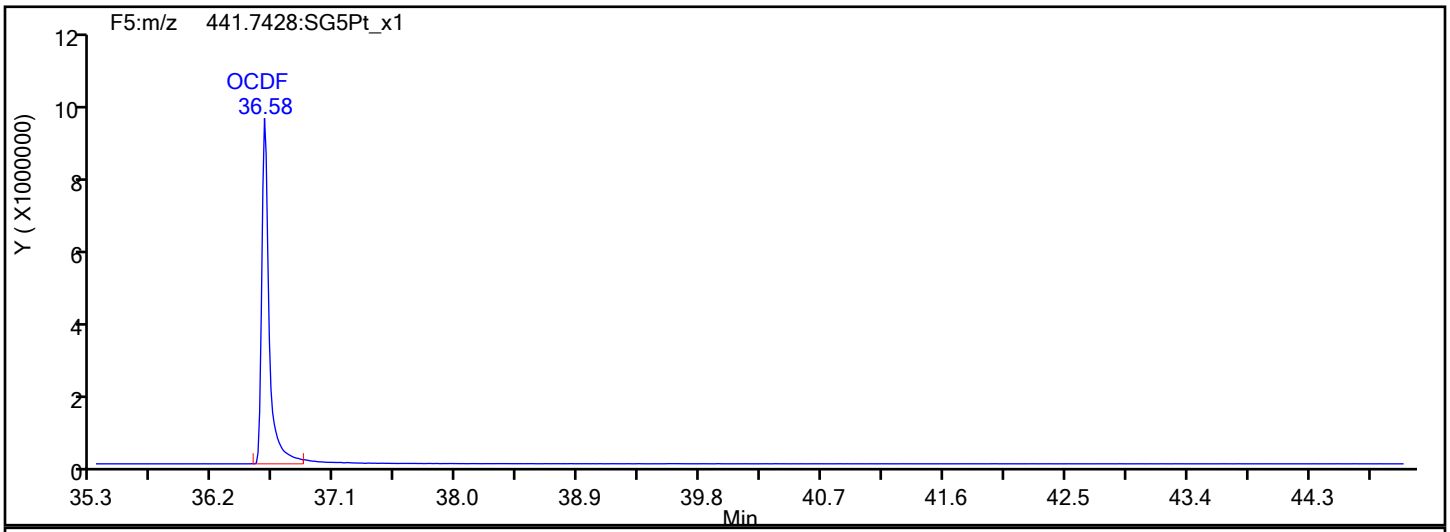

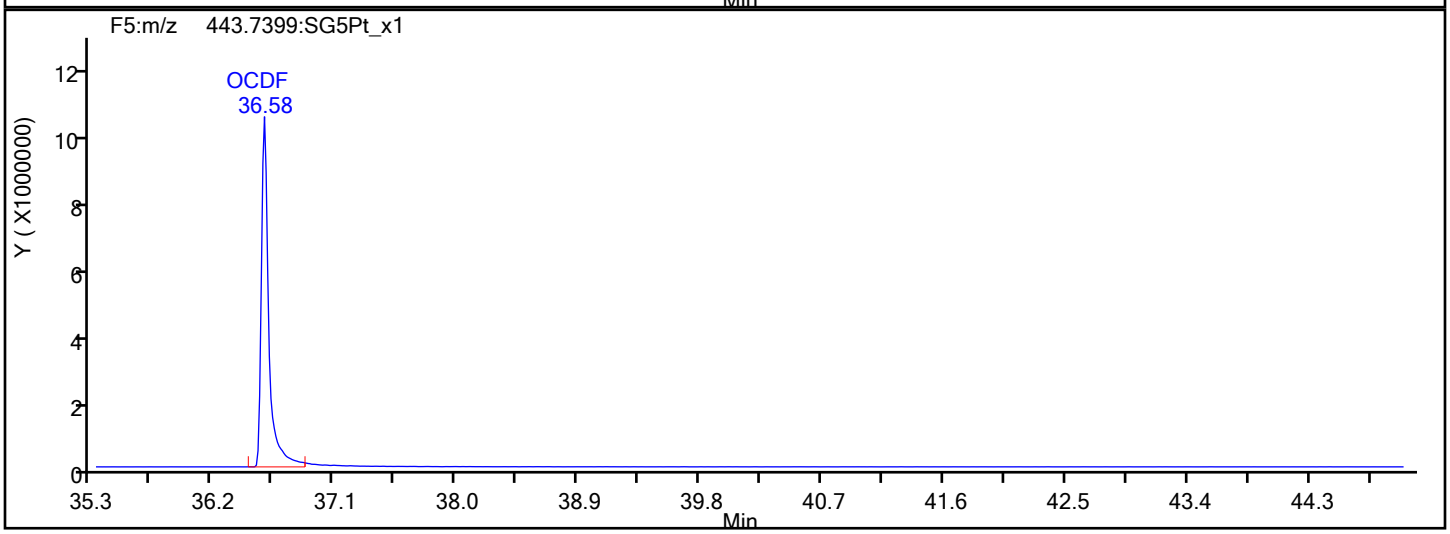

OCDF Interference Mass

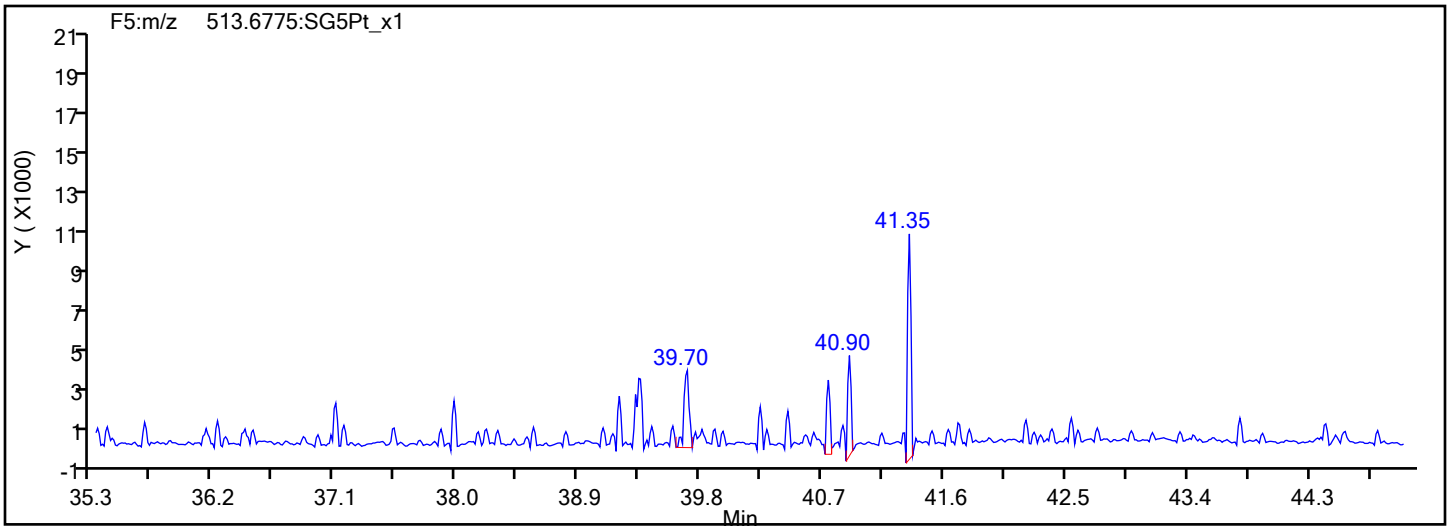

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
Injection Date:	17-Sep-2019 16:09:27	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

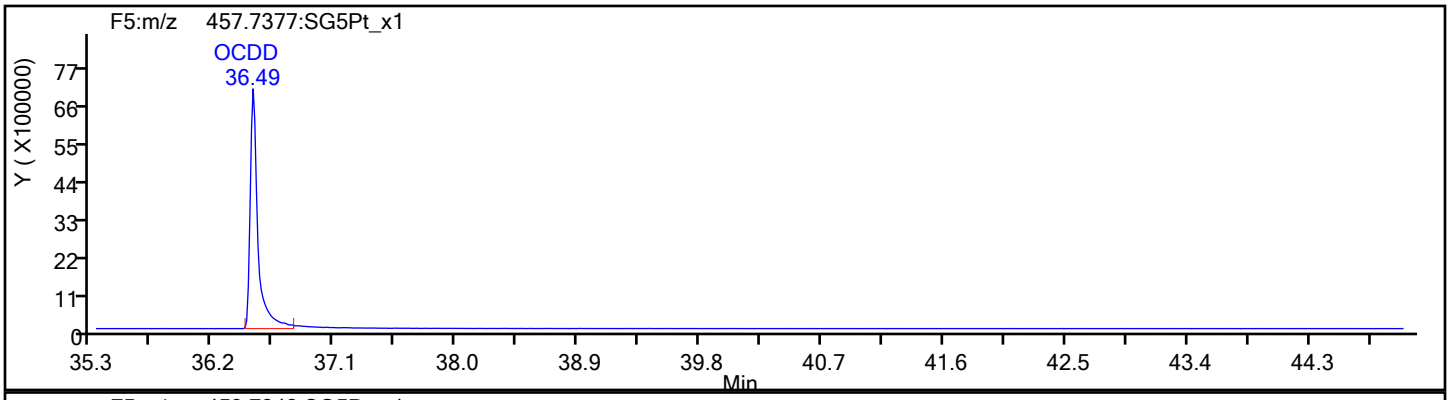

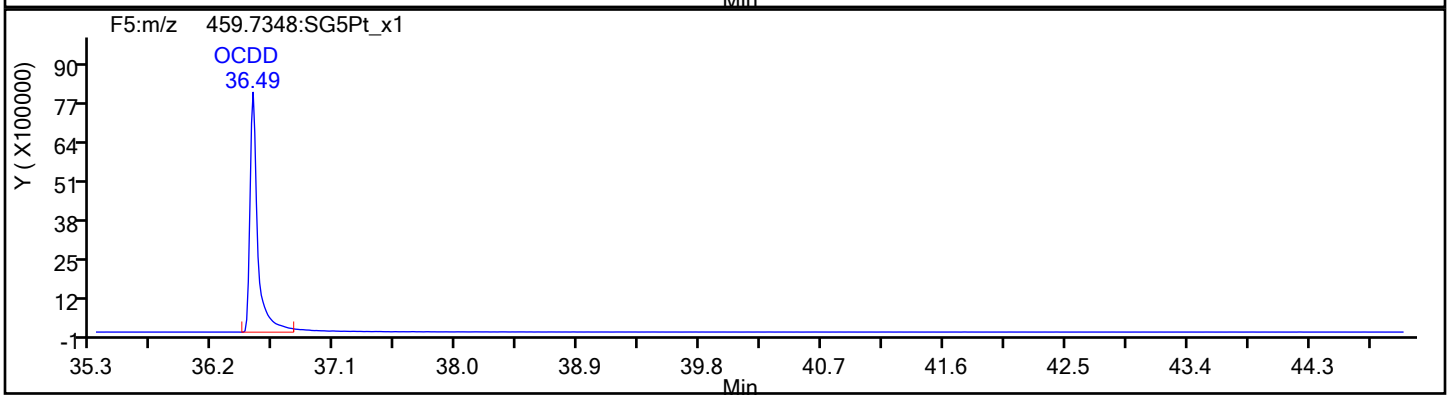

OCDD Standards

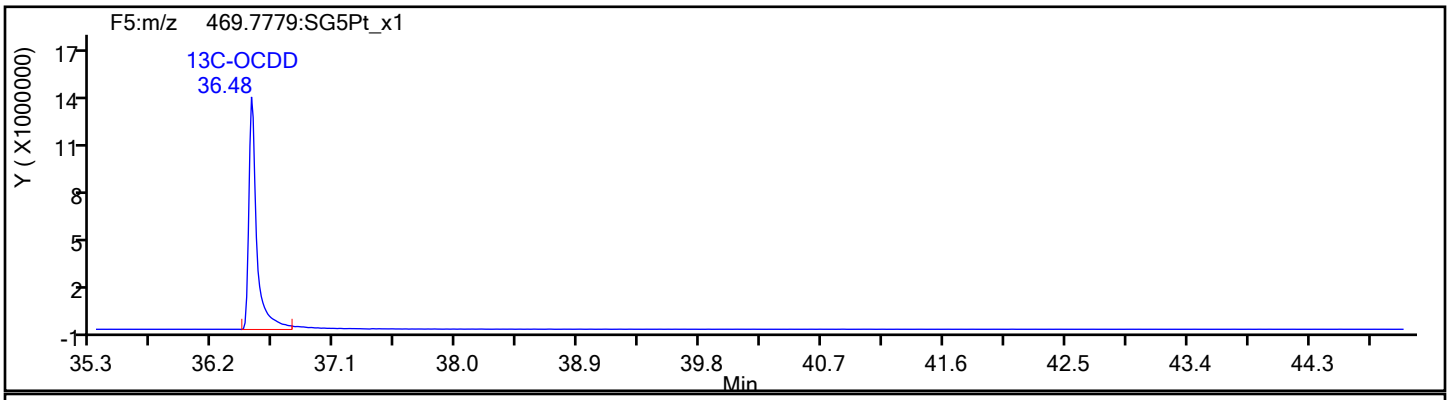

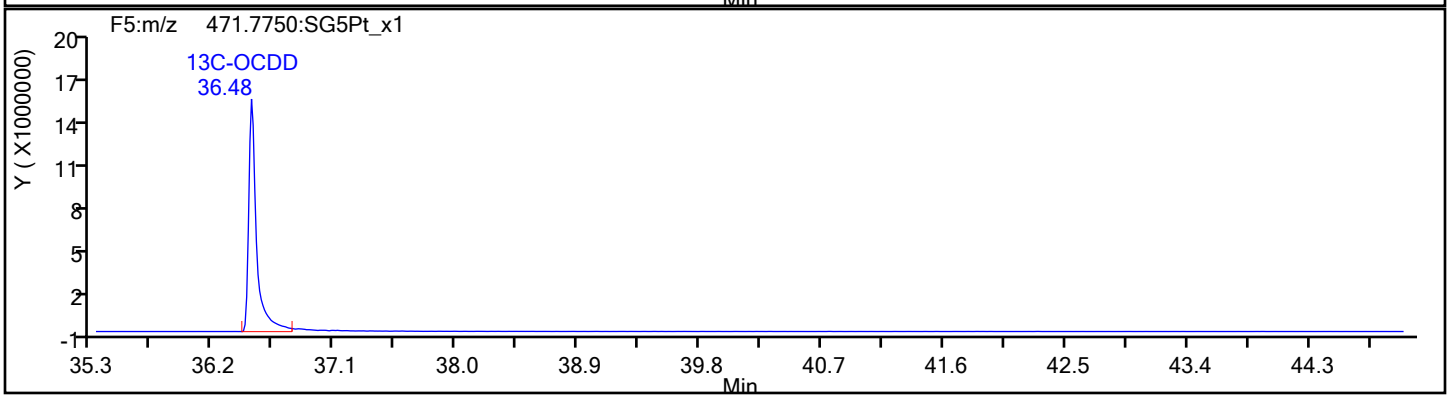

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
Injection Date:	17-Sep-2019 16:09:27	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

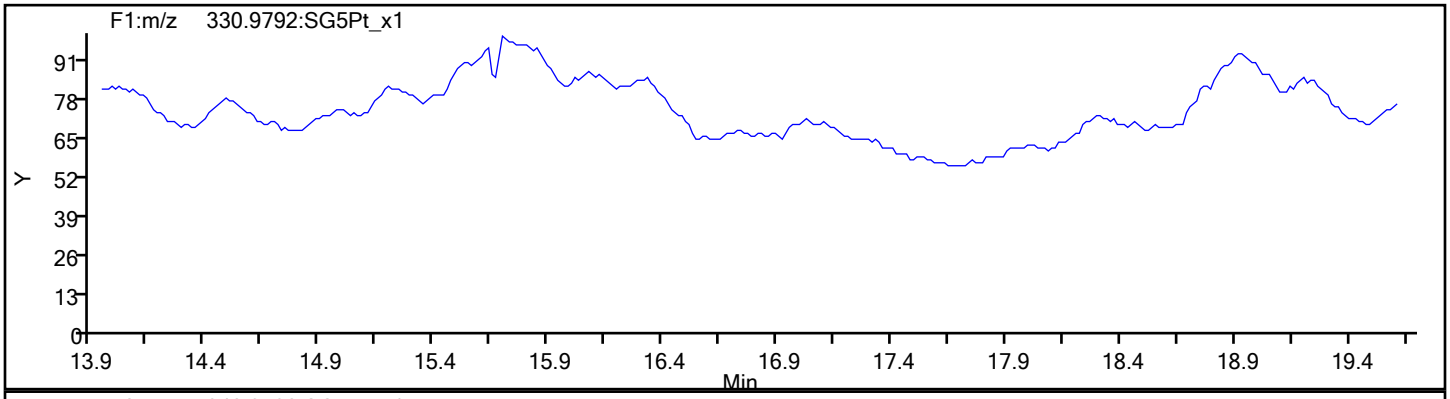

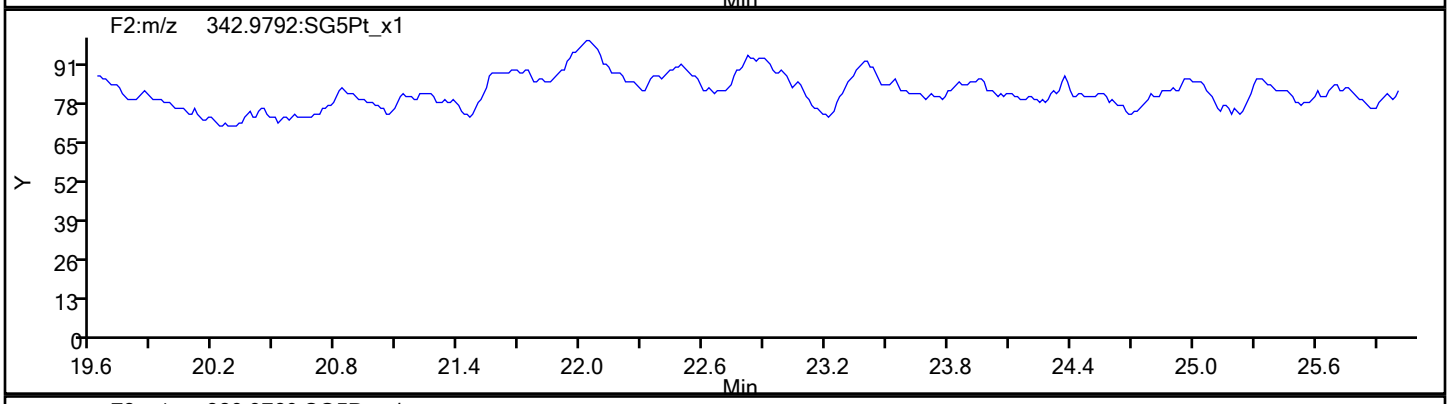

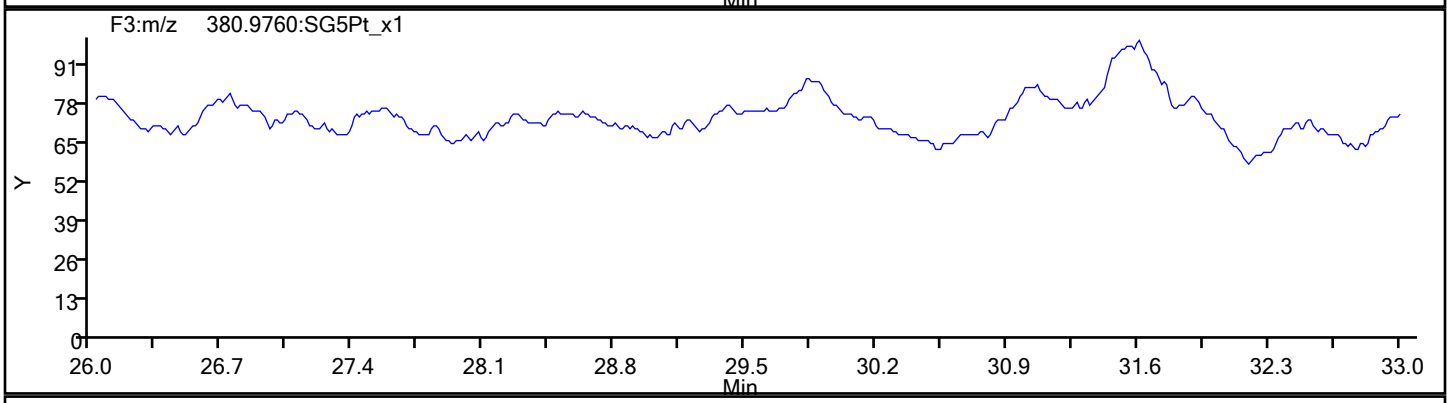

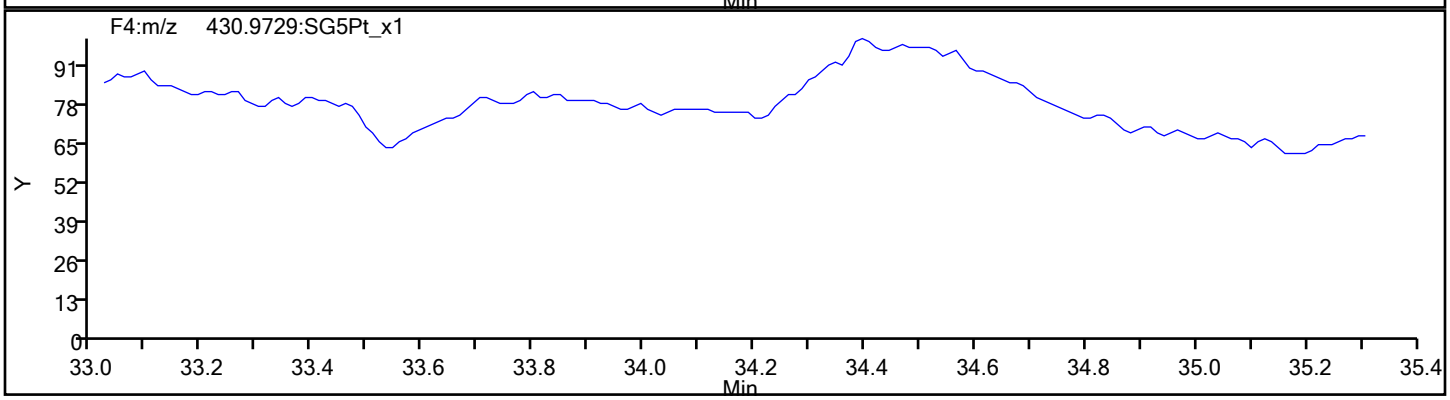

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
Injection Date:	17-Sep-2019 16:09:27	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

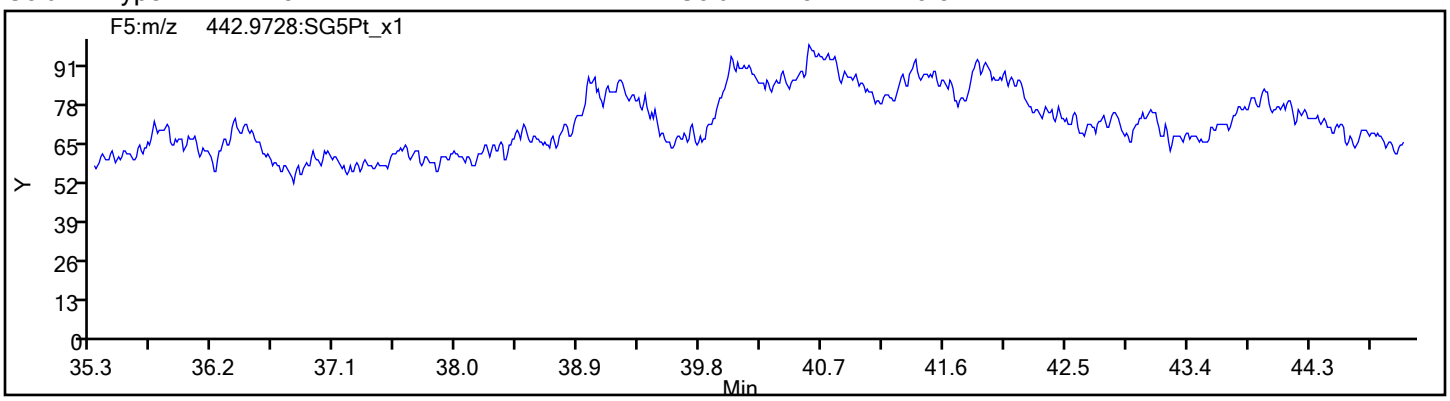

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 17-Sep-2019 16:55:33 ALS Bottle#: 7 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719D CS-6 HRDXNL6_00024
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:47 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:54:56

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.300	157084773	0.78	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.801	225533576	0.80	1.4384	99.8	99.8	0.1407	0.1407	99.82	
2,3,7,8-TCDF	16.816	462672519	0.79	1.0507	195.2	195.2	0.2682	0.2682	97.62	
S Total TCDF					195.2	195.2	0.2682	0.2682		
D 13C-2,3,7,8-TCDD	17.481	150666513	0.77	0.9533	100.6	100.6	0.1699	0.1699	101	
$ 37Cl4-2,3,7,8-TCDD	17.496	402794059		1.2224	209.8	209.8	0.1859	0.1859	105	
2,3,7,8-TCDD	17.511	327747086	0.80	1.1064	196.6	196.6	0.1471	0.1471	98.31	
S Total TCDD					196.6	196.6	0.1471	0.1471		
D 13C-1,2,3,7,8-PeCDF	21.645	171862914	1.60	1.0286	106.4	106.4	0.2163	0.2163	106	
1,2,3,7,8-PeCDF	21.659	1845377073	1.58	1.0822	992.2	992.2	2.737	2.737	99.22	
D 13C-2,3,4,7,8-PeCDF	22.940	167797734	1.58	0.9827	108.7	108.7	0.2264	0.2264	109	
2,3,4,7,8-PeCDF	22.954	1854754260	1.57	1.1032	1001.9	1001.9	2.942	2.942	100	
S Total PeCDF					1994.1	1994.1	2.839	2.839		
D 13C-1,2,3,7,8-PeCDD	23.622	129152474	1.52	0.7481	109.9	109.9	0.1201	0.1201	110	
1,2,3,7,8-PeCDD	23.649	1162563715	1.58	0.9050	994.6	994.6	1.041	1.041	99.46	
S Total PeCDD					994.6	994.6	1.041	1.041		
D 13C-1,2,3,4,7,8-HxCDF	29.775	140595624	0.52	1.1520	100.0	100.0	0.4225	0.4225	99.98	
1,2,3,4,7,8-HxCDF	29.802	1688948701	1.26	1.1973	1003.3	1003.3	7.472	7.472	100	
D 13C-1,2,3,6,7,8-HxCDF	30.015	151833452	0.53	1.2434	100.0	100.0	0.3914	0.3914	100	
1,2,3,6,7,8-HxCDF	30.042	1790437956	1.26	1.1807	998.8	998.8	6.340	6.340	99.88	
D 13C-2,3,4,6,7,8-HxCDF	31.040	147071003	0.53	1.1720	102.8	102.8	0.4153	0.4153	103	
2,3,4,6,7,8-HxCDF	31.066	1773083873	1.25	1.2116	995.1	995.1	4.324	4.324	99.51	
D 13C-1,2,3,7,8,9-HxCDF	31.945	129353689	0.52	1.0655	99.5	99.5	0.4568	0.4568	99.46	
1,2,3,7,8,9-HxCDF	31.958	1579646001	1.26	1.2451	980.8	980.8	4.155	4.155	98.08	
S Total HxCDF					3977.9	3977.9	5.573	5.573		
* 13C-1,2,3,7,8,9-HxCDD	31.745	122060377	1.25	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.266	100374877	1.33	0.7812	105.3	105.3	0.3579	0.3579	105	
1,2,3,4,7,8-HxCDD	31.279	1132407299	1.25	1.1088	1017.5	1017.5	3.102	3.102	102	
D 13C-1,2,3,6,7,8-HxCDD	31.386	116499868	1.24	0.9175	104.0	104.0	0.3048	0.3048	104	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.399	1240444751	1.26	1.0814	984.6	984.6	2.882	2.882	98.46	
1,2,3,7,8,9-HxCDD	31.759	1259477463	1.26	1.2123	958.1	958.1	2.697	2.697	95.81	
S Total HxCDD					2960.2	2960.2	2.894	2.894		
D 13C-1,2,3,4,6,7,8-HpCDF	33.459	106743815	0.46	0.8628	101.4	101.4	1.713	1.713	101	
1,2,3,4,6,7,8-HpCDF	33.472	1613842335	1.05	1.5555	971.9	971.9	14.1	14.1	97.19	
D 13C-1,2,3,4,7,8,9-HpCDF	34.504	100973962	0.46	0.7991	103.5	103.5	1.849	1.849	104	
1,2,3,4,7,8,9-HpCDF	34.504	1391884877	1.05	1.3862	994.4	994.4	18.7	18.7	99.44	
S Total HpCDF					1966.3	1966.3	16.4	16.4		
D 13C-1,2,3,4,6,7,8-HpCDD	34.225	111298169	1.03	0.8739	104.3	104.3	0.8846	0.8846	104	
1,2,3,4,6,7,8-HpCDD	34.237	1030391820	1.05	0.9316	993.8	993.8	7.238	7.238	99.38	
S Total HpCDD					993.8	993.8	7.238	7.238		
D 13C-OCDD	36.493	206464776	0.88	0.7744	218.4	218.4	0.2420	0.2420	109	
OCDF	36.589	2616959337	0.90	1.2596	2012.6	2012.6	1.498	1.498	101	
OCDD	36.505	2125514466	0.89	1.0621	1938.6	1938.6	2.038	2.038	96.93	

Reagents:

HRDXNL6_00024 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 17-Sep-2019 16:55:33 ALS Bottle#: 7 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719D CS-6 HRDXNL6_00024
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:47 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:54:56

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.300	17.303	0		68656888	17703152	11871	29677	1491		
333.9339	17.300	17.303	0		88427885	22923443	14450	36125	1586	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.801	16.810	-1	0.971	100473796	26202504	17815	44537	1471		
317.9389	16.801	16.810	-1	0.971	125059780	32860085	15076	37690	2180	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.816	16.825	-1	1.001	203968881	53426825	28090	70225	1902		
305.8987	16.816	16.825	-1	1.001	258703638	67905008	38497	96242	1764	0.79(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.481	17.490	-1	1.010	65699125	16108883	11871	29677	1357		
333.9339	17.481	17.490	-1	1.010	84967388	20783333	14450	36125	1438	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.496	17.505	-1	1.011	402794059	97947785	36924	92310	2653		
2,3,7,8-TCDD											
319.8965	17.511	17.505	0	1.002	145759899	35006474	11020	27550	3177		
321.8936	17.496	17.505	-1	1.001	181987187	44378051	13000	32500	3414	0.80(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	21.645	21.637	0	1.251	105769386	19380532	21442	53605	904		
353.8970	21.645	21.637	0	1.251	66093528	12006776	14706	36765	816	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.659	21.661	0	1.001	1128987918	207786620	228337	570842	910		
341.8567	21.659	21.661	0	1.001	716389155	132705026	143597	358992	924	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	22.940	22.932	0	1.326	102870411	17592993	21442	53605	820		
353.8970	22.940	22.932	0	1.326	64927323	11060126	14706	36765	752	1.58(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.954	22.954	0	1.001	1134203044	192648194	228337	570842	844		
341.8567	22.954	22.954	0	1.001	720551216	123114818	143597	358992	857	1.57(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.622	23.625	0	1.365	77891431	12413727	9204	23010	1349		
369.8919	23.622	23.625	0	1.365	51261043	8286162	5391	13477	1537	1.52(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.649	23.649	0	1.001	712114532	115586755	47770	119425	2420		
357.8516	23.649	23.649	0	1.001	450449183	73672225	30241	75602	2436	1.58(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.775	29.754	1	0.938	48283336	6569879	20357	50892	323		
385.8610	29.775	29.754	1	0.938	92312288	12535842	37224	93060	337	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.802	29.789	1	1.001	940997687	133250334	383917	959792	347		
375.8178	29.802	29.789	1	1.001	747951014	105366191	299807	749517	351	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.015	30.015	0	0.945	52450288	7974033	20357	50892	392		
385.8610	30.015	30.015	0	0.945	99383164	14861268	37224	93060	399	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.042	30.039	0	1.001	997571168	151931057	383917	959792	396		
375.8178	30.042	30.039	0	1.001	792866788	120963468	299807	749517	403	1.26(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.040	31.043	0	0.978	50759518	11236785	20357	50892	552		
385.8610	31.040	31.043	0	0.978	96311485	21393821	37224	93060	575	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.066	31.059	0	1.001	985093633	220162965	383917	959792	573		
375.8178	31.066	31.059	0	1.001	787990240	173863815	299807	749517	580	1.25(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.945	31.942	0	1.006	44455247	11339049	20357	50892	557		
385.8610	31.945	31.942	0	1.006	84898442	21704283	37224	93060	583	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.958	31.956	0	1.000	881417801	228486168	383917	959792	595		
375.8178	31.958	31.956	0	1.000	698228200	180413640	299807	749517	602	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.745	31.748	0		67929723	16429699	18251	45627	900		
403.8529	31.745	31.748	0		54130654	13145642	14828	37070	887	1.25(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.266	31.261	0	0.985	57329166	14082357	18251	45627	772		
403.8529	31.266	31.261	0	0.985	43045711	11050859	14828	37070	745	1.33(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.279	31.280	0	1.000	629831633	158465261	197312	493280	803		
391.8127	31.279	31.280	0	1.000	502575666	126972690	148417	371042	856	1.25(1.05-1.43)	

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Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.386	31.383	0	0.989	64540443	15691585	18251	45627	860		
403.8529	31.386	31.383	0	0.989	51959425	12036727	14828	37070	812	1.24(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.399	31.402	0	1.000	692132021	165495989	197312	493280	839		
391.8127	31.399	31.402	0	1.000	548312730	133657431	148417	371042	901	1.26(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.759	31.761	0	1.016	702952771	169150562	197312	493280	857		
391.8127	31.759	31.761	0	1.016	556524692	136362240	148417	371042	919	1.26(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.459	33.457	0	1.054	33673507	11080194	54234	135585	204		
419.8220	33.459	33.457	0	1.054	73070308	23803007	120568	301420	197	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.472	33.469	0	1.000	828352693	264674315	15239773	809942	174		
409.7789	33.459	33.469	-1	1.000	785489642	258152347	15359593	839897	168	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.504	34.502	0	1.087	31611144	9286341	54234	135585	171		
419.8220	34.504	34.502	0	1.087	69362818	20149549	120568	301420	167	0.46(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.504	34.509	0	1.000	711389911	208533041	15239773	809942	137		
409.7789	34.504	34.509	0	1.000	680494966	202816426	15359593	839897	132	1.05(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.225	34.227	0	1.078	56576314	17187295	46326	115815	371		
437.8140	34.225	34.227	0	1.078	54721855	16668841	45125	112812	369	1.03(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.237	34.235	0	1.000	528198445	160615442	456142	1140355	352		
425.7737	34.237	34.235	0	1.000	502193375	149899801	457044	1142610	328	1.05(0.88-1.20)	
13C-OCDD											
469.7779	36.493	36.486	0	1.150	96929202	24000709	8587	21467	2795		
471.7750	36.493	36.486	0	1.150	109535574	26795340	13585	33962	1972	0.88(0.76-1.02)	
OCDF											
441.7428	36.589	36.581	0	1.003	1236830988	325979490	105711	264277	3084		
443.7399	36.589	36.581	0	1.003	1380128349	358207842	85997	214992	4165	0.90(0.76-1.02)	
OCDD											
457.7377	36.505	36.497	0	1.000	1001000005	251130559	122617	306542	2048		
459.7348	36.505	36.497	0	1.000	1124514461	278735720	97234	243085	2867	0.89(0.76-1.02)	

Reagents:

HRDXNL6_00024 Amount Added: 1.00 Units: mL

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

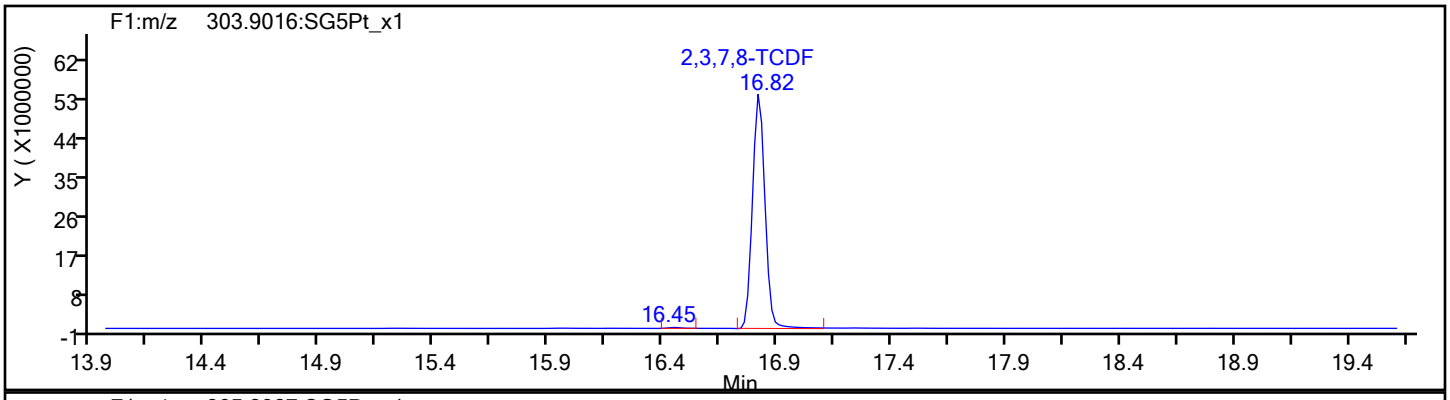

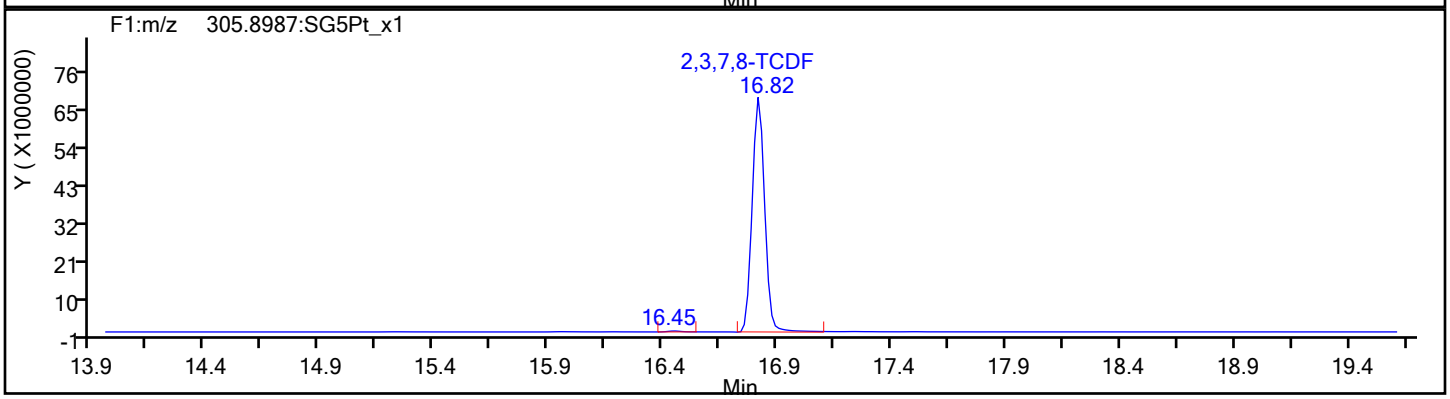

TCDF Standards

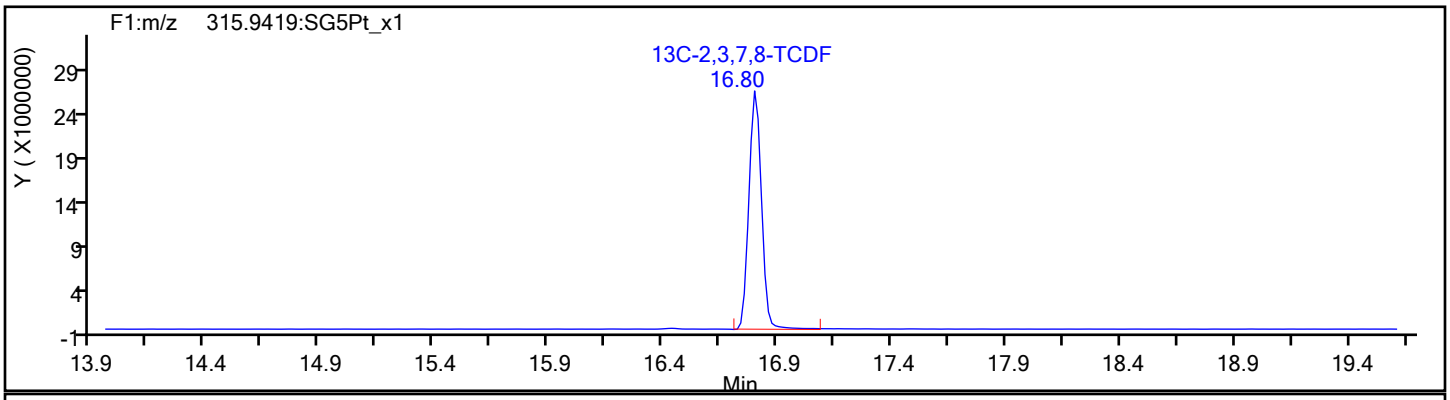

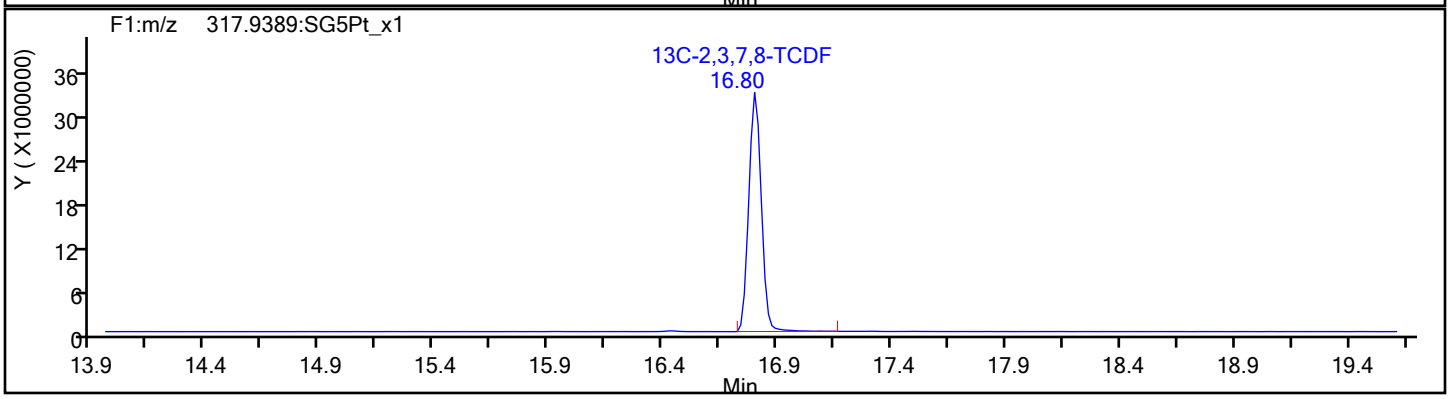

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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TCDF

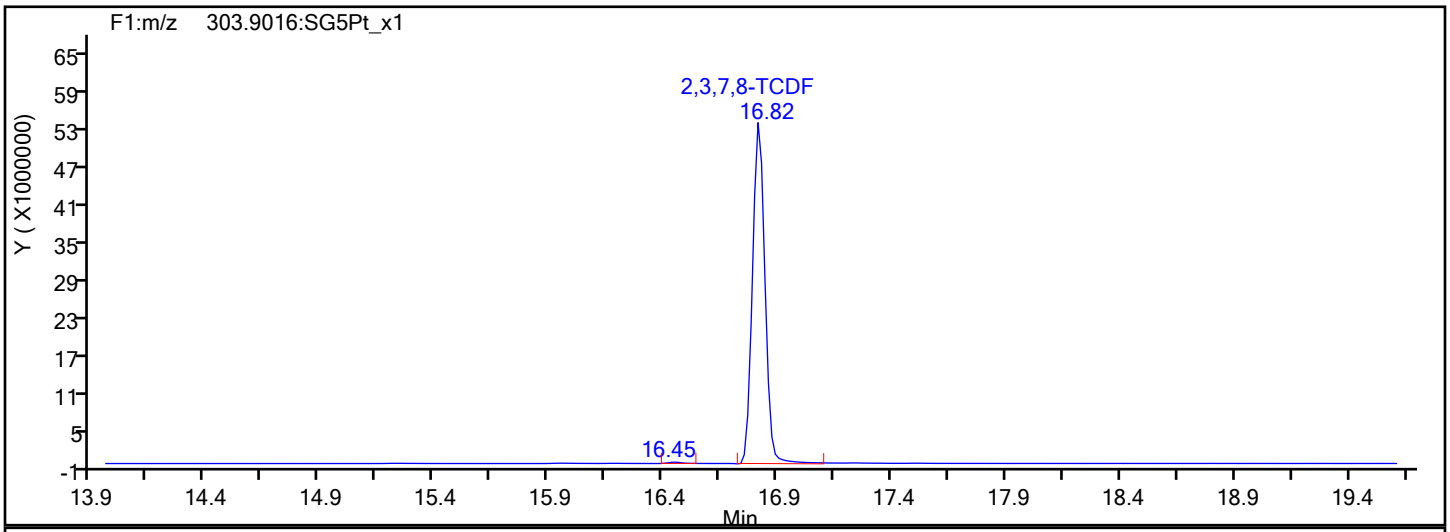

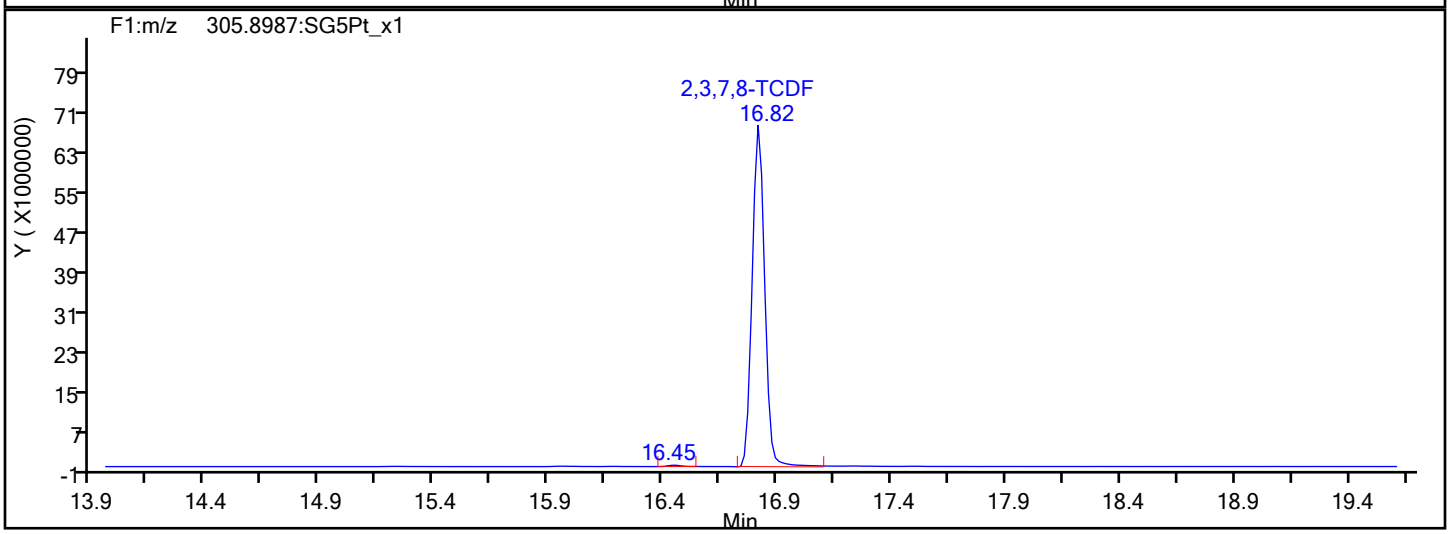

TCDF Interference Mass

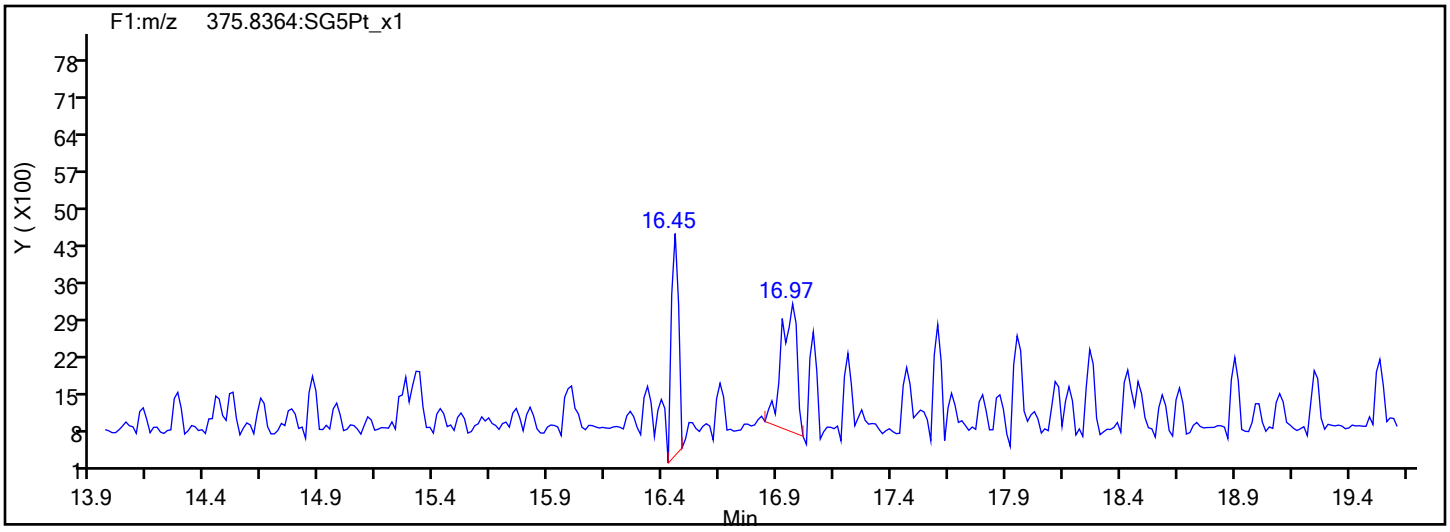

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

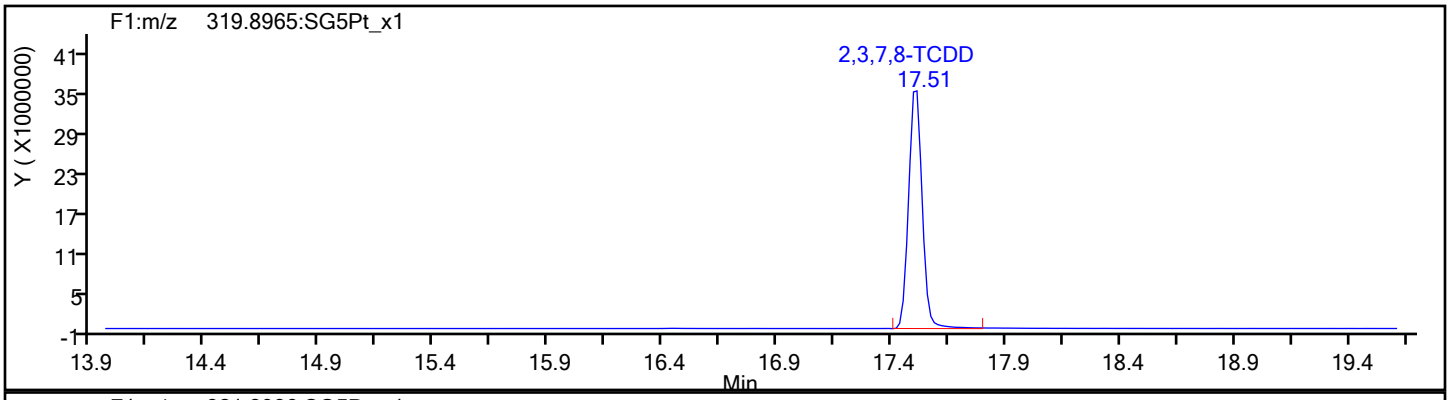

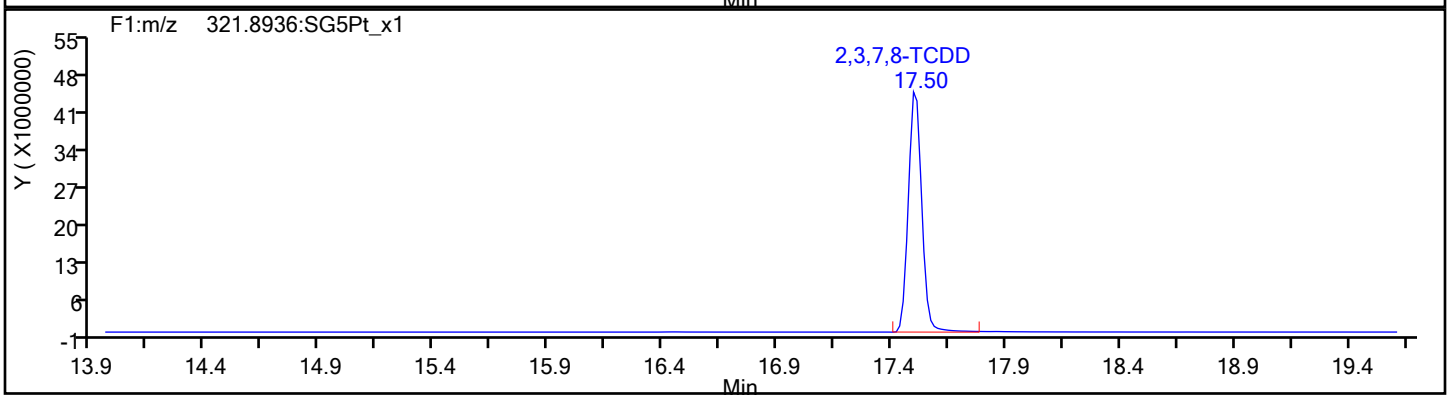

TCDD Standards

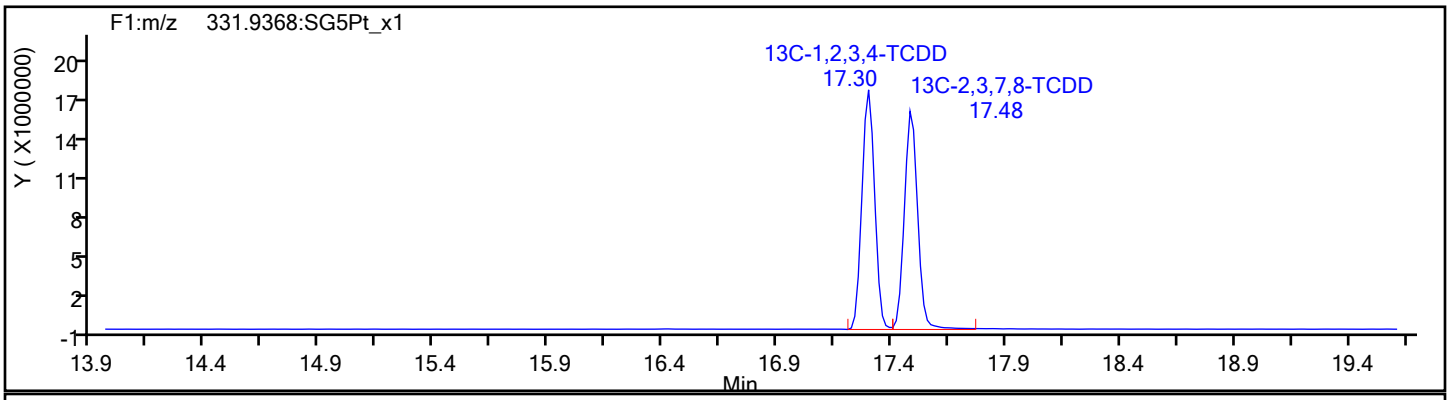

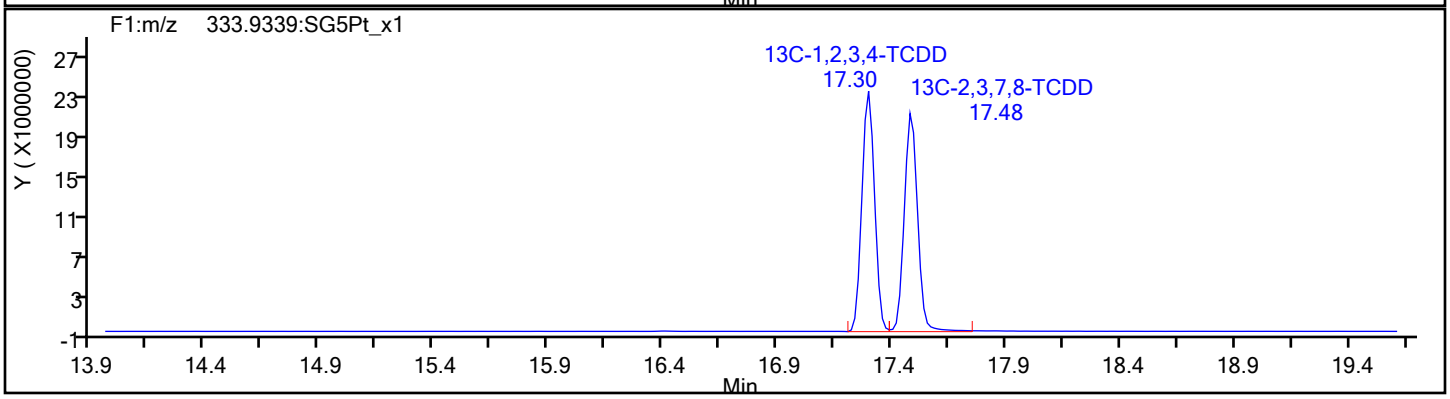

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

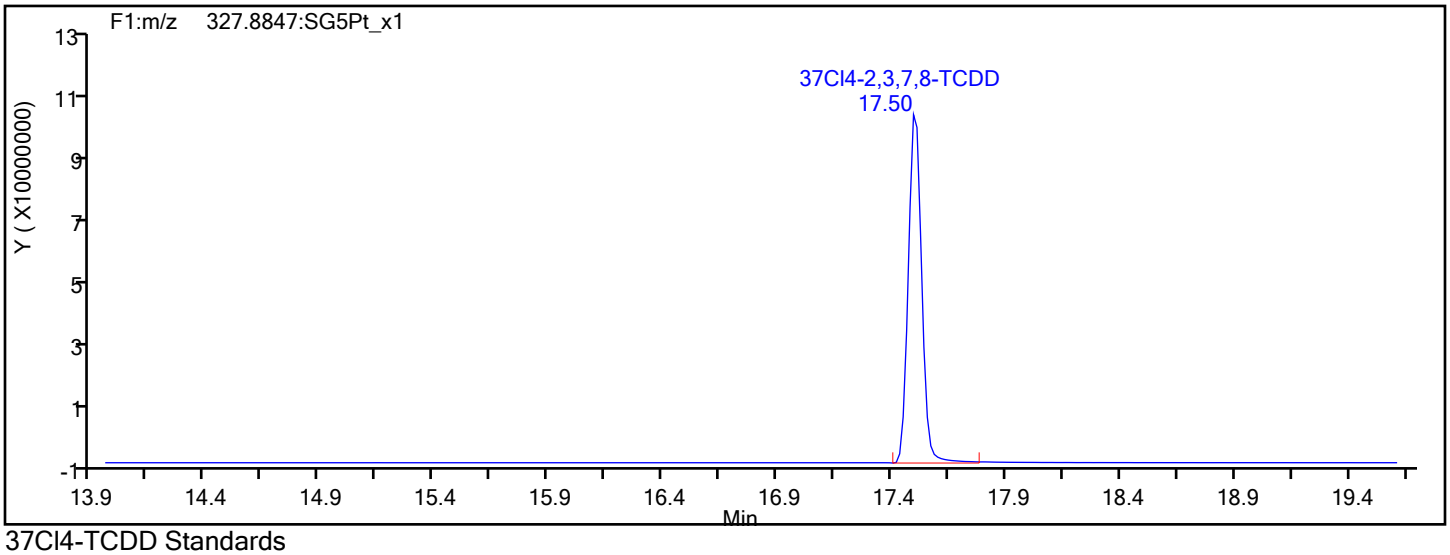

37Cl4-TCDD Standards

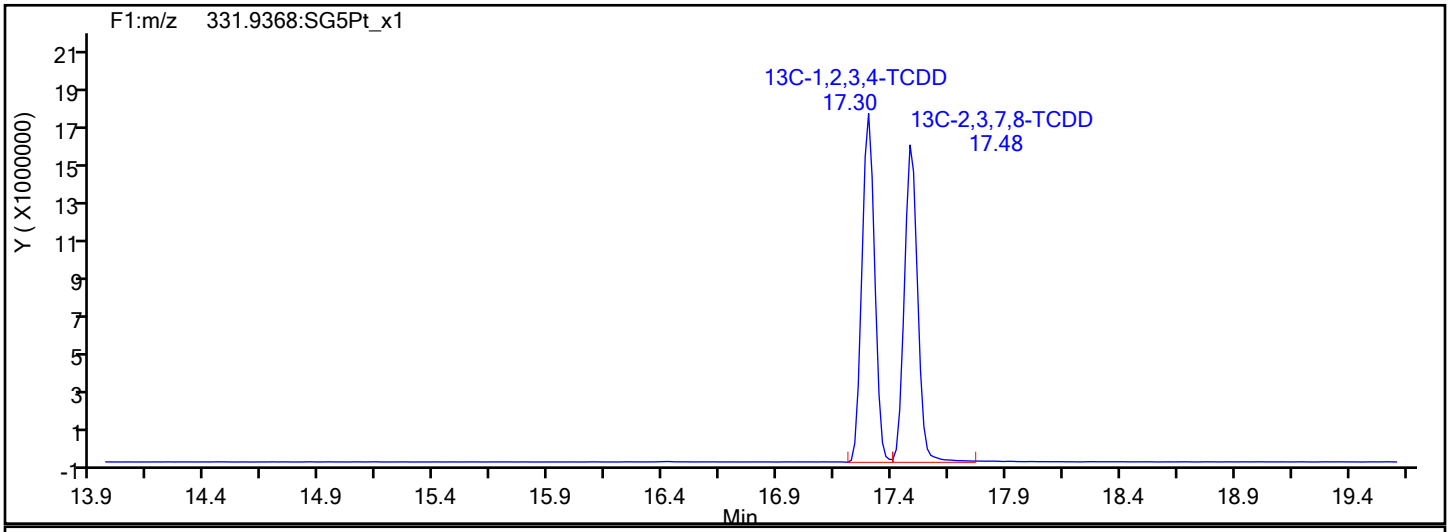

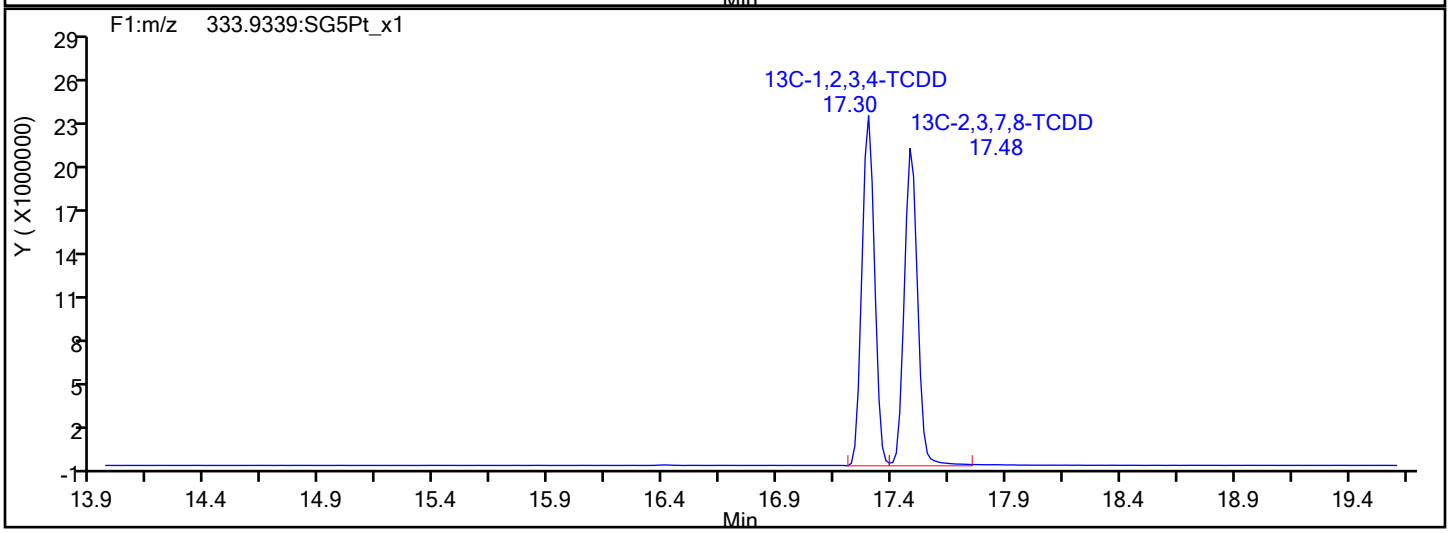

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

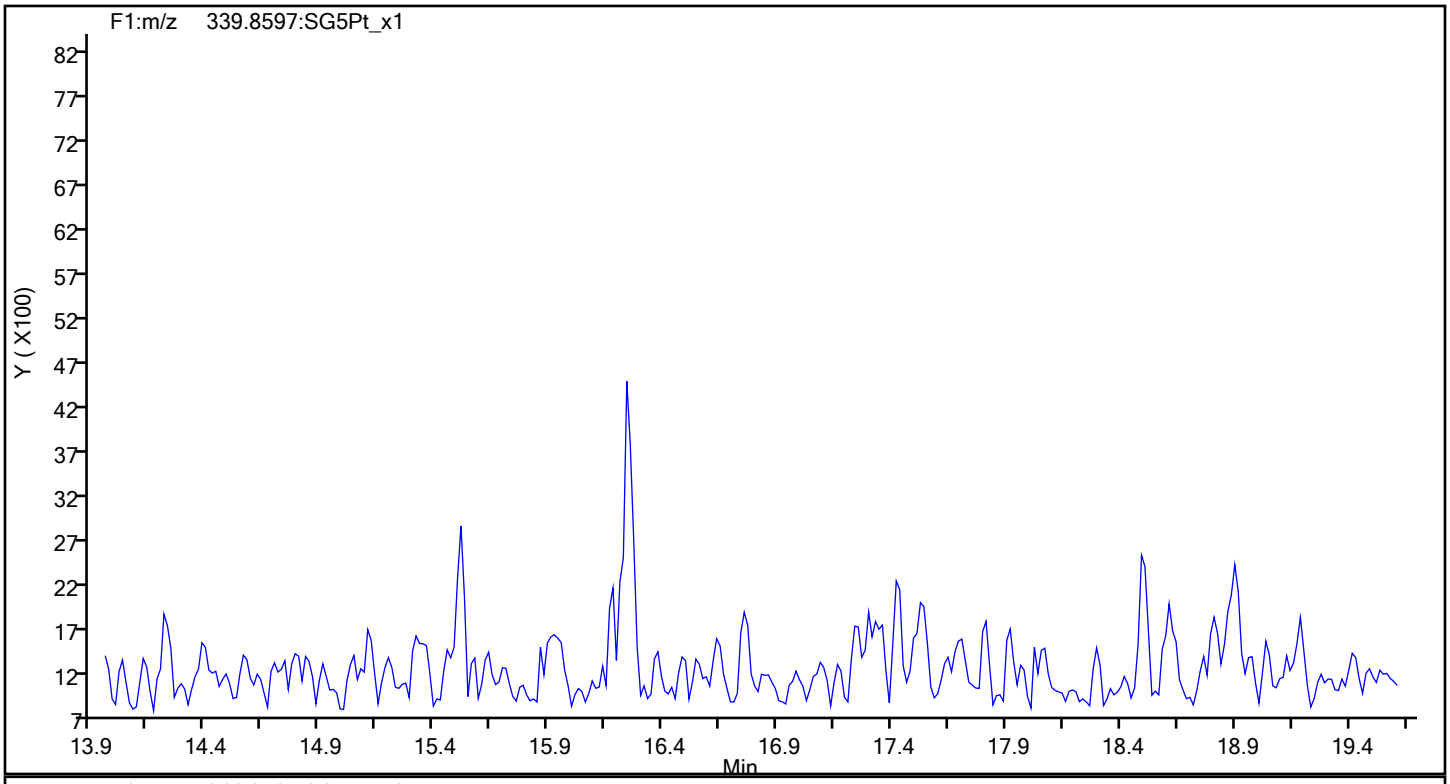

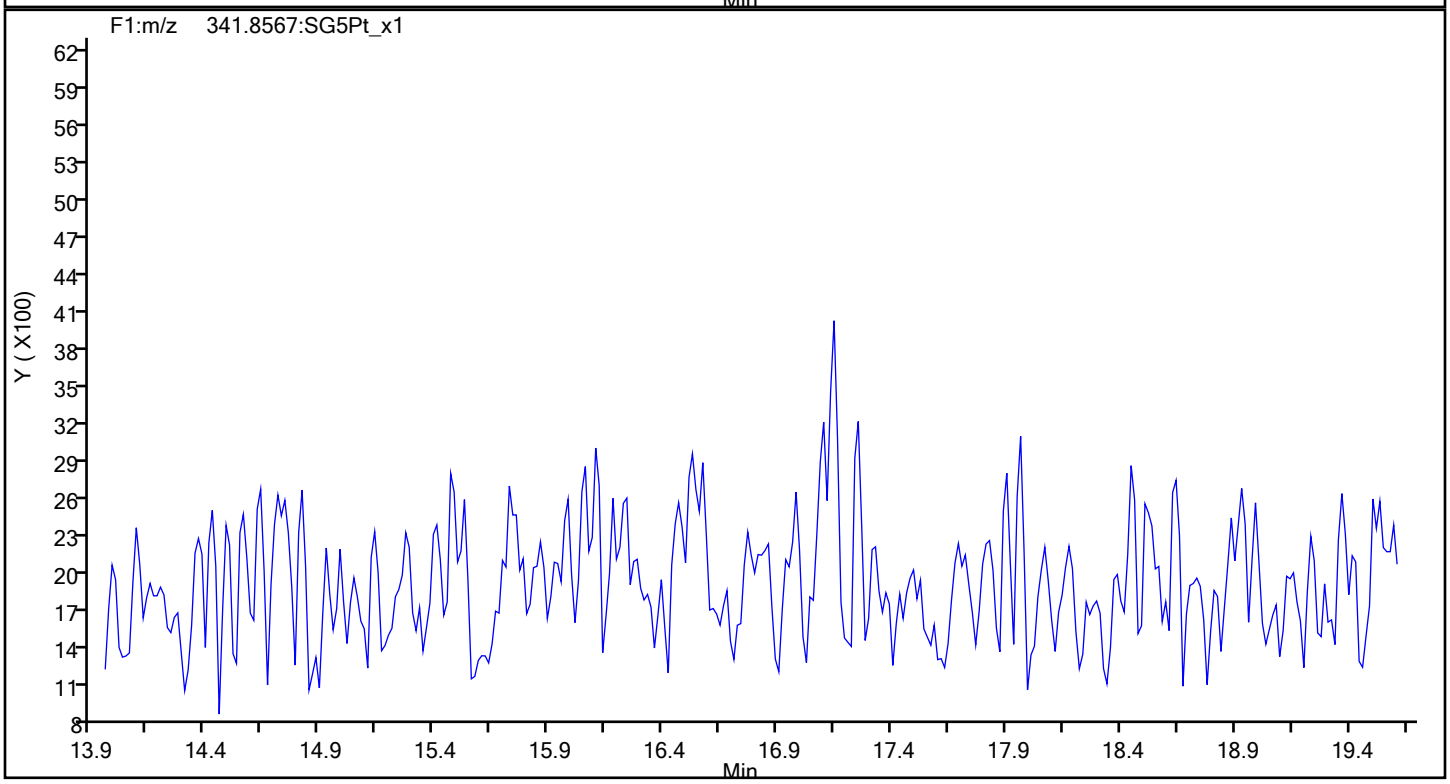

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

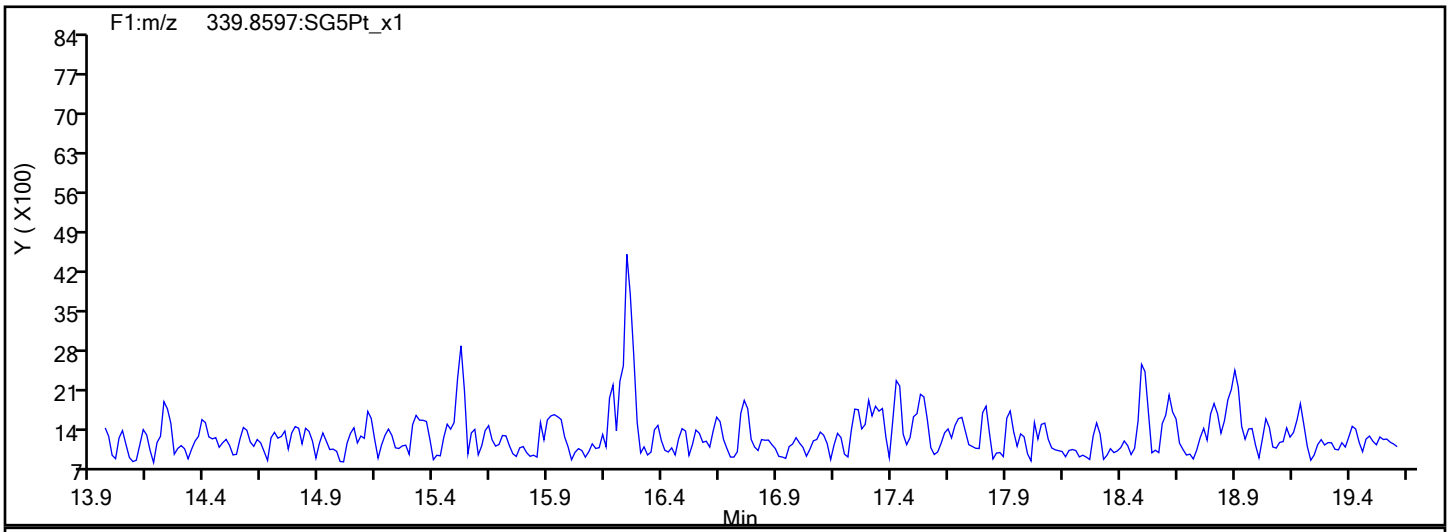

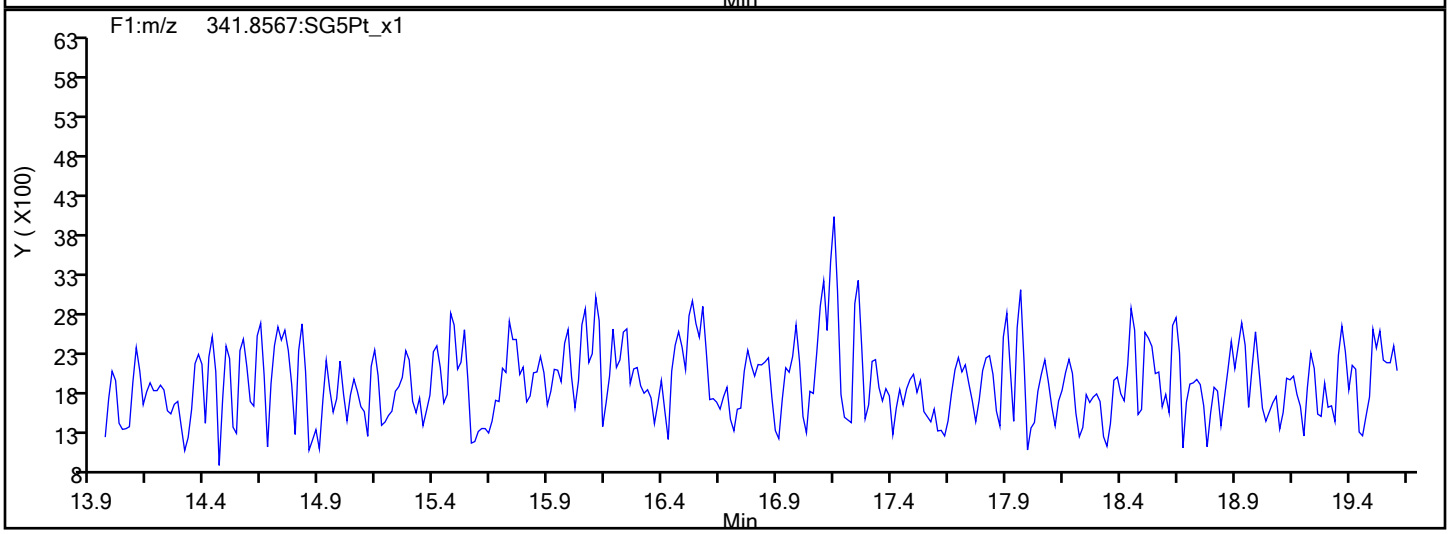

F1 PeCDFs Interference Mass

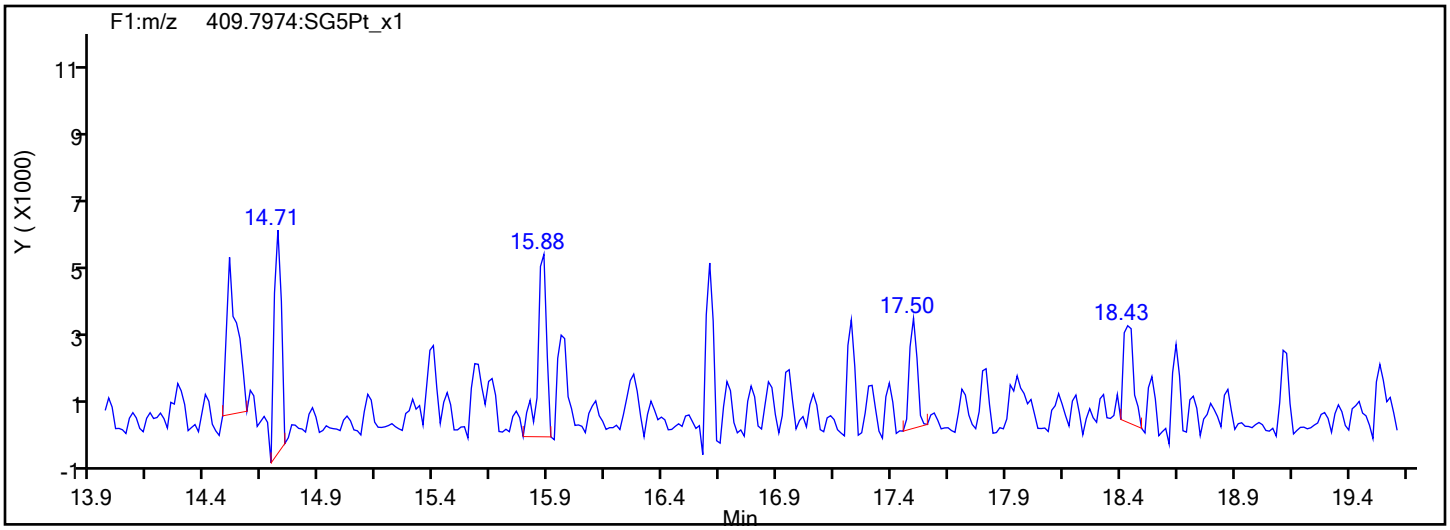

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

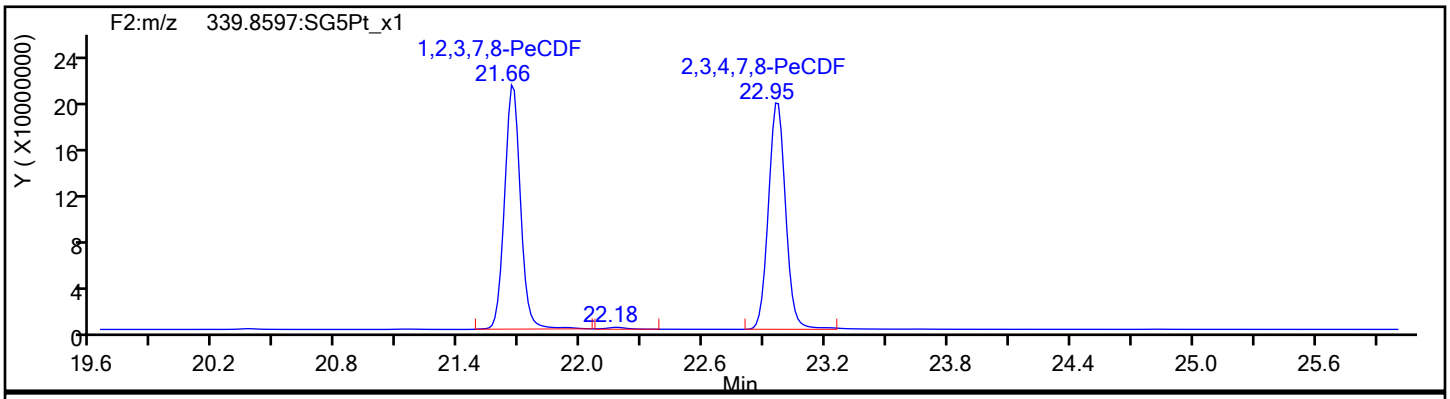

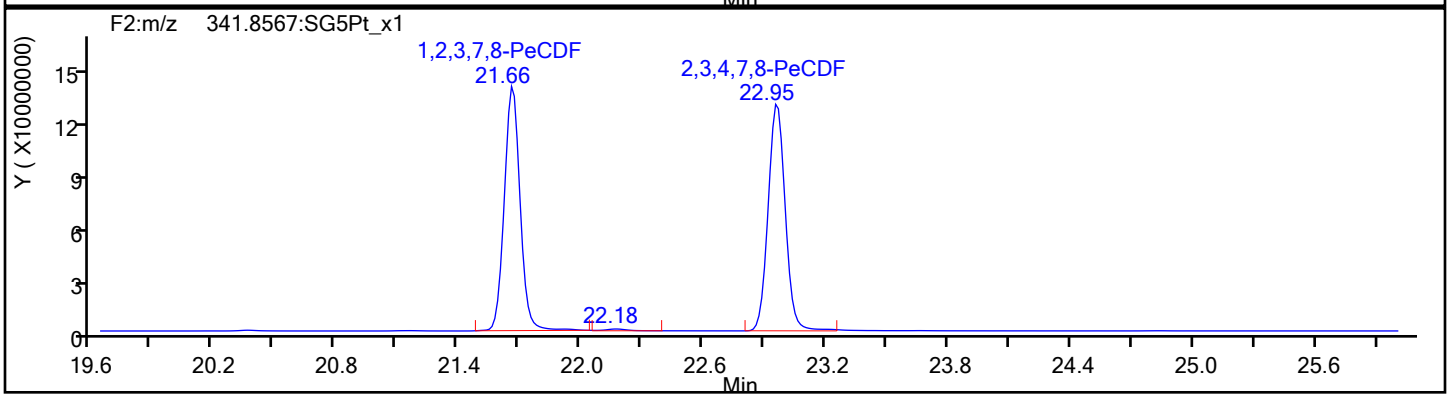

PeCDF Standards

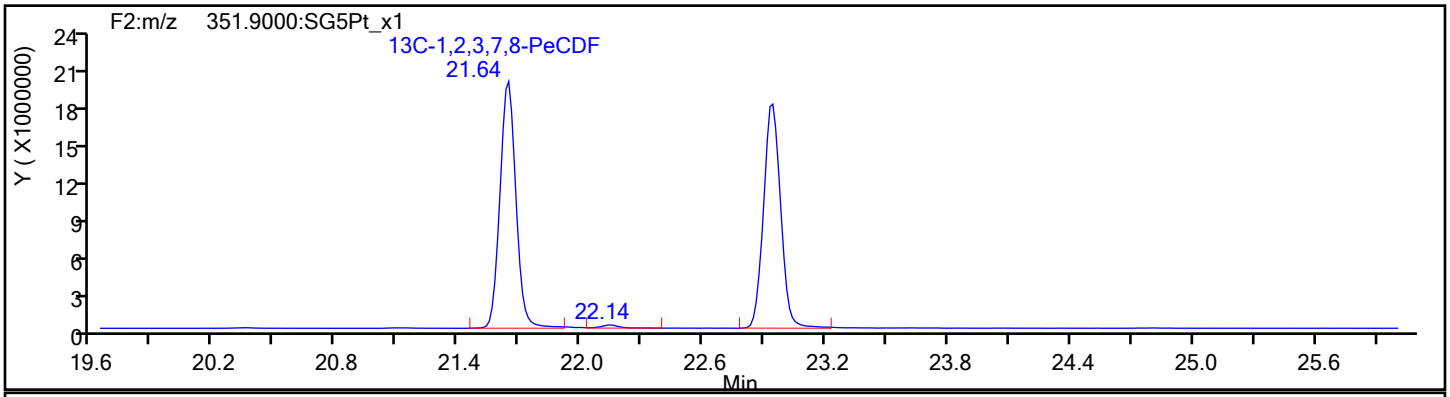

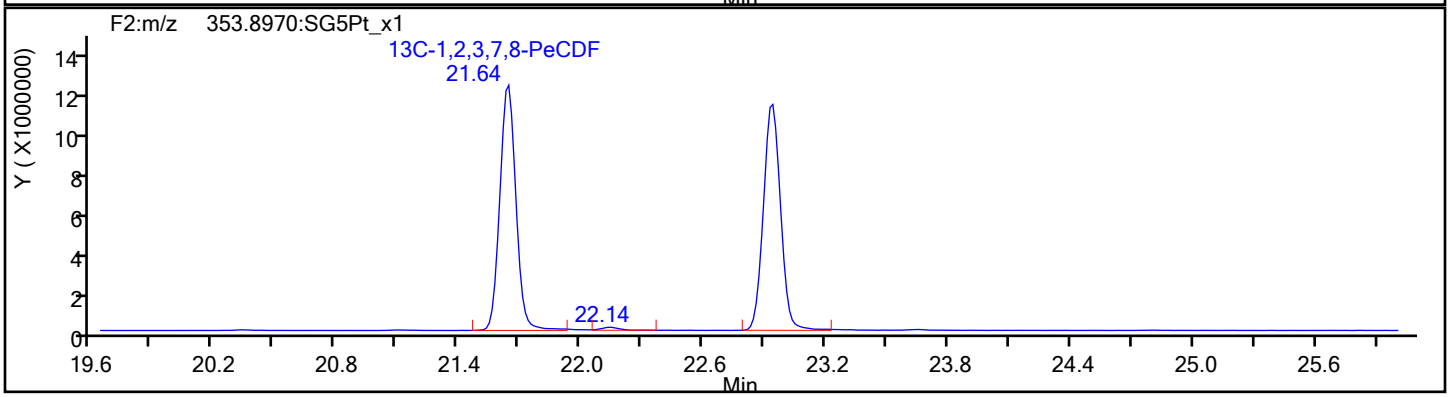

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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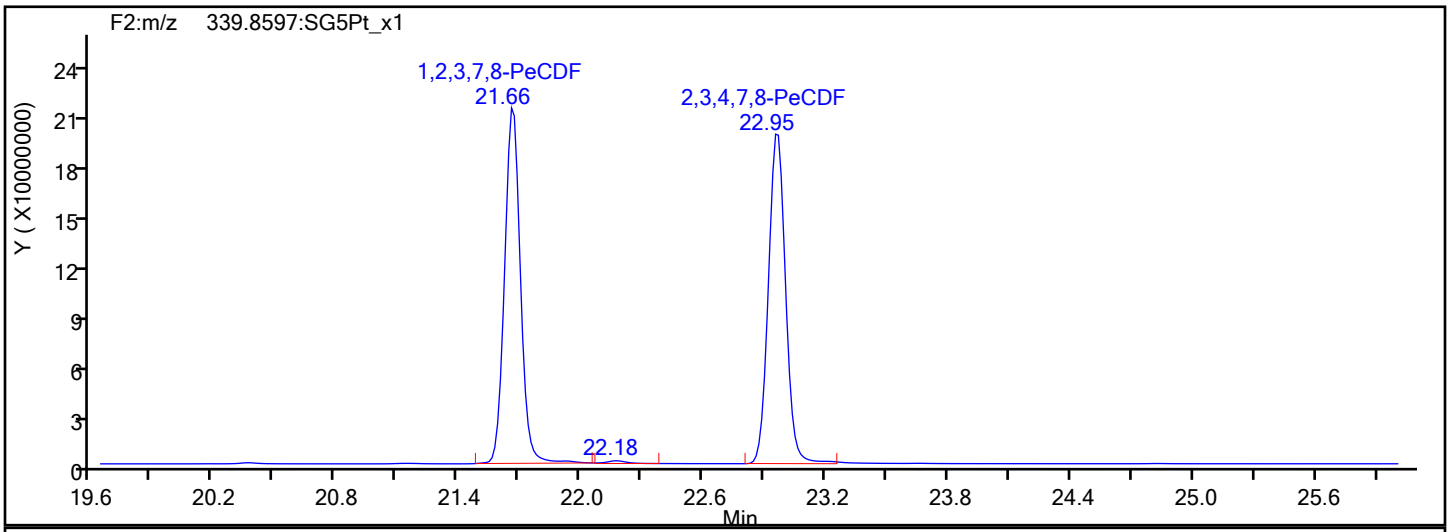

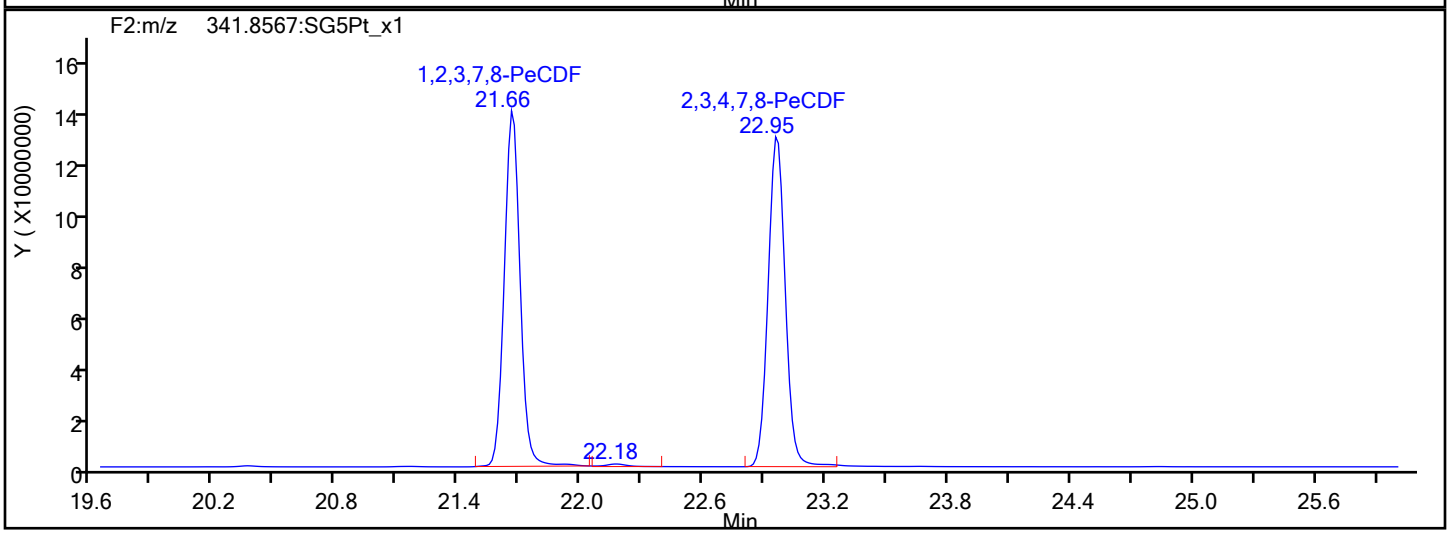

PeCDF Interference Mass

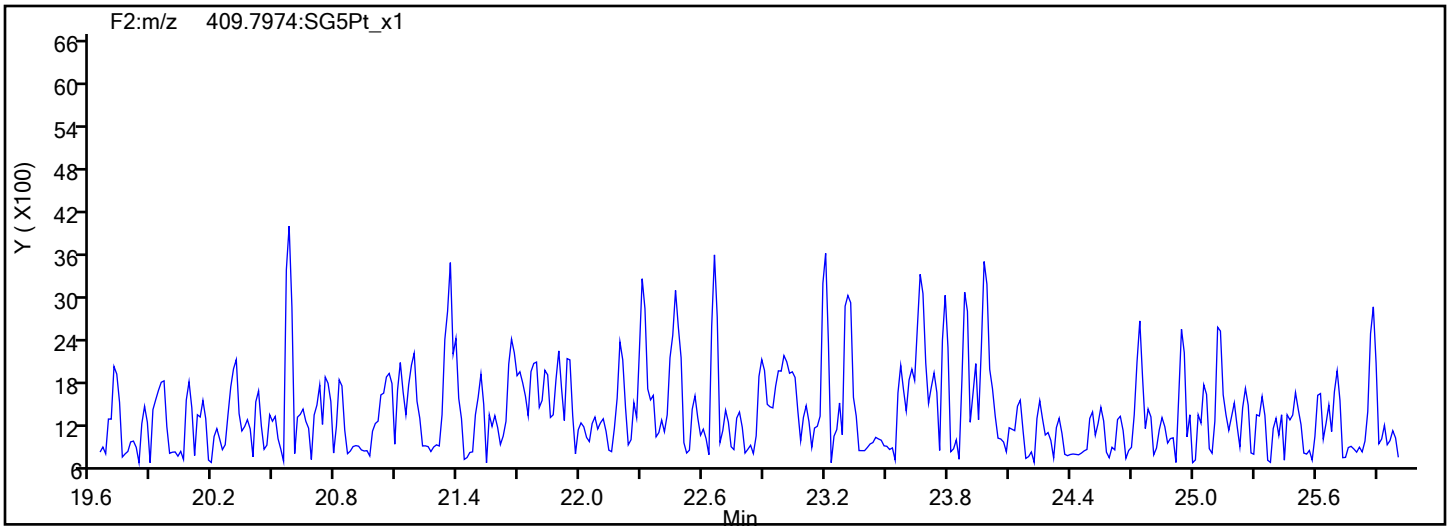

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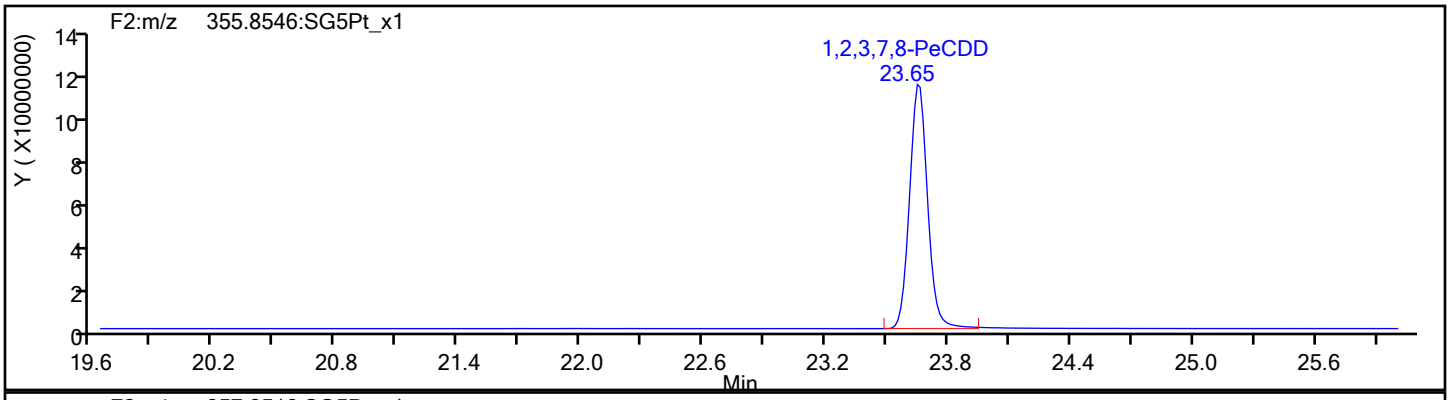

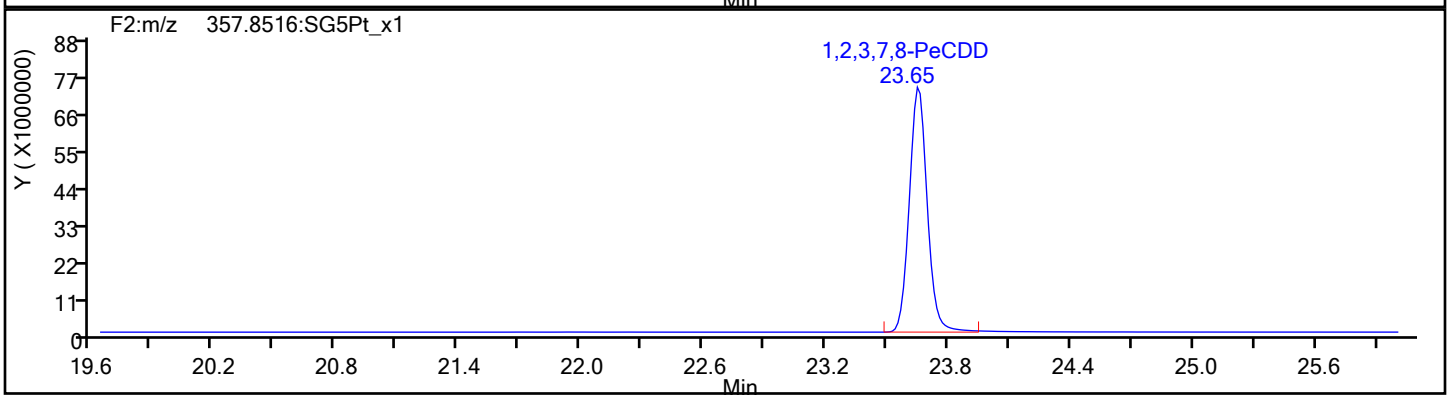

PeCDD Standards

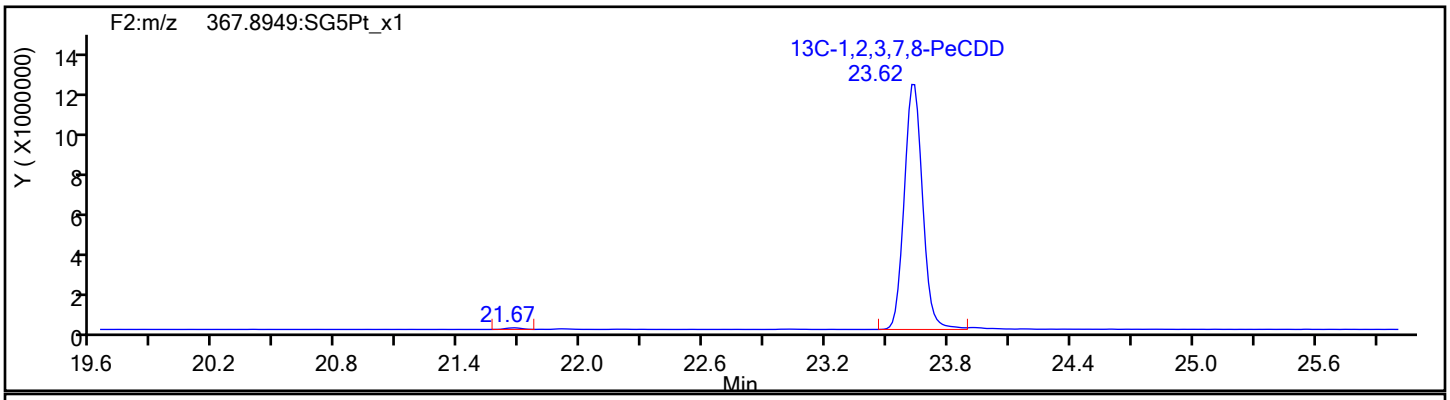

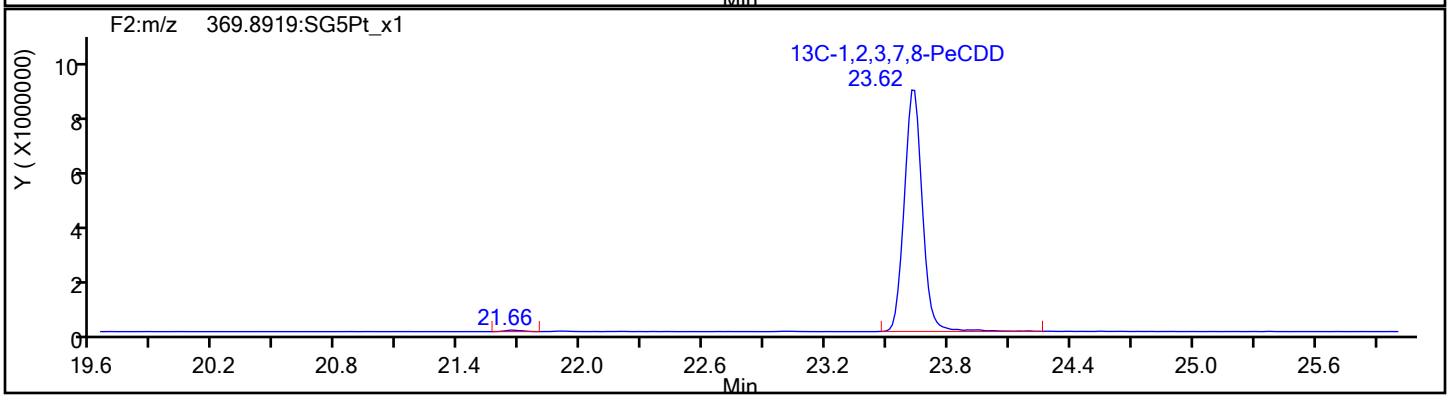

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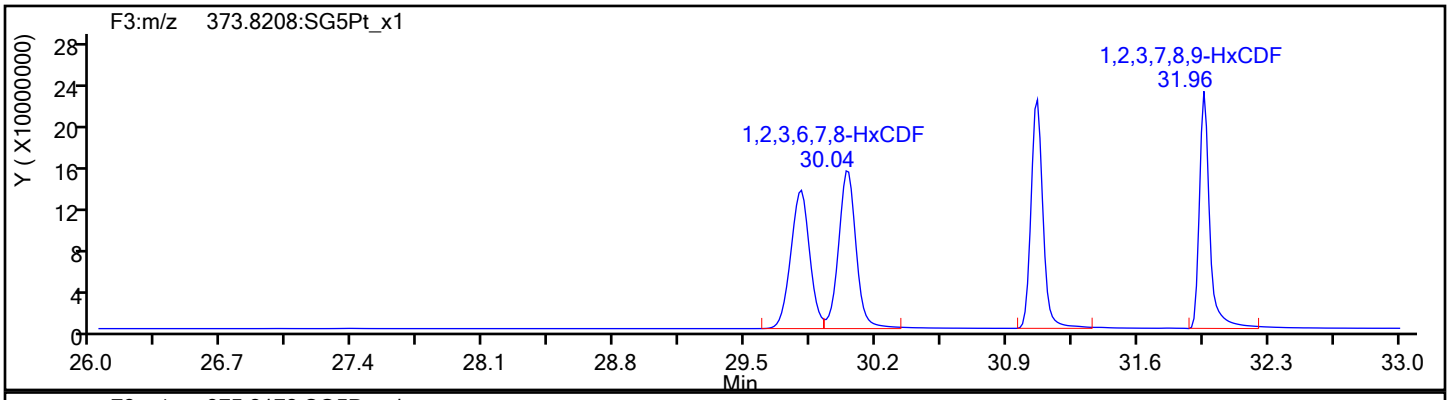

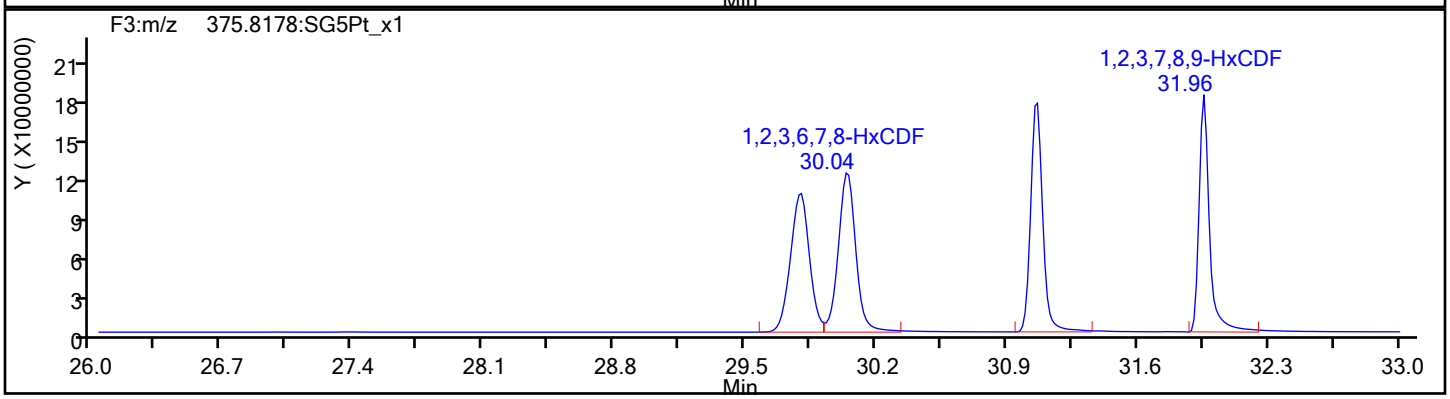

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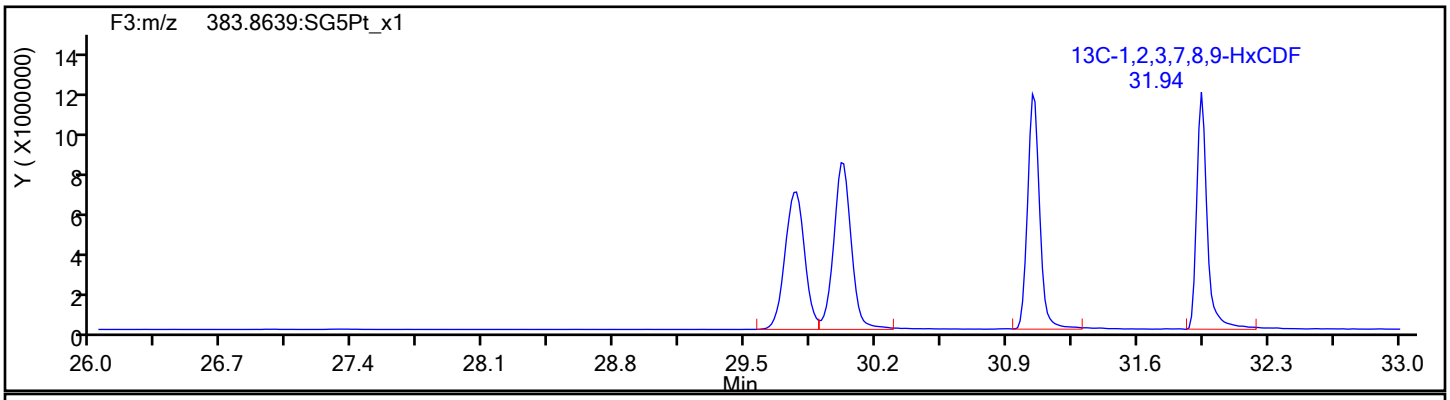

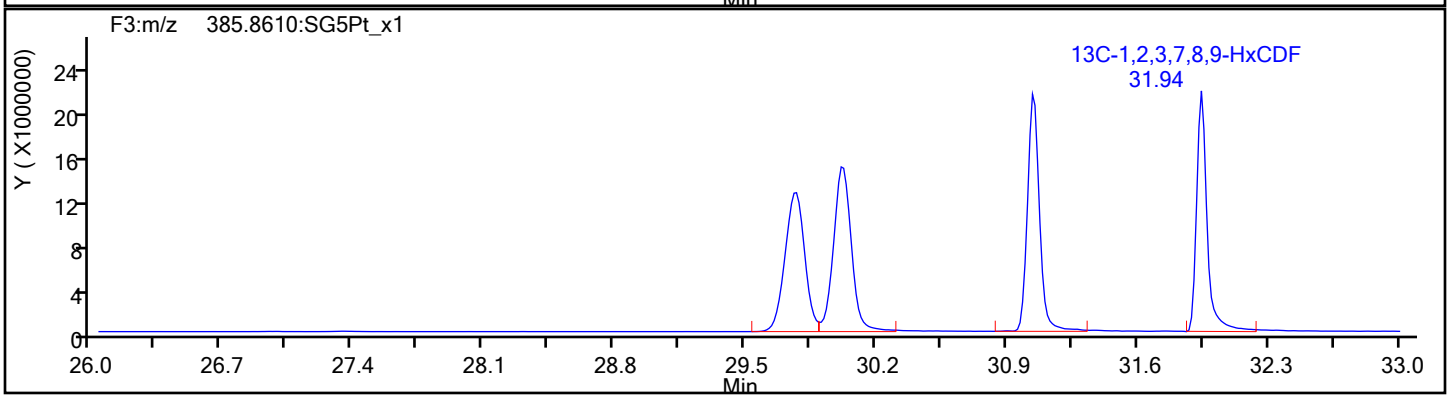

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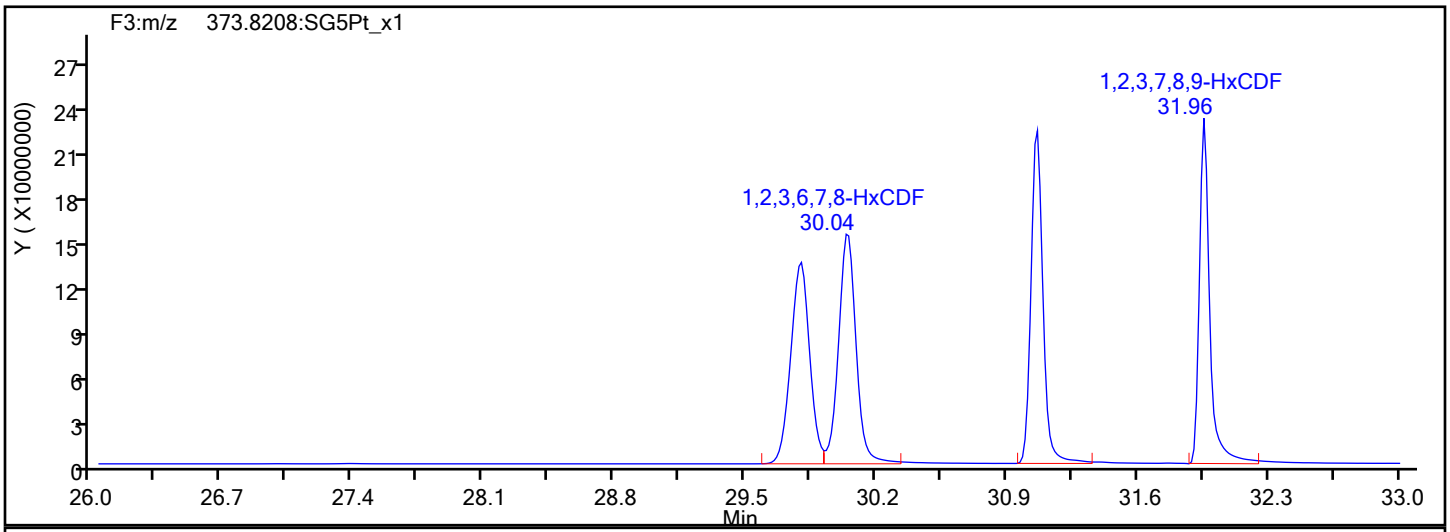

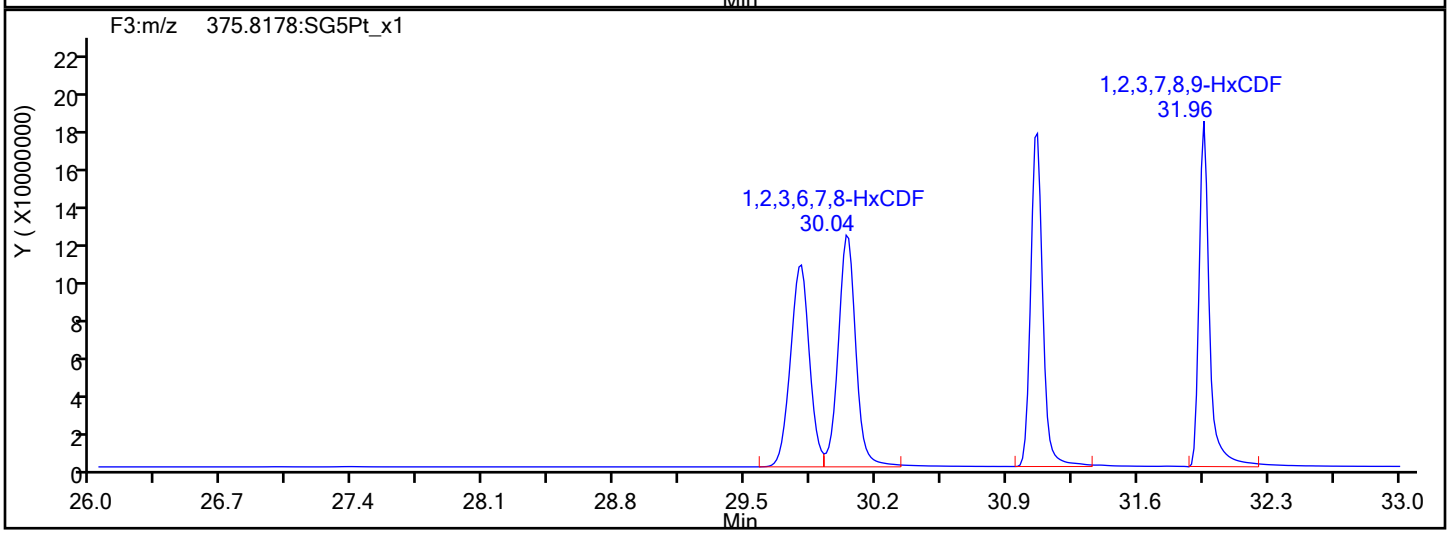

HxCDF Interference Mass

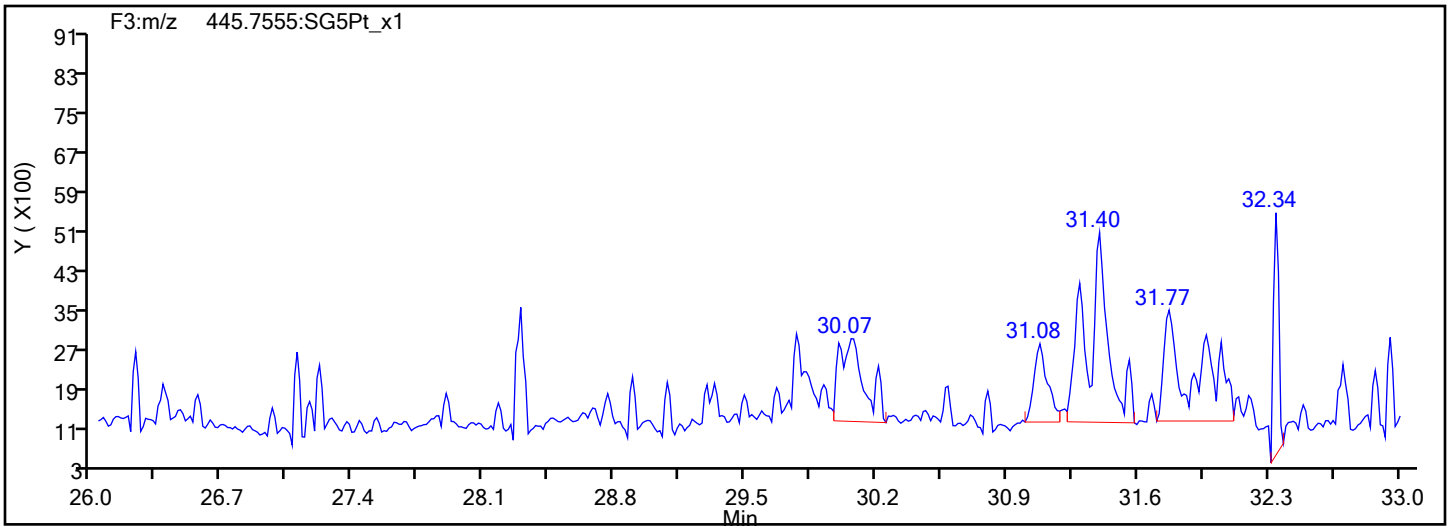

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Eurofins TestAmerica, Sacramento

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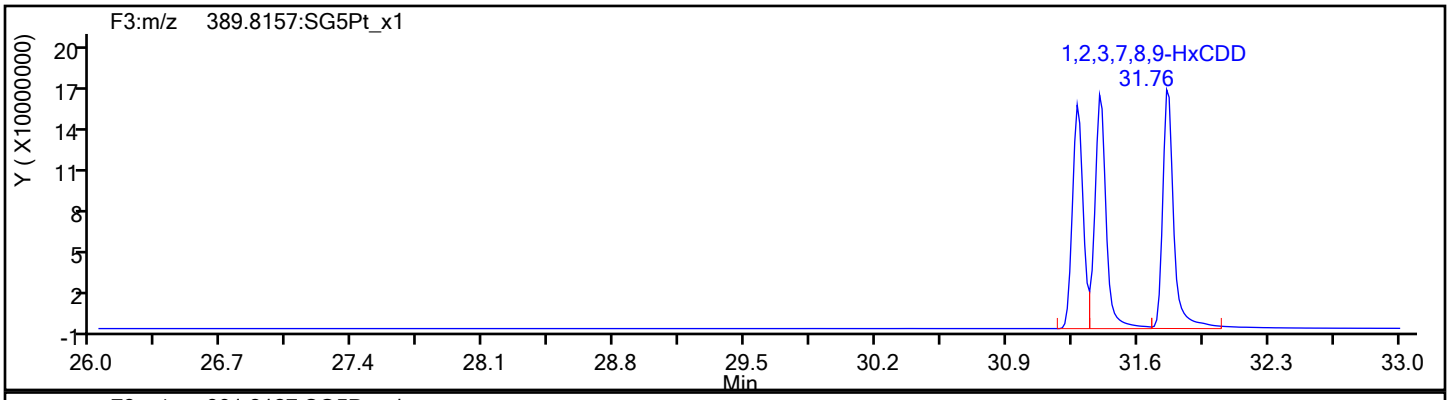

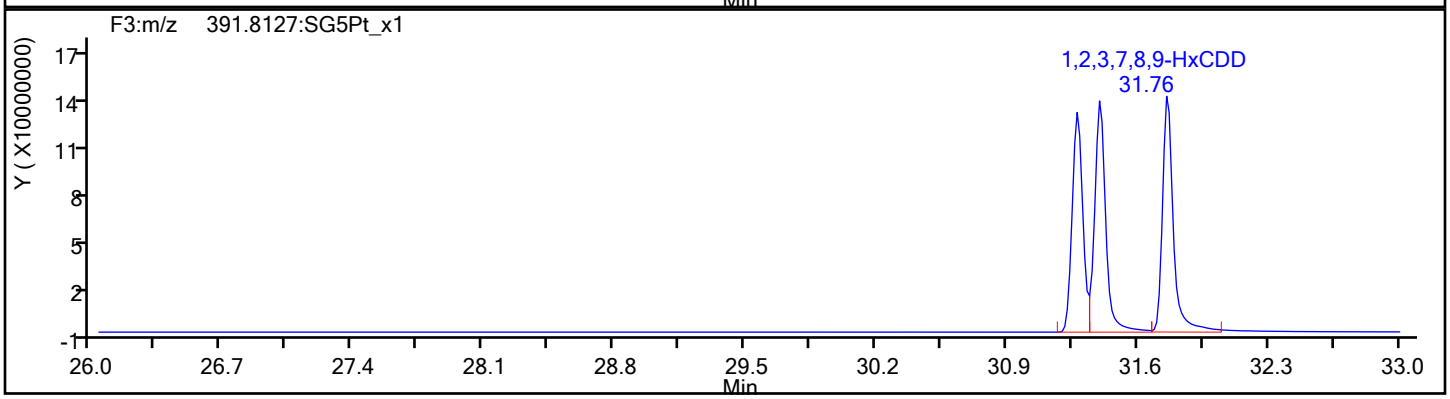

HxCDD Standards

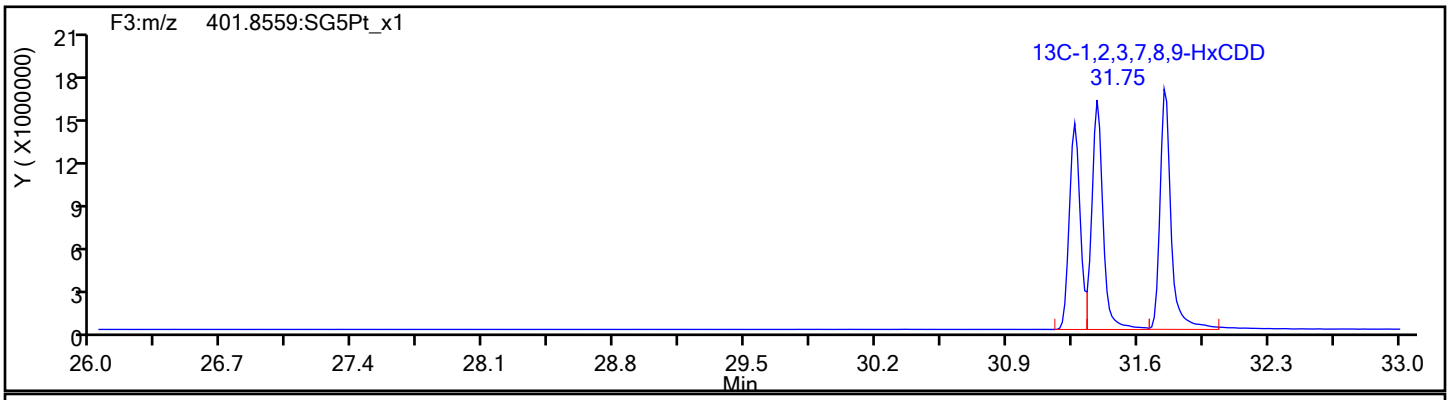

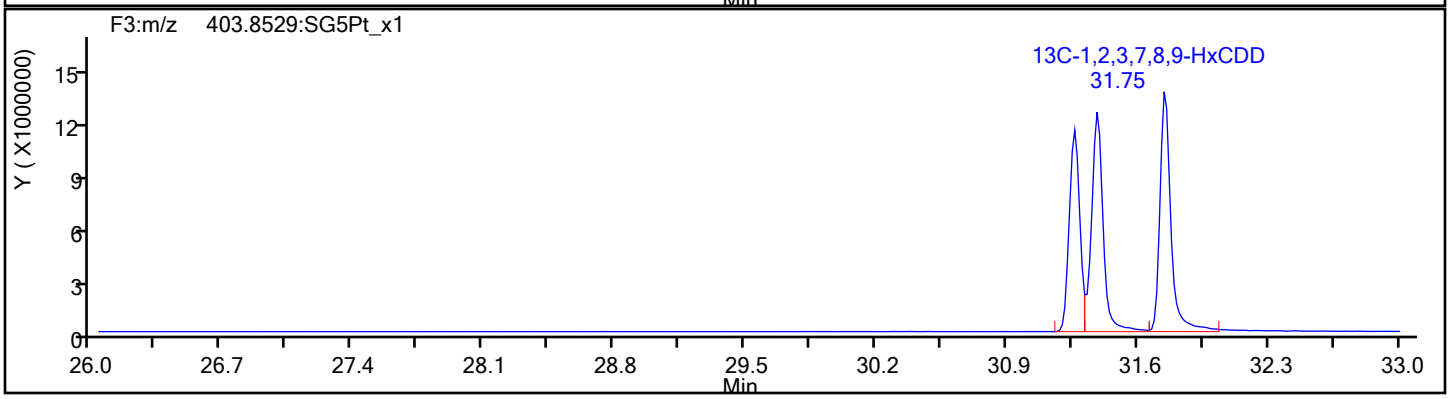

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Eurofins TestAmerica, Sacramento

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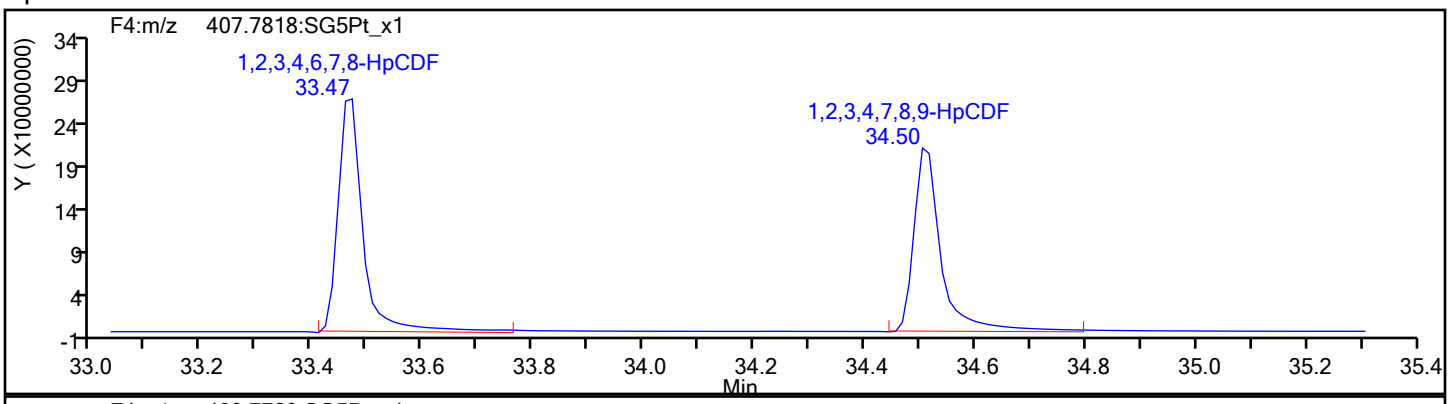

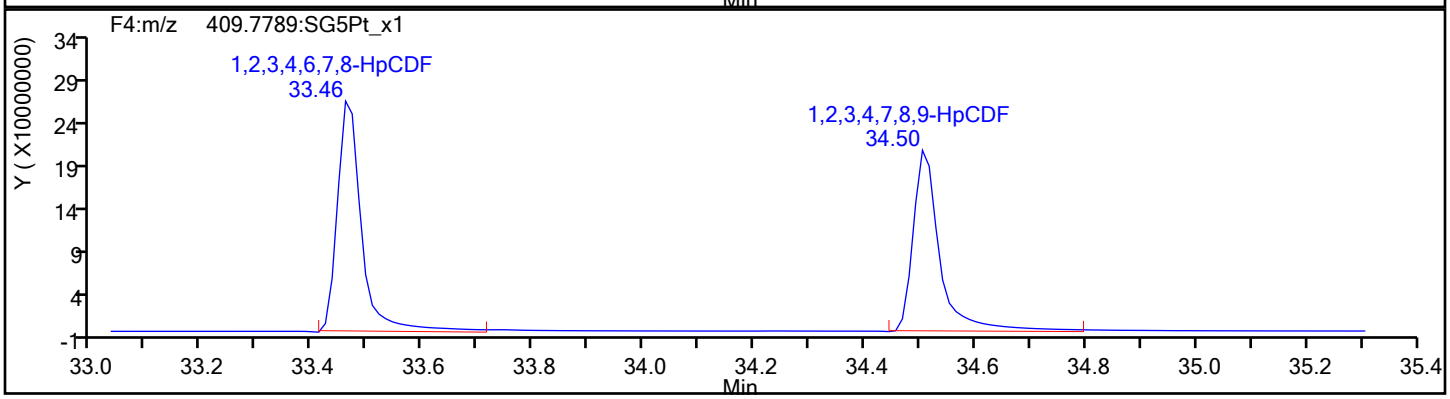

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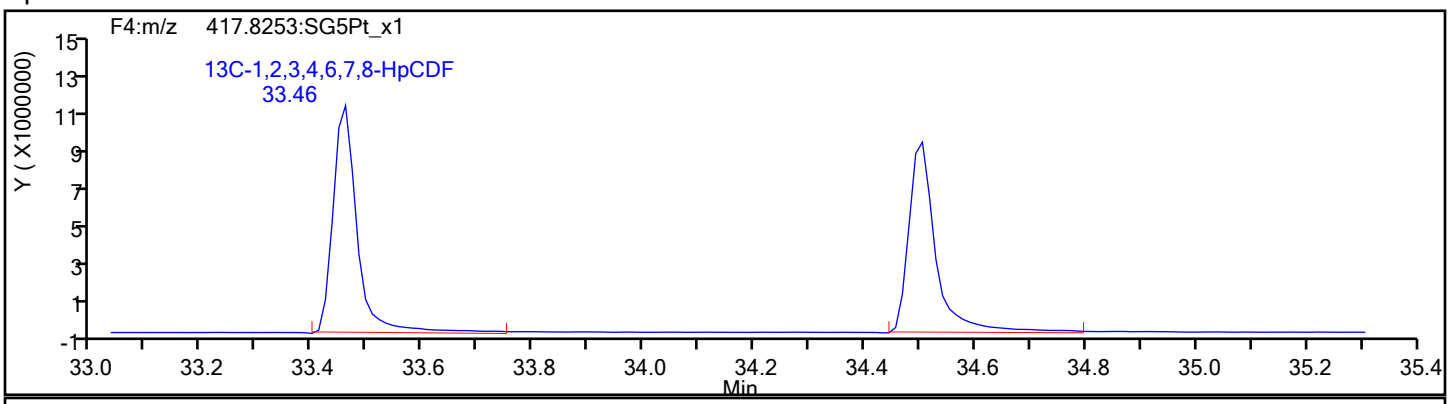

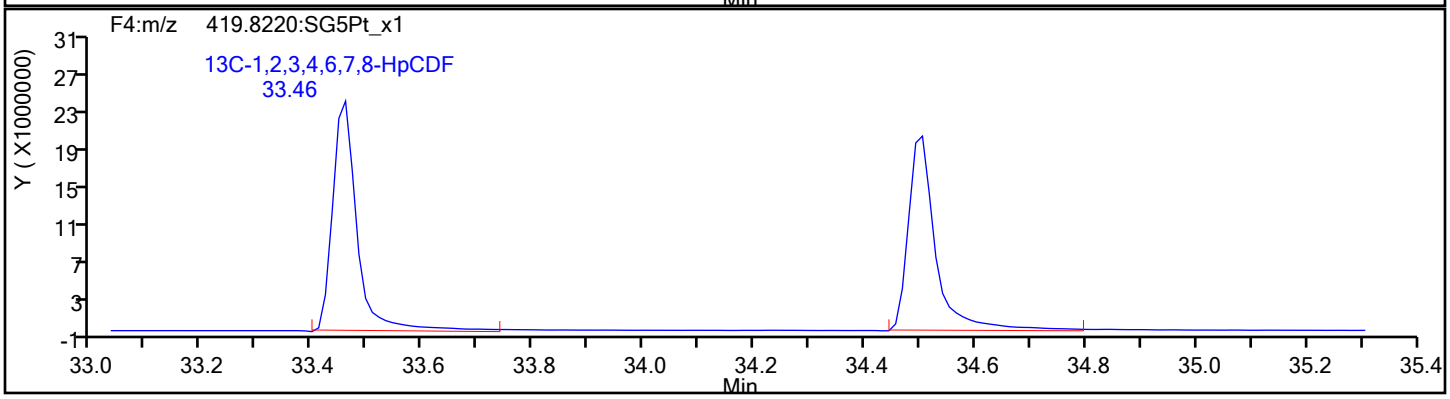

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Eurofins TestAmerica, Sacramento

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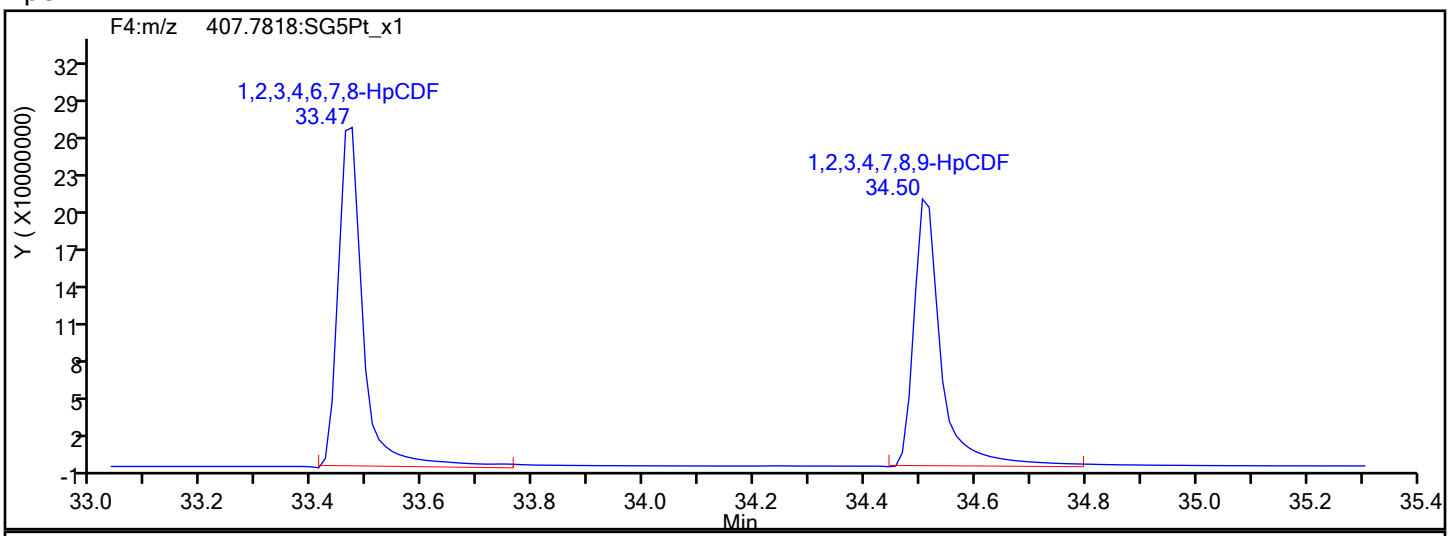

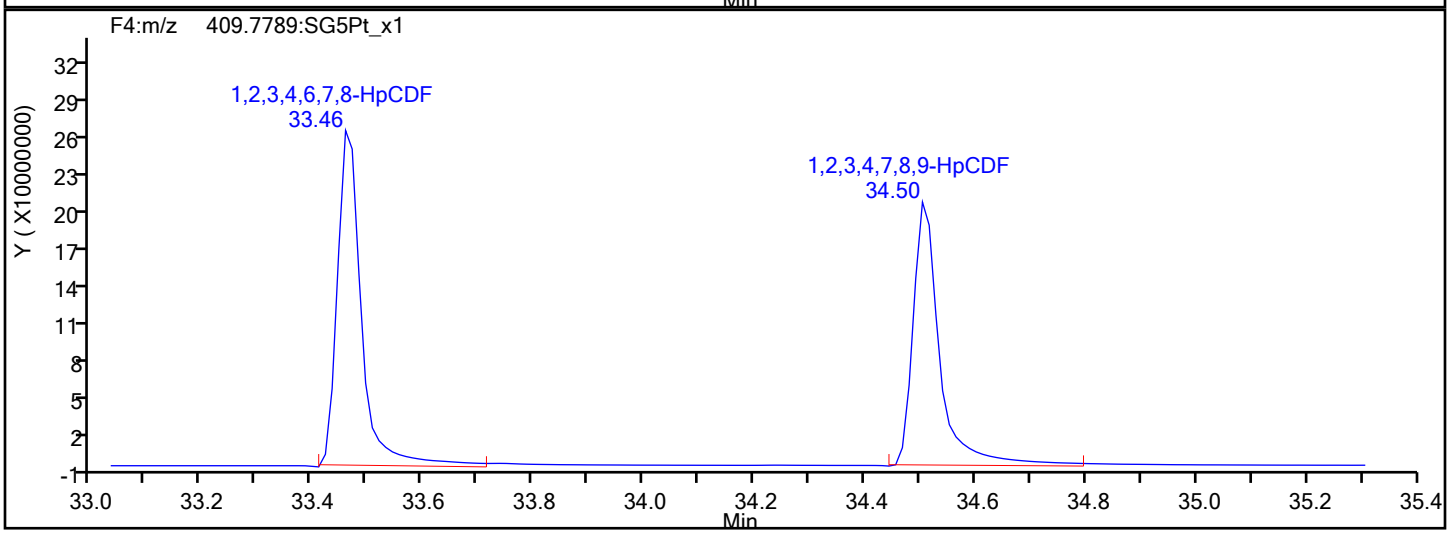

HpCDF Interference Mass

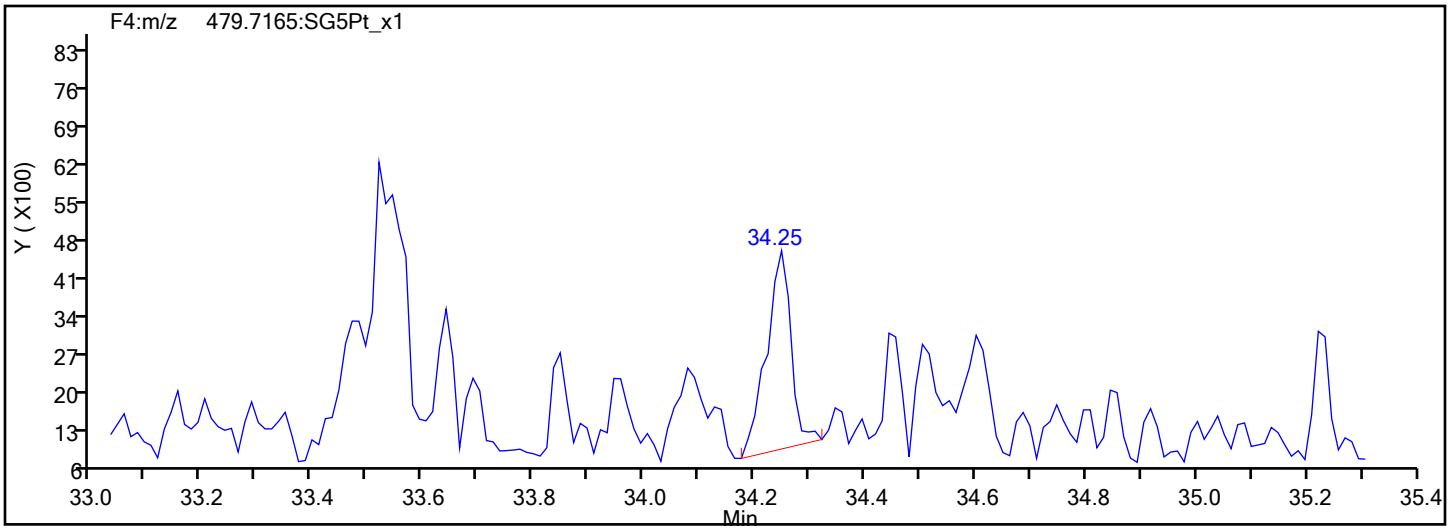

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Eurofins TestAmerica, Sacramento

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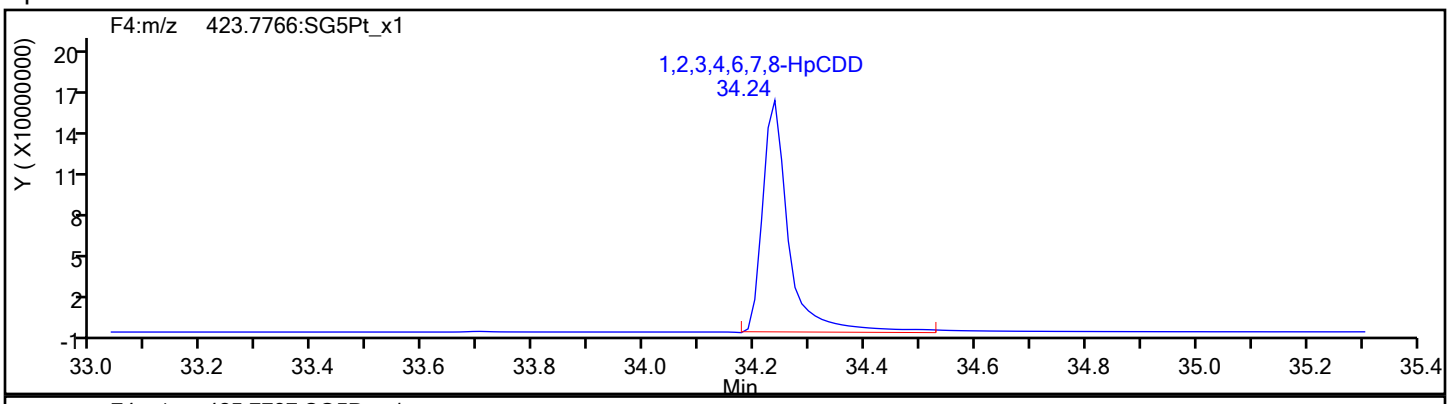

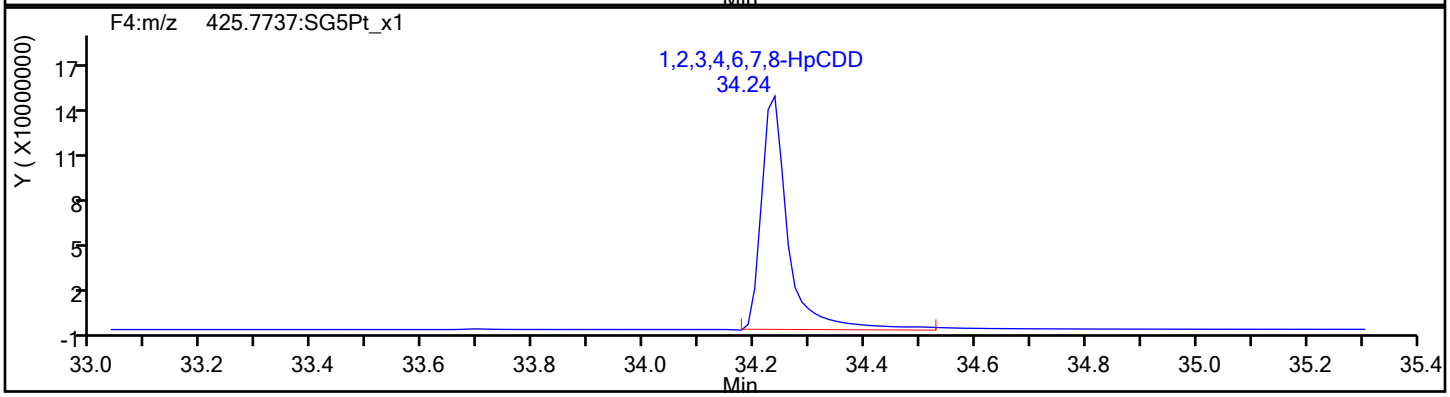

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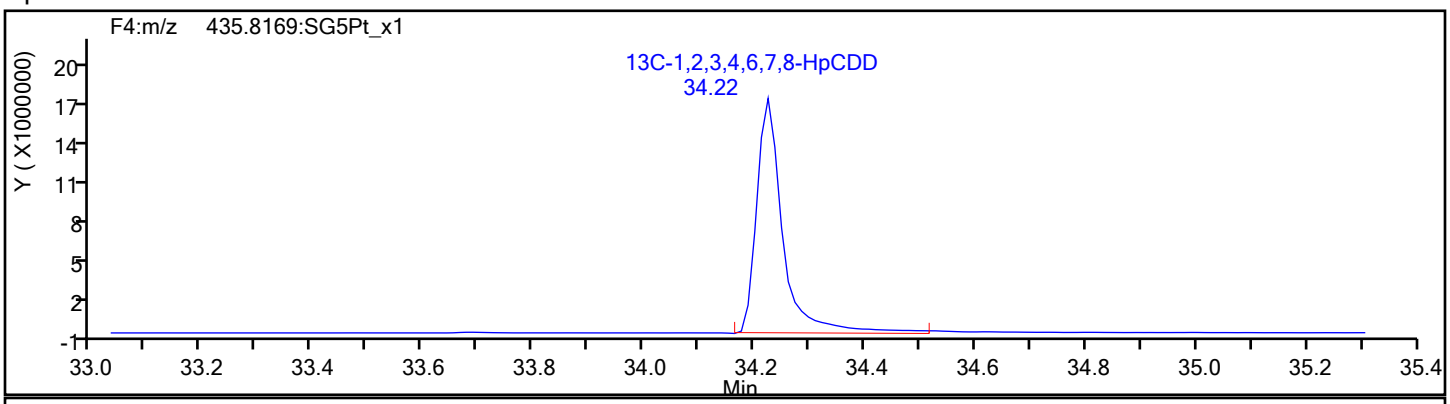

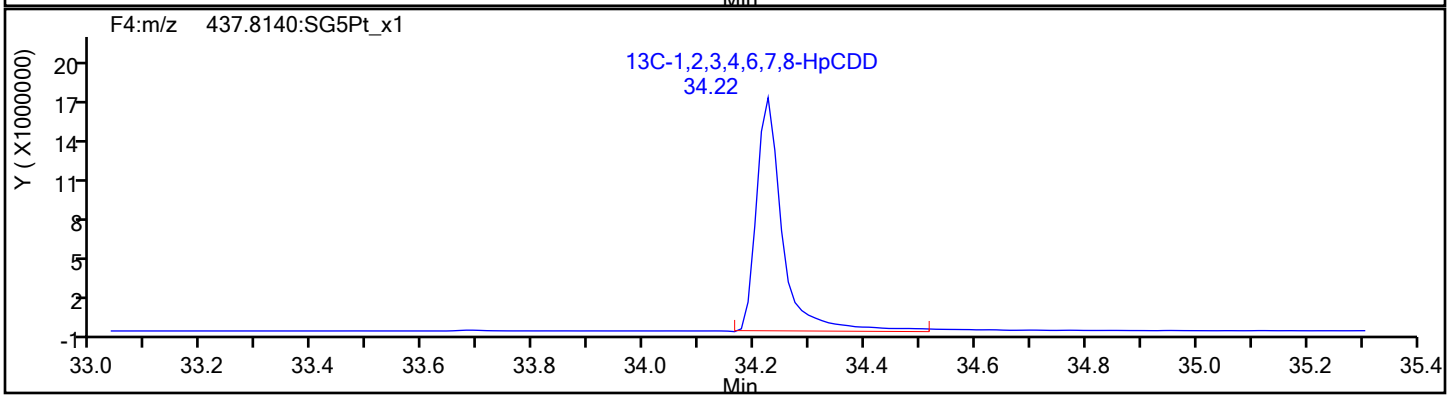

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OCDF

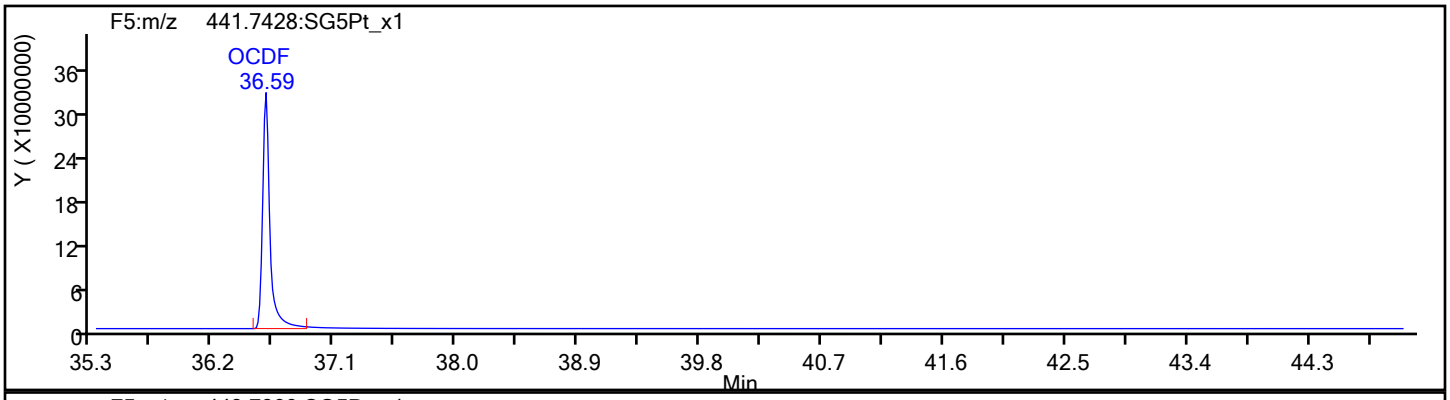

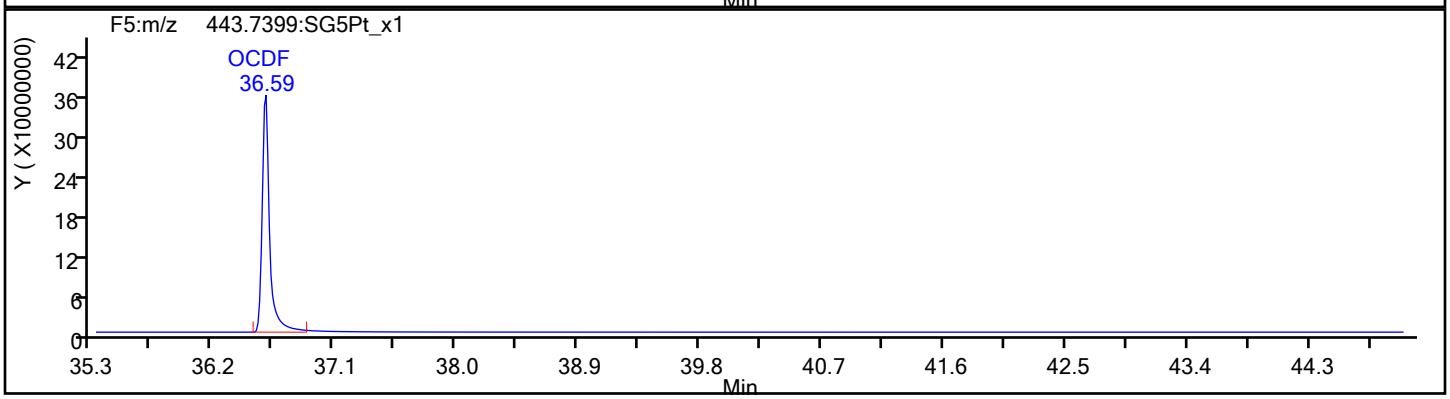

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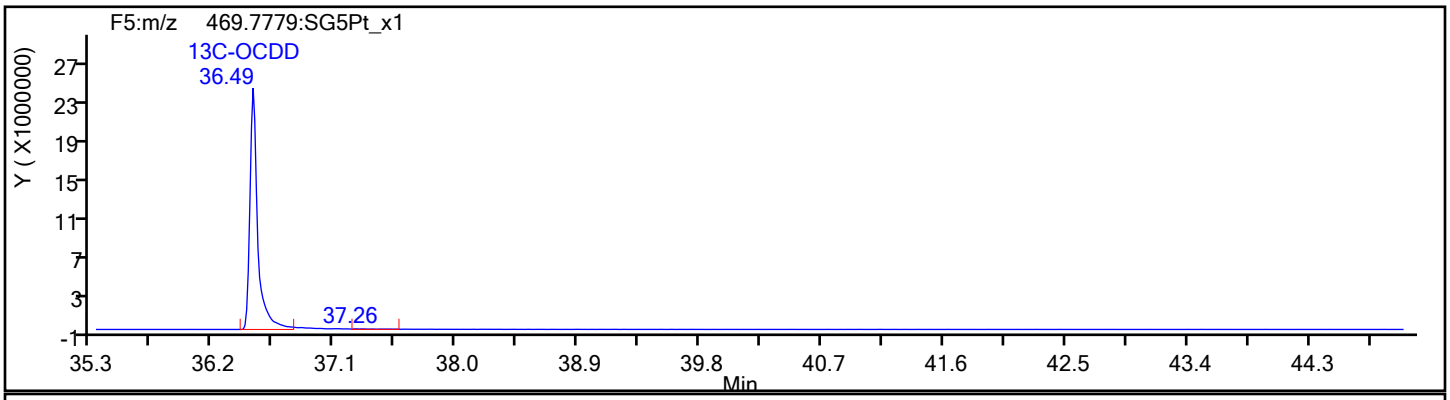

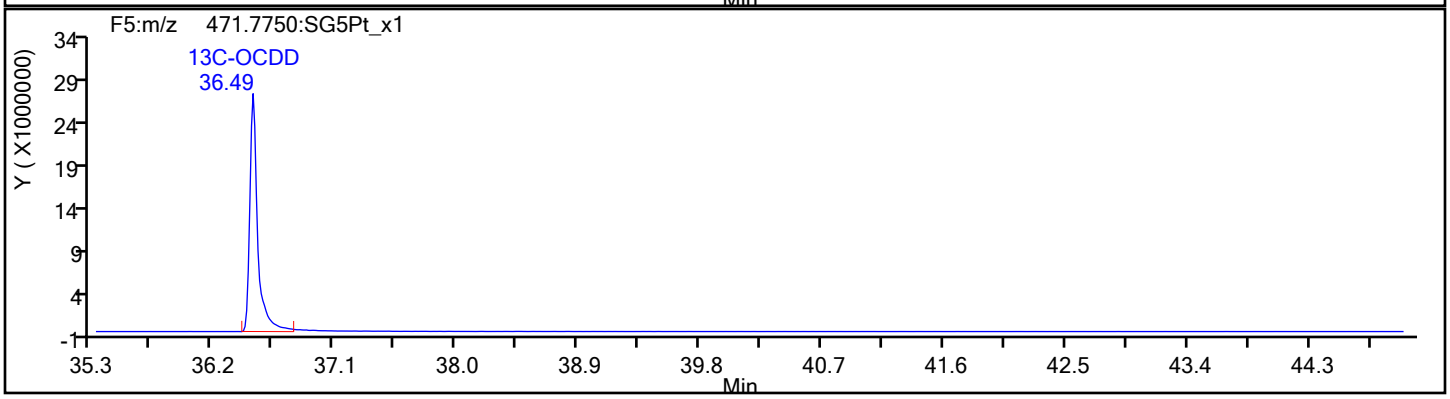

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Eurofins TestAmerica, Sacramento

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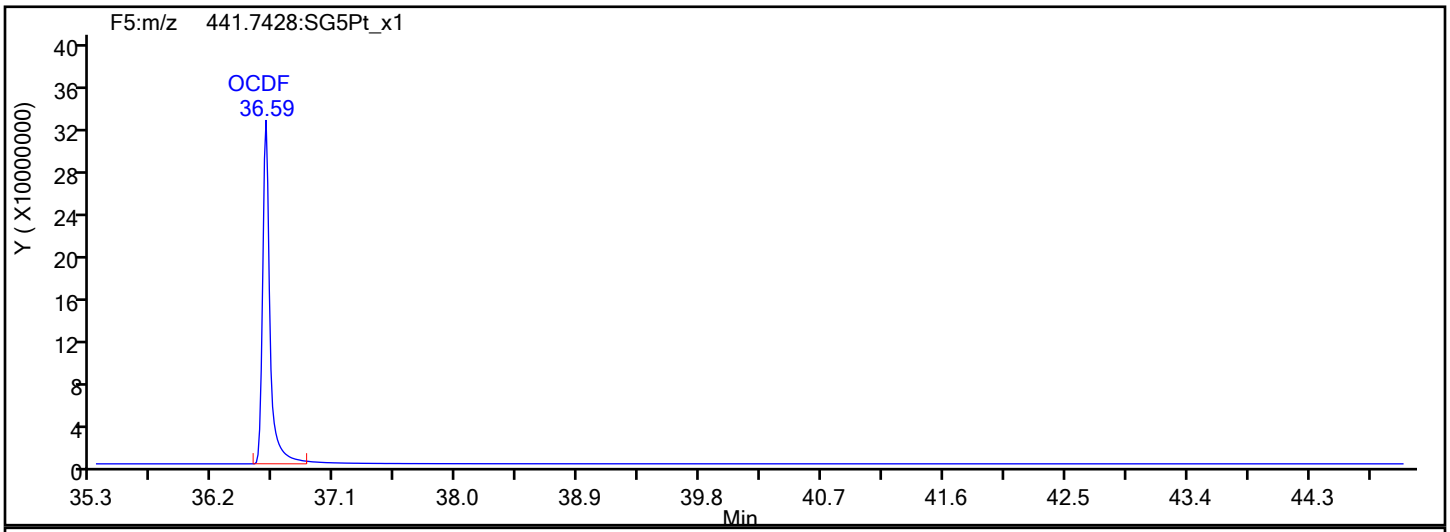

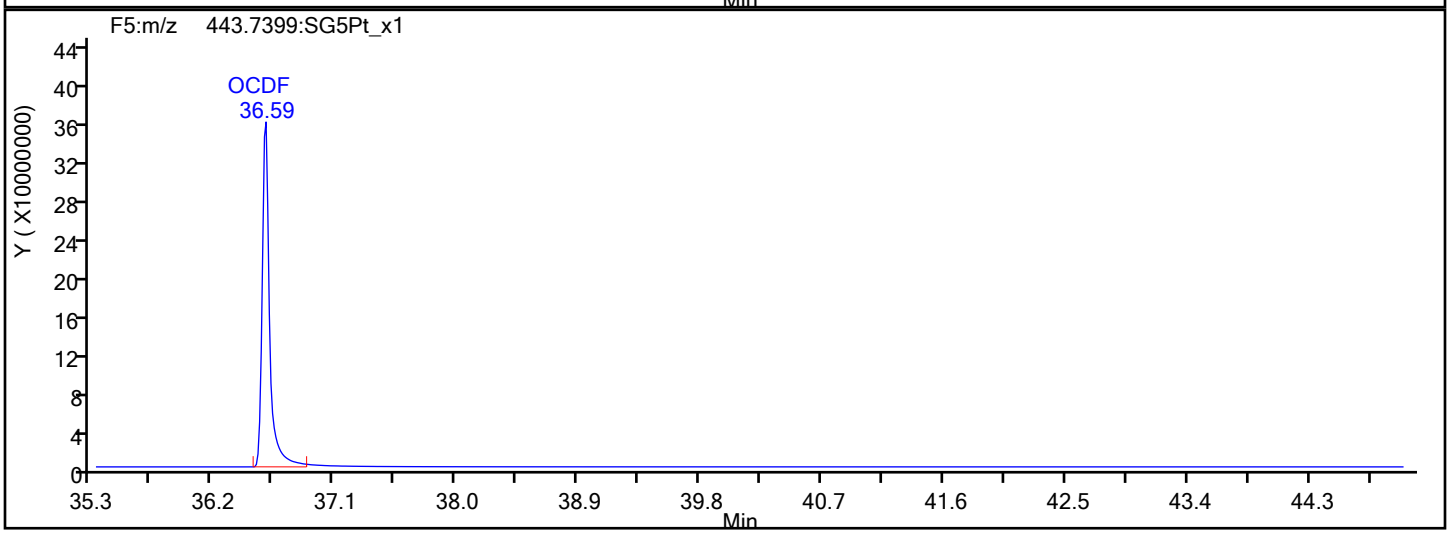

OCDF Interference Mass

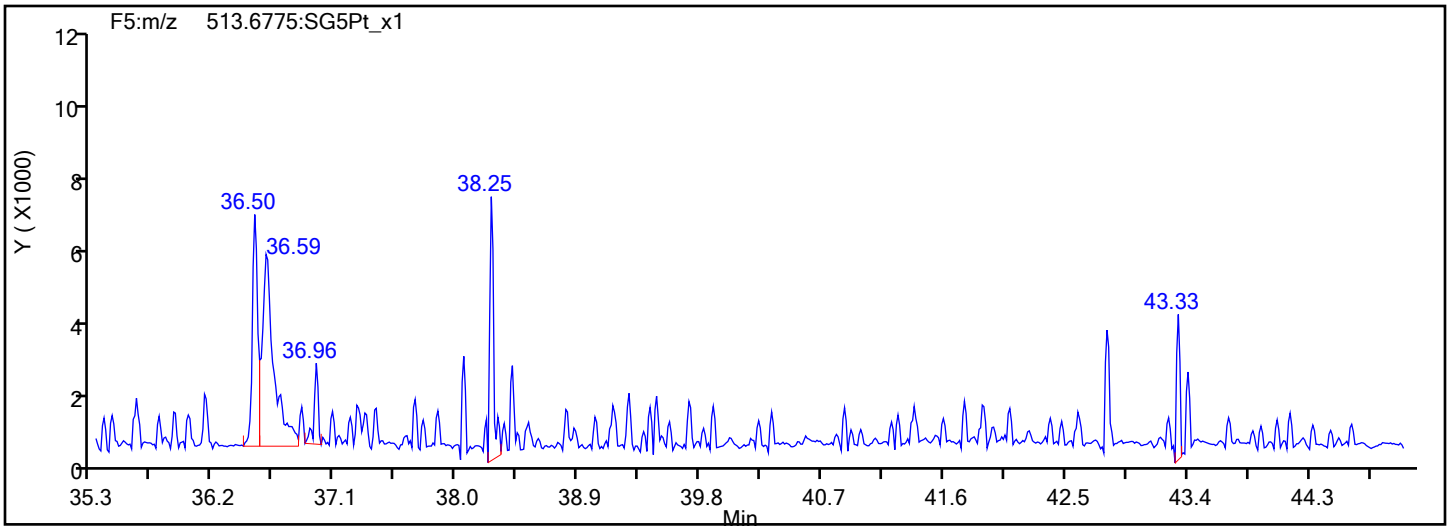

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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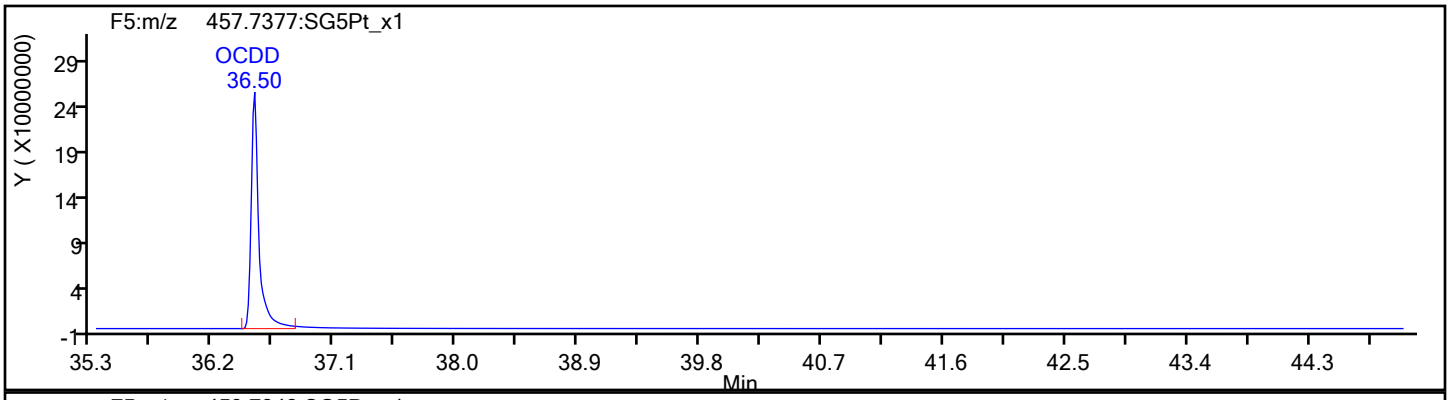

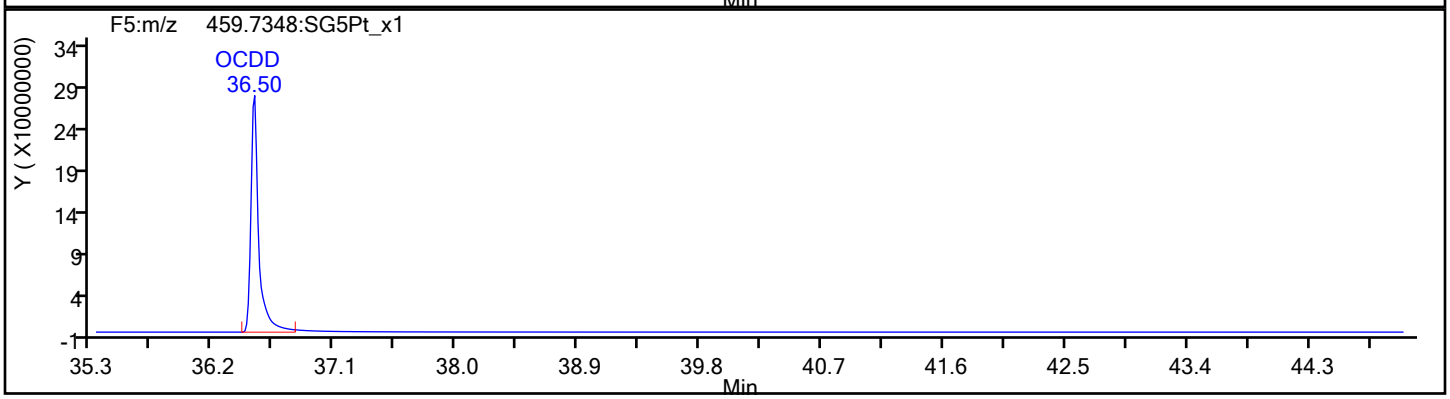

OCDD Standards

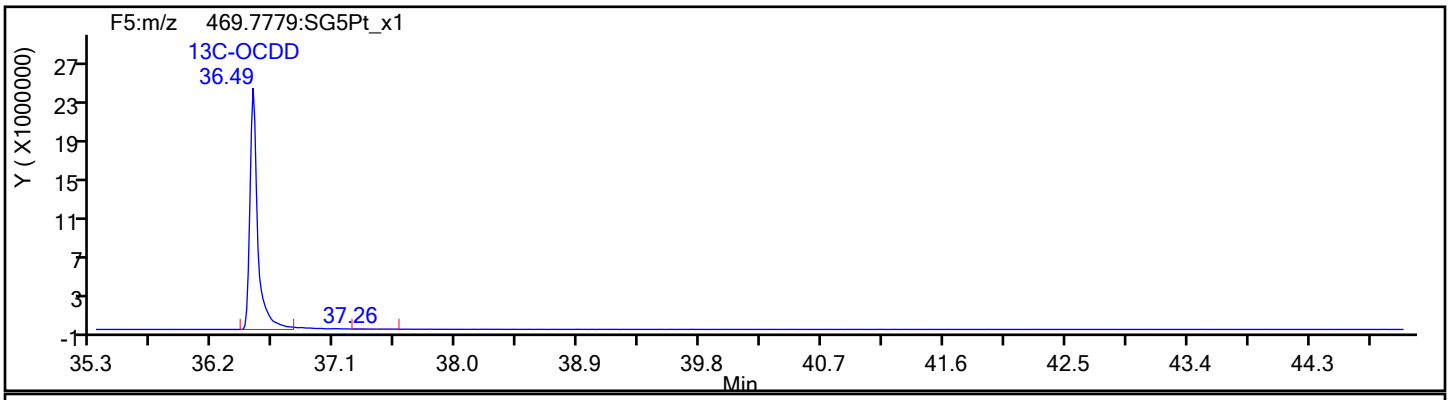

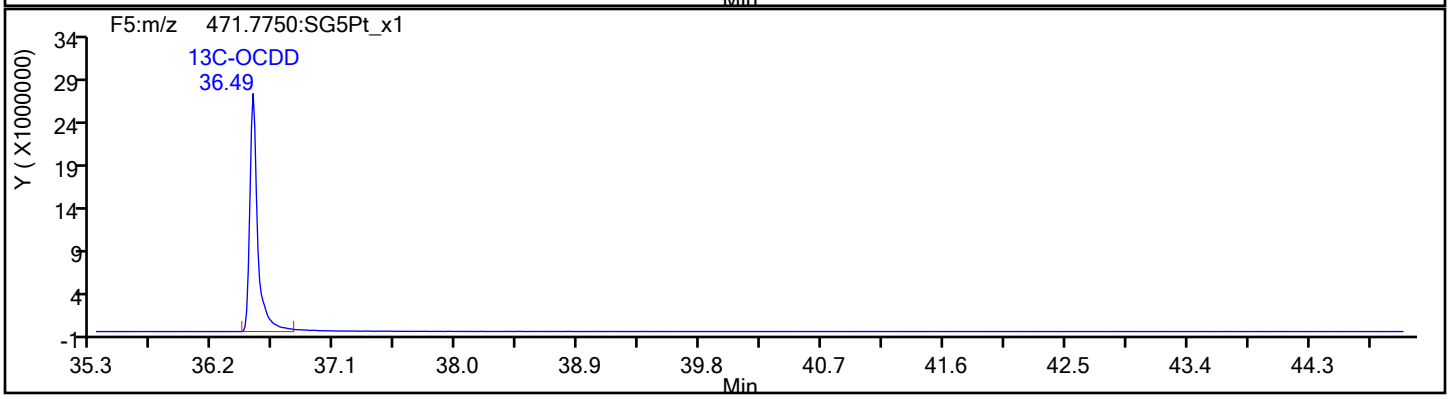

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d		
Injection Date:	17-Sep-2019 16:55:33	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

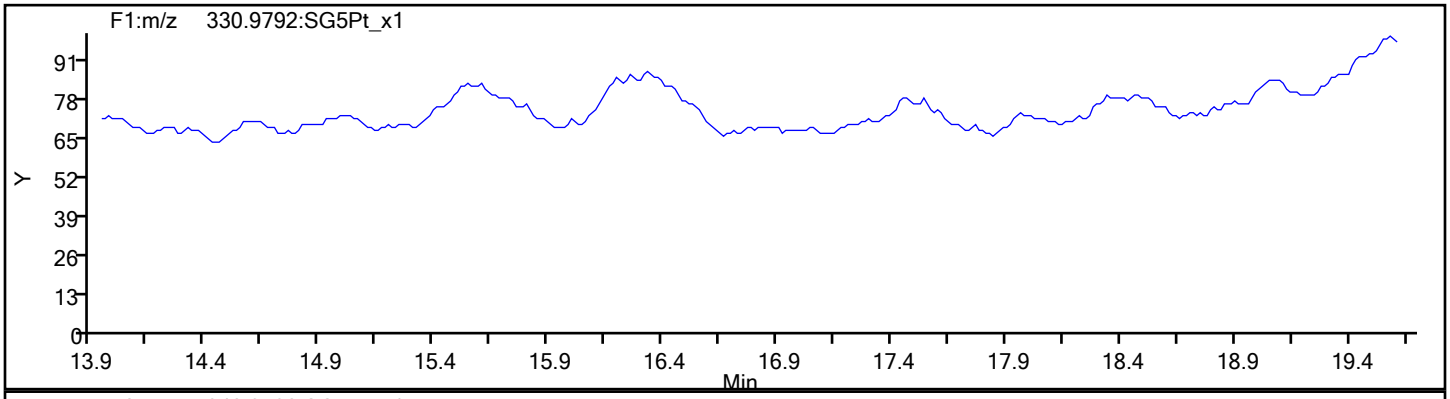

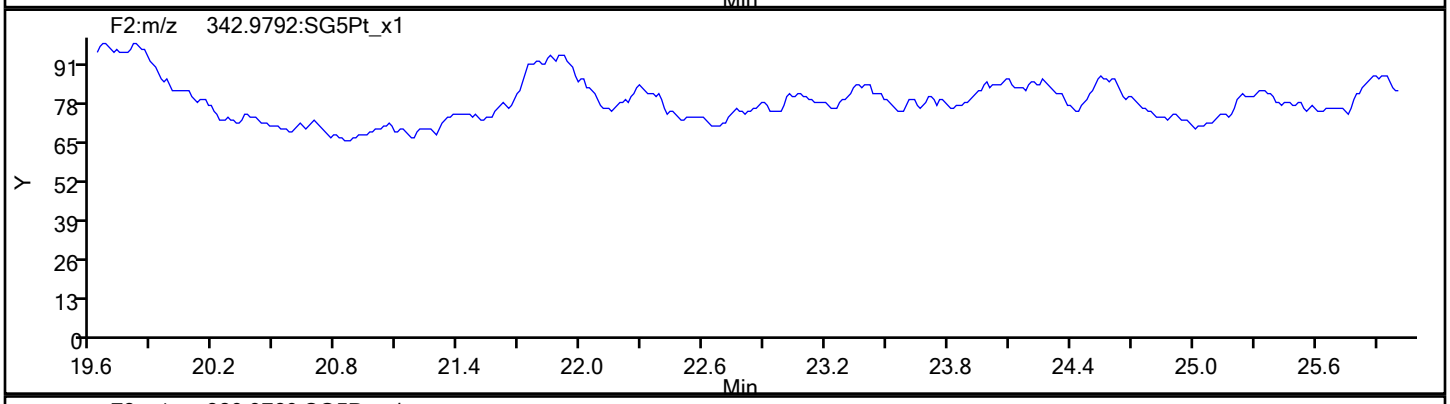

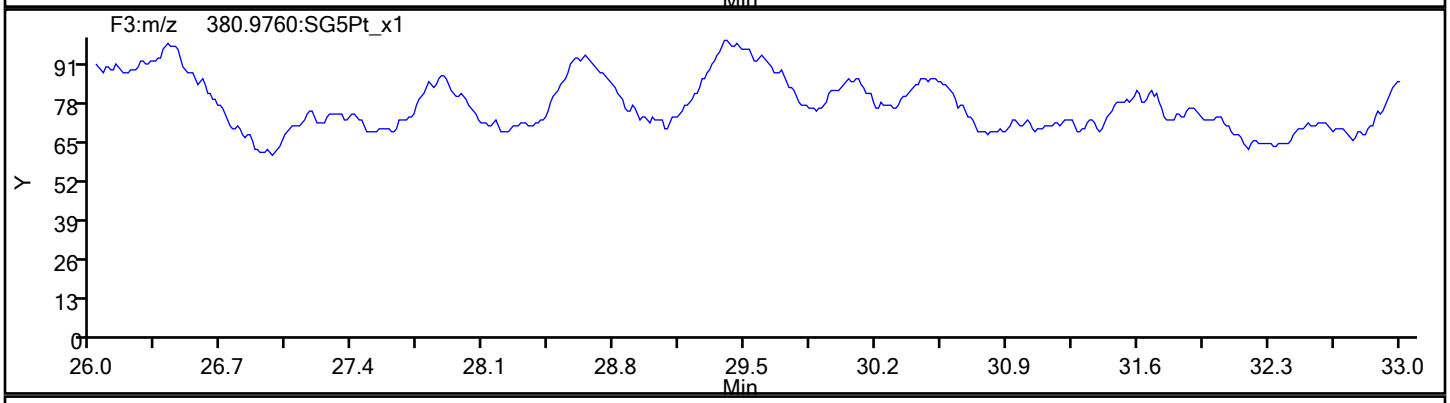

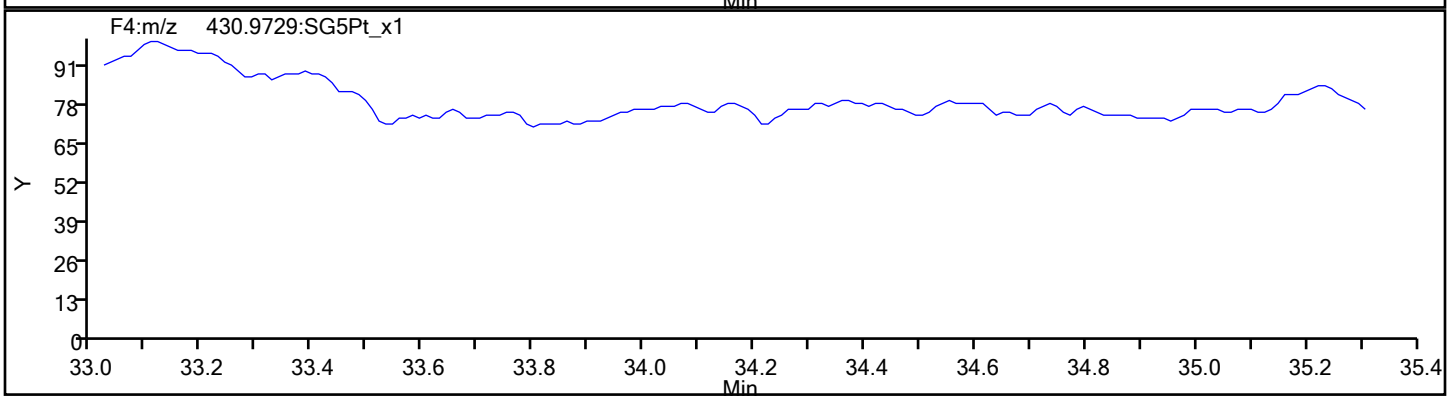

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d		
Injection Date:	17-Sep-2019 16:55:33	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

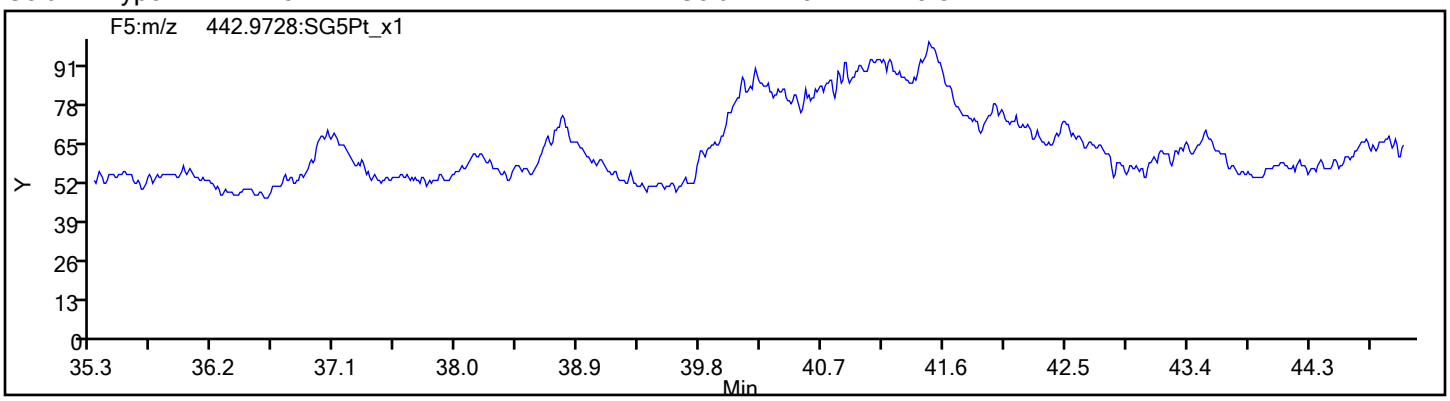

Calibration / 1,2,3,4,6,7,8-HpCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.9316

Error Coefficients

Standard Error:	523000000
Relative Standard Error:	5.9
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.124544	100.0	12148019.0	0.849818	Y
2	IC 320-324128/4	10.0	9.887454	100.0	25630510.0	0.988745	Y
3	IC 320-324128/7	50.0	45.909677	100.0	69249272.0	0.918194	Y
4	IC 320-324128/6	200.0	195.08816	100.0	90130025.0	0.975441	Y
5	IC 320-324128/8	1000.0	925.794044	100.0	111298169.0	0.925794	Y

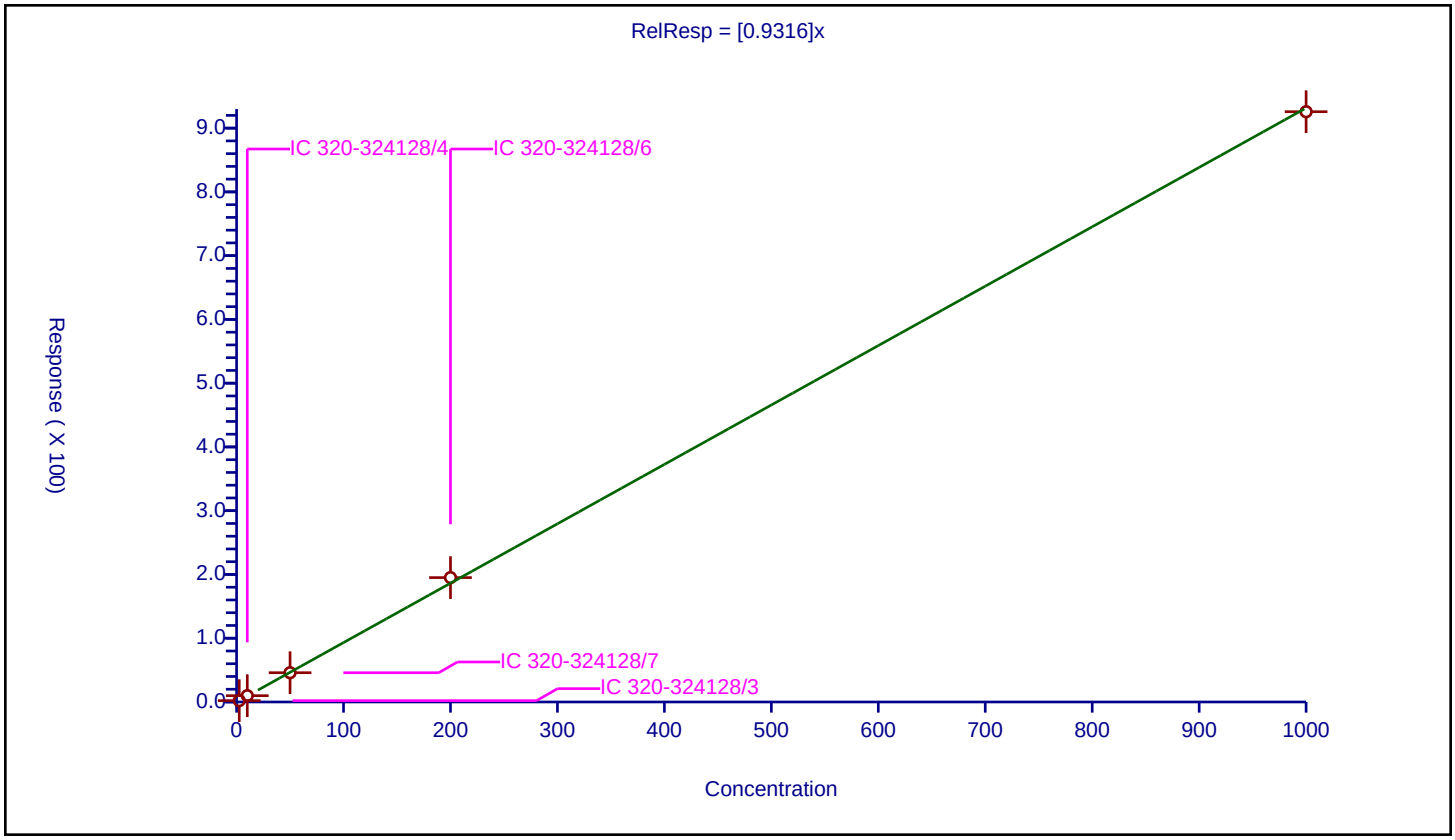

Calibration / 1,2,3,4,6,7,8-HpCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.556

Error Coefficients

Standard Error:	820000000
Relative Standard Error:	3.7
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	3.793804	100.0	12214839.0	1.517521	Y
2	IC 320-324128/4	10.0	16.415452	100.0	25015698.0	1.641545	Y
3	IC 320-324128/7	50.0	76.006177	100.0	70034446.0	1.520124	Y
4	IC 320-324128/6	200.0	317.335133	100.0	88816288.0	1.586676	Y
5	IC 320-324128/8	1000.0	1511.883696	100.0	106743815.0	1.511884	Y

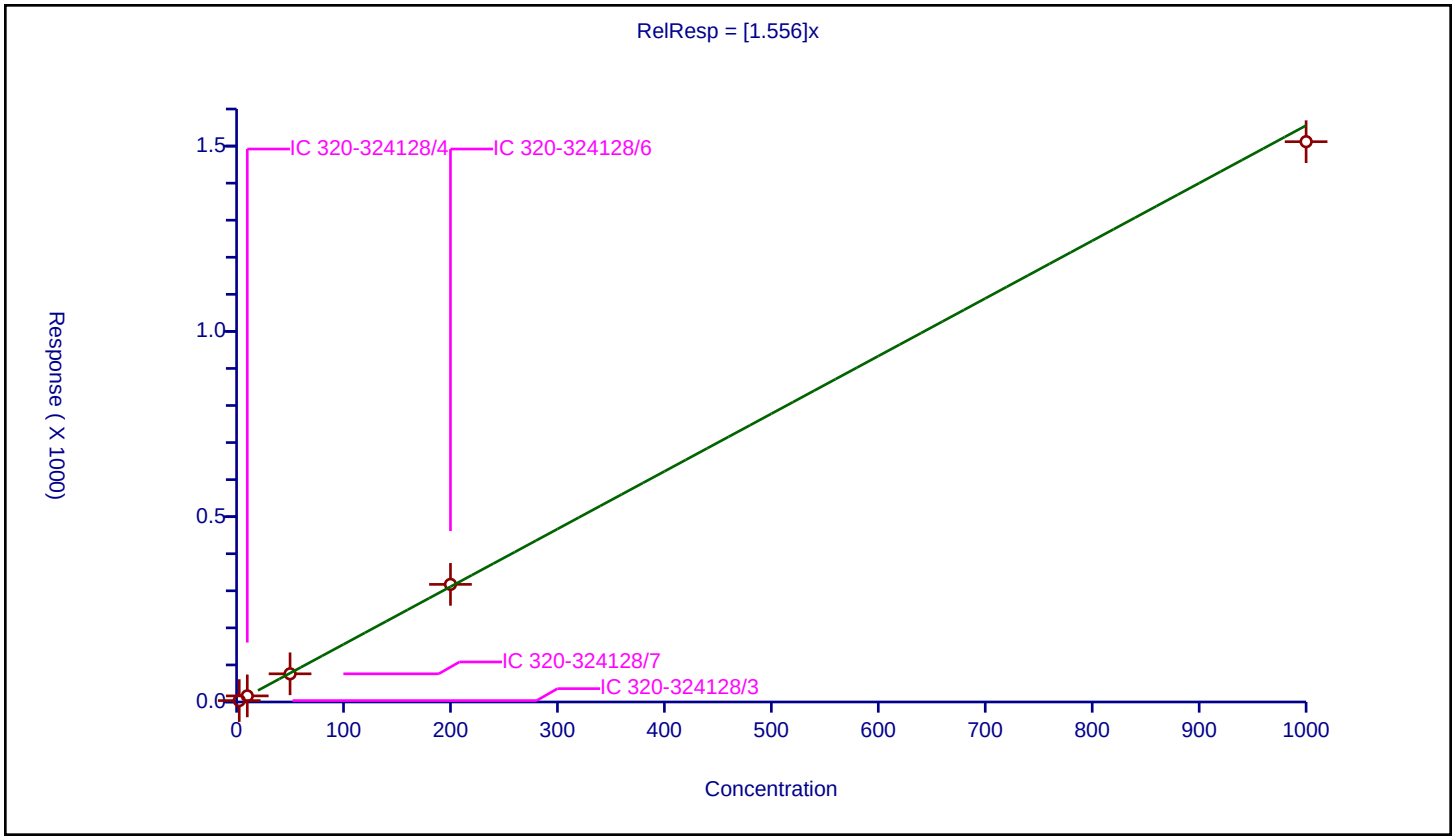

Calibration / 1,2,3,4,7,8,9-HpCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.386

Error Coefficients

Standard Error:	706000000
Relative Standard Error:	6.7
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	3.136969	100.0	11417456.0	1.254787	Y
2	IC 320-324128/4	10.0	14.795935	100.0	23641905.0	1.479594	Y
3	IC 320-324128/7	50.0	67.401124	100.0	62459777.0	1.348022	Y
4	IC 320-324128/6	200.0	294.076652	100.0	81274920.0	1.470383	Y
5	IC 320-324128/8	1000.0	1378.459208	100.0	100973962.0	1.378459	Y

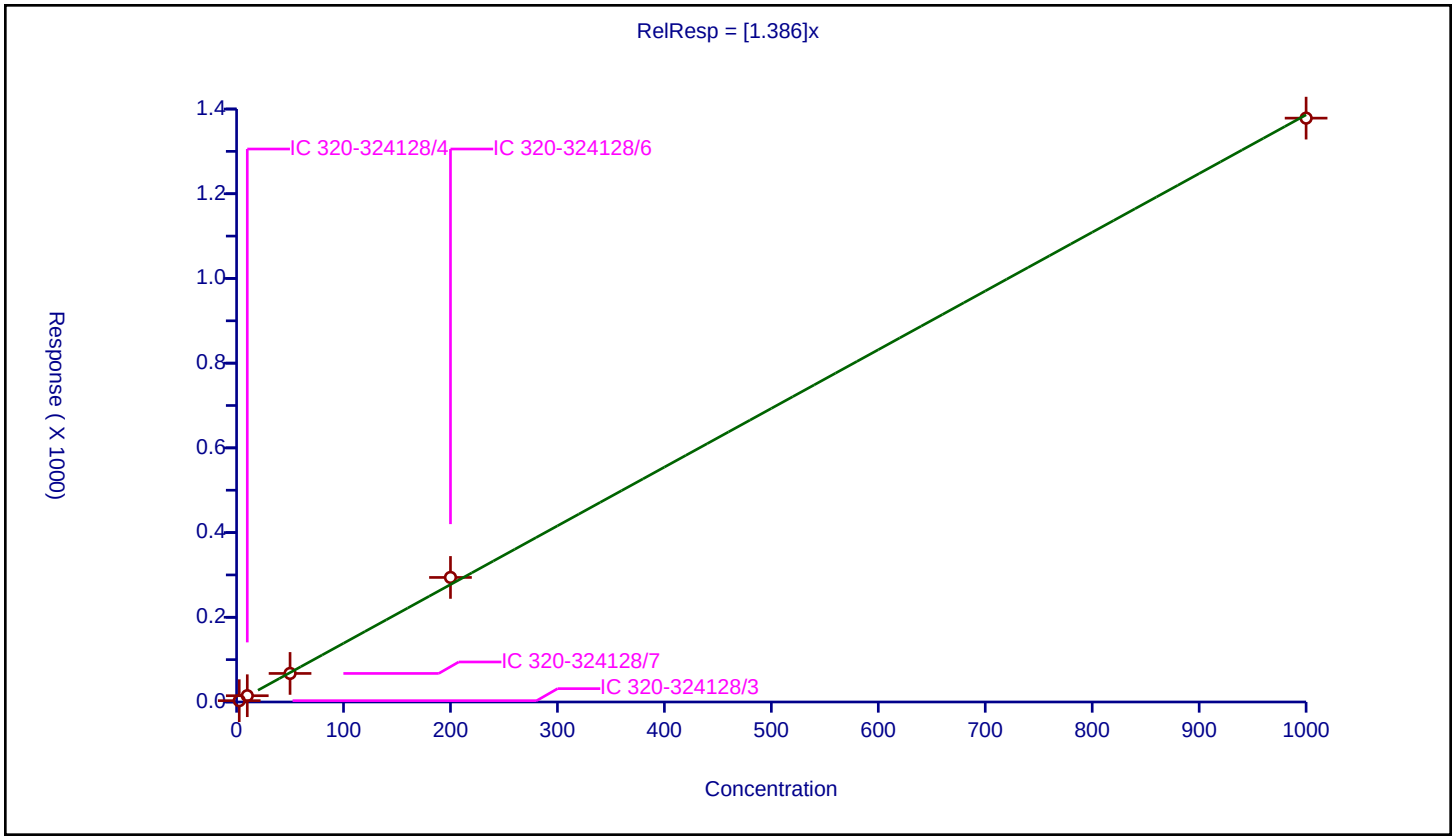

Calibration / 1,2,3,4,7,8-HxCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.109

Error Coefficients

Standard Error:	574000000
Relative Standard Error:	4.0
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.624315	100.0	10572054.0	1.049726	Y
2	IC 320-324128/4	10.0	11.313402	100.0	23739455.0	1.13134	Y
3	IC 320-324128/7	50.0	53.811098	100.0	61001305.0	1.076222	Y
4	IC 320-324128/6	200.0	231.704316	100.0	80372897.0	1.158522	Y
5	IC 320-324128/8	1000.0	1128.178019	100.0	100374877.0	1.128178	Y

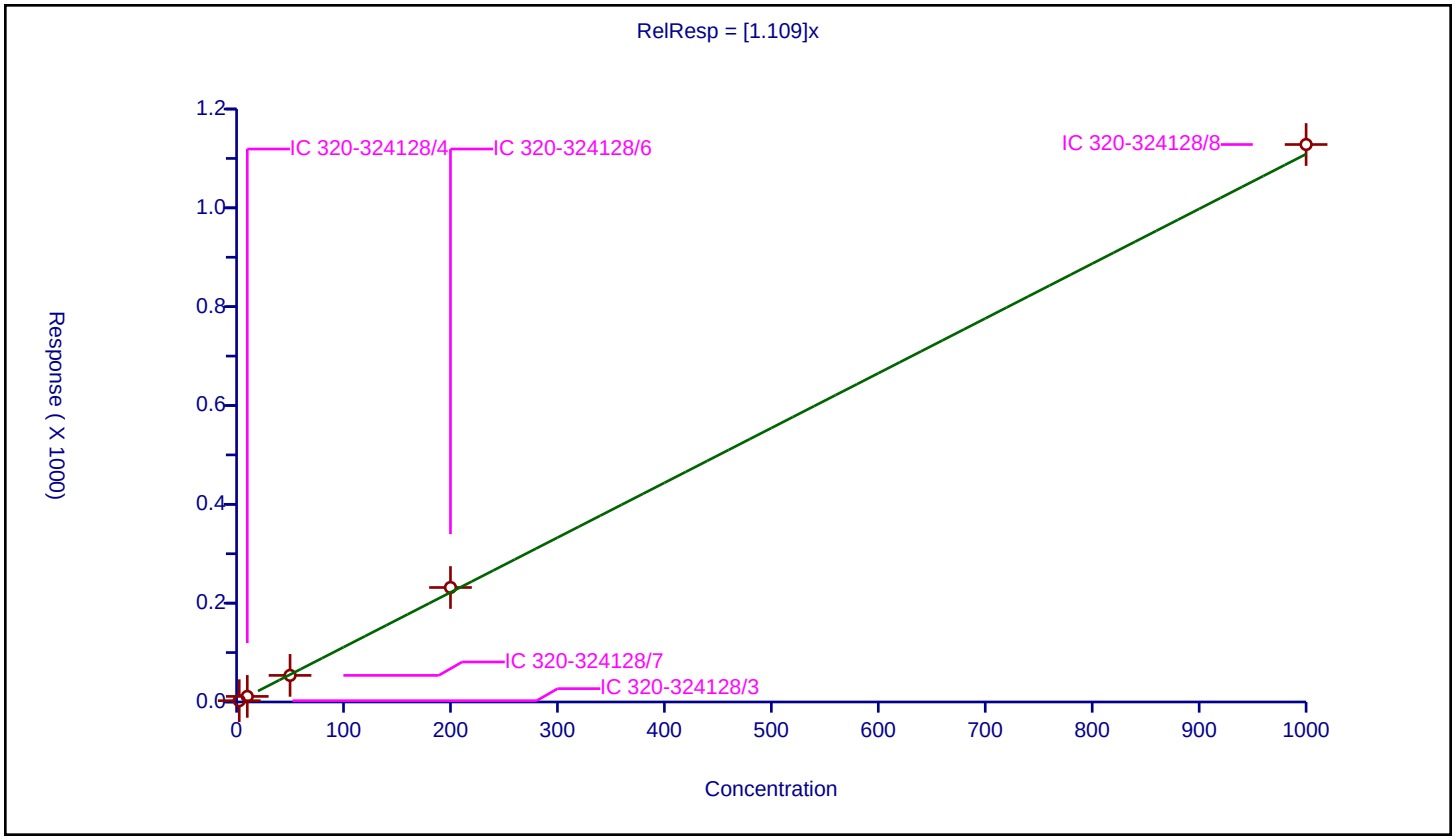

Calibration / 1,2,3,4,7,8-HxCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.197

Error Coefficients

Standard Error:	857000000
Relative Standard Error:	5.9
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.751048	100.0	16433122.0	1.100419	Y
2	IC 320-324128/4	10.0	12.643334	100.0	36418536.0	1.264333	Y
3	IC 320-324128/7	50.0	57.806584	100.0	88972191.0	1.156132	Y
4	IC 320-324128/6	200.0	252.902057	100.0	115322048.0	1.26451	Y
5	IC 320-324128/8	1000.0	1201.28113	100.0	140595624.0	1.201281	Y

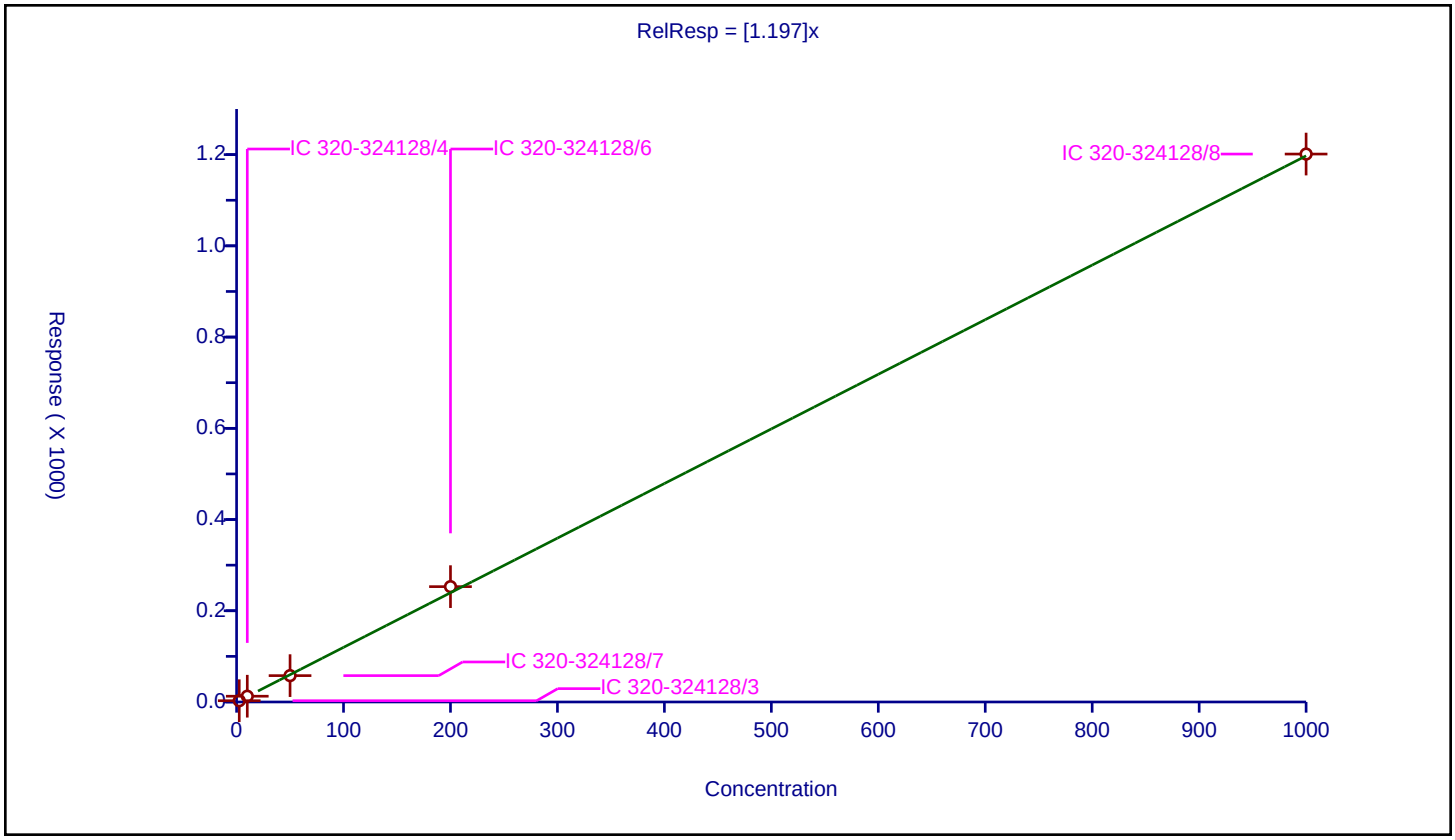

Calibration / 1,2,3,6,7,8-HxCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.081

Error Coefficients

Standard Error:	630000000
Relative Standard Error:	4.9
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.556253	100.0	12508423.0	1.022501	Y
2	IC 320-324128/4	10.0	11.525838	100.0	27633426.0	1.152584	Y
3	IC 320-324128/7	50.0	52.478256	100.0	72157657.0	1.049565	Y
4	IC 320-324128/6	200.0	223.531818	100.0	95002970.0	1.117659	Y
5	IC 320-324128/8	1000.0	1064.760649	100.0	116499868.0	1.064761	Y

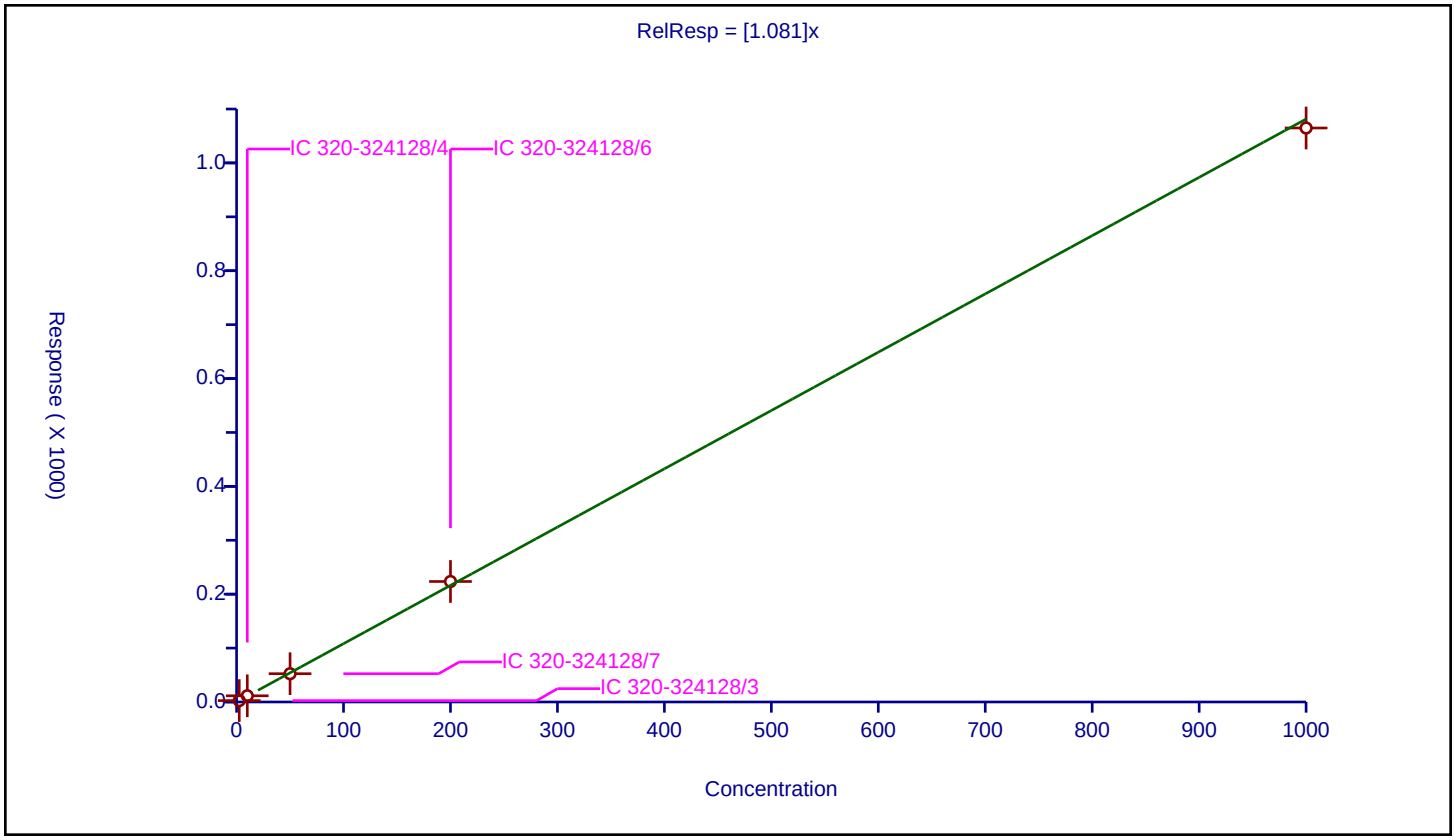

Calibration / 1,2,3,6,7,8-HxCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.181

Error Coefficients

Standard Error:	909000000
Relative Standard Error:	6.6
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.667131	100.0	17668349.0	1.066852	Y
2	IC 320-324128/4	10.0	12.704364	100.0	38486861.0	1.270436	Y
3	IC 320-324128/7	50.0	57.669759	100.0	97064883.0	1.153395	Y
4	IC 320-324128/6	200.0	246.681655	100.0	126224651.0	1.233408	Y
5	IC 320-324128/8	1000.0	1179.211783	100.0	151833452.0	1.179212	Y

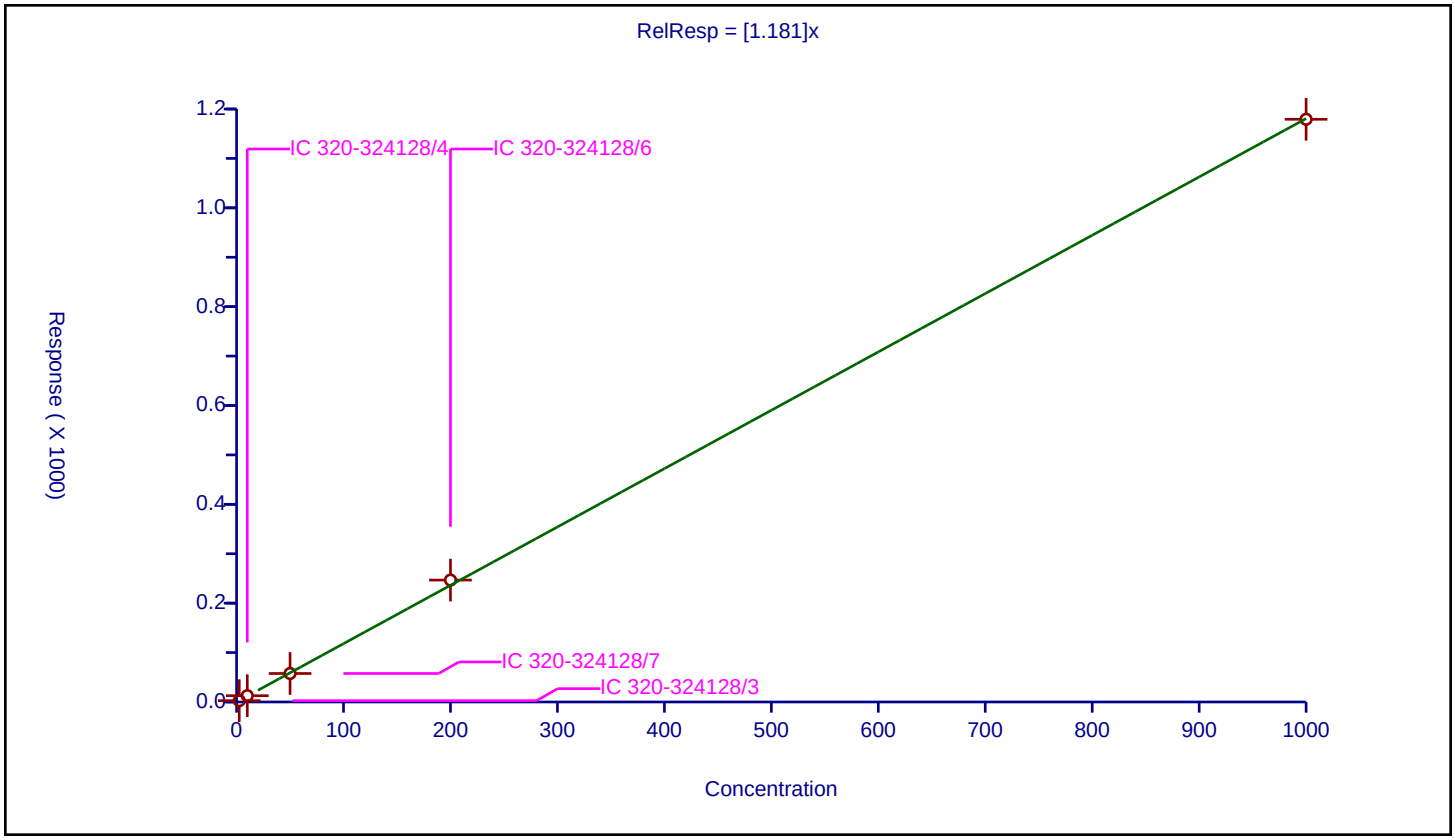

Calibration / 1,2,3,7,8,9-HxCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.318

Error Coefficients

Standard Error:	639000000
Relative Standard Error:	5.4
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	3.149823	100.0	10572054.0	1.259929	Y
2	IC 320-324128/4	10.0	14.21552	100.0	23739455.0	1.421552	Y
3	IC 320-324128/7	50.0	64.86943	100.0	61001305.0	1.297389	Y
4	IC 320-324128/6	200.0	271.297093	100.0	80372897.0	1.356485	Y
5	IC 320-324128/8	1000.0	1254.773605	100.0	100374877.0	1.254774	Y

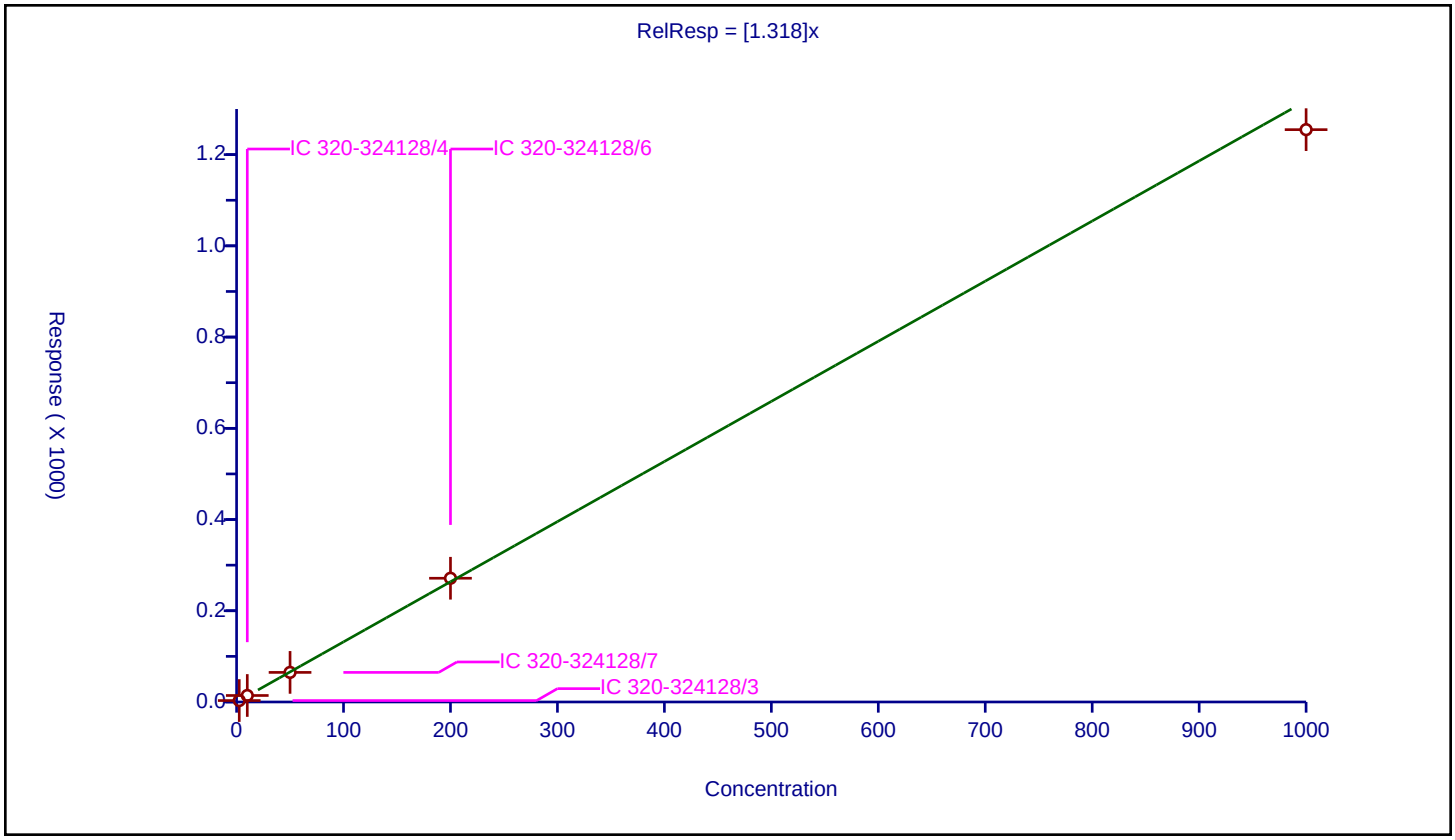

Calibration / 1,2,3,7,8,9-HxCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.245

Error Coefficients

Standard Error:	802000000
Relative Standard Error:	3.0
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	3.063166	100.0	15096147.0	1.225266	Y
2	IC 320-324128/4	10.0	12.975655	100.0	33293009.0	1.297566	Y
3	IC 320-324128/7	50.0	60.502108	100.0	83967924.0	1.210042	Y
4	IC 320-324128/6	200.0	254.314863	100.0	107073331.0	1.271574	Y
5	IC 320-324128/8	1000.0	1221.183573	100.0	129353689.0	1.221184	Y

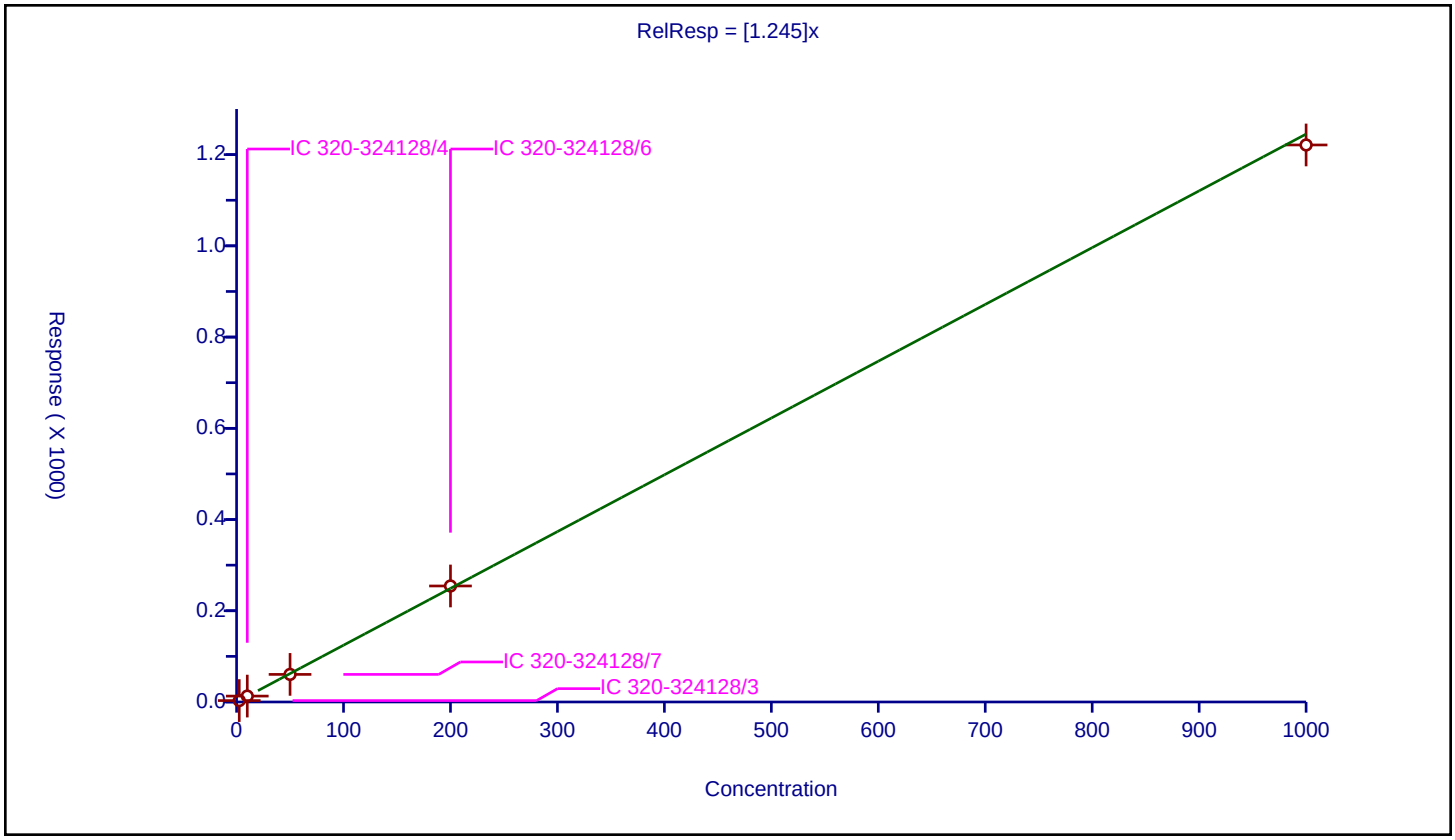

Calibration / 1,2,3,7,8-PeCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.905

Error Coefficients

Standard Error:	590000000
Relative Standard Error:	4.8
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.148594	100.0	15668897.0	0.859438	Y
2	IC 320-324128/4	10.0	9.575806	100.0	33098301.0	0.957581	Y
3	IC 320-324128/7	50.0	43.349327	100.0	84755636.0	0.866987	Y
4	IC 320-324128/6	200.0	188.20818	100.0	108225317.0	0.941041	Y
5	IC 320-324128/8	1000.0	900.148235	100.0	129152474.0	0.900148	Y

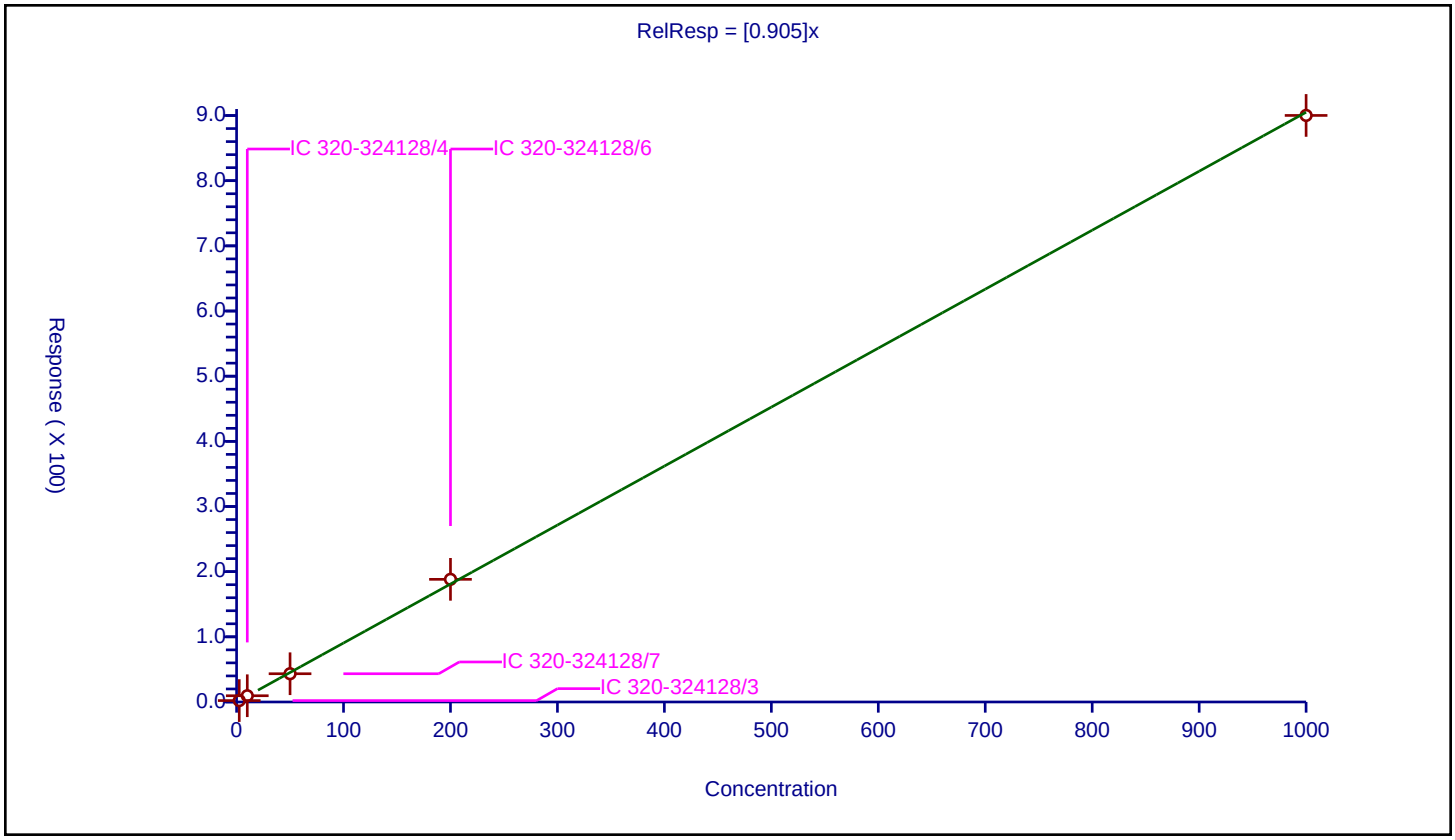

Calibration / 1,2,3,7,8-PeCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.082

Error Coefficients

Standard Error:	938000000
Relative Standard Error:	6.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.502683	100.0	22013977.0	1.001073	Y
2	IC 320-324128/4	10.0	11.601265	100.0	46755351.0	1.160126	Y
3	IC 320-324128/7	50.0	52.158277	100.0	117067384.0	1.043166	Y
4	IC 320-324128/6	200.0	226.621934	100.0	146707284.0	1.13311	Y
5	IC 320-324128/8	1000.0	1073.749438	100.0	171862914.0	1.073749	Y

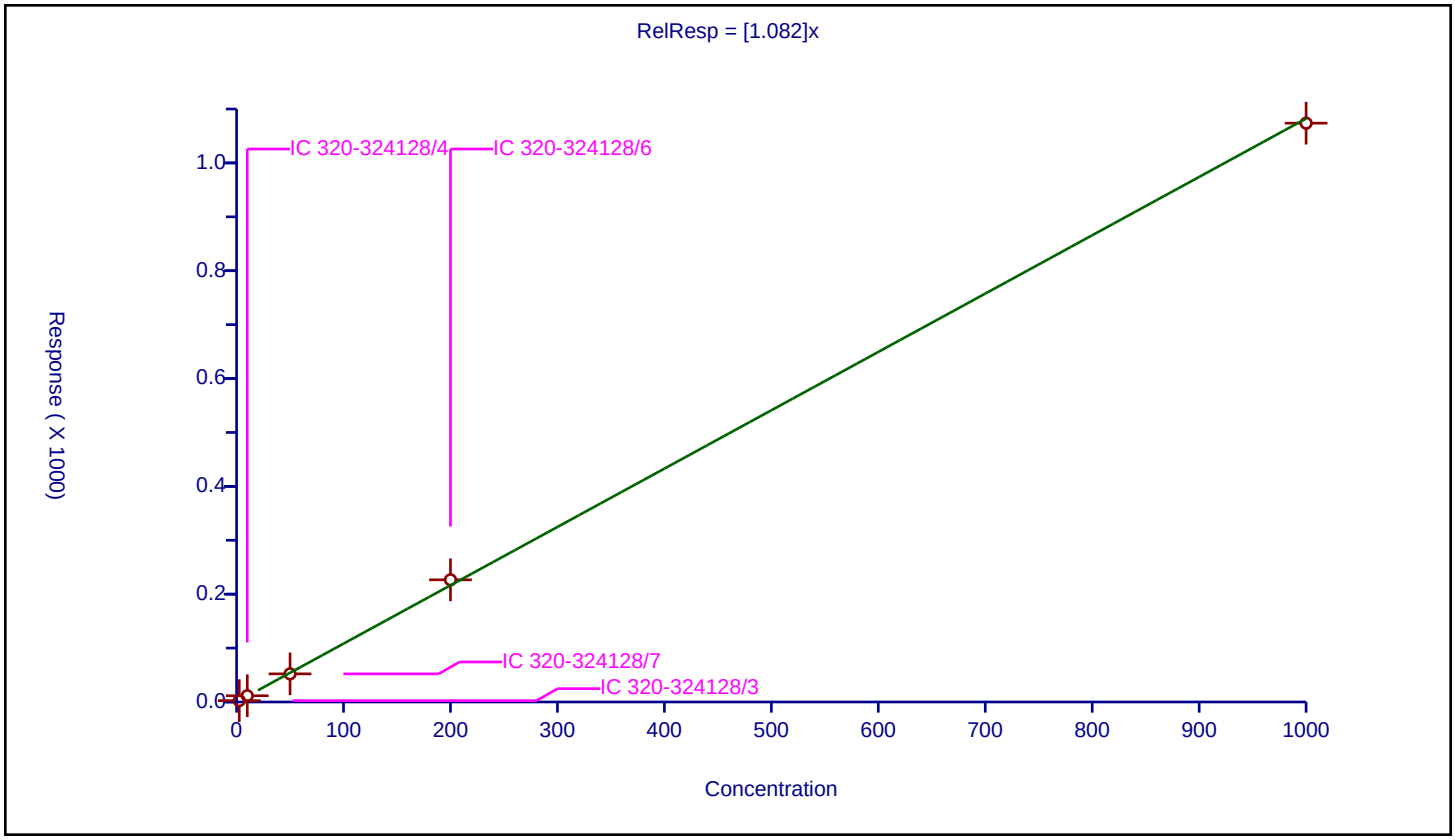

Calibration / 2,3,4,6,7,8-HxCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.212

Error Coefficients

Standard Error:	900000000
Relative Standard Error:	4.7
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.831839	100.0	16591902.0	1.132736	Y
2	IC 320-324128/4	10.0	12.683235	100.0	35886090.0	1.268323	Y
3	IC 320-324128/7	50.0	59.276675	100.0	90467566.0	1.185533	Y
4	IC 320-324128/6	200.0	253.147566	100.0	118677202.0	1.265738	Y
5	IC 320-324128/8	1000.0	1205.597186	100.0	147071003.0	1.205597	Y

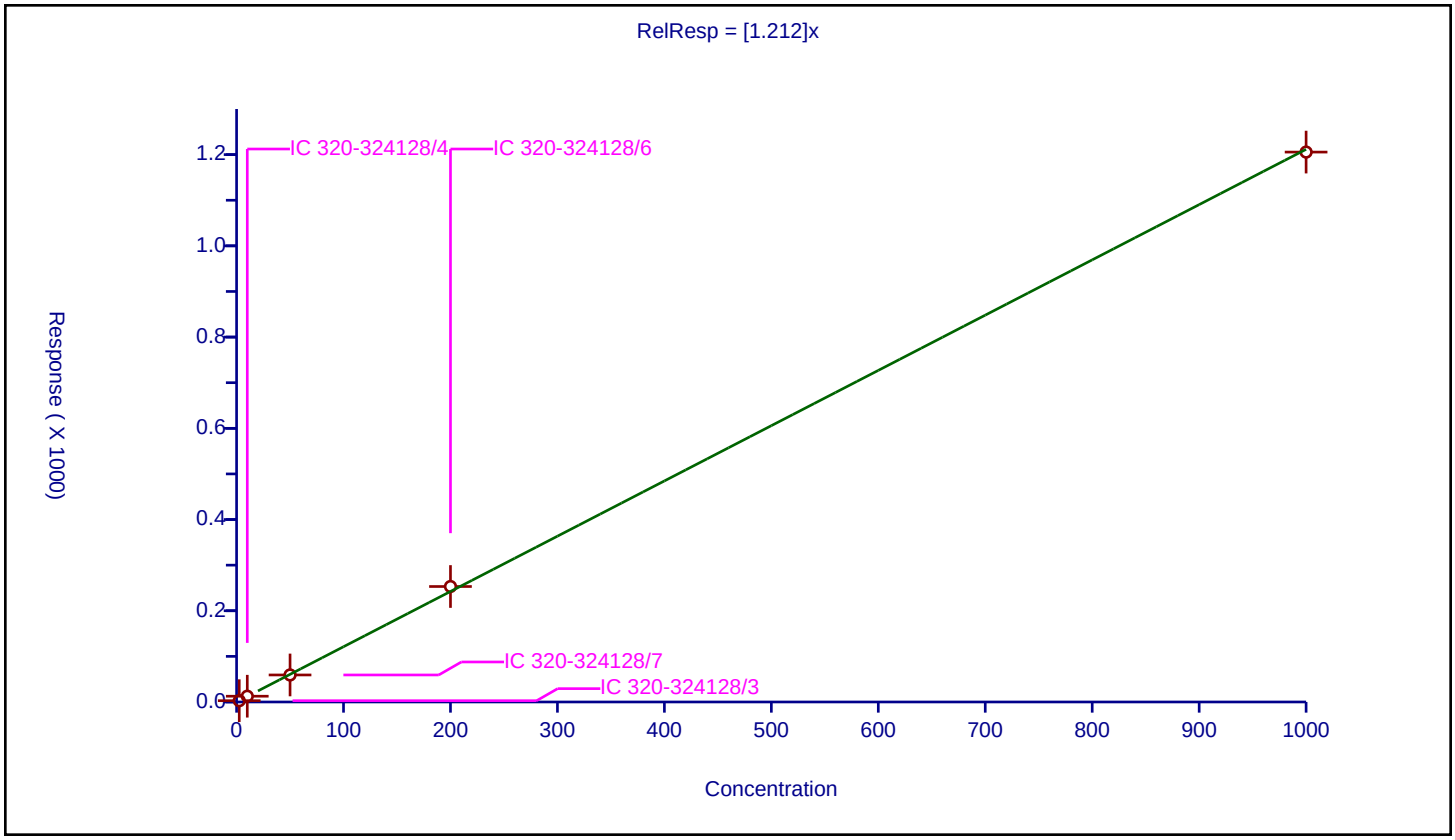

Calibration / 2,3,4,7,8-PeCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.103

Error Coefficients

Standard Error:	942000000
Relative Standard Error:	8.1
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.406506	100.0	20818900.0	0.962602	Y
2	IC 320-324128/4	10.0	11.888412	100.0	45184985.0	1.188841	Y
3	IC 320-324128/7	50.0	54.321476	100.0	108494277.0	1.08643	Y
4	IC 320-324128/6	200.0	234.558175	100.0	140755634.0	1.172791	Y
5	IC 320-324128/8	1000.0	1105.351196	100.0	167797734.0	1.105351	Y

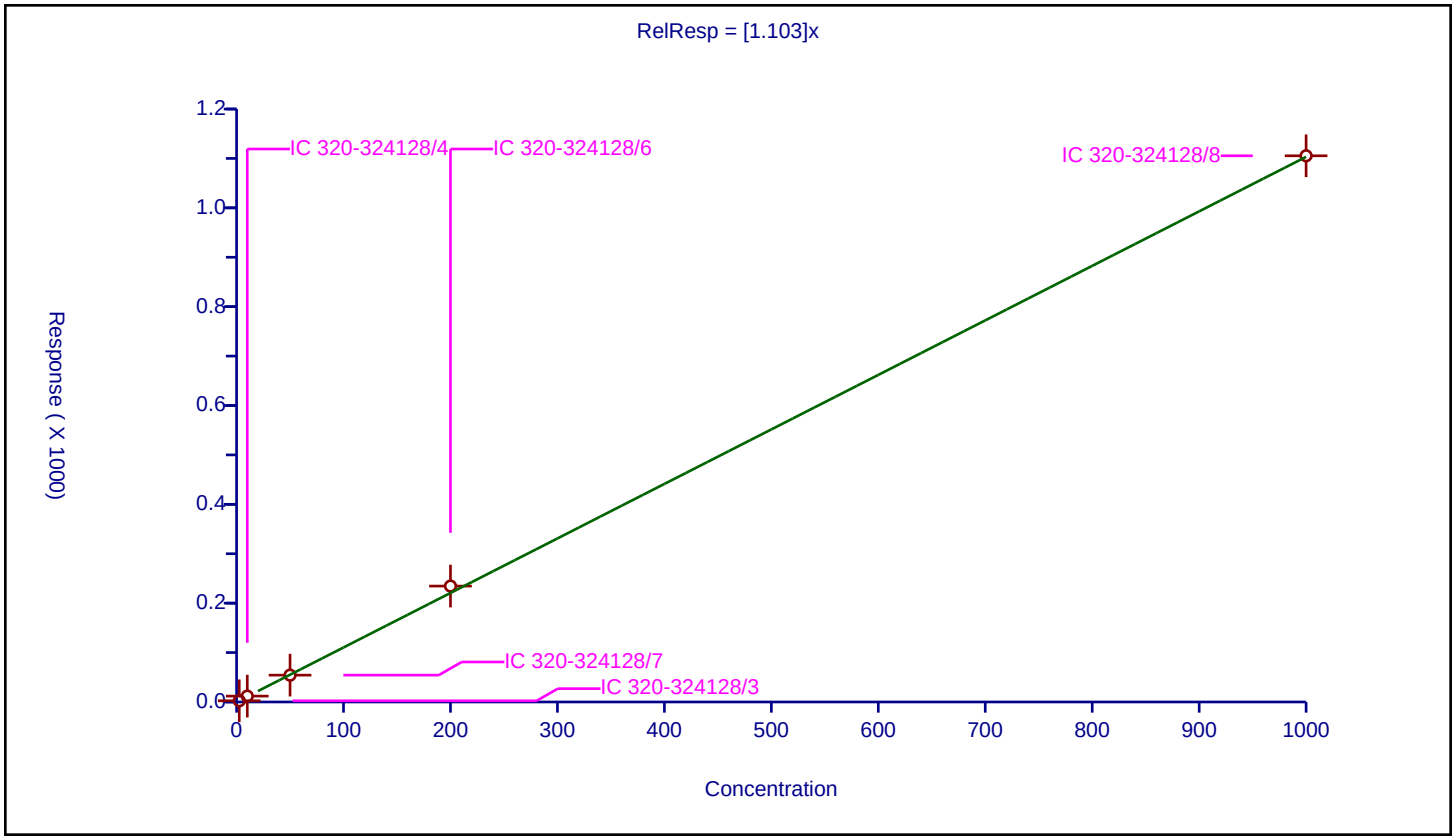

Calibration / 2,3,7,8-TCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.106

Error Coefficients

Standard Error:	167000000
Relative Standard Error:	4.9
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	0.5	0.583856	100.0	21165335.0	1.167711	Y
2	IC 320-324128/4	2.0	2.253252	100.0	45389691.0	1.126626	Y
3	IC 320-324128/7	10.0	10.23923	100.0	110088290.0	1.023923	Y
4	IC 320-324128/6	40.0	45.044682	100.0	131023361.0	1.126117	Y
5	IC 320-324128/8	200.0	217.531474	100.0	150666513.0	1.087657	Y

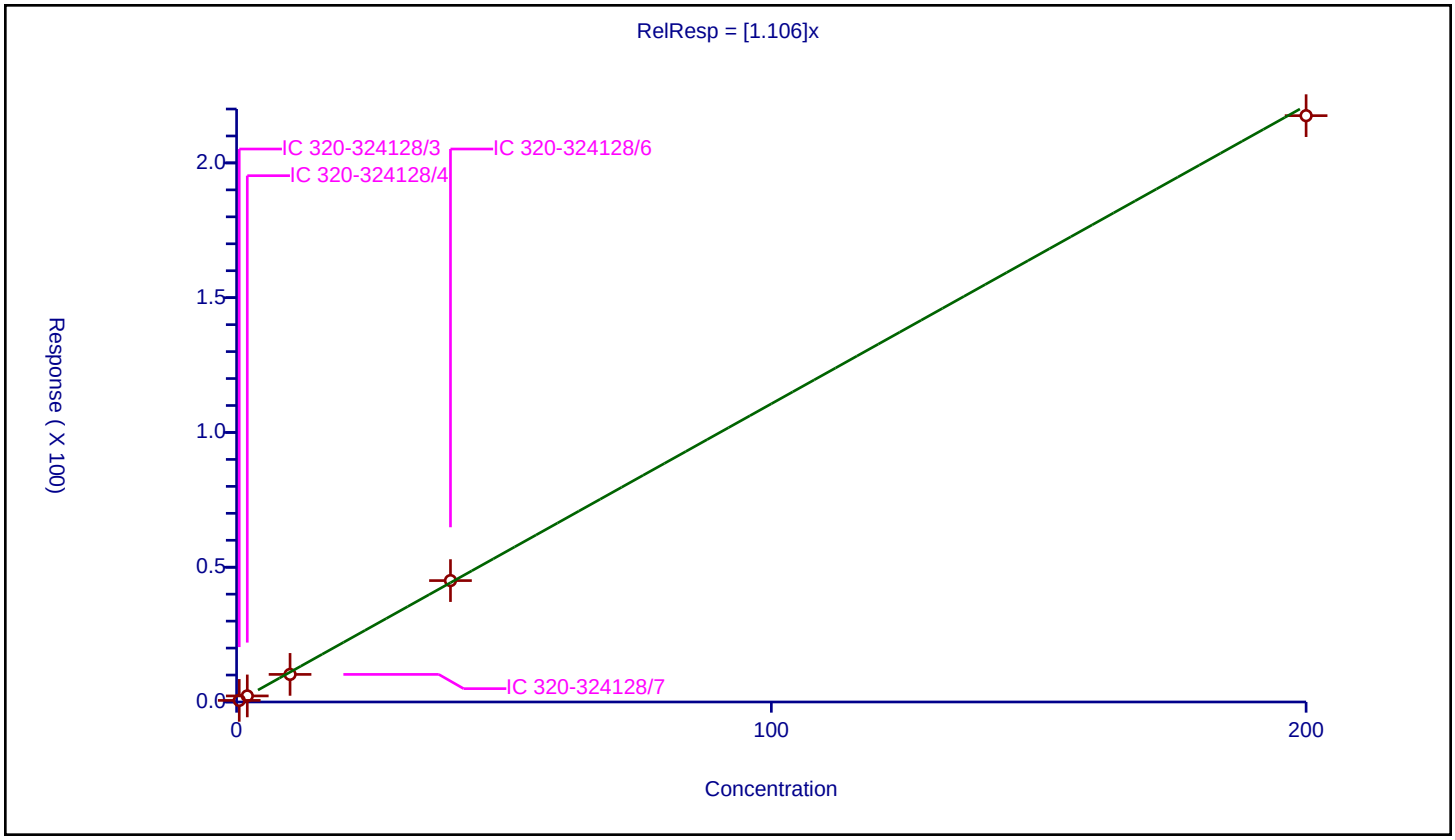

Calibration / 2,3,7,8-TCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.051

Error Coefficients

Standard Error:	235000000
Relative Standard Error:	4.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	0.5	0.535593	100.0	32121801.0	1.071185	Y
2	IC 320-324128/4	2.0	2.204382	100.0	69364385.0	1.102191	Y
3	IC 320-324128/7	10.0	9.929077	100.0	164292495.0	0.992908	Y
4	IC 320-324128/6	40.0	42.465661	100.0	197671153.0	1.061642	Y
5	IC 320-324128/8	200.0	205.145738	100.0	225533576.0	1.025729	Y

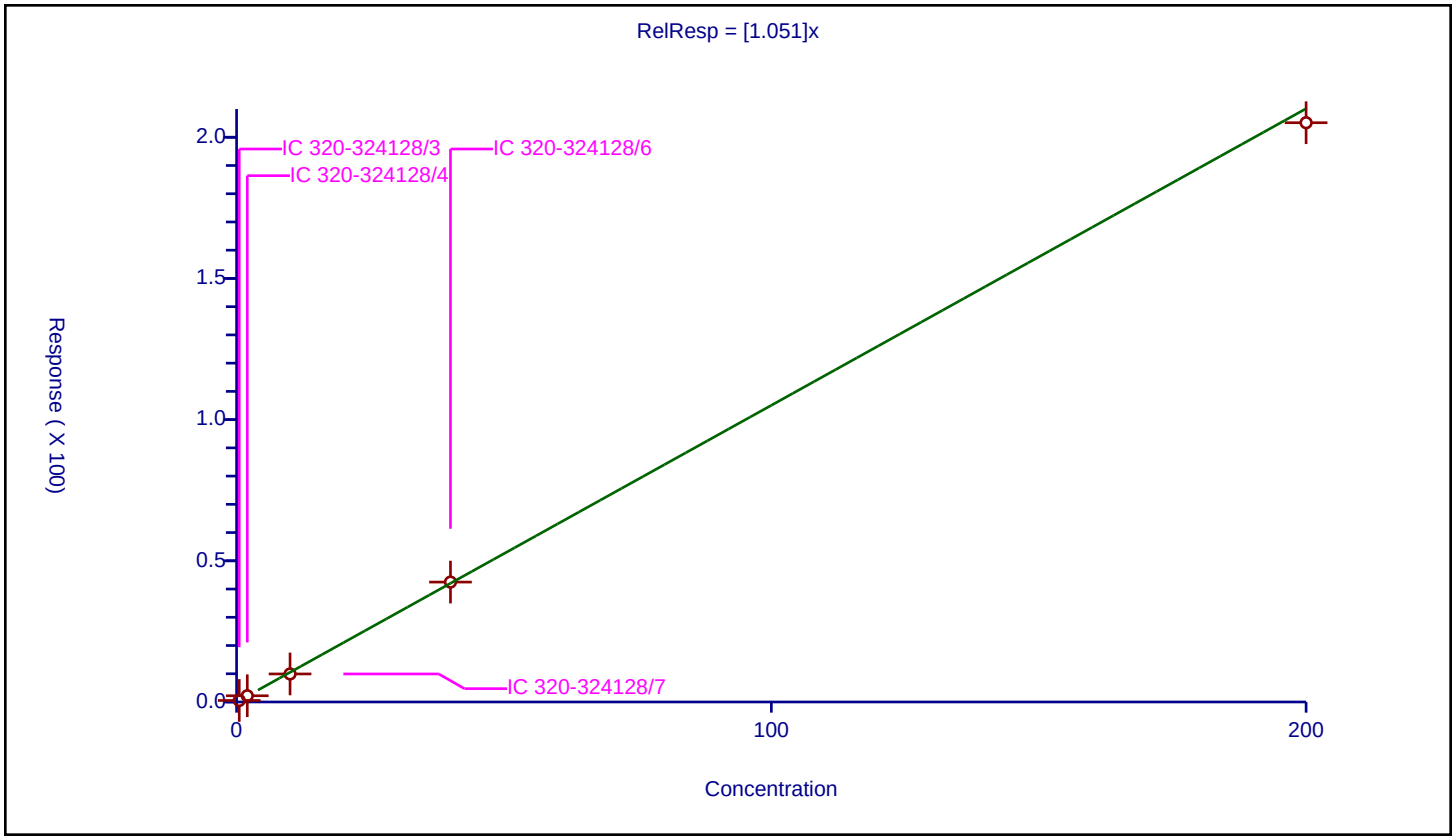

Calibration / 37Cl4-2,3,7,8-TCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.222

Error Coefficients

Standard Error:	205000000
Relative Standard Error:	5.7
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	0.5	0.559577	100.0	21989821.0	1.119154	Y
2	IC 320-324128/4	2.0	2.425047	100.0	48020971.0	1.212523	Y
3	IC 320-324128/7	8.0	9.665731	100.0	116862140.0	1.208216	Y
4	IC 320-324128/6	40.0	51.600573	100.0	136791650.0	1.290014	Y
5	IC 320-324128/8	200.0	256.418271	100.0	157084773.0	1.282091	Y

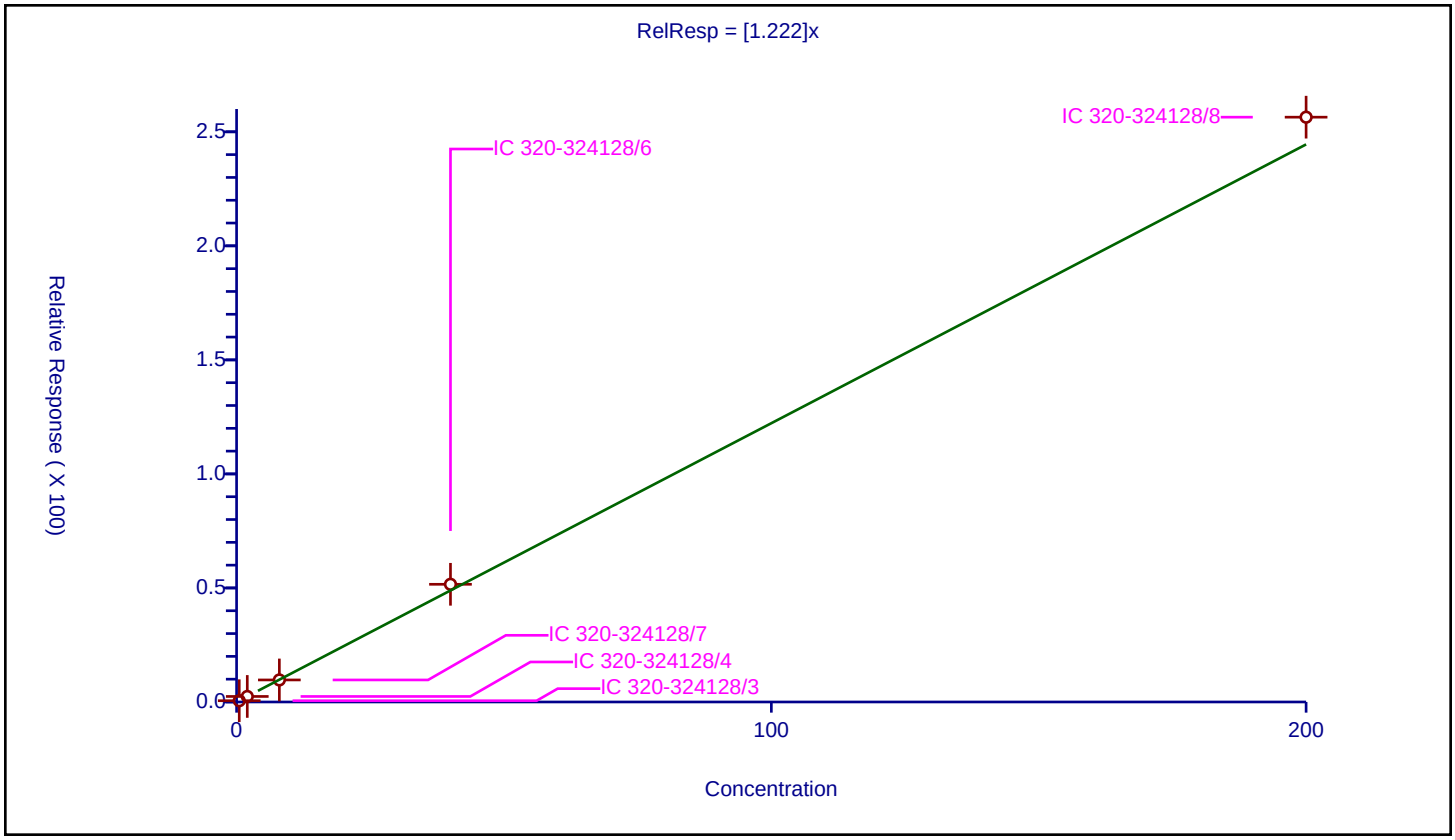

Calibration / OCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.062

Error Coefficients

Standard Error:	1080000000
Relative Standard Error:	6.6
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	5.0	4.995683	200.0	22323676.0	0.999137	Y
2	IC 320-324128/4	20.0	23.429889	200.0	43388861.0	1.171494	Y
3	IC 320-324128/7	100.0	101.887088	200.0	117978202.0	1.018871	Y
4	IC 320-324128/6	400.0	436.552854	200.0	158997965.0	1.091382	Y
5	IC 320-324128/8	2000.0	2058.960862	200.0	206464776.0	1.02948	Y

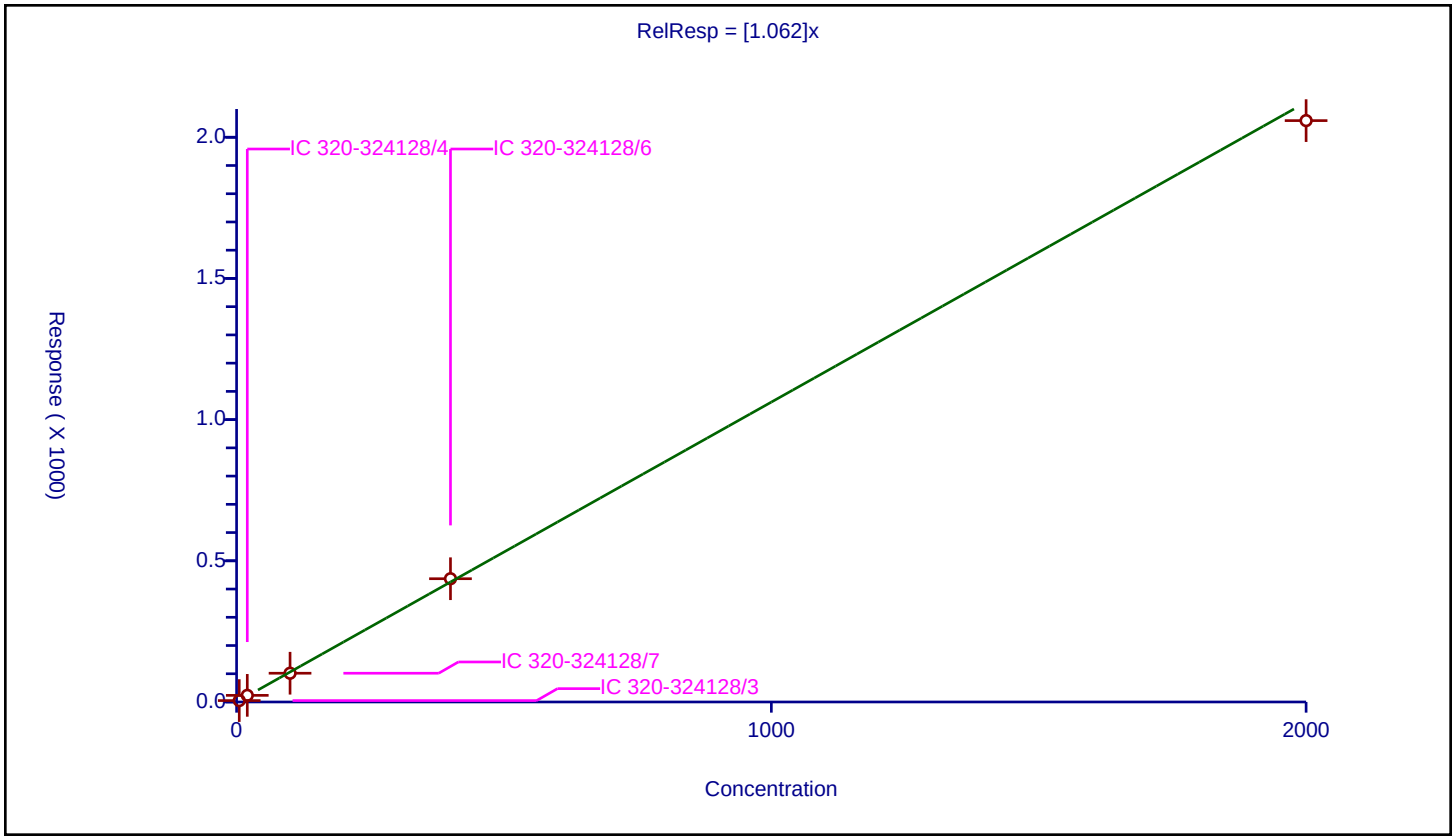

Calibration / OCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.26

Error Coefficients

Standard Error:	1330000000
Relative Standard Error:	6.0
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	5.0	5.709875	200.0	22323676.0	1.141975	Y
2	IC 320-324128/4	20.0	26.627996	200.0	43388861.0	1.3314	Y
3	IC 320-324128/7	100.0	123.985768	200.0	117978202.0	1.239858	Y
4	IC 320-324128/6	400.0	526.877314	200.0	158997965.0	1.317193	Y
5	IC 320-324128/8	2000.0	2535.017728	200.0	206464776.0	1.267509	Y

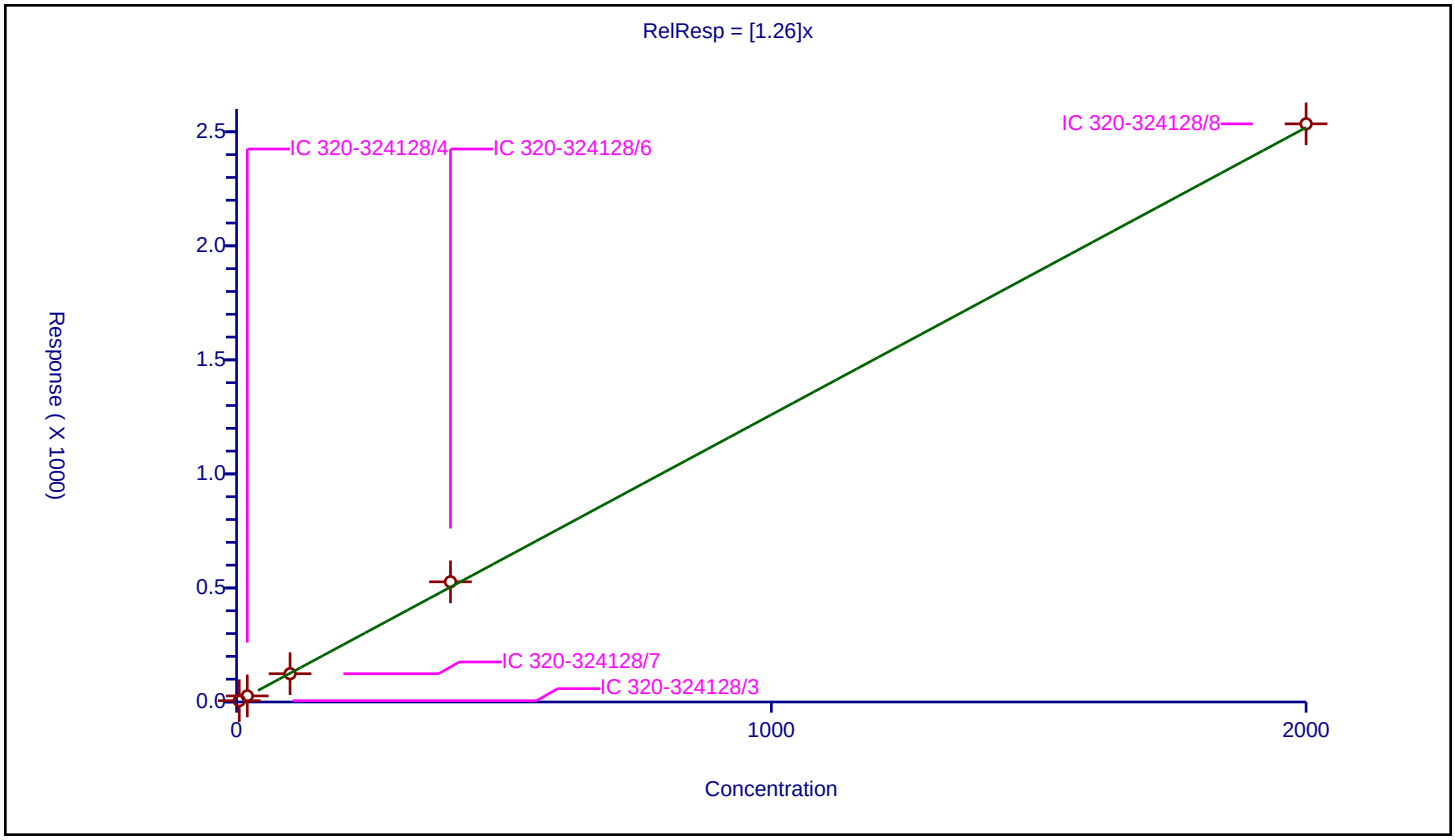

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1 Analy Batch No.: 296020

SDG No.:

Instrument ID: 3D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/21/2019 13:31 Calibration End Date: 05/21/2019 16:41 Calibration ID: 45441

Calibration Files:

LEVEL:	LAB SAMPLE ID:	EPA SAMPLE NO:	LAB FILE ID:
Level 1	IC 320-296020/3	L2	21MY193D5_3.d
Level 2	IC 320-296020/4	L3	21MY193D5_4.d
Level 3	IC 320-296020/5	L4	21MY193D5_5.d
Level 4	IC 320-296020/6	L5	21MY193D5_6.d
Level 5	IC 320-296020/7	L6	21MY193D5_7.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
2,3,7,8-TCDF	0.9235	1.0277	0.9254	0.9642	1.0145	AveID		0.9710				5.0		20.0			
2,3,7,8-TCDD	0.9868	1.0854	0.9844	1.0576	1.1094	AveID		1.0447				5.5		20.0			
1,2,3,7,8-PeCDF	0.9212	1.0165	0.9310	0.9500	0.9980	AveID		0.9633				4.4		20.0			
2,3,4,7,8-PeCDF	0.9013	0.9595	0.9315	0.9479	1.0073	AveID		0.9495				4.1		20.0			
1,2,3,7,8-PeCDD	1.0348	1.1118	1.0315	1.0467	1.0926	AveID		1.0635				3.4		20.0			
1,2,3,4,7,8-HxCDF	1.2235	1.2530	1.1683	1.1699	1.2720	AveID		1.2173				3.9		20.0			
1,2,3,6,7,8-HxCDF	1.1546	1.1775	1.0909	1.0893	1.1435	AveID		1.1311				3.5		20.0			
2,3,4,6,7,8-HxCDF	1.1529	1.2452	1.1372	1.1343	1.1854	AveID		1.1710				3.9		20.0			
1,2,3,4,7,8-HxCDD	1.0623	1.0361	0.9949	1.0012	1.0389	AveID		1.0267				2.7		20.0			
1,2,3,6,7,8-HxCDD	0.9427	1.0364	0.9432	0.9546	1.0086	AveID		0.9771				4.4		20.0			
1,2,3,7,8,9-HxCDD	1.0287	1.1350	1.0333	1.0230	1.0879	AveID		1.0616				4.6		20.0			
1,2,3,7,8,9-HxCDF	1.1727	1.2389	1.1185	1.1557	1.2075	AveID		1.1787				3.9		20.0			
1,2,3,4,6,7,8-HpCDF	1.4662	1.5189	1.3796	1.3864	1.4354	AveID		1.4373				4.0		20.0			
1,2,3,4,6,7,8-HpCDD	0.9834	1.0670	0.9676	0.9919	1.0410	AveID		1.0102				4.2		20.0			
1,2,3,4,7,8,9-HpCDF	1.3247	1.3173	1.2830	1.2914	1.3291	AveID		1.3091				1.6		20.0			
OCDD	1.0637	1.1266	1.0057	1.0394	1.0781	AveID		1.0627				4.2		20.0			
OCDF	1.2978	1.4332	1.2848	1.3407	1.3941	AveID		1.3501				4.7		20.0			
13C-2,3,7,8-TCDF	1.3836	1.3338	1.3849	1.4223	1.4295	Ave		1.3908				2.7		35.0			
13C-2,3,7,8-TCDD	0.9573	0.9495	0.9844	0.9897	1.0284	Ave		0.9819				3.2		35.0			
13C-1,2,3,7,8-PeCDF	1.1429	1.1045	1.1235	1.1955	1.2260	Ave		1.1585				4.4		35.0			
13C-2,3,4,7,8-PeCDF	1.1386	1.1650	1.0868	1.1757	1.1996	Ave		1.1532				3.7		35.0			
13C-1,2,3,7,8-PeCDD	0.7434	0.7190	0.7050	0.7662	0.7820	Ave		0.7431				4.3		35.0			
13C-1,2,3,4,7,8-HxCDF	0.9384	0.9755	0.9735	1.0280	1.0031	Ave		0.9837				3.4		35.0			
13C-1,2,3,6,7,8-HxCDF	1.1307	1.1096	1.1600	1.1851	1.1916	Ave		1.1554				3.0		35.0			
13C-2,3,4,6,7,8-HxCDF	1.0239	0.9881	1.0230	1.0763	1.0691	Ave		1.0361				3.5		35.0			
13C-1,2,3,4,7,8-HxCDD	0.8114	0.8376	0.7976	0.8574	0.8396	Ave		0.8287				2.9		35.0			
13C-1,2,3,6,7,8-HxCDD	0.9660	0.9004	0.9453	0.9731	0.9625	Ave		0.9495				3.1		35.0			
13C-1,2,3,7,8,9-HxCDF	0.8833	0.8510	0.9177	0.9172	0.9480	Ave		0.9034				4.1		35.0			
13C-1,2,3,4,6,7,8-HpCDF	0.7187	0.6940	0.7219	0.7512	0.7566	Ave		0.7285				3.5		35.0			
13C-1,2,3,4,6,7,8-HpCDD	0.6890	0.6687	0.6928	0.7169	0.7218	Ave		0.6978				3.1		35.0			
13C-1,2,3,4,7,8,9-HpCDF	0.6326	0.6528	0.6328	0.6636	0.6964	Ave		0.6556				4.0		35.0			
13C-OCDD	0.4760	0.4434	0.4715	0.4888	0.5101	Ave		0.4780				5.1		35.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1 Analy Batch No.: 296020

SDG No.:

Instrument ID: 3D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/21/2019 13:31 Calibration End Date: 05/21/2019 16:41 Calibration ID: 45441

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
37Cl4-2,3,7,8-TCDD	1.1582	1.1480	1.2123	1.2520	1.3321	Ave		1.2205				6.2					

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1 Analy Batch No.: 296020

SDG No.:

Instrument ID: 3D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/21/2019 13:31 Calibration End Date: 05/21/2019 16:41 Calibration ID: 45441

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-296020/3	21MY193D5_3.d
Level 2	IC 320-296020/4	21MY193D5_4.d
Level 3	IC 320-296020/5	21MY193D5_5.d
Level 4	IC 320-296020/6	21MY193D5_6.d
Level 5	IC 320-296020/7	21MY193D5_7.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (PG/UL)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
2,3,7,8-TCDF		AveID	2583748	8507151	34095990	180787829	840711981	0.500	2.00	10.0	40.0	200
2,3,7,8-TCDD		AveID	1910360	6396242	25780110	137985150	661466014	0.500	2.00	10.0	40.0	200
1,2,3,7,8-PeCDF		AveID	10644451	34842727	139131385	748579428	3546729328	2.50	10.0	50.0	200	1000
2,3,4,7,8-PeCDF		AveID	10376103	34688810	134668117	734611177	3502921768	2.50	10.0	50.0	200	1000
1,2,3,7,8-PeCDD		AveID	7777334	24806651	96734118	528599914	2476692315	2.50	10.0	50.0	200	1000
1,2,3,4,7,8-HxCDF		AveID	9674677	31309357	119503669	655348032	3039345430	2.50	10.0	50.0	200	1000
1,2,3,6,7,8-HxCDF		AveID	10999512	33467672	132954258	703421366	3245921873	2.50	10.0	50.0	200	1000
2,3,4,6,7,8-HxCDF		AveID	9947333	31515470	122235023	665213059	3018880889	2.50	10.0	50.0	200	1000
1,2,3,4,7,8-HxCDD		AveID	7262639	22229107	83380770	467745053	2077802739	2.50	10.0	50.0	200	1000
1,2,3,6,7,8-HxCDD		AveID	7672652	23903470	93685468	506126926	2312494869	2.50	10.0	50.0	200	1000
1,2,3,7,8,9-HxCDD		AveID	7703029	25265795	94615681	510175959	2335014918	2.50	10.0	50.0	200	1000
1,2,3,7,8,9-HxCDF		AveID	8728060	27006700	107848697	577594332	2727034804	2.50	10.0	50.0	200	1000
1,2,3,4,6,7,8-HpCDF		AveID	8879120	27002265	104642592	567482020	2587172494	2.50	10.0	50.0	200	1000
1,2,3,4,6,7,8-HpCDD		AveID	5709139	18276752	70431011	387463236	1789936585	2.50	10.0	50.0	200	1000
1,2,3,4,7,8,9-HpCDF		AveID	7060600	22029367	85304719	466922689	2204844968	2.50	10.0	50.0	200	1000
OCDD		AveID	8532557	25589607	99639255	553694600	2620168751	5.00	20.0	100	400	2000
OCDF		AveID	10410040	32555639	127299796	714185718	3388401360	5.00	20.0	100	400	2000
13C-2,3,7,8-TCDF	13CTC	Ave	559566492	413896652	368458287	468743621	414364714	100	100	100	100	100
13C-2,3,7,8-TCDD	13CTC	Ave	387167733	294655621	261889190	326174325	298123322	100	100	100	100	100
13C-1,2,3,7,8-PeCDF	13CTC	Ave	462221066	342759465	298897976	393996346	355379894	100	100	100	100	100
13C-2,3,4,7,8-PeCDF	13CTC	Ave	460498490	361518043	289155560	387486784	347746656	100	100	100	100	100
13C-1,2,3,7,8-PeCDD	13CTC	Ave	300639105	223121425	187564907	252511444	226685680	100	100	100	100	100
13C-1,2,3,4,7,8-HxCDF	13CHx	Ave	316288036	249870872	204574619	280079795	238951430	100	100	100	100	100
13C-1,2,3,6,7,8-HxCDF	13CHx	Ave	381078003	284216868	243762567	322882273	283858684	100	100	100	100	100
13C-2,3,4,6,7,8-HxCDF	13CHx	Ave	345112458	253100793	214979709	293235329	254680303	100	100	100	100	100
13C-1,2,3,4,7,8-HxCDD	13CHx	Ave	273468265	214549850	167611922	233591591	199999683	100	100	100	100	100
13C-1,2,3,6,7,8-HxCDD	13CHx	Ave	325568612	230647502	198645382	265112485	229281992	100	100	100	100	100
13C-1,2,3,7,8,9-HxCDF	13CHx	Ave	297701088	217982814	192845424	249896301	225835692	100	100	100	100	100
13C-1,2,3,4,6,7,8-HpCDF	13CHx	Ave	242234960	177773786	151704886	204661502	180241372	100	100	100	100	100
13C-1,2,3,4,6,7,8-HpCDD	13CHx	Ave	232219606	171291409	145580797	195316121	171947941	100	100	100	100	100
13C-1,2,3,4,7,8,9-HpCDF	13CHx	Ave	213198749	167226325	132981445	180782541	165887161	100	100	100	100	100
13C-OCDD	13CHx	Ave	320855579	227149918	198157571	266344587	243044959	200	200	200	200	200
37Cl4-2,3,7,8-TCDD	13CTC	Ave	2342162	7124853	32252457	165050919	772302983	0.500	2.00	10.0	40.0	200

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1 Analy Batch No.: 296020

SDG No.:

Instrument ID: 3D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/21/2019 13:31 Calibration End Date: 05/21/2019 16:41 Calibration ID: 45441

Curve Type Legend:

Ave = Average ISTD
AveID = Average isotope dilution

Sample List Report **MassLynx 4.1**

Sample List: C:\MassLynx\DATA 2019.PRO\SampleDB\21MY193D5.SPL
Last Modified: Tuesday, May 21, 2019 18:40:49 Pacific Daylight Time
Printed: Tuesday, May 21, 2019 18:41:05 Pacific Daylight Time

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #	User	Sample Size
1	21MY193D5_1	WDM HRDXNCP_00038	WDM 052119	Tray01:1			AJS	1.000000
2	21MY193D5_2	Solvent Blank C-14	SB 052119	Tray01:3			AJS	1.000000
3	21MY193D5_3	CS-2 HRDXNL2_00024	IC 052119	Tray01:4	Dioxin		AJS	1.000000
4	21MY193D5_4	CS-3 HRDXNL3_00022	IC 052119A	Tray01:5	Dioxin		AJS	1.000000
5	21MY193D5_5	CS-4 HRDXNL4_00077	IC 052119B	Tray01:6	Dioxin		AJS	1.000000
6	21MY193D5_6	CS-5 HRDXNL5_00025	IC 052119C	Tray01:7	Dioxin		AJS	1.000000
7	21MY193D5_7	CS-6 HRDXNL6_00021	IC 052119D	Tray01:8	Dioxin		AJS	1.000000
8	21MY193D5_8	Solvent Blank C-14	SB 052119A	Tray01:3			AJS	1.000000
9	21MY193D5_9	ICV HRDXNIC_00038	ICV 052119	Tray01:9	Dioxin		AJS	1.000000
10	21MY193D5_10	Solvent Blank C-14	SB 052119B	Tray01:3			AJS	1.000000
11	21MY193D5_11	WDM HRDXNCP_00038	WDM 052119	Tray01:1			AJS	1.000000
12	21MY193D5_12	CS-4 HRDXNL4_00077	CCV 052119	Tray01:2			AJS	1.000000
13	21MY193D5_13	Solvent Blank C-14	SB 052119C	Tray01:3			AJS	1.000000

logfile checked
5-21-19 ALM

Units	MS File	Inlet File	Inject Volume	Sample Type	Conc A	Conc B	Conc C	Conc D	Conc E	Conc F
---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---	---	---
	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---	---	---
---	Dioxin3D5	dioxinnogc	2.000000	Analyte	0.5	2.5	5	100	200	0.25
---	Dioxin3D5	dioxinnogc	2.000000	Analyte	2	10	20	100	200	1
---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100	100	200	5
---	Dioxin3D5	dioxinnogc	2.000000	Analyte	40	200	400	100	200	20
---	Dioxin3D5	dioxinnogc	2.000000	Analyte	200	1000	2000	100	200	100
	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---	---	---
	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---	---	---
	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---	---	---
---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---	---	---
---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100	100	200	5
	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---	---	---

Conc G	Process	Process Options	Action On Error	s5
---	FBAT_ML_FileMover	---	---	C:\CHROM
---	FBAT_ML_FileMover	---	---	C:\CHROM
100	FBAT_ML_FileMover	---	---	C:\CHROM
100	FBAT_ML_FileMover	---	---	C:\CHROM
100	FBAT_ML_FileMover	---	---	C:\CHROM
100	FBAT_ML_FileMover	---	---	C:\CHROM
100	FBAT_ML_FileMover	---	---	C:\CHROM
---	FBAT_ML_FileMover	---	---	C:\CHROM
---	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error	---
---	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error	---
---	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error	---
100	FBAT_ML_FileMover	---	---	C:\CHROM
---	FBAT_ML_FileMover	---	---	C:\CHROM

Experiment Calibration Report **MassLynx 4.1**

File: Experiment: Dioxin3D5.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed: Tuesday, May 21, 2019 11:47:36 Pacific Daylight Time

M 292.9824 R 13440

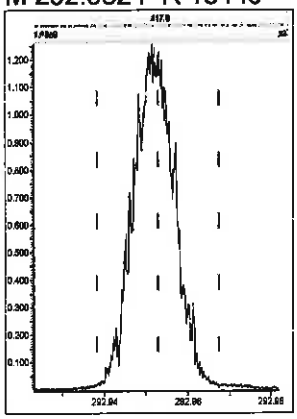

M 304.9824 R 13510

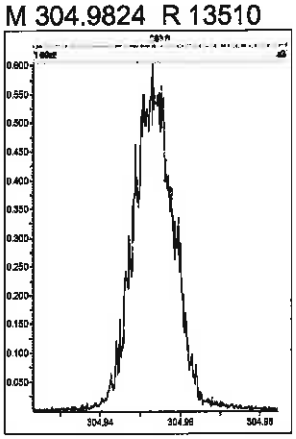

M 318.9792 R 13814

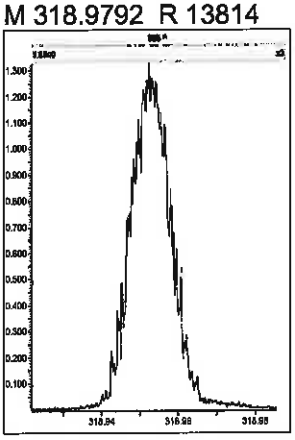

M 330.9792 R 13368

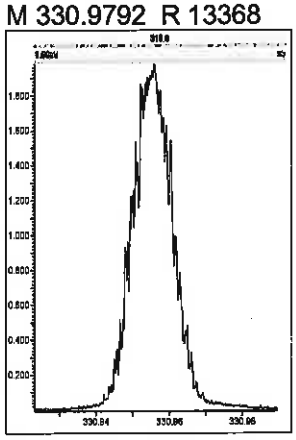

M 342.9792 R 14532

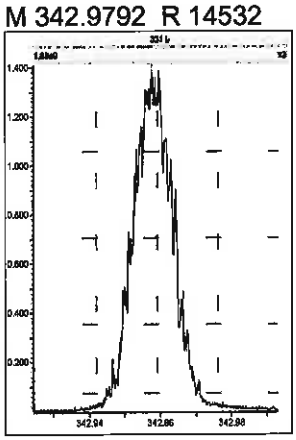

M 354.9792 R 13299

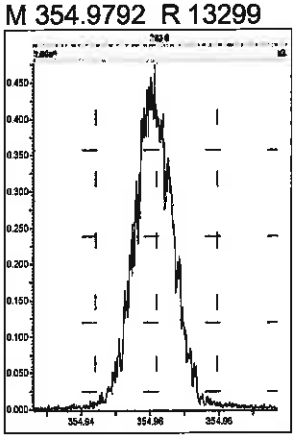

M 366.9792 R 12689

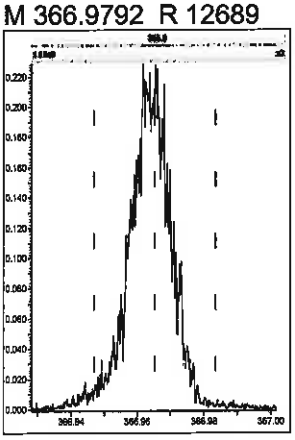

M 380.9760 R 13585

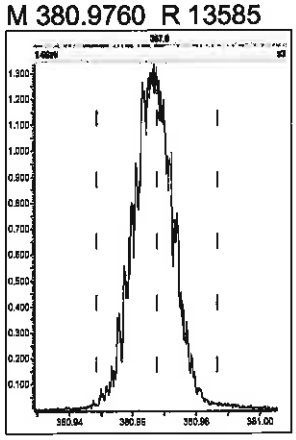

M 392.9760 R 12317

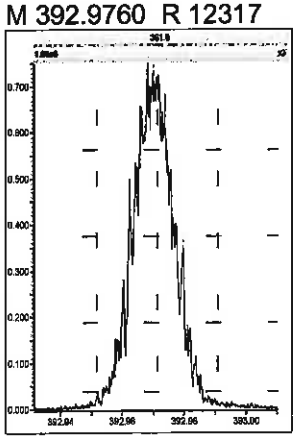

M 404.9760 R 12438

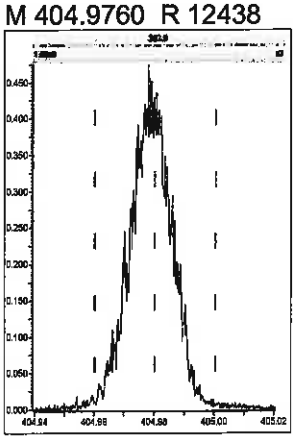

M 416.9760 R 12194

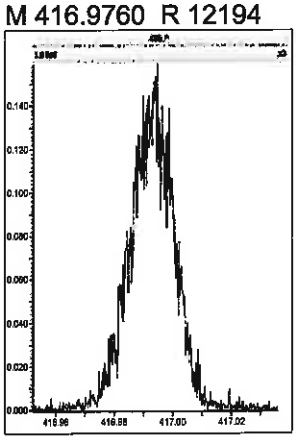

File: Experiment: Dioxin3D5.exp Reference: Pfk.ref Function: 2 @ 200 (ppm)

Printed: Tuesday, May 21, 2019 11:48:07 Pacific Daylight Time

M 318.9792 R 13657

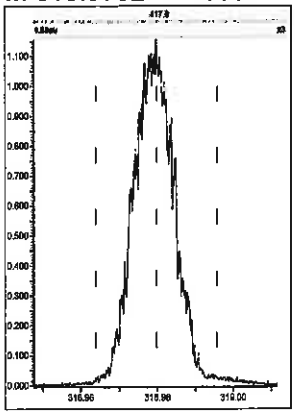

M 330.9792 R 13089

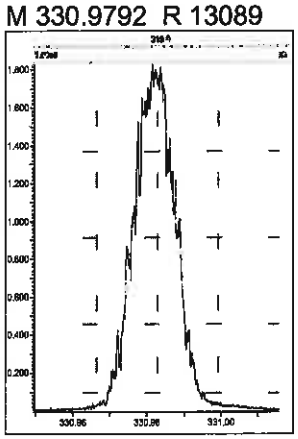

M 342.9792 R 14043

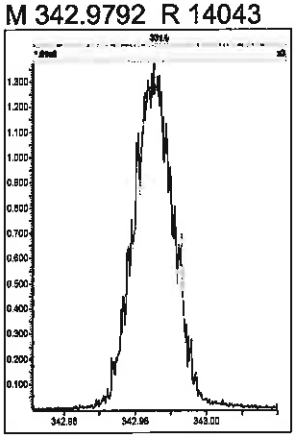

M 354.9792 R 13583

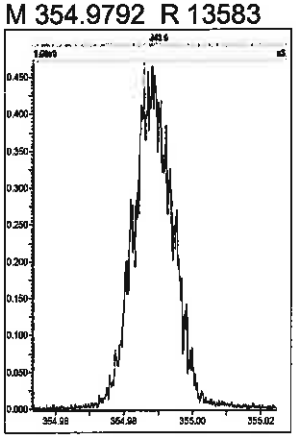

M 366.9792 R 13021

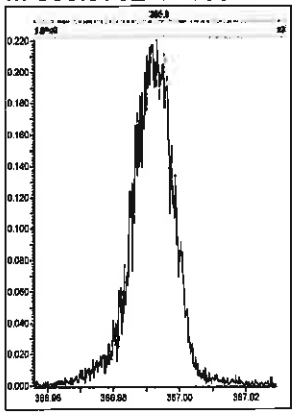

M 380.9760 R 13440

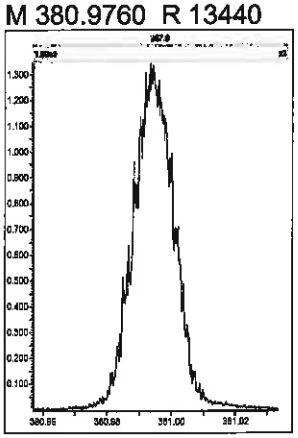

M 392.9760 R 13733

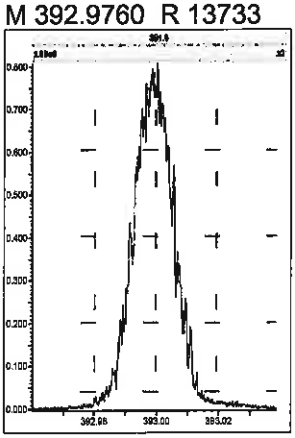

M 404.9760 R 13813

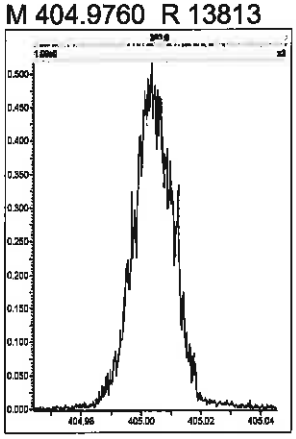

M 416.9760 R 13811

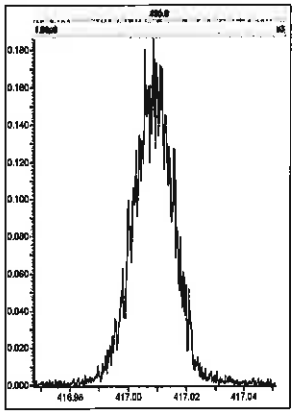

Experiment Calibration Report **MassLynx 4.1**

File: Experiment: Dioxin3D5.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

Printed: Tuesday, May 21, 2019 11:48:42 Pacific Daylight Time

M 366.9792 R 13370

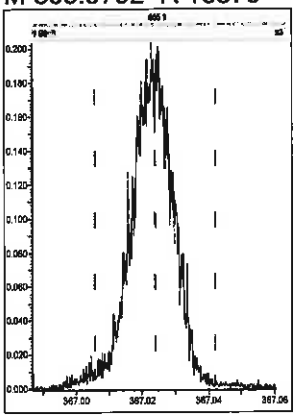

M 380.9760 R 13089

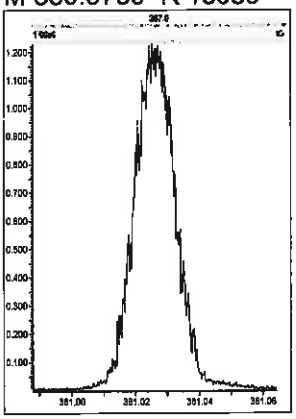

M 392.9760 R 14624

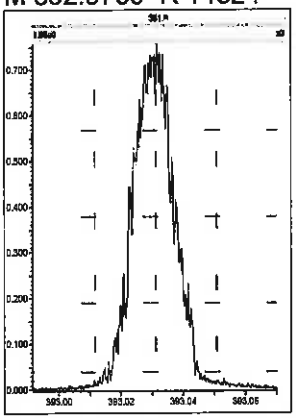

M 404.9760 R 13438

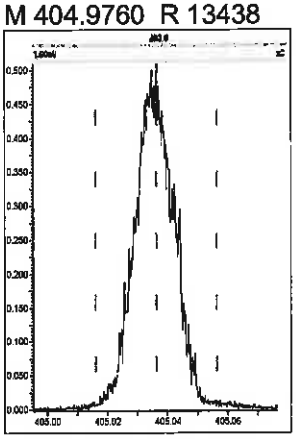

M 416.9760 R 14368

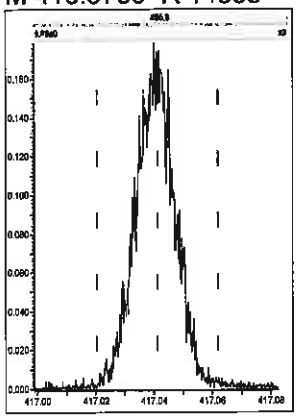

M 430.9728 R 13226

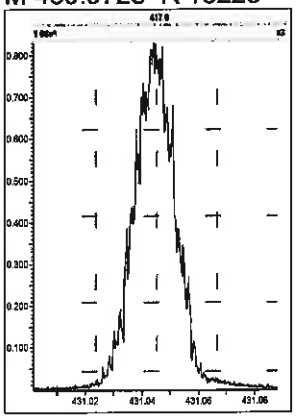

M 442.9728 R 13584

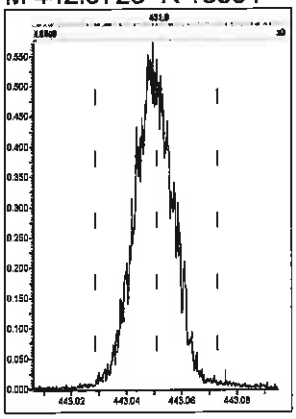

M 454.9728 R 12821

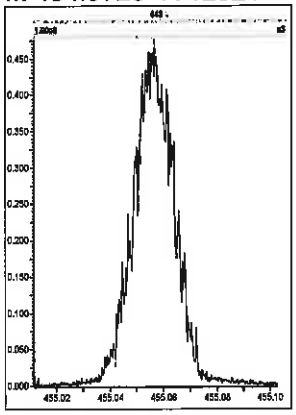

Experiment Calibration Report **MassLynx 4.1**

File: Experiment: Dioxin3D5.exp Reference: Pfk.ref Function: 4 @ 200 (ppm)

Printed: Tuesday, May 21, 2019 11:49:34 Pacific Daylight Time

M 380.9760 R 13155

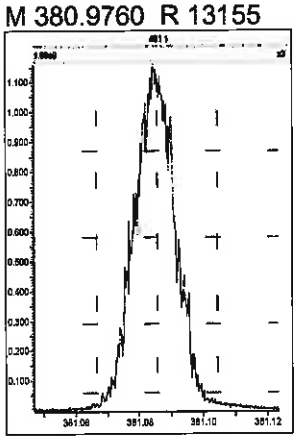

M 392.9760 R 13737

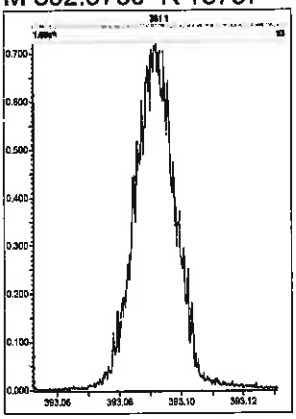

M 404.9760 R 13231

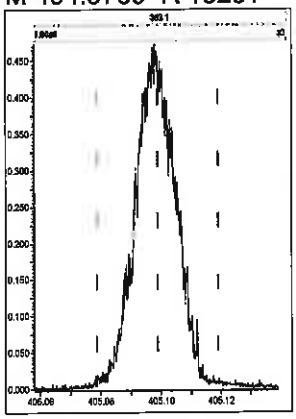

M 416.9760 R 13891

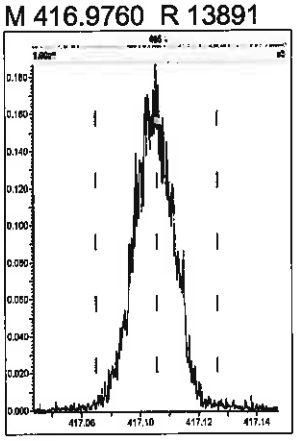

M 430.9728 R 13022

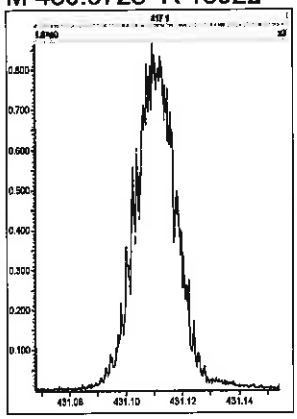

M 442.9728 R 14044

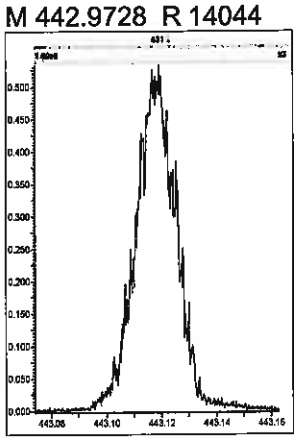

M 454.9728 R 13161

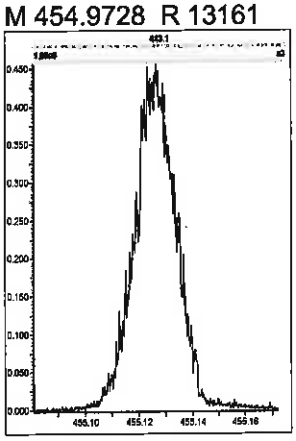

M 466.9728 R 12884

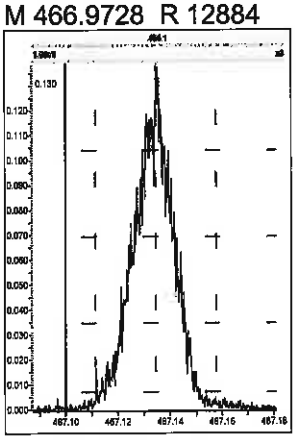

M 480.9696 R 11737

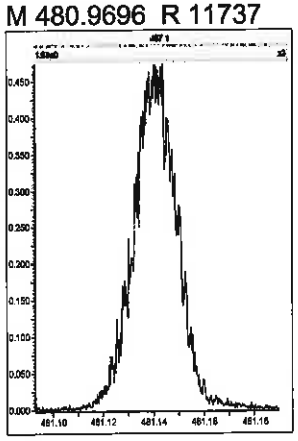

Experiment Calibration Report **MassLynx 4.1**

File: Experiment: Dioxin3D5.exp Reference: Pfk.ref Function: 5 @ 200 (ppm)

Printed: Tuesday, May 21, 2019 11:50:16 Pacific Daylight Time

M 380.9760 R 13510

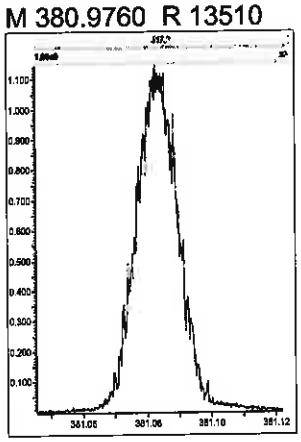

M 392.9760 R 12887

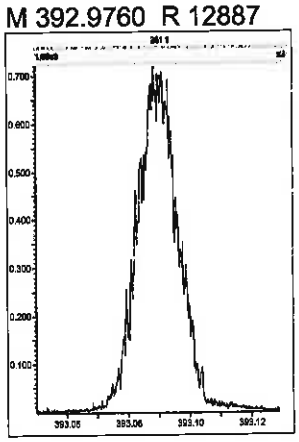

M 404.9760 R 13368

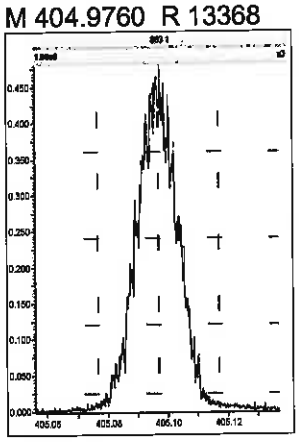

M 416.9760 R 13516

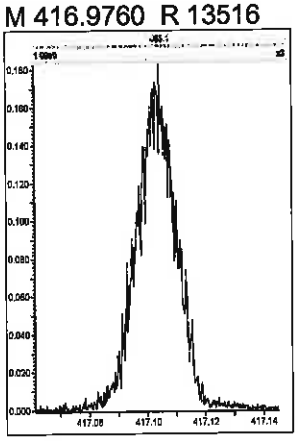

M 430.9728 R 13154

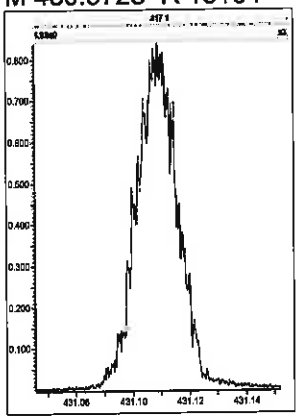

M 442.9728 R 13440

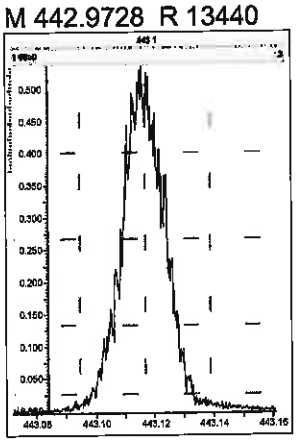

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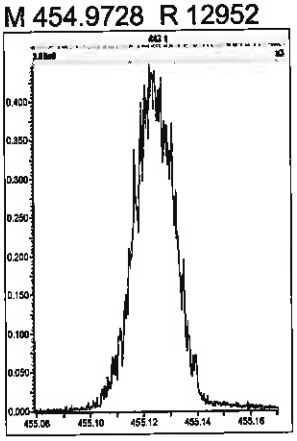

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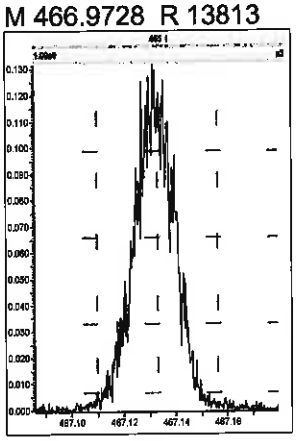

M 480.9696 R 12687

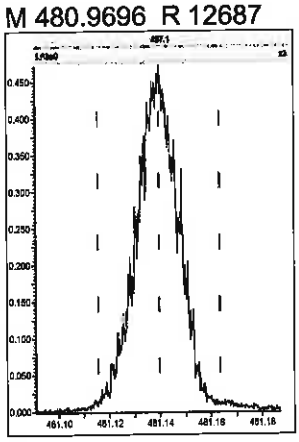

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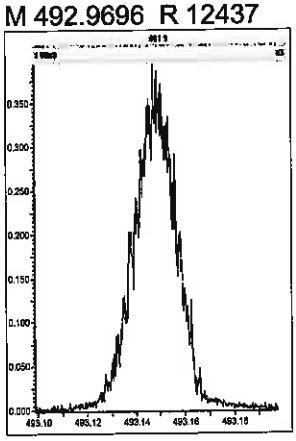

M 504.9696 R 11906

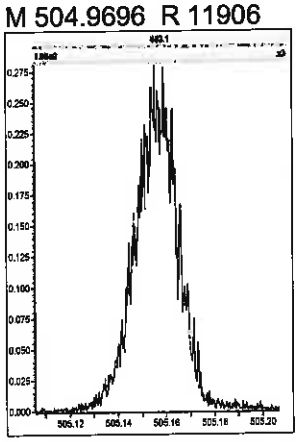

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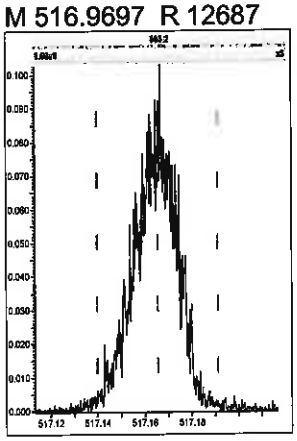

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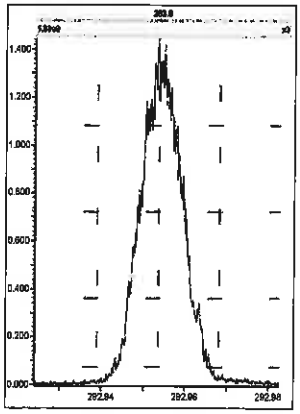

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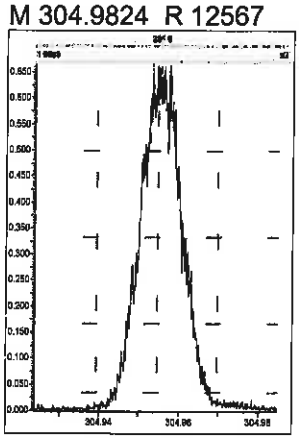

M 318.9792 R 13264

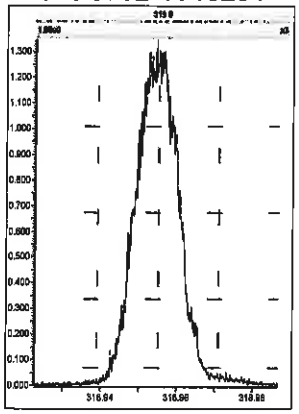

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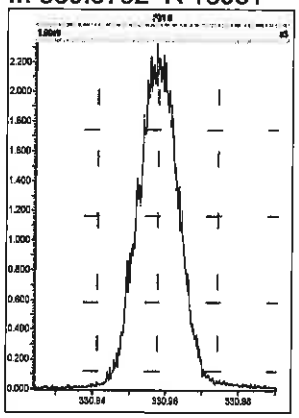

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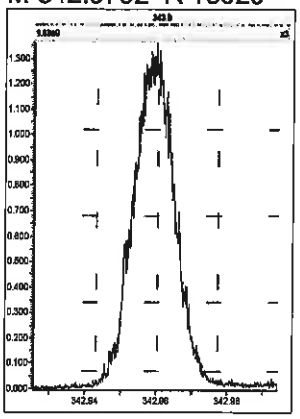

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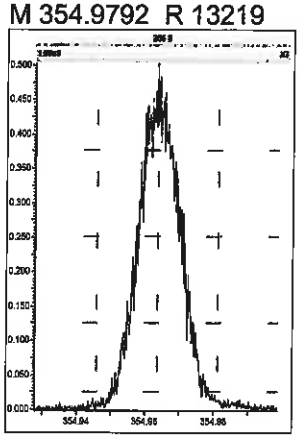

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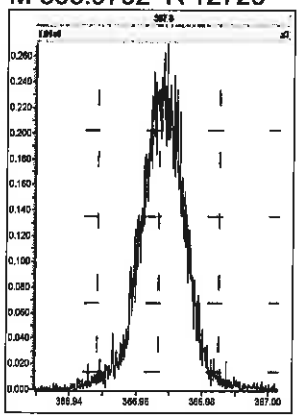

M 380.9760 R 12168

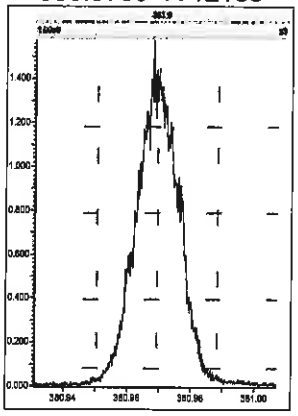

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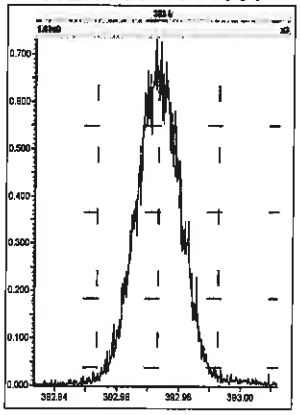

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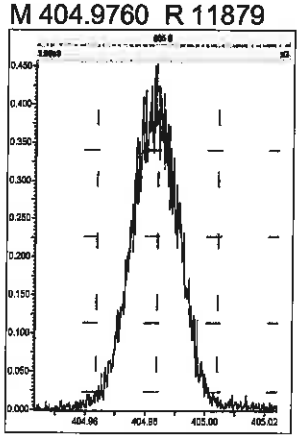

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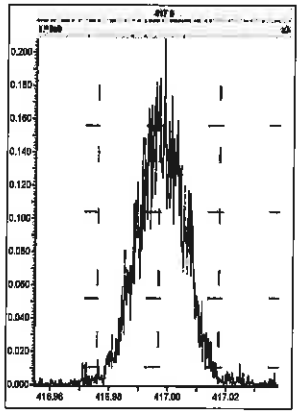

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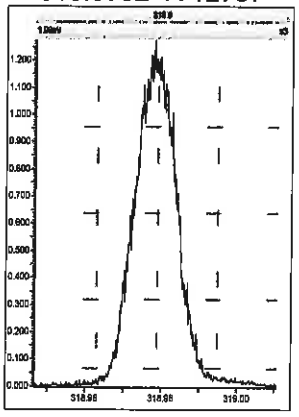

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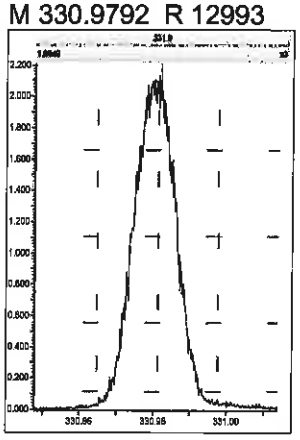

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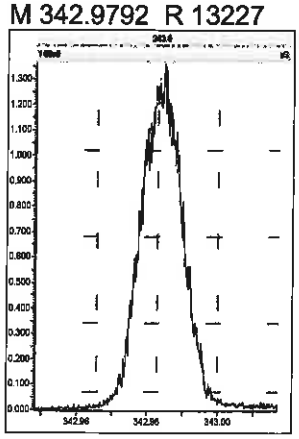

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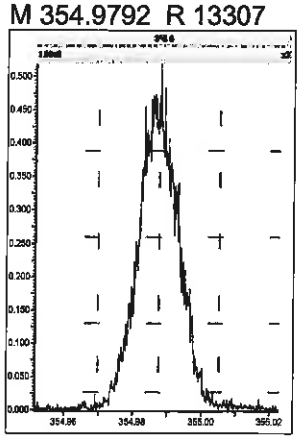

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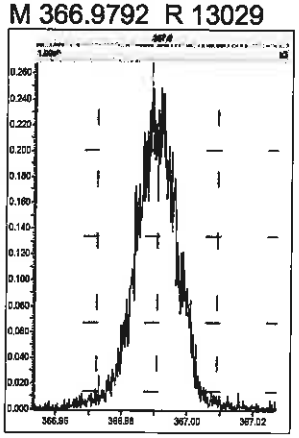

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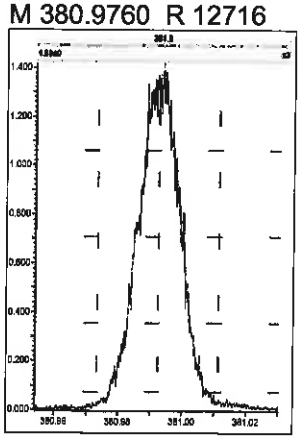

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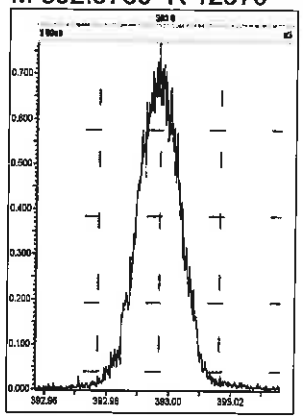

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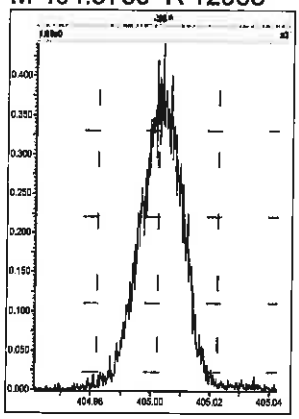

M 416.9760 R 12600

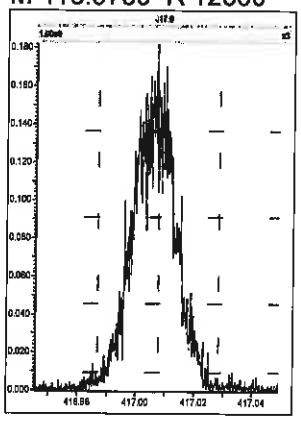

M 366.9792 R 13157

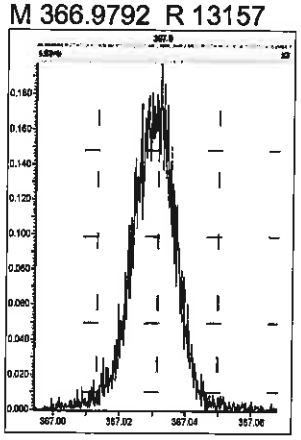

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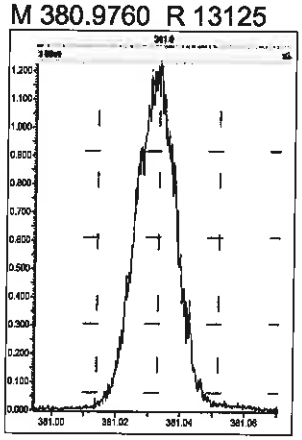

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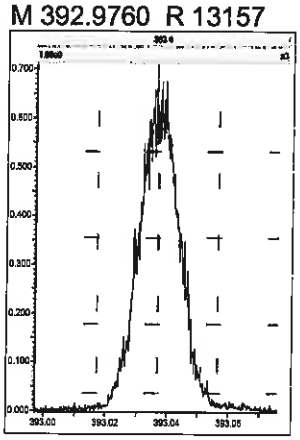

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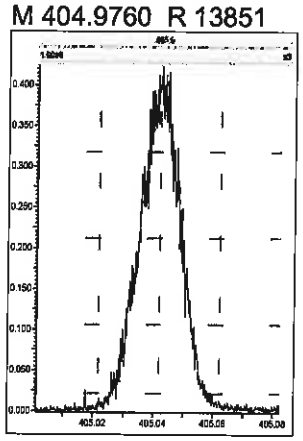

M 416.9760 R 13446

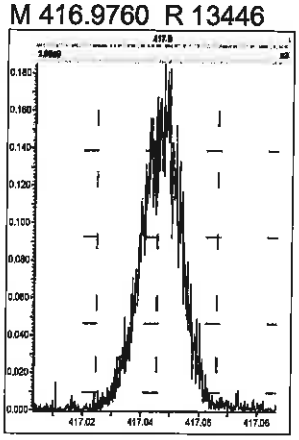

M 430.9728 R 12690

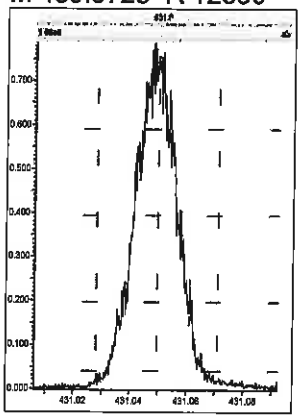

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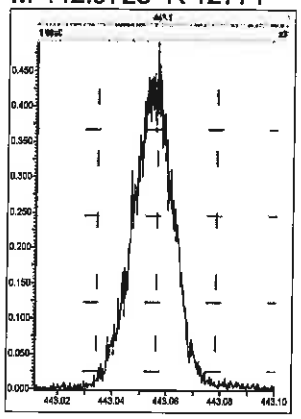

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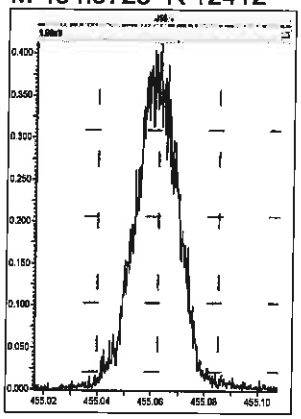

M 380.9760 R 12791

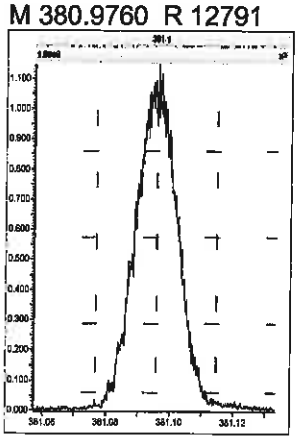

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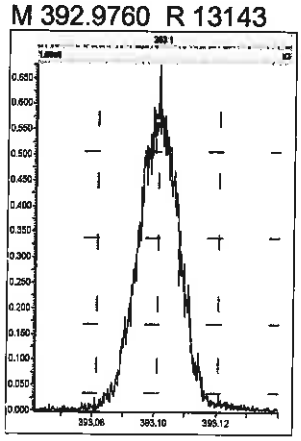

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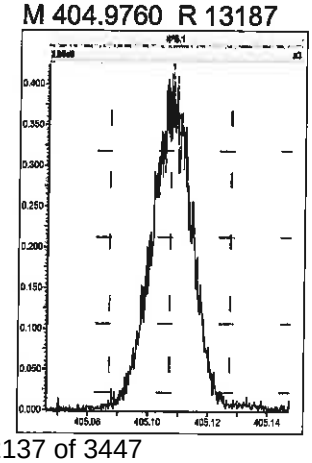

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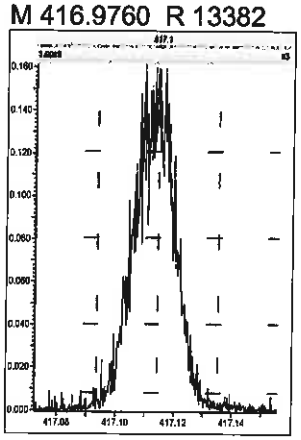

M 430.9728 R 12562

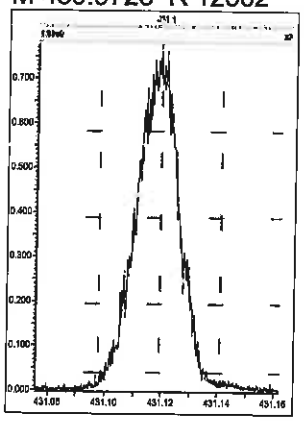

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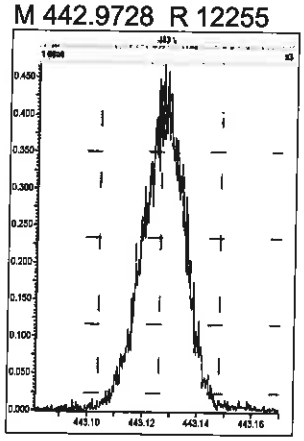

M 454.9728 R 12661

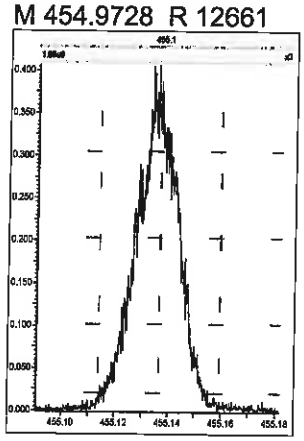

M 466.9728 R 13283

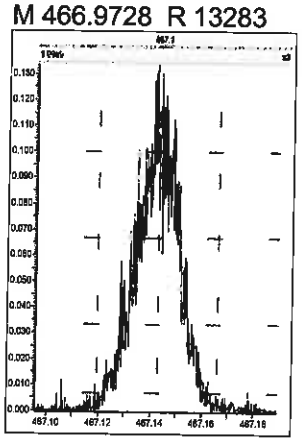

M 480.9696 R 11884

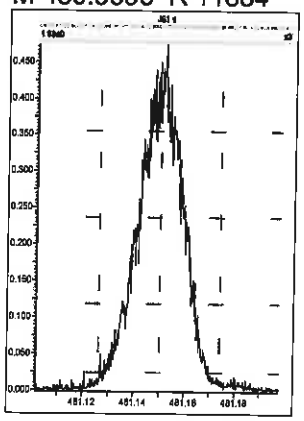

M 380.9760 R 13055

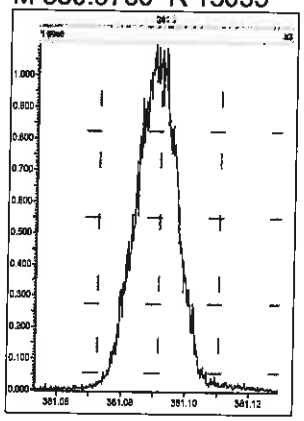

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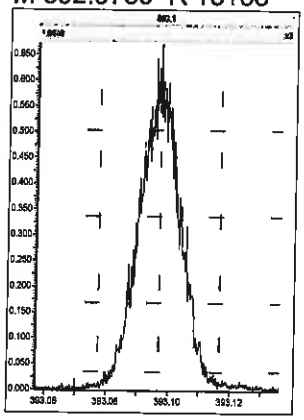

M 404.9760 R 13578

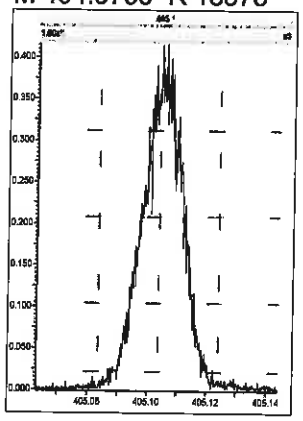

M 416.9760 R 13450

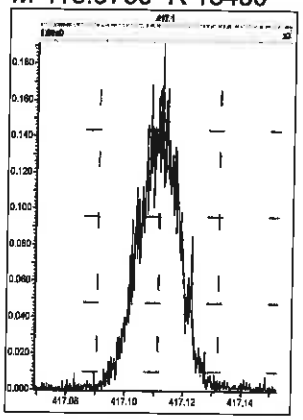

M 430.9728 R 12563

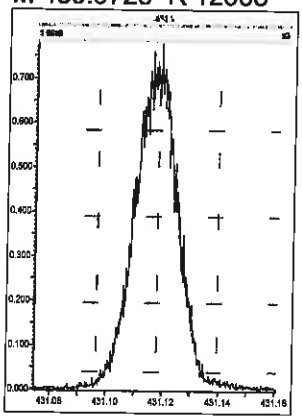

M 442.9728 R 12661

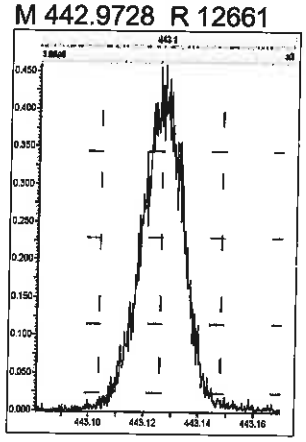

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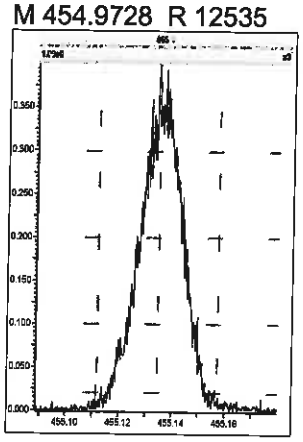

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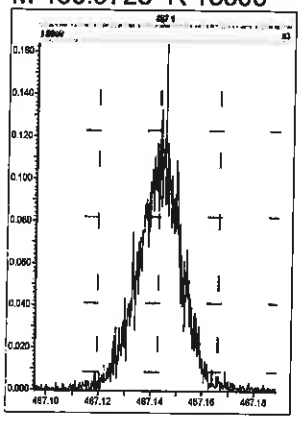

M 480.9696 R 12077

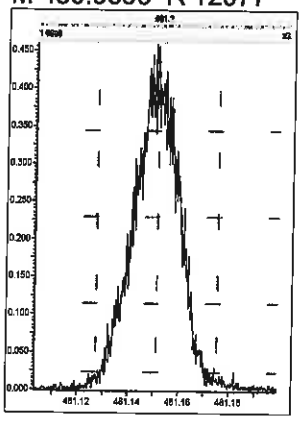

M 492.9696 R 11682

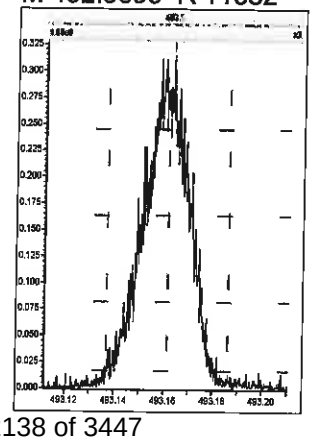

M 504.9696 R 12288

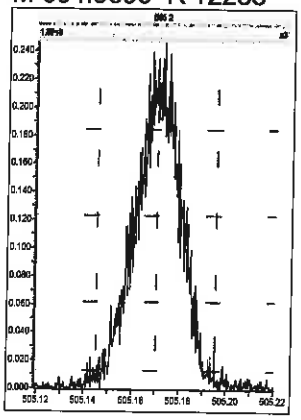

Printed: Tuesday, May 21, 2019 19:13:39 Pacific Daylight Time

M 516.9697 R 12255

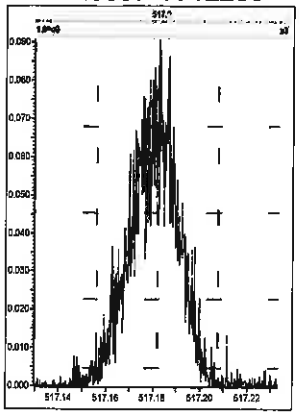

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_3.d
Lims ID: IC 2
Client ID: L2
Sample Type: IC Calib Level: 2
Inject. Date: 21-May-2019 13:31:22 ALS Bottle#: 4 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 052119 CS-2 HRDXNL2_00024
Misc. Info.: 21MY193D5
Operator ID: AJS Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 22-May-2019 11:44:07 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: shardaa Date: 21-May-2019 14:48:36

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.429	404433354	0.83	3.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.900	559566492	0.78	1.3908	99.5	99.5	0.2139	0.2139	99.48	
2,3,7,8-TCDF	17.915	2583748	0.76	0.9710	0.4755	0.4755	0.0196	0.0196	95.10	M
S Total TCDF					0.4755	0.4755	0.0196	0.0196		
D 13C-2,3,7,8-TCDD	18.626	387167733	0.81	0.9819	97.5	97.5	0.1823	0.1823	97.50	
2,3,7,8-TCDD	18.641	1910360	0.80	1.0447	0.4723	0.4723	0.0230	0.0230	94.46	M
$ 37Cl4-2,3,7,8-TCDD	18.641	2342162		1.2205	0.4745	0.4745	0.0205	0.0205	94.90	
S Total TCDD					0.4723	0.4723	0.0230	0.0230		
D 13C-1,2,3,7,8-PeCDF	23.093	462221066	1.58	1.1585	98.7	98.7	0.2621	0.2621	98.65	
1,2,3,7,8-PeCDF	23.107	10644451	1.60	0.9633	2.391	2.391	0.0337	0.0337	95.62	
D 13C-2,3,4,7,8-PeCDF	24.484	460498490	1.60	1.1532	98.7	98.7	0.2633	0.2633	98.74	a
2,3,4,7,8-PeCDF	24.511	10376103	1.52	0.9495	2.373	2.373	0.0373	0.0373	94.92	
S Total PeCDF					4.764	4.764	0.0355	0.0355		
D 13C-1,2,3,7,8-PeCDD	25.234	300639105	1.61	0.7431	100.0	100.0	0.1302	0.1302	100	
1,2,3,7,8-PeCDD	25.262	7777334	1.69	1.0635	2.433	2.433	0.0418	0.0418	97.30	
S Total PeCDD					2.433	2.433	0.0418	0.0418		
D 13C-1,2,3,4,7,8-HxCDF	31.045	316288036	0.54	0.9837	95.4	95.4	0.3407	0.3407	95.40	a
1,2,3,4,7,8-HxCDF	31.071	9674677	1.18	1.2173	2.513	2.513	0.0337	0.0337	101	
D 13C-1,2,3,6,7,8-HxCDF	31.204	381078003	0.52	1.1554	97.9	97.9	0.2901	0.2901	97.86	
1,2,3,6,7,8-HxCDF	31.218	10999512	1.21	1.1311	2.552	2.552	0.0309	0.0309	102	
D 13C-2,3,4,6,7,8-HxCDF	31.923	345112458	0.51	1.0361	98.8	98.8	0.3235	0.3235	98.83	
2,3,4,6,7,8-HxCDF	31.937	9947333	1.21	1.1710	2.461	2.461	0.0265	0.0265	98.46	
D 13C-1,2,3,7,8,9-HxCDF	32.669	297701088	0.51	0.9034	97.8	97.8	0.3710	0.3710	97.77	
1,2,3,7,8,9-HxCDF	32.696	8728060	1.23	1.1787	2.487	2.487	0.0305	0.0305	99.50	
S Total HxCDF					10.0	10.0	0.0304	0.0304		
* 13C-1,2,3,7,8,9-HxCDD	32.496	337041446	1.26	2.6E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	32.097	273468265	1.30	0.8287	97.9	97.9	0.3237	0.3237	97.91	a
1,2,3,4,7,8-HxCDD	32.110	7262639	1.27	1.0267	2.587	2.587	0.0402	0.0402	103	
D 13C-1,2,3,6,7,8-HxCDD	32.190	325568612	1.28	0.9495	101.7	101.7	0.2825	0.2825	102	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	32.203	7672652	1.11	0.9771	2.412	2.412	0.0401	0.0401	96.48	
1,2,3,7,8,9-HxCDD	32.509	7703029	1.21	1.0616	2.423	2.423	0.0379	0.0379	96.90	
S Total HxCDD					7.421	7.421	0.0394	0.0394		
D 13C-1,2,3,4,6,7,8-HpCDF	34.097	242234960	0.45	0.7285	98.7	98.7	0.6343	0.6343	98.66	
1,2,3,4,6,7,8-HpCDF	34.097	8879120	1.10	1.4373	2.550	2.550	0.0535	0.0535	102	
D 13C-1,2,3,4,7,8,9-HpCDF	35.227	213198749	0.45	0.6556	96.5	96.5	0.7048	0.7048	96.48	a
1,2,3,4,7,8,9-HpCDF	35.239	7060600	1.13	1.3091	2.530	2.530	0.0754	0.0754	101	
S Total HpCDF					5.080	5.080	0.0644	0.0644		
D 13C-1,2,3,4,6,7,8-HpCDD	34.923	232219606	1.07	0.6978	98.7	98.7	0.2838	0.2838	98.73	
1,2,3,4,6,7,8-HpCDD	34.935	5709139	1.03	1.0102	2.434	2.434	0.0321	0.0321	97.35	
S Total HpCDD					2.434	2.434	0.0321	0.0321		
D 13C-OCDD	37.395	320855579	0.90	0.4780	199.2	199.2	0.1608	0.1608	99.59	
OCDF	37.502	10410040	0.96	1.3501	4.806	4.806	0.0474	0.0474	96.12	
OCDD	37.395	8532557	0.86	1.0627	5.005	5.005	0.0395	0.0395	100	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

HRDXNL2_00024 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_3.d
Lims ID: IC 2
Client ID: L2
Sample Type: IC Calib Level: 2
Inject. Date: 21-May-2019 13:31:22 ALS Bottle#: 4 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 052119 CS-2 HRDXNL2_00024
Misc. Info.: 21MY193D5
Operator ID: AJS Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 22-May-2019 11:44:07 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: shardaa Date: 21-May-2019 14:48:36

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.429	18.432	0		183276556	43187774	40795	101987	1059		
333.9339	18.429	18.432	0		221156798	51793311	27228	68070	1902	0.83(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.900	17.900	0	0.971	244562131	57000698	37161	92902	1534		
317.9389	17.900	17.900	0	0.971	315004361	72611605	75866	189665	957	0.78(0.65-0.89)	
2,3,7,8-TCDF											M
303.9016	17.915	17.915	0	1.001	1115906	260352	3222	8055	81		
305.8987	17.915	17.915	0	1.001	1467842	319056	6633	16582	48	0.76(0.65-0.89)	M
13C-2,3,7,8-TCDD											
331.9368	18.626	18.629	0	1.011	173498327	38826204	40795	101987	952		
333.9339	18.626	18.629	0	1.011	213669406	47945107	27228	68070	1761	0.81(0.65-0.89)	
2,3,7,8-TCDD											M
319.8965	18.641	18.650	-1	1.001	847401	201535	5666	14165	36		M
321.8936	18.641	18.650	-1	1.001	1062959	247438	2690	6725	92	0.80(0.65-0.89)	M
37Cl4-2,3,7,8-TCDD											
327.8847	18.641	18.650	-1	1.011	2342162	522995	9493	23732	55		
13C-1,2,3,7,8-PeCDF											
351.9000	23.093	23.102	0	1.253	283109696	48401573	69475	173687	697		
353.8970	23.093	23.102	0	1.253	179111370	30625127	45883	114707	667	1.58(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	23.107	23.123	-1	1.001	6553697	1120472	3466	8665	323		
341.8567	23.107	23.123	-1	1.001	4090754	710881	6785	16962	105	1.60(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											a
351.9000	24.484	24.487	0	1.329	283327157	44554170	69475	173687	641		a
353.8970	24.484	24.487	0	1.329	177171333	27896316	45883	114707	608	1.60(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	24.511	24.512	0	1.001	6262580	999274	3466	8665	288		
341.8567	24.511	24.512	0	1.001	4113523	652900	6785	16962	96	1.52(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	25.234	25.237	0	1.369	185602729	27975765	24635	61587	1136		
369.8919	25.234	25.237	0	1.369	115036376	17235373	12112	30280	1423	1.61(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	25.262	25.264	0	1.001	4885021	727344	5341	13352	136		
357.8516	25.262	25.264	0	1.001	2892313	426610	2691	6727	159	1.69(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											a
383.8639	31.045	31.050	0	0.955	111273946	24331177	42287	105717	575		a
385.8610	31.045	31.050	0	0.955	205014090	43519844	81368	203420	535	0.54(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	31.071	31.069	0	1.001	5243142	1168538	6081	15202	192		
375.8178	31.071	31.069	0	1.001	4431535	1003398	5039	12597	199	1.18(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	31.204	31.202	0	0.960	130445997	28066139	42287	105717	664		
385.8610	31.204	31.202	0	0.960	250632006	51588290	81368	203420	634	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	31.218	31.223	0	1.000	6014008	1350689	6081	15202	222		
375.8178	31.218	31.223	0	1.000	4985504	1103271	5039	12597	219	1.21(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.923	31.923	0	0.982	116574906	30065507	42287	105717	711		
385.8610	31.923	31.923	0	0.982	228537552	59425776	81368	203420	730	0.51(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.937	31.942	0	1.000	5439515	1447005	6081	15202	238		
375.8178	31.937	31.942	0	1.000	4507818	1203053	5039	12597	239	1.21(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.669	32.674	0	1.005	100952587	26194980	42287	105717	619		
385.8610	32.669	32.674	0	1.005	196748501	51240494	81368	203420	630	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.696	32.690	0	1.001	4806334	1242648	6081	15202	204		
375.8178	32.682	32.690	0	1.000	3921726	1038148	5039	12597	206	1.23(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.496	32.499	0		187589634	51397165	62269	155672	825		
403.8529	32.496	32.499	0		149451812	40834427	36691	91727	1113	1.26(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											a
401.8559	32.097	32.094	0	0.988	154547817	45083952	62269	155672	724		a
403.8529	32.097	32.094	0	0.988	118920448	34258781	36691	91727	934	1.30(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	32.110	32.110	0	1.000	4058227	1118101	6673	16682	168		
391.8127	32.110	32.110	0	1.000	3204412	939416	6420	16050	146	1.27(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.190	32.192	0	0.991	182758181	46673629	62269	155672	750		
403.8529	32.190	32.192	0	0.991	142810431	36786181	36691	91727	1003	1.28(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	32.203	32.208	0	1.000	4042900	1167490	6673	16682	175		
391.8127	32.203	32.208	0	1.000	3629752	954143	6420	16050	149	1.11(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.509	32.515	0	1.013	4221414	1208684	6673	16682	181		
391.8127	32.509	32.515	0	1.013	3481615	957535	6420	16050	149	1.21(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	34.097	34.097	0	1.049	74717590	23014568	57763	144407	398		
419.8220	34.097	34.097	0	1.049	167517370	51801598	112703	281757	460	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.097	34.104	0	1.000	4657130	1359394	17814	44535	76		
409.7789	34.109	34.104	0	1.000	4221990	1264352	5187	12967	244	1.10(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											a
417.8253	35.227	35.232	0	1.084	66152303	17890837	57763	144407	310		a
419.8220	35.227	35.232	0	1.084	147046446	40389371	112703	281757	358	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.239	35.244	0	1.000	3745852	1033253	17814	44535	58		
409.7789	35.239	35.244	0	1.000	3314748	924360	5187	12967	178	1.13(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.923	34.928	0	1.075	119930467	34987461	38690	96725	904		
437.8140	34.923	34.928	0	1.075	112289139	32910155	34382	85955	957	1.07(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.935	34.940	0	1.000	2898308	888279	4127	10317	215		
425.7737	34.935	34.940	0	1.000	2810831	843795	4670	11675	181	1.03(0.88-1.20)	
13C-OCDD											
469.7779	37.395	37.392	0	1.151	152093740	38035593	16157	40392	2354		
471.7750	37.395	37.392	0	1.151	168761839	41911695	12198	30495	3436	0.90(0.76-1.02)	
OCDF											
441.7428	37.502	37.500	0	1.003	5093406	1203722	3151	7877	382		
443.7399	37.491	37.500	-1	1.003	5316634	1309164	7071	17677	185	0.96(0.76-1.02)	
OCDD											
457.7377	37.395	37.402	0	1.000	3949914	1009695	3442	8605	293		
459.7348	37.395	37.402	0	1.000	4582643	1182393	3275	8187	361	0.86(0.76-1.02)	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

HRDXNL2_00024 Amount Added: 1.00 Units: mL

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_3.d				
Injection Date:	21-May-2019 13:31:22	Instrument ID:	3D5		
Lims ID:	IC 2				
Client ID:	L2				
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDF, CAS: 51207-31-9

Signal: 2

Processing Integration Results

RT: 17.92
Area: 1565011
Amount: 0.489889
Amount Units: pg/ul

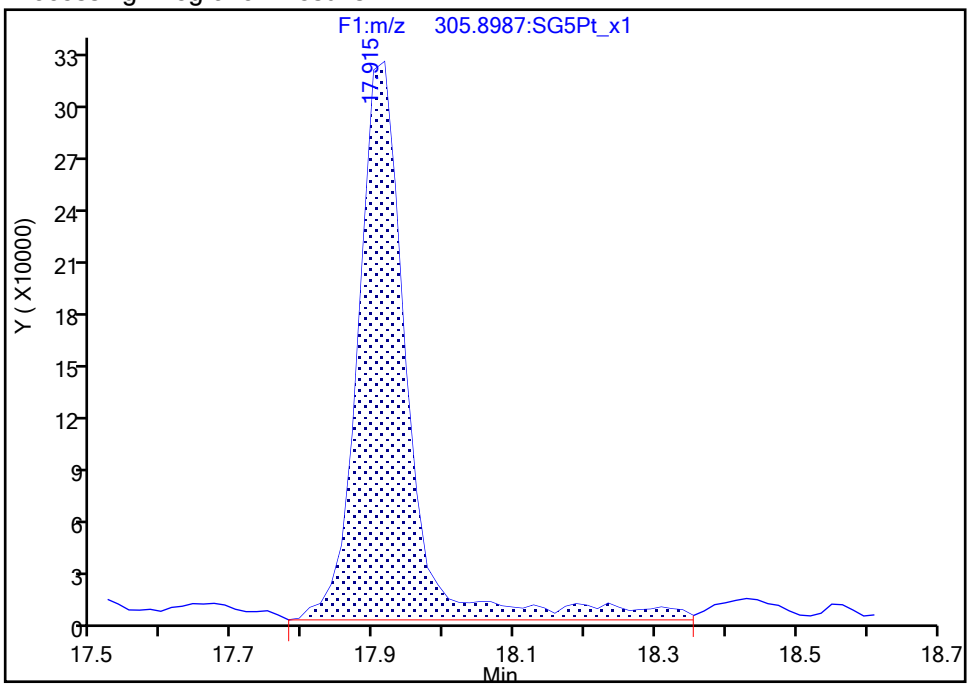

Manual Integration Results

RT: 17.92
Area: 1467842
Amount: 0.475510
Amount Units: pg/ul

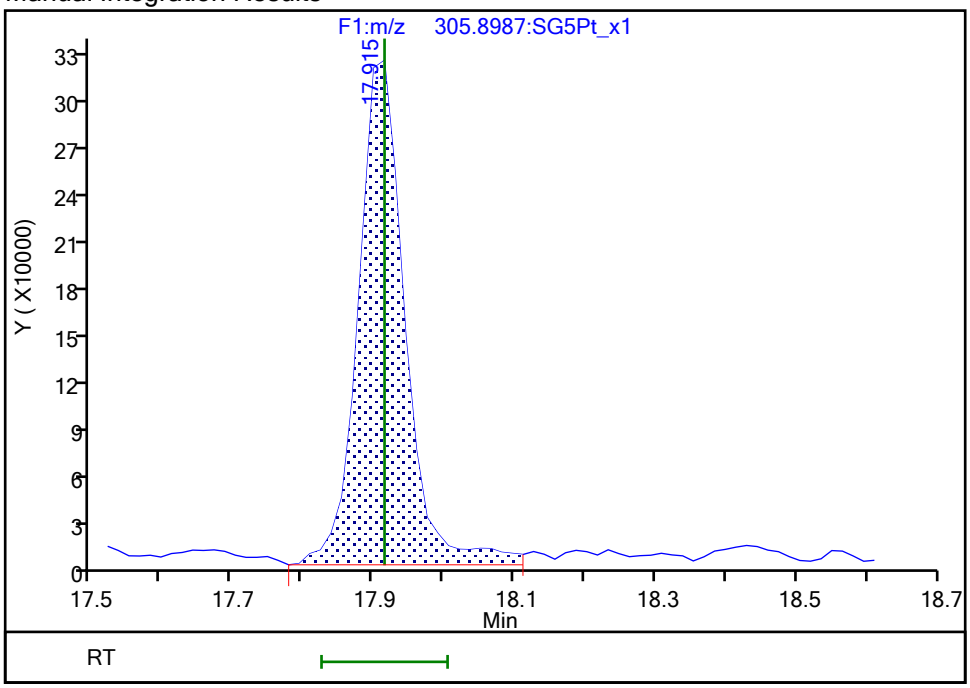

Reviewer: shardaa, 21-May-2019 17:52:10

Audit Action: Split an Integrated Peak Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_3.d				
Injection Date:	21-May-2019 13:31:22	Instrument ID:	3D5		
Lims ID:	IC 2				
Client ID:	L2				
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDD, CAS: 1746-01-6

Signal: 2

Processing Integration Results

RT: 18.64
Area: 1125060
Amount: 0.492554
Amount Units: pg/ul

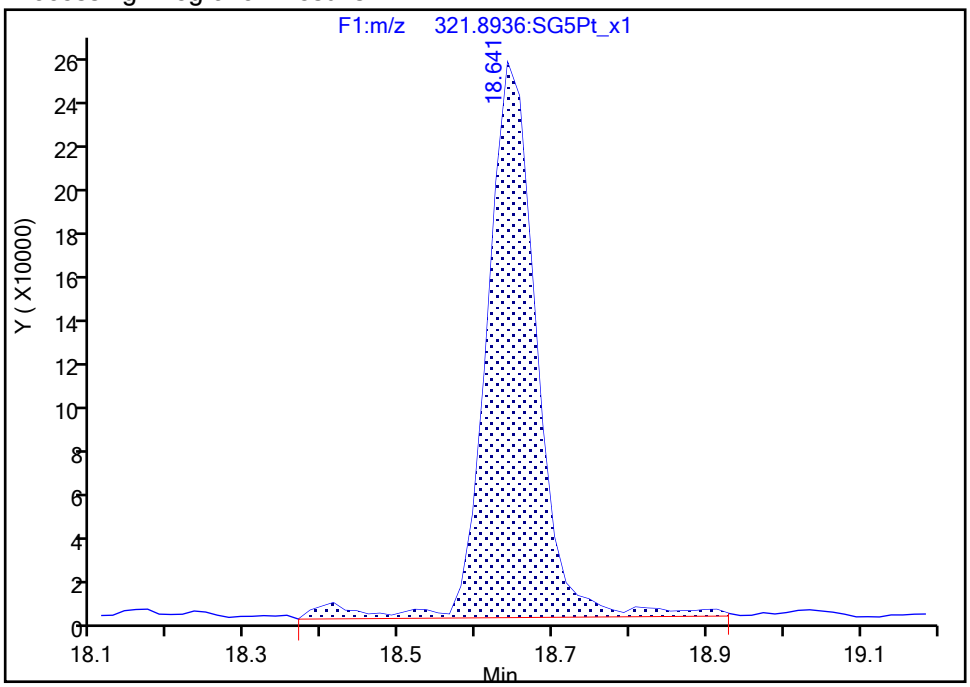

Manual Integration Results

RT: 18.64
Area: 1062959
Amount: 0.472299
Amount Units: pg/ul

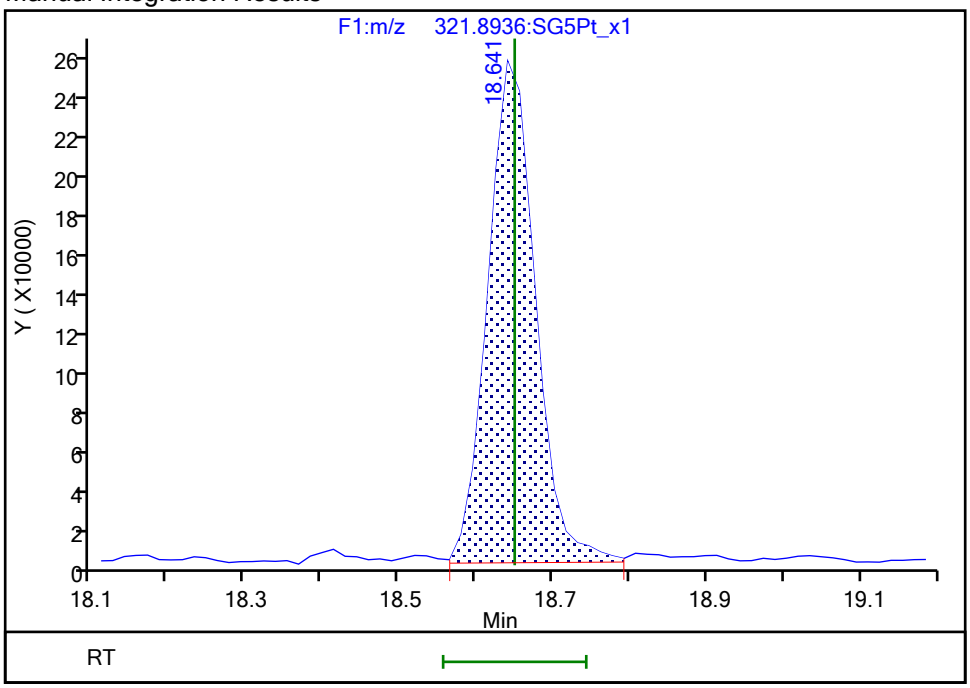

Reviewer: shardaa, 21-May-2019 17:52:42

Audit Action: Split an Integrated Peak Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_3.d				
Injection Date:	21-May-2019 13:31:22	Instrument ID:	3D5		
Lims ID:	IC 2				
Client ID:	L2				
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDD, CAS: 1746-01-6

Signal: 1

Processing Integration Results

RT: 18.64
Area: 887331
Amount: 0.492554
Amount Units: pg/ul

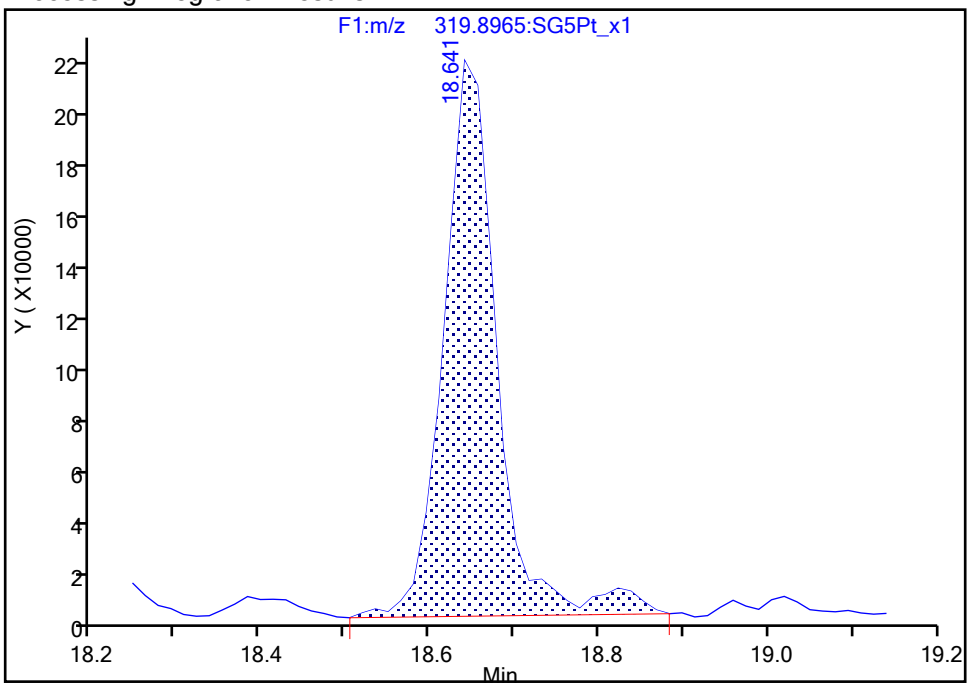

Manual Integration Results

RT: 18.64
Area: 847401
Amount: 0.472299
Amount Units: pg/ul

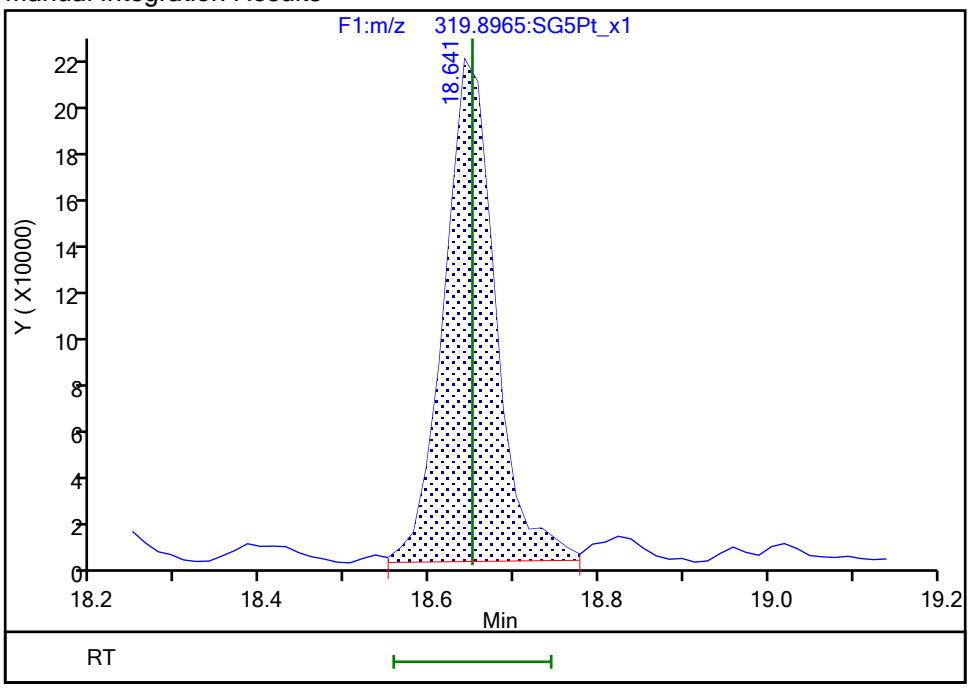

Reviewer: shardaa, 21-May-2019 17:52:45

Audit Action: Split an Integrated Peak Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_3.d				
Injection Date:	21-May-2019 13:31:22	Instrument ID:	3D5		
Lims ID:	IC 2				
Client ID:	L2				
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

13C-2,3,4,7,8-PeCDF, CAS: 116843-02-8

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 24.49

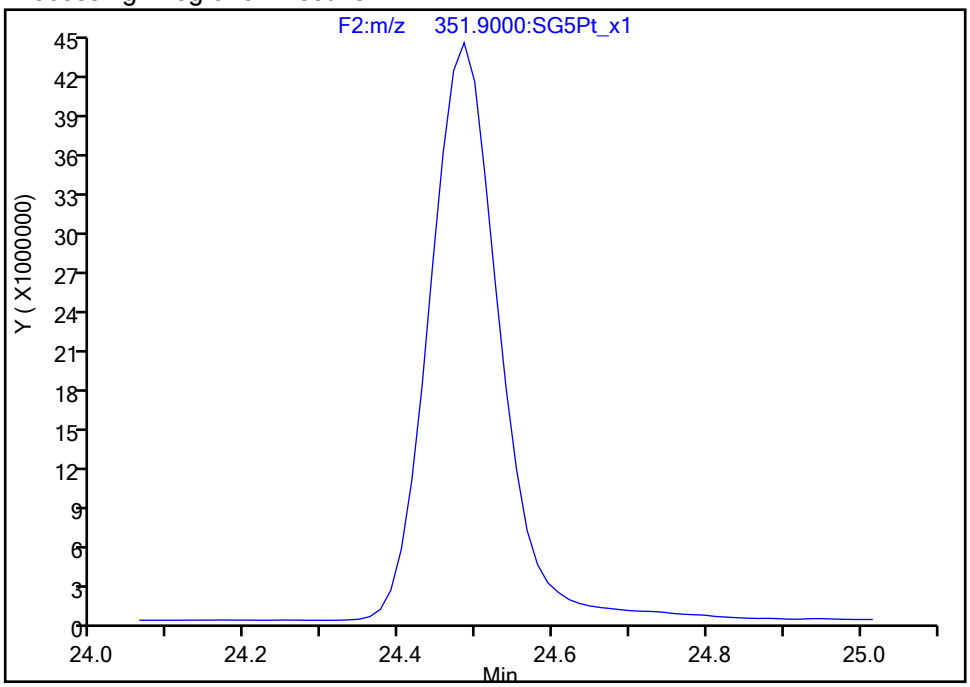

Manual Integration Results

RT:	24.48
Area:	283327157
Amount:	98.739210
Amount Units:	pg/ul

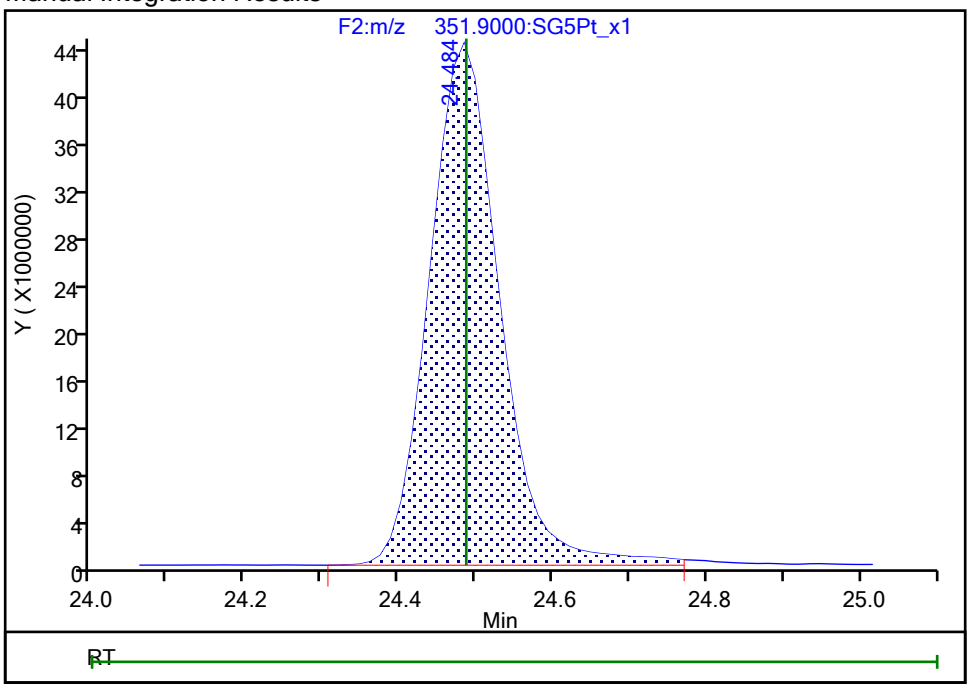

Reviewer: shardaa, 21-May-2019 17:48:59
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_3.d				
Injection Date:	21-May-2019 13:31:22	Instrument ID:	3D5		
Lims ID:	IC 2				
Client ID:	L2				
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

13C-1,2,3,4,7,8-HxCDF, CAS: 114423-98-2

Signal: 1

Not Detected
Expected RT: 31.05

Processing Integration Results

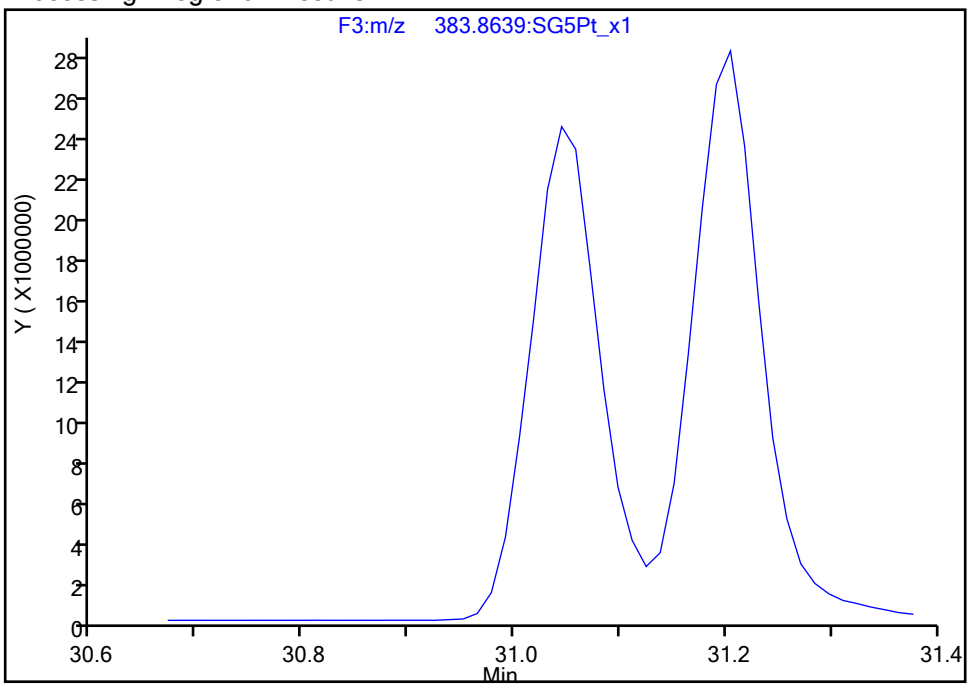

RT: 31.04
Area: 111273946
Amount: 95.396857
Amount Units: pg/ul

Manual Integration Results

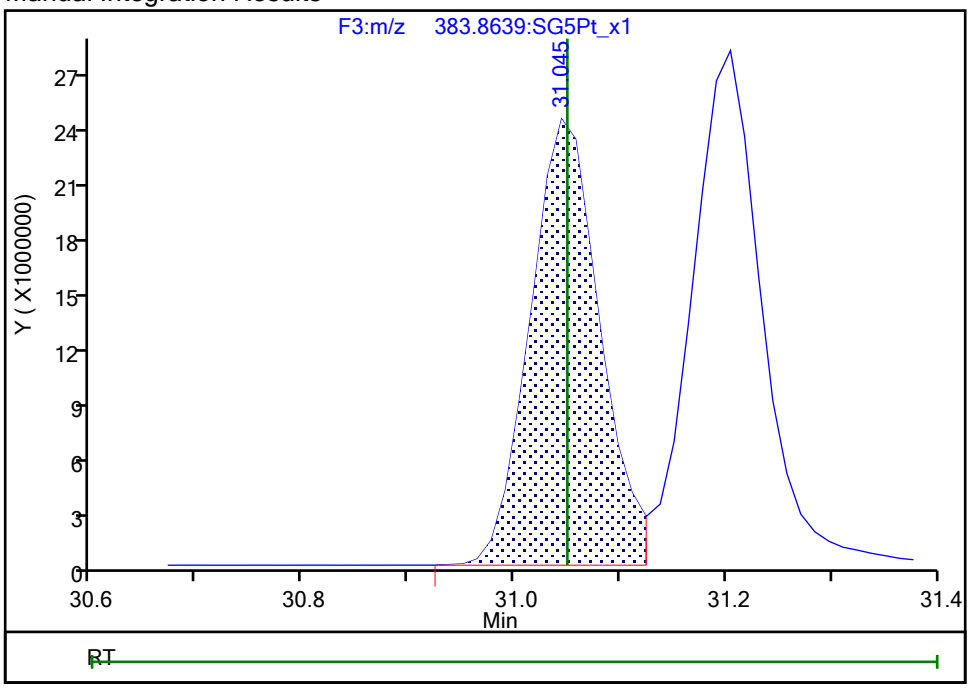

Reviewer: shardaa, 21-May-2019 17:49:07
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_3.d				
Injection Date:	21-May-2019 13:31:22	Instrument ID:	3D5		
Lims ID:	IC 2				
Client ID:	L2				
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

13C-1,2,3,4,7,8-HxCDD, CAS: 109719-80-4

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 32.09

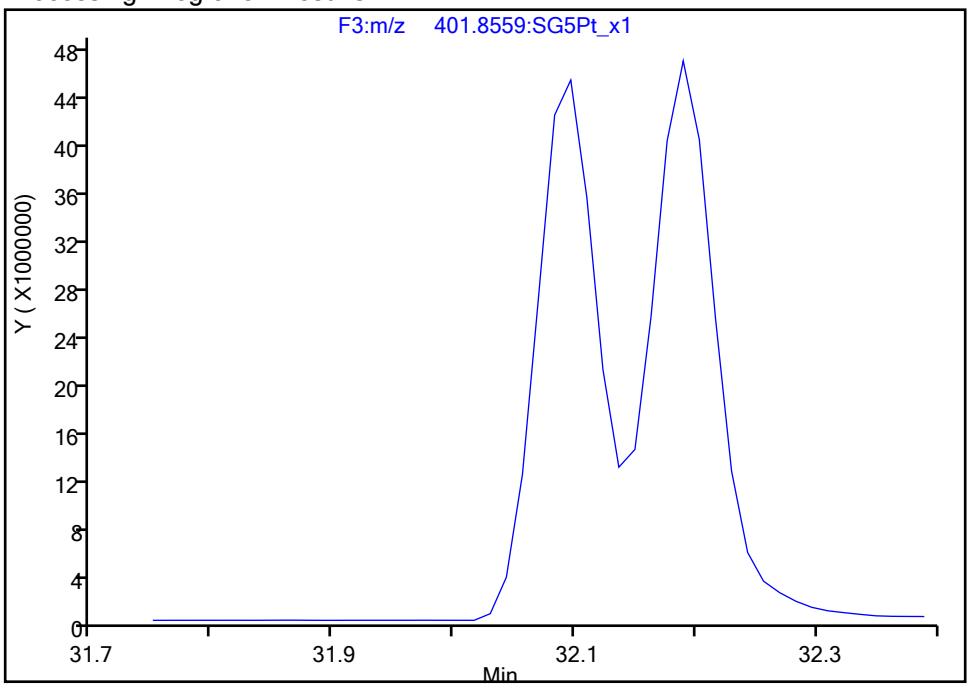

Manual Integration Results

RT: 32.10
Area: 154547817
Amount: 97.908635
Amount Units: pg/ul

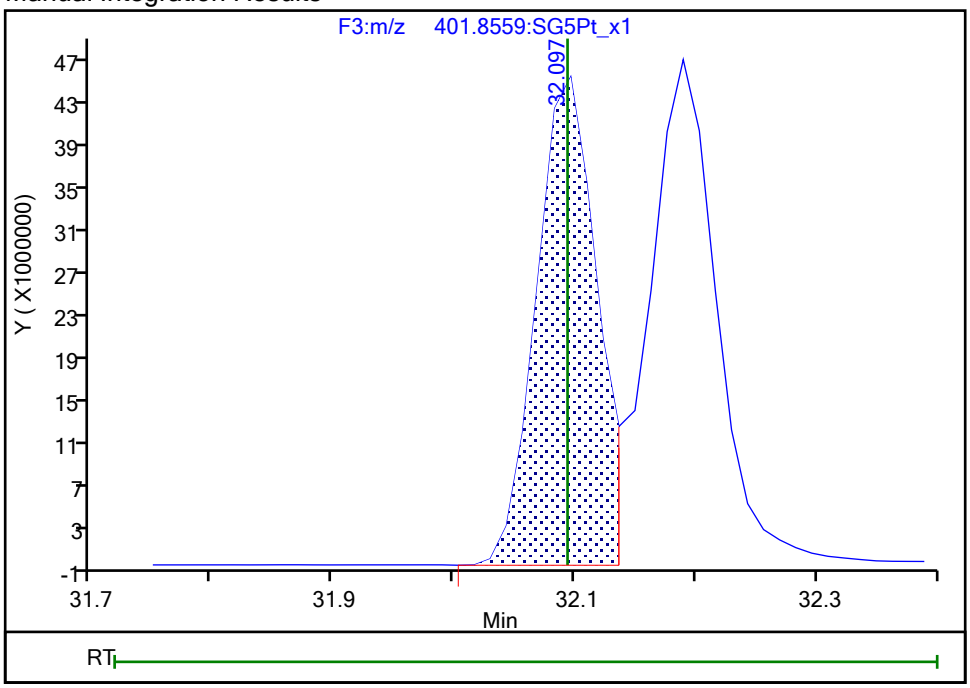

Reviewer: shardaa, 21-May-2019 17:49:16
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_3.d				
Injection Date:	21-May-2019 13:31:22	Instrument ID:	3D5		
Lims ID:	IC 2				
Client ID:	L2				
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

13C-1,2,3,4,7,8,9-HpCDF, CAS: 109719-94-0

Signal: 1

Not Detected
Expected RT: 35.23

Processing Integration Results

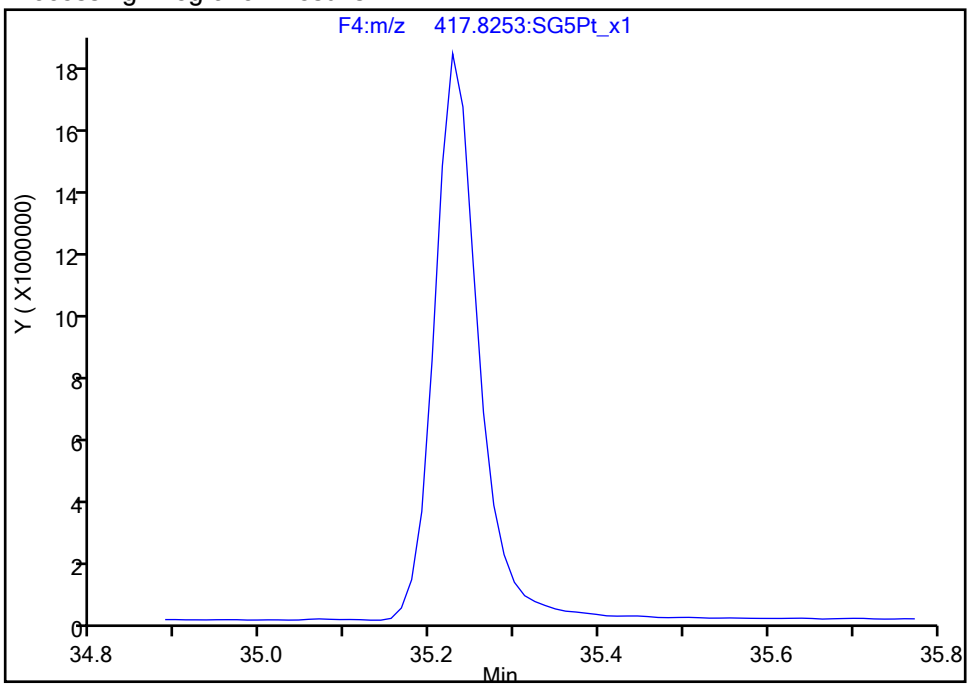

Manual Integration Results

RT: 35.23
Area: 66152303
Amount: 96.481083
Amount Units: pg/ul

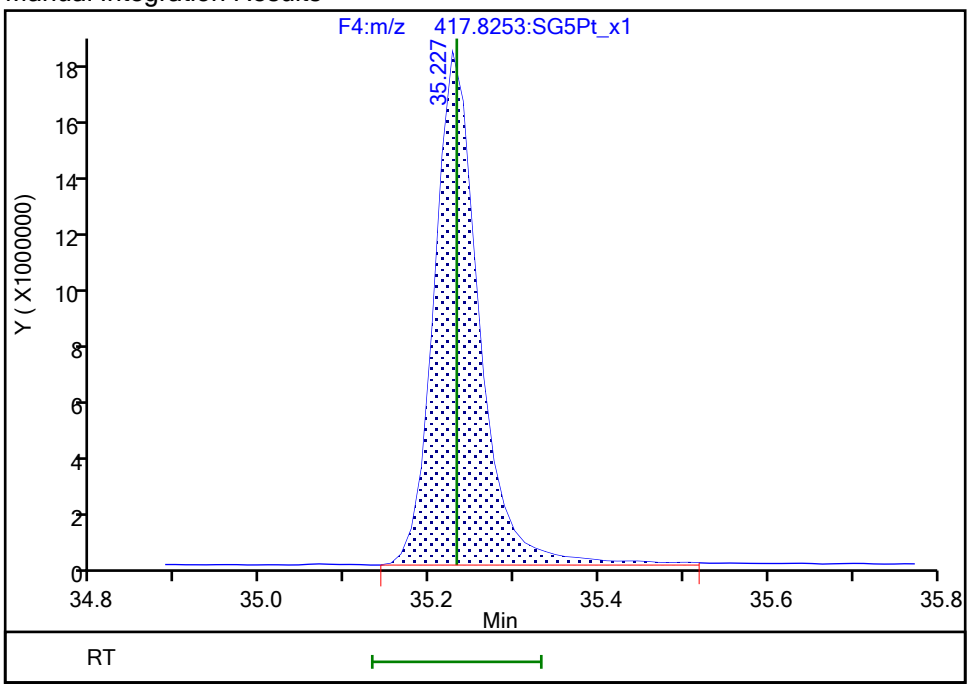

Reviewer: shardaa, 21-May-2019 17:49:23
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Report Date: 22-May-2019 11:44:12 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_3.d		
Injection Date:	21-May-2019 13:31:22	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L2		
Worklist#:	296020	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

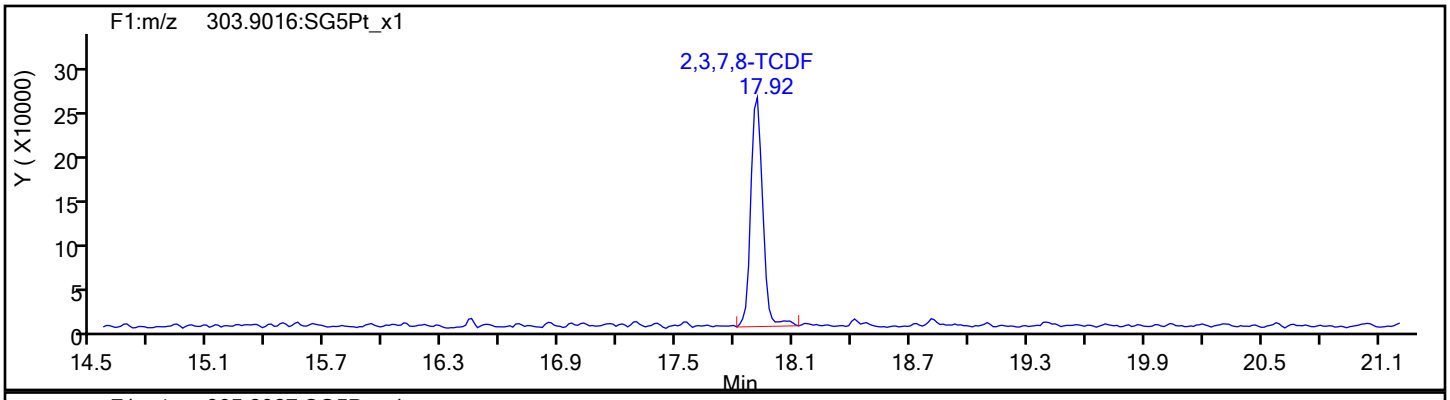

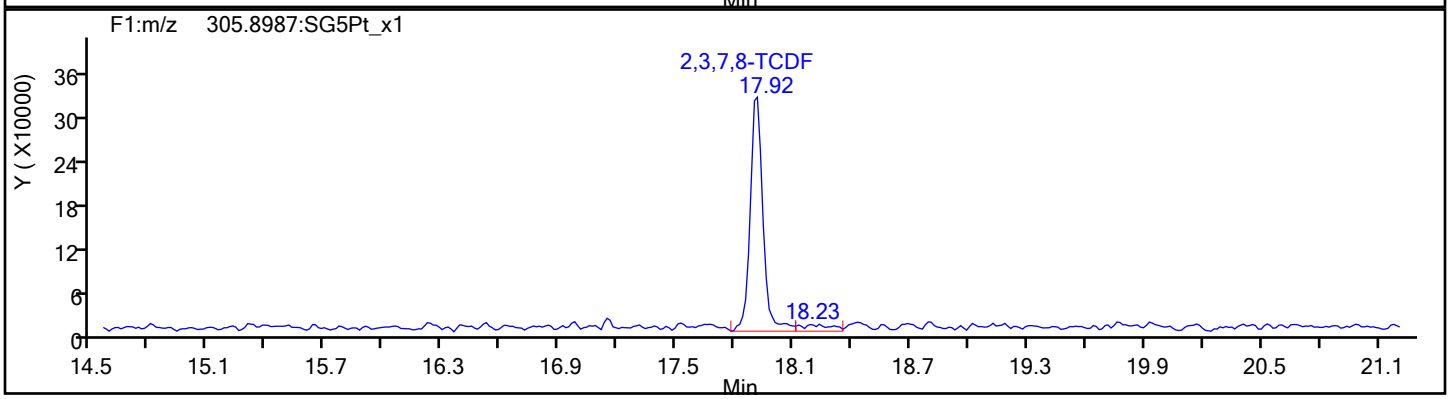

TCDF Standards

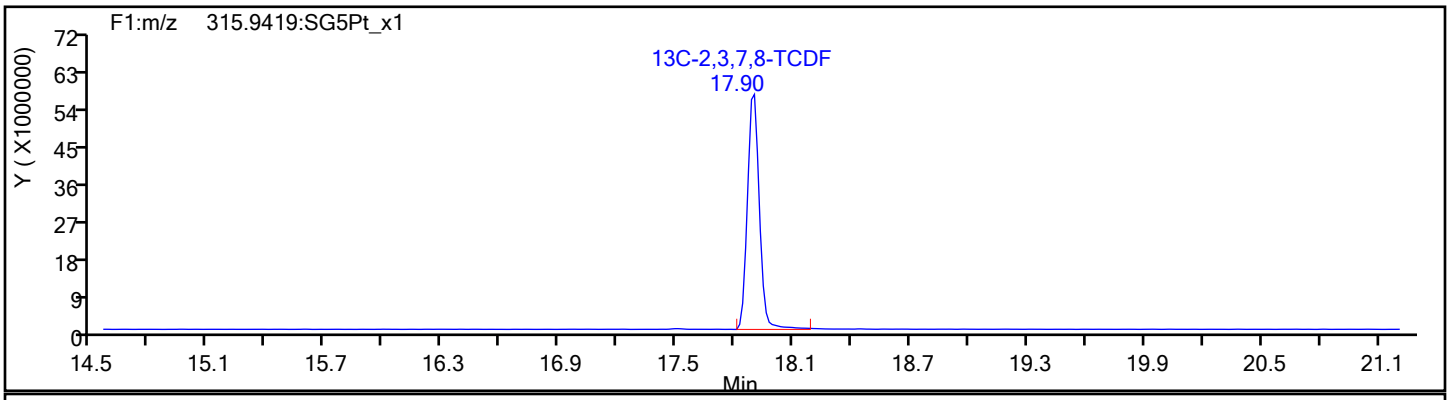

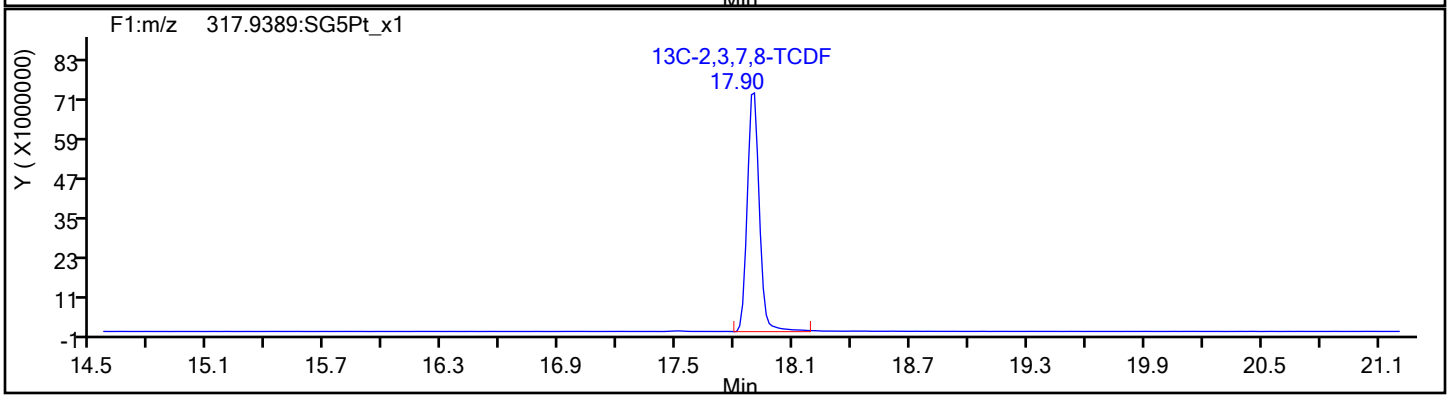

Report Date: 22-May-2019 11:44:12 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_3.d		
Injection Date:	21-May-2019 13:31:22	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L2		
Worklist#:	296020	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

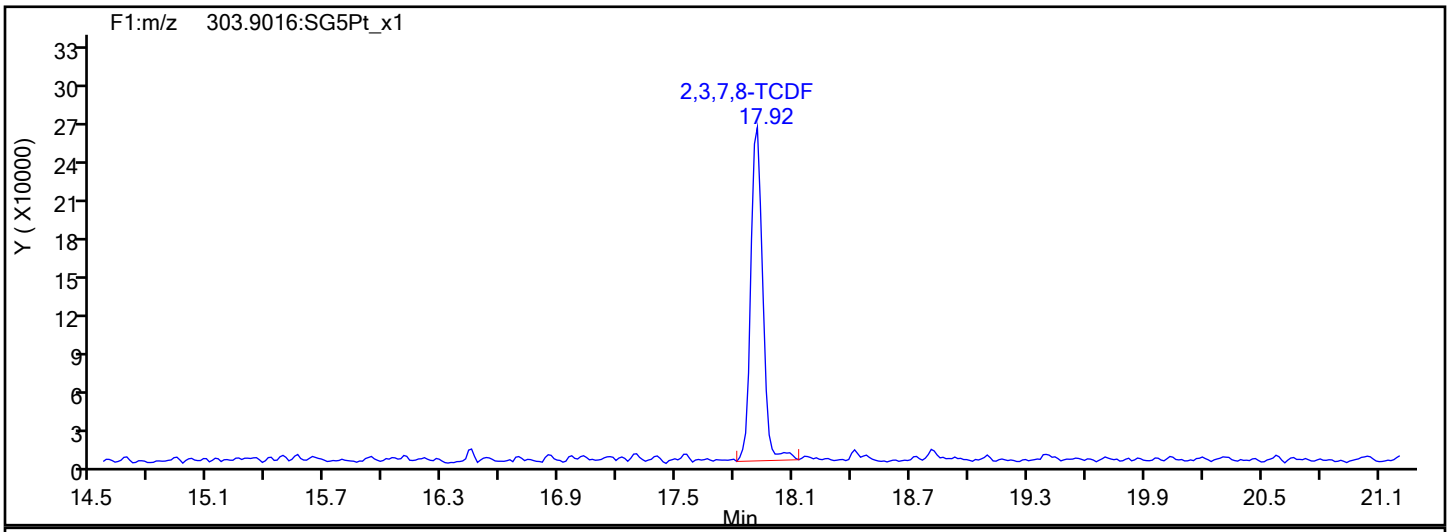

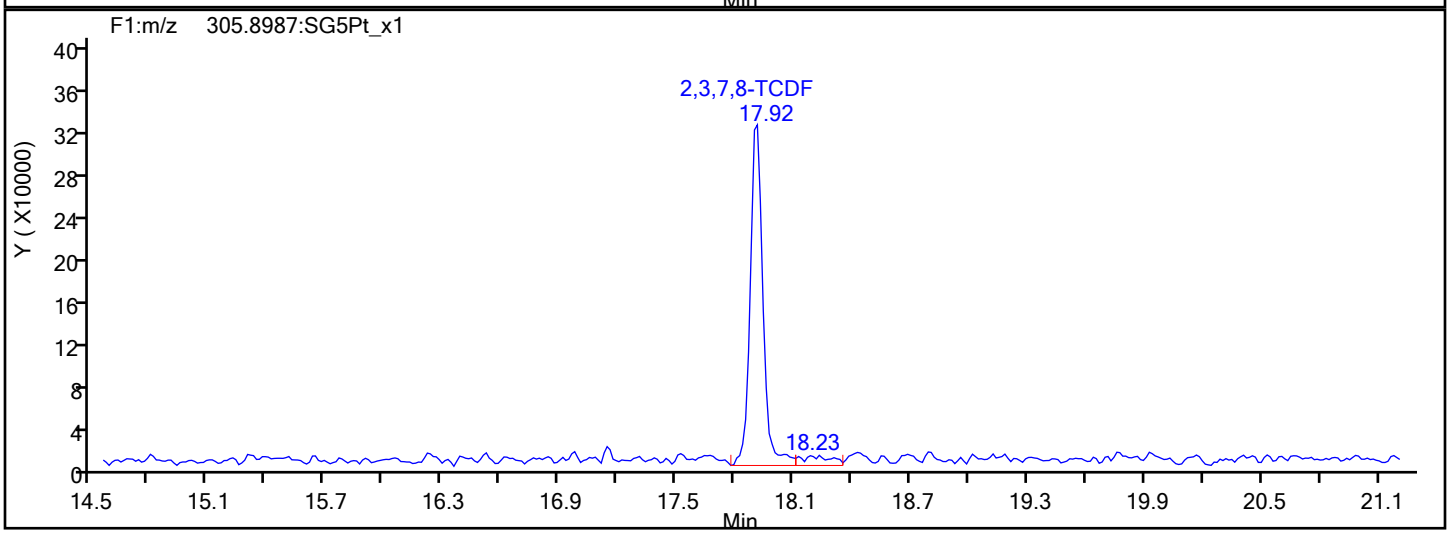

TCDF Interference Mass

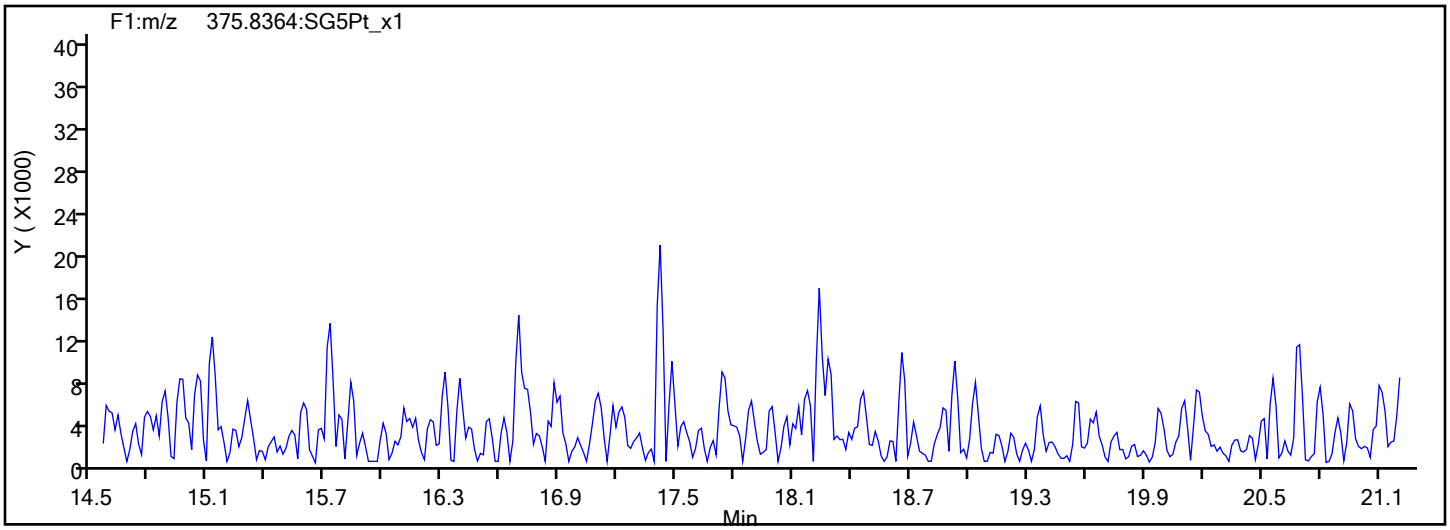

Report Date: 22-May-2019 11:44:12 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_3.d		
Injection Date:	21-May-2019 13:31:22	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L2		
Worklist#:	296020	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

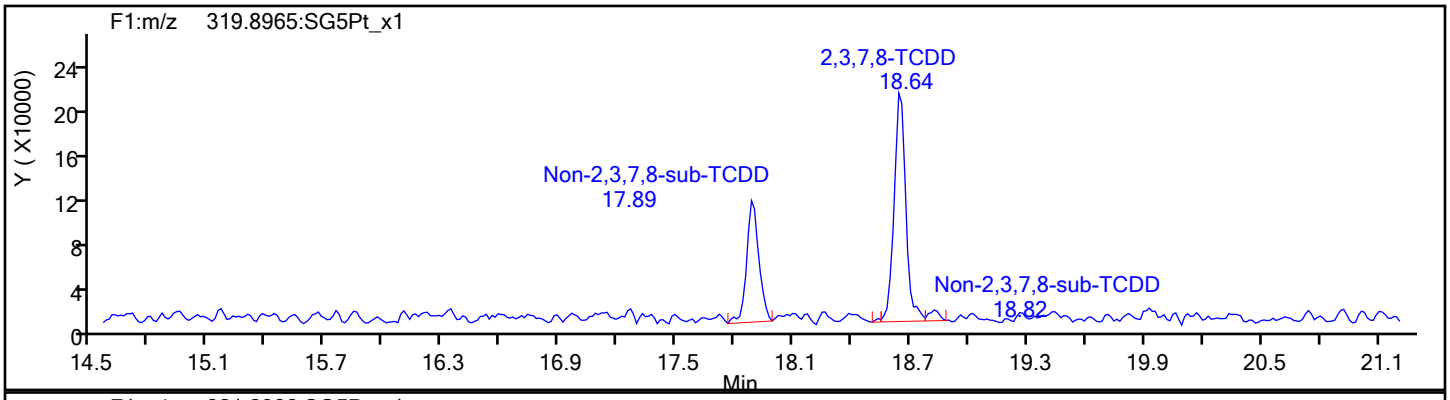

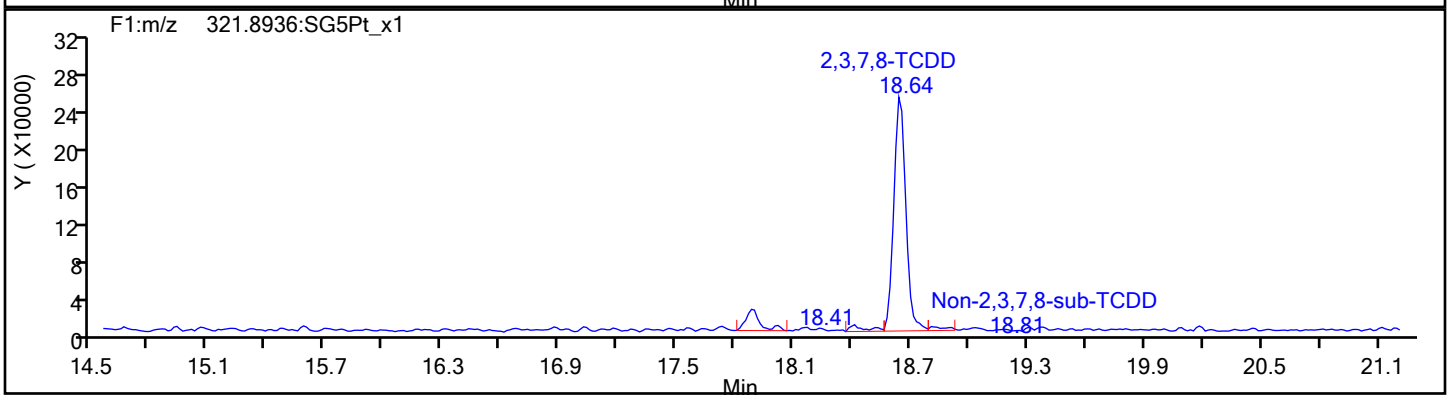

TCDD Standards

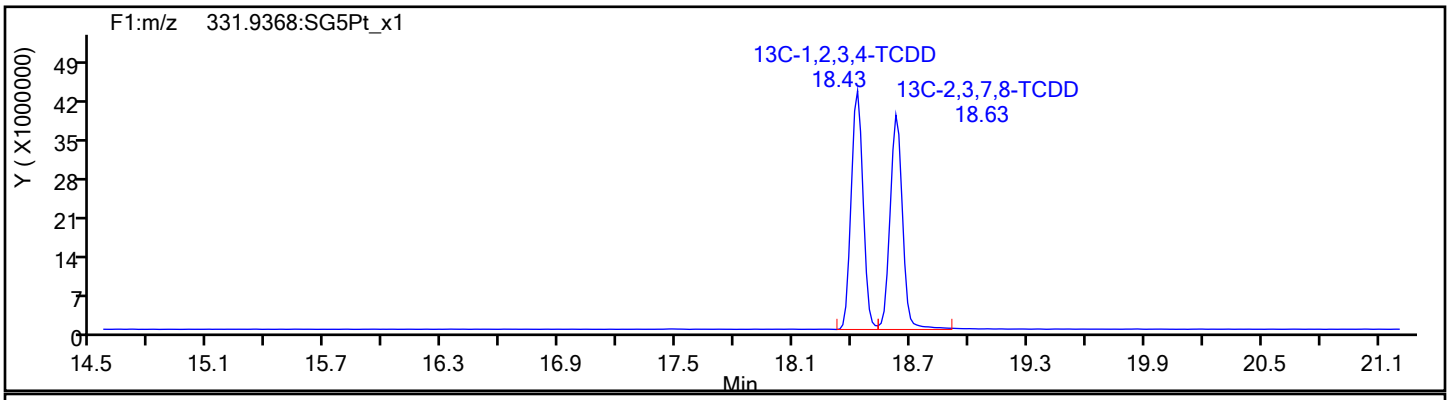

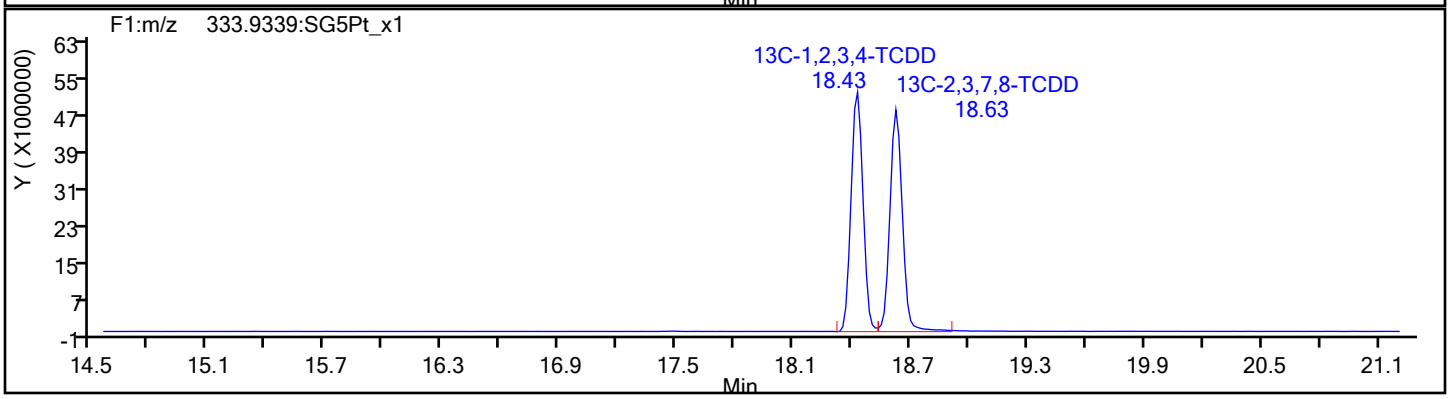

Report Date: 22-May-2019 11:44:12 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_3.d		
Injection Date:	21-May-2019 13:31:22	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L2		
Worklist#:	296020	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

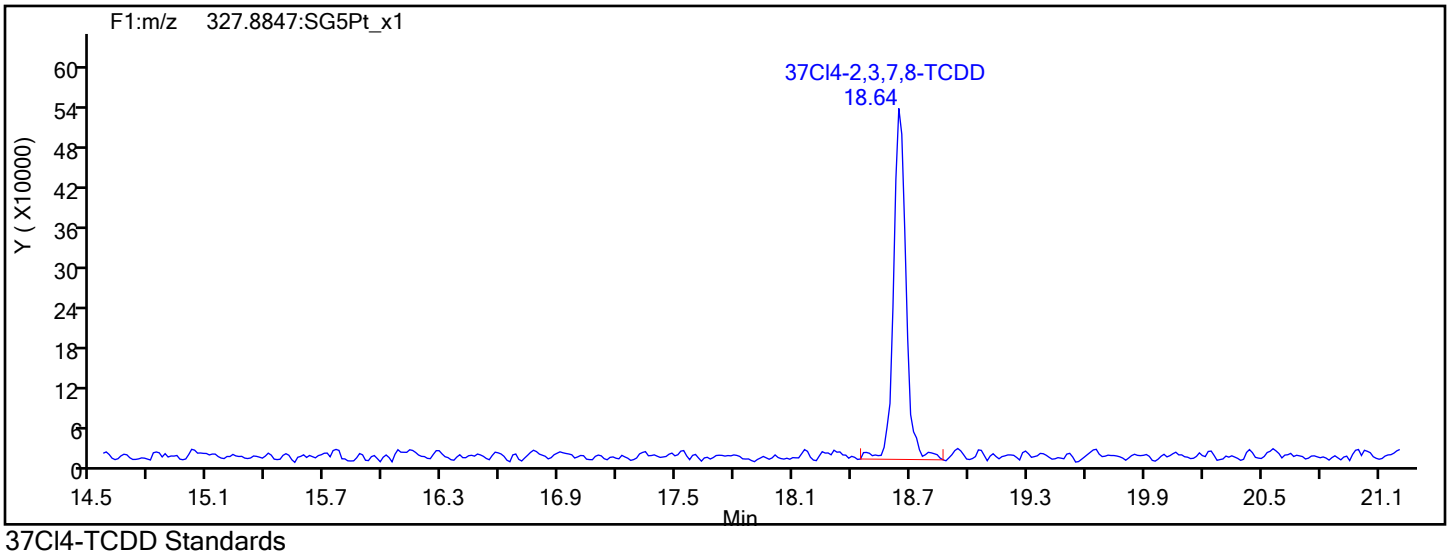

37Cl4-TCDD Standards

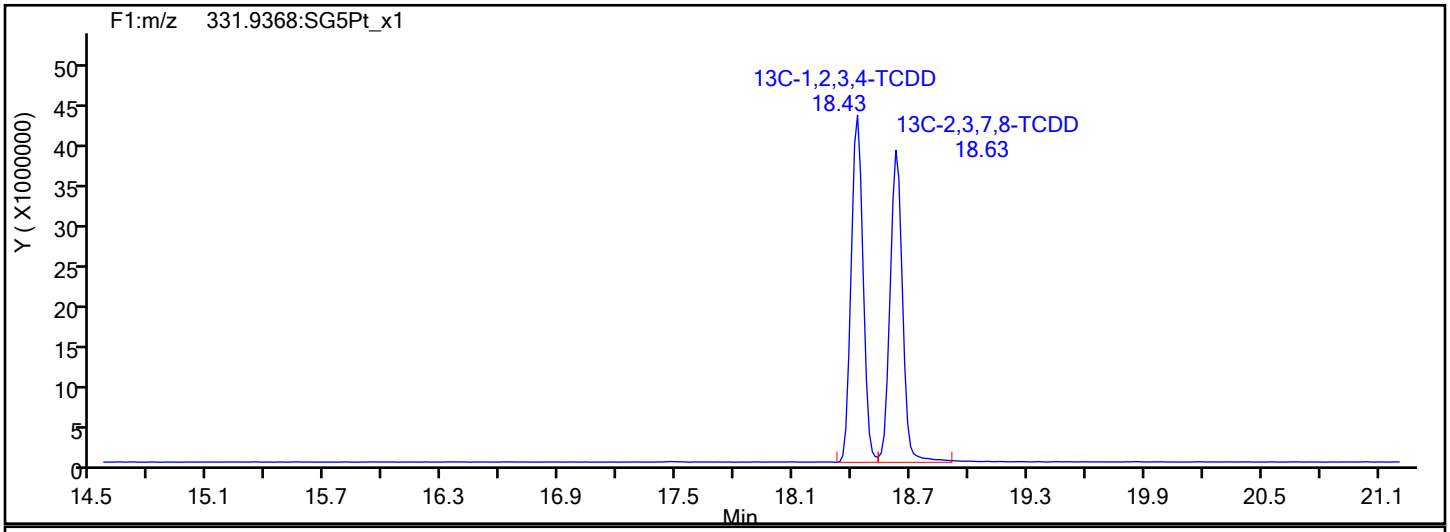

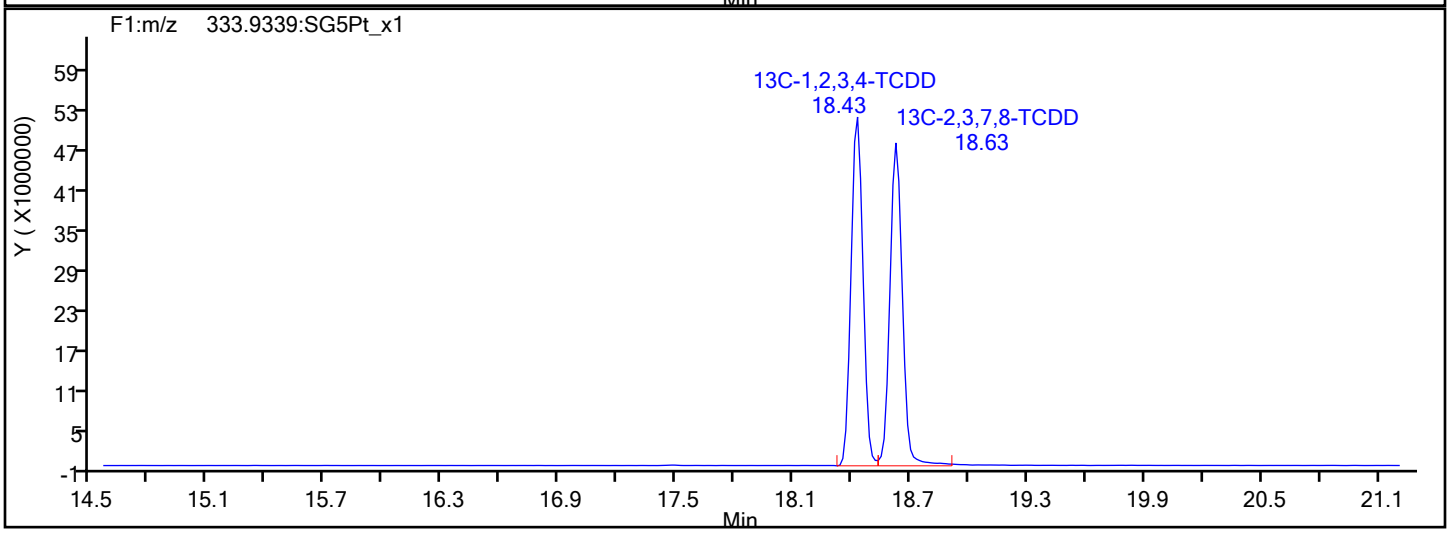

Report Date: 22-May-2019 11:44:12 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_3.d		
Injection Date:	21-May-2019 13:31:22	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L2		
Worklist#:	296020	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

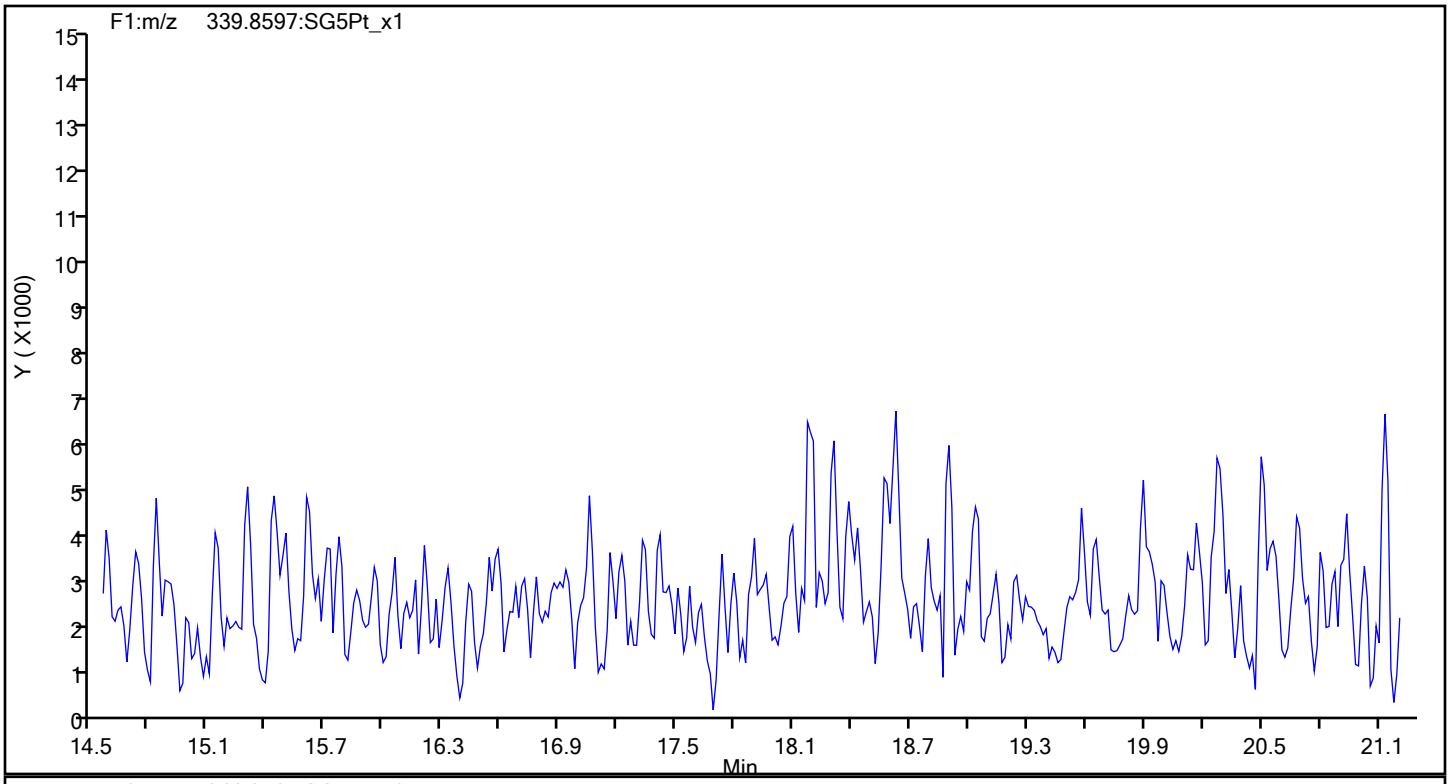

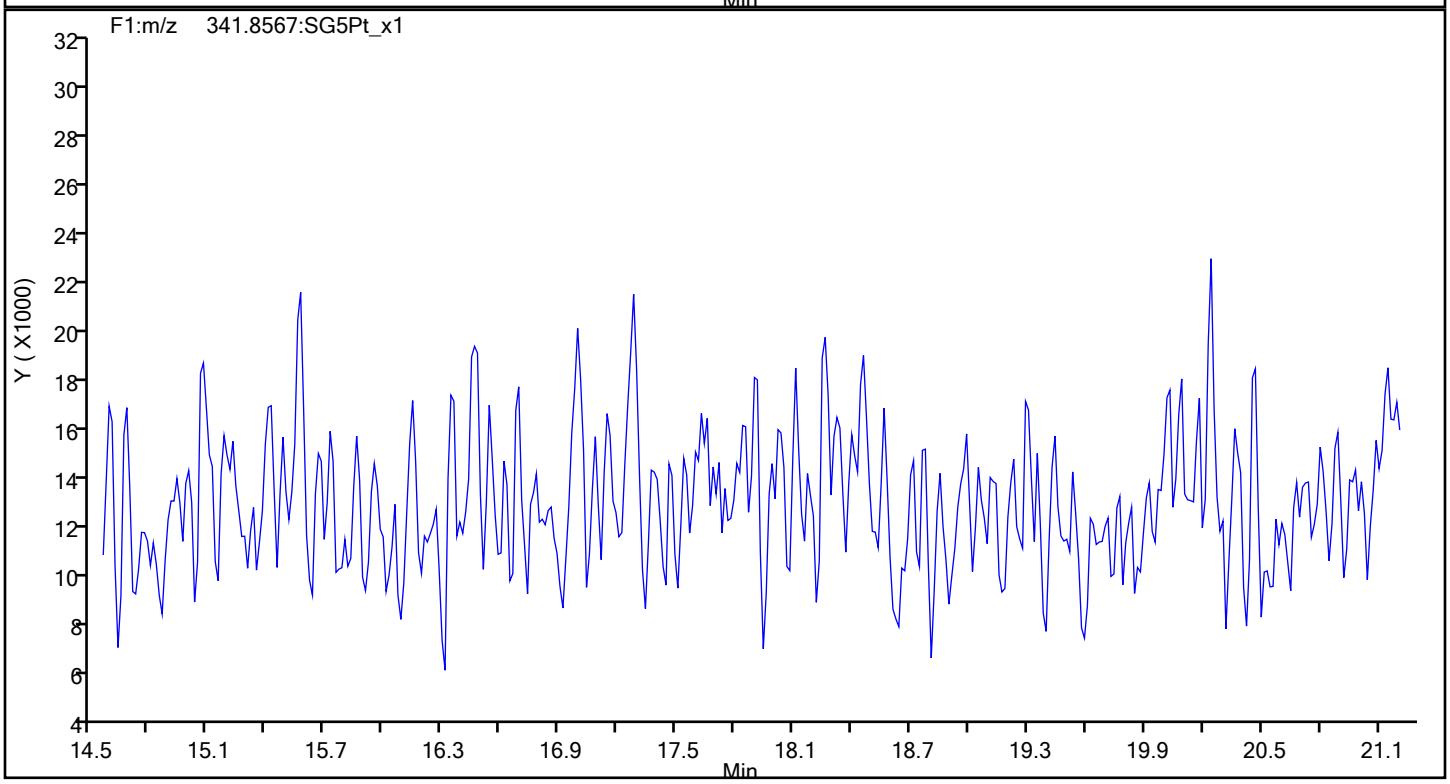

Report Date: 22-May-2019 11:44:12 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_3.d		
Injection Date:	21-May-2019 13:31:22	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L2		
Worklist#:	296020	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

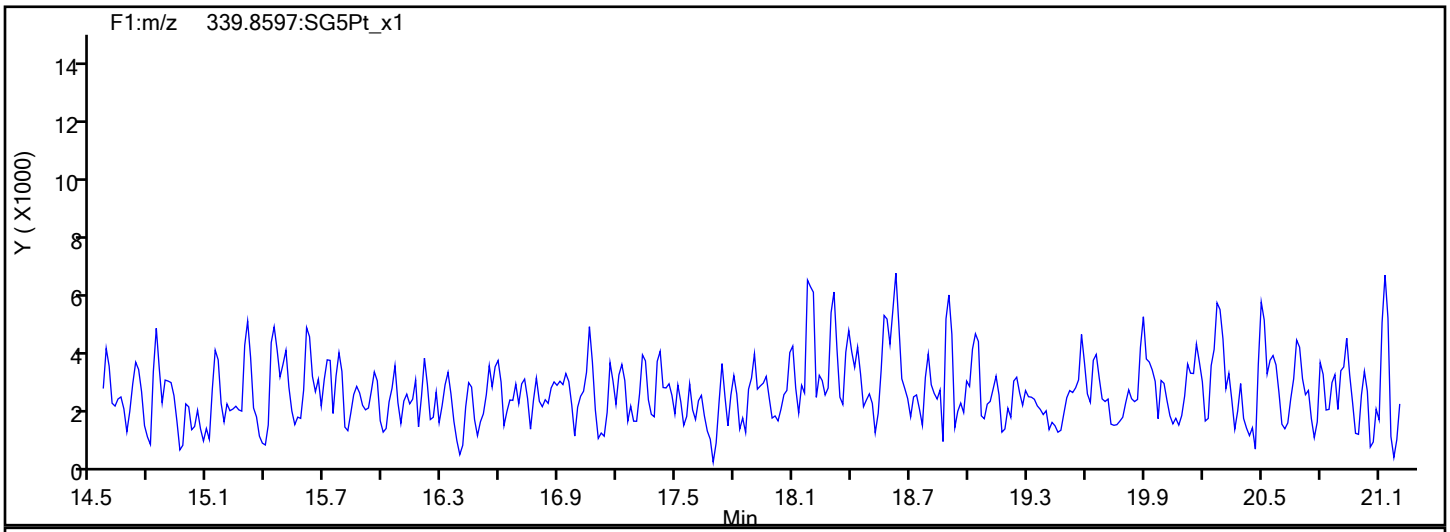

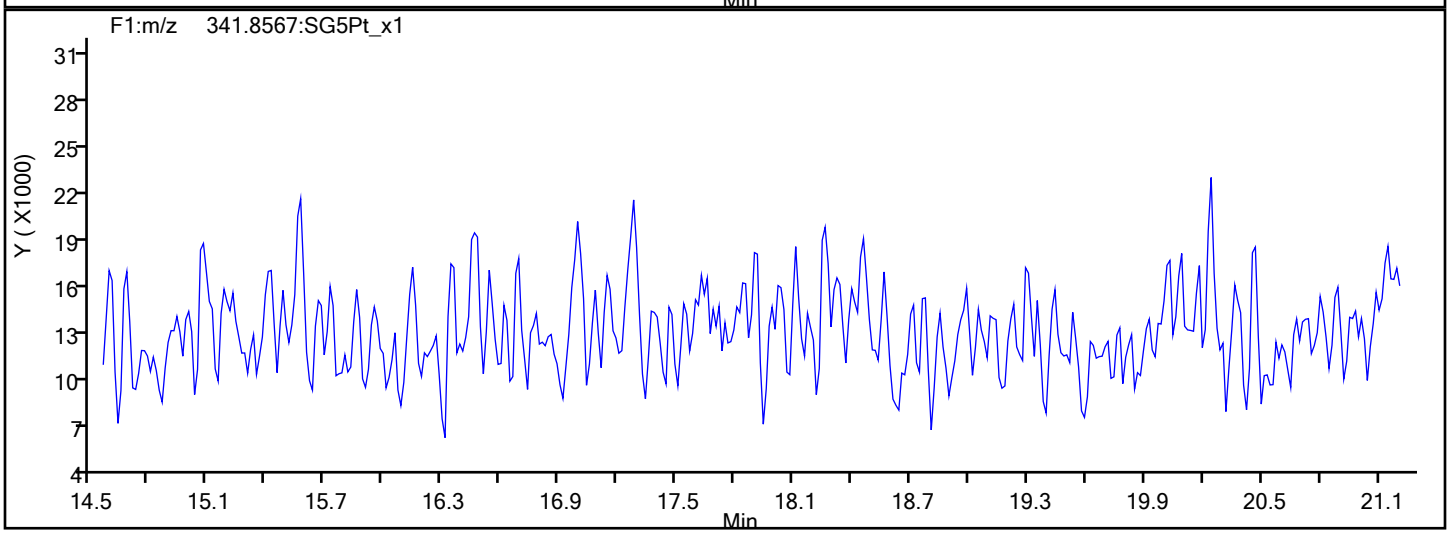

F1 PeCDFs Interference Mass

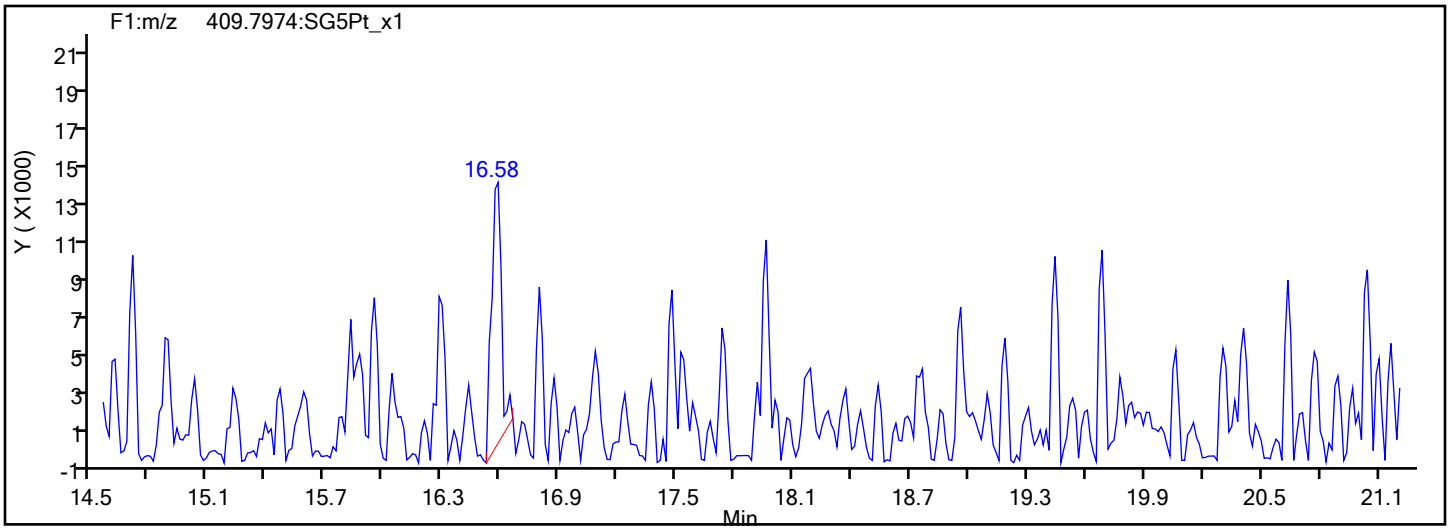

Report Date: 22-May-2019 11:44:12 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_3.d		
Injection Date:	21-May-2019 13:31:22	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
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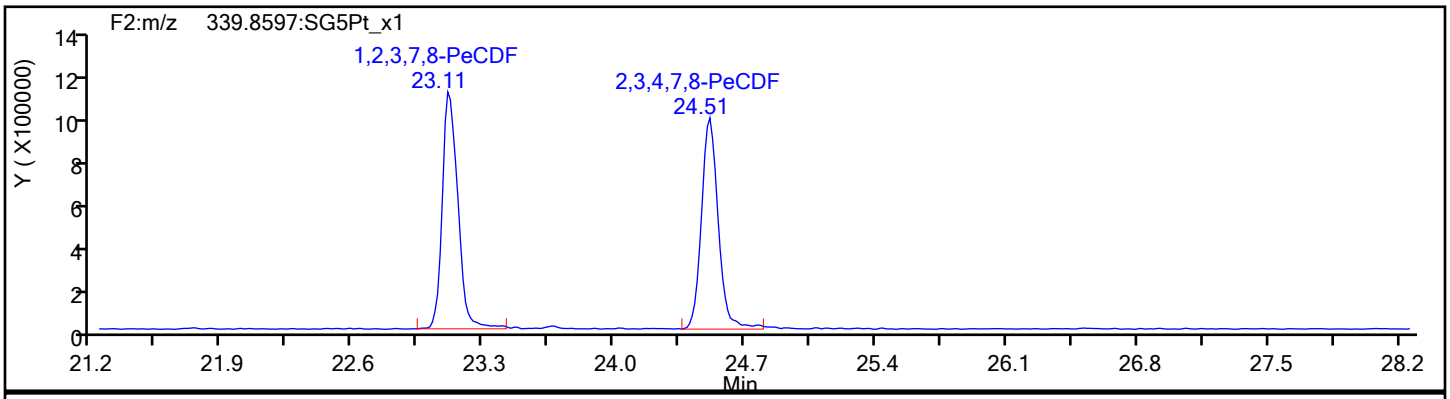

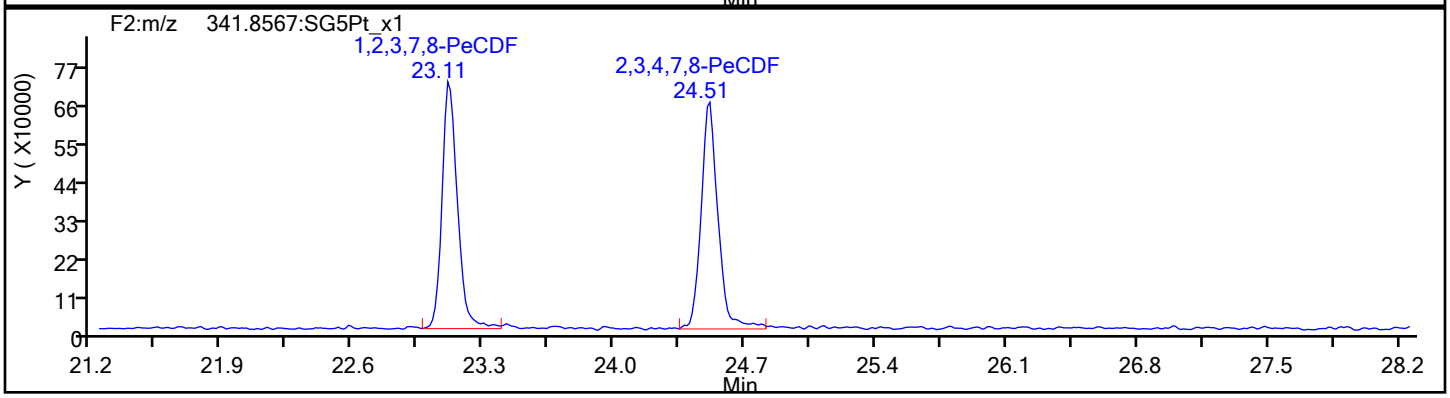

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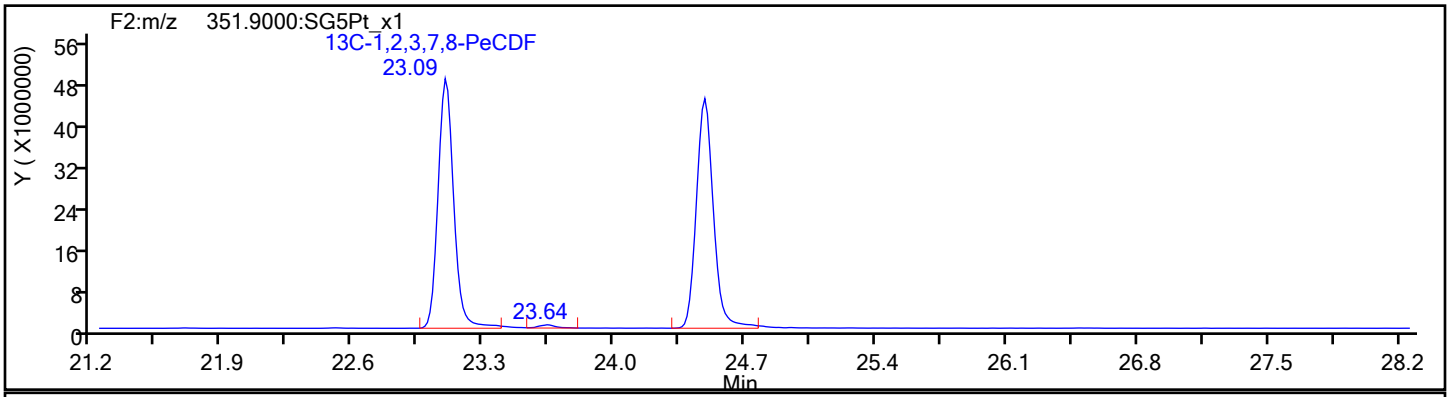

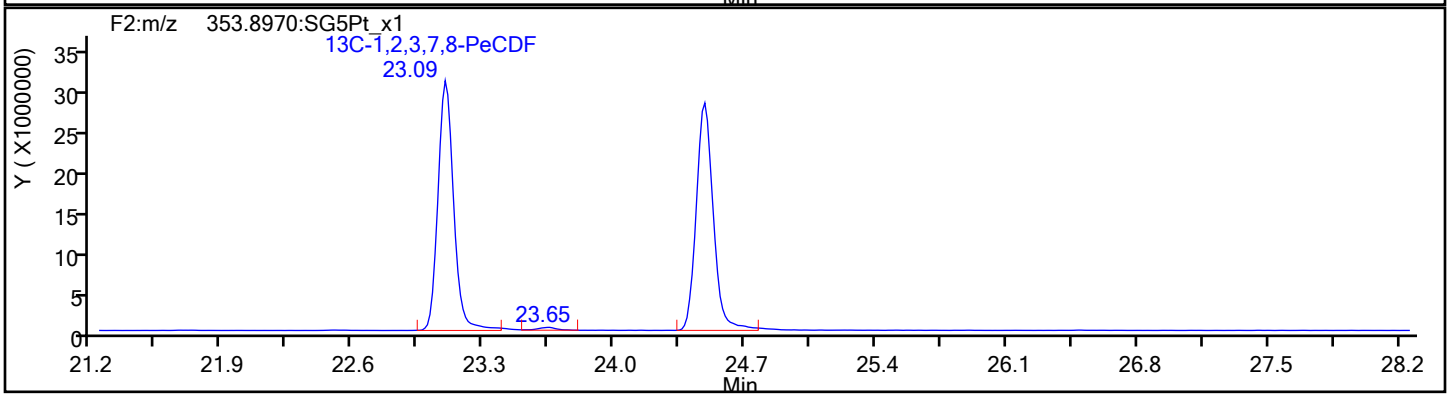

Report Date: 22-May-2019 11:44:12 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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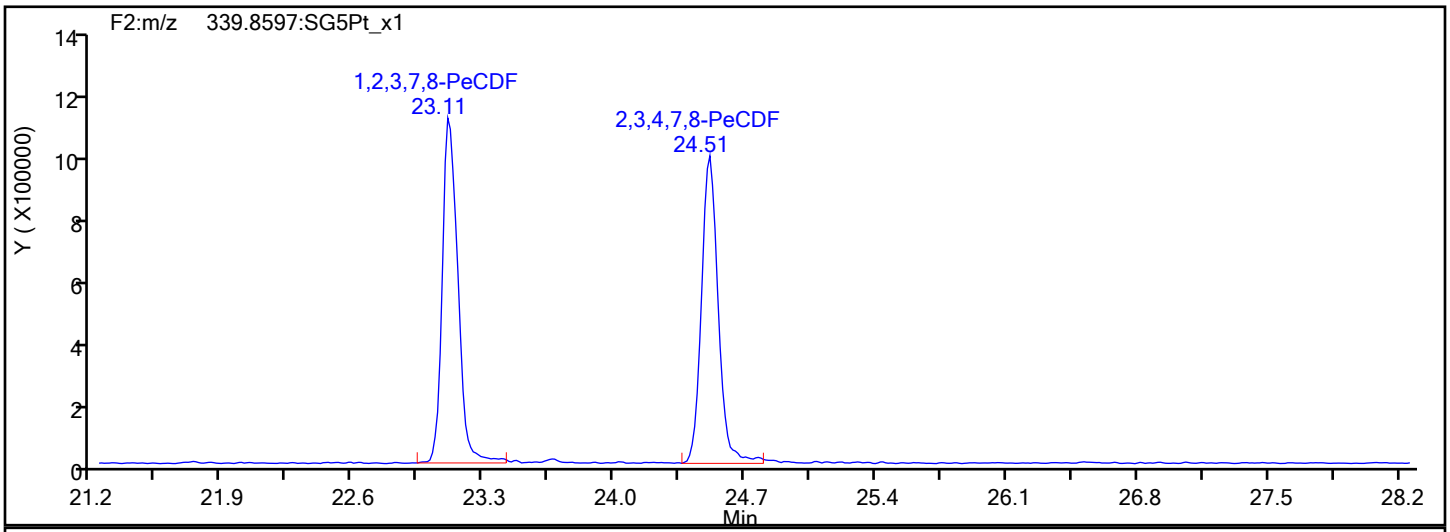

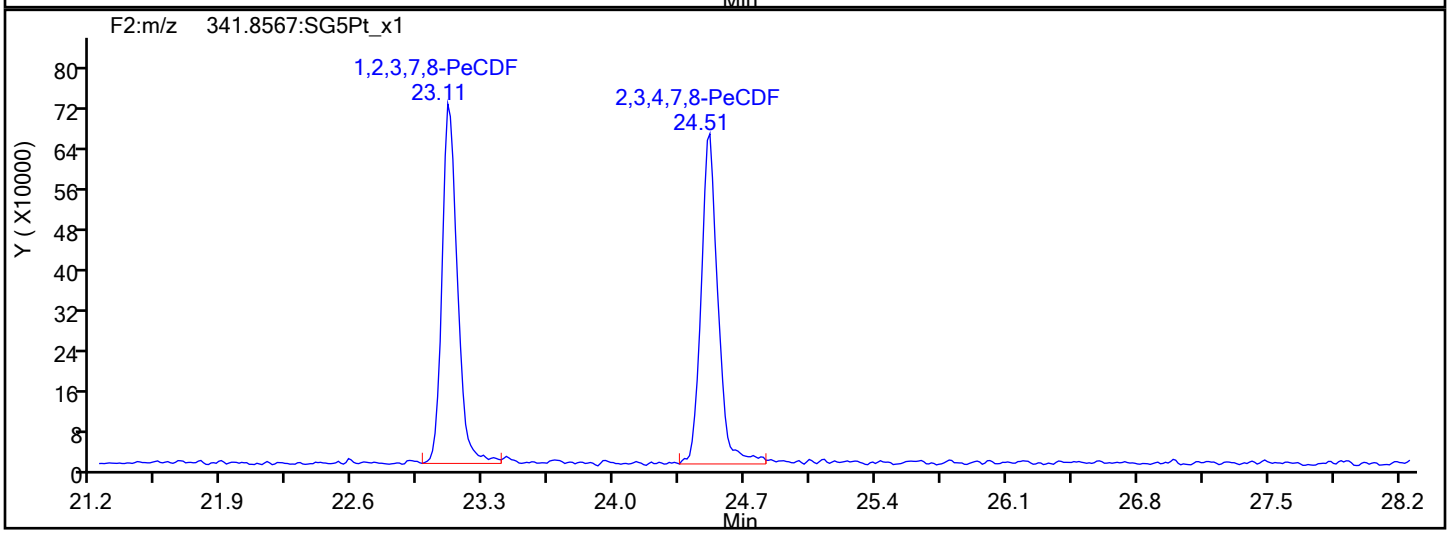

PeCDF Interference Mass

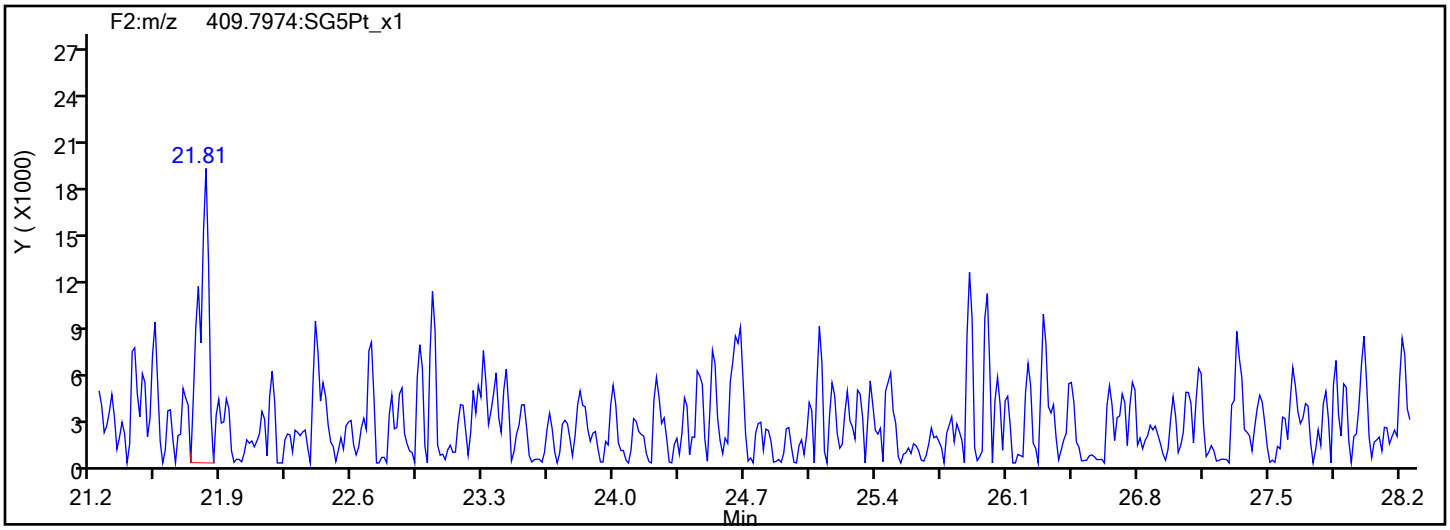

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Eurofins TestAmerica, Sacramento

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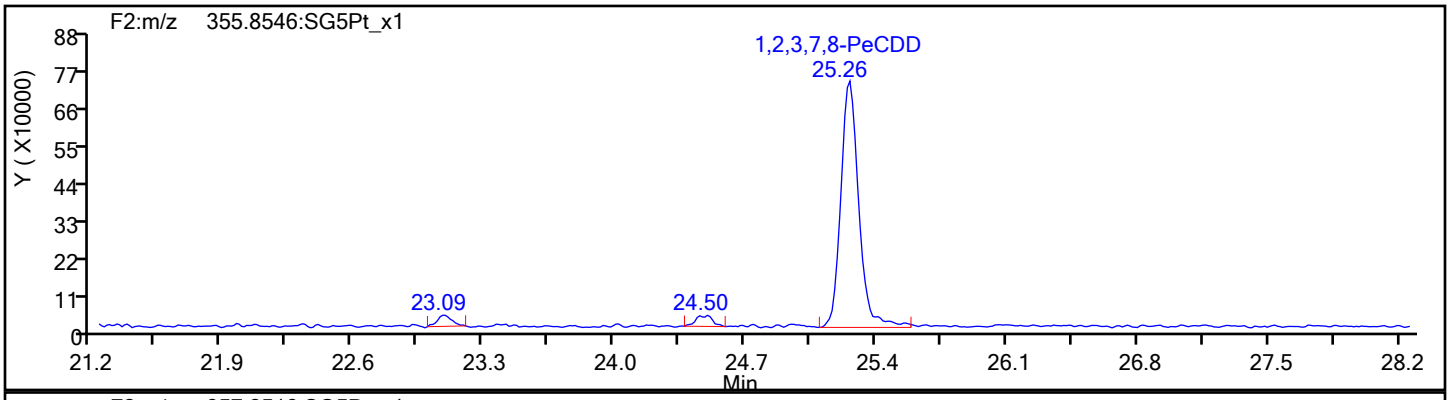

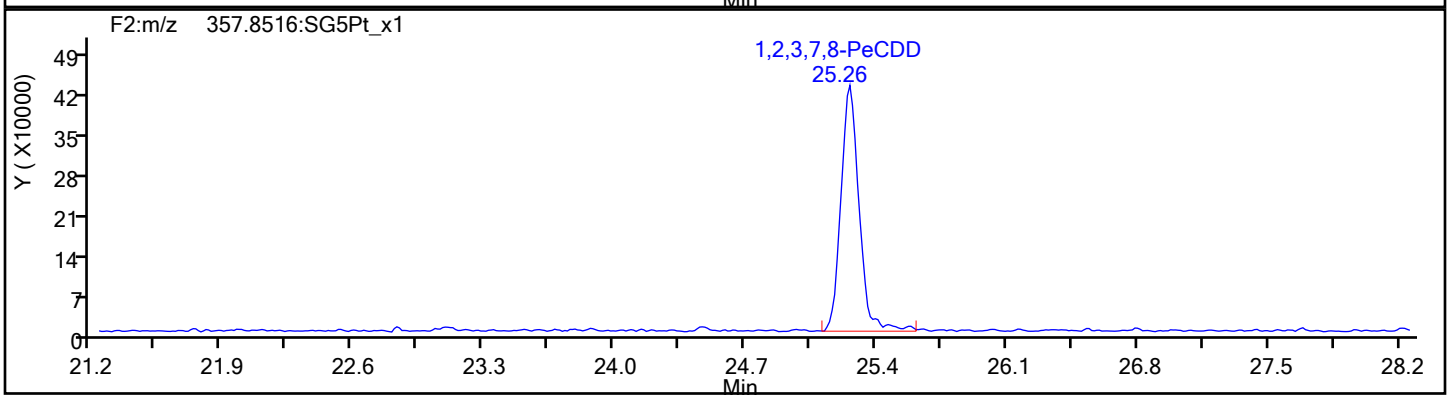

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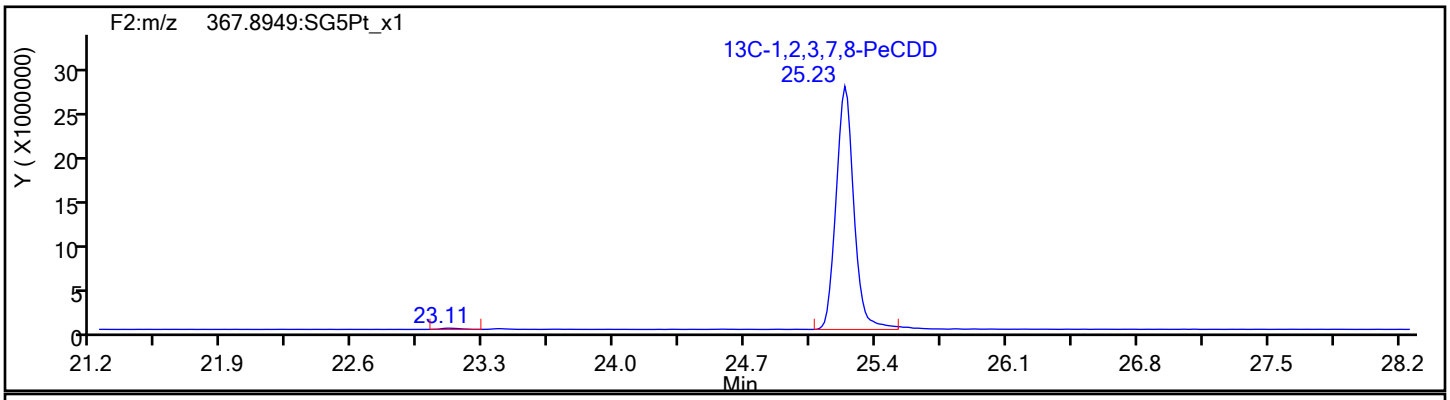

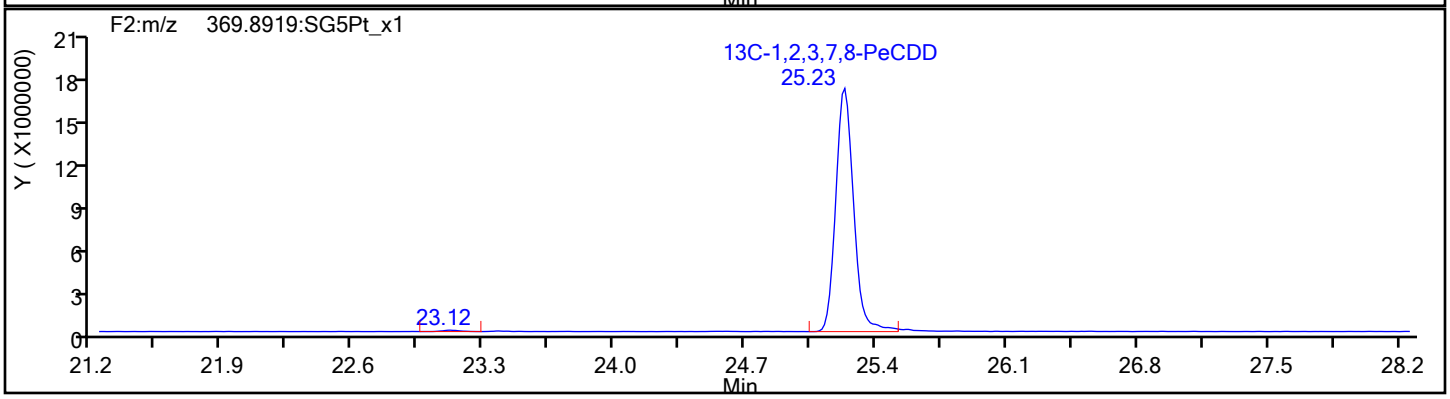

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Eurofins TestAmerica, Sacramento

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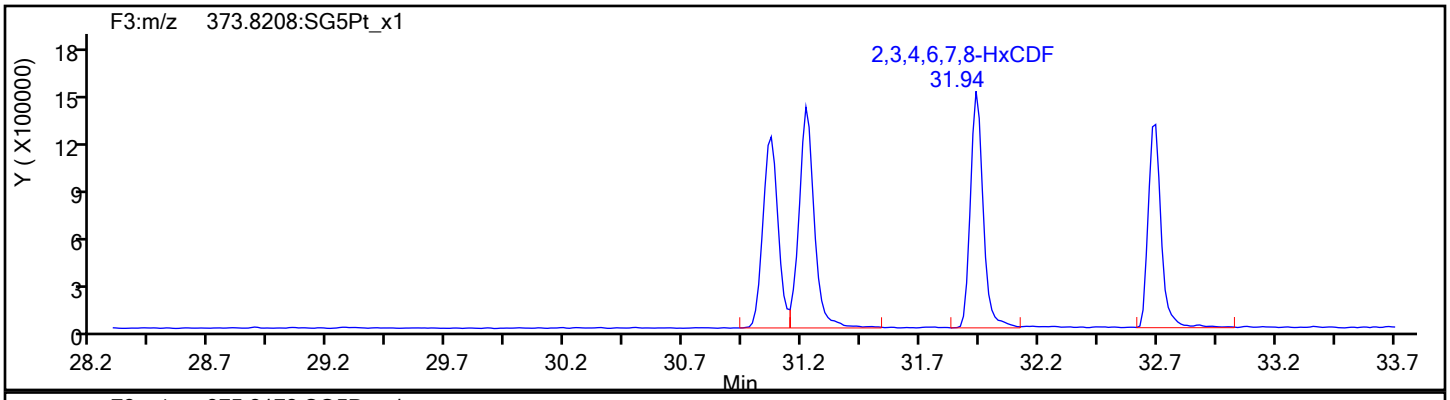

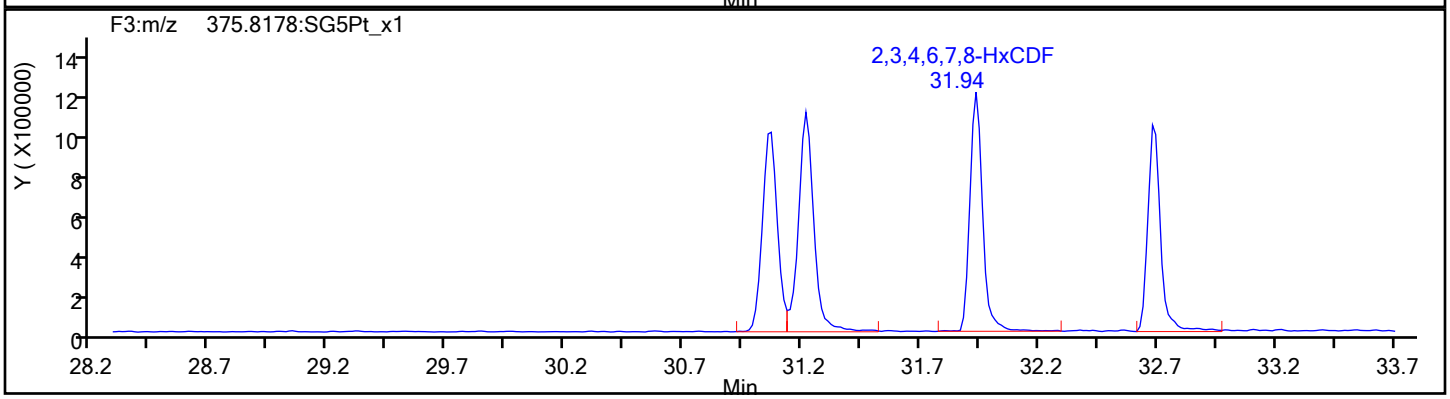

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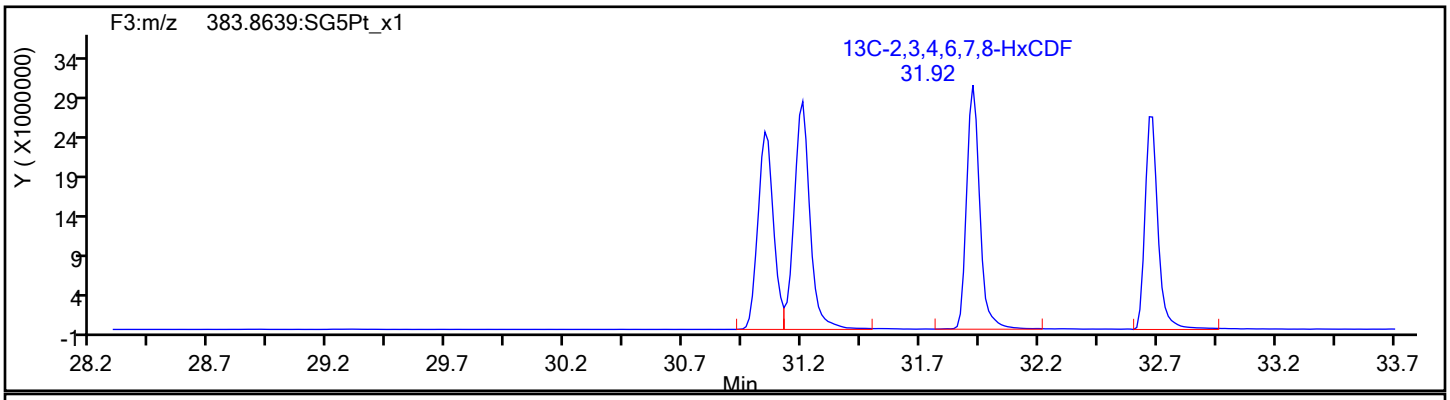

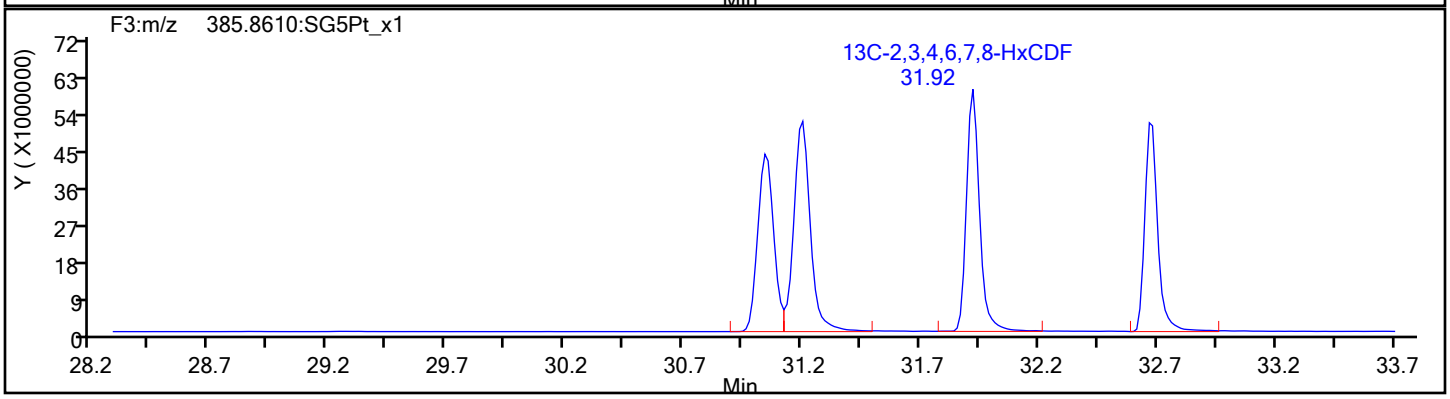

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Eurofins TestAmerica, Sacramento

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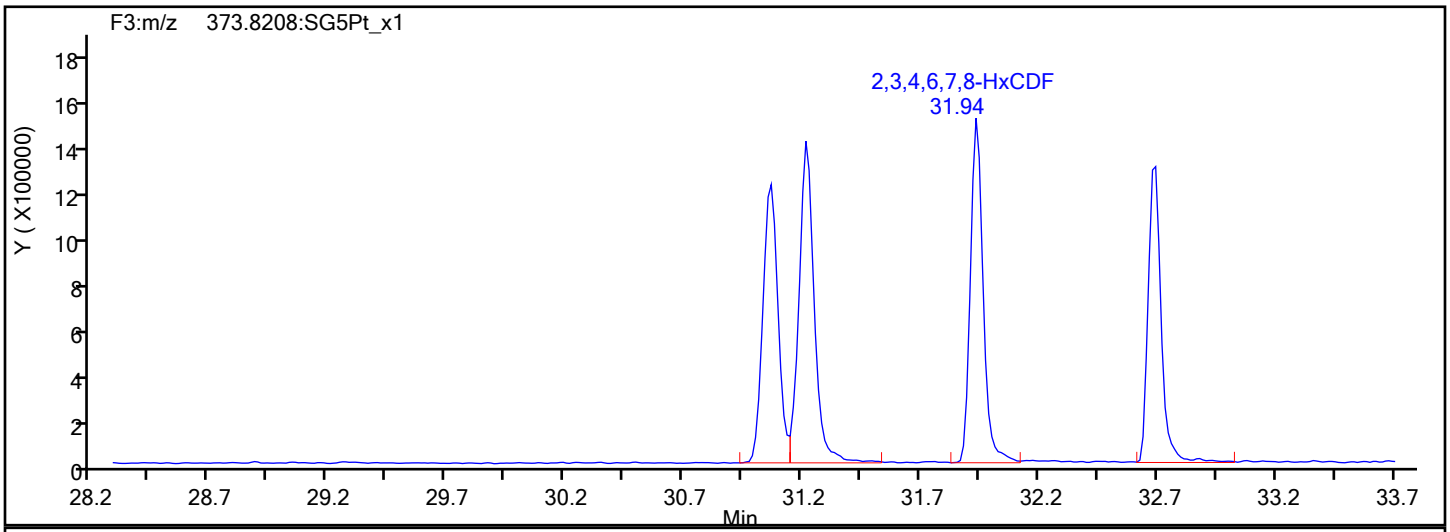

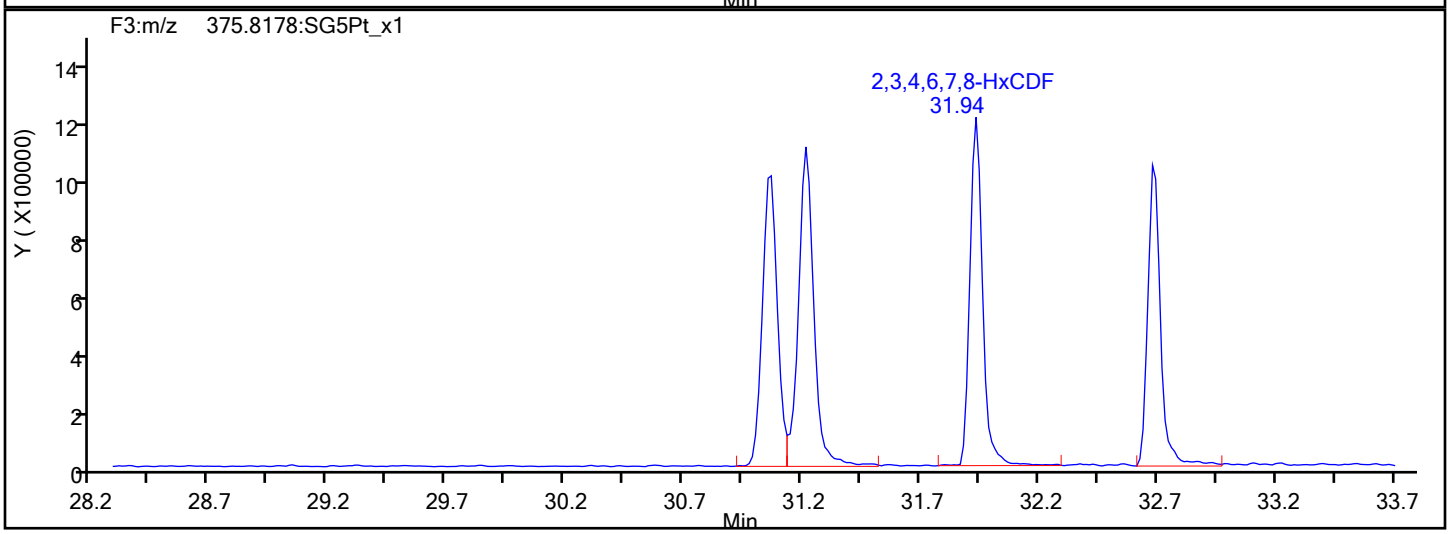

HxCDF Interference Mass

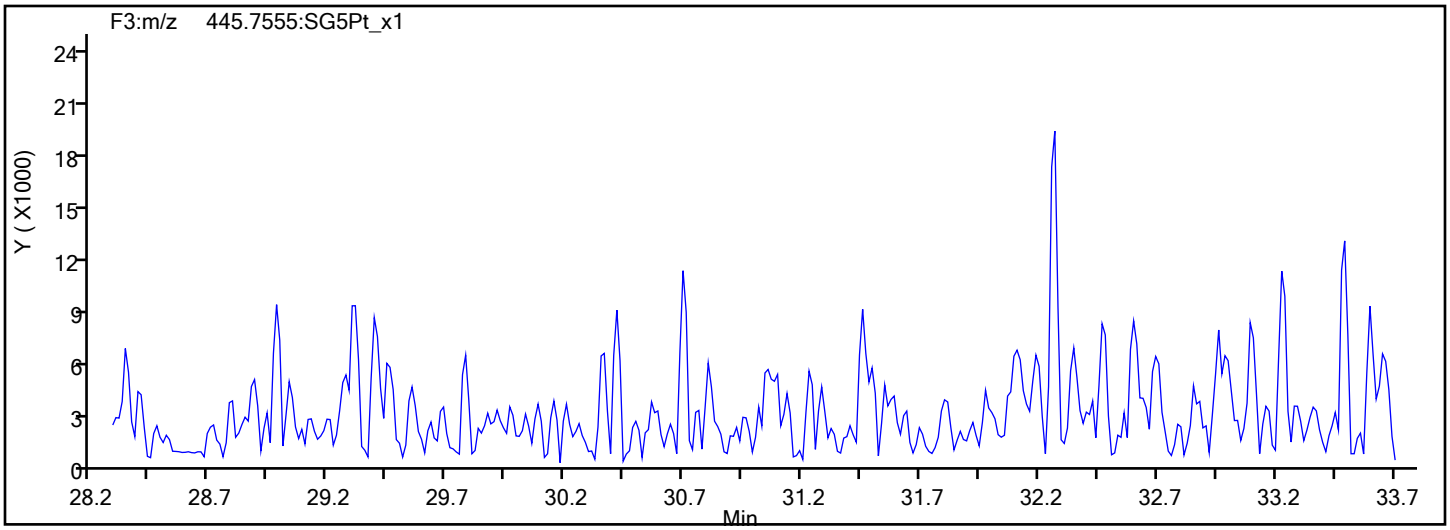

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Eurofins TestAmerica, Sacramento

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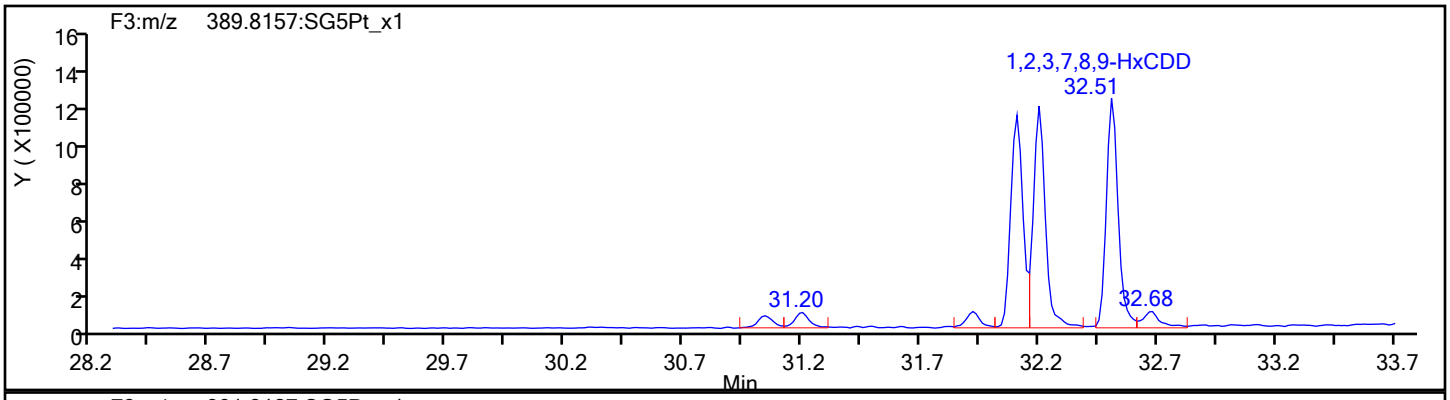

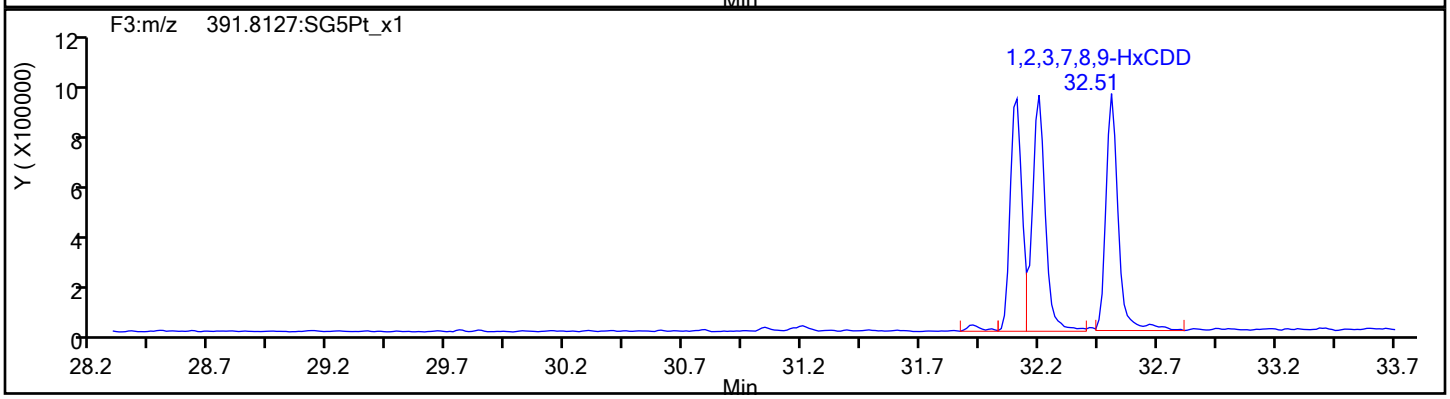

HxCDD Standards

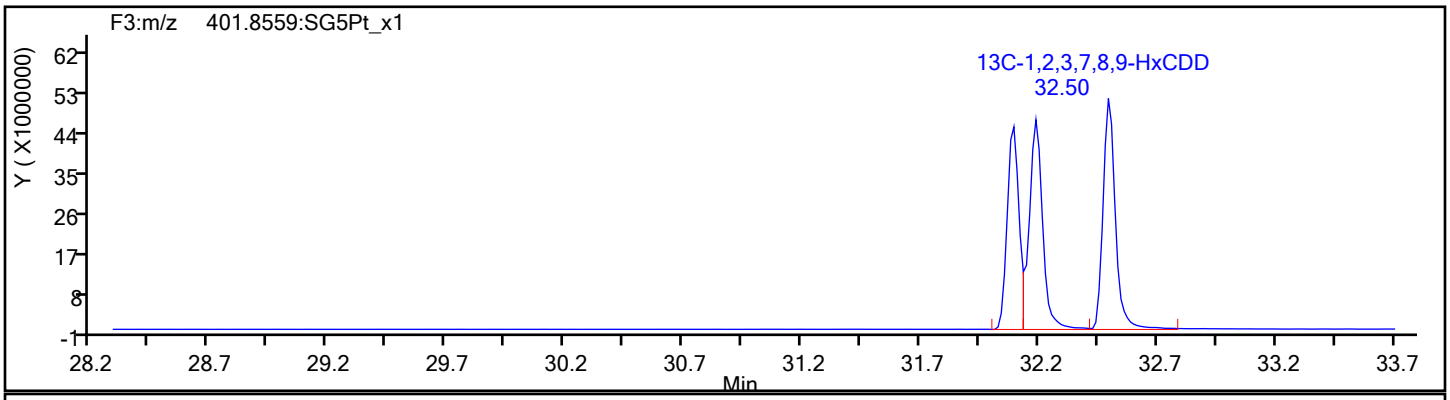

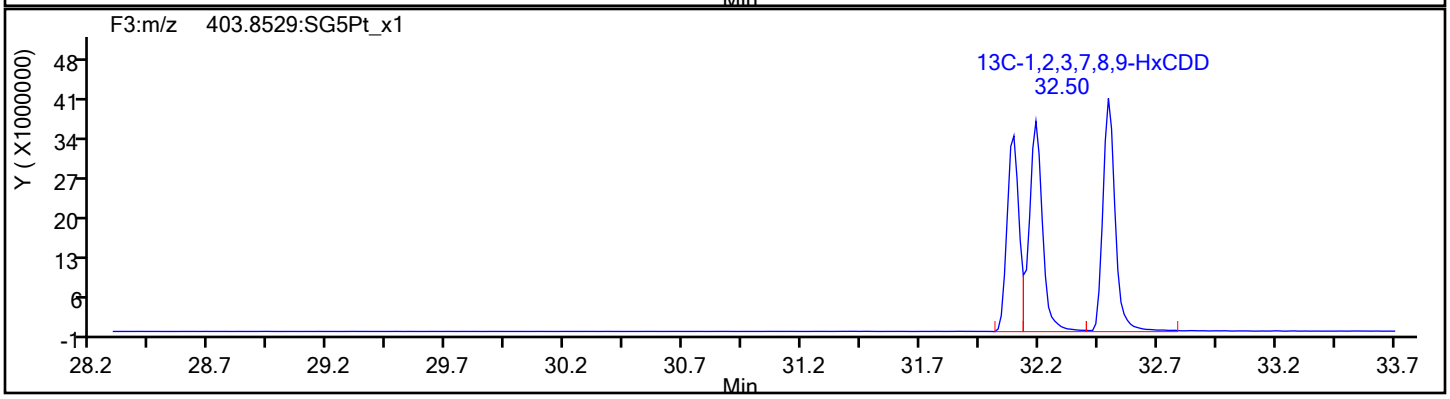

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Eurofins TestAmerica, Sacramento

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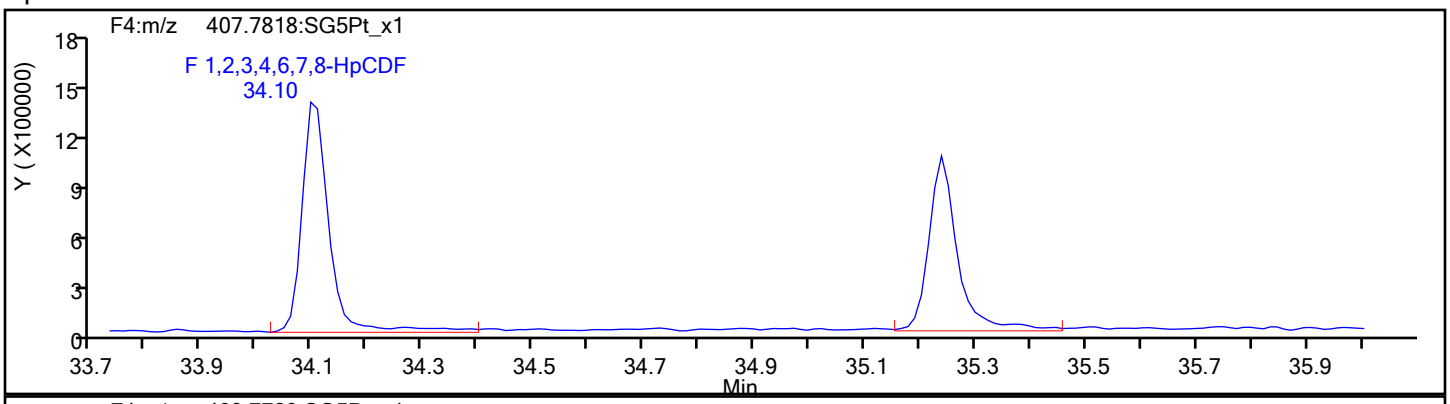

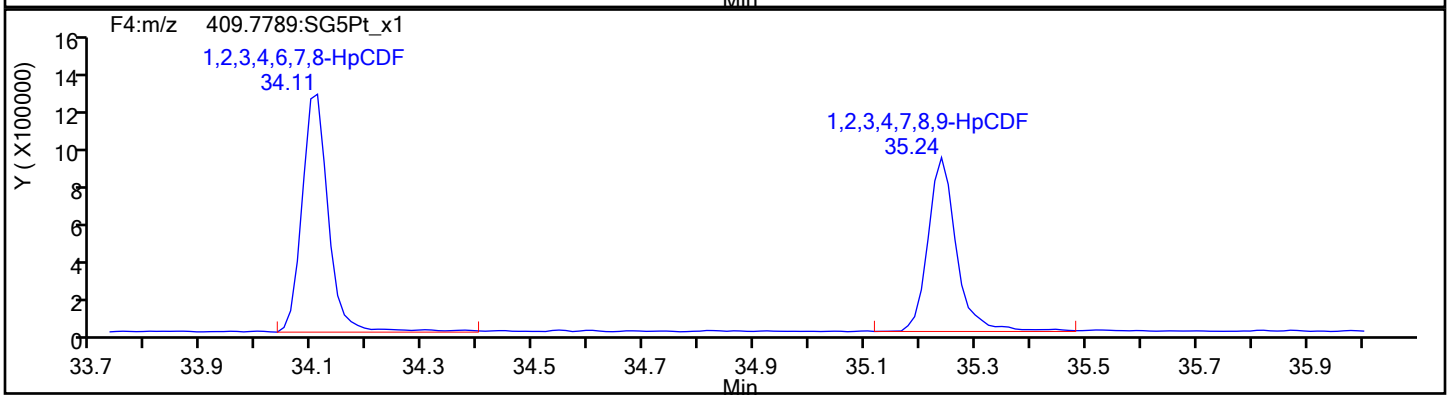

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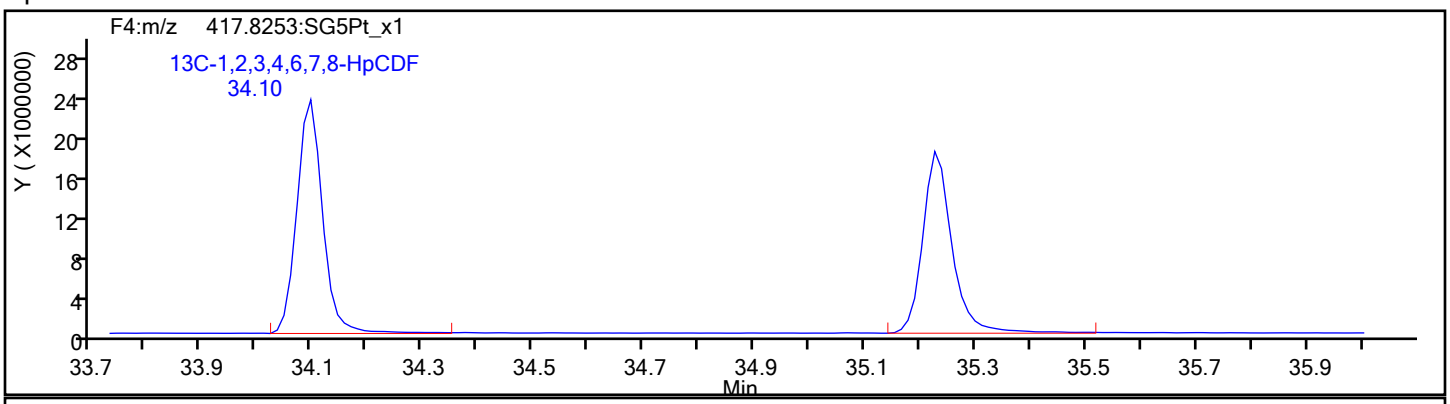

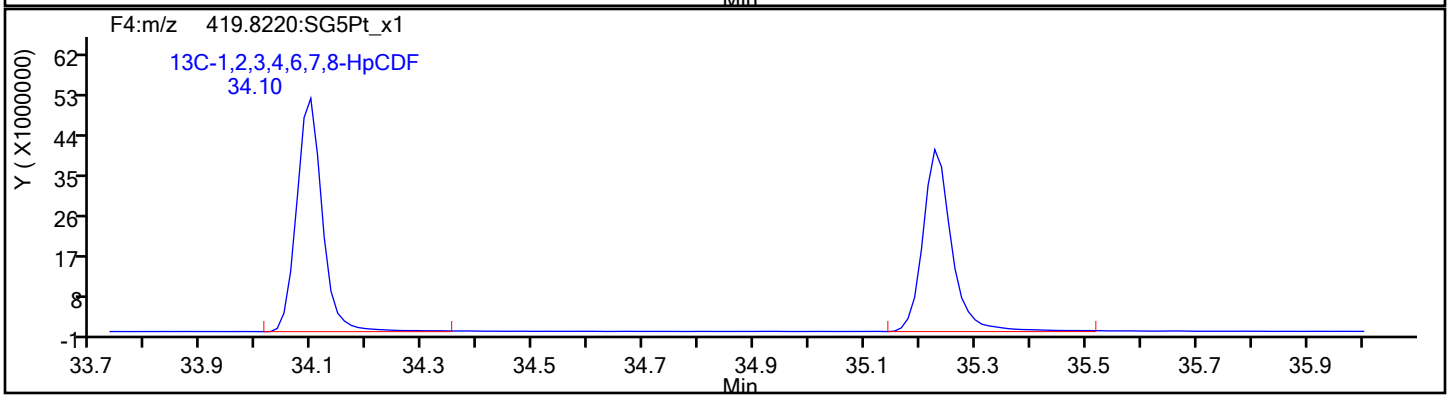

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Eurofins TestAmerica, Sacramento

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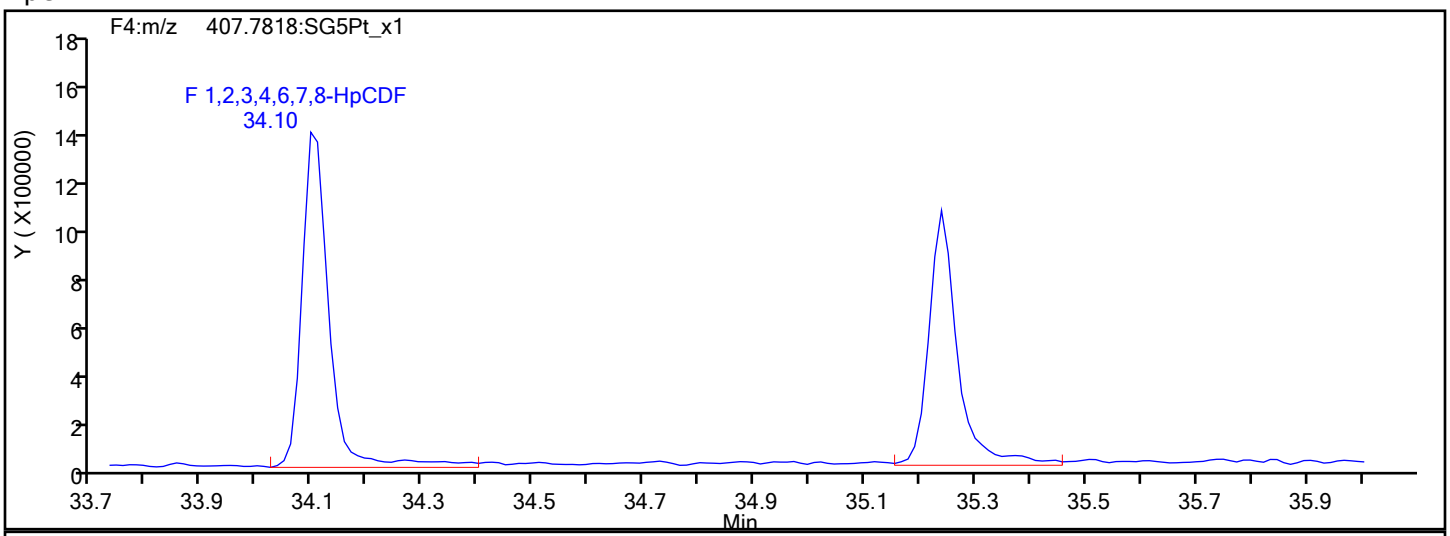

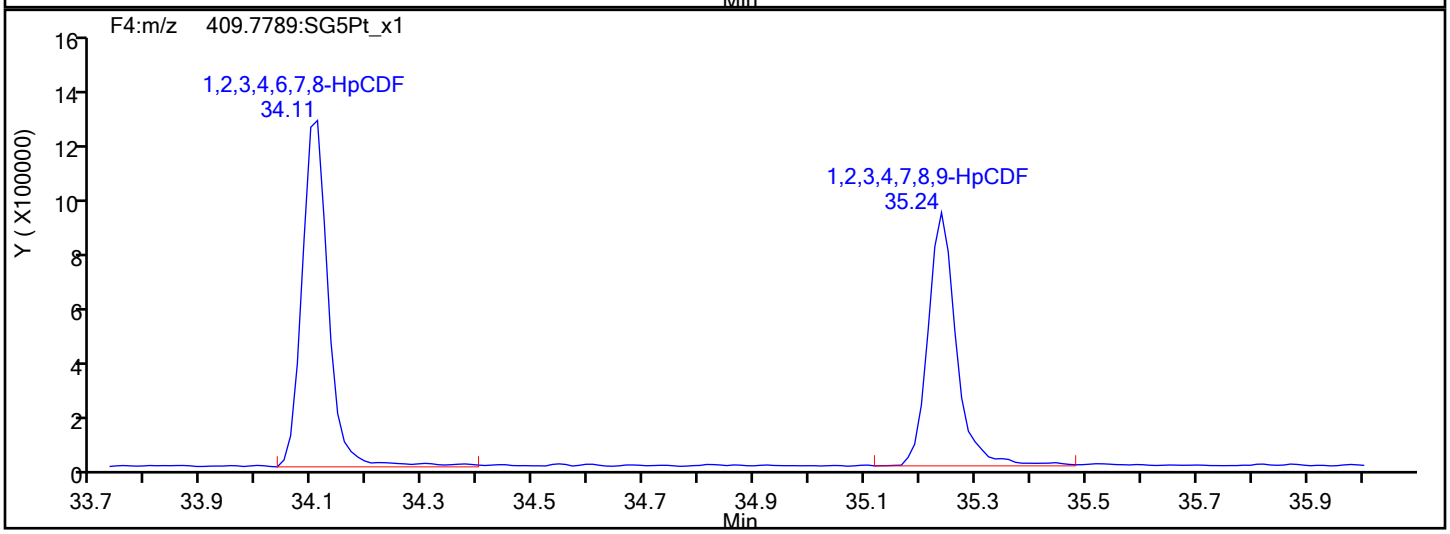

HpCDF Interference Mass

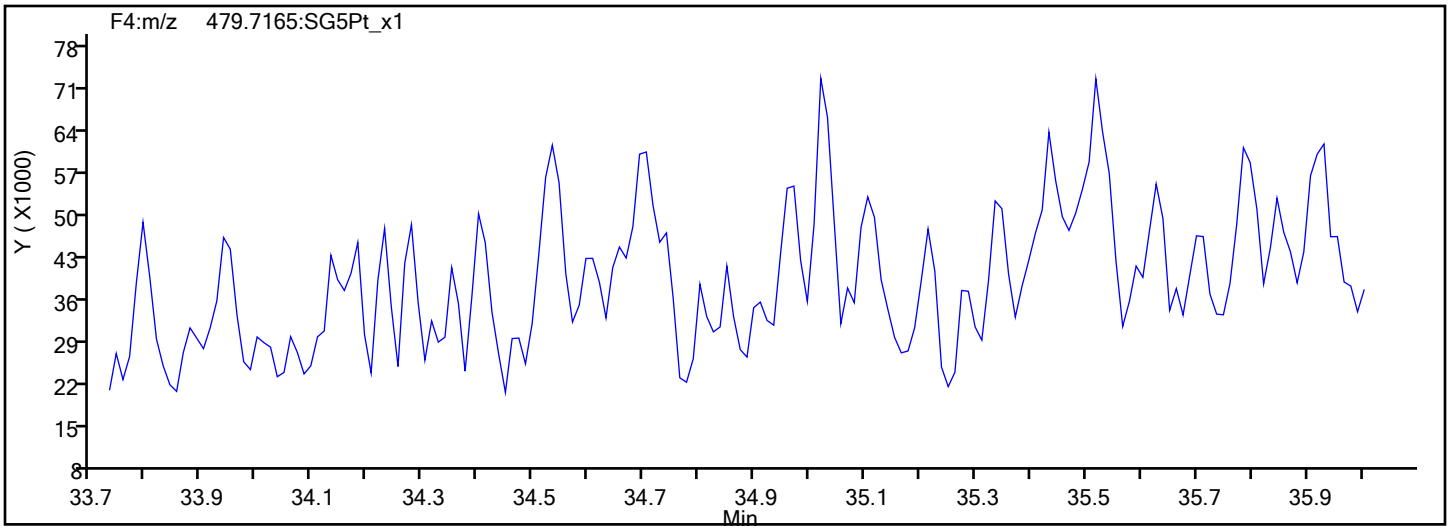

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Eurofins TestAmerica, Sacramento

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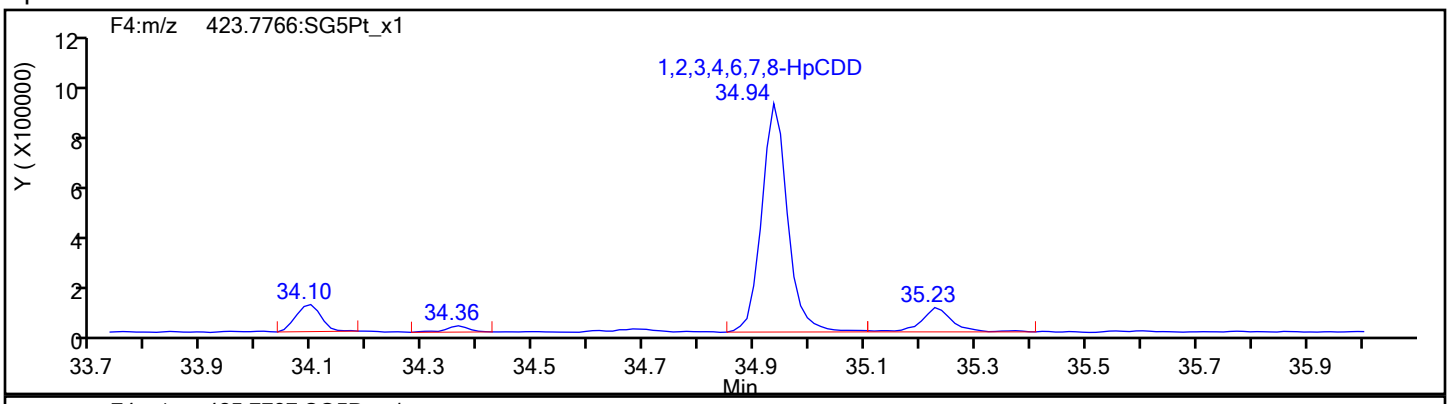

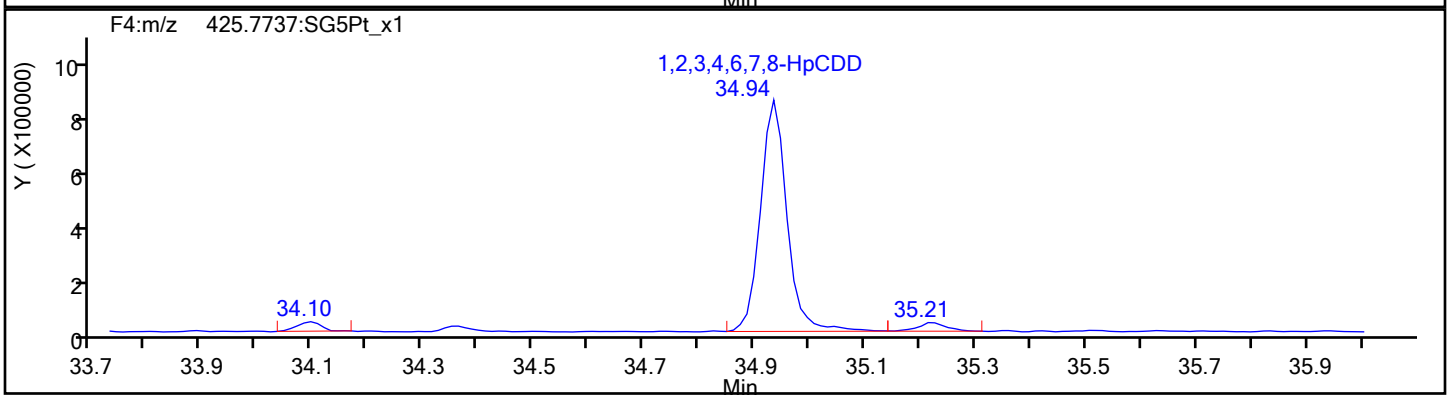

HpCDD Standards

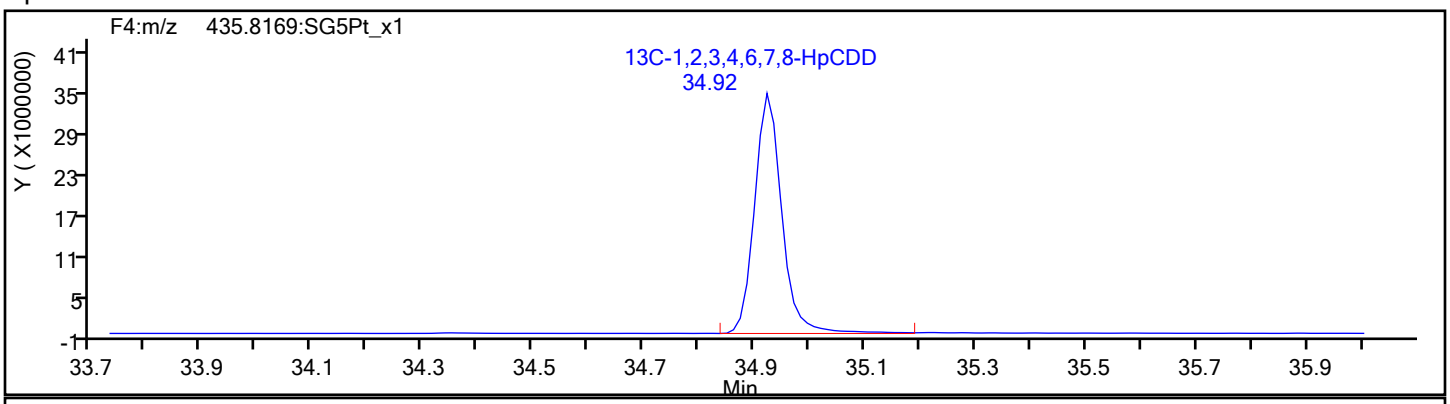

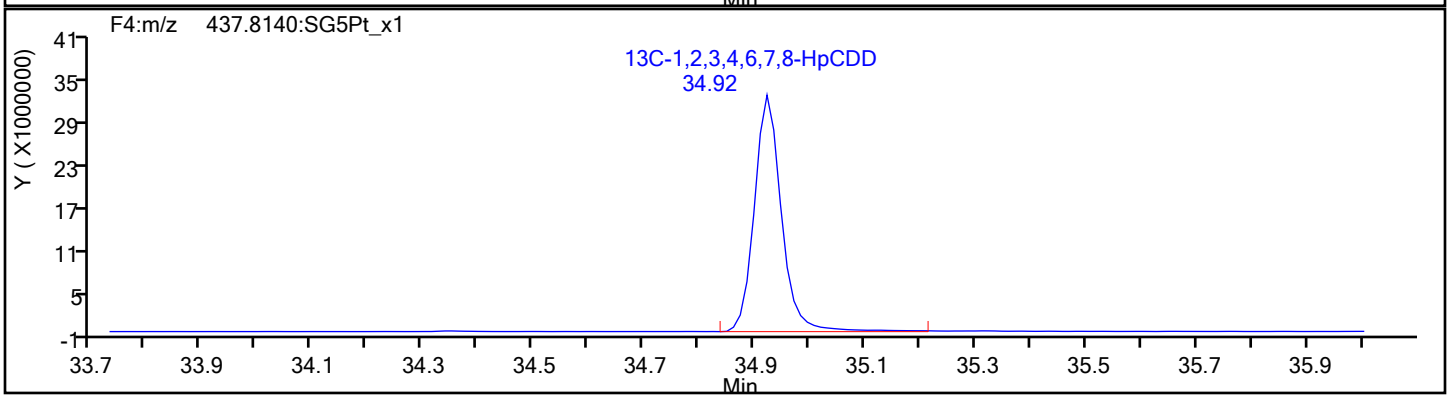

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Eurofins TestAmerica, Sacramento

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OCDF

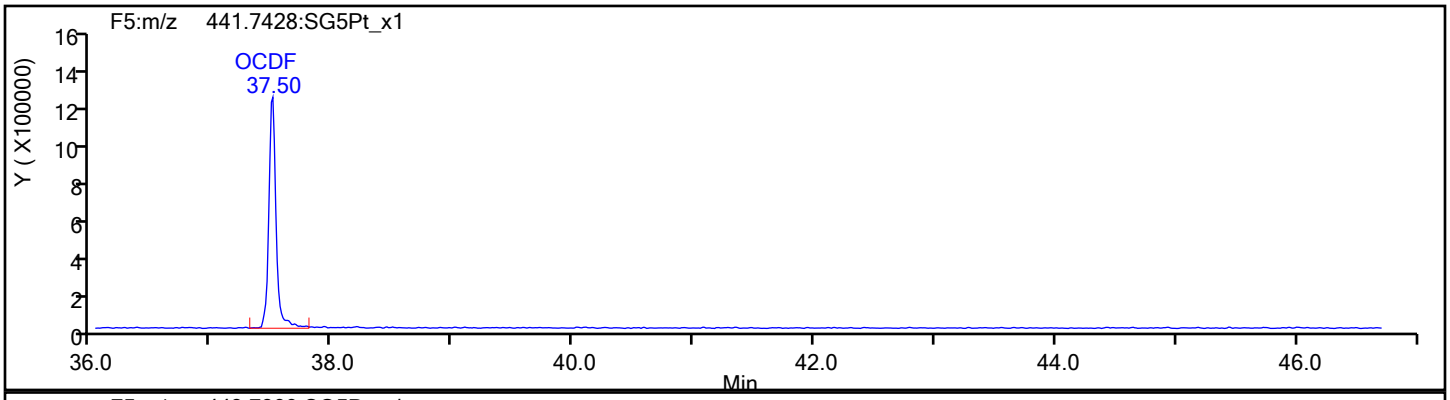

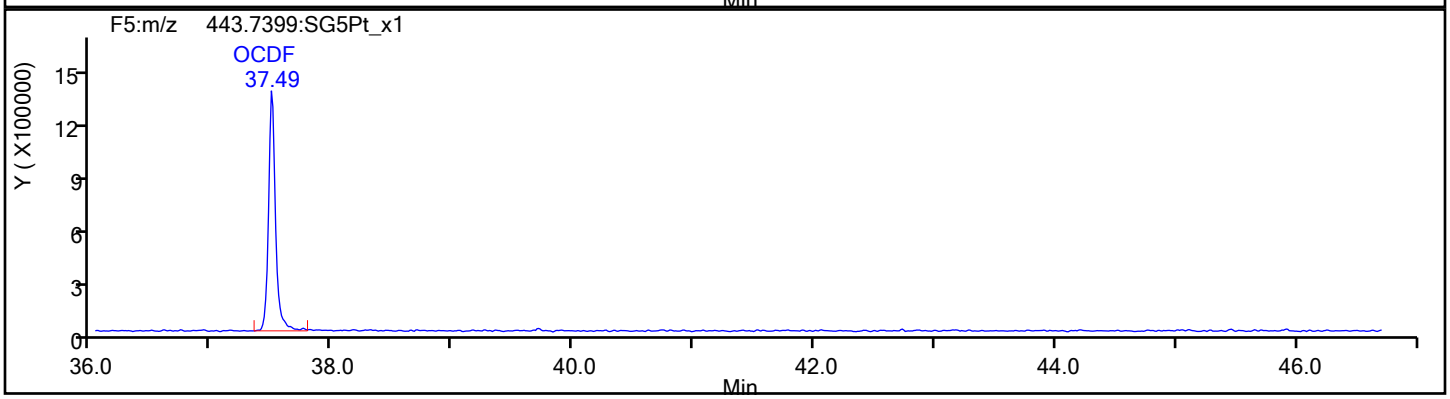

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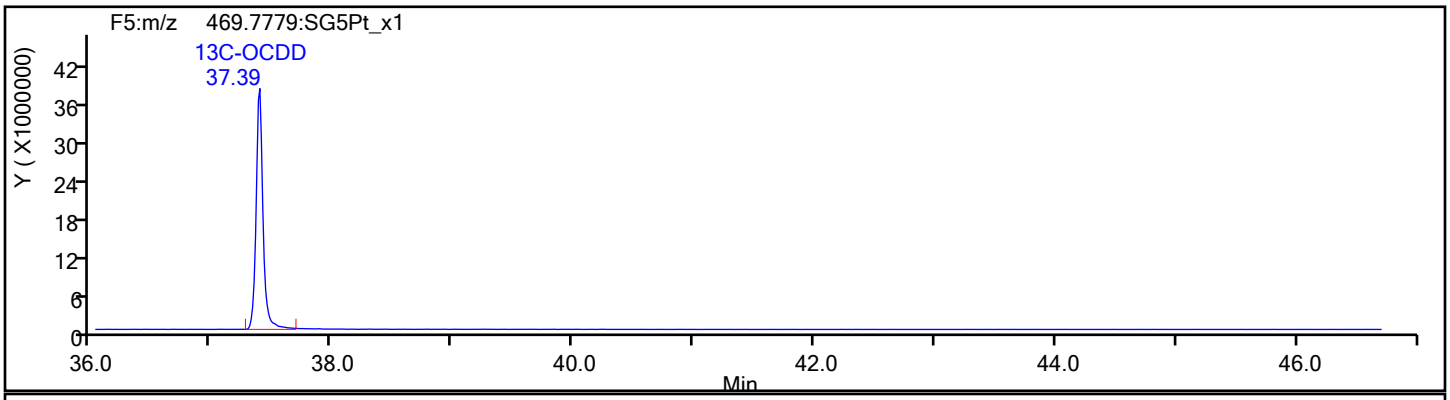

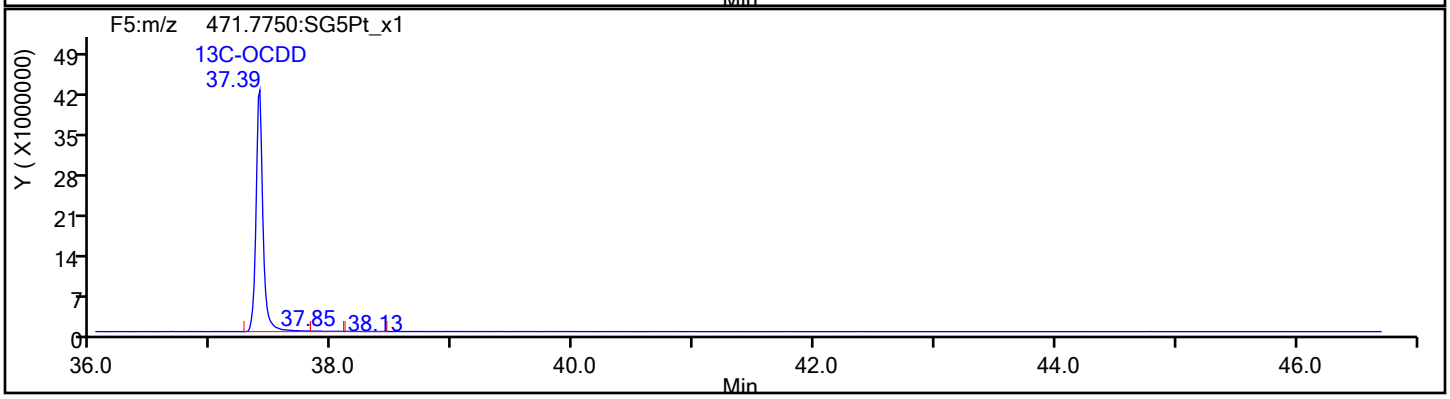

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Eurofins TestAmerica, Sacramento

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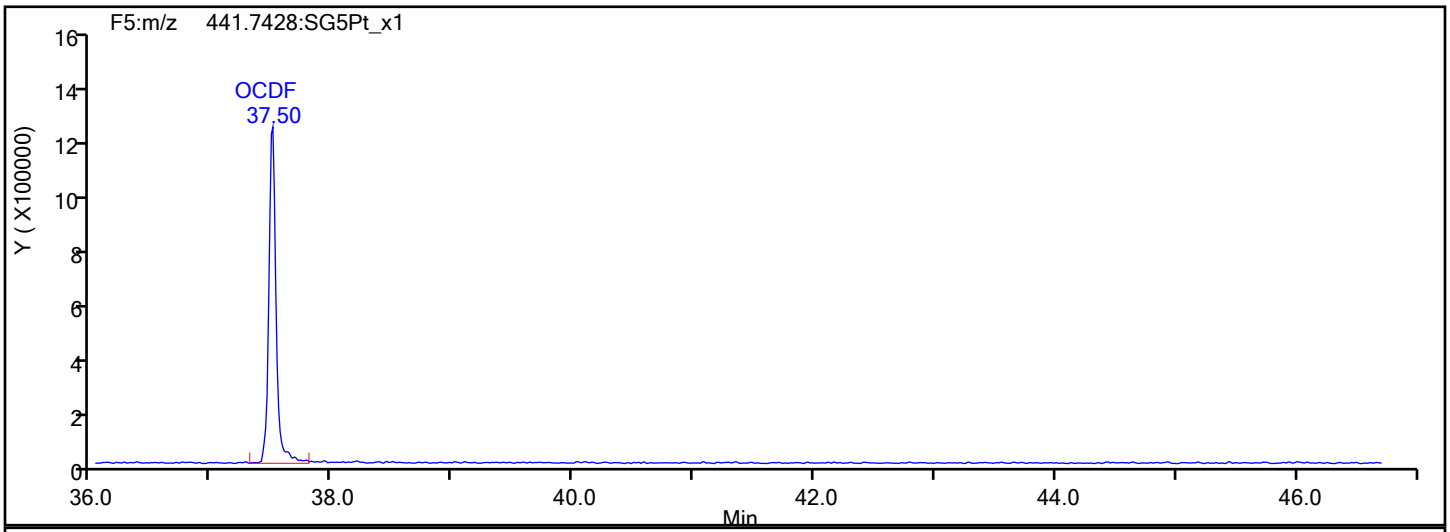

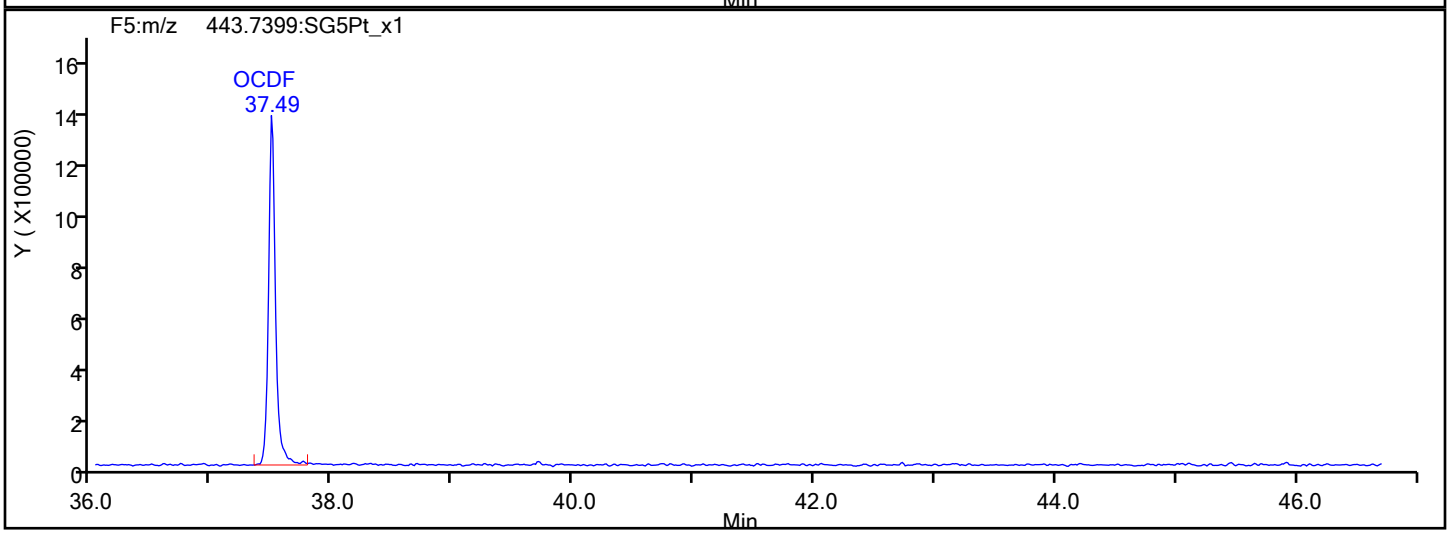

OCDF Interference Mass

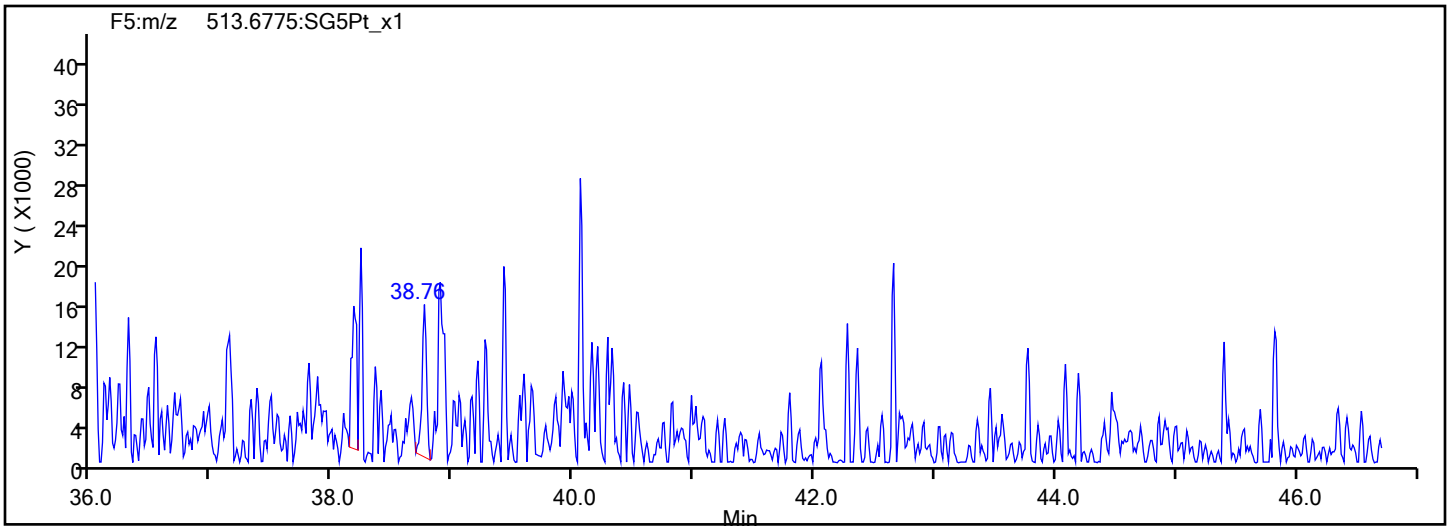

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Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

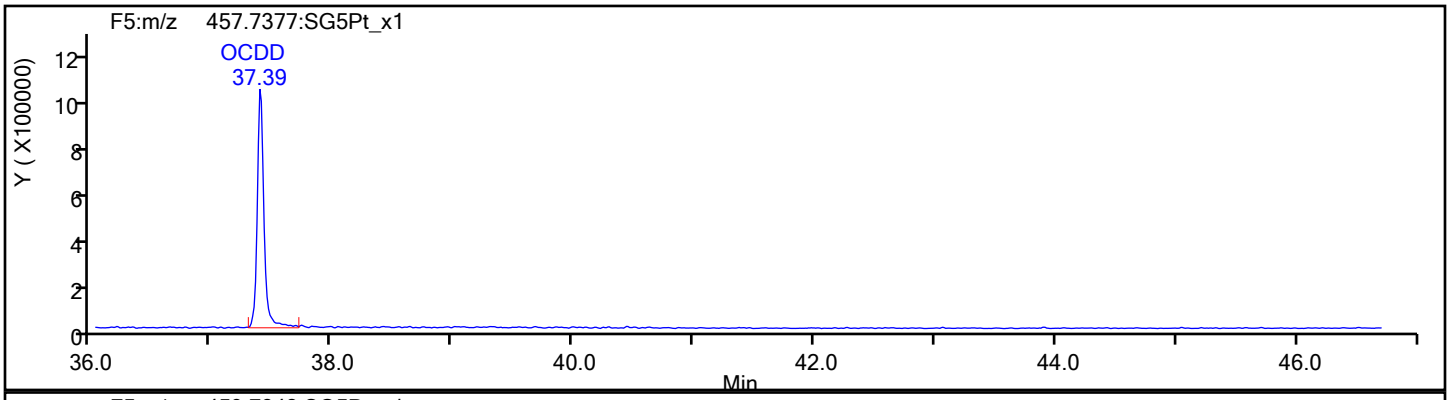

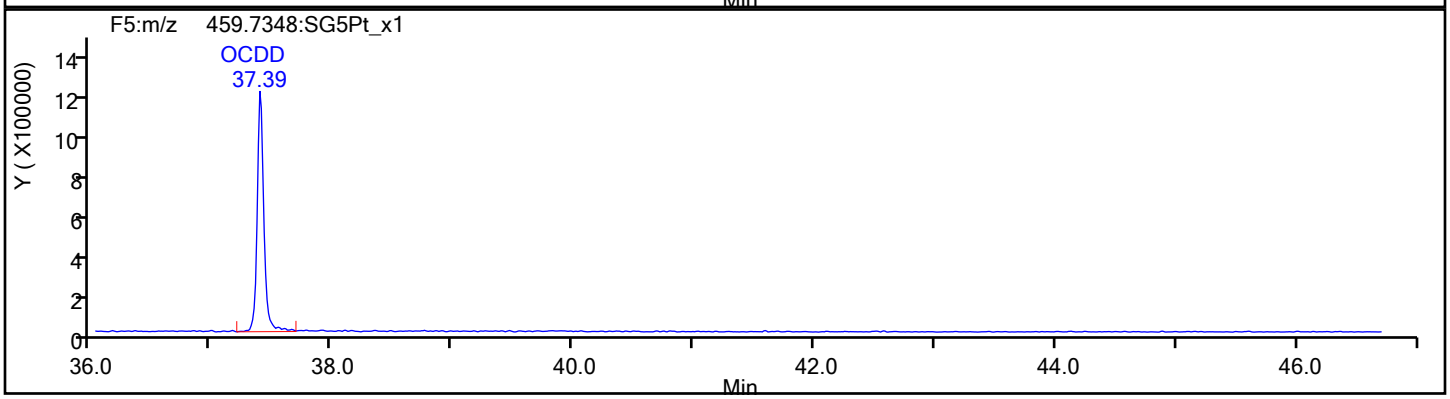

OCDD Standards

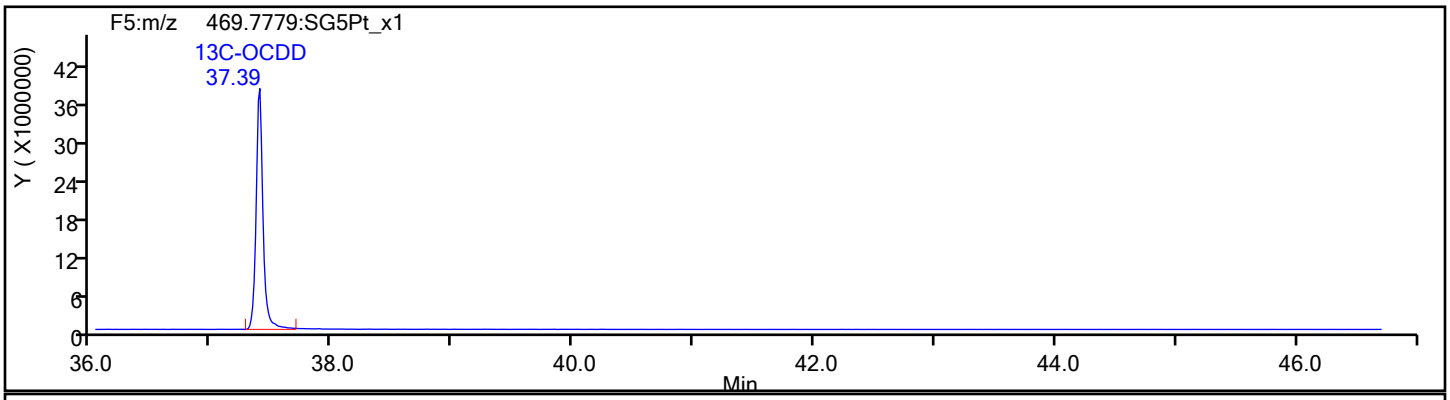

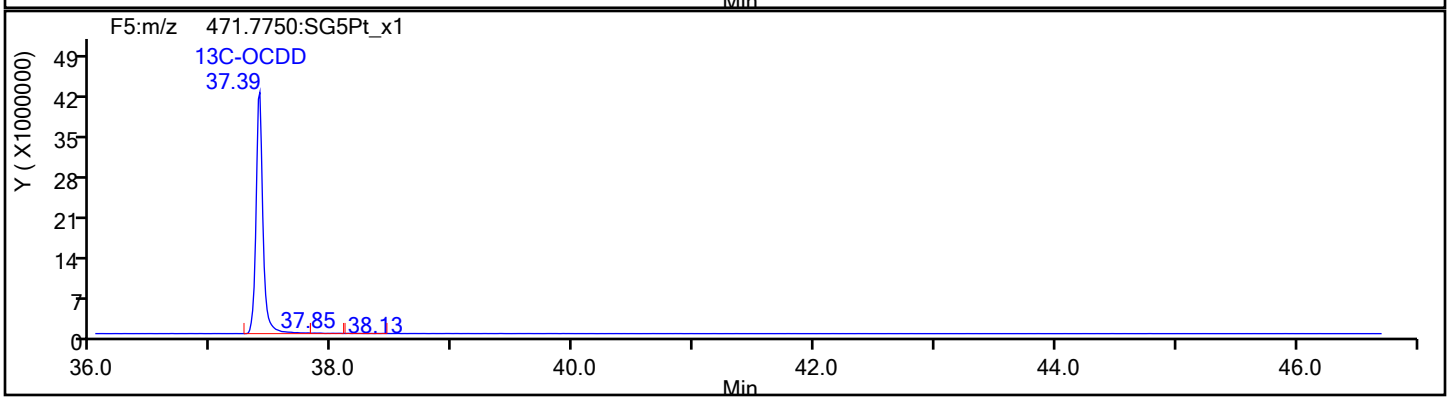

Report Date: 22-May-2019 11:44:13 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_3.d		
Injection Date:	21-May-2019 13:31:22	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L2		
Worklist#:	296020	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

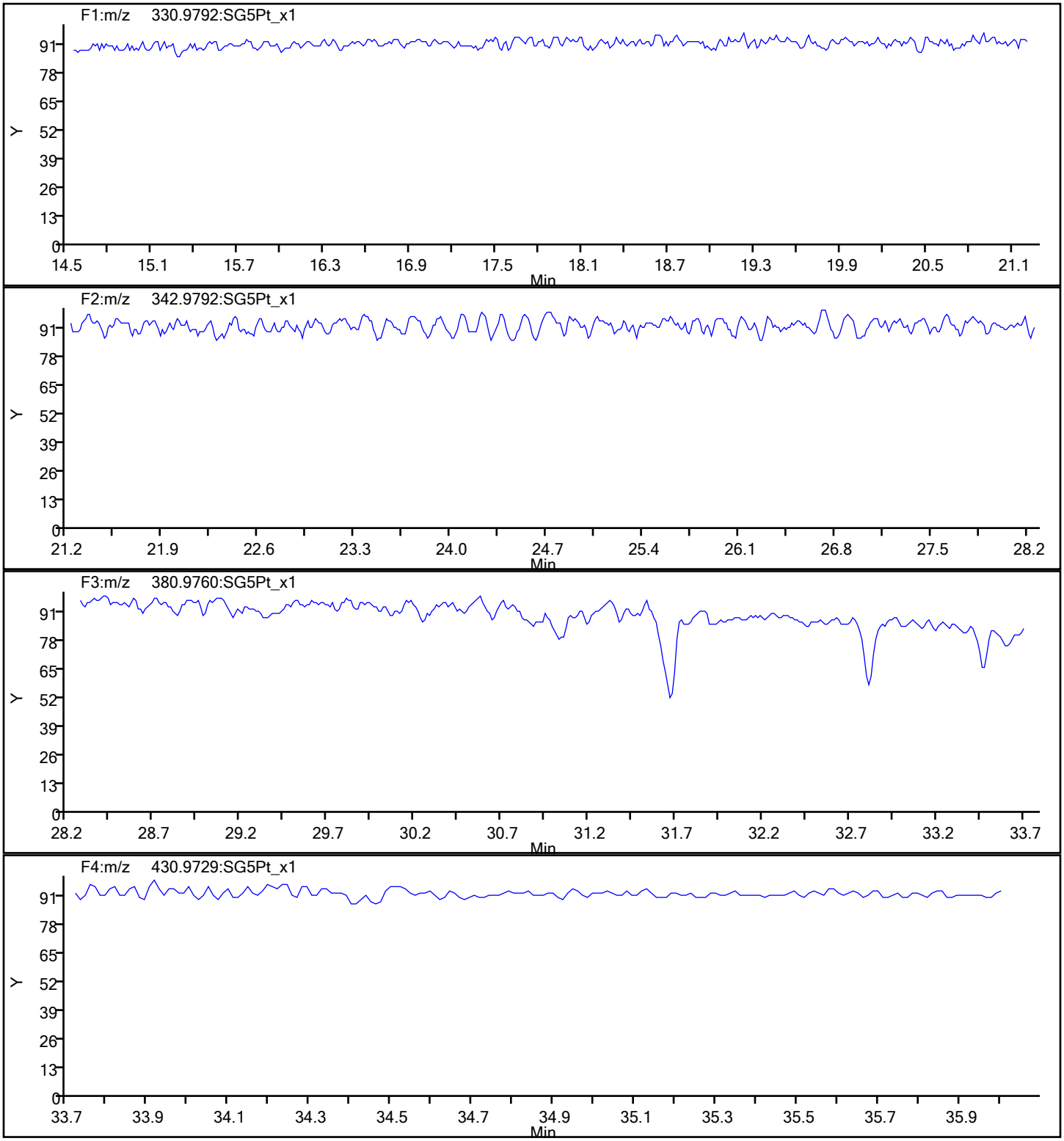

Report Date: 22-May-2019 11:44:13 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_3.d		
Injection Date:	21-May-2019 13:31:22	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L2		
Worklist#:	296020	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

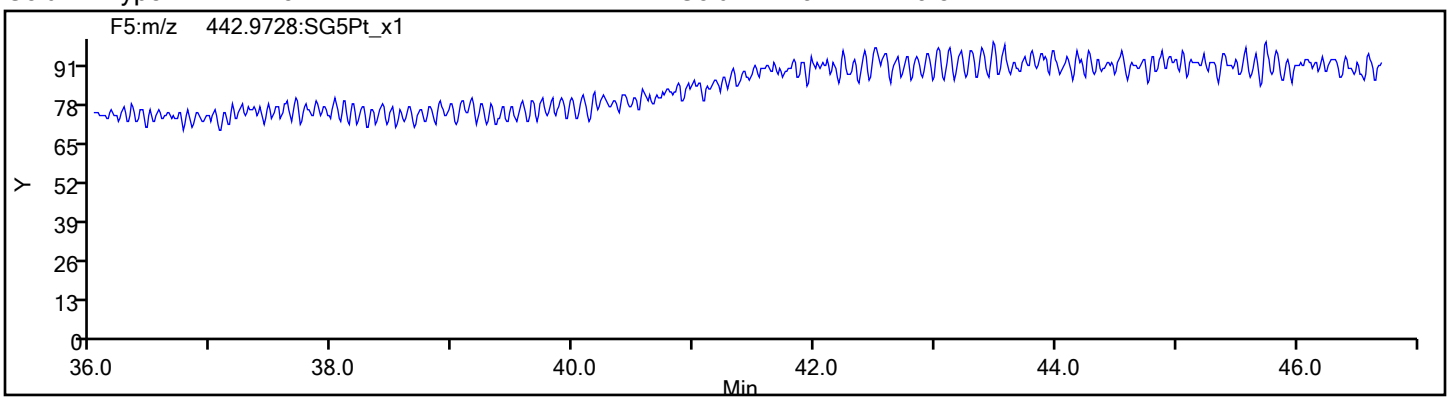

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_4.d
Lims ID: IC 3
Client ID: L3
Sample Type: IC Calib Level: 3
Inject. Date: 21-May-2019 14:18:50 ALS Bottle#: 5 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 052119A CS-3 HRDXNL3_00022
Misc. Info.: 21MY193D5
Operator ID: AJS Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 22-May-2019 11:44:24 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: shardaa Date: 21-May-2019 15:15:40

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.429	310316271	0.83	3.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.900	413896652	0.79	1.3908	95.9	95.9	0.2164	0.2164	95.90	
2,3,7,8-TCDF	17.915	8507151	0.76	0.9710	2.117	2.117	0.0265	0.0265	106	
S Total TCDF					2.117	2.117	0.0265	0.0265		
D 13C-2,3,7,8-TCDD	18.626	294655621	0.78	0.9819	96.7	96.7	0.2316	0.2316	96.71	
2,3,7,8-TCDD	18.656	6396242	0.75	1.0447	2.078	2.078	0.0329	0.0329	104	
$ 37Cl4-2,3,7,8-TCDD	18.656	7124853		1.2205	1.881	1.881	0.0280	0.0280	94.06	
S Total TCDD					2.078	2.078	0.0329	0.0329		
D 13C-1,2,3,7,8-PeCDF	23.107	342759465	1.59	1.1585	95.3	95.3	0.2653	0.2653	95.35	
1,2,3,7,8-PeCDF	23.134	34842727	1.56	0.9633	10.6	10.6	0.0668	0.0668	106	
D 13C-2,3,4,7,8-PeCDF	24.484	361518043	1.59	1.1532	101.0	101.0	0.2665	0.2665	101	
2,3,4,7,8-PeCDF	24.512	34688810	1.57	0.9495	10.1	10.1	0.0692	0.0692	101	
S Total PeCDF					20.7	20.7	0.0680	0.0680		
D 13C-1,2,3,7,8-PeCDD	25.234	223121425	1.56	0.7431	96.8	96.8	0.1324	0.1324	96.76	
1,2,3,7,8-PeCDD	25.262	24806651	1.64	1.0635	10.5	10.5	0.0773	0.0773	105	
S Total PeCDD					10.5	10.5	0.0773	0.0773		
D 13C-1,2,3,4,7,8-HxCDF	31.058	249870872	0.52	0.9837	99.2	99.2	0.3834	0.3834	99.16	
1,2,3,4,7,8-HxCDF	31.071	31309357	1.23	1.2173	10.3	10.3	0.0647	0.0647	103	
D 13C-1,2,3,6,7,8-HxCDF	31.205	284216868	0.51	1.1554	96.0	96.0	0.3264	0.3264	96.03	
1,2,3,6,7,8-HxCDF	31.231	33467672	1.24	1.1311	10.4	10.4	0.0646	0.0646	104	
D 13C-2,3,4,6,7,8-HxCDF	31.924	253100793	0.54	1.0361	95.4	95.4	0.3640	0.3640	95.37	
2,3,4,6,7,8-HxCDF	31.950	31515470	1.21	1.1710	10.6	10.6	0.0555	0.0555	106	
D 13C-1,2,3,7,8,9-HxCDF	32.682	217982814	0.51	0.9034	94.2	94.2	0.4175	0.4175	94.19	
1,2,3,7,8,9-HxCDF	32.696	27006700	1.24	1.1787	10.5	10.5	0.0613	0.0613	105	
S Total HxCDF					41.8	41.8	0.0615	0.0615		
* 13C-1,2,3,7,8,9-HxCDD	32.496	256154728	1.29	2.6E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	32.097	214549850	1.27	0.8287	101.1	101.1	0.2887	0.2887	101	
1,2,3,4,7,8-HxCDD	32.110	22229107	1.24	1.0267	10.1	10.1	0.0801	0.0801	101	
D 13C-1,2,3,6,7,8-HxCDD	32.190	230647502	1.26	0.9495	94.8	94.8	0.2520	0.2520	94.84	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	32.216	23903470	1.21	0.9771	10.6	10.6	0.0849	0.0849	106	
1,2,3,7,8,9-HxCDD	32.523	25265795	1.28	1.0616	10.7	10.7	0.0778	0.0778	107	
S Total HxCDD					31.4	31.4	0.0810	0.0810		
D 13C-1,2,3,4,6,7,8-HpCDF	34.097	177773786	0.45	0.7285	95.3	95.3	0.6497	0.6497	95.27	
1,2,3,4,6,7,8-HpCDF	34.109	27002265	1.07	1.4373	10.6	10.6	0.1000	0.1000	106	
D 13C-1,2,3,4,7,8,9-HpCDF	35.239	167226325	0.44	0.6556	99.6	99.6	0.7219	0.7219	99.57	
1,2,3,4,7,8,9-HpCDF	35.251	22029367	1.09	1.3091	10.1	10.1	0.1374	0.1374	101	
S Total HpCDF					20.6	20.6	0.1187	0.1187		
D 13C-1,2,3,4,6,7,8-HpCDD	34.935	171291409	1.04	0.6978	95.8	95.8	0.3132	0.3132	95.82	
1,2,3,4,6,7,8-HpCDD	34.947	18276752	1.12	1.0102	10.6	10.6	0.0852	0.0852	106	
S Total HpCDD					10.6	10.6	0.0852	0.0852		
D 13C-OCDD	37.395	227149918	0.91	0.4780	185.5	185.5	0.1906	0.1906	92.77	
OCDF	37.503	32555639	0.89	1.3501	21.2	21.2	0.0595	0.0595	106	
OCDD	37.407	25589607	0.86	1.0627	21.2	21.2	0.0621	0.0621	106	

Reagents:

HRDXNL3_00022 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_4.d
Lims ID: IC 3
Client ID: L3
Sample Type: IC Calib Level: 3
Inject. Date: 21-May-2019 14:18:50 ALS Bottle#: 5 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 052119A CS-3 HRDXNL3_00022
Misc. Info.: 21MY193D5
Operator ID: AJS Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 22-May-2019 11:44:24 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: shardaa Date: 21-May-2019 15:15:40

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.429	18.432	0		140590507	33497670	45867	114667	730		
333.9339	18.429	18.432	0		169725764	39965720	20964	52410	1906	0.83(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.900	17.900	0	0.971	183107277	42390083	41657	104142	1018		
317.9389	17.900	17.900	0	0.971	230789375	53791143	46798	116995	1149	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.915	17.915	0	1.001	3674027	900401	3467	8667	260		
305.8987	17.915	17.915	0	1.001	4833124	1119459	6429	16072	174	0.76(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	18.626	18.629	0	1.011	129420255	28813661	45867	114667	628		
333.9339	18.626	18.629	0	1.011	165235366	37242633	20964	52410	1777	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.656	18.650	0	1.002	2750476	616798	6357	15892	97		
321.8936	18.656	18.650	0	1.002	3645766	841077	2725	6812	309	0.75(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.656	18.650	0	1.012	7124853	1608772	10054	25135	160		
13C-1,2,3,7,8-PeCDF											
351.9000	23.107	23.102	0	1.254	210447264	35221454	53434	133585	659		
353.8970	23.107	23.102	0	1.254	132312201	22597192	36880	92200	613	1.59(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	23.134	23.123	1	1.001	21225388	3573393	6476	16190	552		
341.8567	23.121	23.123	0	1.001	13617339	2291357	8397	20992	273	1.56(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	24.484	24.487	0	1.329	222061288	34738175	53434	133585	650		
353.8970	24.484	24.487	0	1.329	139456755	21846000	36880	92200	592	1.59(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	24.512	24.512	0	1.001	21194086	3384085	6476	16190	523		
341.8567	24.512	24.512	0	1.001	13494724	2175642	8397	20992	259	1.57(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	25.234	25.237	0	1.369	135970890	20433668	15844	39610	1290		
369.8919	25.234	25.237	0	1.369	87150535	13005284	13057	32642	996	1.56(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	25.262	25.264	0	1.001	15418995	2298978	7621	19052	302		
357.8516	25.262	25.264	0	1.001	9387656	1383834	3376	8440	410	1.64(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	31.058	31.050	0	0.956	85701673	18684130	37378	93445	500		
385.8610	31.058	31.050	0	0.956	164169199	35549337	65606	164015	542	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	31.071	31.069	0	1.000	17290998	3917632	9223	23057	425		
375.8178	31.071	31.069	0	1.000	14018359	3225713	7862	19655	410	1.23(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	31.205	31.202	0	0.960	95757374	20232501	37378	93445	541		
385.8610	31.205	31.202	0	0.960	188459494	38244778	65606	164015	583	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	31.231	31.223	0	1.001	18527969	4112338	9223	23057	446		
375.8178	31.218	31.223	0	1.000	14939703	3243221	7862	19655	413	1.24(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.924	31.923	0	0.982	88513662	23049811	37378	93445	617		
385.8610	31.924	31.923	0	0.982	164587131	42702099	65606	164015	651	0.54(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.950	31.942	0	1.001	17256945	4414181	9223	23057	479		
375.8178	31.937	31.942	0	1.000	14258525	3764632	7862	19655	479	1.21(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.682	32.674	0	1.006	73751013	20239330	37378	93445	541		
385.8610	32.682	32.674	0	1.006	144231801	38919139	65606	164015	593	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.696	32.690	0	1.000	14932342	4087062	9223	23057	443		
375.8178	32.696	32.690	0	1.000	12074358	3259223	7862	19655	415	1.24(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.496	32.499	0		144204150	38298919	34068	85170	1124		
403.8529	32.496	32.499	0		111950578	29964760	31258	78145	959	1.29(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	32.097	32.094	0	0.988	120069198	34345192	34068	85170	1008		
403.8529	32.097	32.094	0	0.988	94480652	27316417	31258	78145	874	1.27(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	32.110	32.110	0	1.000	12324615	3628397	11871	29677	306		
391.8127	32.110	32.110	0	1.000	9904492	2854417	8424	21060	339	1.24(1.05-1.43)	

Report Date: 22-May-2019 11:44:27 Chrom Revision: 2.3 12-May-2019 16:28:34
Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_4.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.190	32.192	0	0.991	128802545	33910380	34068	85170	995		
403.8529	32.190	32.192	0	0.991	101844957	27227979	31258	78145	871	1.26(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	32.216	32.208	0	1.001	13090824	3508085	11871	29677	296		
391.8127	32.203	32.208	0	1.000	10812646	2902071	8424	21060	345	1.21(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.523	32.515	0	1.013	14196640	3867913	11871	29677	326		
391.8127	32.509	32.515	0	1.013	11069155	3020401	8424	21060	359	1.28(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	34.097	34.097	0	1.049	55099975	17628473	52264	130660	337		
419.8220	34.097	34.097	0	1.049	122673811	39310377	76980	192450	511	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.109	34.104	0	1.000	13964484	4503758	21394	53485	211		
409.7789	34.109	34.104	0	1.000	13037781	4336593	11338	28345	382	1.07(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	35.239	35.232	0	1.084	50958944	14097284	52264	130660	270		
419.8220	35.239	35.232	0	1.084	116267381	31392259	76980	192450	408	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.251	35.244	0	1.000	11486016	3112286	21394	53485	145		
409.7789	35.251	35.244	0	1.000	10543351	2859827	11338	28345	252	1.09(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.935	34.928	0	1.075	87511638	25757189	30110	75275	855		
437.8140	34.935	34.928	0	1.075	83779771	24379517	29574	73935	824	1.04(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.947	34.940	0	1.000	9658086	2858633	10742	26855	266		
425.7737	34.935	34.940	0	1.000	8618666	2619626	6519	16297	402	1.12(0.88-1.20)	
13C-OCDD											
469.7779	37.395	37.392	0	1.151	108329582	27793896	13191	32977	2107		
471.7750	37.395	37.392	0	1.151	118820336	30618211	11686	29215	2620	0.91(0.76-1.02)	
OCDF											
441.7428	37.503	37.500	0	1.003	15358412	3854992	3776	9440	1021		
443.7399	37.503	37.500	0	1.003	17197227	4322547	5615	14037	770	0.89(0.76-1.02)	
OCDD											
457.7377	37.407	37.402	0	1.000	11812690	3097739	3713	9282	834		
459.7348	37.407	37.402	0	1.000	13776917	3645291	4001	10002	911	0.86(0.76-1.02)	

Reagents:

HRDXNL3_00022 Amount Added: 1.00 Units: mL

Report Date: 22-May-2019 11:44:27 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_4.d		
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Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L3		
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TCDF

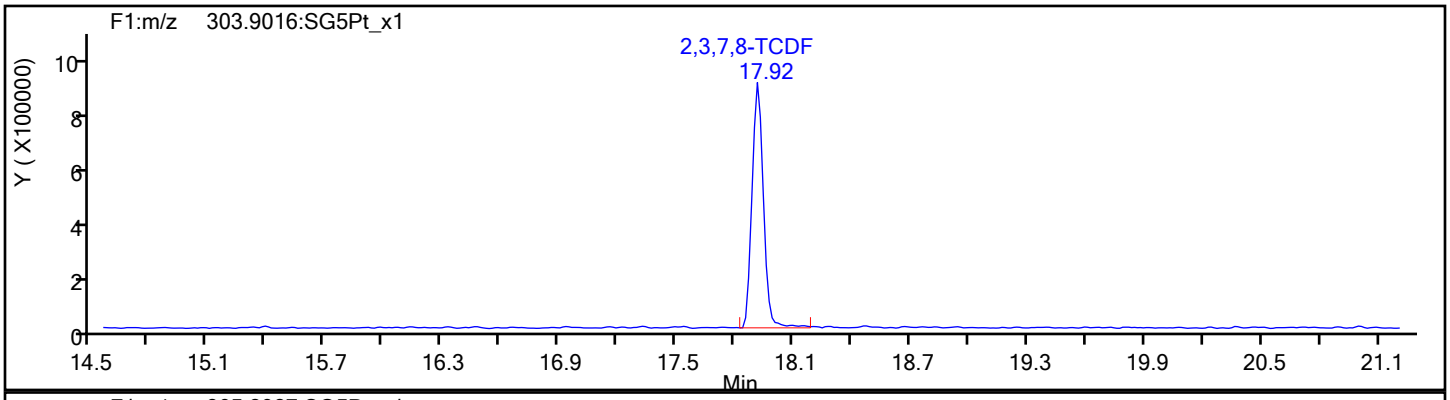

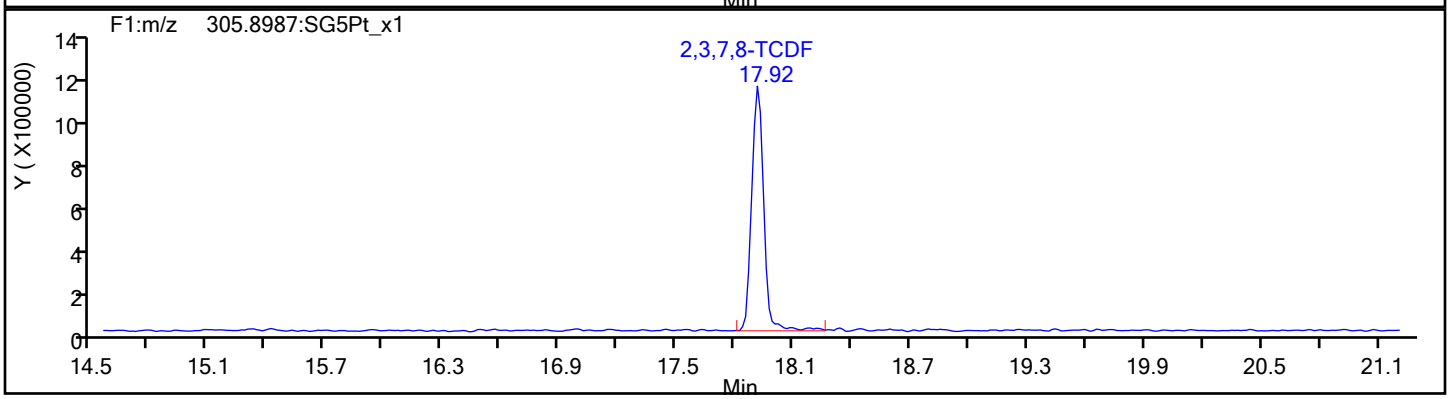

TCDF Standards

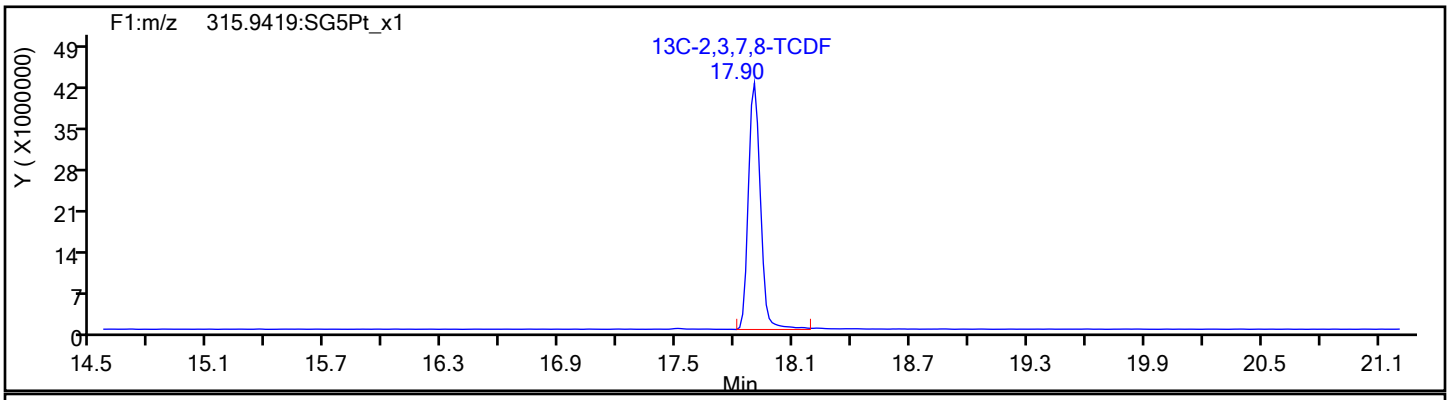

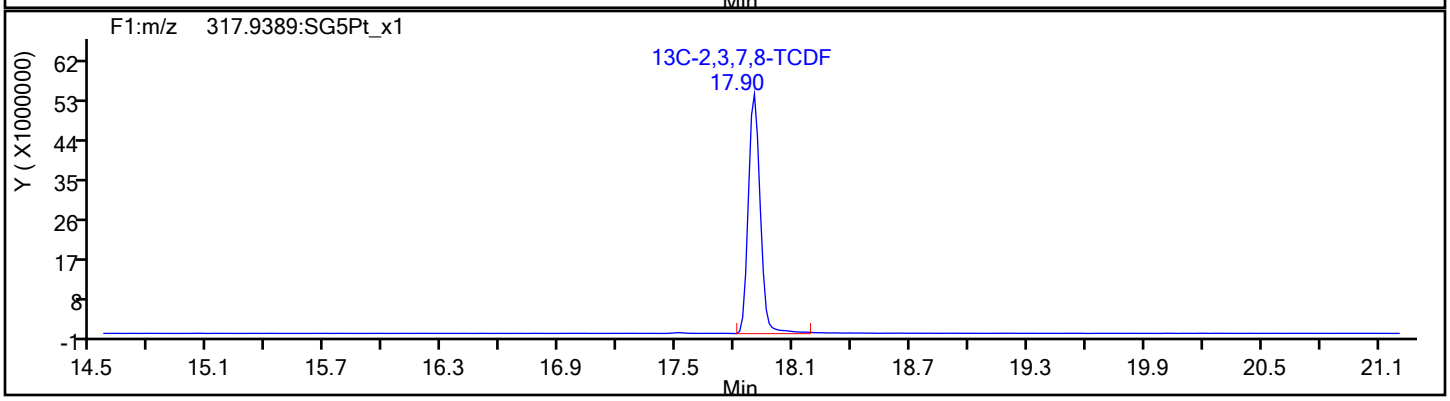

Report Date: 22-May-2019 11:44:27 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

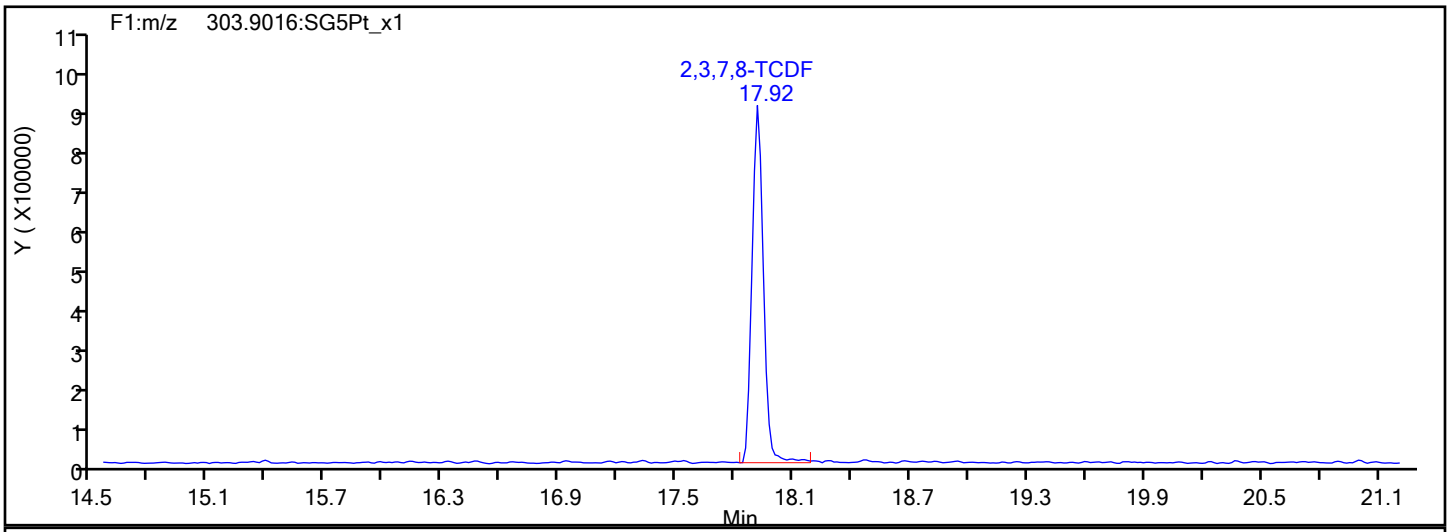

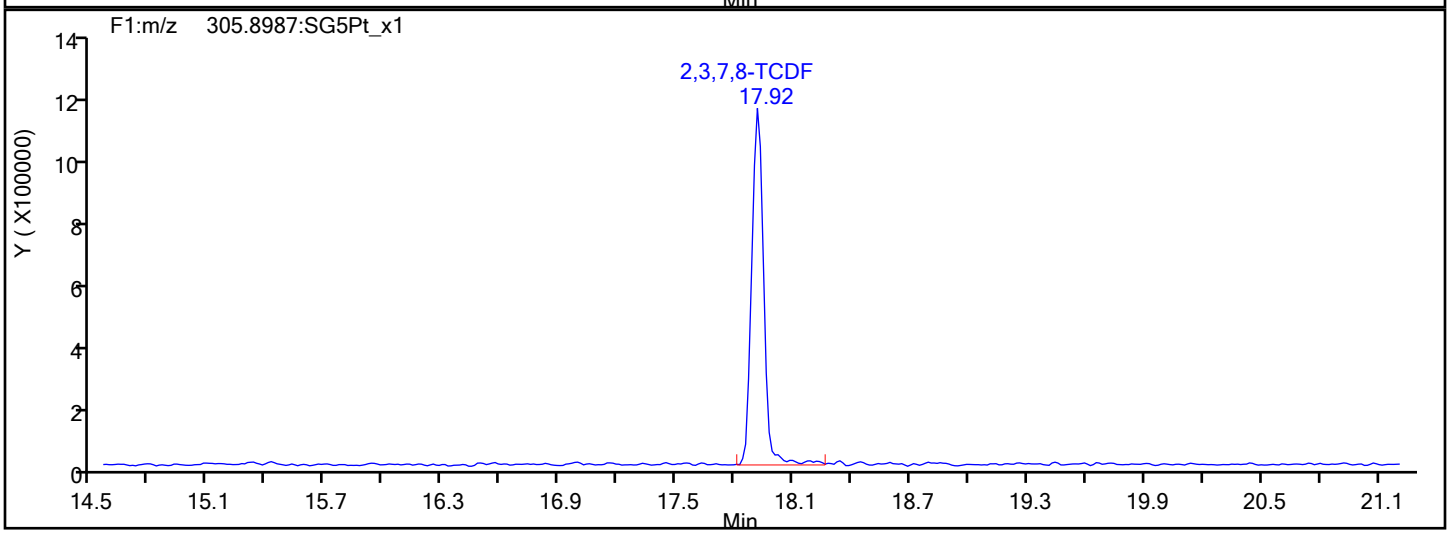

TCDF Interference Mass

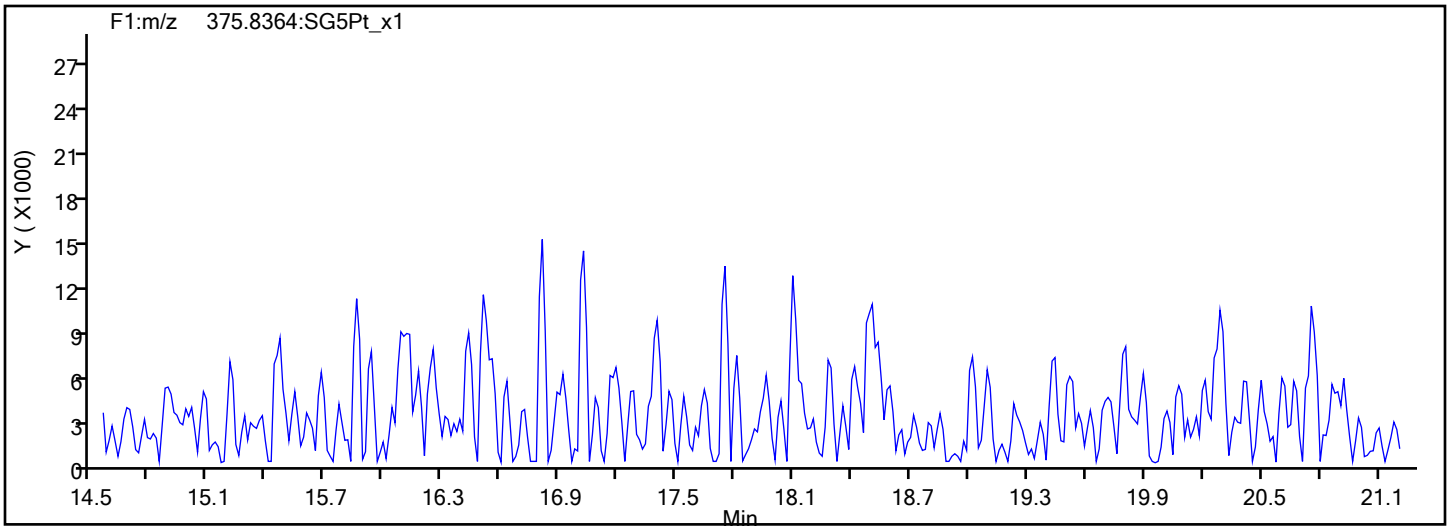

Report Date: 22-May-2019 11:44:27 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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TCDD

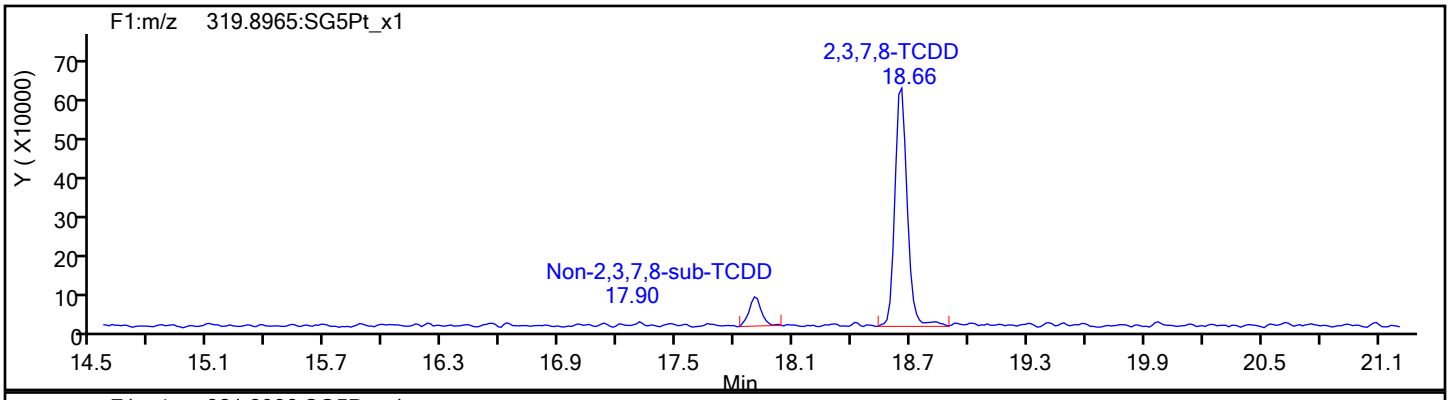

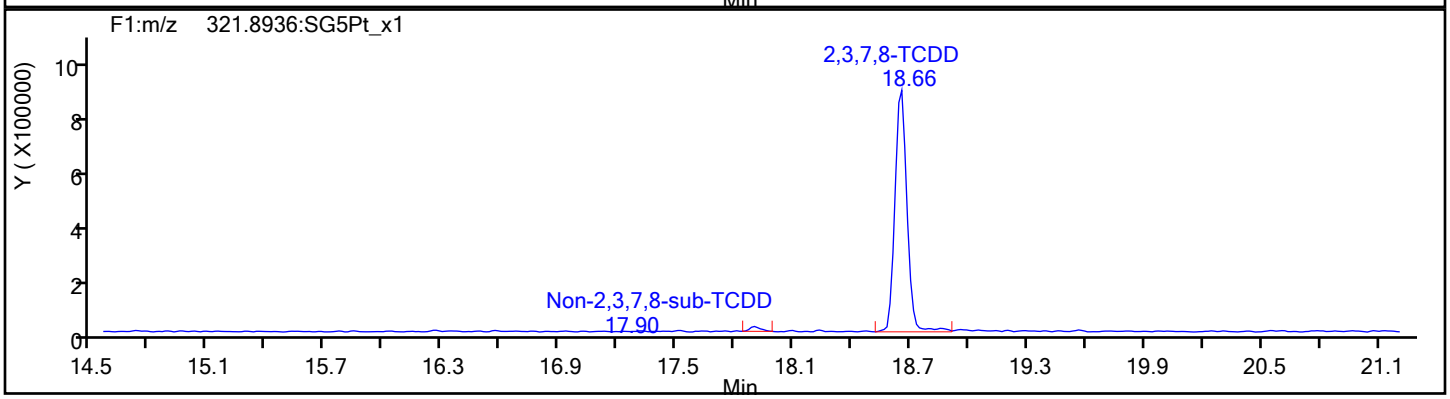

TCDD Standards

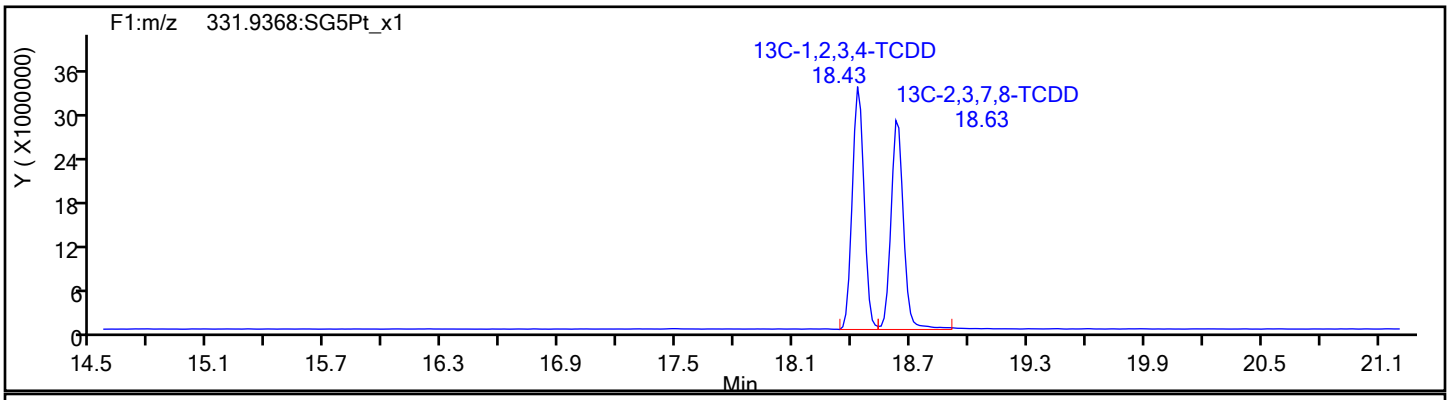

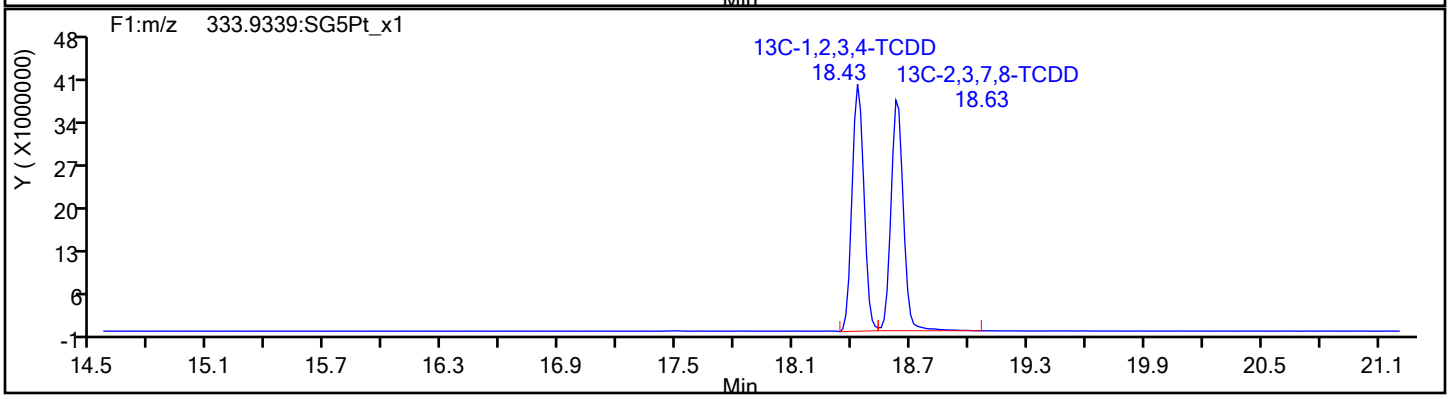

Report Date: 22-May-2019 11:44:27 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

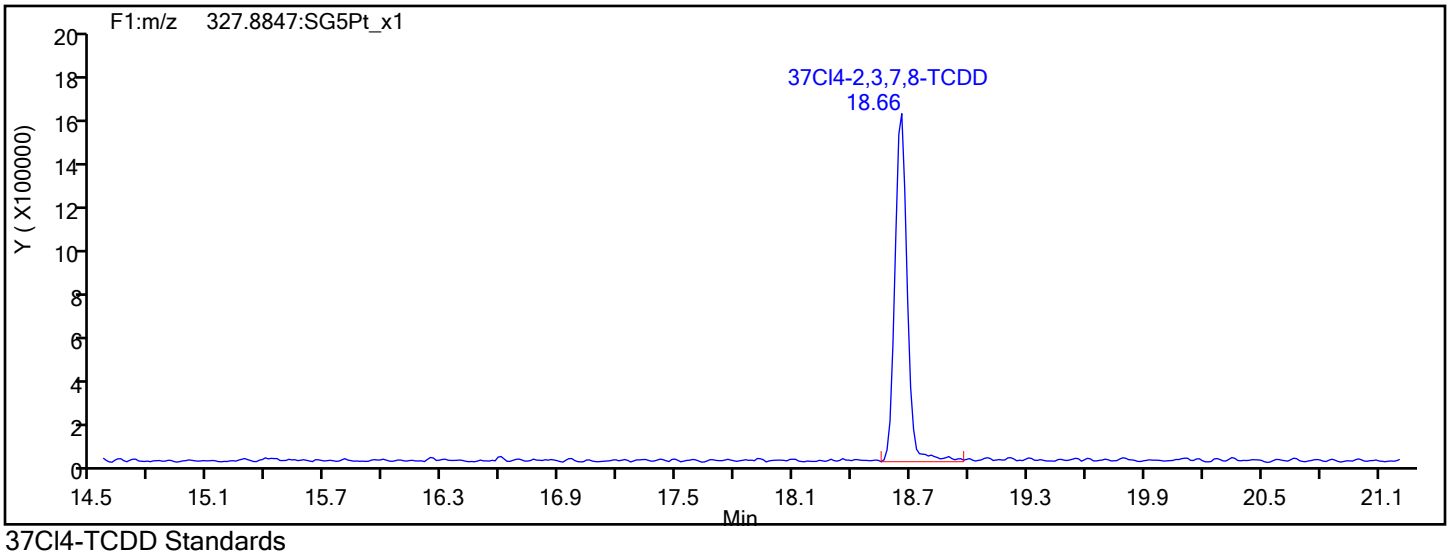

37Cl4-TCDD Standards

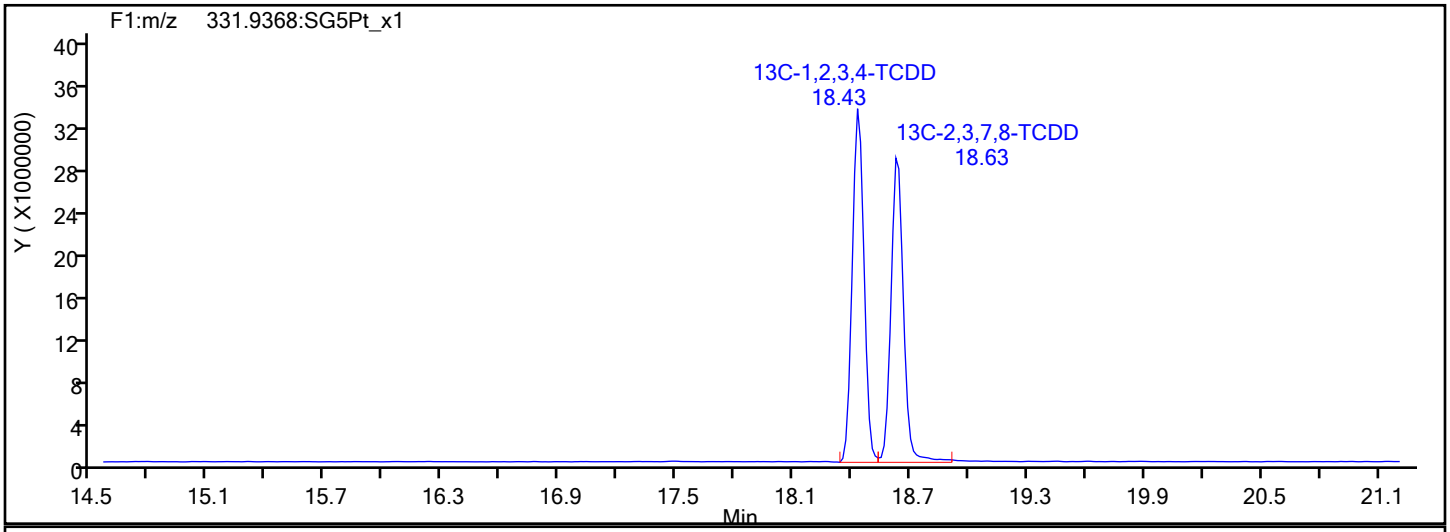

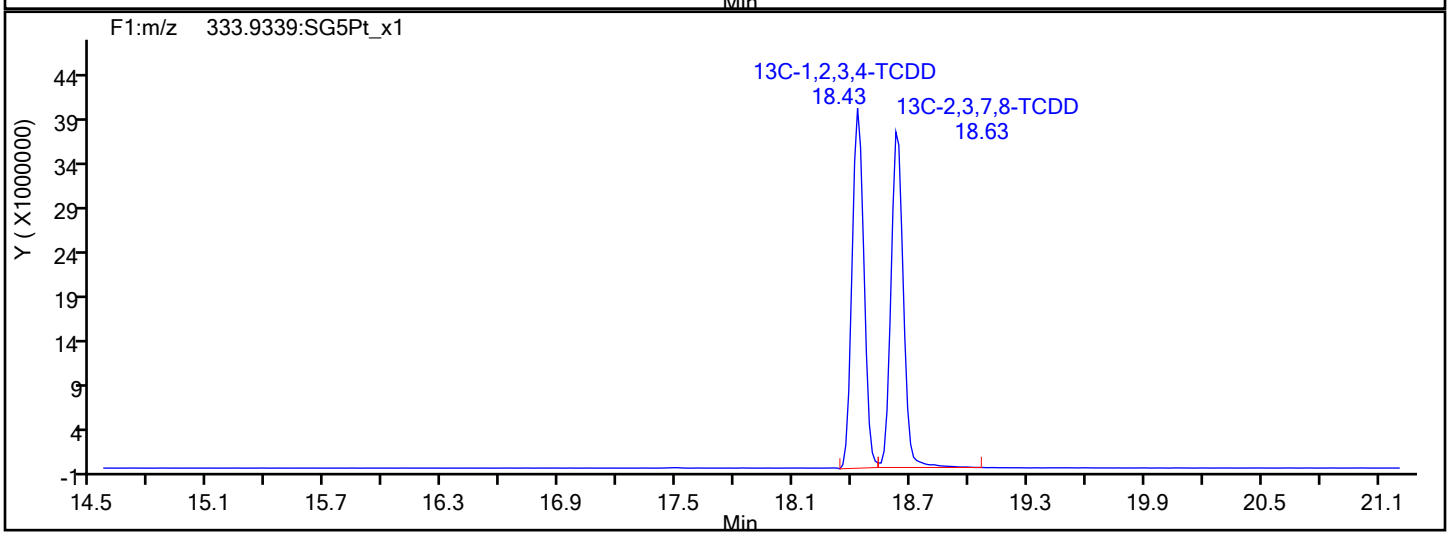

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

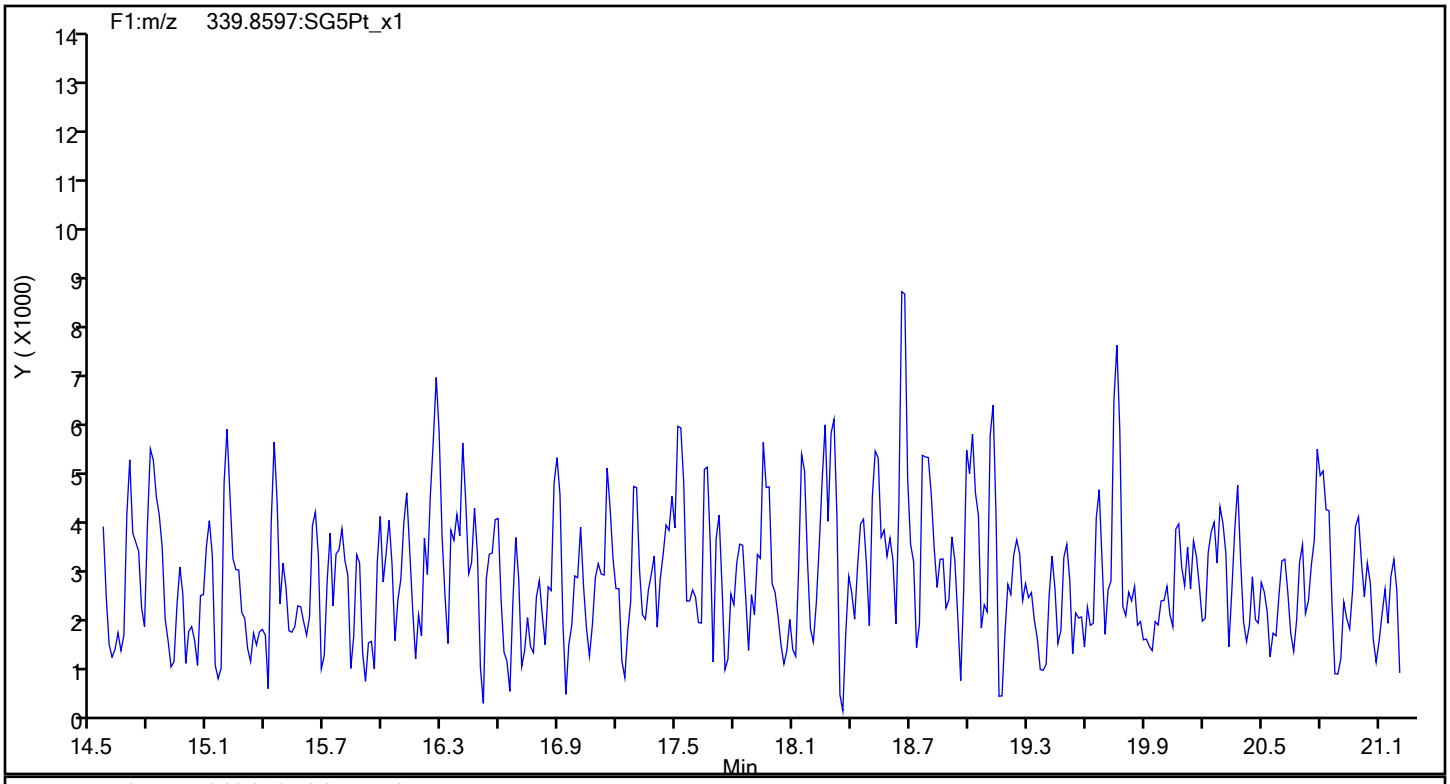

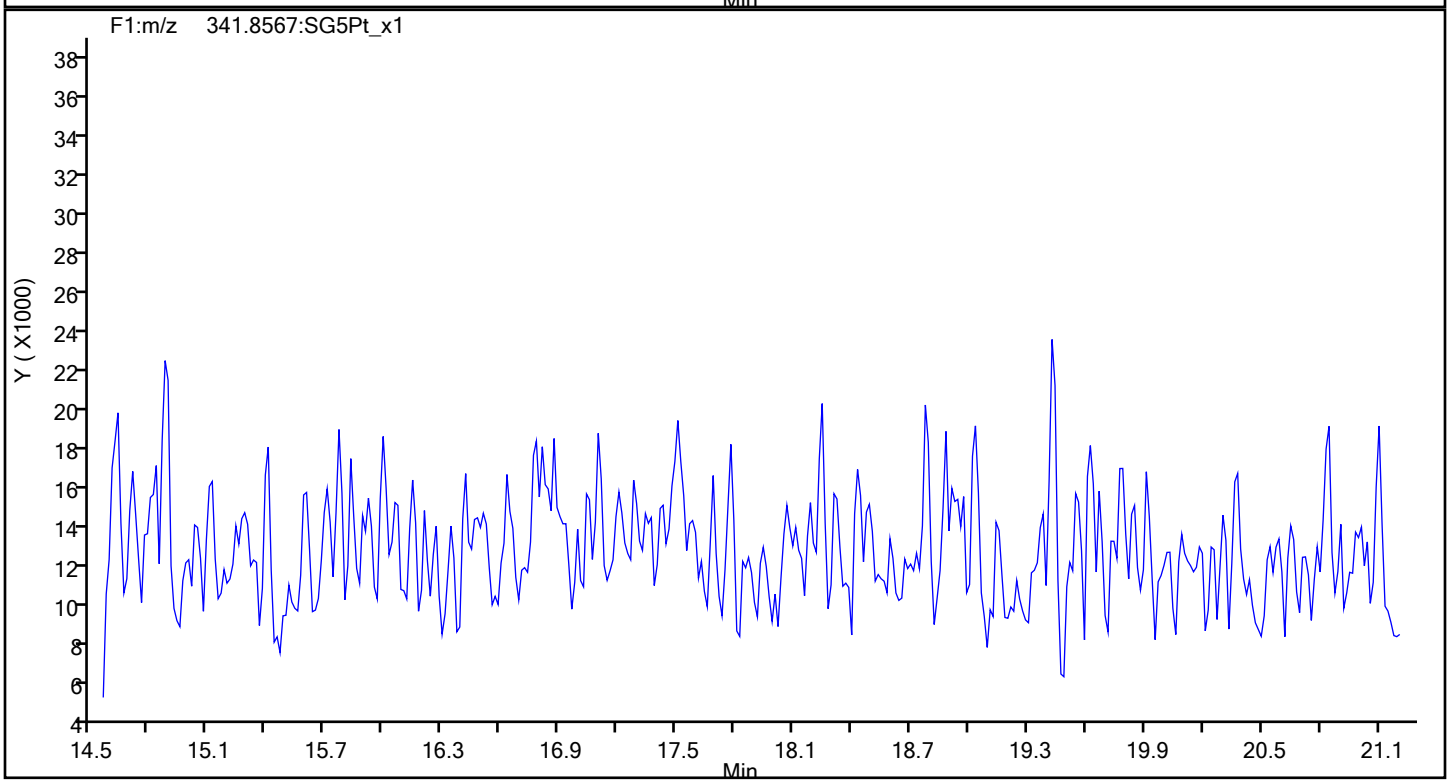

Report Date: 22-May-2019 11:44:27 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

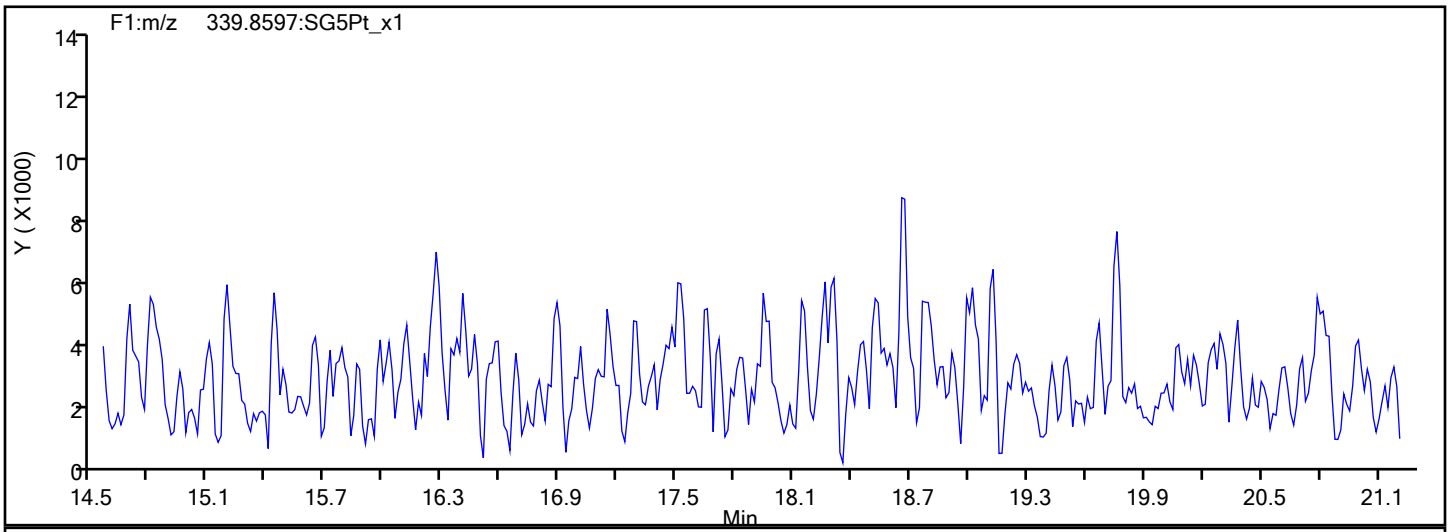

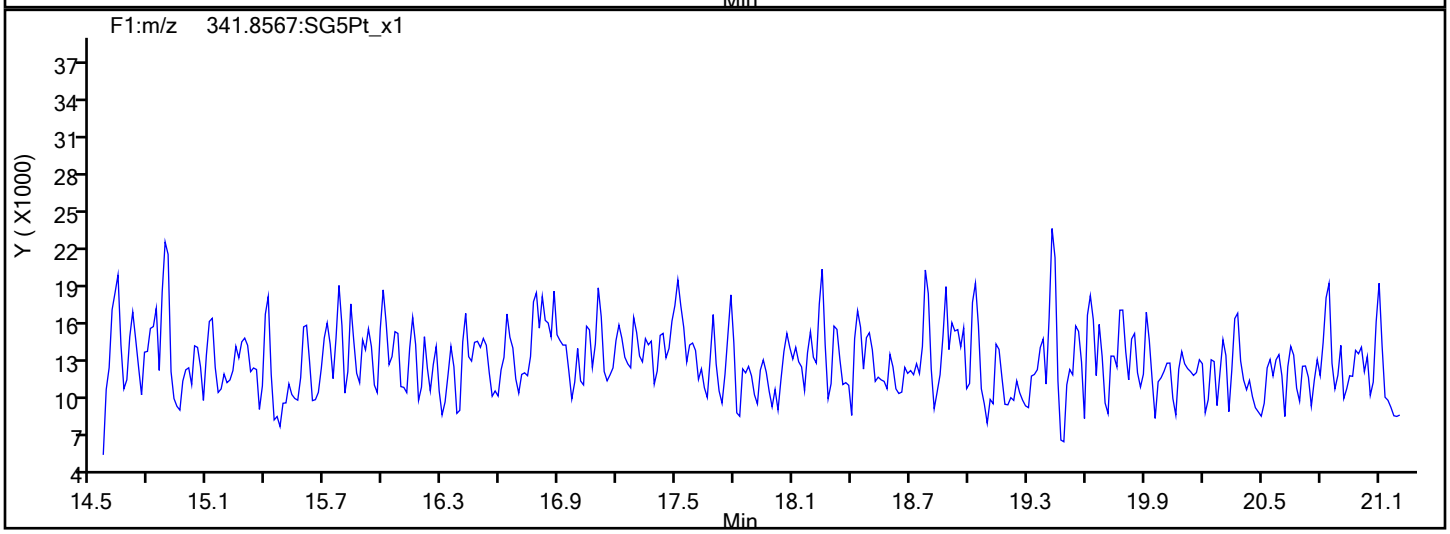

F1 PeCDFs Interference Mass

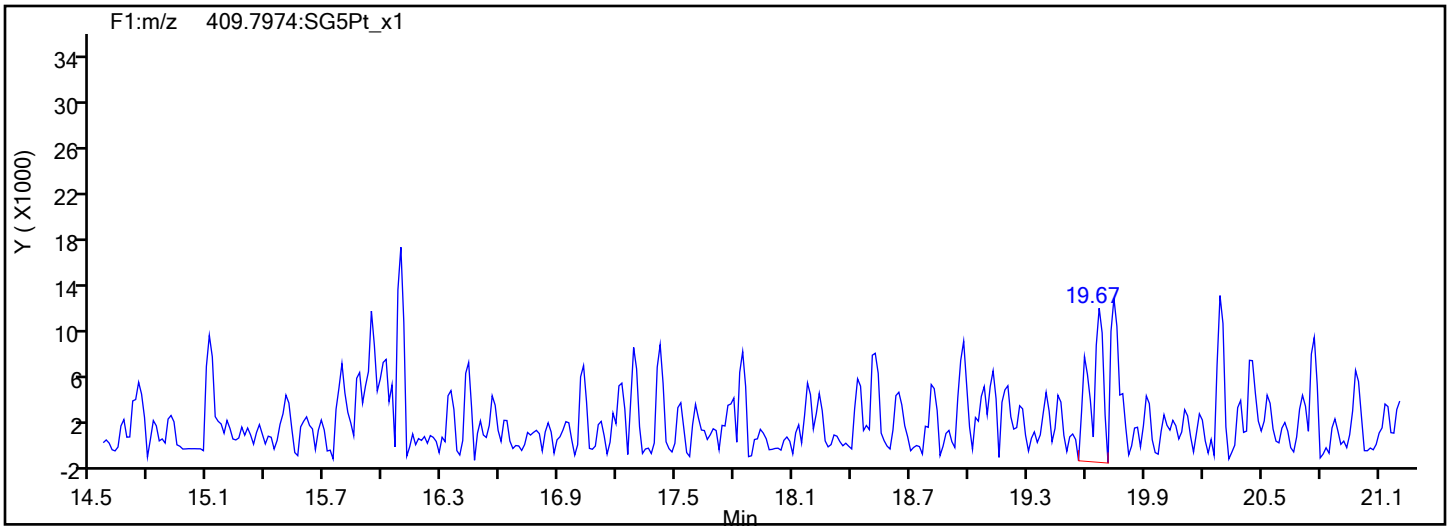

Report Date: 22-May-2019 11:44:27 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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PeCDF

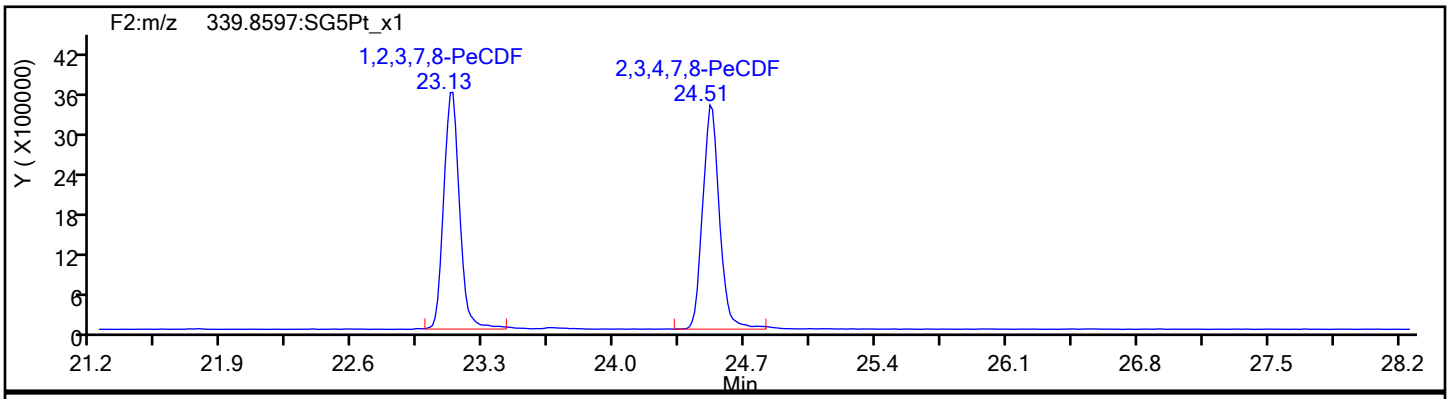

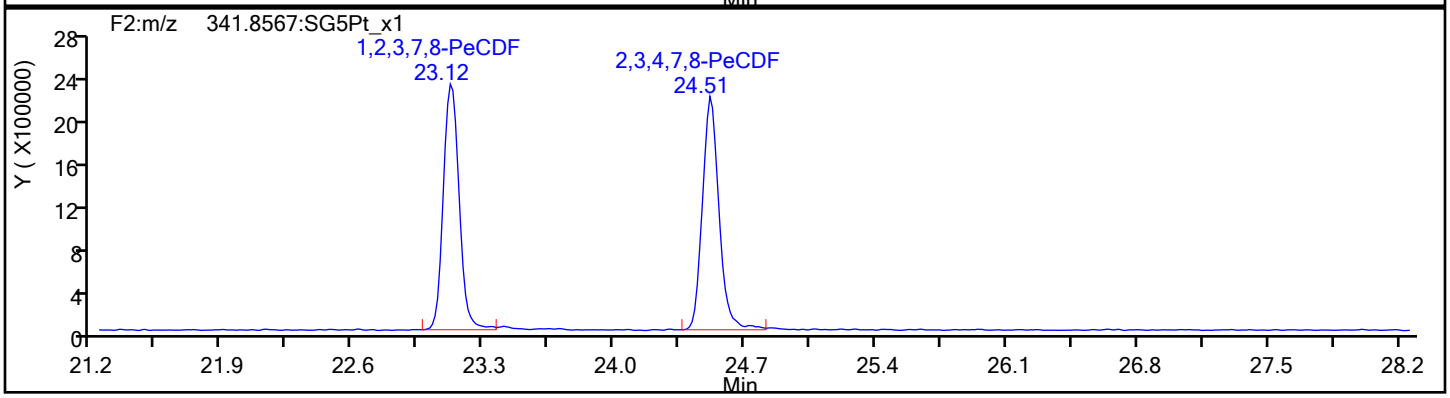

PeCDF Standards

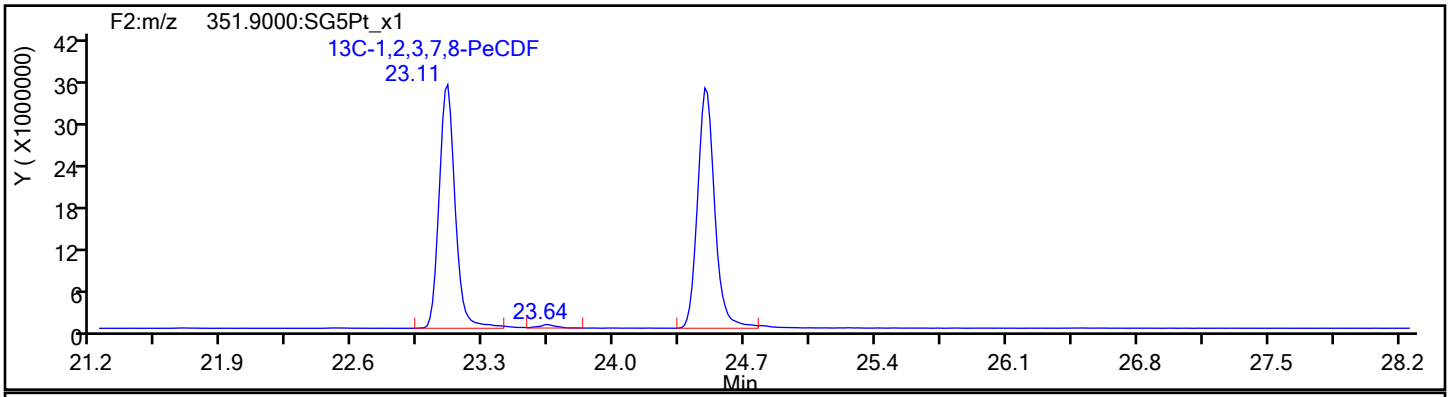

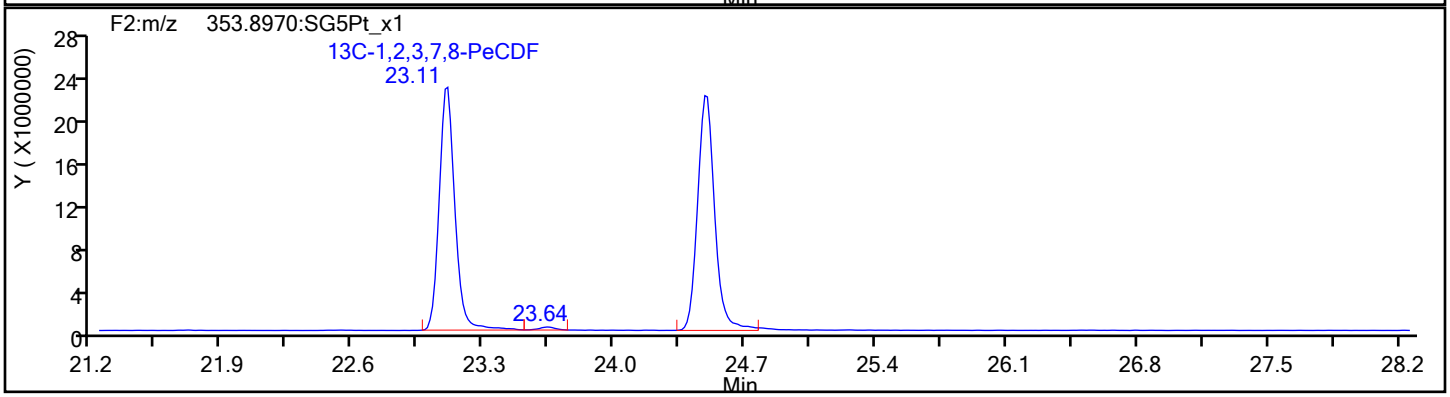

Report Date: 22-May-2019 11:44:27 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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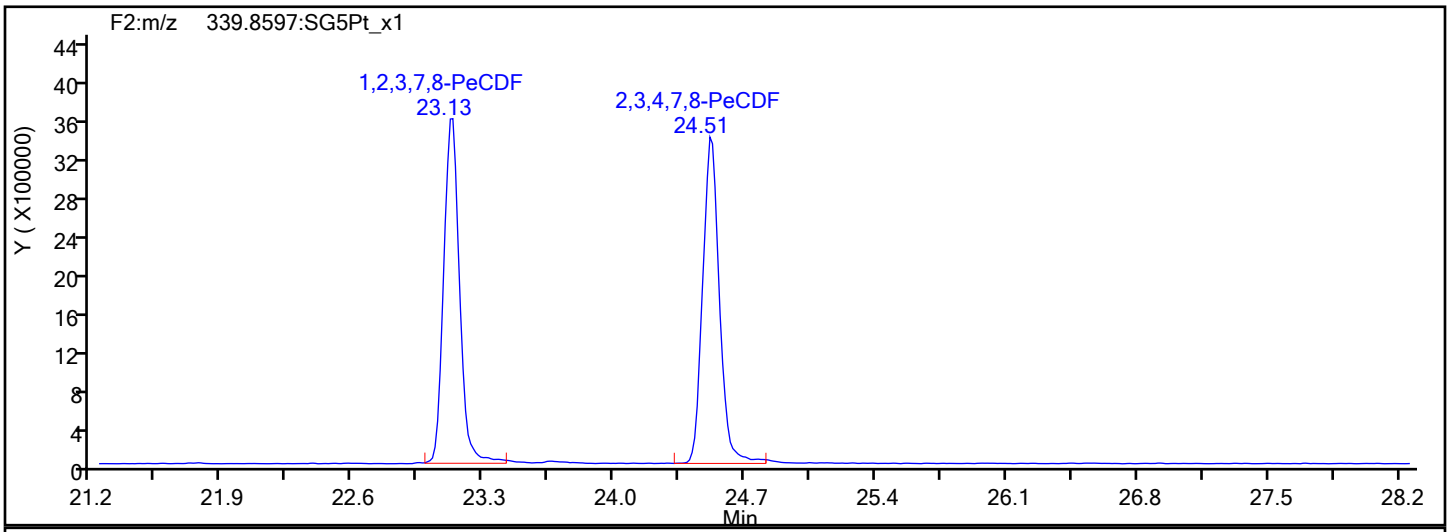

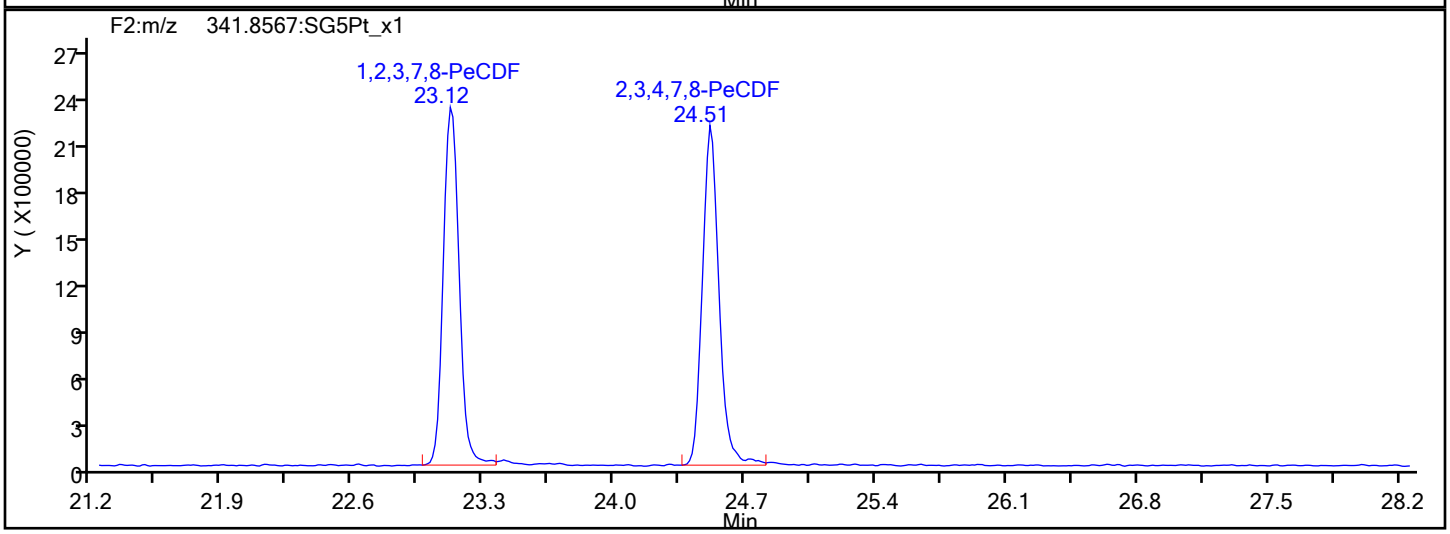

PeCDF Interference Mass

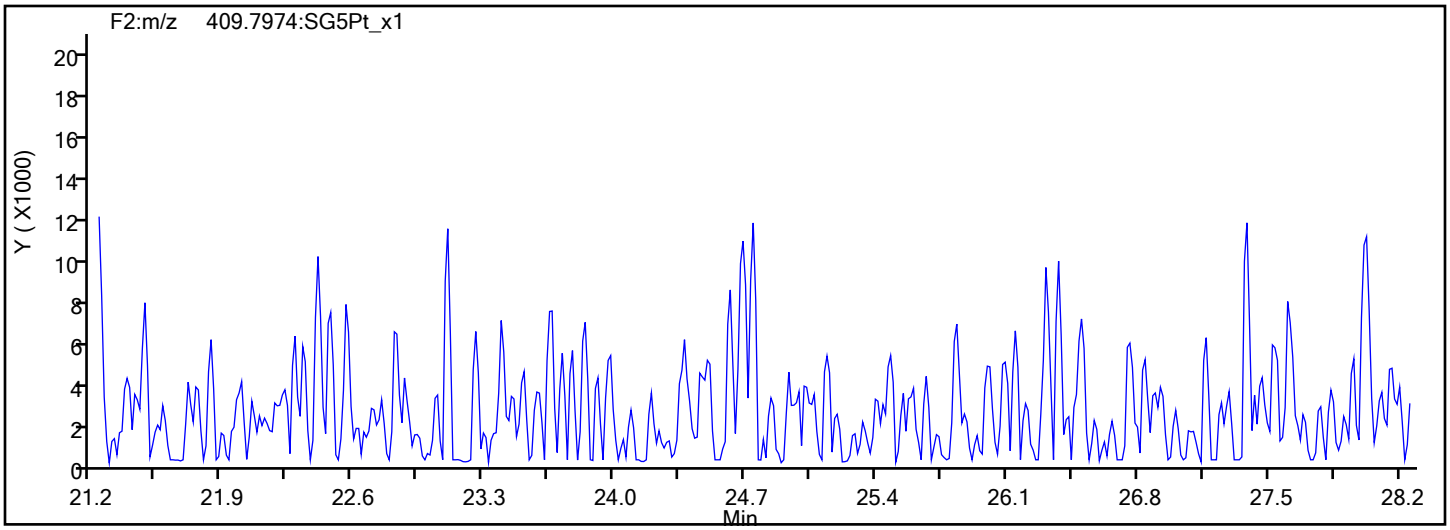

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Eurofins TestAmerica, Sacramento

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PeCDD

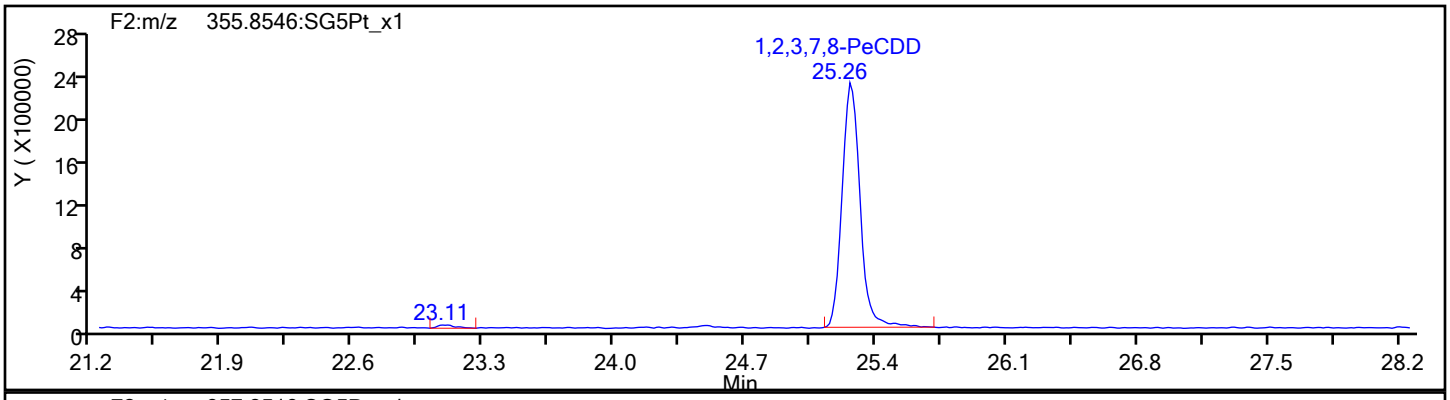

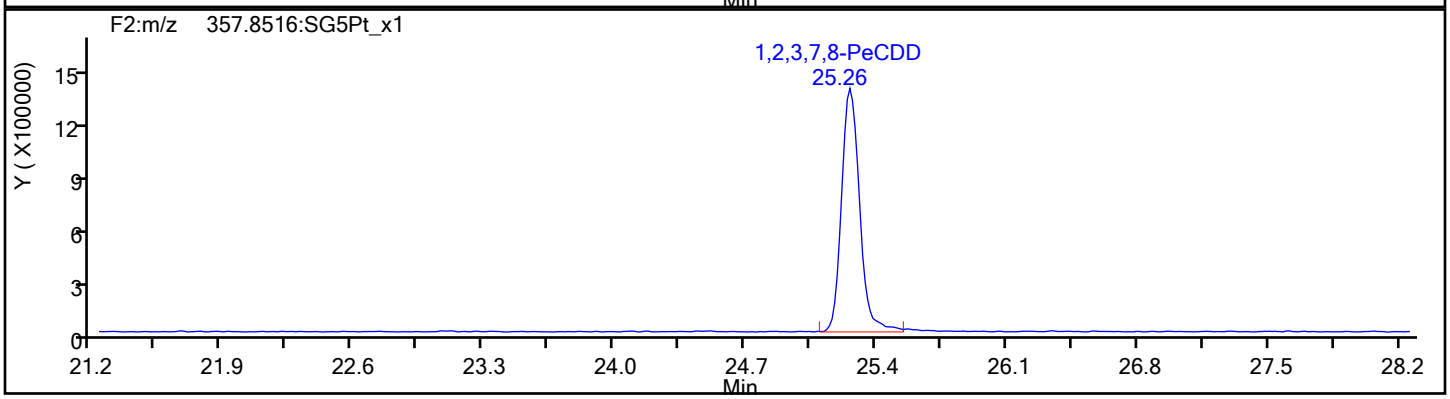

PeCDD Standards

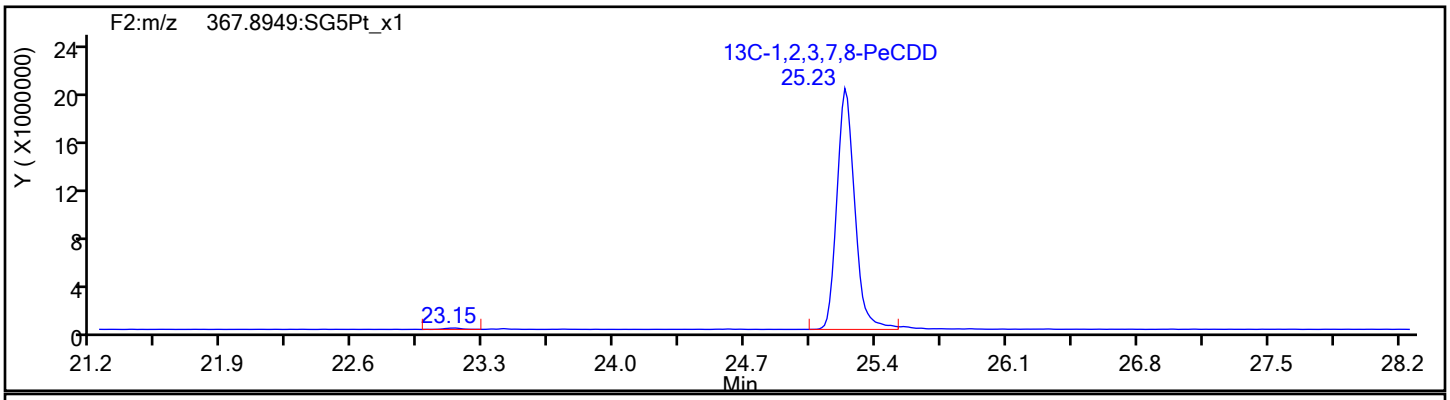

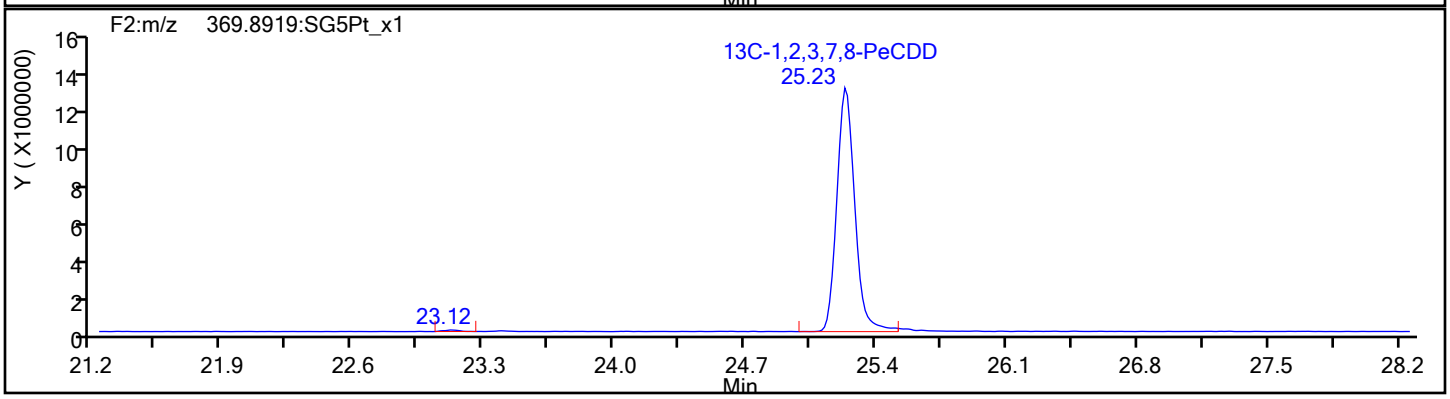

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Eurofins TestAmerica, Sacramento

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HxCDF

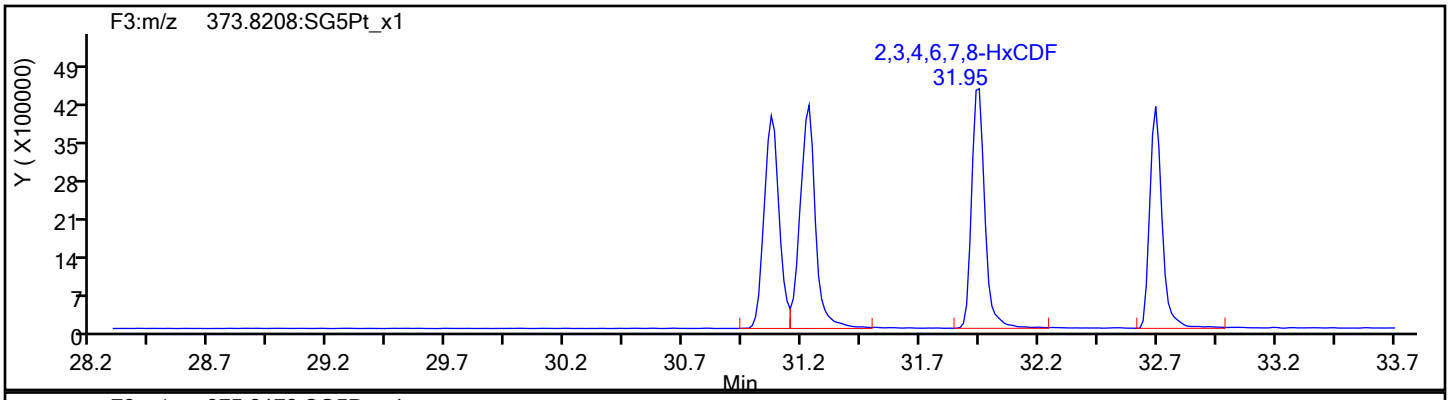

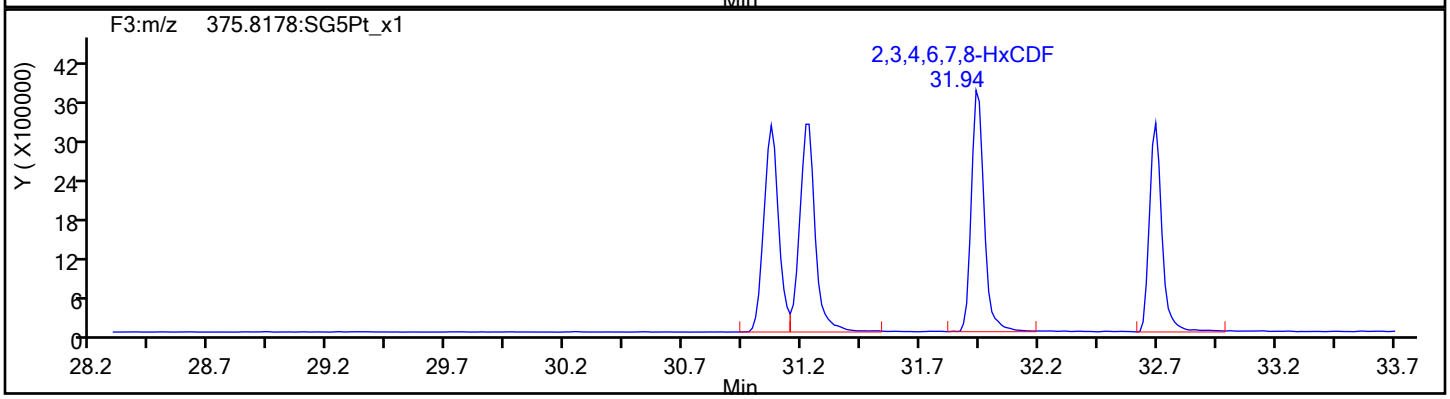

HxCDF Standards

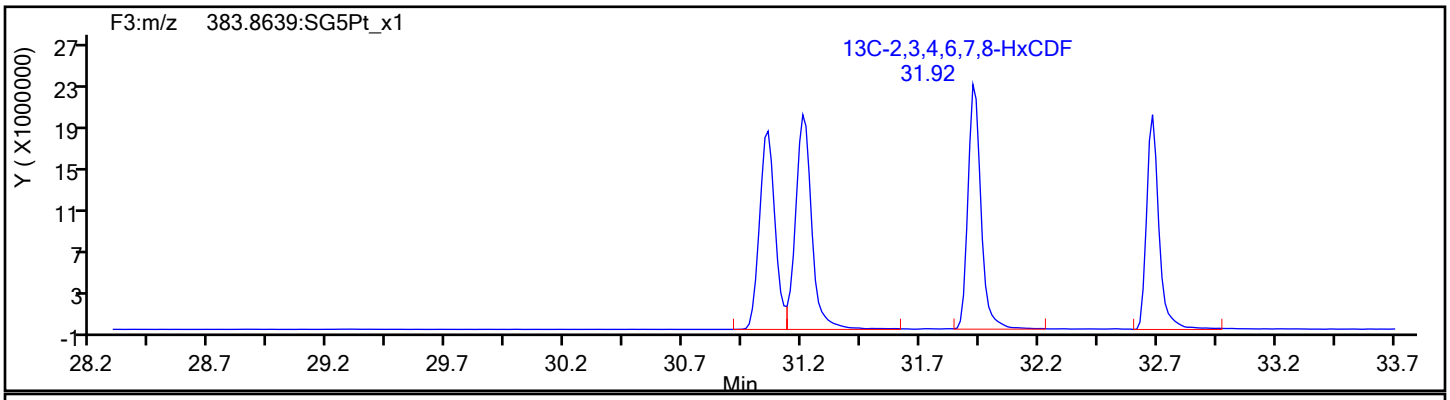

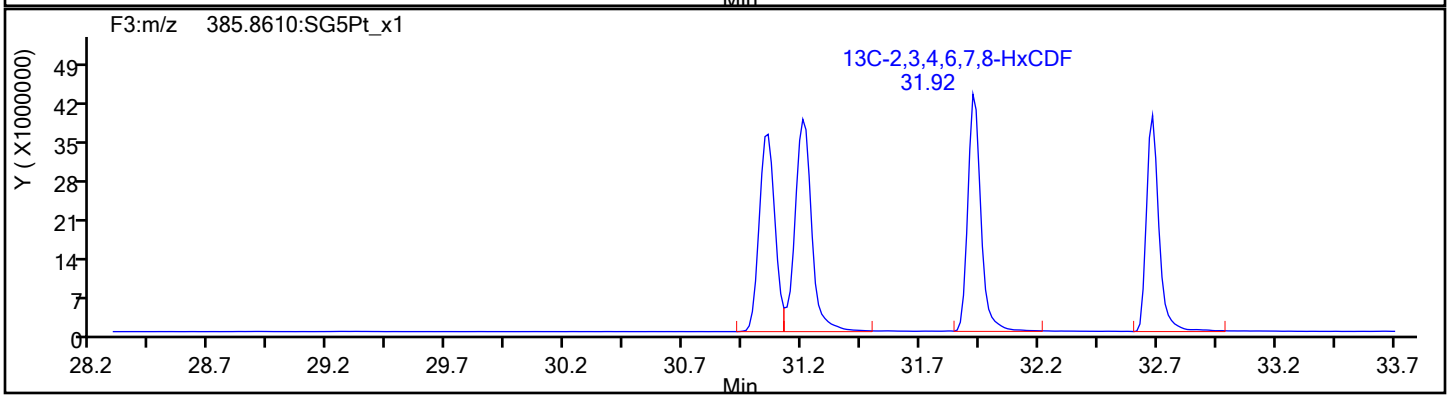

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Eurofins TestAmerica, Sacramento

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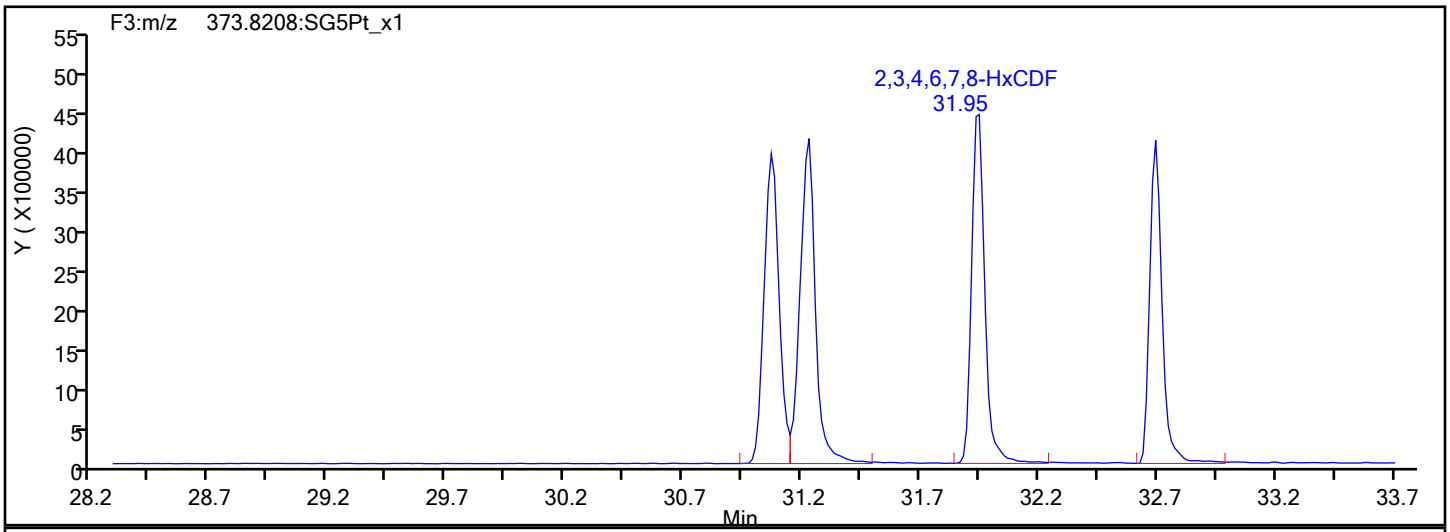

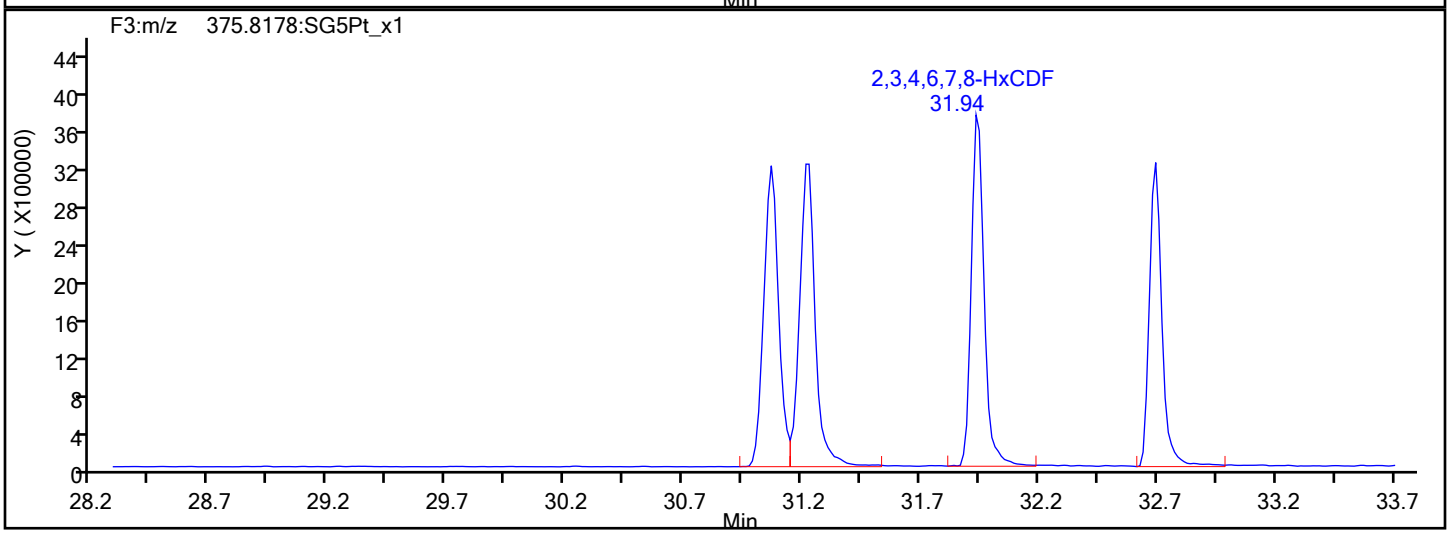

HxCDF Interference Mass

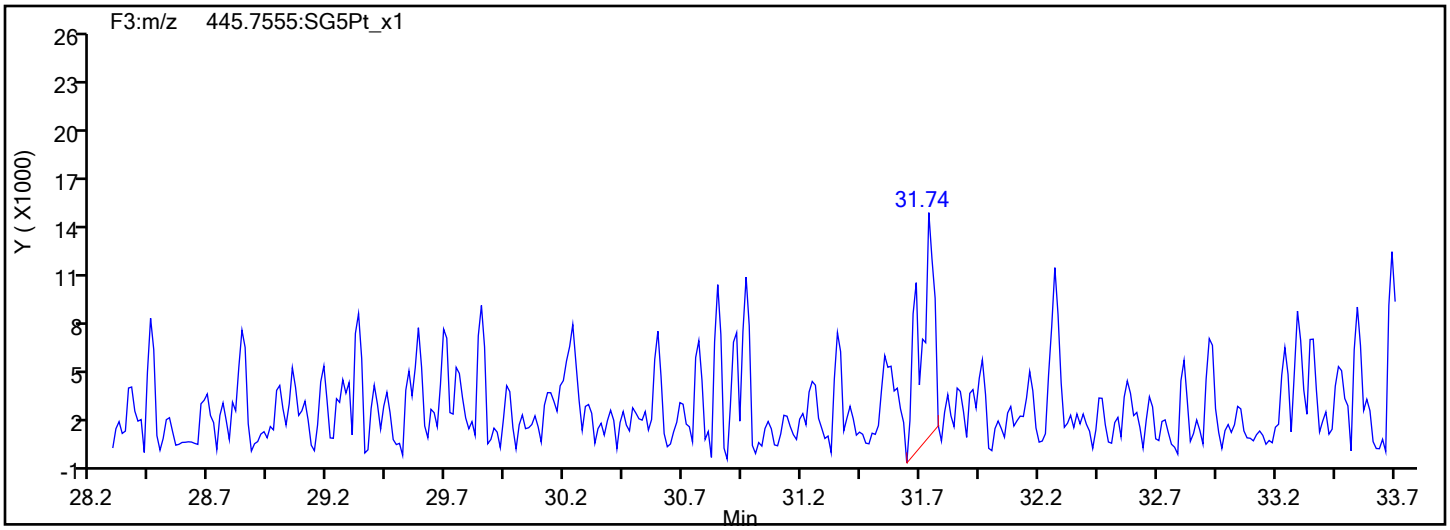

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Eurofins TestAmerica, Sacramento

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HxCDD

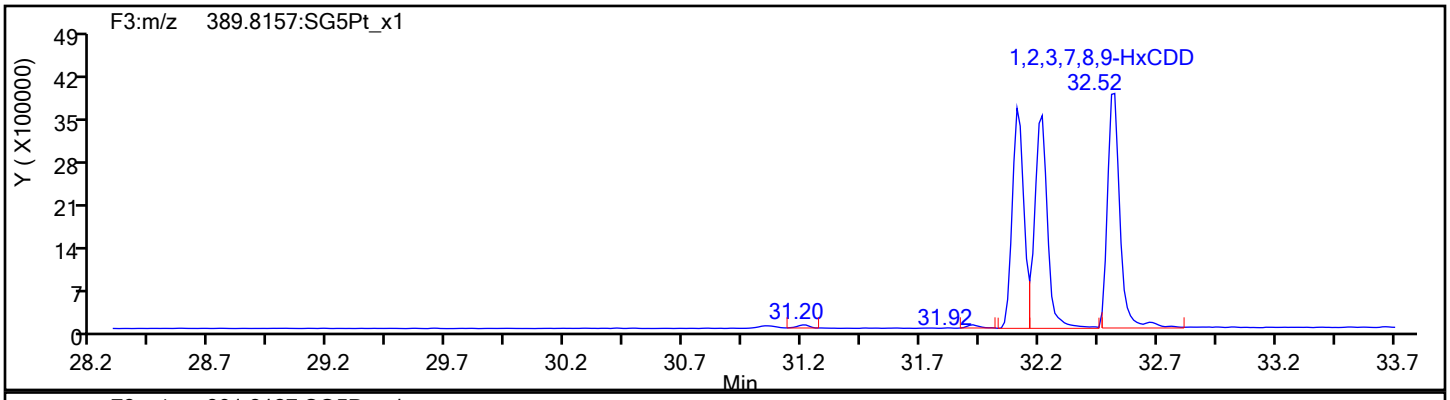

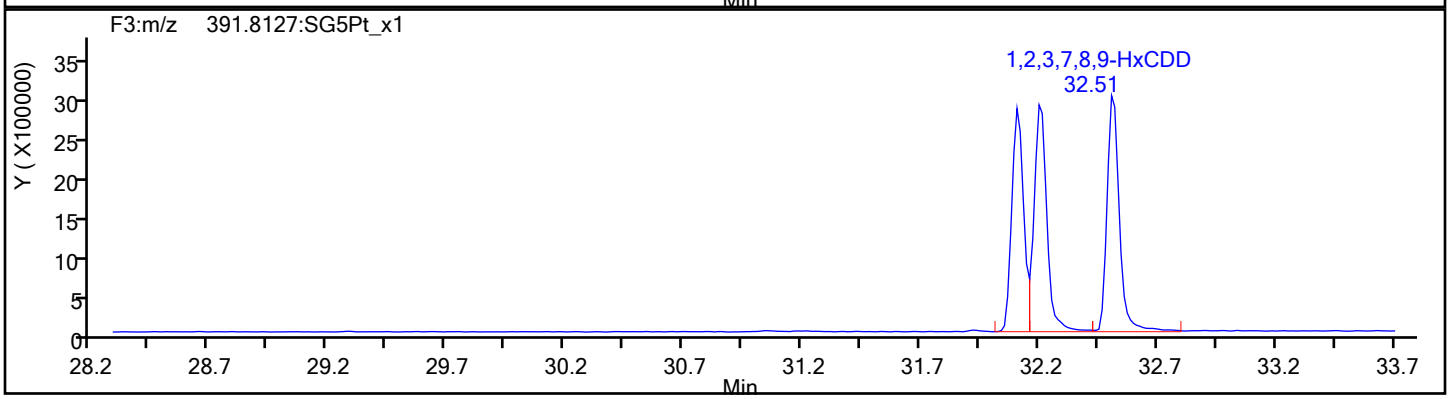

HxCDD Standards

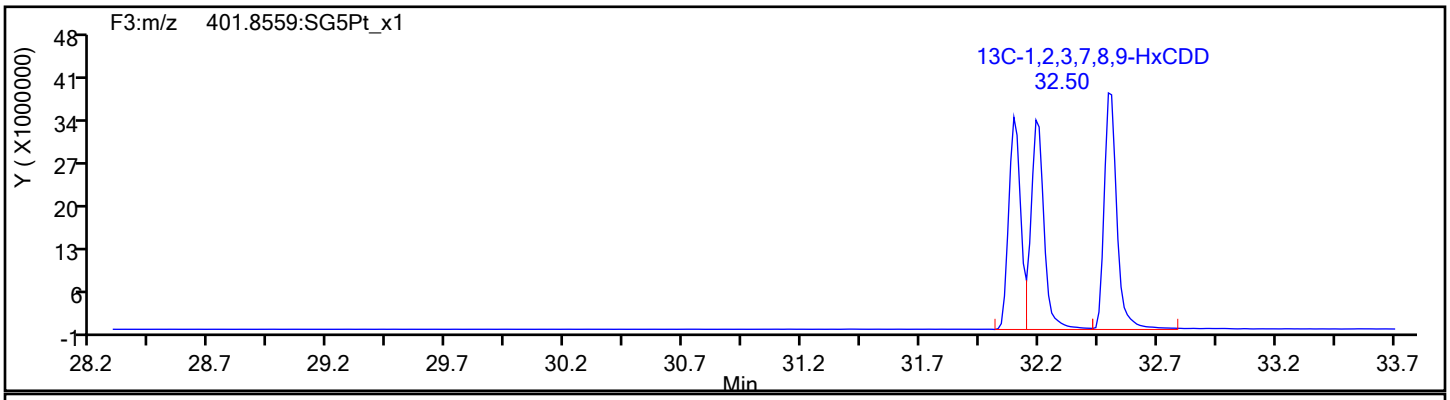

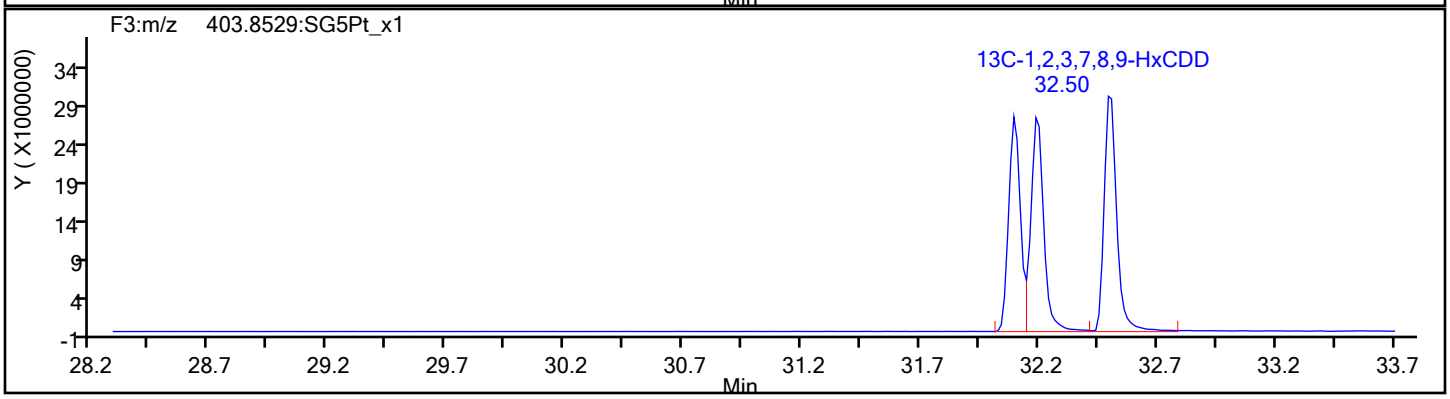

Report Date: 22-May-2019 11:44:27 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_4.d		
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Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L3		
Worklist#:	296020	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

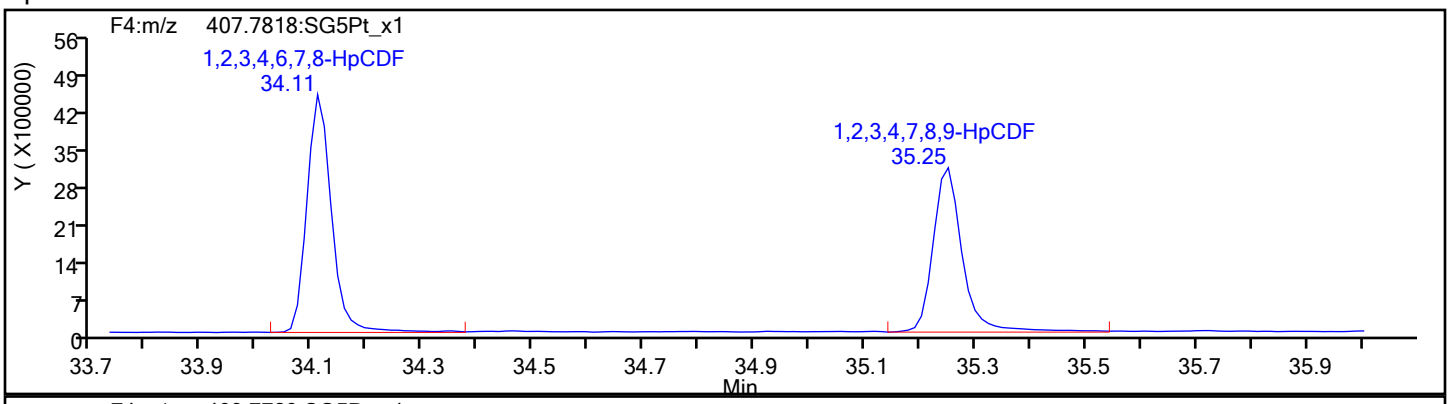

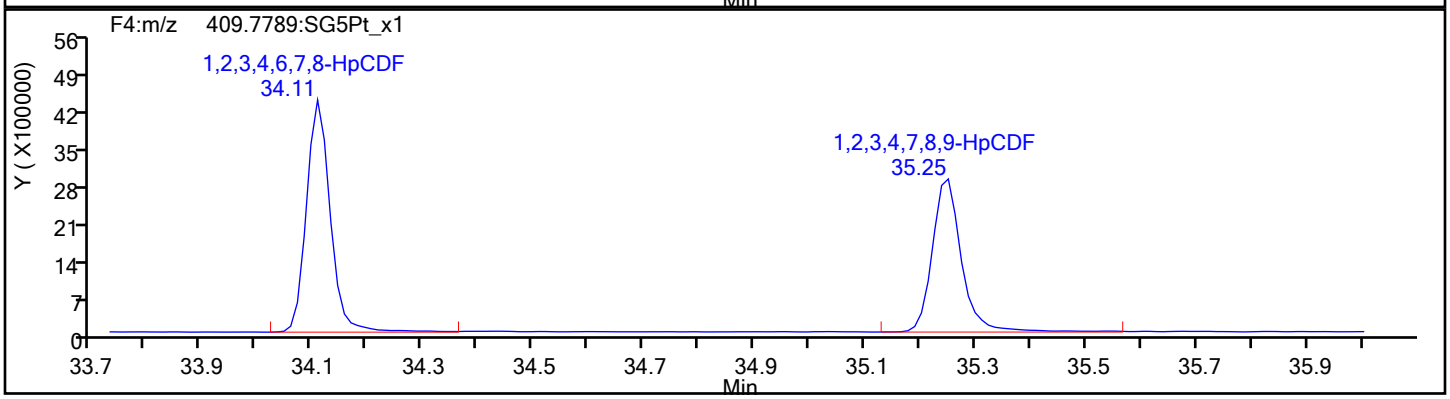

HpCDF Standards

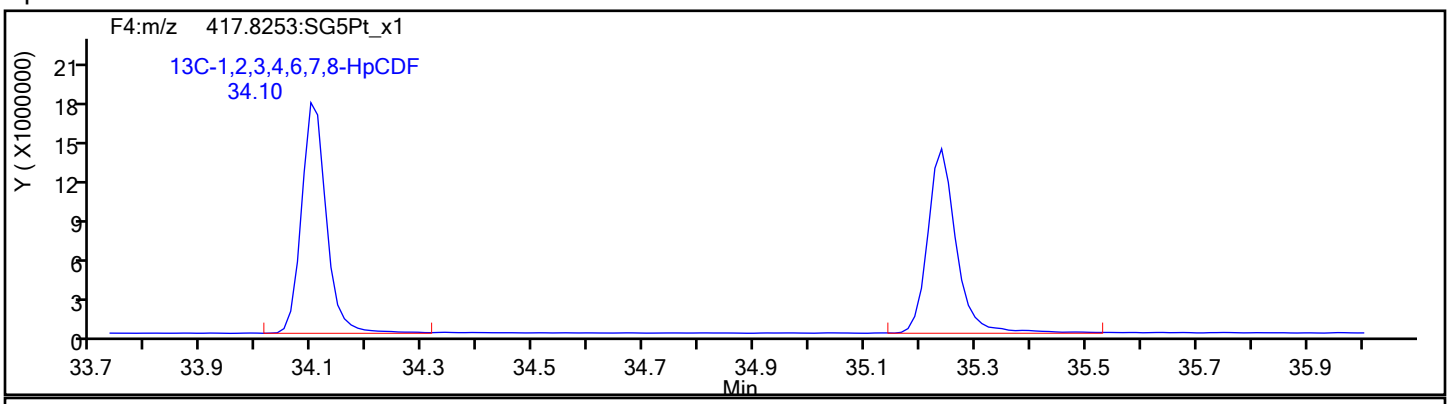

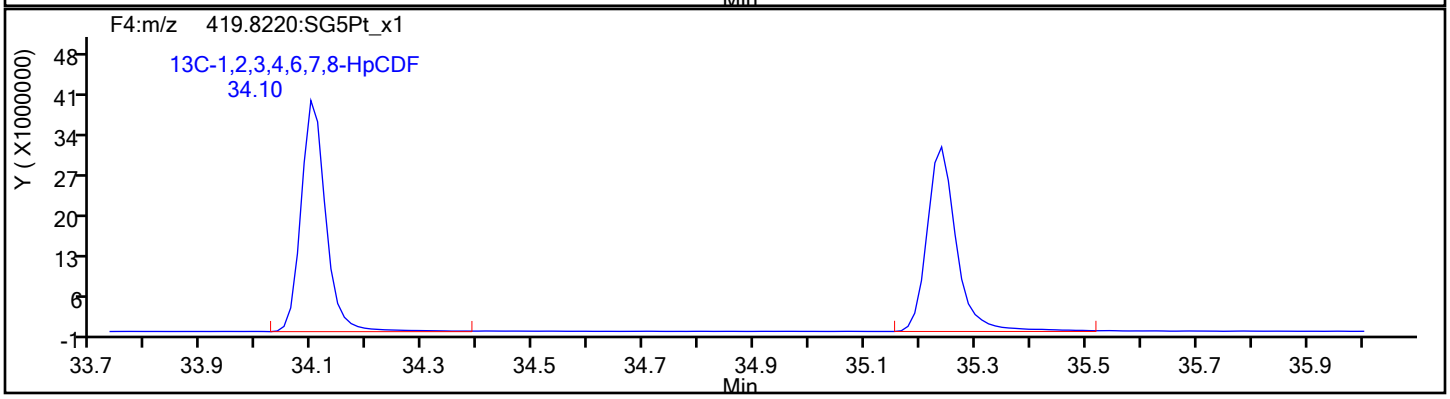

Report Date: 22-May-2019 11:44:27 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_4.d		
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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L3		
Worklist#:	296020	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

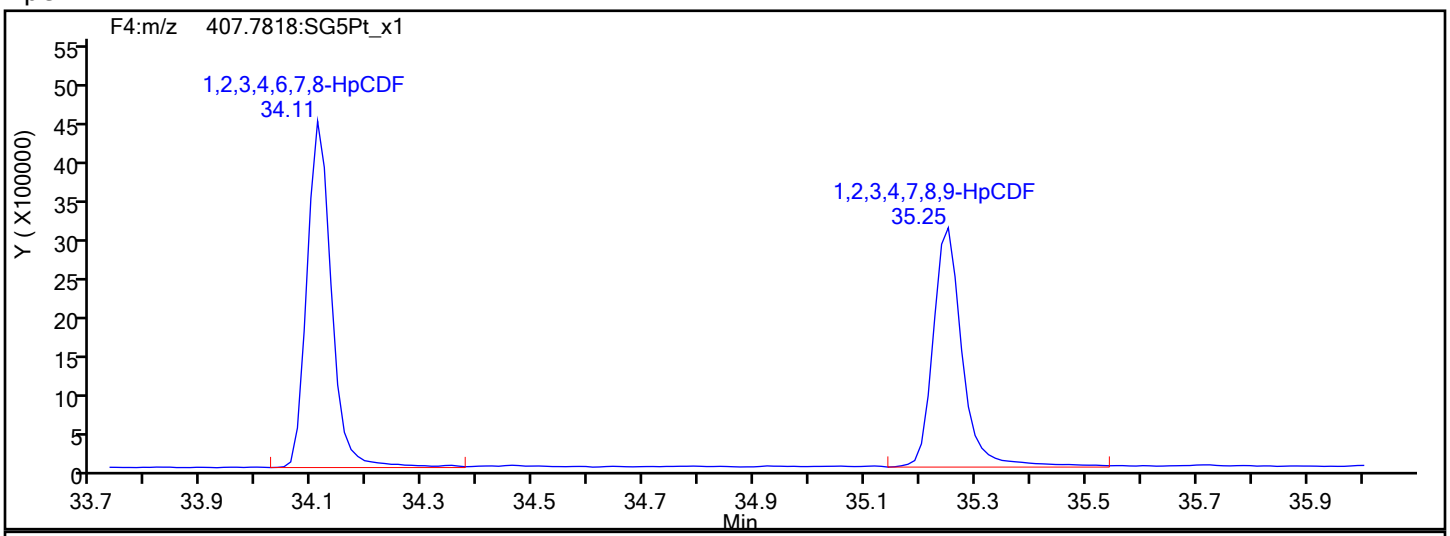

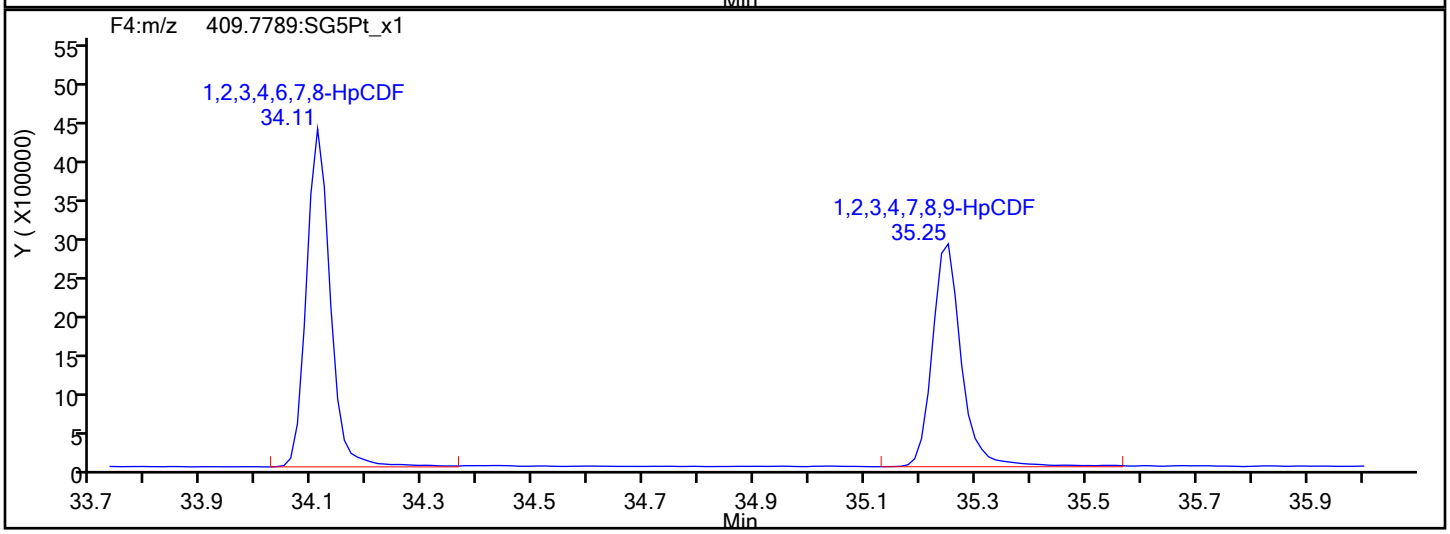

HpCDF Interference Mass

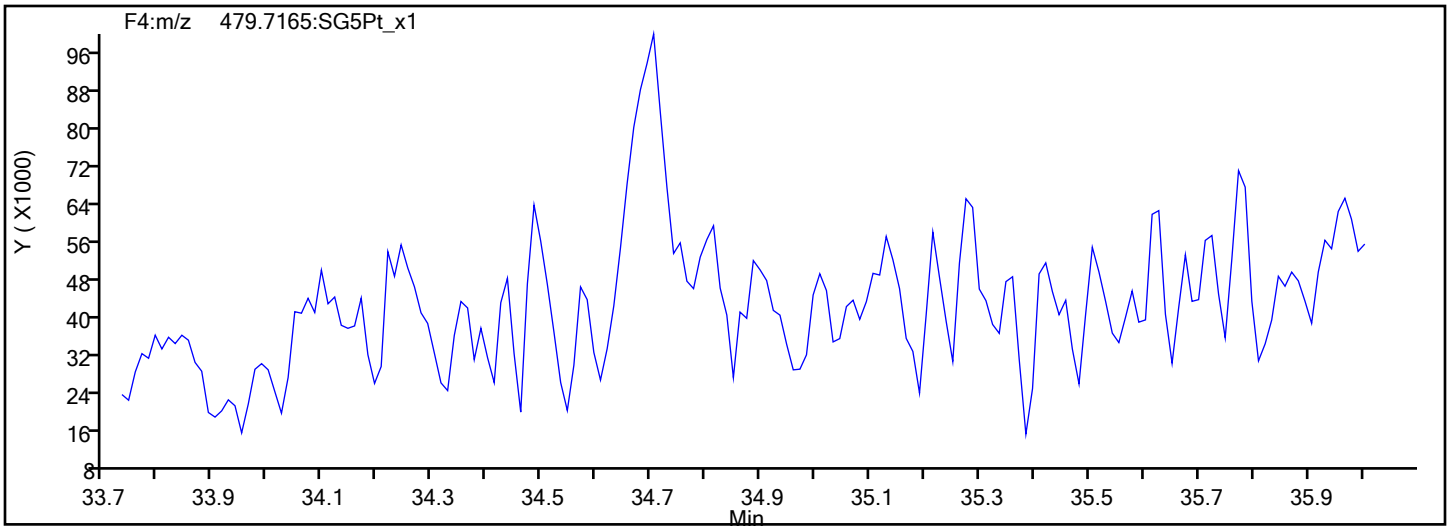

Report Date: 22-May-2019 11:44:27 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_4.d		
Injection Date:	21-May-2019 14:18:50	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L3		
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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

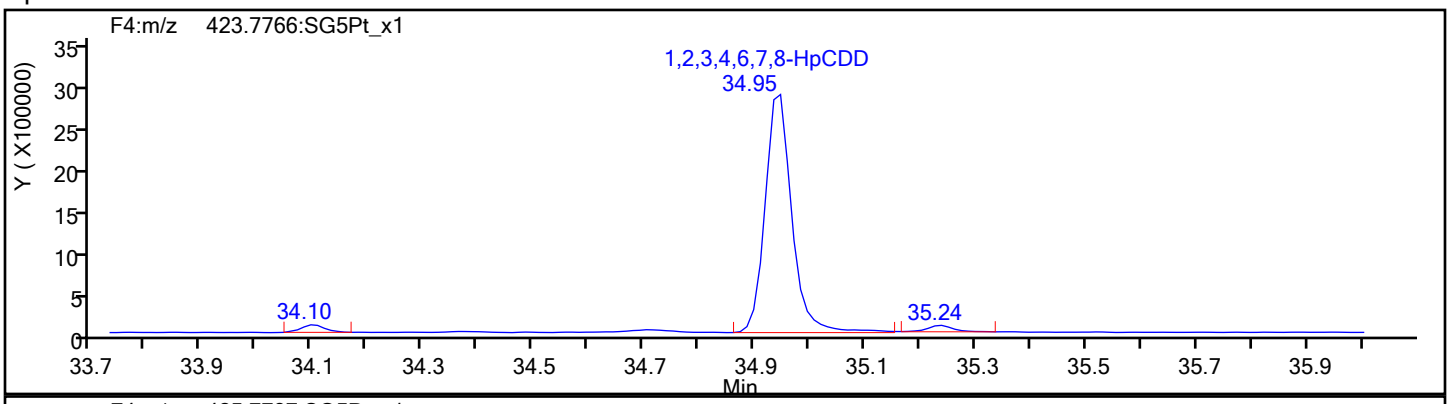

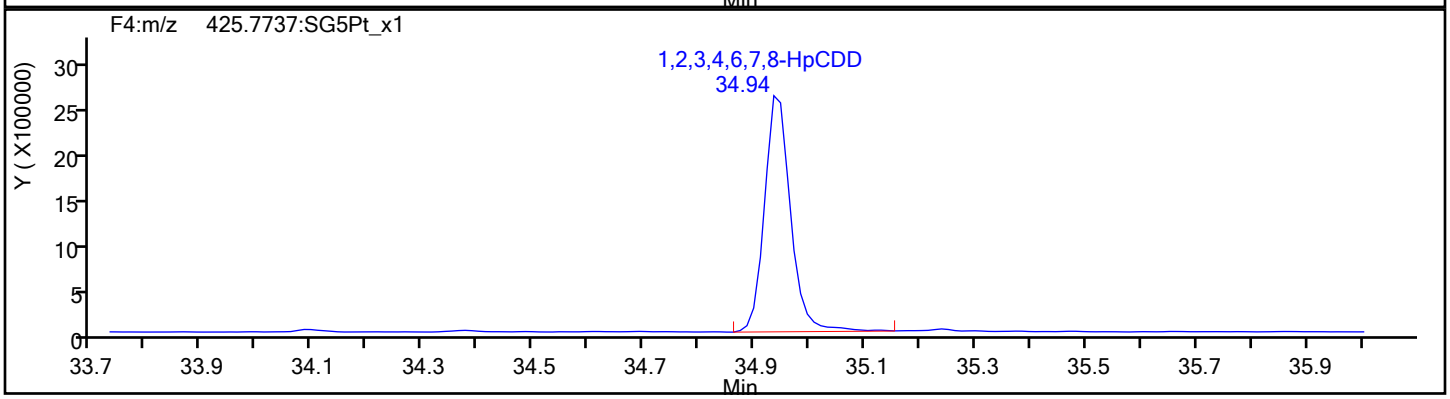

HpCDD Standards

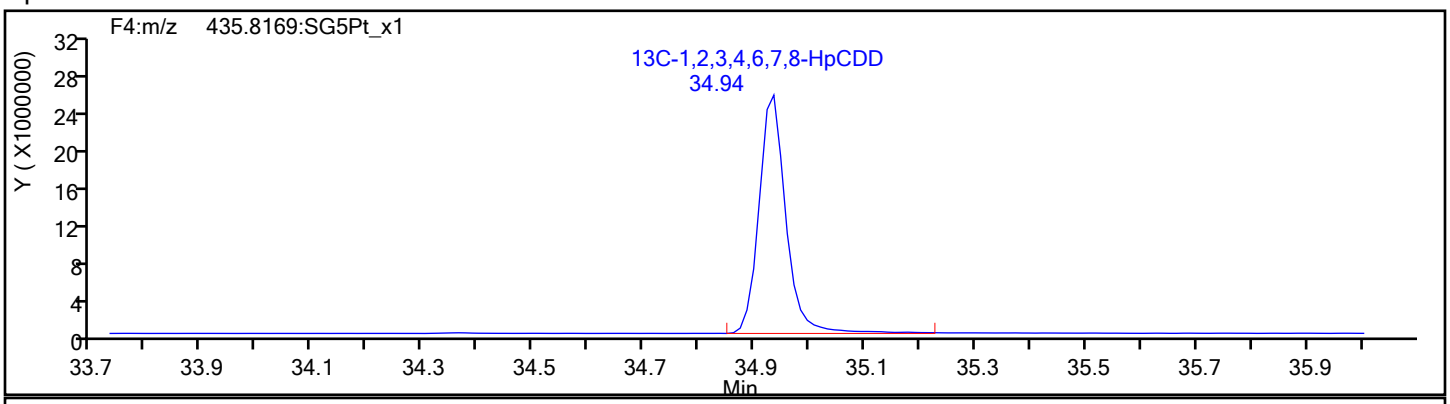

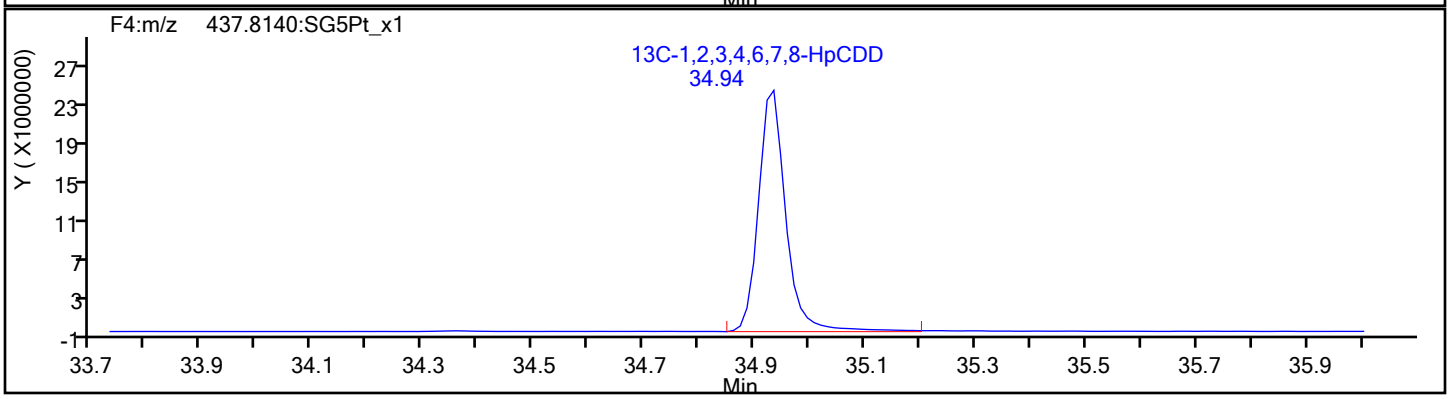

Report Date: 22-May-2019 11:44:27 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_4.d		
Injection Date:	21-May-2019 14:18:50	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L3		
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Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

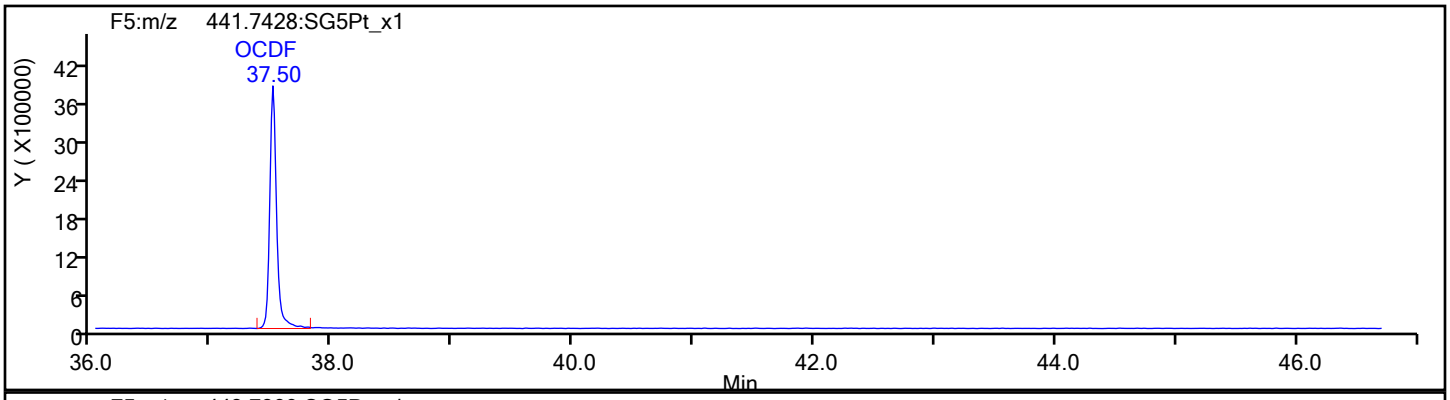

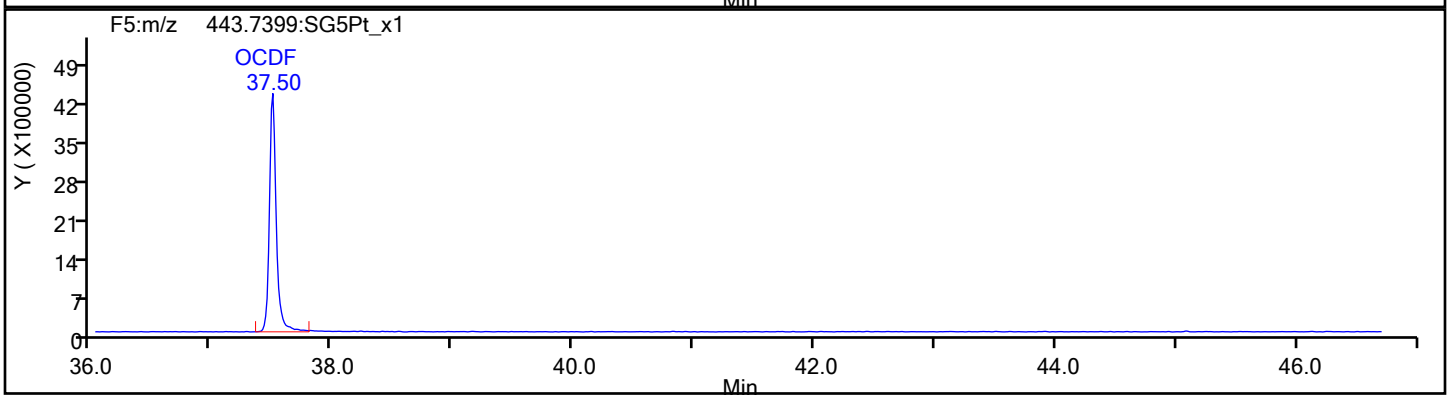

OCDF Standards

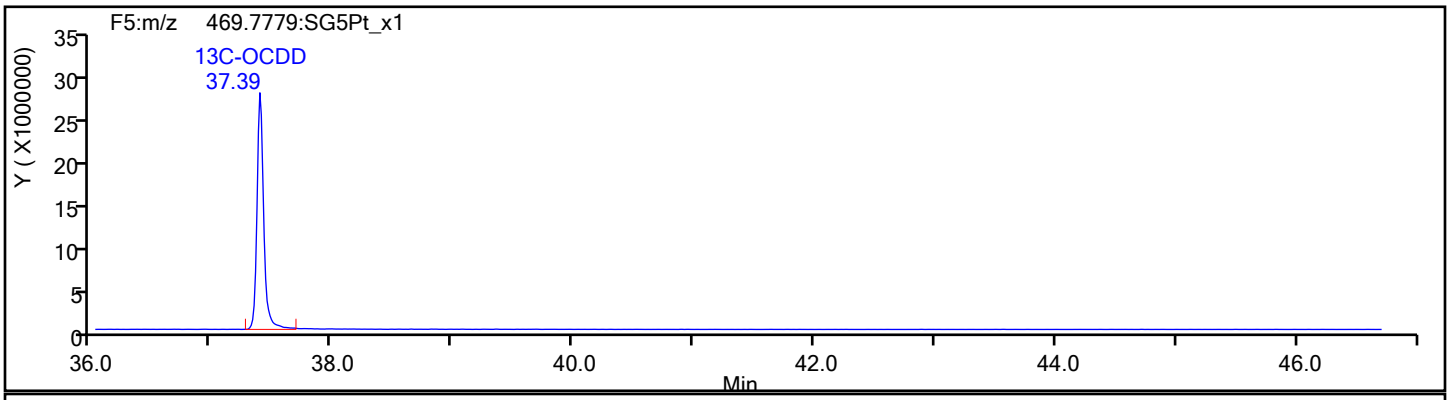

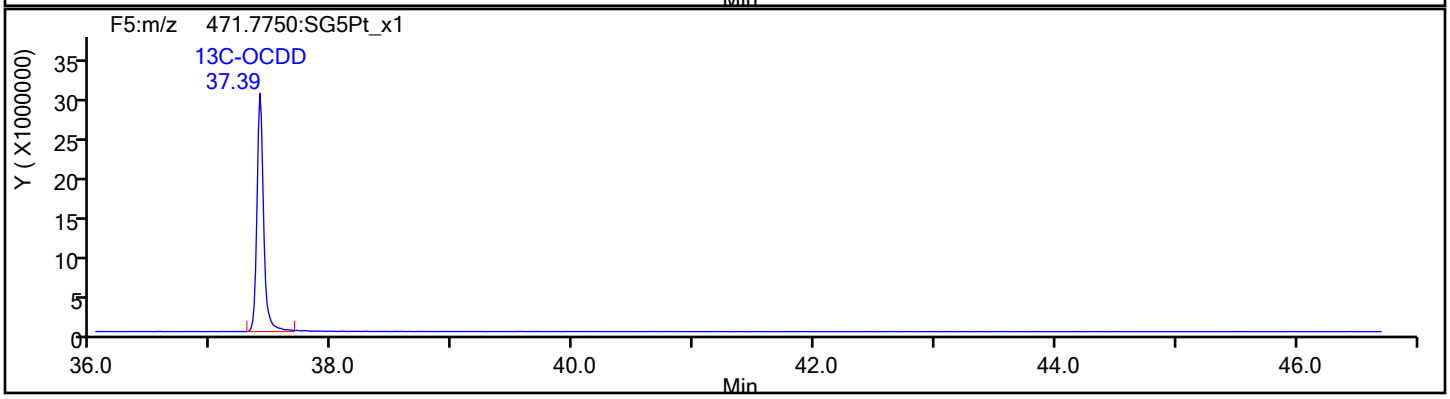

Report Date: 22-May-2019 11:44:27 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_4.d		
Injection Date:	21-May-2019 14:18:50	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L3		
Worklist#:	296020	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

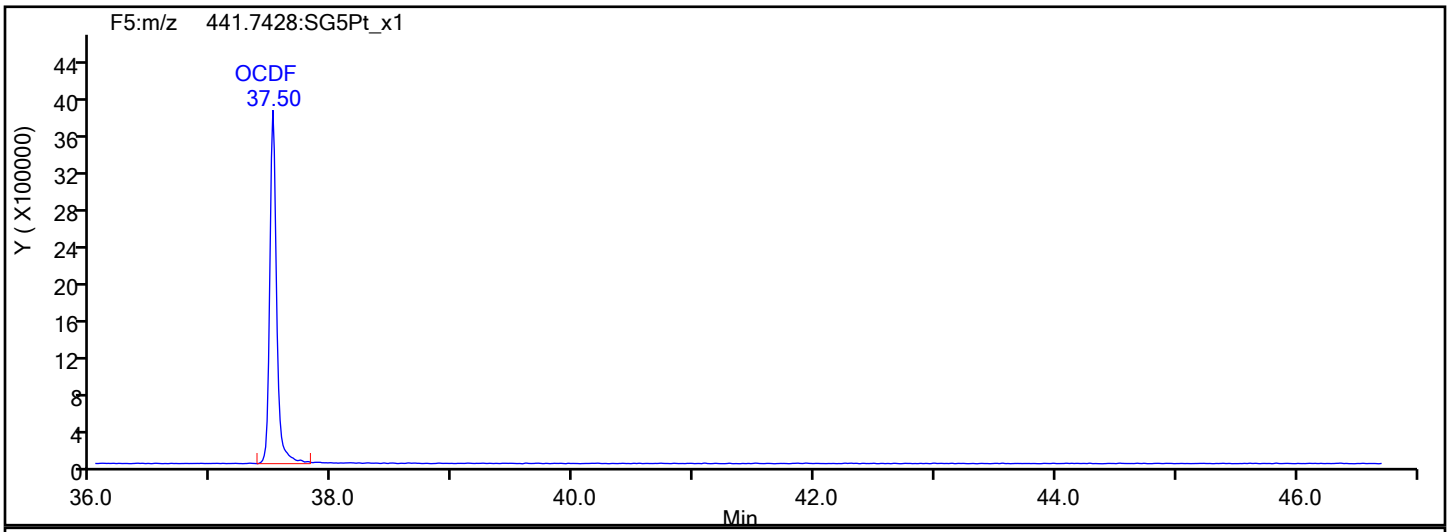

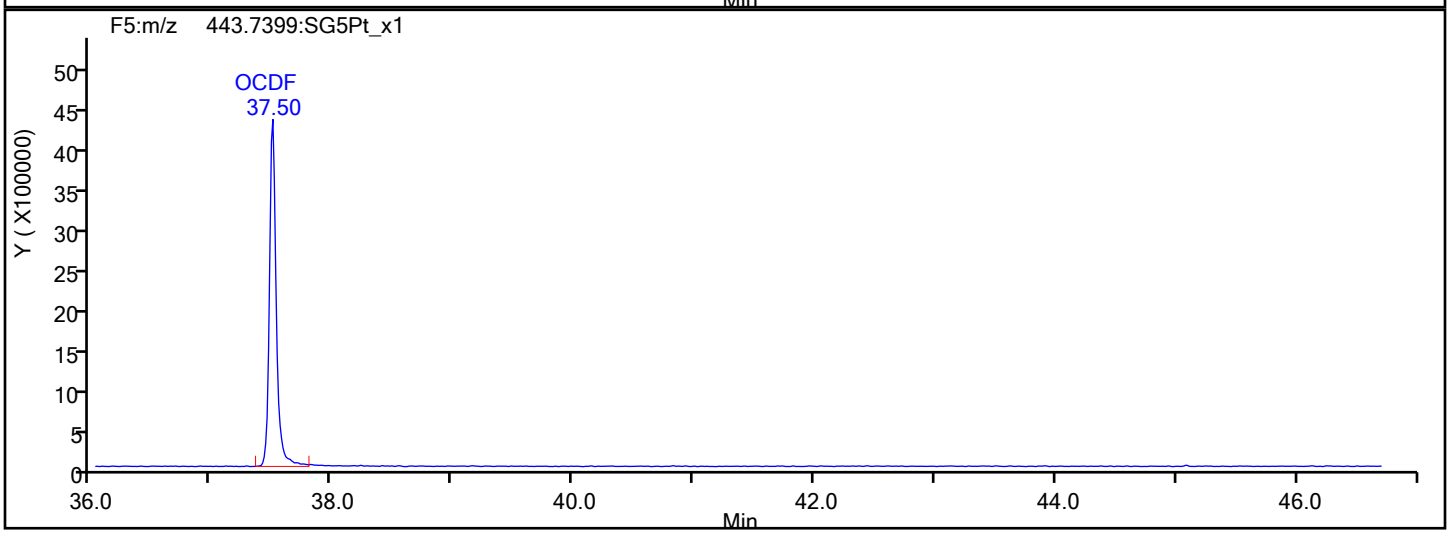

OCDF Interference Mass

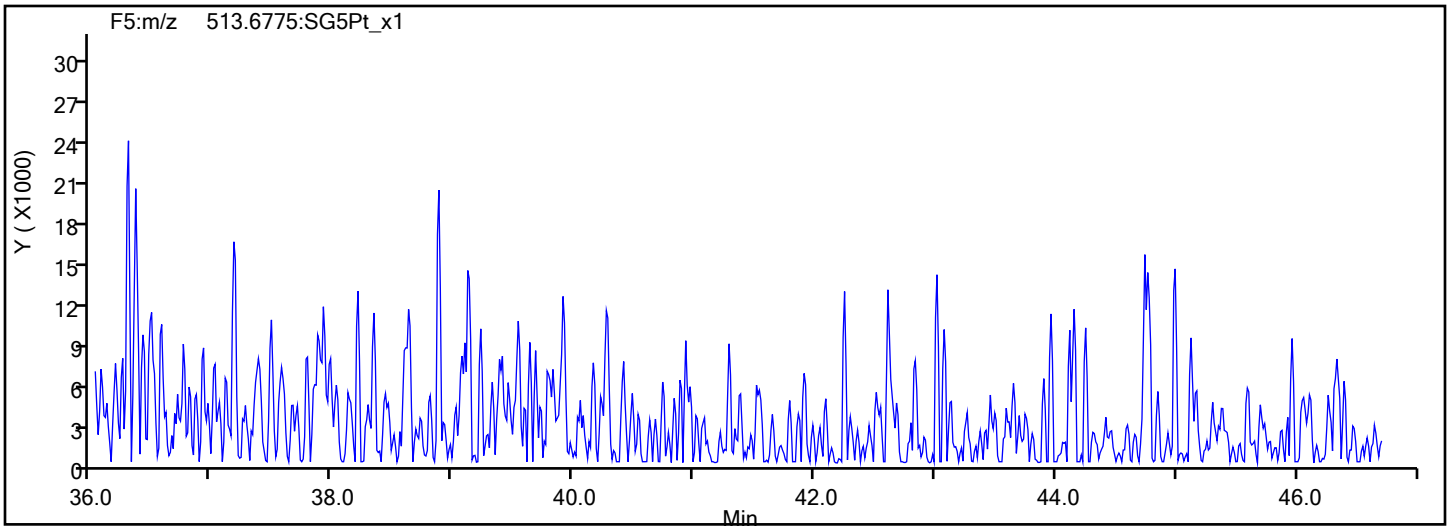

Report Date: 22-May-2019 11:44:27 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_4.d		
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Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L3		
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Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

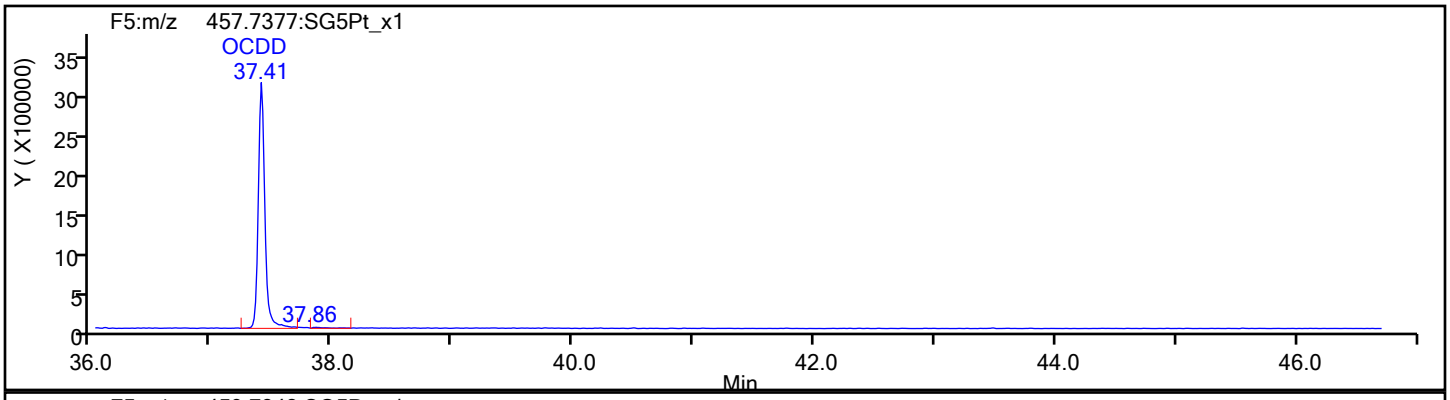

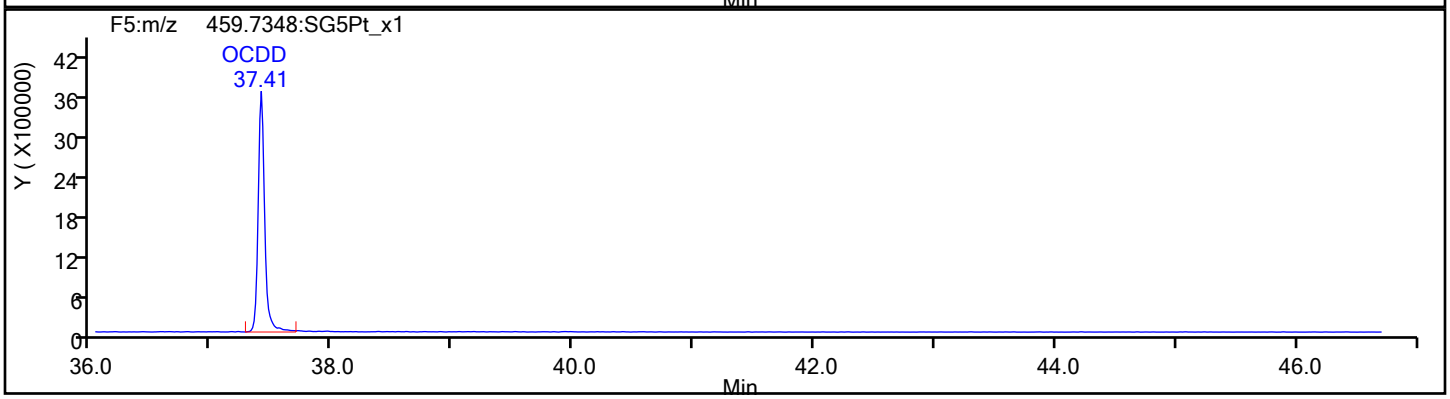

OCDD Standards

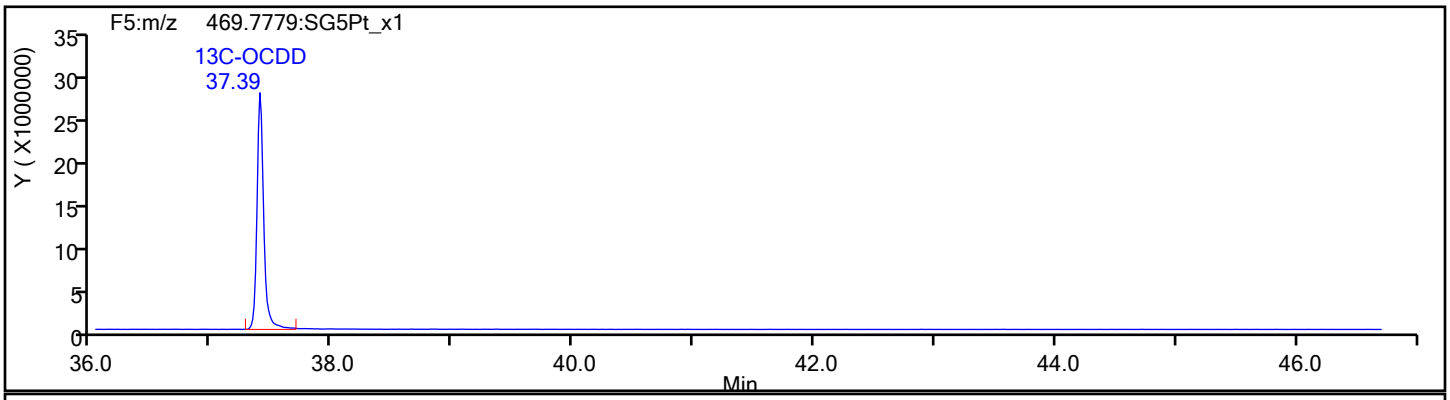

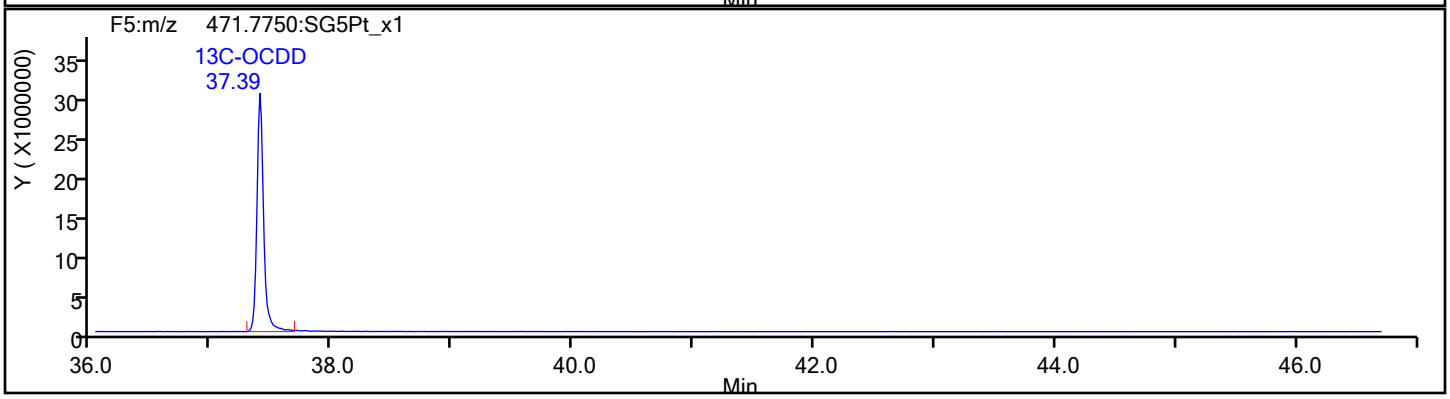

Report Date: 22-May-2019 11:44:27 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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Injection Date:	21-May-2019 14:18:50	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L3		
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Column Type:	DB-5	Column Dia:	0.32 mm

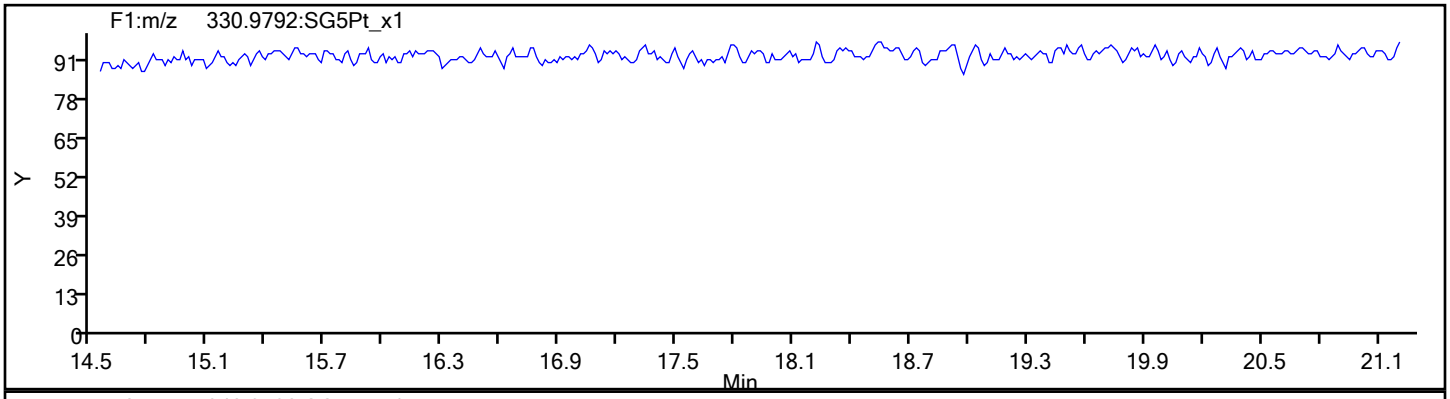

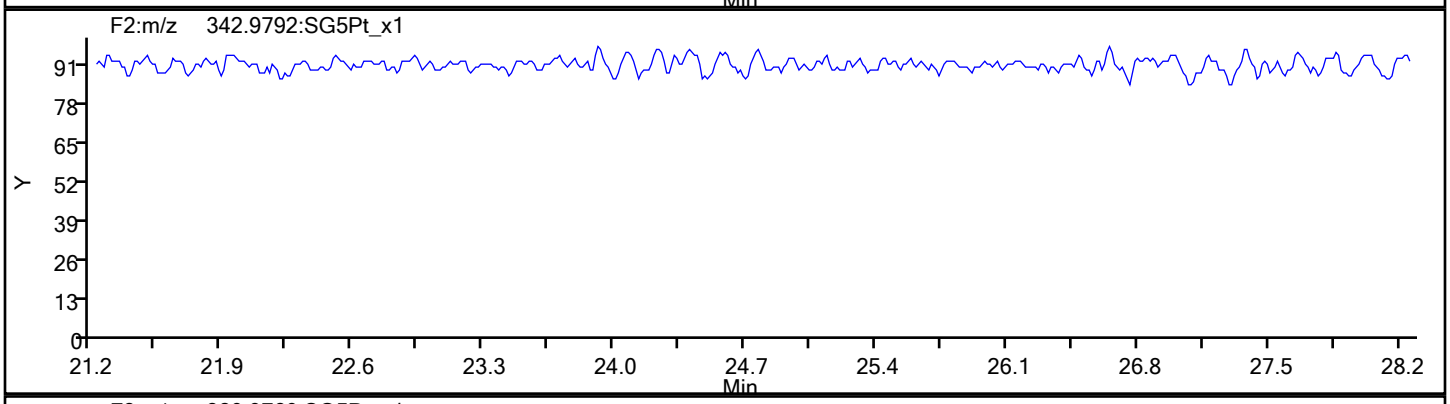

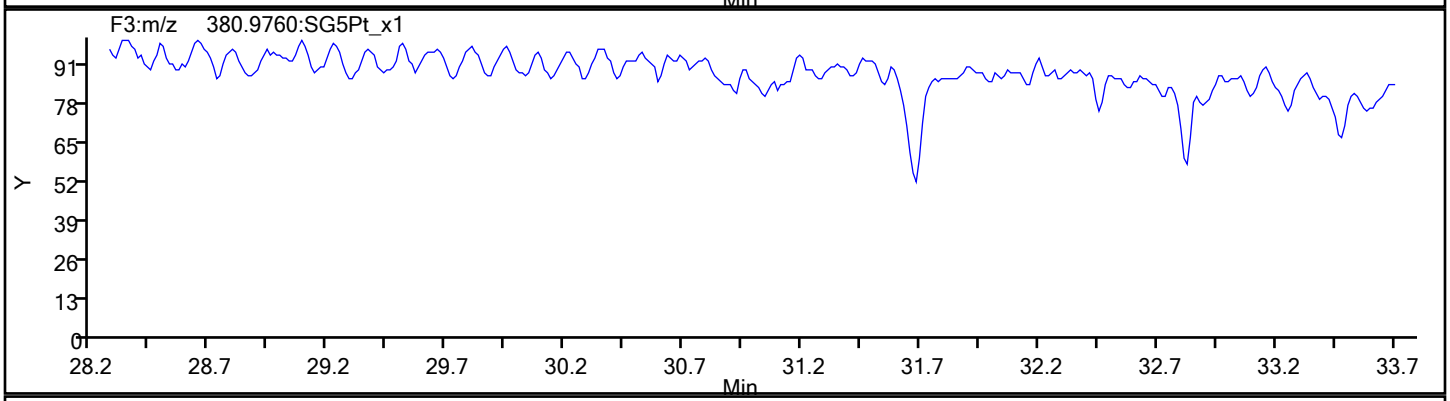

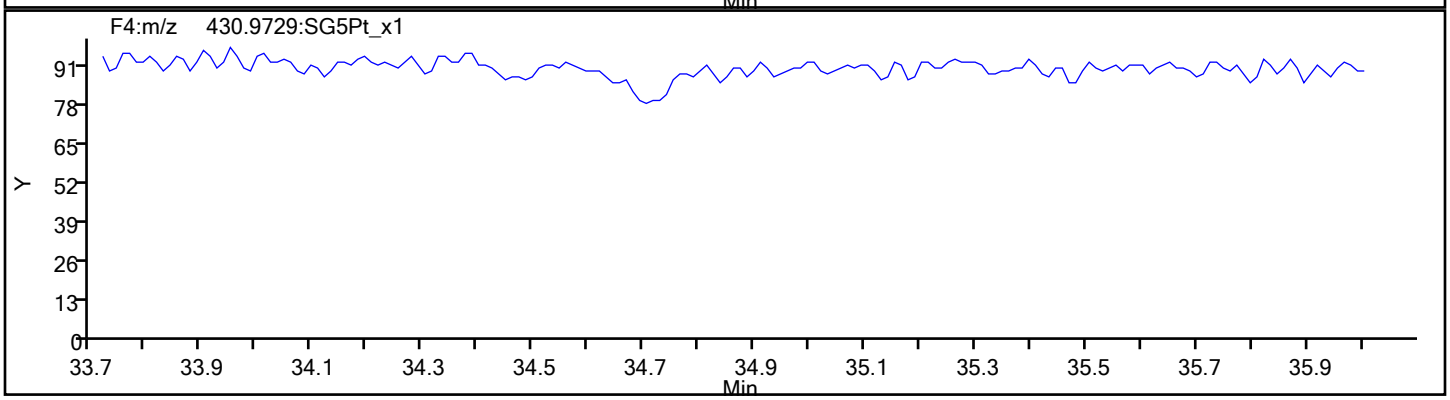

Report Date: 22-May-2019 11:44:27 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_4.d		
Injection Date:	21-May-2019 14:18:50	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L3		
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Column Type:	DB-5	Column Dia:	0.32 mm

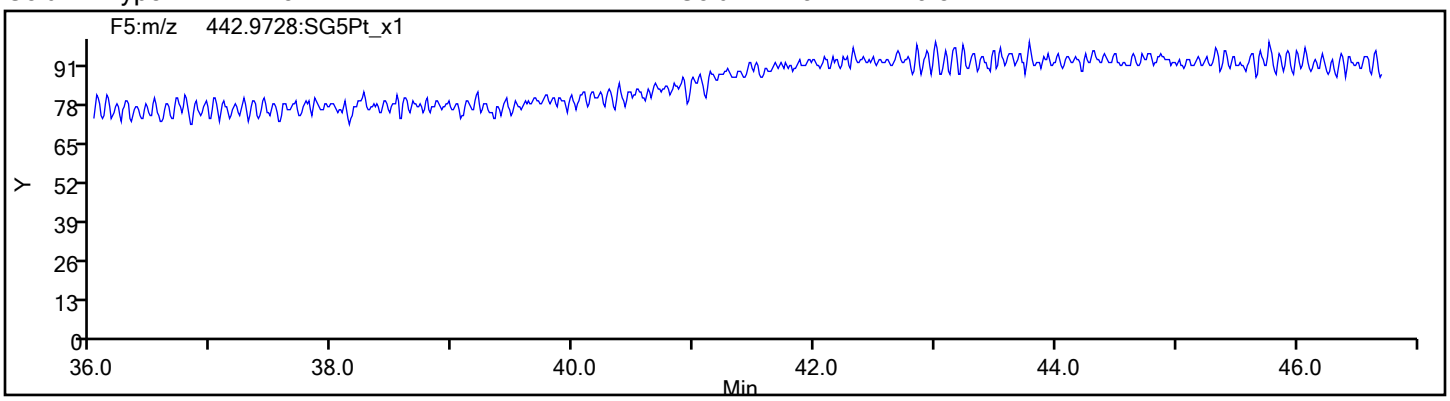

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_5.d
Lims ID: IC 4
Client ID: L4
Sample Type: IC Calib Level: 4
Inject. Date: 21-May-2019 15:06:18 ALS Bottle#: 6 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 052119B CS-4 HRDXNL4_00077
Misc. Info.: 21MY193D5
Operator ID: AJS Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 22-May-2019 11:44:36 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: shardaa Date: 21-May-2019 18:28:08

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.444	266049262	0.77	3.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.900	368458287	0.78	1.3908	99.6	99.6	0.2009	0.2009	99.58	
2,3,7,8-TCDF	17.915	34095990	0.80	0.9710	9.530	9.530	0.0358	0.0358	95.30	
S Total TCDF					9.530	9.530	0.0358	0.0358		
D 13C-2,3,7,8-TCDD	18.641	261889190	0.80	0.9819	100.3	100.3	0.2183	0.2183	100	
2,3,7,8-TCDD	18.656	25780110	0.76	1.0447	9.423	9.423	0.0450	0.0450	94.23	
$ 37Cl4-2,3,7,8-TCDD	18.656	32252457		1.2205	9.932	9.932	0.0388	0.0388	99.32	
S Total TCDD					9.423	9.423	0.0450	0.0450		
D 13C-1,2,3,7,8-PeCDF	23.107	298897976	1.58	1.1585	97.0	97.0	0.2736	0.2736	96.98	
1,2,3,7,8-PeCDF	23.134	139131385	1.59	0.9633	48.3	48.3	0.2002	0.2002	96.64	
D 13C-2,3,4,7,8-PeCDF	24.498	289155560	1.61	1.1532	94.2	94.2	0.2748	0.2748	94.25	
2,3,4,7,8-PeCDF	24.512	134668117	1.60	0.9495	49.0	49.0	0.2285	0.2285	98.10	
S Total PeCDF					97.4	97.4	0.2143	0.2143		
D 13C-1,2,3,7,8-PeCDD	25.248	187564907	1.55	0.7431	94.9	94.9	0.1307	0.1307	94.87	
1,2,3,7,8-PeCDD	25.275	96734118	1.59	1.0635	48.5	48.5	0.1237	0.1237	96.99	
S Total PeCDD					48.5	48.5	0.1237	0.1237		
D 13C-1,2,3,4,7,8-HxCDF	31.058	204574619	0.51	0.9837	99.0	99.0	0.3905	0.3905	98.96	
1,2,3,4,7,8-HxCDF	31.071	119503669	1.26	1.2173	48.0	48.0	0.2220	0.2220	95.97	
D 13C-1,2,3,6,7,8-HxCDF	31.204	243762567	0.51	1.1554	100.4	100.4	0.3325	0.3325	100	
1,2,3,6,7,8-HxCDF	31.231	132954258	1.24	1.1311	48.2	48.2	0.2080	0.2080	96.44	
D 13C-2,3,4,6,7,8-HxCDF	31.923	214979709	0.53	1.0361	98.7	98.7	0.3708	0.3708	98.74	
2,3,4,6,7,8-HxCDF	31.950	122235023	1.22	1.1710	48.6	48.6	0.1945	0.1945	97.11	
D 13C-1,2,3,7,8,9-HxCDF	32.682	192845424	0.51	0.9034	101.6	101.6	0.4252	0.4252	102	
1,2,3,7,8,9-HxCDF	32.696	107848697	1.27	1.1787	47.4	47.4	0.1963	0.1963	94.89	
S Total HxCDF					192.2	192.2	0.2052	0.2052		
* 13C-1,2,3,7,8,9-HxCDD	32.509	210143837	1.24	2.6E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	32.097	167611922	1.28	0.8287	96.2	96.2	0.3109	0.3109	96.25	
1,2,3,4,7,8-HxCDD	32.123	83380770	1.22	1.0267	48.5	48.5	0.1554	0.1554	96.91	
D 13C-1,2,3,6,7,8-HxCDD	32.203	198645382	1.25	0.9495	99.6	99.6	0.2714	0.2714	99.56	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	32.216	93685468	1.24	0.9771	48.3	48.3	0.1493	0.1493	96.54	
1,2,3,7,8,9-HxCDD	32.522	94615681	1.22	1.0616	48.7	48.7	0.1436	0.1436	97.34	
S Total HxCDD					145.4	145.4	0.1495	0.1495		
D 13C-1,2,3,4,6,7,8-HpCDF	34.109	151704886	0.44	0.7285	99.1	99.1	0.6761	0.6761	99.10	
1,2,3,4,6,7,8-HpCDF	34.109	104642592	1.05	1.4373	48.0	48.0	0.3018	0.3018	95.98	
D 13C-1,2,3,4,7,8,9-HpCDF	35.239	132981445	0.44	0.6556	96.5	96.5	0.7512	0.7512	96.52	
1,2,3,4,7,8,9-HpCDF	35.251	85304719	1.08	1.3091	49.0	49.0	0.4205	0.4205	98.00	
S Total HpCDF					97.0	97.0	0.3612	0.3612		
D 13C-1,2,3,4,6,7,8-HpCDD	34.935	145580797	1.06	0.6978	99.3	99.3	0.3229	0.3229	99.27	
1,2,3,4,6,7,8-HpCDD	34.947	70431011	1.07	1.0102	47.9	47.9	0.1683	0.1683	95.78	
S Total HpCDD					47.9	47.9	0.1683	0.1683		
D 13C-OCDD	37.395	198157571	0.91	0.4780	197.3	197.3	0.1963	0.1963	98.64	
OCDF	37.502	127299796	0.90	1.3501	95.2	95.2	0.1005	0.1005	95.16	
OCDD	37.407	99639255	0.88	1.0627	94.6	94.6	0.0948	0.0948	94.63	

Reagents:

HRDXNL4_00077 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_5.d
Lims ID: IC 4
Client ID: L4
Sample Type: IC Calib Level: 4
Inject. Date: 21-May-2019 15:06:18 ALS Bottle#: 6 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 052119B CS-4 HRDXNL4_00077
Misc. Info.: 21MY193D5
Operator ID: AJS Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 22-May-2019 11:44:36 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: shardaa Date: 21-May-2019 18:28:08

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.444	18.432	1		115409102	26876030	32374	80935	830		
333.9339	18.429	18.432	0		150640160	34794780	20496	51240	1698	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.900	17.900	0	0.970	161611339	37857902	37163	92907	1019		
317.9389	17.900	17.900	0	0.970	206846948	48544839	31755	79387	1529	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.915	17.915	0	1.001	15155491	3540914	4388	10970	807		
305.8987	17.915	17.915	0	1.001	18940499	4391318	7617	19042	577	0.80(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	18.641	18.629	1	1.011	116390874	26085587	32374	80935	806		
333.9339	18.641	18.629	1	1.011	145498316	32377032	20496	51240	1580	0.80(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.656	18.650	0	1.001	11105372	2557544	7211	18027	355		
321.8936	18.656	18.650	0	1.001	14674738	3371473	3781	9452	892	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.656	18.650	0	1.011	32252457	7507581	11695	29237	642		
13C-1,2,3,7,8-PeCDF											
351.9000	23.107	23.102	0	1.253	183093949	30991106	47422	118555	654		
353.8970	23.107	23.102	0	1.253	115804027	19703925	30757	76892	641	1.58(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	23.134	23.123	1	1.001	85372872	14692390	21519	53797	683		
341.8567	23.134	23.123	1	1.001	53758513	9133099	17591	43977	519	1.59(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	24.498	24.487	1	1.328	178351094	27915830	47422	118555	589		
353.8970	24.498	24.487	1	1.328	110804466	17158662	30757	76892	558	1.61(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	24.512	24.512	0	1.001	82957658	12768013	21519	53797	593		
341.8567	24.512	24.512	0	1.001	51710459	7992834	17591	43977	454	1.60(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	25.248	25.237	1	1.369	113879311	16891506	13841	34602	1220		
369.8919	25.248	25.237	1	1.369	73685596	10806687	10115	25287	1068	1.55(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	25.275	25.264	1	1.001	59364444	8621004	9389	23472	918		
357.8516	25.262	25.264	0	1.001	37369674	5641991	5185	12962	1088	1.59(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	31.058	31.050	0	0.955	69170755	15462791	29852	74630	518		
385.8610	31.058	31.050	0	0.955	135403864	30489139	57905	144762	527	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	31.071	31.069	0	1.000	66722074	15152198	28009	70022	541		
375.8178	31.071	31.069	0	1.000	52781595	11824196	21672	54180	546	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	31.204	31.202	0	0.960	82294114	17939751	29852	74630	601		
385.8610	31.204	31.202	0	0.960	161468453	34852309	57905	144762	602	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	31.231	31.223	0	1.001	73634652	16064424	28009	70022	574		
375.8178	31.231	31.223	0	1.001	59319606	12673810	21672	54180	585	1.24(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.923	31.923	0	0.982	74428362	19086994	29852	74630	639		
385.8610	31.937	31.923	1	0.982	140551347	35443376	57905	144762	612	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.950	31.942	0	1.001	67241149	17462291	28009	70022	623		
375.8178	31.950	31.942	0	1.001	54993874	14100239	21672	54180	651	1.22(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.682	32.674	0	1.005	65214236	18185504	29852	74630	609		
385.8610	32.682	32.674	0	1.005	127631188	35502412	57905	144762	613	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.696	32.690	0	1.000	60238244	16299014	28009	70022	582		
375.8178	32.696	32.690	0	1.000	47610453	13156851	21672	54180	607	1.27(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.509	32.499	1		116316729	31649024	31377	78442	1009		
403.8529	32.509	32.499	1		93827108	25460428	27484	68710	926	1.24(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	32.097	32.094	0	0.987	93966382	26505162	31377	78442	845		
403.8529	32.097	32.094	0	0.987	73645540	20875533	27484	68710	760	1.28(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	32.123	32.110	1	1.001	45886132	12984809	17184	42960	756		
391.8127	32.110	32.110	0	1.000	37494638	10729855	13057	32642	822	1.22(1.05-1.43)	

Report Date: 22-May-2019 11:44:38 Chrom Revision: 2.3 12-May-2019 16:28:34
Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_5.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.203	32.192	1	0.991	110256363	28819201	31377	78442	918		
403.8529	32.203	32.192	1	0.991	88389019	22989210	27484	68710	836	1.25(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	32.216	32.208	0	1.000	51880686	13336545	17184	42960	776		
391.8127	32.216	32.208	0	1.000	41804782	10671735	13057	32642	817	1.24(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.522	32.515	0	1.013	51996898	14524491	17184	42960	845		
391.8127	32.522	32.515	0	1.013	42618783	11370334	13057	32642	871	1.22(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	34.109	34.097	1	1.049	46437684	14562239	43102	107755	338		
419.8220	34.109	34.097	1	1.049	105267202	31836549	69410	173525	459	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.109	34.104	0	1.000	53669497	16365625	48996	122490	334		
409.7789	34.109	34.104	0	1.000	50973095	15923444	31519	78797	505	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	35.239	35.232	0	1.084	40848270	11335642	43102	107755	263		
419.8220	35.239	35.232	0	1.084	92133175	25226760	69410	173525	363	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.251	35.244	0	1.000	44232261	12025615	48996	122490	245		
409.7789	35.251	35.244	0	1.000	41072458	11169863	31519	78797	354	1.08(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.935	34.928	0	1.075	75046592	22172961	27595	68987	804		
437.8140	34.935	34.928	0	1.075	70534205	20663187	23874	59685	866	1.06(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.947	34.940	0	1.000	36447681	10763040	16962	42405	635		
425.7737	34.947	34.940	0	1.000	33983330	9873100	12169	30422	811	1.07(0.88-1.20)	
13C-OCDD											
469.7779	37.395	37.392	0	1.150	94612024	23602015	12332	30830	1914		
471.7750	37.395	37.392	0	1.150	103545547	26272538	9097	22742	2888	0.91(0.76-1.02)	
OCDF											
441.7428	37.502	37.500	0	1.003	60453653	15029871	5725	14312	2625		
443.7399	37.502	37.500	0	1.003	66846143	16385060	7807	19517	2099	0.90(0.76-1.02)	
OCDD											
457.7377	37.407	37.402	0	1.000	46609560	11941191	5098	12745	2342		
459.7348	37.407	37.402	0	1.000	53029695	13454490	4948	12370	2719	0.88(0.76-1.02)	

Reagents:

HRDXNL4_00077 Amount Added: 1.00 Units: mL

Report Date: 22-May-2019 11:44:38 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_5.d		
Injection Date:	21-May-2019 15:06:18	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L4		
Worklist#:	296020	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

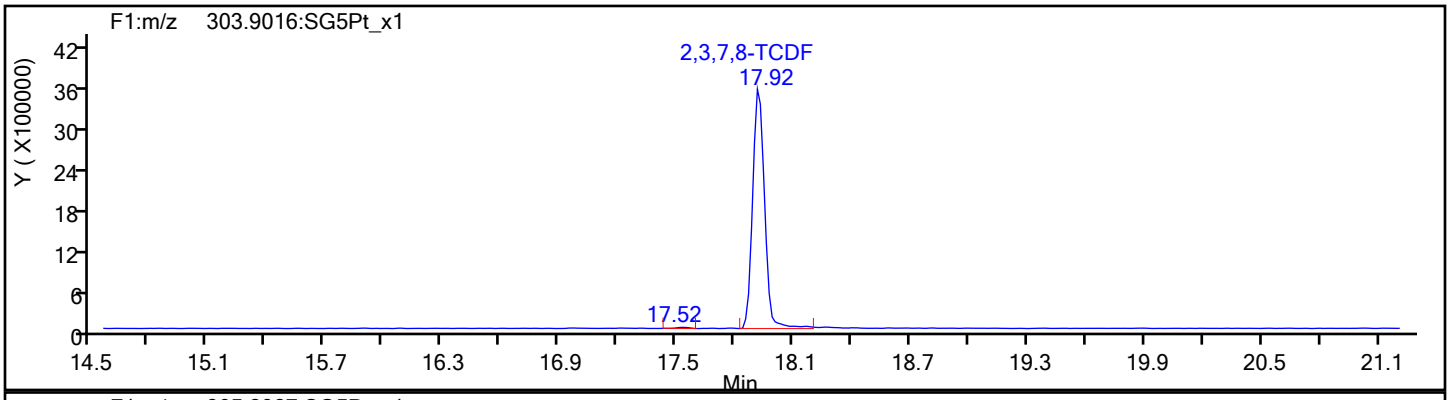

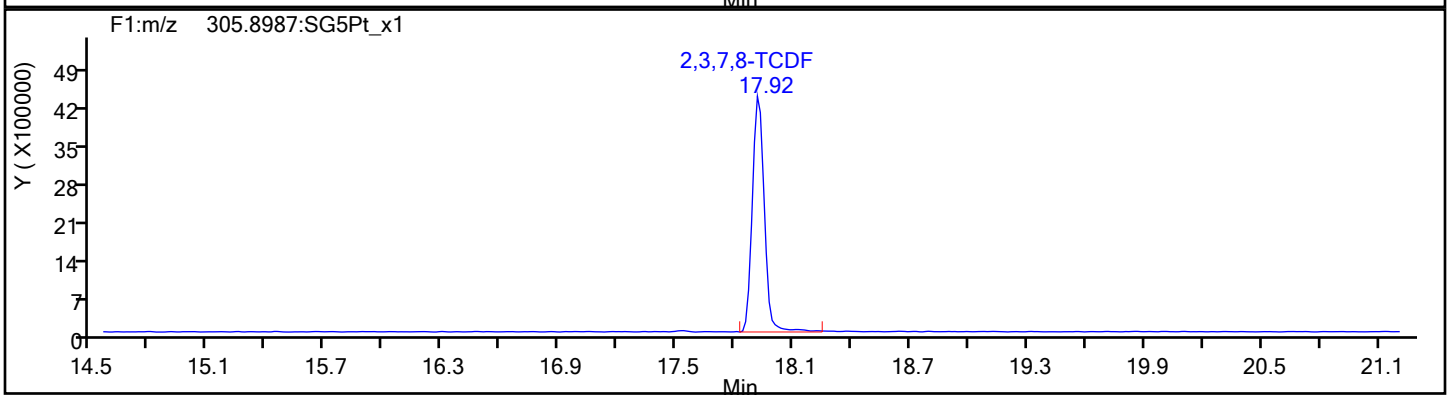

TCDF Standards

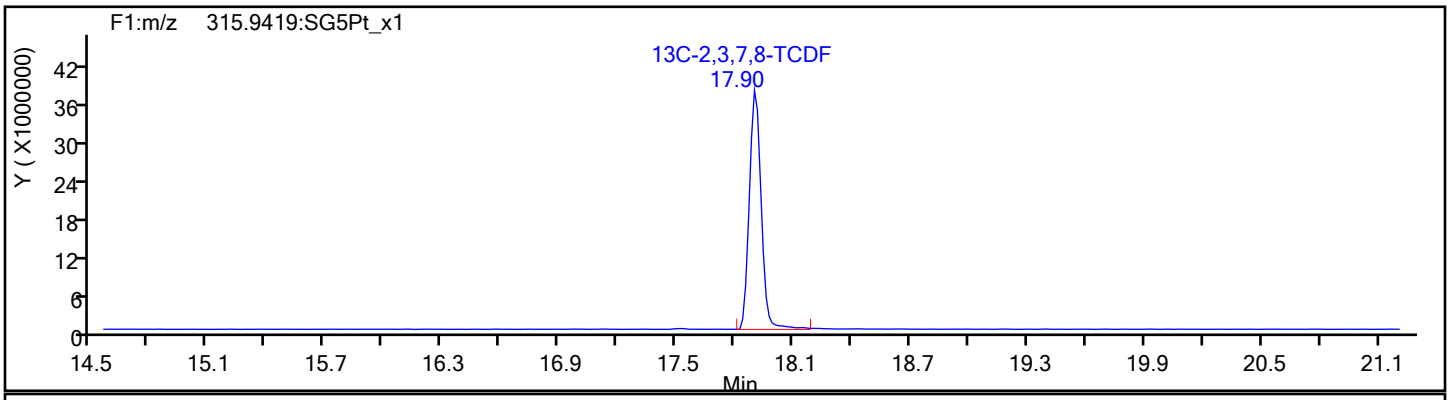

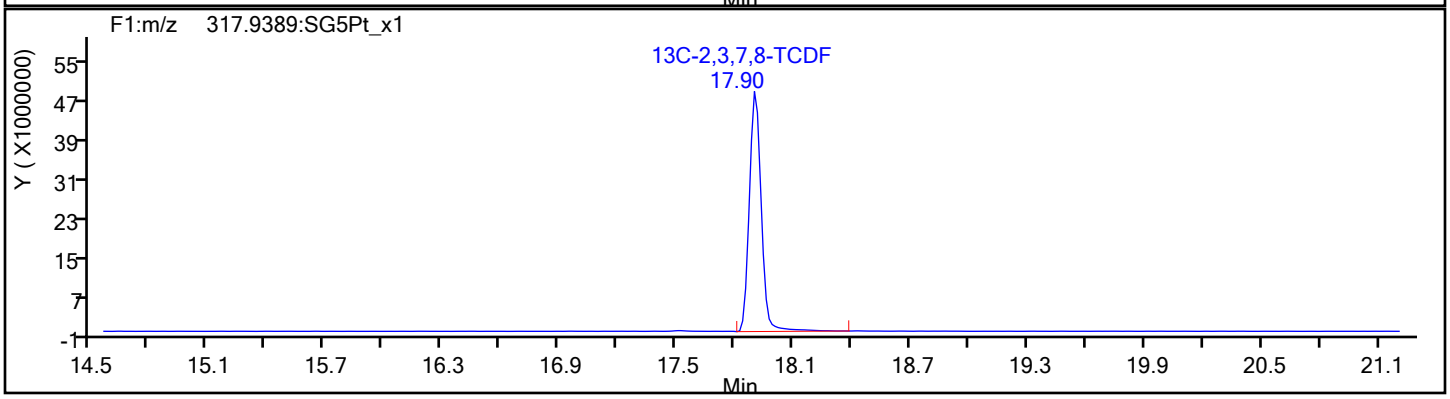

Report Date: 22-May-2019 11:44:38 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_5.d		
Injection Date:	21-May-2019 15:06:18	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L4		
Worklist#:	296020	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

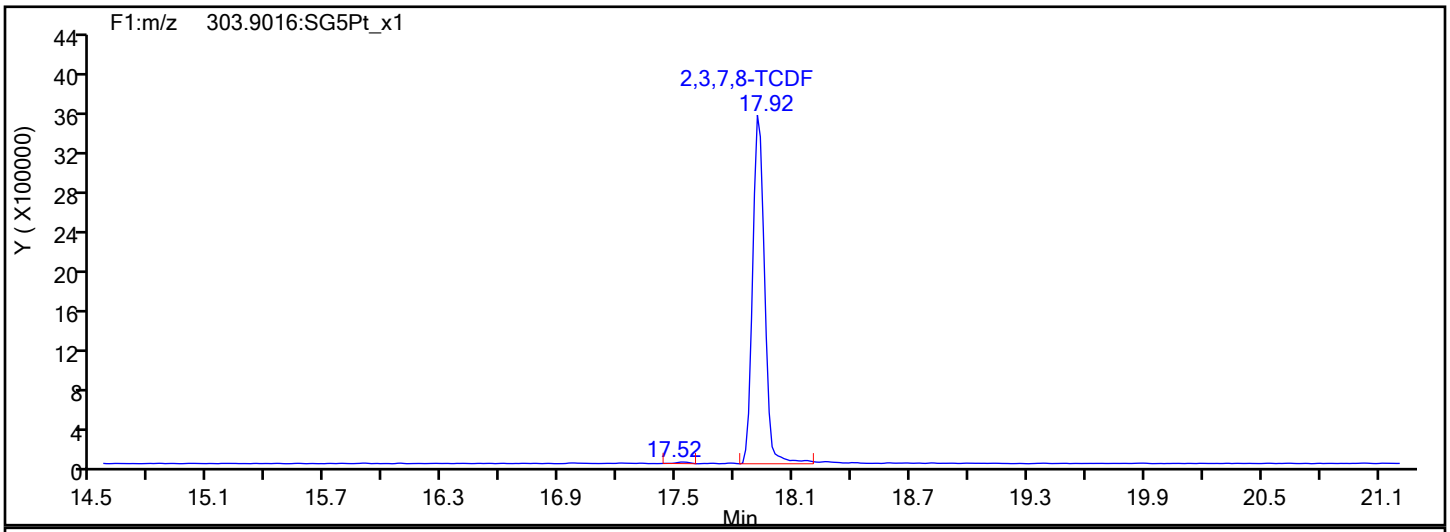

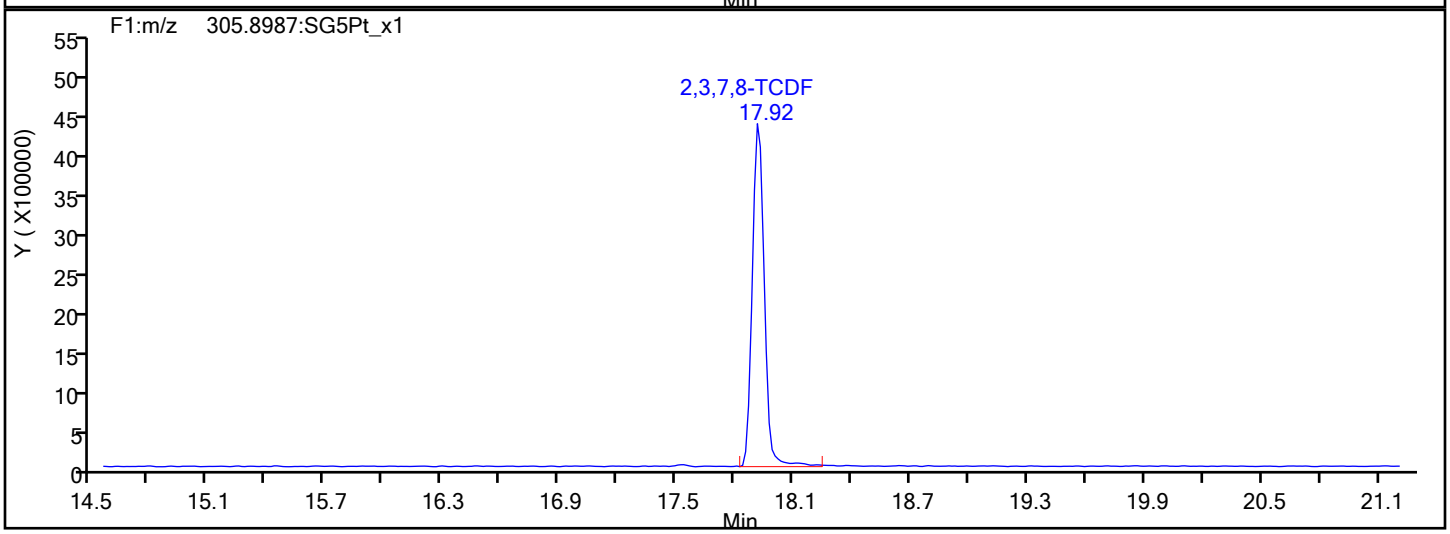

TCDF Interference Mass

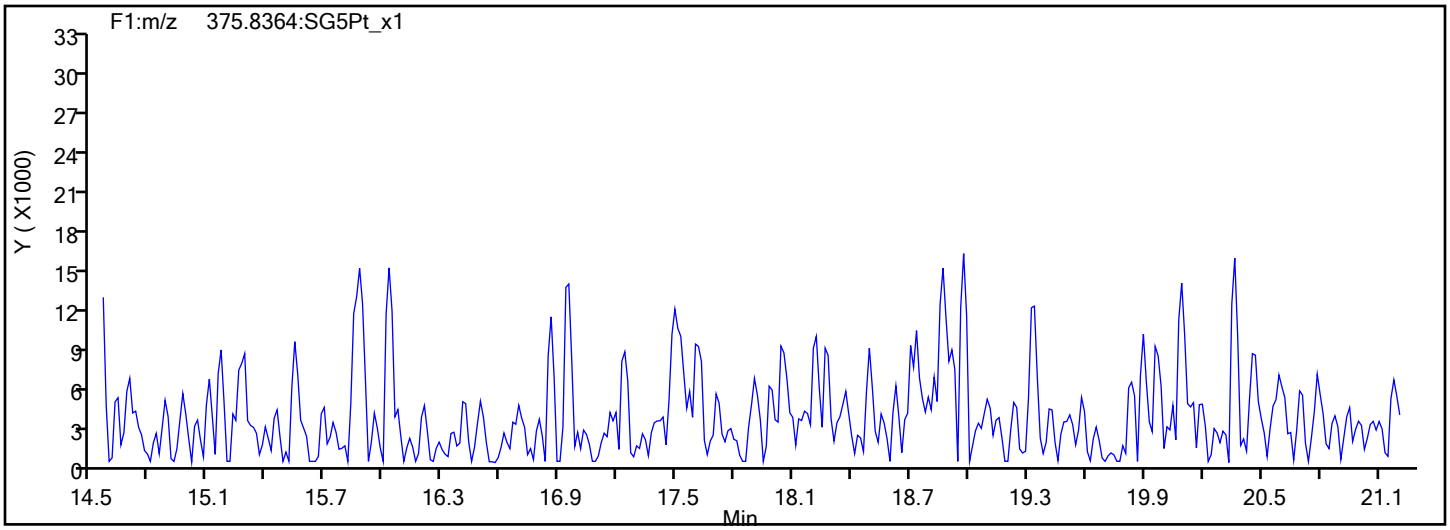

Report Date: 22-May-2019 11:44:38 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_5.d		
Injection Date:	21-May-2019 15:06:18	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L4		
Worklist#:	296020	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

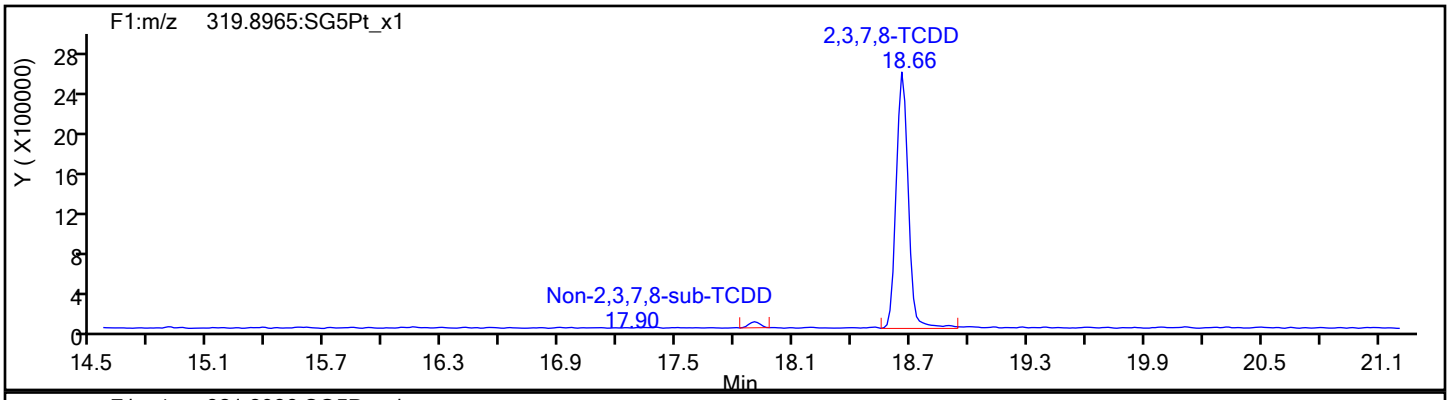

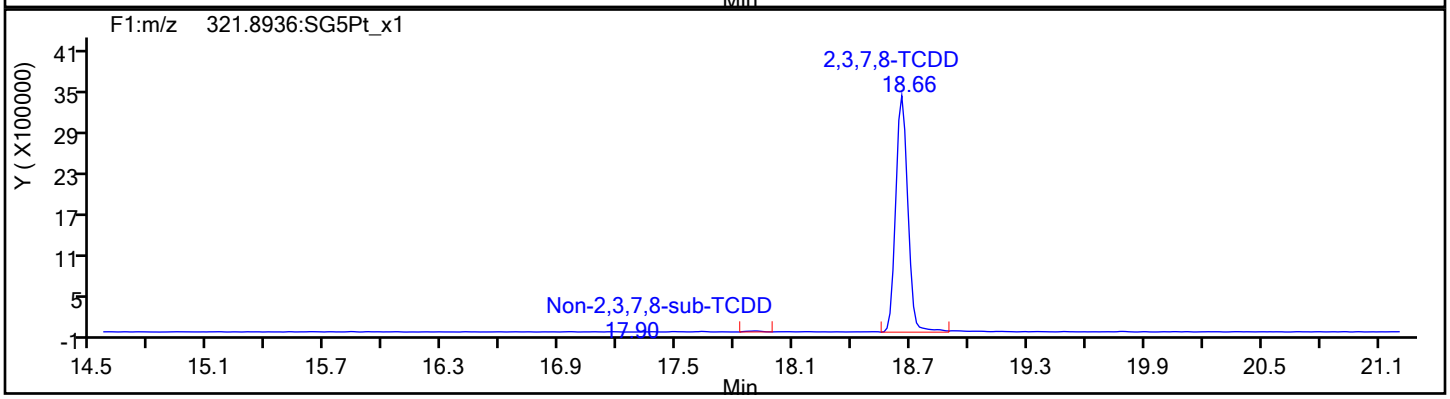

TCDD Standards

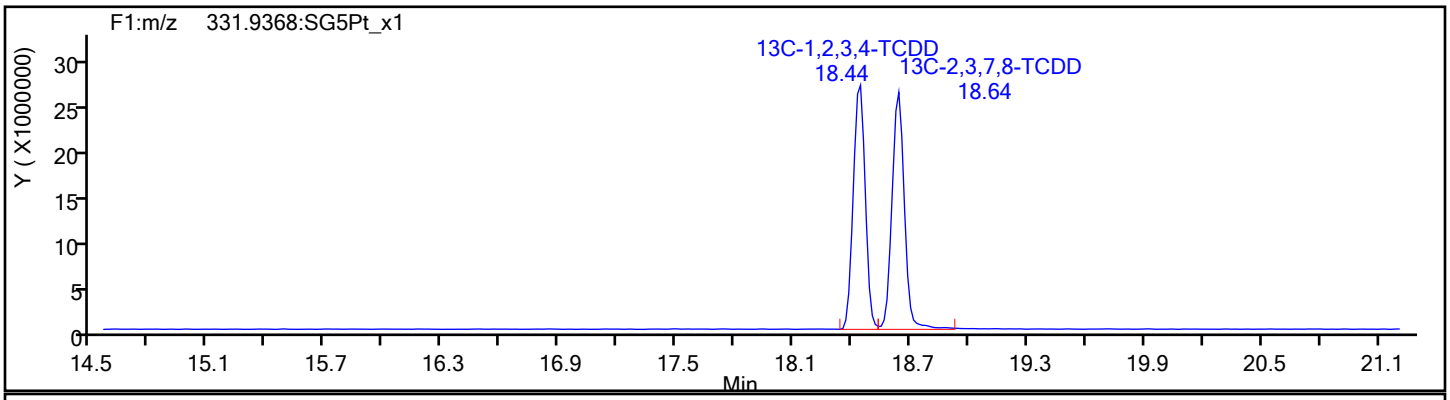

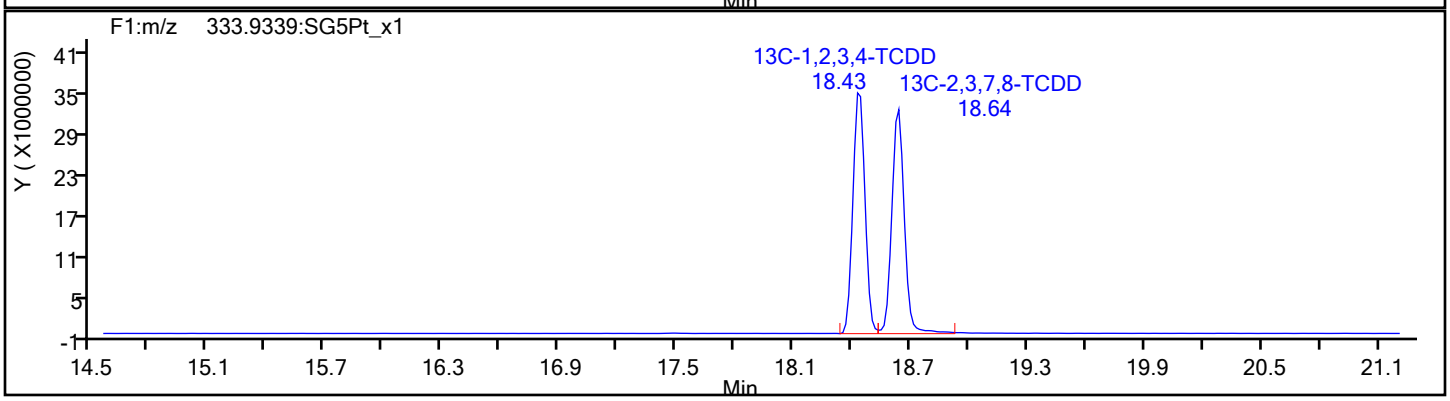

Report Date: 22-May-2019 11:44:38 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_5.d		
Injection Date:	21-May-2019 15:06:18	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L4		
Worklist#:	296020	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

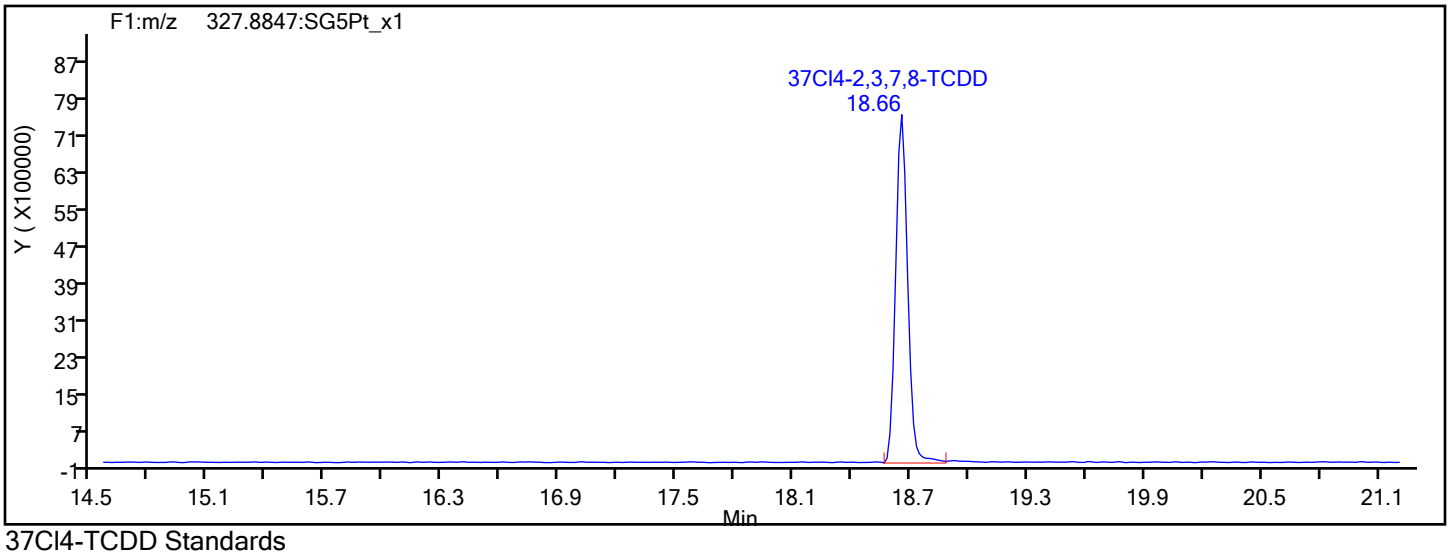

37Cl4-TCDD Standards

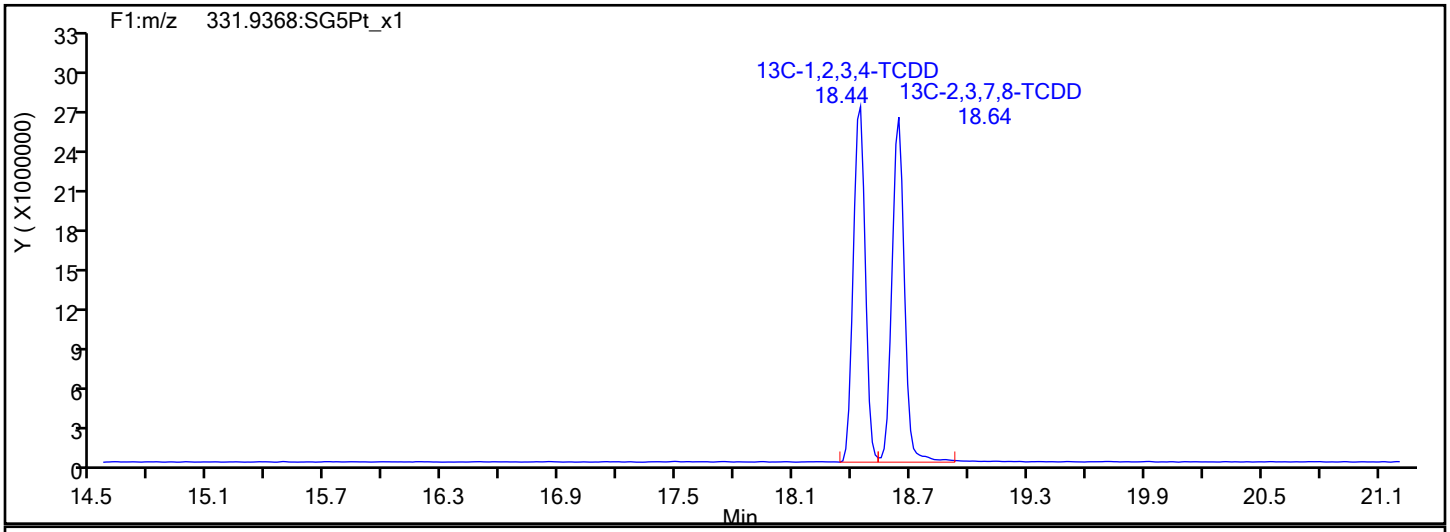

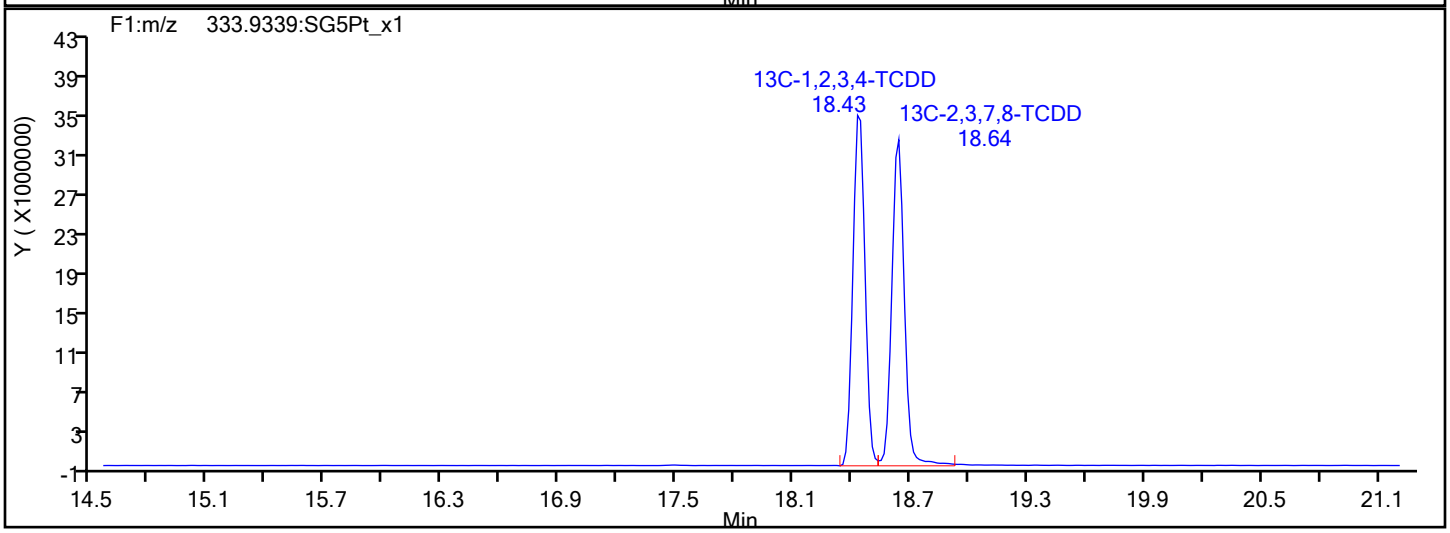

Report Date: 22-May-2019 11:44:38 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_5.d		
Injection Date:	21-May-2019 15:06:18	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L4		
Worklist#:	296020	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

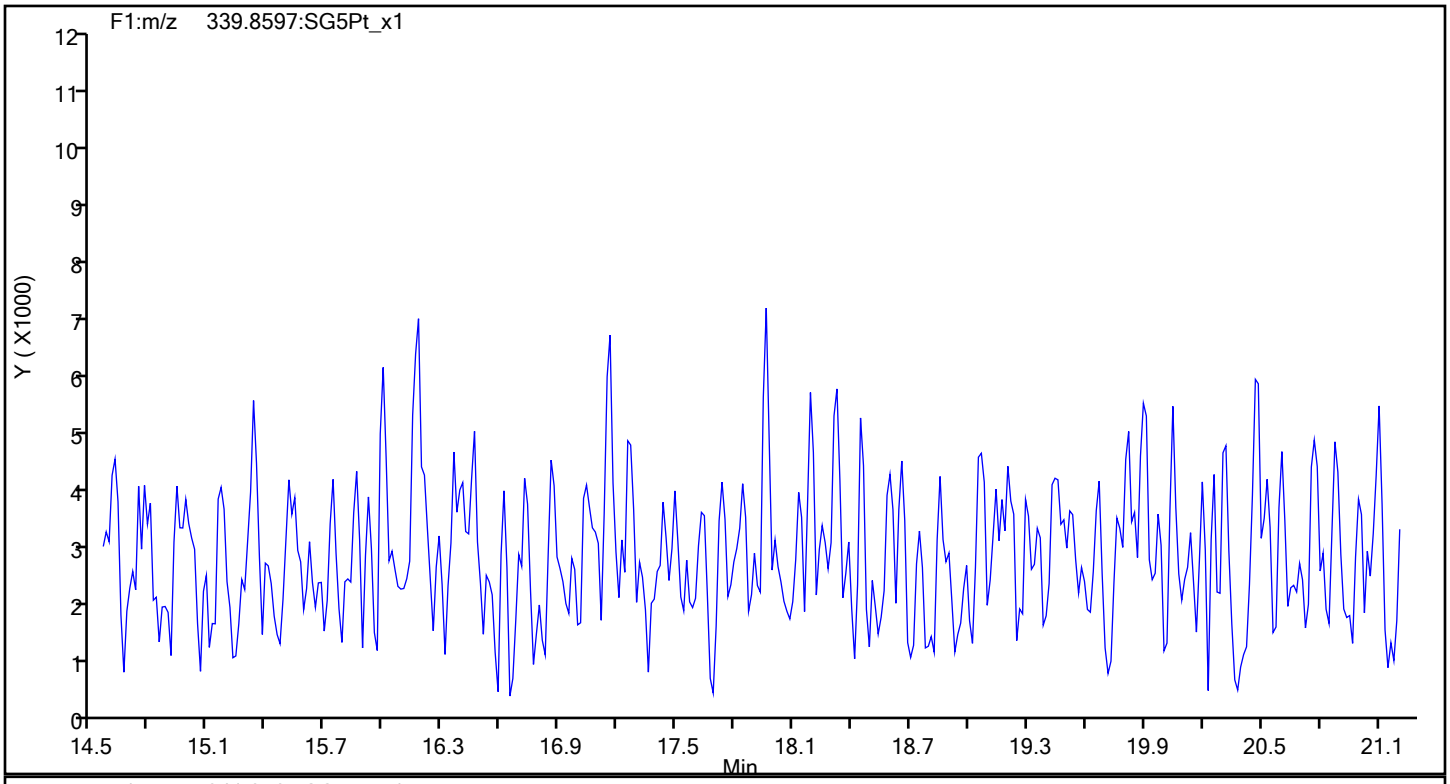

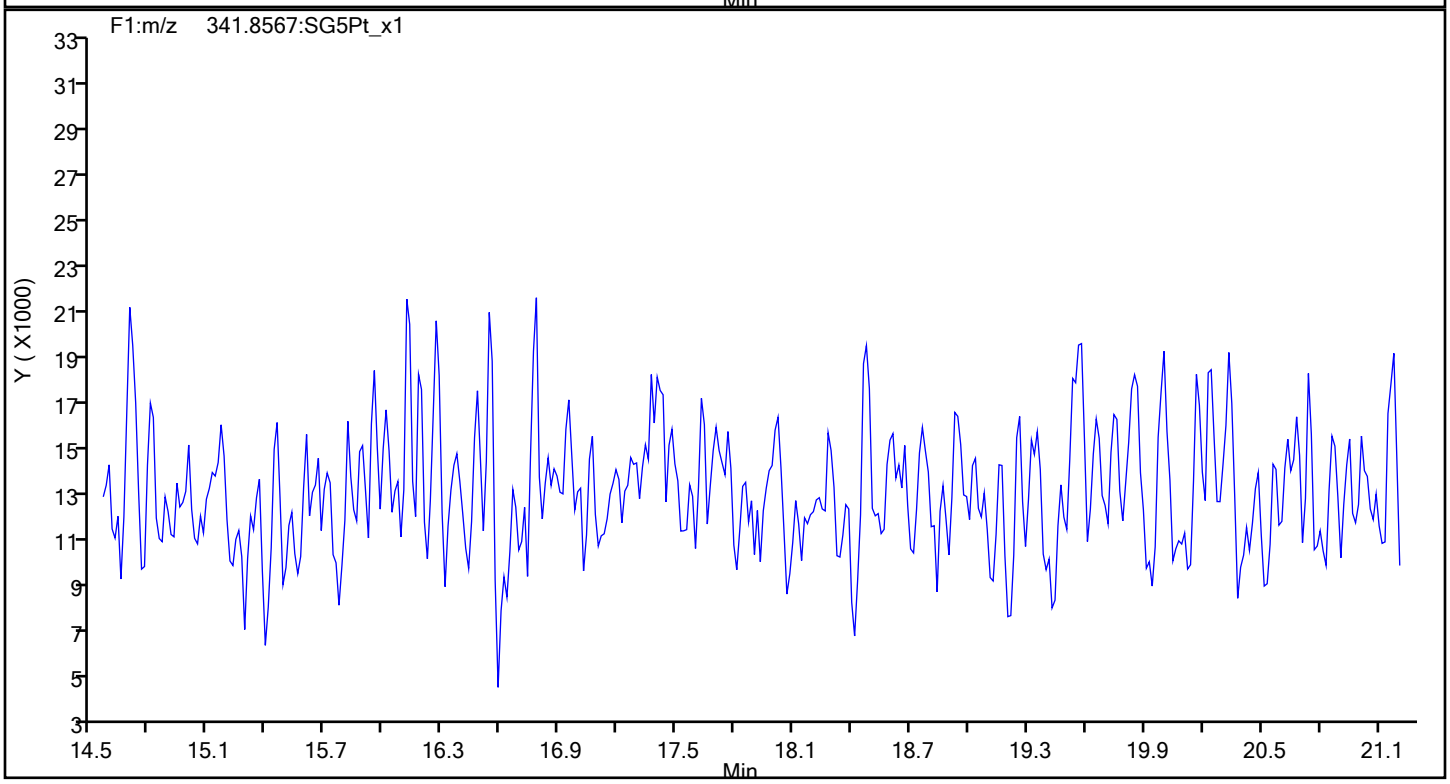

Report Date: 22-May-2019 11:44:38 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

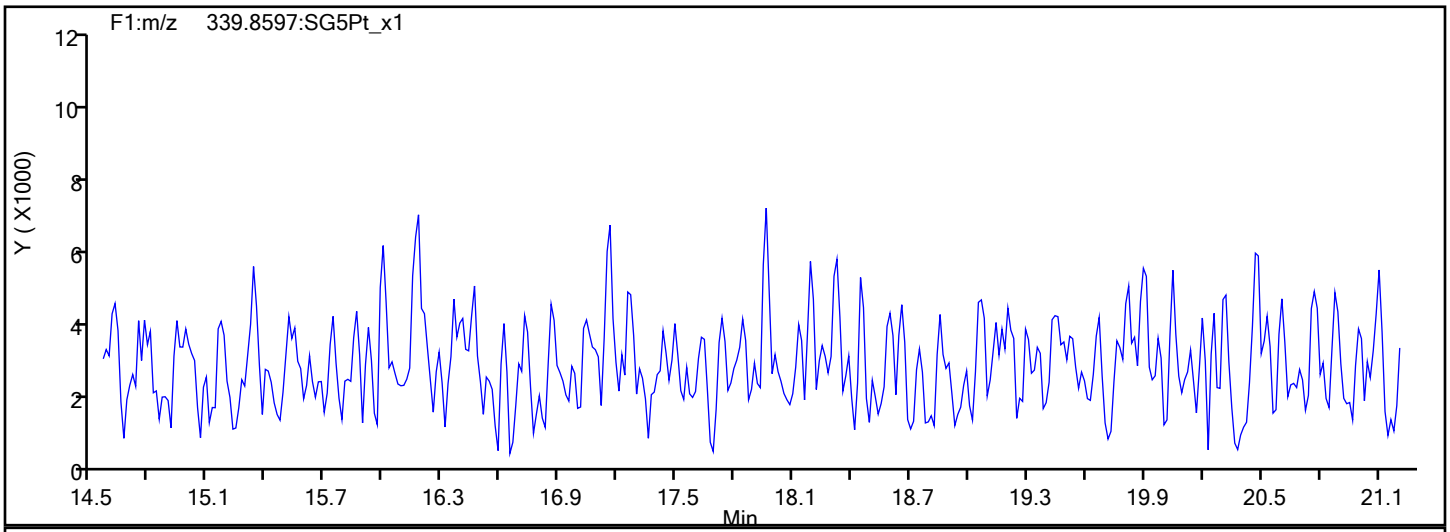

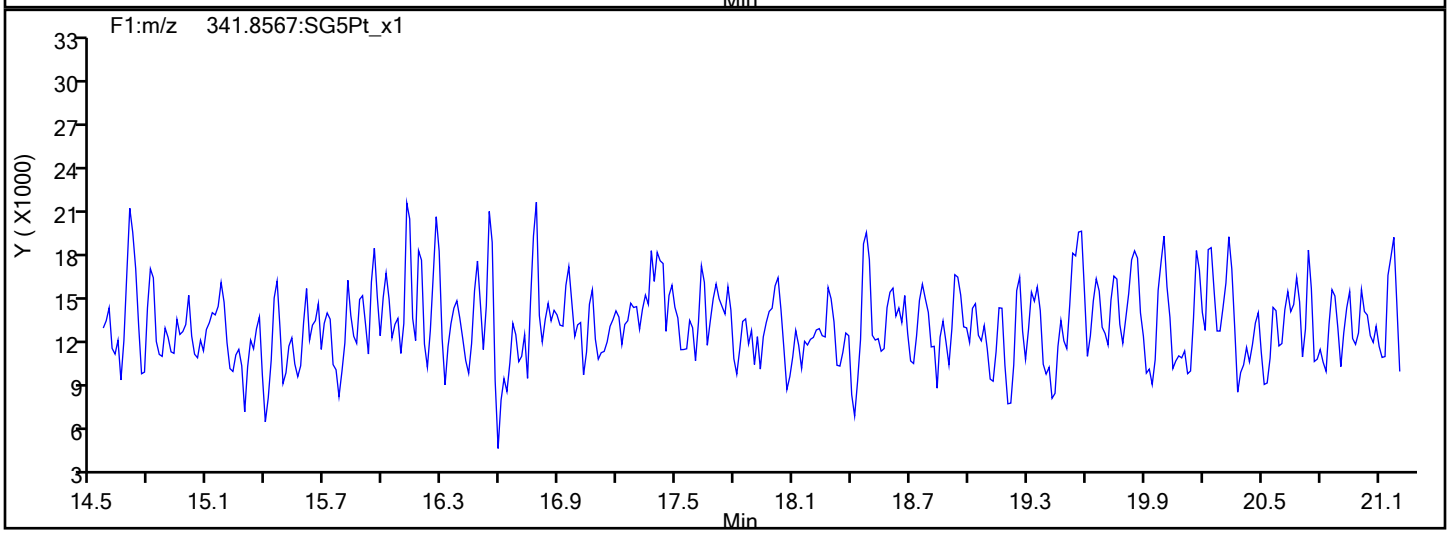

F1 PeCDFs Interference Mass

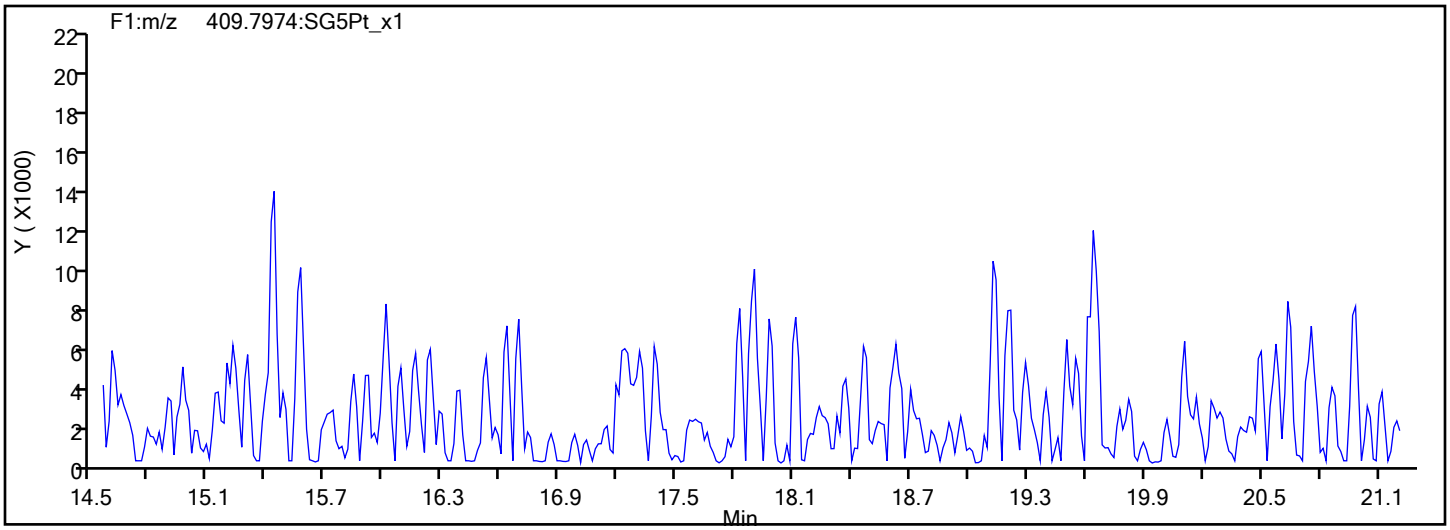

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Eurofins TestAmerica, Sacramento

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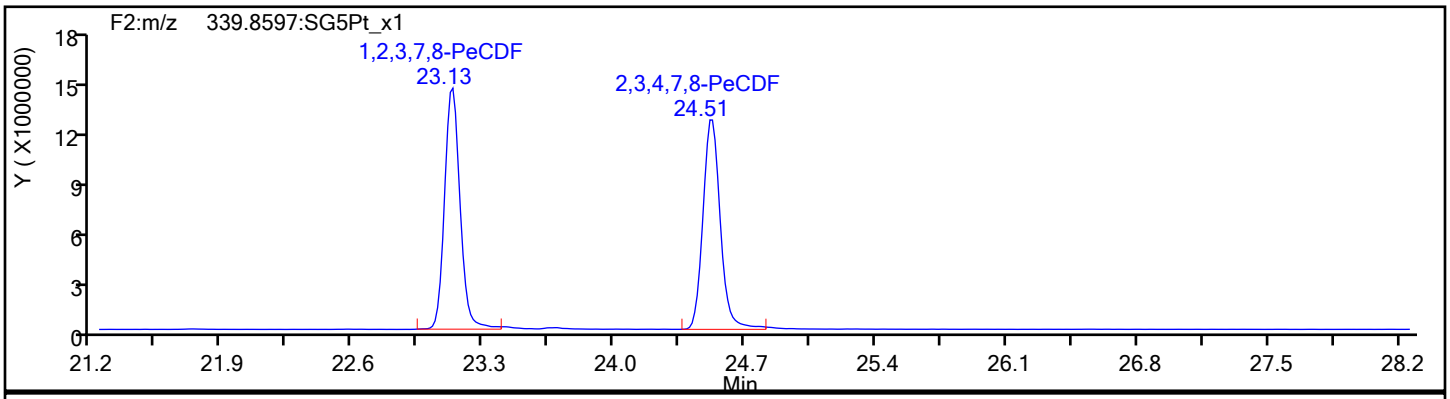

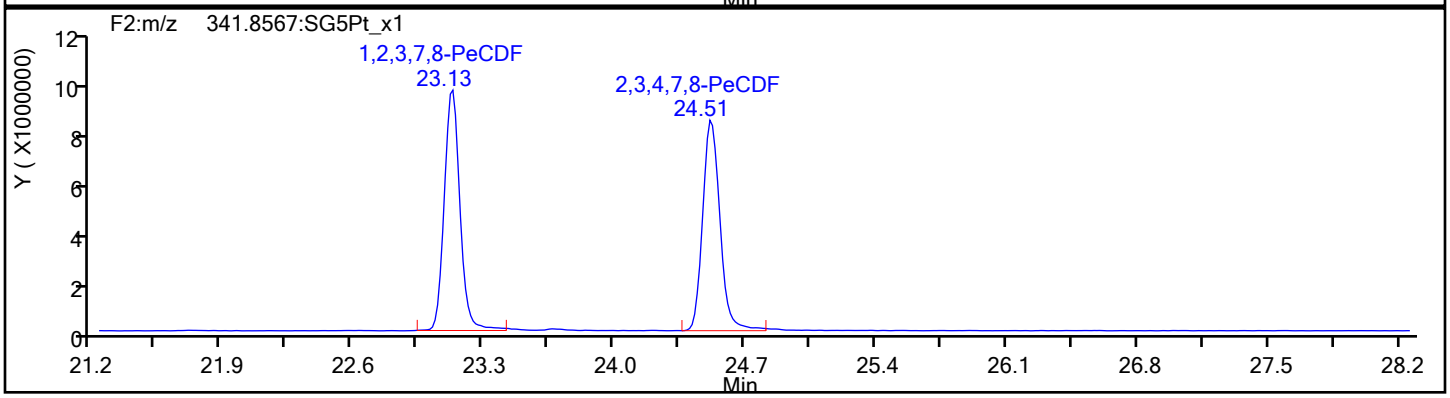

PeCDF Standards

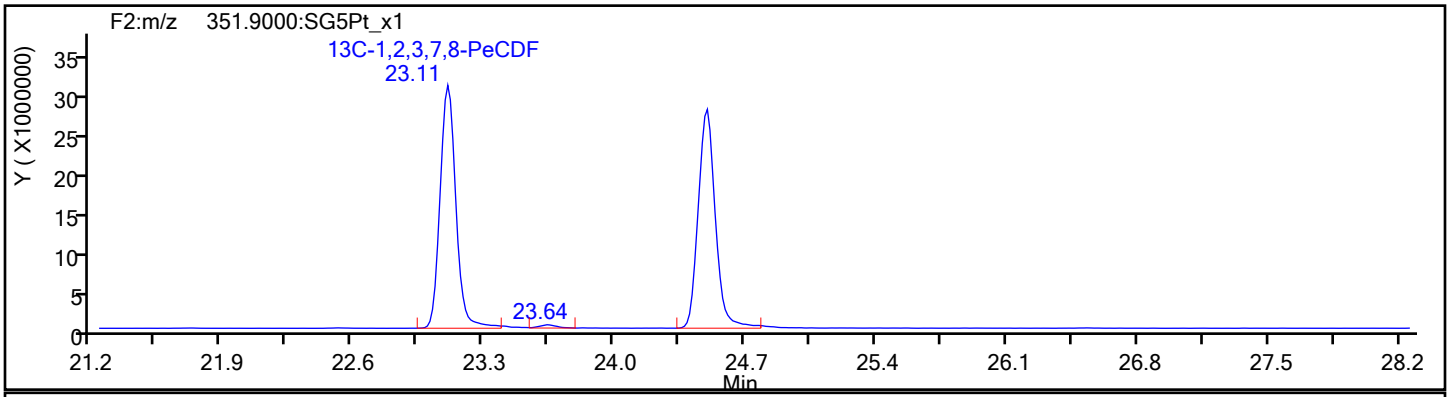

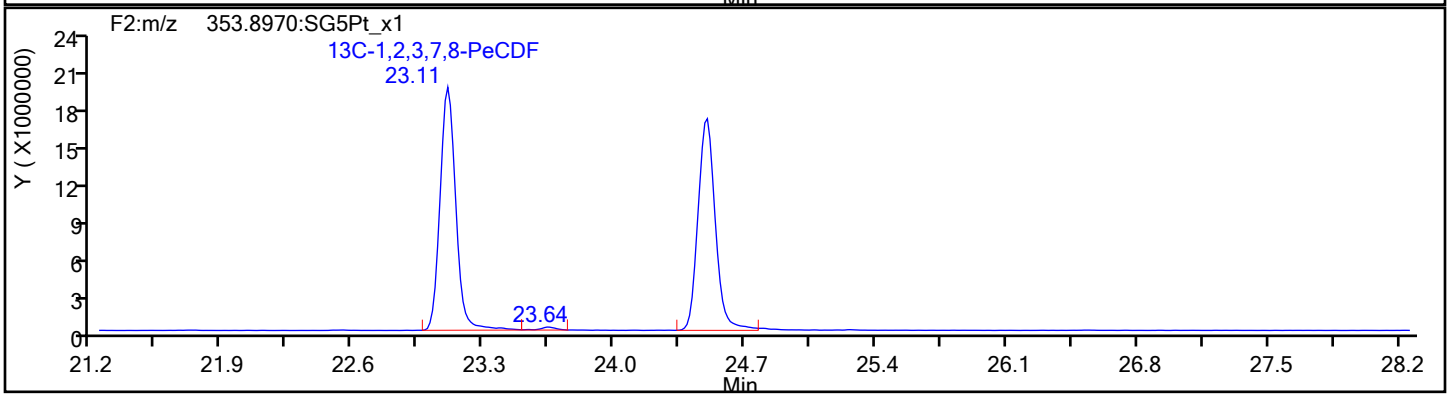

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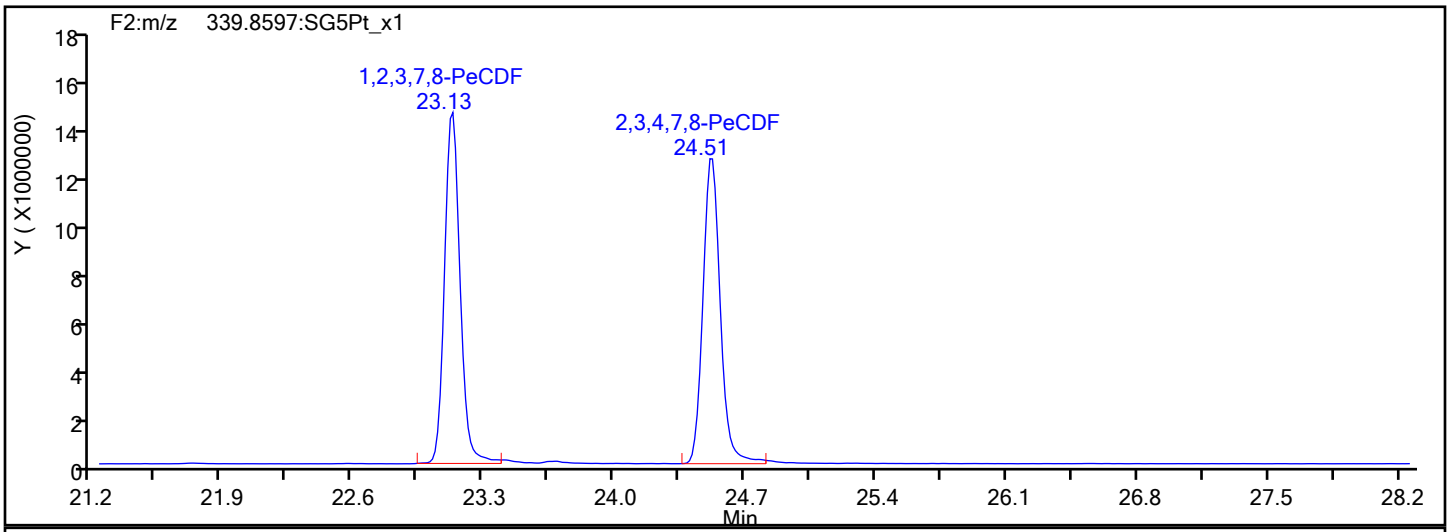

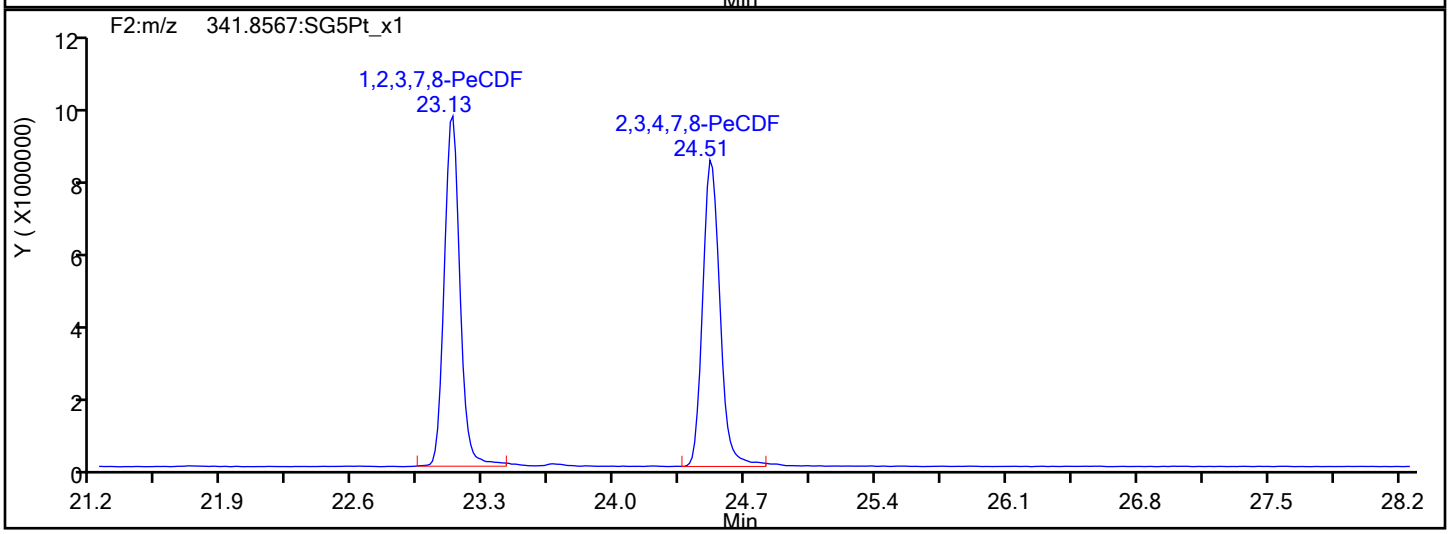

PeCDF Interference Mass

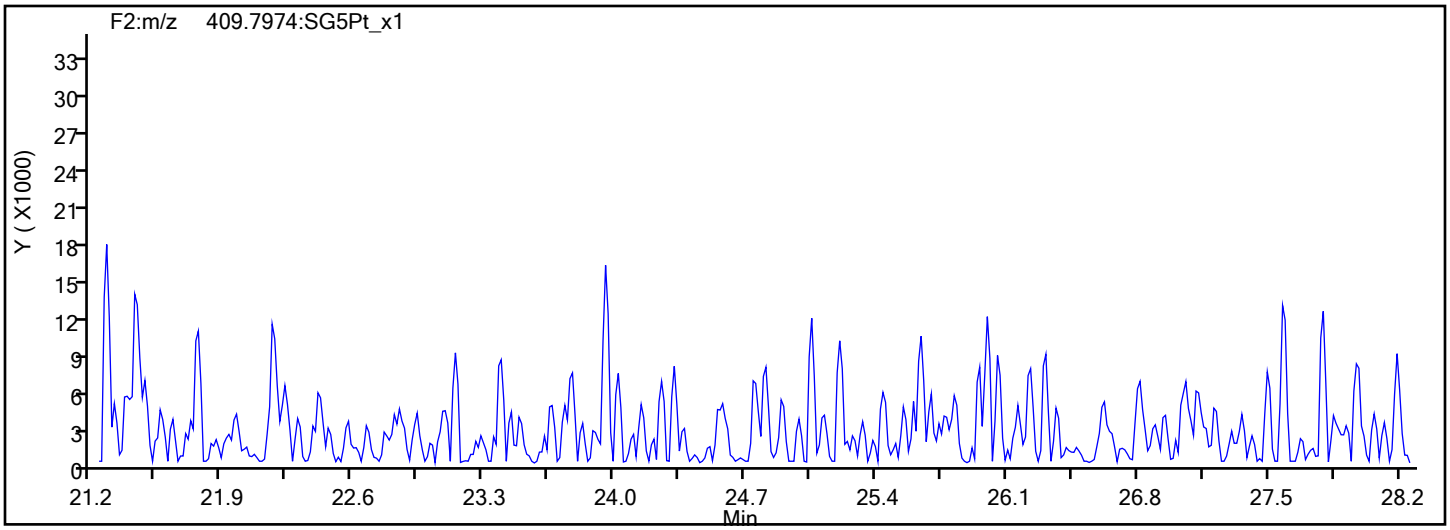

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Eurofins TestAmerica, Sacramento

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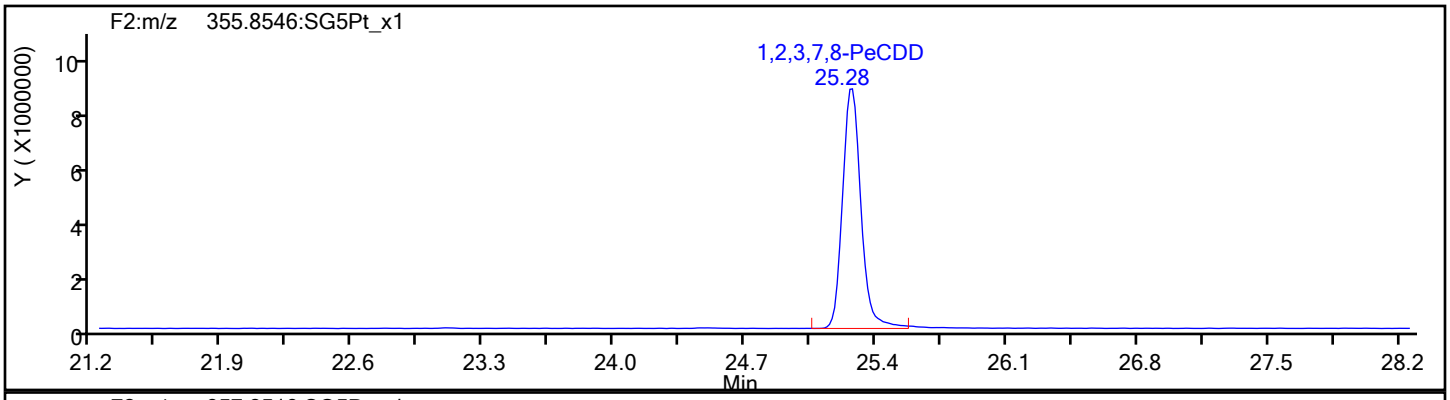

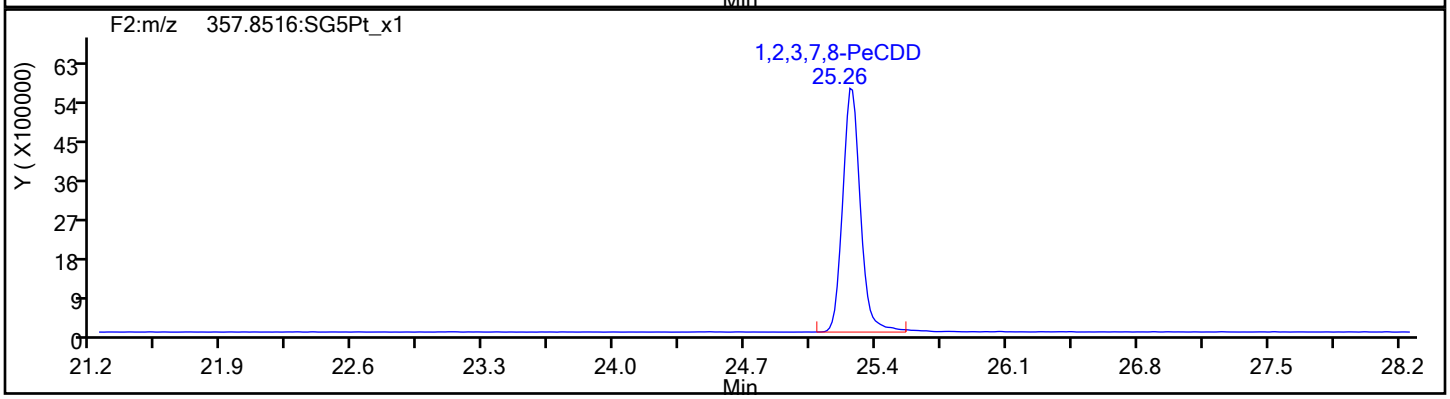

PeCDD Standards

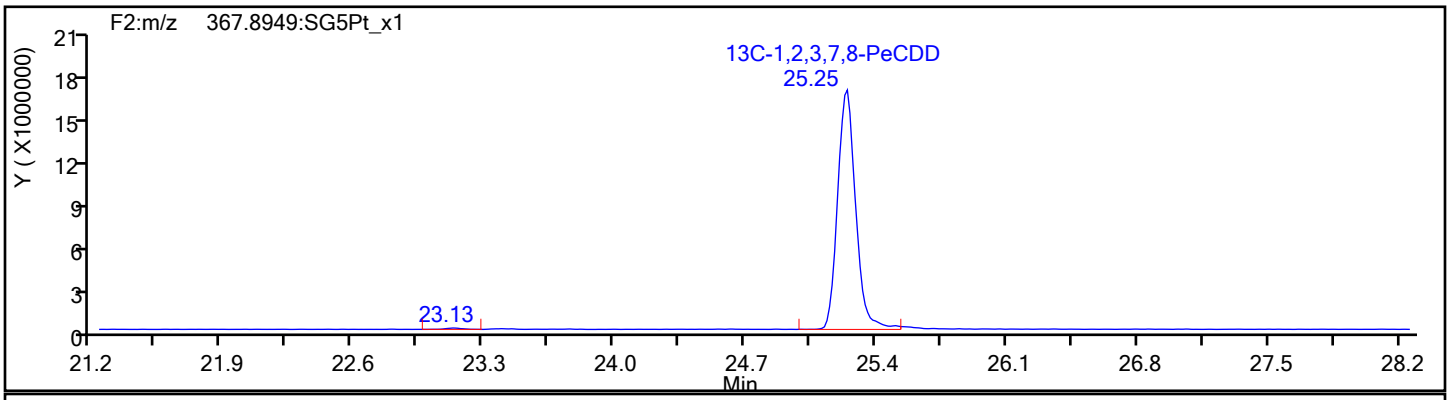

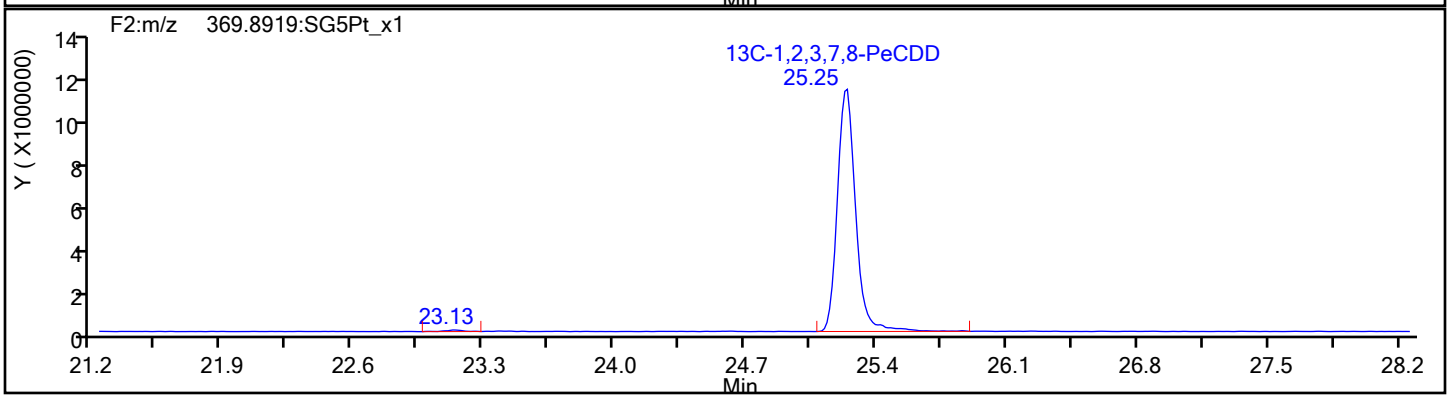

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Eurofins TestAmerica, Sacramento

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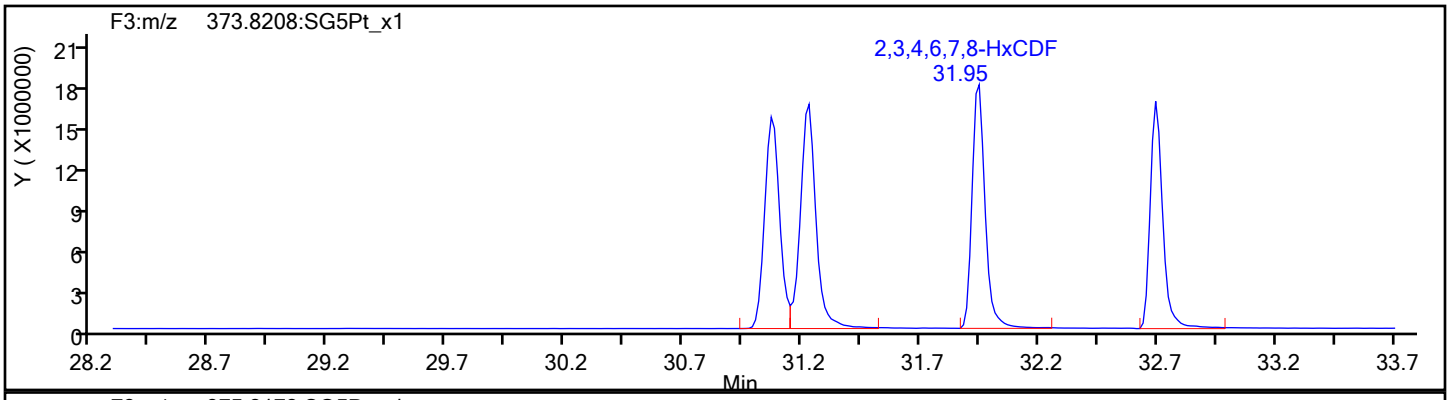

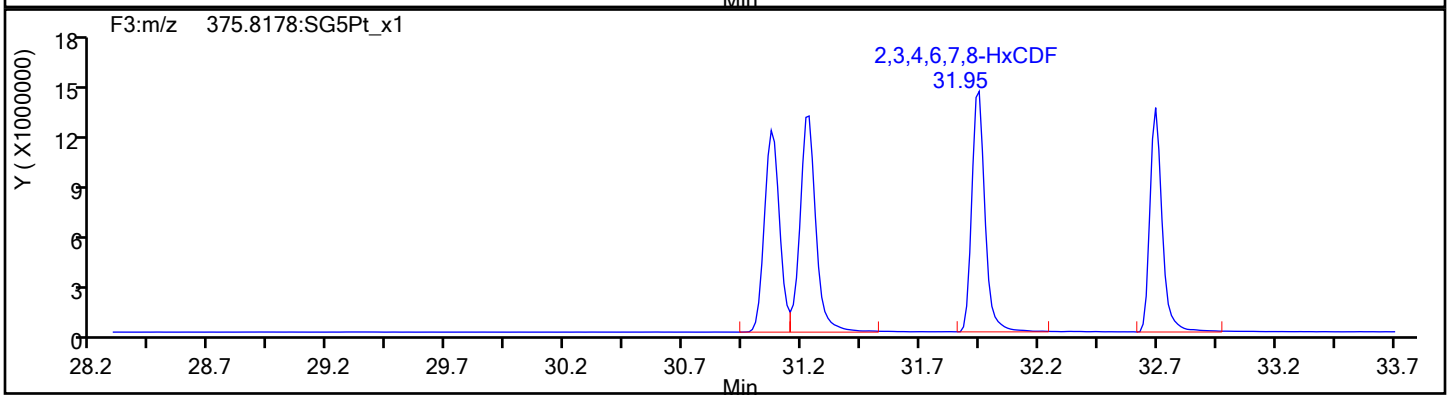

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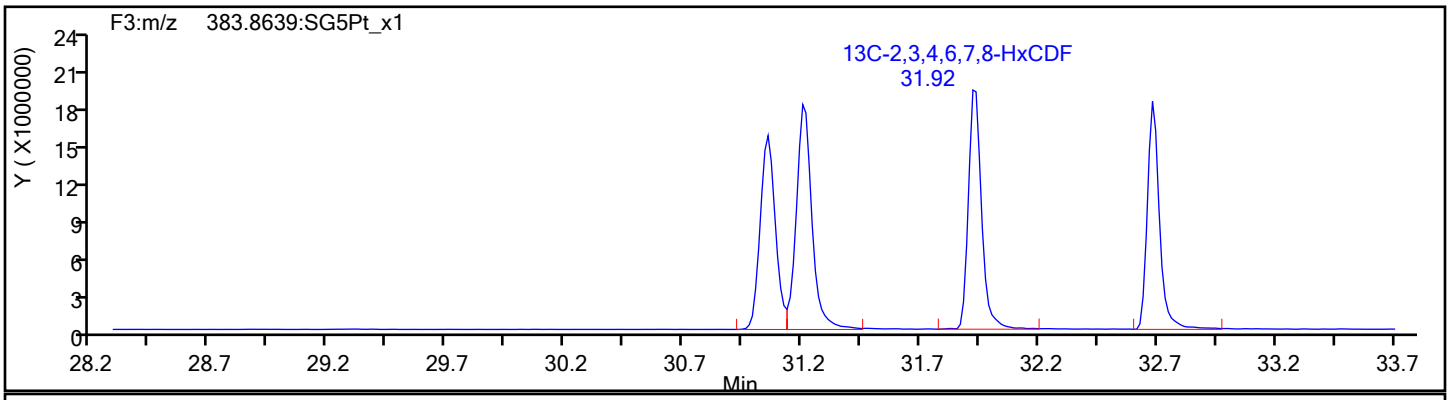

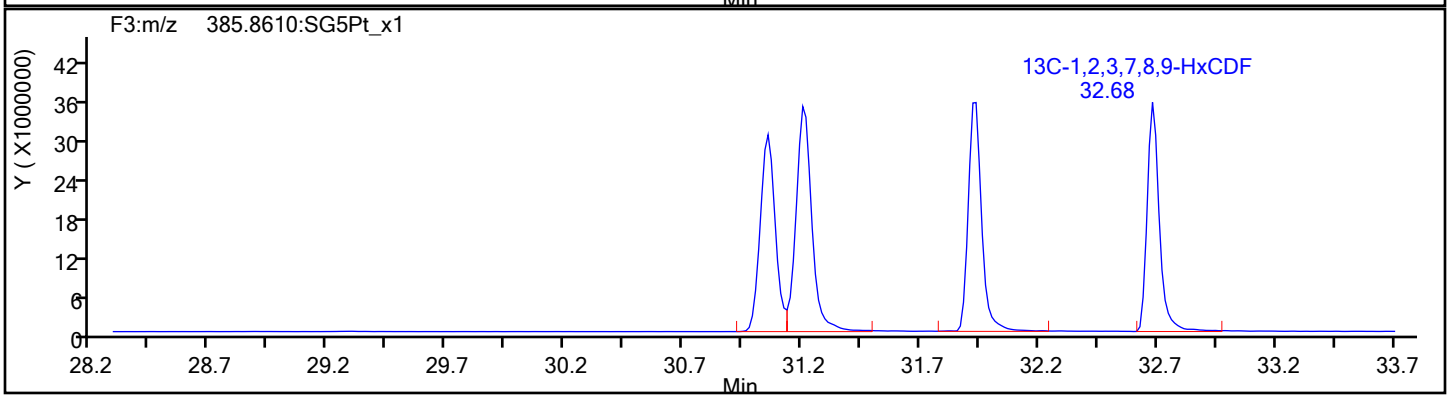

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Eurofins TestAmerica, Sacramento

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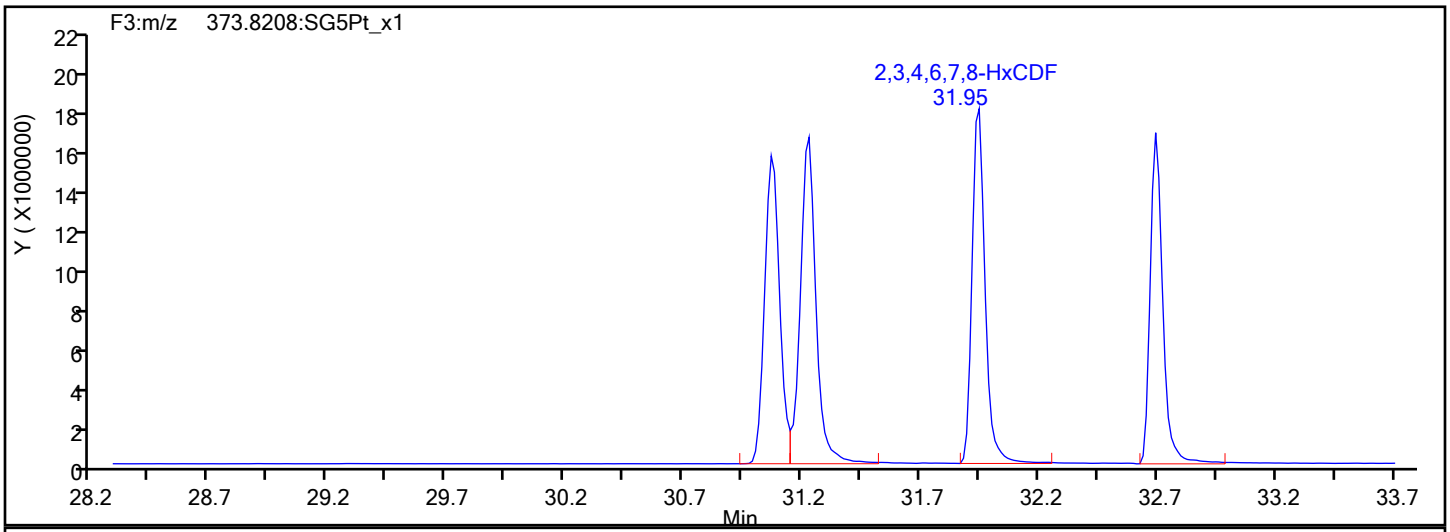

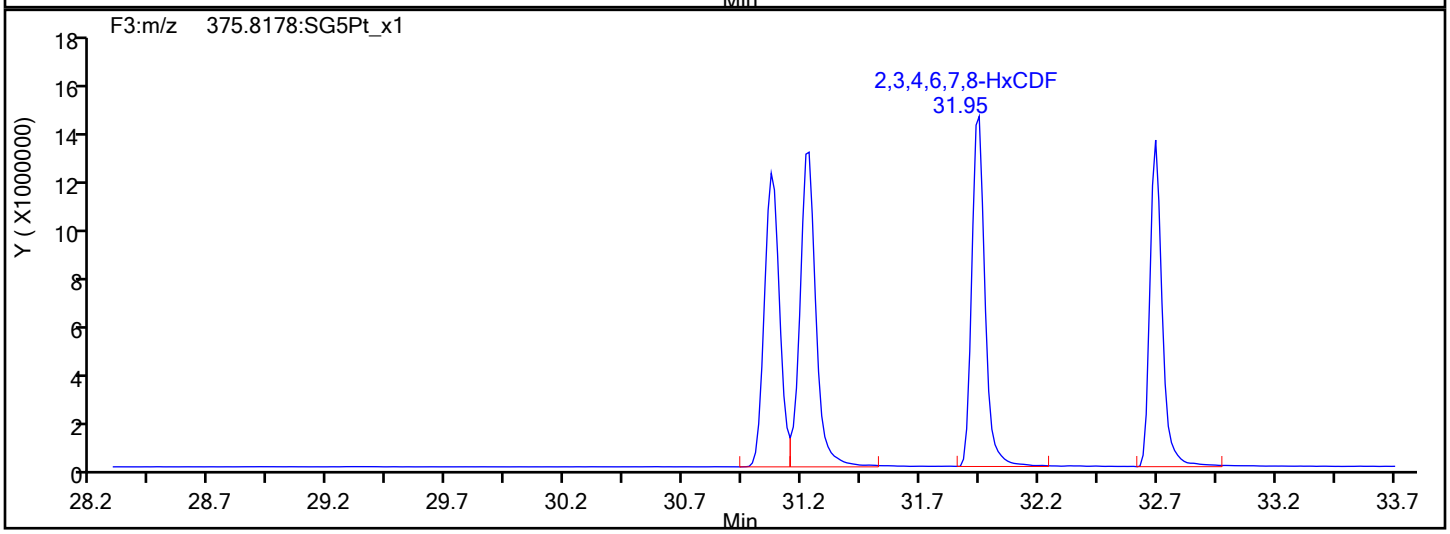

HxCDF Interference Mass

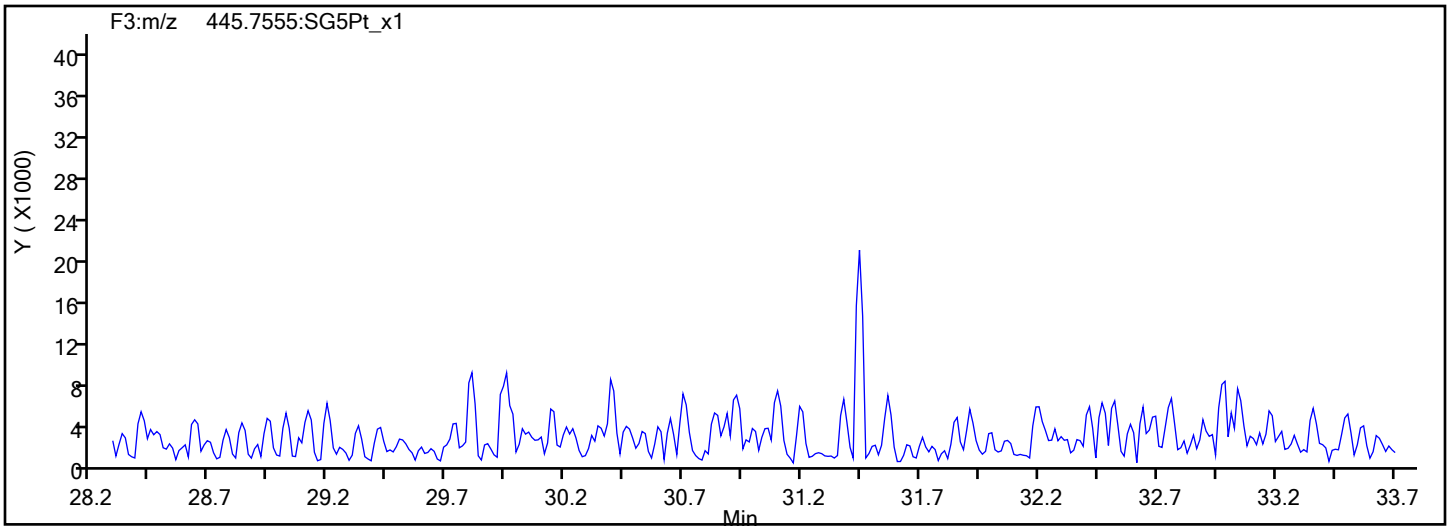

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Eurofins TestAmerica, Sacramento

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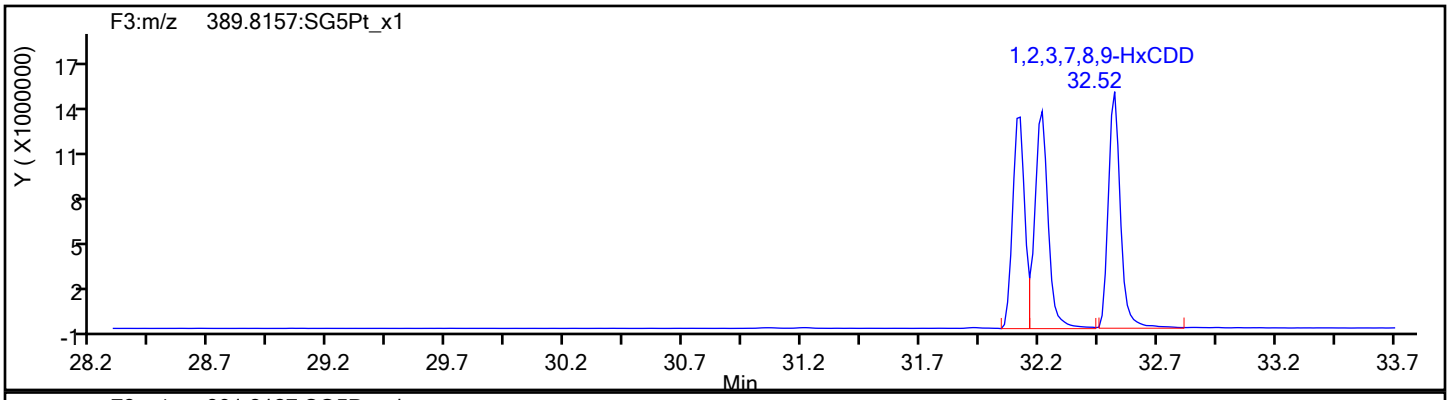

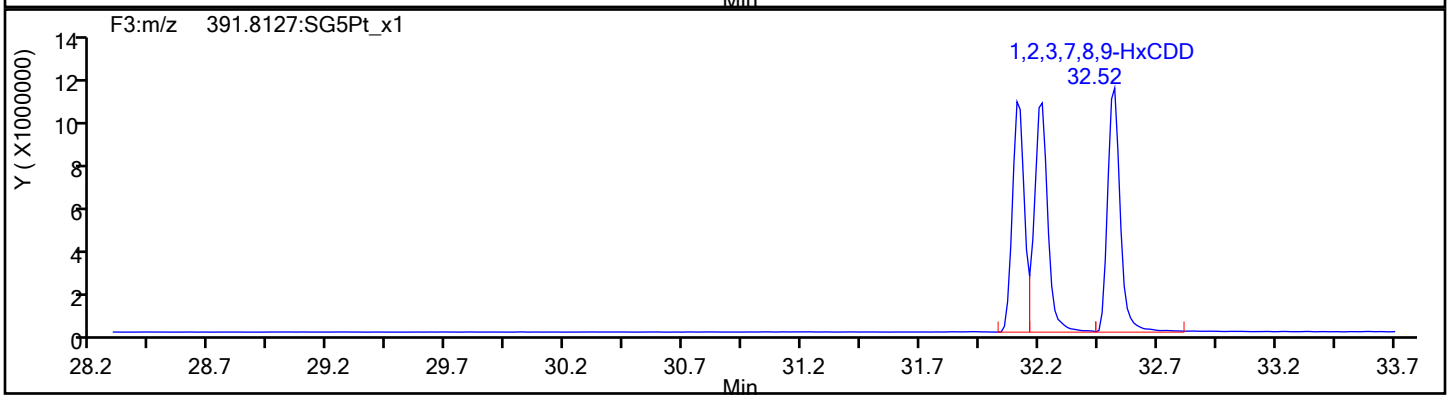

HxCDD Standards

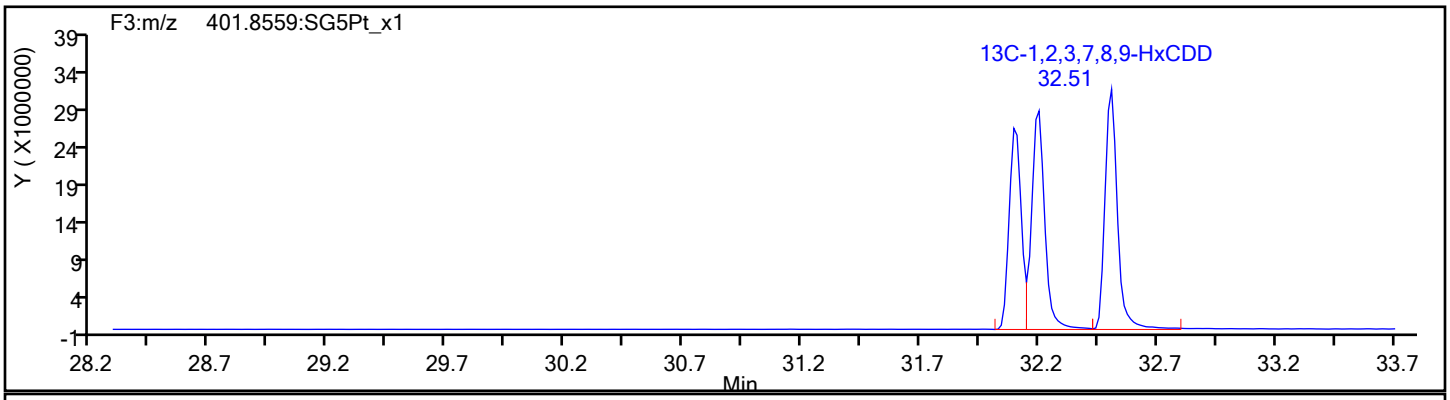

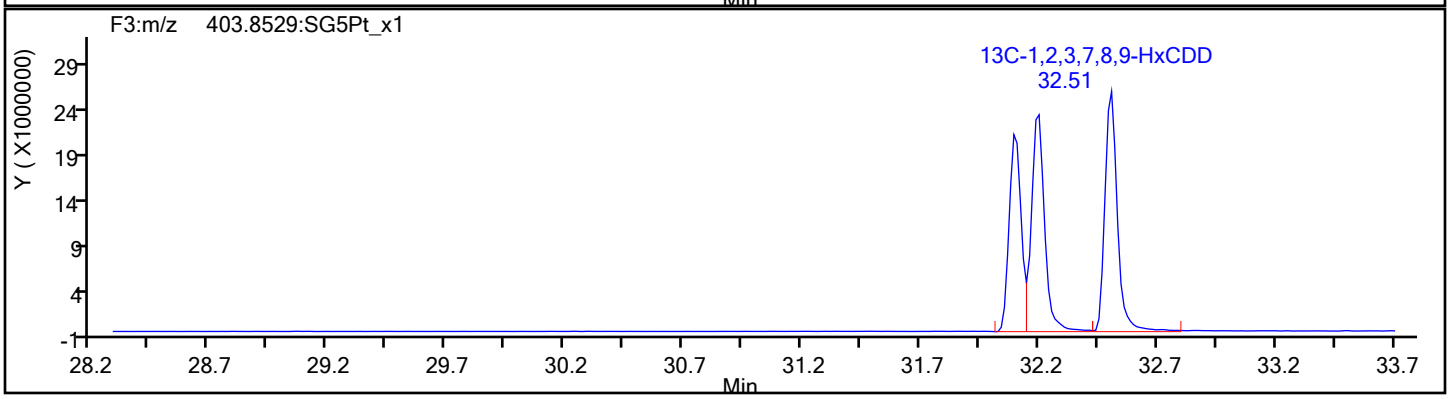

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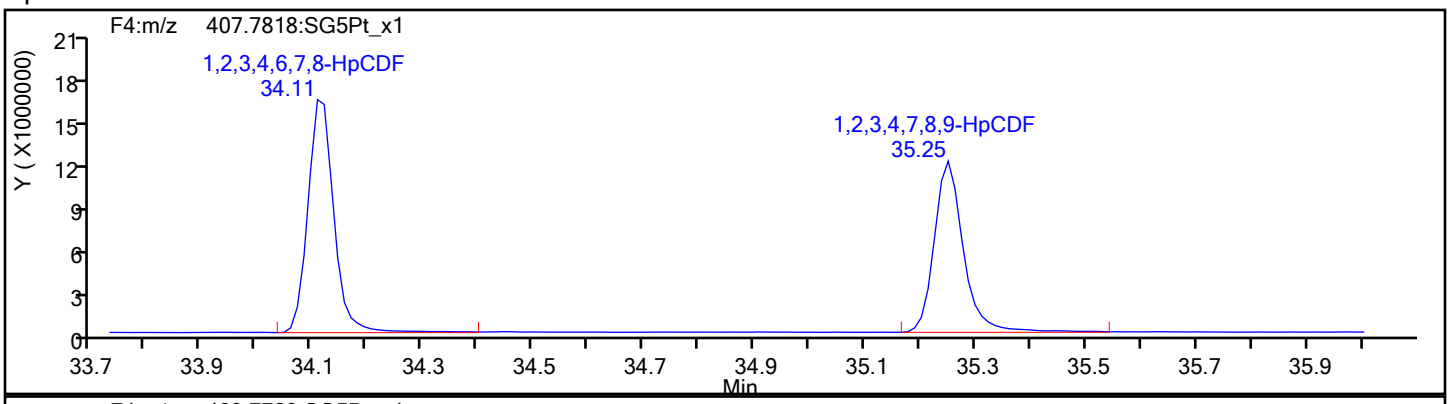

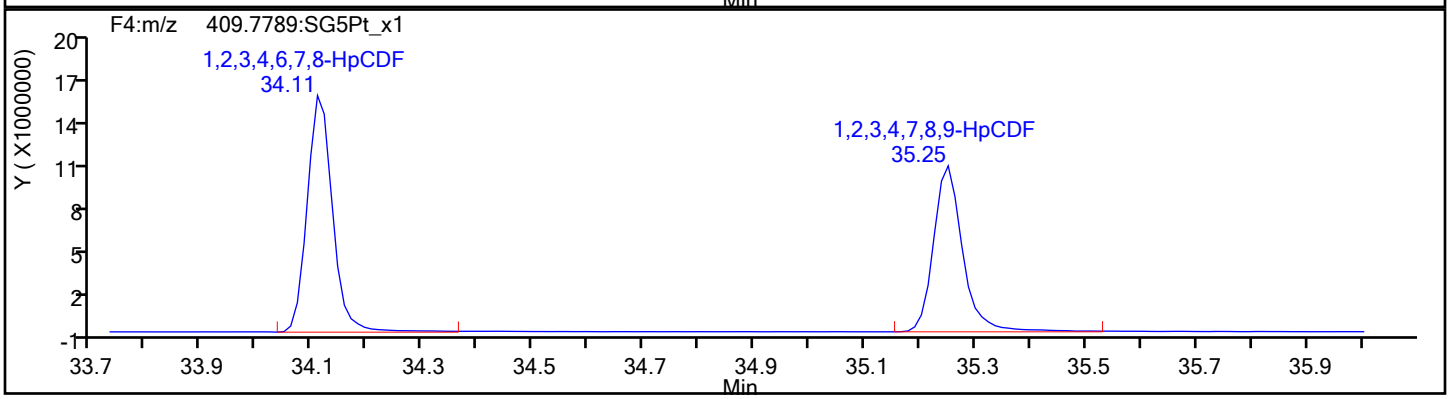

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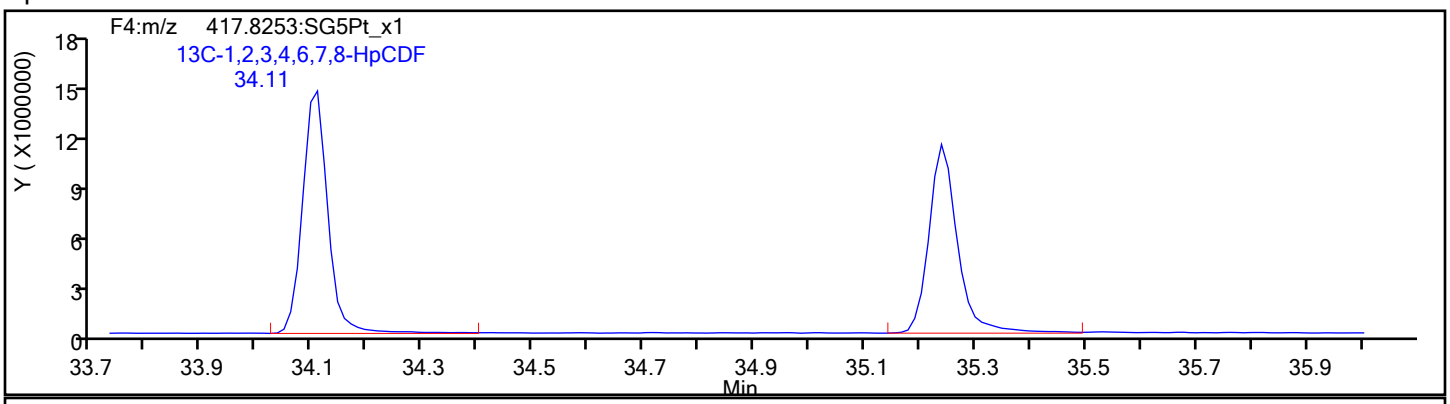

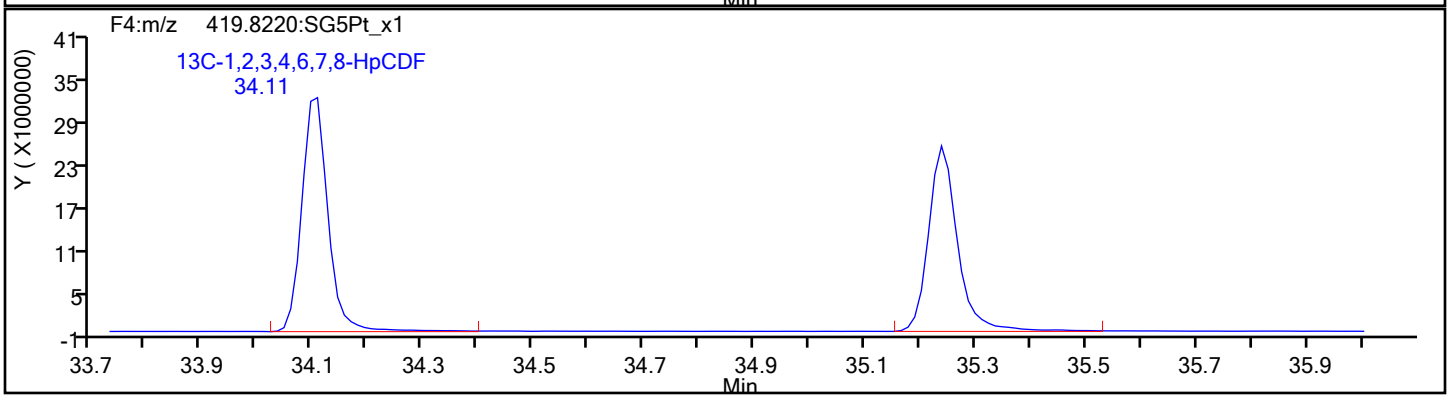

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Eurofins TestAmerica, Sacramento

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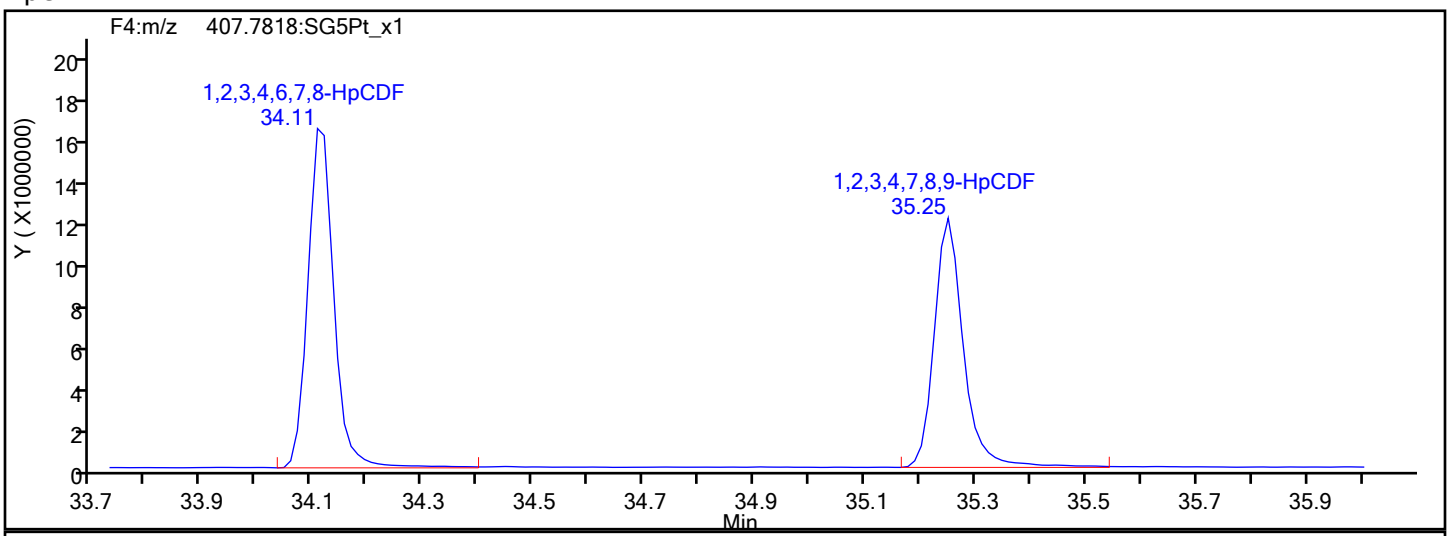

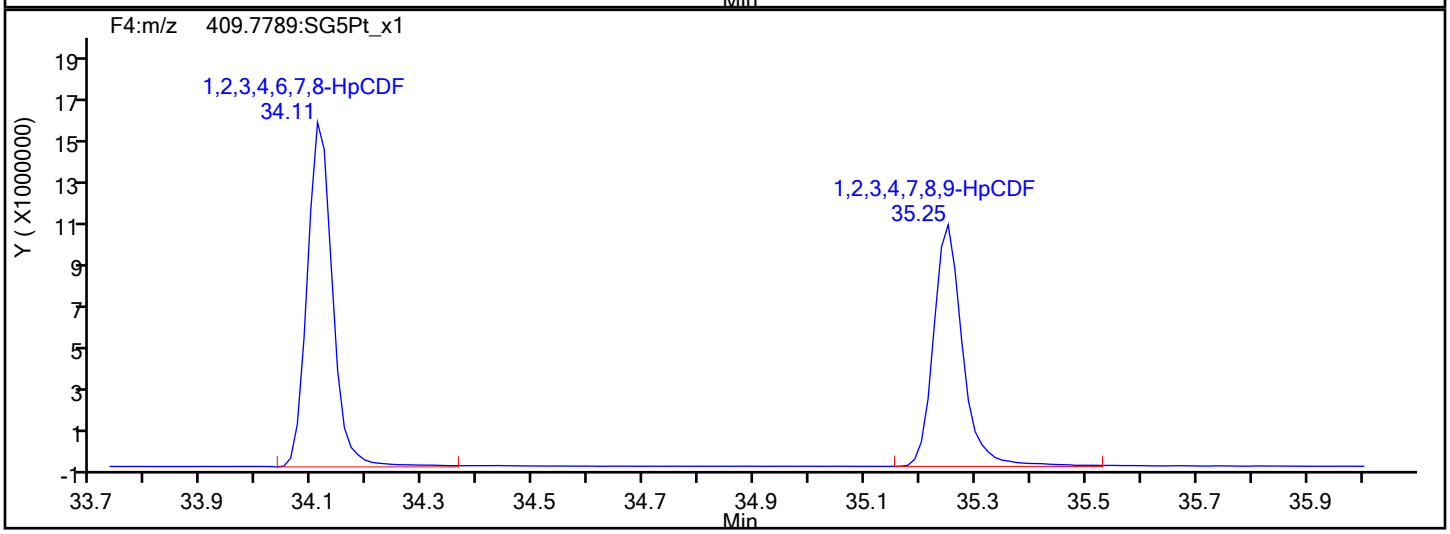

HpCDF Interference Mass

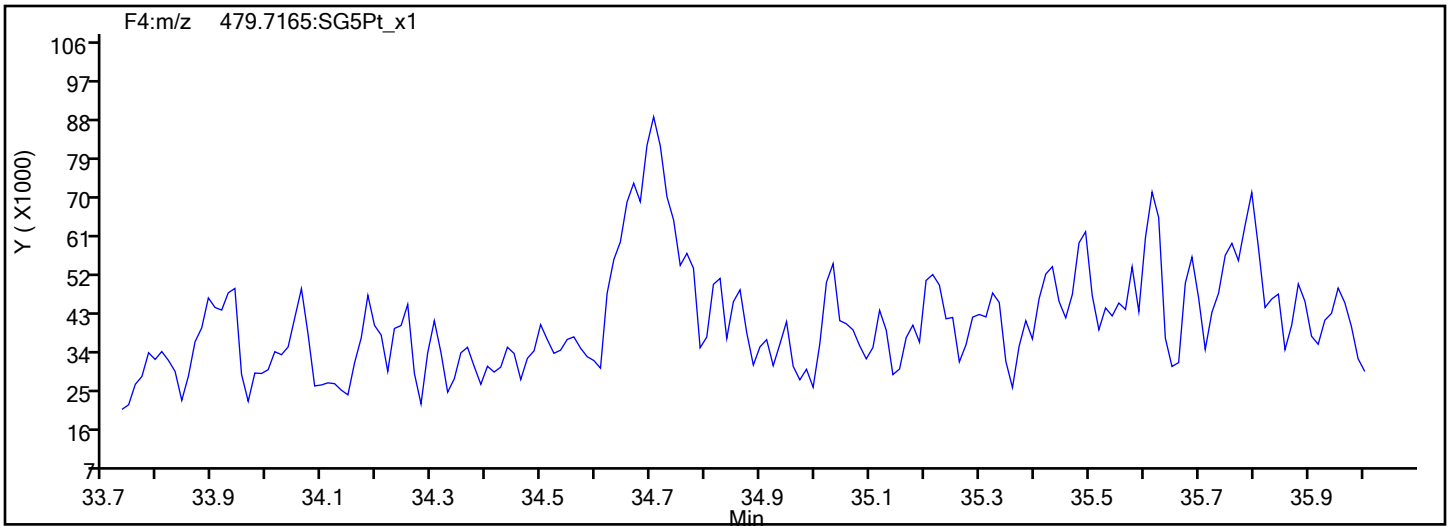

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Eurofins TestAmerica, Sacramento

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HpCDD

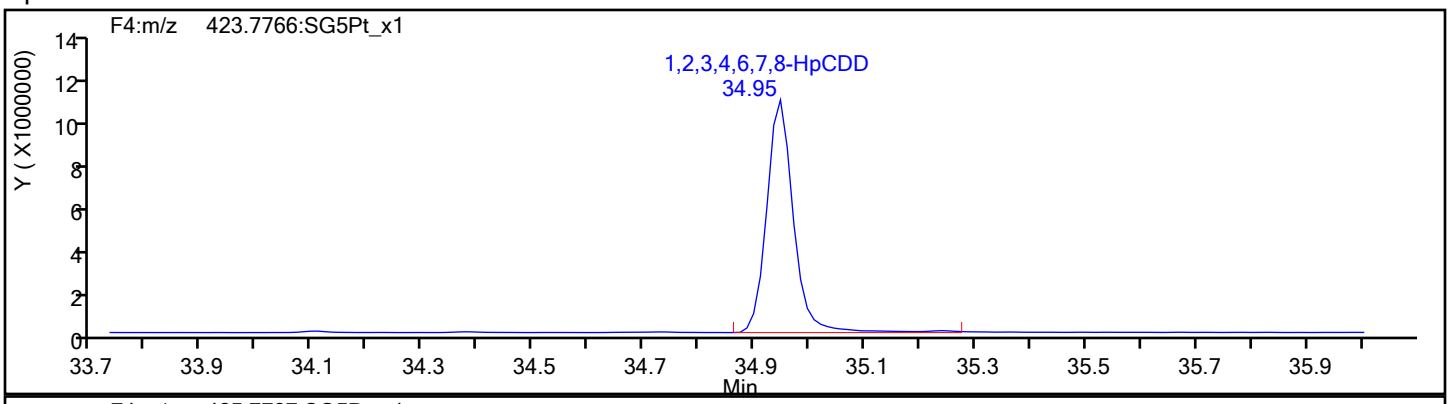

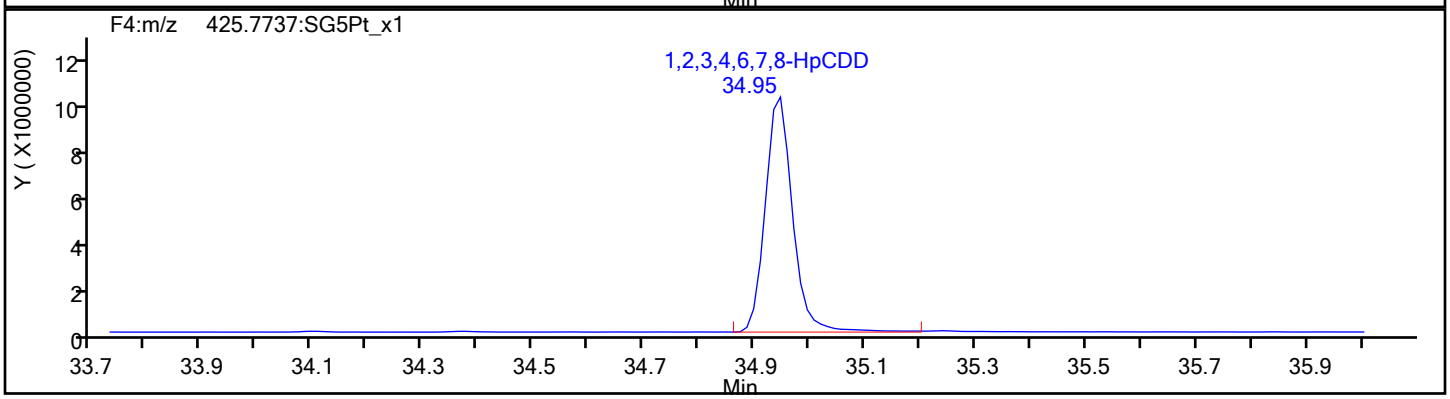

HpCDD Standards

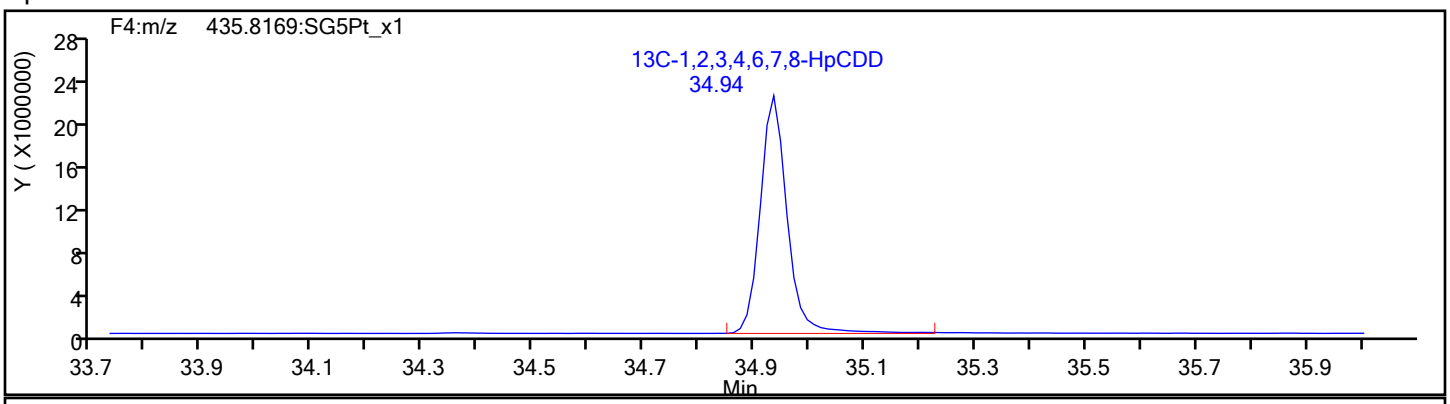

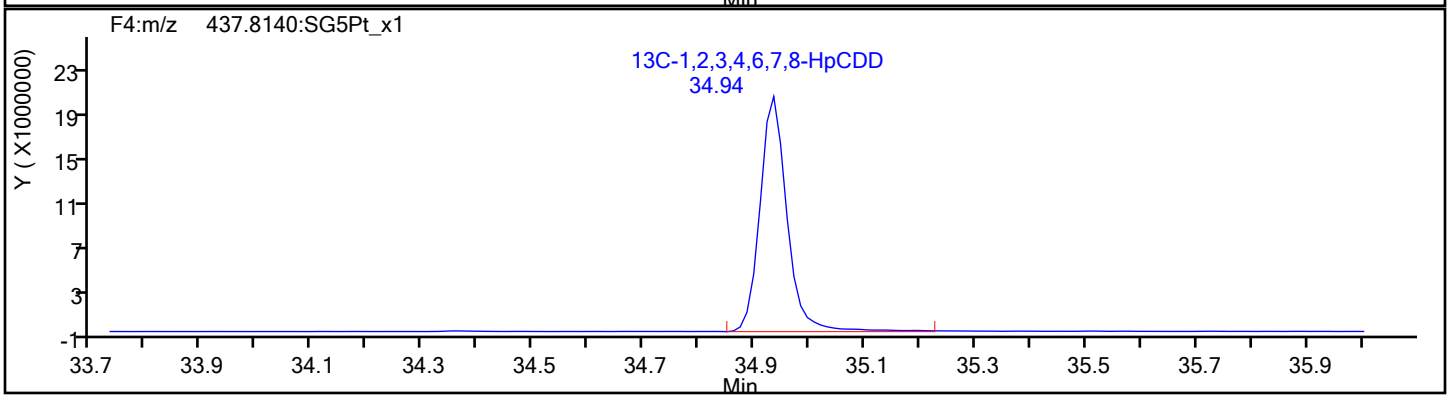

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Eurofins TestAmerica, Sacramento

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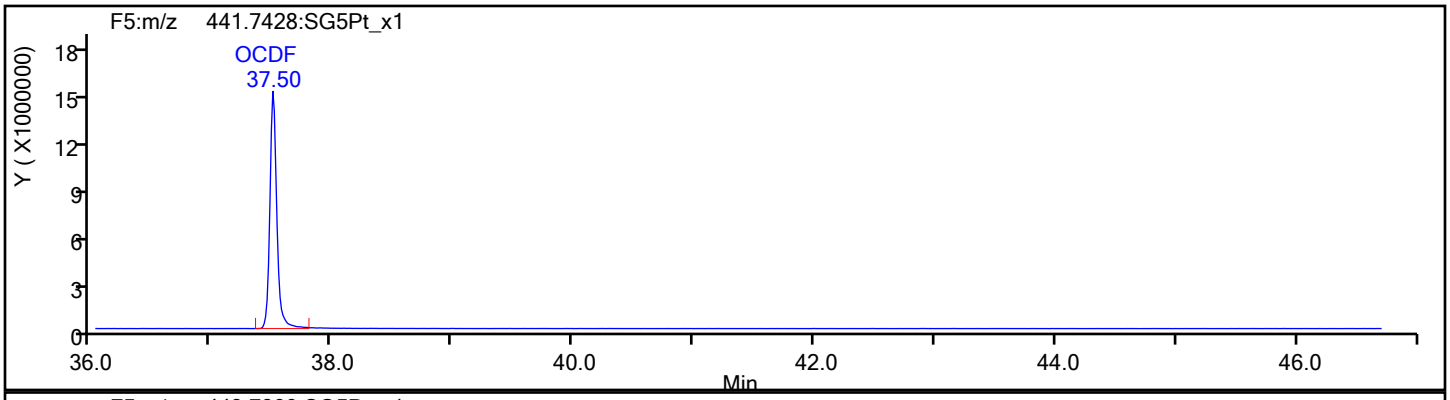

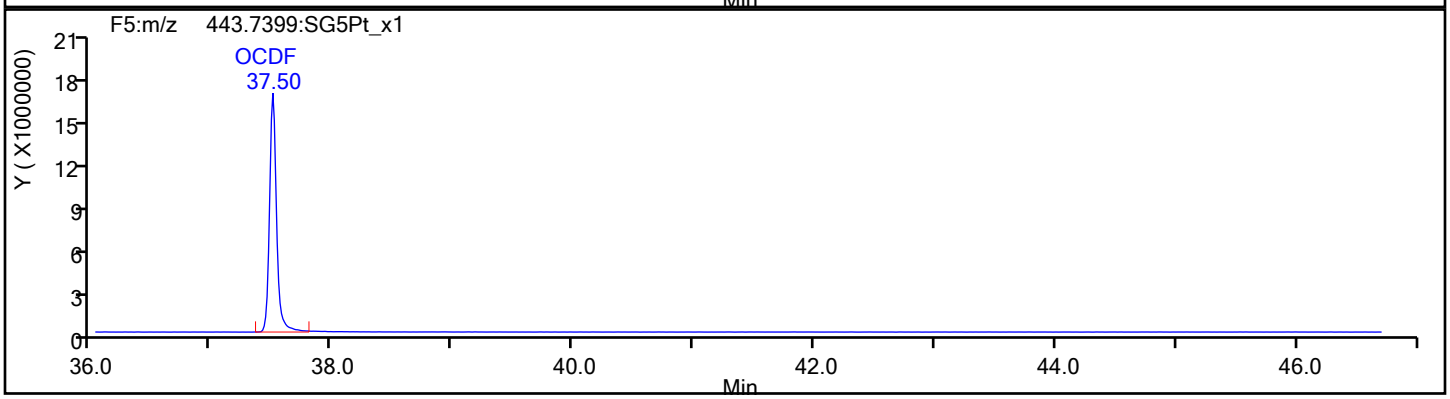

OCDF Standards

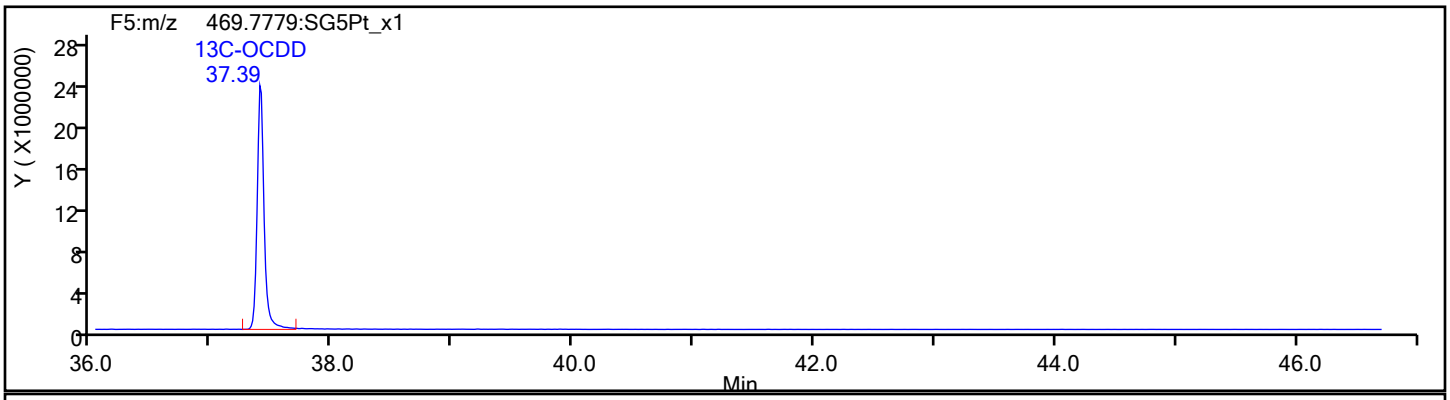

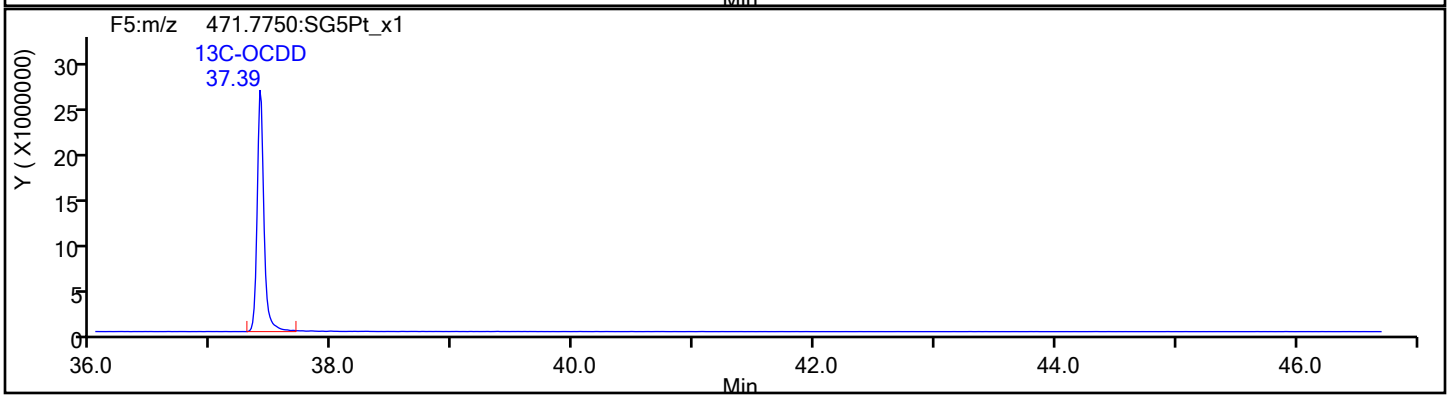

Report Date: 22-May-2019 11:44:39 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_5.d		
Injection Date:	21-May-2019 15:06:18	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L4		
Worklist#:	296020	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

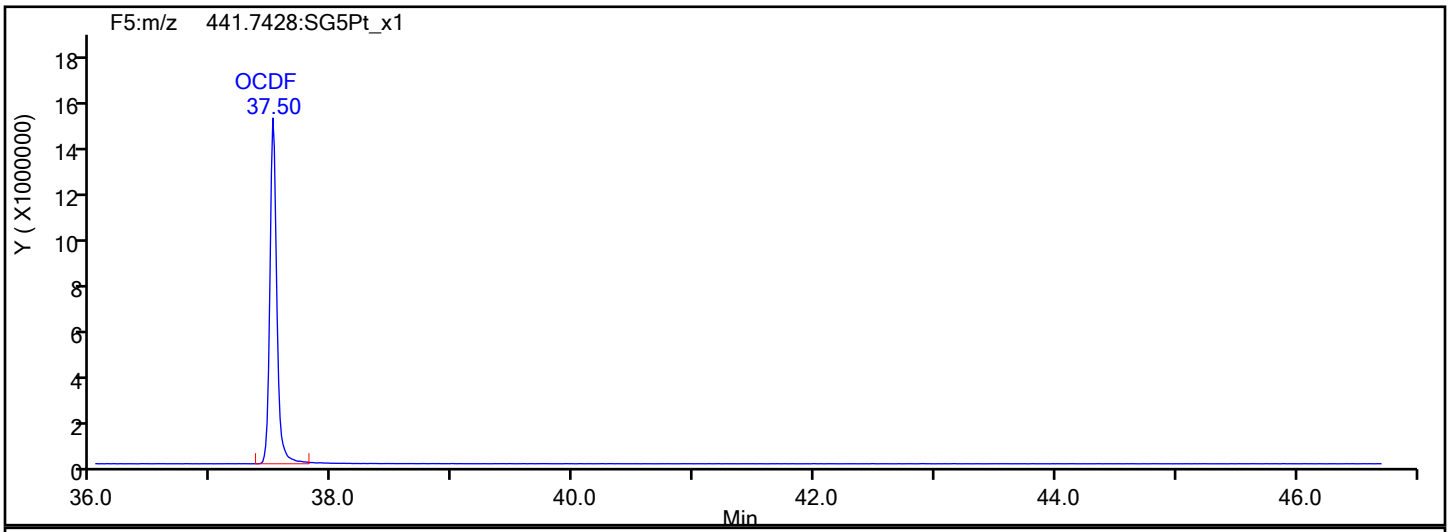

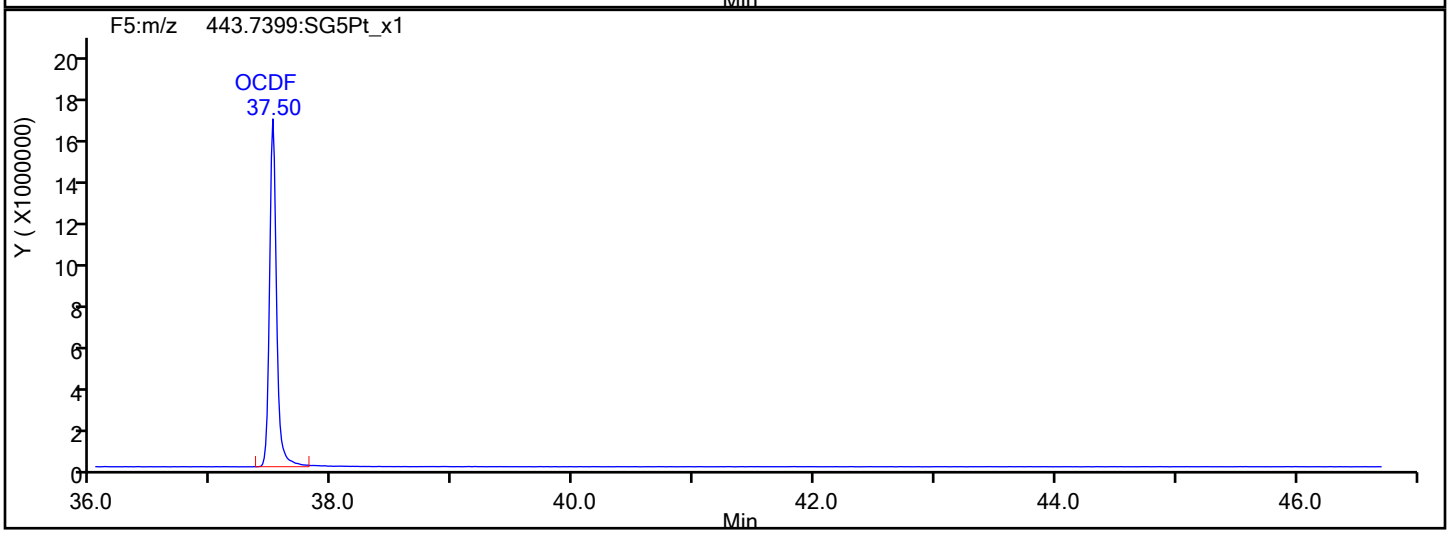

OCDF Interference Mass

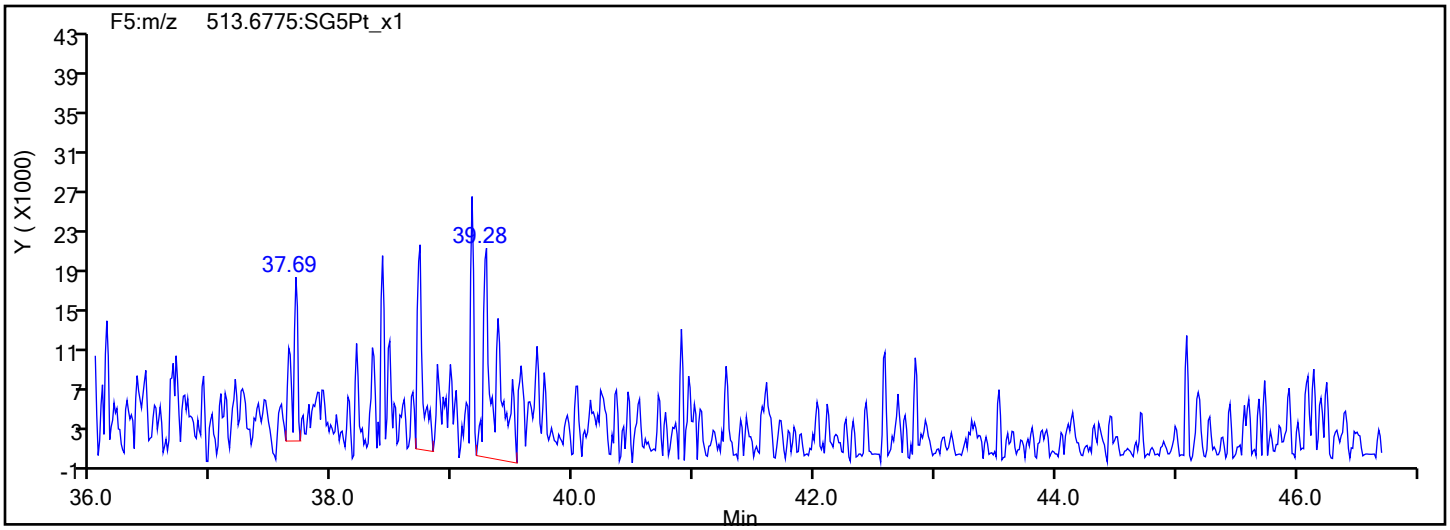

Report Date: 22-May-2019 11:44:39 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_5.d		
Injection Date:	21-May-2019 15:06:18	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L4		
Worklist#:	296020	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

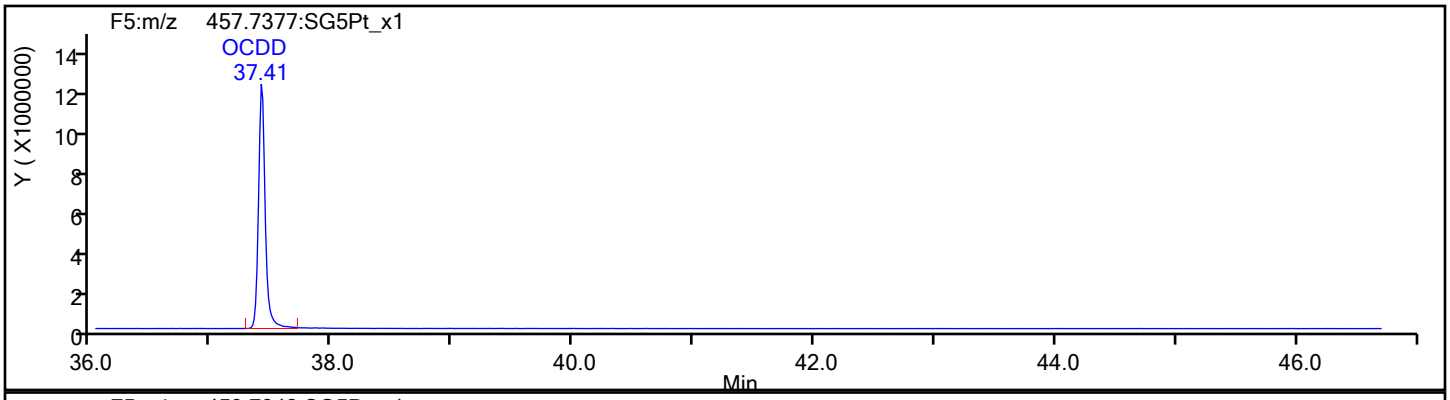

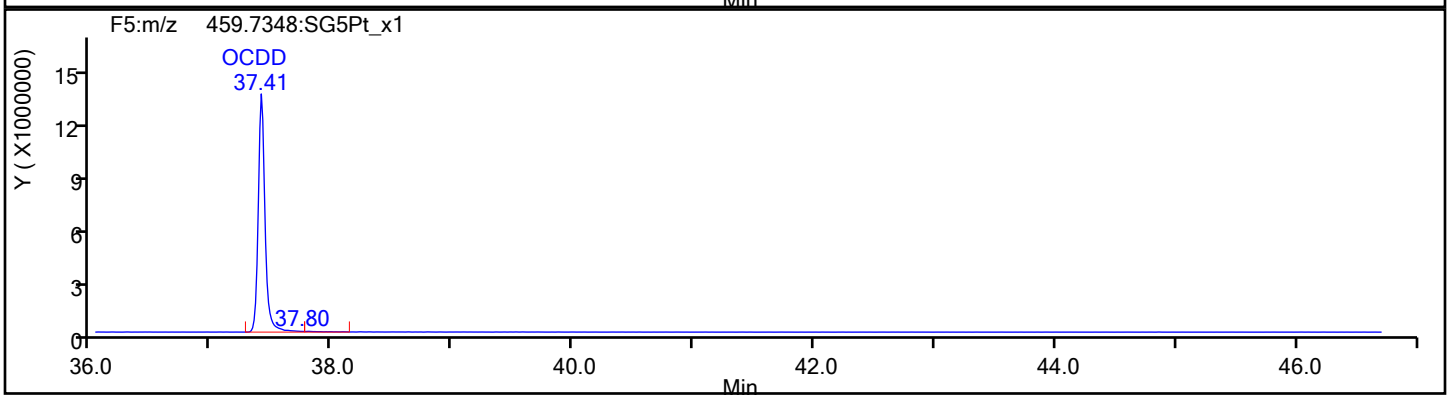

OCDD Standards

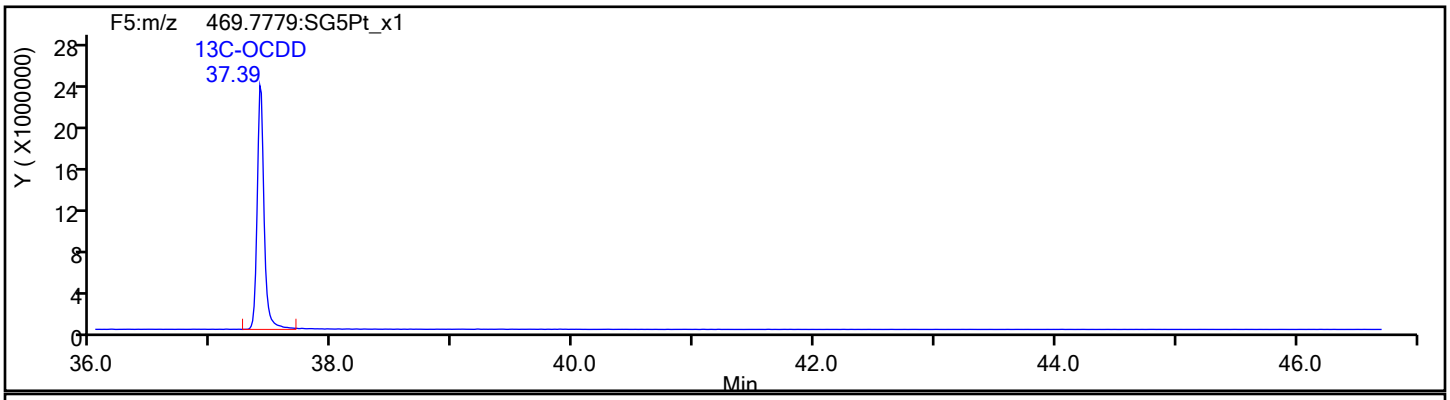

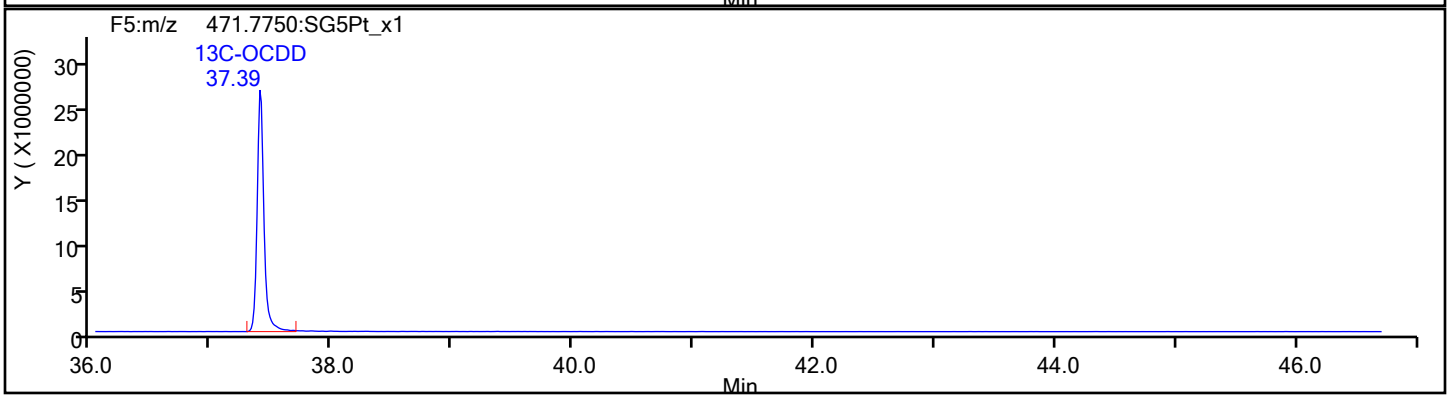

Report Date: 22-May-2019 11:44:39 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_5.d		
Injection Date:	21-May-2019 15:06:18	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L4		
Worklist#:	296020	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

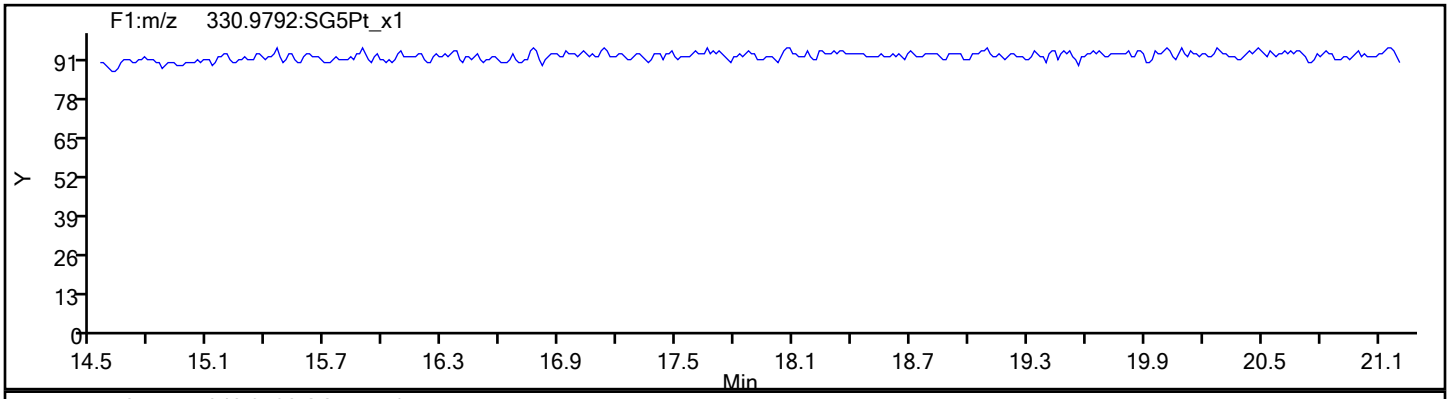

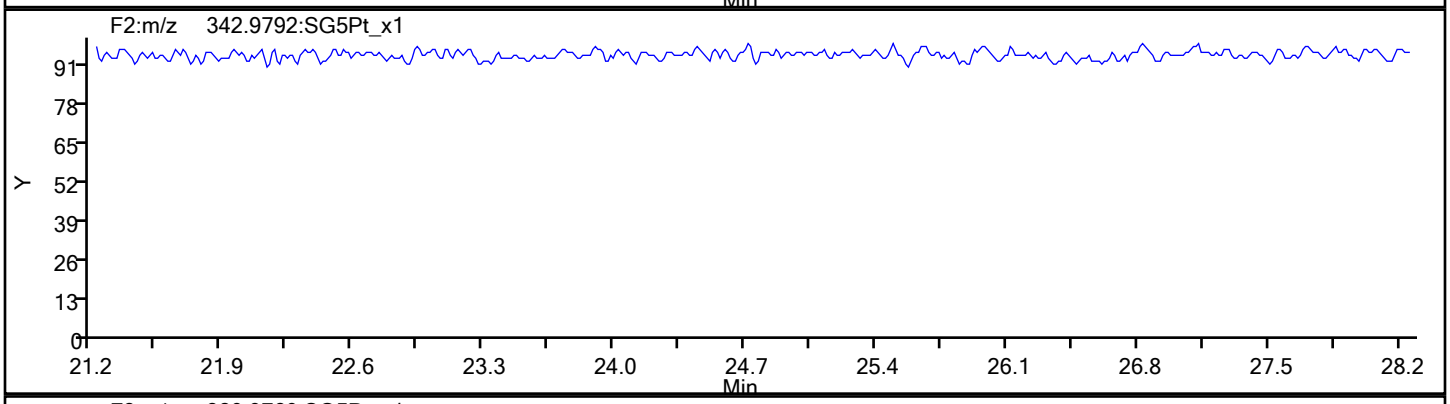

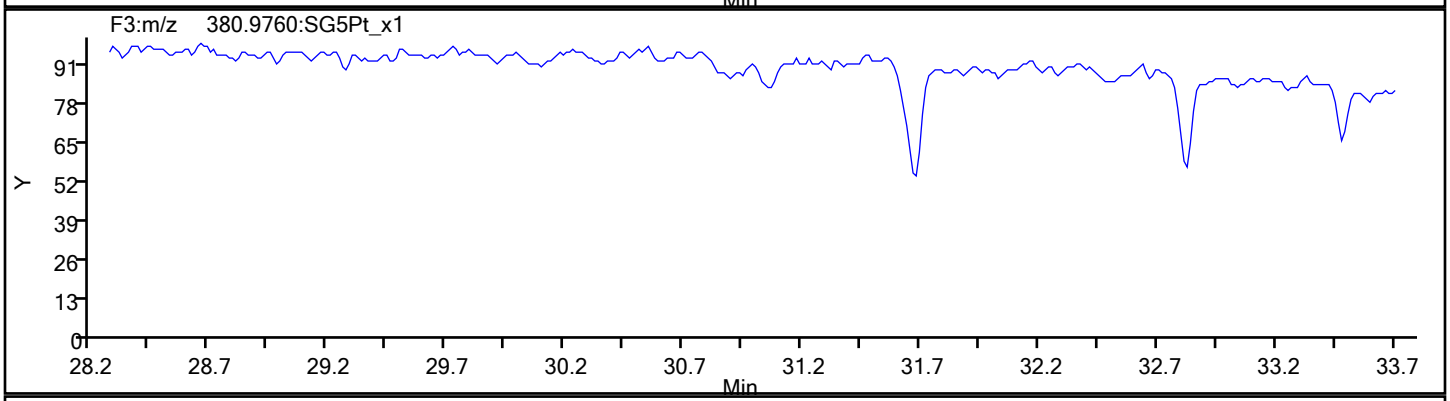

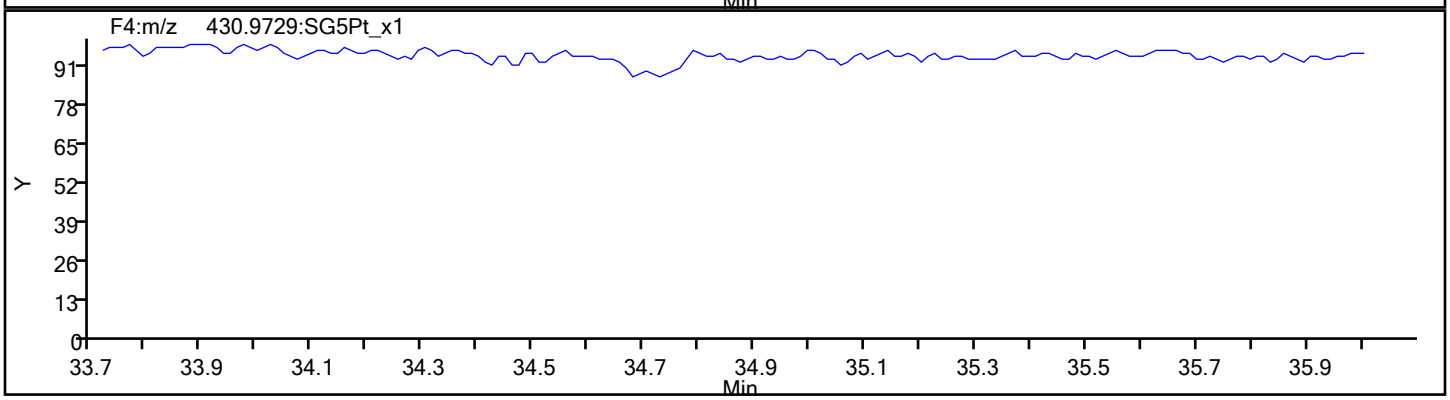

Report Date: 22-May-2019 11:44:39 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_5.d		
Injection Date:	21-May-2019 15:06:18	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L4		
Worklist#:	296020	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

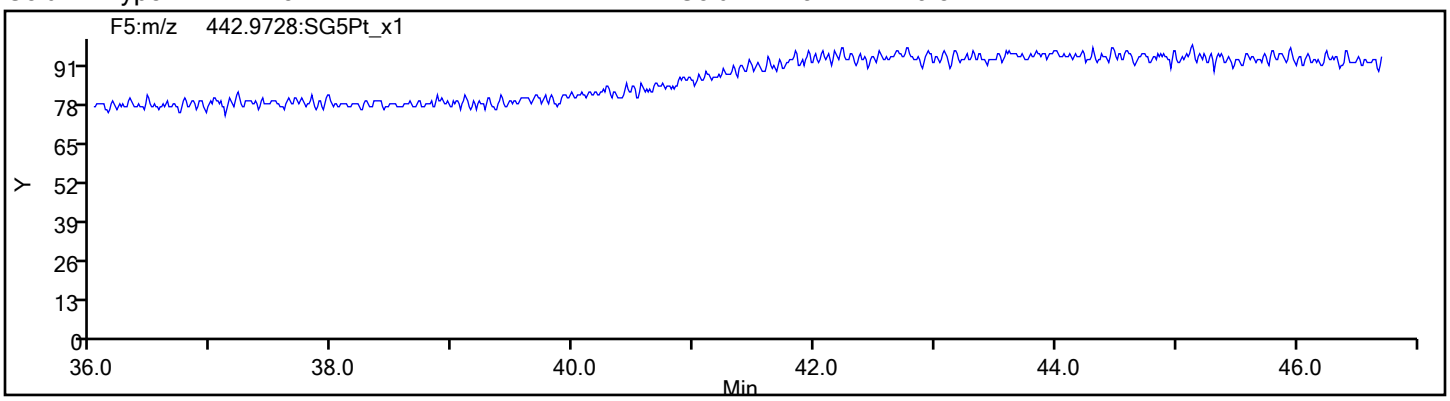

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_6.d
Lims ID: IC 5
Client ID: L5
Sample Type: IC Calib Level: 5
Inject. Date: 21-May-2019 15:53:46 ALS Bottle#: 7 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 052119C CS-5 HRDXNL5_00025
Misc. Info.: 21MY193D5
Operator ID: AJS Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 22-May-2019 11:44:47 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: shardaa Date: 21-May-2019 17:12:49

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.429	329575237	0.81	3.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.900	468743621	0.79	1.3908	102.3	102.3	0.2177	0.2177	102	
2,3,7,8-TCDF	17.915	180787829	0.77	0.9710	39.7	39.7	0.0693	0.0693	99.30	
S Total TCDF					39.7	39.7	0.0693	0.0693		
D 13C-2,3,7,8-TCDD	18.626	326174325	0.83	0.9819	100.8	100.8	0.1817	0.1817	101	
2,3,7,8-TCDD	18.641	137985150	0.80	1.0447	40.5	40.5	0.0713	0.0713	101	
$ 37Cl4-2,3,7,8-TCDD	18.641	165050919		1.2205	41.0	41.0	0.0469	0.0469	103	
S Total TCDD					40.5	40.5	0.0713	0.0713		
D 13C-1,2,3,7,8-PeCDF	23.094	393996346	1.58	1.1585	103.2	103.2	0.2508	0.2508	103	
1,2,3,7,8-PeCDF	23.121	748579428	1.58	0.9633	197.2	197.2	0.5739	0.5739	98.61	
D 13C-2,3,4,7,8-PeCDF	24.484	387486784	1.58	1.1532	102.0	102.0	0.2520	0.2520	102	
2,3,4,7,8-PeCDF	24.512	734611177	1.60	0.9495	199.7	199.7	0.6503	0.6503	99.83	
S Total PeCDF					396.9	396.9	0.6121	0.6121		
D 13C-1,2,3,7,8-PeCDD	25.234	252511444	1.57	0.7431	103.1	103.1	0.1168	0.1168	103	
1,2,3,7,8-PeCDD	25.262	528599914	1.58	1.0635	196.8	196.8	0.1724	0.1724	98.42	
S Total PeCDD					196.8	196.8	0.1724	0.1724		
D 13C-1,2,3,4,7,8-HxCDF	31.045	280079795	0.51	0.9837	104.5	104.5	0.3071	0.3071	105	
1,2,3,4,7,8-HxCDF	31.058	655348032	1.23	1.2173	192.2	192.2	0.6169	0.6169	96.10	
D 13C-1,2,3,6,7,8-HxCDF	31.191	322882273	0.52	1.1554	102.6	102.6	0.2615	0.2615	103	
1,2,3,6,7,8-HxCDF	31.218	703421366	1.24	1.1311	192.6	192.6	0.5675	0.5675	96.30	
D 13C-2,3,4,6,7,8-HxCDF	31.923	293235329	0.52	1.0361	103.9	103.9	0.2916	0.2916	104	
2,3,4,6,7,8-HxCDF	31.937	665213059	1.22	1.1710	193.7	193.7	0.5211	0.5211	96.86	
D 13C-1,2,3,7,8,9-HxCDF	32.669	249896301	0.54	0.9034	101.5	101.5	0.3344	0.3344	102	
1,2,3,7,8,9-HxCDF	32.682	577594332	1.23	1.1787	196.1	196.1	0.5630	0.5630	98.05	
S Total HxCDF					774.6	774.6	0.5671	0.5671		
* 13C-1,2,3,7,8,9-HxCDD	32.496	272441551	1.28	2.6E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	32.083	233591591	1.29	0.8287	103.5	103.5	0.2506	0.2506	103	
1,2,3,4,7,8-HxCDD	32.097	467745053	1.25	1.0267	195.0	195.0	0.2914	0.2914	97.52	
D 13C-1,2,3,6,7,8-HxCDD	32.190	265112485	1.26	0.9495	102.5	102.5	0.2187	0.2187	102	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	32.203	506126926	1.27	0.9771	195.4	195.4	0.2892	0.2892	97.69	
1,2,3,7,8,9-HxCDD	32.509	510175959	1.27	1.0616	192.7	192.7	0.2738	0.2738	96.37	
S Total HxCDD					583.2	583.2	0.2848	0.2848		
D 13C-1,2,3,4,6,7,8-HpCDF	34.084	204661502	0.45	0.7285	103.1	103.1	0.5681	0.5681	103	
1,2,3,4,6,7,8-HpCDF	34.097	567482020	1.04	1.4373	192.9	192.9	0.8432	0.8432	96.46	
D 13C-1,2,3,4,7,8,9-HpCDF	35.227	180782541	0.46	0.6556	101.2	101.2	0.6313	0.6313	101	
1,2,3,4,7,8,9-HpCDF	35.239	466922689	1.06	1.3091	197.3	197.3	1.186	1.186	98.65	
S Total HpCDF					390.2	390.2	1.015	1.015		
D 13C-1,2,3,4,6,7,8-HpCDD	34.923	195316121	1.07	0.6978	102.7	102.7	0.2686	0.2686	103	
1,2,3,4,6,7,8-HpCDD	34.935	387463236	1.07	1.0102	196.4	196.4	0.4740	0.4740	98.19	
S Total HpCDD					196.4	196.4	0.4740	0.4740		
D 13C-OCDD	37.383	266344587	0.92	0.4780	204.5	204.5	0.1681	0.1681	102	
OCDF	37.491	714185718	0.92	1.3501	397.2	397.2	0.1625	0.1625	99.30	
OCDD	37.395	553694600	0.90	1.0627	391.2	391.2	0.1597	0.1597	97.81	

Reagents:

HRDXNL5_00025 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_6.d
Lims ID: IC 5
Client ID: L5
Sample Type: IC Calib Level: 5
Inject. Date: 21-May-2019 15:53:46 ALS Bottle#: 7 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 052119C CS-5 HRDXNL5_00025
Misc. Info.: 21MY193D5
Operator ID: AJS Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 22-May-2019 11:44:47 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: shardaa Date: 21-May-2019 17:12:49

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.429	18.432	0		147237259	35106255	36112	90280	972		
333.9339	18.429	18.432	0		182337978	43674697	20122	50305	2170	0.81(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.900	17.900	0	0.971	206397164	47847477	55611	139027	860		
317.9389	17.885	17.900	-1	0.970	262346457	60979356	39809	99522	1532	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.915	17.915	0	1.001	78695731	18297986	13410	33525	1365		
305.8987	17.915	17.915	0	1.001	102092098	23491319	15886	39715	1479	0.77(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	18.626	18.629	0	1.011	148156216	33874967	36112	90280	938		
333.9339	18.626	18.629	0	1.011	178018109	40307174	20122	50305	2003	0.83(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.641	18.650	-1	1.001	61269577	14125983	13568	33920	1041		
321.8936	18.641	18.650	-1	1.001	76715573	17579248	8547	21367	2057	0.80(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.641	18.650	-1	1.011	165050919	38184784	18027	45067	2118		
13C-1,2,3,7,8-PeCDF											
351.9000	23.094	23.102	0	1.253	241093376	41737517	54419	136047	767		
353.8970	23.094	23.102	0	1.253	152902970	26622498	37145	92862	717	1.58(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	23.121	23.123	0	1.001	458905466	77887388	92025	230062	846		
341.8567	23.121	23.123	0	1.001	289673962	49048747	59149	147872	829	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	24.484	24.487	0	1.329	237587200	37540432	54419	136047	690		
353.8970	24.484	24.487	0	1.329	149899584	23663156	37145	92862	637	1.58(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	24.512	24.512	0	1.001	452519272	71231609	92025	230062	774		
341.8567	24.498	24.512	-1	1.001	282091905	44013649	59149	147872	744	1.60(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	25.234	25.237	0	1.369	154250667	23613494	15354	38385	1538		
369.8919	25.234	25.237	0	1.369	98260777	14715745	11994	29985	1227	1.57(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	25.262	25.264	0	1.001	324095649	49999851	18567	46417	2693		
357.8516	25.262	25.264	0	1.001	204504265	31468478	9542	23855	3298	1.58(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	31.045	31.050	0	0.955	94606507	20720928	31296	78240	662		
385.8610	31.045	31.050	0	0.955	185473288	40925430	58570	146425	699	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	31.058	31.069	-1	1.000	362096061	81014081	102168	255420	793		
375.8178	31.058	31.069	-1	1.000	293251971	65840097	83021	207552	793	1.23(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	31.191	31.202	-1	0.960	110163154	24590117	31296	78240	786		
385.8610	31.191	31.202	-1	0.960	212719119	47530005	58570	146425	812	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	31.218	31.223	0	1.001	389119145	85955119	102168	255420	841		
375.8178	31.204	31.223	-1	1.000	314302221	68333803	83021	207552	823	1.24(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.923	31.923	0	0.982	99864351	25972461	31296	78240	830		
385.8610	31.910	31.923	-1	0.982	193370978	49893522	58570	146425	852	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.937	31.942	0	1.000	365853935	95743389	102168	255420	937		
375.8178	31.937	31.942	0	1.000	299359124	77803619	83021	207552	937	1.22(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.669	32.674	0	1.005	87842859	24692934	31296	78240	789		
385.8610	32.669	32.674	0	1.005	162053442	45074663	58570	146425	770	0.54(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.682	32.690	0	1.000	318655522	90198782	102168	255420	883		
375.8178	32.682	32.690	0	1.000	258938810	72087978	83021	207552	868	1.23(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.496	32.499	0		153030063	41693135	31978	79945	1304		
403.8529	32.496	32.499	0		119411488	32663682	29789	74472	1097	1.28(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	32.083	32.094	-1	0.987	131384987	37149381	31978	79945	1162		
403.8529	32.083	32.094	-1	0.987	102206604	29343785	29789	74472	985	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	32.097	32.110	-1	1.000	259598074	74171702	43989	109972	1686		
391.8127	32.097	32.110	-1	1.000	208146979	58936352	35593	88982	1656	1.25(1.05-1.43)	

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Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_6.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.190	32.192	0	0.991	147873455	39025263	31978	79945	1220		
403.8529	32.190	32.192	0	0.991	117239030	31393947	29789	74472	1054	1.26(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	32.203	32.208	0	1.000	282703046	74384618	43989	109972	1691		
391.8127	32.203	32.208	0	1.000	223423880	59122445	35593	88982	1661	1.27(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.509	32.515	0	1.013	285407608	77943746	43989	109972	1772		
391.8127	32.509	32.515	0	1.013	224768351	60469405	35593	88982	1699	1.27(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	34.084	34.097	-1	1.049	63696984	20433560	50234	125585	407		
419.8220	34.084	34.097	-1	1.049	140964518	45130574	72869	182172	619	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.097	34.104	0	1.000	289555184	92903843	162083	405207	573		
409.7789	34.097	34.104	0	1.000	277926836	89595967	155767	389417	575	1.04(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	35.227	35.232	0	1.084	56734287	16296132	50234	125585	324		
419.8220	35.227	35.232	0	1.084	124048254	34880856	72869	182172	479	0.46(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.239	35.244	0	1.000	239928170	68579324	162083	405207	423		
409.7789	35.239	35.244	0	1.000	226994519	63510796	155767	389417	408	1.06(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.923	34.928	0	1.075	100927153	30173181	30146	75365	1001		
437.8140	34.923	34.928	0	1.075	94388968	27895545	25597	63992	1090	1.07(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.935	34.940	0	1.000	199931934	58852810	57720	144300	1020		
425.7737	34.923	34.940	-1	1.000	187531302	55140180	53490	133725	1031	1.07(0.88-1.20)	
13C-OCDD											
469.7779	37.383	37.392	-1	1.150	127348867	32927210	13240	33100	2487		
471.7750	37.383	37.392	-1	1.150	138995720	35916601	10652	26630	3372	0.92(0.76-1.02)	
OCDF											
441.7428	37.491	37.500	-1	1.003	342535975	90904716	13298	33245	6836		
443.7399	37.491	37.500	-1	1.003	371649743	96795887	16910	42275	5724	0.92(0.76-1.02)	
OCDD											
457.7377	37.395	37.402	0	1.000	261595073	68219223	11749	29372	5806		
459.7348	37.395	37.402	0	1.000	292099527	76647700	11611	29027	6601	0.90(0.76-1.02)	

Reagents:

HRDXNL5_00025 Amount Added: 1.00 Units: mL

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Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_6.d		
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Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

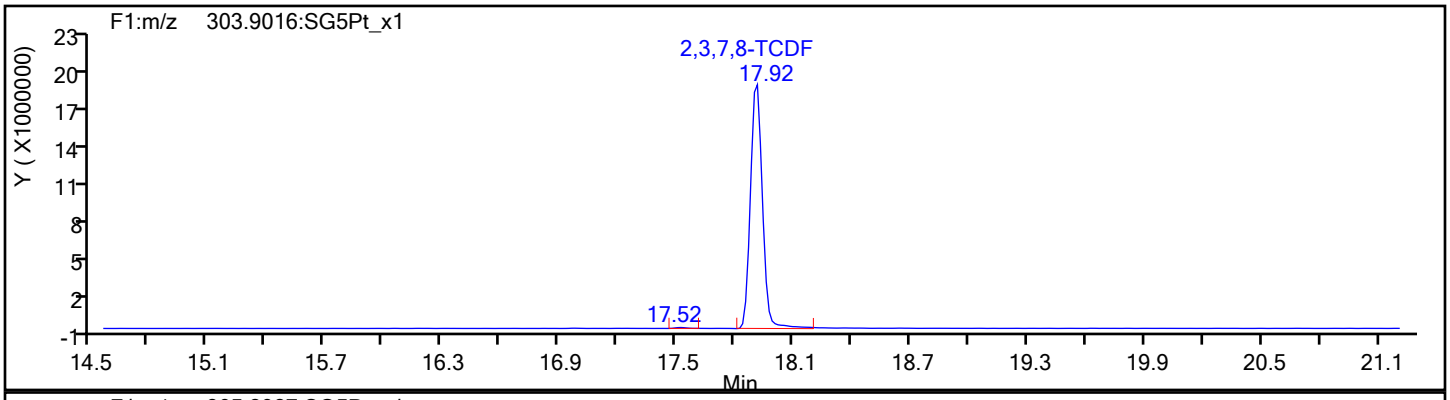

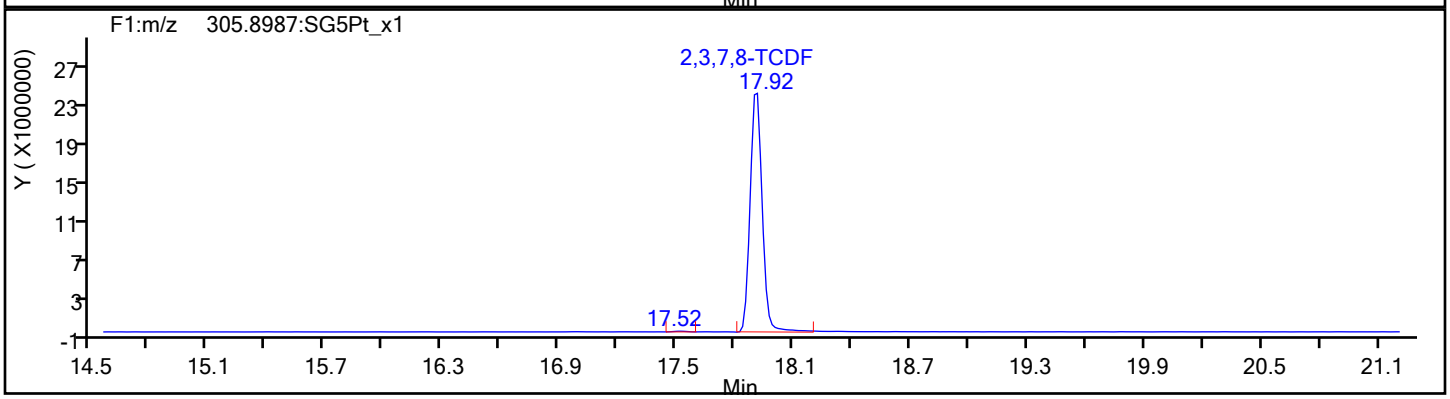

TCDF Standards

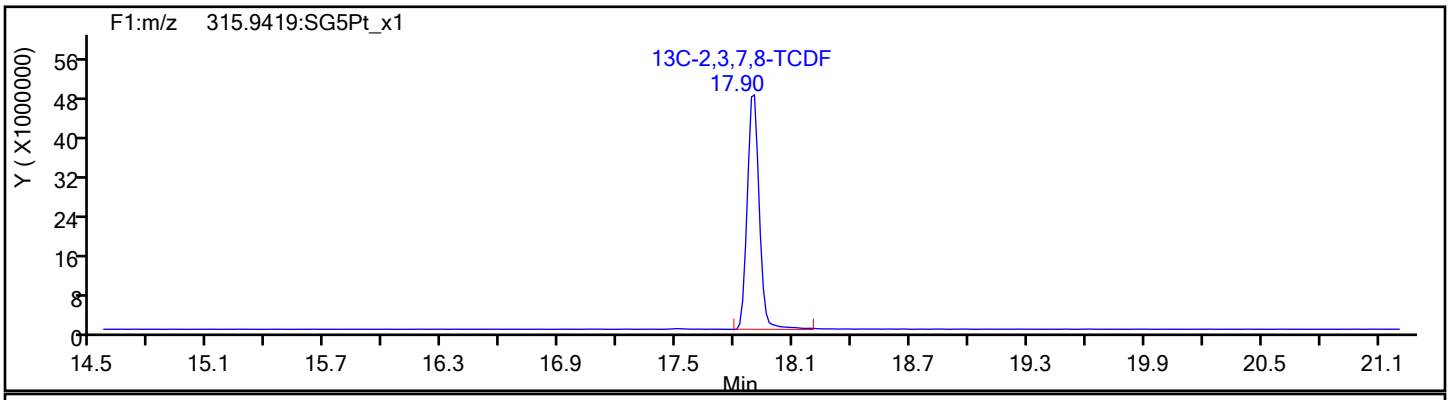

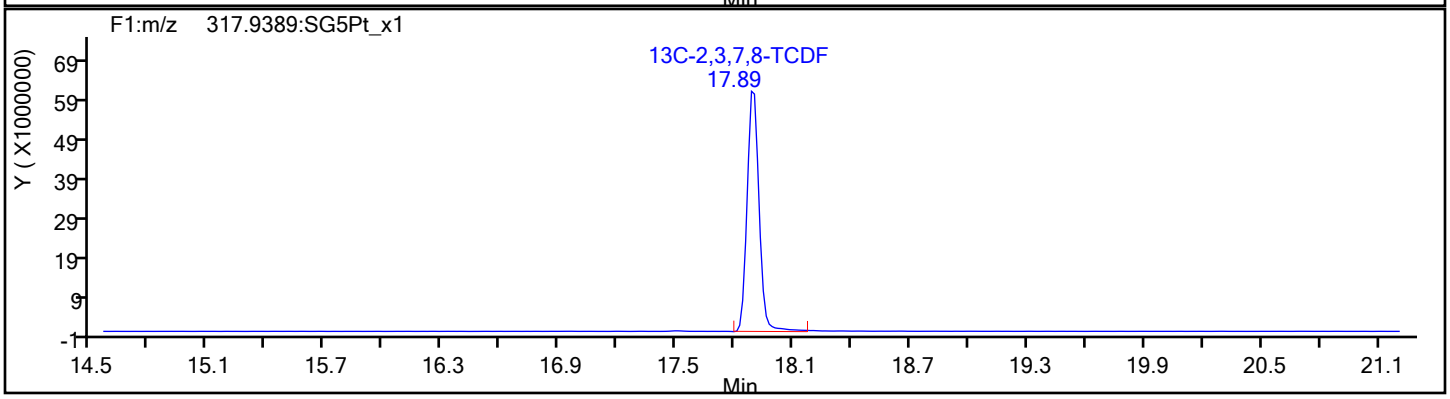

Report Date: 22-May-2019 11:44:50 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

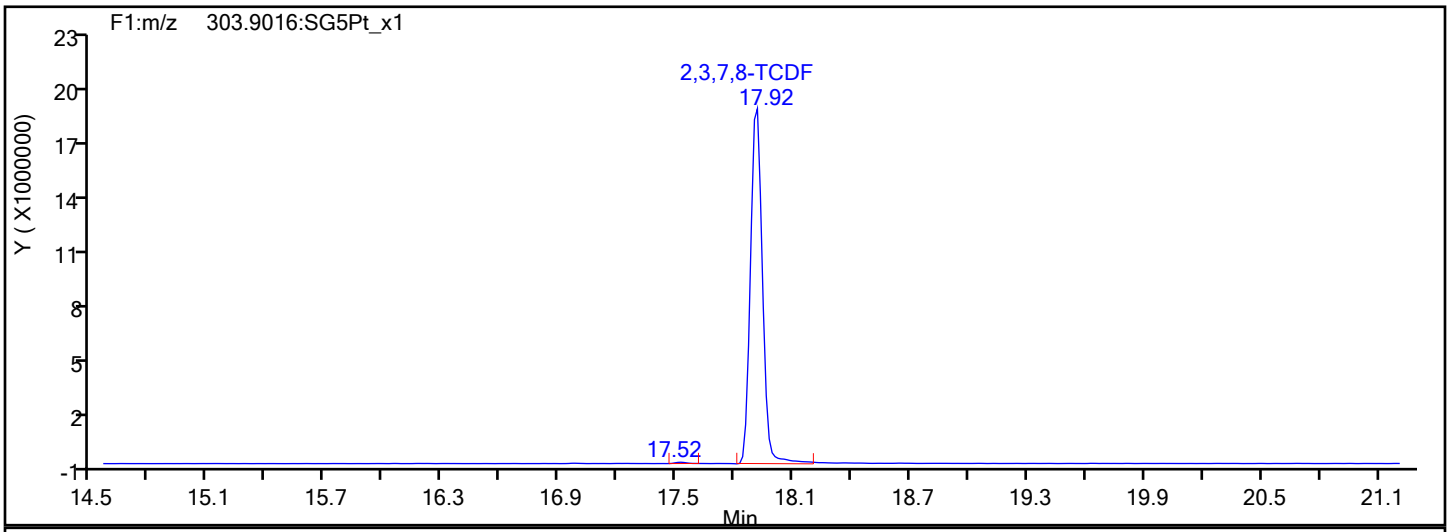

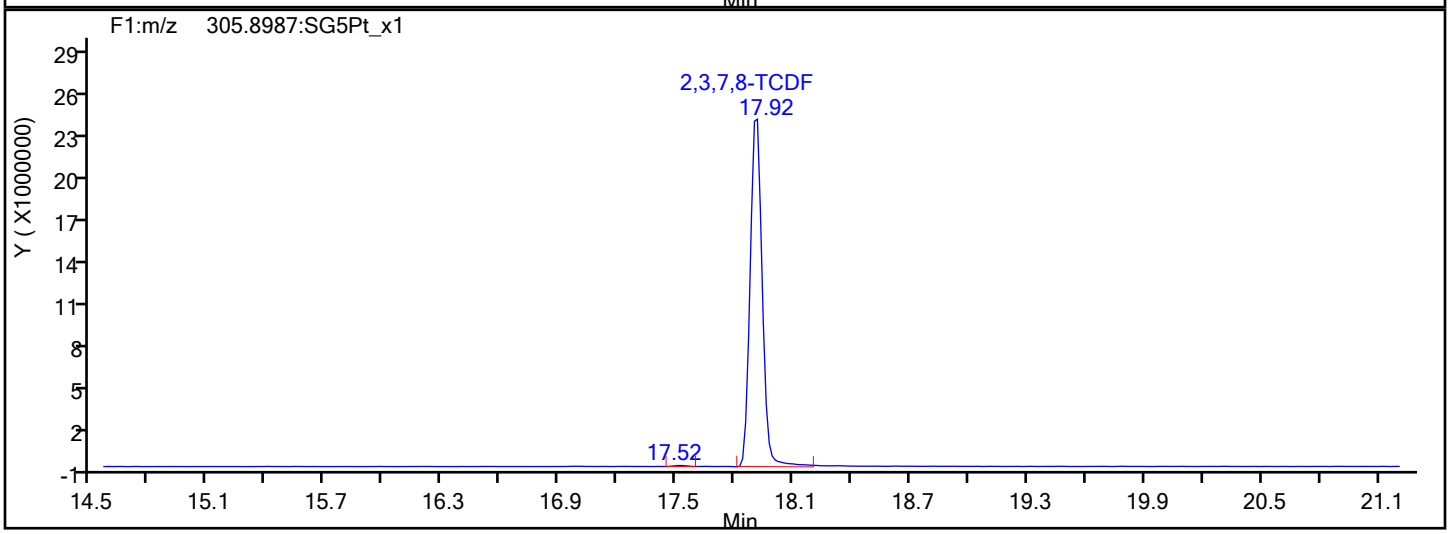

TCDF Interference Mass

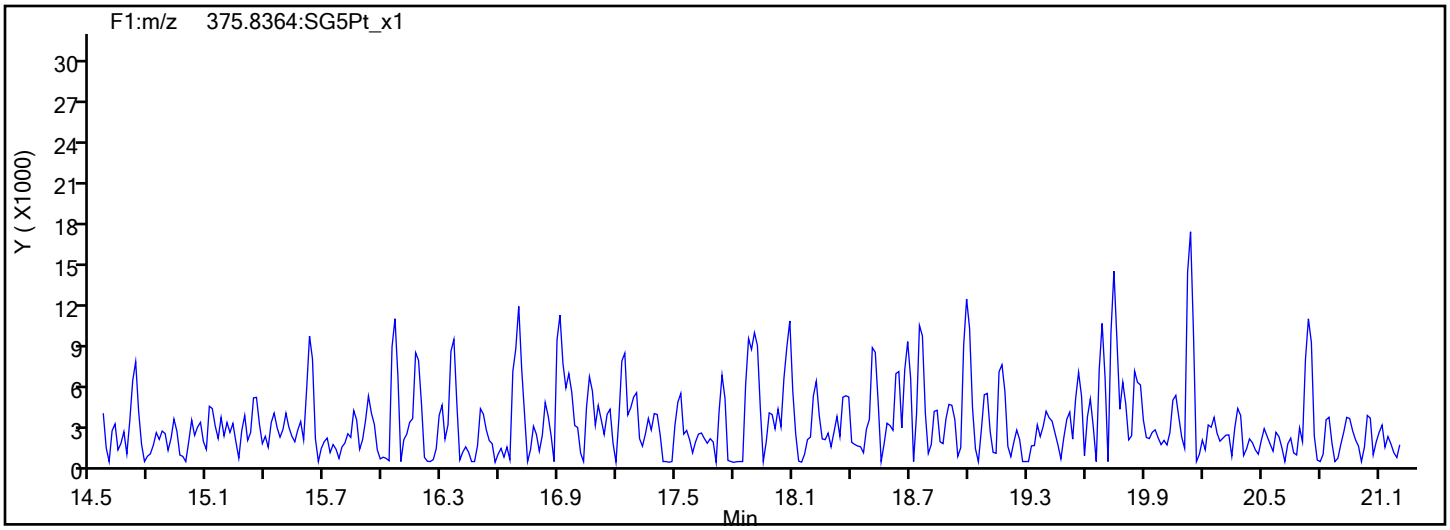

Report Date: 22-May-2019 11:44:50 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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TCDD

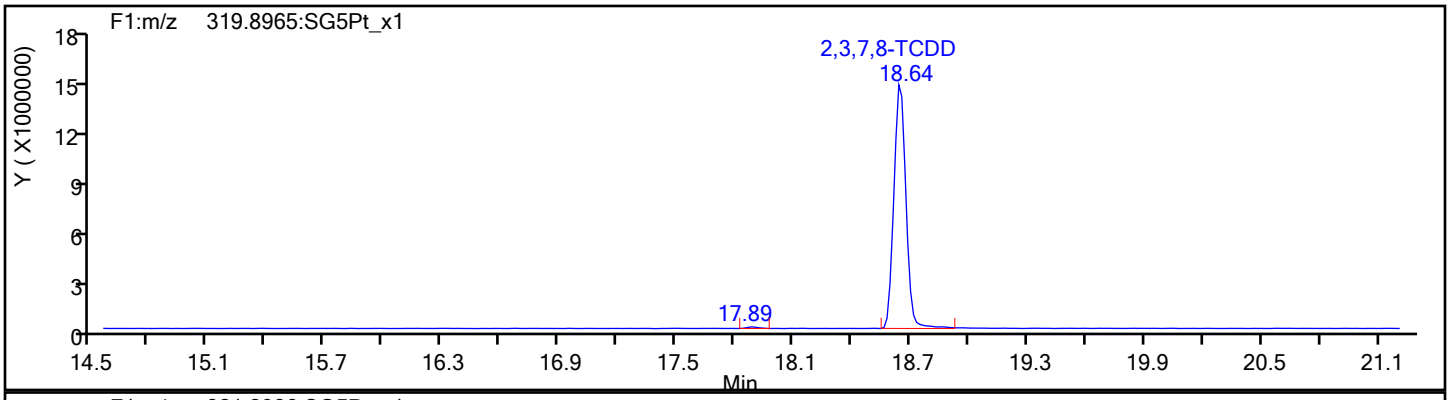

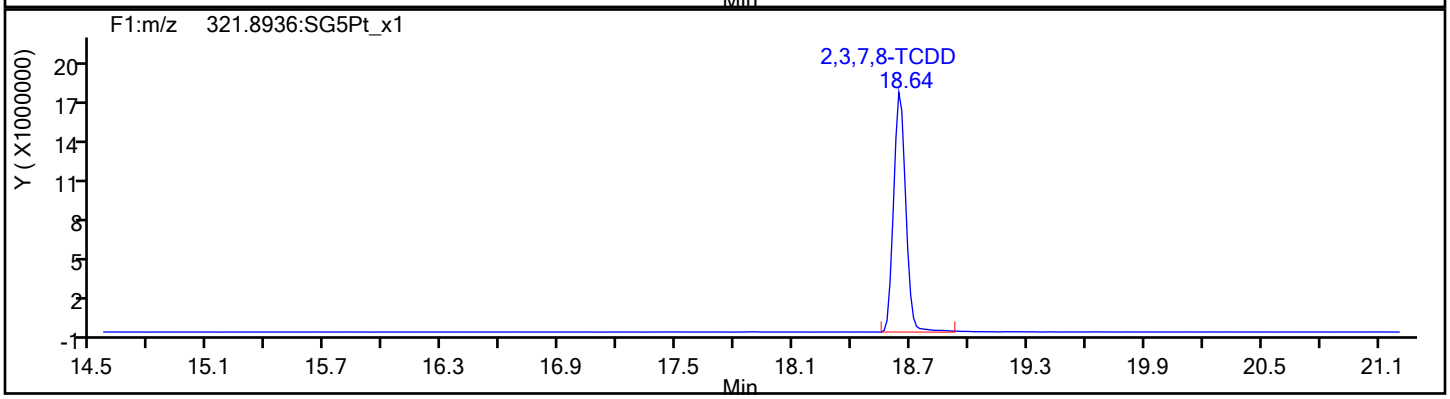

TCDD Standards

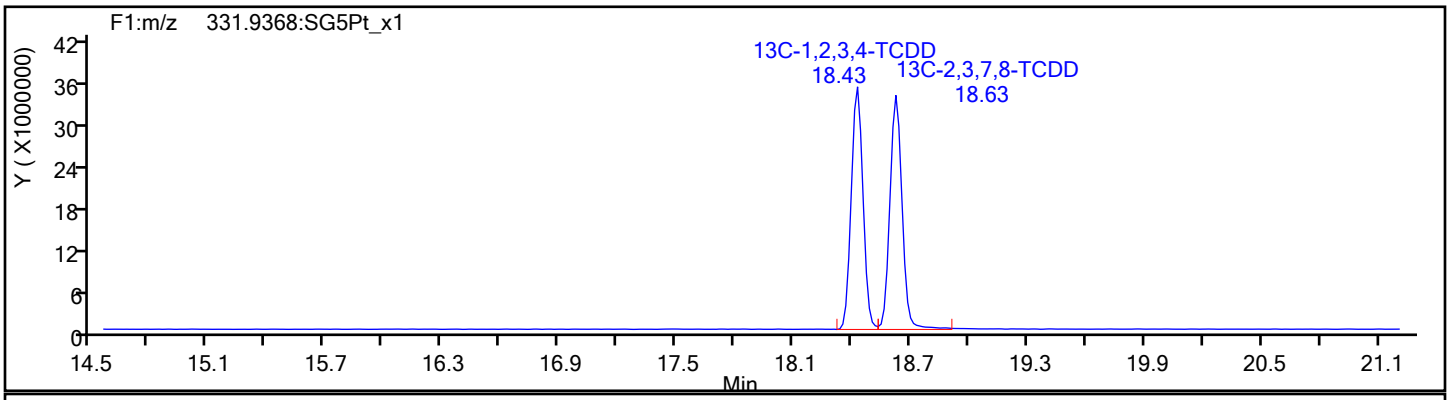

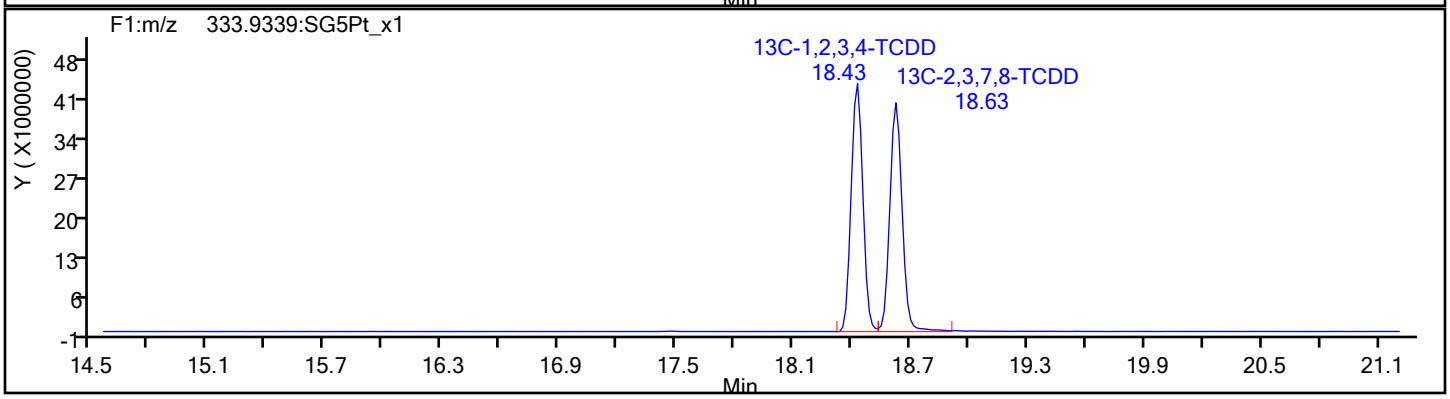

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Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

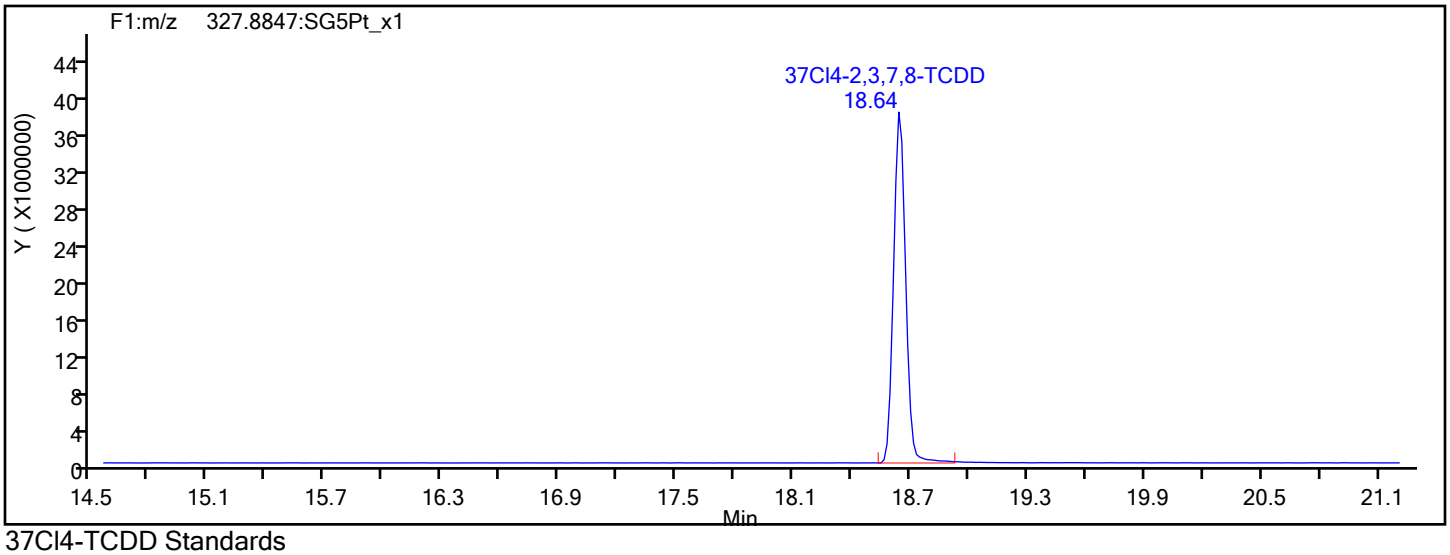

37Cl4-TCDD Standards

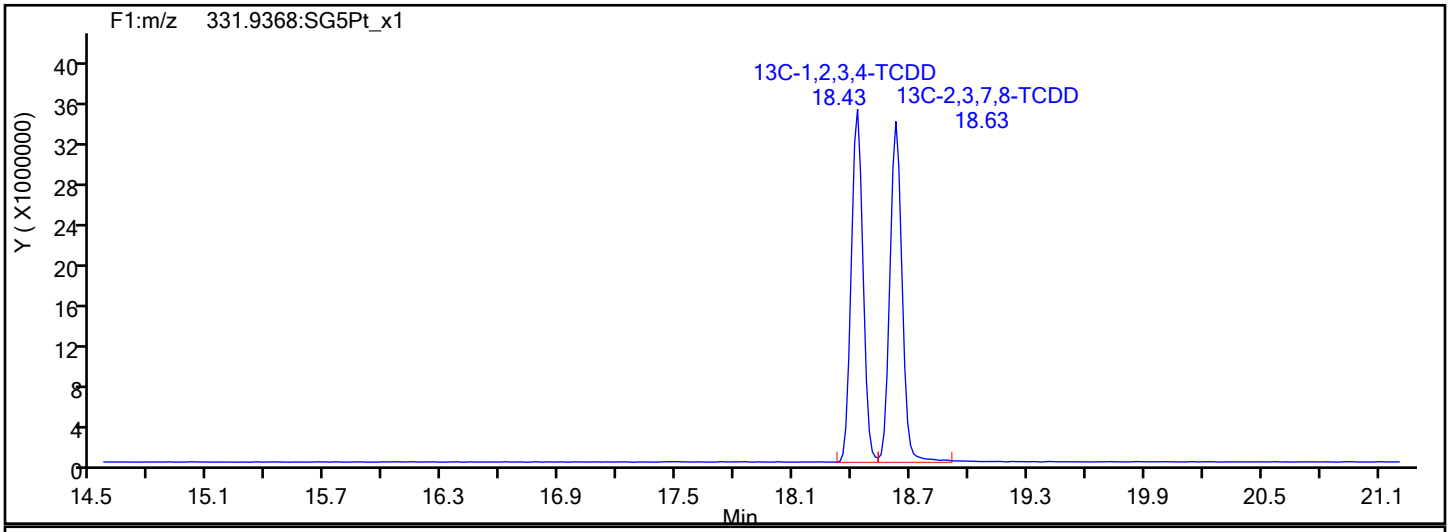

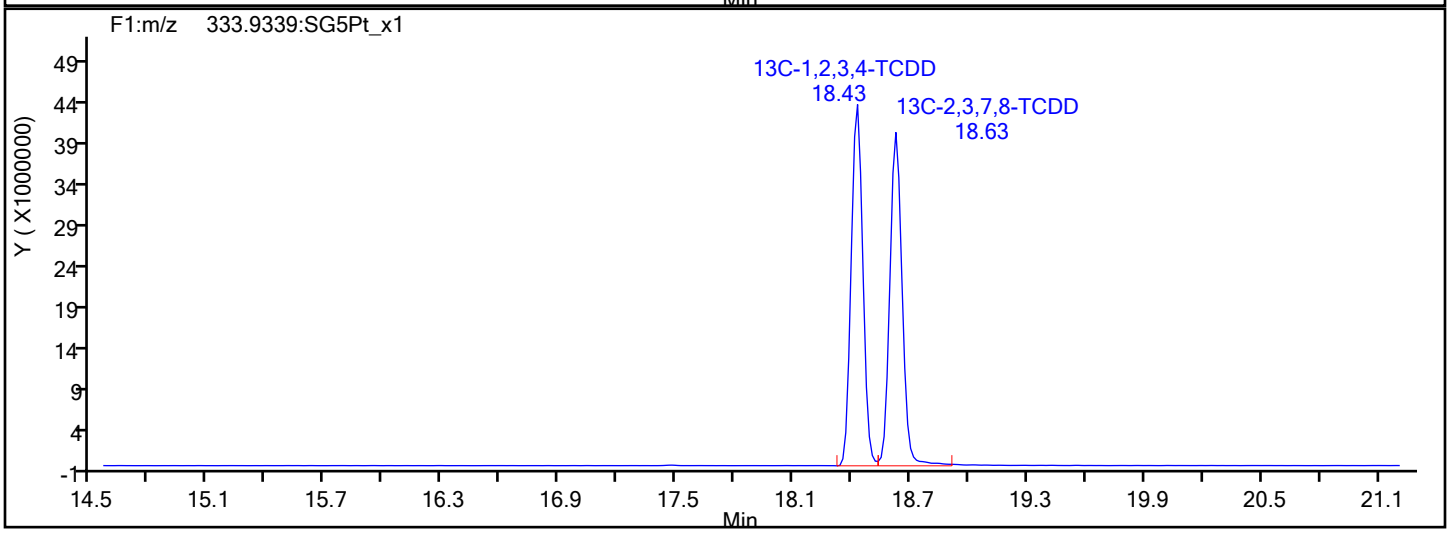

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

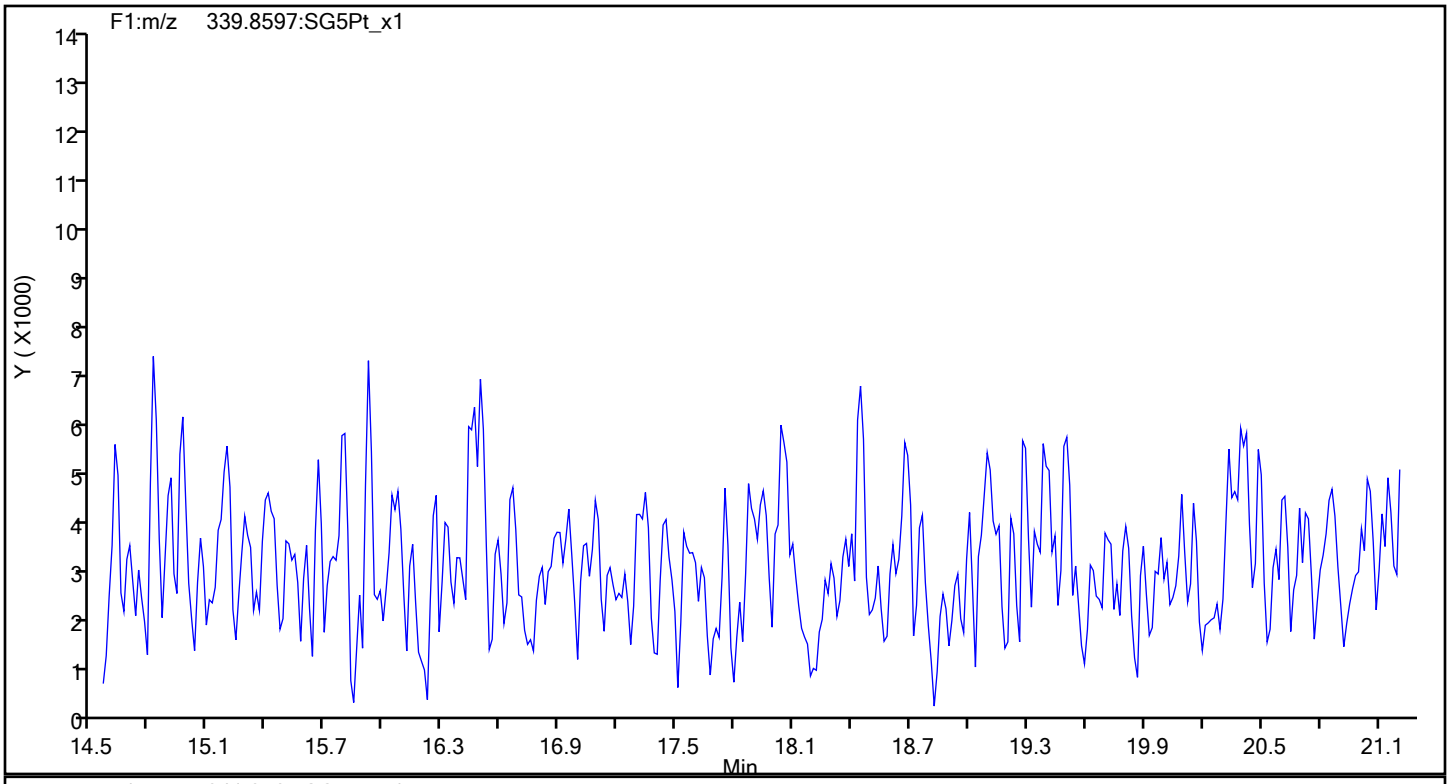

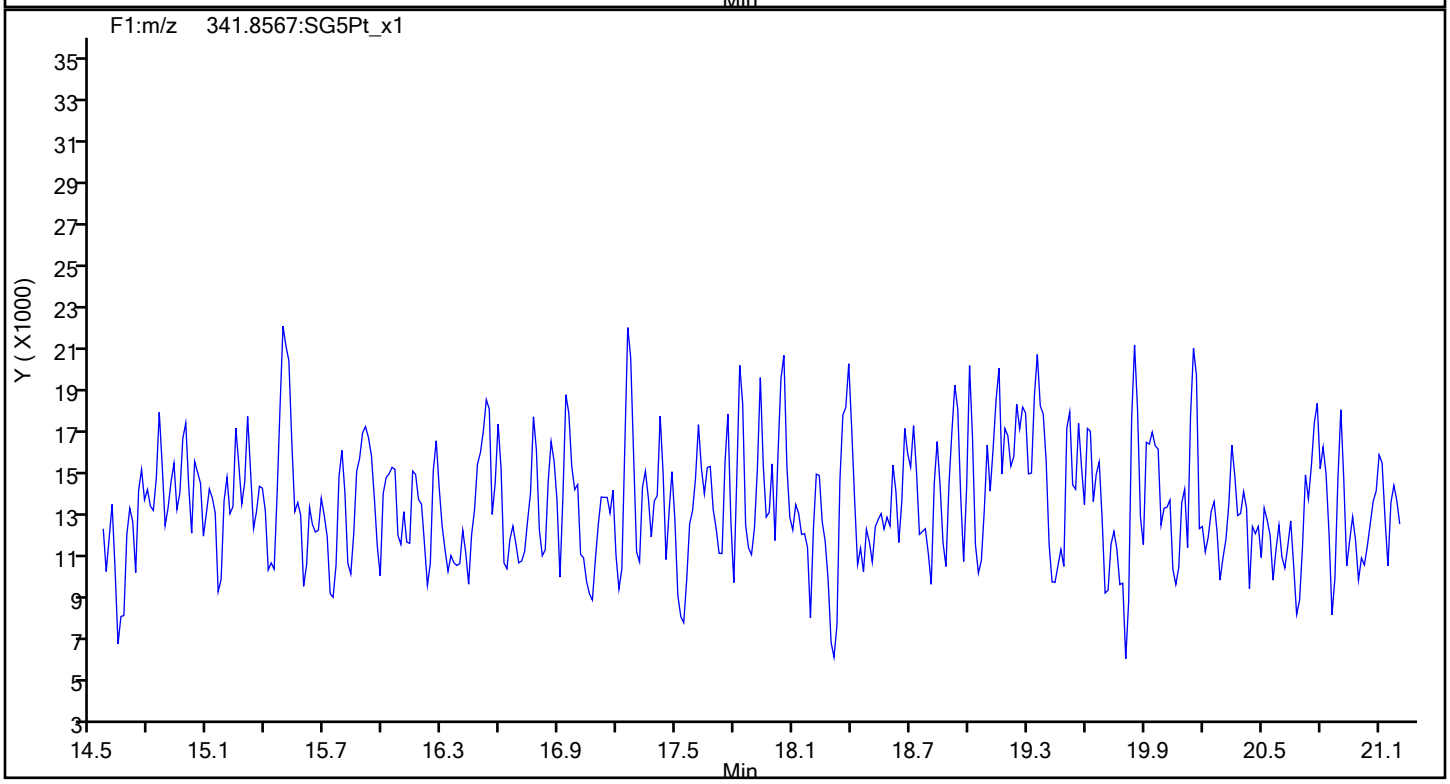

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

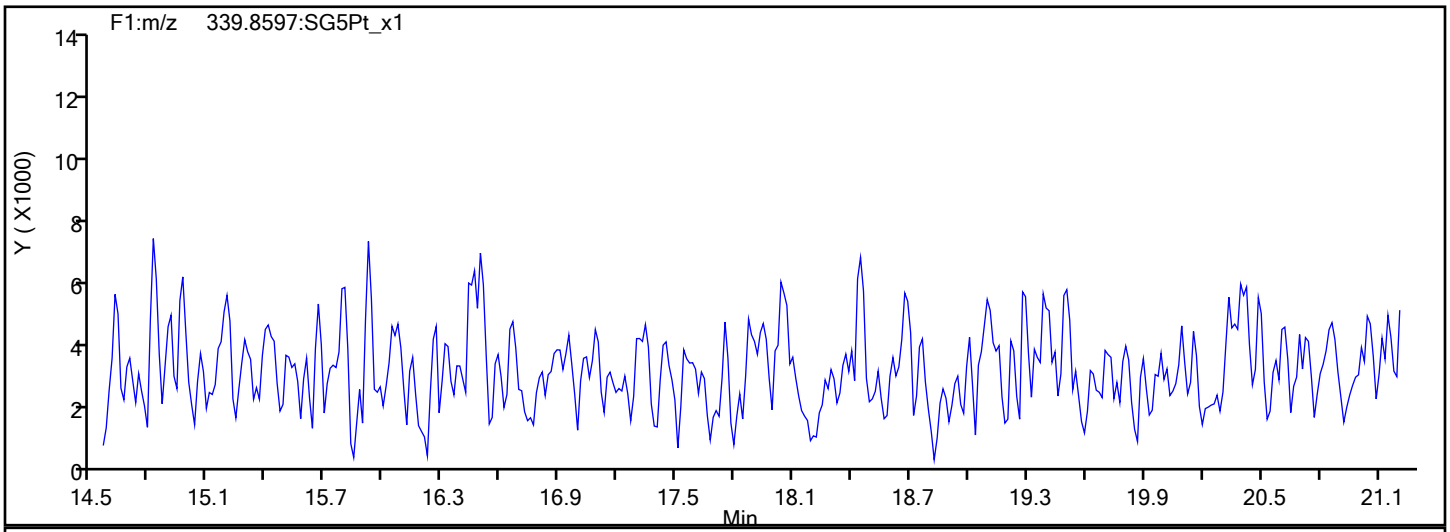

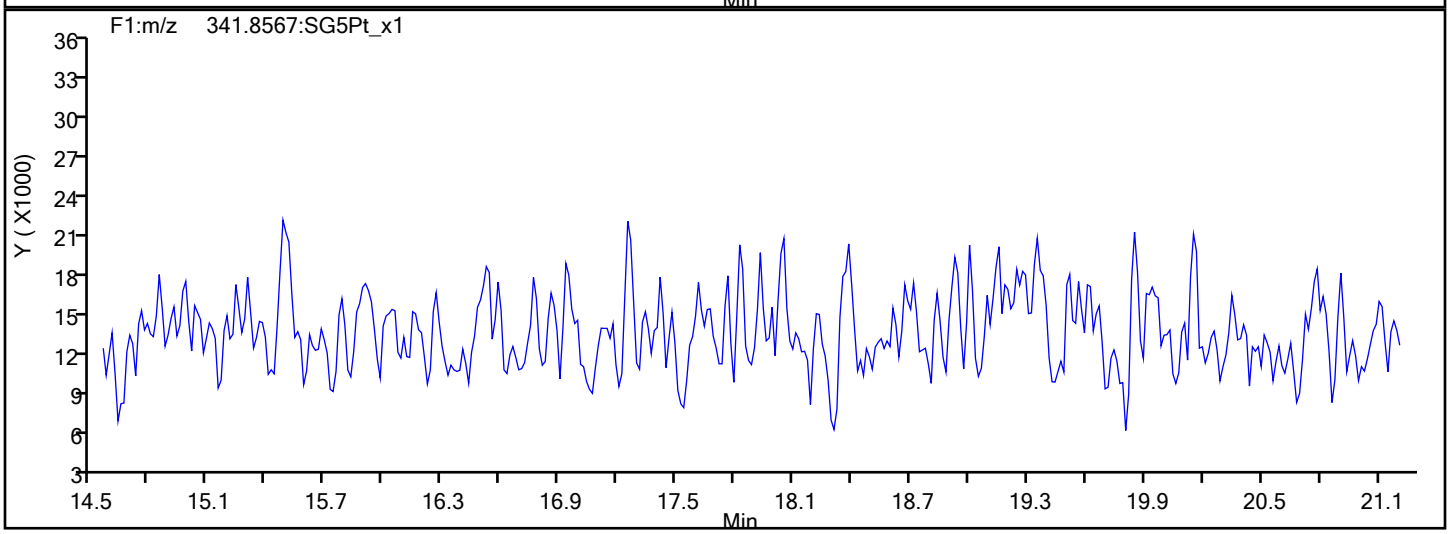

F1 PeCDFs Interference Mass

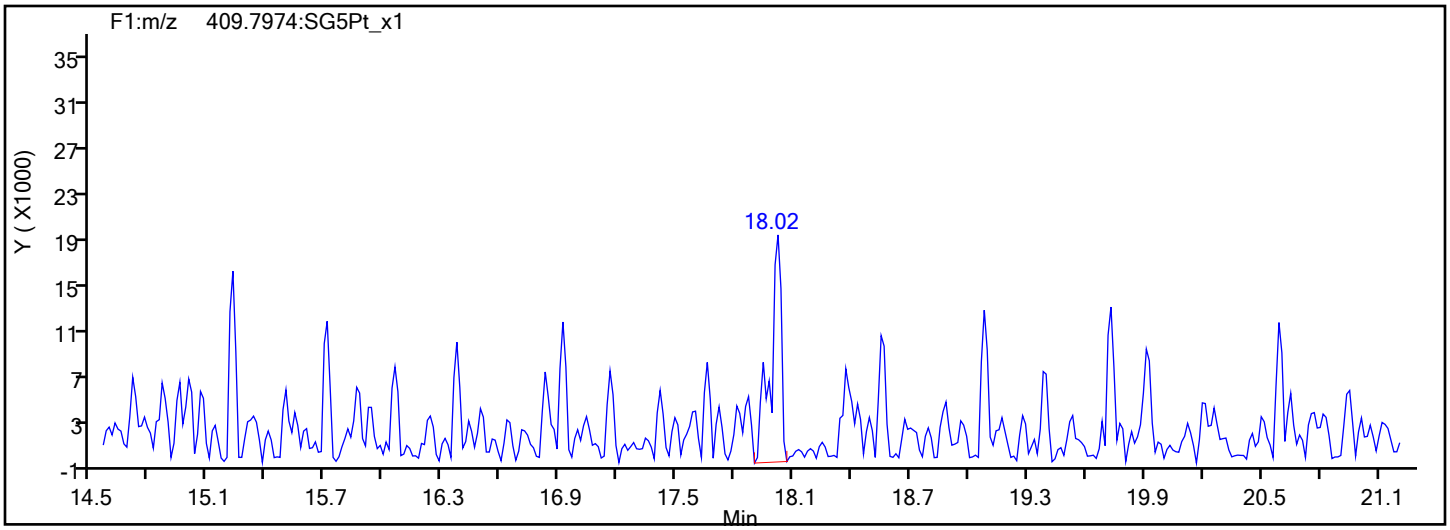

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Eurofins TestAmerica, Sacramento

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PeCDF

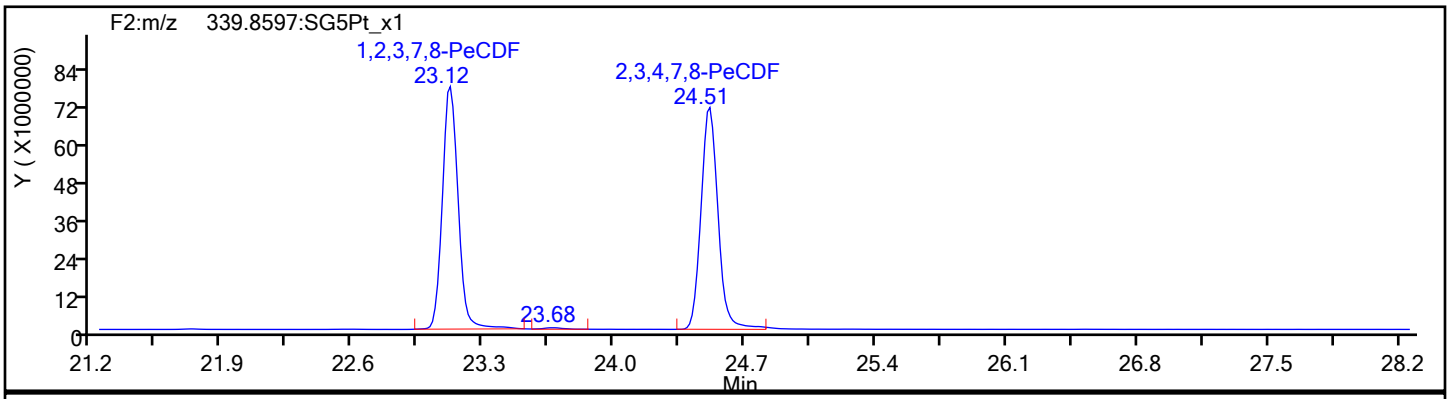

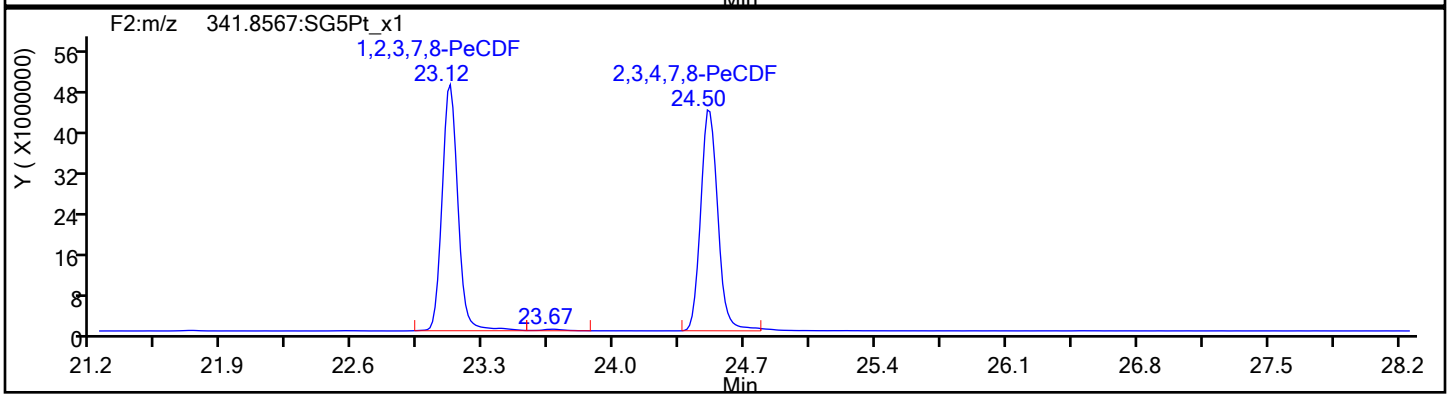

PeCDF Standards

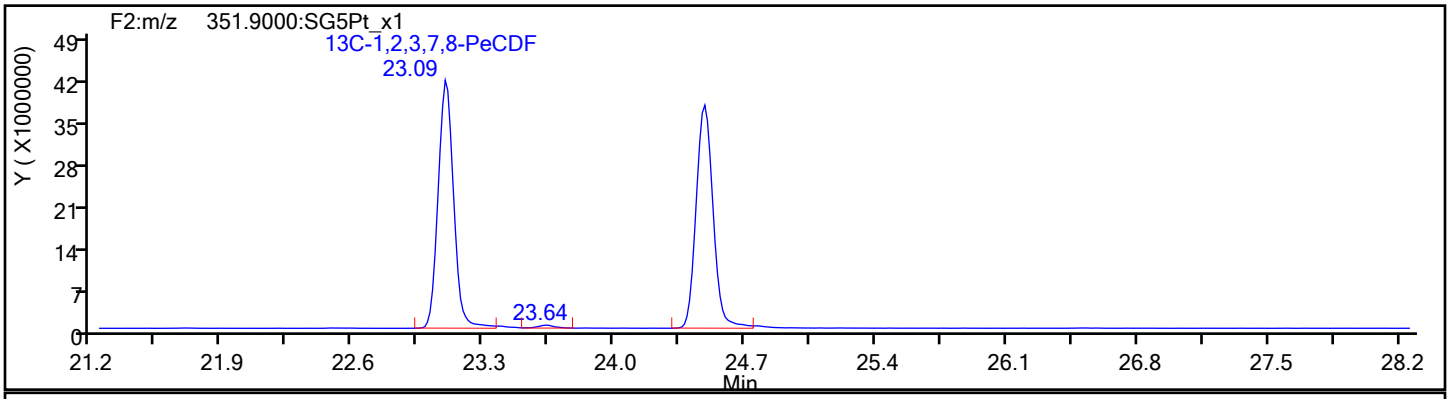

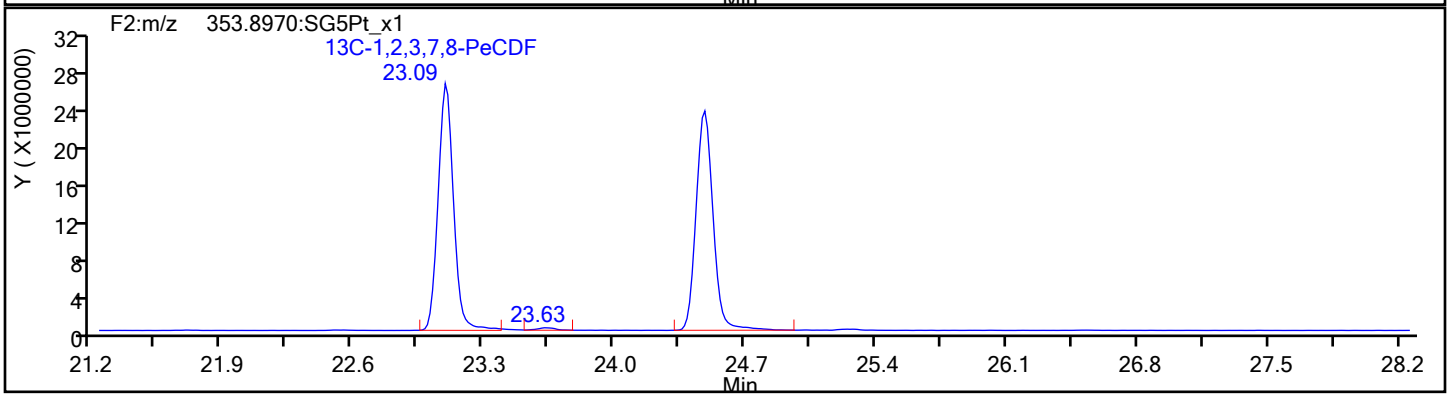

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Eurofins TestAmerica, Sacramento

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PeCDF

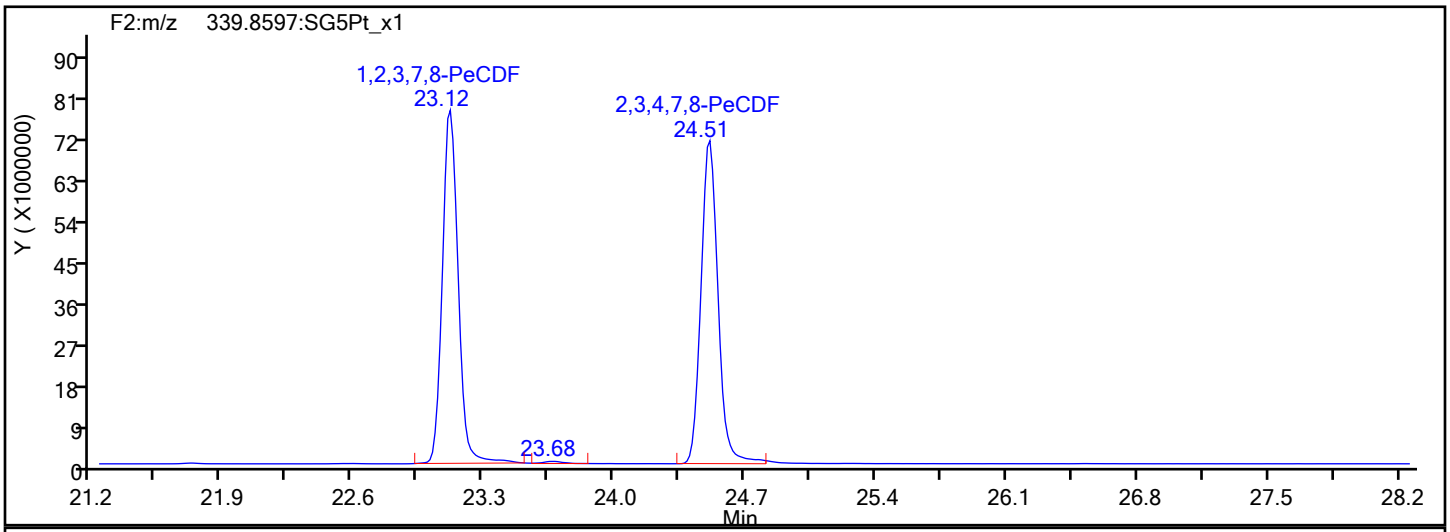

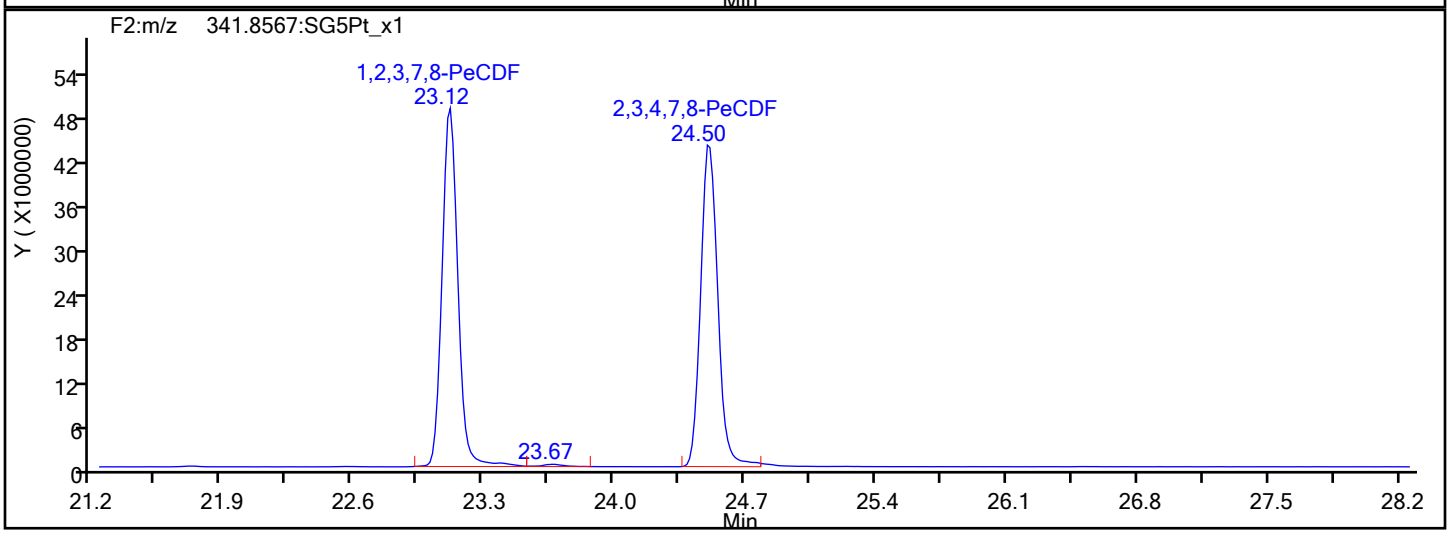

PeCDF Interference Mass

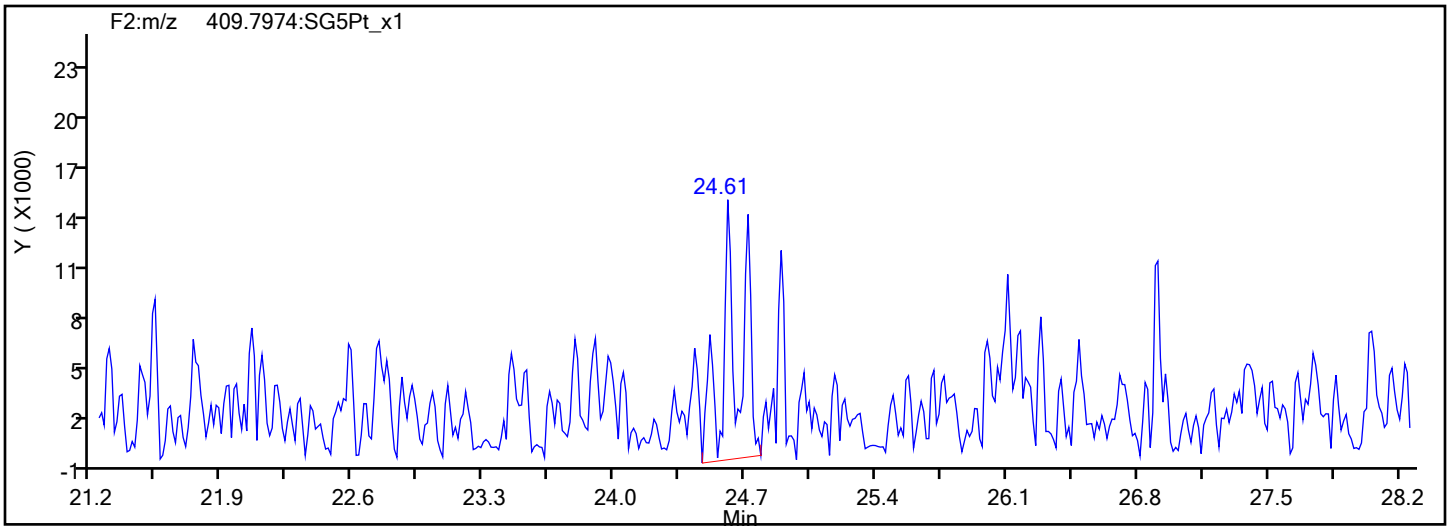

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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PeCDD

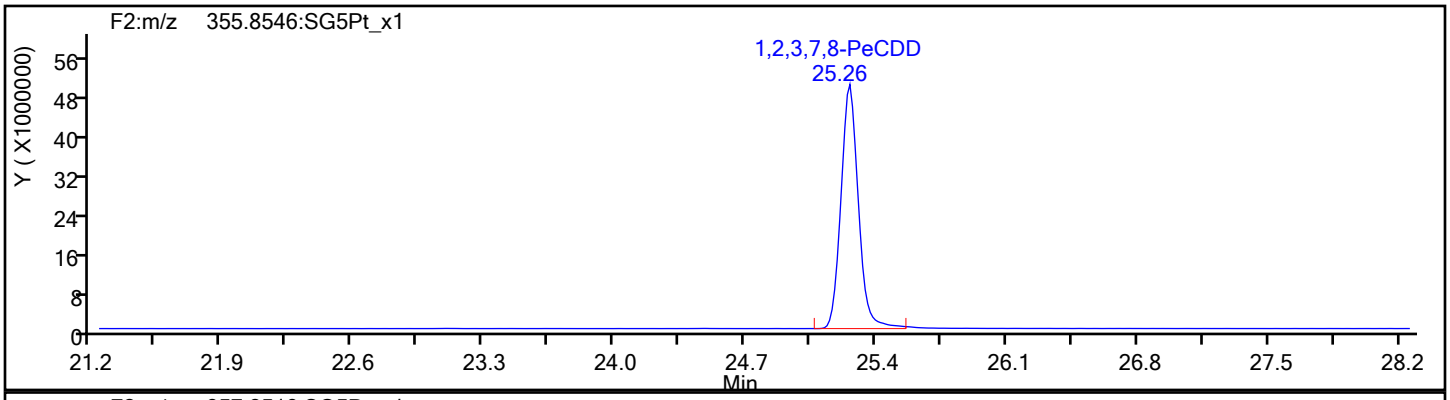

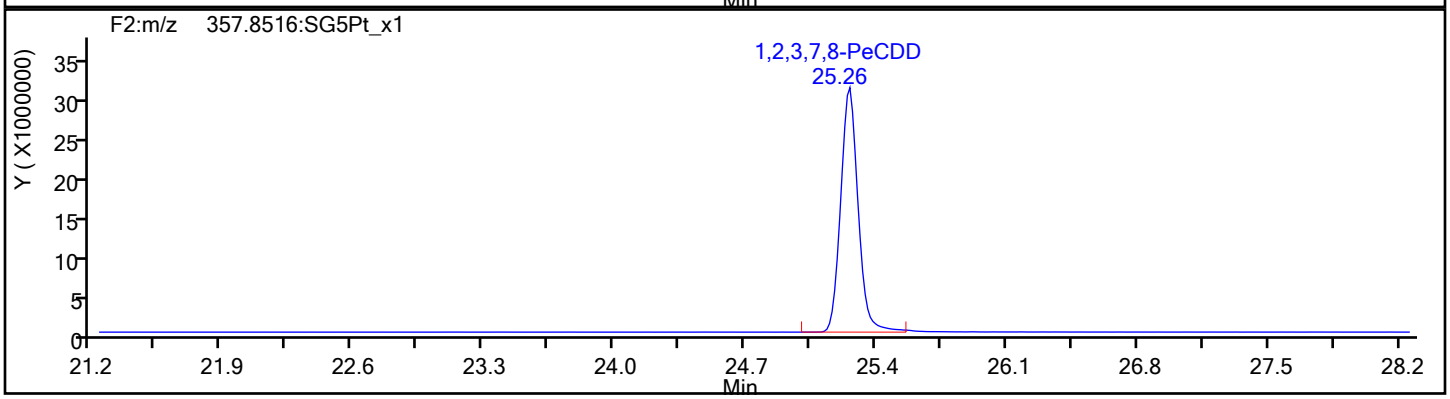

PeCDD Standards

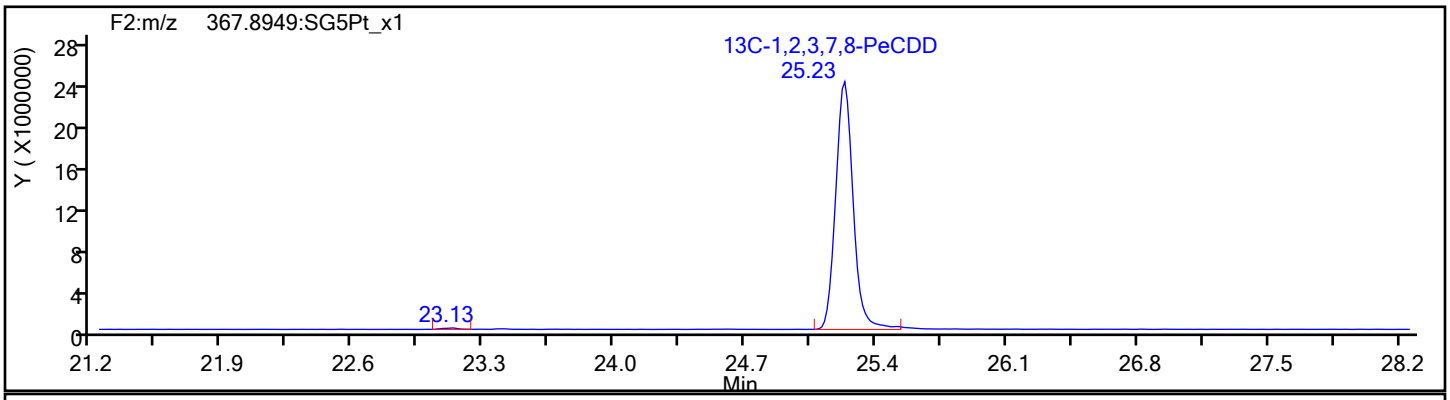

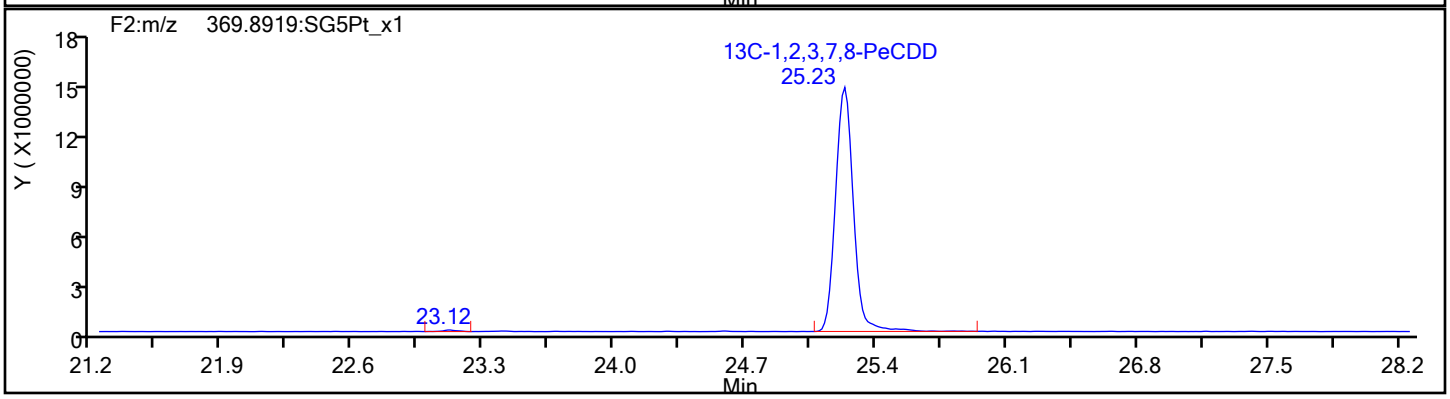

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
Worklist#:	296020	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

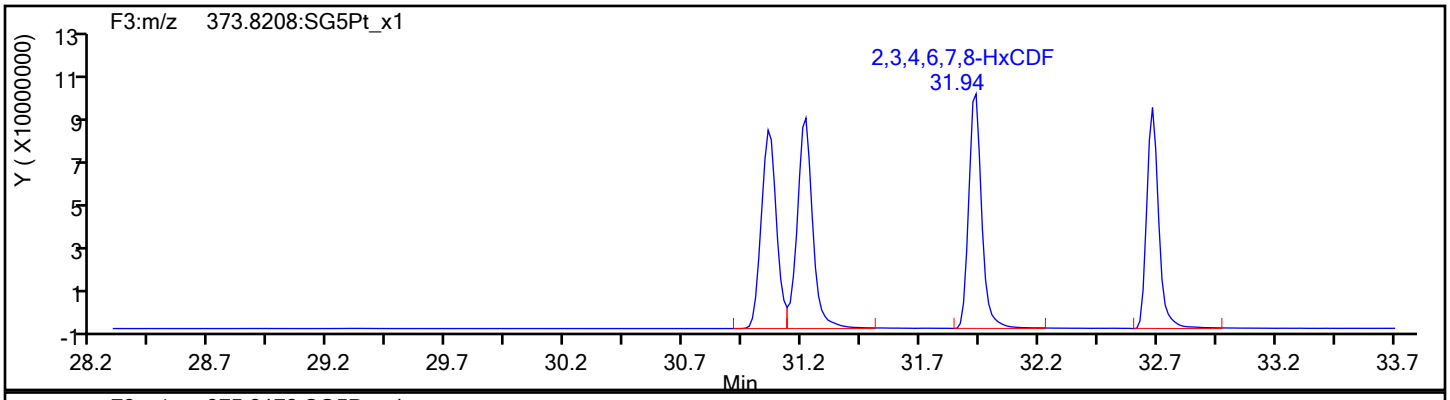

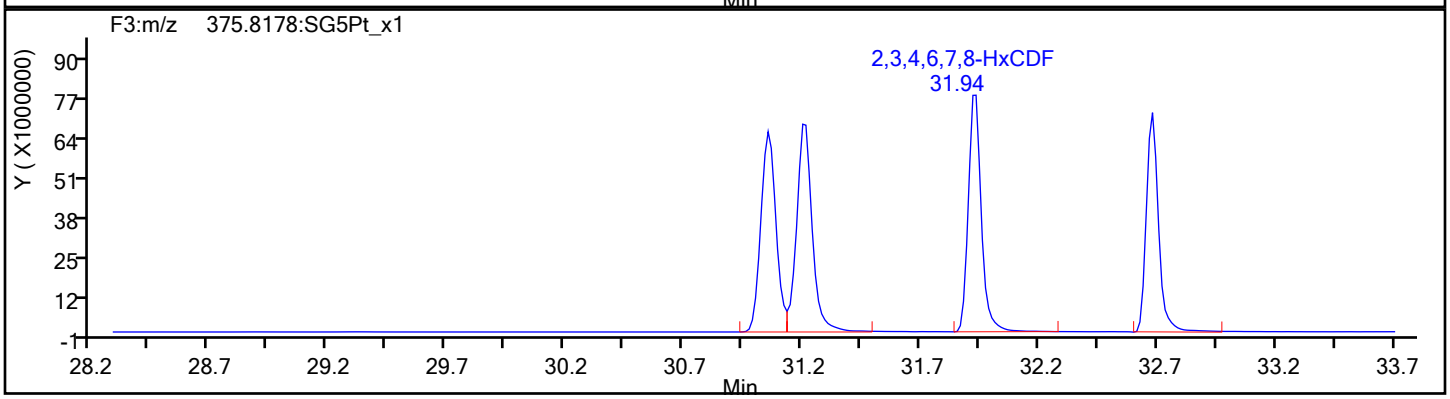

HxCDF Standards

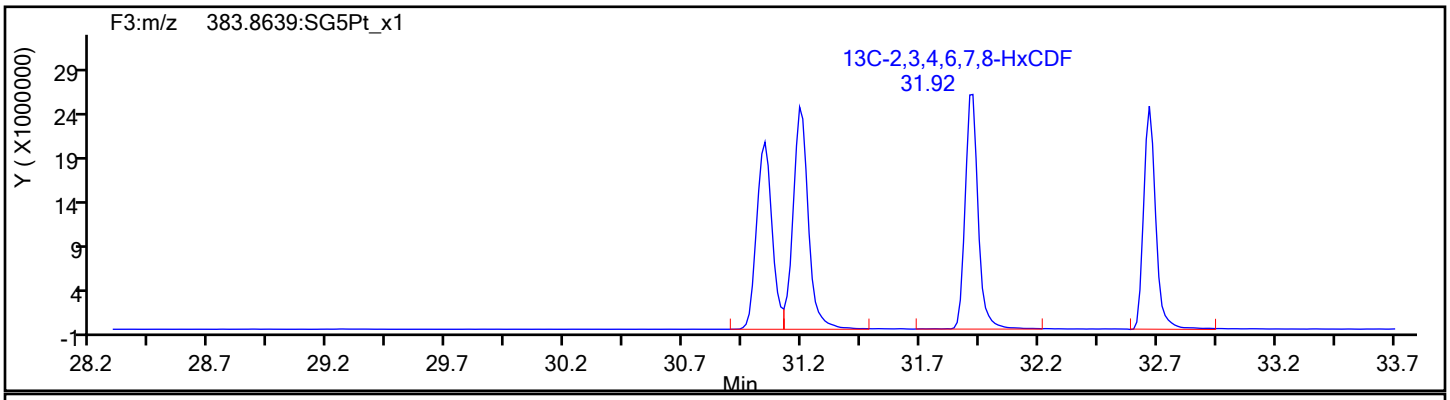

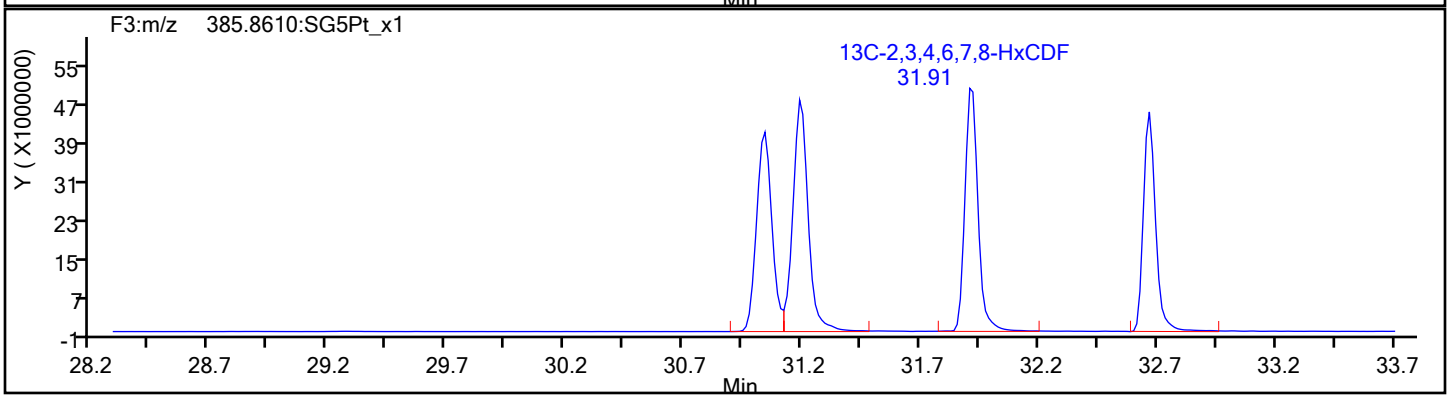

Report Date: 22-May-2019 11:44:50 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_6.d		
Injection Date:	21-May-2019 15:53:46	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
Worklist#:	296020	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

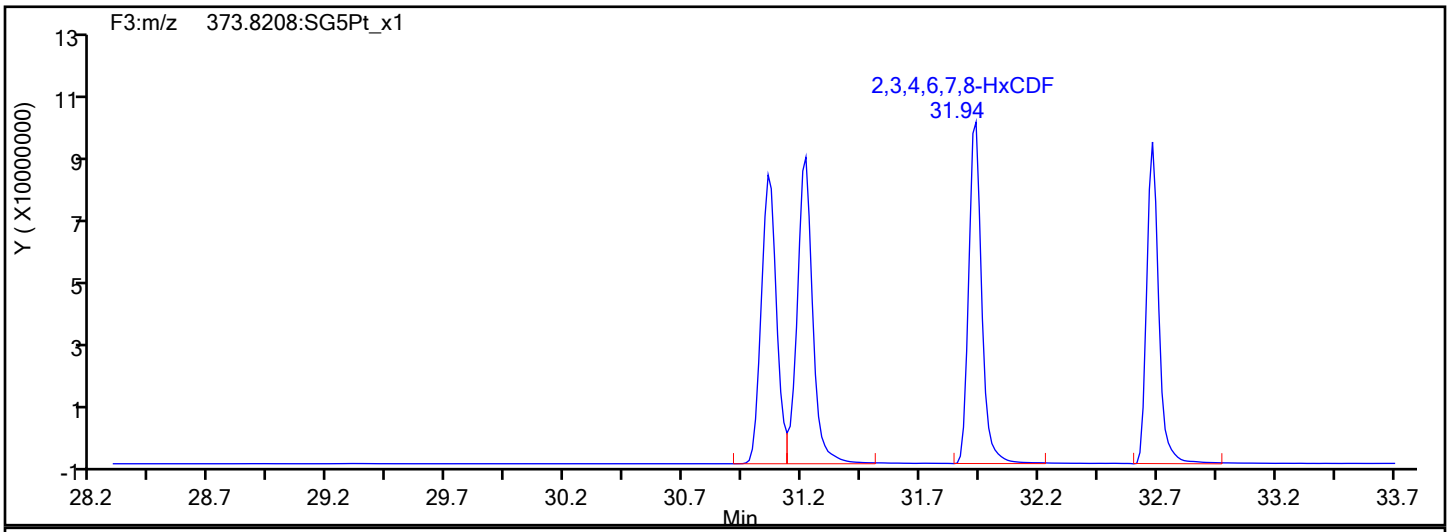

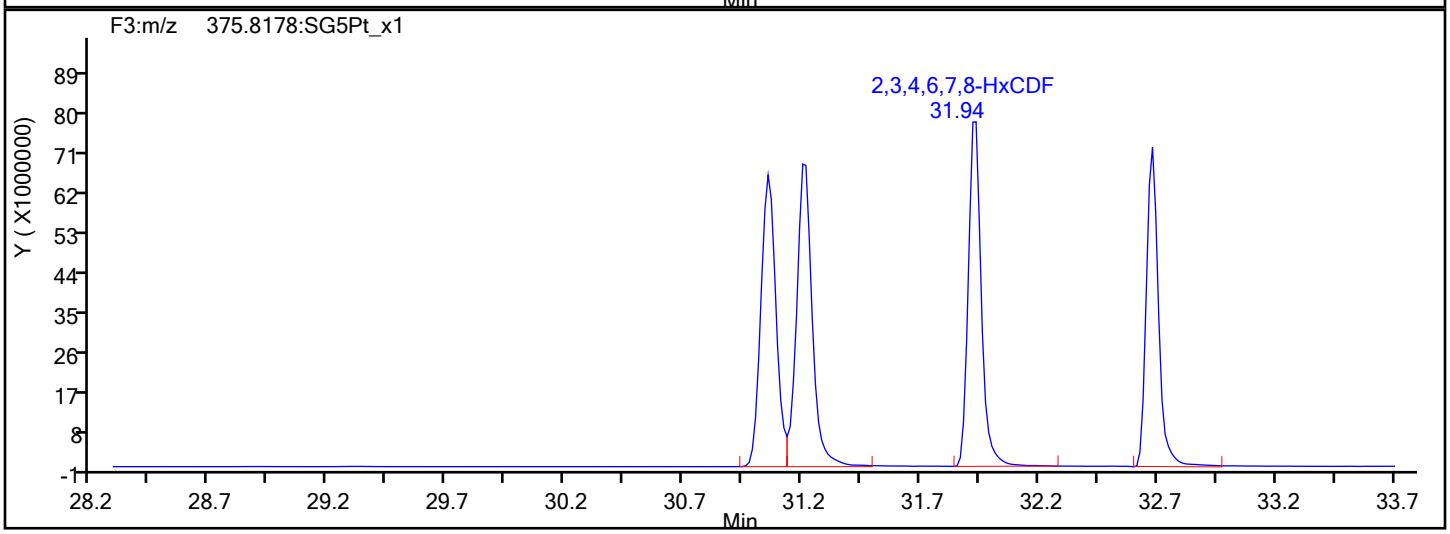

HxCDF Interference Mass

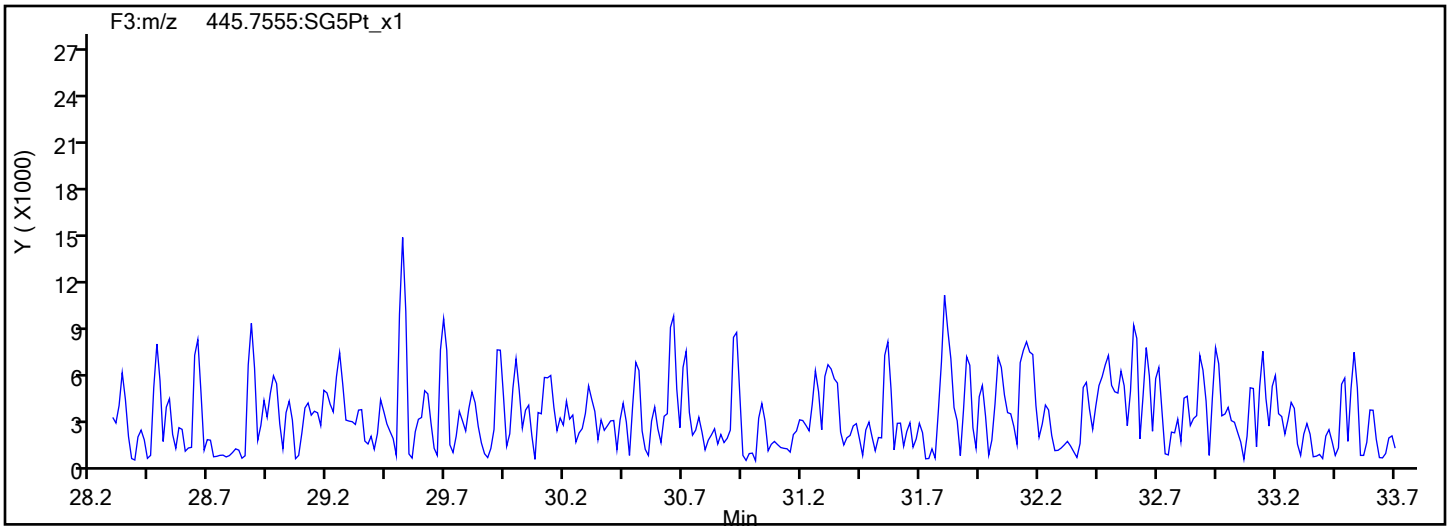

Report Date: 22-May-2019 11:44:50 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_6.d		
Injection Date:	21-May-2019 15:53:46	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
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Column Type:	DB-5	Column Dia:	0.32 mm

HxCDD

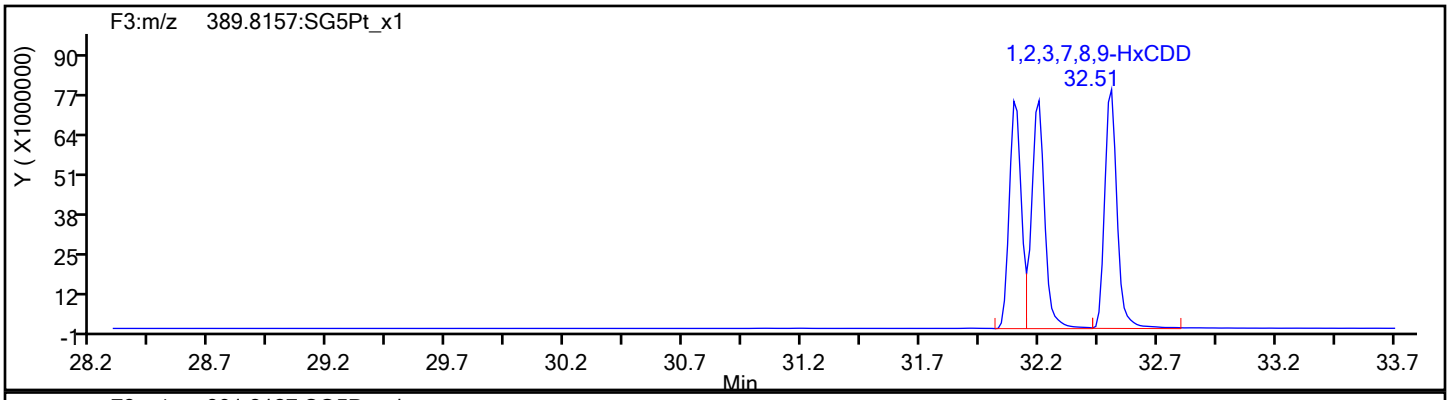

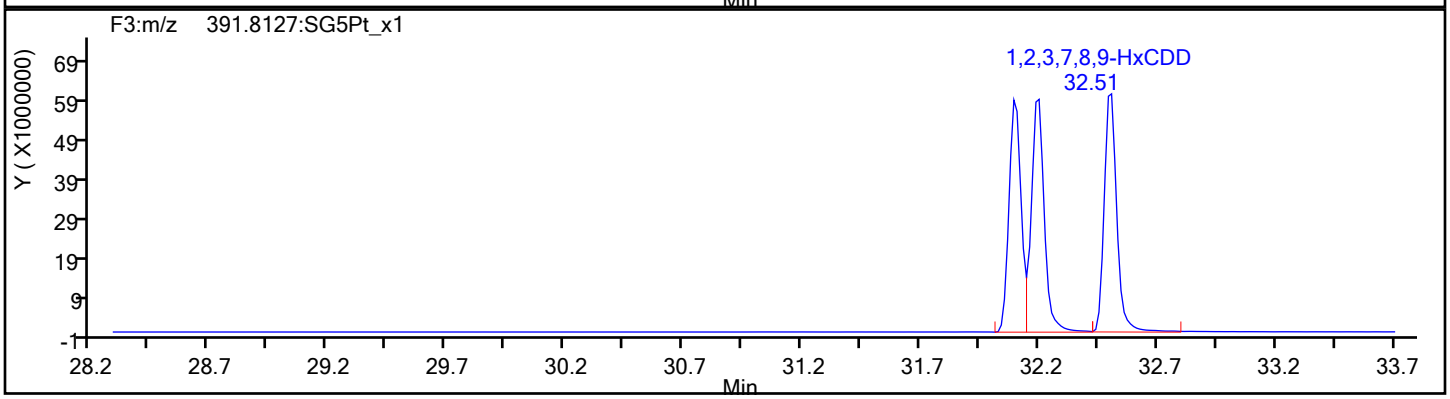

HxCDD Standards

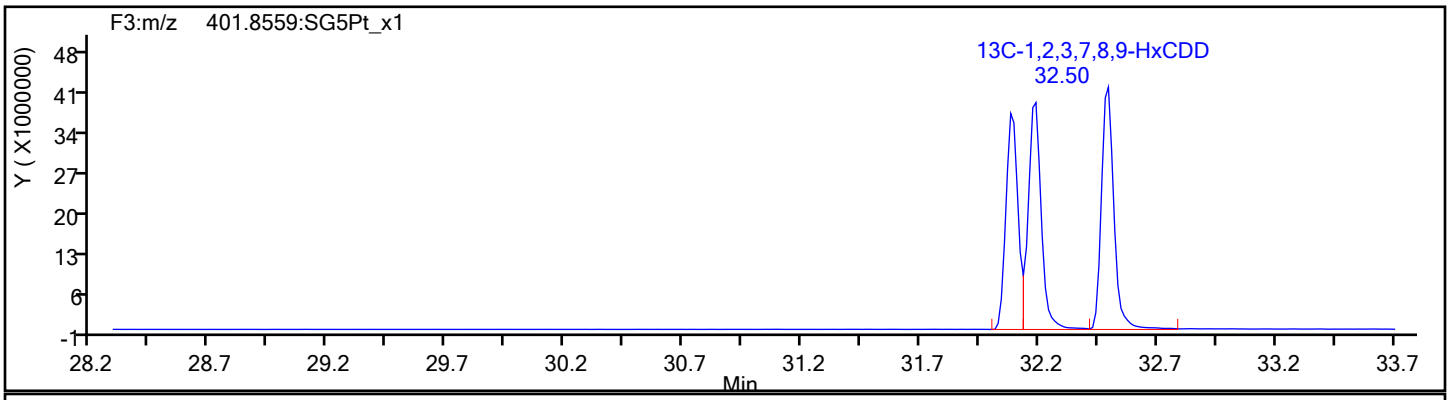

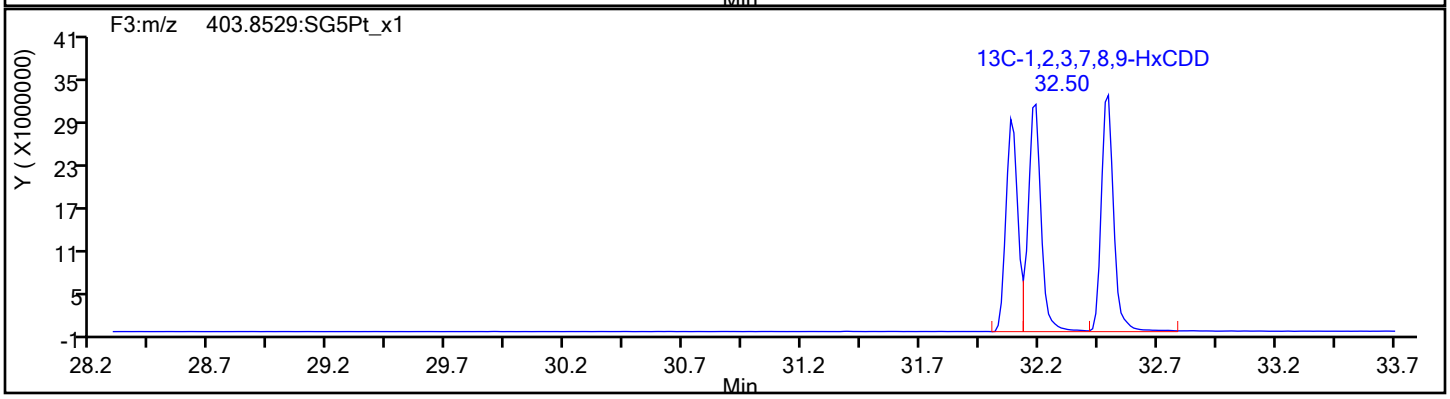

Report Date: 22-May-2019 11:44:50 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_6.d		
Injection Date:	21-May-2019 15:53:46	Injection Vol:	2.0 ul
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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

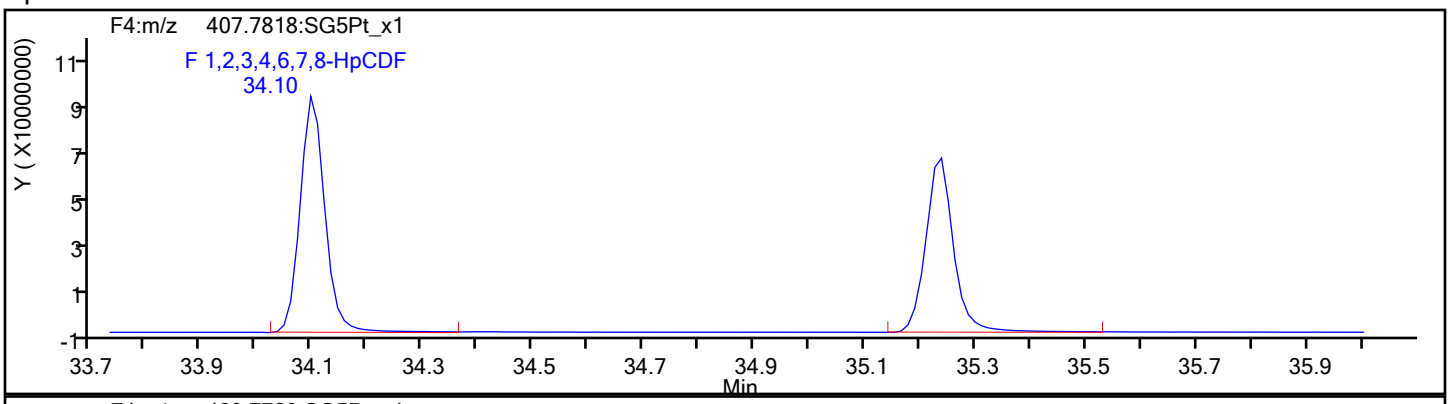

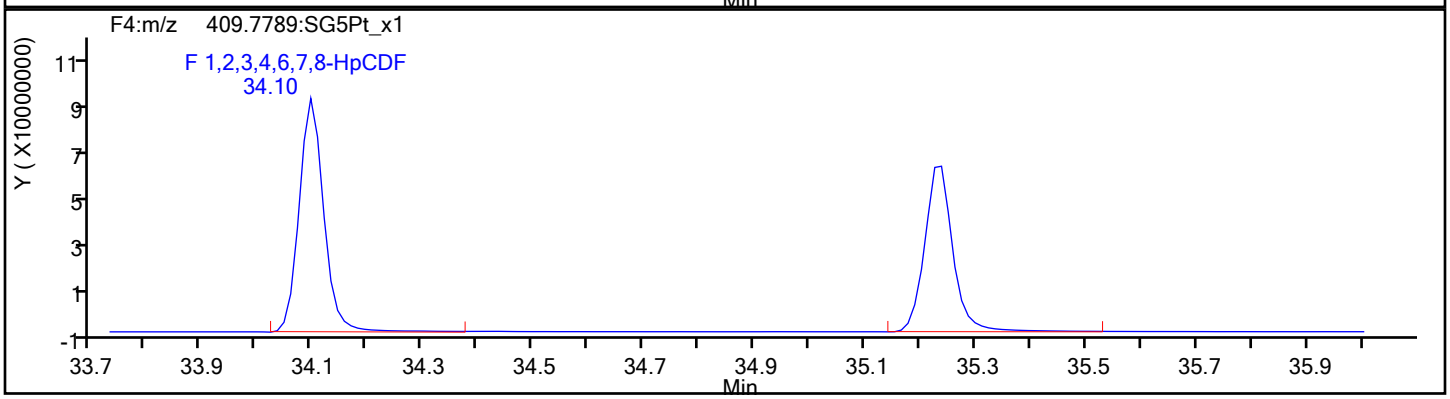

HpCDF Standards

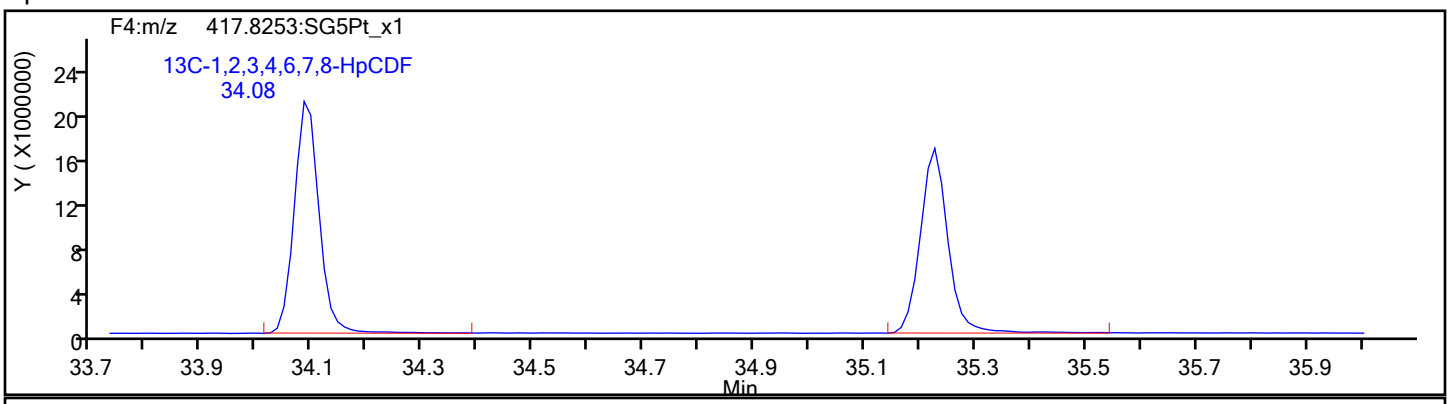

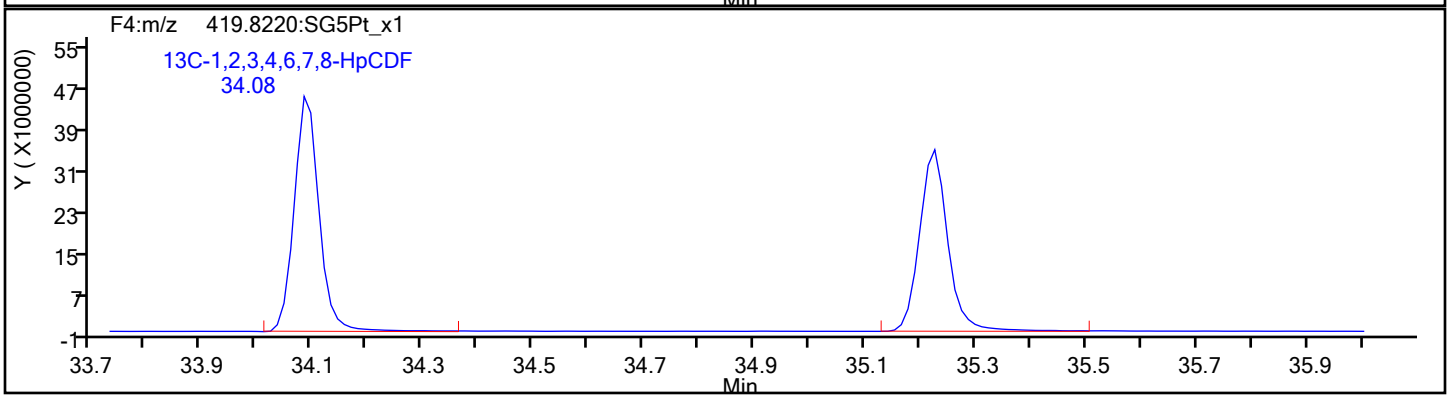

Report Date: 22-May-2019 11:44:50 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_6.d		
Injection Date:	21-May-2019 15:53:46	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

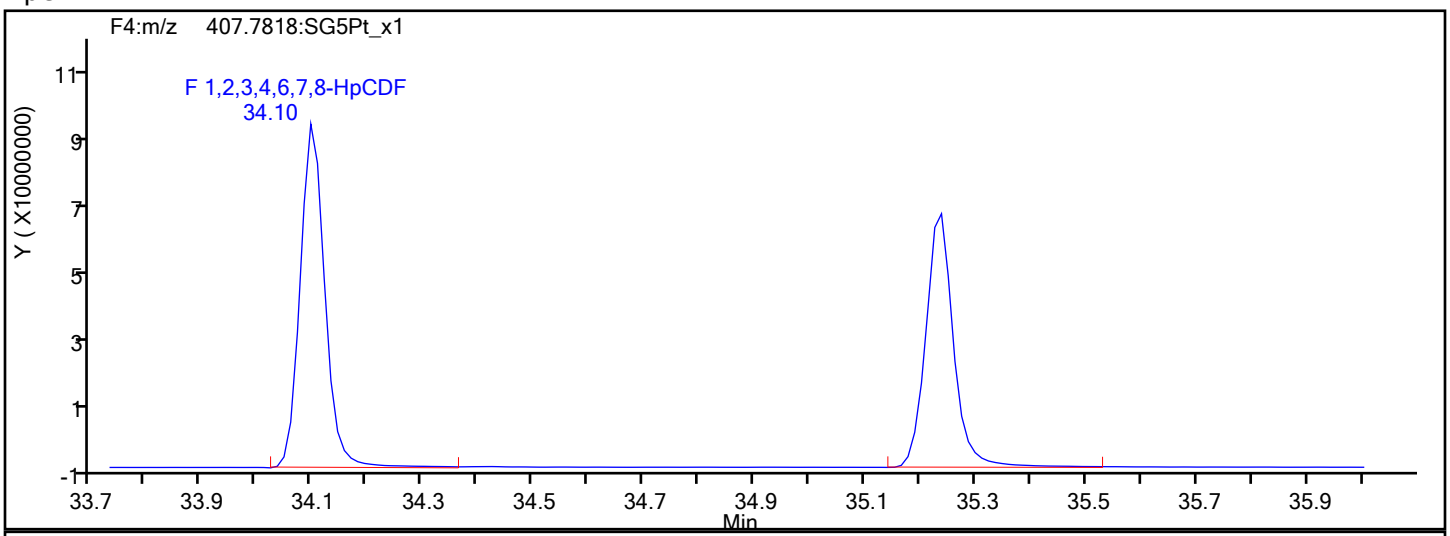

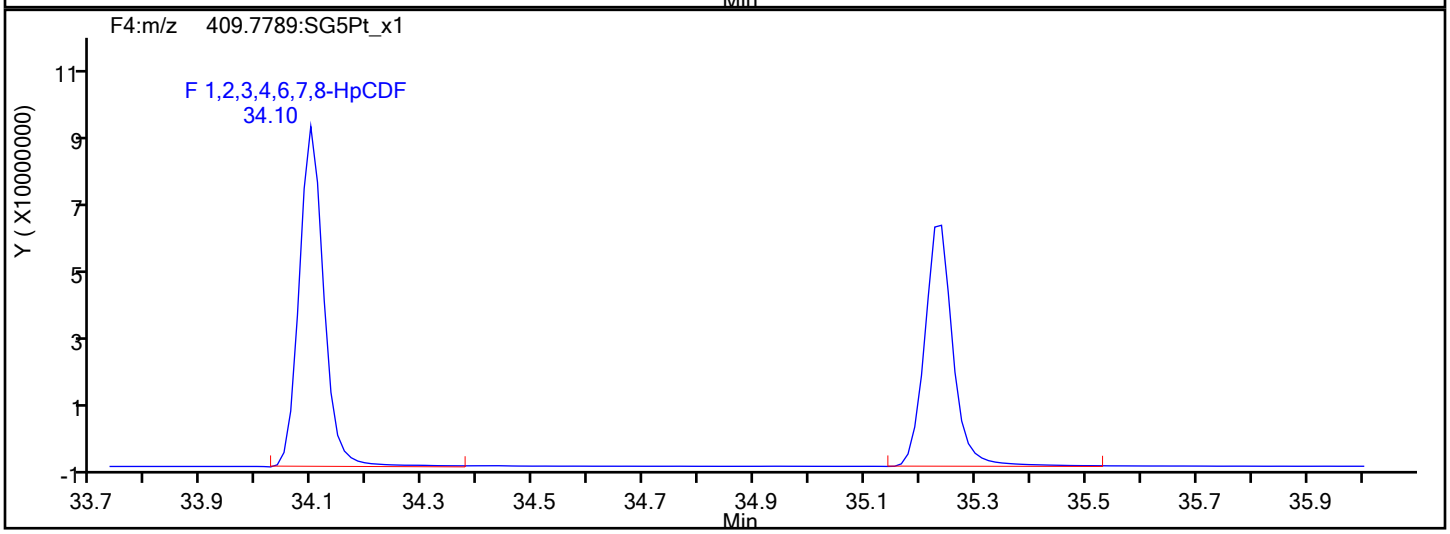

HpCDF Interference Mass

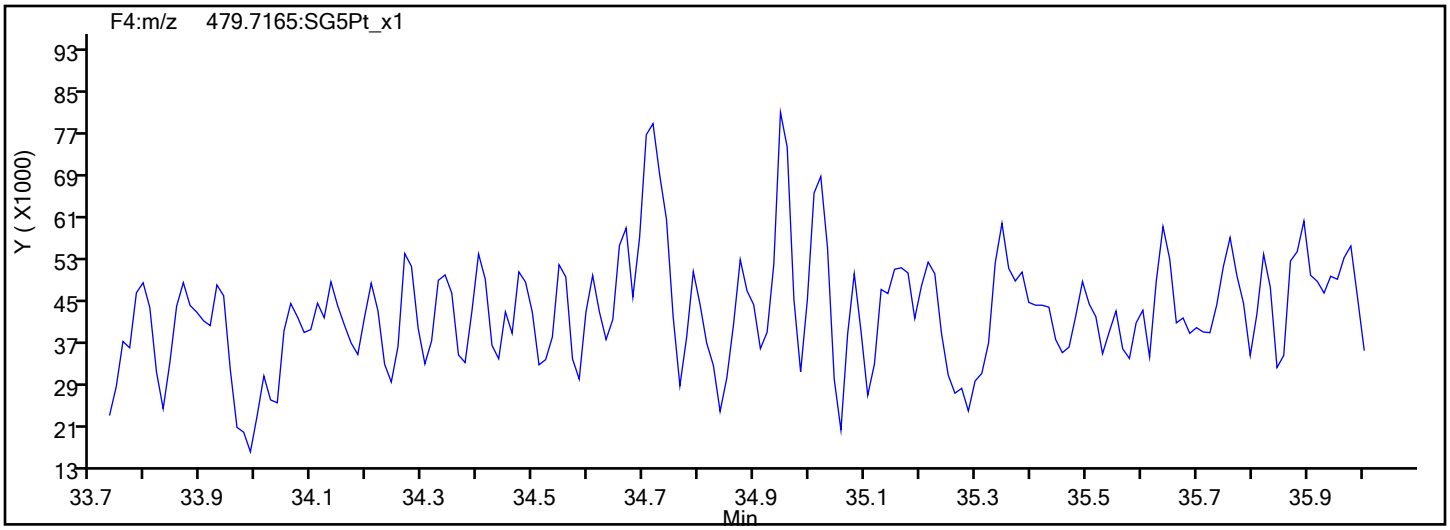

Report Date: 22-May-2019 11:44:50 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_6.d		
Injection Date:	21-May-2019 15:53:46	Injection Vol:	2.0 ul
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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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HpCDD

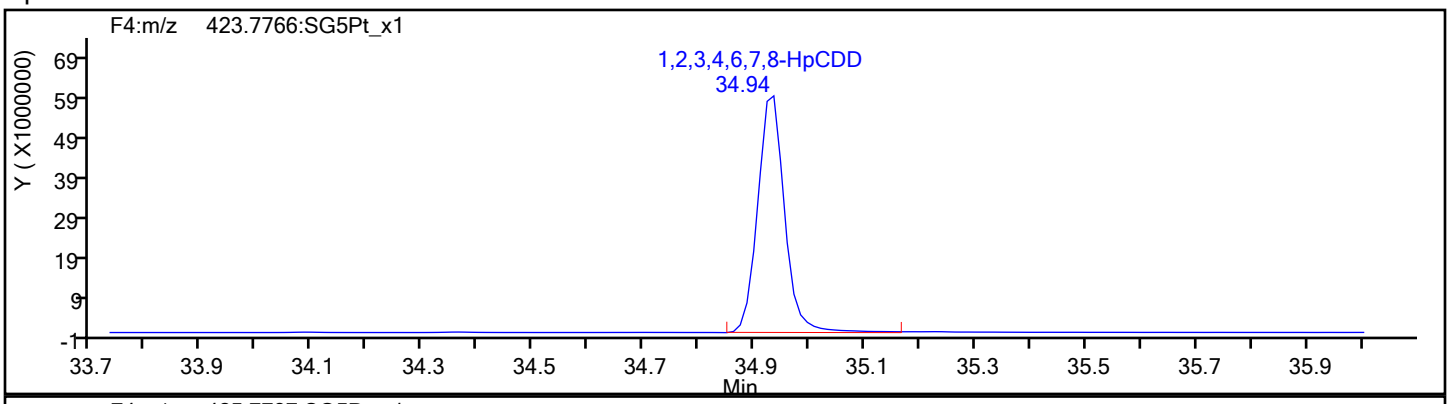

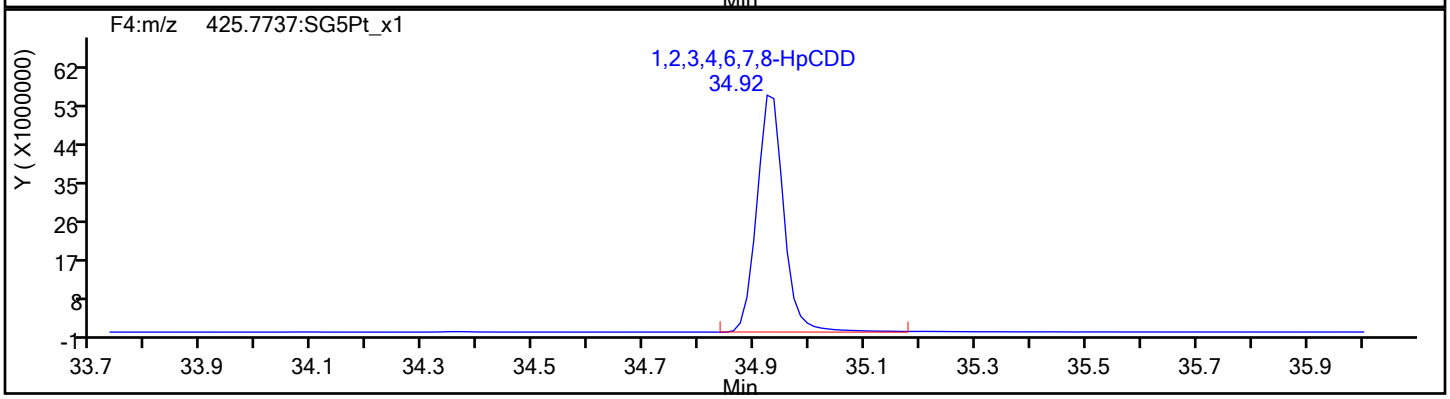

HpCDD Standards

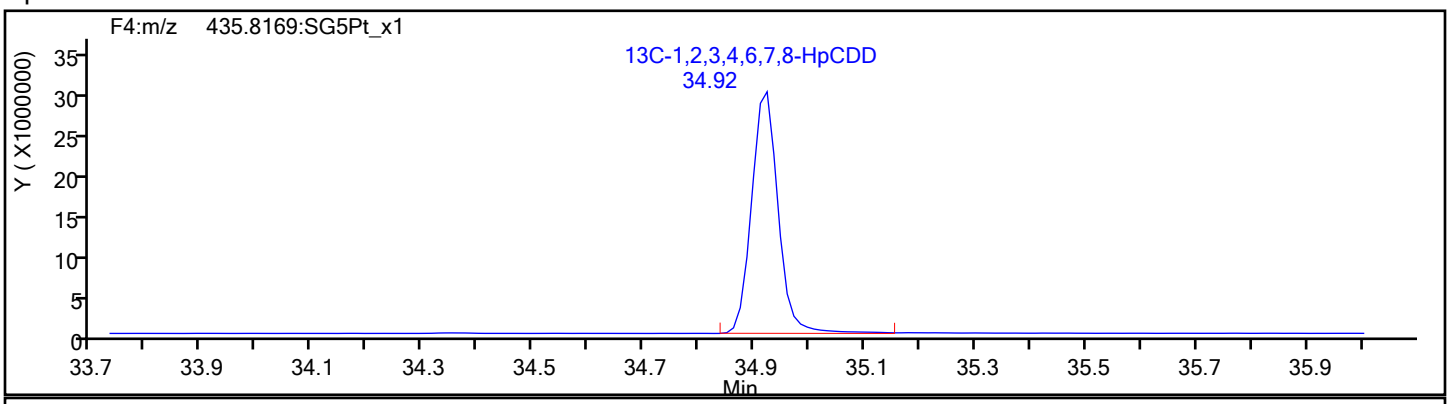

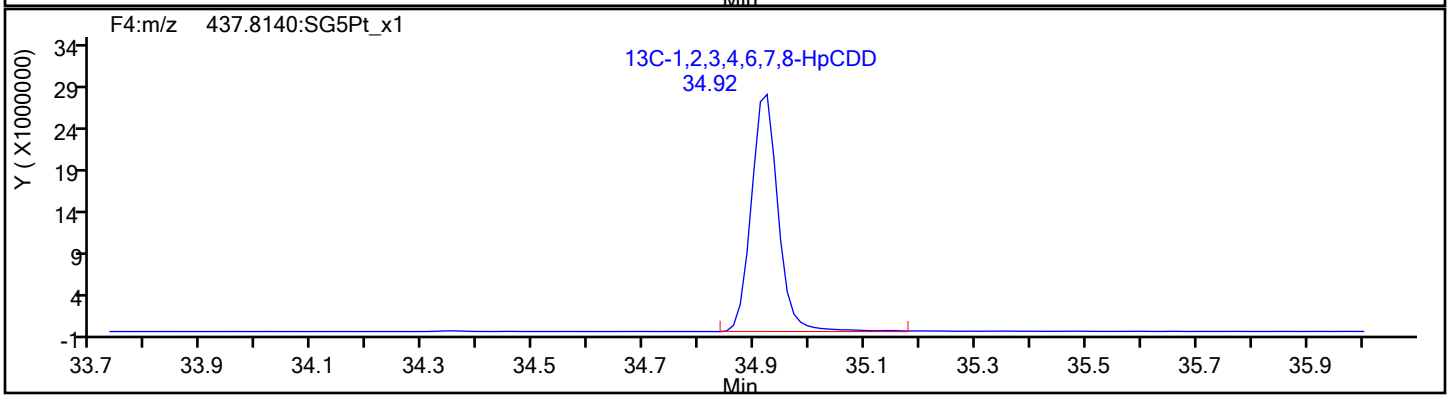

Report Date: 22-May-2019 11:44:50 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_6.d		
Injection Date:	21-May-2019 15:53:46	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
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OCDF

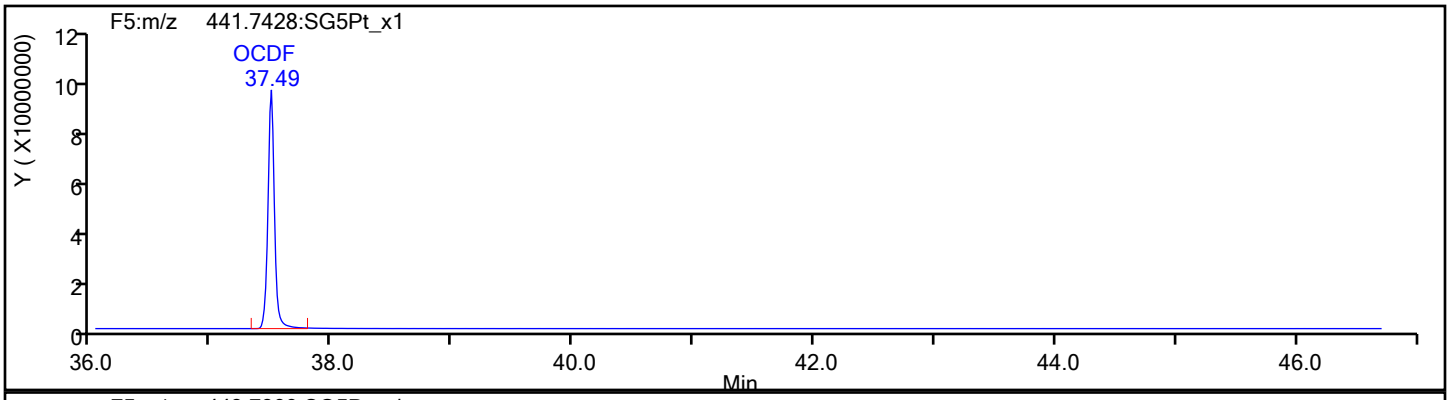

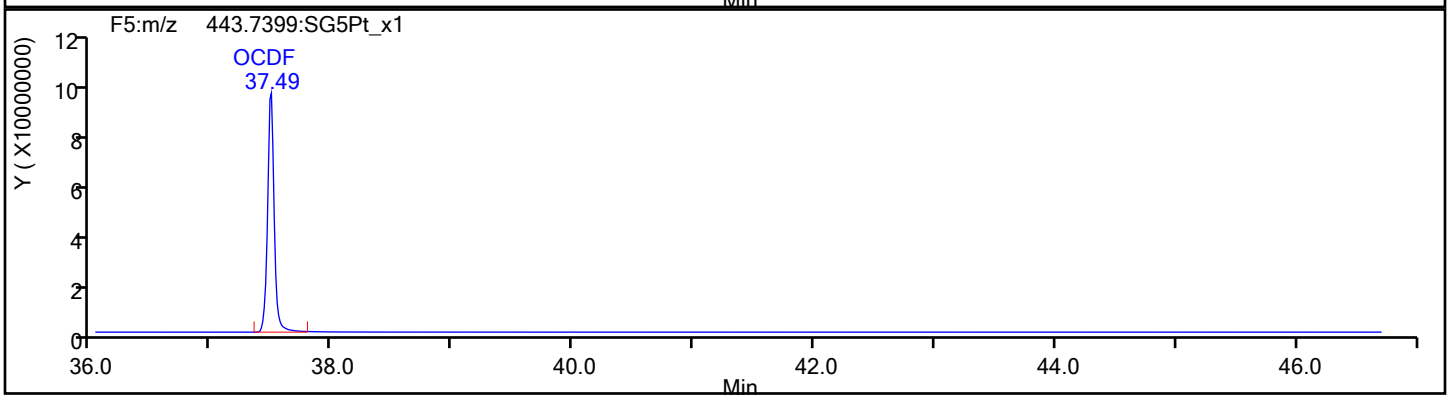

OCDF Standards

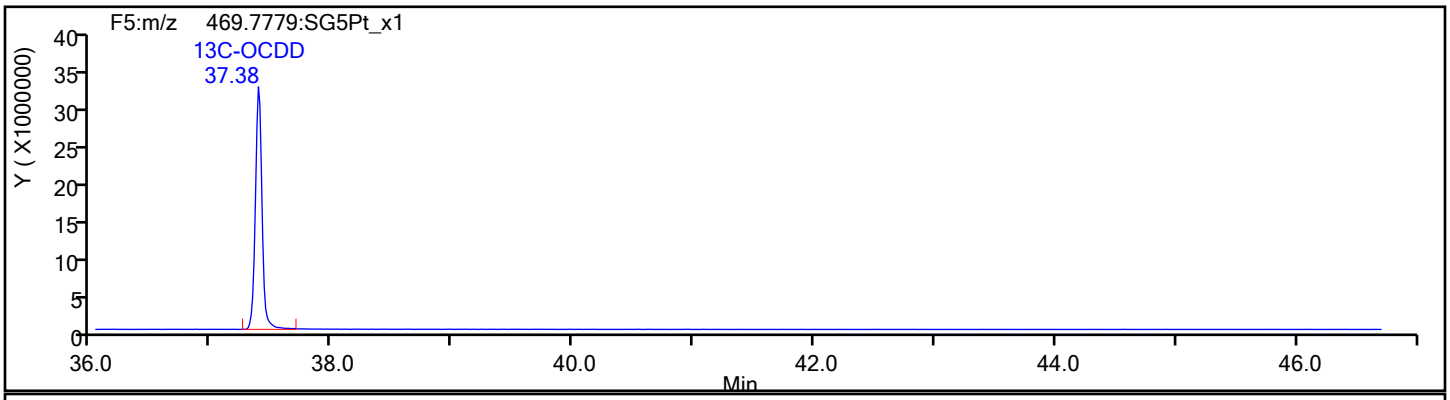

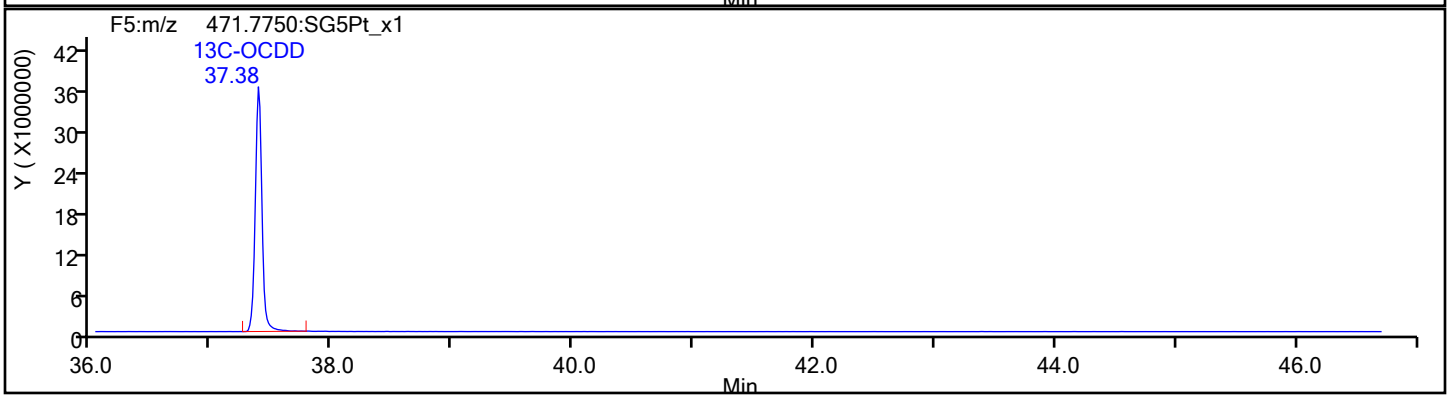

Report Date: 22-May-2019 11:44:50 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_6.d		
Injection Date:	21-May-2019 15:53:46	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
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Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

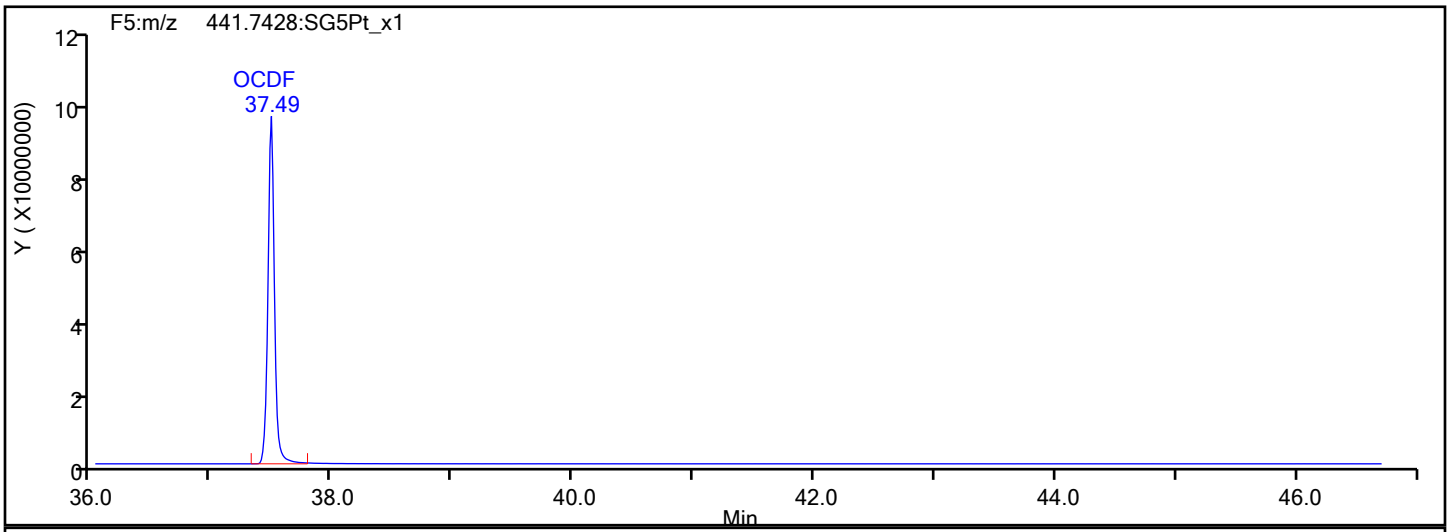

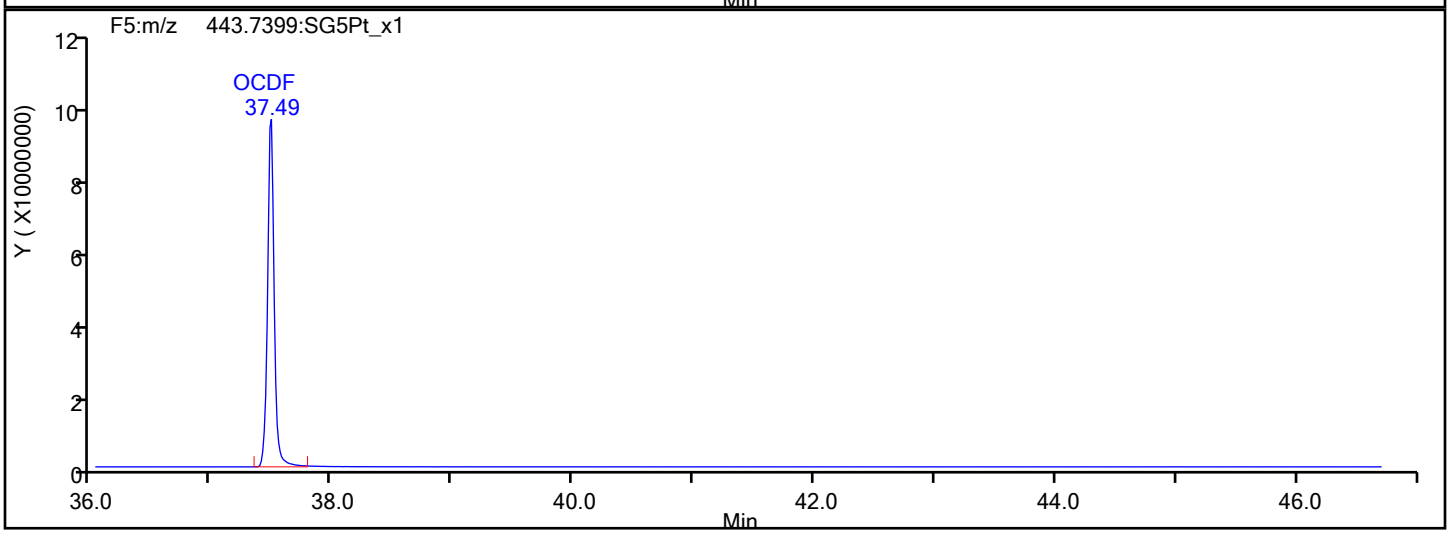

OCDF Interference Mass

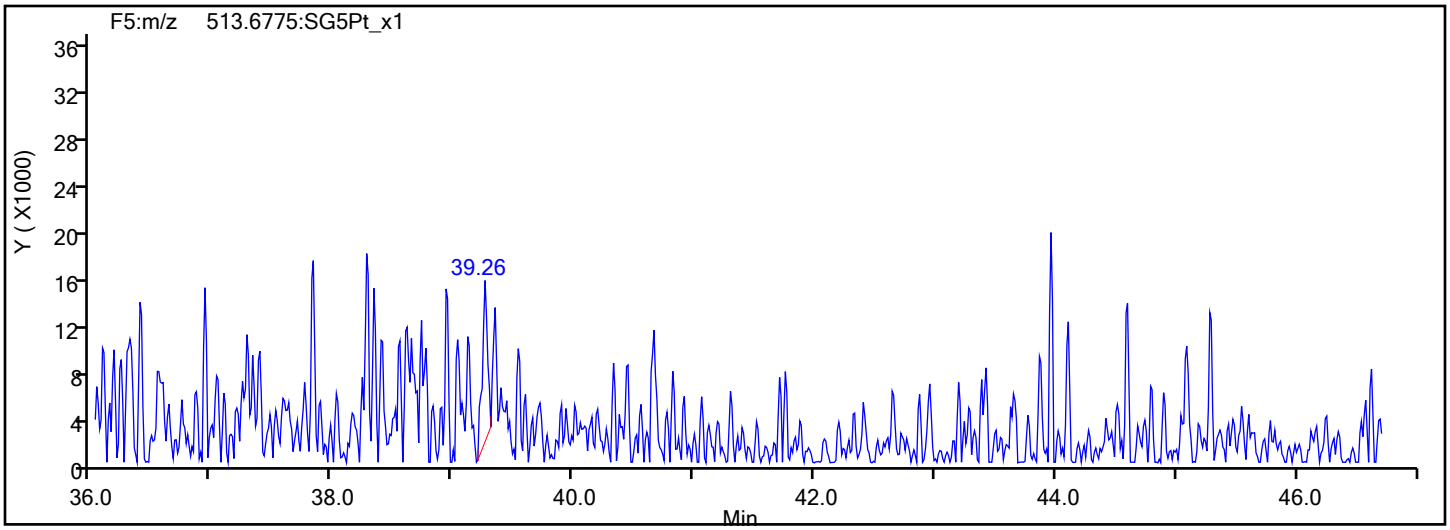

Report Date: 22-May-2019 11:44:50 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
Worklist#:	296020	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

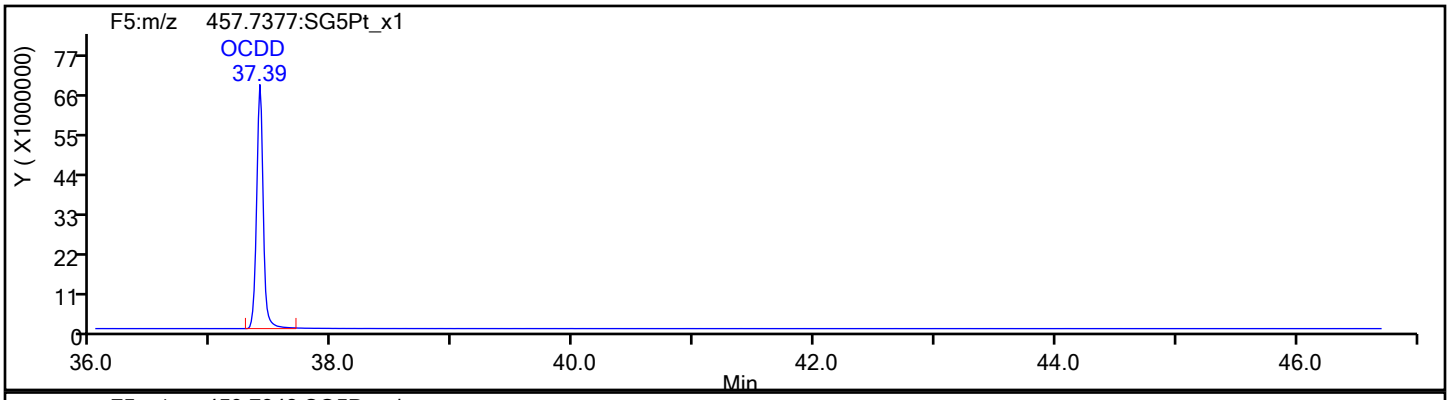

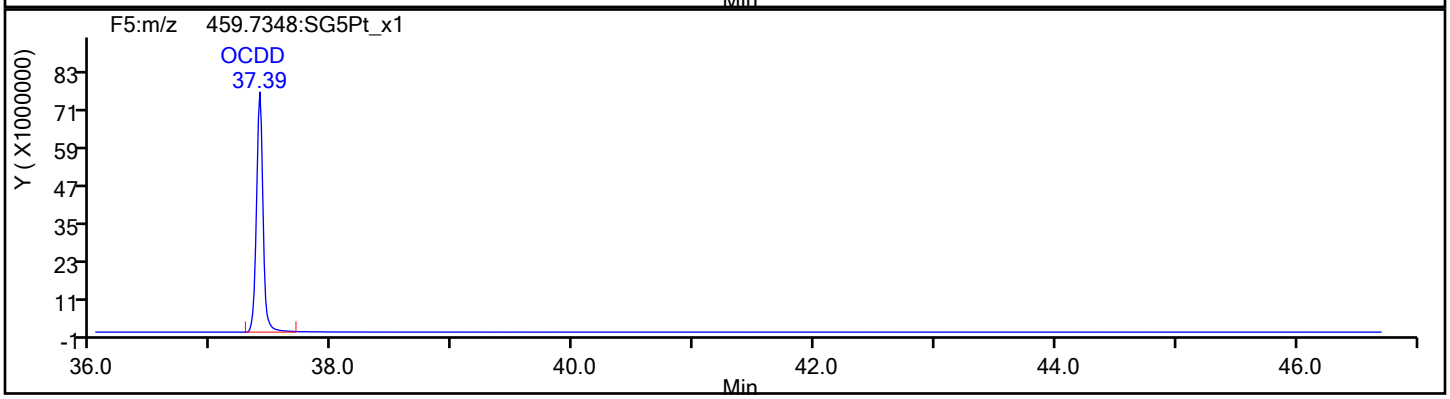

OCDD Standards

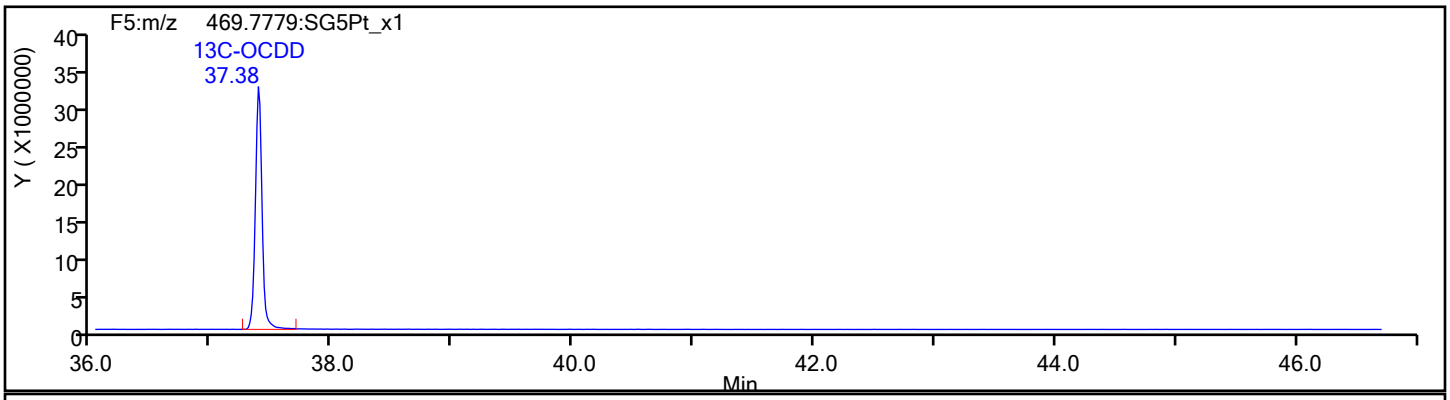

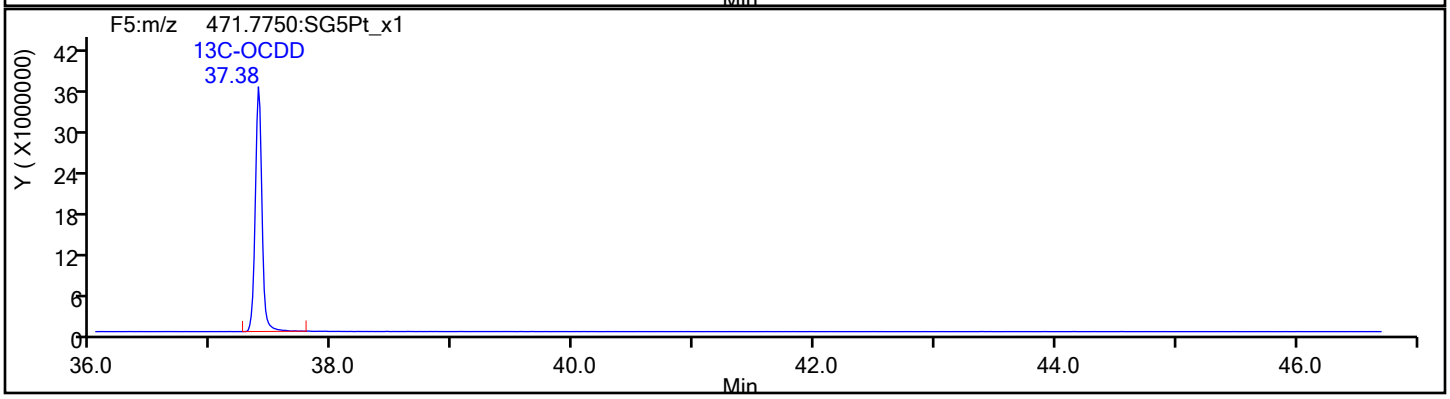

Report Date: 22-May-2019 11:44:50 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_6.d		
Injection Date:	21-May-2019 15:53:46	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
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Column Type:	DB-5	Column Dia:	0.32 mm

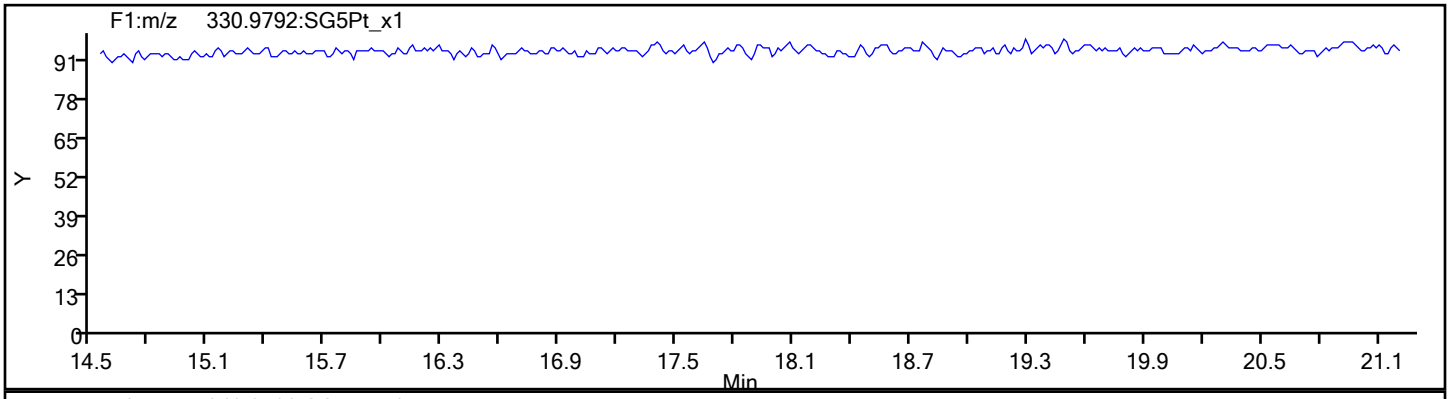

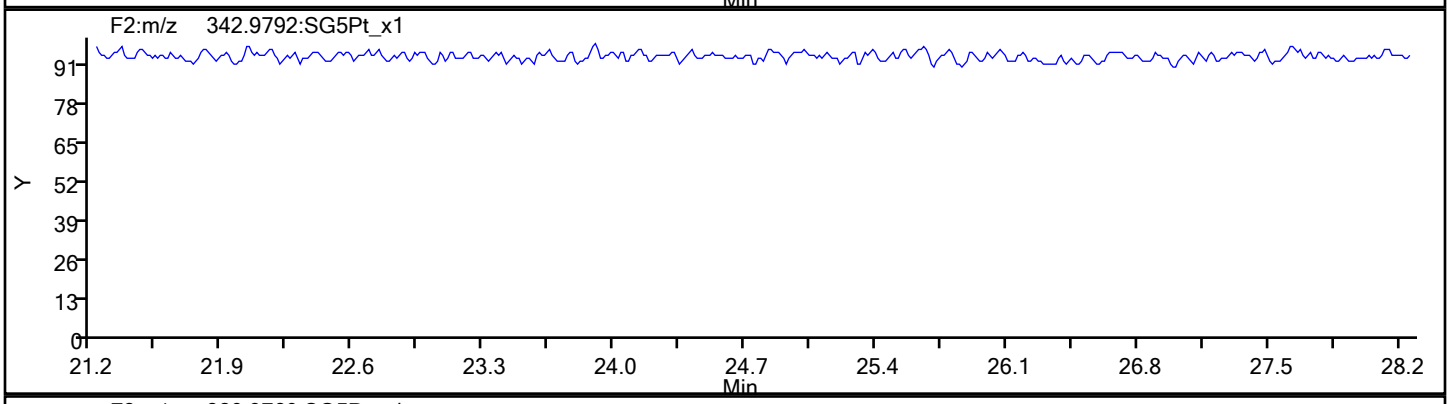

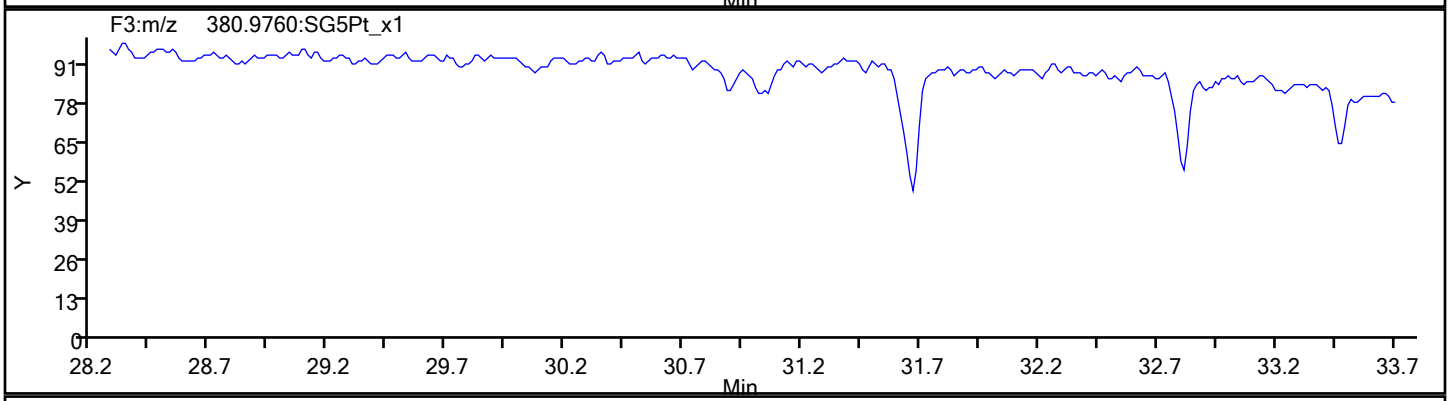

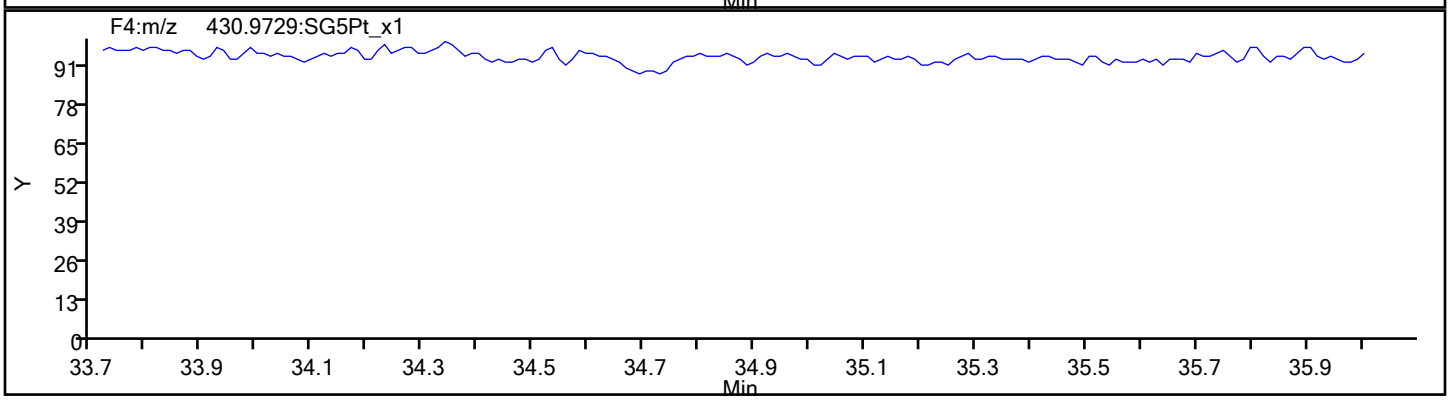

Report Date: 22-May-2019 11:44:51 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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Injection Date:	21-May-2019 15:53:46	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

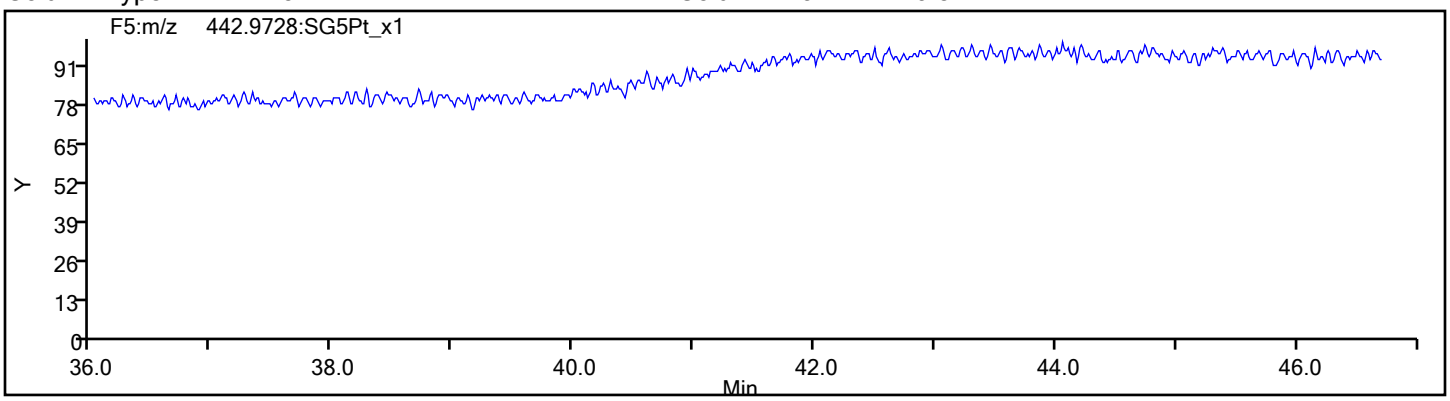

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d
Lims ID: IC 6
Client ID: L6
Sample Type: IC Calib Level: 6
Inject. Date: 21-May-2019 16:41:15 ALS Bottle#: 8 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 052119D CS-6 HRDXNL6_00021
Misc. Info.: 21MY193D5
Operator ID: AJS Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 22-May-2019 11:44:59 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: shardaa Date: 21-May-2019 17:54:45

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.429	289876700	0.83	3.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.900	414364714	0.78	1.3908	102.8	102.8	0.2046	0.2046	103	
2,3,7,8-TCDF	17.915	840711981	0.79	0.9710	208.9	208.9	0.4510	0.4510	104	
S Total TCDF					208.9	208.9	0.4510	0.4510		
D 13C-2,3,7,8-TCDD	18.626	298123322	0.78	0.9819	104.7	104.7	0.2000	0.2000	105	
2,3,7,8-TCDD	18.656	661466014	0.79	1.0447	212.4	212.4	0.1572	0.1572	106	
$ 37Cl4-2,3,7,8-TCDD	18.656	772302983		1.2205	218.3	218.3	0.2208	0.2208	109	
S Total TCDD					212.4	212.4	0.1572	0.1572		
D 13C-1,2,3,7,8-PeCDF	23.107	355379894	1.59	1.1585	105.8	105.8	0.2366	0.2366	106	
1,2,3,7,8-PeCDF	23.121	3546729328	1.60	0.9633	1036.0	1036.0	2.631	2.631	104	
D 13C-2,3,4,7,8-PeCDF	24.484	347746656	1.61	1.1532	104.0	104.0	0.2376	0.2376	104	
2,3,4,7,8-PeCDF	24.512	3502921768	1.55	0.9495	1060.9	1060.9	2.959	2.959	106	
S Total PeCDF					2096.9	2096.9	2.795	2.795		
D 13C-1,2,3,7,8-PeCDD	25.234	226685680	1.66	0.7431	105.2	105.2	0.1298	0.1298	105	
1,2,3,7,8-PeCDD	25.262	2476692315	1.59	1.0635	1027.4	1027.4	0.8398	0.8398	103	
S Total PeCDD					1027.4	1027.4	0.8398	0.8398		
D 13C-1,2,3,4,7,8-HxCDF	31.045	238951430	0.53	0.9837	102.0	102.0	0.2853	0.2853	102	
1,2,3,4,7,8-HxCDF	31.071	3039345430	1.24	1.2173	1044.9	1044.9	3.232	3.232	104	
D 13C-1,2,3,6,7,8-HxCDF	31.204	283858684	0.52	1.1554	103.1	103.1	0.2429	0.2429	103	
1,2,3,6,7,8-HxCDF	31.218	3245921873	1.21	1.1311	1010.9	1010.9	2.803	2.803	101	
D 13C-2,3,4,6,7,8-HxCDF	31.923	254680303	0.53	1.0361	103.2	103.2	0.2709	0.2709	103	
2,3,4,6,7,8-HxCDF	31.937	3018880889	1.23	1.1710	1012.3	1012.3	2.506	2.506	101	
D 13C-1,2,3,7,8,9-HxCDF	32.669	225835692	0.55	0.9034	104.9	104.9	0.3107	0.3107	105	
1,2,3,7,8,9-HxCDF	32.682	2727034804	1.24	1.1787	1024.5	1024.5	2.611	2.611	102	
S Total HxCDF					4092.5	4092.5	2.788	2.788		
* 13C-1,2,3,7,8,9-HxCDD	32.496	238212216	1.28	2.6E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	32.097	199999683	1.27	0.8287	101.3	101.3	0.2340	0.2340	101	
1,2,3,4,7,8-HxCDD	32.110	2077802739	1.26	1.0267	1011.9	1011.9	2.057	2.057	101	
D 13C-1,2,3,6,7,8-HxCDD	32.190	229281992	1.26	0.9495	101.4	101.4	0.2043	0.2043	101	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	32.203	2312494869	1.24	0.9771	1032.2	1032.2	2.022	2.022	103	
1,2,3,7,8,9-HxCDD	32.509	2335014918	1.24	1.0616	1024.8	1024.8	1.923	1.923	102	
S Total HxCDD					3068.9	3068.9	2.001	2.001		
D 13C-1,2,3,4,6,7,8-HpCDF	34.097	180241372	0.46	0.7285	103.9	103.9	0.4477	0.4477	104	
1,2,3,4,6,7,8-HpCDF	34.109	2587172494	1.04	1.4373	998.7	998.7	3.269	3.269	99.87	
D 13C-1,2,3,4,7,8,9-HpCDF	35.227	165887161	0.45	0.6556	106.2	106.2	0.4974	0.4974	106	
1,2,3,4,7,8,9-HpCDF	35.239	2204844968	1.05	1.3091	1015.3	1015.3	4.124	4.124	102	
S Total HpCDF					2014.0	2014.0	3.697	3.697		
D 13C-1,2,3,4,6,7,8-HpCDD	34.923	171947941	1.07	0.6978	103.4	103.4	0.2157	0.2157	103	
1,2,3,4,6,7,8-HpCDD	34.935	1789936585	1.04	1.0102	1030.5	1030.5	1.734	1.734	103	
S Total HpCDD					1030.5	1030.5	1.734	1.734		
D 13C-OCDD	37.395	243044959	0.91	0.4780	213.5	213.5	0.1639	0.1639	107	
OCDF	37.502	3388401360	0.91	1.3501	2065.2	2065.2	0.4794	0.4794	103	
OCDD	37.407	2620168751	0.89	1.0627	2028.9	2028.9	0.5672	0.5672	101	

Reagents:

HRDXNL6_00021 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d
Lims ID: IC 6
Client ID: L6
Sample Type: IC Calib Level: 6
Inject. Date: 21-May-2019 16:41:15 ALS Bottle#: 8 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 052119D CS-6 HRDXNL6_00021
Misc. Info.: 21MY193D5
Operator ID: AJS Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 22-May-2019 11:44:59 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: shardaa Date: 21-May-2019 17:54:45

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.429	18.432	0		131563609	31579111	34011	85027	928		
333.9339	18.429	18.432	0		158313091	37430788	20202	50505	1853	0.83(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.900	17.900	0	0.971	181891401	43793642	36351	90877	1205		
317.9389	17.900	17.900	0	0.971	232473313	56364854	42186	105465	1336	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.915	17.915	0	1.001	370763883	89656102	74261	185652	1207		
305.8987	17.915	17.915	0	1.001	469948098	113262600	101211	253027	1119	0.79(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	18.626	18.629	0	1.011	131030054	29903162	34011	85027	879		
333.9339	18.626	18.629	0	1.011	167093268	38088529	20202	50505	1885	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.656	18.650	0	1.002	291178685	67239425	22081	55202	3045		
321.8936	18.656	18.650	0	1.002	370287329	84352753	22571	56427	3737	0.79(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.656	18.650	0	1.012	772302983	174422300	74383	185957	2345		
13C-1,2,3,7,8-PeCDF											
351.9000	23.107	23.102	0	1.254	218001065	37846952	38119	95297	993		
353.8970	23.107	23.102	0	1.254	137378829	23831506	37526	93815	635	1.59(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	23.121	23.123	0	1.001	2183114289	367903864	379003	947507	971		
341.8567	23.121	23.123	0	1.001	1363615039	233569565	246291	615727	948	1.60(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	24.484	24.487	0	1.329	214523978	34074347	38119	95297	894		
353.8970	24.484	24.487	0	1.329	133222678	21565231	37526	93815	575	1.61(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	24.512	24.512	0	1.001	2127419999	337557691	379003	947507	891		
341.8567	24.512	24.512	0	1.001	1375501769	218222701	246291	615727	886	1.55(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	25.234	25.237	0	1.369	141318226	22134384	14815	37037	1494		
369.8919	25.234	25.237	0	1.369	85367454	13145782	11819	29547	1112	1.66(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	25.262	25.264	0	1.001	1519454794	234124110	78604	196510	2979		
357.8516	25.262	25.264	0	1.001	957237521	147129456	47428	118570	3102	1.59(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	31.045	31.050	0	0.955	82395400	18178175	28845	72112	630		
385.8610	31.045	31.050	0	0.955	156556030	33429575	48028	120070	696	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	31.071	31.069	0	1.001	1685005571	368633622	414324	1035810	890		
375.8178	31.071	31.069	0	1.001	1354339859	298512800	397761	994402	750	1.24(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	31.204	31.202	0	0.960	97515170	21905263	28845	72112	759		
385.8610	31.204	31.202	0	0.960	186343514	42119581	48028	120070	877	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	31.218	31.223	0	1.000	1779036684	405582478	414324	1035810	979		
375.8178	31.218	31.223	0	1.000	1466885189	333032019	397761	994402	837	1.21(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.923	31.923	0	0.982	88059632	24218845	28845	72112	840		
385.8610	31.923	31.923	0	0.982	166620671	44953907	48028	120070	936	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.937	31.942	0	1.000	1666569595	457556585	414324	1035810	1104		
375.8178	31.937	31.942	0	1.000	1352311294	370516103	397761	994402	932	1.23(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.669	32.674	0	1.005	79692907	23337429	28845	72112	809		
385.8610	32.669	32.674	0	1.005	146142785	42622394	48028	120070	887	0.55(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.682	32.690	0	1.000	1509028191	439143899	414324	1035810	1060		
375.8178	32.682	32.690	0	1.000	1218006613	356683002	397761	994402	897	1.24(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.496	32.499	0		133867063	38186265	27075	67687	1410		
403.8529	32.496	32.499	0		104345153	30282023	26040	65100	1163	1.28(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	32.097	32.094	0	0.988	111906748	33111191	27075	67687	1223		
403.8529	32.097	32.094	0	0.988	88092935	25908205	26040	65100	995	1.27(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	32.110	32.110	0	1.000	1158993649	350495418	276229	690572	1269		
391.8127	32.110	32.110	0	1.000	918809090	271841918	222274	555685	1223	1.26(1.05-1.43)	

Report Date: 22-May-2019 11:45:02 Chrom Revision: 2.3 12-May-2019 16:28:34
Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.190	32.192	0	0.991	127743398	35155569	27075	67687	1298		
403.8529	32.190	32.192	0	0.991	101538594	27924062	26040	65100	1072	1.26(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	32.203	32.208	0	1.000	1279892914	345743959	276229	690572	1252		
391.8127	32.203	32.208	0	1.000	1032601955	282397830	222274	555685	1270	1.24(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.509	32.515	0	1.013	1290863461	378133246	276229	690572	1369		
391.8127	32.509	32.515	0	1.013	1044151457	305743514	222274	555685	1376	1.24(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	34.097	34.097	0	1.049	57063987	18440729	40221	100552	458		
419.8220	34.097	34.097	0	1.049	123177385	39917592	49095	122737	813	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.109	34.104	0	1.000	1316710218	419013336	562025	1405062	746		
409.7789	34.097	34.104	0	1.000	1270462276	397353071	534823	1337057	743	1.04(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	35.227	35.232	0	1.084	51156957	15770167	40221	100552	392		
419.8220	35.227	35.232	0	1.084	114730204	35016246	49095	122737	713	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.239	35.244	0	1.000	1127796114	343366945	562025	1405062	611		
409.7789	35.239	35.244	0	1.000	1077048854	327235133	534823	1337057	612	1.05(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.923	34.928	0	1.075	88989645	28666860	20973	52432	1367		
437.8140	34.923	34.928	0	1.075	82958296	26754622	20254	50635	1321	1.07(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.935	34.940	0	1.000	911717168	292124425	202155	505387	1445		
425.7737	34.935	34.940	0	1.000	878219417	280761001	186203	465507	1508	1.04(0.88-1.20)	
13C-OCDD											
469.7779	37.395	37.392	0	1.151	116103517	32090990	12539	31347	2559		
471.7750	37.395	37.392	0	1.151	126941442	34910750	8913	22282	3917	0.91(0.76-1.02)	
OCDF											
441.7428	37.502	37.500	0	1.003	1612771727	435751853	41084	102710	10606		
443.7399	37.491	37.500	-1	1.003	1775629633	485850088	45659	114147	10641	0.91(0.76-1.02)	
OCDD											
457.7377	37.407	37.402	0	1.000	1230725466	338966907	33869	84672	10008		
459.7348	37.407	37.402	0	1.000	1389443285	375496464	46902	117255	8006	0.89(0.76-1.02)	

Reagents:

HRDXNL6_00021 Amount Added: 1.00 Units: mL

Report Date: 22-May-2019 11:45:03 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d		
Injection Date:	21-May-2019 16:41:15	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L6		
Worklist#:	296020	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

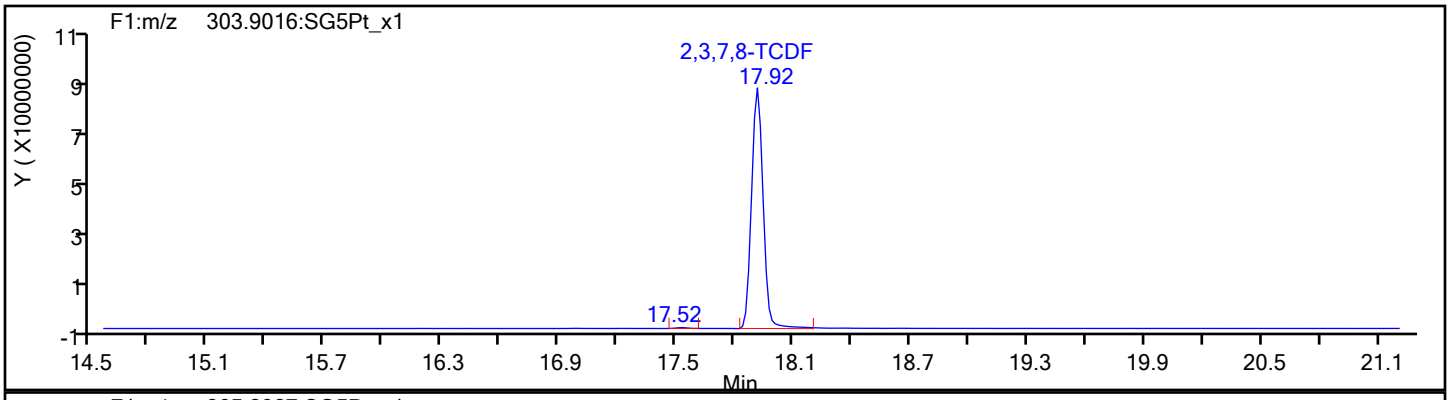

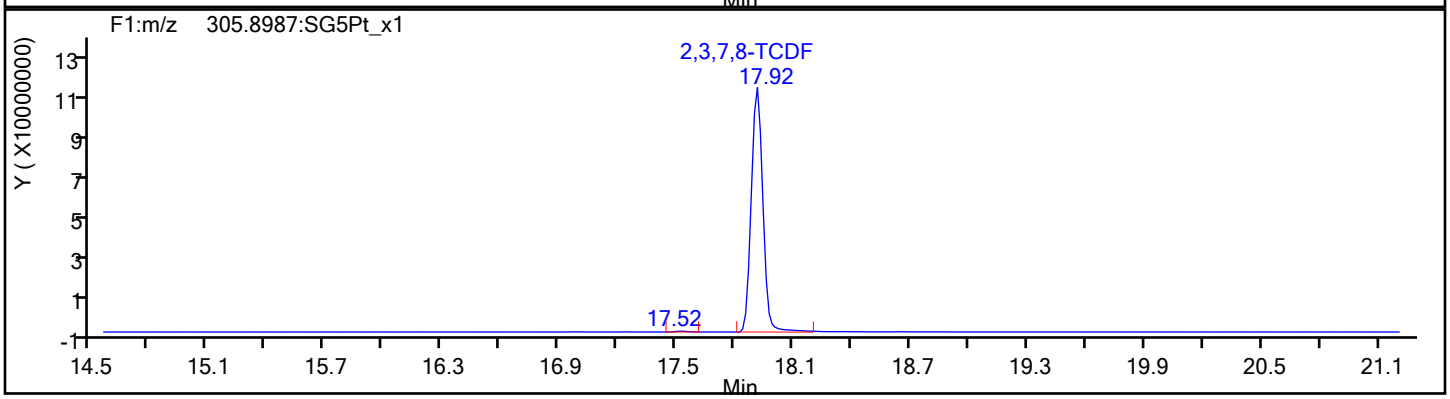

TCDF Standards

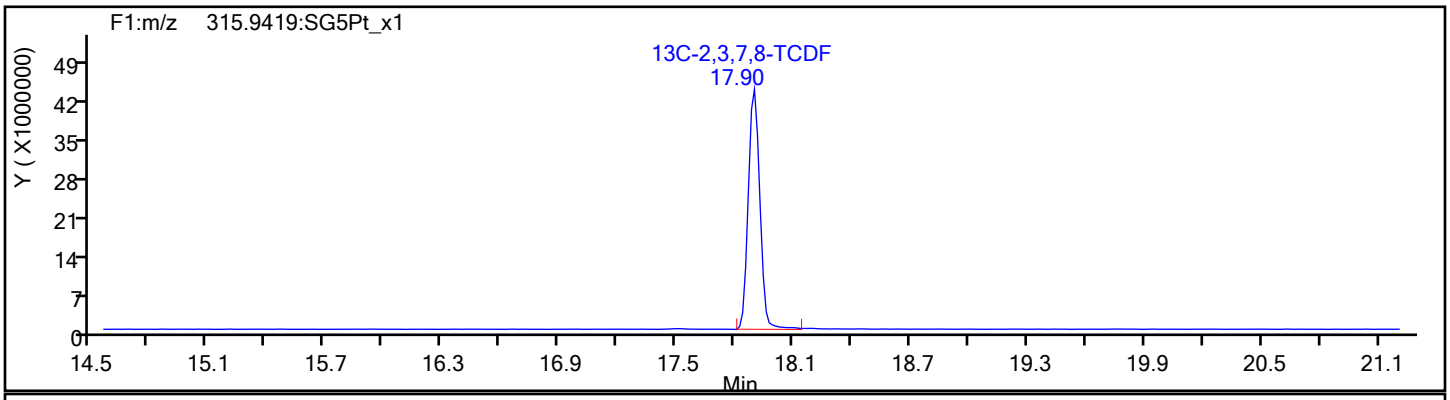

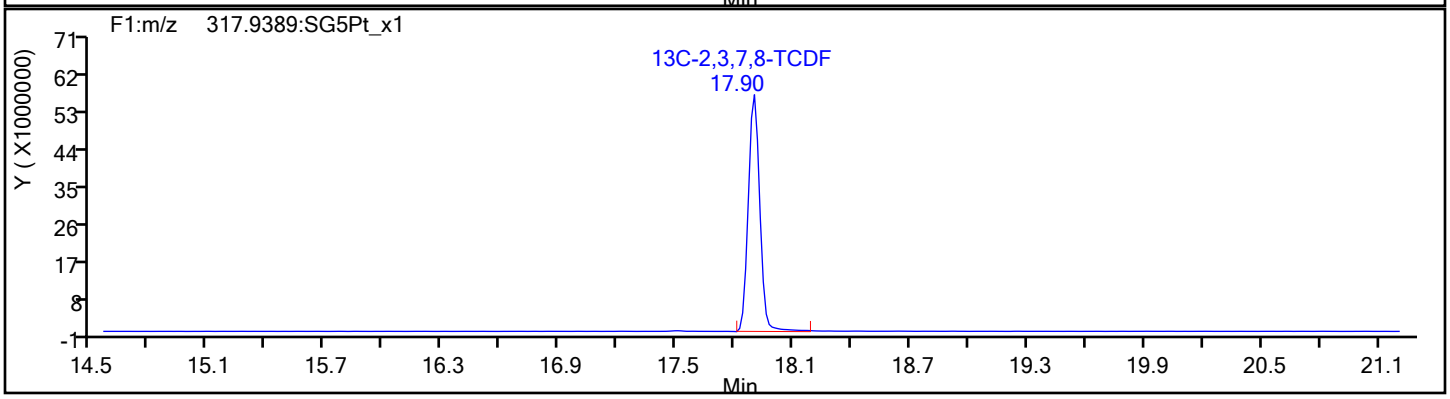

Report Date: 22-May-2019 11:45:03 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d		
Injection Date:	21-May-2019 16:41:15	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L6		
Worklist#:	296020	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

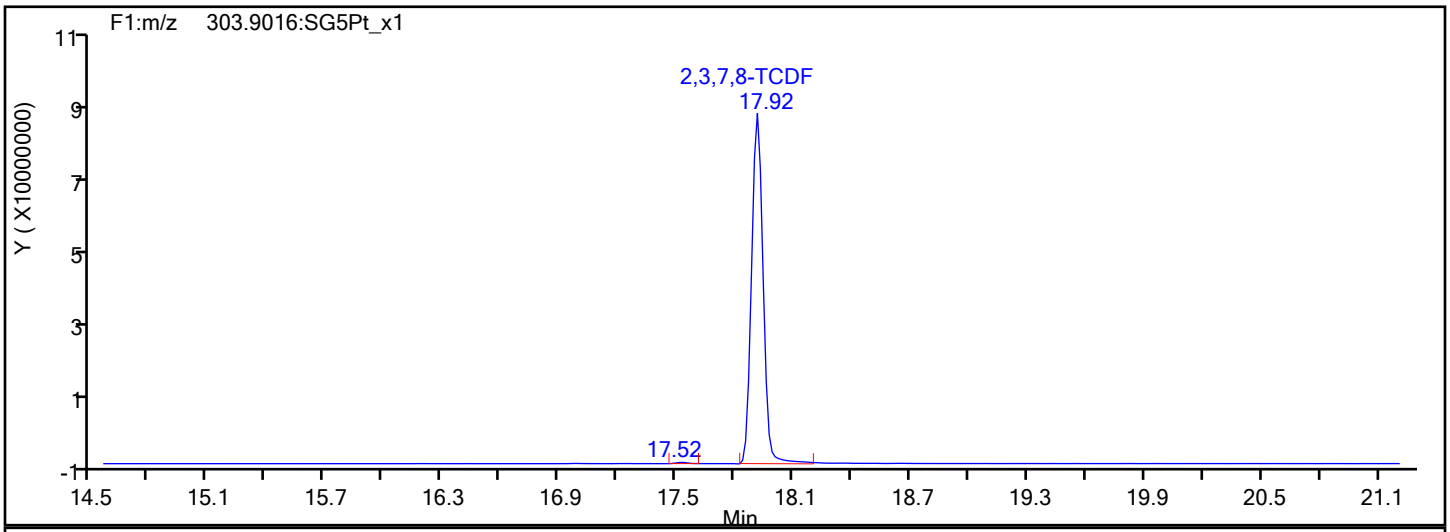

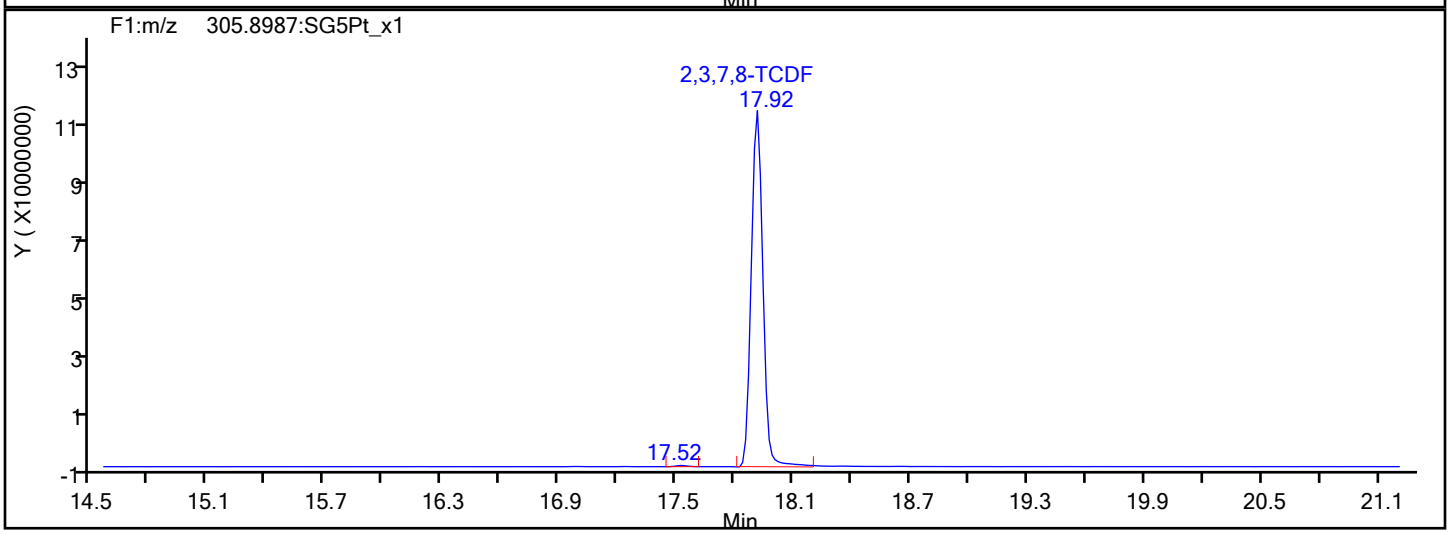

TCDF Interference Mass

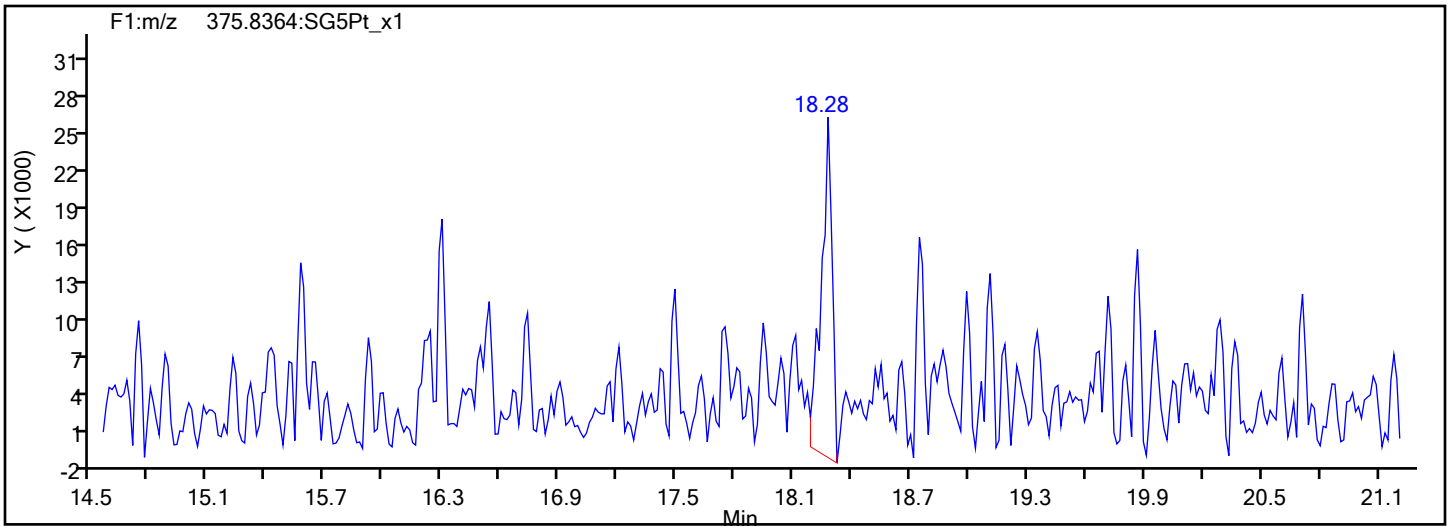

Report Date: 22-May-2019 11:45:03 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d		
Injection Date:	21-May-2019 16:41:15	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L6		
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

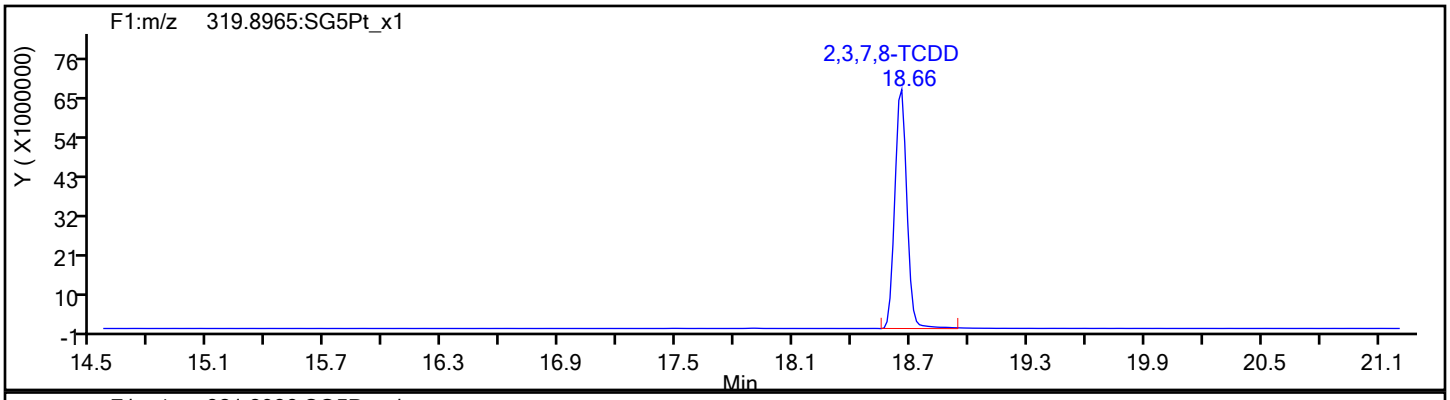

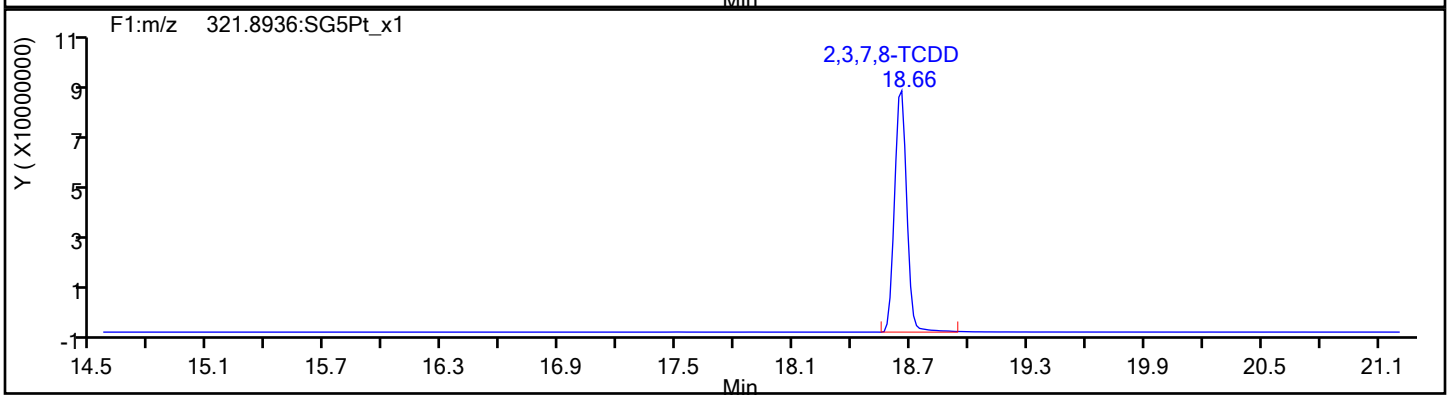

TCDD Standards

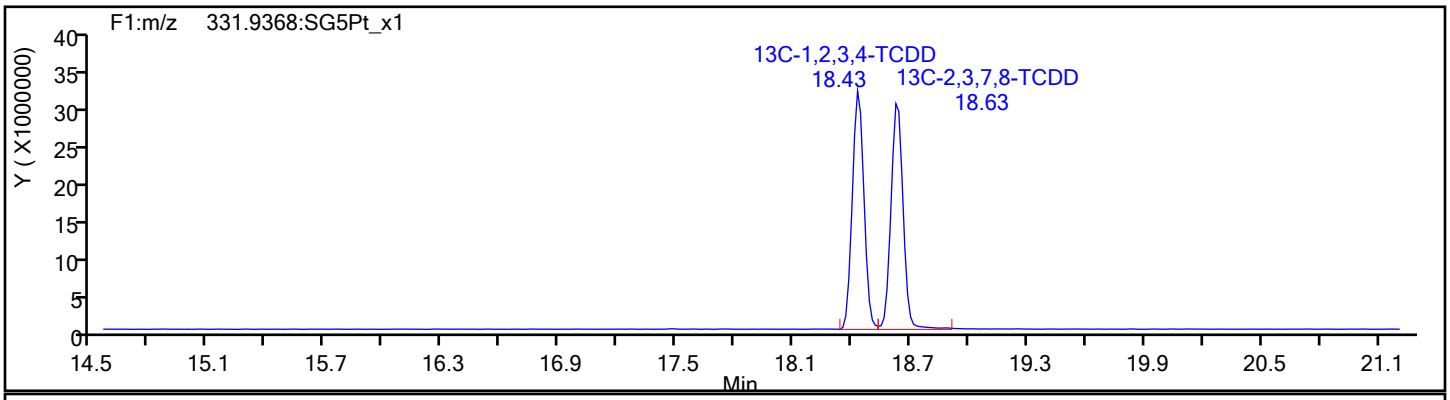

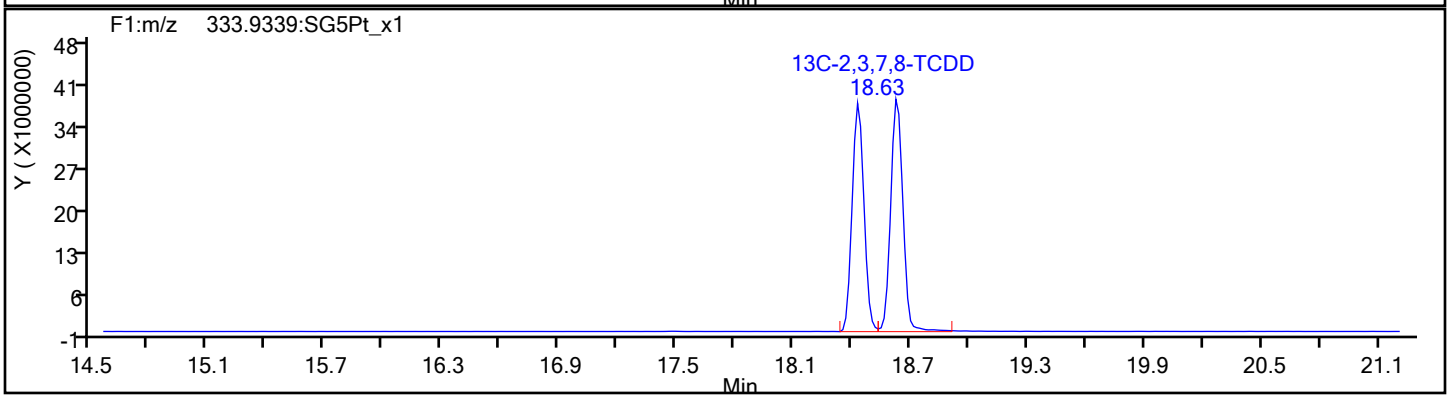

Report Date: 22-May-2019 11:45:03 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

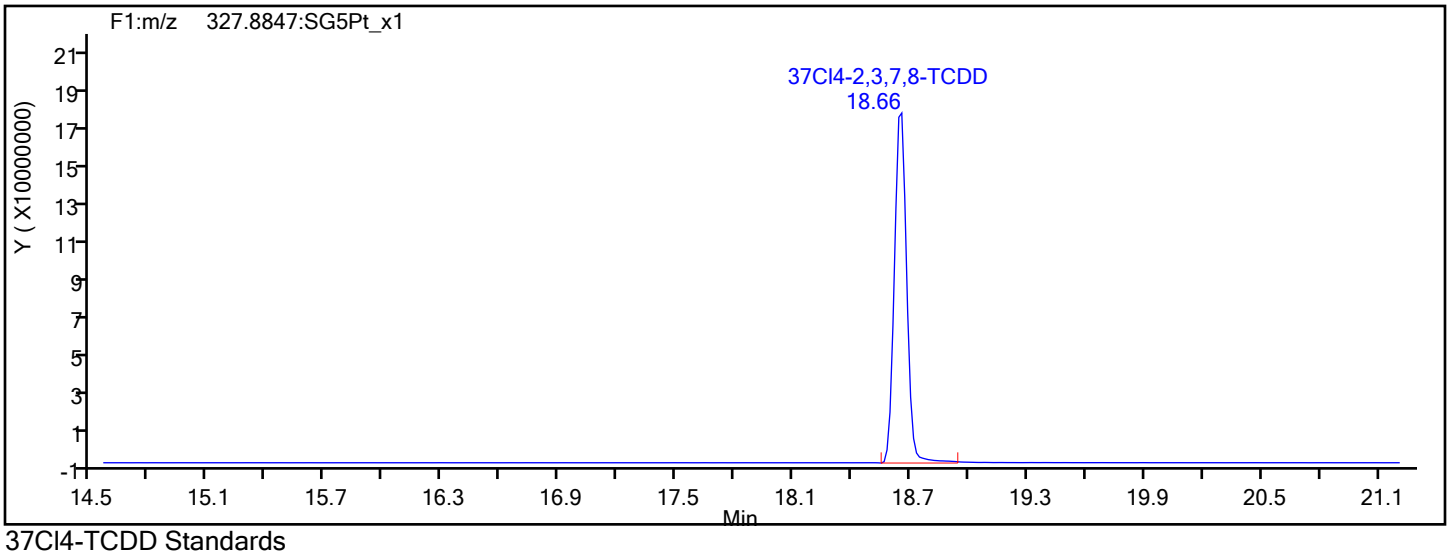

37Cl4-TCDD Standards

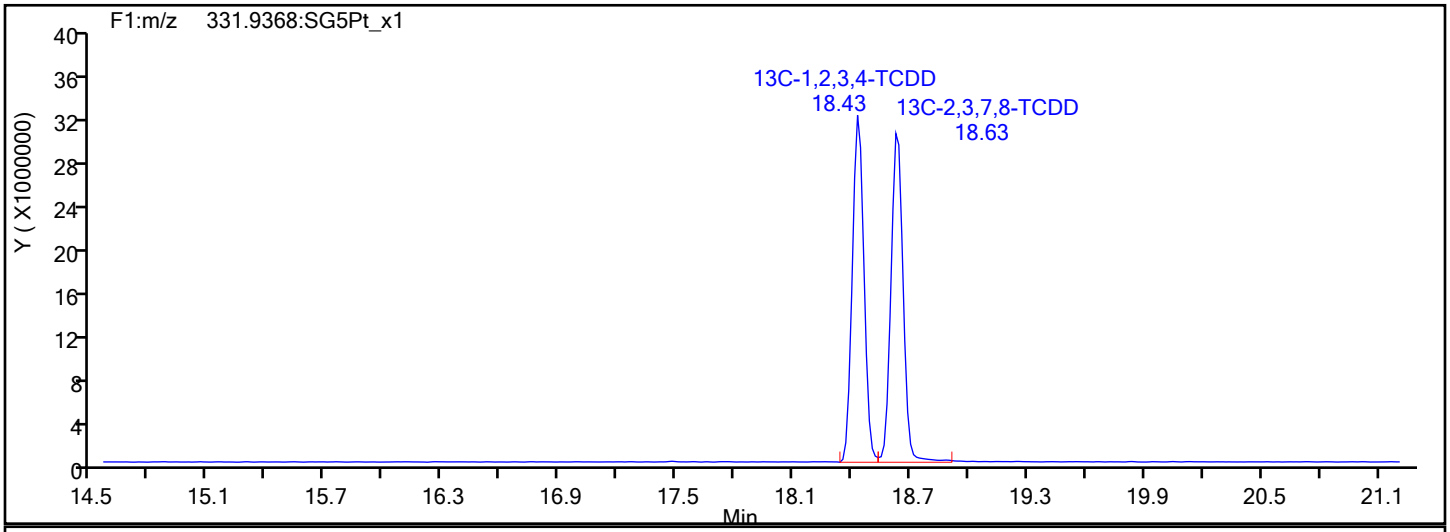

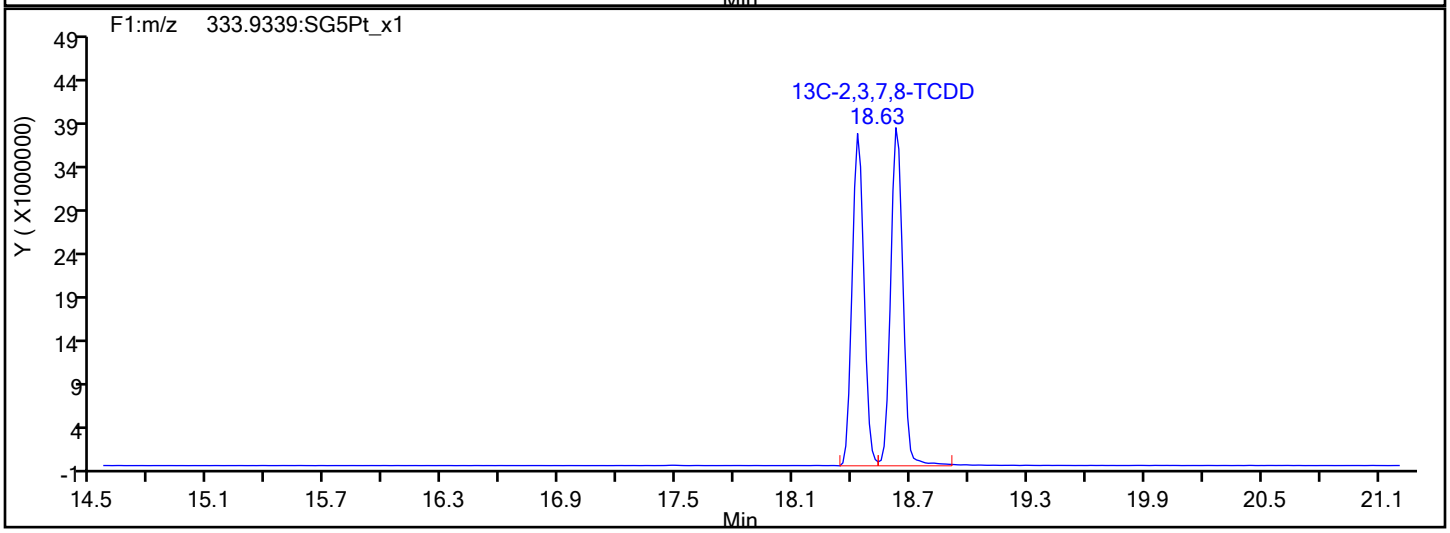

Report Date: 22-May-2019 11:45:03 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

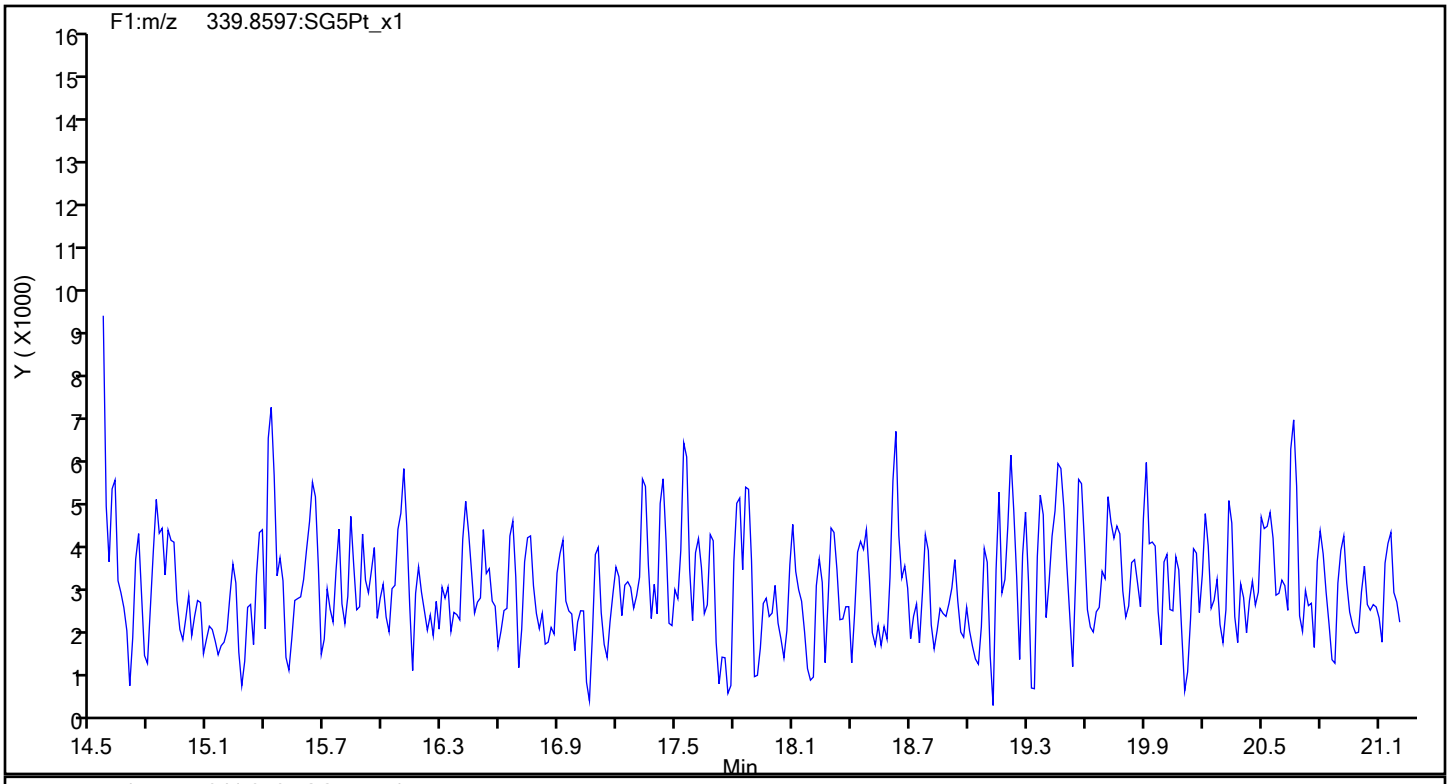

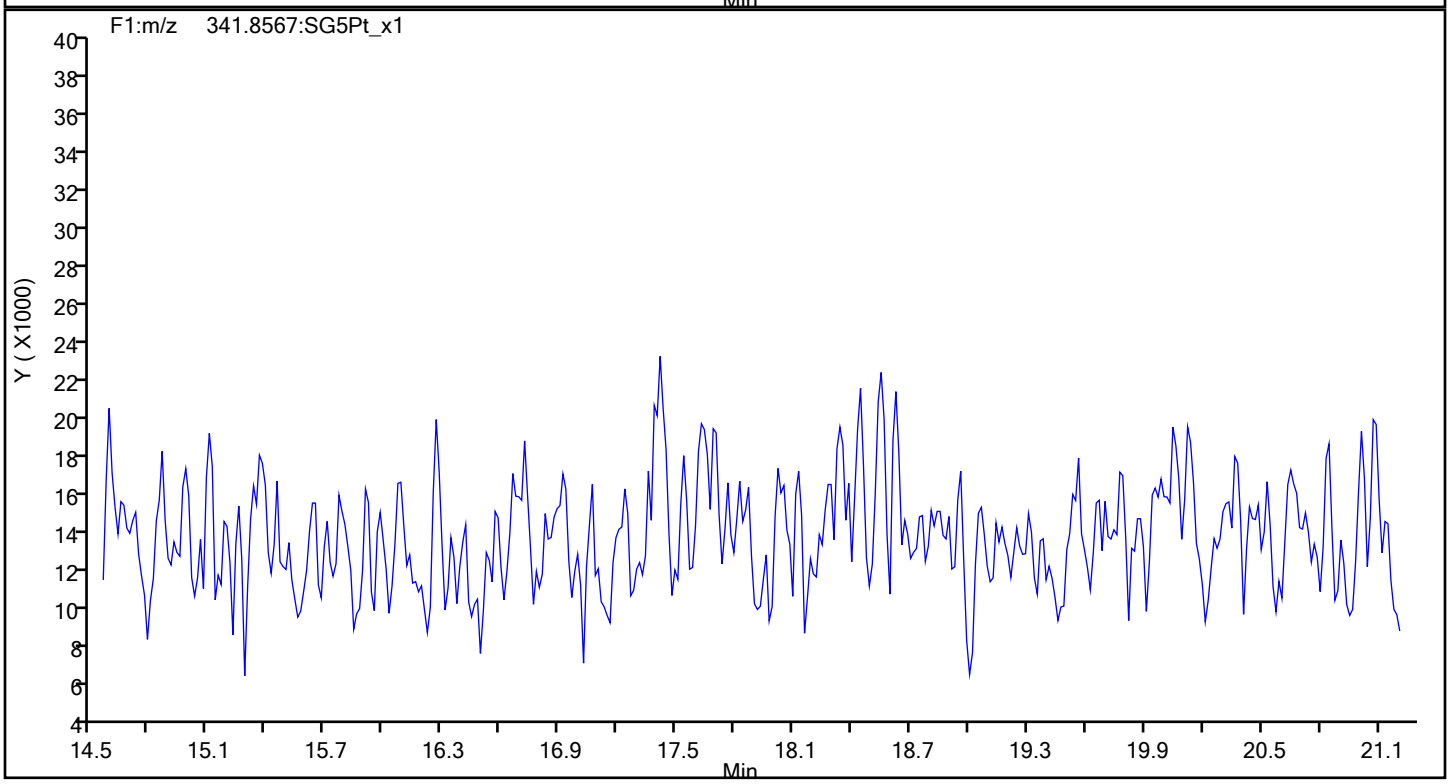

Report Date: 22-May-2019 11:45:03 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

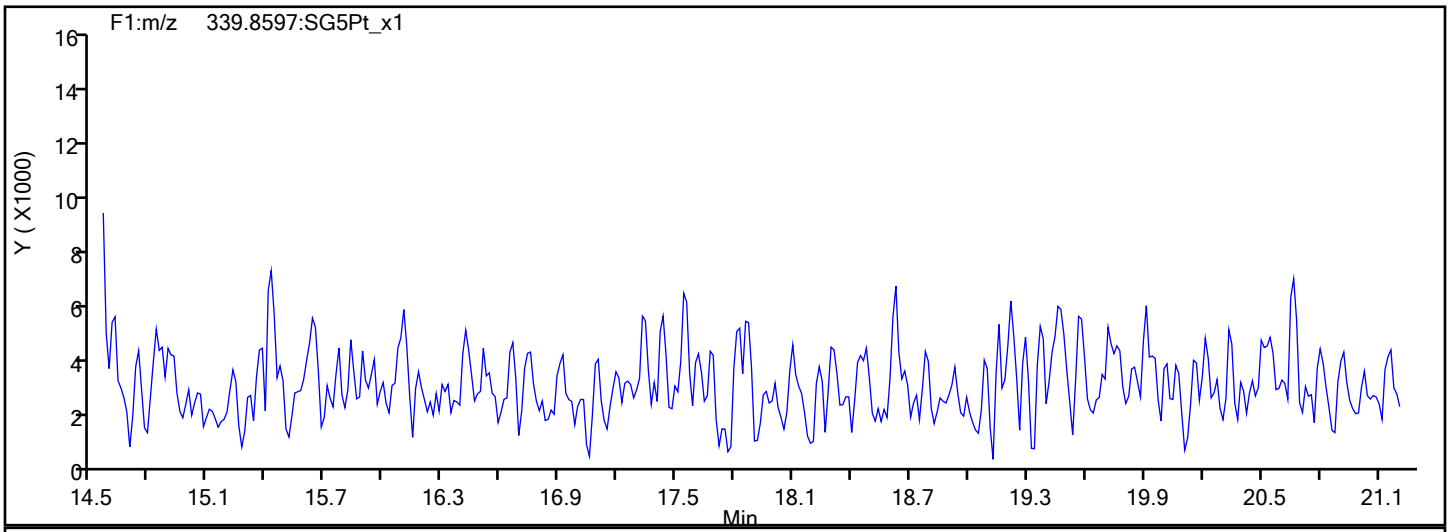

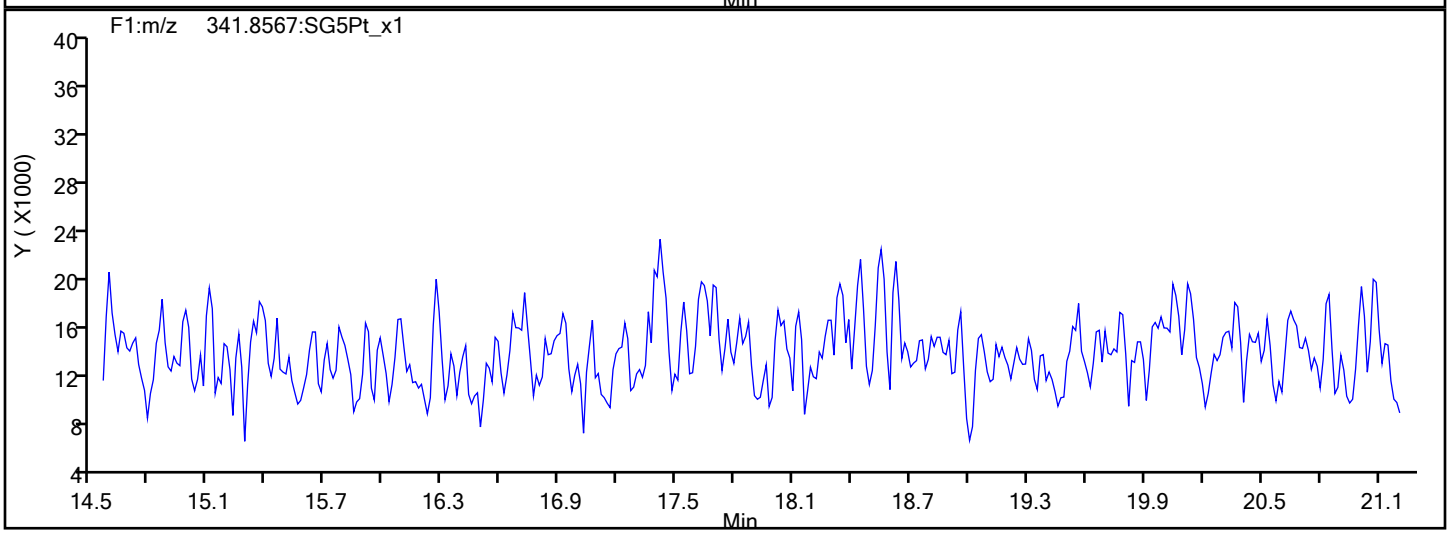

F1 PeCDFs Interference Mass

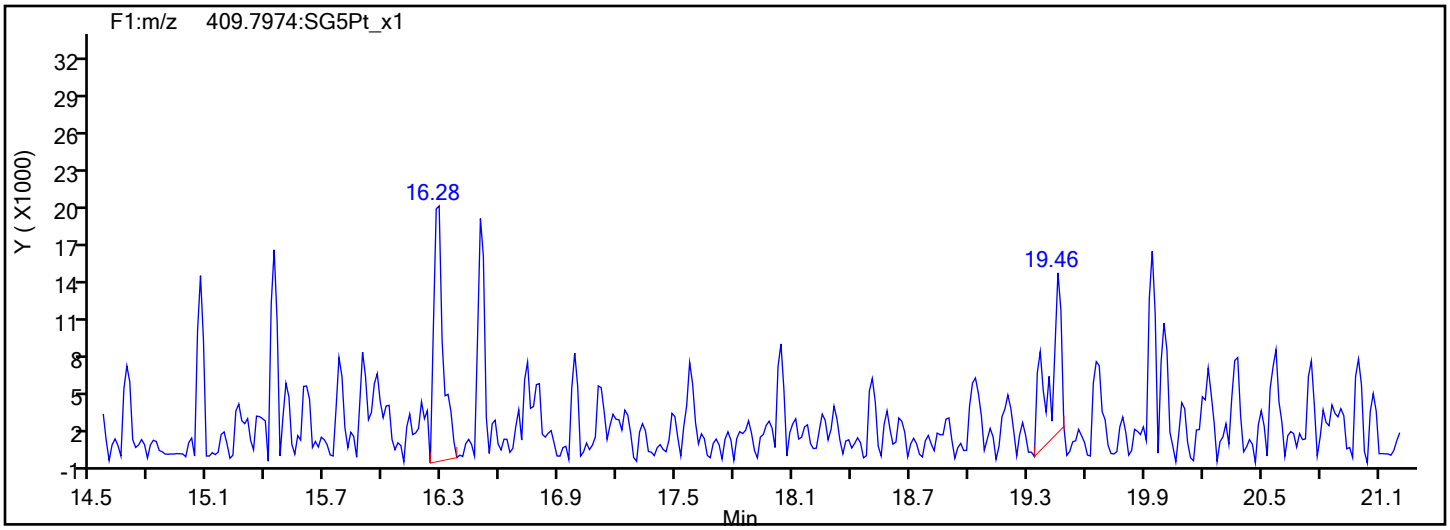

Report Date: 22-May-2019 11:45:03 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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PeCDF

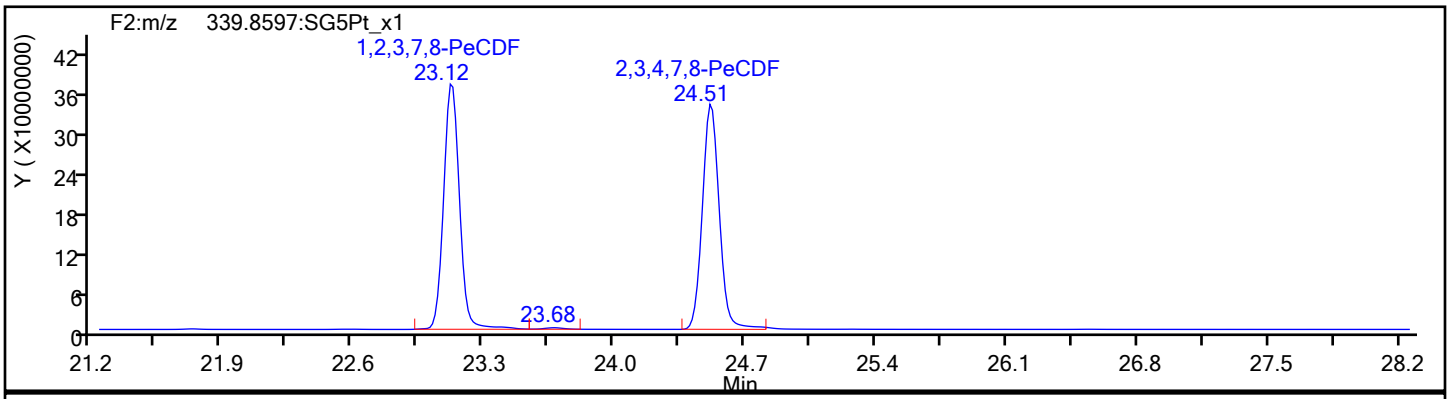

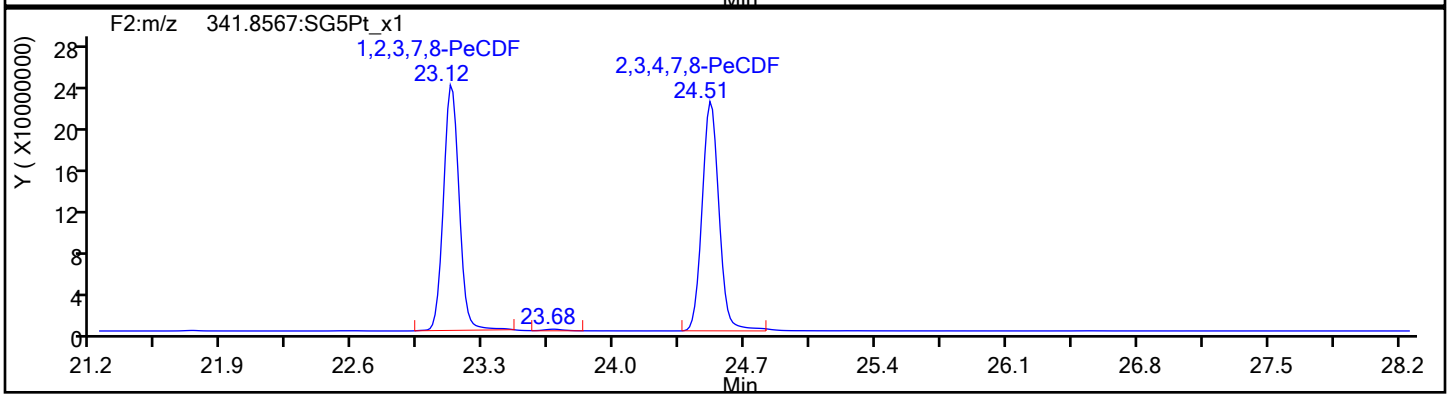

PeCDF Standards

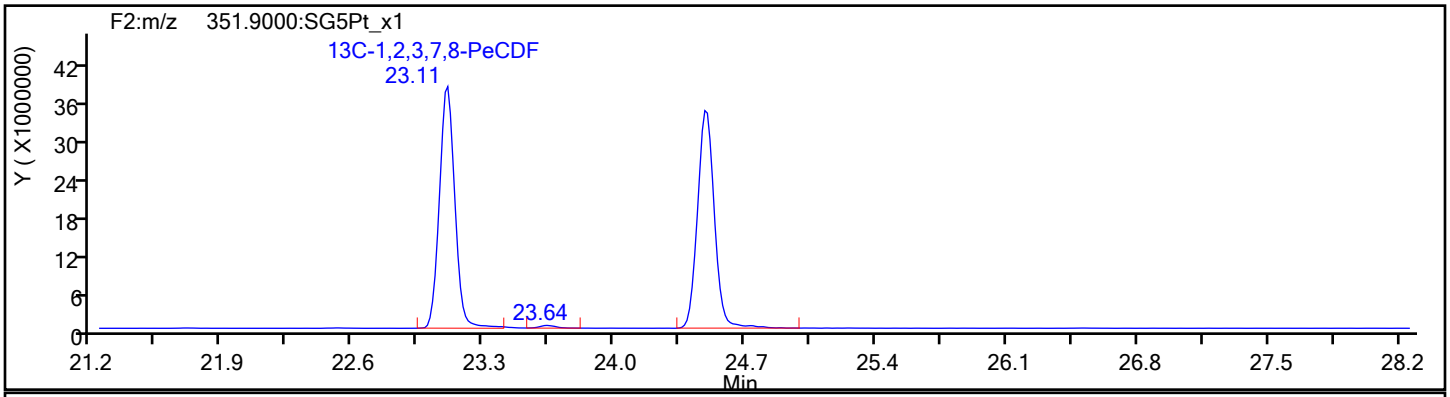

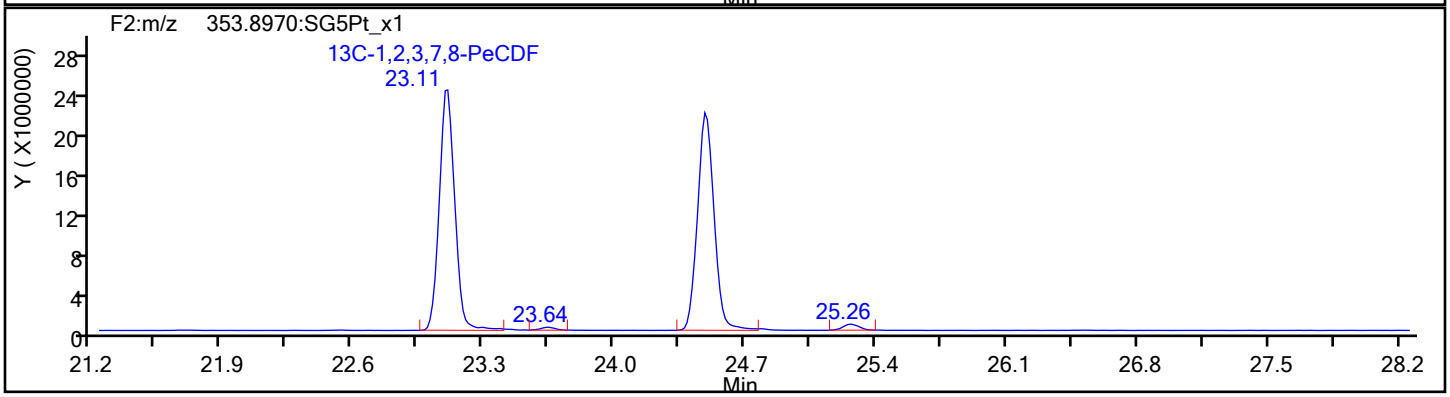

Report Date: 22-May-2019 11:45:03 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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PeCDF

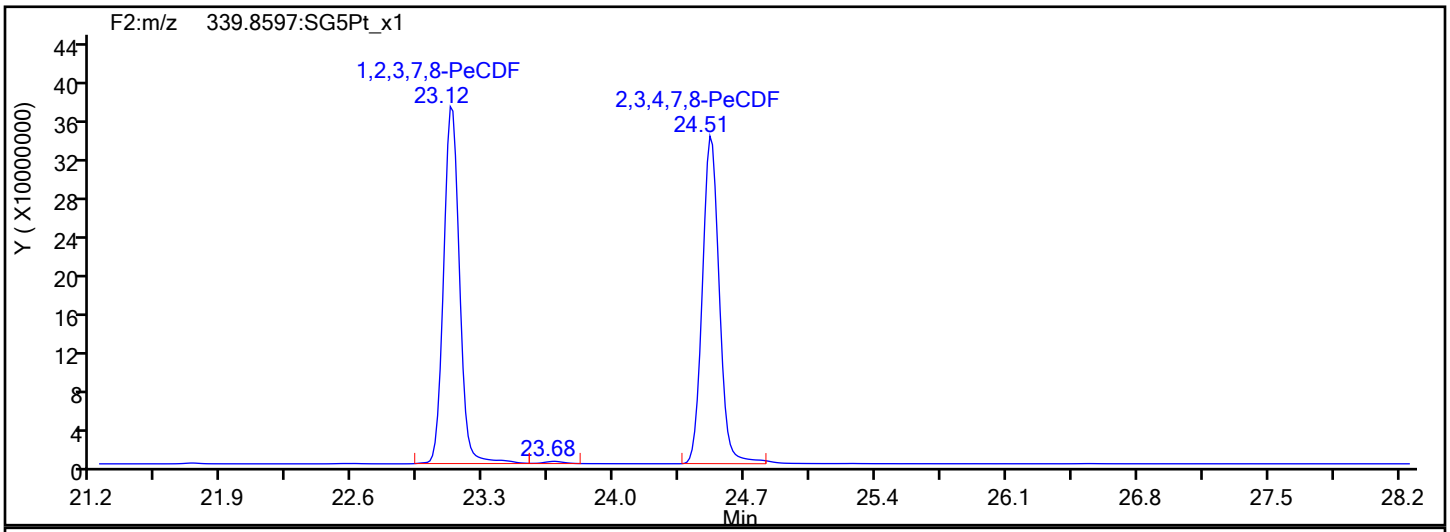

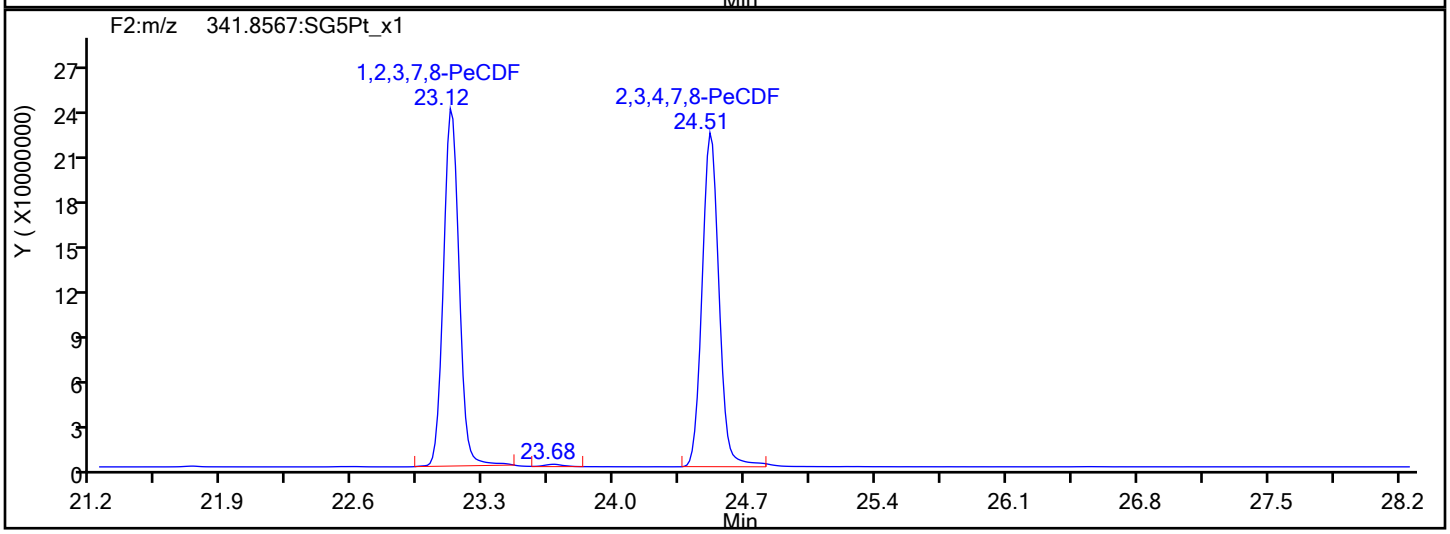

PeCDF Interference Mass

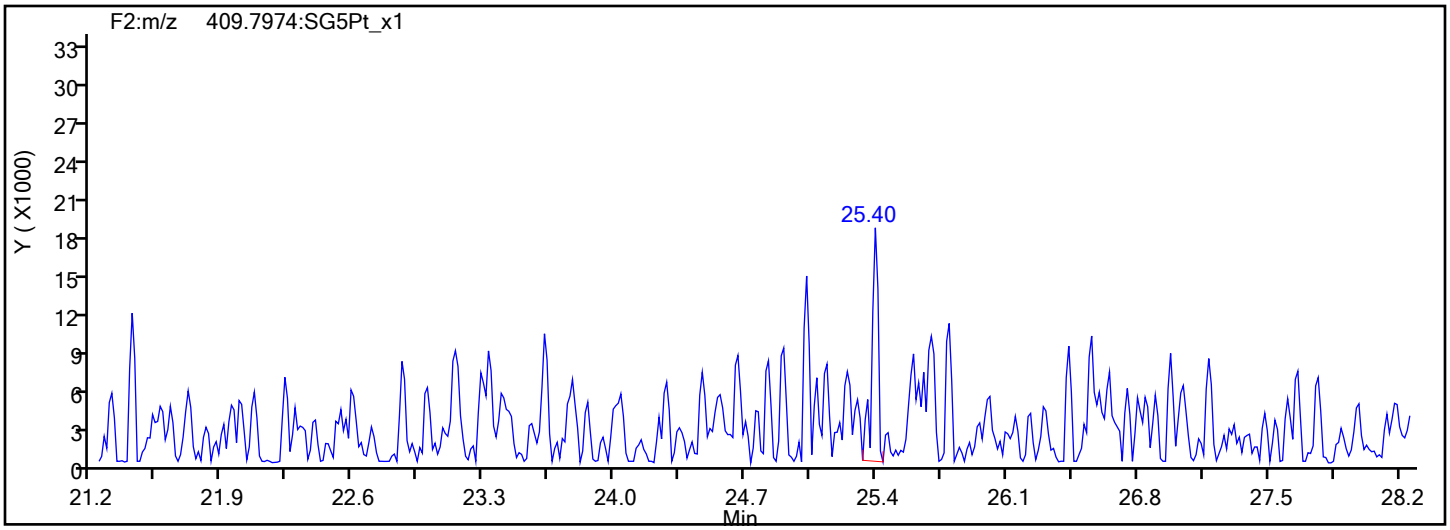

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Eurofins TestAmerica, Sacramento

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PeCDD

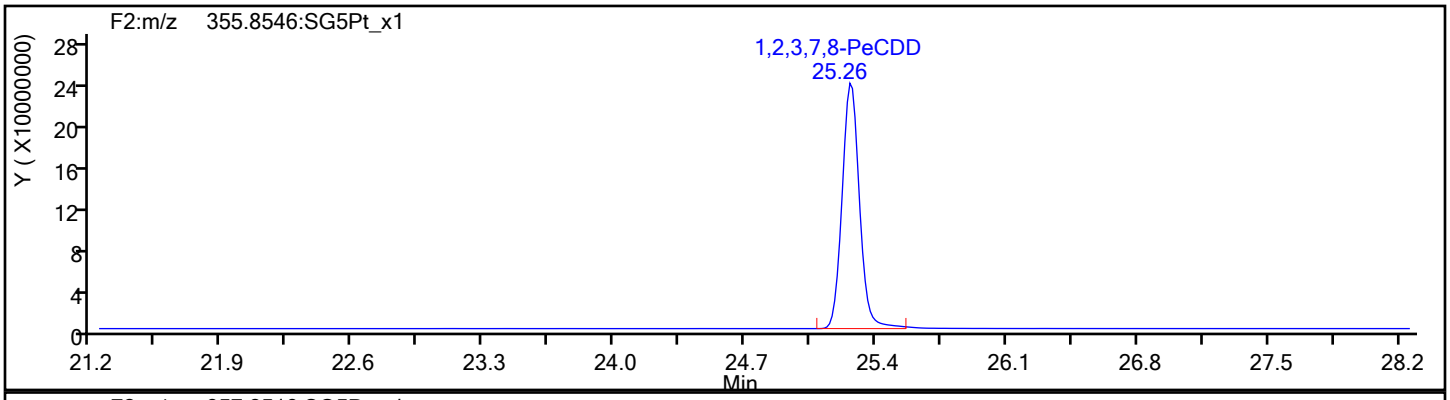

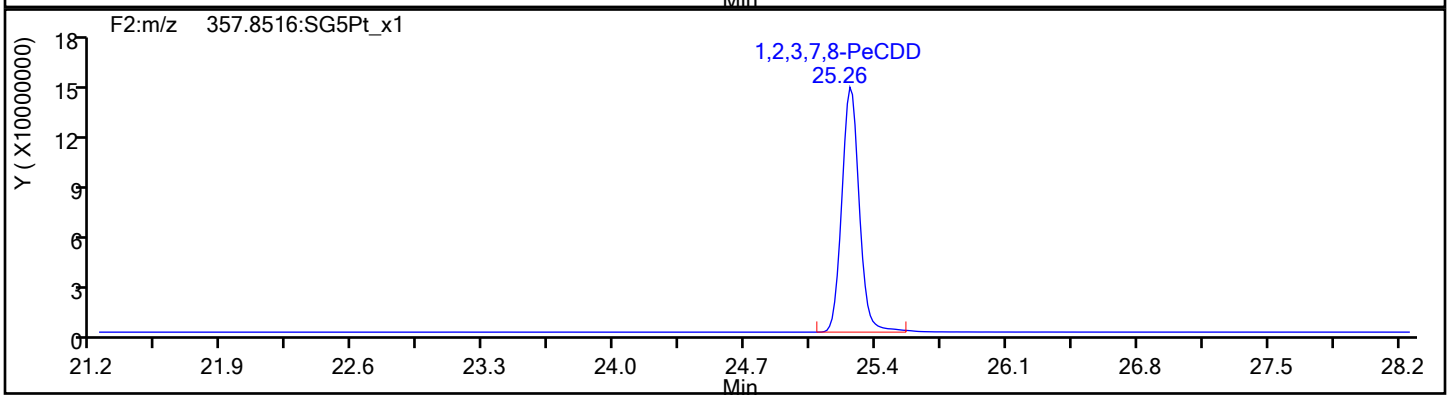

PeCDD Standards

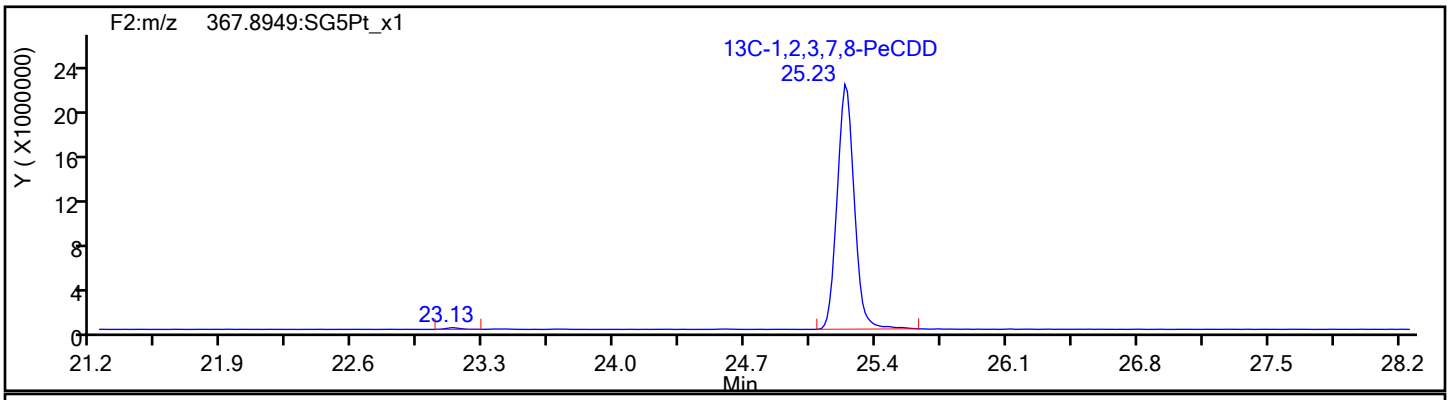

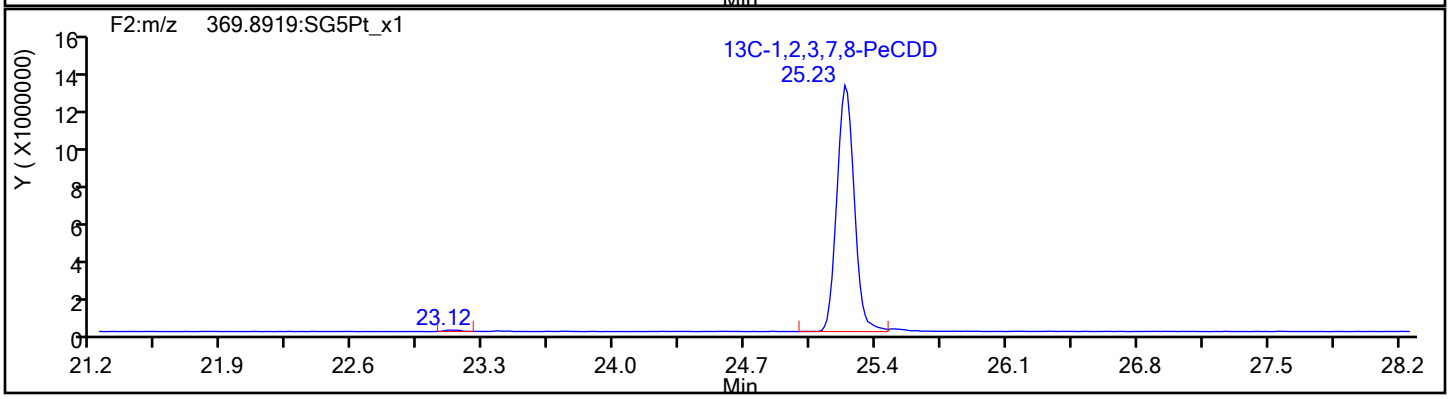

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Eurofins TestAmerica, Sacramento

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HxCDF

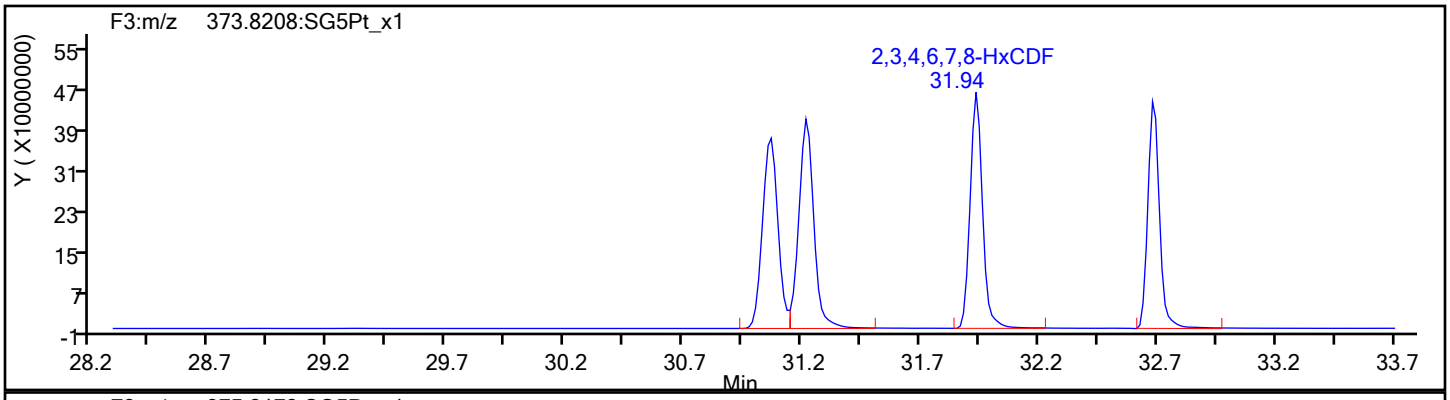

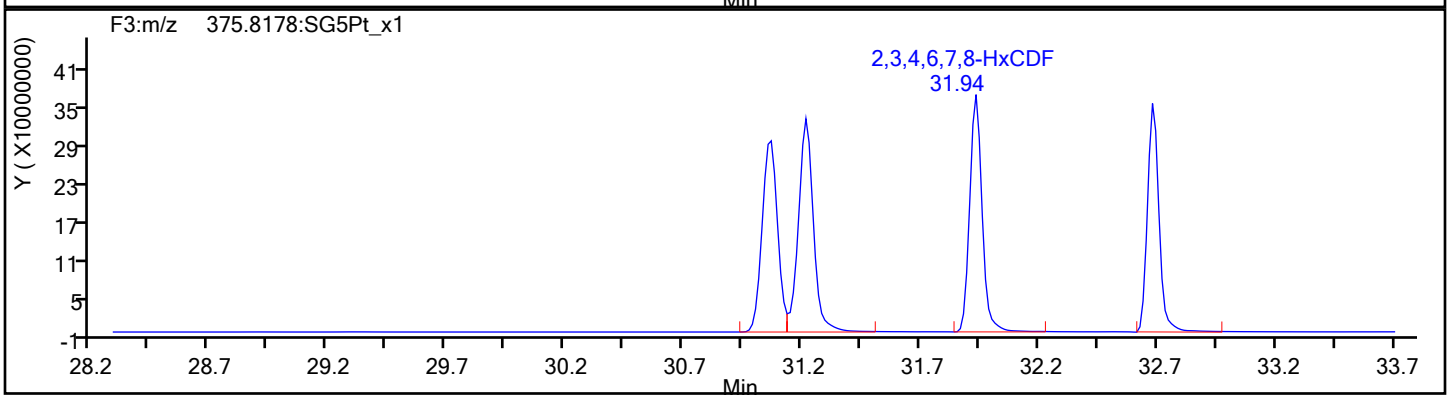

HxCDF Standards

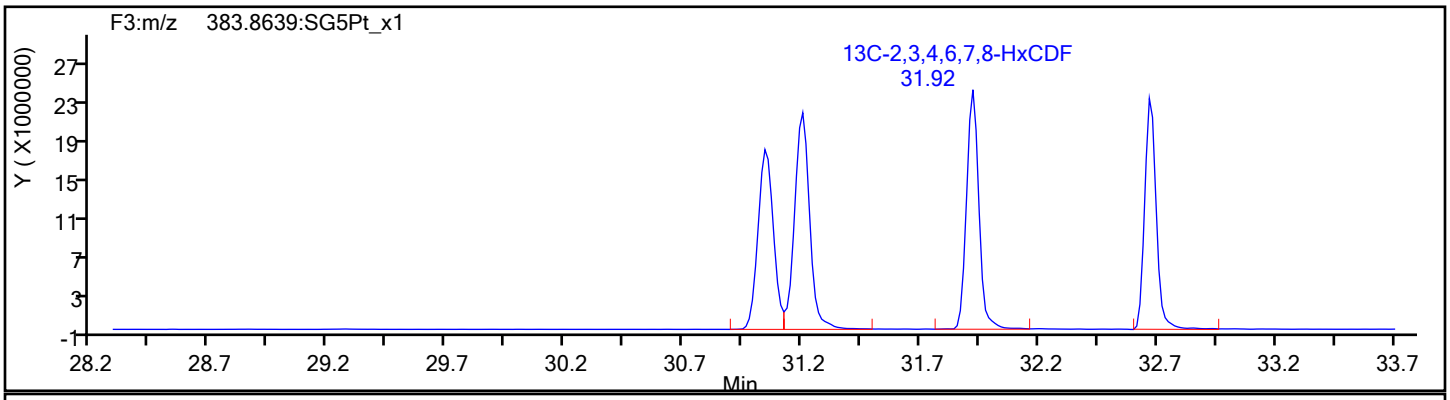

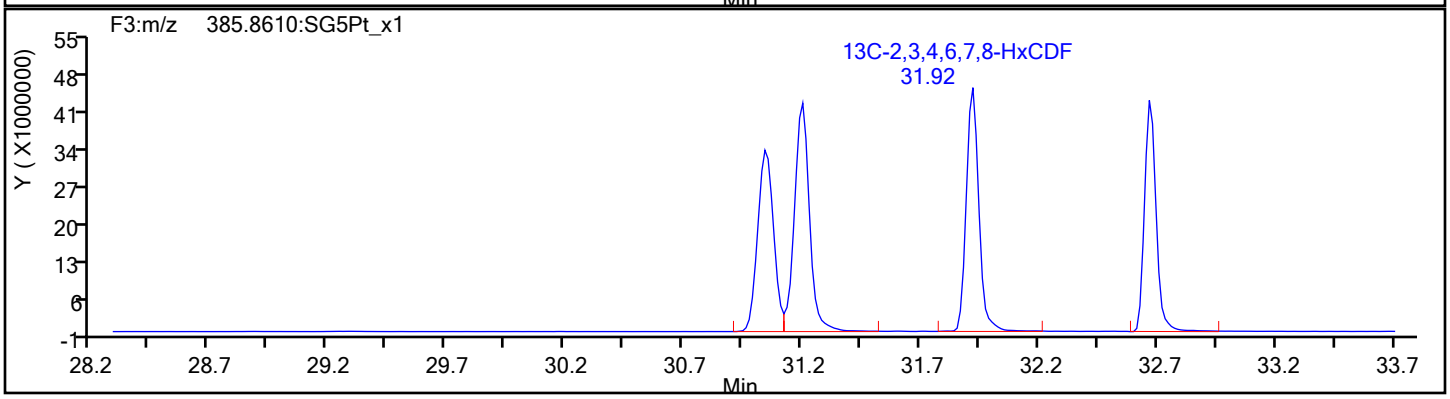

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Eurofins TestAmerica, Sacramento

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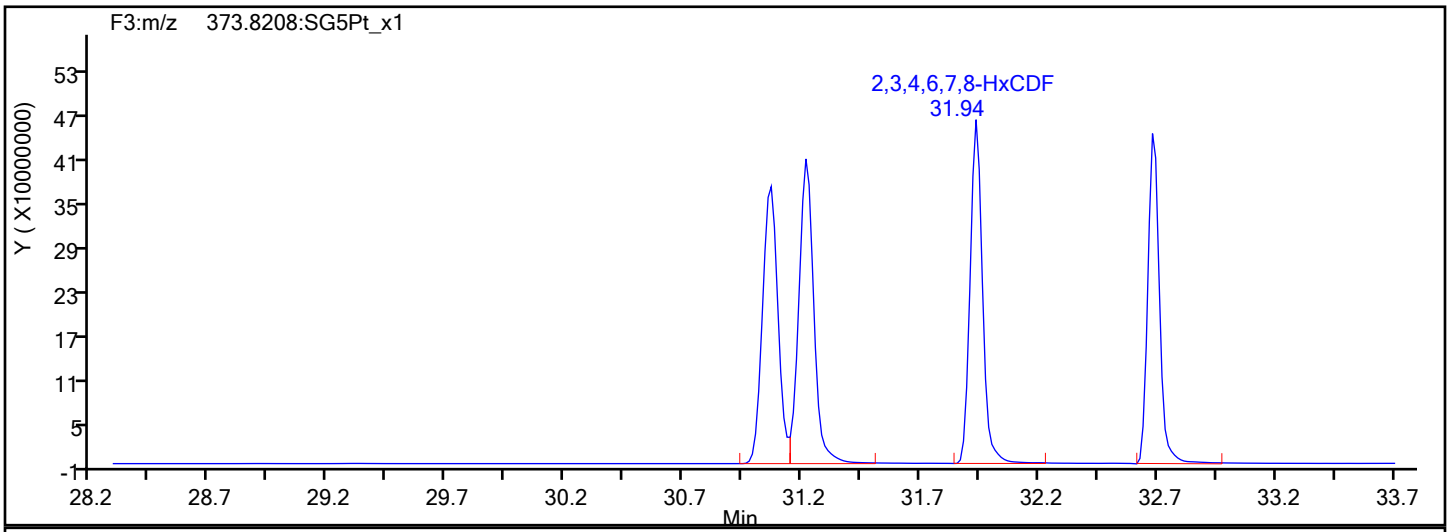

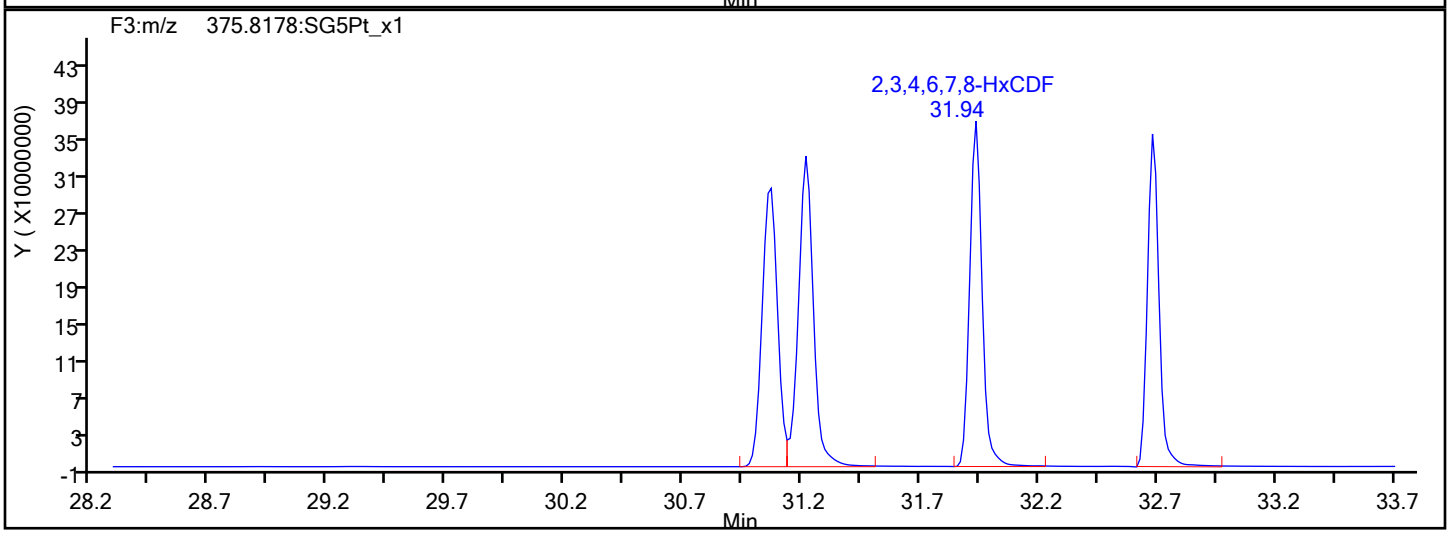

HxCDF Interference Mass

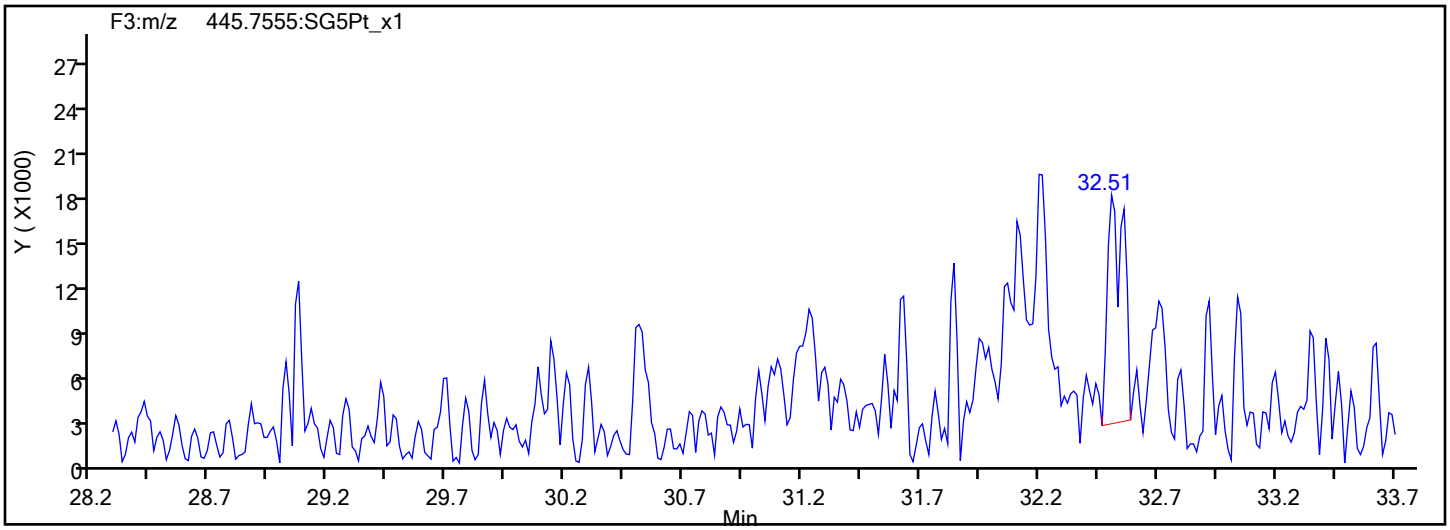

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Eurofins TestAmerica, Sacramento

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HxCDD

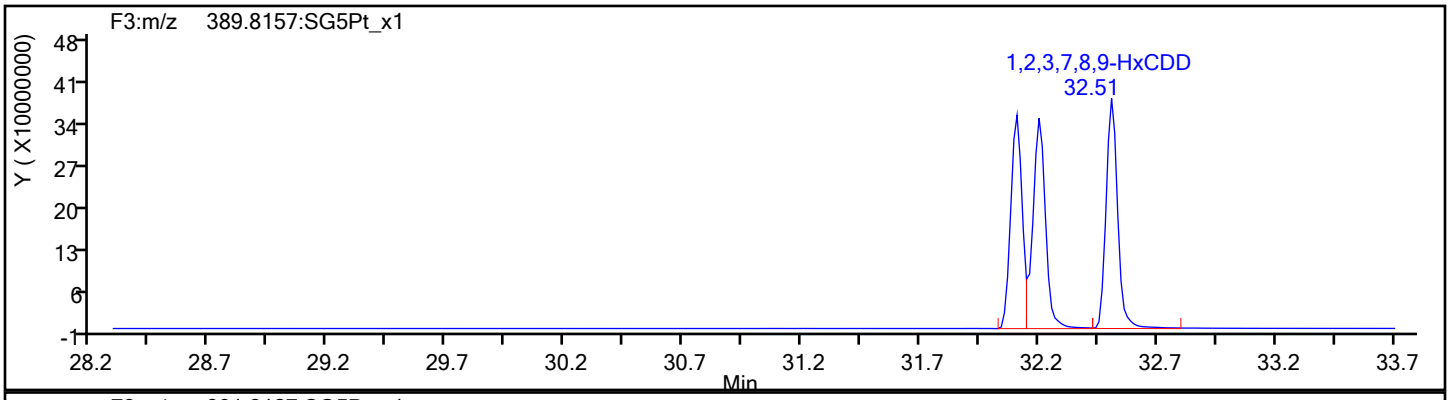

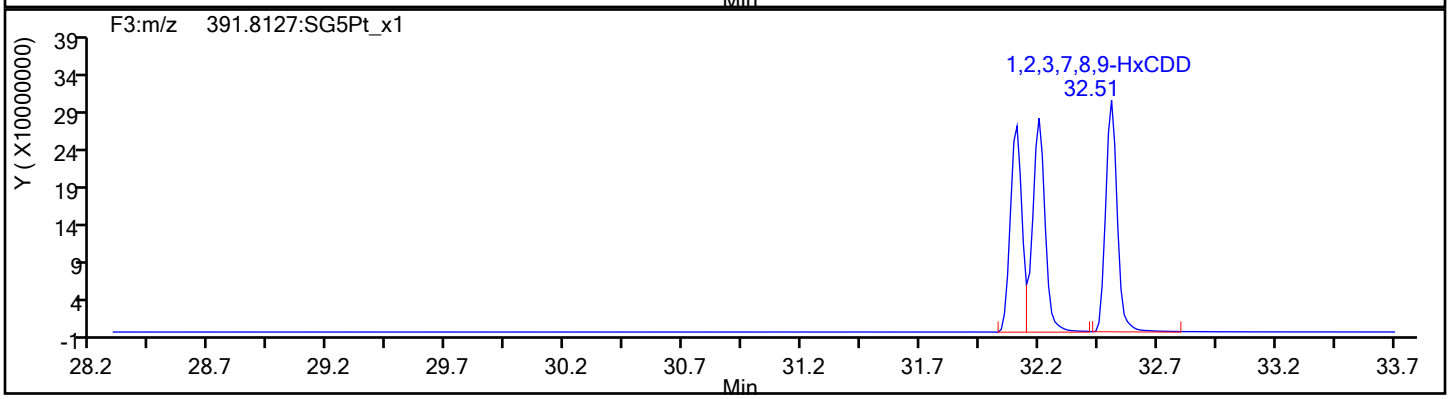

HxCDD Standards

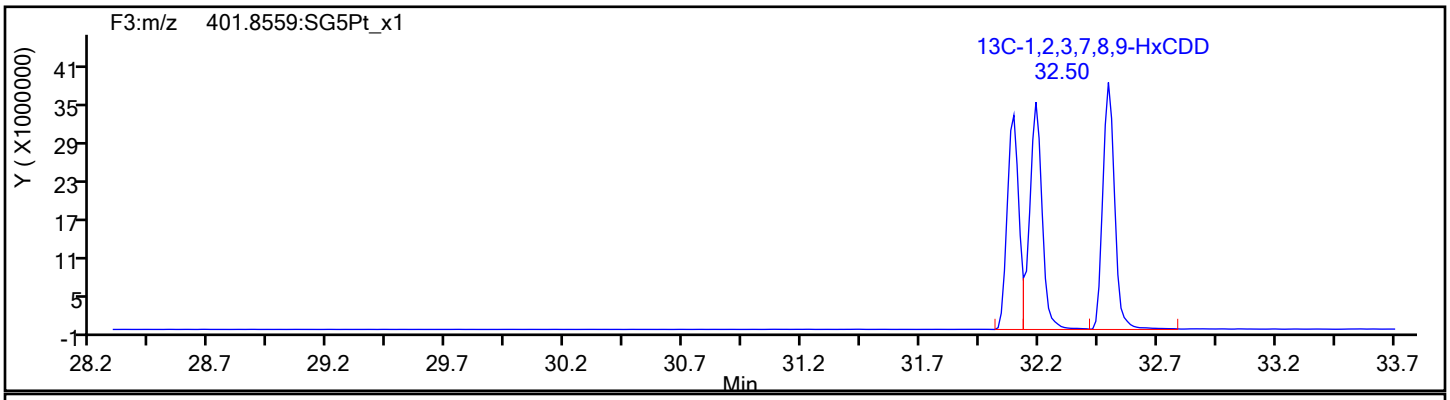

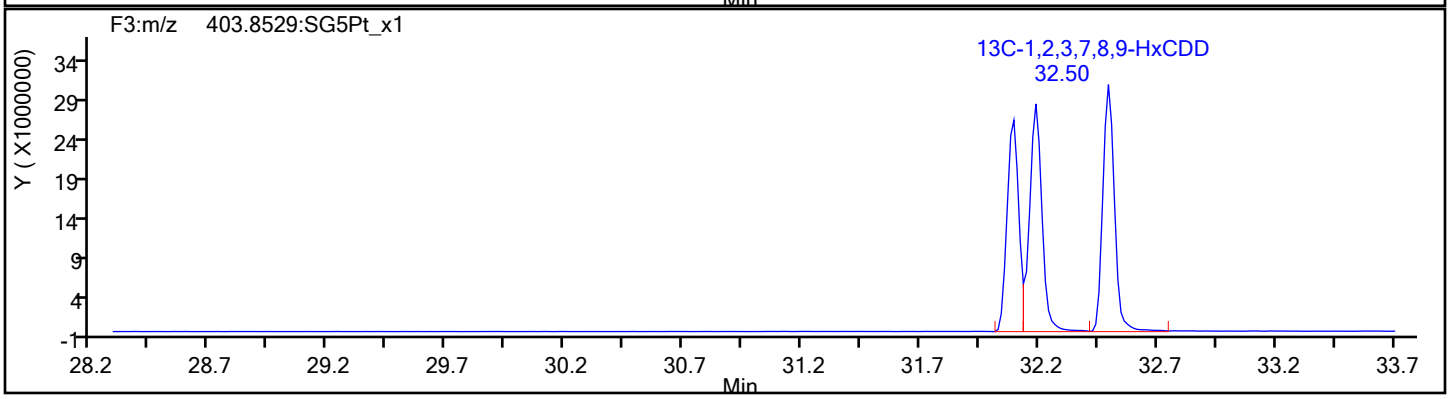

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Eurofins TestAmerica, Sacramento

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HpCDF

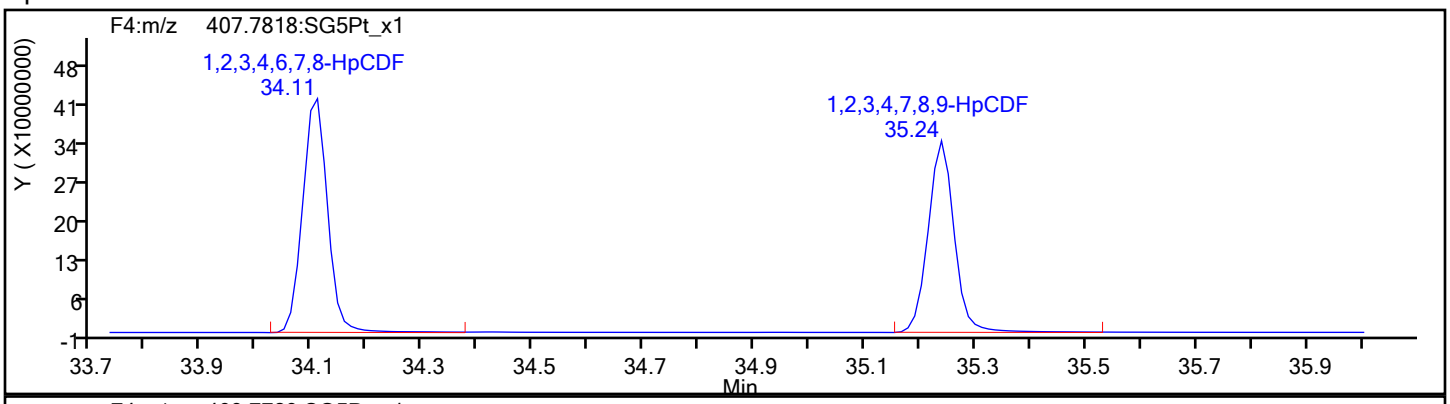

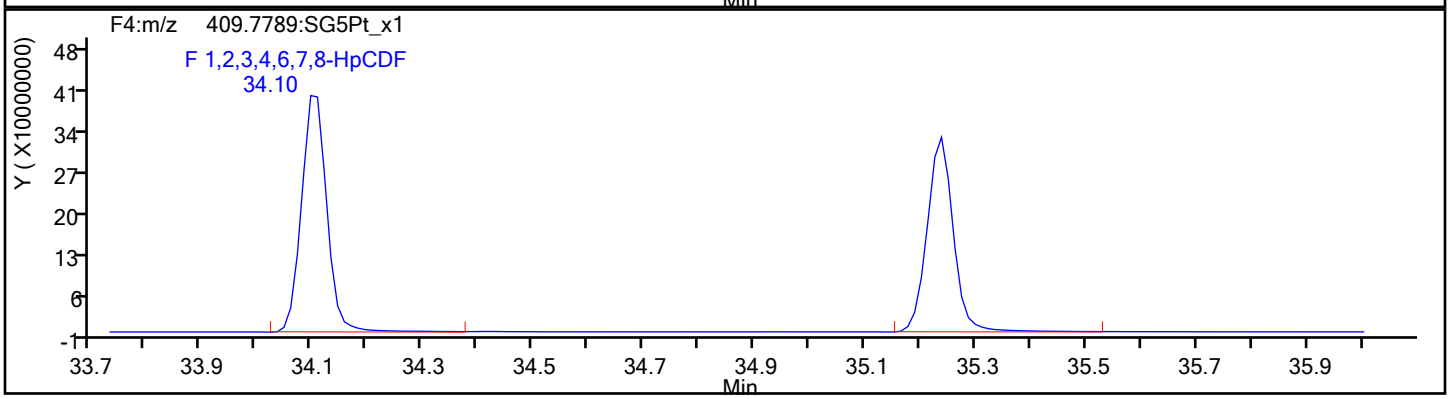

HpCDF Standards

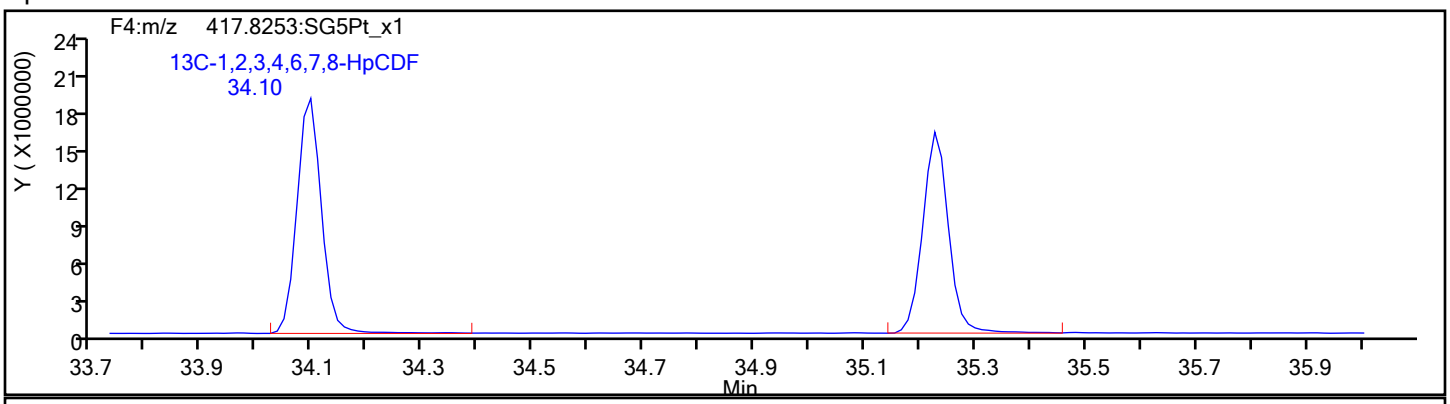

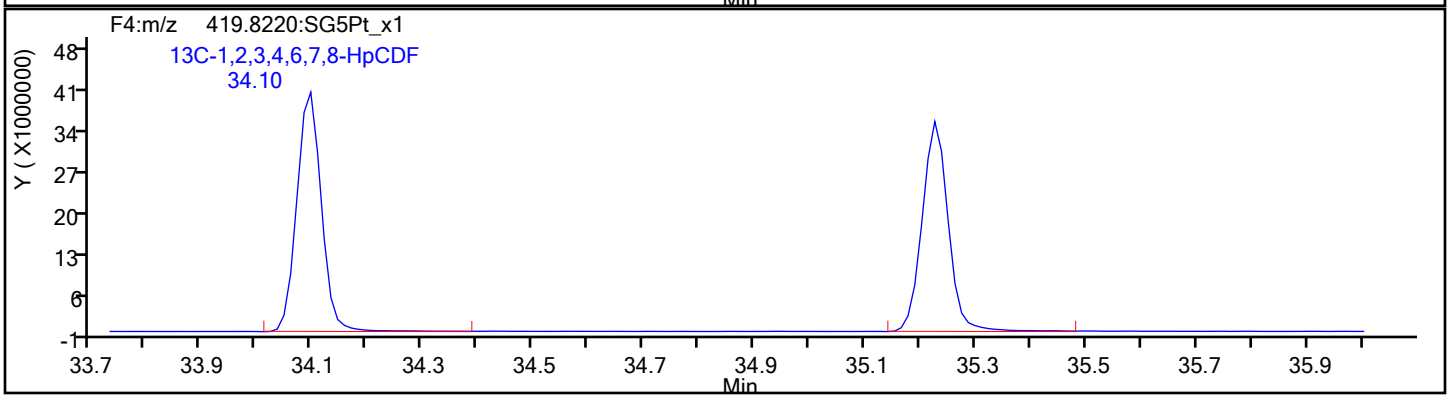

Report Date: 22-May-2019 11:45:03 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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HpCDF

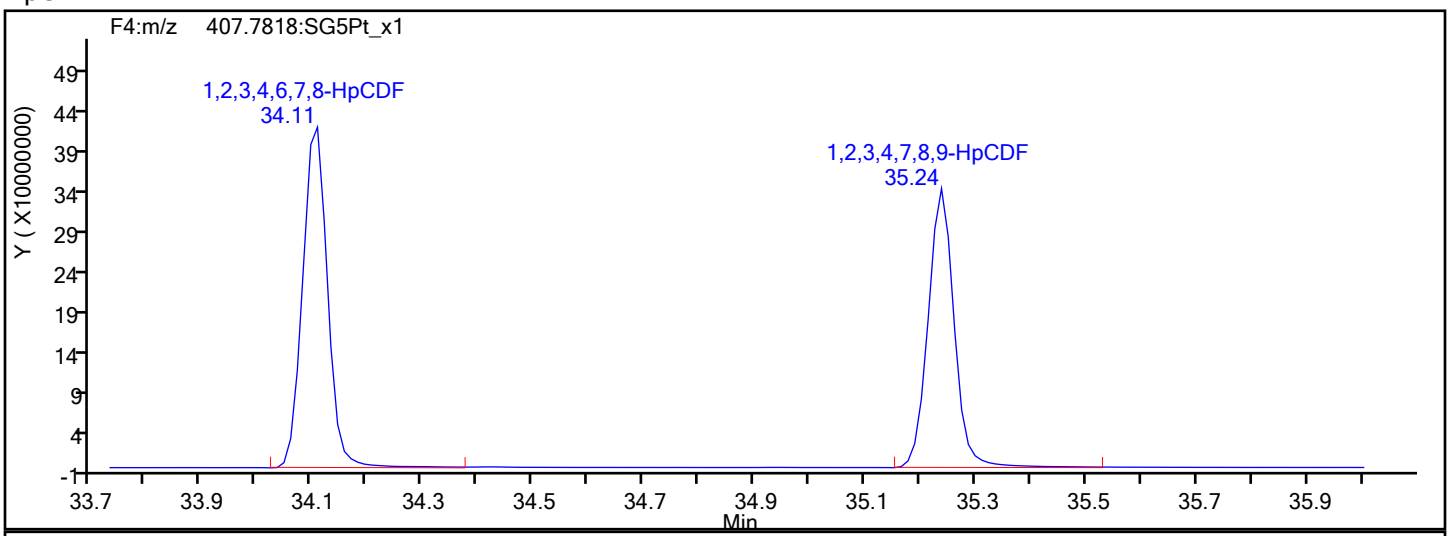

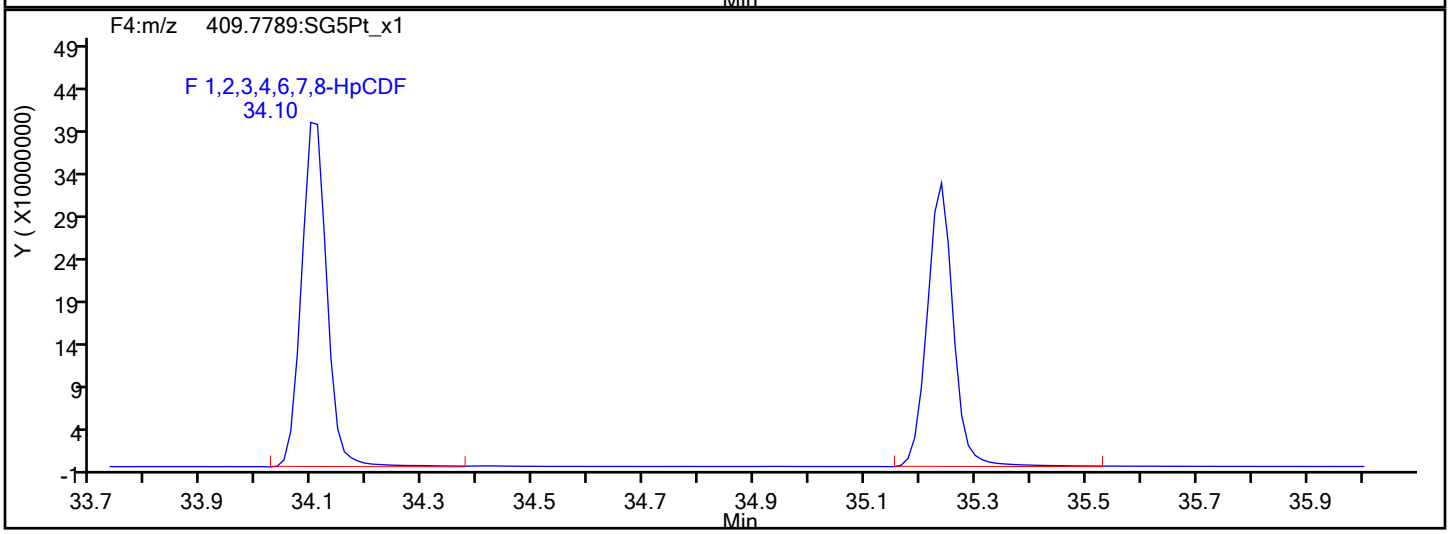

HpCDF Interference Mass

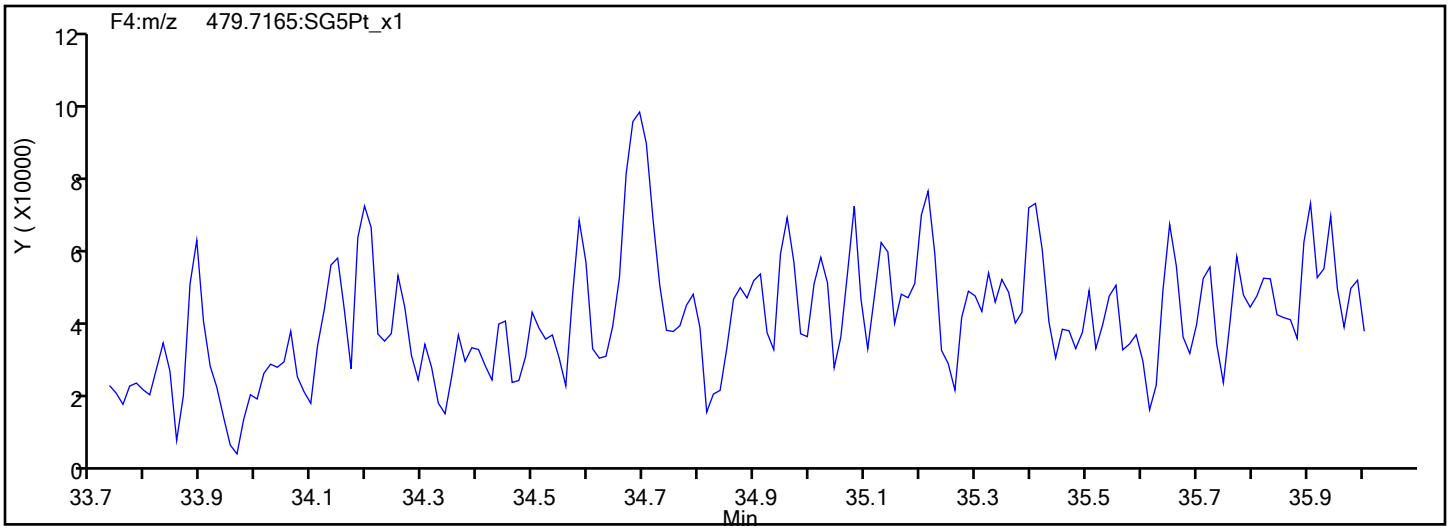

Report Date: 22-May-2019 11:45:03 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d		
Injection Date:	21-May-2019 16:41:15	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L6		
Worklist#:	296020	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

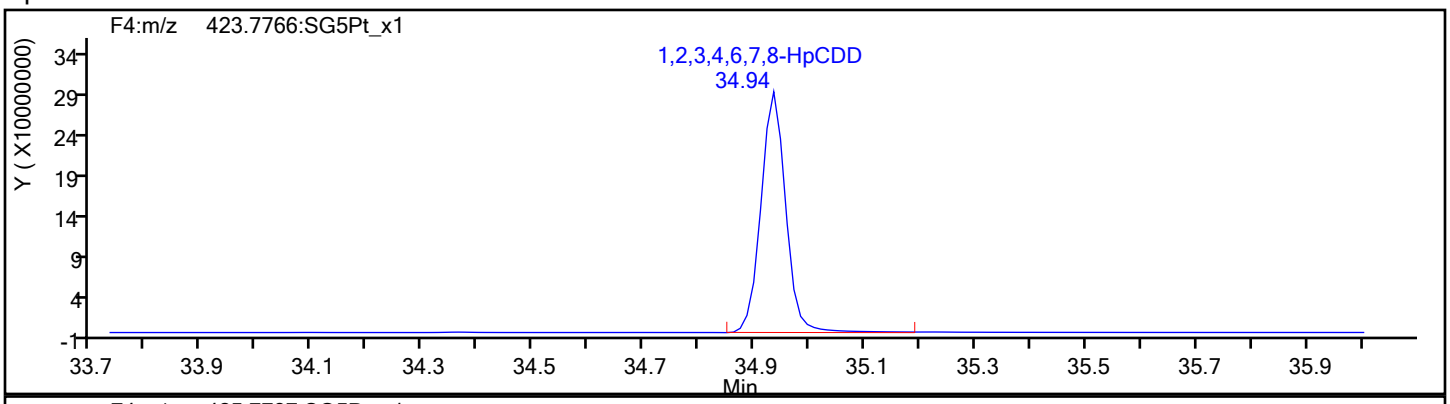

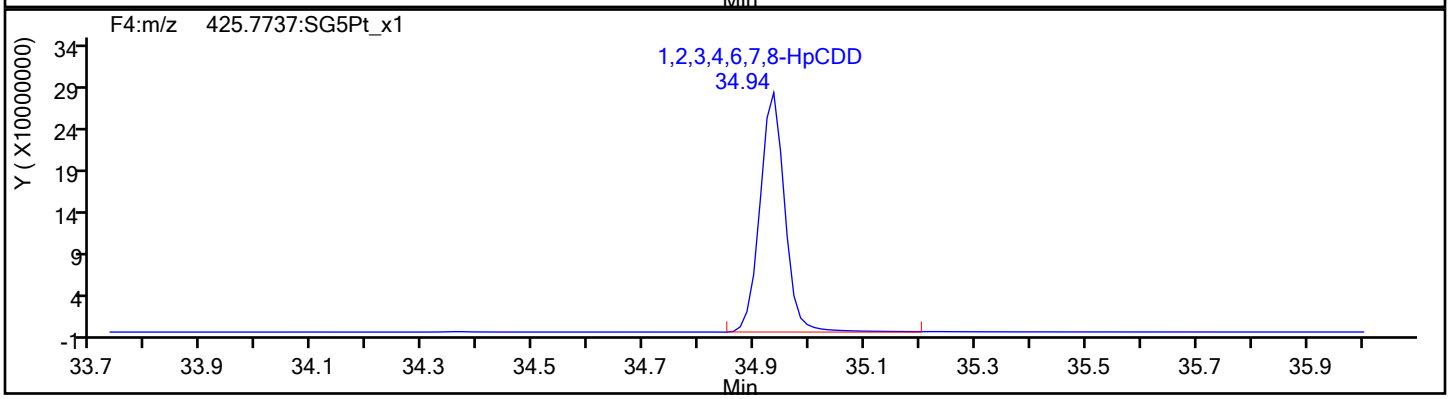

HpCDD Standards

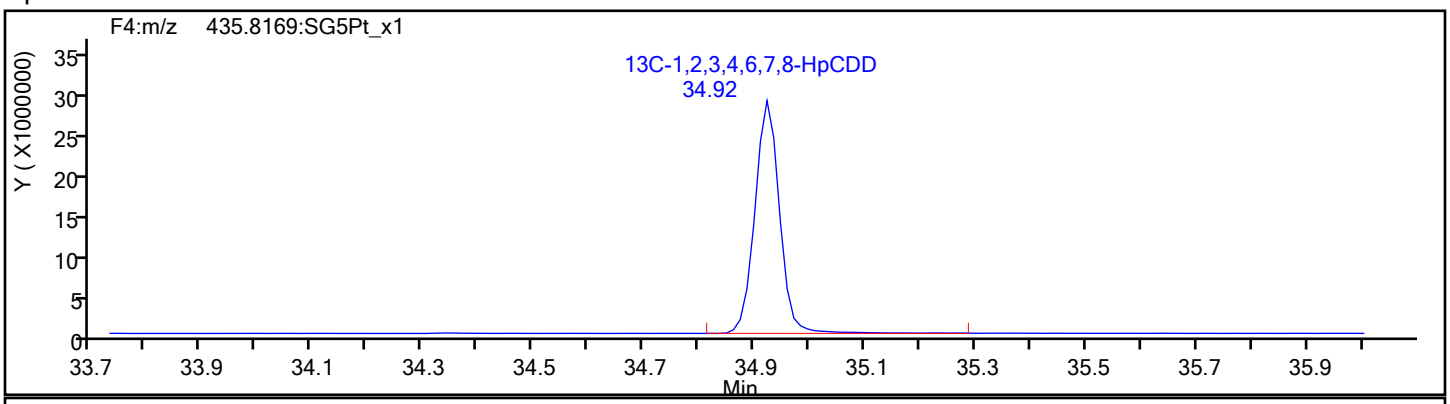

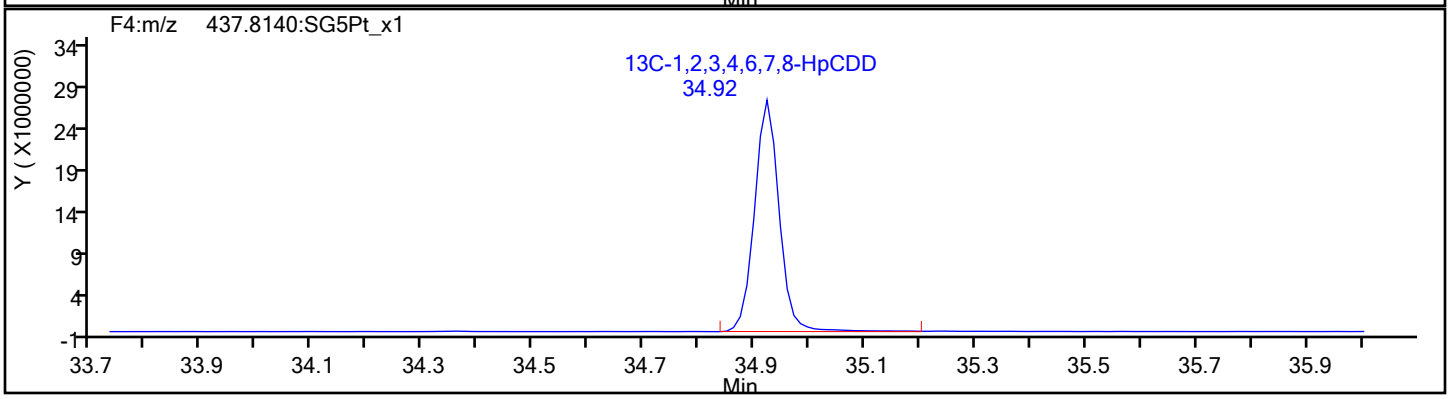

Report Date: 22-May-2019 11:45:03 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d		
Injection Date:	21-May-2019 16:41:15	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L6		
Worklist#:	296020	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

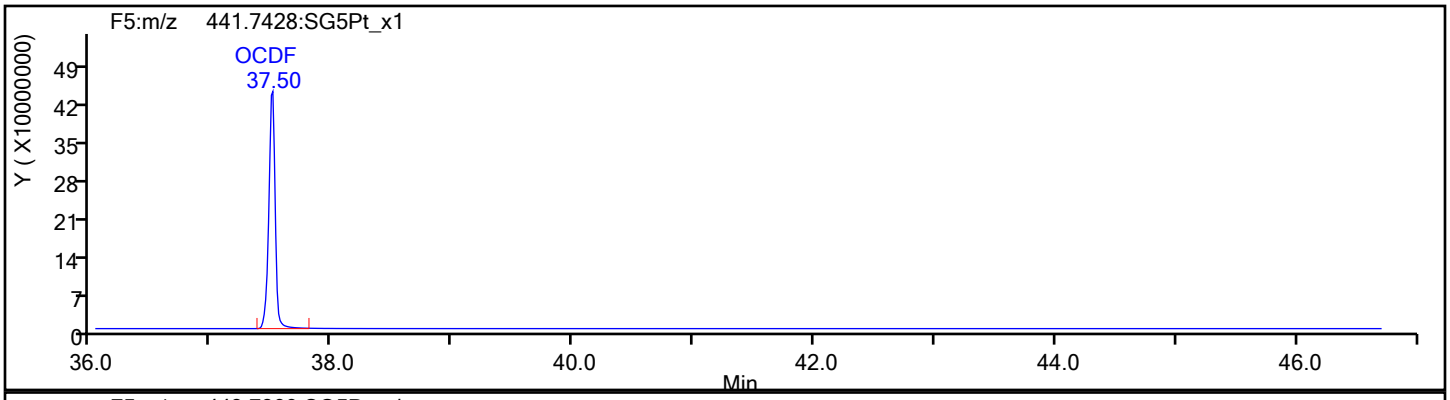

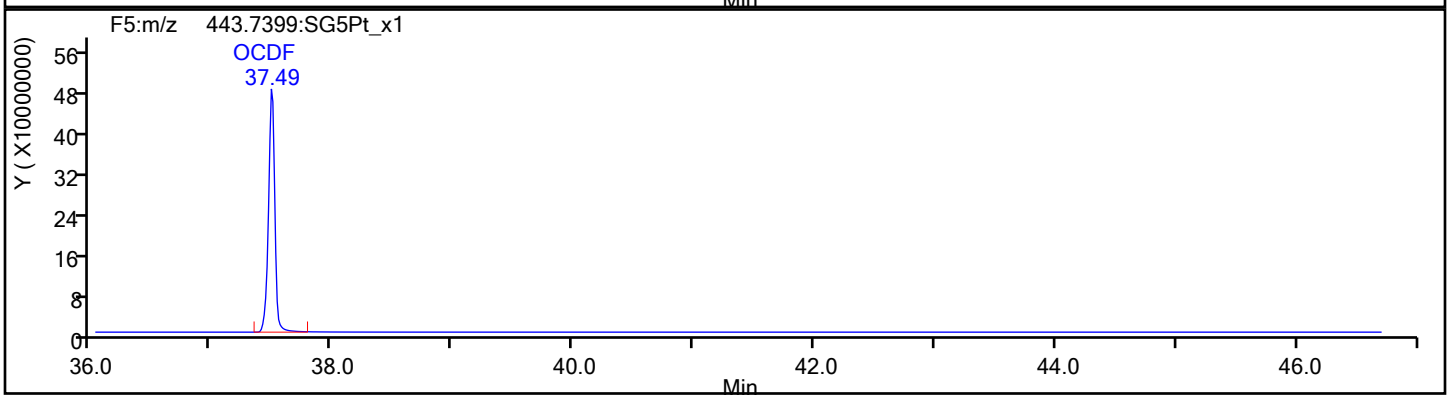

OCDF Standards

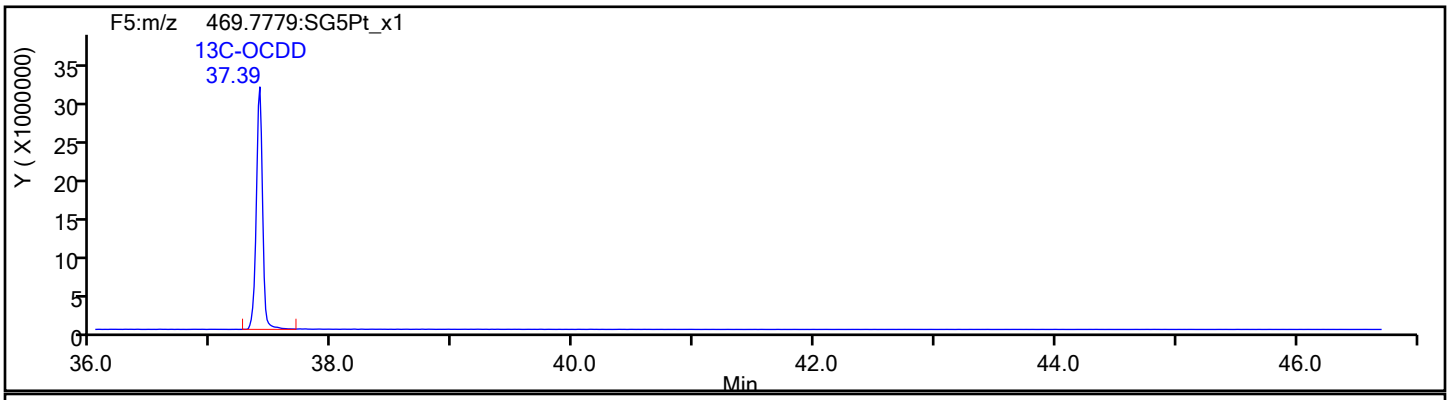

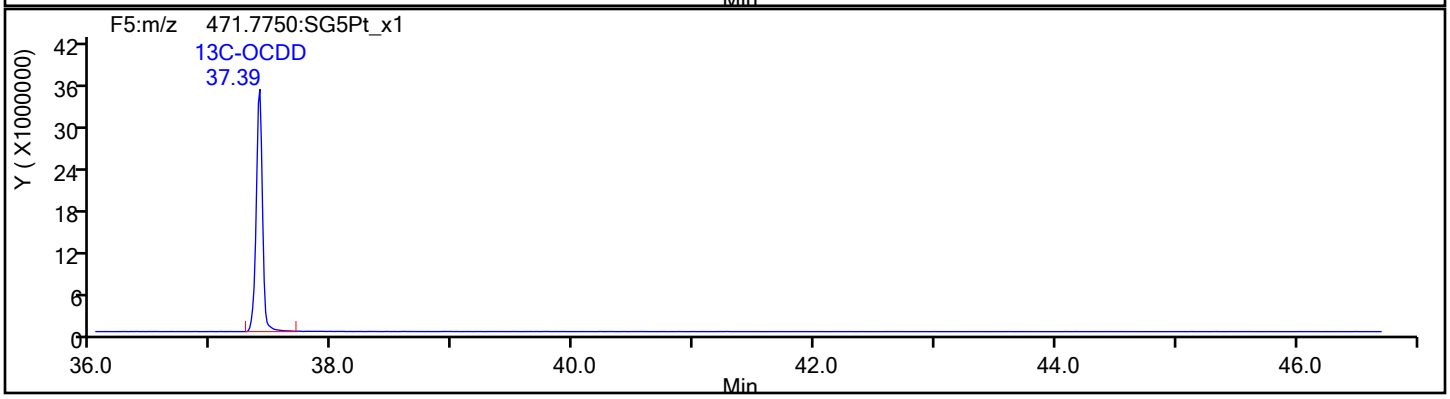

Report Date: 22-May-2019 11:45:03 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d		
Injection Date:	21-May-2019 16:41:15	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L6		
Worklist#:	296020	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

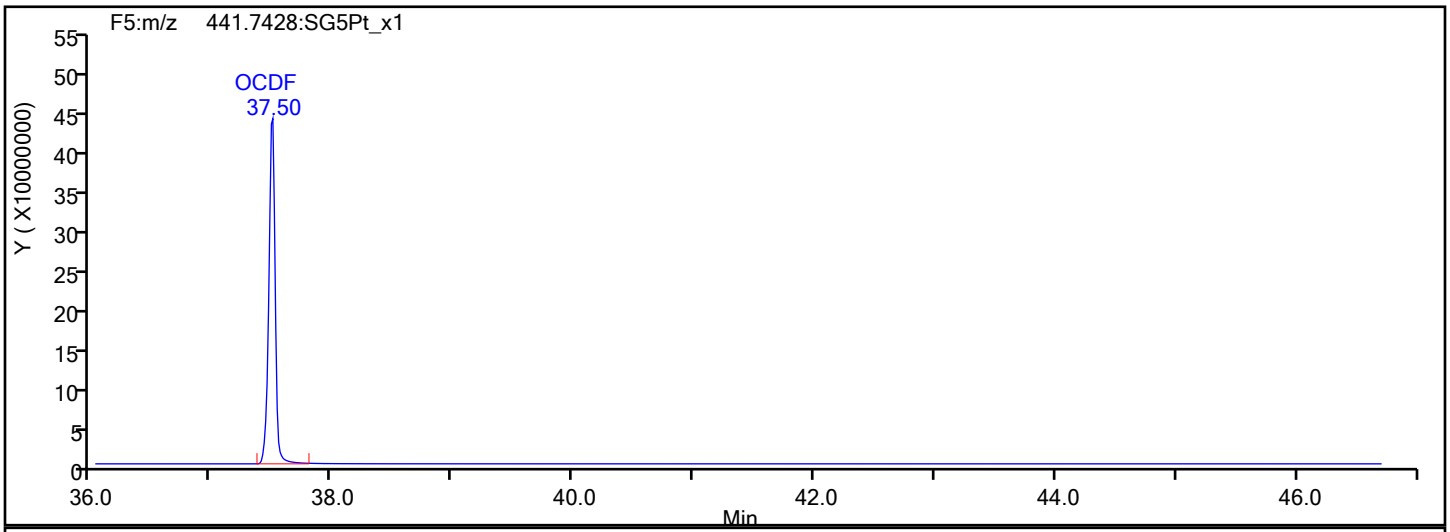

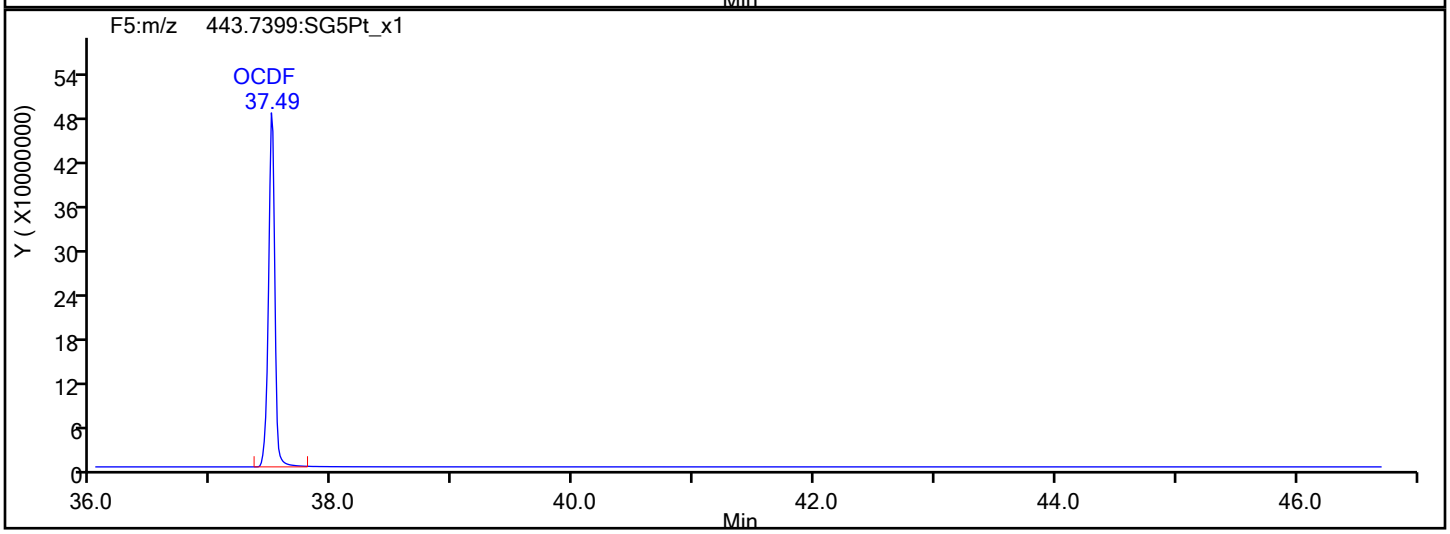

OCDF Interference Mass

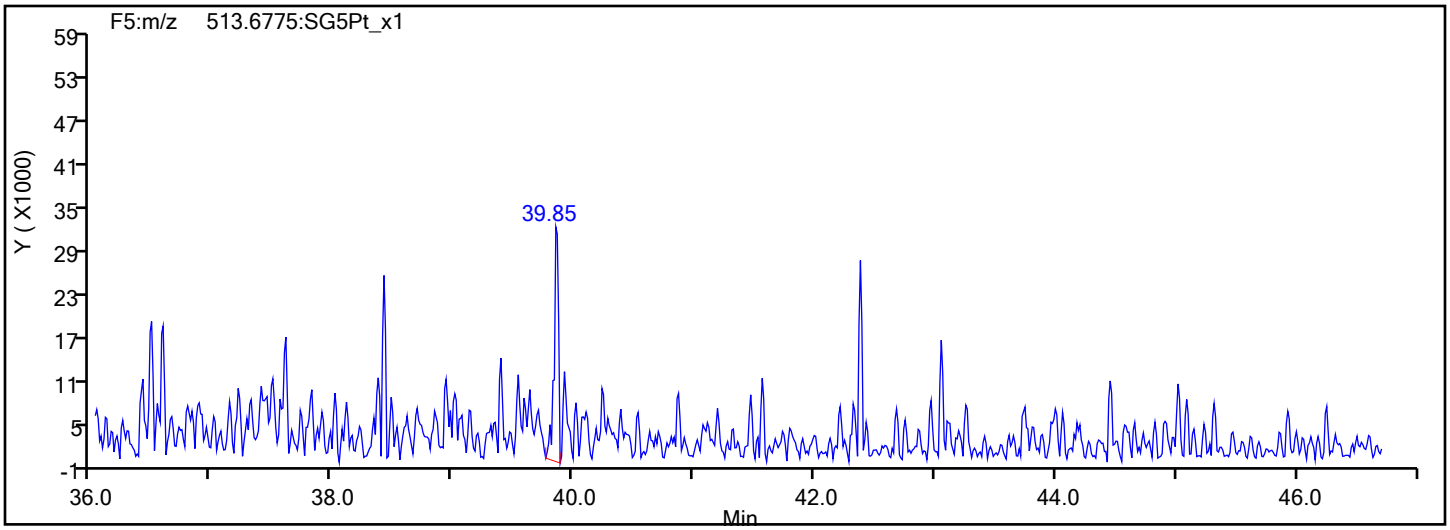

Report Date: 22-May-2019 11:45:03 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d		
Injection Date:	21-May-2019 16:41:15	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L6		
Worklist#:	296020	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

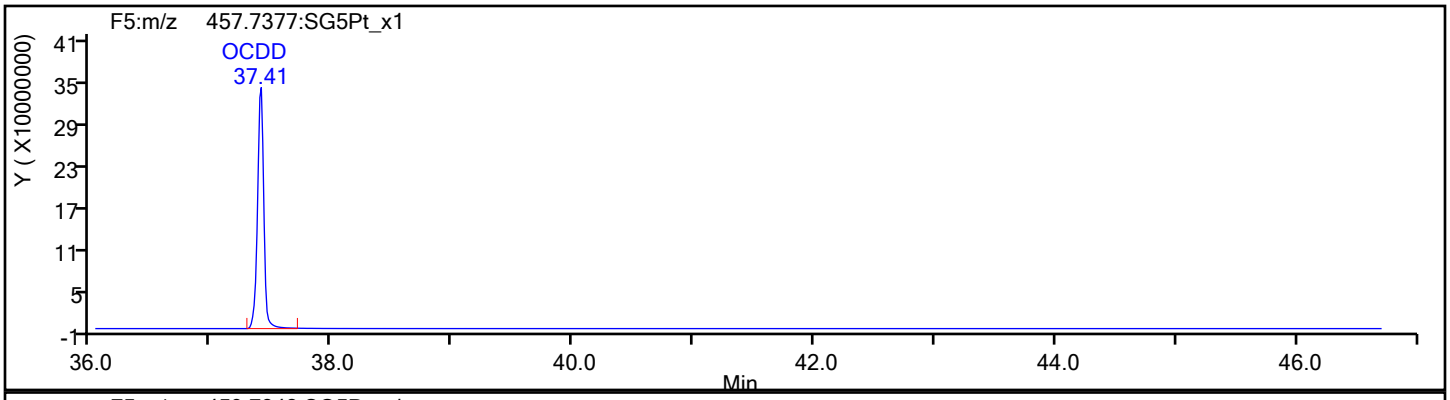

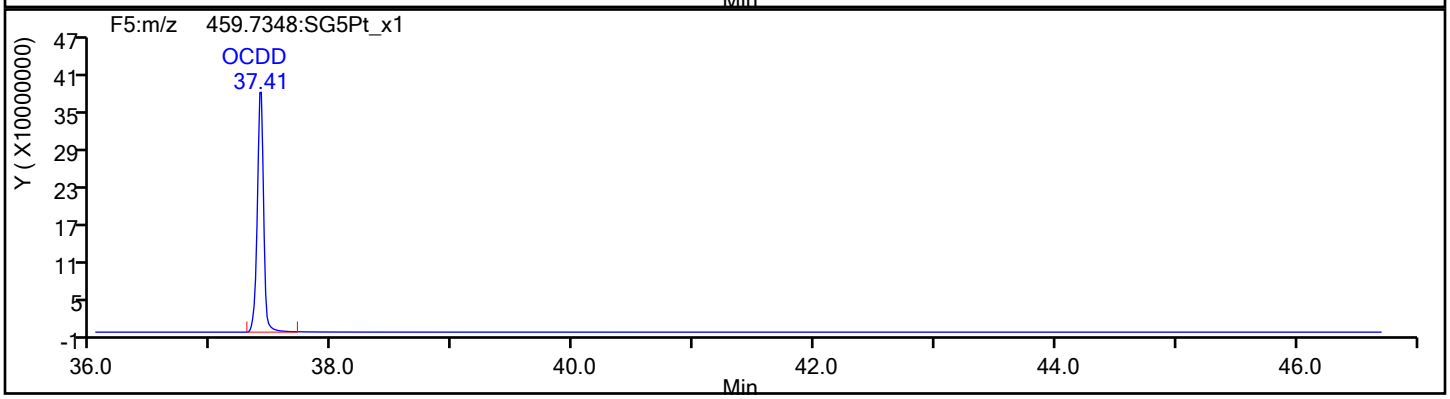

OCDD Standards

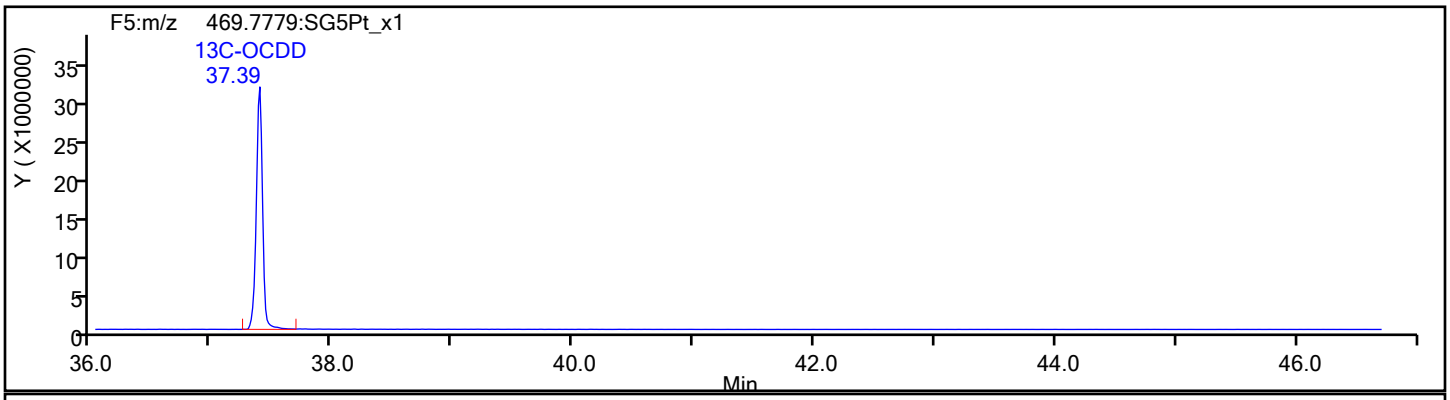

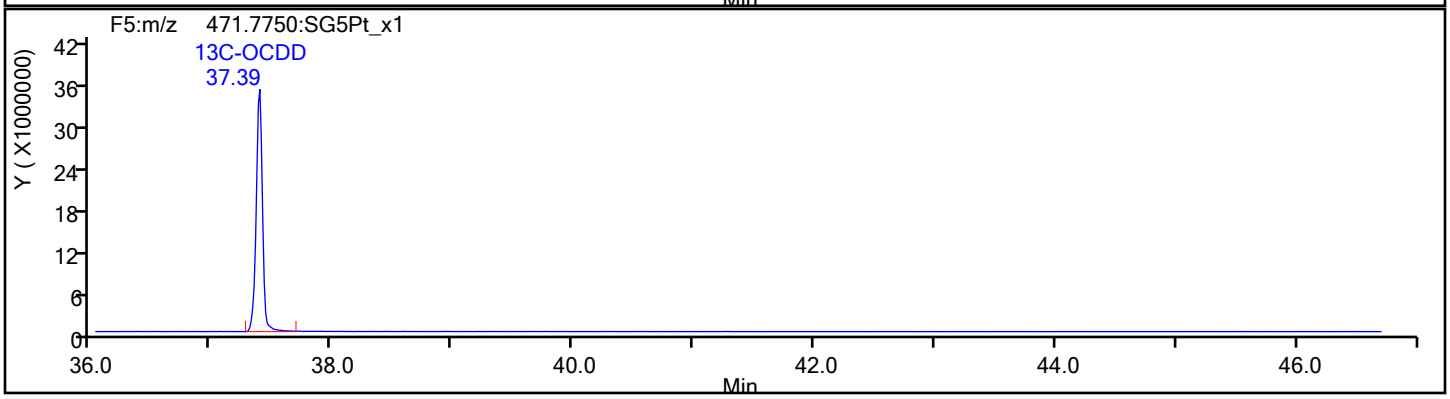

Report Date: 22-May-2019 11:45:03 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d		
Injection Date:	21-May-2019 16:41:15	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L6		
Worklist#:	296020	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

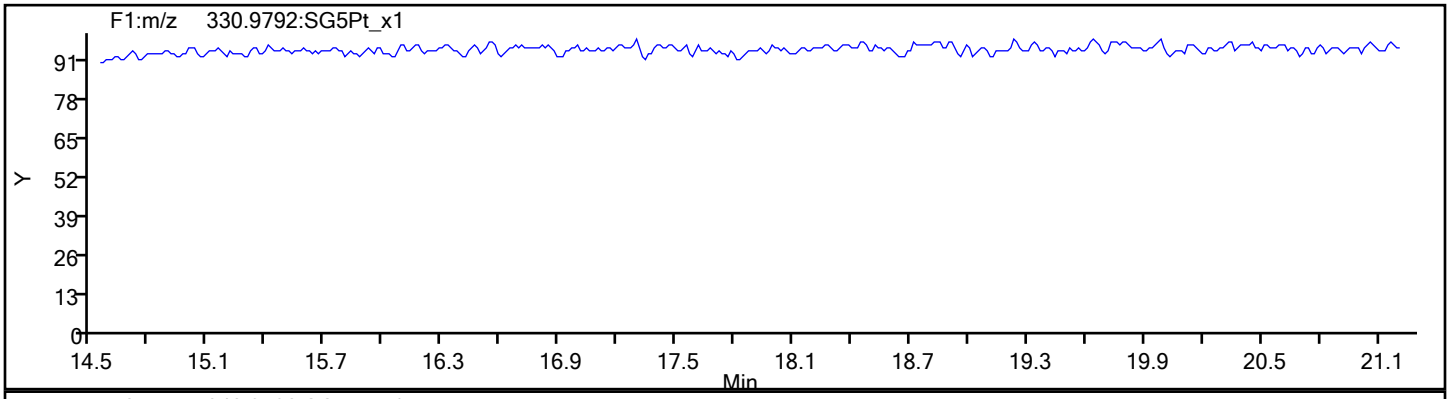

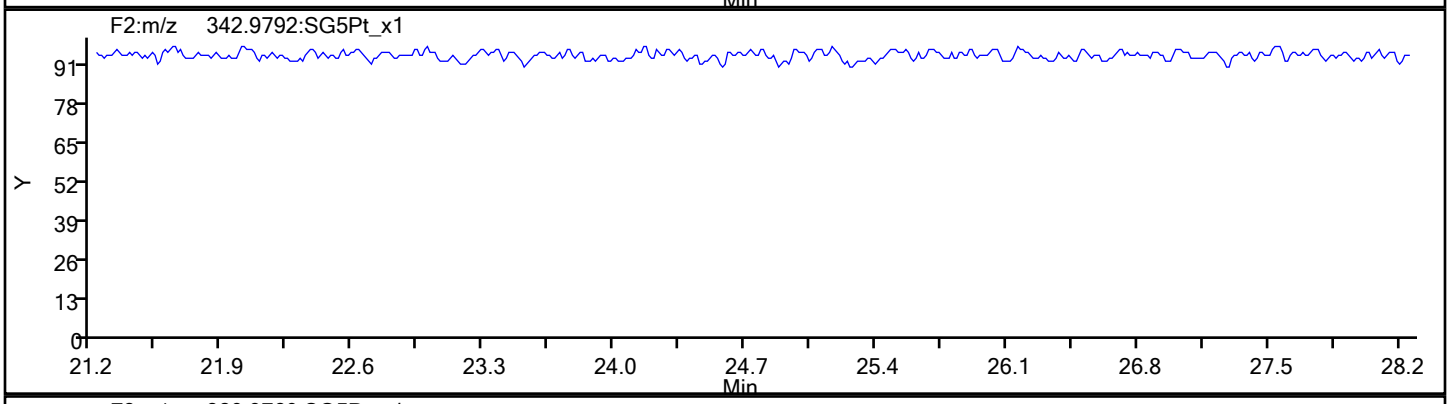

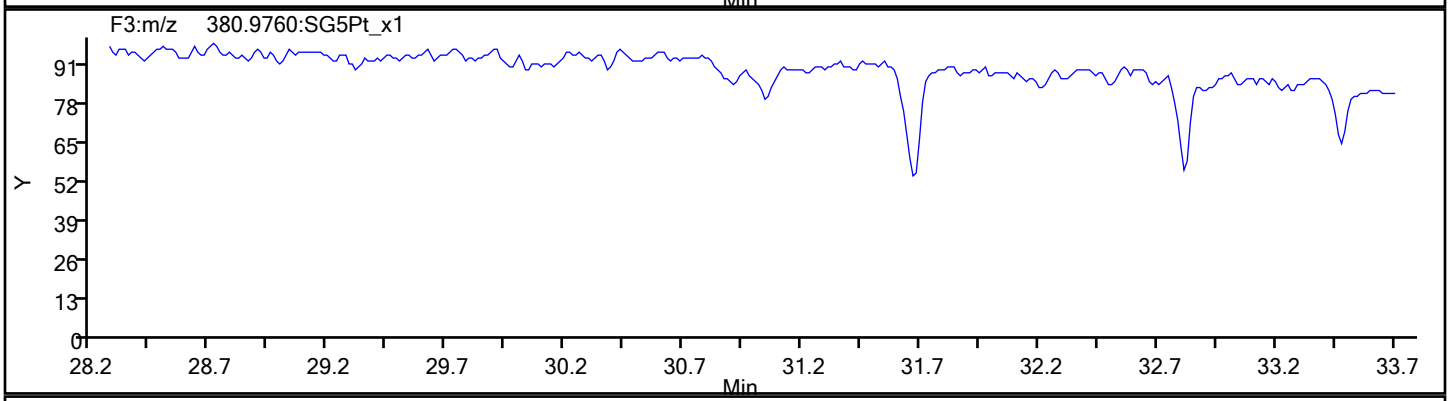

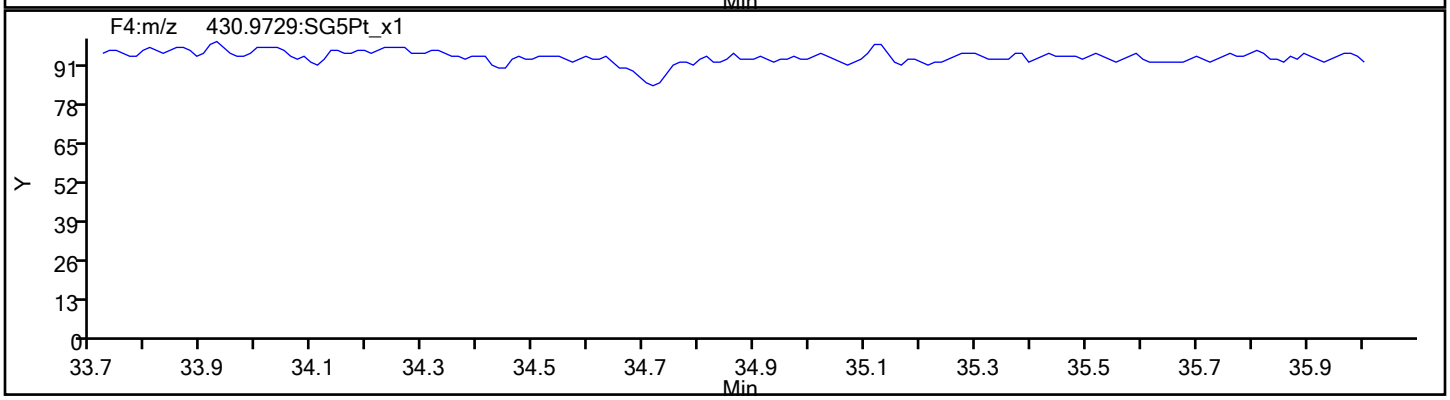

Report Date: 22-May-2019 11:45:03 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d		
Injection Date:	21-May-2019 16:41:15	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L6		
Worklist#:	296020	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

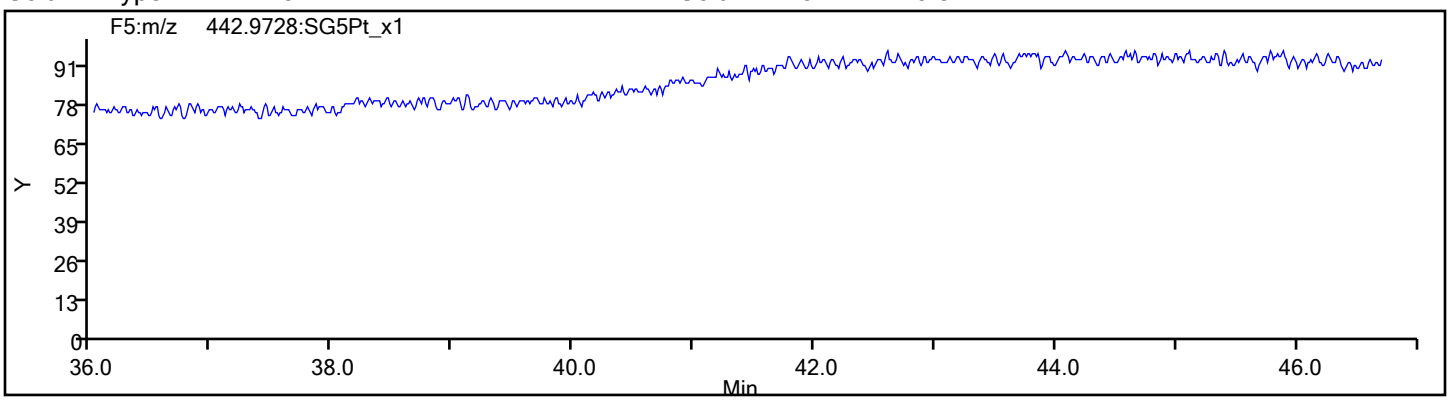

FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Lab Sample ID (1): WDM 320-296020/1 Instrument ID (1): 3D5

GC Column (1): DB-5 ID: 0.32(mm) Date Analyzed (1): 05/21/2019 11:56

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDD	18.64	16

Resolution Report

Eurofins TestAmerica, Sacramento

Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_1.d
Injection Date: 21-May-2019 11:56:21 Instrument ID: 3D5
Lims ID: WDM
Client ID:
Operator ID: AJS ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Column:
Method: Dioxin_3D5 Limit Group: HR - 1613B - ICAL

2,3,7,8-TCDD

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 2235020
H (Peak Height) = 13619735

%R = 16 <= 25
Passed

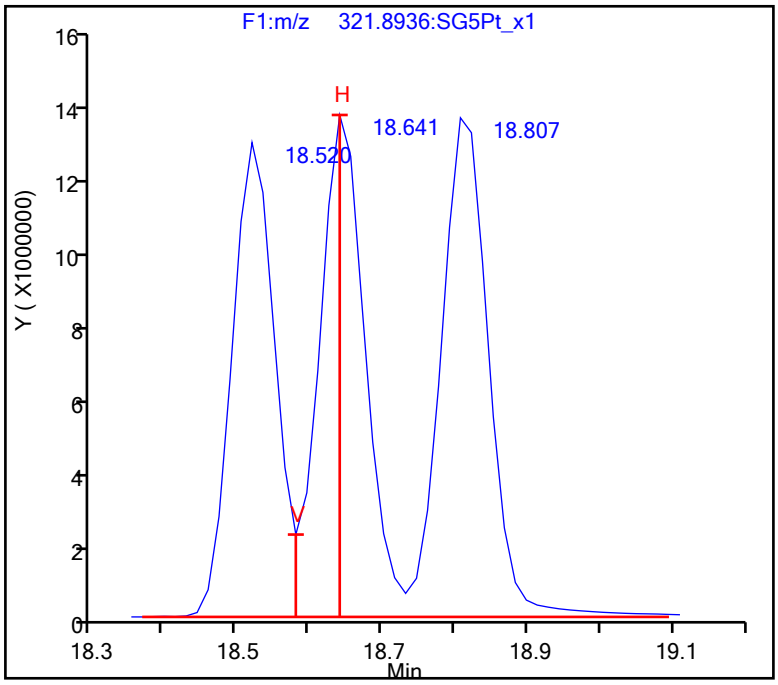

FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Lab Sample ID (1): WDM 320-324128/1 Instrument ID (1): 10D5

GC Column (1): DB-5 ID: 0.32(mm) Date Analyzed (1): 09/17/2019 11:28

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDD	17.51	22

Resolution Report

Eurofins TestAmerica, Sacramento

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d
Injection Date: 17-Sep-2019 11:28:41 Instrument ID: 10D5
Lims ID: WDM
Client ID:
Operator ID: AJS ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Column: DB-5 (0.32 mm)
Method: Dioxin_10D5 Limit Group: HR - 1613B - ICAL

2,3,7,8-TCDD

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 1464421
H (Peak Height) = 6639771

%R = 22 <= 25
Passed

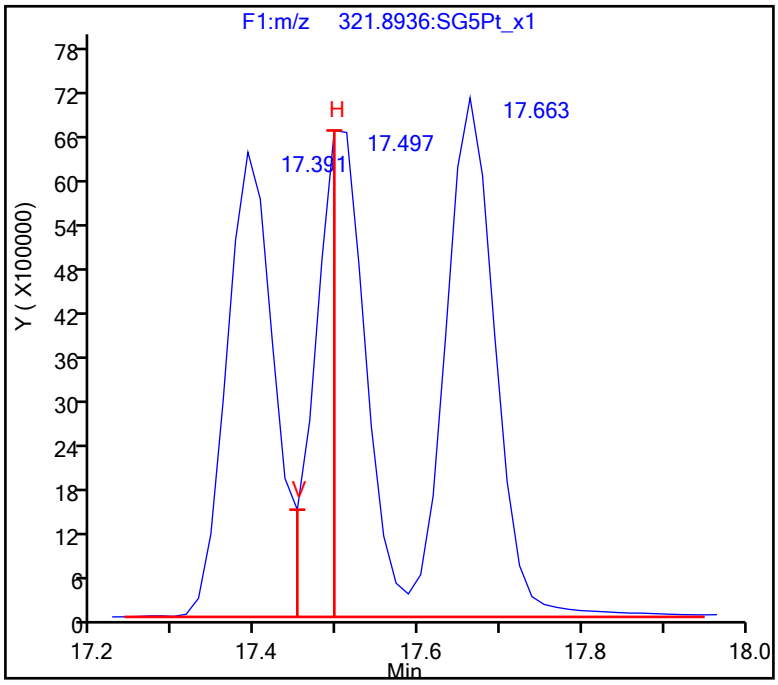

FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Lab Sample ID (1): WDM 320-334889/2 Instrument ID (1): 3D5

GC Column (1): DB-5 ID: 0.32(mm) Date Analyzed (1): 10/30/2019 22:23

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDD	17.84	18

Resolution Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_2.d				
Injection Date:	30-Oct-2019 22:23:48	Instrument ID:	3D5		
Lims ID:	WDM				
Client ID:					
Operator ID:	ALM	ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	2.0 ul	Column:	DB-5 (0.32 mm)		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		

2,3,7,8-TCDD

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 2704196
H (Peak Height) = 15309939

%R = 18 <= 25
Passed

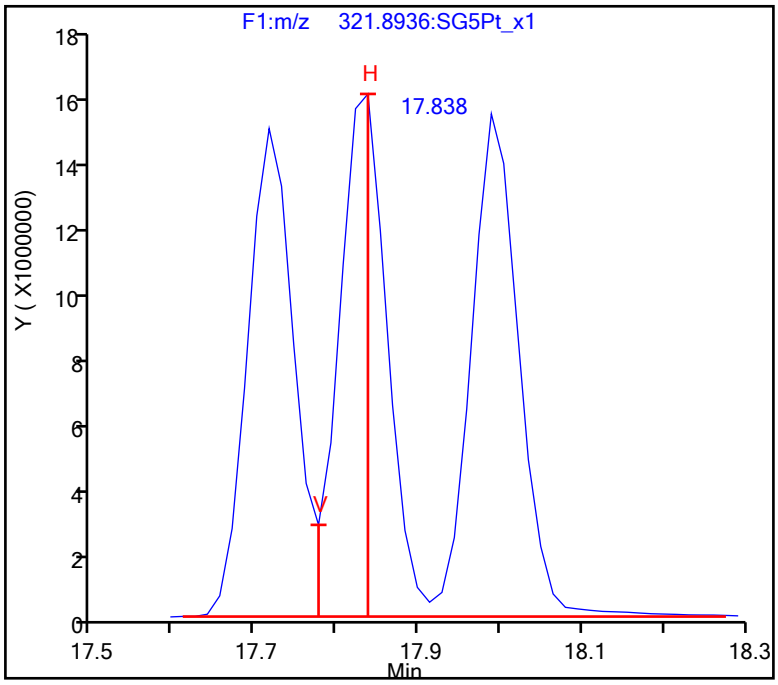

FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Lab Sample ID (1): WDM 320-335194/1 Instrument ID (1): 10D5

GC Column (1): DB-5 ID: 0.32(mm) Date Analyzed (1): 10/31/2019 13:25

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDD	17.52	20

Resolution Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191031-85912.b\31OC1910D5_1.d				
Injection Date:	31-Oct-2019 13:25:17	Instrument ID:	10D5		
Lims ID:	WDM				
Client ID:					
Operator ID:	SMA	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	2.0 ul	Column:	DB-5 (0.32 mm)		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		

2,3,7,8-TCDD

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 1076143
H (Peak Height) = 5389864

%R = 20 <= 25
Passed

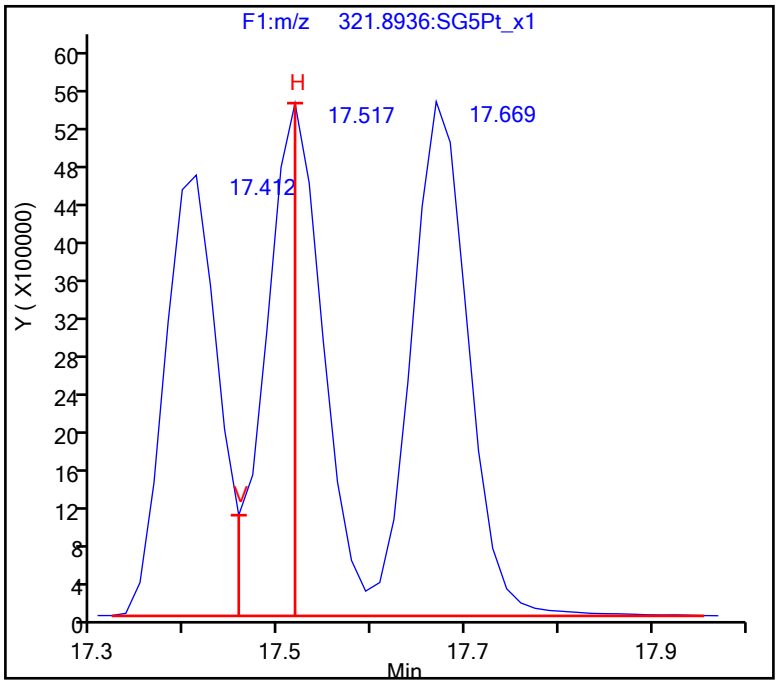

FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 320-324128/10 Calibration Date: 09/17/2019 18:27

Instrument ID: 10D5 Calib Start Date: 09/17/2019 13:03

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 09/17/2019 16:55

Lab File ID: 17SE1910D5_10.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
2,3,7,8-TCDF	AveID	1.051	1.063		40.5	40.0	101	70-130
2,3,7,8-TCDD	AveID	1.106	1.174		42.4	40.0	106	70-130
1,2,3,7,8-PeCDF	AveID	1.082	1.106		204	200	102	70-130
2,3,4,7,8-PeCDF	AveID	1.103	1.244		225	200	113	70-130
1,2,3,7,8-PeCDD	AveID	0.9050	0.8964		198	200	99	70-130
1,2,3,4,7,8-HxCDF	AveID	1.197	1.255		210	200	105	70-130
1,2,3,6,7,8-HxCDF	AveID	1.181	1.257		213	200	106	70-130
2,3,4,6,7,8-HxCDF	AveID	1.212	1.320		218	200	109	70-130
1,2,3,4,7,8-HxCDD	AveID	1.109	1.145		207	200	103	70-130
1,2,3,6,7,8-HxCDD	AveID	1.081	1.184		219	200	110	70-130
1,2,3,7,8,9-HxCDD	AveID	1.212	1.218		201	200	100	70-130
1,2,3,7,8,9-HxCDF	AveID	1.245	1.236		199	200	99	70-130
1,2,3,4,6,7,8-HpCDF	AveID	1.556	1.657		213	200	107	70-130
1,2,3,4,6,7,8-HpCDD	AveID	0.9316	0.998		214	200	107	70-130
1,2,3,4,7,8,9-HpCDF	AveID	1.386	1.411		204	200	102	70-130
OCDD	AveID	1.062	1.127		424	400	106	70-130
OCDF	AveID	1.260	1.349		428	400	107	70-130
13C-2,3,7,8-TCDF	Ave	1.438	1.425		99.1	100	99	71-140
13C-2,3,7,8-TCDD	Ave	0.9533	0.9336		97.9	100	98	82-121
13C-1,2,3,7,8-PeCDF	Ave	1.029	0.9861		95.9	100	96	76-130
13C-2,3,4,7,8-PeCDF	Ave	0.9827	0.9562		97.3	100	97	77-130
13C-1,2,3,7,8-PeCDD	Ave	0.7481	0.7047		94.2	100	94	62-160
13C-1,2,3,4,7,8-HxCDF	Ave	1.152	1.159		101	100	101	76-131
13C-1,2,3,6,7,8-HxCDF	Ave	1.243	1.240		99.7	100	100	70-143
13C-2,3,4,6,7,8-HxCDF	Ave	1.172	1.154		98.5	100	98	73-137
13C-1,2,3,4,7,8-HxCDD	Ave	0.7812	0.7992		102	100	102	85-117
13C-1,2,3,6,7,8-HxCDD	Ave	0.9175	0.9192		100	100	100	85-118
13C-1,2,3,7,8,9-HxCDF	Ave	1.065	1.109		104	100	104	74-135
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.8628	0.8505		98.6	100	99	78-129
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.8739	0.8563		98.0	100	98	72-138
13C-1,2,3,4,7,8,9-HpCDF	Ave	0.7991	0.8106		101	100	101	77-129
13C-OCDD	Ave	0.7744	0.7279		188	200	94	48-208
37Cl4-2,3,7,8-TCDD	Ave	1.222	1.294		42.3	40.0	106	79-127

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 17-Sep-2019 18:27:31 ALS Bottle#: 8 Worklist Smp#: 10
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ICV 091719 ICV HRDXNIC_00042
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:45:36 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 18-Sep-2019 10:13:21

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.300	67370901	0.78	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.801	96014490	0.79	1.4384	99.1	99.1	0.1729	0.1729	99.08	
2,3,7,8-TCDF	16.816	40836689	0.78	1.0507	40.5	40.5	0.0773	0.0773	101	
A Non-2,3,7,8-sub-TCDF	16.536	382036	0.65	1.0507	0.3787	0.3787	0.0773	0.3787		
S Total TCDF					40.9	40.9	0.0773	0.0773		
D 13C-2,3,7,8-TCDD	17.481	62894294	0.76	0.9533	97.9	97.9	0.2237	0.2237	97.92	
$ 37Cl4-2,3,7,8-TCDD	17.496	34873369		1.2224	42.3	42.3	0.0461	0.0461	106	
2,3,7,8-TCDD	17.496	29522708	0.80	1.1064	42.4	42.4	0.0612	0.0612	106	
A Non-2,3,7,8-sub-TCDD	16.967	525494	0.73	1.1064	0.7552	0.7552	0.0612	0.7552		
S Total TCDD					43.2	43.2	0.0612	0.0612		
D 13C-1,2,3,7,8-PeCDF	21.631	66432578	1.62	1.0286	95.9	95.9	0.2311	0.2311	95.86	
1,2,3,7,8-PeCDF	21.659	146883848	1.58	1.0822	204.3	204.3	0.8368	0.8368	102	
D 13C-2,3,4,7,8-PeCDF	22.927	64416378	1.60	0.9827	97.3	97.3	0.2419	0.2419	97.30	
2,3,4,7,8-PeCDF	22.954	160234857	1.58	1.1032	225.5	225.5	0.8770	0.8770	113	
A F1 PeCDFs	19.213						0.0389	0.0389		
A Non-2,3,7,8-sub-PeCDF	22.240	3672840	1.54	1.0927	5.137	5.137	0.8562	5.137		
S Total PeCDF					434.9	434.9	0.8569	0.8569		
D 13C-1,2,3,7,8-PeCDD	23.622	47479187	1.52	0.7481	94.2	94.2	0.1489	0.1489	94.21	
1,2,3,7,8-PeCDD	23.649	85119562	1.59	0.9050	198.1	198.1	0.2925	0.2925	99.04	
A Non-2,3,7,8-sub-PeCDD	22.586						0.2925	0.2925		
S Total PeCDD					198.1	198.1	0.2925	0.2925		
D 13C-1,2,3,4,7,8-HxCDF	29.749	49457191	0.51	1.1520	100.6	100.6	0.4713	0.4713	101	
1,2,3,4,7,8-HxCDF	29.789	124121058	1.25	1.1973	209.6	209.6	1.675	1.675	105	
D 13C-1,2,3,6,7,8-HxCDF	30.015	52922376	0.52	1.2434	99.7	99.7	0.4366	0.4366	99.75	
1,2,3,6,7,8-HxCDF	30.042	133083395	1.26	1.1807	213.0	213.0	1.419	1.419	106	
D 13C-2,3,4,6,7,8-HxCDF	31.040	49241959	0.52	1.1720	98.5	98.5	0.4633	0.4633	98.47	
2,3,4,6,7,8-HxCDF	31.053	129960147	1.26	1.2116	217.8	217.8	0.991	0.991	109	
D 13C-1,2,3,7,8,9-HxCDF	31.945	47302373	0.52	1.0655	104.0	104.0	0.5096	0.5096	104	
1,2,3,7,8,9-HxCDF	31.958	116914998	1.26	1.2451	198.5	198.5	0.9326	0.9326	99.25	

Report Date: 18-Sep-2019 10:45:43 Chrom Revision: 2.3 16-Sep-2019 16:29:24
Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
A Non-2,3,7,8-sub-HxCDF	29.523						1.186	1.186		
S Total HxCDF					838.9	838.9	1.254	1.254		
* 13C-1,2,3,7,8,9-HxCDD	31.746	42668857	1.30	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.253	34098921	1.27	0.7812	102.3	102.3	0.4071	0.4071	102	
1,2,3,4,7,8-HxCDD	31.280	78082823	1.25	1.1088	206.5	206.5	0.6584	0.6584	103	
D 13C-1,2,3,6,7,8-HxCDD	31.386	39221134	1.28	0.9175	100.2	100.2	0.3466	0.3466	100	
1,2,3,6,7,8-HxCDD	31.399	92914323	1.26	1.0814	219.1	219.1	0.6428	0.6428	110	
1,2,3,7,8,9-HxCDD	31.759	89269632	1.25	1.2123	200.9	200.9	0.5874	0.5874	100	
A Non-2,3,7,8-sub-HxCDD	30.122						0.6279	0.6279		
S Total HxCDD					626.4	626.4	0.6295	0.6295		
D 13C-1,2,3,4,6,7,8-HpCDF	33.447	36291011	0.44	0.8628	98.6	98.6	1.994	1.994	98.58	
1,2,3,4,6,7,8-HpCDF	33.459	120291721	1.05	1.5555	213.1	213.1	3.639	3.639	107	
D 13C-1,2,3,4,7,8,9-HpCDF	34.492	34587656	0.46	0.7991	101.4	101.4	2.153	2.153	101	
1,2,3,4,7,8,9-HpCDF	34.505	97615037	1.05	1.3862	203.6	203.6	4.551	4.551	102	
A Non-2,3,7,8-sub-HpCDF	33.994						4.057	4.057		
S Total HpCDF					416.7	416.7	4.095	4.095		
D 13C-1,2,3,4,6,7,8-HpCDD	34.225	36539034	1.04	0.8739	98.0	98.0	1.031	1.031	97.99	
1,2,3,4,6,7,8-HpCDD	34.237	72937959	1.06	0.9316	214.3	214.3	1.992	1.992	107	
A Non-2,3,7,8-sub-HpCDD	34.747						1.992	1.992		
S Total HpCDD					214.3	214.3	1.992	1.992		
D 13C-OCDD	36.481	62112704	0.88	0.7744	188.0	188.0	0.2936	0.2936	93.99	
OCDF	36.577	167539399	0.89	1.2596	428.3	428.3	0.3535	0.3535	107	
OCDD	36.493	139967536	0.89	1.0621	424.3	424.3	0.7084	0.7084	106	

Reagents:

HRDXNIC_00042 Amount Added: 1.00 Units: mL

Report Date: 18-Sep-2019 10:45:43 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 17-Sep-2019 18:27:31 ALS Bottle#: 8 Worklist Smp#: 10
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ICV 091719 ICV HRDXNIC_00042
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:45:36 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 18-Sep-2019 10:13:21

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.300	17.303	0		29455042	7639810	8241	20602	927		
333.9339	17.300	17.303	0		37915859	9845728	6678	16695	1474	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.801	16.810	-1	0.971	42465138	11244673	10966	27415	1025		
317.9389	16.801	16.810	-1	0.971	53549352	14070507	6431	16077	2188	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.816	16.825	-1	1.001	17881787	4687286	3306	8265	1418		
305.8987	16.816	16.825	-1	1.001	22954902	6067198	4917	12292	1234	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.181	16.536	-21	0.963	150479	42137	3306	8265	13		
305.8987	16.181	16.536	-21	0.963	231557	66065	4917	12292	13	0.65(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.481	17.490	-1	1.010	27226687	6700376	8241	20602	813		
333.9339	17.481	17.490	-1	1.010	35667607	8761174	6678	16695	1312	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.496	17.505	-1	1.011	34873369	8455974	3941	9852	2146		
2,3,7,8-TCDD											
319.8965	17.496	17.505	-1	1.001	13120222	3217297	2237	5592	1438		
321.8936	17.496	17.505	-1	1.001	16402486	4023041	1952	4880	2061	0.80(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.390	16.967	25	0.995	222164	64639	2237	5592	29		
321.8936	17.390	16.967	25	0.995	303330	90345	1952	4880	46	0.73(0.65-0.89)	

Report Date: 18-Sep-2019 10:45:43 Chrom Revision: 2.3 16-Sep-2019 16:29:24
Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	21.631	21.637	0	1.250	41083226	7478063	9807	24517	763		
353.8970	21.631	21.637	0	1.250	25349352	4675180	6821	17052	685	1.62(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.659	21.661	0	1.001	89907564	16611935	26800	67000	620		
341.8567	21.659	21.661	0	1.001	56976284	10456656	17226	43065	607	1.58(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	22.927	22.932	0	1.325	39631399	6951299	9807	24517	709		
353.8970	22.927	22.932	0	1.325	24784979	4425218	6821	17052	649	1.60(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.954	22.954	0	1.001	98027709	17129852	26800	67000	639		
341.8567	22.954	22.954	0	1.001	62207148	10879372	17226	43065	632	1.58(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.213						668	1670			
341.8567	19.213						1335	3337			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.163	22.240	-5	1.025	2224818	397069	26800	67000	15		
341.8567	22.163	22.240	-5	1.025	1448022	262924	17226	43065	15	1.54(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.622	23.625	0	1.365	28638297	4704684	4809	12022	978		
369.8919	23.622	23.625	0	1.365	18840890	3127045	2980	7450	1049	1.52(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.649	23.649	0	1.001	52211902	8528858	5129	12822	1663		
357.8516	23.649	23.649	0	1.001	32907660	5353813	3165	7912	1692	1.59(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.586						5129	12822			
357.8516	22.586						3165	7912			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.749	29.754	0	0.937	16783019	2305975	8392	20980	275		
385.8610	29.749	29.754	0	0.937	32674172	4470351	14587	36467	306	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.789	29.789	0	1.001	69045128	9453733	30387	75967	311		
375.8178	29.775	29.789	-1	1.001	55075930	7523990	23973	59932	314	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.015	30.015	0	0.945	18211588	2742205	8392	20980	327		
385.8610	30.015	30.015	0	0.945	34710788	5371147	14587	36467	368	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.042	30.039	0	1.001	74259363	11344582	30387	75967	373		
375.8178	30.042	30.039	0	1.001	58824032	8990409	23973	59932	375	1.26(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.040	31.043	0	0.978	16769047	3887903	8392	20980	463		
385.8610	31.040	31.043	0	0.978	32472912	7433271	14587	36467	510	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.053	31.059	0	1.000	72528944	16377855	30387	75967	539		
375.8178	31.053	31.059	0	1.000	57431203	13006467	23973	59932	543	1.26(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.945	31.942	0	1.006	16145070	4056563	8392	20980	483		
385.8610	31.932	31.942	-1	1.006	31157303	7646982	14587	36467	524	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.958	31.956	0	1.000	65143100	16181388	30387	75967	533		
375.8178	31.945	31.956	-1	1.000	51771898	12593354	23973	59932	525	1.26(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.523						30387	75967			
375.8178	29.523						23973	59932			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.746	31.748	0		24093370	5996349	7373	18432	813		
403.8529	31.746	31.748	0		18575487	4584542	6087	15217	753	1.30(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.253	31.261	0	0.984	19067739	4877709	7373	18432	662		
403.8529	31.253	31.261	0	0.984	15031182	3764902	6087	15217	619	1.27(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.280	31.280	0	1.001	43405983	11110603	13706	34265	811		
391.8127	31.280	31.280	0	1.001	34676840	8762067	11530	28825	760	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.386	31.383	0	0.989	22009497	5092252	7373	18432	691		
403.8529	31.386	31.383	0	0.989	17211637	3983328	6087	15217	654	1.28(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.399	31.402	0	1.000	51803707	12059771	13706	34265	880		
391.8127	31.399	31.402	0	1.000	41110616	9596745	11530	28825	832	1.26(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.759	31.761	0	1.016	49558046	12233722	13706	34265	893		
391.8127	31.759	31.761	0	1.016	39711586	9800201	11530	28825	850	1.25(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.122						13706	34265			
391.8127	30.122						11530	28825			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.447	33.457	-1	1.054	11153017	3493417	22598	56495	155		
419.8220	33.447	33.457	-1	1.054	25137994	7912988	50198	125495	158	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.459	33.469	-1	1.000	61596095	19963137	127078	317695	157		
409.7789	33.459	33.469	-1	1.000	58695626	19415847	131220	328050	148	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.492	34.502	-1	1.087	10832835	3186792	22598	56495	141		
419.8220	34.492	34.502	-1	1.087	23754821	7049867	50198	125495	140	0.46(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.505	34.509	0	1.000	49933667	15052745	127078	317695	118		
409.7789	34.505	34.509	0	1.000	47681370	14419271	131220	328050	110	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.994						127078	317695			
409.7789	33.994						131220	328050			

Report Date: 18-Sep-2019 10:45:43 Chrom Revision: 2.3 16-Sep-2019 16:29:24
Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.225	34.227	0	1.078	18596591	5512324	17647	44117	312		
437.8140	34.225	34.227	0	1.078	17942443	5332324	20497	51242	260	1.04(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.237	34.235	0	1.000	37482197	10854741	40264	100660	270		
425.7737	34.225	34.235	-1	1.000	35455762	10447161	40249	100622	260	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.747						40264	100660			
425.7737	34.747						40249	100622			
13C-OCDD											
469.7779	36.481	36.486	0	1.149	29137548	7503938	4581	11452	1638		
471.7750	36.481	36.486	0	1.149	32975156	8356787	5042	12605	1657	0.88(0.76-1.02)	
OCDF											
441.7428	36.577	36.581	0	1.003	78967974	20796742	6473	16182	3213		
443.7399	36.577	36.581	0	1.003	88571425	23028045	7652	19130	3009	0.89(0.76-1.02)	
OCDD											
457.7377	36.493	36.497	0	1.000	66062365	16751505	9012	22530	1859		
459.7348	36.493	36.497	0	1.000	73905171	18415996	14853	37132	1240	0.89(0.76-1.02)	

Reagents:

HRDXNIC_00042 Amount Added: 1.00 Units: mL

Report Date: 18-Sep-2019 10:45:43 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d
Lims ID: ICV
Client ID:
Inject. Date: 17-Sep-2019 18:27:31 Dil. Factor: 1.0000
Sample Type: ICV, ICal Verification
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 324128 Lims Sample ID: 10
Sublist: chrom-Dioxin_10D5*sub1

Non-2,3,7,8-sub-TCDF, RT: 16.536

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.051	D 13C-2,3,7,8-TCDF	100.000	96014490	25315180

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.051		100.000	96014490	25315180

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
16.181	150479	42137	231557	66065	0.3787	0.65	
Signal Totals:							
	150479	42137	231557	66065			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	382036	108202				0.65	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.3787 = (382036 * 100.000) / (96014490 * 1.051)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d
Lims ID: ICV
Client ID:
Inject. Date: 17-Sep-2019 18:27:31 Dil. Factor: 1.0000
Sample Type: ICV, ICal Verification
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 324128 Lims Sample ID: 10
Sublist: chrom-Dioxin_10D5*sub1

Non-2,3,7,8-sub-TCDD, RT: 16.967

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.106	D 13C-2,3,7,8-TCDD	100.000	62894294	15461550

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.106		100.000	62894294	15461550

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
17.390	222164	64639	303330	90345	0.7552	0.73	
Signal Totals:							
	222164	64639	303330	90345			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	525494	154984				0.73	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.7552 = (525494 * 100.000) / (62894294 * 1.106)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d
Lims ID: ICV
Client ID:
Inject. Date: 17-Sep-2019 18:27:31 Dil. Factor: 1.0000
Sample Type: ICV, ICal Verification
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 324128 Lims Sample ID: 10
Sublist: chrom-Dioxin_10D5*sub1

Non-2,3,7,8-sub-PeCDF, RT: 22.240

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.082	D 13C-1,2,3,7,8-PeCDF	100.000	66432578	12153243
2,3,4,7,8-PeCDF	1.103	D 13C-2,3,4,7,8-PeCDF	100.000	64416378	11376517

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.093		100.000	65424478	11764880

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
22.163	2224818	397069	1448022	262924	5.14	1.54	
Signal Totals:							
	2224818	397069	1448022	262924			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	3672840	659993				1.54	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 5.137 = (3672840 * 100.000) / (65424478 * 1.093)

Report Date: 18-Sep-2019 10:45:43 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d		
Injection Date:	17-Sep-2019 18:27:31	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

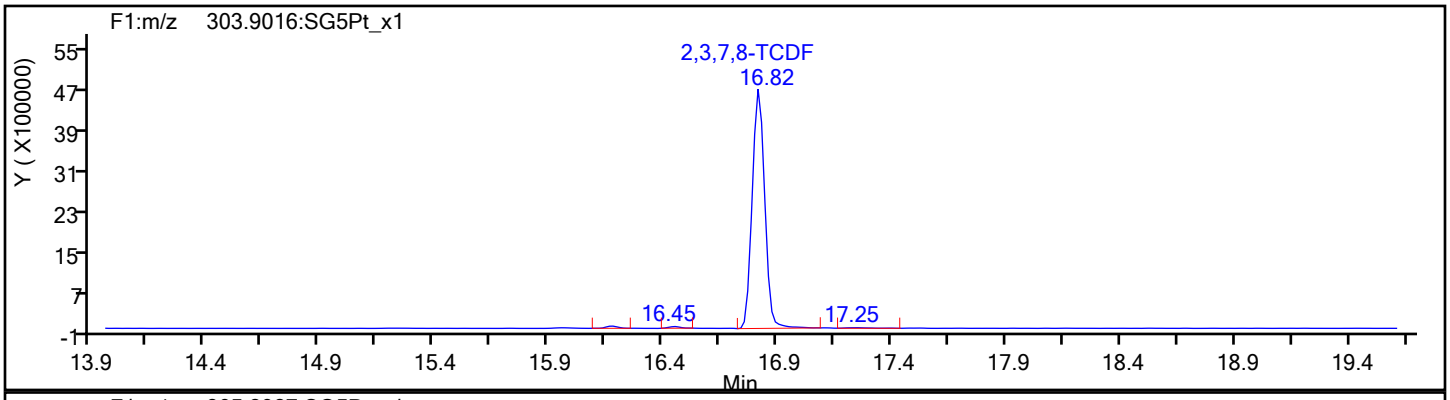

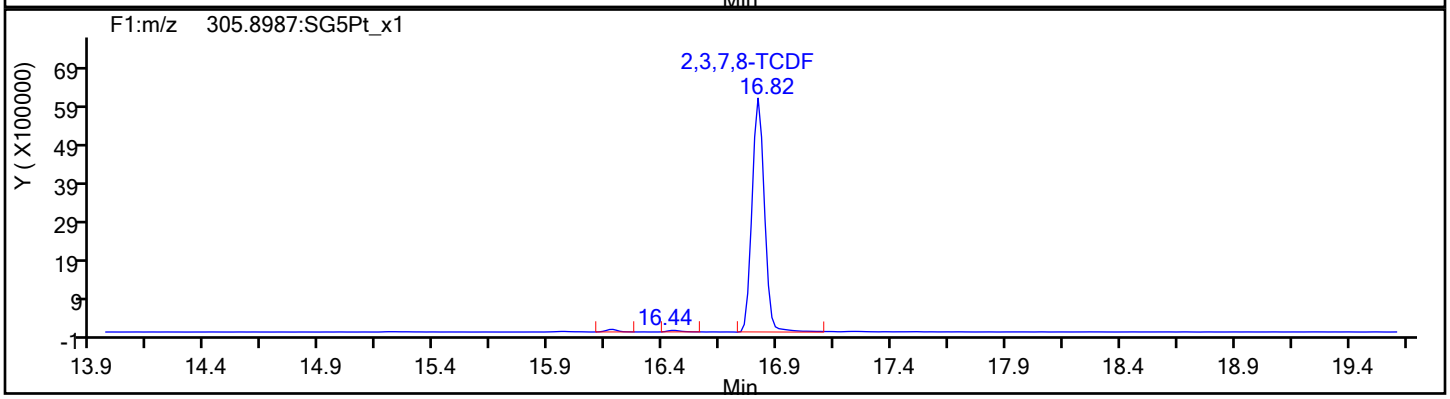

TCDF Standards

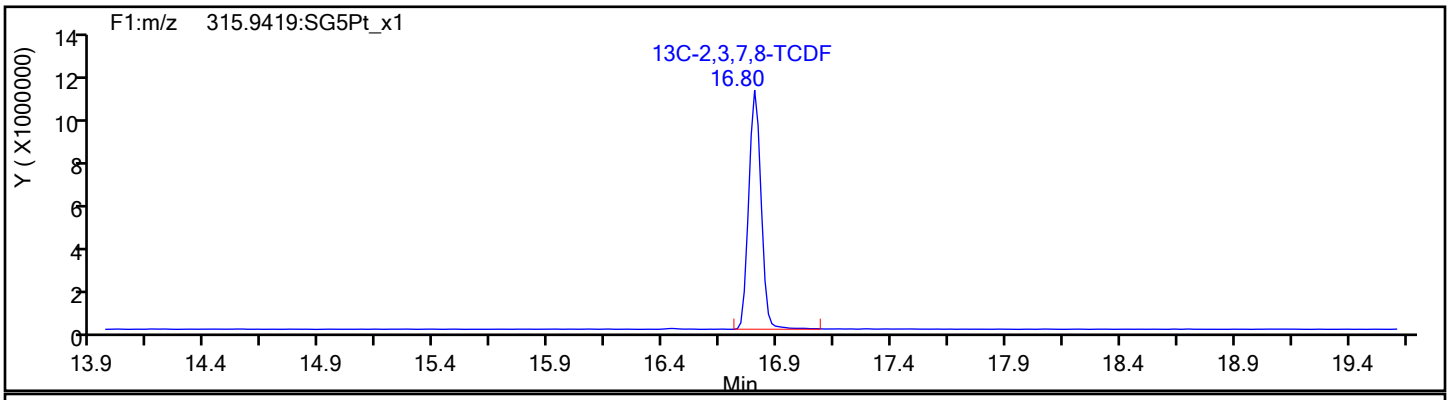

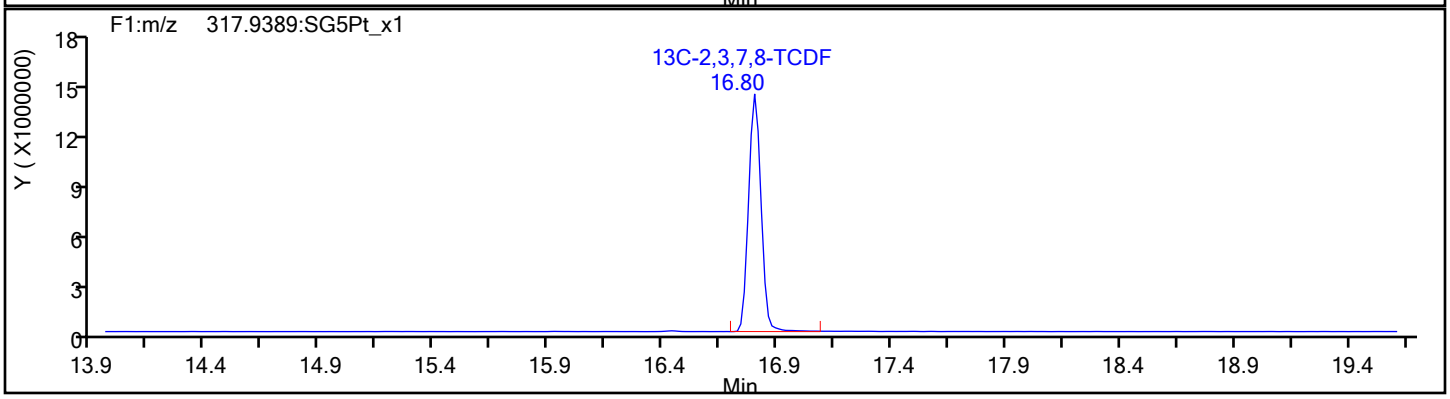

Report Date: 18-Sep-2019 10:45:43 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d		
Injection Date:	17-Sep-2019 18:27:31	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

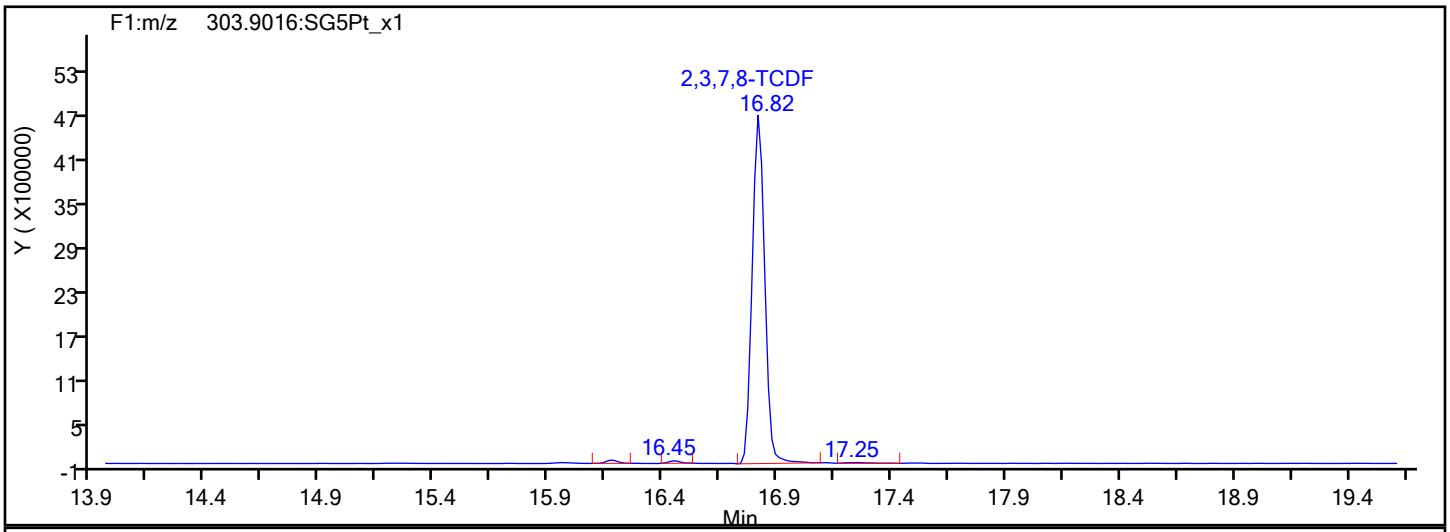

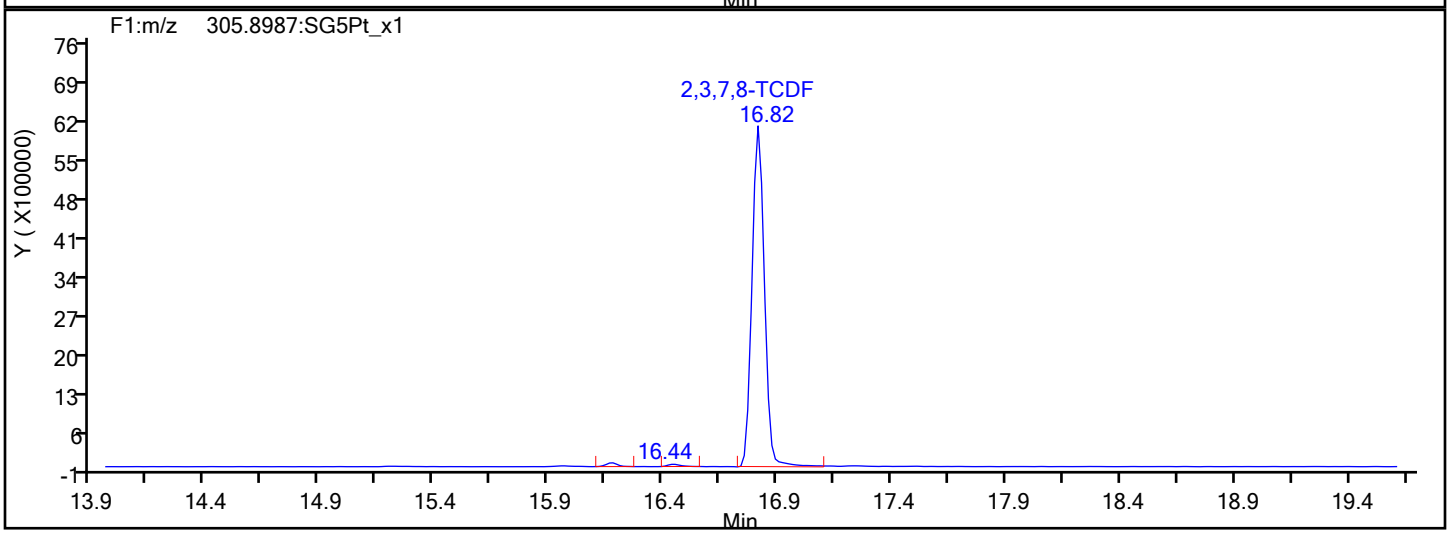

TCDF Interference Mass

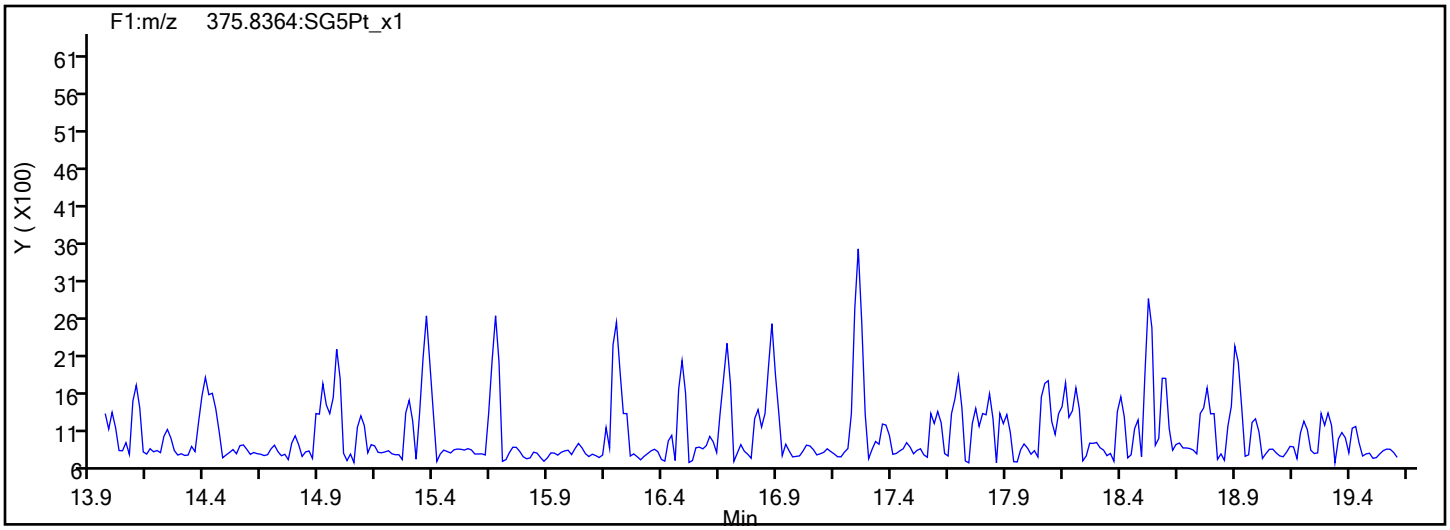

Report Date: 18-Sep-2019 10:45:43 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d		
Injection Date:	17-Sep-2019 18:27:31	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

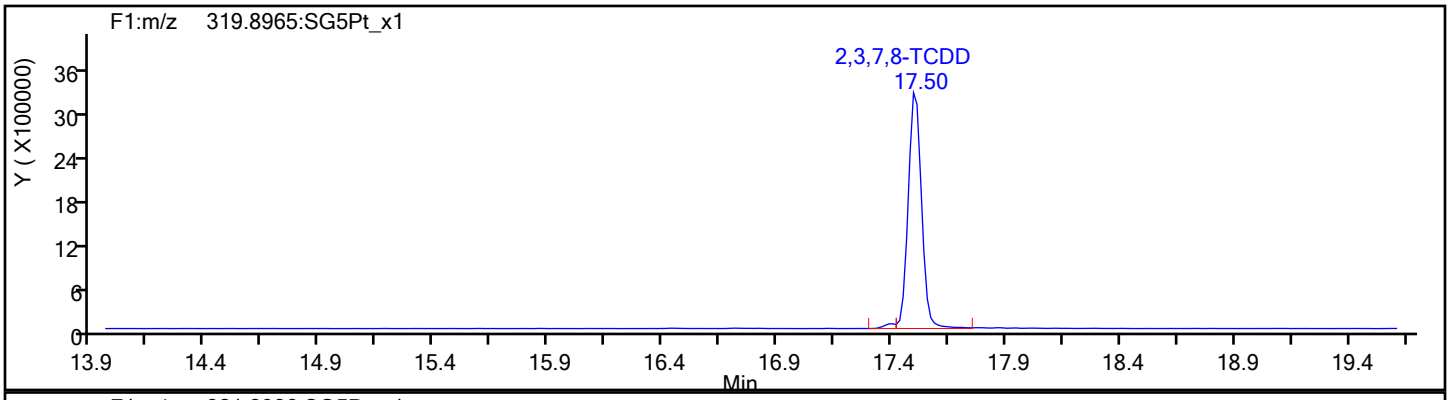

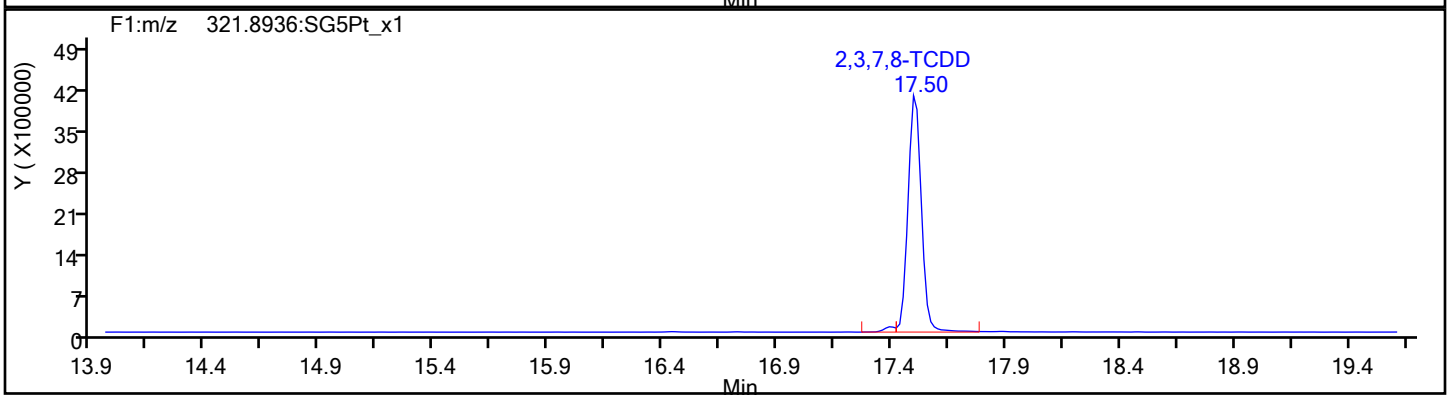

TCDD Standards

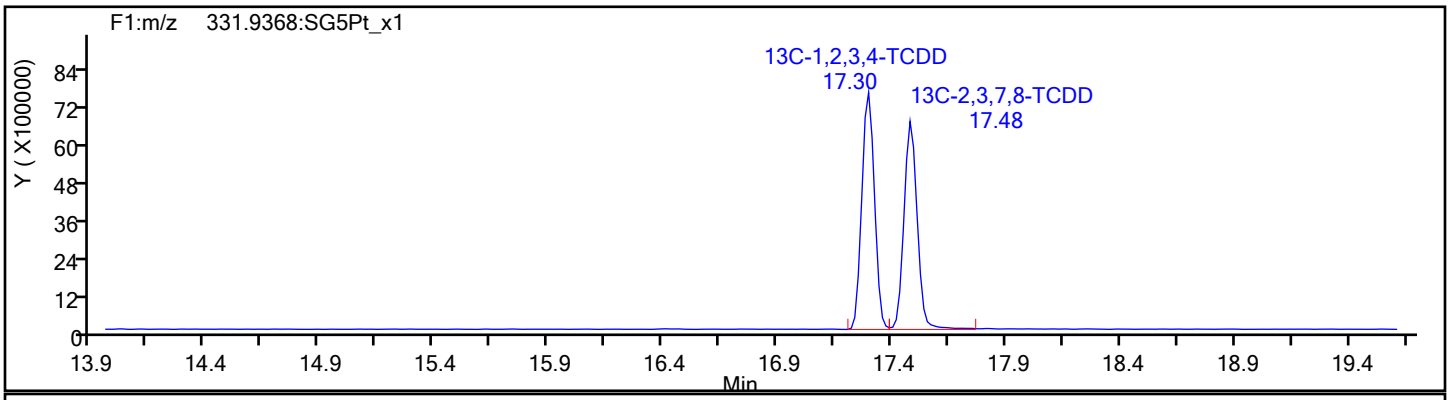

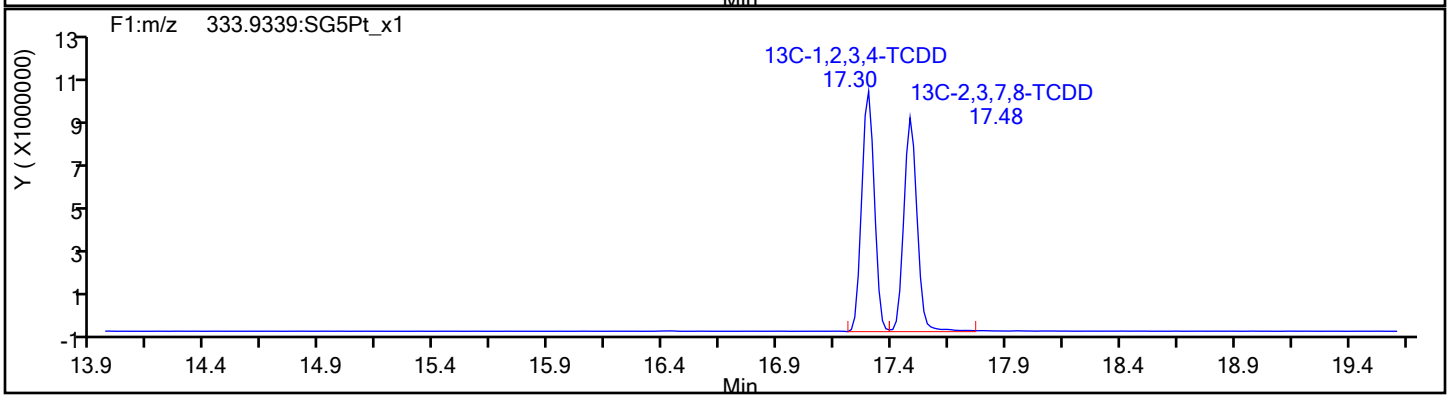

Report Date: 18-Sep-2019 10:45:43 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

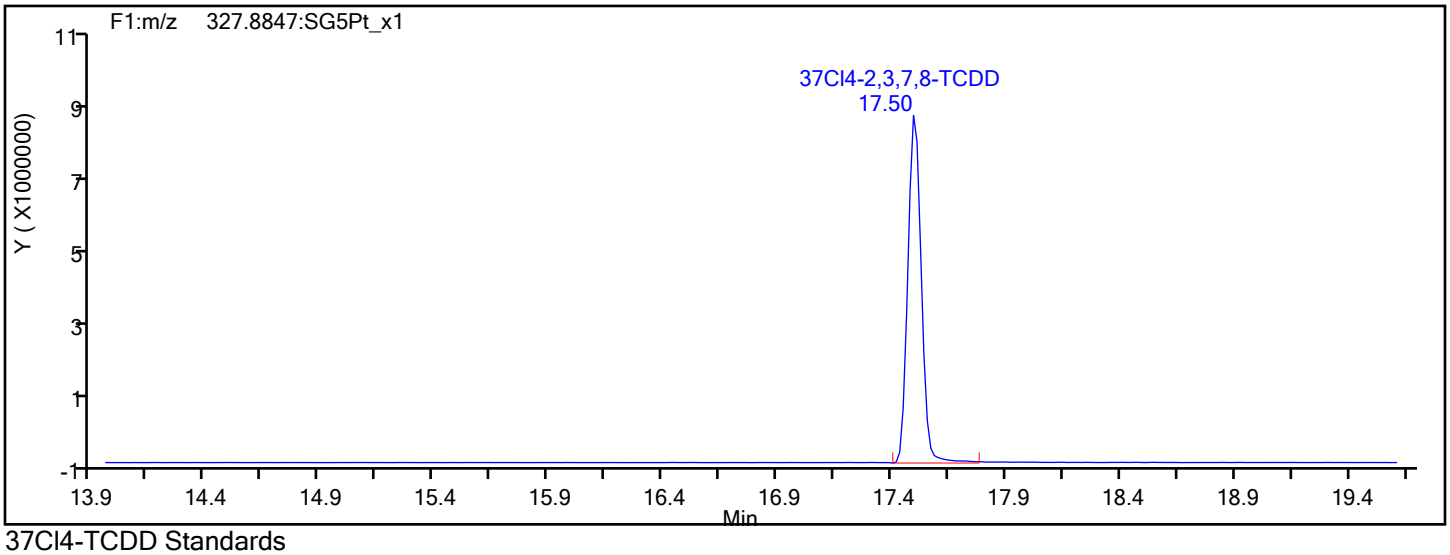

37Cl4-TCDD Standards

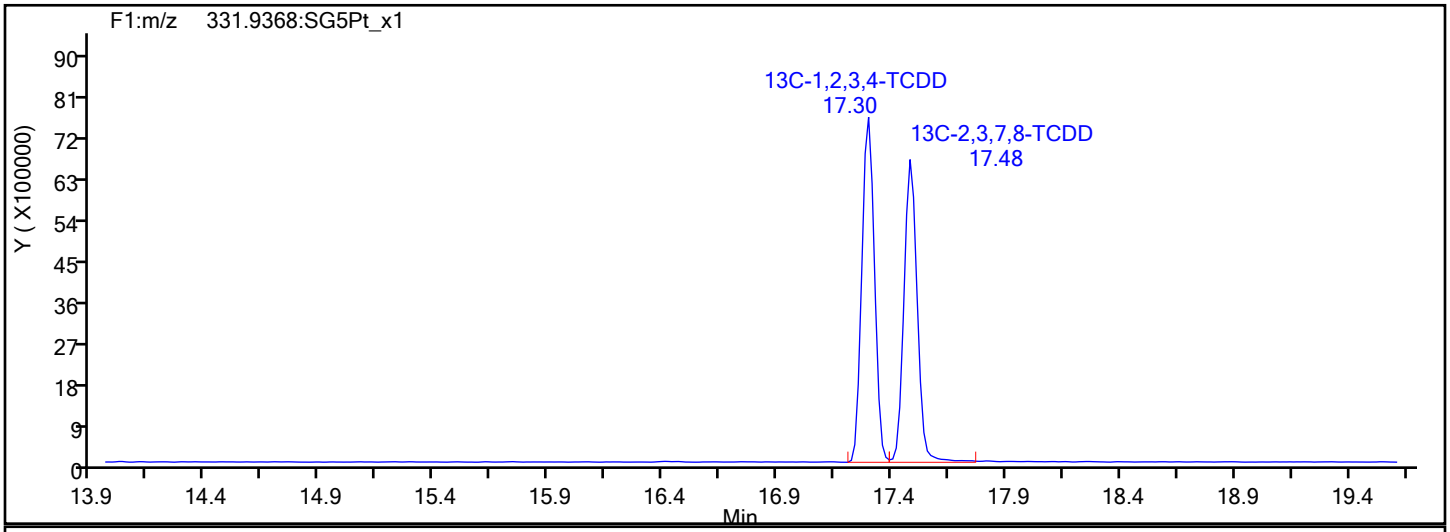

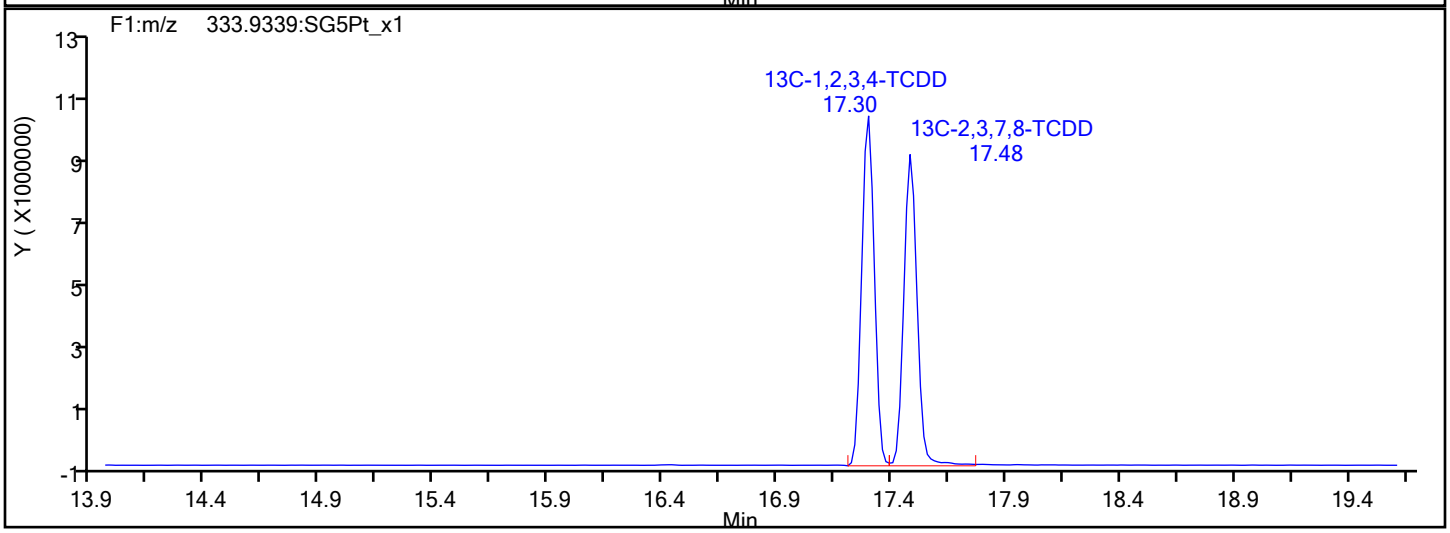

Report Date: 18-Sep-2019 10:45:43 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

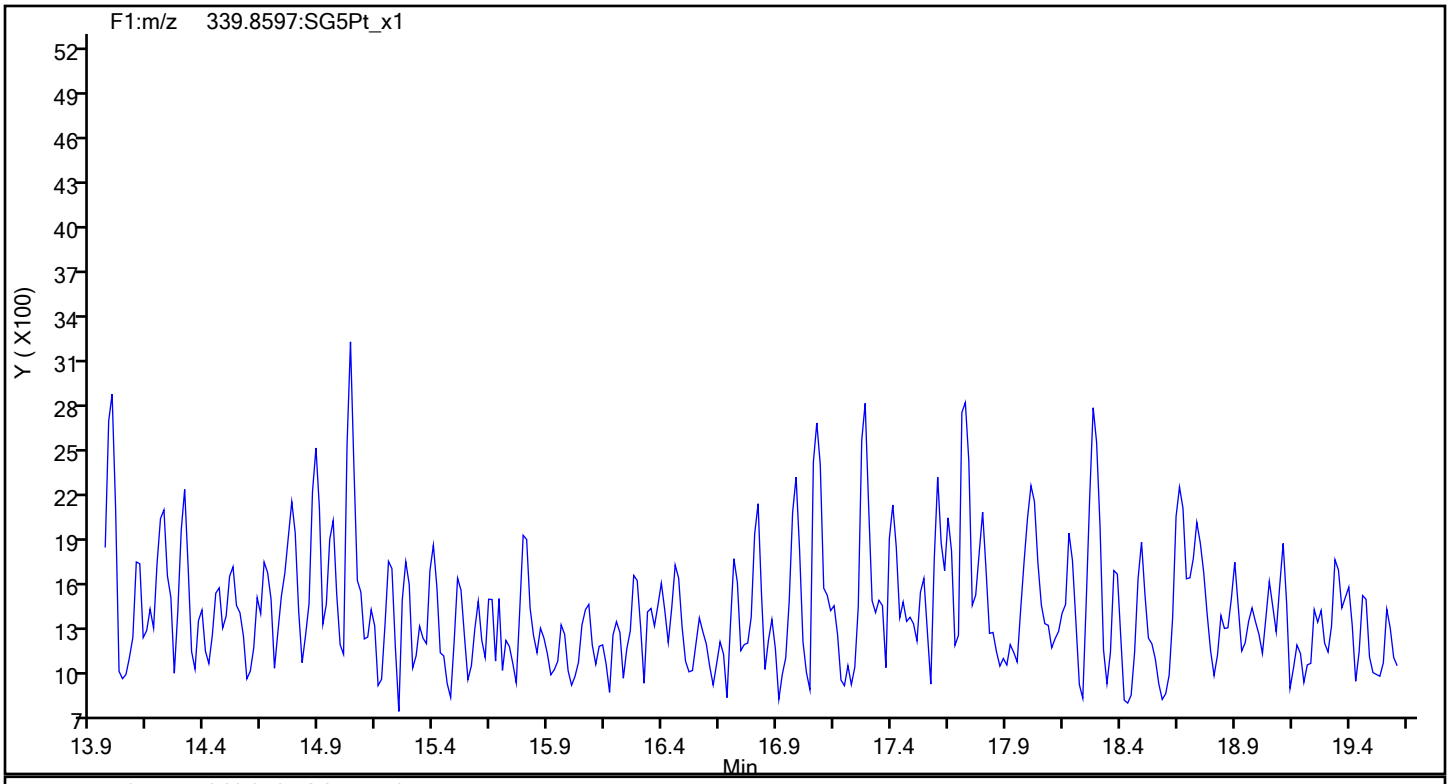

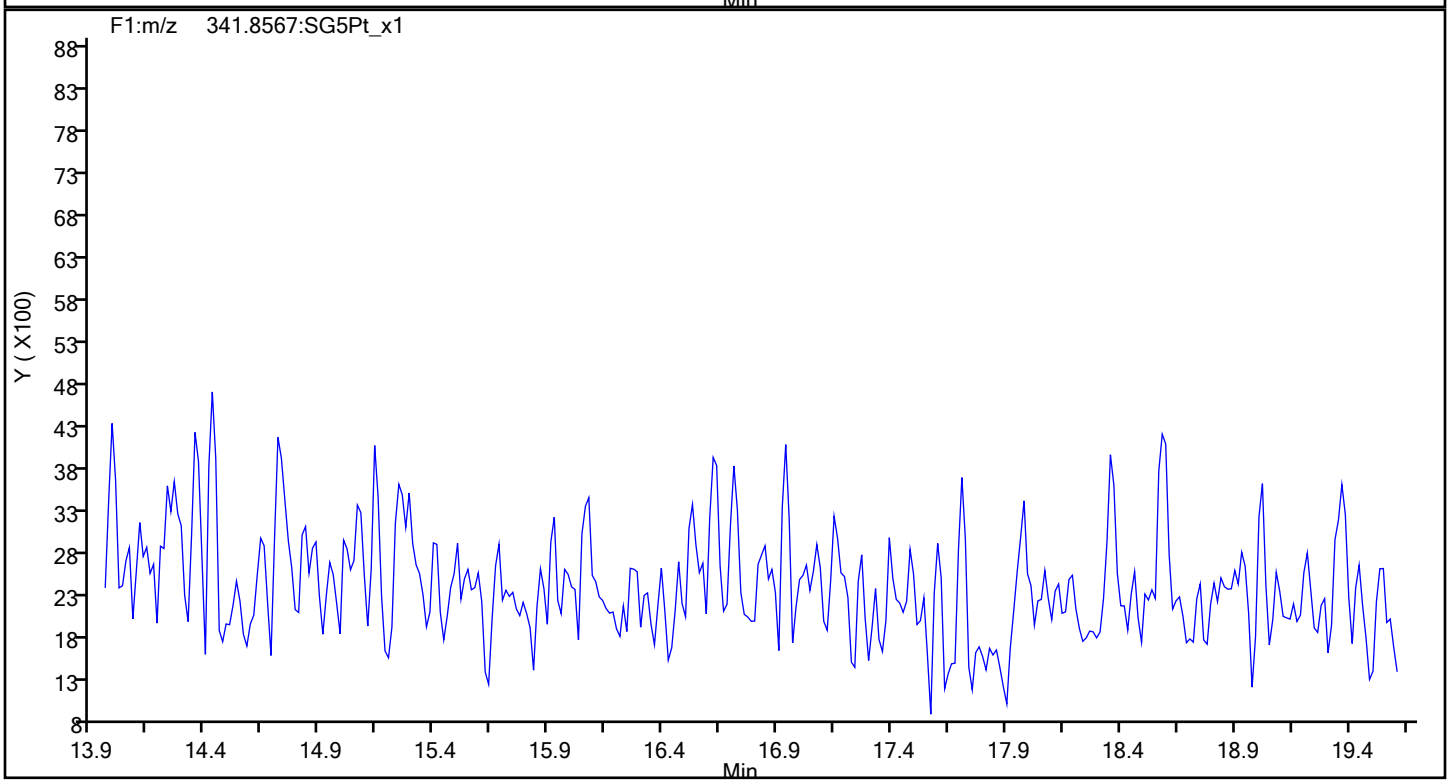

Report Date: 18-Sep-2019 10:45:43 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d		
Injection Date:	17-Sep-2019 18:27:31	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

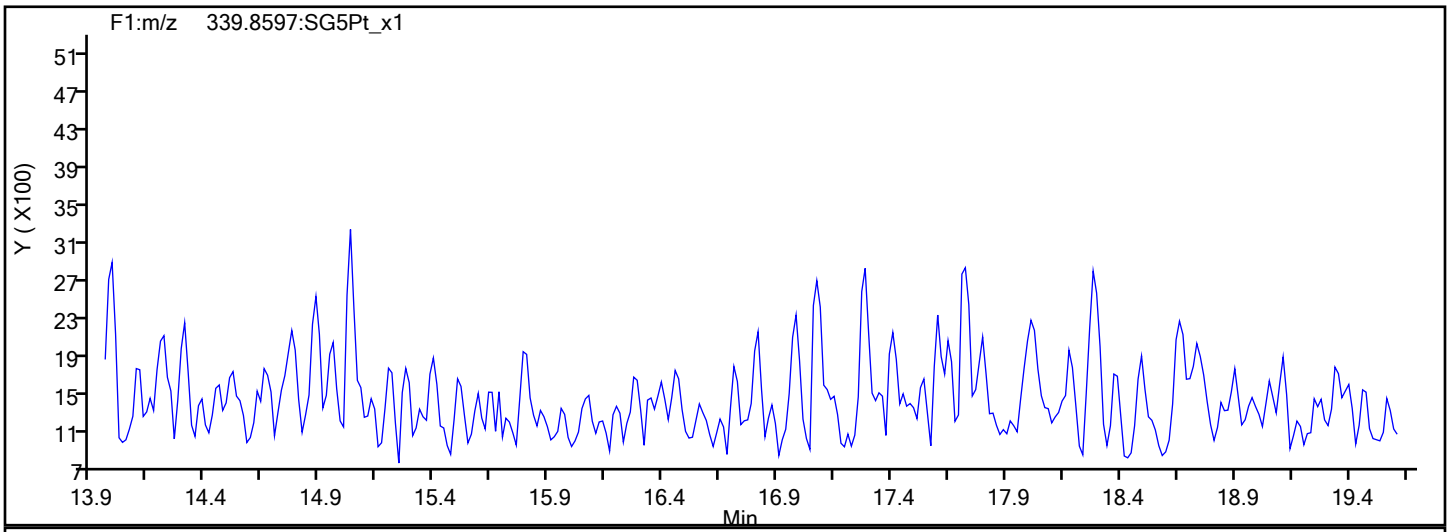

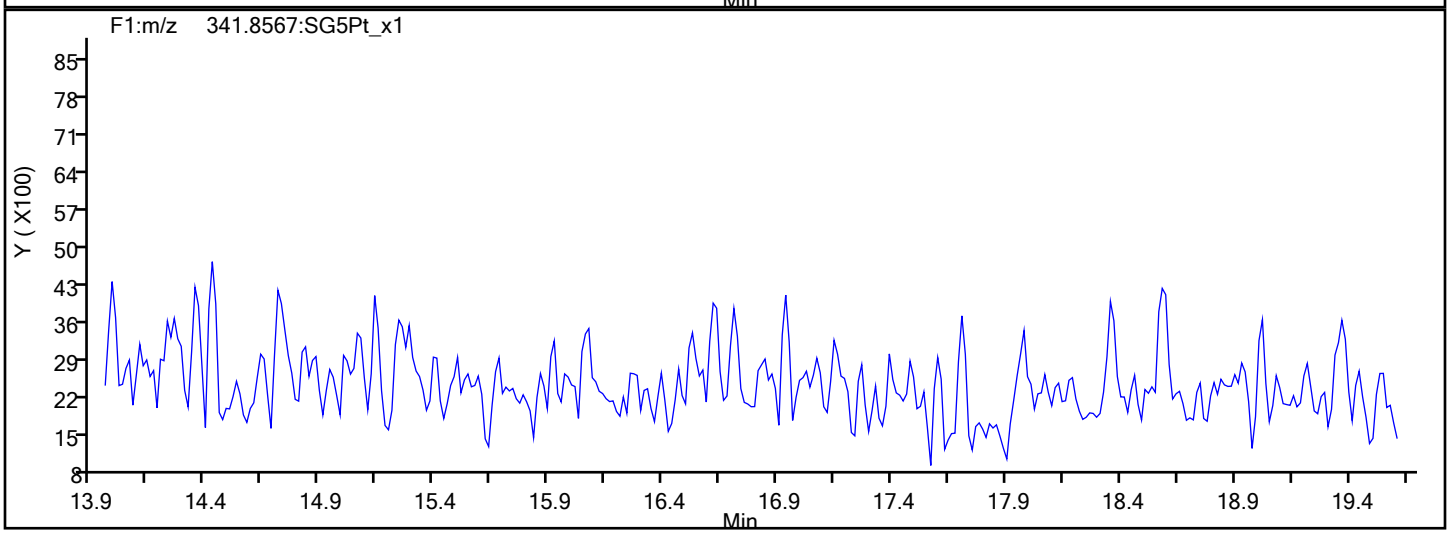

F1 PeCDFs Interference Mass

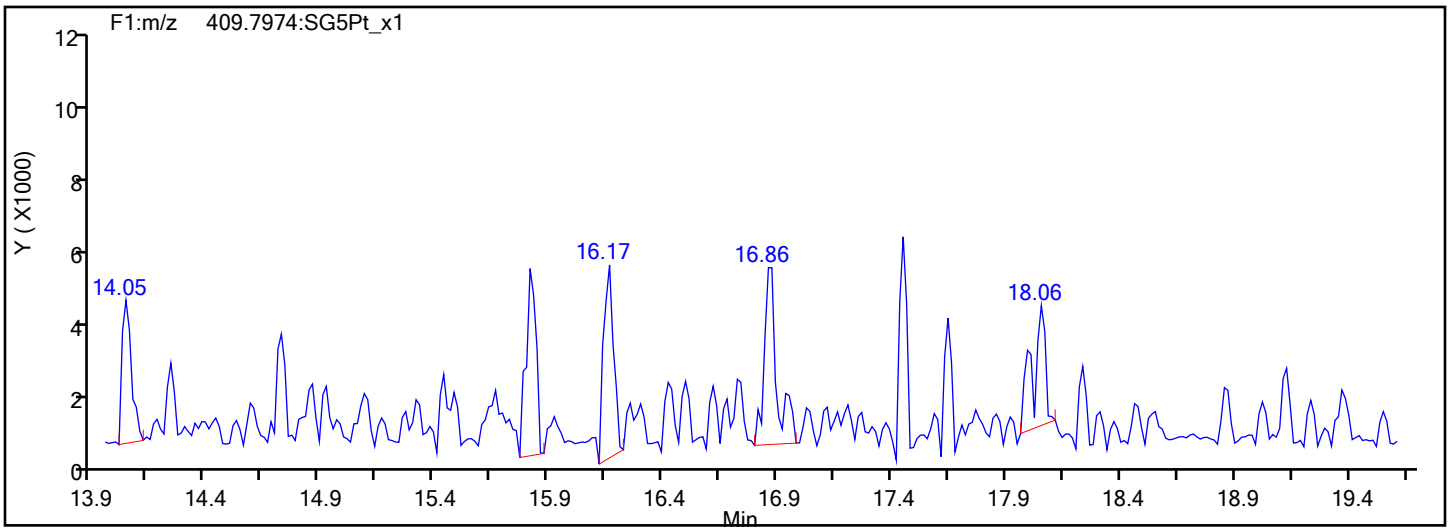

Report Date: 18-Sep-2019 10:45:43 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d		
Injection Date:	17-Sep-2019 18:27:31	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

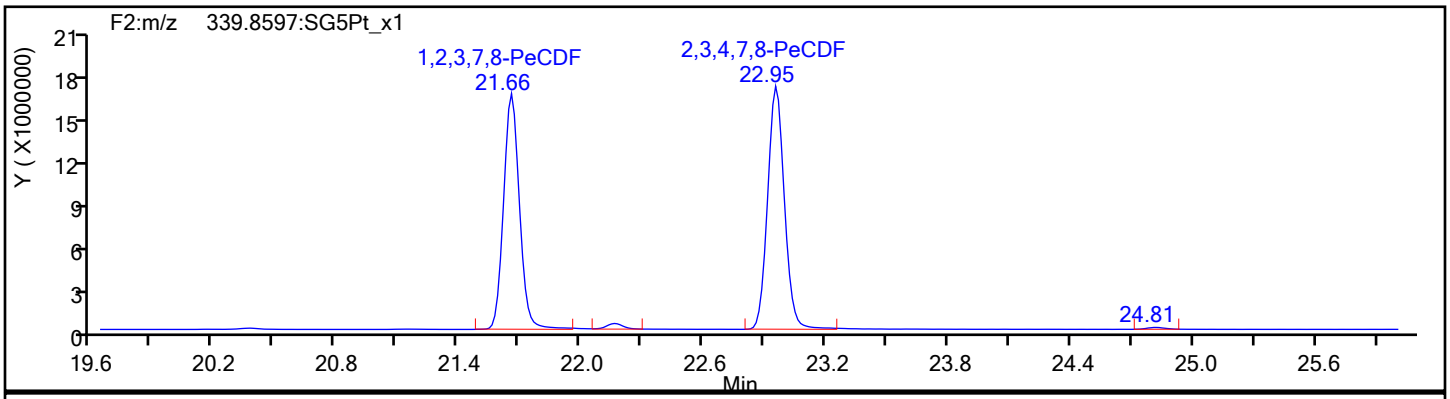

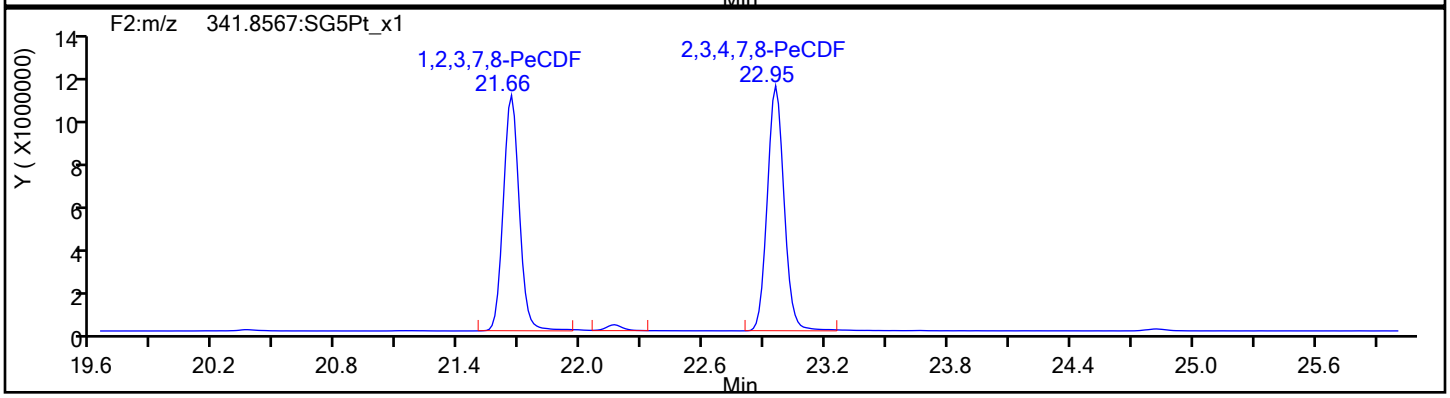

PeCDF Standards

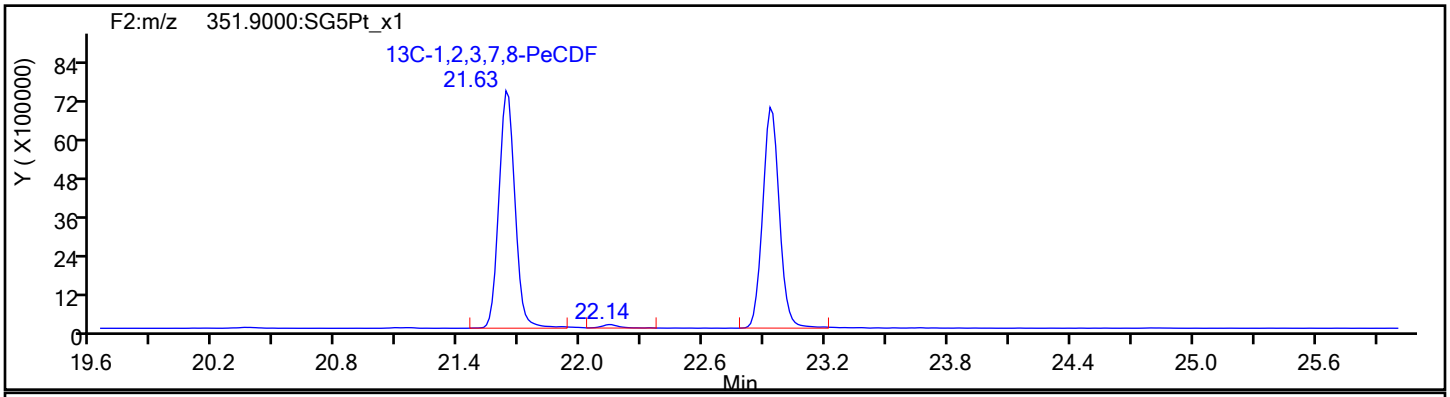

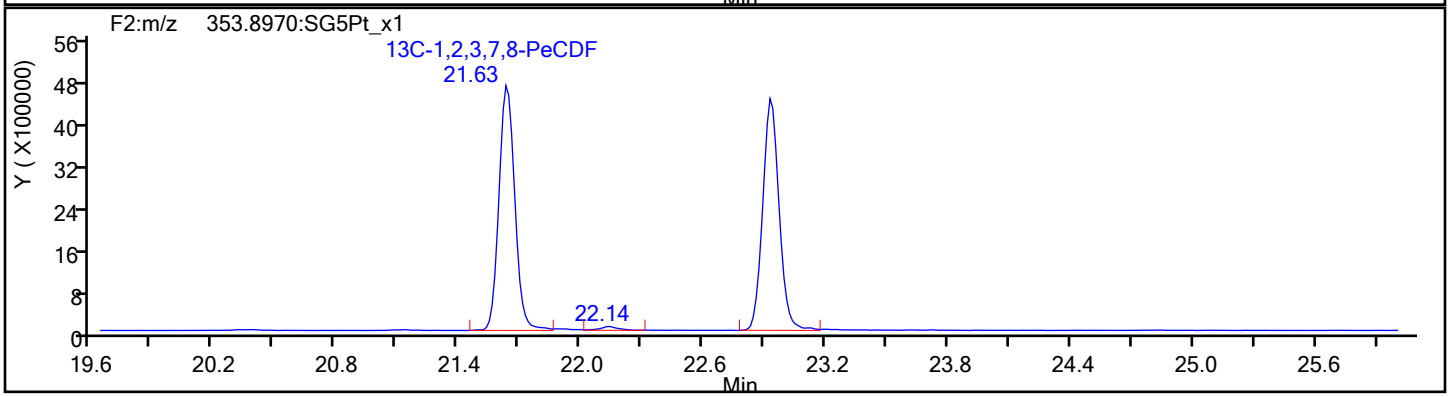

Report Date: 18-Sep-2019 10:45:43 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

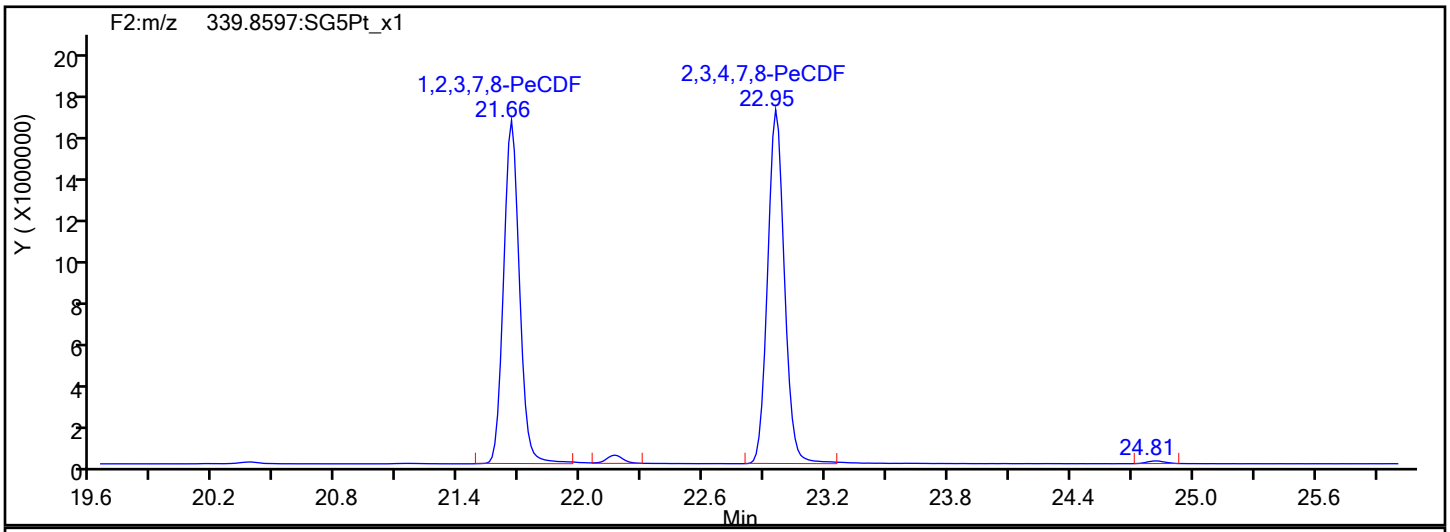

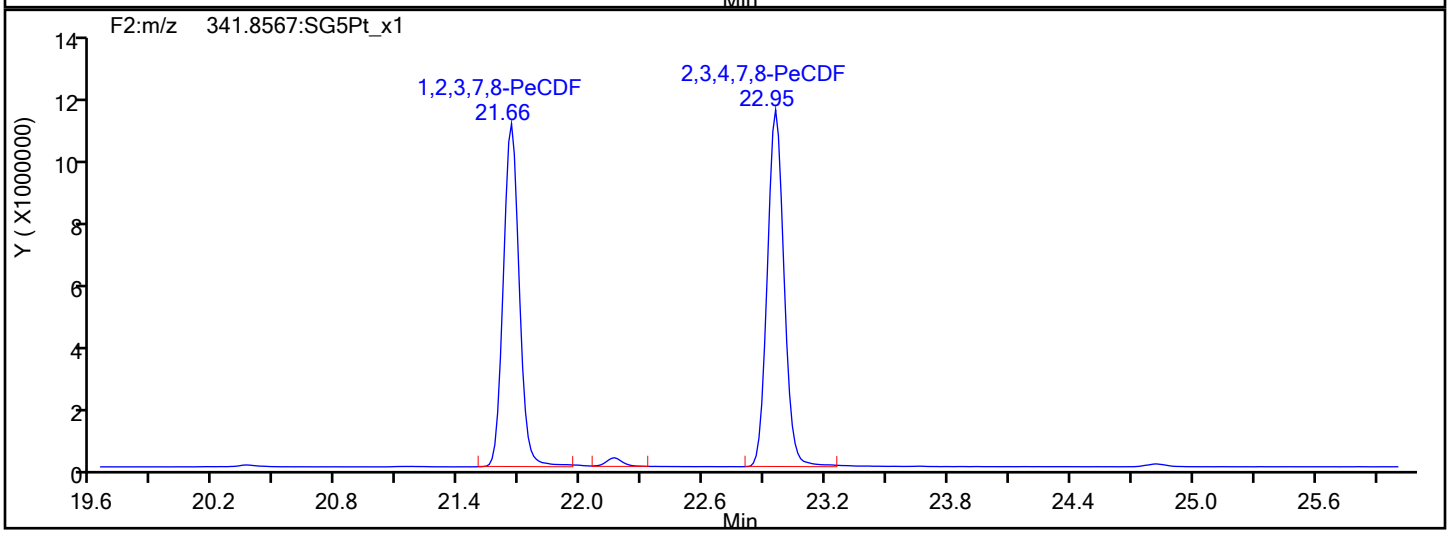

PeCDF Interference Mass

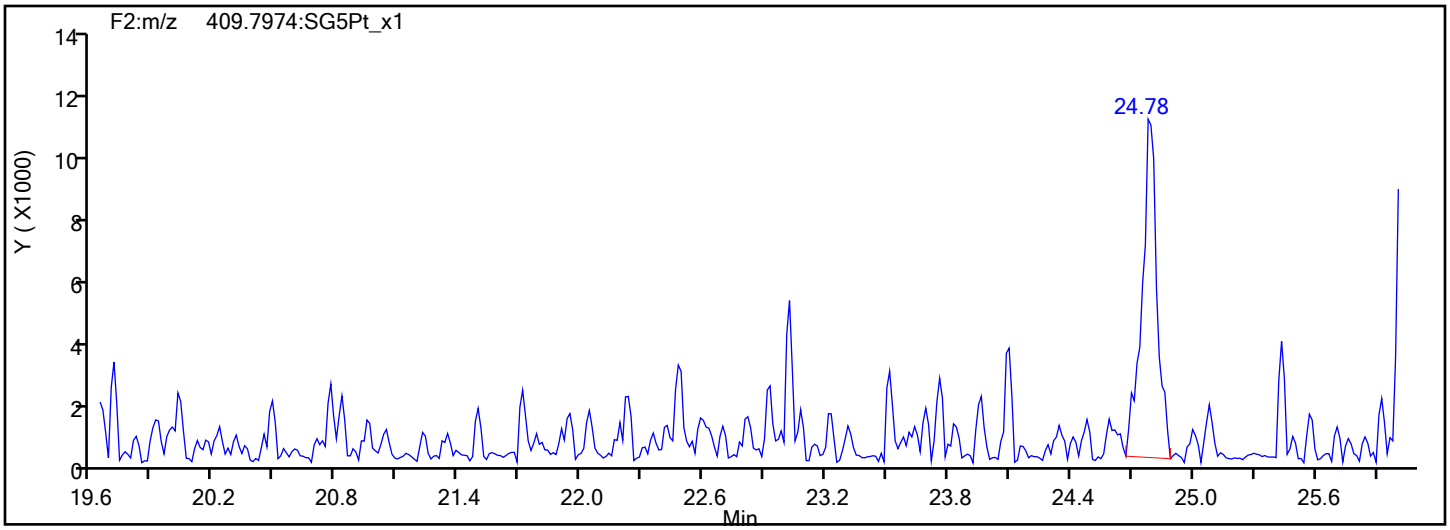

Report Date: 18-Sep-2019 10:45:43 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d		
Injection Date:	17-Sep-2019 18:27:31	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

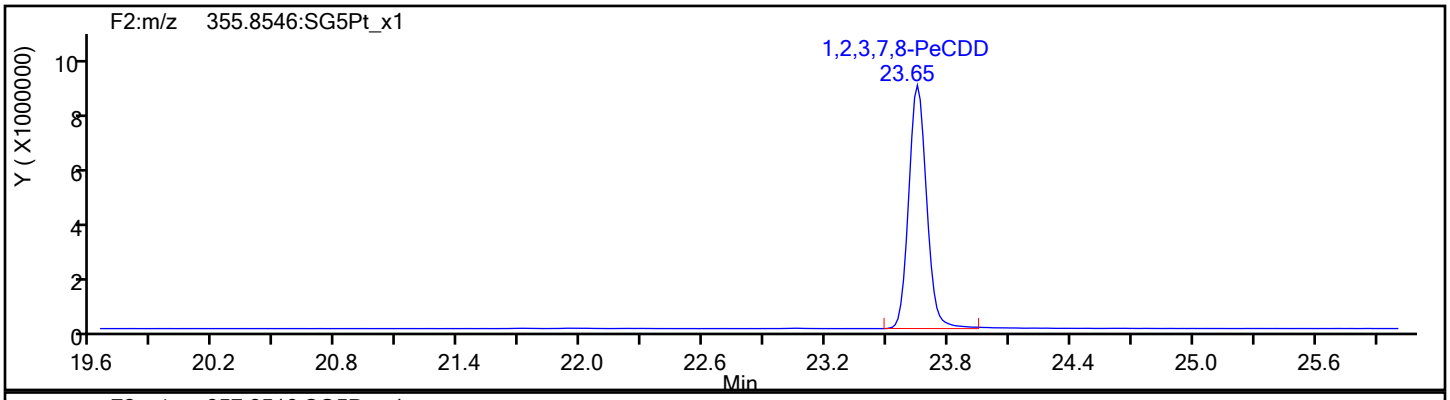

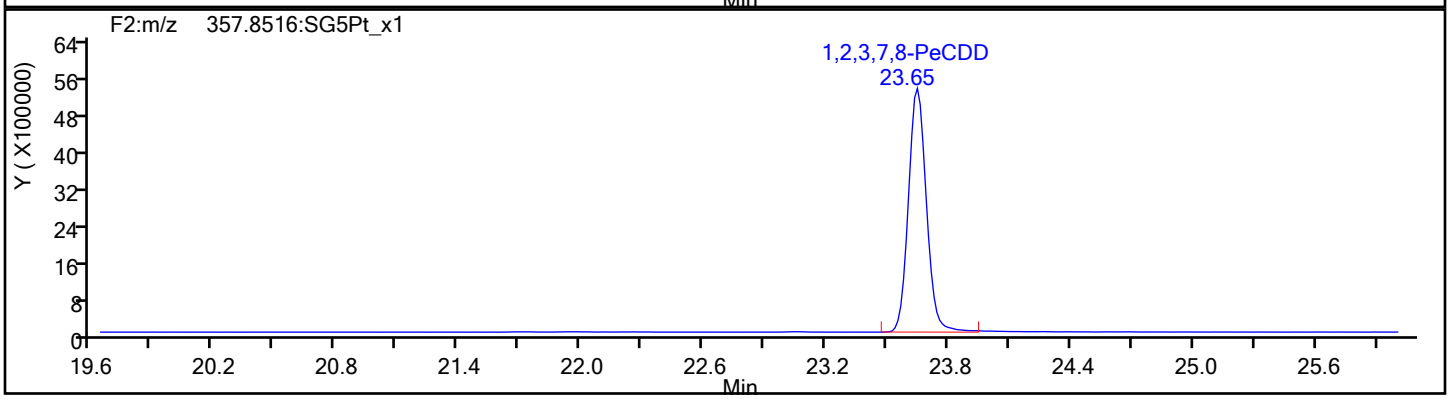

PeCDD Standards

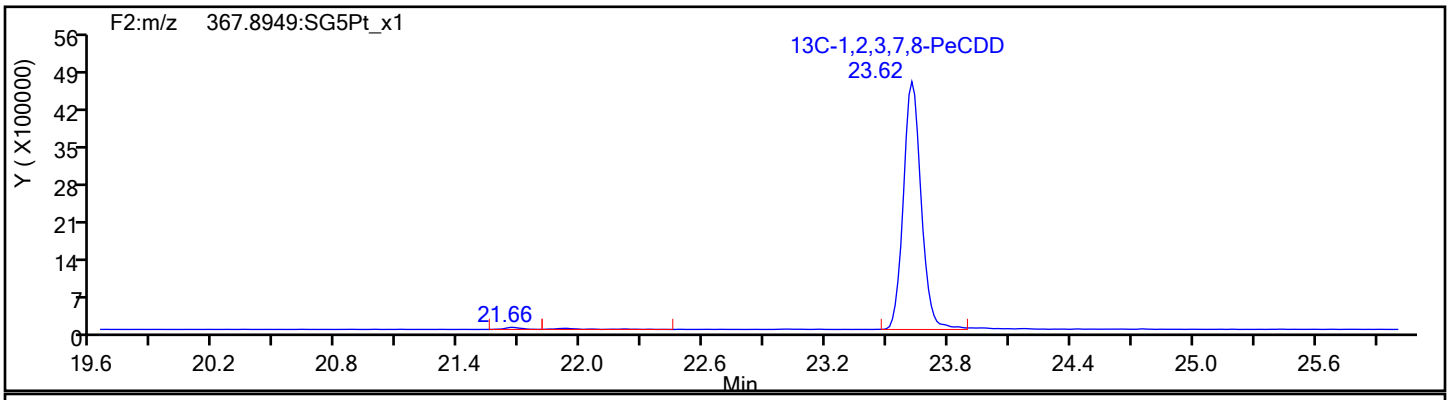

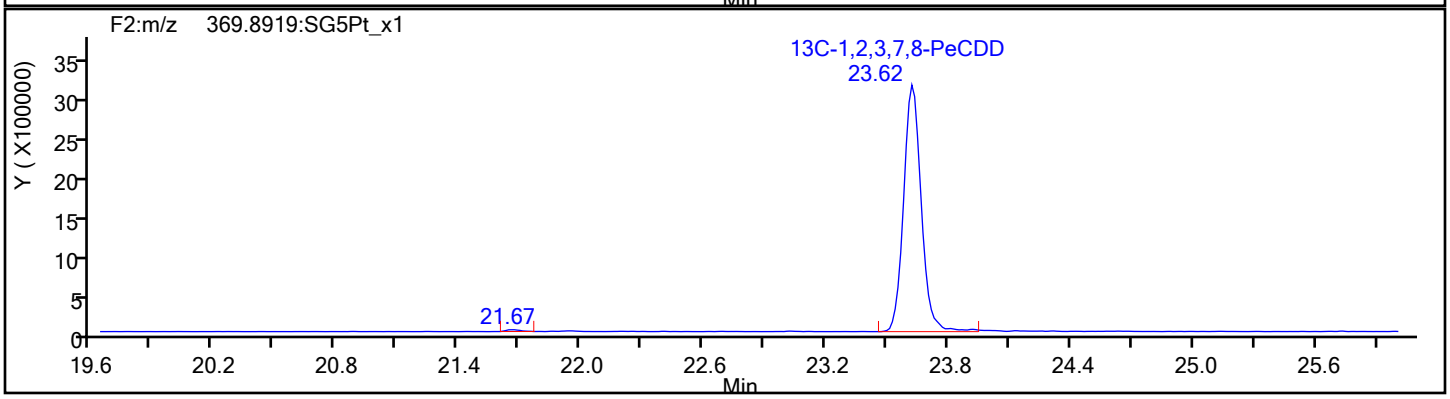

Report Date: 18-Sep-2019 10:45:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d		
Injection Date:	17-Sep-2019 18:27:31	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	10
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

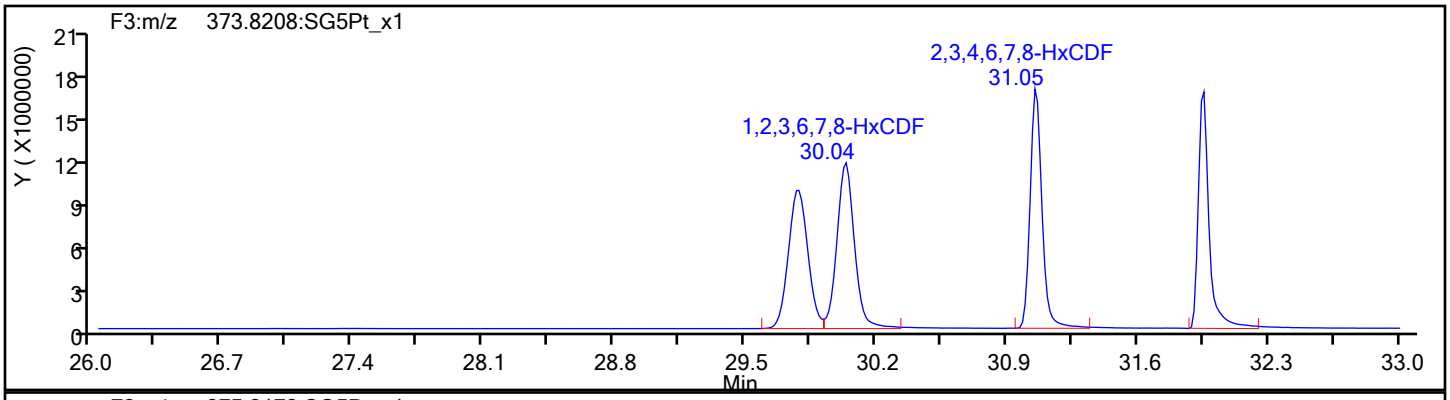

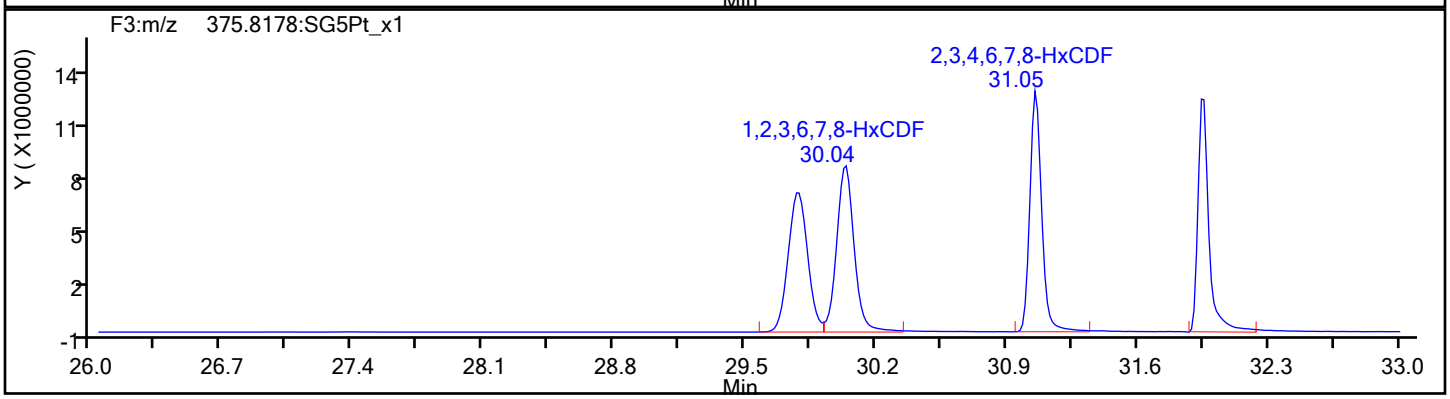

HxCDF Standards

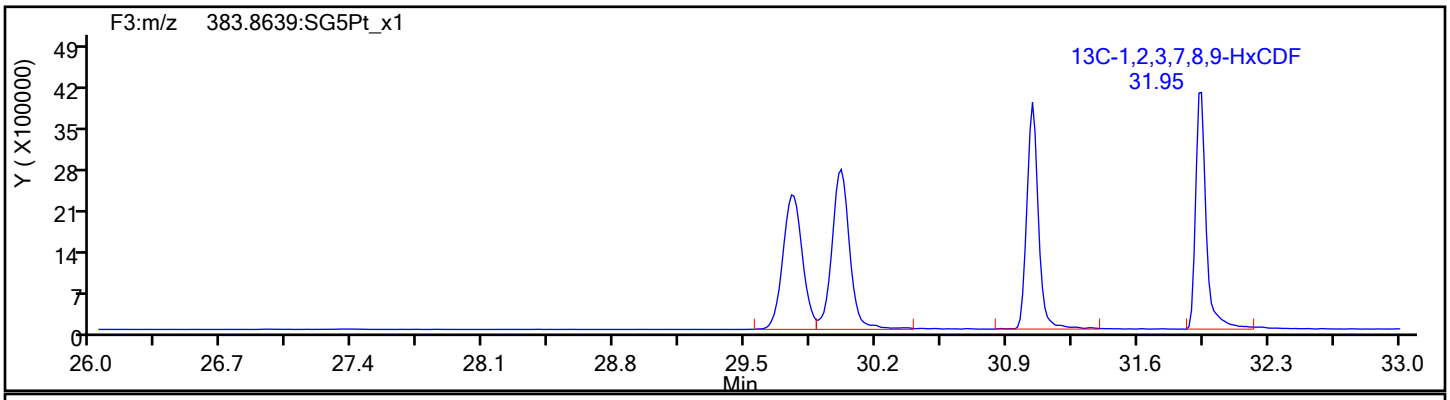

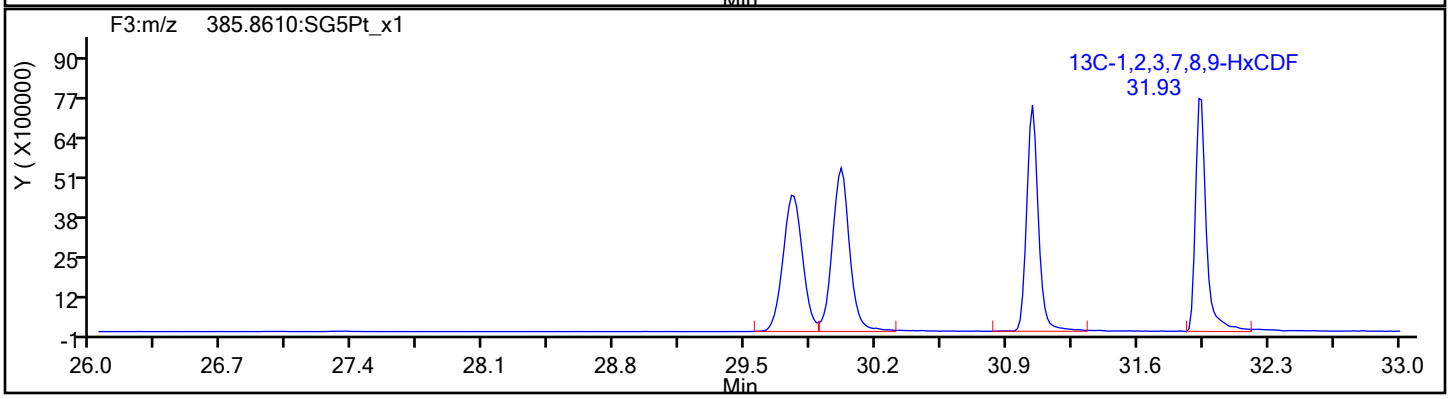

Report Date: 18-Sep-2019 10:45:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Client ID:			
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HxCDF

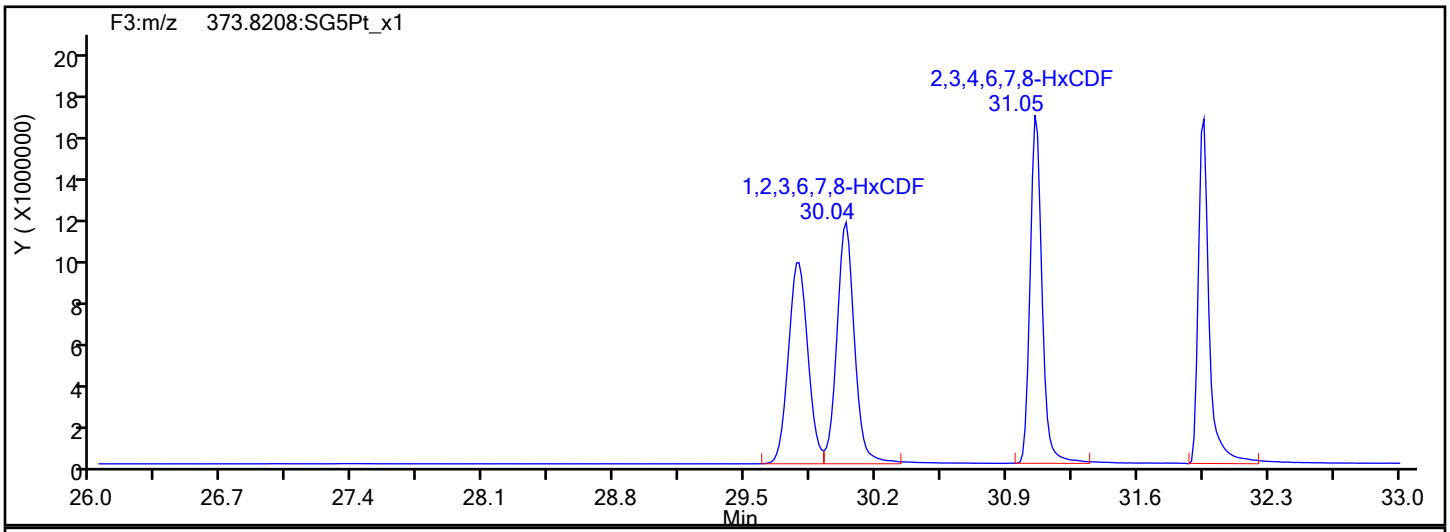

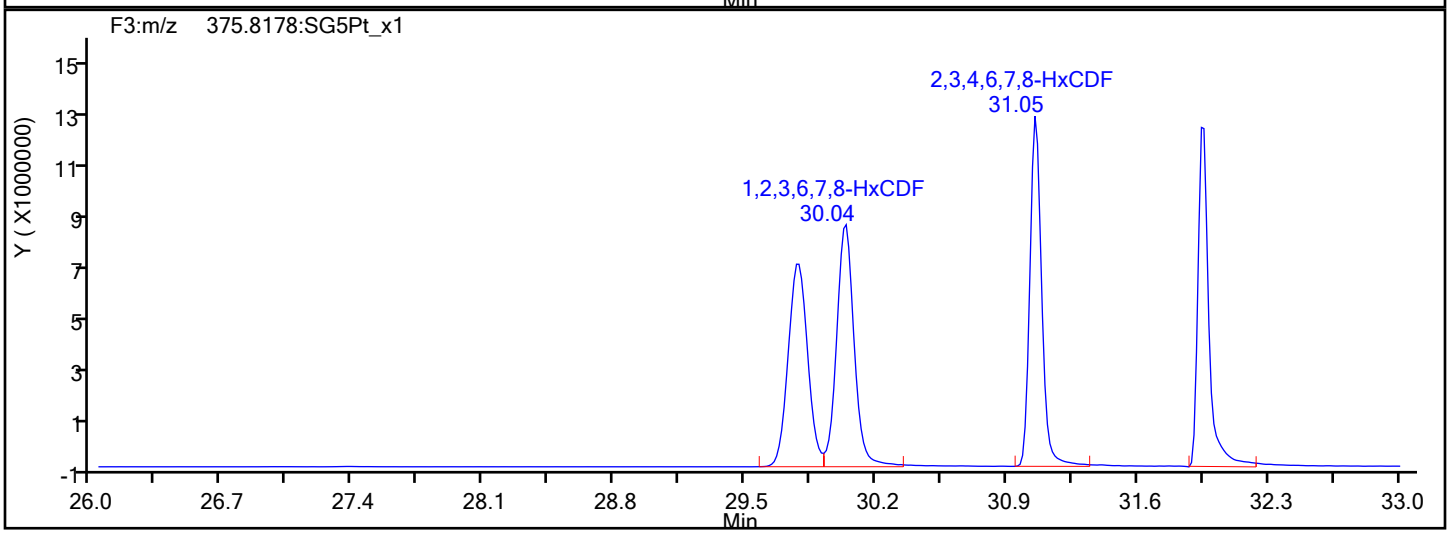

HxCDF Interference Mass

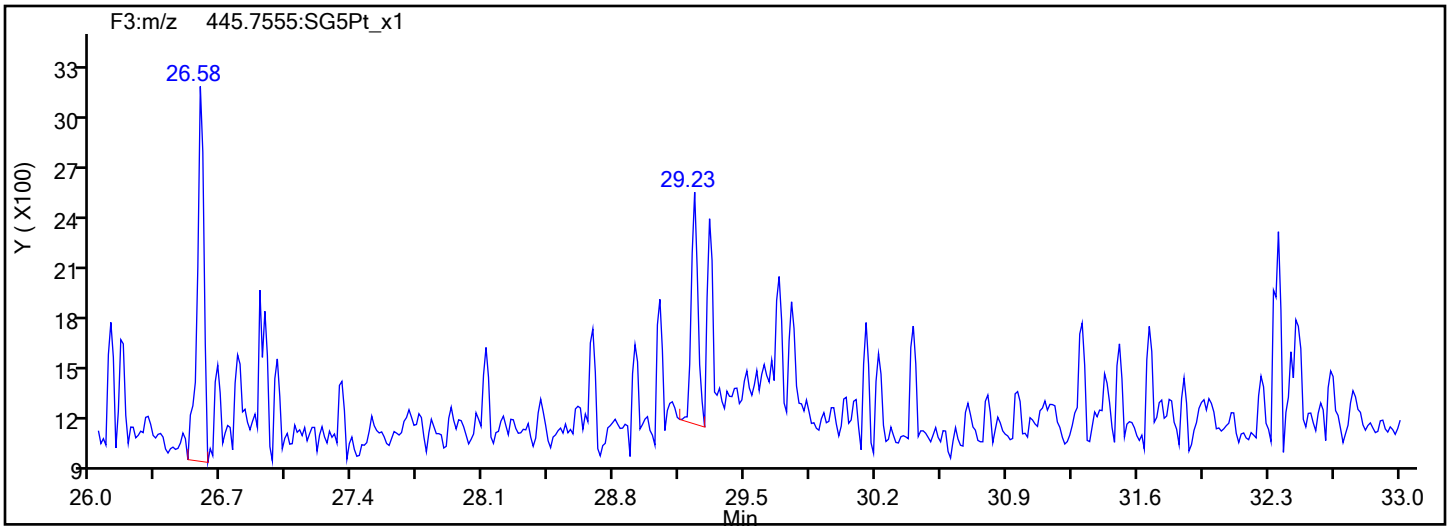

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Eurofins TestAmerica, Sacramento

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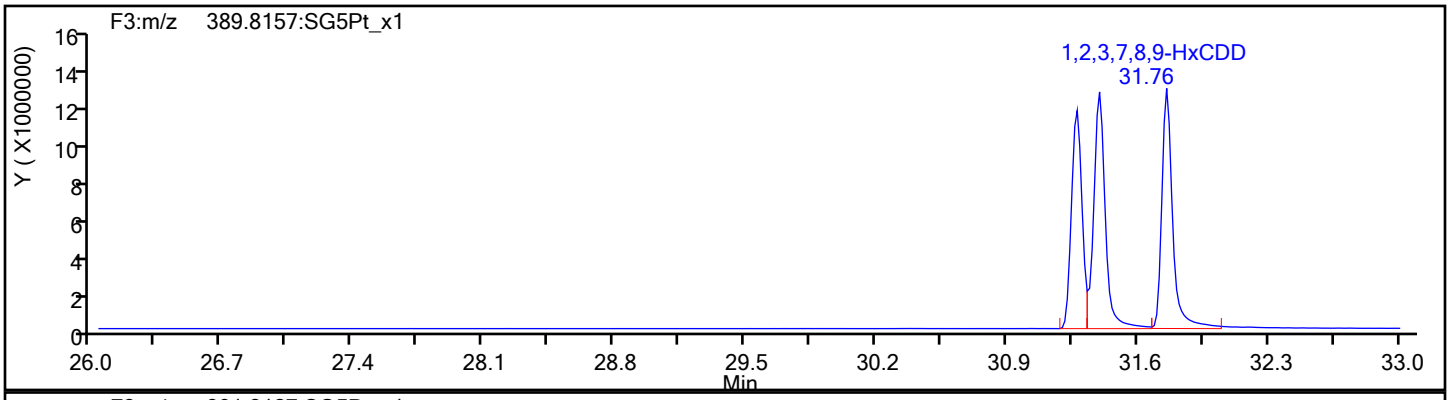

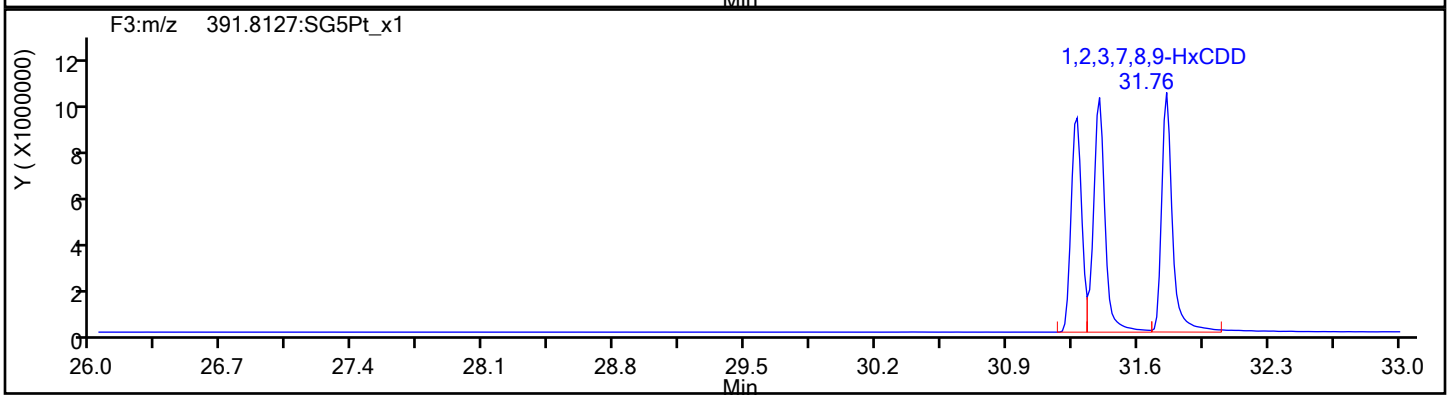

HxCDD Standards

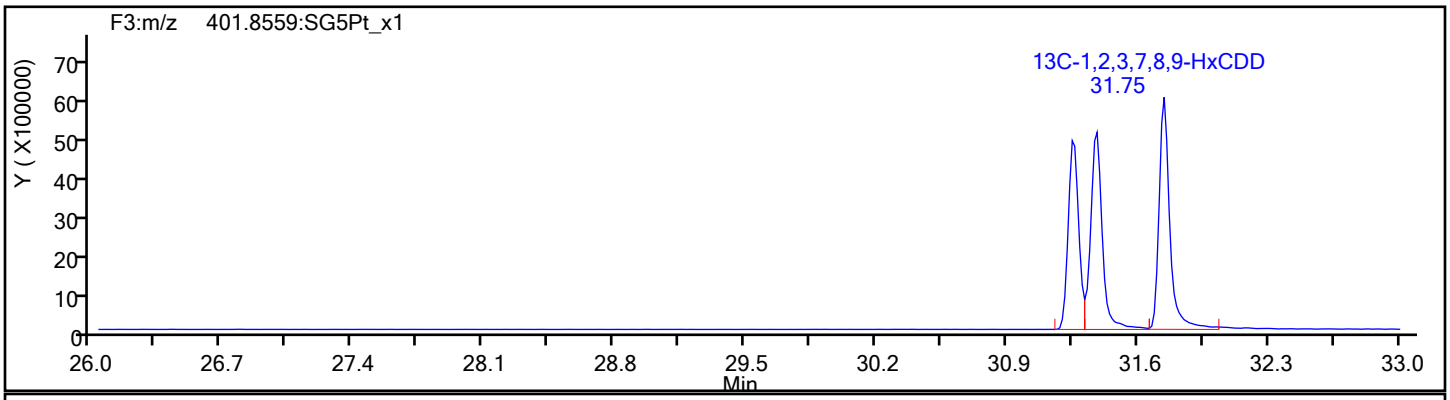

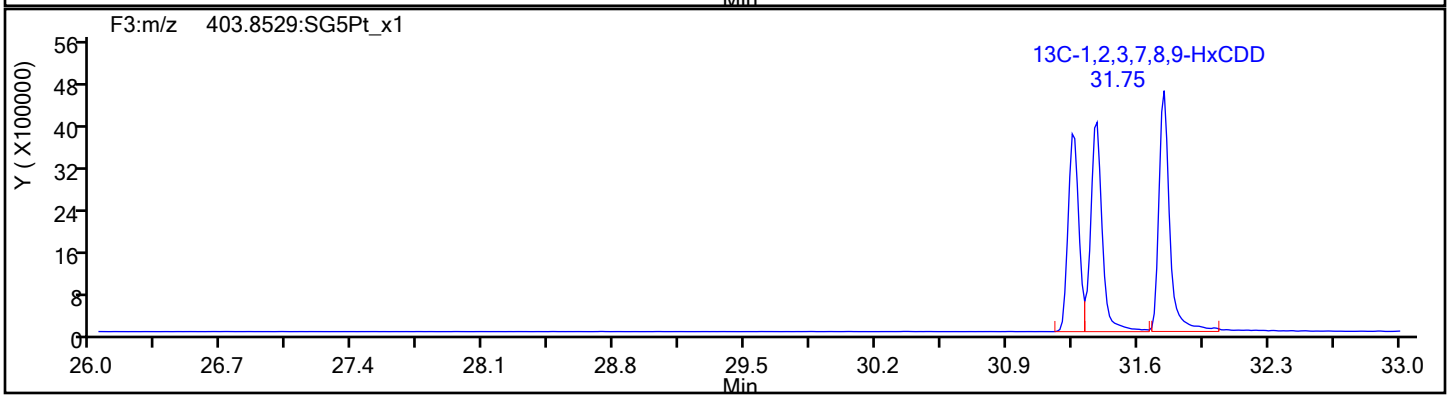

Report Date: 18-Sep-2019 10:45:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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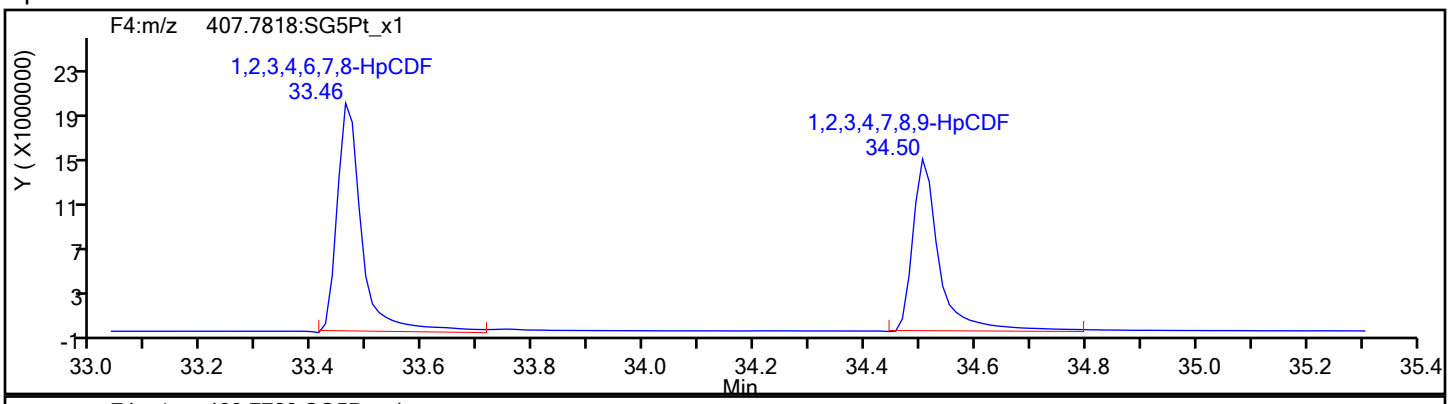

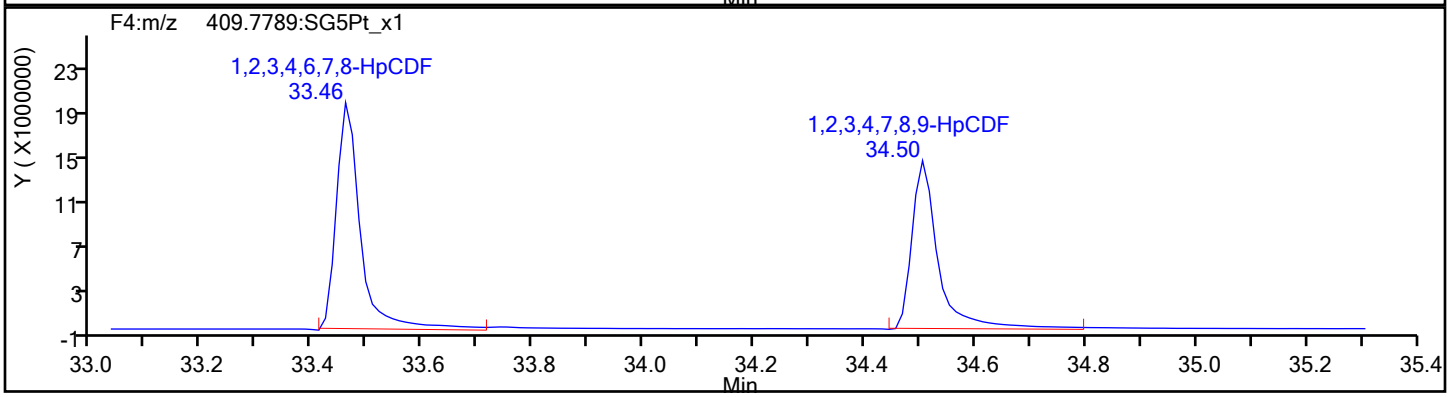

HpCDF Standards

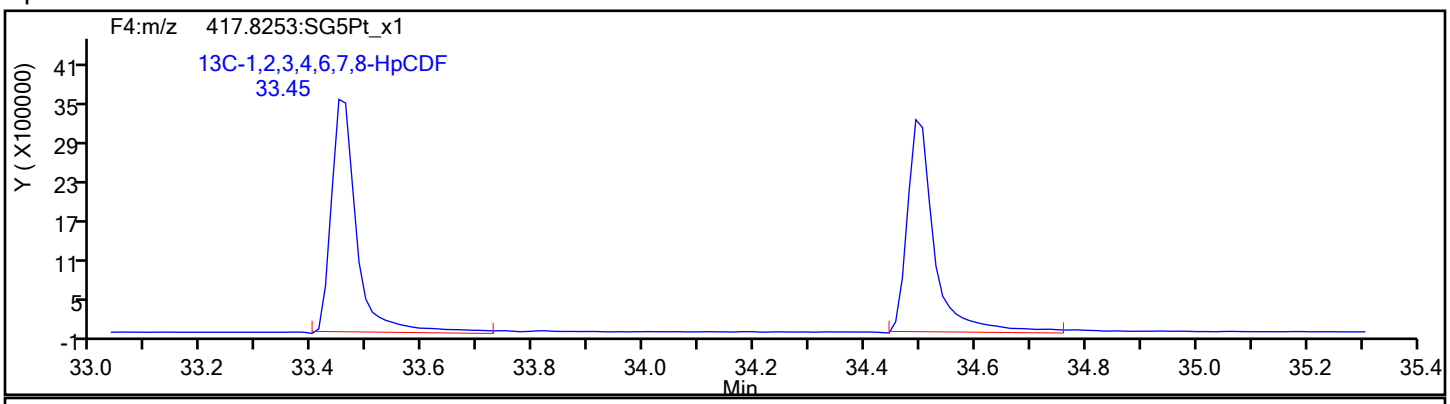

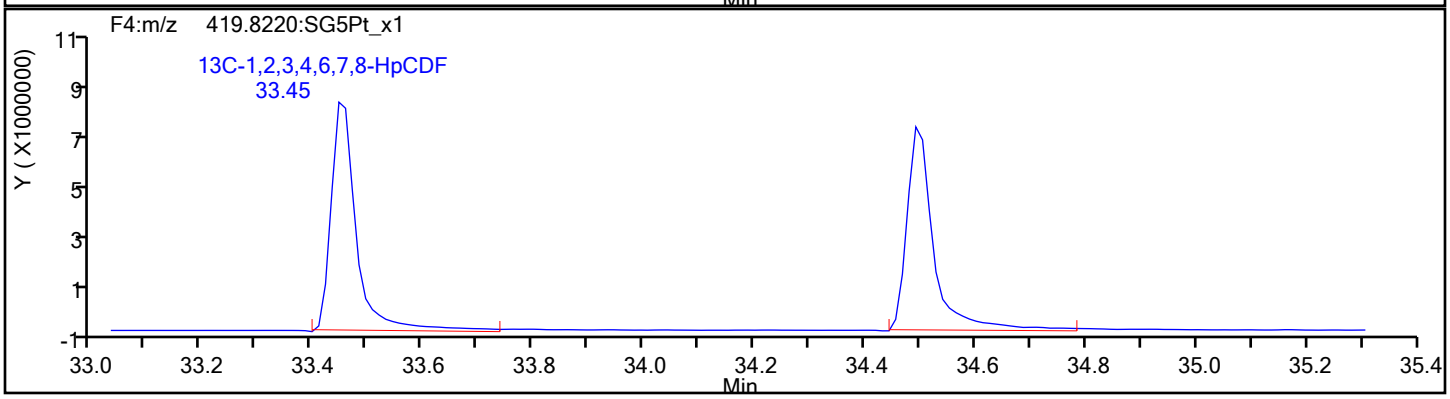

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Eurofins TestAmerica, Sacramento

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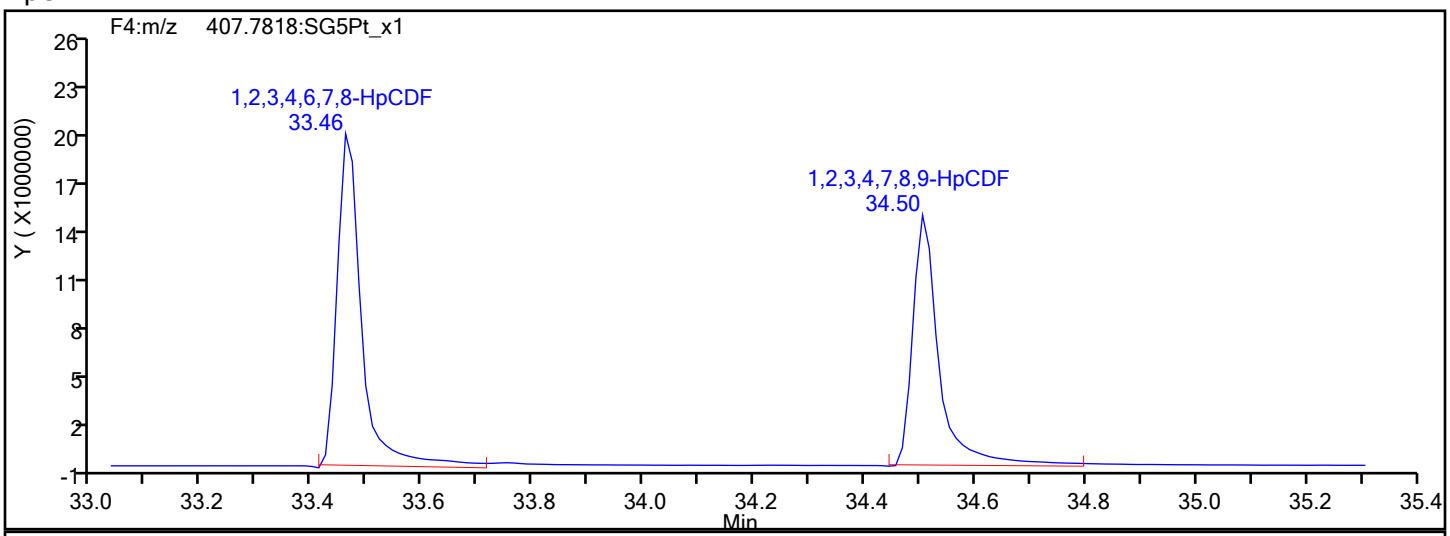

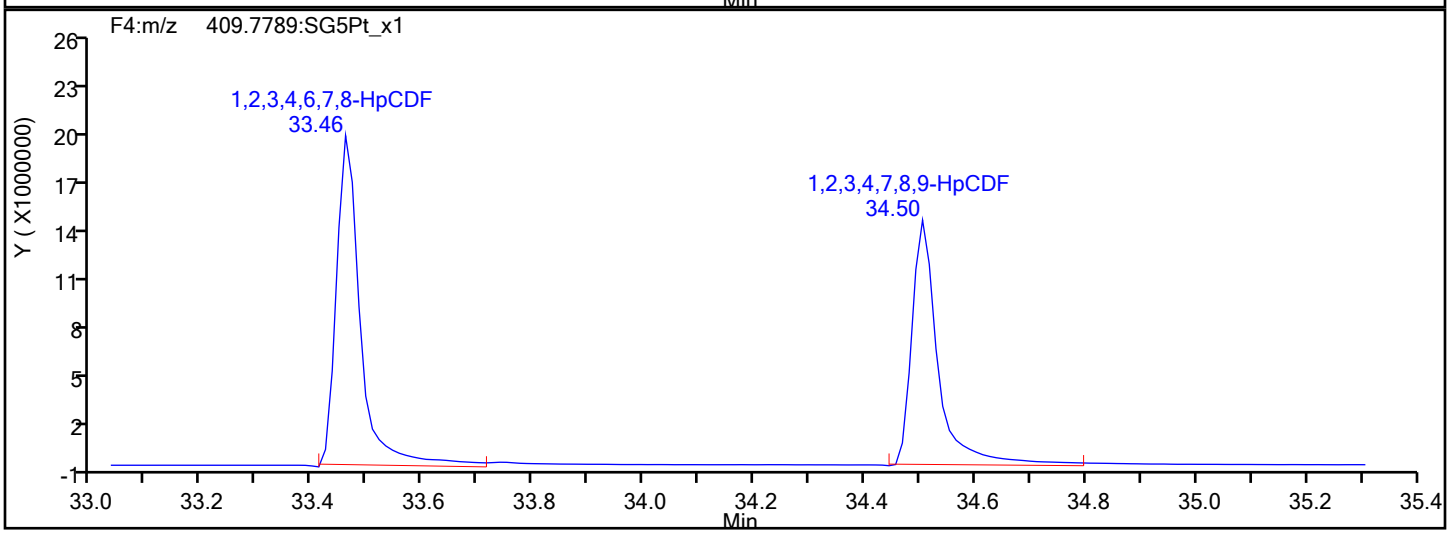

HpCDF Interference Mass

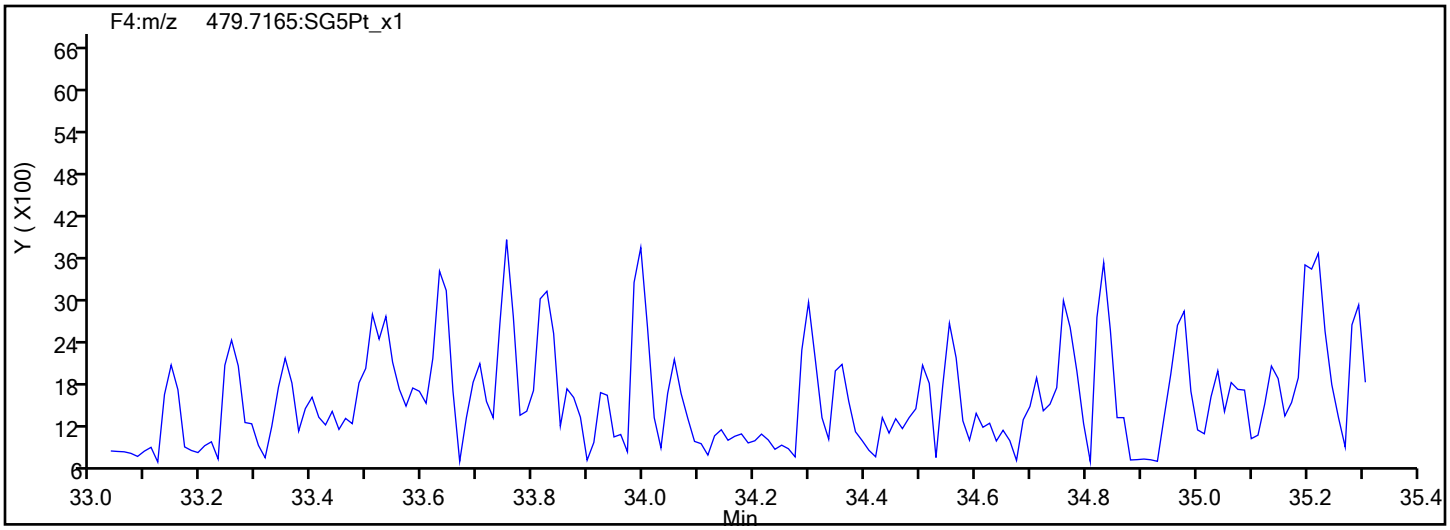

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Eurofins TestAmerica, Sacramento

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HpCDD

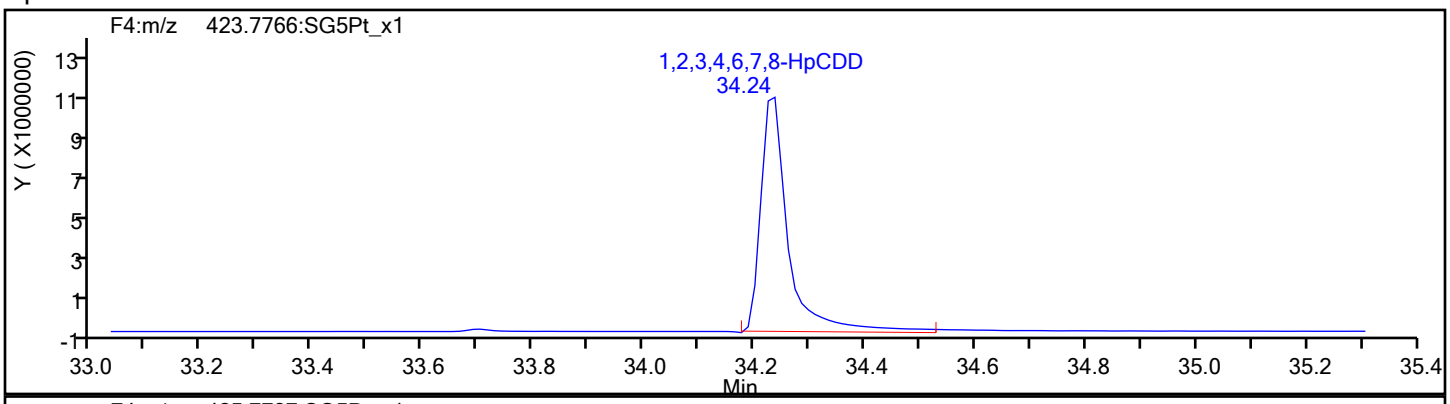

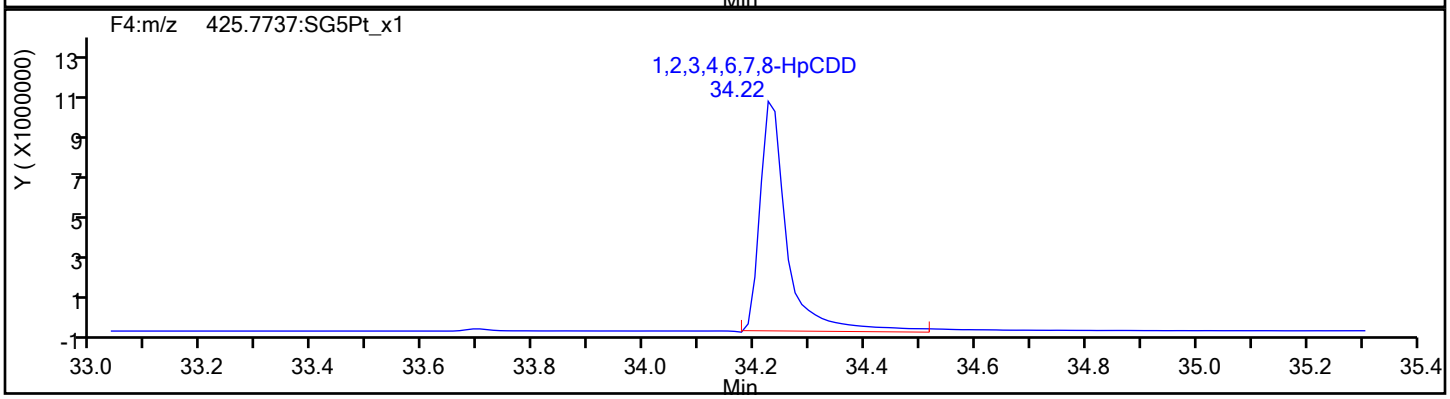

HpCDD Standards

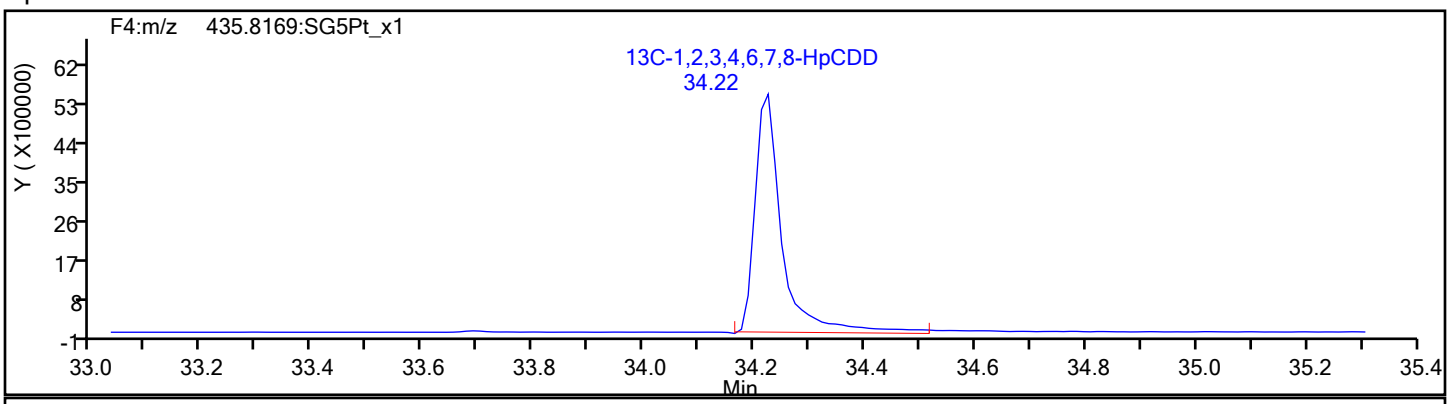

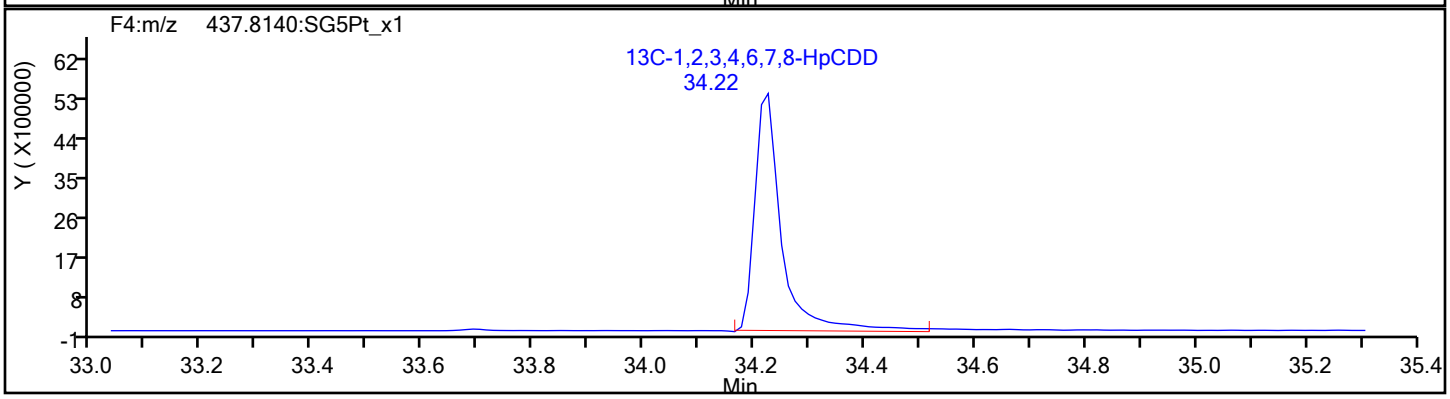

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Eurofins TestAmerica, Sacramento

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Client ID:			
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OCDF

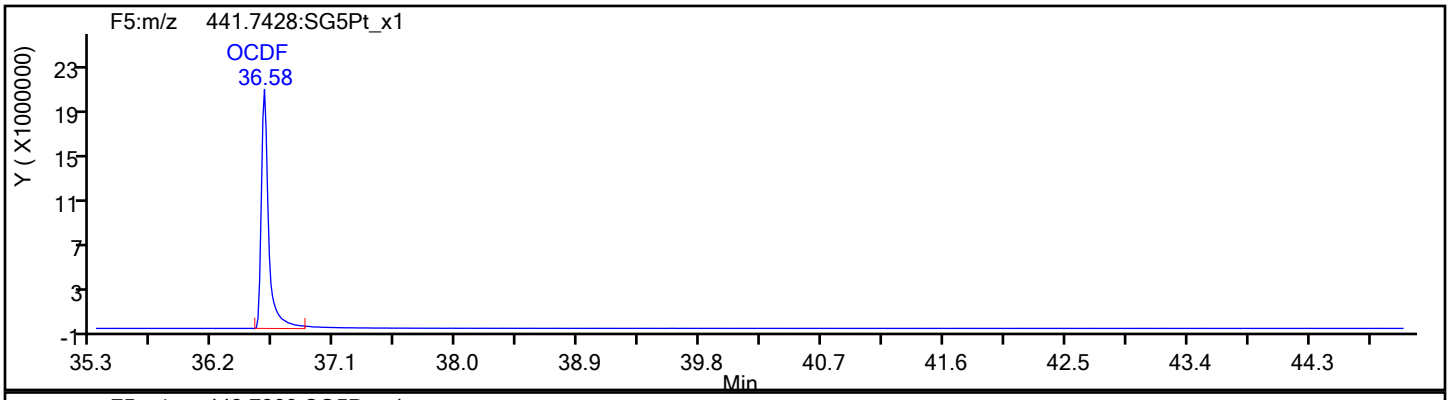

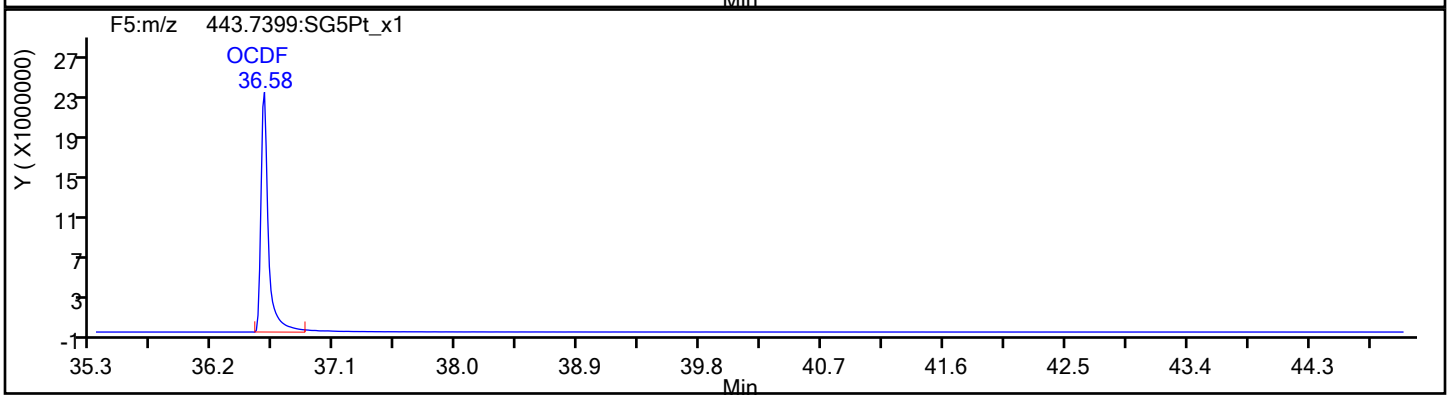

OCDF Standards

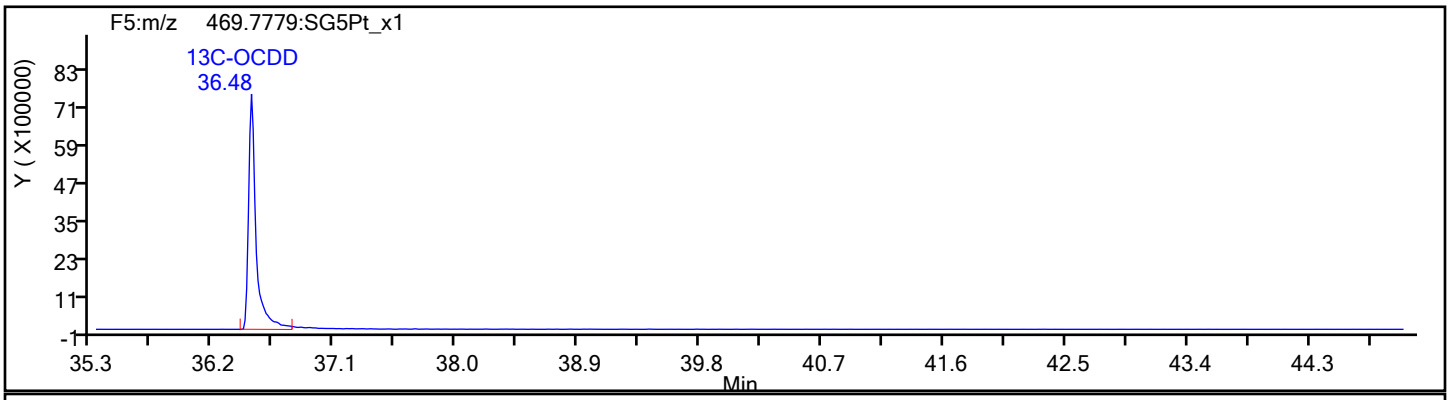

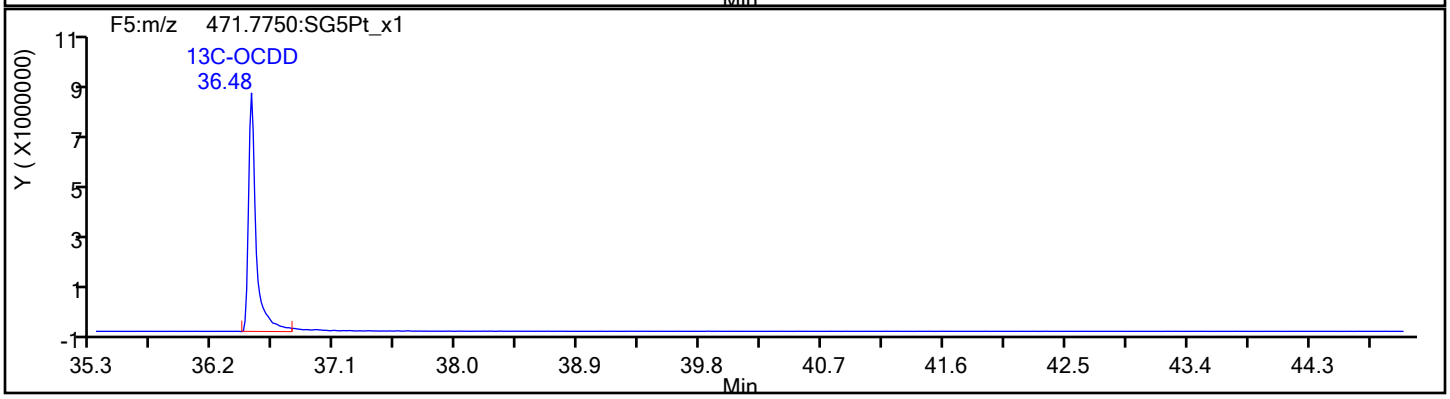

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Eurofins TestAmerica, Sacramento

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OCDF

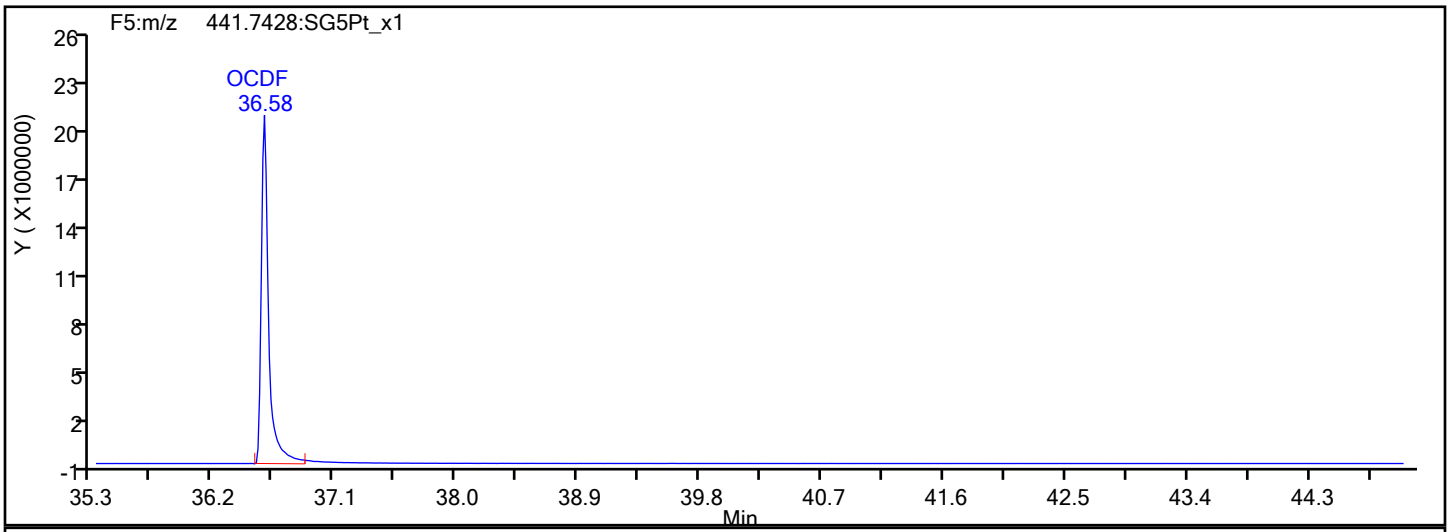

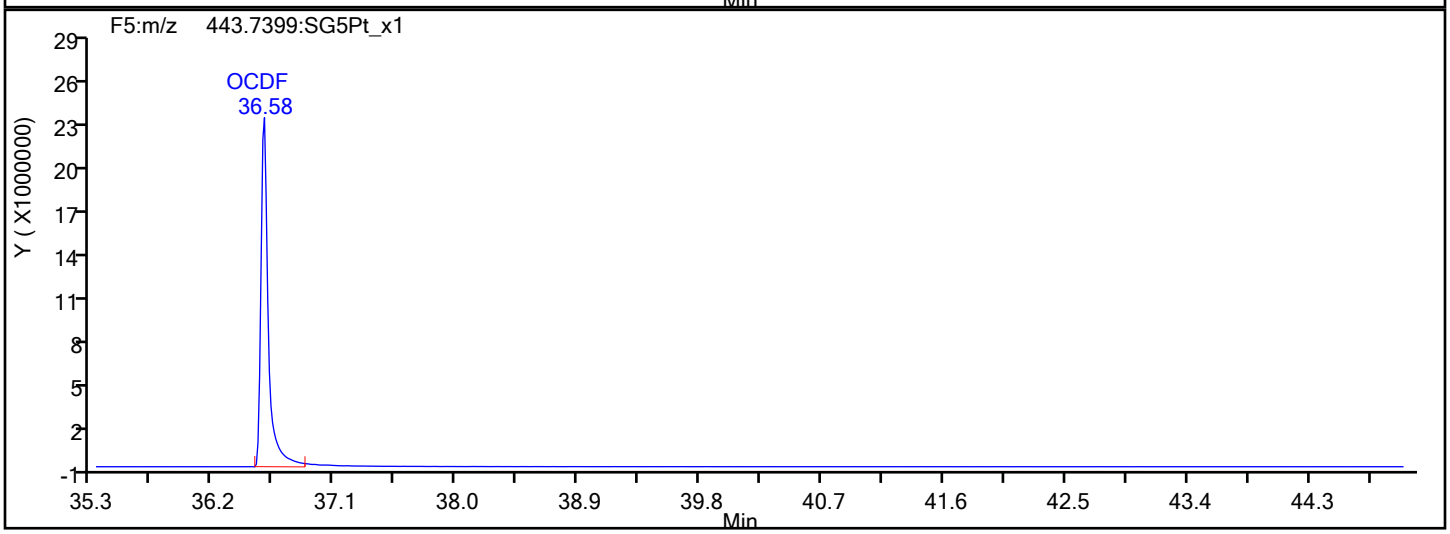

OCDF Interference Mass

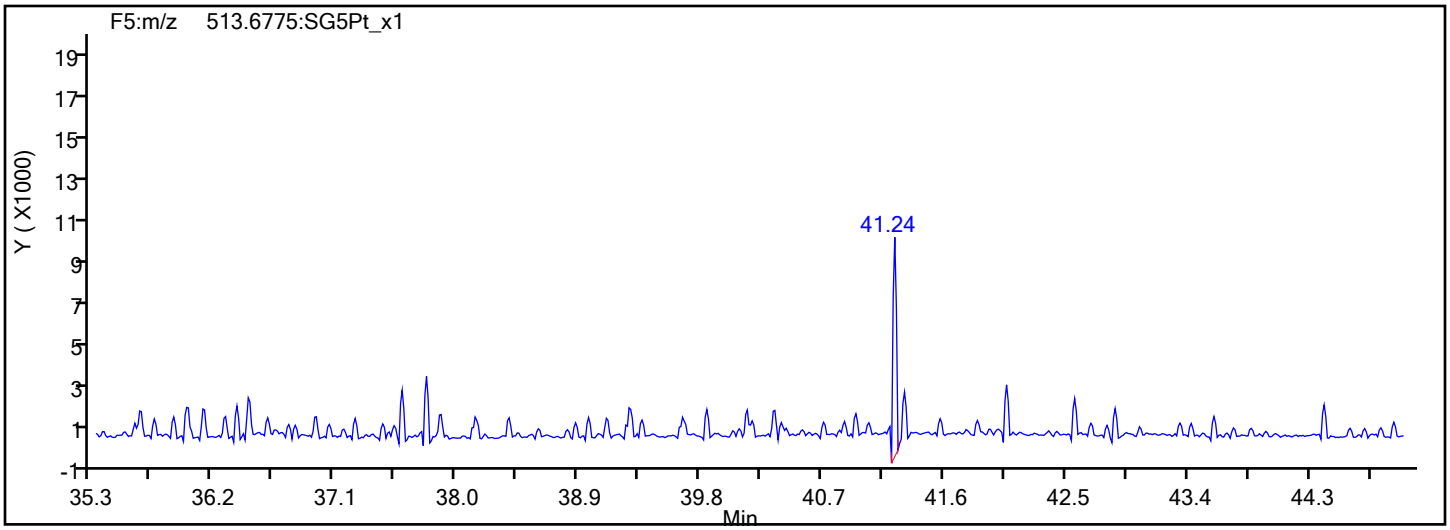

Report Date: 18-Sep-2019 10:45:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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OCDD

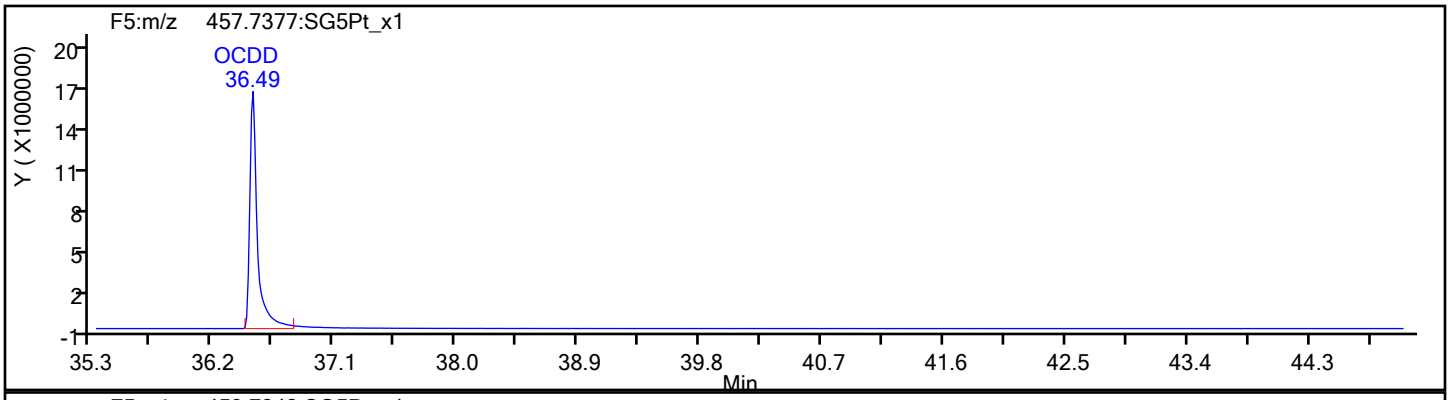

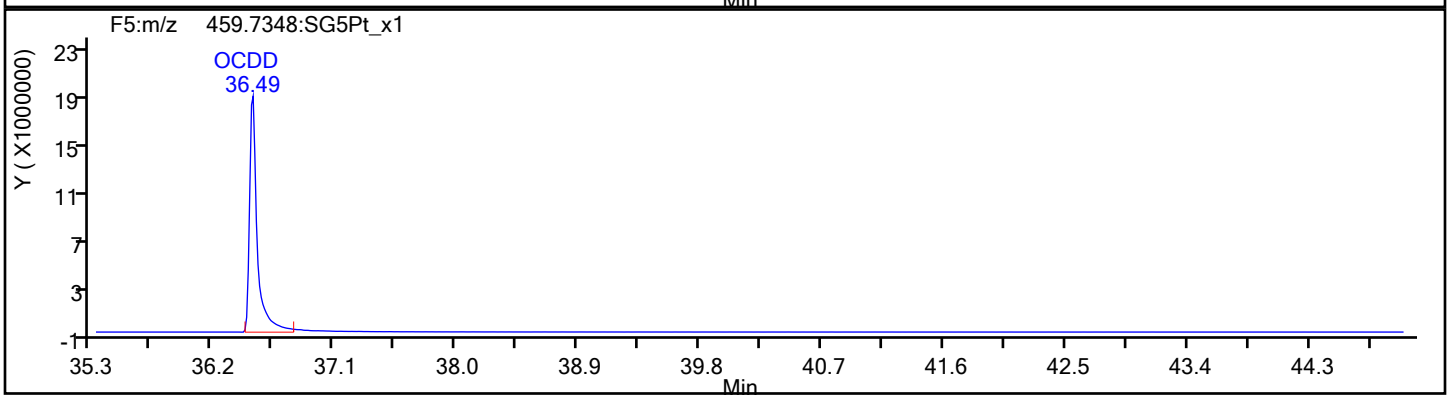

OCDD Standards

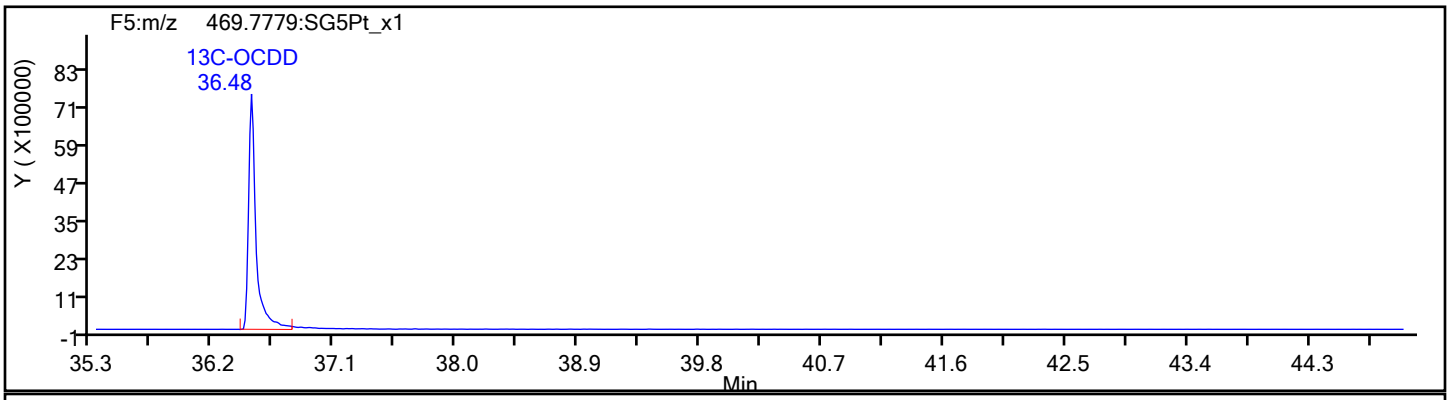

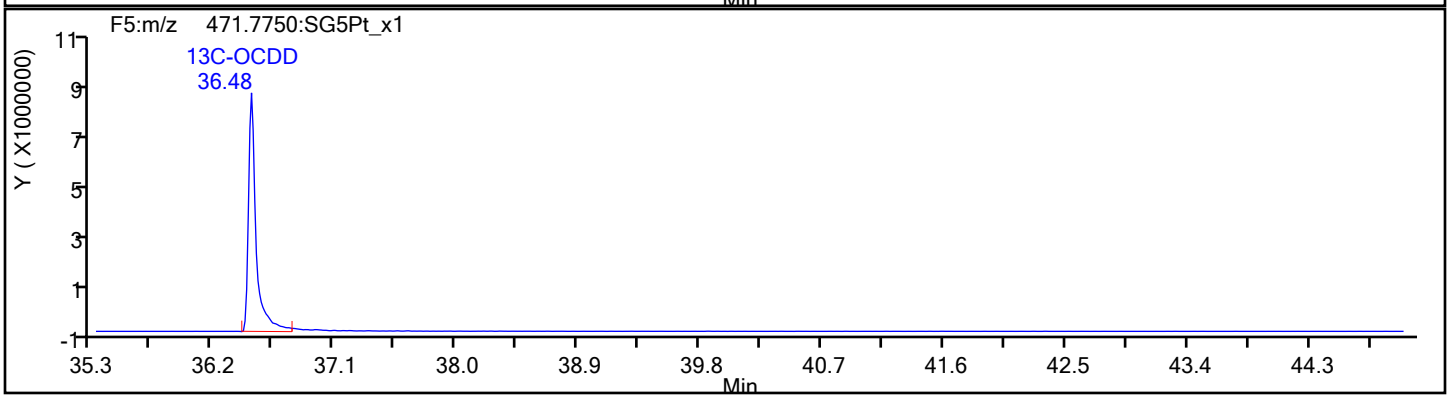

Report Date: 18-Sep-2019 10:45:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_10.d		
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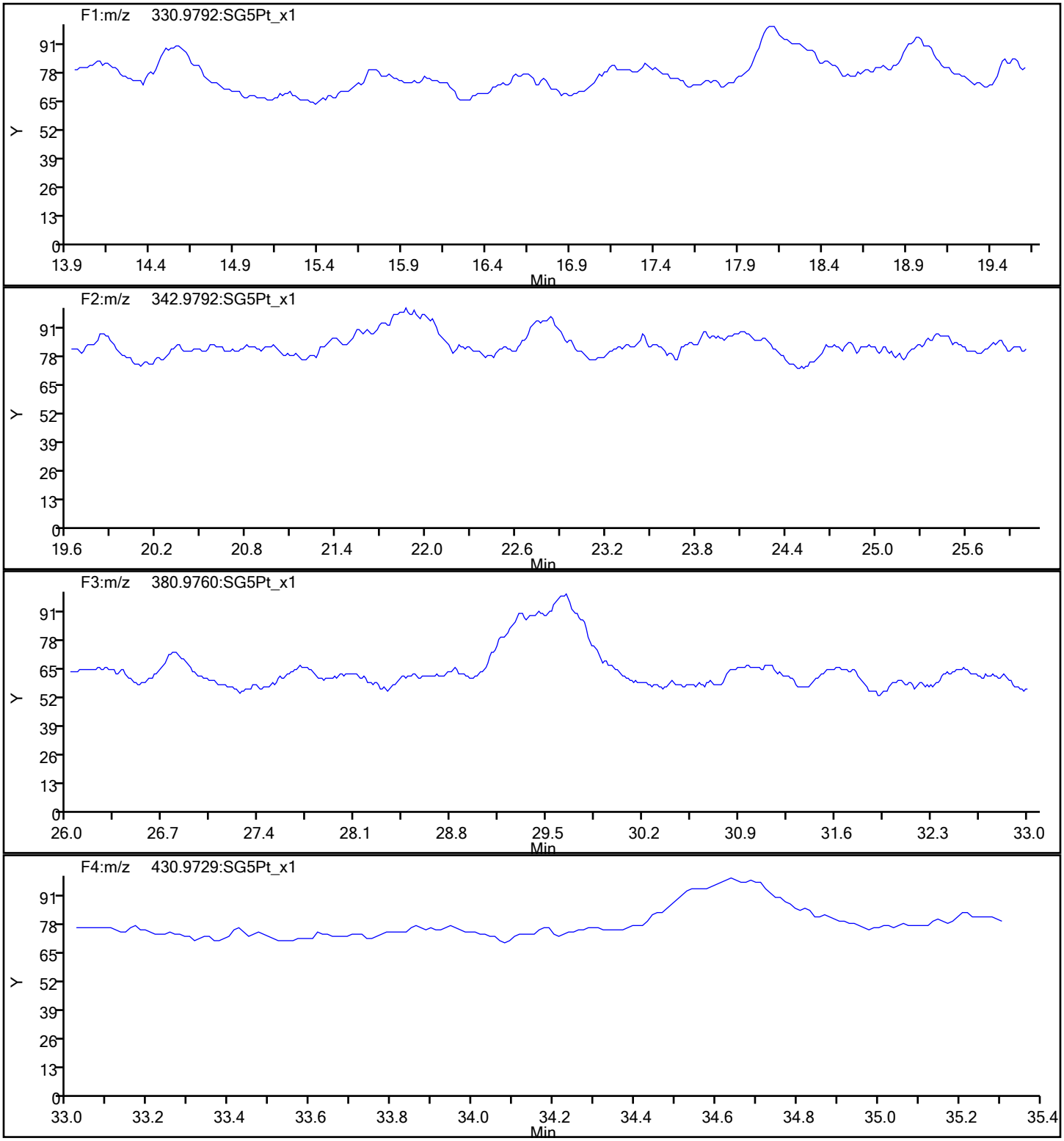

Report Date: 18-Sep-2019 10:45:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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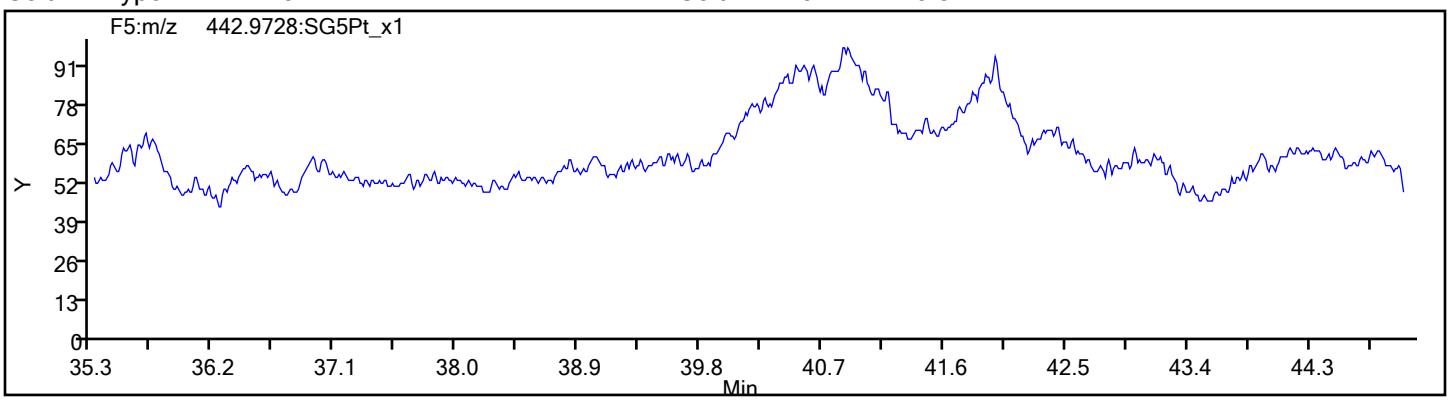

FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCV 320-335194/2 Calibration Date: 10/31/2019 14:11

Instrument ID: 10D5 Calib Start Date: 09/17/2019 13:03

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 09/17/2019 16:55

Lab File ID: 31OC1910D5_2.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
2,3,7,8-TCDF	AveID	1.051	1.008		9.59	10.0	96	84-120
2,3,7,8-TCDD	AveID	1.106	0.9496		8.58	10.0	86	78-129
1,2,3,7,8-PeCDF	AveID	1.082	0.996		46.0	50.0	92	82-120
2,3,4,7,8-PeCDF	AveID	1.103	1.001		45.4	50.0	91	82-122
1,2,3,7,8-PeCDD	AveID	0.9050	0.9108		50.3	50.0	101	78-130
1,2,3,4,7,8-HxCDF	AveID	1.197	1.106		46.2	50.0	92	90-112
1,2,3,6,7,8-HxCDF	AveID	1.181	1.130		47.8	50.0	96	88-114
2,3,4,6,7,8-HxCDF	AveID	1.212	1.159		47.8	50.0	96	88-114
1,2,3,4,7,8-HxCDD	AveID	1.109	1.015		45.8	50.0	92	78-128
1,2,3,6,7,8-HxCDD	AveID	1.081	1.025		47.4	50.0	95	78-128
1,2,3,7,8,9-HxCDD	AveID	1.212	1.188		49.0	50.0	98	82-122
1,2,3,7,8,9-HxCDF	AveID	1.245	1.156		46.4	50.0	93	90-112
1,2,3,4,6,7,8-HpCDF	AveID	1.556	1.455		46.8	50.0	94	90-110
1,2,3,4,6,7,8-HpCDD	AveID	0.9316	0.9470		50.8	50.0	102	86-116
1,2,3,4,7,8,9-HpCDF	AveID	1.386	1.288		46.5	50.0	93	86-116
OCDD	AveID	1.062	1.049		98.8	100	99	79-126
OCDF	AveID	1.260	1.305		104	100	104	63-159
13C-2,3,7,8-TCDF	Ave	1.438	1.275		88.6	100	89	71-140
13C-2,3,7,8-TCDD	Ave	0.9533	0.9458		99.2	100	99	82-121
13C-1,2,3,7,8-PeCDF	Ave	1.029	0.9713		94.4	100	94	76-130
13C-2,3,4,7,8-PeCDF	Ave	0.9827	0.9692		98.6	100	99	77-130
13C-1,2,3,7,8-PeCDD	Ave	0.7481	0.7525		101	100	101	62-160
13C-1,2,3,4,7,8-HxCDF	Ave	1.152	1.031		89.5	100	89	76-131
13C-1,2,3,6,7,8-HxCDF	Ave	1.243	1.103		88.7	100	89	70-143
13C-2,3,4,6,7,8-HxCDF	Ave	1.172	1.069		91.2	100	91	73-137
13C-1,2,3,4,7,8-HxCDD	Ave	0.7812	0.7650		97.9	100	98	85-117
13C-1,2,3,6,7,8-HxCDD	Ave	0.9175	0.8641		94.2	100	94	85-118
13C-1,2,3,7,8,9-HxCDF	Ave	1.065	0.9900		92.9	100	93	74-135
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.8628	0.8083		93.7	100	94	78-129
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.8739	0.8103		92.7	100	93	72-138
13C-1,2,3,4,7,8,9-HpCDF	Ave	0.7991	0.7415		92.8	100	93	77-129
13C-OCDD	Ave	0.7744	0.6310		163	200	81	48-208
37Cl4-2,3,7,8-TCDD	Ave	1.222	1.426		11.7	10.0	117	79-127

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #	User
1	31OC1910D5_1	WDM HRDXNCP_00040	WDM 103119	Tray01:1	Dioxin		SMA
2	31OC1910D5_2	CS-4 HRDXNL4_00085	CCV 103119	Tray01:2	Dioxin		SMA
3	31OC1910D5_3	Solvent Blank C-14	SB 103119	Tray01:3	---		SMA
4	31OC1910D5_4	MB 320-334060/1-A	MB 320-334060/1-A	Tray01:4	1613B(T)/Solid	D104	SMA
5	31OC1910D5_5	LCS 320-334060/2-A	LCS 320-334060/2-A	Tray01:5	1613B(T)/Solid		SMA
6	31OC1910D5_6	LCSD 320-334060/3-A	LCSD 320-334060/3-A	Tray01:6	1613B(T)/Solid	---	SMA
7	31OC1910D5_7	LCSD 320-334214/3-A RI	LCSD 320-334214/3-A RI	Tray01:7	1613B/leach	D103	SMA
8	31OC1910D5_8	LCS 320-334372/2-A RI	LCS 320-334372/2-A RI	Tray01:8	1613B/leach	D104	SMA
9	31OC1910D5_9	LCSD 320-334372/3-A RI	LCSD 320-334372/3-A RI	Tray01:9	1613B/leach		SMA
10	31OC1910D5_10	180-97466-C-2-C	180-97466-C-2-C	Tray01:10	1613B/leach		SMA
11	31OC1910D5_11	180-97466-C-3-C	180-97466-C-3-C	Tray01:11	1613B/leach		SMA
12	31OC1910D5_12	180-97466-C-1-A	180-97466-C-1-A	Tray01:15	1613B/Solid	D104	SMA
13	31OC1910D5_13	180-97466-C-2-A	180-97466-C-2-A	Tray01:16	1613B/Solid		SMA
14	31OC1910D5_14	Solvent Blank C-14	SB 103119A	Tray01:3	---		SMA
15	31OC1910D5_15	CS-4 HRDXNL4_00085	CCV 103119A	Tray01:2	Dioxin		SMA
16	31OC1910D5_16	WDM HRDXNCP_00040	WDM 103119A	Tray01:1	Dioxin		SMA
17	31OC1910D5_17	Solvent Blank C-14	SB 103119B	Tray01:3	---		SMA

logfile checked
10-31-19 ALM

Sample Size	Units	MS File	Inlet File	Inject Volume	Process
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
0.200000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
0.200000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover

Process Options	Action On Error	s5
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
---	---	C:\CHROM
C:\Masslynx\Autospec\dioxinrescheck.dat	Ignore Error	---
C:\Masslynx\Autospec\dioxinrescheck.dat	Ignore Error	---
C:\Masslynx\Autospec\dioxinrescheck.dat	Ignore Error	---
---	---	C:\CHROM
---	---	C:\CHROM

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed: Thursday, October 31, 2019 13:19:33 Pacific Daylight Time

M 292.9824 R 13085

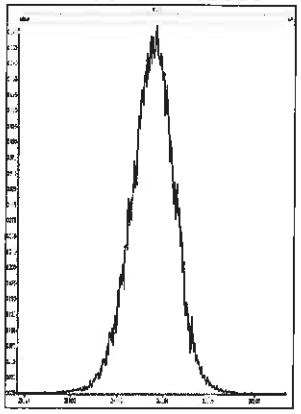

M 304.9824 R 12684

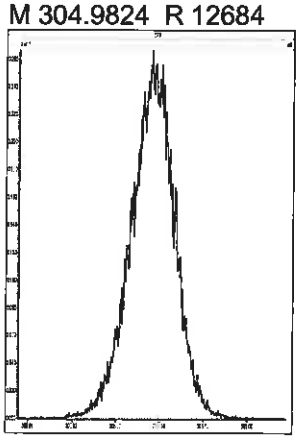

M 318.9792 R 13512

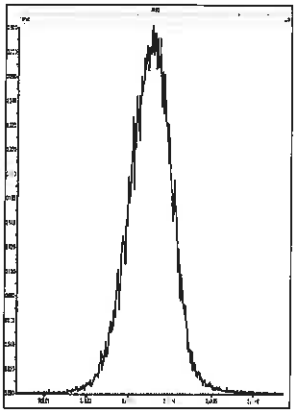

M 330.9792 R 13091

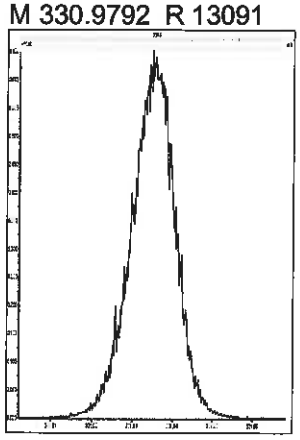

M 342.9792 R 13369

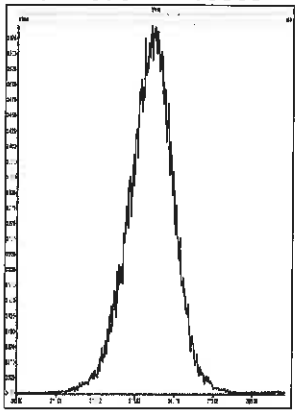

M 354.9792 R 11960

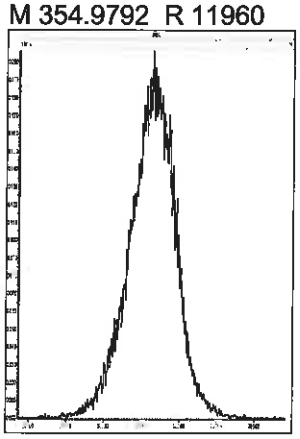

M 366.9792 R 11162

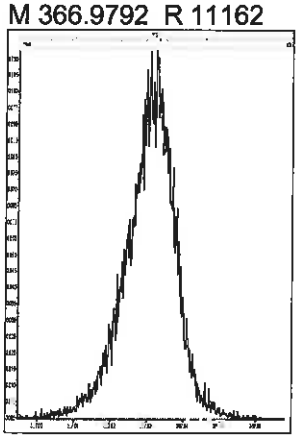

M 380.9760 R 11962

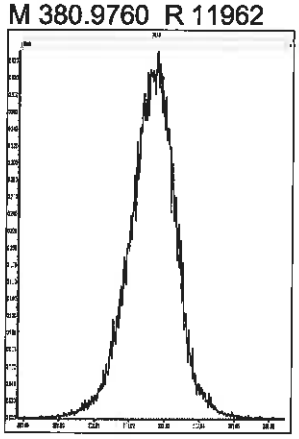

M 392.9760 R 11960

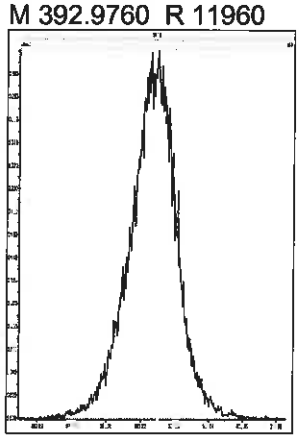

M 404.9760 R 10918

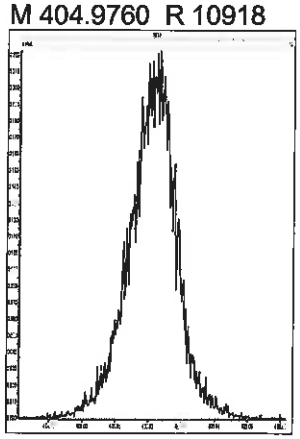

M 416.9760 R 12626

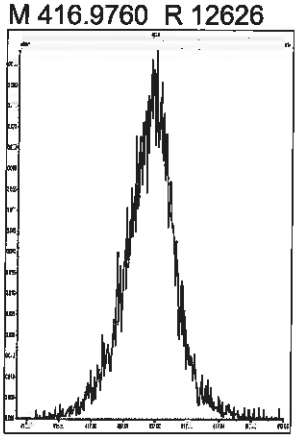

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 2 @ 200 (ppm)

Printed: Thursday, October 31, 2019 13:20:53 Pacific Daylight Time

M 318.9792 R 13512

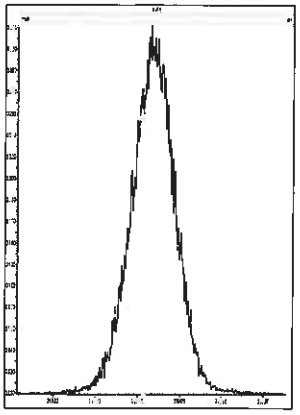

M 330.9792 R 13024

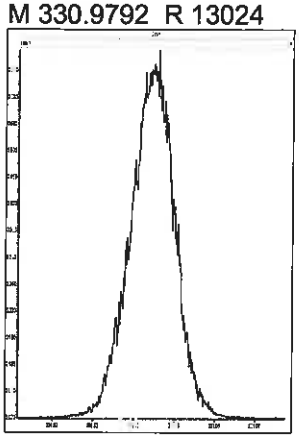

M 342.9792 R 12136

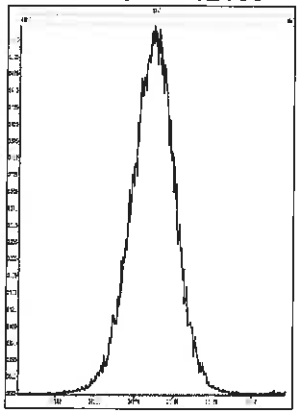

M 354.9792 R 13019

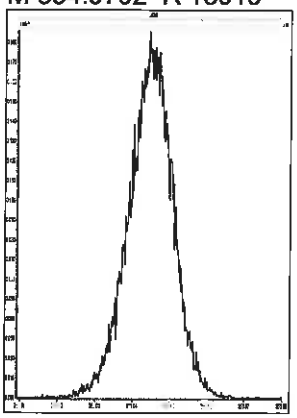

M 366.9792 R 11902

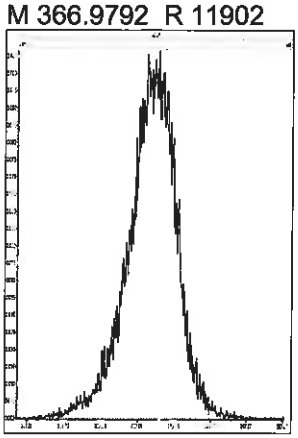

M 380.9760 R 12691

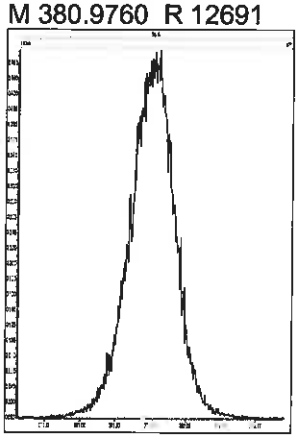

M 392.9760 R 12314

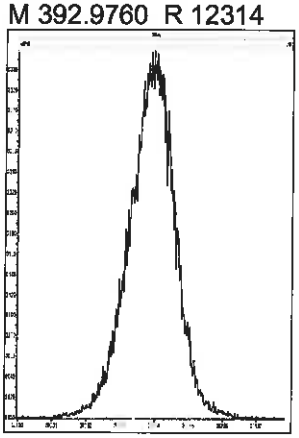

M 404.9760 R 12021

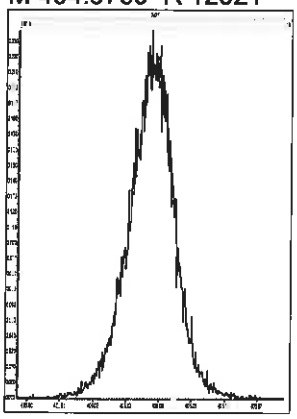

M 416.9760 R 12077

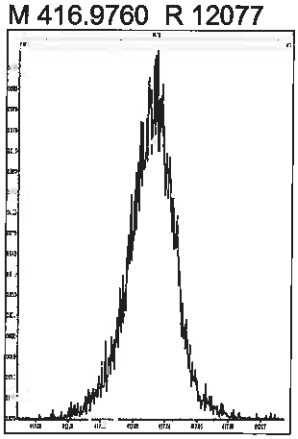

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

Printed: Thursday, October 31, 2019 13:21:24 Pacific Daylight Time

M 366.9792 R 12314

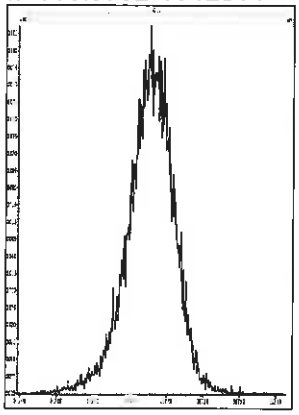

M 380.9760 R 13091

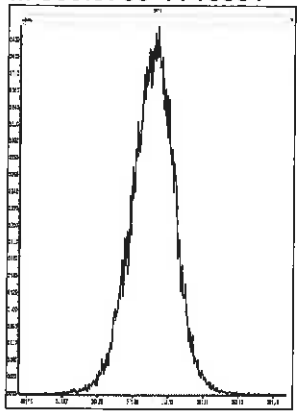

M 392.9760 R 12954

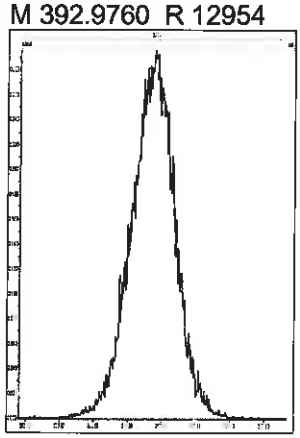

M 404.9760 R 12689

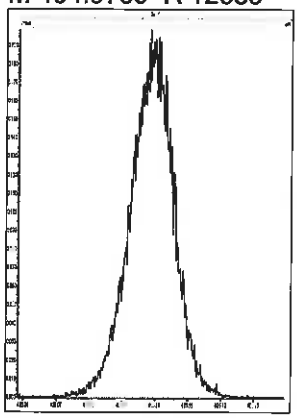

M 416.9760 R 14283

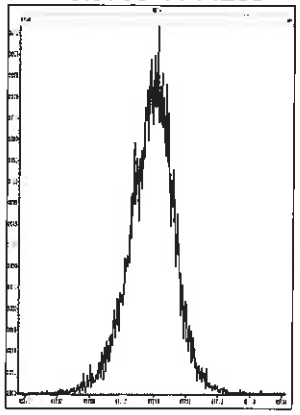

M 430.9728 R 12756

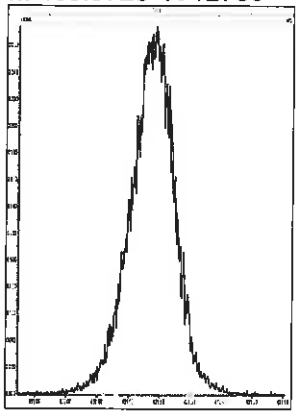

M 442.9728 R 12499

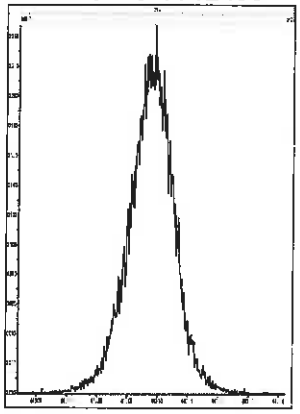

M 454.9728 R 12624

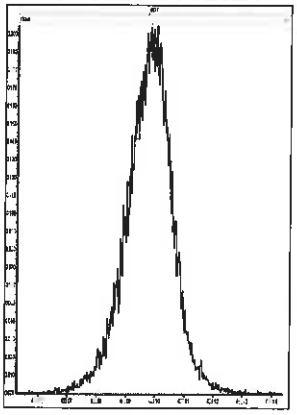

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 4 @ 200 (ppm)

Printed: Thursday, October 31, 2019 13:22:41 Pacific Daylight Time

M 380.9760 R 13156

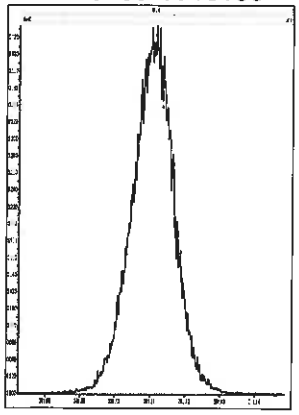

M 392.9760 R 13154

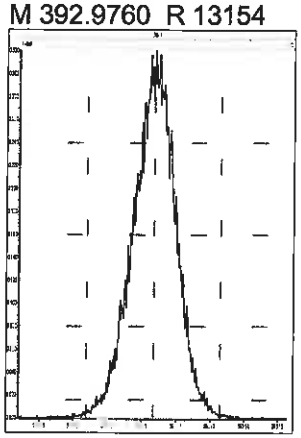

M 404.9760 R 13368

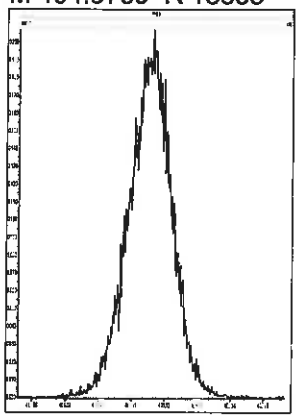

M 416.9760 R 13087

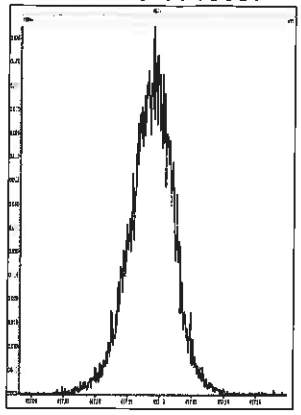

M 430.9728 R 12756

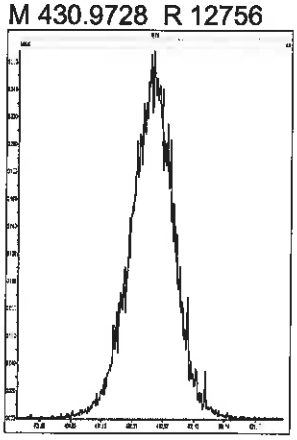

M 442.9728 R 12500

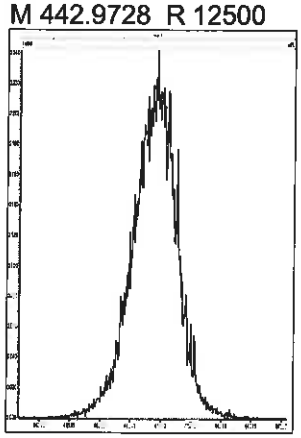

M 454.9728 R 12257

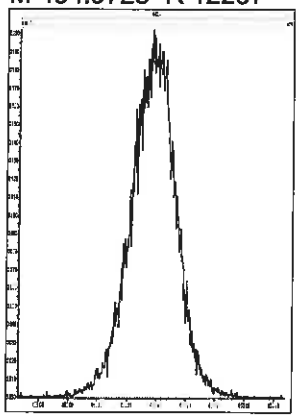

M 466.9728 R 12954

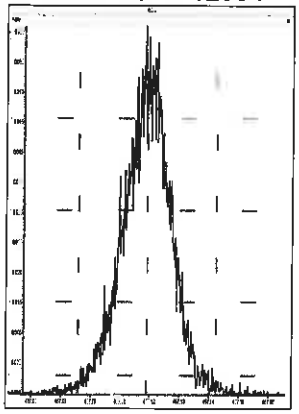

M 480.9696 R 12500

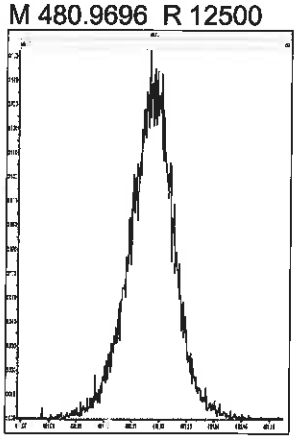

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 5 @ 200 (ppm)

Printed: Thursday, October 31, 2019 13:23:24 Pacific Daylight Time

M 380.9760 R 13301

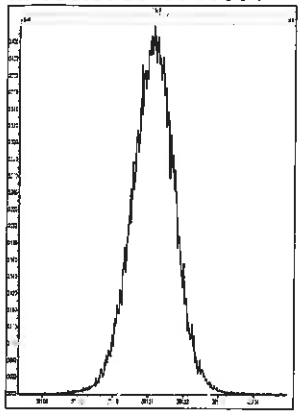

M 392.9760 R 13299

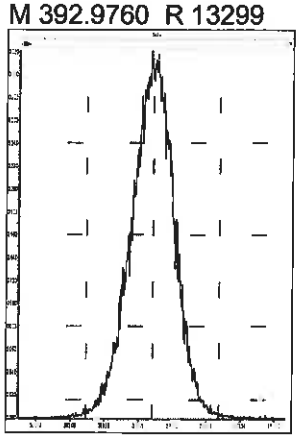

M 404.9760 R 13368

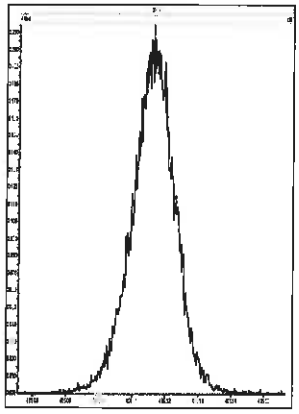

M 416.9760 R 13590

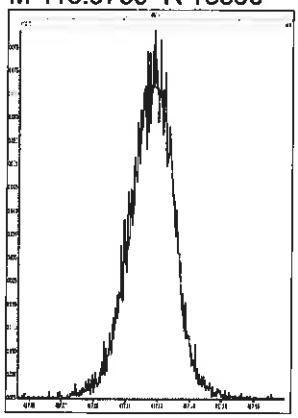

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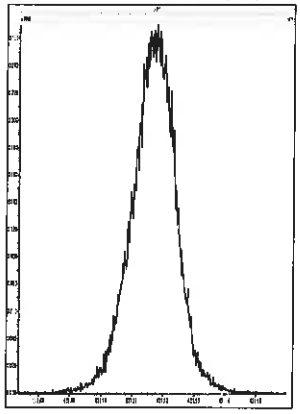

M 442.9728 R 13157

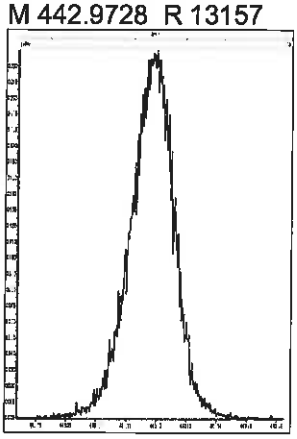

M 454.9728 R 12374

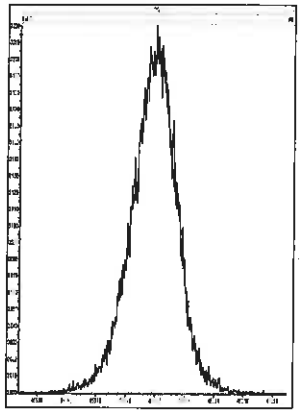

M 466.9728 R 14282

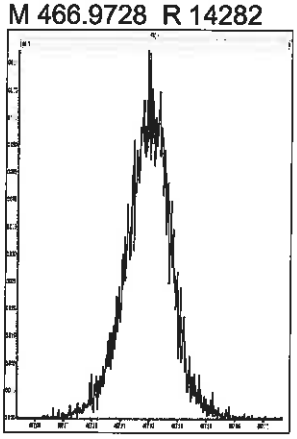

M 480.9696 R 12690

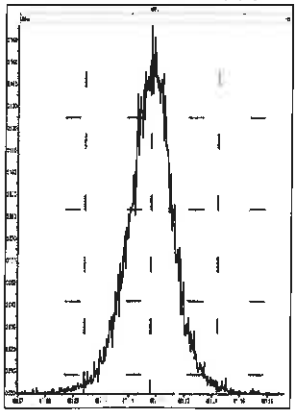

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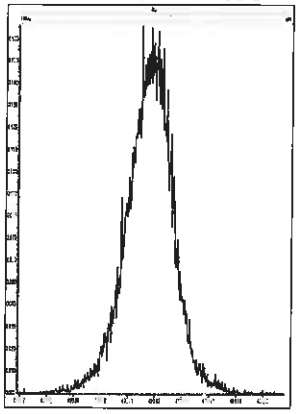

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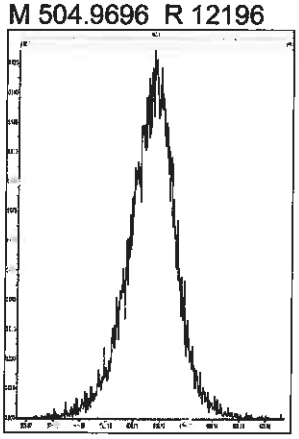

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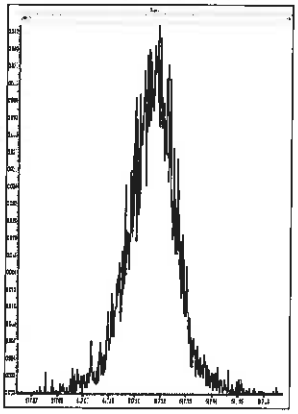

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M 292.9824 R 11961

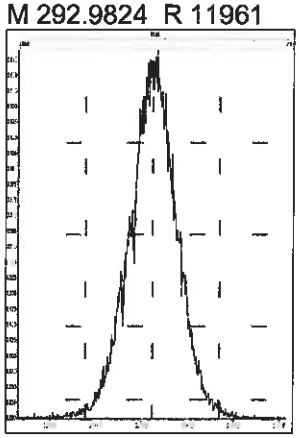

M 304.9824 R 12019

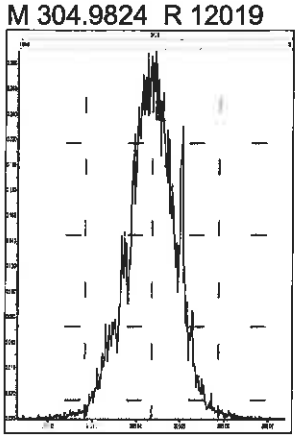

M 318.9792 R 12224

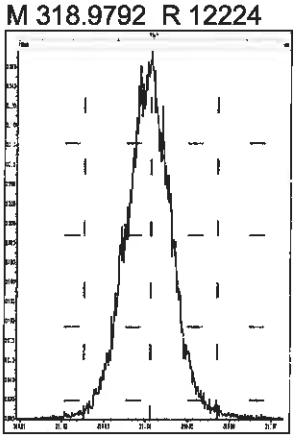

M 330.9792 R 12286

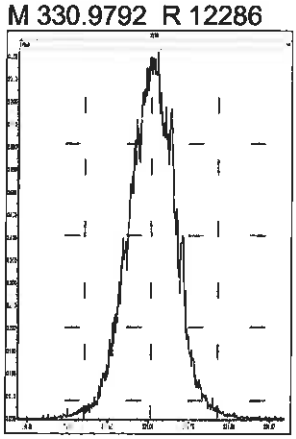

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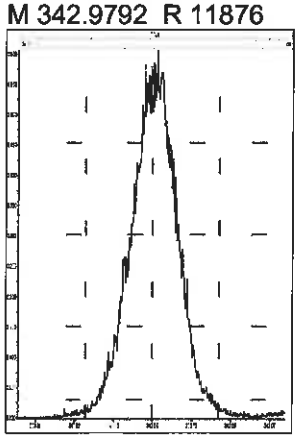

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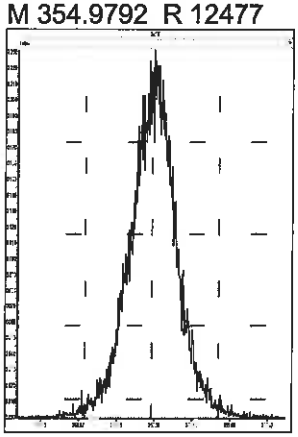

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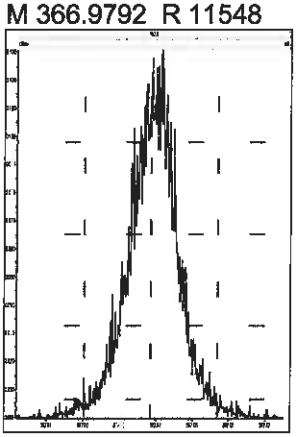

M 380.9760 R 11547

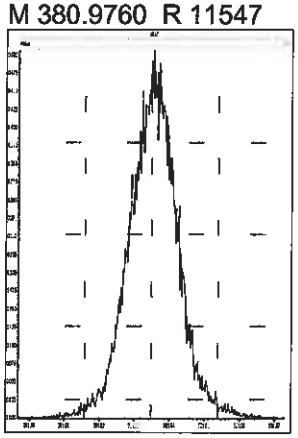

M 392.9760 R 11792

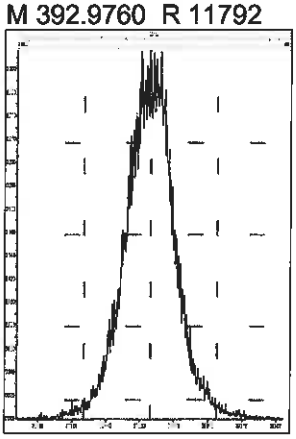

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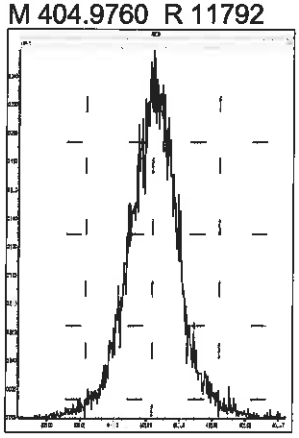

M 416.9760 R 11934

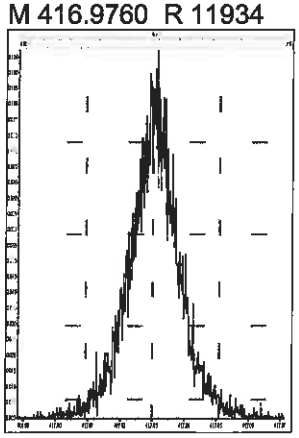

M 318.9792 R 12603

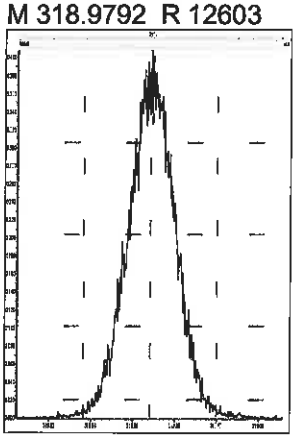

M 330.9792 R 12468

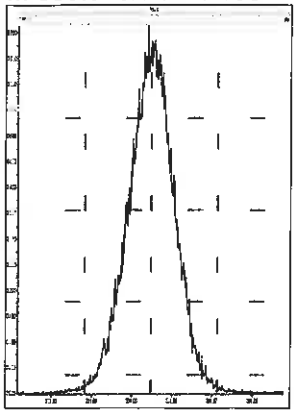

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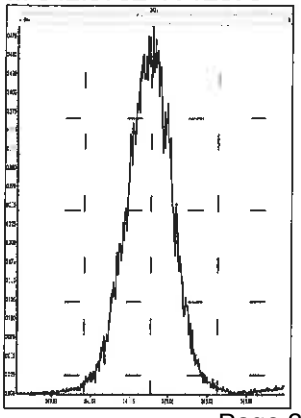

M 354.9792 R 12383

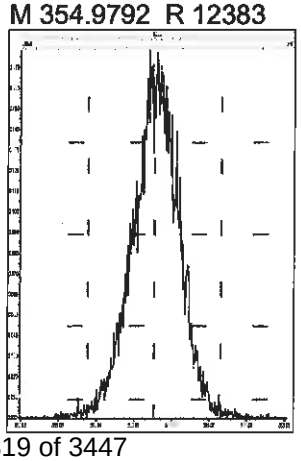

M 366.9792 R 12284

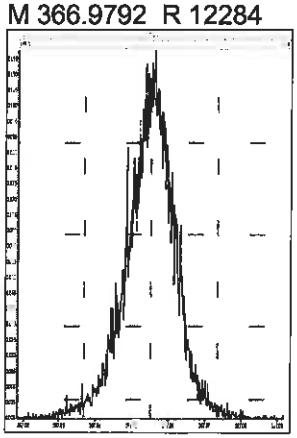

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M 380.9760 R 12259

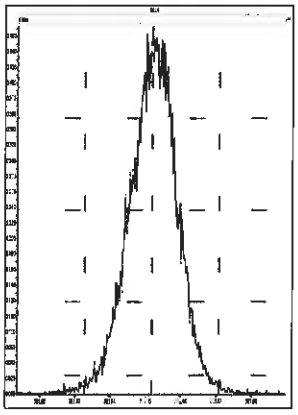

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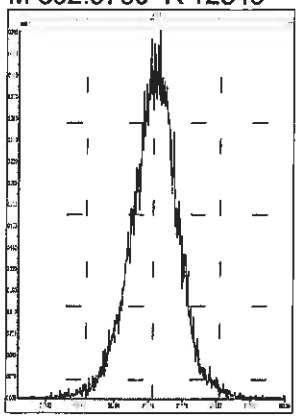

M 404.9760 R 12535

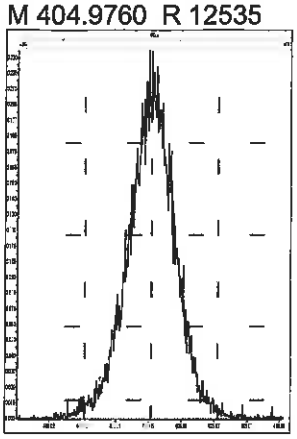

M 416.9760 R 12855

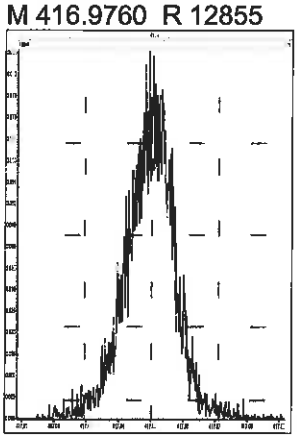

M 366.9792 R 12519

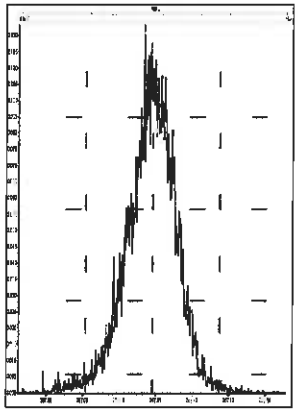

M 380.9760 R 12692

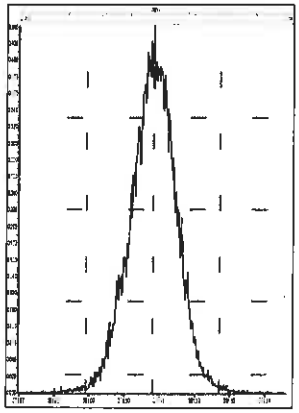

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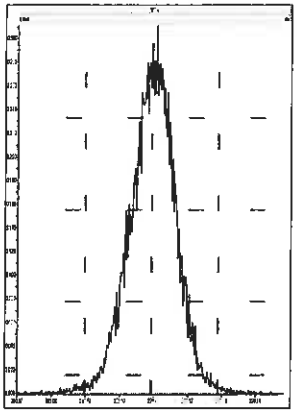

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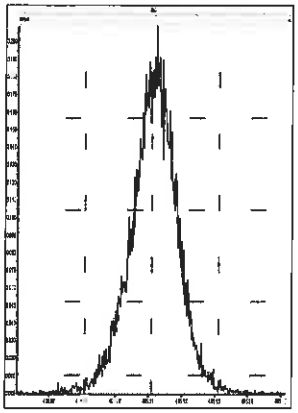

M 416.9760 R 14084

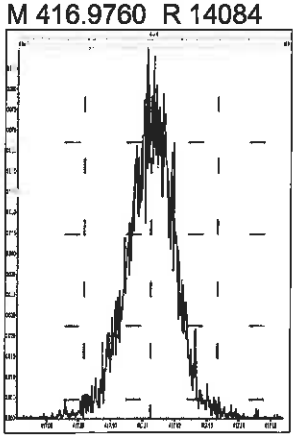

M 430.9728 R 12757

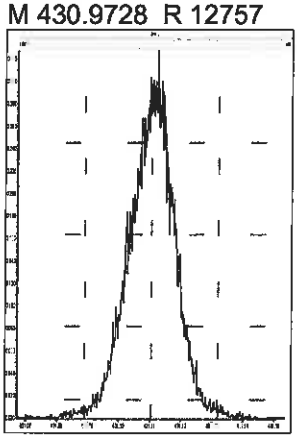

M 442.9728 R 12499

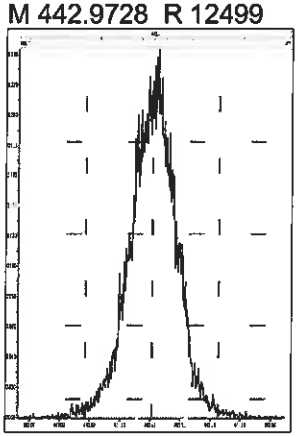

M 454.9728 R 12288

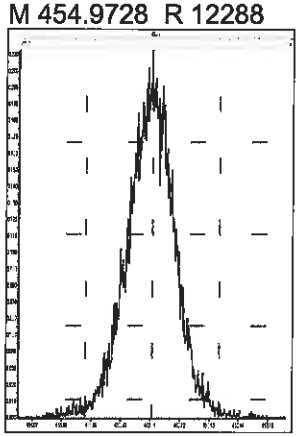

M 380.9760 R 12723

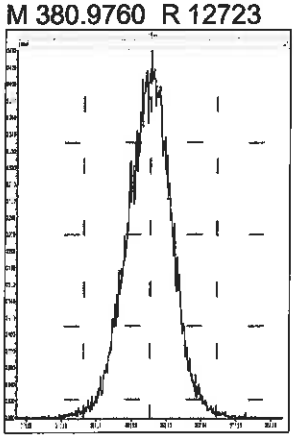

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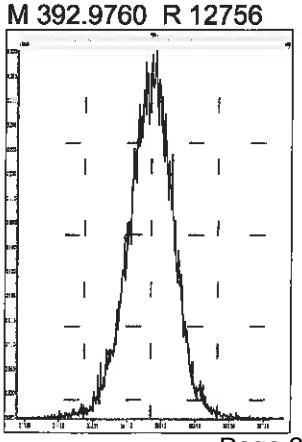

M 404.9760 R 13297

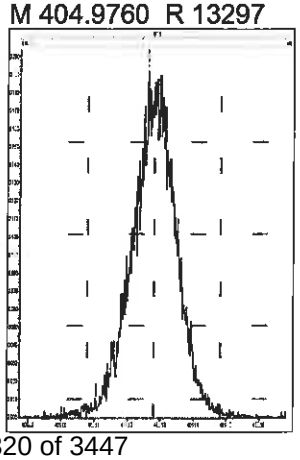

M 416.9760 R 13670

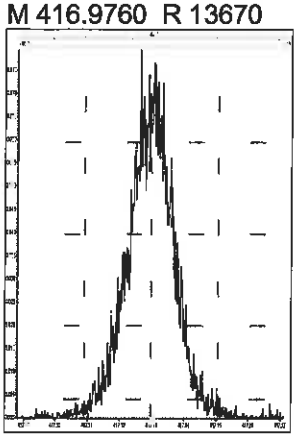

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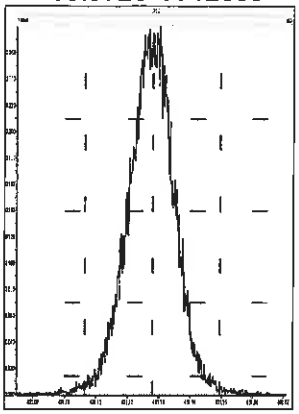

M 442.9728 R 12857

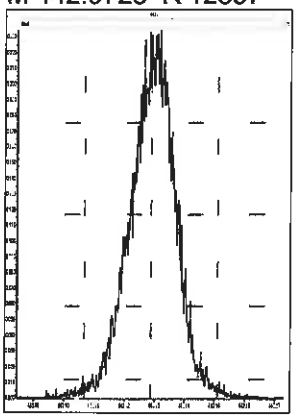

M 454.9728 R 12533

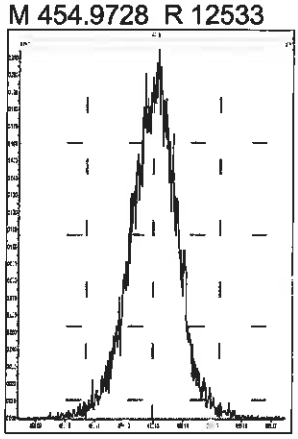

M 466.9728 R 13023

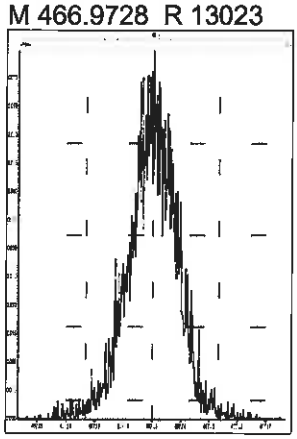

M 480.9696 R 12325

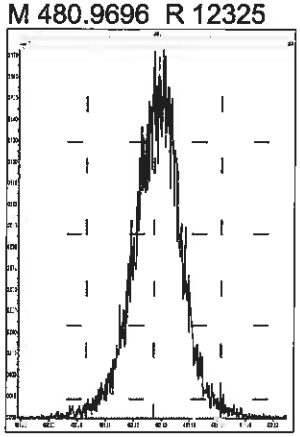

M 380.9760 R 12690

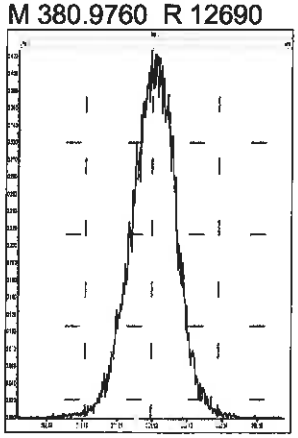

M 392.9760 R 13088

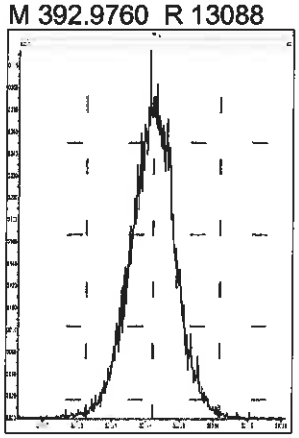

M 404.9760 R 13196

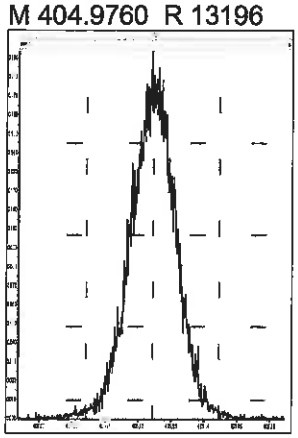

M 416.9760 R 13130

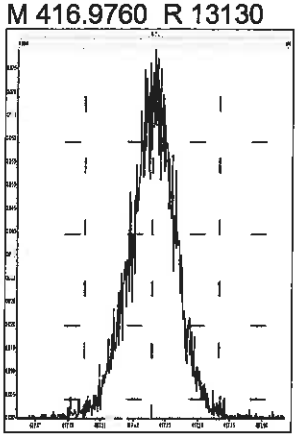

M 430.9728 R 13037

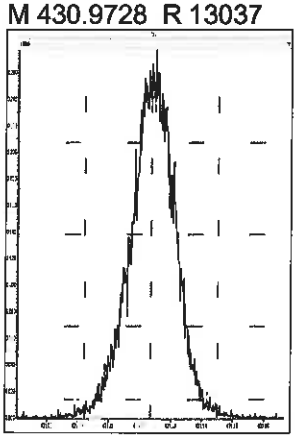

M 442.9728 R 12794

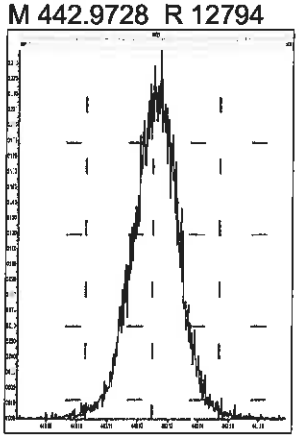

M 454.9728 R 12921

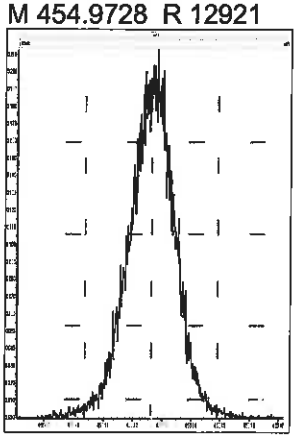

M 466.9728 R 13225

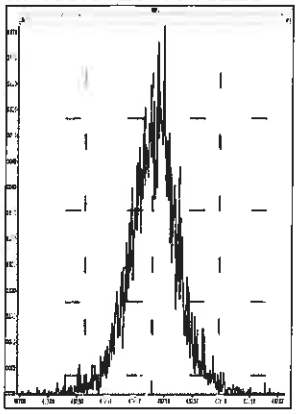

M 480.9696 R 12787

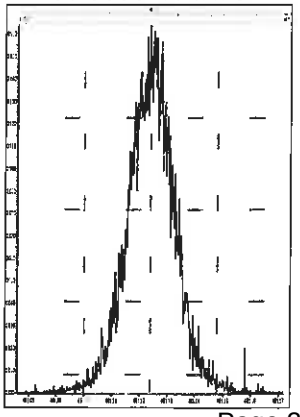

M 492.9696 R 12226

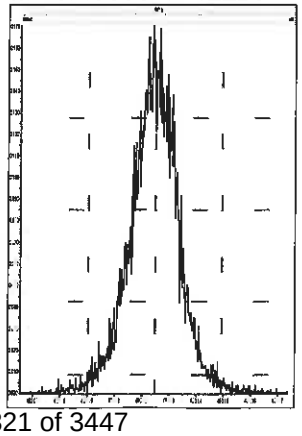

M 504.9696 R 12627

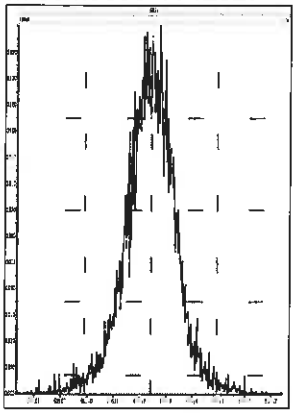

Printed: Thursday, October 31, 2019 23:41:45 Pacific Daylight Time

M 516.9697 R 13233

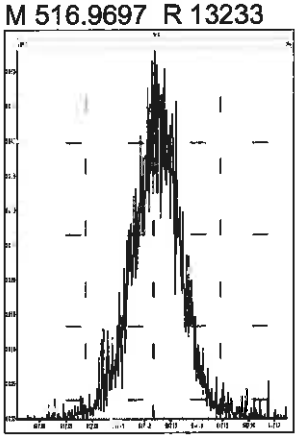

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191031-85912.b\31OC1910D5_2.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 31-Oct-2019 14:11:18 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 103119 CS-4 HRDXNL4_00085
Misc. Info.: 31OC1910D5
Operator ID: SMA Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20191031-85912.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 01-Nov-2019 00:05:45 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0330

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.321	102846229	0.79	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.822	131125540	0.77	1.4384	88.6	88.6	0.3710	0.3710	88.64	
2,3,7,8-TCDF	16.837	13214540	0.78	1.0507	9.591	9.591	0.0336	0.0336	95.91	
A Non-2,3,7,8-sub-TCDF	16.550						0.0336	0.0336		
S Total TCDF					9.591	9.591	0.0336	0.0336		
2,3,7,8-TCDD	17.517	9237210	0.75	1.1064	8.583	8.583	0.0260	0.0260	85.83	
$ 37Cl4-2,3,7,8-TCDD	17.517	14667660		1.2224	11.7	11.7	0.0234	0.0234	117	
D 13C-2,3,7,8-TCDD	17.502	97274821	0.78	0.9533	99.2	99.2	0.3176	0.3176	99.21	
A Non-2,3,7,8-sub-TCDD	16.981						0.0260	0.0260		
S Total TCDD					8.583	8.583	0.0260	0.0260		
1,2,3,7,8-PeCDF	21.636	49746665	1.57	1.0822	46.0	46.0	0.1842	0.1842	92.03	
D 13C-1,2,3,7,8-PeCDF	21.608	99898620	1.55	1.0286	94.4	94.4	0.2657	0.2657	94.43	
2,3,4,7,8-PeCDF	22.917	49896855	1.56	1.1032	45.4	45.4	0.1904	0.1904	90.75	
D 13C-2,3,4,7,8-PeCDF	22.890	99675063	1.56	0.9827	98.6	98.6	0.2781	0.2781	98.63	
A F1 PeCDFs	19.211						0.0141	0.0141		
A Non-2,3,7,8-sub-PeCDF	22.210						0.1872	0.1872		n
S Total PeCDF					91.4	91.4	0.1873	0.1873		
1,2,3,7,8-PeCDD	23.599	35243158	1.56	0.9050	50.3	50.3	0.0871	0.0871	101	
D 13C-1,2,3,7,8-PeCDD	23.572	77391926	1.58	0.7481	100.6	100.6	0.1387	0.1387	101	
A Non-2,3,7,8-sub-PeCDD	22.549						0.0871	0.0871		
S Total PeCDD					50.3	50.3	0.0871	0.0871		
1,2,3,4,7,8-HxCDF	29.719	46111988	1.24	1.1973	46.2	46.2	0.3656	0.3656	92.38	
D 13C-1,2,3,4,7,8-HxCDF	29.680	83379292	0.53	1.1520	89.5	89.5	0.3801	0.3801	89.47	
1,2,3,6,7,8-HxCDF	29.972	50400239	1.23	1.1807	47.8	47.8	0.3238	0.3238	95.67	
D 13C-1,2,3,6,7,8-HxCDF	29.946	89241165	0.52	1.2434	88.7	88.7	0.3521	0.3521	88.72	
2,3,4,6,7,8-HxCDF	31.010	50108446	1.25	1.2116	47.8	47.8	0.2213	0.2213	95.69	
D 13C-2,3,4,6,7,8-HxCDF	30.984	86445124	0.51	1.1720	91.2	91.2	0.3736	0.3736	91.18	
1,2,3,7,8,9-HxCDF	31.916	46295685	1.23	1.2451	46.4	46.4	0.2022	0.2022	92.85	
D 13C-1,2,3,7,8,9-HxCDF	31.902	80087880	0.52	1.0655	92.9	92.9	0.4110	0.4110	92.92	
A Non-2,3,7,8-sub-HxCDF	29.487						0.2626	0.2626		
S Total HxCDF					188.3	188.3	0.2782	0.2782		

Report Date: 01-Nov-2019 00:05:46 Chrom Revision: 2.3 17-Sep-2019 16:19:08
Data File: \\chromna\Sacramento\ChromData\10D5\20191031-85912.b\31OC1910D5_2.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.703	80895363	1.25	6.9E+05	100.0	100.0				
1,2,3,4,7,8-HxCDD	31.237	31403721	1.26	1.1088	45.8	45.8	0.1450	0.1450	91.53	
D 13C-1,2,3,4,7,8-HxCDD	31.210	61887467	1.26	0.7812	97.9	97.9	0.2955	0.2955	97.93	
1,2,3,6,7,8-HxCDD	31.357	35830970	1.28	1.0814	47.4	47.4	0.1410	0.1410	94.80	
D 13C-1,2,3,6,7,8-HxCDD	31.330	69898135	1.25	0.9175	94.2	94.2	0.2516	0.2516	94.18	
1,2,3,7,8,9-HxCDD	31.716	39133937	1.26	1.2123	49.0	49.0	0.1291	0.1291	97.98	
A Non-2,3,7,8-sub-HxCDD	30.072						0.1380	0.1380		
S Total HxCDD					142.2	142.2	0.1384	0.1384		
1,2,3,4,6,7,8-HpCDF	33.442	47556780	1.04	1.5555	46.8	46.8	0.4095	0.4095	93.51	
D 13C-1,2,3,4,6,7,8-HpCDF	33.430	65386044	0.43	0.8628	93.7	93.7	1.366	1.366	93.69	
1,2,3,4,7,8,9-HpCDF	34.499	38625703	1.03	1.3862	46.5	46.5	0.5640	0.5640	92.90	
D 13C-1,2,3,4,7,8,9-HpCDF	34.487	59984003	0.43	0.7991	92.8	92.8	1.475	1.475	92.80	
A Non-2,3,7,8-sub-HpCDF	33.983						0.4773	0.4773		
S Total HpCDF					93.2	93.2	0.4868	0.4868		
1,2,3,4,6,7,8-HpCDD	34.220	31038646	1.03	0.9316	50.8	50.8	0.4918	0.4918	102	
D 13C-1,2,3,4,6,7,8-HpCDD	34.208	65548543	1.04	0.8739	92.7	92.7	0.4847	0.4847	92.72	
A Non-2,3,7,8-sub-HpCDD	34.074						0.4918	0.4918		
S Total HpCDD					50.8	50.8	0.4918	0.4918		
D 13C-OCDD	36.498	102095849	0.91	0.7744	163.0	163.0	0.1474	0.1474	81.49	
OCDF	36.594	66599135	0.90	1.2596	103.6	103.6	0.0786	0.0786	104	
OCDD	36.510	53552927	0.89	1.0621	98.8	98.8	0.1099	0.1099	98.78	

Reagents:

HRDXNL4_00085 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191031-85912.b\31OC1910D5_2.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 31-Oct-2019 14:11:18 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 103119 CS-4 HRDXNL4_00085
Misc. Info.: 31OC1910D5
Operator ID: SMA Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20191031-85912.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 01-Nov-2019 00:05:45 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0330

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.321	17.321	0		45342207	11411569	14437	36092	790		
333.9339	17.321	17.321	0		57504022	14378117	16800	42000	856	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.822	16.837	-1	0.971	57000141	14644664	23890	59725	613		
317.9389	16.822	16.837	-1	0.971	74125399	18841132	31163	77907	605	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.837	16.837	0	1.001	5773416	1454149	1300	3250	1119		
305.8987	16.837	16.837	0	1.001	7441124	1870415	3431	8577	545	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.550						1300	3250			
305.8987	16.550						3431	8577			
2,3,7,8-TCDD											
319.8965	17.517	17.517	0	1.001	3967570	951891	1570	3925	606		
321.8936	17.517	17.517	0	1.001	5269640	1266888	1064	2660	1191	0.75(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.517	17.517	0	1.011	14667660	3537556	2951	7377	1199		
13C-2,3,7,8-TCDD											
331.9368	17.502	17.517	-1	1.010	42587886	10147840	14437	36092	703		
333.9339	17.502	17.517	-1	1.010	54686935	12734901	16800	42000	758	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	16.981						1570	3925			
321.8936	16.981						1064	2660			
1,2,3,7,8-PeCDF											
339.8597	21.636	21.636	0	1.001	30408523	5444586	8437	21092	645		
341.8567	21.636	21.636	0	1.001	19338142	3364858	6102	15255	551	1.57(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	21.608	21.649	-2	1.248	60680584	11121733	16678	41695	667		
353.8970	21.608	21.649	-2	1.248	39218036	7107743	11515	28787	617	1.55(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.917	22.917	0	1.001	30426824	5156226	8437	21092	611		
341.8567	22.917	22.917	0	1.001	19470031	3335468	6102	15255	547	1.56(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	22.890	22.931	-2	1.322	60729372	10521635	16678	41695	631		
353.8970	22.890	22.931	-2	1.322	38945691	6784562	11515	28787	589	1.56(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.211						290	725			
341.8567	19.211						805	2012			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.140	22.210	-4	1.025	290064	39807	8437	21092	5		
341.8567	22.126	22.210	-5	1.024	200623	25663	6102	15255	4	1.45(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.599	23.599	0	1.001	21450994	3325447	2311	5777	1439		
357.8516	23.599	23.599	0	1.001	13792164	2175484	1573	3932	1383	1.56(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.572	23.613	-2	1.361	47402534	7582641	6334	15835	1197		
369.8919	23.572	23.613	-2	1.361	29989392	4731679	4369	10922	1083	1.58(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.549						2311	5777			
357.8516	22.549						1573	3932			
1,2,3,4,7,8-HxCDF											
373.8208	29.719	29.719	0	1.001	25559449	3331093	10246	25615	325		
375.8178	29.719	29.719	0	1.001	20552539	2696197	8480	21200	318	1.24(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.680	29.720	-2	0.936	28819444	3736318	10858	27145	344		
385.8610	29.680	29.720	-2	0.936	54559848	6957423	20911	52277	333	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	29.972	29.972	0	1.001	27844824	3924574	10246	25615	383		
375.8178	29.972	29.972	0	1.001	22555415	3165198	8480	21200	373	1.23(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.946	29.986	-2	0.945	30480742	4106721	10858	27145	378		
385.8610	29.946	29.986	-2	0.945	58760423	8137907	20911	52277	389	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.010	31.010	0	1.001	27861324	5799128	10246	25615	566		
375.8178	31.010	31.010	0	1.001	22247122	4649280	8480	21200	548	1.25(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	30.984	31.011	-2	0.977	29368086	5874167	10858	27145	541		
385.8610	30.984	31.011	-2	0.977	57077038	11586673	20911	52277	554	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.916	31.916	0	1.000	25543180	5909264	10246	25615	577		
375.8178	31.916	31.916	0	1.000	20752505	4727965	8480	21200	558	1.23(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.902	31.929	-2	1.006	27440607	6455811	10858	27145	595		
385.8610	31.902	31.929	-2	1.006	52647273	12134408	20911	52277	580	0.52(0.43-0.59)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.487						10246	25615			
375.8178	29.487						8480	21200			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.703	31.703	0		44909484	10135271	9534	23835	1063		
403.8529	31.703	31.703	0		35985879	8002928	7212	18030	1110	1.25(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.237	31.237	0	1.001	17498736	4123599	5113	12782	806		
391.8127	31.237	31.237	0	1.001	13904985	3250177	4034	10085	806	1.26(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.210	31.237	-2	0.984	34452321	7923433	9534	23835	831		
403.8529	31.210	31.237	-2	0.984	27435146	6300852	7212	18030	874	1.26(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.357	31.357	0	1.001	20098262	4206180	5113	12782	823		
391.8127	31.357	31.357	0	1.001	15732708	3329645	4034	10085	825	1.28(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.330	31.357	-2	0.988	38764083	8332864	9534	23835	874		
403.8529	31.330	31.357	-2	0.988	31134052	6659598	7212	18030	923	1.25(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.716	31.716	0	1.016	21787956	4808863	5113	12782	941		
391.8127	31.716	31.716	0	1.016	17345981	3860160	4034	10085	957	1.26(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.072						5113	12782			
391.8127	30.072						4034	10085			
1,2,3,4,6,7,8-HpCDF											
407.7818	33.442	33.442	0	1.000	24231600	7168264	24662	61655	291		
409.7789	33.442	33.442	0	1.000	23325180	6934271	24616	61540	282	1.04(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.430	33.454	-1	1.054	19764100	5924778	23714	59285	250		
419.8220	33.430	33.454	-1	1.054	45621944	13413295	61823	154557	217	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.499	34.499	0	1.000	19639469	5122846	24662	61655	208		
409.7789	34.499	34.499	0	1.000	18986234	4982671	24616	61540	202	1.03(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.487	34.512	-1	1.088	18175565	4790981	23714	59285	202		
419.8220	34.487	34.512	-1	1.088	41808438	10965872	61823	154557	177	0.43(0.37-0.51)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.983						24662	61655			
409.7789	33.983						24616	61540			
1,2,3,4,6,7,8-HpCDD											
423.7766	34.220	34.220	0	1.000	15731813	4304778	16181	40452	266		
425.7737	34.220	34.220	0	1.000	15306833	4203599	16337	40842	257	1.03(0.88-1.20)	

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Data File: \\chromna\Sacramento\ChromData\10D5\20191031-85912.b\31OC1910D5_2.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.208	34.232	-1	1.079	33438885	9023091	15939	39847	566		
437.8140	34.208	34.232	-1	1.079	32109658	8722124	14794	36985	590	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.074						16181	40452			
425.7737	34.074						16337	40842			
13C-OCDD											
469.7779	36.498	36.522	-1	1.151	48745267	10693403	4165	10412	2567		
471.7750	36.498	36.522	-1	1.151	53350582	11856047	4115	10287	2881	0.91(0.76-1.02)	
OCDF											
441.7428	36.594	36.594	0	1.003	31574464	7117318	2159	5397	3297		
443.7399	36.594	36.594	0	1.003	35024671	7656030	2306	5765	3320	0.90(0.76-1.02)	
OCDD											
457.7377	36.510	36.510	0	1.000	25200106	5634529	2241	5602	2514		
459.7348	36.510	36.510	0	1.000	28352821	6245979	3022	7555	2067	0.89(0.76-1.02)	

Reagents:

HRDXNL4_00085 Amount Added: 1.00 Units: mL

Report Date: 01-Nov-2019 00:05:46 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191031-85912.b\31OC1910D5_2.d		
Injection Date:	31-Oct-2019 14:11:18	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	335194	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

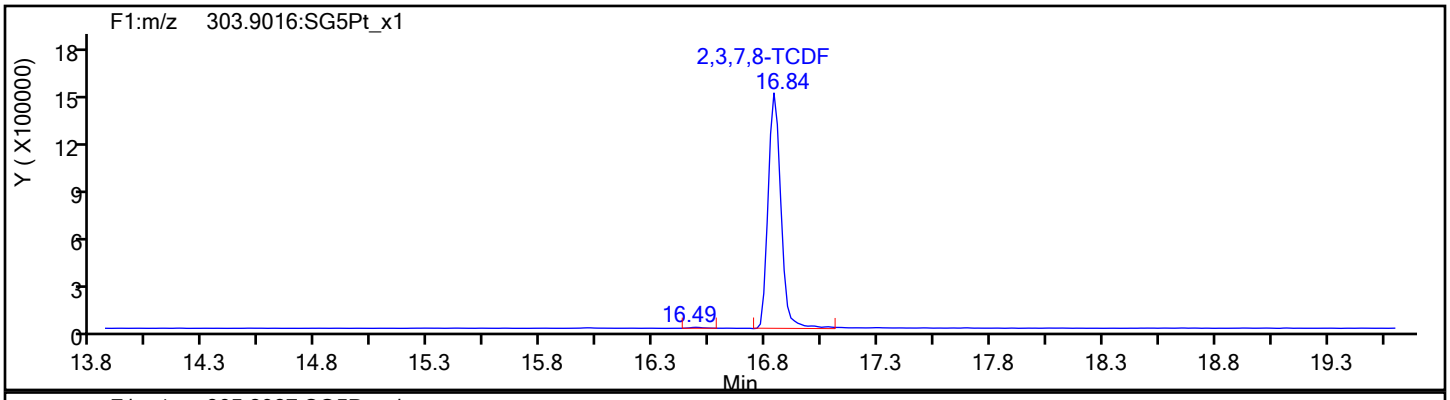

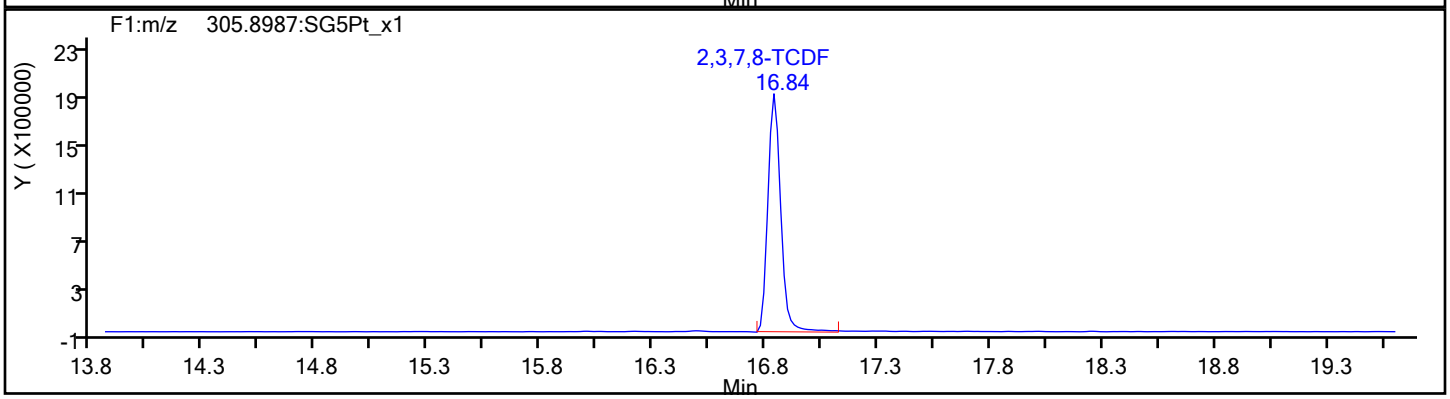

TCDF Standards

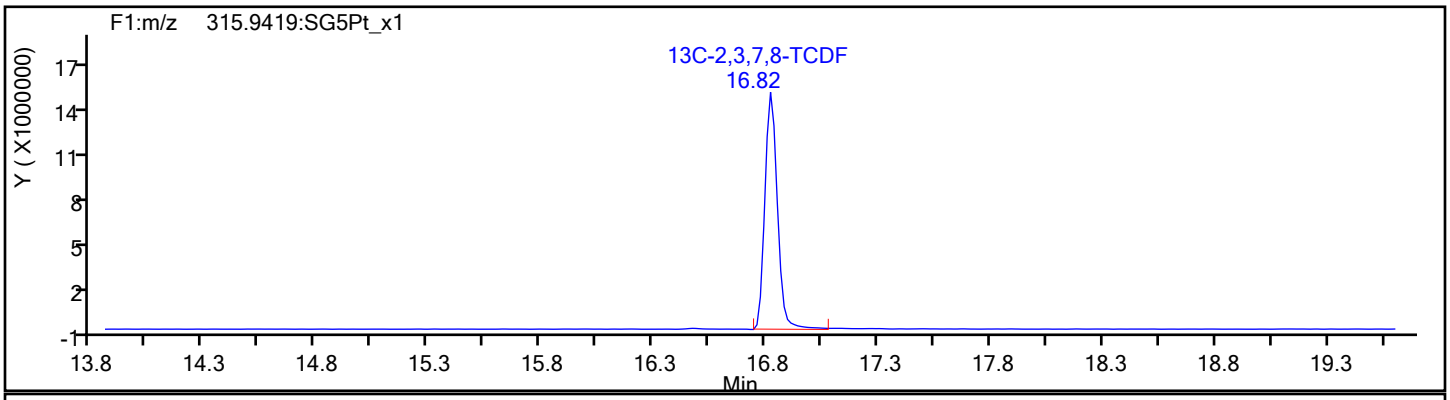

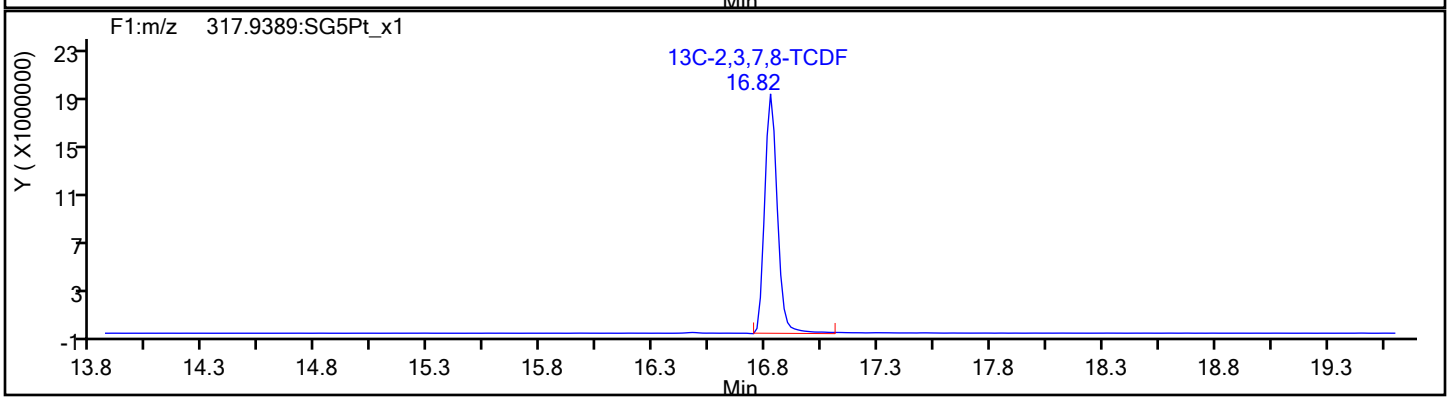

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	335194	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

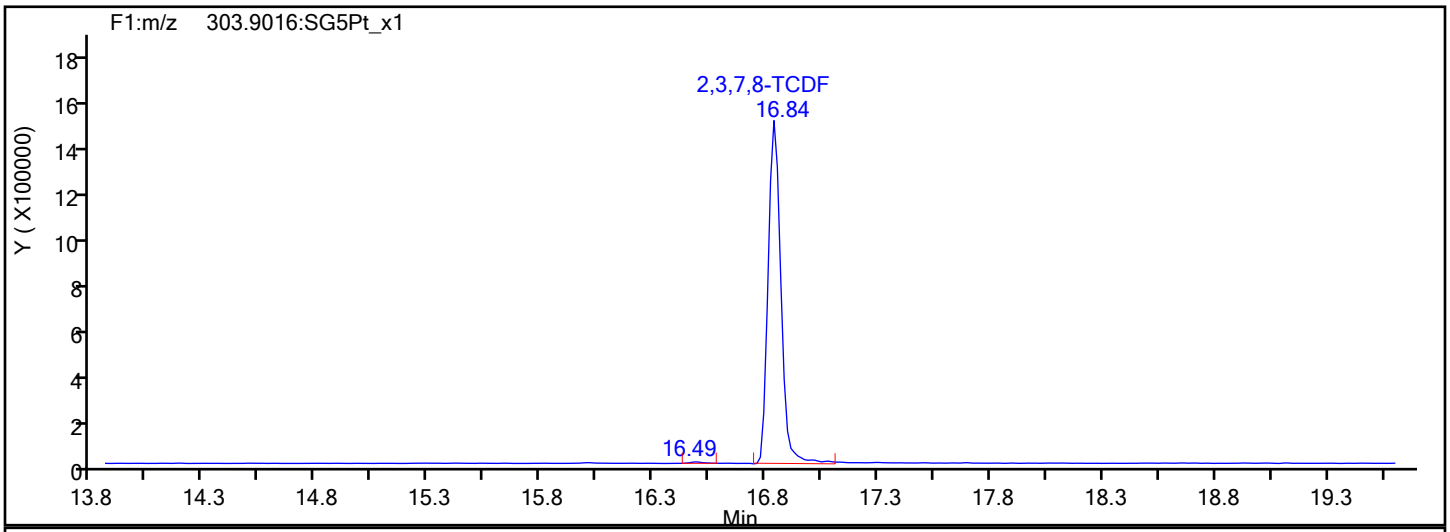

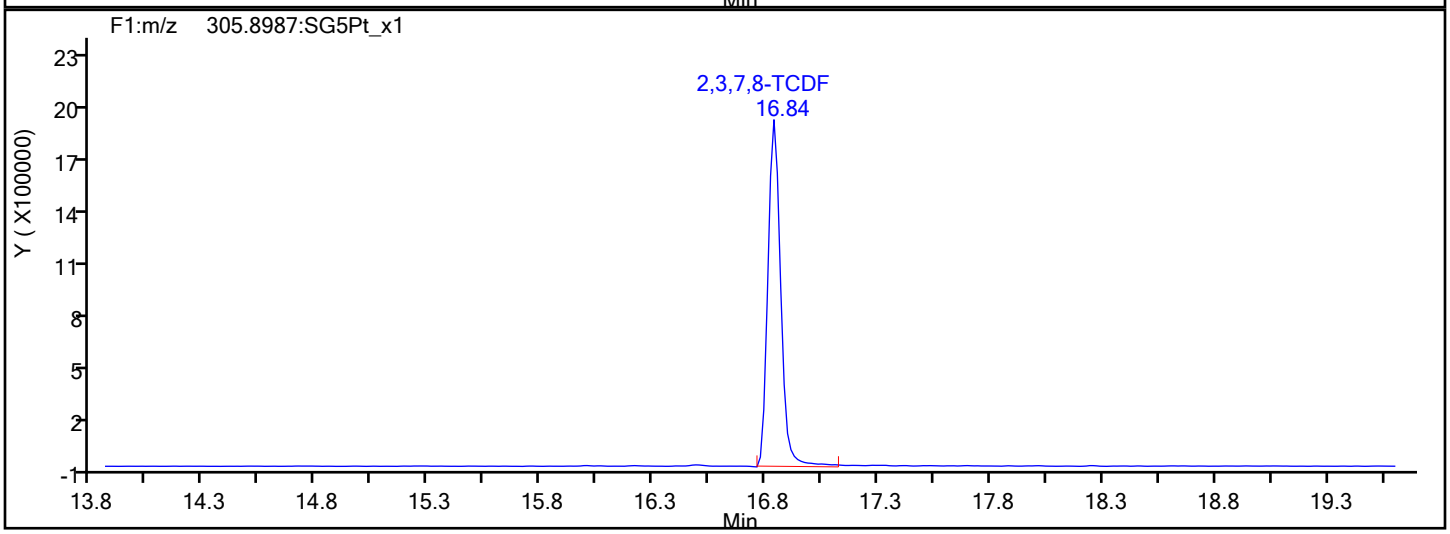

TCDF Interference Mass

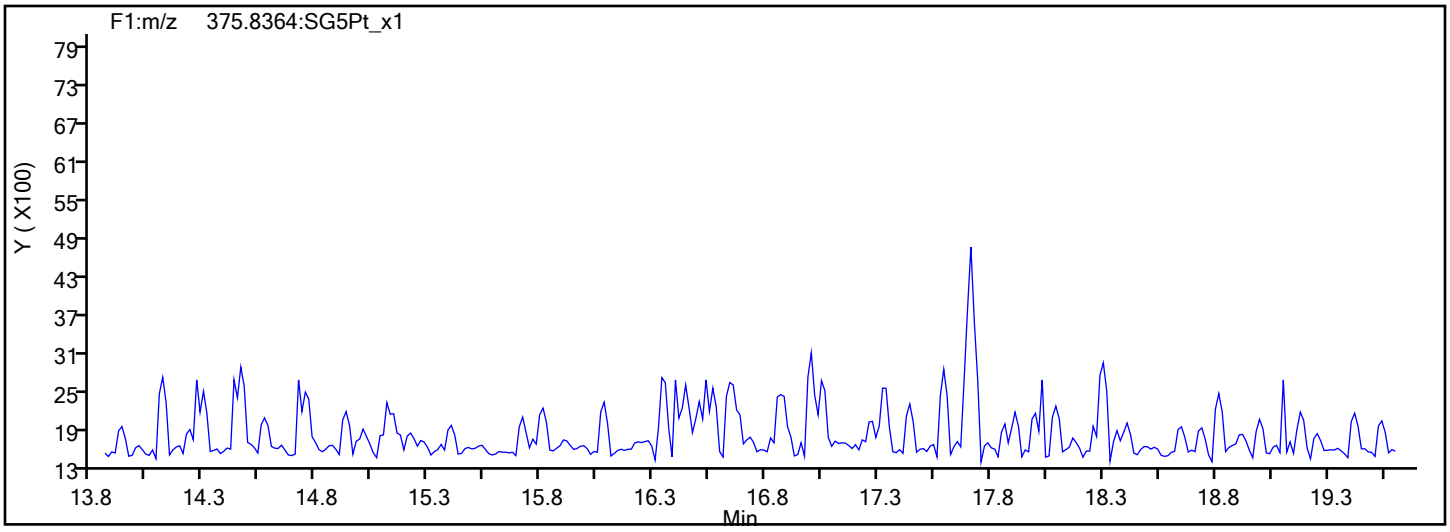

Report Date: 01-Nov-2019 00:05:46 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

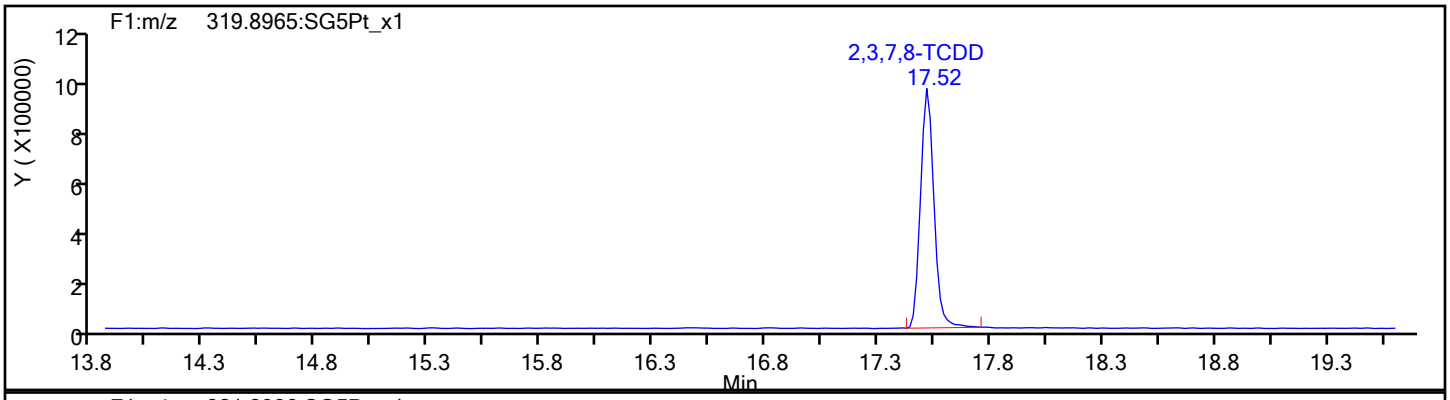

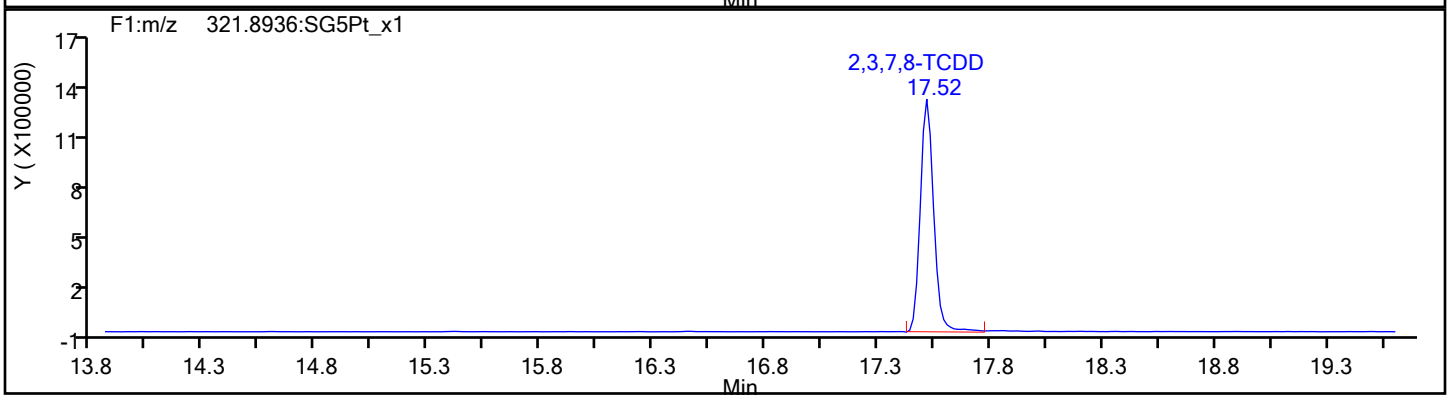

TCDD Standards

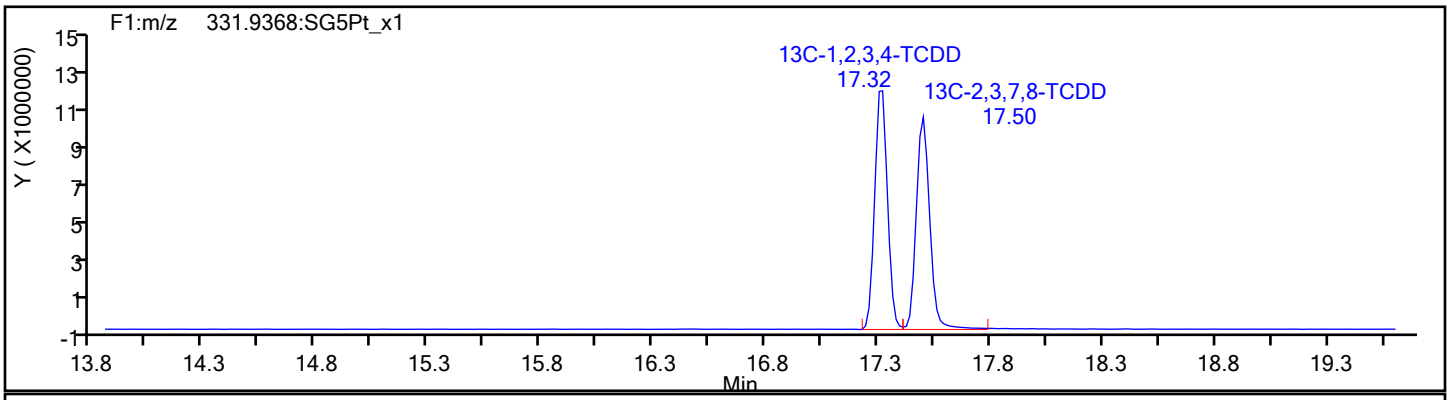

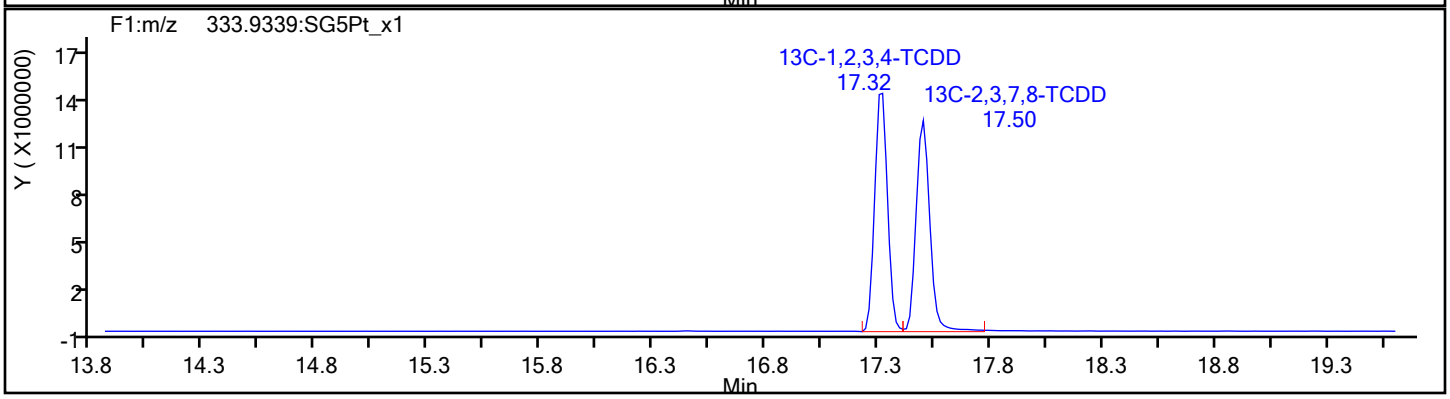

Report Date: 01-Nov-2019 00:05:46 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

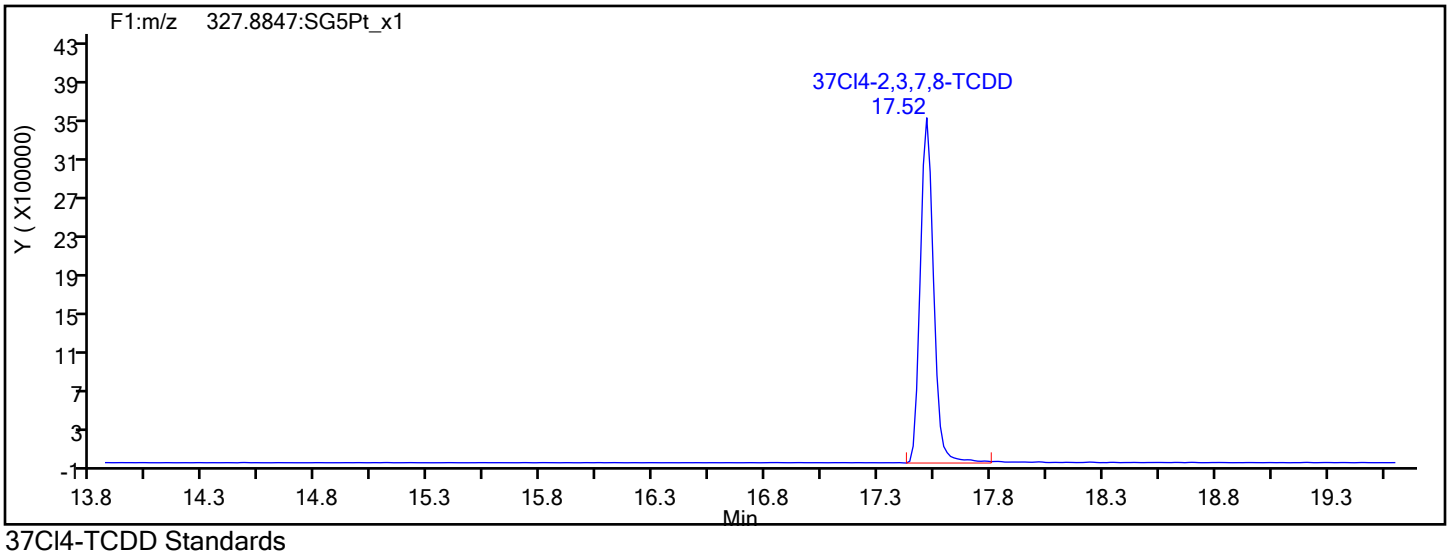

37Cl4-TCDD Standards

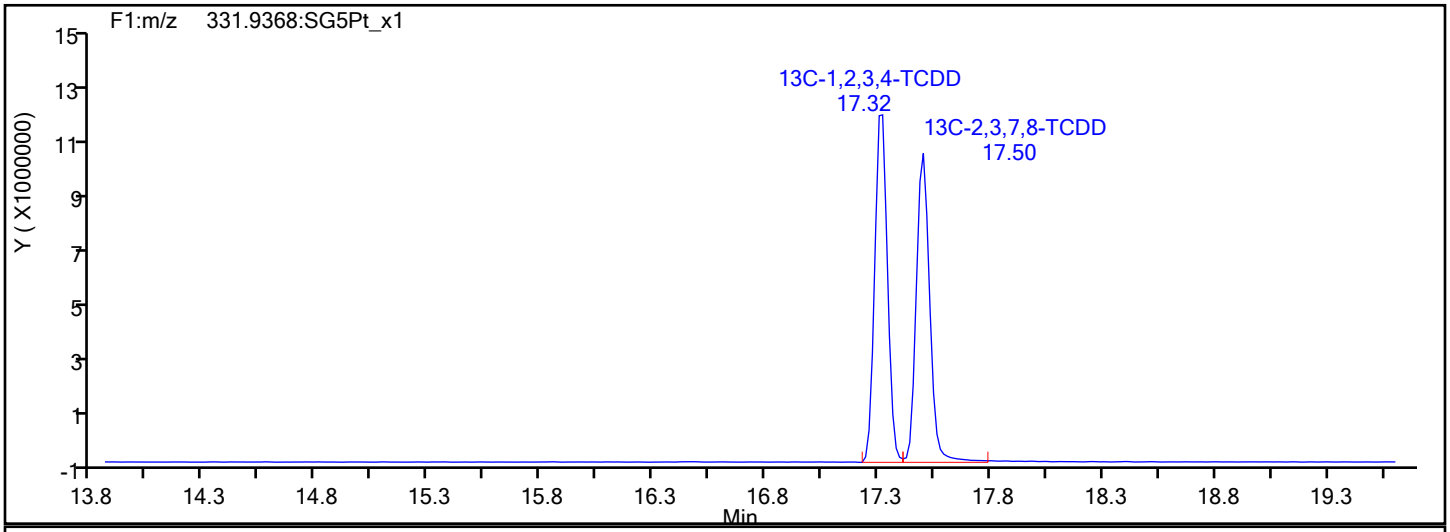

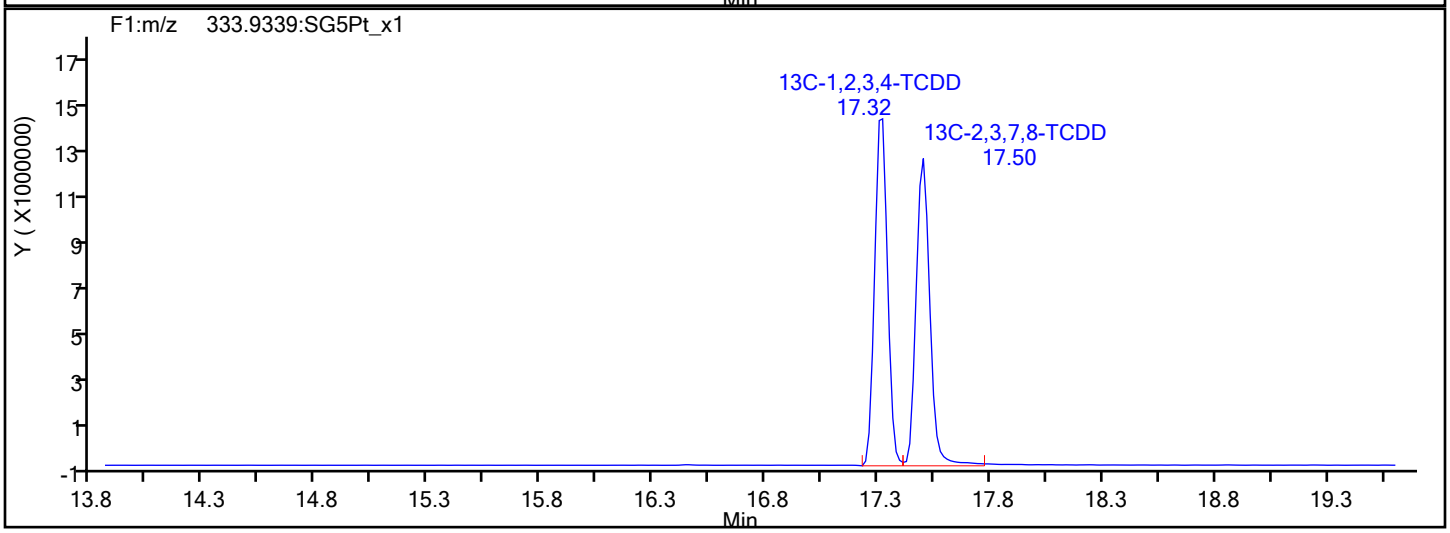

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Eurofins TestAmerica, Sacramento

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Client ID:			
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F1 PeCDFs

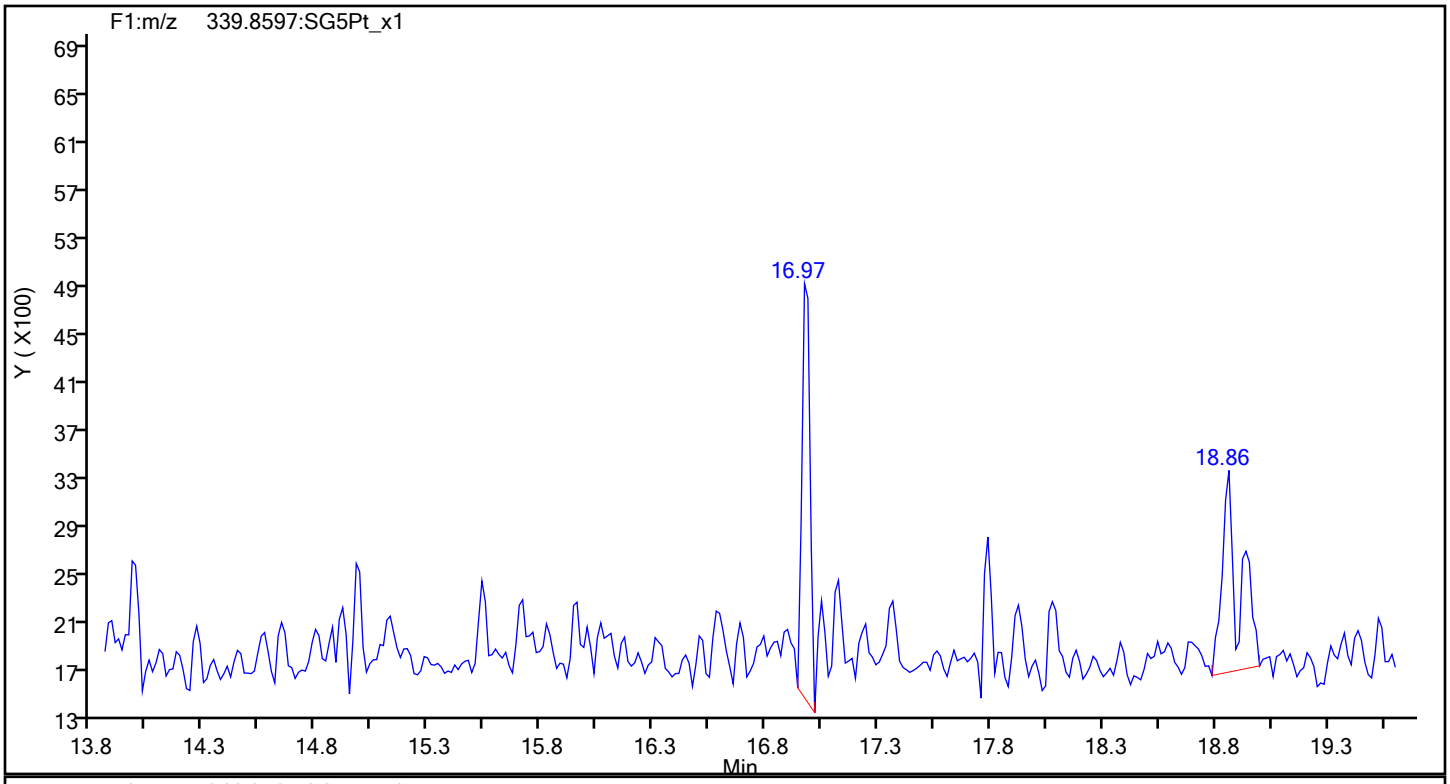

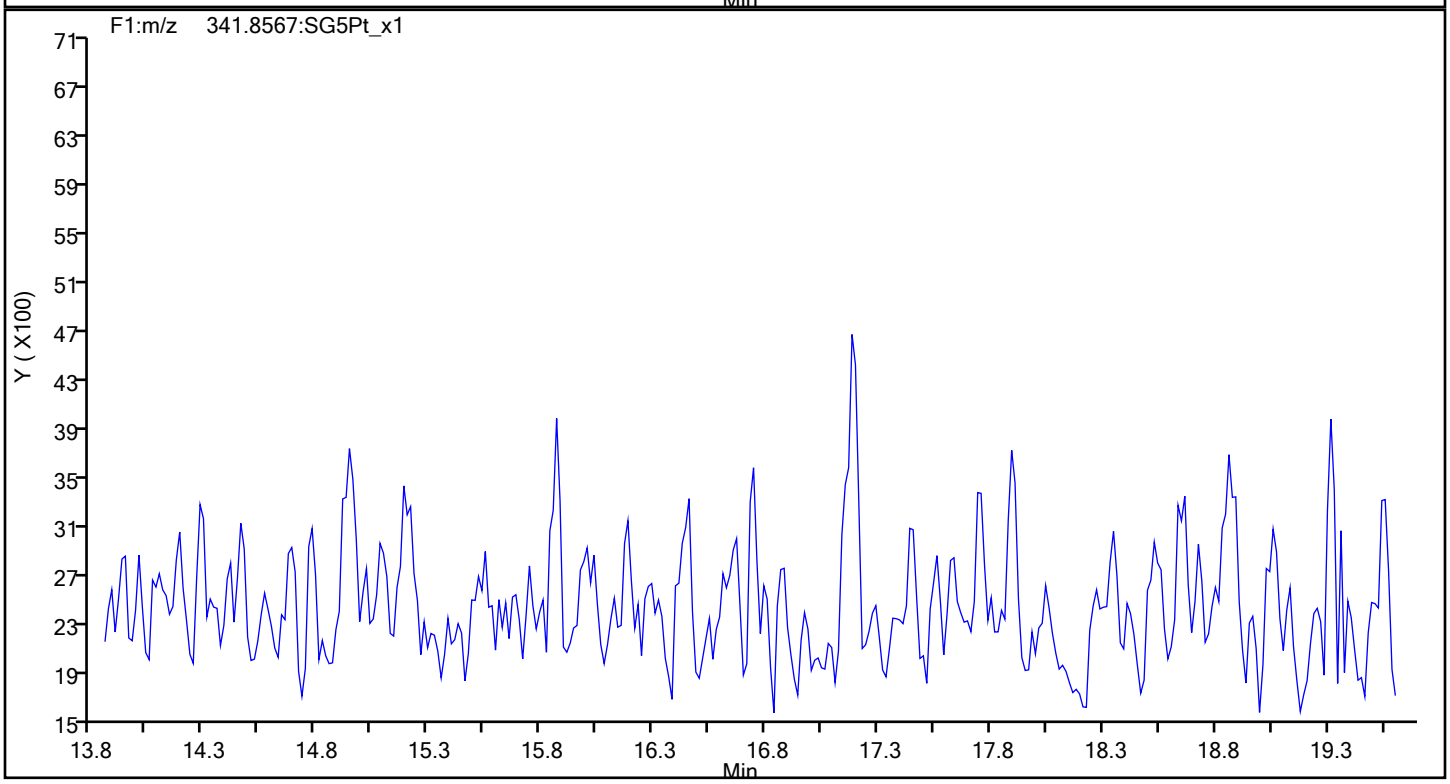

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Eurofins TestAmerica, Sacramento

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Client ID:			
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F1 PeCDFs

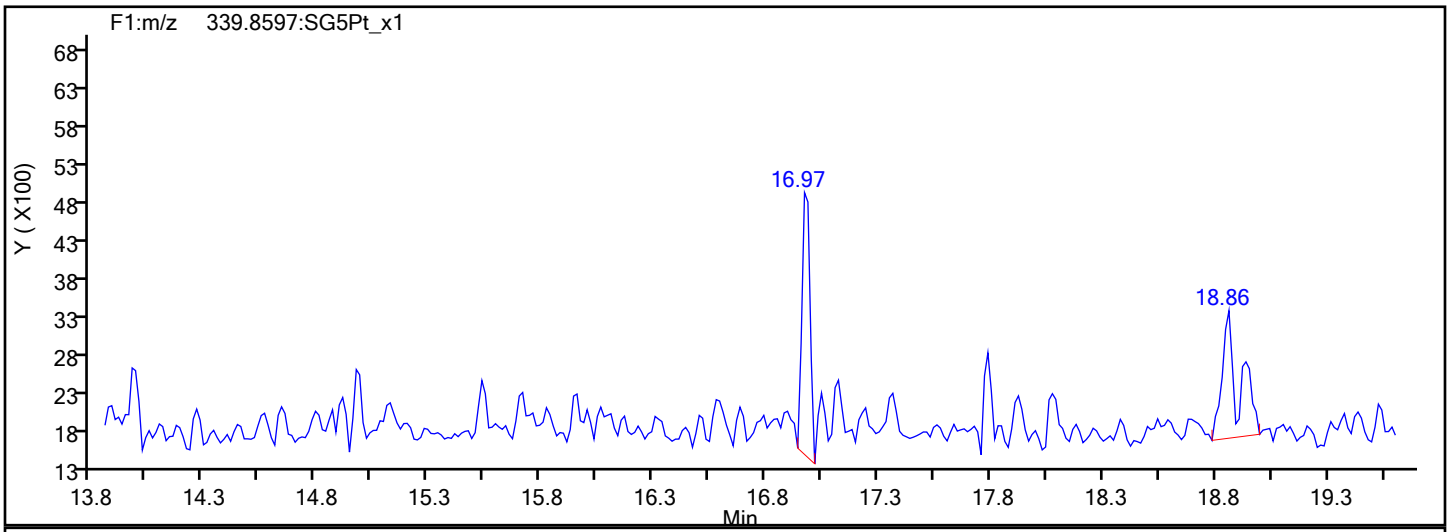

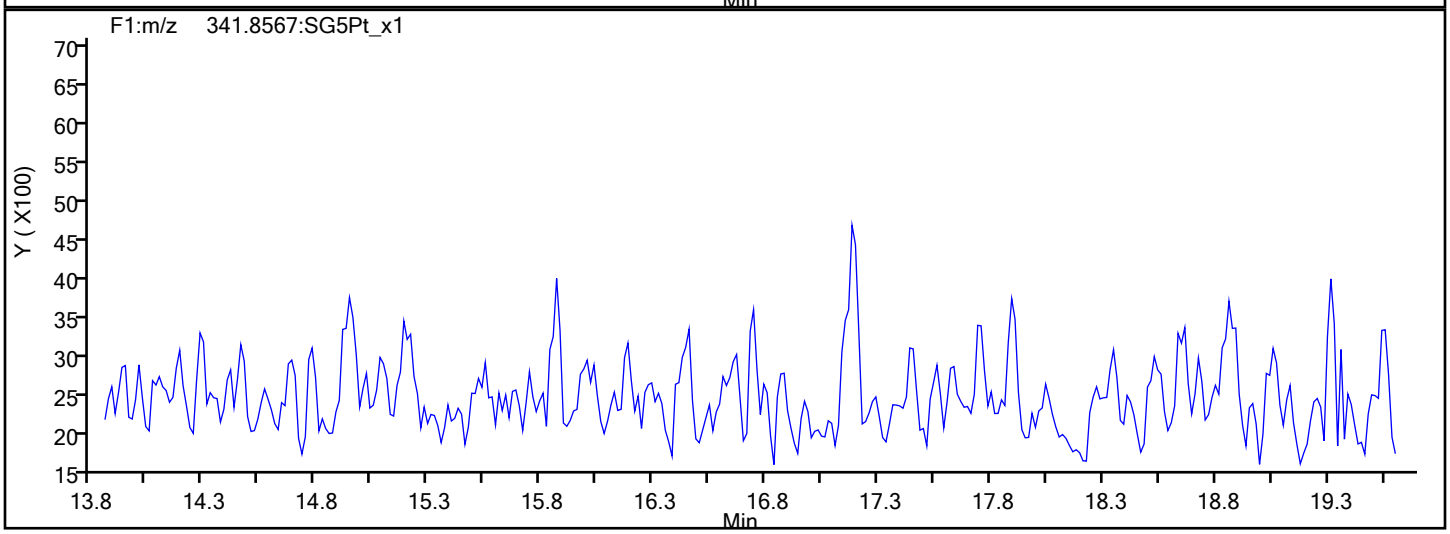

F1 PeCDFs Interference Mass

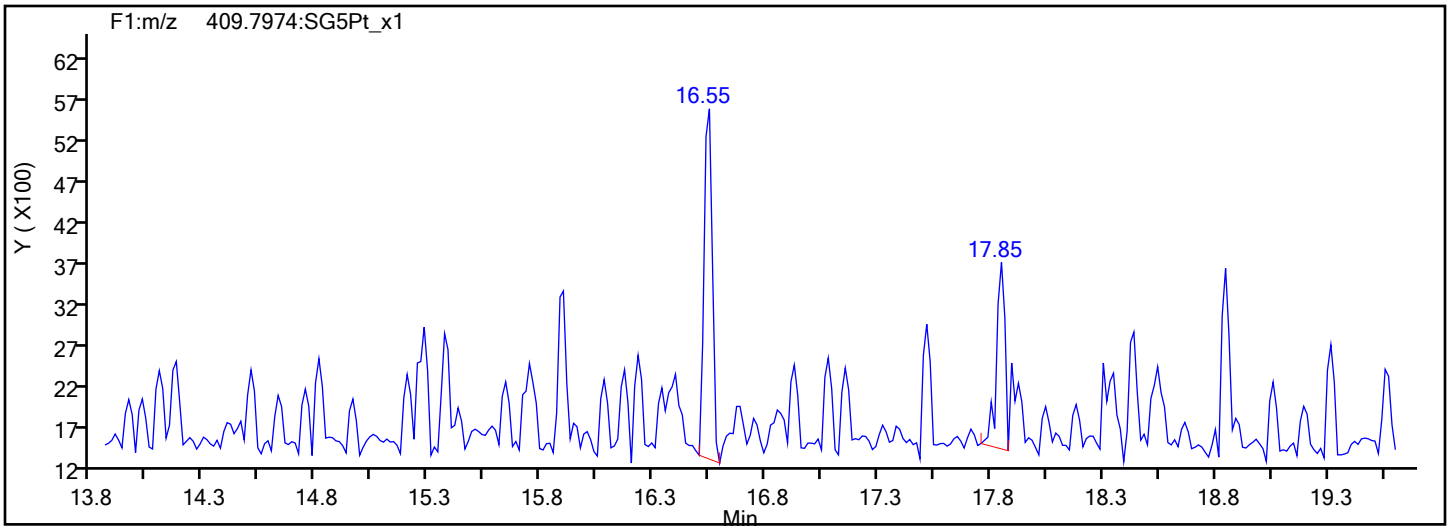

Report Date: 01-Nov-2019 00:05:46 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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PeCDF

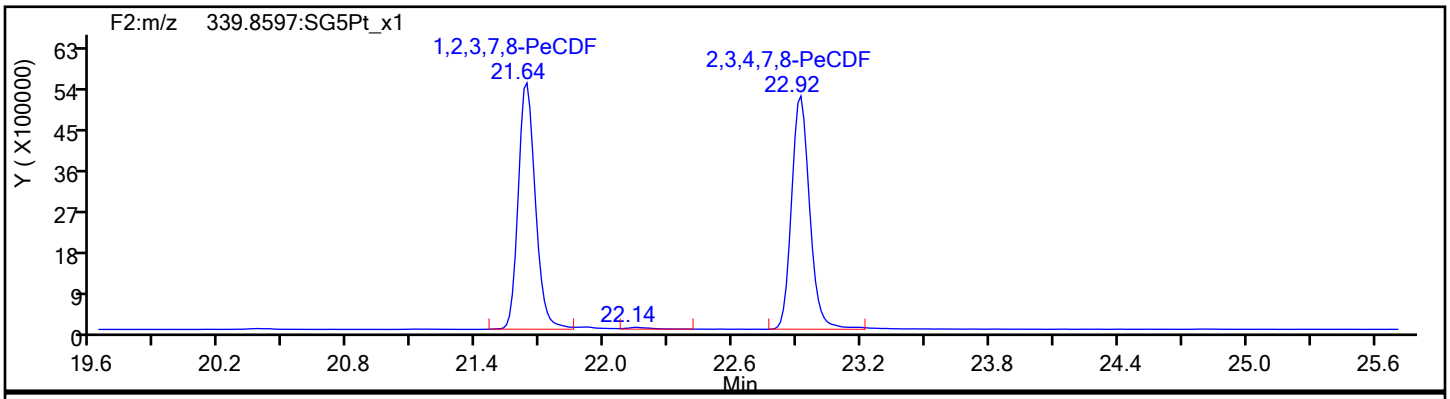

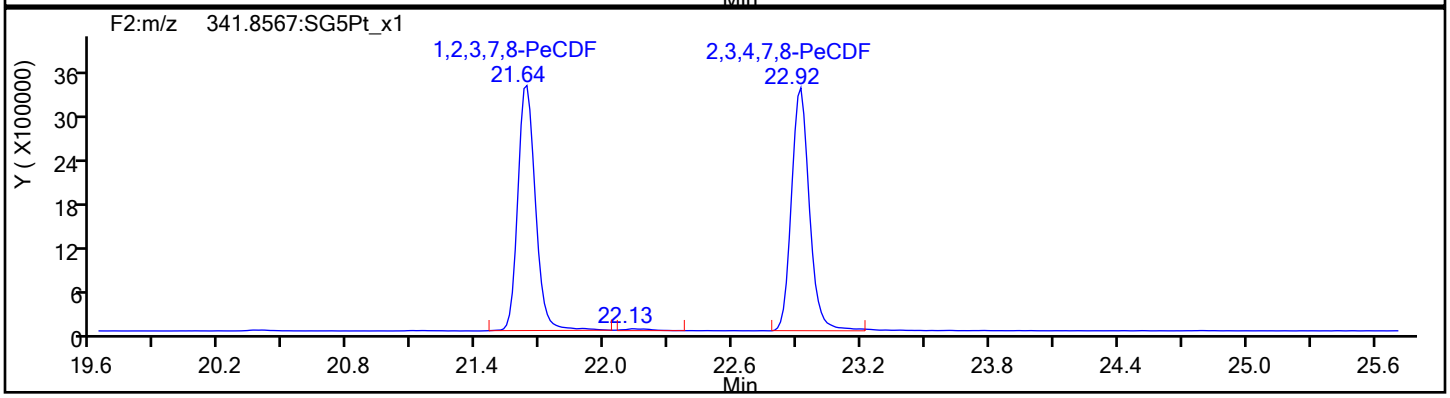

PeCDF Standards

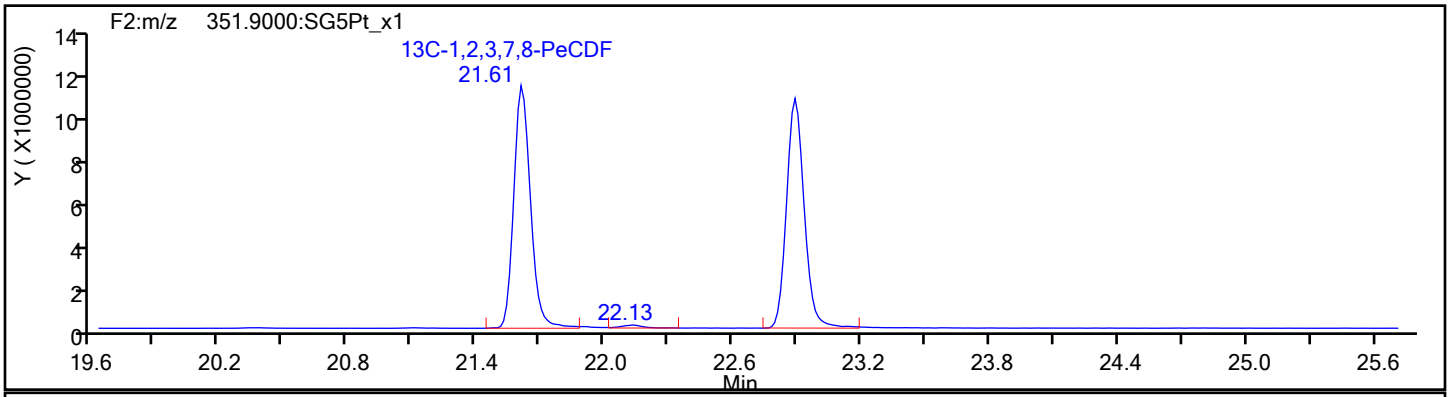

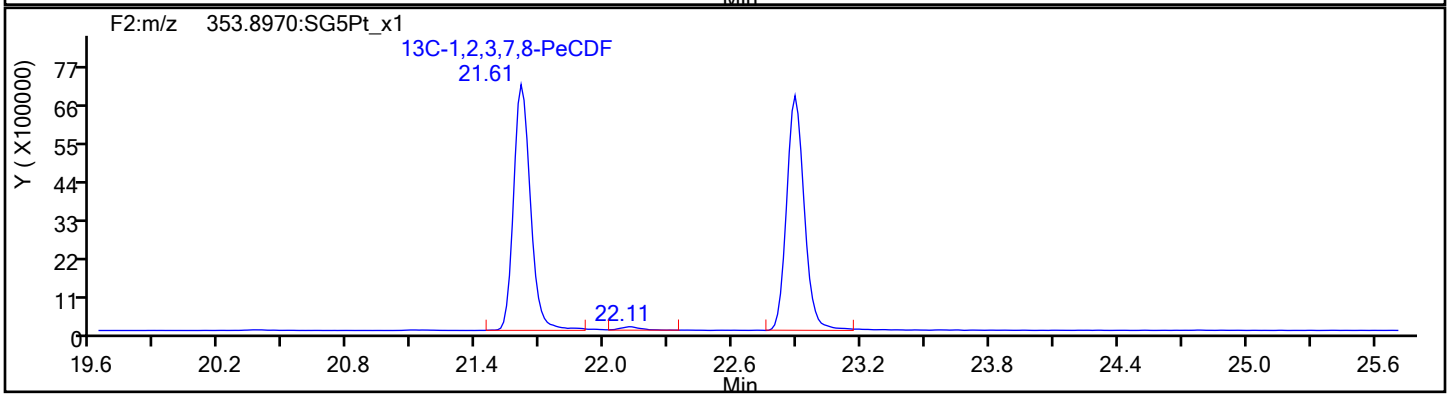

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Eurofins TestAmerica, Sacramento

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PeCDF

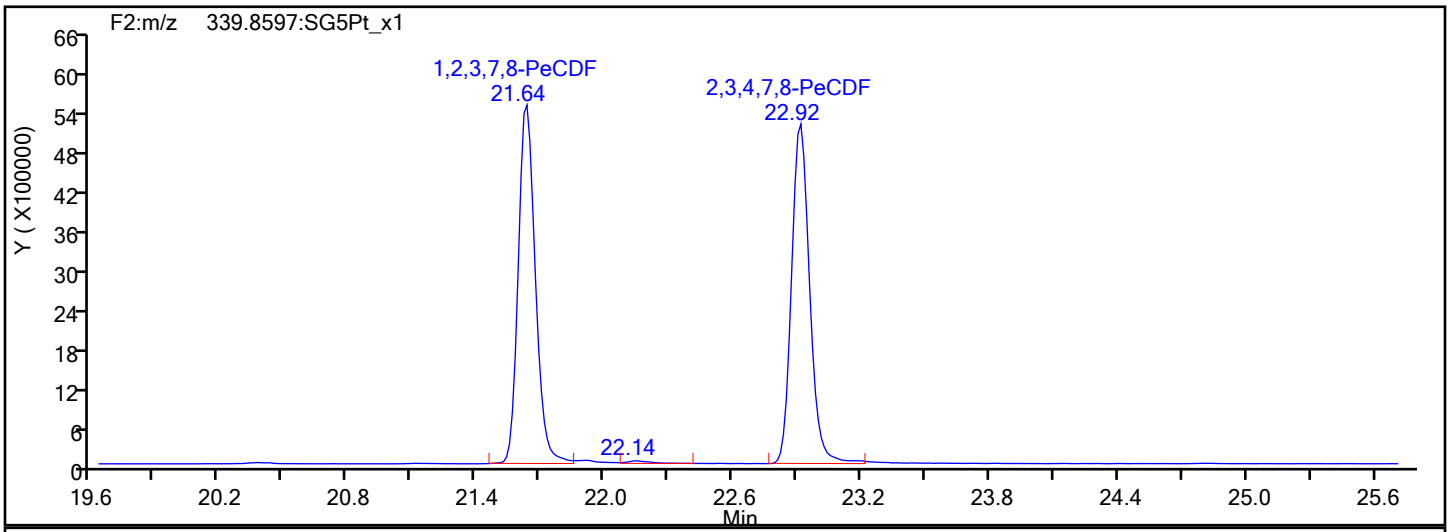

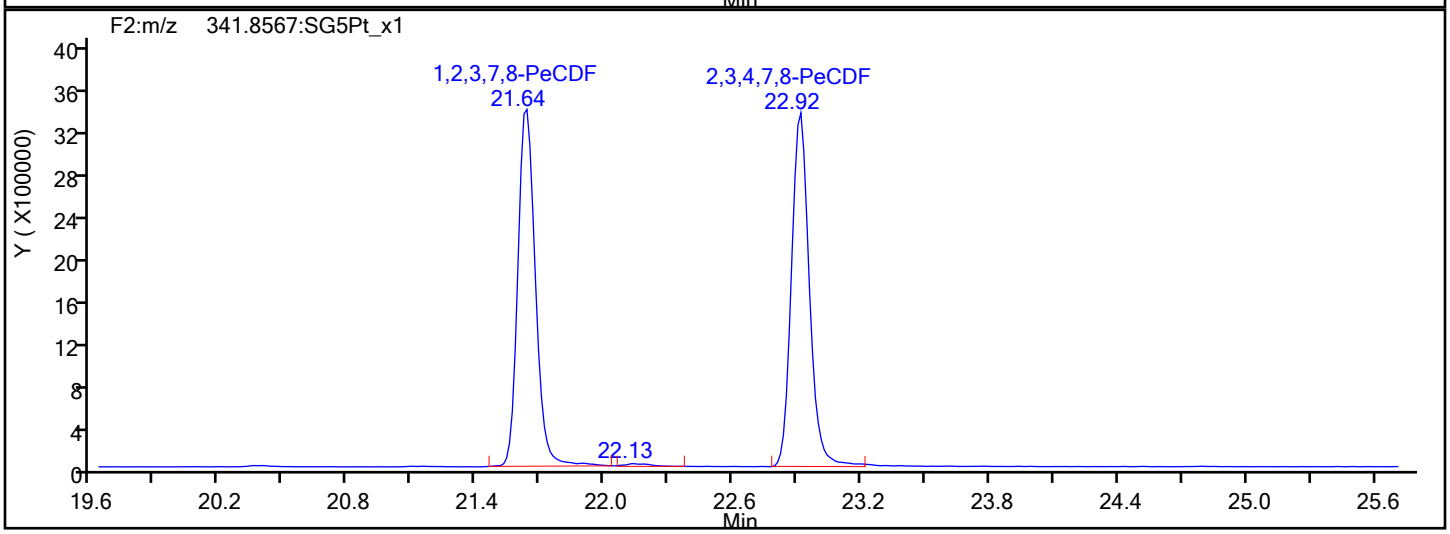

PeCDF Interference Mass

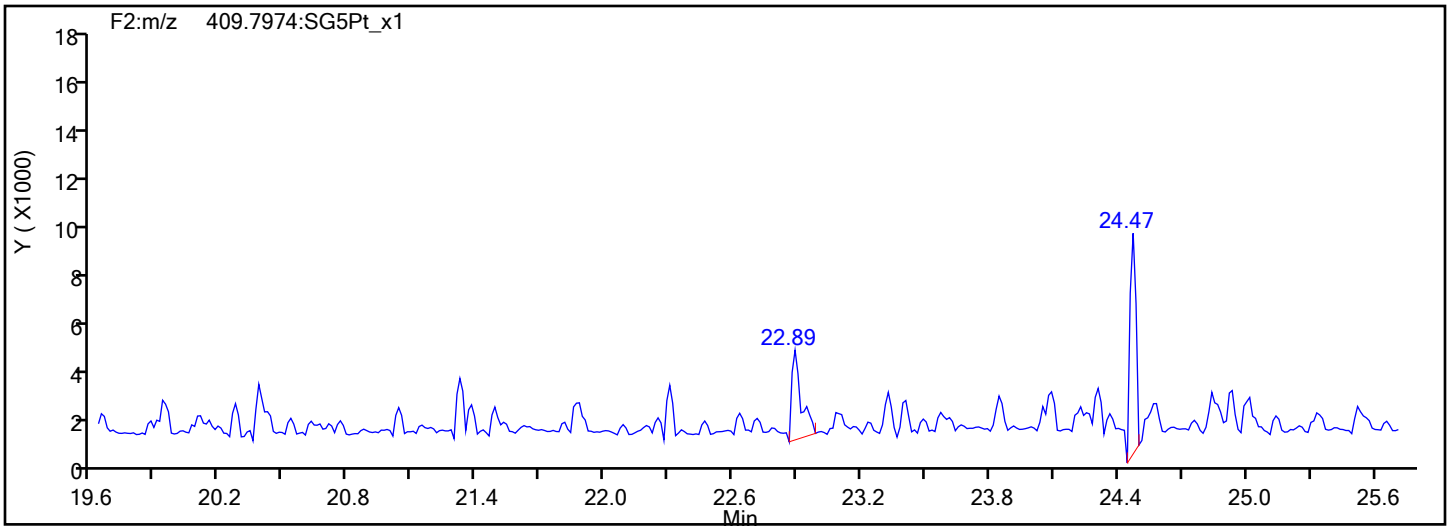

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

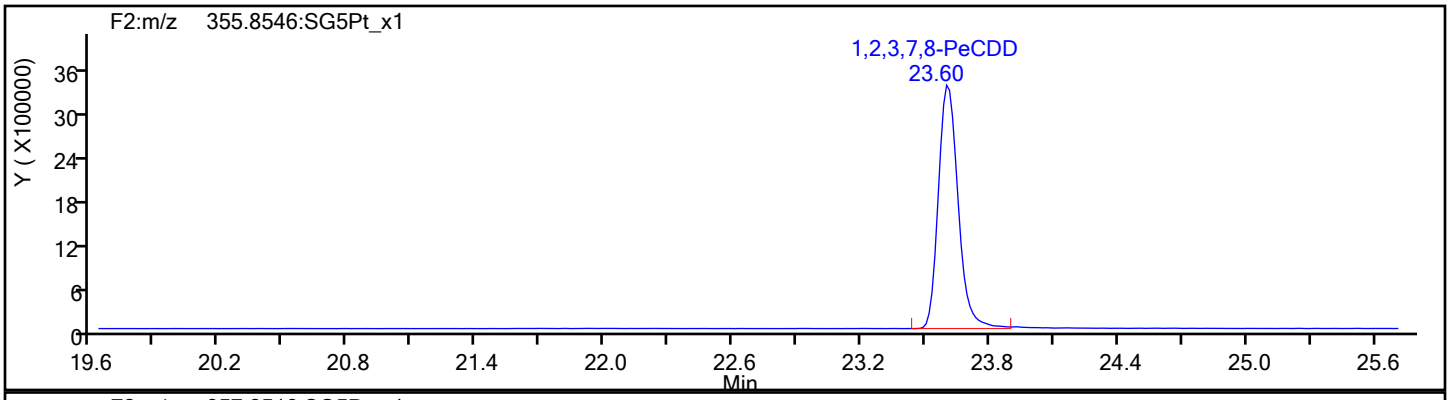

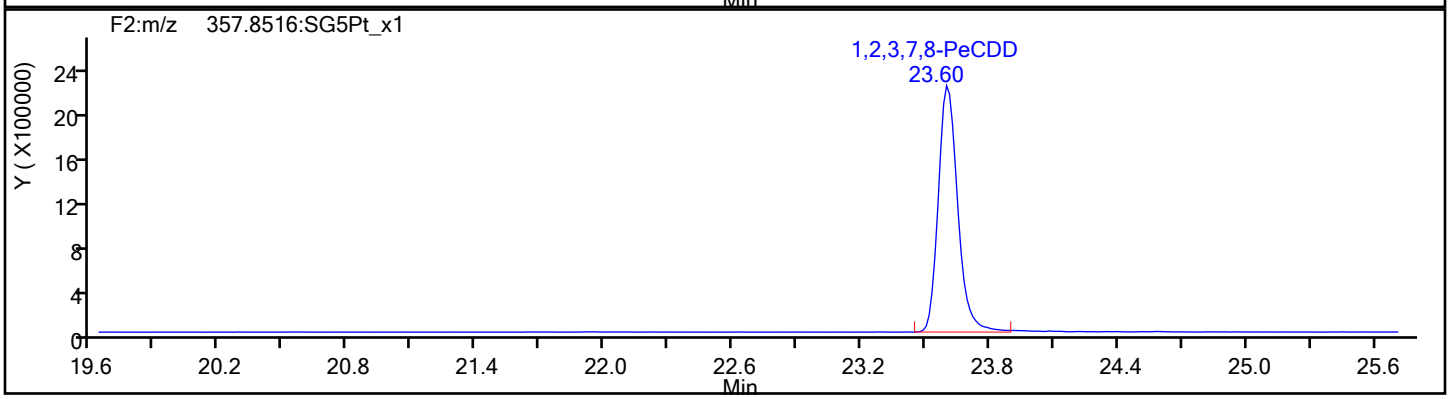

PeCDD Standards

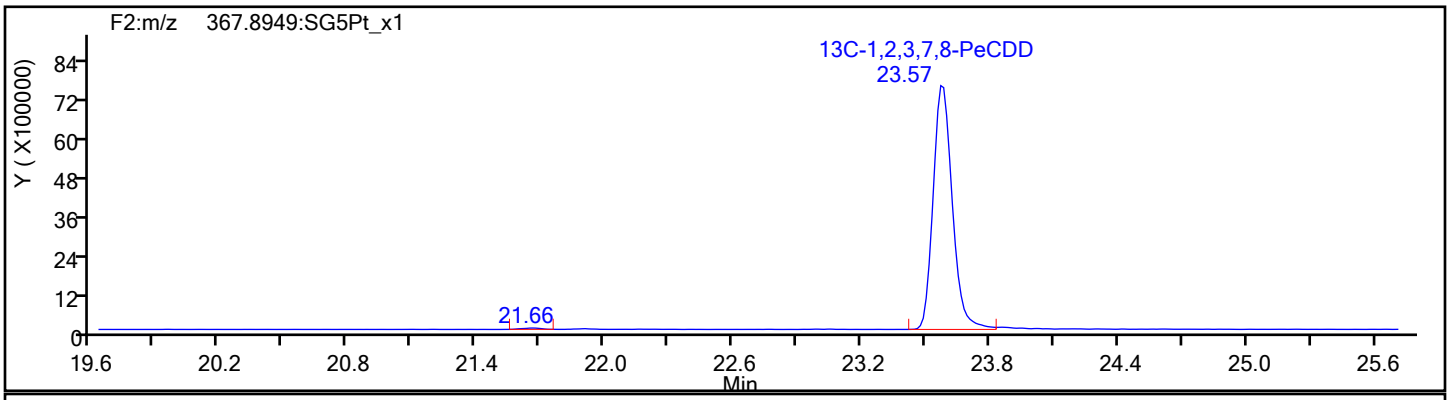

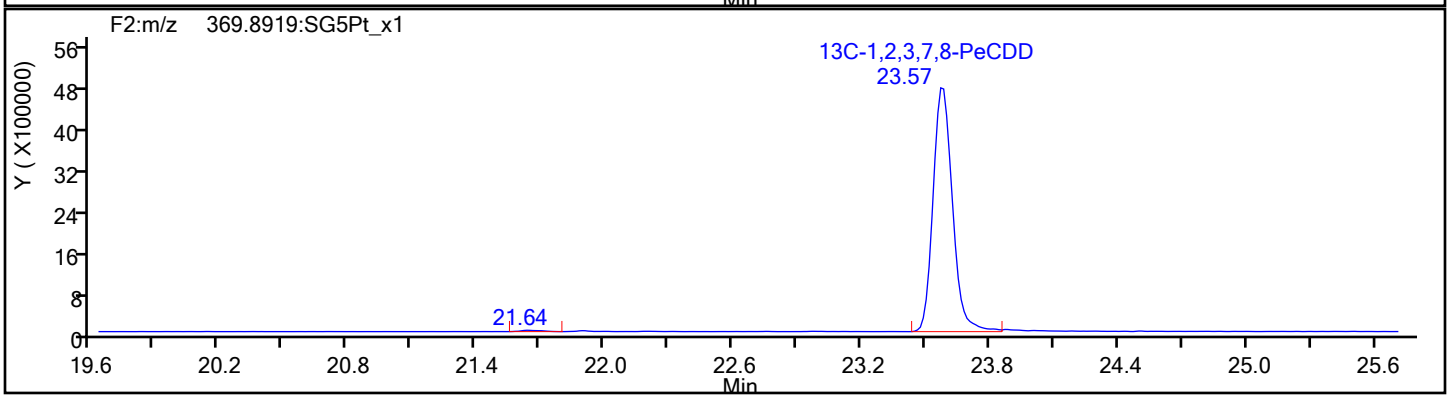

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	335194	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

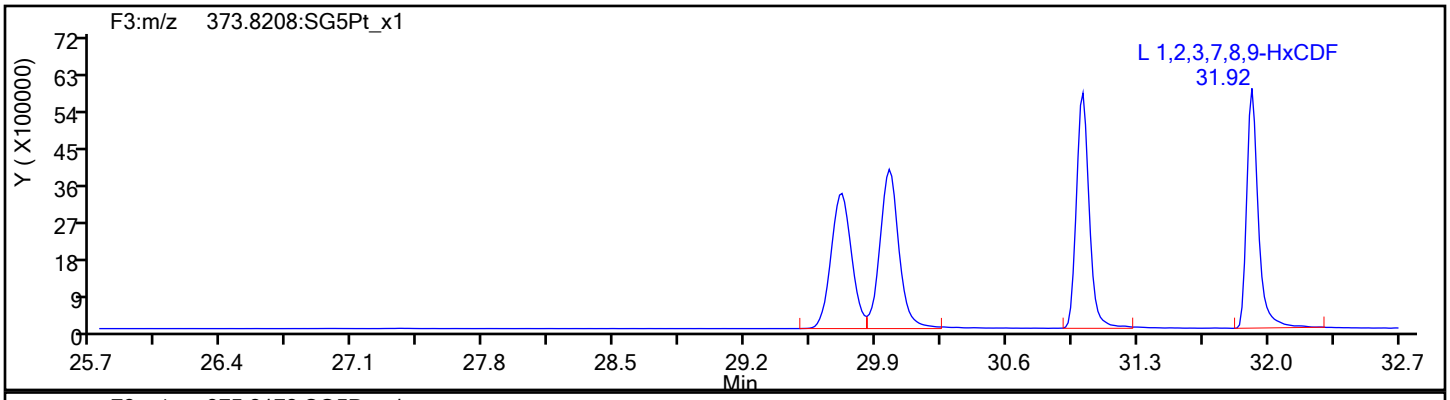

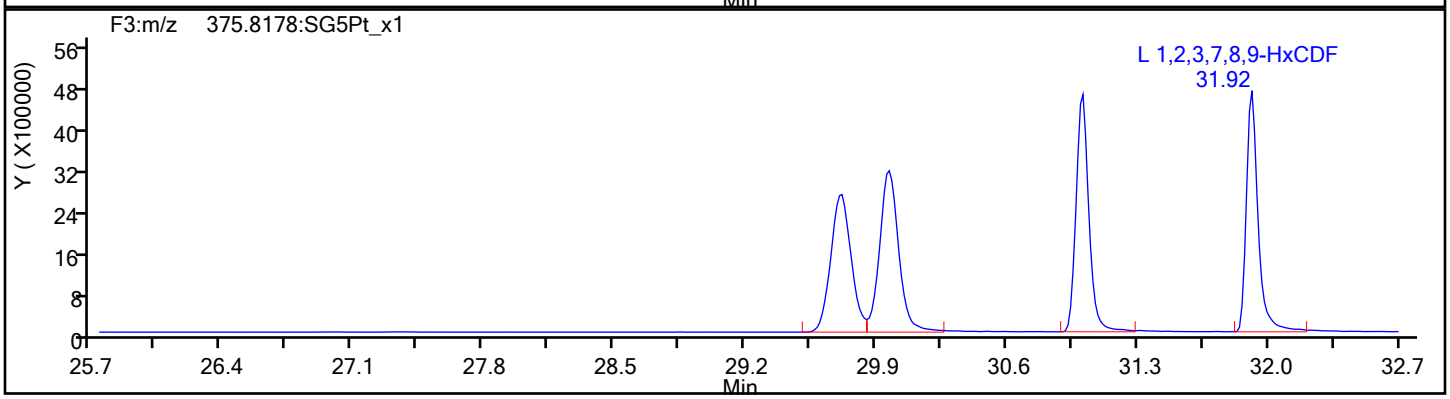

HxCDF Standards

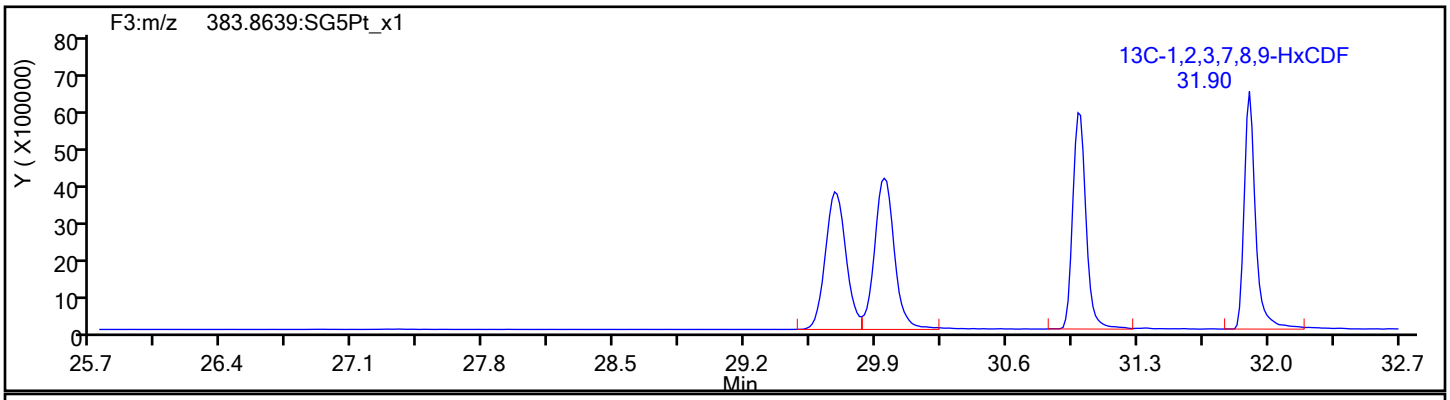

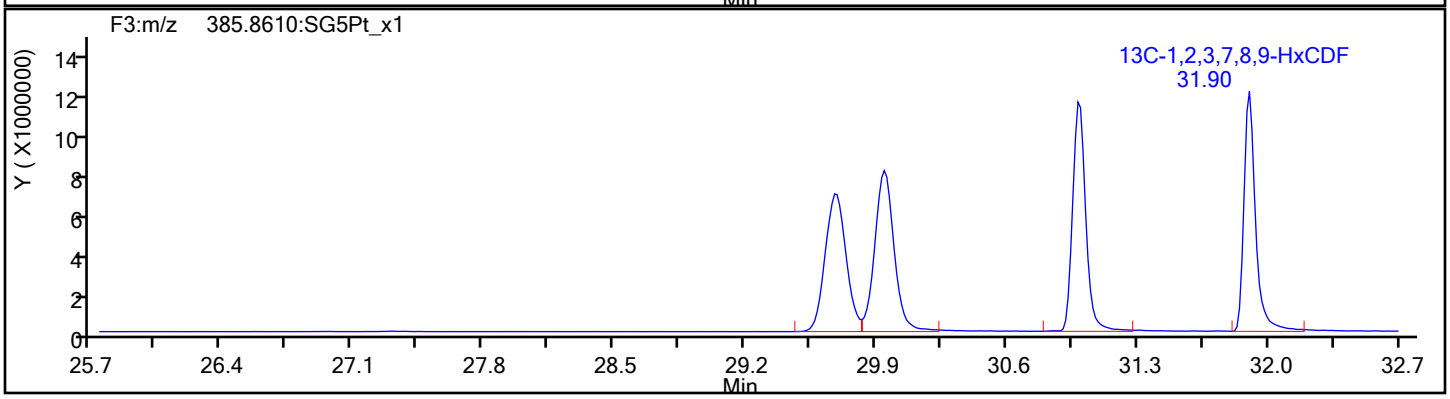

Report Date: 01-Nov-2019 00:05:46 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Client ID:			
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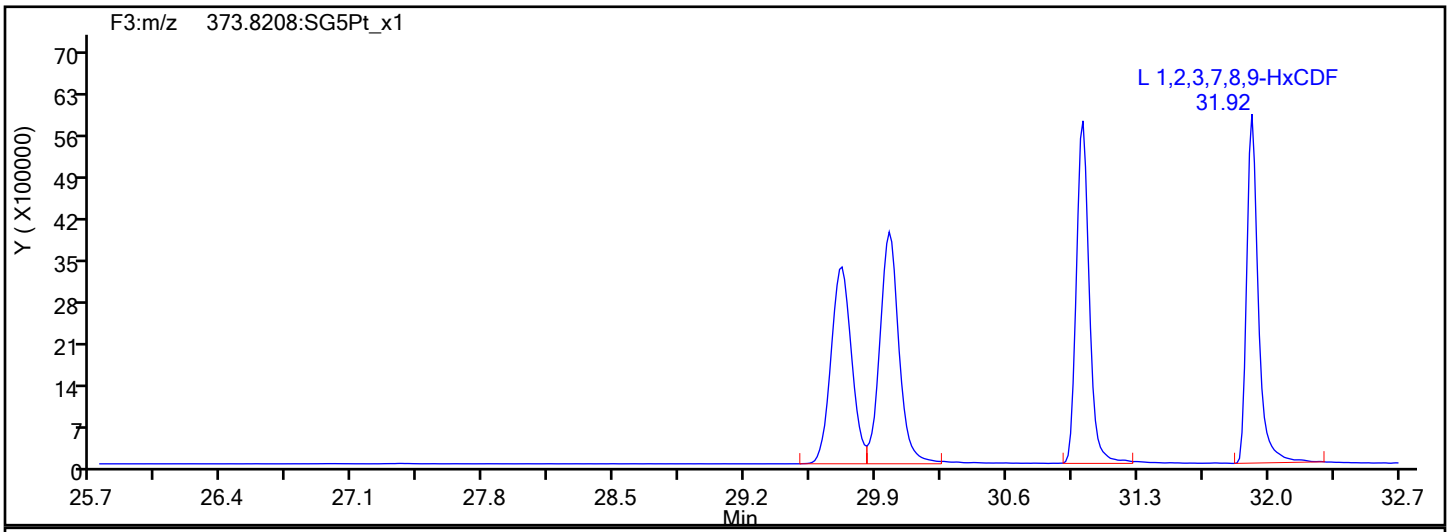

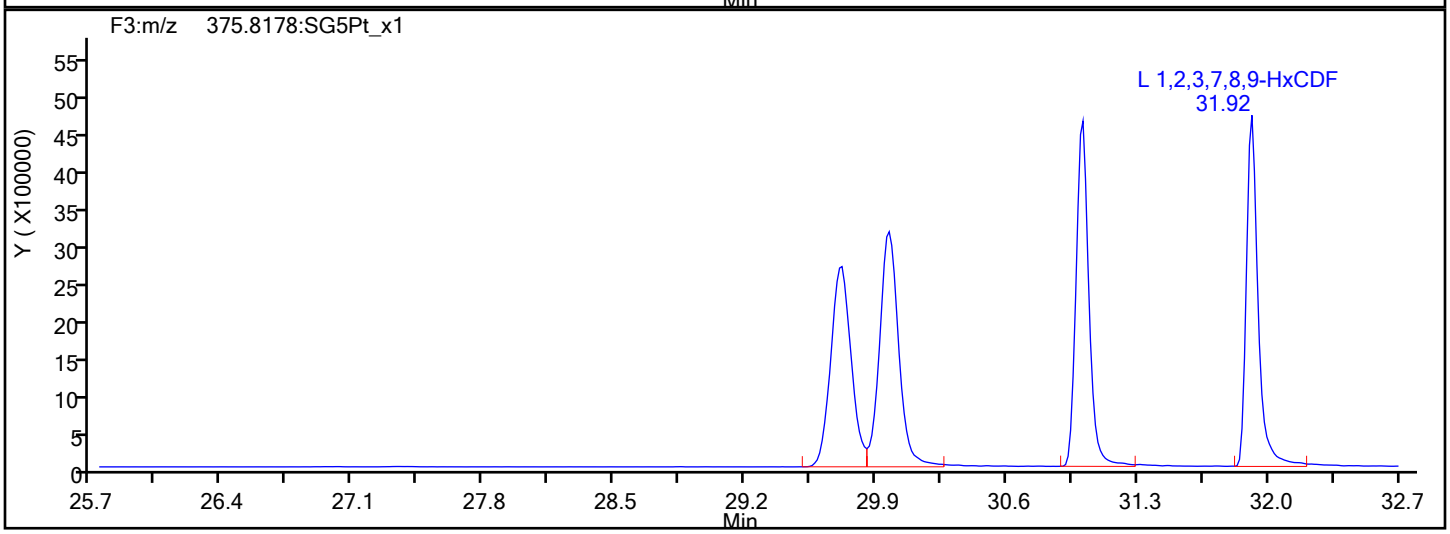

HxCDF Interference Mass

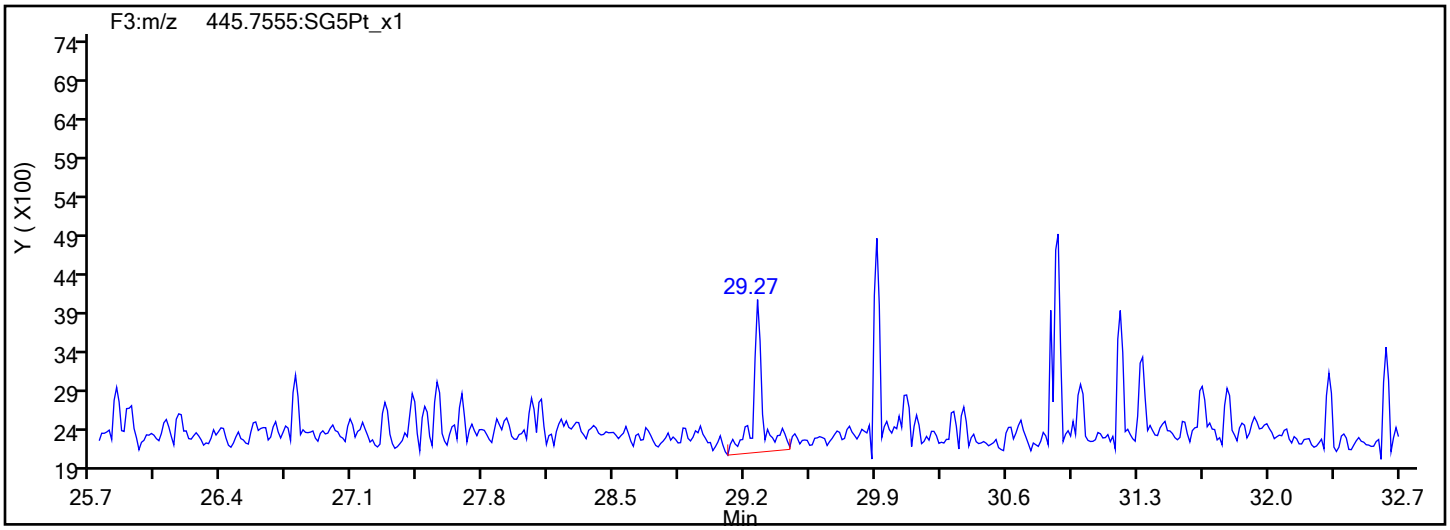

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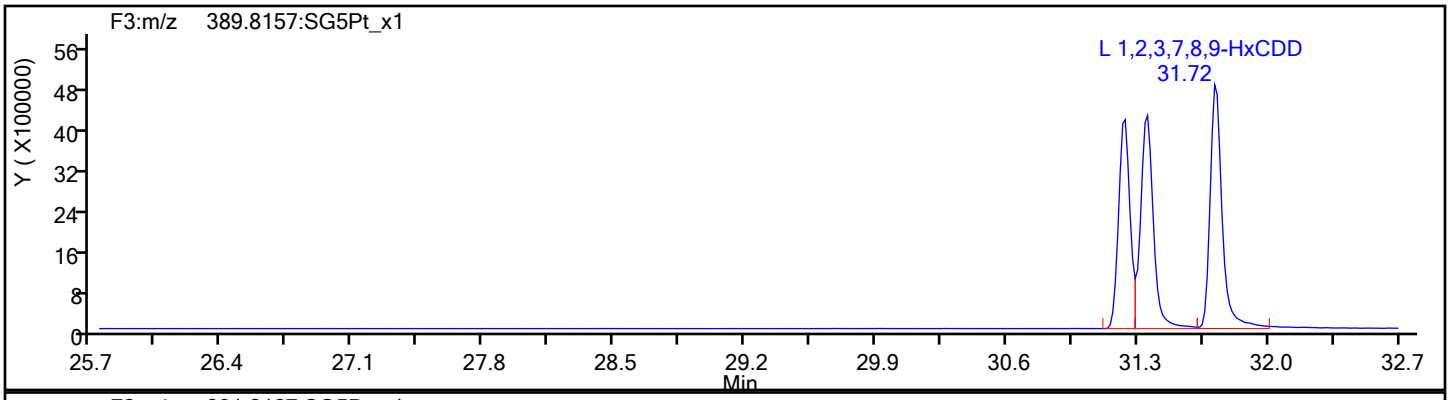

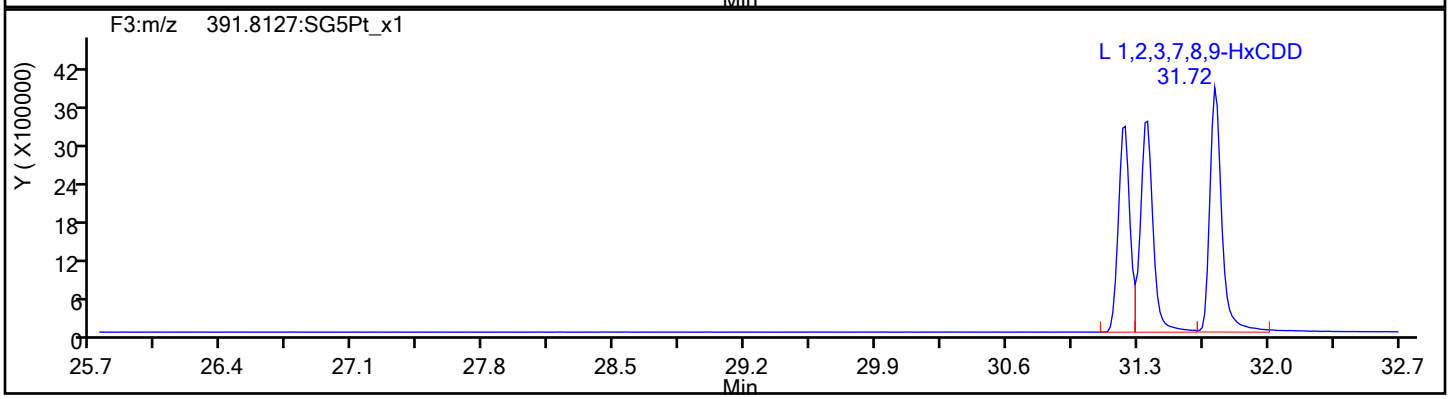

HxCDD Standards

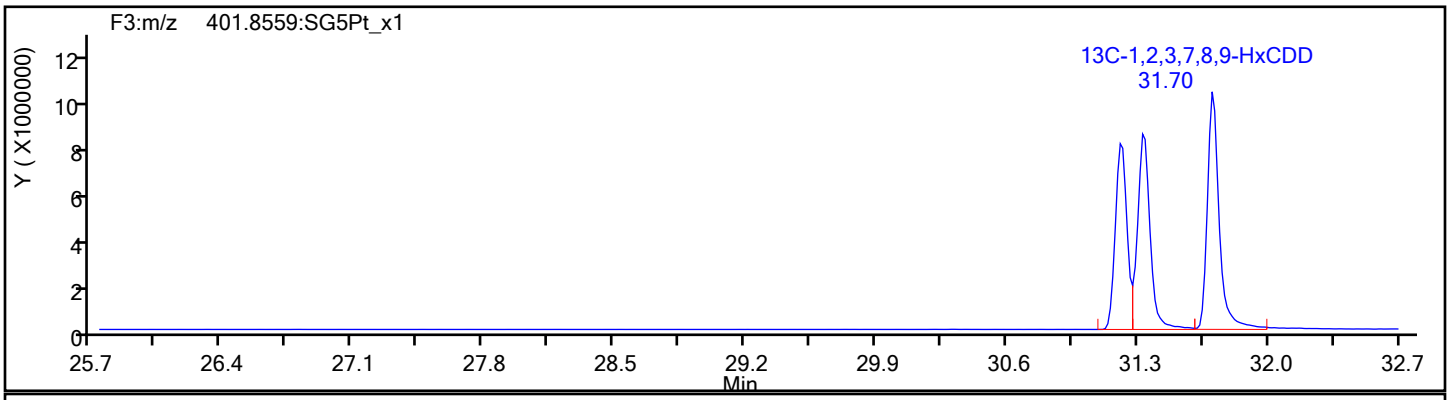

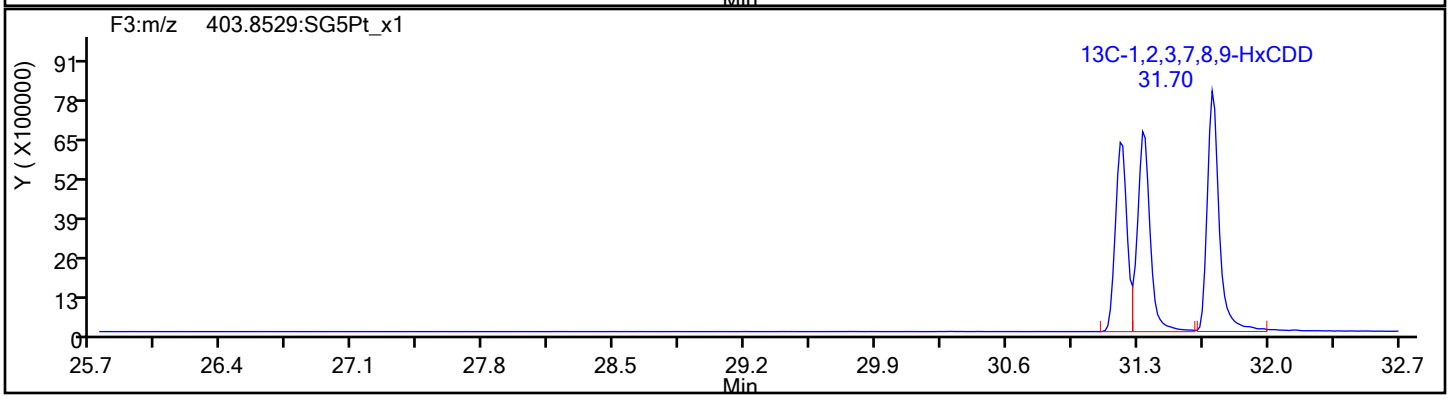

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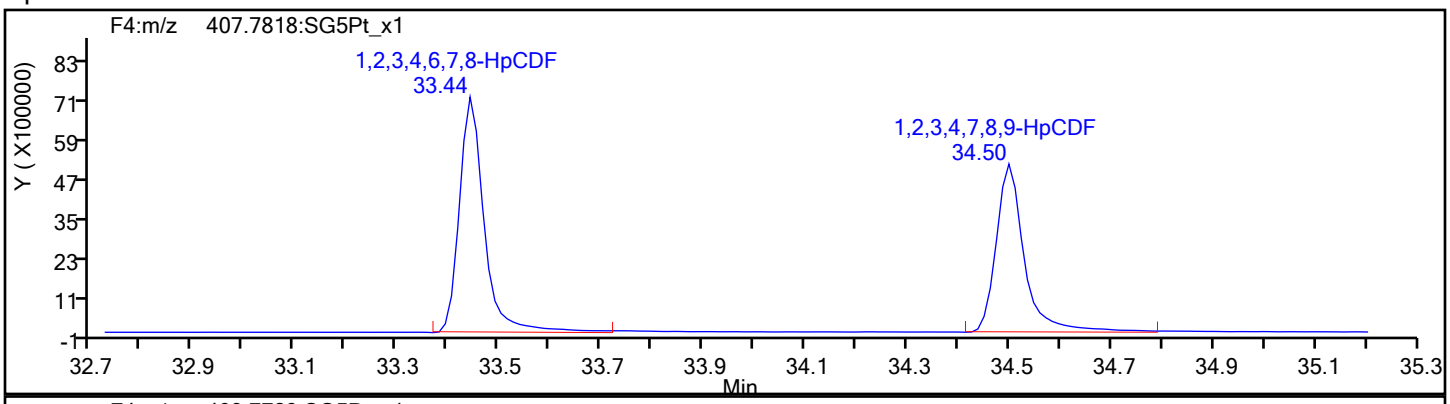

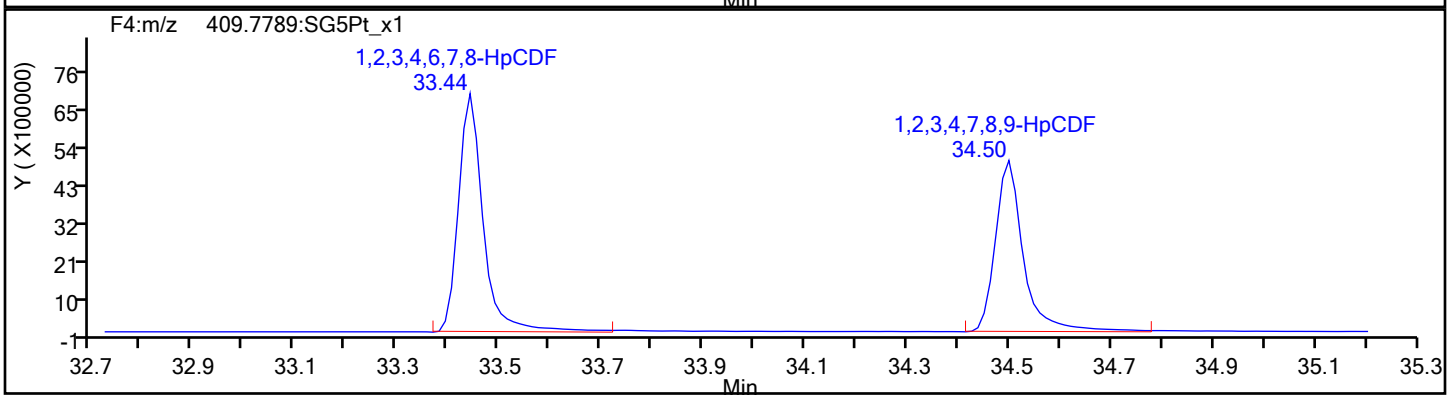

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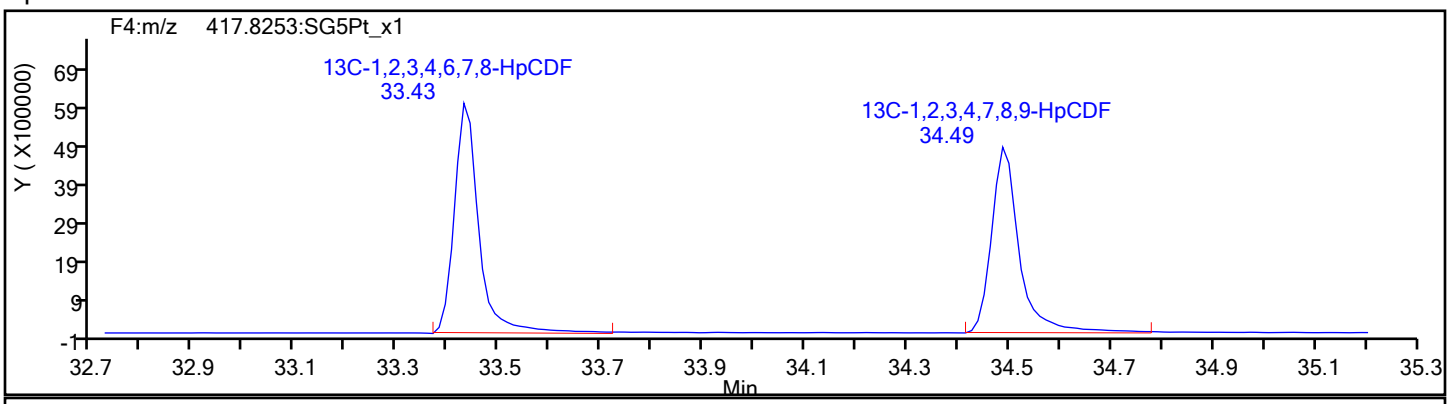

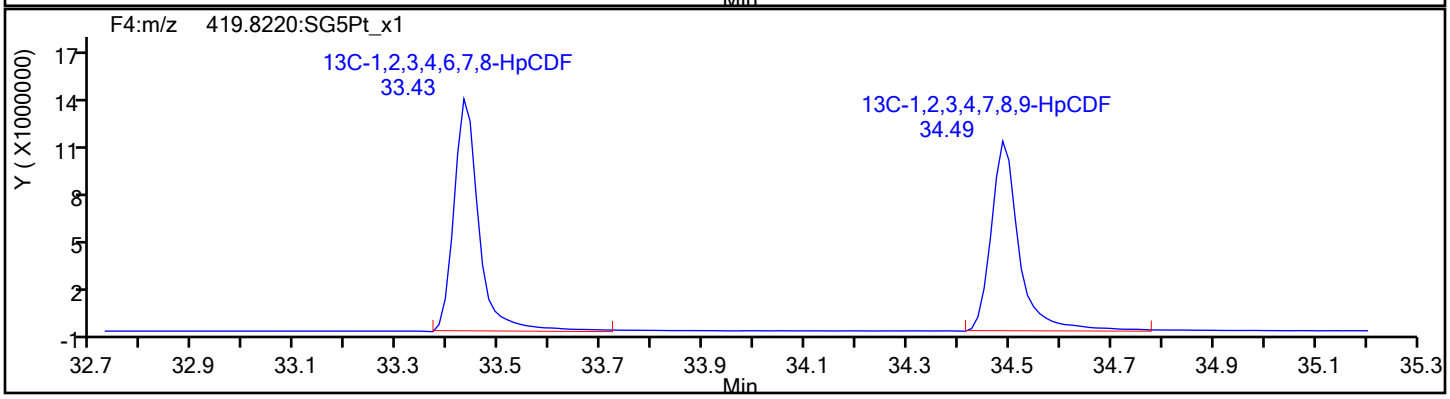

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Eurofins TestAmerica, Sacramento

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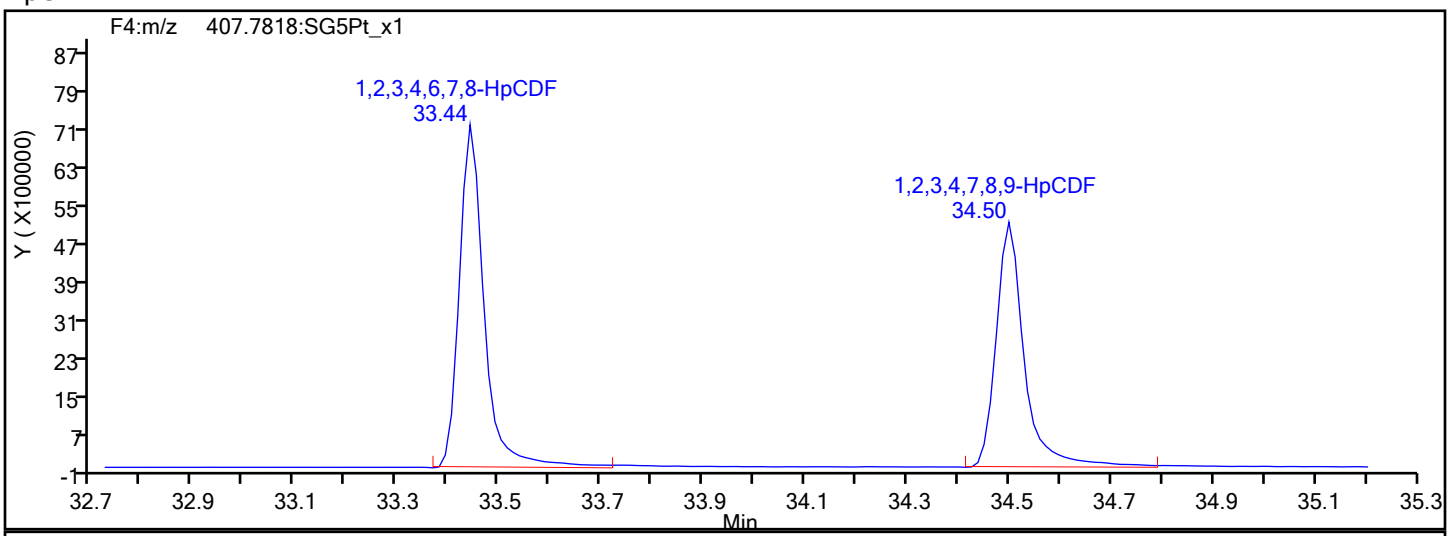

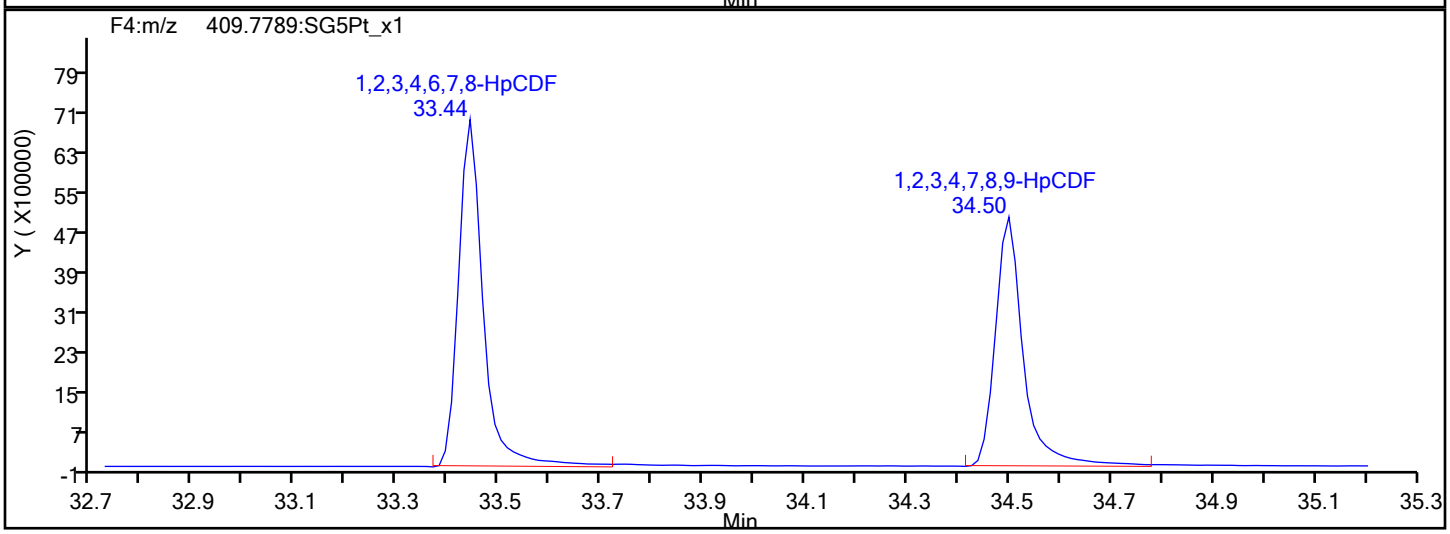

HpCDF Interference Mass

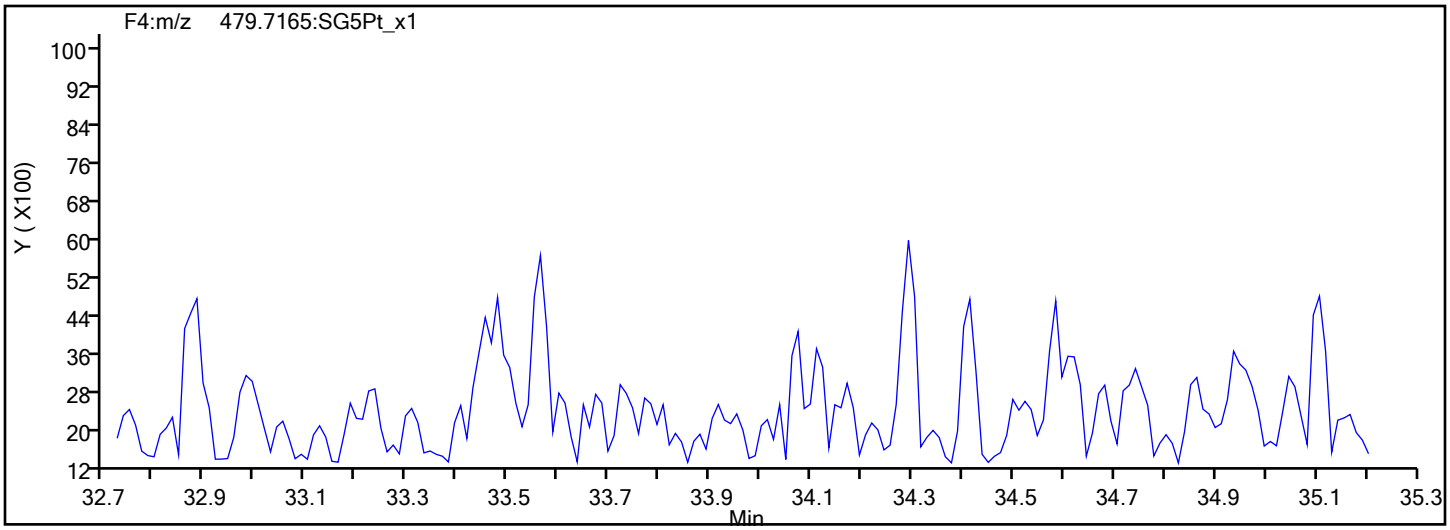

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Eurofins TestAmerica, Sacramento

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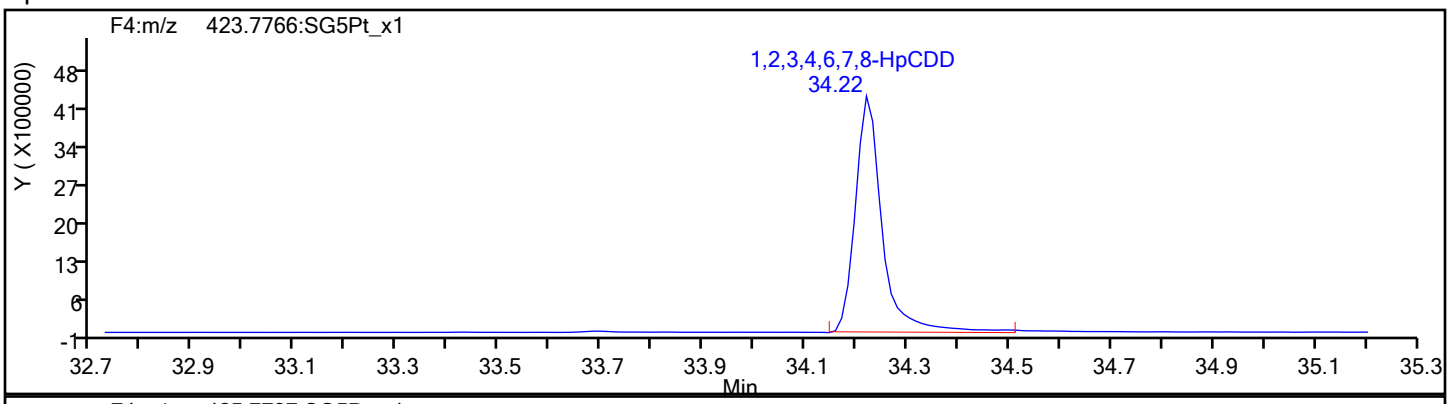

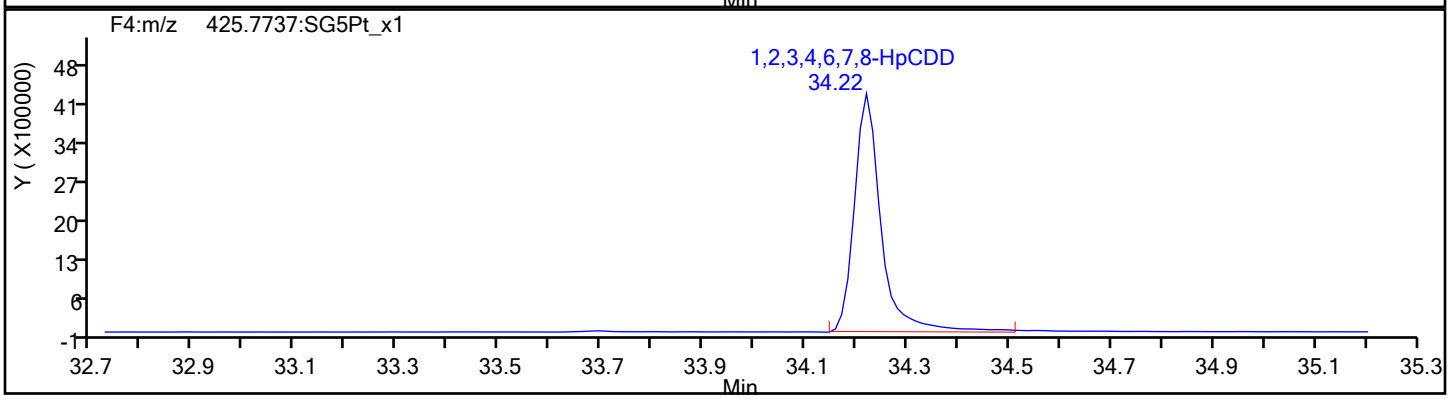

HpCDD Standards

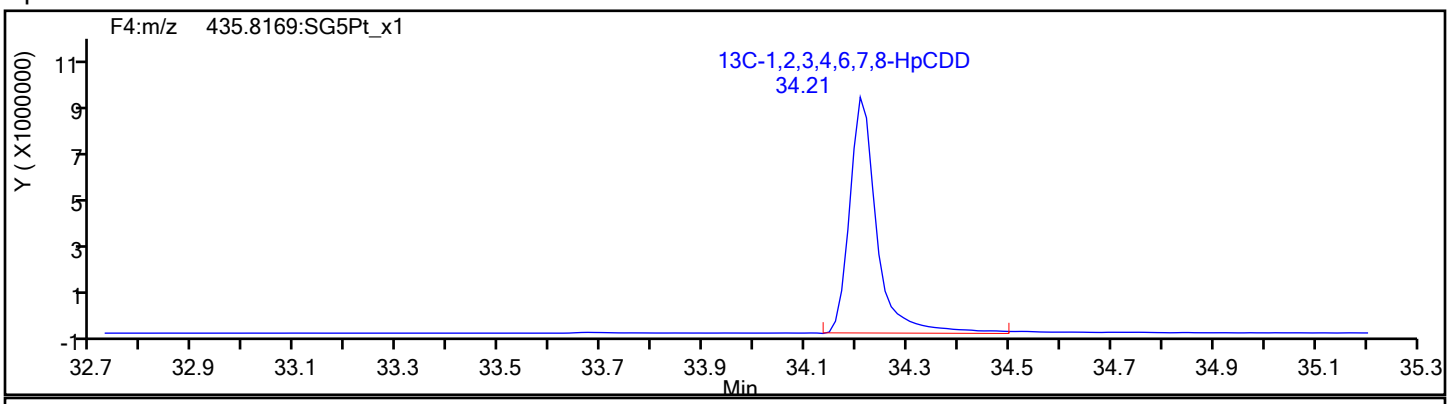

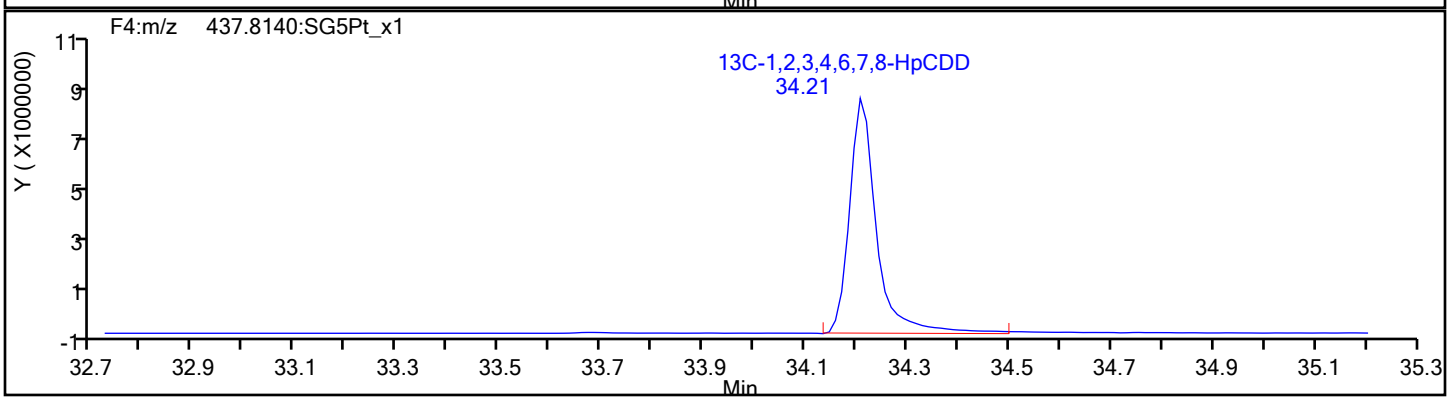

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Eurofins TestAmerica, Sacramento

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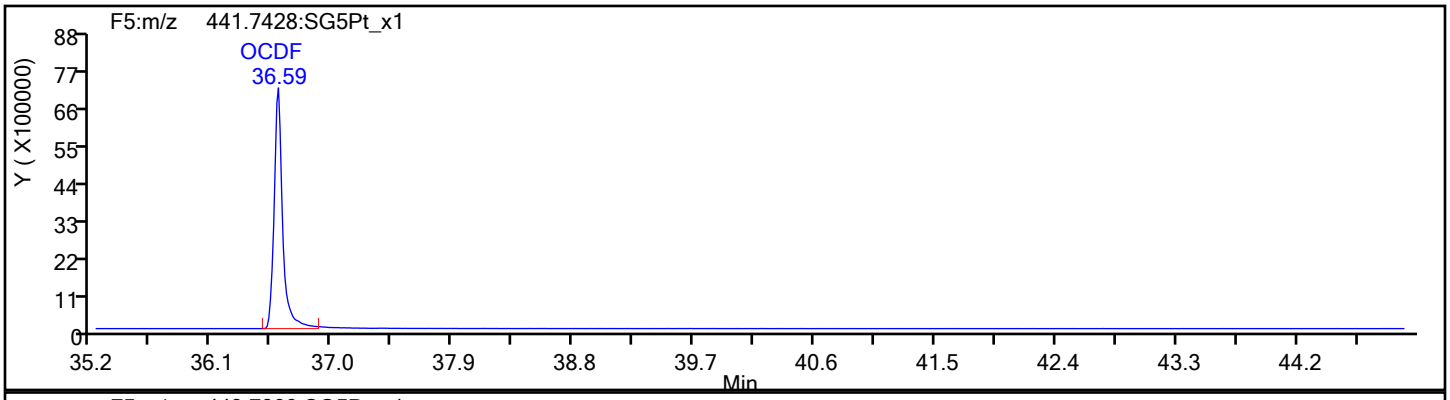

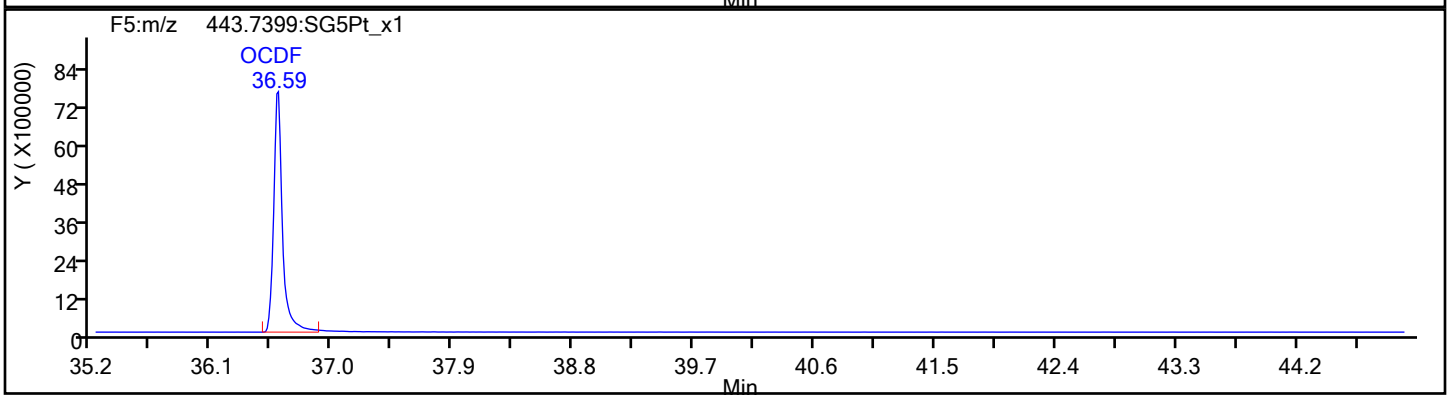

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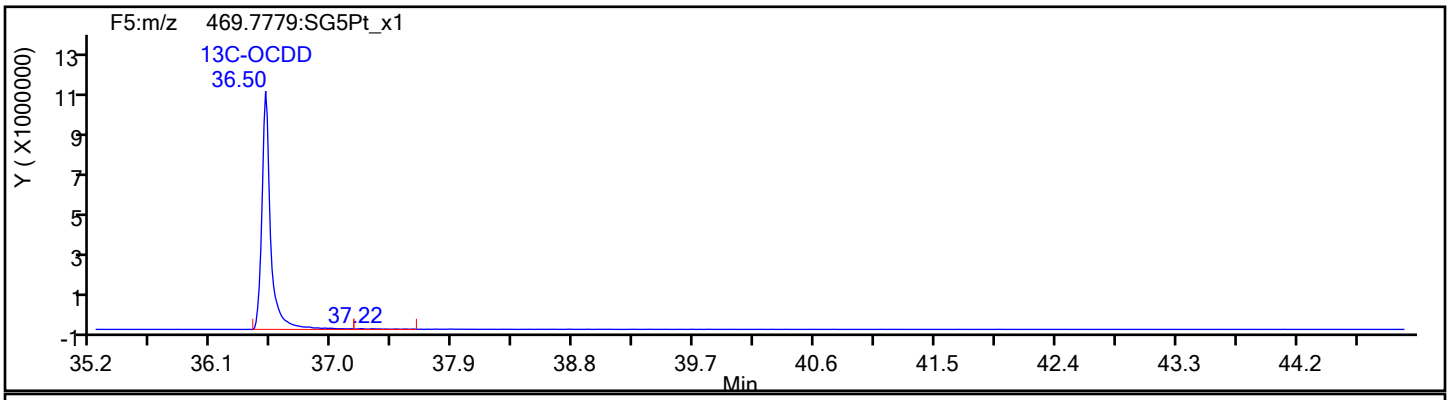

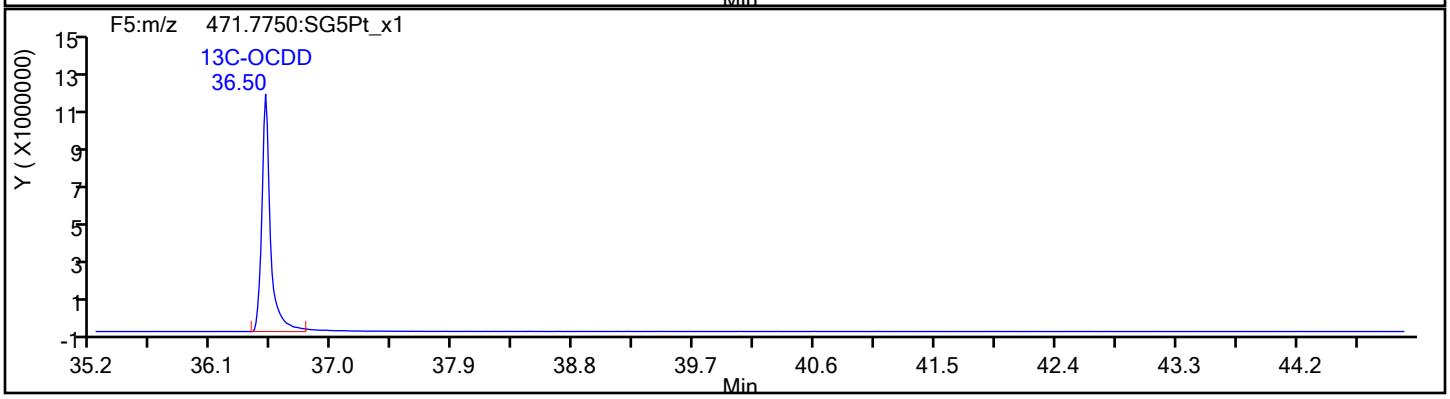

Report Date: 01-Nov-2019 00:05:46 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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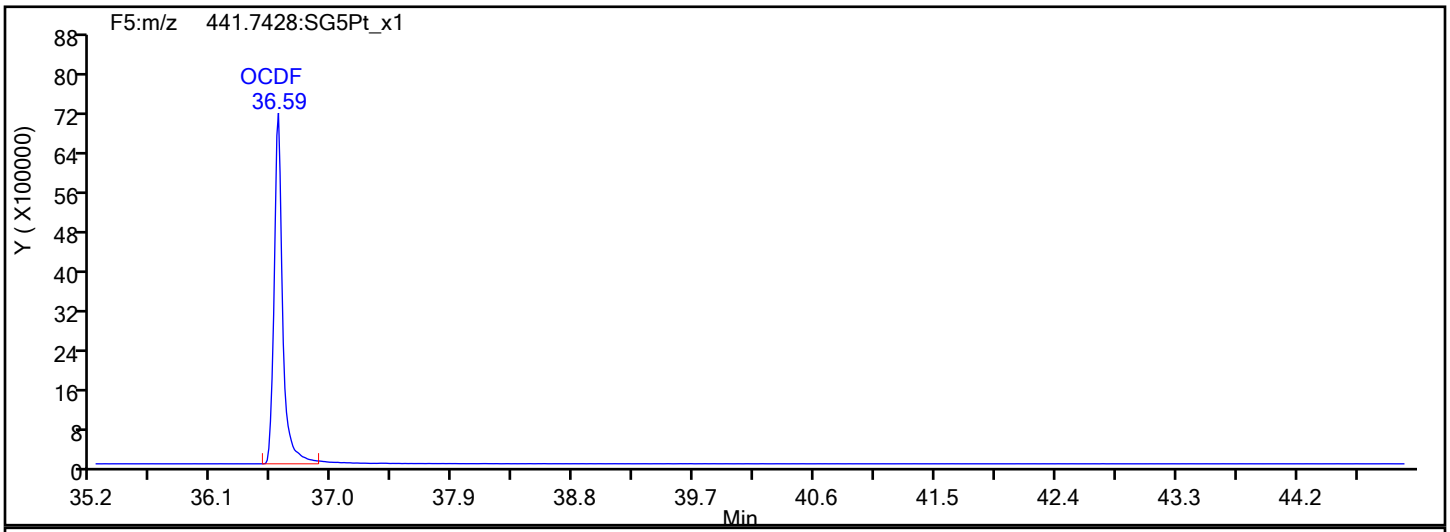

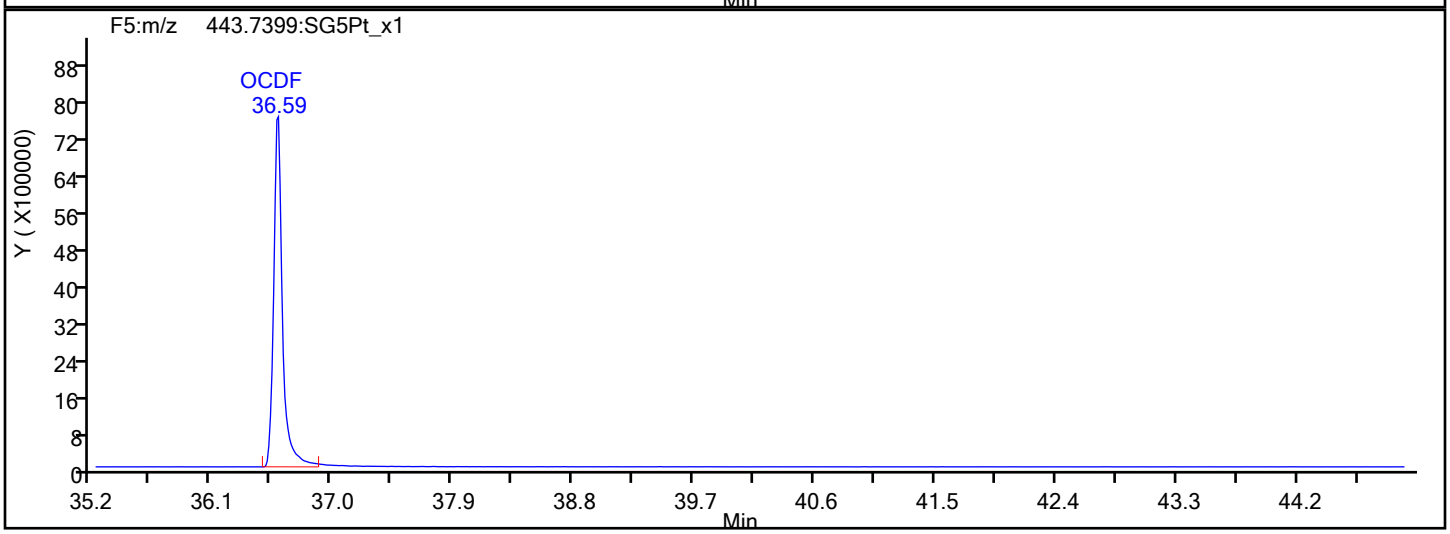

OCDF Interference Mass

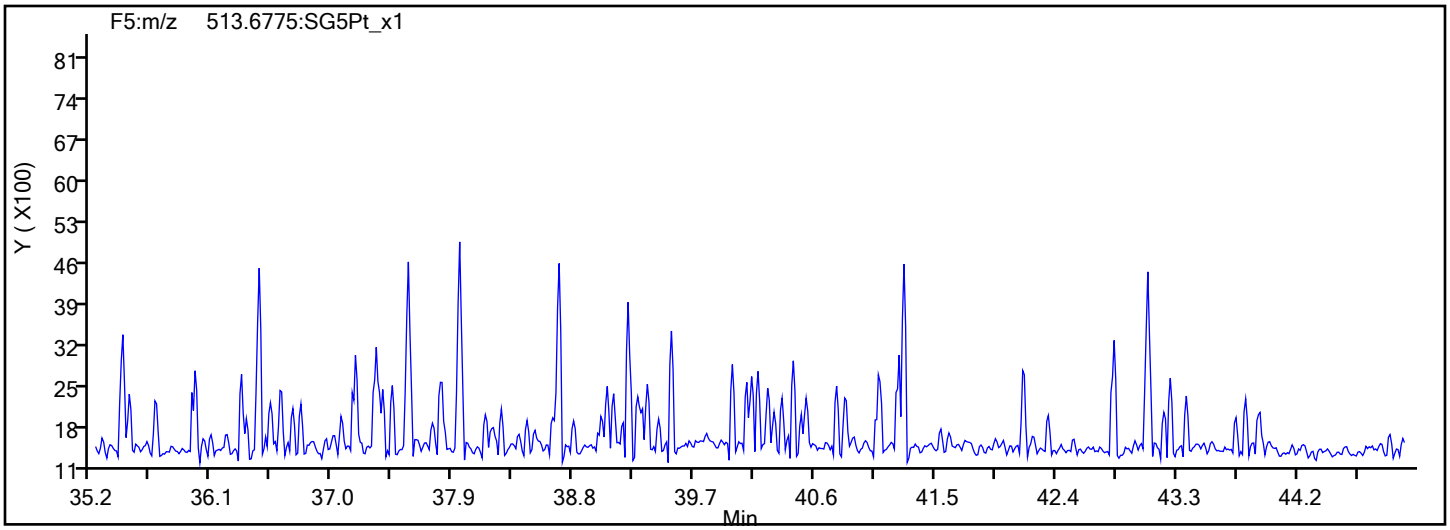

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Eurofins TestAmerica, Sacramento

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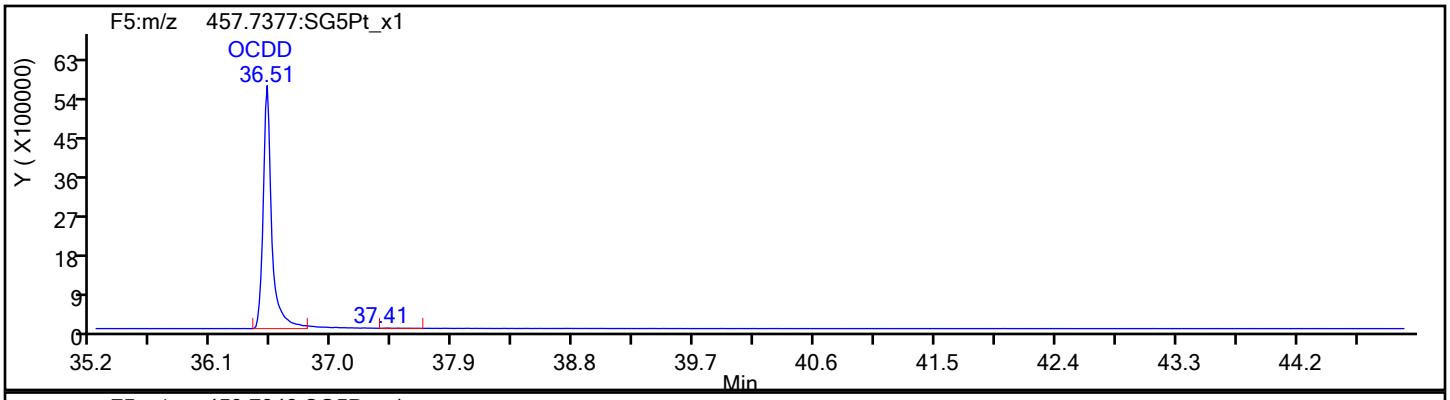

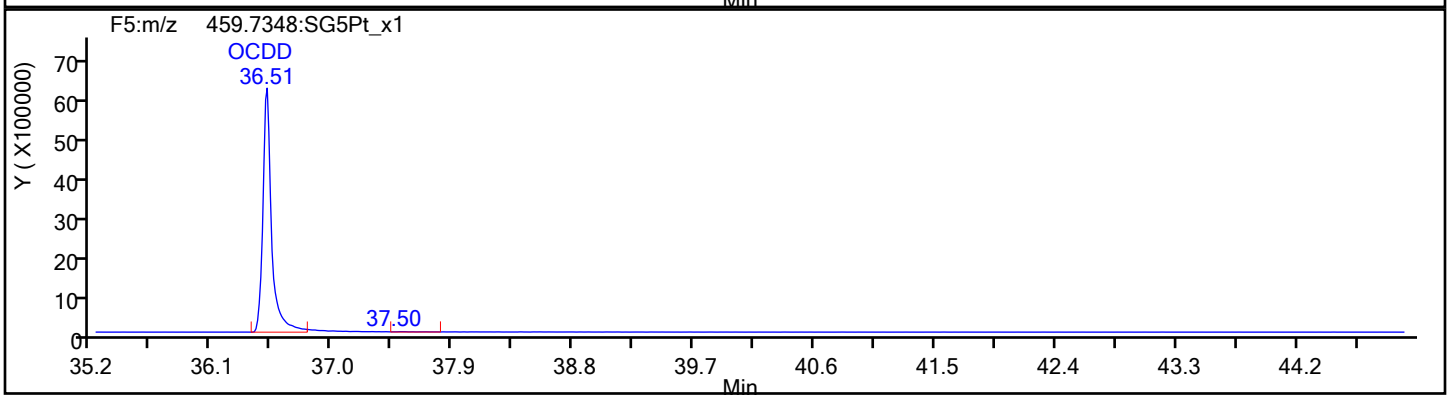

OCDD Standards

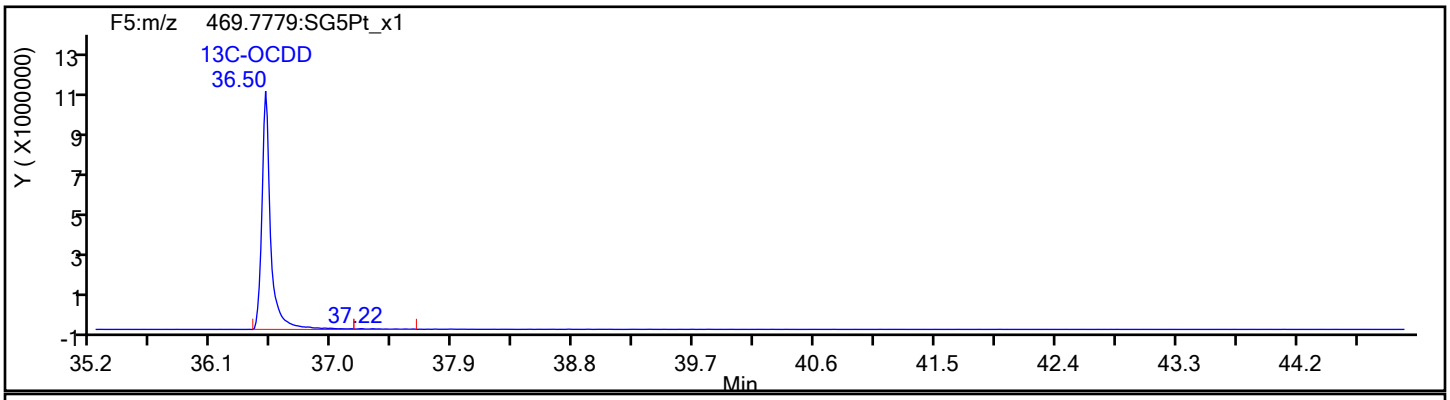

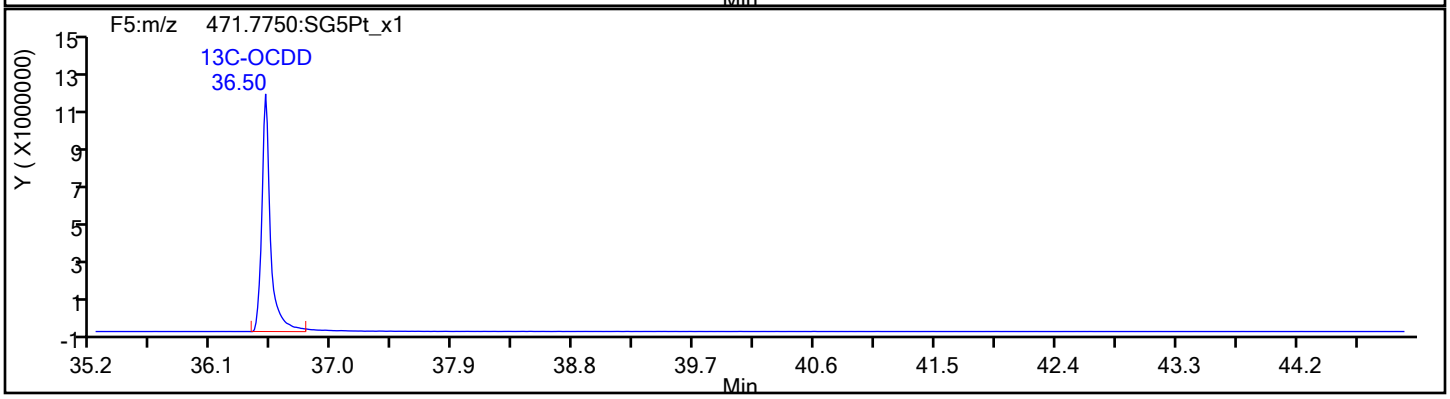

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Eurofins TestAmerica, Sacramento

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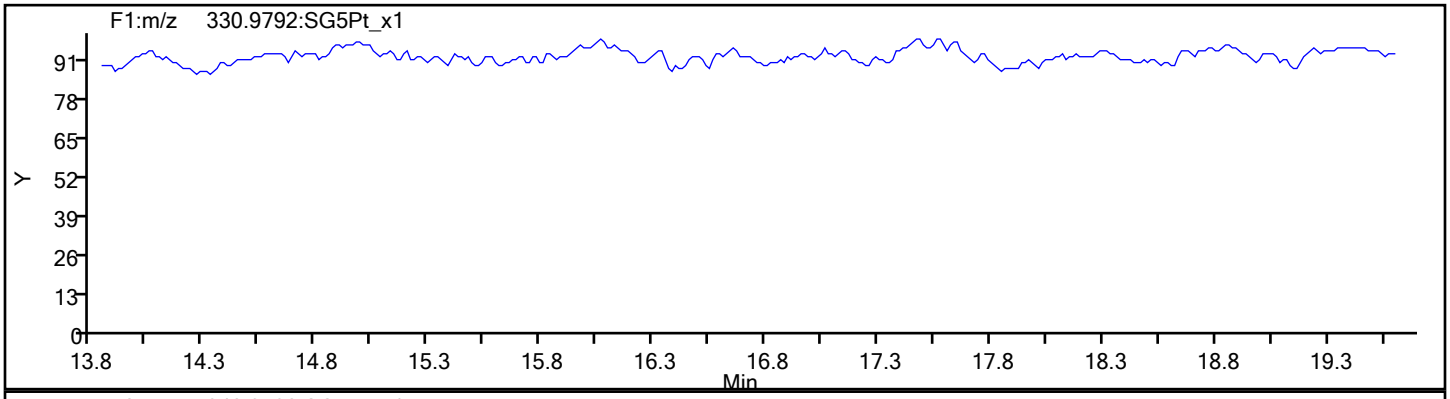

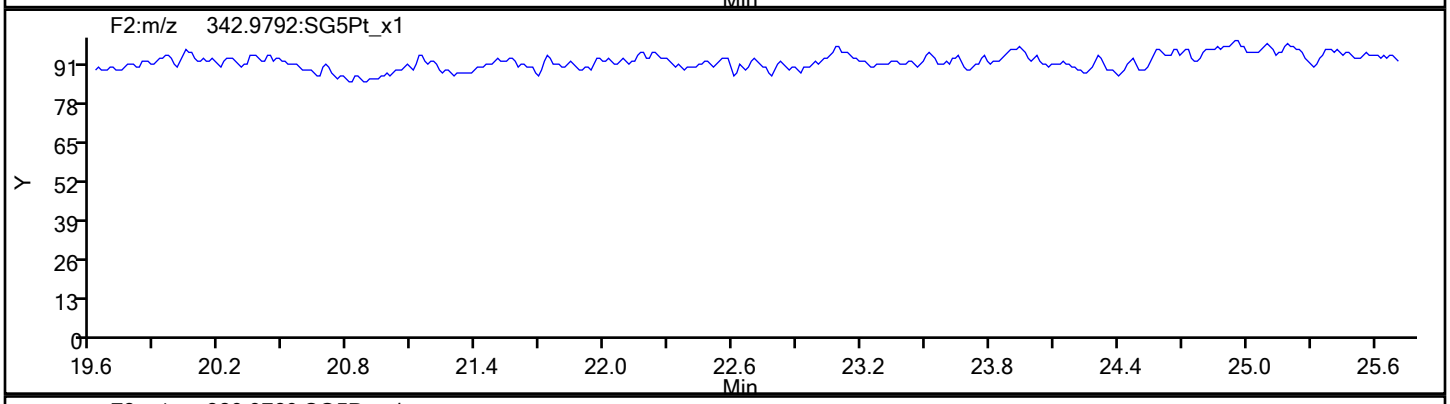

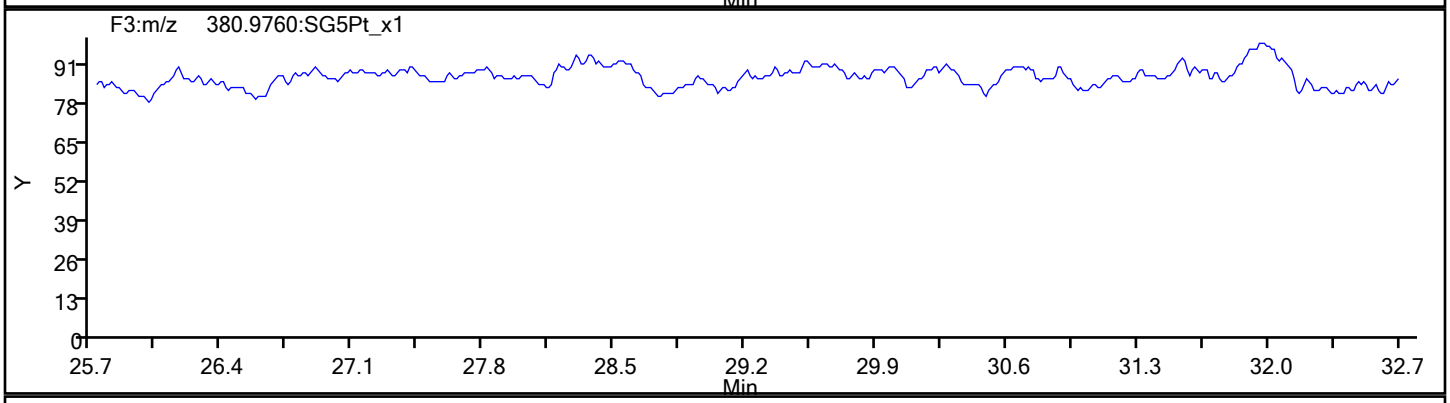

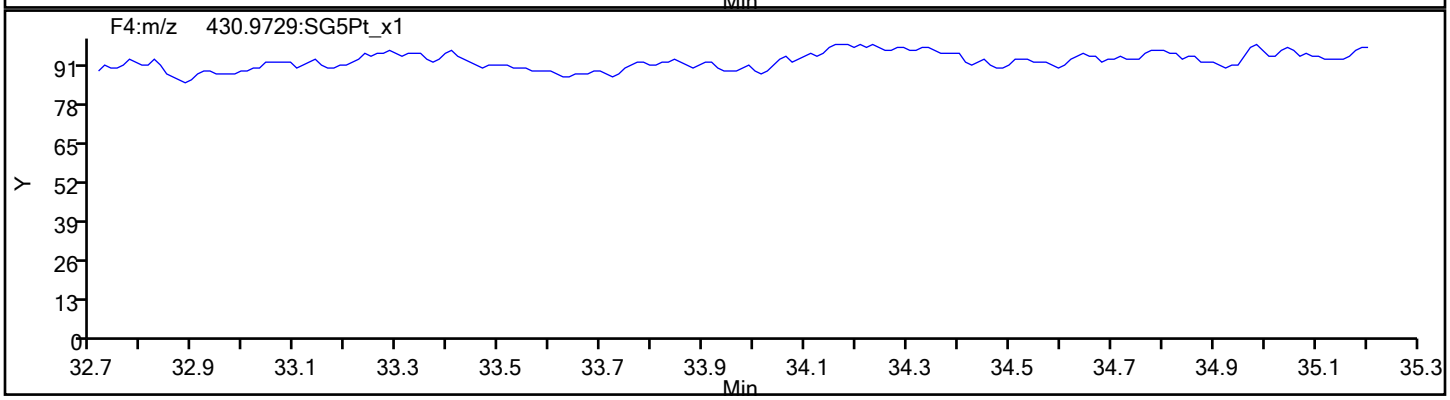

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Eurofins TestAmerica, Sacramento

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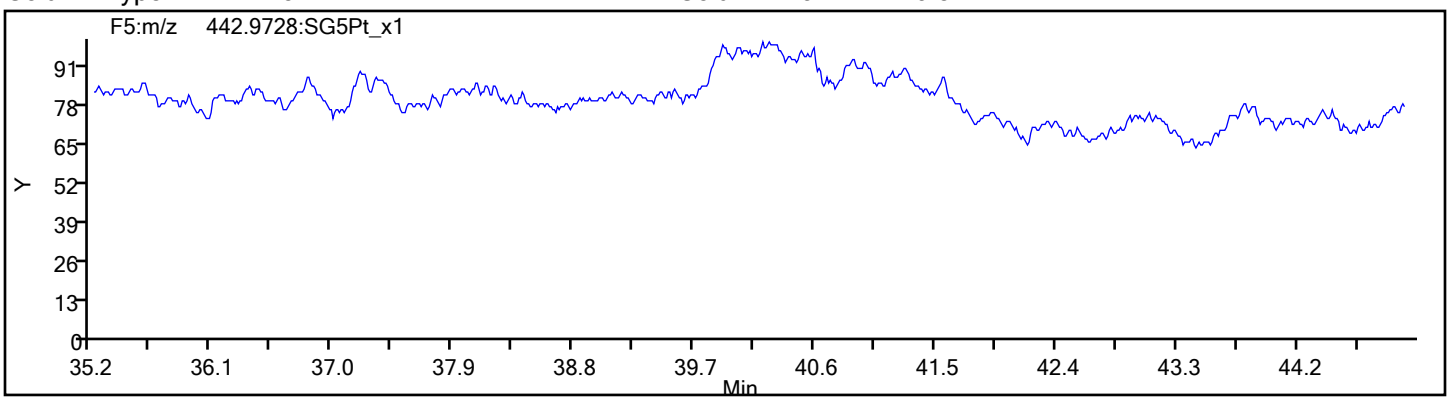

FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICV 320-296020/9 Calibration Date: 05/21/2019 18:16

Instrument ID: 3D5 Calib Start Date: 05/21/2019 13:31

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 05/21/2019 16:41

Lab File ID: 21MY193D5_9.d Conc. Units: pg/uL

EPA Sample No.: ICV

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
2,3,7,8-TCDF	AveID	0.9710	1.042		42.9	40.0	107	70-130
2,3,7,8-TCDD	AveID	1.045	1.193		45.7	40.0	114	70-130
1,2,3,7,8-PeCDF	AveID	0.9633	1.015		211	200	105	70-130
2,3,4,7,8-PeCDF	AveID	0.9495	1.100		232	200	116	70-130
1,2,3,7,8-PeCDD	AveID	1.063	1.079		203	200	101	70-130
1,2,3,4,7,8-HxCDF	AveID	1.217	1.277		210	200	105	70-130
1,2,3,6,7,8-HxCDF	AveID	1.131	1.224		216	200	108	70-130
2,3,4,6,7,8-HxCDF	AveID	1.171	1.282		219	200	109	70-130
1,2,3,4,7,8-HxCDD	AveID	1.027	1.071		209	200	104	70-130
1,2,3,6,7,8-HxCDD	AveID	0.9771	1.086		222	200	111	70-130
1,2,3,7,8,9-HxCDD	AveID	1.062	1.143		215	200	108	70-130
1,2,3,7,8,9-HxCDF	AveID	1.179	1.227		208	200	104	70-130
1,2,3,4,6,7,8-HpCDF	AveID	1.437	1.557		217	200	108	70-130
1,2,3,4,6,7,8-HpCDD	AveID	1.010	1.083		214	200	107	70-130
1,2,3,4,7,8,9-HpCDF	AveID	1.309	1.331		203	200	102	70-130
OCDD	AveID	1.063	1.158		436	400	109	70-130
OCDF	AveID	1.350	1.475		437	400	109	70-130
13C-2,3,7,8-TCDF	Ave	1.391	1.390		100	100	100	71-140
13C-2,3,7,8-TCDD	Ave	0.9819	0.9657		98.4	100	98	82-121
13C-1,2,3,7,8-PeCDF	Ave	1.158	1.139		98.3	100	98	76-130
13C-2,3,4,7,8-PeCDF	Ave	1.153	1.161		101	100	101	77-130
13C-1,2,3,7,8-PeCDD	Ave	0.7431	0.7258		97.7	100	98	62-160
13C-1,2,3,4,7,8-HxCDF	Ave	0.9837	1.011		103	100	103	76-131
13C-1,2,3,6,7,8-HxCDF	Ave	1.155	1.118		96.8	100	97	70-143
13C-2,3,4,6,7,8-HxCDF	Ave	1.036	1.016		98.1	100	98	73-137
13C-1,2,3,4,7,8-HxCDD	Ave	0.8287	0.8224		99.2	100	99	85-117
13C-1,2,3,6,7,8-HxCDD	Ave	0.9495	0.8971		94.5	100	94	85-118
13C-1,2,3,7,8,9-HxCDF	Ave	0.9034	0.9095		101	100	101	74-135
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.7285	0.6949		95.4	100	95	78-129
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.6978	0.6686		95.8	100	96	72-138
13C-1,2,3,4,7,8,9-HpCDF	Ave	0.6556	0.6593		101	100	101	77-129
13C-OCDD	Ave	0.4780	0.4512		189	200	94	48-208
37Cl4-2,3,7,8-TCDD	Ave	1.221	1.264		41.4	40.0	104	79-127

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_9.d
Lims ID: ICV
Client ID: ICV
Sample Type: ICV
Inject. Date: 21-May-2019 18:16:13 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ICV 052119 ICV HRDXNIC_00038
Misc. Info.: 21MY193D5
Operator ID: AJS Instrument ID: 3D5
Sublist:

Method: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 22-May-2019 11:37:01 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: shardaa Date: 21-May-2019 19:10:28

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	18.414	222346657	0.82	3.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.885	309115802	0.79	1.3908	100.0	100.0	0.2444	0.2444	99.96	
2,3,7,8-TCDF	17.900	128893357	0.78	0.9710	42.9	42.9	0.0930	0.0930	107	
A Non-2,3,7,8-sub-TCDF	17.590						0.0930	0.0930		n
S Total TCDF					42.9	42.9	0.0930	0.0930		
D 13C-2,3,7,8-TCDD	18.611	214726573	0.81	0.9819	98.4	98.4	0.2893	0.2893	98.36	
$ 37Cl4-2,3,7,8-TCDD	18.626	112432067		1.2205	41.4	41.4	0.0682	0.0682	104	
2,3,7,8-TCDD	18.641	102443831	0.82	1.0447	45.7	45.7	0.0806	0.0806	114	
A Non-2,3,7,8-sub-TCDD	18.066	1316919	0.77	1.0447	0.6610	0.5870	0.0806	0.5870		RQ
S Total TCDD					46.3	46.3	0.0806	0.0806		RQ
D 13C-1,2,3,7,8-PeCDF	23.094	253215229	1.59	1.1585	98.3	98.3	0.2491	0.2491	98.30	
1,2,3,7,8-PeCDF	23.121	514226216	1.58	0.9633	210.8	210.8	0.8921	0.8921	105	
D 13C-2,3,4,7,8-PeCDF	24.485	258131492	1.61	1.1532	100.7	100.7	0.2502	0.2502	101	
2,3,4,7,8-PeCDF	24.512	568080692	1.57	0.9495	231.8	231.8	0.9439	0.9439	116	
A F1 PeCDFs	20.637						0.0627	0.0627		
A Non-2,3,7,8-sub-PeCDF	23.899	11866221	1.56	0.9564	4.853	4.853	0.9174	4.853		
S Total PeCDF					447.4	447.4	0.9180	0.9180		
D 13C-1,2,3,7,8-PeCDD	25.235	161383501	1.64	0.7431	97.7	97.7	0.1753	0.1753	97.67	
1,2,3,7,8-PeCDD	25.262	348250092	1.60	1.0635	202.9	202.9	0.2446	0.2446	101	
A Non-2,3,7,8-sub-PeCDD	24.123						0.2446	0.2446		
S Total PeCDD					202.9	202.9	0.2446	0.2446		
D 13C-1,2,3,4,7,8-HxCDF	31.058	187845398	0.51	0.9837	102.8	102.8	0.3425	0.3425	103	
1,2,3,4,7,8-HxCDF	31.071	479692619	1.24	1.2173	209.8	209.8	0.8857	0.8857	105	
D 13C-1,2,3,6,7,8-HxCDF	31.205	207713319	0.51	1.1554	96.8	96.8	0.2916	0.2916	96.77	
1,2,3,6,7,8-HxCDF	31.231	508351905	1.25	1.1311	216.4	216.4	0.8359	0.8359	108	
D 13C-2,3,4,6,7,8-HxCDF	31.924	188804826	0.52	1.0361	98.1	98.1	0.3252	0.3252	98.09	
2,3,4,6,7,8-HxCDF	31.937	484083560	1.24	1.1710	219.0	219.0	0.7443	0.7443	109	
D 13C-1,2,3,7,8,9-HxCDF	32.682	168965577	0.51	0.9034	100.7	100.7	0.3729	0.3729	101	
1,2,3,7,8,9-HxCDF	32.696	414786546	1.24	1.1787	208.3	208.3	0.7662	0.7662	104	

Report Date: 22-May-2019 11:37:06 Chrom Revision: 2.3 12-May-2019 16:28:34
Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_9.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
A Non-2,3,7,8-sub-HxCDF	30.845						0.8033	0.8033		
S Total HxCDF					853.4	853.4	0.8080	0.8080		
* 13C-1,2,3,7,8,9-HxCDD	32.509	185780773	1.26	2.6E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	32.097	152784448	1.28	0.8287	99.2	99.2	0.3524	0.3524	99.24	
1,2,3,4,7,8-HxCDD	32.110	327345678	1.20	1.0267	208.7	208.7	0.4918	0.4918	104	
D 13C-1,2,3,6,7,8-HxCDD	32.203	166664971	1.27	0.9495	94.5	94.5	0.3076	0.3076	94.49	
1,2,3,6,7,8-HxCDD	32.216	362035074	1.22	0.9771	222.3	222.3	0.5142	0.5142	111	
1,2,3,7,8,9-HxCDD	32.523	365083187	1.26	1.0616	215.3	215.3	0.4745	0.4745	108	
A Non-2,3,7,8-sub-HxCDD	31.471						0.4929	0.4929		
S Total HxCDD					646.3	646.3	0.4935	0.4935		
D 13C-1,2,3,4,6,7,8-HpCDF	34.097	129098673	0.45	0.7285	95.4	95.4	0.6850	0.6850	95.39	
1,2,3,4,6,7,8-HpCDF	34.109	401958783	1.03	1.4373	216.6	216.6	1.334	1.334	108	
D 13C-1,2,3,4,7,8,9-HpCDF	35.239	122483391	0.45	0.6556	100.6	100.6	0.7611	0.7611	101	
1,2,3,4,7,8,9-HpCDF	35.251	326170724	1.05	1.3091	203.4	203.4	1.687	1.687	102	
A Non-2,3,7,8-sub-HpCDF	34.686						1.495	1.495		
S Total HpCDF					420.0	420.0	1.511	1.511		
D 13C-1,2,3,4,6,7,8-HpCDD	34.935	124213475	1.06	0.6978	95.8	95.8	0.3457	0.3457	95.81	
1,2,3,4,6,7,8-HpCDD	34.947	269097158	1.06	1.0102	214.5	214.5	0.6764	0.6764	107	
A Non-2,3,7,8-sub-HpCDD	35.074						0.6764	0.6764		
S Total HpCDD					214.5	214.5	0.6764	0.6764		
D 13C-OCDD	37.395	167657373	0.90	0.4780	188.8	188.8	0.4438	0.4438	94.41	
OCDF	37.503	494569405	0.93	1.3501	437.0	437.0	0.7227	0.7227	109	
OCDD	37.407	388204926	0.90	1.0627	435.8	435.8	0.7118	0.7118	109	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNIC_00038 Amount Added: 1.00 Units: mL

Report Date: 22-May-2019 11:37:06 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_9.d
Lims ID: ICV
Client ID: ICV
Sample Type: ICV
Inject. Date: 21-May-2019 18:16:13 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ICV 052119 ICV HRDXNIC_00038
Misc. Info.: 21MY193D5
Operator ID: AJS Instrument ID: 3D5
Sublist:

Method: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 22-May-2019 11:37:01 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: shardaa Date: 21-May-2019 19:10:28

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	18.414	18.433	-1		99998875	24006114	42112	105280	570		
333.9339	18.414	18.433	-1		122347782	29280130	18429	46072	1589	0.82(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.885	17.900	-1	0.971	136547837	32061236	45371	113427	707		
317.9389	17.885	17.900	-1	0.971	172567965	40423072	27075	67687	1493	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.900	17.915	-1	1.001	56332836	13171635	10321	25802	1276		
305.8987	17.900	17.915	-1	1.001	72560521	16618859	15852	39630	1048	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.507	17.590	-5	0.979	320674	84096	10321	25802	8		
305.8987	17.492	17.590	-6	0.978	399478	91923	15852	39630	6	0.80(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	18.611	18.629	-1	1.011	96308196	21747418	42112	105280	516		
333.9339	18.611	18.629	-1	1.011	118418377	26520969	18429	46072	1439	0.81(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	18.626	18.649	-1	1.011	112432067	24741004	17755	44387	1393		
2,3,7,8-TCDD											
319.8965	18.641	18.650	-1	1.002	46102269	10150841	9601	24002	1057		
321.8936	18.626	18.650	-1	1.001	56341562	12460512	6647	16617	1875	0.82(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											RQ
319.8965	18.520	18.066	27	0.995	572897	183752	9601	24002	19		
321.8936	18.520	18.066	27	0.995	909934	230675	6647	16617	35	0.63(0.65-0.89)	
	Empc Correction				744022	238638	6647	16617	36		

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	23.094	23.100	0	1.254	155609942	26715954	39133	97832	683		
353.8970	23.094	23.100	0	1.254	97605287	16855503	22374	55935	753	1.59(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	23.121	23.124	0	1.001	314768565	52838286	88608	221520	596		
341.8567	23.121	23.124	0	1.001	199457651	33977833	61167	152917	555	1.58(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	24.485	24.488	0	1.330	159231466	25548972	39133	97832	653		
353.8970	24.485	24.488	0	1.330	98900026	16231081	22374	55935	725	1.61(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	24.512	24.512	0	1.001	346904091	53860636	88608	221520	608		
341.8567	24.512	24.512	0	1.001	221176601	33722372	61167	152917	551	1.57(1.32-1.78)	
A F1 PeCDFs											
339.8597	20.637						2292	5730			
341.8567	20.637						7947	19867			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.666	23.899	-14	1.025	7234407	1237610	88608	221520	14		
341.8567	23.666	23.899	-14	1.025	4631814	744077	61167	152917	12	1.56(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	25.235	25.238	0	1.370	100316941	15322953	16074	40185	953		
369.8919	25.235	25.238	0	1.370	61066560	9385882	11690	29225	803	1.64(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	25.262	25.265	0	1.001	214180722	31487894	17646	44115	1784		
357.8516	25.262	25.265	0	1.001	134069370	19967680	8060	20150	2477	1.60(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	24.123						17646	44115			
357.8516	24.123						8060	20150			
13C-1,2,3,4,7,8-HxCDF											
383.8639	31.058	31.051	0	0.955	63483256	13904438	27681	69202	502		
385.8610	31.058	31.051	0	0.955	124362142	27550372	43405	108512	635	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	31.071	31.068	0	1.000	265839934	61146447	92922	232305	658		
375.8178	31.071	31.068	0	1.000	213852685	49022738	85875	214687	571	1.24(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	31.205	31.201	0	0.960	70204373	15845366	27681	69202	572		
385.8610	31.205	31.201	0	0.960	137508946	31429354	43405	108512	724	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	31.231	31.224	0	1.001	282695535	62413716	92922	232305	672		
375.8178	31.218	31.224	0	1.000	225656370	49870592	85875	214687	581	1.25(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.924	31.923	0	0.982	64359571	17494429	27681	69202	632		
385.8610	31.924	31.923	0	0.982	124445255	33790751	43405	108512	778	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.937	31.943	0	1.000	268267778	71103914	92922	232305	765		
375.8178	31.937	31.943	0	1.000	215815782	58408869	85875	214687	680	1.24(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.682	32.676	0	1.005	56960730	16704760	27681	69202	603		
385.8610	32.682	32.676	0	1.005	112004847	32790517	43405	108512	755	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.696	32.692	0	1.000	229904633	66857411	92922	232305	720		
375.8178	32.696	32.692	0	1.000	184881913	53379015	85875	214687	622	1.24(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.845						92922	232305			
375.8178	30.845						85875	214687			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.509	32.499	1		103676605	29367879	36346	90865	808		
403.8529	32.509	32.499	1		82104168	23381618	25282	63205	925	1.26(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	32.097	32.093	0	0.987	85749915	25357903	36346	90865	698		
403.8529	32.097	32.093	0	0.987	67034533	20037909	25282	63205	793	1.28(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	32.110	32.110	0	1.000	178879576	51819990	62141	155352	834		
391.8127	32.110	32.110	0	1.000	148466102	43158761	29554	73885	1460	1.20(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	32.203	32.193	1	0.991	93123035	25349565	36346	90865	697		
403.8529	32.190	32.193	0	0.990	73541936	20279951	25282	63205	802	1.27(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	32.216	32.210	0	1.000	199272975	54639752	62141	155352	879		
391.8127	32.203	32.210	0	1.000	162762099	45332865	29554	73885	1534	1.22(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.523	32.516	0	1.013	203524572	58820587	62141	155352	947		
391.8127	32.509	32.516	0	1.013	161558615	45545616	29554	73885	1541	1.26(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	31.471						62141	155352			
391.8127	31.471						29554	73885			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	34.097	34.097	0	1.049	39991019	12974012	41081	102702	316		
419.8220	34.097	34.097	0	1.049	89107654	29352894	64212	160530	457	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.109	34.104	0	1.000	203632058	67875635	170553	426382	398		
409.7789	34.109	34.104	0	1.000	198326725	66253465	153965	384912	430	1.03(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	35.239	35.233	0	1.084	37725890	11239096	41081	102702	274		
419.8220	35.239	35.233	0	1.084	84757501	25487205	64212	160530	397	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.251	35.244	0	1.000	167391270	49015311	170553	426382	287		
409.7789	35.251	35.244	0	1.000	158779454	45891103	153965	384912	298	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.686						170553	426382			
409.7789	34.686						153965	384912			

Report Date: 22-May-2019 11:37:06 Chrom Revision: 2.3 12-May-2019 16:28:34
Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_9.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.935	34.929	0	1.075	63852098	20705089	20822	52055	994		
437.8140	34.935	34.929	0	1.075	60361377	19019422	30079	75197	632	1.06(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.947	34.940	0	1.000	138620368	43789914	60091	150227	729		
425.7737	34.935	34.940	0	1.000	130476790	40536425	48474	121185	836	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	35.074						60091	150227			
425.7737	35.074						48474	121185			
13C-OCDD											
469.7779	37.395	37.392	0	1.150	79464321	22162125	21911	54777	1011		
471.7750	37.395	37.392	0	1.150	88193052	24670891	22850	57125	1080	0.90(0.76-1.02)	
OCDF											
441.7428	37.503	37.500	0	1.003	237735495	66167098	43276	108190	1529		
443.7399	37.503	37.500	0	1.003	256833910	70315607	48116	120290	1461	0.93(0.76-1.02)	
OCDD											
457.7377	37.407	37.401	0	1.000	183627219	50335536	32571	81427	1545		
459.7348	37.407	37.401	0	1.000	204577707	57305248	38275	95687	1497	0.90(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNIC_00038 Amount Added: 1.00 Units: mL

Report Date: 22-May-2019 11:37:06 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_9.d
Lims ID: ICV
Client ID: ICV
Inject. Date: 21-May-2019 18:16:13 Dil. Factor: 1.0000
Sample Type: ICV, ICal Verification
Instrument ID: 3D5 Operator: AJS
Lims Batch ID: 296020 Lims Sample ID: 9
Sublist:

Non-2,3,7,8-sub-TCDD, RT: 18.066

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.045	D 13C-2,3,7,8-TCDD	100.000	214726573	48268387

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.045		100.000	214726573	48268387

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
18.520	572897	183752	909934	230675	0.6610	0.63	RQ
18.520	572897	183752	744022	238638	0.5870		Empc Correction
Signal Totals:							
	572897	183752	744022	238638			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1482831	414427				0.63	RQ
	1316919	422390					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.6610 = (1482831 * 100.000) / (214726573 * 1.045)
Empc Amount: 0.5870 = (1316919 * 100.000) / (214726573 * 1.045)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_9.d
Lims ID: ICV
Client ID: ICV
Inject. Date: 21-May-2019 18:16:13 Dil. Factor: 1.0000
Sample Type: ICV, ICal Verification
Instrument ID: 3D5 Operator: AJS
Lims Batch ID: 296020 Lims Sample ID: 9
Sublist:

Non-2,3,7,8-sub-PeCDF, RT: 23.899

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	0.963	D 13C-1,2,3,7,8-PeCDF	100.000	253215229	43571457
2,3,4,7,8-PeCDF	0.950	D 13C-2,3,4,7,8-PeCDF	100.000	258131492	41780053

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.956		100.000	255673360	42675755

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
23.666	7234407	1237610	4631814	744077	4.85	1.56	
Signal Totals:							
	7234407	1237610	4631814	744077			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	11866221	1981687				1.56	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 4.853 = (11866221 * 100.000) / (255673360 * 0.956)

Report Date: 22-May-2019 11:37:06 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_9.d		
Injection Date:	21-May-2019 18:16:13	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
Worklist#:	296020	Sample Line#:	9
Column Type:		Column Dia:	

TCDF

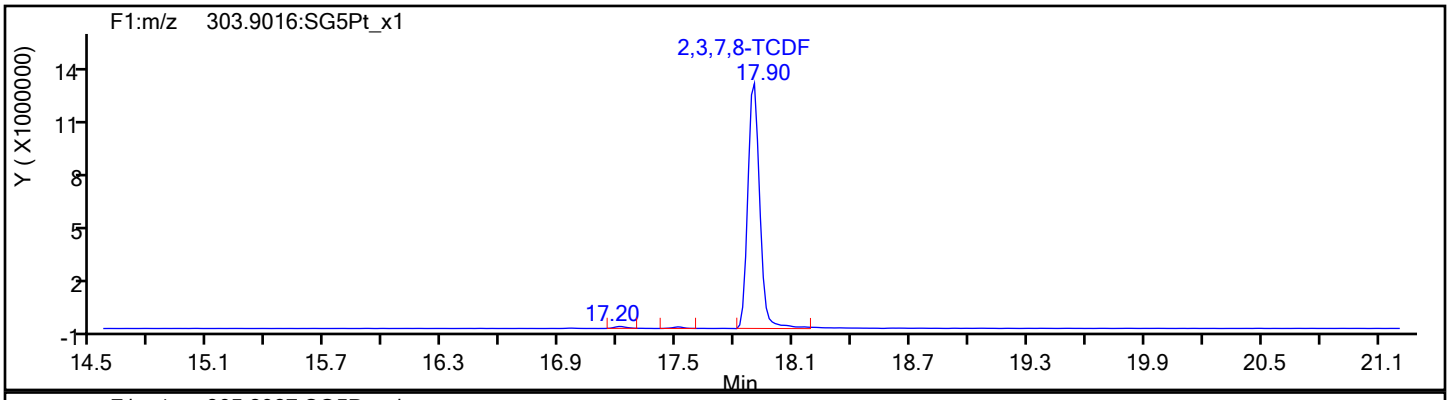

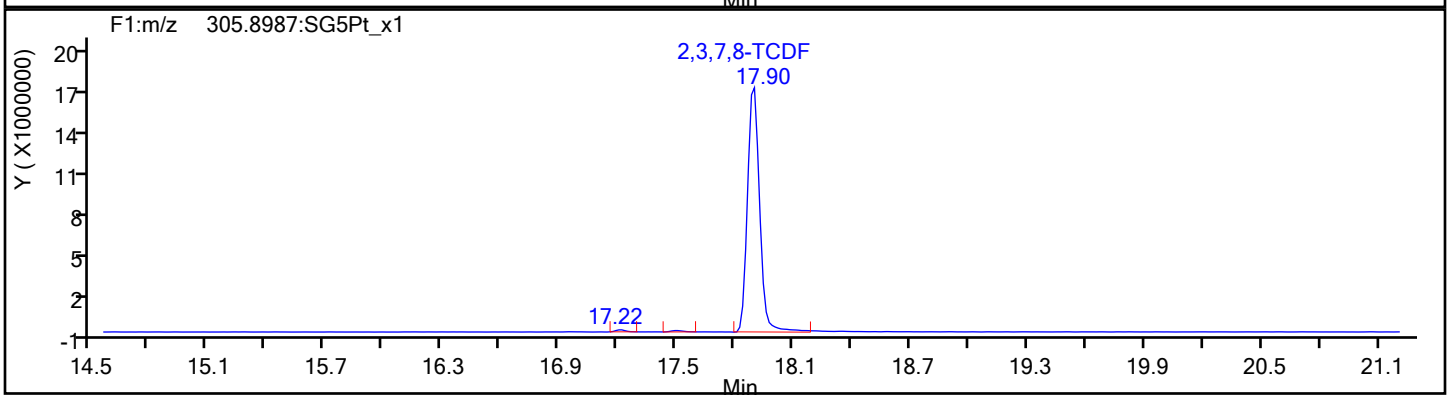

TCDF Standards

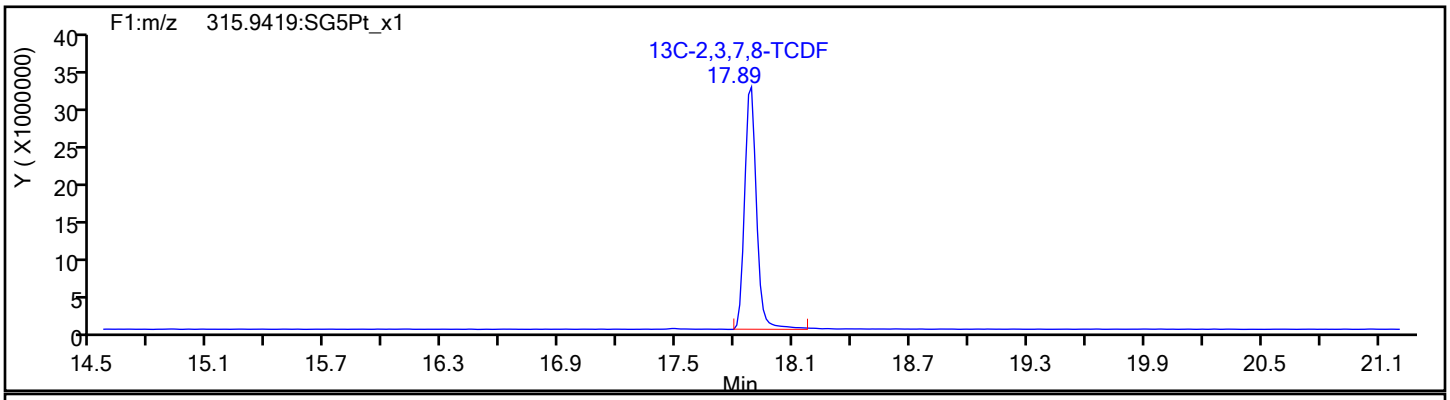

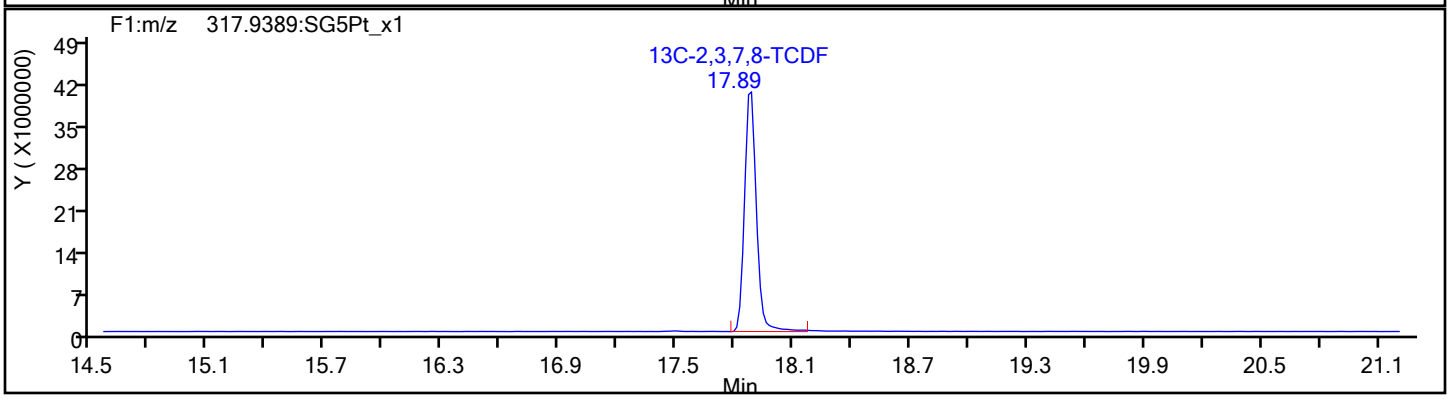

Report Date: 22-May-2019 11:37:06 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_9.d		
Injection Date:	21-May-2019 18:16:13	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
Worklist#:	296020	Sample Line#:	9
Column Type:		Column Dia:	

TCDF

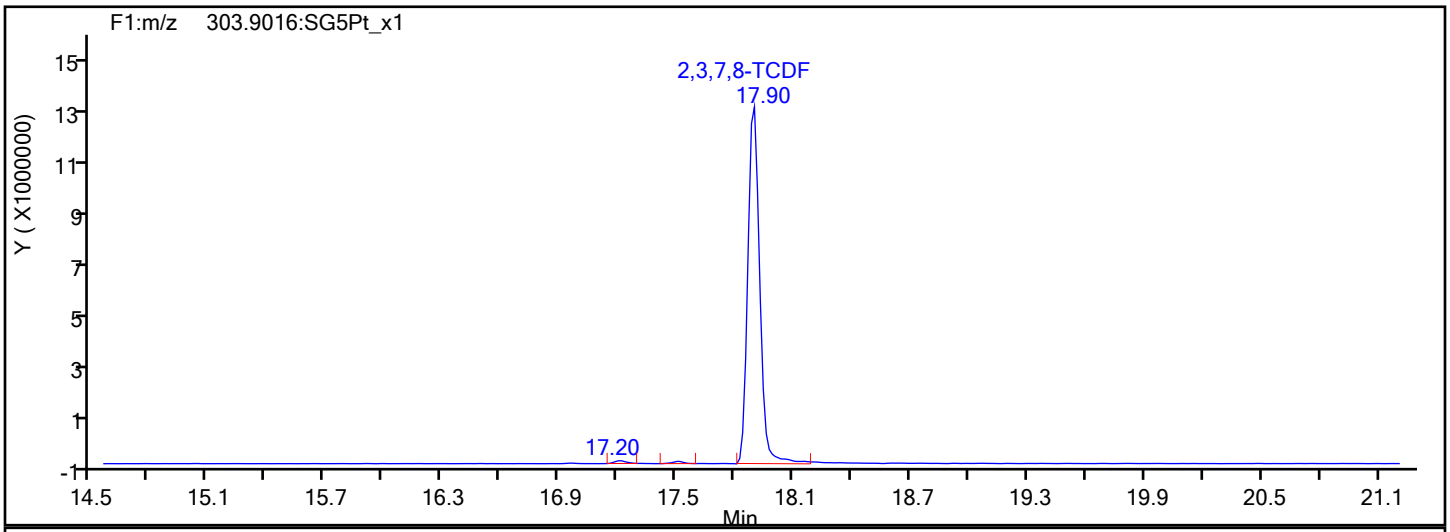

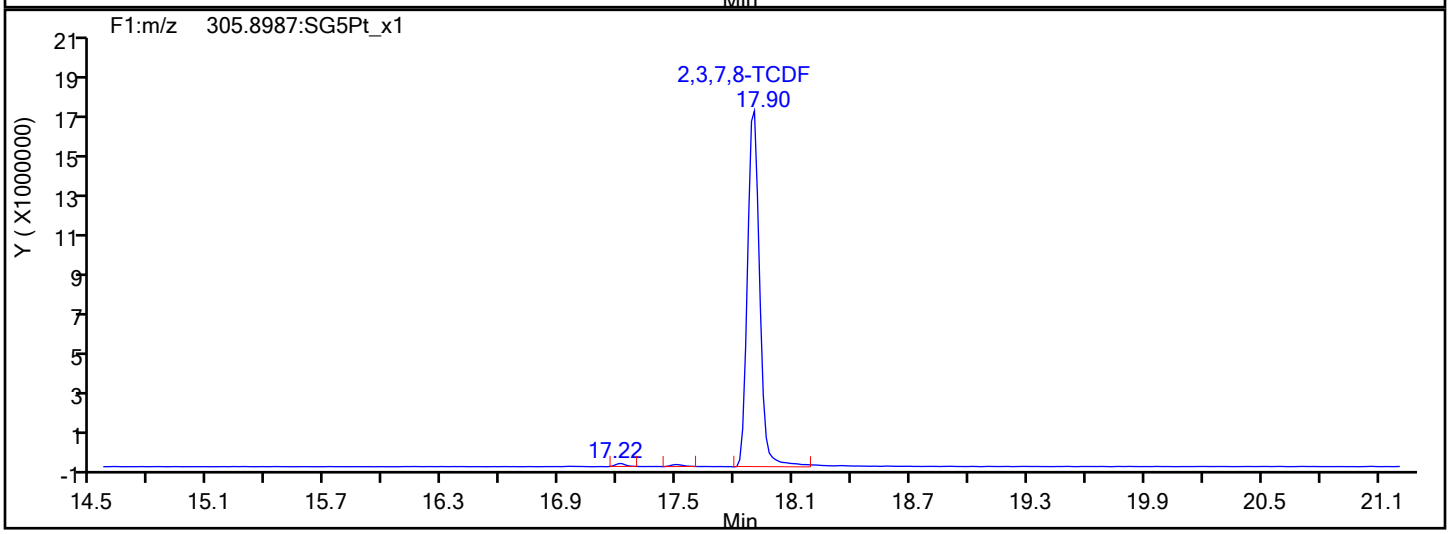

TCDF Interference Mass

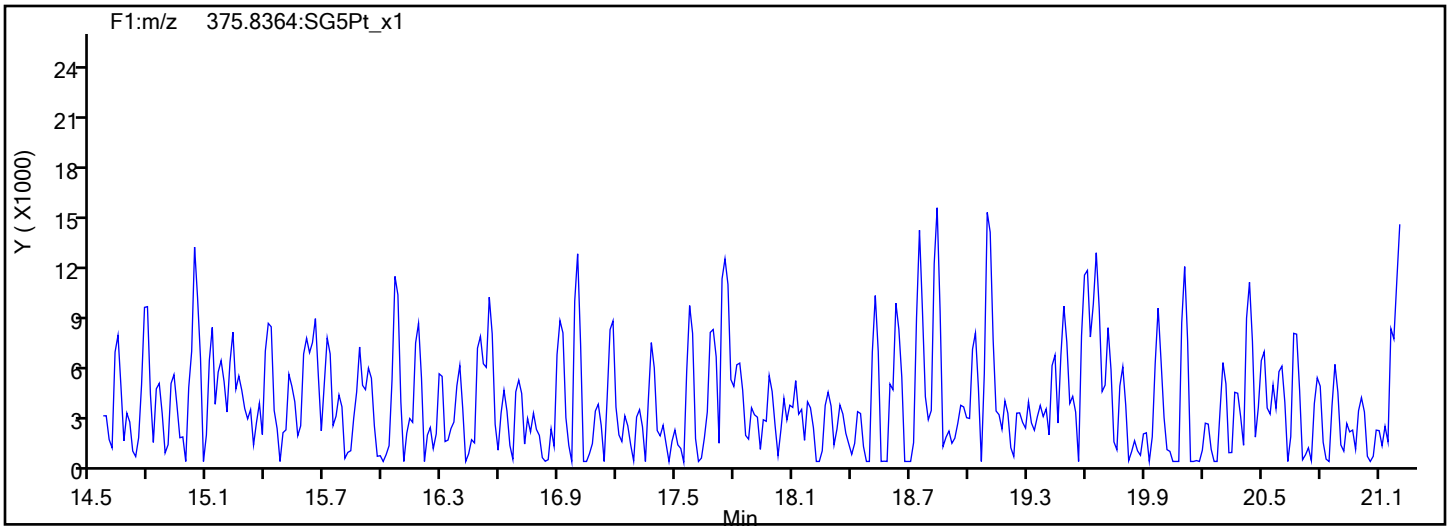

Report Date: 22-May-2019 11:37:06 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_9.d		
Injection Date:	21-May-2019 18:16:13	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
Worklist#:	296020	Sample Line#:	9
Column Type:		Column Dia:	

TCDD

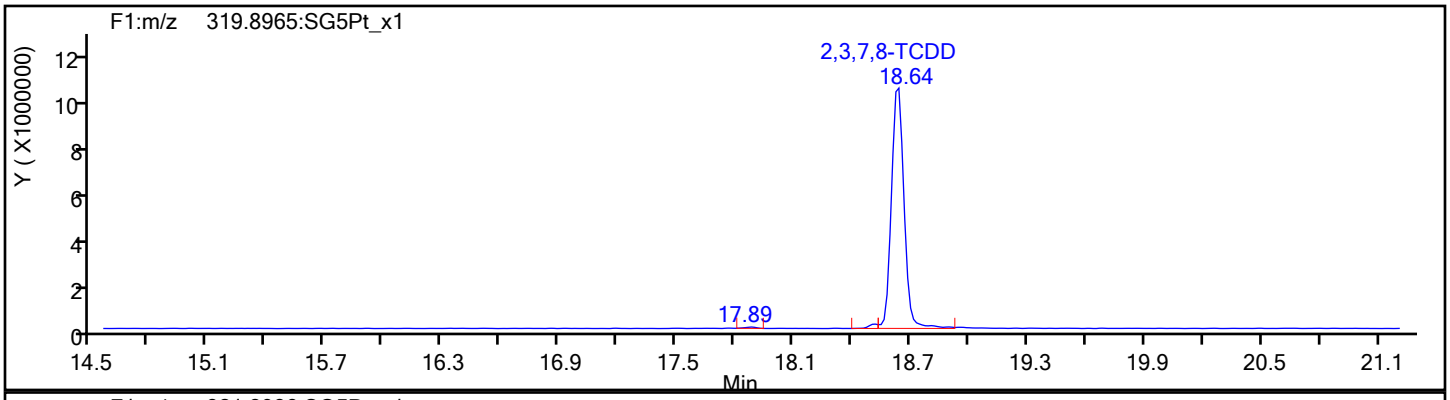

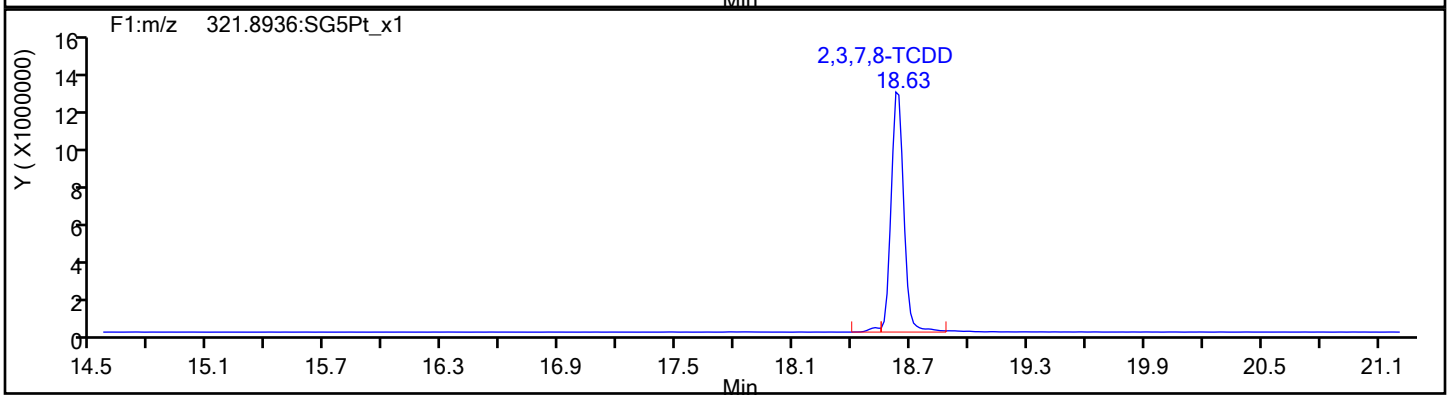

TCDD Standards

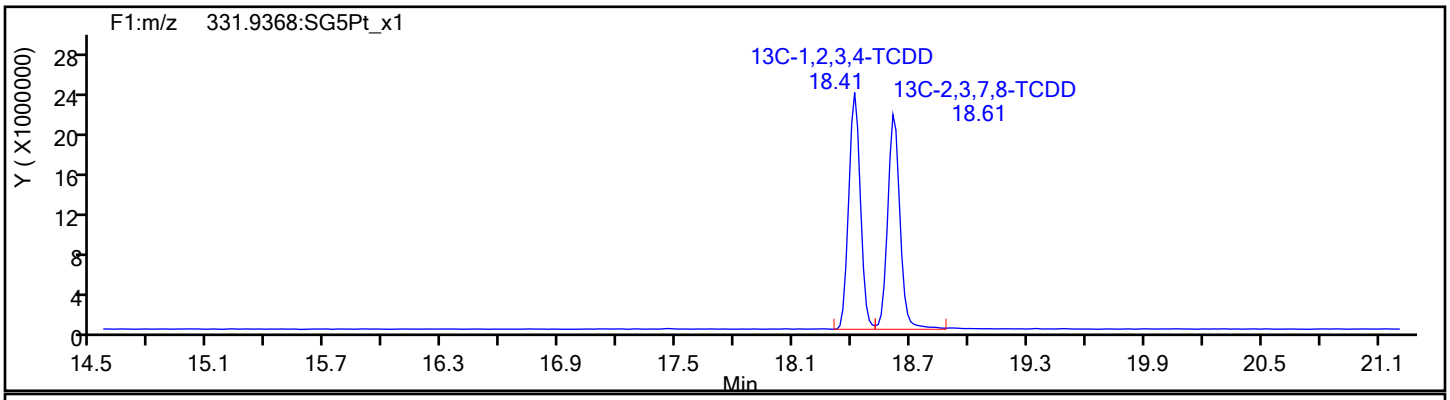

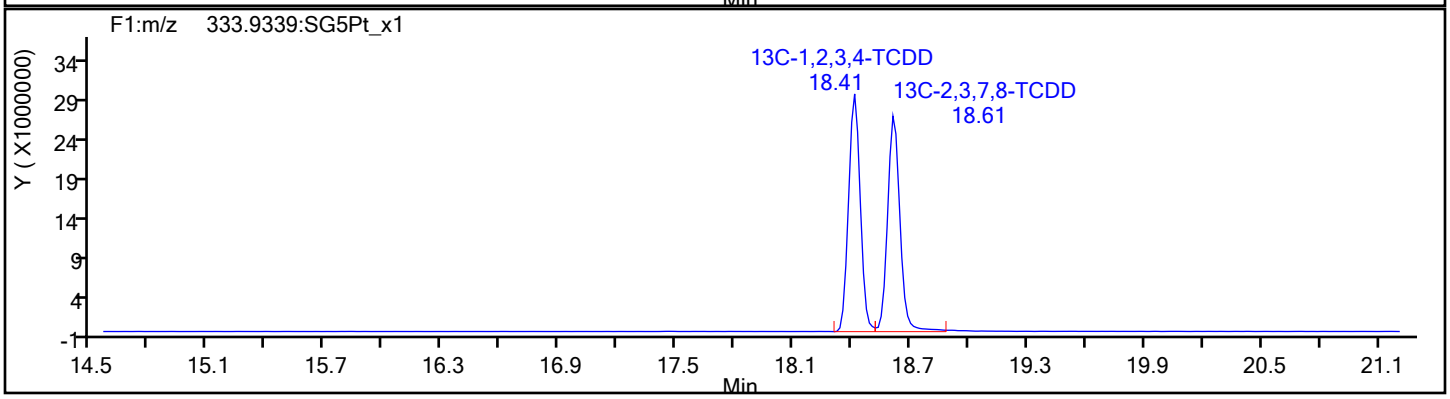

Report Date: 22-May-2019 11:37:06 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_9.d		
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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
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Column Type:		Column Dia:	

37Cl4-TCDD

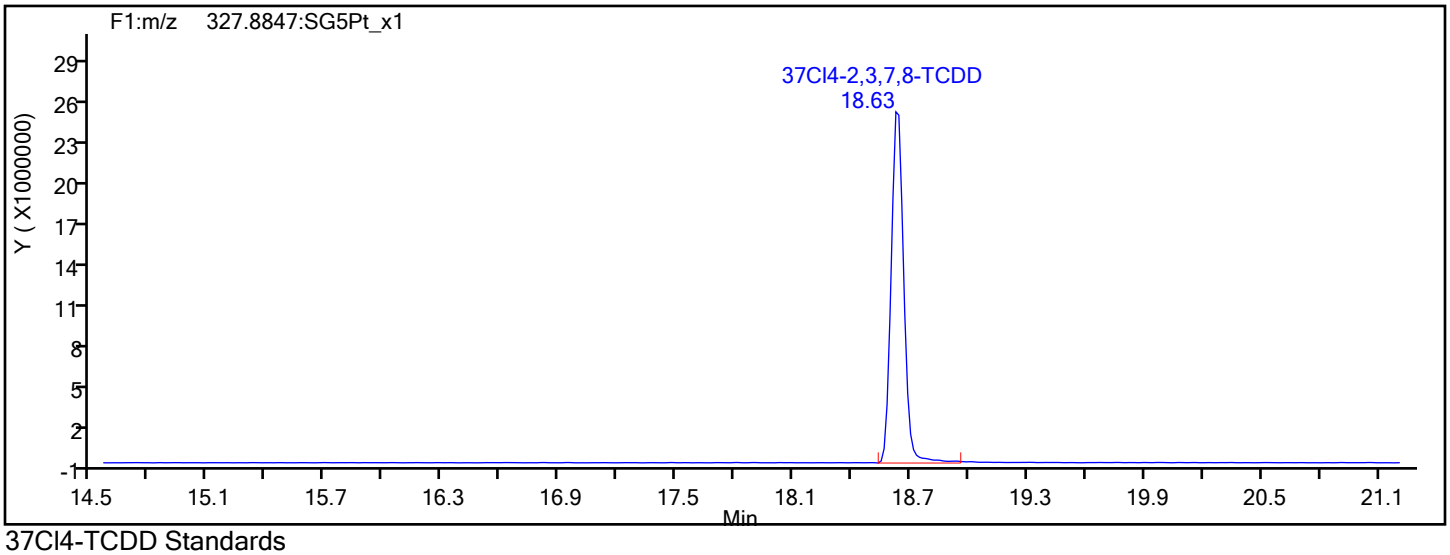

37Cl4-TCDD Standards

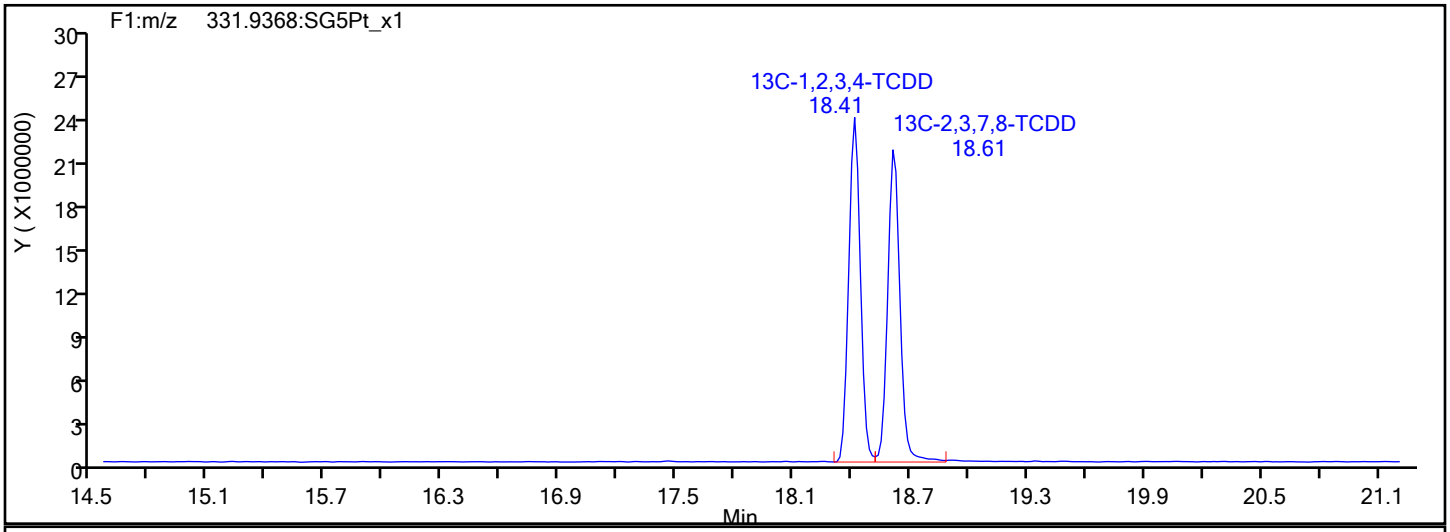

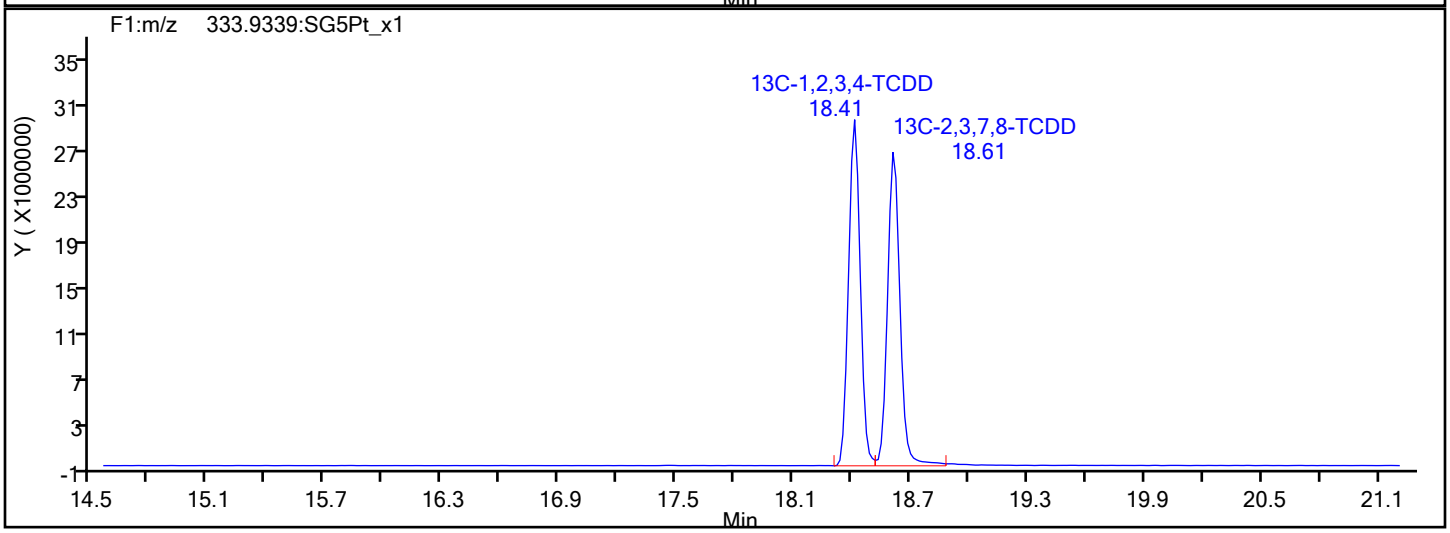

Report Date: 22-May-2019 11:37:06 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
Worklist#:	296020	Sample Line#:	9
Column Type:		Column Dia:	

F1 PeCDFs

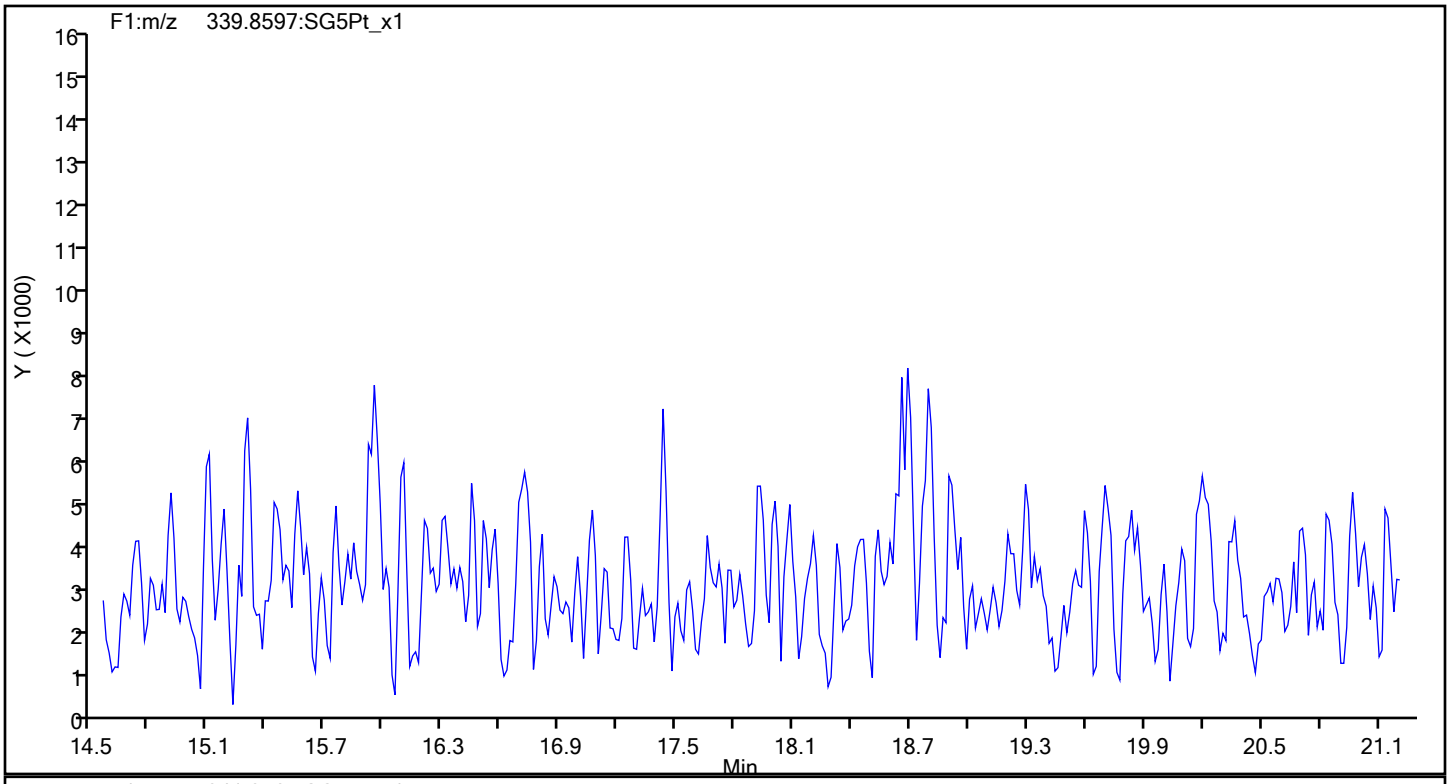

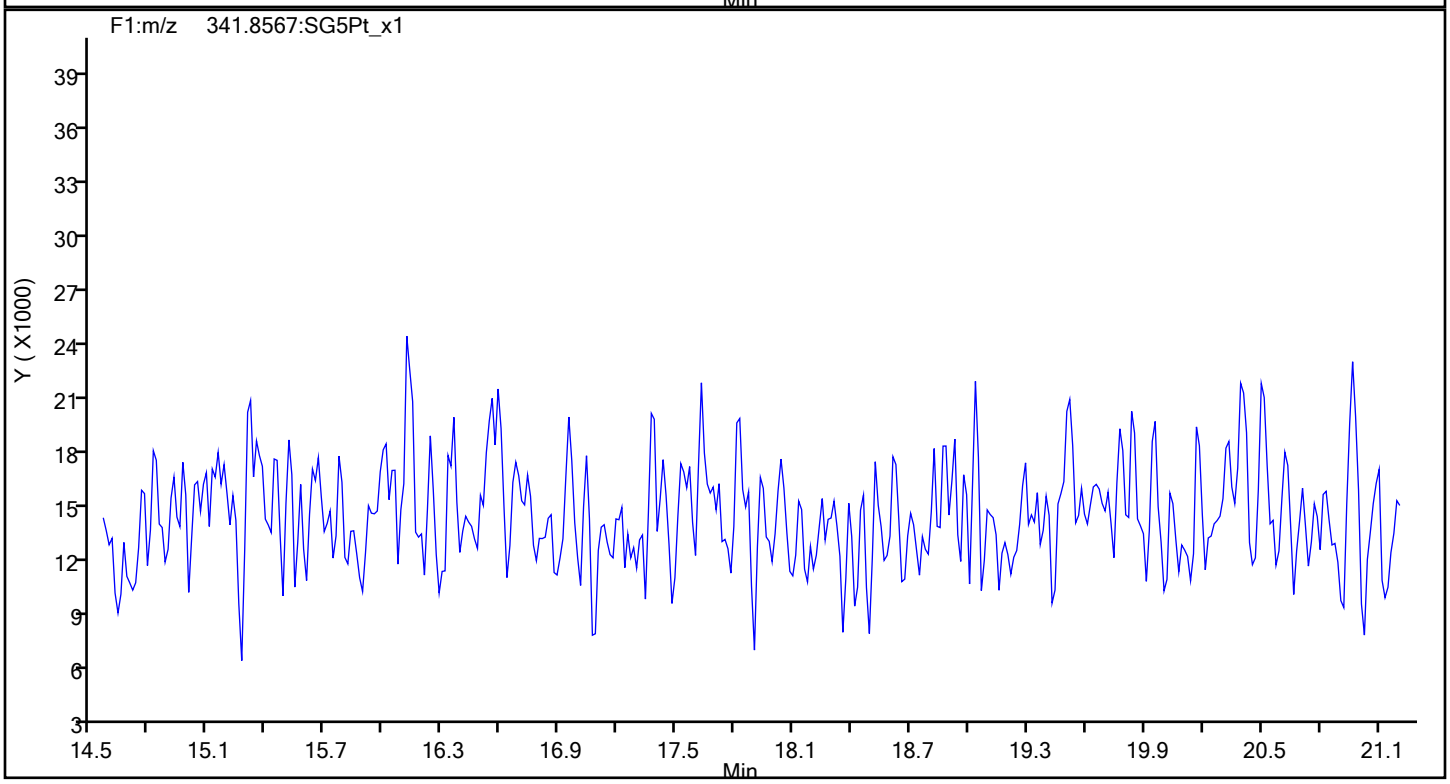

Report Date: 22-May-2019 11:37:06 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_9.d		
Injection Date:	21-May-2019 18:16:13	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
Worklist#:	296020	Sample Line#:	9
Column Type:		Column Dia:	

F1 PeCDFs

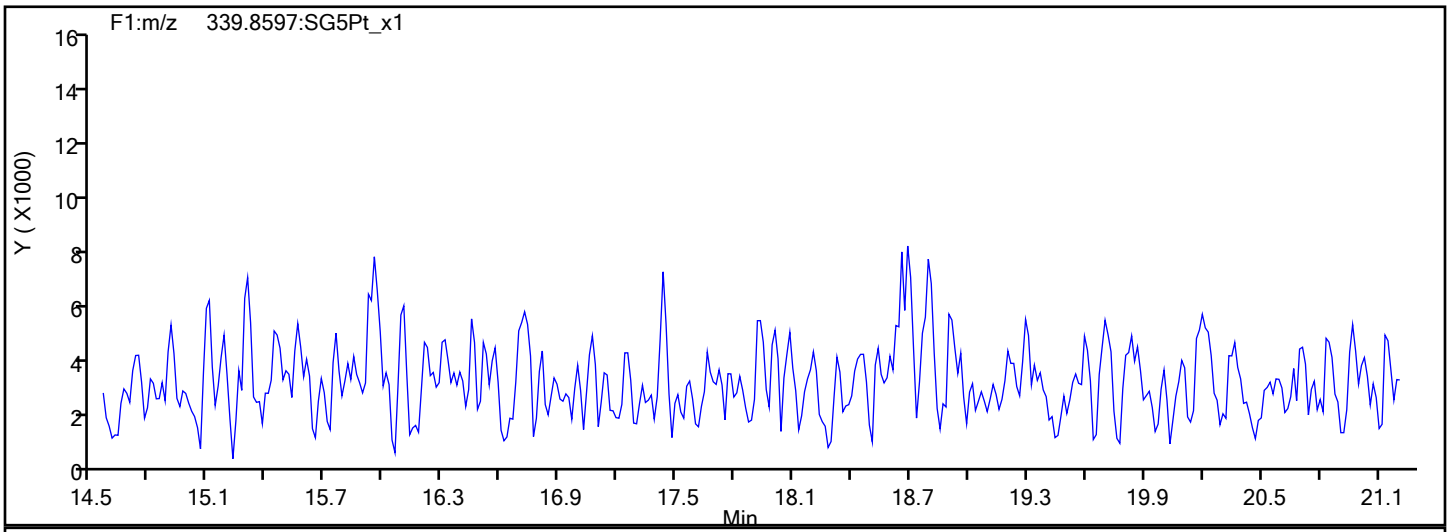

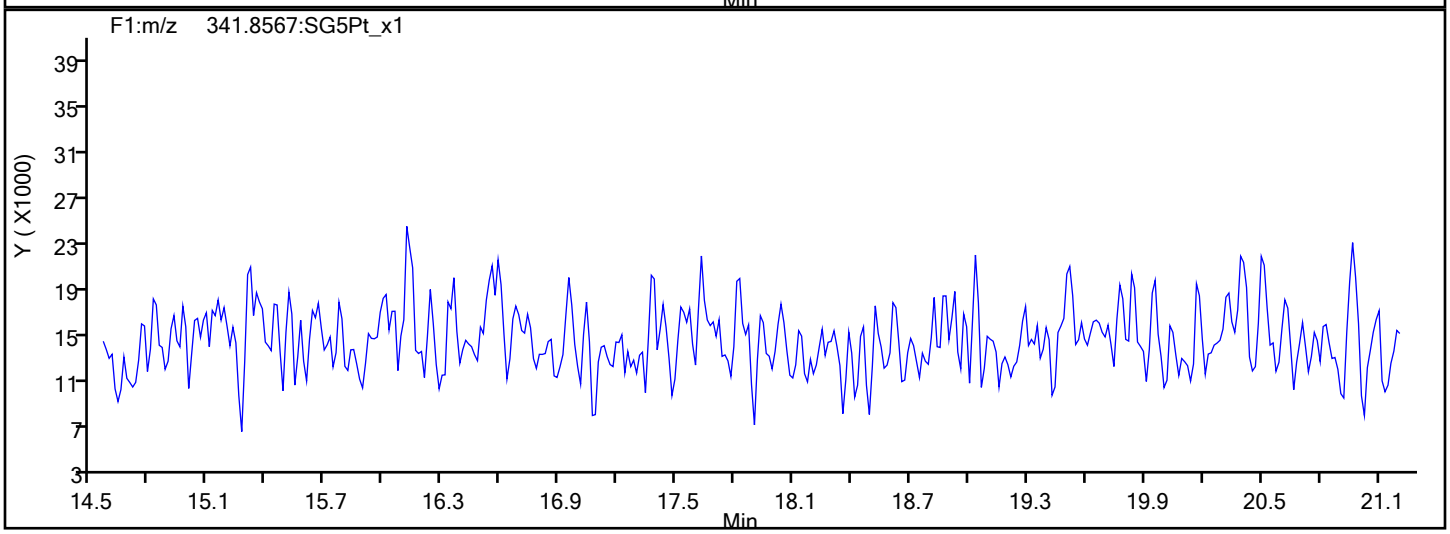

F1 PeCDFs Interference Mass

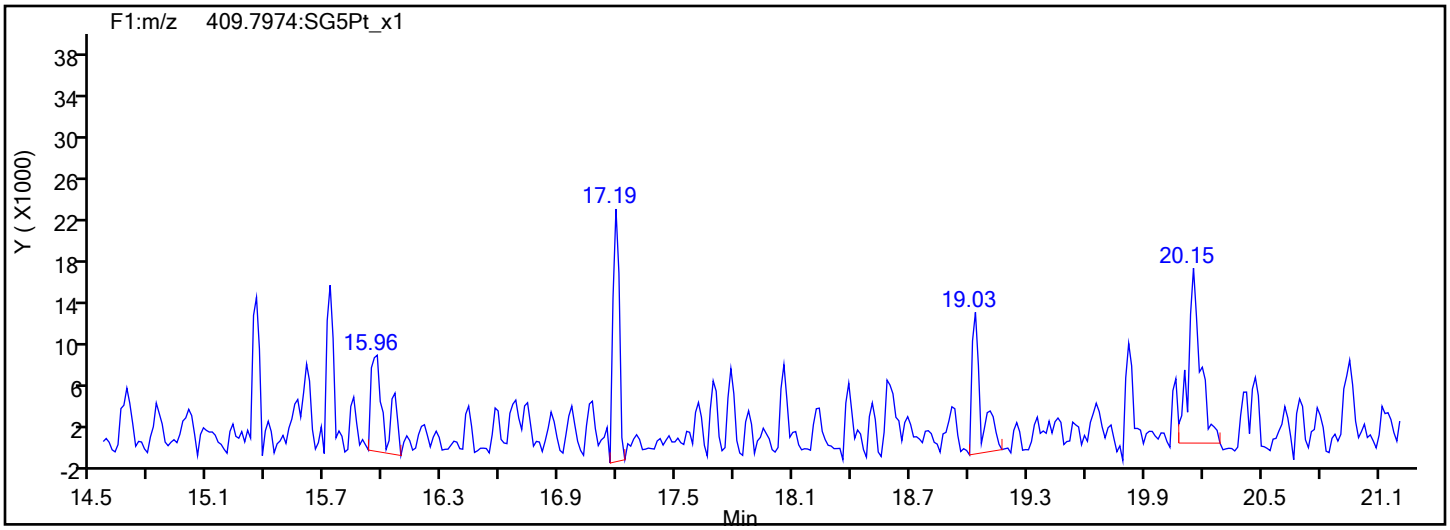

Report Date: 22-May-2019 11:37:07 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_9.d		
Injection Date:	21-May-2019 18:16:13	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
Worklist#:	296020	Sample Line#:	9
Column Type:		Column Dia:	

PeCDF

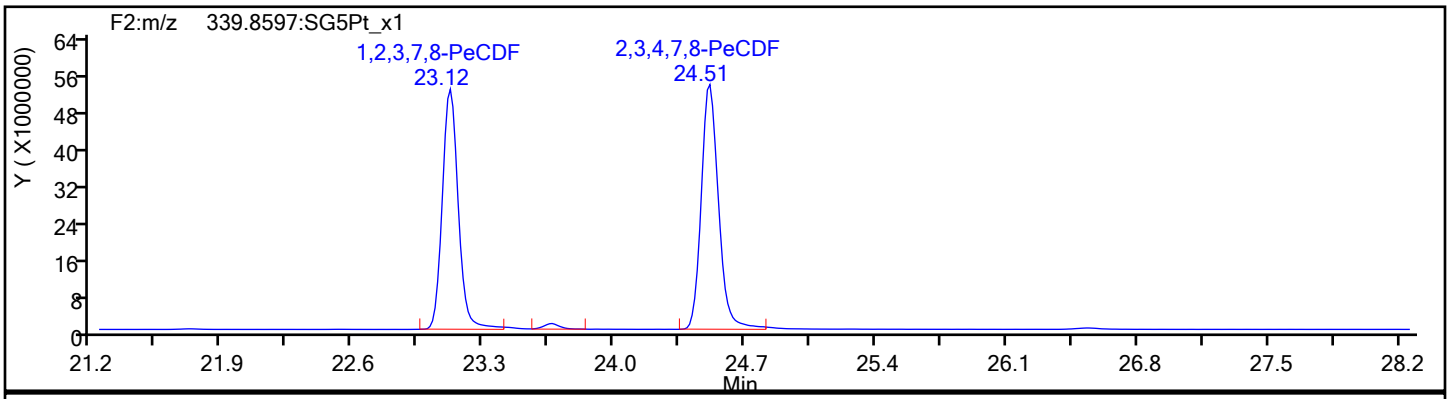

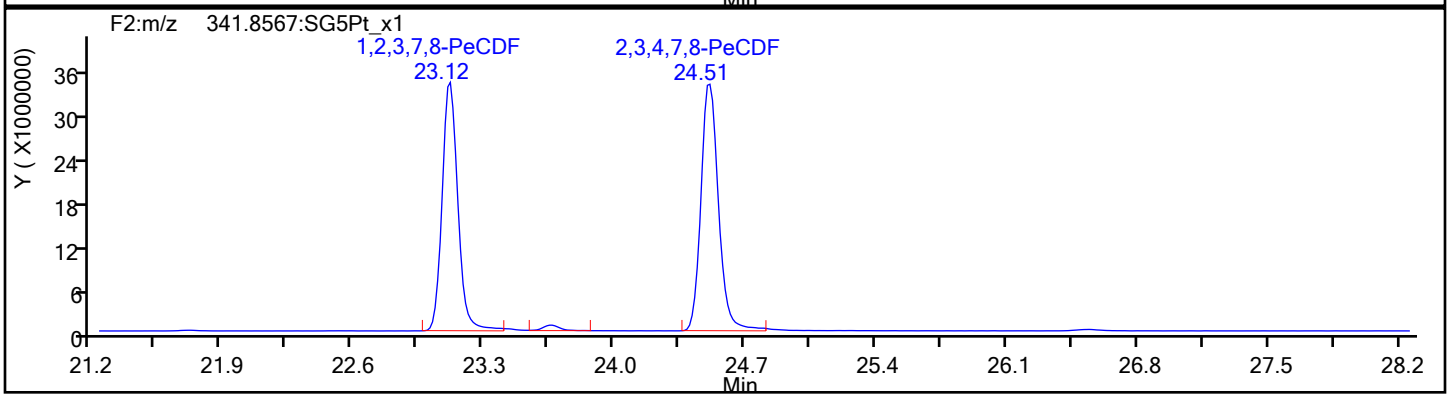

PeCDF Standards

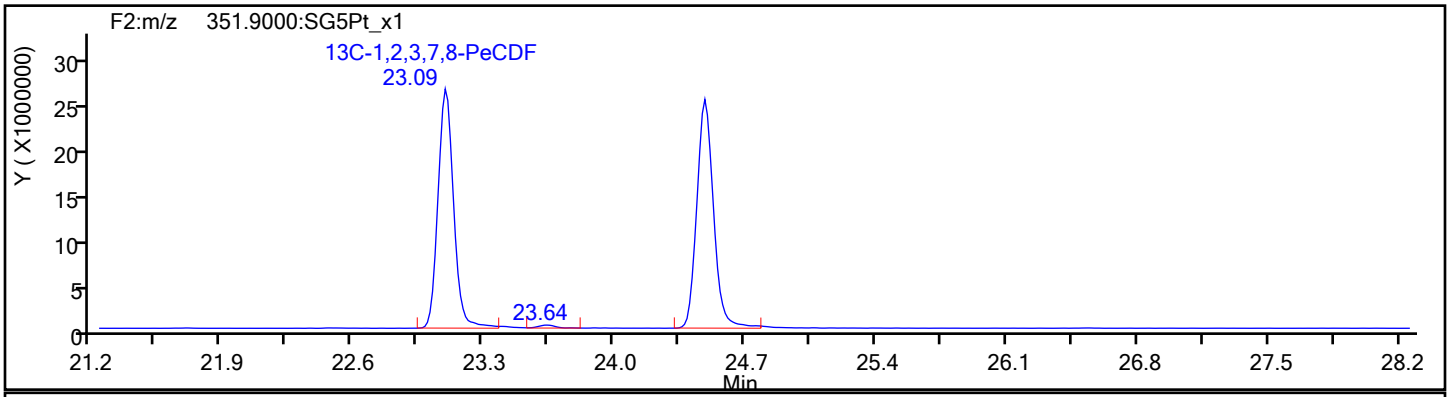

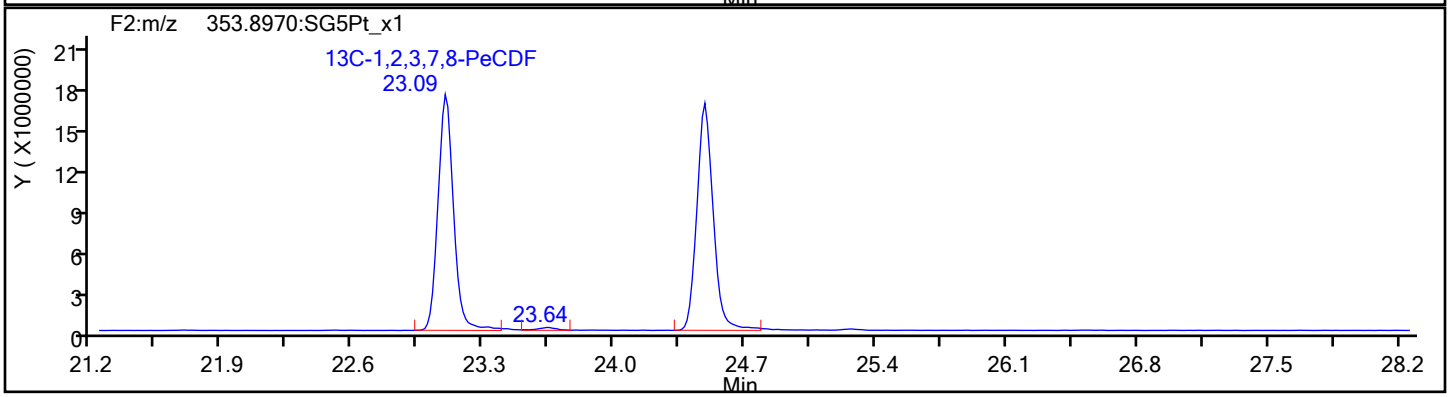

Report Date: 22-May-2019 11:37:07 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_9.d		
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Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
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PeCDF

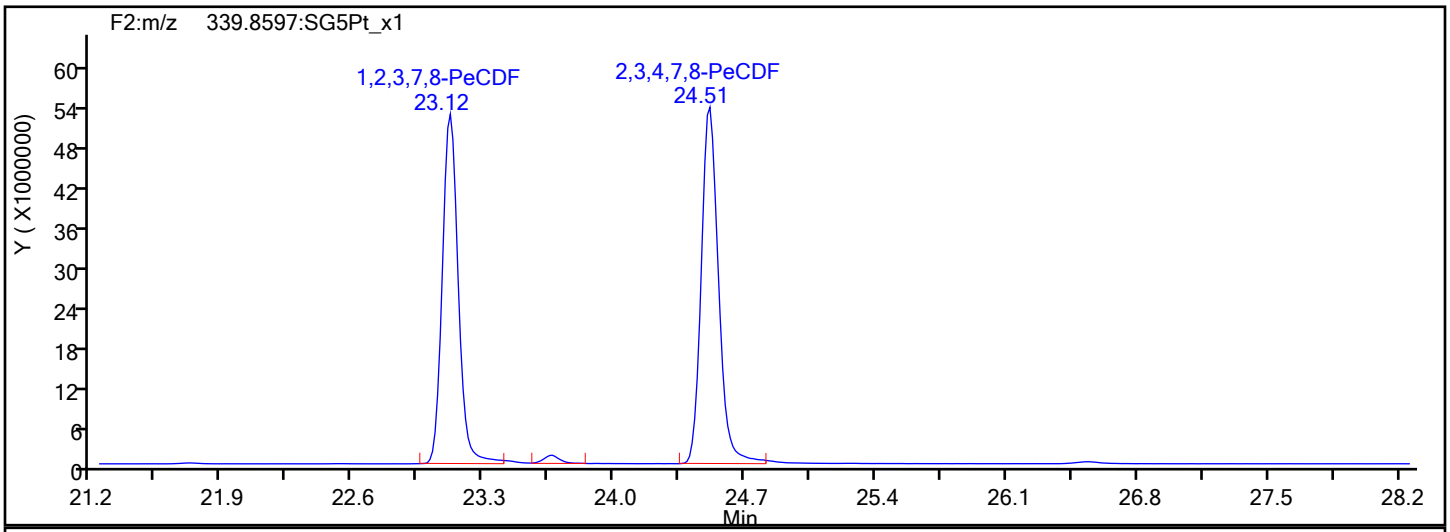

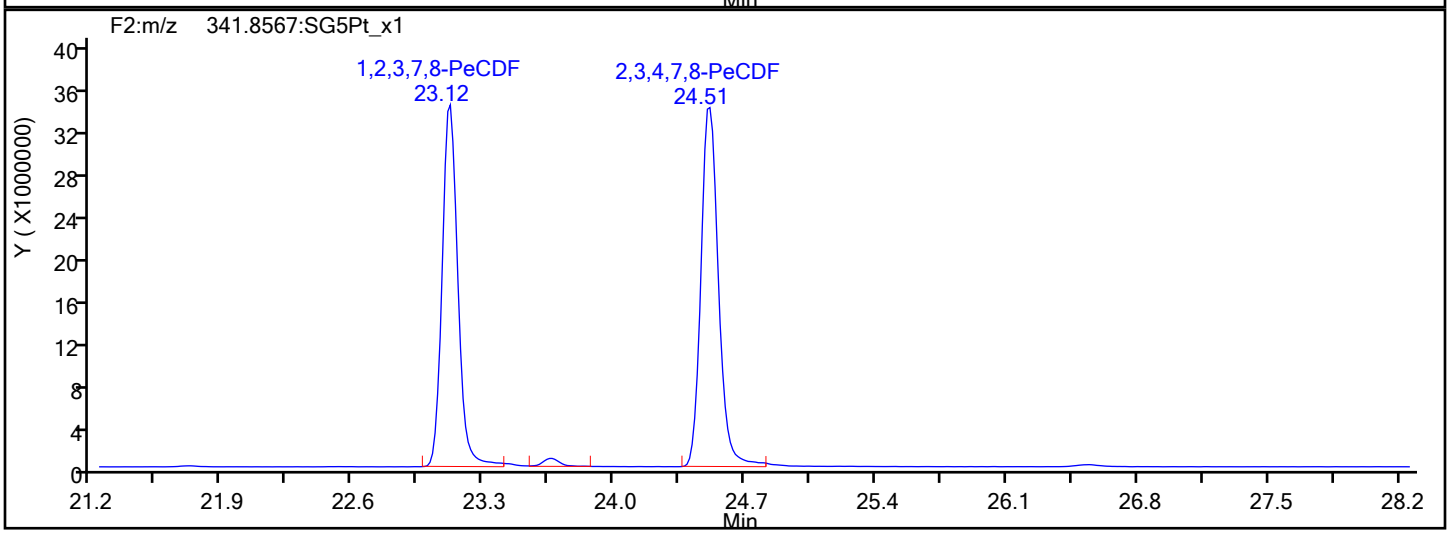

PeCDF Interference Mass

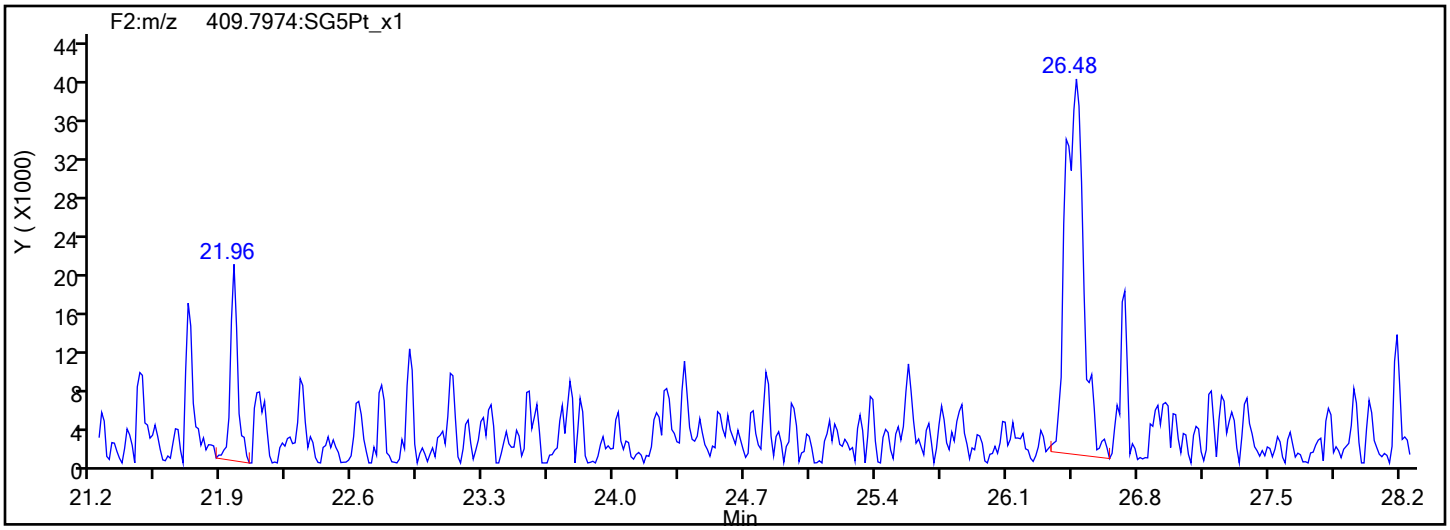

Report Date: 22-May-2019 11:37:07 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_9.d		
Injection Date:	21-May-2019 18:16:13	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
Worklist#:	296020	Sample Line#:	9
Column Type:		Column Dia:	

PeCDD

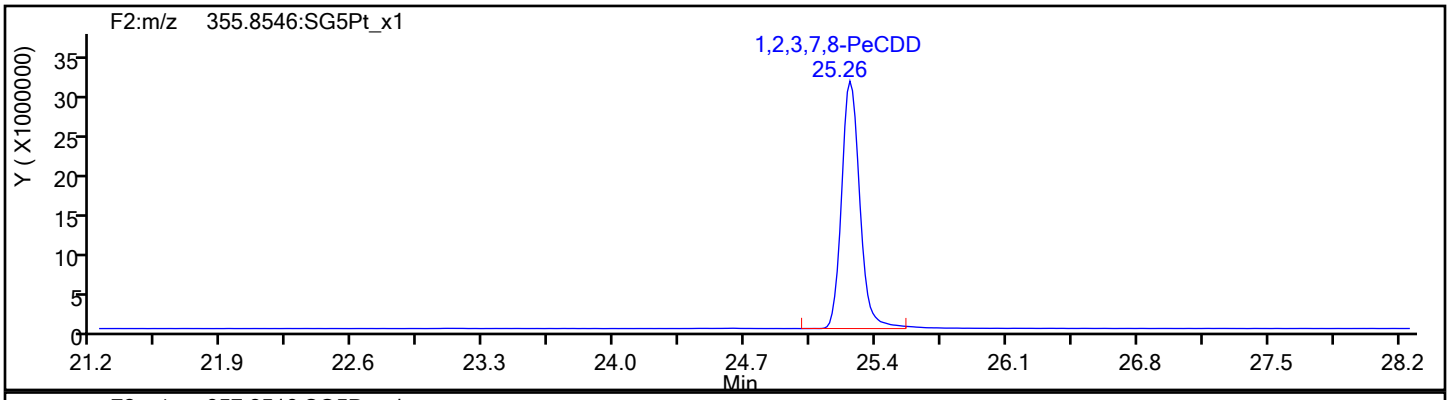

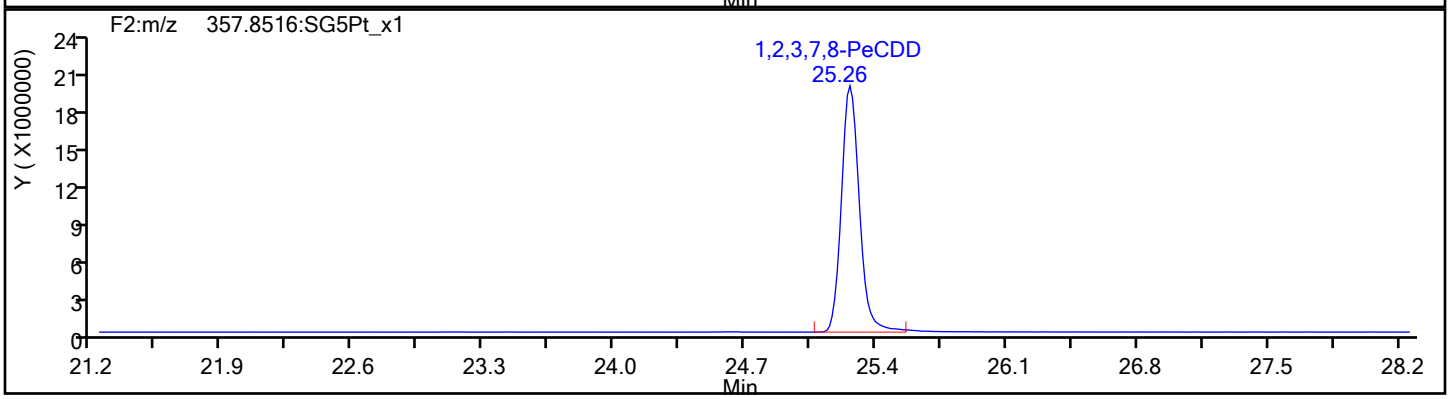

PeCDD Standards

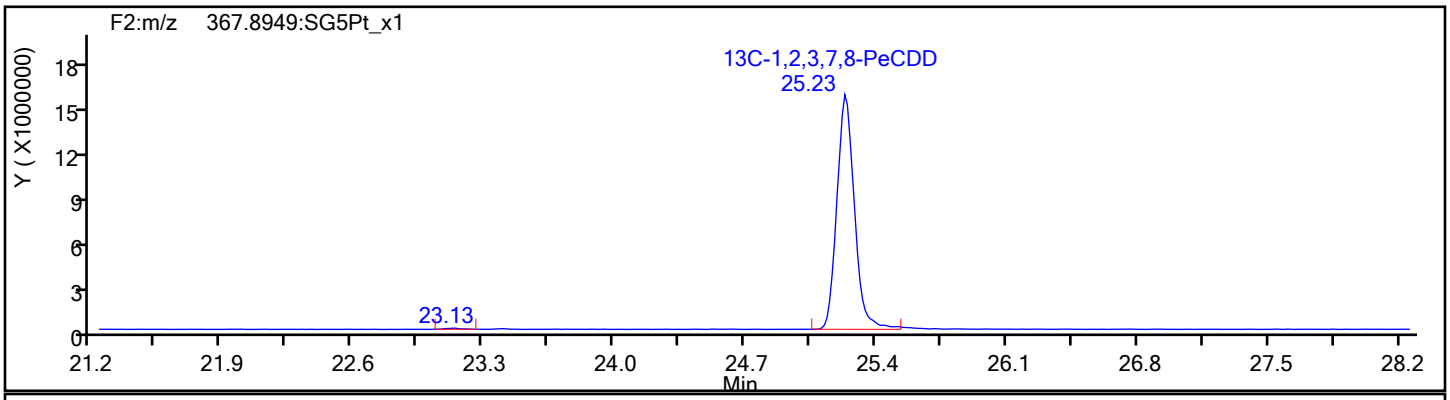

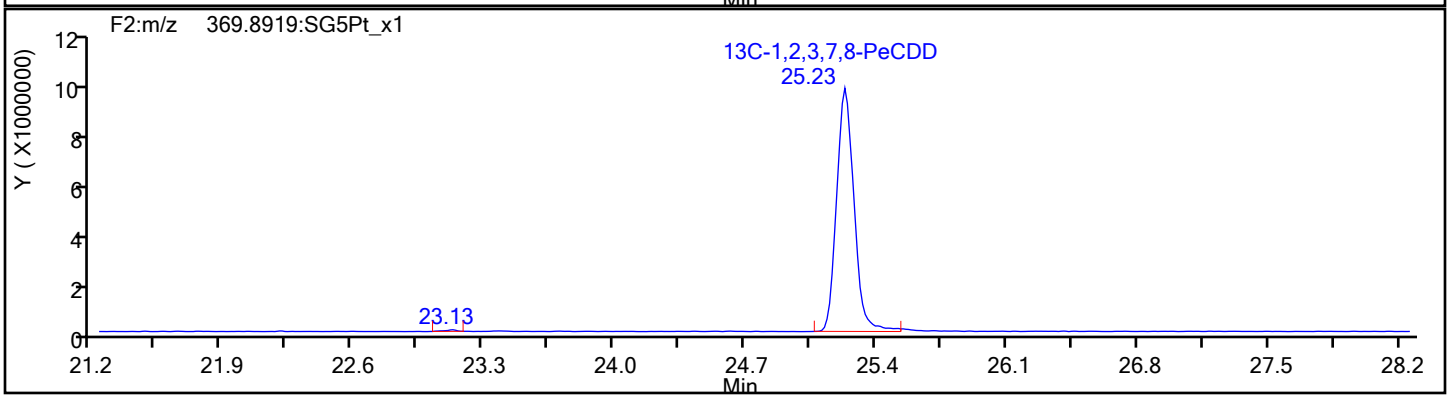

Report Date: 22-May-2019 11:37:07 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_9.d		
Injection Date:	21-May-2019 18:16:13	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
Worklist#:	296020	Sample Line#:	9
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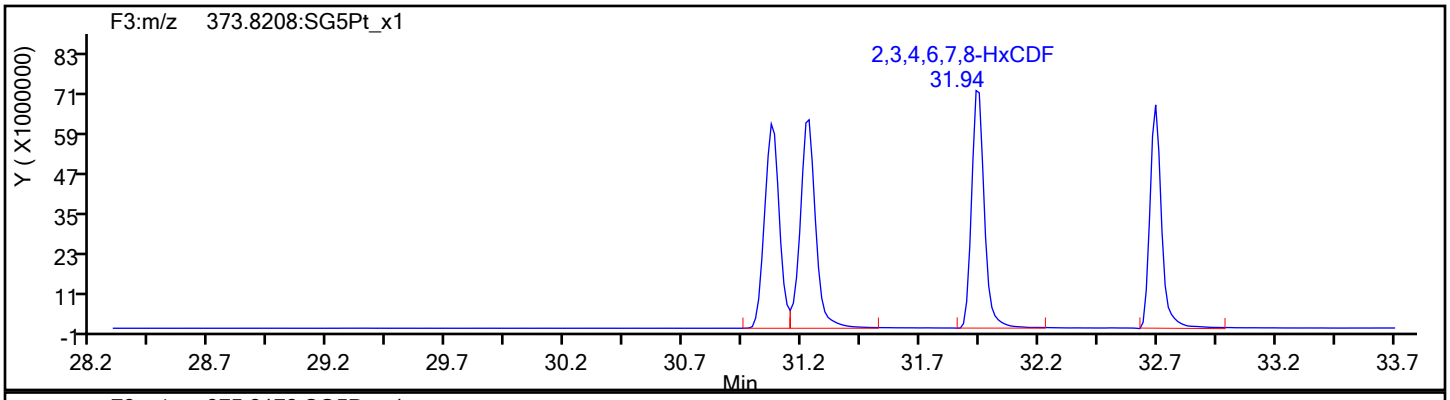

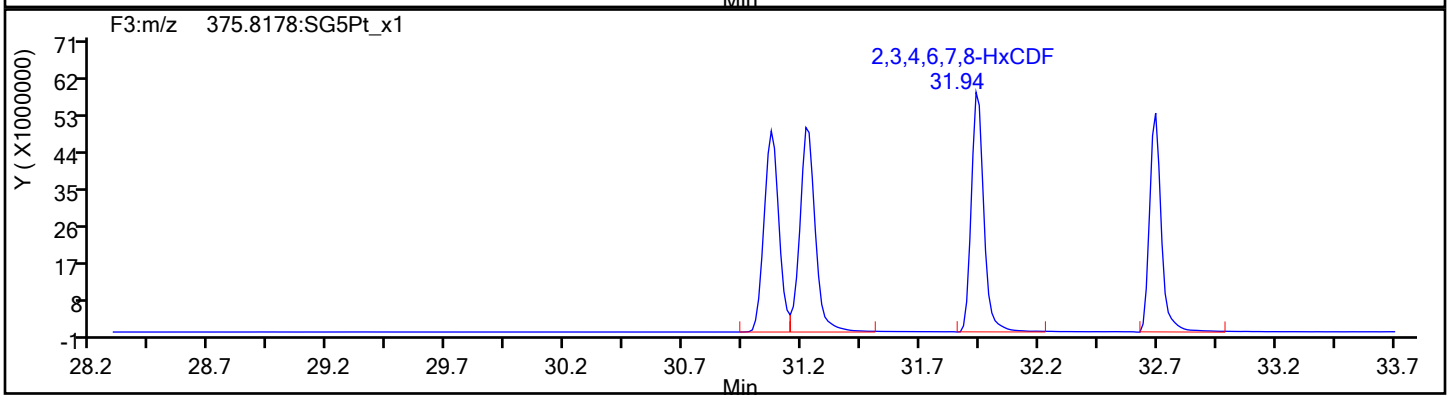

HxCDF Standards

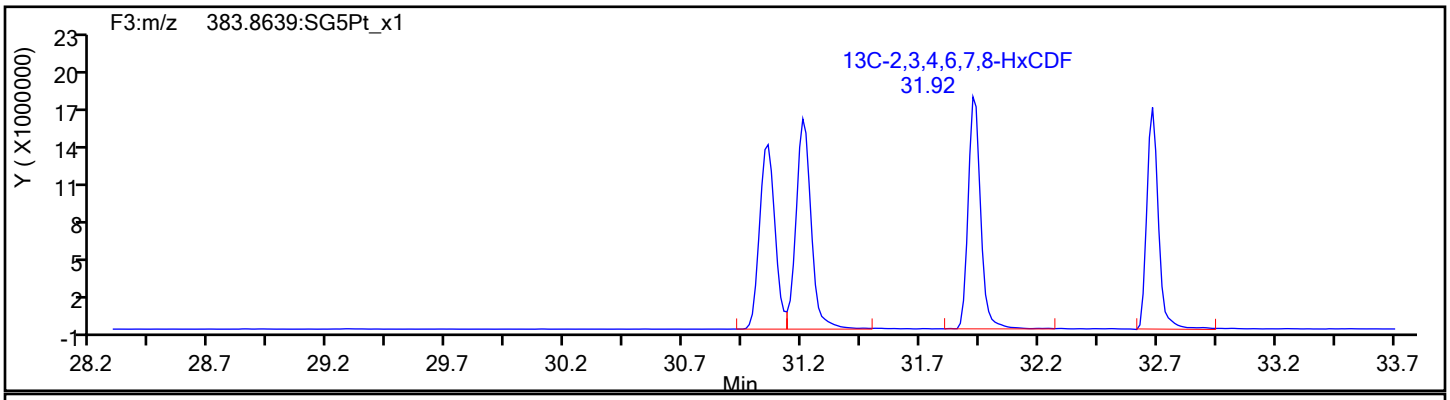

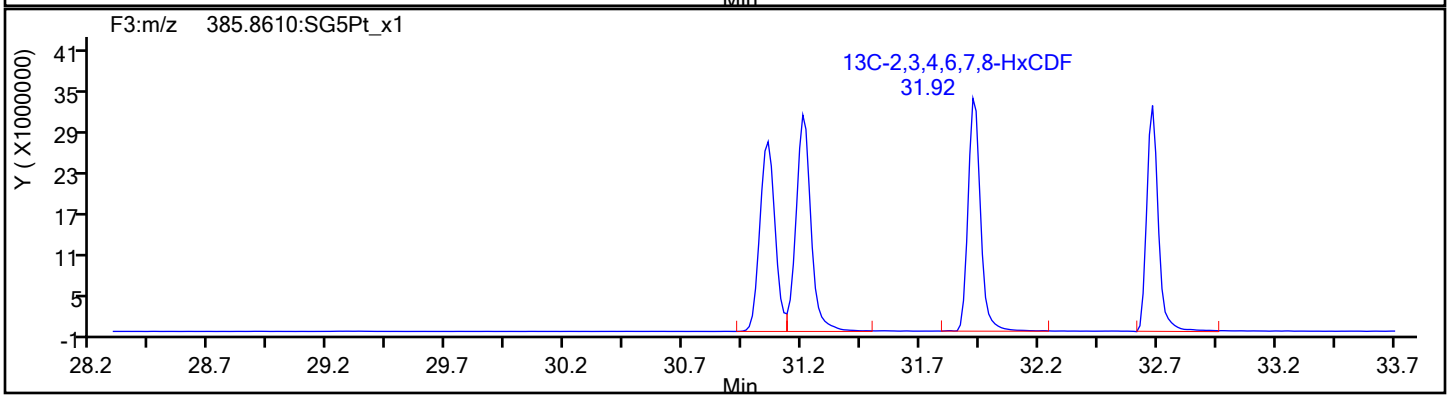

Report Date: 22-May-2019 11:37:07 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
Worklist#:	296020	Sample Line#:	9
Column Type:		Column Dia:	

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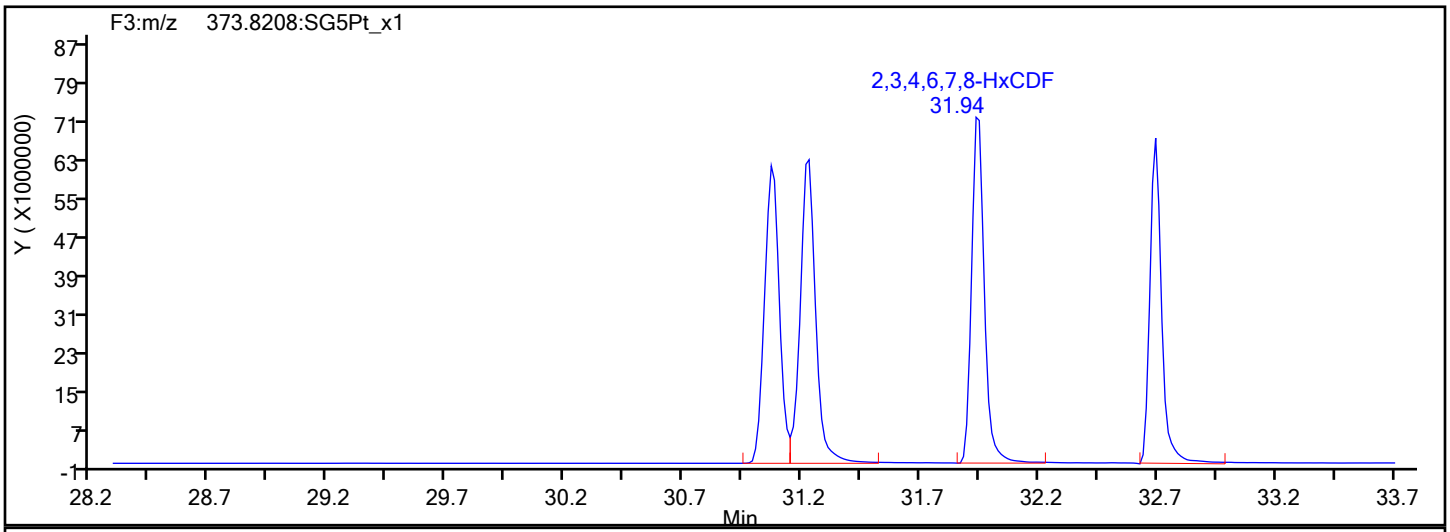

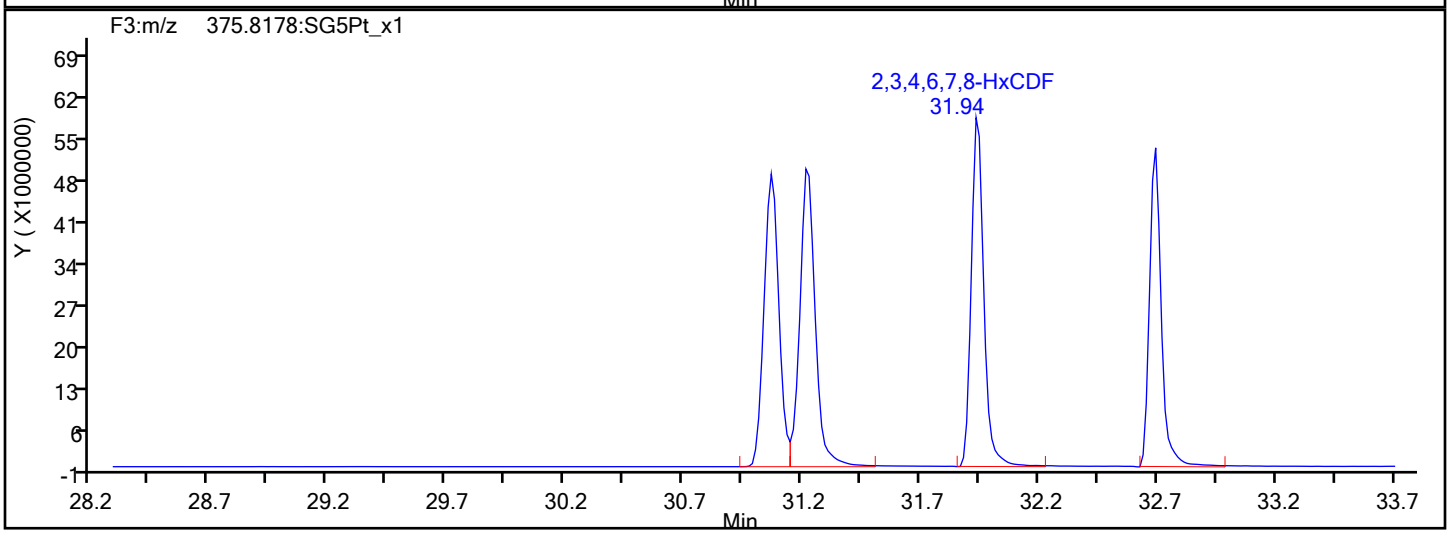

HxCDF Interference Mass

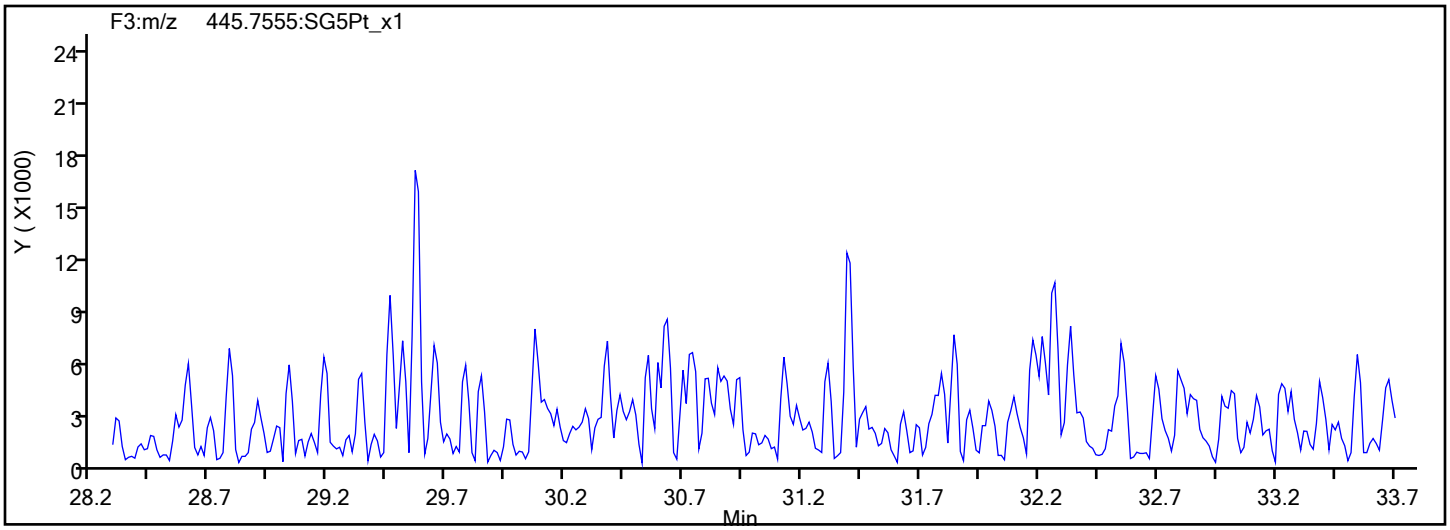

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Eurofins TestAmerica, Sacramento

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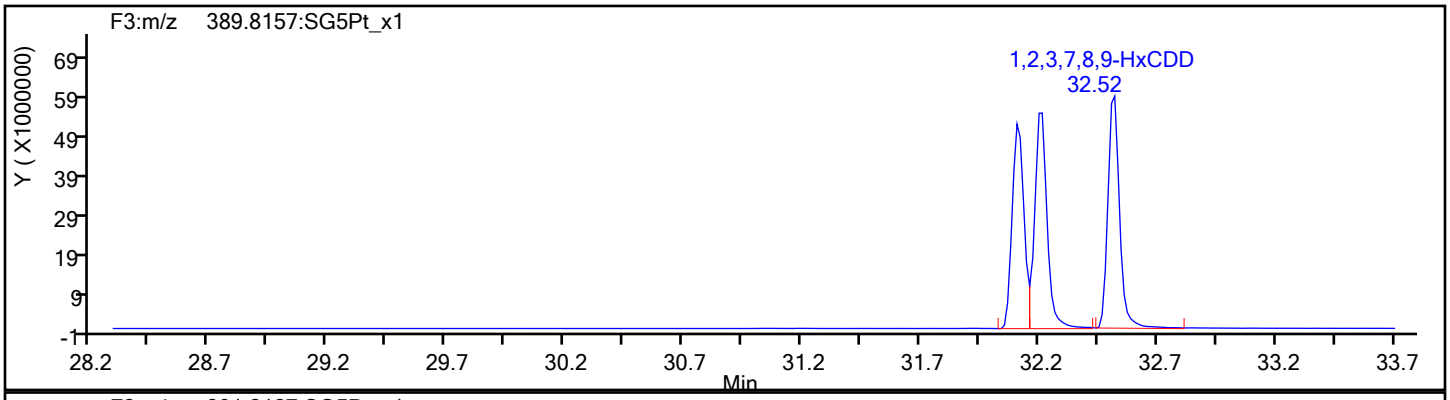

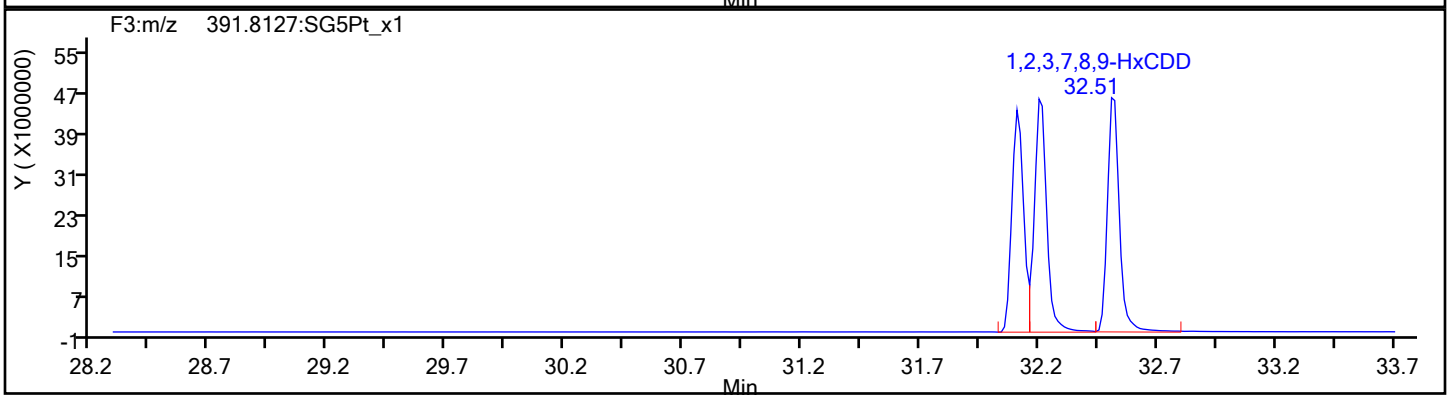

HxCDD Standards

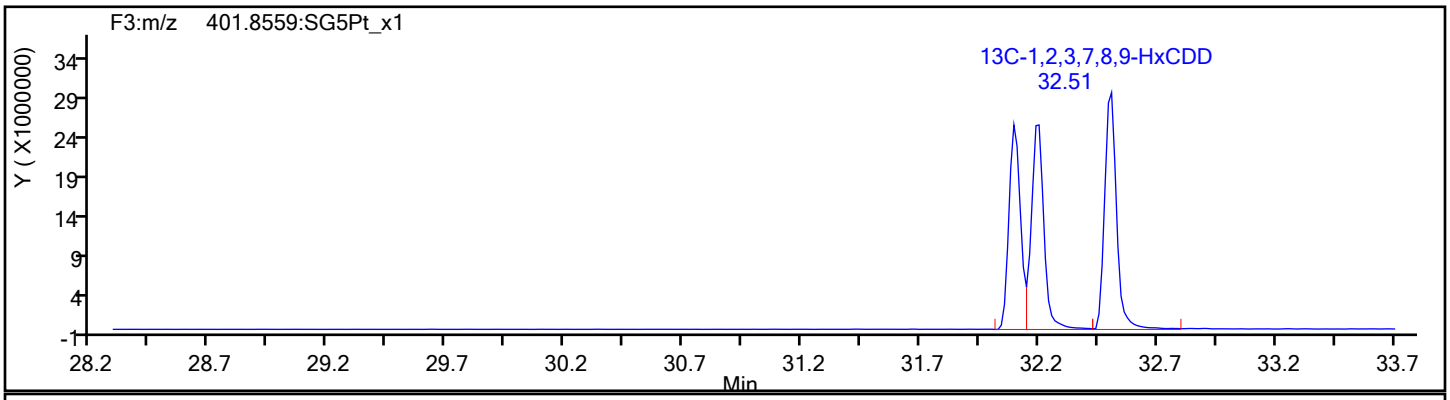

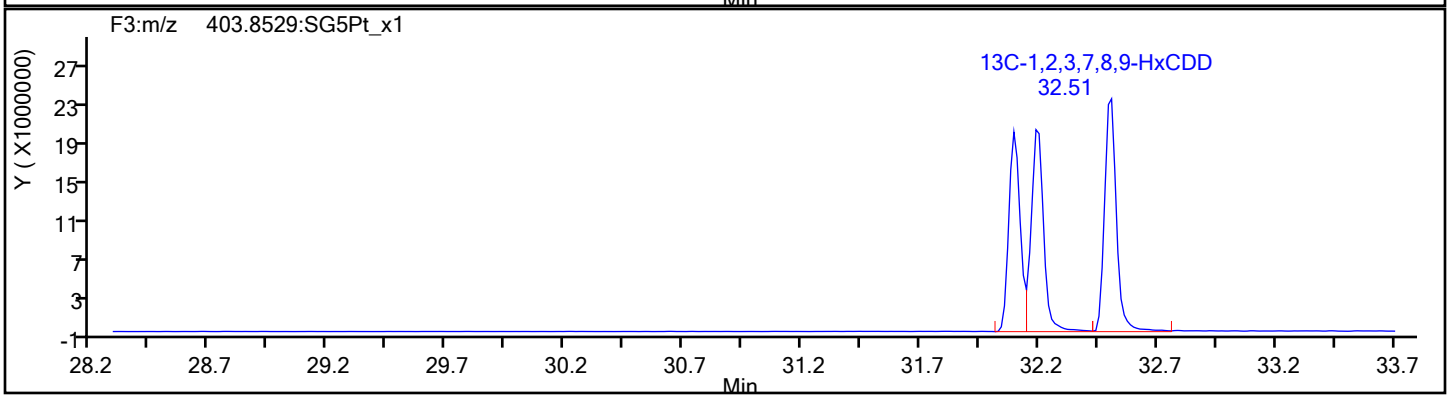

Report Date: 22-May-2019 11:37:07 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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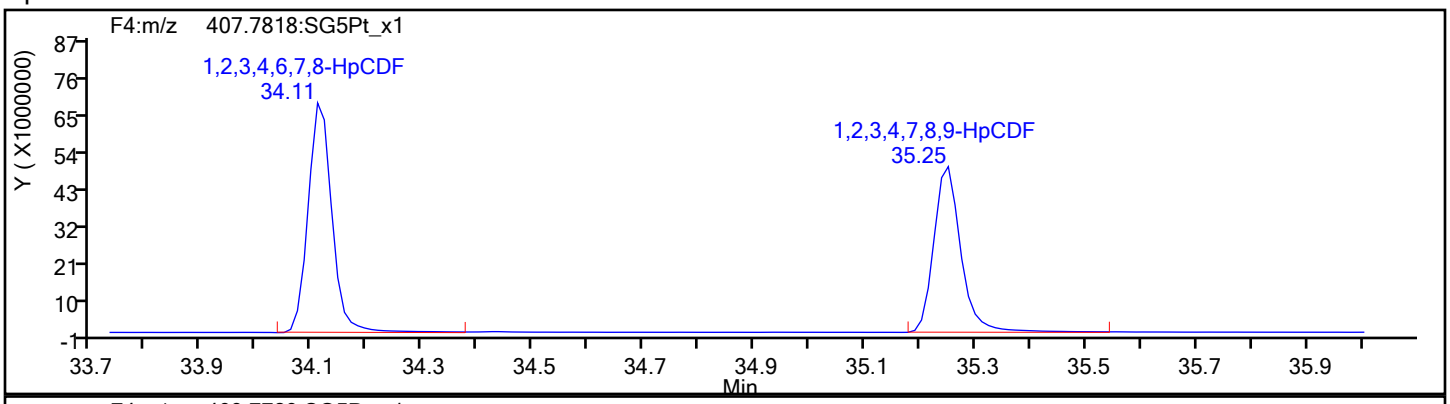

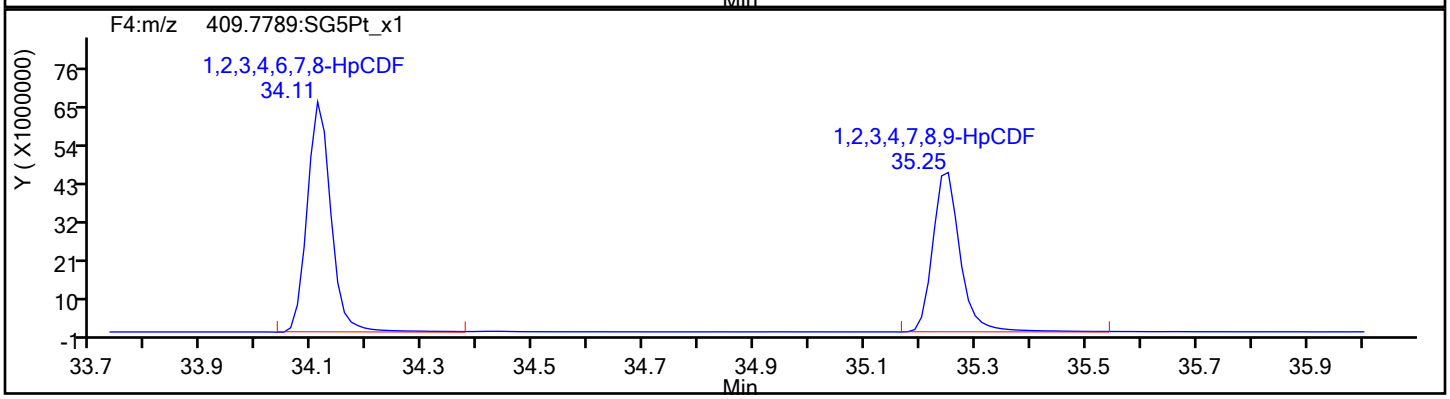

HpCDF Standards

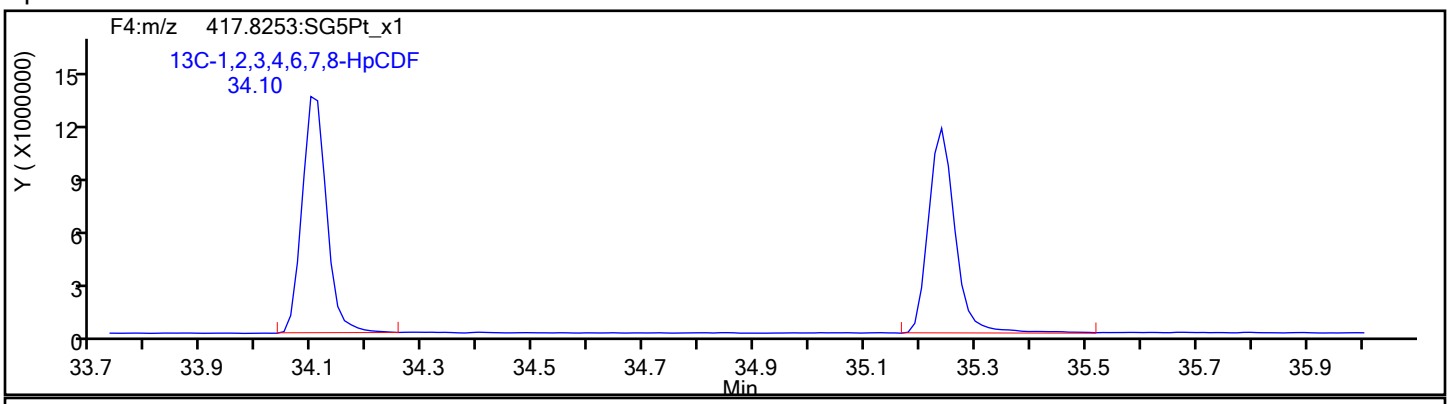

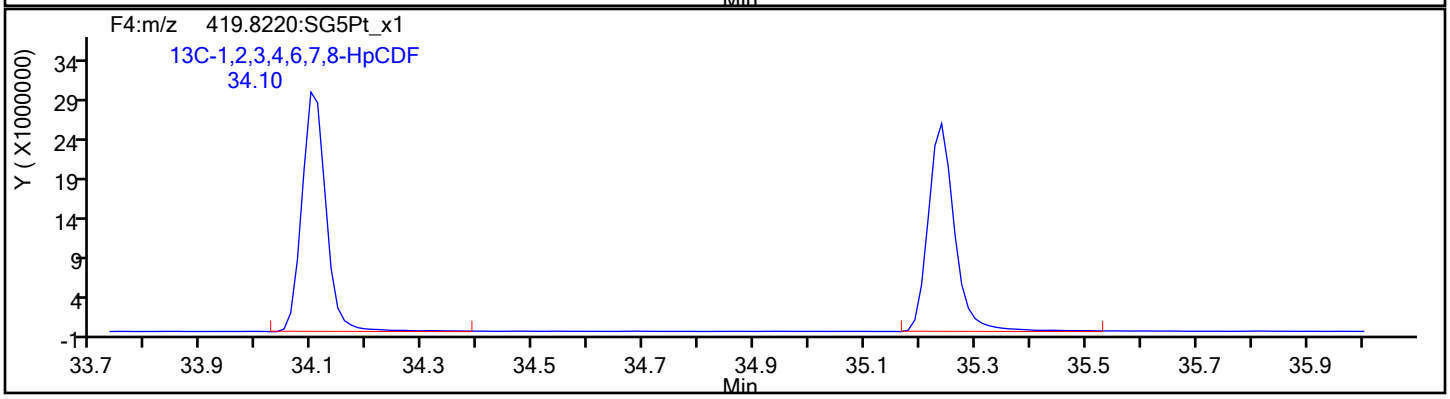

Report Date: 22-May-2019 11:37:07 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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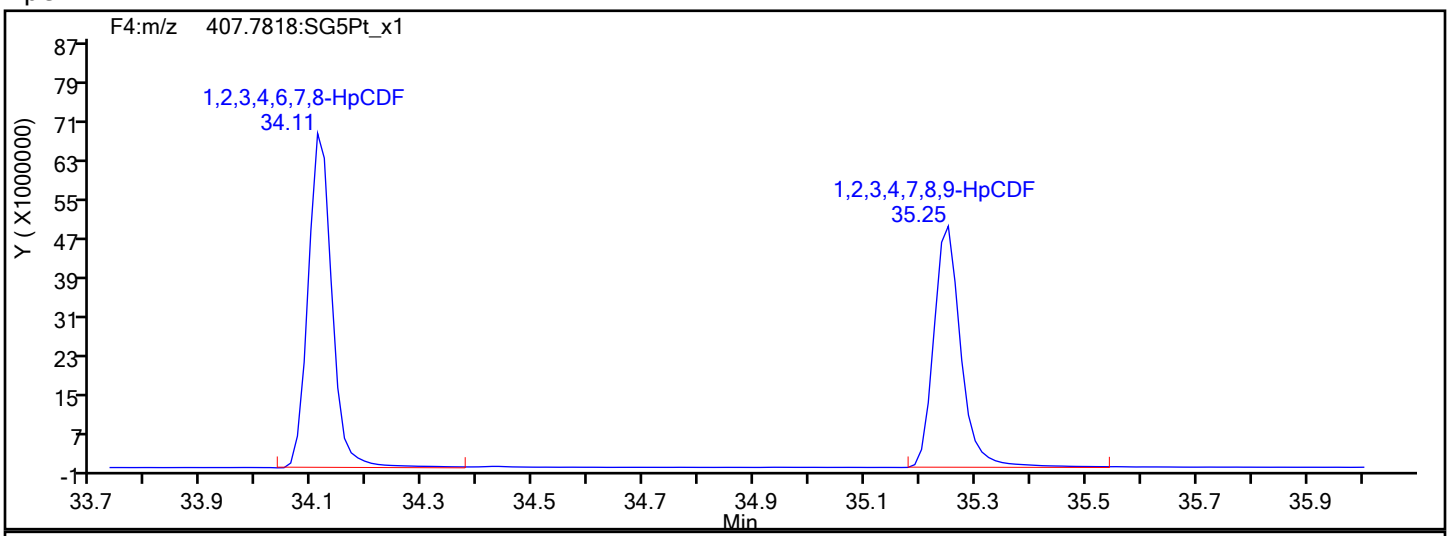

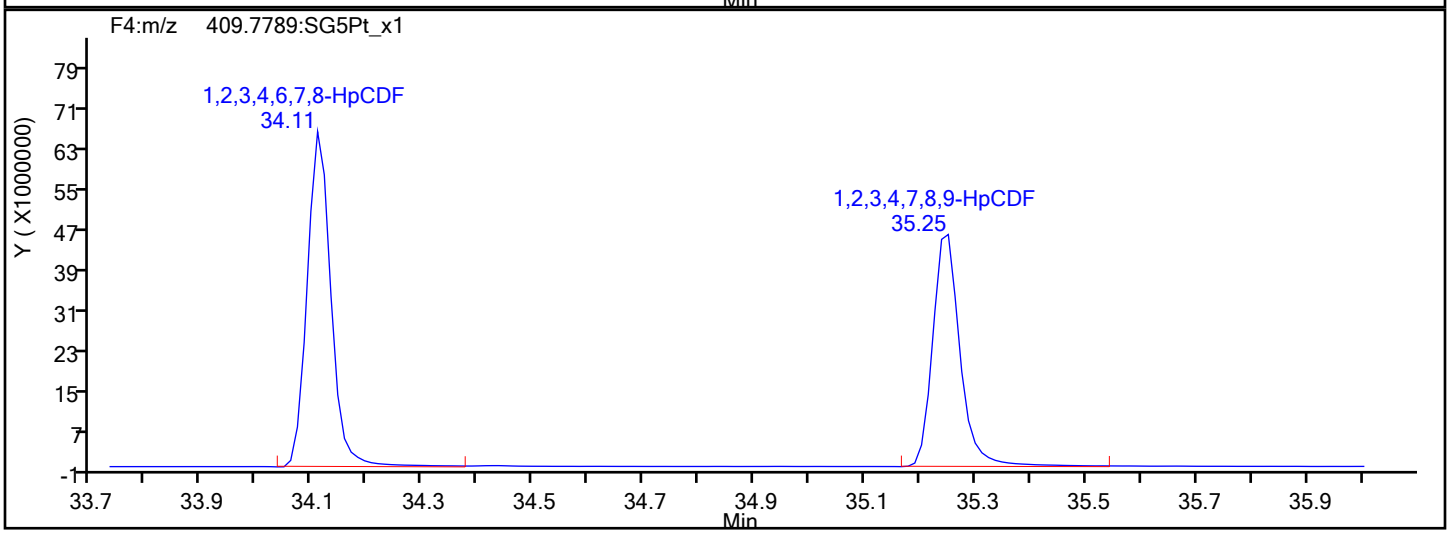

HpCDF Interference Mass

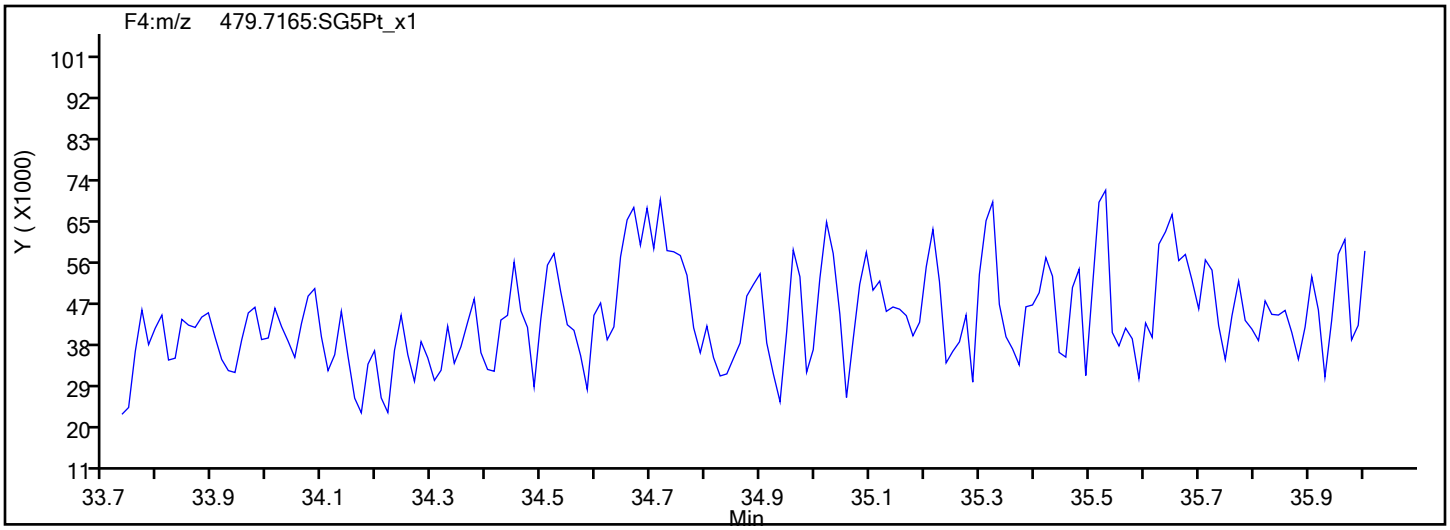

Report Date: 22-May-2019 11:37:07 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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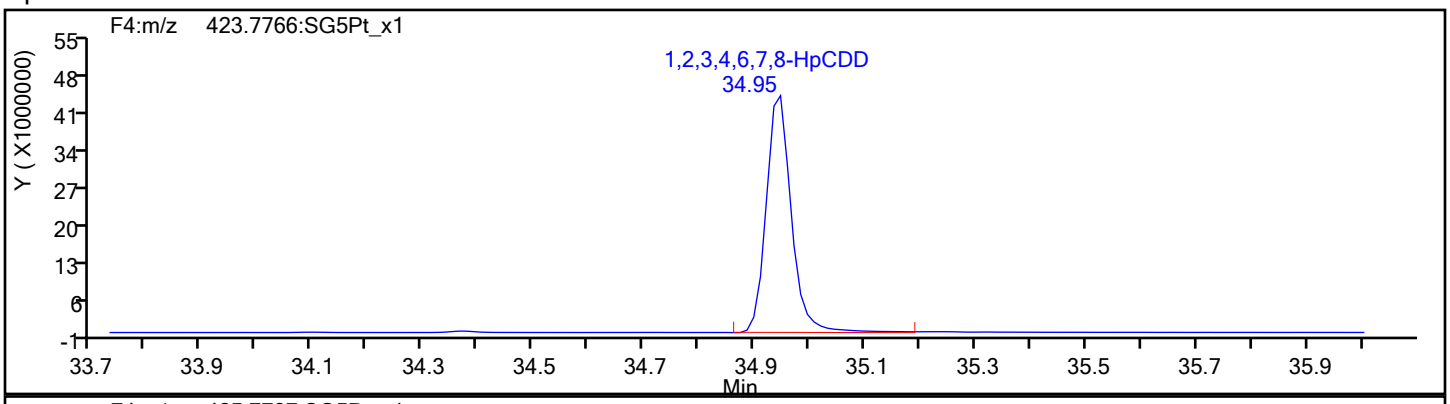

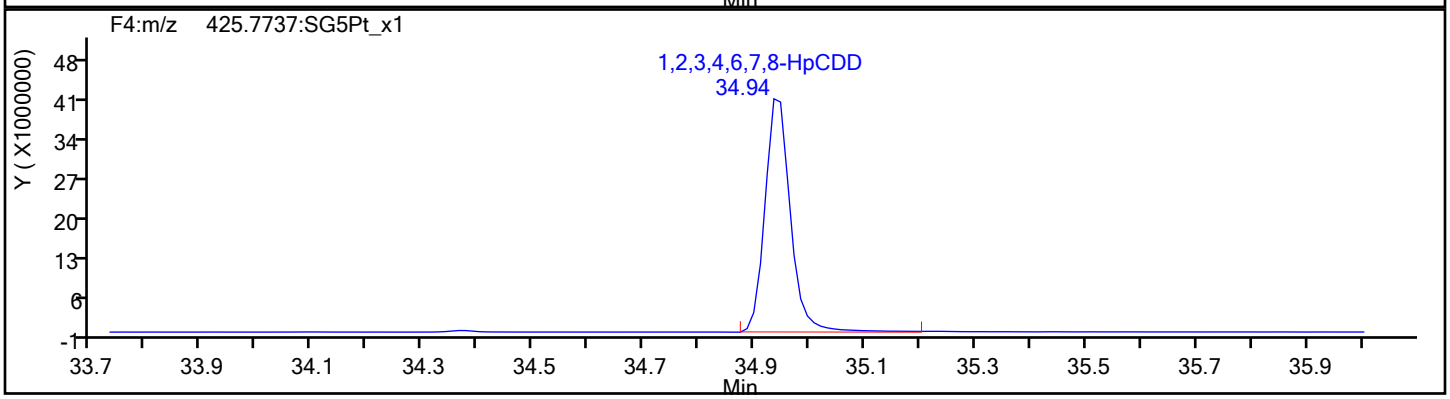

HpCDD Standards

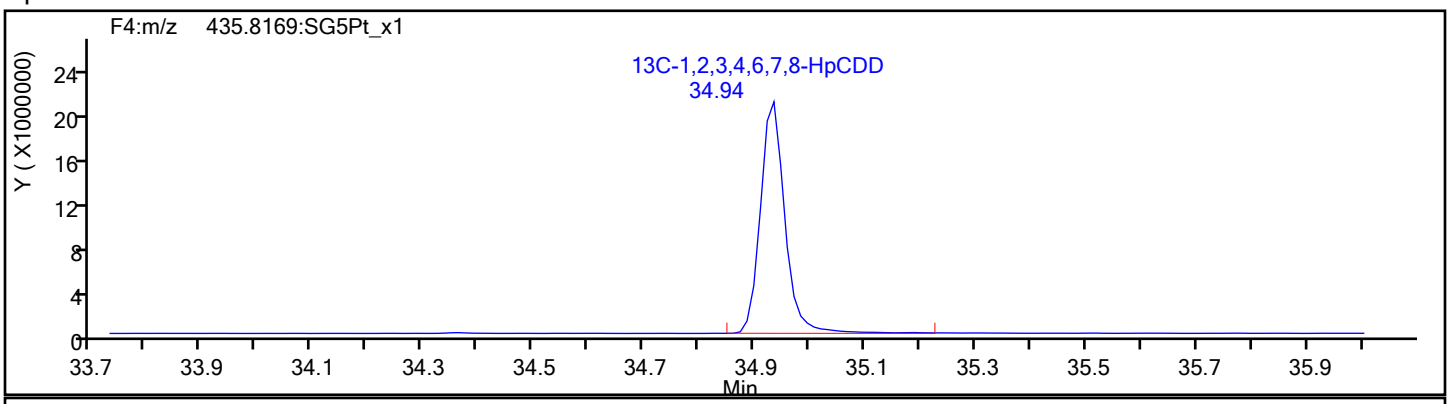

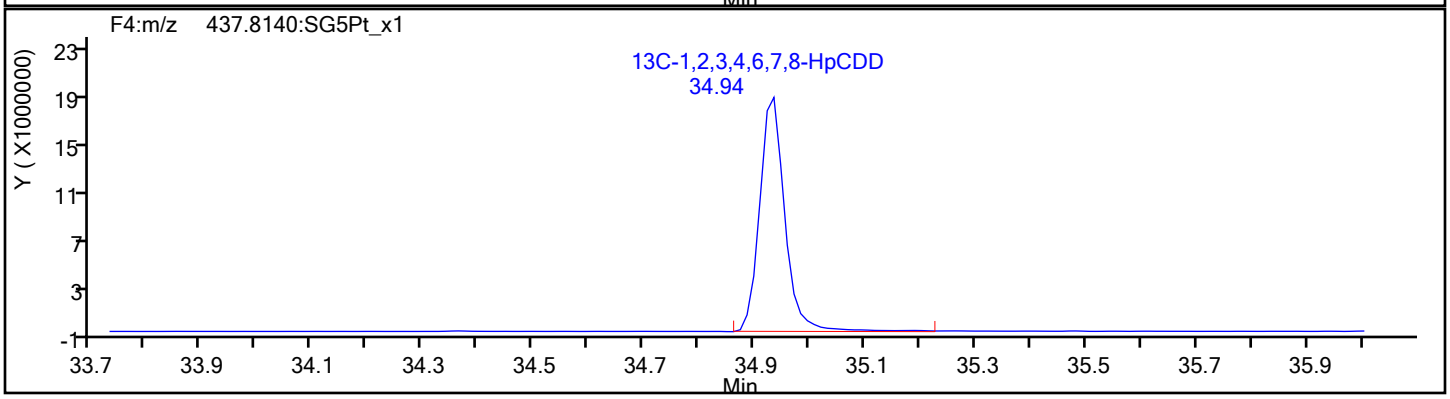

Report Date: 22-May-2019 11:37:07 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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Instrument ID:	3D5	Operator ID:	AJS
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Client ID:	ICV		
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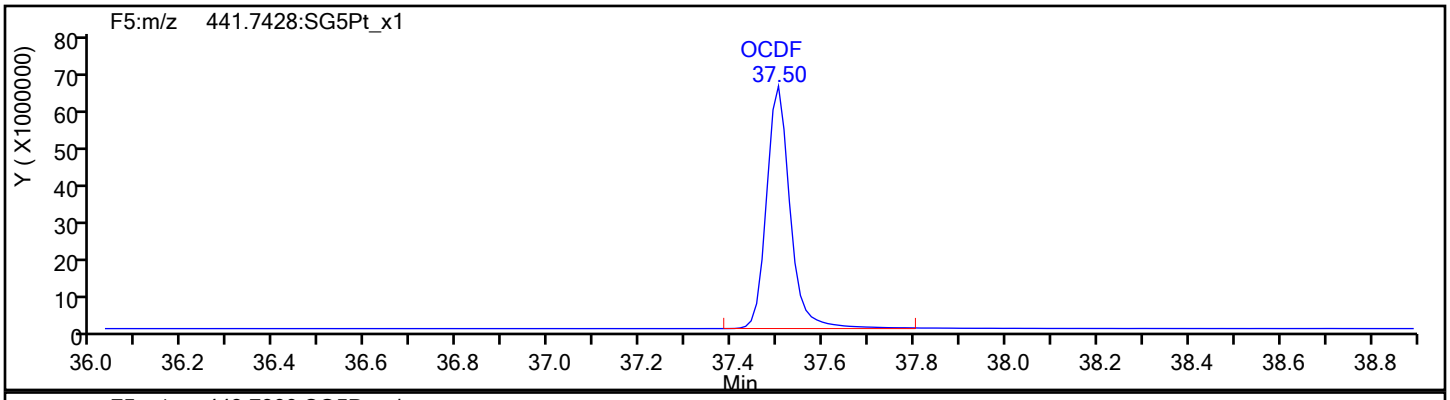

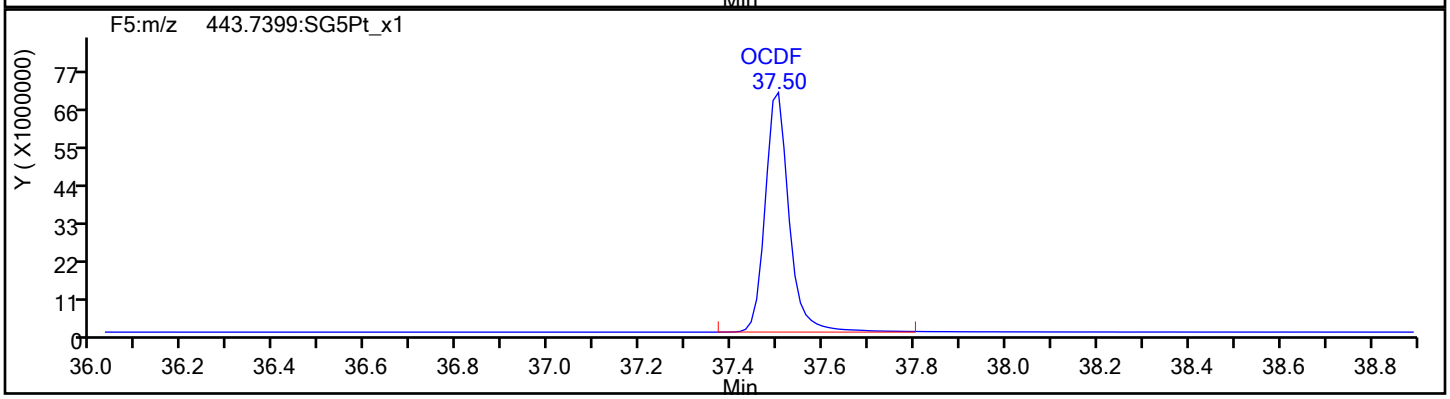

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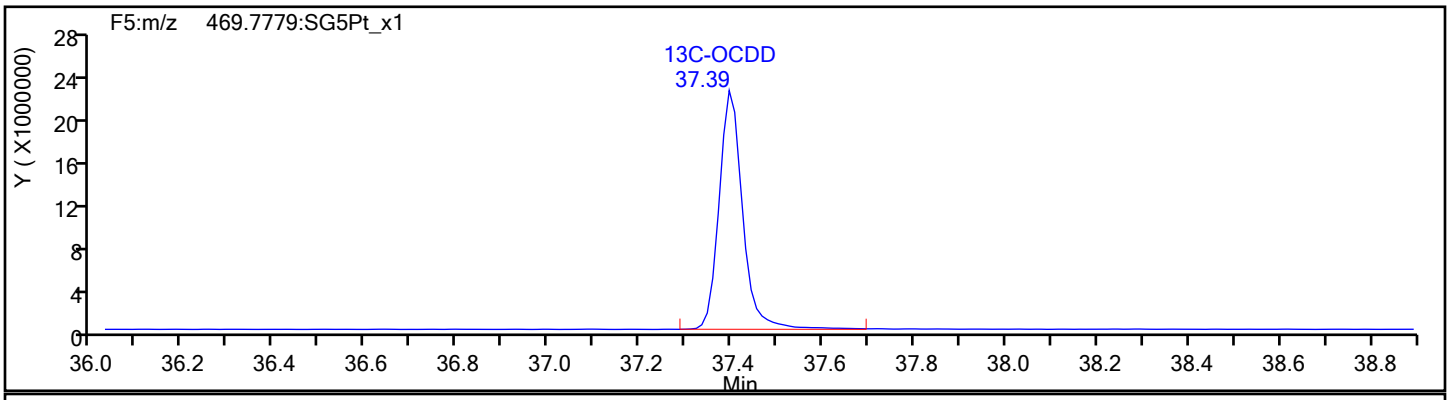

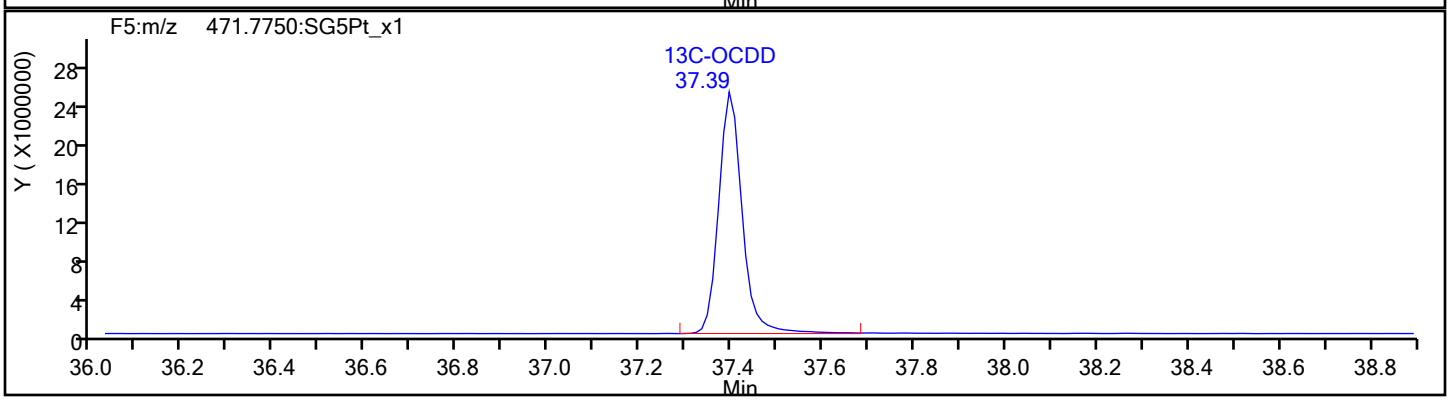

Report Date: 22-May-2019 11:37:07 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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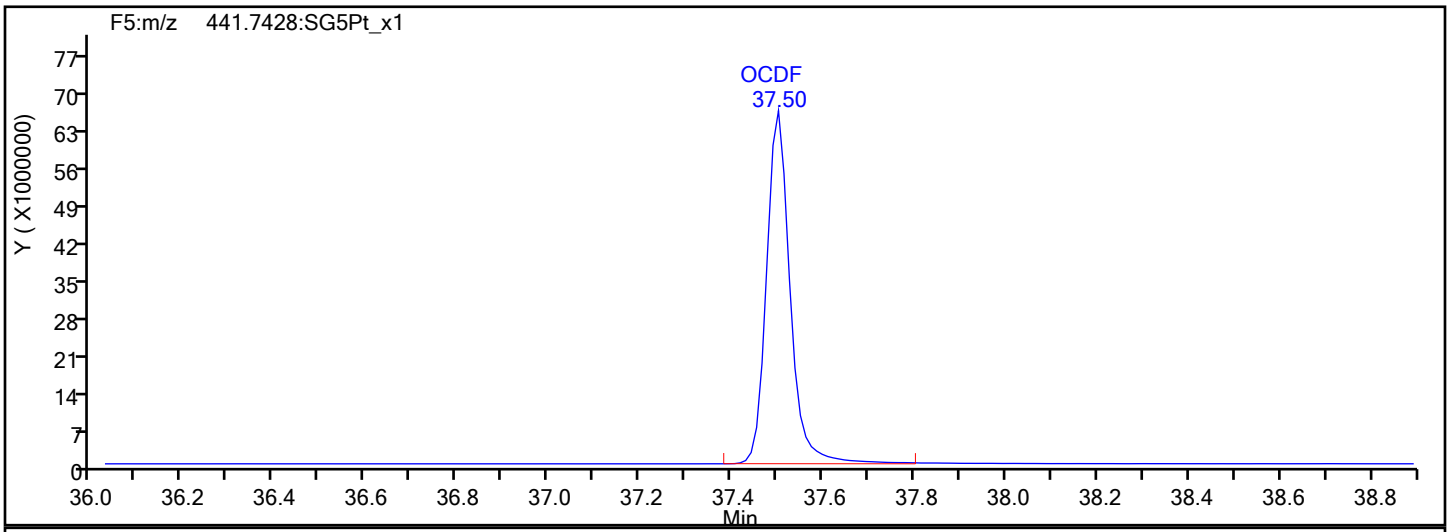

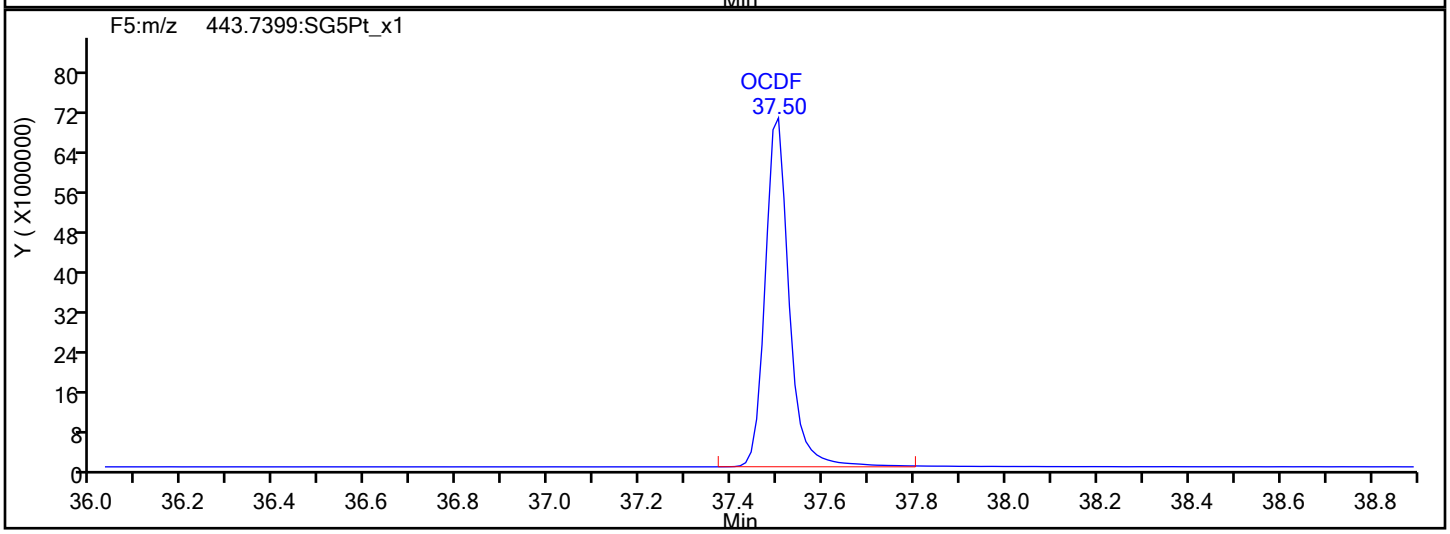

OCDF Interference Mass

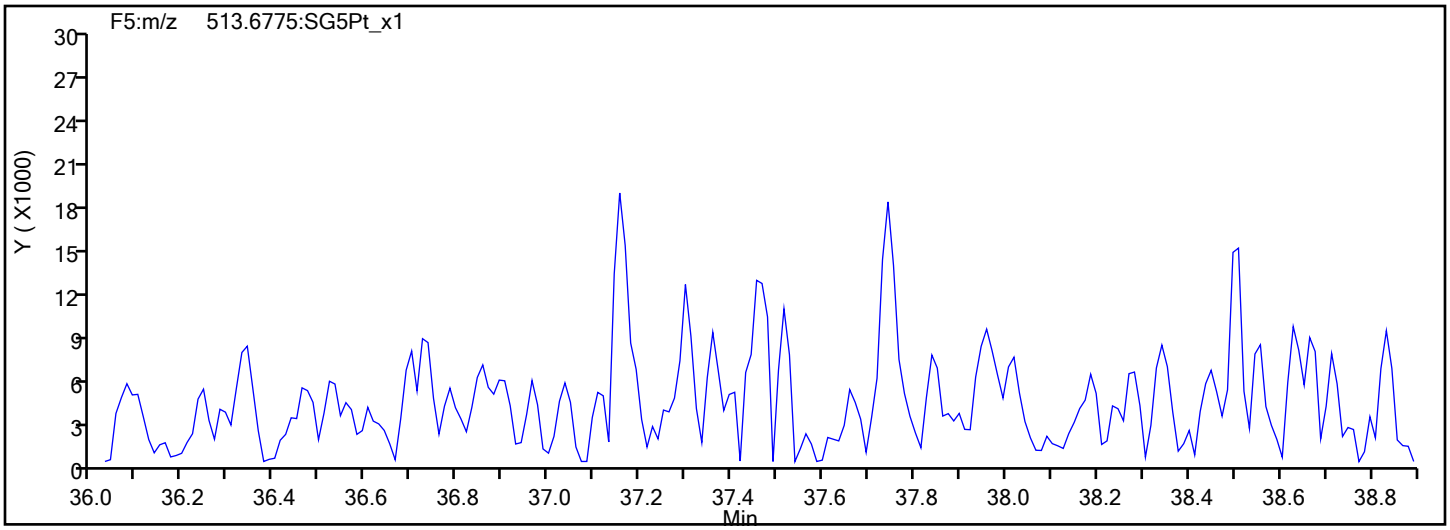

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Eurofins TestAmerica, Sacramento

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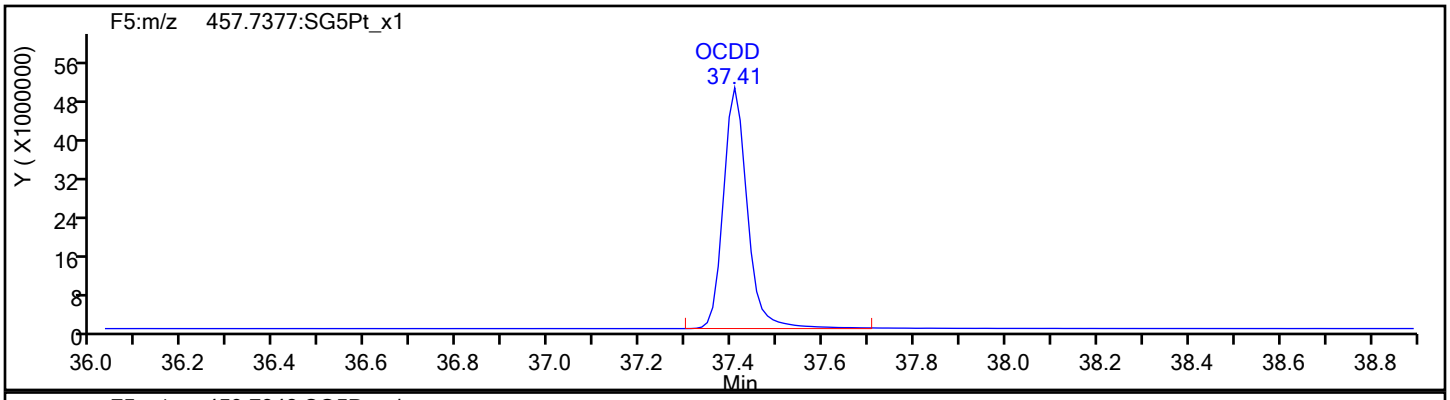

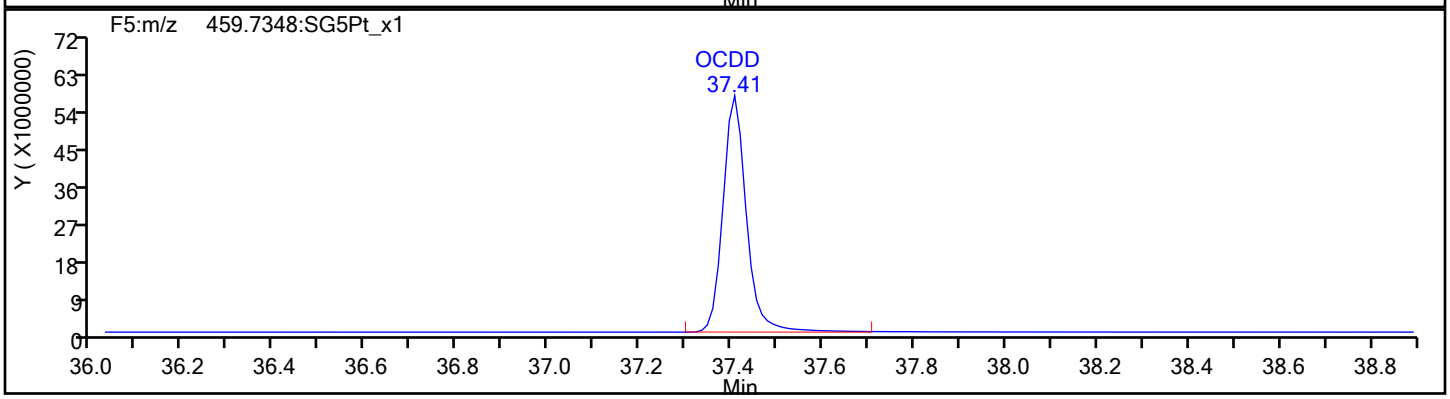

OCDD Standards

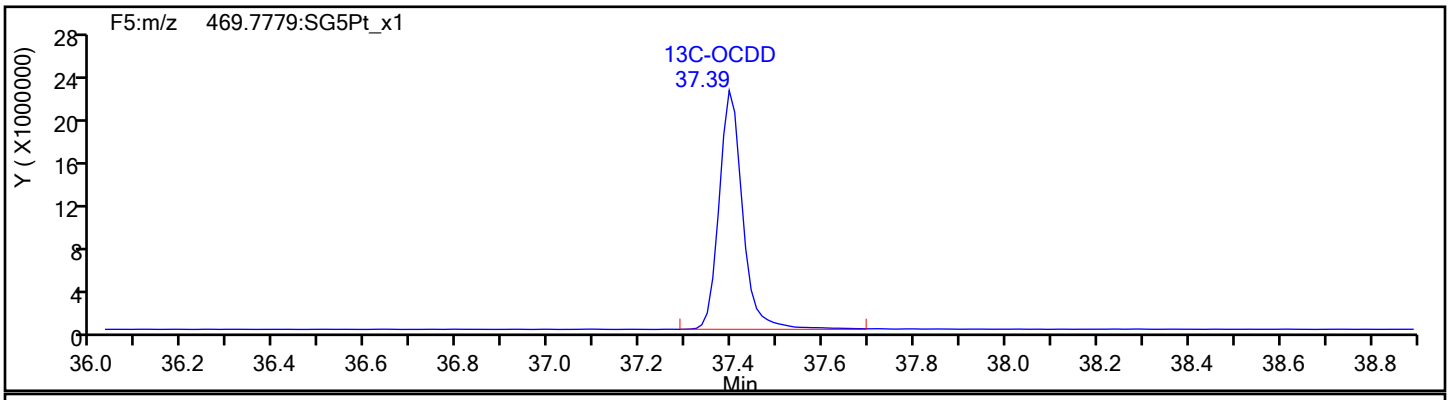

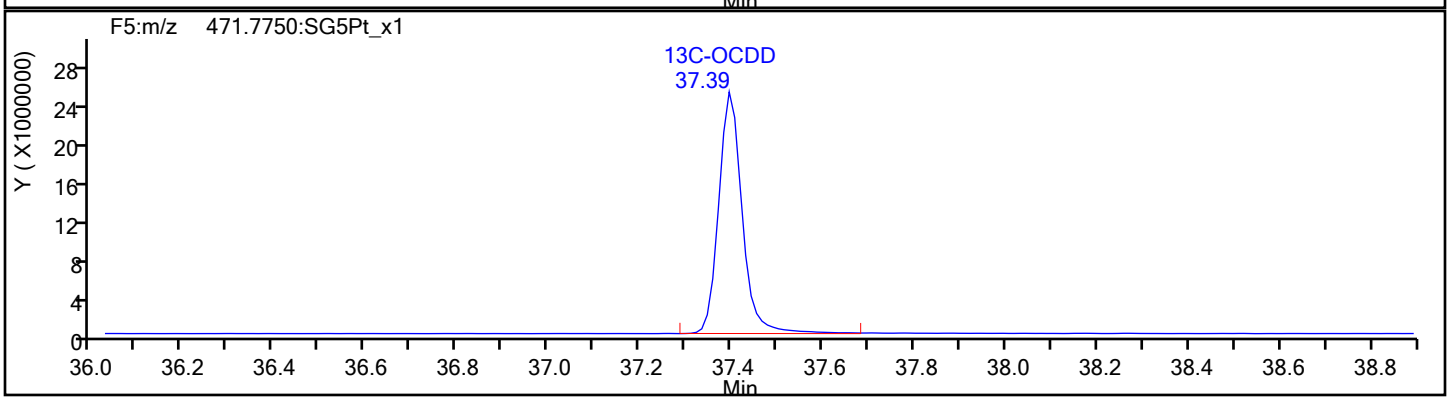

Report Date: 22-May-2019 11:37:07 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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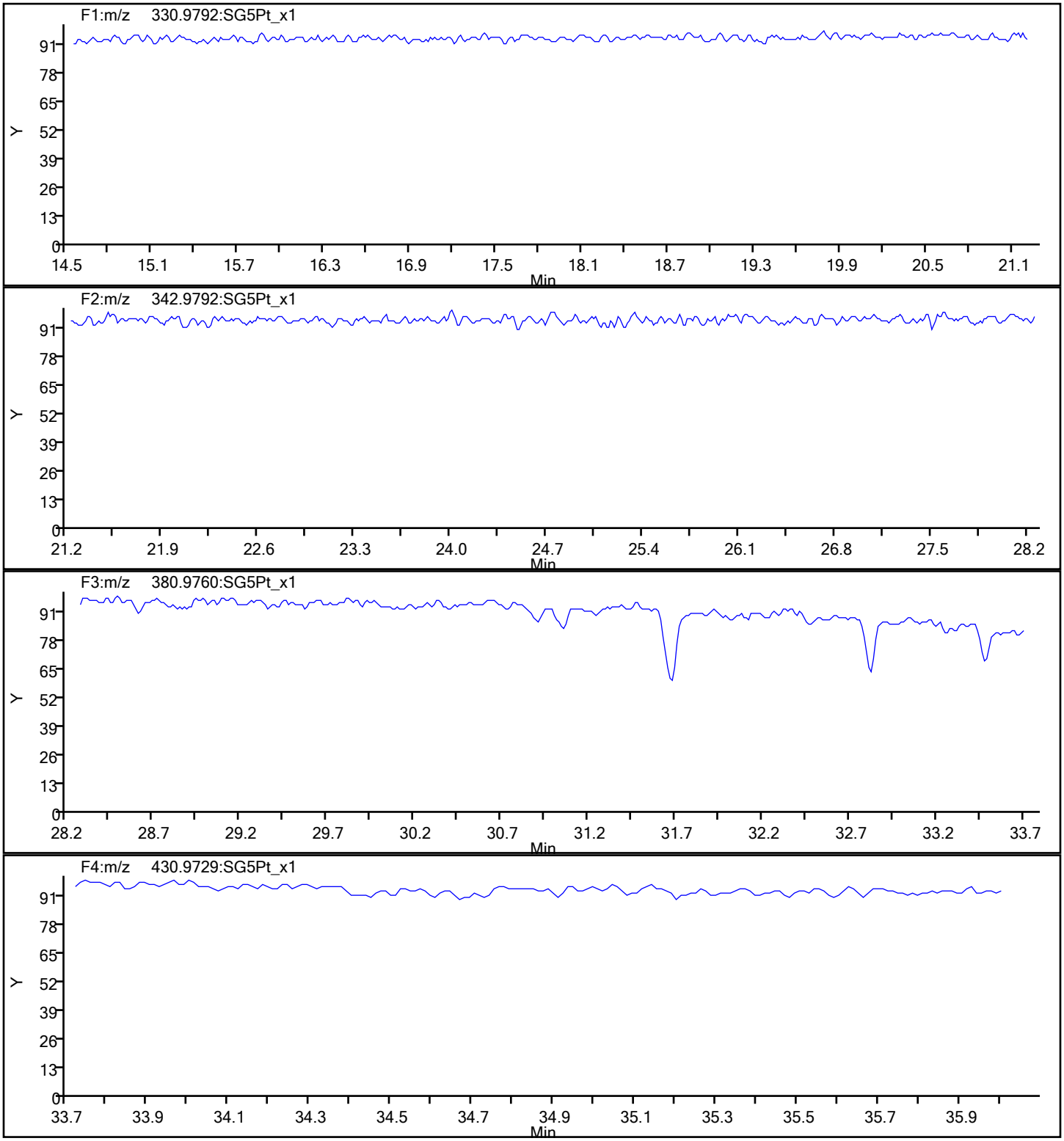

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Eurofins TestAmerica, Sacramento

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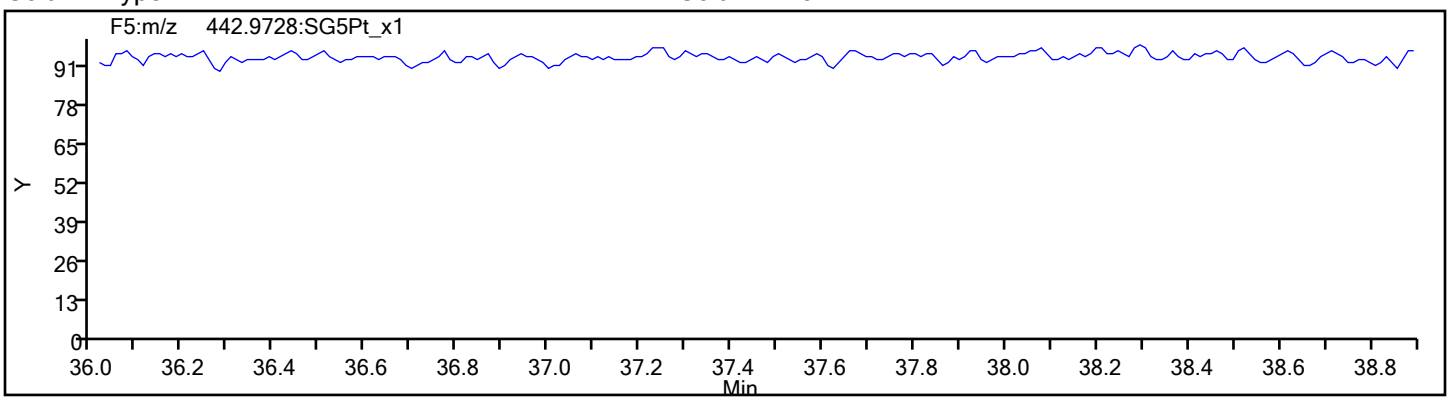

FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Lab Sample ID: CCV 320-334889/1 Calibration Date: 10/30/2019 21:30

Instrument ID: 3D5 Calib Start Date: 05/21/2019 13:31

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 05/21/2019 16:41

Lab File ID: 30OC19B3D5_1.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
2,3,7,8-TCDF	AveID	0.9710	0.8433		8.68	10.0	87	84-120
2,3,7,8-TCDD	AveID	1.045	1.035		9.91	10.0	99	78-129
1,2,3,7,8-PeCDF	AveID	0.9633	1.014		52.6	50.0	105	82-120
2,3,4,7,8-PeCDF	AveID	0.9495	1.023		53.9	50.0	108	82-122
1,2,3,7,8-PeCDD	AveID	1.063	1.109		52.2	50.0	104	78-130
1,2,3,4,7,8-HxCDF	AveID	1.217	1.126		46.2	50.0	92	90-112
1,2,3,6,7,8-HxCDF	AveID	1.131	1.118		49.4	50.0	99	88-114
2,3,4,6,7,8-HxCDF	AveID	1.171	1.145		48.9	50.0	98	88-114
1,2,3,4,7,8-HxCDD	AveID	1.027	1.082		52.7	50.0	105	78-128
1,2,3,6,7,8-HxCDD	AveID	0.9771	1.043		53.4	50.0	107	78-128
1,2,3,7,8,9-HxCDD	AveID	1.062	1.229		57.9	50.0	116	82-122
1,2,3,7,8,9-HxCDF	AveID	1.179	1.154		49.0	50.0	98	90-112
1,2,3,4,6,7,8-HpCDF	AveID	1.437	1.370		47.7	50.0	95	90-110
1,2,3,4,6,7,8-HpCDD	AveID	1.010	1.035		51.2	50.0	102	86-116
1,2,3,4,7,8,9-HpCDF	AveID	1.309	1.159		44.3	50.0	89	86-116
OCDD	AveID	1.063	1.124		106	100	106	79-126
OCDF	AveID	1.350	1.414		105	100	105	63-159
13C-2,3,7,8-TCDF	Ave	1.391	1.334		95.9	100	96	71-140
13C-2,3,7,8-TCDD	Ave	0.9819	0.9544		97.2	100	97	82-121
13C-1,2,3,7,8-PeCDF	Ave	1.158	1.080		93.2	100	93	76-130
13C-2,3,4,7,8-PeCDF	Ave	1.153	1.045		90.7	100	91	77-130
13C-1,2,3,7,8-PeCDD	Ave	0.7431	0.6429		86.5	100	87	62-160
13C-1,2,3,4,7,8-HxCDF	Ave	0.9837	1.034		105	100	105	76-131
13C-1,2,3,6,7,8-HxCDF	Ave	1.155	1.077		93.2	100	93	70-143
13C-2,3,4,6,7,8-HxCDF	Ave	1.036	1.049		101	100	101	73-137
13C-1,2,3,4,7,8-HxCDD	Ave	0.8287	0.7542		91.0	100	91	85-117
13C-1,2,3,6,7,8-HxCDD	Ave	0.9495	0.8672		91.3	100	91	85-118
13C-1,2,3,7,8,9-HxCDF	Ave	0.9034	1.008		112	100	112	74-135
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.7285	0.7038		96.6	100	97	78-129
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.6978	0.6523		93.5	100	93	72-138
13C-1,2,3,4,7,8,9-HpCDF	Ave	0.6556	0.6818		104	100	104	77-129
13C-OCDD	Ave	0.4780	0.4314		181	200	90	48-208
37Cl4-2,3,7,8-TCDD	Ave	1.221	1.504		12.3	10.0	123	79-127

Sample List Report **MassLynx 4.1**

Sample List: C:\MassLynx\DATA 2019.PRO\SampleDB\30OC19B3D5.SPL
Last Modified: Wednesday, October 30, 2019 23:15:03 Pacific Daylight Time
Printed: Wednesday, October 30, 2019 23:15:10 Pacific Daylight Time Page Position (1, 1)

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #	User	
1	30OC19B3D5_1	CS-4 HRDXNL4_00085	CCV 103019B	Tray1:2	DXN		ALM	
2	30OC19B3D5_2	WDM HRDXNCP_00040	WDM 103019B	Tray1:1	DXN		ALM	
3	30OC19B3D5_3	Solvent Blank C-14	SB 103019	Tray1:3	DXN		ALM	
4	30OC19B3D5_4	MB 320-334214/1-A	MB 320-334214/1-A	Tray1:4	1613B/Leach	D103	ALM	
5	30OC19B3D5_5	LB 320-334214/5-A	LB 320-334214/5-A	Tray1:5	1613B/Leach		ALM	
6	30OC19B3D5_6	LCS 320-334214/2-A	LCS 320-334214/2-A	Tray1:6	1613B/Leach		ALM	
7	30OC19B3D5_7	LCSD 320-334214/3-A	LCSD 320-334214/3-A	Tray1:7	1613B/Leach		ALM	
8	30OC19B3D5_8	180-97287-C-1-B	180-97287-C-1-B	Tray1:8	1613B/Leach		ALM	
9	30OC19B3D5_9	MB 320-334372/1-A	MB 320-334372/1-A	Tray1:9	1613B/Leach	D104	ALM	
10	30OC19B3D5_10	LB 320-334372/4-A	LB 320-334372/4-A	Tray1:10	1613B/Leach		ALM	
11	30OC19B3D5_11	LCS 320-334372/2-A	LCS 320-334372/2-A	Tray1:11	1613B/Leach		ALM	
12	30OC19B3D5_12	LCSD 320-334372/3-A	LCSD 320-334372/3-A	Tray1:12	1613B/Leach		ALM	
13	30OC19B3D5_13	180-97466-C-1-C	180-97466-C-1-C	Tray1:13	1613B/Leach		ALM	
14	30OC19B3D5_14	Solvent Blank C-14	SB 103019A	Tray1:3	DXN		ALM	
15	30OC19B3D5_15	CS-4 HRDXNL4_00085	CCV 103019C	Tray1:2	DXN		ALM	out
16	30OC19B3D5_16	WDM HRDXNCP_00040	WDM 103019C	Tray1:1	DXN		ALM	
17	30OC19B3D5_17	Solvent Blank C-14	SB 103019B	Tray1:3	DXN		ALM	
18	30OC19B3D5_18	MB 320-334060/1-A	MB 320-334060/1-A	Tray1:14	1613B(T)/Solid	D104	ALM	
19	30OC19B3D5_19	LCS 320-334060/2-A	LCS 320-334060/2-A	Tray1:15	1613B(T)/Solid		ALM	logfile
20	30OC19B3D5_20	LCSD 320-334060/3-A	LCSD 320-334060/3-A	Tray1:16	1613B(T)/Solid		ALM	checked
21	30OC19B3D5_21	180-97466-C-2-C	180-97466-C-2-C	Tray1:17	1613B/Leach	D104	ALM	10/31/19
22	30OC19B3D5_22	180-97466-C-3-C	180-97466-C-3-C	Tray1:18	1613B/Leach		ALM	SMA
23	30OC19B3D5_23	180-97466-C-1-A	180-97466-C-1-A	Tray1:19	1613B/Solid	D104	ALM	
24	30OC19B3D5_24	180-97466-C-2-A	180-97466-C-2-A	Tray1:20	1613B/Solid		ALM	
25	30OC19B3D5_25	180-97466-C-3-A 10/31/19 SMA	180-97466-C-3-A	Tray1:21	1613B/Solid		ALM	
26	30OC19B3D5_26	440-253018-B-1-A	440-253018-B-1-A	Tray1:22	1613B_T/Solid		ALM	
27	30OC19B3D5_27	440-253007-A-2-B	440-253007-A-2-B	Tray1:23	1613B_T/Solid		ALM	
28	30OC19B3D5_28	Solvent Blank C-14	SB 103019C	Tray1:3	DXN		ALM	
29	30OC19B3D5_29	CS-4 HRDXNL4_00085	CCV 103019D	Tray1:2	DXN		ALM	
30	30OC19B3D5_30	WDM HRDXNCP_00040	WDM 103019D	Tray1:1	DXN		ALM	
31	30OC19B3D5_31	Solvent Blank C-14	SB 103019D	Tray1:3	DXN		ALM	

Sample Size	Units	MS File	Inlet File	Inject Volume	Sample Type	Conc A	Conc B	Conc C	Conc D
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100	100
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000		Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	L	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
0.200000	L	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	L	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	L	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
0.200000	L	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	L	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
0.200000	L	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	L	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	L	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
0.200000	L	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000		Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100	100
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000		Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
0.200000	L	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
0.200000	L	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
10.000000	g	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000		Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100	100
1.000000	---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---
1.000000		Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---

Conc E	Conc F	Conc G	Process	Process Options	Action On Error
200	5	100	FBAT_ML_FileMover	---	---
---	---	---	FBAT_ML_FileMover	---	---
---	---	---	FBAT_ML_FileMover	---	---
---	---	---	FBAT_ML_FileMover	---	---
---	---	---	FBAT_ML_FileMover	---	---
---	---	---	FBAT_ML_FileMover	---	---
---	---	---	FBAT_ML_FileMover	---	---
---	---	---	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
---	---	---	FBAT_ML_FileMover	---	---
---	---	---	FBAT_ML_FileMover	---	---
---	---	---	FBAT_ML_FileMover	---	---
---	---	---	FBAT_ML_FileMover	---	---
---	---	---	FBAT_ML_FileMover	---	---
---	---	---	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
200	5	100	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
---	---	---	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
---	---	---	FBAT_ML_FileMover	---	---
---	---	---	FBAT_ML_FileMover	---	---
---	---	---	FBAT_ML_FileMover	---	---
---	---	---	FBAT_ML_FileMover	---	---
---	---	---	FBAT_ML_FileMover	---	---
---	---	---	FBAT_ML_FileMover	---	---
---	---	---	FBAT_ML_FileMover	---	---
---	---	---	FBAT_ML_FileMover	---	---
---	---	---	FBAT_ML_FileMover	---	---
---	---	---	FBAT_ML_FileMover	---	---
---	---	---	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
---	---	---	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
200	5	100	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error
---	---	---	FBAT_ML_FileMover	---	---
---	---	---	FBAT_ML_FileMover	---	---

s5

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File: Experiment: Dioxin3D5.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, October 30, 2019 21:23:09 Pacific Daylight Time

M 292.9824 R 14046

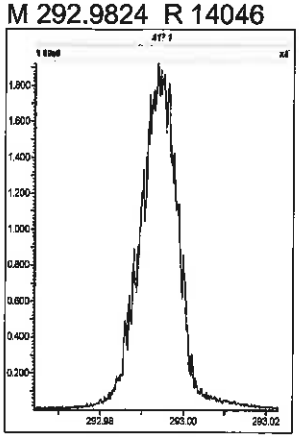

M 304.9824 R 15526

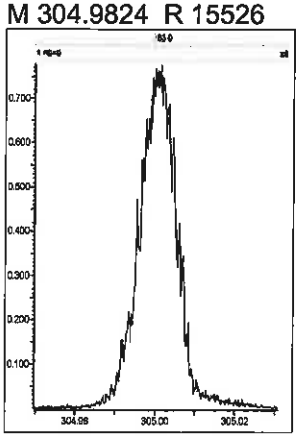

M 318.9792 R 15148

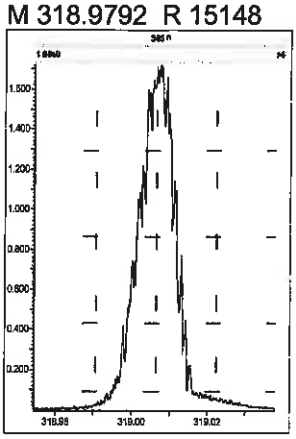

M 330.9792 R 14972

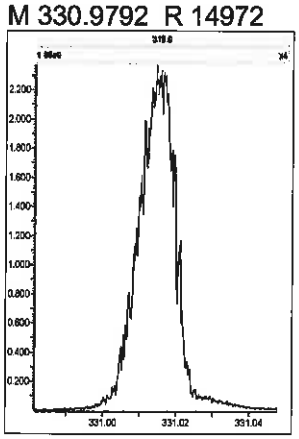

M 342.9792 R 14204

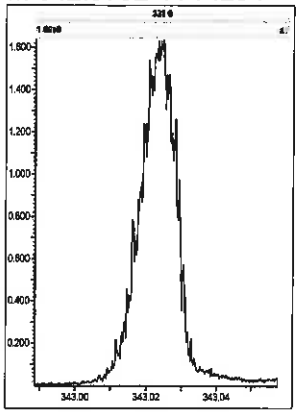

M 354.9792 R 15928

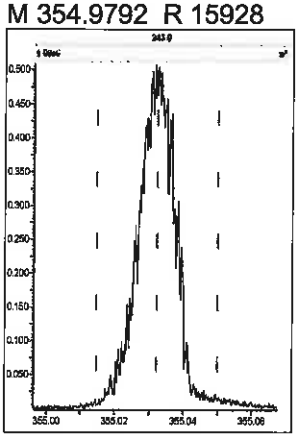

M 366.9792 R 12752

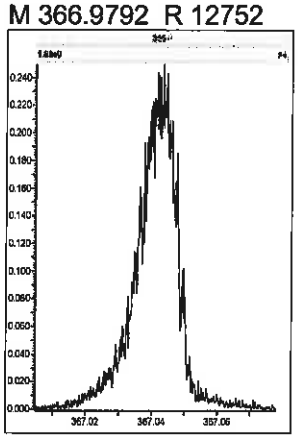

M 380.9760 R 13299

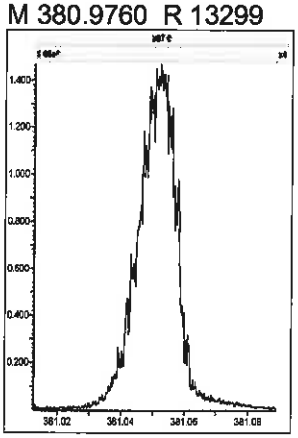

M 392.9760 R 14124

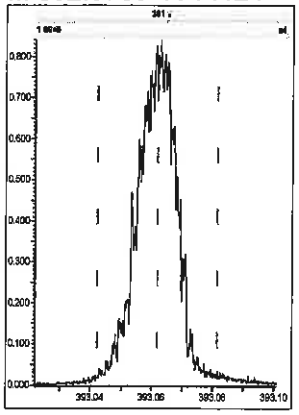

M 404.9760 R 12885

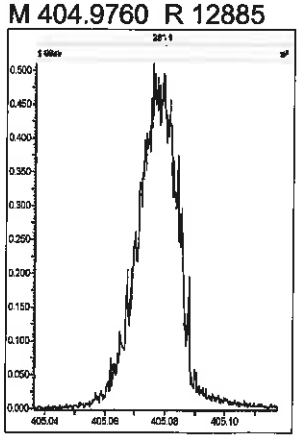

M 416.9760 R 12818

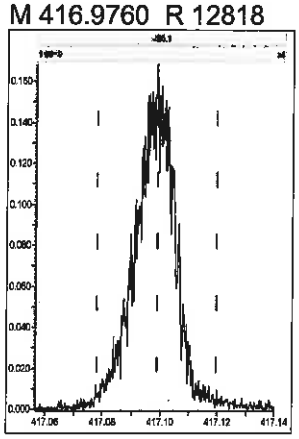

File: Experiment: Dioxin3D5.exp Reference: Pfk.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, October 30, 2019 21:24:46 Pacific Daylight Time

M 318.9792 R 14372

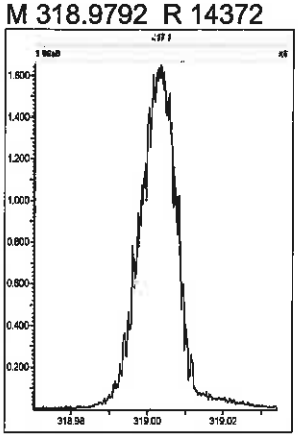

M 330.9792 R 15332

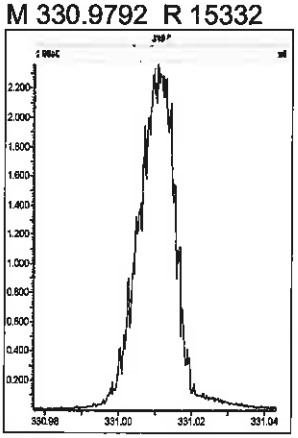

M 342.9792 R 14880

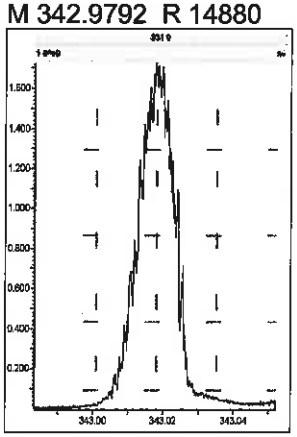

M 354.9792 R 14365

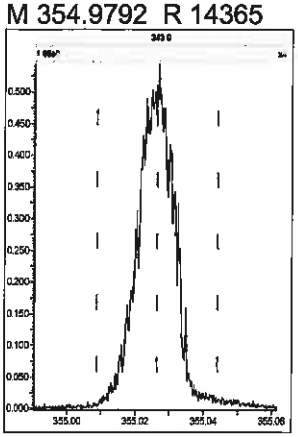

M 366.9792 R 13091

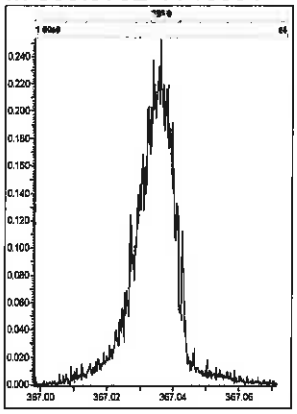

M 380.9760 R 14286

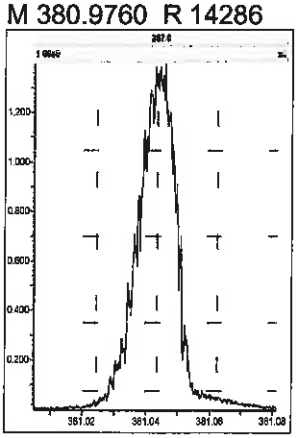

M 392.9760 R 14450

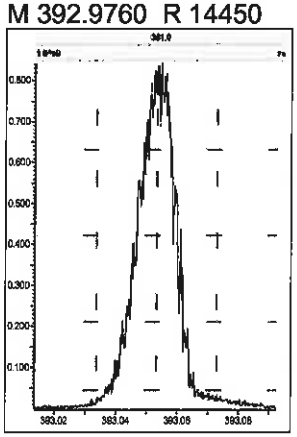

M 404.9760 R 13300

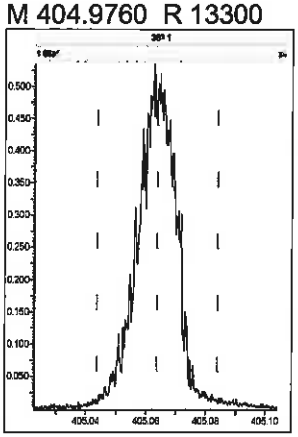

M 416.9760 R 14041

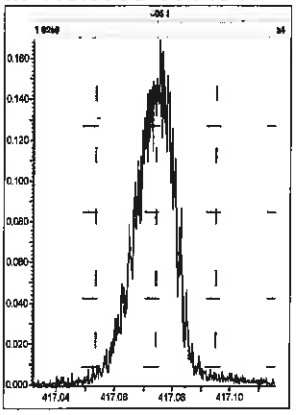

File: Experiment: Dioxin3D5.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, October 30, 2019 21:25:53 Pacific Daylight Time

M 366.9792 R 12628

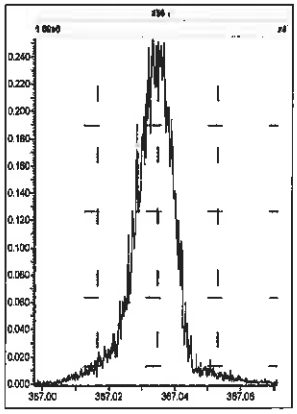

M 380.9760 R 14620

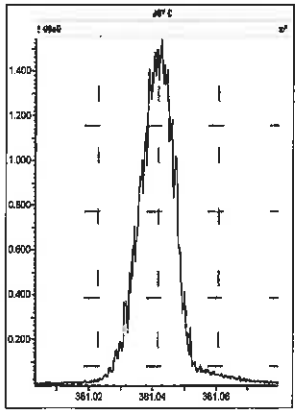

M 392.9760 R 14044

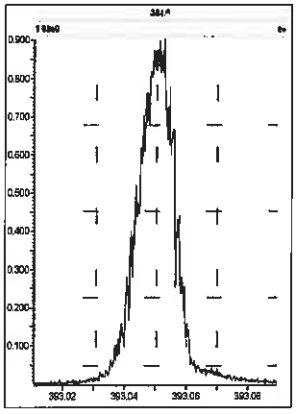

M 404.9760 R 14878

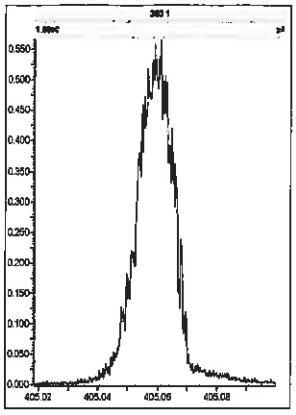

M 416.9760 R 15245

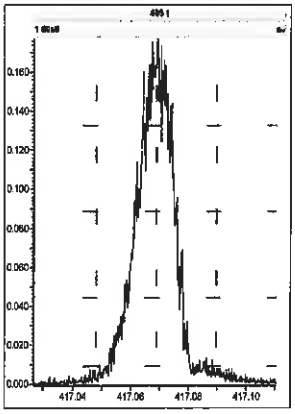

M 430.9728 R 13812

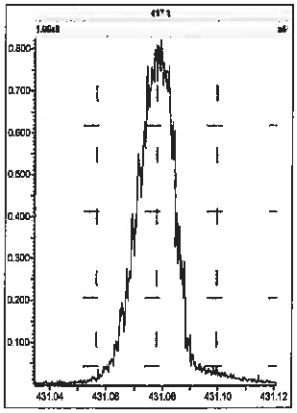

M 442.9728 R 13088

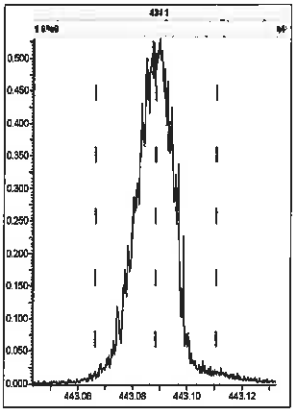

M 454.9728 R 13300

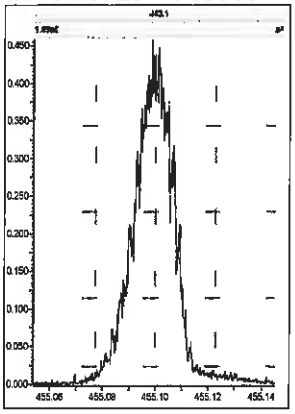

File: Experiment: Dioxin3D5.exp Reference: Pfk.ref Function: 4 @ 200 (ppm)

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M 380.9760 R 14532

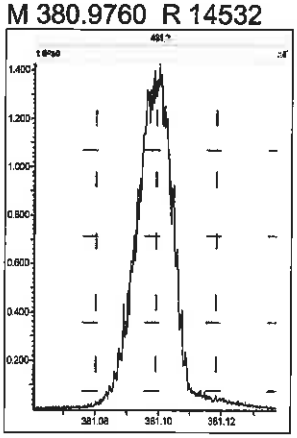

M 392.9760 R 14536

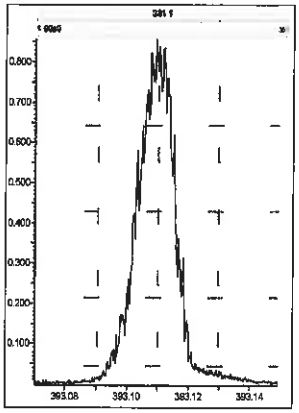

M 404.9760 R 14534

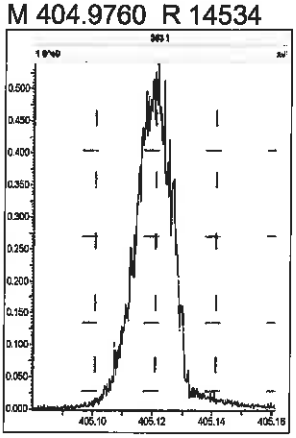

M 416.9760 R 14618

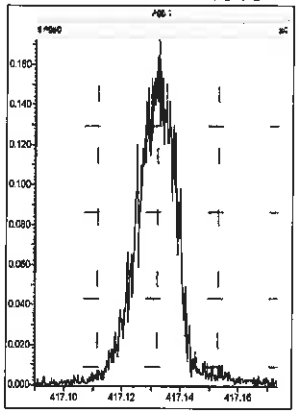

M 430.9728 R 13969

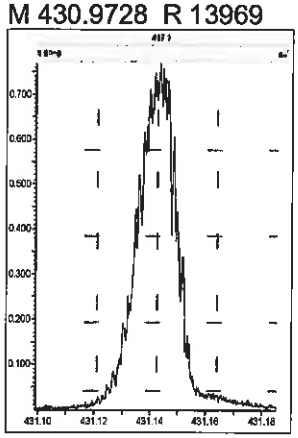

M 442.9728 R 13737

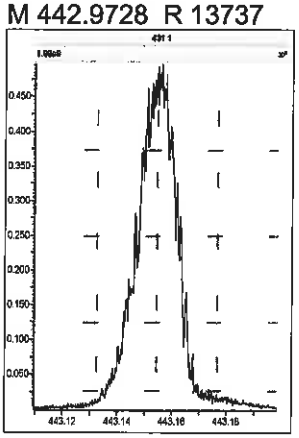

M 454.9728 R 13368

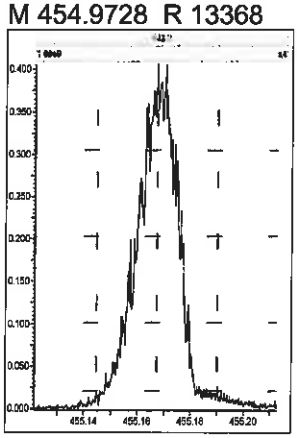

M 466.9728 R 14043

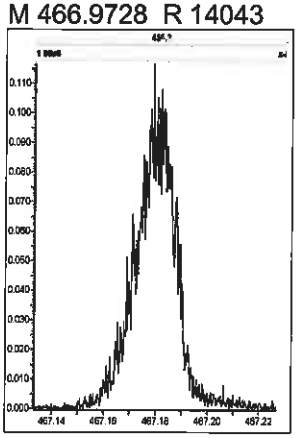

M 480.9696 R 12560

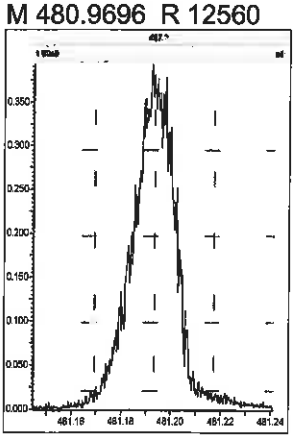

File: Experiment: Dioxin3D5.exp Reference: Pfk.ref Function: 5 @ 200 (ppm)

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M 380.9760 R 14796

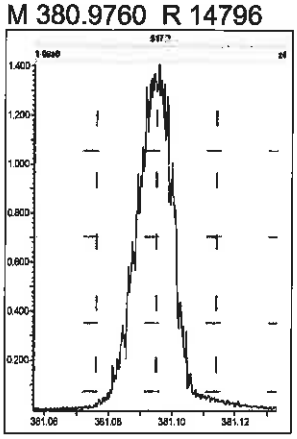

M 392.9760 R 14287

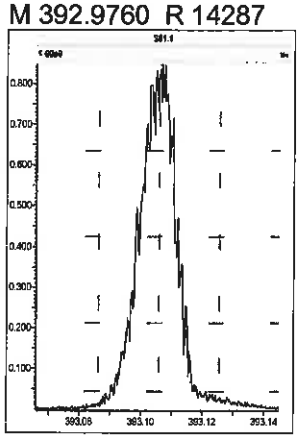

M 404.9760 R 14204

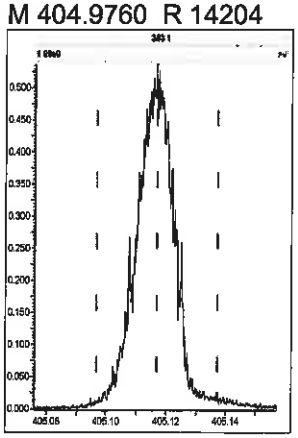

M 416.9760 R 14122

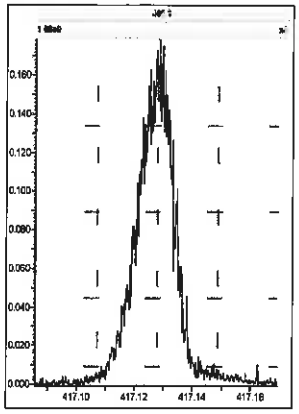

M 430.9728 R 14622

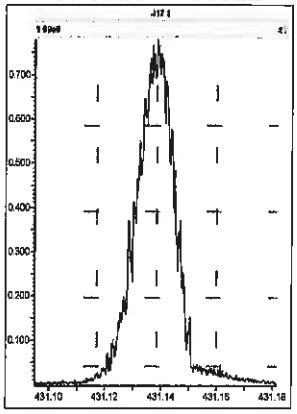

M 442.9728 R 14706

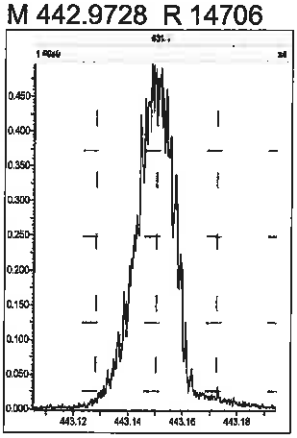

M 454.9728 R 13020

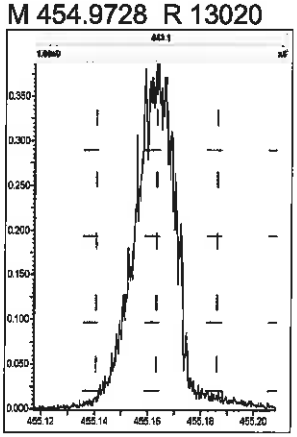

M 466.9728 R 14043

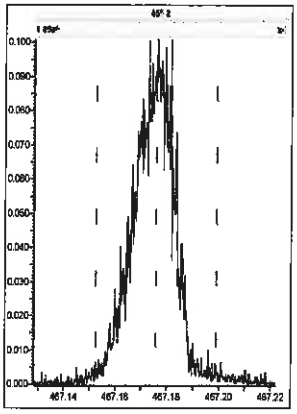

M 480.9696 R 11629

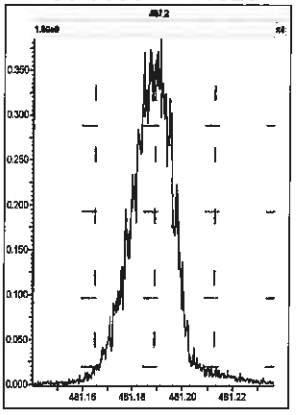

M 492.9696 R 12954

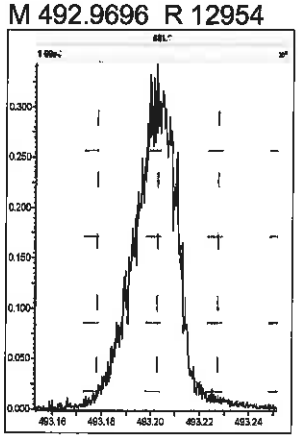

M 504.9696 R 12019

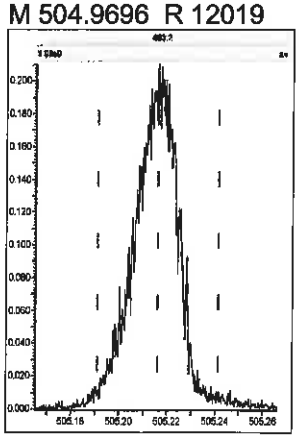

M 516.9697 R 12885

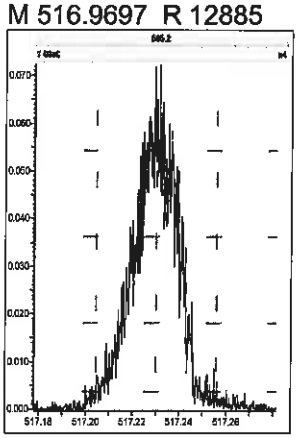

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M 292.9824 R 16287

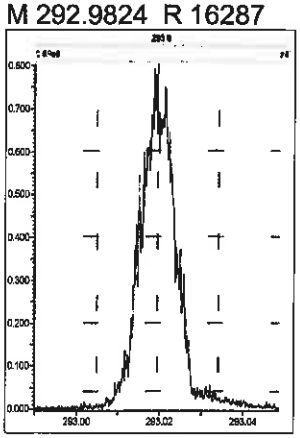

M 304.9824 R 16692

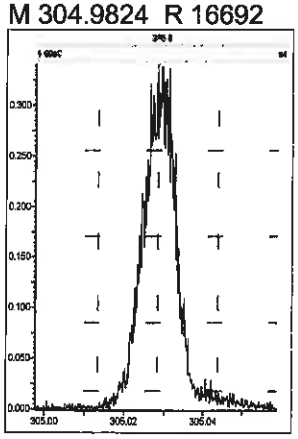

M 318.9792 R 16287

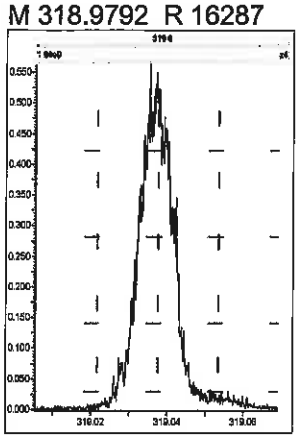

M 330.9792 R 15197

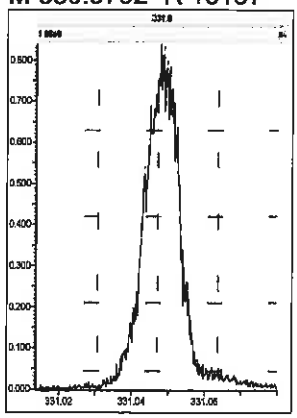

M 342.9792 R 14839

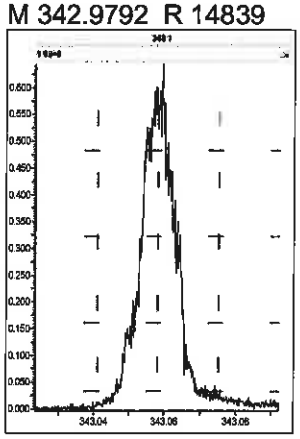

M 354.9792 R 15588

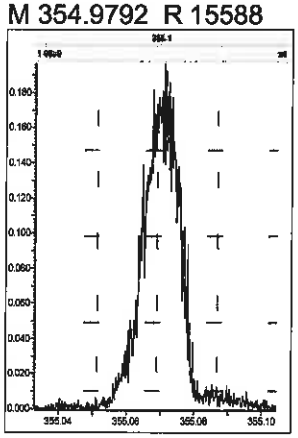

M 366.9792 R 17676

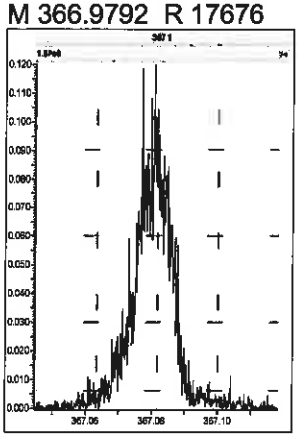

M 380.9760 R 14619

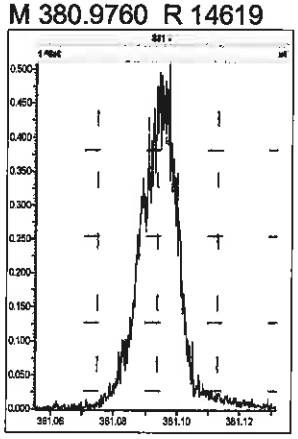

M 392.9760 R 15112

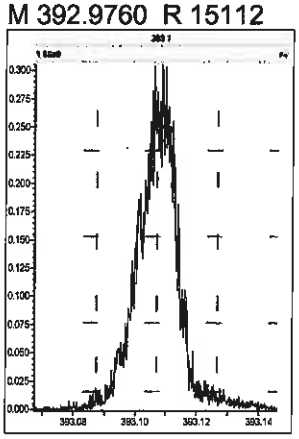

M 404.9760 R 14302

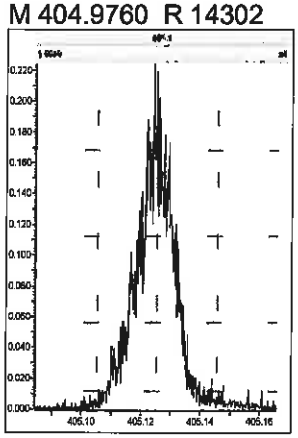

M 416.9760 R 16515

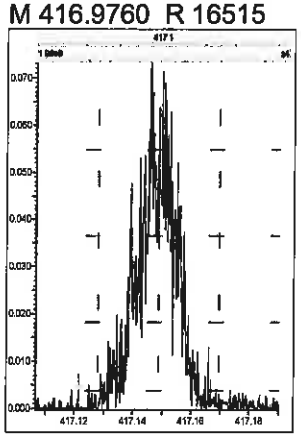

M 318.9792 R 15432

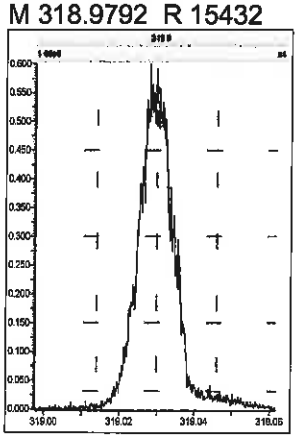

M 330.9792 R 15337

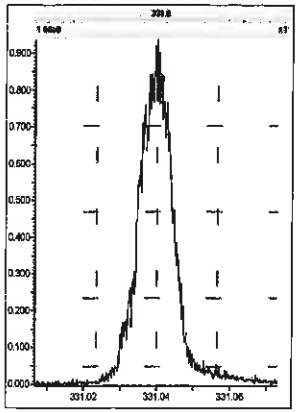

M 342.9792 R 14749

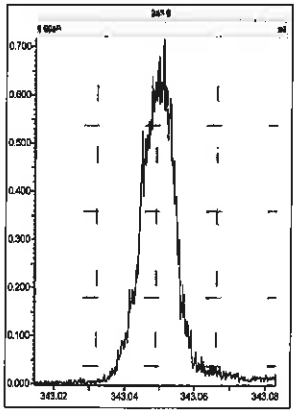

M 354.9792 R 15639

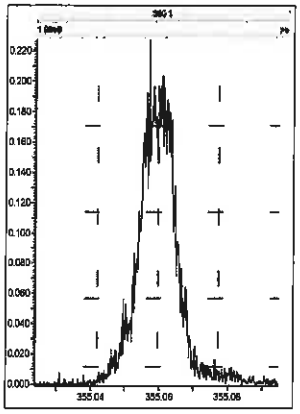

M 366.9792 R 17066

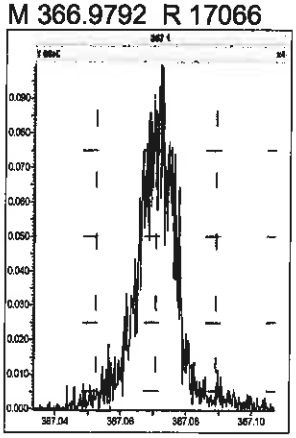

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M 380.9760 R 13873

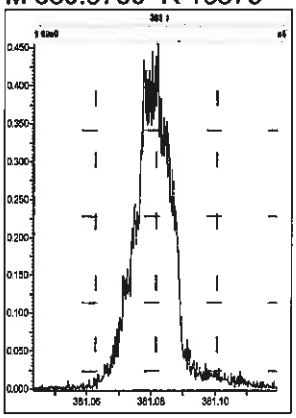

M 392.9760 R 15013

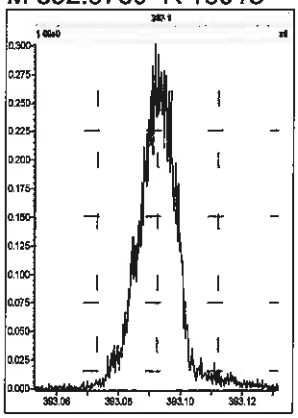

M 404.9760 R 14495

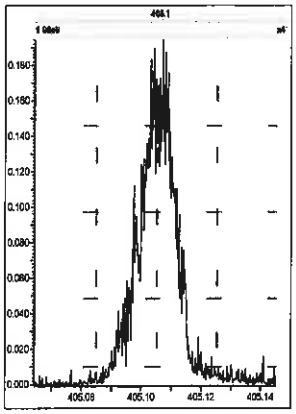

M 416.9760 R 16384

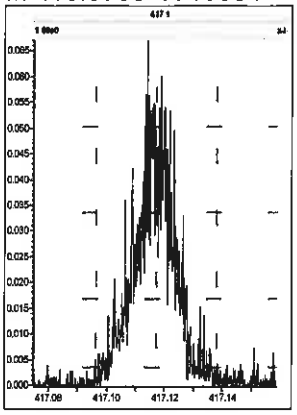

M 366.9792 R 16373

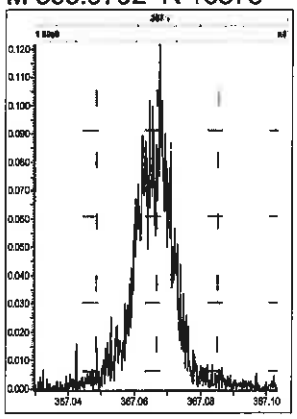

M 380.9760 R 15151

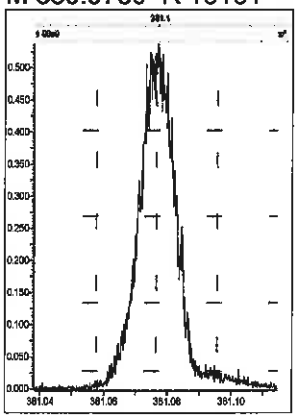

M 392.9760 R 15808

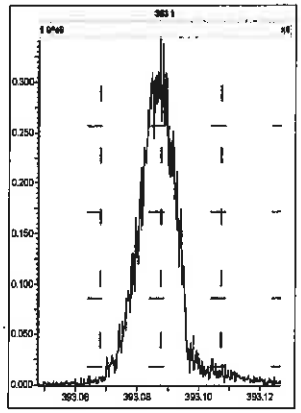

M 404.9760 R 14885

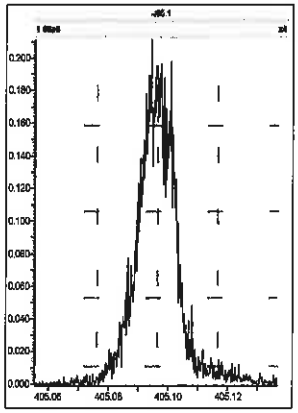

M 416.9760 R 16975

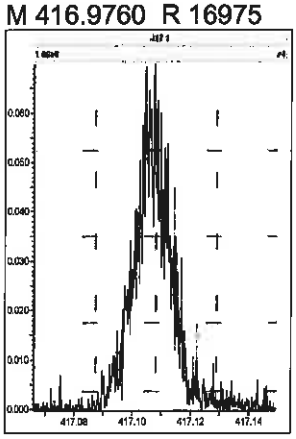

M 430.9728 R 13945

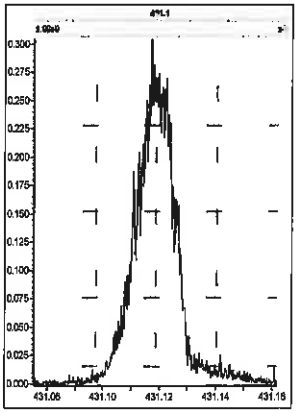

M 442.9728 R 15108

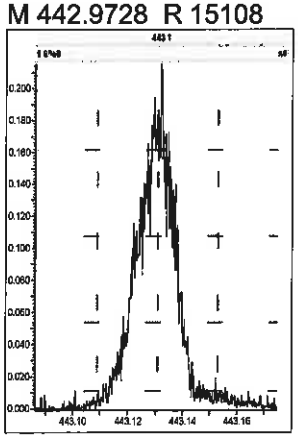

M 454.9728 R 14546

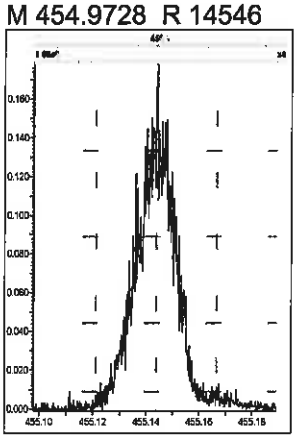

M 380.9760 R 13892

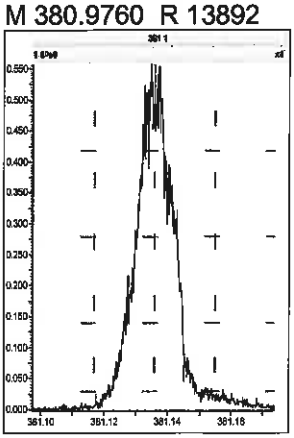

M 392.9760 R 13776

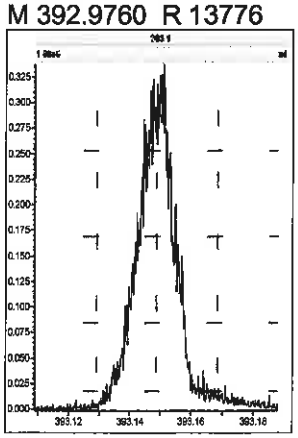

M 404.9760 R 14326

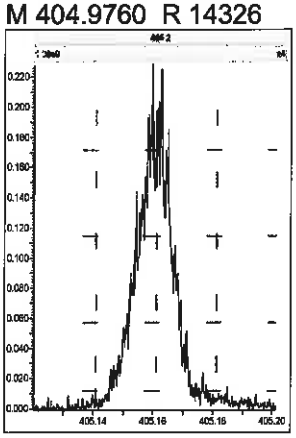

M 416.9760 R 15885

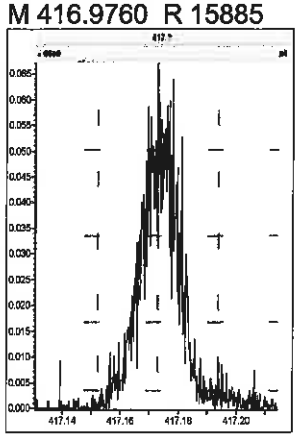

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M 430.9728 R 12806

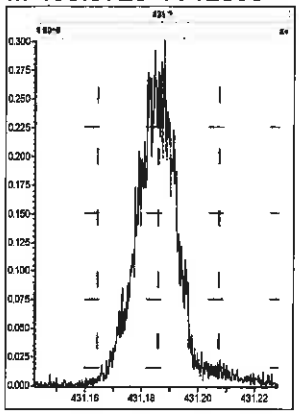

M 442.9728 R 14006

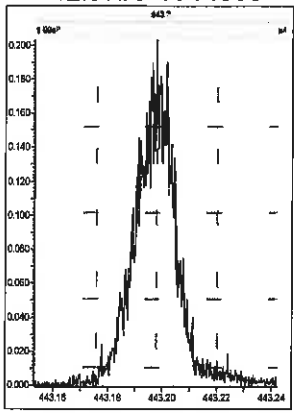

M 454.9728 R 14792

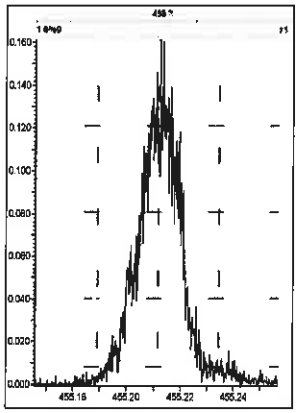

M 466.9728 R 15776

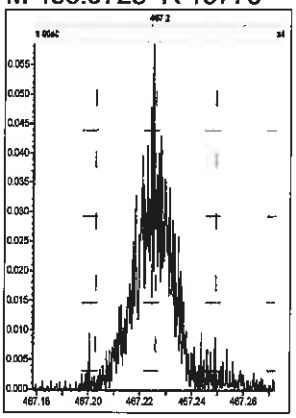

M 480.9696 R 13677

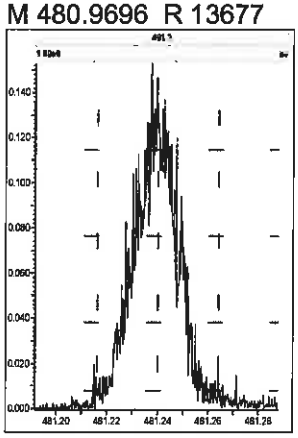

M 380.9760 R 14289

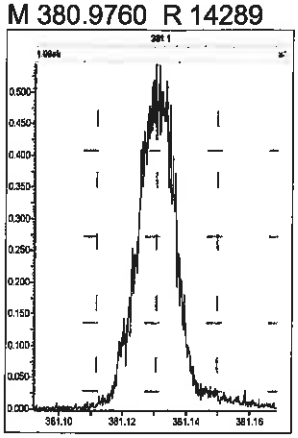

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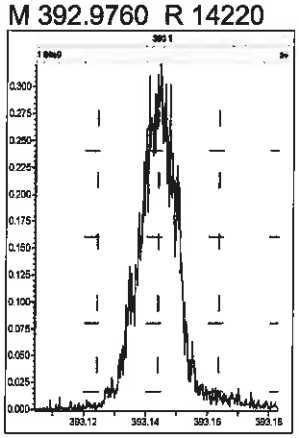

M 404.9760 R 14292

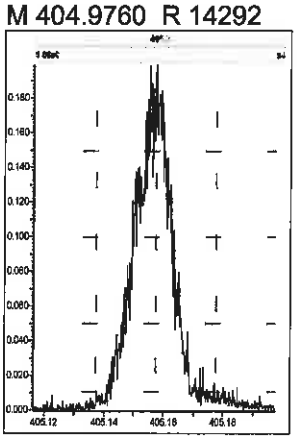

M 416.9760 R 16286

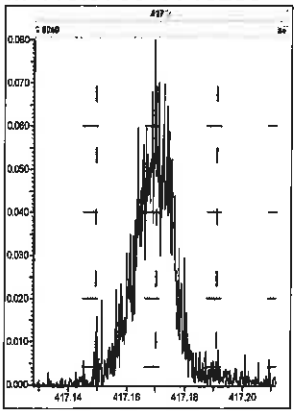

M 430.9728 R 14546

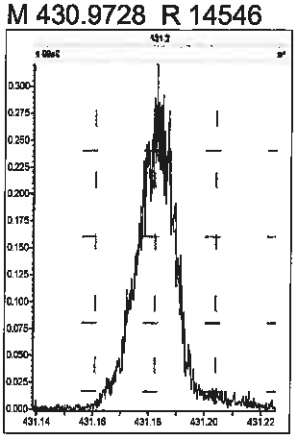

M 442.9728 R 13640

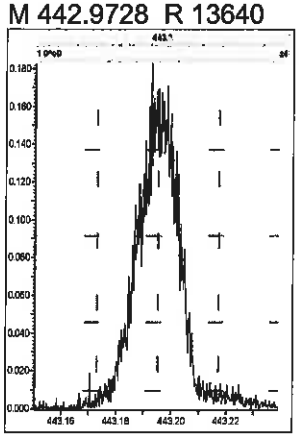

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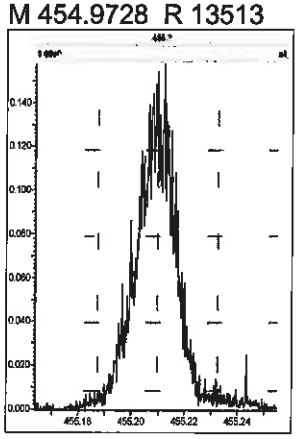

M 466.9728 R 15486

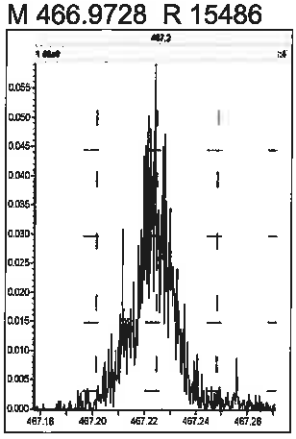

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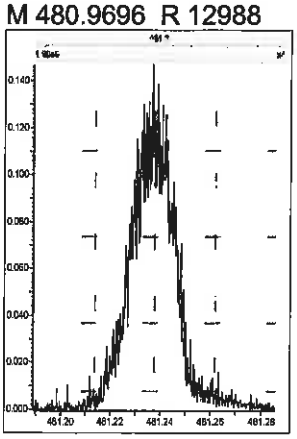

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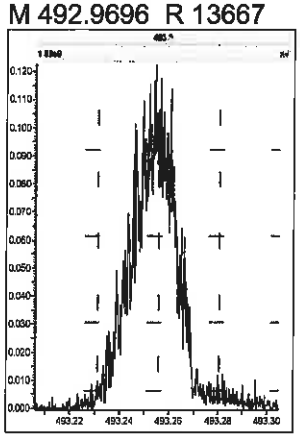

M 504.9696 R 13450

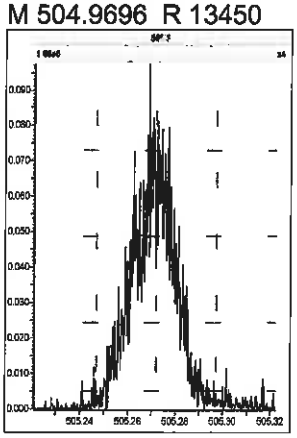

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M 516.9697 R 15435

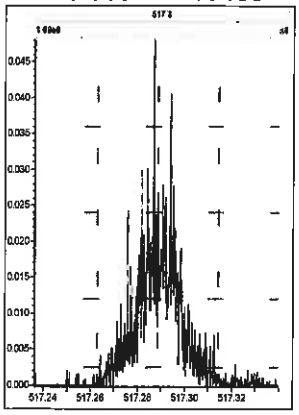

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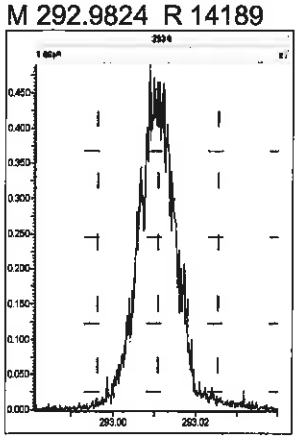

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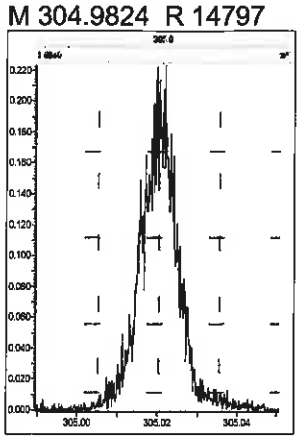

M 318.9792 R 15461

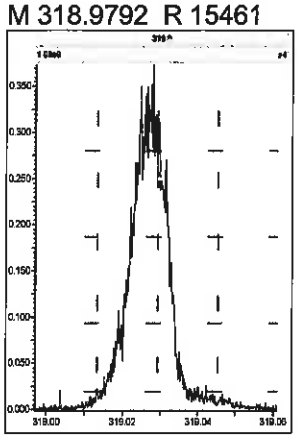

M 330.9792 R 14928

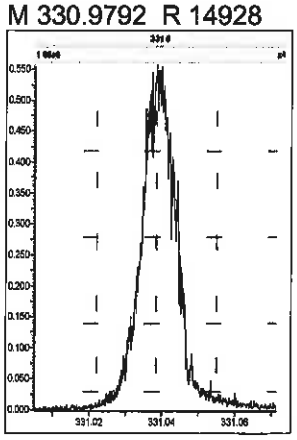

M 342.9792 R 15531

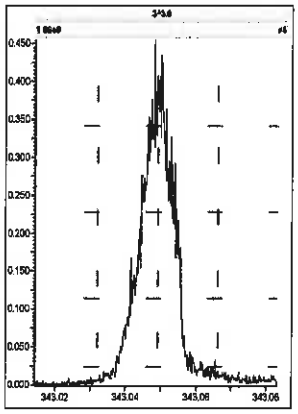

M 354.9792 R 17431

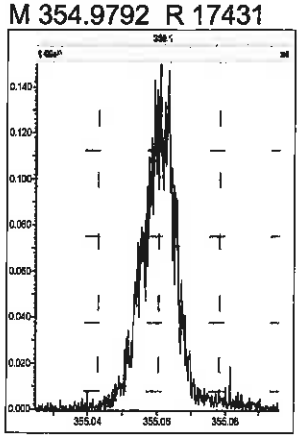

M 366.9792 R 18869

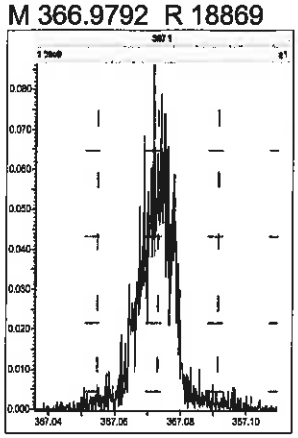

M 380.9760 R 15892

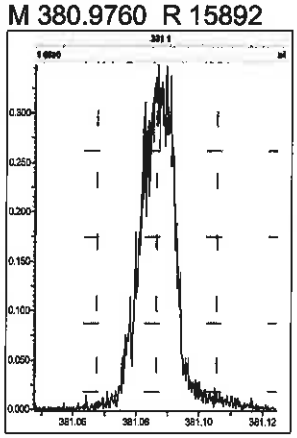

M 392.9760 R 16239

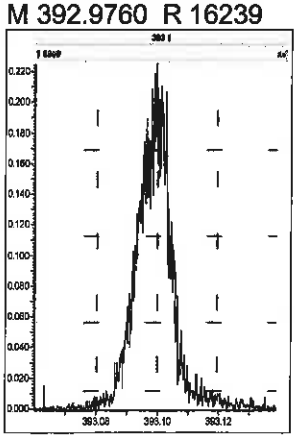

M 404.9760 R 18150

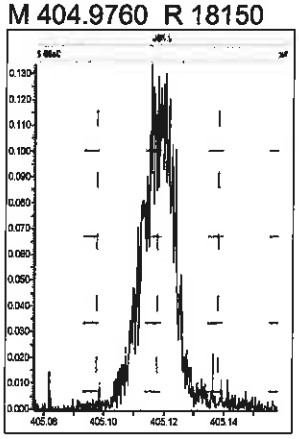

M 416.9760 R 18823

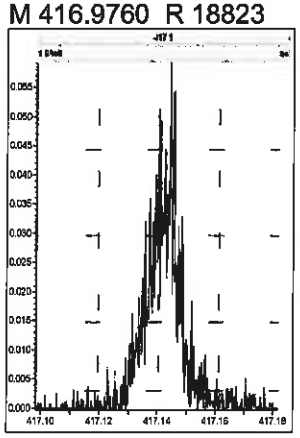

M 318.9792 R 15342

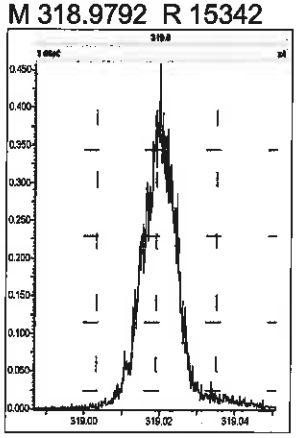

M 330.9792 R 16114

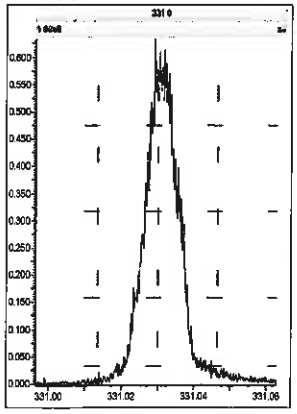

M 342.9792 R 15353

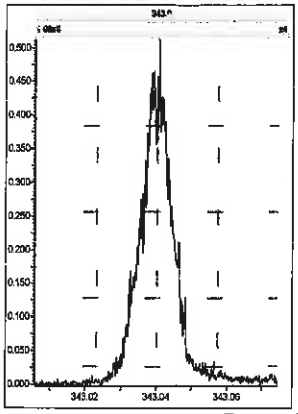

M 354.9792 R 18044

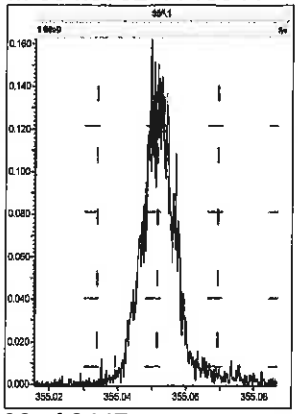

M 366.9792 R 18282

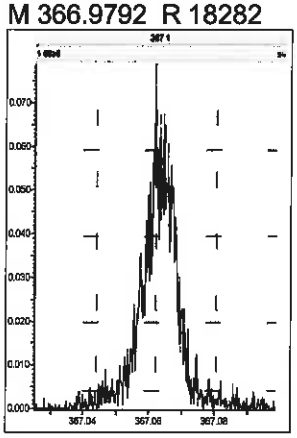

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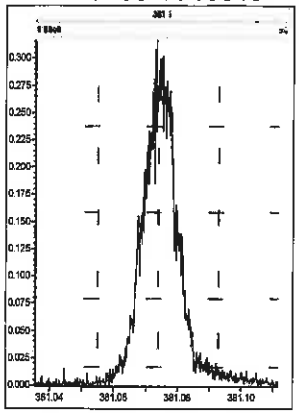

M 392.9760 R 16672

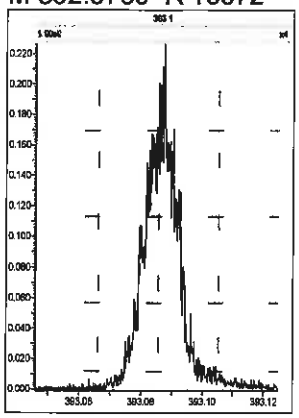

M 404.9760 R 17064

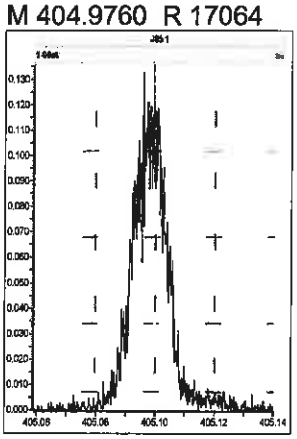

M 416.9760 R 19833

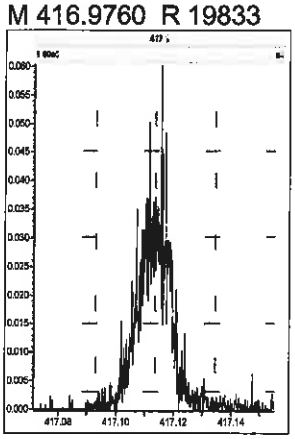

M 366.9792 R 16781

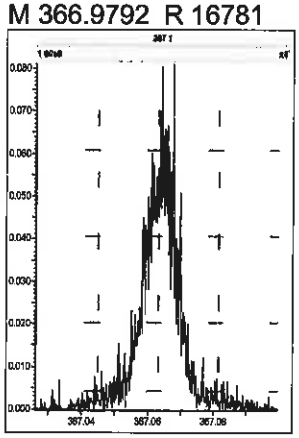

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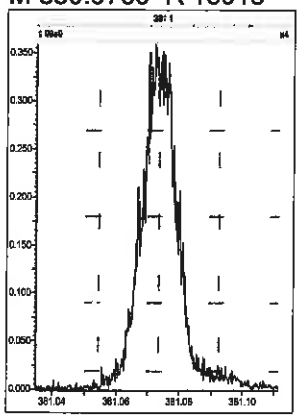

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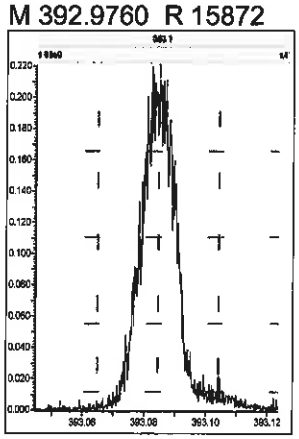

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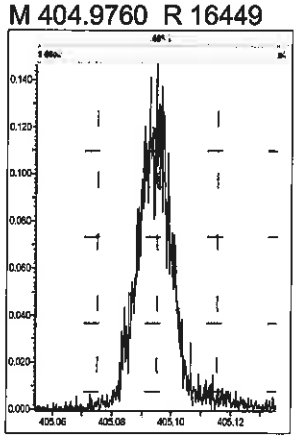

M 416.9760 R 17490

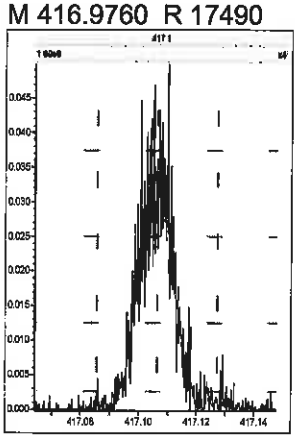

M 430.9728 R 14955

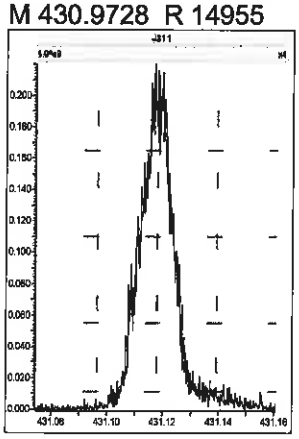

M 442.9728 R 16684

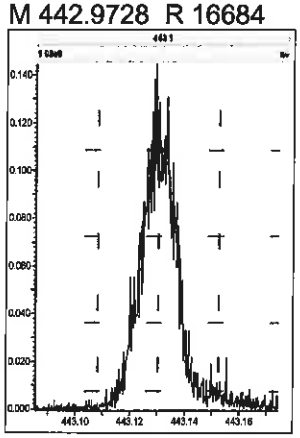

M 454.9728 R 17233

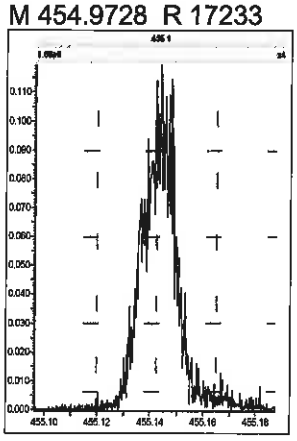

M 380.9760 R 15408

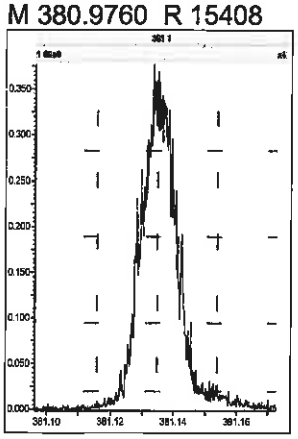

M 392.9760 R 15946

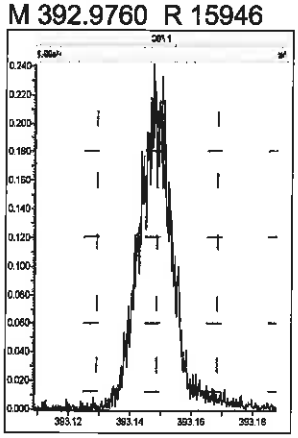

M 404.9760 R 17189

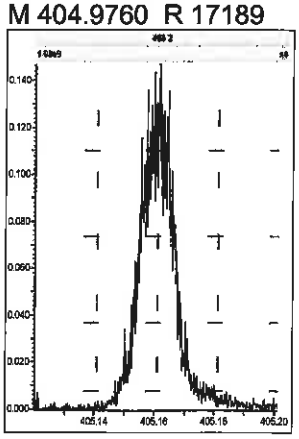

M 416.9760 R 17762

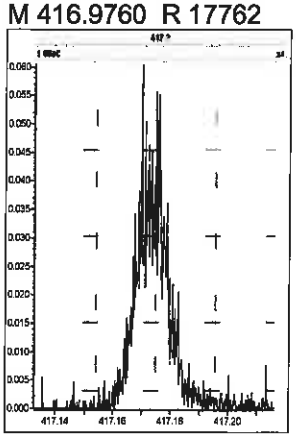

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M 430.9728 R 14408

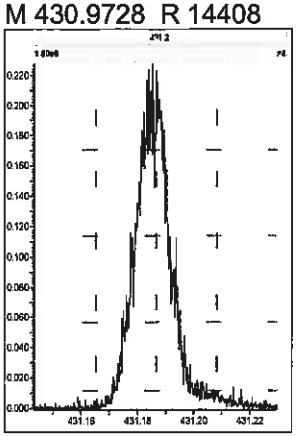

M 442.9728 R 15950

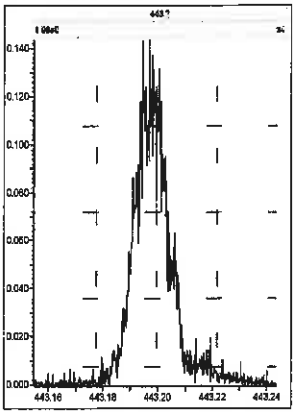

M 454.9728 R 15863

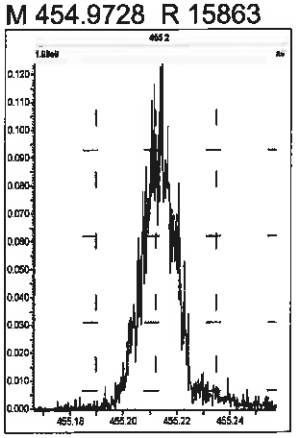

M 466.9728 R 21200

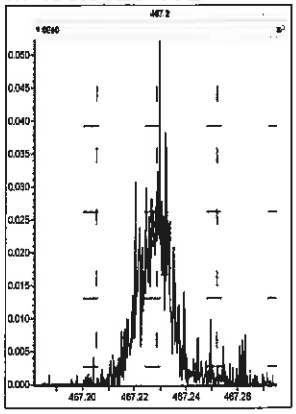

M 480.9696 R 15166

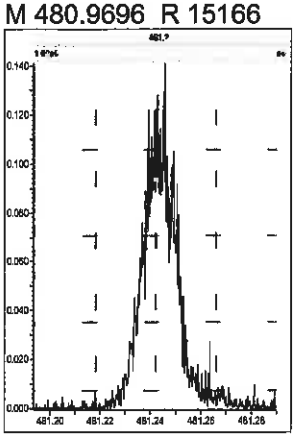

M 380.9760 R 14974

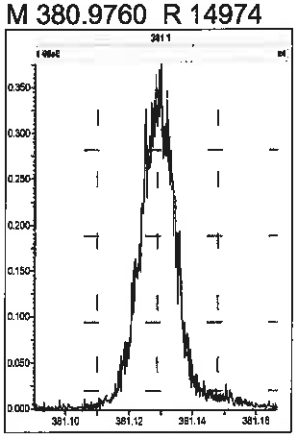

M 392.9760 R 15975

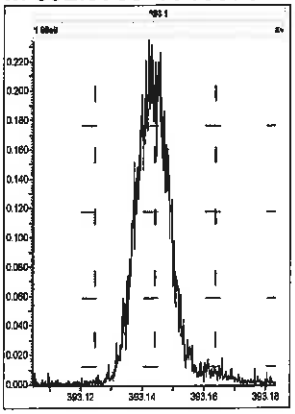

M 404.9760 R 16242

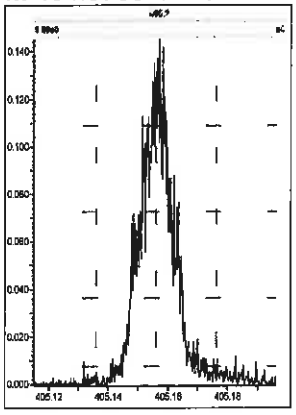

M 416.9760 R 17240

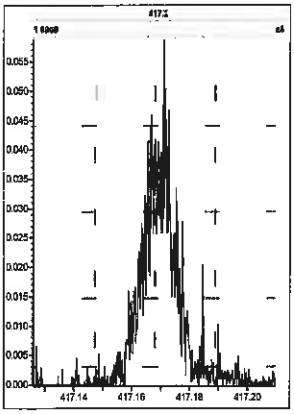

M 430.9728 R 15291

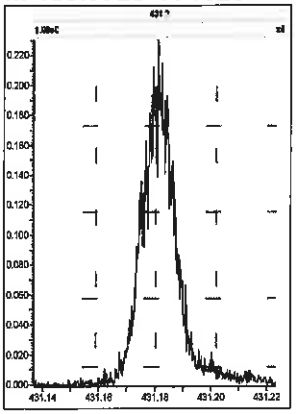

M 442.9728 R 15436

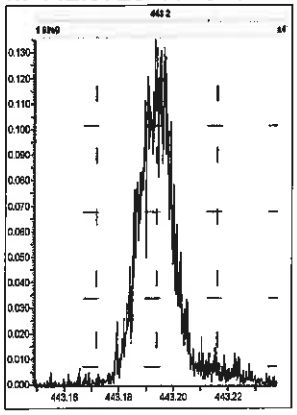

M 454.9728 R 16340

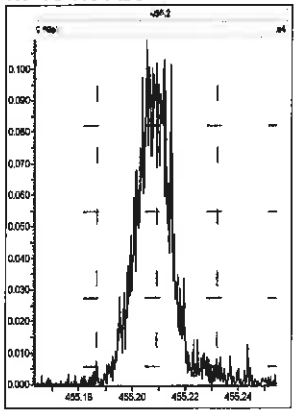

M 466.9728 R 20411

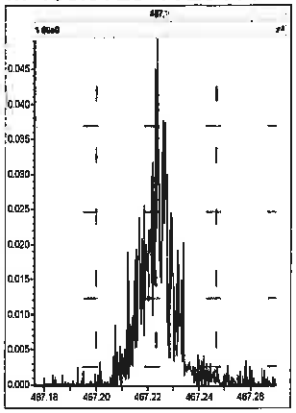

M 480.9696 R 17347

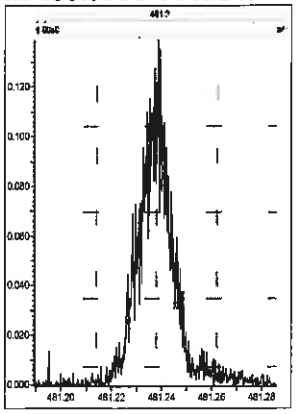

M 492.9696 R 17935

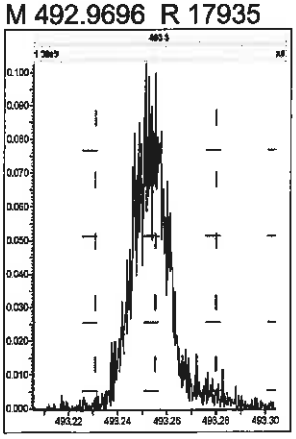

M 504.9696 R 16805

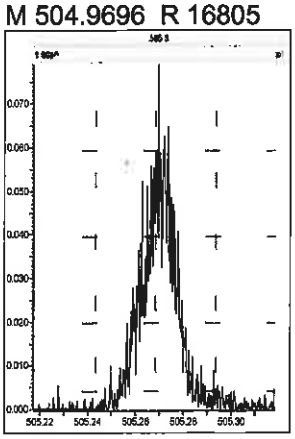

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M 516.9697 R 24645

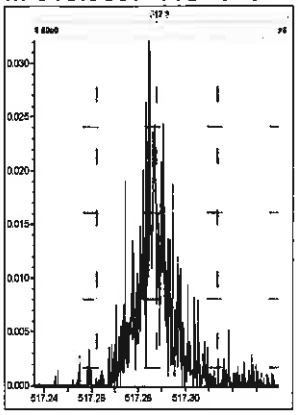

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_1.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 30-Oct-2019 21:30:06 ALS Bottle#: 2 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 103019B CS-4 HRDXNL4_00085
Misc. Info.: 30OC19B3D5
Operator ID: ALM Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 31-Oct-2019 10:58:55 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0329

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.626	226851117	0.80	3.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.127	302675312	0.78	1.3908	95.9	95.9	0.2416	0.2416	95.93	
2,3,7,8-TCDF	17.127	25524731	0.75	0.9710	8.685	8.685	0.0385	0.0385	86.85	
A Non-2,3,7,8-sub-TCDF	16.462						0.0385	0.0385		
S Total TCDF					8.685	8.685	0.0385	0.0385		
D 13C-2,3,7,8-TCDD	17.807	216504212	0.76	0.9819	97.2	97.2	0.1992	0.1992	97.20	
2,3,7,8-TCDD	17.838	22417781	0.79	1.0447	9.911	9.911	0.0388	0.0388	99.11	
$ 37Cl4-2,3,7,8-TCDD	17.838	34117015		1.2205	12.3	12.3	0.0297	0.0297	123	
A Non-2,3,7,8-sub-TCDD	16.908						0.0388	0.0388		
S Total TCDD					9.911	9.911	0.0388	0.0388		
D 13C-1,2,3,7,8-PeCDF	22.043	244997526	1.61	1.1585	93.2	93.2	0.2576	0.2576	93.23	
1,2,3,7,8-PeCDF	22.071	124160504	1.54	0.9633	52.6	52.6	0.1988	0.1988	105	
D 13C-2,3,4,7,8-PeCDF	23.366	237156877	1.63	1.1532	90.7	90.7	0.2588	0.2588	90.66	
2,3,4,7,8-PeCDF	23.393	121301042	1.56	0.9495	53.9	53.9	0.2202	0.2202	108	
A F1 PeCDFs	19.335						0.0422	0.0422		
A Non-2,3,7,8-sub-PeCDF	22.226						0.2090	0.2090		
S Total PeCDF					106.5	106.5	0.2095	0.2095		
D 13C-1,2,3,7,8-PeCDD	24.062	145842766	1.64	0.7431	86.5	86.5	0.1271	0.1271	86.51	
1,2,3,7,8-PeCDD	24.103	80896093	1.59	1.0635	52.2	52.2	0.1416	0.1416	104	
A Non-2,3,7,8-sub-PeCDD	22.018						0.1416	0.1416		
S Total PeCDD					52.2	52.2	0.1416	0.1416		
D 13C-1,2,3,4,7,8-HxCDF	30.204	203499842	0.54	0.9837	105.1	105.1	0.2933	0.2933	105	
1,2,3,4,7,8-HxCDF	30.231	114521278	1.24	1.2173	46.2	46.2	0.1992	0.1992	92.46	
D 13C-1,2,3,6,7,8-HxCDF	30.417	211834436	0.51	1.1554	93.2	93.2	0.2498	0.2498	93.19	
1,2,3,6,7,8-HxCDF	30.431	118364723	1.21	1.1311	49.4	49.4	0.2021	0.2021	98.80	
D 13C-2,3,4,6,7,8-HxCDF	31.309	206342884	0.51	1.0361	101.2	101.2	0.2785	0.2785	101	
2,3,4,6,7,8-HxCDF	31.323	118173524	1.17	1.1710	48.9	48.9	0.1447	0.1447	97.82	
D 13C-1,2,3,7,8,9-HxCDF	32.161	198354366	0.51	0.9034	111.6	111.6	0.3194	0.3194	112	
1,2,3,7,8,9-HxCDF	32.175	114453258	1.19	1.1787	49.0	49.0	0.1355	0.1355	97.91	
A Non-2,3,7,8-sub-HxCDF	28.997						0.1648	0.1648		
S Total HxCDF					193.5	193.5	0.1704	0.1704		

Report Date: 31-Oct-2019 10:58:55 Chrom Revision: 2.3 17-Sep-2019 16:19:08
Data File: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_1.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.962	196751845	1.26	2.6E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.509	148392989	1.29	0.8287	91.0	91.0	0.2354	0.2354	91.01	
1,2,3,4,7,8-HxCDD	31.522	80268317	1.32	1.0267	52.7	52.7	0.1358	0.1358	105	
D 13C-1,2,3,6,7,8-HxCDD	31.629	170627303	1.32	0.9495	91.3	91.3	0.2054	0.2054	91.34	
1,2,3,6,7,8-HxCDD	31.642	88967409	1.20	0.9771	53.4	53.4	0.1405	0.1405	107	
1,2,3,7,8,9-HxCDD	31.975	98052719	1.25	1.0616	57.9	57.9	0.1303	0.1303	116	
A Non-2,3,7,8-sub-HxCDD	30.544						0.1354	0.1354		
S Total HxCDD					164.0	164.0	0.1355	0.1355		
D 13C-1,2,3,4,6,7,8-HpCDF	33.630	138475223	0.43	0.7285	96.6	96.6	0.7411	0.7411	96.61	
1,2,3,4,6,7,8-HpCDF	33.642	94846573	1.05	1.4373	47.7	47.7	0.2650	0.2650	95.31	
D 13C-1,2,3,4,7,8,9-HpCDF	34.711	134152801	0.44	0.6556	104.0	104.0	0.8234	0.8234	104	
1,2,3,4,7,8,9-HpCDF	34.723	77724102	1.03	1.3091	44.3	44.3	0.3319	0.3319	88.51	
A Non-2,3,7,8-sub-HpCDF	34.170						0.2956	0.2956		
S Total HpCDF					91.9	91.9	0.2985	0.2985		
D 13C-1,2,3,4,6,7,8-HpCDD	34.419	128331291	1.07	0.6978	93.5	93.5	0.4048	0.4048	93.47	
1,2,3,4,6,7,8-HpCDD	34.431	66419193	1.04	1.0102	51.2	51.2	0.2026	0.2026	102	
A Non-2,3,7,8-sub-HpCDD	34.990						0.2026	0.2026		
S Total HpCDD					51.2	51.2	0.2026	0.2026		
D 13C-OCDD	36.773	169759962	0.93	0.4780	180.5	180.5	0.3224	0.3224	90.26	
OCDF	36.869	120041256	0.93	1.3501	104.7	104.7	0.1481	0.1481	105	
OCDD	36.785	95389393	0.89	1.0627	105.8	105.8	0.1872	0.1872	106	

Reagents:

HRDXNL4_00085 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_1.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 30-Oct-2019 21:30:06 ALS Bottle#: 2 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 103019B CS-4 HRDXNL4_00085
Misc. Info.: 30OC19B3D5
Operator ID: ALM Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 31-Oct-2019 10:58:55 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0329

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.626	17.626	0		100628924	25481228	26358	65895	967		
333.9339	17.626	17.626	0		126222193	32084850	18676	46690	1718	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.127	17.127	0	0.972	132417382	33331485	26949	67372	1237		
317.9389	17.112	17.127	-1	0.971	170257930	41992418	50424	126060	833	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.127	17.127	0	1.000	10972044	2888608	4545	11362	636		
305.8987	17.127	17.127	0	1.000	14552687	3663065	6733	16832	544	0.75(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.462						4545	11362			
305.8987	16.462						6733	16832			
13C-2,3,7,8-TCDD											
331.9368	17.807	17.807	0	1.010	93290711	22086954	26358	65895	838		
333.9339	17.807	17.807	0	1.010	123213501	29011195	18676	46690	1553	0.76(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.838	17.838	0	1.002	9867212	2432563	4902	12255	496		
321.8936	17.823	17.838	-1	1.001	12550569	3013591	3380	8450	892	0.79(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.838	17.838	0	1.012	34117015	8205066	8358	20895	982		
A Non-2,3,7,8-sub-TCDD											
319.8965	16.908						4902	12255			
321.8936	16.908						3380	8450			
13C-1,2,3,7,8-PeCDF											
351.9000	22.043	22.043	0	1.251	151264335	27458711	40995	102487	670		
353.8970	22.043	22.043	0	1.251	93733191	17044030	27723	69307	615	1.61(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	22.071	22.071	0	1.001	75210409	13796738	17877	44692	772		
341.8567	22.071	22.071	0	1.001	48950095	8981416	16206	40515	554	1.54(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	23.366	23.339	2	1.326	146857915	25217732	40995	102487	615		
353.8970	23.366	23.339	2	1.326	90298962	15540864	27723	69307	561	1.63(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.393	23.393	0	1.001	73915074	12354976	17877	44692	691		
341.8567	23.393	23.393	0	1.001	47385968	7899224	16206	40515	487	1.56(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.335						2430	6075			
341.8567	19.335						4451	11127			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.226						17877	44692			
341.8567	22.226						16206	40515			
13C-1,2,3,7,8-PeCDD											
367.8949	24.062	24.062	0	1.365	90495494	14317375	11106	27765	1289		
369.8919	24.075	24.062	1	1.366	55347272	8549539	10647	26617	803	1.64(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.103	24.103	0	1.002	49680382	7914422	9569	23922	827		
357.8516	24.103	24.103	0	1.002	31215711	4997747	4201	10502	1190	1.59(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.018						9569	23922			
357.8516	22.018						4201	10502			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.204	30.164	2	0.945	70958539	11413895	20266	50665	563		
385.8610	30.204	30.164	2	0.945	132541303	21458313	37083	92707	579	0.54(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.231	30.231	0	1.001	63357882	9669753	17309	43272	559		
375.8178	30.218	30.231	-1	1.000	51163396	8286683	14574	36435	569	1.24(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.417	30.417	0	0.952	71948983	11738890	20266	50665	579		
385.8610	30.404	30.417	-1	0.951	139885453	23130284	37083	92707	624	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.431	30.431	0	1.000	64815150	10890483	17309	43272	629		
375.8178	30.431	30.431	0	1.000	53549573	9049944	14574	36435	621	1.21(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.309	31.309	0	0.980	69916124	15697972	20266	50665	775		
385.8610	31.309	31.309	0	0.980	136426760	31354899	37083	92707	846	0.51(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.323	31.323	0	1.000	63682706	14455365	17309	43272	835		
375.8178	31.323	31.323	0	1.000	54490818	12509356	14574	36435	858	1.17(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.161	32.161	0	1.006	67012339	17156791	20266	50665	847		
385.8610	32.161	32.161	0	1.006	131342027	32760770	37083	92707	883	0.51(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	32.175	32.175	0	1.000	62122194	15918191	17309	43272	920		
375.8178	32.175	32.175	0	1.000	52331064	13131762	14574	36435	901	1.19(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	28.997						17309	43272			
375.8178	28.997						14574	36435			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.962	31.962	0		109793457	27891947	20330	50825	1372		
403.8529	31.962	31.962	0		86958388	21792634	18432	46080	1182	1.26(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.509	31.496	1	0.986	83728007	20899175	20330	50825	1028		
403.8529	31.509	31.496	1	0.986	64664982	16488342	18432	46080	895	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.522	31.522	0	1.000	45608221	10974189	11401	28502	963		
391.8127	31.522	31.522	0	1.000	34660096	8638715	9452	23630	914	1.32(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.629	31.629	0	0.990	96968053	21697234	20330	50825	1067		
403.8529	31.629	31.629	0	0.990	73659250	16277433	18432	46080	883	1.32(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.642	31.642	0	1.000	48485151	11546616	11401	28502	1013		
391.8127	31.642	31.642	0	1.000	40482258	9249471	9452	23630	979	1.20(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.975	31.975	0	1.015	54514295	13635001	11401	28502	1196		
391.8127	31.975	31.975	0	1.015	43538424	11126758	9452	23630	1177	1.25(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.544						11401	28502			
391.8127	30.544						9452	23630			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.630	33.630	0	1.052	41758356	13153228	50364	125910	261		
419.8220	33.630	33.630	0	1.052	96716867	31745617	56927	142317	558	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.642	33.642	0	1.000	48508148	15956747	39636	99090	403		
409.7789	33.642	33.642	0	1.000	46338425	14647883	28770	71925	509	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.711	34.699	1	1.086	40938349	11881212	50364	125910	236		
419.8220	34.711	34.699	1	1.086	93214452	27477785	56927	142317	483	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.723	34.723	0	1.000	39456076	11442084	39636	99090	289		
409.7789	34.723	34.723	0	1.000	38268026	11174293	28770	71925	388	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.170						39636	99090			
409.7789	34.170						28770	71925			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.419	34.419	0	1.077	66325221	19195359	29482	73705	651		
437.8140	34.419	34.419	0	1.077	62006070	18037603	26654	66635	677	1.07(0.88-1.20)	

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Data File: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_1.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.431	34.431	0	1.000	33849318	10411036	16776	41940	621		
425.7737	34.431	34.431	0	1.000	32569875	9795192	13698	34245	715	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.990						16776	41940			
425.7737	34.990						13698	34245			
13C-OCDD											
469.7779	36.773	36.773	0	1.151	81576657	20270525	17372	43430	1167		
471.7750	36.773	36.773	0	1.151	88183305	22072590	13255	33137	1665	0.93(0.76-1.02)	
OCDF											
441.7428	36.869	36.869	0	1.003	57879500	14327338	7122	17805	2012		
443.7399	36.869	36.869	0	1.003	62161756	15426957	9814	24535	1572	0.93(0.76-1.02)	
OCDD											
457.7377	36.785	36.785	0	1.000	44793976	11285393	8731	21827	1293		
459.7348	36.785	36.785	0	1.000	50595417	12727961	8119	20297	1568	0.89(0.76-1.02)	

Reagents:

HRDXNL4_00085 Amount Added: 1.00 Units: mL

Report Date: 31-Oct-2019 10:58:55 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_1.d		
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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

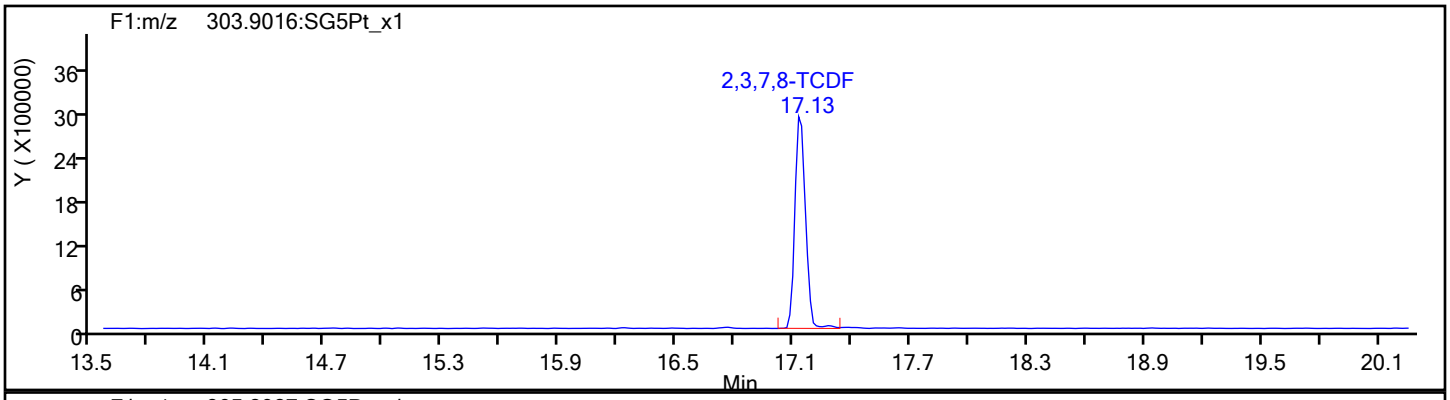

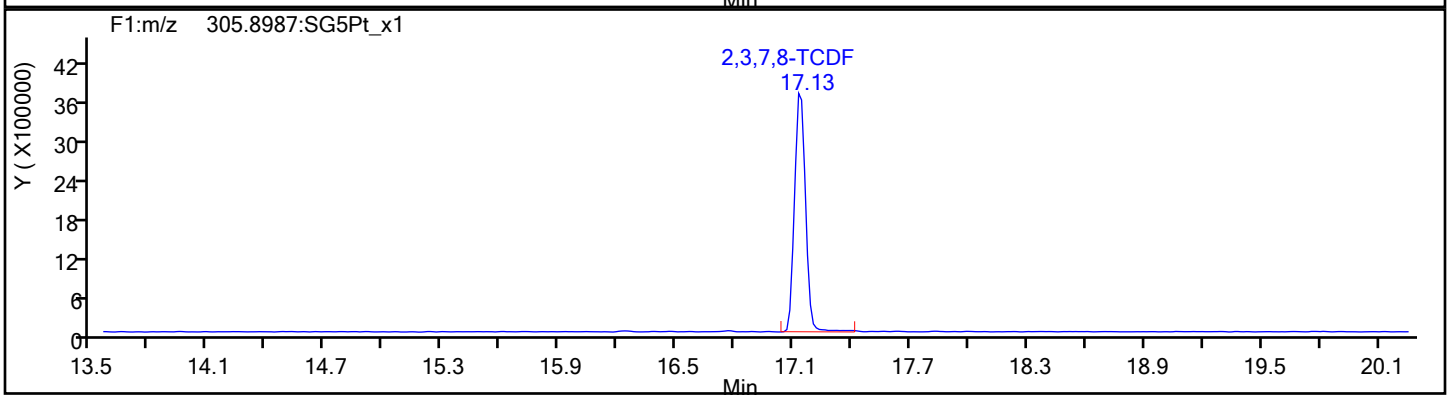

TCDF Standards

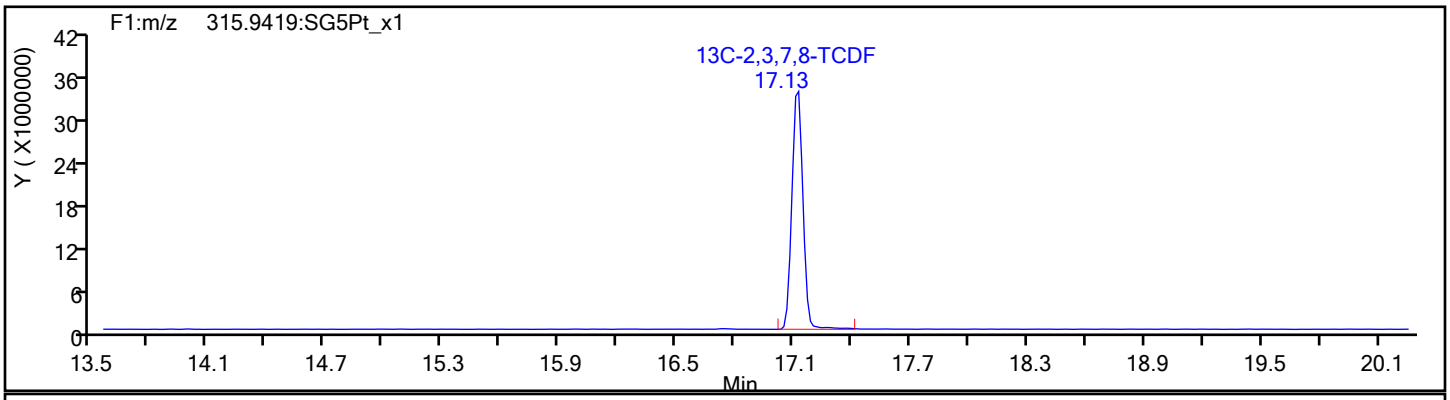

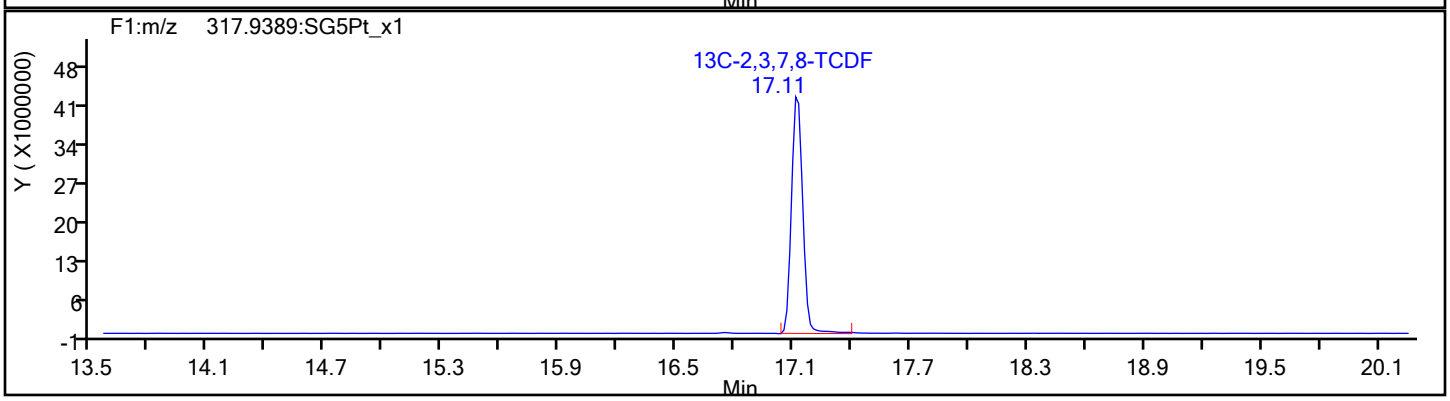

Report Date: 31-Oct-2019 10:58:55 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

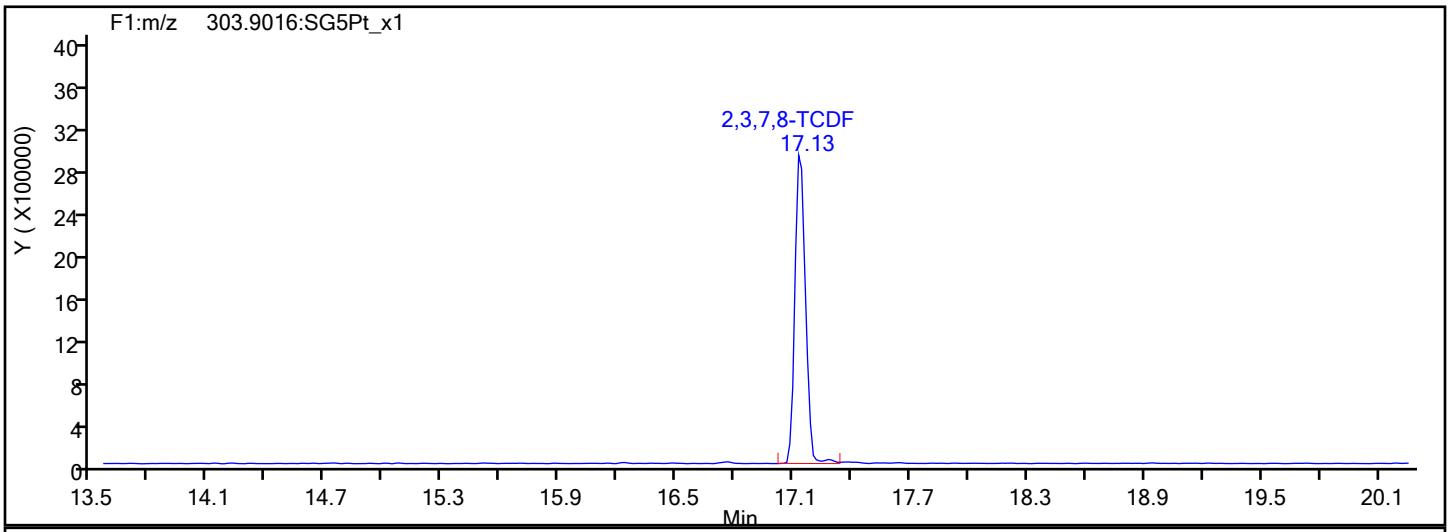

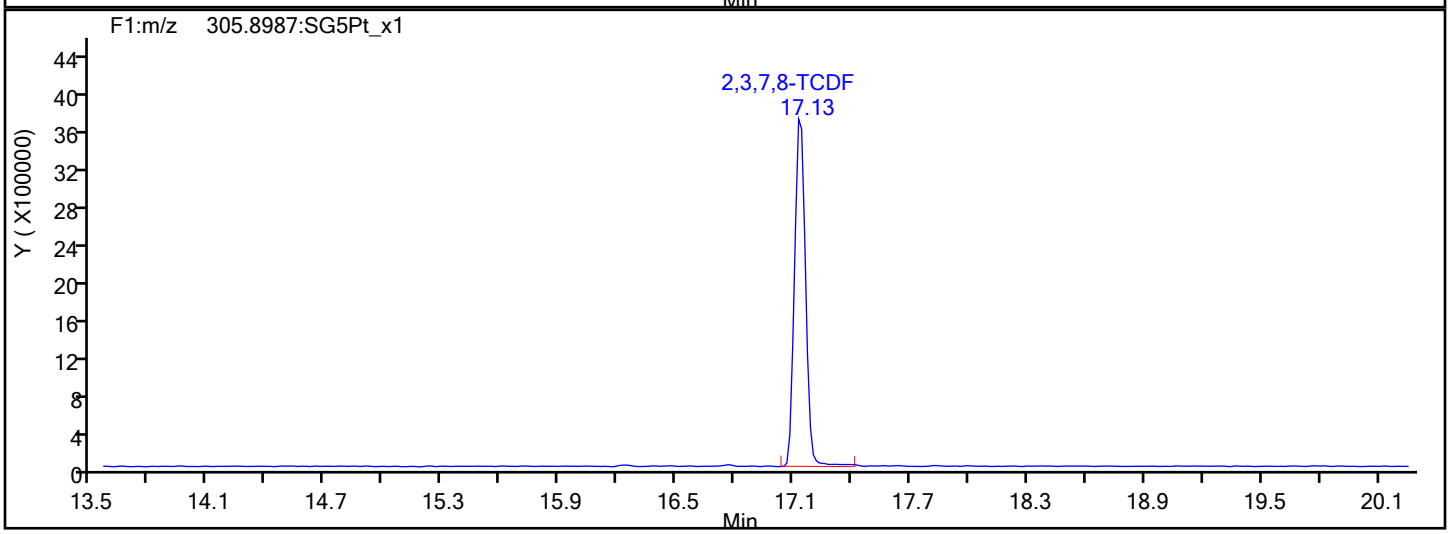

TCDF Interference Mass

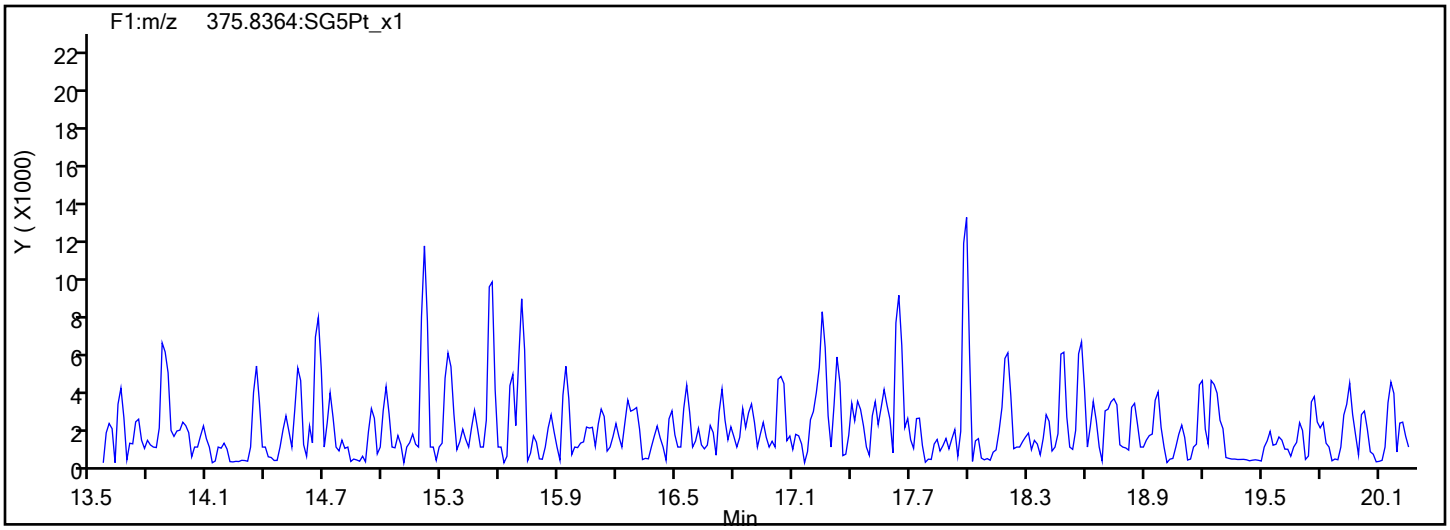

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	334889	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

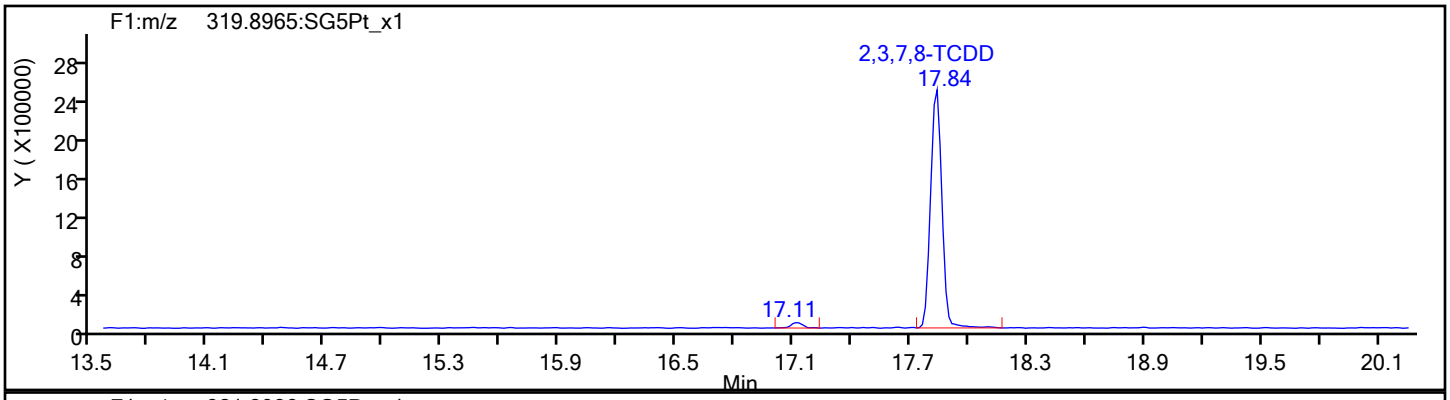

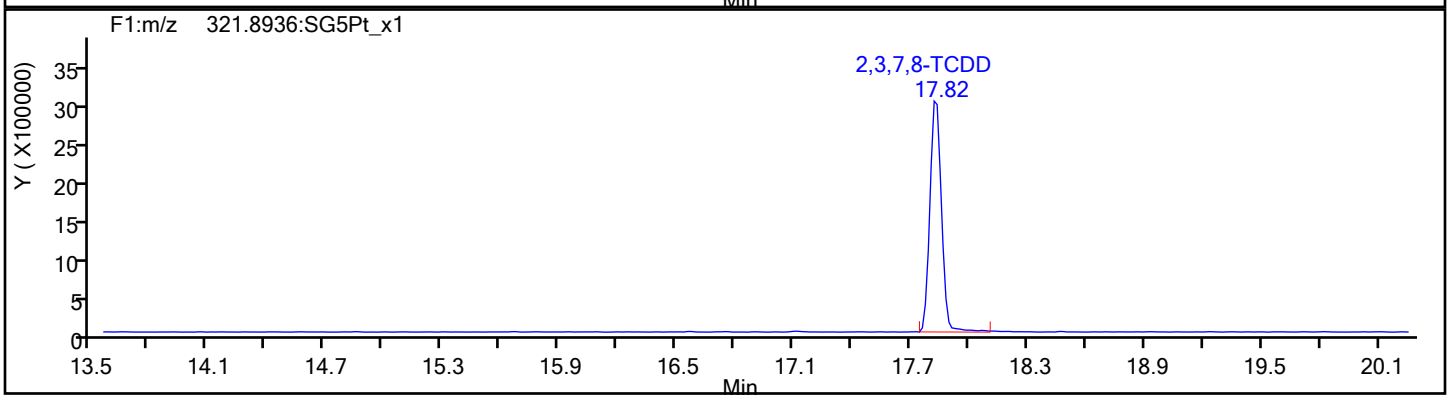

TCDD Standards

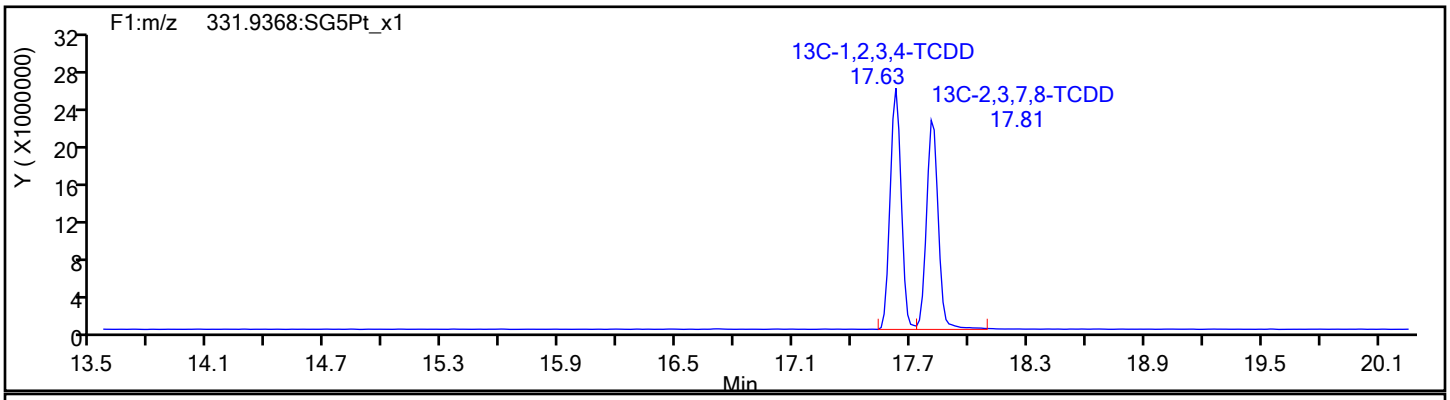

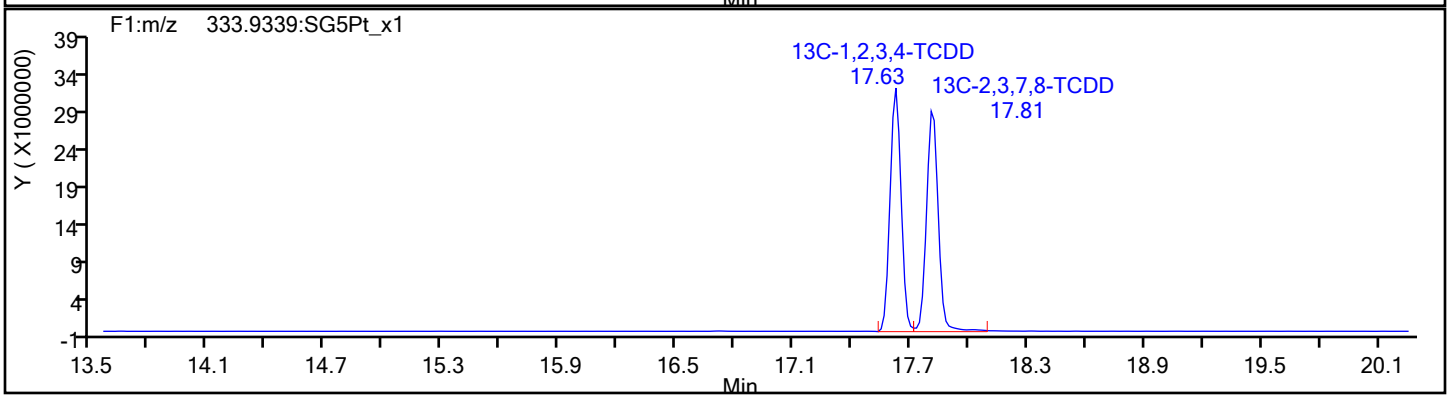

Report Date: 31-Oct-2019 10:58:55 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

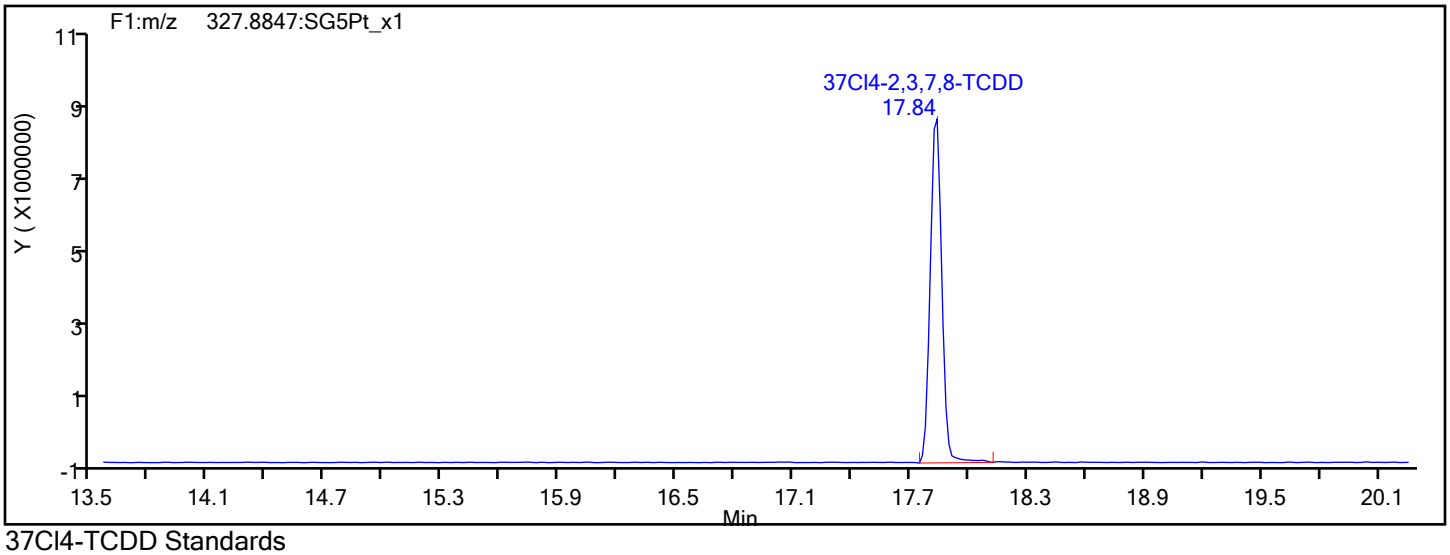

37Cl4-TCDD Standards

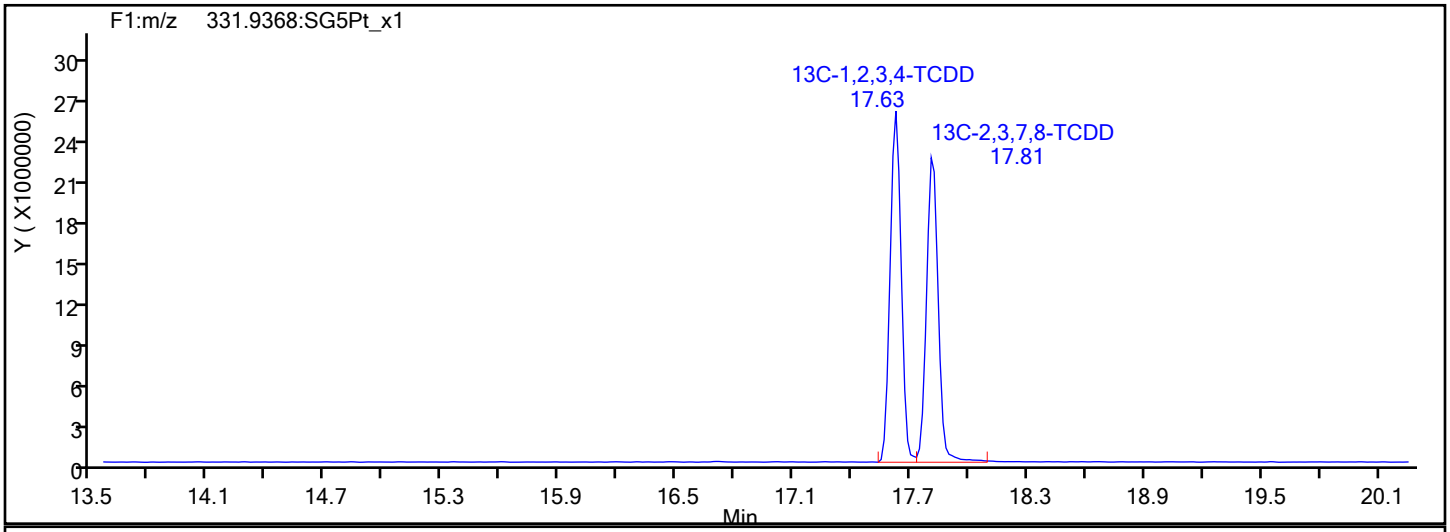

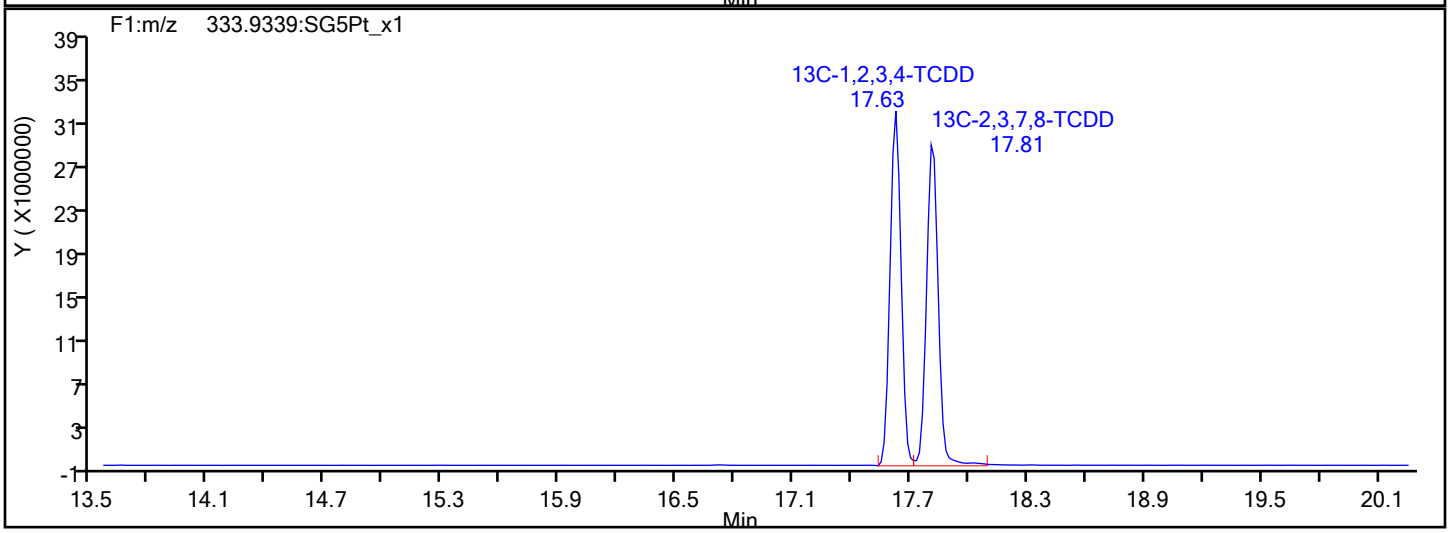

Report Date: 31-Oct-2019 10:58:55 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	334889	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

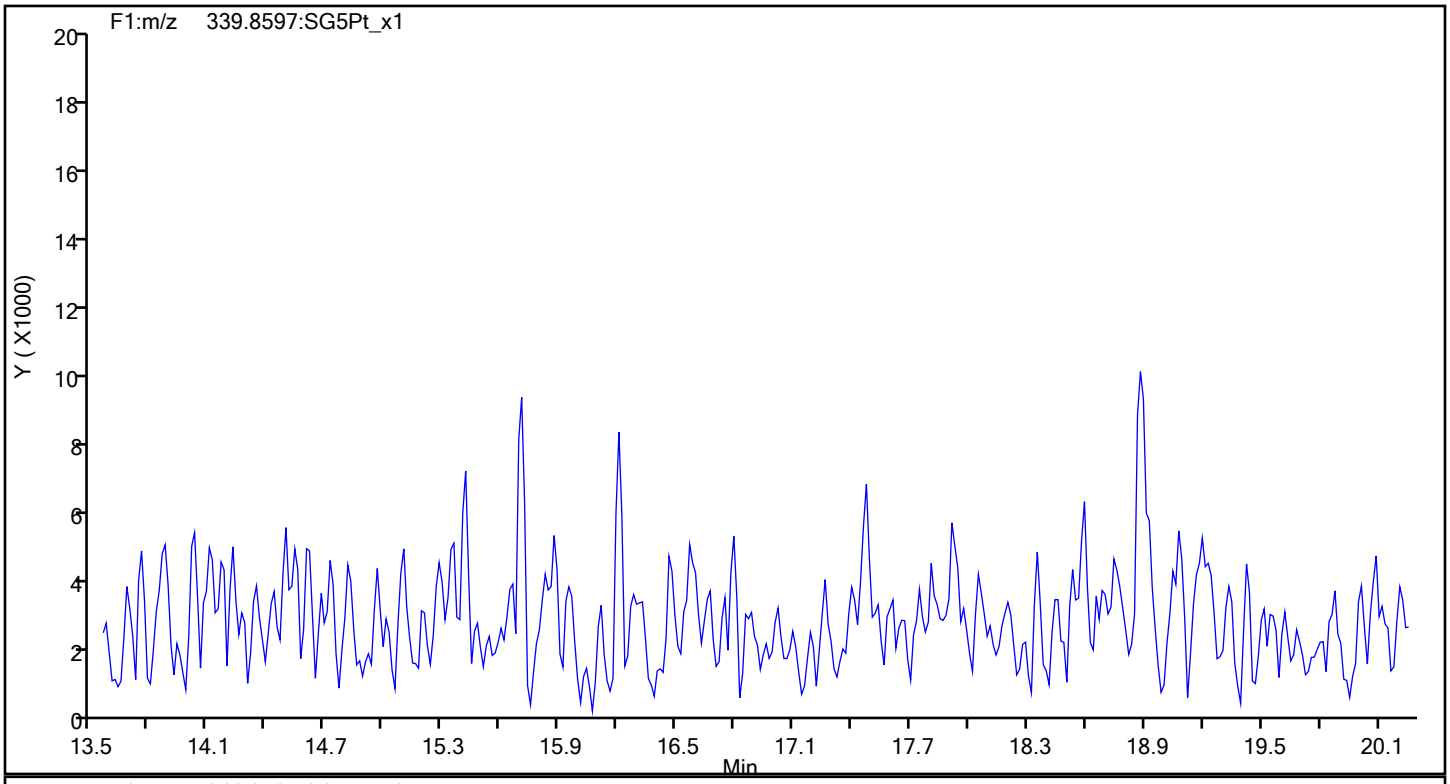

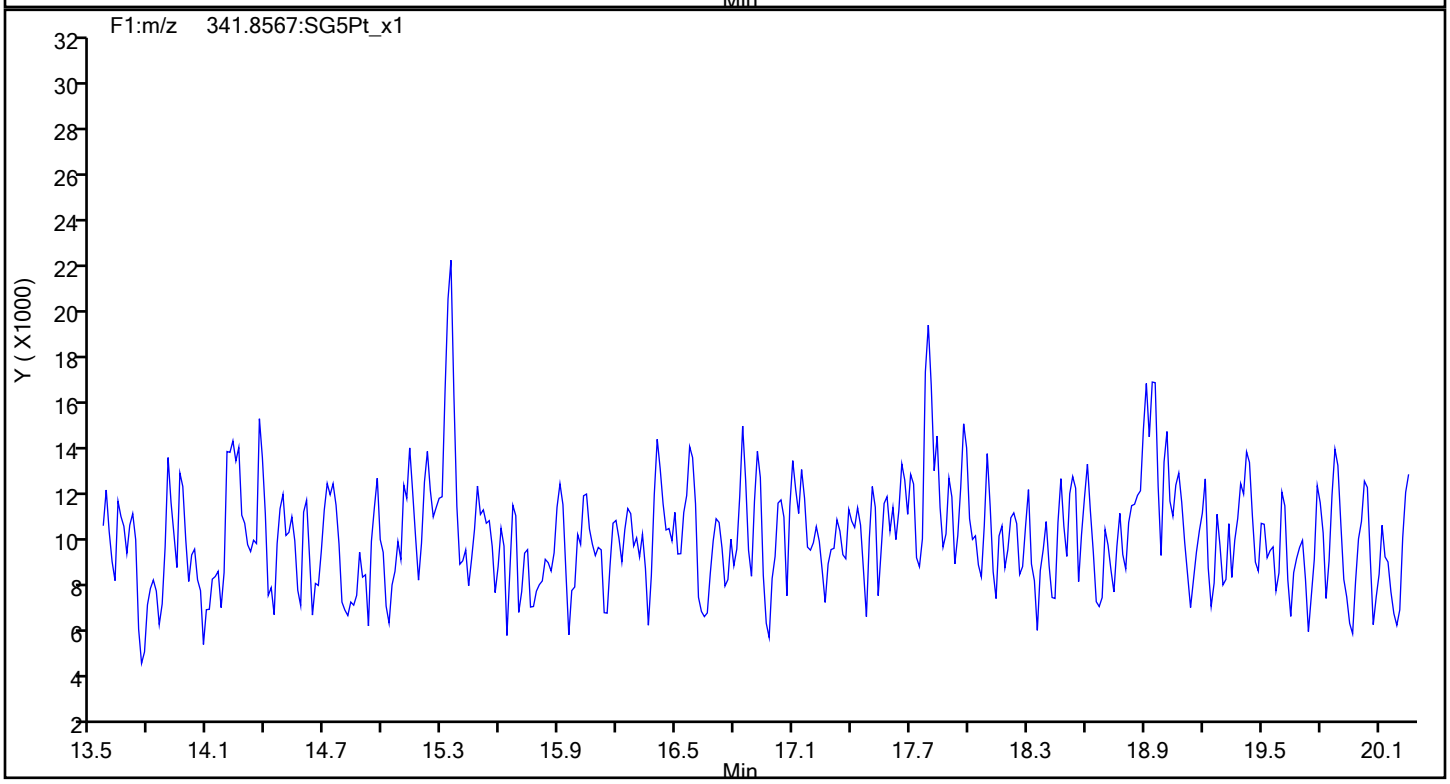

Report Date: 31-Oct-2019 10:58:55 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_1.d		
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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	334889	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

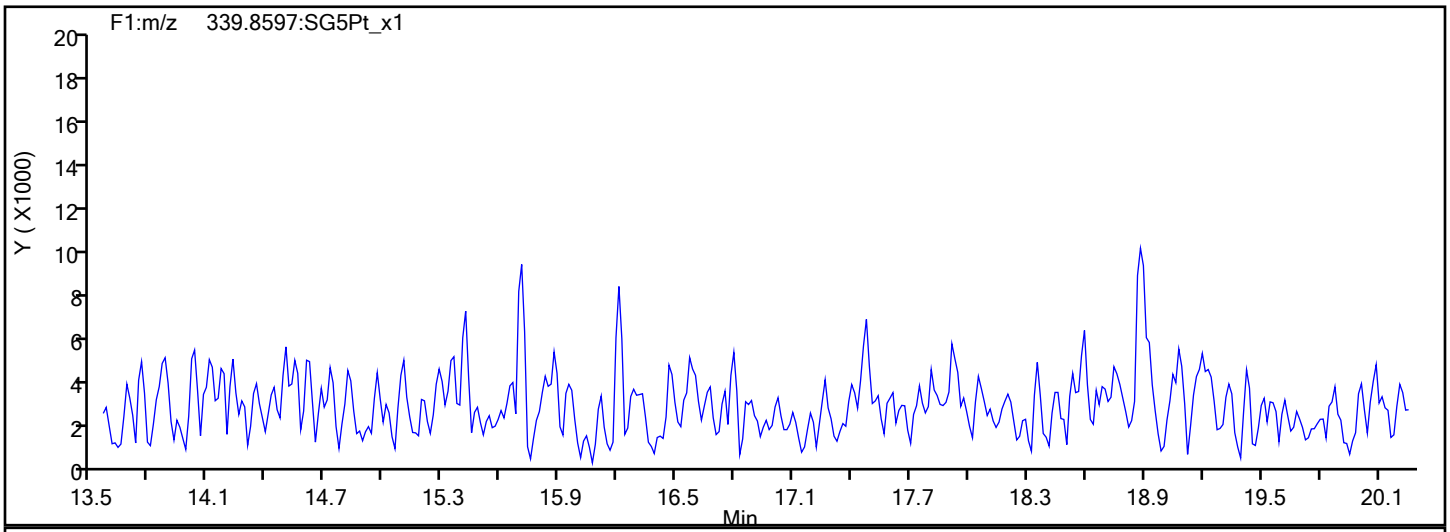

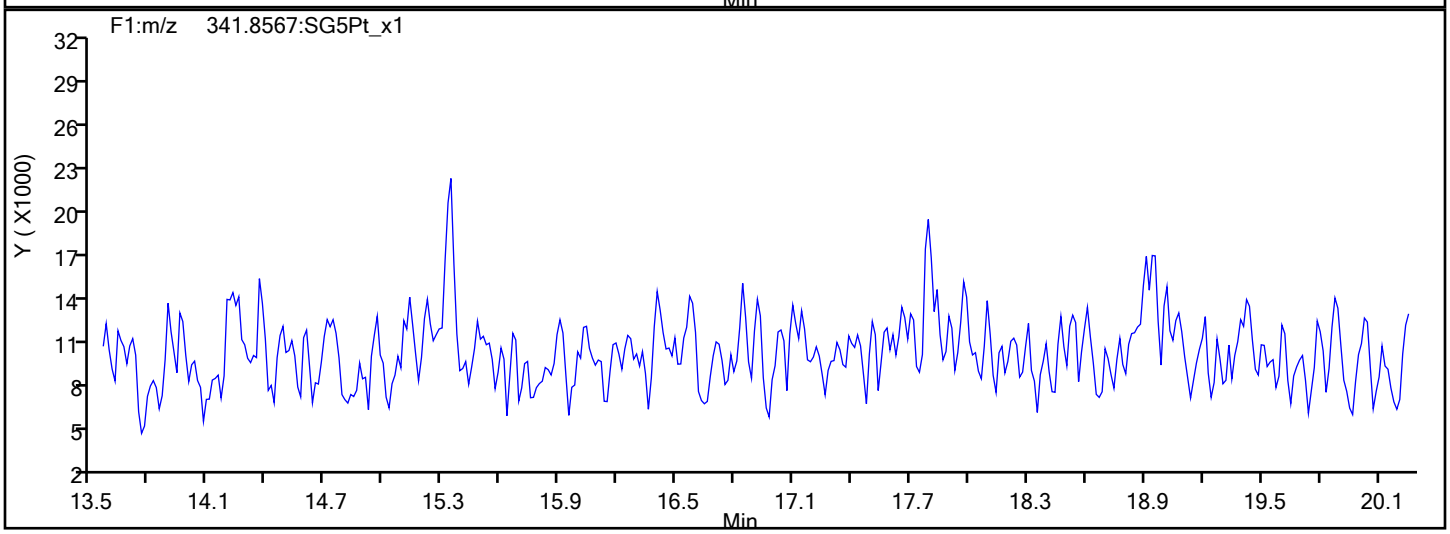

F1 PeCDFs Interference Mass

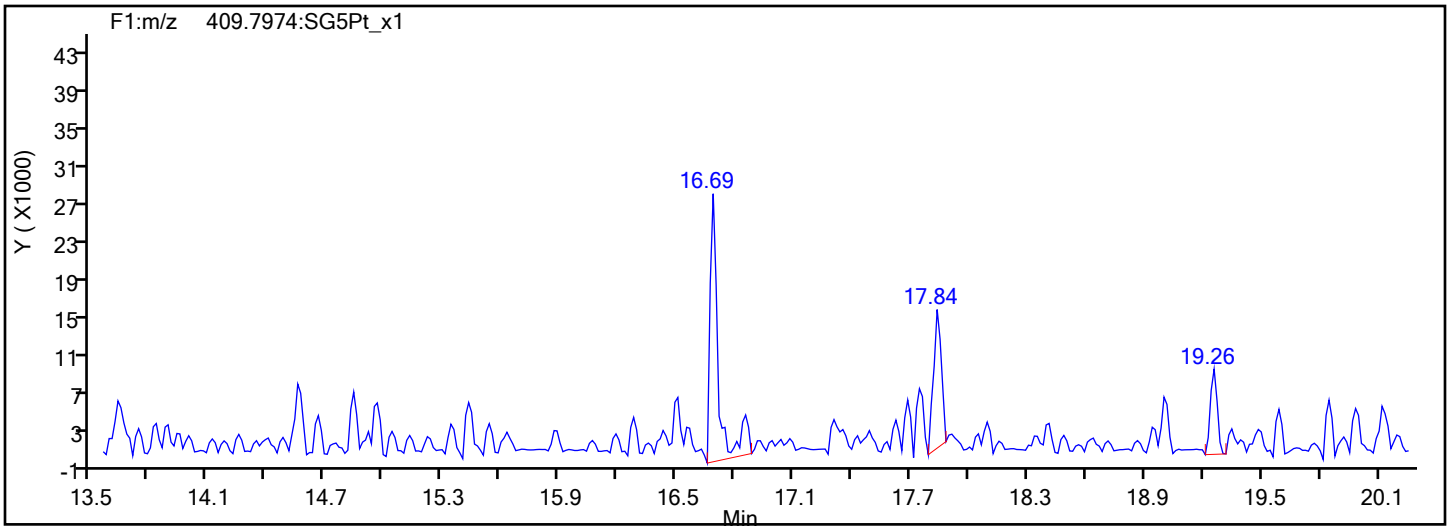

Report Date: 31-Oct-2019 10:58:55 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_1.d		
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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	334889	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

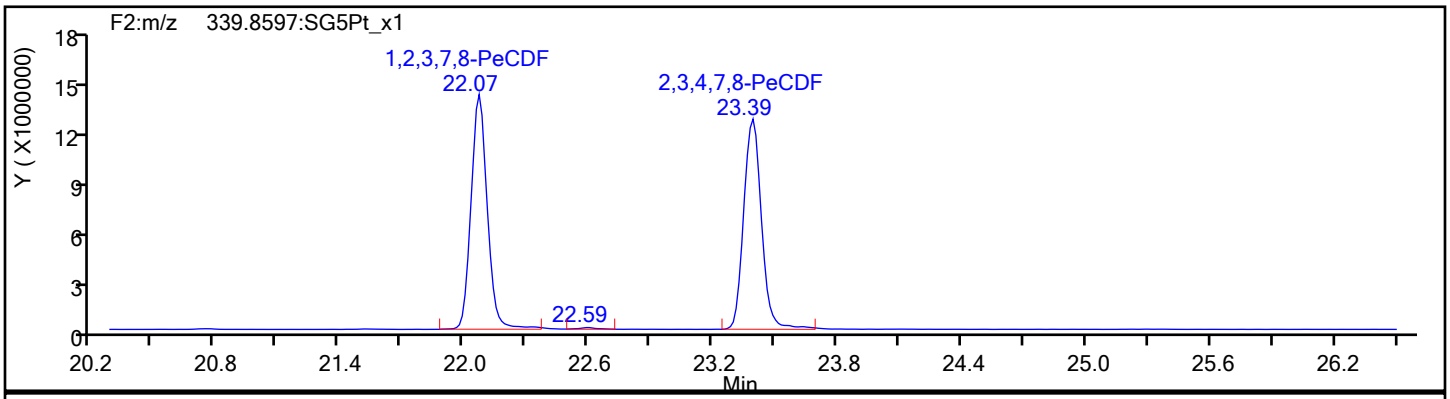

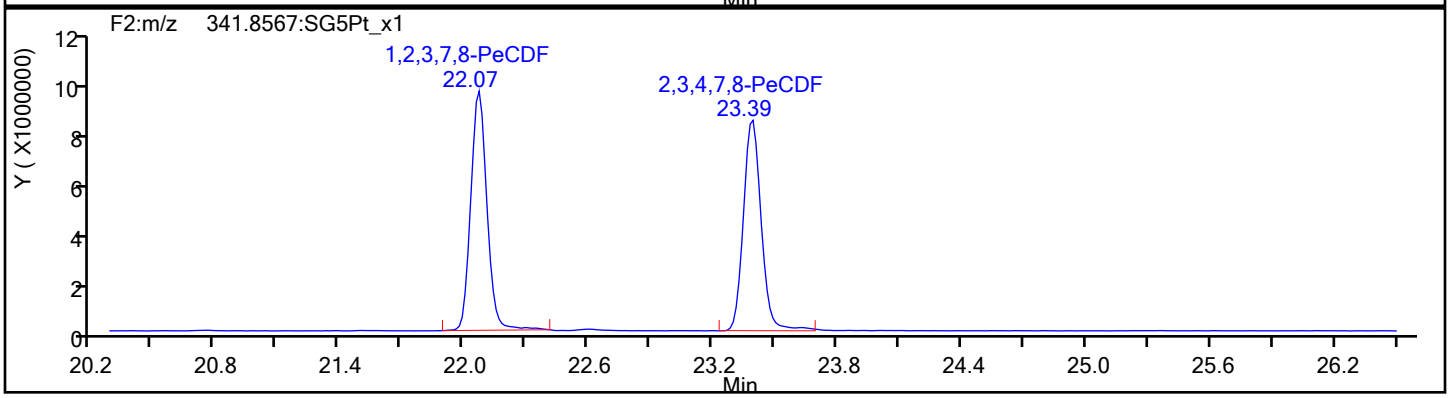

PeCDF Standards

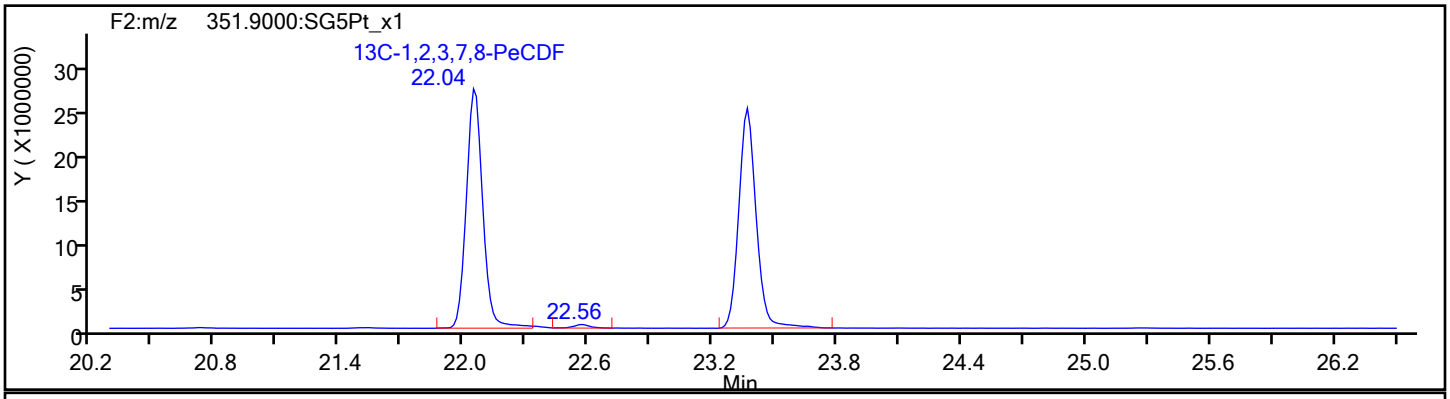

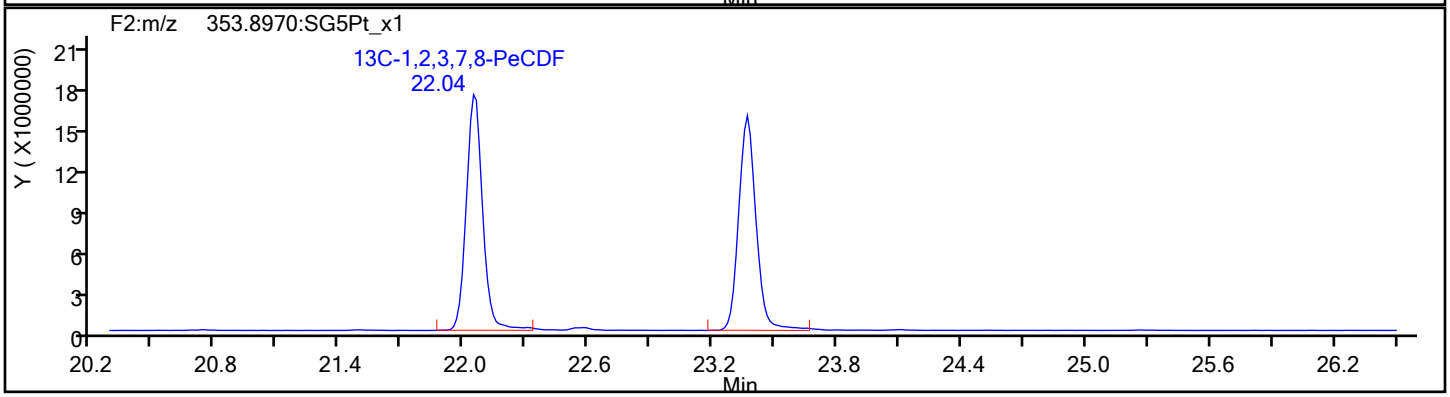

Report Date: 31-Oct-2019 10:58:55 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_1.d		
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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

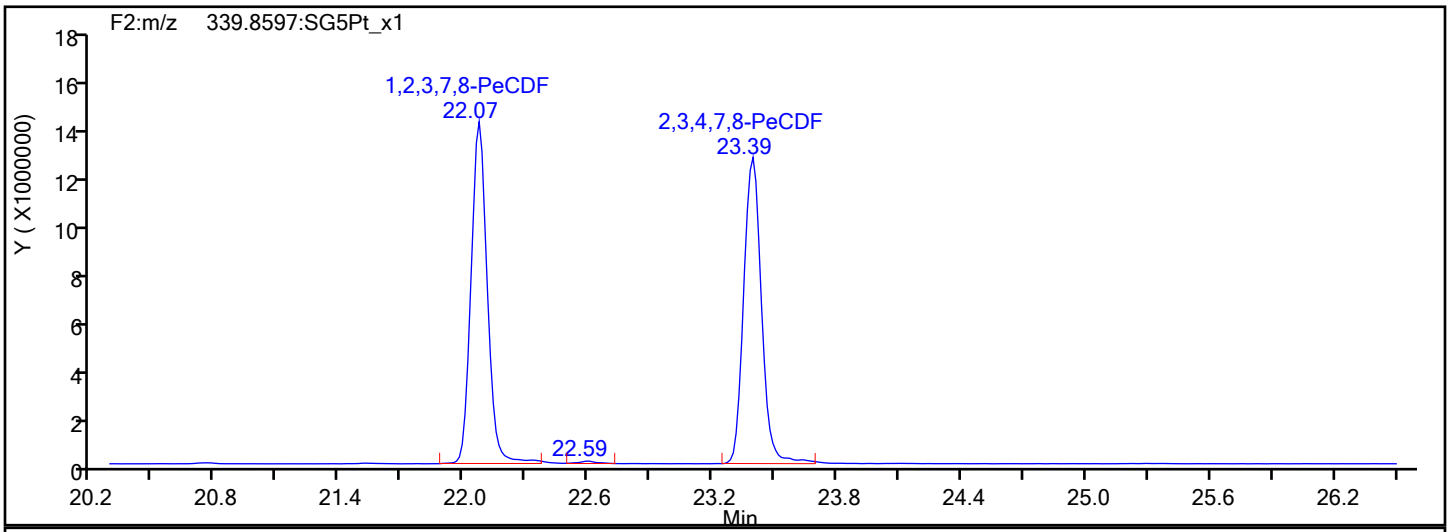

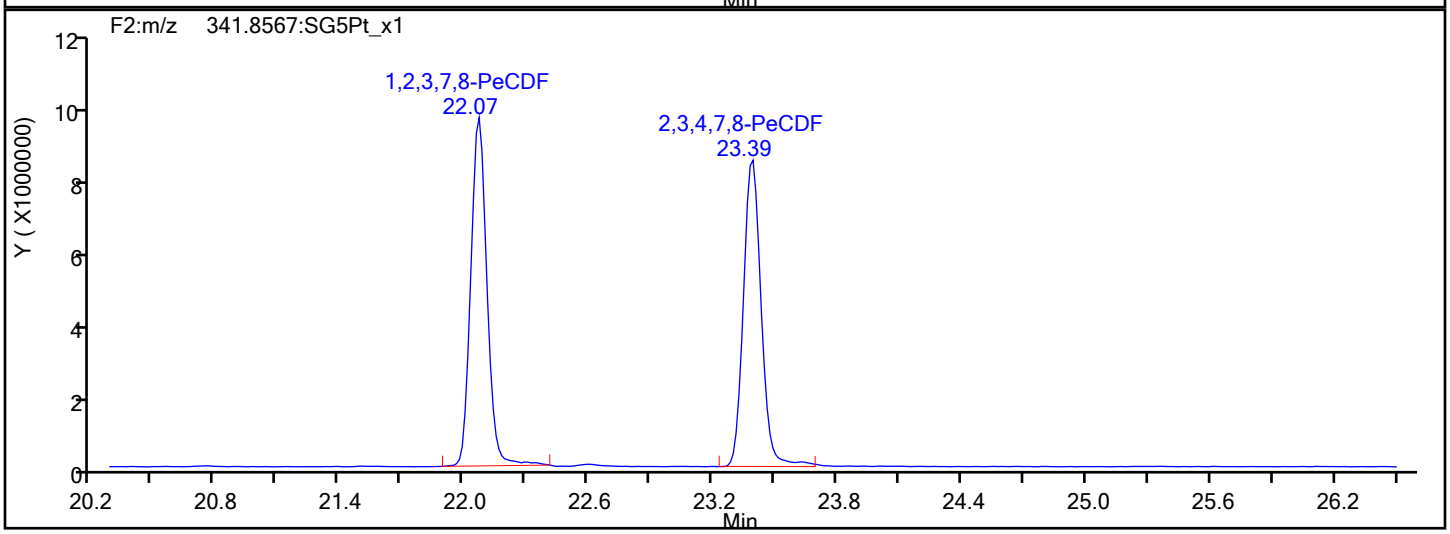

PeCDF Interference Mass

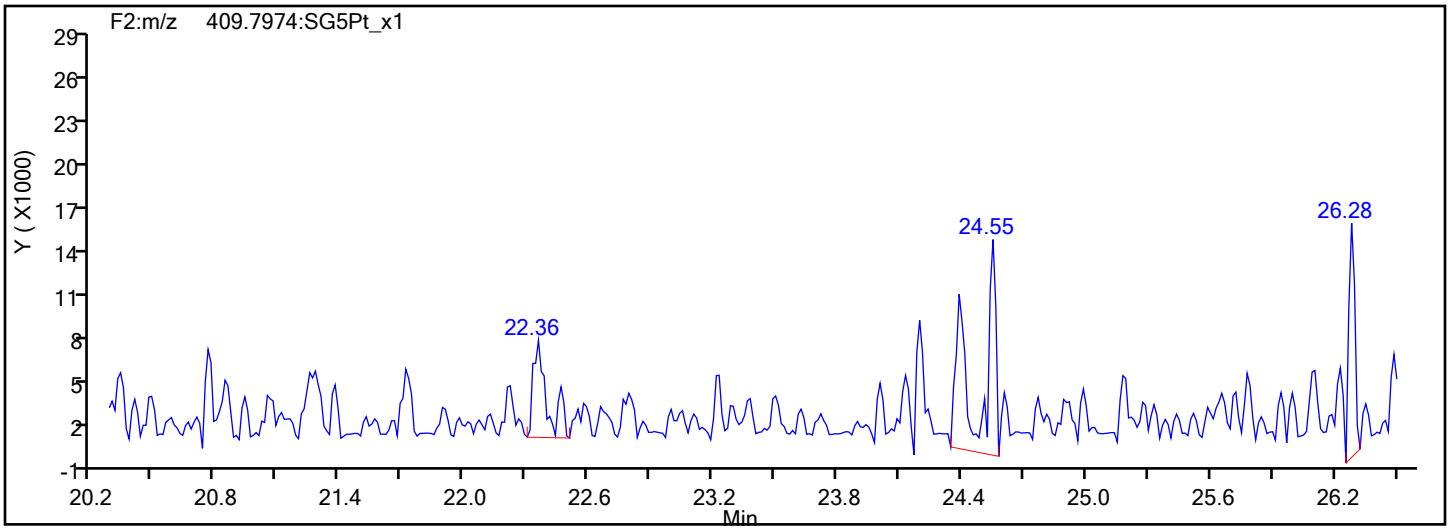

Report Date: 31-Oct-2019 10:58:55 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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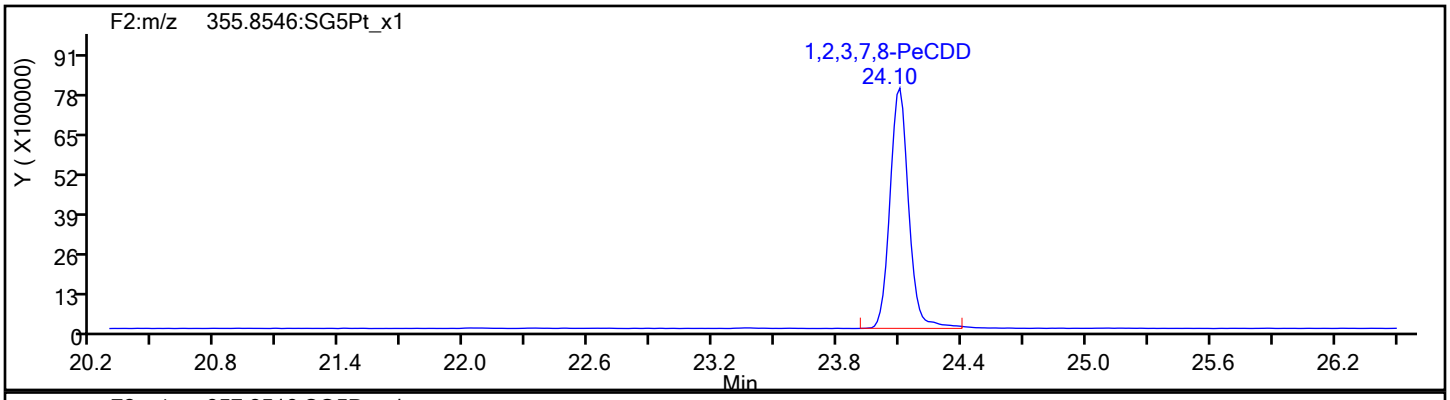

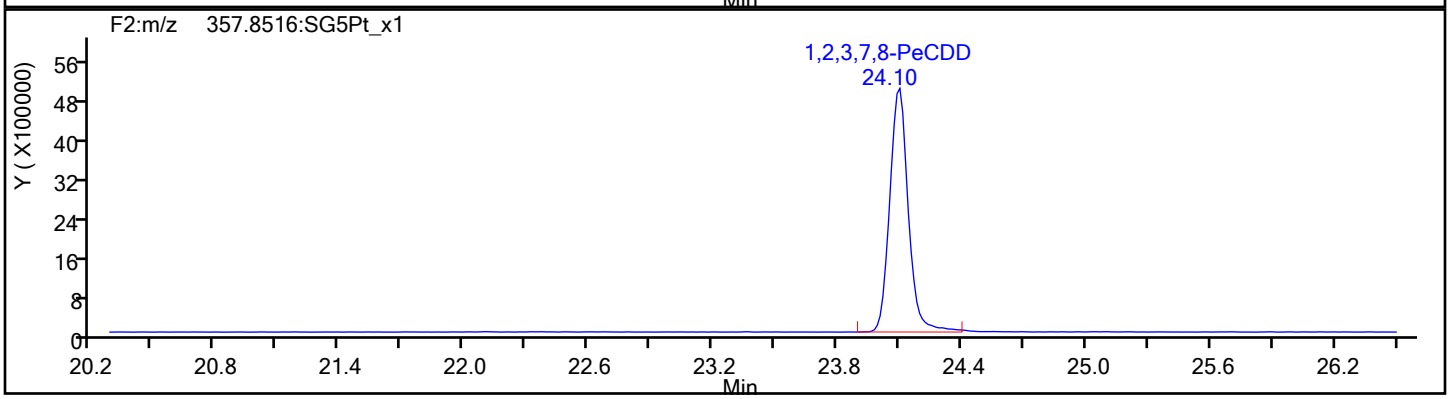

PeCDD Standards

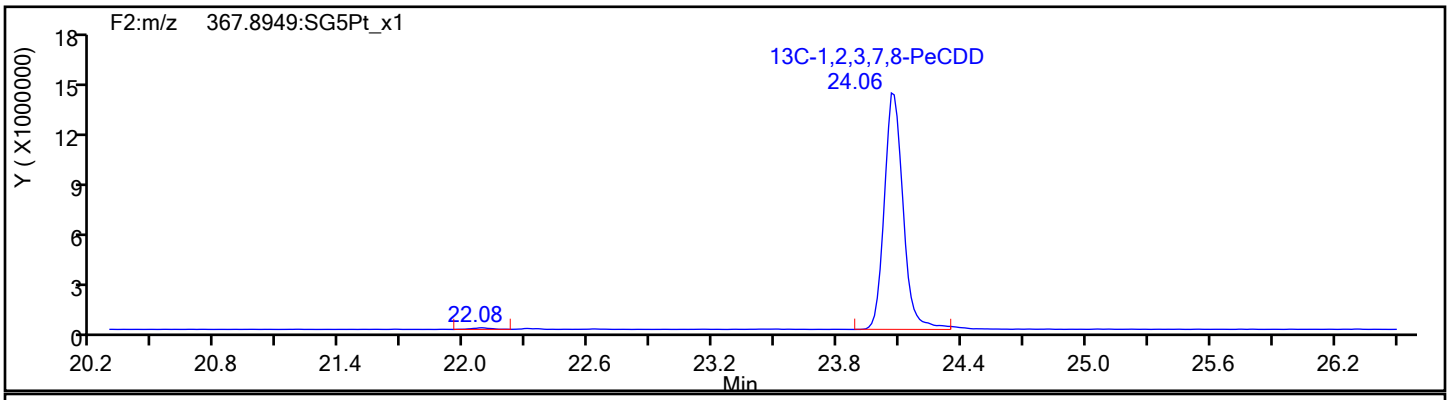

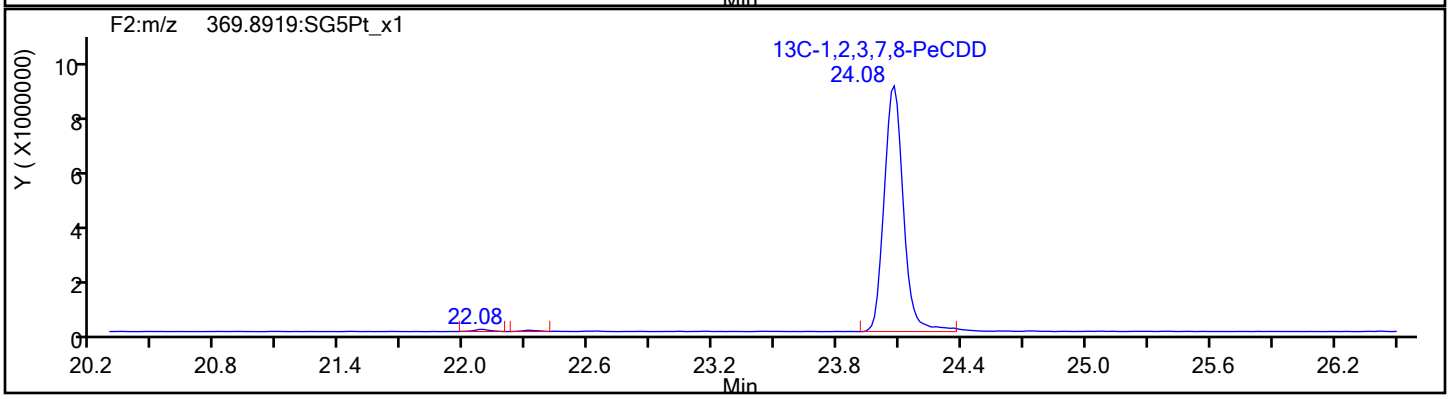

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Eurofins TestAmerica, Sacramento

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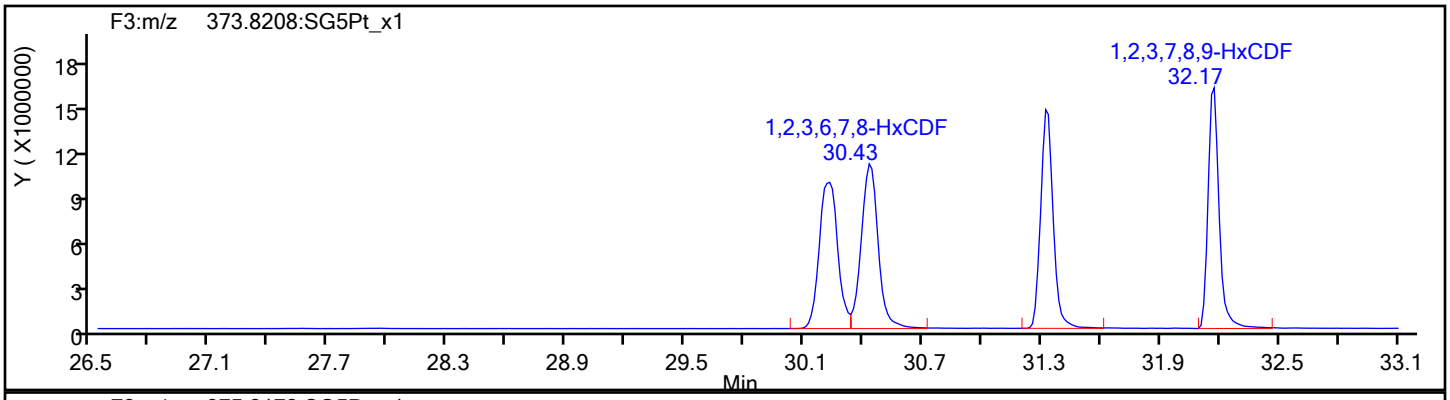

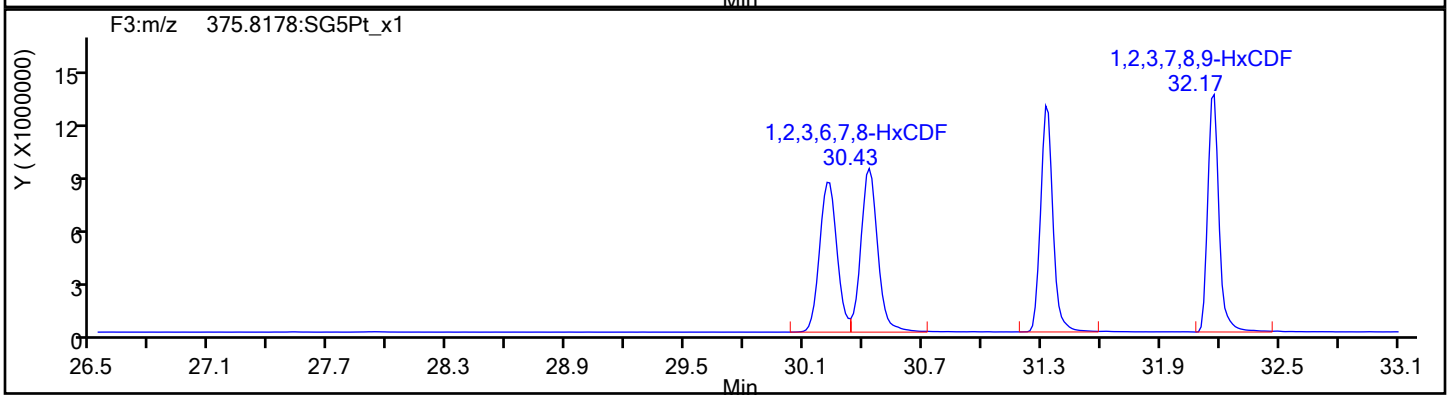

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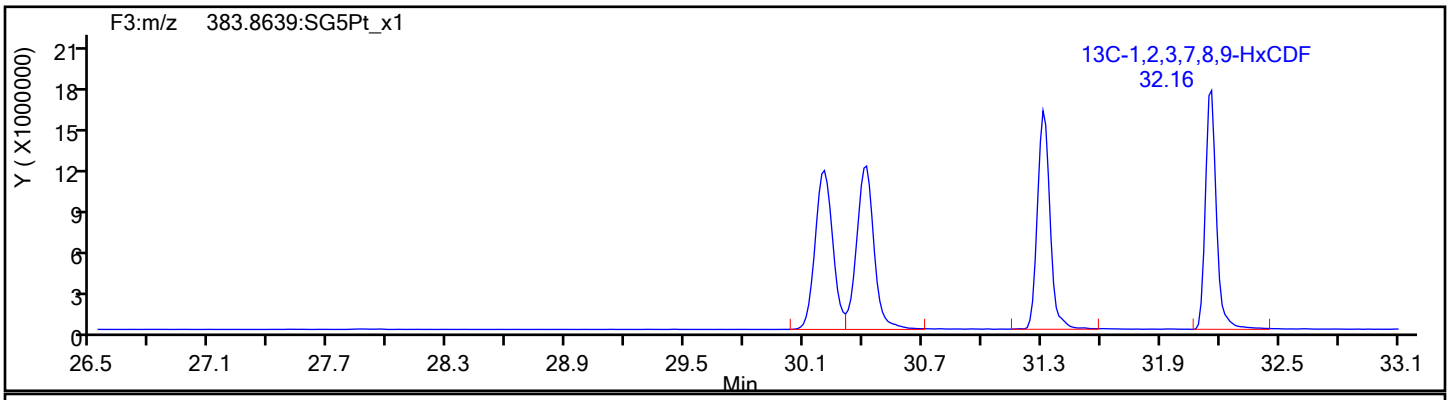

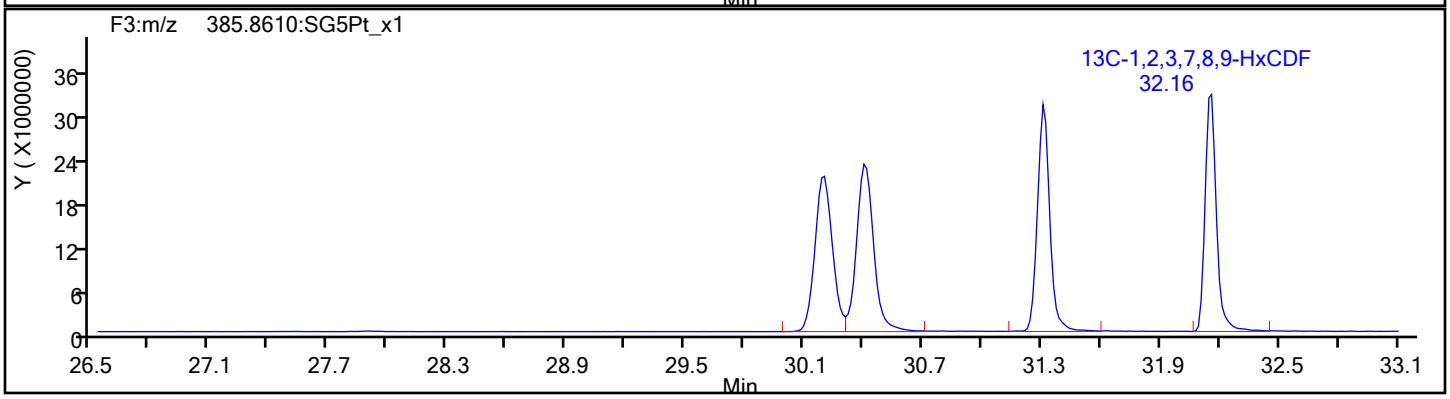

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Eurofins TestAmerica, Sacramento

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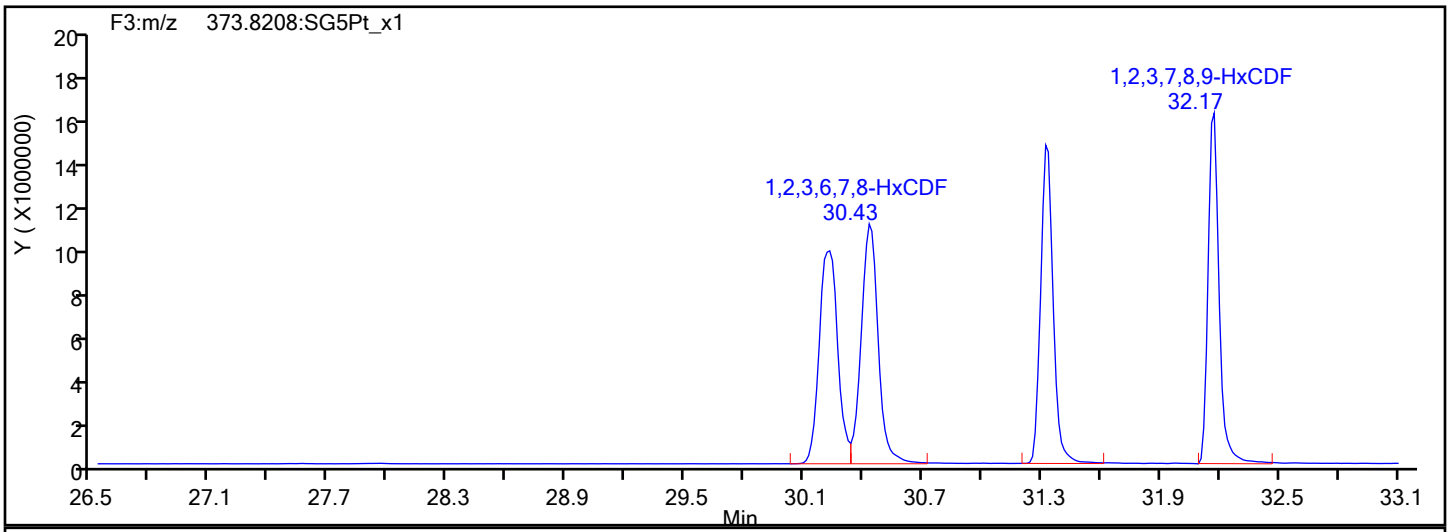

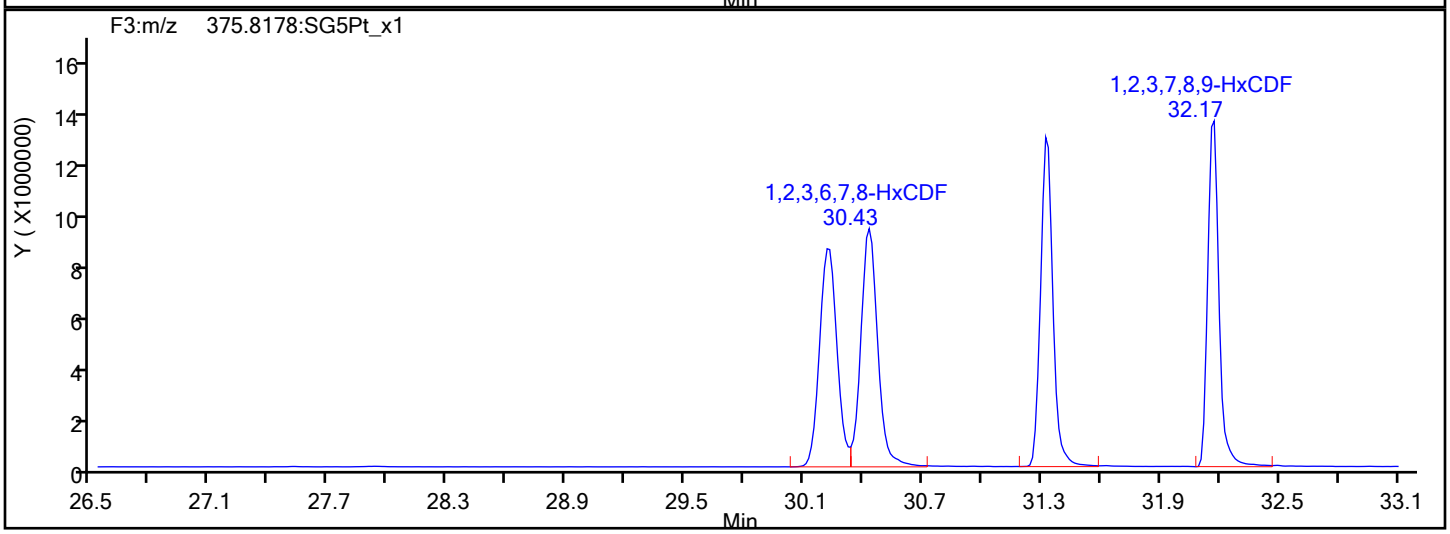

HxCDF Interference Mass

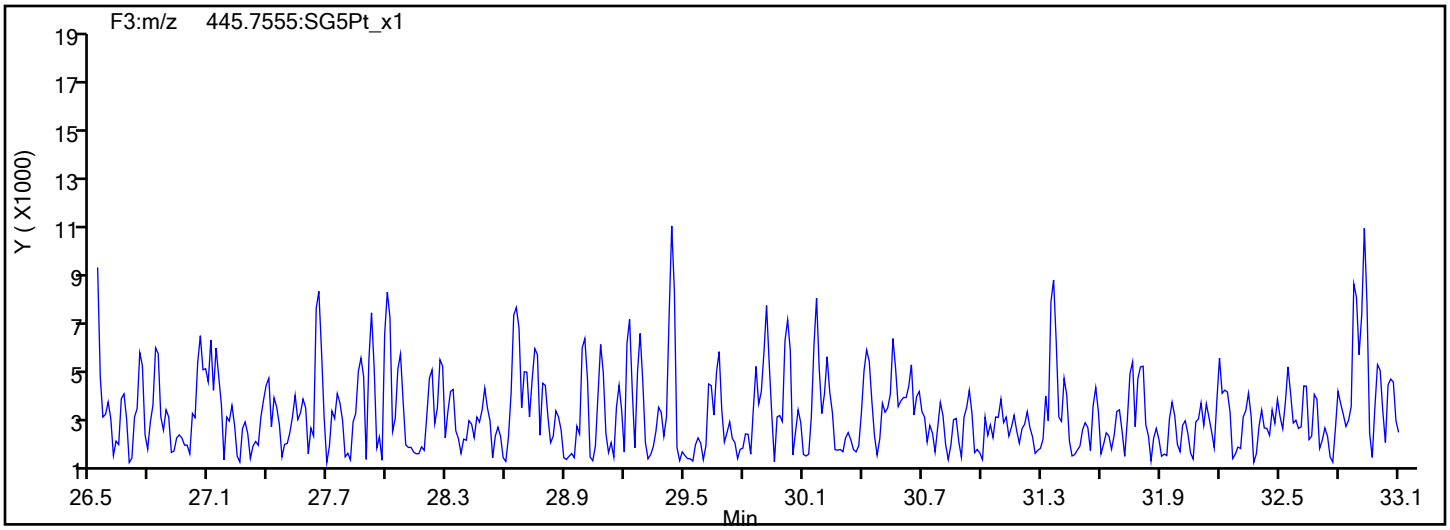

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Eurofins TestAmerica, Sacramento

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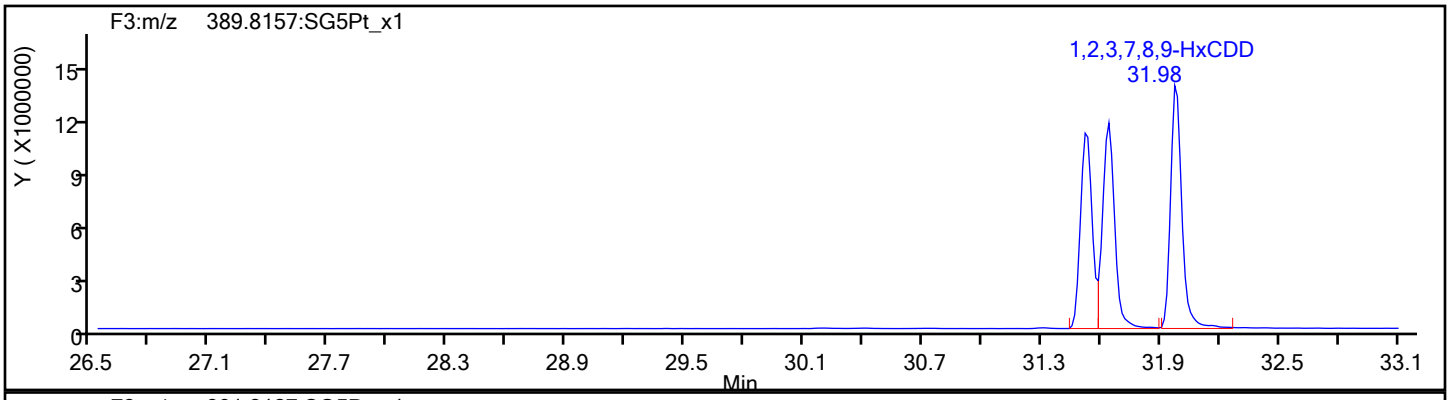

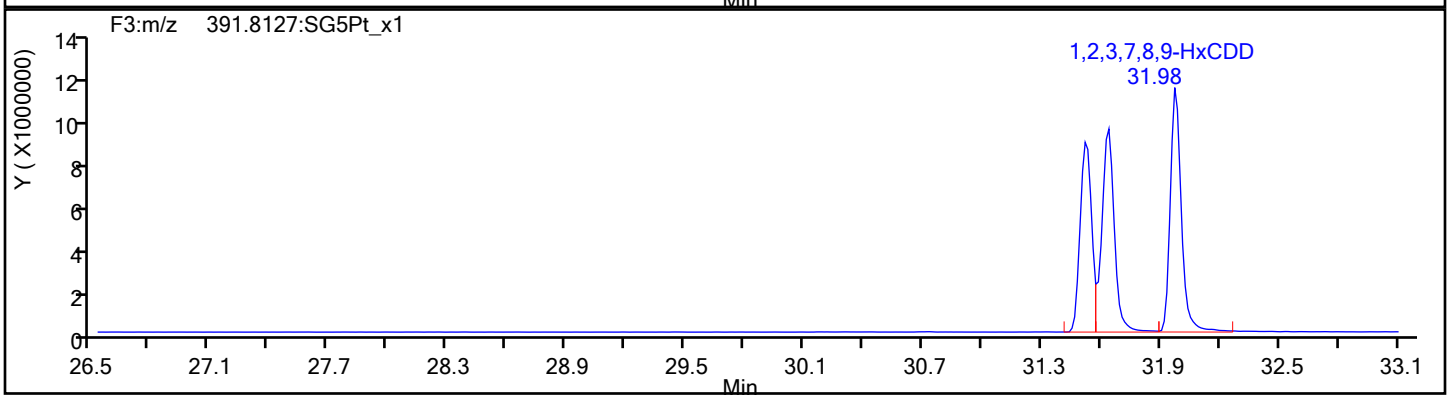

HxCDD Standards

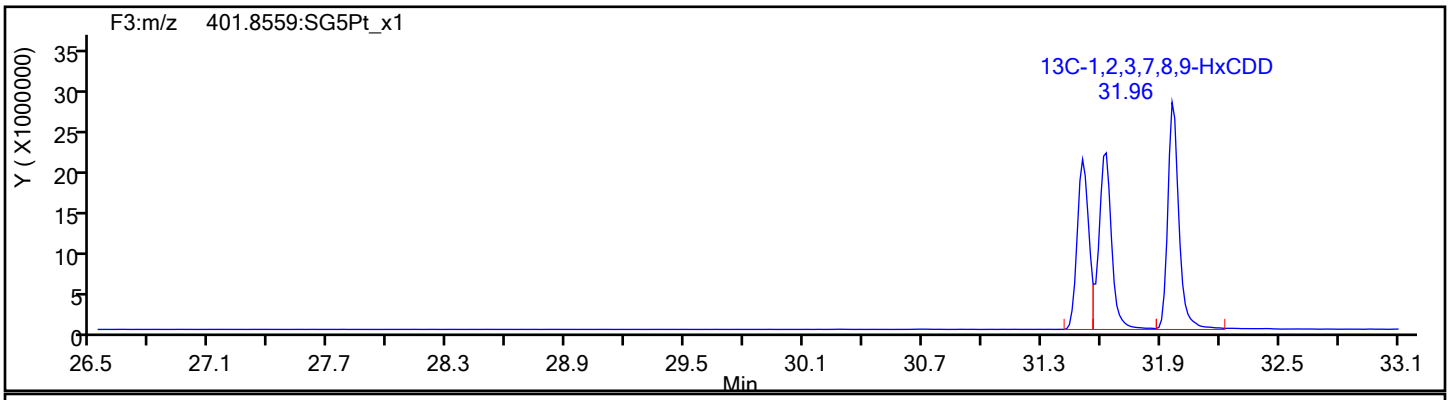

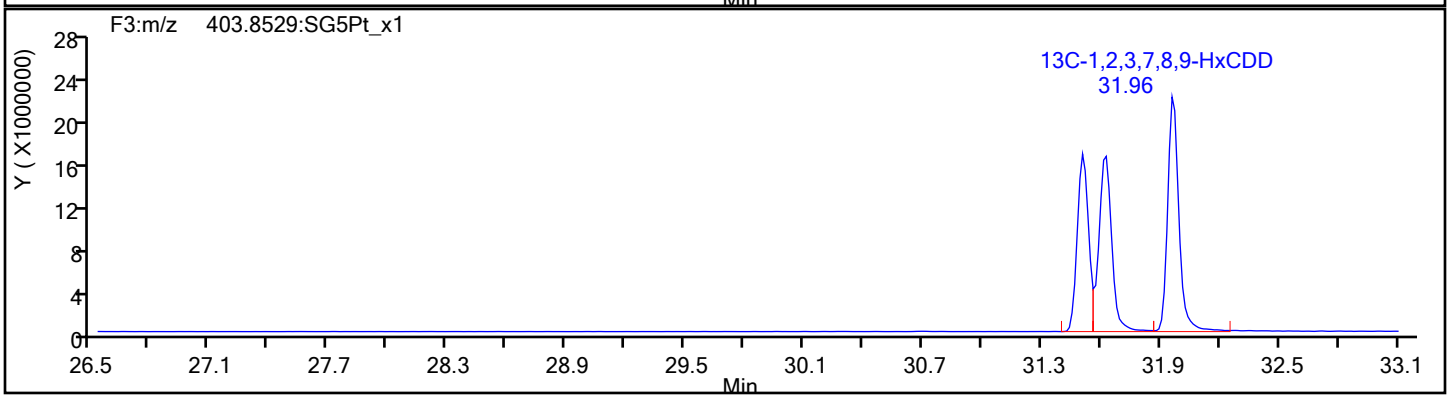

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Eurofins TestAmerica, Sacramento

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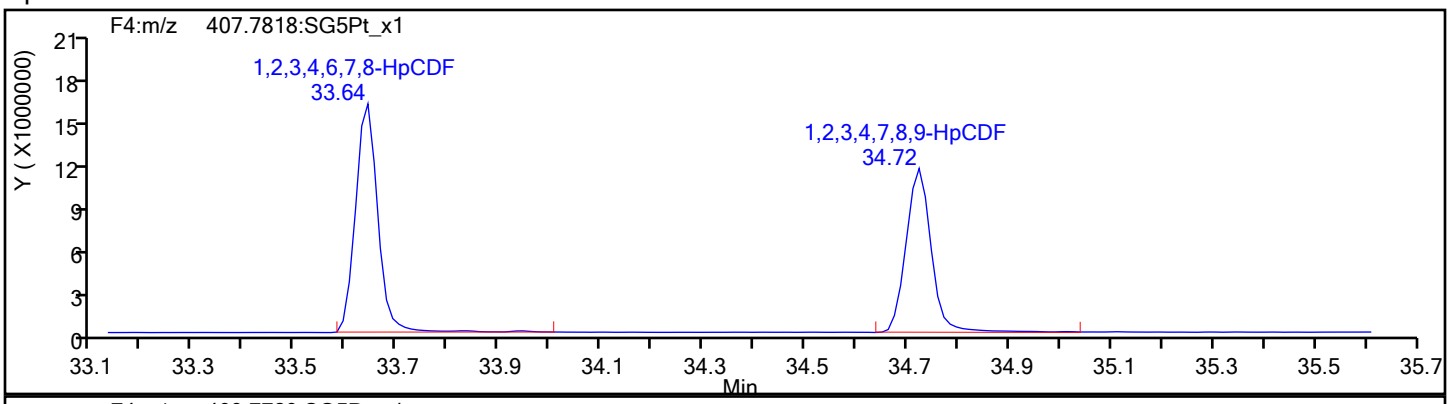

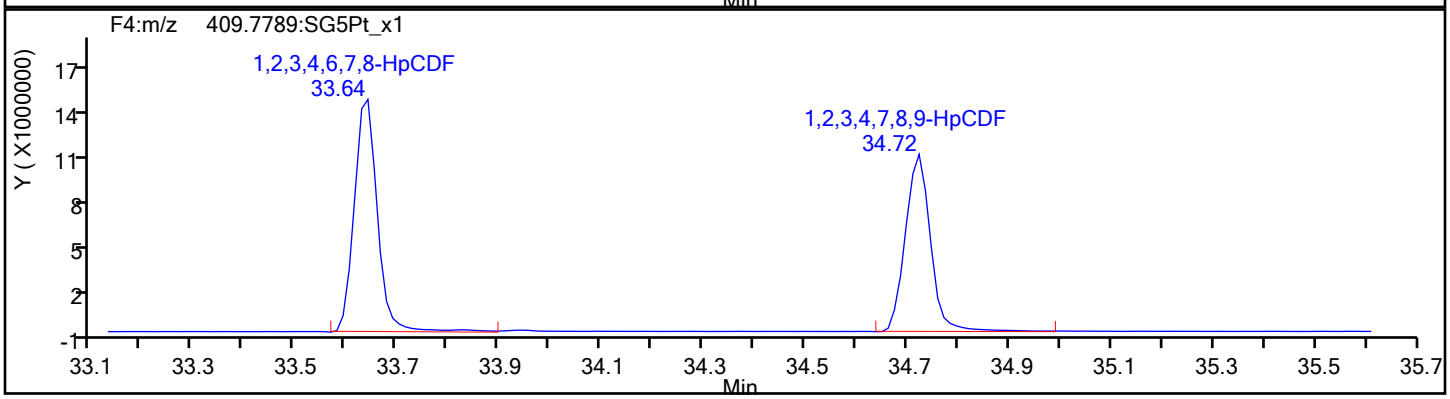

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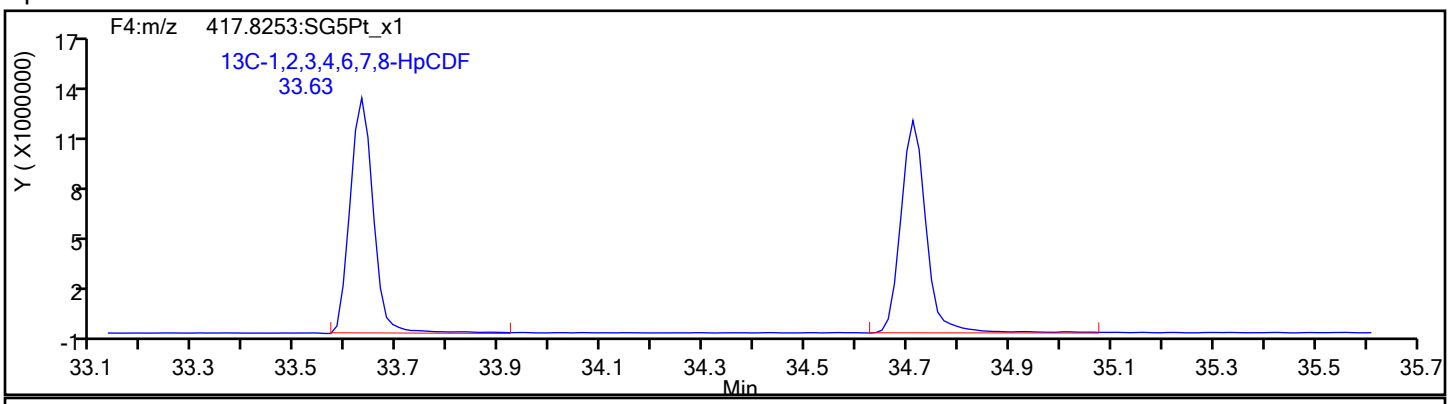

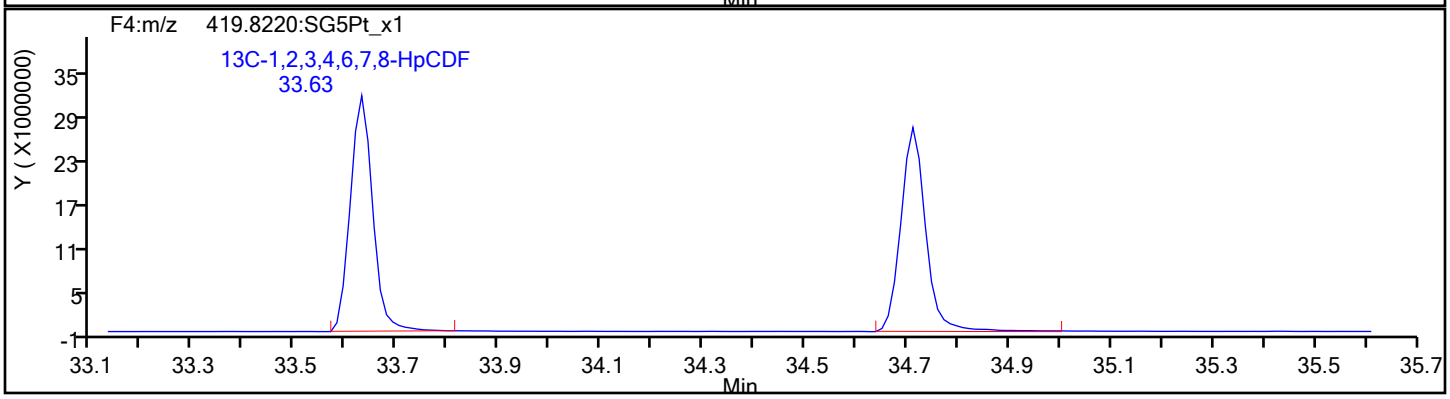

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Eurofins TestAmerica, Sacramento

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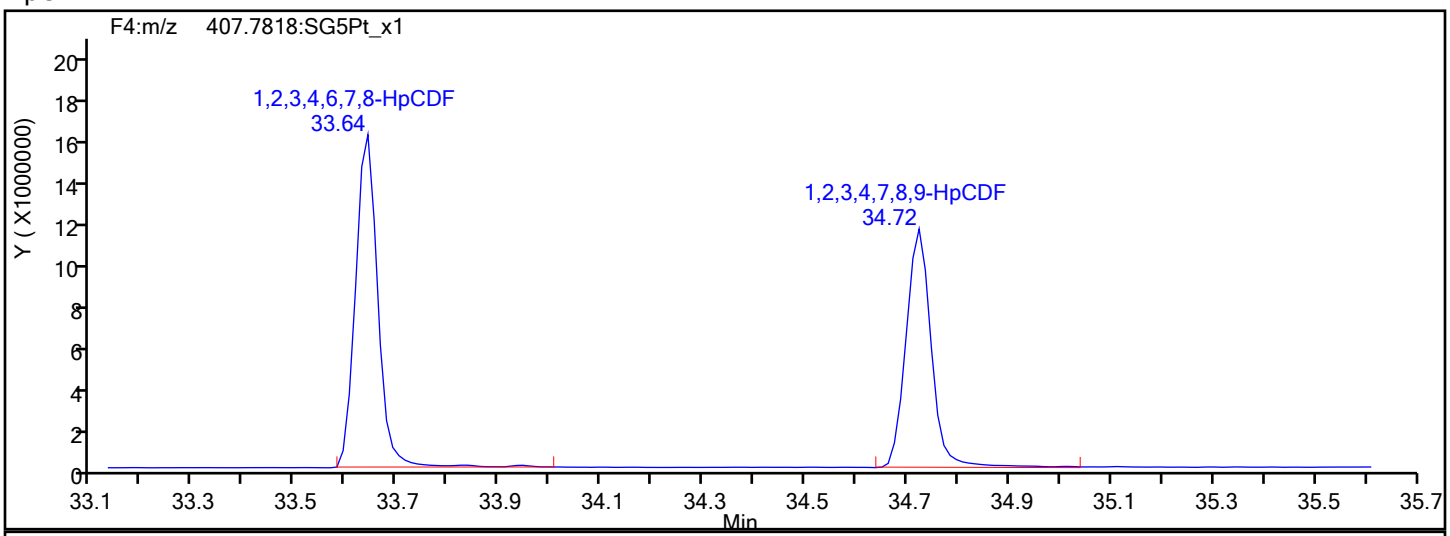

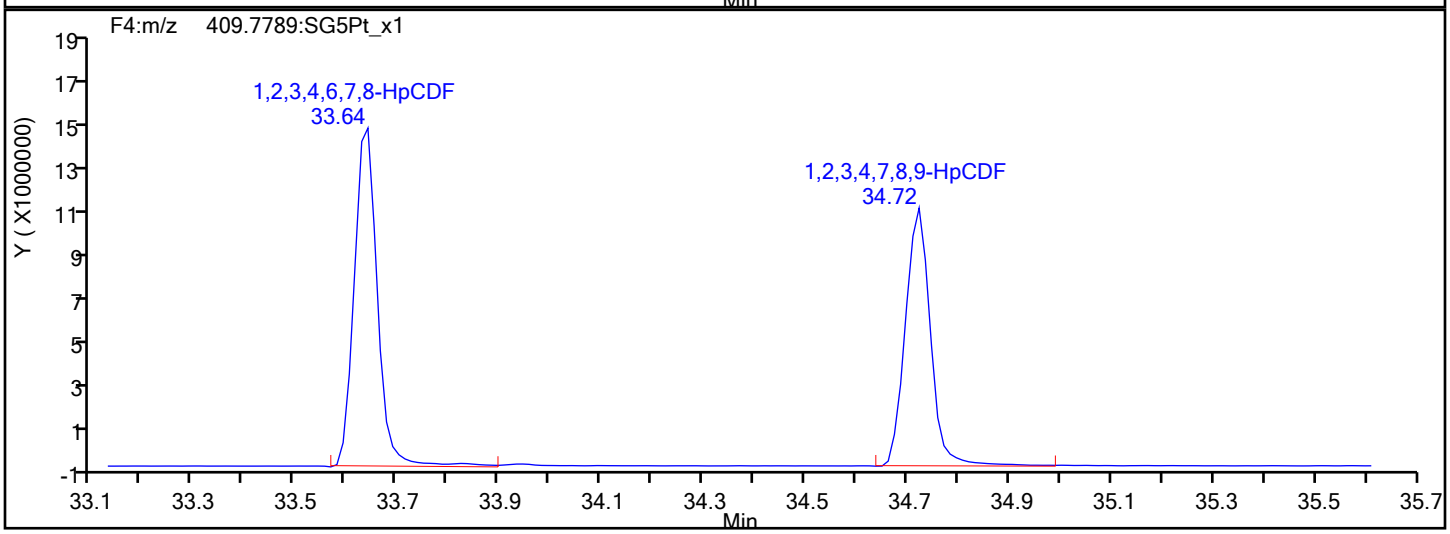

HpCDF Interference Mass

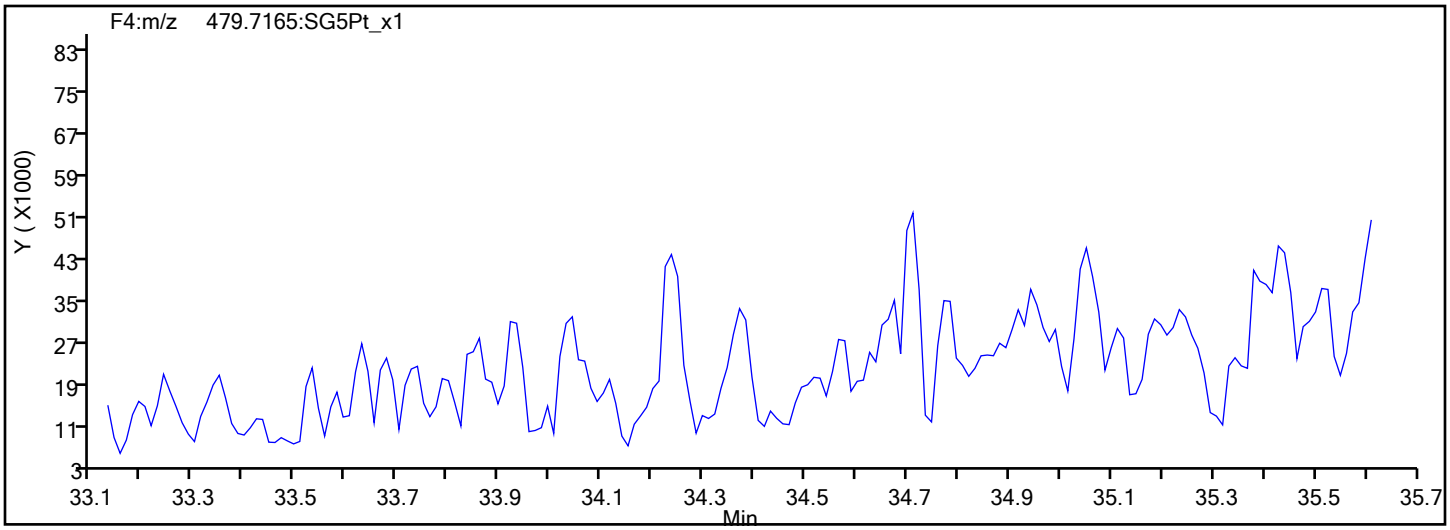

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Eurofins TestAmerica, Sacramento

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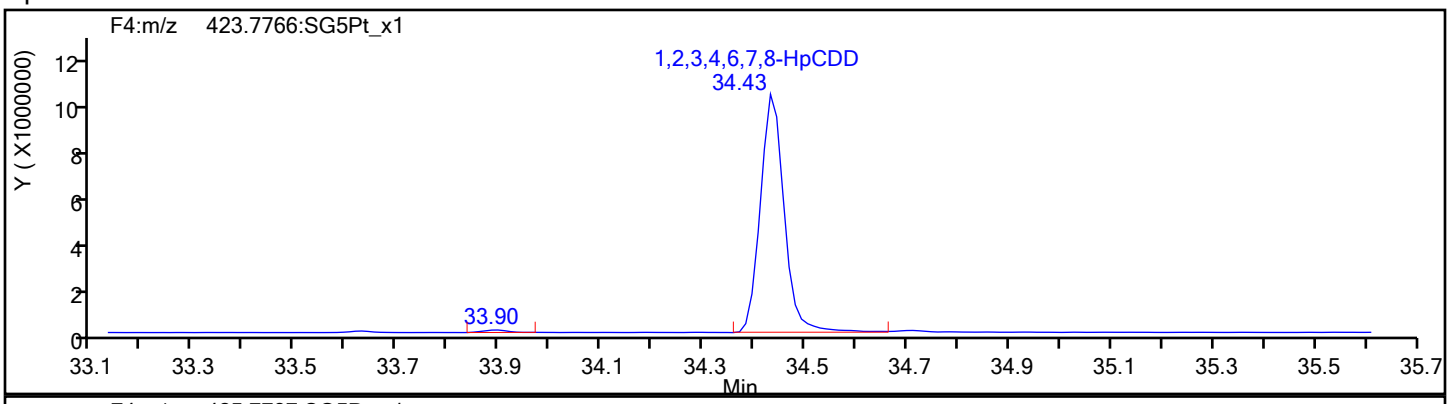

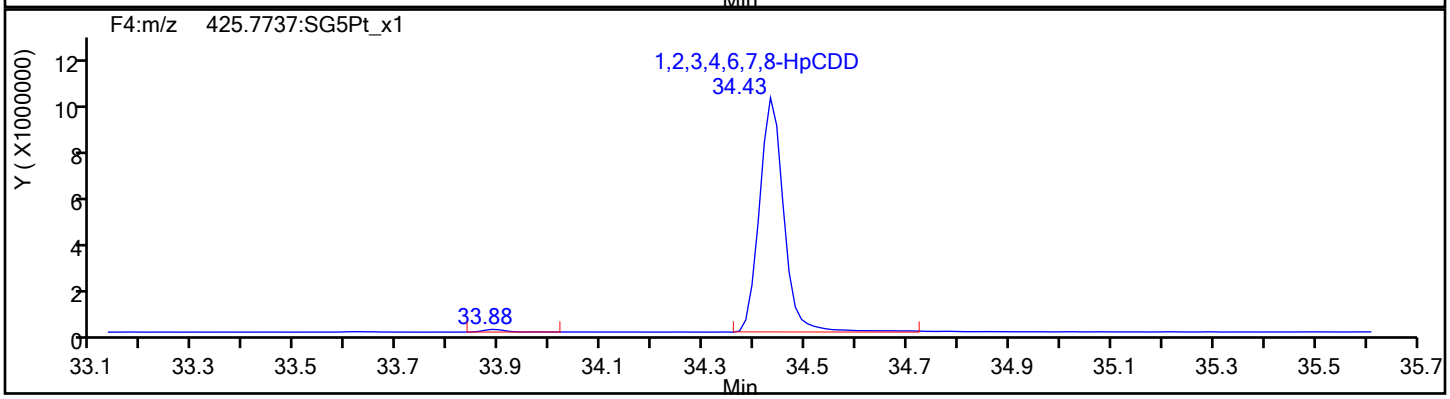

HpCDD Standards

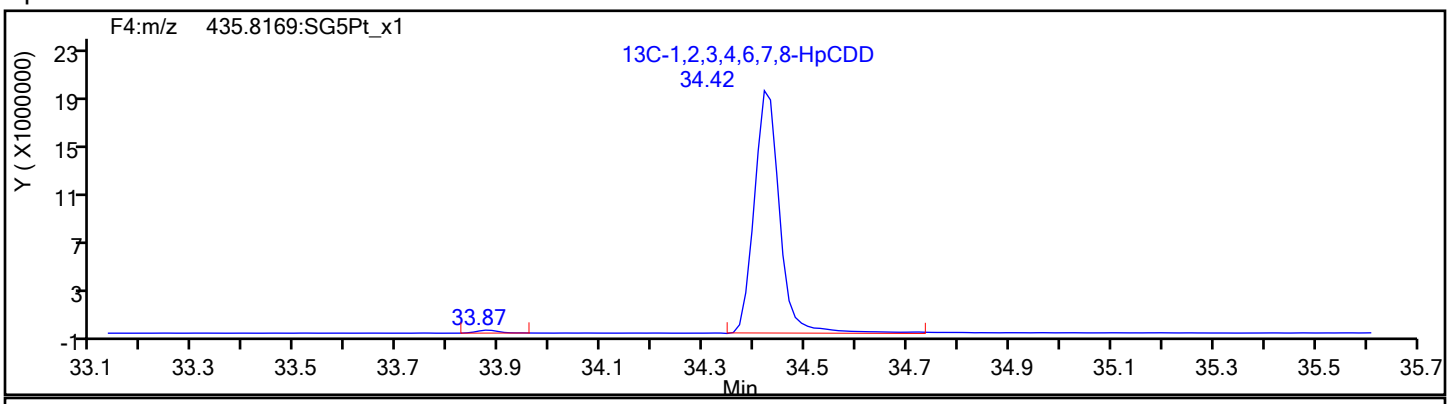

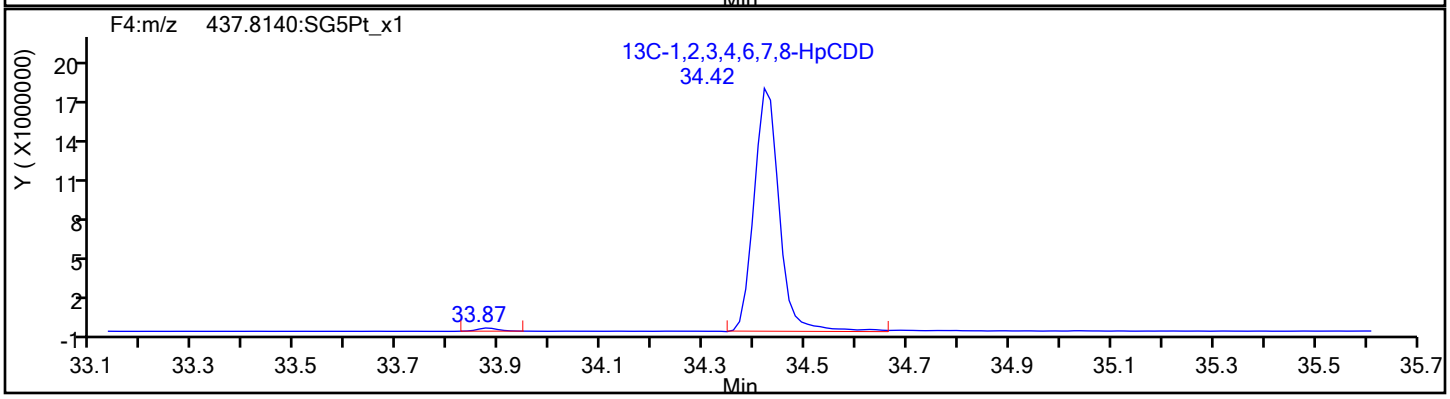

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Eurofins TestAmerica, Sacramento

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OCDF

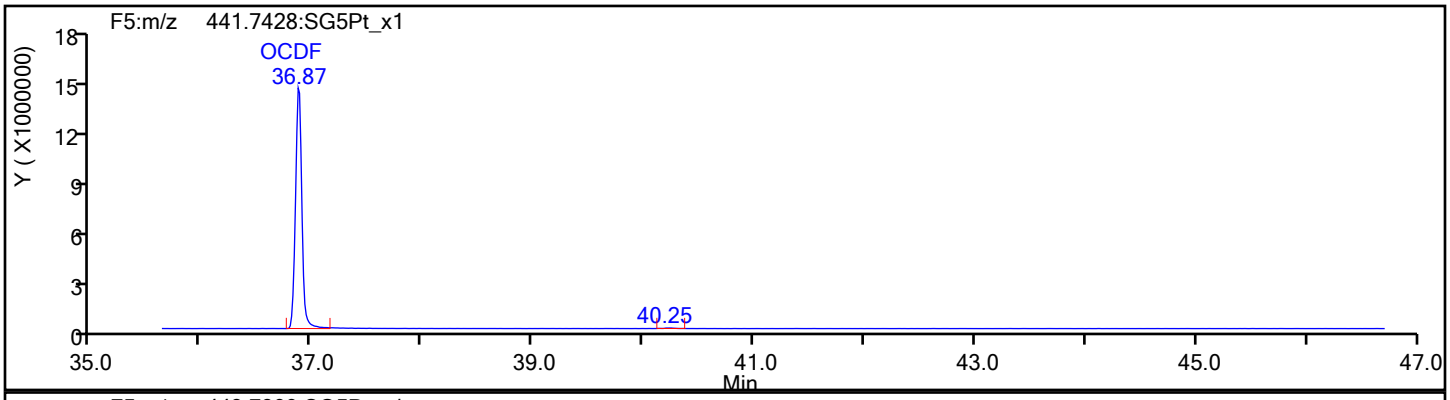

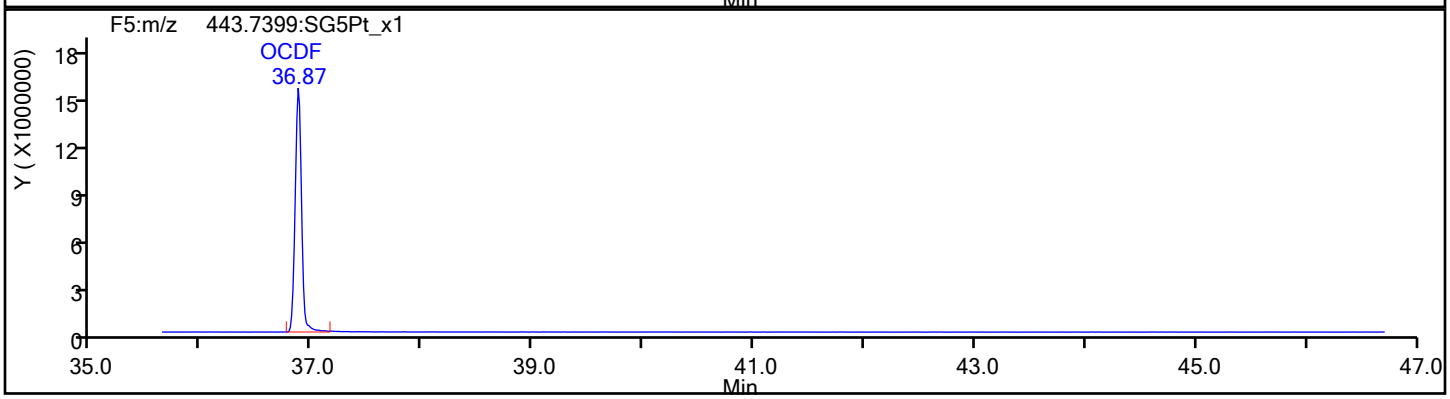

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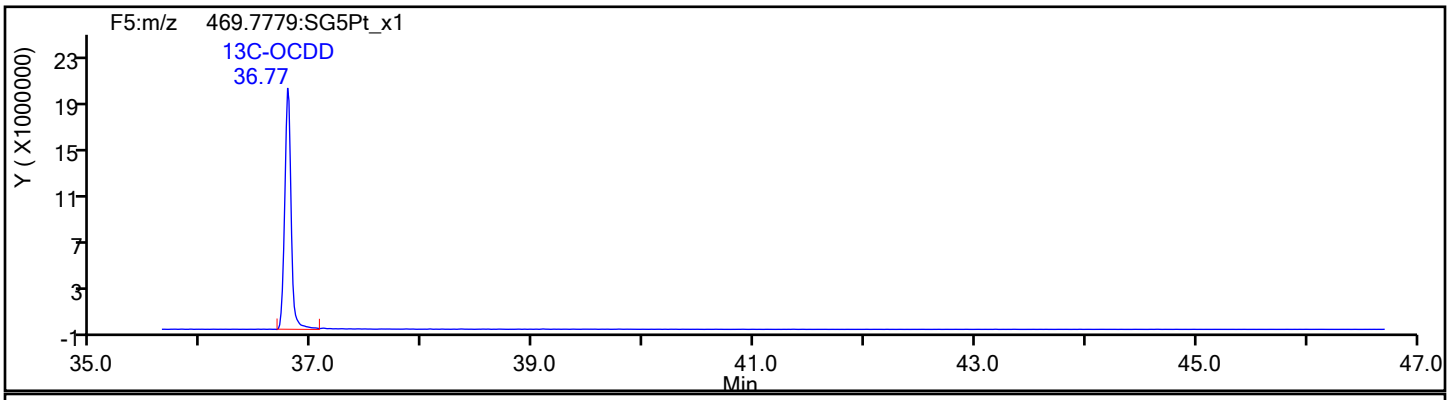

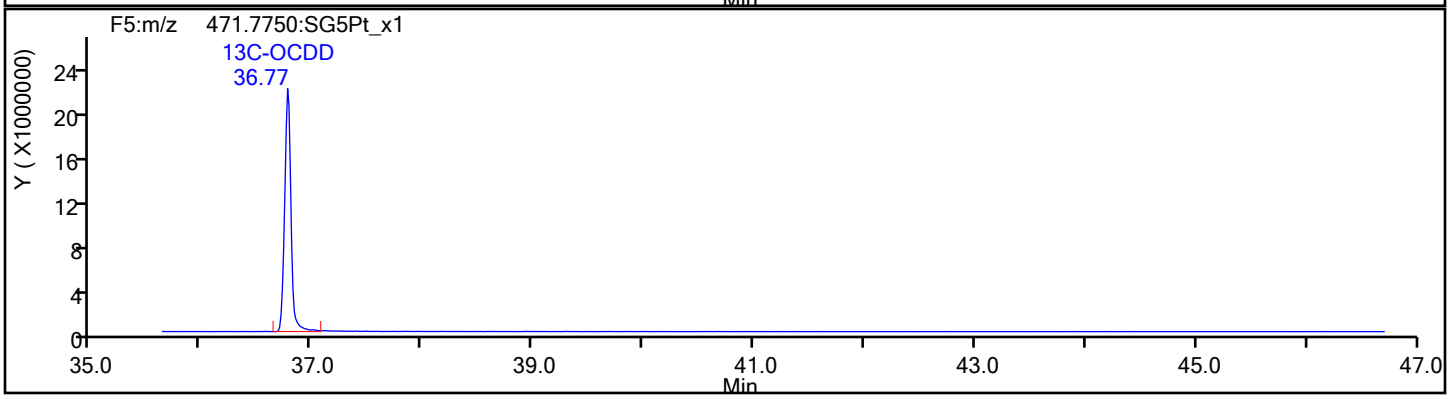

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Eurofins TestAmerica, Sacramento

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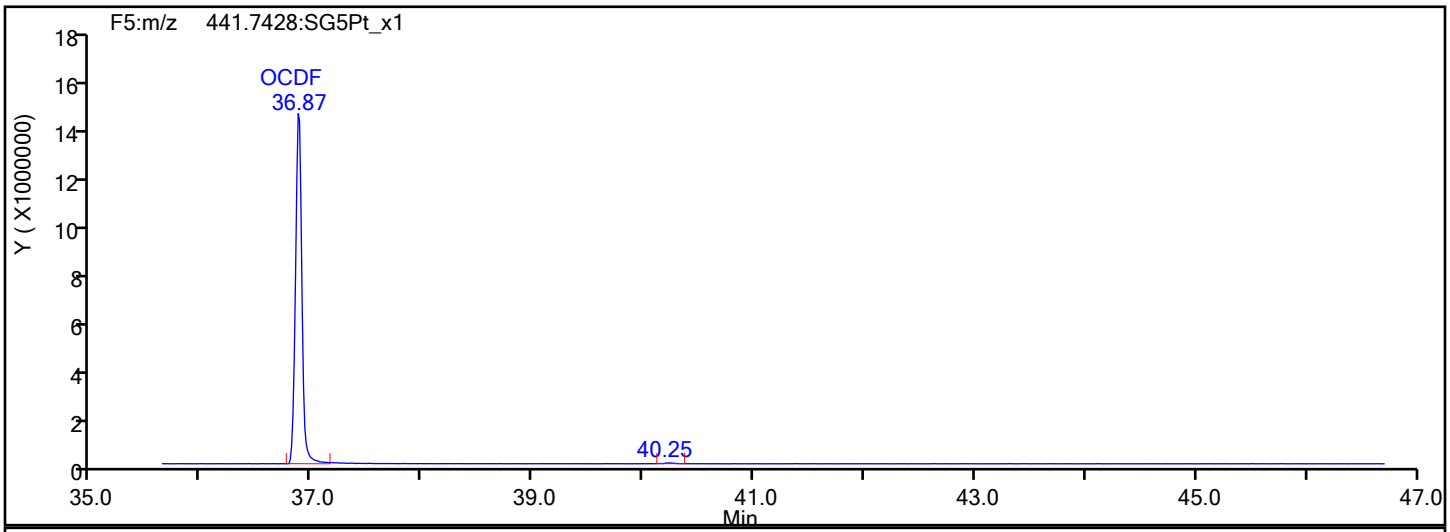

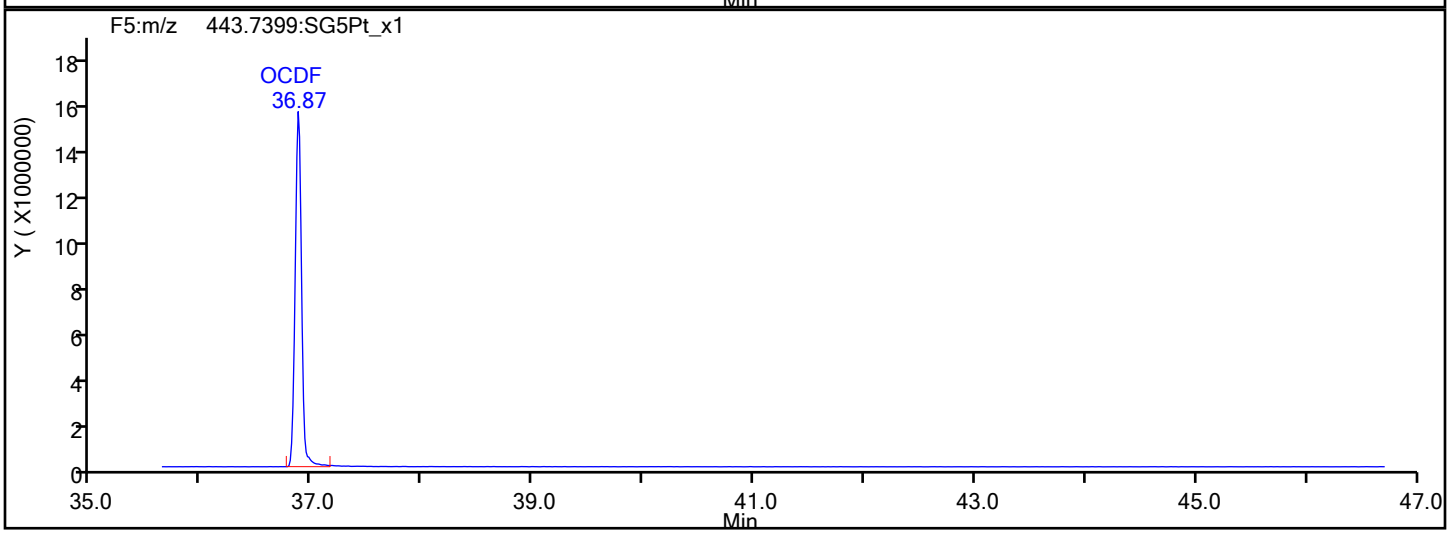

OCDF Interference Mass

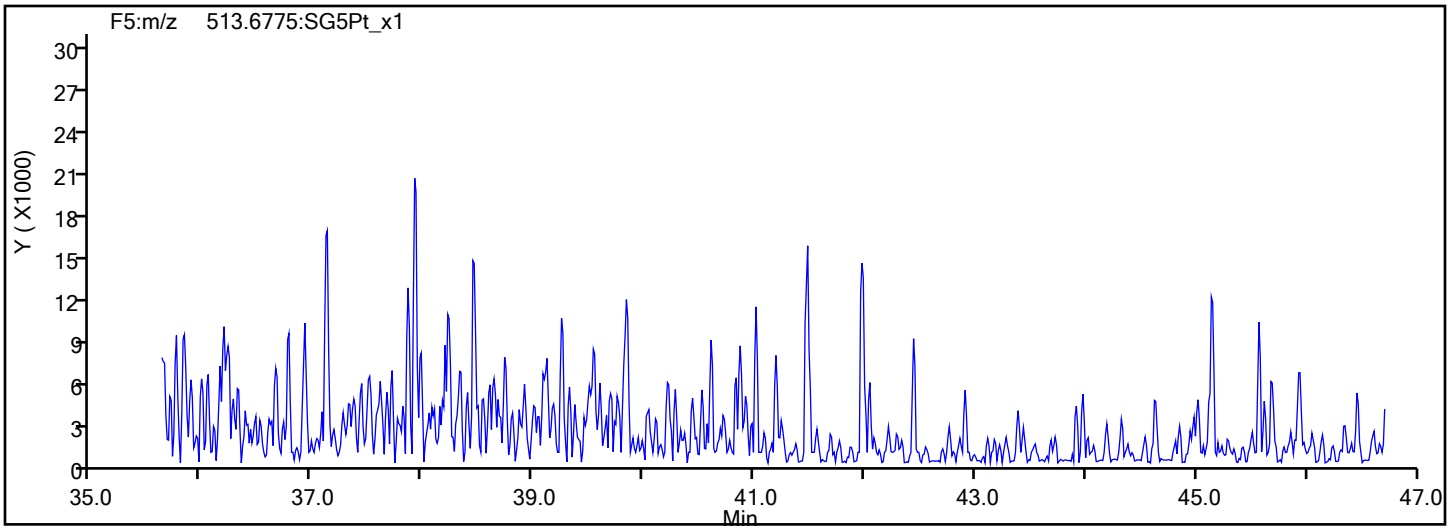

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Eurofins TestAmerica, Sacramento

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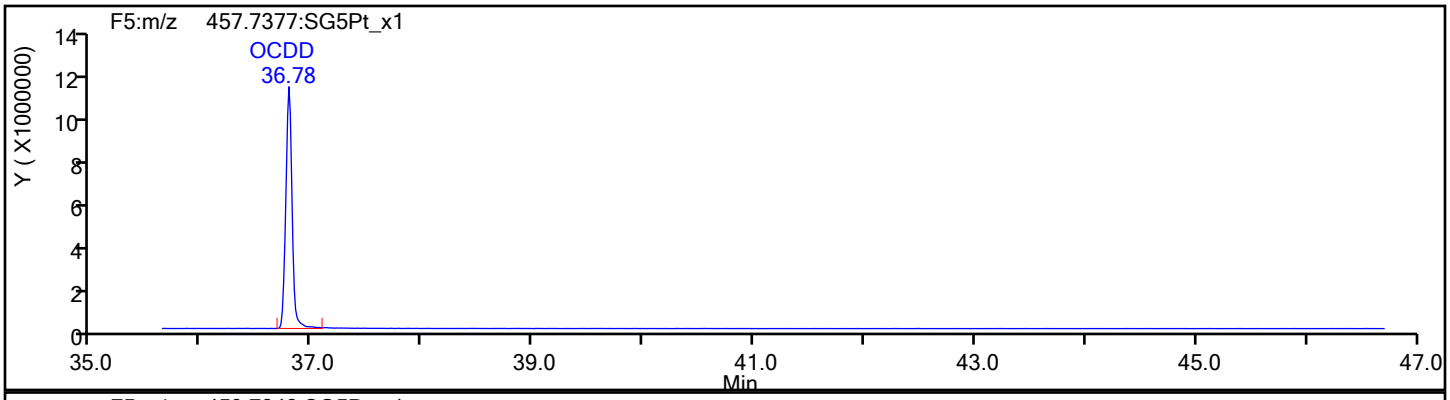

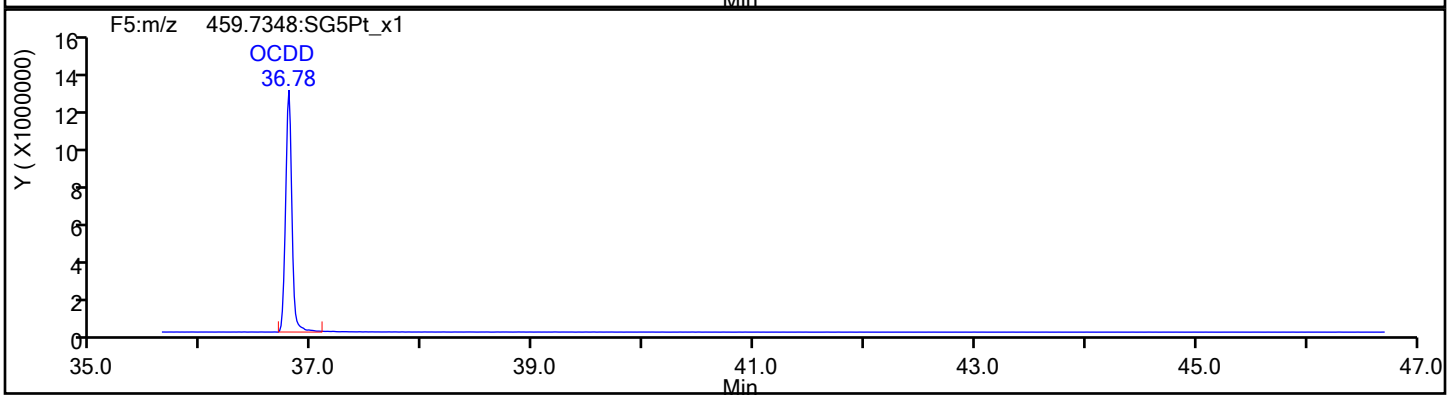

OCDD Standards

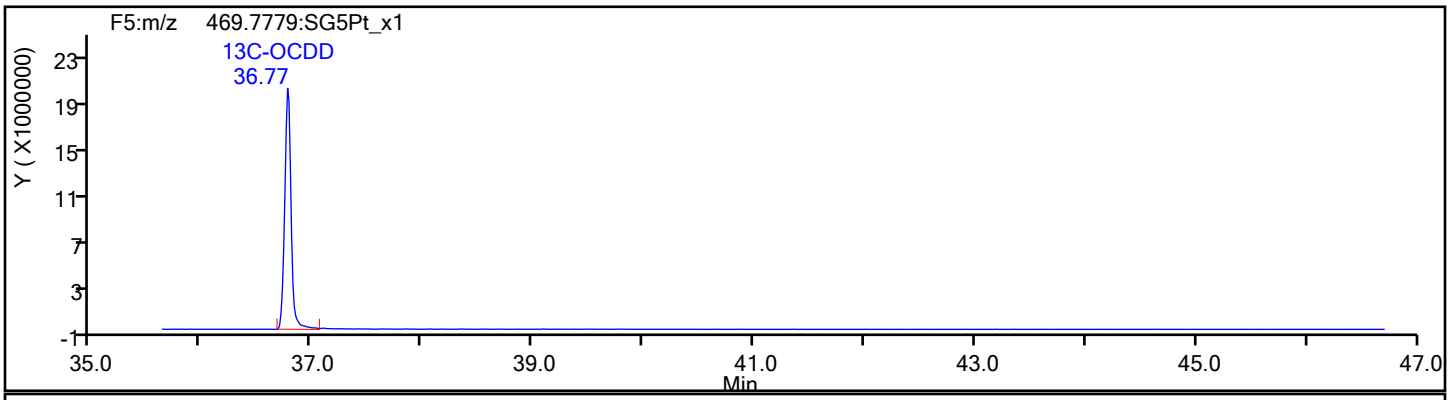

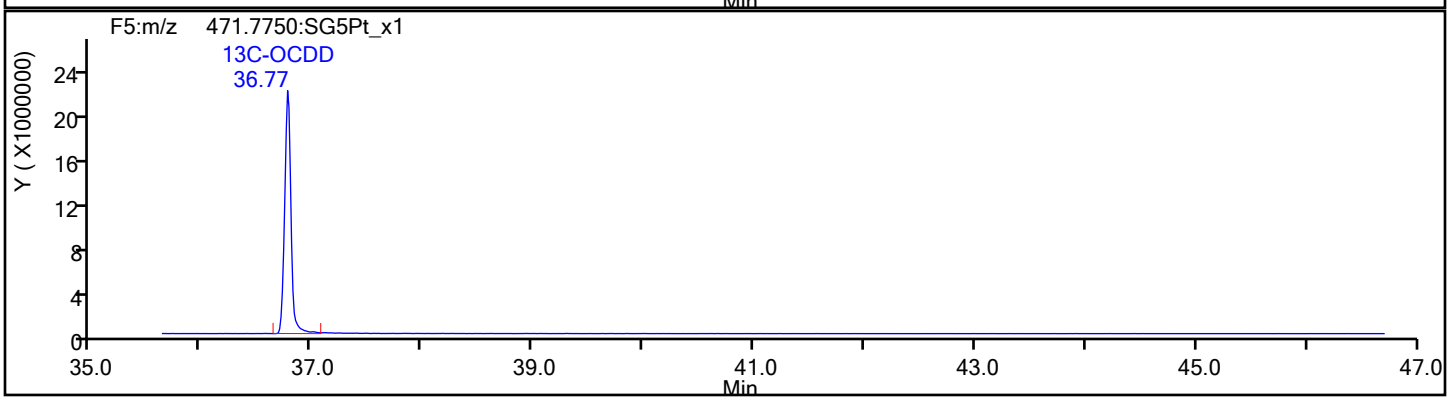

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Eurofins TestAmerica, Sacramento

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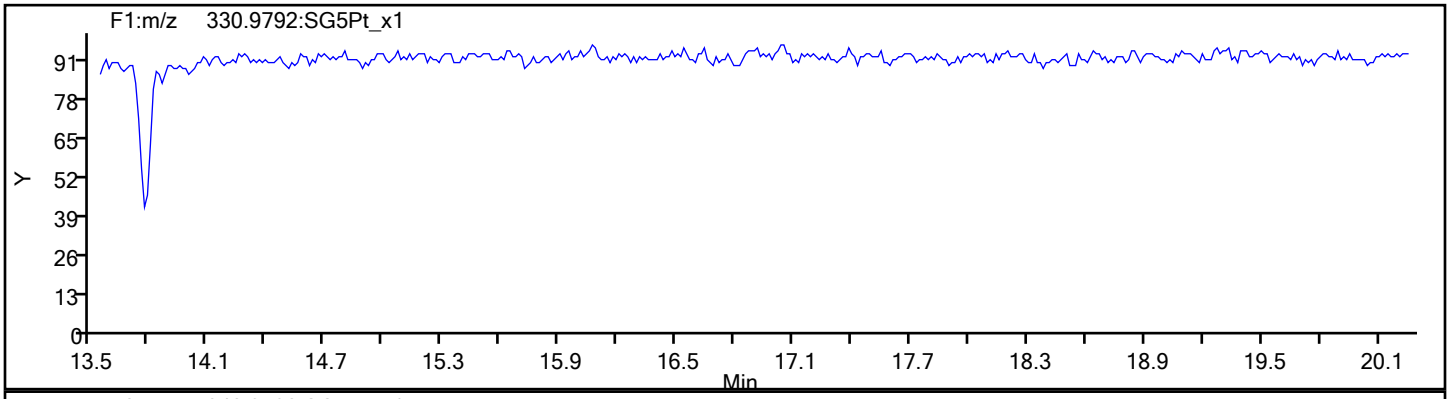

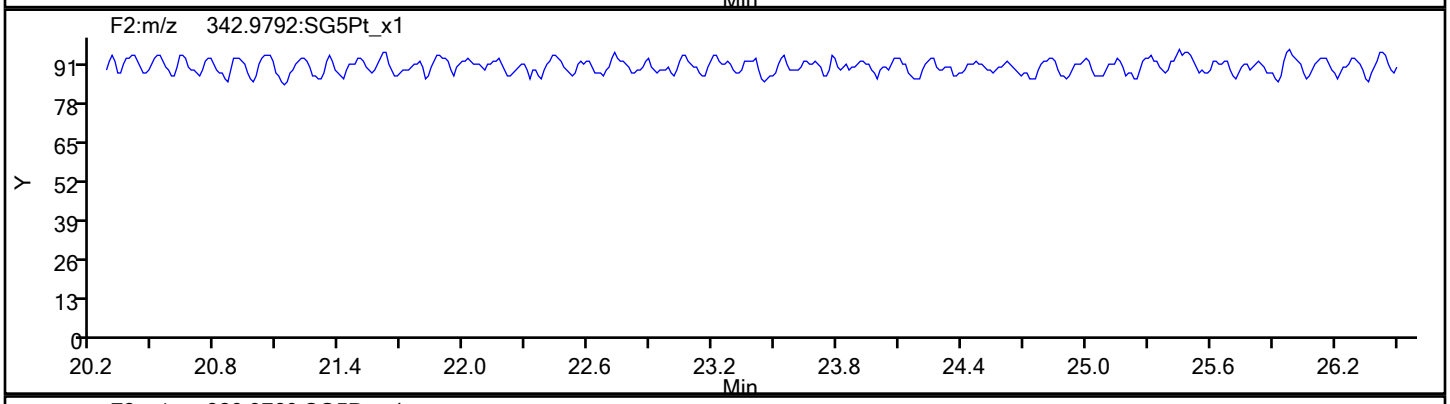

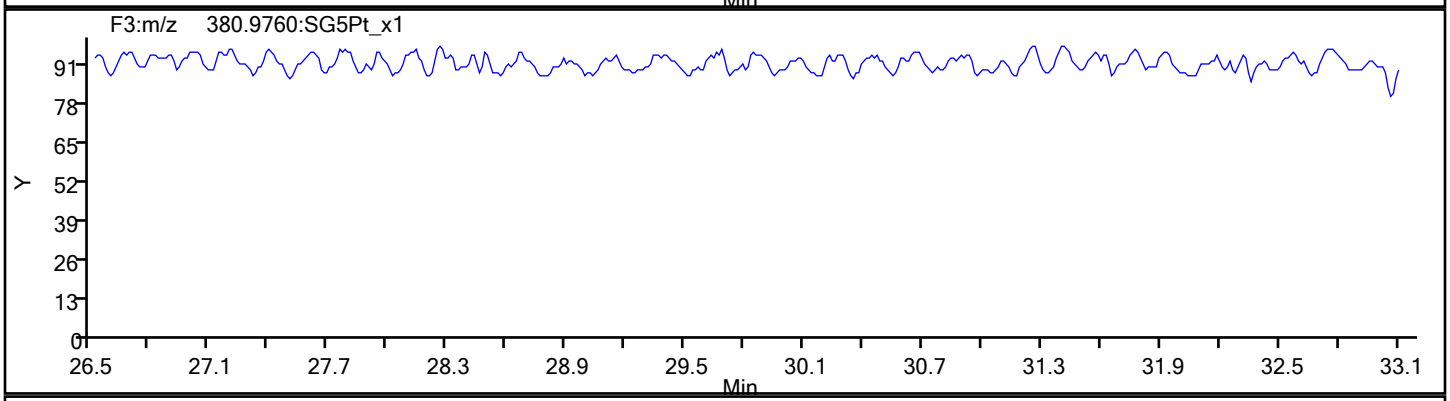

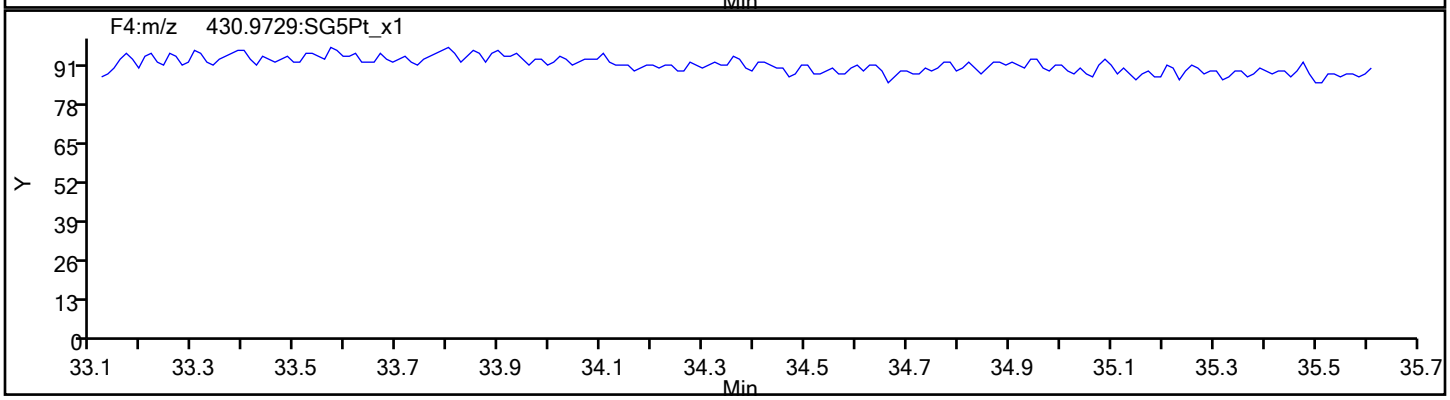

Report Date: 31-Oct-2019 10:58:55 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_1.d		
Injection Date:	30-Oct-2019 21:30:06	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	334889	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

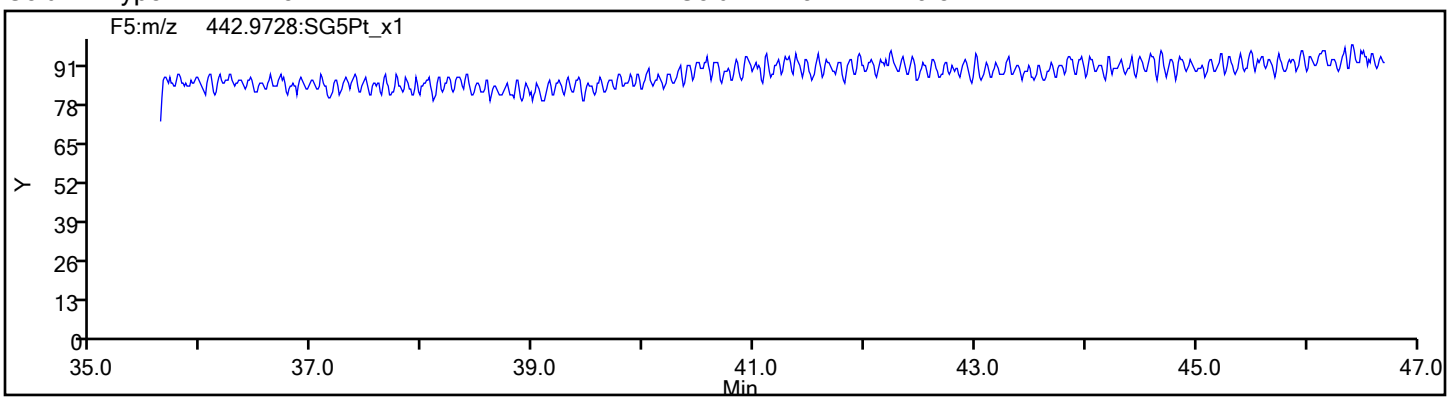

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 17-Sep-2019 11:28:41 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 091719 WDM HRDXNCP_00038
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:18:43 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 18-Sep-2019 10:13:54

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	16.801	74367795	0.80	1.4384					0.00	
2,3,7,8-TCDF	16.831	156834377	0.79	1.0507	80.3	80.3	0.2541	0.2541		
A Non-2,3,7,8-sub-TCDF	16.536	2055813	0.78	1.0507	1.052	1.052	0.2541	1.052		
S Total TCDF					81.3	81.3	0.2541	0.2541		
D 13C-2,3,7,8-TCDD	17.481	45805066	0.76	0.9533					0.00	
2,3,7,8-TCDD	17.512	50150496	0.80	1.1064	39.6	39.6	0.2281	0.2281		
A Non-2,3,7,8-sub-TCDD	16.967						0.2281	0.2281		
S Total TCDD					39.6	39.6	0.2281	0.2281		
A F1 PeCDFs	19.213						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	22.240	1178726	1.55	0.0000						RQ
S Total PeCDF										RQ
A Non-2,3,7,8-sub-PeCDD	22.586						0.0	0.0		
S Total PeCDD										
A Non-2,3,7,8-sub-HxCDF	29.523	507819	1.21	0.0000						
S Total HxCDF										
A Non-2,3,7,8-sub-HxCDD	30.122						0.0	0.0		
S Total HxCDD										
1,2,3,4,6,7,8-HpCDF	33.472	47694823	1.04	1.5555						
1,2,3,4,7,8,9-HpCDF	34.517	39534106	1.05	1.3862						
A Non-2,3,7,8-sub-HpCDF	33.994						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	34.237	29636099	1.06	0.9316						
A Non-2,3,7,8-sub-HpCDD	34.747						0.0	0.0		
S Total HpCDD										
1,3,6,8-TCDF	14.488	89161286	0.78							
1,3,6,8-TCDD	15.365	54383612	0.79							
2,3,4,7-TCDF	16.831	156834377	0.79							
1,2,3,7-TCDD	17.391	45444920	0.79							
1,2,3,9-TCDF	17.663	66087659	0.78							
1,2,3,9-TCDD	17.663	54421114	0.81							

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,8,9-TCDD	18.570	21836286								
1,2,8,9-TCDF	18.585	68251653	0.79							
1,3,4,6,8-PeCDF	18.842	74458412	1.55							
1,2,4,7,9-PeCDD	20.554	39318036	1.57							
1,2,3,8,9-PeCDD	24.618	35221850	1.59							
1,2,3,8,9-PeCDF	24.822	48913515	1.59							
1,2,3,4,6,8-HxCDF	26.994	55295494	1.27							
1,2,4,6,7,9-HxCDD	28.524	38980760	1.26							
1,2,3,4,6,7-HxCDD	31.719	36577416	1.24							
1,2,3,4,8,9-HxCDF	32.052	45645713	1.26							
1,2,3,4,6,7,9-HpCDD	33.703	34402979	1.05							

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNCP_00040 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 17-Sep-2019 11:28:41 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 091719 WDM HRDXNCP_00038
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:18:43 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 18-Sep-2019 10:13:54

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	16.801	16.810	-1	1.000	33117024	8540569	9349	23372	914		
317.9389	16.801	16.810	-1	1.000	41250771	10559691	5760	14400	1833	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.831	16.825	0	1.002	69083696	16415981	20767	51917	790		
305.8987	16.831	16.825	0	1.002	87750681	20749596	30221	75552	687	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	18.857	16.536	139	1.122	898473	190404	20767	51917	9		
305.8987	18.857	16.536	139	1.122	1157340	261558	30221	75552	9	0.78(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.481	17.490	-1	1.000	19801343	4630824	8865	22162	522		
333.9339	17.481	17.490	-1	1.000	26003723	6181636	6015	15037	1028	0.76(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.512	17.505	0	1.002	22347514	5318193	11305	28262	470		
321.8936	17.497	17.505	-1	1.001	27802982	6639771	15982	39955	415	0.80(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	16.967						11305	28262			
321.8936	16.967						15982	39955			
A F1 PeCDFs											
339.8597	19.213						2693	6732			
341.8567	19.213						2089	5222			
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	21.113	22.240	-67	1.000	202355	35160	5300	13250	7		
341.8567	21.113	22.240	-67	1.000	114927	17891	3855	9637	5	1.76(1.32-1.78)	
339.8597	21.645	22.240	-36	1.000	239041	34085	5300	13250	6		
341.8567	21.659	22.240	-35	1.000	131189	19977	3855	9637	5	1.82(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
339.8597	22.191	22.240	-3	1.000	315658	51688	5300	13250	10		
341.8567	22.177	22.240	-4	1.000	211255	31694	3855	9637	8	1.49(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.586						4581	11452			
357.8516	22.586						3055	7637			
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.028	29.523	30	1.000	278236	49481	8176	20440	6		
375.8178	30.042	29.523	31	1.000	229583	36177	6671	16677	5	1.21(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.122						5433	13582			
391.8127	30.122						6604	16510			
1,2,3,4,6,7,8-HpCDF											
407.7818	33.472	33.469	0	1.000	24299928	7730426	61070	152675	127		
409.7789	33.472	33.469	0	1.000	23394895	7311037	39924	99810	183	1.04(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.517	34.509	0	1.000	20253287	5933051	61070	152675	97		
409.7789	34.517	34.509	0	1.000	19280819	5509190	39924	99810	138	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.994						61070	152675			
409.7789	33.994						39924	99810			
1,2,3,4,6,7,8-HpCDD											
423.7766	34.237	34.235	0	1.000	15256366	4663971	35304	88260	132		
425.7737	34.237	34.235	0	1.000	14379733	4409600	34613	86532	127	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.747						35304	88260			
425.7737	34.747						34613	86532			
1,3,6,8-TCDF											
303.9016	14.488	14.488	0		39118253	12838055	20767	51917	618		
305.8987	14.488	14.488	0		50043033	16128115	30221	75552	534	0.78(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	15.365	15.365	0		24059145	7321607	11305	28262	648		
321.8936	15.365	15.365	0		30324467	9231636	15982	39955	578	0.79(0.65-0.89)	
2,3,4,7-TCDF											
303.9016	16.831	16.831	0		69083696	16415981	20767	51917	790		
305.8987	16.831	16.831	0		87750681	20749596	30221	75552	687	0.79(0.65-0.89)	
1,2,3,7-TCDD											
319.8965	17.391	17.391	0		20069259	5099643	11305	28262	451		
321.8936	17.391	17.391	0		25375661	6343382	15982	39955	397	0.79(0.65-0.89)	
1,2,3,9-TCDF											
303.9016	17.663	17.663	0		29002988	7032027	20767	51917	339		
305.8987	17.663	17.663	0		37084671	8886704	30221	75552	294	0.78(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	17.663	17.663	0		24424977	5852364	11305	28262	518		
321.8936	17.663	17.663	0		29996137	7085191	15982	39955	443	0.81(0.65-0.89)	
1,2,8,9-TCDD											
319.8965	18.570	18.570	0		21836286	4950341	11305	28262	438		

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24
Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,8,9-TCDF											
303.9016	18.585	18.585	0		30191180	6742364	20767	51917	325		
305.8987	18.570	18.585	-1		38060473	8553075	30221	75552	283	0.79(0.65-0.89)	
1,3,4,6,8-PeCDF											
339.8597	18.842	18.842	0		45288053	10371829	2693	6732	3851		
341.8567	18.842	18.842	0		29170359	6722620	2089	5222	3218	1.55(1.32-1.78)	
1,2,4,7,9-PeCDD											
355.8546	20.554	20.554	0		24016179	4397141	4581	11452	960		
357.8516	20.554	20.554	0		15301857	2775727	3055	7637	909	1.57(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	24.618	24.618	0		21631397	3212377	4581	11452	701		
357.8516	24.604	24.618	-1		13590453	2031351	3055	7637	665	1.59(1.32-1.78)	
1,2,3,8,9-PeCDF											
339.8597	24.822	24.822	0		30054464	4482222	5300	13250	846		
341.8567	24.822	24.822	0		18859051	2839059	3855	9637	736	1.59(1.32-1.78)	
1,2,3,4,6,8-HxCDF											
373.8208	26.994	26.994	0		30936266	4258539	8176	20440	521		
375.8178	26.994	26.994	0		24359228	3386340	6671	16677	508	1.27(1.05-1.43)	
1,2,4,6,7,9-HxCDD											
389.8157	28.524	28.524	0		21762419	2707092	5433	13582	498		
391.8127	28.511	28.524	-1		17218341	2108446	6604	16510	319	1.26(1.05-1.43)	
1,2,3,4,6,7-HxCDD											
389.8157	31.719	31.719	0		20281545	5118478	5433	13582	942		
391.8127	31.719	31.719	0		16295871	4102330	6604	16510	621	1.24(1.05-1.43)	
1,2,3,4,8,9-HxCDF											
373.8208	32.052	32.052	0		25462999	6697653	8176	20440	819		
375.8178	32.052	32.052	0		20182714	5358635	6671	16677	803	1.26(1.05-1.43)	
1,2,3,4,6,7,9-HpCDD											
423.7766	33.703	33.703	0		17582544	5481736	35304	88260	155		
425.7737	33.703	33.703	0		16820435	5298193	34613	86532	153	1.05(0.88-1.20)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Reagents:

HRDXNCP_00040 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d
Lims ID: WDM
Client ID:
Inject. Date: 17-Sep-2019 11:28:41 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 324128 Lims Sample ID: 1

Non-2,3,7,8-sub-TCDF, RT: 16.536

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.051	D 13C-2,3,7,8-TCDF	40.000	74367795	19100260

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.051		40.000	74367795	19100260

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
18.857	898473	190404	1157340	261558	1.05	0.78	
Signal Totals:							
	898473	190404	1157340	261558			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2055813	451962				0.78	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.052 = (2055813 * 40.000) / (74367795 * 1.051)

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d
Lims ID: WDM
Client ID:
Inject. Date: 17-Sep-2019 11:28:41 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 324128 Lims Sample ID: 1

Non-2,3,7,8-sub-PeCDF, RT: 22.240

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.082				
2,3,4,7,8-PeCDF	1.103				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
21.113	202355	35160	114927	17891		1.76	
21.645	239041	34085	131189	19977		1.82	R
22.191	315658	51688	211255	31694		1.49	
Signal Totals:							
	757054	120933	457371	69562			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1214425	190495				1.66	RQ
	1178726	187374					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (1214425 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (1178726 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d
Lims ID: WDM
Client ID:
Inject. Date: 17-Sep-2019 11:28:41 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 10D5 Operator: AJS
Lims Batch ID: 324128 Lims Sample ID: 1

Non-2,3,7,8-sub-HxCDF, RT: 29.523

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.197				
1,2,3,6,7,8-HxCDF	1.181				
2,3,4,6,7,8-HxCDF	1.212				
1,2,3,7,8,9-HxCDF	1.245				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
30.028	278236	49481	229583	36177		1.21	
Signal Totals:							
	278236	49481	229583	36177			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	507819	85658				1.21	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (507819 * 0.0) / (0 * 0.000)

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d		
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TCDF

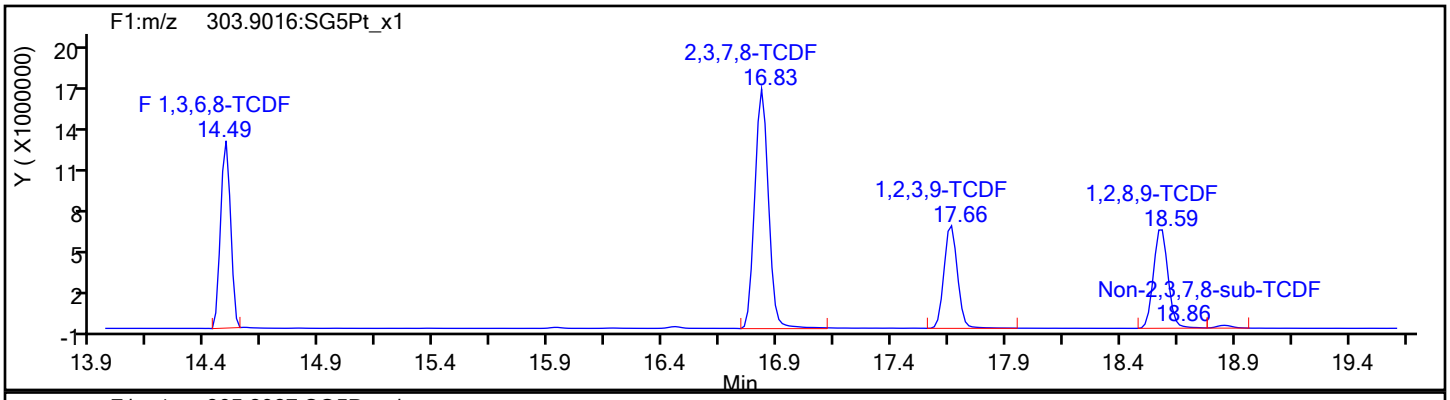

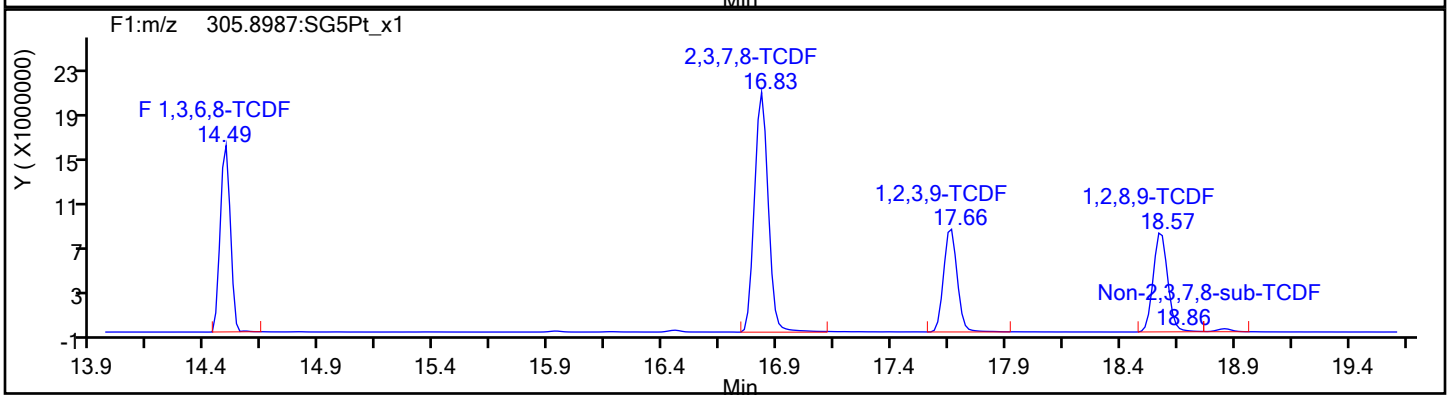

TCDF Standards

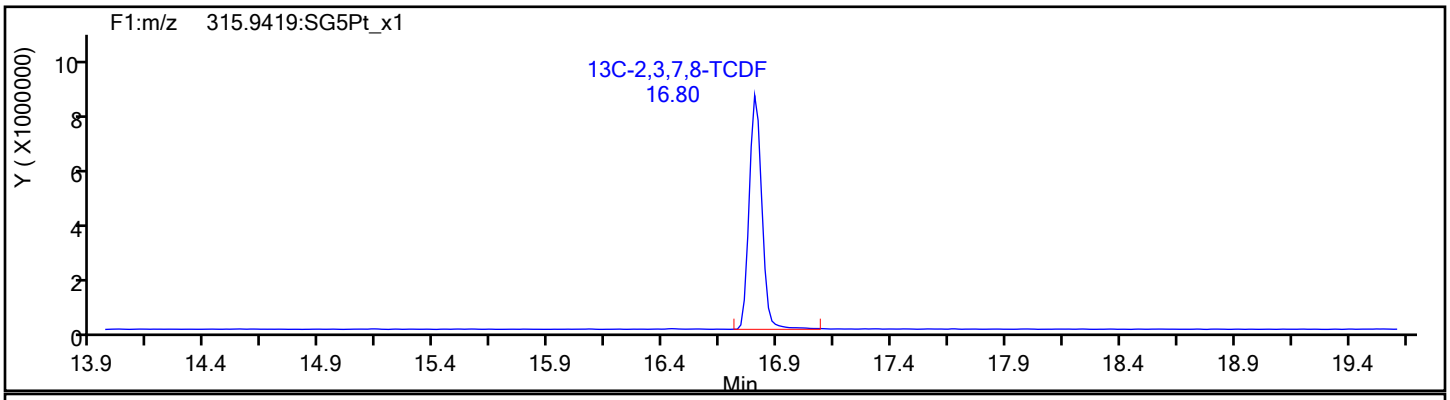

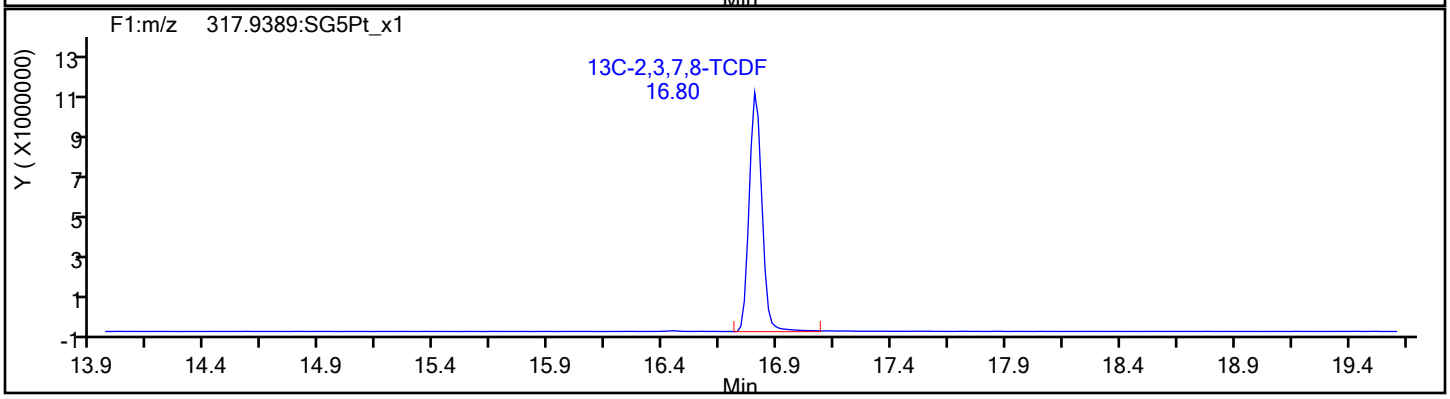

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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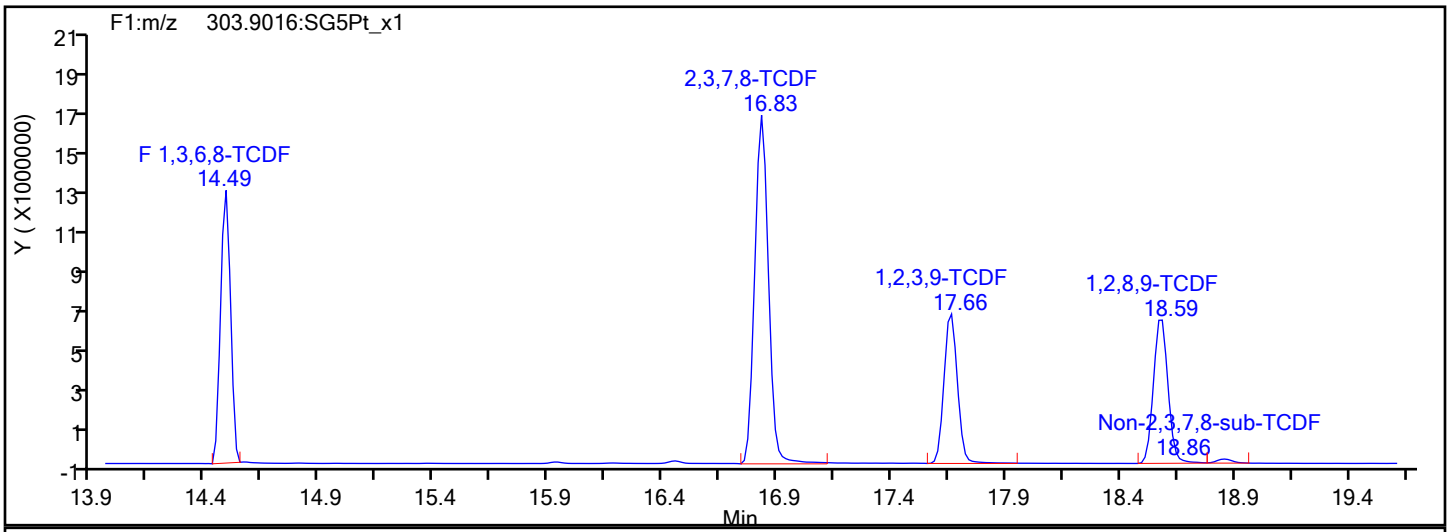

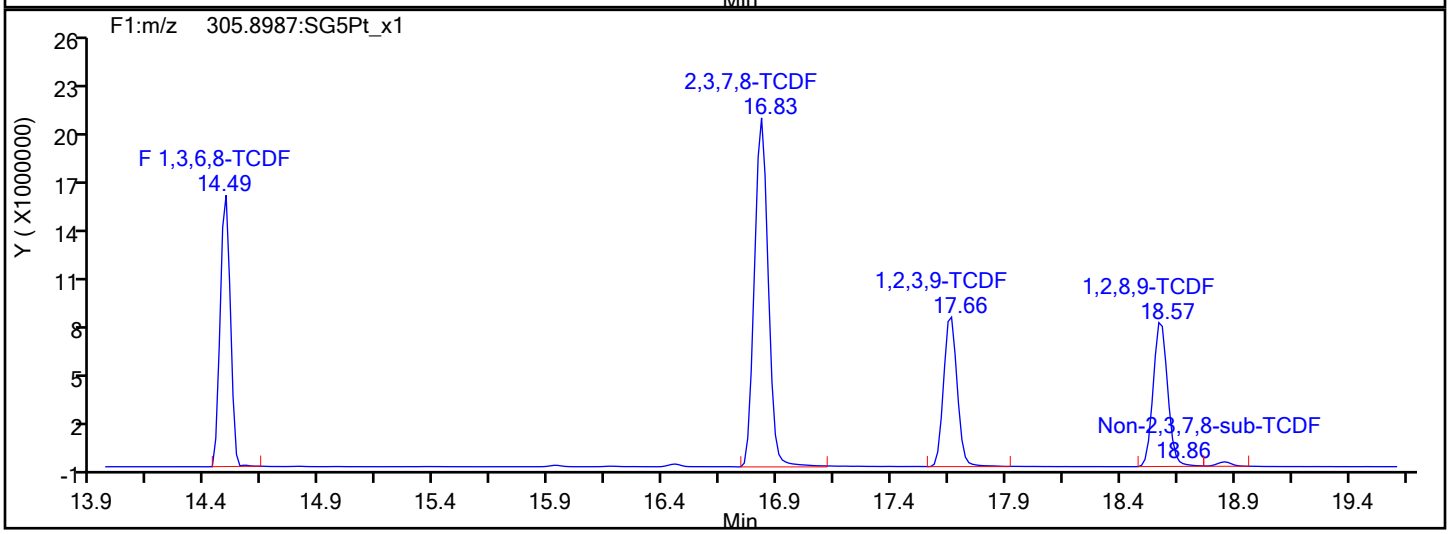

TCDF Interference Mass

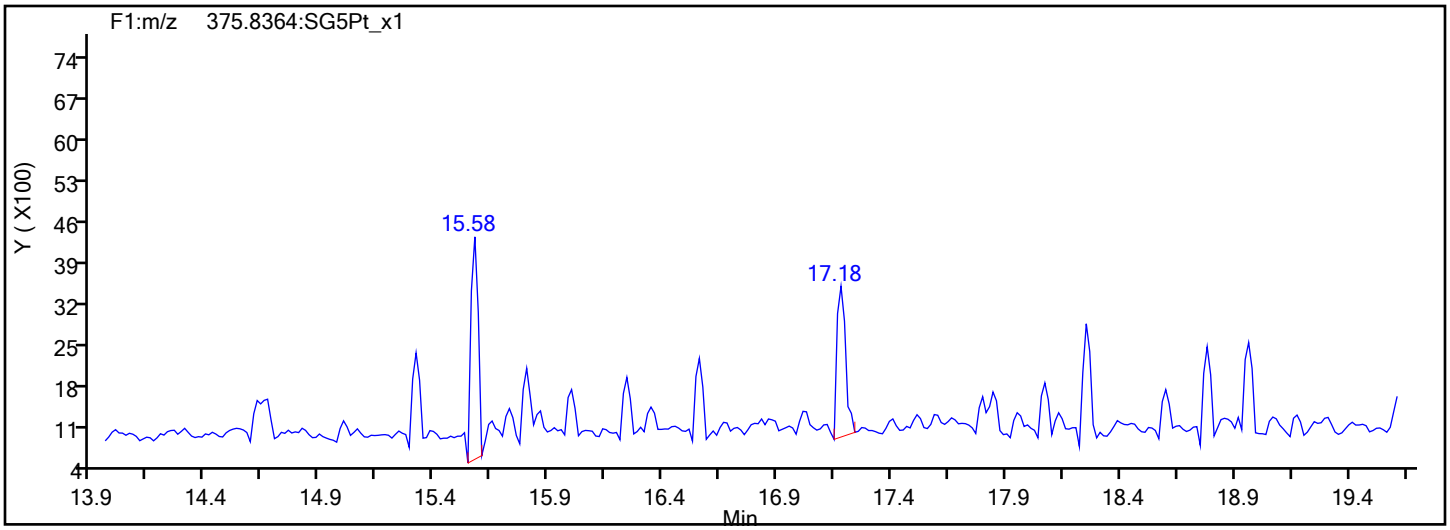

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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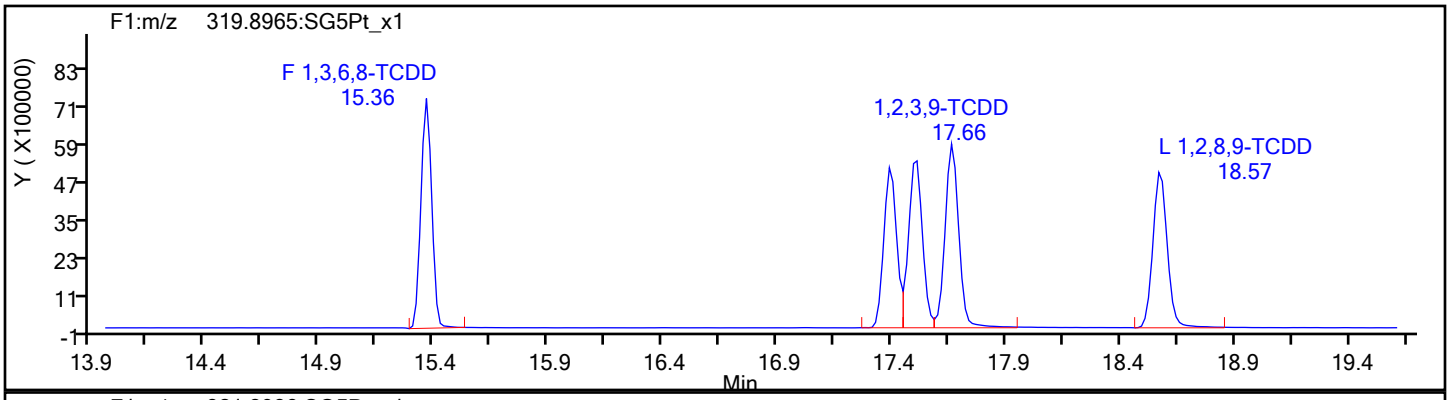

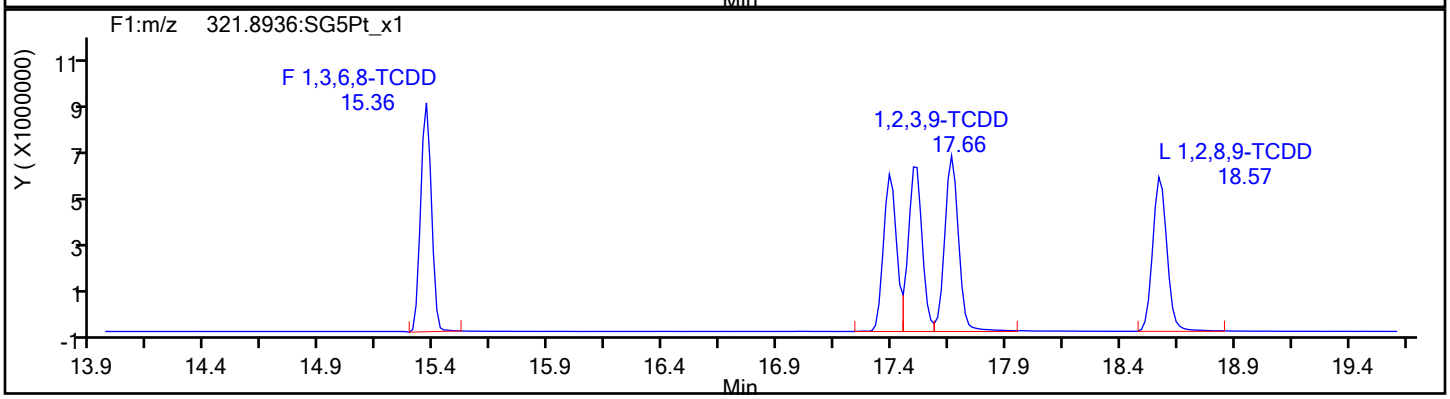

TCDD Standards

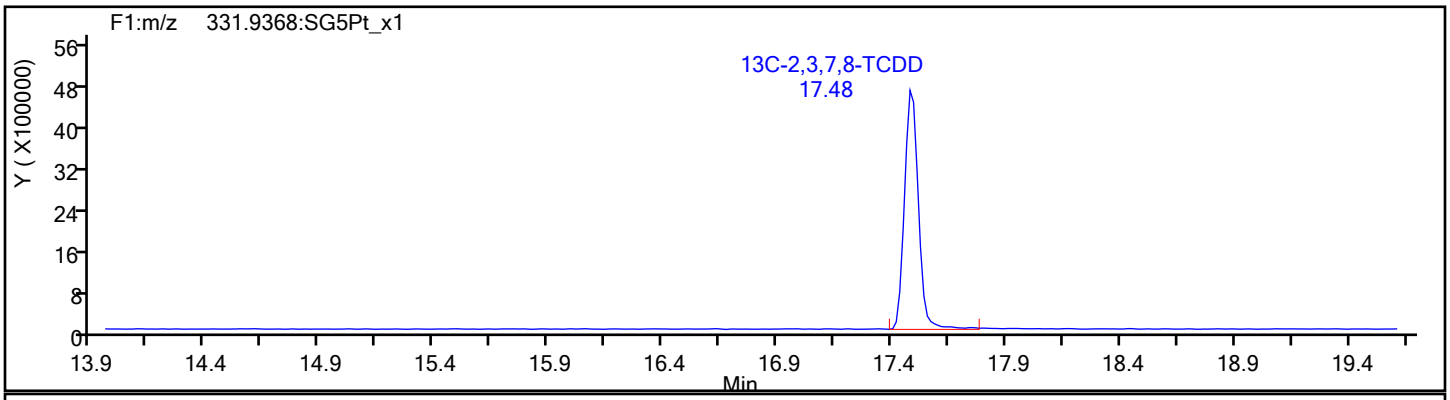

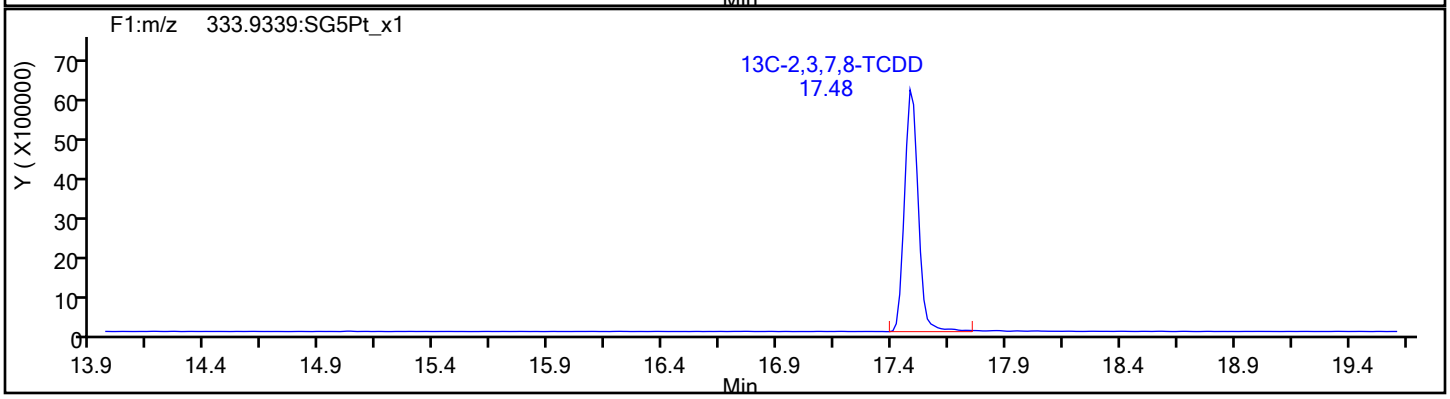

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

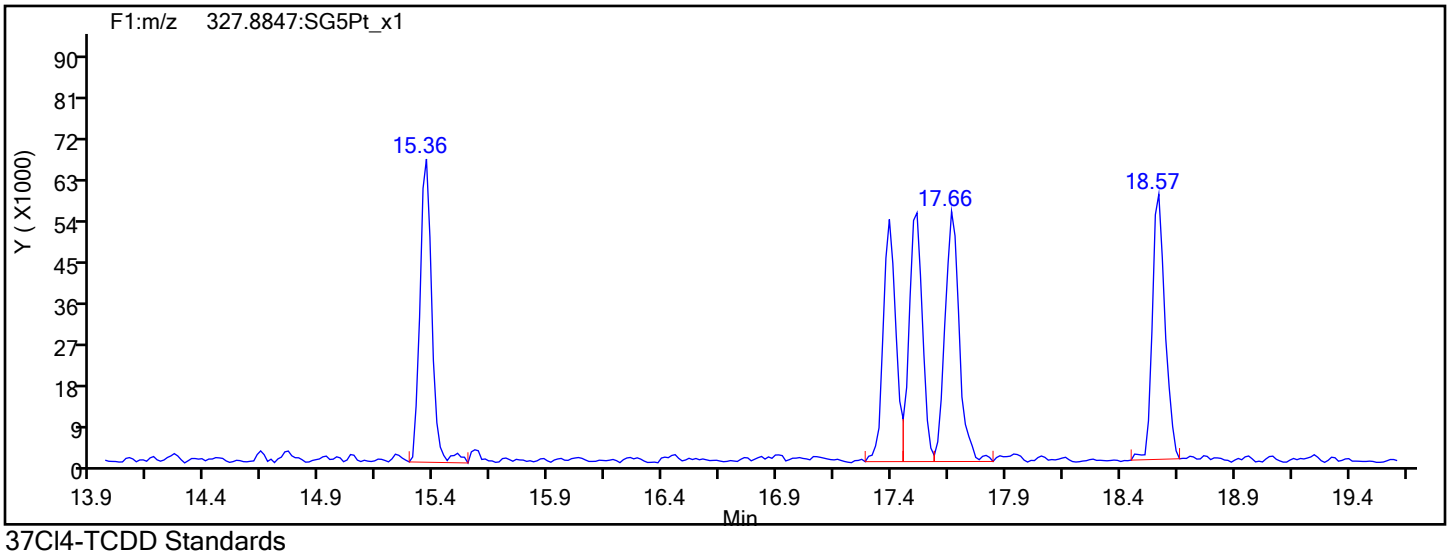

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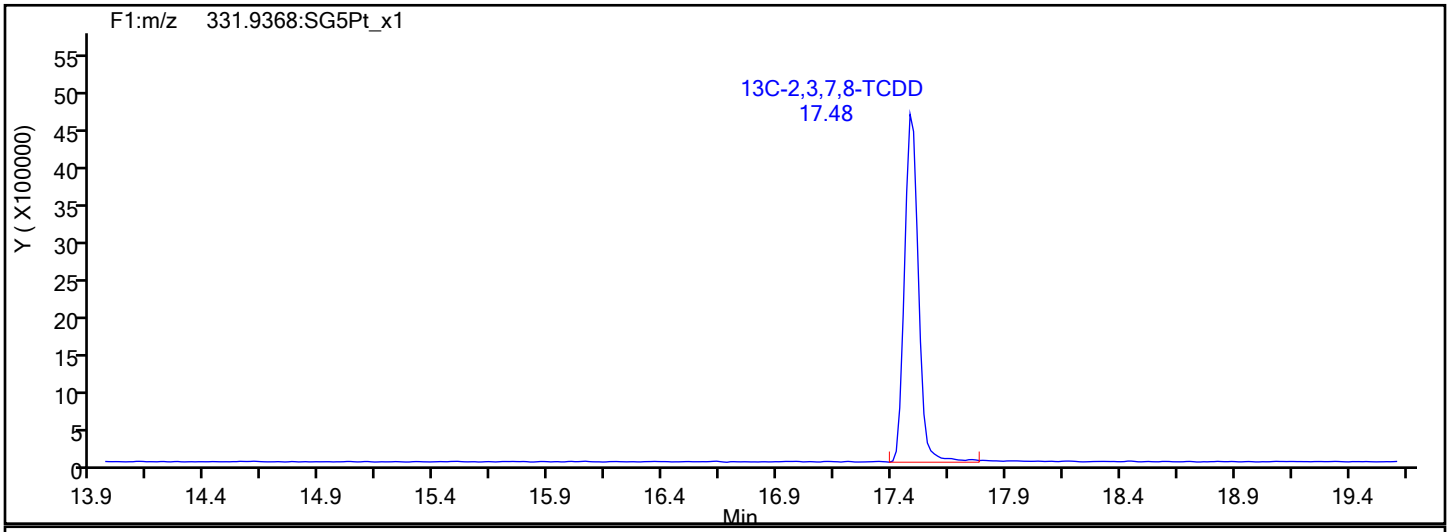

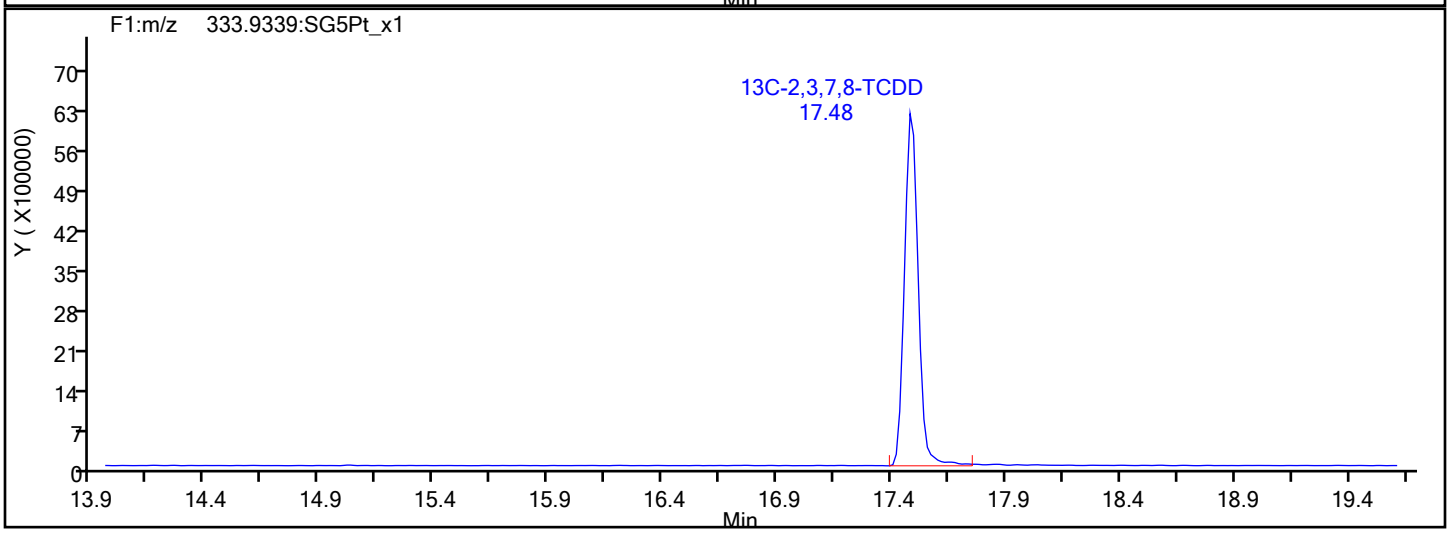

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

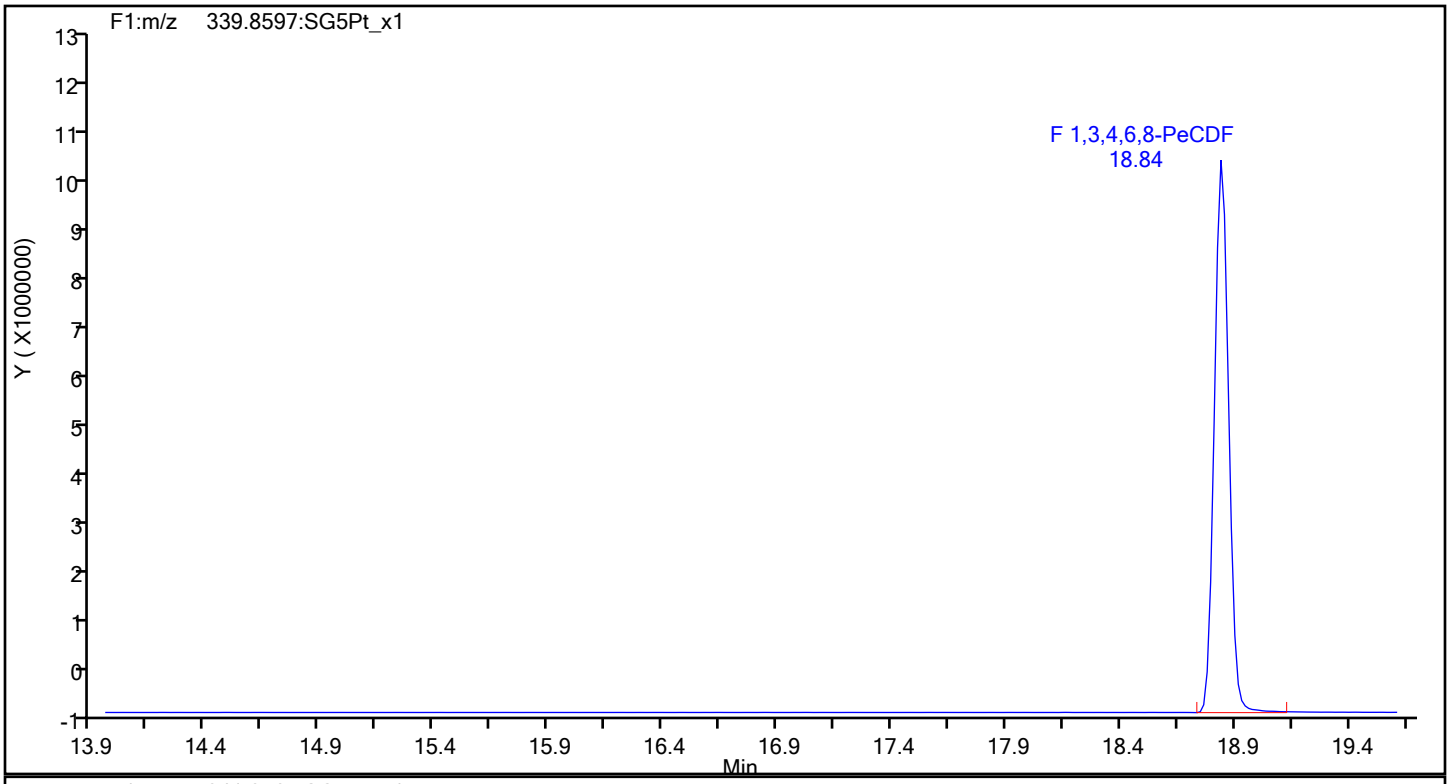

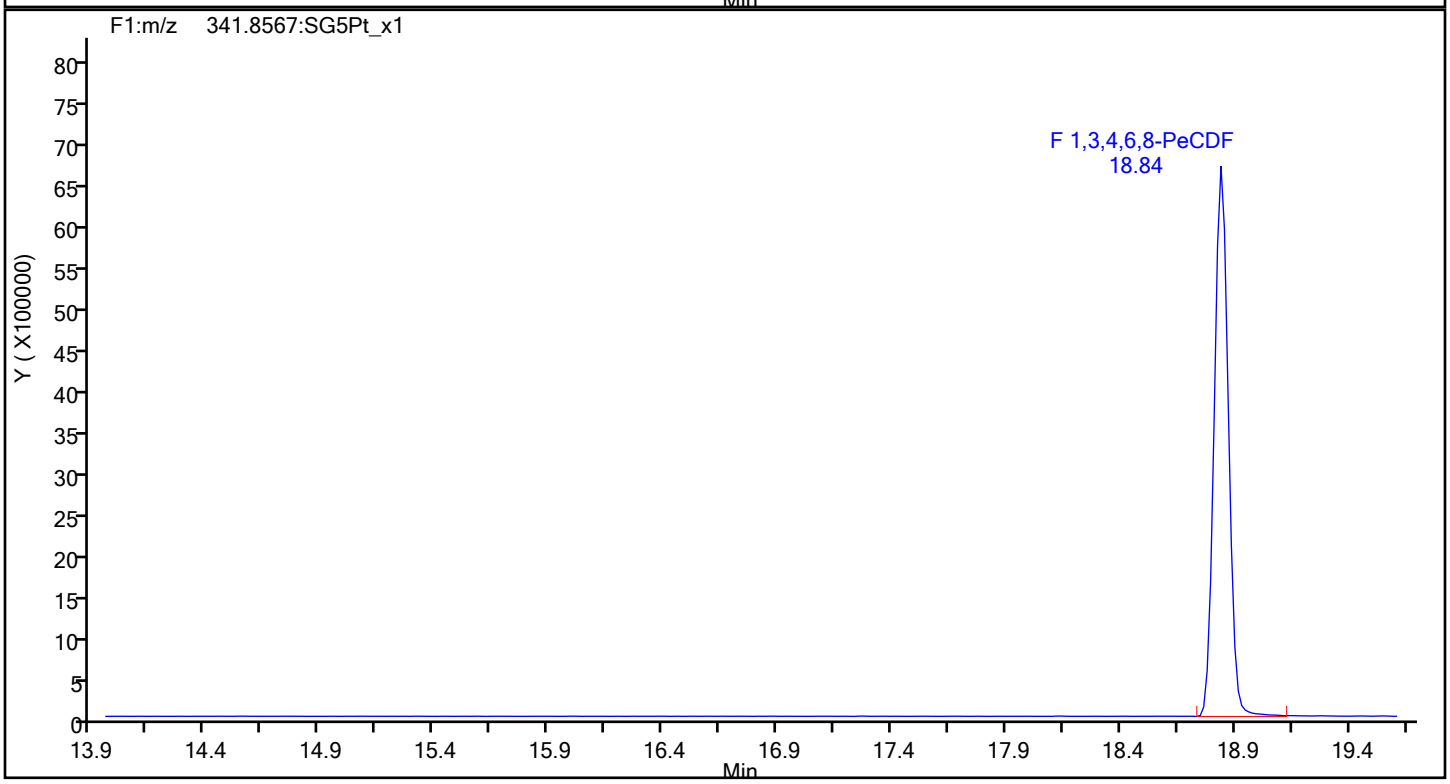

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

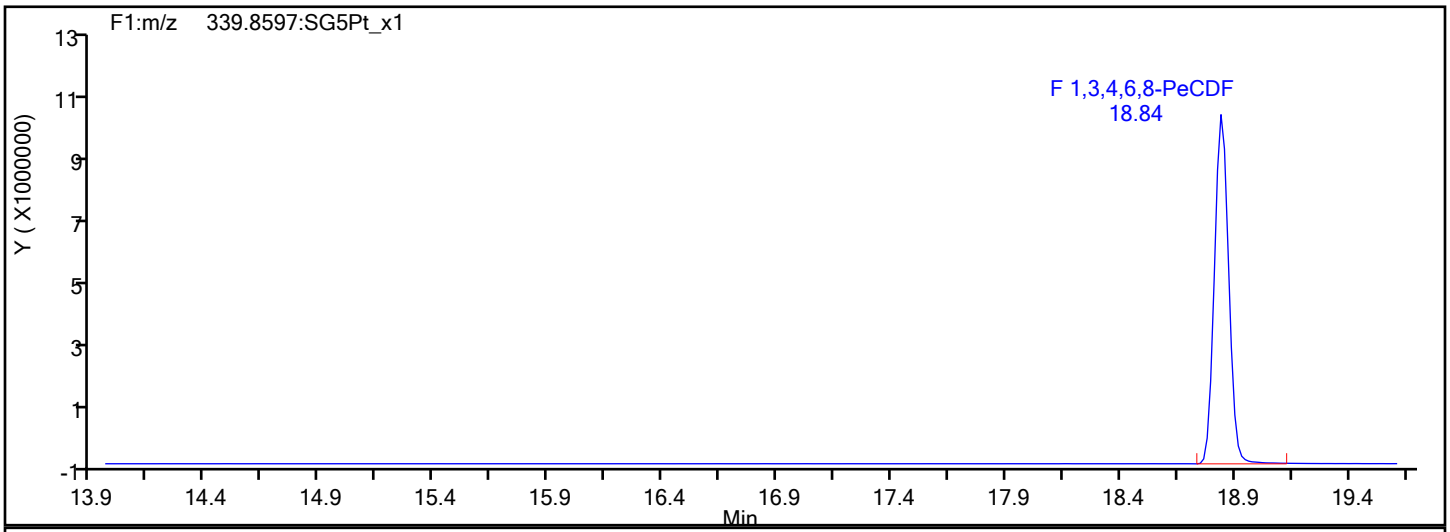

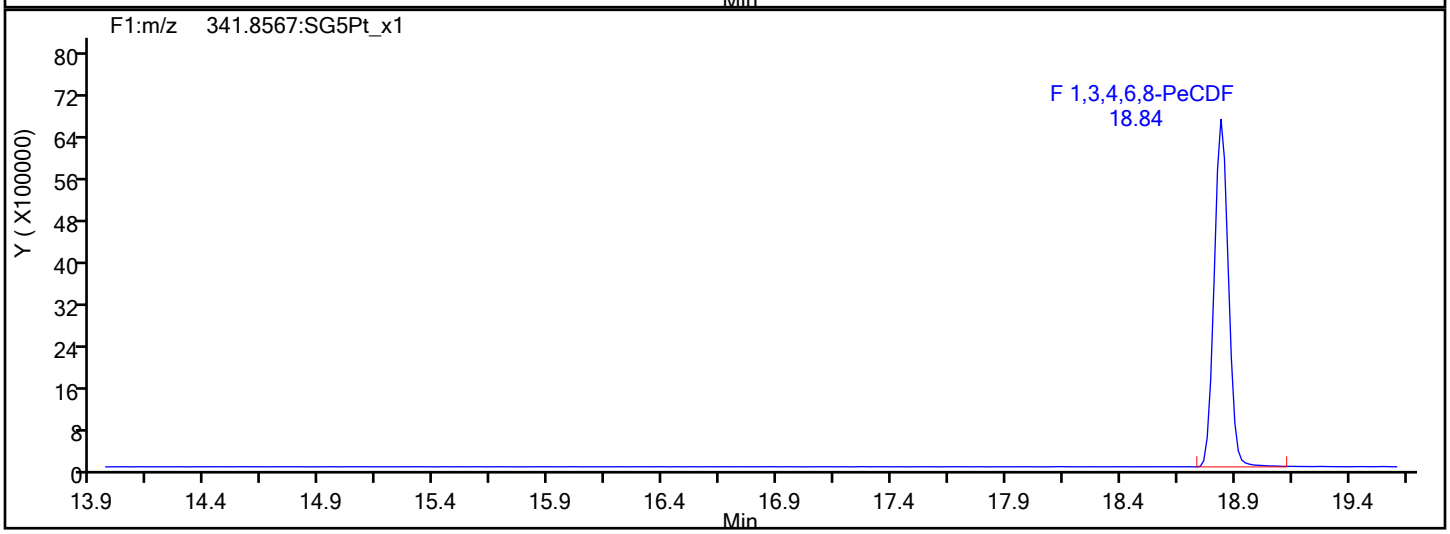

F1 PeCDFs Interference Mass

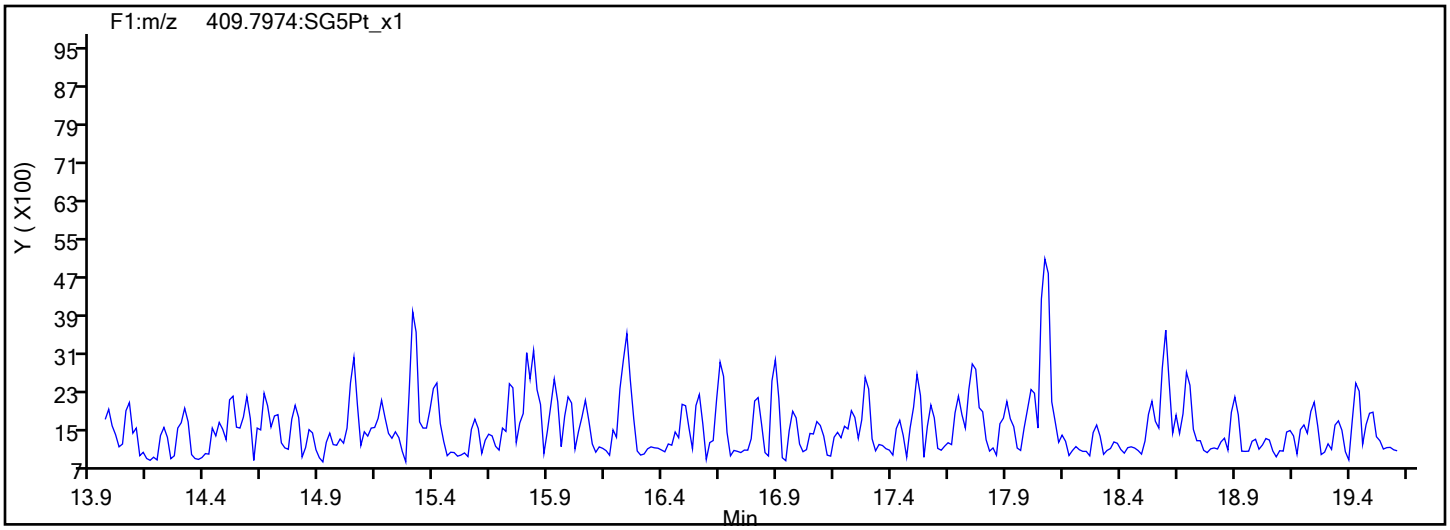

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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PeCDF

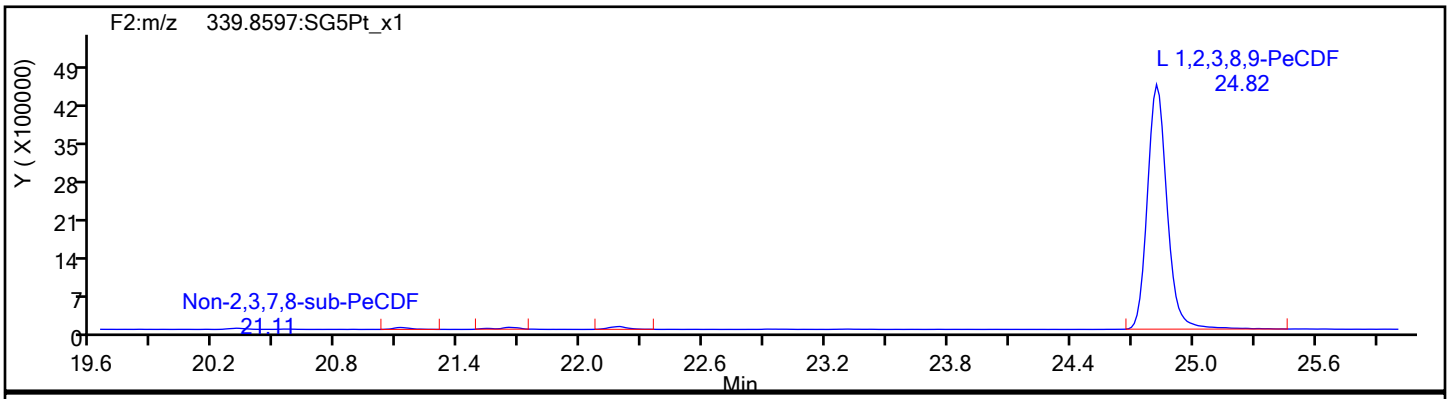

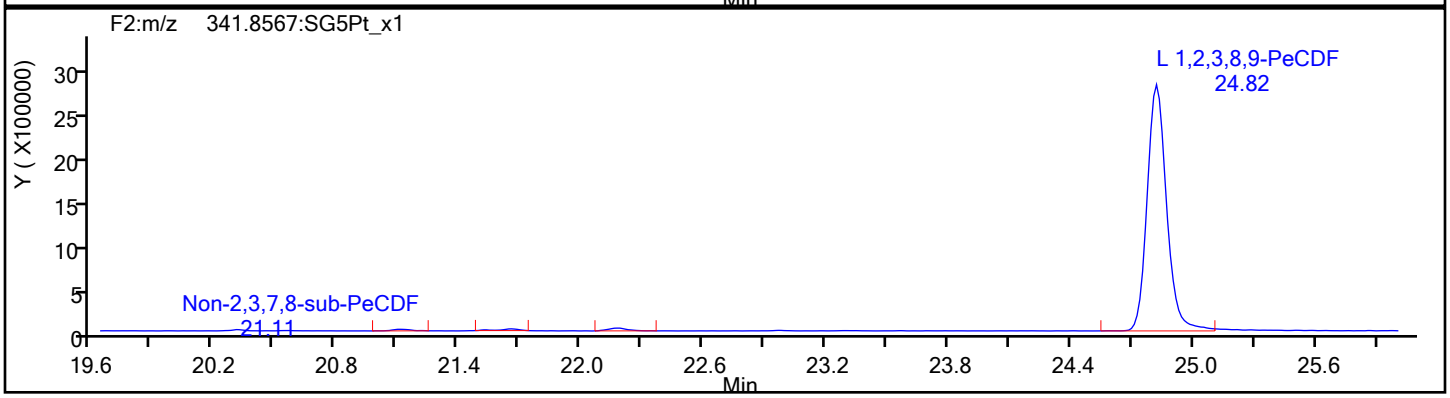

PeCDF Standards

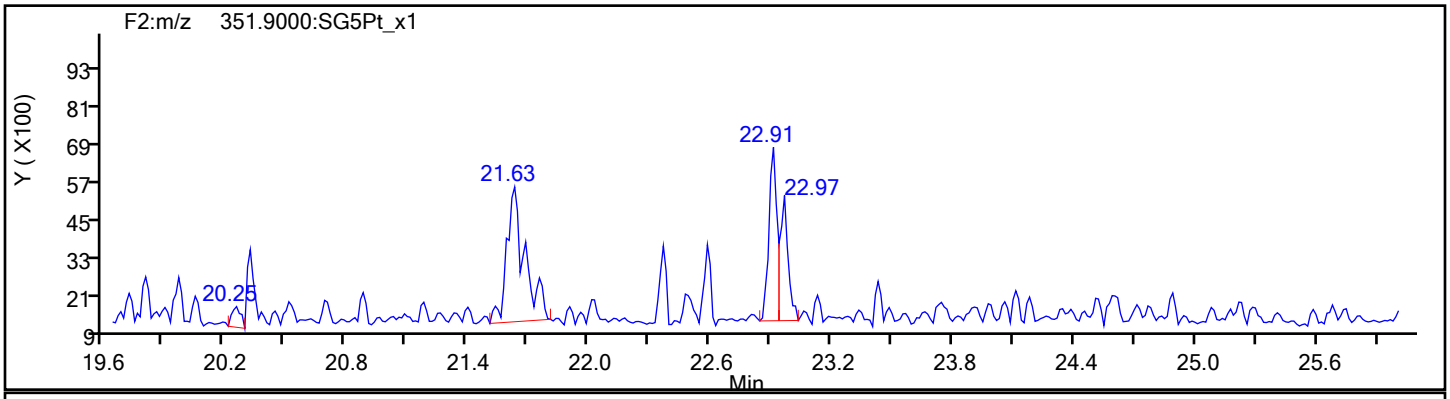

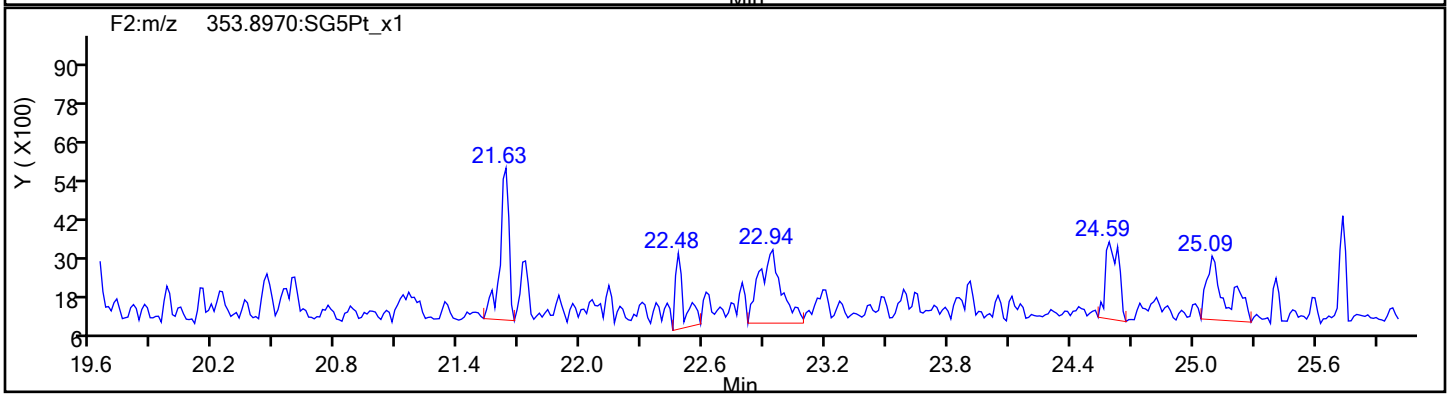

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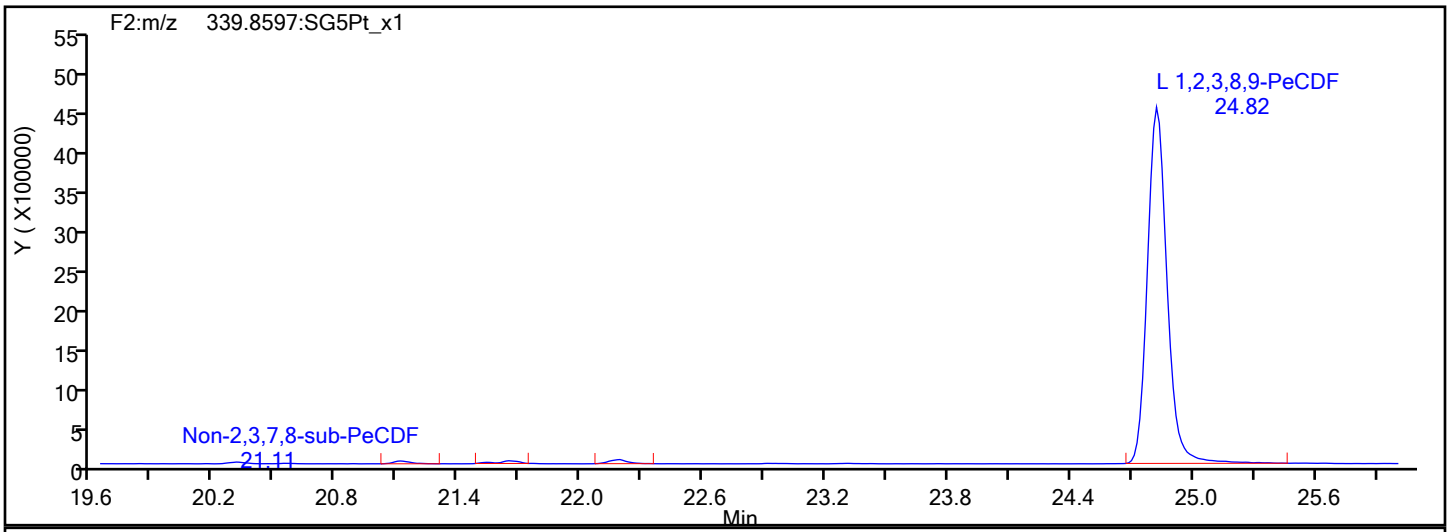

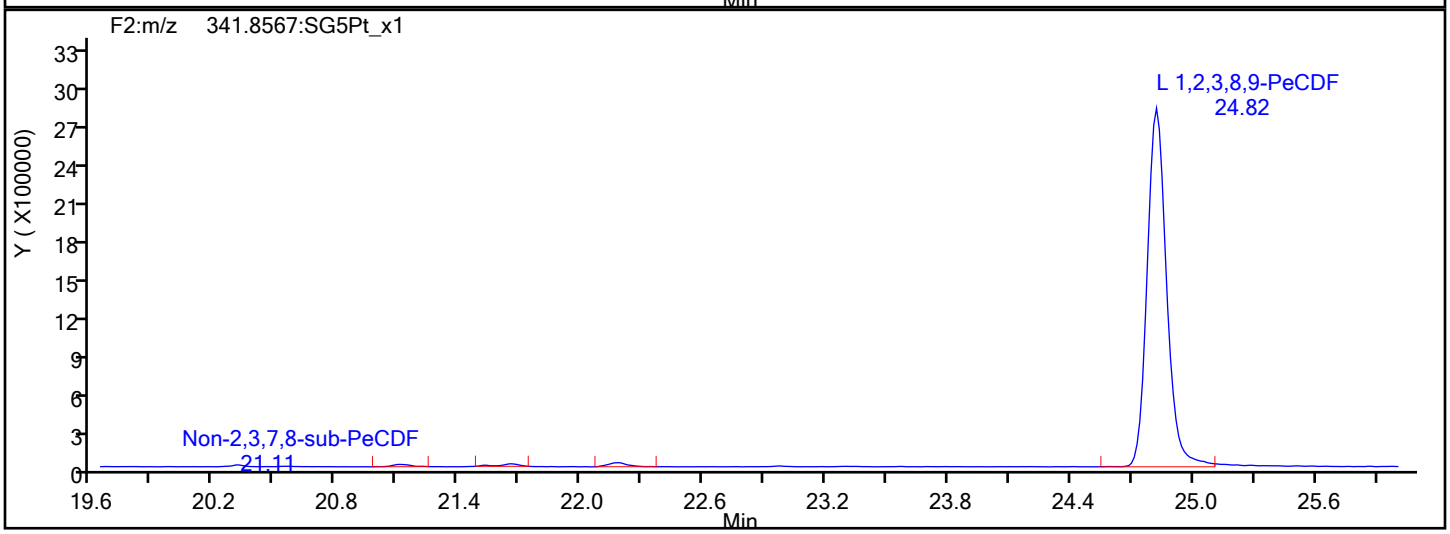

PeCDF Interference Mass

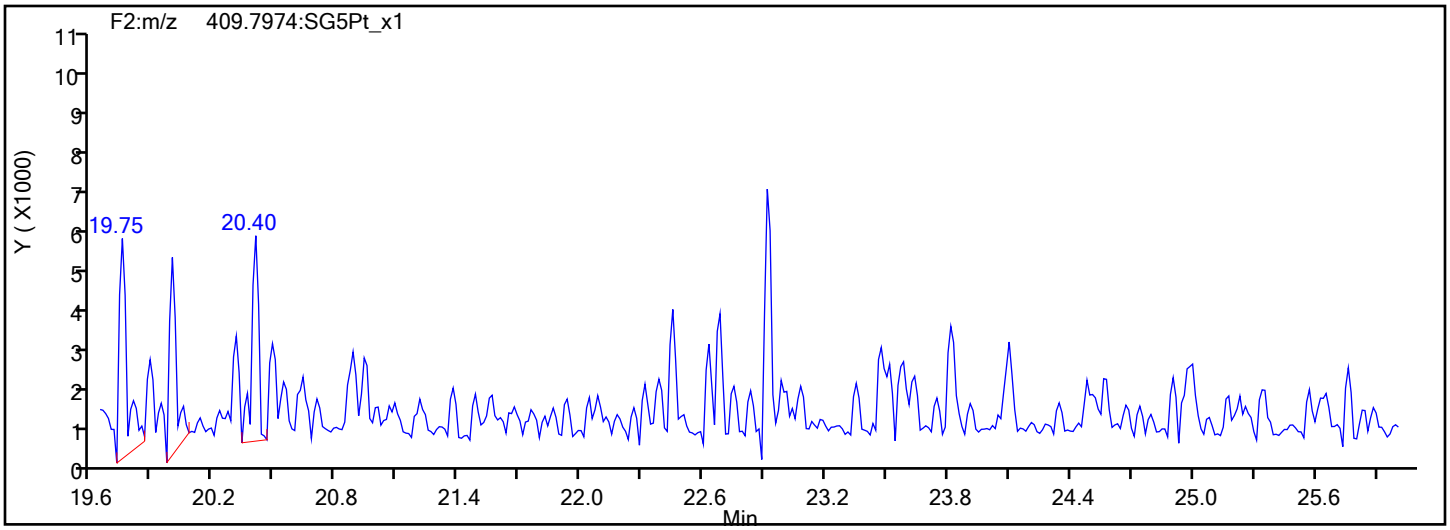

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Eurofins TestAmerica, Sacramento

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PeCDD

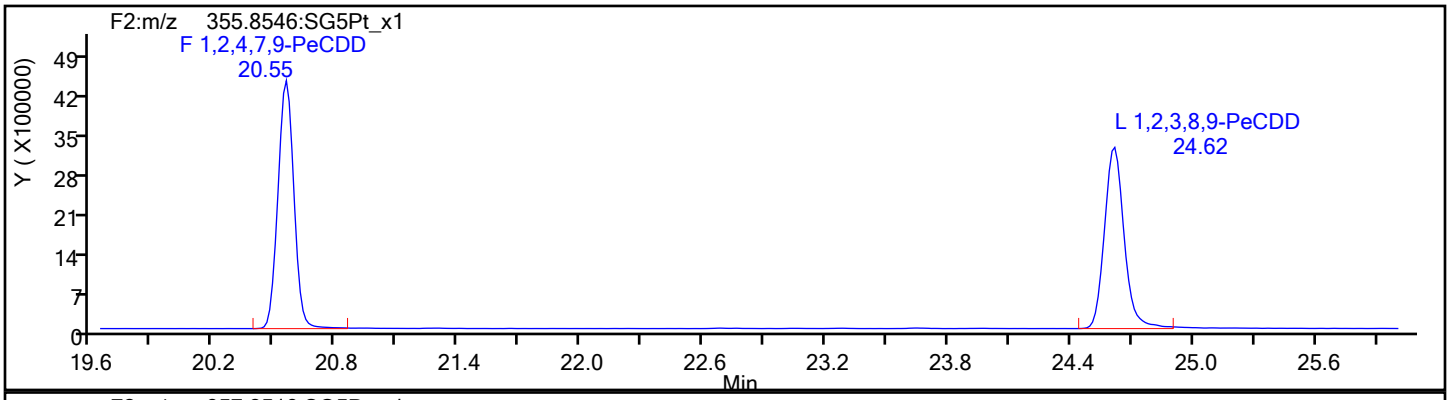

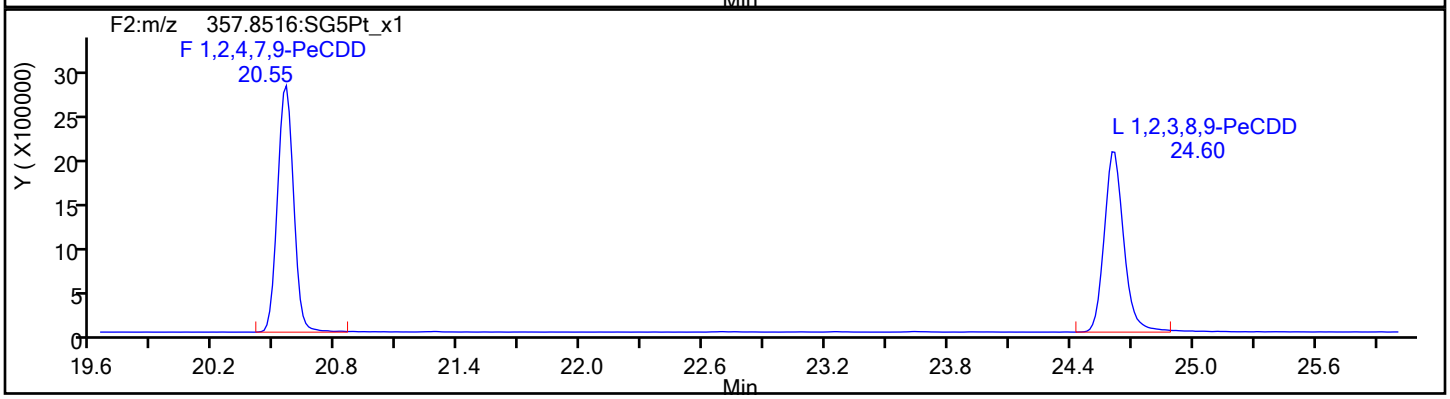

PeCDD Standards

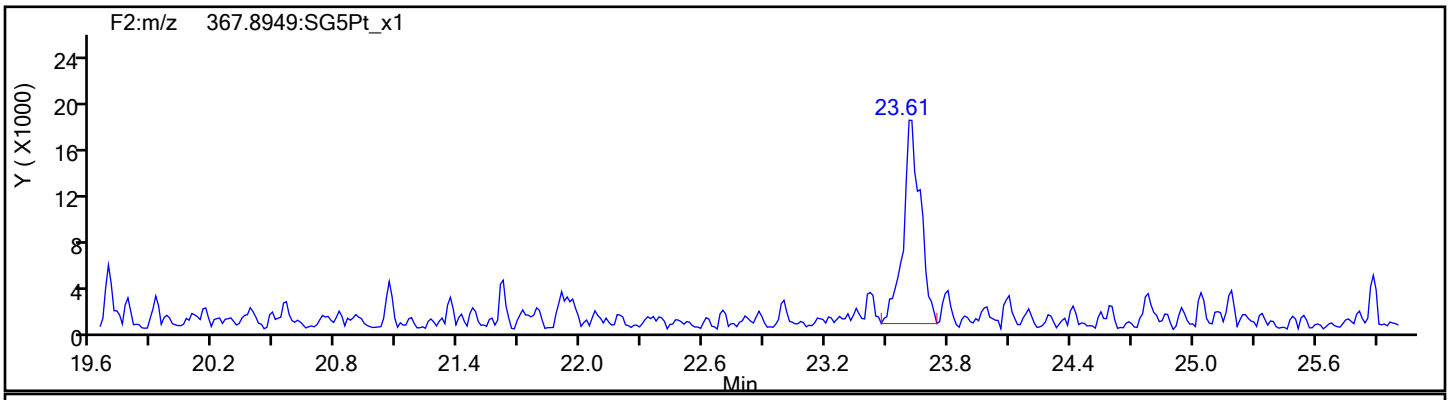

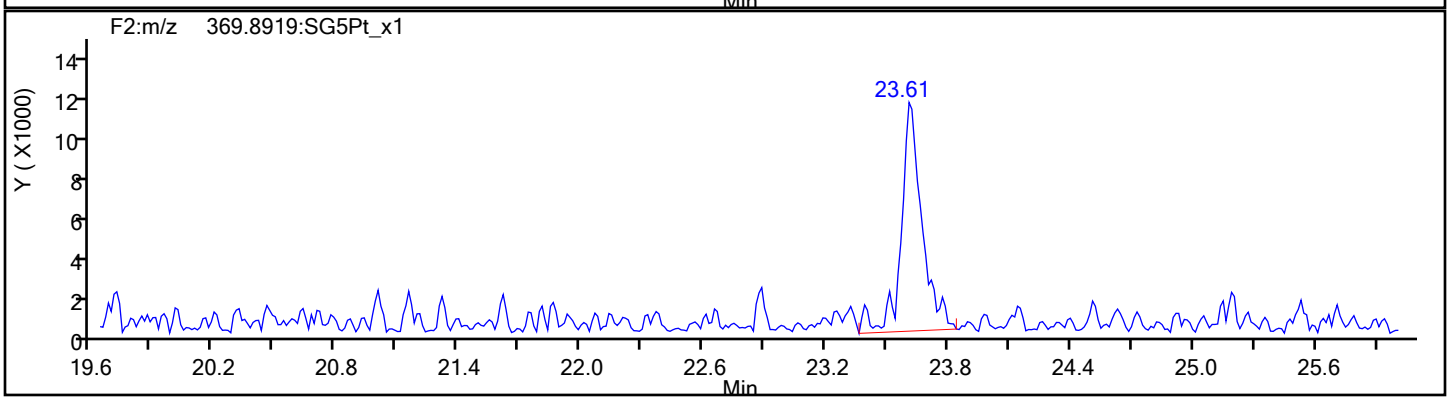

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Eurofins TestAmerica, Sacramento

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HxCDF

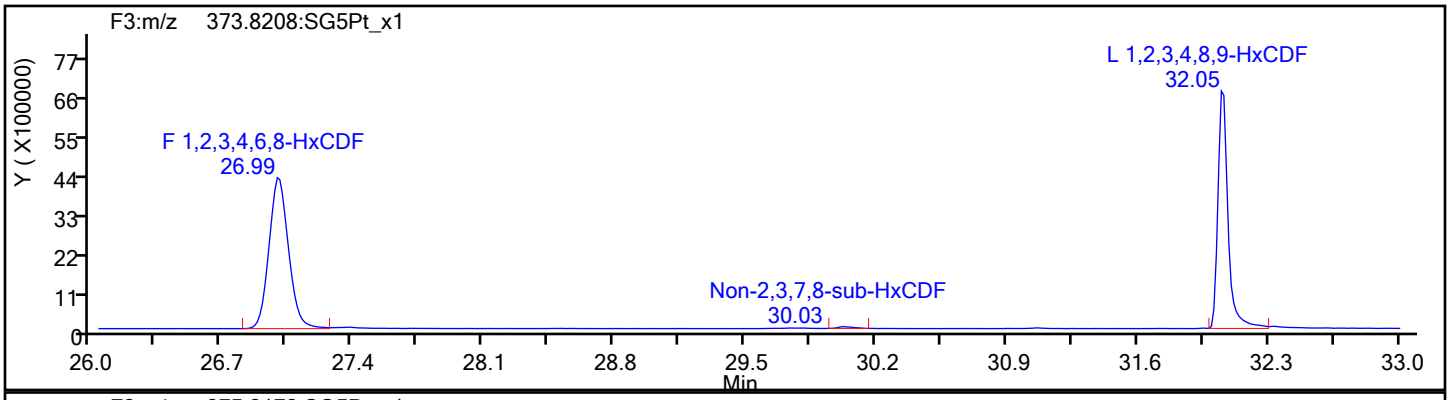

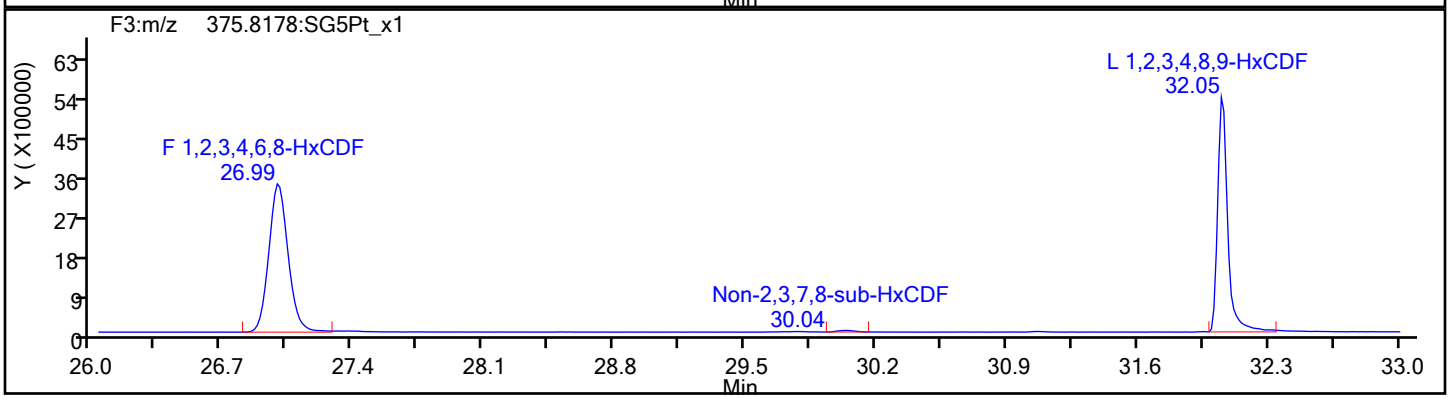

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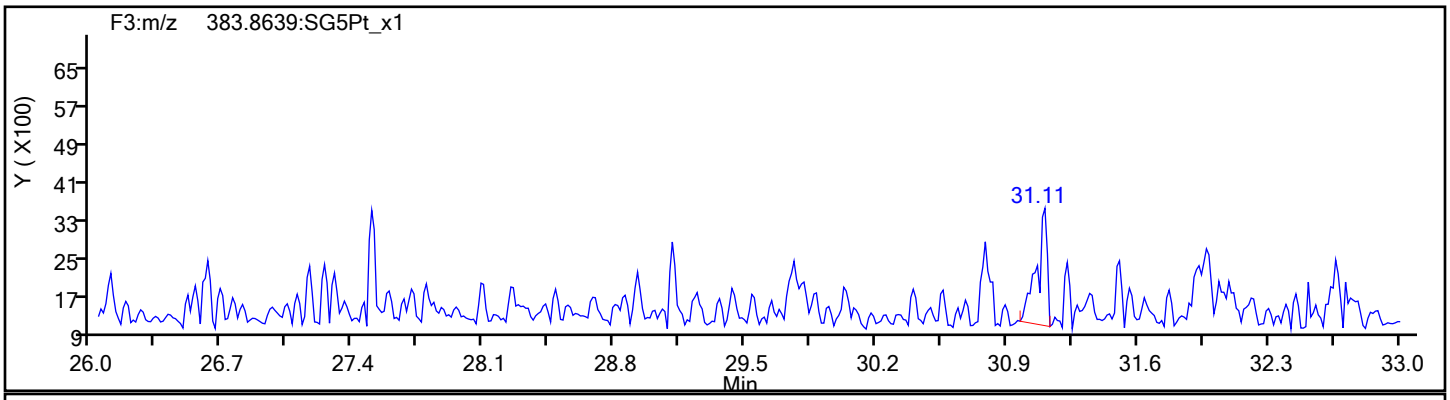

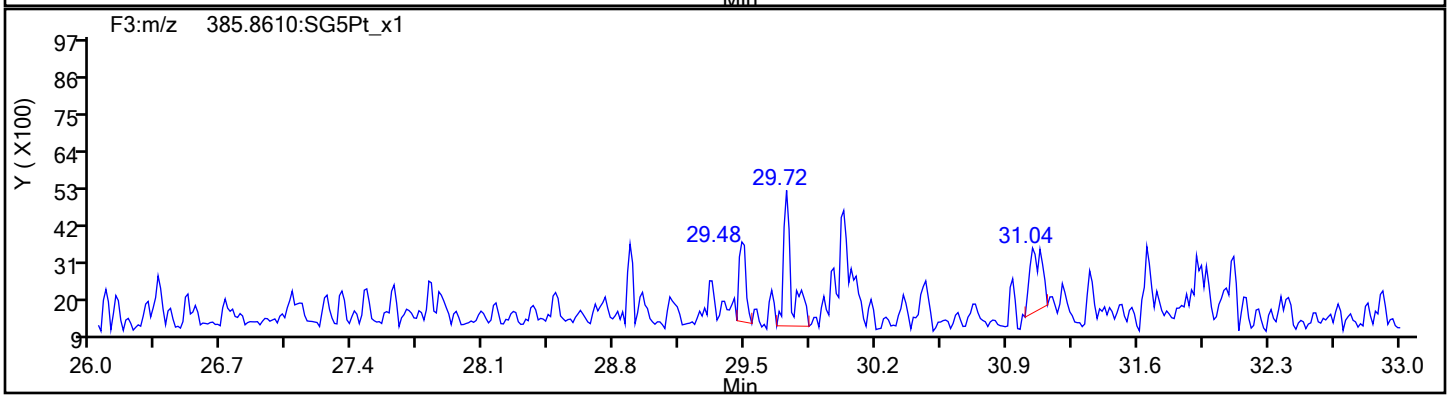

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Eurofins TestAmerica, Sacramento

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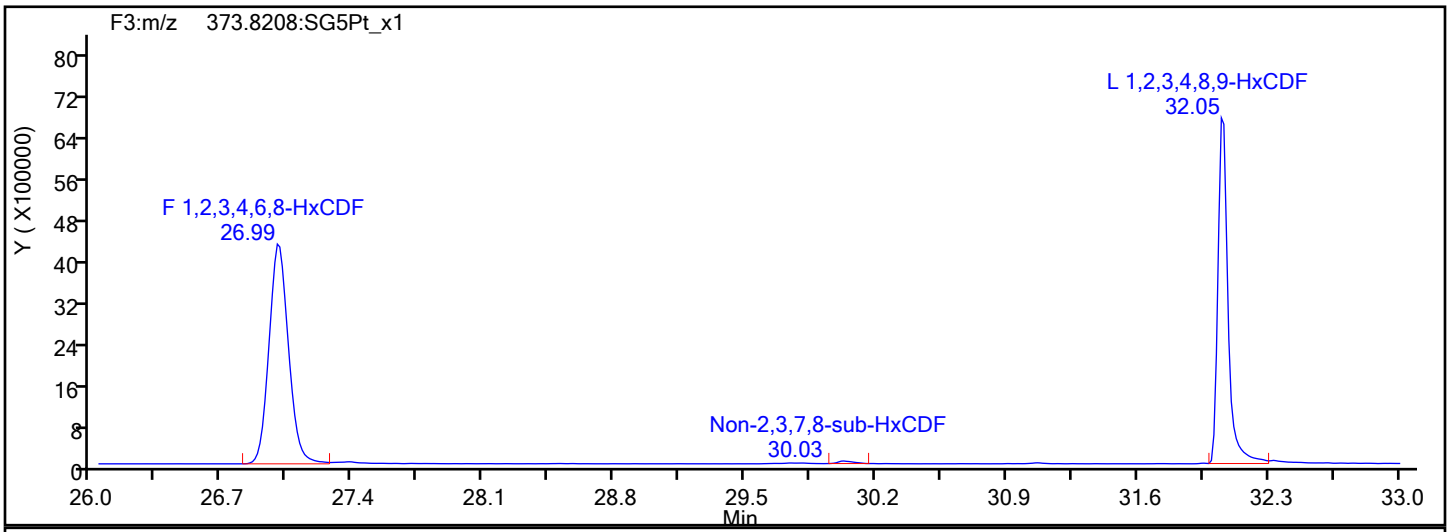

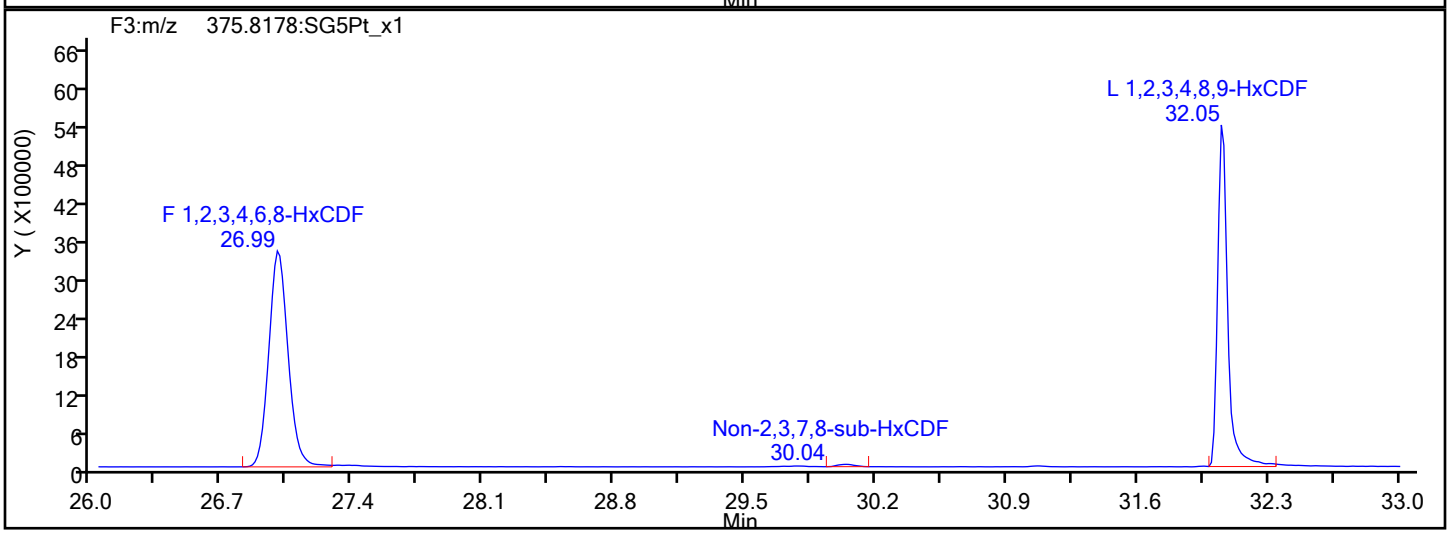

HxCDF Interference Mass

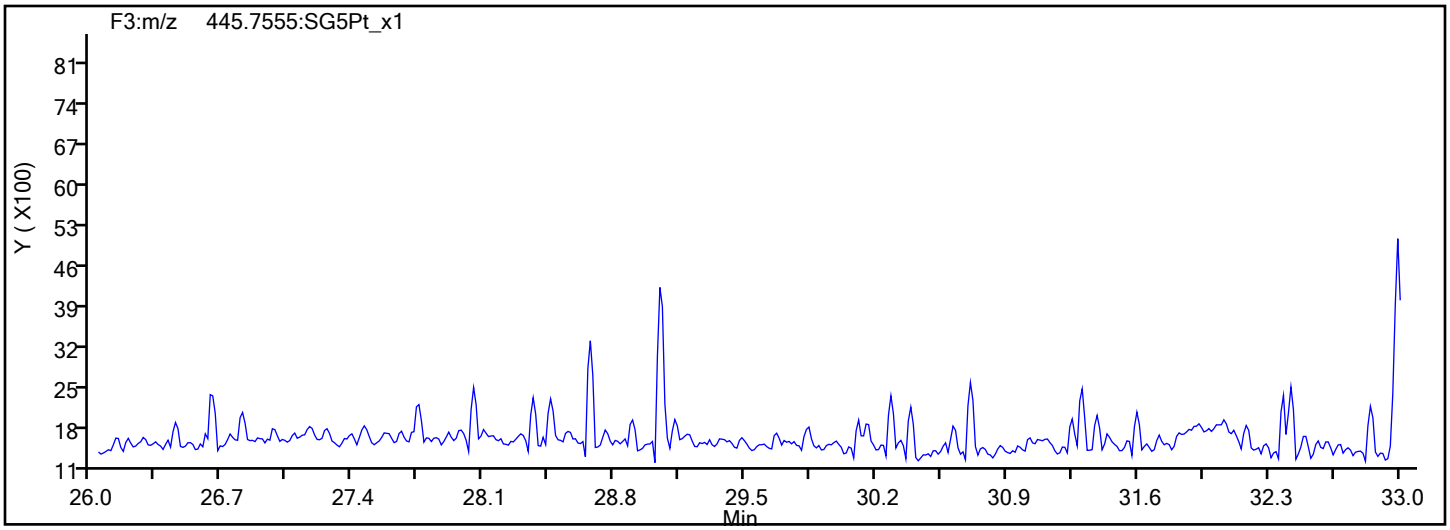

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Eurofins TestAmerica, Sacramento

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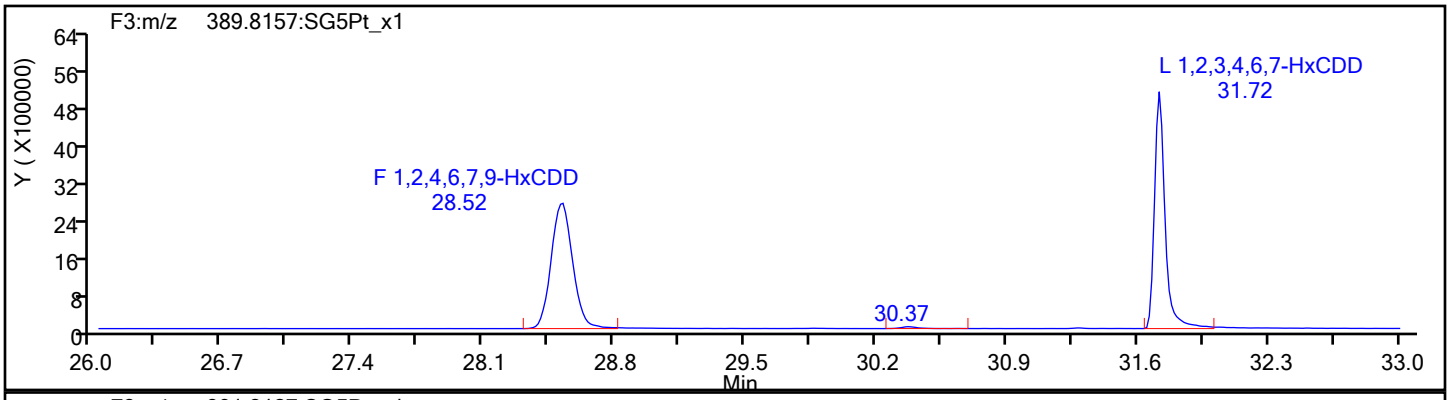

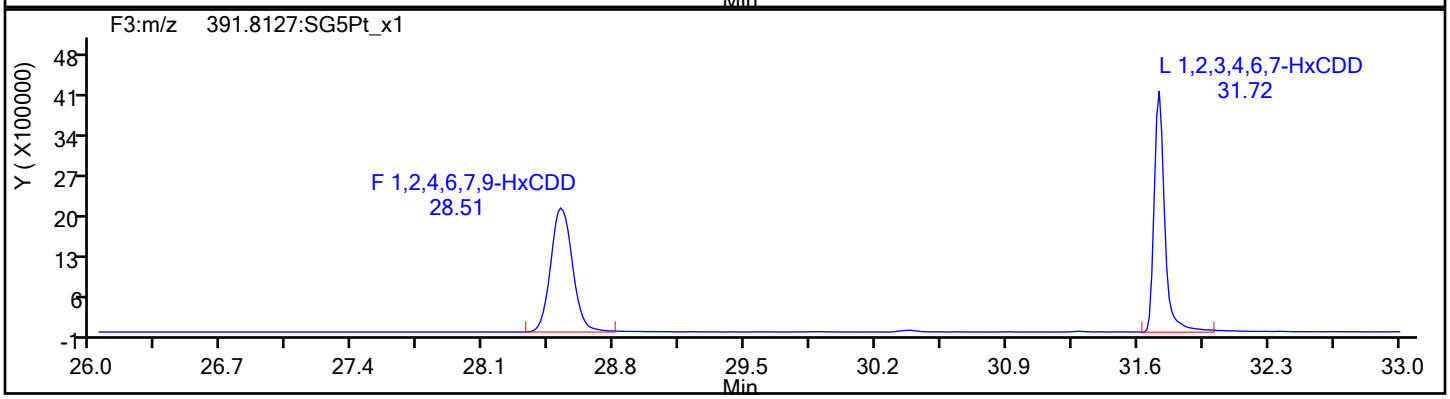

HxCDD Standards

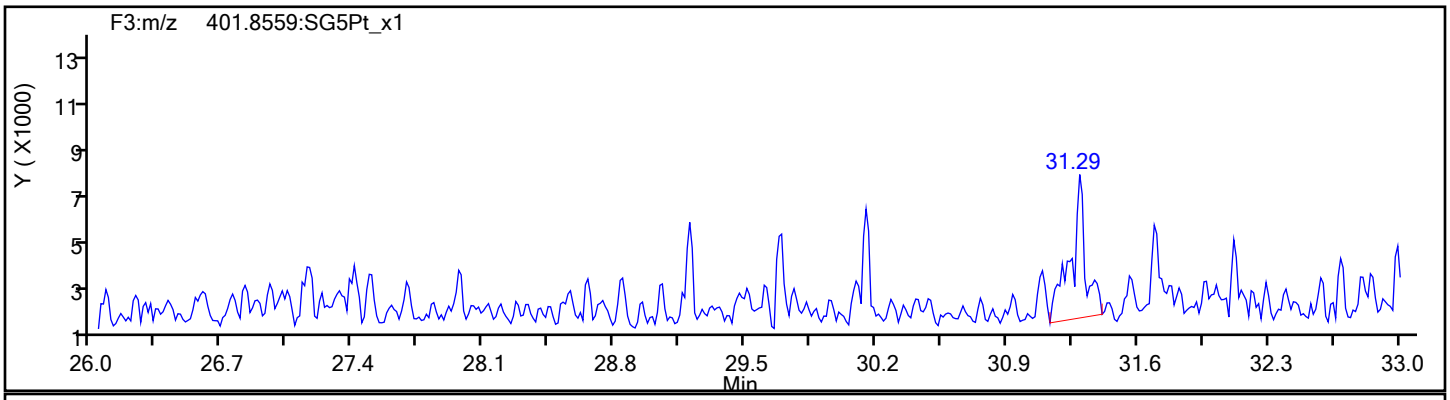

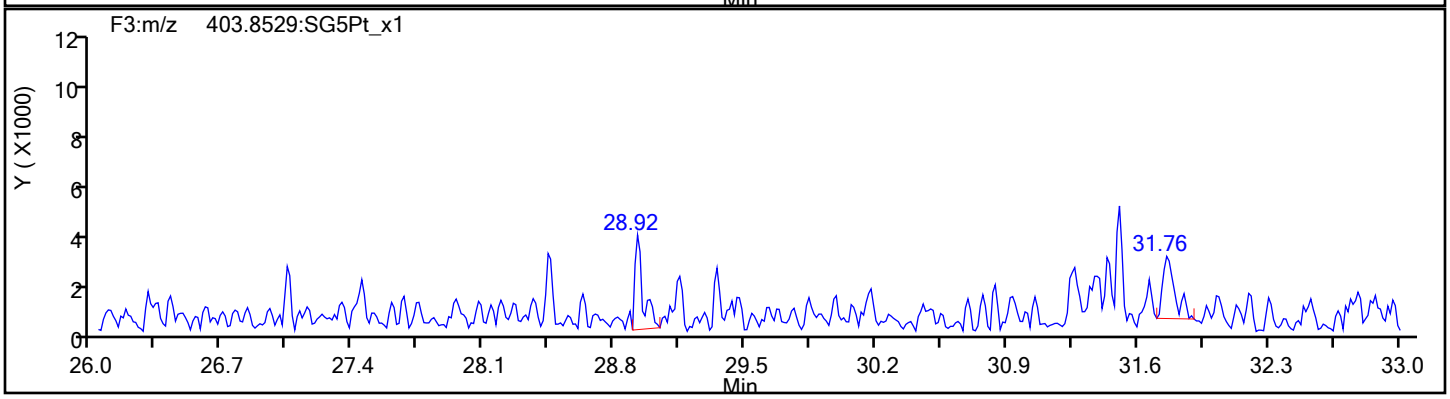

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d		
Injection Date:	17-Sep-2019 11:28:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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HpCDF

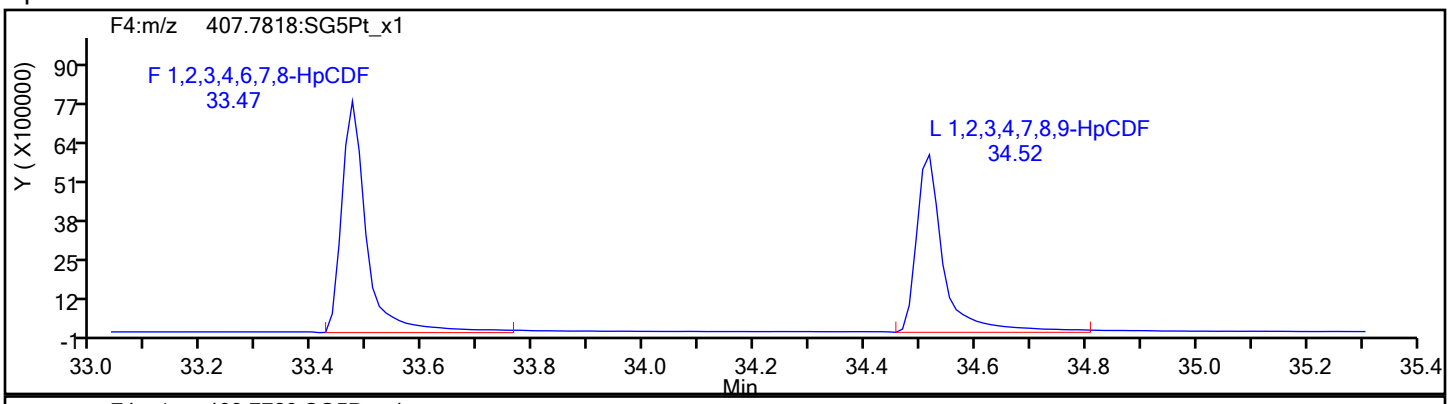

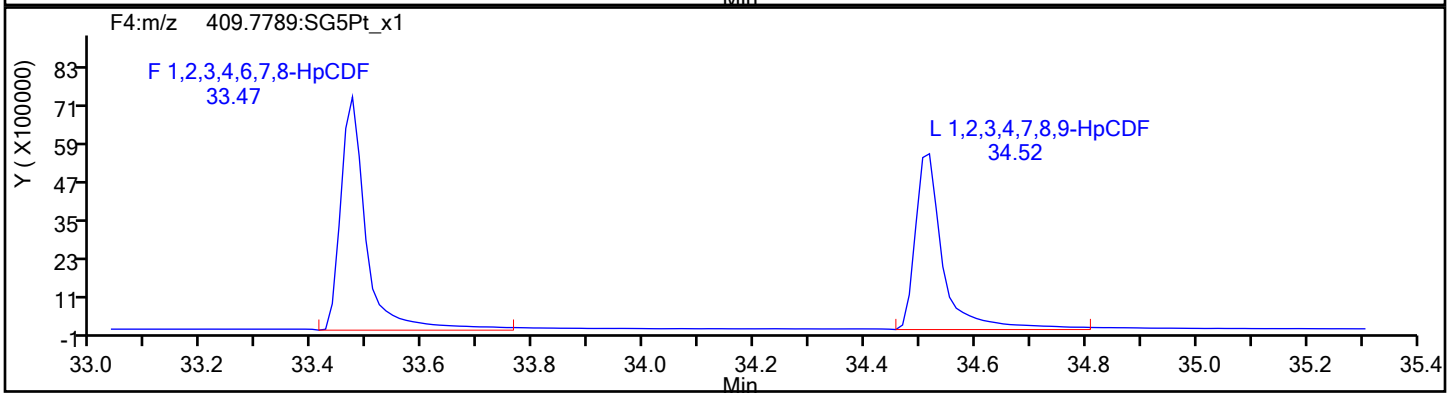

HpCDF Standards

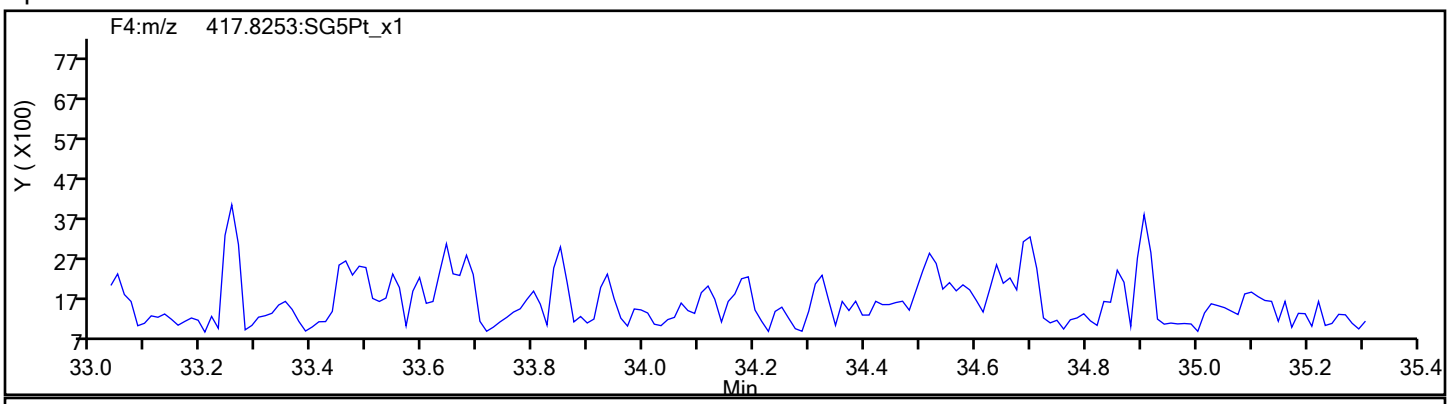

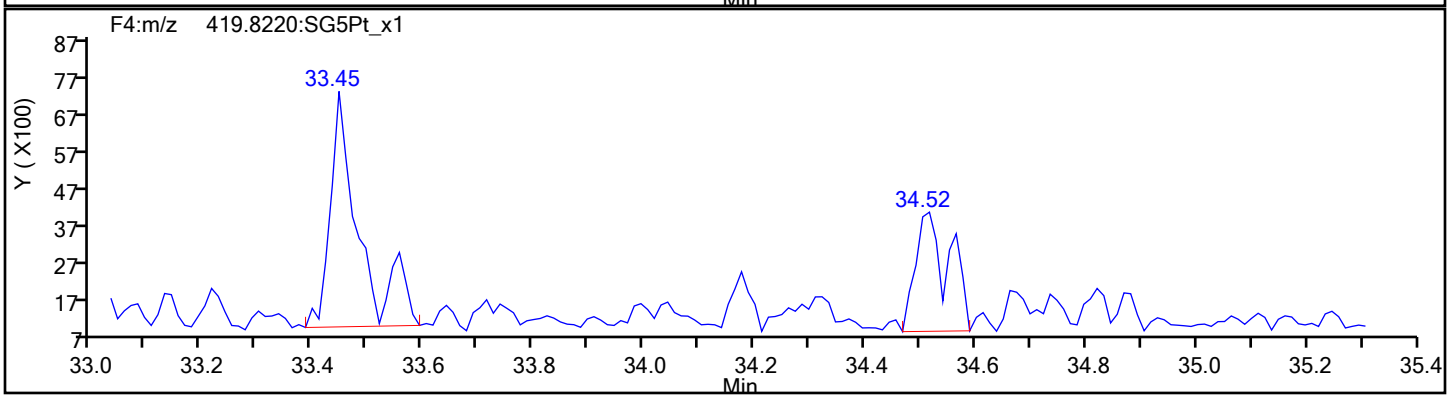

Report Date: 18-Sep-2019 10:18:52 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d		
Injection Date:	17-Sep-2019 11:28:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

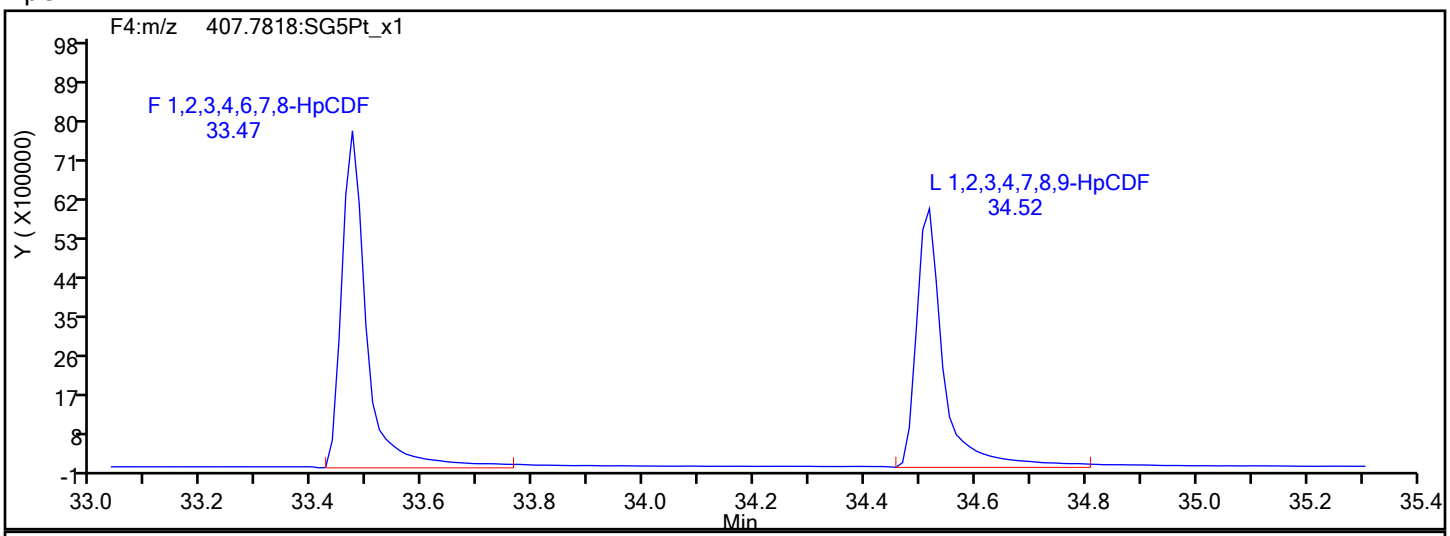

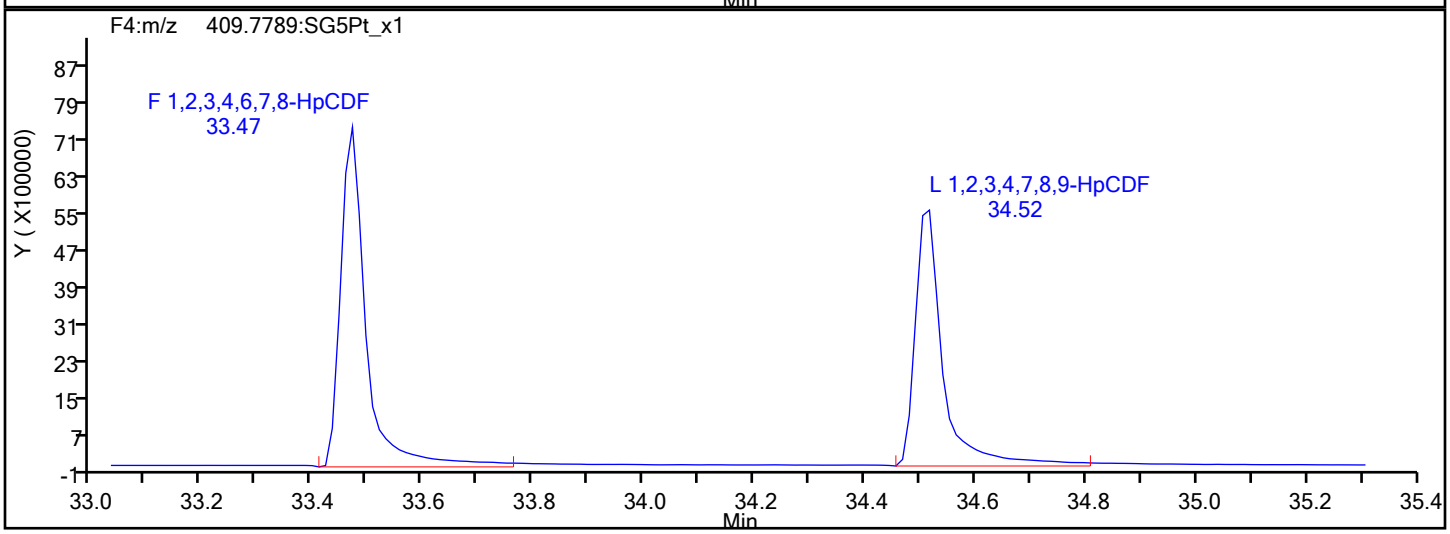

HpCDF Interference Mass

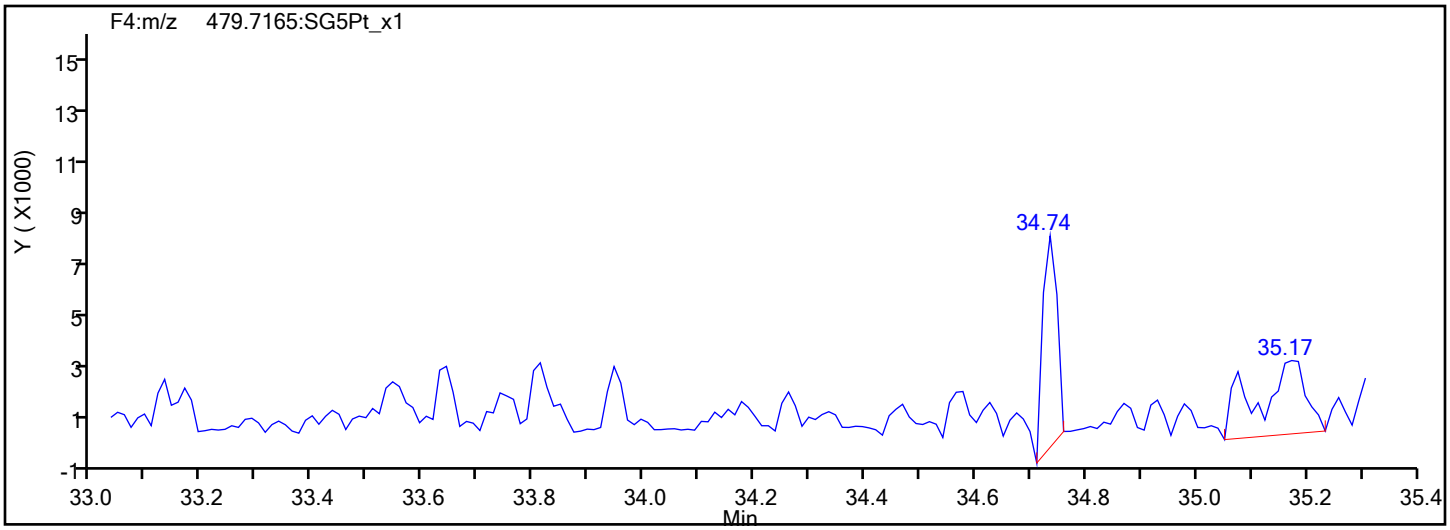

Report Date: 18-Sep-2019 10:18:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d		
Injection Date:	17-Sep-2019 11:28:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

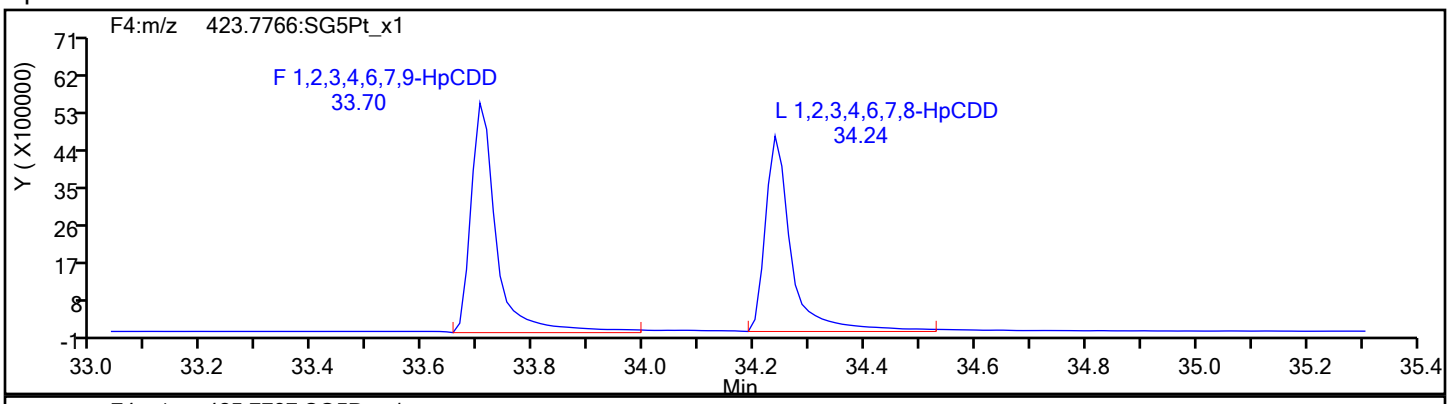

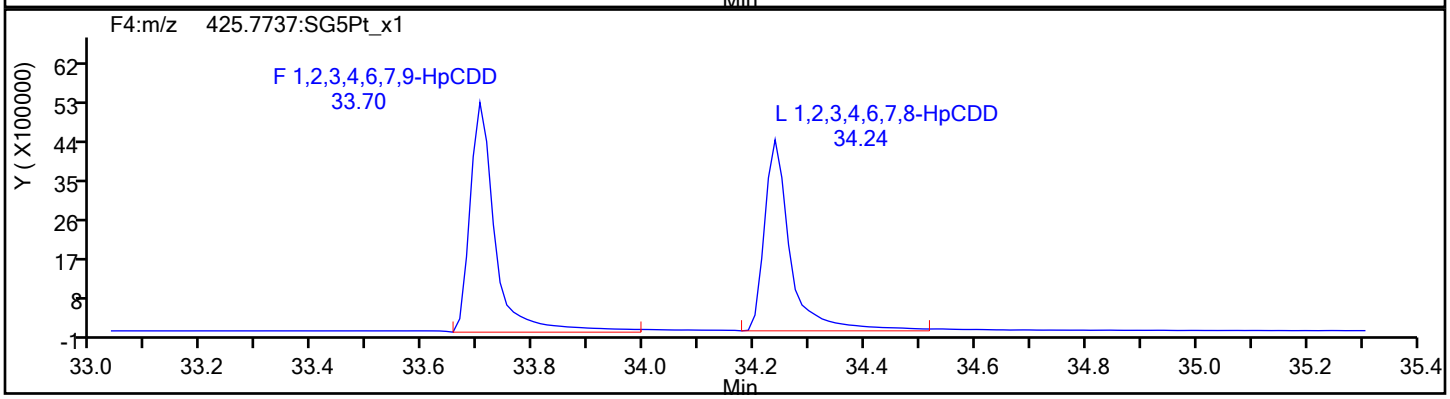

HpCDD Standards

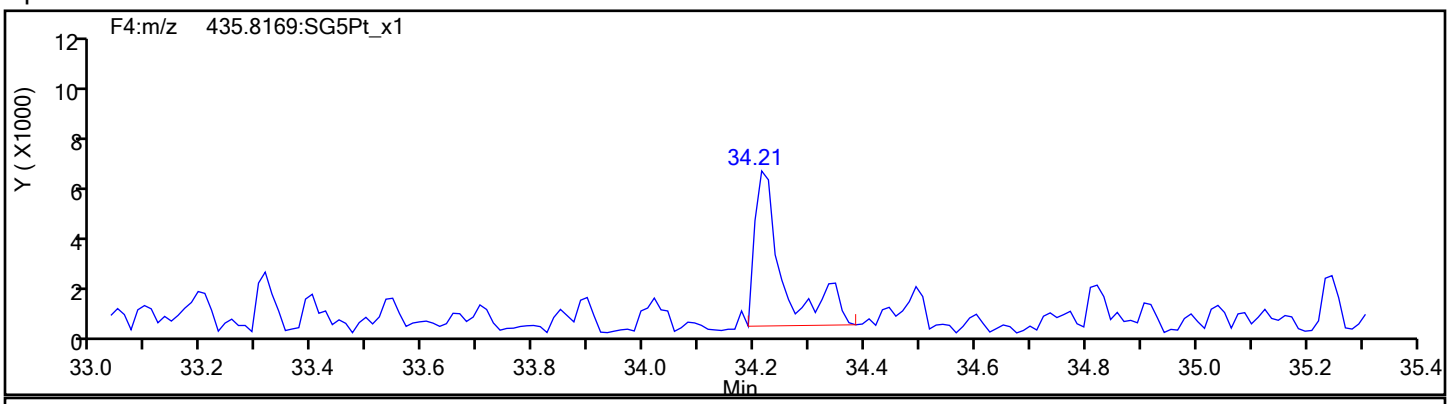

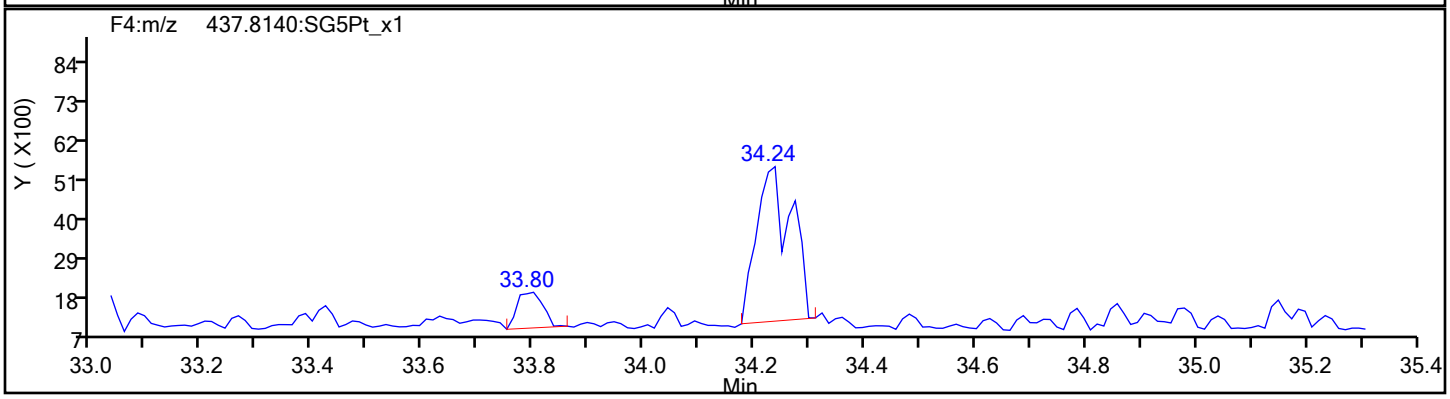

Report Date: 18-Sep-2019 10:18:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d		
Injection Date:	17-Sep-2019 11:28:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

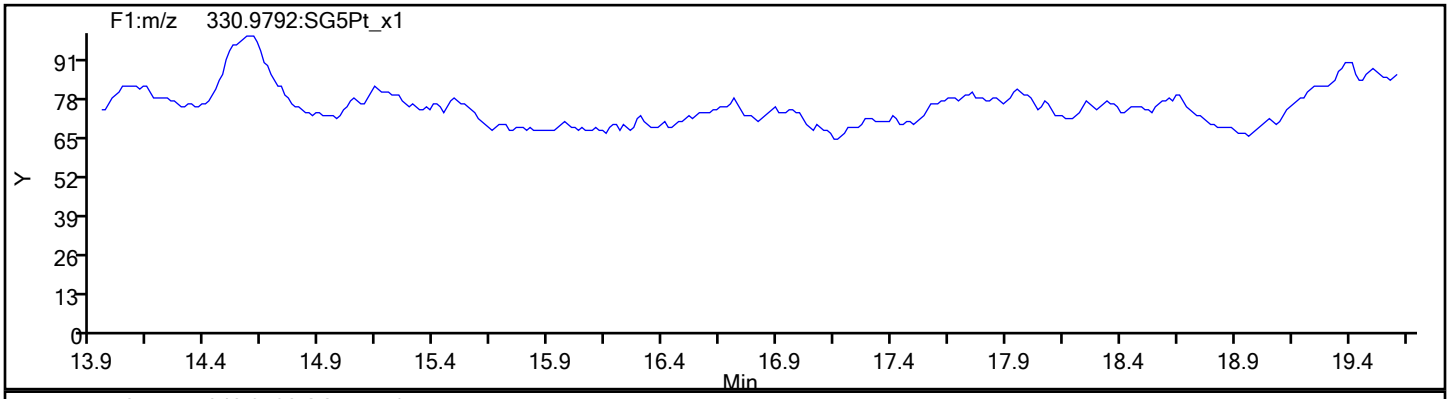

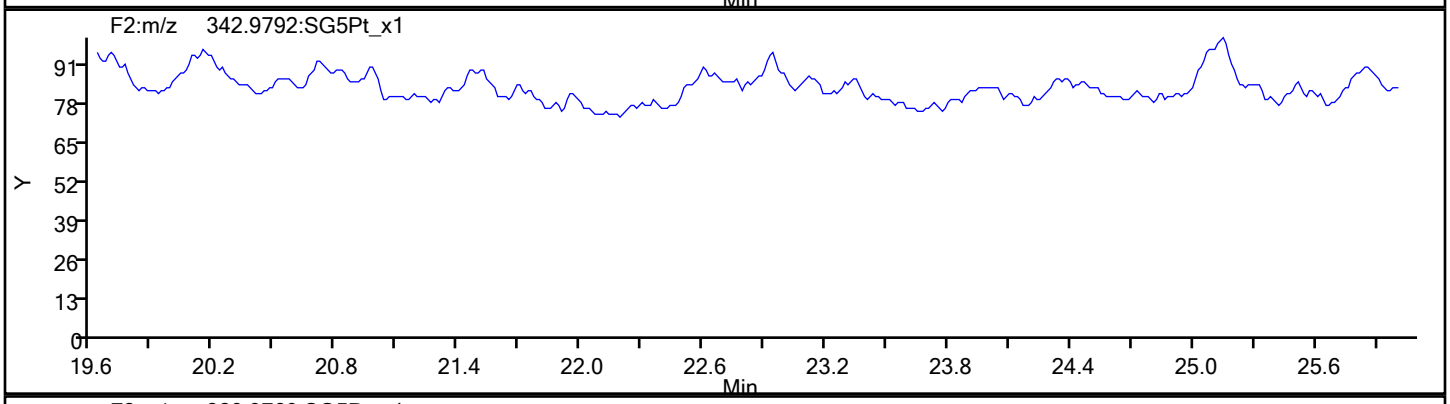

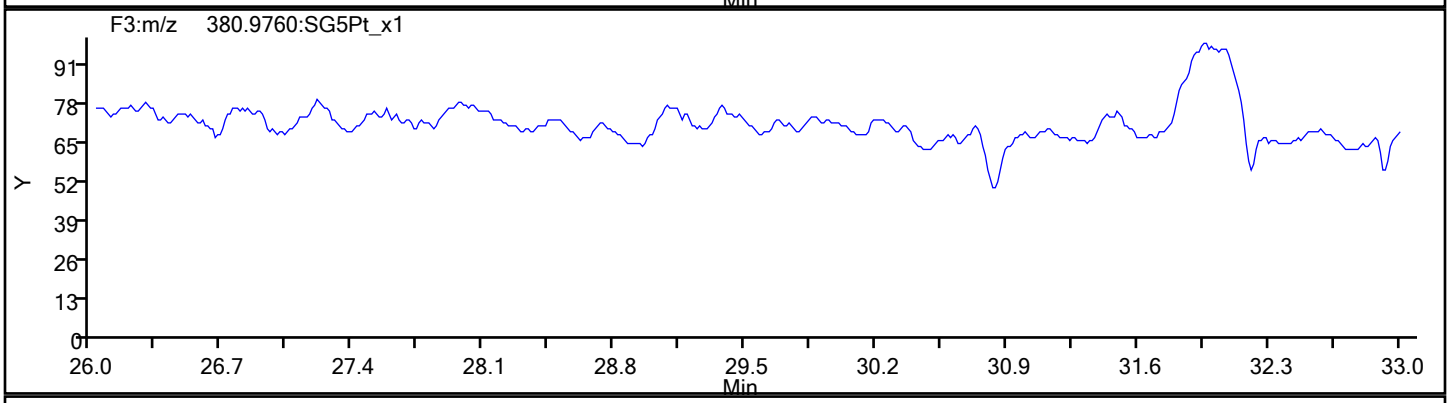

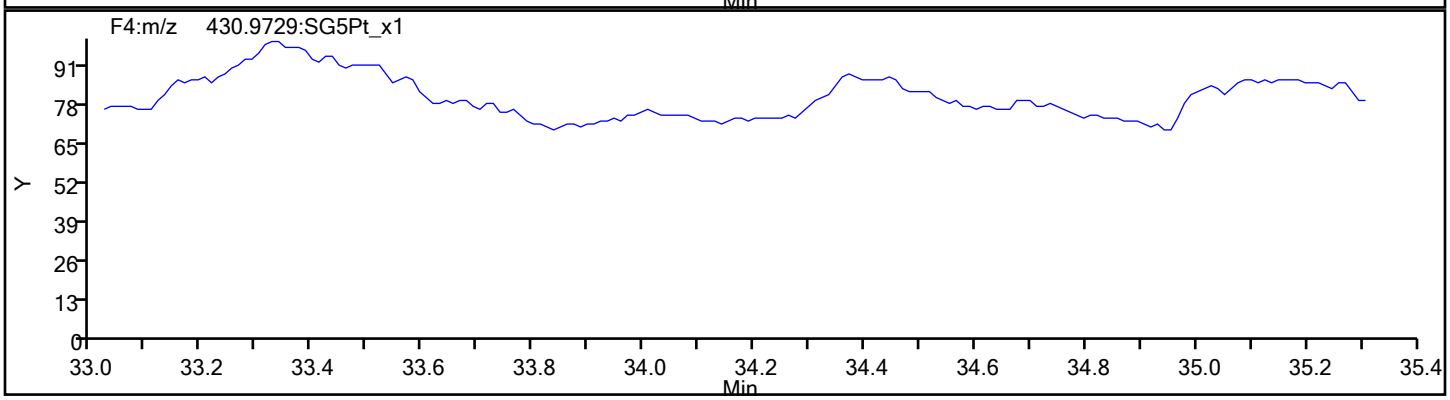

Report Date: 18-Sep-2019 10:18:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_1.d		
Injection Date:	17-Sep-2019 11:28:41	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

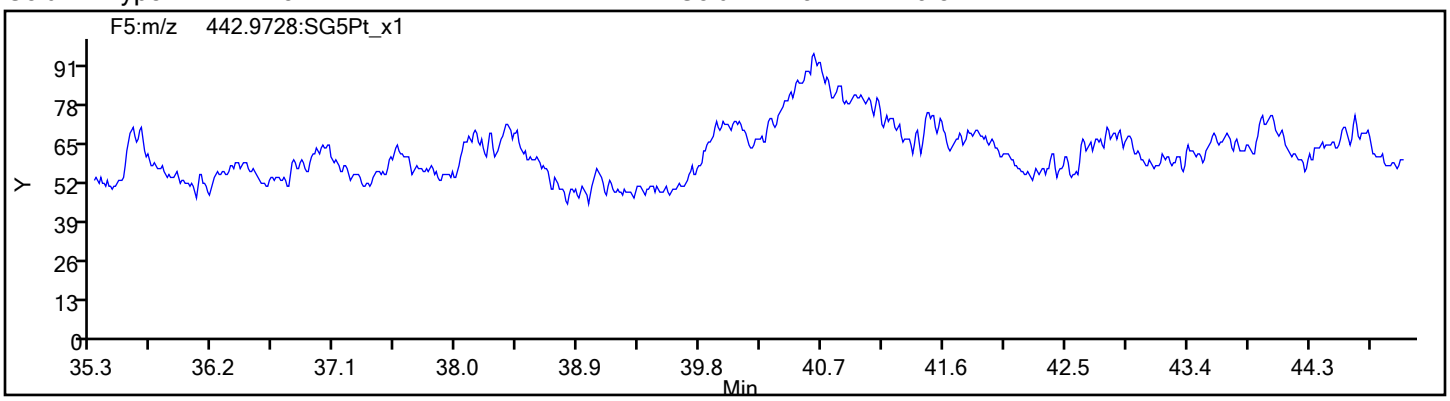

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191031-85912.b\31OC1910D5_1.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 31-Oct-2019 13:25:17 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 103119 WDM HRDXNCP_00040
Misc. Info.: 31OC1910D5
Operator ID: SMA Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191031-85912.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 01-Nov-2019 00:05:43 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0330

First Level Reviewer: messecara Date: 31-Oct-2019 23:59:50

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	16.822	54185334	0.78	1.4384					0.00	
2,3,7,8-TCDF	16.852	114371981	0.78	1.0507	80.4	80.4	0.3949	0.3949		
A Non-2,3,7,8-sub-TCDF	16.550	2960716	0.77	1.0507	2.080	2.080	0.3949	2.080		
S Total TCDF					82.4	82.4	0.3949	0.3949		
2,3,7,8-TCDD	17.517	39900854	0.78	1.1064	37.3	37.3	0.3565	0.3565		
D 13C-2,3,7,8-TCDD	17.502	38670697	0.77	0.9533					0.00	
A Non-2,3,7,8-sub-TCDD	16.981						0.3565	0.3565		
S Total TCDD					37.3	37.3	0.3565	0.3565		
A F1 PeCDFs	19.211						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	22.210	591073	1.55	0.0000						RQ
S Total PeCDF										RQ
A Non-2,3,7,8-sub-PeCDD	22.549						0.0	0.0		
S Total PeCDD										
A Non-2,3,7,8-sub-HxCDF	29.487						0.0	0.0		
S Total HxCDF										
A Non-2,3,7,8-sub-HxCDD	30.072	261945	1.24	0.0000						RQ
S Total HxCDD										RQ
1,2,3,4,6,7,8-HpCDF	33.454	36312321	1.05	1.5555						
1,2,3,4,7,8,9-HpCDF	34.512	28370449	1.04	1.3862						
A Non-2,3,7,8-sub-HpCDF	33.983						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	34.232	23079235	1.04	0.9316						
A Non-2,3,7,8-sub-HpCDD	34.074	27215150	1.03	0.0000						
S Total HpCDD										
1,3,6,8-TCDF	14.524	65391831	0.78							
1,3,6,8-TCDD	15.385	40272261	0.77							
2,3,4,7-TCDF	16.852	114371981	0.78							
1,2,3,7-TCDD	17.412	32367457	0.78							
1,2,3,9-TCDD	17.669	41463867	0.78							
1,2,3,9-TCDF	17.669	47960808	0.79							

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,8,9-TCDD	18.576	16267946								
1,2,8,9-TCDF	18.576	50358803	0.77							
1,3,4,6,8-PeCDF	18.848	55896704	1.55							
1,2,4,7,9-PeCDD	20.545	31844160	1.55							
1,2,3,8,9-PeCDD	24.554	29383574	1.54							
1,2,3,8,9-PeCDF	24.772	36436157	1.59							
1,2,3,4,6,8-HxCDF	26.951	40804503	1.26							
1,2,4,6,7,9-HxCDD	28.455	29399769	1.25							
1,2,3,4,6,7-HxCDD	31.690	28488200	1.26							
1,2,3,4,8,9-HxCDF	32.022	36873109	1.27							
1,2,3,4,6,7,9-HpCDD	33.697	27215150	1.03							a

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

a - User Assigned ID

Reagents:

HRDXNCP_00040 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191031-85912.b\31OC1910D5_1.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 31-Oct-2019 13:25:17 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 103119 WDM HRDXNCP_00040
Misc. Info.: 31OC1910D5
Operator ID: SMA Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191031-85912.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 01-Nov-2019 00:05:43 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0330

First Level Reviewer: messecara Date: 31-Oct-2019 23:59:50

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	16.822	16.837	-1	1.000	23734137	6073712	10488	26220	579		
317.9389	16.822	16.837	-1	1.000	30451197	7949973	5801	14502	1370	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.852	16.852	0	1.002	49938470	11497995	24216	60540	475		
305.8987	16.852	16.852	0	1.002	64433511	14636180	33980	84950	431	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	18.863	16.550	139	1.121	1287514	217404	24216	60540	9		
305.8987	18.848	16.550	138	1.120	1673202	269258	33980	84950	8	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.517	17.517	0	1.001	17448901	4208674	13185	32962	319		
321.8936	17.517	17.517	0	1.001	22451953	5388197	23585	58962	228	0.78(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.502	17.517	-1	1.000	16810087	4041172	4945	12362	817		
333.9339	17.502	17.517	-1	1.000	21860610	5279785	5177	12942	1020	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	16.981						13185	32962			
321.8936	16.981						23585	58962			
A F1 PeCDFs											
339.8597	19.211						1830	4575			
341.8567	19.211						1427	3567			
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	21.118	22.210	-65	1.000	107234	15019	3558	8895	4		
341.8567	21.118	22.210	-65	1.000	83376	13724	2491	6227	6	1.29(1.32-1.78)	
339.8597	21.677	22.210	-32	1.000	179131	20201	3558	8895	6		
341.8567	21.663	22.210	-33	1.000	113345	13835	2491	6227	6	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
339.8597	22.208	22.210	0	1.000	115420	17632	3558	8895	5		
341.8567	22.181	22.210	-2	1.000	47914	9494	2491	6227	4	2.41(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.549						4095	10237			
357.8516	22.549						2799	6997			
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.487						5176	12940			
375.8178	29.487						4252	10630			
A Non-2,3,7,8-sub-HxCDD											RQ
389.8157	30.359	30.072	17	1.000	181369	24185	3901	9752	6		
391.8127	30.359	30.072	17	1.000	116940	17620	3140	7850	6	1.55(1.05-1.43)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.454	33.454	0	1.000	18569507	5503750	23196	57990	237		
409.7789	33.454	33.454	0	1.000	17742814	5247063	21627	54067	243	1.05(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.512	34.512	0	1.000	14466541	3636938	23196	57990	157		
409.7789	34.512	34.512	0	1.000	13903908	3476632	21627	54067	161	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.983						23196	57990			
409.7789	33.983						21627	54067			
1,2,3,4,6,7,8-HpCDD											
423.7766	34.232	34.232	0	1.000	11758255	3080726	36231	90577	85		
425.7737	34.232	34.232	0	1.000	11320980	3033871	33185	82962	91	1.04(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.697	34.074	-23	1.000	13793319	3971049	36231	90577	110		
425.7737	33.697	34.074	-23	1.000	13421831	3819990	33185	82962	115	1.03(0.88-1.20)	
1,3,6,8-TCDF											
303.9016	14.524	14.524	0		28618476	8540743	24216	60540	353		
305.8987	14.509	14.524	-1		36773355	11192276	33980	84950	329	0.78(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	15.385	15.385	0		17478655	4971998	13185	32962	377		
321.8936	15.385	15.385	0		22793606	6503356	23585	58962	276	0.77(0.65-0.89)	
2,3,4,7-TCDF											
303.9016	16.852	16.852	0		49938470	11497995	24216	60540	475		
305.8987	16.852	16.852	0		64433511	14636180	33980	84950	431	0.78(0.65-0.89)	
1,2,3,7-TCDD											
319.8965	17.412	17.412	0		14178732	3634225	13185	32962	276		
321.8936	17.412	17.412	0		18188725	4636552	23585	58962	197	0.78(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	17.669	17.669	0		18188738	4209705	13185	32962	319		
321.8936	17.669	17.669	0		23275129	5405837	23585	58962	229	0.78(0.65-0.89)	
1,2,3,9-TCDF											
303.9016	17.669	17.669	0		21148086	5213355	24216	60540	215		
305.8987	17.669	17.669	0		26812722	6594311	33980	84950	194	0.79(0.65-0.89)	
1,2,8,9-TCDD											
319.8965	18.576	18.576	0		16267946	3593344	13185	32962	273		

Report Date: 01-Nov-2019 00:05:44 Chrom Revision: 2.3 17-Sep-2019 16:19:08
Data File: \\chromna\Sacramento\ChromData\10D5\20191031-85912.b\31OC1910D5_1.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,8,9-TCDF											
303.9016	18.576	18.576	0		21909527	5026311	24216	60540	208		
305.8987	18.576	18.576	0		28449276	6538126	33980	84950	192	0.77(0.65-0.89)	
1,3,4,6,8-PeCDF											
339.8597	18.848	18.848	0		34019055	7678192	1830	4575	4196		
341.8567	18.848	18.848	0		21877649	4990628	1427	3567	3497	1.55(1.32-1.78)	
1,2,4,7,9-PeCDD											
355.8546	20.545	20.545	0		19346003	3466953	4095	10237	847		
357.8516	20.545	20.545	0		12498157	2204052	2799	6997	787	1.55(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	24.554	24.554	0		17800153	2630253	4095	10237	642		
357.8516	24.567	24.554	1		11583421	1748161	2799	6997	625	1.54(1.32-1.78)	
1,2,3,8,9-PeCDF											
339.8597	24.772	24.772	0		22365239	3314064	3558	8895	931		
341.8567	24.772	24.772	0		14070918	2060372	2491	6227	827	1.59(1.32-1.78)	
1,2,3,4,6,8-HxCDF											
373.8208	26.951	26.951	0		22731183	3070432	5176	12940	593		
375.8178	26.951	26.951	0		18073320	2433815	4252	10630	572	1.26(1.05-1.43)	
1,2,4,6,7,9-HxCDD											
389.8157	28.455	28.455	0		16358097	1987935	3901	9752	510		
391.8127	28.455	28.455	0		13041672	1570695	3140	7850	500	1.25(1.05-1.43)	
1,2,3,4,6,7-HxCDD											
389.8157	31.690	31.690	0		15874456	3695201	3901	9752	947		
391.8127	31.690	31.690	0		12613744	2935700	3140	7850	935	1.26(1.05-1.43)	
1,2,3,4,8,9-HxCDF											
373.8208	32.022	32.022	0		20597659	5112912	5176	12940	988		
375.8178	32.022	32.022	0		16275450	4016812	4252	10630	945	1.27(1.05-1.43)	
1,2,3,4,6,7,9-HpCDD											a
423.7766	33.697	33.697	0		13793319	3971049	36231	90577	110		a
425.7737	33.697	33.697	0		13421831	3819990	33185	82962	115	1.03(0.88-1.20)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Review Flags

a - User Assigned ID

Reagents:

HRDXNCP_00040 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191031-85912.b\31OC1910D5_1.d
Lims ID: WDM
Client ID:
Inject. Date: 31-Oct-2019 13:25:17 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 10D5 Operator: SMA
Lims Batch ID: 335194 Lims Sample ID: 1

Non-2,3,7,8-sub-TCDF, RT: 16.550

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.051	D 13C-2,3,7,8-TCDF	40.000	54185334	14023685

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.051		40.000	54185334	14023685

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
18.863	1287514	217404	1673202	269258	2.08	0.77	
Signal Totals:							
	1287514	217404	1673202	269258			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2960716	486662				0.77	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 2.080 = (2960716 * 40.000) / (54185334 * 1.051)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191031-85912.b\31OC1910D5_1.d
Lims ID: WDM
Client ID:
Inject. Date: 31-Oct-2019 13:25:17 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 10D5 Operator: SMA
Lims Batch ID: 335194 Lims Sample ID: 1

Non-2,3,7,8-sub-PeCDF, RT: 22.210

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.082				
2,3,4,7,8-PeCDF	1.103				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
21.118	107234	15019	83376	13724		1.29	R
21.677	179131	20201	113345	13835		1.58	
22.208	115420	17632	47914	9494		2.41	R
Signal Totals:							
	401785	52852	244635	37053			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	646420	89905				1.64	RQ
	591073	82953					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (646420 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (591073 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191031-85912.b\31OC1910D5_1.d
Lims ID: WDM
Client ID:
Inject. Date: 31-Oct-2019 13:25:17 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 10D5 Operator: SMA
Lims Batch ID: 335194 Lims Sample ID: 1

Non-2,3,7,8-sub-HxCDD, RT: 30.072

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.109				
1,2,3,6,7,8-HxCDD	1.081				
1,2,3,7,8,9-HxCDD	1.212				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
30.359	181369	24185	116940	17620		1.55	R
Signal Totals:							
	181369	24185	116940	17620			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	298309	41805				1.55	RQ
	261945	39468					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (298309 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (261945 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191031-85912.b\31OC1910D5_1.d
Lims ID: WDM
Client ID:
Inject. Date: 31-Oct-2019 13:25:17 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 10D5 Operator: SMA
Lims Batch ID: 335194 Lims Sample ID: 1

Non-2,3,7,8-sub-HpCDD, RT: 34.074

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.932				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
33.697	13793319	3971049	13421831	3819990		1.03	
Signal Totals:							
	13793319	3971049	13421831	3819990			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	27215150	7791039				1.03	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (27215150 * 0.0) / (0 * 0.000)

Report Date: 01-Nov-2019 00:05:44 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191031-85912.b\31OC1910D5_1.d		
Injection Date:	31-Oct-2019 13:25:17	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	335194	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

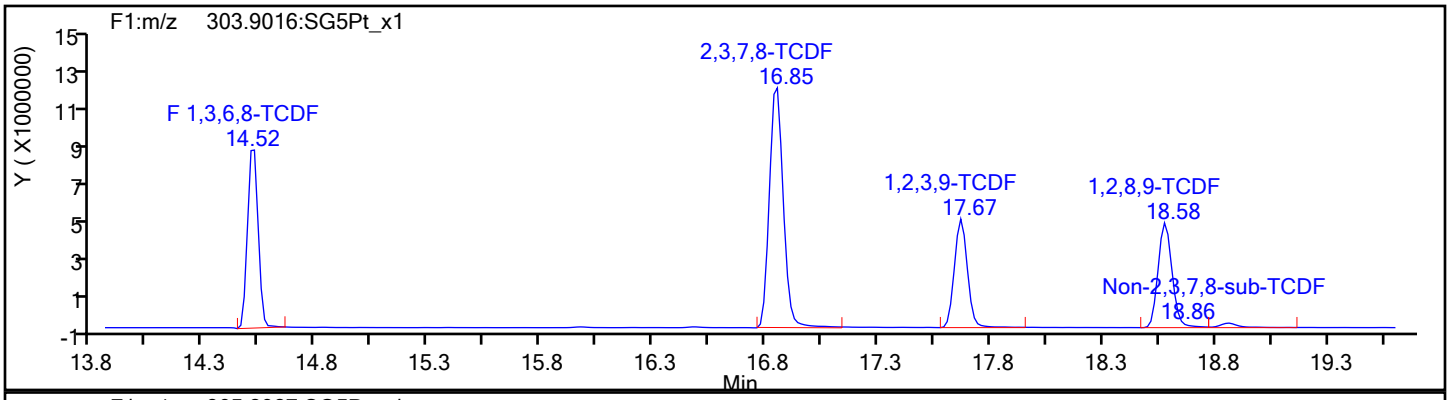

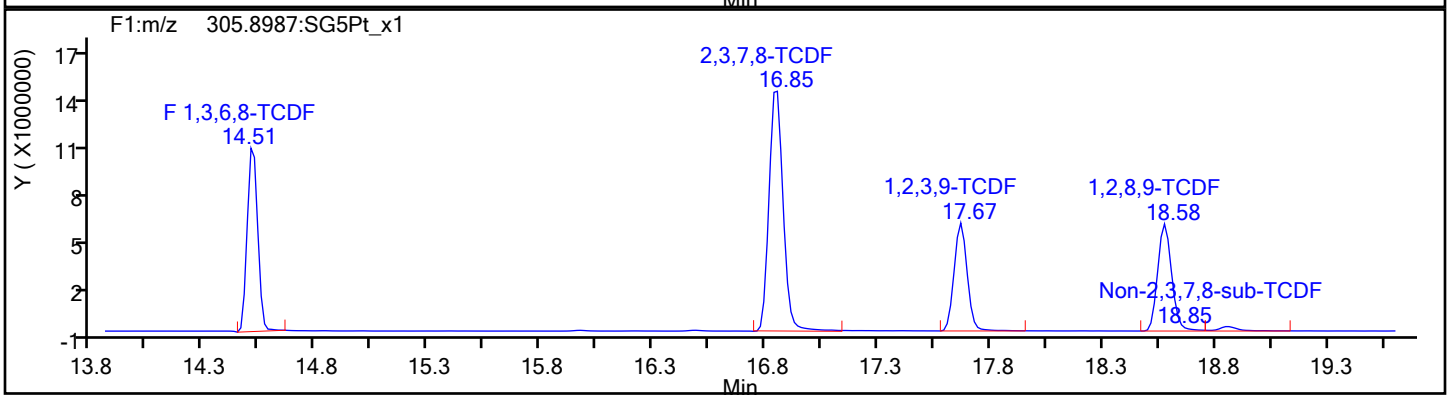

TCDF Standards

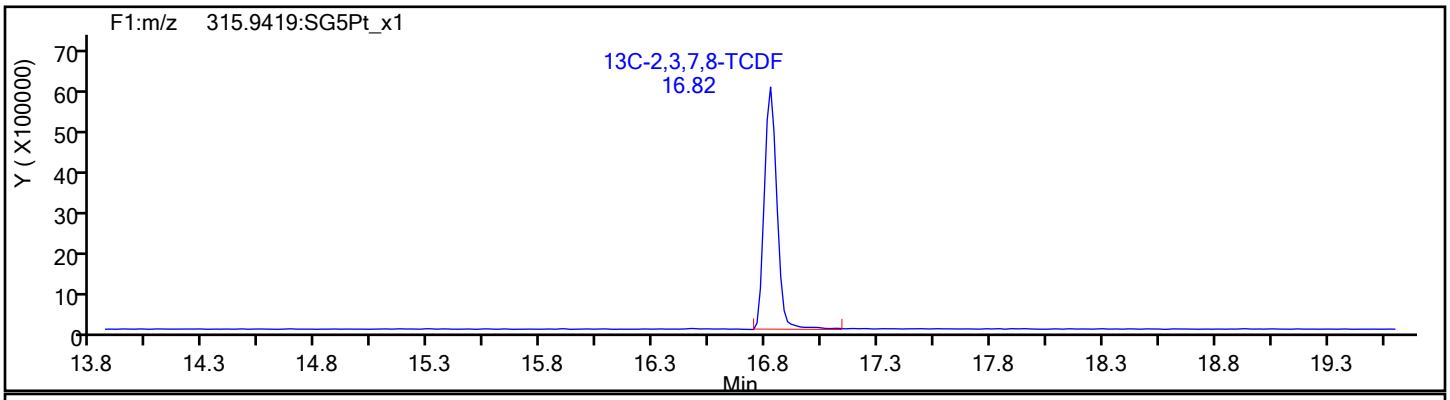

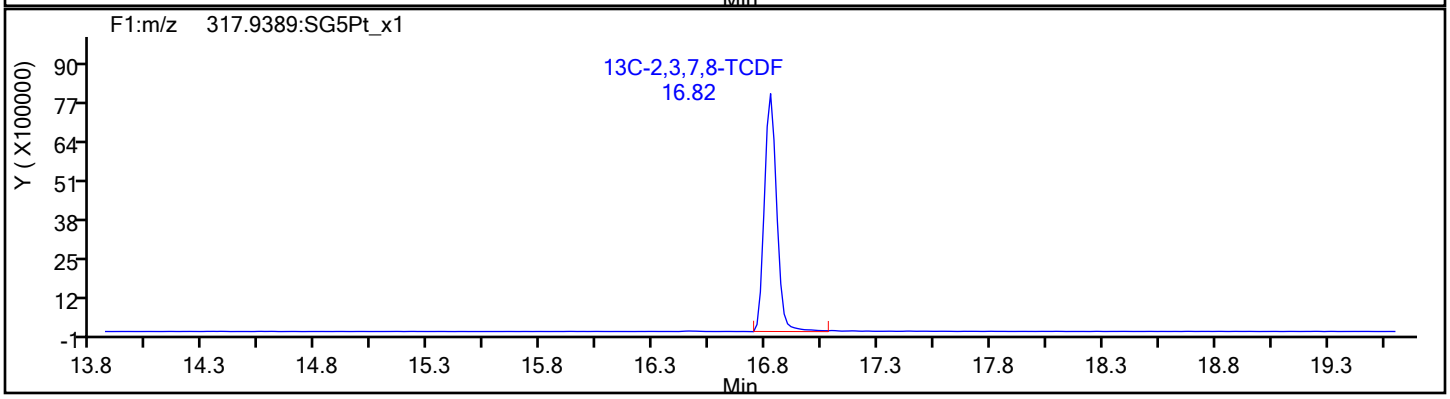

Report Date: 01-Nov-2019 00:05:44 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191031-85912.b\31OC1910D5_1.d		
Injection Date:	31-Oct-2019 13:25:17	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	335194	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

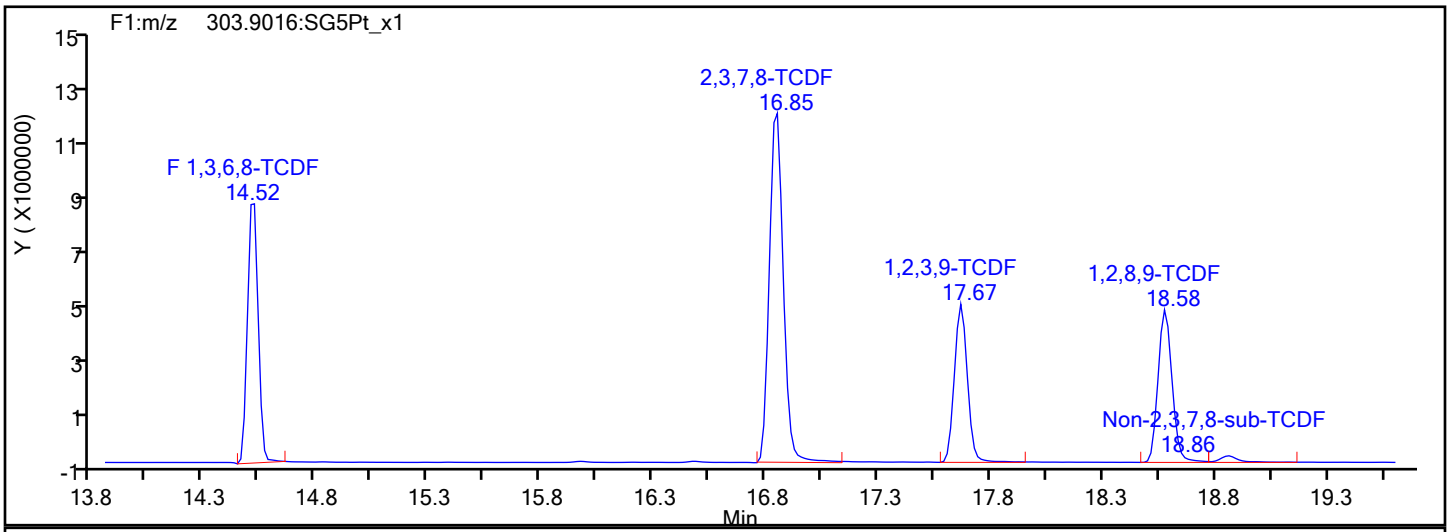

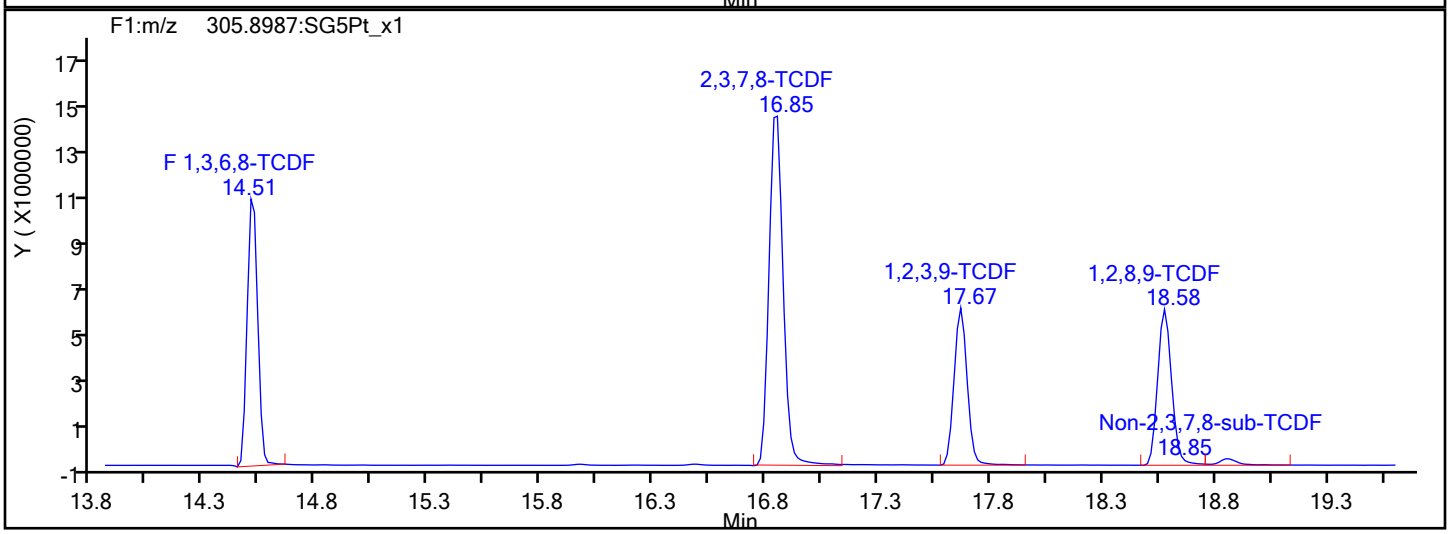

TCDF Interference Mass

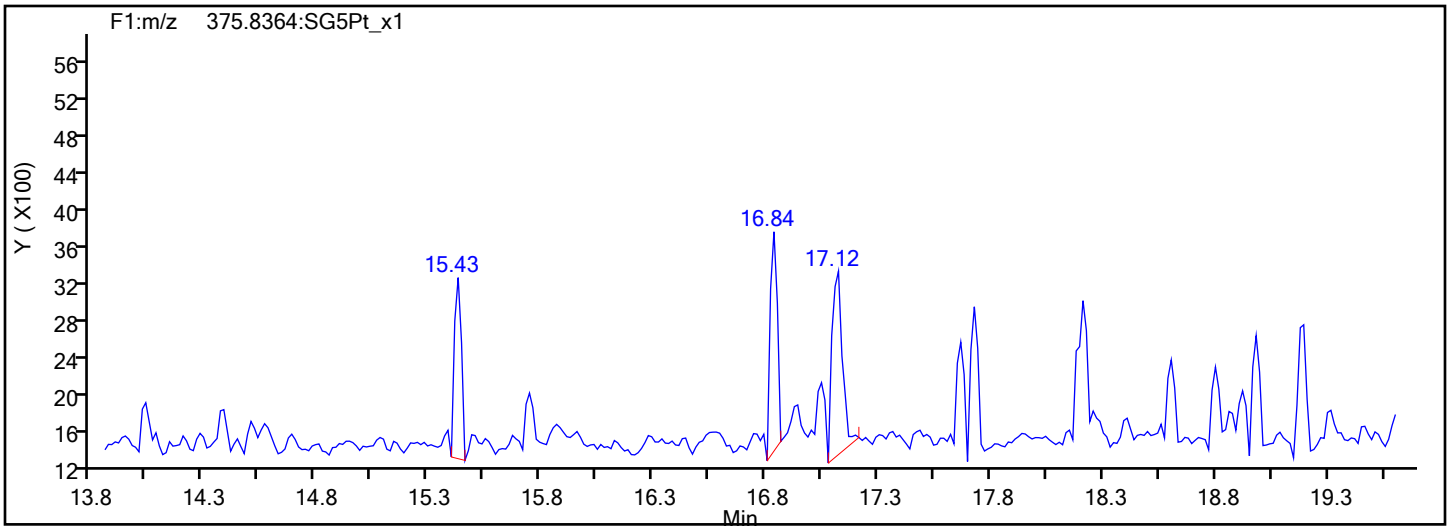

Report Date: 01-Nov-2019 00:05:44 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191031-85912.b\31OC1910D5_1.d		
Injection Date:	31-Oct-2019 13:25:17	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	335194	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

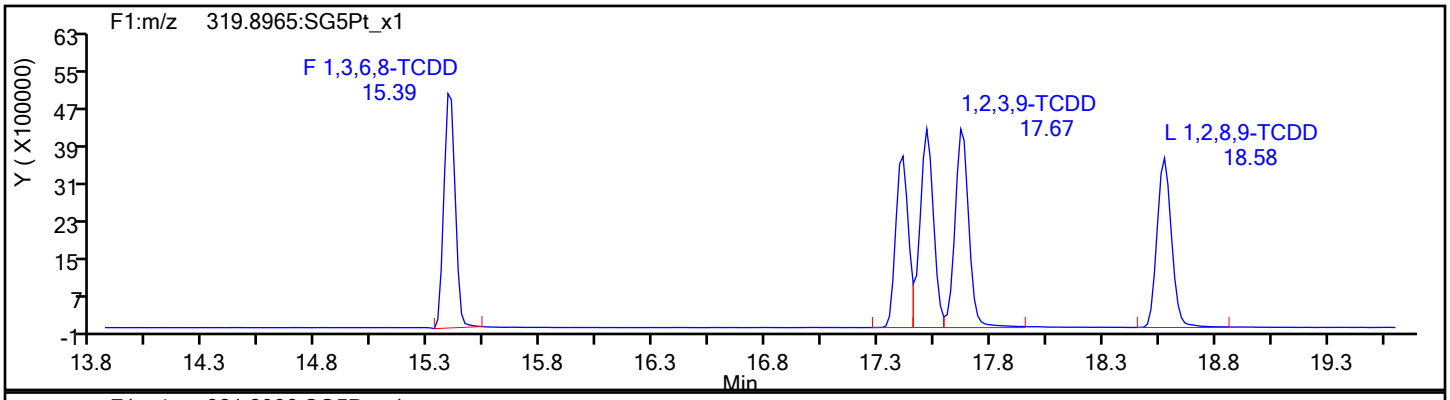

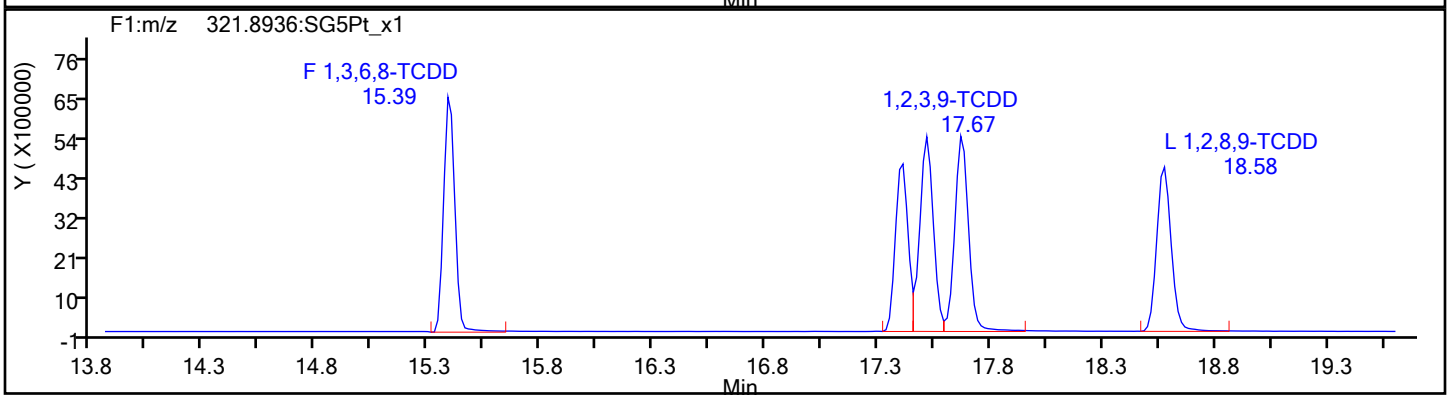

TCDD Standards

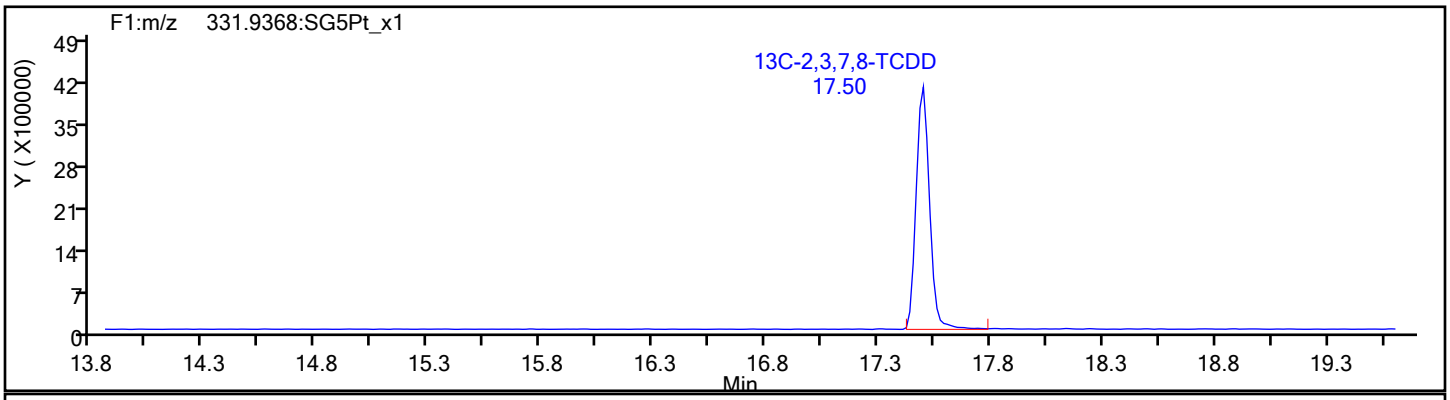

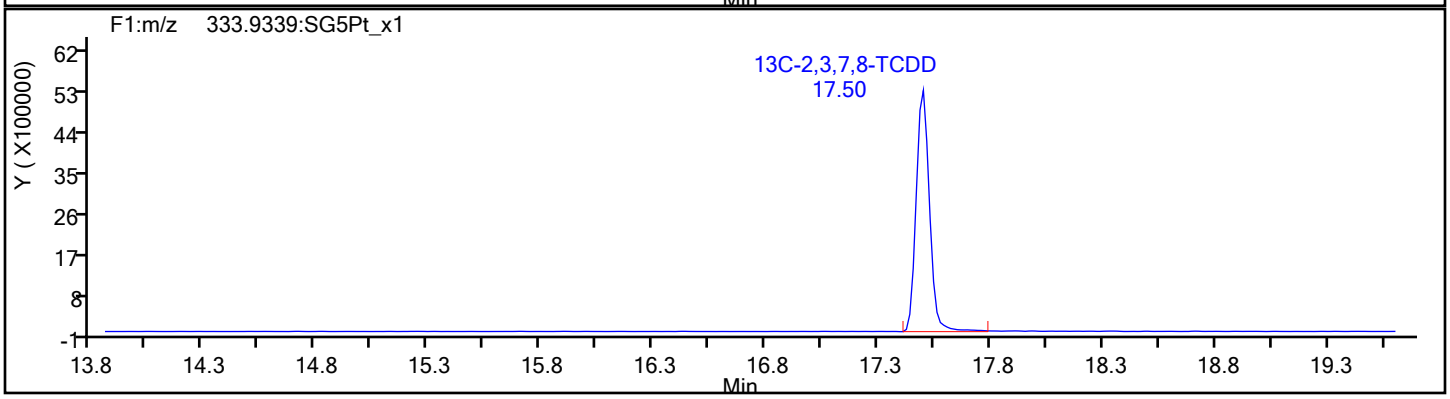

Report Date: 01-Nov-2019 00:05:44 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191031-85912.b\31OC1910D5_1.d		
Injection Date:	31-Oct-2019 13:25:17	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	335194	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

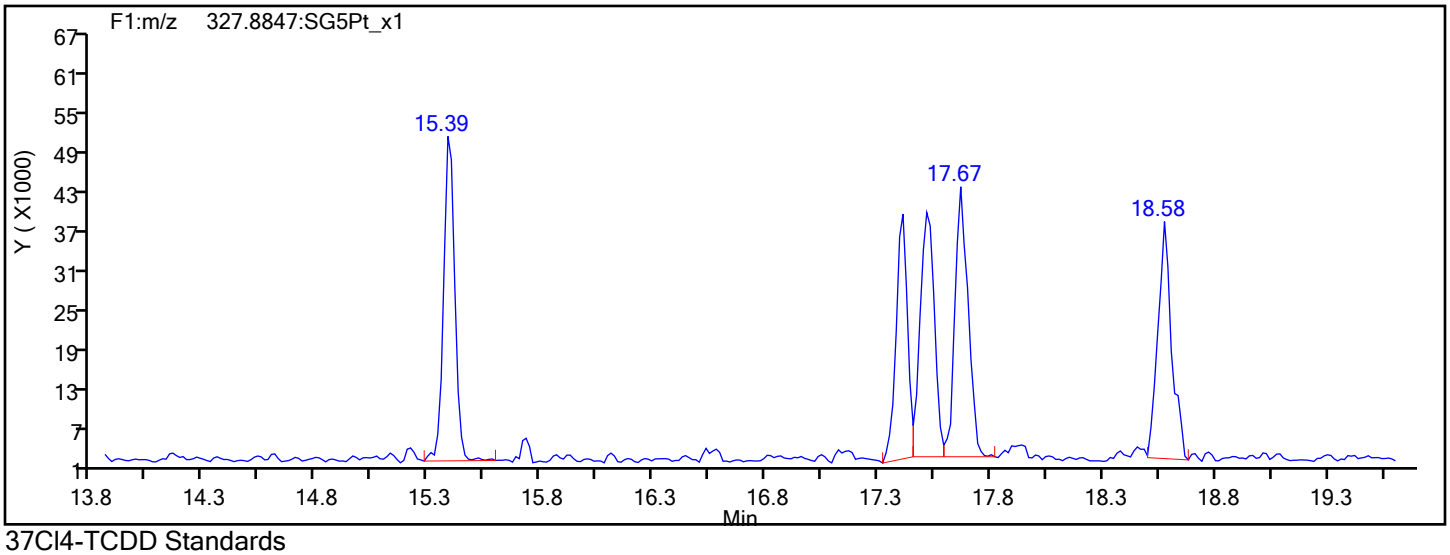

37Cl4-TCDD Standards

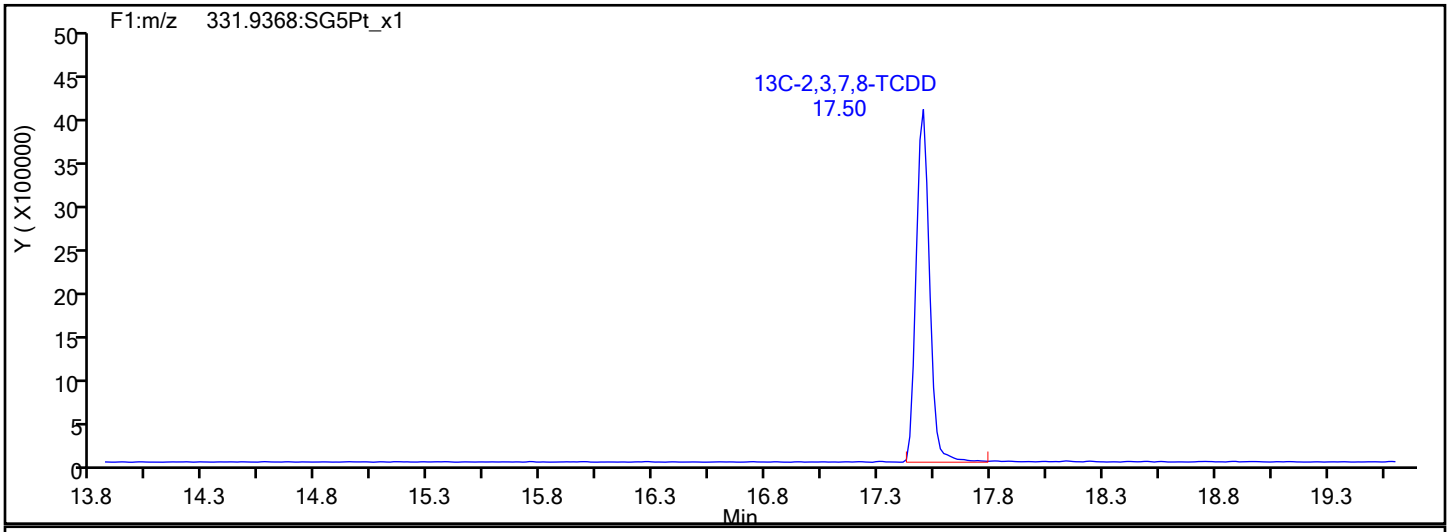

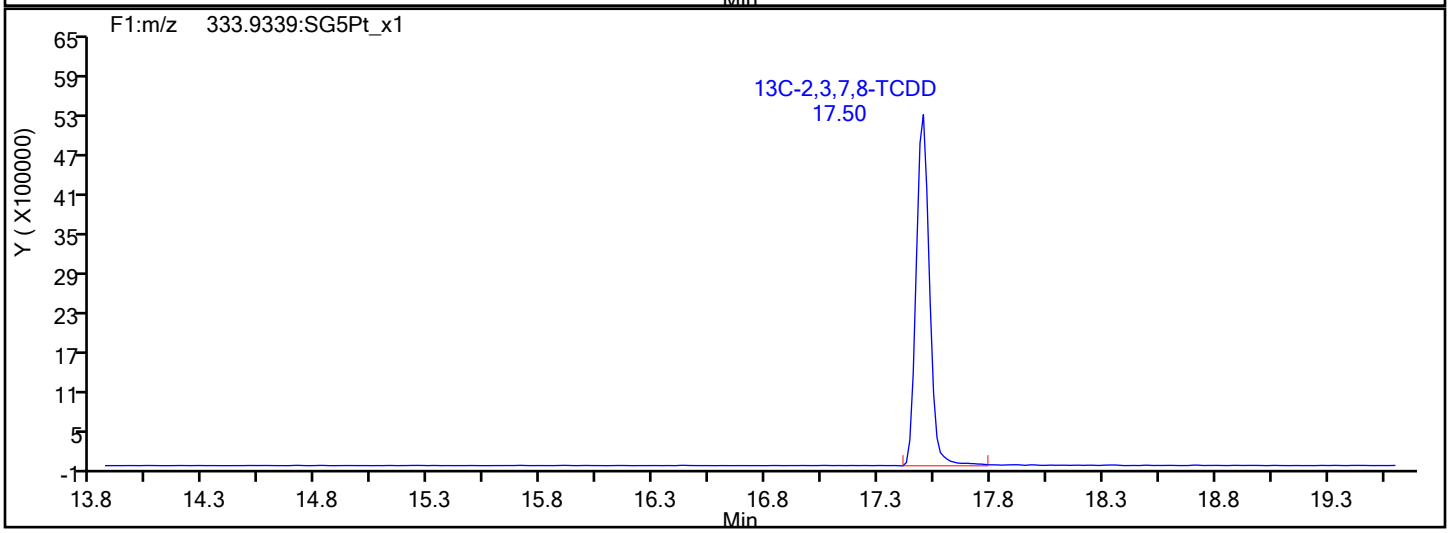

Report Date: 01-Nov-2019 00:05:44 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191031-85912.b\31OC1910D5_1.d		
Injection Date:	31-Oct-2019 13:25:17	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	335194	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

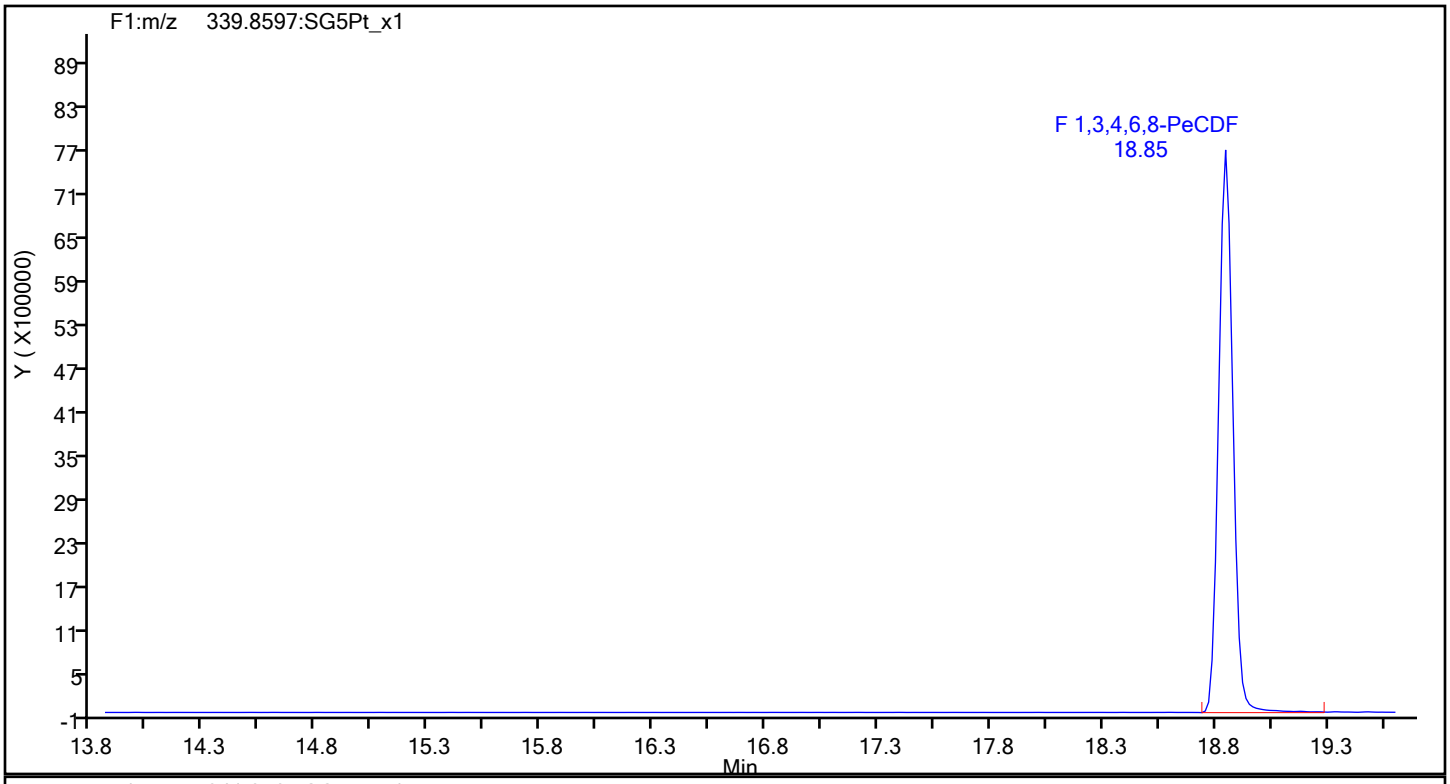

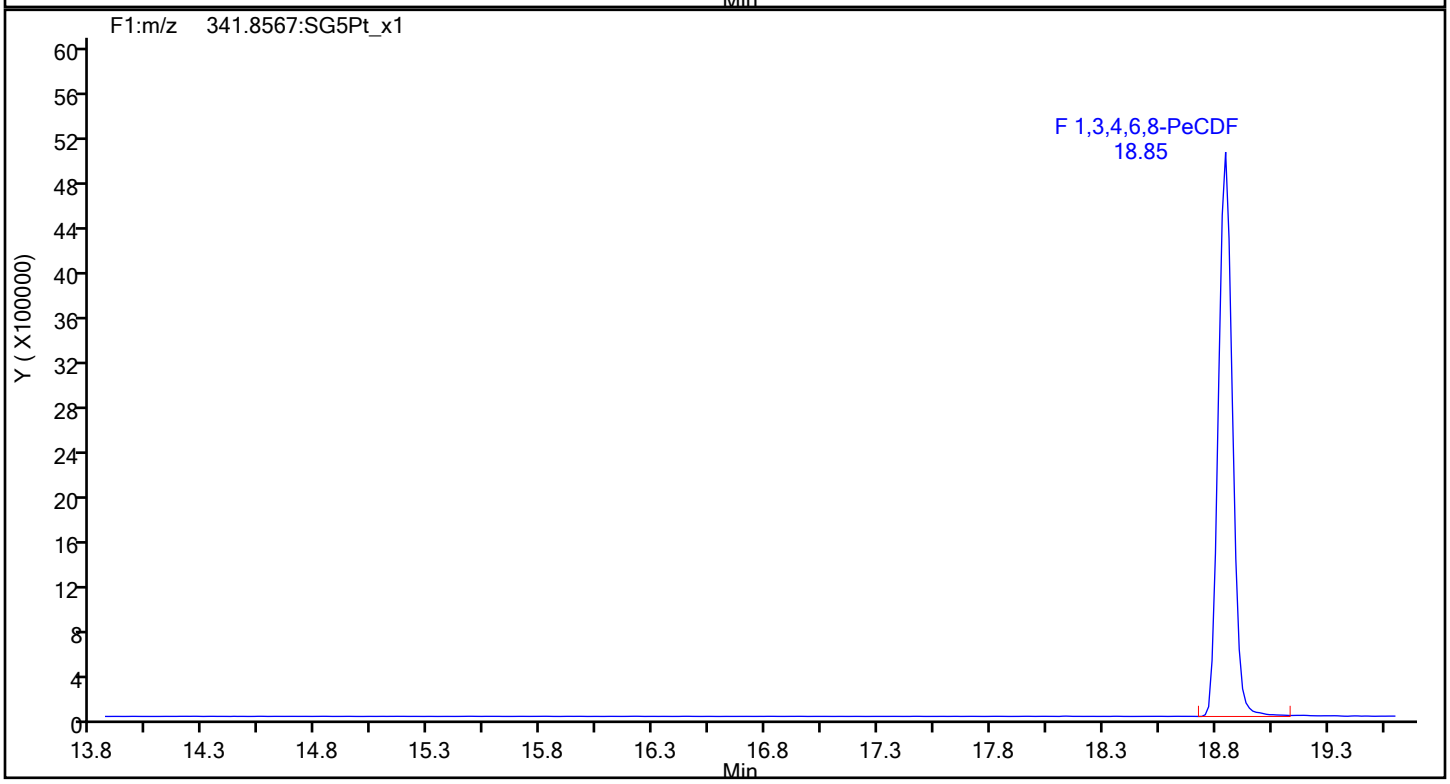

Report Date: 01-Nov-2019 00:05:44 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191031-85912.b\31OC1910D5_1.d		
Injection Date:	31-Oct-2019 13:25:17	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	335194	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

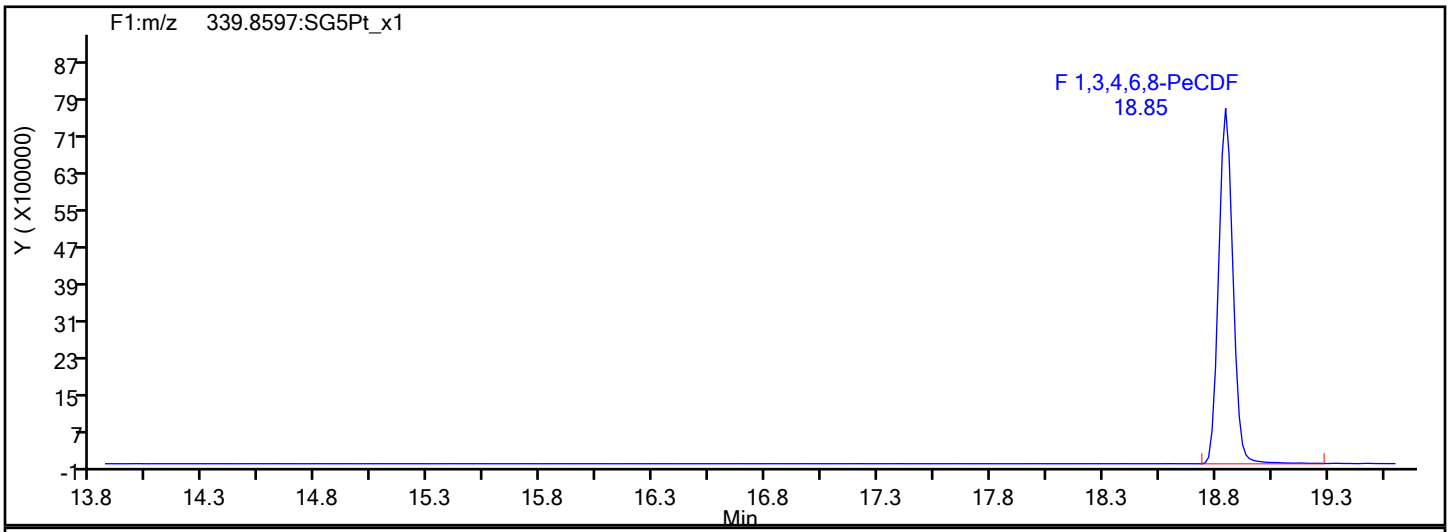

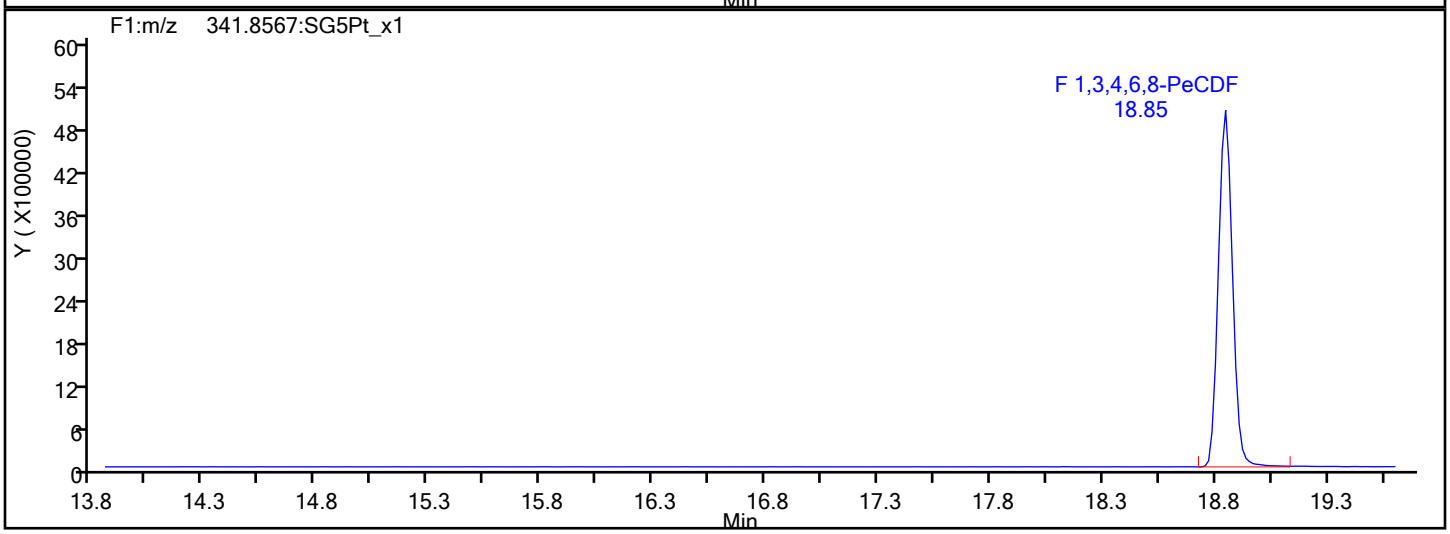

F1 PeCDFs Interference Mass

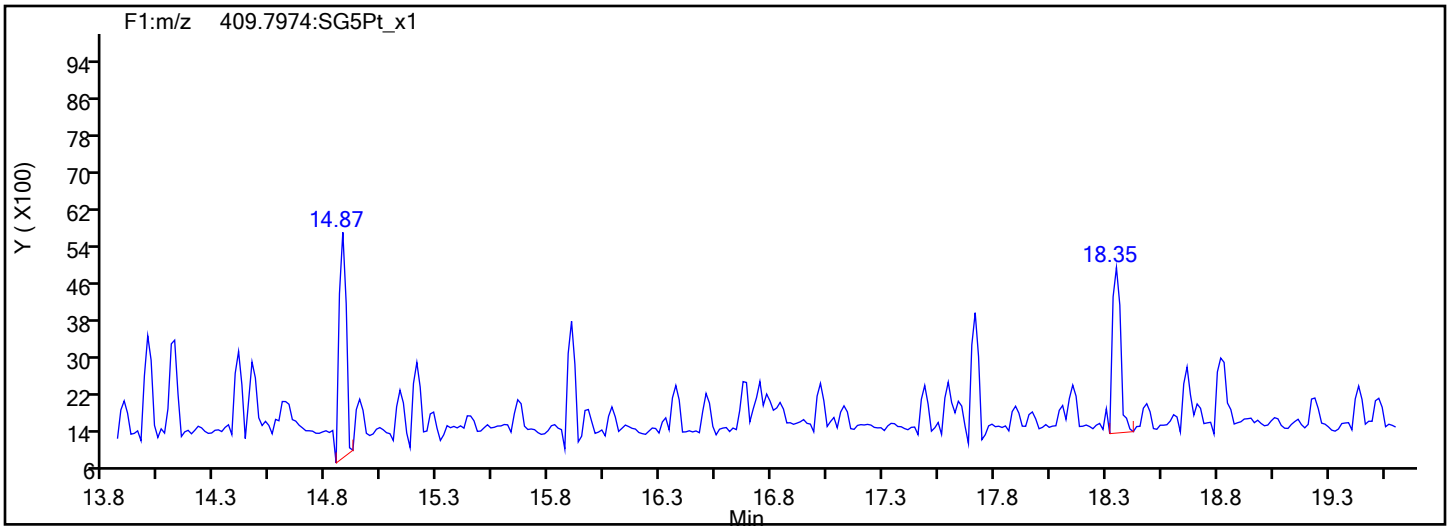

Report Date: 01-Nov-2019 00:05:44 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191031-85912.b\31OC1910D5_1.d		
Injection Date:	31-Oct-2019 13:25:17	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	335194	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

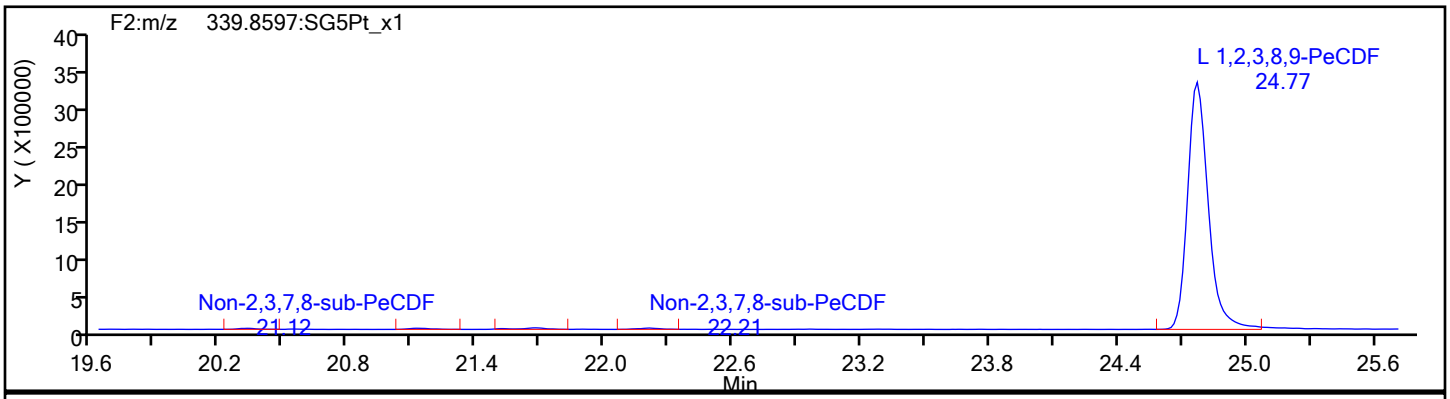

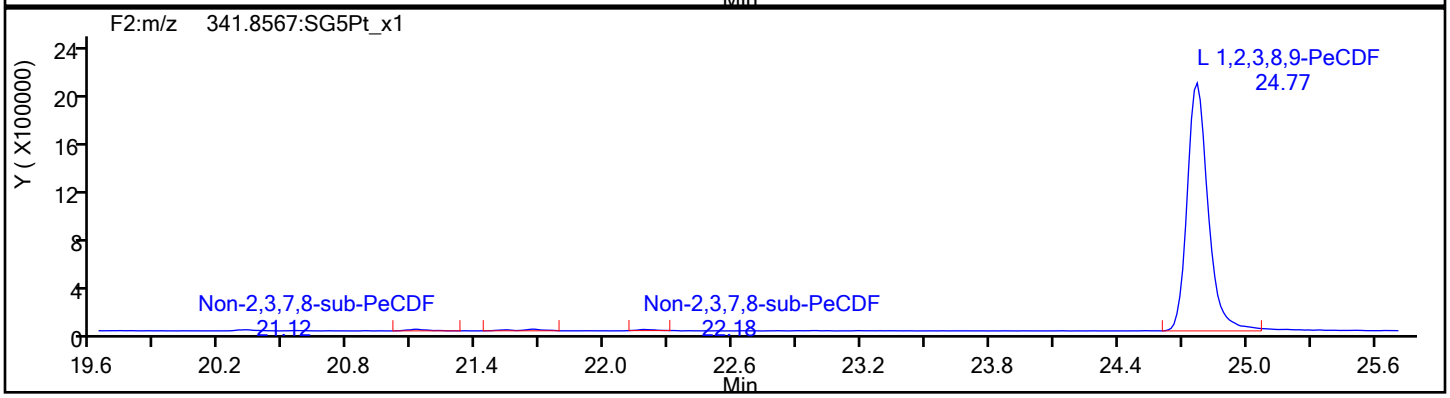

PeCDF Standards

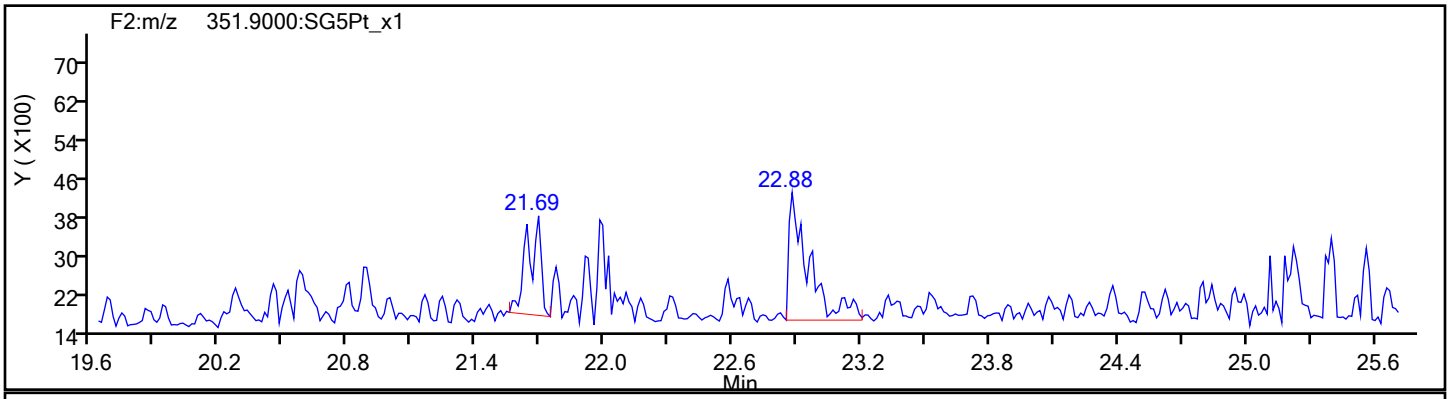

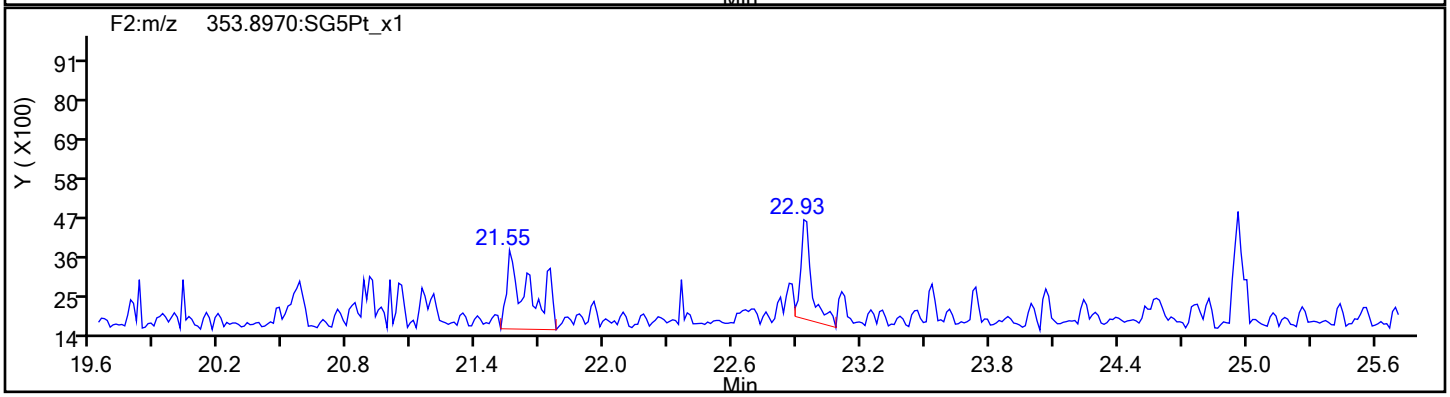

Report Date: 01-Nov-2019 00:05:44 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191031-85912.b\31OC1910D5_1.d		
Injection Date:	31-Oct-2019 13:25:17	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	335194	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

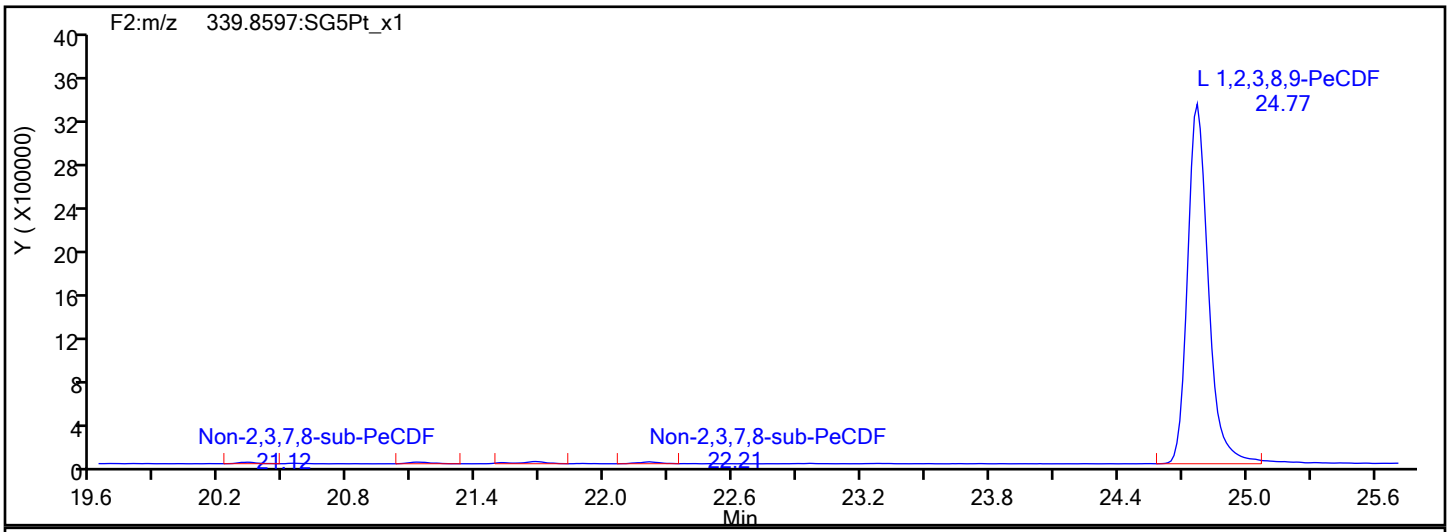

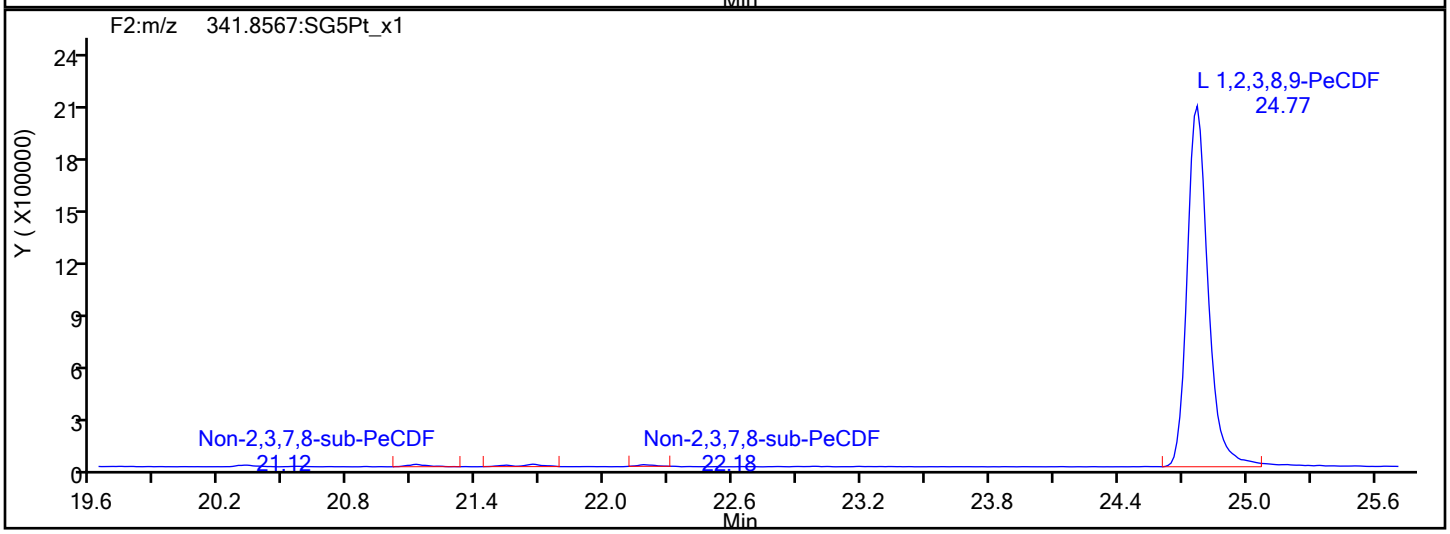

PeCDF Interference Mass

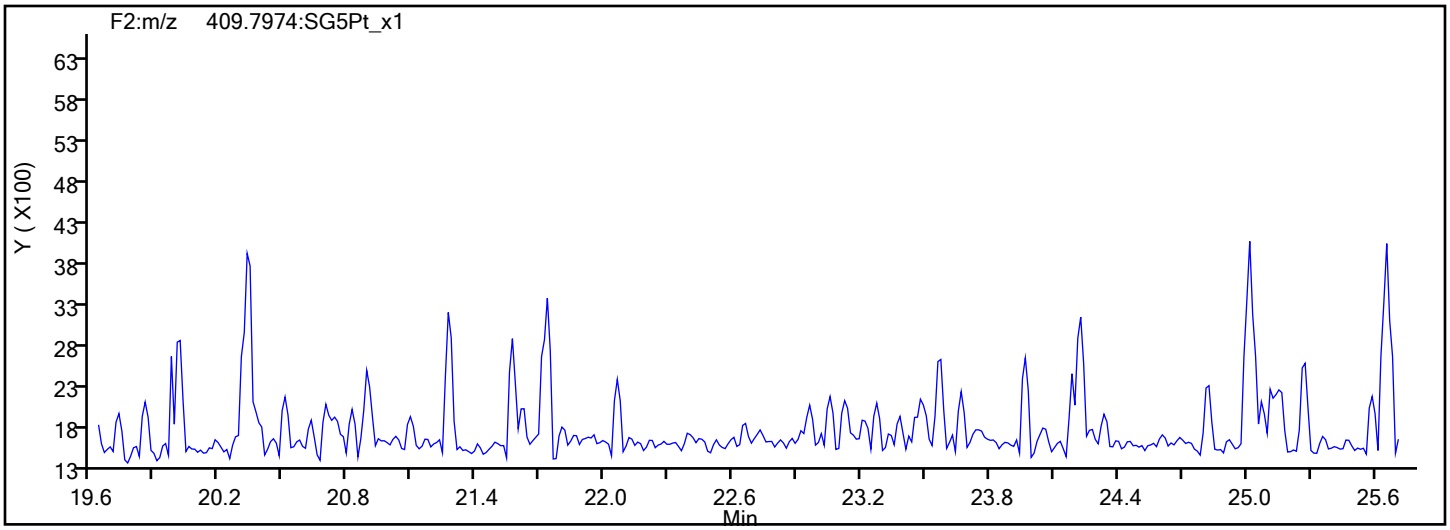

Report Date: 01-Nov-2019 00:05:44 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191031-85912.b\31OC1910D5_1.d		
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Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	335194	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

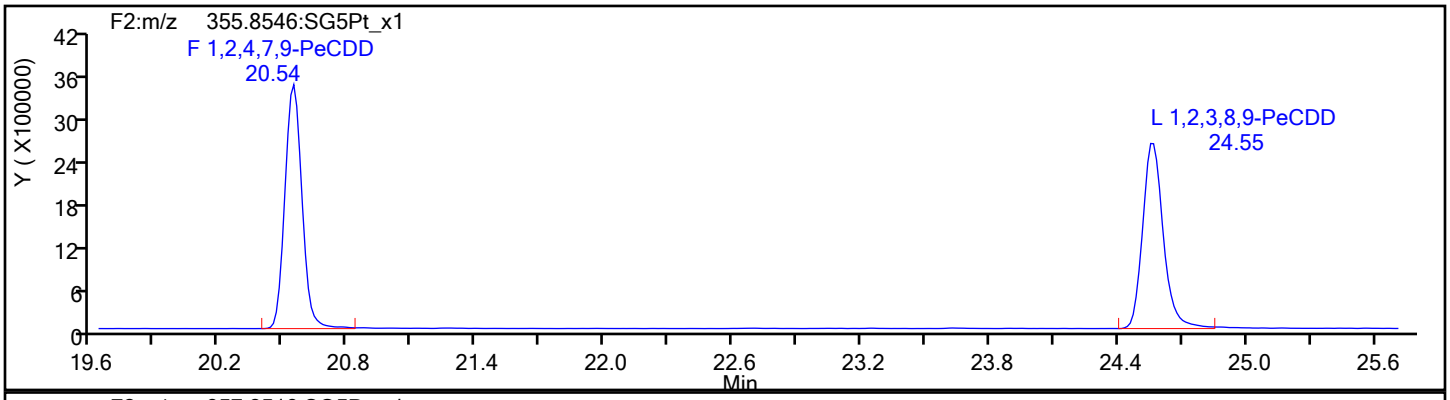

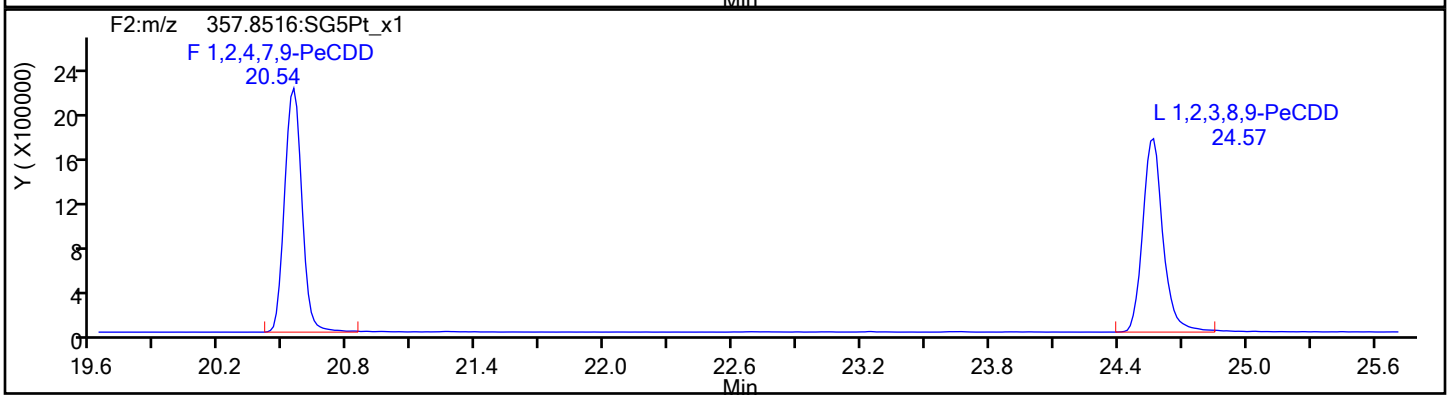

PeCDD Standards

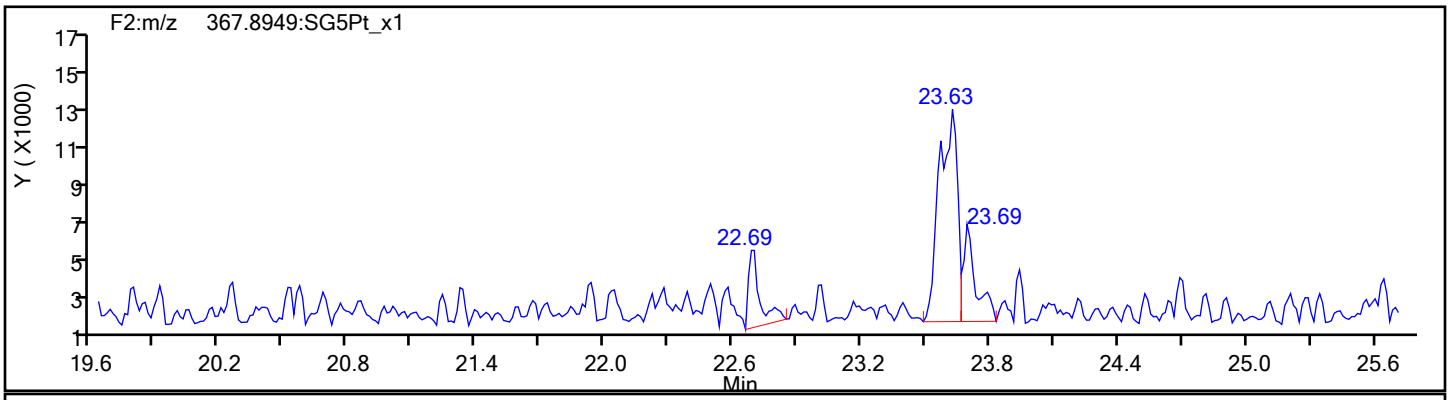

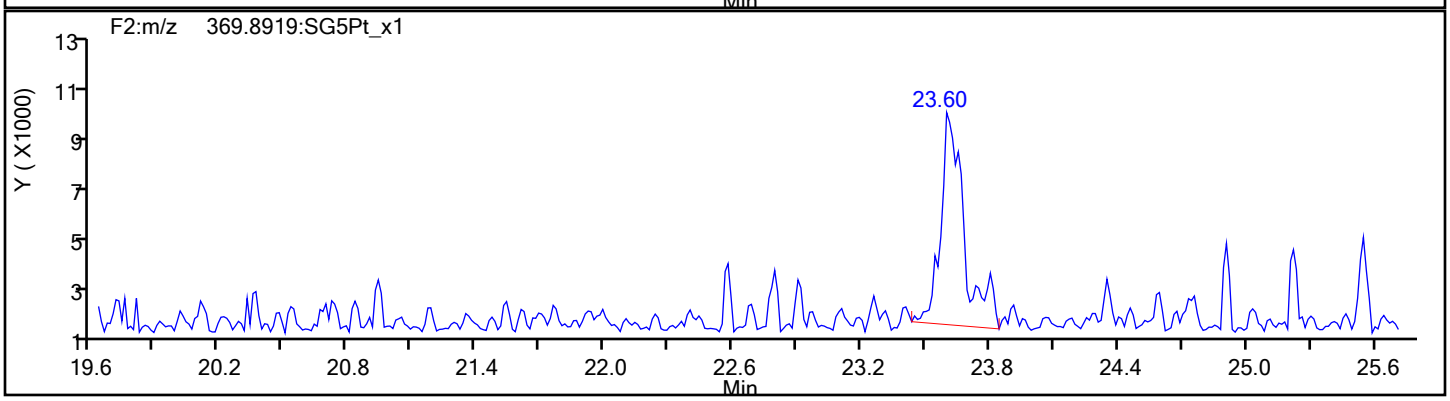

Report Date: 01-Nov-2019 00:05:44 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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HxCDF

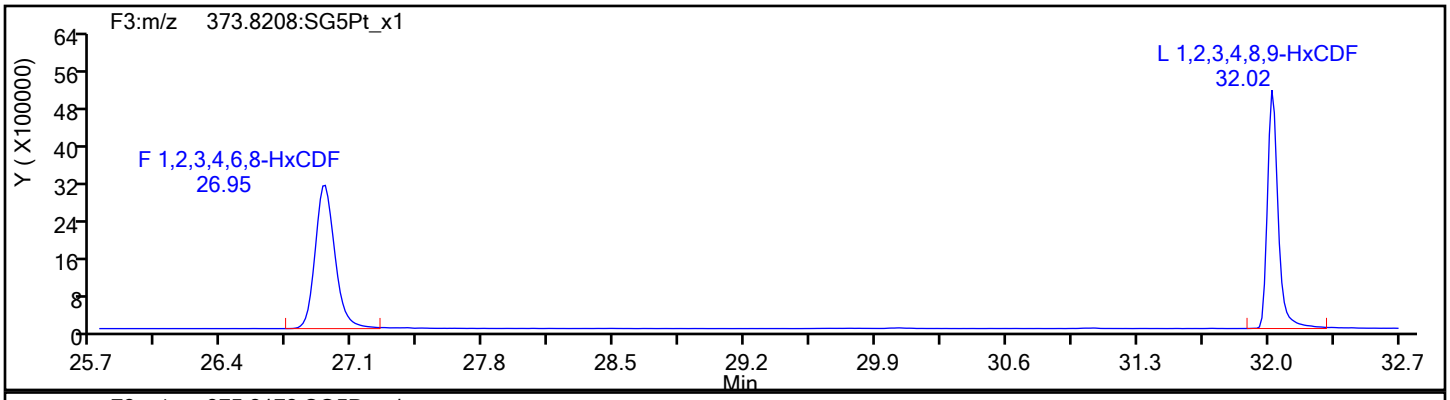

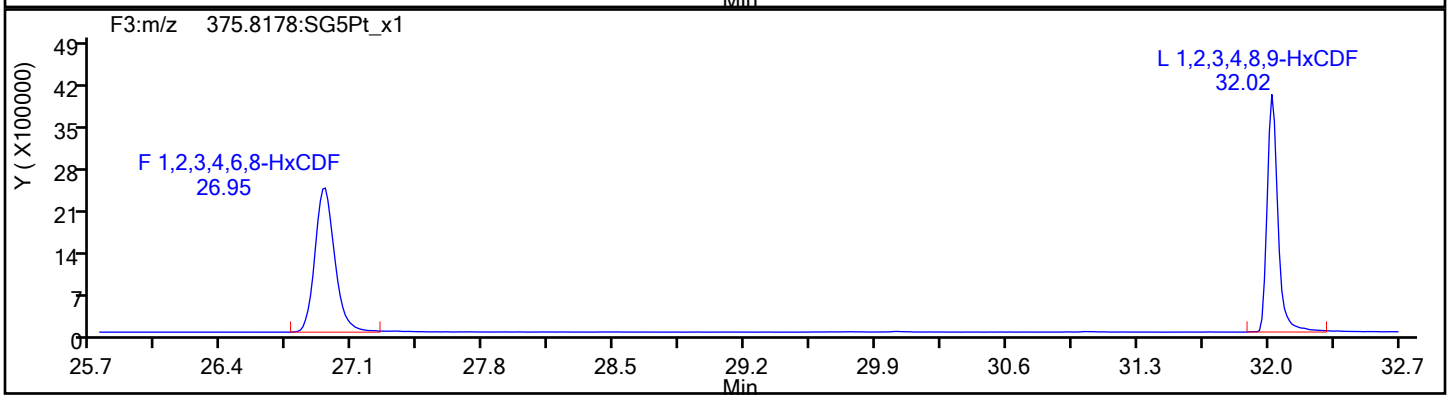

HxCDF Standards

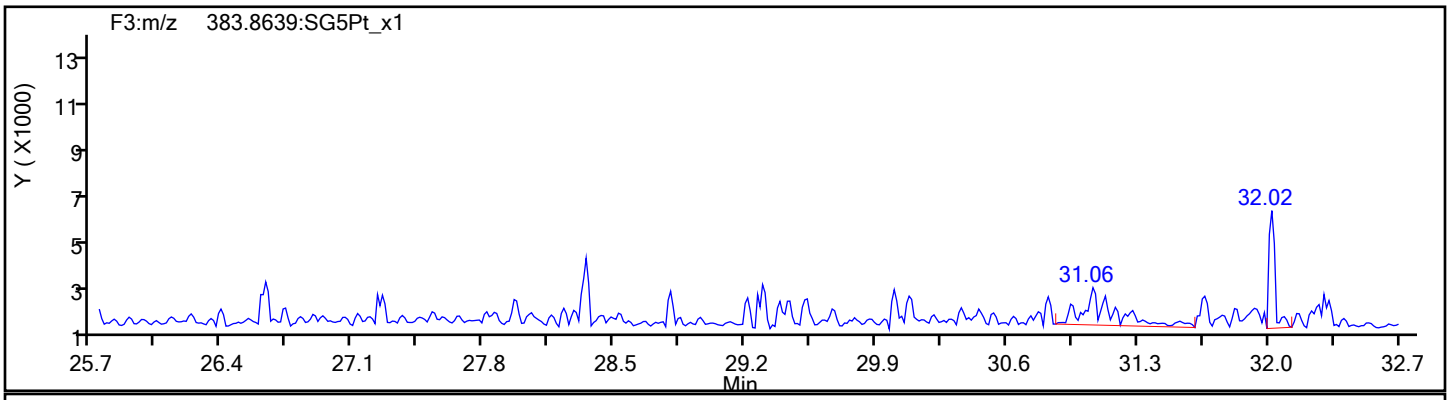

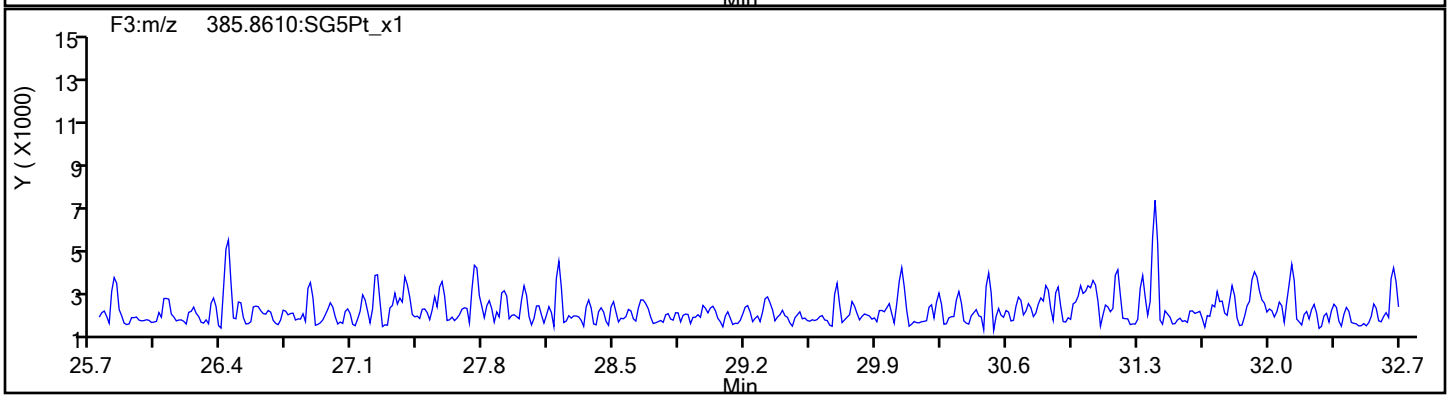

Report Date: 01-Nov-2019 00:05:44 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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HxCDF

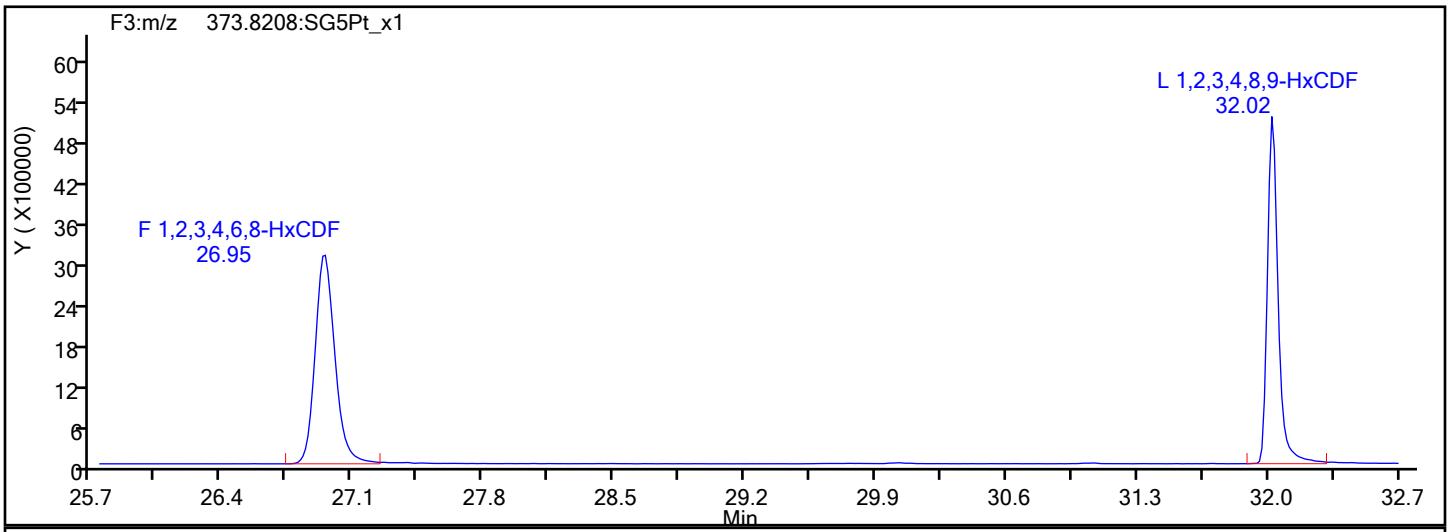

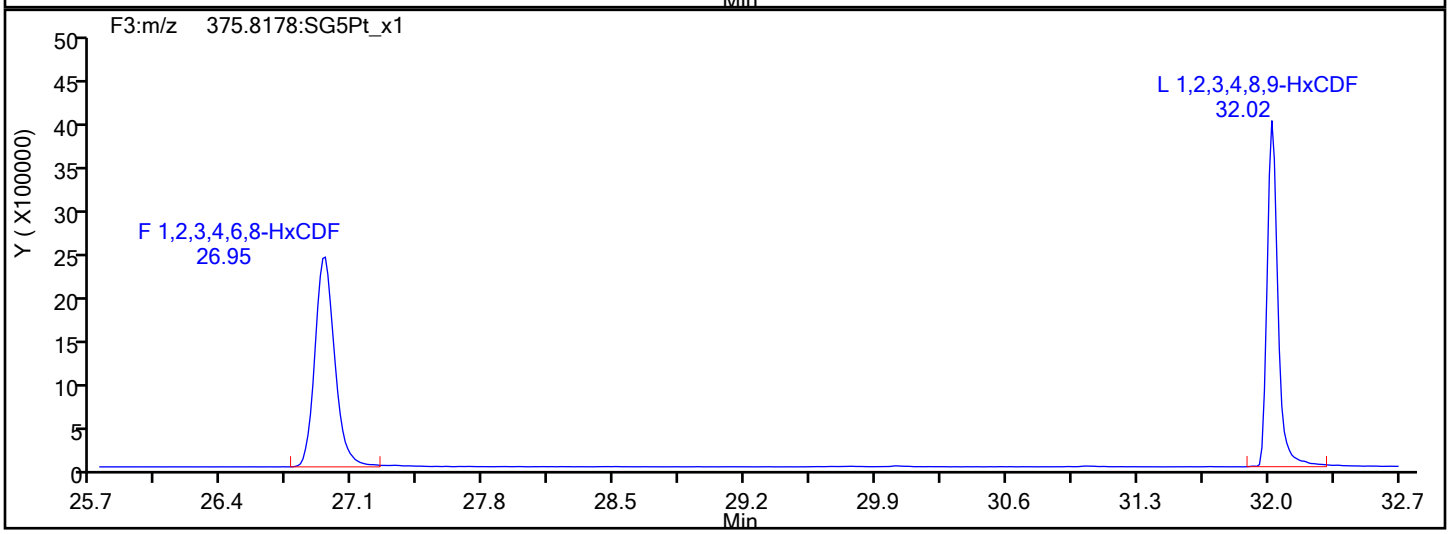

HxCDF Interference Mass

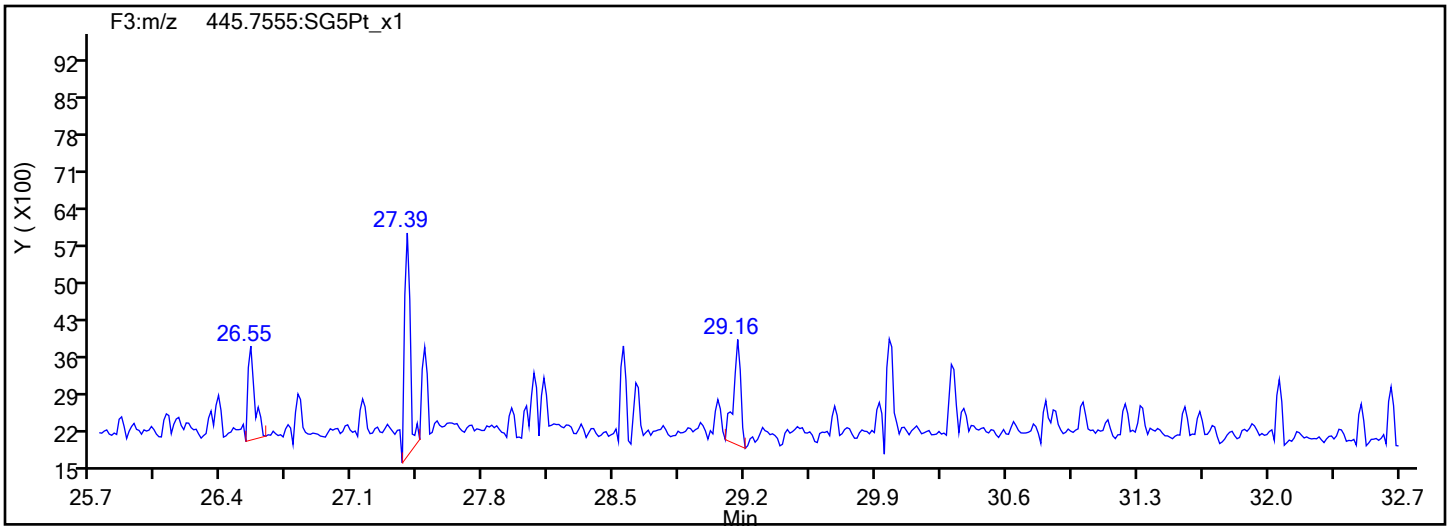

Report Date: 01-Nov-2019 00:05:44 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191031-85912.b\31OC1910D5_1.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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HxCDD

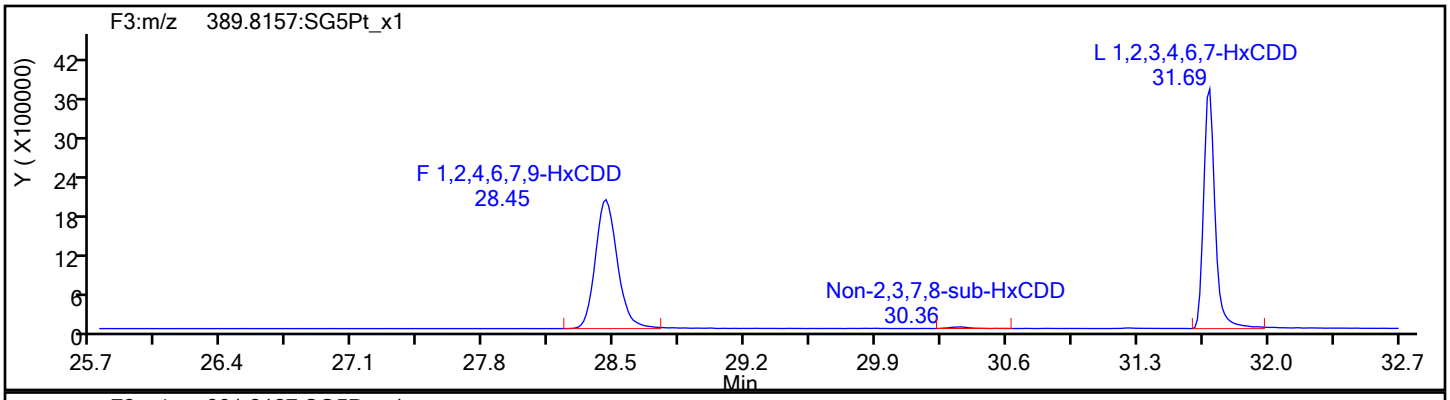

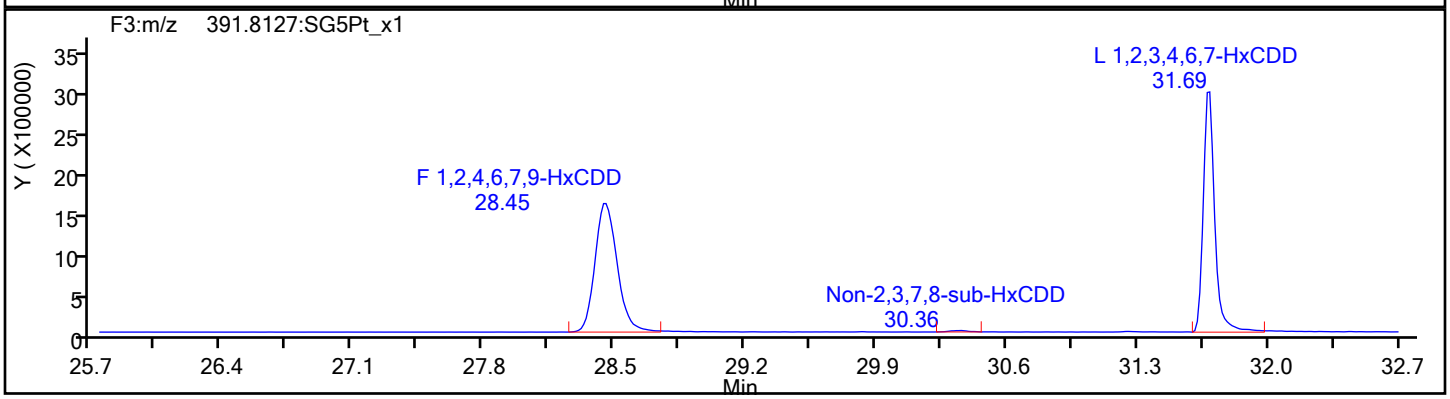

HxCDD Standards

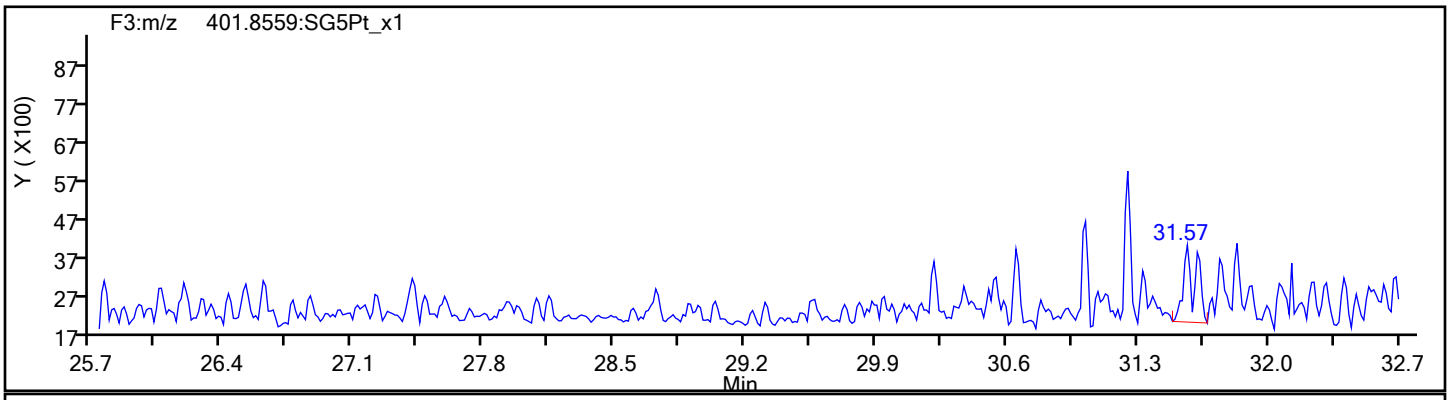

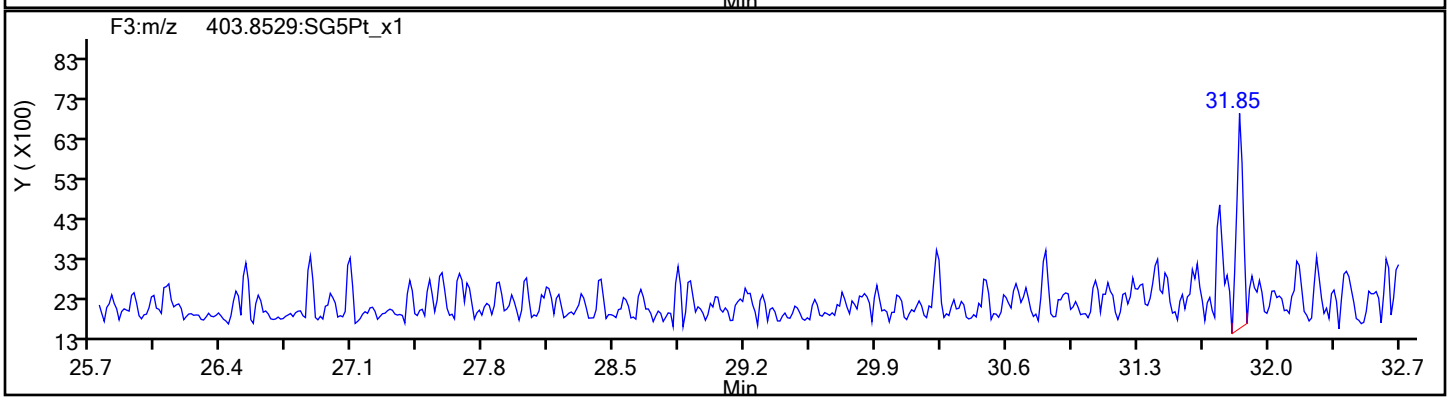

Report Date: 01-Nov-2019 00:05:44 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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HpCDF

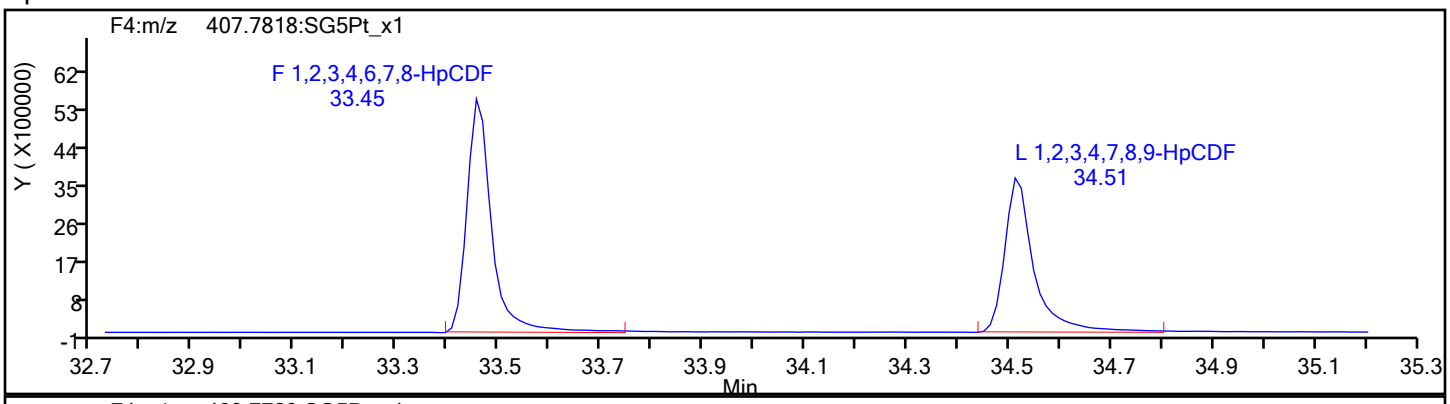

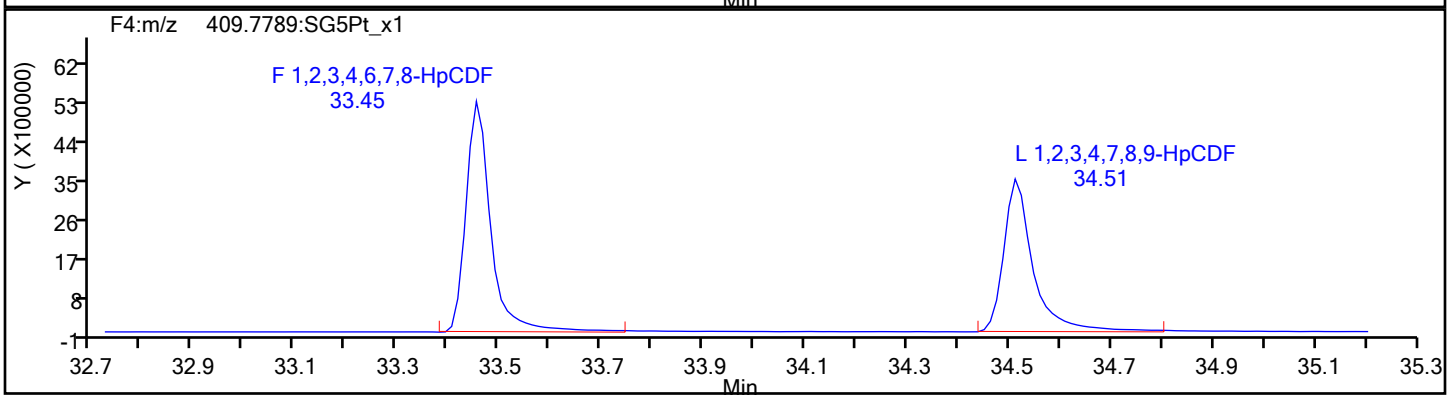

HpCDF Standards

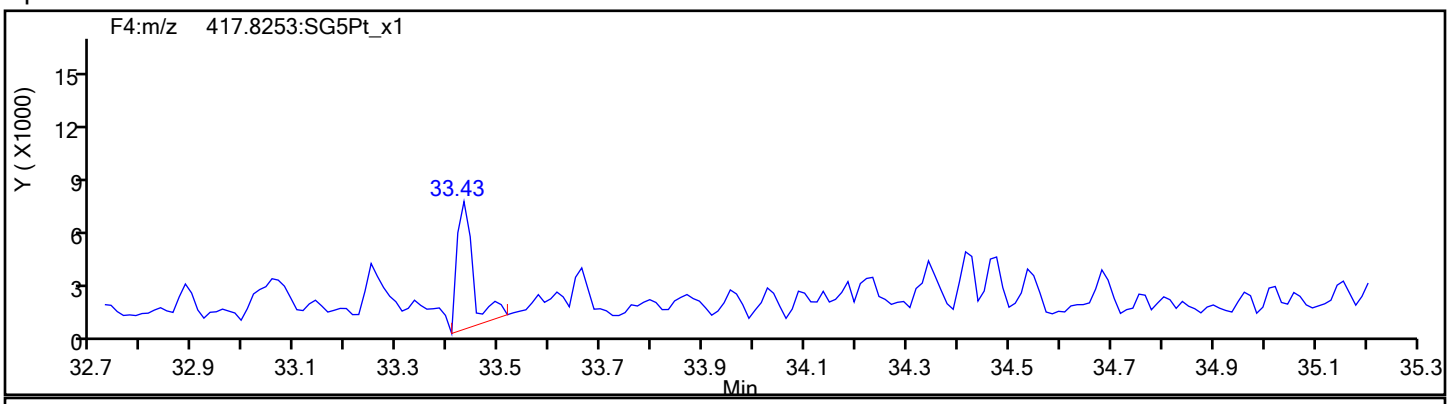

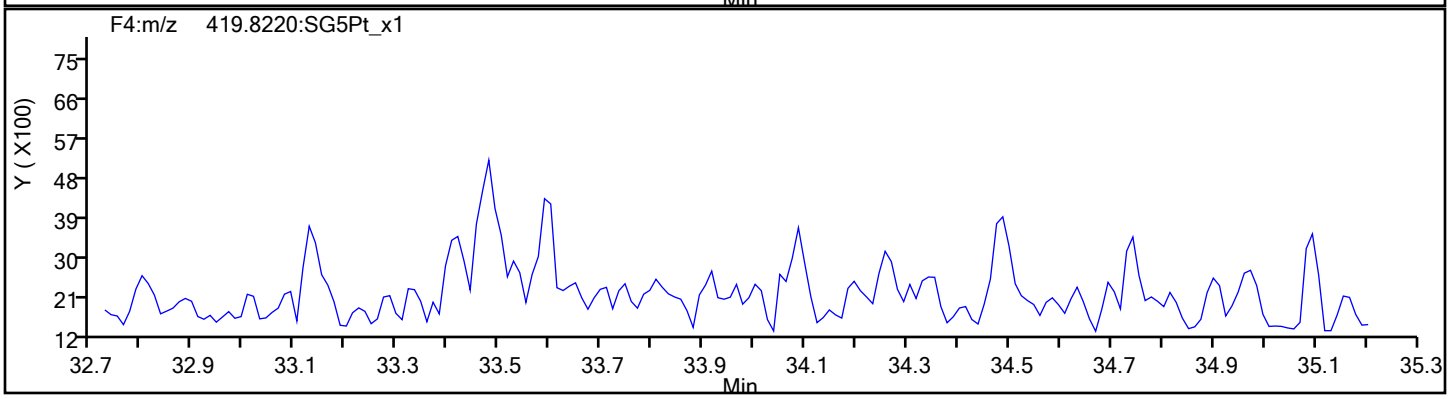

Report Date: 01-Nov-2019 00:05:44 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191031-85912.b\31OC1910D5_1.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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HpCDF

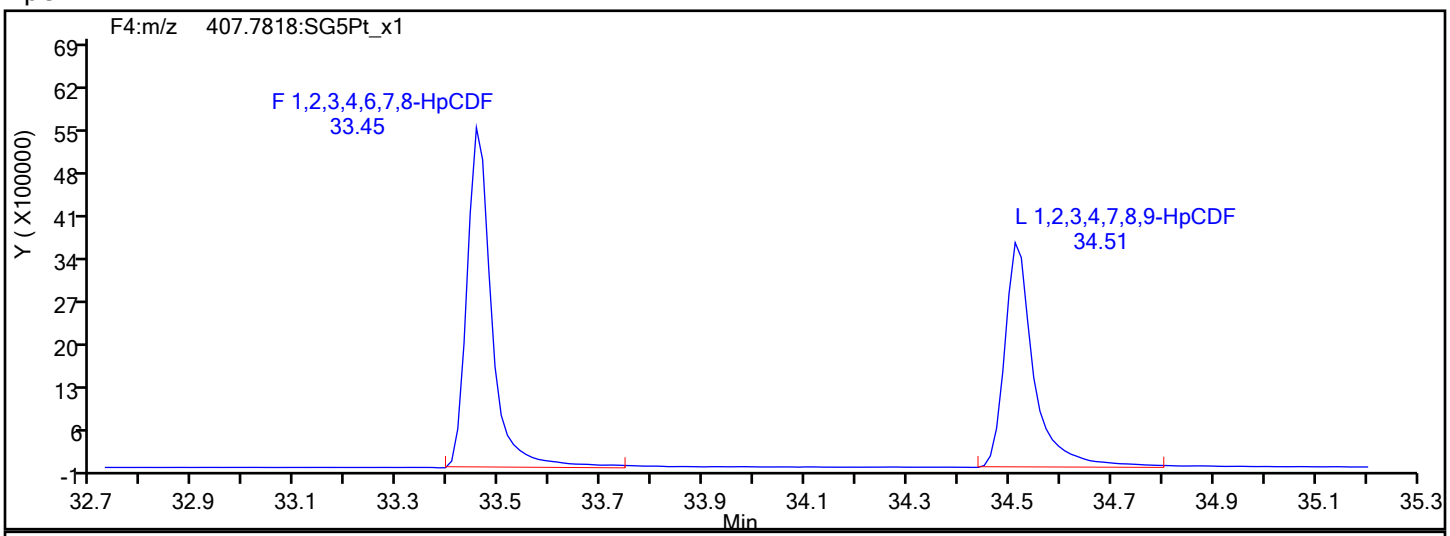

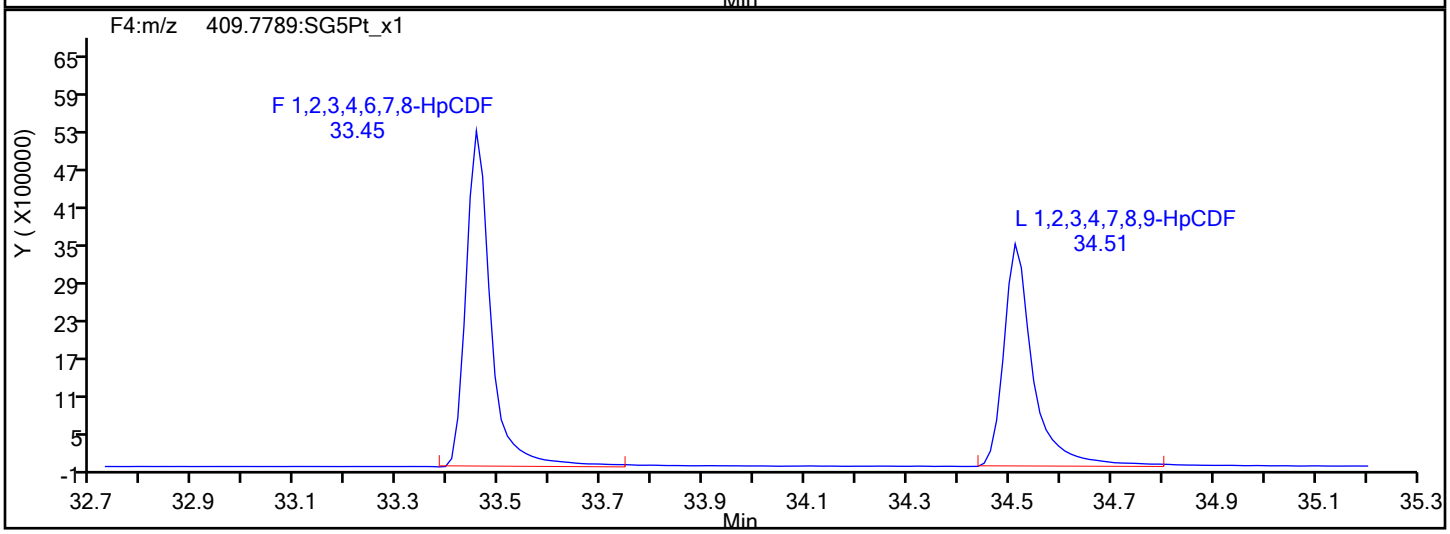

HpCDF Interference Mass

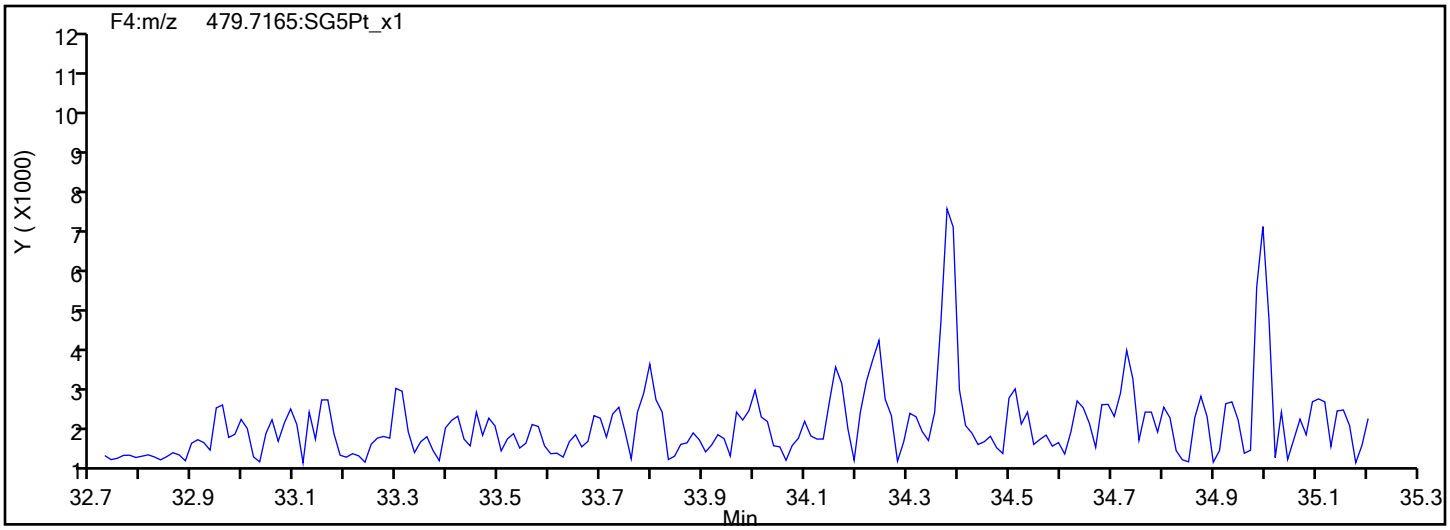

Report Date: 01-Nov-2019 00:05:44 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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HpCDD

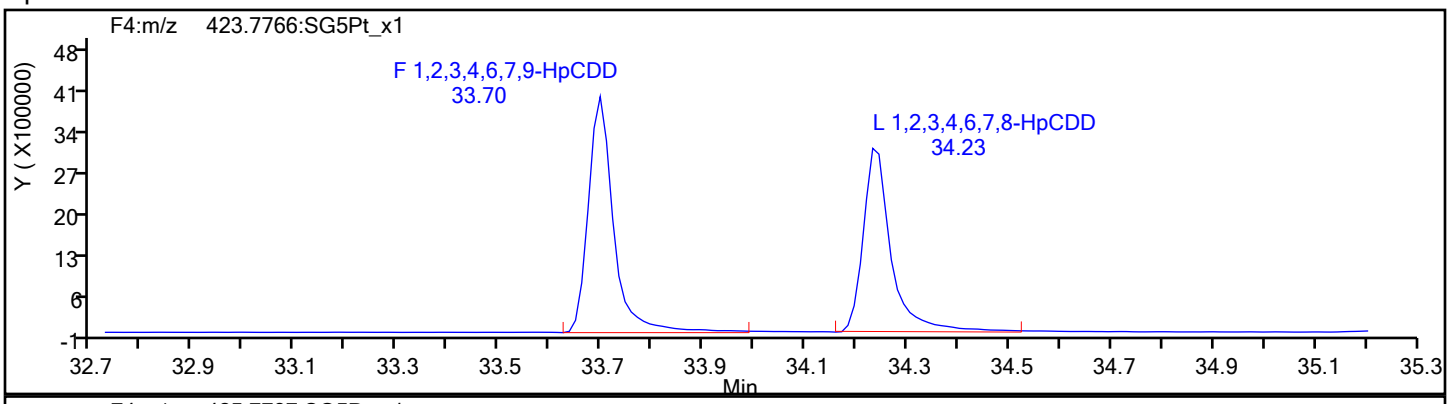

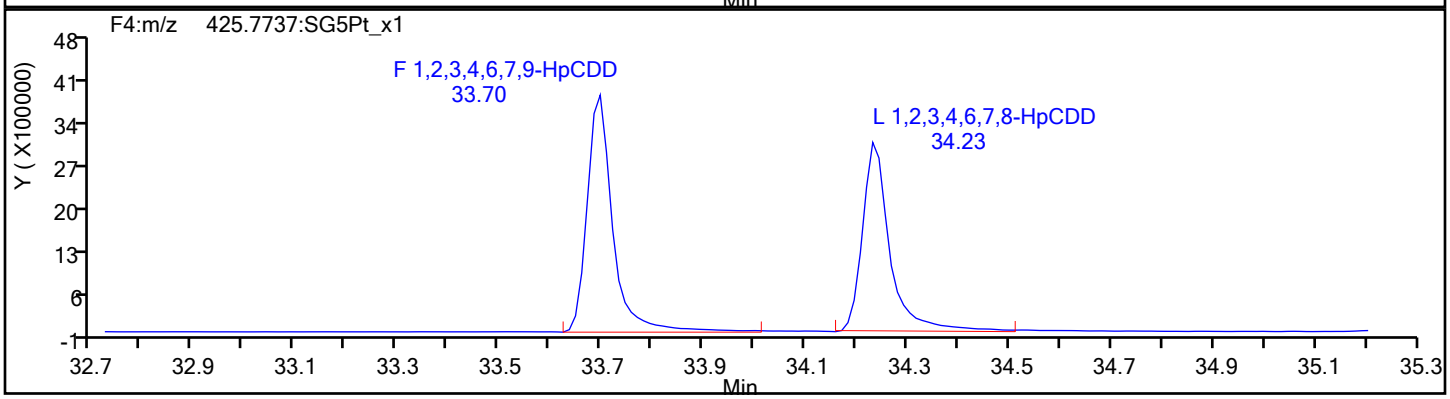

HpCDD Standards

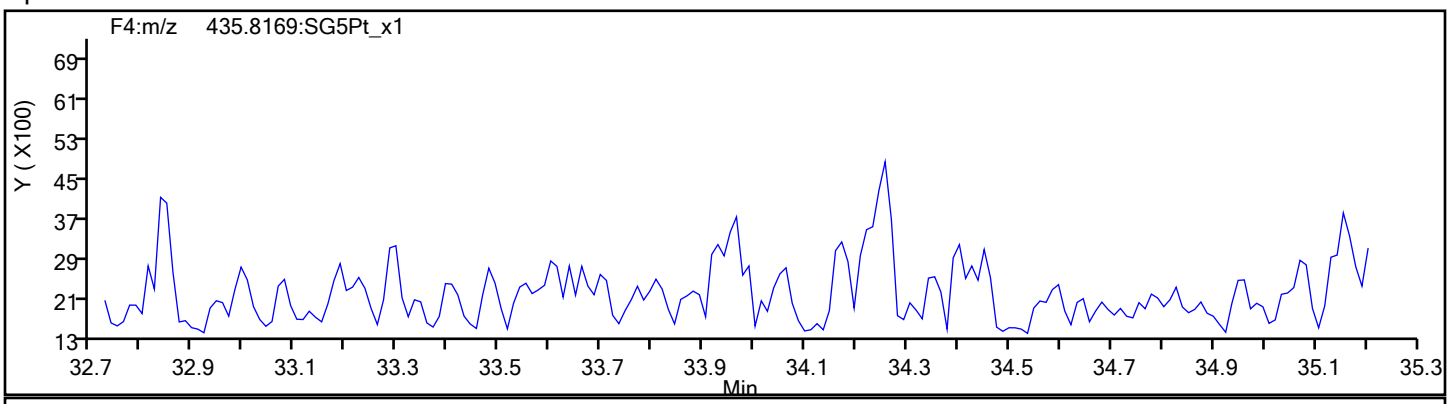

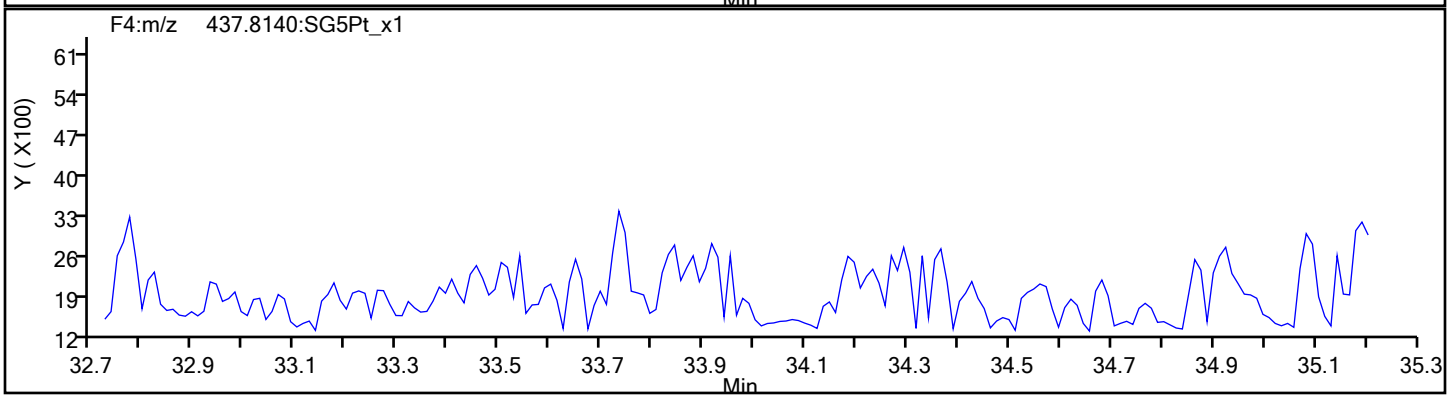

Report Date: 01-Nov-2019 00:05:44 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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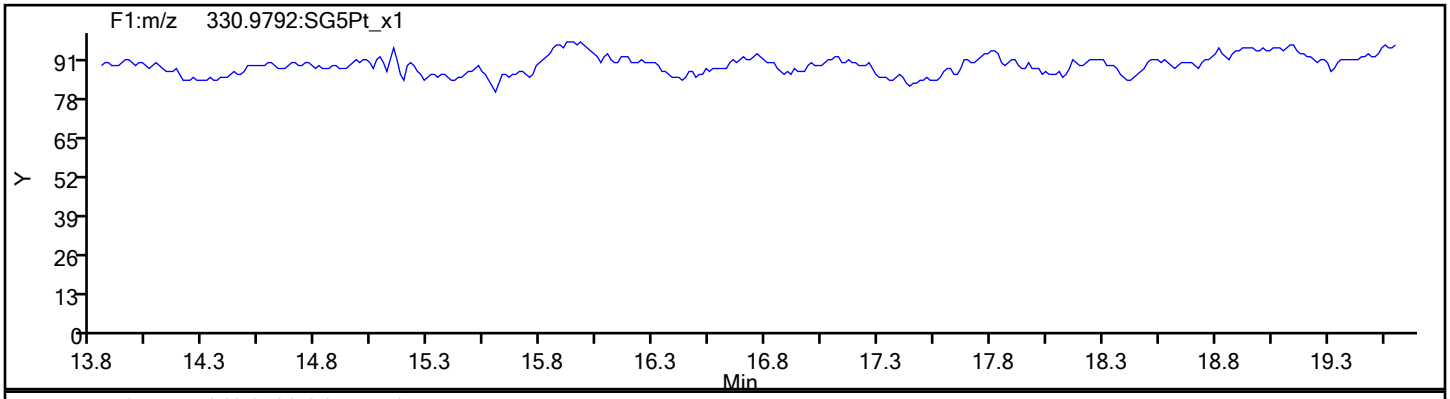

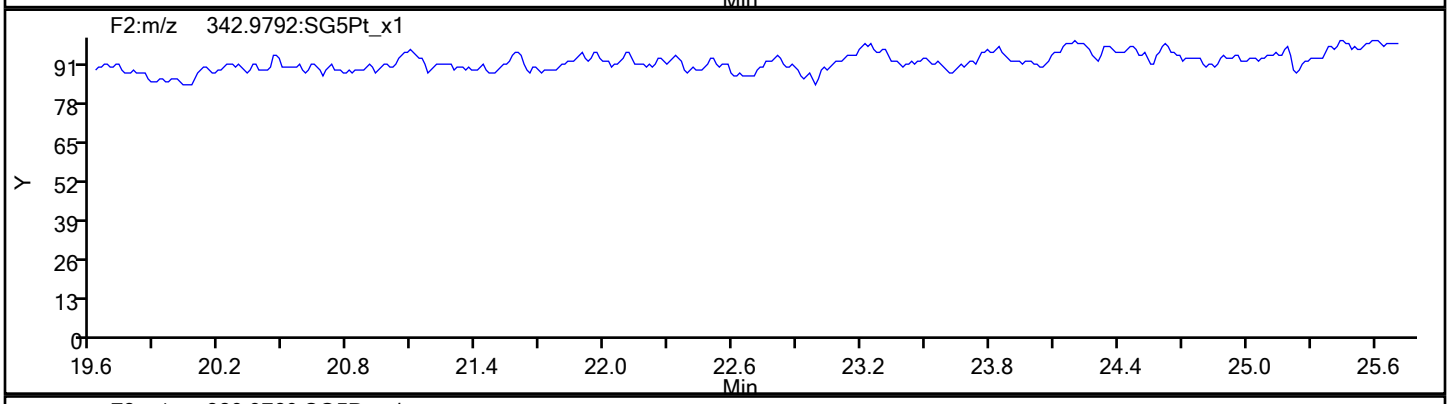

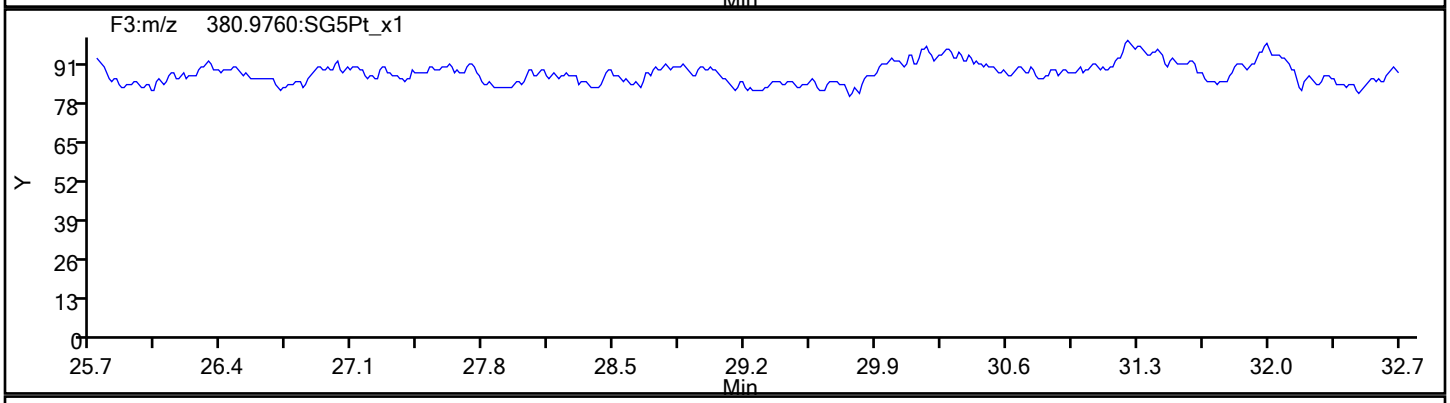

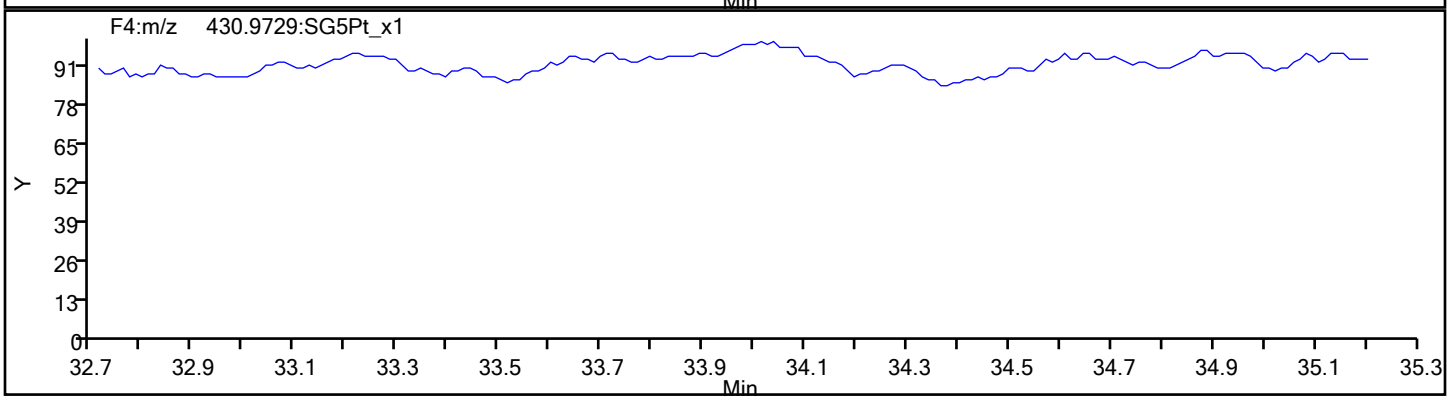

Report Date: 01-Nov-2019 00:05:44 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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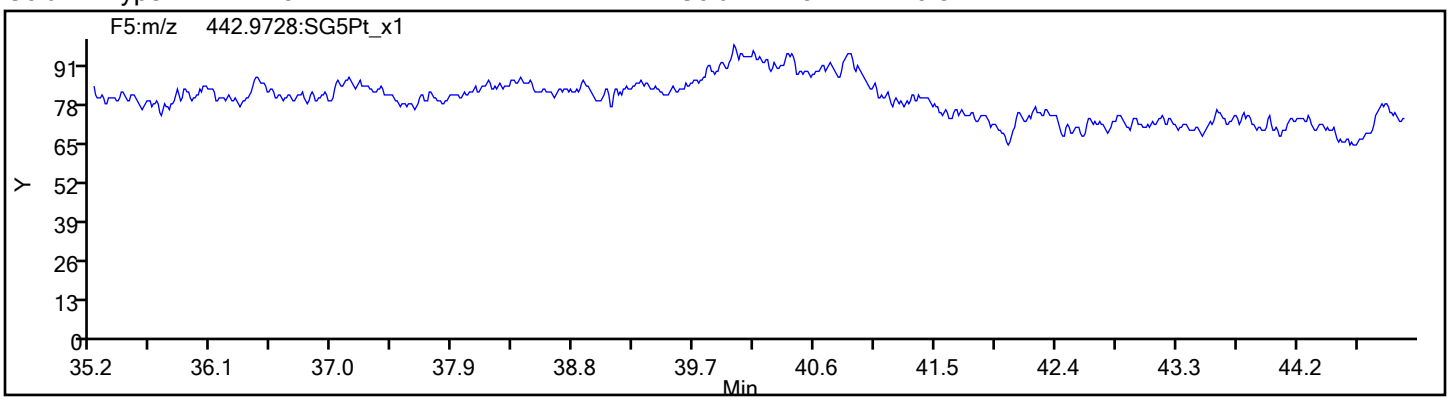

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_1.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 21-May-2019 11:56:21 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 052119 WDM HRDXNCP_00038
Misc. Info.: 21MY193D5
Operator ID: AJS Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 22-May-2019 11:06:38 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: shardaa Date: 21-May-2019 13:38:59

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	17.900	142329176	0.79	1.3908					0.00	
2,3,7,8-TCDF	17.915	292857383	0.78	0.9710	84.8	84.8	0.5134	0.5134		
A Non-2,3,7,8-sub-TCDF	17.590						0.5134	0.5134		
S Total TCDF					84.8	84.8	0.5134	0.5134		
D 13C-2,3,7,8-TCDD	18.626	95381709	0.80	0.9819					0.00	
2,3,7,8-TCDD	18.641	105767650	0.78	1.0447	42.5	42.5	0.1646	0.1646		
A Non-2,3,7,8-sub-TCDD	18.066						0.1646	0.1646		
S Total TCDD					42.5	42.5	0.1646	0.1646		
A F1 PeCDFs	20.637						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	23.899						0.0	0.0		
S Total PeCDF										
A Non-2,3,7,8-sub-PeCDD	24.123						0.0	0.0		
S Total PeCDD										
A Non-2,3,7,8-sub-HxCDF	30.845						0.0	0.0		
S Total HxCDF										
A Non-2,3,7,8-sub-HxCDD	31.471	657931	1.26	0.0000						
S Total HxCDD										
1,2,3,4,6,7,8-HpCDF	34.121	82632779	1.06	1.4373						
1,2,3,4,7,8,9-HpCDF	35.251	67013075	1.05	1.3091						
A Non-2,3,7,8-sub-HpCDF	34.686						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	34.947	57145761	1.06	1.0102						
A Non-2,3,7,8-sub-HpCDD	35.074						0.0	0.0		
S Total HpCDD										
1,3,6,8-TCDF	15.390	166246351	0.78							
1,3,6,8-TCDD	16.343	110635979	0.77							
2,3,4,7-TCDF	17.915	292857383	0.78							
1,2,3,7-TCDD	18.520	92728069	0.76							
1,2,3,9-TCDD	18.807	112930850	0.82							
1,2,3,9-TCDF	18.807	126390975	0.79							

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,8,9-TCDD	19.790	43123802								
1,2,8,9-TCDF	19.790	130326615	0.76							
1,3,4,6,8-PeCDF	20.093	129246738	1.59							
1,2,4,7,9-PeCDD	21.934	90103477	1.54							
1,2,3,8,9-PeCDD	26.312	84848214	1.58							
1,2,3,8,9-PeCDF	26.544	61703706								
1,2,3,4,6,8-HxCDF	28.914	104194761	1.22							
1,2,4,6,7,9-HxCDD	30.326	80751124	1.23							
1,2,3,4,6,7-HxCDD	32.483	77418581	1.27							
1,2,3,4,8,9-HxCDF	32.776	86047174	1.25							
1,2,3,4,6,7,9-HpCDD	34.364	65623565	1.05							

Reagents:

HRDXNCP_00038 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_1.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 21-May-2019 11:56:21 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 052119 WDM HRDXNCP_00038
Misc. Info.: 21MY193D5
Operator ID: AJS Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 22-May-2019 11:06:38 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : Det: F1:HRSIR
Process Host: CTX0302

First Level Reviewer: shardaa Date: 21-May-2019 13:38:59

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	17.900	17.885	1	1.000	62901174	14444500	23508	58770	614		
317.9389	17.885	17.885	0	1.000	79428002	18619090	21886	54715	851	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.915	17.915	0	1.001	128275333	28855811	65043	162607	444		
305.8987	17.915	17.915	0	1.001	164582050	36880030	99790	249475	370	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.590						65043	162607			
305.8987	17.590						99790	249475			
13C-2,3,7,8-TCDD											
331.9368	18.626	18.611	1	1.000	42404747	9743193	24478	61195	398		
333.9339	18.626	18.611	1	1.000	52976962	12326201	8555	21387	1441	0.80(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	18.641	18.650	-1	1.001	46459771	10318495	17244	43110	598		
321.8936	18.641	18.650	-1	1.001	59307879	13616617	20709	51772	658	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	18.066						17244	43110			
321.8936	18.066						20709	51772			
A F1 PeCDFs											
339.8597	20.637						5411	13527			
341.8567	20.637						8692	21730			
A Non-2,3,7,8-sub-PeCDF											
339.8597	23.899						9009	22522			
341.8567	23.899						11975	29937			
A Non-2,3,7,8-sub-PeCDD											
355.8546	24.123						15878	39695			
357.8516	24.123						8168	20420			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.845						20487	51217			
375.8178	30.845						16652	41630			
A Non-2,3,7,8-sub-HxCDD											
389.8157	31.444	31.471	-2	1.000	366420	78878	22316	55790	4		
391.8127	31.444	31.471	-2	1.000	291511	71428	17277	43192	4	1.26(1.05-1.43)	
1,2,3,4,6,7,8-HpCDF											
407.7818	34.121	34.104	1	1.000	42538474	13039421	48634	121585	268		
409.7789	34.109	34.104	0	1.000	40094305	12217379	38817	97042	315	1.06(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	35.251	35.244	0	1.000	34323675	8398192	48634	121585	173		
409.7789	35.251	35.244	0	1.000	32689400	8355587	38817	97042	215	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.686						48634	121585			
409.7789	34.686						38817	97042			
1,2,3,4,6,7,8-HpCDD											
423.7766	34.947	34.940	0	1.000	29401308	8154945	26390	65975	309		
425.7737	34.947	34.940	0	1.000	27744453	7733751	25075	62687	308	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	35.074						26390	65975			
425.7737	35.074						25075	62687			
1,3,6,8-TCDF											
303.9016	15.390	15.390	0		72864110	21132563	65043	162607	325		
305.8987	15.390	15.390	0		93382241	27360068	99790	249475	274	0.78(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	16.343	16.343	0		47983816	12916935	17244	43110	749		
321.8936	16.343	16.343	0		62652163	16568874	20709	51772	800	0.77(0.65-0.89)	
2,3,4,7-TCDF											
303.9016	17.915	17.915	0		128275333	28855811	65043	162607	444		
305.8987	17.915	17.915	0		164582050	36880030	99790	249475	370	0.78(0.65-0.89)	
1,2,3,7-TCDD											
319.8965	18.520	18.520	0		40014642	9867861	17244	43110	572		
321.8936	18.520	18.520	0		52713427	12869976	20709	51772	621	0.76(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	18.807	18.807	0		50741930	11082748	17244	43110	643		
321.8936	18.807	18.807	0		62188920	13543053	20709	51772	654	0.82(0.65-0.89)	
1,2,3,9-TCDF											
303.9016	18.807	18.807	0		55627509	12223042	65043	162607	188		
305.8987	18.807	18.807	0		70763466	15547883	99790	249475	156	0.79(0.65-0.89)	
1,2,8,9-TCDD											
319.8965	19.790	19.790	0		43123802	8997243	17244	43110	522		
1,2,8,9-TCDF											
303.9016	19.790	19.790	0		56256810	11654152	65043	162607	179		
305.8987	19.790	19.790	0		74069805	15142079	99790	249475	152	0.76(0.65-0.89)	
1,3,4,6,8-PeCDF											
339.8597	20.093	20.093	0		79326074	17172146	5411	13527	3174		
341.8567	20.093	20.093	0		49920664	10665984	8692	21730	1227	1.59(1.32-1.78)	

Report Date: 22-May-2019 11:06:43 Chrom Revision: 2.3 12-May-2019 16:28:34
Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_1.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,4,7,9-PeCDD											
355.8546	21.934	21.934	0		54564293	8817781	15878	39695	555		
357.8516	21.921	21.934	-1		35539184	5806410	8168	20420	711	1.54(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	26.312	26.312	0		52007882	7329706	15878	39695	462		
357.8516	26.312	26.312	0		32840332	4579894	8168	20420	561	1.58(1.32-1.78)	
1,2,3,8,9-PeCDF											
339.8597	26.544	26.544	0		61703706	7926505	9009	22522	880		
1,2,3,4,6,8-HxCDF											
373.8208	28.914	28.914	0		57338539	6952076	20487	51217	339		
375.8178	28.914	28.914	0		46856222	5585431	16652	41630	335	1.22(1.05-1.43)	
1,2,4,6,7,9-HxCDD											
389.8157	30.326	30.326	0		44606732	7700135	22316	55790	345		
391.8127	30.326	30.326	0		36144392	6277802	17277	43192	363	1.23(1.05-1.43)	
1,2,3,4,6,7-HxCDD											
389.8157	32.483	32.483	0		43337403	12176658	22316	55790	546		
391.8127	32.483	32.483	0		34081178	9548413	17277	43192	553	1.27(1.05-1.43)	
1,2,3,4,8,9-HxCDF											
373.8208	32.776	32.776	0		47814875	13450039	20487	51217	657		
375.8178	32.776	32.776	0		38232299	10593800	16652	41630	636	1.25(1.05-1.43)	
1,2,3,4,6,7,9-HpCDD											
423.7766	34.364	34.364	0		33609170	10006778	26390	65975	379		
425.7737	34.364	34.364	0		32014395	9655474	25075	62687	385	1.05(0.88-1.20)	

Reagents:

HRDXNCP_00038 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_1.d
Lims ID: WDM
Client ID:
Inject. Date: 21-May-2019 11:56:21 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 3D5 Operator: AJS
Lims Batch ID: 296020 Lims Sample ID: 1

Non-2,3,7,8-sub-HxCDD, RT: 31.471

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.027				
1,2,3,6,7,8-HxCDD	0.977				
1,2,3,7,8,9-HxCDD	1.062				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
31.444	366420	78878	291511	71428		1.26	
Signal Totals:							
	366420	78878	291511	71428			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	657931	150306				1.26	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (657931 * 0.0) / (0 * 0.000)

Report Date: 22-May-2019 11:06:43 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_1.d		
Injection Date:	21-May-2019 11:56:21	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	296020	Sample Line#:	1
Column Type:		Column Dia:	

TCDF

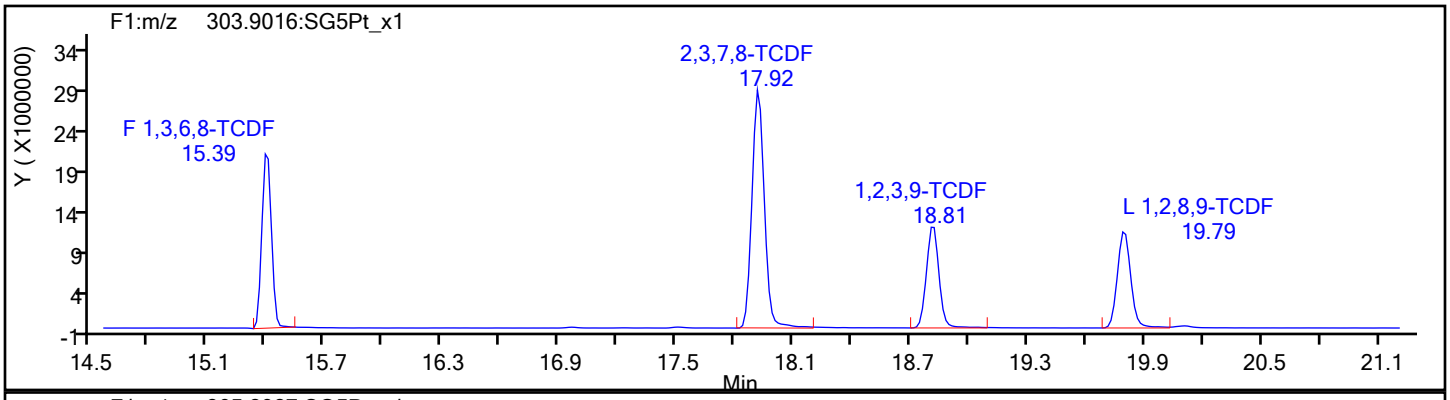

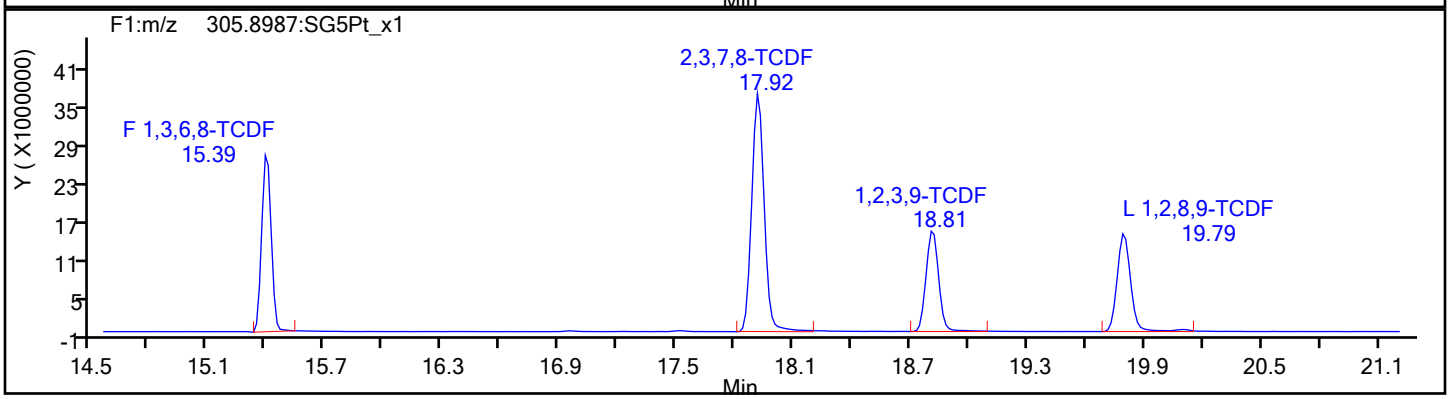

TCDF Standards

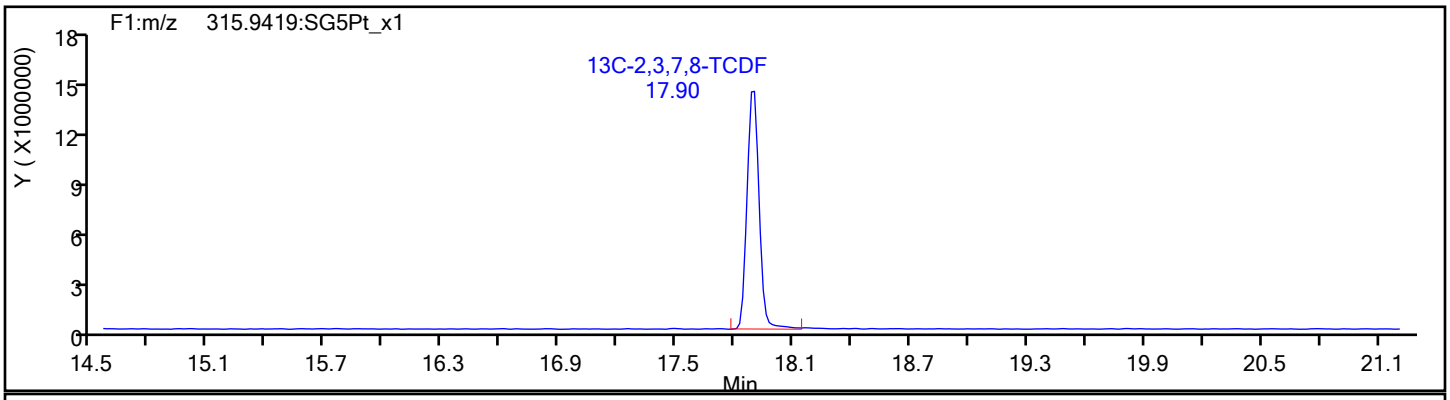

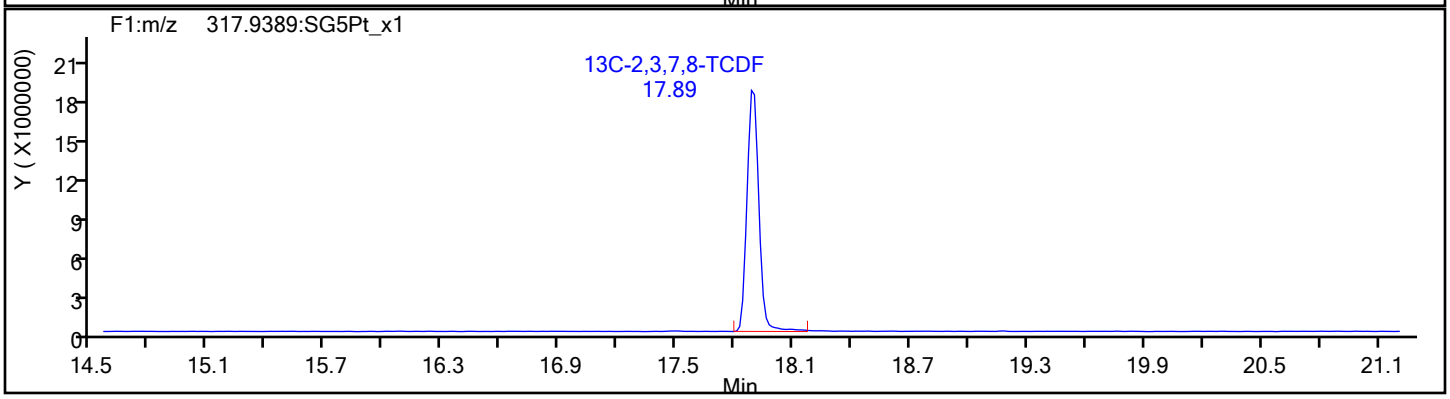

Report Date: 22-May-2019 11:06:43 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_1.d		
Injection Date:	21-May-2019 11:56:21	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	296020	Sample Line#:	1
Column Type:		Column Dia:	

TCDF

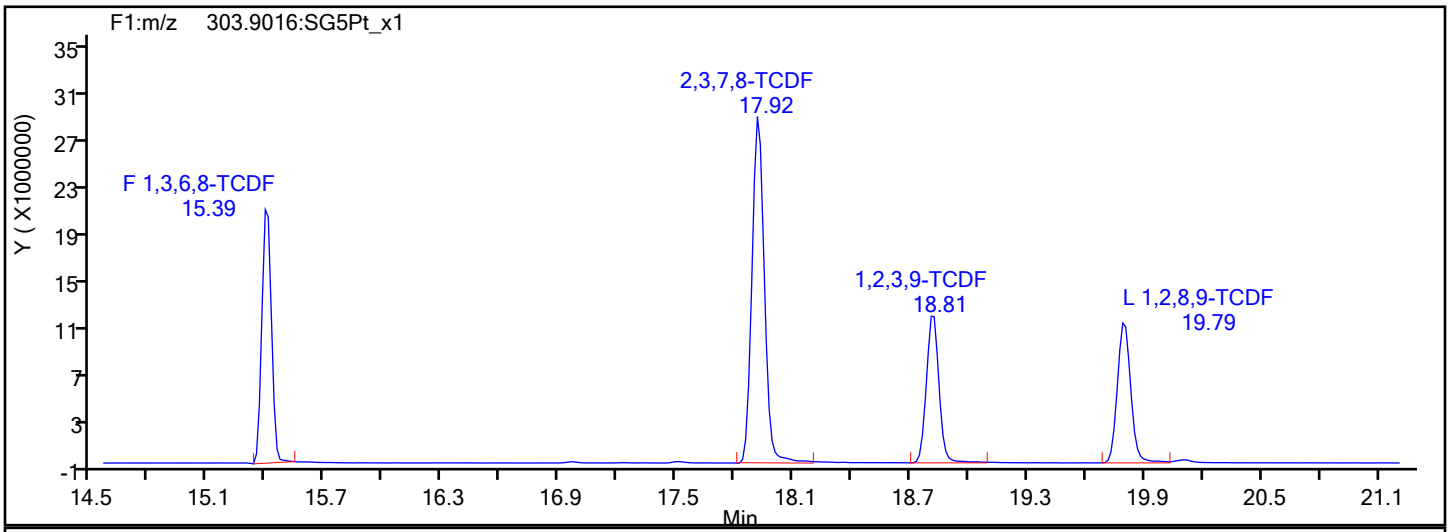

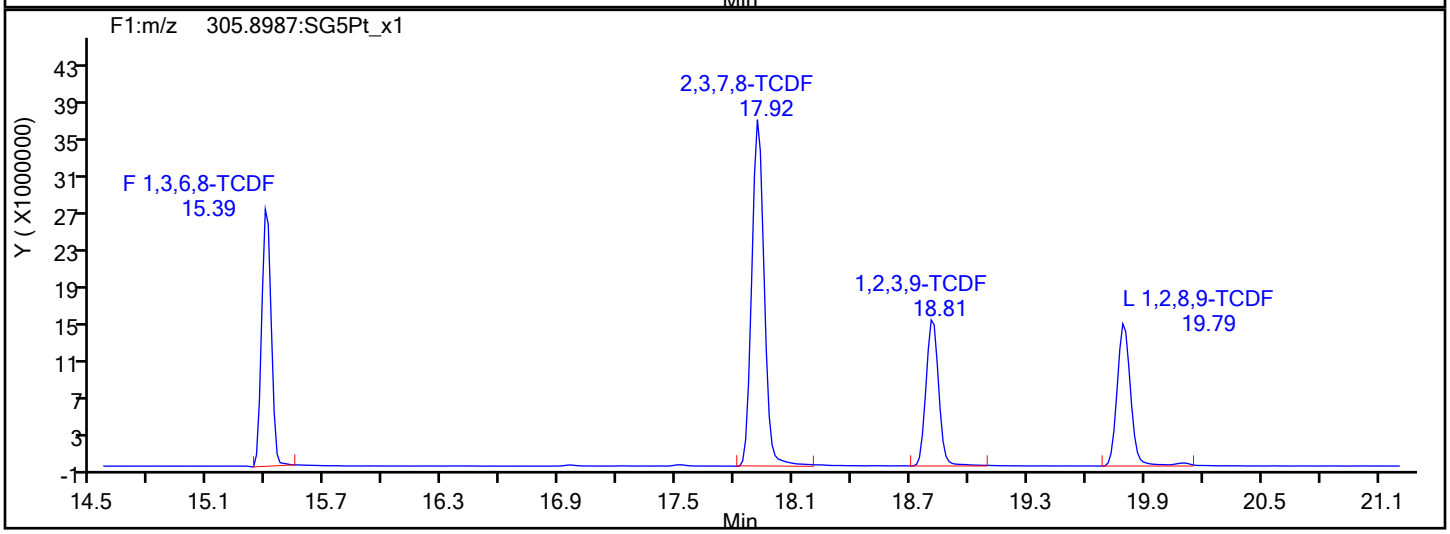

TCDF Interference Mass

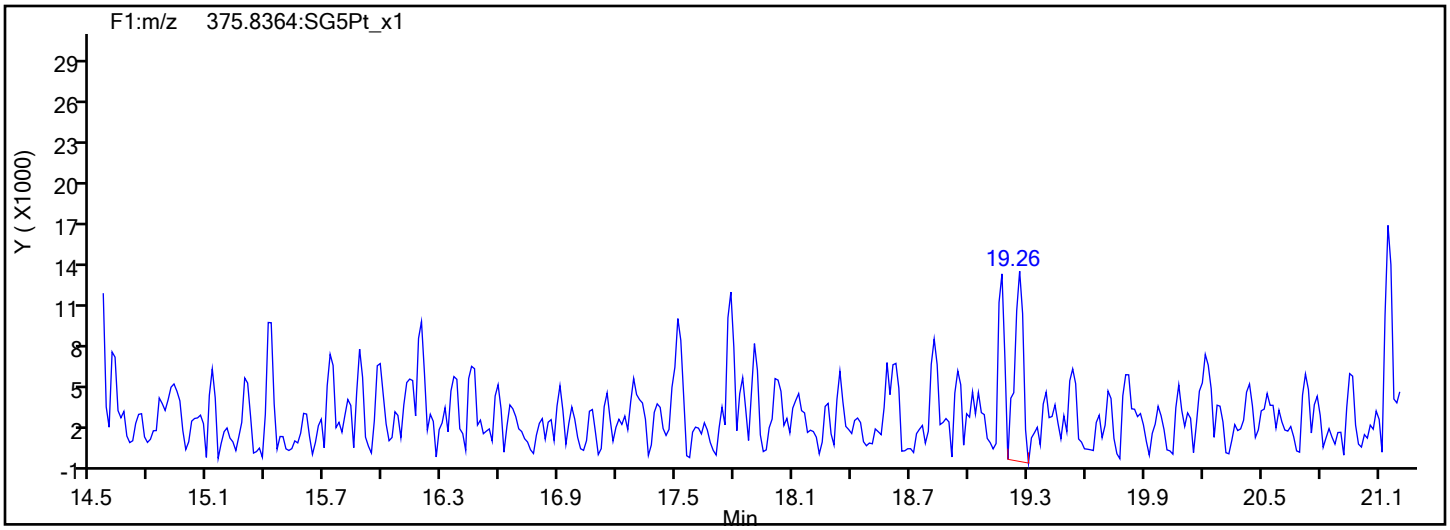

Report Date: 22-May-2019 11:06:43 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_1.d		
Injection Date:	21-May-2019 11:56:21	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	296020	Sample Line#:	1
Column Type:		Column Dia:	

TCDD

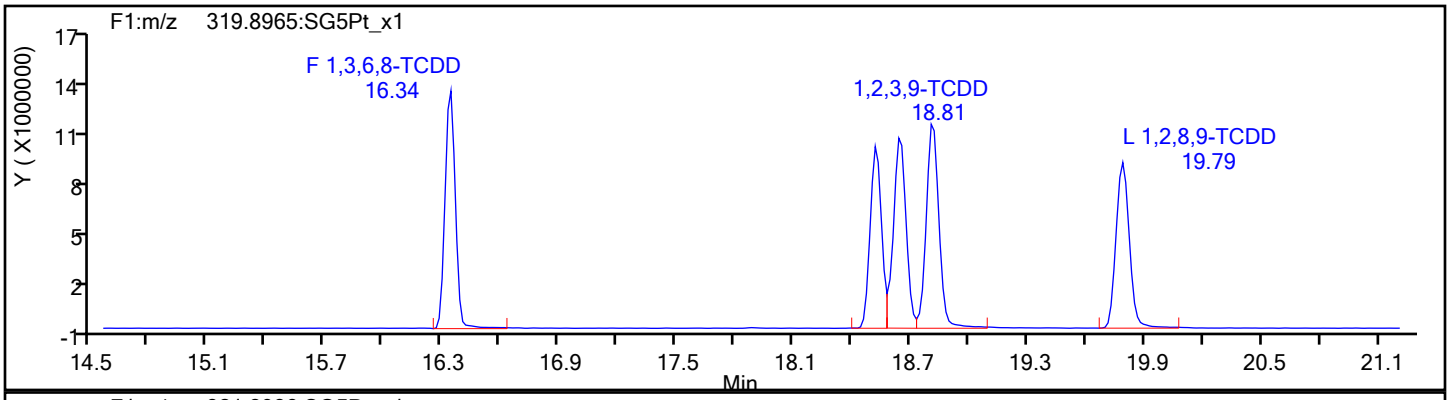

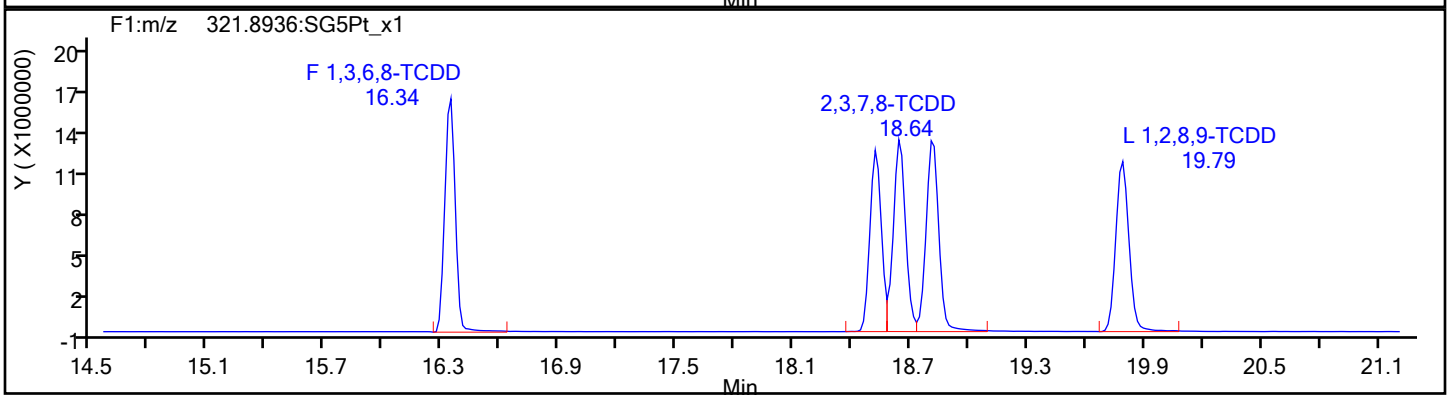

TCDD Standards

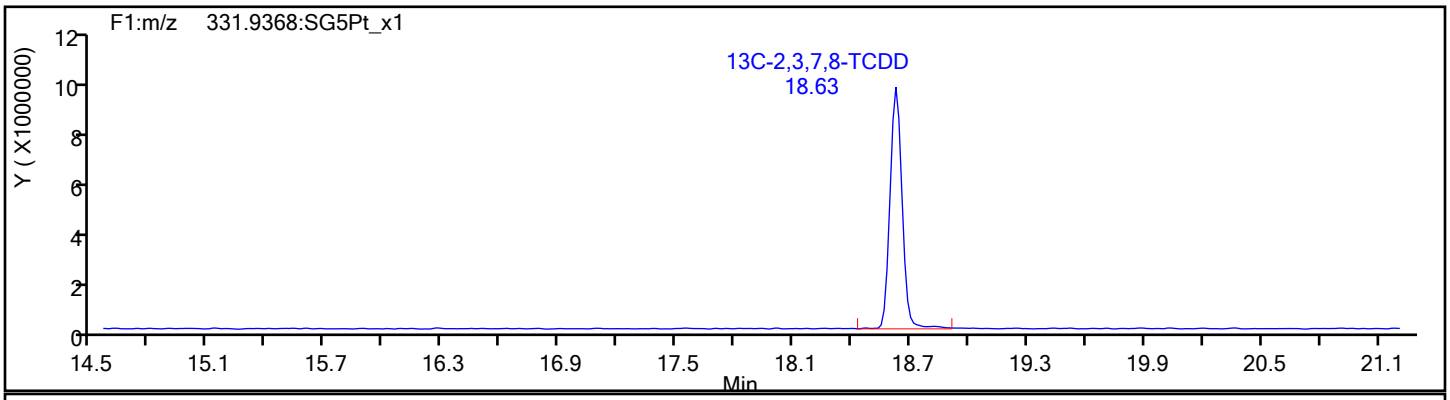

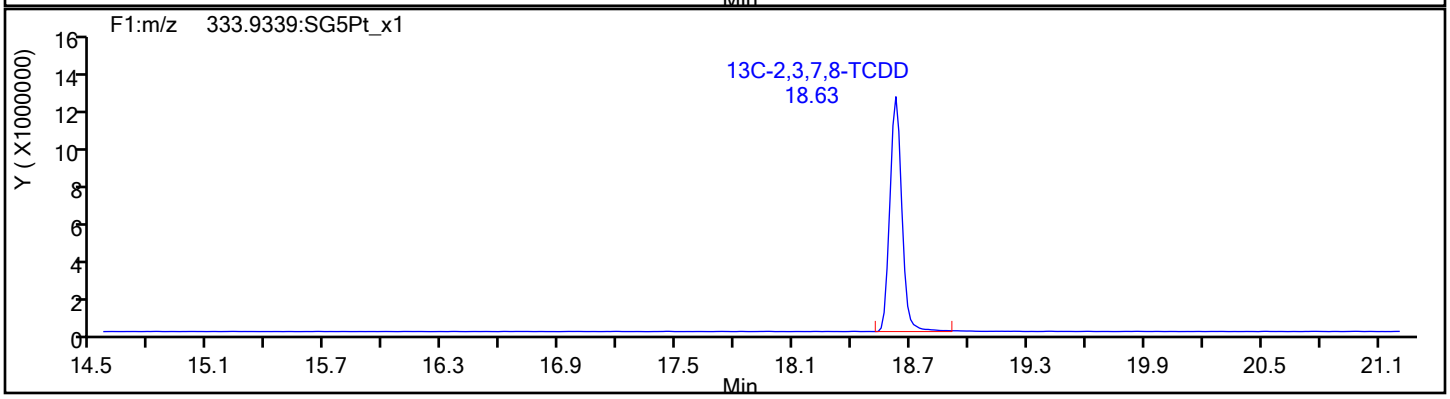

Report Date: 22-May-2019 11:06:43 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_1.d		
Injection Date:	21-May-2019 11:56:21	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	296020	Sample Line#:	1
Column Type:		Column Dia:	

37Cl4-TCDD

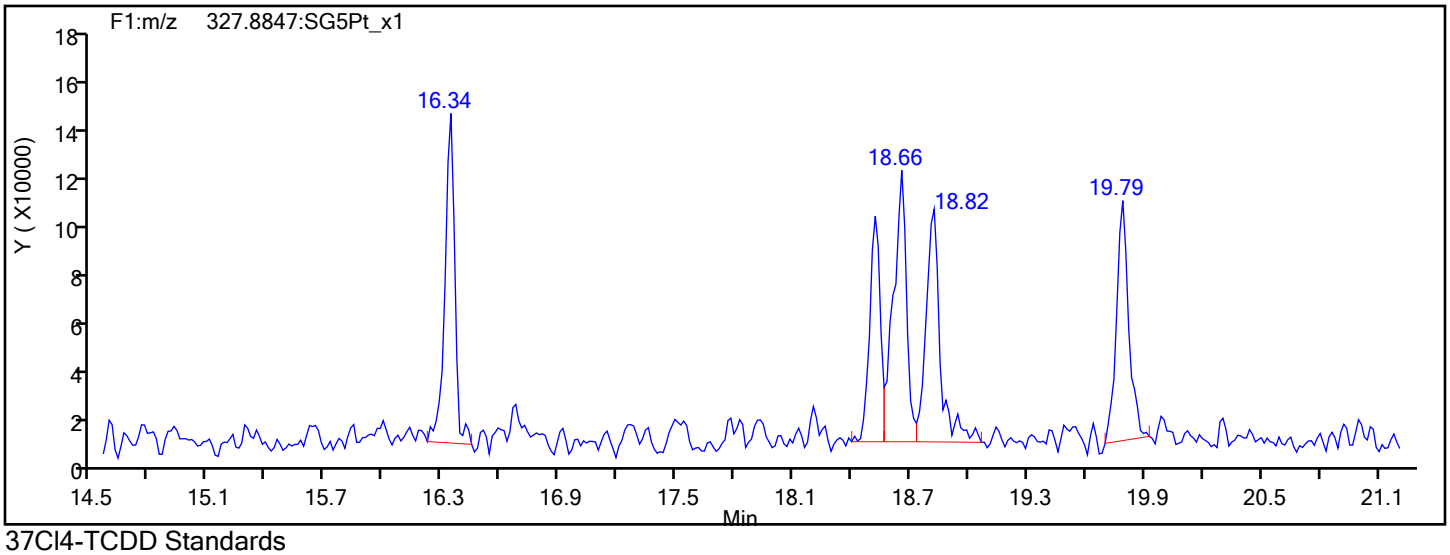

37Cl4-TCDD Standards

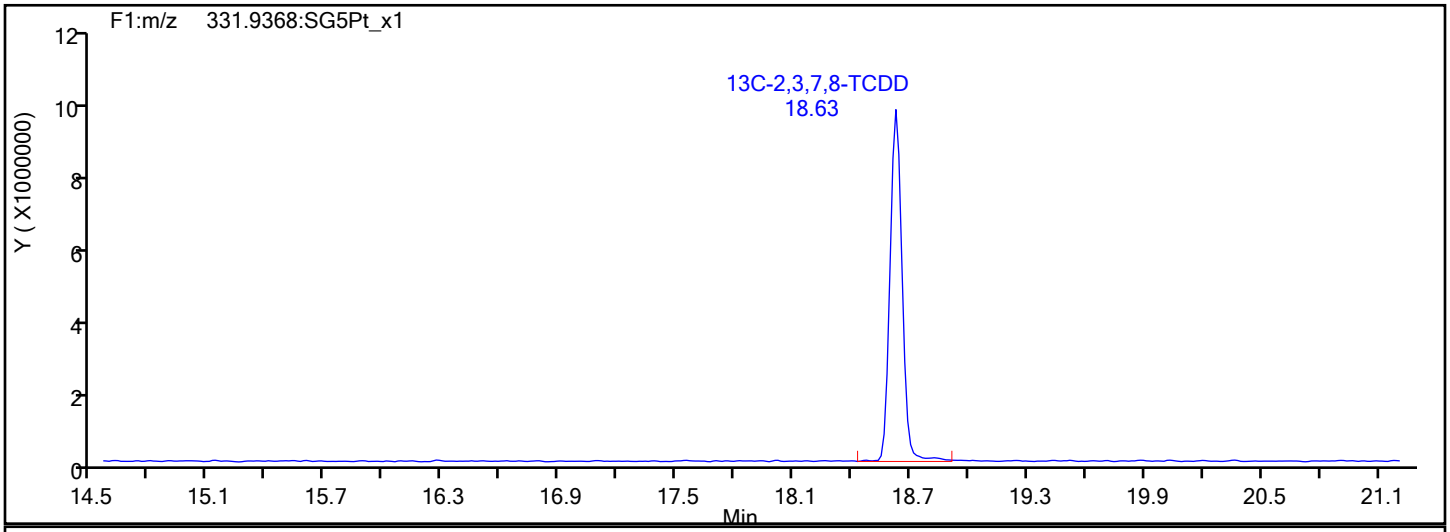

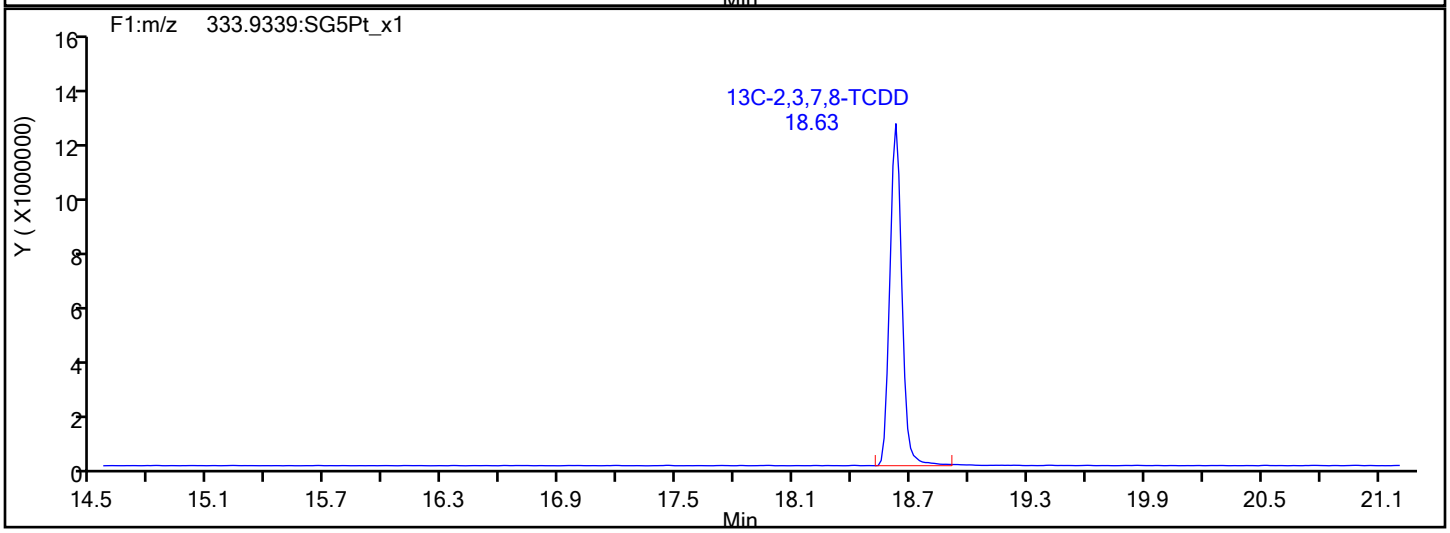

Report Date: 22-May-2019 11:06:43 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_1.d		
Injection Date:	21-May-2019 11:56:21	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	296020	Sample Line#:	1
Column Type:		Column Dia:	

F1 PeCDFs

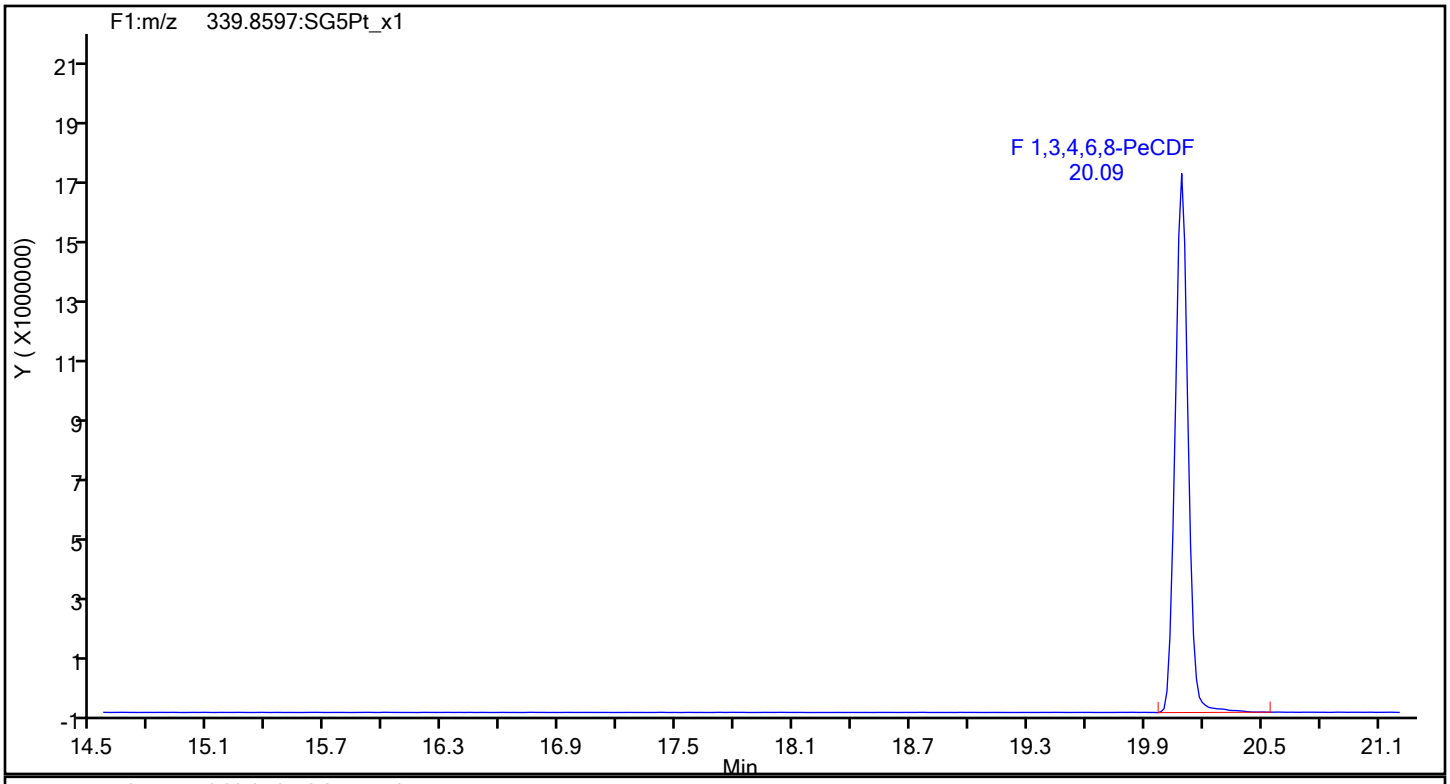

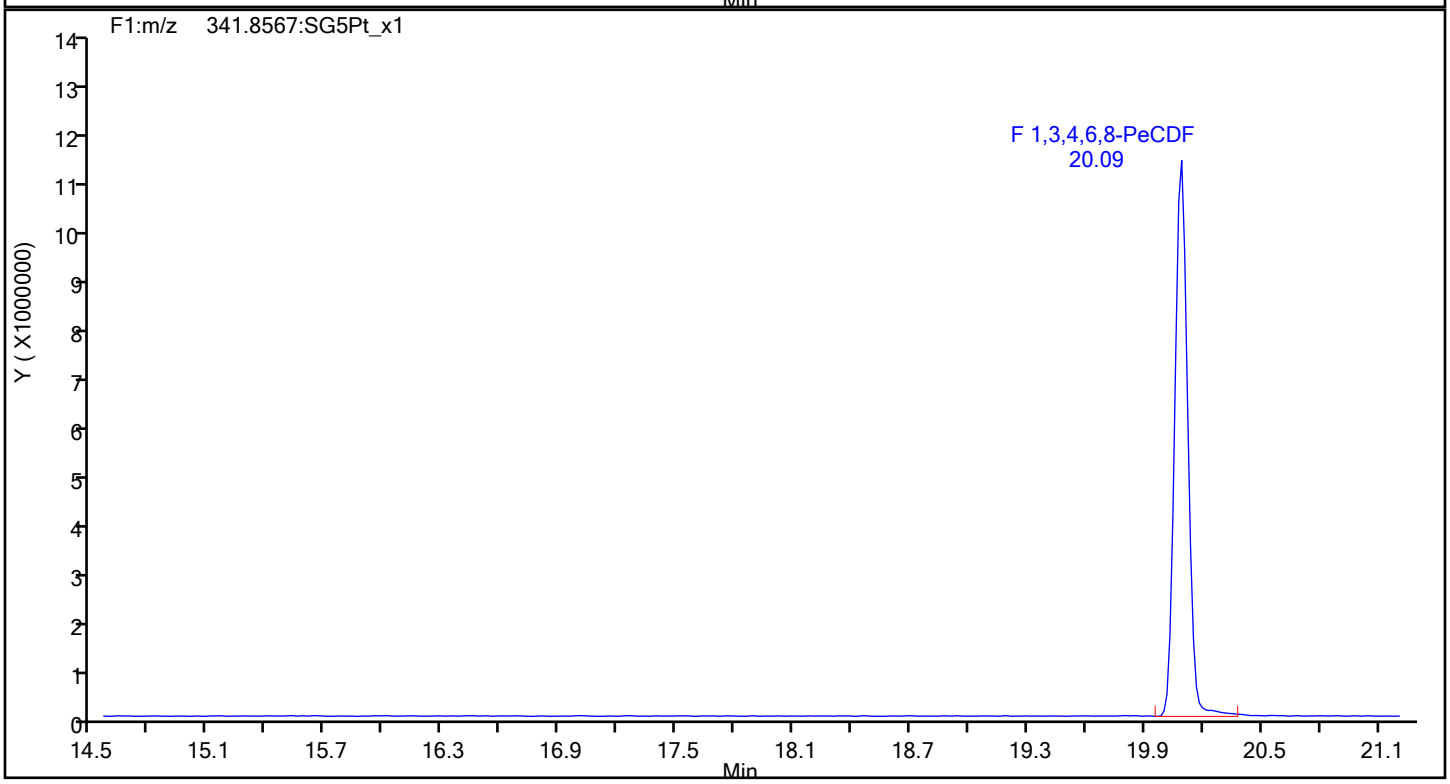

Report Date: 22-May-2019 11:06:43 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_1.d		
Injection Date:	21-May-2019 11:56:21	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	296020	Sample Line#:	1
Column Type:		Column Dia:	

F1 PeCDFs

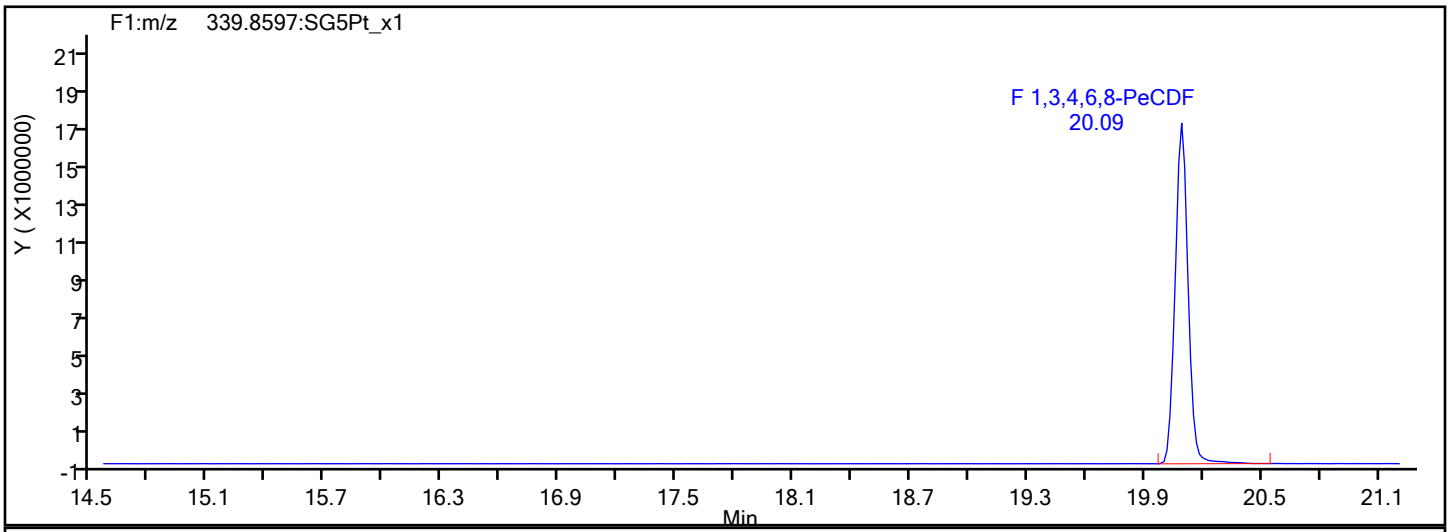

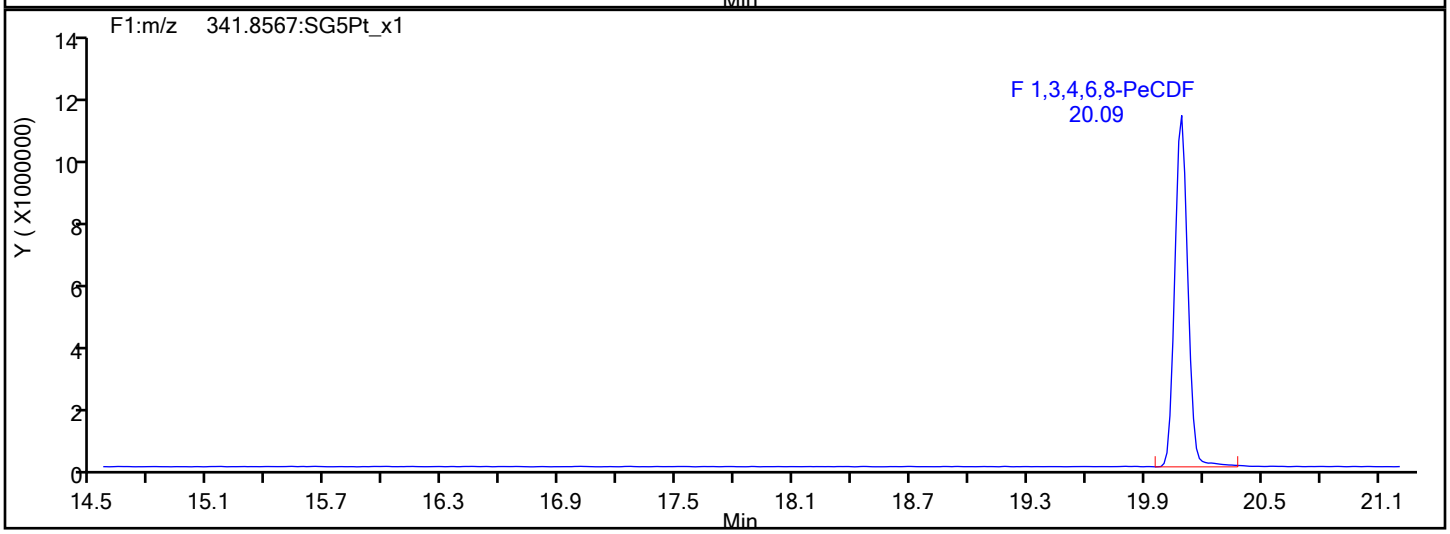

F1 PeCDFs Interference Mass

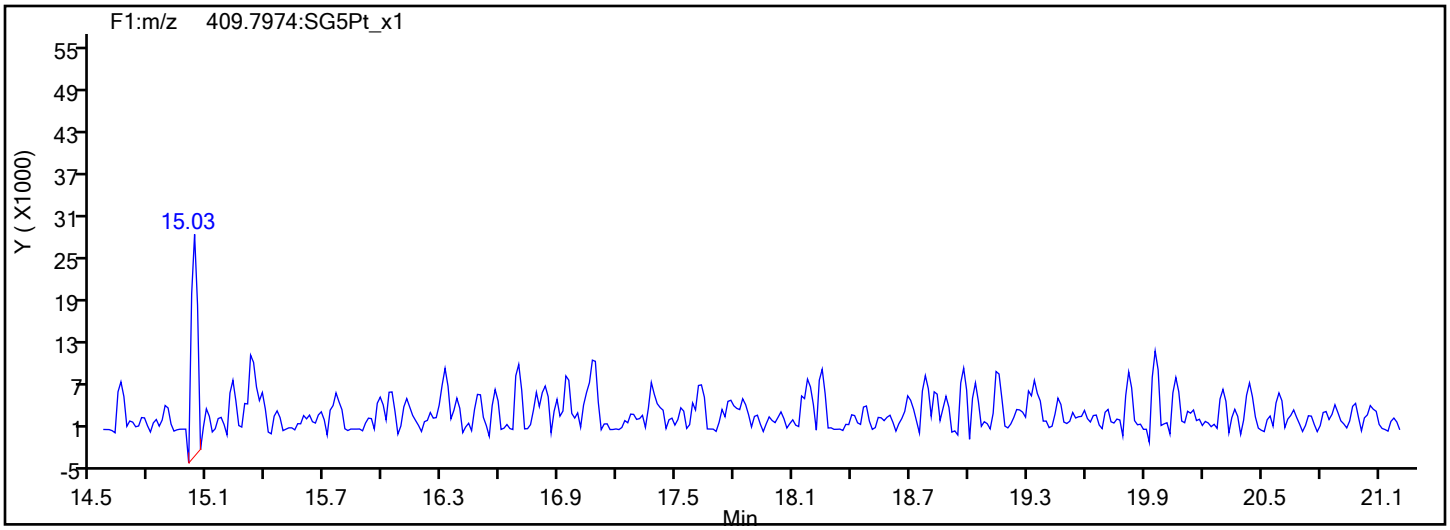

Report Date: 22-May-2019 11:06:43 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_1.d		
Injection Date:	21-May-2019 11:56:21	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	296020	Sample Line#:	1
Column Type:		Column Dia:	

PeCDF

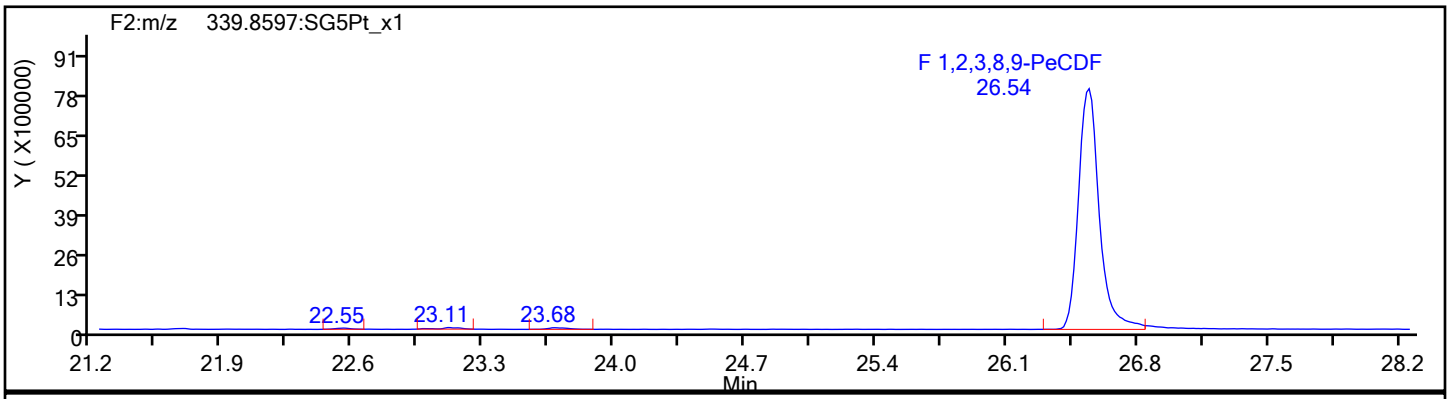

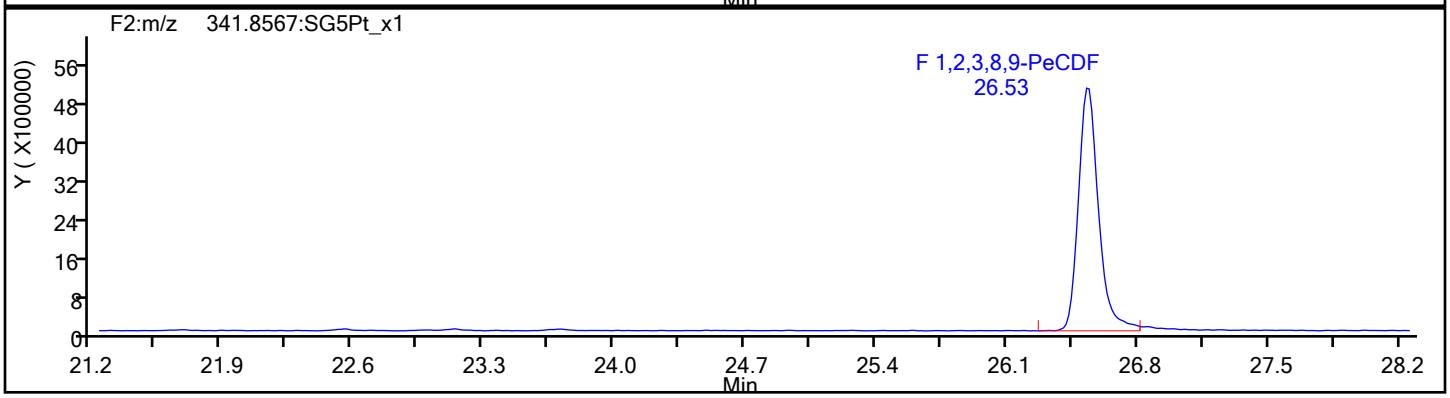

PeCDF Standards

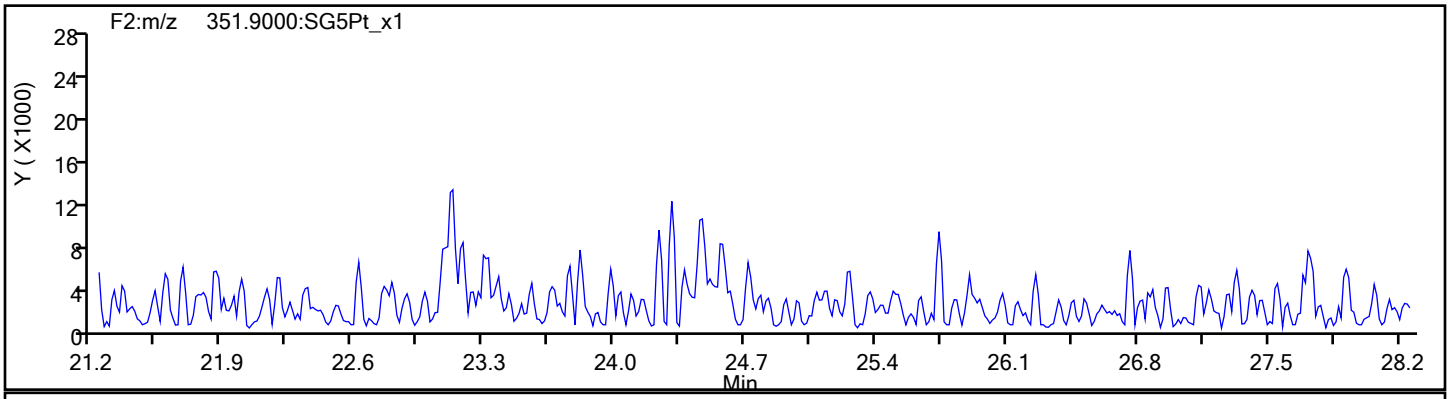

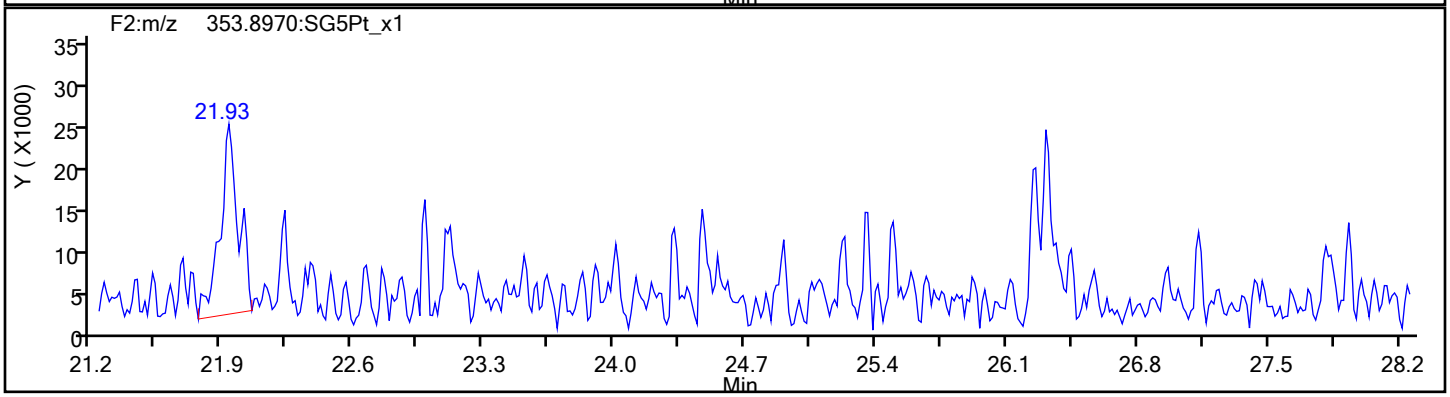

Report Date: 22-May-2019 11:06:43 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_1.d		
Injection Date:	21-May-2019 11:56:21	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	296020	Sample Line#:	1
Column Type:		Column Dia:	

PeCDF

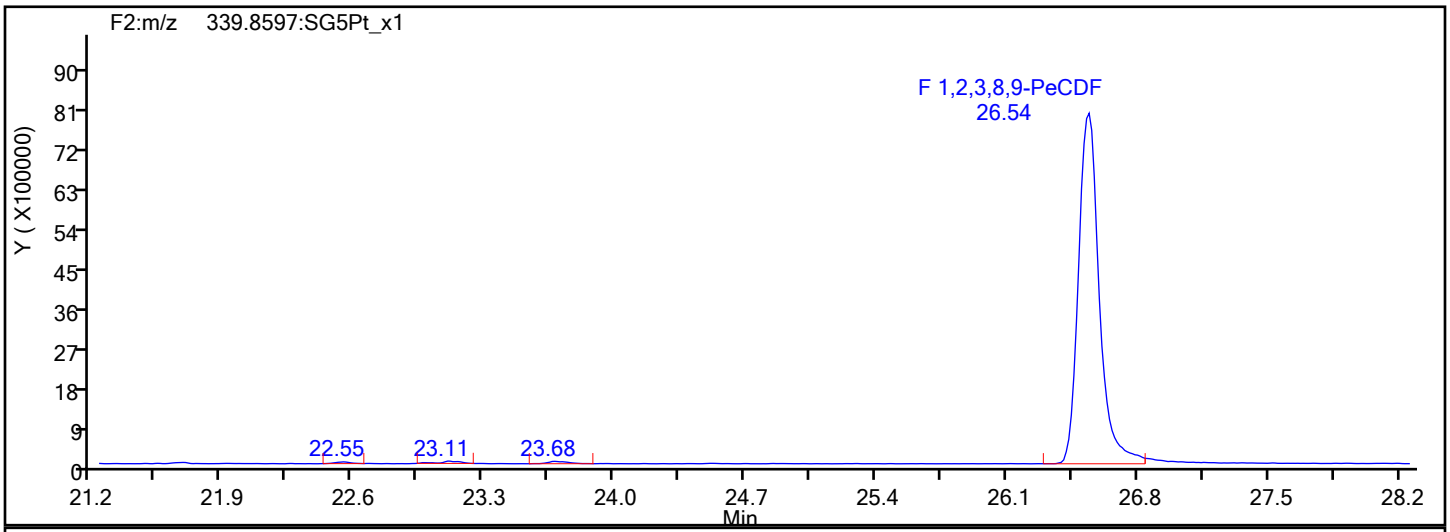

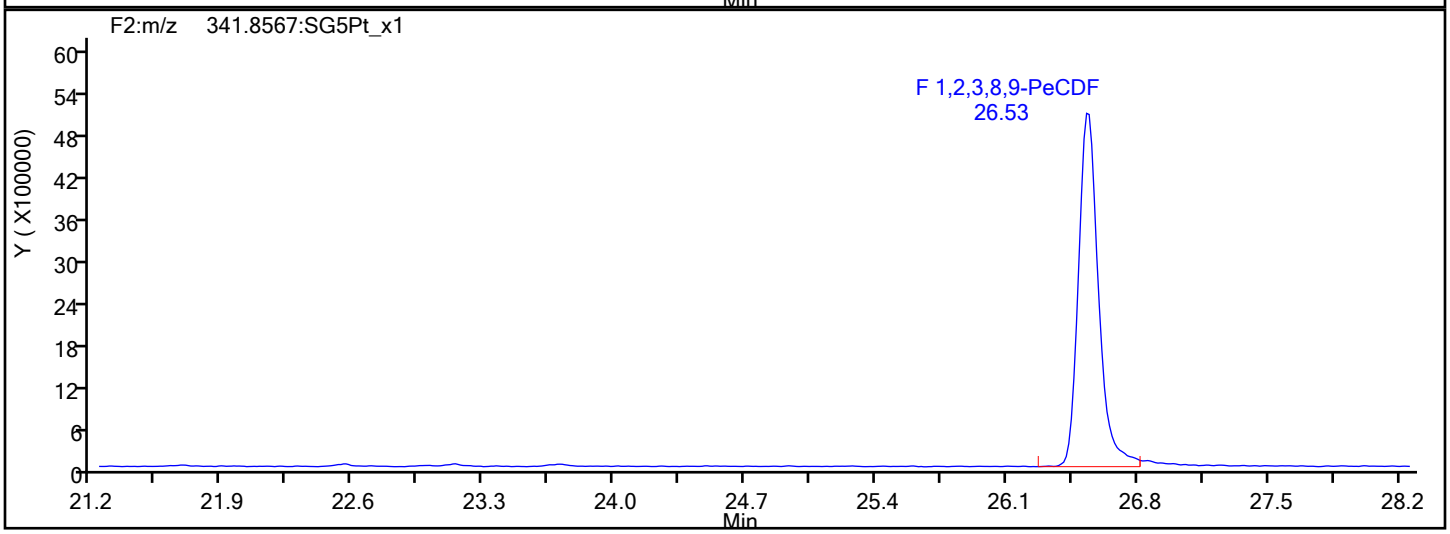

PeCDF Interference Mass

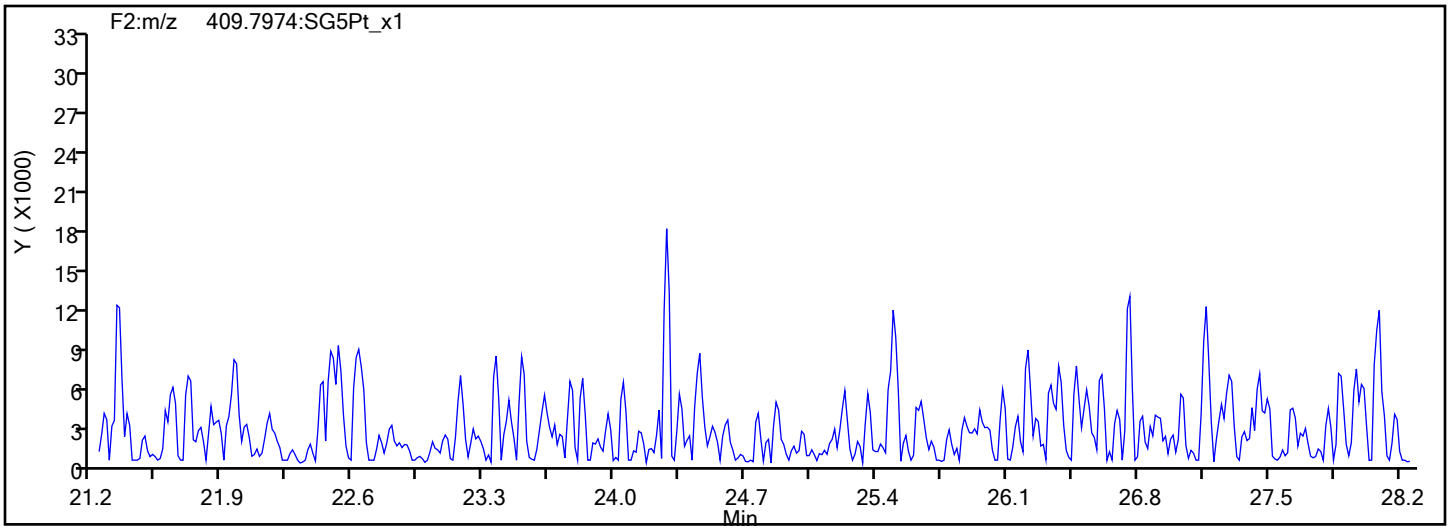

Report Date: 22-May-2019 11:06:43 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_1.d		
Injection Date:	21-May-2019 11:56:21	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	296020	Sample Line#:	1
Column Type:		Column Dia:	

PeCDD

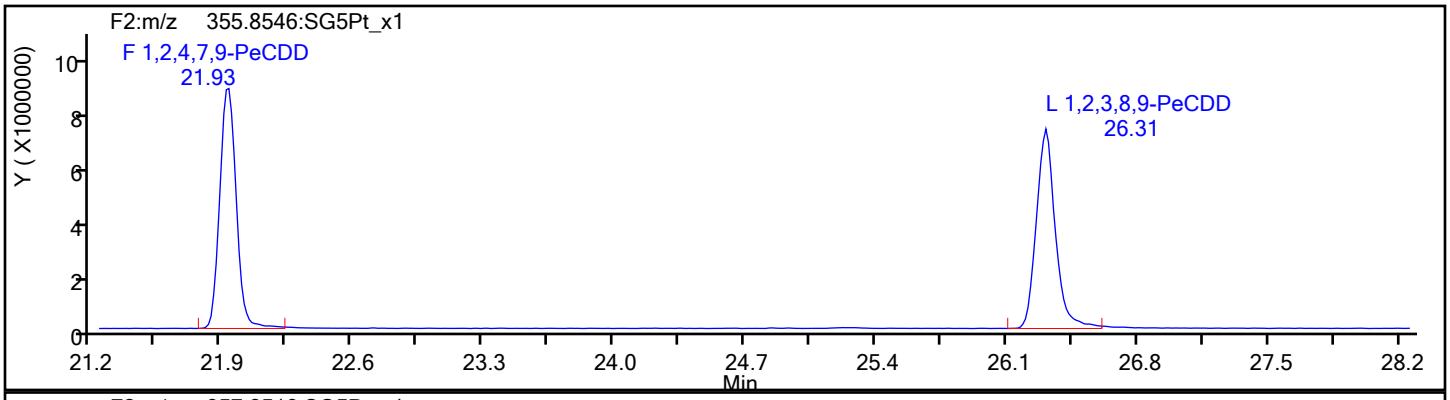

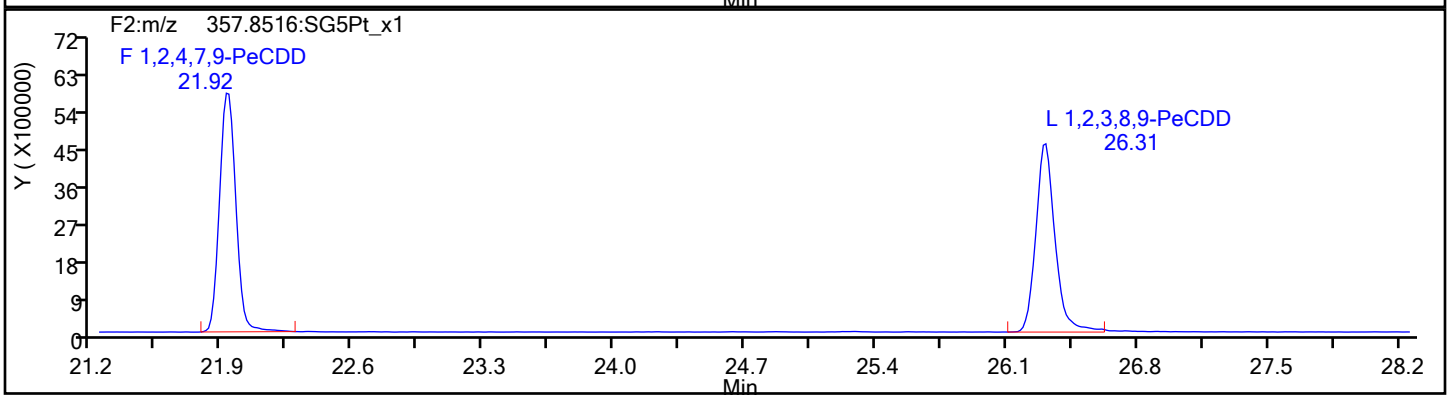

PeCDD Standards

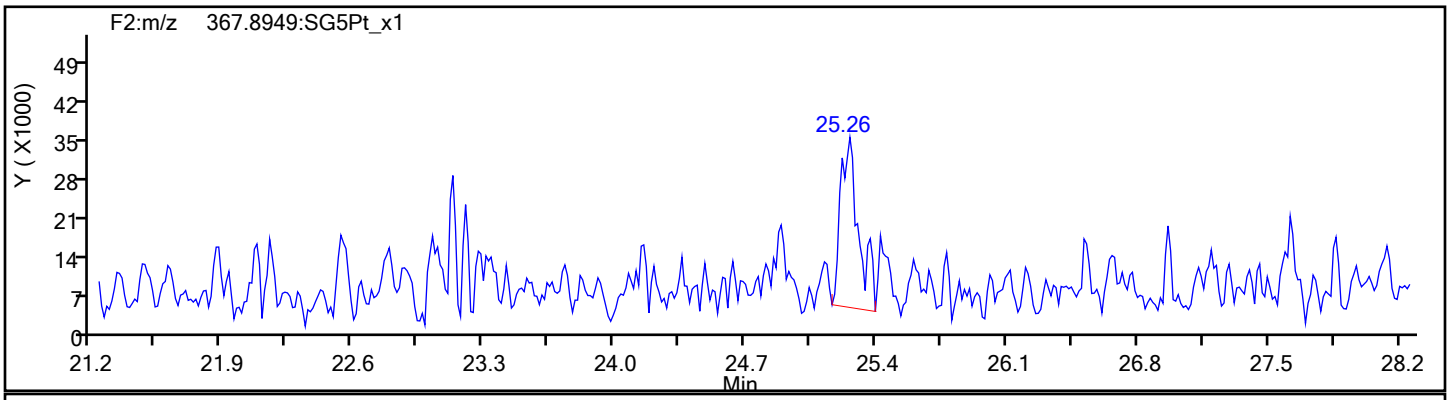

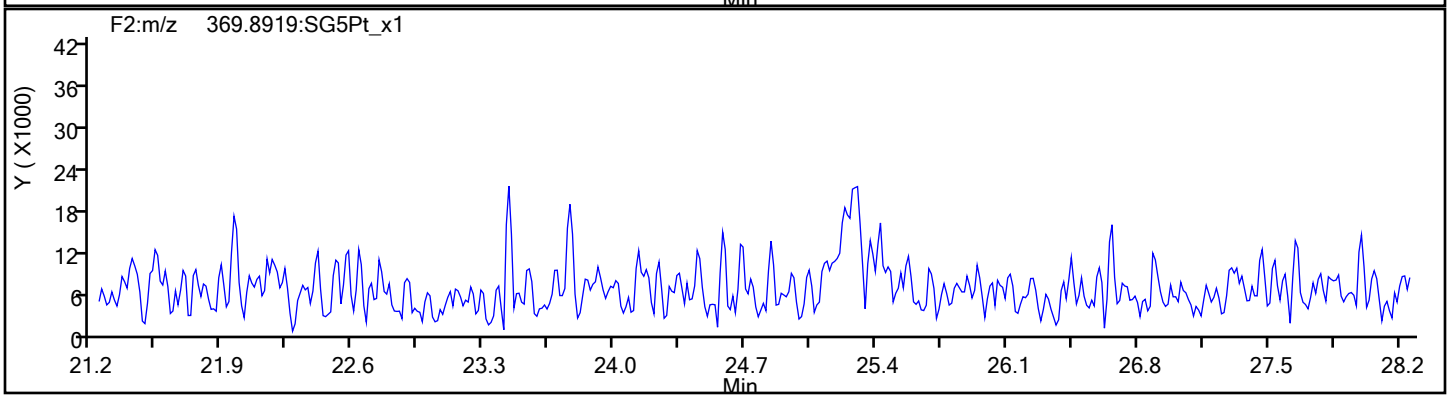

Report Date: 22-May-2019 11:06:43 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_1.d		
Injection Date:	21-May-2019 11:56:21	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	296020	Sample Line#:	1
Column Type:		Column Dia:	

HxCDF

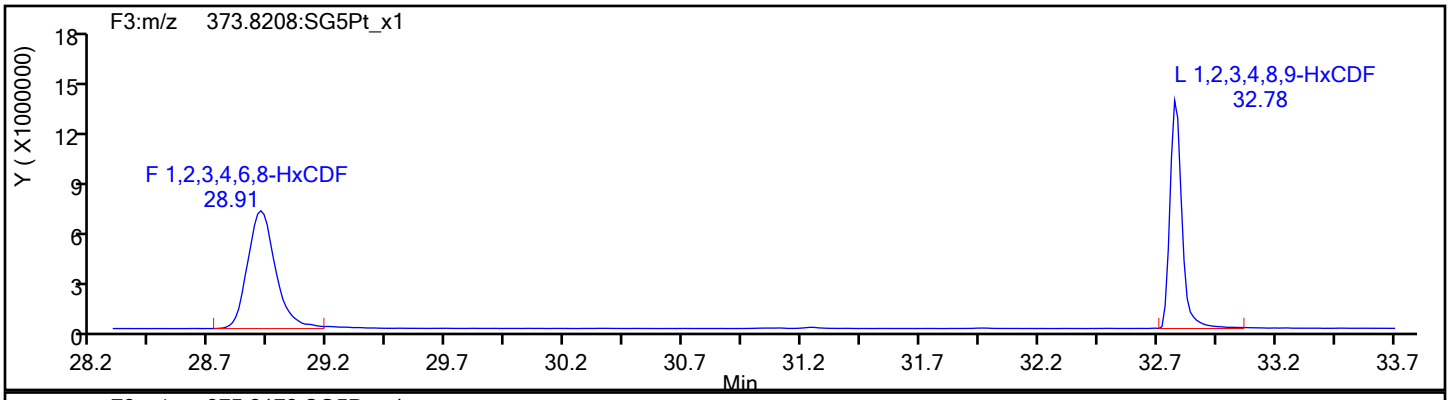

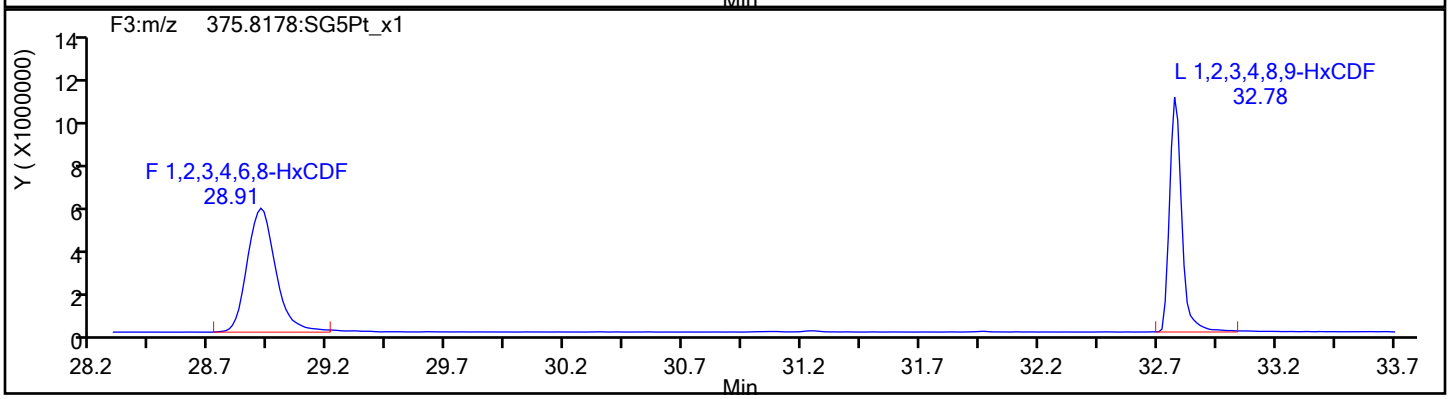

HxCDF Standards

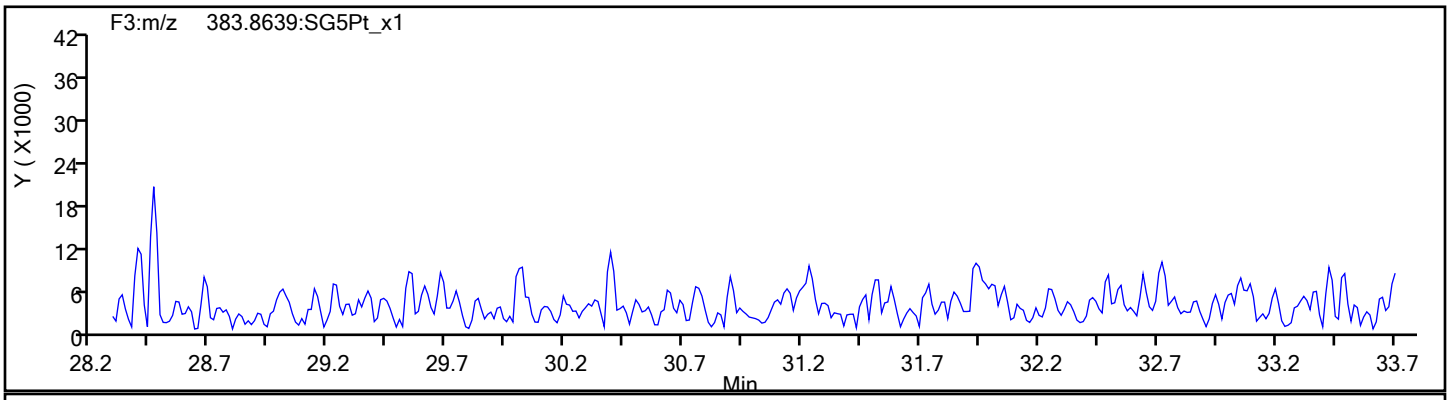

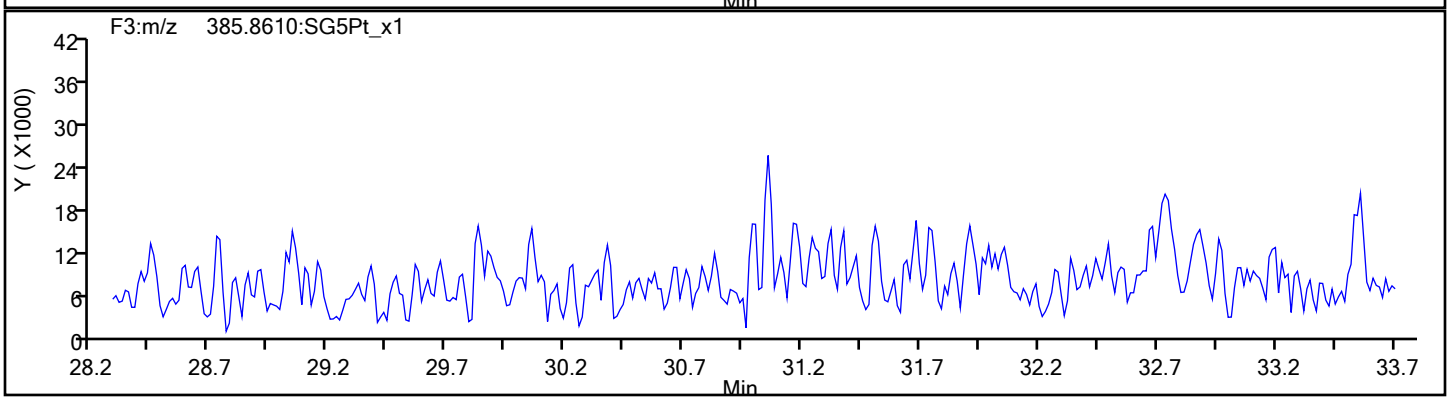

Report Date: 22-May-2019 11:06:43 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_1.d		
Injection Date:	21-May-2019 11:56:21	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	296020	Sample Line#:	1
Column Type:		Column Dia:	

HxCDF

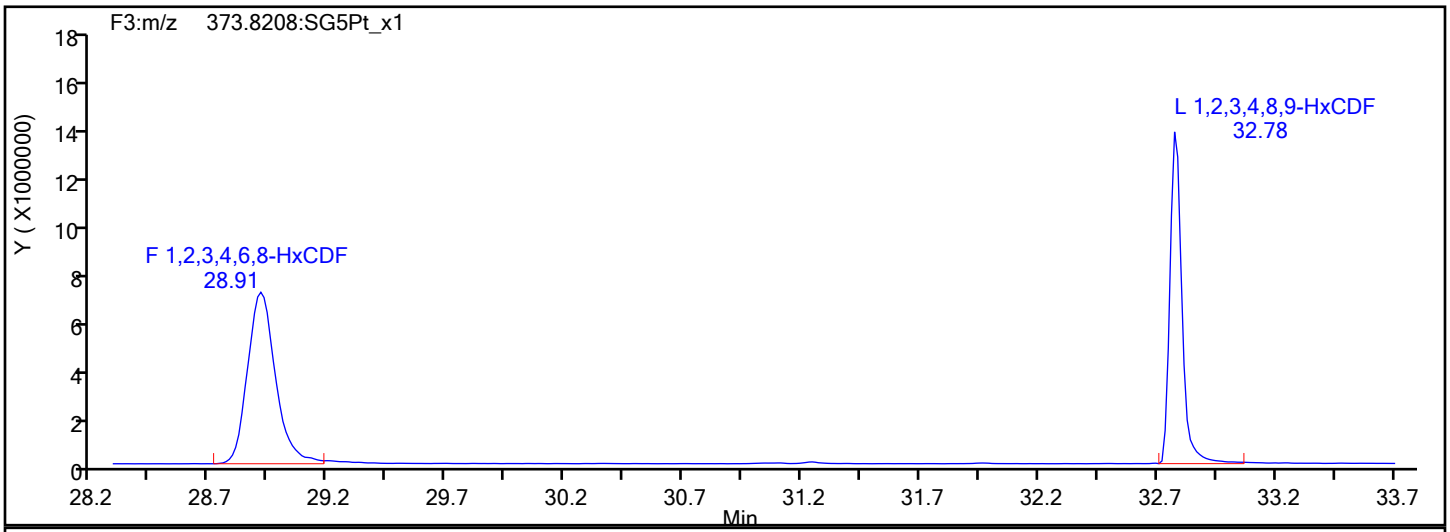

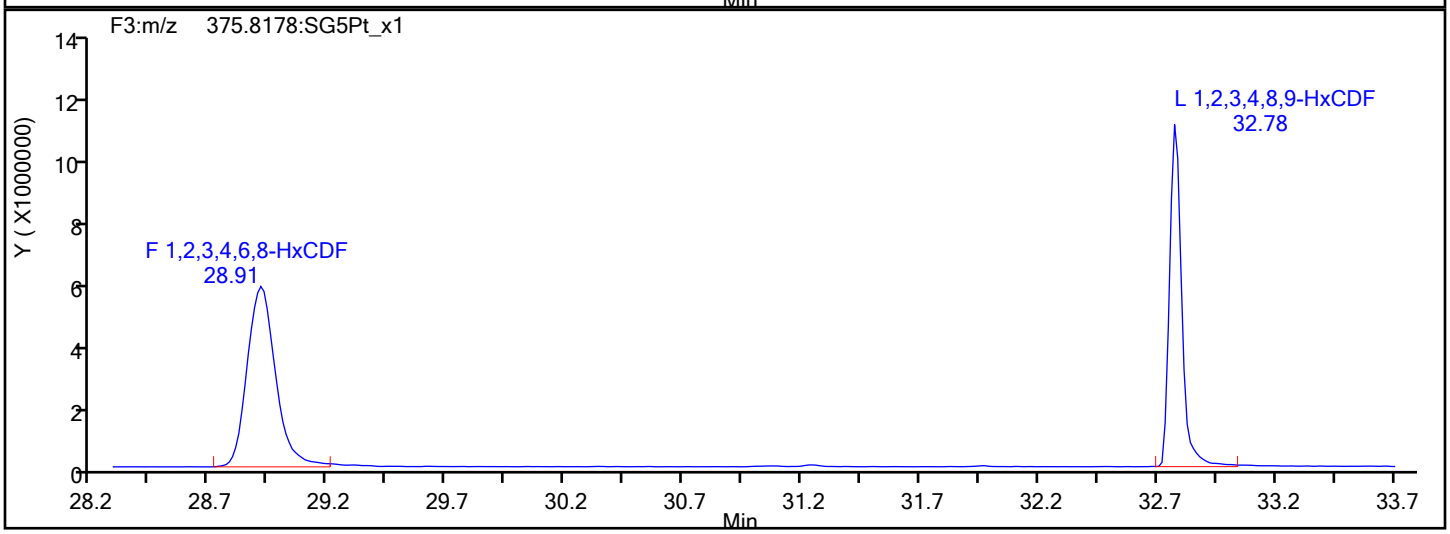

HxCDF Interference Mass

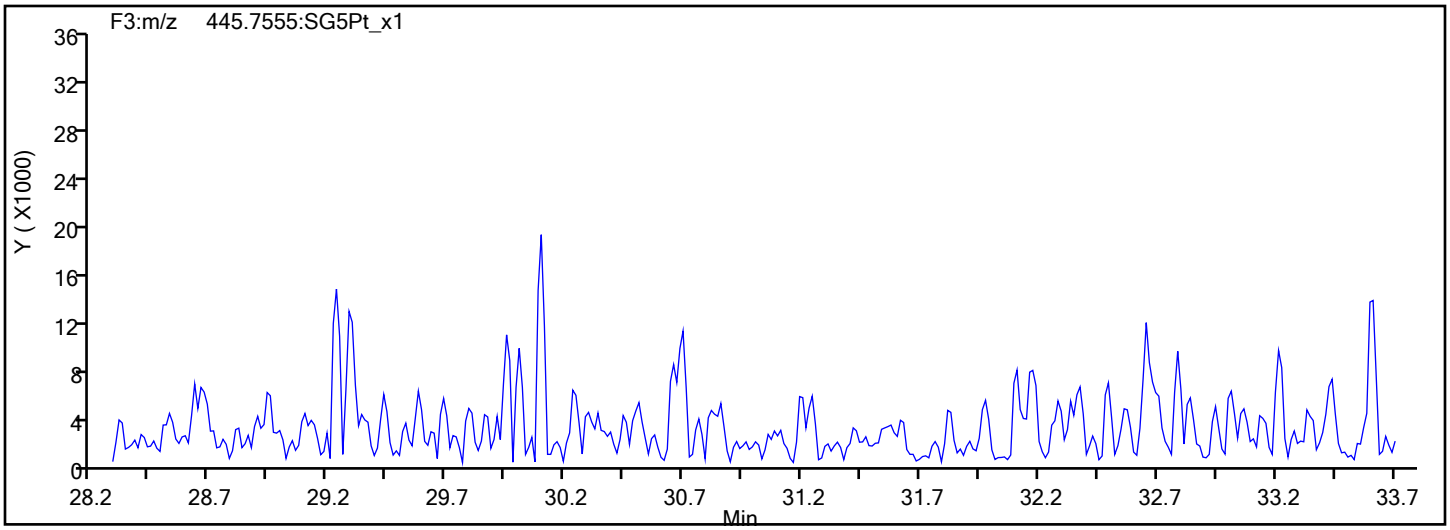

Report Date: 22-May-2019 11:06:44 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_1.d		
Injection Date:	21-May-2019 11:56:21	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	296020	Sample Line#:	1
Column Type:		Column Dia:	

HpCDF

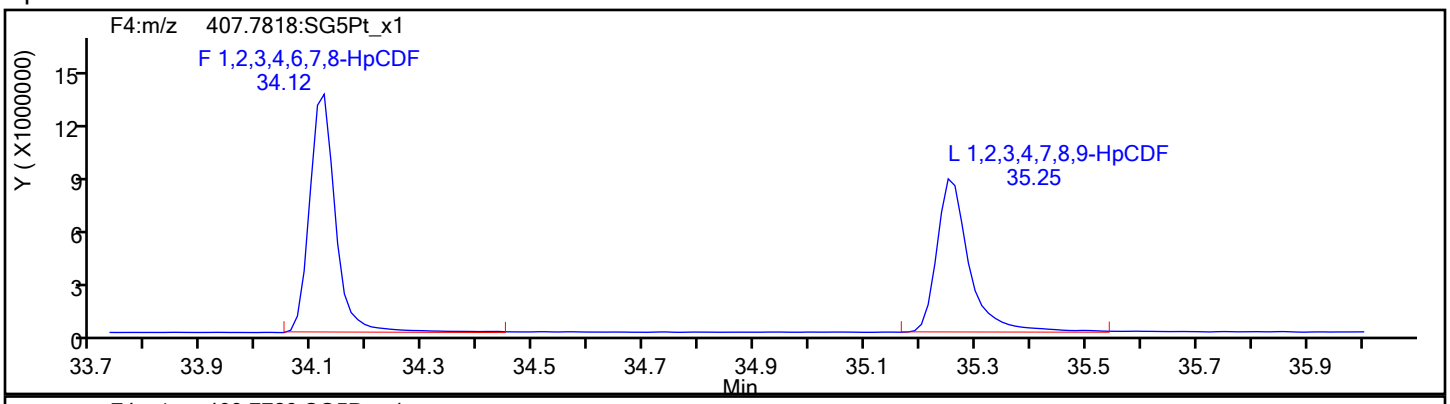

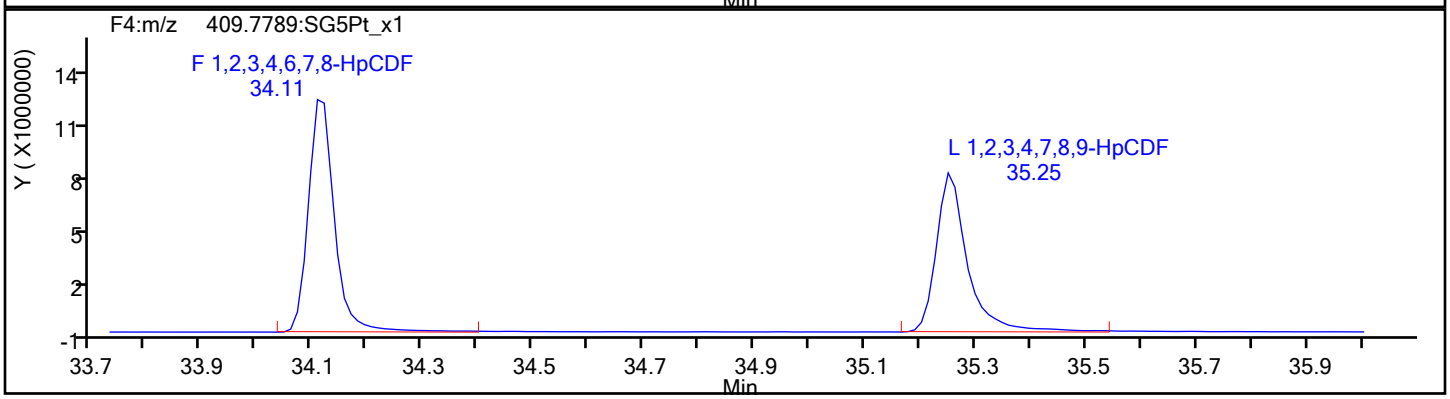

HpCDF Standards

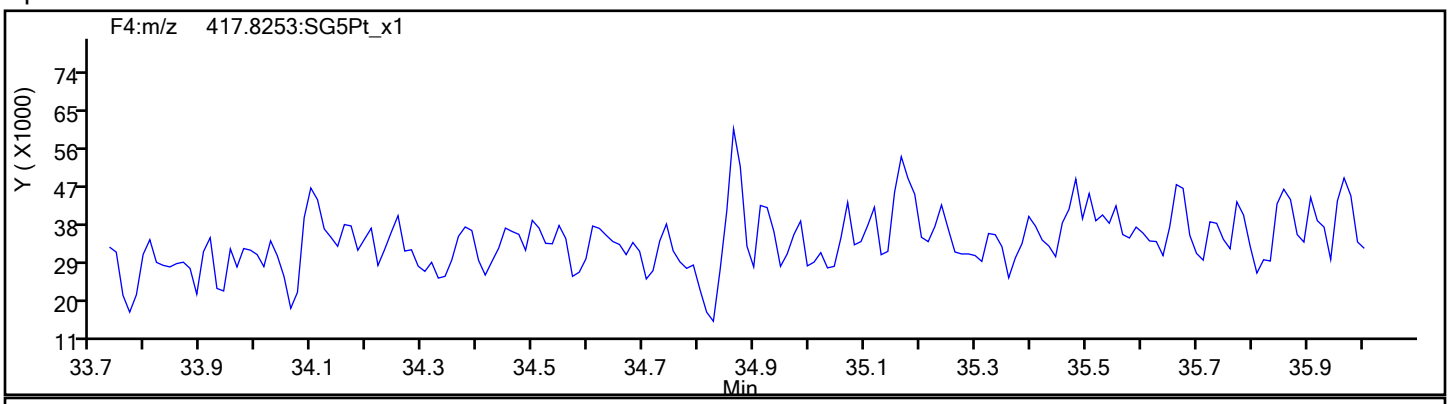

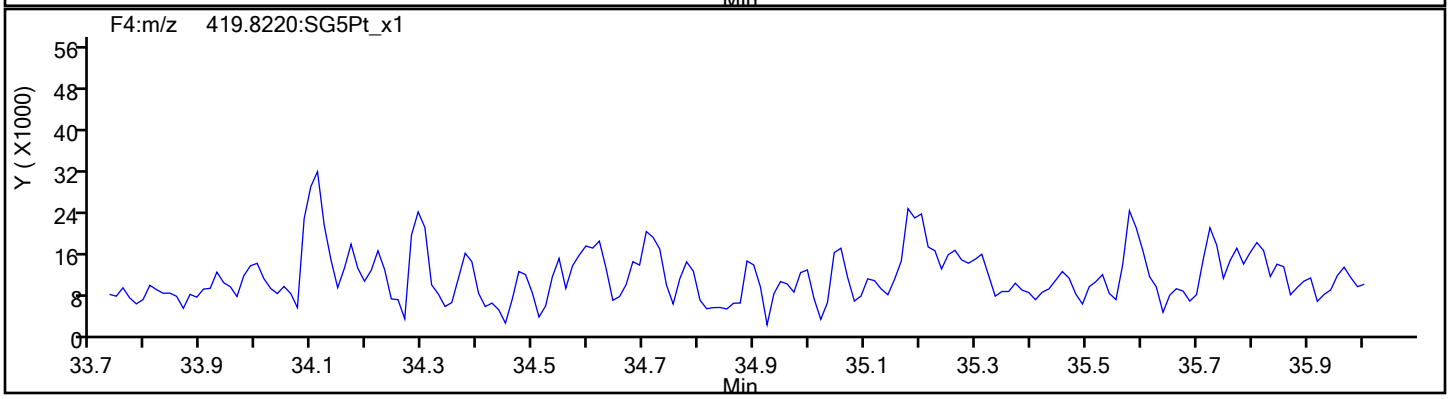

Report Date: 22-May-2019 11:06:44 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_1.d		
Injection Date:	21-May-2019 11:56:21	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:		Column Dia:	

HpCDF

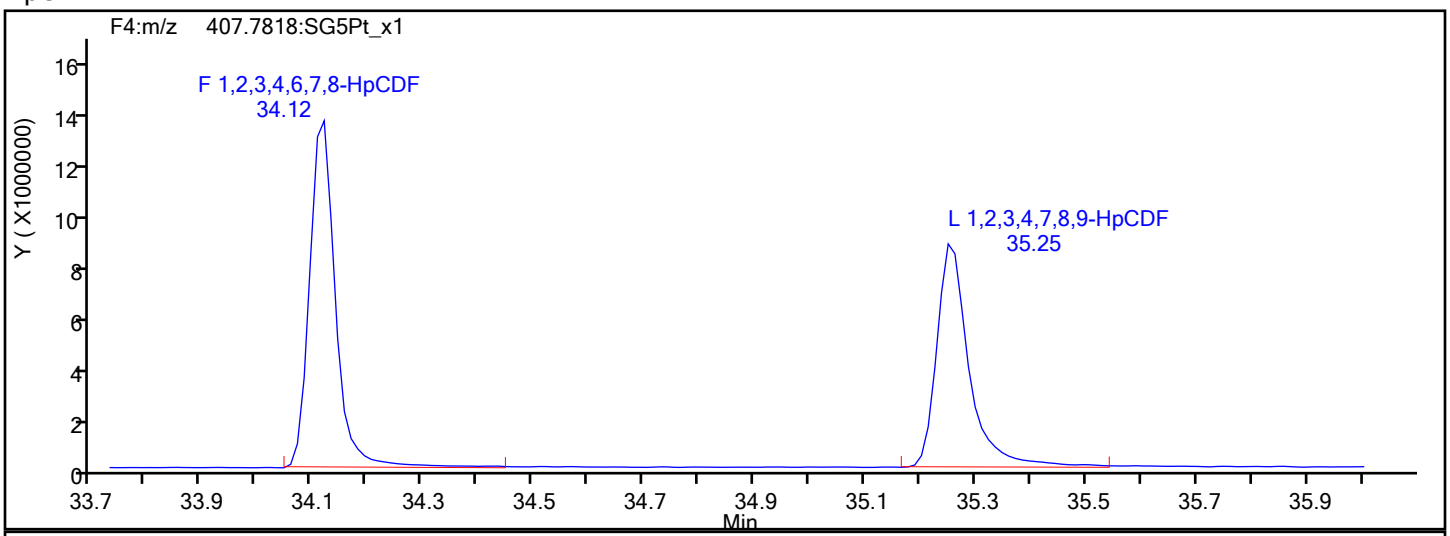

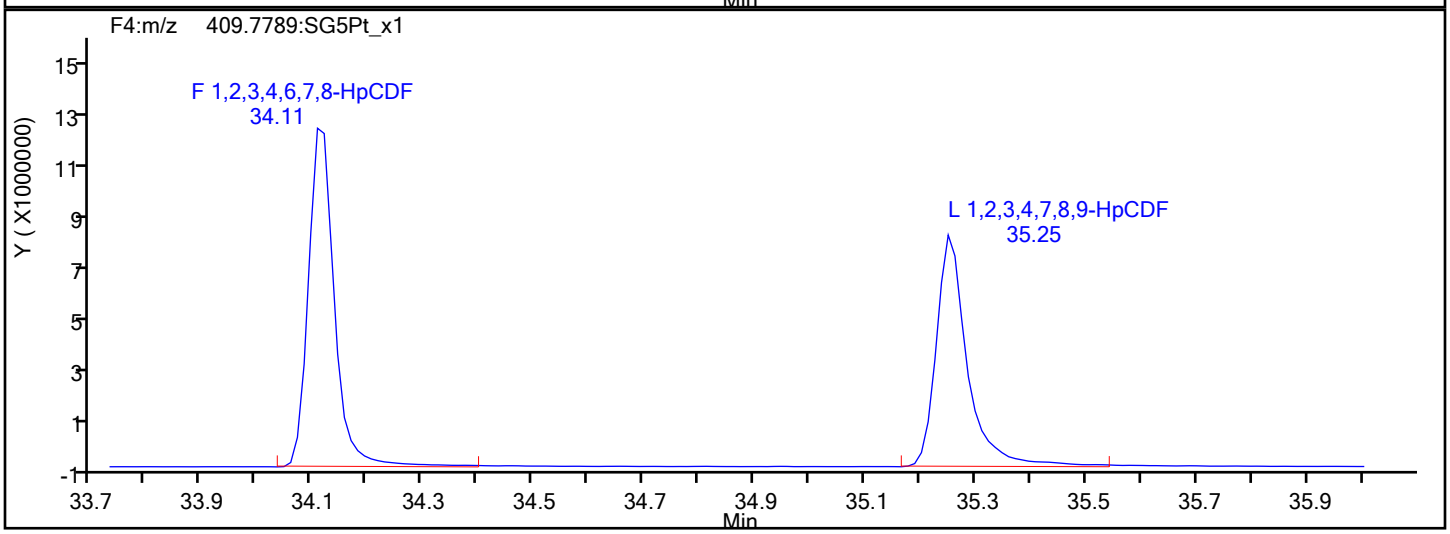

HpCDF Interference Mass

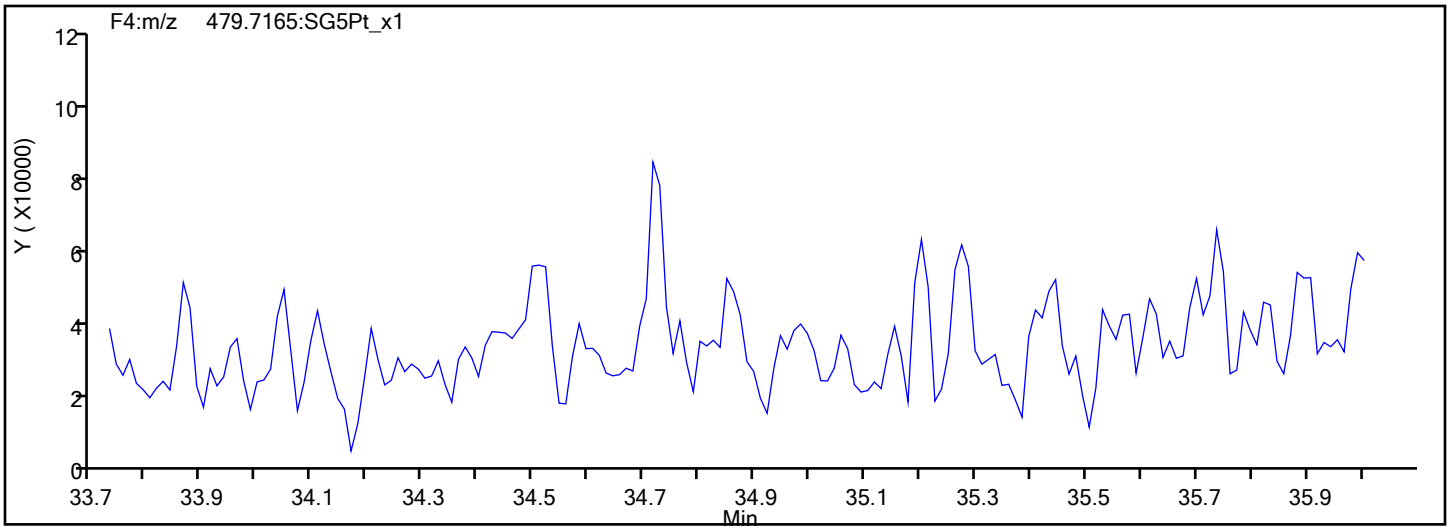

Report Date: 22-May-2019 11:06:44 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_1.d		
Injection Date:	21-May-2019 11:56:21	Injection Vol:	2.0 ul
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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:		Column Dia:	

HpCDD

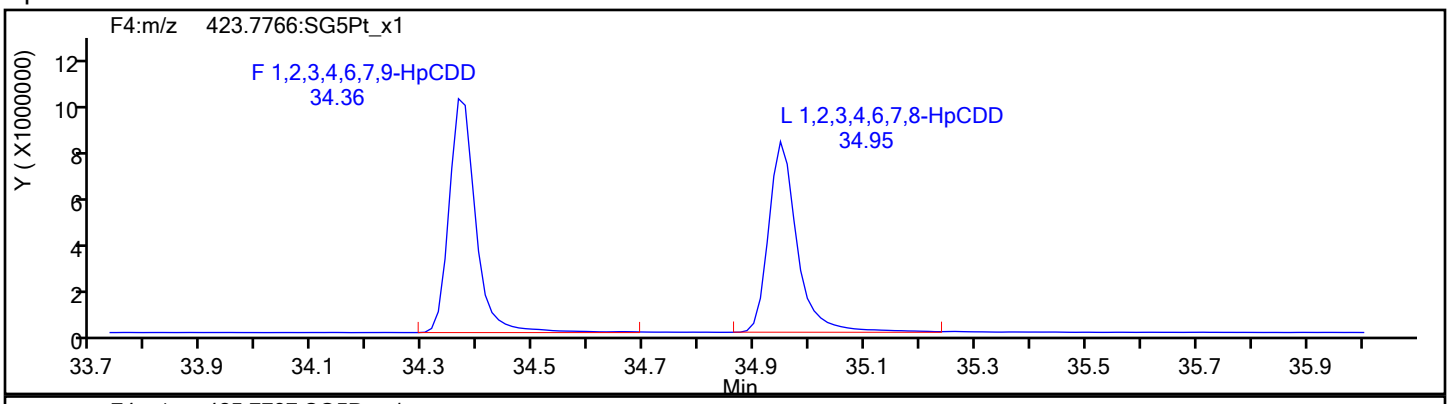

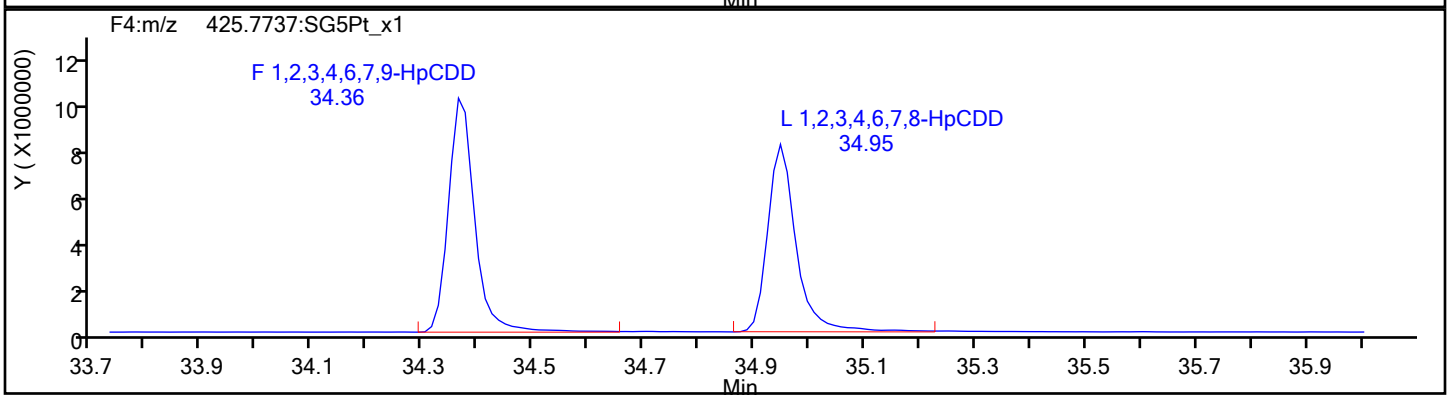

HpCDD Standards

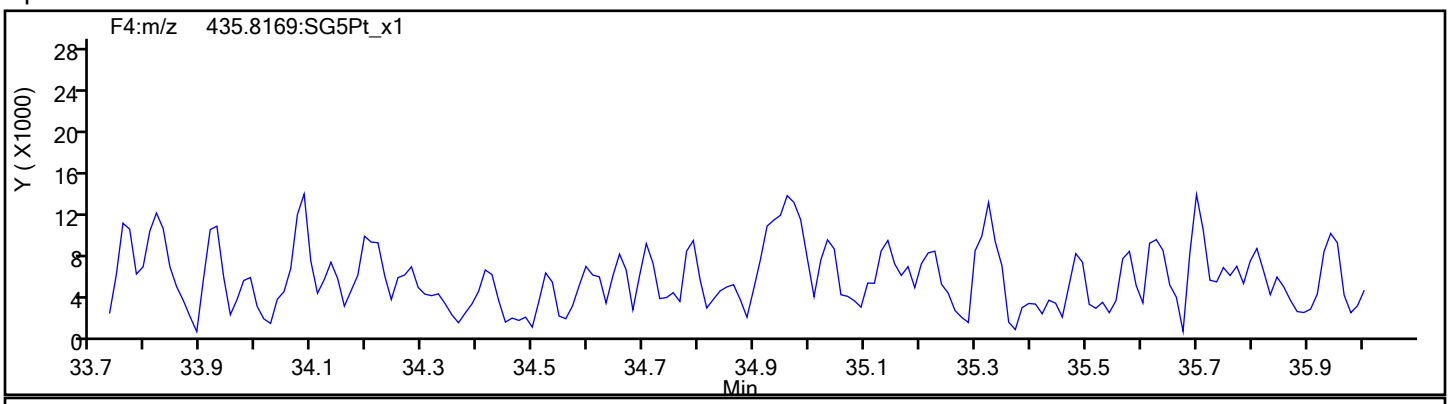

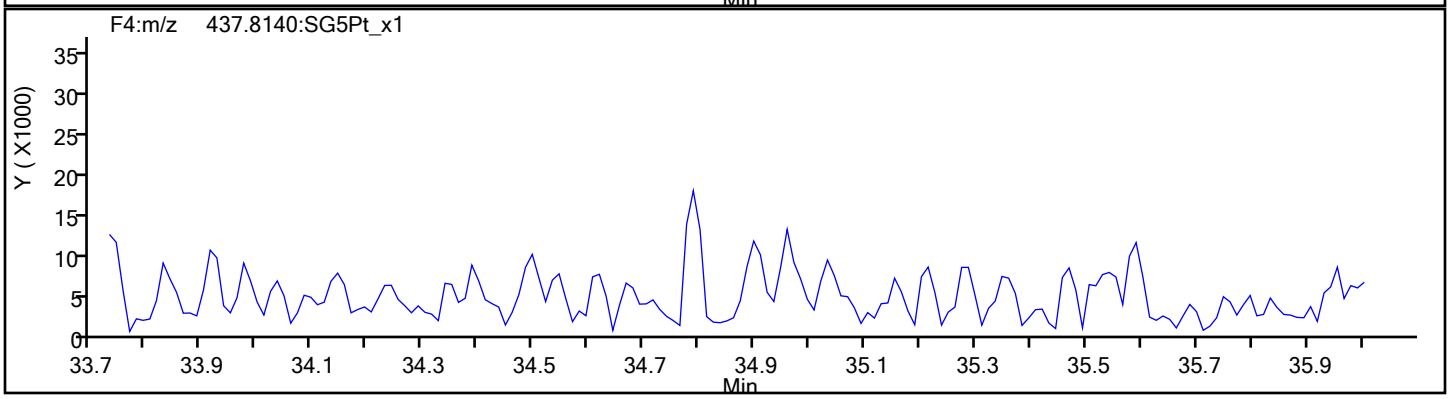

Report Date: 22-May-2019 11:06:44 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_1.d		
Injection Date:	21-May-2019 11:56:21	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	AJS
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Client ID:			
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Column Type:		Column Dia:	

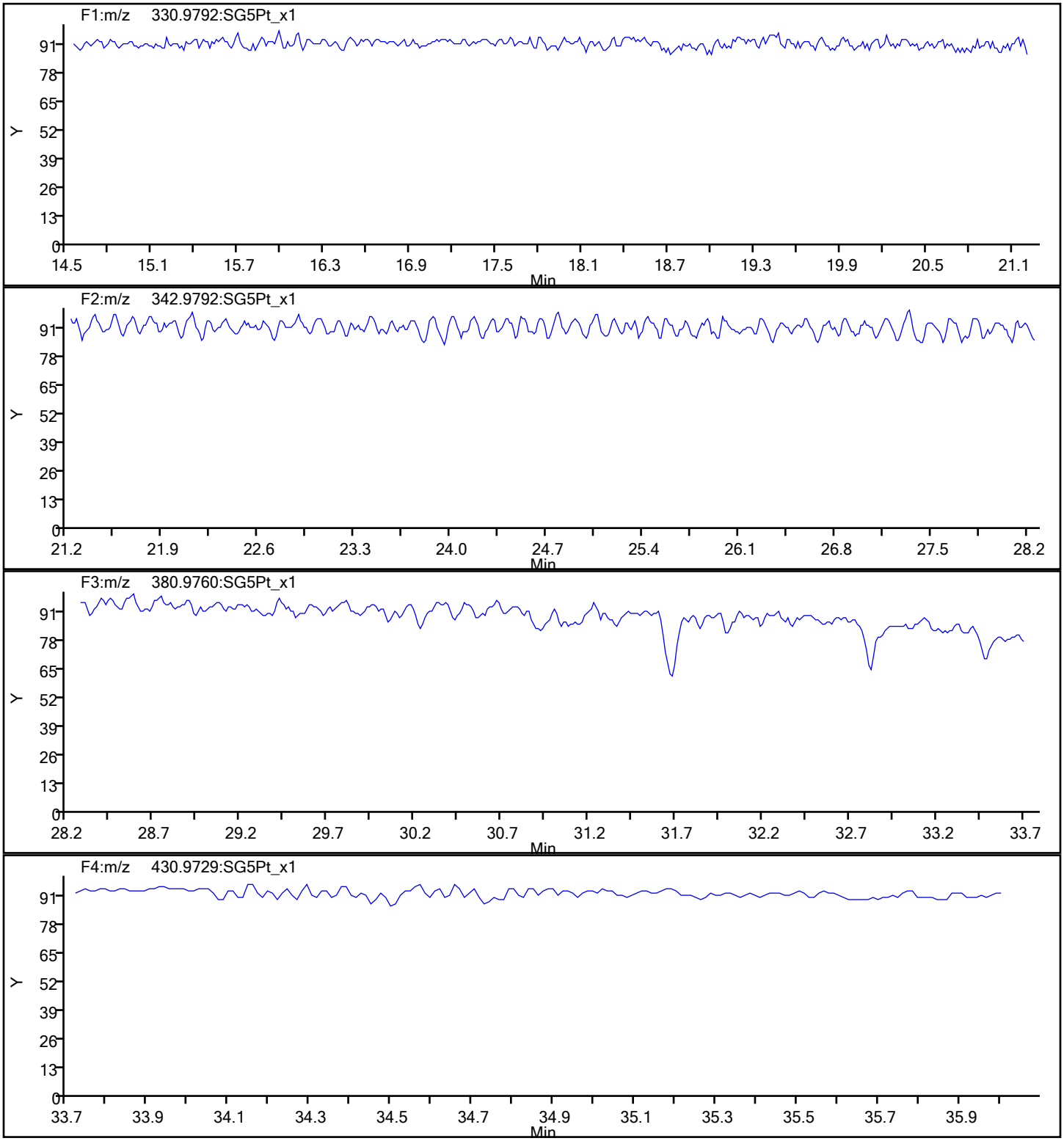

Report Date: 22-May-2019 11:06:44 Chrom Revision: 2.3 12-May-2019 16:28:34

Eurofins TestAmerica, Sacramento

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Injection Date:	21-May-2019 11:56:21	Injection Vol:	2.0 ul
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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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Column Type:		Column Dia:	

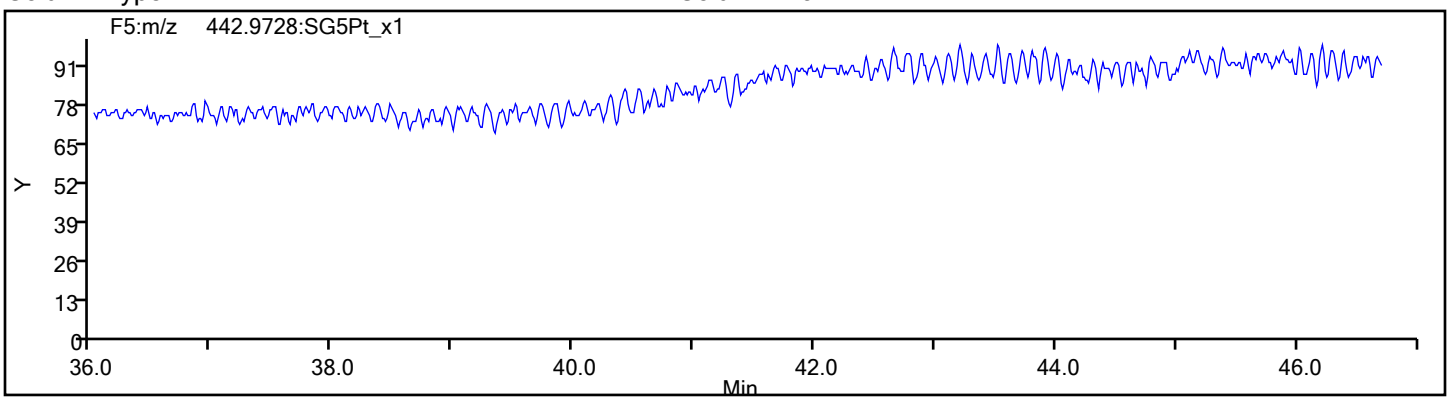

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_2.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 30-Oct-2019 22:23:48 ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 103019B WDM HRDXNCP_00040
Misc. Info.: 30OC19B3D5
Operator ID: ALM Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 31-Oct-2019 10:58:57 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0329

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	17.127	145998087	0.77	1.3908					0.00	
2,3,7,8-TCDF	17.142	252658863	0.76	0.9710	71.3	71.3	0.4325	0.4325		
A Non-2,3,7,8-sub-TCDF	16.462	224491537	0.73	0.9710	63.3	63.3	0.4325	31.8		
S Total TCDF					134.6	134.6	0.4325	0.4325		
D 13C-2,3,7,8-TCDD	17.807	98608619	0.77	0.9819					0.00	
2,3,7,8-TCDD	17.838	107567838	0.74	1.0447	41.8	41.8	0.2480	0.2480		
A Non-2,3,7,8-sub-TCDD	16.908	312932842	0.79	1.0447	121.5	121.5	0.2480	43.1		
S Total TCDD					163.3	163.3	0.2480	0.2480		
A F1 PeCDFs	19.335	135832960	1.57	0.0000						
A Non-2,3,7,8-sub-PeCDF	22.226	116410634	1.53	0.0000						
S Total PeCDF										
A Non-2,3,7,8-sub-PeCDD	22.018	186386301	1.59	0.0000						
S Total PeCDD										
A Non-2,3,7,8-sub-HxCDF	28.997	231603439	1.20	0.0000						
S Total HxCDF										
A Non-2,3,7,8-sub-HxCDD	30.544	182785877	1.27	0.0000						
S Total HxCDD										
1,2,3,4,6,7,8-HpCDF	33.630	89691791	1.04	1.4373						
1,2,3,4,7,8,9-HpCDF	34.711	71364566	0.97	1.3091						
A Non-2,3,7,8-sub-HpCDF	34.170						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	34.431	68032033	1.03	1.0102						
A Non-2,3,7,8-sub-HpCDD	34.990						0.0	0.0		
S Total HpCDD										
1,3,6,8-TCDF	14.753	145885909	0.71							
1,3,6,8-TCDD	15.645	111160592	0.75							
2,3,4,7-TCDF	16.508						0.0	0.0		
1,2,3,7-TCDD	17.052						0.0	0.0		
1,2,3,9-TCDF	17.294						0.0	0.0		
1,2,3,9-TCDD	17.309						0.0	0.0		
1,2,8,9-TCDF	18.171						0.0	0.0		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,8,9-TCDD	18.171						0.0	0.0		
1,3,4,6,8-PeCDF	18.444						0.0	0.0		
1,2,4,7,9-PeCDD	20.088						0.0	0.0		
1,2,3,8,9-PeCDD	23.947						0.0	0.0		
1,2,3,8,9-PeCDF	24.152						0.0	0.0		
1,2,3,4,6,8-HxCDF	26.261						0.0	0.0		
1,2,4,6,7,9-HxCDD	27.699						0.0	0.0		
1,2,3,4,6,7-HxCDD	31.361						0.0	0.0		
1,2,3,4,8,9-HxCDF	31.733						0.0	0.0		
1,2,3,4,6,7,9-HpCDD	33.873	76817330	1.06							

Reagents:

HRDXNCP_00040 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_2.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 30-Oct-2019 22:23:48 ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 103019B WDM HRDXNCP_00040
Misc. Info.: 30OC19B3D5
Operator ID: ALM Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 31-Oct-2019 10:58:57 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0329

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	17.127	17.127	0	1.000	63324273	16363709	41416	103540	395		
317.9389	17.112	17.127	-1	1.000	82673814	21573830	16354	40885	1319	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.142	17.142	0	1.001	109104130	25516109	58107	145267	439		
305.8987	17.142	17.142	0	1.001	143554733	34177039	101226	253065	338	0.76(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	17.989	16.462	91	1.050	46385407	11395758	58107	145267	196		
305.8987	17.989	16.462	91	1.050	65344339	16333509	101226	253065	161	0.71(0.65-0.89)	
303.9016	18.926	16.462	148	1.105	48518112	11682458	58107	145267	201		
305.8987	18.926	16.462	148	1.105	64243679	14764561	101226	253065	146	0.76(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.807	17.807	0	1.000	42996250	10467704	19388	48470	540		
333.9339	17.807	17.807	0	1.000	55612369	13441940	7517	18792	1788	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.838	17.838	0	1.002	45766168	11044496	42517	106292	260		
321.8936	17.838	17.838	0	1.002	61801670	15306801	19421	48552	788	0.74(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.717	16.908	48	0.995	41685565	11039427	42517	106292	260		
321.8936	17.717	16.908	48	0.995	56142333	14296058	19421	48552	736	0.74(0.65-0.89)	
319.8965	17.989	16.908	65	1.010	50537803	12075177	42517	106292	284		
321.8936	17.989	16.908	65	1.010	60526497	14726982	19421	48552	758	0.83(0.65-0.89)	
319.8965	18.926	16.908	121	1.063	45779390	10522499	42517	106292	247		
321.8936	18.926	16.908	121	1.063	58261254	12862651	19421	48552	662	0.79(0.65-0.89)	
A F1 PeCDFs											
339.8597	19.198	19.335	-8	1.000	82998679	18199166	5547	13867	3281		
341.8567	19.198	19.335	-8	1.000	52834281	11785974	9049	22622	1302	1.57(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-PeCDF											
339.8597	25.302	22.226	184	1.000	70441635	10354466	9414	23535	1100		
341.8567	25.302	22.226	184	1.000	45968999	6723558	10865	27162	619	1.53(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	20.939	22.018	-65	1.000	57817391	10301058	15345	38362	671		
357.8516	20.939	22.018	-65	1.000	36304732	6477503	8856	22140	731	1.59(1.32-1.78)	
355.8546	25.084	22.018	184	1.000	56653361	8464237	15345	38362	552		
357.8516	25.084	22.018	184	1.000	35610817	5287858	8856	22140	597	1.59(1.32-1.78)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	27.528	28.997	-88	1.000	65016313	8533789	13936	34840	612		
375.8178	27.541	28.997	-87	1.000	54566412	6735632	13298	33245	507	1.19(1.05-1.43)	
373.8208	32.255	28.997	195	1.000	61123720	16929511	13936	34840	1215		
375.8178	32.255	28.997	195	1.000	50896994	14122263	13298	33245	1062	1.20(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	29.072	30.544	-88	1.000	50324966	6117642	18712	46780	327		
391.8127	29.072	30.544	-88	1.000	39649728	4752785	14793	36982	321	1.27(1.05-1.43)	
389.8157	30.710	30.544	10	1.000	543498	100244	18712	46780	5		
391.8127	30.710	30.544	10	1.000	488759	97765	14793	36982	7	1.11(1.05-1.43)	
389.8157	31.935	30.544	83	1.000	51351289	13246281	18712	46780	708		
391.8127	31.935	30.544	83	1.000	40427637	10257710	14793	36982	693	1.27(1.05-1.43)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.630	33.630	0	1.000	45673631	14909637	31734	79335	470		
409.7789	33.630	33.630	0	1.000	44018160	14606430	27329	68322	534	1.04(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.711	34.711	0	1.000	35092231	9419704	31734	79335	297		
409.7789	34.711	34.711	0	1.000	36272335	10929746	27329	68322	400	0.97(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.170						31734	79335			
409.7789	34.170						27329	68322			
1,2,3,4,6,7,8-HpCDD											
423.7766	34.431	34.431	0	1.000	34480923	10257884	20939	52347	490		
425.7737	34.431	34.431	0	1.000	33551110	9772724	26141	65352	374	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.990						20939	52347			
425.7737	34.990						26141	65352			
1,3,6,8-TCDF											
303.9016	14.753	14.753	0		60534595	19909619	58107	145267	343		
305.8987	14.753	14.753	0		85351314	27805100	101226	253065	275	0.71(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	15.645	15.645	0		47743001	14165938	42517	106292	333		
321.8936	15.645	15.645	0		63417591	18577195	19421	48552	957	0.75(0.65-0.89)	
2,3,4,7-TCDF											
303.9016	16.508						58107	145267			
305.8987	16.508						101226	253065			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7-TCDD											
319.8965	17.052						42517	106292			
321.8936	17.052						19421	48552			
1,2,3,9-TCDF											
303.9016	17.294						58107	145267			
305.8987	17.294						101226	253065			
1,2,3,9-TCDD											
319.8965	17.309						42517	106292			
321.8936	17.309						19421	48552			
1,2,8,9-TCDF											
303.9016	18.171						58107	145267			
305.8987	18.171						101226	253065			
1,2,8,9-TCDD											
319.8965	18.171						42517	106292			
1,3,4,6,8-PeCDF											
339.8597	18.444						5547	13867			
341.8567	18.444						9049	22622			
1,2,4,7,9-PeCDD											
355.8546	20.088						15345	38362			
357.8516	20.088						8856	22140			
1,2,3,8,9-PeCDD											
355.8546	23.947						15345	38362			
357.8516	23.947						8856	22140			
1,2,3,8,9-PeCDF											
339.8597	24.152						9414	23535			
1,2,3,4,6,8-HxCDF											
373.8208	26.261						13936	34840			
375.8178	26.261						13298	33245			
1,2,4,6,7,9-HxCDD											
389.8157	27.699						18712	46780			
391.8127	27.699						14793	36982			
1,2,3,4,6,7-HxCDD											
389.8157	31.361						18712	46780			
391.8127	31.361						14793	36982			
1,2,3,4,8,9-HxCDF											
373.8208	31.733						13936	34840			
375.8178	31.733						13298	33245			
1,2,3,4,6,7,9-HpCDD											
423.7766	33.873	33.873	0		39482002	11874221	20939	52347	567		
425.7737	33.873	33.873	0		37335328	11333534	26141	65352	434	1.06(0.88-1.20)	

Reagents:

HRDXNCP_00040 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_2.d
Lims ID: WDM
Client ID:
Inject. Date: 30-Oct-2019 22:23:48 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 3D5 Operator: ALM
Lims Batch ID: 334889 Lims Sample ID: 2

Non-2,3,7,8-sub-TCDF, RT: 16.462

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	0.971	D 13C-2,3,7,8-TCDF	40.000	145998087	37937539

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.971		40.000	145998087	37937539

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
17.989	46385407	11395758	65344339	16333509	31.5	0.71	
18.926	48518112	11682458	64243679	14764561	31.8	0.76	
Signal Totals:							
	94903519	23078216	129588018	31098070			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	224491537	54176286				0.73	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 63.339 = (224491537 * 40.000) / (145998087 * 0.971)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_2.d
Lims ID: WDM
Client ID:
Inject. Date: 30-Oct-2019 22:23:48 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 3D5 Operator: ALM
Lims Batch ID: 334889 Lims Sample ID: 2

Non-2,3,7,8-sub-TCDD, RT: 16.908

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.045	D 13C-2,3,7,8-TCDD	40.000	98608619	23909644

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.045		40.000	98608619	23909644

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
17.717	41685565	11039427	56142333	14296058	38.0	0.74	
17.989	50537803	12075177	60526497	14726982	43.1	0.83	
18.926	45779390	10522499	58261254	12862651	40.4	0.79	
Signal Totals:							
	138002758	33637103	174930084	41885691			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	312932842	75522794				0.79	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 121.506 = (312932842 * 40.000) / (98608619 * 1.045)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_2.d
Lims ID: WDM
Client ID:
Inject. Date: 30-Oct-2019 22:23:48 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 3D5 Operator: ALM
Lims Batch ID: 334889 Lims Sample ID: 2

F1 PeCDFs, RT: 19.335

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	0.963				
2,3,4,7,8-PeCDF	0.950				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
19.198	82998679	18199166	52834281	11785974		1.57	
Signal Totals:							
	82998679	18199166	52834281	11785974			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	135832960	29985140				1.57	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (135832960 * 0.0) / (0 * 0.000)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_2.d
Lims ID: WDM
Client ID:
Inject. Date: 30-Oct-2019 22:23:48 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 3D5 Operator: ALM
Lims Batch ID: 334889 Lims Sample ID: 2

Non-2,3,7,8-sub-PeCDF, RT: 22.226

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	0.963				
2,3,4,7,8-PeCDF	0.950				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
25.302	70441635	10354466	45968999	6723558		1.53	
Signal Totals:							
	70441635	10354466	45968999	6723558			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	116410634	17078024				1.53	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (116410634 * 0.0) / (0 * 0.000)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_2.d
Lims ID: WDM
Client ID:
Inject. Date: 30-Oct-2019 22:23:48 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 3D5 Operator: ALM
Lims Batch ID: 334889 Lims Sample ID: 2

Non-2,3,7,8-sub-PeCDD, RT: 22.018

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDD	1.063				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	355.8546 Area	355.8546 Height	357.8516 Area	357.8516 Height	Amount	Ratio	Flags
20.939	57817391	10301058	36304732	6477503		1.59	
25.084	56653361	8464237	35610817	5287858		1.59	
Signal Totals:							
	114470752	18765295	71915549	11765361			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	186386301	30530656				1.59	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (186386301 * 0.0) / (0 * 0.000)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_2.d
Lims ID: WDM
Client ID:
Inject. Date: 30-Oct-2019 22:23:48 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 3D5 Operator: ALM
Lims Batch ID: 334889 Lims Sample ID: 2

Non-2,3,7,8-sub-HxCDF, RT: 28.997

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.217				
1,2,3,6,7,8-HxCDF	1.131				
2,3,4,6,7,8-HxCDF	1.171				
1,2,3,7,8,9-HxCDF	1.179				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
27.528	65016313	8533789	54566412	6735632		1.19	
32.255	61123720	16929511	50896994	14122263		1.20	
Signal Totals:							
	126140033	25463300	105463406	20857895			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	231603439	46321195				1.20	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (231603439 * 0.0) / (0 * 0.000)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_2.d
Lims ID: WDM
Client ID:
Inject. Date: 30-Oct-2019 22:23:48 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 3D5 Operator: ALM
Lims Batch ID: 334889 Lims Sample ID: 2

Non-2,3,7,8-sub-HxCDD, RT: 30.544

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.027				
1,2,3,6,7,8-HxCDD	0.977				
1,2,3,7,8,9-HxCDD	1.062				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
29.072	50324966	6117642	39649728	4752785		1.27	
30.710	543498	100244	488759	97765		1.11	
31.935	51351289	13246281	40427637	10257710		1.27	
Signal Totals:							
	102219753	19464167	80566124	15108260			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	182785877	34572427				1.27	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (182785877 * 0.0) / (0 * 0.000)

Report Date: 31-Oct-2019 10:58:57 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_2.d		
Injection Date:	30-Oct-2019 22:23:48	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	334889	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

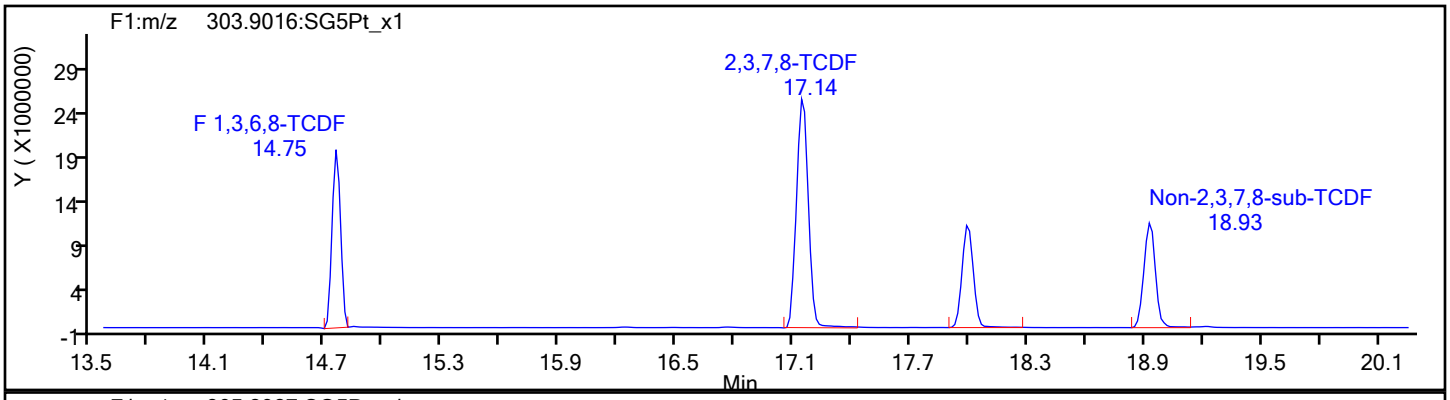

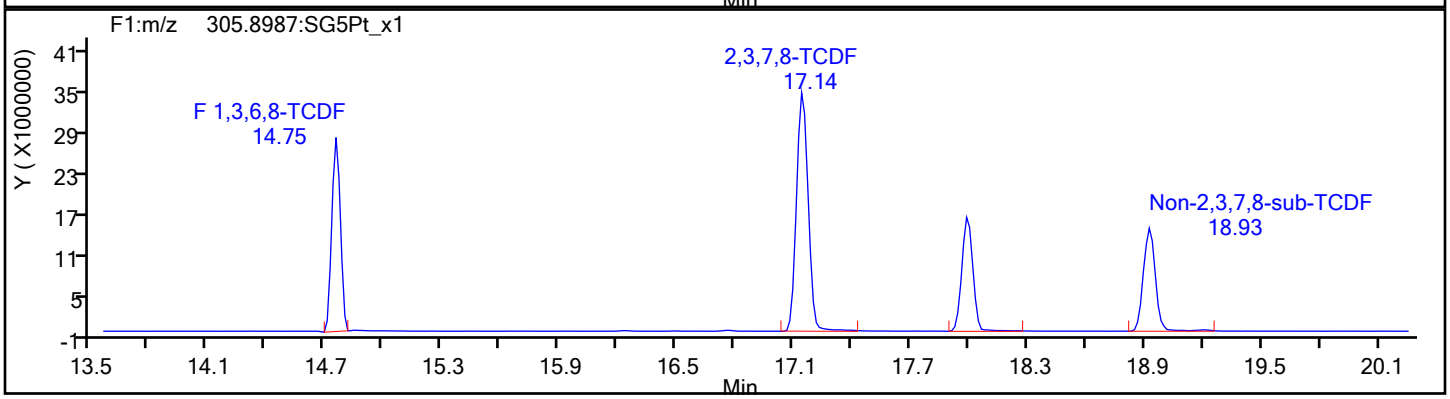

TCDF Standards

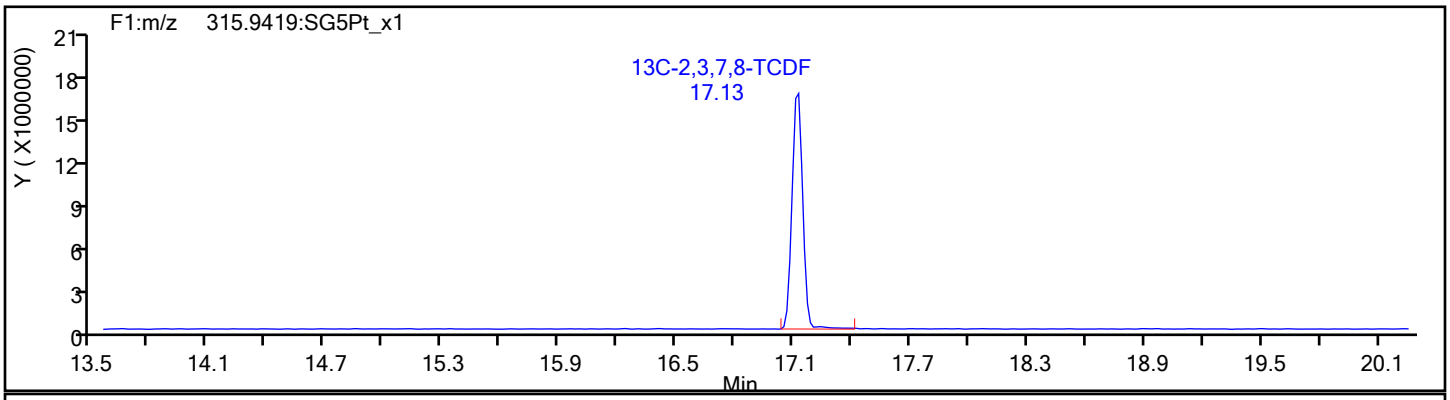

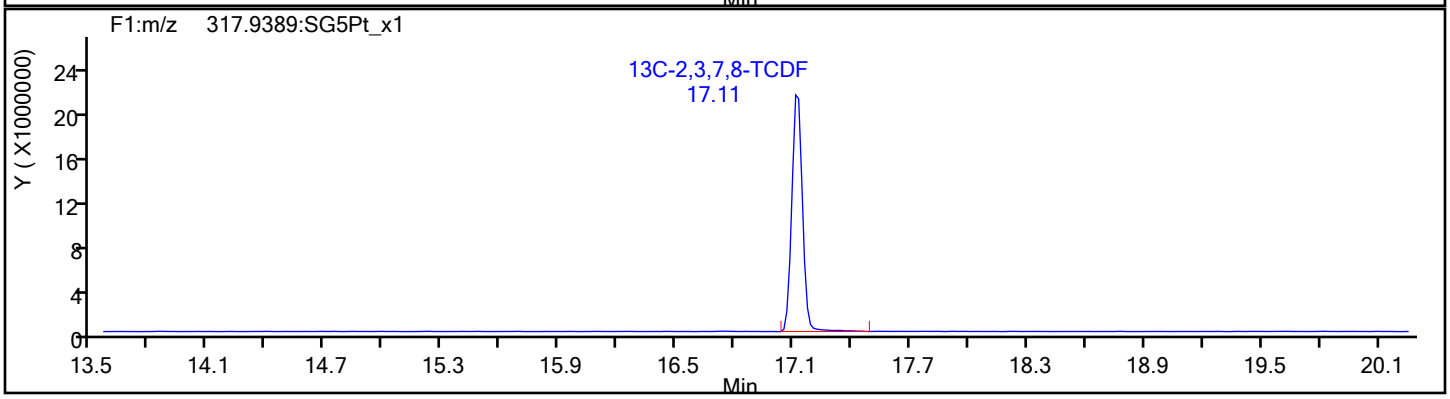

Report Date: 31-Oct-2019 10:58:57 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_2.d		
Injection Date:	30-Oct-2019 22:23:48	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	334889	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

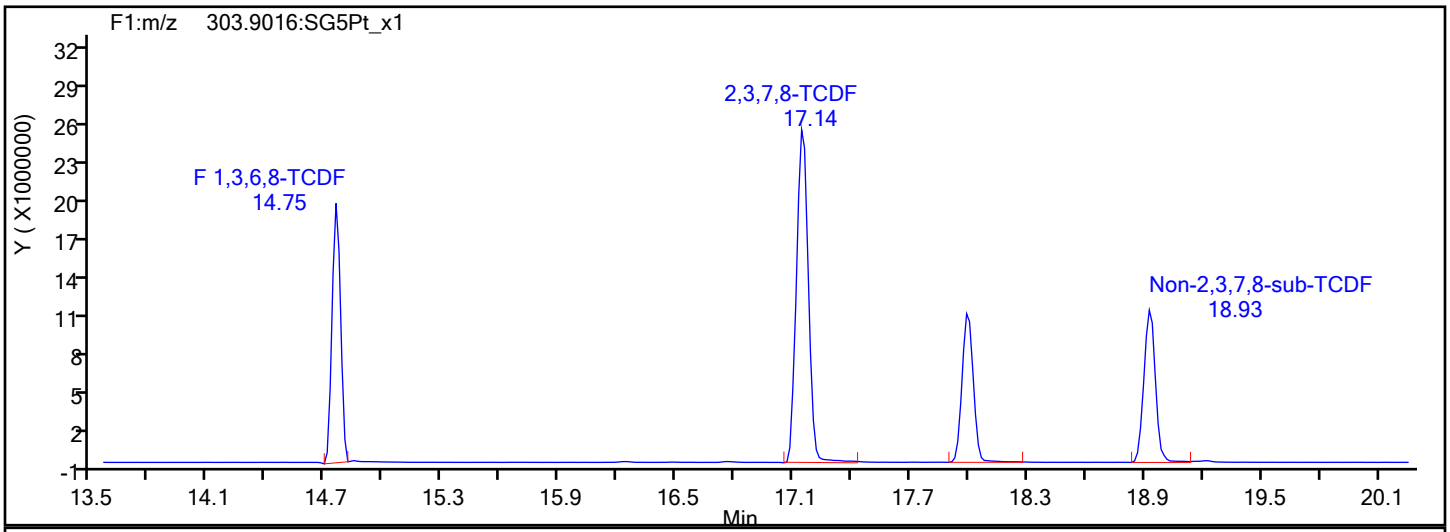

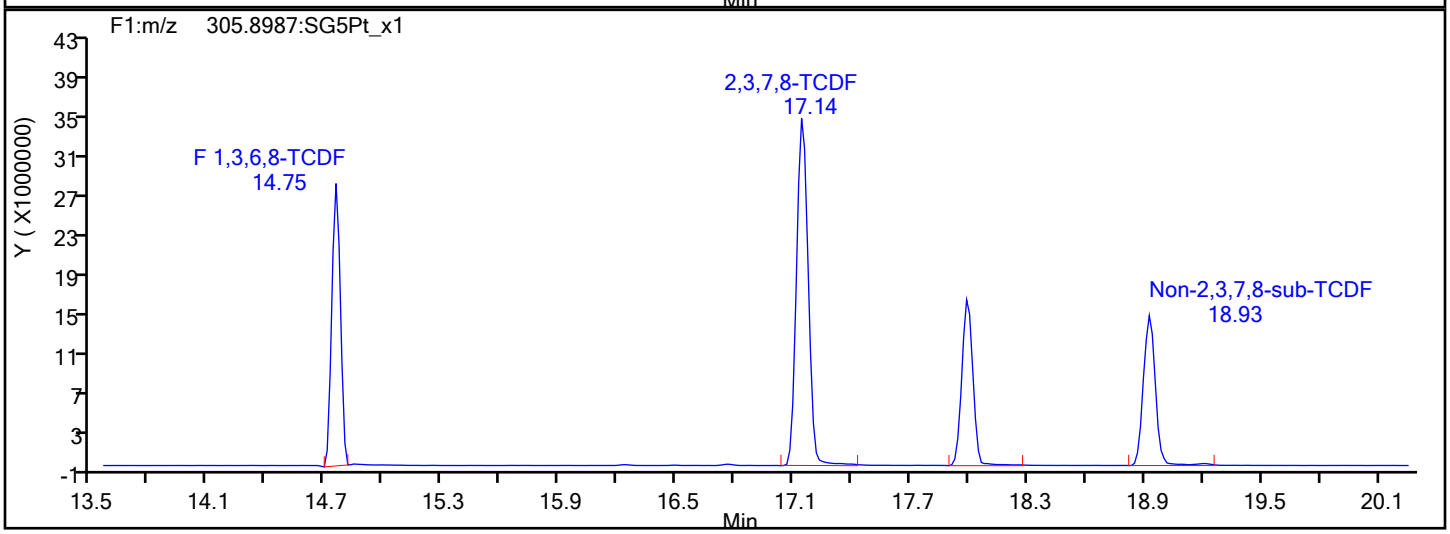

TCDF Interference Mass

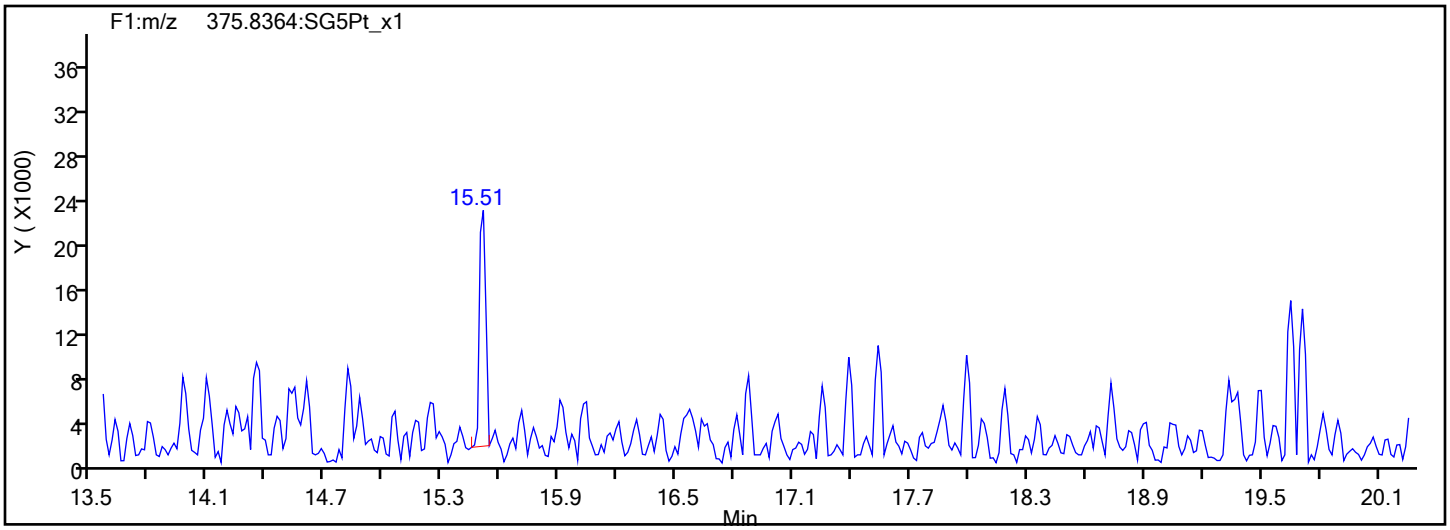

Report Date: 31-Oct-2019 10:58:57 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_2.d		
Injection Date:	30-Oct-2019 22:23:48	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	334889	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

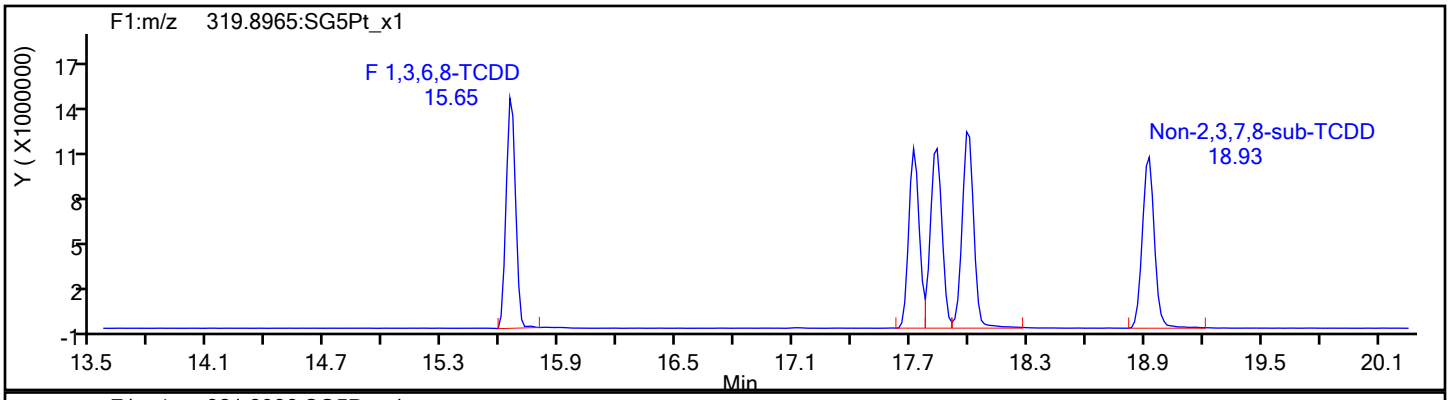

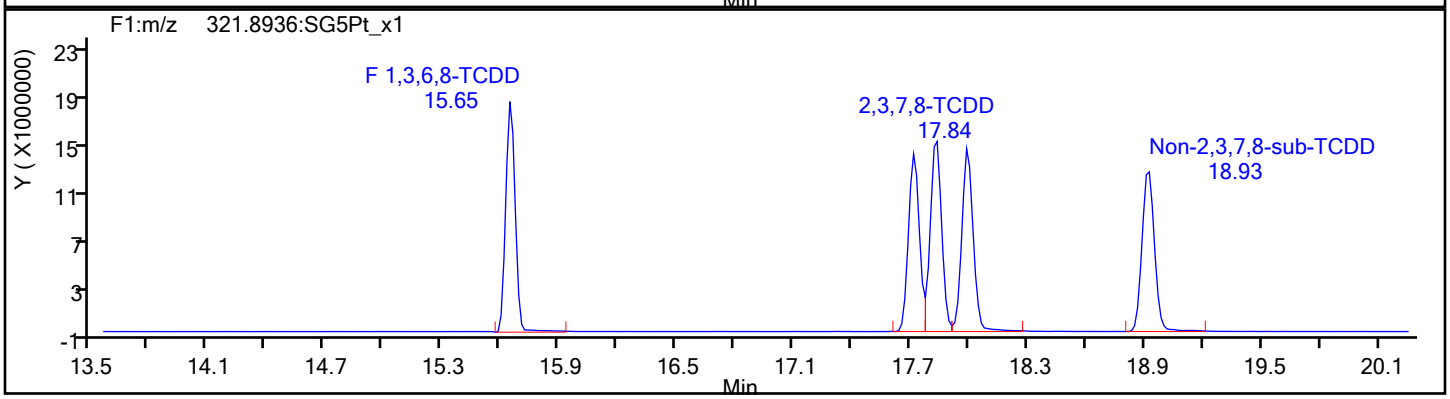

TCDD Standards

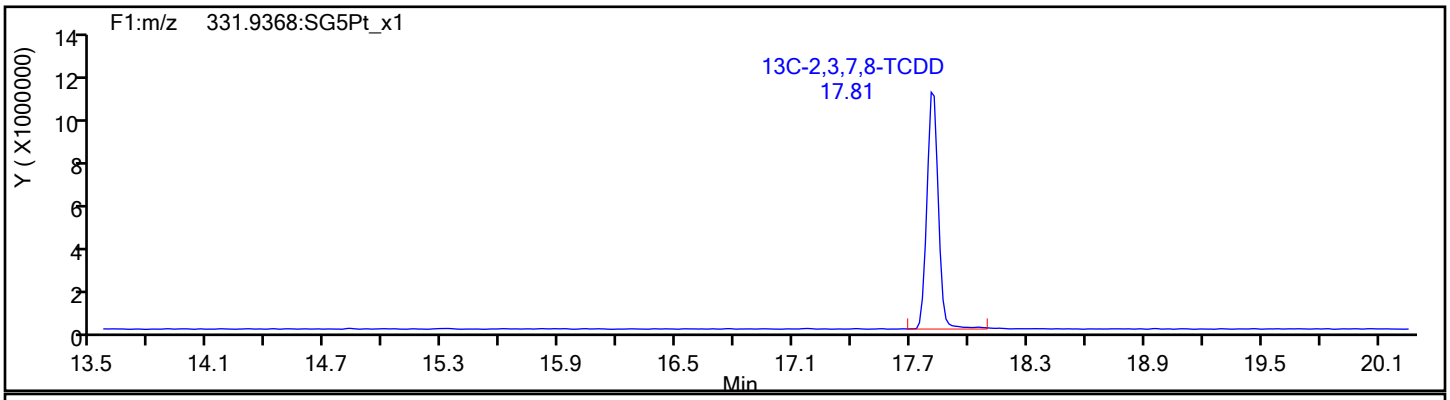

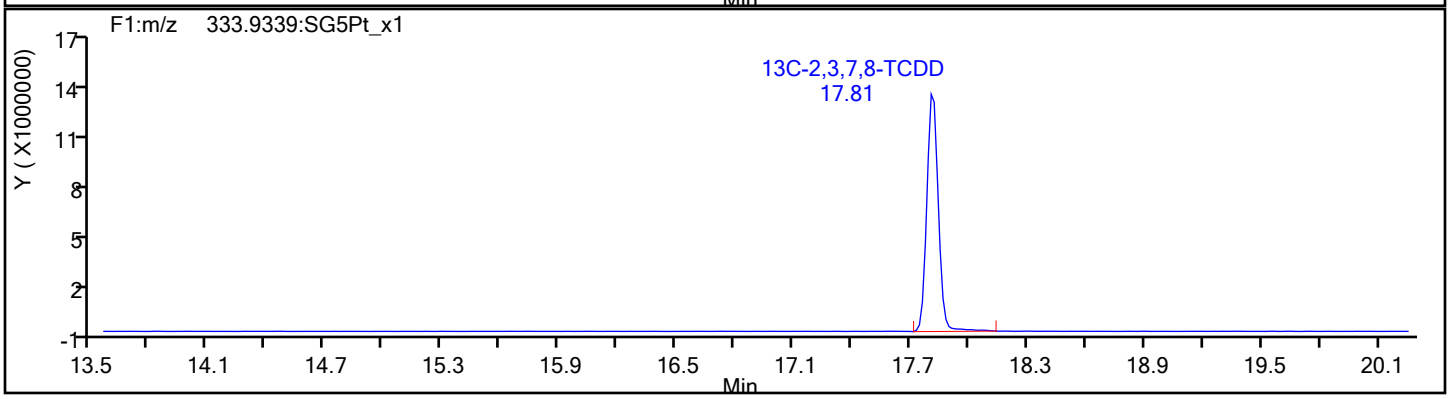

Report Date: 31-Oct-2019 10:58:57 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_2.d		
Injection Date:	30-Oct-2019 22:23:48	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	334889	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

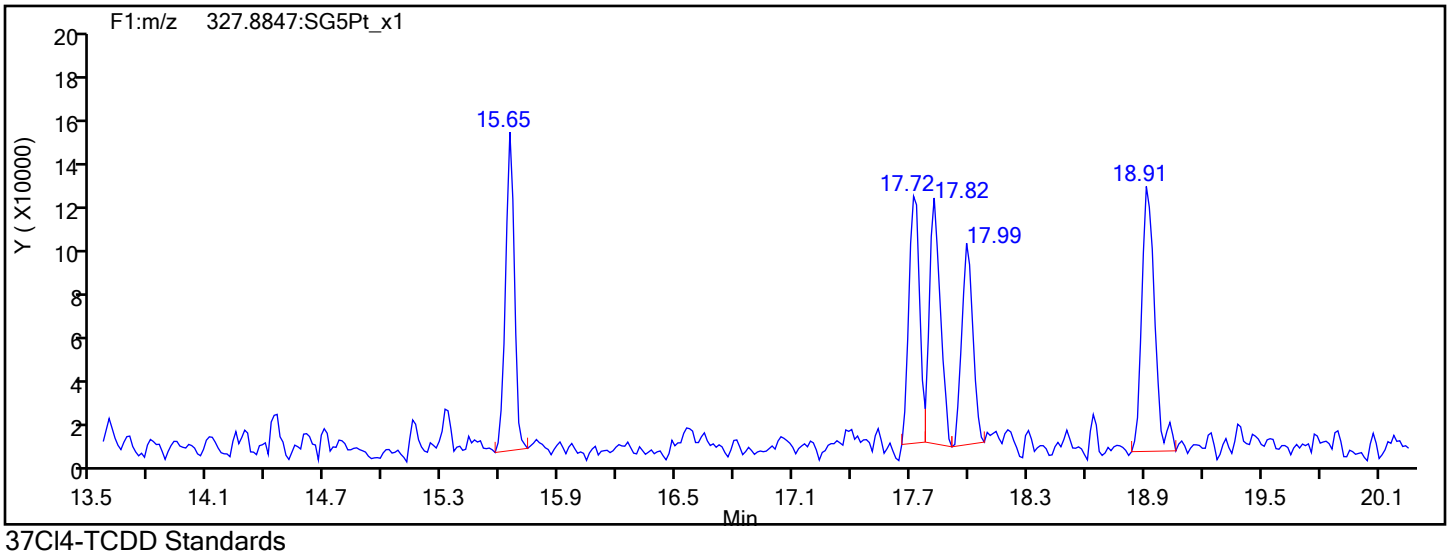

37Cl4-TCDD Standards

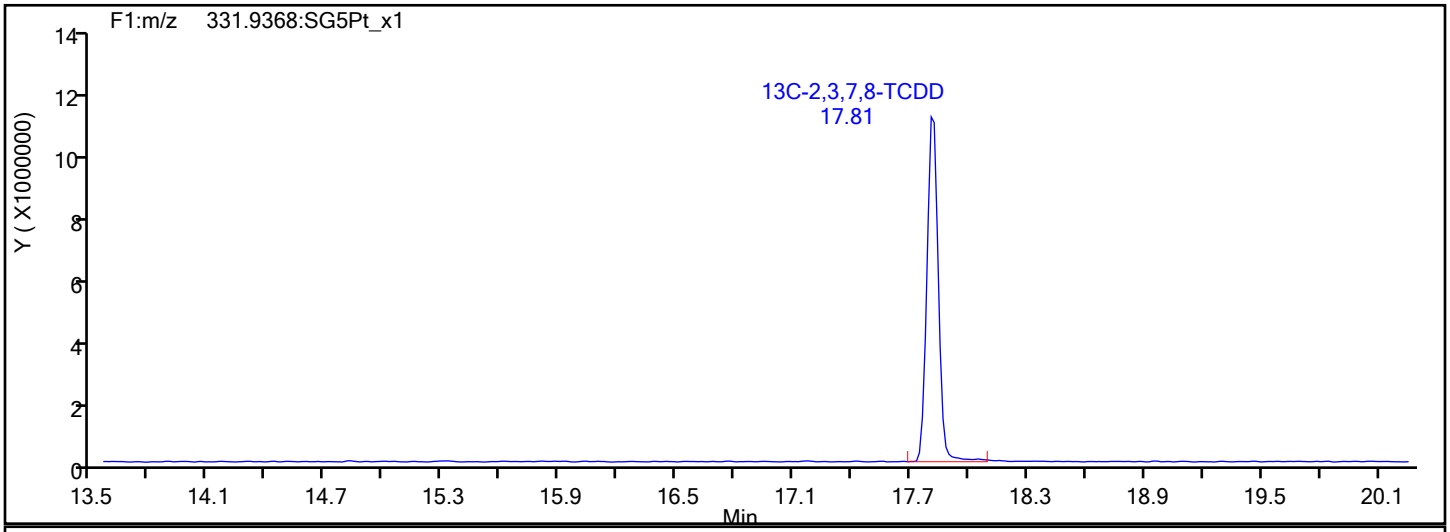

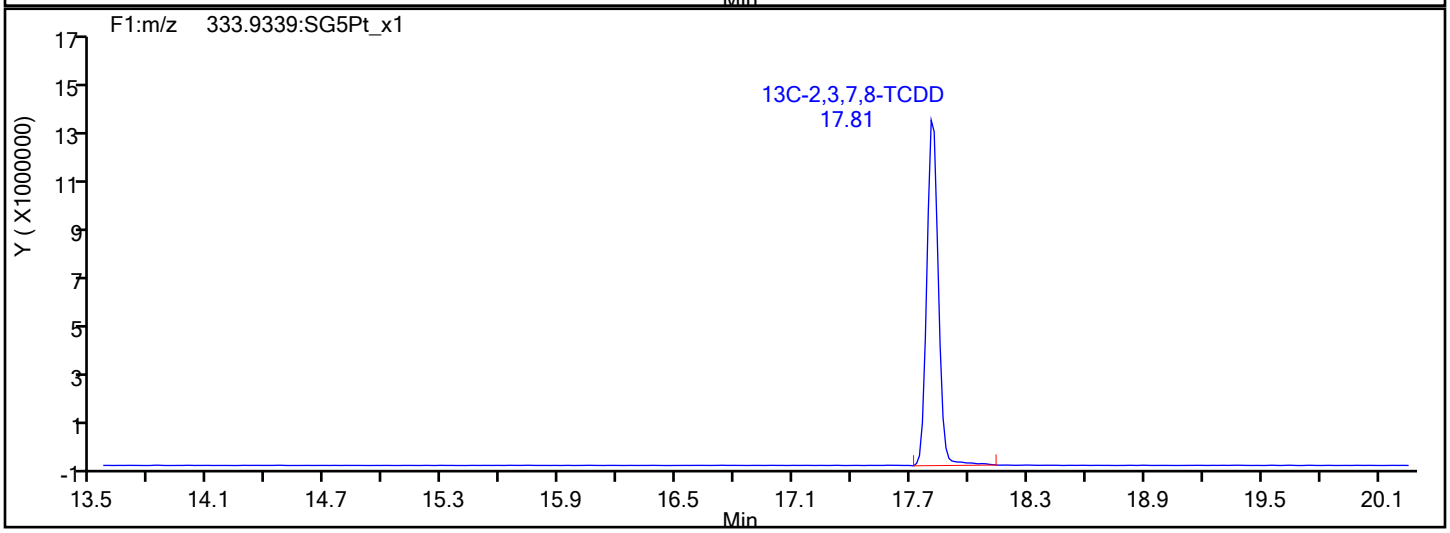

Report Date: 31-Oct-2019 10:58:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_2.d		
Injection Date:	30-Oct-2019 22:23:48	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	334889	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

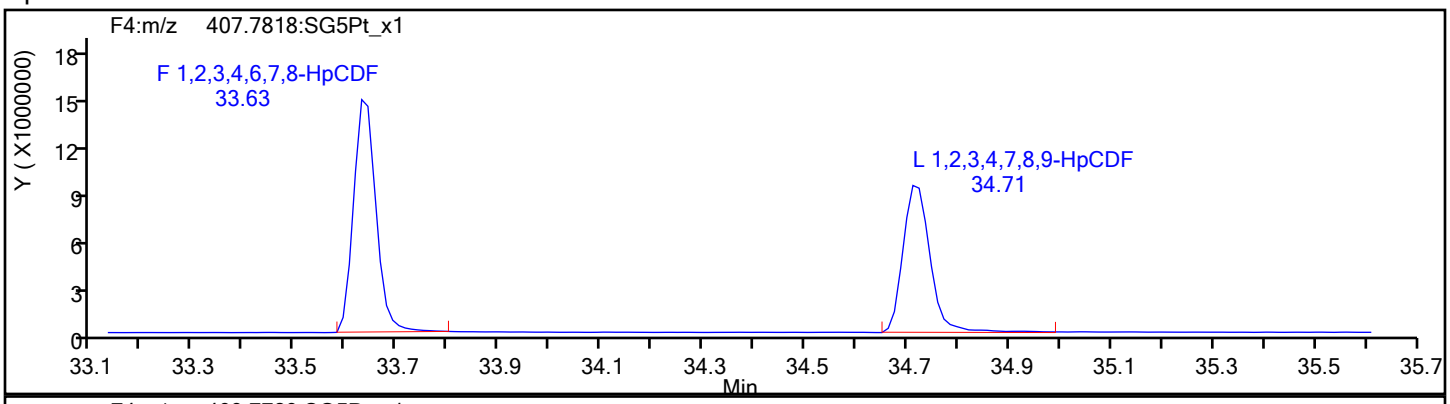

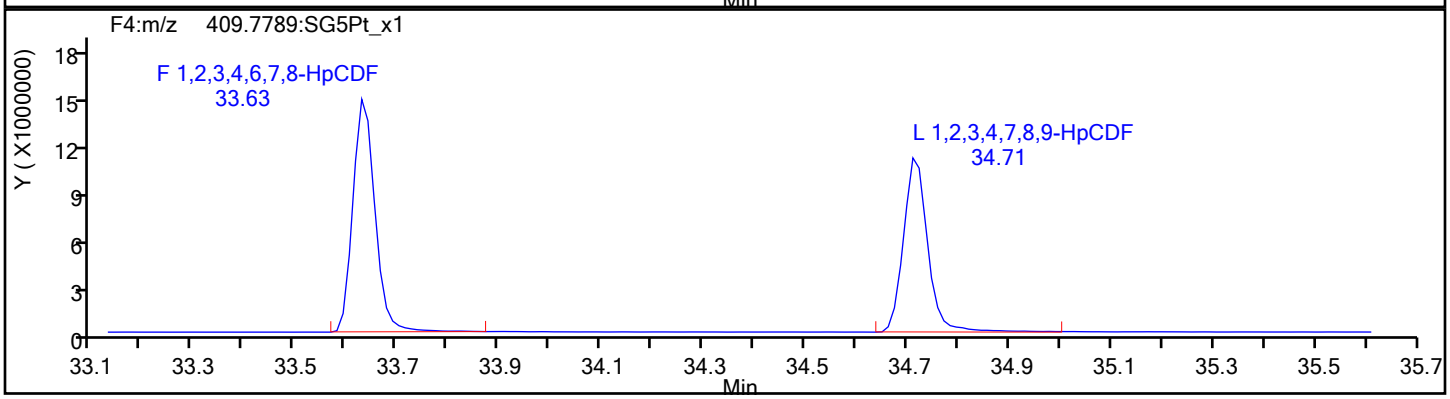

HpCDF Standards

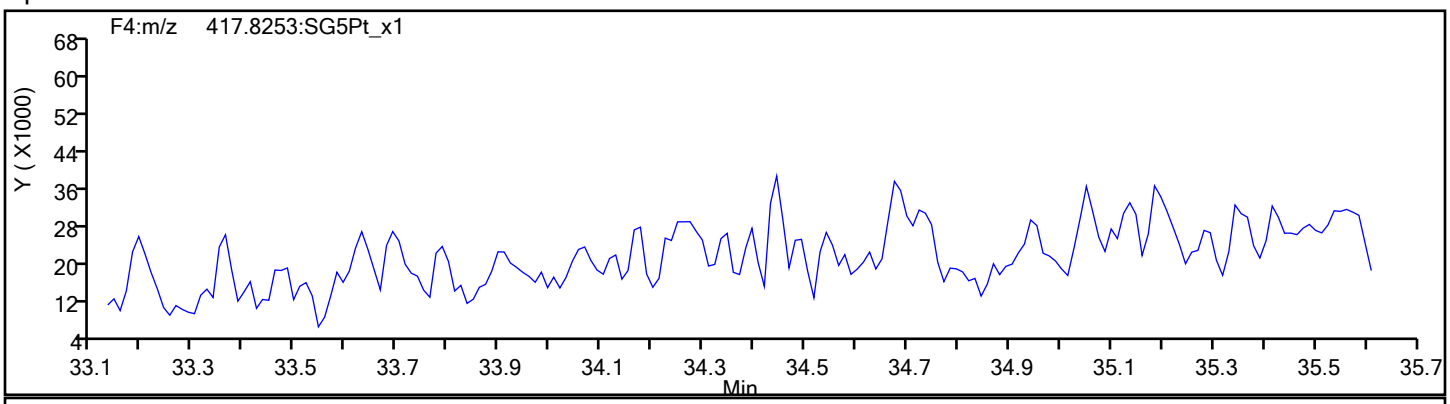

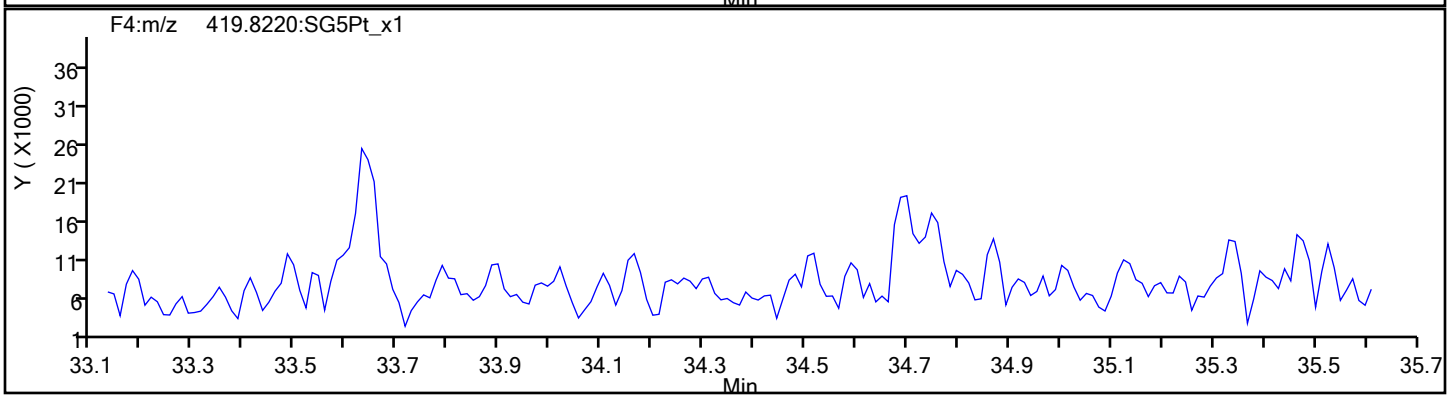

Report Date: 31-Oct-2019 10:58:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_2.d		
Injection Date:	30-Oct-2019 22:23:48	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	334889	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

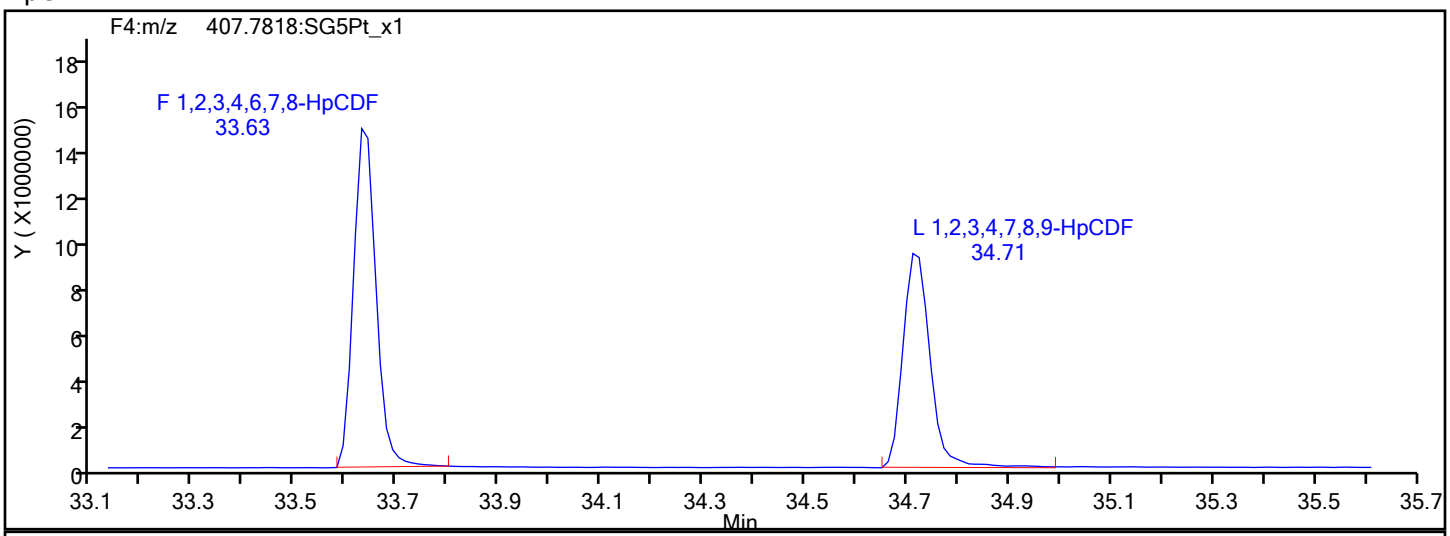

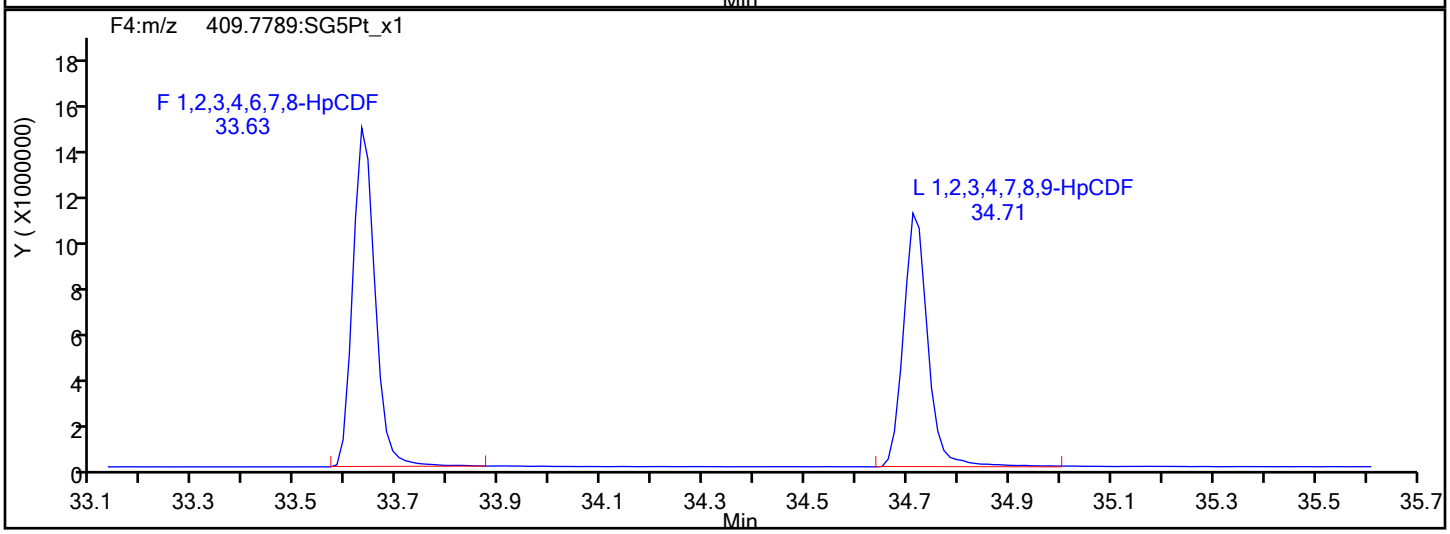

HpCDF Interference Mass

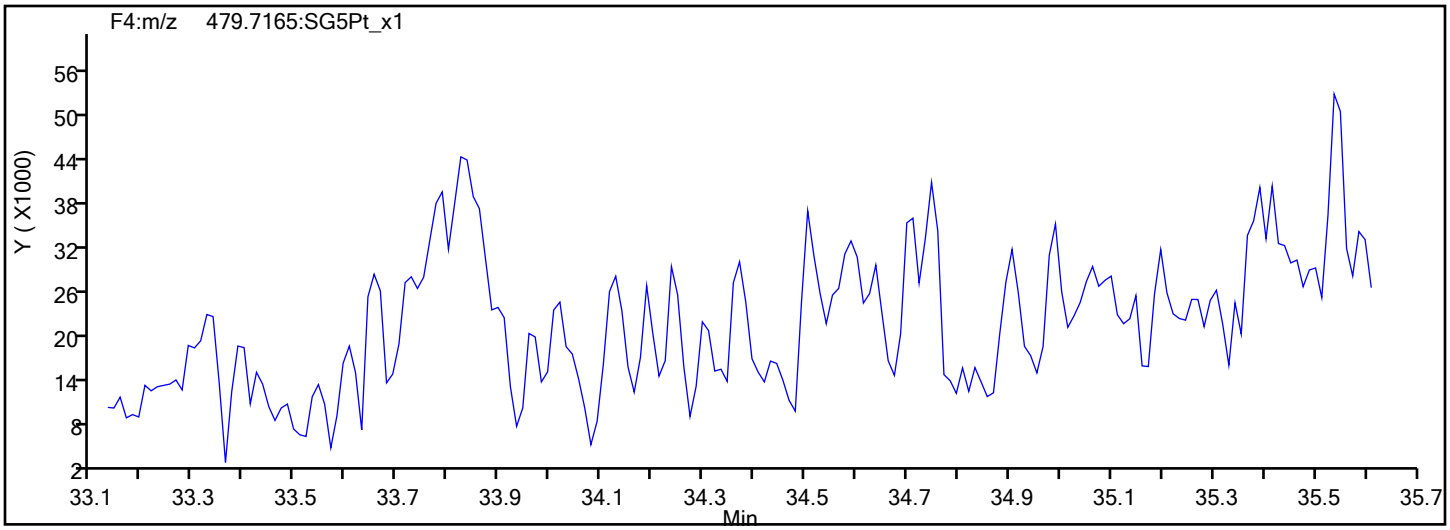

Report Date: 31-Oct-2019 10:58:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_2.d		
Injection Date:	30-Oct-2019 22:23:48	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	334889	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

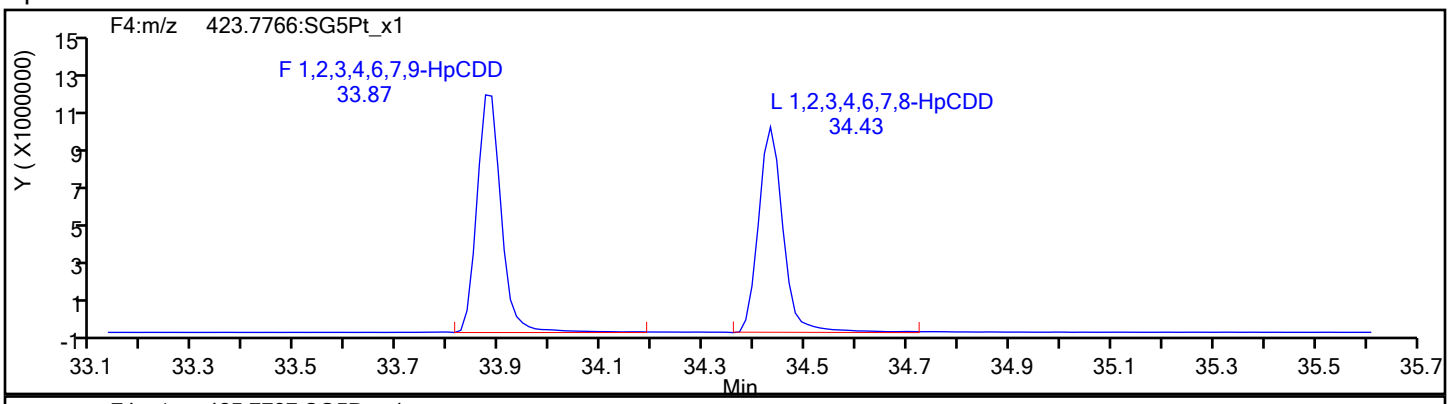

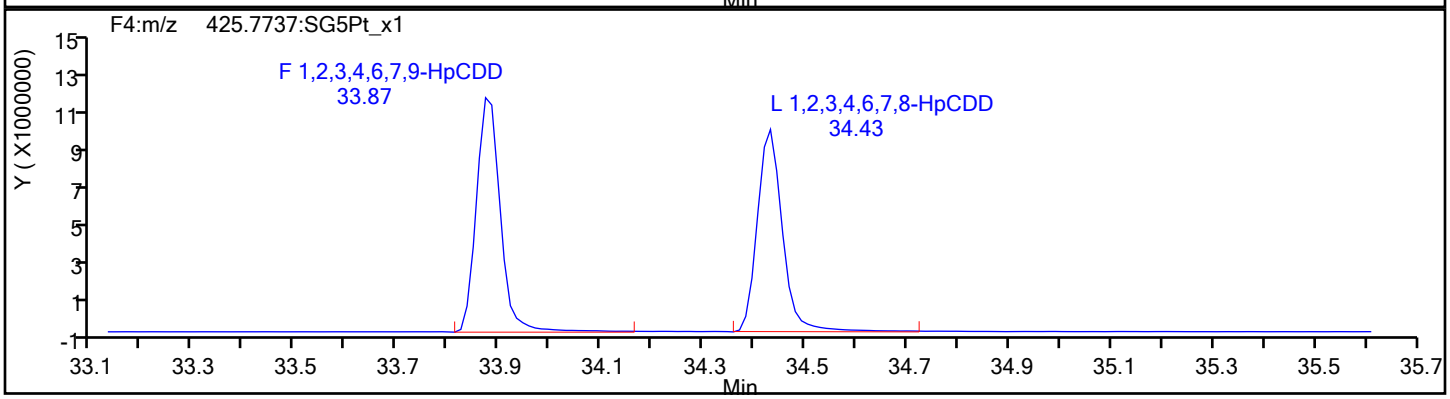

HpCDD Standards

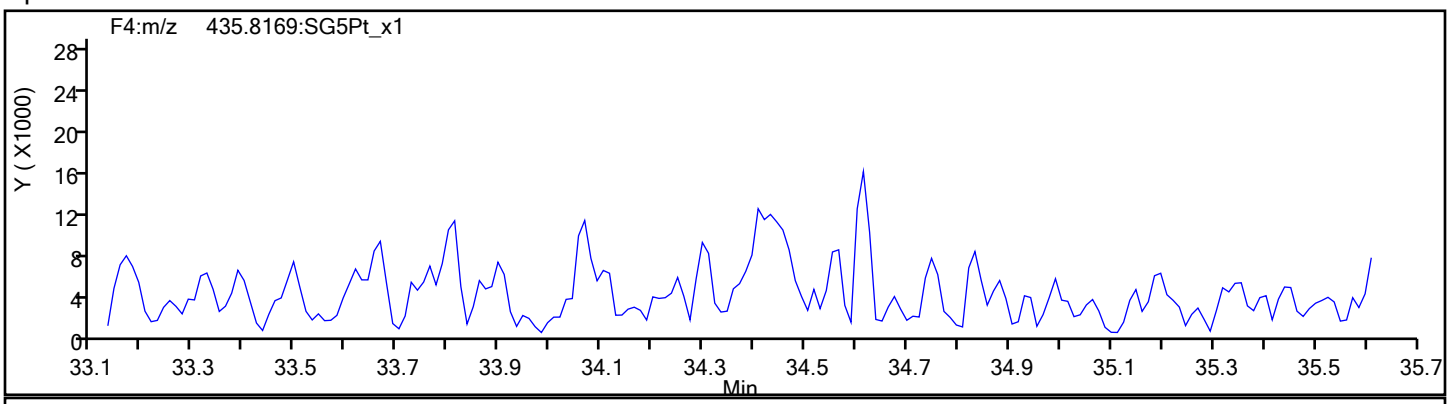

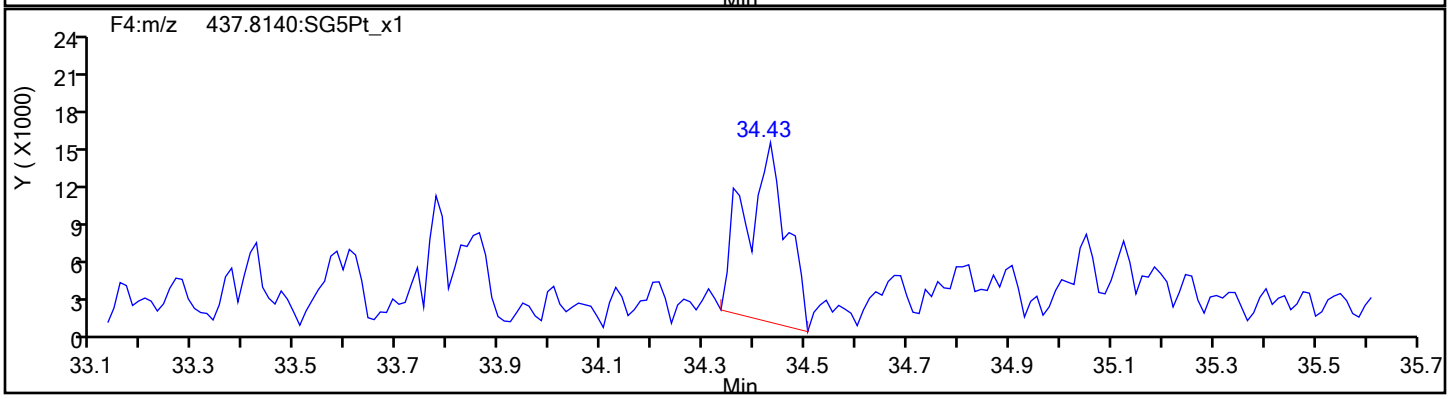

Report Date: 31-Oct-2019 10:58:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_2.d		
Injection Date:	30-Oct-2019 22:23:48	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	334889	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

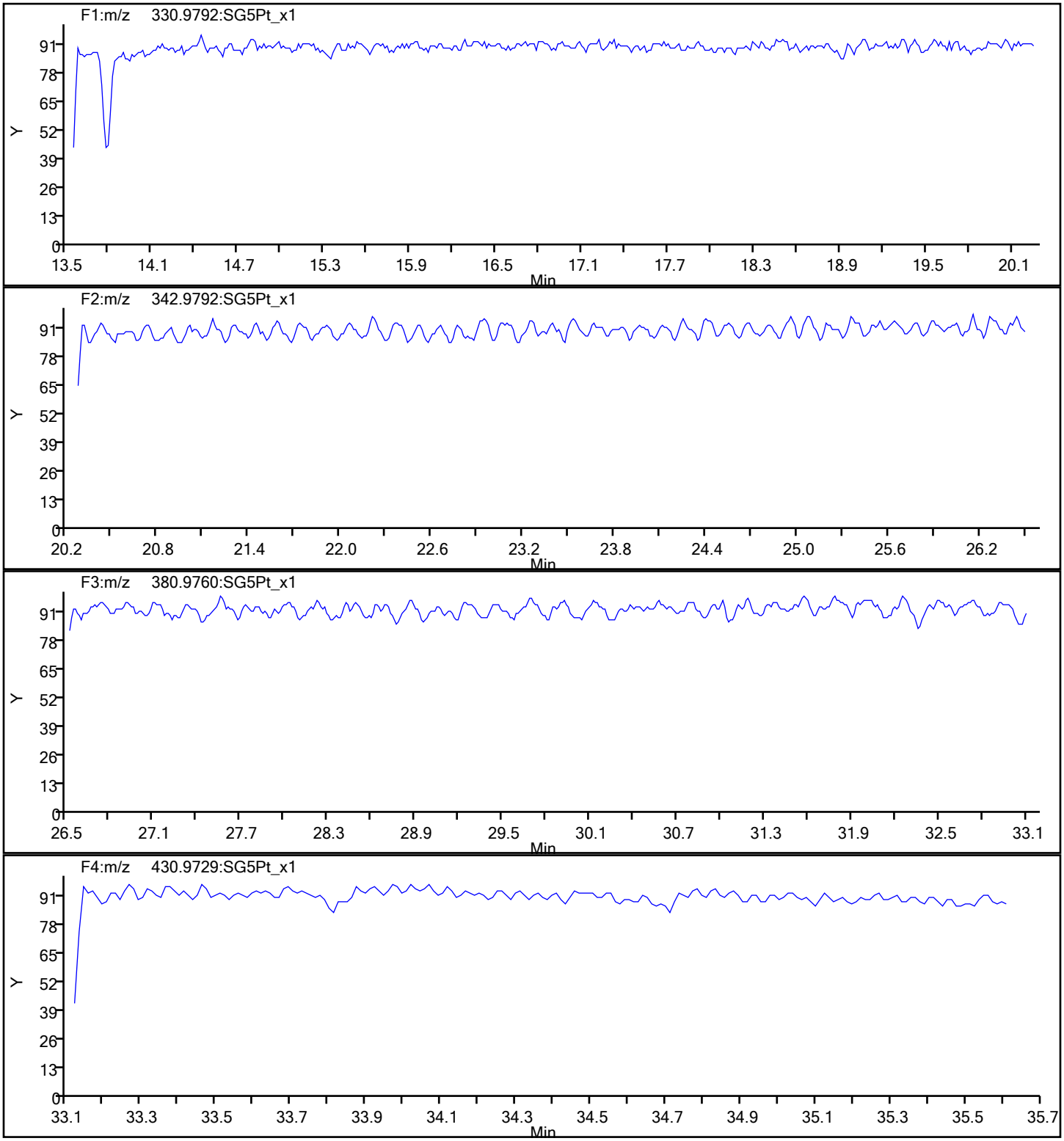

Report Date: 31-Oct-2019 10:58:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_2.d		
Injection Date:	30-Oct-2019 22:23:48	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	334889	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

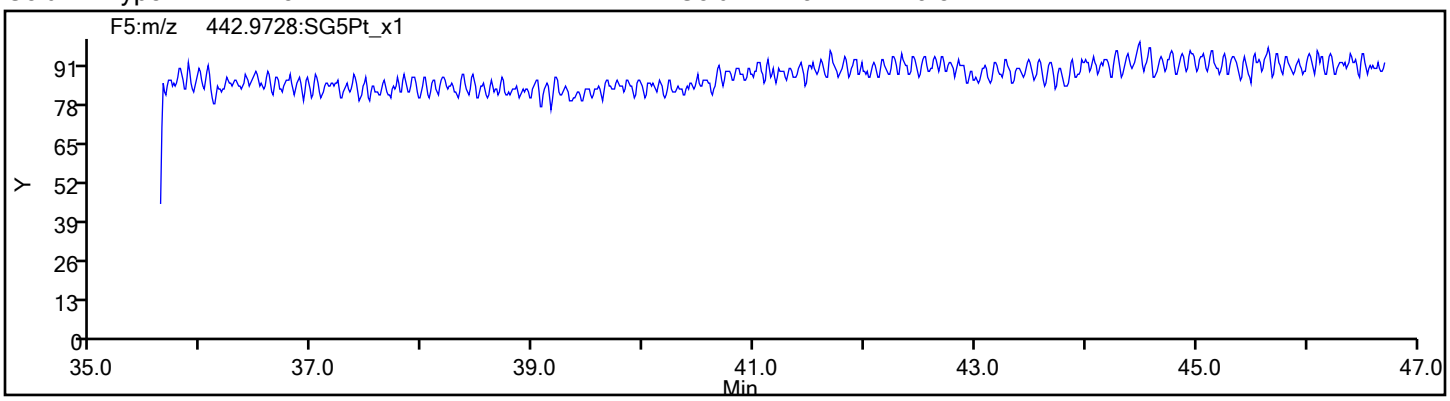

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 180-97287-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 320-334214/1-A
Matrix: Solid
Lab File ID: 30OC19B3D5_4.d
Analysis Method: 1613B
Date Collected:
Extract. Method: HRMS-Sep
Date Extracted: 10/28/2019 14:05
Sample wt/vol: 1000(mL)
Date Analyzed: 10/30/2019 23:59
Con. Extract Vol.: 20.0(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 334889
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		10	0.66
51207-31-9	2,3,7,8-TCDF	ND		10	0.66
40321-76-4	1,2,3,7,8-PeCDD	ND		50	1.4
57117-41-6	1,2,3,7,8-PeCDF	ND		50	0.99
57117-31-4	2,3,4,7,8-PeCDF	ND		50	0.98
39227-28-6	1,2,3,4,7,8-HxCDD	ND		50	0.82
57653-85-7	1,2,3,6,7,8-HxCDD	ND		50	0.88
19408-74-3	1,2,3,7,8,9-HxCDD	ND		50	0.80
70648-26-9	1,2,3,4,7,8-HxCDF	ND		50	0.57
57117-44-9	1,2,3,6,7,8-HxCDF	ND		50	0.61
72918-21-9	1,2,3,7,8,9-HxCDF	ND		50	0.43
60851-34-5	2,3,4,6,7,8-HxCDF	ND		50	0.45
35822-46-9	1,2,3,4,6,7,8-HpCDD	ND		50	0.64
67562-39-4	1,2,3,4,6,7,8-HpCDF	ND		50	1.3
55673-89-7	1,2,3,4,7,8,9-HpCDF	ND		50	1.7
3268-87-9	OCDD	4.94	J	100	1.5
39001-02-0	OCDF	ND		100	1.5
41903-57-5	Total TCDD	0.978	J	10	0.66
30402-14-3	Total TCDF	ND		10	0.66
36088-22-9	Total PeCDD	ND		50	1.4
30402-15-4	Total PeCDF	ND		50	0.99
34465-46-8	Total HxCDD	ND		50	3.0
55684-94-1	Total HxCDF	ND		50	0.61
37871-00-4	Total HpCDD	ND		50	3.0
38998-75-3	Total HpCDF	ND		50	1.7

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 320-334214/1-A

Matrix: Solid Lab File ID: 30OC19B3D5_4.d

Analysis Method: 1613B Date Collected:

Extract. Method: HRMS-Sep Date Extracted: 10/28/2019 14:05

Sample wt/vol: 1000(mL) Date Analyzed: 10/30/2019 23:59

Con. Extract Vol.: 20.0(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 334889 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	82		25-164
89059-46-1	13C-2,3,7,8-TCDF	77		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	72		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	79		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	85		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	84		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	80		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	105		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	85		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	99		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	91		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	81		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	83		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	86		26-138
114423-97-1	13C-OCDD	69		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	105		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_4.d
Lims ID: MB 320-334214/1-A
Client ID:
Sample Type: MB
Inject. Date: 30-Oct-2019 23:59:16 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: MB 320-334214/1-A MB 320-334214/1-A
Misc. Info.: 30OC19B3D5
Operator ID: ALM Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 01-Nov-2019 10:10:59 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0312

First Level Reviewer: dadunj Date: 01-Nov-2019 10:10:59

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.626	201950557	0.79	3.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.127	215588666	0.75	1.3908	76.8	76.8	0.2161	0.2161	76.76	
2,3,7,8-TCDF	17.142						0.0329	0.0329		
A Non-2,3,7,8-sub-TCDF	16.462						0.0329	0.0329		
S Total TCDF							0.0329	0.0329		
D 13C-2,3,7,8-TCDD	17.807	161617638	0.79	0.9819	81.5	81.5	0.1750	0.1750	81.51	
2,3,7,8-TCDD	17.838						0.0331	0.0331		
$ 37Cl4-2,3,7,8-TCDD	17.838	103095340		1.2205	41.8	41.8	0.0746	0.0746	105	
A Non-2,3,7,8-sub-TCDD	16.908	82565	0.77	1.0447	0.1552	0.0489	0.0331	0.0489		RQM
S Total TCDD					0.1552	0.0489	0.0331	0.0331		RQ
D 13C-1,2,3,7,8-PeCDF	22.043	185640578	1.61	1.1585	79.3	79.3	0.2182	0.2182	79.35	
1,2,3,7,8-PeCDF	22.071						0.0497	0.0497		
D 13C-2,3,4,7,8-PeCDF	23.366	197063085	1.62	1.1532	84.6	84.6	0.2192	0.2192	84.62	
2,3,4,7,8-PeCDF	23.393						0.0490	0.0490		
A F1 PeCDFs	19.335						0.0458	0.0458		
A Non-2,3,7,8-sub-PeCDF	22.226						0.0493	0.0493		
S Total PeCDF							0.0497	0.0497		
D 13C-1,2,3,7,8-PeCDD	24.062	107457280	1.64	0.7431	71.6	71.6	0.1468	0.1468	71.60	
1,2,3,7,8-PeCDD	24.103						0.0685	0.0685		
A Non-2,3,7,8-sub-PeCDD	22.018						0.0685	0.0685		
S Total PeCDD							0.0685	0.0685		
D 13C-1,2,3,4,7,8-HxCDF	30.204	183024638	0.52	0.9837	105.2	105.2	0.3154	0.3154	105	
1,2,3,4,7,8-HxCDF	30.231						0.0285	0.0285		
D 13C-1,2,3,6,7,8-HxCDF	30.404	173819371	0.51	1.1554	85.0	85.0	0.2685	0.2685	85.05	
1,2,3,6,7,8-HxCDF	30.431						0.0305	0.0305		
D 13C-2,3,4,6,7,8-HxCDF	31.309	166107925	0.52	1.0361	90.6	90.6	0.2995	0.2995	90.63	
2,3,4,6,7,8-HxCDF	31.323						0.0226	0.0226		
D 13C-1,2,3,7,8,9-HxCDF	32.161	158388789	0.52	0.9034	99.1	99.1	0.3434	0.3434	99.11	
1,2,3,7,8,9-HxCDF	32.175						0.0216	0.0216		
A Non-2,3,7,8-sub-HxCDF	28.997						0.0252	0.0252		
S Total HxCDF							0.0305	0.0305		

Report Date: 01-Nov-2019 10:11:00 Chrom Revision: 2.3 17-Sep-2019 16:19:08
Data File: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_4.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.962	176896538	1.31	2.6E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.509	123116480	1.35	0.8287	84.0	84.0	0.2650	0.2650	83.98	
1,2,3,4,7,8-HxCDD	31.522						0.0409	0.0409		
D 13C-1,2,3,6,7,8-HxCDD	31.629	135089927	1.31	0.9495	80.4	80.4	0.2313	0.2313	80.43	
1,2,3,6,7,8-HxCDD	31.642						0.0438	0.0438		
1,2,3,7,8,9-HxCDD	31.975						0.0399	0.0399		
A Non-2,3,7,8-sub-HxCDD	30.544						0.0415	0.1496		RQU
S Total HxCDD							0.1496	0.1496		
D 13C-1,2,3,4,6,7,8-HpCDF	33.630	107408959	0.44	0.7285	83.3	83.3	0.6795	0.6795	83.35	
1,2,3,4,6,7,8-HpCDF	33.630						0.0626	0.0626		
D 13C-1,2,3,4,7,8,9-HpCDF	34.711	99328988	0.42	0.6556	85.6	85.6	0.7550	0.7550	85.64	
1,2,3,4,7,8,9-HpCDF	34.711						0.0858	0.0858		
A Non-2,3,7,8-sub-HpCDF	34.170						0.0728	0.0728		
S Total HpCDF							0.0858	0.0858		
D 13C-1,2,3,4,6,7,8-HpCDD	34.419	100324636	1.06	0.6978	81.3	81.3	0.3991	0.3991	81.27	
1,2,3,4,6,7,8-HpCDD	34.431						0.0318	0.0318		
A Non-2,3,7,8-sub-HpCDD	34.990						0.0318	0.1480		RQU
S Total HpCDD							0.1480	0.1480		
D 13C-OCDD	36.773	116144649	0.88	0.4780	137.4	137.4	0.2992	0.2992	68.68	
OCDF	36.869						0.0769	0.0769		
OCDD	36.785	152352	0.98	1.0627	0.2469	0.2469	0.0731	0.0731		M

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_4.d
Lims ID: MB 320-334214/1-A
Client ID:
Sample Type: MB
Inject. Date: 30-Oct-2019 23:59:16 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: MB 320-334214/1-A MB 320-334214/1-A
Misc. Info.: 30OC19B3D5
Operator ID: ALM Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 01-Nov-2019 10:10:59 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0312

First Level Reviewer: dadunj Date: 01-Nov-2019 10:10:59

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.626	17.626	0		88853881	22953201	20711	51777	1108		
333.9339	17.626	17.626	0		113096676	28773039	14847	37117	1938	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.127	17.127	0	0.972	92228921	23620945	43064	107660	549		
317.9389	17.127	17.127	0	0.972	123359745	32364709	19129	47822	1692	0.75(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.142						2189	5472			
305.8987	17.142						4967	12417			
A Non-2,3,7,8-sub-TCDF											
303.9016	16.462						2189	5472			
305.8987	16.462						4967	12417			
13C-2,3,7,8-TCDD											
331.9368	17.807	17.807	0	1.010	71156319	16524698	20711	51777	798		
333.9339	17.807	17.807	0	1.010	90461319	20765847	14847	37117	1399	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.838						3482	8705			
321.8936	17.838						1676	4190			
37Cl4-2,3,7,8-TCDD											
327.8847	17.838	17.838	0	1.012	103095340	24502954	18843	47107	1300		
A Non-2,3,7,8-sub-TCDD											RQM
319.8965	17.112	16.908	12	0.961	215330	49900	3482	8705	14		M
	Empc Correction				35918	7820	3482	8705	2		
321.8936	17.097	16.908	11	0.960	46647	10156	1676	4190	6	4.62(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	22.043	22.043	0	1.251	114519098	20202260	30511	76277	662		
353.8970	22.043	22.043	0	1.251	71121480	12317585	21801	54502	565	1.61(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.071						1503	3757			
341.8567	22.071						4727	11817			
13C-2,3,4,7,8-PeCDF											
351.9000	23.366	23.339	2	1.326	121706046	20527625	30511	76277	673		
353.8970	23.366	23.339	2	1.326	75357039	12978447	21801	54502	595	1.62(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.393						1503	3757			
341.8567	23.393						4727	11817			
A F1 PeCDFs											
339.8597	19.335						1444	3610			
341.8567	19.335						4336	10840			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.226						1503	3757			
341.8567	22.226						4727	11817			
13C-1,2,3,7,8-PeCDD											
367.8949	24.062	24.062	0	1.365	66781658	10062129	12500	31250	805		
369.8919	24.075	24.062	1	1.366	40675622	6315570	10071	25177	627	1.64(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.103						3366	8415			
357.8516	24.103						1404	3510			
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.018						3366	8415			
357.8516	22.018						1404	3510			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.204	30.164	2	0.945	62266443	9665825	17735	44337	545		
385.8610	30.204	30.164	2	0.945	120758195	19286449	35628	89070	541	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.231						2402	6005			
375.8178	30.231						1612	4030			
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.404	30.417	-1	0.951	59025987	9662707	17735	44337	545		
385.8610	30.404	30.417	-1	0.951	114793384	19398965	35628	89070	544	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.431						2402	6005			
375.8178	30.431						1612	4030			
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.309	31.309	0	0.980	57058160	13111488	17735	44337	739		
385.8610	31.309	31.309	0	0.980	109049765	24862787	35628	89070	698	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.323						2402	6005			
375.8178	31.323						1612	4030			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.161	32.161	0	1.006	54308674	13339138	17735	44337	752		
385.8610	32.148	32.161	-1	1.006	104080115	26024358	35628	89070	730	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.175						2402	6005			
375.8178	32.175						1612	4030			
A Non-2,3,7,8-sub-HxCDF											
373.8208	28.997						2402	6005			
375.8178	28.997						1612	4030			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.962	31.962	0		100378482	24557639	19422	48555	1264		
403.8529	31.962	31.962	0		76518056	18438567	18354	45885	1005	1.31(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.509	31.496	1	0.986	70693058	17621346	19422	48555	907		
403.8529	31.509	31.496	1	0.986	52423422	13101811	18354	45885	714	1.35(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.522						2724	6810			
391.8127	31.522						2432	6080			
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.629	31.629	0	0.990	76557666	17213584	19422	48555	886		
403.8529	31.629	31.629	0	0.990	58532261	12884286	18354	45885	702	1.31(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.642						2724	6810			
391.8127	31.642						2432	6080			
1,2,3,7,8,9-HxCDD											
389.8157	31.975						2724	6810			
391.8127	31.975						2432	6080			
A Non-2,3,7,8-sub-HxCDD											U
389.8157	30.544	30.544	0	0.966	181724	32032	2724	6810			
	Empc Correction				109281	12733	2724	6810	0		
391.8127	30.544	30.544	0	0.966	88130	10269	2432	6080		2.06(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.630	33.630	0	1.052	32738159	10167828	26640	66600	382		
419.8220	33.630	33.630	0	1.052	74670800	23736351	58493	146232	406	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.630						9826	24565			
409.7789	33.630						2378	5945			
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.711	34.699	1	1.086	29348623	8148904	26640	66600	306		
419.8220	34.711	34.699	1	1.086	69980365	19013645	58493	146232	325	0.42(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.711						9826	24565			
409.7789	34.711						2378	5945			
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.170						9826	24565			
409.7789	34.170						2378	5945			

Report Date: 01-Nov-2019 10:11:00 Chrom Revision: 2.3 17-Sep-2019 16:19:08
Data File: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_4.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.419	34.419	0	1.077	51620173	15303998	25709	64272	595		
437.8140	34.419	34.419	0	1.077	48704463	14023232	22193	55482	632	1.06(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.431						2175	5437			
425.7737	34.431						1589	3972			
A Non-2,3,7,8-sub-HpCDD											U
423.7766	34.711	34.990	-17	1.008	187433	40839	2175	5437	19		
	Empc Correction				76468	18930	2175	5437	9		
425.7737	34.699	34.990	-17	1.008	73527	18202	1589	3972	11	2.55(0.88-1.20)	
13C-OCDD											
469.7779	36.773	36.773	0	1.151	54417502	13050277	14037	35092	930		
471.7750	36.773	36.773	0	1.151	61727147	14429115	10554	26385	1367	0.88(0.76-1.02)	
OCDF											
441.7428	36.869						2309	5772			
443.7399	36.869						3399	8497			
OCDD											M
457.7377	36.785	36.785	0	1.000	75576	18519	2045	5112	9		M
459.7348	36.773	36.785	-1	1.000	76776	16931	2223	5557	8	0.98(0.76-1.02)	M

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

U - Marked Undetected

Report Date: 01-Nov-2019 10:11:00 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_4.d
Lims ID: MB 320-334214/1-A
Client ID:
Inject. Date: 30-Oct-2019 23:59:16 Dil. Factor: 1.0000
Sample Type: MB, Method Blank
Instrument ID: 3D5 Operator: ALM
Lims Batch ID: 334889 Lims Sample ID: 4

Non-2,3,7,8-sub-TCDD, RT: 16.908

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.045	D 13C-2,3,7,8-TCDD	100.000	161617638	37290545

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.045		100.000	161617638	37290545

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
17.112	215330	49900	46647	10156	0.1552	4.62	RQM
17.112	35918	7820	46647	10156	0.0489		Empc Correction
Signal Totals:							
	35918	7820	46647	10156			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	261977	60056				4.62	RQM
	82565	17976					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.1552 = (261977 * 100.000) / (161617638 * 1.045)
Empc Amount: 0.0489 = (82565 * 100.000) / (161617638 * 1.045)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_4.d
Lims ID: MB 320-334214/1-A
Client ID:
Inject. Date: 30-Oct-2019 23:59:16 Dil. Factor: 1.0000
Sample Type: MB, Method Blank
Instrument ID: 3D5 Operator: ALM
Lims Batch ID: 334889 Lims Sample ID: 4

Non-2,3,7,8-sub-HxCDD, RT: 30.544

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.027	D 13C-1,2,3,4,7,8-HxCDD	100.000	123116480	30723157
1,2,3,6,7,8-HxCDD	0.977	D 13C-1,2,3,6,7,8-HxCDD	100.000	135089927	30097870
1,2,3,7,8,9-HxCDD	1.062				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.022		100.000	129103203	30410513

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
32.148	181724	32032	88130	10269	0.2046	2.06	RQ
32.148	109281	12733	88130	10269	0.1496		Empc Correction

Compound is Marked ND

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_4.d
Lims ID: MB 320-334214/1-A
Client ID:
Inject. Date: 30-Oct-2019 23:59:16 Dil. Factor: 1.0000
Sample Type: MB, Method Blank
Instrument ID: 3D5 Operator: ALM
Lims Batch ID: 334889 Lims Sample ID: 4

Non-2,3,7,8-sub-HpCDD, RT: 34.990

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.010	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	100324636	29327230

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.010		100.000	100324636	29327230

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.711	187433	40839	73527	18202	0.2575	2.55	RQ
34.711	76468	18930	73527	18202	0.1480		Empc Correction

Compound is Marked ND

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_4.d				
Injection Date:	30-Oct-2019 23:59:16	Instrument ID:	3D5		
Lims ID:	MB 320-334214/1-A				
Client ID:					
Operator ID:	ALM	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

Non-2,3,7,8-sub-TCDD, Signal: 1, m/z: 319.8965, RT: (15.62- 18.20)

Signal: 1

Processing Integration Results

RT = 17.112 Area = 241873

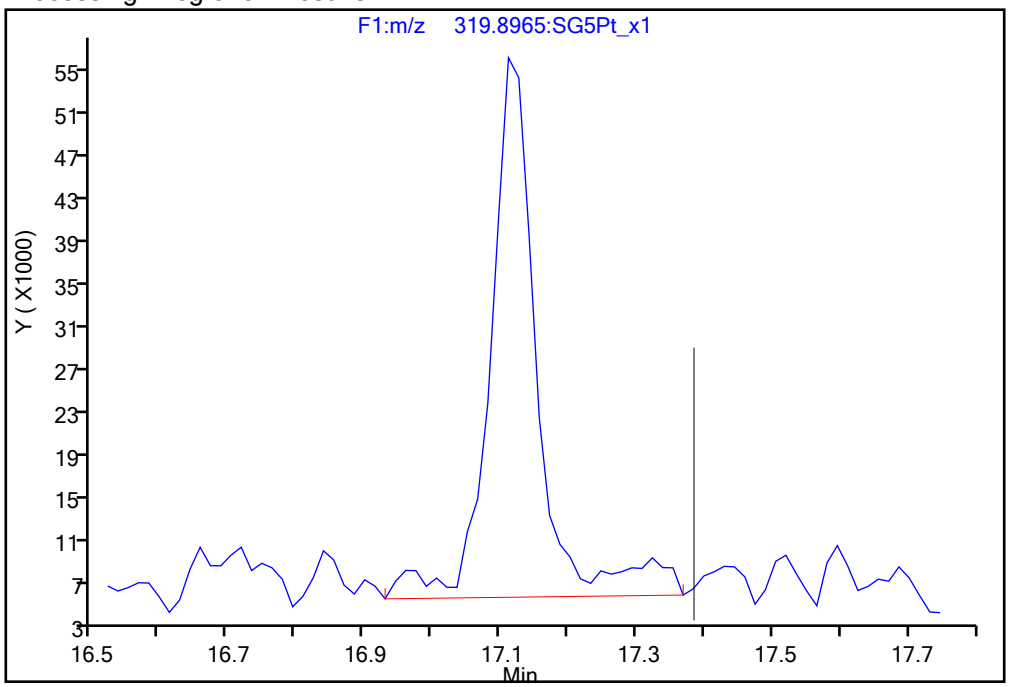

Manual Integration Results

RT = 17.112 Area = 215330 M

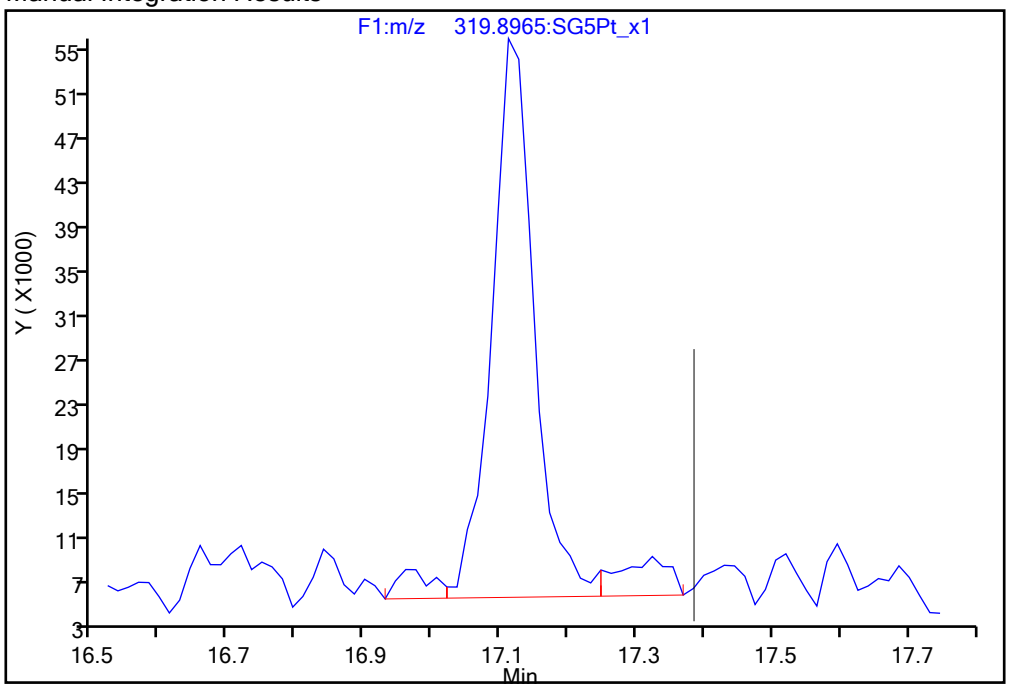

Reviewer: dadunj, 01-Nov-2019 10:09:06

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_4.d				
Injection Date:	30-Oct-2019 23:59:16	Instrument ID:	3D5		
Lims ID:	MB 320-334214/1-A				
Client ID:					
Operator ID:	ALM	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5:HRSIR		

OCDD, CAS: 3268-87-9

Signal: 1

Processing Integration Results

RT: 36.78
Area: 85419
Amount: 0.295209
Amount Units: pg/ul

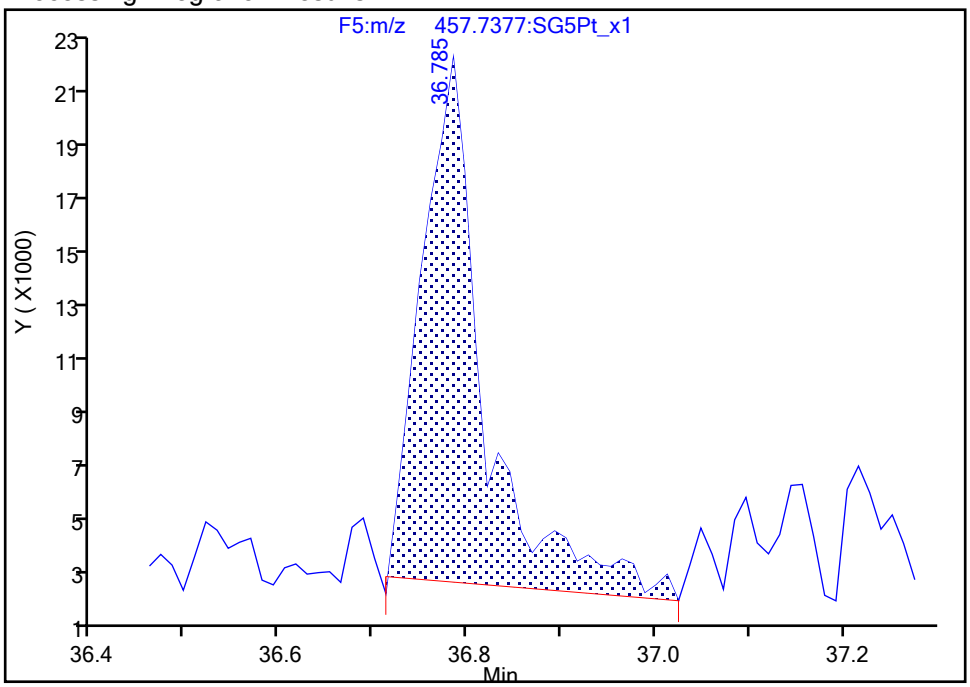

Manual Integration Results

RT: 36.78
Area: 75576
Amount: 0.246873
Amount Units: pg/ul

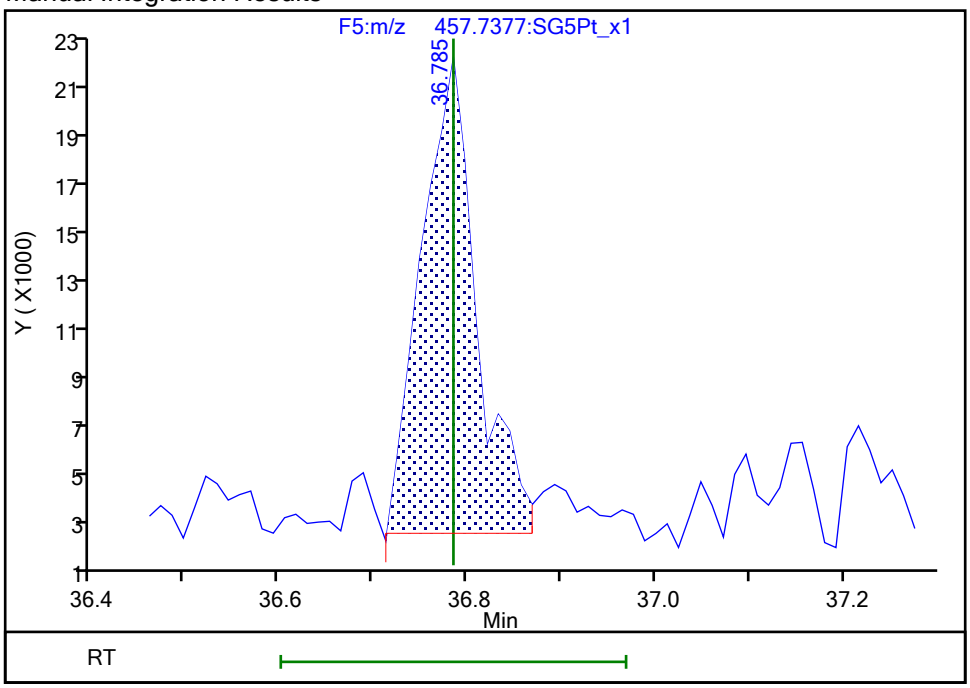

Reviewer: dadunj, 01-Nov-2019 10:09:53

Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_4.d				
Injection Date:	30-Oct-2019 23:59:16	Instrument ID:	3D5		
Lims ID:	MB 320-334214/1-A				
Client ID:					
Operator ID:	ALM	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5:HRSIR		

OCDD, CAS: 3268-87-9

Signal: 2

Processing Integration Results

RT: 36.77
Area: 96762
Amount: 0.295209
Amount Units: pg/ul

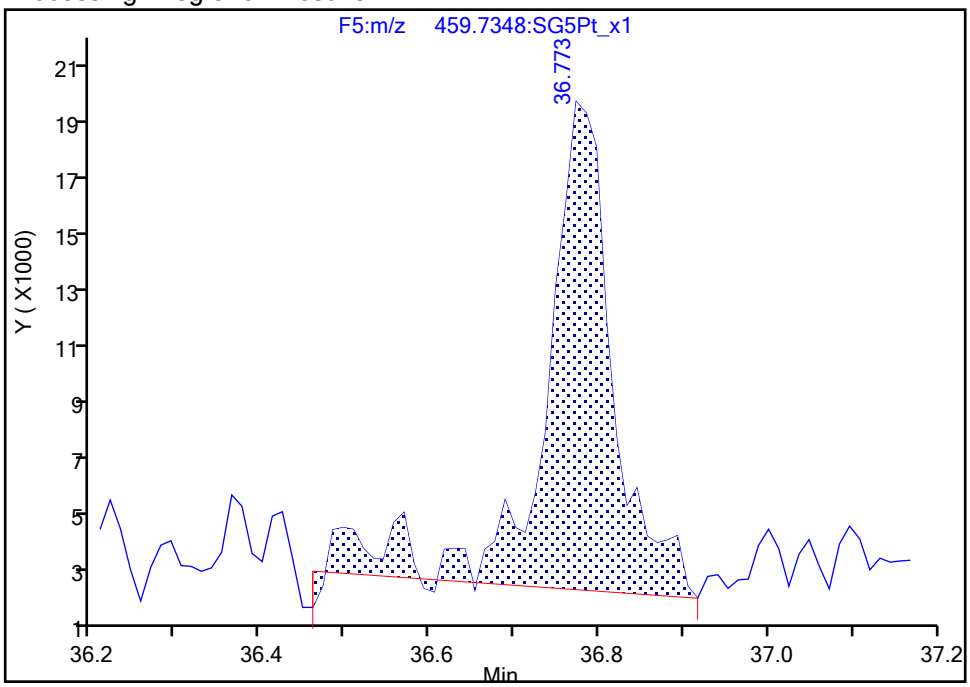

Manual Integration Results

RT: 36.77
Area: 76776
Amount: 0.246873
Amount Units: pg/ul

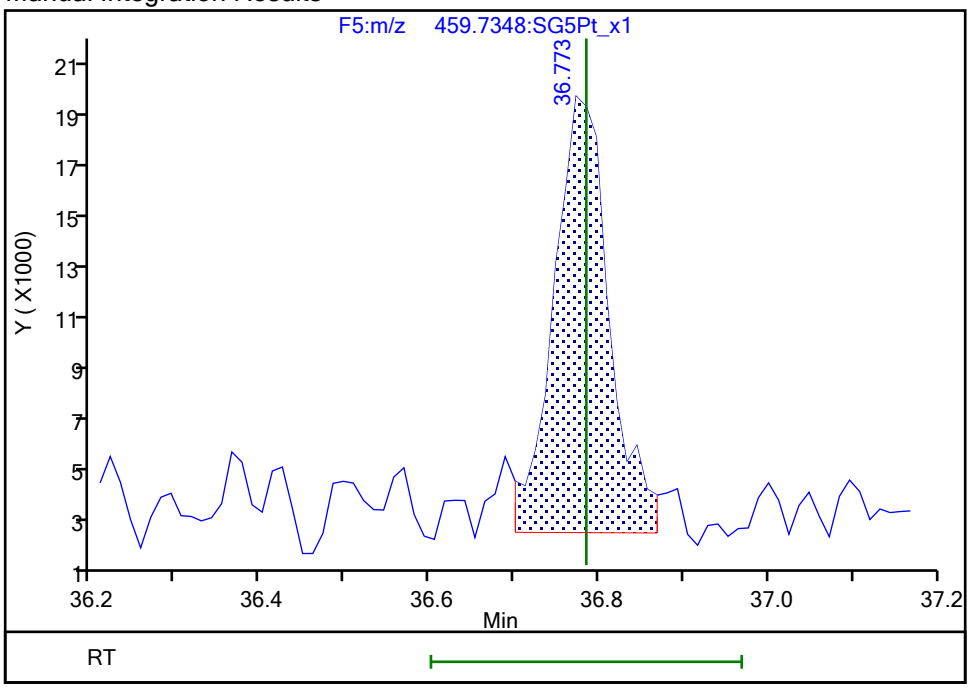

Reviewer: dadunj, 01-Nov-2019 10:09:54

Audit Action: Split an Integrated Peak Audit Reason: Baseline

Report Date: 01-Nov-2019 10:11:00 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

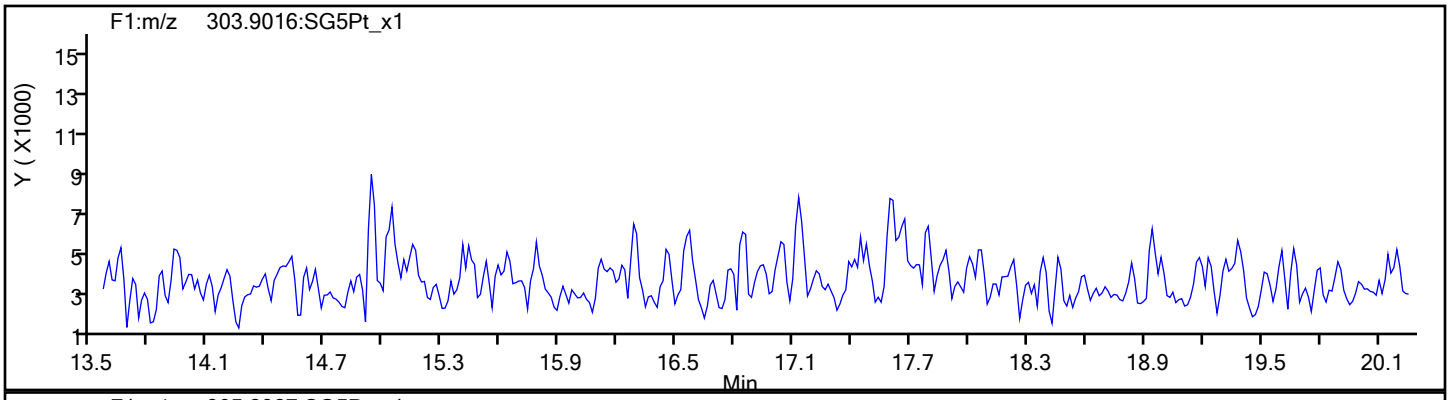

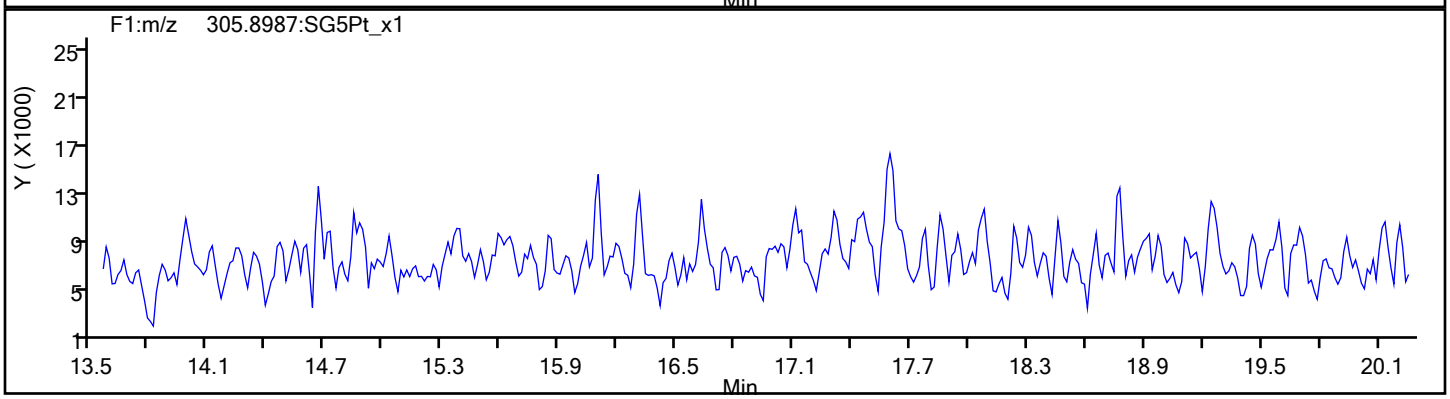

TCDF Standards

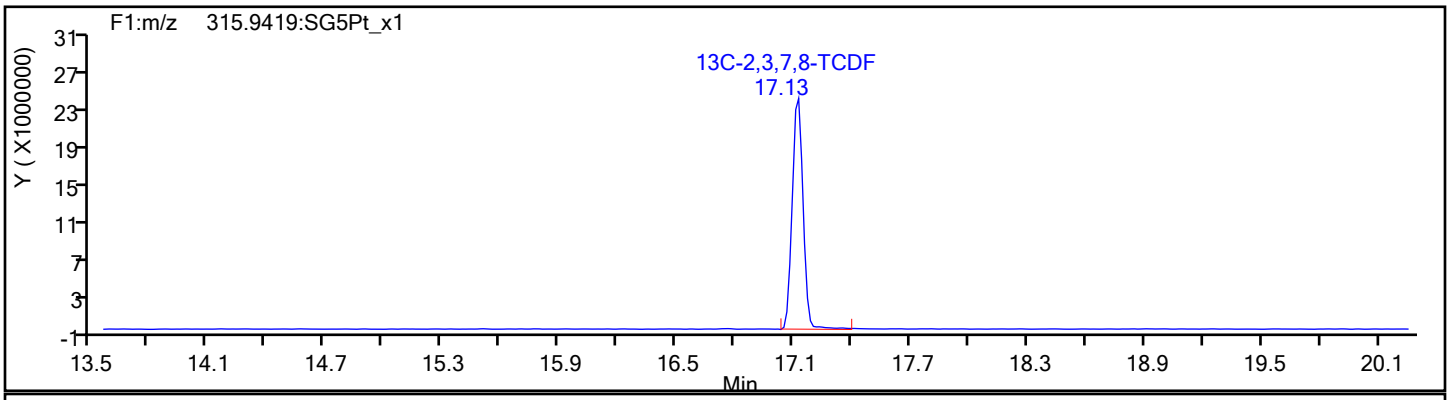

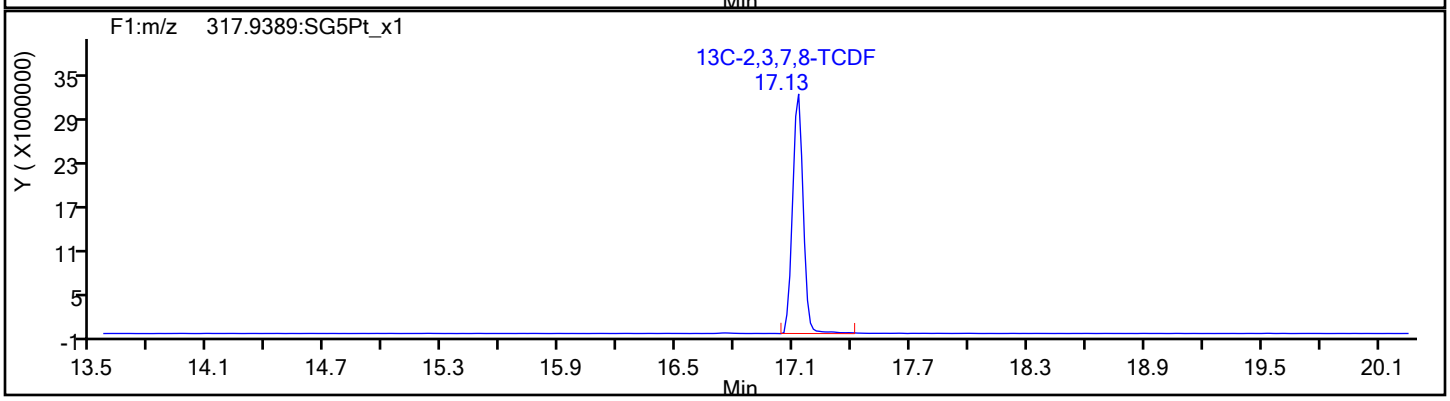

Report Date: 01-Nov-2019 10:11:00 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_4.d		
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Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	334889	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

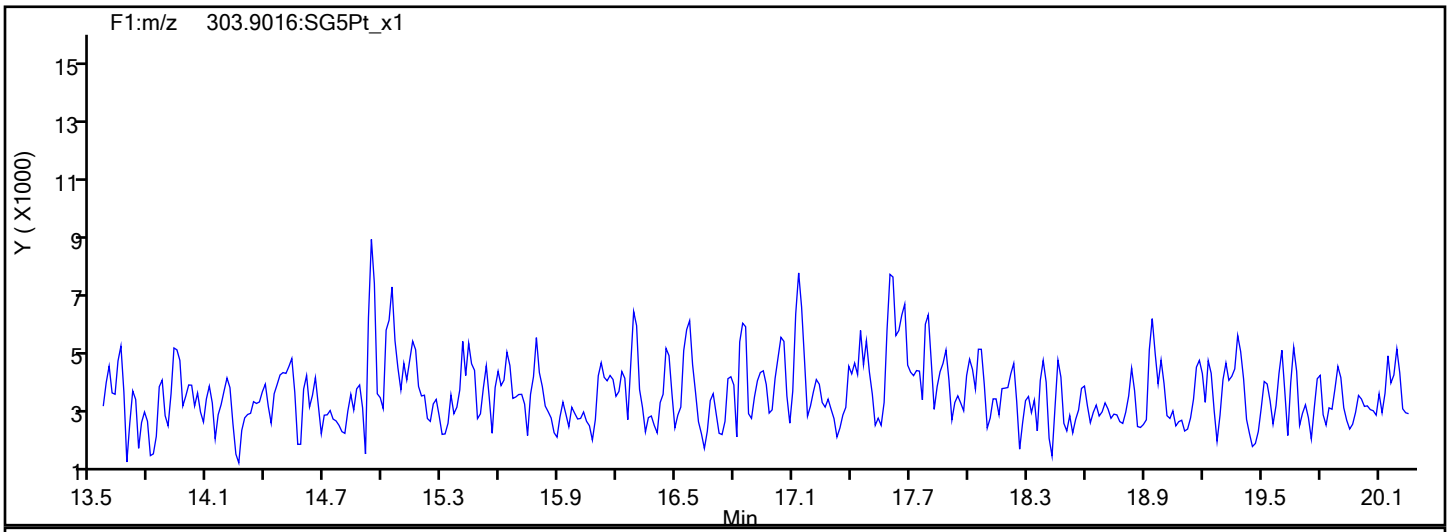

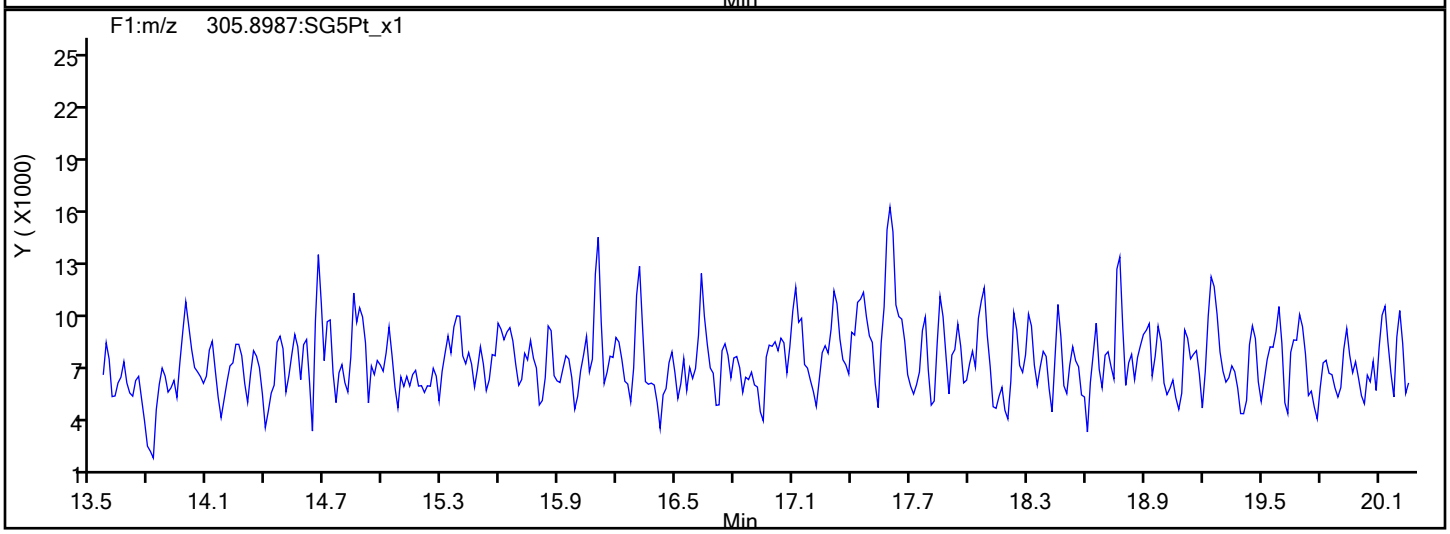

TCDF Interference Mass

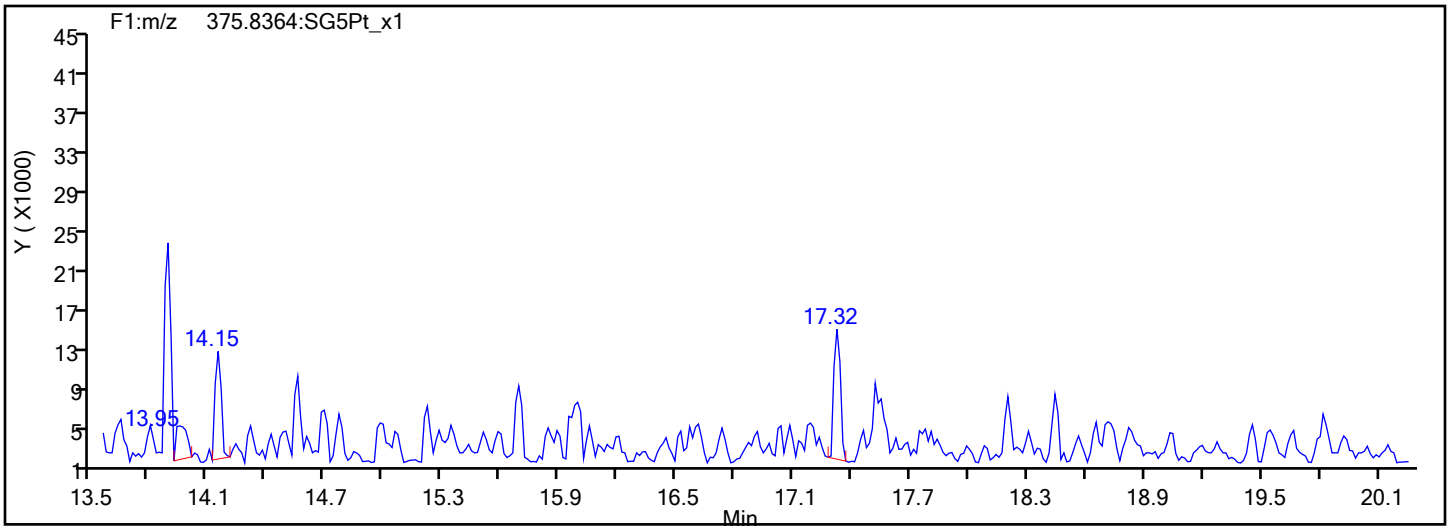

Report Date: 01-Nov-2019 10:11:00 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_4.d		
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Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	334889	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

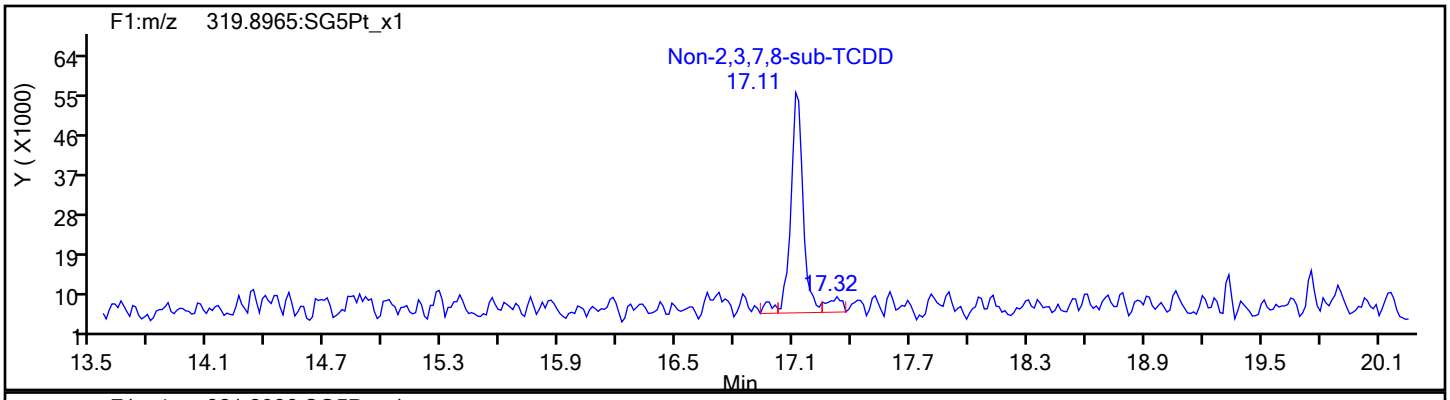

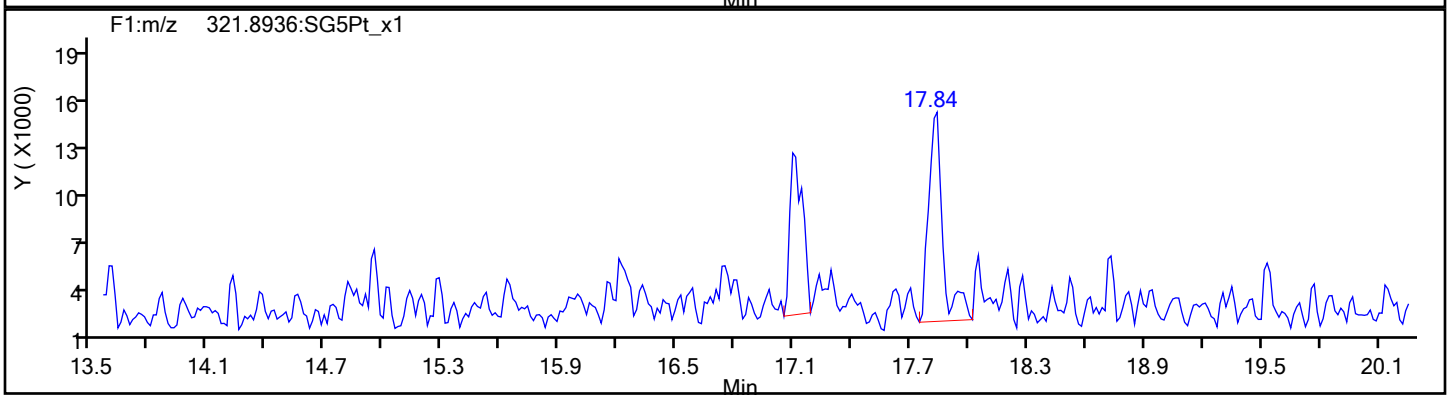

TCDD Standards

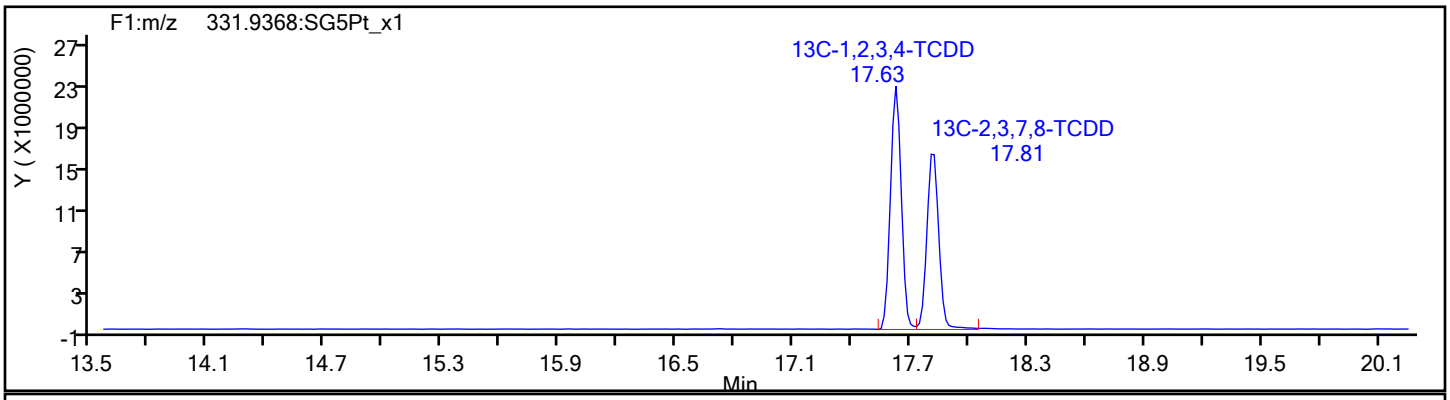

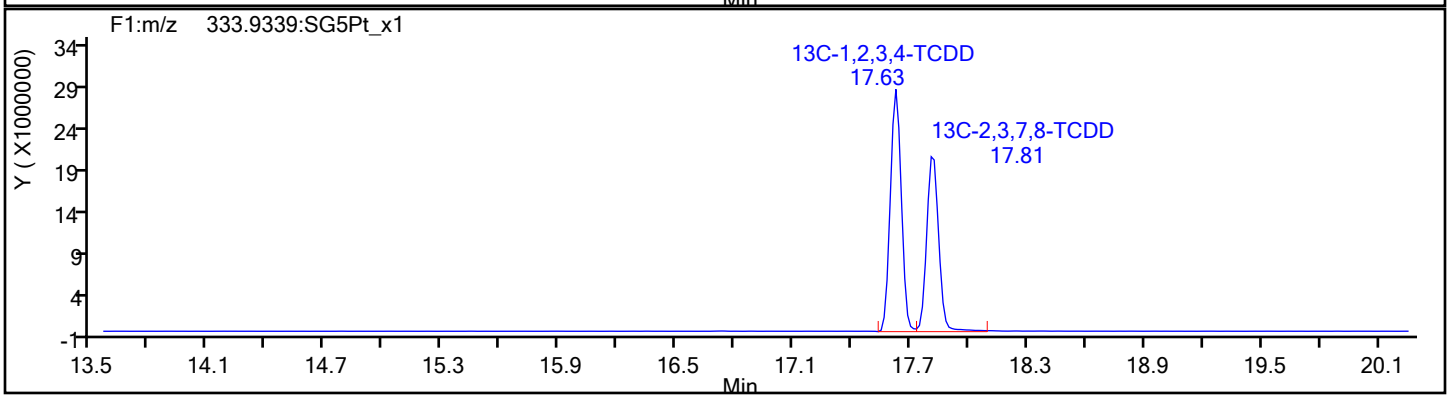

Report Date: 01-Nov-2019 10:11:00 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_4.d		
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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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37Cl4-TCDD

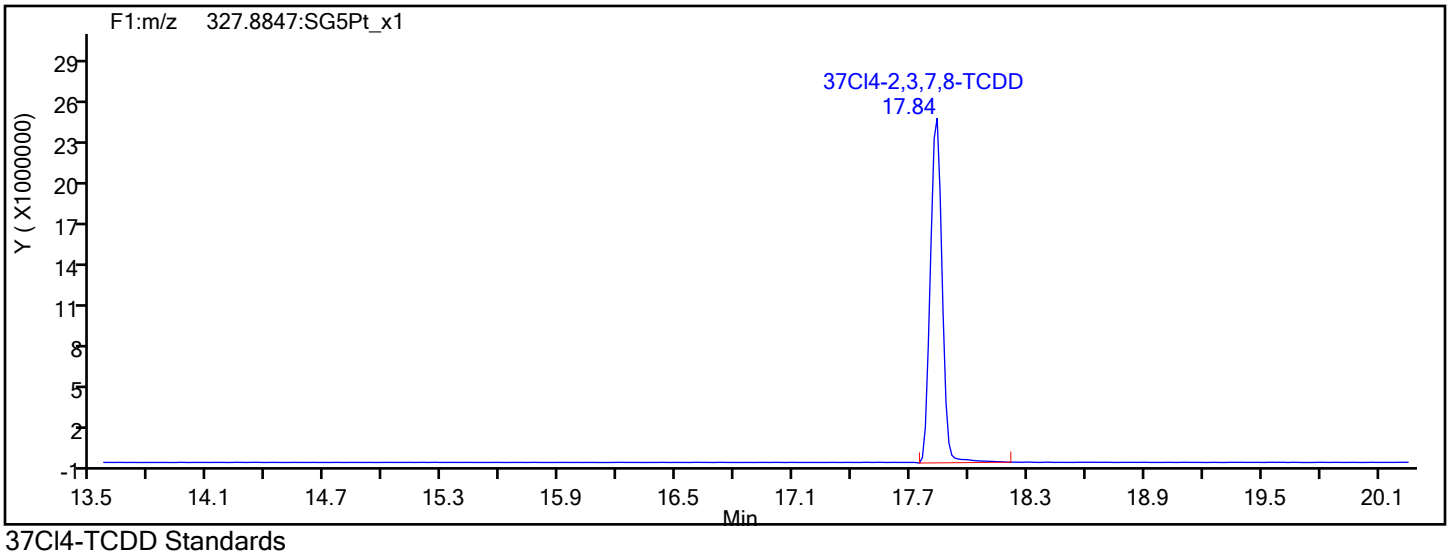

37Cl4-TCDD Standards

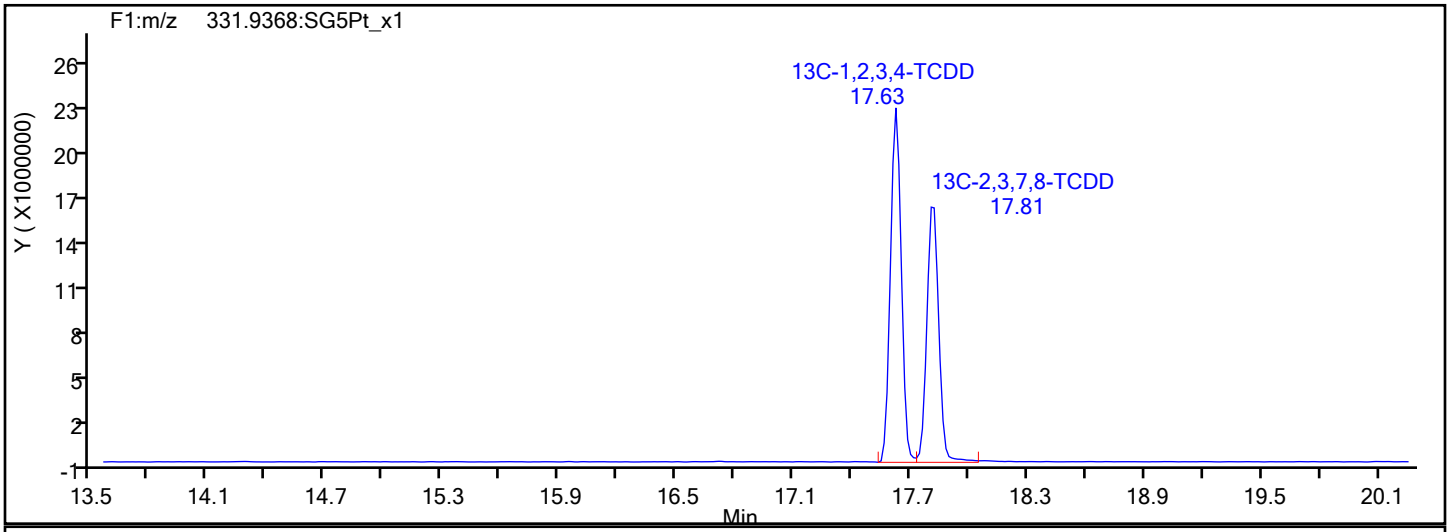

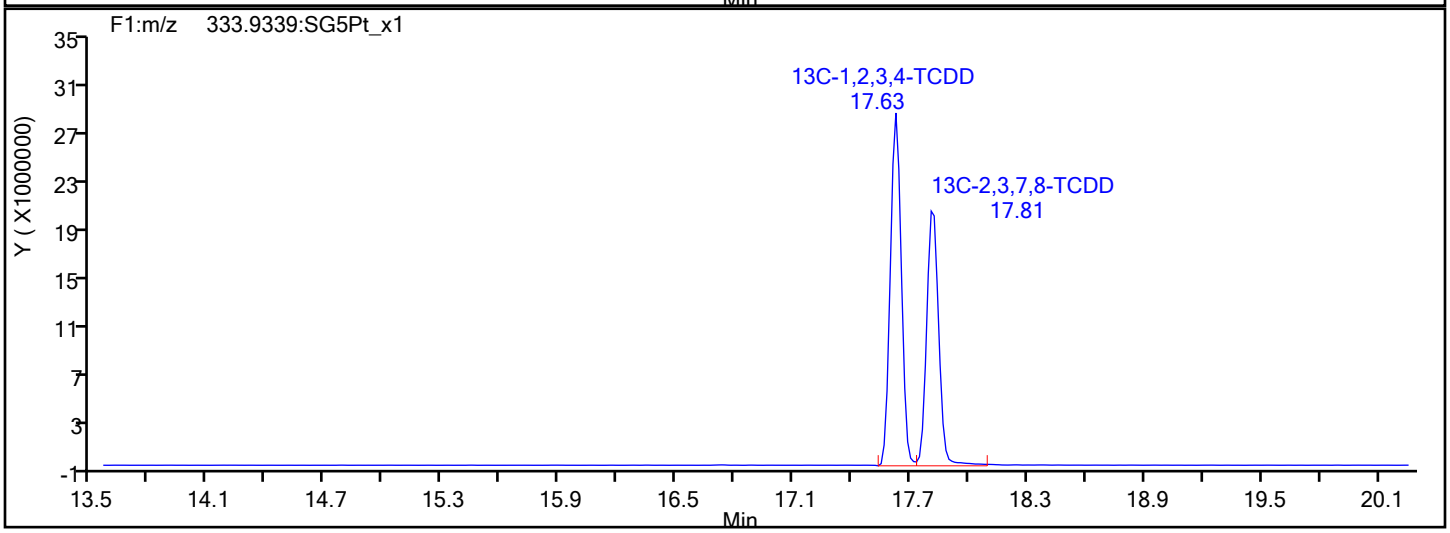

Report Date: 01-Nov-2019 10:11:00 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

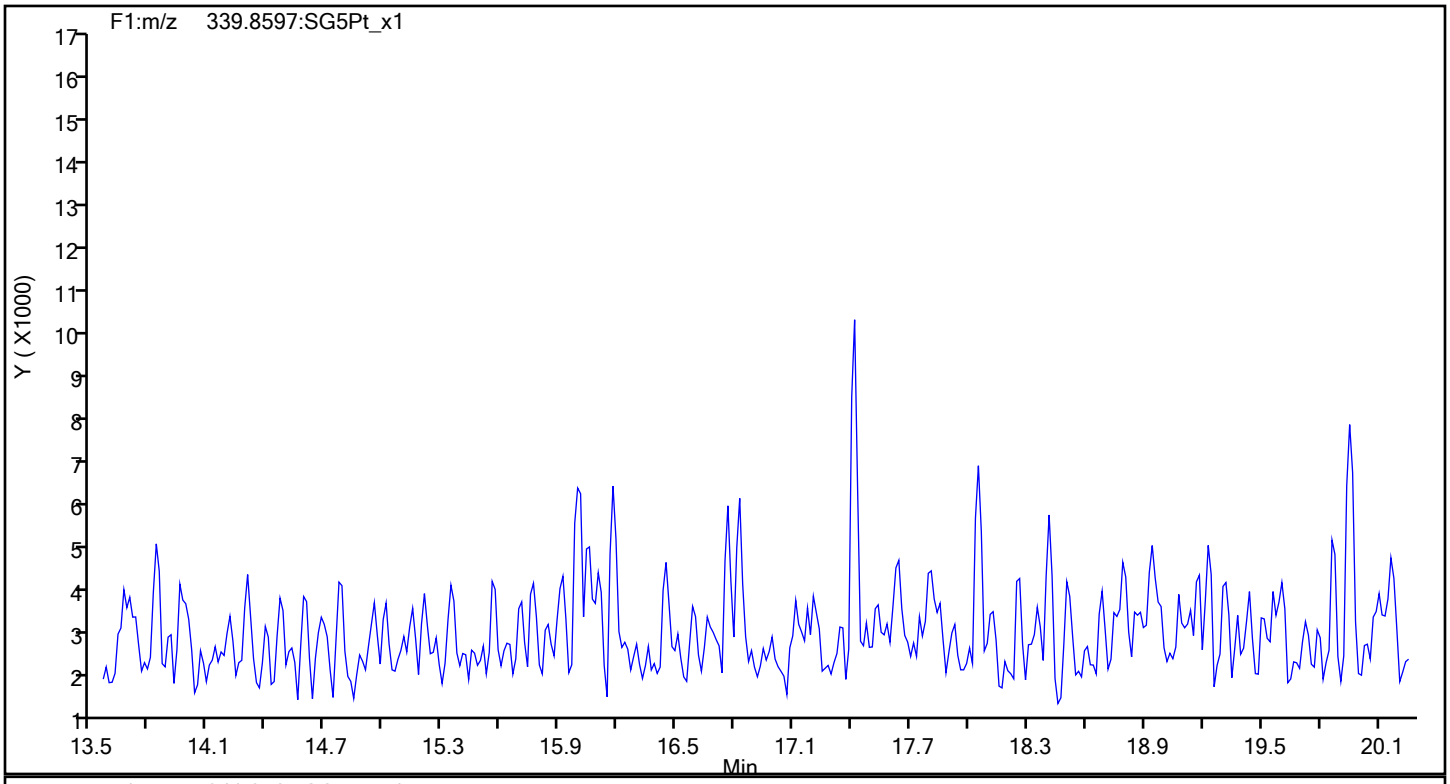

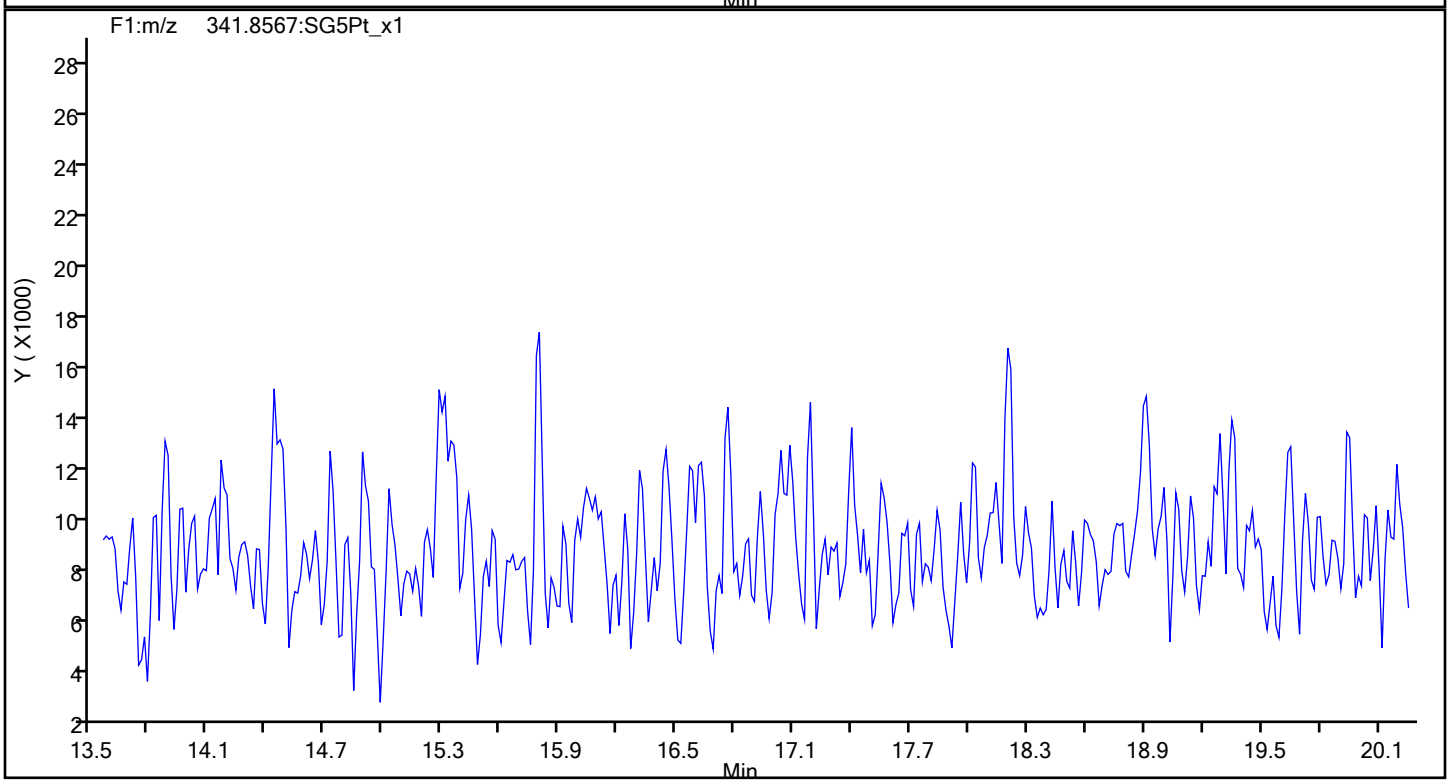

Report Date: 01-Nov-2019 10:11:00 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_4.d		
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F1 PeCDFs

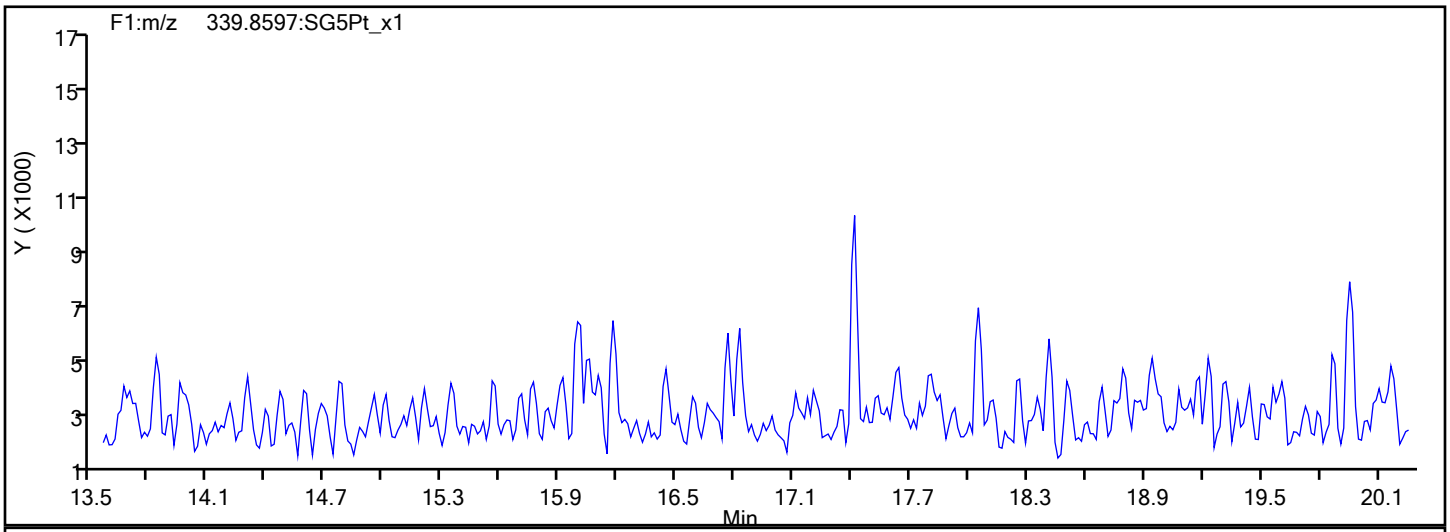

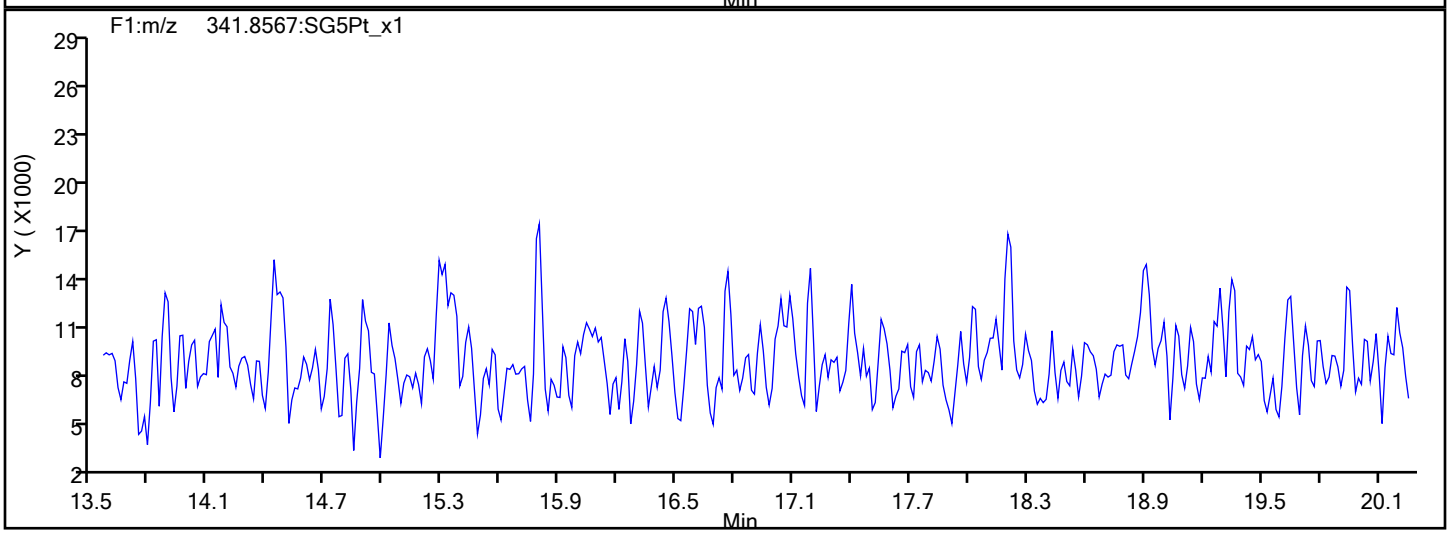

F1 PeCDFs Interference Mass

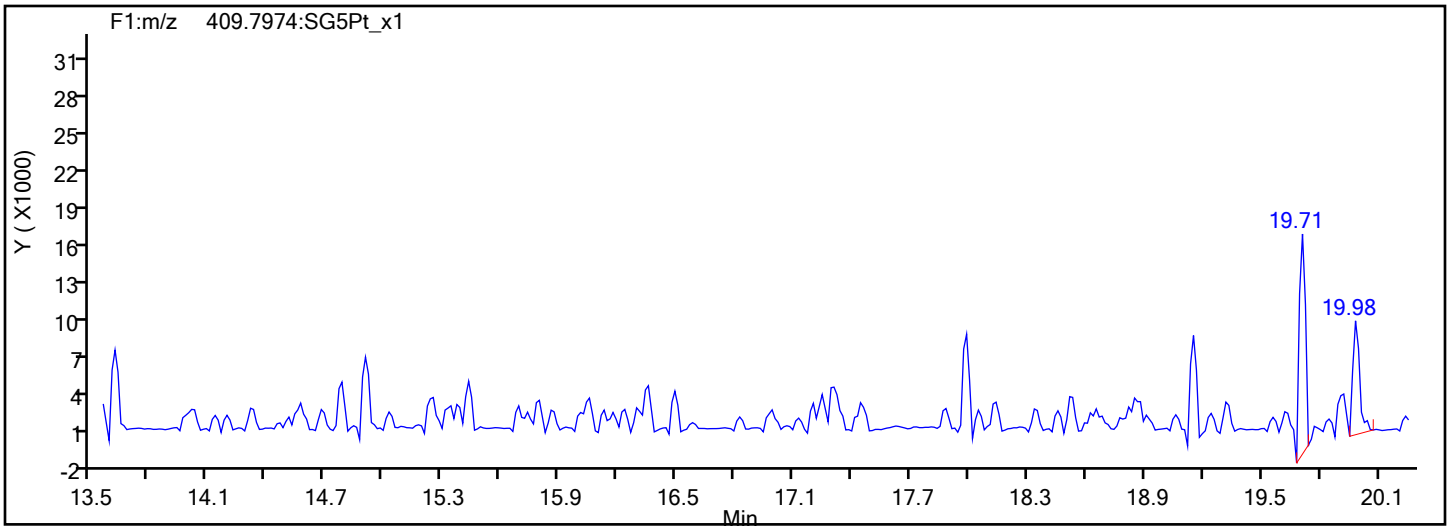

Report Date: 01-Nov-2019 10:11:00 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Injection Date:	30-Oct-2019 23:59:16	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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PeCDF

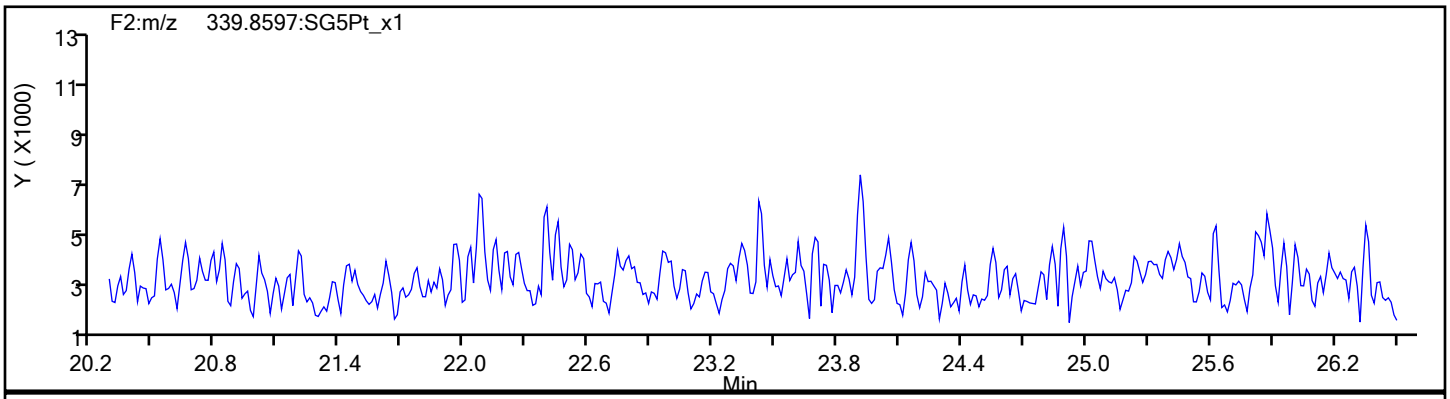

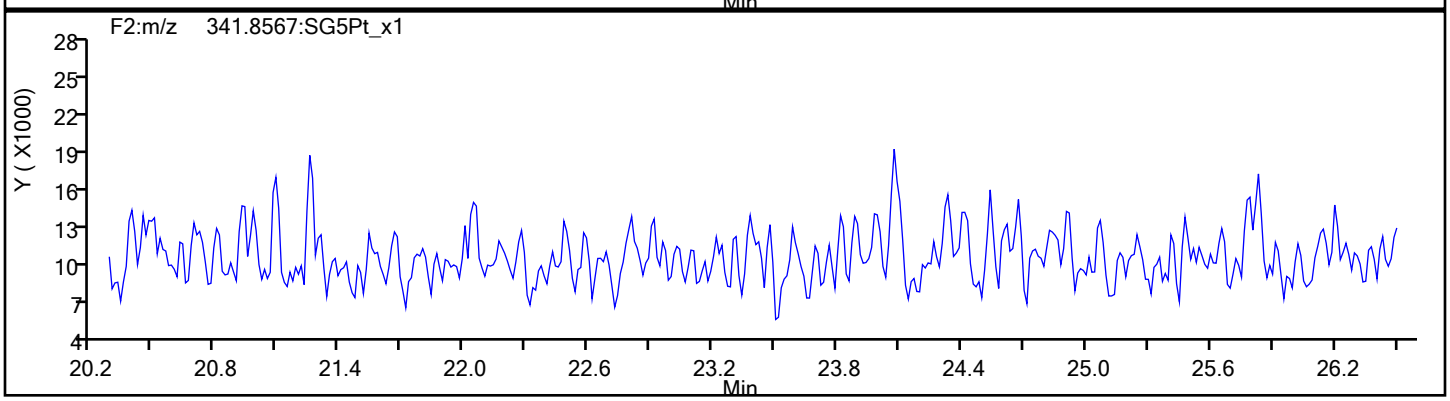

PeCDF Standards

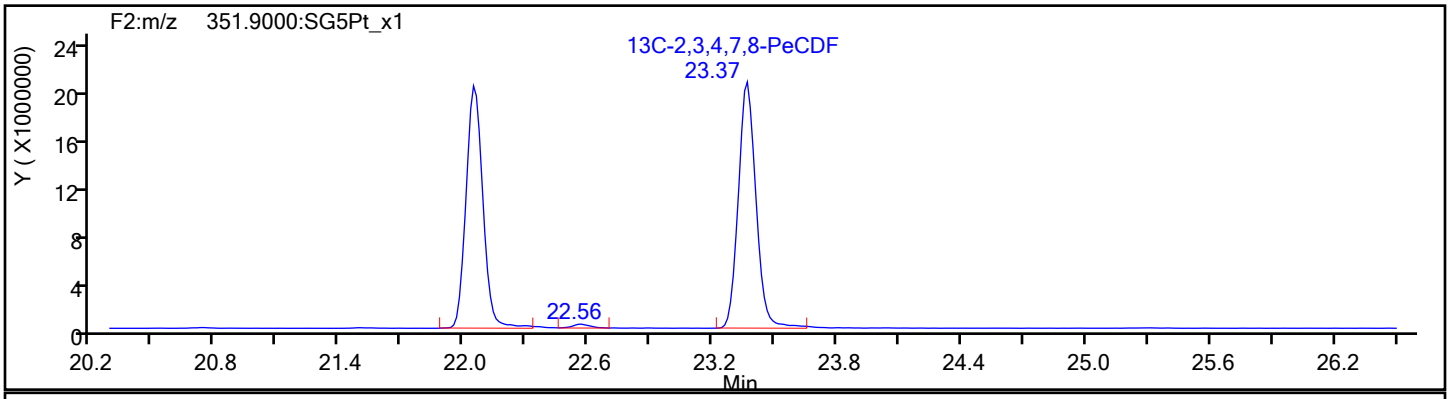

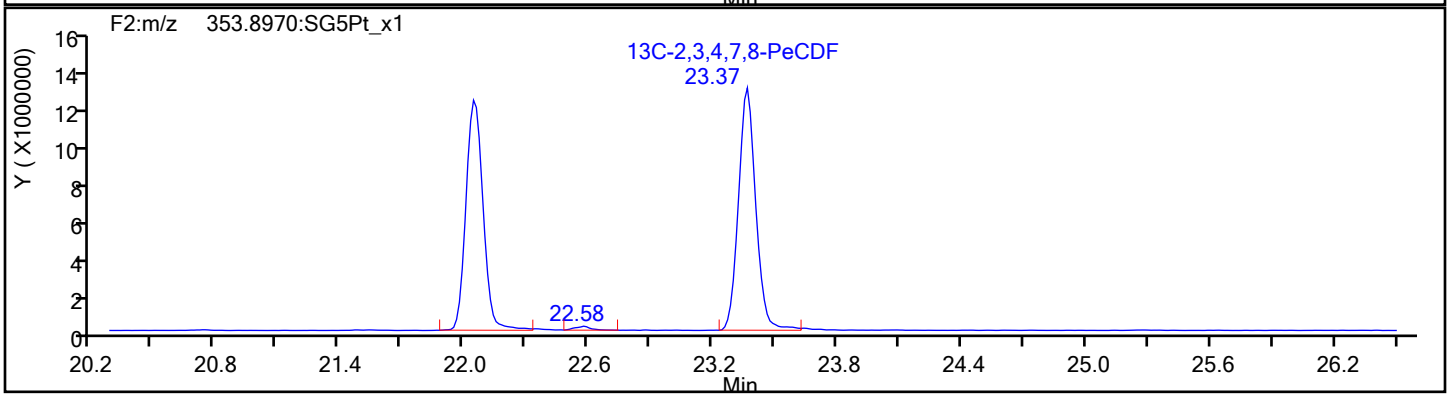

Report Date: 01-Nov-2019 10:11:00 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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PeCDF

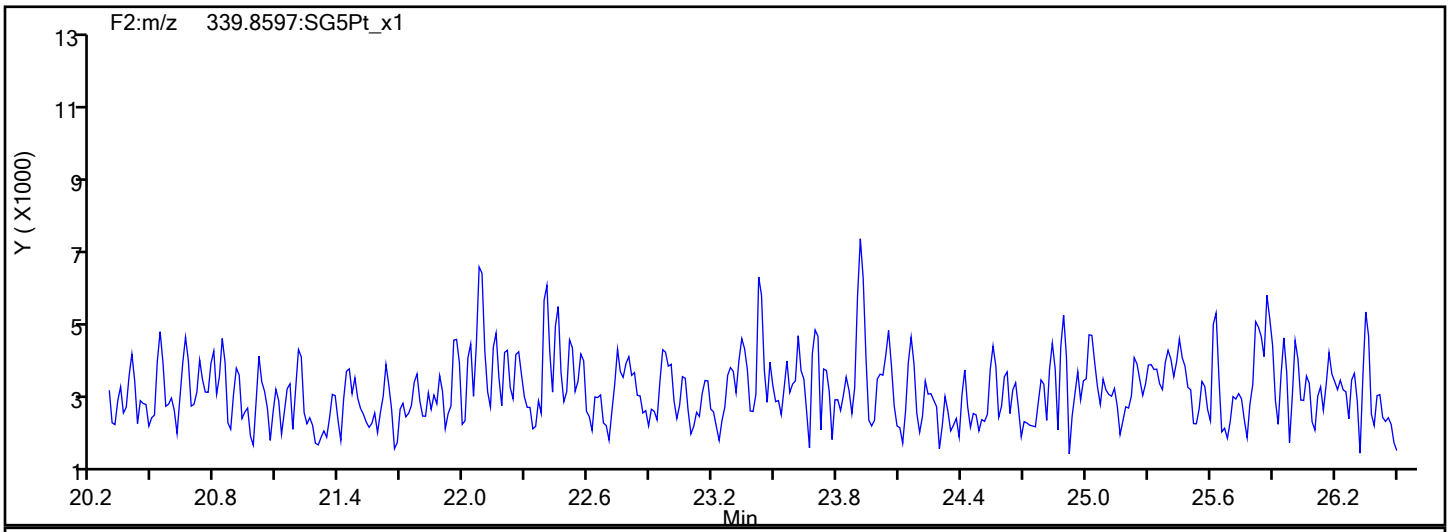

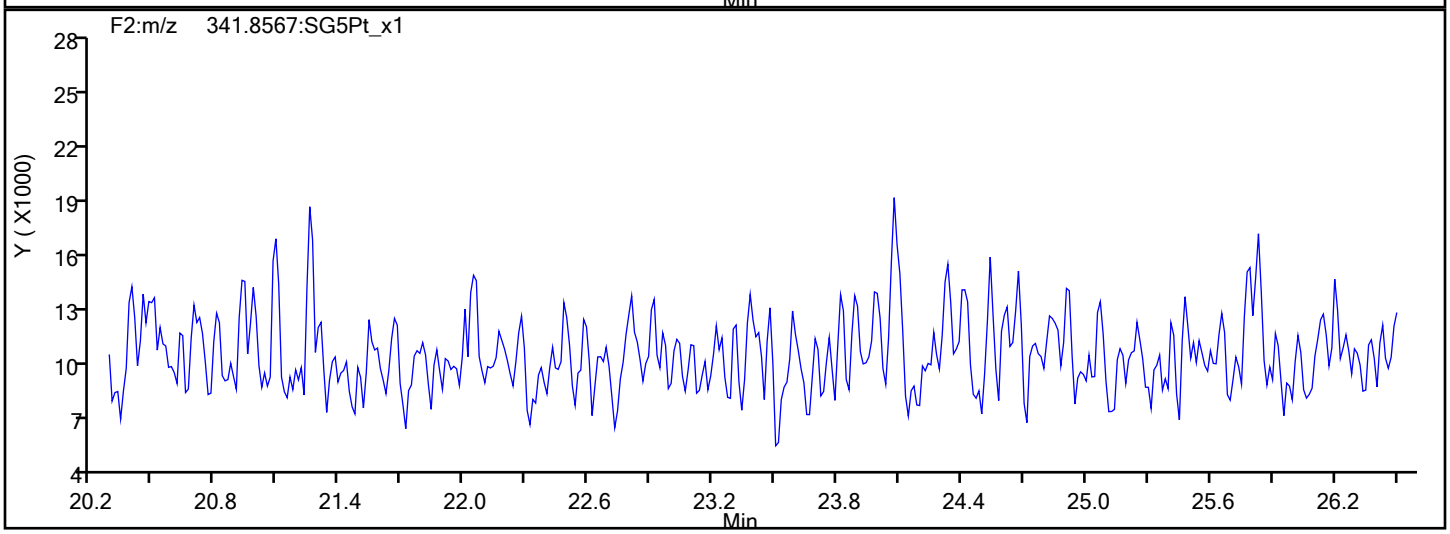

PeCDF Interference Mass

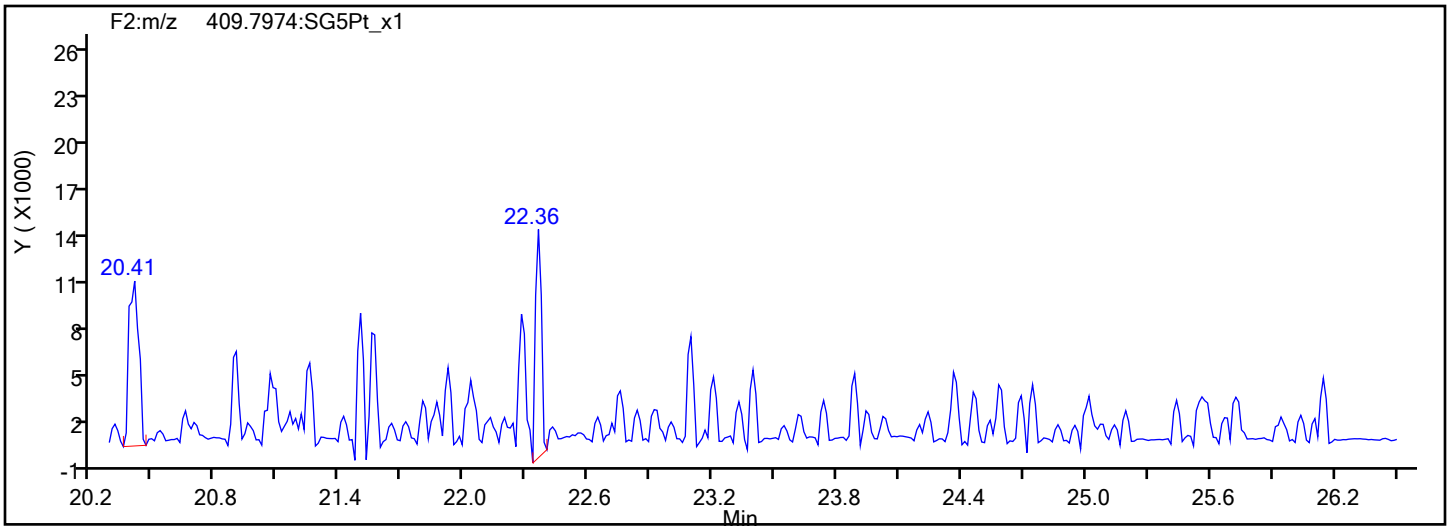

Report Date: 01-Nov-2019 10:11:00 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_4.d		
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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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PeCDD

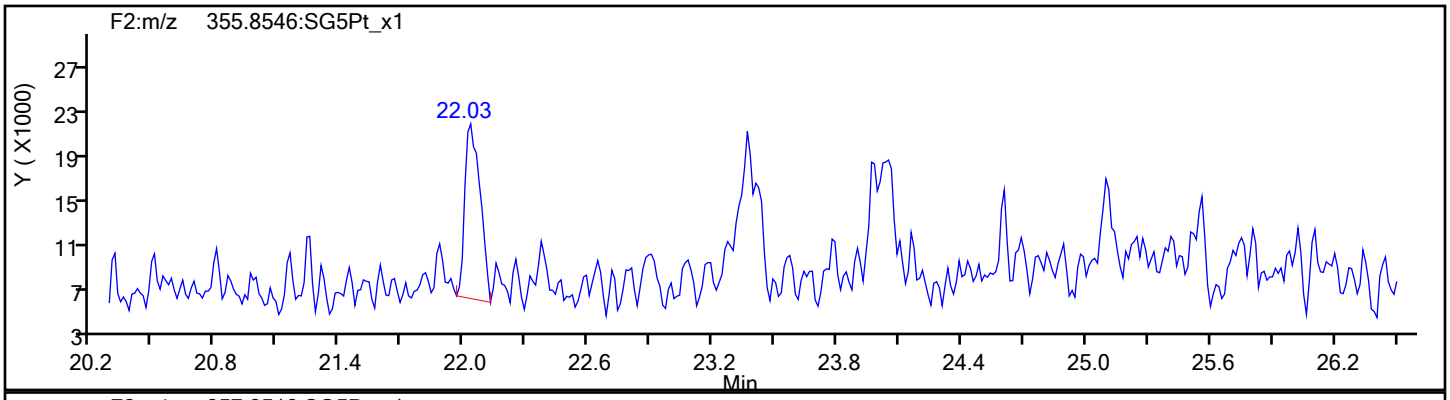

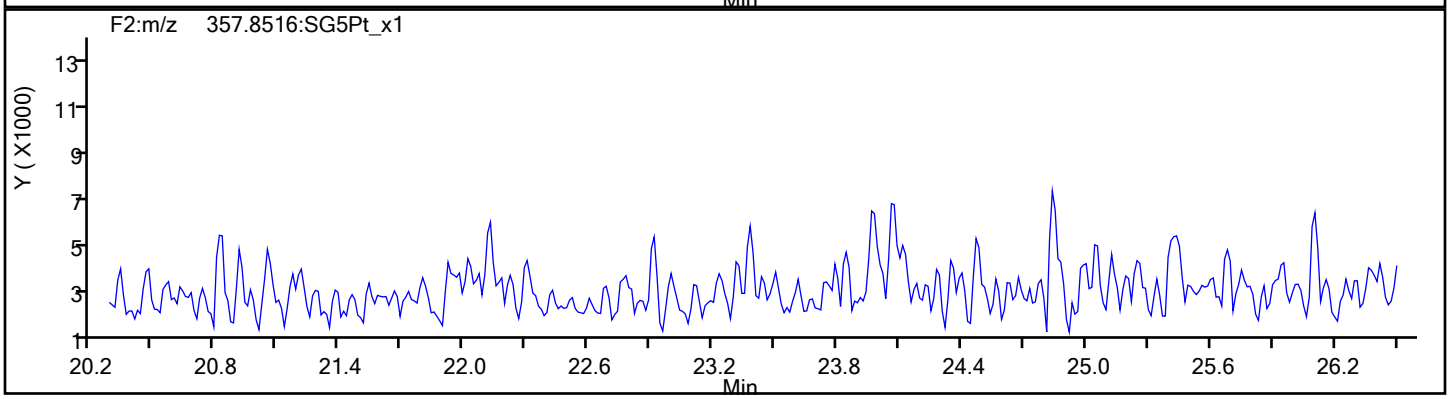

PeCDD Standards

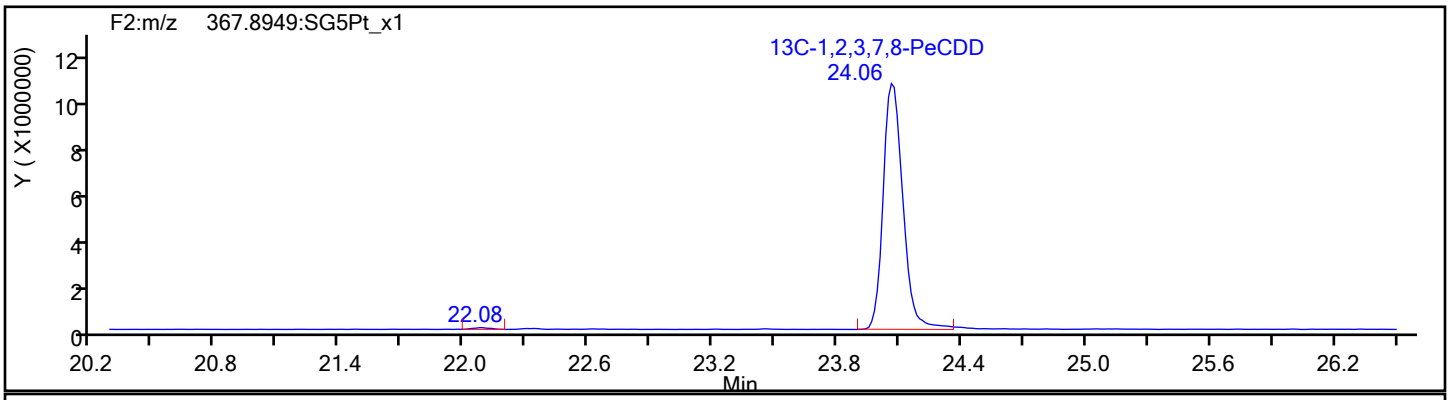

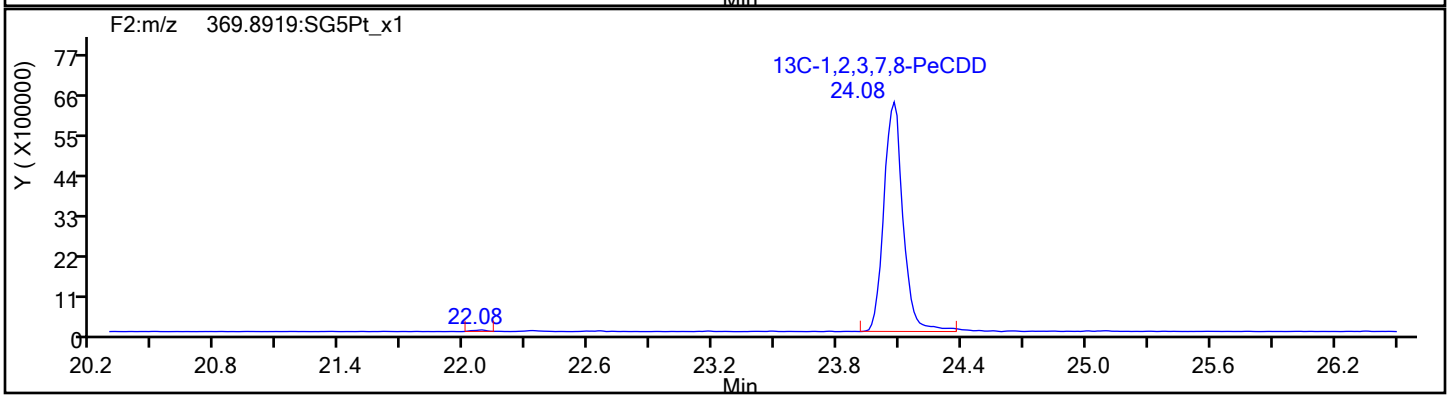

Report Date: 01-Nov-2019 10:11:00 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Injection Date:	30-Oct-2019 23:59:16	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
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Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

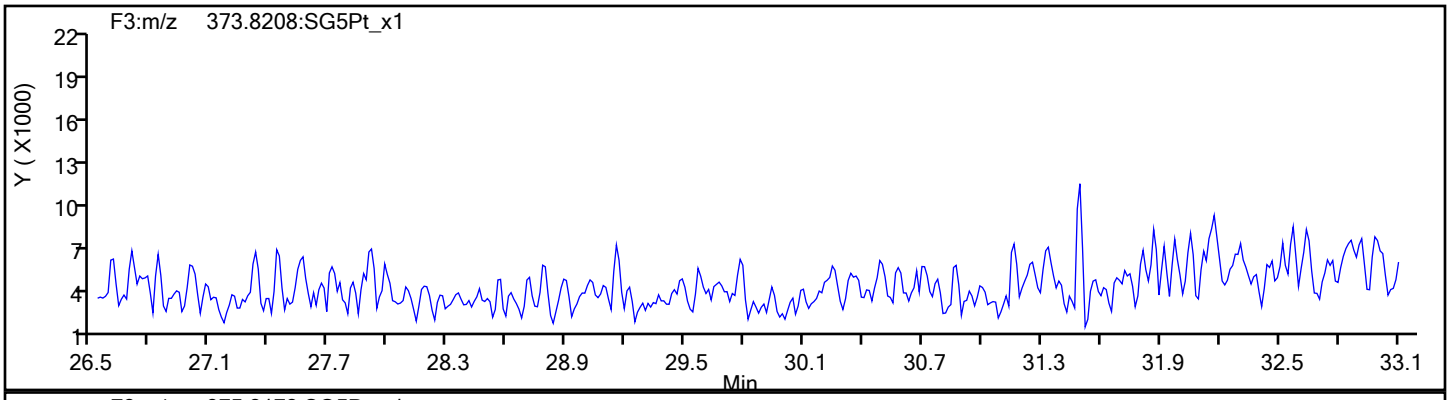

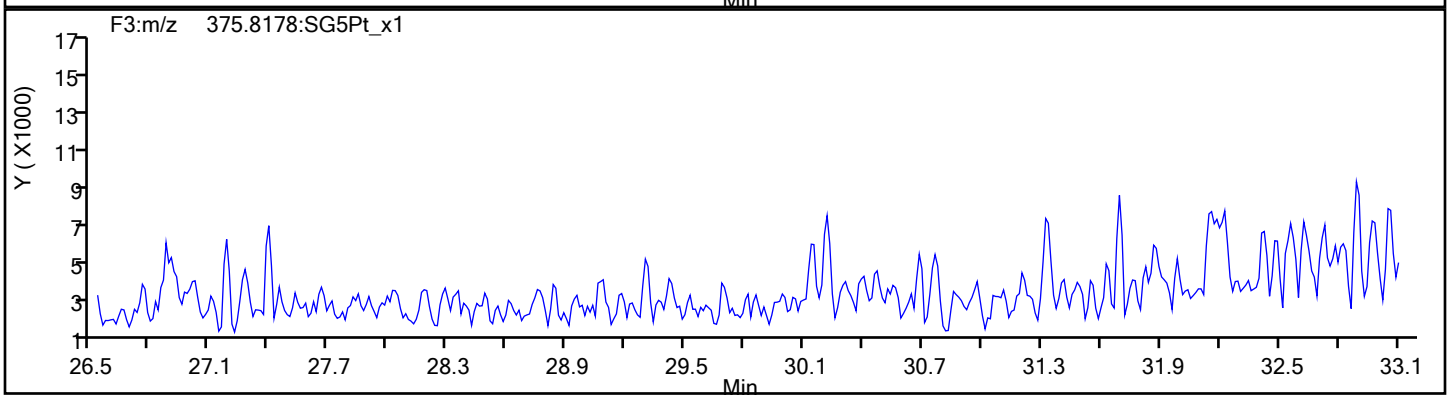

HxCDF Standards

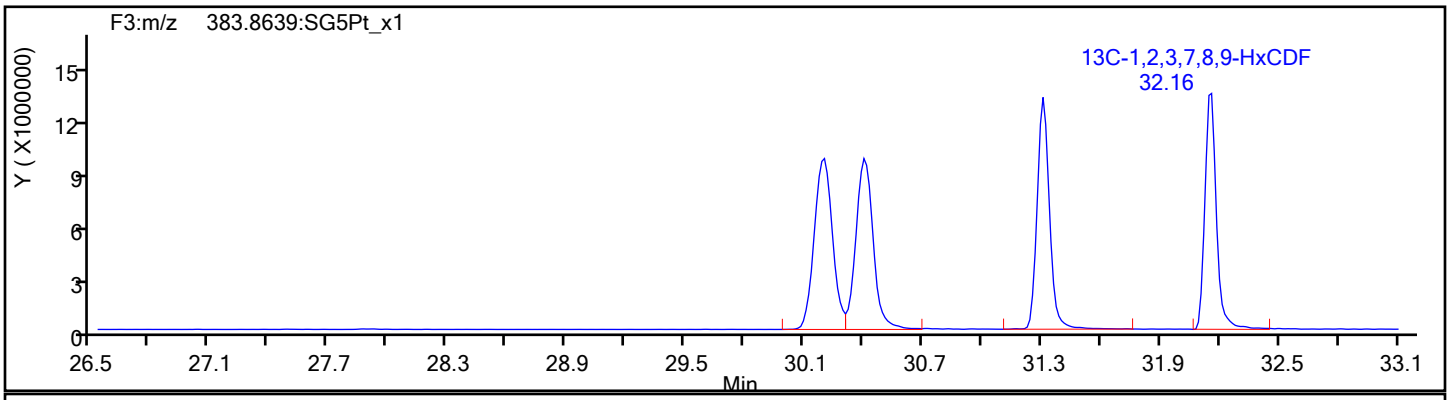

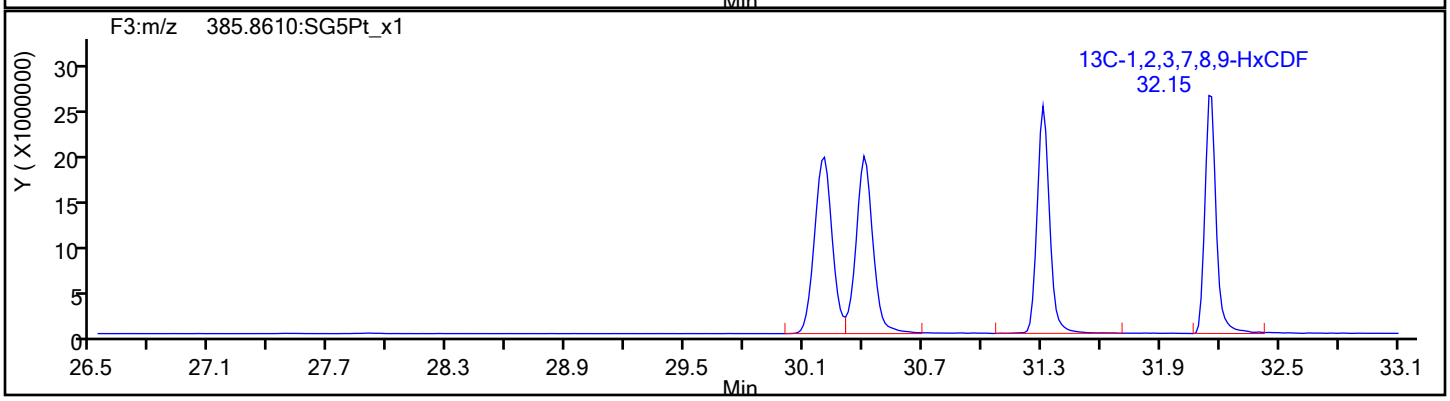

Report Date: 01-Nov-2019 10:11:00 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_4.d		
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Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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HxCDF

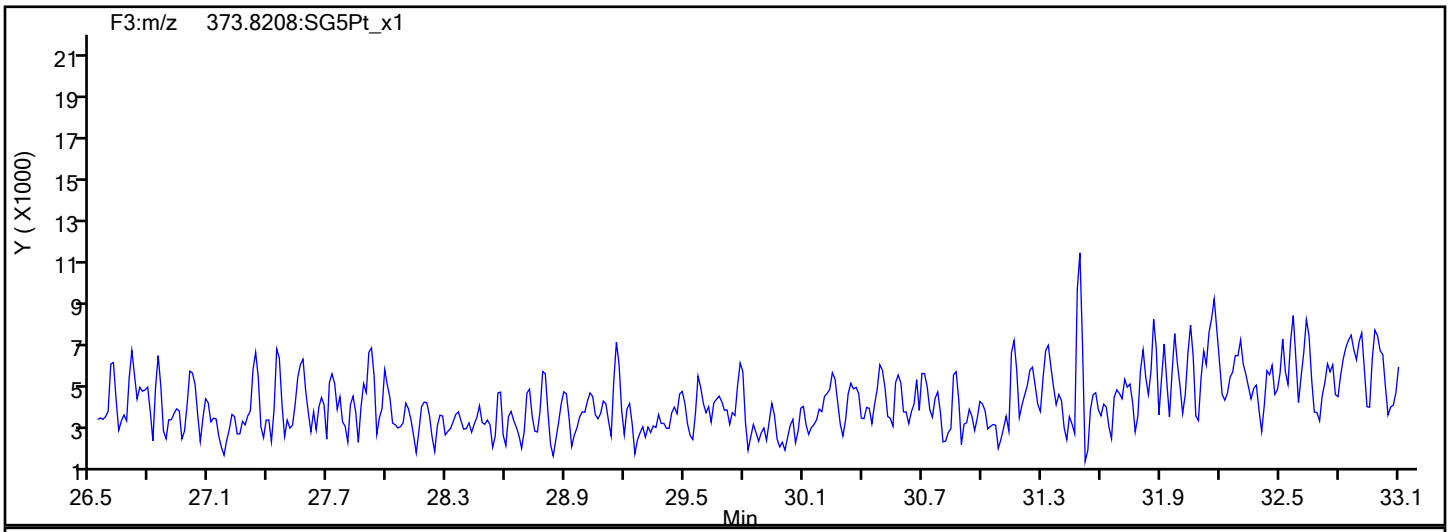

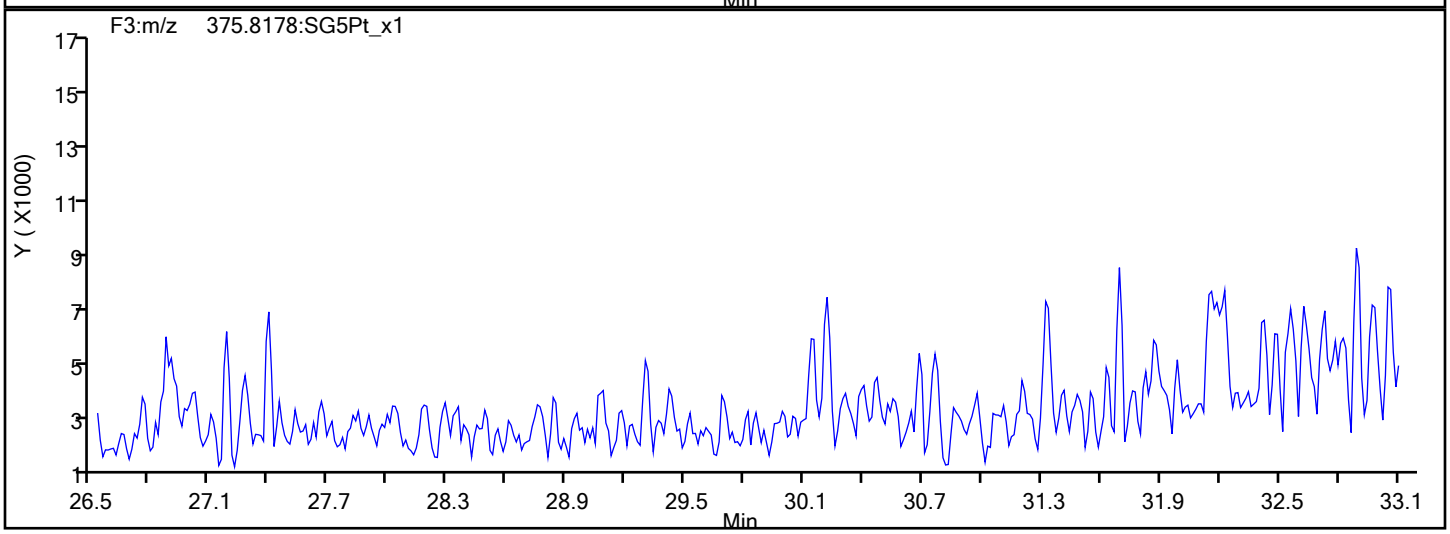

HxCDF Interference Mass

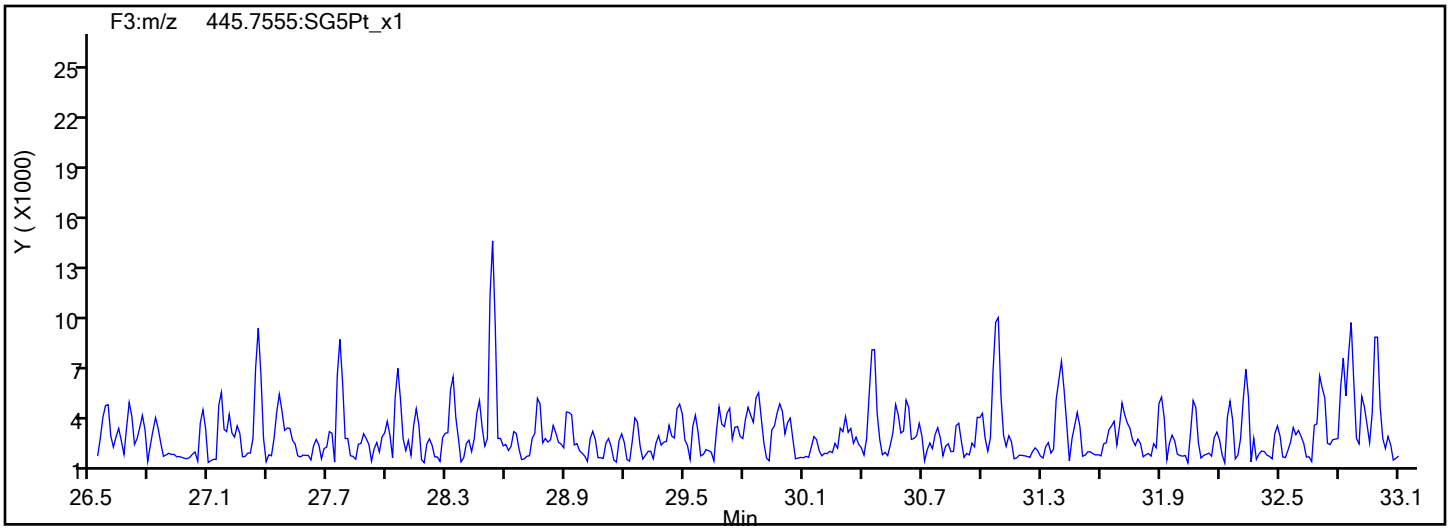

Report Date: 01-Nov-2019 10:11:00 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_4.d		
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Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HxCDD

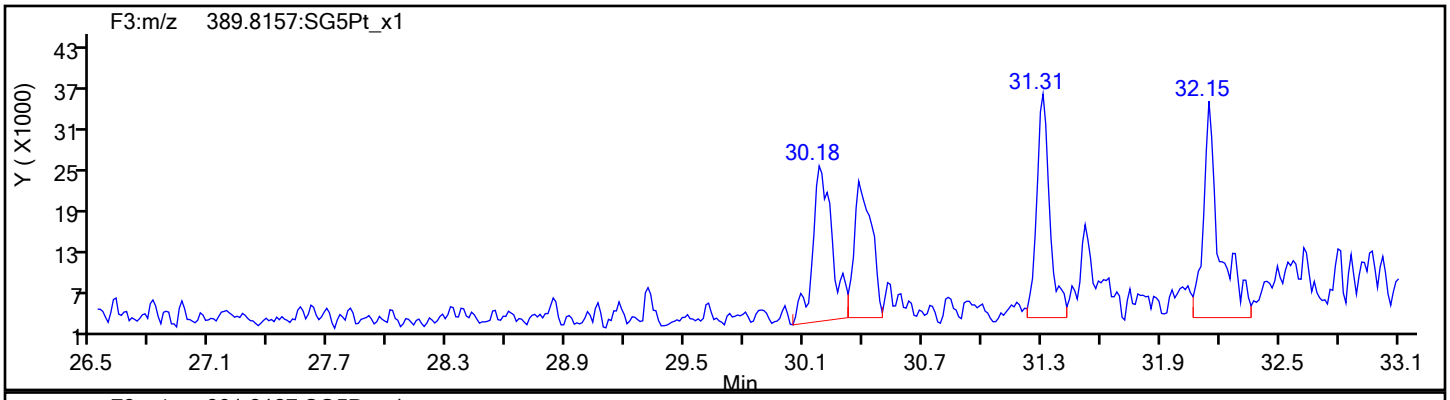

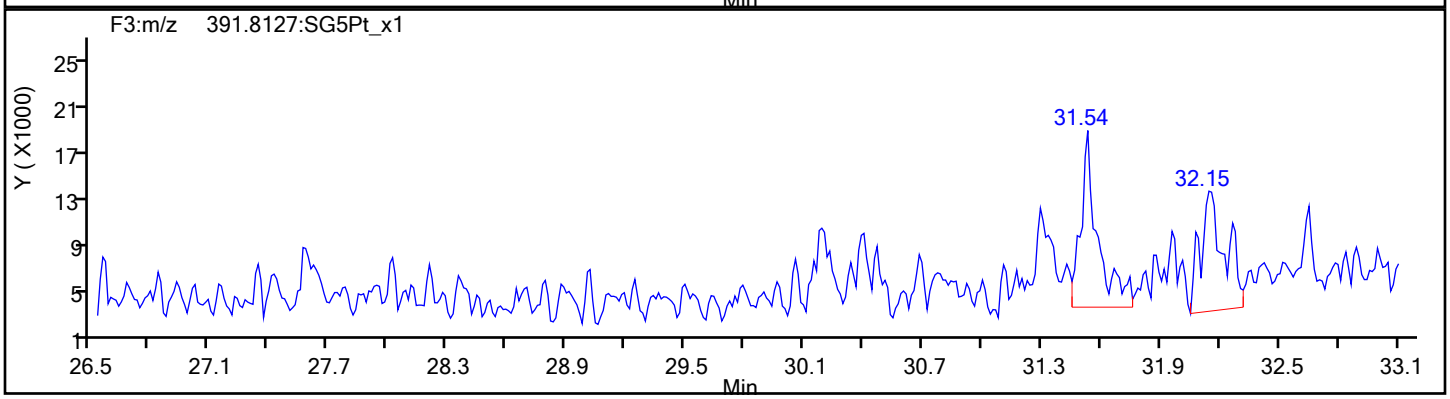

HxCDD Standards

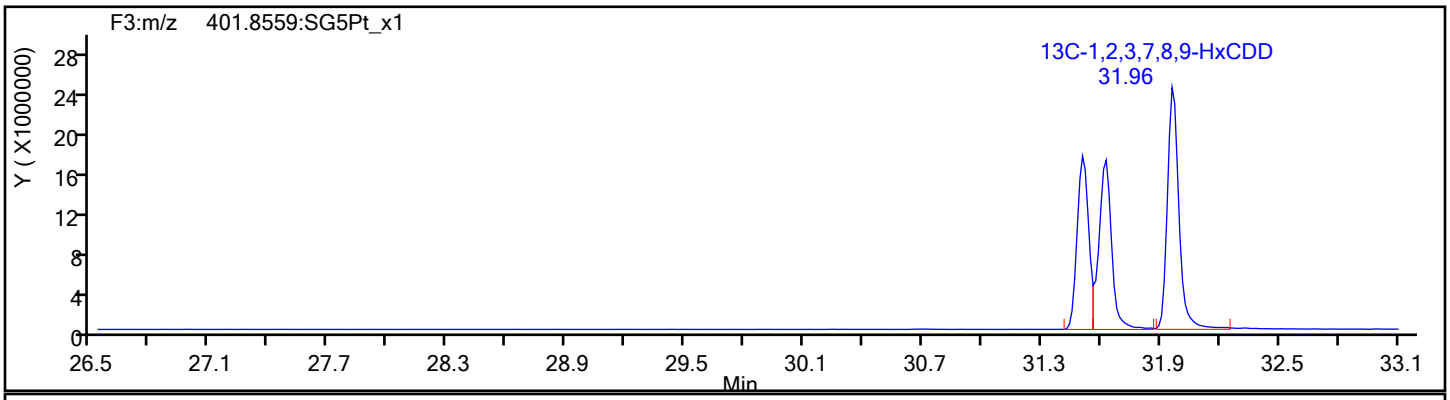

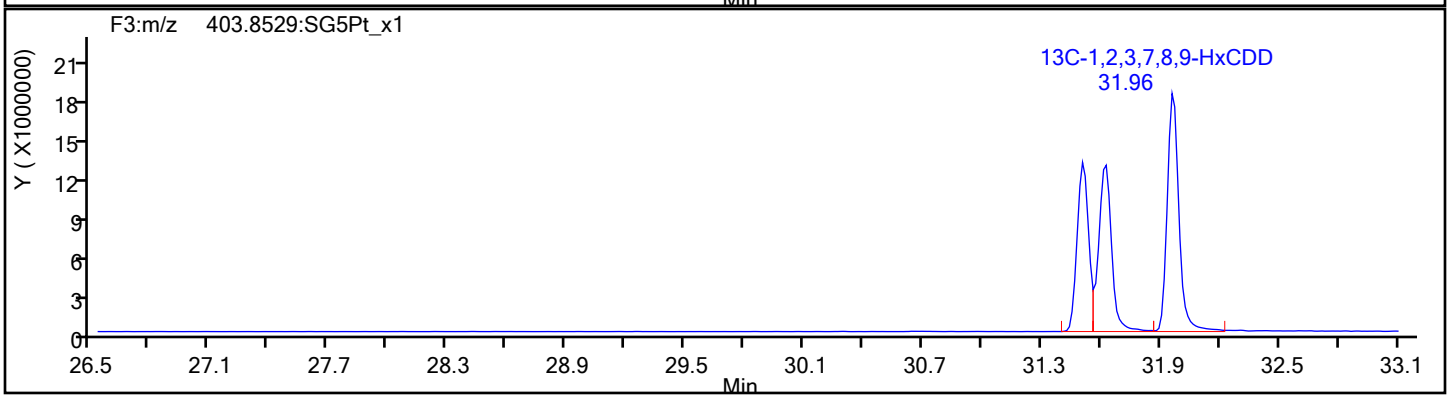

Report Date: 01-Nov-2019 10:11:00 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_4.d		
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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

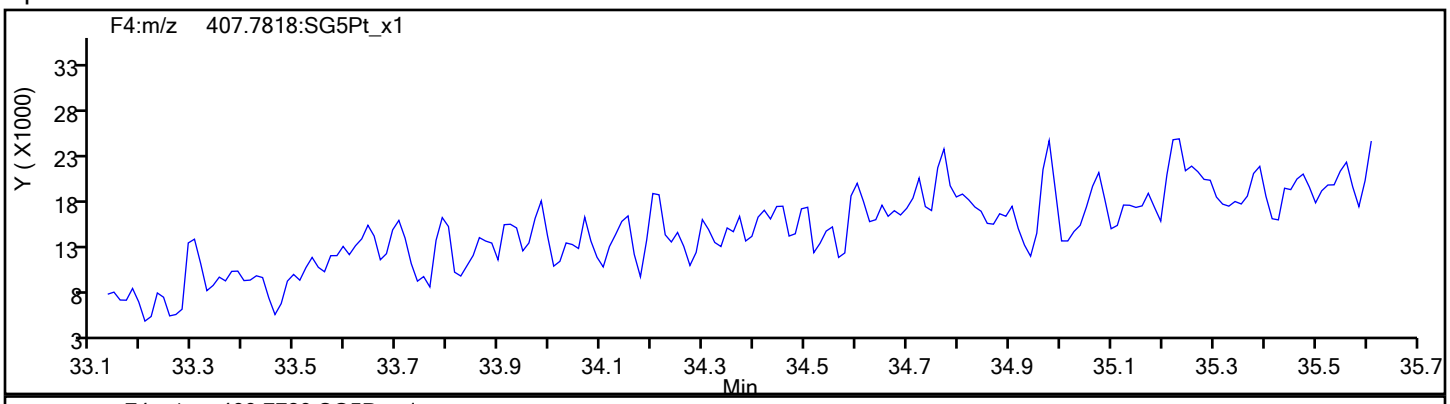

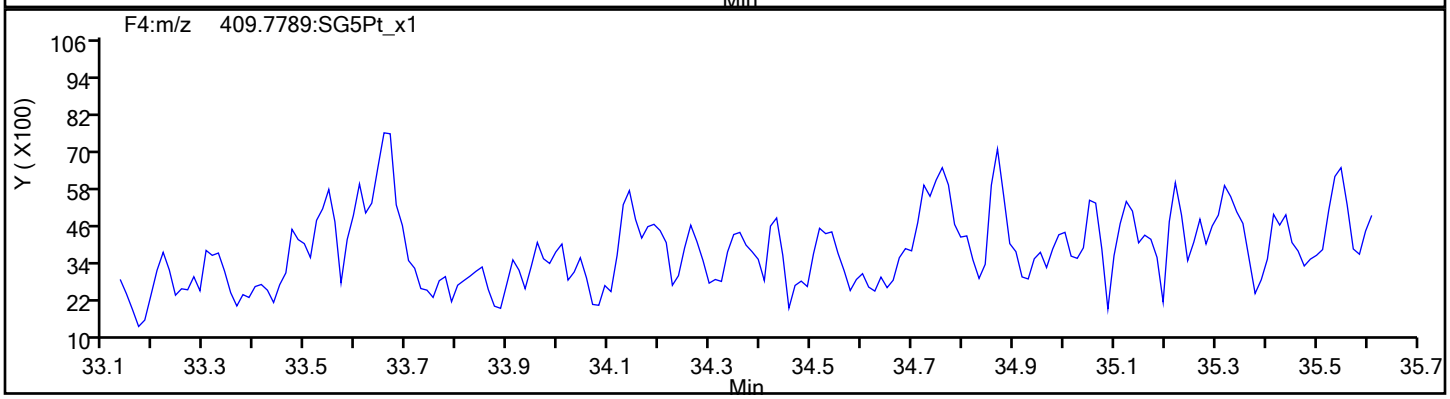

HpCDF Standards

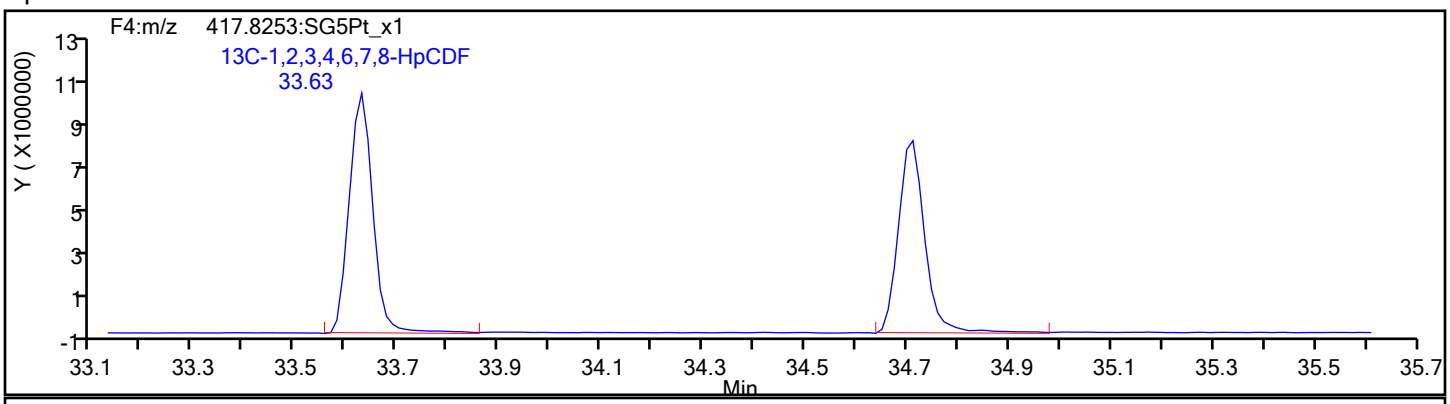

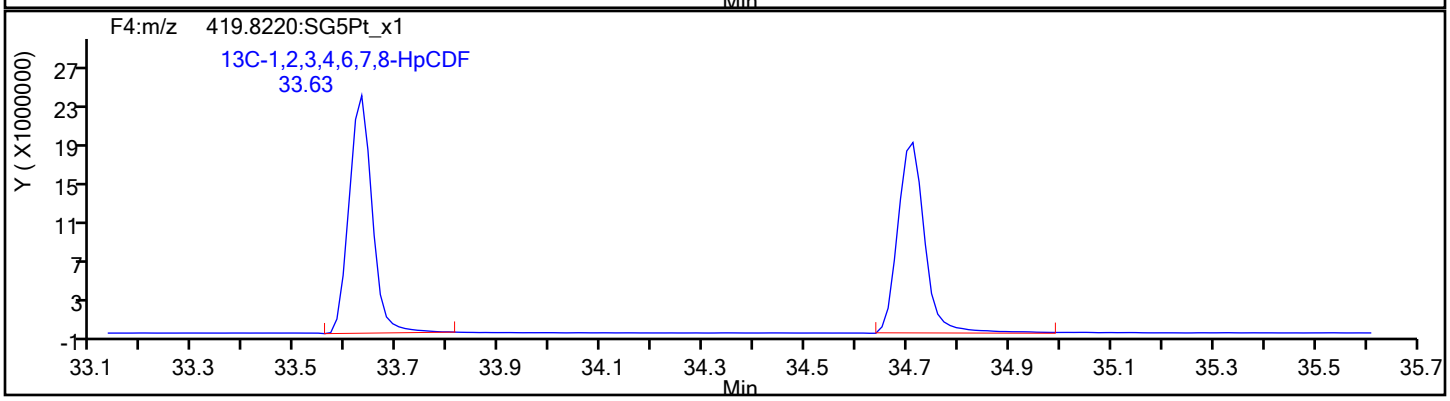

Report Date: 01-Nov-2019 10:11:00 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_4.d		
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Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	334889	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

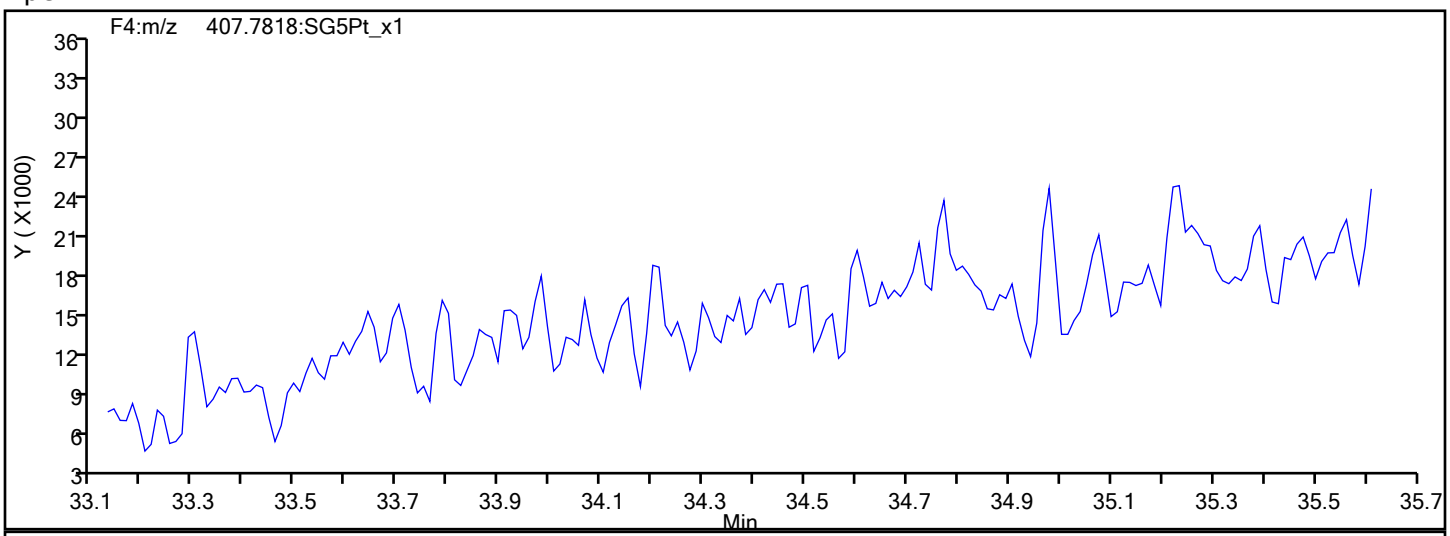

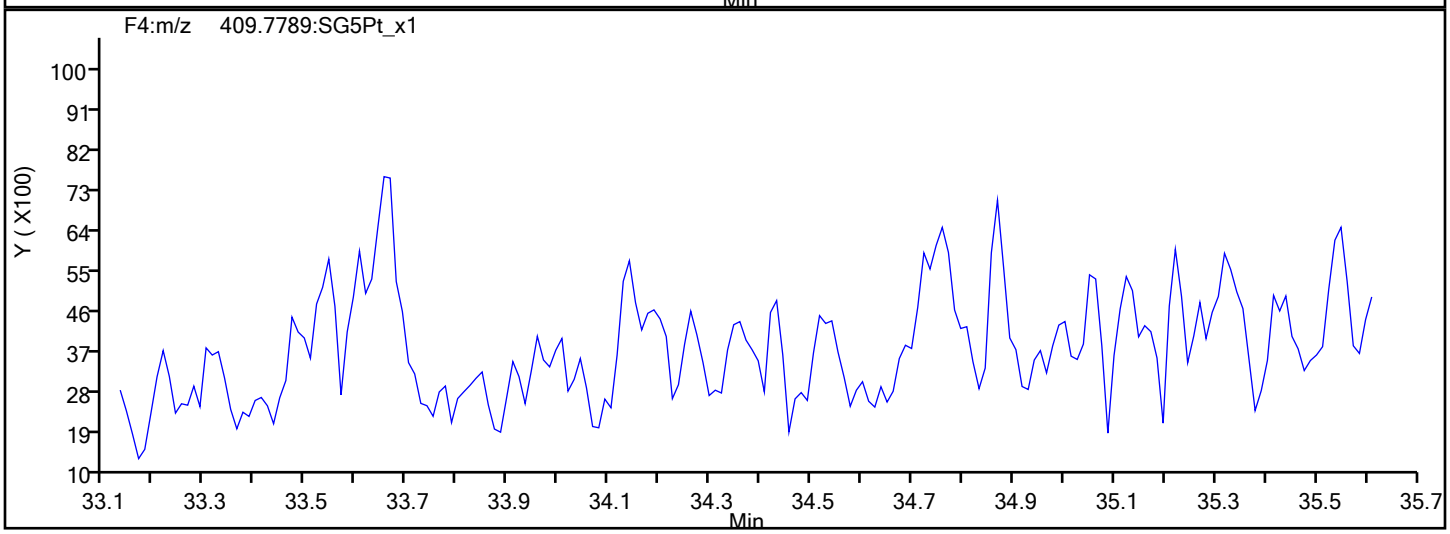

HpCDF Interference Mass

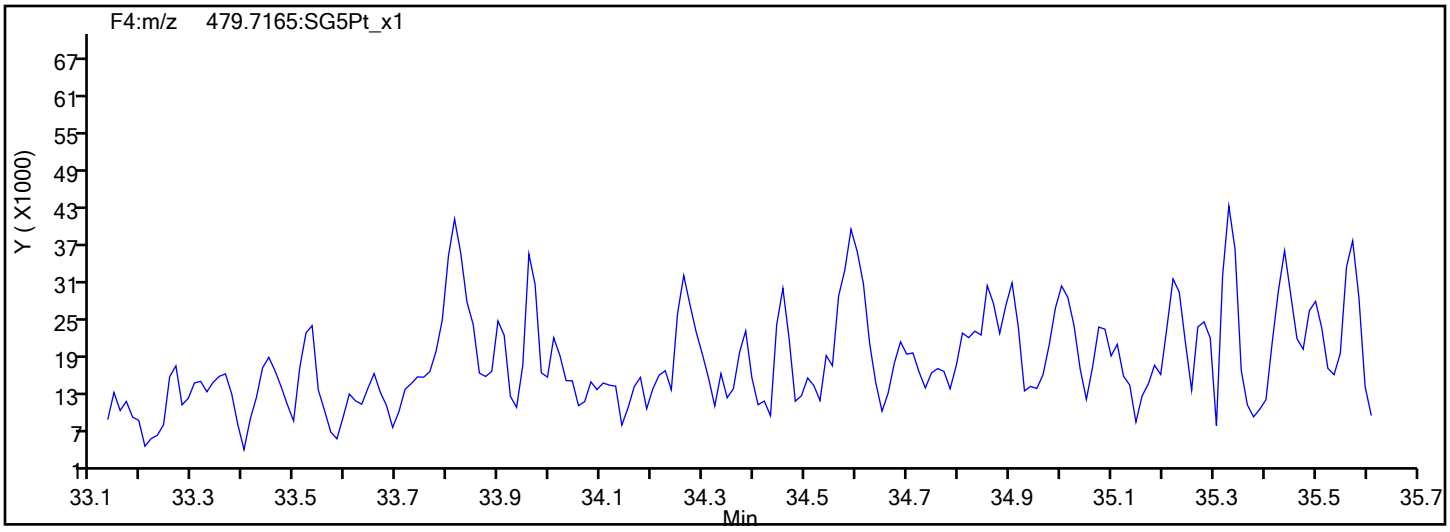

Report Date: 01-Nov-2019 10:11:00 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_4.d		
Injection Date:	30-Oct-2019 23:59:16	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	334889	Sample Line#:	4
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HpCDD

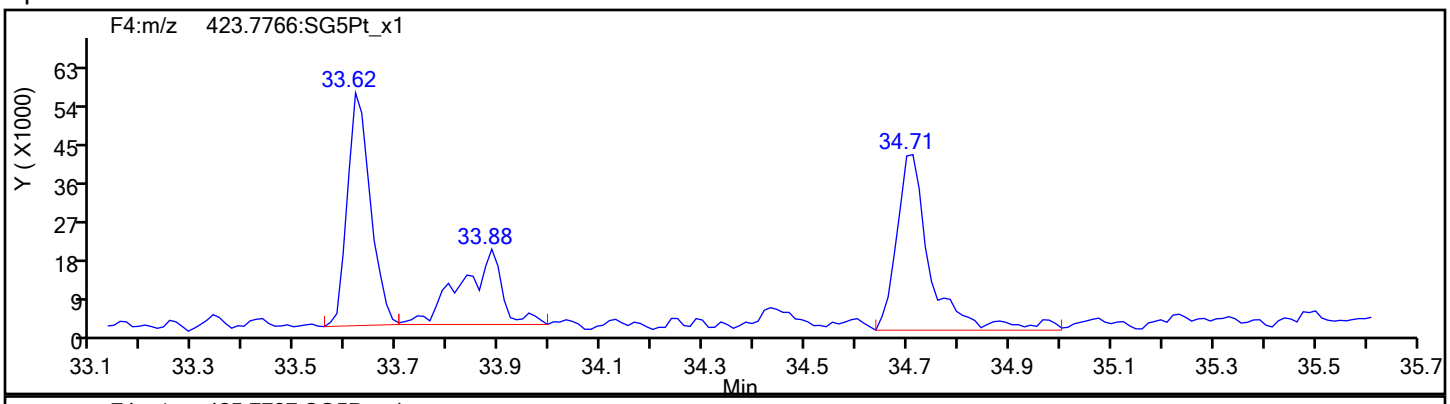

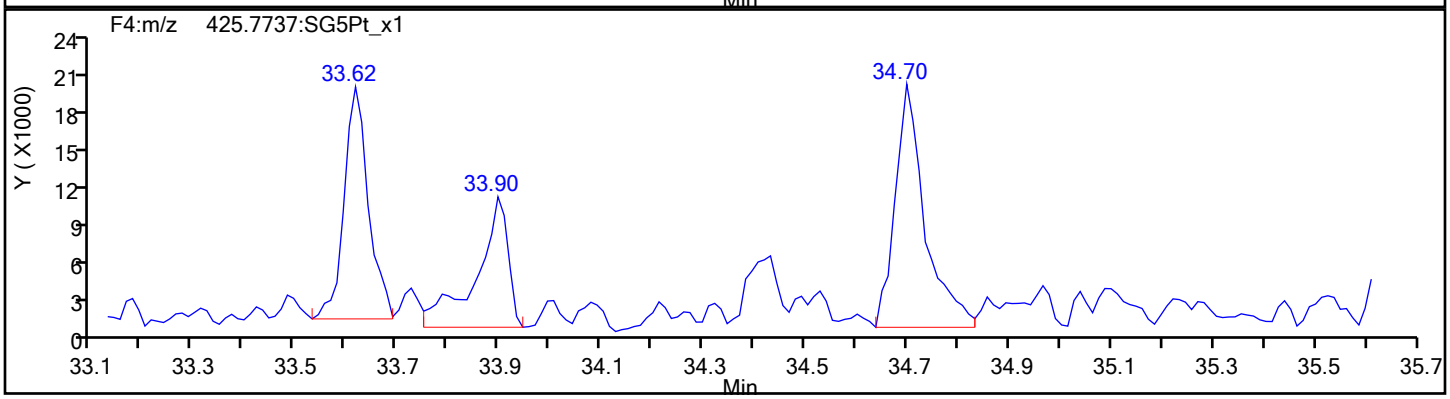

HpCDD Standards

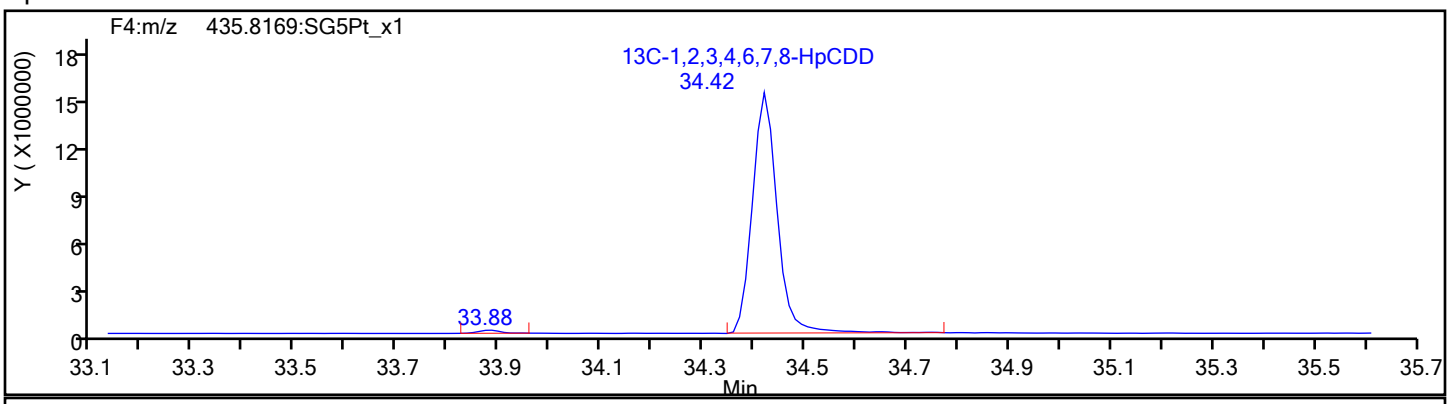

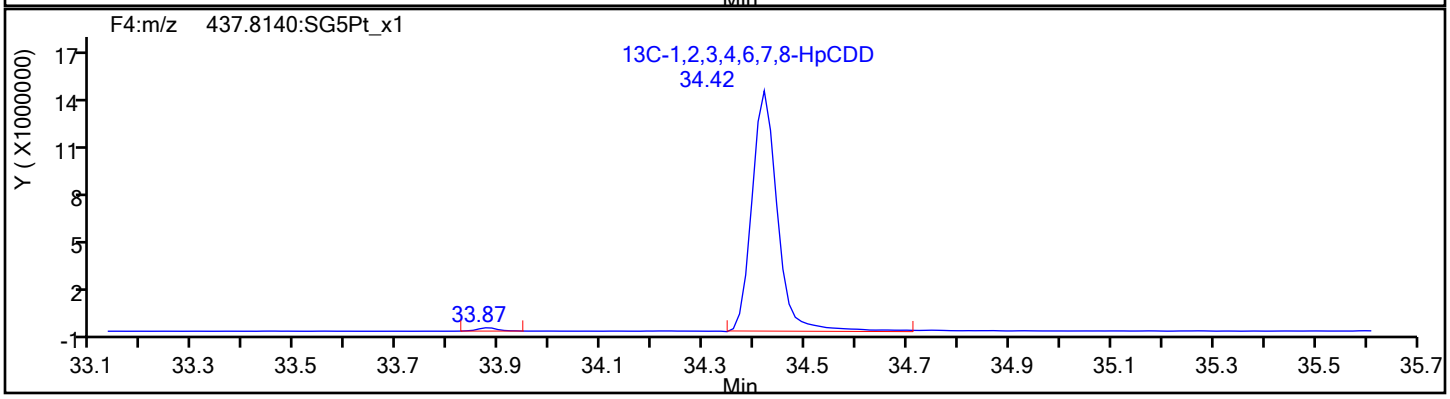

Report Date: 01-Nov-2019 10:11:00 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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OCDF

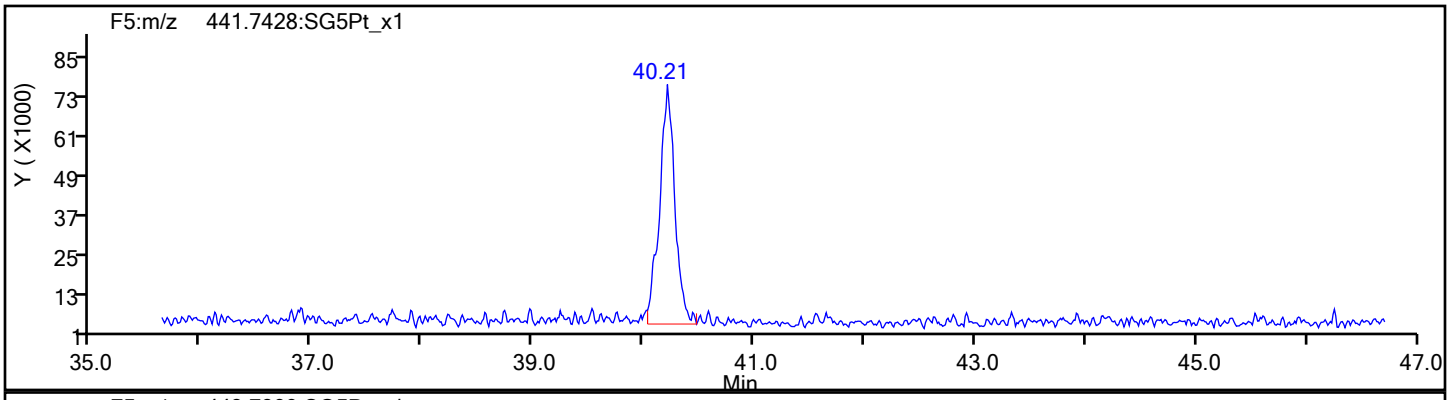

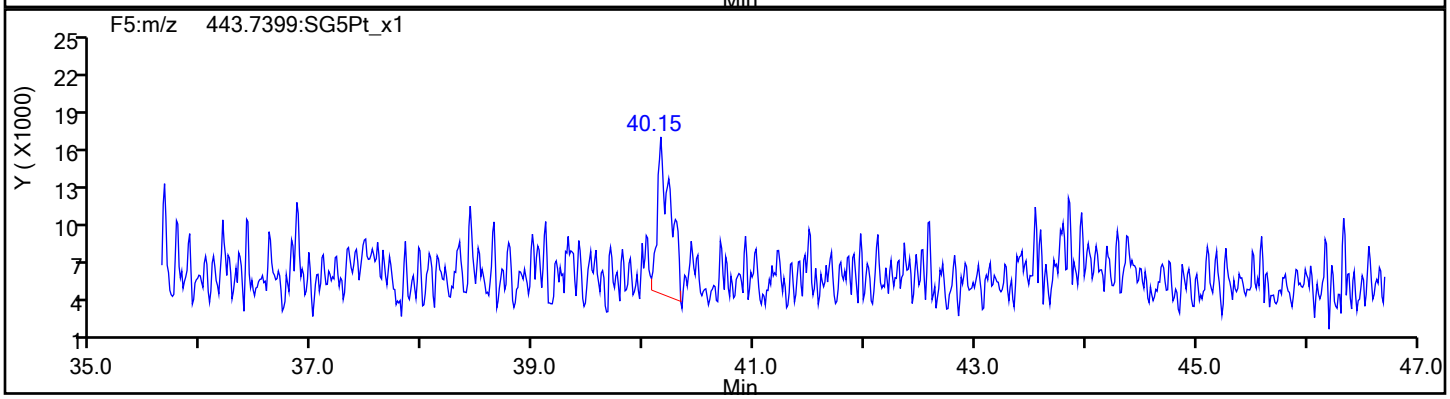

OCDF Standards

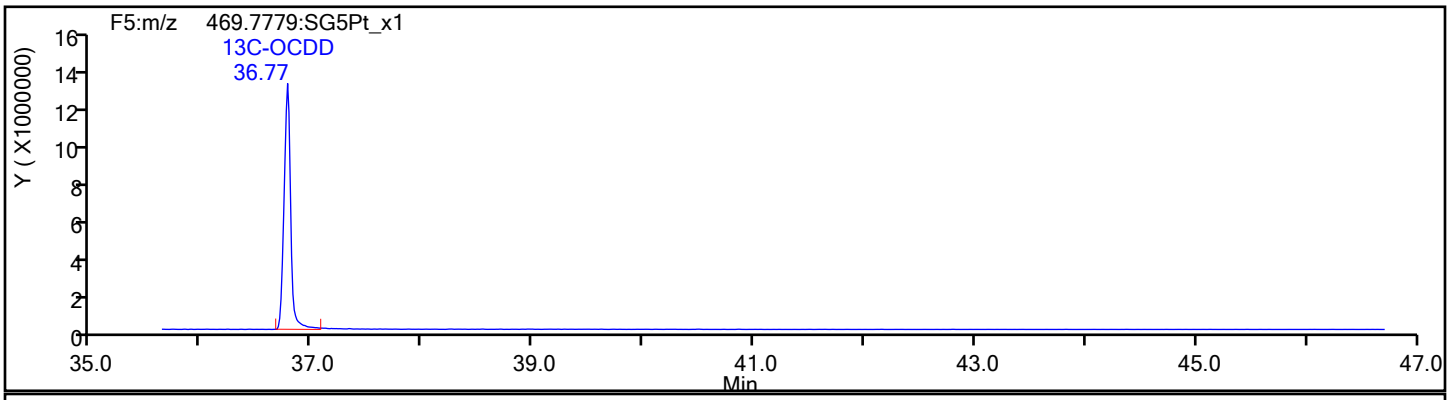

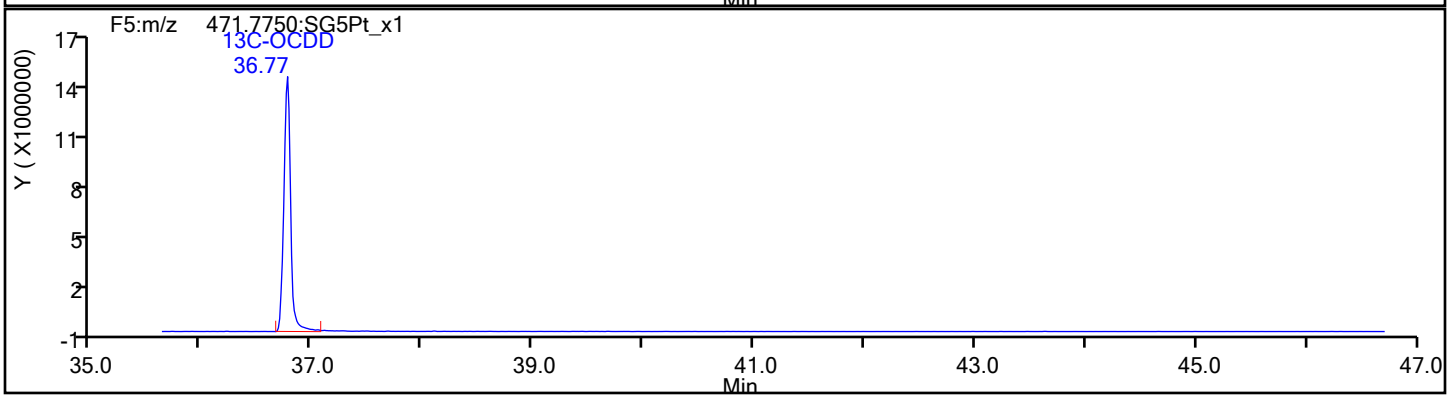

Report Date: 01-Nov-2019 10:11:01 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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OCDF

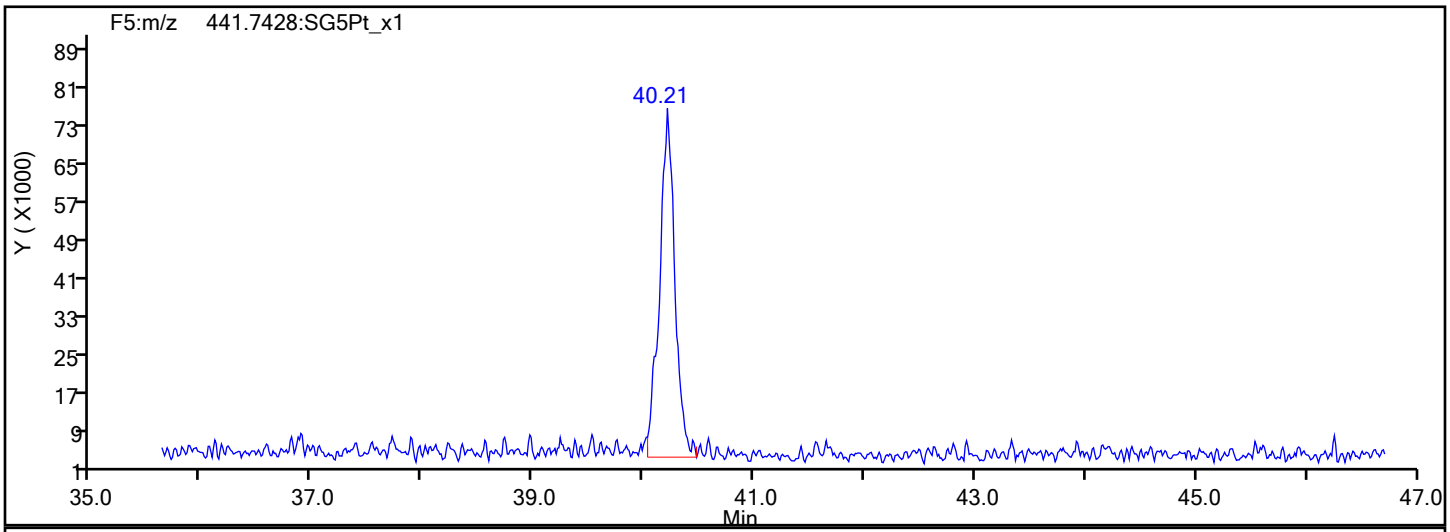

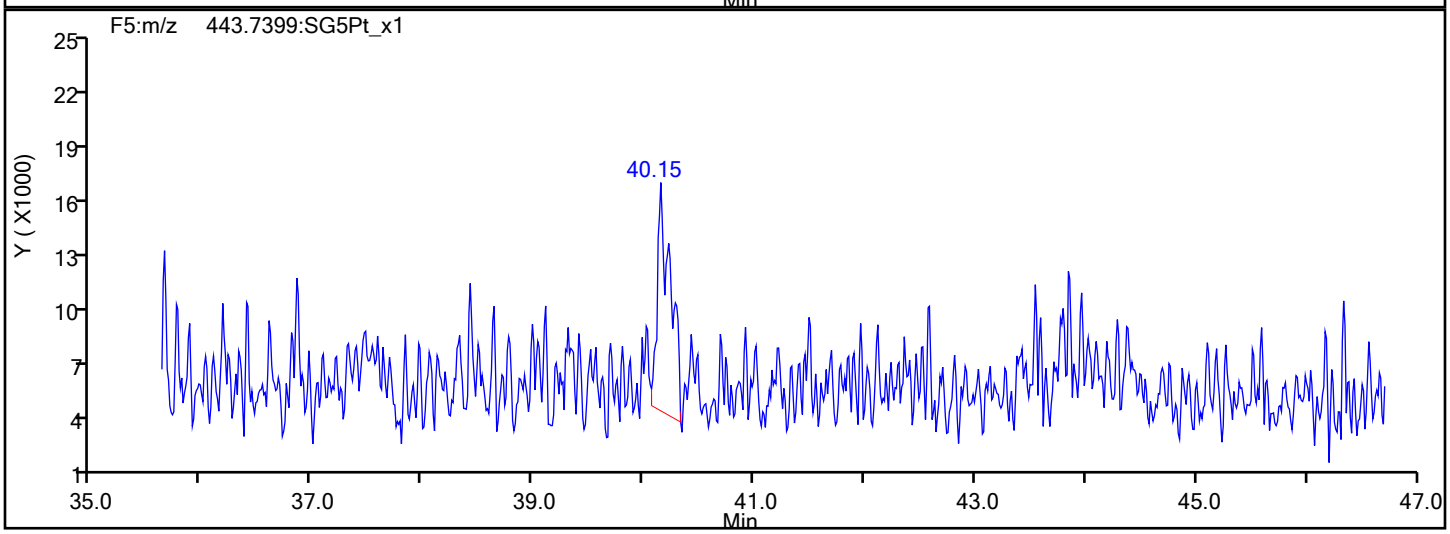

OCDF Interference Mass

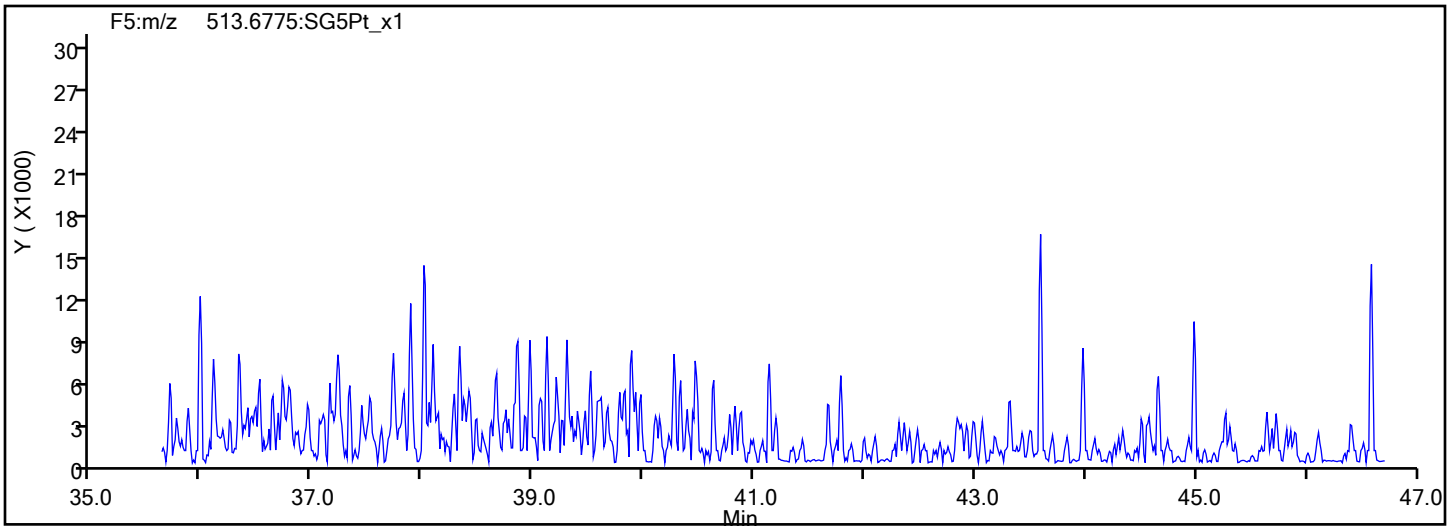

Report Date: 01-Nov-2019 10:11:01 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	334889	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

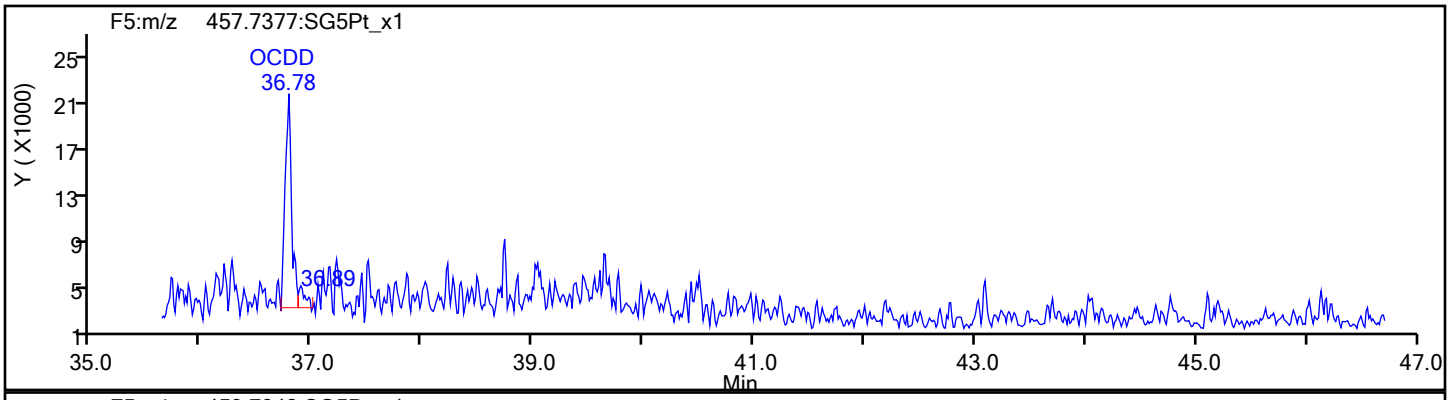

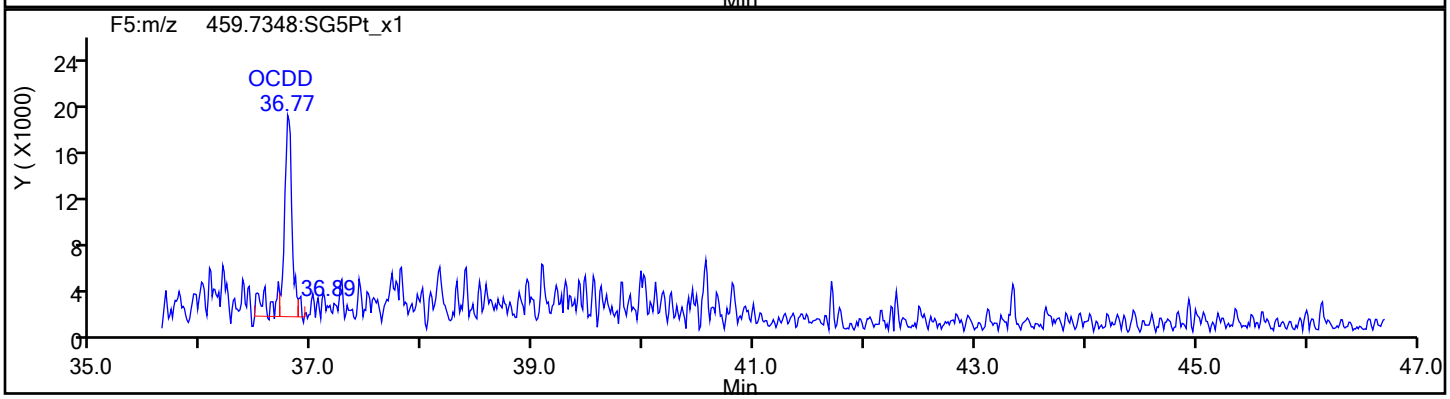

OCDD Standards

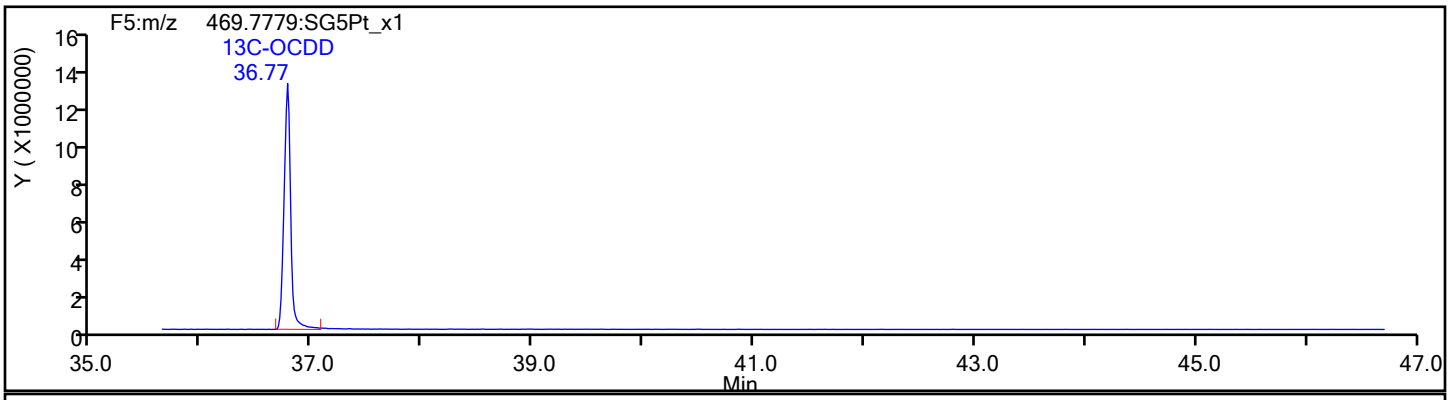

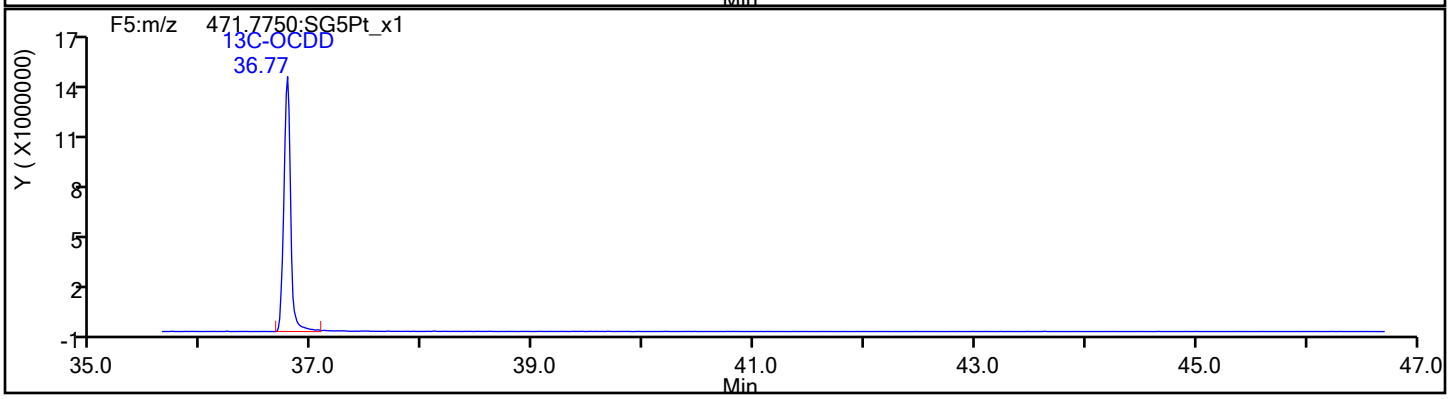

Report Date: 01-Nov-2019 10:11:01 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Injection Date:	30-Oct-2019 23:59:16	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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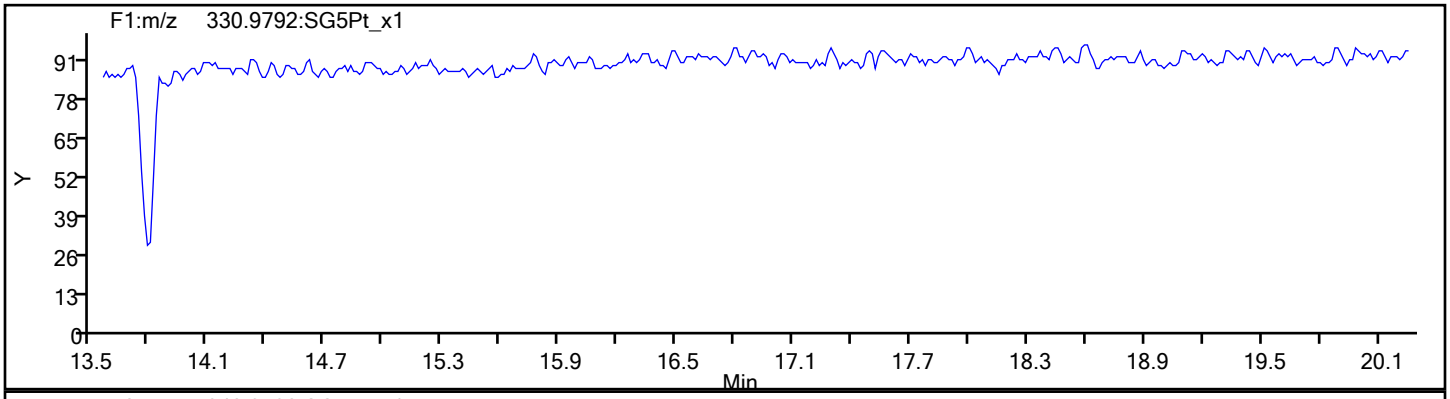

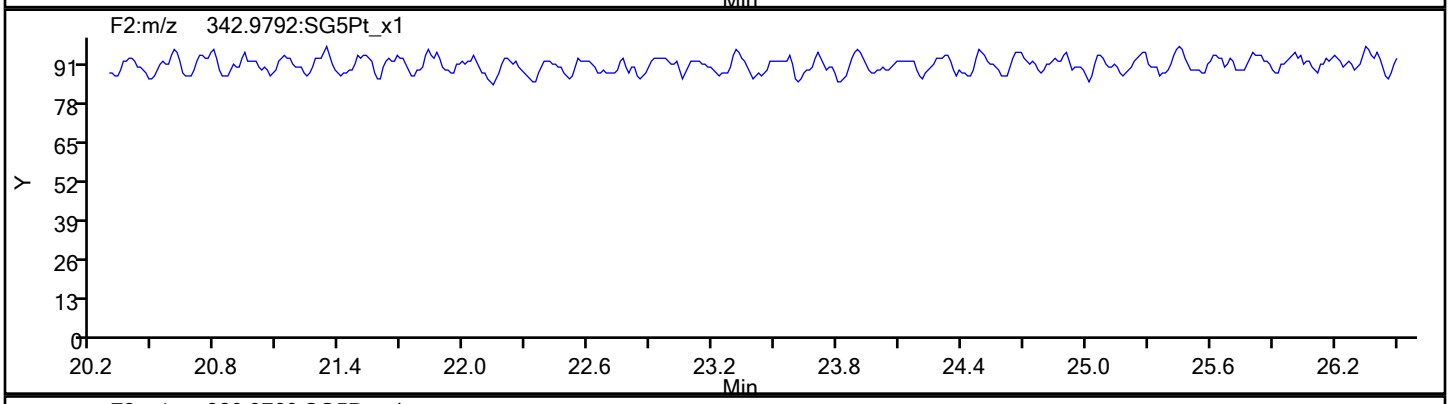

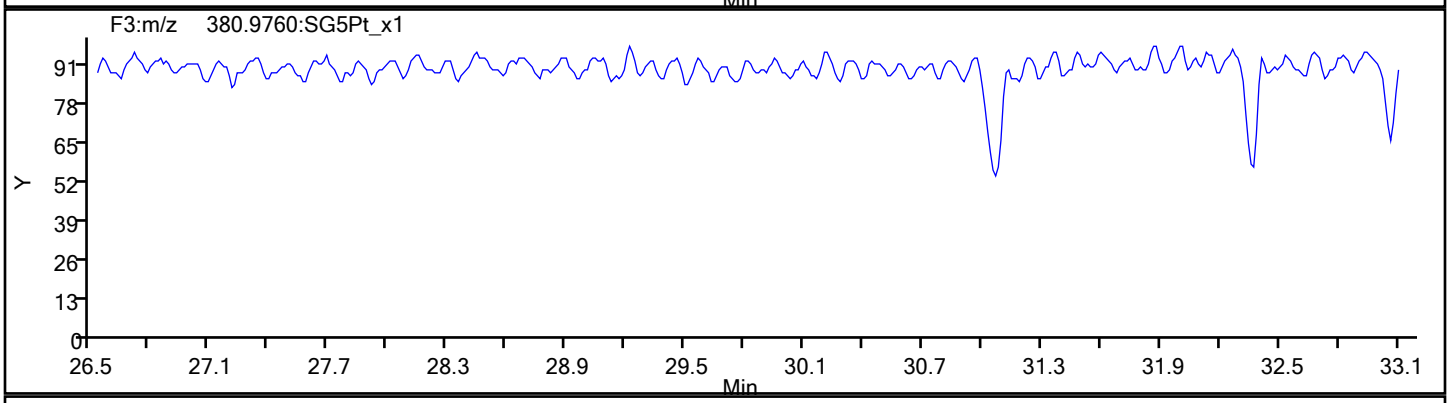

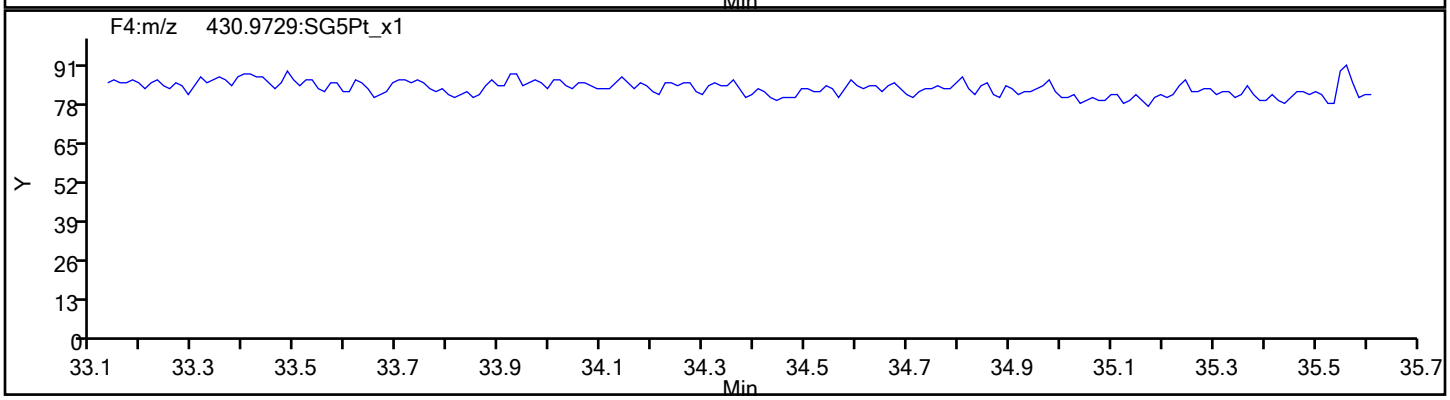

Report Date: 01-Nov-2019 10:11:01 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_4.d		
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Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	334889	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

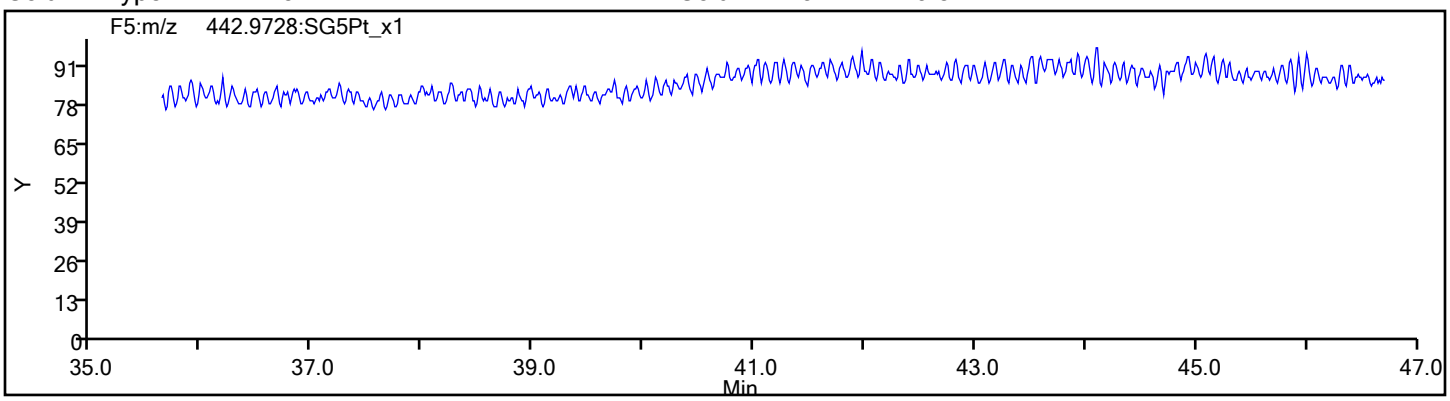

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 180-97287-1
SDG No.:
Client Sample ID:
Lab Sample ID: LB 320-334214/5-A
Matrix: Solid
Lab File ID: 30OC19B3D5_5.d
Analysis Method: 1613B
Date Collected:
Extract. Method: HRMS-Sep
Date Extracted: 10/28/2019 14:05
Sample wt/vol: 200.17(g)
Date Analyzed: 10/31/2019 00:46
Con. Extract Vol.: 20.0(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 334889
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		50	4.0
51207-31-9	2,3,7,8-TCDF	ND		50	3.1
40321-76-4	1,2,3,7,8-PeCDD	ND		250	7.8
57117-41-6	1,2,3,7,8-PeCDF	ND		250	4.3
57117-31-4	2,3,4,7,8-PeCDF	ND		250	4.6
39227-28-6	1,2,3,4,7,8-HxCDD	ND		250	4.4
57653-85-7	1,2,3,6,7,8-HxCDD	ND		250	4.5
19408-74-3	1,2,3,7,8,9-HxCDD	ND		250	4.2
70648-26-9	1,2,3,4,7,8-HxCDF	ND		250	3.2
57117-44-9	1,2,3,6,7,8-HxCDF	ND		250	3.3
72918-21-9	1,2,3,7,8,9-HxCDF	ND		250	2.4
60851-34-5	2,3,4,6,7,8-HxCDF	ND		250	2.6
35822-46-9	1,2,3,4,6,7,8-HpCDD	ND		250	3.8
67562-39-4	1,2,3,4,6,7,8-HpCDF	ND		250	5.8
55673-89-7	1,2,3,4,7,8,9-HpCDF	ND		250	7.3
3268-87-9	OCDD	19.3	J	500	6.2
39001-02-0	OCDF	ND		500	8.5
41903-57-5	Total TCDD	ND		50	4.0
30402-14-3	Total TCDF	ND		50	3.1
36088-22-9	Total PeCDD	ND		250	7.8
30402-15-4	Total PeCDF	ND		250	4.8
34465-46-8	Total HxCDD	7.97	J	250	4.3
55684-94-1	Total HxCDF	ND		250	3.3
37871-00-4	Total HpCDD	ND		250	13
38998-75-3	Total HpCDF	ND		250	7.3

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 180-97287-1
SDG No.:
Client Sample ID:
Lab Sample ID: LB 320-334214/5-A
Matrix: Solid
Lab File ID: 30OC19B3D5_5.d
Analysis Method: 1613B
Date Collected:
Extract. Method: HRMS-Sep
Date Extracted: 10/28/2019 14:05
Sample wt/vol: 200.17(g)
Date Analyzed: 10/31/2019 00:46
Con. Extract Vol.: 20.0(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 334889
Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	83		25-164
89059-46-1	13C-2,3,7,8-TCDF	73		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	71		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	83		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	83		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	86		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	75		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	106		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	89		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	99		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	91		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	86		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	85		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	94		26-138
114423-97-1	13C-OCDD	75		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	105		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_5.d
Lims ID: LB 320-334214/5-A
Client ID:
Sample Type: LB
Inject. Date: 31-Oct-2019 00:46:58 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LB 320-334214/5-A LB 320-334214/5-A
Misc. Info.: 30OC19B3D5
Operator ID: ALM Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 01-Nov-2019 10:12:50 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0312

First Level Reviewer: dadunj Date: 01-Nov-2019 10:12:49

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.626	196451349	0.80	3.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.127	199557828	0.71	1.3908	73.0	73.0	0.2072	0.2072	73.04	
2,3,7,8-TCDF	17.142						0.0309	0.0309		
A Non-2,3,7,8-sub-TCDF	16.462						0.0309	0.0309		
S Total TCDF							0.0309	0.0309		
D 13C-2,3,7,8-TCDD	17.823	160510280	0.77	0.9819	83.2	83.2	0.1602	0.1602	83.21	
2,3,7,8-TCDD	17.838						0.0400	0.0400		
$ 37Cl4-2,3,7,8-TCDD	17.838	100349723		1.2205	41.9	41.9	0.0720	0.0720	105	
A Non-2,3,7,8-sub-TCDD	16.908	63169	0.77	1.0447	0.1587	0.0377	0.0400	0.0400		RQM
S Total TCDD					0.1587	0.0377	0.0400	0.0400		RQ
D 13C-1,2,3,7,8-PeCDF	22.043	189195135	1.61	1.1585	83.1	83.1	0.2290	0.2290	83.13	
1,2,3,7,8-PeCDF	22.071						0.0426	0.0426		
D 13C-2,3,4,7,8-PeCDF	23.366	188949994	1.60	1.1532	83.4	83.4	0.2301	0.2301	83.41	
2,3,4,7,8-PeCDF	23.393						0.0463	0.0463		
A F1 PeCDFs	19.335						0.0480	0.0480		
A Non-2,3,7,8-sub-PeCDF	22.226						0.0444	0.0444		
S Total PeCDF							0.0480	0.0480		
D 13C-1,2,3,7,8-PeCDD	24.075	103555008	1.48	0.7431	70.9	70.9	0.1456	0.1456	70.94	
1,2,3,7,8-PeCDD	24.103						0.0778	0.0778		
A Non-2,3,7,8-sub-PeCDD	22.018						0.0778	0.0778		
S Total PeCDD							0.0778	0.0778		
D 13C-1,2,3,4,7,8-HxCDF	30.204	161748594	0.52	0.9837	106.3	106.3	0.3530	0.3530	106	
1,2,3,4,7,8-HxCDF	30.231						0.0321	0.0321		
D 13C-1,2,3,6,7,8-HxCDF	30.404	158633538	0.53	1.1554	88.7	88.7	0.3005	0.3005	88.74	
1,2,3,6,7,8-HxCDF	30.431						0.0330	0.0330		
D 13C-2,3,4,6,7,8-HxCDF	31.309	145424704	0.51	1.0361	90.7	90.7	0.3351	0.3351	90.71	
2,3,4,6,7,8-HxCDF	31.323						0.0261	0.0261		
D 13C-1,2,3,7,8,9-HxCDF	32.161	138706666	0.51	0.9034	99.2	99.2	0.3844	0.3844	99.23	
1,2,3,7,8,9-HxCDF	32.175						0.0239	0.0239		
A Non-2,3,7,8-sub-HxCDF	28.997						0.0283	0.0283		
S Total HxCDF							0.0330	0.0330		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.962	154725225	1.33	2.6E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.509	109767501	1.31	0.8287	85.6	85.6	0.2505	0.2505	85.61	
1,2,3,4,7,8-HxCDD	31.522						0.0436	0.0436		
D 13C-1,2,3,6,7,8-HxCDD	31.629	110540698	1.29	0.9495	75.2	75.2	0.2186	0.2186	75.25	
1,2,3,6,7,8-HxCDD	31.642						0.0451	0.0451		
1,2,3,7,8,9-HxCDD	31.975						0.0418	0.0418		
A Non-2,3,7,8-sub-HxCDD	30.544	89768	1.24	1.0218	0.1540	0.0798	0.0435	0.0798		RQM
S Total HxCDD					0.1540	0.0798	0.0435	0.0435		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	33.629	95566265	0.45	0.7285	84.8	84.8	0.6461	0.6461	84.78	
1,2,3,4,6,7,8-HpCDF	33.630						0.0579	0.0579		
D 13C-1,2,3,4,7,8,9-HpCDF	34.711	95365261	0.43	0.6556	94.0	94.0	0.7179	0.7179	94.01	
1,2,3,4,7,8,9-HpCDF	34.711						0.0727	0.0727		
A Non-2,3,7,8-sub-HpCDF	34.170						0.0647	0.0647		
S Total HpCDF							0.0727	0.0727		
D 13C-1,2,3,4,6,7,8-HpCDD	34.419	93141190	1.09	0.6978	86.3	86.3	0.4406	0.4406	86.26	
1,2,3,4,6,7,8-HpCDD	34.431						0.0384	0.0384		
A Non-2,3,7,8-sub-HpCDD	34.990						0.0384	0.1290		RQU
S Total HpCDD							0.1290	0.1290		
D 13C-OCDD	36.773	110465858	0.91	0.4780	149.4	149.4	0.3688	0.3688	74.69	
OCDF	36.869						0.0848	0.0848		
OCDD	36.785	113160	0.89	1.0627	0.2267	0.1928	0.0621	0.0621		RQ

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_5.d
Lims ID: LB 320-334214/5-A
Client ID:
Sample Type: LB
Inject. Date: 31-Oct-2019 00:46:58 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LB 320-334214/5-A LB 320-334214/5-A
Misc. Info.: 30OC19B3D5
Operator ID: ALM Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 01-Nov-2019 10:12:50 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0312

First Level Reviewer: dadunj Date: 01-Nov-2019 10:12:49

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.626	17.626	0		87484034	22455995	21593	53982	1040		
333.9339	17.626	17.626	0		108967315	27918205	10099	25247	2764	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.127	17.127	0	0.972	82525063	21092494	40070	100175	526		
317.9389	17.127	17.127	0	0.972	117032765	29901965	18006	45015	1661	0.71(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.142						1955	4887			
305.8987	17.142						4160	10400			
A Non-2,3,7,8-sub-TCDF											
303.9016	16.462						1955	4887			
305.8987	16.462						4160	10400			
13C-2,3,7,8-TCDD											
331.9368	17.823	17.807	1	1.011	69930853	16436409	21593	53982	761		
333.9339	17.807	17.807	0	1.010	90579427	20988013	10099	25247	2078	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.838						4845	12112			
321.8936	17.838						1407	3517			
37Cl4-2,3,7,8-TCDD											
327.8847	17.838	17.838	0	1.012	100349723	24142097	17700	44250	1364		
A Non-2,3,7,8-sub-TCDD											RQM
319.8965	17.127	16.908	13	0.961	230439	48270	4845	12112	10		M
	Empc Correction				27480	7708	4845	12112	2		
321.8936	17.112	16.908	12	0.960	35689	10011	1407	3517	7	6.46(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	22.043	22.043	0	1.251	116685205	20563661	30507	76267	674		
353.8970	22.043	22.043	0	1.251	72509930	12682703	22950	57375	553	1.61(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.071						1729	4322			
341.8567	22.071						3725	9312			
13C-2,3,4,7,8-PeCDF											
351.9000	23.366	23.339	2	1.326	116326460	19101584	30507	76267	626		
353.8970	23.366	23.339	2	1.326	72623534	11886263	22950	57375	518	1.60(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.393						1729	4322			
341.8567	23.393						3725	9312			
A F1 PeCDFs											
339.8597	19.335						1372	3430			
341.8567	19.335						4523	11307			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.226						1729	4322			
341.8567	22.226						3725	9312			
13C-1,2,3,7,8-PeCDD											
367.8949	24.075	24.062	1	1.366	61866104	9726971	13087	32717	743		
369.8919	24.075	24.062	1	1.366	41688904	6640259	8719	21797	762	1.48(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.103						4109	10272			
357.8516	24.103						1308	3270			
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.018						4109	10272			
357.8516	22.018						1308	3270			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.204	30.164	2	0.945	55548748	8842263	20192	50480	438		
385.8610	30.204	30.164	2	0.945	106199846	16709038	31343	78357	533	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.231						2229	5572			
375.8178	30.231						1768	4420			
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.404	30.417	-1	0.951	54611850	9316880	20192	50480	461		
385.8610	30.404	30.417	-1	0.951	104021688	17418902	31343	78357	556	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.431						2229	5572			
375.8178	30.431						1768	4420			
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.309	31.309	0	0.980	49239982	11251312	20192	50480	557		
385.8610	31.309	31.309	0	0.980	96184722	21381526	31343	78357	682	0.51(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.323						2229	5572			
375.8178	31.323						1768	4420			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.161	32.161	0	1.006	47088337	12260321	20192	50480	607		
385.8610	32.161	32.161	0	1.006	91618329	23155369	31343	78357	739	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.175						2229	5572			
375.8178	32.175						1768	4420			
A Non-2,3,7,8-sub-HxCDF											
373.8208	28.997						2229	5572			
375.8178	28.997						1768	4420			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.962	31.962	0		88274803	21261313	16719	41797	1272		
403.8529	31.962	31.962	0		66450422	15841306	14089	35222	1124	1.33(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.509	31.496	1	0.986	62285639	14573654	16719	41797	872		
403.8529	31.509	31.496	1	0.986	47481862	10911934	14089	35222	775	1.31(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.522						1993	4982			
391.8127	31.522						2570	6425			
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.629	31.629	0	0.990	62355827	14799231	16719	41797	885		
403.8529	31.629	31.629	0	0.990	48184871	11080874	14089	35222	786	1.29(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.642						1993	4982			
391.8127	31.642						2570	6425			
1,2,3,7,8,9-HxCDD											
389.8157	31.975						1993	4982			
391.8127	31.975						2570	6425			
A Non-2,3,7,8-sub-HxCDD											RQM
389.8157	31.323	30.544	47	0.990	133280	29409	1993	4982	15		M
	Empc Correction				49693	11094	1993	4982	6		
391.8127	31.309	30.544	46	0.990	40075	8947	2570	6425	3	3.33(1.05-1.43)	M
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.629	33.630	0	1.052	29759438	9773818	27245	68112	359		
419.8220	33.629	33.630	0	1.052	65806827	21520353	42606	106515	505	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.630						8264	20660			
409.7789	33.630						2155	5387			
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.711	34.699	1	1.086	28519661	8145884	27245	68112	299		
419.8220	34.711	34.699	1	1.086	66845600	19219639	42606	106515	451	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.711						8264	20660			
409.7789	34.711						2155	5387			
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.170						8264	20660			
409.7789	34.170						2155	5387			

Report Date: 01-Nov-2019 10:12:50 Chrom Revision: 2.3 17-Sep-2019 16:19:08
Data File: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_5.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.419	34.419	0	1.077	48505281	13807868	23343	58357	592		
437.8140	34.419	34.419	0	1.077	44635909	12791501	22289	55722	574	1.09(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.431						2695	6737			
425.7737	34.431						1429	3572			
A Non-2,3,7,8-sub-HpCDD											U
423.7766	34.711	34.990	-17	1.008	151730	40241	2695	6737	15		
	Empc Correction				61863	15120	2695	6737	6		
425.7737	34.711	34.990	-17	1.008	59484	14539	1429	3572	10	2.55(0.88-1.20)	
13C-OCDD											
469.7779	36.773	36.773	0	1.151	52773050	12590108	14497	36242	868		
471.7750	36.773	36.773	0	1.151	57692808	13912159	11667	29167	1192	0.91(0.76-1.02)	
OCDF											
441.7428	36.869						2308	5770			
443.7399	36.869						3763	9407			
OCDD											RQ
457.7377	36.785	36.785	0	1.000	53287	13411	1848	4620	7		
459.7348	36.785	36.785	0	1.000	79769	16422	1649	4122	10	0.67(0.76-1.02)	
	Empc Correction				59873	15068	1649	4122	9		

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

U - Marked Undetected

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_5.d
Lims ID: LB 320-334214/5-A
Client ID:
Inject. Date: 31-Oct-2019 00:46:58 Dil. Factor: 1.0000
Sample Type: LB, Lechate Blank
Instrument ID: 3D5 Operator: ALM
Lims Batch ID: 334889 Lims Sample ID: 5

Non-2,3,7,8-sub-TCDD, RT: 16.908

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.045	D 13C-2,3,7,8-TCDD	100.000	160510280	37424422

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.045		100.000	160510280	37424422

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
17.127	230439	48270	35689	10011	0.1587	6.46	RQM
17.127	27480	7708	35689	10011	0.0377		Empc Correction
Signal Totals:							
	27480	7708	35689	10011			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	266128	58281				6.46	RQM
	63169	17719					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.1587 = (266128 * 100.000) / (160510280 * 1.045)
Empc Amount: 0.0377 = (63169 * 100.000) / (160510280 * 1.045)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_5.d
Lims ID: LB 320-334214/5-A
Client ID:
Inject. Date: 31-Oct-2019 00:46:58 Dil. Factor: 1.0000
Sample Type: LB, Lechate Blank
Instrument ID: 3D5 Operator: ALM
Lims Batch ID: 334889 Lims Sample ID: 5

Non-2,3,7,8-sub-HxCDD, RT: 30.544

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.027	D 13C-1,2,3,4,7,8-HxCDD	100.000	109767501	25485588
1,2,3,6,7,8-HxCDD	0.977	D 13C-1,2,3,6,7,8-HxCDD	100.000	110540698	25880105
1,2,3,7,8,9-HxCDD	1.062				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.022		100.000	110154099	25682846

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
31.323	133280	29409	40075	8947	0.1540	3.33	RQM
31.323	49693	11094	40075	8947	0.0798		Empc Correction
Signal Totals:							
	49693	11094	40075	8947			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	173355	38356				3.33	RQM
	89768	20041					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.1540 = (173355 * 100.000) / (110154099 * 1.022)
Empc Amount: 0.0798 = (89768 * 100.000) / (110154099 * 1.022)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_5.d
Lims ID: LB 320-334214/5-A
Client ID:
Inject. Date: 31-Oct-2019 00:46:58 Dil. Factor: 1.0000
Sample Type: LB, Lechate Blank
Instrument ID: 3D5 Operator: ALM
Lims Batch ID: 334889 Lims Sample ID: 5

Non-2,3,7,8-sub-HpCDD, RT: 34.990

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.010	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	93141190	26599369

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.010		100.000	93141190	26599369

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
34.711	151730	40241	59484	14539	0.2245	2.55	RQ
34.711	61863	15120	59484	14539	0.1290		Empc Correction

Compound is Marked ND

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_5.d				
Injection Date:	31-Oct-2019 00:46:58	Instrument ID:	3D5		
Lims ID:	LB 320-334214/5-A				
Client ID:					
Operator ID:	ALM	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

Non-2,3,7,8-sub-TCDD, Signal: 1, m/z: 319.8965, RT: (15.62- 18.20)

Signal: 1

Processing Integration Results

RT = 17.127 Area = 310220

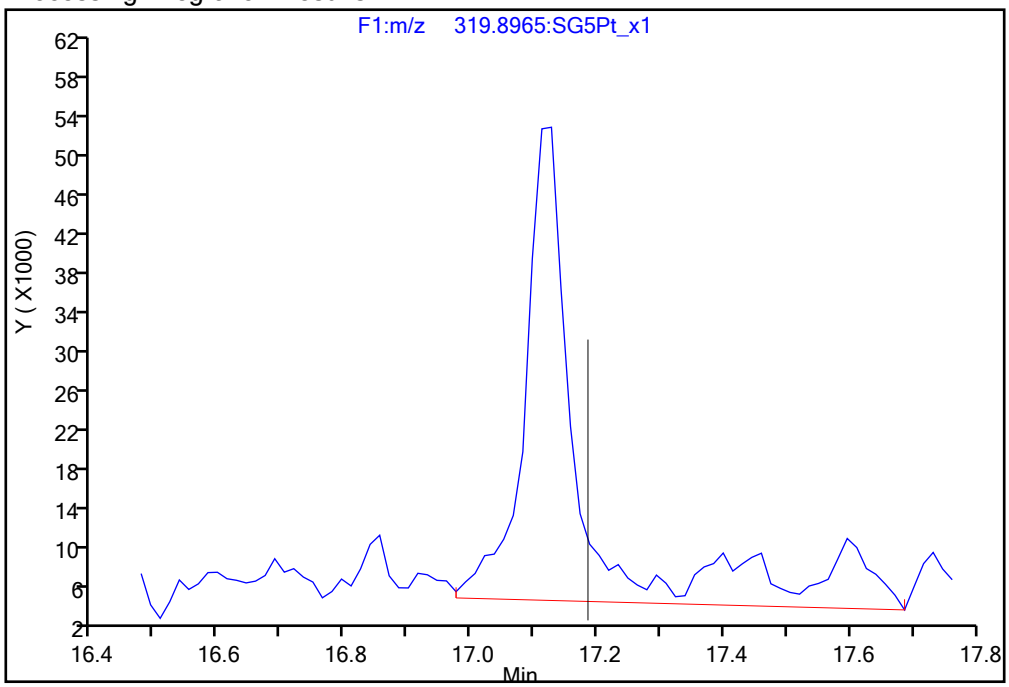

Manual Integration Results

RT = 17.127 Area = 230439 M

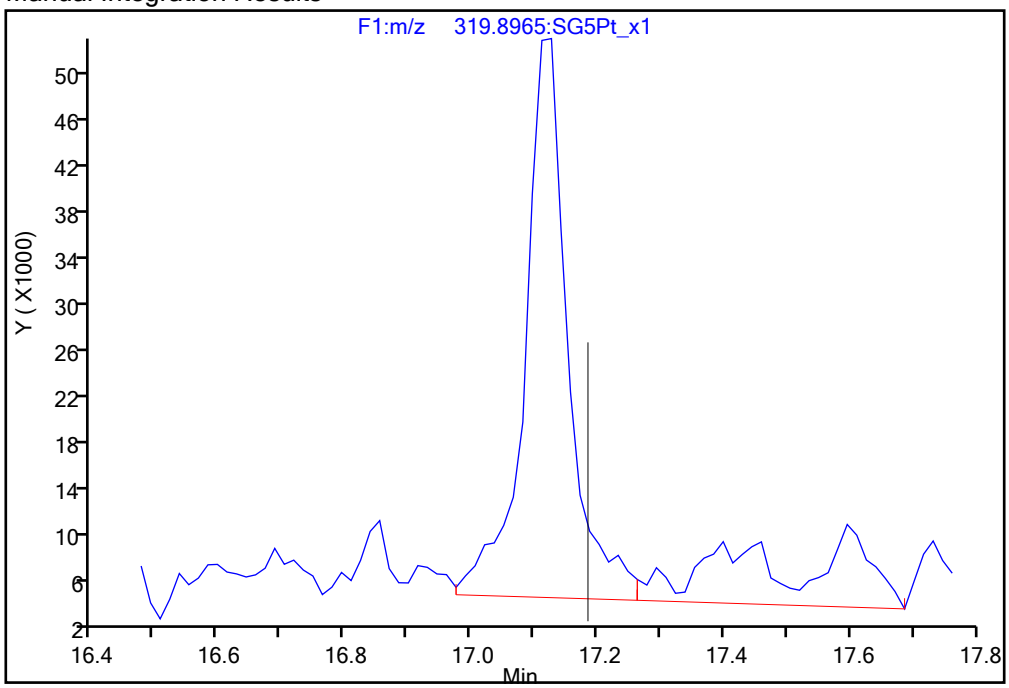

Reviewer: dadunj, 01-Nov-2019 10:11:17

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_5.d				
Injection Date:	31-Oct-2019 00:46:58	Instrument ID:	3D5		
Lims ID:	LB 320-334214/5-A				
Client ID:					
Operator ID:	ALM	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

Non-2,3,7,8-sub-HxCDD, Signal: 1, m/z: 389.8157, RT: (28.87- 32.21)

Signal: 1

Processing Integration Results

RT = 31.323 Area = 149612

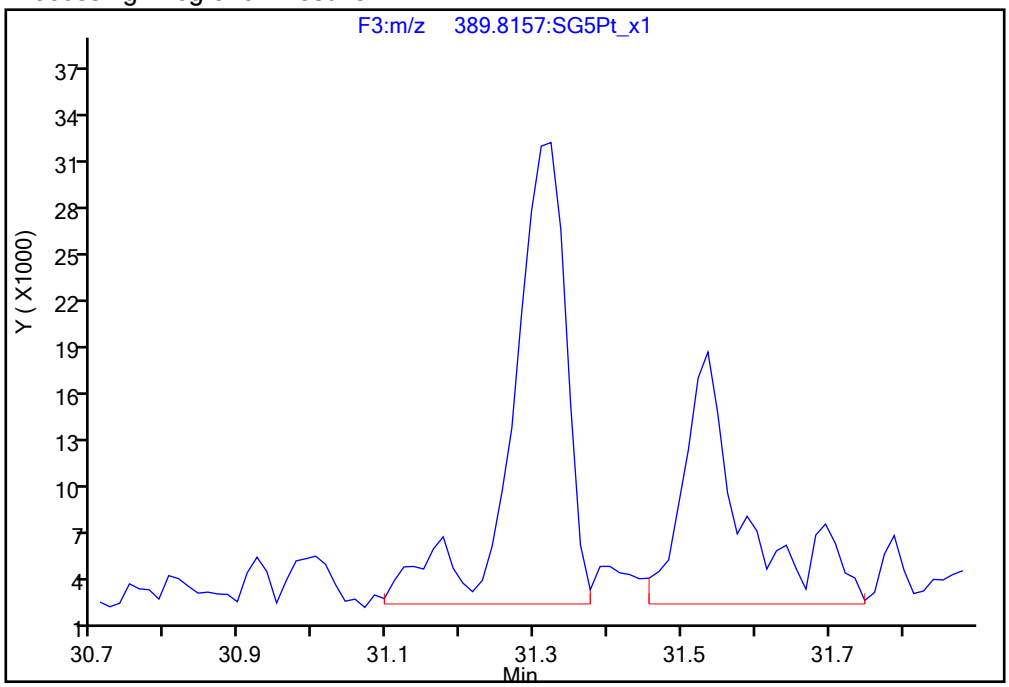

Manual Integration Results

RT = 31.323 Area = 133280 M

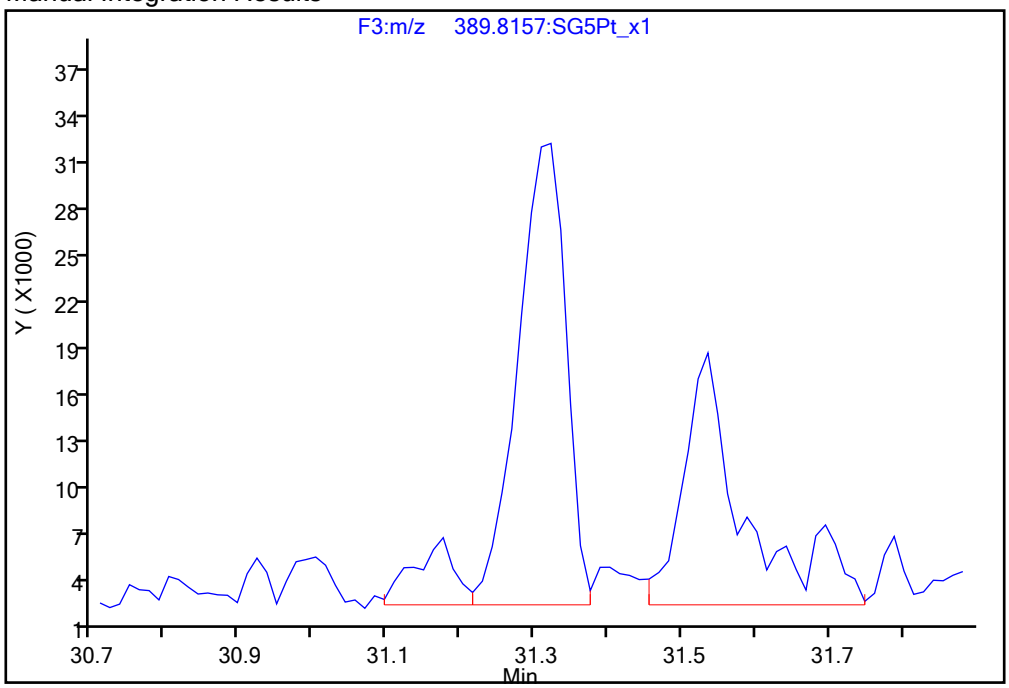

Reviewer: dadunj, 01-Nov-2019 10:11:48

Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_5.d				
Injection Date:	31-Oct-2019 00:46:58	Instrument ID:	3D5		
Lims ID:	LB 320-334214/5-A				
Client ID:					
Operator ID:	ALM	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

Non-2,3,7,8-sub-HxCDD, Signal: 2, m/z: 391.8127, RT: (28.87- 32.21)

Signal: 2

Processing Integration Results

RT = 31.309 Area = 49537

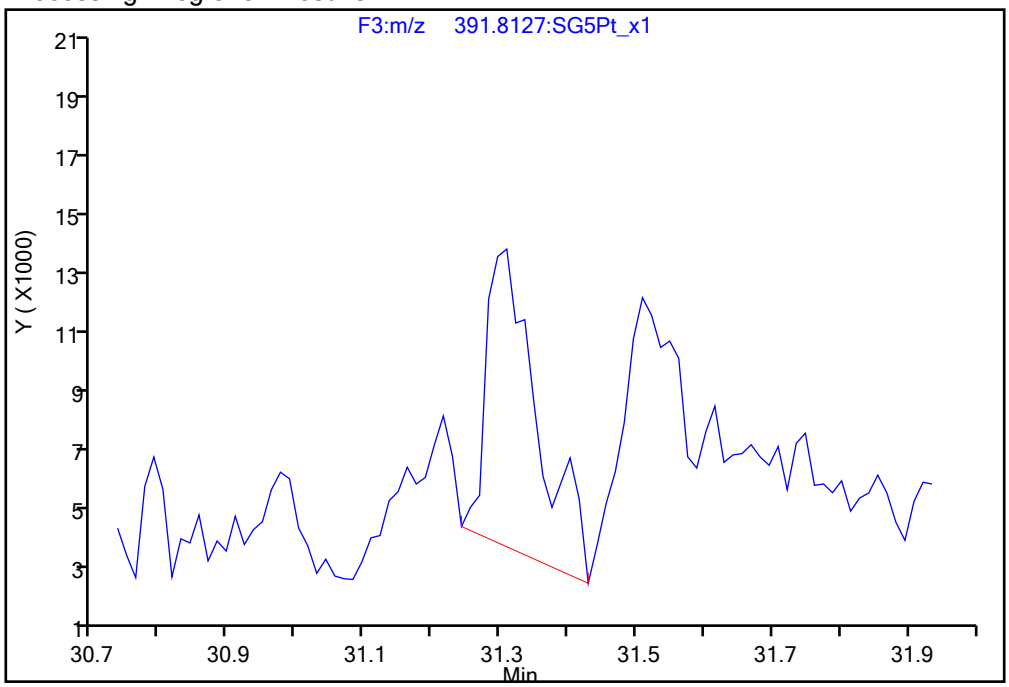

Manual Integration Results

RT = 31.309 Area = 40075 M

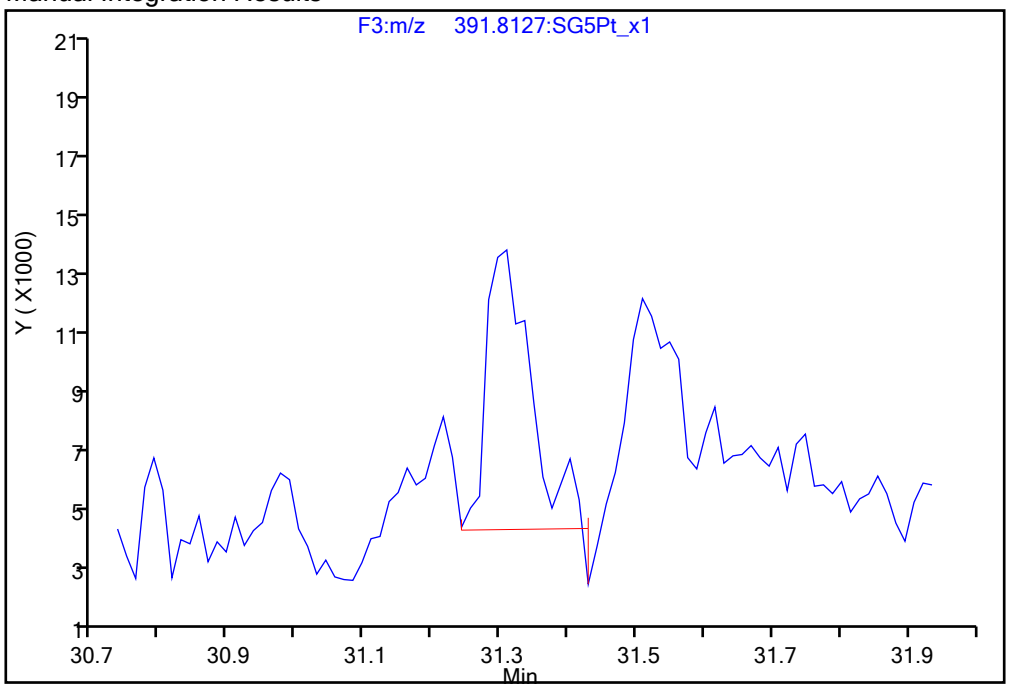

Reviewer: dadunj, 01-Nov-2019 10:11:41

Audit Action: Manually Integrated Audit Reason: Baseline

Report Date: 01-Nov-2019 10:12:51 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_5.d		
Injection Date:	31-Oct-2019 00:46:58	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

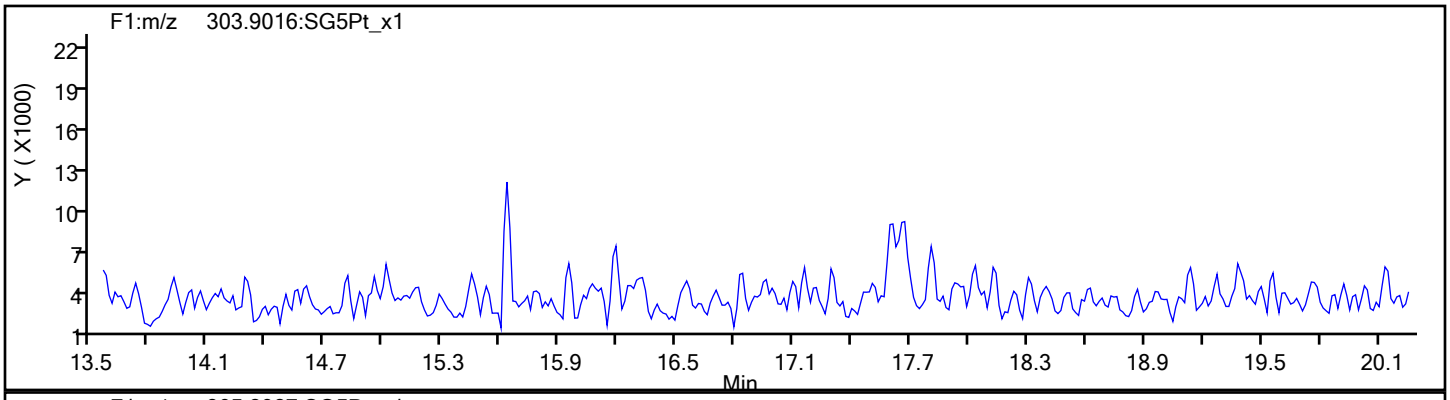

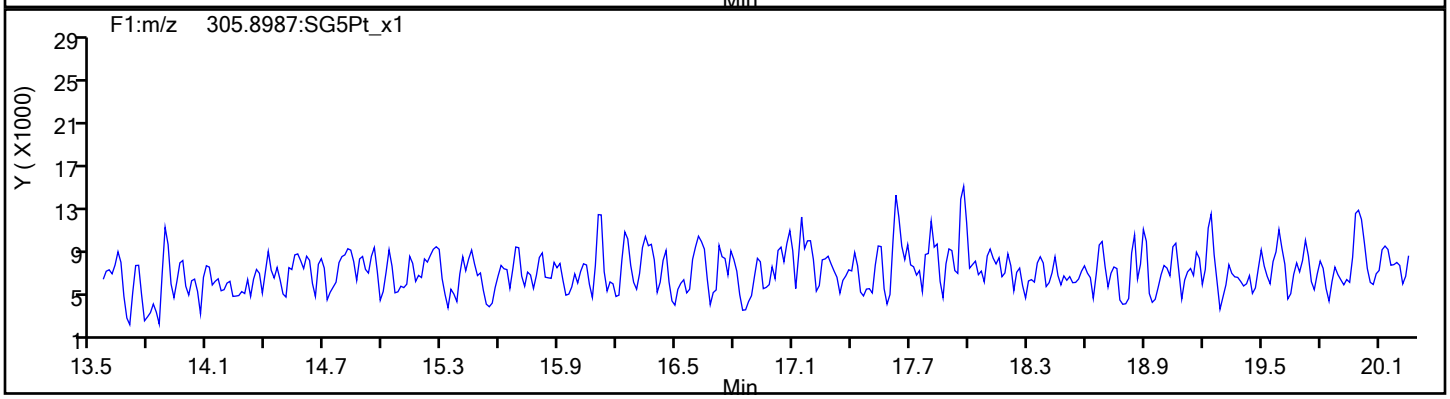

TCDF Standards

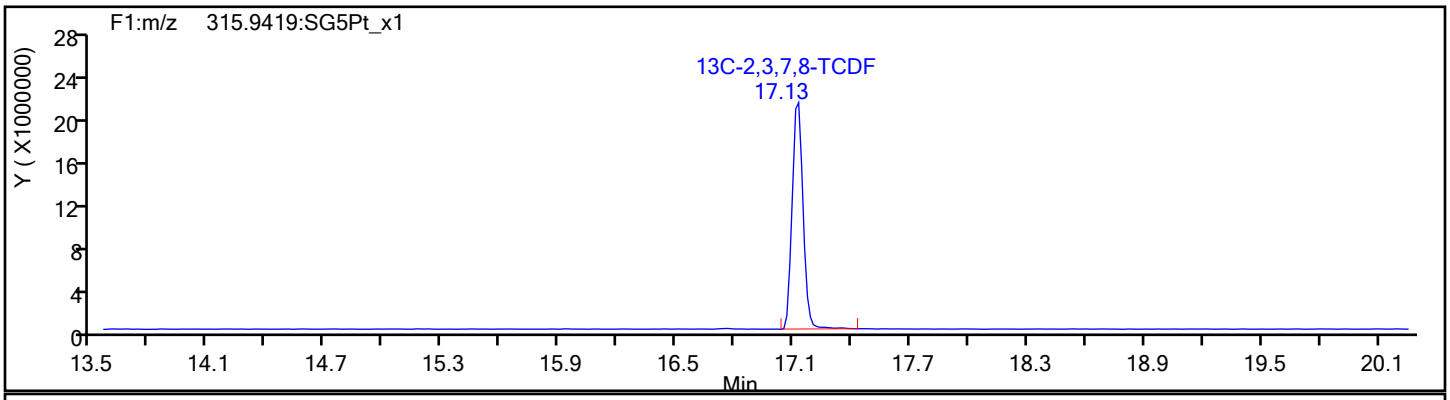

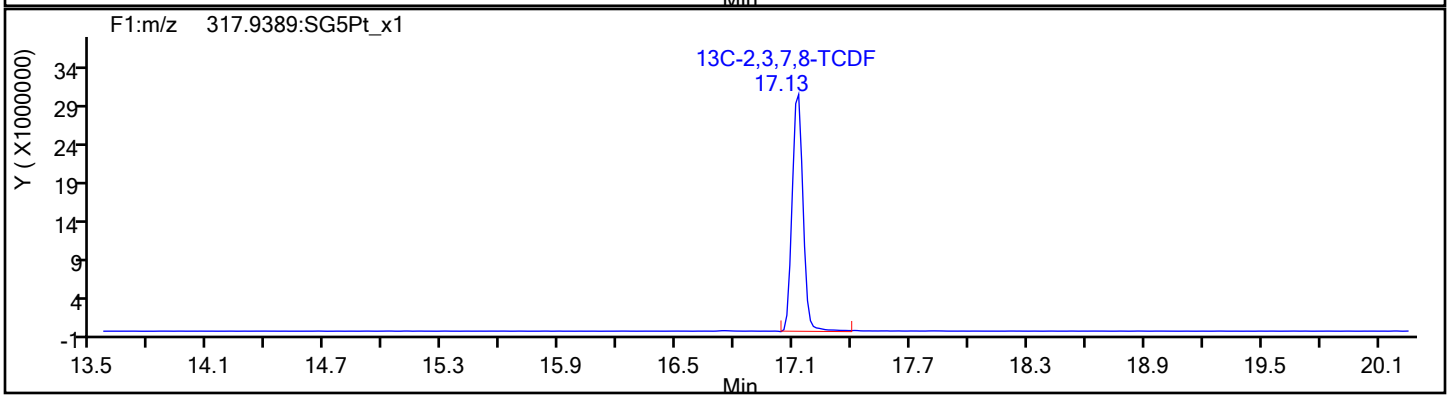

Report Date: 01-Nov-2019 10:12:51 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_5.d		
Injection Date:	31-Oct-2019 00:46:58	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	334889	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

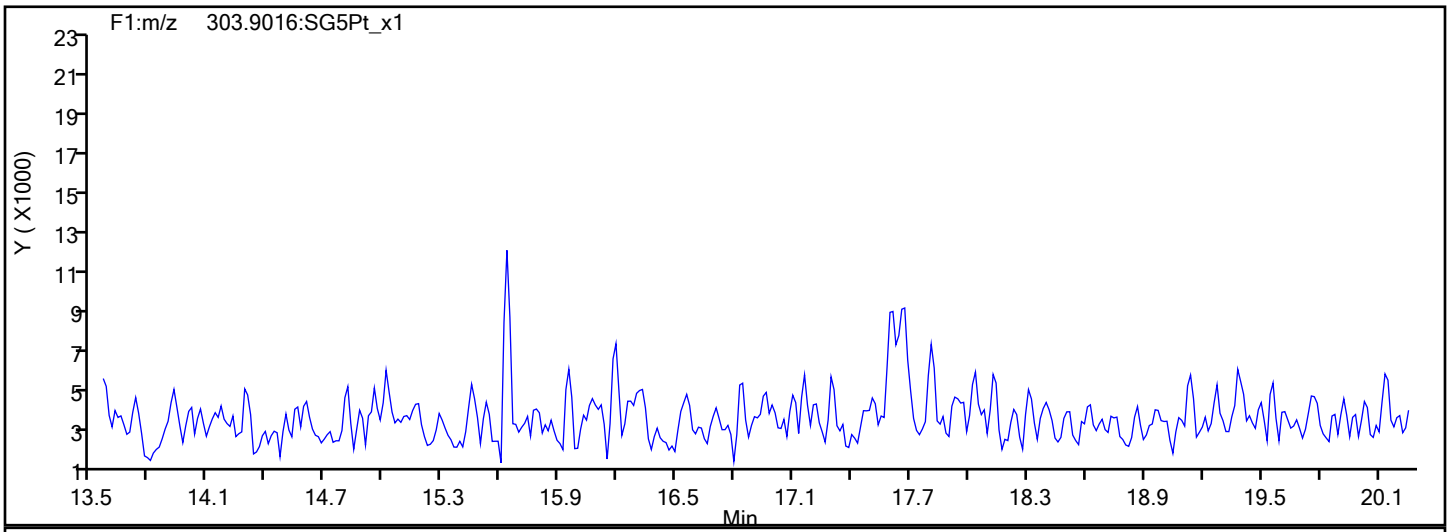

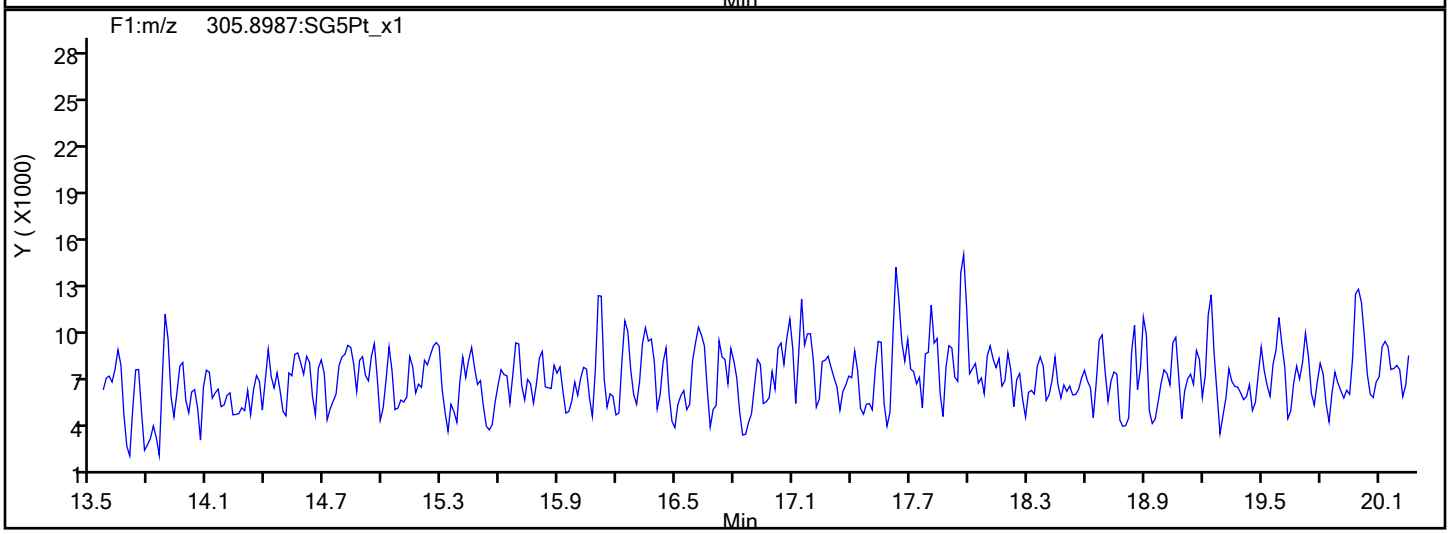

TCDF Interference Mass

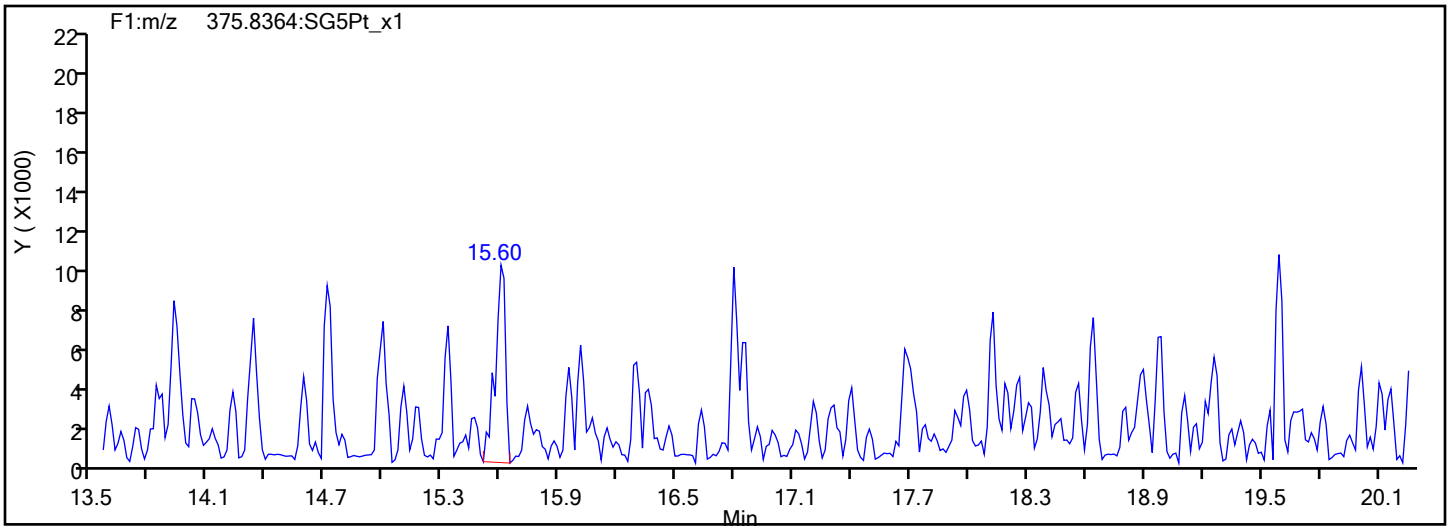

Report Date: 01-Nov-2019 10:12:51 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_5.d		
Injection Date:	31-Oct-2019 00:46:58	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	334889	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

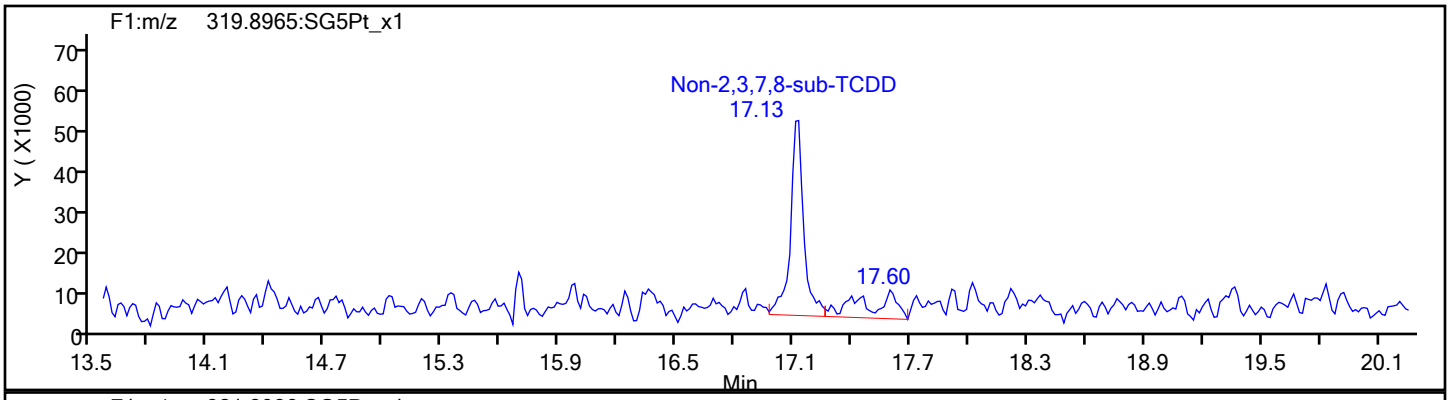

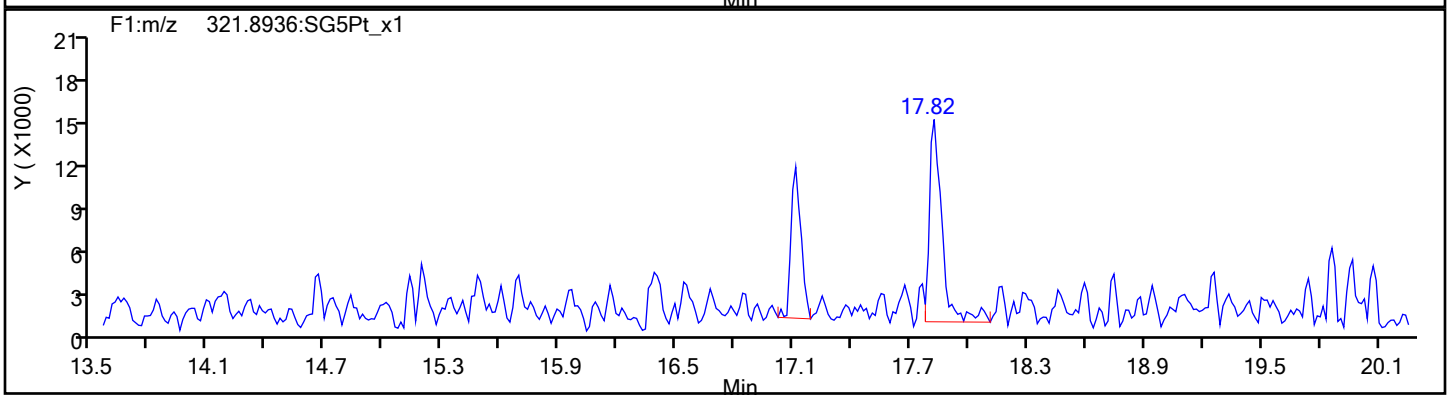

TCDD Standards

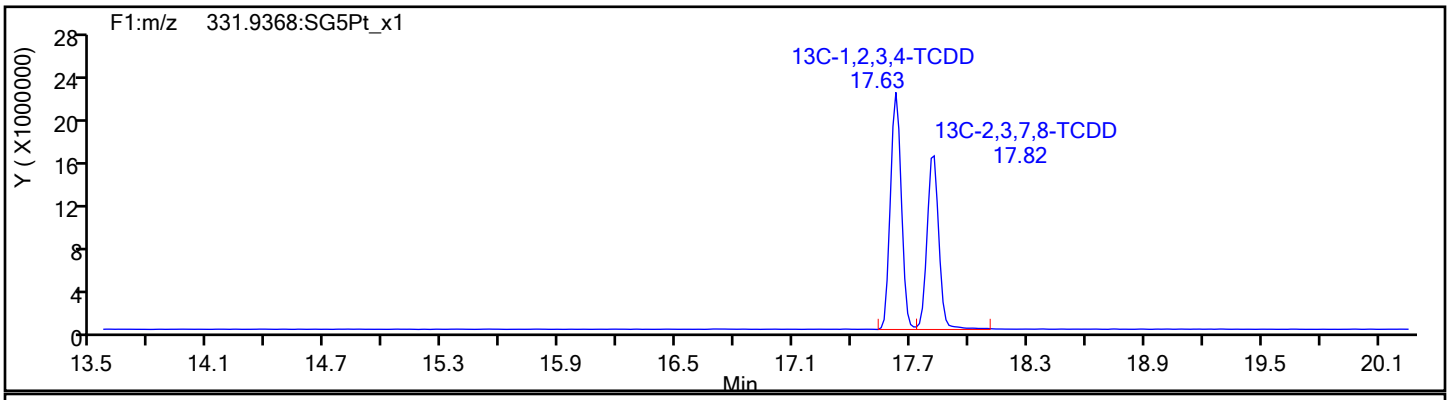

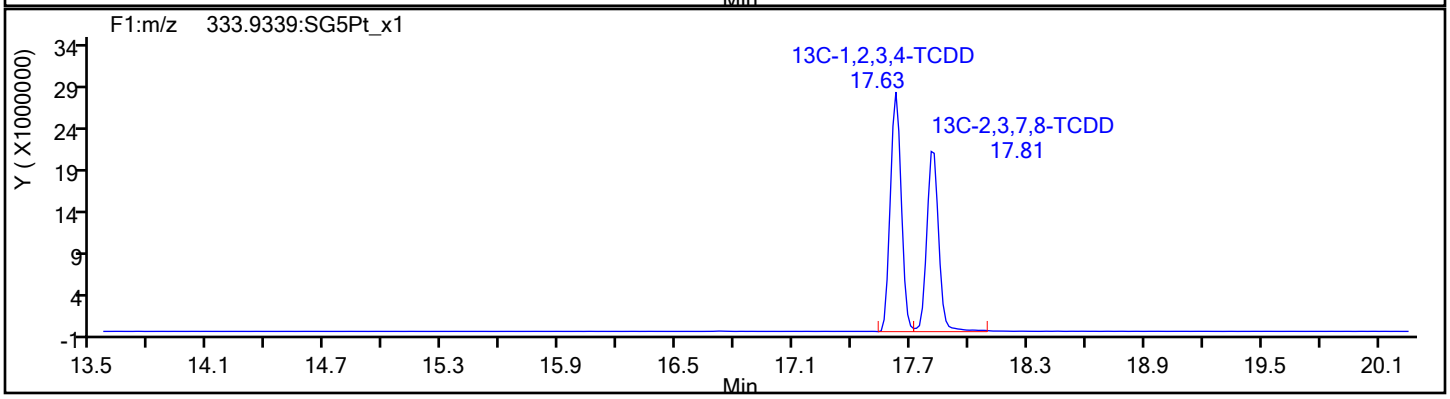

Report Date: 01-Nov-2019 10:12:51 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_5.d		
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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	334889	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

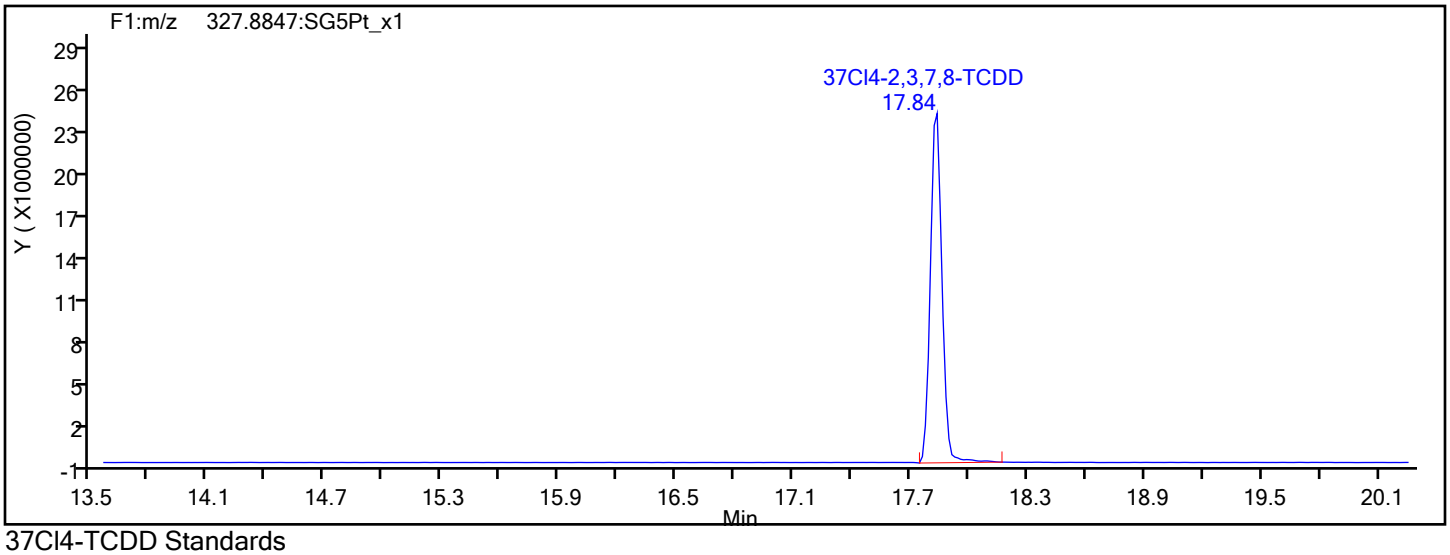

37Cl4-TCDD Standards

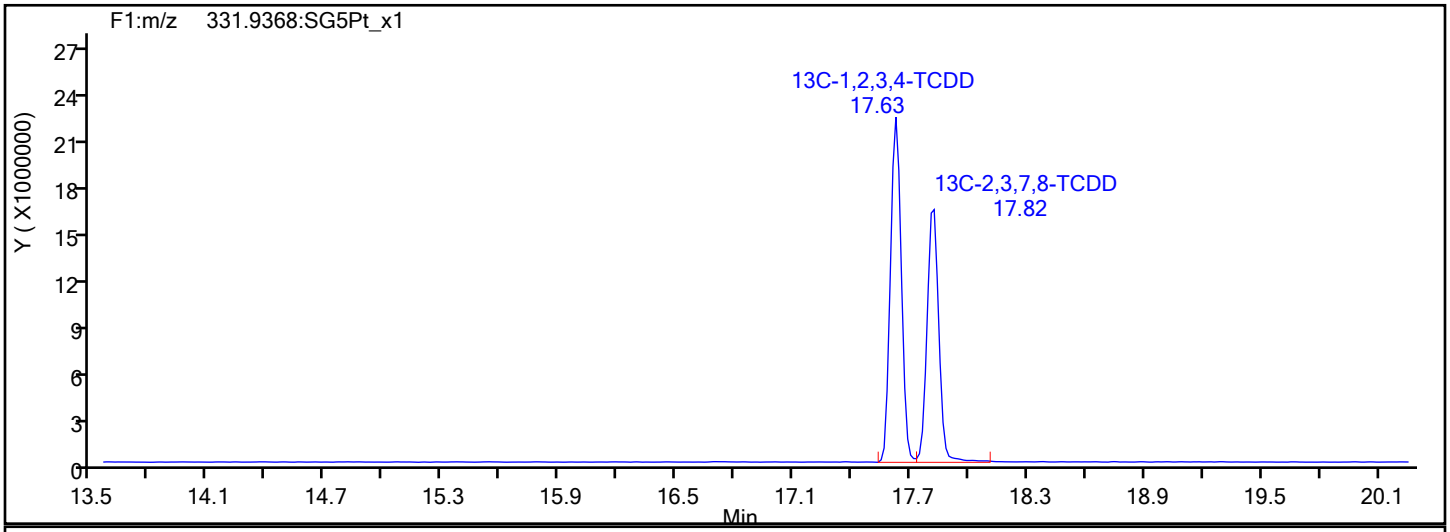

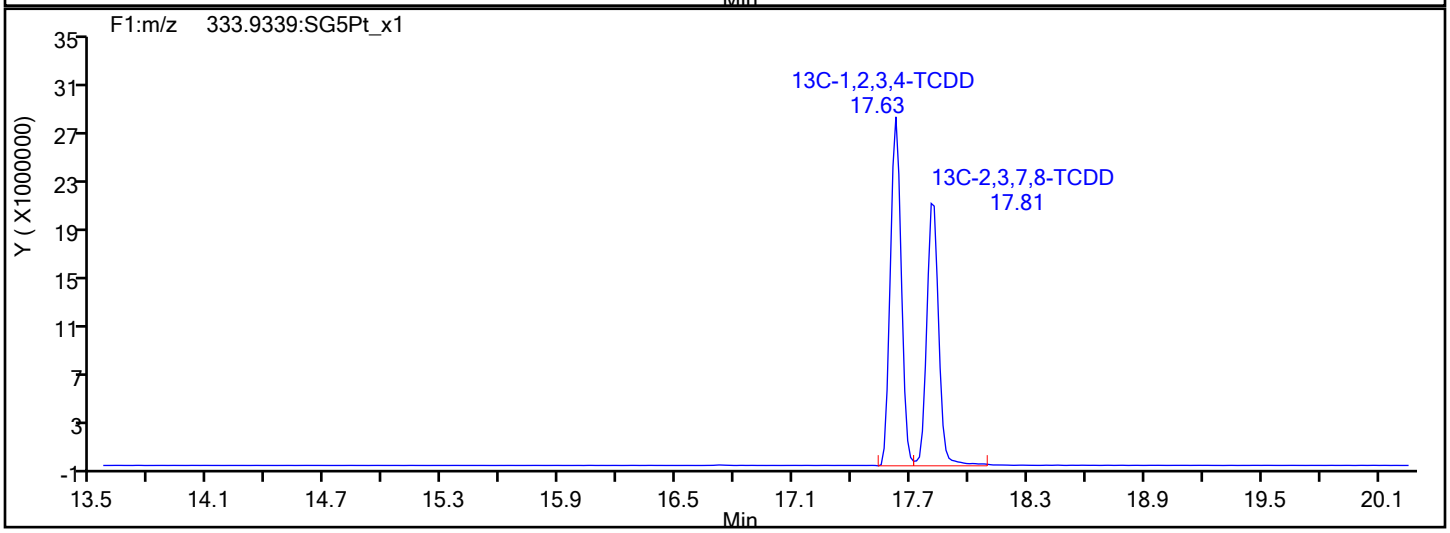

Report Date: 01-Nov-2019 10:12:51 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_5.d		
Injection Date:	31-Oct-2019 00:46:58	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	334889	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

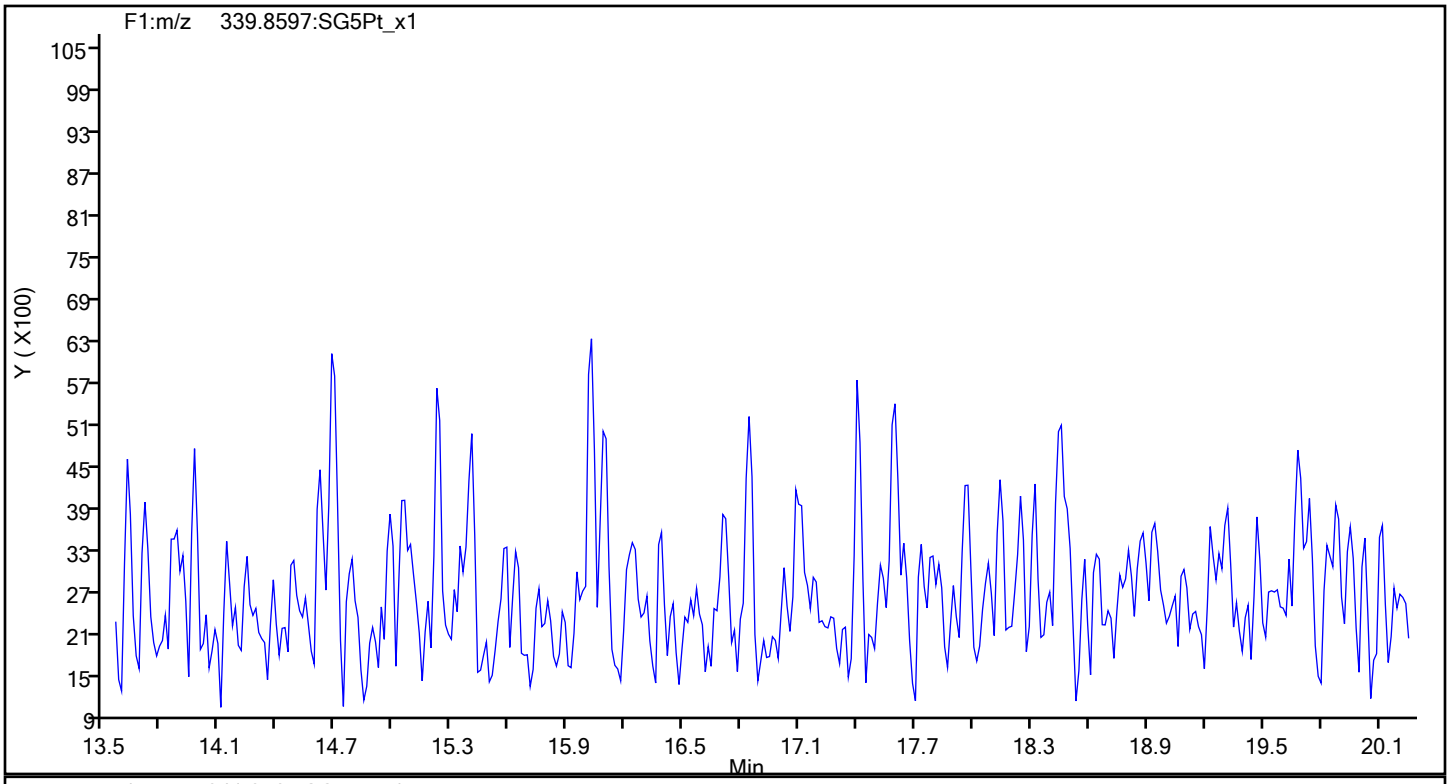

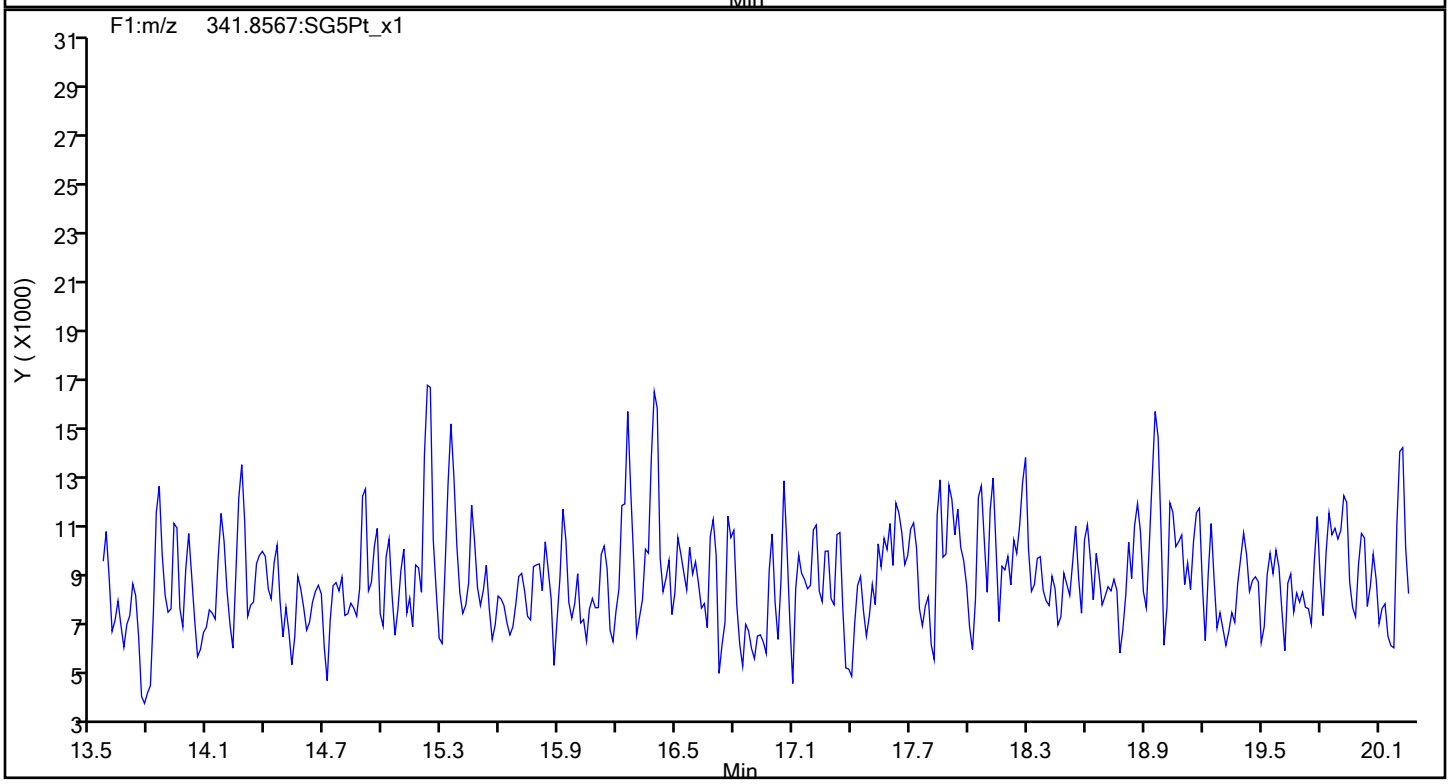

Report Date: 01-Nov-2019 10:12:51 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_5.d		
Injection Date:	31-Oct-2019 00:46:58	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	334889	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

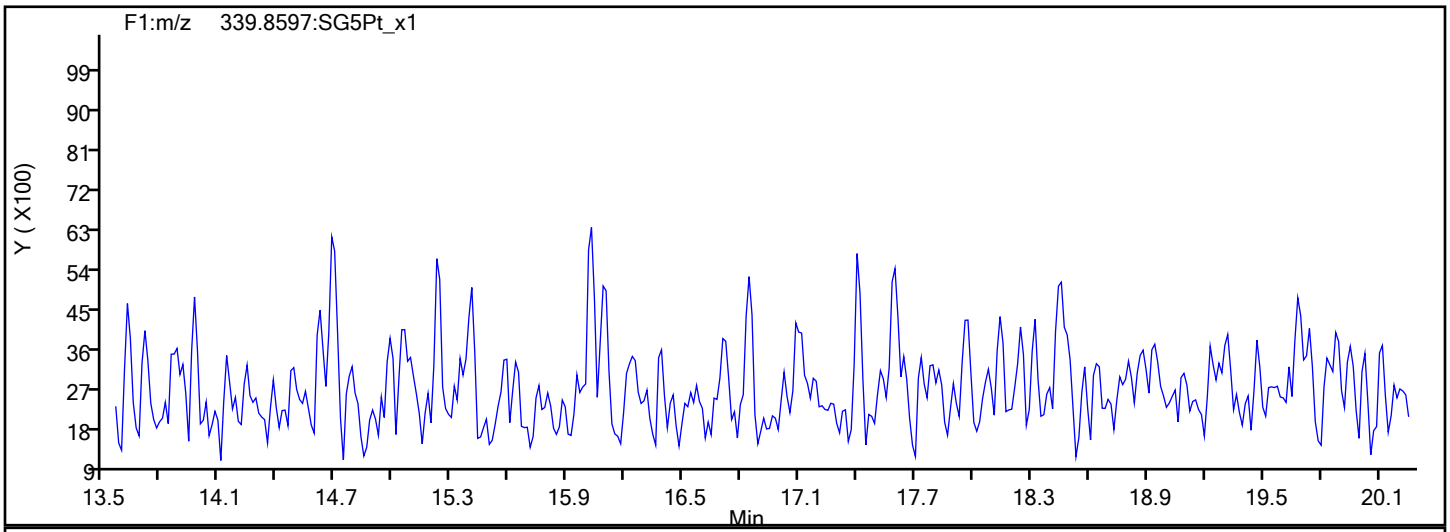

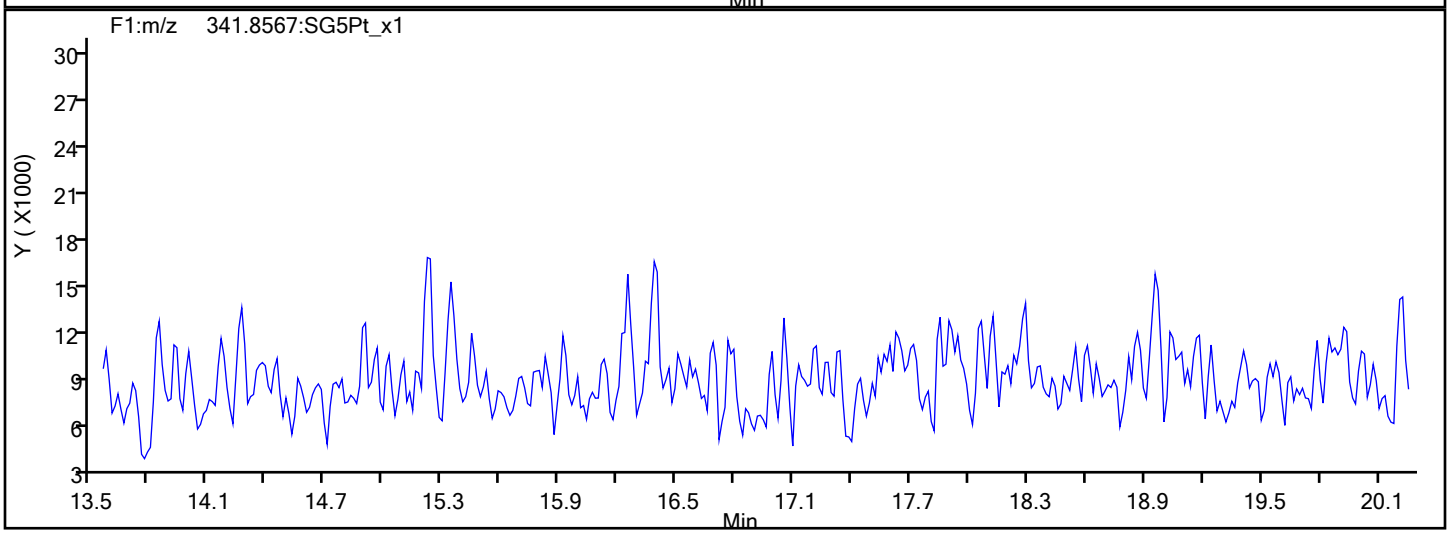

F1 PeCDFs Interference Mass

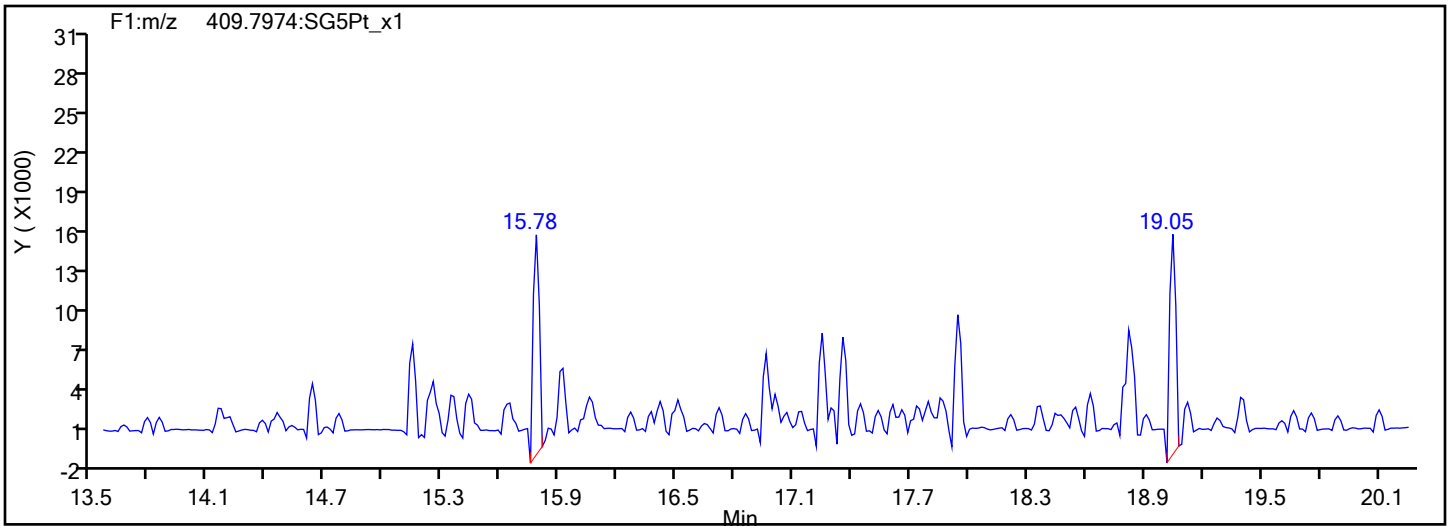

Report Date: 01-Nov-2019 10:12:51 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_5.d		
Injection Date:	31-Oct-2019 00:46:58	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	334889	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

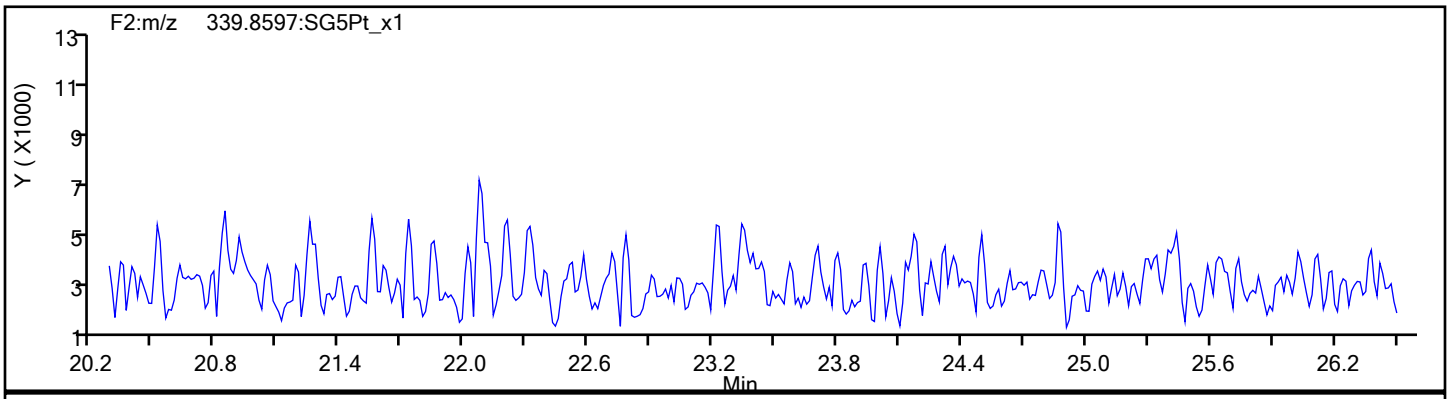

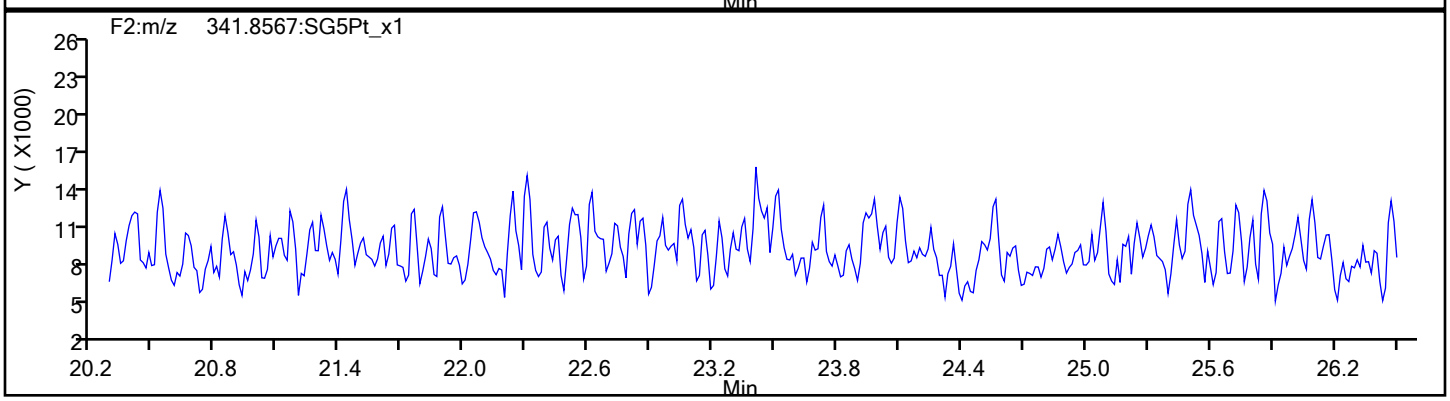

PeCDF Standards

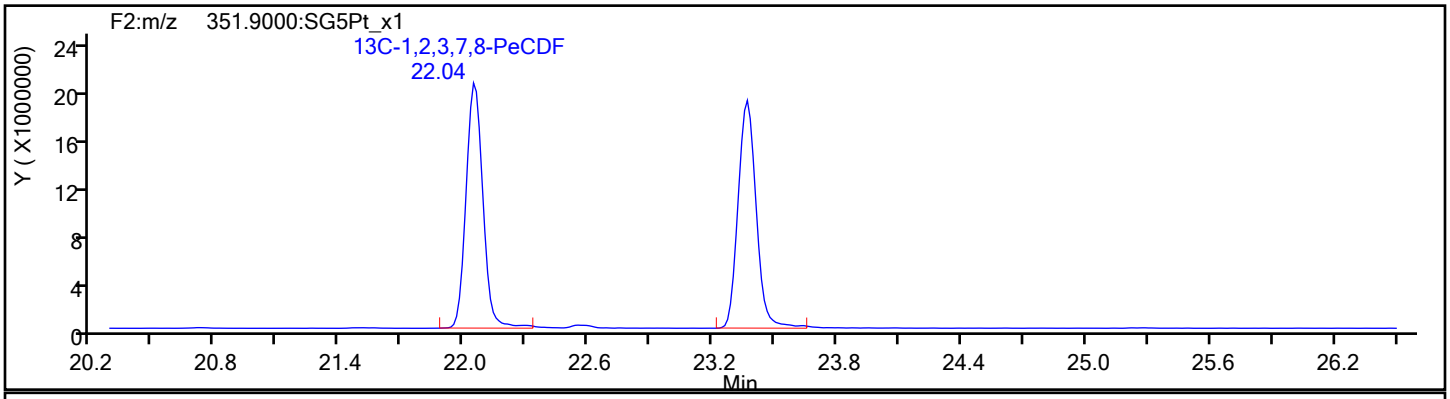

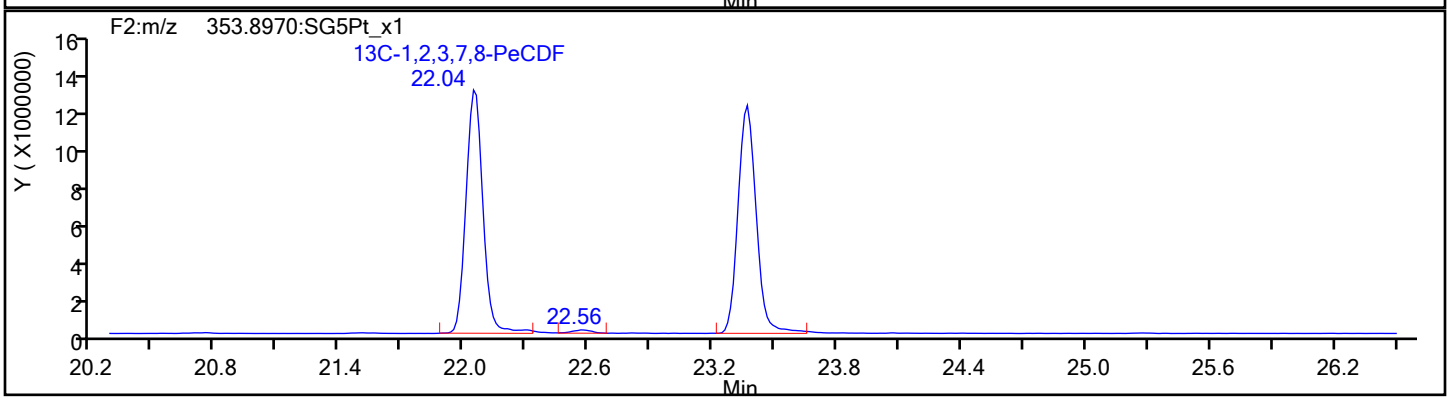

Report Date: 01-Nov-2019 10:12:51 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_5.d		
Injection Date:	31-Oct-2019 00:46:58	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	334889	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

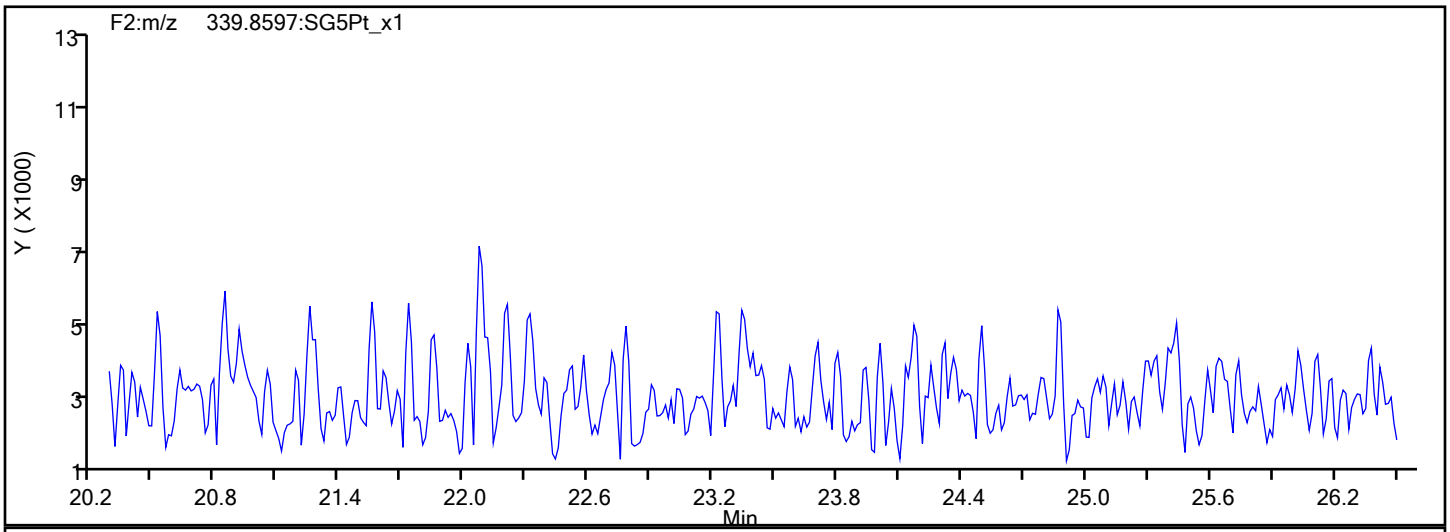

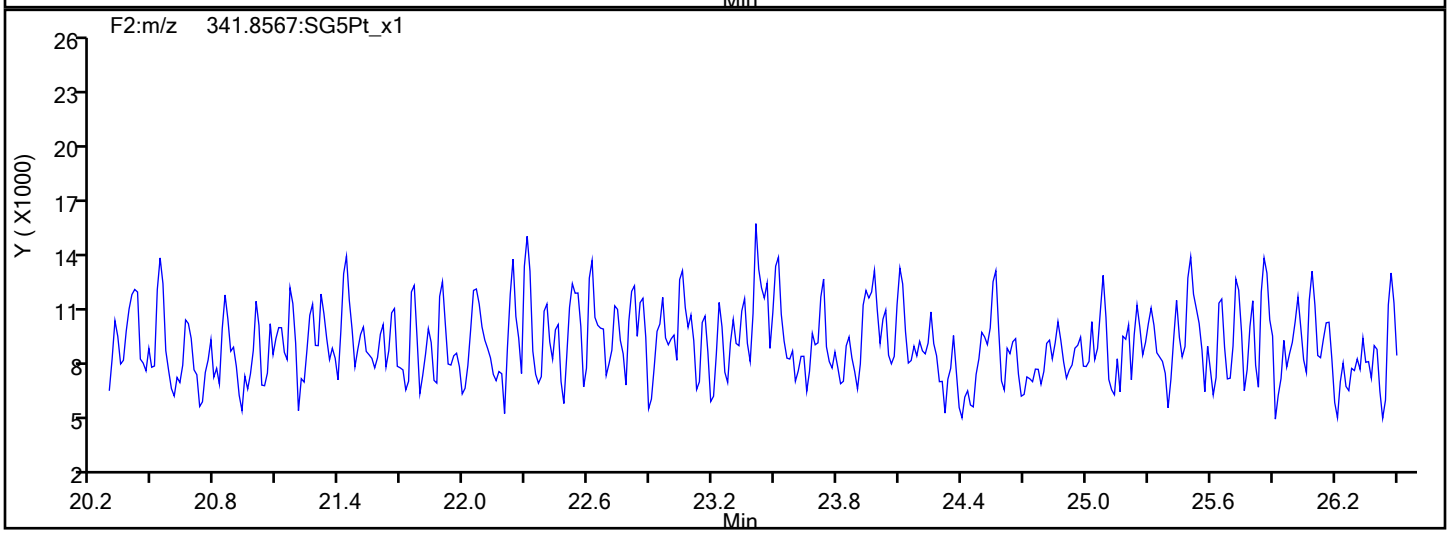

PeCDF Interference Mass

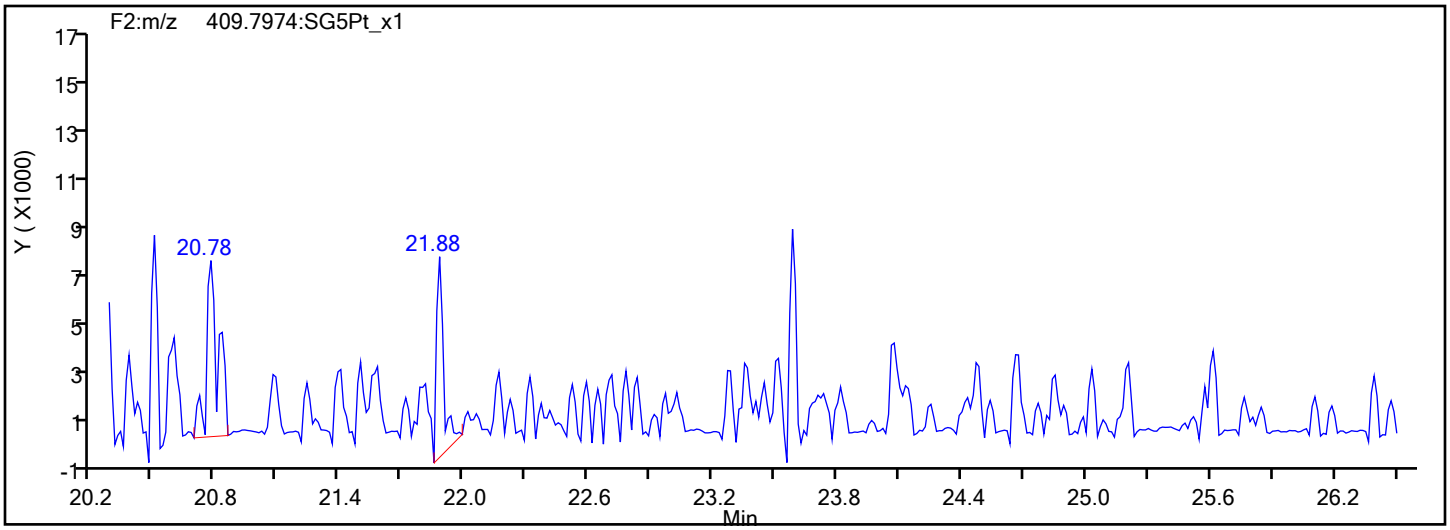

Report Date: 01-Nov-2019 10:12:51 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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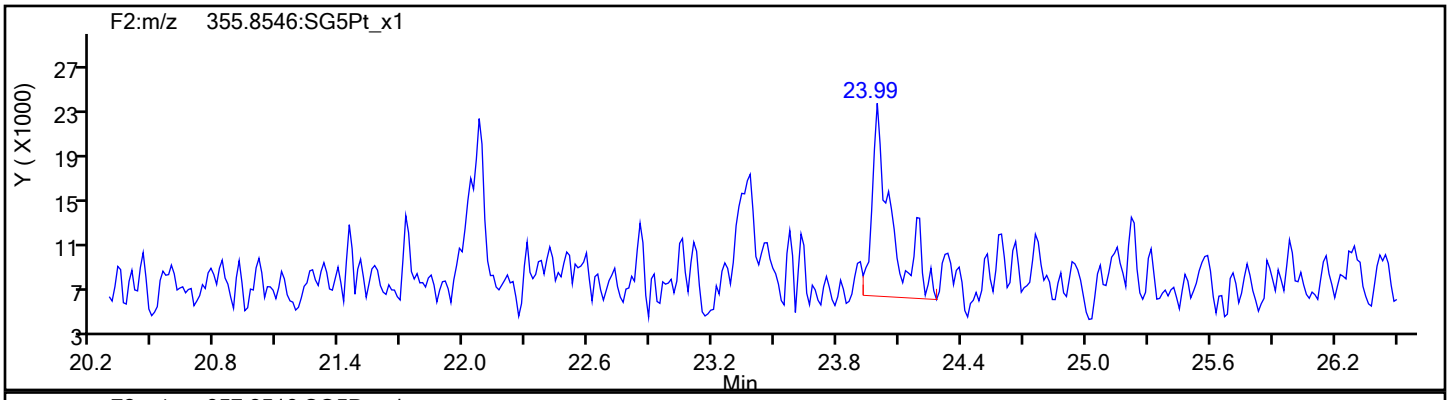

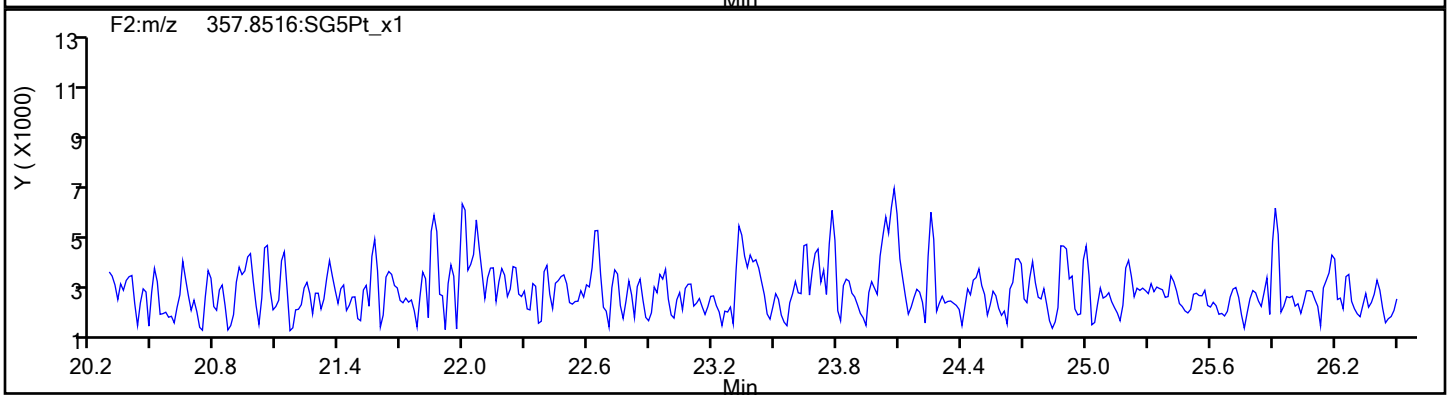

PeCDD Standards

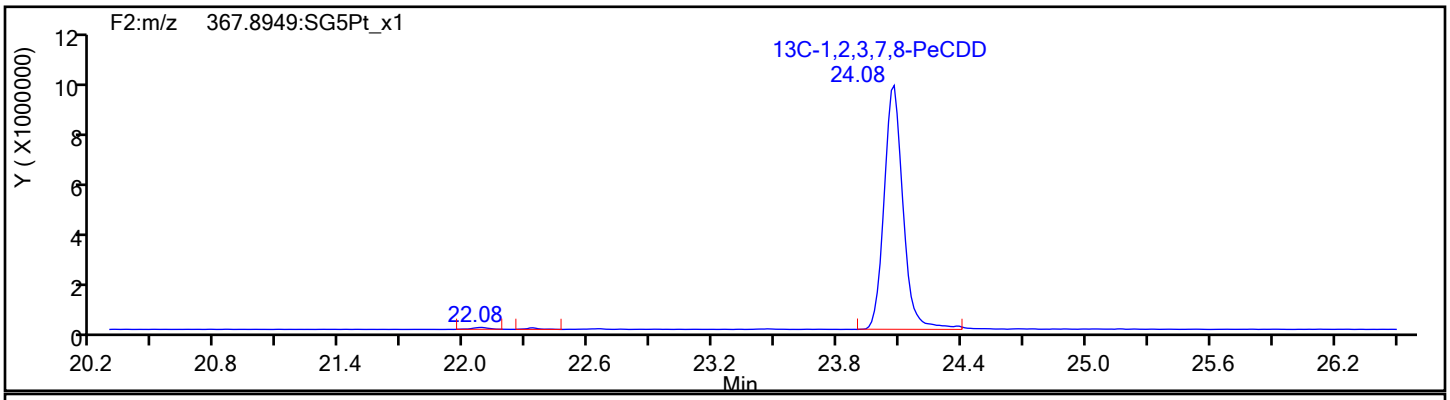

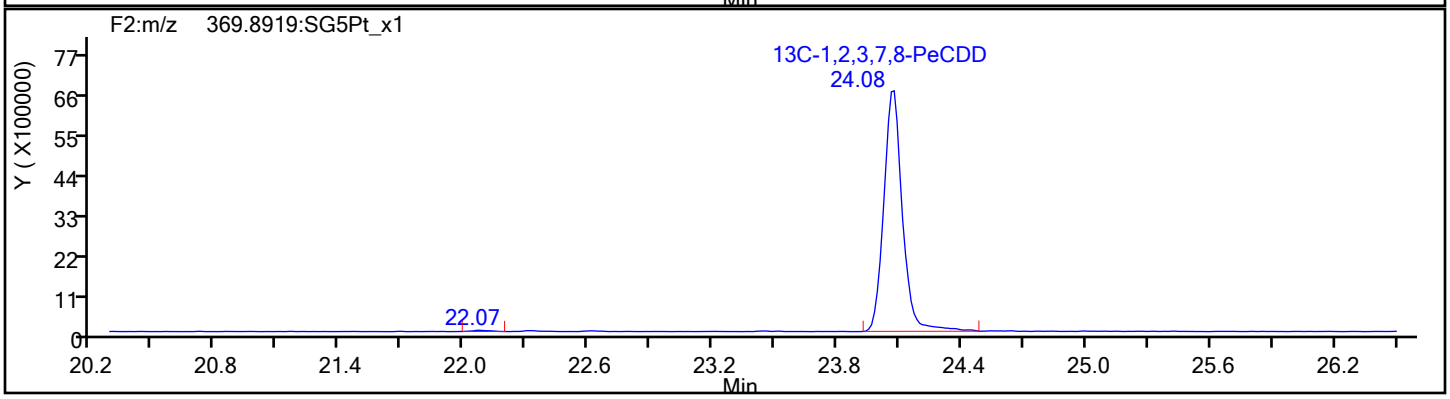

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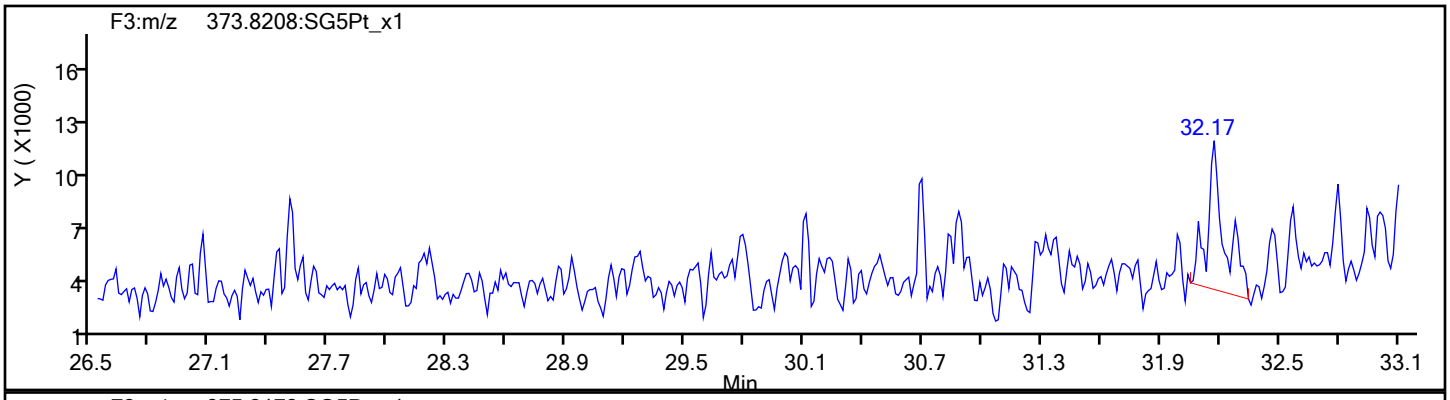

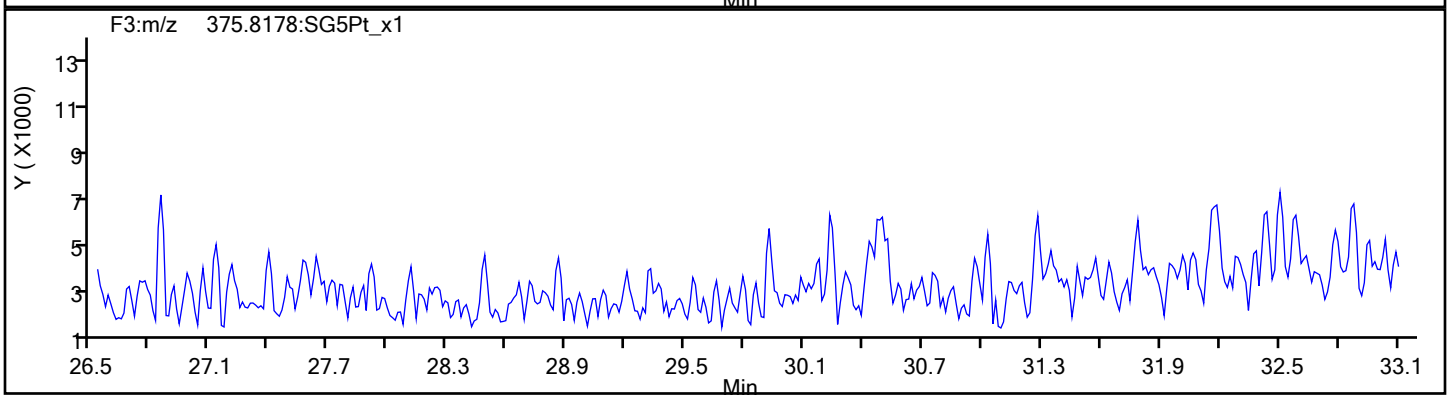

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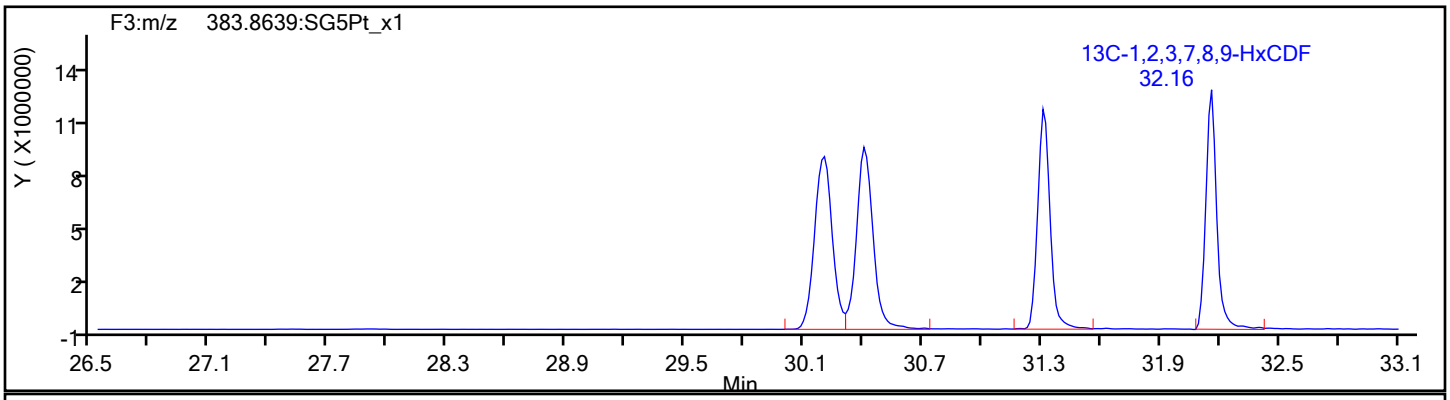

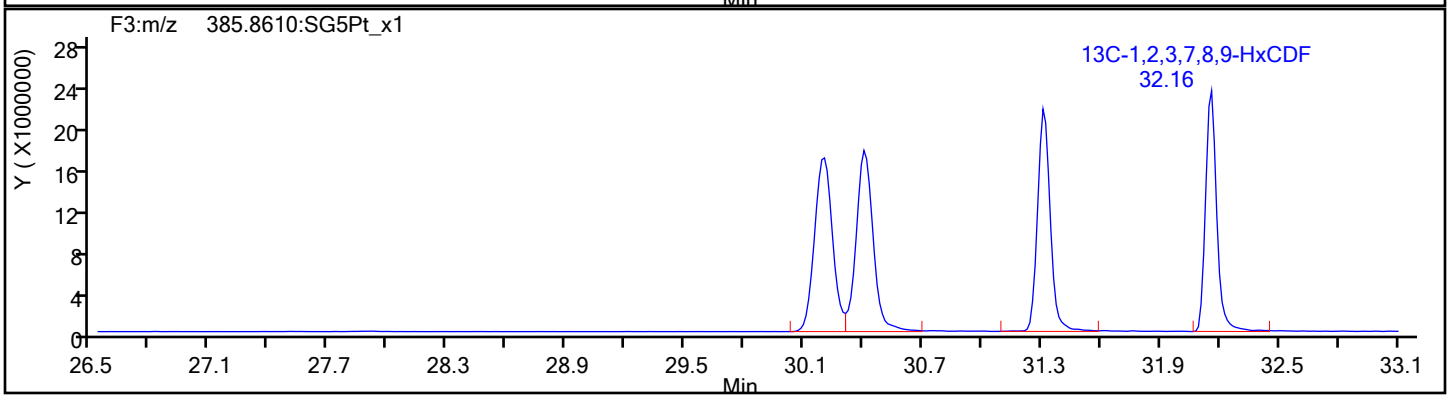

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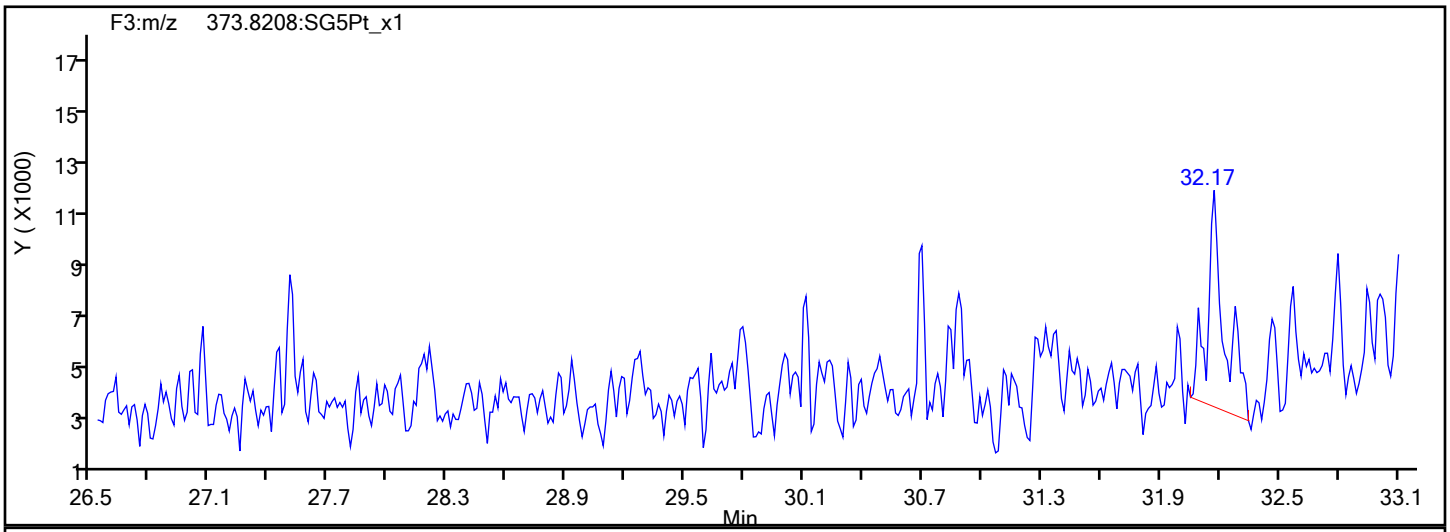

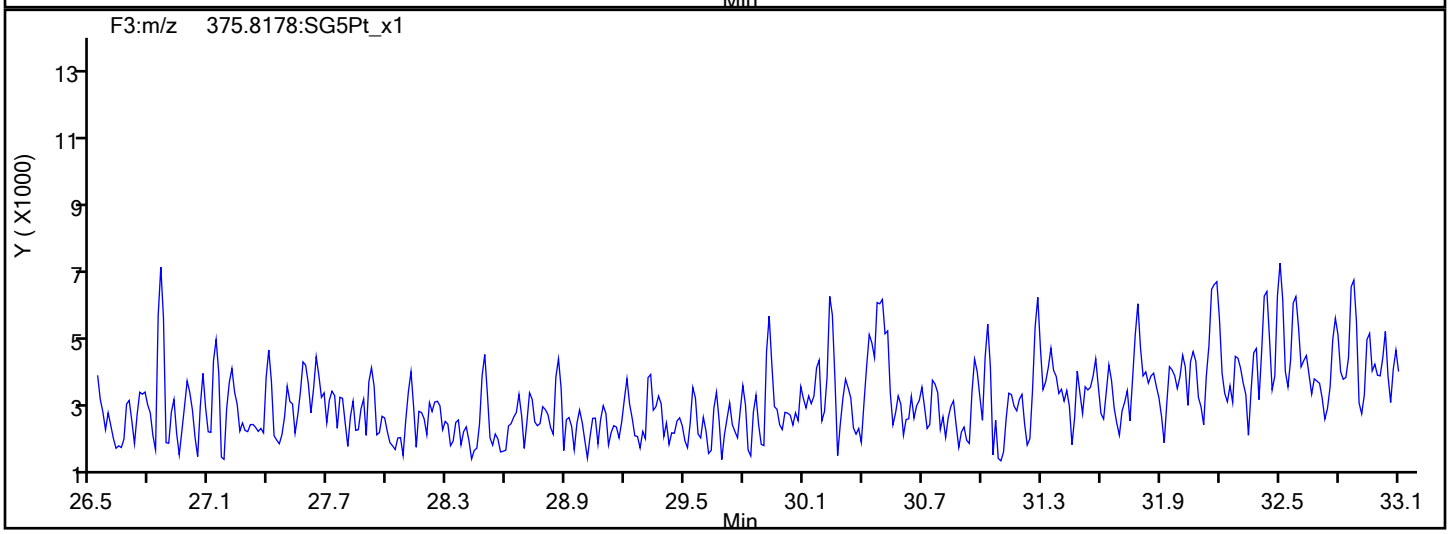

HxCDF Interference Mass

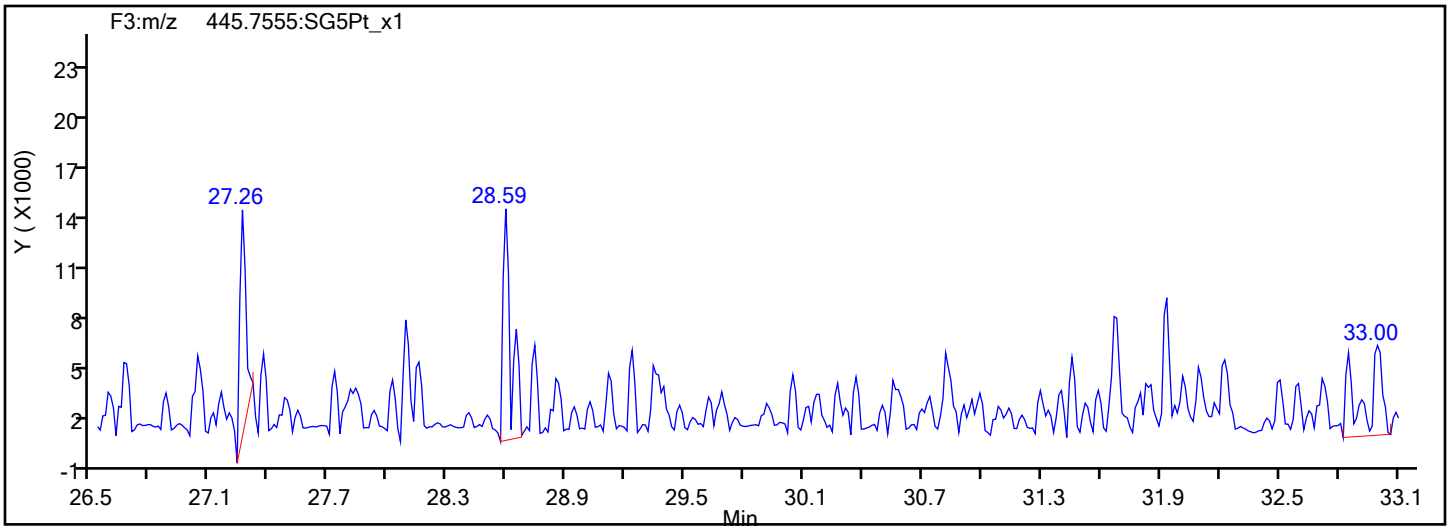

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Eurofins TestAmerica, Sacramento

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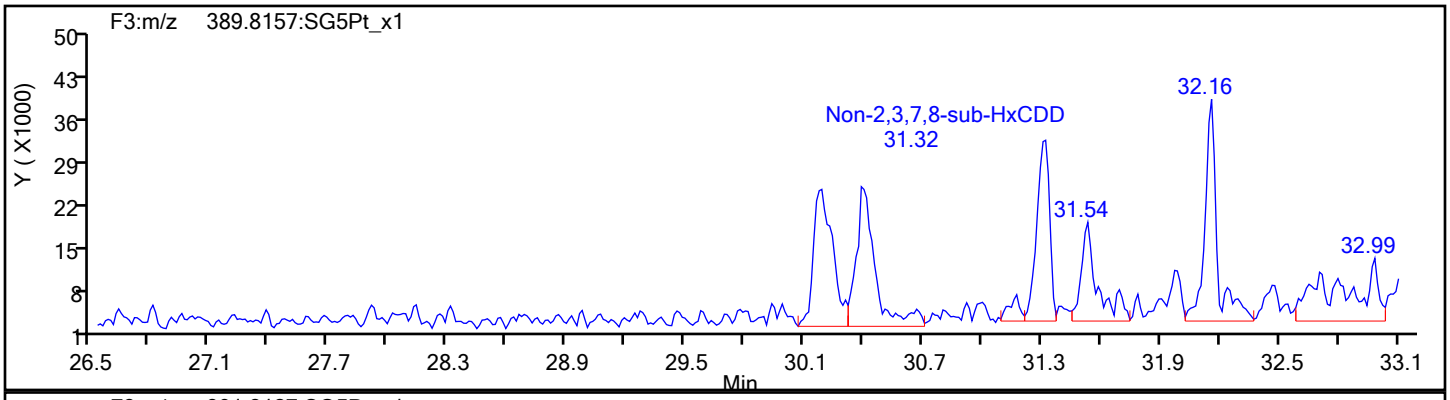

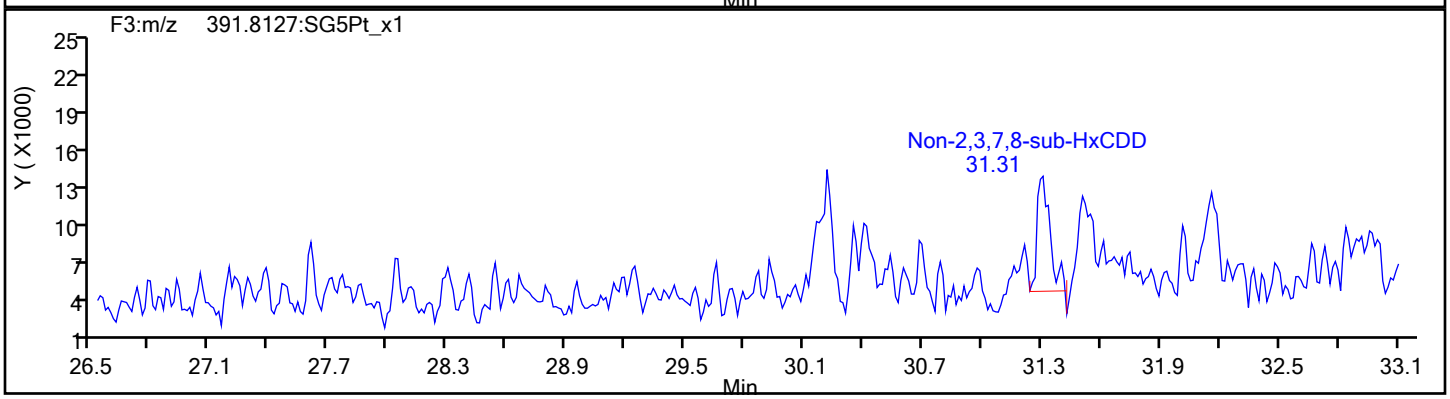

HxCDD Standards

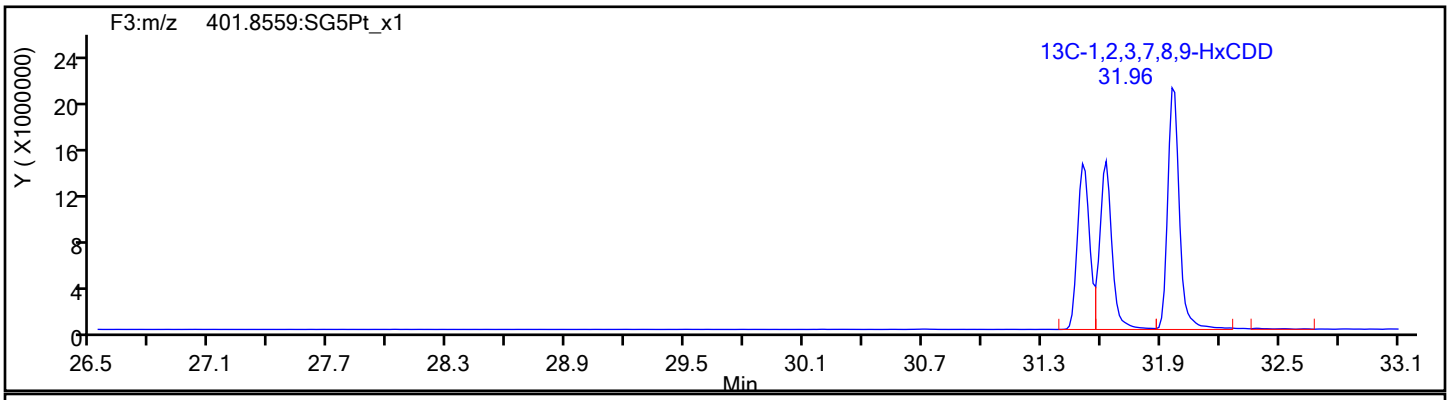

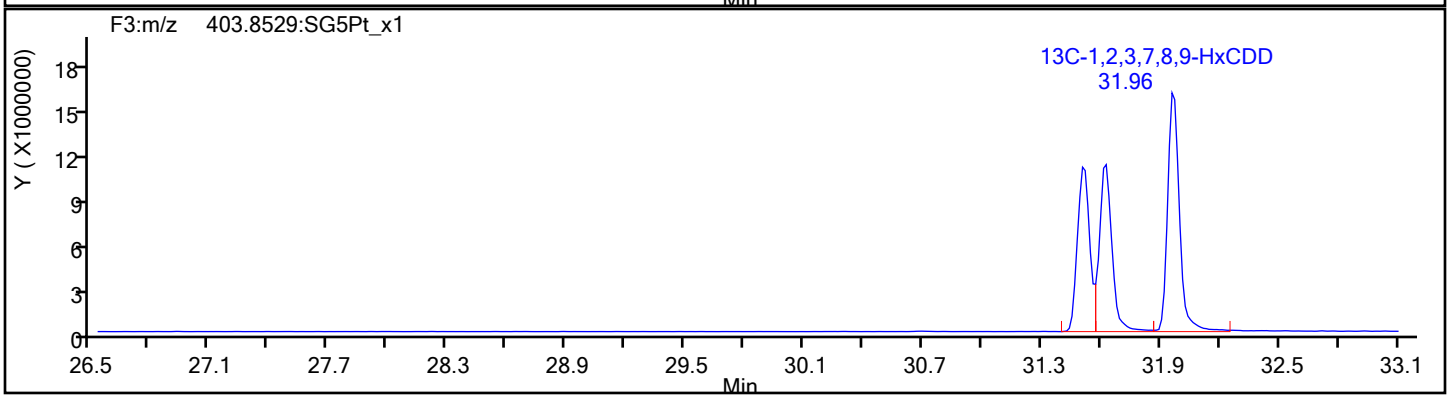

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Eurofins TestAmerica, Sacramento

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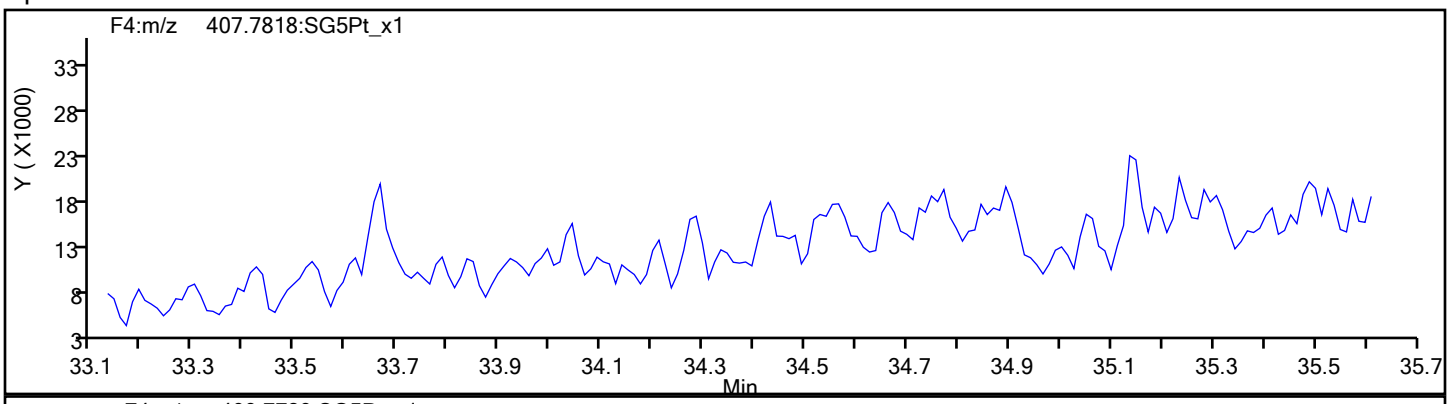

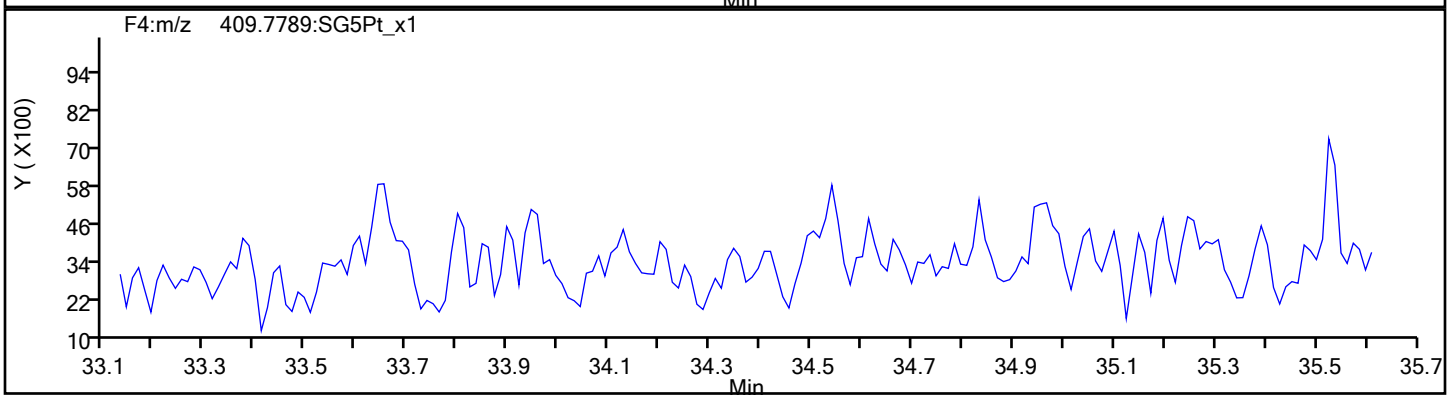

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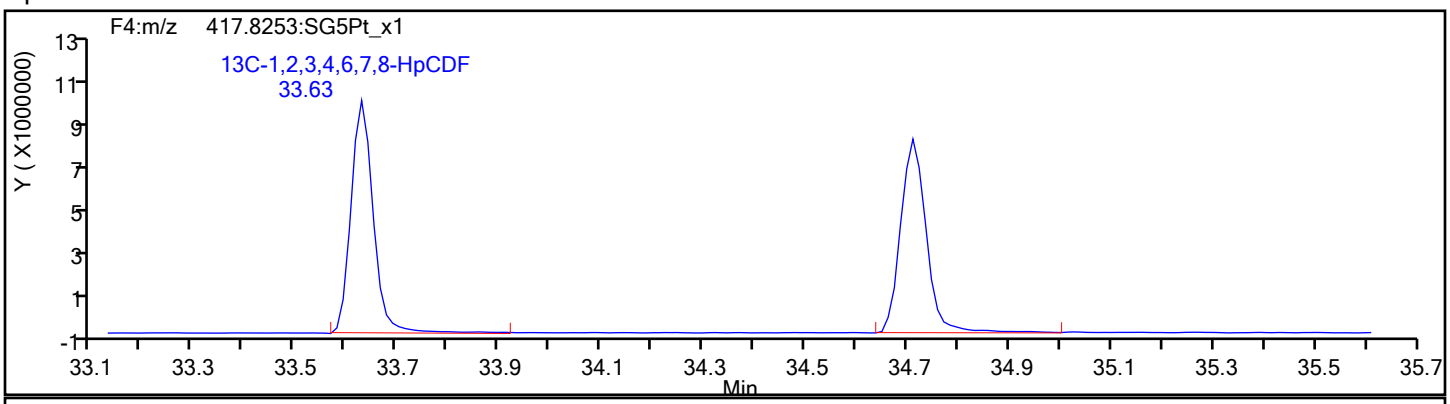

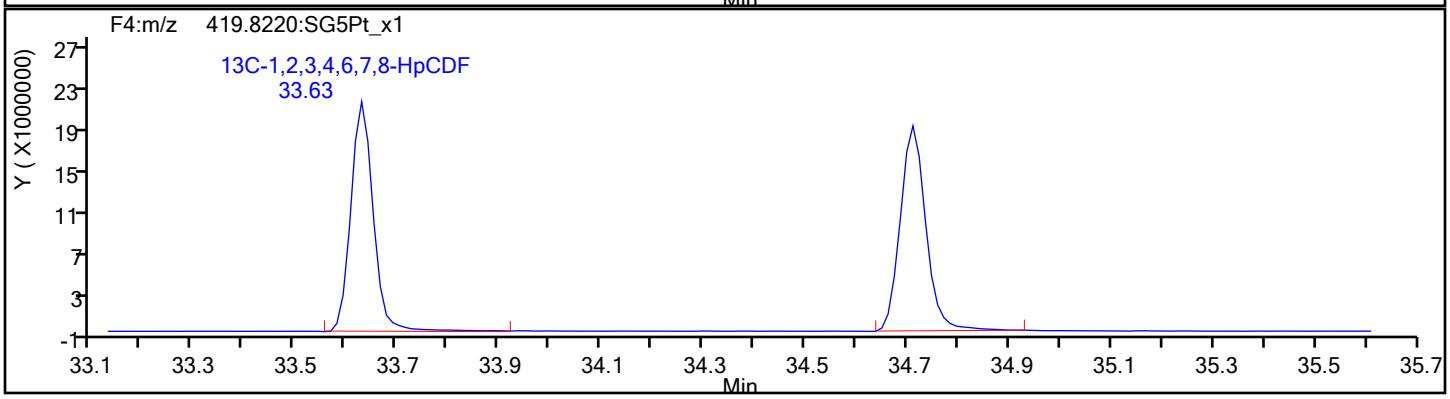

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Eurofins TestAmerica, Sacramento

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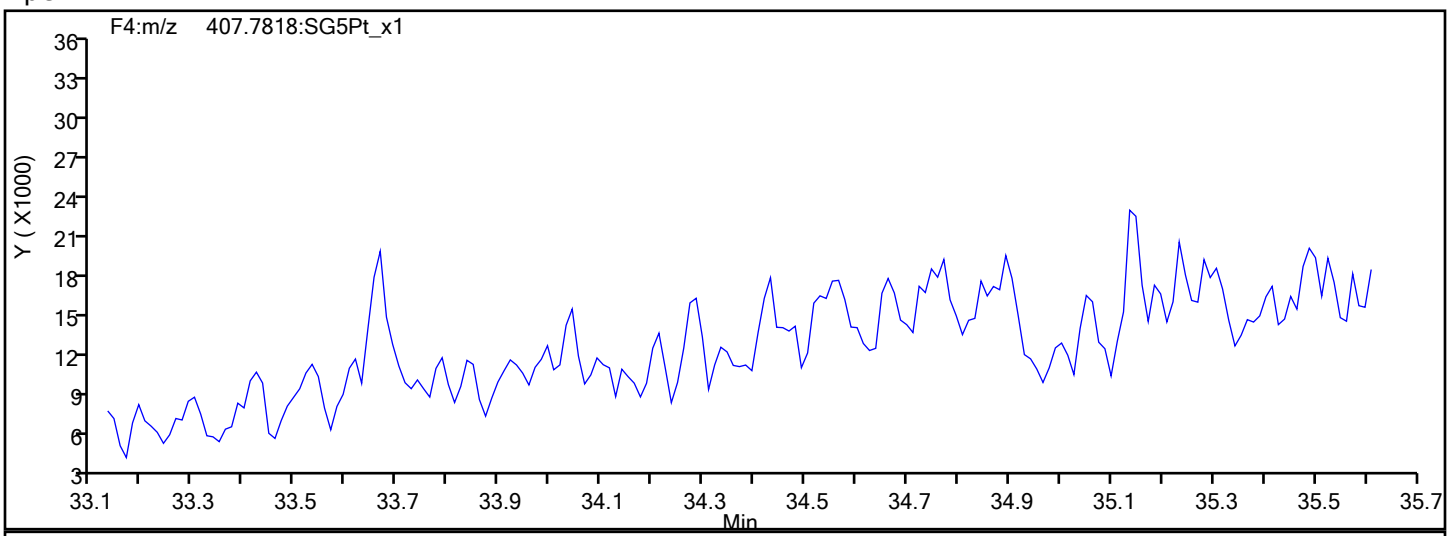

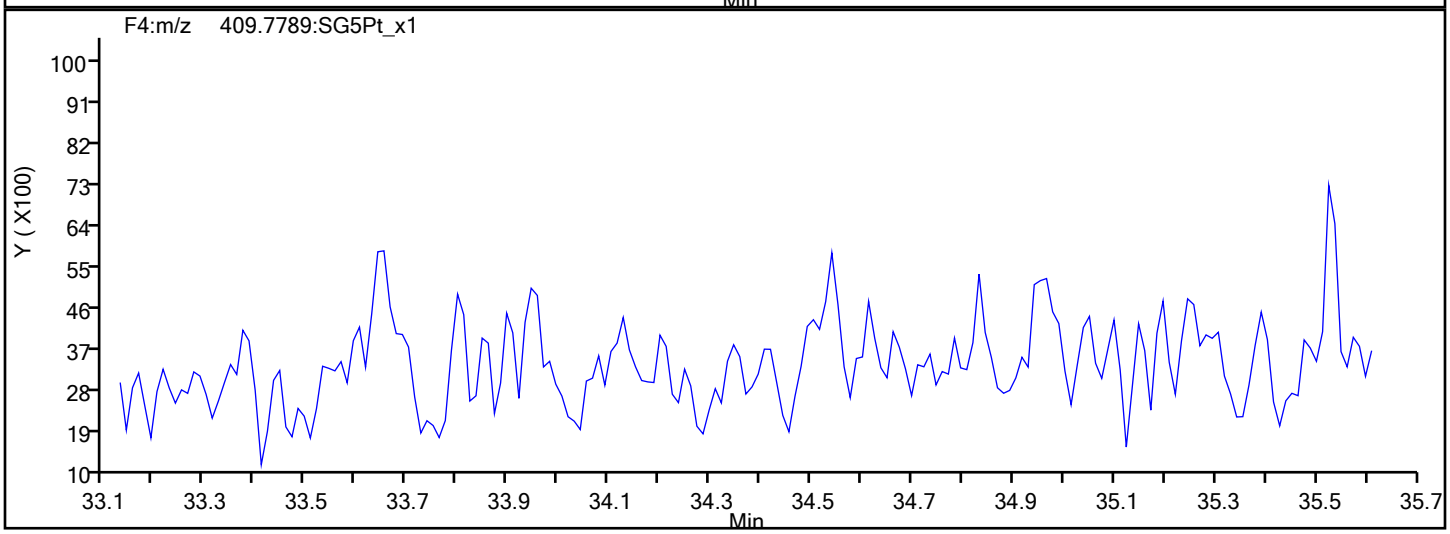

HpCDF Interference Mass

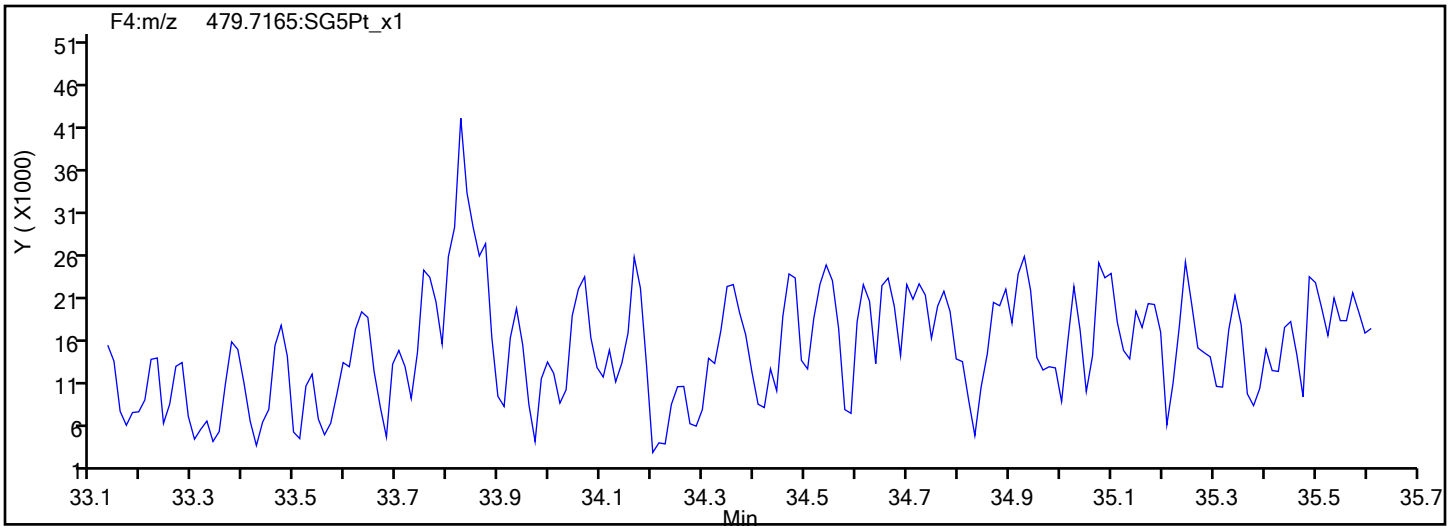

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Eurofins TestAmerica, Sacramento

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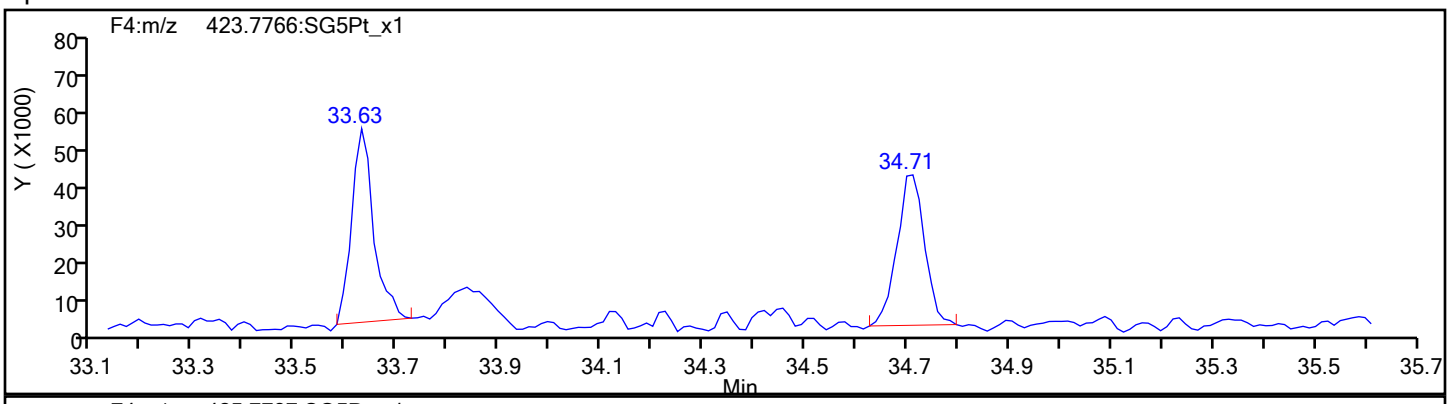

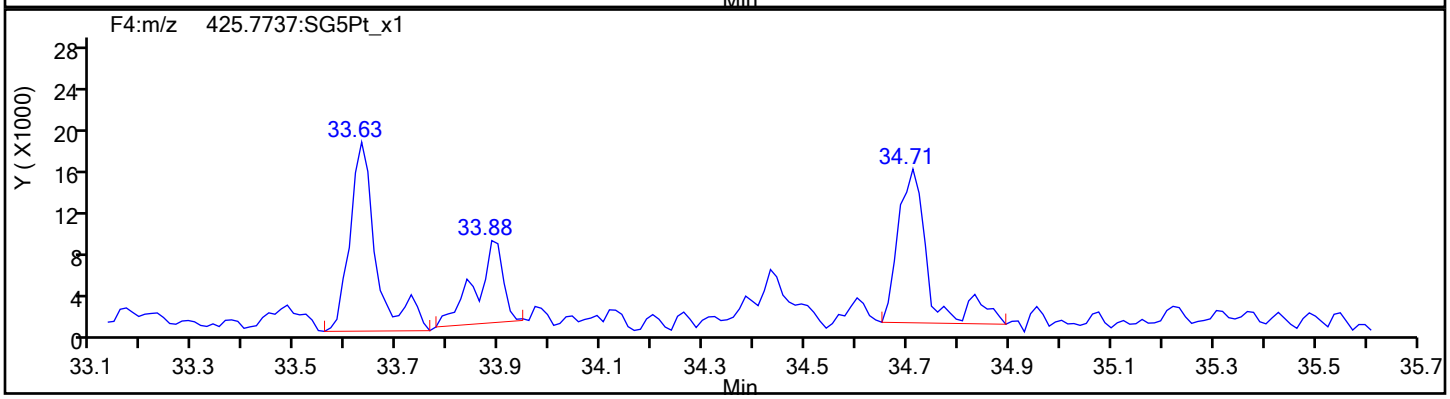

HpCDD Standards

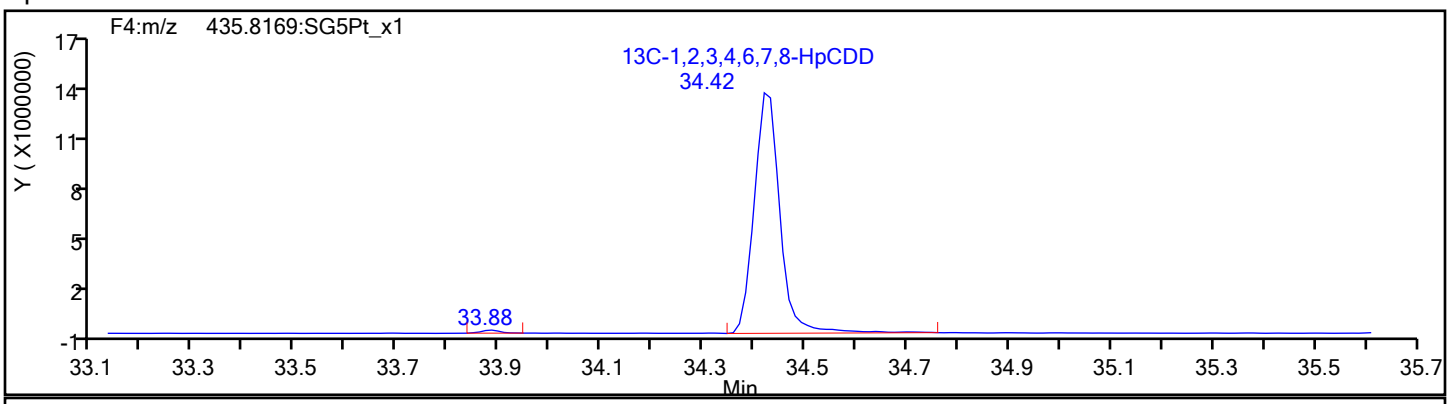

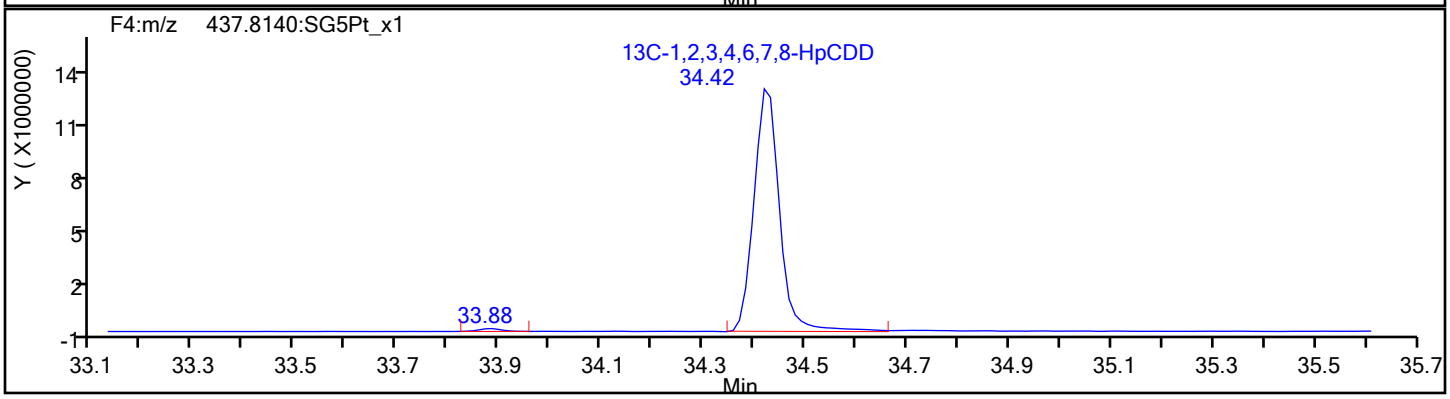

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Eurofins TestAmerica, Sacramento

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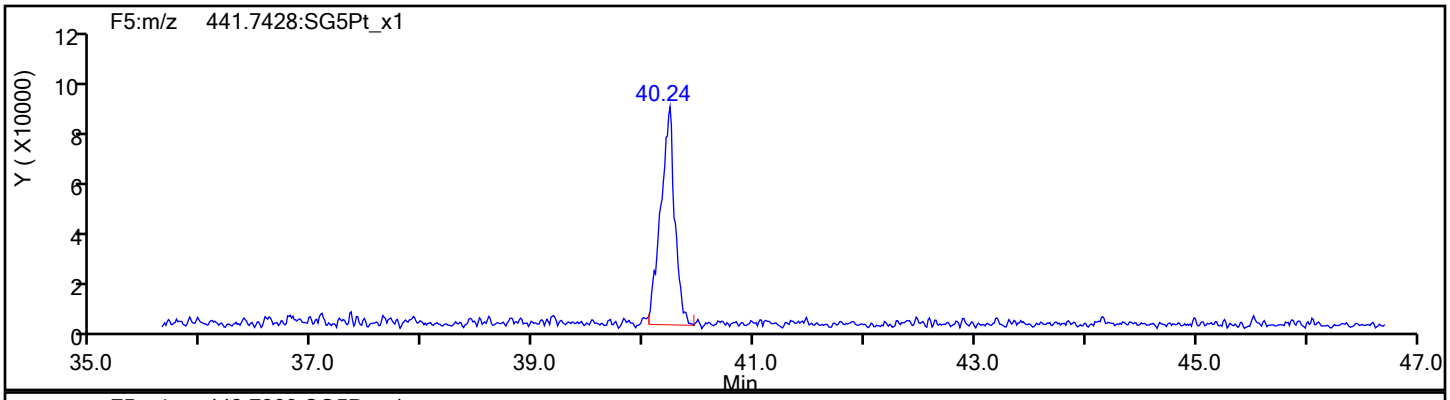

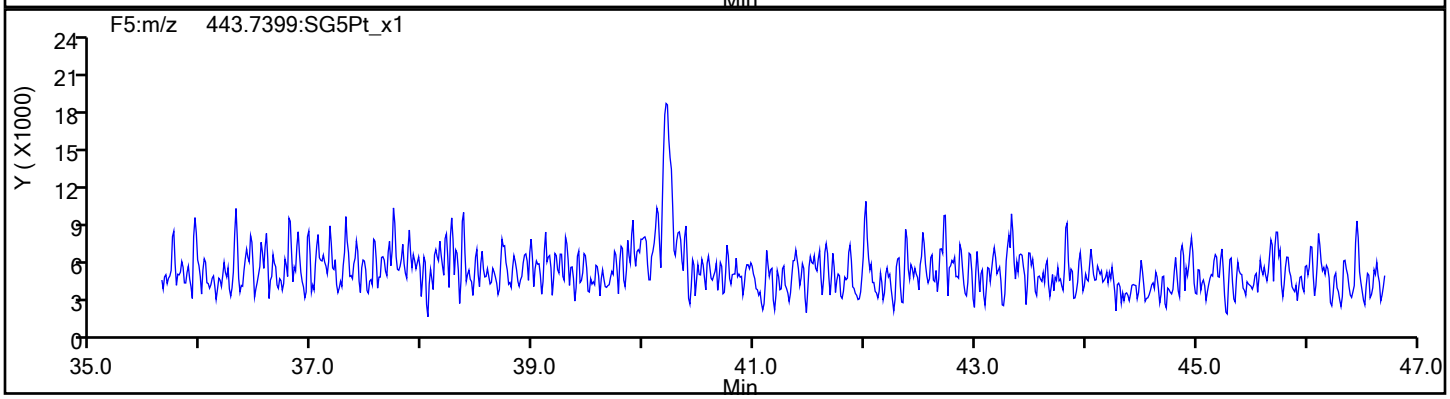

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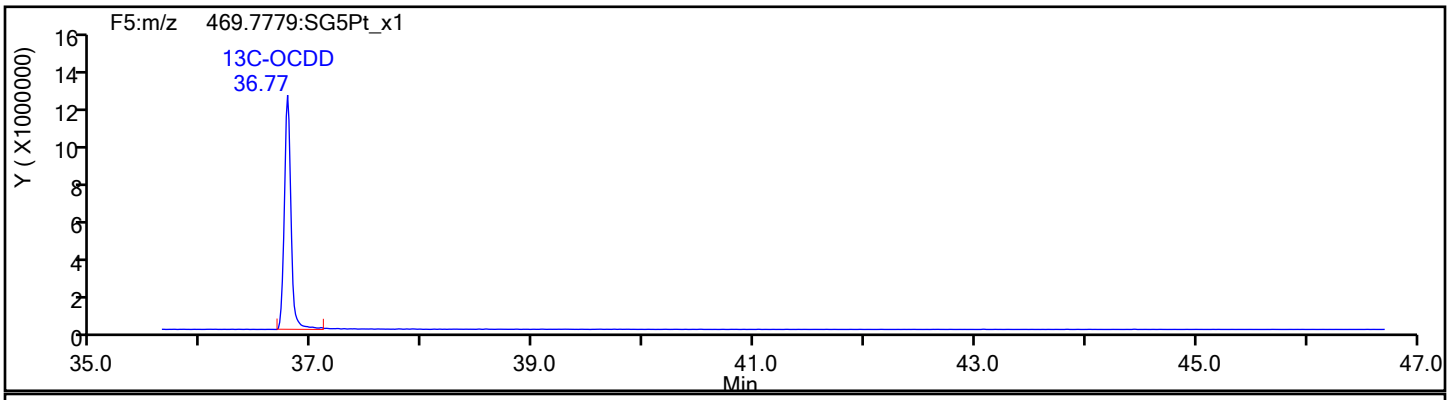

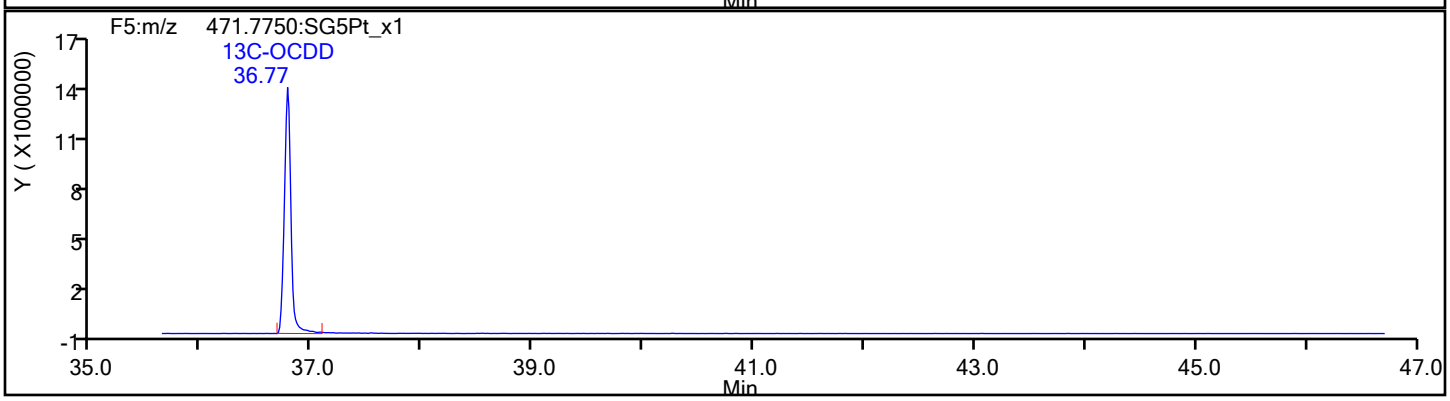

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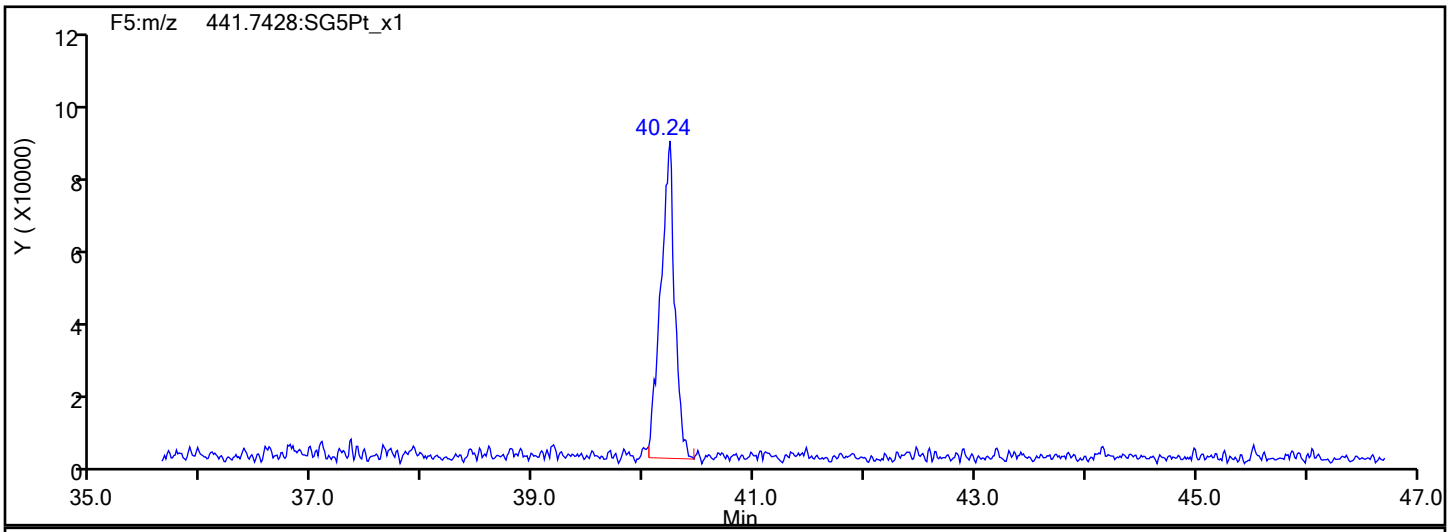

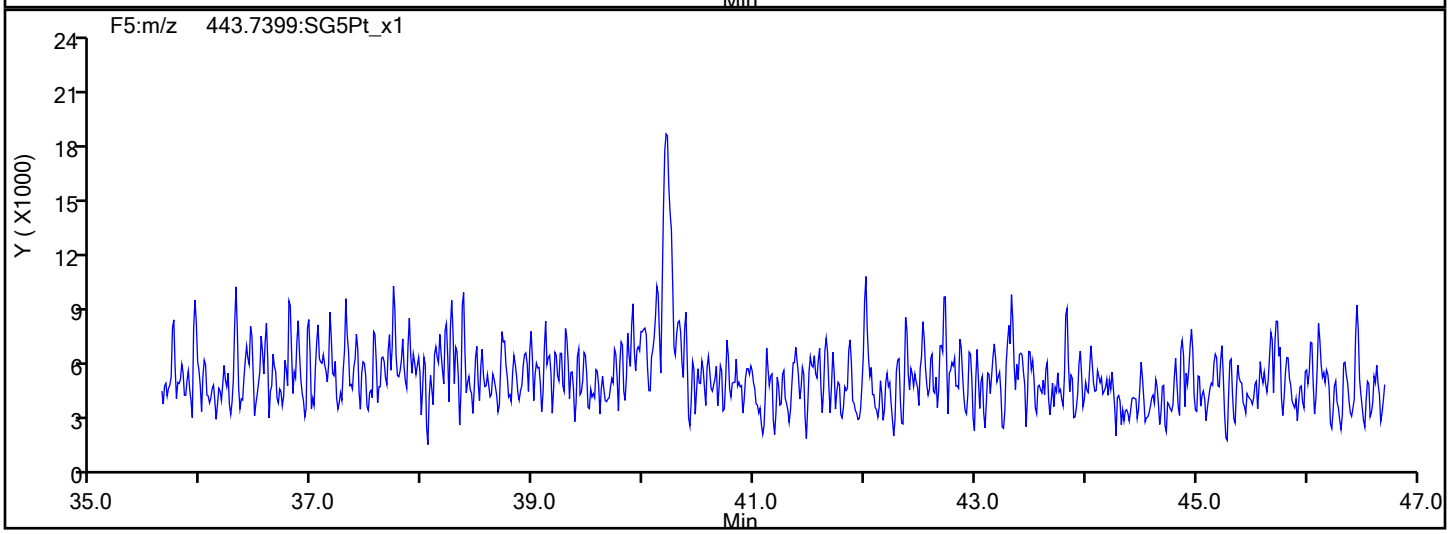

OCDF Interference Mass

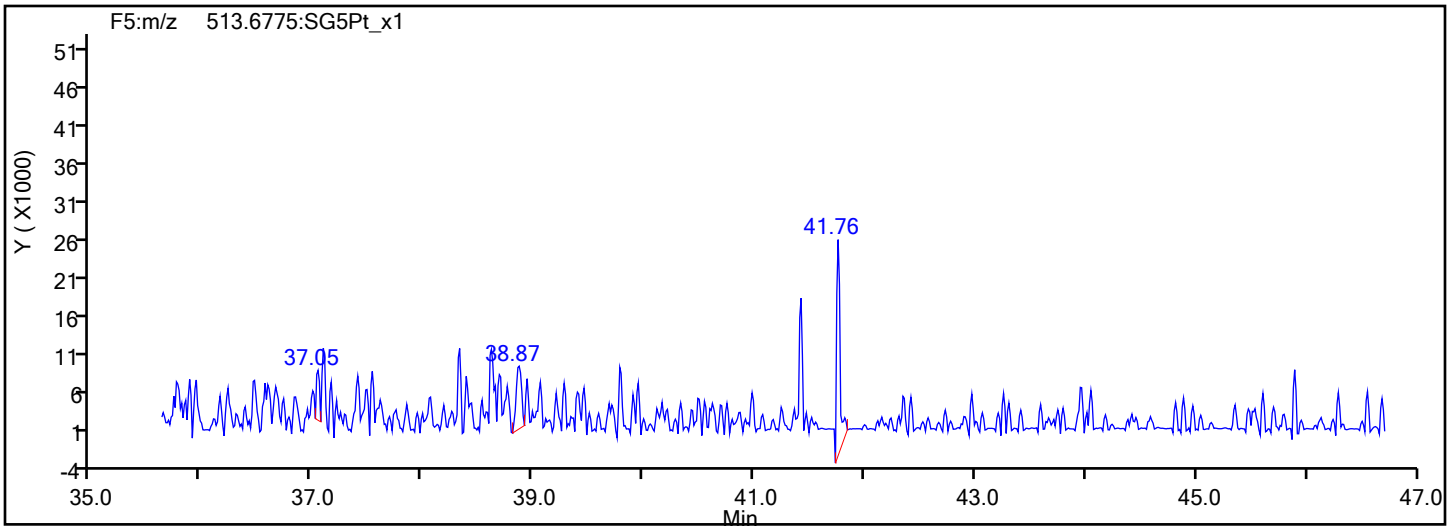

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Eurofins TestAmerica, Sacramento

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OCDD

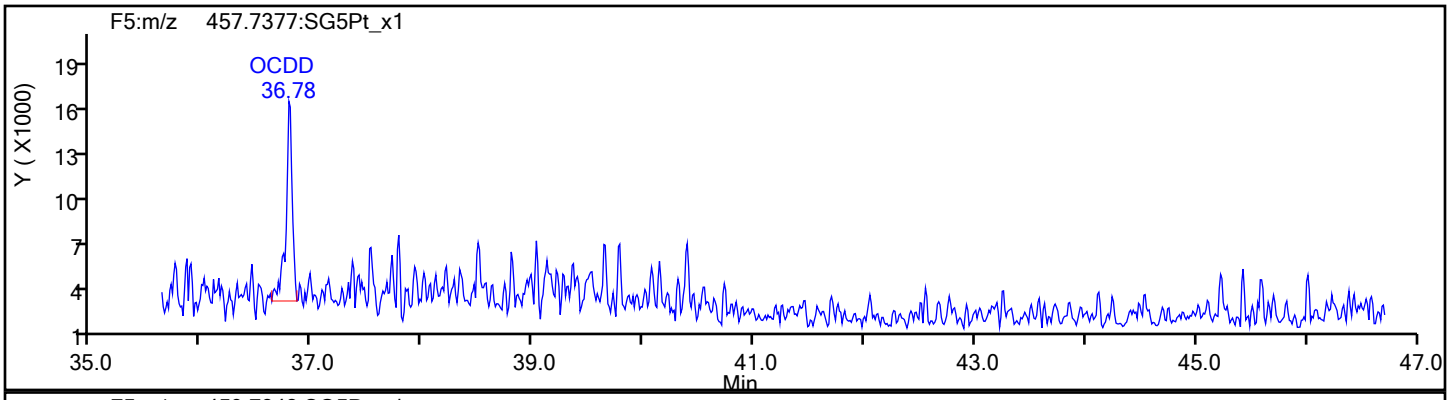

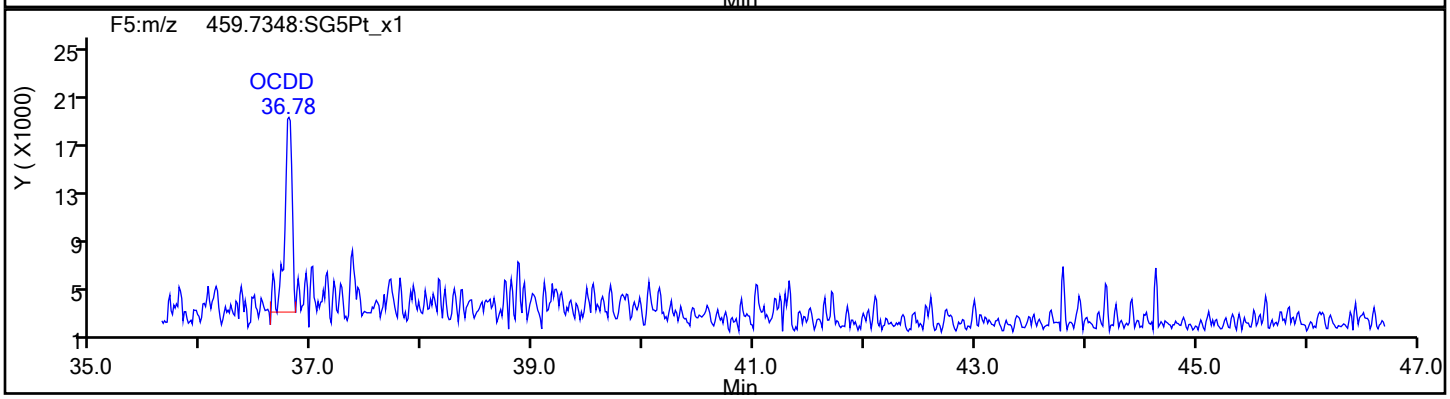

OCDD Standards

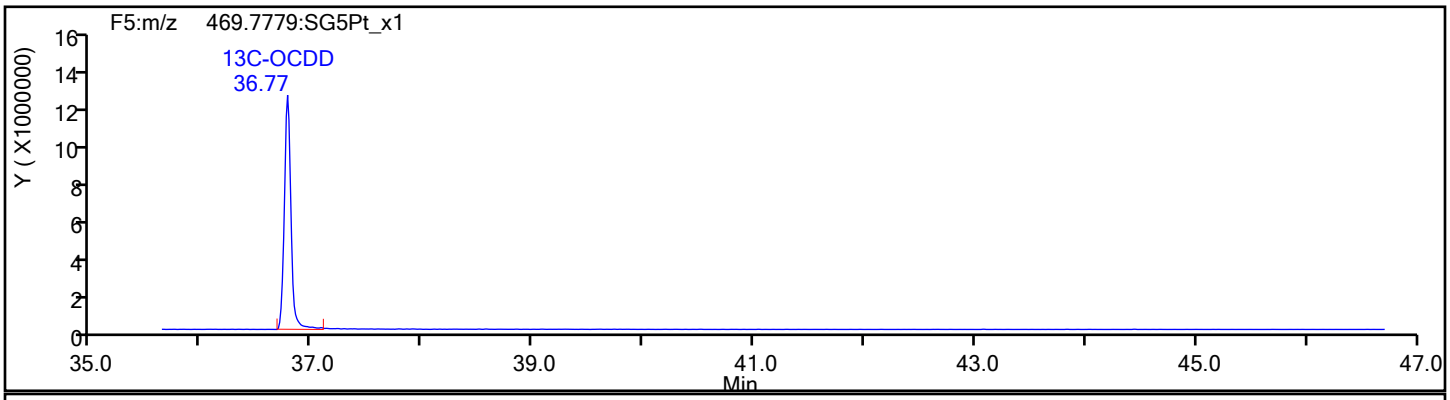

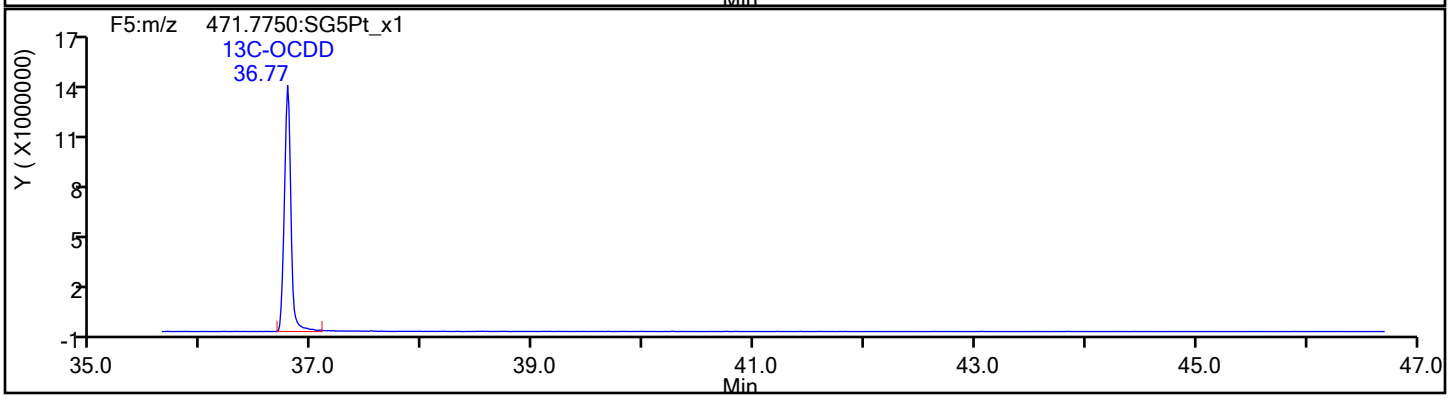

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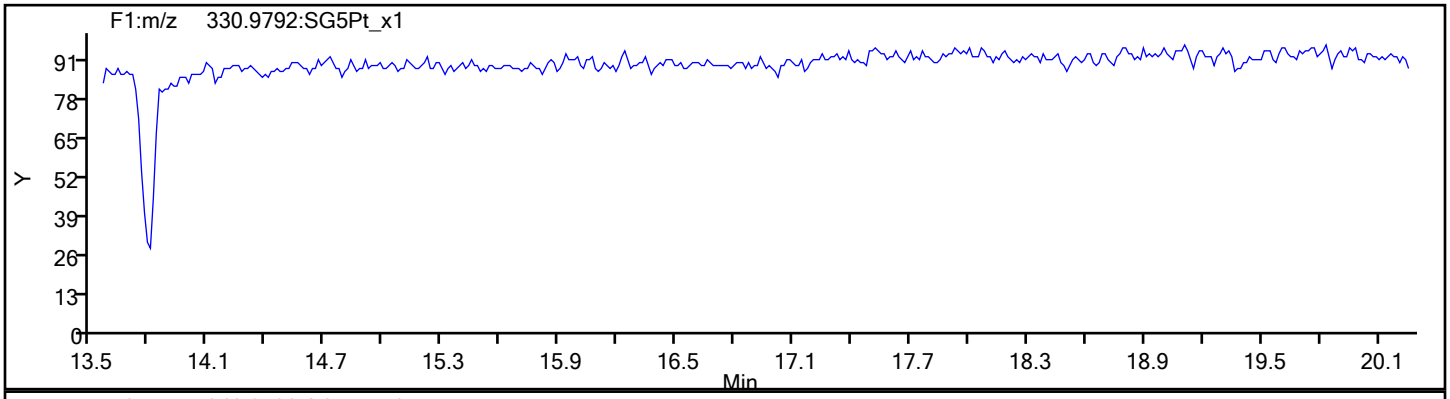

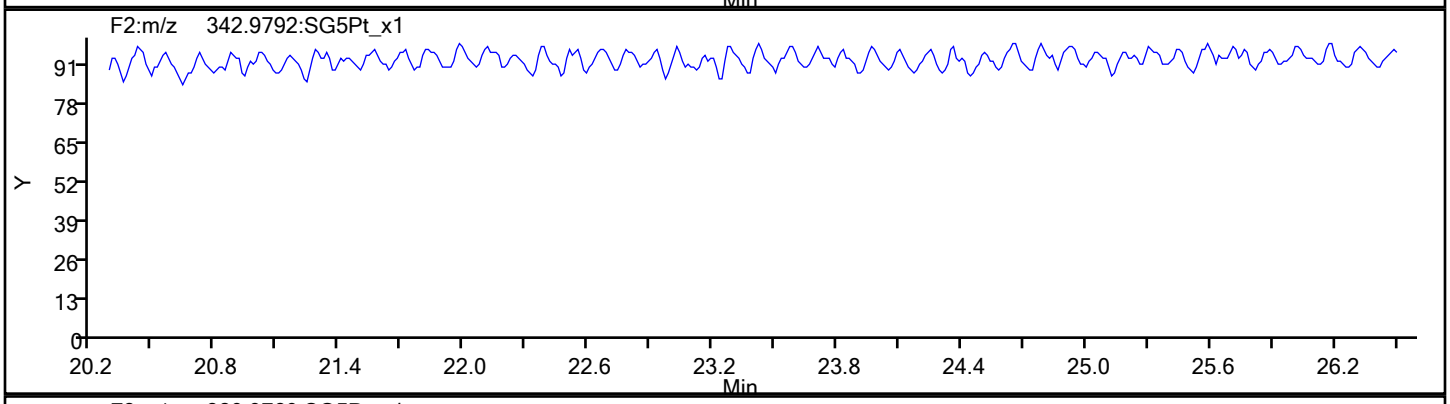

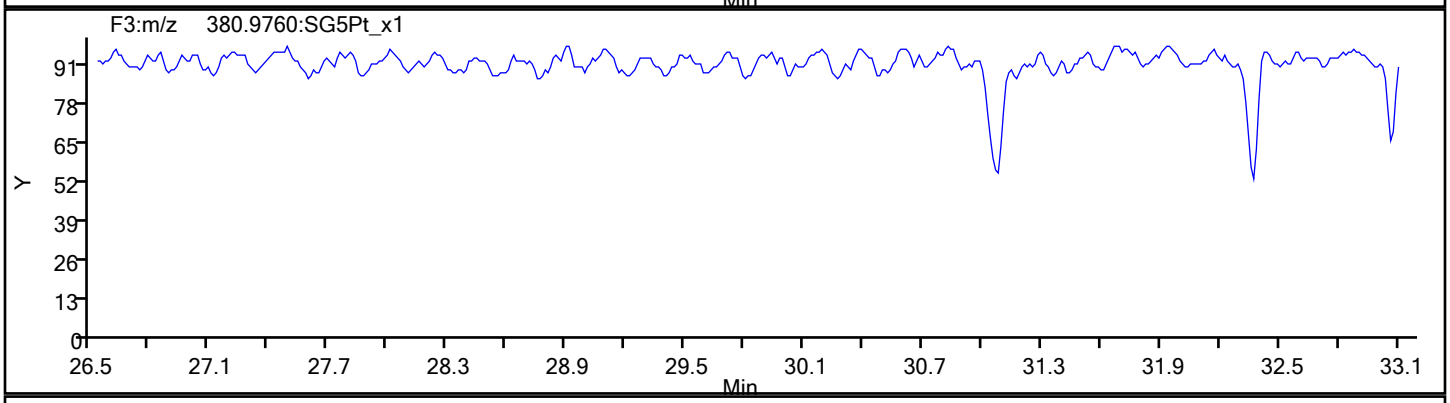

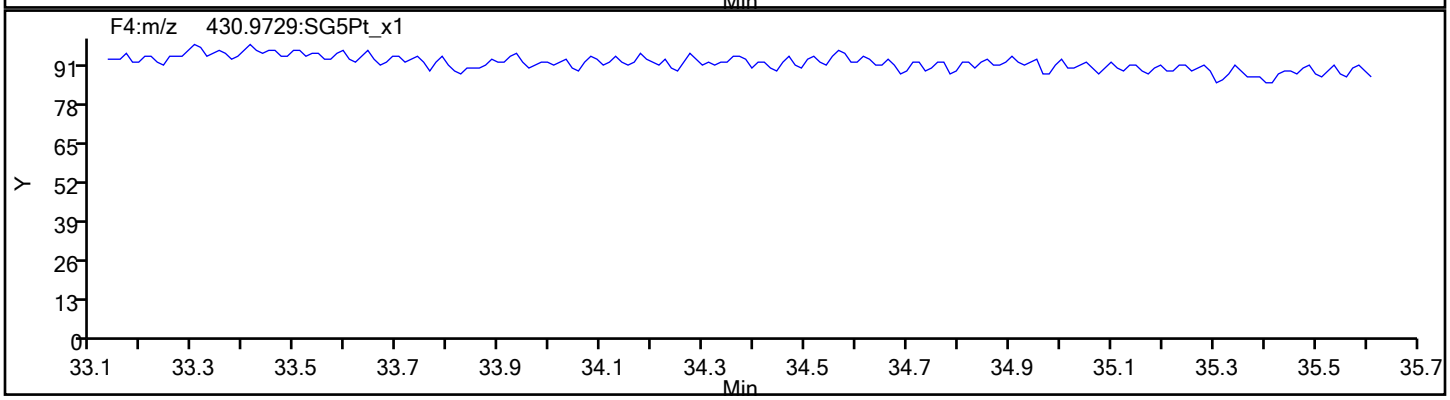

Report Date: 01-Nov-2019 10:12:51 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_5.d		
Injection Date:	31-Oct-2019 00:46:58	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	334889	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

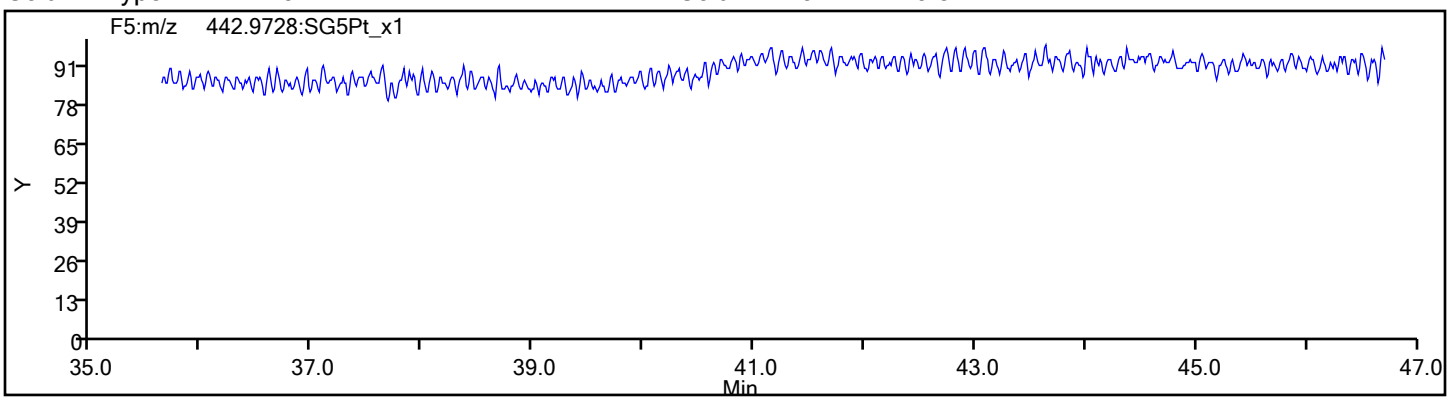

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 180-97287-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 320-334214/2-A
Matrix: Solid
Lab File ID: 30OC19B3D5_6.d
Analysis Method: 1613B
Date Collected:
Extract. Method: HRMS-Sep
Date Extracted: 10/28/2019 14:05
Sample wt/vol: 1000(mL)
Date Analyzed: 10/31/2019 01:34
Con. Extract Vol.: 20.0(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 334889
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	217		10	0.90
51207-31-9	2,3,7,8-TCDF	155		10	0.79
40321-76-4	1,2,3,7,8-PeCDD	1370		50	3.2
57117-41-6	1,2,3,7,8-PeCDF	1240		50	4.6
57117-31-4	2,3,4,7,8-PeCDF	1200		50	4.5
39227-28-6	1,2,3,4,7,8-HxCDD	1190		50	3.8
57653-85-7	1,2,3,6,7,8-HxCDD	1270		50	3.8
19408-74-3	1,2,3,7,8,9-HxCDD	1250		50	3.6
70648-26-9	1,2,3,4,7,8-HxCDF	979		50	4.0
57117-44-9	1,2,3,6,7,8-HxCDF	1060		50	4.3
72918-21-9	1,2,3,7,8,9-HxCDF	1090		50	3.0
60851-34-5	2,3,4,6,7,8-HxCDF	1090		50	3.3
35822-46-9	1,2,3,4,6,7,8-HpCDD	979		50	3.9
67562-39-4	1,2,3,4,6,7,8-HpCDF	903		50	8.6
55673-89-7	1,2,3,4,7,8,9-HpCDF	830		50	11
3268-87-9	OCDD	2220		100	4.0
39001-02-0	OCDF	2300		100	4.7
41903-57-5	Total TCDD	217		10	0.90
30402-14-3	Total TCDF	155		10	0.79
36088-22-9	Total PeCDD	1370		50	3.2
30402-15-4	Total PeCDF	2440		50	4.5
34465-46-8	Total HxCDD	3710		50	3.7
55684-94-1	Total HxCDF	4230		50	3.6
37871-00-4	Total HpCDD	979		50	3.9
38998-75-3	Total HpCDF	1730		50	9.6

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 180-97287-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 320-334214/2-A
Matrix: Solid
Lab File ID: 30OC19B3D5_6.d
Analysis Method: 1613B
Date Collected:
Extract. Method: HRMS-Sep
Date Extracted: 10/28/2019 14:05
Sample wt/vol: 1000(mL)
Date Analyzed: 10/31/2019 01:34
Con. Extract Vol.: 20.0(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 334889
Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	83		20-175
89059-46-1	13C-2,3,7,8-TCDF	79		22-152
109719-79-1	13C-1,2,3,7,8-PeCDD	70		21-227
109719-77-9	13C-1,2,3,7,8-PeCDF	79		21-192
116843-02-8	13C-2,3,4,7,8-PeCDF	84		13-328
109719-80-4	13C-1,2,3,4,7,8-HxCDD	84		21-193
109719-81-5	13C-1,2,3,6,7,8-HxCDD	78		25-163
114423-98-2	13C-1,2,3,4,7,8-HxCDF	104		19-202
116843-03-9	13C-1,2,3,6,7,8-HxCDF	88		21-159
116843-04-0	13C-1,2,3,7,8,9-HxCDF	100		17-205
116843-05-1	13C-2,3,4,6,7,8-HxCDF	93		22-176
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	93		26-166
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	79		21-158
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	88		20-186
114423-97-1	13C-OCDD	68		13-199

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	110		31-191

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_6.d
Lims ID: LCS 320-334214/2-A
Client ID:
Sample Type: LCS
Inject. Date: 31-Oct-2019 01:34:36 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCS 320-334214/2-A LCS 320-334214/2-A
Misc. Info.: 30OC19B3D5
Operator ID: ALM Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 01-Nov-2019 10:12:50 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0312

First Level Reviewer: arghestanis Date: 31-Oct-2019 10:57:18

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.611	178772594	0.79	3.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.112	196840576	0.79	1.3908	79.2	79.2	0.1679	0.1679	79.17	
2,3,7,8-TCDF	17.127	14843689	0.71	0.9710	7.766	7.766	0.0393	0.0393	77.66	
A Non-2,3,7,8-sub-TCDF	16.462						0.0393	0.0393		
S Total TCDF					7.766	7.766	0.0393	0.0393		
D 13C-2,3,7,8-TCDD	17.807	145129674	0.78	0.9819	82.7	82.7	0.1634	0.1634	82.68	
2,3,7,8-TCDD	17.823	16471971	0.78	1.0447	10.9	10.9	0.0448	0.0448	109	
$ 37Cl4-2,3,7,8-TCDD	17.823	96382166		1.2205	44.2	44.2	0.0499	0.0499	110	
A Non-2,3,7,8-sub-TCDD	16.908						0.0448	0.0448		
S Total TCDD					10.9	10.9	0.0448	0.0448		
D 13C-1,2,3,7,8-PeCDF	22.043	164193074	1.63	1.1585	79.3	79.3	0.2325	0.2325	79.28	
1,2,3,7,8-PeCDF	22.057	98085689	1.50	0.9633	62.0	62.0	0.2297	0.2297	124	
D 13C-2,3,4,7,8-PeCDF	23.352	174146621	1.64	1.1532	84.5	84.5	0.2336	0.2336	84.47	
2,3,4,7,8-PeCDF	23.380	98984480	1.49	0.9495	59.9	59.9	0.2233	0.2233	120	
A F1 PeCDFs	19.335						0.0502	0.0502		
A Non-2,3,7,8-sub-PeCDF	22.226						0.2264	0.2264		
S Total PeCDF					121.9	121.9	0.2265	0.2265		
D 13C-1,2,3,7,8-PeCDD	24.062	92505722	1.60	0.7431	69.6	69.6	0.1431	0.1431	69.63	
1,2,3,7,8-PeCDD	24.089	67618755	1.59	1.0635	68.7	68.7	0.1616	0.1616	137	
A Non-2,3,7,8-sub-PeCDD	22.018						0.1616	0.1616		
S Total PeCDD					68.7	68.7	0.1616	0.1616		
D 13C-1,2,3,4,7,8-HxCDF	30.191	151274603	0.51	0.9837	104.5	104.5	0.3043	0.3043	104	
1,2,3,4,7,8-HxCDF	30.217	90172677	1.19	1.2173	49.0	49.0	0.1976	0.1976	97.93	
D 13C-1,2,3,6,7,8-HxCDF	30.390	149848170	0.53	1.1554	88.1	88.1	0.2591	0.2591	88.11	
1,2,3,6,7,8-HxCDF	30.430	90169249	1.20	1.1311	53.2	53.2	0.2130	0.2130	106	
D 13C-2,3,4,6,7,8-HxCDF	31.309	141683018	0.52	1.0361	92.9	92.9	0.2889	0.2889	92.90	
2,3,4,6,7,8-HxCDF	31.323	90563205	1.24	1.1710	54.6	54.6	0.1654	0.1654	109	
D 13C-1,2,3,7,8,9-HxCDF	32.148	132850805	0.51	0.9034	99.9	99.9	0.3313	0.3313	99.90	
1,2,3,7,8,9-HxCDF	32.161	85687659	1.16	1.1787	54.7	54.7	0.1482	0.1482	109	
A Non-2,3,7,8-sub-HxCDF	28.997						0.1774	0.1774		
S Total HxCDF					211.5	211.5	0.1810	0.1810		

Report Date: 01-Nov-2019 10:13:19 Chrom Revision: 2.3 17-Sep-2019 16:19:08
Data File: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_6.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.962	147199383	1.27	2.6E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.509	102833942	1.36	0.8287	84.3	84.3	0.2509	0.2509	84.30	
1,2,3,4,7,8-HxCDD	31.522	62800063	1.26	1.0267	59.5	59.5	0.1892	0.1892	119	
D 13C-1,2,3,6,7,8-HxCDD	31.615	108459375	1.30	0.9495	77.6	77.6	0.2190	0.2190	77.60	
1,2,3,6,7,8-HxCDD	31.629	67267101	1.26	0.9771	63.5	63.5	0.1902	0.1902	127	
1,2,3,7,8,9-HxCDD	31.975	70000881	1.24	1.0616	62.4	62.4	0.1789	0.1789	125	
A Non-2,3,7,8-sub-HxCDD	30.544						0.1859	0.1859		
S Total HxCDD					185.4	185.4	0.1861	0.1861		
D 13C-1,2,3,4,6,7,8-HpCDF	33.617	85064428	0.44	0.7285	79.3	79.3	0.6963	0.6963	79.33	
1,2,3,4,6,7,8-HpCDF	33.629	55199107	1.03	1.4373	45.1	45.1	0.4311	0.4311	90.30	
D 13C-1,2,3,4,7,8,9-HpCDF	34.699	84582662	0.44	0.6556	87.6	87.6	0.7737	0.7737	87.64	
1,2,3,4,7,8,9-HpCDF	34.711	45952257	1.05	1.3091	41.5	41.5	0.5319	0.5319	83.00	
A Non-2,3,7,8-sub-HpCDF	34.170						0.4775	0.4775		
S Total HpCDF					86.6	86.6	0.4815	0.4815		
D 13C-1,2,3,4,6,7,8-HpCDD	34.407	95738945	1.06	0.6978	93.2	93.2	0.4801	0.4801	93.20	
1,2,3,4,6,7,8-HpCDD	34.419	47351061	1.06	1.0102	49.0	49.0	0.1962	0.1962	97.92	
A Non-2,3,7,8-sub-HpCDD	34.990						0.1962	0.1962		
S Total HpCDD					49.0	49.0	0.1962	0.1962		
D 13C-OCDD	36.761	96111878	0.89	0.4780	136.6	136.6	0.3058	0.3058	68.30	
OCDF	36.856	74625982	0.93	1.3501	115.0	115.0	0.2356	0.2356	115	
OCDD	36.773	56764050	0.89	1.0627	111.2	111.2	0.1978	0.1978	111	

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_6.d
Lims ID: LCS 320-334214/2-A
Client ID:
Sample Type: LCS
Inject. Date: 31-Oct-2019 01:34:36 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCS 320-334214/2-A LCS 320-334214/2-A
Misc. Info.: 30OC19B3D5
Operator ID: ALM Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 01-Nov-2019 10:12:50 Calib Date: 21-May-2019 16:41:15
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20190521-76651.b\21MY193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0312

First Level Reviewer: arghestanis Date: 31-Oct-2019 10:57:18

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.611	17.626	-1		78873554	19787843	17390	43475	1138		
333.9339	17.611	17.626	-1		99899040	24608425	11105	27762	2216	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.112	17.127	-1	0.972	87091709	22835857	23821	59552	959		
317.9389	17.112	17.127	-1	0.972	109748867	29276324	17655	44137	1658	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.127	17.142	-1	1.001	6141525	1514135	2636	6590	574		
305.8987	17.127	17.142	-1	1.001	8702164	2229876	5311	13277	420	0.71(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.462						2636	6590			
305.8987	16.462						5311	13277			
13C-2,3,7,8-TCDD											
331.9368	17.807	17.807	0	1.011	63488398	15577891	17390	43475	896		
333.9339	17.807	17.807	0	1.011	81641276	20085686	11105	27762	1809	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.823	17.838	-1	1.001	7215191	1819949	4484	11210	406		
321.8936	17.823	17.838	-1	1.001	9256780	2377942	2189	5472	1086	0.78(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.823	17.838	-1	1.012	96382166	23900654	10822	27055	2209		
A Non-2,3,7,8-sub-TCDD											
319.8965	16.908						4484	11210			
321.8936	16.908						2189	5472			
13C-1,2,3,7,8-PeCDF											
351.9000	22.043	22.043	0	1.252	101864908	17804421	28992	72480	614		
353.8970	22.043	22.043	0	1.252	62328166	10931795	18844	47110	580	1.63(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	22.057	22.071	-1	1.001	58859612	11100330	13719	34297	809		
341.8567	22.057	22.071	-1	1.001	39226077	7251495	11713	29282	619	1.50(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	23.352	23.339	1	1.326	108284565	18680128	28992	72480	644		
353.8970	23.352	23.339	1	1.326	65862056	11302157	18844	47110	600	1.64(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.380	23.393	-1	1.001	59281051	9936652	13719	34297	724		
341.8567	23.380	23.393	-1	1.001	39703429	6742457	11713	29282	576	1.49(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.335						1215	3037			
341.8567	19.335						4429	11072			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.226						13719	34297			
341.8567	22.226						11713	29282			
13C-1,2,3,7,8-PeCDD											
367.8949	24.062	24.062	0	1.366	56914242	8936867	11180	27950	799		
369.8919	24.048	24.062	-1	1.366	35591480	5677907	7698	19245	738	1.60(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.089	24.103	-1	1.001	41545524	6559868	5972	14930	1098		
357.8516	24.089	24.103	-1	1.001	26073231	4121047	4077	10192	1011	1.59(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.018						5972	14930			
357.8516	22.018						4077	10192			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.191	30.164	2	0.945	50829250	8414097	15195	37987	554		
385.8610	30.191	30.164	2	0.945	100445353	16733456	28795	71987	581	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.217	30.231	-1	1.001	48927021	8058533	12917	32292	624		
375.8178	30.204	30.231	-2	1.000	41245656	7082219	11278	28195	628	1.19(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.390	30.417	-2	0.951	52168121	8742406	15195	37987	575		
385.8610	30.390	30.417	-2	0.951	97680049	16365616	28795	71987	568	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.430	30.431	0	1.001	49197996	7986732	12917	32292	618		
375.8178	30.417	30.431	-1	1.001	40971253	6903568	11278	28195	612	1.20(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.309	31.309	0	0.980	48193628	10649850	15195	37987	701		
385.8610	31.309	31.309	0	0.980	93489390	20573507	28795	71987	714	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.323	31.323	0	1.000	50208389	11523190	12917	32292	892		
375.8178	31.323	31.323	0	1.000	40354816	9285581	11278	28195	823	1.24(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.148	32.161	-1	1.006	44878641	11630002	15195	37987	765		
385.8610	32.148	32.161	-1	1.006	87972164	22998979	28795	71987	799	0.51(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	32.161	32.175	-1	1.000	46101654	11985120	12917	32292	928		
375.8178	32.161	32.175	-1	1.000	39586005	10238560	11278	28195	908	1.16(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	28.997						12917	32292			
375.8178	28.997						11278	28195			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.962	31.962	0		82367922	20392066	15316	38290	1331		
403.8529	31.962	31.962	0		64831461	16346493	15234	38085	1073	1.27(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.509	31.496	1	0.986	59345846	14383275	15316	38290	939		
403.8529	31.509	31.496	1	0.986	43488096	10491981	15234	38085	689	1.36(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.522	31.522	0	1.000	35072363	8811738	11245	28112	784		
391.8127	31.522	31.522	0	1.000	27727700	6812746	8086	20215	843	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.615	31.629	-1	0.989	61296562	14708636	15316	38290	960		
403.8529	31.615	31.629	-1	0.989	47162813	11296414	15234	38085	742	1.30(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.629	31.642	-1	1.000	37471654	8878337	11245	28112	790		
391.8127	31.629	31.642	-1	1.000	29795447	7041803	8086	20215	871	1.26(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.975	31.975	0	1.015	38764767	9641786	11245	28112	857		
391.8127	31.975	31.975	0	1.015	31236114	7697286	8086	20215	952	1.24(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.544						11245	28112			
391.8127	30.544						8086	20215			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.617	33.630	-1	1.052	26062769	8449021	26153	65382	323		
419.8220	33.617	33.630	-1	1.052	59001659	18771279	48392	120980	388	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.629	33.630	0	1.000	28026597	8967329	36220	90550	248		
409.7789	33.629	33.630	0	1.000	27172510	8786317	31242	78105	281	1.03(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.699	34.699	0	1.086	25663462	7469627	26153	65382	286		
419.8220	34.699	34.699	0	1.086	58919200	16752983	48392	120980	346	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.711	34.711	0	1.000	23526418	6789535	36220	90550	187		
409.7789	34.711	34.711	0	1.000	22425839	6367444	31242	78105	204	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.170						36220	90550			
409.7789	34.170						31242	78105			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.407	34.419	-1	1.077	49245608	14537214	19341	48352	752		
437.8140	34.407	34.419	-1	1.077	46493337	13770488	29891	74727	461	1.06(0.88-1.20)	

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Data File: \\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_6.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.419	34.431	-1	1.000	24314342	7544188	12240	30600	616		
425.7737	34.419	34.431	-1	1.000	23036719	7004782	10198	25495	687	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.990						12240	30600			
425.7737	34.990						10198	25495			
13C-OCDD											
469.7779	36.761	36.773	-1	1.150	45170817	10844116	10513	26282	1031		
471.7750	36.761	36.773	-1	1.150	50941061	11665350	10964	27410	1064	0.89(0.76-1.02)	
OCDF											
441.7428	36.856	36.869	-1	1.003	35920298	8608416	7504	18760	1147		
443.7399	36.856	36.869	-1	1.003	38705684	9431288	6814	17035	1384	0.93(0.76-1.02)	
OCDD											
457.7377	36.773	36.785	-1	1.000	26786361	6471294	4320	10800	1498		
459.7348	36.773	36.785	-1	1.000	29977689	7479654	5144	12860	1454	0.89(0.76-1.02)	

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Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_6.d		
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Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	334889	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

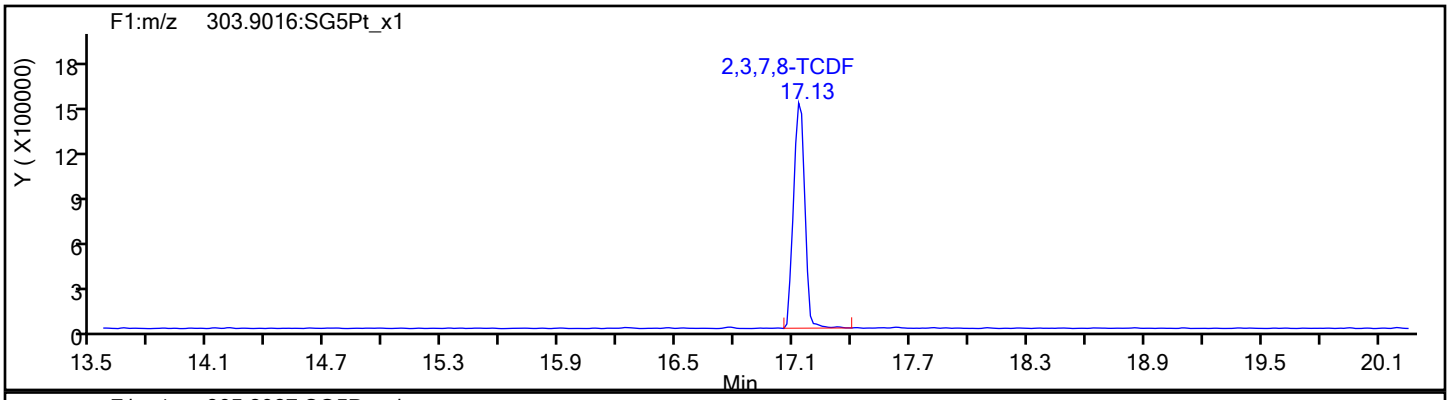

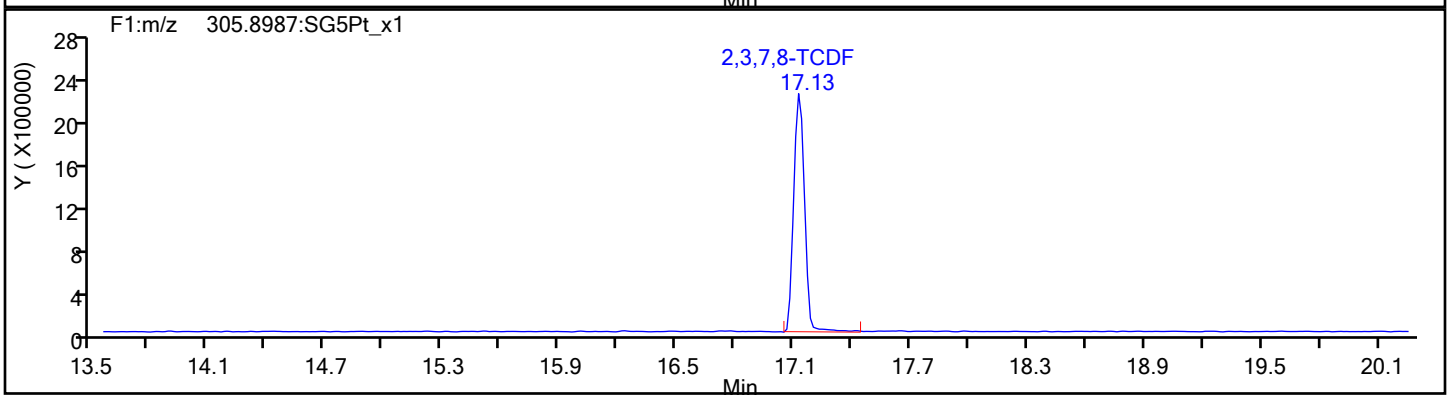

TCDF Standards

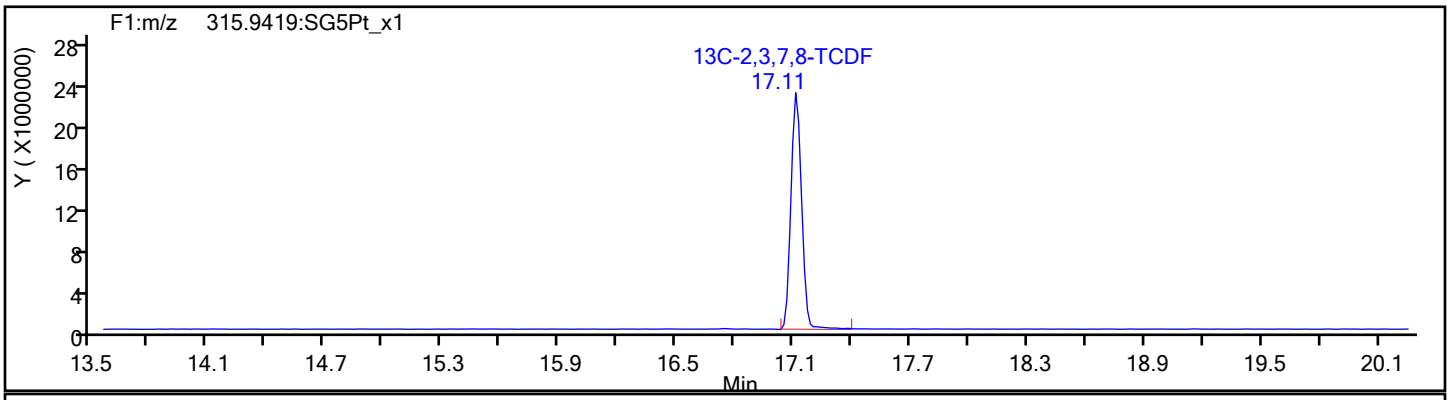

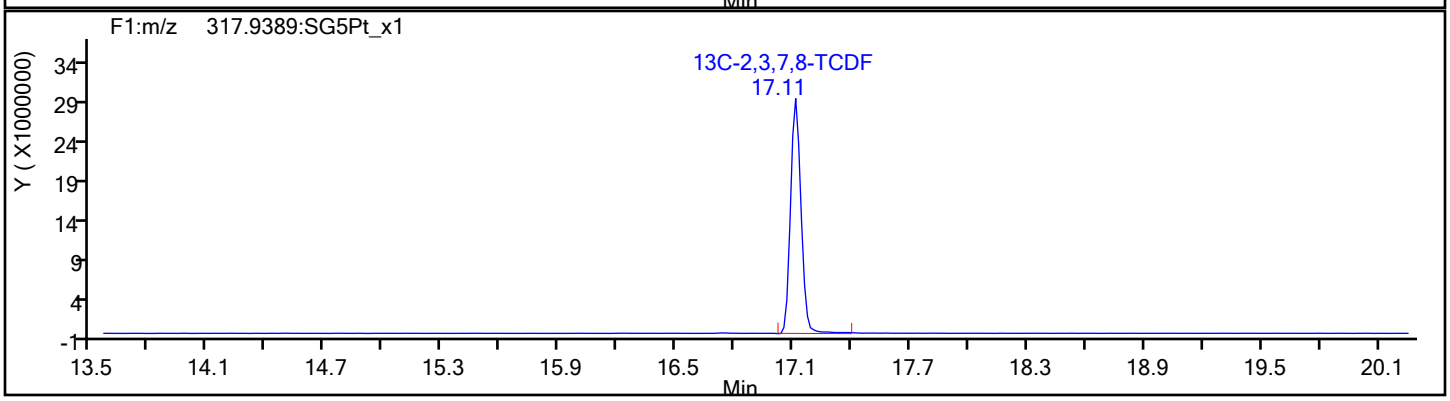

Report Date: 01-Nov-2019 10:13:19 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

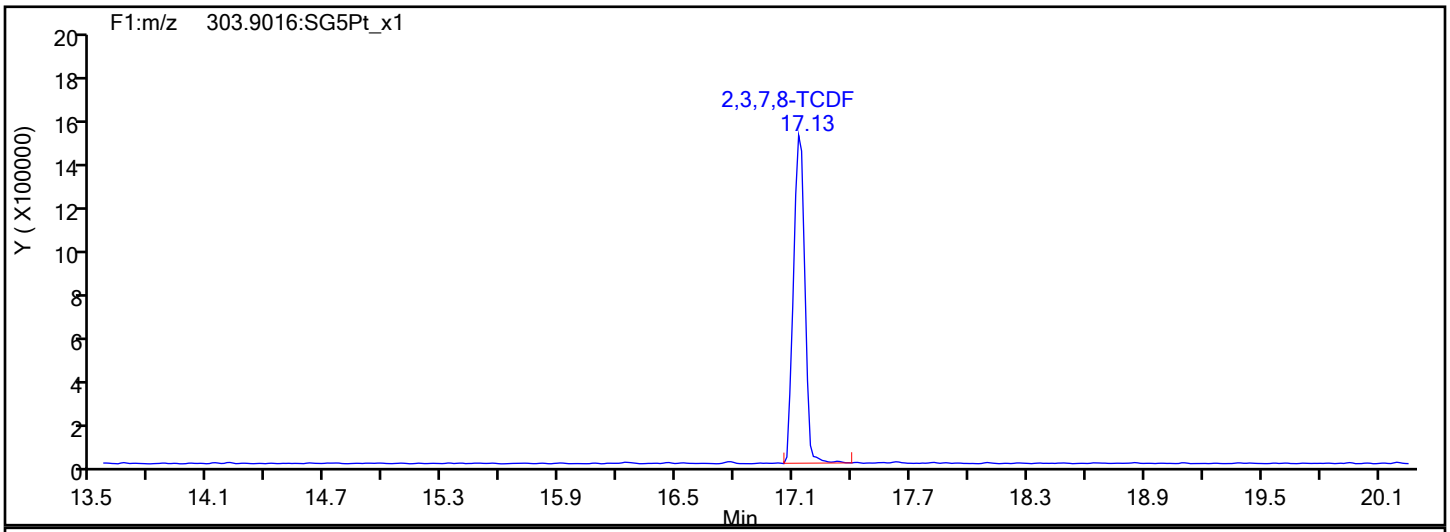

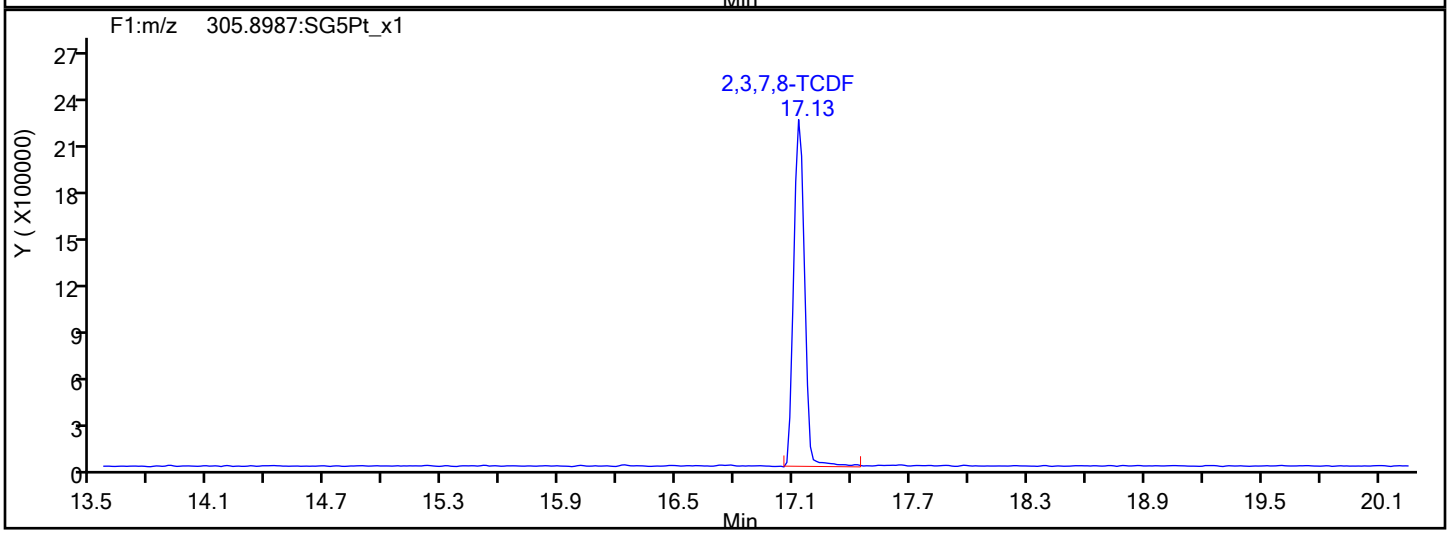

TCDF Interference Mass

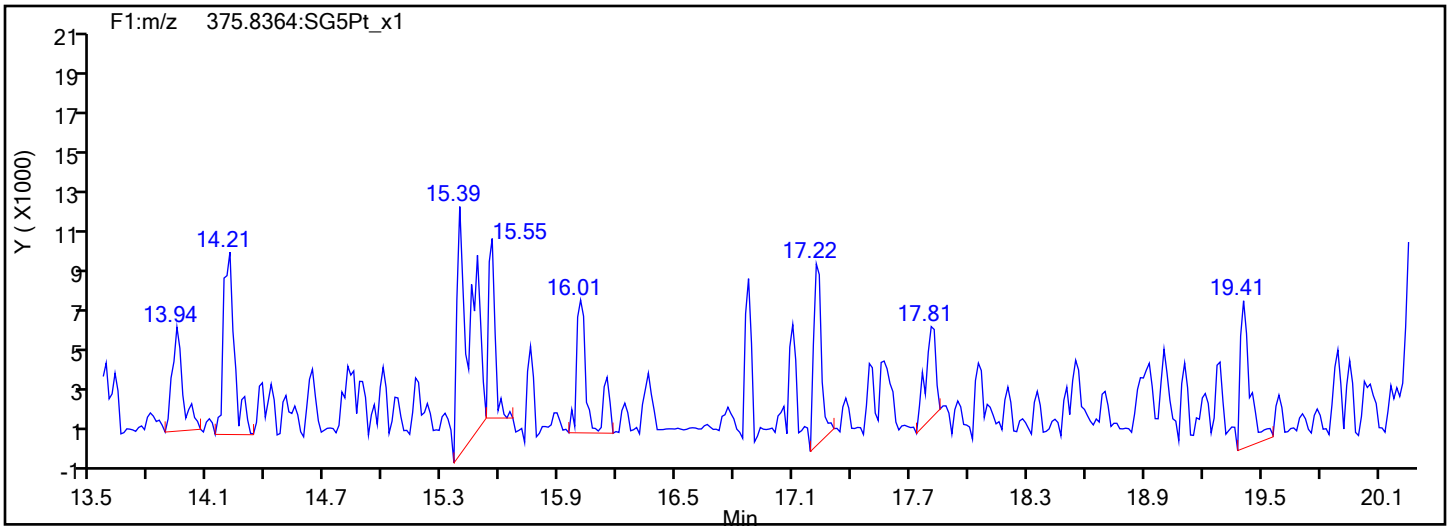

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

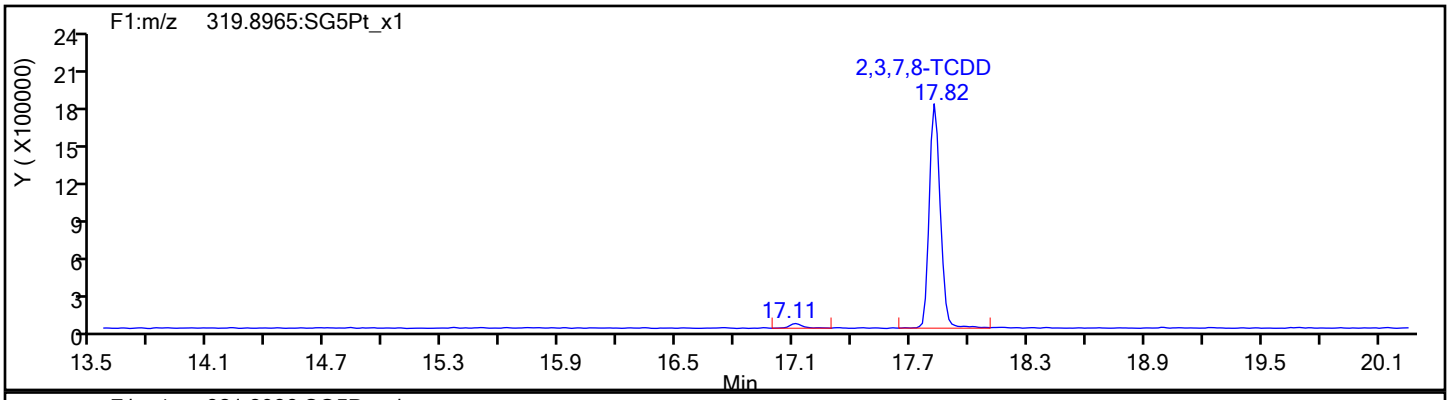

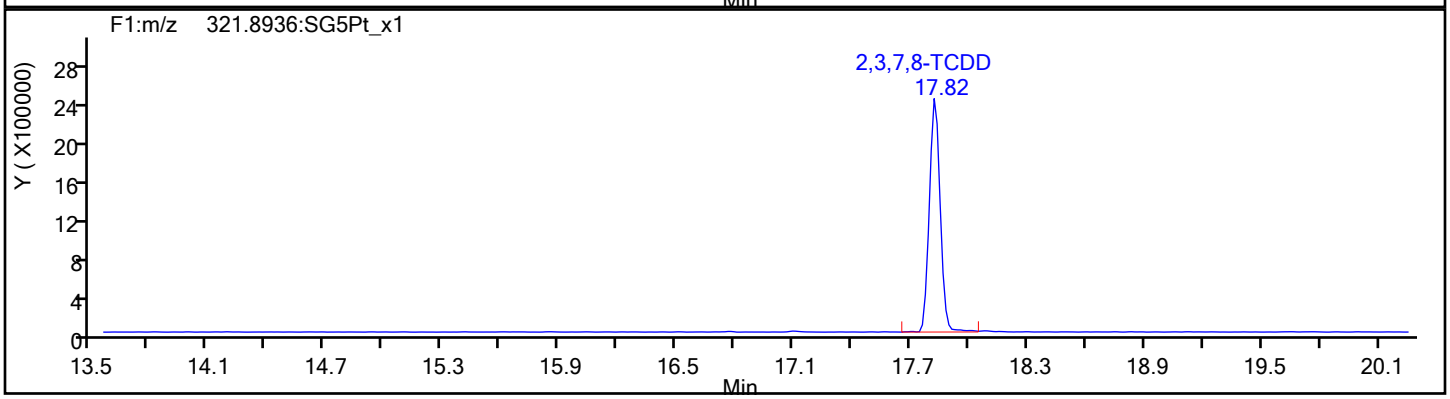

TCDD Standards

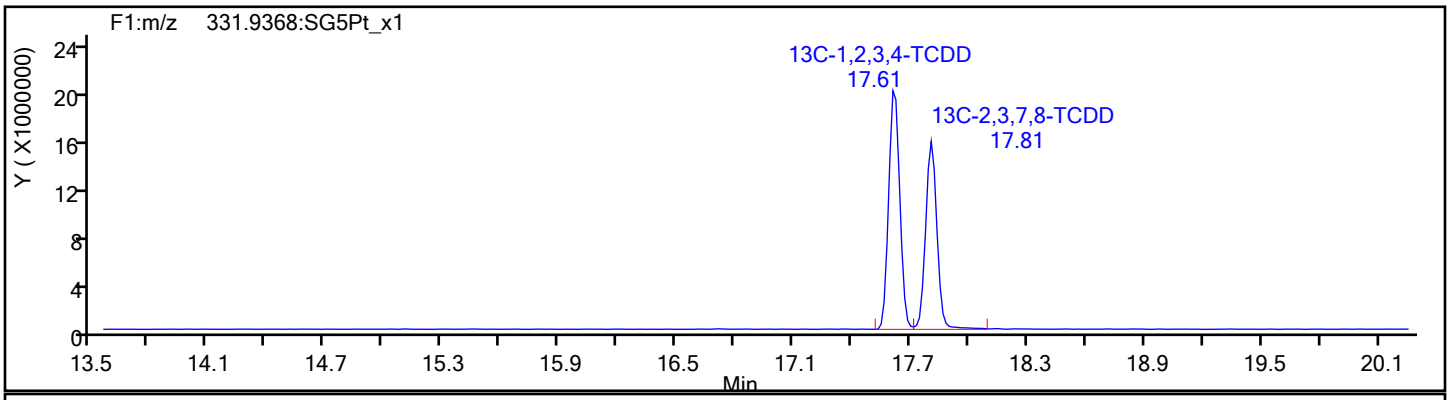

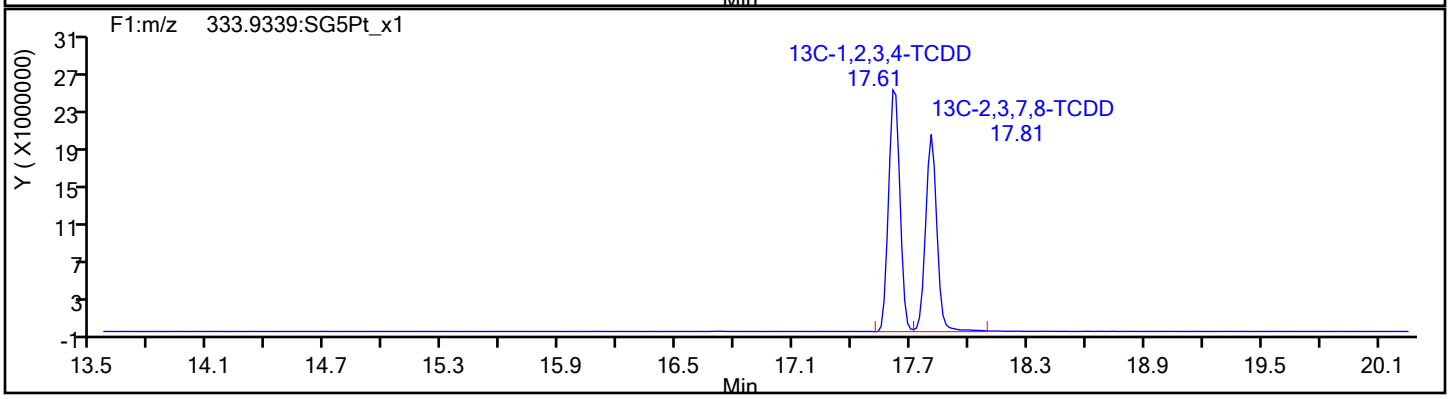

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

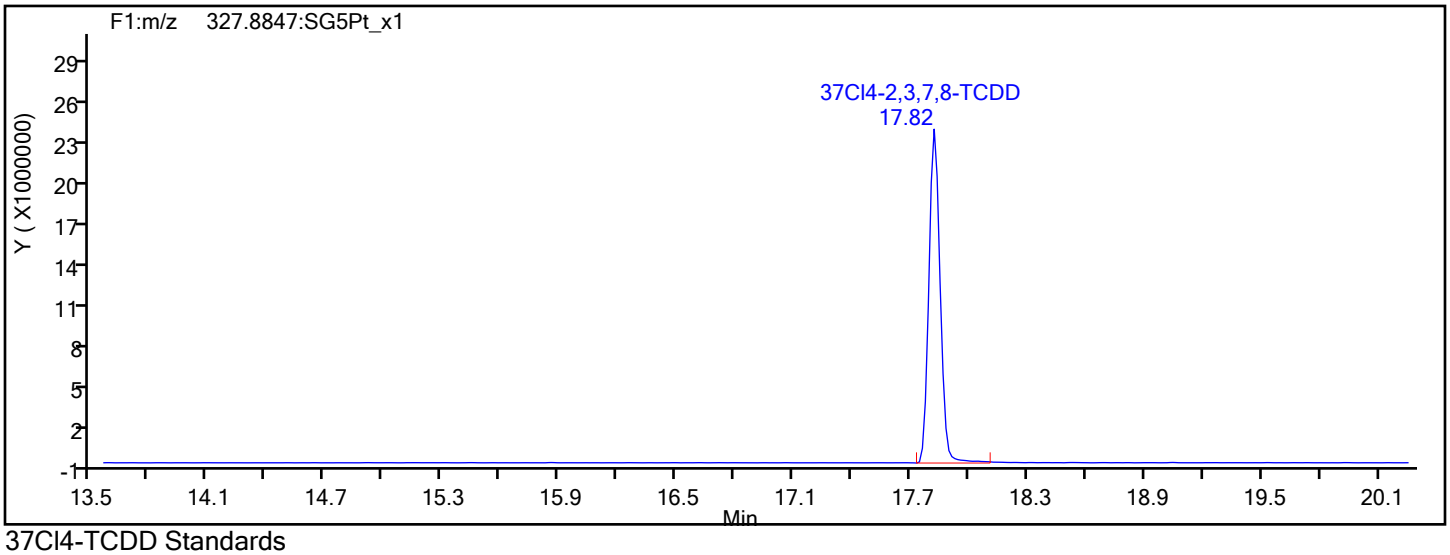

37Cl4-TCDD Standards

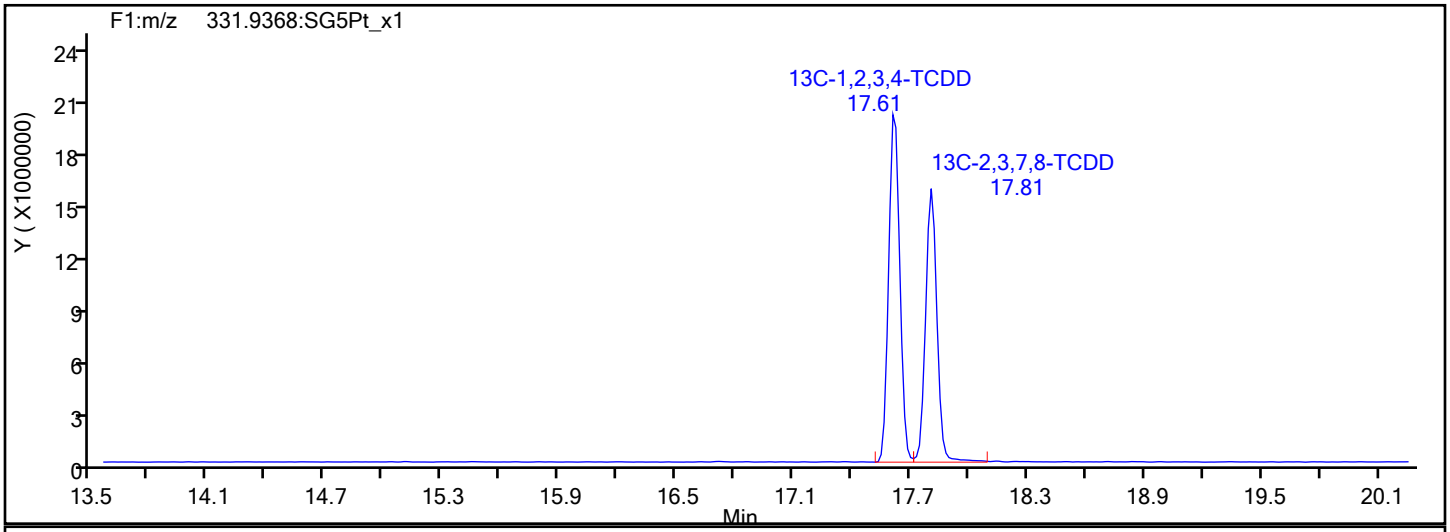

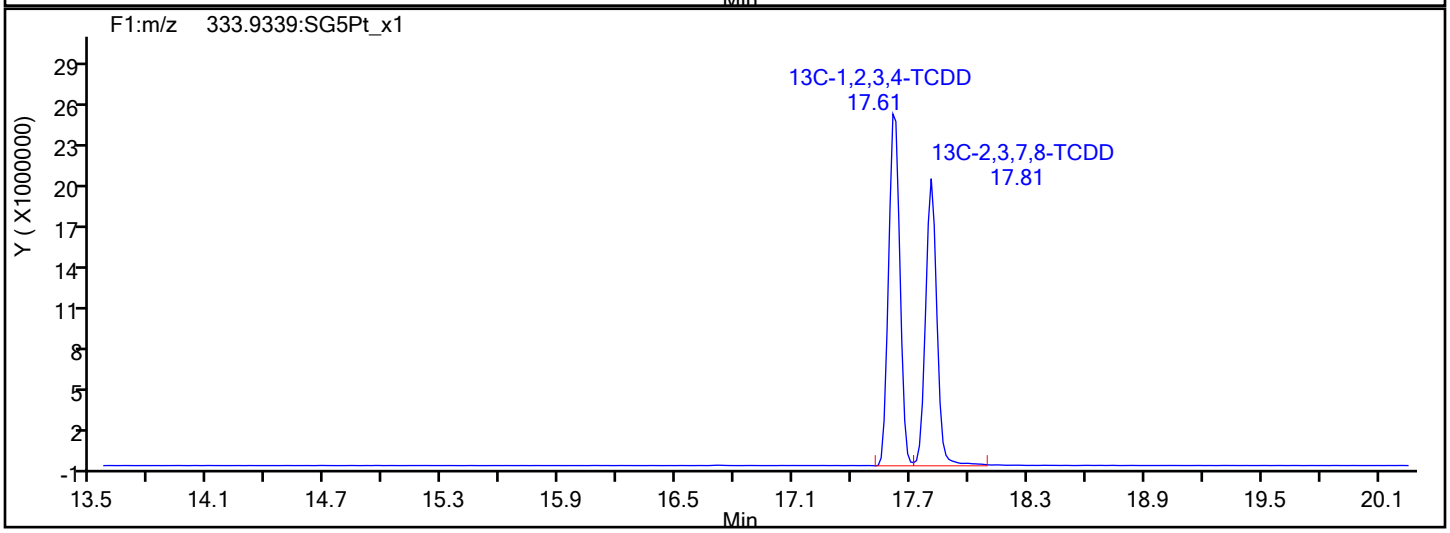

Report Date: 01-Nov-2019 10:13:19 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

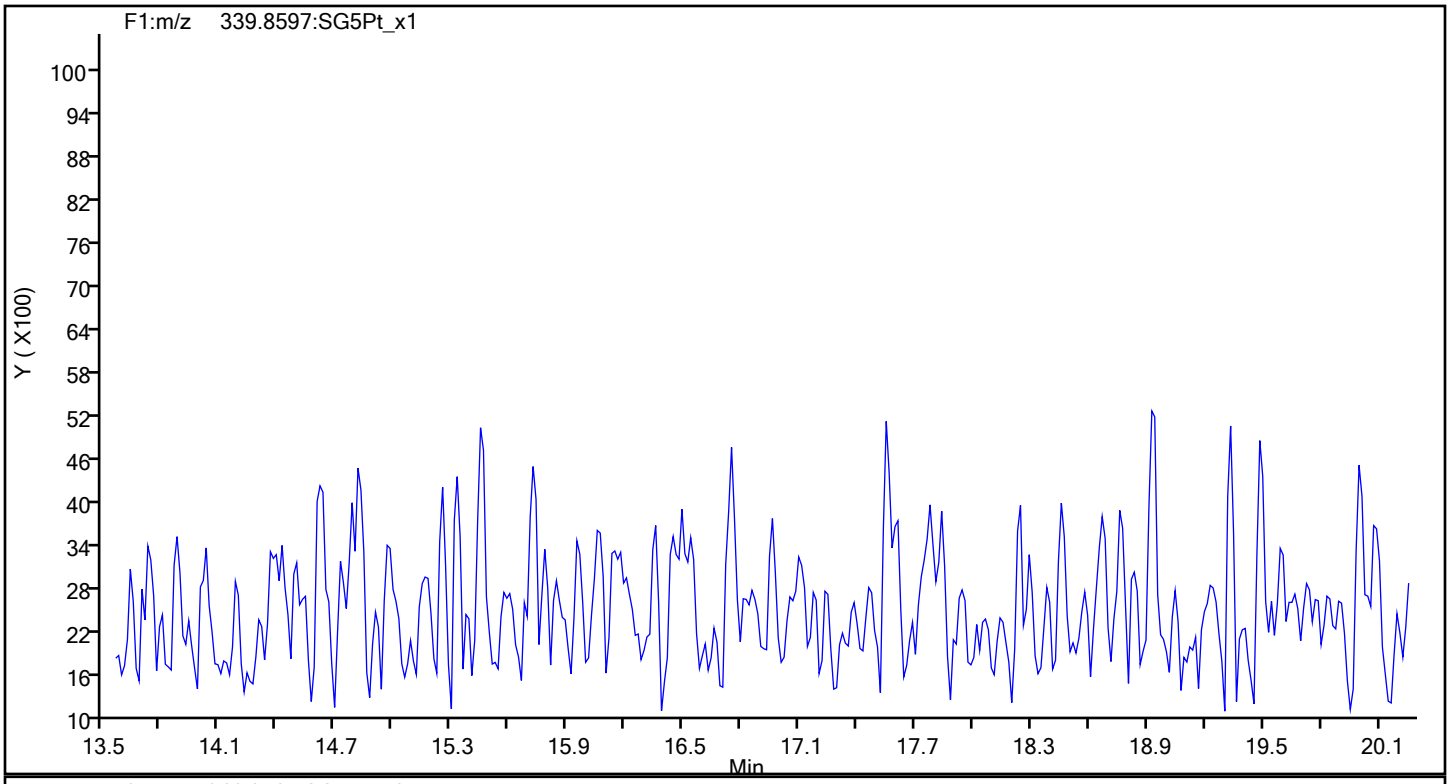

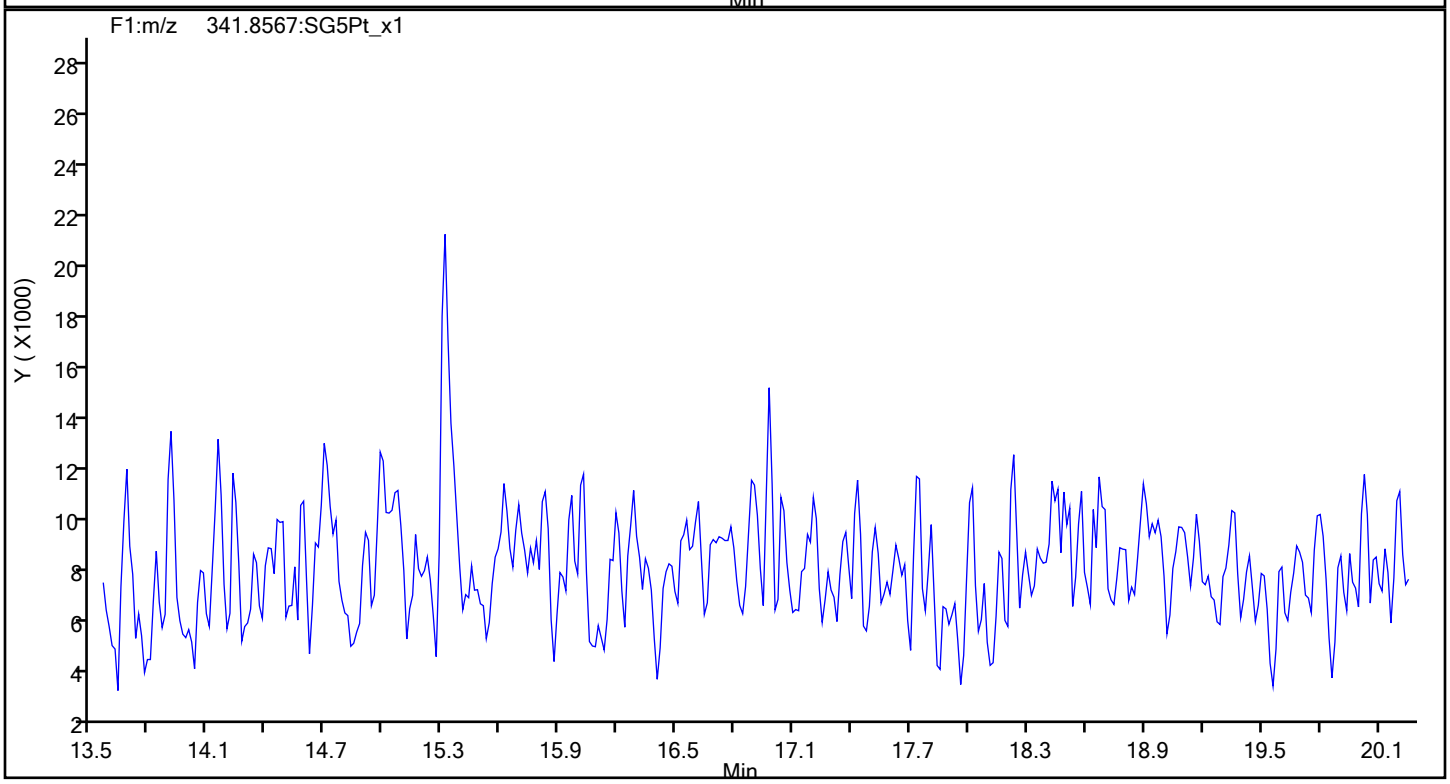

Report Date: 01-Nov-2019 10:13:19 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191030-85841.b\30OC19B3D5_6.d		
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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	334889	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

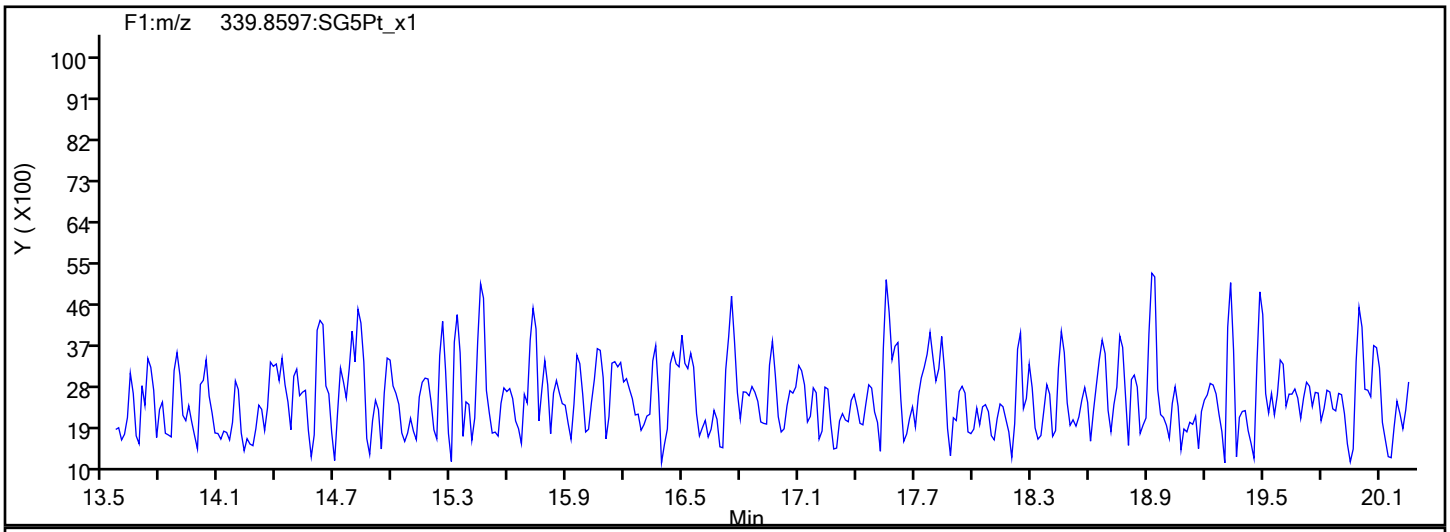

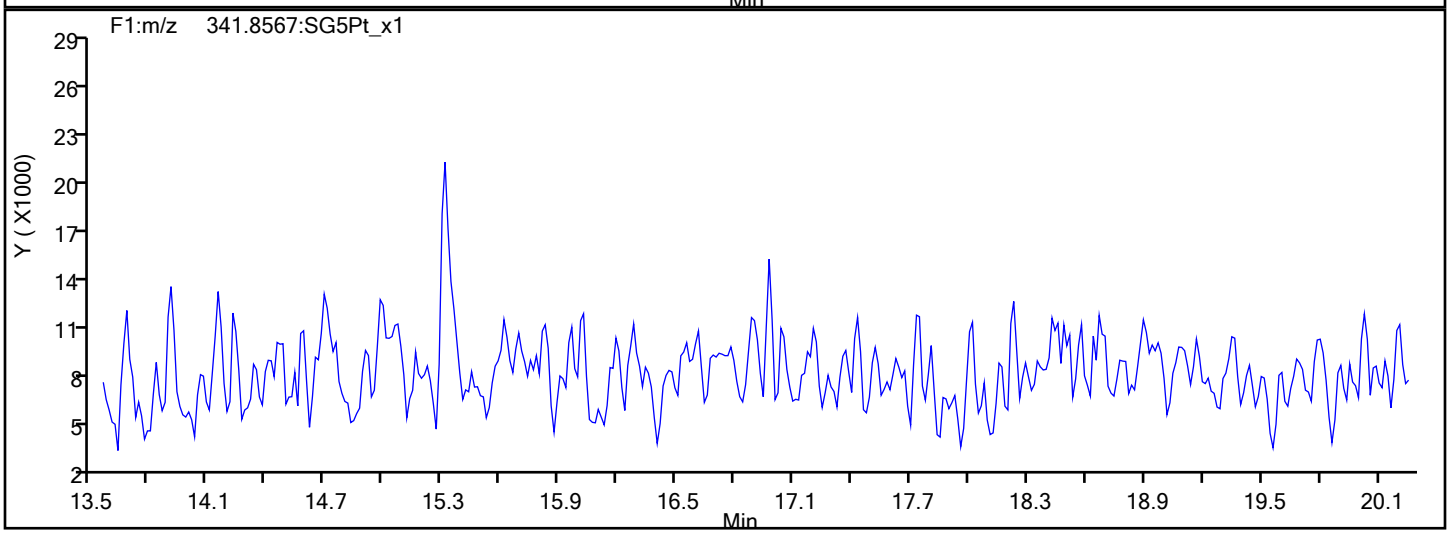

F1 PeCDFs Interference Mass

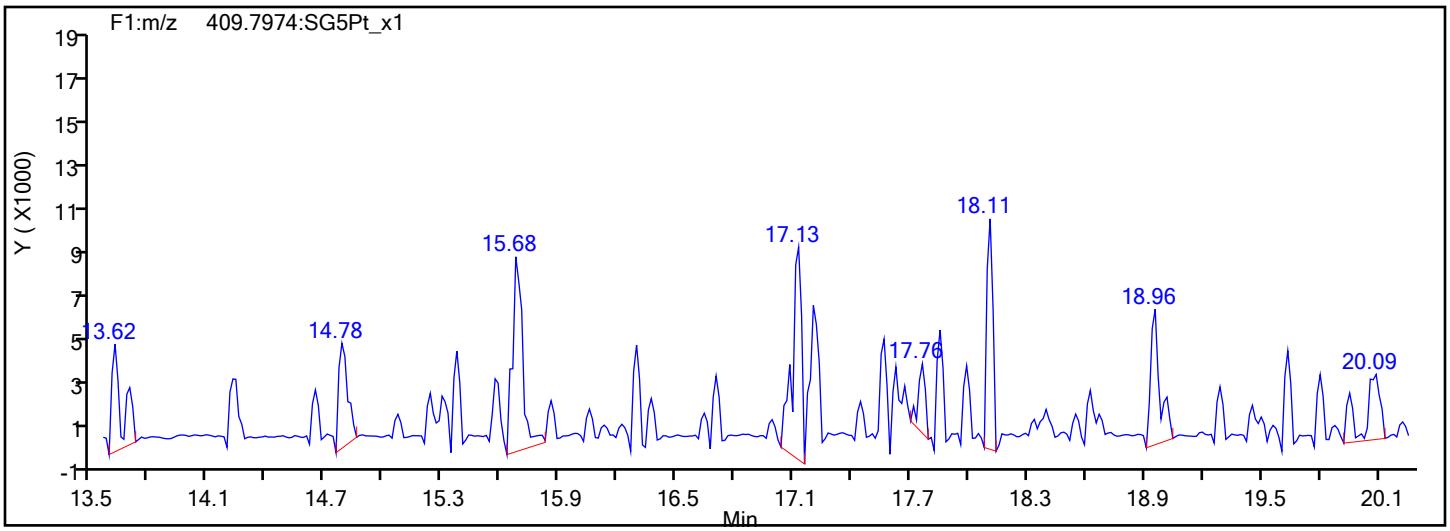

Report Date: 01-Nov-2019 10:13:19 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	334889	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

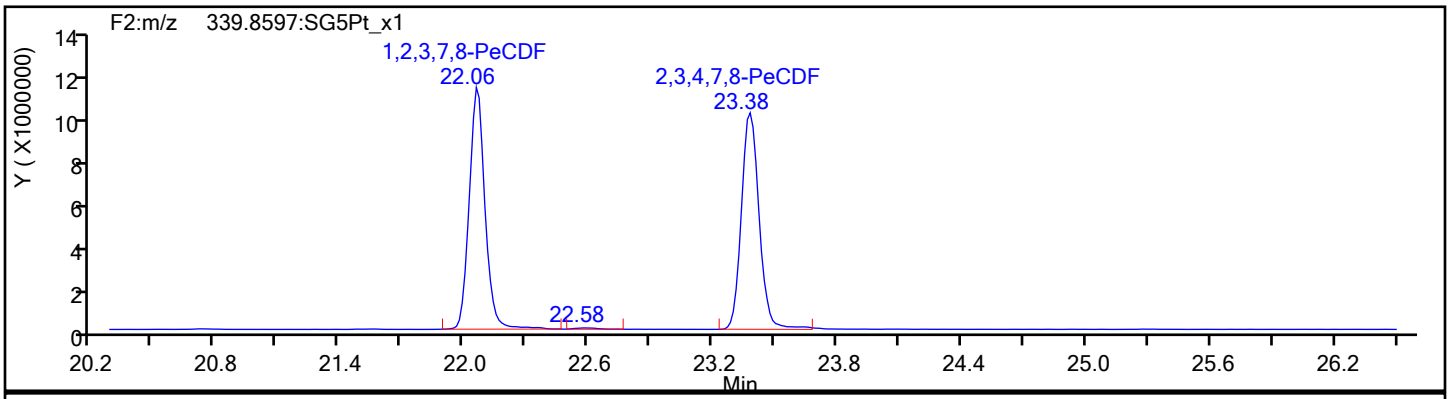

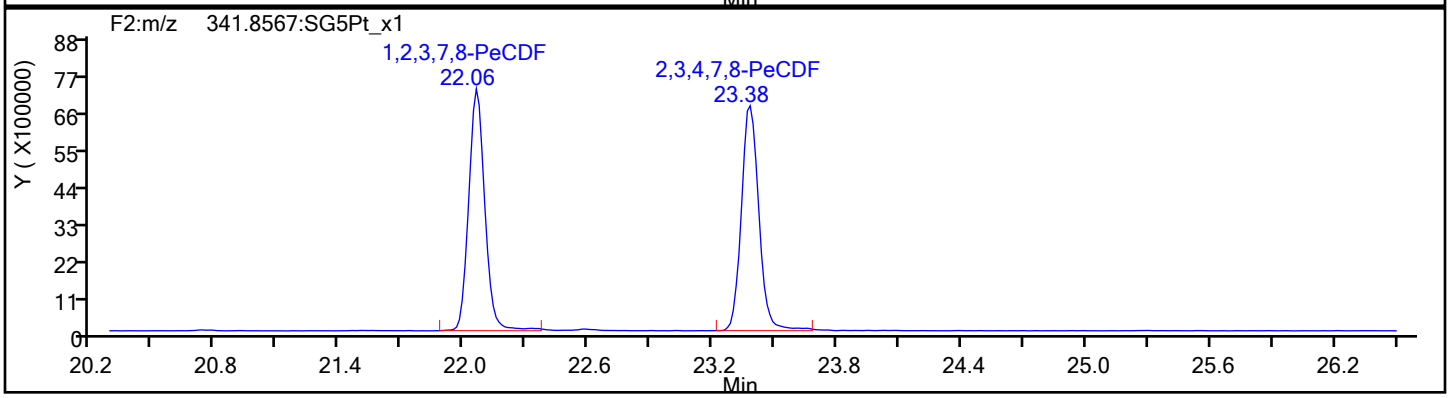

PeCDF Standards

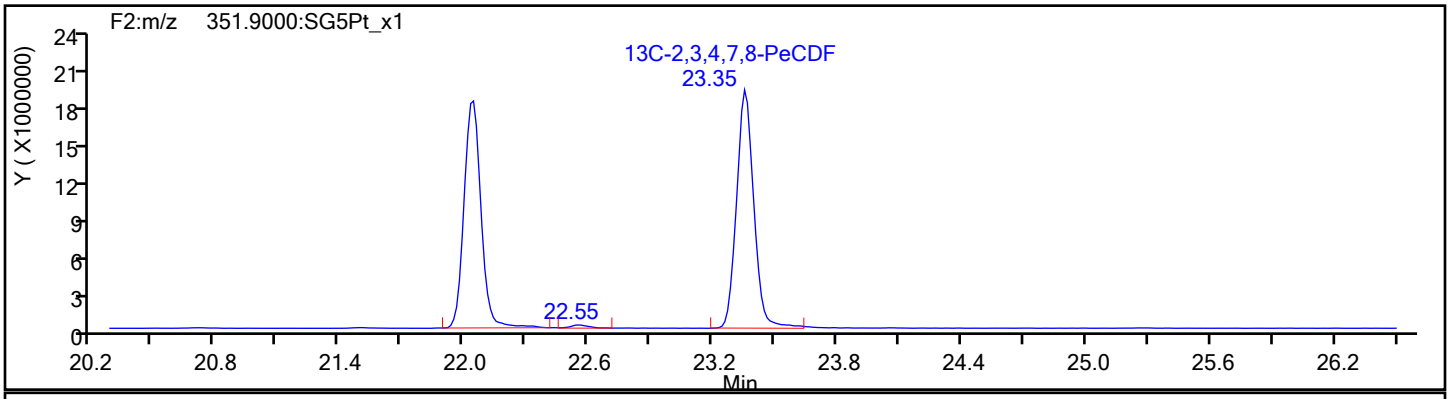

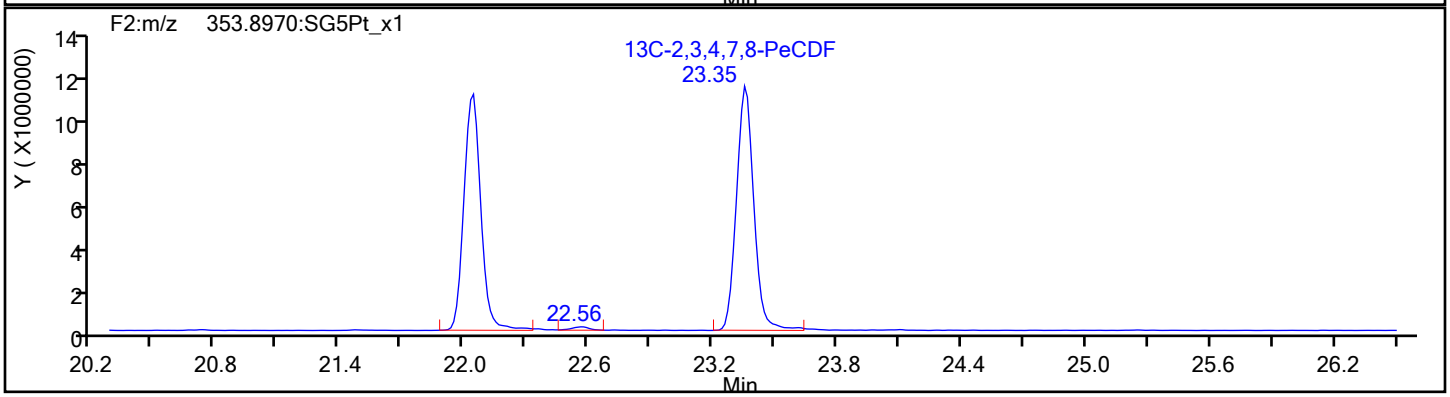

Report Date: 01-Nov-2019 10:13:19 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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PeCDF

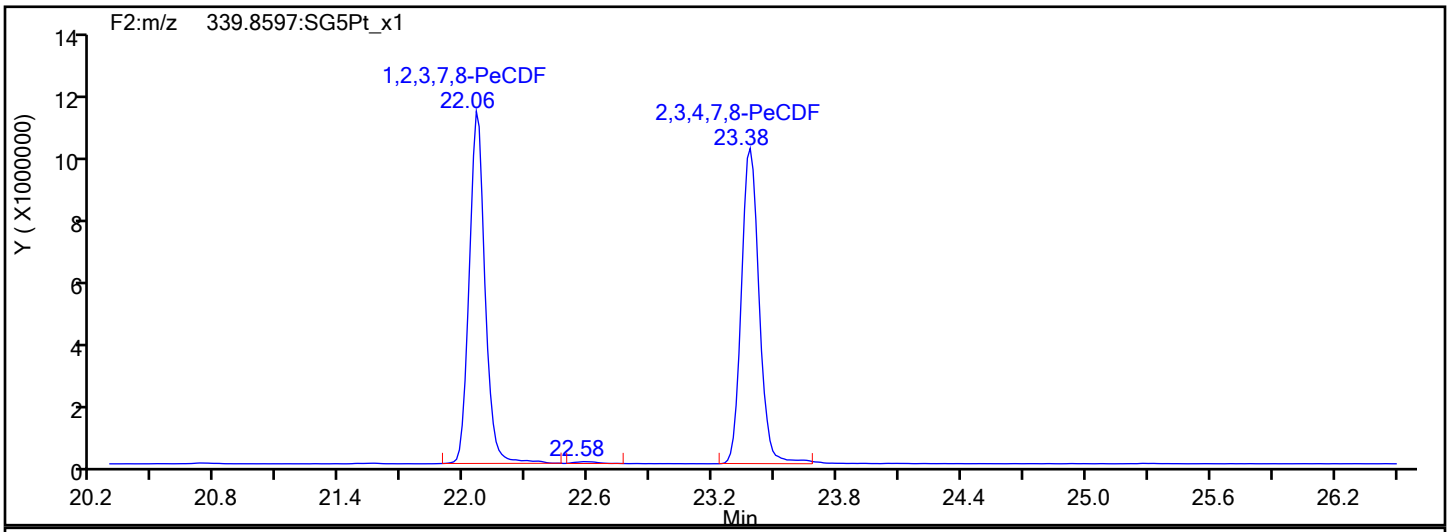

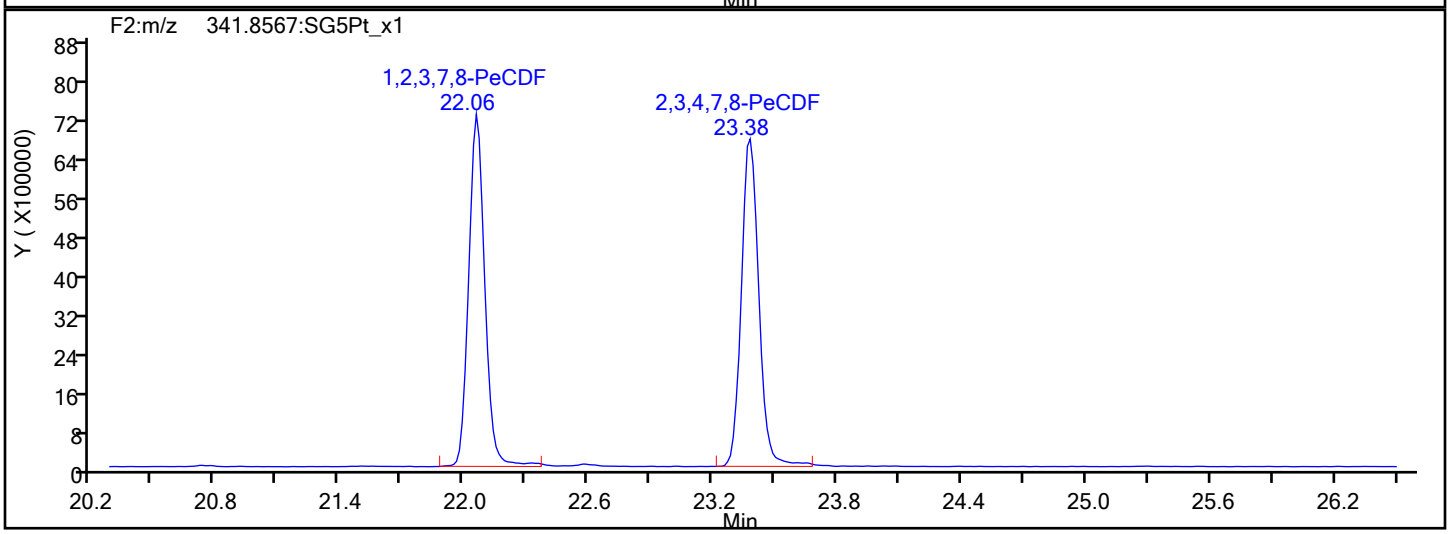

PeCDF Interference Mass

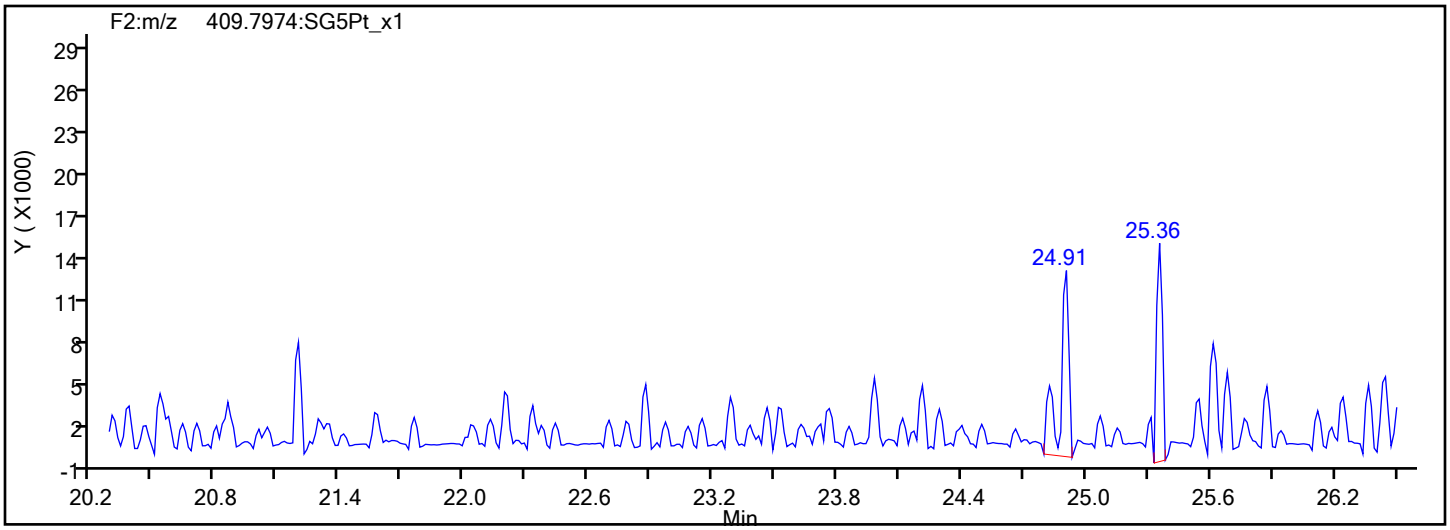

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Eurofins TestAmerica, Sacramento

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Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

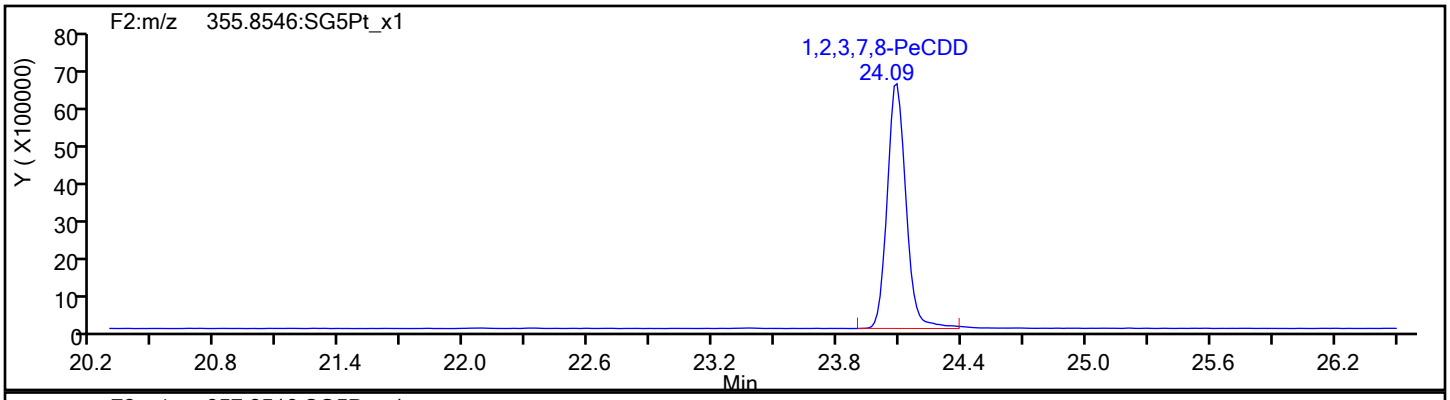

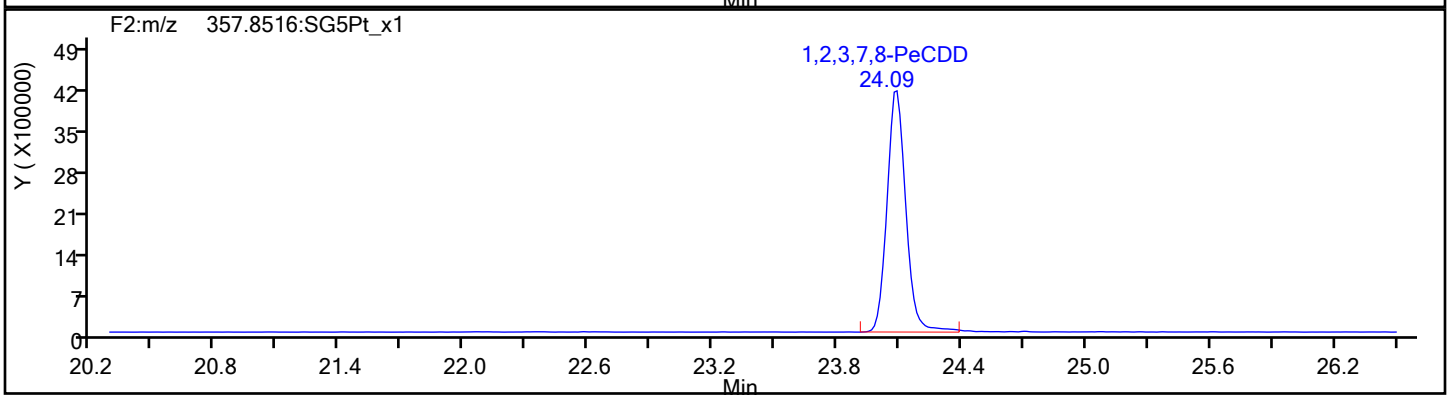

PeCDD Standards

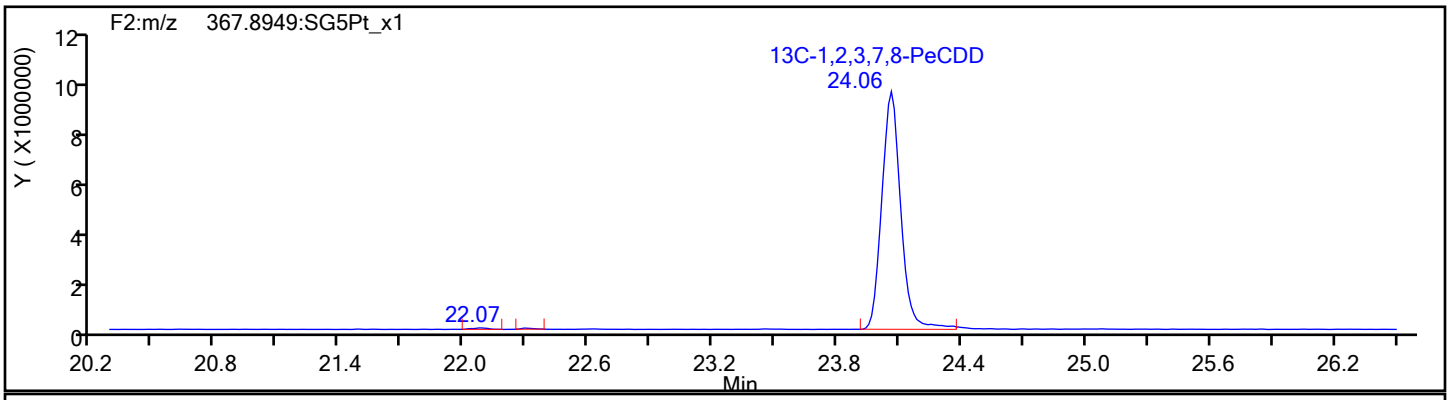

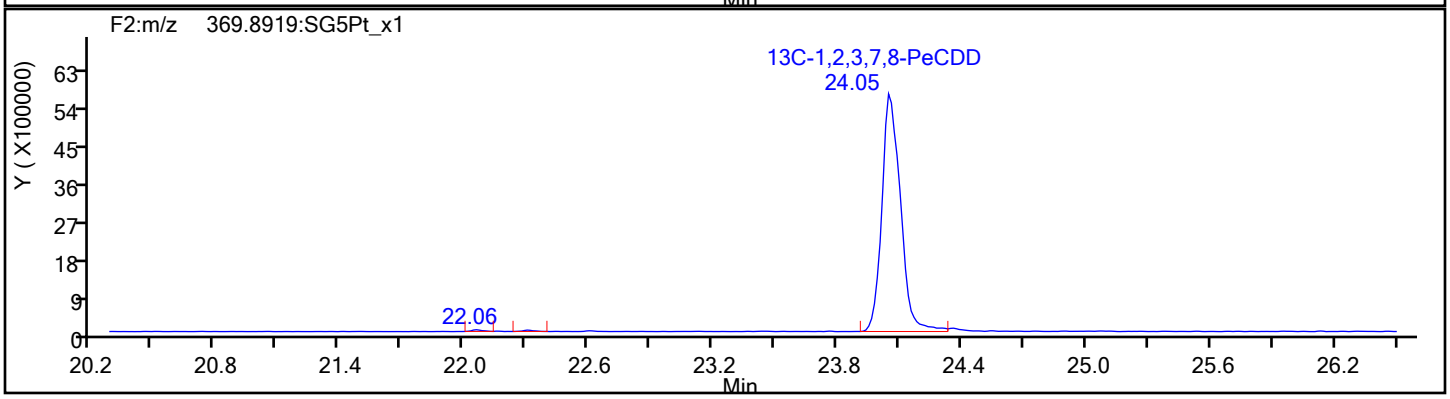

Report Date: 01-Nov-2019 10:13:19 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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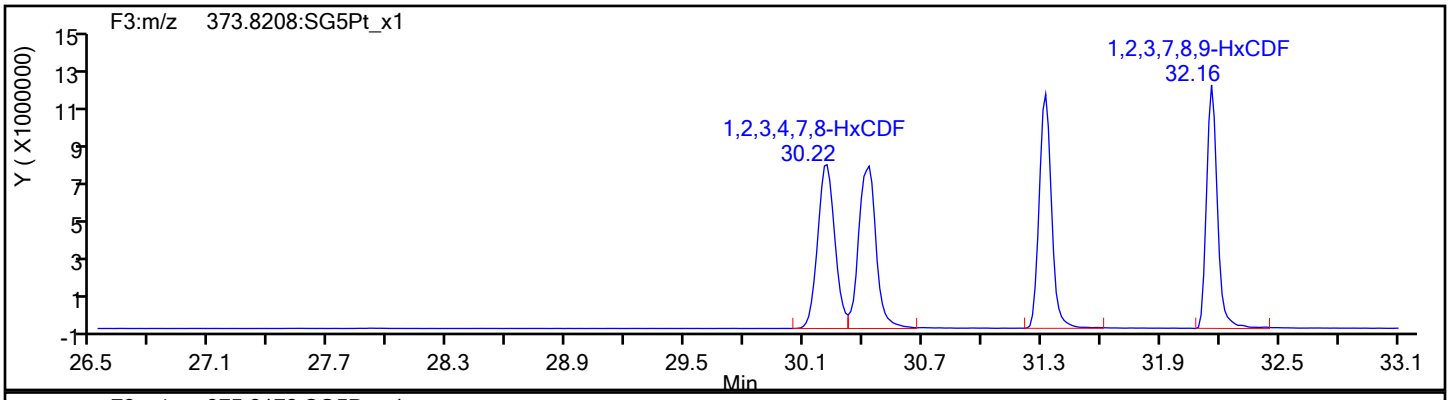

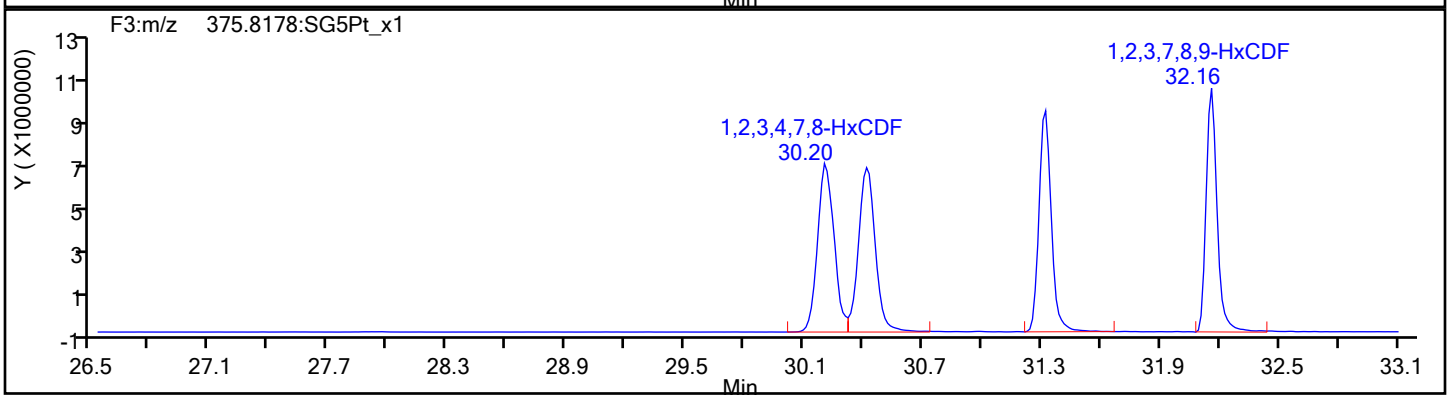

HxCDF Standards

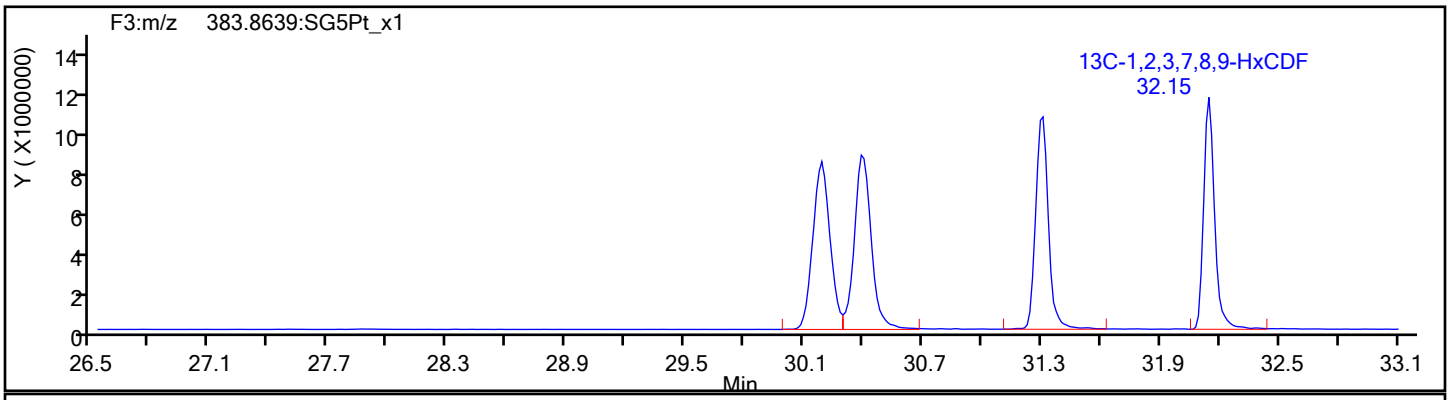

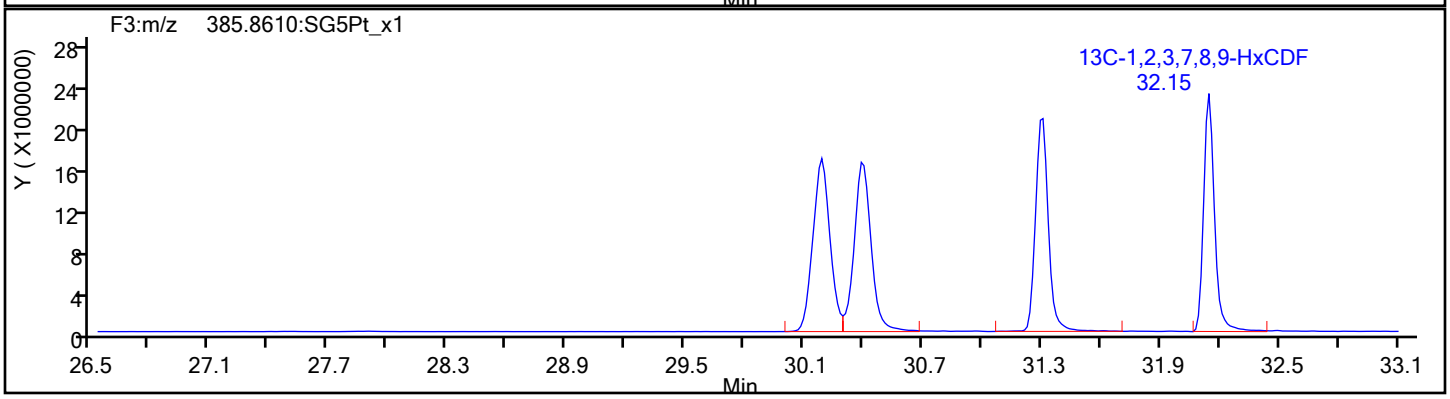

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Eurofins TestAmerica, Sacramento

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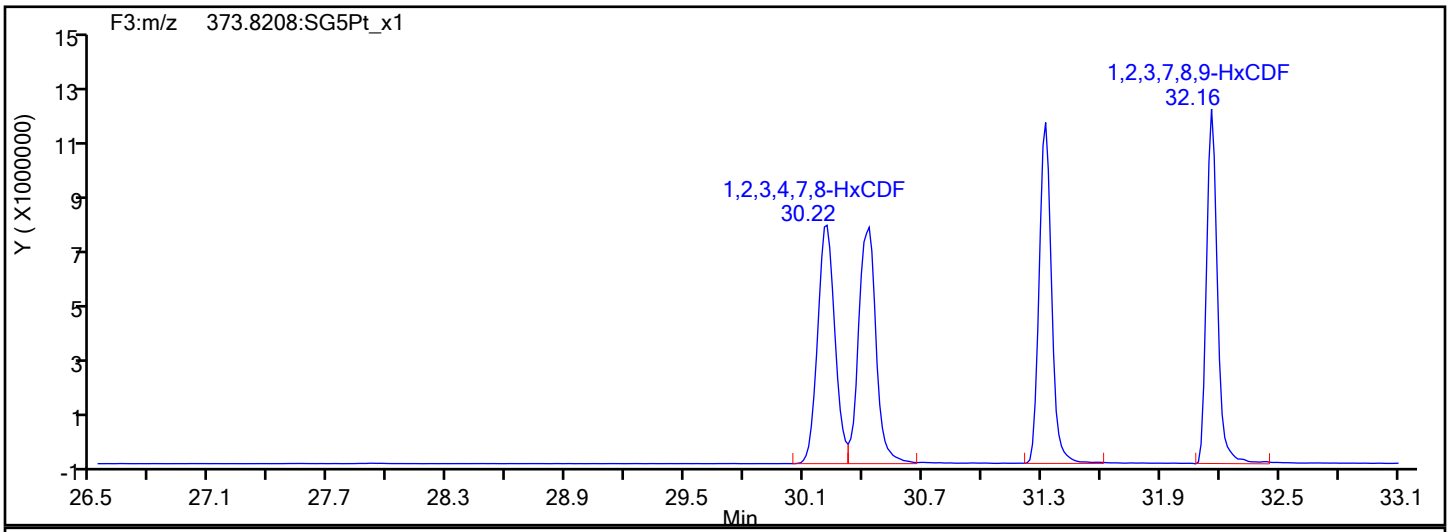

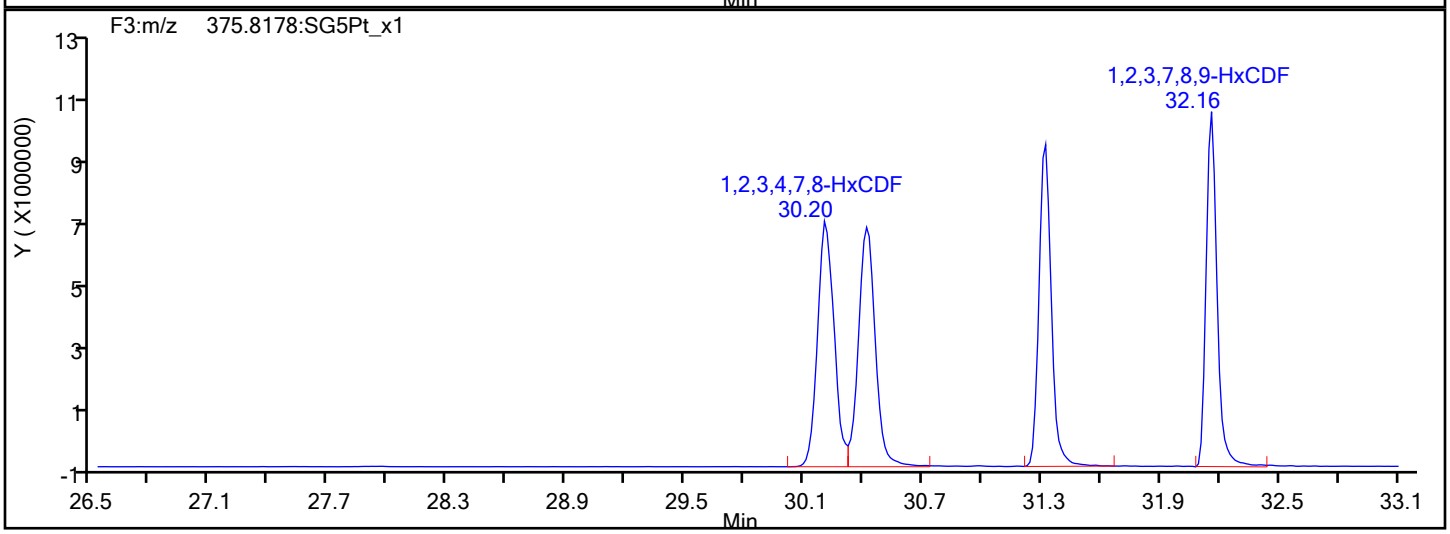

HxCDF Interference Mass

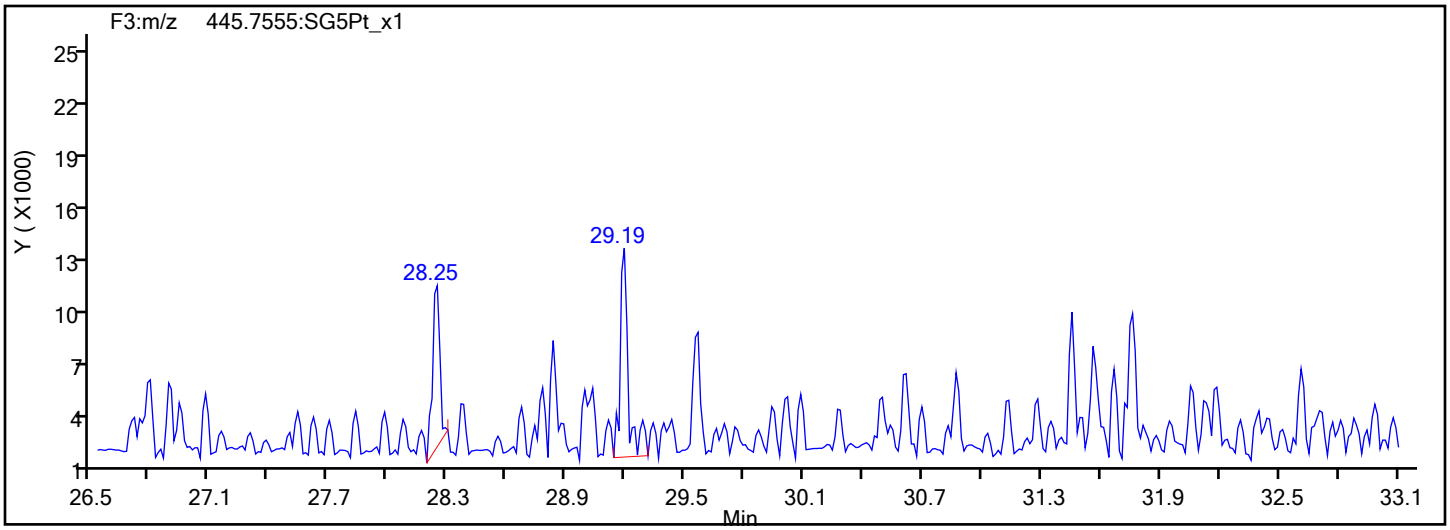

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Eurofins TestAmerica, Sacramento

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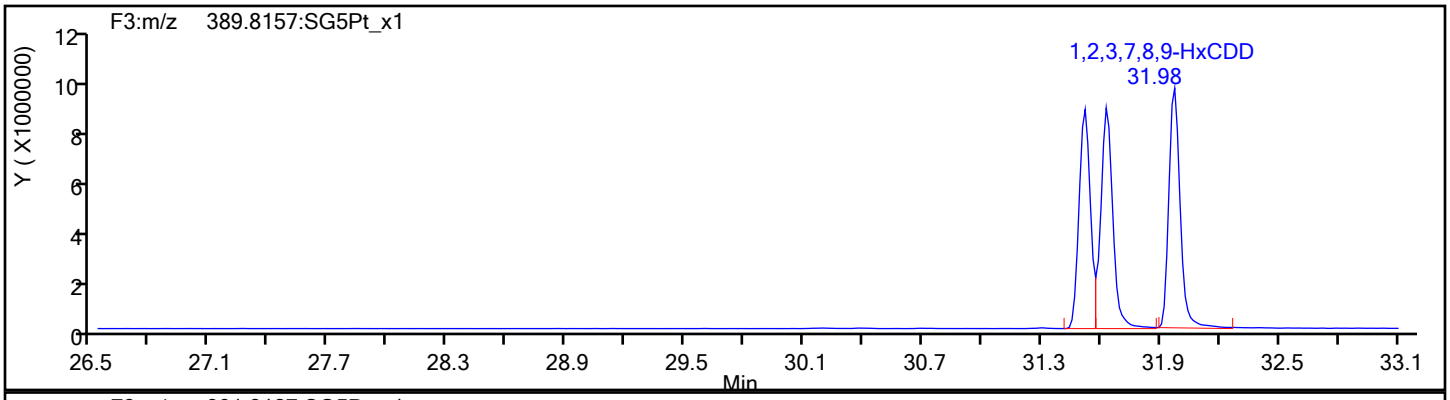

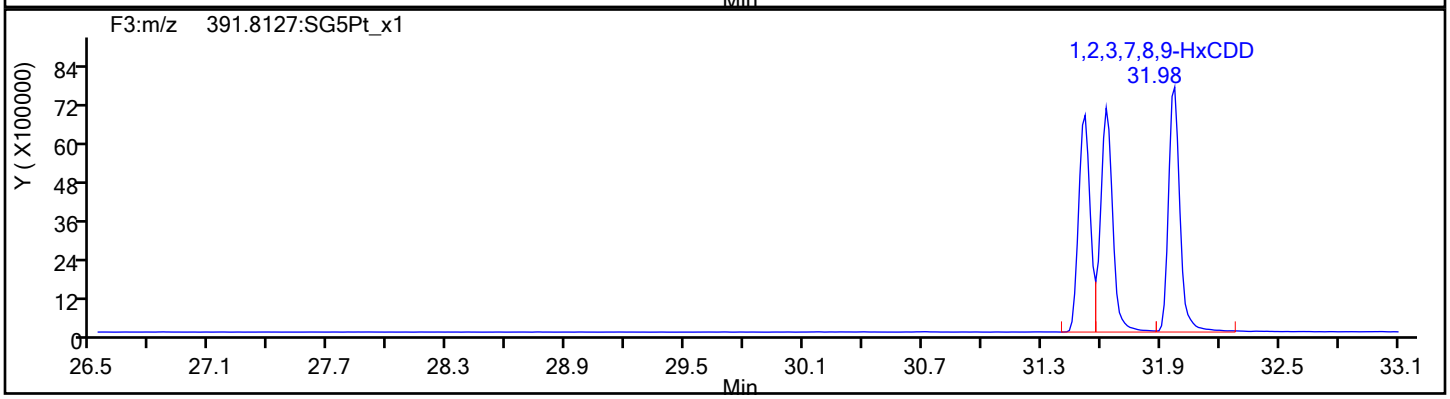

HxCDD Standards

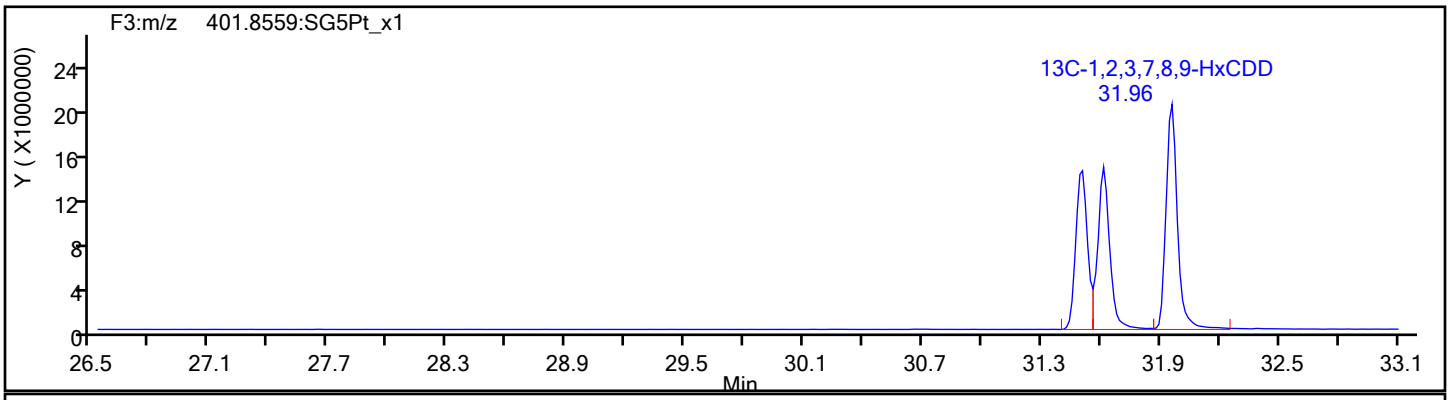

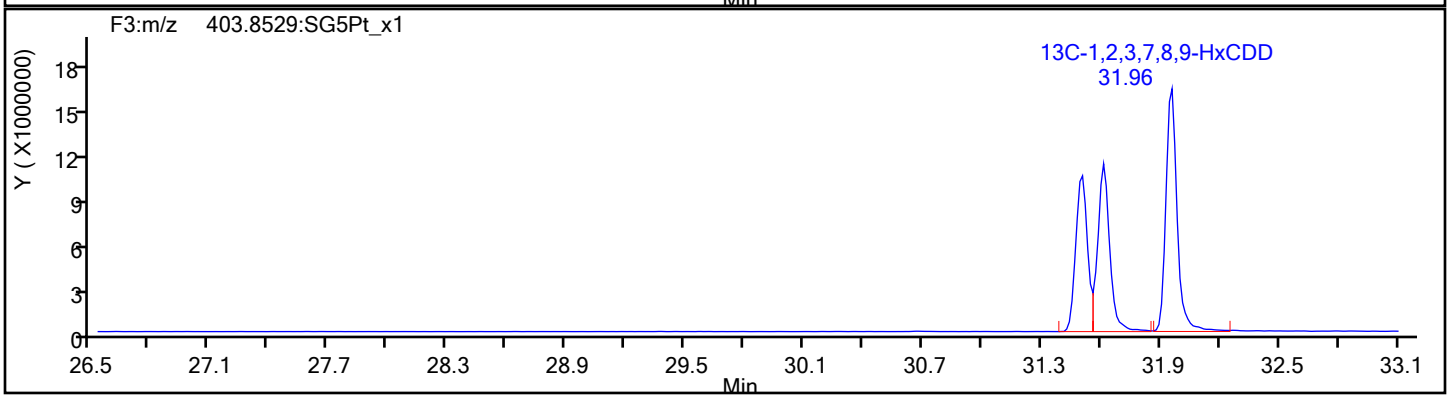

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Eurofins TestAmerica, Sacramento

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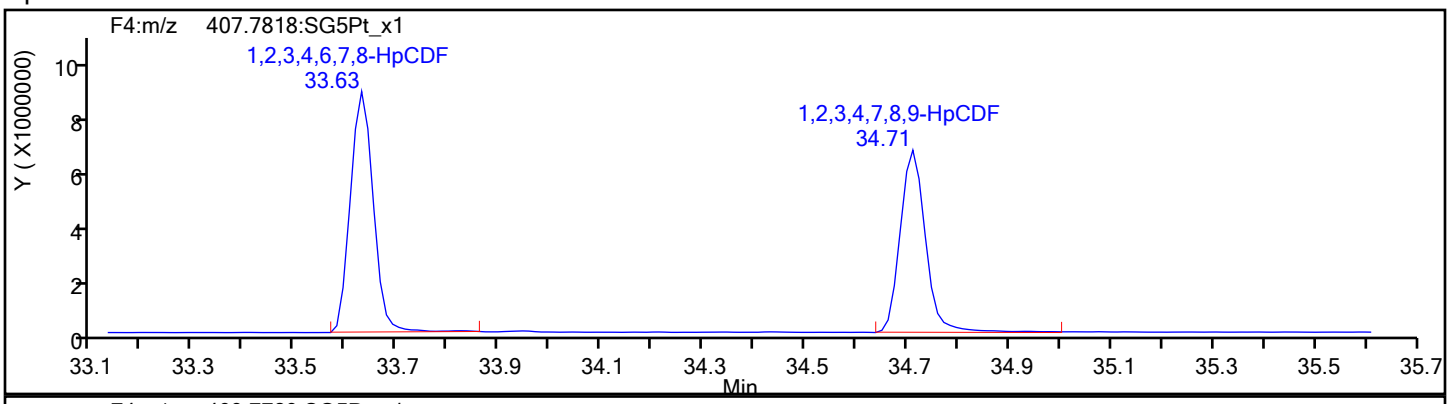

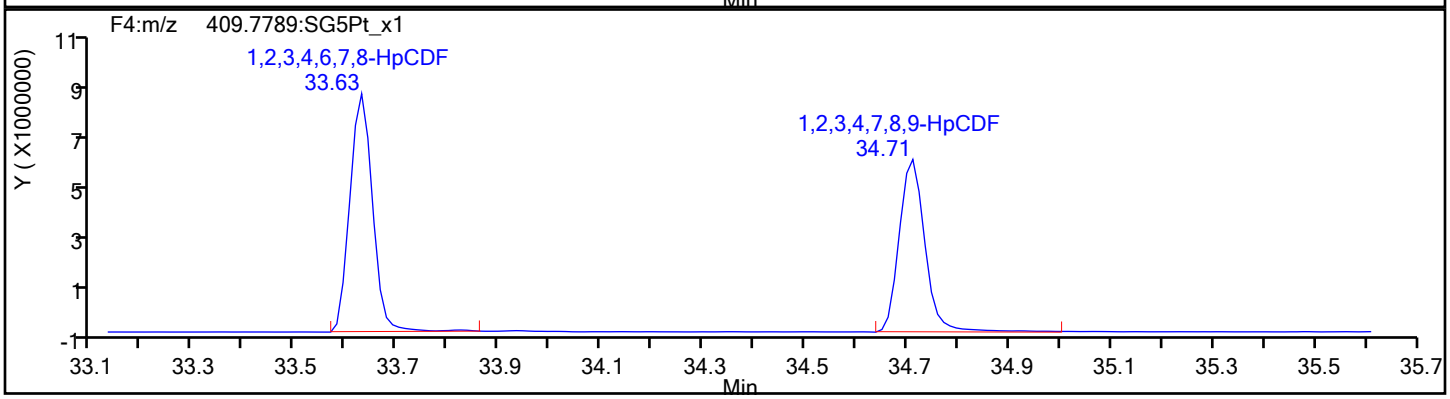

HpCDF Standards

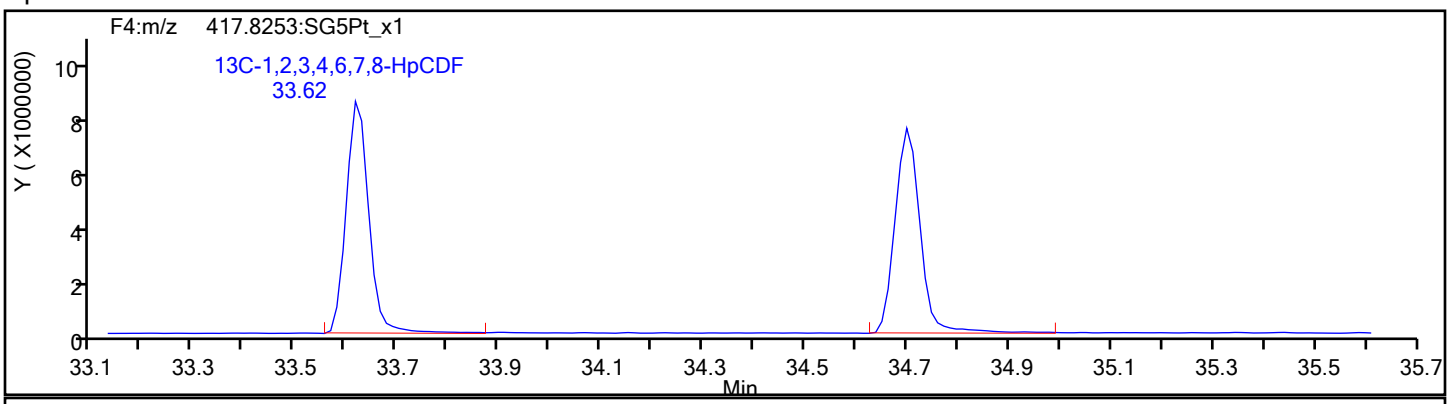

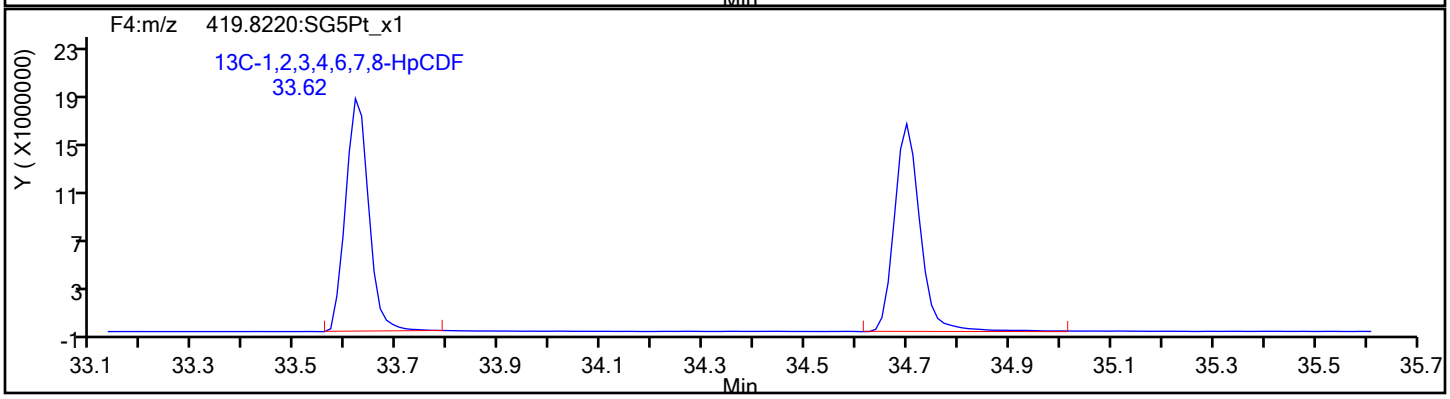

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Eurofins TestAmerica, Sacramento

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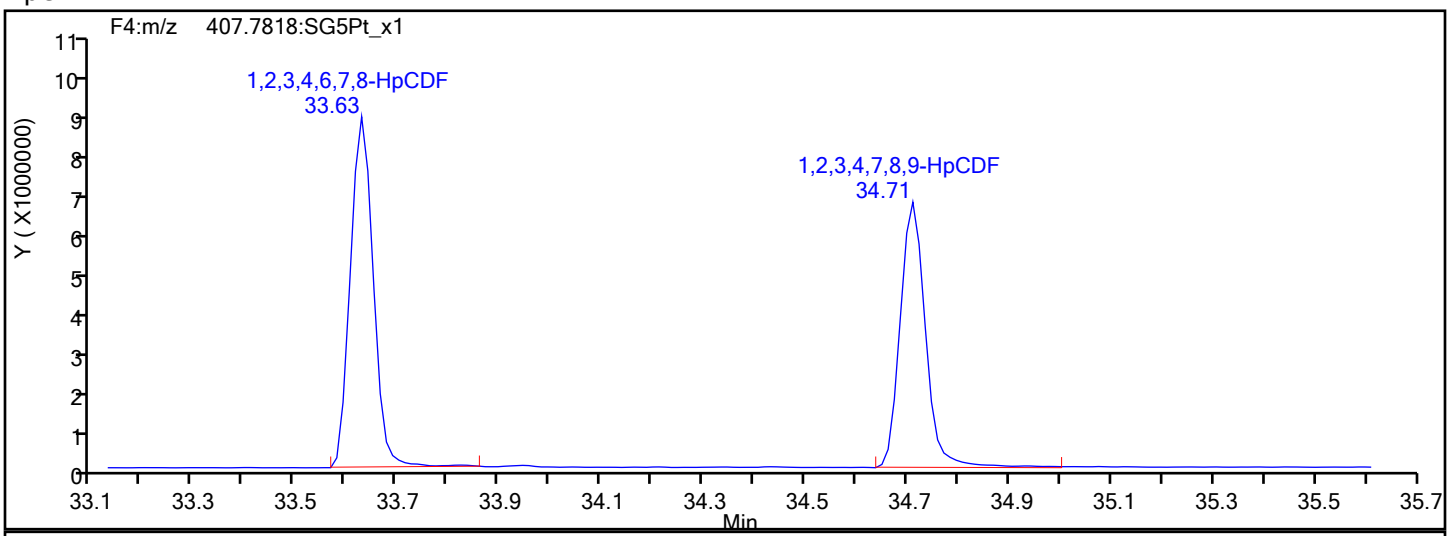

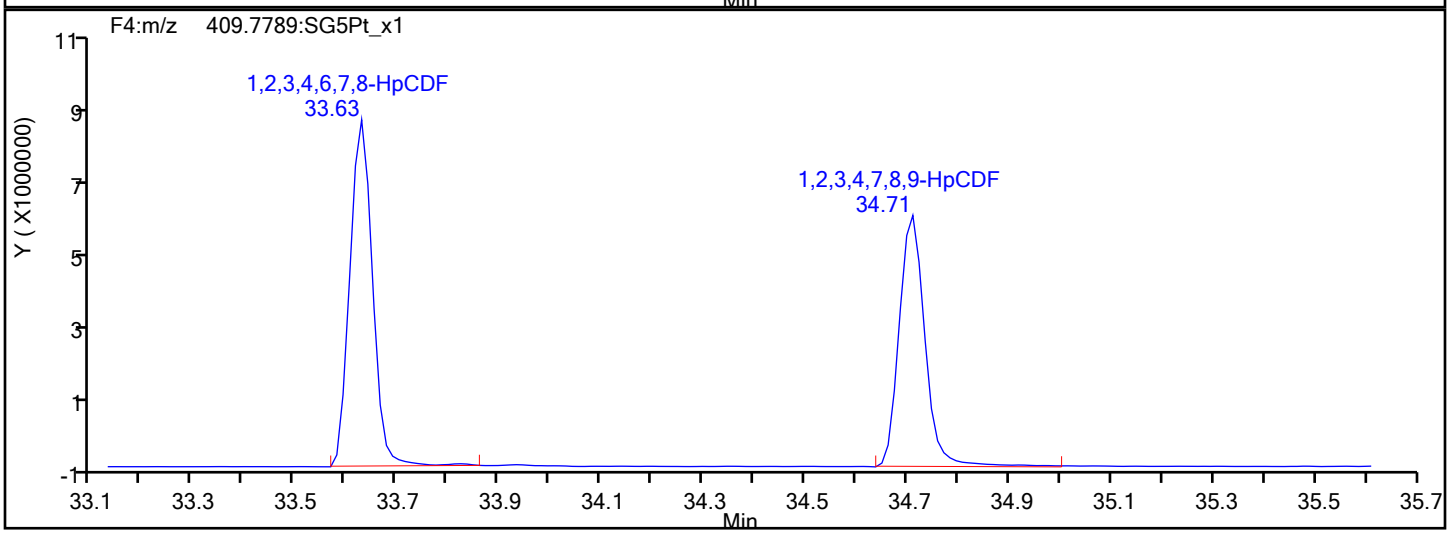

HpCDF Interference Mass

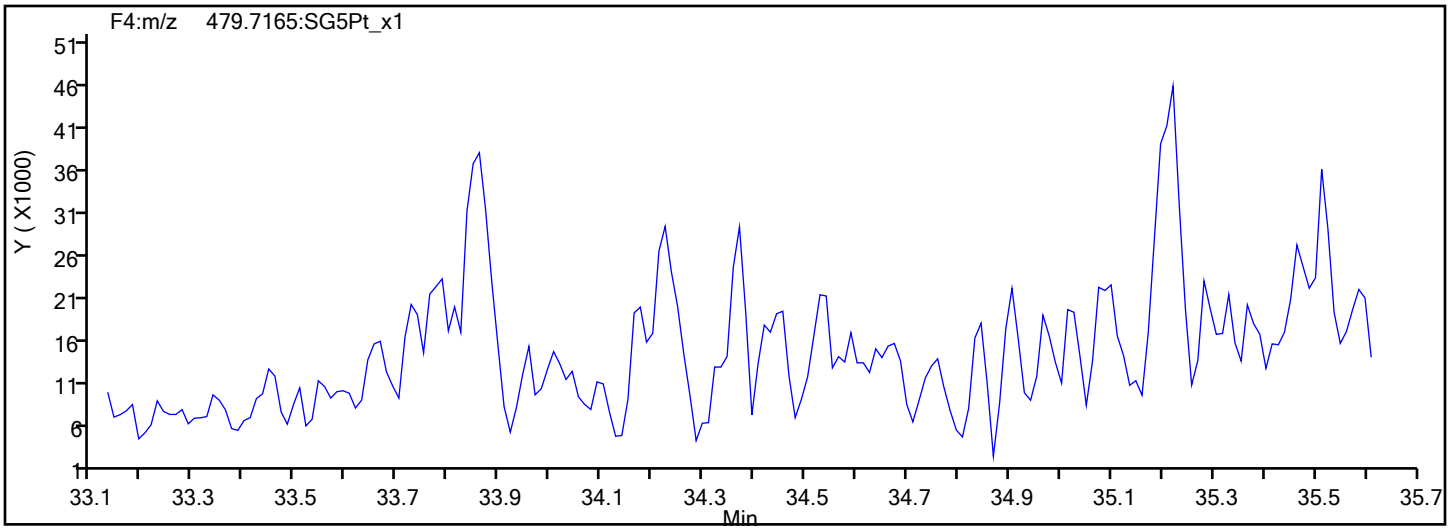

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Eurofins TestAmerica, Sacramento

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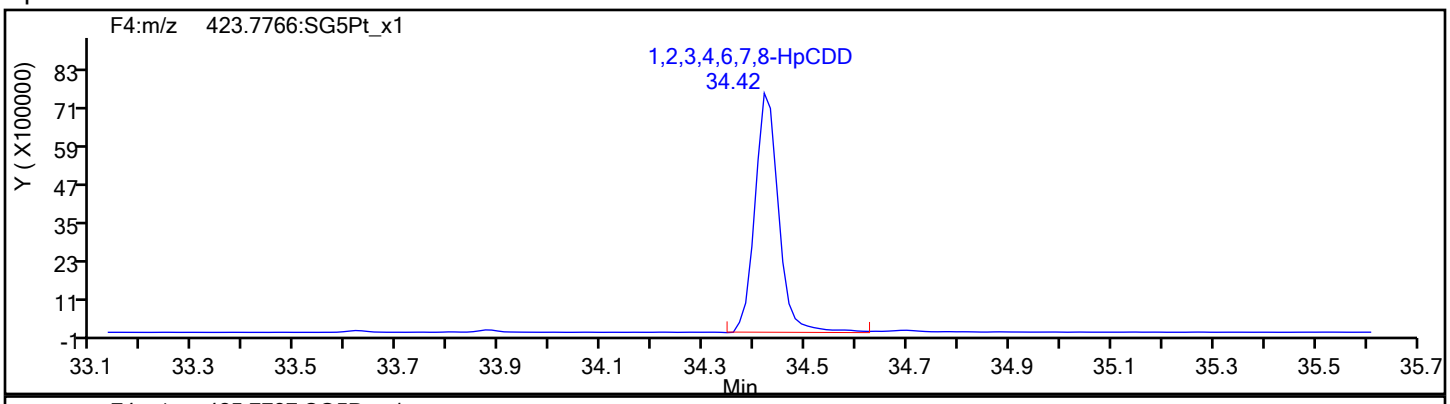

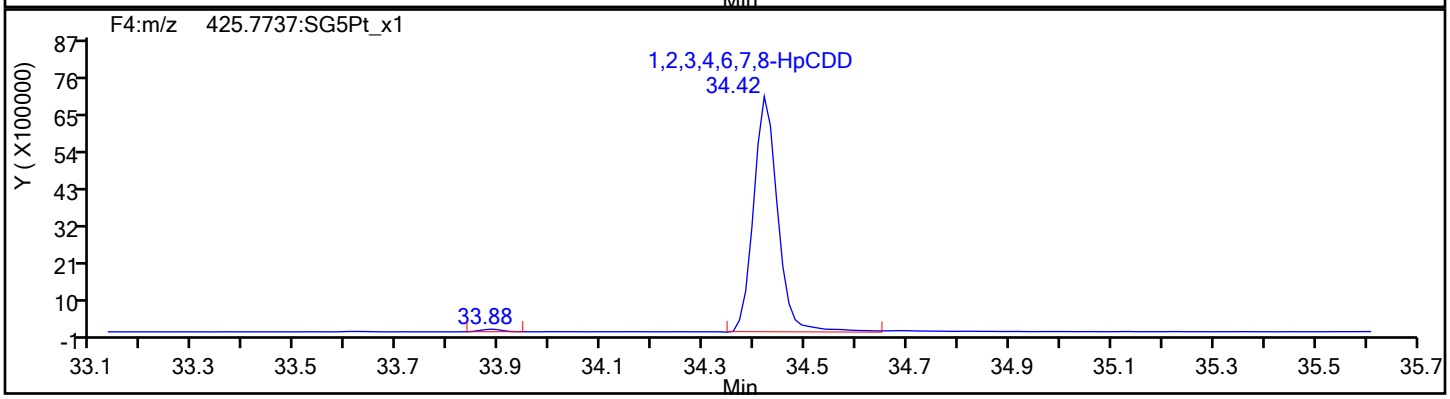

HpCDD Standards

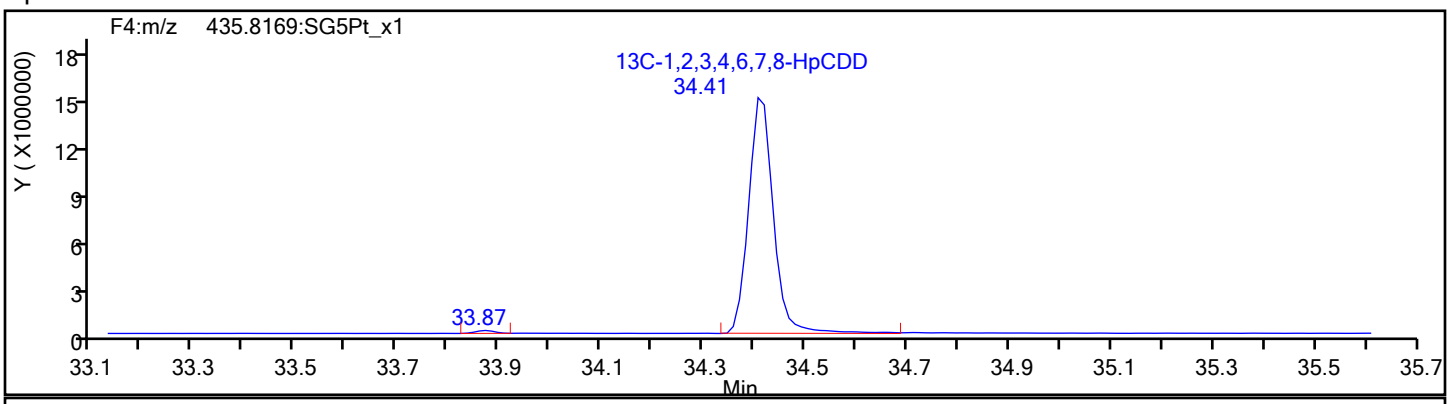

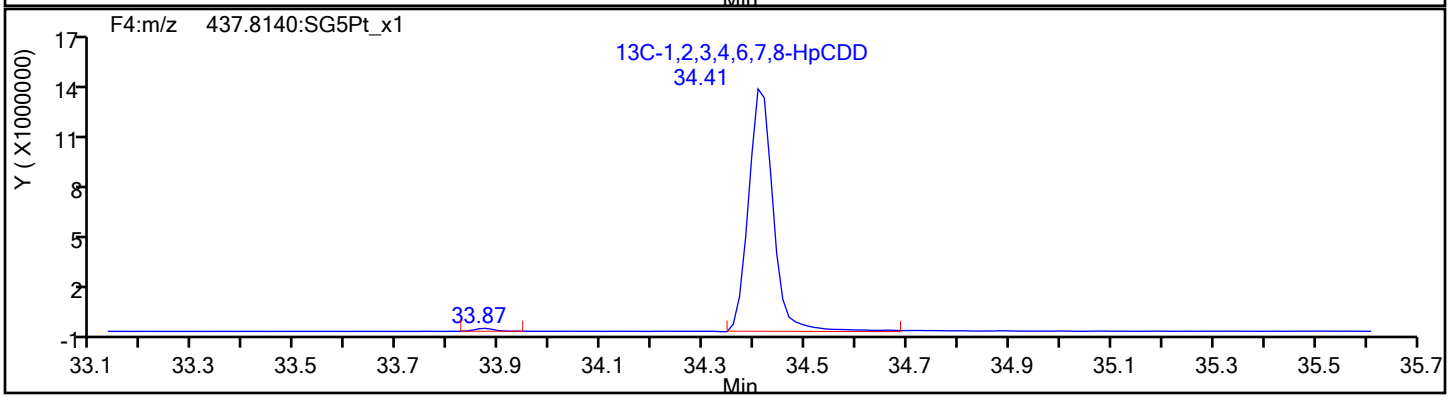

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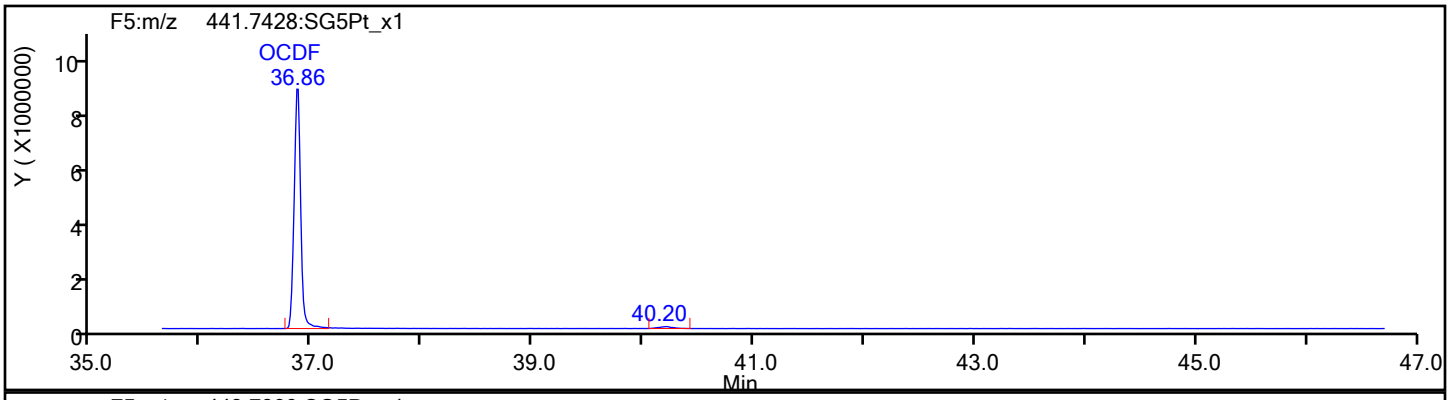

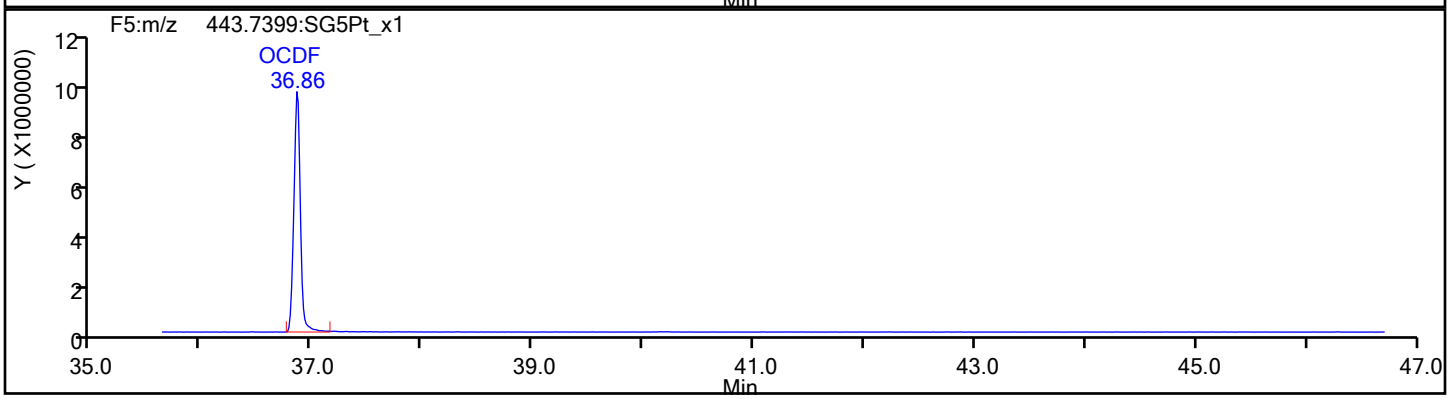

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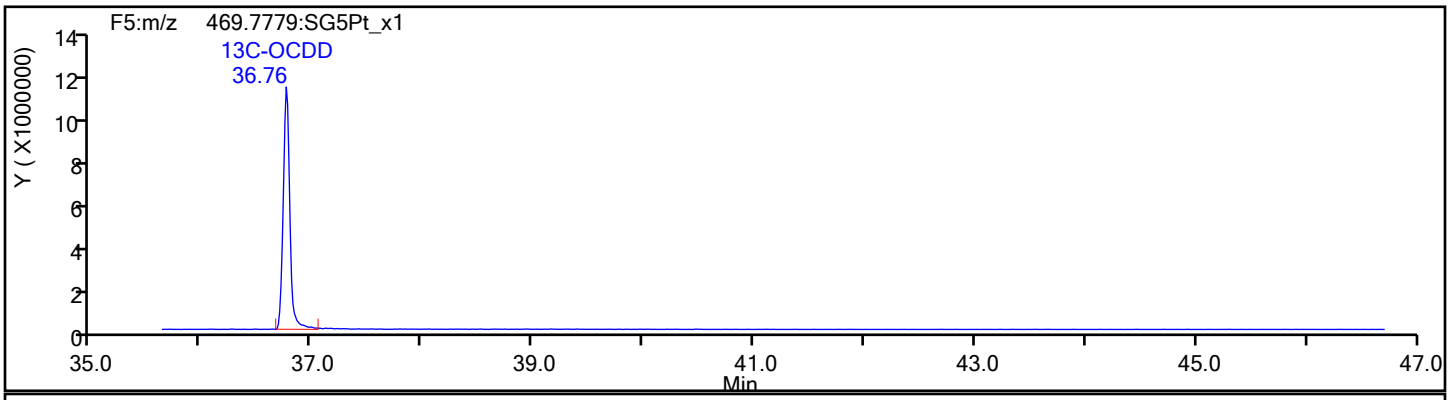

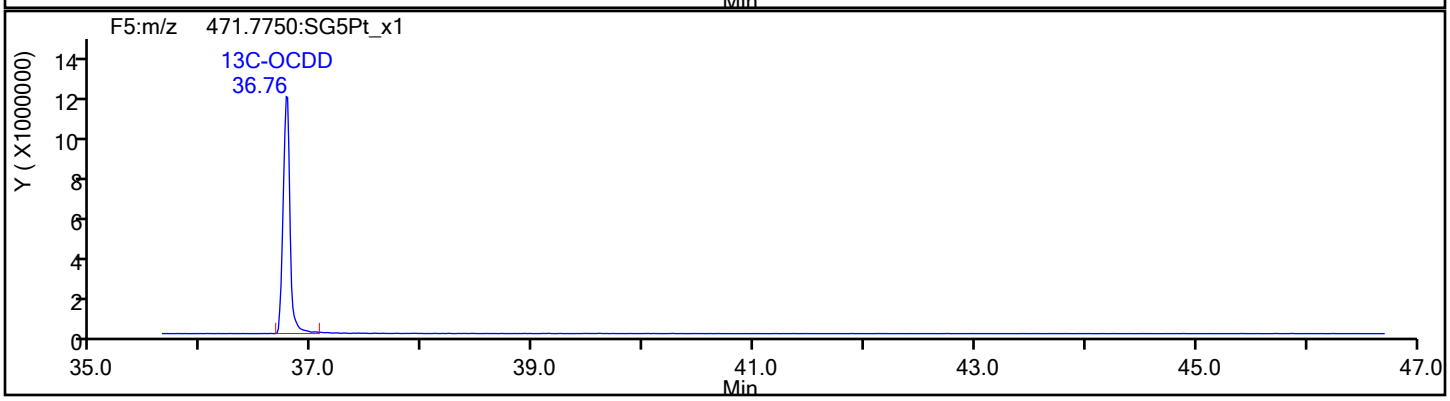

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Eurofins TestAmerica, Sacramento

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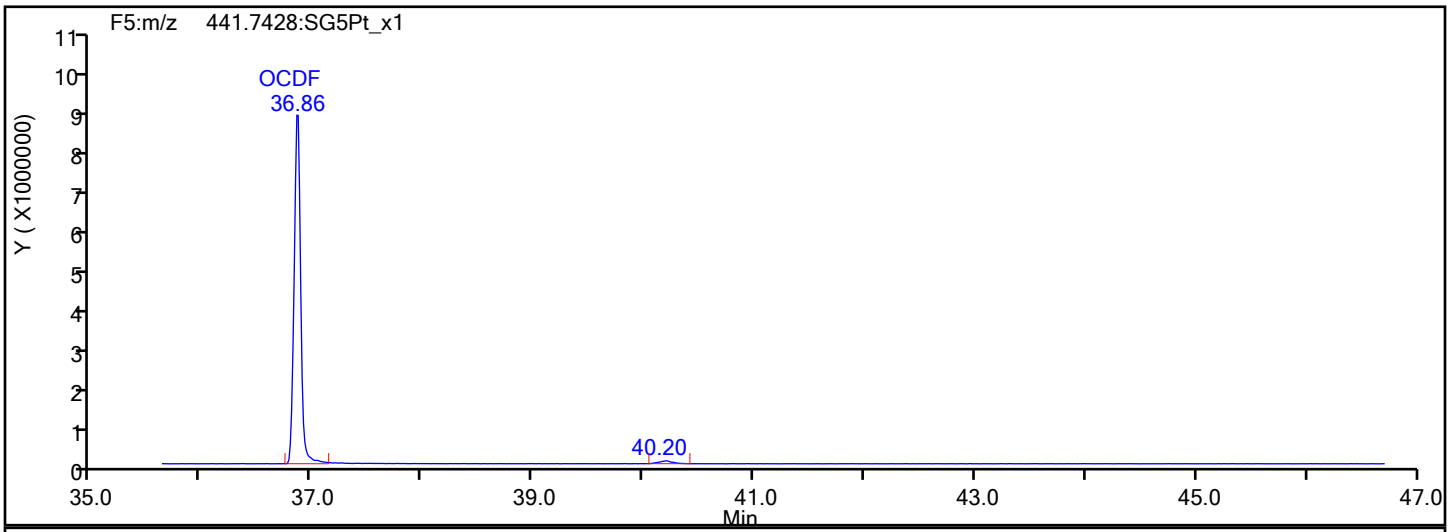

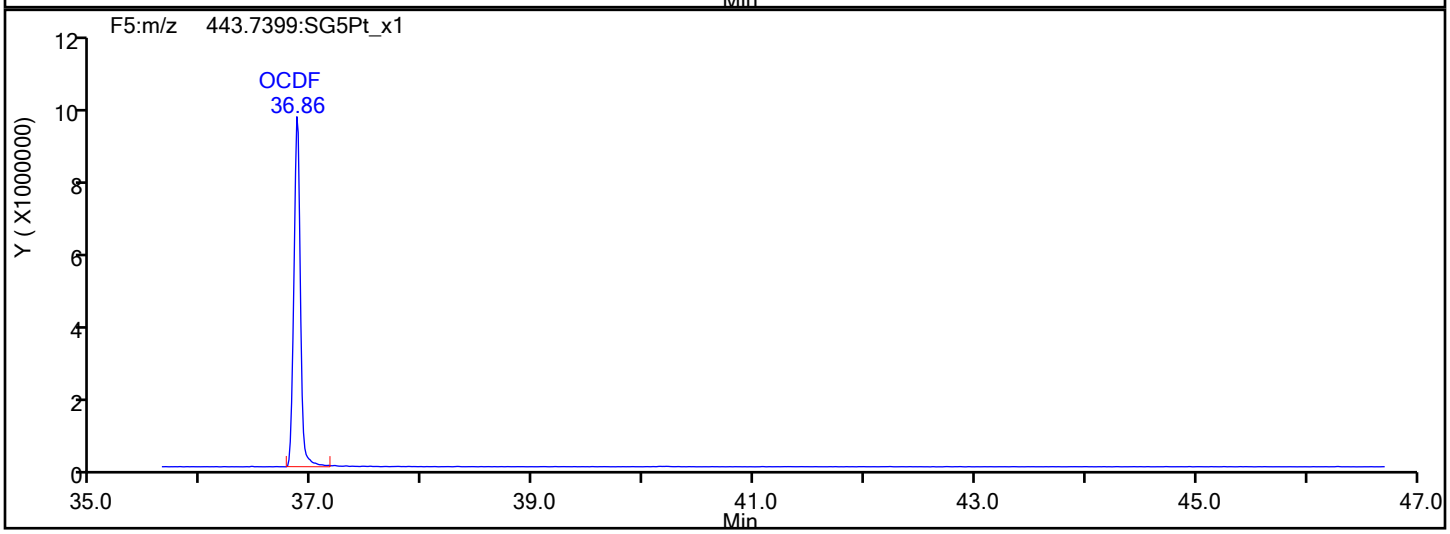

OCDF Interference Mass

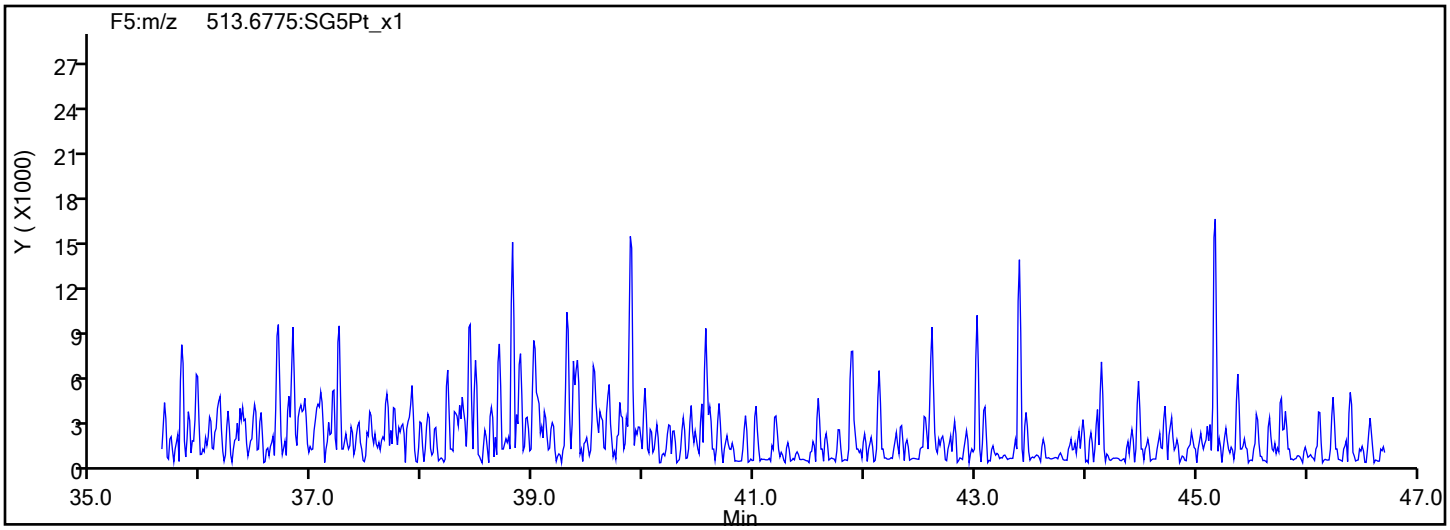

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Eurofins TestAmerica, Sacramento

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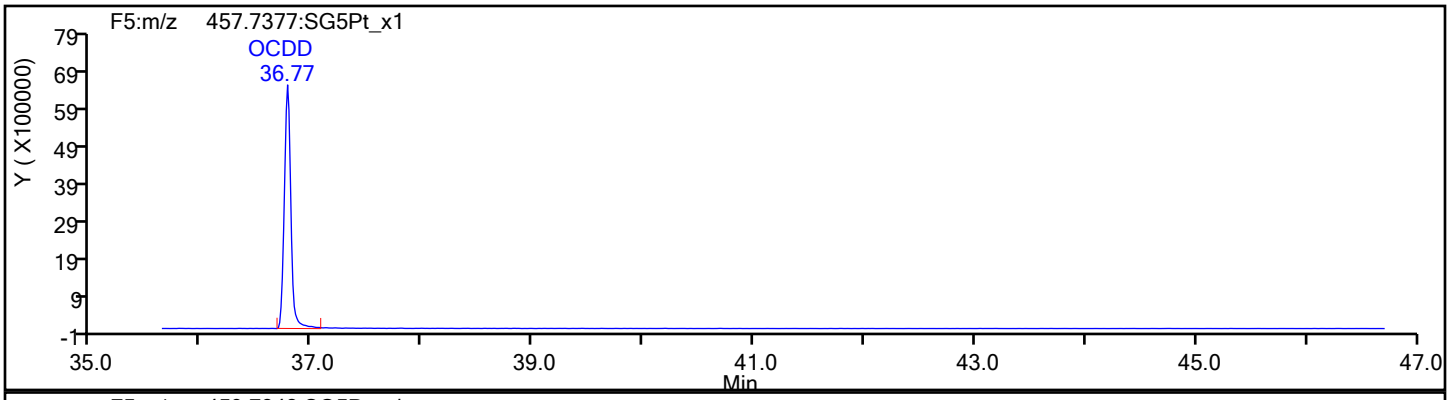

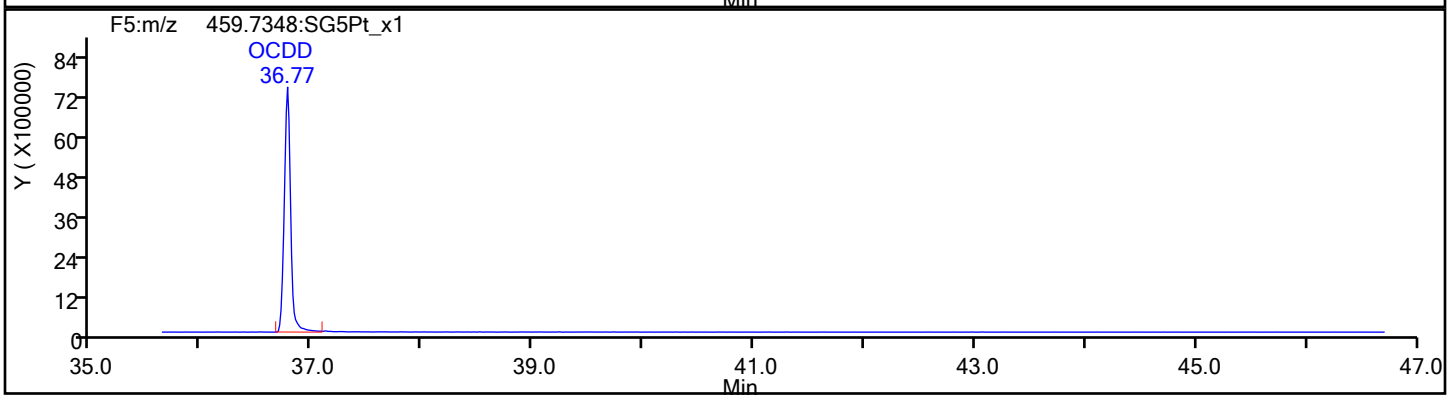

OCDD Standards

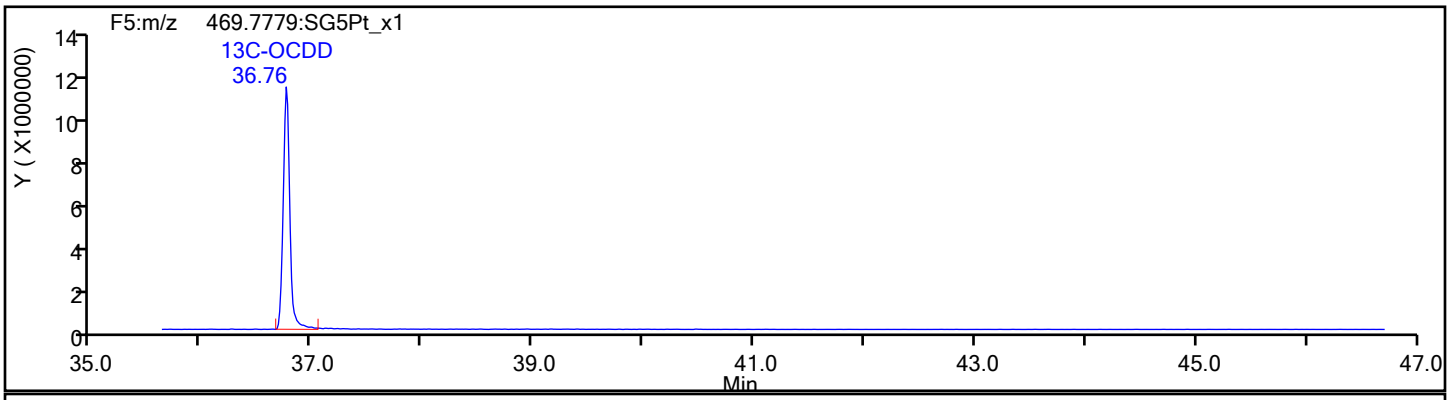

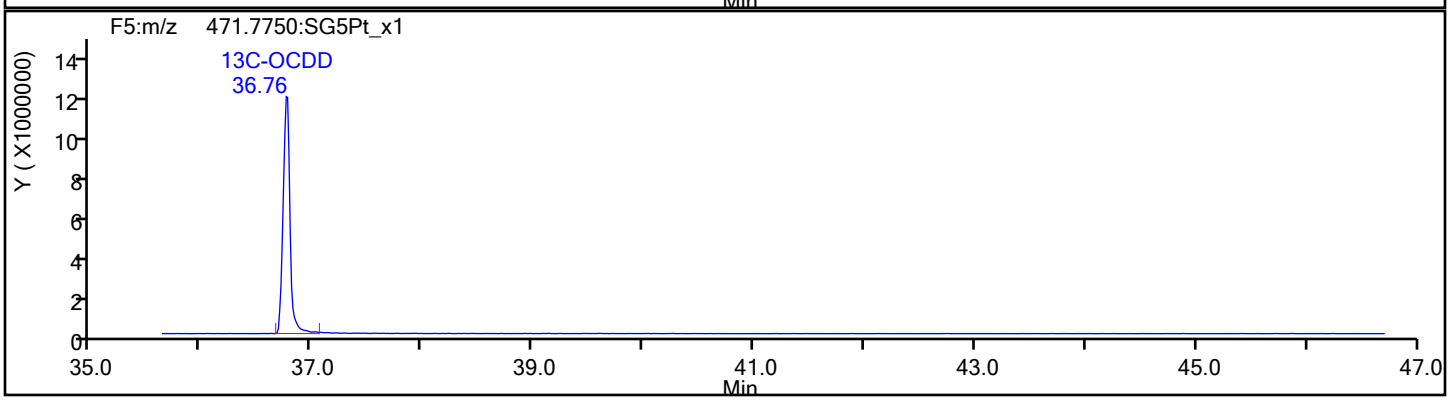

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Eurofins TestAmerica, Sacramento

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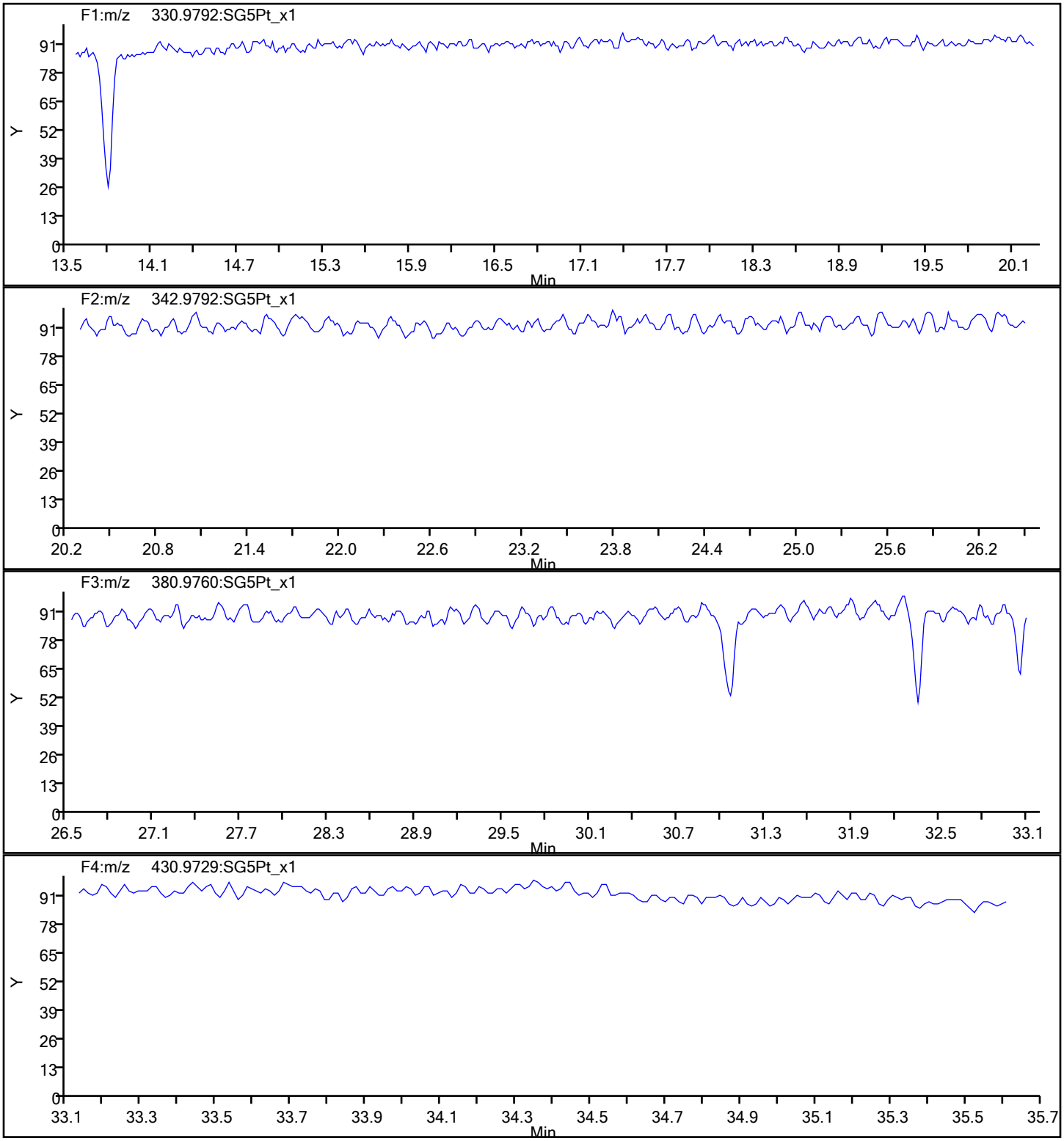

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Eurofins TestAmerica, Sacramento

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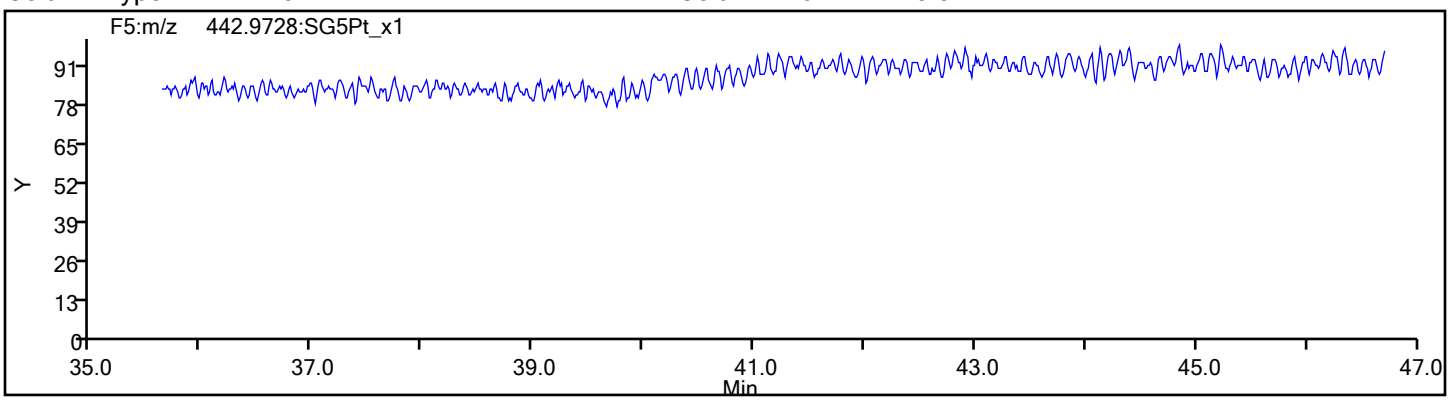

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 180-97287-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCSD 320-334214/3-A
Matrix: Solid
Lab File ID: 31OC1910D5_7.d
Analysis Method: 1613B
Date Collected:
Extract. Method: HRMS-Sep
Date Extracted: 10/28/2019 14:05
Sample wt/vol: 1000(mL)
Date Analyzed: 10/31/2019 18:09
Con. Extract Vol.: 20.0(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 335194
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	206		10	0.51
51207-31-9	2,3,7,8-TCDF	220		10	0.65
40321-76-4	1,2,3,7,8-PeCDD	1170		50	1.9
57117-41-6	1,2,3,7,8-PeCDF	1080		50	3.8
57117-31-4	2,3,4,7,8-PeCDF	1010		50	3.9
39227-28-6	1,2,3,4,7,8-HxCDD	1010		50	2.8
57653-85-7	1,2,3,6,7,8-HxCDD	1100		50	2.9
19408-74-3	1,2,3,7,8,9-HxCDD	1010		50	2.6
70648-26-9	1,2,3,4,7,8-HxCDF	1030		50	7.5
57117-44-9	1,2,3,6,7,8-HxCDF	1090		50	7.0
72918-21-9	1,2,3,7,8,9-HxCDF	1080		50	4.6
60851-34-5	2,3,4,6,7,8-HxCDF	1110		50	4.7
35822-46-9	1,2,3,4,6,7,8-HpCDD	1120		50	8.8
67562-39-4	1,2,3,4,6,7,8-HpCDF	1050		50	11
55673-89-7	1,2,3,4,7,8,9-HpCDF	995		50	13
3268-87-9	OCDD	2060		100	2.2
39001-02-0	OCDF	2160		100	1.8
41903-57-5	Total TCDD	206		10	0.51
30402-14-3	Total TCDF	220		10	0.65
36088-22-9	Total PeCDD	1170		50	1.9
30402-15-4	Total PeCDF	2090		50	3.9
34465-46-8	Total HxCDD	3120		50	2.8
55684-94-1	Total HxCDF	4310		50	6.0
37871-00-4	Total HpCDD	1120		50	8.8
38998-75-3	Total HpCDF	2040		50	12

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 180-97287-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCSD 320-334214/3-A
Matrix: Solid
Lab File ID: 31OC1910D5_7.d
Analysis Method: 1613B
Date Collected:
Extract. Method: HRMS-Sep
Date Extracted: 10/28/2019 14:05
Sample wt/vol: 1000(mL)
Date Analyzed: 10/31/2019 18:09
Con. Extract Vol.: 20.0(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 335194
Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	87		20-175
89059-46-1	13C-2,3,7,8-TCDF	76		22-152
109719-79-1	13C-1,2,3,7,8-PeCDD	90		21-227
109719-77-9	13C-1,2,3,7,8-PeCDF	84		21-192
116843-02-8	13C-2,3,4,7,8-PeCDF	93		13-328
109719-80-4	13C-1,2,3,4,7,8-HxCDD	95		21-193
109719-81-5	13C-1,2,3,6,7,8-HxCDD	83		25-163
114423-98-2	13C-1,2,3,4,7,8-HxCDF	84		19-202
116843-03-9	13C-1,2,3,6,7,8-HxCDF	81		21-159
116843-04-0	13C-1,2,3,7,8,9-HxCDF	80		17-205
116843-05-1	13C-2,3,4,6,7,8-HxCDF	82		22-176
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	87		26-166
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	83		21-158
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	90		20-186
114423-97-1	13C-OCDD	77		13-199

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	109		31-191

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191031-85912.b\31OC1910D5_7.d
Lims ID: LCSD 320-334214/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 31-Oct-2019 18:09:56 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 320-334214/3-A RI LCSD 320-334214/3-A RI
Misc. Info.: 31OC1910D5
Operator ID: SMA Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191031-85912.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 01-Nov-2019 15:04:35 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0312

First Level Reviewer: dadunj Date: 01-Nov-2019 15:06:16

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.321	125467758	0.77	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.837	137409157	0.78	1.4384	76.1	76.1	0.2100	0.2100	76.14	
2,3,7,8-TCDF	16.852	15855451	0.76	1.0507	11.0	11.0	0.0327	0.0327	110	
A Non-2,3,7,8-sub-TCDF	16.550						0.0327	0.0327		
S Total TCDF					11.0	11.0	0.0327	0.0327		
2,3,7,8-TCDD	17.532	11914480	0.76	1.1064	10.3	10.3	0.0257	0.0257	103	
$ 37Cl4-2,3,7,8-TCDD	17.532	66837644		1.2224	43.6	43.6	0.0402	0.0402	109	
D 13C-2,3,7,8-TCDD	17.502	104616531	0.77	0.9533	87.5	87.5	0.1782	0.1782	87.46	
A Non-2,3,7,8-sub-TCDD	16.981						0.0257	0.0257		
S Total TCDD					10.3	10.3	0.0257	0.0257		
1,2,3,7,8-PeCDF	21.649	63515468	1.57	1.0822	53.8	53.8	0.1922	0.1922	108	
D 13C-1,2,3,7,8-PeCDF	21.622	109034623	1.53	1.0286	84.5	84.5	0.2208	0.2208	84.49	
2,3,4,7,8-PeCDF	22.931	63960818	1.56	1.1032	50.6	50.6	0.1930	0.1930	101	
D 13C-2,3,4,7,8-PeCDF	22.904	114512035	1.54	0.9827	92.9	92.9	0.2311	0.2311	92.88	
A F1 PeCDFs	19.211						0.0132	0.0132		
A Non-2,3,7,8-sub-PeCDF	22.210						0.1926	0.1926		
S Total PeCDF					104.5	104.5	0.1926	0.1926		
1,2,3,7,8-PeCDD	23.613	44836064	1.54	0.9050	58.5	58.5	0.0941	0.0941	117	
D 13C-1,2,3,7,8-PeCDD	23.586	84694059	1.59	0.7481	90.2	90.2	0.1199	0.1199	90.23	
A Non-2,3,7,8-sub-PeCDD	22.549						0.0941	0.0941		
S Total PeCDD					58.5	58.5	0.0941	0.0941		
1,2,3,4,7,8-HxCDF	29.719	58893228	1.25	1.1973	51.4	51.4	0.3768	0.3768	103	
D 13C-1,2,3,4,7,8-HxCDF	29.693	95614699	0.52	1.1520	84.3	84.3	0.3427	0.3427	84.25	
1,2,3,6,7,8-HxCDF	29.986	63662843	1.25	1.1807	54.6	54.6	0.3515	0.3515	109	
D 13C-1,2,3,6,7,8-HxCDF	29.959	98724862	0.52	1.2434	80.6	80.6	0.3175	0.3175	80.60	
2,3,4,6,7,8-HxCDF	31.024	63178264	1.25	1.2116	55.4	55.4	0.2372	0.2372	111	
D 13C-2,3,4,6,7,8-HxCDF	30.997	94152092	0.53	1.1720	81.6	81.6	0.3369	0.3369	81.55	
1,2,3,7,8,9-HxCDF	31.916	56259990	1.23	1.2451	53.9	53.9	0.2319	0.2319	108	
D 13C-1,2,3,7,8,9-HxCDF	31.902	83805996	0.52	1.0655	79.8	79.8	0.3705	0.3705	79.85	
A Non-2,3,7,8-sub-HxCDF	29.487						0.2860	0.2860		
S Total HxCDF					215.4	215.4	0.2993	0.2993		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.716	98510531	1.26	6.9E+05	100.0	100.0				
1,2,3,4,7,8-HxCDD	31.237	40879903	1.26	1.1088	50.7	50.7	0.1408	0.1408	101	
D 13C-1,2,3,4,7,8-HxCDD	31.223	72760010	1.25	0.7812	94.5	94.5	0.3019	0.3019	94.55	
1,2,3,6,7,8-HxCDD	31.357	44635422	1.25	1.0814	54.8	54.8	0.1472	0.1472	110	
D 13C-1,2,3,6,7,8-HxCDD	31.343	75278619	1.24	0.9175	83.3	83.3	0.2571	0.2571	83.29	
1,2,3,7,8,9-HxCDD	31.729	45516682	1.23	1.2123	50.7	50.7	0.1300	0.1300	101	
A Non-2,3,7,8-sub-HxCDD	30.072						0.1390	0.1390		
S Total HxCDD					156.2	156.2	0.1394	0.1394		
1,2,3,4,6,7,8-HpCDF	33.442	57124591	1.04	1.5555	52.3	52.3	0.5319	0.5319	105	
D 13C-1,2,3,4,6,7,8-HpCDF	33.442	70274557	0.45	0.8628	82.7	82.7	1.007	1.007	82.68	
1,2,3,4,7,8,9-HpCDF	34.499	48916433	1.04	1.3862	49.7	49.7	0.6549	0.6549	99.50	
D 13C-1,2,3,4,7,8,9-HpCDF	34.487	70931103	0.43	0.7991	90.1	90.1	1.087	1.087	90.11	
A Non-2,3,7,8-sub-HpCDF	33.983						0.5886	0.5886		
S Total HpCDF					102.0	102.0	0.5934	0.5934		
1,2,3,4,6,7,8-HpCDD	34.220	39068517	1.03	0.9316	56.0	56.0	0.4410	0.4410	112	
D 13C-1,2,3,4,6,7,8-HpCDD	34.220	74864195	1.05	0.8739	87.0	87.0	0.6093	0.6093	86.96	
A Non-2,3,7,8-sub-HpCDD	34.074						0.4410	0.4410		
S Total HpCDD					56.0	56.0	0.4410	0.4410		
D 13C-OCDD	36.498	117287236	0.89	0.7744	153.8	153.8	0.1670	0.1670	76.88	
OCDF	36.594	79786770	0.90	1.2596	108.0	108.0	0.0918	0.0918	108	
OCDD	36.510	64301301	0.88	1.0621	103.2	103.2	0.1081	0.1081	103	

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20191031-85912.b\31OC1910D5_7.d
Lims ID: LCSD 320-334214/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 31-Oct-2019 18:09:56 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 320-334214/3-A RI LCSD 320-334214/3-A RI
Misc. Info.: 31OC1910D5
Operator ID: SMA Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20191031-85912.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 01-Nov-2019 15:04:35 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0312

First Level Reviewer: dadunj Date: 01-Nov-2019 15:06:16

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.321	17.321	0		54692890	14150489	12697	31742	1114		
333.9339	17.321	17.321	0		70774868	18298468	9359	23397	1955	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.837	16.837	0	0.972	60352412	15004619	19922	49805	753		
317.9389	16.837	16.837	0	0.972	77056745	18907060	19278	48195	981	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.852	16.837	1	1.001	6870758	1700051	2166	5415	785		
305.8987	16.852	16.837	1	1.001	8984693	2190265	2499	6247	876	0.76(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.550						2166	5415			
305.8987	16.550						2499	6247			
2,3,7,8-TCDD											
319.8965	17.532	17.517	1	1.002	5132094	1229865	1672	4180	736		
321.8936	17.532	17.517	1	1.002	6782386	1582908	1129	2822	1402	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.532	17.517	1	1.012	66837644	15453515	6371	15927	2426		
13C-2,3,7,8-TCDD											
331.9368	17.502	17.517	-1	1.010	45645776	10775714	12697	31742	849		
333.9339	17.502	17.517	-1	1.010	58970755	13851848	9359	23397	1480	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	16.981						1672	4180			
321.8936	16.981						1129	2822			
1,2,3,7,8-PeCDF											
339.8597	21.649	21.636	1	1.001	38773818	7024829	9726	24315	722		
341.8567	21.649	21.636	1	1.001	24741650	4458205	6909	17272	645	1.57(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	21.622	21.649	-2	1.248	65950925	12098759	17583	43957	688		
353.8970	21.622	21.649	-2	1.248	43083698	7895276	11893	29732	664	1.53(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.931	22.917	1	1.001	39004943	6671802	9726	24315	686		
341.8567	22.917	22.917	0	1.001	24955875	4232033	6909	17272	613	1.56(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	22.904	22.931	-2	1.322	69424446	11852543	17583	43957	674		
353.8970	22.904	22.931	-2	1.322	45087589	7681979	11893	29732	646	1.54(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.211						399	997			
341.8567	19.211						745	1862			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.210						9726	24315			
341.8567	22.210						6909	17272			
1,2,3,7,8-PeCDD											
355.8546	23.613	23.599	1	1.001	27171590	4336273	2986	7465	1452		
357.8516	23.613	23.599	1	1.001	17664474	2836745	1746	4365	1625	1.54(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.586	23.613	-2	1.362	51989031	8541416	6715	16787	1272		
369.8919	23.586	23.613	-2	1.362	32705028	5351150	4926	12315	1086	1.59(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.549						2986	7465			
357.8516	22.549						1746	4365			
1,2,3,4,7,8-HxCDF											
373.8208	29.719	29.719	0	1.001	32728263	4296125	12353	30882	348		
375.8178	29.719	29.719	0	1.001	26164965	3452855	10156	25390	340	1.25(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.693	29.720	-2	0.936	32624204	4245058	12592	31480	337		
385.8610	29.693	29.720	-2	0.936	62990495	8227528	22935	57337	359	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	29.986	29.972	1	1.001	35383854	4956799	12353	30882	401		
375.8178	29.986	29.972	1	1.001	28278989	3956120	10156	25390	390	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.959	29.986	-2	0.945	33706342	4674558	12592	31480	371		
385.8610	29.959	29.986	-2	0.945	65018520	8883759	22935	57337	387	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.024	31.010	1	1.001	35036603	7118517	12353	30882	576		
375.8178	31.010	31.010	0	1.000	28141661	5863160	10156	25390	577	1.25(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	30.997	31.011	-1	0.977	32492289	6782366	12592	31480	539		
385.8610	30.997	31.011	-1	0.977	61659803	12800077	22935	57337	558	0.53(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.916	31.916	0	1.000	30990063	6898412	12353	30882	558		
375.8178	31.916	31.916	0	1.000	25269927	5752706	10156	25390	566	1.23(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.902	31.929	-2	1.006	28767618	6800818	12592	31480	540		
385.8610	31.902	31.929	-2	1.006	55038378	12691414	22935	57337	553	0.52(0.43-0.59)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.487						12353	30882			
375.8178	29.487						10156	25390			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.716	31.703	1		54828503	12508795	11609	29022	1078		
403.8529	31.716	31.703	1		43682028	9989315	9616	24040	1039	1.26(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.237	31.237	0	1.000	22759668	5264609	5605	14012	939		
391.8127	31.237	31.237	0	1.000	18120235	4254466	4891	12227	870	1.26(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.223	31.237	-1	0.984	40414239	9362150	11609	29022	806		
403.8529	31.223	31.237	-1	0.984	32345771	7447161	9616	24040	774	1.25(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.357	31.357	0	1.000	24824638	5243930	5605	14012	936		
391.8127	31.357	31.357	0	1.000	19810784	4326752	4891	12227	885	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.343	31.357	-1	0.988	41736964	9097863	11609	29022	784		
403.8529	31.343	31.357	-1	0.988	33541655	7382947	9616	24040	768	1.24(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.729	31.716	1	1.016	25138026	5791309	5605	14012	1033		
391.8127	31.729	31.716	1	1.016	20378656	4603193	4891	12227	941	1.23(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.072						5605	14012			
391.8127	30.072						4891	12227			
1,2,3,4,6,7,8-HpCDF											
407.7818	33.442	33.442	0	1.000	29132881	8537120	33856	84640	252		
409.7789	33.442	33.442	0	1.000	27991710	8306142	34950	87375	238	1.04(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.442	33.454	-1	1.054	21738316	6495475	25893	64732	251		
419.8220	33.442	33.454	-1	1.054	48536241	14294042	52279	130697	273	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.499	34.499	0	1.000	24974077	6703926	33856	84640	198		
409.7789	34.499	34.499	0	1.000	23942356	6424829	34950	87375	184	1.04(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.487	34.512	-1	1.087	21469291	5710452	25893	64732	221		
419.8220	34.487	34.512	-1	1.087	49461812	13236239	52279	130697	253	0.43(0.37-0.51)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.983						33856	84640			
409.7789	33.983						34950	87375			
1,2,3,4,6,7,8-HpCDD											
423.7766	34.220	34.220	0	1.000	19866980	5353660	14968	37420	358		
425.7737	34.220	34.220	0	1.000	19201537	5277283	17769	44422	297	1.03(0.88-1.20)	

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Data File: \\chromna\Sacramento\ChromData\10D5\20191031-85912.b\31OC1910D5_7.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.220	34.232	-1	1.079	38374776	10236519	20360	50900	503		
437.8140	34.208	34.232	-1	1.079	36489419	9682891	27556	68890	351	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.074						14968	37420			
425.7737	34.074						17769	44422			
13C-OCDD											
469.7779	36.498	36.522	-1	1.151	55161328	12159526	6838	17095	1778		
471.7750	36.498	36.522	-1	1.151	62125908	13852144	4800	12000	2886	0.89(0.76-1.02)	
OCDF											
441.7428	36.594	36.594	0	1.003	37711492	8845778	2741	6852	3227		
443.7399	36.594	36.594	0	1.003	42075278	9717710	3277	8192	2965	0.90(0.76-1.02)	
OCDD											
457.7377	36.510	36.510	0	1.000	30151262	6691326	3433	8582	1949		
459.7348	36.510	36.510	0	1.000	34150039	7649222	2542	6355	3009	0.88(0.76-1.02)	

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Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20191031-85912.b\31OC1910D5_7.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	335194	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

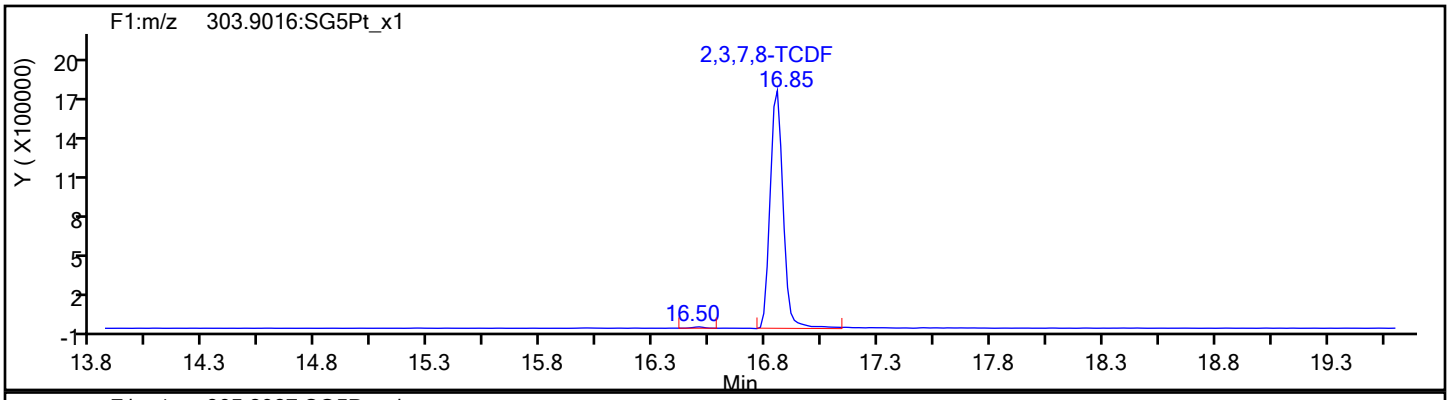

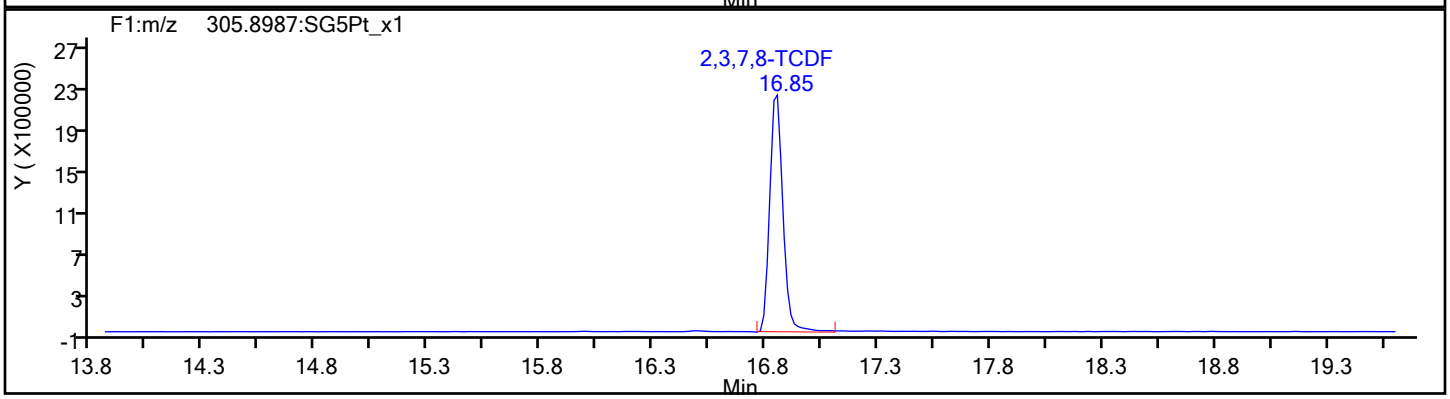

TCDF Standards

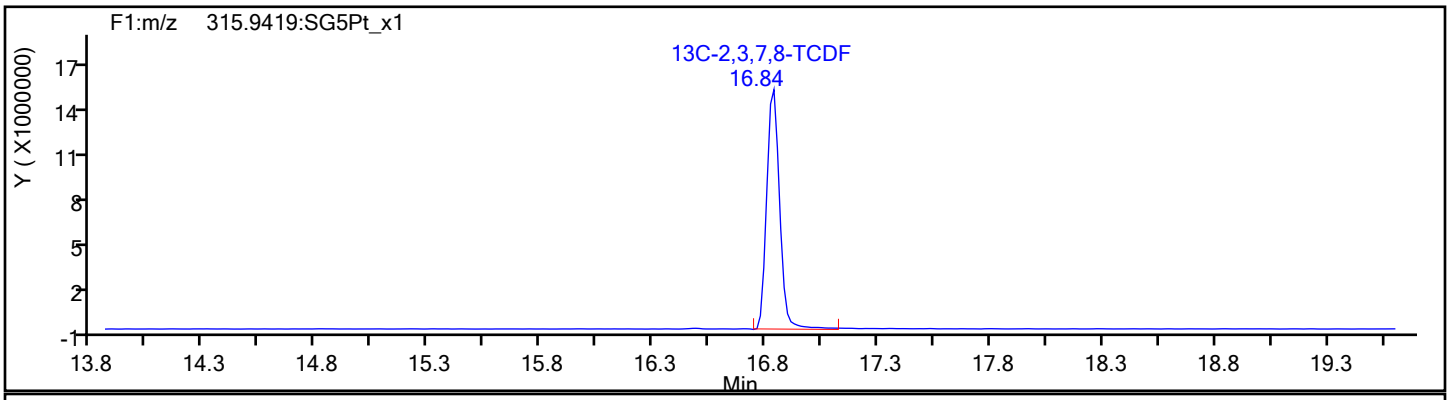

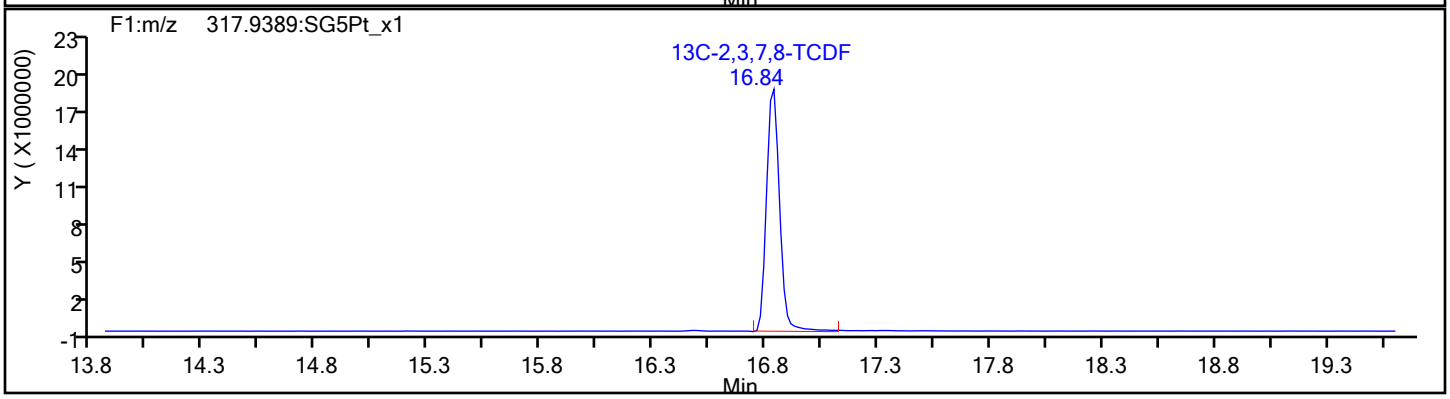

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Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

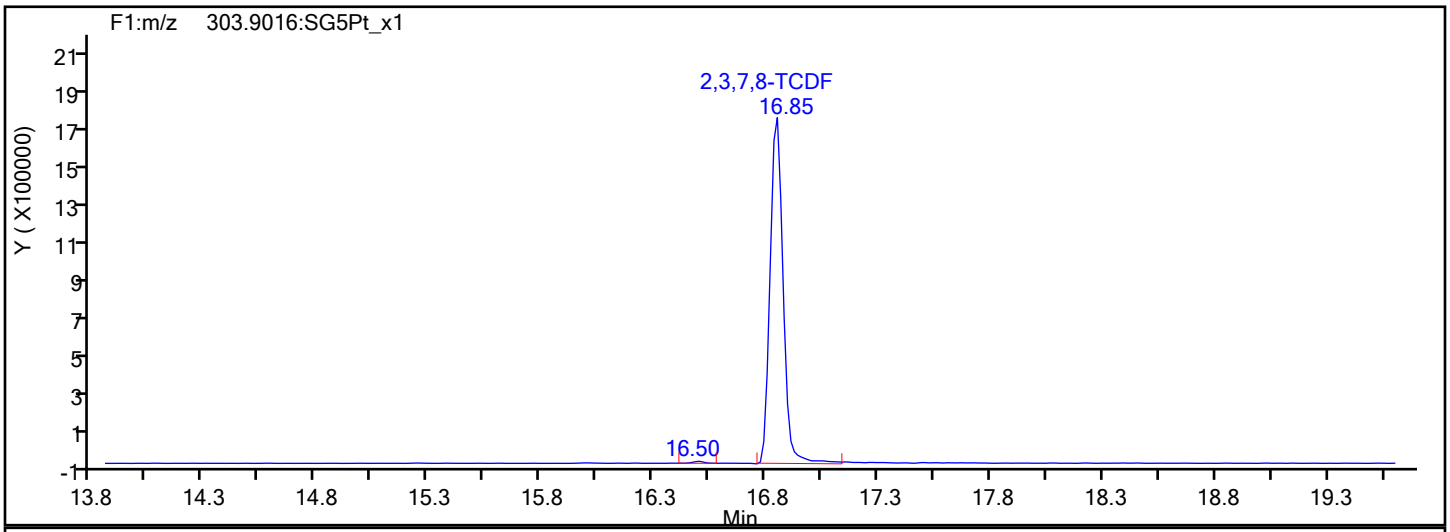

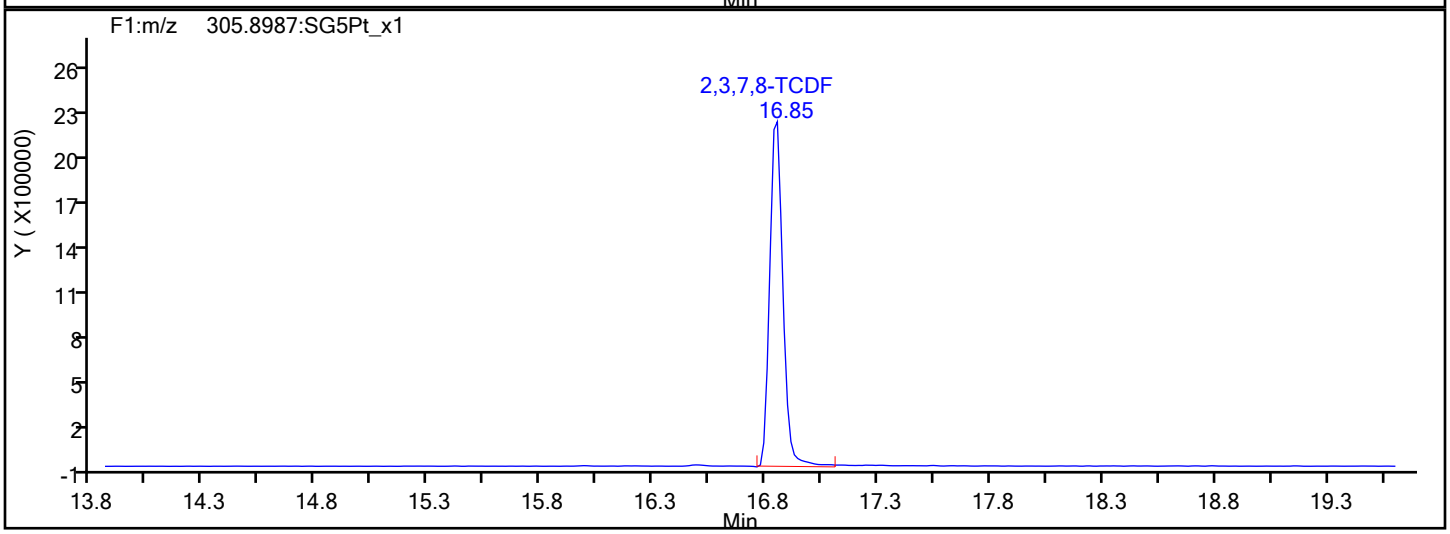

TCDF Interference Mass

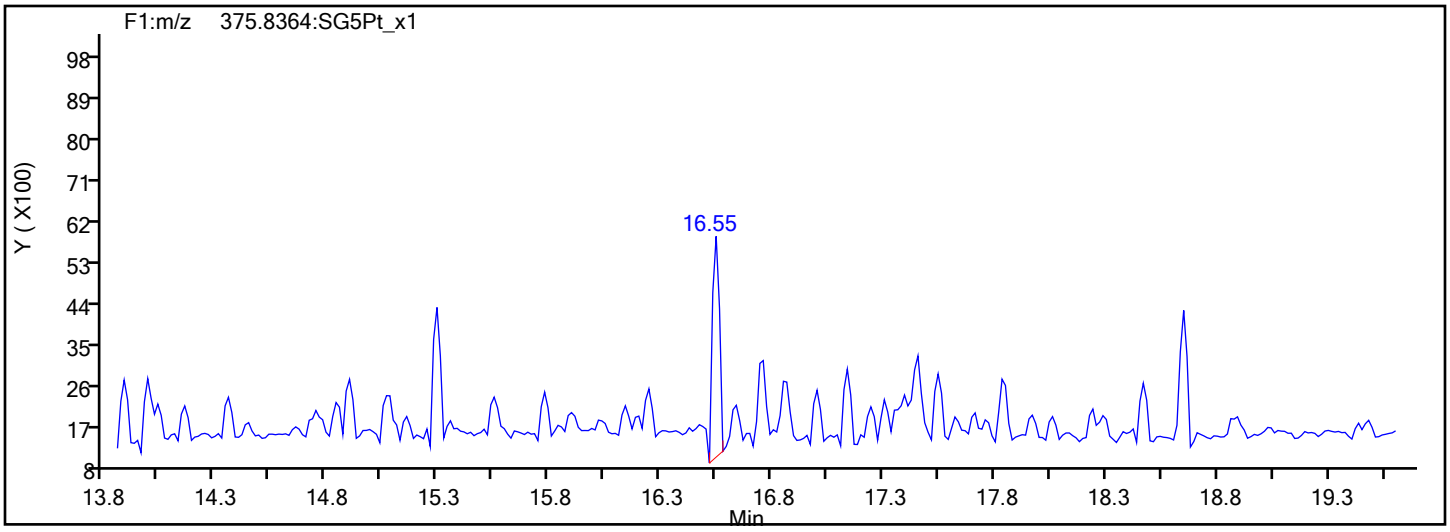

Report Date: 01-Nov-2019 15:06:16 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

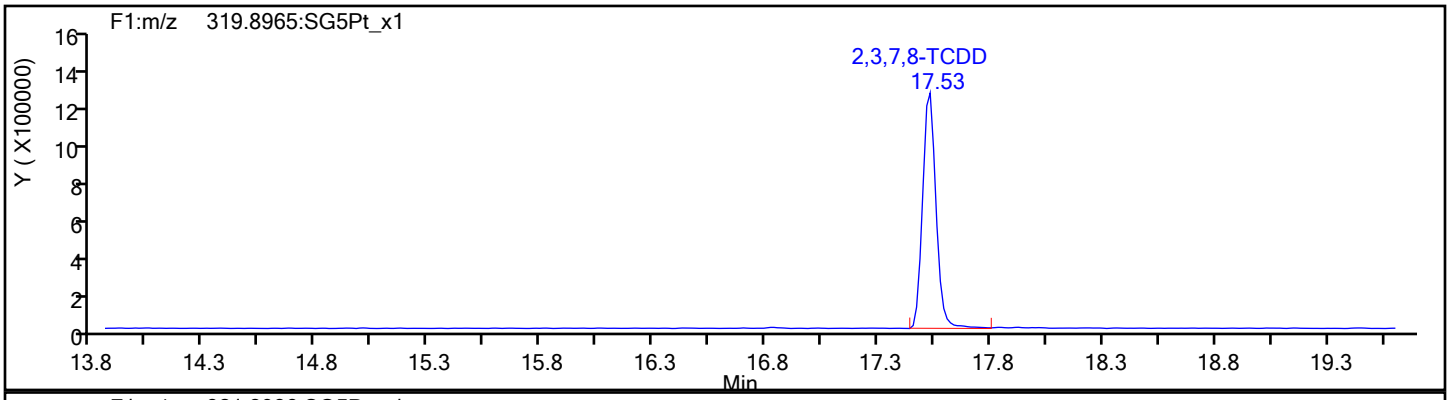

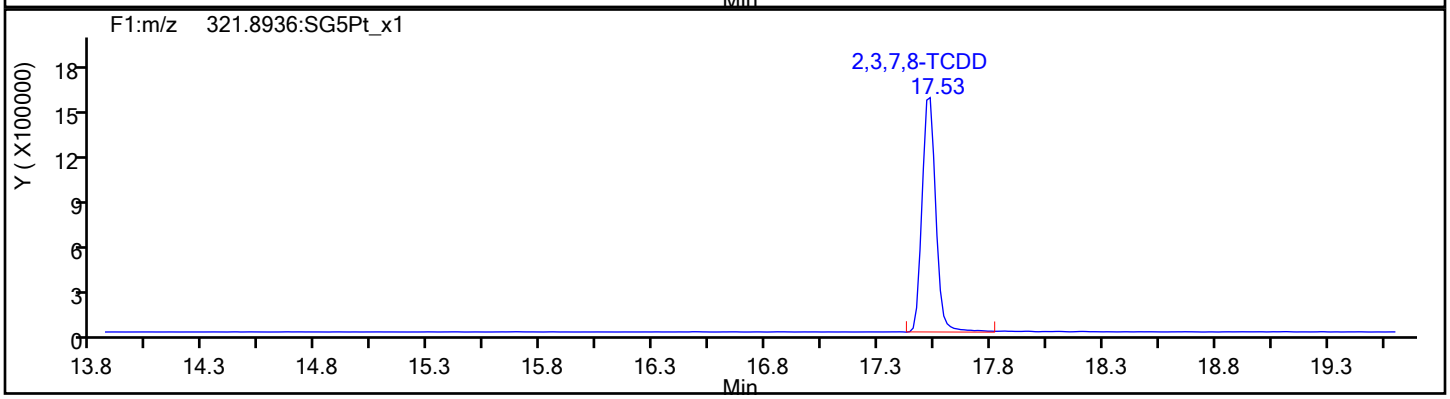

TCDD Standards

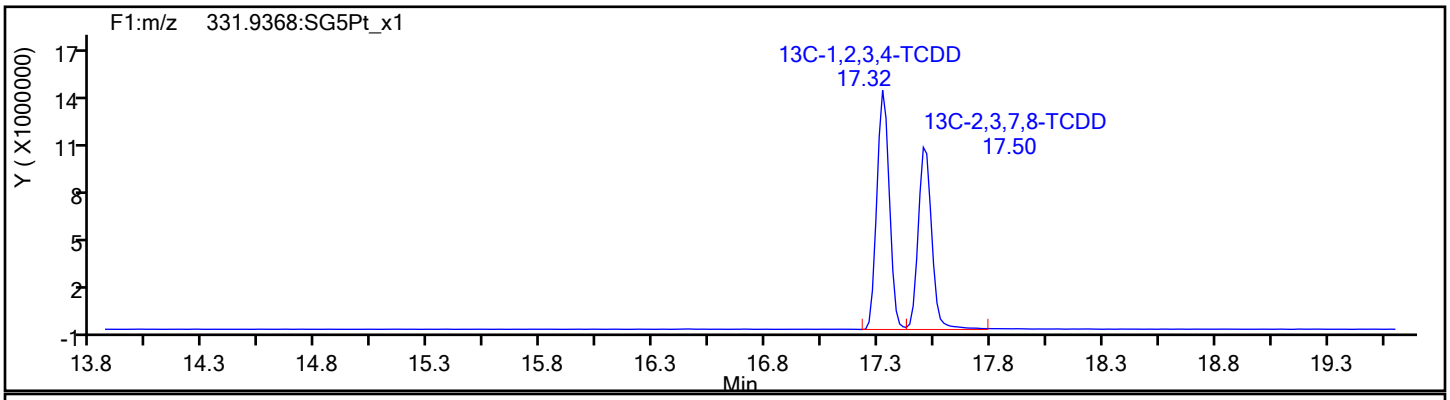

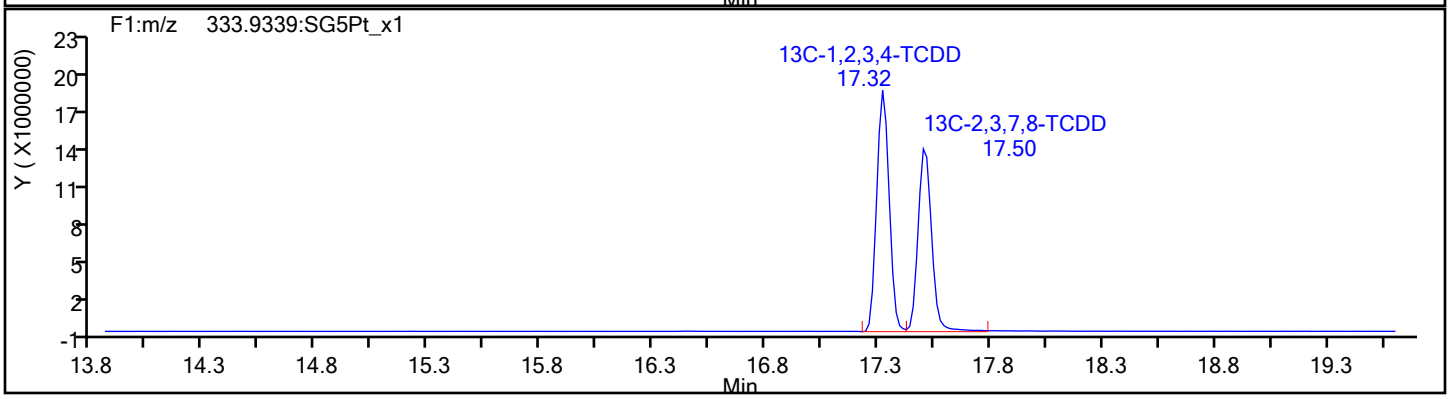

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Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

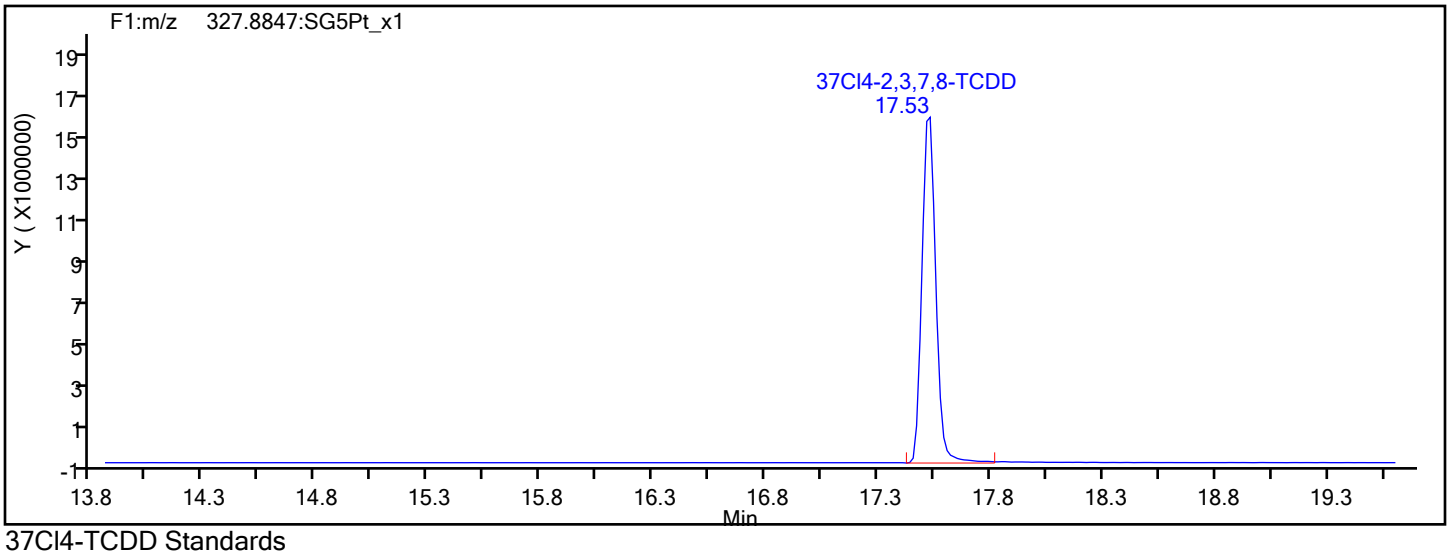

37Cl4-TCDD Standards

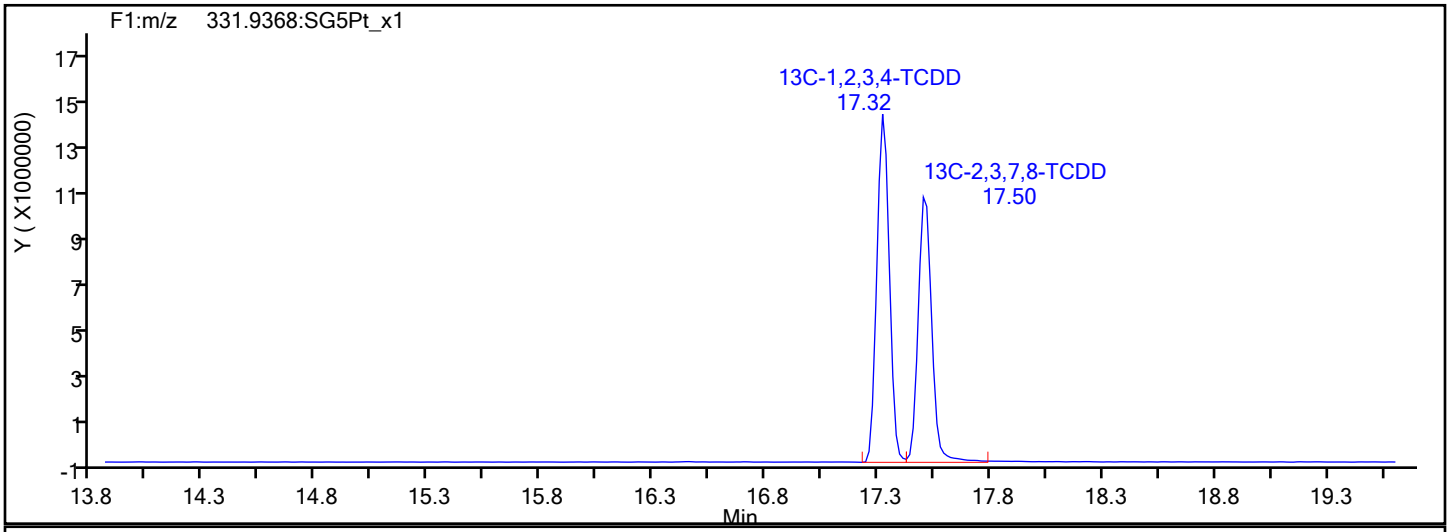

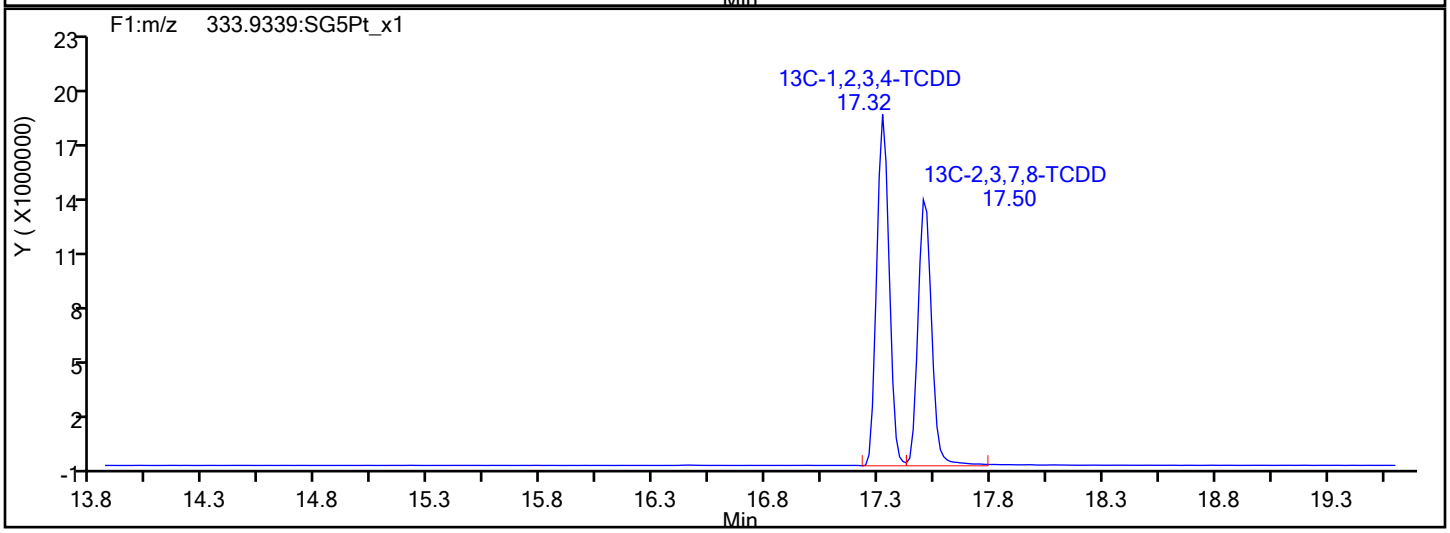

Report Date: 01-Nov-2019 15:06:16 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

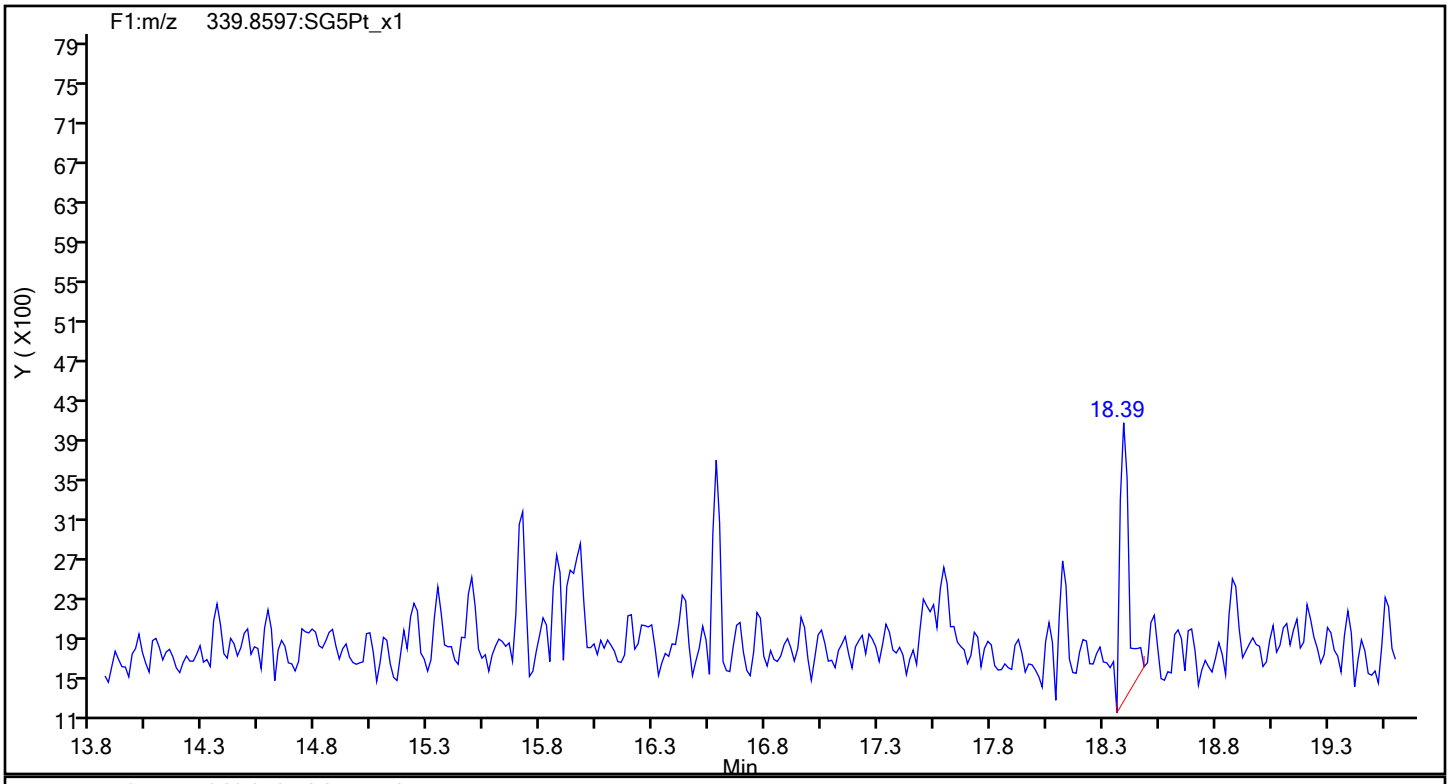

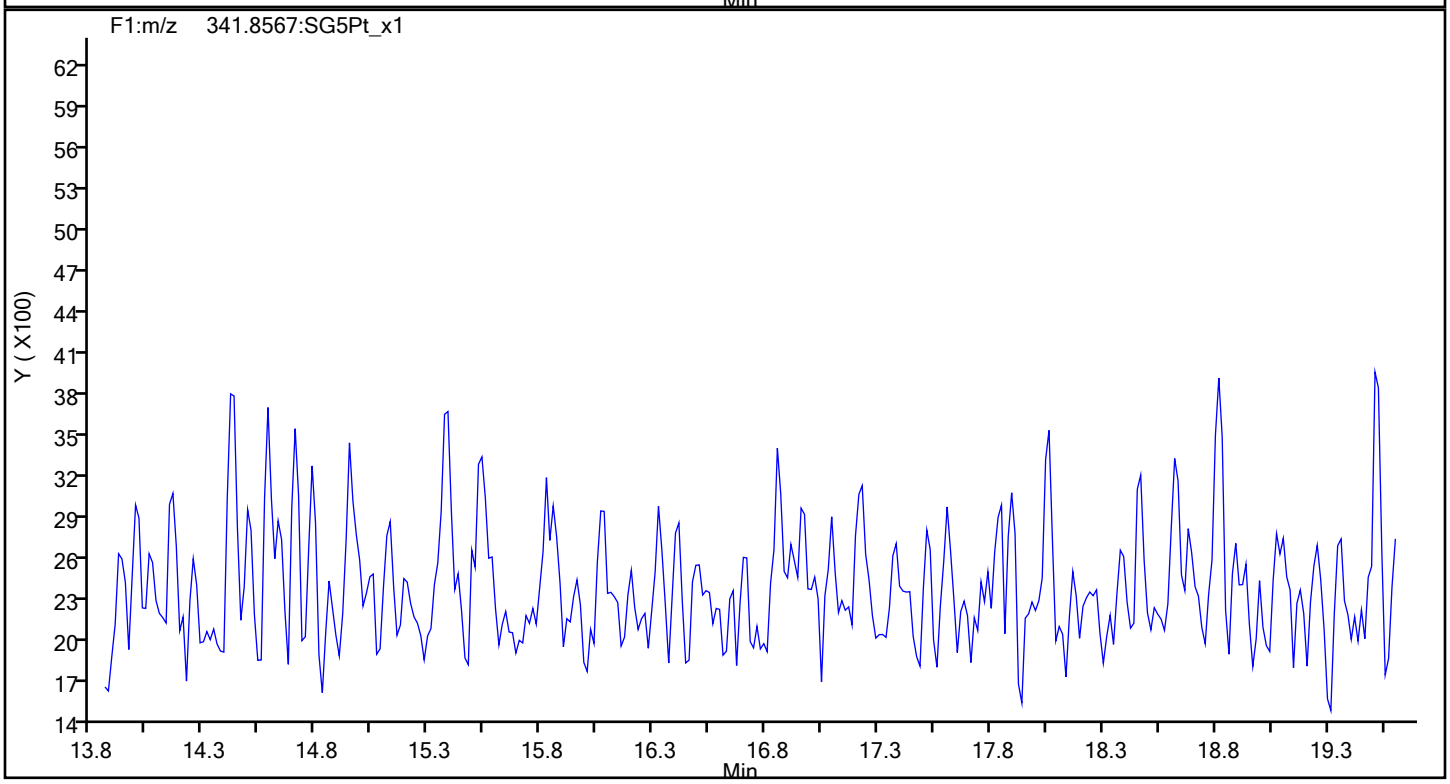

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

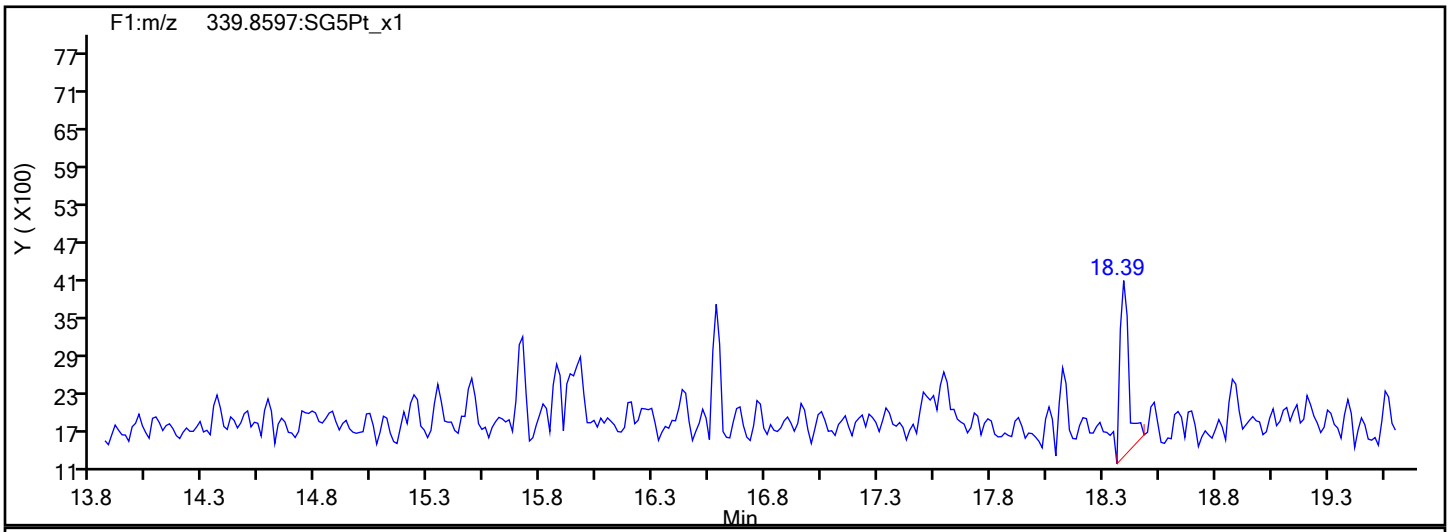

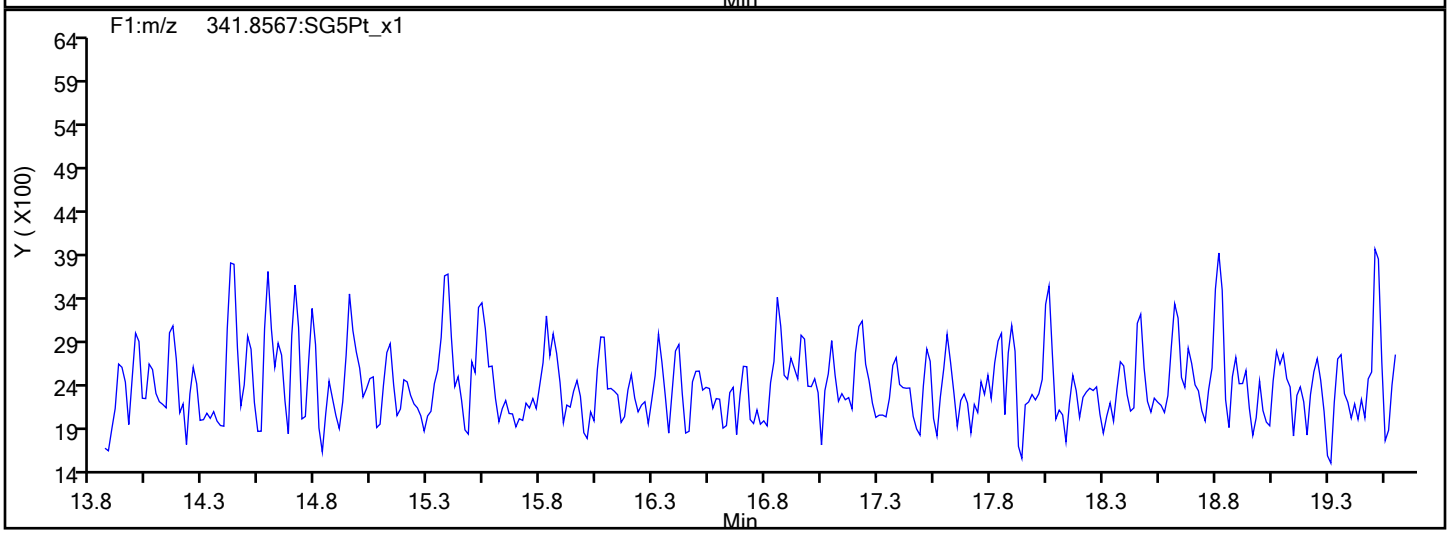

F1 PeCDFs Interference Mass

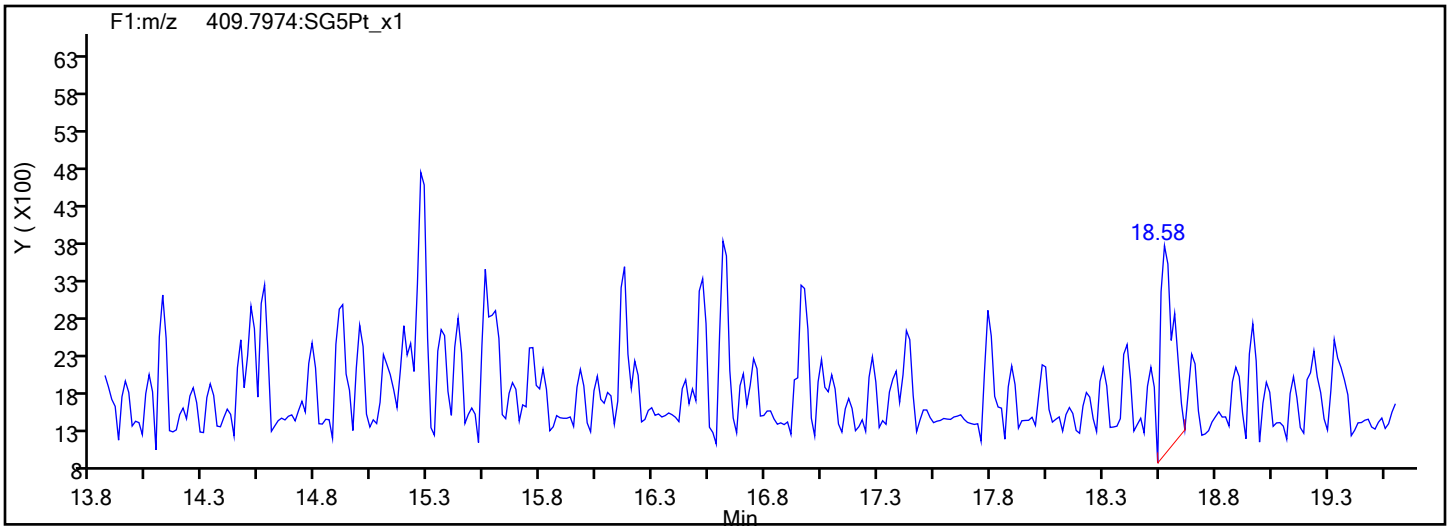

Report Date: 01-Nov-2019 15:06:16 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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PeCDF

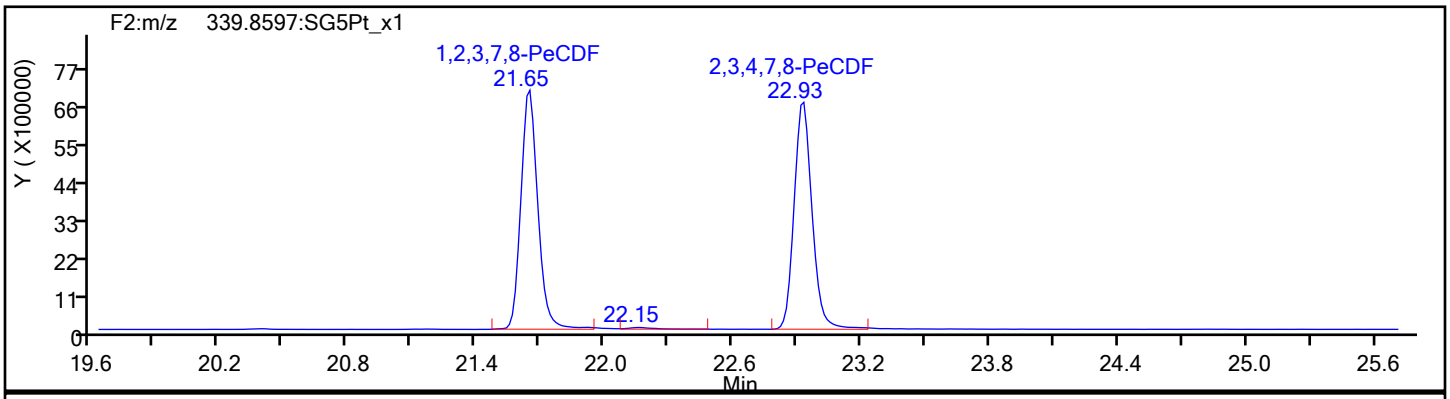

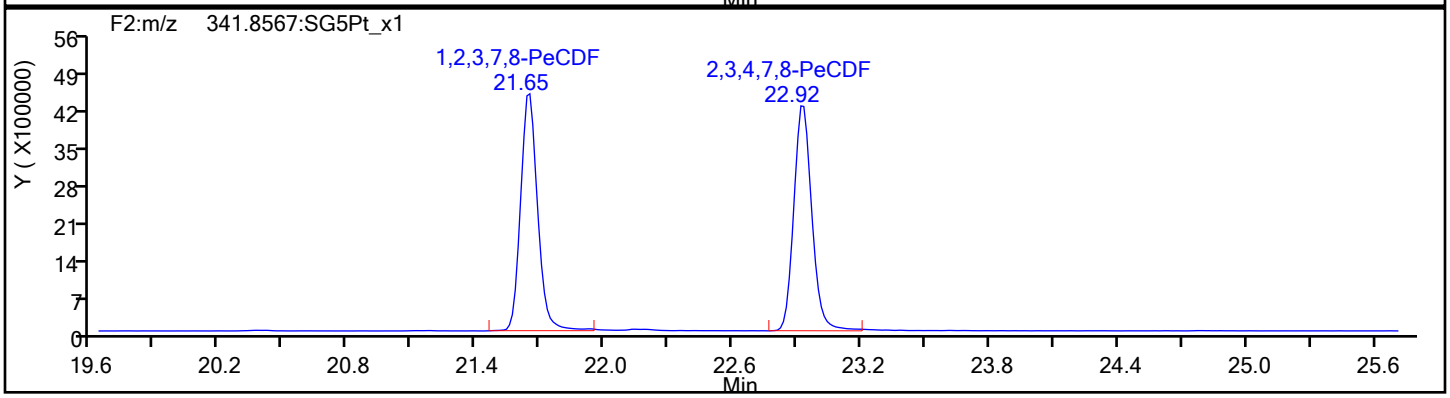

PeCDF Standards

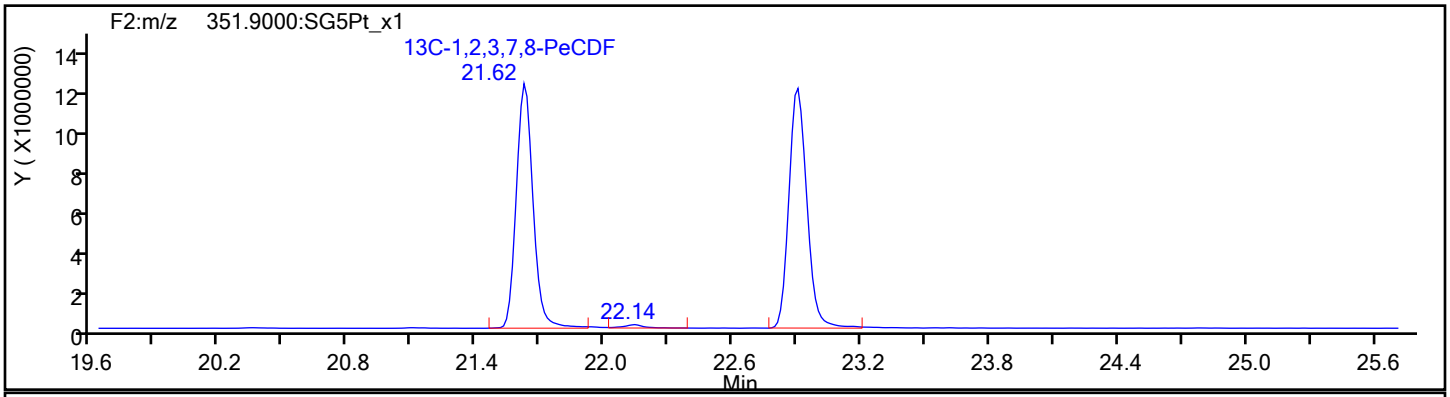

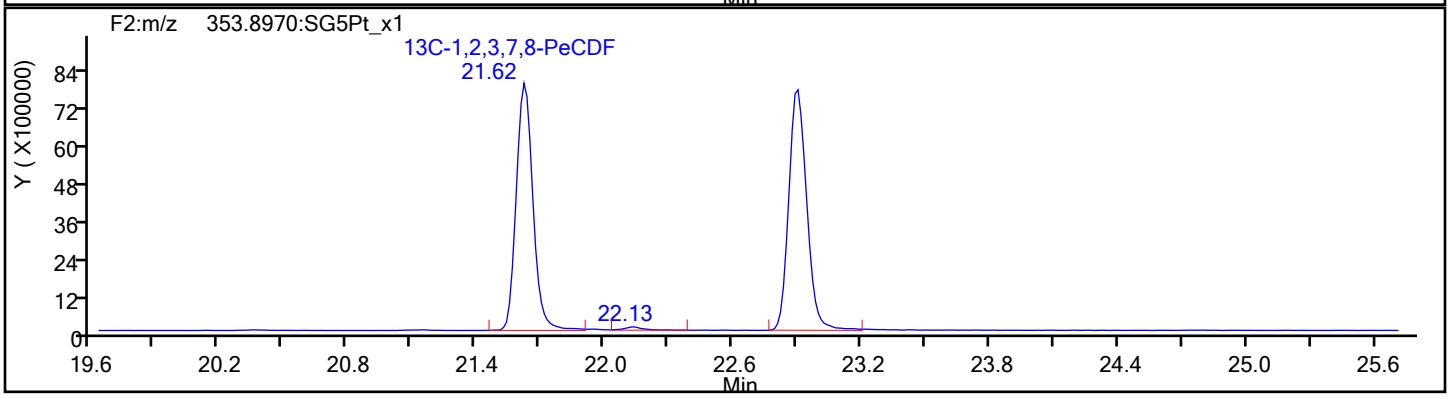

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Eurofins TestAmerica, Sacramento

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PeCDF

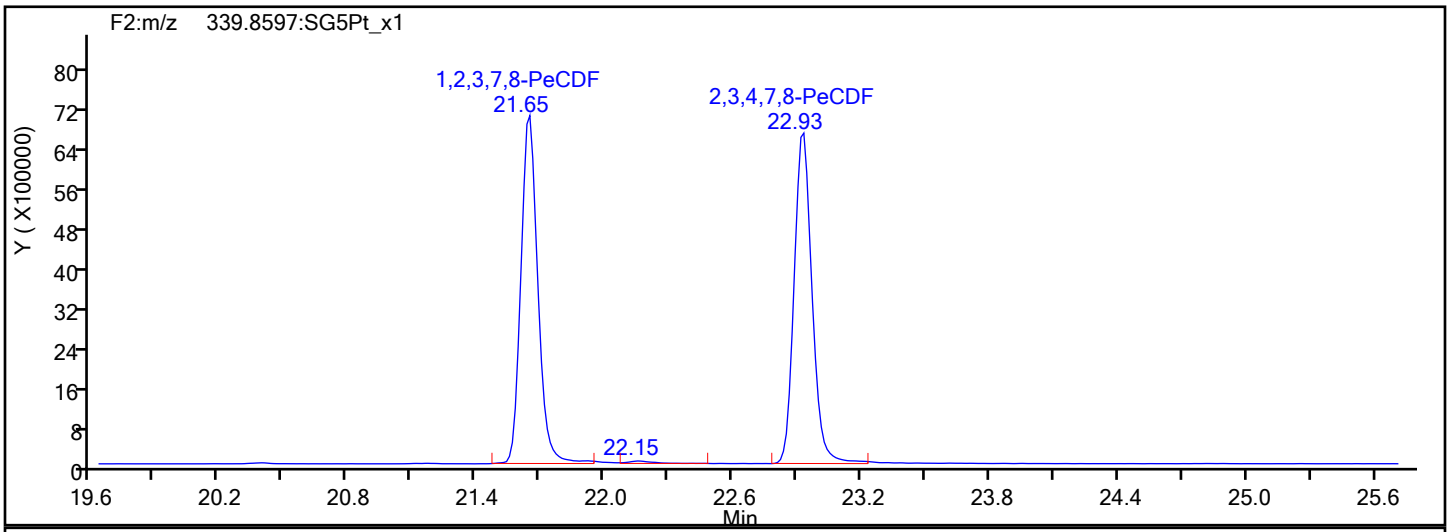

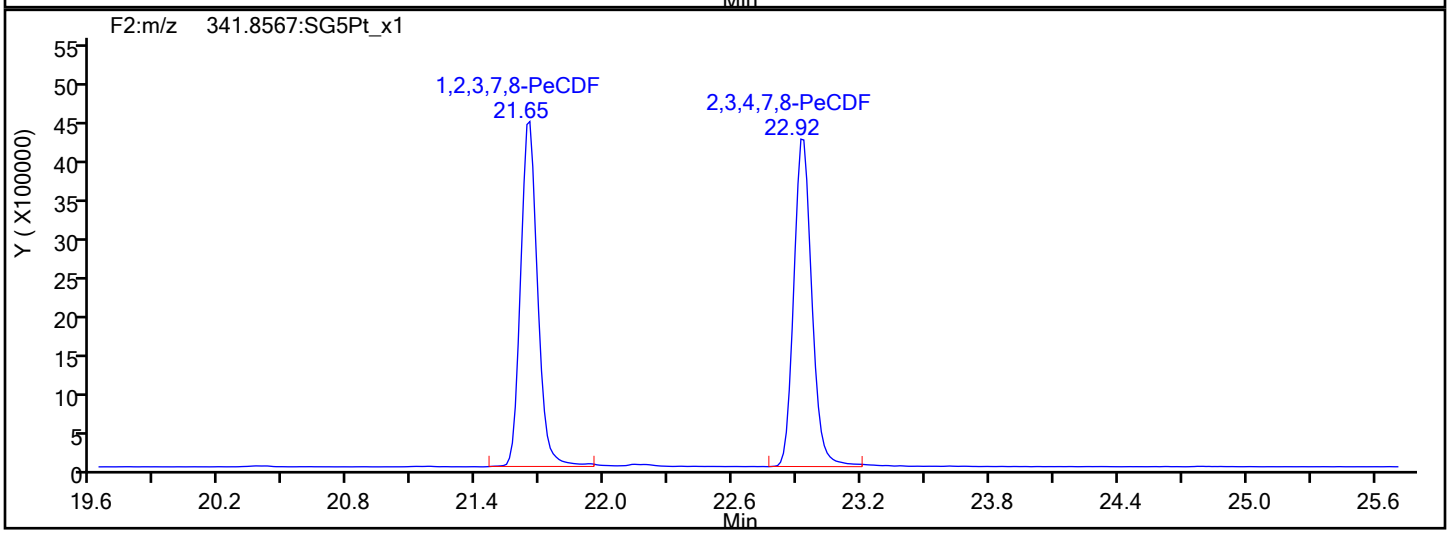

PeCDF Interference Mass

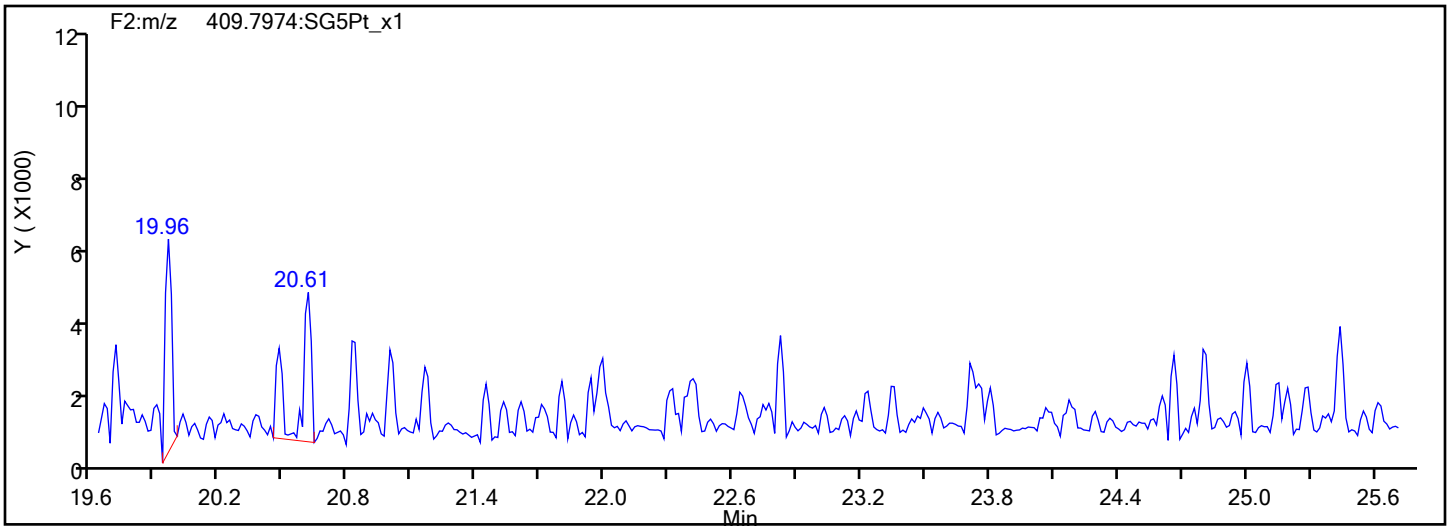

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

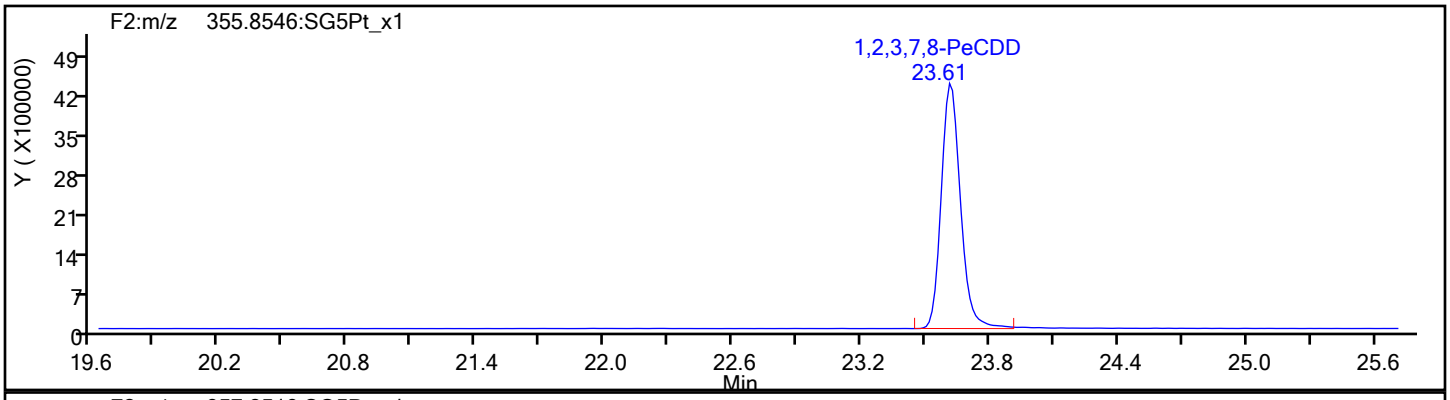

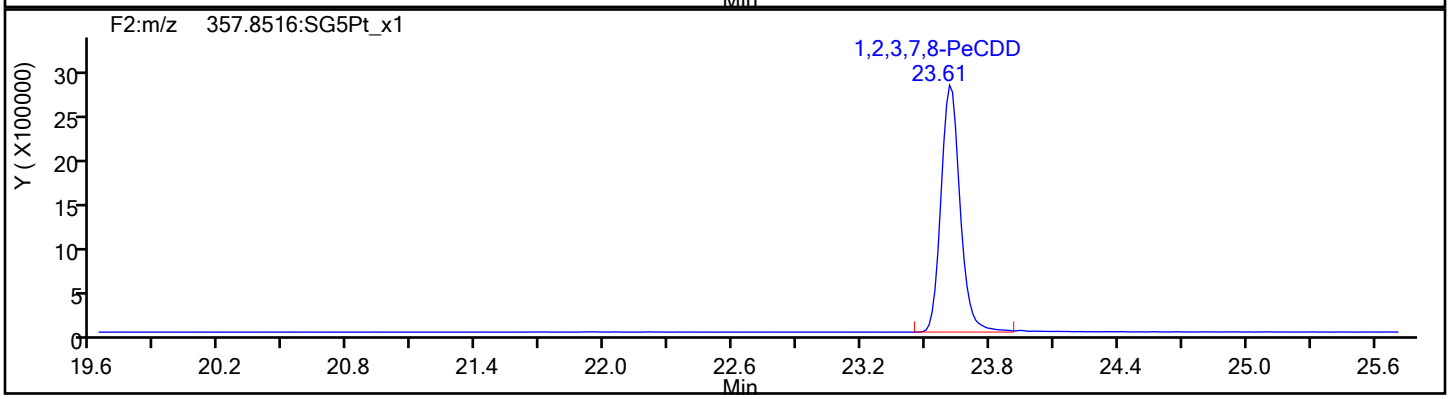

PeCDD Standards

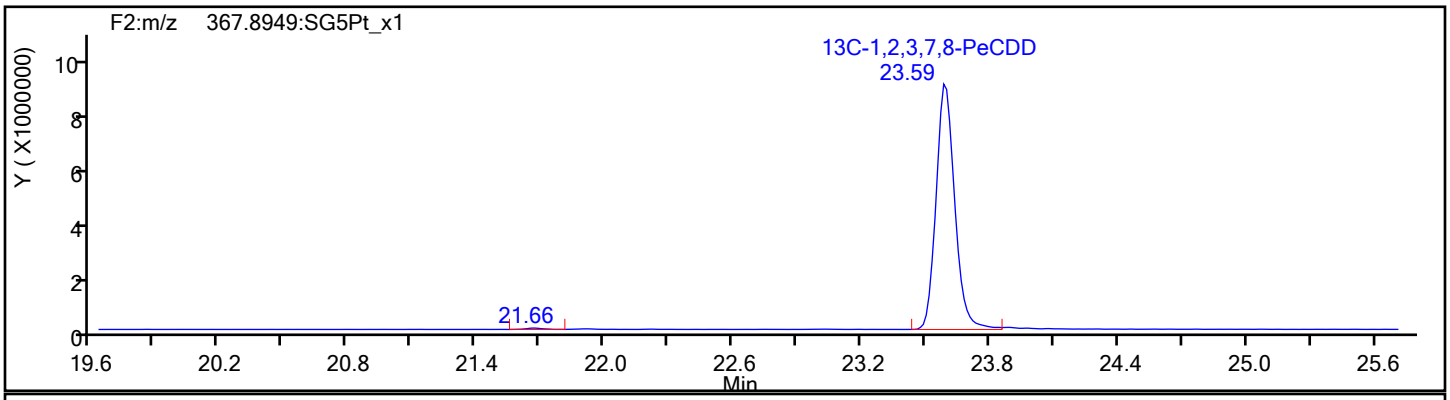

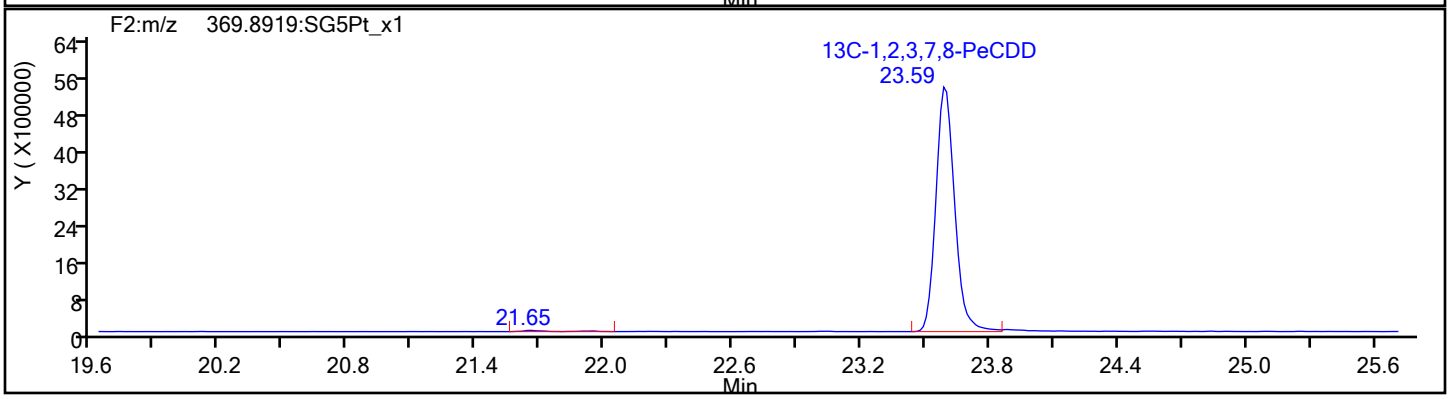

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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HxCDF

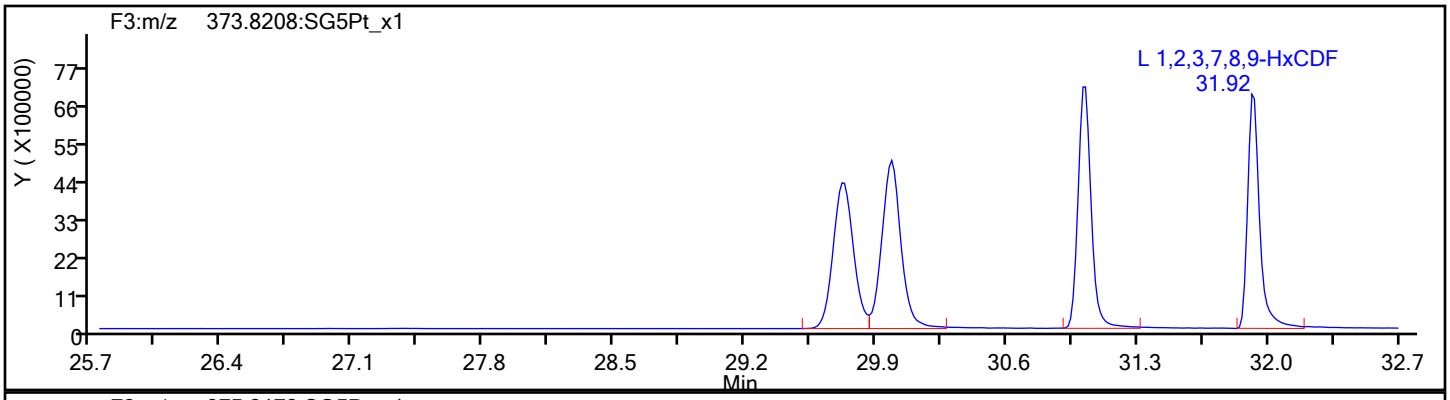

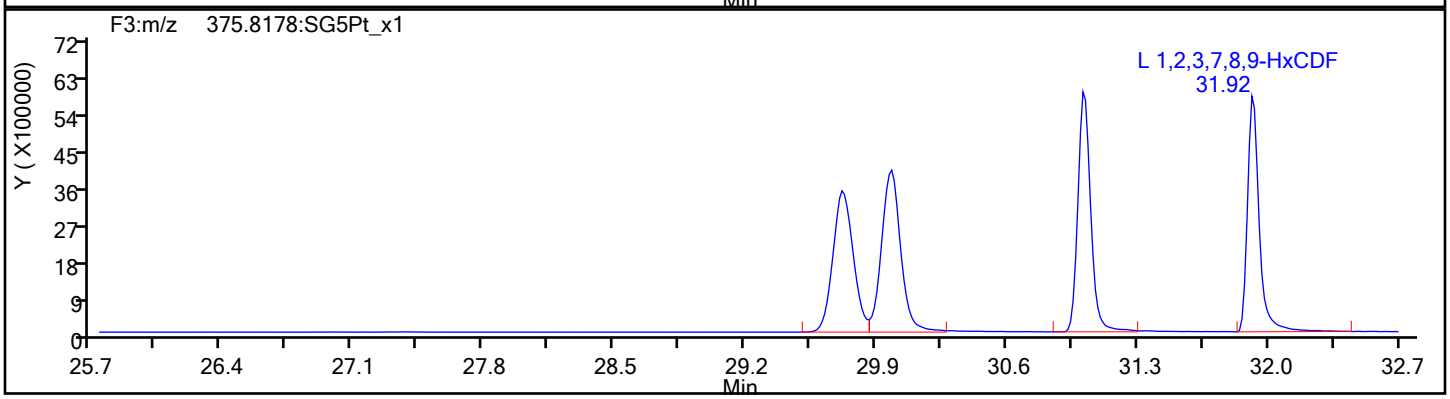

HxCDF Standards

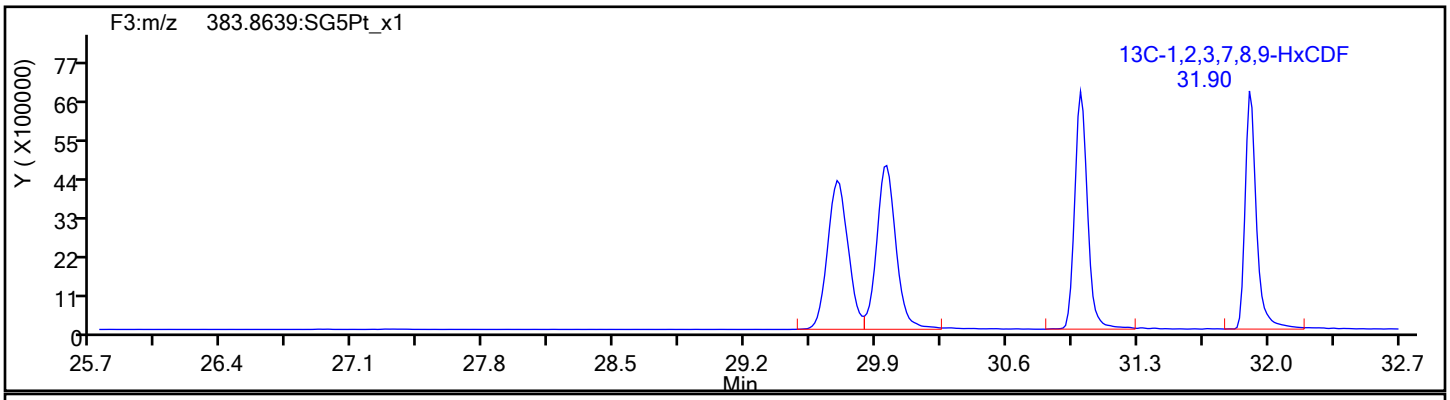

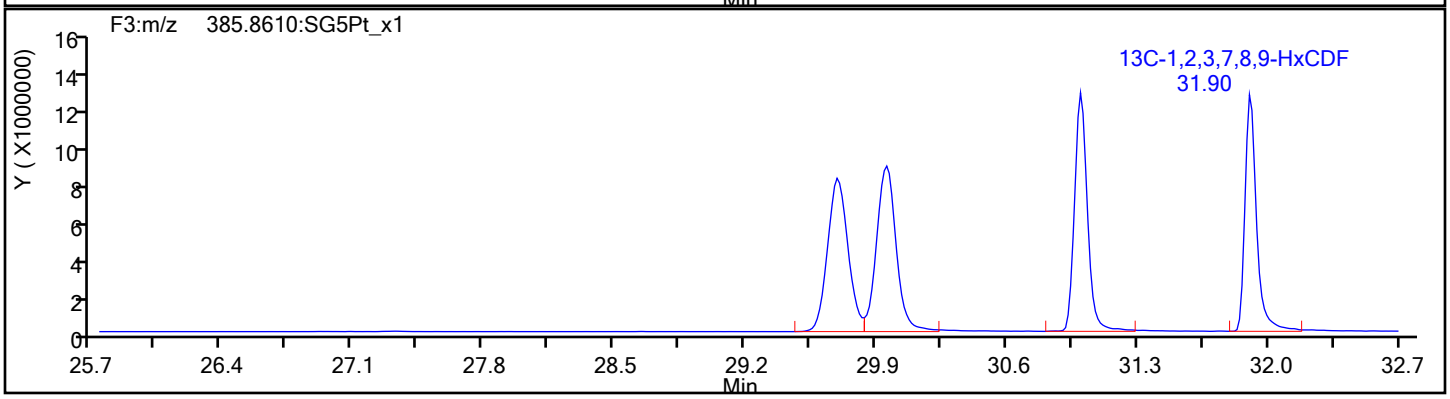

Report Date: 01-Nov-2019 15:06:16 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

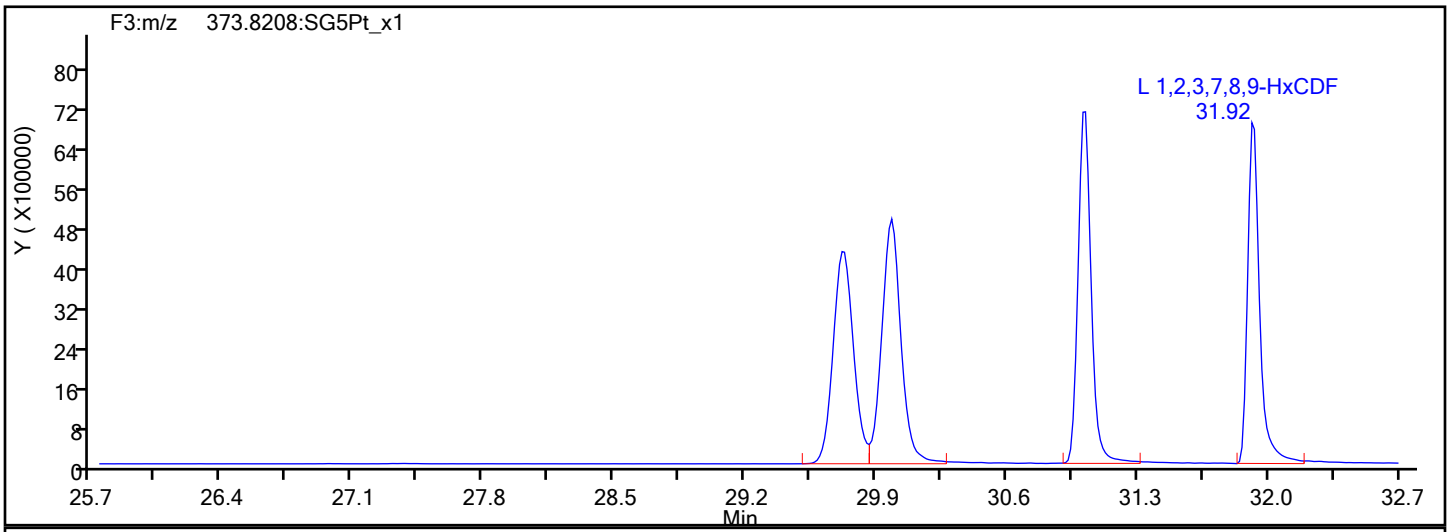

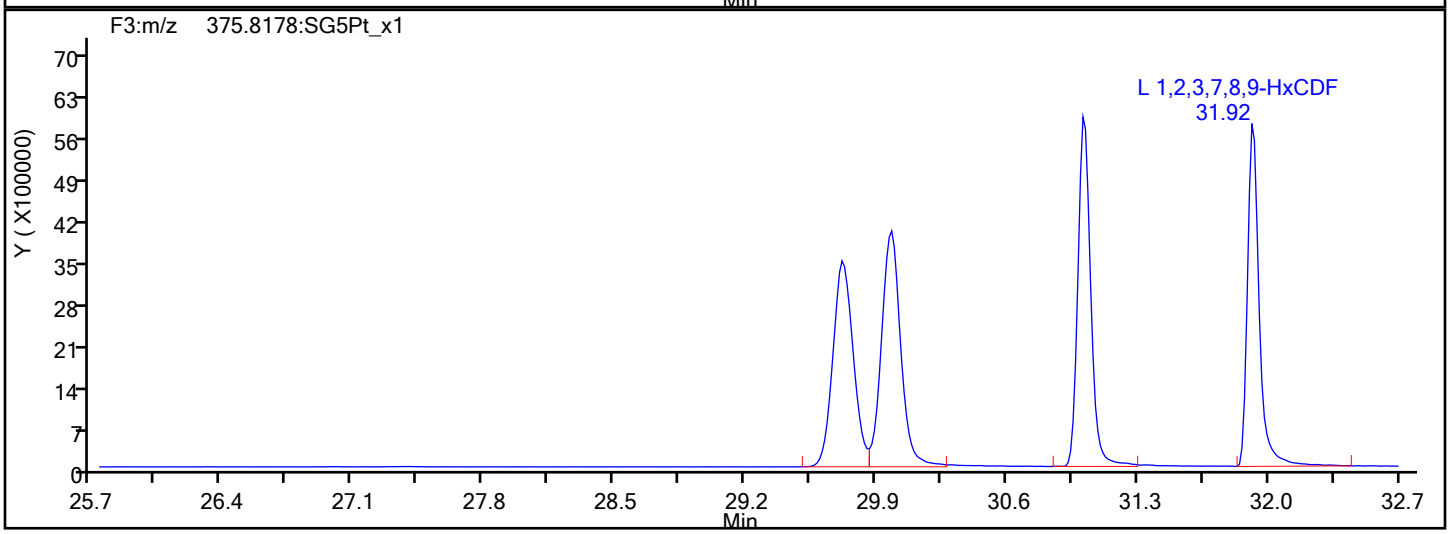

HxCDF Interference Mass

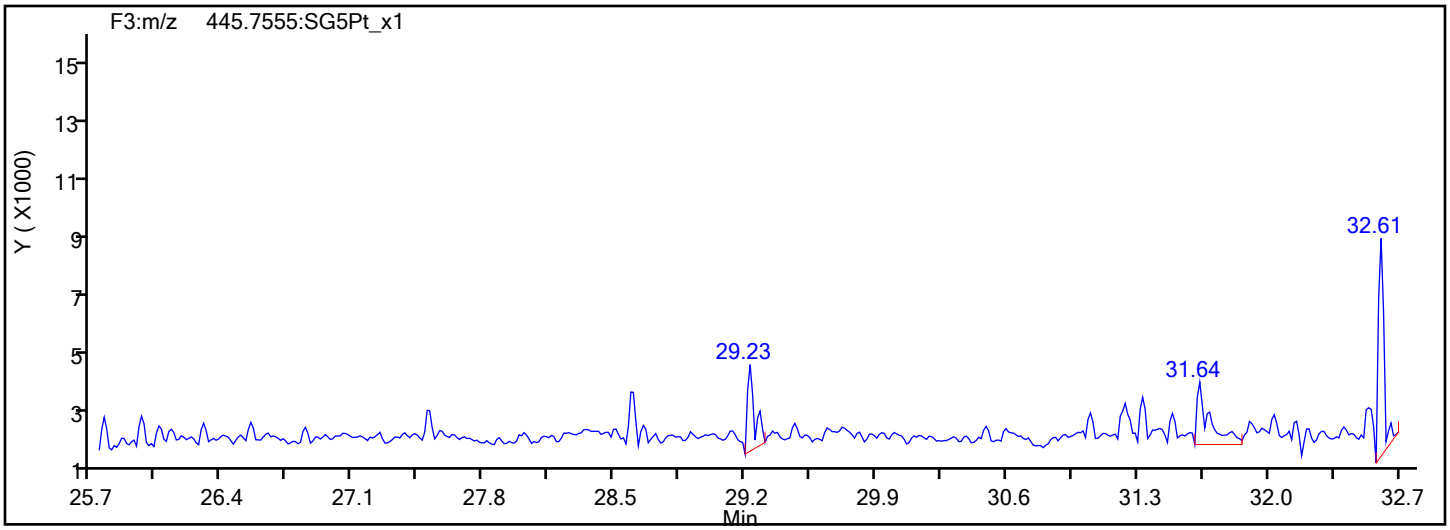

Report Date: 01-Nov-2019 15:06:16 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

HxCDD

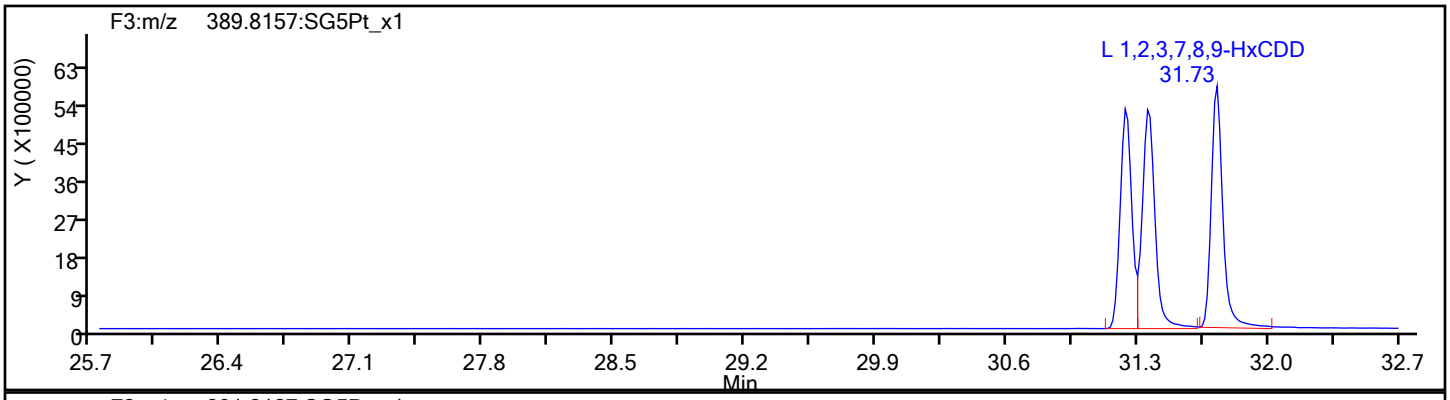

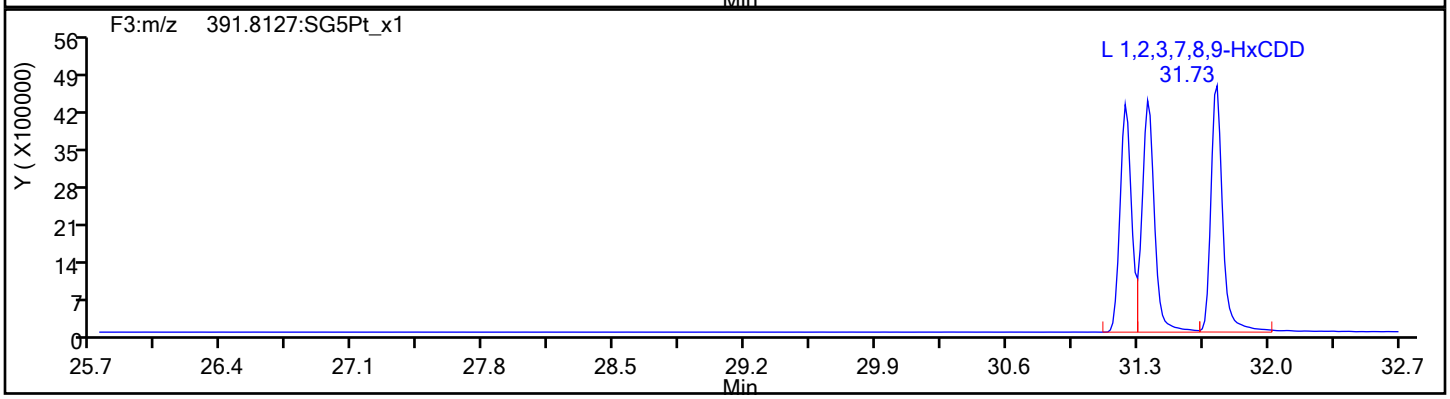

HxCDD Standards

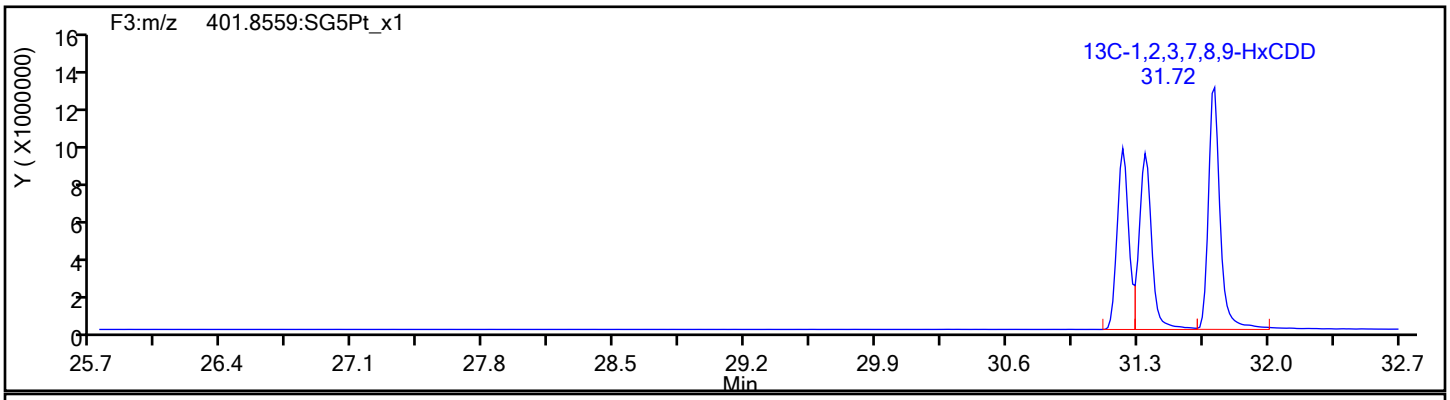

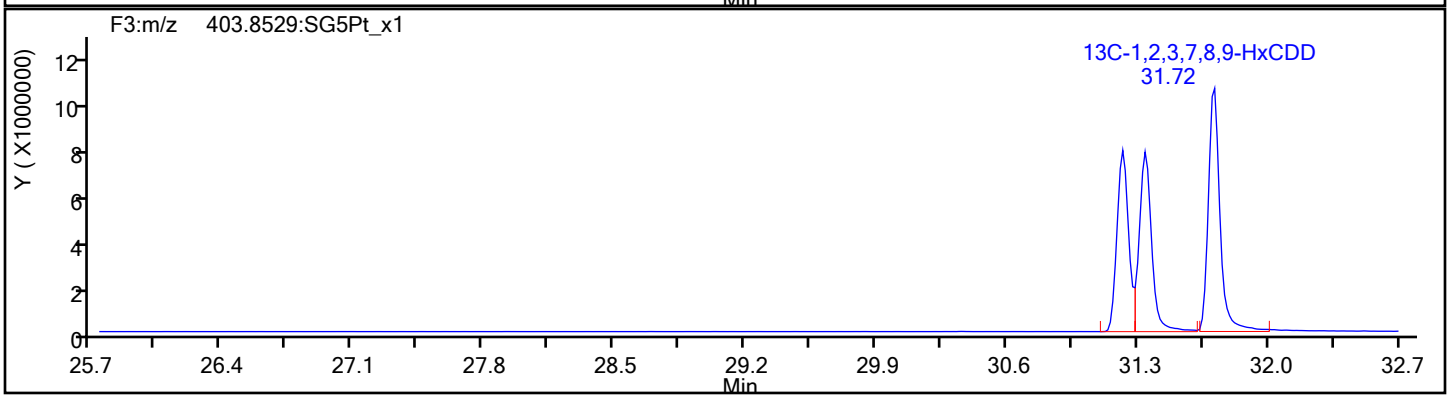

Report Date: 01-Nov-2019 15:06:16 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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HpCDF

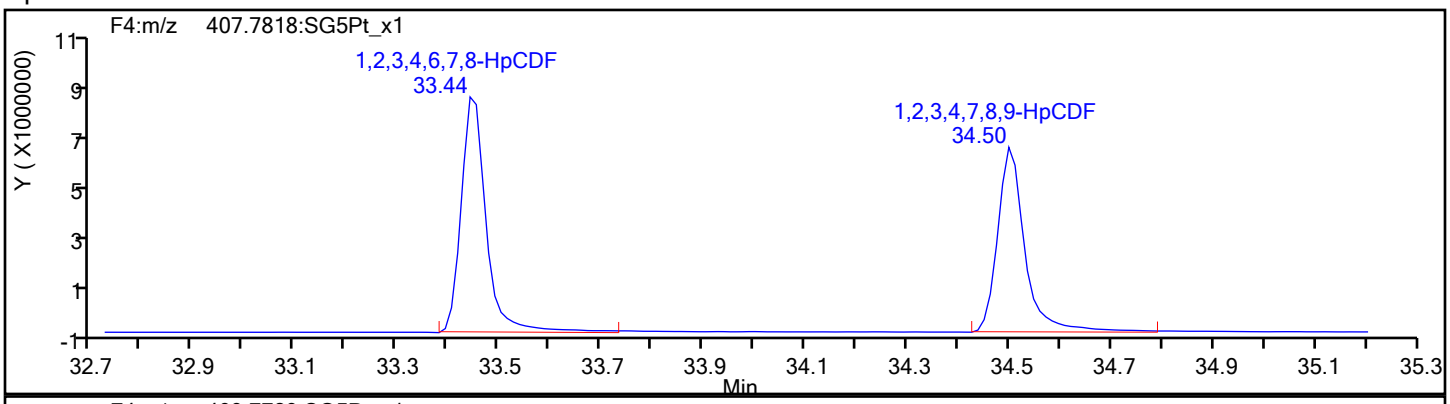

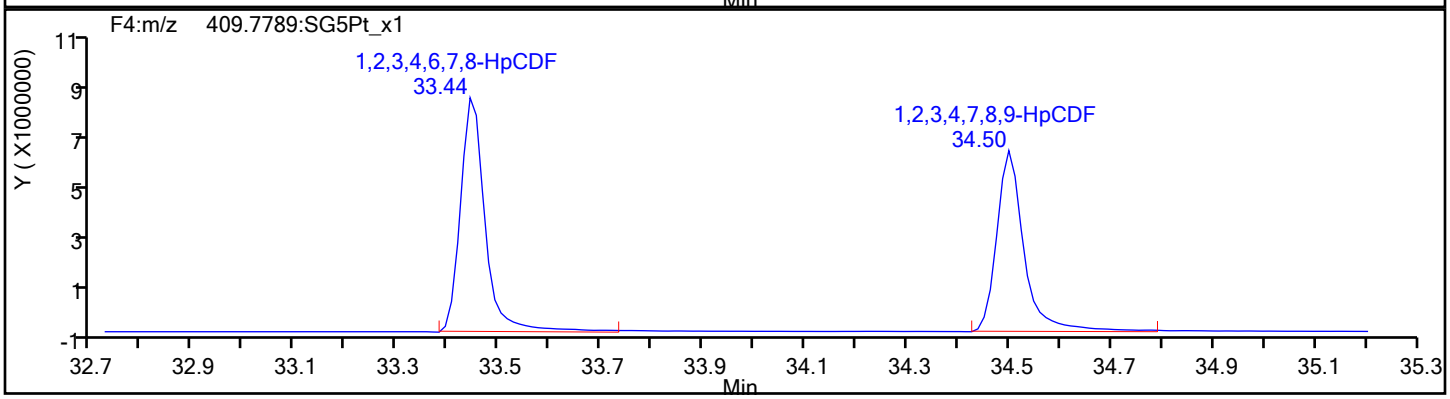

HpCDF Standards

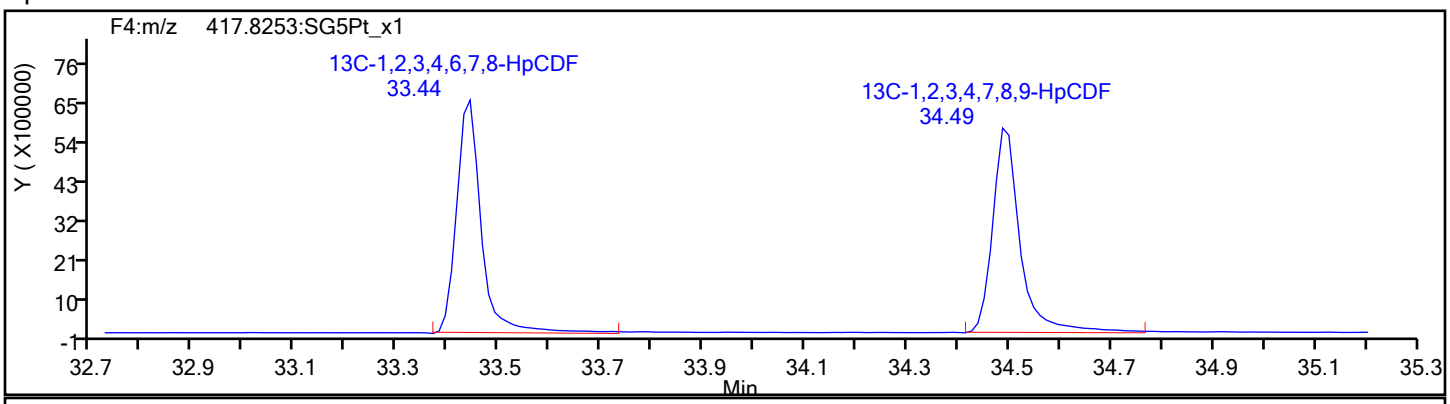

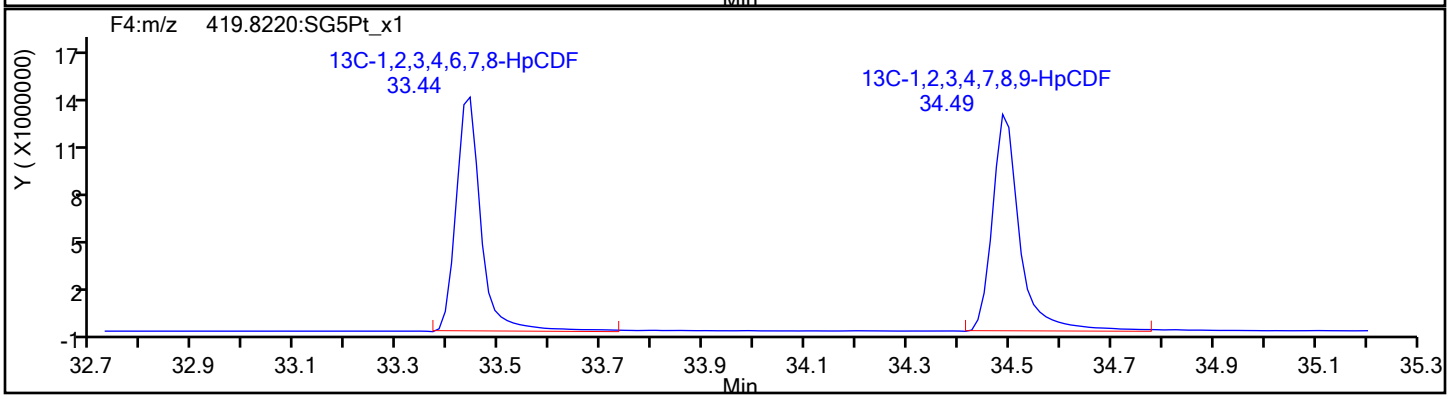

Report Date: 01-Nov-2019 15:06:16 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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HpCDF

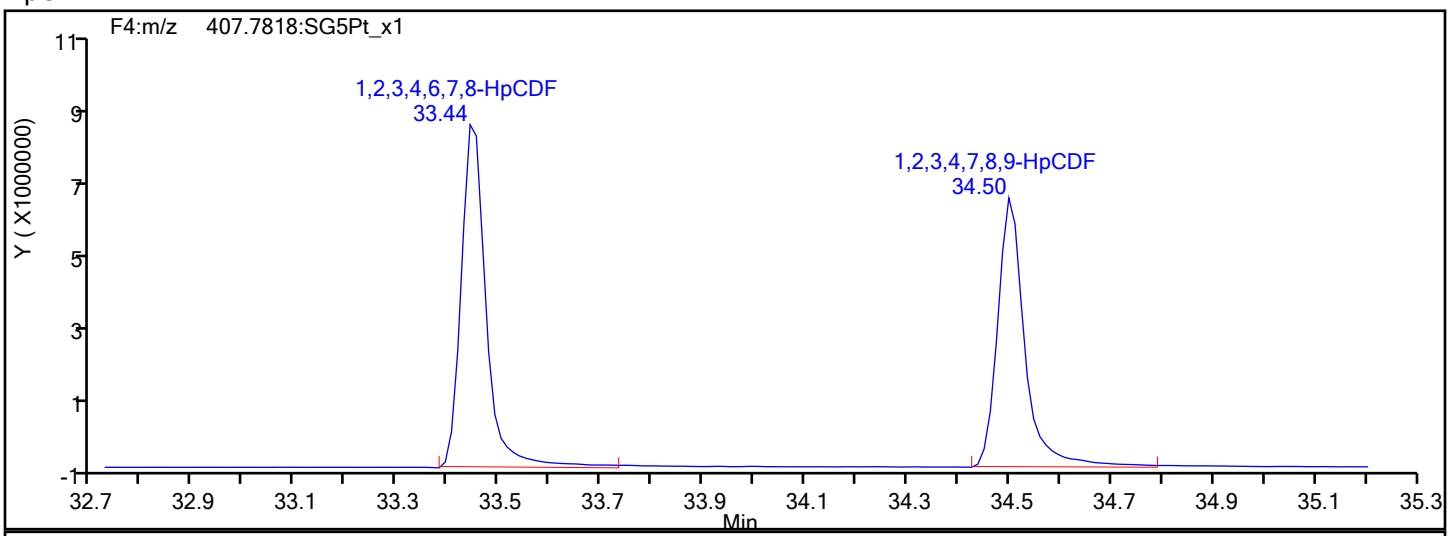

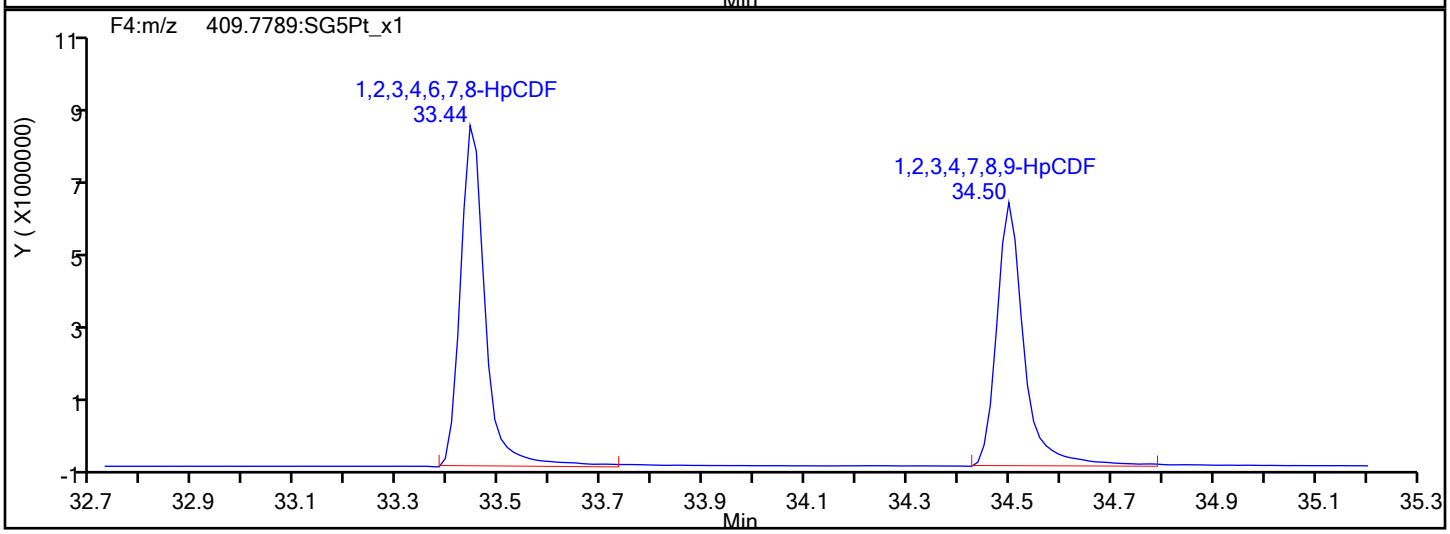

HpCDF Interference Mass

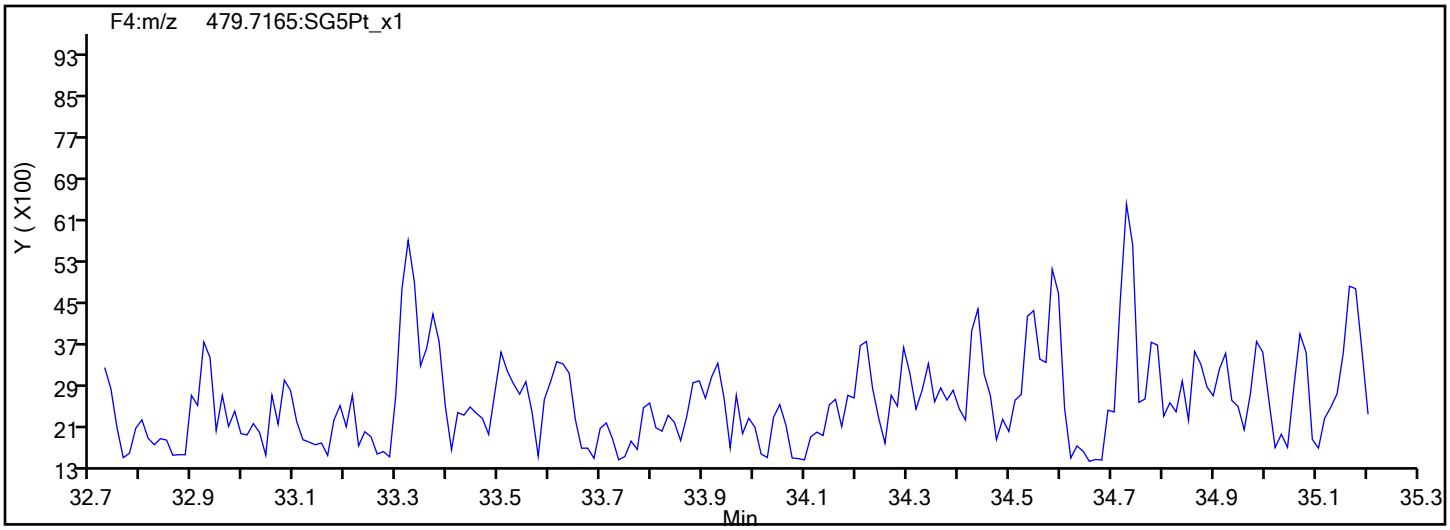

Report Date: 01-Nov-2019 15:06:16 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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HpCDD

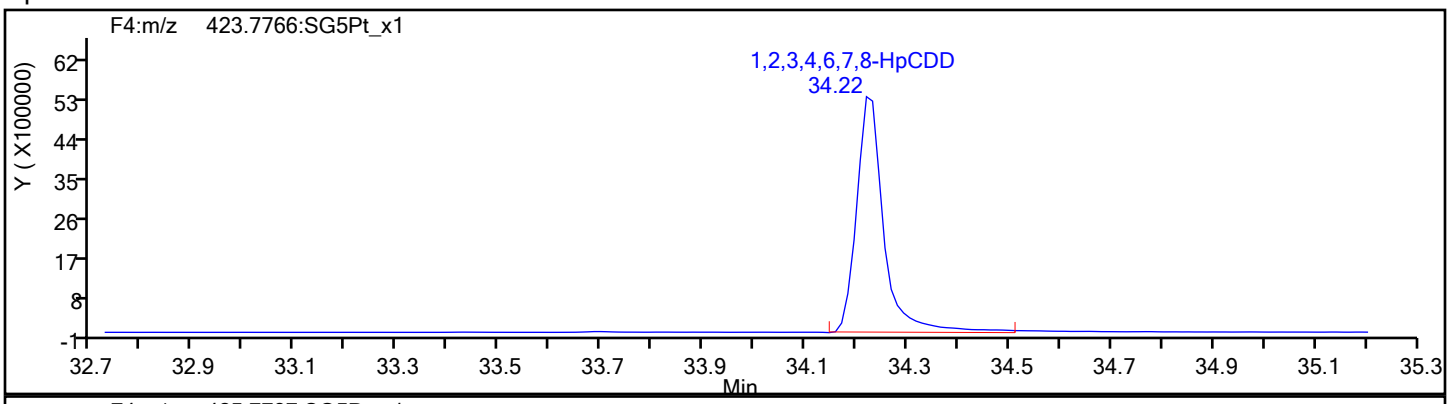

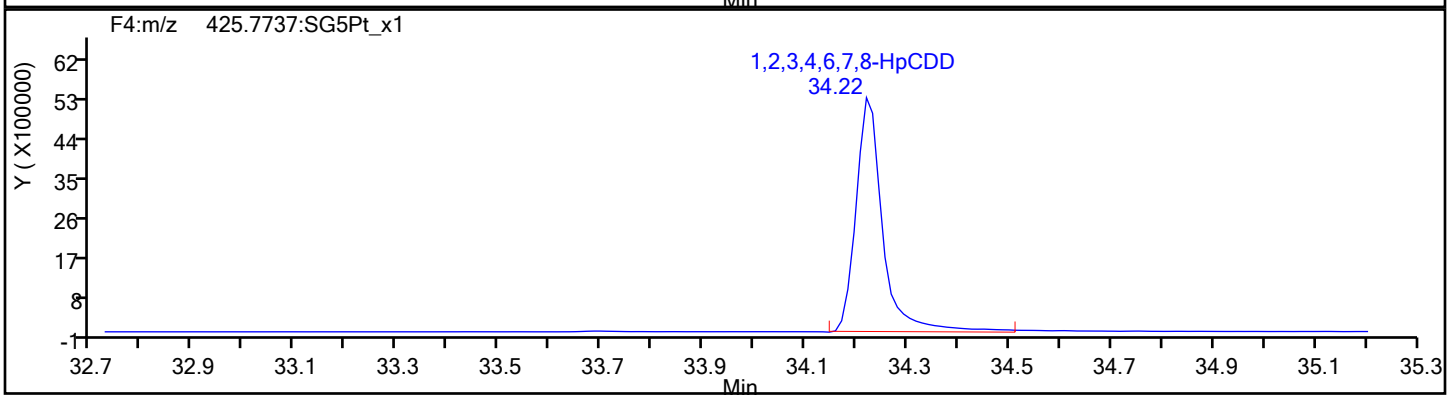

HpCDD Standards

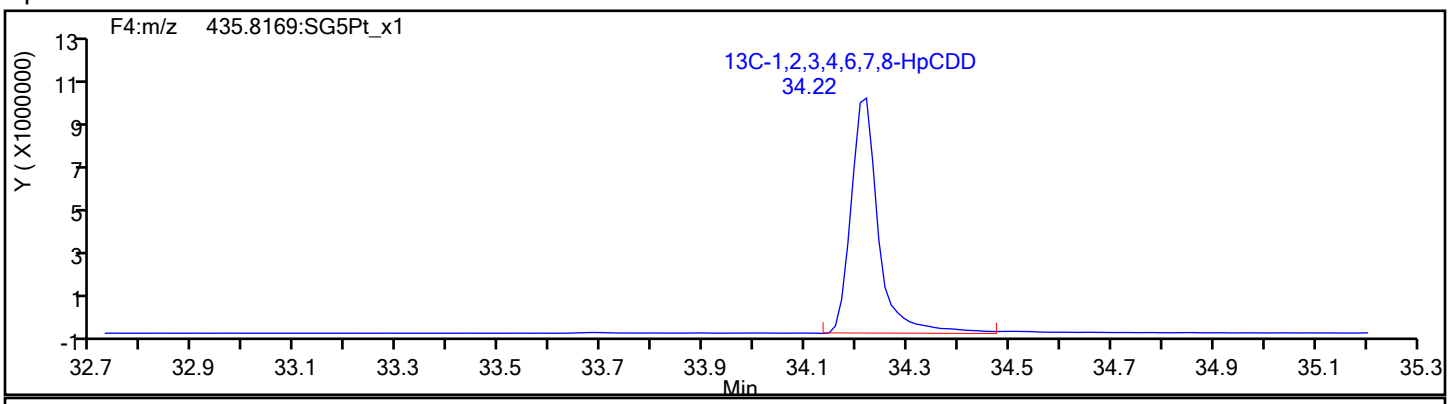

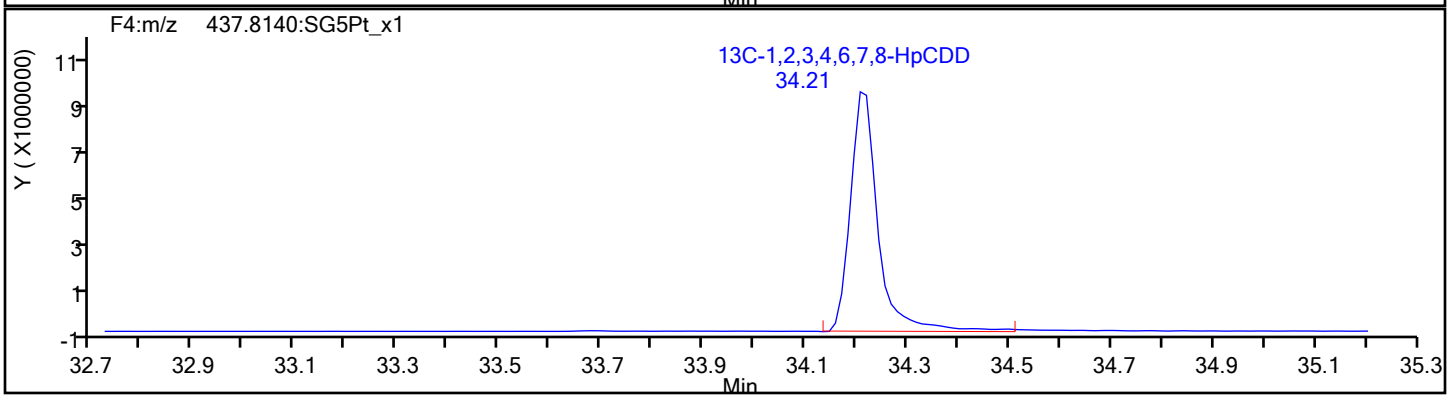

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Eurofins TestAmerica, Sacramento

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OCDF

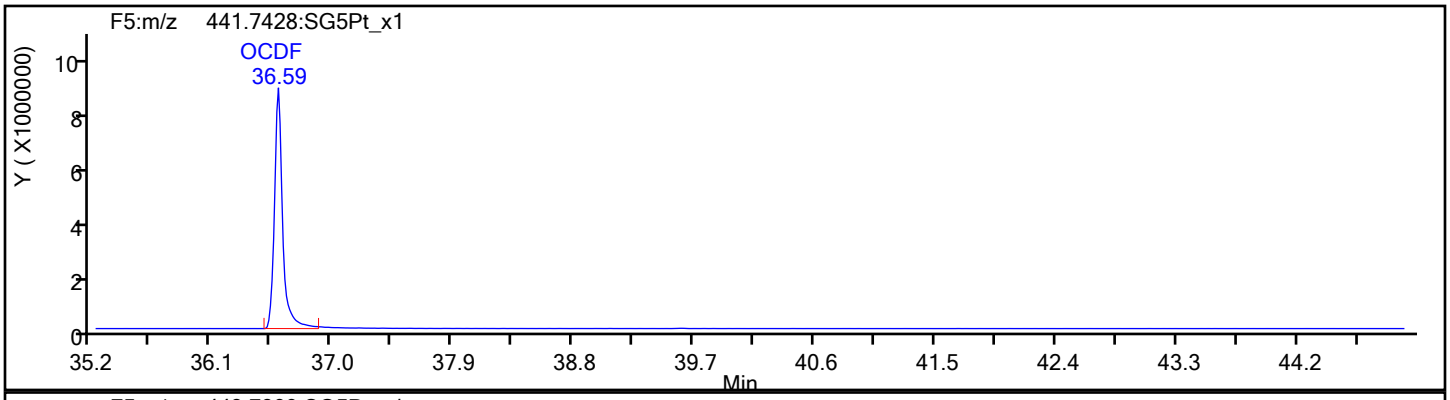

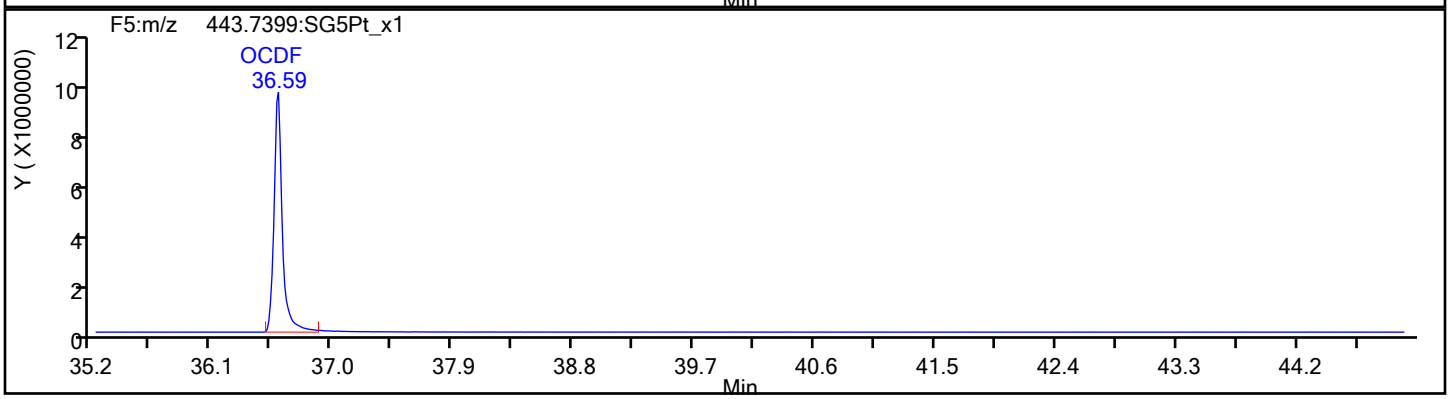

OCDF Standards

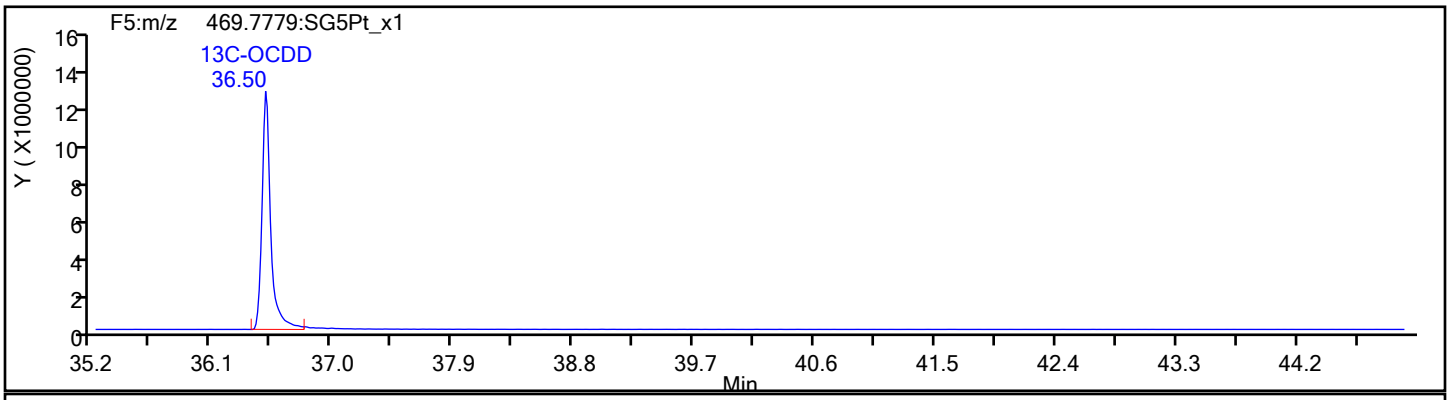

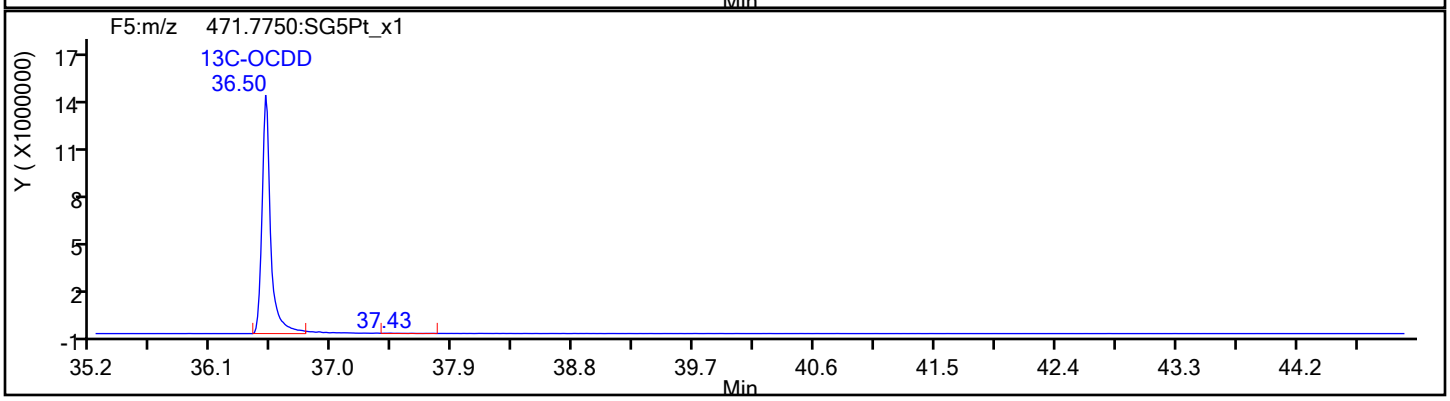

Report Date: 01-Nov-2019 15:06:16 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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OCDF

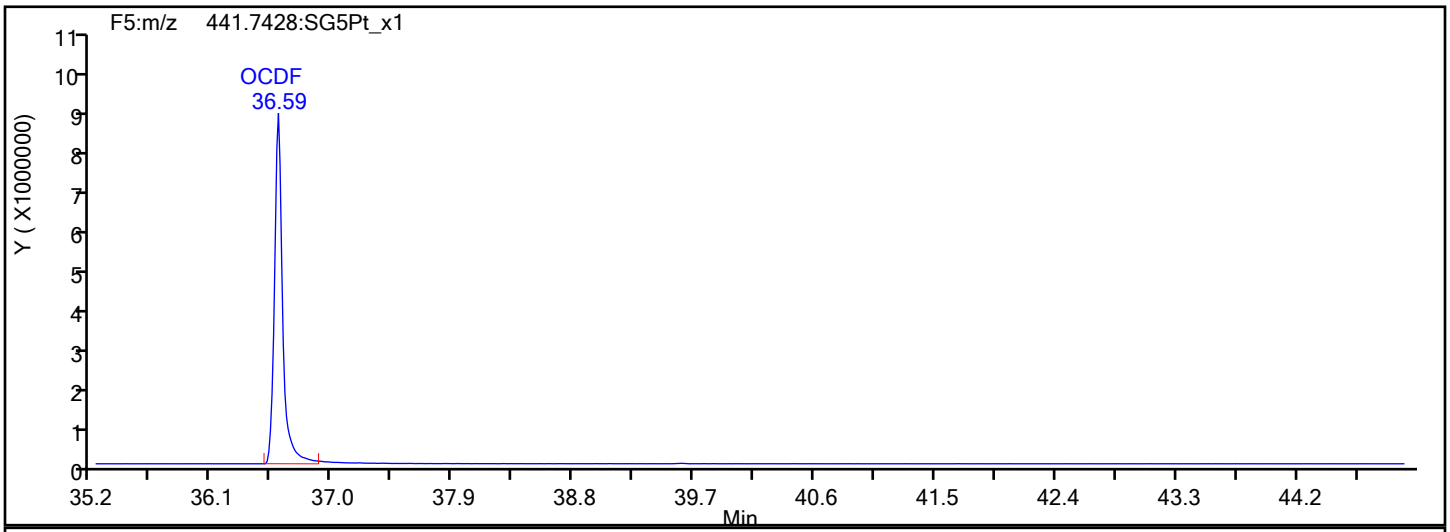

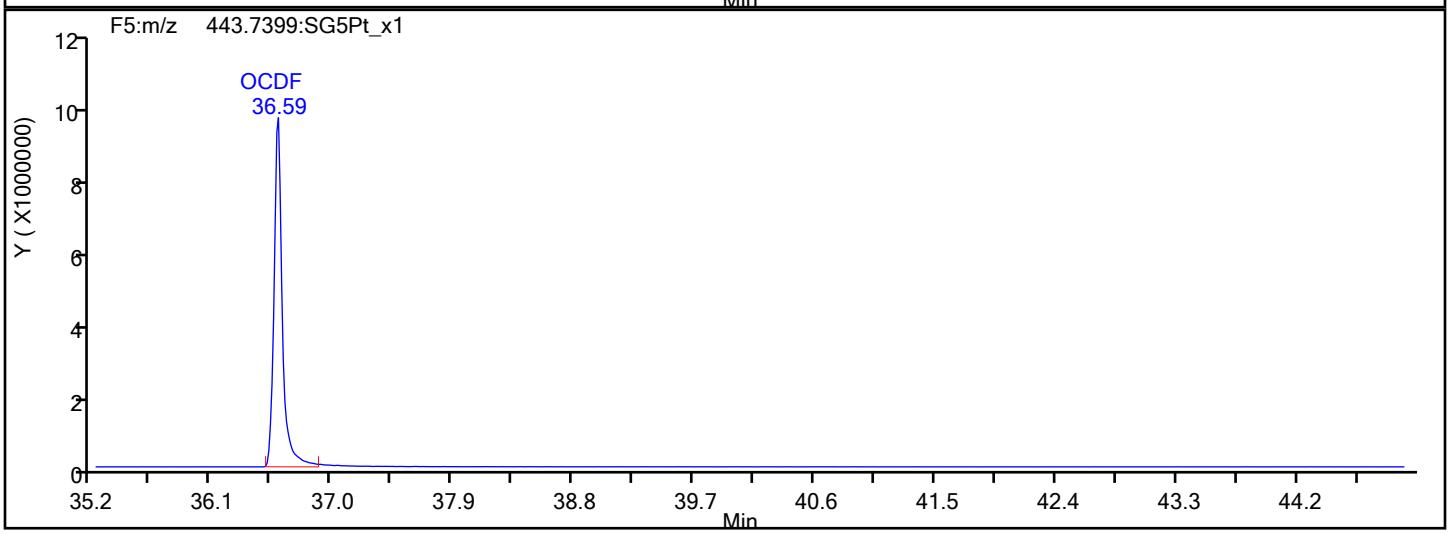

OCDF Interference Mass

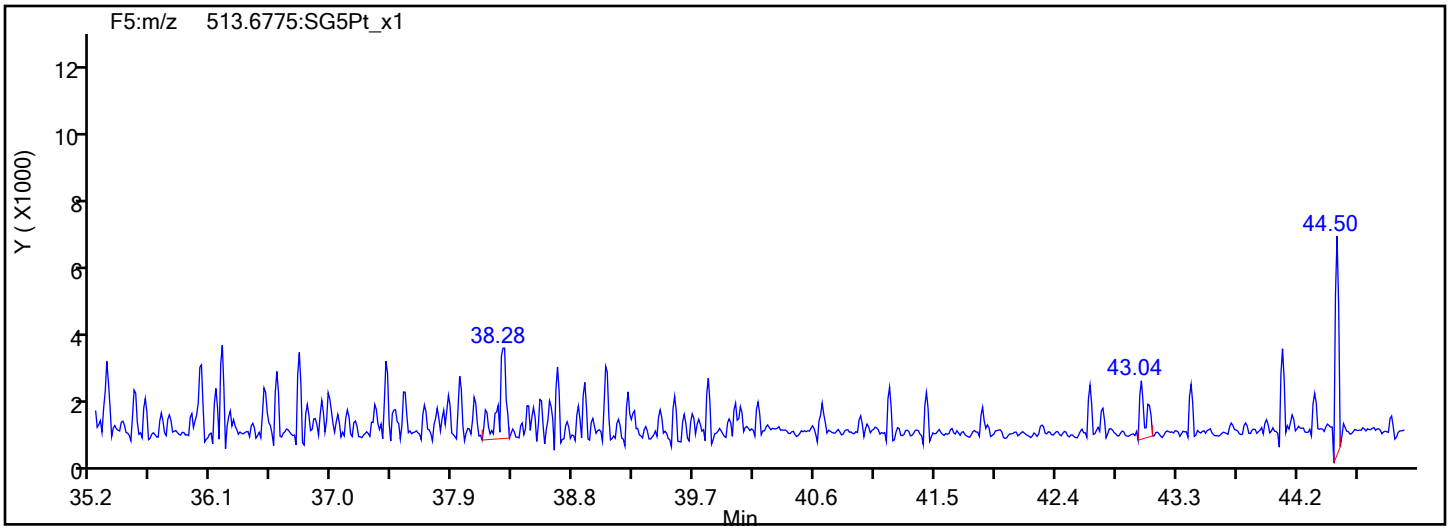

Report Date: 01-Nov-2019 15:06:16 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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OCDD

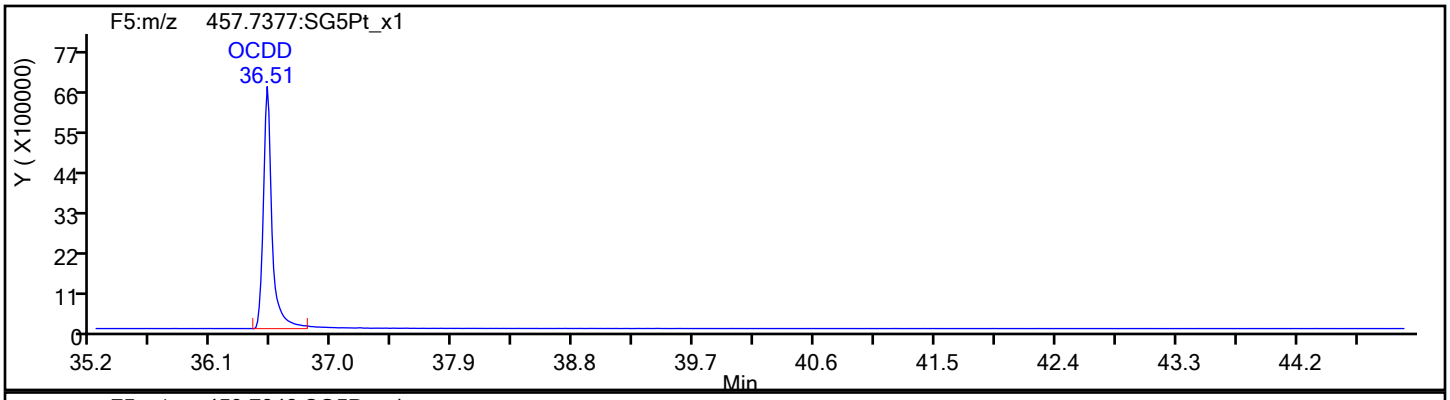

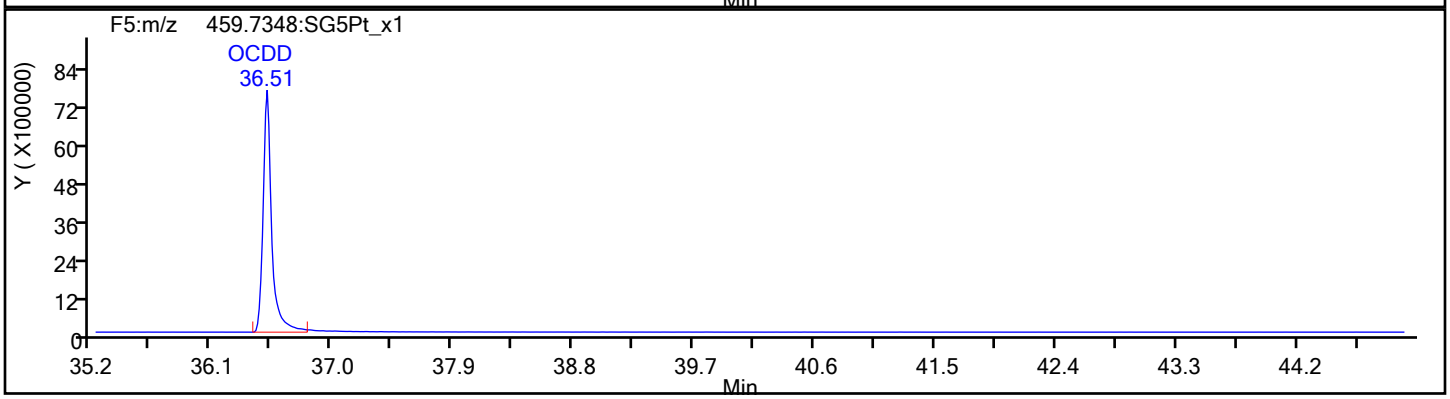

OCDD Standards

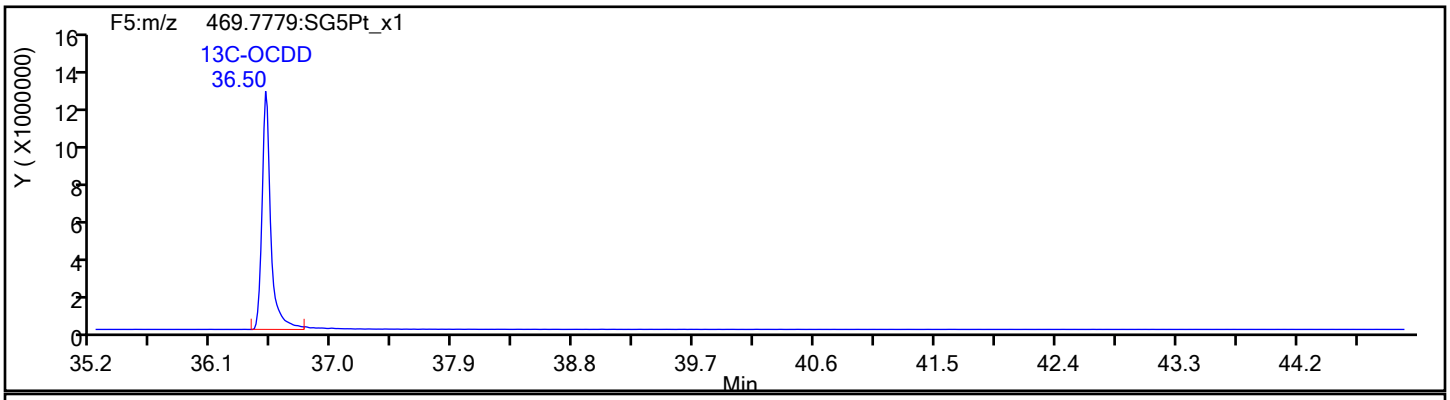

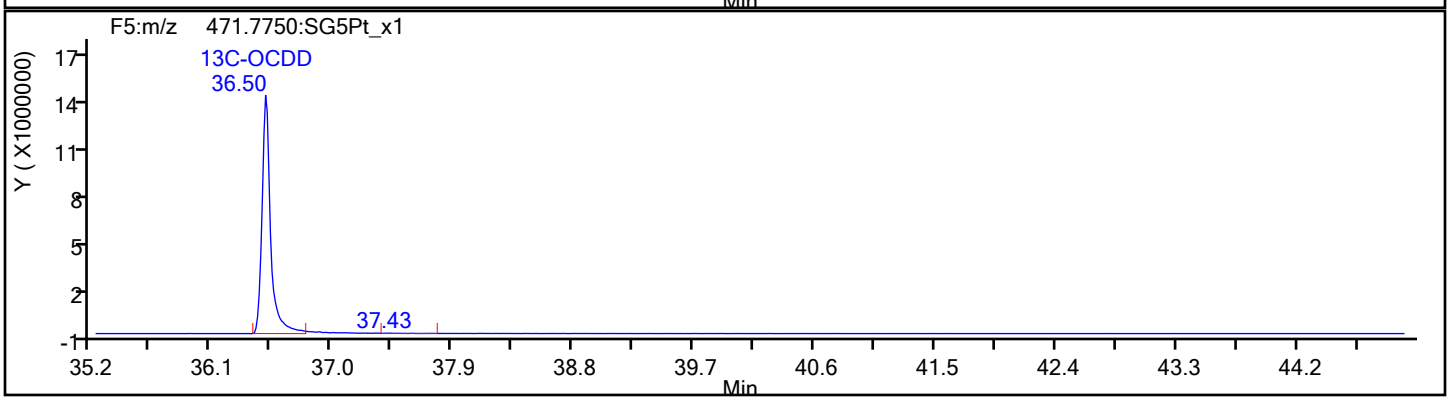

Report Date: 01-Nov-2019 15:06:17 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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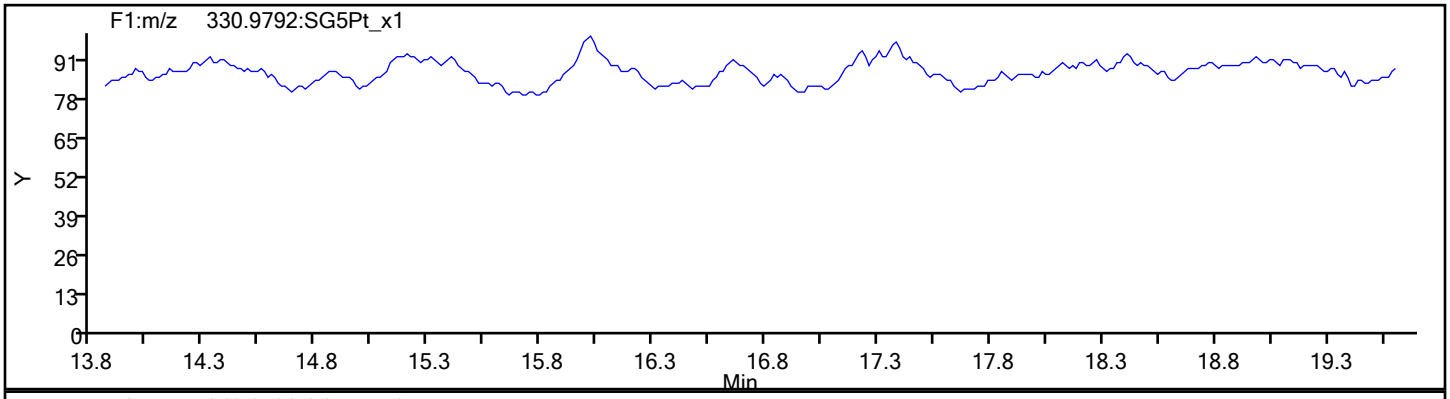

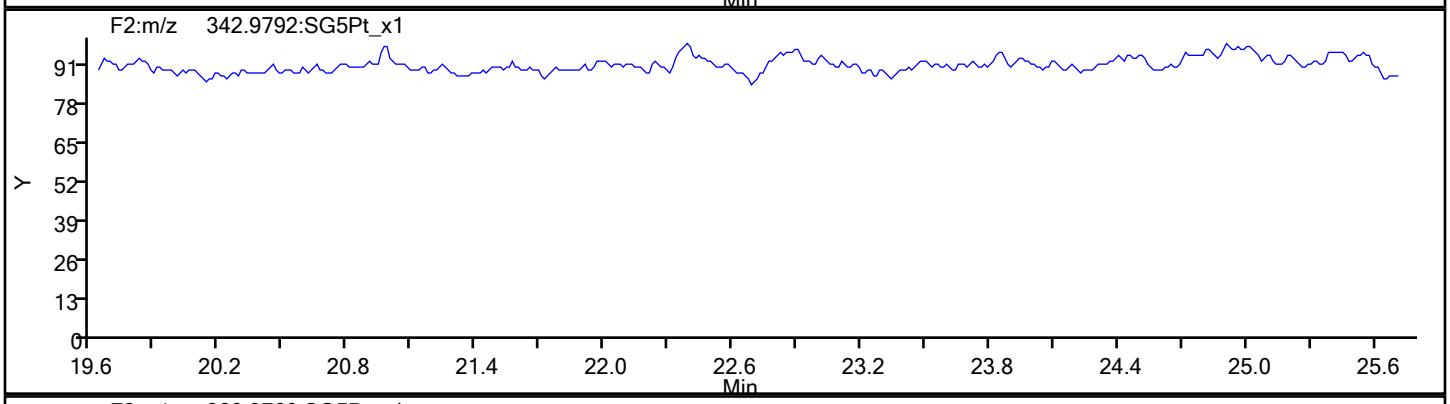

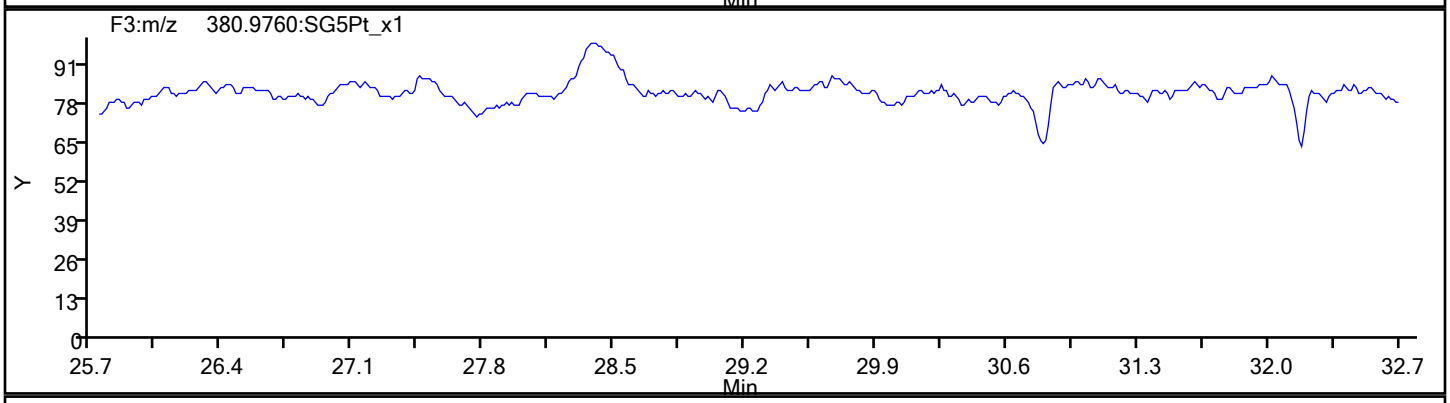

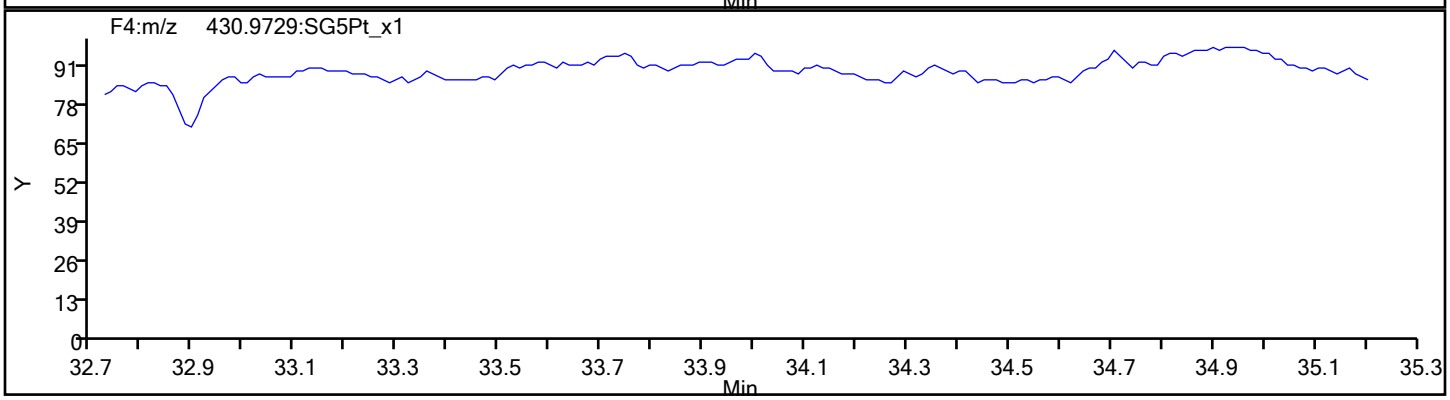

Report Date: 01-Nov-2019 15:06:17 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Injection Date:	31-Oct-2019 18:09:56	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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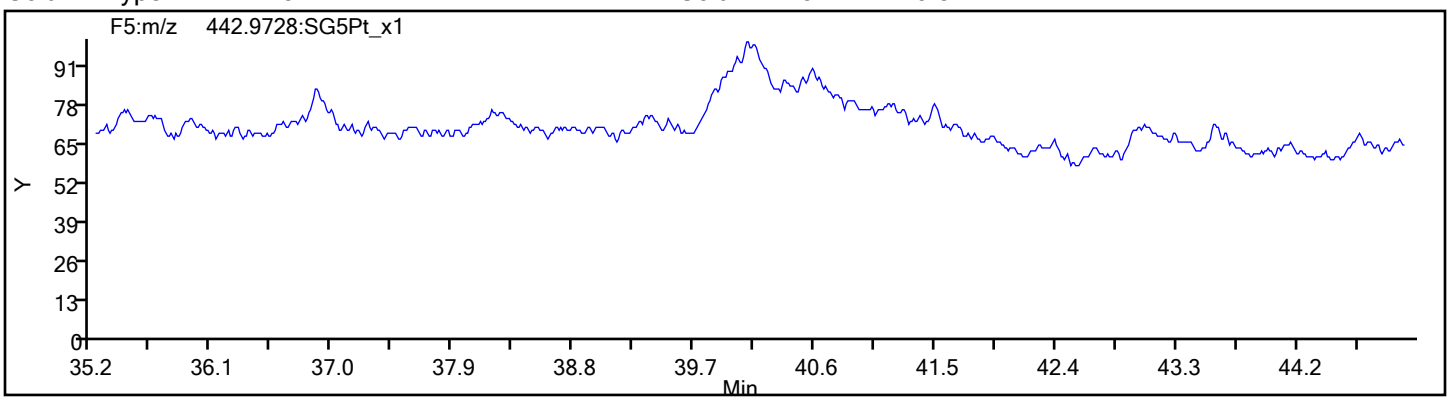

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Instrument ID: 3D5 Start Date: 05/21/2019 11:56

Analysis Batch Number: 296020 End Date: 05/21/2019 18:16

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
WDM 320-296020/1		05/21/2019 11:56	1	21MY193D5_1.d	DB-5 0.32(mm)
IC 320-296020/3		05/21/2019 13:31	1	21MY193D5_3.d	DB-5 0.32(mm)
IC 320-296020/4		05/21/2019 14:18	1	21MY193D5_4.d	DB-5 0.32(mm)
IC 320-296020/5		05/21/2019 15:06	1	21MY193D5_5.d	DB-5 0.32(mm)
IC 320-296020/6		05/21/2019 15:53	1	21MY193D5_6.d	DB-5 0.32(mm)
IC 320-296020/7		05/21/2019 16:41	1	21MY193D5_7.d	DB-5 0.32(mm)
ICV 320-296020/9		05/21/2019 18:16	1	21MY193D5_9.d	DB-5 0.32(mm)

1613B

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Instrument ID: 10D5 Start Date: 09/17/2019 11:28

Analysis Batch Number: 324128 End Date: 09/17/2019 18:27

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
WDM 320-324128/1		09/17/2019 11:28	1	17SE1910D5_1.d	DB-5 0.32(mm)
IC 320-324128/3		09/17/2019 13:03	1	17SE1910D5_3.d	DB-5 0.32(mm)
IC 320-324128/4		09/17/2019 13:49	1	17SE1910D5_4.d	DB-5 0.32(mm)
IC 320-324128/6		09/17/2019 15:21	1	17SE1910D5_6.d	DB-5 0.32(mm)
IC 320-324128/7		09/17/2019 16:09	1	17SE1910D5_7.d	DB-5 0.32(mm)
IC 320-324128/8		09/17/2019 16:55	1	17SE1910D5_8.d	DB-5 0.32(mm)
ICV 320-324128/10		09/17/2019 18:27	1	17SE1910D5_10.d	DB-5 0.32(mm)

1613B

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Instrument ID: 3D5 Start Date: 10/30/2019 21:30

Analysis Batch Number: 334889 End Date: 10/31/2019 08:06

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 320-334889/1		10/30/2019 21:30	1	30OC19B3D5_1.d	DB-5 0.32(mm)
WDM 320-334889/2		10/30/2019 22:23	1	30OC19B3D5_2.d	DB-5 0.32(mm)
ZZZZZ		10/30/2019 23:11	1		DB-5 0.32(mm)
MB 320-334214/1-A		10/30/2019 23:59	1	30OC19B3D5_4.d	DB-5 0.32(mm)
LB 320-334214/5-A		10/31/2019 00:46	1	30OC19B3D5_5.d	DB-5 0.32(mm)
LCS 320-334214/2-A		10/31/2019 01:34	1	30OC19B3D5_6.d	DB-5 0.32(mm)
ZZZZZ		10/31/2019 02:22	1		DB-5 0.32(mm)
180-97287-1		10/31/2019 03:09	1	30OC19B3D5_8.d	DB-5 0.32(mm)
ZZZZZ		10/31/2019 04:07	1		DB-5 0.32(mm)
ZZZZZ		10/31/2019 04:55	1		DB-5 0.32(mm)
ZZZZZ		10/31/2019 05:43	1		DB-5 0.32(mm)
ZZZZZ		10/31/2019 06:30	1		DB-5 0.32(mm)
ZZZZZ		10/31/2019 07:18	1		DB-5 0.32(mm)
ZZZZZ		10/31/2019 08:06	1		DB-5 0.32(mm)

1613B

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-97287-1

SDG No.:

Instrument ID: 10D5 Start Date: 10/31/2019 13:25

Analysis Batch Number: 335194 End Date: 10/31/2019 22:45

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
WDM 320-335194/1		10/31/2019 13:25	1	31OC1910D5_1.d	DB-5 0.32(mm)
CCV 320-335194/2		10/31/2019 14:11	1	31OC1910D5_2.d	DB-5 0.32(mm)
ZZZZZ		10/31/2019 15:51	1		DB-5 0.32(mm)
ZZZZZ		10/31/2019 16:37	1		DB-5 0.32(mm)
ZZZZZ		10/31/2019 17:23	1		DB-5 0.32(mm)
LCSD 320-334214/3-A		10/31/2019 18:09	1	31OC1910D5_7.d	DB-5 0.32(mm)
ZZZZZ		10/31/2019 18:55	1		DB-5 0.32(mm)
ZZZZZ		10/31/2019 19:41	1		DB-5 0.32(mm)
ZZZZZ		10/31/2019 20:27	1		DB-5 0.32(mm)
ZZZZZ		10/31/2019 21:13	1		DB-5 0.32(mm)
ZZZZZ		10/31/2019 21:59	1		DB-5 0.32(mm)
ZZZZZ		10/31/2019 22:45	1		DB-5 0.32(mm)

DIOXIN BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Sacramen Job No.: 180-97287-1

SDG No.:

Batch Number: 332998 Batch Start Date: 10/23/19 16:10 Batch Analyst: Melnik, Dmitry P

Batch Method: 1311 Batch End Date: 10/24/19 08:50

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount				
180-97287-C-1	11187072-NORTH-I MPCT-INITIALS	1311, HRMS-Sep, 1613B	P	100.15 g	2000 mL				

Batch Notes	
Balance ID	QA-068
First End time	10/24/19 08:50
Filter ID	16951255
Hot Plate ID	TCLP HOTPLATE
pH Meter ID	pH5
Room Temperature Thermometer ID	181720340
Rotation Time for 10 Revolutions	20 sec
First Start time	10/23/19 16:10
TCLP Fluid 1 ID	1788975
TCLP Fluid 1 pH	4.90
Maximum Temperature	23 Degrees C
Minimum Temperature	22 Degrees C
Thermometer ID	307069
Tumbler Rotations per Minute	30

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

DIOXIN BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Sacramen Job No.: 180-97287-1

SDG No.:

Batch Number: 334214 Batch Start Date: 10/28/19 14:05 Batch Analyst: Royce, Robert D

Batch Method: HRMS-Sep Batch End Date: 10/29/19 14:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	pH Check (7 - 9)	Turbidity Check	ResCL(<0.5)	RotoVapID
MB 320-334214/1		HRMS-Sep, 1613B		1000 mL	20.0 uL	N/A	N/A	N/A	8
LCS 320-334214/2		HRMS-Sep, 1613B		1000 mL	20.0 uL	N/A	N/A	N/A	6
LCSD 320-334214/3		HRMS-Sep, 1613B		1000 mL	20.0 uL	N/A	N/A	N/A	8
180-97287-C-1-A	11187072-NORTH-I MPCT-INITIALS	HRMS-Sep, 1613B	P	200.50 g	20.0 uL	N/A	N/A	N/A	6
LB 320-334214/5		HRMS-Sep, 1613B		200.17 g	20.0 uL	N/A	N/A	N/A	8

Lab Sample ID	Client Sample ID	Method Chain	Basis	HRDXNIDA 00392	HRDXNIS 00121	HRDXNSU 00221	HRDXNTA 00116		
MB 320-334214/1		HRMS-Sep, 1613B		1 mL	20 uL	1 mL			
LCS 320-334214/2		HRMS-Sep, 1613B		1 mL	20 uL	1 mL	50 uL		
LCSD 320-334214/3		HRMS-Sep, 1613B		1 mL	20 uL	1 mL	50 uL		
180-97287-C-1-A	11187072-NORTH-I MPCT-INITIALS	HRMS-Sep, 1613B	P	1 mL	20 uL	1 mL			
LB 320-334214/5		HRMS-Sep, 1613B		1 mL	20 uL	1 mL			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

DIOXIN BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Sacramen Job No.: 180-97287-1

SDG No.:

Batch Number: 334214 Batch Start Date: 10/28/19 14:05 Batch Analyst: Royce, Robert D

Batch Method: HRMS-Sep Batch End Date: 10/29/19 14:00

Batch Notes	
20% DCM:Hexane ID	1748766 mL
65% DCM:Hexane ID	1771188 mL
Acid Silica Gel ID	1790974
Acid Alumina ID	18X
Balance ID	QA-73
C14 ID	STBJ0716
Hexane ID	0000234722 mL
IFB Clean Up	TGL 10/29/19
MeCL2 ID	0000238018 mL
Na2SO4 ID	0000220237
Analyst ID - IDA Reagent Drop	NR 10/28/2019 HRDXNIDA_00392 B 1/4
Analyst ID - IDA Reagent Drop Witness	RDR 10/28/2019
Analyst ID - IS Reagent Drop	TGL 10/29/19 DB15270 B 1/4
Analyst ID - IS Reagent Drop Witness	FC 10/29/19
Analyst ID - SU Reagent Drop	TGL 10/29/19 HD05018 B 2/4
Analyst ID - SU Reagent Drop Witness	A1A 10/29/19
Analyst ID - TA Reagent Drop	NR 10/28/2019 HRDXNTA_00116 B 9/10
Analyst ID - TA Reagent Drop Witness	RDR 10/28/2019
Sep Funnel Extractions (date and time)	NR & RDR 10/28/2019 14:00
Silica Gel ID	1779331
Storage Box ID	DXN-103

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS

COVER PAGE
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job Number: 180-97287-1

SDG No.:

Project: San Jacinto River Waste Pits Superfund

Client Sample ID	Lab Sample ID
11187072-NORTH-IMPCT-INITIALS	180-97287-1

Comments:

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - TCLP

Client Sample ID: 11187072-NORTH-IMPCT-INITIALS
Lab Sample ID: 180-97287-1
Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-97287-1
SDG ID.:
Matrix: Solid
Date Sampled: 10/15/2019 15:00
Reporting Basis: WET
Date Received: 10/16/2019 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-38-2	Arsenic	ND	0.50	0.041	mg/L			1	EPA 6010C
7440-39-3	Barium	1.1	2.0	0.026	mg/L	J		1	EPA 6010C
7440-43-9	Cadmium	ND	0.50	0.0028	mg/L			1	EPA 6010C
7440-47-3	Chromium	ND	0.50	0.0078	mg/L			1	EPA 6010C
7439-92-1	Lead	ND	0.50	0.029	mg/L			1	EPA 6010C
7782-49-2	Selenium	ND	0.50	0.036	mg/L			1	EPA 6010C
7440-22-4	Silver	ND	0.50	0.0085	mg/L			1	EPA 6010C
7439-97-6	Mercury	ND	0.00020	0.00010	mg/L			1	EPA 7470A

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

ICV Source: M6500ICV_00006 Concentration Units: ug/L

CCV Source: M6500CCV_00031

Analyte	ICV 180-295734/4 10/22/2019 08:31				CCV 180-295734/9 10/22/2019 08:56				CCV 180-295734/21 10/22/2019 09:56			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Arsenic	264		250	106	513		500	103	513		500	103
Barium	1000		1000	100	2010		2000	101	1970		2000	99
Cadmium	252		250	101	504		500	101	510		500	102
Chromium	974		1000	97	1960		2000	98	1970		2000	98
Lead	250		250	100	506		500	101	507		500	101
Selenium	256		250	102	511		500	102	507		500	101
Silver	500		500	100	1030		1000	103	1030		1000	103

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

ICV Source: M6500ICV_00006 Concentration Units: ug/L

CCV Source: M6500CCV_00031

Analyte	CCV 180-295734/33 10/22/2019 10:58				CCV 180-295734/45 10/22/2019 12:00				CCV 180-295734/55 10/22/2019 12:51			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Arsenic	512		500	102	507		500	101	510		500	102
Barium	1980		2000	99	1990		2000	99	2030		2000	101
Cadmium	502		500	100	502		500	100	500		500	100
Chromium	1960		2000	98	1960		2000	98	1950		2000	98
Lead	507		500	101	504		500	101	505		500	101
Selenium	514		500	103	506		500	101	514		500	103
Silver	1020		1000	102	1020		1000	102	1020		1000	102

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

ICV Source: MICVLCCVL_00011 Concentration Units: ug/L

CCV Source: MICVLCCVL_00011

Analyte	ICVL 180-295734/6 10/22/2019 08:41				CCVL 180-295734/57 10/22/2019 13:01							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Arsenic	12.4		10.0	124	10.5		10.0	105				
Barium	203		200	102	206		200	103				
Cadmium	5.13		5.00	103	5.16		5.00	103				
Chromium	4.85	J	5.00	97	4.82	J	5.00	96				
Lead	10.1		10.0	101	9.44	J	10.0	94				
Selenium	12.2		10.0	122	12.3		10.0	123				
Silver	5.31		5.00	106	4.89	J	5.00	98				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

ICV Source: MHgWorkingicv_02117 Concentration Units: ug/L

CCV Source: MHgworkingCal_02163

Analyte	ICV 180-295364/7-A 10/18/2019 17:04				CCV 180-295364/10-A 10/18/2019 17:07				CCV 180-295364/10-A 10/18/2019 19:48			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	2.53		2.50	101	5.03		5.00	101	5.31		5.00	106

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

ICV Source: MHgWorkingicv_02117 Concentration Units: ug/L

CCV Source: MHgworkingCal_02163

Analyte	CCV 180-295364/10-A 10/18/2019 20:00											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	5.30		5.00	106								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Method: EPA 7470A Instrument ID: HGZ

Lab Sample ID: CRA 180-295364/9-A Concentration Units: ug/L

CRQL Check Standard Source: MHgworkingCal_02163

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Mercury	0.200	0.224		112	70-130

Lab Sample ID: CRA 180-295364/9-A Concentration Units: ug/L

CRQL Check Standard Source: MHgworkingCal_02163

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Mercury	0.200	0.219		110	70-130

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICBIS 180-295734/5 10/22/2019 08:35		CCB1 180-295734/10 10/22/2019 09:01		CCB2 180-295734/22 10/22/2019 10:01		CCB3 180-295734/34 10/22/2019 11:03	
		Found	C	Found	C	Found	C	Found	C
Arsenic	10	ND		ND		ND		ND	
Barium	200	ND		ND		ND		ND	
Cadmium	5.0	ND		ND		ND		ND	
Chromium	5.0	ND		ND		ND		ND	
Lead	10	ND		ND		ND		ND	
Selenium	10	ND		ND		ND		ND	
Silver	5.0	ND		ND		ND		ND	

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	CCB4 180-295734/46 10/22/2019 12:05		CCB5 180-295734/56 10/22/2019 12:56					
		Found	C	Found	C	Found	C	Found	C
Arsenic	10	ND		ND					
Barium	200	ND		ND					
Cadmium	5.0	ND		ND					
Chromium	5.0	ND		ND					
Lead	10	ND		ND					
Selenium	10	ND		ND					
Silver	5.0	ND		ND					

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 180-295364/8-A 10/18/2019 17:05		CCB 180-295364/11-A 10/18/2019 17:08		CCB 180-295364/11-A 10/18/2019 19:49		CCB 180-295364/11-A 10/18/2019 20:01	
		Found	C	Found	C	Found	C	Found	C
Mercury	0.20	ND		ND		ND		ND	

Italicized analytes were not requested for this sequence.

3-IN
METHOD BLANK
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Concentration Units: mg/L Lab Sample ID: MB 180-295580/1-A

Instrument Code: C Batch No.: 295734

CAS No.	Analyte	Concentration	C	Q	Method
7440-38-2	Arsenic	ND			6010C
7440-39-3	Barium	ND			6010C
7440-43-9	Cadmium	ND			6010C
7440-47-3	Chromium	ND			6010C
7439-92-1	Lead	ND			6010C
7782-49-2	Selenium	ND			6010C
7440-22-4	Silver	ND			6010C

FORM III-IN

3-IN
METHOD BLANK
METALS - TCLP

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Concentration Units: mg/L Lab Sample ID: LB 180-295177/1-G

Instrument Code: C Batch No.: 295734

CAS No.	Analyte	Concentration	C	Q	Method
7440-38-2	Arsenic	ND			6010C
7440-39-3	Barium	ND			6010C
7440-43-9	Cadmium	ND			6010C
7440-47-3	Chromium	ND			6010C
7439-92-1	Lead	ND			6010C
7782-49-2	Selenium	ND			6010C
7440-22-4	Silver	ND			6010C

FORM III-IN

3-IN
METHOD BLANK
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Concentration Units: mg/L Lab Sample ID: MB 180-295382/1-A

Instrument Code: HGZ Batch No.: 295427

CAS No.	Analyte	Concentration	C	Q	Method
7439-97-6	Mercury	ND			7470A

FORM III-IN

3-IN
METHOD BLANK
METALS - TCLP

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Concentration Units: mg/L Lab Sample ID: LB 180-295177/1-D

Instrument Code: HGZ Batch No.: 295427

CAS No.	Analyte	Concentration	C	Q	Method
7439-97-6	Mercury	ND			7470A

FORM III-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Pittsburg Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICSA 180-295734/7 Instrument ID: C

Lab File ID: C91022E.asc ICS Source: MICSAICP_00092

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Arsenic		**-1.97**	
Barium		**1.22**	
Cadmium		**0.560**	
Chromium		**4.83**	
Lead		**9.34**	
Selenium		**6.49**	
Silver		**-0.540**	
Aluminum	*500000*	*505490*	*101*
Antimony		*-0.400*	
Beryllium		*-0.0800*	
Boron		*-3.23*	
Calcium	*500000*	*465270*	*93*
Cobalt		*-0.390*	
Copper		*7.12*	
Iron	*200000*	*185770*	*93*
Lithium		*8.85*	
Magnesium	*500000*	*504810*	*101*
Manganese		*1.36*	
Molybdenum		*-1.84*	
Nickel		*-3.36*	
Potassium		*223*	
Silicon		*4.81*	
Sodium		*231*	
Strontium		*17.1*	
Thallium		*-3.25*	
Tin		*-0.270*	
Titanium		*-0.0100*	
Vanadium		*2.61*	
Zinc		*0.0700*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Pittsburg Job No.: 180-97287-1

SDG No.:

Lab Sample ID: ICSAB 180-295734/8 Instrument ID: C

Lab File ID: C91022E.asc ICS Source: MICSAB_00104

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Arsenic	**1000**	**1032**	**103**
Barium	**500**	**501**	**100**
Cadmium	**1000**	**1024**	**102**
Chromium	**500**	**478**	**96**
Lead	**1000**	**964**	**96**
Selenium	**1000**	**994**	**99**
Silver	**1000**	**1094**	**109**
Aluminum	*500000*	*505020*	*101*
Antimony	*1000*	*1017*	*102*
Beryllium	*500*	*490*	*98*
Boron	*1000*	*988*	*99*
Calcium	*500000*	*463850*	*93*
Cobalt	*500*	*493*	*99*
Copper	*500*	*529*	*106*
Iron	*200000*	*185410*	*93*
Lithium	*1000*	*1069*	*107*
Magnesium	*500000*	*502720*	*101*
Manganese	*500*	*483*	*97*
Molybdenum	*1000*	*955*	*96*
Nickel	*1000*	*976*	*98*
Potassium	*10000*	*10674*	*107*
Silicon	*1000*	*1005*	*100*
Sodium	*10000*	*10917*	*109*
Strontium	*1000*	*947*	*95*
Thallium	*1000*	*921*	*92*
Tin	*1000*	*883*	*88*
Titanium	*1000*	*982*	*98*
Vanadium	*500*	*486*	*97*
Zinc	*1000*	*893*	*89*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 180-295580/2-A

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

Sample Matrix: Water LCS Source: TA-SPIKE1_00006

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Arsenic	1.00	1.04		104	80	120		EPA 6010C
Barium	1.00	0.986		99	80	120		EPA 6010C
Cadmium	0.500	0.506		101	80	120		EPA 6010C
Chromium	0.500	0.487		97	80	120		EPA 6010C
Lead	0.500	0.493		99	80	120		EPA 6010C
Selenium	1.00	1.02		102	80	120		EPA 6010C
Silver	0.250	0.253		101	80	120		EPA 6010C

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 180-295382/2-A

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

Sample Matrix: Water LCS Source: MHgworkingCal_02163

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Mercury	0.00250	0.00264		106	80	120		EPA 7470A

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

9-IN
DETECTION LIMITS
METALS - TCLP

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-97287-1

SDG Number:

Matrix: Solid Instrument ID: C

Method: EPA 6010C MDL Date: 10/07/2019 15:10

Prep Method: 3010A

Leach Method: EPA 1311

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Arsenic	189.042	0.05	0.00411
Barium	493.409	0.2	0.00255
Cadmium	226.502	0.05	0.000279
Chromium	267.716	0.05	0.000782
Lead	220.353	0.05	0.00285
Selenium	196.022	0.05	0.00363
Silver	328.068	0.05	0.00085

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - TCLP

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-97287-1

SDG Number:

Matrix: Solid Instrument ID: C

Method: EPA 6010C XMDL Date: 10/07/2019 15:11

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Arsenic	189.042	10	4.11
Barium	493.409	200	2.55
Cadmium	226.502	5	0.279
Chromium	267.716	5	0.782
Lead	220.353	10	2.85
Selenium	196.022	10	3.63
Silver	328.068	5	0.85

FORM IX - IN

9-IN
DETECTION LIMITS
METALS - TCLP

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-97287-1

SDG Number:

Matrix: Solid Instrument ID: HGZ

Method: EPA 7470A MDL Date: 01/18/2019 16:58

Prep Method: 7470A

Leach Method: EPA 1311

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Mercury	253.7	0.0002	0.000101

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - TCLP

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-97287-1

SDG Number:

Matrix: Solid Instrument ID: HGZ

Method: EPA 7470A XMDL Date: 01/18/2019 16:58

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Mercury	253.7	0.2	0.101

FORM IX - IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-97287-1

SDG No.:

ICP-AES Instrument ID: C Date: 06/11/2019

Analyte	Wave Length	Ag	Al	As	B	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Li
Aluminum	308.215														
Antimony	217.581		-0.000079										-0.000029		
Arsenic	189.042										0.001159				
Barium	455.403														
Beryllium	313.042														
Boron	182.641														
Cadmium	228.802			0.004844											
Calcium	317.933														
Chromium	267.716														
Cobalt	228.616														
Copper	327.396														
Iron	259.940														
Lead	220.353		-0.000119										0.000054		
Lithium	670.784														
Magnesium	279.079														
Manganese	257.610														
Molybdenum	202.030														
Nickel	231.604												0.000115		
Potassium	766.490														
Selenium	196.090		0.00014												
Silicon	251.611														
Silver	328.068														
Sodium	589.592														
Strontium	346.446														
Thallium	190.856														
Tin	189.989														
Titanium	337.280														
Vanadium	290.882												0.000051		
Zinc	206.200										-0.000856				

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-97287-1

SDG No.:

ICP-AES Instrument ID: C Date: 06/11/2019

Analyte	Wave Length	Mg	Mn	Mo	Na	Ni	Pb	Sb	Se	Si	Sn	Sr	Ti	Tl	V
Aluminum	308.215			0.016775											0.023542
Antimony	217.581						-0.000981								0.002347
Arsenic	189.042		-0.000438	0.002626											
Barium	455.403														
Beryllium	313.042														0.000512
Boron	182.641														
Cadmium	228.802														
Calcium	317.933														
Chromium	267.716														
Cobalt	228.616												0.002285		
Copper	327.396														
Iron	259.940														
Lead	220.353														
Lithium	670.784														
Magnesium	279.079														
Manganese	257.610														
Molybdenum	202.030														
Nickel	231.604														
Potassium	766.490														
Selenium	196.090		0.000516												
Silicon	251.611														
Silver	328.068		0.00051												
Sodium	589.592														
Strontium	346.446														
Thallium	190.856		0.001452												-0.004797
Tin	189.989														
Titanium	337.280														
Vanadium	290.882														
Zinc	206.200														

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-97287-1

SDG No.:

ICP-AES Instrument ID: C Date: 06/11/2019

Analyte	Wave Length	Zn	Zr												
Aluminum	308.215														
Antimony	217.581														
Arsenic	189.042														
Barium	455.403														
Beryllium	313.042														
Boron	182.641														
Cadmium	228.802														
Calcium	317.933														
Chromium	267.716														
Cobalt	228.616														
Copper	327.396														
Iron	259.940														
Lead	220.353														
Lithium	670.784														
Magnesium	279.079														
Manganese	257.610														
Molybdenum	202.030														
Nickel	231.604														
Potassium	766.490														
Selenium	196.090														
Silicon	251.611														
Silver	328.068														
Sodium	589.592														
Strontium	346.446														
Thallium	190.856														
Tin	189.989														
Titanium	337.280														
Vanadium	290.882														
Zinc	206.200														

X-IN

11-IN
LINEAR RANGES
METALS

Lab Name: Eurofins TestAmerica, Pittsbur Job No: 180-97287-1

SDG No.:

Instrument ID: C Date: 09/09/2015 10:32

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Arsenic		10000	EPA 6010C
Barium		50000	EPA 6010C
Cadmium		5000	EPA 6010C
Chromium		25000	EPA 6010C
Lead		10000	EPA 6010C
Selenium		10000	EPA 6010C
Silver		2000	EPA 6010C

FORM XI - IN

12-IN
PREPARATION LOG
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Prep Method: 3010A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 180-295580/1-A	10/21/2019 16:16	295580		50	50
LCS 180-295580/2-A	10/21/2019 16:16	295580		50	50
LB 180-295177/1-G	10/21/2019 16:25	295580		5	50
180-97287-1	10/21/2019 16:25	295580		5	50

FORM XII-IN

12-IN
PREPARATION LOG
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Prep Method: 7470A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 180-295382/1-A	10/18/2019 12:37	295382		50	50
LCS 180-295382/2-A	10/18/2019 12:37	295382		50	50
LB 180-295177/1-D	10/18/2019 12:37	295382		50	50
180-97287-1	10/18/2019 12:37	295382		50	50

FORM XII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Instrument ID: C Analysis Method: EPA 6010C

Start Date: 10/22/2019 08:15 End Date: 10/23/2019 03:27

Lab Sample Id	D/F	Type	Time	Analytes																							
				Ag	As	Ba	Cd	Cr	Pb	Se																	
STD1 180-295734/1 IC			08:15	X	X	X	X	X	X	X																	
STD2A 180-295734/2 IC			08:20	X	X	X	X	X	X	X																	
STD3 180-295734/3 IC			08:25	X	X	X	X	X	X	X																	
ICV 180-295734/4	1		08:31	X	X	X	X	X	X	X																	
ICBIS 180-295734/5	1		08:35	X	X	X	X	X	X	X																	
ICVL 180-295734/6	1		08:41	X	X	X	X	X	X	X																	
ICSA 180-295734/7	1		08:46	X	X	X	X	X	X	X																	
ICSAB 180-295734/8	1		08:51	X	X	X	X	X	X	X																	
CCV 180-295734/9	1		08:56	X	X	X	X	X	X	X																	
CCB1 180-295734/10	1		09:01	X	X	X	X	X	X	X																	
MB 180-295580/1-A	1	T	09:06	X	X	X	X	X	X	X																	
LCS 180-295580/2-A	1	T	09:11	X	X	X	X	X	X	X																	
ZZZZZZ			09:16																								
ZZZZZZ			09:21																								
ZZZZZZ			09:26																								
ZZZZZZ			09:31																								
ZZZZZZ			09:36																								
ZZZZZZ			09:41																								
ZZZZZZ			09:46																								
ZZZZZZ			09:51																								
CCV 180-295734/21	1		09:56	X	X	X	X	X	X	X																	
CCB2 180-295734/22	1		10:01	X	X	X	X	X	X	X																	
ZZZZZZ			10:06																								
ZZZZZZ			10:11																								
ZZZZZZ			10:17																								
ZZZZZZ			10:22																								
ZZZZZZ			10:27																								
ZZZZZZ			10:32																								
ZZZZZZ			10:37																								
ZZZZZZ			10:42																								
ZZZZZZ			10:48																								
ZZZZZZ			10:53																								
CCV 180-295734/33	1		10:58	X	X	X	X	X	X	X																	
CCB3 180-295734/34	1		11:03	X	X	X	X	X	X	X																	
LB 180-295177/1-G	1	P	11:08	X	X	X	X	X	X	X																	
ZZZZZZ			11:13																								
ZZZZZZ			11:19																								
ZZZZZZ			11:24																								
ZZZZZZ			11:29																								
ZZZZZZ			11:34																								
ZZZZZZ			11:39																								
ZZZZZZ			11:44																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Instrument ID: C Analysis Method: EPA 6010C

Start Date: 10/22/2019 08:15 End Date: 10/23/2019 03:27

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	As	Ba	Cd	Cr	Pb	Se																		
ZZZZZZ			11:49																									
ZZZZZZ			11:55																									
CCV 180-295734/45	1		12:00	X	X	X	X	X	X	X																		
CCB4 180-295734/46	1		12:05	X	X	X	X	X	X	X																		
ZZZZZZ			12:10																									
ZZZZZZ			12:15																									
180-97287-1	1	P	12:20	X	X	X	X	X	X	X																		
ZZZZZZ			12:25																									
ZZZZZZ			12:30																									
ZZZZZZ			12:36																									
ZZZZZZ			12:41																									
ZZZZZZ			12:46																									
CCV 180-295734/55	1		12:51	X	X	X	X	X	X	X																		
CCB5 180-295734/56	1		12:56	X	X	X	X	X	X	X																		
CCVL 180-295734/57	1		13:01	X	X	X	X	X	X	X																		
ZZZZZZ			13:06																									
ZZZZZZ			13:11																									
ZZZZZZ			13:16																									
ZZZZZZ			13:21																									
ZZZZZZ			13:26																									
ZZZZZZ			13:31																									
ZZZZZZ			13:37																									
ZZZZZZ			13:41																									
ZZZZZZ			13:46																									
ZZZZZZ			13:51																									
CCV 180-295734/68			13:56																									
CCB6 180-295734/69			14:01																									
ZZZZZZ			14:06																									
ZZZZZZ			14:11																									
ZZZZZZ			14:16																									
ZZZZZZ			14:21																									
ZZZZZZ			14:26																									
ZZZZZZ			14:31																									
ZZZZZZ			14:36																									
ZZZZZZ			14:41																									
ZZZZZZ			14:46																									
ZZZZZZ			14:51																									
CCV 180-295734/80			14:56																									
CCB7 180-295734/81			15:01																									
ZZZZZZ			15:06																									
ZZZZZZ			15:11																									
ZZZZZZ			15:16																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Instrument ID: C Analysis Method: EPA 6010C

Start Date: 10/22/2019 08:15 End Date: 10/23/2019 03:27

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	As	Ba	Cd	Cr	Pb	Se																		
ZZZZZZ			15:21																									
ZZZZZZ			15:26																									
ZZZZZZ			15:31																									
ZZZZZZ			15:36																									
ZZZZZZ			15:41																									
ZZZZZZ			15:46																									
ZZZZZZ			15:51																									
CCV 180-295734/92			15:56																									
CCB8 180-295734/93			16:01																									
ZZZZZZ			16:06																									
ZZZZZZ			16:11																									
ZZZZZZ			16:16																									
ZZZZZZ			16:21																									
ZZZZZZ			16:26																									
ZZZZZZ			16:31																									
ZZZZZZ			16:36																									
ZZZZZZ			16:41																									
ZZZZZZ			16:46																									
ZZZZZZ			16:51																									
CCV 180-295734/104			16:56																									
CCB9 180-295734/105			17:01																									
CCVL 180-295734/106			17:06																									
ZZZZZZ			17:11																									
ZZZZZZ			17:17																									
ZZZZZZ			17:22																									
ZZZZZZ			17:27																									
ZZZZZZ			17:32																									
ZZZZZZ			17:37																									
ZZZZZZ			17:42																									
ZZZZZZ			17:47																									
ZZZZZZ			17:52																									
CCV 180-295734/116			17:57																									
CCB10 180-295734/117			18:02																									
ZZZZZZ			18:07																									
ZZZZZZ			18:13																									
ZZZZZZ			18:18																									
ZZZZZZ			18:23																									
ZZZZZZ			18:28																									
ZZZZZZ			18:33																									
ZZZZZZ			18:38																									
ZZZZZZ			18:42																									
ZZZZZZ			18:47																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Instrument ID: C Analysis Method: EPA 6010C

Start Date: 10/22/2019 08:15 End Date: 10/23/2019 03:27

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	As	Ba	Cd	Cr	Pb	Se																		
ZZZZZZ			18:52																									
CCV 180-295734/128			18:57																									
CCB11 180-295734/129			19:02																									
CCVL 180-295734/130			19:07																									
ZZZZZZ			19:12																									
ZZZZZZ			19:18																									
ZZZZZZ			19:22																									
ZZZZZZ			19:28																									
ZZZZZZ			19:33																									
ZZZZZZ			19:38																									
ZZZZZZ			19:43																									
ZZZZZZ			19:47																									
CCV 180-295734/139			19:52																									
CCB12 180-295734/140			19:57																									
ZZZZZZ			20:02																									
ZZZZZZ			20:07																									
ZZZZZZ			20:12																									
ZZZZZZ			20:17																									
ZZZZZZ			20:22																									
ZZZZZZ			20:27																									
ZZZZZZ			20:32																									
ZZZZZZ			20:37																									
ZZZZZZ			20:42																									
ZZZZZZ			20:47																									
CCV 180-295734/151			20:51																									
CCB13 180-295734/152			20:56																									
ZZZZZZ			21:01																									
ZZZZZZ			21:06																									
ZZZZZZ			21:11																									
ZZZZZZ			21:16																									
ZZZZZZ			21:21																									
ZZZZZZ			21:27																									
ZZZZZZ			21:32																									
CCV 180-295734/160			21:37																									
CCB14 180-295734/161			21:42																									
CCVL 180-295734/162			21:47																									
ZZZZZZ			21:52																									
ZZZZZZ			21:57																									
ZZZZZZ			22:02																									
ZZZZZZ			22:07																									
ZZZZZZ			22:12																									
ZZZZZZ			22:17																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Instrument ID: C Analysis Method: EPA 6010C

Start Date: 10/22/2019 08:15 End Date: 10/23/2019 03:27

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	As	Ba	Cd	Cr	Pb	Se																		
ZZZZZZ			22:22																									
ZZZZZZ			22:27																									
ZZZZZZ			22:32																									
CCV 180-295734/172			22:37																									
CCB15 180-295734/173			22:42																									
ZZZZZZ			22:47																									
ZZZZZZ			22:53																									
ZZZZZZ			22:58																									
ZZZZZZ			23:03																									
ZZZZZZ			23:08																									
ZZZZZZ			23:13																									
ZZZZZZ			23:19																									
ZZZZZZ			23:24																									
ZZZZZZ			23:29																									
CCV 180-295734/183			23:35																									
CCB16 180-295734/184			23:39																									
ZZZZZZ			23:45																									
ZZZZZZ			23:50																									
ZZZZZZ			23:55																									
ZZZZZZ			00:00																									
ZZZZZZ			00:05																									
ZZZZZZ			00:10																									
ZZZZZZ			00:16																									
ZZZZZZ			00:21																									
ZZZZZZ			00:26																									
CCV 180-295734/194			00:31																									
CCB17 180-295734/195			00:36																									
ZZZZZZ			00:41																									
ZZZZZZ			00:46																									
ZZZZZZ			00:51																									
ZZZZZZ			00:57																									
ZZZZZZ			01:02																									
ZZZZZZ			01:07																									
ZZZZZZ			01:12																									
ZZZZZZ			01:17																									
ZZZZZZ			01:22																									
CCV 180-295734/205			01:27																									
CCB18 180-295734/206			01:32																									
ZZZZZZ			01:37																									
ZZZZZZ			01:42																									
ZZZZZZ			01:48																									
ZZZZZZ			01:53																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Instrument ID: C Analysis Method: EPA 6010C

Start Date: 10/22/2019 08:15 End Date: 10/23/2019 03:27

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	As	Ba	Cd	Cr	Pb	Se																		
ZZZZZZ			01:58																									
ZZZZZZ			02:03																									
ZZZZZZ			02:09																									
ZZZZZZ			02:14																									
ZZZZZZ			02:19																									
CCV 180-295734/216			02:24																									
CCB19 180-295734/217			02:29																									
ZZZZZZ			02:34																									
ZZZZZZ			02:40																									
ZZZZZZ			02:45																									
ZZZZZZ			02:50																									
ZZZZZZ			02:55																									
ZZZZZZ			03:01																									
ZZZZZZ			03:06																									
ZZZZZZ			03:11																									
ZZZZZZ			03:17																									
CCV 180-295734/227			03:22																									
CCB20 180-295734/228			03:27																									

Prep Types:
P = TCLP
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Instrument ID: HGZ Analysis Method: EPA 7470A

Start Date: 10/18/2019 16:56 End Date: 10/18/2019 20:36

Lab Sample Id	D/F	Type	Time	Analytes																							
				Hg																							
IC 180-295364/1-A			16:56	X																							
IC 180-295364/2-A			16:57	X																							
IC 180-295364/3-A			16:58	X																							
IC 180-295364/4-A			16:59	X																							
IC 180-295364/5-A			17:00	X																							
IC 180-295364/6-A			17:01	X																							
ICV 180-295364/7-A	1		17:04	X																							
ICB 180-295364/8-A	1		17:05	X																							
CRA 180-295364/9-A			17:06																								
CCV 180-295364/10-A	1		17:07	X																							
CCB 180-295364/11-A	1		17:08	X																							
ZZZZZZ			17:09																								
ZZZZZZ			17:10																								
ZZZZZZ			17:10																								
ZZZZZZ			17:11																								
ZZZZZZ			17:12																								
ZZZZZZ			17:13																								
ZZZZZZ			17:14																								
ZZZZZZ			17:15																								
CCV 180-295364/10-A			17:16																								
CCB 180-295364/11-A			17:17																								
ZZZZZZ			17:18																								
ZZZZZZ			17:19																								
ZZZZZZ			17:20																								
ZZZZZZ			17:21																								
ZZZZZZ			17:22																								
ZZZZZZ			17:23																								
ZZZZZZ			17:24																								
ZZZZZZ			17:25																								
ZZZZZZ			17:26																								
CCV 180-295364/10-A			17:27																								
CCB 180-295364/11-A			17:28																								
ZZZZZZ			17:29																								
ZZZZZZ			17:30																								
ZZZZZZ			17:31																								
ZZZZZZ			17:32																								
ZZZZZZ			17:32																								
ZZZZZZ			17:33																								
ZZZZZZ			17:34																								
ZZZZZZ			17:35																								
ZZZZZZ			17:36																								
ZZZZZZ			17:37																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Instrument ID: HGZ Analysis Method: EPA 7470A

Start Date: 10/18/2019 16:56 End Date: 10/18/2019 20:36

Lab Sample Id	D/F	Type	Time	Analytes																							
				Hg																							
CCV 180-295364/10-A			17:38																								
CCB 180-295364/11-A			17:39																								
ZZZZZZ			17:40																								
ZZZZZZ			17:41																								
ZZZZZZ			17:42																								
ZZZZZZ			17:43																								
ZZZZZZ			17:44																								
ZZZZZZ			17:45																								
ZZZZZZ			17:46																								
ZZZZZZ			17:47																								
ZZZZZZ			17:48																								
ZZZZZZ			17:49																								
CCV 180-295364/10-A			17:50																								
CCB 180-295364/11-A			17:51																								
ZZZZZZ			17:52																								
ZZZZZZ			17:53																								
ZZZZZZ			17:54																								
ZZZZZZ			17:55																								
ZZZZZZ			17:55																								
ZZZZZZ			17:56																								
ZZZZZZ			17:57																								
ZZZZZZ			17:58																								
ZZZZZZ			17:59																								
ZZZZZZ			18:00																								
CCV 180-295364/10-A			18:01																								
CCB 180-295364/11-A			18:02																								
ZZZZZZ			18:03																								
ZZZZZZ			18:04																								
ZZZZZZ			18:05																								
ZZZZZZ			18:06																								
ZZZZZZ			18:07																								
ZZZZZZ			18:08																								
ZZZZZZ			18:12																								
ZZZZZZ			18:13																								
ZZZZZZ			18:14																								
ZZZZZZ			18:15																								
CRA 180-295364/9-A			18:16																								
CCV 180-295364/10-A			18:17																								
CCB 180-295364/11-A			18:18																								
ZZZZZZ			18:19																								
ZZZZZZ			18:20																								
ZZZZZZ			18:20																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Instrument ID: HGZ Analysis Method: EPA 7470A

Start Date: 10/18/2019 16:56 End Date: 10/18/2019 20:36

Lab Sample Id	D/F	Type	Time	Analytes																							
				Hg																							
ZZZZZZ			18:21																								
ZZZZZZ			18:22																								
ZZZZZZ			18:23																								
ZZZZZZ			18:24																								
ZZZZZZ			18:25																								
ZZZZZZ			18:26																								
CCV 180-295364/10-A			18:27																								
CCB 180-295364/11-A			18:28																								
ZZZZZZ			18:29																								
ZZZZZZ			18:30																								
ZZZZZZ			18:31																								
ZZZZZZ			18:32																								
ZZZZZZ			18:33																								
ZZZZZZ			18:34																								
ZZZZZZ			18:35																								
ZZZZZZ			18:36																								
ZZZZZZ			18:37																								
ZZZZZZ			18:38																								
CCV 180-295364/10-A			18:39																								
CCB 180-295364/11-A			18:40																								
ZZZZZZ			18:41																								
ZZZZZZ			18:42																								
ZZZZZZ			18:43																								
ZZZZZZ			18:44																								
ZZZZZZ			18:45																								
ZZZZZZ			18:45																								
ZZZZZZ			18:46																								
ZZZZZZ			18:47																								
ZZZZZZ			18:48																								
ZZZZZZ			18:49																								
CCV 180-295364/10-A			18:50																								
CCB 180-295364/11-A			18:51																								
ZZZZZZ			18:52																								
ZZZZZZ			18:53																								
ZZZZZZ			18:54																								
ZZZZZZ			18:55																								
ZZZZZZ			18:56																								
ZZZZZZ			18:57																								
ZZZZZZ			18:58																								
ZZZZZZ			18:59																								
ZZZZZZ			19:00																								
ZZZZZZ			19:01																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Instrument ID: HGZ Analysis Method: EPA 7470A

Start Date: 10/18/2019 16:56 End Date: 10/18/2019 20:36

Lab Sample Id	D/F	Type	Time	Analytes																							
				Hg																							
CCV 180-295364/10-A			19:02																								
CCB 180-295364/11-A			19:03																								
ZZZZZZ			19:04																								
ZZZZZZ			19:05																								
ZZZZZZ			19:06																								
ZZZZZZ			19:07																								
ZZZZZZ			19:08																								
ZZZZZZ			19:09																								
ZZZZZZ			19:10																								
ZZZZZZ			19:11																								
ZZZZZZ			19:12																								
ZZZZZZ			19:12																								
CCV 180-295364/10-A			19:13																								
CCB 180-295364/11-A			19:14																								
ZZZZZZ			19:15																								
ZZZZZZ			19:16																								
ZZZZZZ			19:17																								
ZZZZZZ			19:18																								
ZZZZZZ			19:19																								
ZZZZZZ			19:20																								
ZZZZZZ			19:21																								
ZZZZZZ			19:22																								
ZZZZZZ			19:23																								
ZZZZZZ			19:24																								
CRA 180-295364/9-A	1		19:25	X																							
CCV 180-295364/10-A			19:26																								
CCB 180-295364/11-A			19:27																								
ZZZZZZ			19:28																								
ZZZZZZ			19:29																								
ZZZZZZ			19:30																								
ZZZZZZ			19:31																								
ZZZZZZ			19:32																								
ZZZZZZ			19:33																								
ZZZZZZ			19:34																								
ZZZZZZ			19:35																								
ZZZZZZ			19:36																								
ZZZZZZ			19:37																								
CCV 180-295364/10-A			19:38																								
CCB 180-295364/11-A			19:39																								
ZZZZZZ			19:40																								
ZZZZZZ			19:41																								
ZZZZZZ			19:42																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Instrument ID: HGZ Analysis Method: EPA 7470A

Start Date: 10/18/2019 16:56 End Date: 10/18/2019 20:36

Lab Sample Id	D/F	Type	Time	Analytes																							
				Hg																							
ZZZZZZ			19:43																								
ZZZZZZ			19:44																								
ZZZZZZ			19:44																								
ZZZZZZ			19:45																								
ZZZZZZ			19:46																								
ZZZZZZ			19:47																								
CCV 180-295364/10-A	1		19:48	X																							
CCB 180-295364/11-A	1		19:49	X																							
MB 180-295382/1-A	1	T	19:50	X																							
LCS 180-295382/2-A	1	T	19:51	X																							
LB 180-295177/1-D	1	P	19:52	X																							
ZZZZZZ			19:53																								
ZZZZZZ			19:54																								
ZZZZZZ			19:55																								
ZZZZZZ			19:56																								
ZZZZZZ			19:57																								
ZZZZZZ			19:58																								
180-97287-1	1	P	19:59	X																							
CCV 180-295364/10-A	1		20:00	X																							
CCB 180-295364/11-A	1		20:01	X																							
ZZZZZZ			20:02																								
ZZZZZZ			20:03																								
ZZZZZZ			20:04																								
ZZZZZZ			20:05																								
ZZZZZZ			20:06																								
ZZZZZZ			20:07																								
ZZZZZZ			20:08																								
ZZZZZZ			20:09																								
ZZZZZZ			20:10																								
ZZZZZZ			20:11																								
CCV 180-295364/10-A			20:12																								
CCB 180-295364/11-A			20:13																								
ZZZZZZ			20:14																								
ZZZZZZ			20:15																								
ZZZZZZ			20:16																								
ZZZZZZ			20:17																								
ZZZZZZ			20:18																								
ZZZZZZ			20:19																								
ZZZZZZ			20:20																								
ZZZZZZ			20:21																								
ZZZZZZ			20:21																								
ZZZZZZ			20:22																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Instrument ID: HGZ Analysis Method: EPA 7470A

Start Date: 10/18/2019 16:56 End Date: 10/18/2019 20:36

Lab Sample Id	D/F	Type	Time	Analytes																							
				Hg																							
CCV 180-295364/10-A			20:23																								
CCB 180-295364/11-A			20:24																								
ZZZZZZ			20:25																								
ZZZZZZ			20:26																								
ZZZZZZ			20:27																								
ZZZZZZ			20:28																								
ZZZZZZ			20:29																								
ZZZZZZ			20:30																								
ZZZZZZ			20:31																								
ZZZZZZ			20:32																								
ZZZZZZ			20:33																								
CRA 180-295364/9-A	1		20:34	X																							
CCV 180-295364/10-A			20:35																								
CCB 180-295364/11-A			20:36																								

Prep Types:
P = TCLP
T = Total/NA

FORM XIII-IN

15-IN
ICP INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

ICP Instrument ID: C Start Date: 10/22/2019 End Date: 10/22/2019

Lab Sample ID	Time	Internal Standards %RI For:									
		Element In 230.606	Q	Element Y 224.306	Q	Element Y 360.073	Q	Element Y 371.030	Q	Element	Q
ICV 180-295734/4	08:31										
ICBIS 180-295734/5	08:35										
ICVL 180-295734/6	08:41	97		99		99		100			
ICSA 180-295734/7	08:46	74		88		86		96			
ICSAB 180-295734/8	08:51	73		87		86		96			
CCV 180-295734/9	08:56	82		94		93		98			
CCB1 180-295734/10	09:01	100		100		101		99			
MB 180-295580/1-A	09:06	101		101		102		102			
LCS 180-295580/2-A	09:11	90		97		97		101			
CCV 180-295734/21	09:56	81		93		91		94			
CCB2 180-295734/22	10:01	98		98		99		96			
CCV 180-295734/33	10:58	81		93		91		94			
CCB3 180-295734/34	11:03	99		99		99		95			
LB 180-295177/1-G	11:08	87		96		94		96			
CCV 180-295734/45	12:00	82		94		92		93			
CCB4 180-295734/46	12:05	99		100		99		95			
180-97287-1	12:20	85		95		93		95			
CCV 180-295734/55	12:51	83		95		94		97			
CCB5 180-295734/56	12:56	101		102		102		98			
CCVL 180-295734/57	13:01	97		101		101		99			

FORM XV - IN

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295177 Batch Start Date: 10/16/19 16:15 Batch Analyst: Stundon, Jeremy A

Batch Method: 1311 Batch End Date: 10/17/19 09:45

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	FiltCompDate	FiltCompTime	LeachatepH		
LB 180-295177/1		1311, 3010A, EPA 6010C		2000 mL	10/17/19	1030	4.93 SU		

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295177 Batch Start Date: 10/16/19 16:15 Batch Analyst: Stundon, Jeremy A

Batch Method: 1311 Batch End Date: 10/17/19 09:45

Batch Notes	
1N HCl ID	2948732
Balance ID	AND-14577823
pH Buffer 1 ID	3166975
pH Buffer 2 ID	2613652
pH Buffer 3 ID	2923701
pH Buffer 4 ID	3384621
First End time	1115
Filter ID	3409948
Lot # of Nitric Acid	2819852
Hot Plate ID	TCLP-2
pH Meter Calibration Slope	98.0/97.9
pH Meter ID	ACCUMET-XL-150
Probe ID	XV3-12485
Room Temperature Thermometer ID	FISHER-160719405
Analyst ID - Spike Analyst	JAS
First Start time	1030
TCLP Fluid 1 ID	3409948
TCLP Fluid 1 pH	4.93
TCLP Fluid 2 ID	2726101
TCLP Fluid 2 pH	2.88
Maximum Temperature	22 Degrees C
Minimum Temperature	22 Degrees C
Thermometer ID	TCLP-2
Tumbler Rotations per Minute	Tumbler 1: 31
Uncorrected Maximum Temperature	22 Degrees C
Uncorrected Minimum Temperature	22 Degrees C
Uncorrected Water Bath Temperature	50.0 Celsius
Water Bath ID	TCLP-2
Water Bath Temperature	50.0 Degrees C
Water Bath Thermometer ID	TCLP-2

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295177 Batch Start Date: 10/16/19 16:15 Batch Analyst: Stundon, Jeremy A

Batch Method: 1311 Batch End Date: 10/17/19 09:45

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295177 Batch Start Date: 10/16/19 16:15 Batch Analyst: Stundon, Jeremy A

Batch Method: EPA 1311 Batch End Date: 10/17/19 09:45

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	EFD_SampleWeight	EFD_VolumeWater Add	EFD_InitialpH	EFD_AddHClpH>5
180-97287-A-1	11187072-NORTH-I MPCT-INITIALS	EPA 1311, 3010A, EPA 6010C	P	100.00 g	2000 mL	5.00 g	96.5 mL	9.05 SU	3.50 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	EFD_HeatHeld	EFD_SecondpHCheck	FiltCompDate	FiltCompTime	LeachatepH	
180-97287-A-1	11187072-NORTH-I MPCT-INITIALS	EPA 1311, 3010A, EPA 6010C	P	50.0 Deg. C	1.78 SU	10/17/19	1030	6.17 SU	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295177 Batch Start Date: 10/16/19 16:15 Batch Analyst: Stundon, Jeremy A

Batch Method: EPA 1311 Batch End Date: 10/17/19 09:45

Batch Notes	
1N HCl ID	2948732
Balance ID	AND-14577823
pH Buffer 1 ID	3166975
pH Buffer 2 ID	2613652
pH Buffer 3 ID	2923701
pH Buffer 4 ID	3384621
First End time	1115
Filter ID	3409948
Lot # of Nitric Acid	2819852
Hot Plate ID	TCLP-2
pH Meter Calibration Slope	98.0/97.9
pH Meter ID	ACCUMET-XL-150
Probe ID	XV3-12485
Room Temperature Thermometer ID	FISHER-160719405
Analyst ID - Spike Analyst	JAS
First Start time	1030
TCLP Fluid 1 ID	3409948
TCLP Fluid 1 pH	4.93
TCLP Fluid 2 ID	2726101
TCLP Fluid 2 pH	2.88
Maximum Temperature	22 Degrees C
Minimum Temperature	22 Degrees C
Thermometer ID	TCLP-2
Tumbler Rotations per Minute	Tumbler 1: 31
Uncorrected Maximum Temperature	22 Degrees C
Uncorrected Minimum Temperature	22 Degrees C
Uncorrected Water Bath Temperature	50.0 Celsius
Water Bath ID	TCLP-2
Water Bath Temperature	50.0 Degrees C
Water Bath Thermometer ID	TCLP-2

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295177 Batch Start Date: 10/16/19 16:15 Batch Analyst: Stundon, Jeremy A

Batch Method: EPA 1311 Batch End Date: 10/17/19 09:45

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295580 Batch Start Date: 10/21/19 18:00 Batch Analyst: Wanyoike, Margaret W

Batch Method: 3010A Batch End Date: 10/21/19 22:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	BSbAgZn INT 00009	TA-SPIKE1 00006	TA-SPIKE2 00004	
MB 180-295580/1		3010A, EPA 6010C		50 mL	50 mL				
LCS 180-295580/2		3010A, EPA 6010C		50 mL	50 mL	0.25 mL	0.25 mL	0.25 mL	
LB 180-295177/1-A		3010A, EPA 6010C		5 mL	50 mL				
180-97287-A-1-B	11187072-NORTH-I MPCT-INITIALS	3010A, EPA 6010C	P	5 mL	50 mL				

Batch Notes	
Batch Comment	METALS A5
Temperature - Corrected - End	94 Degrees C
Temperature - Corrected - Start	94 Degrees C
Digestion End Time	10/21/2019 22:00
Digestion Start Time	10/21/2019 18:00
Digestion Unit ID	HB3
Hydrochloric Acid ID	5.0mL 3409522
Nitric Acid ID	1.5mL 3417864
Pipette/Syringe/Dispenser ID	B912396809
Analyst ID - Spike Analyst	MWW
Analyst ID - Spike Witness Analyst	MWW
Sufficient Volume for Batch QC	YES
Thermometer ID	671644 CF0.0 D6
Digestion Tube/Cup ID	ENVEXPRESS 1902243
Temperature - Uncorrected - End	94 Degrees C
Temperature - Uncorrected - Start	94 Degrees C

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295177 Batch Start Date: 10/16/19 16:15 Batch Analyst: Stundon, Jeremy A

Batch Method: 1311 Batch End Date: 10/17/19 09:45

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	FiltCompDate	FiltCompTime	LeachatepH		
LB 180-295177/1		1311, 7470A, EPA 7470A		2000 mL	10/17/19	1030	4.93 SU		

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295177 Batch Start Date: 10/16/19 16:15 Batch Analyst: Stundon, Jeremy A

Batch Method: 1311 Batch End Date: 10/17/19 09:45

Batch Notes	
1N HCl ID	2948732
Balance ID	AND-14577823
pH Buffer 1 ID	3166975
pH Buffer 2 ID	2613652
pH Buffer 3 ID	2923701
pH Buffer 4 ID	3384621
First End time	1115
Filter ID	3409948
Lot # of Nitric Acid	2819852
Hot Plate ID	TCLP-2
pH Meter Calibration Slope	98.0/97.9
pH Meter ID	ACCUMET-XL-150
Probe ID	XV3-12485
Room Temperature Thermometer ID	FISHER-160719405
Analyst ID - Spike Analyst	JAS
First Start time	1030
TCLP Fluid 1 ID	3409948
TCLP Fluid 1 pH	4.93
TCLP Fluid 2 ID	2726101
TCLP Fluid 2 pH	2.88
Maximum Temperature	22 Degrees C
Minimum Temperature	22 Degrees C
Thermometer ID	TCLP-2
Tumbler Rotations per Minute	Tumbler 1: 31
Uncorrected Maximum Temperature	22 Degrees C
Uncorrected Minimum Temperature	22 Degrees C
Uncorrected Water Bath Temperature	50.0 Celsius
Water Bath ID	TCLP-2
Water Bath Temperature	50.0 Degrees C
Water Bath Thermometer ID	TCLP-2

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295177 Batch Start Date: 10/16/19 16:15 Batch Analyst: Stundon, Jeremy A

Batch Method: 1311 Batch End Date: 10/17/19 09:45

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295177 Batch Start Date: 10/16/19 16:15 Batch Analyst: Stundon, Jeremy A

Batch Method: EPA 1311 Batch End Date: 10/17/19 09:45

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	EFD_SampleWeight	EFD_VolumeWaterAdd	EFD_InitialpH	EFD_AddHClpH>5
180-97287-A-1	11187072-NORTH-IMPCT-INITIALS	EPA 1311, 7470A, EPA 7470A	P	100.00 g	2000 mL	5.00 g	96.5 mL	9.05 SU	3.50 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	EFD_HeatHeld	EFD_SecondpHCheck	FiltCompDate	FiltCompTime	LeachatepH	
180-97287-A-1	11187072-NORTH-IMPCT-INITIALS	EPA 1311, 7470A, EPA 7470A	P	50.0 Deg. C	1.78 SU	10/17/19	1030	6.17 SU	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295177 Batch Start Date: 10/16/19 16:15 Batch Analyst: Stundon, Jeremy A

Batch Method: EPA 1311 Batch End Date: 10/17/19 09:45

Batch Notes	
1N HCl ID	2948732
Balance ID	AND-14577823
pH Buffer 1 ID	3166975
pH Buffer 2 ID	2613652
pH Buffer 3 ID	2923701
pH Buffer 4 ID	3384621
First End time	1115
Filter ID	3409948
Lot # of Nitric Acid	2819852
Hot Plate ID	TCLP-2
pH Meter Calibration Slope	98.0/97.9
pH Meter ID	ACCUMET-XL-150
Probe ID	XV3-12485
Room Temperature Thermometer ID	FISHER-160719405
Analyst ID - Spike Analyst	JAS
First Start time	1030
TCLP Fluid 1 ID	3409948
TCLP Fluid 1 pH	4.93
TCLP Fluid 2 ID	2726101
TCLP Fluid 2 pH	2.88
Maximum Temperature	22 Degrees C
Minimum Temperature	22 Degrees C
Thermometer ID	TCLP-2
Tumbler Rotations per Minute	Tumbler 1: 31
Uncorrected Maximum Temperature	22 Degrees C
Uncorrected Minimum Temperature	22 Degrees C
Uncorrected Water Bath Temperature	50.0 Celsius
Water Bath ID	TCLP-2
Water Bath Temperature	50.0 Degrees C
Water Bath Thermometer ID	TCLP-2

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295177 Batch Start Date: 10/16/19 16:15 Batch Analyst: Stundon, Jeremy A

Batch Method: EPA 1311 Batch End Date: 10/17/19 09:45

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295364 Batch Start Date: 10/18/19 14:30 Batch Analyst: Marfisi, Nicole A

Batch Method: 7470A Batch End Date: 10/18/19 16:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MHgworkingCal 02163	MHgWorkingicv 02117		
ICV 180-295364/7		7470A, EPA 7470A		100 mL	100 mL		2.5 mL		
ICB 180-295364/8		7470A, EPA 7470A		100 mL	100 mL				
CRA 180-295364/9		7470A, EPA 7470A		100 mL	100 mL	0.2 mL			
CCV 180-295364/10		7470A, EPA 7470A		100 mL	100 mL	5 mL			
CCB 180-295364/11		7470A, EPA 7470A		100 mL	100 mL				

Batch Notes	
Batch Comment	HG-DISP-05C4676
Temperature - Corrected - End	95C Degrees C
Temperature - Corrected - Start	95C Degrees C
Digestion End Time	10/18/19 1630
Digestion Start Time	10/18/19 1430
Digestion Unit ID	HB1
Sulfuric Acid ID	5ML 3411375 HG-DISP-7N8924
Nitric Acid ID	2.50ML 3330882 HG-DISP-N1
Hydroxylamine ID	6ML 3419862 HG-DISP-C6
Potassium Persulfate ID	8ML 3415644 HG-DISP-KS4
Potassium Permanganate ID	15ML 3417275 HG-DISP-KMNO4
Pipette/Syringe/Dispenser ID	B912396809 B720115069
Analyst ID - Spike Analyst	NAM
Analyst ID - Spike Witness Analyst	NAM
Thermometer ID	081100972 CF0.0 C4
Digestion Tube/Cup ID	ENVEXPRESS 1904119
Temperature - Uncorrected - End	95C Degrees C
Temperature - Uncorrected - Start	95C Degrees C

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295364 Batch Start Date: 10/18/19 14:30 Batch Analyst: Marfisi, Nicole A

Batch Method: 7470A Batch End Date: 10/18/19 16:30

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295382 Batch Start Date: 10/18/19 14:30 Batch Analyst: Marfisi, Nicole A

Batch Method: 7470A Batch End Date: 10/18/19 16:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MHgworkingCal 02163			
MB 180-295382/1		7470A, EPA 7470A		50 mL	50 mL				
LCS 180-295382/2		7470A, EPA 7470A		50 mL	50 mL	1.25 mL			
LB 180-295177/1-A		7470A, EPA 7470A		50 mL	50 mL				
180-97287-A-1-B	11187072-NORTH-I MPCT-INITIALS	7470A, EPA 7470A	P	50 mL	50 mL				

Batch Notes	
Batch Comment	HG-DISP-05C4676
Temperature - Corrected - End	96 Degrees C
Temperature - Corrected - Start	96 Degrees C
Digestion End Time	10/18/19 1630
Digestion Start Time	10/18/19 1430
Digestion Unit ID	HB4
Sulfuric Acid ID	2.5 mL 3411375 HG-DISP-7N8924
Nitric Acid ID	1.25 mL 3330882 HG-DISP-N1
Hydroxylamine ID	3 mL 3419862 HG-DISP-C6
Potassium Persulfate ID	4 mL 3415644 HG-DISP-KS4
Potassium Permanganate ID	7.5 mL 3417275 HG-DISP-KMNO4
Pipette/Syringe/Dispenser ID	B912396809 B720115069
Analyst ID - Spike Analyst	NAM
Analyst ID - Spike Witness Analyst	NAM
Sufficient Volume for Batch QC	YES
Thermometer ID	3112832 CF0.0 C4
Digestion Tube/Cup ID	ENVEXPRESS 1904119
Temperature - Uncorrected - End	96 Degrees C
Temperature - Uncorrected - Start	96 Degrees C

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Sample Name: STD1 Acquired: 10/22/2019 8:15:48 Type: Cal
Method: PITT-6500ICP-2(v3863) Mode: IR Corr. Factor: 1.000000
User: RGood Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.00011	.00042	-.00008	.00006	.00062	-.00361
Stddev	.00009	.00012	.00012	.00005	.00073	.00047
%RSD	81.903	29.170	145.69	86.275	118.14	13.048
#1	-.00016	.00056	-.00021	.00004	.00023	-.00412
#2	-.00001	.00038	.00002	.00012	.00017	-.00353
#3	-.00016	.00032	-.00005	.00002	.00147	-.00319

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00527	.00013	.00031	.00004	-.00096	.00012
Stddev	.00034	.00014	.00031	.00003	.00006	.00015
%RSD	6.4780	109.12	99.727	69.133	5.7894	127.67
#1	.00548	-.00003	.00010	.00006	-.00091	.00025
#2	.00488	.00021	.00067	.00001	-.00102	-.00005
#3	.00546	.00022	.00017	.00004	-.00095	.00015

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00121	.00004	-.00015	.00003	.00004	.00475
Stddev	.00254	.00081	.00008	.00007	.00004	.00148
%RSD	209.90	2018.5	48.755	207.44	88.159	31.170
#1	.00282	-.00038	-.00016	-.00003	.00004	.00307
#2	.00253	.00098	-.00008	.00010	.00001	.00586
#3	-.00172	-.00047	-.00023	.00003	.00008	.00533

Sample Name: STD1 Acquired: 10/22/2019 8:15:48 Type: Cal
Method: PITT-6500ICP-2(v3863) Mode: IR Corr. Factor: 1.000000
User: RGood Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.00254**	**.00005**	**-.00010**	**.00010**	**.00025**	**.00010**
Stddev	.00027	.00044	.00012	.00008	.00021	.00010
%RSD	10.785	844.55	118.09	79.549	86.617	101.27
#1	.00275	-.00023	-.00008	.00002	.00036	.00010
#2	.00223	.00056	-.00022	.00009	.00000	-.00000
#3	.00264	-.00017	.00001	.00018	.00037	.00020

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-.00092**	**.00004**	**-.00069**	**-.00038**	**-.00042**
Stddev	.00061	.00009	.00010	.00041	.00002
%RSD	66.823	236.06	13.832	106.92	4.2765
#1	-.00123	.00009	-.00074	.00004	-.00043
#2	-.00131	.00009	-.00058	-.00078	-.00043
#3	-.00021	-.00007	-.00075	-.00040	-.00040

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4014.8**	**6109.4**	**93082.**	**7134.4**
Stddev	11.7	15.8	197.	25.1
%RSD	.29222	.25788	.21131	.35175
#1	4026.4	6127.2	92861.	7138.3
#2	4015.0	6103.8	93146.	7157.4
#3	4003.0	6097.3	93239.	7107.6

Sample Name: STD2A Acquired: 10/22/2019 8:20:57 Type: Cal
Method: PITT-6500ICP-2(v3863) Mode: IR Corr. Factor: 1.000000
User: RGood Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag	As	B_	Ba	Be	Cd
Line	328.068 {103}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}	228.802 {447}
IS Ref	(Y_3600)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.48875	.06760	.86038	15.844	16.995	2.0513
Stddev	.00054	.00028	.00064	.068	.053	.0033
%RSD	.11151	.41721	.07440	.42835	.31246	.16066
#1	.48871	.06767	.85978	15.862	17.040	2.0477
#2	.48932	.06730	.86105	15.901	17.008	2.0519
#3	.48823	.06785	.86031	15.769	16.936	2.0542

Elem	Co	Cr	Cu	Li	Mn	Mo
Line	228.616 {447}	267.716 {126}	327.396 {103}	670.784 { 50}	257.610 {131}	202.030 {467}
IS Ref	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)	(Y_3600)	(Y_2243)
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6.6189	.73167	.62797	6.4808	4.3274	2.6079
Stddev	.0034	.00213	.00351	.0061	.0112	.0025
%RSD	.05146	.29119	.55826	.09426	.25866	.09635
#1	6.6153	.72977	.62460	6.4840	4.3352	2.6081
#2	6.6194	.73397	.63160	6.4738	4.3146	2.6052
#3	6.6220	.73126	.62770	6.4847	4.3323	2.6103

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2.6730	.38313	.12019	.05715	.09161	.91979
Stddev	.0056	.00115	.00040	.00016	.00023	.00148
%RSD	.20814	.29922	.33433	.27696	.24817	.16106
#1	2.6666	.38255	.11972	.05732	.09144	.91954
#2	2.6766	.38445	.12042	.05710	.09153	.91845
#3	2.6758	.38239	.12042	.05702	.09187	.92138

Sample Name: STD2A Acquired: 10/22/2019 8:20:57 Type: Cal
Method: PITT-6500ICP-2(v3863) Mode: IR Corr. Factor: 1.000000
User: RGood Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.44035	2.4349	.33208	.31506	3.8301
Stddev	.00120	.0041	.00054	.00158	.0097
%RSD	.27244	.16810	.16178	.50263	.25422
#1	.44169	2.4314	.33167	.31569	3.8245
#2	.43938	2.4394	.33189	.31624	3.8245
#3	.43998	2.4339	.33269	.31326	3.8413

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3769.9	6035.8	92025.	7196.7
Stddev	5.2	5.4	186.	23.8
%RSD	.13739	.08992	.20181	.33139
#1	3775.5	6042.0	91894.	7180.0
#2	3765.4	6033.5	91943.	7186.1
#3	3768.8	6032.0	92237.	7224.0

Sample Name: STD3 Acquired: 10/22/2019 8:25:49 Type: Cal
Method: PITT-6500ICP-2(v3863) Mode: IR Corr. Factor: 1.000000
User: RGood Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Al	Ca	Fe	K_	Mg	Na
Line	308.215 {109}	317.933 {106}	259.940 {130}	766.490 { 44}	279.079 {121}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3710)
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.63496	10.489	3.7297	15.383	.90446	58.429
Stddev	.00429	.023	.0199	.056	.00507	.512
%RSD	.67629	.21630	.53419	.36263	.56047	.87652
#1	.63987	10.515	3.7517	15.442	.90907	58.775
#2	.63309	10.479	3.7244	15.373	.90528	58.670
#3	.63191	10.472	3.7130	15.332	.89903	57.840

Int. Std.	Y_3710
Line	371.030 { 91}
Units	Cts/S
Avg	6990.9
Stddev	40.7
%RSD	.58168
#1	6947.9
#2	6996.2
#3	7028.7

Sample Name: ICV 3426785 Acquired: 10/22/2019 8:31:06 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.50022	12.512	W .26438	1.0320	1.0038	1.0100
Stddev	.00064	.092	.00231	.0025	.0069	.0053
%RSD	.12759	.73738	.87525	.24366	.68618	.52682
#1	.50009	12.547	.26476	1.0303	1.0018	1.0093
#2	.49966	12.407	.26189	1.0308	.99815	1.0051
#3	.50092	12.581	.26647	1.0349	1.0115	1.0157
Check ?	Chk Pass	Chk Pass	Chk Warn	Chk Pass	Chk Pass	Chk Pass
Value			.25000			
Range			5.5000%			

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.115	.25207	1.0080	.97428	.97925	12.732
Stddev	.076	.00026	.0004	.00419	.00346	.076
%RSD	.30309	.10481	.03910	.43045	.35305	.59344
#1	25.152	.25208	1.0083	.97912	.98296	12.716
#2	25.028	.25234	1.0083	.97194	.97867	12.665
#3	25.166	.25181	1.0076	.97178	.97611	12.814
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: ICV 3426785 Acquired: 10/22/2019 8:31:06 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	50.010	1.0072	25.005	.99531	.98314	51.145
Stddev	.254	.0031	.102	.00097	.00089	.195
%RSD	.50829	.30541	.40599	.09722	.09041	.38029
#1	50.082	1.0056	25.091	.99618	.98308	51.020
#2	49.728	1.0052	24.893	.99427	.98229	51.046
#3	50.221	1.0107	25.032	.99549	.98406	51.369
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.0110	.24966	.25052	.25585	F 1.1051	.96488
Stddev	.0010	.00203	.00189	.00064	.0178	.00118
%RSD	.10041	.81448	.75475	.25030	1.6087	.12256
#1	1.0118	.25079	.25037	.25614	1.0946	.96547
#2	1.0099	.24731	.24871	.25629	1.0951	.96352
#3	1.0113	.25087	.25248	.25511	1.1257	.96565
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
Value					1.0000	
Range					10.500%	

Sample Name: ICV 3426785 Acquired: 10/22/2019 8:31:06 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.98665	.99295	.51167	1.0191	.98408
Stddev	.01388	.00184	.00167	.0130	.00162
%RSD	1.4070	.18517	.32672	1.2797	.16491
#1	.97207	.99483	.51347	1.0167	.98509
#2	.98815	.99116	.51017	1.0075	.98221
#3	.99971	.99285	.51136	1.0332	.98493
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3547.4	5959.9	89940.	7206.9
Stddev	5.3	6.5	83.	66.8
%RSD	.15055	.10870	.09275	.92758
#1	3544.7	5956.7	90012.	7159.4
#2	3544.1	5955.6	89849.	7283.3
#3	3553.6	5967.3	89960.	7177.9

Sample Name: ICBIS Acquired: 10/22/2019 8:35:57 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00005	.00842	.00059	.00067	.00004	-.00004
Stddev	.00011	.02716	.00057	.00026	.00033	.00009
%RSD	235.39	322.63	95.912	39.270	912.04	217.11
#1	.00003	-.00391	.00053	.00037	.00006	.00004
#2	.00001	.03956	.00006	.00076	.00035	-.00013
#3	-.00017	-.01040	.00119	.00087	-.00030	-.00004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00351	.00021	-.00001	-.00013	-.00023	.00192
Stddev	.00065	.00011	.00022	.00020	.00035	.00436
%RSD	18.651	51.240	2009.6	152.66	147.38	226.91
#1	-.00368	.00034	.00005	-.00036	-.00056	.00696
#2	-.00406	.00016	-.00025	-.00006	.00013	-.00058
#3	-.00278	.00014	.00016	.00002	-.00027	-.00061
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: ICBIS Acquired: 10/22/2019 8:35:57 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19303	.00249	-.00347	-.00001	.00020	.04324
Stddev	.01680	.00017	.04404	.00003	.00012	.00515
%RSD	8.7048	6.6699	1270.4	295.82	61.564	11.910
#1	.17764	.00230	.04594	-.00002	.00009	.04621
#2	.21096	.00254	-.01775	.00002	.00033	.04621
#3	.19051	.00262	-.03859	-.00002	.00018	.03729
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00022	.00019	.00014	.00325	-.00295	.00011
Stddev	.00021	.00006	.00058	.00121	.00425	.00062
%RSD	97.187	30.527	399.50	37.318	144.18	565.92
#1	-.00002	.00025	-.00010	.00434	.00050	-.00050
#2	.00040	.00019	-.00027	.00345	-.00770	.00009
#3	.00027	.00013	.00080	.00195	-.00165	.00075
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: ICBIS Acquired: 10/22/2019 8:35:57 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00196	.00008	.00109	.00127	.00001
Stddev	.00203	.00004	.00137	.00511	.00005
%RSD	103.51	52.528	125.12	401.44	839.68
#1	-.00019	.00008	-.00045	.00643	.00006
#2	.00384	.00004	.00156	-.00378	.00001
#3	.00222	.00013	.00216	.00116	-.00005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4037.2	6136.2	93579.	7202.1
Stddev	4.1	4.1	306.	14.9
%RSD	.10153	.06614	.32713	.20625
#1	4035.4	6138.3	93845.	7188.3
#2	4034.3	6138.8	93244.	7200.2
#3	4041.9	6131.5	93648.	7217.9

Sample Name: ICVL 3419892 Acquired: 10/22/2019 8:41:10 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00531	.20974	.01238	.20330	.20318	.00407
Stddev	.00004	.01222	.00054	.00010	.00056	.00010
%RSD	.77501	5.8278	4.3827	.05039	.27736	2.5099
#1	.00535	.19703	.01224	.20341	.20277	.00403
#2	.00528	.21077	.01192	.20330	.20294	.00400
#3	.00529	.22141	.01297	.20321	.20382	.00419
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.1339	.00513	.04857	.00485	.02480	.10327
Stddev	.0045	.00014	.00030	.00036	.00046	.00134
%RSD	.08785	2.7722	.61898	7.4255	1.8704	1.2995
#1	5.1334	.00512	.04822	.00455	.02435	.10481
#2	5.1386	.00528	.04876	.00475	.02528	.10233
#3	5.1296	.00500	.04873	.00525	.02476	.10267
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: ICVL 3419892 Acquired: 10/22/2019 8:41:10 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.1207**	**.05272**	**5.1182**	**.01538**	**.04085**	**5.2274**
Stddev	.0274	.00075	.0202	.00008	.00024	.0120
%RSD	.53463	1.4214	.39451	.50009	.59309	.22873
#1	5.1476	.05201	5.0958	.01546	.04103	5.2351
#2	5.0929	.05350	5.1349	.01531	.04095	5.2335
#3	5.1217	.05265	5.1240	.01538	.04058	5.2136
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.03946**	**.01012**	**.01002**	**.01217**	**.50030**	**.09969**
Stddev	.00040	.00094	.00188	.00130	.00551	.00012
%RSD	1.0031	9.2759	18.795	10.648	1.1004	.12260
#1	.03933	.00913	.01202	.01256	.50316	.09975
#2	.03990	.01023	.00828	.01073	.49396	.09977
#3	.03914	.01100	.00977	.01323	.50379	.09955
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: ICVL 3419892 Acquired: 10/22/2019 8:41:10 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.05307	.05048	.02095	.05478	.02008
Stddev	.00578	.00011	.00068	.00485	.00003
%RSD	10.899	.22555	3.2441	8.8483	.16887
#1	.05899	.05035	.02044	.05640	.02005
#2	.05278	.05055	.02172	.04933	.02011
#3	.04744	.05054	.02069	.05861	.02009
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3905.1	6097.1	93019.	7193.8
Stddev	5.4	7.7	29.	22.3
%RSD	.13816	.12605	.03154	.31025
#1	3903.7	6092.7	92988.	7191.3
#2	3911.0	6106.0	93046.	7217.2
#3	3900.5	6092.7	93024.	7172.8

Sample Name: ICSA 3401574 Acquired: 10/22/2019 8:46:17 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00054	505.49	-.00197	-.00323	.00122	-.00008
Stddev	.00003	1.66	.00186	.00120	.00010	.00008
%RSD	5.0614	.32755	94.741	37.149	8.0838	97.776
#1	-.00055	505.41	-.00033	-.00431	.00133	.00001
#2	-.00051	507.19	-.00399	-.00345	.00119	-.00011
#3	-.00055	503.88	-.00158	-.00194	.00114	-.00013
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	465.27	.00056	-.00039	.00483	.00712	185.77
Stddev	2.74	.00012	.00054	.00038	.00070	.75
%RSD	.58869	21.826	136.70	7.8454	9.9017	.40475
#1	467.39	.00069	-.00046	.00464	.00641	186.34
#2	466.24	.00056	.00018	.00459	.00713	186.05
#3	462.18	.00044	-.00089	.00527	.00782	184.92
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: ICSA 3401574 Acquired: 10/22/2019 8:46:17 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.22319	.00885	504.81	.00136	-.00184	.23082
Stddev	.02259	.00018	3.06	.00002	.00023	.01014
%RSD	10.123	2.0666	.60536	1.8317	12.334	4.3924
#1	.20003	.00883	507.20	.00136	-.00180	.22024
#2	.24517	.00904	505.87	.00138	-.00164	.24046
#3	.22439	.00868	501.37	.00133	-.00209	.23177
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00336	.00934	-.00040	.00649	.00481	-.00027
Stddev	.00044	.00091	.00109	.00312	.00577	.00024
%RSD	13.204	9.7590	271.30	48.121	120.05	88.057
#1	-.00360	.00969	-.00084	.00846	-.00158	-.00008
#2	-.00363	.00830	.00084	.00812	.00635	-.00053
#3	-.00285	.01002	-.00120	.00289	.00966	-.00019
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: ICSA 3401574 Acquired: 10/22/2019 8:46:17 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.01712	-.00001	-.00325	.00261	.00007
Stddev	.00239	.00006	.00391	.00220	.00013
%RSD	13.975	1227.1	120.52	84.281	178.60
#1	.01557	-.00008	.00012	.00283	.00001
#2	.01591	.00002	-.00232	.00470	-.00001
#3	.01987	.00004	-.00754	.00031	.00023
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2992.9	5384.2	80146.	6930.0
Stddev	3.6	5.8	121.	39.6
%RSD	.11937	.10694	.15054	.57120
#1	2997.0	5378.3	80018.	6901.2
#2	2990.9	5384.6	80163.	6913.7
#3	2990.7	5389.8	80257.	6975.2

Sample Name: ICSAB 3415303 Acquired: 10/22/2019 8:51:34 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.0935**	**505.02**	**1.0320**	**.98777**	**.50125**	**.49033**
Stddev	.0009	1.71	.0023	.00226	.00278	.00172
%RSD	.07830	.33957	.22568	.22916	.55398	.35113
#1	1.0929	506.70	1.0328	.98520	.50425	.49228
#2	1.0945	503.27	1.0293	.98861	.49877	.48967
#3	1.0932	505.08	1.0337	.98949	.50075	.48903
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**463.85**	**1.0243**	**.49256**	**.47820**	**.52883**	**185.41**
Stddev	5.19	.0005	.00048	.00092	.00061	.66
%RSD	1.1191	.04747	.09656	.19273	.11570	.35729
#1	469.23	1.0248	.49302	.47810	.52921	186.17
#2	458.87	1.0241	.49207	.47733	.52813	185.09
#3	463.44	1.0239	.49260	.47916	.52916	184.97
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: ICSAB 3415303 Acquired: 10/22/2019 8:51:34 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.674	1.0686	502.72	.48338	.95508	10.917
Stddev	.032	.0017	2.31	.00088	.00202	.007
%RSD	.30434	.16247	.46002	.18282	.21190	.06683
#1	10.709	1.0685	505.39	.48286	.95274	10.910
#2	10.666	1.0704	501.40	.48289	.95620	10.925
#3	10.646	1.0669	501.38	.48440	.95629	10.917
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.97559	.96404	1.0165	.99352	1.0049	.88324
Stddev	.00174	.00229	.0030	.00300	.0140	.00179
%RSD	.17838	.23711	.29319	.30237	1.3966	.20246
#1	.97363	.96240	1.0153	.99061	1.0202	.88122
#2	.97621	.96307	1.0199	.99661	.99264	.88391
#3	.97694	.96665	1.0143	.99334	1.0019	.88460
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: ICSAB 3415303 Acquired: 10/22/2019 8:51:34 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.94730	.98173	.92095	.48641	.89326
Stddev	.00951	.00092	.00292	.00578	.00015
%RSD	1.0035	.09346	.31656	1.1876	.01712
#1	.93701	.98147	.91770	.49206	.89312
#2	.95576	.98097	.92332	.48051	.89342
#3	.94911	.98275	.92184	.48664	.89324
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2966.7	5359.1	80116.	6936.8
Stddev	2.3	6.4	86.	40.6
%RSD	.07850	.12023	.10748	.58548
#1	2966.1	5365.0	80215.	6890.1
#2	2964.8	5352.2	80059.	6963.7
#3	2969.3	5360.0	80075.	6956.6

Sample Name: CCV 3418984 Acquired: 10/22/2019 8:56:28 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.0251	24.927	.51335	2.0508	2.0109	2.0162
Stddev	.0037	.236	.00311	.0048	.0088	.0066
%RSD	.35874	.94779	.60487	.23517	.43551	.32626
#1	1.0257	24.836	.51007	2.0460	2.0147	2.0152
#2	1.0211	25.195	.51624	2.0557	2.0172	2.0232
#3	1.0284	24.749	.51375	2.0506	2.0009	2.0102
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	49.679	.50444	2.0516	1.9567	1.9559	25.146
Stddev	.049	.00039	.0007	.0019	.0033	.098
%RSD	.09876	.07776	.03314	.09577	.16696	.39045
#1	49.683	.50412	2.0511	1.9548	1.9578	25.170
#2	49.726	.50433	2.0524	1.9567	1.9521	25.230
#3	49.628	.50488	2.0513	1.9585	1.9577	25.038
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3418984 Acquired: 10/22/2019 8:56:28 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**124.12**	**2.0049**	**49.407**	**1.9742**	**1.9699**	**126.03**
Stddev	.54	.0077	.297	.0034	.0015	.59
%RSD	.43295	.38583	.60111	.17273	.07811	.46657
#1	124.34	2.0007	49.238	1.9749	1.9684	126.09
#2	124.52	2.0138	49.750	1.9705	1.9715	126.58
#3	123.51	2.0002	49.233	1.9772	1.9696	125.41
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.0482**	**.50573**	**.50525**	**.51121**	**2.0230**	**1.9122**
Stddev	.0013	.00121	.00150	.00233	.0156	.0024
%RSD	.06415	.23995	.29718	.45581	.76967	.12746
#1	2.0469	.50594	.50660	.51310	2.0400	1.9103
#2	2.0482	.50683	.50551	.50860	2.0093	1.9149
#3	2.0496	.50443	.50363	.51191	2.0198	1.9114
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3418984 Acquired: 10/22/2019 8:56:28 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	1.9735	1.9822	.97474	2.0276	1.9599
Stddev	.0151	.0014	.00256	.0134	.0015
%RSD	.76412	.07099	.26314	.65996	.07482
#1	1.9846	1.9825	.97305	2.0228	1.9584
#2	1.9795	1.9806	.97769	2.0428	1.9600
#3	1.9563	1.9834	.97347	2.0173	1.9613
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3329.3	5783.4	86759.	7078.7
Stddev	.8	5.0	141.	12.2
%RSD	.02408	.08681	.16251	.17215
#1	3330.0	5789.1	86777.	7074.0
#2	3328.4	5780.9	86891.	7069.5
#3	3329.3	5780.0	86610.	7092.5

Sample Name: CCB1 Acquired: 10/22/2019 9:01:16 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00004	-.00622	-.00116	.00072	.00000	-.00011
Stddev	.00044	.00888	.00073	.00021	.00026	.00000
%RSD	1164.8	142.69	62.653	28.989	34328.	2.0633
#1	-.00005	-.00968	-.00103	.00096	.00001	-.00011
#2	.00041	.00387	-.00051	.00057	.00026	-.00011
#3	-.00048	-.01285	-.00194	.00064	-.00026	-.00011
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00372	.00021	.00006	-.00015	-.00000	.00025
Stddev	.00550	.00008	.00009	.00016	.00053	.00372
%RSD	147.92	39.630	132.37	109.92	30470.	1504.2
#1	.00644	.00016	.00001	-.00020	-.00047	-.00239
#2	.00732	.00031	.00016	-.00028	.00058	-.00137
#3	-.00261	.00016	.00002	.00003	-.00011	.00450
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB1 Acquired: 10/22/2019 9:01:16 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.09521	.00094	-.00745	.00002	.00032	.02288
Stddev	.01696	.00073	.01222	.00002	.00018	.00448
%RSD	17.815	77.040	164.09	104.24	56.777	19.591
#1	.08111	.00162	-.01761	.00000	.00025	.01870
#2	.09049	.00103	-.01085	.00001	.00053	.02761
#3	.11403	.00018	.00611	.00003	.00019	.02234
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00018	-.00011	-.00131	.00293	-.00060	-.00037
Stddev	.00038	.00006	.00250	.00099	.00763	.00021
%RSD	211.32	49.334	190.23	33.662	1275.2	57.806
#1	.00003	-.00012	-.00379	.00407	-.00251	-.00023
#2	-.00010	-.00006	.00120	.00241	-.00710	-.00027
#3	.00061	-.00017	-.00135	.00232	.00781	-.00062
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB1 Acquired: 10/22/2019 9:01:16 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	-.00188	.00026	-.00026	.00277	.00003
Stddev	.00062	.00012	.00054	.00336	.00006
%RSD	33.307	45.585	207.95	121.18	177.89
#1	-.00243	.00016	-.00060	-.00010	.00007
#2	-.00120	.00039	-.00053	.00194	.00006
#3	-.00200	.00023	.00036	.00646	-.00003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4034.8	6120.8	94168.	7136.9
Stddev	5.3	2.9	233.	64.1
%RSD	.13204	.04806	.24739	.89855
#1	4034.6	6122.8	94368.	7161.9
#2	4040.3	6122.2	93912.	7184.9
#3	4029.6	6117.4	94224.	7064.1

Sample Name: MB 180-295580/1-A Acquired: 10/22/2019 9:06:27 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00003	-.00788	-.00108	.00015	.00010	-.00001
Stddev	.00013	.03601	.00099	.00017	.00013	.00004
%RSD	427.40	457.02	91.633	112.73	135.73	317.98
#1	-.00018	.02523	-.00100	.00013	.00001	-.00001
#2	.00001	-.04622	-.00013	-.00001	.00003	-.00005
#3	.00007	-.00265	-.00210	.00034	.00025	.00003
Check ?	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00469	.00006	.00007	-.00021	-.00065	.00133
Stddev	.00252	.00006	.00027	.00027	.00002	.00118
%RSD	53.694	90.514	381.57	128.51	3.3924	88.153
#1	.00361	.00011	-.00013	.00001	-.00065	.00225
#2	.00757	-.00000	-.00003	-.00051	-.00067	.00001
#3	.00290	.00009	.00038	-.00013	-.00063	.00174
Check ?	None	Chk Pass	None	Chk Pass	Chk Pass	None
High Limit						
Low Limit						

Sample Name: MB 180-295580/1-A Acquired: 10/22/2019 9:06:27 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01425	.00166	-.02492	-.00002	.00002	.00986
Stddev	.03479	.00159	.01357	.00002	.00014	.00281
%RSD	244.16	95.585	54.464	78.301	583.07	28.484
#1	.04265	.00104	-.01128	-.00003	-.00014	.01285
#2	-.02456	.00346	-.02505	-.00000	.00009	.00728
#3	.02465	.00048	-.03842	-.00004	.00012	.00946
Check ?	None	None	None	None	None	None
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00024	.00051	.00162	-.00013	-.00142	.00002
Stddev	.00029	.00052	.00266	.00107	.01253	.00039
%RSD	121.15	100.09	164.36	795.21	884.44	2513.3
#1	.00006	.00081	-.00131	-.00136	-.00062	.00040
#2	-.00051	-.00008	.00389	.00034	.01069	.00002
#3	-.00027	.00082	.00228	.00062	-.01432	-.00038
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None
High Limit						
Low Limit						

Sample Name: MB 180-295580/1-A Acquired: 10/22/2019 9:06:27 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	-.00014	.00010	.00040	-.00102	.00326
Stddev	.00304	.00005	.00019	.00379	.00011
%RSD	2105.0	54.706	47.947	372.58	3.3593
#1	.00109	.00009	.00042	-.00412	.00314
#2	.00208	.00005	.00020	.00321	.00331
#3	-.00361	.00016	.00058	-.00215	.00334
Check ?	None	None	Chk Pass	None	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4077.9	6200.0	95715.	7337.4
Stddev	3.0	3.3	463.	12.1
%RSD	.07280	.05291	.48323	.16439
#1	4075.5	6197.2	95804.	7349.8
#2	4081.2	6199.0	96127.	7336.7
#3	4077.0	6203.6	95215.	7325.7

Sample Name: LCS 180-295580/2-A Acquired: 10/22/2019 9:11:36 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.25349	5.0619	1.0437	1.3084	.98563	.50690
Stddev	.00115	.0531	.0013	.0031	.00695	.00253
%RSD	.45405	1.0483	.12529	.23311	.70540	.49983
#1	.25429	5.1174	1.0447	1.3053	.99349	.50982
#2	.25217	5.0117	1.0441	1.3084	.98309	.50561
#3	.25400	5.0566	1.0422	1.3114	.98030	.50527
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.048	.50610	.49323	.48665	.49104	5.0983
Stddev	.072	.00032	.00118	.00386	.00319	.0252
%RSD	.28860	.06355	.23953	.79398	.65031	.49440
#1	25.104	.50583	.49397	.49004	.49416	5.1260
#2	24.966	.50645	.49386	.48746	.49117	5.0767
#3	25.073	.50602	.49187	.48245	.48778	5.0921
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: LCS 180-295580/2-A Acquired: 10/22/2019 9:11:36 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**25.317**	**.49925**	**24.888**	**.49408**	**.49486**	**26.063**
Stddev	.126	.00094	.098	.00114	.00070	.076
%RSD	.49950	.18770	.39339	.23110	.14229	.29118
#1	25.459	.50033	24.998	.49536	.49437	26.147
#2	25.218	.49869	24.812	.49372	.49455	26.045
#3	25.273	.49872	24.852	.49317	.49567	25.998
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.49298**	**.49301**	**.25881**	**1.0249**	**.98210**	**.97201**
Stddev	.00037	.00354	.00085	.0032	.00253	.00057
%RSD	.07588	.71719	.32879	.30793	.25772	.05815
#1	.49317	.49581	.25979	1.0218	.97921	.97154
#2	.49322	.48904	.25821	1.0247	.98319	.97264
#3	.49255	.49419	.25844	1.0281	.98391	.97187
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: LCS 180-295580/2-A Acquired: 10/22/2019 9:11:36 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.49023	.49469	1.0020	.50530	.25483
Stddev	.01401	.00186	.0003	.00482	.00006
%RSD	2.8577	.37585	.02455	.95401	.02481
#1	.50559	.49668	1.0018	.50821	.25488
#2	.47815	.49441	1.0019	.49974	.25476
#3	.48695	.49299	1.0023	.50796	.25485
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3641.0	5980.5	91100.	7241.6
Stddev	6.7	8.2	339.	45.3
%RSD	.18269	.13764	.37225	.62503
#1	3634.3	5972.6	90712.	7207.2
#2	3641.0	5979.9	91341.	7292.9
#3	3647.6	5989.0	91246.	7224.7

Sample Name: LB 180-295342/1-C Acquired: 10/22/2019 9:16:21 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00002	.00263	.00125	.00071	.00011	-.00002
Stddev	.00047	.00858	.00121	.00015	.00022	.00007
%RSD	2708.7	325.69	97.056	21.507	201.08	347.45
#1	.00023	-.00252	.00162	.00064	-.00014	-.00009
#2	-.00056	-.00211	.00224	.00060	.00021	-.00001
#3	.00028	.01254	-.00010	.00088	.00027	.00004
Check ?	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00114	.00000	.00010	-.00003	-.00157	.00278
Stddev	.00174	.00016	.00015	.00013	.00059	.00201
%RSD	152.82	3481.4	151.08	439.97	37.919	72.285
#1	-.00056	-.00002	.00022	-.00014	-.00091	.00175
#2	.00105	-.00014	-.00007	-.00007	-.00174	.00509
#3	.00292	.00018	.00016	.00012	-.00206	.00149
Check ?	None	Chk Pass	None	Chk Pass	Chk Pass	None
High Limit						
Low Limit						

Sample Name: LB 180-295342/1-C Acquired: 10/22/2019 9:16:21 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.06348	.00181	-.01571	.00003	-.00012	147.83
Stddev	.00649	.00081	.02900	.00001	.00013	.23
%RSD	10.216	44.625	184.59	26.857	115.15	.15849
#1	.06394	.00100	.01267	.00003	-.00021	148.08
#2	.05677	.00262	-.01450	.00004	.00004	147.62
#3	.06972	.00182	-.04529	.00003	-.00017	147.78
Check ?	None	None	None	None	None	None
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00038	.00017	-.00032	.00291	.00097	-.00063
Stddev	.00060	.00102	.00121	.00175	.00658	.00035
%RSD	156.81	591.54	375.68	60.097	680.96	55.383
#1	.00086	.00122	.00080	.00131	.00792	-.00025
#2	-.00029	.00011	-.00015	.00478	-.00517	-.00069
#3	.00058	-.00081	-.00161	.00264	.00015	-.00094
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None
High Limit						
Low Limit						

Sample Name: LB 180-295342/1-C Acquired: 10/22/2019 9:16:21 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00533	.00010	.00048	.00324	.00037
Stddev	.00420	.00007	.00139	.00126	.00005
%RSD	78.893	70.550	288.47	38.737	12.549
#1	.00533	.00003	-.00111	.00325	.00039
#2	.00112	.00016	.00141	.00198	.00040
#3	.00953	.00010	.00114	.00449	.00031
Check ?	None	None	Chk Pass	None	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3554.5	5853.6	88128.	7073.2
Stddev	19.0	27.1	167.	55.8
%RSD	.53531	.46282	.18987	.78820
#1	3532.9	5822.7	88320.	7134.8
#2	3562.0	5864.5	88017.	7058.6
#3	3568.7	5873.5	88046.	7026.1

Sample Name: 180-97326-A-1-K Acquired: 10/22/2019 9:21:31 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00027**	**.01733**	**-.00044**	**.05516**	**.03444**	**-.00003**
Stddev	.00034	.01026	.00184	.00035	.00004	.00004
%RSD	125.41	59.186	423.17	.62660	.11178	127.14
#1	-.00042	.00859	-.00252	.05502	.03446	-.00001
#2	-.00050	.01478	.00096	.05491	.03447	-.00008
#3	.00012	.02862	.00025	.05555	.03440	-.00001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.4663**	**.01299**	**.08375**	**.00623**	**3.4627**	**1.7450**
Stddev	.0042	.00008	.00024	.00001	.0067	.0117
%RSD	.28706	.59910	.28343	.15497	.19434	.66813
#1	1.4667	.01291	.08400	.00623	3.4638	1.7363
#2	1.4620	.01306	.08374	.00624	3.4555	1.7404
#3	1.4704	.01301	.08352	.00622	3.4688	1.7583
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97326-A-1-K Acquired: 10/22/2019 9:21:31 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.16248	.00368	.34545	.02623	.03279	150.21
Stddev	.01856	.00017	.01772	.00003	.00029	.04
%RSD	11.423	4.7011	5.1289	.12418	.89223	.02723
#1	.15346	.00377	.34333	.02620	.03313	150.26
#2	.18382	.00379	.32889	.02626	.03260	150.19
#3	.15016	.00348	.36414	.02623	.03265	150.19
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02267	.02227	.05688	.00393	.20552	-.00012
Stddev	.00030	.00155	.00153	.00112	.00874	.00068
%RSD	1.3189	6.9608	2.6969	28.560	4.2539	587.22
#1	.02233	.02126	.05663	.00360	.20591	-.00073
#2	.02280	.02406	.05548	.00519	.19658	-.00023
#3	.02289	.02150	.05852	.00301	.21405	.00061
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97326-A-1-K Acquired: 10/22/2019 9:21:31 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.02366	.00034	.00014	.00145	.21299
Stddev	.00254	.00005	.00040	.00112	.00037
%RSD	10.730	14.524	287.90	77.181	.17536
#1	.02354	.00039	.00008	.00116	.21335
#2	.02626	.00036	-.00023	.00269	.21302
#3	.02119	.00029	.00057	.00050	.21261
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3501.1	5754.5	87354.	7020.4
Stddev	9.4	14.7	286.	28.4
%RSD	.26933	.25480	.32714	.40521
#1	3493.6	5743.4	87621.	7044.0
#2	3498.0	5749.1	87389.	7028.3
#3	3511.7	5771.2	87052.	6988.8

Sample Name: 180-97326-A-1-K SD@5 Acquired: 10/22/2019 9:26:34 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00014	.01175	-.00086	.01073	.00696	-.00008
Stddev	.00017	.01742	.00059	.00015	.00023	.00003
%RSD	122.95	148.24	68.774	1.3804	3.3555	35.702
#1	.00005	.01222	-.00153	.01074	.00683	-.00005
#2	-.00020	-.00590	-.00066	.01058	.00683	-.00009
#3	-.00026	.02892	-.00040	.01088	.00723	-.00010
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.30443	.00263	.01612	.00111	.66482	.34360
Stddev	.00473	.00006	.00023	.00023	.00133	.00123
%RSD	1.5550	2.2714	1.3963	20.591	.20006	.35889
#1	.30905	.00259	.01598	.00124	.66347	.34384
#2	.30466	.00269	.01601	.00123	.66487	.34227
#3	.29959	.00260	.01638	.00084	.66613	.34470
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97326-A-1-K SD@5 Acquired: 10/22/2019 9:26:34 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05165	.00228	.05429	.00516	.00633	29.775
Stddev	.02231	.00090	.01216	.00006	.00007	.094
%RSD	43.186	39.216	22.395	1.1046	1.1239	.31469
#1	.07423	.00126	.04129	.00519	.00625	29.854
#2	.02963	.00292	.06538	.00520	.00638	29.798
#3	.05110	.00267	.05621	.00510	.00636	29.671
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00477	.00444	.01069	.00193	.04228	-.00055
Stddev	.00018	.00054	.00082	.00329	.01356	.00056
%RSD	3.6992	12.172	7.7044	170.69	32.072	102.08
#1	.00486	.00397	.01031	.00409	.03717	-.00001
#2	.00489	.00503	.01013	.00356	.03202	-.00113
#3	.00457	.00433	.01164	-.00186	.05765	-.00050
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97326-A-1-K SD@5 Acquired: 10/22/2019 9:26:34 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00824	.00012	.00067	.00209	.04318
Stddev	.00215	.00012	.00067	.00098	.00007
%RSD	26.042	103.15	99.900	46.821	.15165
#1	.01064	.00017	.00077	.00166	.04316
#2	.00760	.00020	-.00004	.00140	.04312
#3	.00650	-.00002	.00130	.00320	.04325
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3760.2	5954.4	90835.	6987.7
Stddev	4.4	14.2	204.	16.9
%RSD	.11705	.23924	.22495	.24128
#1	3763.0	5961.2	91062.	6971.2
#2	3762.4	5964.0	90776.	7004.9
#3	3755.1	5938.1	90666.	6987.0

Sample Name: 180-97326-A-1-L MS Acquired: 10/22/2019 9:31:44 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05258	.00461	.41359	.06069	4.7816	-.00004
Stddev	.00028	.04023	.00164	.00065	.0135	.00014
%RSD	.53360	872.71	.39551	1.0732	.28163	351.76
#1	.05249	.04644	.41217	.06062	4.7660	.00005
#2	.05289	.00118	.41322	.06137	4.7884	.00003
#3	.05235	-.03379	.41538	.06007	4.7902	-.00021
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.6161	.11515	.09105	.46173	3.7198	1.6806
Stddev	.0035	.00014	.00019	.00062	.0043	.0140
%RSD	.21432	.12049	.20733	.13416	.11487	.83548
#1	1.6123	.11500	.09127	.46119	3.7150	1.6648
#2	1.6171	.11518	.09093	.46241	3.7231	1.6855
#3	1.6190	.11527	.09095	.46159	3.7213	1.6915
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97326-A-1-L MS Acquired: 10/22/2019 9:31:44 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.15581	.00394	.36939	.02854	.03241	162.94
Stddev	.04671	.00152	.00970	.00003	.00018	.77
%RSD	29.978	38.590	2.6259	.10045	.56510	.47386
#1	.10886	.00486	.37361	.02852	.03240	163.68
#2	.20228	.00477	.35829	.02854	.03224	162.14
#3	.15630	.00219	.37626	.02858	.03260	163.00
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02471	.47442	.06249	.09072	.20454	.00011
Stddev	.00037	.00165	.00165	.00261	.01367	.00078
%RSD	1.4971	.34798	2.6348	2.8787	6.6834	735.96
#1	.02499	.47426	.06225	.08796	.21380	.00100
#2	.02429	.47615	.06424	.09103	.18884	-.00043
#3	.02485	.47286	.06097	.09316	.21099	-.00026
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97326-A-1-L MS Acquired: 10/22/2019 9:31:44 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.02422	.00027	.00064	-.00048	.23524
Stddev	.00406	.00012	.00030	.00109	.00024
%RSD	16.777	43.876	46.732	225.76	.10212
#1	.02853	.00023	.00030	-.00015	.23530
#2	.02046	.00017	.00087	.00040	.23544
#3	.02368	.00040	.00074	-.00170	.23497
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3505.8	5805.8	87159.	6949.6
Stddev	5.2	14.2	169.	11.6
%RSD	.14703	.24458	.19384	.16701
#1	3511.2	5822.1	87333.	6943.9
#2	3501.0	5798.6	86995.	6963.0
#3	3505.2	5796.6	87150.	6942.0

Sample Name: 180-97326-A-1-M MSD Acquired: 10/22/2019 9:36:50 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.08309	.02459	.46300	.05857	4.6845	-.00002
Stddev	.00011	.03197	.00205	.00047	.0300	.00002
%RSD	.12829	130.03	.44246	.79428	.64066	111.63
#1	.08299	.05296	.46526	.05906	4.7003	.00000
#2	.08309	.03087	.46127	.05814	4.7032	-.00002
#3	.08320	-.01006	.46246	.05852	4.6498	-.00003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.5433	.11019	.08788	.46858	3.6303	1.6958
Stddev	.0089	.00019	.00029	.00121	.0057	.0144
%RSD	.57654	.17312	.32962	.25723	.15766	.84721
#1	1.5491	.11041	.08805	.46728	3.6320	1.7124
#2	1.5331	.11010	.08754	.46966	3.6350	1.6882
#3	1.5477	.11006	.08804	.46880	3.6240	1.6868
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97326-A-1-M MSD Acquired: 10/22/2019 9:36:50 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.10856	.00345	.33542	.02750	.03374	158.34
Stddev	.04141	.00157	.03414	.00008	.00009	.74
%RSD	38.144	45.481	10.178	.30857	.25597	.46576
#1	.09785	.00176	.37256	.02744	.03374	159.18
#2	.15427	.00486	.32827	.02759	.03365	158.04
#3	.07356	.00374	.30541	.02745	.03382	157.80
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02360	.47814	.05857	.09635	.20459	-.00019
Stddev	.00054	.00111	.00087	.00223	.00346	.00039
%RSD	2.3072	.23311	1.4828	2.3173	1.6916	208.44
#1	.02310	.47938	.05757	.09415	.20061	-.00032
#2	.02351	.47721	.05903	.09629	.20619	-.00050
#3	.02418	.47785	.05911	.09861	.20695	.00025
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97326-A-1-M MSD Acquired: 10/22/2019 9:36:50 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.02808	.00030	.00006	.00586	.22496
Stddev	.00163	.00001	.00131	.00143	.00057
%RSD	5.8052	2.2002	2378.8	24.465	.25345
#1	.02980	.00030	.00155	.00449	.22480
#2	.02789	.00030	-.00089	.00735	.22449
#3	.02655	.00029	-.00050	.00575	.22559
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3537.3	5826.6	88135.	7041.8
Stddev	6.2	14.2	465.	71.4
%RSD	.17494	.24408	.52767	1.0138
#1	3532.1	5810.1	87707.	6962.5
#2	3544.1	5834.5	88069.	7100.9
#3	3535.6	5835.1	88630.	7062.1

Sample Name: 180-97326-A-1-N MS Acquired: 10/22/2019 9:41:50 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04429	1.0027	.20489	.29934	.23256	.10153
Stddev	.00065	.0047	.00187	.00066	.00178	.00066
%RSD	1.4783	.47220	.91040	.22211	.76656	.64615
#1	.04505	.99722	.20639	.29964	.23327	.10209
#2	.04398	1.0054	.20280	.29858	.23053	.10081
#3	.04385	1.0054	.20548	.29980	.23389	.10169
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.4316	.11501	.18818	.10479	3.6633	2.6704
Stddev	.0101	.00039	.00058	.00070	.0230	.0101
%RSD	.15737	.33874	.30923	.66690	.62697	.37786
#1	6.4331	.11514	.18815	.10401	3.6485	2.6821
#2	6.4209	.11457	.18761	.10503	3.6898	2.6646
#3	6.4409	.11531	.18878	.10534	3.6517	2.6646
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97326-A-1-N MS Acquired: 10/22/2019 9:41:50 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.0256**	**.10152**	**5.2083**	**.12735**	**.13232**	**161.46**
Stddev	.0517	.00245	.0425	.00025	.00040	.57
%RSD	1.0292	2.4124	.81508	.19386	.29877	.35158
#1	5.0846	.10256	5.2463	.12751	.13245	161.93
#2	4.9880	.09873	5.1625	.12706	.13187	160.83
#3	5.0042	.10328	5.2159	.12747	.13263	161.61
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.12316**	**.12116**	**.10817**	**.20286**	**.40556**	**.18914**
Stddev	.00057	.00126	.00049	.00119	.01108	.00128
%RSD	.46024	1.0417	.45096	.58506	2.7316	.67811
#1	.12289	.12199	.10802	.20398	.41725	.18853
#2	.12278	.11971	.10872	.20298	.39522	.18827
#3	.12381	.12179	.10778	.20161	.40421	.19061
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97326-A-1-N MS Acquired: 10/22/2019 9:41:50 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.12961	.09862	.19504	.10263	.27206
Stddev	.00370	.00004	.00252	.00412	.00085
%RSD	2.8542	.04022	1.2920	4.0161	.31221
#1	.12923	.09860	.19213	.10736	.27184
#2	.13348	.09859	.19638	.09984	.27134
#3	.12611	.09867	.19660	.10068	.27299
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3487.1	5793.4	87381.	6916.7
Stddev	13.4	25.1	294.	11.7
%RSD	.38508	.43369	.33605	.16937
#1	3486.1	5794.0	87047.	6904.0
#2	3500.9	5818.3	87598.	6927.0
#3	3474.1	5768.1	87498.	6919.1

Sample Name: 180-97326-A-1-O MSD Acquired: 10/22/2019 9:46:49 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04116	1.0293	.20890	.31084	.23369	.10149
Stddev	.00067	.0163	.00205	.00133	.00070	.00035
%RSD	1.6200	1.5861	.98342	.42920	.29955	.34605
#1	.04189	1.0222	.20654	.31099	.23350	.10139
#2	.04059	1.0177	.21029	.30944	.23310	.10119
#3	.04102	1.0480	.20986	.31210	.23447	.10188
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.4696	.11605	.19017	.10506	3.7123	2.6855
Stddev	.0167	.00014	.00041	.00044	.0229	.0097
%RSD	.25876	.12337	.21724	.41520	.61694	.36070
#1	6.4508	.11600	.19005	.10473	3.7109	2.6753
#2	6.4749	.11621	.19063	.10555	3.7359	2.6864
#3	6.4830	.11593	.18983	.10488	3.6901	2.6946
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97326-A-1-O MSD Acquired: 10/22/2019 9:46:49 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.1063**	**.10318**	**5.1799**	**.12818**	**.13215**	**162.81**
Stddev	.0306	.00107	.0084	.00029	.00037	.48
%RSD	.59846	1.0380	.16146	.22904	.27809	.29187
#1	5.0884	.10231	5.1760	.12852	.13179	162.29
#2	5.0889	.10437	5.1742	.12802	.13213	163.21
#3	5.1416	.10286	5.1895	.12800	.13252	162.94
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.12551**	**.12315**	**.10890**	**.20518**	**.47356**	**.18966**
Stddev	.00051	.00133	.00248	.00204	.00151	.00129
%RSD	.40416	1.0821	2.2760	.99208	.31903	.67777
#1	.12530	.12175	.10813	.20558	.47310	.19040
#2	.12609	.12331	.10689	.20297	.47233	.18817
#3	.12514	.12440	.11167	.20698	.47525	.19039
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97326-A-1-O MSD Acquired: 10/22/2019 9:46:49 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.12379	.10006	.20124	.10102	.28003
Stddev	.00605	.00020	.00048	.00115	.00043
%RSD	4.8840	.19569	.24069	1.1417	.15481
#1	.12432	.10013	.20091	.10225	.27976
#2	.11750	.10021	.20180	.10086	.27980
#3	.12956	.09984	.20102	.09996	.28053
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3485.2	5828.4	87744.	7014.7
Stddev	12.0	20.1	120.	84.3
%RSD	.34434	.34441	.13678	1.2015
#1	3499.0	5851.5	87656.	7077.3
#2	3477.3	5818.7	87880.	7047.8
#3	3479.2	5815.0	87695.	6918.8

Sample Name: 180-97326-A-1-K PDS Acquired: 10/22/2019 9:51:51 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.09744	.04209	.51231	.05547	5.0170	.00000
Stddev	.00022	.00184	.00221	.00036	.0179	.00007
%RSD	.22892	4.3808	.43135	.64898	.35652	1787.4
#1	.09761	.04392	.51463	.05528	5.0133	-.00004
#2	.09753	.04213	.51023	.05588	5.0013	-.00002
#3	.09719	.04023	.51207	.05524	5.0365	.00008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.4789	.11473	.08348	.51003	3.4418	1.7437
Stddev	.0063	.00015	.00029	.00172	.0055	.0079
%RSD	.42955	.13060	.34631	.33695	.15847	.45550
#1	1.4720	.11471	.08347	.50852	3.4355	1.7402
#2	1.4846	.11489	.08377	.51190	3.4452	1.7382
#3	1.4799	.11460	.08320	.50966	3.4447	1.7528
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97326-A-1-K PDS Acquired: 10/22/2019 9:51:51 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19132	.00343	.32406	.02626	.03257	150.64
Stddev	.00195	.00131	.01239	.00002	.00023	.12
%RSD	1.0206	38.169	3.8244	.08143	.70630	.07717
#1	.19349	.00372	.31931	.02624	.03276	150.59
#2	.19080	.00456	.31475	.02628	.03264	150.57
#3	.18969	.00200	.33813	.02626	.03232	150.78
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02270	.51508	.05595	.10327	.19877	.00005
Stddev	.00057	.00138	.00145	.00091	.00429	.00014
%RSD	2.5200	.26722	2.5866	.88441	2.1602	257.29
#1	.02286	.51484	.05719	.10242	.20309	.00006
#2	.02317	.51656	.05436	.10315	.19451	-.00008
#3	.02206	.51384	.05631	.10423	.19870	.00019
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97326-A-1-K PDS Acquired: 10/22/2019 9:51:51 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.03007	.00032	.00065	.00268	.21329
Stddev	.00243	.00017	.00077	.00332	.00051
%RSD	8.0650	52.263	117.64	123.90	.23982
#1	.03270	.00038	.00055	.00558	.21325
#2	.02959	.00044	-.00006	-.00094	.21382
#3	.02792	.00013	.00146	.00338	.21280
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3491.9	5761.4	86835.	6900.2
Stddev	7.4	7.4	205.	10.7
%RSD	.21228	.12861	.23656	.15571
#1	3499.7	5769.7	86737.	6912.4
#2	3484.9	5759.1	86697.	6896.2
#3	3491.3	5755.4	87071.	6892.0

Sample Name: CCV 3418984 Acquired: 10/22/2019 9:56:52 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.0341	25.142	.51254	2.0250	1.9742	2.0254
Stddev	.0005	.292	.00442	.0005	.0130	.0094
%RSD	.04497	1.1599	.86260	.02254	.65950	.46243
#1	1.0338	24.845	.51580	2.0248	1.9607	2.0161
#2	1.0347	25.428	.50751	2.0255	1.9867	2.0348
#3	1.0339	25.153	.51432	2.0246	1.9753	2.0253
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	50.206	.50989	2.0588	1.9687	1.9504	25.270
Stddev	.078	.00041	.0016	.0043	.0055	.111
%RSD	.15451	.08036	.07864	.22085	.28272	.44059
#1	50.132	.51032	2.0605	1.9638	1.9511	25.151
#2	50.287	.50951	2.0586	1.9722	1.9556	25.372
#3	50.199	.50985	2.0573	1.9700	1.9446	25.286
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3418984 Acquired: 10/22/2019 9:56:52 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**125.02**	**2.0030**	**50.389**	**1.9955**	**1.9667**	**126.94**
Stddev	.34	.0041	.220	.0030	.0005	.30
%RSD	.26838	.20647	.43652	.15188	.02596	.23717
#1	124.67	1.9986	50.146	1.9921	1.9670	126.71
#2	125.34	2.0069	50.574	1.9965	1.9661	127.28
#3	125.06	2.0034	50.448	1.9979	1.9670	126.84
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.0515**	**.50735**	**.50499**	**.50677**	**2.0443**	**1.9209**
Stddev	.0022	.00128	.00048	.00210	.0152	.0019
%RSD	.10854	.25263	.09430	.41420	.74494	.09845
#1	2.0494	.50865	.50553	.50828	2.0387	1.9195
#2	2.0539	.50608	.50467	.50766	2.0327	1.9201
#3	2.0512	.50732	.50476	.50437	2.0616	1.9230
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3418984 Acquired: 10/22/2019 9:56:52 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	1.9783	1.9896	.97701	2.0478	1.9897
Stddev	.0109	.0024	.00215	.0226	.0003
%RSD	.55315	.11982	.21961	1.1046	.01268
#1	1.9678	1.9874	.97583	2.0241	1.9896
#2	1.9896	1.9922	.97949	2.0692	1.9900
#3	1.9774	1.9892	.97572	2.0501	1.9895
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3277.4	5694.7	85305.	6759.7
Stddev	4.8	8.0	65.	19.1
%RSD	.14732	.14084	.07625	.28222
#1	3280.5	5700.6	85377.	6775.6
#2	3271.9	5685.5	85251.	6738.5
#3	3279.9	5697.8	85287.	6765.0

Sample Name: CCB2 Acquired: 10/22/2019 10:01:41 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00012	.01064	-.00127	-.00005	.00029	-.00003
Stddev	.00033	.03923	.00102	.00013	.00012	.00007
%RSD	286.34	368.64	80.427	238.07	42.269	216.52
#1	-.00039	.02551	-.00130	.00006	.00021	-.00011
#2	.00025	.04026	-.00023	-.00002	.00022	-.00002
#3	-.00021	-.03385	-.00228	-.00020	.00042	.00003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00027	.00013	.00011	-.00017	-.00004	-.00119
Stddev	.00276	.00017	.00012	.00025	.00066	.00111
%RSD	1022.3	130.39	105.34	149.97	1725.6	93.193
#1	.00031	-.00004	.00021	-.00042	-.00069	-.00213
#2	-.00251	.00013	.00015	-.00015	.00064	.00004
#3	.00301	.00031	-.00002	.00007	-.00007	-.00149
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB2 Acquired: 10/22/2019 10:01:41 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.09468	.00111	-.01642	.00001	.00019	.05370
Stddev	.03725	.00068	.01016	.00003	.00008	.01047
%RSD	39.347	61.506	61.840	200.13	43.452	19.495
#1	.07585	.00074	-.01661	-.00002	.00027	.06281
#2	.13759	.00070	-.00617	.00002	.00018	.04226
#3	.07060	.00190	-.02648	.00003	.00011	.05603
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00022	-.00043	-.00002	.00150	-.00672	-.00030
Stddev	.00053	.00095	.00132	.00041	.00767	.00025
%RSD	239.04	220.22	7276.4	27.126	114.06	81.787
#1	-.00013	.00008	-.00022	.00134	.00036	-.00037
#2	-.00004	.00015	-.00123	.00196	-.00567	-.00050
#3	.00083	-.00154	.00139	.00120	-.01487	-.00003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB2 Acquired: 10/22/2019 10:01:41 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	-.00034	.00022	.00048	.00120	.00001
Stddev	.00235	.00014	.00129	.00171	.00009
%RSD	689.74	61.460	268.67	141.57	1070.3
#1	.00095	.00037	.00099	.00136	-.00004
#2	.00109	.00010	.00145	.00283	.00011
#3	-.00306	.00020	-.00099	-.00057	-.00004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3970.6	6035.6	92190.	6900.7
Stddev	2.2	8.5	105.	3.5
%RSD	.05605	.14161	.11367	.05012
#1	3972.3	6039.7	92281.	6897.6
#2	3971.5	6041.3	92076.	6904.4
#3	3968.1	6025.8	92213.	6900.0

Sample Name: 180-97326-A-1-K PDS Acquired: 10/22/2019 10:06:53 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04820	1.0318	.20842	.29853	.23314	.10156
Stddev	.00040	.0447	.00238	.00054	.00057	.00012
%RSD	.83487	4.3305	1.1408	.18198	.24462	.12215
#1	.04779	.99447	.21105	.29797	.23336	.10149
#2	.04859	1.0196	.20779	.29856	.23250	.10149
#3	.04822	1.0813	.20642	.29906	.23357	.10170
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.6341	.11258	.18506	.10584	3.5373	2.7781
Stddev	.0085	.00031	.00037	.00045	.0138	.0043
%RSD	.12827	.27711	.20238	.42383	.39062	.15536
#1	6.6275	.11232	.18542	.10633	3.5532	2.7747
#2	6.6311	.11293	.18509	.10545	3.5281	2.7768
#3	6.6437	.11250	.18467	.10575	3.5305	2.7830
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97326-A-1-K PDS Acquired: 10/22/2019 10:06:53 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.3316	.10278	5.4133	.12630	.13221	156.56
Stddev	.0404	.00081	.0122	.00020	.00010	.07
%RSD	.75730	.78892	.22555	.15614	.07488	.04363
#1	5.3303	.10205	5.4274	.12629	.13209	156.51
#2	5.3727	.10264	5.4061	.12650	.13228	156.53
#3	5.2919	.10365	5.4064	.12611	.13225	156.64
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.12302	.12140	.10569	.20393	.39822	.19309
Stddev	.00040	.00065	.00105	.00311	.00567	.00035
%RSD	.32375	.53652	.99205	1.5244	1.4246	.18321
#1	.12304	.12180	.10687	.20639	.39951	.19345
#2	.12261	.12175	.10489	.20044	.39201	.19275
#3	.12340	.12065	.10530	.20498	.40314	.19306
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97326-A-1-K PDS Acquired: 10/22/2019 10:06:53 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.12914	.10070	.19442	.10275	.26328
Stddev	.00072	.00026	.00124	.00426	.00017
%RSD	.56109	.25565	.64000	4.1476	.06604
#1	.12958	.10076	.19389	.10708	.26310
#2	.12831	.10092	.19584	.10260	.26345
#3	.12954	.10041	.19352	.09856	.26329
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3459.3	5770.3	86309.	6849.4
Stddev	9.8	17.4	234.	40.4
%RSD	.28328	.30187	.27056	.59036
#1	3452.8	5766.5	86403.	6886.8
#2	3454.5	5755.1	86043.	6855.0
#3	3470.6	5789.3	86481.	6806.5

Sample Name: 180-97328-A-1-C Acquired: 10/22/2019 10:11:52 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00015**	**.03100**	**.00300**	**.18281**	**.14833**	**-.00007**
Stddev	.00053	.01427	.00027	.00064	.00079	.00004
%RSD	352.91	46.046	8.8813	.34910	.53330	53.718
#1	-.00072	.04740	.00323	.18245	.14924	-.00008
#2	.00034	.02135	.00271	.18355	.14788	-.00003
#3	-.00008	.02426	.00305	.18243	.14786	-.00011
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.7090**	**.00249**	**.00039**	**.01720**	**.04537**	**.00476**
Stddev	.0061	.00016	.00017	.00015	.00049	.00396
%RSD	.22457	6.4909	43.387	.88837	1.0757	83.175
#1	2.7030	.00237	.00058	.01736	.04534	.00932
#2	2.7089	.00243	.00026	.01721	.04587	.00248
#3	2.7152	.00267	.00032	.01705	.04490	.00247
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97328-A-1-C Acquired: 10/22/2019 10:11:52 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.25458	.00258	.60906	.00378	.00060	156.35
Stddev	.02430	.00141	.02806	.00009	.00009	.14
%RSD	9.5443	54.682	4.6073	2.3127	15.776	.08976
#1	.22669	.00139	.64139	.00379	.00069	156.19
#2	.27113	.00414	.59479	.00369	.00051	156.45
#3	.26593	.00221	.59101	.00386	.00060	156.40
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00129	.00251	-.00104	.00028	.09675	-.00061
Stddev	.00008	.00077	.00147	.00360	.00182	.00013
%RSD	6.5649	30.632	141.64	1266.5	1.8763	22.062
#1	.00127	.00298	-.00264	.00345	.09874	-.00066
#2	.00138	.00162	.00024	.00103	.09631	-.00046
#3	.00121	.00293	-.00071	-.00363	.09520	-.00071
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97328-A-1-C Acquired: 10/22/2019 10:11:52 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.06749	.00107	-.00000	.00081	1.4292
Stddev	.00192	.00013	.00058	.00342	.0043
%RSD	2.8455	12.164	25771.	422.26	.29703
#1	.06861	.00107	.00066	-.00228	1.4338
#2	.06528	.00093	-.00034	.00023	1.4285
#3	.06860	.00119	-.00033	.00448	1.4254
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3521.1	5818.8	86588.	6924.7
Stddev	7.1	9.3	200.	39.8
%RSD	.20177	.15982	.23096	.57418
#1	3516.5	5813.9	86592.	6915.5
#2	3517.5	5813.0	86387.	6968.3
#3	3529.3	5829.6	86787.	6890.4

Sample Name: 180-97359-A-1-C Acquired: 10/22/2019 10:17:00 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00004	.05366	.00103	.19248	.01155	.00003
Stddev	.00039	.02934	.00080	.00110	.00009	.00007
%RSD	944.09	54.677	78.255	.57130	.78599	247.50
#1	.00005	.03128	.00188	.19138	.01151	-.00004
#2	.00030	.04282	.00094	.19248	.01165	.00002
#3	-.00047	.08688	.00027	.19358	.01149	.00010
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.0608	.00006	.00056	.00027	-.00133	.54850
Stddev	.0002	.00009	.00025	.00029	.00025	.00355
%RSD	.01572	164.77	44.574	110.68	18.944	.64662
#1	1.0610	.00016	.00076	.00038	-.00141	.54871
#2	1.0606	.00003	.00028	-.00007	-.00104	.54486
#3	1.0609	-.00002	.00064	.00048	-.00153	.55195
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97359-A-1-C Acquired: 10/22/2019 10:17:00 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.25000	.00143	.15570	.00321	-.00011	175.86
Stddev	.02662	.00256	.04674	.00003	.00022	1.13
%RSD	10.649	179.25	30.021	.87432	195.97	.64020
#1	.26501	-.00058	.10603	.00319	-.00023	175.94
#2	.26572	.00432	.16225	.00320	-.00024	174.70
#3	.21926	.00055	.19882	.00324	.00014	176.94
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00126	.00416	.00000	.00159	.07460	-.00014
Stddev	.00028	.00085	.00116	.00257	.01131	.00045
%RSD	22.200	20.450	60393.	161.55	15.167	320.37
#1	.00097	.00384	-.00128	-.00136	.08749	.00024
#2	.00128	.00512	.00032	.00334	.06995	-.00002
#3	.00153	.00351	.00097	.00279	.06635	-.00064
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97359-A-1-C Acquired: 10/22/2019 10:17:00 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00692	.00060	-.00005	.00223	.00880
Stddev	.00238	.00002	.00155	.00310	.00010
%RSD	34.352	3.0215	2903.8	138.90	1.0914
#1	.00708	.00062	.00026	-.00060	.00889
#2	.00447	.00058	-.00174	.00554	.00870
#3	.00921	.00059	.00132	.00175	.00881
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3501.0	5815.7	87544.	7032.1
Stddev	8.5	19.2	300.	42.1
%RSD	.24215	.33040	.34296	.59831
#1	3492.7	5799.2	87795.	7002.2
#2	3500.7	5811.1	87626.	7080.2
#3	3509.6	5836.8	87211.	7013.8

Sample Name: 180-97375-A-1-C Acquired: 10/22/2019 10:22:16 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00002	.05366	.00161	.28979	.01110	-.00004
Stddev	.00034	.03078	.00076	.00127	.00003	.00012
%RSD	1926.3	57.358	47.254	.43940	.24675	275.73
#1	.00011	.06745	.00244	.28922	.01110	-.00018
#2	-.00040	.07514	.00146	.28891	.01113	.00002
#3	.00024	.01840	.00094	.29125	.01108	.00003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.4731	.00000	.00058	.00052	.00124	.48540
Stddev	.0069	.00015	.00018	.00032	.00029	.00212
%RSD	.46867	3490.9	30.225	62.139	23.111	.43763
#1	1.4724	-.00012	.00068	.00078	.00098	.48746
#2	1.4666	-.00005	.00069	.00063	.00154	.48322
#3	1.4803	.00018	.00038	.00016	.00120	.48553
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97375-A-1-C Acquired: 10/22/2019 10:22:16 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.56182	.00286	.25494	.00475	-.00009	163.33
Stddev	.03393	.00277	.02840	.00004	.00022	.37
%RSD	6.0386	96.799	11.140	.89054	256.15	.22706
#1	.56382	.00125	.24322	.00480	-.00029	163.70
#2	.52694	.00127	.23428	.00474	-.00012	163.32
#3	.59470	.00605	.28733	.00471	.00015	162.96
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00053	.00014	-.00018	.00106	.09976	-.00026
Stddev	.00031	.00155	.00117	.00274	.00760	.00027
%RSD	57.474	1087.7	648.69	258.95	7.6162	103.48
#1	.00044	.00070	.00109	.00259	.10086	-.00019
#2	.00087	-.00161	-.00042	.00268	.09167	-.00056
#3	.00028	.00134	-.00121	-.00210	.10675	-.00004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97375-A-1-C Acquired: 10/22/2019 10:22:16 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00446	.00022	.00053	.00253	.01541
Stddev	.00284	.00011	.00037	.00455	.00017
%RSD	63.662	52.299	70.785	179.79	1.1271
#1	.00654	.00026	.00084	-.00058	.01523
#2	.00562	.00009	.00011	.00042	.01541
#3	.00123	.00031	.00063	.00776	.01558
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3528.1	5881.6	87171.	6892.6
Stddev	10.3	25.0	386.	12.4
%RSD	.29230	.42543	.44333	.18059
#1	3539.9	5908.3	86858.	6906.1
#2	3523.1	5877.8	87053.	6881.6
#3	3521.2	5858.7	87603.	6890.0

Sample Name: 180-97375-A-2-C Acquired: 10/22/2019 10:27:24 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00011	.05043	.00031	.19549	.00835	-.00009
Stddev	.00012	.01197	.00101	.00078	.00029	.00011
%RSD	116.04	23.743	326.08	.39700	3.4858	127.00
#1	.00025	.05638	.00059	.19520	.00869	-.00012
#2	.00002	.03665	-.00081	.19489	.00818	-.00018
#3	.00005	.05827	.00115	.19636	.00819	.00004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.0323	.00009	.00051	.00086	.00143	.07343
Stddev	.0024	.00015	.00003	.00029	.00056	.00169
%RSD	.22961	169.67	6.6403	33.398	39.304	2.3032
#1	1.0335	-.00008	.00054	.00064	.00158	.07186
#2	1.0295	.00019	.00050	.00119	.00190	.07522
#3	1.0337	.00015	.00048	.00076	.00081	.07320
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97375-A-2-C Acquired: 10/22/2019 10:27:24 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.30954	.01042	.16395	.00088	-.00005	162.54
Stddev	.00688	.00054	.01653	.00003	.00009	.80
%RSD	2.2219	5.1974	10.083	3.9397	191.41	.49269
#1	.30260	.01051	.14487	.00087	-.00001	161.85
#2	.31636	.00983	.17334	.00092	.00002	162.35
#3	.30967	.01090	.17365	.00085	-.00016	163.42
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.03388	.00089	-.00119	.00232	.21117	-.00052
Stddev	.00062	.00064	.00129	.00199	.00367	.00033
%RSD	1.8241	72.283	108.68	85.872	1.7377	64.049
#1	.03438	.00149	-.00018	.00296	.21391	-.00035
#2	.03319	.00021	-.00265	.00009	.20700	-.00031
#3	.03406	.00095	-.00075	.00392	.21260	-.00090
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97375-A-2-C Acquired: 10/22/2019 10:27:24 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.01903	.00058	.00073	.00175	.01180
Stddev	.00380	.00019	.00092	.00424	.00006
%RSD	19.943	32.407	126.51	242.50	.47823
#1	.02194	.00061	.00164	-.00264	.01180
#2	.02042	.00076	-.00020	.00205	.01174
#3	.01474	.00038	.00075	.00584	.01185
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3506.2	5822.8	87840.	6999.3
Stddev	19.5	29.8	50.	46.8
%RSD	.55479	.51232	.05708	.66832
#1	3523.0	5849.5	87783.	6947.5
#2	3510.7	5828.2	87877.	7011.9
#3	3484.9	5790.6	87861.	7038.4

Sample Name: 180-97375-A-3-C Acquired: 10/22/2019 10:32:36 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00020**	**.04295**	**.00052**	**.16348**	**.00973**	**-.00003**
Stddev	.00019	.01659	.00023	.00020	.00014	.00007
%RSD	94.154	38.631	44.301	.11971	1.4036	251.49
#1	-.00034	.06191	.00025	.16331	.00962	-.00008
#2	.00001	.03588	.00062	.16369	.00969	.00005
#3	-.00028	.03106	.00068	.16343	.00988	-.00005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.0896**	**.00017**	**.00070**	**.00045**	**-.00086**	**1.8172**
Stddev	.0142	.00001	.00022	.00020	.00071	.0153
%RSD	.45912	5.1114	31.331	45.244	82.690	.84413
#1	3.1042	.00016	.00088	.00038	-.00166	1.8231
#2	3.0758	.00018	.00076	.00067	-.00061	1.7998
#3	3.0888	.00017	.00045	.00029	-.00031	1.8287
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97375-A-3-C Acquired: 10/22/2019 10:32:36 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.27285	.00217	.54435	.06156	.00032	165.15
Stddev	.05237	.00123	.02150	.00010	.00014	1.58
%RSD	19.193	56.549	3.9505	.16351	43.172	.95799
#1	.26978	.00359	.56227	.06144	.00027	166.19
#2	.22209	.00142	.52050	.06164	.00048	163.33
#3	.32669	.00151	.55029	.06159	.00021	165.93
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00142	.00017	-.00103	.00005	.15099	-.00011
Stddev	.00022	.00146	.00133	.00103	.00613	.00028
%RSD	15.723	864.48	129.48	1897.6	4.0607	244.20
#1	.00166	.00025	-.00250	-.00105	.14696	-.00038
#2	.00137	-.00133	-.00070	.00099	.15805	-.00014
#3	.00122	.00159	.00011	.00023	.14797	.00018
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97375-A-3-C Acquired: 10/22/2019 10:32:36 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00729	.00027	.00091	.00241	.46340
Stddev	.00666	.00013	.00042	.00247	.00059
%RSD	91.340	46.721	46.482	102.20	.12636
#1	.00426	.00031	.00134	-.00035	.46273
#2	.00269	.00013	.00090	.00439	.46382
#3	.01493	.00037	.00049	.00320	.46366
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3515.5	5851.1	87125.	6880.8
Stddev	4.2	7.1	87.	67.7
%RSD	.11835	.12110	.10006	.98395
#1	3510.9	5842.9	87210.	6806.2
#2	3516.9	5854.8	87128.	6938.4
#3	3518.8	5855.5	87036.	6897.7

Sample Name: 180-97377-A-1-C Acquired: 10/22/2019 10:37:45 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00015	.01679	.00053	.12978	.03387	-.00002
Stddev	.00049	.03196	.00219	.00054	.00041	.00010
%RSD	337.33	190.34	410.75	.41260	1.2072	387.62
#1	.00027	.04779	-.00191	.13040	.03424	.00006
#2	-.00001	-.01605	.00232	.12951	.03395	-.00013
#3	-.00069	.01864	.00119	.12943	.03343	-.00000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	33.755	.00018	.00378	.00056	-.00093	47.260
Stddev	.045	.00008	.00017	.00026	.00076	.240
%RSD	.13222	43.412	4.5272	47.089	81.234	.50808
#1	33.781	.00020	.00379	.00086	-.00173	47.446
#2	33.703	.00009	.00394	.00047	-.00086	47.345
#3	33.781	.00024	.00360	.00035	-.00022	46.989
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97377-A-1-C Acquired: 10/22/2019 10:37:45 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.48745	.00278	1.7203	1.5675	-.00048	174.86
Stddev	.00908	.00074	.0162	.0036	.00016	.64
%RSD	1.8625	26.753	.94262	.22737	33.351	.36528
#1	.49431	.00254	1.7336	1.5706	-.00030	175.06
#2	.49089	.00361	1.7022	1.5636	-.00054	175.38
#3	.47716	.00218	1.7250	1.5685	-.00061	174.15
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00078	-.00017	-.00010	.00131	.51404	-.00009
Stddev	.00030	.00104	.00106	.00144	.00979	.00041
%RSD	37.762	618.86	1066.1	110.12	1.9037	432.19
#1	.00051	-.00030	-.00038	-.00022	.51116	-.00017
#2	.00110	.00094	-.00099	.00263	.50602	.00034
#3	.00075	-.00114	.00107	.00150	.52494	-.00046
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97377-A-1-C Acquired: 10/22/2019 10:37:45 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.04738	.00031	.00098	.00544	11.594
Stddev	.00242	.00006	.00100	.00205	.017
%RSD	5.0967	18.398	102.17	37.644	.14875
#1	.04463	.00037	.00189	.00350	11.575
#2	.04912	.00025	.00113	.00758	11.600
#3	.04841	.00032	-.00009	.00524	11.608
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3467.3	5843.3	87425.	7040.5
Stddev	18.6	23.2	51.	21.2
%RSD	.53599	.39744	.05799	.30097
#1	3488.8	5870.0	87374.	7061.5
#2	3456.5	5828.0	87425.	7019.1
#3	3456.6	5831.8	87475.	7040.8

Sample Name: 180-97377-A-2-C Acquired: 10/22/2019 10:42:59 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00001	.12657	.00078	.14506	.07320	-.00005
Stddev	.00022	.02084	.00113	.00114	.00068	.00007
%RSD	1583.2	16.462	145.42	.78691	.92631	135.16
#1	-.00008	.12544	.00088	.14381	.07355	-.00011
#2	-.00014	.10632	-.00040	.14534	.07364	.00003
#3	.00027	.14795	.00186	.14604	.07242	-.00007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	47.452	.00013	.00206	.00086	-.00083	21.869
Stddev	.085	.00020	.00018	.00021	.00049	.079
%RSD	.17973	148.25	8.9586	24.745	59.315	.36015
#1	47.385	.00034	.00224	.00073	-.00140	21.907
#2	47.548	.00010	.00207	.00074	-.00050	21.922
#3	47.422	-.00005	.00187	.00110	-.00060	21.779
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97377-A-2-C Acquired: 10/22/2019 10:42:59 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.52910	.00344	3.3057	1.5124	-.00039	165.36
Stddev	.01245	.00079	.0570	.0034	.00025	.21
%RSD	2.3525	22.836	1.7229	.22386	62.446	.12795
#1	.52267	.00322	3.2836	1.5133	-.00030	165.35
#2	.54344	.00431	3.3704	1.5087	-.00067	165.58
#3	.52118	.00279	3.2632	1.5153	-.00021	165.16
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00143	.00028	-.00126	.00353	1.1299	-.00072
Stddev	.00053	.00107	.00192	.00138	.0136	.00023
%RSD	37.184	377.67	151.84	39.074	1.2037	32.554
#1	.00199	-.00060	-.00047	.00217	1.1281	-.00080
#2	.00134	.00147	-.00345	.00348	1.1443	-.00046
#3	.00095	-.00002	.00013	.00492	1.1172	-.00091
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97377-A-2-C Acquired: 10/22/2019 10:42:59 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.10171	.00189	-.00158	.00099	1.1148
Stddev	.00455	.00018	.00095	.00220	.0015
%RSD	4.4700	9.5549	60.196	221.93	.13803
#1	.10117	.00204	-.00138	-.00110	1.1130
#2	.10651	.00169	-.00074	.00079	1.1153
#3	.09747	.00193	-.00261	.00329	1.1159
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3452.6	5823.9	87121.	6950.3
Stddev	10.1	11.4	446.	62.8
%RSD	.29175	.19647	.51229	.90386
#1	3459.5	5832.4	87614.	6933.8
#2	3457.4	5828.4	87007.	6897.3
#3	3441.1	5810.9	86744.	7019.7

Sample Name: 180-97381-A-1-C Acquired: 10/22/2019 10:48:10 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00034**	**.10367**	**.00148**	**.17707**	**.02330**	**-.00005**
Stddev	.00007	.02224	.00073	.00032	.00036	.00005
%RSD	21.547	21.449	49.186	.17902	1.5310	90.740
#1	-.00029	.08826	.00082	.17743	.02360	-.00010
#2	-.00030	.09359	.00226	.17694	.02291	-.00001
#3	-.00042	.12916	.00136	.17683	.02341	-.00005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.0847**	**.00009**	**.00054**	**.00052**	**-.00084**	**.25215**
Stddev	.0087	.00006	.00025	.00008	.00045	.00131
%RSD	.41863	68.594	46.524	16.275	53.792	.51981
#1	2.0751	.00005	.00026	.00043	-.00131	.25221
#2	2.0921	.00016	.00074	.00052	-.00079	.25343
#3	2.0868	.00006	.00062	.00060	-.00041	.25081
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97381-A-1-C Acquired: 10/22/2019 10:48:10 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19296	.00191	.23161	.03557	-.00010	146.34
Stddev	.02387	.00027	.01573	.00007	.00014	.37
%RSD	12.369	14.260	6.7911	.19909	137.78	.25509
#1	.22042	.00165	.22105	.03565	-.00024	146.46
#2	.18127	.00219	.22409	.03555	.00004	146.63
#3	.17719	.00190	.24969	.03551	-.00011	145.92
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00144	-.00037	-.00002	.00296	.35302	-.00054
Stddev	.00033	.00102	.00100	.00188	.01179	.00068
%RSD	22.605	272.21	5764.9	63.589	3.3396	126.01
#1	.00175	.00017	.00032	.00487	.36592	.00022
#2	.00110	-.00155	.00077	.00289	.35032	-.00074
#3	.00147	.00025	-.00114	.00111	.34281	-.00109
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97381-A-1-C Acquired: 10/22/2019 10:48:10 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.01295	.00101	.00065	.00480	.00620
Stddev	.00653	.00015	.00134	.00376	.00009
%RSD	50.384	14.946	206.89	78.324	1.5036
#1	.00573	.00118	.00020	.00601	.00627
#2	.01842	.00096	.00216	.00781	.00609
#3	.01471	.00089	-.00041	.00059	.00623
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3561.1	5908.3	88550.	6999.4
Stddev	7.4	9.7	385.	14.1
%RSD	.20740	.16495	.43467	.20109
#1	3553.9	5897.1	88105.	7003.8
#2	3560.8	5915.0	88780.	7010.7
#3	3568.6	5912.7	88764.	6983.6

Sample Name: 180-97382-A-1-G Acquired: 10/22/2019 10:53:18 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00001	.02218	.00205	.03219	.05098	-.00002
Stddev	.00037	.02784	.00103	.00038	.00040	.00009
%RSD	2637.6	125.50	50.343	1.1949	.77616	509.73
#1	.00021	.04876	.00319	.03241	.05142	-.00006
#2	.00025	-.00676	.00119	.03175	.05065	-.00007
#3	-.00041	.02454	.00176	.03242	.05088	.00009
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.1575	.00014	.00041	-.00028	.00077	.00309
Stddev	.0120	.00008	.00005	.00013	.00040	.00267
%RSD	.23348	57.458	13.336	48.051	52.251	86.310
#1	5.1668	.00021	.00036	-.00016	.00031	.00009
#2	5.1439	.00017	.00040	-.00042	.00099	.00398
#3	5.1617	.00005	.00047	-.00024	.00101	.00520
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97382-A-1-G Acquired: 10/22/2019 10:53:18 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.12468	.00192	1.4938	.01064	-.00027	145.74
Stddev	.02180	.00118	.0052	.00006	.00015	.42
%RSD	17.489	61.422	.34701	.55843	54.488	.29053
#1	.10319	.00107	1.4884	.01066	-.00020	146.07
#2	.12406	.00143	1.4988	.01058	-.00017	145.26
#3	.14679	.00327	1.4942	.01069	-.00044	145.88
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00251	.00025	-.00076	.00208	.42771	-.00054
Stddev	.00042	.00063	.00216	.00066	.00293	.00032
%RSD	16.874	249.14	284.05	32.004	.68435	59.809
#1	.00220	.00010	.00174	.00155	.42797	-.00026
#2	.00299	.00094	-.00196	.00186	.42466	-.00089
#3	.00234	-.00029	-.00206	.00282	.43049	-.00046
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97382-A-1-G Acquired: 10/22/2019 10:53:18 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.02457	.00030	-.00051	.00246	.03976
Stddev	.00373	.00004	.00001	.00213	.00005
%RSD	15.186	15.226	2.4527	86.482	.12848
#1	.02720	.00026	-.00052	.00228	.03982
#2	.02030	.00034	-.00050	.00467	.03973
#3	.02622	.00029	-.00051	.00043	.03973
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3543.7	5876.4	87546.	6908.0
Stddev	8.0	18.3	117.	38.1
%RSD	.22696	.31071	.13376	.55216
#1	3534.8	5856.0	87576.	6910.6
#2	3545.7	5882.0	87417.	6944.8
#3	3550.5	5891.2	87645.	6868.7

Sample Name: CCV 3418984 Acquired: 10/22/2019 10:58:29 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.0201	24.495	.51176	2.0413	1.9776	2.0001
Stddev	.0021	.157	.00209	.0090	.0075	.0062
%RSD	.20857	.64153	.40906	.44150	.37713	.30730
#1	1.0187	24.653	.51280	2.0517	1.9862	2.0066
#2	1.0226	24.339	.51313	2.0359	1.9728	1.9944
#3	1.0191	24.494	.50935	2.0364	1.9738	1.9991
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	49.933	.50244	2.0560	1.9568	1.9317	24.979
Stddev	.033	.00238	.0071	.0040	.0066	.056
%RSD	.06666	.47341	.34658	.20397	.33950	.22226
#1	49.946	.50513	2.0640	1.9571	1.9317	25.034
#2	49.895	.50061	2.0504	1.9526	1.9251	24.981
#3	49.957	.50159	2.0535	1.9606	1.9382	24.923
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3418984 Acquired: 10/22/2019 10:58:29 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	124.66	1.9956	49.459	1.9742	1.9639	125.29
Stddev	.22	.0017	.220	.0006	.0079	.13
%RSD	.17786	.08626	.44478	.02849	.40061	.10269
#1	124.92	1.9963	49.712	1.9736	1.9727	125.42
#2	124.52	1.9969	49.310	1.9746	1.9577	125.31
#3	124.56	1.9937	49.356	1.9744	1.9612	125.16
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.0560	.50736	.49583	.51391	2.0022	1.9180
Stddev	.0068	.00366	.00444	.00096	.0192	.0083
%RSD	.33179	.72057	.89600	.18625	.95844	.43393
#1	2.0632	.51158	.49986	.51312	2.0205	1.9265
#2	2.0496	.50523	.49106	.51497	1.9822	1.9098
#3	2.0553	.50527	.49656	.51363	2.0040	1.9177
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3418984 Acquired: 10/22/2019 10:58:29 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	1.9732	1.9747	.97524	2.0037	1.9809
Stddev	.0078	.0031	.00138	.0049	.0088
%RSD	.39794	.15792	.14180	.24648	.44596
#1	1.9677	1.9764	.97654	2.0079	1.9900
#2	1.9822	1.9711	.97379	2.0049	1.9724
#3	1.9696	1.9767	.97539	1.9983	1.9804
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3283.9	5727.0	85452.	6751.5
Stddev	9.8	16.9	45.	34.3
%RSD	.29729	.29527	.05258	.50732
#1	3272.7	5708.3	85466.	6716.3
#2	3290.8	5741.2	85488.	6753.5
#3	3288.1	5731.6	85402.	6784.7

Sample Name: CCB3 Acquired: 10/22/2019 11:03:17 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00016	-.00150	-.00016	.00049	-.00001	-.00002
Stddev	.00007	.02858	.00017	.00011	.00013	.00004
%RSD	42.836	1905.1	103.21	23.061	1660.4	211.76
#1	.00023	.02937	.00002	.00047	-.00001	-.00007
#2	.00016	-.02704	-.00032	.00062	.00013	.00002
#3	.00009	-.00684	-.00020	.00039	-.00014	-.00001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00097	.00012	-.00009	-.00003	.00044	.00063
Stddev	.00425	.00004	.00007	.00013	.00066	.00262
%RSD	436.89	28.354	79.358	523.10	150.73	416.89
#1	.00569	.00008	-.00013	-.00014	-.00020	.00197
#2	-.00258	.00015	-.00001	-.00006	.00111	.00231
#3	-.00019	.00014	-.00014	.00012	.00040	-.00239
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB3 Acquired: 10/22/2019 11:03:17 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.13705**	**.00145**	**-.04354**	**.00001**	**.00035**	**.09003**
Stddev	.01545	.00049	.01084	.00001	.00021	.00368
%RSD	11.272	33.937	24.899	123.98	60.435	4.0845
#1	.14070	.00144	-.04141	.00002	.00023	.09384
#2	.15034	.00097	-.03393	-.00000	.00023	.08974
#3	.12010	.00195	-.05529	.00001	.00060	.08651
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00049**	**-.00130**	**.00010**	**.00017**	**.00317**	**-.00083**
Stddev	.00038	.00069	.00270	.00076	.01402	.00043
%RSD	76.709	53.104	2833.0	460.07	442.25	51.258
#1	.00091	-.00064	.00025	-.00020	-.00946	-.00034
#2	.00019	-.00202	.00272	-.00034	.01826	-.00111
#3	.00037	-.00123	-.00268	.00104	.00072	-.00104
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB3 Acquired: 10/22/2019 11:03:17 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	-.00433	.00010	.00073	.00107	.00015
Stddev	.00272	.00015	.00048	.00505	.00004
%RSD	62.734	140.99	65.540	472.38	26.883
#1	-.00269	.00007	.00122	.00522	.00019
#2	-.00747	.00026	.00072	.00254	.00011
#3	-.00283	-.00002	.00026	-.00455	.00015
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4000.1	6105.3	92586.	6861.6
Stddev	3.6	8.5	408.	19.4
%RSD	.08961	.13886	.44105	.28279
#1	3996.3	6096.0	92756.	6839.8
#2	4000.6	6112.7	92121.	6868.0
#3	4003.4	6107.1	92883.	6877.0

Sample Name: LB 180-295177/1-G Acquired: 10/22/2019 11:08:29 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00016	.07812	.00197	.00034	.00028	-.00006
Stddev	.00044	.03480	.00289	.00016	.00026	.00010
%RSD	281.45	44.542	146.26	47.895	93.765	175.02
#1	.00033	.11145	.00526	.00020	-.00001	.00003
#2	-.00055	.08089	.00081	.00030	.00035	-.00004
#3	-.00025	.04202	-.00015	.00052	.00049	-.00016
Check ?	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00876	.00014	.00049	-.00023	-.00183	.00590
Stddev	.00185	.00018	.00013	.00026	.00031	.00114
%RSD	21.183	127.02	26.905	112.18	16.710	19.323
#1	.00875	-.00004	.00064	-.00018	-.00203	.00460
#2	.01061	.00032	.00042	-.00000	-.00197	.00634
#3	.00690	.00014	.00041	-.00051	-.00148	.00675
Check ?	None	Chk Pass	None	Chk Pass	Chk Pass	None
High Limit						
Low Limit						

Sample Name: LB 180-295177/1-G Acquired: 10/22/2019 11:08:29 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.11014	.00029	-.00661	.00001	-.00026	163.45
Stddev	.01531	.00068	.03193	.00002	.00024	.86
%RSD	13.905	234.21	482.75	108.74	91.349	.52836
#1	.09529	-.00018	.02260	.00000	-.00050	162.90
#2	.10924	.00108	-.00174	.00001	-.00025	164.44
#3	.12588	-.00002	-.04070	.00003	-.00003	163.01
Check ?	None	None	None	None	None	None
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00071	.00098	-.00042	.00176	.01103	-.00028
Stddev	.00049	.00065	.00061	.00127	.01457	.00024
%RSD	68.958	66.890	146.15	72.030	132.15	84.349
#1	.00125	.00048	-.00035	.00031	.02761	-.00017
#2	.00061	.00172	-.00106	.00232	.00520	-.00056
#3	.00028	.00074	.00016	.00267	.00027	-.00012
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None
High Limit						
Low Limit						

Sample Name: LB 180-295177/1-G Acquired: 10/22/2019 11:08:29 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00384	.00028	.00028	.00228	.00328
Stddev	.00521	.00003	.00019	.00215	.00011
%RSD	135.78	10.501	69.579	94.404	3.3405
#1	.00837	.00026	.00031	.00476	.00332
#2	.00501	.00027	.00045	.00088	.00316
#3	-.00186	.00032	.00007	.00120	.00336
Check ?	None	None	Chk Pass	None	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3525.4	5867.3	87524.	6923.8
Stddev	6.7	10.1	351.	51.2
%RSD	.18976	.17279	.40098	.73959
#1	3533.1	5875.9	87230.	6963.7
#2	3521.1	5856.1	87430.	6866.1
#3	3522.0	5869.9	87912.	6941.7

Sample Name: 180-97236-A-1-M Acquired: 10/22/2019 11:13:49 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00009	.03376	.00104	.03991	.12632	.00007
Stddev	.00050	.01528	.00073	.00064	.00085	.00007
%RSD	571.74	45.256	70.027	1.6063	.66913	97.058
#1	-.00059	.05139	.00119	.03994	.12724	.00006
#2	-.00006	.02452	.00169	.03926	.12557	.00000
#3	.00040	.02536	.00025	.04054	.12617	.00014
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.348	.00077	.02136	.00063	.00170	.05126
Stddev	.060	.00012	.00011	.00007	.00056	.00215
%RSD	.53220	15.560	.50870	10.836	32.745	4.1877
#1	11.394	.00064	.02124	.00064	.00230	.05023
#2	11.280	.00078	.02146	.00069	.00157	.05372
#3	11.372	.00087	.02139	.00056	.00121	.04981
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97236-A-1-M Acquired: 10/22/2019 11:13:49 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.29929	.00490	3.0208	4.4601	.00076	153.24
Stddev	.01532	.00126	.0431	.0136	.00013	.53
%RSD	5.1171	25.747	1.4268	.30463	16.610	.34856
#1	.29181	.00541	3.0443	4.4479	.00090	153.77
#2	.28916	.00347	2.9710	4.4747	.00066	152.70
#3	.31691	.00583	3.0470	4.4575	.00073	153.25
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.03422	.00088	.00100	-.00094	.53614	-.00035
Stddev	.00006	.00089	.00070	.00096	.01591	.00039
%RSD	.18728	101.70	70.228	101.10	2.9683	111.98
#1	.03418	-.00009	.00031	.00000	.55416	.00005
#2	.03417	.00167	.00097	-.00191	.53026	-.00074
#3	.03429	.00106	.00171	-.00093	.52400	-.00036
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97236-A-1-M Acquired: 10/22/2019 11:13:49 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.04660	.00041	-.00131	.00226	.06467
Stddev	.00331	.00026	.00040	.00074	.00024
%RSD	7.1001	64.293	30.116	32.535	.36386
#1	.04776	.00070	-.00170	.00153	.06484
#2	.04918	.00021	-.00091	.00300	.06440
#3	.04287	.00031	-.00133	.00225	.06476
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3524.5	5896.5	87566.	6851.9
Stddev	8.7	10.5	296.	8.9
%RSD	.24688	.17732	.33801	.12963
#1	3515.6	5884.5	87729.	6856.0
#2	3524.9	5903.6	87224.	6858.0
#3	3533.0	5901.5	87744.	6841.7

Sample Name: 180-97236-A-1-M SD@5 Acquired: 10/22/2019 11:19:06 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00026	.02208	-.00015	.00761	.02553	-.00007
Stddev	.00012	.03786	.00031	.00034	.00039	.00006
%RSD	46.488	171.49	205.79	4.4719	1.5462	88.994
#1	.00035	-.01559	-.00039	.00795	.02586	.00000
#2	.00012	.02169	-.00026	.00727	.02563	-.00010
#3	.00030	.06014	.00020	.00762	.02509	-.00011
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.2889	.00020	.00411	.00004	.00077	.00915
Stddev	.0047	.00016	.00015	.00028	.00026	.00172
%RSD	.20728	76.723	3.5412	649.20	33.476	18.772
#1	2.2938	.00008	.00420	.00002	.00092	.00944
#2	2.2843	.00016	.00418	-.00022	.00091	.00730
#3	2.2885	.00038	.00394	.00033	.00047	.01070
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97236-A-1-M SD@5 Acquired: 10/22/2019 11:19:06 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.07942	.00241	.57088	.91327	.00006	30.924
Stddev	.01391	.00120	.02055	.00134	.00014	.087
%RSD	17.514	49.606	3.6005	.14642	234.86	.28080
#1	.08604	.00255	.58549	.91363	.00020	30.877
#2	.08878	.00115	.54738	.91438	-.00009	31.024
#3	.06343	.00353	.57978	.91179	.00007	30.871
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00730	-.00001	.00038	.00192	.10939	-.00078
Stddev	.00037	.00053	.00102	.00091	.00654	.00007
%RSD	5.0758	3712.8	270.83	47.325	5.9784	9.3583
#1	.00714	.00046	.00124	.00295	.11444	-.00081
#2	.00704	-.00059	.00064	.00126	.10200	-.00083
#3	.00773	.00008	-.00075	.00154	.11171	-.00069
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97236-A-1-M SD@5 Acquired: 10/22/2019 11:19:06 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00016	.00002	.00031	-.00195	.01432
Stddev	.00840	.00019	.00139	.00184	.00025
%RSD	5392.6	853.54	448.30	94.624	1.7141
#1	.00437	.00012	-.00013	-.00084	.01435
#2	.00561	-.00020	-.00080	-.00407	.01407
#3	-.00951	.00014	.00186	-.00092	.01456
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3793.7	6070.2	90870.	6890.6
Stddev	11.6	11.1	236.	19.0
%RSD	.30555	.18352	.26015	.27574
#1	3802.3	6079.0	91053.	6893.1
#2	3798.2	6074.0	90603.	6870.5
#3	3780.5	6057.7	90953.	6908.3

Sample Name: 180-97236-A-1-N MS Acquired: 10/22/2019 11:24:15 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.07906	.04797	.49894	.03939	4.9443	.00009
Stddev	.00094	.00956	.00709	.00071	.0126	.00004
%RSD	1.1907	19.931	1.4216	1.8101	.25404	48.769
#1	.07877	.05291	.49559	.03944	4.9405	.00004
#2	.07829	.03695	.49414	.03865	4.9341	.00011
#3	.08011	.05406	.50708	.04007	4.9583	.00011
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.155	.09921	.02106	.48308	.00269	.05043
Stddev	.026	.00143	.00036	.00124	.00027	.00222
%RSD	.23134	1.4371	1.6976	.25716	9.9941	4.4091
#1	11.183	.09834	.02081	.48333	.00291	.04881
#2	11.132	.09843	.02091	.48173	.00239	.05297
#3	11.150	.10086	.02147	.48418	.00278	.04952
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97236-A-1-N MS Acquired: 10/22/2019 11:24:15 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.23898	.00473	2.9721	4.3686	.00065	151.09
Stddev	.03094	.00081	.0384	.0124	.00015	.23
%RSD	12.947	17.121	1.2913	.28293	23.363	.15112
#1	.21987	.00517	2.9522	4.3781	.00082	151.36
#2	.27468	.00522	3.0164	4.3730	.00059	150.95
#3	.22240	.00379	2.9479	4.3546	.00054	150.98
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.03438	.48778	-.00057	.10422	.53234	-.00085
Stddev	.00114	.00439	.00102	.00232	.00603	.00011
%RSD	3.3131	.89921	179.77	2.2215	1.1330	13.165
#1	.03352	.48537	.00061	.10308	.52555	-.00078
#2	.03395	.48512	-.00116	.10270	.53707	-.00098
#3	.03567	.49284	-.00115	.10689	.53440	-.00080
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97236-A-1-N MS Acquired: 10/22/2019 11:24:15 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.04163	.00019	-.00090	.00149	.06426
Stddev	.01019	.00010	.00029	.00448	.00123
%RSD	24.481	51.720	32.358	299.92	1.9166
#1	.03523	.00026	-.00120	.00631	.06347
#2	.05339	.00008	-.00062	.00071	.06363
#3	.03628	.00023	-.00088	-.00254	.06568
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3515.7	5881.1	88419.	6917.9
Stddev	42.7	78.3	218.	26.3
%RSD	1.2148	1.3307	.24668	.38016
#1	3545.1	5929.9	88382.	6921.1
#2	3535.3	5922.6	88654.	6890.1
#3	3466.7	5790.9	88222.	6942.4

Sample Name: 180-97236-A-1-O MSD Acquired: 10/22/2019 11:29:26 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.08219	.07064	.49175	.03943	4.9516	.00018
Stddev	.00049	.02773	.00050	.00019	.0168	.00001
%RSD	.59884	39.257	.10262	.48202	.33993	3.7699
#1	.08178	.05414	.49185	.03938	4.9680	.00018
#2	.08274	.10265	.49220	.03964	4.9343	.00019
#3	.08206	.05512	.49120	.03927	4.9526	.00018
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.363	.09746	.02089	.48205	.00264	.05396
Stddev	.015	.00010	.00016	.00103	.00031	.00260
%RSD	.12824	.09809	.76494	.21399	11.599	4.8203
#1	11.373	.09740	.02080	.48264	.00242	.05661
#2	11.346	.09742	.02080	.48086	.00252	.05388
#3	11.369	.09757	.02107	.48266	.00299	.05141
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97236-A-1-O MSD Acquired: 10/22/2019 11:29:26 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.26001	.00464	3.0245	4.4427	.00066	153.48
Stddev	.00911	.00085	.0121	.0173	.00014	.51
%RSD	3.5021	18.300	.40158	.38927	20.724	.33364
#1	.26606	.00553	3.0161	4.4535	.00067	154.02
#2	.24954	.00384	3.0385	4.4227	.00052	153.00
#3	.26443	.00456	3.0190	4.4519	.00079	153.42
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.03530	.48199	.00114	.10037	.53671	-.00074
Stddev	.00046	.00258	.00042	.00085	.01378	.00019
%RSD	1.2974	.53515	36.720	.84864	2.5674	25.645
#1	.03582	.48472	.00130	.10091	.55177	-.00060
#2	.03512	.47960	.00146	.10082	.53364	-.00065
#3	.03495	.48163	.00067	.09939	.52472	-.00095
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97236-A-1-O MSD Acquired: 10/22/2019 11:29:26 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.04292	.00026	-.00150	.00359	.06530
Stddev	.00401	.00005	.00053	.00392	.00021
%RSD	9.3364	20.327	35.628	109.37	.32018
#1	.04755	.00021	-.00107	.00003	.06537
#2	.04048	.00032	-.00210	.00779	.06546
#3	.04074	.00026	-.00133	.00293	.06506
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3521.8	5897.0	87853.	6880.5
Stddev	4.4	5.3	119.	46.1
%RSD	.12465	.08941	.13488	.66983
#1	3517.7	5893.1	87718.	6834.0
#2	3526.4	5903.0	87942.	6881.2
#3	3521.3	5894.9	87899.	6926.2

Sample Name: 180-97236-A-1-P MS Acquired: 10/22/2019 11:34:36 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04113	.98316	.19113	.28436	.31910	.09746
Stddev	.00021	.07035	.00114	.00048	.00523	.00031
%RSD	.51186	7.1556	.59558	.16994	1.6398	.31607
#1	.04136	.91953	.19234	.28382	.31412	.09718
#2	.04096	1.0587	.19008	.28475	.31861	.09741
#3	.04106	.97124	.19098	.28451	.32455	.09779
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.082	.09694	.11765	.09374	.09731	.97285
Stddev	.028	.00036	.00035	.00085	.00034	.00365
%RSD	.17369	.37315	.30156	.90688	.35098	.37528
#1	16.057	.09734	.11790	.09412	.09751	.96938
#2	16.112	.09683	.11725	.09432	.09692	.97251
#3	16.076	.09664	.11782	.09276	.09750	.97665
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97236-A-1-P MS Acquired: 10/22/2019 11:34:36 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.1624**	**.10043**	**7.7943**	**4.5005**	**.09415**	**157.36**
Stddev	.0562	.00046	.0150	.0024	.00034	.36
%RSD	1.0892	.45365	.19311	.05263	.36363	.22590
#1	5.0979	.10063	7.8104	4.4978	.09451	157.35
#2	5.2014	.09990	7.7806	4.5014	.09384	157.01
#3	5.1878	.10074	7.7920	4.5022	.09410	157.73
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.13124**	**.09478**	**.04600**	**.19298**	**.73471**	**.17378**
Stddev	.00026	.00081	.00142	.00115	.00806	.00012
%RSD	.19457	.85179	3.0865	.59626	1.0964	.06977
#1	.13094	.09517	.04764	.19368	.73321	.17391
#2	.13140	.09533	.04524	.19165	.74341	.17367
#3	.13137	.09386	.04513	.19361	.72751	.17375
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97236-A-1-P MS Acquired: 10/22/2019 11:34:36 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.13822	.09122	.18881	.09423	.11289
Stddev	.00675	.00023	.00130	.00396	.00019
%RSD	4.8842	.25729	.68833	4.2074	.16525
#1	.14512	.09118	.19020	.09314	.11270
#2	.13163	.09148	.18859	.09092	.11291
#3	.13790	.09101	.18763	.09862	.11307
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3522.1	5933.9	88014.	6980.4
Stddev	14.8	28.0	57.	40.2
%RSD	.42043	.47220	.06465	.57551
#1	3505.8	5906.3	87981.	7026.5
#2	3534.7	5962.3	88080.	6961.5
#3	3525.8	5933.2	87981.	6953.1

Sample Name: 180-97236-A-1-Q MSD Acquired: 10/22/2019 11:39:41 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04299	.99055	.19146	.28616	.31493	.09623
Stddev	.00010	.02342	.00053	.00057	.00270	.00039
%RSD	.22753	2.3647	.27757	.19876	.85792	.40382
#1	.04291	.96967	.19104	.28551	.31700	.09668
#2	.04295	1.0159	.19206	.28657	.31188	.09602
#3	.04310	.98612	.19127	.28640	.31592	.09599
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.799	.09655	.11809	.09347	.09679	.96830
Stddev	.092	.00013	.00018	.00077	.00072	.00550
%RSD	.58080	.13535	.15443	.82485	.74106	.56813
#1	15.882	.09668	.11791	.09261	.09757	.97038
#2	15.813	.09657	.11828	.09411	.09615	.96206
#3	15.701	.09642	.11809	.09369	.09667	.97246
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97236-A-1-Q MSD Acquired: 10/22/2019 11:39:41 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.1109**	**.09938**	**7.6214**	**4.4279**	**.09347**	**154.48**
Stddev	.0454	.00028	.0135	.0192	.00026	.29
%RSD	.88916	.28285	.17770	.43309	.27788	.18517
#1	5.1626	.09919	7.6304	4.4430	.09351	154.79
#2	5.0774	.09924	7.6058	4.4063	.09319	154.23
#3	5.0927	.09970	7.6279	4.4344	.09370	154.41
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.13077**	**.09408**	**.04698**	**.19334**	**.72298**	**.17346**
Stddev	.00051	.00109	.00173	.00388	.00892	.00019
%RSD	.39052	1.1552	3.6798	2.0090	1.2332	.10932
#1	.13028	.09308	.04809	.18994	.72712	.17357
#2	.13130	.09524	.04785	.19251	.72907	.17324
#3	.13072	.09392	.04499	.19757	.71274	.17356
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97236-A-1-Q MSD Acquired: 10/22/2019 11:39:41 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.13286	.09091	.18768	.09343	.11231
Stddev	.00468	.00023	.00029	.00260	.00007
%RSD	3.5228	.25790	.15365	2.7872	.05902
#1	.13620	.09107	.18768	.09043	.11223
#2	.12751	.09102	.18738	.09473	.11234
#3	.13487	.09064	.18796	.09512	.11235
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3509.6	5927.2	88378.	7045.6
Stddev	5.2	15.8	213.	11.1
%RSD	.14793	.26646	.24074	.15716
#1	3515.6	5945.0	88326.	7034.8
#2	3507.1	5914.9	88611.	7056.9
#3	3506.2	5921.6	88195.	7045.0

Sample Name: 180-97236-A-1-M PDS Acquired: 10/22/2019 11:44:47 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.09956	.04359	.51881	.04030	5.1316	.00009
Stddev	.00046	.01927	.00086	.00065	.0206	.00006
%RSD	.46466	44.210	.16516	1.6121	.40088	65.010
#1	.09988	.04326	.51930	.03967	5.1093	.00002
#2	.09977	.02448	.51782	.04097	5.1355	.00012
#3	.09903	.06302	.51932	.04026	5.1499	.00011
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.446	.10318	.02126	.50572	.00181	.04470
Stddev	.014	.00022	.00016	.00186	.00024	.00304
%RSD	.11918	.21652	.75447	.36718	13.175	6.8100
#1	11.432	.10341	.02130	.50431	.00202	.04816
#2	11.459	.10297	.02139	.50502	.00187	.04347
#3	11.448	.10317	.02108	.50782	.00155	.04246
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97236-A-1-M PDS Acquired: 10/22/2019 11:44:47 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.28150	.00552	3.0427	4.5118	.00048	154.77
Stddev	.01997	.00086	.0144	.0019	.00028	.09
%RSD	7.0945	15.627	.47417	.04279	57.861	.05520
#1	.27967	.00520	3.0551	4.5139	.00016	154.69
#2	.30232	.00649	3.0269	4.5111	.00061	154.77
#3	.26250	.00485	3.0460	4.5102	.00067	154.86
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.03522	.50558	.00007	.10627	.52418	-.00032
Stddev	.00027	.00202	.00028	.00107	.00102	.00039
%RSD	.76385	.39949	381.83	1.0116	.19487	123.40
#1	.03550	.50774	.00031	.10751	.52470	-.00077
#2	.03496	.50375	.00016	.10564	.52300	-.00008
#3	.03519	.50525	-.00024	.10565	.52483	-.00010
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97236-A-1-M PDS Acquired: 10/22/2019 11:44:47 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.04976	.00027	-.00199	.00272	.06574
Stddev	.01036	.00008	.00150	.00467	.00009
%RSD	20.825	28.215	75.274	171.38	.13907
#1	.05739	.00035	-.00332	-.00263	.06564
#2	.05394	.00027	-.00230	.00485	.06580
#3	.03796	.00019	-.00037	.00596	.06579
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3513.7	5879.0	87775.	6891.6
Stddev	1.9	7.7	105.	41.2
%RSD	.05420	.13089	.11954	.59821
#1	3512.8	5884.1	87792.	6938.8
#2	3515.9	5882.8	87663.	6873.6
#3	3512.4	5870.2	87871.	6862.4

Sample Name: 180-97236-A-1-M PDSD Acquired: 10/22/2019 11:49:57 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05058	1.0768	.21376	.29912	.32852	.10214
Stddev	.00018	.0050	.00166	.00046	.00139	.00035
%RSD	.34919	.46122	.77439	.15373	.42285	.33948
#1	.05047	1.0729	.21511	.29859	.32989	.10254
#2	.05048	1.0751	.21426	.29941	.32711	.10194
#3	.05078	1.0824	.21191	.29937	.32855	.10194
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.651	.10201	.12272	.09990	.10027	1.0941
Stddev	.061	.00032	.00003	.00028	.00009	.0034
%RSD	.36813	.31753	.02229	.27883	.08648	.31405
#1	16.716	.10180	.12269	.10021	.10036	1.0980
#2	16.642	.10239	.12272	.09969	.10028	1.0931
#3	16.594	.10185	.12274	.09978	.10019	1.0913
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97236-A-1-M PDSD Acquired: 10/22/2019 11:49:57 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.5382**	**.10558**	**8.2802**	**4.5778**	**.10001**	**160.49**
Stddev	.0327	.00076	.0070	.0179	.00013	.33
%RSD	.59108	.71993	.08490	.39083	.12649	.20280
#1	5.5570	.10604	8.2864	4.5975	.09992	160.86
#2	5.5004	.10600	8.2726	4.5732	.10015	160.34
#3	5.5571	.10471	8.2817	4.5626	.09996	160.27
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.13616**	**.10149**	**.04926**	**.20786**	**.76059**	**.19427**
Stddev	.00078	.00153	.00096	.00265	.00751	.00025
%RSD	.57015	1.5116	1.9517	1.2726	.98781	.12911
#1	.13590	.09980	.04856	.21088	.76757	.19427
#2	.13555	.10187	.04886	.20668	.76156	.19451
#3	.13703	.10280	.05035	.20600	.75264	.19401
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97236-A-1-M PDSD Acquired: 10/22/2019 11:49:57 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.14182	.10071	.19828	.10208	.11740
Stddev	.00383	.00011	.00041	.00343	.00010
%RSD	2.6983	.10857	.20561	3.3553	.08697
#1	.14623	.10081	.19871	.10496	.11744
#2	.13989	.10059	.19822	.09830	.11748
#3	.13935	.10071	.19790	.10299	.11729
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3503.5	5908.9	88234.	6877.9
Stddev	3.8	16.3	291.	30.1
%RSD	.10760	.27650	.33029	.43736
#1	3507.7	5920.5	88181.	6848.4
#2	3500.4	5890.3	88548.	6876.8
#3	3502.4	5916.0	87972.	6908.5

Sample Name: 180-97241-A-1-F Acquired: 10/22/2019 11:55:03 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00014	.00767	.00776	.26665	.11075	-.00003
Stddev	.00051	.02633	.00087	.00073	.00017	.00009
%RSD	359.73	343.42	11.193	.27528	.15398	286.75
#1	-.00023	-.02273	.00724	.26730	.11056	-.00002
#2	.00073	.02261	.00729	.26680	.11086	-.00012
#3	-.00007	.02312	.00877	.26586	.11084	.00005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.770	.00042	.00082	.00120	.00064	2.1666
Stddev	.038	.00004	.00010	.00017	.00042	.0119
%RSD	.16188	10.382	12.532	14.538	66.678	.55029
#1	23.738	.00044	.00077	.00102	.00024	2.1547
#2	23.812	.00044	.00094	.00137	.00108	2.1785
#3	23.759	.00037	.00075	.00120	.00059	2.1667
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97241-A-1-F Acquired: 10/22/2019 11:55:03 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.2160	.17776	1.6542	.27048	.00005	222.88
Stddev	.0644	.00155	.0232	.00039	.00019	1.00
%RSD	2.9057	.87259	1.4010	.14464	413.53	.44677
#1	2.1452	.17734	1.6342	.27073	.00022	223.28
#2	2.2712	.17647	1.6796	.27068	-.00016	223.61
#3	2.2315	.17948	1.6487	.27003	.00008	221.75
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00755	.00304	-.00080	.00208	4.3237	-.00053
Stddev	.00021	.00055	.00180	.00056	.0400	.00042
%RSD	2.8176	18.124	223.47	27.093	.92560	79.526
#1	.00752	.00249	-.00144	.00203	4.2828	-.00102
#2	.00736	.00359	-.00219	.00154	4.3255	-.00023
#3	.00778	.00303	.00122	.00266	4.3628	-.00035
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97241-A-1-F Acquired: 10/22/2019 11:55:03 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	2.6797	.00006	-.00005	.00062	.04696
Stddev	.0061	.00014	.00118	.00496	.00015
%RSD	.22692	232.11	2586.2	793.96	.31498
#1	2.6775	-.00005	.00083	-.00424	.04706
#2	2.6865	.00022	-.00139	.00568	.04679
#3	2.6750	.00001	.00042	.00043	.04702
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3443.8	5817.7	86139.	6747.0
Stddev	3.3	7.4	294.	15.9
%RSD	.09594	.12738	.34152	.23620
#1	3440.4	5809.3	85849.	6760.6
#2	3443.8	5820.8	86131.	6729.4
#3	3447.0	5823.1	86437.	6751.0

Sample Name: CCV 3418984 Acquired: 10/22/2019 12:00:21 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.0177	24.830	.50706	2.0187	1.9854	2.0051
Stddev	.0029	.072	.00292	.0046	.0068	.0036
%RSD	.28244	.29079	.57546	.22918	.34306	.18143
#1	1.0210	24.796	.50370	2.0210	1.9810	2.0029
#2	1.0157	24.913	.50859	2.0218	1.9932	2.0093
#3	1.0165	24.782	.50890	2.0134	1.9819	2.0030
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	49.863	.50157	2.0453	1.9616	1.9399	25.051
Stddev	.075	.00069	.0022	.0055	.0090	.055
%RSD	.15030	.13668	.10623	.28180	.46276	.22111
#1	49.937	.50124	2.0434	1.9675	1.9503	25.045
#2	49.787	.50111	2.0449	1.9608	1.9350	25.110
#3	49.867	.50235	2.0477	1.9566	1.9345	24.999
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3418984 Acquired: 10/22/2019 12:00:21 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**125.10**	**2.0042**	**49.772**	**1.9712**	**1.9510**	**125.95**
Stddev	.38	.0095	.242	.0038	.0011	.57
%RSD	.30665	.47486	.48607	.19399	.05693	.45001
#1	125.15	2.0033	49.562	1.9756	1.9502	126.13
#2	125.46	2.0141	50.037	1.9695	1.9506	126.40
#3	124.70	1.9951	49.716	1.9686	1.9523	125.31
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.0416**	**.50396**	**.49499**	**.50628**	**2.0265**	**1.9062**
Stddev	.0014	.00257	.00171	.00074	.0124	.0046
%RSD	.07028	.51012	.34451	.14616	.61078	.23905
#1	2.0431	.50509	.49305	.50556	2.0284	1.9027
#2	2.0413	.50578	.49626	.50704	2.0377	1.9047
#3	2.0403	.50102	.49565	.50626	2.0132	1.9114
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3418984 Acquired: 10/22/2019 12:00:21 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	1.9741	1.9747	.97160	2.0252	1.9763
Stddev	.0071	.0060	.00073	.0131	.0040
%RSD	.35825	.30411	.07524	.64736	.20276
#1	1.9662	1.9816	.97099	2.0311	1.9718
#2	1.9799	1.9709	.97138	2.0343	1.9795
#3	1.9763	1.9716	.97241	2.0102	1.9775
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3307.0	5761.0	85801.	6711.3
Stddev	3.0	2.6	122.	5.0
%RSD	.09068	.04459	.14223	.07385
#1	3309.8	5764.0	85729.	6710.6
#2	3307.4	5759.7	85733.	6706.8
#3	3303.8	5759.4	85942.	6716.6

Sample Name: CCB4 Acquired: 10/22/2019 12:05:09 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00025	.00735	-.00108	-.00008	.00017	-.00002
Stddev	.00052	.03728	.00036	.00014	.00019	.00008
%RSD	210.35	507.15	33.106	173.02	112.23	438.27
#1	.00010	-.02141	-.00129	-.00024	.00005	.00004
#2	-.00000	.04947	-.00128	.00001	.00007	.00001
#3	-.00085	-.00601	-.00067	-.00001	.00038	-.00010
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00206	.00016	.00017	-.00023	-.00018	.00131
Stddev	.00187	.00009	.00015	.00033	.00062	.00190
%RSD	90.623	56.182	86.922	141.73	343.48	145.34
#1	.00258	.00007	.00031	-.00015	-.00021	-.00026
#2	-.00001	.00016	.00002	.00005	-.00079	.00077
#3	.00361	.00025	.00018	-.00059	.00045	.00343
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB4 Acquired: 10/22/2019 12:05:09 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.10425	.00133	-.01326	.00001	.00036	.08758
Stddev	.05088	.00016	.01531	.00002	.00003	.00784
%RSD	48.801	12.321	115.52	241.28	9.2512	8.9517
#1	.07556	.00123	.00314	.00002	.00040	.08663
#2	.16300	.00125	-.02719	.00002	.00033	.09585
#3	.07420	.00152	-.01572	-.00002	.00036	.08025
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00017	.00010	-.00085	.00191	-.00558	-.00058
Stddev	.00005	.00022	.00147	.00078	.01089	.00009
%RSD	27.526	211.31	172.77	40.905	195.33	15.897
#1	.00016	-.00003	-.00011	.00279	-.01233	-.00052
#2	.00021	-.00002	-.00254	.00168	.00699	-.00068
#3	.00012	.00036	.00010	.00127	-.01139	-.00053
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB4 Acquired: 10/22/2019 12:05:09 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	-.00173	.00036	.00149	.00386	.00016
Stddev	.00775	.00013	.00113	.00636	.00017
%RSD	448.52	36.978	76.010	164.80	108.28
#1	.00620	.00040	.00264	.00522	.00014
#2	-.00211	.00021	.00037	.00943	-.00000
#3	-.00928	.00046	.00147	-.00307	.00034
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4004.6	6127.8	92625.	6828.3
Stddev	3.9	8.5	42.	54.2
%RSD	.09683	.13903	.04544	.79429
#1	4008.9	6125.7	92609.	6890.3
#2	4003.7	6120.6	92592.	6789.4
#3	4001.3	6137.2	92672.	6805.2

Sample Name: 180-97255-A-1-D Acquired: 10/22/2019 12:10:21 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00021	.11410	.00020	.02169	.08738	-.00006
Stddev	.00022	.03155	.00038	.00029	.00069	.00010
%RSD	105.03	27.650	193.51	1.3158	.78818	154.44
#1	-.00046	.08087	.00044	.02191	.08787	-.00015
#2	-.00006	.11779	.00039	.02137	.08659	.00004
#3	-.00010	.14364	-.00024	.02179	.08767	-.00007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.5694	.02972	.00109	.00254	.00510	.77936
Stddev	.0220	.00020	.00010	.00025	.00043	.00507
%RSD	.33486	.68206	8.9129	9.7337	8.3913	.65101
#1	6.5946	.02971	.00098	.00250	.00500	.78209
#2	6.5539	.02993	.00115	.00231	.00557	.77351
#3	6.5597	.02952	.00113	.00280	.00473	.78249
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97255-A-1-D Acquired: 10/22/2019 12:10:21 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.33222	.00272	.21444	.13296	.00001	143.28
Stddev	.00513	.00021	.00834	.00023	.00019	.62
%RSD	1.5440	7.5348	3.8903	.17103	1555.2	.42947
#1	.33412	.00269	.21954	.13294	.00018	143.98
#2	.32641	.00254	.20481	.13320	.00005	142.82
#3	.33613	.00294	.21896	.13275	-.00019	143.05
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00514	.01052	.00015	.00116	.28258	.00013
Stddev	.00032	.00049	.00177	.00142	.00623	.00041
%RSD	6.2909	4.6266	1209.7	122.47	2.2036	310.69
#1	.00546	.01108	.00191	.00226	.28976	.00052
#2	.00515	.01028	-.00162	-.00045	.27857	-.00029
#3	.00482	.01019	.00015	.00167	.27941	.00016
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97255-A-1-D Acquired: 10/22/2019 12:10:21 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.03600	.00026	.00040	.00025	F 26.895
Stddev	.00097	.00015	.00136	.00262	.013
%RSD	2.6939	57.057	340.66	1030.4	.04999
#1	.03686	.00041	-.00036	-.00226	26.903
#2	.03495	.00025	.00196	.00297	26.880
#3	.03619	.00011	-.00041	.00005	26.903
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
High Limit					25.000
Low Limit					-.02000

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3565.0	5921.8	88055.	6903.9
Stddev	4.8	6.2	76.	5.6
%RSD	.13560	.10521	.08636	.08061
#1	3564.6	5929.0	88117.	6897.5
#2	3570.0	5918.5	88077.	6907.9
#3	3560.3	5917.9	87970.	6906.2

Sample Name: 180-97263-A-1-D Acquired: 10/22/2019 12:15:25 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00009	.12445	.00262	.24564	.17174	-.00005
Stddev	.00046	.01445	.00164	.00140	.00159	.00007
%RSD	495.41	11.611	62.540	.57190	.92426	147.17
#1	-.00006	.14114	.00369	.24463	.17239	.00003
#2	-.00056	.11623	.00344	.24504	.17289	-.00011
#3	.00035	.11599	.00073	.24724	.16992	-.00006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.0844	.00051	.00127	.00308	.31442	3.5798
Stddev	.0214	.00014	.00018	.00012	.00222	.0217
%RSD	.35173	28.060	14.521	3.9219	.70664	.60764
#1	6.0928	.00035	.00114	.00322	.31615	3.5802
#2	6.1003	.00055	.00148	.00301	.31192	3.6014
#3	6.0600	.00063	.00118	.00301	.31519	3.5579
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97263-A-1-D Acquired: 10/22/2019 12:15:25 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.34680	.00223	.67110	.04261	.00097	177.45
Stddev	.03668	.00123	.00708	.00017	.00006	.39
%RSD	10.577	54.888	1.0554	.39094	6.2264	.22004
#1	.34840	.00357	.66300	.04279	.00104	177.60
#2	.30935	.00197	.67415	.04257	.00093	177.74
#3	.38266	.00116	.67615	.04246	.00095	177.00
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01318	.00535	.00052	.00135	.41930	-.00037
Stddev	.00054	.00081	.00132	.00145	.00617	.00033
%RSD	4.0939	15.134	252.77	107.22	1.4704	88.862
#1	.01256	.00448	-.00020	-.00032	.42117	-.00075
#2	.01348	.00549	.00204	.00208	.41241	-.00024
#3	.01350	.00607	-.00028	.00229	.42431	-.00013
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97263-A-1-D Acquired: 10/22/2019 12:15:25 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.04823	.00162	.00049	.00060	.06688
Stddev	.00585	.00019	.00080	.00401	.00025
%RSD	12.123	11.636	165.18	673.24	.37240
#1	.04800	.00183	-.00026	.00393	.06677
#2	.05419	.00154	.00134	.00171	.06671
#3	.04250	.00148	.00038	-.00386	.06717
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3511.6	5892.9	87613.	6885.2
Stddev	9.9	24.8	213.	29.4
%RSD	.28213	.42022	.24263	.42677
#1	3519.0	5908.4	87711.	6862.4
#2	3515.5	5905.9	87760.	6875.0
#3	3500.4	5864.3	87369.	6918.4

Sample Name: 180-97287-A-1-L Acquired: 10/22/2019 12:20:41 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00015	.00852	.00037	.05890	.10653	-.00010
Stddev	.00017	.03627	.00069	.00041	.00032	.00005
%RSD	116.03	425.62	187.29	.70261	.29743	52.668
#1	-.00006	-.01897	-.00012	.05882	.10659	-.00016
#2	-.00004	-.00509	.00115	.05853	.10618	-.00007
#3	-.00034	.04962	.00007	.05935	.10681	-.00007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	79.536	.00022	.00180	-.00020	.00013	.00229
Stddev	.129	.00014	.00010	.00017	.00039	.00144
%RSD	.16194	63.365	5.6311	83.769	297.34	62.962
#1	79.396	.00008	.00189	-.00001	-.00027	.00366
#2	79.649	.00036	.00182	-.00024	.00017	.00079
#3	79.563	.00021	.00169	-.00034	.00050	.00242
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97287-A-1-L Acquired: 10/22/2019 12:20:41 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.2796	.00415	3.0820	.40506	.00124	164.38
Stddev	.0214	.00108	.0247	.00058	.00020	1.07
%RSD	1.6725	25.925	.80216	.14318	15.846	.65366
#1	1.2620	.00477	3.0747	.40515	.00122	164.27
#2	1.3034	.00477	3.0617	.40559	.00105	165.51
#3	1.2733	.00291	3.1095	.40444	.00145	163.37
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00166	-.00053	-.00013	.00095	.34851	-.00050
Stddev	.00039	.00101	.00099	.00144	.00705	.00030
%RSD	23.182	189.81	750.33	151.21	2.0234	59.205
#1	.00122	-.00168	-.00121	-.00068	.34600	-.00084
#2	.00193	-.00019	.00008	.00202	.35648	-.00040
#3	.00184	.00026	.00074	.00152	.34306	-.00027
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97287-A-1-L Acquired: 10/22/2019 12:20:41 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.22082	-.00001	.00012	.00241	.02674
Stddev	.00210	.00009	.00054	.00259	.00005
%RSD	.94982	1574.6	454.60	107.53	.20339
#1	.21847	.00009	.00043	.00097	.02677
#2	.22149	-.00000	.00043	.00086	.02668
#3	.22250	-.00010	-.00050	.00541	.02677
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3449.2	5827.0	87101.	6838.6
Stddev	11.1	8.3	233.	18.9
%RSD	.32193	.14308	.26736	.27625
#1	3461.3	5832.6	86863.	6860.2
#2	3439.4	5817.4	87110.	6830.5
#3	3446.9	5831.0	87329.	6825.1

Sample Name: 180-97290-A-1-E Acquired: 10/22/2019 12:25:52 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00024	.08038	.00177	.17711	.00605	-.00005
Stddev	.00038	.01852	.00097	.00057	.00013	.00008
%RSD	158.94	23.040	54.979	.32072	2.0933	177.95
#1	-.00034	.05940	.00248	.17660	.00617	.00004
#2	-.00056	.08728	.00066	.17702	.00592	-.00006
#3	.00018	.09447	.00217	.17772	.00608	-.00012
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.0931	.00308	.00475	.02209	.18043	.88050
Stddev	.0066	.00011	.00006	.00016	.00029	.00313
%RSD	.31726	3.6680	1.2249	.72597	.15859	.35576
#1	2.0945	.00295	.00473	.02202	.18070	.88410
#2	2.0859	.00316	.00470	.02228	.18013	.87904
#3	2.0989	.00312	.00481	.02199	.18044	.87837
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97290-A-1-E Acquired: 10/22/2019 12:25:52 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.16233	.00259	32.444	.53203	.01715	147.88
Stddev	.02747	.00134	.162	.00124	.00024	.15
%RSD	16.925	51.910	.50005	.23376	1.3956	.10392
#1	.13262	.00361	32.299	.53309	.01731	147.83
#2	.16754	.00310	32.413	.53234	.01727	147.75
#3	.18682	.00107	32.619	.53066	.01688	148.05
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.6755	.00164	-.00168	.00090	.17458	-.00042
Stddev	.0075	.00081	.00156	.00125	.01726	.00028
%RSD	.09731	49.011	92.790	139.15	9.8863	65.291
#1	7.6670	.00104	-.00147	.00098	.15890	-.00033
#2	7.6811	.00256	-.00334	.00211	.17178	-.00073
#3	7.6783	.00133	-.00024	-.00039	.19308	-.00020
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97290-A-1-E Acquired: 10/22/2019 12:25:52 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00292	.00008	.00137	.00224	.01026
Stddev	.00498	.00009	.00107	.00257	.00016
%RSD	170.35	112.00	77.801	114.56	1.5798
#1	.00501	.00015	.00150	-.00009	.01014
#2	.00653	.00010	.00025	.00499	.01019
#3	-.00276	-.00002	.00237	.00182	.01044
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3525.7	5917.5	87889.	6838.7
Stddev	6.4	12.1	228.	44.0
%RSD	.18282	.20391	.25935	.64329
#1	3532.9	5931.1	87664.	6855.1
#2	3520.4	5908.1	87882.	6872.2
#3	3523.8	5913.4	88120.	6788.9

Sample Name: 600-193622-A-1-E Acquired: 10/22/2019 12:30:58 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00016	.07712	.00290	.22293	.01493	-.00005
Stddev	.00013	.01956	.00054	.00724	.00015	.00007
%RSD	80.863	25.369	18.660	3.2486	.98135	128.59
#1	-.00002	.06081	.00311	.21880	.01507	.00002
#2	-.00017	.09881	.00330	.21870	.01493	-.00011
#3	-.00027	.07174	.00228	.23129	.01477	-.00006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.5278	.00019	.00084	.00093	.01930	1.2824
Stddev	.0075	.00008	.00012	.00008	.00065	.0010
%RSD	.21335	41.723	14.811	8.7790	3.3604	.07806
#1	3.5296	.00010	.00089	.00096	.01911	1.2819
#2	3.5195	.00026	.00069	.00084	.01878	1.2835
#3	3.5342	.00021	.00093	.00099	.02003	1.2816
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 600-193622-A-1-E Acquired: 10/22/2019 12:30:58 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.36701	.00146	.46904	.05138	.00150	156.40
Stddev	.01673	.00083	.01314	.00008	.00002	.34
%RSD	4.5586	56.695	2.8006	.15637	1.5357	.21966
#1	.34816	.00198	.47848	.05130	.00149	156.49
#2	.37275	.00190	.45404	.05138	.00153	156.69
#3	.38011	.00051	.47461	.05146	.00149	156.02
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00781	.00122	-.00165	.00185	.22767	-.00033
Stddev	.00074	.00146	.00211	.00175	.01141	.00061
%RSD	9.4758	119.65	127.71	94.685	5.0113	186.62
#1	.00822	.00218	-.00267	-.00014	.22130	-.00098
#2	.00695	.00195	.00077	.00251	.24085	-.00022
#3	.00825	-.00046	-.00307	.00318	.22087	.00023
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 600-193622-A-1-E Acquired: 10/22/2019 12:30:58 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.01924	.00048	-.00056	-.00247	.05709
Stddev	.00525	.00011	.00090	.00184	.00188
%RSD	27.292	23.329	161.48	74.263	3.2932
#1	.01649	.00041	.00047	-.00159	.05591
#2	.02530	.00061	-.00119	-.00125	.05609
#3	.01594	.00043	-.00096	-.00459	.05925
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3474.5	5789.7	87396.	6829.9
Stddev	94.0	160.8	142.	25.5
%RSD	2.7047	2.7782	.16229	.37293
#1	3530.5	5883.4	87259.	6858.0
#2	3527.0	5881.7	87542.	6808.3
#3	3366.0	5603.9	87388.	6823.5

Sample Name: LB 180-295177/16-D Acquired: 10/22/2019 12:36:06 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00023	-.02014	.00132	-.00049	.00039	-.00006
Stddev	.00048	.01048	.00104	.00021	.00013	.00007
%RSD	208.44	52.051	78.841	42.178	32.505	108.01
#1	-.00069	-.01581	.00027	-.00058	.00039	-.00002
#2	.00027	-.01252	.00134	-.00026	.00051	-.00003
#3	-.00027	-.03209	.00235	-.00064	.00026	-.00014
Check ?	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00188	.00004	.00003	-.00009	-.00009	.00193
Stddev	.00115	.00007	.00012	.00019	.00050	.00367
%RSD	61.329	196.88	468.25	204.90	576.54	189.94
#1	.00135	.00007	-.00011	-.00026	-.00062	-.00231
#2	.00109	.00009	.00006	.00011	.00038	.00413
#3	.00321	-.00005	.00012	-.00013	-.00003	.00398
Check ?	None	Chk Pass	None	Chk Pass	Chk Pass	None
High Limit						
Low Limit						

Sample Name: LB 180-295177/16-D Acquired: 10/22/2019 12:36:06 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01688	.00012	-.00922	.00002	-.00028	.64907
Stddev	.03628	.00069	.00370	.00004	.00004	.00789
%RSD	214.94	551.82	40.104	169.88	14.506	1.2151
#1	.03715	-.00030	-.01016	.00004	-.00024	.65789
#2	.03849	.00092	-.01236	-.00002	-.00032	.64664
#3	-.02500	-.00024	-.00514	.00004	-.00027	.64269
Check ?	None	None	None	None	None	None
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00006	.00015	-.00081	.00243	-.00091	-.00063
Stddev	.00032	.00092	.00209	.00166	.00277	.00048
%RSD	497.79	628.18	257.28	68.331	305.03	77.412
#1	-.00036	-.00071	-.00303	.00174	-.00227	-.00017
#2	.00027	.00003	-.00054	.00433	-.00273	-.00114
#3	-.00010	.00111	.00113	.00123	.00228	-.00057
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None
High Limit						
Low Limit						

Sample Name: LB 180-295177/16-D Acquired: 10/22/2019 12:36:06 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	-.00327	.00014	.00057	-.00012	.00072
Stddev	.00204	.00005	.00043	.00161	.00005
%RSD	62.340	37.481	75.960	1369.2	7.5094
#1	-.00111	.00012	.00074	.00131	.00066
#2	-.00516	.00021	.00088	.00021	.00074
#3	-.00353	.00011	.00008	-.00187	.00076
Check ?	None	None	Chk Pass	None	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4063.6	6225.2	93900.	6899.5
Stddev	8.9	8.9	453.	73.5
%RSD	.21929	.14243	.48223	1.0659
#1	4072.9	6232.3	93407.	6976.4
#2	4055.1	6215.3	93994.	6829.9
#3	4062.7	6228.0	94298.	6892.1

Sample Name: 180-97290-A-3-G Acquired: 10/22/2019 12:41:16 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00025	.00073	.00163	.07977	.00154	-.00003
Stddev	.00045	.01550	.00037	.00006	.00021	.00006
%RSD	179.42	2131.9	22.895	.07684	13.713	205.90
#1	-.00026	-.00335	.00173	.07980	.00159	-.00005
#2	.00043	.01786	.00122	.07981	.00131	-.00007
#3	.00058	-.01233	.00195	.07970	.00172	.00004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.1241	.00007	.00021	.00020	.00096	.00397
Stddev	.0005	.00002	.00013	.00029	.00053	.00349
%RSD	.02454	33.596	62.874	147.54	55.680	87.985
#1	2.1237	.00008	.00017	.00039	.00126	-.00006
#2	2.1247	.00008	.00036	.00033	.00034	.00600
#3	2.1238	.00004	.00010	-.00014	.00126	.00596
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97290-A-3-G Acquired: 10/22/2019 12:41:16 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.03327	.00189	156.56	.00049	.10194	.83109
Stddev	.05378	.00115	1.55	.00004	.00004	.00546
%RSD	161.65	61.161	.98967	7.2575	.03712	.65646
#1	.06482	.00197	157.03	.00045	.10190	.83309
#2	-.02883	.00300	157.82	.00051	.10195	.83526
#3	.06381	.00070	154.83	.00052	.10197	.82491
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00533	.00013	.00012	.00344	.02777	-.00028
Stddev	.00009	.00138	.00117	.00092	.00590	.00059
%RSD	1.7769	1060.2	1001.9	26.778	21.239	207.80
#1	.00537	-.00124	-.00093	.00409	.03449	-.00026
#2	.00523	.00010	-.00009	.00385	.02343	-.00089
#3	.00541	.00153	.00137	.00239	.02540	.00029
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97290-A-3-G Acquired: 10/22/2019 12:41:16 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00277	.00003	.00091	-.00177	.00085
Stddev	.00125	.00007	.00251	.00290	.00006
%RSD	45.167	268.82	275.13	164.21	6.5664
#1	.00329	.00007	-.00197	-.00465	.00088
#2	.00368	.00007	.00207	.00115	.00089
#3	.00134	-.00006	.00264	-.00180	.00079
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3619.8	5927.4	89434.	6881.7
Stddev	8.5	4.3	370.	55.9
%RSD	.23372	.07263	.41366	.81235
#1	3610.0	5922.5	89173.	6848.7
#2	3624.2	5929.6	89272.	6850.1
#3	3625.2	5930.2	89858.	6946.2

Sample Name: 180-97255-A-1-D@2 Acquired: 10/22/2019 12:46:24 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00034	.07952	-.00025	.01104	.04588	-.00001
Stddev	.00017	.01443	.00090	.00047	.00021	.00002
%RSD	49.050	18.149	356.43	4.2468	.46105	215.54
#1	.00026	.08531	-.00043	.01062	.04612	-.00003
#2	.00053	.06309	-.00104	.01155	.04577	.00000
#3	.00023	.09015	.00072	.01097	.04574	.00000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.3346	.01517	.00075	.00118	.00253	.39622
Stddev	.0033	.00015	.00009	.00018	.00067	.00422
%RSD	.10012	.96690	12.465	15.216	26.613	1.0648
#1	3.3375	.01520	.00074	.00135	.00205	.39142
#2	3.3310	.01501	.00085	.00119	.00329	.39787
#3	3.3354	.01530	.00066	.00099	.00224	.39936
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97255-A-1-D@2 Acquired: 10/22/2019 12:46:24 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.16142	.00172	.08744	.06741	-.00015	74.077
Stddev	.01527	.00188	.02713	.00028	.00016	.199
%RSD	9.4600	109.26	31.024	.40947	104.48	.26851
#1	.16362	.00307	.09381	.06764	-.00032	74.300
#2	.14517	-.00043	.11081	.06748	-.00001	73.917
#3	.17547	.00252	.05769	.06710	-.00012	74.013
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00263	.00549	.00014	.00123	.13415	-.00034
Stddev	.00056	.00099	.00081	.00065	.00402	.00047
%RSD	21.207	17.980	571.66	52.982	2.9994	137.17
#1	.00311	.00483	-.00079	.00053	.13860	-.00007
#2	.00202	.00662	.00073	.00182	.13310	-.00008
#3	.00275	.00501	.00048	.00134	.13076	-.00088
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97255-A-1-D@2 Acquired: 10/22/2019 12:46:24 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.01654	.00018	.00158	.00007	13.932
Stddev	.00728	.00005	.00091	.00193	.054
%RSD	43.988	26.191	57.547	2685.5	.38788
#1	.02463	.00018	.00242	-.00216	13.981
#2	.01445	.00023	.00171	.00111	13.874
#3	.01054	.00013	.00062	.00127	13.941
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3728.4	6073.0	91124.	7104.6
Stddev	16.0	25.5	212.	28.7
%RSD	.42926	.41921	.23280	.40387
#1	3711.0	6044.9	91099.	7074.0
#2	3742.5	6094.4	91347.	7130.9
#3	3731.7	6079.7	90925.	7109.0

Sample Name: CCV 3418984 Acquired: 10/22/2019 12:51:32 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.0163	24.921	.50957	2.0593	2.0284	2.0082
Stddev	.0027	.254	.00118	.0060	.0106	.0082
%RSD	.26704	1.0186	.23210	.29279	.52450	.40850
#1	1.0162	24.692	.50976	2.0632	2.0219	2.0012
#2	1.0190	25.194	.51065	2.0624	2.0406	2.0172
#3	1.0136	24.878	.50830	2.0524	2.0225	2.0062
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	49.450	.49988	2.0484	1.9544	1.9396	25.123
Stddev	.075	.00194	.0037	.0046	.0051	.112
%RSD	.15254	.38842	.17963	.23755	.26104	.44747
#1	49.451	.50135	2.0468	1.9594	1.9448	25.032
#2	49.525	.50061	2.0527	1.9502	1.9347	25.249
#3	49.374	.49768	2.0459	1.9535	1.9394	25.090
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3418984 Acquired: 10/22/2019 12:51:32 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**125.93**	**2.0256**	**49.306**	**1.9655**	**1.9646**	**126.47**
Stddev	.35	.0072	.216	.0035	.0062	.27
%RSD	.27745	.35424	.43836	.17631	.31384	.21270
#1	125.81	2.0174	49.196	1.9690	1.9705	126.27
#2	126.33	2.0306	49.555	1.9653	1.9652	126.77
#3	125.66	2.0288	49.166	1.9621	1.9582	126.35
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.0531**	**.50455**	**.49749**	**.51362**	**2.0042**	**1.9082**
Stddev	.0050	.00119	.00267	.00200	.0085	.0043
%RSD	.24335	.23604	.53731	.38875	.42635	.22421
#1	2.0488	.50434	.50056	.51338	1.9944	1.9123
#2	2.0586	.50583	.49571	.51573	2.0100	1.9087
#3	2.0520	.50348	.49619	.51176	2.0082	1.9038
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3418984 Acquired: 10/22/2019 12:51:32 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	1.9746	1.9756	.97548	2.0425	1.9556
Stddev	.0090	.0038	.00156	.0147	.0027
%RSD	.45658	.19408	.15986	.72226	.13894
#1	1.9843	1.9795	.97482	2.0372	1.9562
#2	1.9731	1.9718	.97726	2.0591	1.9579
#3	1.9664	1.9756	.97436	2.0311	1.9526
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3359.3	5859.4	88023.	6974.2
Stddev	9.1	13.4	235.	41.3
%RSD	.26953	.22900	.26686	.59162
#1	3367.7	5859.3	87859.	6970.3
#2	3349.7	5846.0	87918.	6935.0
#3	3360.3	5872.8	88292.	7017.3

Sample Name: CCB5 Acquired: 10/22/2019 12:56:20 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00013	-.00986	-.00101	.00031	.00012	-.00003
Stddev	.00034	.01141	.00089	.00011	.00006	.00006
%RSD	255.94	115.79	88.043	34.538	50.140	193.90
#1	-.00017	.00281	-.00167	.00029	.00014	-.00002
#2	.00007	-.01304	.00000	.00021	.00018	-.00010
#3	.00050	-.01934	-.00138	.00042	.00006	.00002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00553	.00017	-.00000	-.00042	.00064	.00191
Stddev	.00173	.00009	.00018	.00061	.00111	.00187
%RSD	31.240	55.292	4676.3	144.46	173.67	97.607
#1	.00370	.00019	.00009	.00013	.00156	.00046
#2	.00574	.00025	.00011	-.00032	.00095	.00126
#3	.00713	.00007	-.00021	-.00108	-.00059	.00402
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB5 Acquired: 10/22/2019 12:56:20 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.07267	.00177	-.02769	-.00005	.00034	.06345
Stddev	.02155	.00054	.02282	.00002	.00014	.00578
%RSD	29.659	30.249	82.405	36.076	41.846	9.1126
#1	.08159	.00127	-.05400	-.00005	.00044	.06983
#2	.04809	.00171	-.01564	-.00003	.00040	.05854
#3	.08832	.00233	-.01342	-.00007	.00018	.06200
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00002	-.00011	.00022	.00238	.00306	-.00020
Stddev	.00011	.00119	.00067	.00262	.00620	.00016
%RSD	468.49	1118.7	301.25	109.91	202.52	81.357
#1	.00000	.00032	.00001	.00282	.01020	-.00039
#2	.00014	.00082	-.00031	.00475	-.00018	-.00011
#3	-.00007	-.00145	.00097	-.00043	-.00085	-.00011
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB5 Acquired: 10/22/2019 12:56:20 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	-.00046	.00006	.00135	-.00304	.00013
Stddev	.00578	.00011	.00052	.00188	.00011
%RSD	1263.9	166.60	38.414	61.768	87.470
#1	-.00177	-.00006	.00144	-.00273	.00011
#2	.00586	.00010	.00079	-.00505	.00002
#3	-.00546	.00015	.00182	-.00133	.00024
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4080.0	6241.1	95535.	7074.8
Stddev	3.7	5.3	238.	29.3
%RSD	.09060	.08461	.24869	.41448
#1	4078.1	6245.3	95309.	7104.4
#2	4084.3	6235.1	95783.	7045.8
#3	4077.6	6242.7	95513.	7074.2

Sample Name: CCVL 3419892 Acquired: 10/22/2019 13:01:33 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00489	.20859	.01050	.20483	.20645	.00403
Stddev	.00045	.01807	.00143	.00065	.00012	.00006
%RSD	9.1235	8.6625	13.586	.31600	.05837	1.4973
#1	.00437	.22610	.01030	.20544	.20653	.00398
#2	.00513	.20967	.01201	.20489	.20652	.00401
#3	.00516	.19001	.00918	.20415	.20632	.00410
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.0801	.00516	.04851	.00482	.02477	.10325
Stddev	.0106	.00013	.00013	.00006	.00037	.00200
%RSD	.20819	2.6096	.27765	1.2272	1.4806	1.9326
#1	5.0861	.00525	.04849	.00484	.02434	.10173
#2	5.0679	.00523	.04839	.00475	.02497	.10551
#3	5.0863	.00501	.04865	.00486	.02499	.10250
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCVL 3419892 Acquired: 10/22/2019 13:01:33 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.0964	.05330	5.0609	.01529	.04084	5.2334
Stddev	.0521	.00083	.0333	.00002	.00028	.0145
%RSD	1.0228	1.5600	.65907	.09808	.68830	.27638
#1	5.0383	.05278	5.0848	.01528	.04055	5.2318
#2	5.1117	.05287	5.0228	.01530	.04087	5.2198
#3	5.1392	.05426	5.0752	.01531	.04111	5.2486
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.03973	.00944	.01097	.01227	.48571	.10013
Stddev	.00061	.00120	.00122	.00132	.00786	.00054
%RSD	1.5349	12.707	11.074	10.787	1.6185	.54149
#1	.03904	.00806	.01006	.01342	.48868	.10017
#2	.03995	.01007	.01235	.01082	.47680	.10065
#3	.04020	.01021	.01051	.01258	.49166	.09957
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCVL 3419892 Acquired: 10/22/2019 13:01:33 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.05137	.05003	.02101	.05457	.01999
Stddev	.00408	.00003	.00067	.00210	.00011
%RSD	7.9397	.06975	3.1859	3.8404	.54051
#1	.04680	.04999	.02163	.05413	.02011
#2	.05270	.05004	.02030	.05685	.01990
#3	.05463	.05006	.02111	.05272	.01994
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3931.5	6173.1	94277.	7098.4
Stddev	10.4	10.6	193.	31.2
%RSD	.26343	.17251	.20511	.43935
#1	3931.6	6163.0	94330.	7085.0
#2	3941.8	6184.2	94062.	7134.0
#3	3921.1	6172.0	94438.	7076.1

Sample Name: MB 180-295229/1-A Acquired: 10/22/2019 13:06:39 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00017	.01048	.00099	.00008	.00136	-.00009
Stddev	.00046	.03414	.00231	.00032	.00017	.00004
%RSD	270.10	325.71	233.08	384.72	12.449	46.922
#1	.00045	-.02687	.00366	-.00011	.00155	-.00012
#2	-.00036	.01823	-.00043	-.00010	.00122	-.00010
#3	.00043	.04008	-.00026	.00046	.00131	-.00004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.09472	-.00000	.00011	.00031	.00072	.02597
Stddev	.00395	.00003	.00011	.00049	.00011	.00089
%RSD	4.1751	994.13	101.29	157.44	14.714	3.4166
#1	.09902	-.00003	.00016	.00087	.00068	.02506
#2	.09123	.00003	-.00002	.00009	.00084	.02684
#3	.09393	-.00002	.00019	-.00003	.00064	.02600
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: MB 180-295229/1-A Acquired: 10/22/2019 13:06:39 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00026	.00127	-.00428	.00449	.00014	.06609
Stddev	.01548	.00072	.01244	.00004	.00010	.00334
%RSD	5895.3	56.531	290.68	.79751	69.413	5.0569
#1	.00594	.00087	-.01853	.00453	.00016	.06354
#2	-.01788	.00209	.00445	.00448	.00004	.06486
#3	.01115	.00083	.00123	.00446	.00023	.06987
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00033	.00033	-.00141	.00199	.08353	.00111
Stddev	.00029	.00095	.00017	.00154	.00705	.00028
%RSD	85.607	284.36	12.062	77.282	8.4425	25.465
#1	-.00048	.00099	-.00160	.00311	.08837	.00138
#2	-.00052	-.00076	-.00127	.00024	.08677	.00112
#3	-.00000	.00076	-.00135	.00263	.07544	.00082
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: MB 180-295229/1-A Acquired: 10/22/2019 13:06:39 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	-.00294	.00022	.00141	.00468	F .02328
Stddev	.00468	.00002	.00069	.00374	.00004
%RSD	159.04	8.0443	49.107	79.927	.16754
#1	.00196	.00022	.00125	.00037	.02331
#2	-.00736	.00021	.00217	.00701	.02324
#3	-.00342	.00024	.00082	.00666	.02329
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
High Limit					.02000
Low Limit					-.02000

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4165.6	6352.4	97021.	7326.6
Stddev	11.7	19.2	87.	25.7
%RSD	.28140	.30221	.08932	.35094
#1	4178.8	6374.2	97110.	7353.2
#2	4156.5	6338.0	97016.	7301.9
#3	4161.4	6345.0	96937.	7324.7

Sample Name: LCS 180-295229/2-A Acquired: 10/22/2019 13:11:48 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.25242	5.0173	1.0579	1.3646	1.0035	.50456
Stddev	.00055	.0372	.0072	.0028	.0042	.00185
%RSD	.21839	.74169	.68003	.20544	.41531	.36694
#1	.25268	4.9763	1.0585	1.3672	1.0015	.50444
#2	.25178	5.0268	1.0504	1.3616	1.0006	.50277
#3	.25279	5.0488	1.0648	1.3649	1.0083	.50647
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.982	.50984	.49624	.48655	.49269	5.0451
Stddev	.066	.00146	.00021	.00228	.00246	.0384
%RSD	.26506	.28596	.04280	.46832	.49965	.76124
#1	24.992	.50980	.49646	.48426	.49013	5.0410
#2	24.911	.50841	.49622	.48656	.49290	5.0089
#3	25.042	.51133	.49604	.48882	.49504	5.0854
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: LCS 180-295229/2-A Acquired: 10/22/2019 13:11:48 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**25.607**	**.50569**	**24.687**	**.49177**	**.49266**	**26.100**
Stddev	.046	.00244	.128	.00006	.00115	.130
%RSD	.17779	.48210	.51801	.01188	.23289	.49933
#1	25.583	.50714	24.556	.49177	.49276	26.184
#2	25.578	.50287	24.692	.49182	.49146	25.950
#3	25.659	.50705	24.812	.49171	.49375	26.167
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.49681**	**.50076**	**.26027**	**1.0731**	**1.1432**	**.97713**
Stddev	.00095	.00219	.00314	.0047	.0264	.00135
%RSD	.19204	.43659	1.2061	.43975	2.3067	.13771
#1	.49784	.50183	.25714	1.0759	1.1185	.97717
#2	.49662	.49824	.26026	1.0677	1.1401	.97577
#3	.49596	.50219	.26342	1.0758	1.1710	.97846
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: LCS 180-295229/2-A Acquired: 10/22/2019 13:11:48 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.48798	.49287	1.0178	.49810	.27140
Stddev	.00278	.00052	.0013	.00638	.00075
%RSD	.56875	.10601	.12795	1.2809	.27595
#1	.49003	.49243	1.0177	.50416	.27188
#2	.48482	.49345	1.0192	.49144	.27053
#3	.48909	.49273	1.0166	.49872	.27178
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3706.5	6122.4	92829.	7237.7
Stddev	6.0	20.6	274.	19.0
%RSD	.16229	.33706	.29469	.26225
#1	3710.0	6122.7	93066.	7258.8
#2	3710.0	6142.9	92530.	7232.3
#3	3699.6	6101.6	92892.	7222.0

Sample Name: 180-97246-C-1-A Acquired: 10/22/2019 13:16:32 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00002	.09678	.00146	.05437	.06821	-.00008
Stddev	.00019	.02099	.00181	.00039	.00004	.00002
%RSD	860.36	21.692	124.01	.71851	.06009	25.644
#1	.00011	.09592	.00330	.05426	.06817	-.00006
#2	.00016	.07622	-.00033	.05405	.06822	-.00010
#3	-.00020	.11818	.00143	.05481	.06825	-.00008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 143.76	.00019	.00022	.00012	.00311	.18522
Stddev	.23	.00007	.00033	.00019	.00055	.00242
%RSD	.16318	39.284	150.89	168.01	17.634	1.3075
#1	144.00	.00013	.00056	.00009	.00254	.18440
#2	143.74	.00027	-.00010	-.00006	.00316	.18331
#3	143.54	.00017	.00020	.00032	.00364	.18794
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	100.00					
Low Limit	-5.0000					

Sample Name: 180-97246-C-1-A Acquired: 10/22/2019 13:16:32 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.500	.02689	25.512	.16797	.00105	65.986
Stddev	.042	.00085	.107	.00069	.00024	.133
%RSD	.39795	3.1731	.41969	.41344	23.135	.20089
#1	10.452	.02709	25.530	.16764	.00132	66.134
#2	10.520	.02596	25.609	.16877	.00084	65.949
#3	10.529	.02764	25.397	.16750	.00101	65.876
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00132	.00009	.00154	.00294	2.5852	-.00067
Stddev	.00022	.00082	.00106	.00064	.0164	.00081
%RSD	16.889	873.33	68.923	21.897	.63591	121.54
#1	.00108	-.00057	.00057	.00228	2.6041	-.00140
#2	.00135	.00102	.00138	.00357	2.5751	-.00080
#3	.00153	-.00017	.00267	.00296	2.5762	.00020
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97246-C-1-A Acquired: 10/22/2019 13:16:32 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	1.4898	.00142	.00147	.00228	.00513
Stddev	.0054	.00022	.00049	.00390	.00005
%RSD	.36274	15.340	33.521	170.85	.96920
#1	1.4921	.00161	.00097	-.00067	.00516
#2	1.4937	.00118	.00196	.00081	.00516
#3	1.4836	.00147	.00148	.00671	.00507
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3531.7	5846.2	89303.	7096.5
Stddev	1.6	10.6	362.	25.6
%RSD	.04405	.18071	.40557	.36074
#1	3530.0	5837.8	89646.	7109.3
#2	3533.0	5858.1	88924.	7067.0
#3	3532.2	5842.7	89338.	7113.2

Sample Name: 180-97246-C-2-A Acquired: 10/22/2019 13:21:39 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00005	.08088	.00104	.06973	.08936	-.00006
Stddev	.00040	.01084	.00109	.00057	.00029	.00009
%RSD	834.15	13.400	104.84	.81644	.32327	166.67
#1	.00046	.07333	-.00022	.06946	.08909	.00005
#2	.00001	.07600	.00168	.06934	.08966	-.00014
#3	-.00033	.09329	.00165	.07038	.08934	-.00008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 178.90	.00026	.00096	.00049	.00295	.38595
Stddev	.16	.00005	.00035	.00012	.00044	.00225
%RSD	.09220	20.669	36.526	25.200	14.982	.58410
#1	179.04	.00020	.00134	.00063	.00253	.38855
#2	178.93	.00029	.00065	.00044	.00341	.38448
#3	178.72	.00028	.00089	.00040	.00292	.38483
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	100.00					
Low Limit	-5.0000					

Sample Name: 180-97246-C-2-A Acquired: 10/22/2019 13:21:39 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.4041	.02595	32.809	.55941	.00078	70.440
Stddev	.0284	.00016	.061	.00240	.00025	.149
%RSD	.30161	.63004	.18625	.42893	31.903	.21171
#1	9.3894	.02607	32.768	.56197	.00060	70.418
#2	9.4368	.02602	32.879	.55904	.00107	70.600
#3	9.3860	.02577	32.780	.55721	.00068	70.304
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00179	-.00082	-.00054	.00234	2.8826	-.00115
Stddev	.00055	.00147	.00189	.00142	.0232	.00068
%RSD	30.484	180.17	351.07	60.369	.80366	58.756
#1	.00138	.00088	-.00266	.00267	2.9048	-.00114
#2	.00241	-.00169	.00095	.00357	2.8586	-.00183
#3	.00158	-.00164	.00009	.00079	2.8845	-.00048
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97246-C-2-A Acquired: 10/22/2019 13:21:39 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	**1.7782**	**.00090**	**.00055**	**.00324**	**.00404**
Stddev	.0119	.00015	.00033	.00076	.00031
%RSD	.67013	16.616	60.369	23.417	7.7144
#1	1.7840	.00076	.00026	.00411	.00431
#2	1.7861	.00088	.00092	.00275	.00370
#3	1.7645	.00105	.00047	.00285	.00410
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3458.3**	**5775.1**	**87867.**	**7026.8**
Stddev	4.8	12.9	449.	4.6
%RSD	.13895	.22294	.51147	.06534
#1	3460.9	5772.5	87383.	7031.2
#2	3461.2	5789.0	87950.	7022.0
#3	3452.7	5763.6	88270.	7027.2

Sample Name: 180-97034-D-6-A Acquired: 10/22/2019 13:26:45 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00002	-.00293	.00097	.03000	.02897	-.00004
Stddev	.00035	.01403	.00180	.00064	.00032	.00005
%RSD	2052.7	479.75	185.64	2.1224	1.1009	137.27
#1	-.00021	-.01838	-.00058	.03050	.02864	.00002
#2	.00039	.00903	.00055	.03022	.02900	-.00007
#3	-.00023	.00058	.00294	.02929	.02927	-.00006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	99.769	.00009	.00060	.00081	.00115	.12204
Stddev	.227	.00010	.00010	.00024	.00108	.00217
%RSD	.22744	108.08	17.143	30.191	93.662	1.7770
#1	100.02	.00019	.00051	.00077	-.00003	.12150
#2	99.591	.00000	.00058	.00058	.00140	.12442
#3	99.692	.00007	.00071	.00107	.00208	.12019
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97034-D-6-A Acquired: 10/22/2019 13:26:45 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.3349	.01522	8.5068	.45764	.00030	93.915
Stddev	.0211	.00085	.0740	.00017	.00020	.265
%RSD	1.5778	5.5575	.87004	.03666	65.839	.28262
#1	1.3154	.01593	8.4989	.45758	.00050	94.029
#2	1.3320	.01428	8.4371	.45750	.00011	93.612
#3	1.3572	.01544	8.5844	.45783	.00029	94.105
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00086	-.00004	.00086	.00390	5.5206	-.00052
Stddev	.00015	.00016	.00135	.00355	.0243	.00049
%RSD	17.614	348.88	157.61	91.047	.44022	94.685
#1	.00071	.00012	.00074	.00220	5.5297	.00003
#2	.00102	-.00019	.00226	.00152	5.4931	-.00069
#3	.00086	-.00006	-.00043	.00797	5.5391	-.00091
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97034-D-6-A Acquired: 10/22/2019 13:26:45 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.19045	.00003	.00090	.00159	.00349
Stddev	.00562	.00010	.00134	.00271	.00006
%RSD	2.9515	294.49	148.41	171.21	1.6806
#1	.18448	.00015	-.00019	.00466	.00355
#2	.19564	-.00005	.00239	-.00046	.00344
#3	.19124	.00001	.00051	.00055	.00348
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3576.7	5911.4	89563.	7101.7
Stddev	.5	9.0	173.	45.5
%RSD	.01286	.15212	.19330	.64029
#1	3576.3	5912.2	89729.	7074.5
#2	3577.2	5902.1	89577.	7154.2
#3	3576.6	5920.0	89384.	7076.4

Sample Name: 180-97034-D-6-A SD@5 Acquired: 10/22/2019 13:31:53 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00034	.01032	.00047	.00556	.00605	-.00011
Stddev	.00008	.04480	.00147	.00043	.00023	.00001
%RSD	24.233	434.07	309.41	7.7441	3.8335	10.842
#1	.00043	-.02726	.00131	.00506	.00598	-.00010
#2	.00030	-.00168	-.00122	.00580	.00631	-.00012
#3	.00028	.05989	.00133	.00581	.00587	-.00010
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	19.991	.00010	.00028	-.00014	.00021	.02398
Stddev	.025	.00002	.00011	.00011	.00090	.00201
%RSD	.12503	18.407	38.924	78.010	436.97	8.3772
#1	20.015	.00011	.00034	-.00017	-.00055	.02593
#2	19.965	.00011	.00016	-.00002	.00120	.02409
#3	19.993	.00008	.00035	-.00022	-.00003	.02191
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97034-D-6-A SD@5 Acquired: 10/22/2019 13:31:53 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.23519	.00487	1.7248	.09277	-.00008	18.810
Stddev	.02072	.00043	.0373	.00022	.00009	.051
%RSD	8.8095	8.7747	2.1624	.23630	116.39	.27029
#1	.22967	.00441	1.7637	.09295	-.00014	18.787
#2	.21780	.00494	1.6894	.09253	.00002	18.775
#3	.25812	.00525	1.7213	.09282	-.00011	18.868
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00012	.00032	-.00006	.00168	1.0816	-.00085
Stddev	.00044	.00068	.00092	.00183	.0101	.00022
%RSD	380.93	216.19	1460.6	109.32	.93854	25.858
#1	.00042	-.00044	-.00089	.00343	1.0742	-.00095
#2	-.00039	.00089	.00093	-.00023	1.0774	-.00101
#3	.00032	.00050	-.00023	.00184	1.0932	-.00060
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97034-D-6-A SD@5 Acquired: 10/22/2019 13:31:53 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.04036	.00003	.00153	.00328	.00196
Stddev	.00764	.00005	.00023	.00191	.00006
%RSD	18.924	143.37	15.228	58.398	3.2495
#1	.03159	-.00000	.00154	.00245	.00201
#2	.04394	.00001	.00129	.00546	.00199
#3	.04556	.00009	.00175	.00192	.00189
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3886.3	6162.9	93464.	7136.8
Stddev	1.9	7.5	339.	31.0
%RSD	.04929	.12212	.36298	.43382
#1	3888.5	6154.6	93353.	7122.7
#2	3885.0	6169.2	93845.	7172.3
#3	3885.4	6165.1	93194.	7115.4

Sample Name: 180-97034-D-6-B MS Acquired: 10/22/2019 13:37:02 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.25348	5.1266	1.0799	1.4046	1.0566	.51417
Stddev	.00073	.0105	.0013	.0031	.0020	.00196
%RSD	.28761	.20509	.12046	.22111	.19055	.38058
#1	.25425	5.1145	1.0808	1.4028	1.0543	.51256
#2	.25340	5.1313	1.0806	1.4029	1.0572	.51635
#3	.25280	5.1338	1.0784	1.4082	1.0582	.51360
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	125.05	.50937	.50915	.48829	.49883	5.2248
Stddev	.67	.00071	.00222	.00148	.00315	.0118
%RSD	.53698	.13976	.43526	.30333	.63063	.22625
#1	124.75	.51009	.51170	.48922	.49912	5.2147
#2	125.82	.50866	.50778	.48658	.49555	5.2378
#3	124.58	.50936	.50795	.48906	.50182	5.2220
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97034-D-6-B MS Acquired: 10/22/2019 13:37:02 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	27.606	.53240	33.610	.93356	.49743	120.99
Stddev	.075	.00177	.233	.00163	.00076	.51
%RSD	.27169	.33224	.69203	.17454	.15282	.42418
#1	27.611	.53092	33.623	.93539	.49813	120.84
#2	27.678	.53436	33.835	.93301	.49662	121.56
#3	27.529	.53191	33.371	.93227	.49755	120.57
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.50941	.50831	.25930	1.0763	6.6840	.96955
Stddev	.00238	.00270	.00023	.0065	.0235	.00145
%RSD	.46817	.53109	.09015	.60147	.35148	.14908
#1	.51208	.51139	.25906	1.0752	6.7027	.96919
#2	.50748	.50716	.25930	1.0704	6.6915	.96832
#3	.50867	.50638	.25953	1.0832	6.6576	.97114
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97034-D-6-B MS Acquired: 10/22/2019 13:37:02 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.68446	.49845	1.0048	.51352	.25207
Stddev	.00387	.00063	.0016	.00606	.00072
%RSD	.56509	.12665	.15766	1.1803	.28557
#1	.68494	.49899	1.0054	.50716	.25247
#2	.68806	.49775	1.0060	.51923	.25123
#3	.68037	.49860	1.0030	.51417	.25249
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3429.0	5885.5	88537.	7025.4
Stddev	10.8	7.7	98.	22.9
%RSD	.31500	.13046	.11066	.32650
#1	3416.6	5879.5	88648.	7028.4
#2	3436.1	5894.2	88460.	7001.2
#3	3434.4	5882.8	88505.	7046.8

Sample Name: 180-97034-D-6-C MSD Acquired: 10/22/2019 13:41:47 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.25445	4.9990	1.0808	1.4075	1.0354	.50280
Stddev	.00287	.0420	.0062	.0074	.0067	.00294
%RSD	1.1286	.83982	.57429	.52721	.65061	.58523
#1	.25260	5.0200	1.0850	1.4137	1.0385	.50462
#2	.25776	5.0263	1.0836	1.4096	1.0401	.50438
#3	.25300	4.9507	1.0736	1.3993	1.0277	.49941
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	124.75	.50828	.50689	.48989	.50428	5.1219
Stddev	.70	.00151	.00238	.00328	.00166	.0258
%RSD	.55877	.29616	.47027	.67034	.32902	.50433
#1	125.46	.50970	.50839	.48745	.50348	5.1411
#2	124.71	.50843	.50813	.49362	.50618	5.1319
#3	124.07	.50670	.50414	.48859	.50317	5.0925
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97034-D-6-C MSD Acquired: 10/22/2019 13:41:47 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	27.304	.52880	32.903	.95054	.49734	120.00
Stddev	.186	.00319	.264	.00874	.00133	.57
%RSD	.68156	.60263	.80227	.91961	.26821	.47395
#1	27.477	.53245	32.970	.94447	.49862	120.55
#2	27.329	.52734	33.127	.96056	.49744	120.04
#3	27.107	.52660	32.612	.94660	.49596	119.41
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.50720	.50230	.26064	1.0677	6.5960	.96872
Stddev	.00130	.00398	.00126	.0037	.0504	.00516
%RSD	.25699	.79285	.48527	.34767	.76359	.53263
#1	.50860	.50660	.25962	1.0705	6.5976	.97190
#2	.50700	.50157	.26024	1.0691	6.6455	.97149
#3	.50601	.49874	.26205	1.0635	6.5448	.96277
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97034-D-6-C MSD Acquired: 10/22/2019 13:41:47 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.67390	.50056	.99984	.49797	.25248
Stddev	.00556	.00358	.00712	.00587	.00107
%RSD	.82458	.71479	.71252	1.1787	.42531
#1	.67918	.49843	1.0073	.50260	.25331
#2	.67443	.50470	.99909	.49994	.25286
#3	.66810	.49857	.99312	.49136	.25127
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3412.8	5835.0	87848.	7073.0
Stddev	9.0	15.0	375.	40.2
%RSD	.26377	.25678	.42742	.56861
#1	3403.7	5820.5	88155.	7051.0
#2	3413.1	5834.2	87429.	7048.6
#3	3421.7	5850.4	87959.	7119.5

Sample Name: 180-97034-D-6-A PDS Acquired: 10/22/2019 13:46:33 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.25278	5.0135	1.0835	1.3512	1.0401	.51061
Stddev	.00096	.0164	.0052	.0044	.0080	.00301
%RSD	.38041	.32679	.47555	.32720	.77276	.59003
#1	.25251	4.9990	1.0891	1.3531	1.0327	.50796
#2	.25384	5.0312	1.0823	1.3543	1.0487	.51389
#3	.25198	5.0102	1.0790	1.3461	1.0388	.50998
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	122.62	.51345	.51343	.49641	.50449	5.1381
Stddev	.49	.00048	.00072	.00370	.00388	.0359
%RSD	.39640	.09279	.14070	.74624	.76811	.69844
#1	122.30	.51310	.51426	.50060	.50599	5.1230
#2	123.18	.51399	.51293	.49356	.50009	5.1790
#3	122.37	.51325	.51310	.49508	.50739	5.1122
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97034-D-6-A PDS Acquired: 10/22/2019 13:46:33 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**27.355**	**.53536**	**32.885**	**.94030**	**.50522**	**117.70**
Stddev	.200	.00134	.275	.00220	.00037	.32
%RSD	.73218	.25073	.83485	.23356	.07362	.27058
#1	27.228	.53498	32.649	.94191	.50557	117.41
#2	27.586	.53424	33.186	.94119	.50527	118.04
#3	27.251	.53685	32.819	.93780	.50483	117.65
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.51307**	**.50624**	**.25532**	**1.0504**	**6.4711**	**.98216**
Stddev	.00156	.00249	.00231	.0006	.0180	.00164
%RSD	.30479	.49109	.90445	.06118	.27755	.16703
#1	.51476	.50661	.25798	1.0510	6.4551	.98156
#2	.51280	.50359	.25416	1.0497	6.4905	.98401
#3	.51166	.50852	.25382	1.0505	6.4676	.98090
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97034-D-6-A PDS Acquired: 10/22/2019 13:46:33 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.67054	.50592	1.0076	.50647	.25391
Stddev	.00795	.00135	.0034	.00666	.00022
%RSD	1.1859	.26732	.33410	1.3159	.08616
#1	.66236	.50735	1.0115	.50568	.25401
#2	.67824	.50466	1.0059	.51349	.25406
#3	.67104	.50576	1.0055	.50023	.25366
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3418.8	5833.9	88003.	6981.3
Stddev	6.8	15.8	230.	76.1
%RSD	.19981	.27112	.26083	1.0904
#1	3414.5	5829.7	87764.	7026.5
#2	3415.2	5820.6	88026.	6893.4
#3	3426.7	5851.4	88221.	7023.9

Sample Name: MB 180-295401/1-A Acquired: 10/22/2019 13:51:19 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00013	.00795	-.00120	.00069	.00020	-.00003
Stddev	.00004	.02239	.00040	.00033	.00013	.00002
%RSD	28.768	281.68	33.353	48.117	65.553	65.571
#1	.00013	-.00509	-.00157	.00068	.00009	-.00004
#2	.00016	.03381	-.00078	.00037	.00035	-.00001
#3	.00009	-.00487	-.00125	.00103	.00017	-.00003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02081	.00022	-.00007	-.00004	.00018	.01195
Stddev	.00221	.00005	.00034	.00024	.00013	.00219
%RSD	10.631	23.346	501.86	672.39	71.032	18.357
#1	.01875	.00026	-.00042	.00004	.00007	.01334
#2	.02053	.00024	.00025	.00016	.00032	.00942
#3	.02314	.00016	-.00003	-.00031	.00015	.01310
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: MB 180-295401/1-A Acquired: 10/22/2019 13:51:19 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00443	.00117	-.04009	.00003	.00002	.05276
Stddev	.02635	.00005	.02298	.00003	.00014	.00411
%RSD	594.22	4.2427	57.330	85.453	592.30	7.7925
#1	-.02714	.00119	-.06257	.00006	.00017	.04840
#2	.02446	.00111	-.01664	.00003	.00002	.05656
#3	-.01063	.00121	-.04105	.00000	-.00012	.05331
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00013	.00042	-.00117	.00333	.00452	-.00021
Stddev	.00021	.00136	.00061	.00142	.00451	.00029
%RSD	165.56	321.57	51.953	42.698	99.759	140.76
#1	.00029	-.00112	-.00047	.00198	.00286	-.00027
#2	-.00011	.00146	-.00144	.00319	.00108	-.00047
#3	.00021	.00093	-.00160	.00482	.00963	.00011
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: MB 180-295401/1-A Acquired: 10/22/2019 13:51:19 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00485	.00014	.00085	.00215	.00021
Stddev	.00121	.00006	.00009	.00134	.00006
%RSD	25.025	42.887	10.191	62.398	27.412
#1	.00593	.00019	.00078	.00362	.00026
#2	.00354	.00015	.00095	.00099	.00022
#3	.00510	.00007	.00082	.00185	.00015
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4096.9	6273.1	95903.	7215.5
Stddev	6.3	12.3	168.	24.2
%RSD	.15446	.19672	.17482	.33542
#1	4102.4	6287.3	95754.	7243.0
#2	4098.4	6267.1	95870.	7205.9
#3	4090.0	6264.9	96084.	7197.5

Sample Name: CCV 3418984 Acquired: 10/22/2019 13:56:32 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.0177	24.896	.50921	2.0597	1.9943	2.0117
Stddev	.0033	.152	.00224	.0033	.0165	.0078
%RSD	.32140	.61145	.43935	.16120	.82694	.38663
#1	1.0205	24.736	.50993	2.0632	1.9839	2.0034
#2	1.0141	24.914	.50671	2.0592	1.9856	2.0129
#3	1.0186	25.039	.51101	2.0566	2.0133	2.0189
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	49.888	.50018	2.0519	1.9622	1.9463	25.383
Stddev	.203	.00101	.0015	.0106	.0097	.097
%RSD	.40651	.20148	.07402	.53832	.49991	.38054
#1	49.753	.50080	2.0533	1.9712	1.9538	25.272
#2	50.121	.50072	2.0522	1.9648	1.9499	25.436
#3	49.791	.49902	2.0503	1.9505	1.9353	25.442
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3418984 Acquired: 10/22/2019 13:56:32 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**124.34**	**2.0043**	**49.865**	**1.9701**	**1.9660**	**125.77**
Stddev	.23	.0056	.099	.0054	.0017	.35
%RSD	.18691	.28118	.19757	.27316	.08822	.27756
#1	124.09	1.9984	49.751	1.9762	1.9671	125.57
#2	124.37	2.0096	49.921	1.9678	1.9669	126.17
#3	124.55	2.0049	49.922	1.9662	1.9640	125.56
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.0537**	**.50548**	**.49991**	**.51329**	**2.0378**	**1.9140**
Stddev	.0021	.00302	.00083	.00427	.0025	.0047
%RSD	.10383	.59650	.16560	.83201	.12093	.24650
#1	2.0523	.50362	.49896	.51738	2.0380	1.9157
#2	2.0527	.50386	.50035	.51362	2.0353	1.9176
#3	2.0562	.50896	.50043	.50886	2.0402	1.9086
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3418984 Acquired: 10/22/2019 13:56:32 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	1.9680	1.9799	.97565	2.0295	1.9639
Stddev	.0050	.0034	.00199	.0205	.0035
%RSD	.25347	.17445	.20386	1.0101	.17982
#1	1.9648	1.9835	.97697	2.0100	1.9670
#2	1.9738	1.9797	.97662	2.0278	1.9647
#3	1.9656	1.9766	.97336	2.0509	1.9600
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3340.4	5822.8	86924.	7012.0
Stddev	4.2	14.9	460.	33.6
%RSD	.12429	.25513	.52895	.47935
#1	3337.5	5809.5	86400.	7045.5
#2	3338.5	5820.1	87108.	6978.3
#3	3345.1	5838.9	87262.	7012.3

Sample Name: CCB6 Acquired: 10/22/2019 14:01:21 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00006	.03109	.00014	.00064	.00023	-.00005
Stddev	.00011	.01992	.00125	.00074	.00023	.00012
%RSD	190.85	64.085	916.95	116.03	101.66	235.95
#1	-.00015	.02967	.00035	.00016	.00045	-.00014
#2	.00006	.05168	-.00121	.00026	.00023	-.00010
#3	-.00008	.01191	.00126	.00149	-.00001	.00009
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00337	.00012	.00007	-.00026	.00001	.00140
Stddev	.00342	.00010	.00032	.00021	.00034	.00442
%RSD	101.56	82.351	430.22	80.746	4548.6	315.16
#1	-.00045	.00009	-.00029	-.00007	.00040	-.00226
#2	.00441	.00024	.00031	-.00049	-.00011	.00631
#3	.00615	.00005	.00020	-.00023	-.00026	.00015
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB6 Acquired: 10/22/2019 14:01:21 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.05850**	**.00143**	**-.02410**	**-.00001**	**.00029**	**.05665**
Stddev	.00940	.00114	.02208	.00005	.00005	.00287
%RSD	16.067	79.492	91.616	884.45	18.304	5.0733
#1	.05242	.00261	-.04056	-.00003	.00023	.05369
#2	.05375	.00133	.00099	-.00004	.00032	.05684
#3	.06932	.00035	-.03275	.00005	.00033	.05943
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00001**	**.00040**	**.00072**	**.00127**	**.00230**	**-.00027**
Stddev	.00040	.00064	.00103	.00211	.00342	.00028
%RSD	6495.5	159.39	143.10	166.67	148.41	105.00
#1	.00041	-.00020	.00148	-.00014	.00416	.00005
#2	-.00038	.00032	-.00045	.00370	.00439	-.00037
#3	-.00005	.00107	.00114	.00024	-.00164	-.00049
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB6 Acquired: 10/22/2019 14:01:21 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00483	.00020	.00031	.00171	.00012
Stddev	.00328	.00012	.00083	.00305	.00006
%RSD	67.870	60.388	267.78	177.70	52.535
#1	.00106	.00021	-.00062	-.00044	.00019
#2	.00636	.00032	.00096	.00038	.00011
#3	.00705	.00008	.00059	.00520	.00007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4061.4	6204.6	94650.	7208.6
Stddev	7.5	4.4	202.	11.3
%RSD	.18364	.07080	.21346	.15642
#1	4063.3	6209.6	94770.	7195.7
#2	4067.8	6202.3	94417.	7216.6
#3	4053.2	6201.7	94763.	7213.5

Sample Name: LCS 180-295401/2-A Acquired: 10/22/2019 14:06:32 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.25545	5.1792	1.0699	1.3208	1.0327	.52464
Stddev	.00033	.0437	.0035	.0031	.0045	.00115
%RSD	.12998	.84390	.32449	.23639	.43332	.21947
#1	.25562	5.1625	1.0739	1.3244	1.0310	.52345
#2	.25507	5.1463	1.0677	1.3190	1.0378	.52575
#3	.25566	5.2288	1.0681	1.3191	1.0294	.52473
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.895	.51459	.51188	.50723	.50757	5.3543
Stddev	.020	.00127	.00105	.00158	.00201	.0147
%RSD	.07859	.24675	.20566	.31099	.39533	.27549
#1	25.888	.51339	.51268	.50643	.50880	5.3405
#2	25.878	.51592	.51068	.50905	.50865	5.3524
#3	25.917	.51446	.51227	.50621	.50525	5.3698
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: LCS 180-295401/2-A Acquired: 10/22/2019 14:06:32 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**25.983**	**.51782**	**25.847**	**.51055**	**.51537**	**26.561**
Stddev	.043	.00164	.054	.00095	.00128	.007
%RSD	.16605	.31713	.20756	.18584	.24811	.02618
#1	25.934	.51758	25.793	.51139	.51590	26.556
#2	26.005	.51631	25.900	.50952	.51630	26.569
#3	26.011	.51957	25.847	.51074	.51391	26.557
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.51206**	**.51064**	**.26357**	**1.0444**	**1.0497**	**1.0087**
Stddev	.00105	.00090	.00012	.0023	.0162	.0029
%RSD	.20550	.17599	.04457	.21832	1.5456	.28492
#1	.51309	.50993	.26351	1.0469	1.0539	1.0120
#2	.51099	.51034	.26370	1.0436	1.0635	1.0074
#3	.51211	.51165	.26349	1.0426	1.0319	1.0068
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: LCS 180-295401/2-A Acquired: 10/22/2019 14:06:32 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.50833	.51449	1.0324	.52857	.25928
Stddev	.00360	.00033	.0063	.00461	.00037
%RSD	.70855	.06473	.61044	.87236	.14454
#1	.51025	.51447	1.0367	.52361	.25952
#2	.51056	.51483	1.0252	.53272	.25885
#3	.50417	.51417	1.0353	.52940	.25947
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3674.3	6058.8	91848.	7235.5
Stddev	4.8	5.7	33.	26.3
%RSD	.12969	.09333	.03554	.36397
#1	3671.0	6060.9	91870.	7254.7
#2	3679.8	6052.4	91864.	7205.5
#3	3672.2	6063.1	91810.	7246.3

Sample Name: PB 180-295081/1-B Acquired: 10/22/2019 14:11:15 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00015	.01012	-.00109	.00085	.00058	.00002
Stddev	.00033	.01648	.00144	.00003	.00015	.00013
%RSD	225.09	162.79	131.58	3.6773	26.563	613.01
#1	-.00000	-.00864	.00013	.00081	.00057	-.00008
#2	-.00008	.02225	-.00267	.00087	.00074	-.00003
#3	.00052	.01676	-.00073	.00086	.00043	.00017
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00963	.00015	.00006	-.00001	.00012	.00505
Stddev	.00307	.00010	.00011	.00012	.00030	.00261
%RSD	31.909	64.568	171.97	836.60	244.55	51.723
#1	.01072	.00026	-.00005	-.00006	.00036	.00784
#2	.00616	.00013	.00017	-.00010	-.00022	.00266
#3	.01201	.00007	.00007	.00012	.00023	.00466
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: PB 180-295081/1-B Acquired: 10/22/2019 14:11:15 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02466	.00239	-.03305	.00007	.00004	.05420
Stddev	.02684	.00095	.03197	.00002	.00011	.00163
%RSD	108.82	39.655	96.726	24.014	241.31	3.0047
#1	-.00389	.00307	-.01159	.00007	.00001	.05378
#2	.02850	.00278	-.06979	.00005	.00016	.05282
#3	.04937	.00131	-.01777	.00008	-.00004	.05600
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00009	-.00110	-.00040	.00285	.00222	-.00009
Stddev	.00046	.00087	.00176	.00250	.01092	.00050
%RSD	492.29	79.268	438.43	87.693	492.82	574.38
#1	-.00036	-.00039	-.00125	.00033	.00627	.00001
#2	.00044	-.00084	-.00158	.00290	-.01015	.00036
#3	-.00035	-.00208	.00163	.00532	.01053	-.00063
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: PB 180-295081/1-B Acquired: 10/22/2019 14:11:15 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00241	.00016	.00137	.00156	.00140
Stddev	.00386	.00015	.00064	.00375	.00009
%RSD	160.31	89.803	46.593	239.96	6.4552
#1	-.00090	.00032	.00161	.00260	.00143
#2	.00147	.00012	.00064	.00468	.00147
#3	.00666	.00004	.00184	-.00260	.00129
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4077.7	6240.1	96084.	7362.7
Stddev	4.7	10.5	73.	39.5
%RSD	.11644	.16897	.07575	.53582
#1	4072.5	6234.6	96100.	7334.1
#2	4081.9	6252.2	96147.	7346.4
#3	4078.7	6233.3	96004.	7407.7

Sample Name: LCS 180-295081/2-B Acquired: 10/22/2019 14:16:25 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.21833	4.4413	.91633	1.1519	.87587	.44670
Stddev	.00095	.0634	.00444	.0006	.00698	.00179
%RSD	.43300	1.4285	.48407	.05376	.79701	.40044
#1	.21786	4.4170	.91923	1.1513	.87145	.44547
#2	.21942	4.5134	.91854	1.1517	.88392	.44875
#3	.21772	4.3937	.91123	1.1526	.87225	.44588
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	22.246	.44123	.43706	.43508	.43495	4.5258
Stddev	.041	.00107	.00086	.00055	.00270	.0291
%RSD	.18328	.24288	.19588	.12559	.62096	.64241
#1	22.271	.44084	.43787	.43548	.43527	4.5087
#2	22.267	.44244	.43616	.43532	.43211	4.5594
#3	22.199	.44040	.43716	.43446	.43749	4.5095
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: LCS 180-295081/2-B Acquired: 10/22/2019 14:16:25 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	22.239	.44394	22.073	.43741	.43805	22.857
Stddev	.048	.00028	.210	.00145	.00049	.030
%RSD	.21627	.06308	.95127	.33074	.11111	.13314
#1	22.196	.44407	21.940	.43689	.43775	22.825
#2	22.291	.44362	22.315	.43904	.43861	22.885
#3	22.229	.44413	21.963	.43629	.43779	22.863
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.43766	.43862	.22441	.90054	.88077	.86441
Stddev	.00146	.00363	.00078	.00198	.01354	.00168
%RSD	.33381	.82854	.34846	.21979	1.5378	.19457
#1	.43934	.44200	.22357	.90167	.86733	.86408
#2	.43670	.43478	.22454	.89825	.88057	.86623
#3	.43693	.43906	.22512	.90168	.89442	.86291
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: LCS 180-295081/2-B Acquired: 10/22/2019 14:16:25 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.43182	.43918	.88883	.44705	.22617
Stddev	.00863	.00031	.00293	.00480	.00069
%RSD	1.9994	.06976	.32947	1.0740	.30548
#1	.42284	.43915	.89219	.44152	.22662
#2	.44006	.43889	.88752	.45011	.22652
#3	.43256	.43950	.88679	.44952	.22537
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3685.7	6051.6	91535.	7210.2
Stddev	1.3	8.8	374.	46.0
%RSD	.03487	.14623	.40816	.63732
#1	3685.0	6057.9	91864.	7238.6
#2	3687.2	6041.5	91129.	7157.2
#3	3684.9	6055.5	91613.	7234.9

Sample Name: 180-96983-E-1-B Acquired: 10/22/2019 14:21:10 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00002	.09150	-.00072	.14210	.05608	-.00006
Stddev	.00016	.01709	.00081	.00070	.00021	.00008
%RSD	893.98	18.680	112.18	.49372	.37594	130.85
#1	.00020	.10953	-.00104	.14284	.05628	-.00012
#2	-.00008	.08946	-.00133	.14202	.05586	-.00007
#3	-.00007	.07553	.00020	.14145	.05612	.00002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	93.646	.00019	.00040	.00085	.00203	.00704
Stddev	.243	.00003	.00024	.00032	.00038	.00265
%RSD	.25923	13.314	61.207	37.328	18.518	37.620
#1	93.925	.00021	.00043	.00054	.00245	.00974
#2	93.479	.00019	.00062	.00117	.00192	.00445
#3	93.535	.00016	.00014	.00084	.00172	.00693
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96983-E-1-B Acquired: 10/22/2019 14:21:10 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.1846**	**.01908**	**19.765**	**.00076**	**.00176**	**157.62**
Stddev	.0173	.00071	.049	.00000	.00032	.46
%RSD	.41355	3.7339	.24793	.42234	18.219	.29148
#1	4.1794	.01883	19.812	.00076	.00173	158.13
#2	4.2039	.01988	19.714	.00076	.00146	157.23
#3	4.1705	.01852	19.769	.00076	.00210	157.52
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00508**	**.00064**	**.00046**	**.00299**	**5.9372**	**-.00043**
Stddev	.00026	.00058	.00129	.00091	.0226	.00027
%RSD	5.0892	90.549	277.63	30.515	.38106	63.094
#1	.00479	.00107	-.00096	.00381	5.9605	-.00012
#2	.00516	.00086	.00081	.00314	5.9153	-.00062
#3	.00529	-.00002	.00154	.00201	5.9359	-.00056
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96983-E-1-B Acquired: 10/22/2019 14:21:10 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.42620	.00003	.00166	.00280	.00373
Stddev	.00441	.00005	.00100	.00256	.00009
%RSD	1.0340	174.20	60.370	91.407	2.3054
#1	.42597	.00005	.00051	.00485	.00378
#2	.42191	-.00003	.00215	.00360	.00378
#3	.43072	.00007	.00233	-.00007	.00363
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3458.1	5830.4	87978.	7081.1
Stddev	6.8	8.9	37.	29.7
%RSD	.19794	.15212	.04217	.41886
#1	3463.8	5836.6	88011.	7056.1
#2	3450.5	5820.2	87938.	7113.9
#3	3459.9	5834.2	87985.	7073.4

Sample Name: 180-96983-E-2-B Acquired: 10/22/2019 14:26:17 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00019	.04506	.00064	.15104	.06745	-.00008
Stddev	.00013	.01640	.00235	.00010	.00012	.00005
%RSD	64.577	36.400	368.49	.06559	.18532	58.052
#1	-.00024	.05158	-.00102	.15112	.06759	-.00007
#2	-.00029	.02640	-.00039	.15107	.06737	-.00004
#3	-.00005	.05720	.00333	.15093	.06738	-.00013
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	99.220	.00023	.00021	.00116	.00239	.00981
Stddev	.172	.00002	.00001	.00010	.00050	.00061
%RSD	.17362	7.8167	5.1663	8.6979	21.085	6.2469
#1	99.023	.00021	.00020	.00105	.00215	.01024
#2	99.299	.00024	.00022	.00123	.00296	.01008
#3	99.339	.00024	.00021	.00121	.00204	.00911
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96983-E-2-B Acquired: 10/22/2019 14:26:17 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.4266**	**.01552**	**20.057**	**.00162**	**.00197**	**143.57**
Stddev	.0112	.00070	.060	.00003	.00024	.45
%RSD	.25335	4.4806	.29973	1.6903	12.180	.31337
#1	4.4354	.01631	20.007	.00160	.00191	143.52
#2	4.4140	.01500	20.039	.00165	.00177	143.14
#3	4.4304	.01525	20.124	.00162	.00224	144.04
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00291**	**.00008**	**.00121**	**.00446**	**6.3868**	**-.00025**
Stddev	.00009	.00093	.00227	.00424	.0243	.00057
%RSD	3.0101	1115.2	187.49	94.909	.38029	229.68
#1	.00298	.00031	.00325	.00895	6.3611	-.00083
#2	.00294	.00088	-.00123	.00392	6.3898	-.00023
#3	.00281	-.00094	.00161	.00052	6.4094	.00031
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96983-E-2-B Acquired: 10/22/2019 14:26:17 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.45288	-.00004	.00046	.00605	.00286
Stddev	.00297	.00005	.00094	.00335	.00012
%RSD	.65481	111.46	204.96	55.333	4.2444
#1	.44946	-.00007	.00065	.00691	.00272
#2	.45475	.00001	.00128	.00236	.00293
#3	.45444	-.00008	-.00056	.00888	.00294
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3454.0	5794.3	87487.	7081.4
Stddev	5.7	10.6	108.	34.4
%RSD	.16608	.18314	.12398	.48601
#1	3459.5	5793.7	87364.	7074.2
#2	3454.4	5805.1	87531.	7118.9
#3	3448.0	5783.9	87567.	7051.2

Sample Name: 180-96983-E-3-B Acquired: 10/22/2019 14:31:24 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00027	.01047	.00248	.18191	.06065	-.00011
Stddev	.00026	.00298	.00230	.00072	.00032	.00002
%RSD	97.229	28.522	92.641	.39539	.52090	23.071
#1	.00025	.00703	.00409	.18150	.06102	-.00013
#2	.00054	.01237	.00349	.18149	.06044	-.00009
#3	.00002	.01201	-.00015	.18274	.06050	-.00010
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	90.766	.00013	.00039	.00161	.00182	.00413
Stddev	.092	.00009	.00021	.00033	.00077	.00105
%RSD	.10136	68.476	54.859	20.785	42.406	25.371
#1	90.865	.00005	.00063	.00199	.00100	.00297
#2	90.749	.00012	.00028	.00141	.00192	.00439
#3	90.684	.00023	.00025	.00142	.00254	.00502
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96983-E-3-B Acquired: 10/22/2019 14:31:24 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.141	.02256	15.133	.00067	.00578	123.42
Stddev	.036	.00030	.044	.00005	.00019	.42
%RSD	.32175	1.3296	.29157	7.9651	3.3273	.34204
#1	11.180	.02222	15.106	.00067	.00598	123.89
#2	11.134	.02278	15.184	.00073	.00560	123.09
#3	11.110	.02268	15.108	.00062	.00575	123.27
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00134	-.00035	-.00093	.00213	6.2306	-.00063
Stddev	.00059	.00074	.00165	.00202	.0242	.00018
%RSD	43.898	214.01	177.97	94.934	.38854	29.455
#1	.00202	-.00057	.00019	.00265	6.2511	-.00042
#2	.00097	-.00095	-.00282	.00385	6.2368	-.00076
#3	.00103	.00048	-.00015	-.00010	6.2038	-.00070
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96983-E-3-B Acquired: 10/22/2019 14:31:24 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.45813	.00007	.00086	.00174	.00176
Stddev	.00765	.00004	.00143	.00170	.00010
%RSD	1.6689	59.738	165.23	98.096	5.6836
#1	.46666	.00002	.00231	.00057	.00171
#2	.45584	.00008	.00083	.00094	.00170
#3	.45190	.00010	-.00055	.00369	.00188
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3498.0	5846.7	87843.	7112.8
Stddev	6.7	4.5	286.	23.0
%RSD	.19105	.07678	.32505	.32269
#1	3498.6	5845.5	88162.	7100.5
#2	3491.0	5842.9	87612.	7139.3
#3	3504.3	5851.6	87755.	7098.6

Sample Name: 180-96983-E-4-B Acquired: 10/22/2019 14:36:33 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00034	-.00511	.00144	.19466	.05238	-.00013
Stddev	.00057	.03696	.00112	.00046	.00012	.00002
%RSD	168.10	723.35	77.719	.23623	.22958	15.820
#1	.00062	-.04496	.00209	.19479	.05235	-.00014
#2	-.00032	.02803	.00015	.19504	.05251	-.00010
#3	.00072	.00161	.00210	.19415	.05227	-.00014
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	124.04	-.00001	-.00000	.00041	.00207	.00367
Stddev	.12	.00003	.00011	.00012	.00046	.00171
%RSD	.09651	175.90	2629.5	30.210	22.285	46.510
#1	123.92	-.00003	-.00013	.00055	.00200	.00401
#2	124.06	-.00003	.00007	.00034	.00257	.00519
#3	124.15	.00002	.00005	.00034	.00165	.00182
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96983-E-4-B Acquired: 10/22/2019 14:36:33 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.5291	.01297	27.735	.03751	.00097	39.316
Stddev	.0150	.00018	.070	.00010	.00033	.029
%RSD	.33106	1.3639	.25272	.27454	33.563	.07406
#1	4.5127	.01297	27.720	.03759	.00078	39.285
#2	4.5326	.01314	27.812	.03739	.00135	39.322
#3	4.5421	.01279	27.674	.03755	.00079	39.342
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00012	-.00014	-.00070	.00344	7.2059	-.00032
Stddev	.00036	.00057	.00109	.00320	.0272	.00058
%RSD	295.09	404.38	156.45	92.929	.37791	180.42
#1	-.00002	-.00044	-.00139	.00301	7.2131	-.00092
#2	.00018	-.00050	.00056	.00683	7.1758	-.00027
#3	-.00052	.00052	-.00126	.00048	7.2288	.00023
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96983-E-4-B Acquired: 10/22/2019 14:36:33 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.61464	-.00018	.00138	.00396	.00142
Stddev	.00722	.00019	.00086	.00196	.00005
%RSD	1.1752	106.01	62.321	49.418	3.7252
#1	.60640	.00003	.00046	.00352	.00147
#2	.61760	-.00023	.00216	.00610	.00136
#3	.61991	-.00034	.00150	.00226	.00143
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3553.6	5841.5	89039.	7108.2
Stddev	4.9	8.1	267.	20.1
%RSD	.13904	.13826	.29967	.28323
#1	3553.0	5846.1	88997.	7131.0
#2	3548.9	5832.2	89324.	7093.2
#3	3558.8	5846.2	88796.	7100.3

Sample Name: 180-96983-E-5-B Acquired: 10/22/2019 14:41:40 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00024	-.02197	-.00025	.18778	.05121	-.00009
Stddev	.00042	.00605	.00281	.00040	.00096	.00013
%RSD	175.25	27.548	1133.4	.21210	1.8791	149.82
#1	.00072	-.01956	-.00046	.18797	.05107	-.00023
#2	-.00007	-.02885	.00266	.18733	.05224	.00003
#3	.00007	-.01749	-.00294	.18805	.05033	-.00006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	119.56	.00021	.00012	.00028	.00264	.00496
Stddev	.52	.00014	.00015	.00035	.00035	.00140
%RSD	.43217	68.080	118.13	126.88	13.217	28.264
#1	119.48	.00036	.00002	.00004	.00304	.00631
#2	120.12	.00019	.00029	.00068	.00250	.00507
#3	119.09	.00007	.00006	.00011	.00238	.00351
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96983-E-5-B Acquired: 10/22/2019 14:41:40 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.4507**	**.01142**	**27.401**	**.00077**	**.00123**	**39.874**
Stddev	.0651	.00085	.447	.00005	.00008	.262
%RSD	1.4619	7.4839	1.6320	6.6202	6.5326	.65702
#1	4.4818	.01191	27.530	.00072	.00130	39.817
#2	4.4945	.01043	27.769	.00077	.00124	40.160
#3	4.3759	.01191	26.903	.00082	.00114	39.646
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00041**	**-.00015**	**-.00012**	**.00272**	**7.3617**	**-.00025**
Stddev	.00042	.00058	.00121	.00291	.0949	.00029
%RSD	103.02	380.69	980.31	106.85	1.2890	115.22
#1	-.00089	-.00020	.00025	.00306	7.3682	-.00059
#2	-.00023	.00045	.00085	-.00034	7.4532	-.00005
#3	-.00011	-.00071	-.00147	.00546	7.2637	-.00012
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96983-E-5-B Acquired: 10/22/2019 14:41:40 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.63164	-.00015	.00018	.00356	.00124
Stddev	.01281	.00010	.00069	.00290	.00010
%RSD	2.0286	71.017	376.05	81.413	8.0105
#1	.62843	-.00003	.00057	.00619	.00135
#2	.64575	-.00017	.00059	.00045	.00115
#3	.62073	-.00024	-.00061	.00405	.00122
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3563.7	5855.4	89156.	7093.2
Stddev	5.3	14.1	70.	73.7
%RSD	.14737	.24027	.07903	1.0397
#1	3563.3	5855.2	89134.	7062.0
#2	3558.7	5841.4	89235.	7040.1
#3	3569.1	5869.5	89099.	7177.4

Sample Name: 180-96983-E-5-B SD@5 Acquired: 10/22/2019 14:46:49 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00010	.00027	-.00087	.03518	.01036	-.00003
Stddev	.00008	.00569	.00037	.00010	.00010	.00004
%RSD	78.768	2120.2	42.488	.28377	.97618	119.11
#1	-.00014	.00581	-.00126	.03527	.01025	-.00005
#2	-.00016	-.00556	-.00051	.03507	.01045	-.00006
#3	-.00001	.00056	-.00085	.03519	.01037	.00001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.338	.00001	.00009	-.00022	.00039	.00002
Stddev	.036	.00004	.00020	.00010	.00022	.00256
%RSD	.15286	313.88	217.09	46.525	55.475	11706.
#1	23.314	-.00003	.00015	-.00019	.00053	.00116
#2	23.379	.00003	-.00013	-.00013	.00014	-.00291
#3	23.321	.00004	.00025	-.00033	.00051	.00181
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96983-E-5-B SD@5 Acquired: 10/22/2019 14:46:49 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.84116	.00339	5.3994	.00015	.00012	7.7063
Stddev	.03204	.00079	.0023	.00002	.00012	.0207
%RSD	3.8095	23.285	.04303	15.617	97.658	.26858
#1	.85705	.00422	5.4014	.00012	.00018	7.6928
#2	.80428	.00333	5.3998	.00015	-.00001	7.7301
#3	.86215	.00264	5.3968	.00017	.00020	7.6960
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00019	.00076	-.00027	-.00081	1.4092	-.00080
Stddev	.00015	.00088	.00088	.00200	.0173	.00006
%RSD	79.397	116.96	323.98	246.60	1.2305	7.6399
#1	.00008	-.00022	-.00081	-.00103	1.3972	-.00086
#2	.00013	.00097	-.00074	.00129	1.4291	-.00074
#3	.00036	.00151	.00074	-.00269	1.4012	-.00081
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96983-E-5-B SD@5 Acquired: 10/22/2019 14:46:49 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.12436	.00004	.00072	-.00199	.00101
Stddev	.00445	.00011	.00179	.00207	.00002
%RSD	3.5804	268.02	247.52	104.02	1.7745
#1	.12909	-.00005	.00078	-.00294	.00101
#2	.12025	.00002	.00249	-.00342	.00102
#3	.12374	.00016	-.00110	.00038	.00099
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3884.5	6117.5	93016.	7107.0
Stddev	9.8	14.4	59.	40.5
%RSD	.25284	.23591	.06394	.57029
#1	3888.5	6124.5	93027.	7151.5
#2	3873.4	6100.9	93070.	7097.5
#3	3891.7	6127.1	92952.	7072.1

Sample Name: 180-96983-E-5-C MS Acquired: 10/22/2019 14:51:59 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.25694	5.2512	1.0999	1.5223	1.1041	.52602
Stddev	.00134	.0395	.0016	.0028	.0060	.00136
%RSD	.52198	.75217	.14951	.18513	.54238	.25772
#1	.25653	5.2062	1.0998	1.5222	1.0976	.52472
#2	.25586	5.2801	1.0983	1.5252	1.1095	.52742
#3	.25845	5.2673	1.1016	1.5195	1.1051	.52591
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	147.74	.52398	.51978	.50150	.51404	5.2385
Stddev	.27	.00034	.00062	.00189	.00232	.0089
%RSD	.18008	.06428	.12020	.37758	.45206	.17043
#1	147.55	.52397	.52050	.50106	.51579	5.2410
#2	148.04	.52365	.51949	.50358	.51493	5.2460
#3	147.62	.52433	.51936	.49987	.51140	5.2286
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96983-E-5-C MS Acquired: 10/22/2019 14:51:59 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	31.136	.54287	53.958	.50802	.51646	67.945
Stddev	.068	.00099	.244	.00052	.00075	.186
%RSD	.21881	.18276	.45205	.10215	.14493	.27441
#1	31.059	.54193	53.710	.50758	.51698	67.748
#2	31.162	.54390	54.198	.50789	.51680	68.119
#3	31.187	.54279	53.965	.50860	.51560	67.967
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.52006	.51616	.26218	1.0762	8.6617	1.0018
Stddev	.00078	.00247	.00284	.0031	.0453	.0019
%RSD	.14987	.47820	1.0841	.28634	.52277	.19060
#1	.52074	.51899	.26218	1.0783	8.6146	1.0032
#2	.52023	.51446	.25934	1.0726	8.7049	.99959
#3	.51921	.51503	.26502	1.0776	8.6657	1.0025
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96983-E-5-C MS Acquired: 10/22/2019 14:51:59 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	1.1529	.51475	1.0283	.52716	.25262
Stddev	.0053	.00062	.0036	.00249	.00047
%RSD	.45804	.12068	.34920	.47214	.18763
#1	1.1485	.51546	1.0297	.52442	.25288
#2	1.1588	.51450	1.0310	.52780	.25208
#3	1.1514	.51430	1.0243	.52927	.25292
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3414.7	5815.4	88145.	7060.6
Stddev	5.3	10.6	135.	37.5
%RSD	.15462	.18229	.15269	.53141
#1	3419.6	5826.6	88200.	7102.1
#2	3409.1	5805.5	88243.	7029.2
#3	3415.3	5814.0	87991.	7050.5

Sample Name: CCV 3418984 Acquired: 10/22/2019 14:56:46 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.0161	25.033	.50949	2.0471	1.9930	2.0185
Stddev	.0092	.404	.00325	.0051	.0118	.0127
%RSD	.90160	1.6135	.63769	.24734	.59378	.62677
#1	1.0265	24.702	.51056	2.0530	1.9853	2.0089
#2	1.0094	24.915	.51206	2.0445	1.9871	2.0138
#3	1.0122	25.483	.50584	2.0439	2.0067	2.0329
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	49.866	.50071	2.0479	1.9463	1.9330	25.354
Stddev	.144	.00049	.0010	.0082	.0050	.184
%RSD	.28948	.09753	.05100	.42361	.25807	.72397
#1	49.726	.50123	2.0474	1.9552	1.9347	25.256
#2	49.858	.50027	2.0473	1.9448	1.9274	25.240
#3	50.015	.50062	2.0491	1.9389	1.9370	25.566
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3418984 Acquired: 10/22/2019 14:56:46 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	125.23	2.0072	49.975	1.9636	1.9585	126.42
Stddev	.43	.0103	.499	.0134	.0021	.55
%RSD	.34282	.51047	.99837	.68178	.10771	.43140
#1	124.92	1.9965	49.566	1.9791	1.9609	125.90
#2	125.05	2.0079	49.828	1.9558	1.9569	126.37
#3	125.72	2.0170	50.531	1.9561	1.9578	126.98
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.0503	.50455	.49645	.51027	2.0343	1.9063
Stddev	.0019	.00159	.00267	.00285	.0252	.0020
%RSD	.09420	.31447	.53821	.55909	1.2370	.10462
#1	2.0520	.50498	.49943	.50917	2.0152	1.9072
#2	2.0482	.50279	.49568	.50812	2.0248	1.9041
#3	2.0508	.50588	.49425	.51351	2.0628	1.9077
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3418984 Acquired: 10/22/2019 14:56:46 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	1.9708	1.9697	.97116	2.0427	1.9665
Stddev	.0197	.0068	.00184	.0195	.0027
%RSD	1.0006	.34455	.18949	.95385	.13715
#1	1.9543	1.9775	.96933	2.0306	1.9681
#2	1.9656	1.9660	.97113	2.0323	1.9634
#3	1.9927	1.9655	.97301	2.0652	1.9679
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3331.4	5805.2	87281.	6897.2
Stddev	2.5	7.7	690.	34.4
%RSD	.07653	.13324	.79019	.49947
#1	3330.0	5796.3	86486.	6925.6
#2	3334.3	5809.1	87636.	6907.0
#3	3329.8	5810.3	87721.	6858.9

Sample Name: CCB7 Acquired: 10/22/2019 15:01:34 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00029	.00731	.00041	.00079	.00005	-.00005
Stddev	.00037	.02942	.00019	.00025	.00024	.00002
%RSD	127.49	402.55	46.784	32.118	470.51	42.776
#1	-.00071	.03954	.00021	.00083	.00031	-.00008
#2	-.00002	.00047	.00060	.00051	.00000	-.00003
#3	-.00014	-.01809	.00043	.00101	-.00016	-.00005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00407	.00003	.00013	.00007	.00060	-.00011
Stddev	.00130	.00012	.00015	.00003	.00010	.00380
%RSD	31.966	366.28	115.44	48.891	16.561	3505.2
#1	.00453	-.00010	.00007	.00003	.00070	-.00444
#2	.00507	.00008	.00001	.00009	.00050	.00151
#3	.00260	.00012	.00029	.00007	.00062	.00261
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB7 Acquired: 10/22/2019 15:01:34 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.06835	.00196	-.01714	.00003	.00029	.04351
Stddev	.01610	.00171	.02609	.00001	.00012	.01032
%RSD	23.561	87.143	152.24	48.007	40.221	23.715
#1	.08688	.00046	-.01361	.00003	.00041	.05388
#2	.05777	.00382	-.04482	.00002	.00029	.04339
#3	.06040	.00160	.00701	.00004	.00018	.03325
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00007	-.00031	.00007	-.00020	-.00307	-.00023
Stddev	.00024	.00083	.00145	.00166	.00881	.00025
%RSD	332.80	272.52	2198.3	842.58	287.19	105.17
#1	-.00035	.00003	.00003	-.00001	-.01323	-.00029
#2	.00003	-.00125	-.00137	.00136	.00223	-.00045
#3	.00010	.00031	.00153	-.00195	.00181	.00004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB7 Acquired: 10/22/2019 15:01:34 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	-.00097	.00020	.00123	.00264	.00009
Stddev	.00161	.00012	.00083	.00331	.00019
%RSD	166.17	60.571	67.601	125.25	213.22
#1	-.00007	.00013	.00217	-.00020	.00011
#2	-.00282	.00034	.00096	.00628	.00027
#3	-.00001	.00014	.00057	.00185	-.00011
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4055.4	6200.7	94602.	7026.6
Stddev	7.6	11.1	15.	55.9
%RSD	.18829	.17936	.01598	.79506
#1	4063.0	6213.1	94605.	7017.3
#2	4047.7	6191.8	94585.	7086.6
#3	4055.4	6197.1	94615.	6976.1

Sample Name: 180-96983-E-5-D MSD Acquired: 10/22/2019 15:06:46 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.25768	5.1657	1.0875	1.5251	1.0996	.52089
Stddev	.00093	.0269	.0022	.0024	.0075	.00309
%RSD	.36032	.52011	.19808	.15876	.68459	.59333
#1	.25661	5.1348	1.0899	1.5234	1.0919	.51844
#2	.25819	5.1786	1.0869	1.5241	1.1000	.51987
#3	.25824	5.1837	1.0858	1.5279	1.1069	.52436
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	146.87	.51598	.51565	.50157	.51330	5.1755
Stddev	.64	.00068	.00033	.00027	.00372	.0402
%RSD	.43675	.13245	.06483	.05403	.72442	.77669
#1	146.42	.51656	.51542	.50126	.51720	5.1463
#2	146.58	.51616	.51549	.50174	.50980	5.1587
#3	147.60	.51522	.51603	.50172	.51290	5.2213
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96983-E-5-D MSD Acquired: 10/22/2019 15:06:46 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**30.804**	**.53657**	**53.294**	**.50487**	**.51288**	**67.279**
Stddev	.096	.00243	.414	.00100	.00068	.296
%RSD	.31269	.45249	.77763	.19722	.13220	.44053
#1	30.743	.53402	52.967	.50401	.51244	67.116
#2	30.754	.53684	53.156	.50596	.51254	67.099
#3	30.915	.53886	53.760	.50464	.51366	67.621
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.51624**	**.51408**	**.26054**	**1.0576**	**8.5619**	**.99132**
Stddev	.00146	.00210	.00211	.0014	.0492	.00309
%RSD	.28273	.40930	.81095	.13643	.57471	.31176
#1	.51636	.51168	.26296	1.0570	8.5251	.99399
#2	.51472	.51497	.25906	1.0566	8.5428	.99203
#3	.51763	.51559	.25959	1.0593	8.6178	.98794
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96983-E-5-D MSD Acquired: 10/22/2019 15:06:46 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	1.1431	.51277	1.0167	.52484	.25488
Stddev	.0089	.00076	.0018	.00101	.00040
%RSD	.77872	.14883	.17191	.19317	.15504
#1	1.1329	.51366	1.0182	.52444	.25520
#2	1.1473	.51234	1.0172	.52409	.25444
#3	1.1491	.51232	1.0147	.52600	.25502
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3387.0	5777.4	87478.	6951.1
Stddev	3.4	4.3	183.	51.0
%RSD	.10076	.07512	.20895	.73304
#1	3388.8	5779.8	87561.	6995.5
#2	3389.2	5780.0	87268.	6962.4
#3	3383.1	5772.4	87603.	6895.5

Sample Name: 180-96983-E-5-B PDS Acquired: 10/22/2019 15:11:32 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.25768	5.2164	1.0800	1.5300	1.0709	.51325
Stddev	.00063	.0528	.0044	.0050	.0067	.00254
%RSD	.24625	1.0130	.41116	.32935	.62460	.49497
#1	.25719	5.2377	1.0810	1.5350	1.0756	.51554
#2	.25840	5.2553	1.0751	1.5301	1.0738	.51370
#3	.25745	5.1562	1.0839	1.5250	1.0632	.51052
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	142.78	.51225	.50752	.49113	.50164	5.2015
Stddev	.31	.00171	.00089	.00104	.00317	.0188
%RSD	.21608	.33388	.17558	.21155	.63177	.36123
#1	142.94	.51419	.50733	.49141	.49854	5.2205
#2	142.98	.51159	.50674	.48998	.50150	5.2010
#3	142.43	.51097	.50849	.49200	.50487	5.1829
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96983-E-5-B PDS Acquired: 10/22/2019 15:11:32 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**30.807**	**.52810**	**52.854**	**.49728**	**.50267**	**66.104**
Stddev	.108	.00246	.239	.00102	.00065	.140
%RSD	.34934	.46504	.45201	.20546	.12891	.21216
#1	30.905	.53076	53.052	.49818	.50297	66.223
#2	30.824	.52591	52.922	.49749	.50311	66.140
#3	30.692	.52762	52.589	.49617	.50193	65.950
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.50802**	**.50693**	**.25873**	**1.0569**	**8.3432**	**.97722**
Stddev	.00029	.00235	.00247	.0062	.0727	.00173
%RSD	.05719	.46437	.95500	.58378	.87132	.17706
#1	.50835	.50828	.25927	1.0624	8.4177	.97909
#2	.50787	.50830	.26088	1.0580	8.3395	.97568
#3	.50783	.50421	.25603	1.0502	8.2725	.97687
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96983-E-5-B PDS Acquired: 10/22/2019 15:11:32 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	1.1135	.50187	1.0076	.51784	.25334
Stddev	.0130	.00059	.0013	.00850	.00066
%RSD	1.1667	.11695	.13028	1.6406	.26202
#1	1.0989	.50144	1.0079	.51388	.25399
#2	1.1236	.50164	1.0061	.52759	.25266
#3	1.1181	.50254	1.0087	.51204	.25338
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3421.5	5827.4	88132.	7032.0
Stddev	6.2	8.7	157.	33.1
%RSD	.18138	.14885	.17781	.47016
#1	3427.5	5821.3	88310.	7013.8
#2	3415.1	5823.7	88016.	7011.9
#3	3421.9	5837.4	88070.	7070.1

Sample Name: MB 180-294881/1-A Acquired: 10/22/2019 15:16:17 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00022	.03546	-.00086	.00135	.00024	-.00010
Stddev	.00037	.02552	.00085	.00013	.00018	.00006
%RSD	166.33	71.974	98.000	9.4920	73.852	55.184
#1	.00019	.05715	.00001	.00125	.00005	-.00005
#2	-.00013	.04188	-.00168	.00149	.00040	-.00009
#3	.00060	.00734	-.00092	.00130	.00028	-.00016
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00364	.00008	.00019	-.00012	.00040	.00290
Stddev	.00214	.00008	.00019	.00018	.00048	.00336
%RSD	58.822	100.24	96.819	152.49	118.42	116.04
#1	.00314	.00018	.00001	-.00024	.00095	.00475
#2	.00600	.00004	.00018	-.00021	.00019	-.00098
#3	.00180	.00003	.00039	.00009	.00007	.00493
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: MB 180-294881/1-A Acquired: 10/22/2019 15:16:17 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00190	.00097	-.01654	.00015	.00016	.03114
Stddev	.02316	.00159	.01144	.00001	.00019	.00433
%RSD	1216.5	163.98	69.152	6.7325	119.21	13.918
#1	.01935	-.00073	-.00830	.00015	.00006	.02615
#2	-.02659	.00121	-.02960	.00014	.00038	.03331
#3	.00153	.00243	-.01172	.00016	.00004	.03396
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00015	.00013	-.00010	.00425	.00929	-.00042
Stddev	.00035	.00044	.00181	.00159	.00634	.00068
%RSD	232.23	327.74	1881.9	37.380	68.261	161.78
#1	-.00007	.00064	.00145	.00563	.01605	.00029
#2	.00056	-.00018	.00034	.00251	.00349	-.00107
#3	-.00003	-.00006	-.00208	.00460	.00831	-.00048
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: MB 180-294881/1-A Acquired: 10/22/2019 15:16:17 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	-.00179	.00017	.00132	.00436	.00317
Stddev	.00388	.00004	.00154	.00369	.00013
%RSD	217.12	24.063	116.03	84.820	4.1613
#1	-.00104	.00021	.00235	.00241	.00321
#2	-.00599	.00013	-.00044	.00204	.00303
#3	.00167	.00017	.00206	.00862	.00328
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4079.6	6252.7	95683.	7239.6
Stddev	7.7	15.5	74.	13.8
%RSD	.18929	.24746	.07760	.19083
#1	4088.5	6269.6	95608.	7254.5
#2	4075.8	6249.1	95683.	7227.2
#3	4074.5	6239.3	95757.	7237.0

Sample Name: LCS 180-294881/2-A Acquired: 10/22/2019 15:21:27 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.24319	5.0334	1.0263	1.2752	1.0068	.50629
Stddev	.00082	.0392	.0029	.0018	.0040	.00100
%RSD	.33531	.77864	.28598	.13929	.40024	.19840
#1	.24412	4.9922	1.0283	1.2737	1.0040	.50560
#2	.24260	5.0378	1.0277	1.2772	1.0049	.50583
#3	.24285	5.0703	1.0229	1.2746	1.0114	.50744
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.883	.49274	.49234	.48816	.48536	5.0700
Stddev	.029	.00043	.00121	.00201	.00023	.0224
%RSD	.11755	.08768	.24651	.41195	.04644	.44199
#1	24.902	.49323	.49373	.48584	.48511	5.0446
#2	24.898	.49242	.49183	.48923	.48553	5.0788
#3	24.850	.49258	.49147	.48941	.48546	5.0867
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: LCS 180-294881/2-A Acquired: 10/22/2019 15:21:27 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**25.226**	**.50251**	**24.870**	**.49163**	**.49530**	**25.696**
Stddev	.060	.00138	.173	.00127	.00041	.010
%RSD	.23667	.27506	.69402	.25781	.08232	.03785
#1	25.177	.50329	24.682	.49308	.49570	25.707
#2	25.208	.50091	24.905	.49104	.49489	25.694
#3	25.292	.50332	25.022	.49076	.49532	25.688
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.49425**	**.49442**	**.24814**	**1.0104**	**1.0011**	**.97302**
Stddev	.00026	.00281	.00305	.0020	.0191	.00171
%RSD	.05299	.56756	1.2280	.19843	1.9106	.17586
#1	.49446	.49348	.24473	1.0111	1.0228	.97459
#2	.49433	.49758	.24907	1.0081	.99391	.97120
#3	.49396	.49221	.25061	1.0119	.98667	.97328
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: LCS 180-294881/2-A Acquired: 10/22/2019 15:21:27 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.49812	.49428	.99826	.51012	.25197
Stddev	.00237	.00123	.00249	.00177	.00044
%RSD	.47659	.24851	.24951	.34700	.17332
#1	.50040	.49528	.99981	.51108	.25247
#2	.49566	.49291	.99957	.50807	.25164
#3	.49830	.49464	.99538	.51120	.25180
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3664.8	6049.1	91262.	7083.4
Stddev	2.9	2.5	136.	19.9
%RSD	.07803	.04193	.14903	.28137
#1	3662.5	6046.9	91173.	7106.4
#2	3668.0	6051.9	91194.	7072.4
#3	3663.8	6048.4	91418.	7071.3

Sample Name: LB 180-294795/1-B Acquired: 10/22/2019 15:26:11 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00003	.00009	.00032	.00063	.00024	.00000
Stddev	.00043	.00554	.00087	.00014	.00013	.00007
%RSD	1307.2	6379.8	271.20	22.066	57.405	5221.9
#1	-.00012	.00162	.00124	.00079	.00018	-.00007
#2	-.00030	-.00606	.00021	.00058	.00039	.00000
#3	.00052	.00469	-.00049	.00053	.00014	.00007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00473	.00010	.00005	-.00003	.00067	.00536
Stddev	.00156	.00011	.00018	.00016	.00024	.00470
%RSD	32.953	112.21	327.54	576.17	36.508	87.772
#1	.00516	-.00000	-.00005	-.00018	.00042	.00096
#2	.00300	.00021	-.00004	-.00005	.00091	.00480
#3	.00602	.00008	.00026	.00014	.00068	.01032
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: LB 180-294795/1-B Acquired: 10/22/2019 15:26:11 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00545	.00179	-.03249	.00051	.00014	.01989
Stddev	.00480	.00087	.02427	.00002	.00018	.00367
%RSD	88.075	48.456	74.709	4.0945	135.09	18.432
#1	-.00006	.00277	-.03456	.00052	.00020	.01936
#2	-.00703	.00114	-.00725	.00052	.00028	.02379
#3	-.00927	.00146	-.05566	.00049	-.00007	.01652
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00005	-.00013	-.00045	.00188	.00827	.00005
Stddev	.00049	.00093	.00062	.00251	.01296	.00028
%RSD	923.55	741.24	137.51	134.03	156.68	567.51
#1	-.00050	-.00106	-.00096	.00152	-.00366	.00027
#2	.00042	.00080	.00024	-.00044	.02207	-.00027
#3	.00023	-.00011	-.00063	.00455	.00641	.00015
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: LB 180-294795/1-B Acquired: 10/22/2019 15:26:11 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	-.00240	.00013	.00077	.00271	.00362
Stddev	.00394	.00019	.00056	.00183	.00013
%RSD	164.29	148.12	72.668	67.544	3.6631
#1	-.00643	.00034	.00136	.00092	.00352
#2	.00145	.00003	.00071	.00459	.00356
#3	-.00222	.00000	.00024	.00263	.00377
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4072.7	6240.0	95774.	7146.5
Stddev	5.5	2.5	109.	57.5
%RSD	.13596	.04024	.11375	.80423
#1	4074.9	6241.5	95894.	7089.2
#2	4066.4	6237.1	95743.	7204.1
#3	4076.8	6241.4	95683.	7146.2

Sample Name: 180-96737-A-8-B Acquired: 10/22/2019 15:31:22 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00012	.07204	.00325	1.6796	.01089	-.00005
Stddev	.00038	.00105	.00179	.0010	.00029	.00008
%RSD	310.67	1.4553	55.152	.06048	2.6359	163.68
#1	.00024	.07130	.00229	1.6807	.01086	-.00000
#2	.00043	.07159	.00215	1.6794	.01119	-.00000
#3	-.00030	.07324	.00532	1.6787	.01062	-.00014
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.0289	.00009	-.00038	.00368	.09955	.08125
Stddev	.0193	.00005	.00005	.00025	.00040	.00164
%RSD	.21380	51.533	14.356	6.8206	.40257	2.0187
#1	9.0414	.00011	-.00037	.00360	.09909	.07947
#2	9.0386	.00013	-.00034	.00348	.09978	.08157
#3	9.0067	.00004	-.00044	.00396	.09978	.08271
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96737-A-8-B Acquired: 10/22/2019 15:31:22 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	28.939	.00365	10.692	.00117	.00448	32.215
Stddev	.171	.00168	.119	.00002	.00011	.075
%RSD	.59047	45.967	1.1090	1.9194	2.4093	.23343
#1	28.990	.00190	10.725	.00117	.00458	32.232
#2	29.078	.00381	10.791	.00114	.00437	32.279
#3	28.748	.00525	10.561	.00118	.00448	32.132
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00056	.05260	.00190	.00280	18.520	-.00044
Stddev	.00034	.00165	.00190	.00156	.102	.00025
%RSD	61.288	3.1293	100.03	55.783	.55329	57.446
#1	-.00024	.05314	.00286	.00417	18.548	-.00023
#2	-.00092	.05075	.00313	.00313	18.606	-.00071
#3	-.00052	.05390	-.00029	.00110	18.407	-.00036
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96737-A-8-B Acquired: 10/22/2019 15:31:22 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.01286	.00252	.00031	.00135	.01229
Stddev	.00426	.00002	.00016	.00471	.00019
%RSD	33.121	.87659	50.035	348.79	1.5486
#1	.00818	.00250	.00047	.00467	.01209
#2	.01389	.00252	.00016	-.00404	.01247
#3	.01651	.00254	.00031	.00342	.01231
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3725.9	6061.3	91514.	7099.9
Stddev	5.6	13.3	214.	34.5
%RSD	.15109	.21924	.23420	.48590
#1	3732.0	6076.7	91723.	7117.7
#2	3724.7	6054.6	91524.	7060.2
#3	3721.0	6052.8	91295.	7121.9

Sample Name: 180-96737-A-17-B Acquired: 10/22/2019 15:36:28 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00003	.04583	.00139	1.5925	.00551	-.00006
Stddev	.00034	.01633	.00122	.0016	.00015	.00004
%RSD	1162.0	35.628	87.609	.10130	2.6683	62.157
#1	.00021	.05833	.00234	1.5906	.00542	-.00003
#2	-.00042	.05181	.00002	1.5934	.00543	-.00006
#3	.00012	.02736	.00180	1.5935	.00568	-.00011
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.7069	.00010	-.00013	.00359	.04867	.03986
Stddev	.0152	.00006	.00022	.00005	.00028	.00154
%RSD	.19669	62.519	162.69	1.4469	.57002	3.8556
#1	7.7194	.00006	-.00009	.00362	.04858	.04135
#2	7.7113	.00007	.00006	.00353	.04846	.03828
#3	7.6900	.00016	-.00037	.00361	.04899	.03996
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96737-A-17-B Acquired: 10/22/2019 15:36:28 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.3888**	**.00343**	**10.073**	**.00067**	**.00438**	**32.707**
Stddev	.0065	.00118	.078	.00001	.00023	.053
%RSD	.46766	34.544	.77572	1.2130	5.1904	.16235
#1	1.3902	.00353	10.120	.00067	.00423	32.645
#2	1.3945	.00456	10.115	.00068	.00428	32.739
#3	1.3818	.00220	9.9823	.00067	.00464	32.736
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00099**	**.02481**	**.00180**	**.00373**	**17.296**	**-.00022**
Stddev	.00039	.00090	.00103	.00101	.021	.00021
%RSD	39.401	3.6318	57.266	26.992	.12277	98.110
#1	-.00066	.02533	.00093	.00466	17.319	-.00009
#2	-.00142	.02377	.00154	.00266	17.293	-.00010
#3	-.00089	.02533	.00294	.00386	17.277	-.00046
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96737-A-17-B Acquired: 10/22/2019 15:36:28 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.01304	.00120	.00038	.00244	.00751
Stddev	.00484	.00014	.00087	.00387	.00005
%RSD	37.115	11.689	229.22	158.31	.65220
#1	.00774	.00137	-.00058	-.00160	.00753
#2	.01722	.00112	.00112	.00610	.00745
#3	.01417	.00113	.00060	.00282	.00755
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3797.4	6124.8	92528.	7139.9
Stddev	3.0	14.2	199.	65.2
%RSD	.07790	.23224	.21488	.91272
#1	3800.8	6140.9	92659.	7176.4
#2	3795.9	6113.8	92626.	7064.7
#3	3795.4	6119.8	92299.	7178.7

Sample Name: 180-96737-A-26-B Acquired: 10/22/2019 15:41:34 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00009	.08834	.00254	1.5437	.01038	-.00005
Stddev	.00050	.02541	.00082	.0064	.00021	.00005
%RSD	533.71	28.766	32.199	.41473	2.0449	98.628
#1	-.00001	.09824	.00270	1.5508	.01041	-.00000
#2	.00036	.10731	.00326	1.5420	.01015	-.00005
#3	-.00063	.05947	.00165	1.5383	.01057	-.00009
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.1945	.00012	-.00051	.00412	.15372	.10679
Stddev	.0186	.00017	.00017	.00010	.00124	.00257
%RSD	.20224	139.18	33.269	2.3747	.80780	2.4090
#1	9.2054	-.00005	-.00031	.00421	.15465	.10825
#2	9.1731	.00029	-.00059	.00401	.15421	.10830
#3	9.2051	.00013	-.00062	.00414	.15231	.10382
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96737-A-26-B Acquired: 10/22/2019 15:41:34 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.0239	.00284	10.273	.00143	.00387	32.775
Stddev	.0187	.00070	.047	.00004	.00017	.107
%RSD	1.8244	24.804	.46226	2.6557	4.2784	.32516
#1	1.0056	.00220	10.327	.00139	.00405	32.897
#2	1.0429	.00359	10.238	.00145	.00384	32.702
#3	1.0231	.00273	10.254	.00145	.00372	32.725
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00144	.07596	-.00098	.00220	23.166	-.00030
Stddev	.00038	.00067	.00192	.00206	.058	.00059
%RSD	26.704	.87577	196.37	93.775	.24970	198.13
#1	-.00185	.07658	-.00189	.00360	23.153	.00004
#2	-.00110	.07604	-.00228	.00316	23.116	.00005
#3	-.00136	.07526	.00123	-.00017	23.229	-.00099
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96737-A-26-B Acquired: 10/22/2019 15:41:34 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.02164	.00319	.00141	.00340	.01861
Stddev	.00420	.00004	.00123	.00250	.00015
%RSD	19.390	1.2723	87.626	73.739	.82470
#1	.02485	.00316	.00082	.00616	.01859
#2	.02318	.00323	.00283	.00274	.01877
#3	.01689	.00316	.00058	.00129	.01847
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3781.2	6103.7	92520.	7166.0
Stddev	7.8	5.9	172.	42.5
%RSD	.20569	.09646	.18574	.59351
#1	3777.3	6097.4	92392.	7183.1
#2	3790.1	6109.1	92451.	7197.3
#3	3776.1	6104.5	92715.	7117.6

Sample Name: 180-96737-A-26-BSD@5 Acquired: 10/22/2019 15:46:41 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00017	.02280	.00129	.30272	.00251	-.00003
Stddev	.00016	.01446	.00164	.00107	.00014	.00006
%RSD	93.472	63.436	127.25	.35453	5.7267	190.16
#1	-.00030	.01501	.00039	.30156	.00236	-.00003
#2	.00001	.01390	.00029	.30293	.00264	-.00009
#3	-.00021	.03949	.00317	.30367	.00254	.00003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.8258	.00003	-.00005	.00052	.03056	.01852
Stddev	.0071	.00012	.00008	.00023	.00032	.00228
%RSD	.38949	463.20	179.42	44.639	1.0448	12.331
#1	1.8221	.00009	-.00013	.00027	.03027	.02033
#2	1.8213	.00011	.00004	.00056	.03090	.01928
#3	1.8340	-.00012	-.00005	.00074	.03050	.01595
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96737-A-26-BSD@5 Acquired: 10/22/2019 15:46:41 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.16277	.00172	2.0108	.00027	.00070	6.5126
Stddev	.01999	.00131	.0155	.00002	.00018	.0126
%RSD	12.280	76.478	.77070	8.7126	26.375	.19389
#1	.18496	.00283	1.9969	.00025	.00090	6.5246
#2	.14619	.00206	2.0079	.00030	.00053	6.5139
#3	.15715	.00027	2.0275	.00028	.00068	6.4994
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00032	.01509	-.00071	.00067	4.5308	-.00078
Stddev	.00015	.00054	.00085	.00080	.0254	.00009
%RSD	47.124	3.6012	119.10	118.80	.56114	11.437
#1	-.00050	.01557	-.00050	.00145	4.5239	-.00087
#2	-.00028	.01522	.00001	.00072	4.5095	-.00069
#3	-.00020	.01450	-.00165	-.00015	4.5590	-.00076
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96737-A-26-BSD@5 Acquired: 10/22/2019 15:46:41 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00139	.00059	.00171	.00151	.00392
Stddev	.00239	.00003	.00065	.00237	.00008
%RSD	171.75	5.0379	38.239	156.78	1.9571
#1	-.00029	.00056	.00217	.00184	.00389
#2	.00034	.00062	.00096	.00370	.00387
#3	.00412	.00059	.00199	-.00101	.00401
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3964.6	6188.3	93616.	7153.3
Stddev	4.3	12.1	236.	13.3
%RSD	.10768	.19563	.25187	.18596
#1	3965.5	6200.7	93844.	7164.3
#2	3959.9	6176.5	93373.	7157.1
#3	3968.3	6187.8	93630.	7138.5

Sample Name: 180-96737-A-26-C MS Acquired: 10/22/2019 15:51:49 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.24698	5.0913	1.0397	2.8716	1.0158	.50852
Stddev	.00129	.1099	.0027	.0049	.0052	.00266
%RSD	.52398	2.1591	.26302	.16938	.51393	.52243
#1	.24813	5.0636	1.0382	2.8707	1.0205	.50888
#2	.24558	5.2125	1.0380	2.8769	1.0167	.51097
#3	.24722	4.9980	1.0428	2.8673	1.0102	.50570
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	34.057	.49828	.49785	.48913	.63683	5.1776
Stddev	.040	.00030	.00045	.00192	.00167	.0233
%RSD	.11871	.05920	.09086	.39254	.26162	.45029
#1	34.026	.49803	.49749	.49043	.63495	5.1818
#2	34.103	.49861	.49836	.49003	.63813	5.1985
#3	34.043	.49819	.49770	.48692	.63741	5.1524
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96737-A-26-C MS Acquired: 10/22/2019 15:51:49 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**26.362**	**.50252**	**35.395**	**.49110**	**.49432**	**58.874**
Stddev	.067	.00205	.151	.00191	.00009	.315
%RSD	.25414	.40745	.42570	.38938	.01813	.53577
#1	26.300	.50293	35.240	.49328	.49424	58.944
#2	26.433	.50433	35.540	.48968	.49442	59.149
#3	26.353	.50029	35.404	.49034	.49430	58.530
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.49760**	**.57443**	**.25095**	**1.0240**	**24.844**	**.96645**
Stddev	.00221	.00265	.00222	.0036	.141	.00192
%RSD	.44510	.46123	.88543	.34731	.56785	.19839
#1	.49587	.57276	.24868	1.0200	24.799	.96428
#2	.50010	.57306	.25312	1.0254	25.003	.96789
#3	.49684	.57749	.25106	1.0268	24.732	.96720
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96737-A-26-C MS Acquired: 10/22/2019 15:51:49 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.50811	.49723	.99984	.50685	.26913
Stddev	.00443	.00019	.00355	.00500	.00018
%RSD	.87132	.03903	.35489	.98642	.06548
#1	.51168	.49744	.99599	.50116	.26913
#2	.50949	.49707	1.0030	.51056	.26895
#3	.50316	.49717	1.0006	.50882	.26931
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3578.6	6024.0	90970.	7106.5
Stddev	8.1	5.5	272.	19.4
%RSD	.22533	.09156	.29845	.27285
#1	3586.8	6028.9	90657.	7114.0
#2	3578.1	6025.2	91140.	7084.5
#3	3570.7	6018.1	91113.	7121.1

Sample Name: CCV 3418984 Acquired: 10/22/2019 15:56:35 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.0192	25.191	.51299	2.0636	2.0299	2.0200
Stddev	.0037	.166	.00175	.0044	.0093	.0042
%RSD	.35830	.65742	.34183	.21452	.45642	.20628
#1	1.0234	25.003	.51097	2.0619	2.0246	2.0157
#2	1.0164	25.315	.51378	2.0687	2.0406	2.0203
#3	1.0180	25.254	.51420	2.0604	2.0246	2.0240
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	49.565	.50103	2.0483	1.9383	1.9185	25.326
Stddev	.178	.00049	.0026	.0051	.0020	.089
%RSD	.35949	.09743	.12660	.26308	.10198	.35214
#1	49.651	.50084	2.0507	1.9375	1.9181	25.223
#2	49.361	.50158	2.0486	1.9437	1.9168	25.372
#3	49.685	.50067	2.0456	1.9336	1.9207	25.382
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3418984 Acquired: 10/22/2019 15:56:35 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**125.60**	**2.0176**	**49.848**	**1.9644**	**1.9656**	**126.45**
Stddev	.13	.0059	.292	.0028	.0035	.26
%RSD	.10492	.29309	.58558	.14113	.17790	.20196
#1	125.49	2.0110	49.513	1.9676	1.9624	126.15
#2	125.75	2.0223	49.982	1.9629	1.9693	126.61
#3	125.56	2.0196	50.049	1.9627	1.9651	126.58
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.0536**	**.50584**	**.50112**	**.51281**	**2.0319**	**1.9094**
Stddev	.0045	.00265	.00189	.00260	.0359	.0012
%RSD	.21688	.52466	.37792	.50712	1.7682	.06474
#1	2.0532	.50519	.49904	.51427	1.9964	1.9095
#2	2.0583	.50875	.50275	.51435	2.0310	1.9106
#3	2.0494	.50356	.50156	.50980	2.0682	1.9081
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3418984 Acquired: 10/22/2019 15:56:35 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	1.9831	1.9681	.97619	2.0578	1.9594
Stddev	.0117	.0018	.00295	.0162	.0053
%RSD	.58890	.09274	.30212	.78706	.26794
#1	1.9719	1.9701	.97479	2.0401	1.9590
#2	1.9952	1.9667	.97958	2.0719	1.9649
#3	1.9822	1.9674	.97421	2.0613	1.9544
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3332.1	5805.1	87231.	6906.3
Stddev	9.1	13.0	147.	21.5
%RSD	.27300	.22343	.16868	.31130
#1	3326.4	5802.8	87094.	6919.2
#2	3327.2	5793.5	87213.	6918.2
#3	3342.6	5819.1	87387.	6881.5

Sample Name: CCB8 Acquired: 10/22/2019 16:01:23 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00031	.00378	.00014	.00204	-.00006	-.00007
Stddev	.00018	.01483	.00077	.00057	.00001	.00008
%RSD	57.233	392.04	551.56	27.876	22.351	110.62
#1	.00037	.02083	.00059	.00266	-.00007	.00001
#2	.00011	-.00335	.00058	.00156	-.00004	-.00015
#3	.00044	-.00613	-.00075	.00189	-.00006	-.00007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00024	.00016	.00018	-.00017	-.00008	-.00308
Stddev	.00210	.00006	.00014	.00019	.00018	.00122
%RSD	859.42	37.637	81.289	117.05	218.17	39.451
#1	-.00160	.00012	.00031	-.00030	-.00030	-.00393
#2	.00253	.00013	.00020	.00006	.00001	-.00363
#3	-.00019	.00023	.00002	-.00025	.00003	-.00169
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB8 Acquired: 10/22/2019 16:01:23 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.06755	.00099	.00696	.00001	.00021	.04231
Stddev	.02108	.00054	.01357	.00005	.00008	.00661
%RSD	31.208	54.661	194.97	410.52	37.236	15.625
#1	.04527	.00116	.00087	.00007	.00012	.04633
#2	.07022	.00144	-.00250	-.00002	.00025	.04591
#3	.08718	.00039	.02250	-.00001	.00026	.03468
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00010	.00034	-.00063	.00176	-.00043	.00017
Stddev	.00041	.00120	.00175	.00127	.00276	.00026
%RSD	426.56	356.40	277.79	72.313	642.00	158.25
#1	-.00057	.00042	.00131	.00153	-.00362	.00030
#2	.00017	-.00090	-.00113	.00062	.00133	.00034
#3	.00012	.00149	-.00207	.00314	.00099	-.00014
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB8 Acquired: 10/22/2019 16:01:23 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	-.00325	.00029	.00040	.00303	.00012
Stddev	.00468	.00011	.00090	.00358	.00007
%RSD	144.21	38.910	224.77	118.29	58.160
#1	-.00485	.00030	.00141	-.00080	.00017
#2	.00203	.00040	.00008	.00628	.00015
#3	-.00691	.00017	-.00030	.00360	.00004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4056.6	6198.8	94759.	7063.1
Stddev	4.2	1.5	187.	8.8
%RSD	.10379	.02477	.19752	.12444
#1	4052.1	6197.7	94544.	7063.9
#2	4060.4	6200.6	94857.	7053.9
#3	4057.3	6198.2	94878.	7071.4

Sample Name: 180-96737-A-26-D MSD Acquired: 10/22/2019 16:06:35 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.24818	5.1609	1.0410	2.8637	1.0302	.51310
Stddev	.00064	.0020	.0007	.0041	.0027	.00126
%RSD	.25863	.03872	.06933	.14278	.26628	.24476
#1	.24752	5.1599	1.0418	2.8684	1.0317	.51430
#2	.24880	5.1596	1.0404	2.8622	1.0270	.51179
#3	.24822	5.1632	1.0407	2.8607	1.0318	.51321
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	34.171	.49697	.49951	.49505	.64884	5.2075
Stddev	.041	.00048	.00120	.00260	.00347	.0095
%RSD	.11957	.09652	.24108	.52550	.53457	.18259
#1	34.218	.49705	.49812	.49205	.64484	5.1967
#2	34.151	.49741	.50020	.49659	.65057	5.2146
#3	34.145	.49646	.50020	.49651	.65109	5.2112
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96737-A-26-D MSD Acquired: 10/22/2019 16:06:35 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	26.606	.50936	35.465	.49611	.49915	59.486
Stddev	.060	.00128	.137	.00172	.00022	.094
%RSD	.22626	.25141	.38562	.34618	.04394	.15719
#1	26.672	.50870	35.396	.49439	.49910	59.589
#2	26.555	.50855	35.623	.49783	.49939	59.408
#3	26.589	.51084	35.377	.49610	.49895	59.460
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.49816	.57470	.25217	1.0201	F 25.101	.97200
Stddev	.00114	.00046	.00120	.0043	.104	.00065
%RSD	.22958	.07928	.47417	.42129	.41546	.06669
#1	.49684	.57512	.25081	1.0212	25.103	.97152
#2	.49876	.57478	.25306	1.0238	25.204	.97274
#3	.49887	.57421	.25263	1.0154	24.995	.97174
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit					25.000	
Low Limit					-.50000	

Sample Name: 180-96737-A-26-D MSD Acquired: 10/22/2019 16:06:35 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.50916	.50368	.99811	.51059	.26833
Stddev	.00222	.00163	.00216	.00182	.00015
%RSD	.43579	.32322	.21603	.35736	.05656
#1	.50961	.50203	.99925	.50849	.26819
#2	.50675	.50528	.99945	.51182	.26832
#3	.51112	.50372	.99562	.51144	.26849
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3575.3	6012.1	90671.	7134.9
Stddev	3.8	1.7	254.	5.7
%RSD	.10705	.02838	.28008	.07986
#1	3579.4	6013.4	90965.	7140.9
#2	3571.9	6012.6	90522.	7134.4
#3	3574.5	6010.1	90527.	7129.5

Sample Name: 180-96737-A-26-B PDS Acquired: 10/22/2019 16:11:20 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.25322	5.2348	1.0619	2.8327	1.0374	.51822
Stddev	.00028	.0140	.0012	.0043	.0067	.00297
%RSD	.10989	.26702	.11385	.15044	.64339	.57307
#1	.25352	5.2491	1.0623	2.8284	1.0449	.52090
#2	.25317	5.2342	1.0629	2.8370	1.0349	.51873
#3	.25297	5.2212	1.0605	2.8327	1.0323	.51503
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	34.516	.50802	.50862	.50430	.65338	5.3023
Stddev	.061	.00023	.00053	.00191	.00295	.0165
%RSD	.17667	.04472	.10426	.37824	.45102	.31164
#1	34.584	.50805	.50824	.50213	.65035	5.3211
#2	34.498	.50778	.50839	.50508	.65355	5.2956
#3	34.466	.50823	.50922	.50570	.65624	5.2901
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96737-A-26-B PDS Acquired: 10/22/2019 16:11:20 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**27.123**	**.51761**	**35.608**	**.50282**	**.50815**	**58.918**
Stddev	.101	.00054	.236	.00177	.00034	.203
%RSD	.37138	.10503	.66354	.35278	.06746	.34445
#1	27.239	.51813	35.754	.50183	.50824	59.058
#2	27.060	.51704	35.736	.50487	.50777	59.011
#3	27.071	.51764	35.336	.50177	.50843	58.685
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.50740**	**.58182**	**.25498**	**1.0355**	**24.106**	**.99011**
Stddev	.00104	.00325	.00176	.0035	.150	.00078
%RSD	.20541	.55910	.68985	.33659	.62216	.07895
#1	.50644	.57925	.25467	1.0323	24.146	.99101
#2	.50725	.58074	.25340	1.0350	24.233	.98957
#3	.50851	.58548	.25687	1.0392	23.941	.98976
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96737-A-26-B PDS Acquired: 10/22/2019 16:11:20 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.51976	.51126	1.0146	.51282	.27125
Stddev	.00445	.00003	.0016	.00686	.00024
%RSD	.85575	.00592	.15547	1.3386	.08725
#1	.52158	.51126	1.0128	.51185	.27098
#2	.52301	.51124	1.0150	.52011	.27132
#3	.51469	.51130	1.0159	.50648	.27143
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3579.8	6014.6	90738.	7133.1
Stddev	3.0	1.0	478.	46.9
%RSD	.08250	.01581	.52705	.65691
#1	3582.9	6014.0	90709.	7097.7
#2	3577.1	6014.1	90275.	7115.3
#3	3579.2	6015.7	91230.	7186.2

Sample Name: LB 180-294734/1-B Acquired: 10/22/2019 16:16:05 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00004	.01457	.00016	.00272	.00034	-.00004
Stddev	.00040	.03681	.00063	.00037	.00010	.00003
%RSD	937.41	252.66	391.90	13.488	28.574	89.385
#1	-.00038	.05534	.00087	.00294	.00023	-.00002
#2	.00040	-.01623	-.00008	.00230	.00040	-.00002
#3	-.00015	.00460	-.00031	.00293	.00039	-.00008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00663	.00009	.00016	-.00029	.00026	.00366
Stddev	.00320	.00001	.00002	.00012	.00057	.00123
%RSD	48.225	11.940	9.4722	41.841	215.85	33.711
#1	.00922	.00010	.00016	-.00040	.00065	.00494
#2	.00763	.00010	.00015	-.00030	-.00039	.00249
#3	.00306	.00008	.00018	-.00016	.00053	.00353
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: LB 180-294734/1-B Acquired: 10/22/2019 16:16:05 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.03470	.00059	-.02604	.00020	.00012	.03302
Stddev	.00555	.00117	.02264	.00001	.00009	.00704
%RSD	15.990	197.59	86.927	6.1192	76.909	21.304
#1	.04060	-.00042	-.04074	.00019	.00022	.03091
#2	.02959	.00032	-.03741	.00020	.00007	.02729
#3	.03393	.00188	.00003	.00021	.00006	.04088
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00013	-.00015	-.00051	.00064	.01055	-.00035
Stddev	.00017	.00069	.00067	.00214	.00294	.00027
%RSD	123.47	448.27	132.54	336.76	27.855	76.679
#1	-.00014	-.00016	.00016	.00254	.01315	-.00063
#2	-.00030	.00054	-.00051	.00105	.01113	-.00009
#3	.00004	-.00084	-.00118	-.00168	.00736	-.00033
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: LB 180-294734/1-B Acquired: 10/22/2019 16:16:05 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00216	.00017	.00079	.00177	.00366
Stddev	.00278	.00011	.00106	.00560	.00004
%RSD	128.56	63.279	134.49	316.55	1.1926
#1	.00004	.00005	.00191	.00432	.00361
#2	.00114	.00021	.00066	-.00465	.00369
#3	.00531	.00025	-.00020	.00564	.00367
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4090.8	6255.4	96055.	7221.6
Stddev	6.9	7.8	318.	16.8
%RSD	.16745	.12436	.33137	.23234
#1	4083.8	6259.7	95687.	7221.6
#2	4097.5	6260.0	96244.	7204.9
#3	4091.1	6246.4	96233.	7238.4

Sample Name: 180-95425-A-78-B Acquired: 10/22/2019 16:21:16 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00030	1.4131	.00500	2.9333	.02513	.00033
Stddev	.00026	.0238	.00110	.0041	.00032	.00006
%RSD	88.326	1.6857	21.916	.13941	1.2554	17.183
#1	.00016	1.3957	.00627	2.9327	.02535	.00037
#2	.00060	1.4402	.00431	2.9376	.02477	.00027
#3	.00013	1.4033	.00444	2.9295	.02528	.00036
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.141	.00155	-.00011	.04769	.03568	1.3352
Stddev	.053	.00009	.00020	.00064	.00038	.0066
%RSD	.43548	5.8040	186.72	1.3381	1.0716	.49247
#1	12.145	.00145	.00000	.04823	.03610	1.3414
#2	12.086	.00160	.00002	.04699	.03535	1.3283
#3	12.192	.00161	-.00034	.04786	.03558	1.3360
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-95425-A-78-B Acquired: 10/22/2019 16:21:16 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.1265	.00226	2.8498	.01663	.00060	39.523
Stddev	.0037	.00090	.0605	.00007	.00021	.093
%RSD	.17522	39.906	2.1231	.42499	34.521	.23617
#1	2.1285	.00126	2.8702	.01670	.00081	39.479
#2	2.1289	.00252	2.7818	.01664	.00040	39.459
#3	2.1222	.00300	2.8975	.01656	.00060	39.630
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00407	.19529	.00812	.00084	F 35.553	.00063
Stddev	.00036	.00097	.00072	.00099	.141	.00031
%RSD	8.7684	.49743	8.8188	117.48	.39673	49.084
#1	.00448	.19629	.00730	.00099	35.574	.00079
#2	.00381	.19523	.00863	-.00021	35.402	.00083
#3	.00392	.19435	.00842	.00174	35.682	.00027
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit					25.000	
Low Limit					-.50000	

Sample Name: 180-95425-A-78-B Acquired: 10/22/2019 16:21:16 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.03888	.05703	.00014	.10958	.06106
Stddev	.00517	.00020	.00138	.00220	.00015
%RSD	13.293	.34640	999.01	2.0054	.23843
#1	.04470	.05696	.00014	.11122	.06094
#2	.03715	.05688	.00152	.10709	.06122
#3	.03480	.05726	-.00124	.11044	.06101
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3768.0	6165.9	93861.	7260.4
Stddev	5.6	6.7	120.	68.1
%RSD	.14983	.10923	.12773	.93733
#1	3761.5	6158.3	93983.	7249.1
#2	3772.0	6170.8	93855.	7333.3
#3	3770.4	6168.8	93744.	7198.7

Sample Name: 180-95425-A-81-B Acquired: 10/22/2019 16:26:21 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00015	1.5004	.00627	3.6512	.02253	.00025
Stddev	.00051	.0161	.00162	.0117	.00027	.00001
%RSD	340.13	1.0705	25.771	.31968	1.1868	4.4725
#1	.00043	1.4819	.00647	3.6635	.02222	.00025
#2	-.00036	1.5105	.00777	3.6403	.02269	.00026
#3	-.00053	1.5088	.00456	3.6498	.02267	.00024
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.620	.00098	-.00035	.02778	.02107	1.2443
Stddev	.043	.00008	.00004	.00019	.00028	.0037
%RSD	.34284	8.4347	11.586	.68462	1.3156	.29547
#1	12.575	.00101	-.00032	.02756	.02137	1.2426
#2	12.662	.00088	-.00040	.02787	.02082	1.2485
#3	12.622	.00103	-.00034	.02790	.02103	1.2417
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-95425-A-81-B Acquired: 10/22/2019 16:26:21 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.3812	.00271	2.7584	.01673	.00057	41.683
Stddev	.0510	.00099	.0321	.00013	.00020	.086
%RSD	3.6930	36.548	1.1628	.76046	34.067	.20567
#1	1.3313	.00175	2.7718	.01686	.00067	41.605
#2	1.4333	.00373	2.7816	.01660	.00035	41.775
#3	1.3790	.00264	2.7218	.01674	.00070	41.670
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00266	.10939	.00470	.00458	F 40.300	.00014
Stddev	.00009	.00179	.00118	.00203	.095	.00004
%RSD	3.2644	1.6399	25.056	44.469	.23608	28.360
#1	.00271	.11125	.00551	.00676	40.190	.00018
#2	.00270	.10767	.00523	.00423	40.361	.00013
#3	.00256	.10926	.00335	.00274	40.348	.00010
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit					25.000	
Low Limit					-.50000	

Sample Name: 180-95425-A-81-B Acquired: 10/22/2019 16:26:21 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.03489	.05309	.00016	.08413	.04582
Stddev	.00729	.00023	.00075	.00206	.00021
%RSD	20.910	.42470	481.50	2.4496	.46483
#1	.03730	.05333	.00072	.08582	.04570
#2	.02669	.05307	.00043	.08473	.04571
#3	.04067	.05288	-.00069	.08183	.04607
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3765.3	6165.3	93476.	7235.7
Stddev	1.1	8.2	537.	17.3
%RSD	.02956	.13269	.57450	.23876
#1	3766.3	6172.7	92882.	7251.2
#2	3765.6	6166.5	93620.	7238.8
#3	3764.1	6156.5	93926.	7217.0

Sample Name: 180-95425-A-84-B Acquired: 10/22/2019 16:31:25 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00004	2.1741	.00773	6.2204	.02930	.00020
Stddev	.00025	.0211	.00173	.0053	.00062	.00008
%RSD	654.47	.97038	22.367	.08514	2.1009	41.190
#1	-.00013	2.1957	.00580	6.2259	.02998	.00011
#2	-.00009	2.1732	.00827	6.2154	.02877	.00021
#3	.00033	2.1535	.00913	6.2197	.02914	.00028
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.312	.00119	-.00049	.03789	.05327	1.7880
Stddev	.044	.00007	.00018	.00021	.00045	.0147
%RSD	.38613	6.2691	37.084	.55635	.85224	.82190
#1	11.352	.00110	-.00028	.03765	.05279	1.8035
#2	11.319	.00122	-.00058	.03800	.05369	1.7864
#3	11.265	.00124	-.00062	.03802	.05334	1.7742
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-95425-A-84-B Acquired: 10/22/2019 16:31:25 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.5436	.00236	2.9579	.02257	.00051	45.022
Stddev	.0176	.00094	.0537	.00002	.00006	.179
%RSD	1.1430	39.782	1.8169	.07569	12.675	.39654
#1	1.5635	.00184	3.0189	.02256	.00058	45.226
#2	1.5375	.00344	2.9179	.02259	.00045	44.944
#3	1.5299	.00179	2.9367	.02257	.00049	44.895
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00257	.24690	.00886	.00256	F 51.605	.00073
Stddev	.00072	.00035	.00101	.00139	.329	.00032
%RSD	27.946	.14028	11.374	54.310	.63756	44.751
#1	.00323	.24681	.00834	.00195	51.958	.00035
#2	.00181	.24660	.00823	.00158	51.552	.00093
#3	.00266	.24728	.01003	.00415	51.306	.00090
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit					25.000	
Low Limit					-.50000	

Sample Name: 180-95425-A-84-B Acquired: 10/22/2019 16:31:25 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.03686	.08016	.00033	.05733	.05048
Stddev	.00303	.00031	.00203	.00330	.00014
%RSD	8.2288	.38070	614.78	5.7565	.28282
#1	.03616	.07990	.00261	.05958	.05054
#2	.04018	.08050	-.00035	.05354	.05059
#3	.03424	.08009	-.00127	.05886	.05032
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3756.5	6167.7	93102.	7225.1
Stddev	2.5	11.8	179.	27.9
%RSD	.06613	.19200	.19172	.38606
#1	3755.8	6180.7	93055.	7193.1
#2	3759.2	6164.7	92951.	7238.0
#3	3754.4	6157.6	93299.	7244.2

Sample Name: 180-95425-A-87-B Acquired: 10/22/2019 16:36:30 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00007	1.6512	.00643	6.6359	.02535	.00013
Stddev	.00034	.0045	.00120	.0066	.00028	.00003
%RSD	453.40	.26989	18.649	.09867	1.1154	23.955
#1	.00040	1.6543	.00582	6.6435	.02536	.00016
#2	.00009	1.6461	.00781	6.6325	.02564	.00014
#3	-.00027	1.6533	.00566	6.6319	.02507	.00010
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.8295	.00087	-.00066	.03700	.01481	1.3668
Stddev	.0076	.00013	.00013	.00024	.00034	.0108
%RSD	.07691	15.379	19.626	.63803	2.2626	.78831
#1	9.8368	.00077	-.00081	.03710	.01519	1.3792
#2	9.8300	.00082	-.00060	.03717	.01456	1.3617
#3	9.8217	.00102	-.00057	.03673	.01468	1.3595
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-95425-A-87-B Acquired: 10/22/2019 16:36:30 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.8372	.00368	3.0430	.01251	.00024	46.760
Stddev	.0207	.00050	.0313	.00002	.00020	.088
%RSD	1.1257	13.512	1.0277	.13316	82.469	.18883
#1	1.8160	.00407	3.0455	.01253	.00009	46.741
#2	1.8382	.00385	3.0106	.01250	.00016	46.682
#3	1.8573	.00312	3.0730	.01250	.00046	46.856
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00163	.05115	-.00033	.00304	F 50.763	.00034
Stddev	.00020	.00183	.00032	.00226	.063	.00038
%RSD	12.024	3.5871	98.427	74.440	.12375	112.84
#1	.00159	.05227	-.00048	.00133	50.722	.00011
#2	.00184	.05216	.00004	.00561	50.730	.00012
#3	.00146	.04904	-.00055	.00218	50.835	.00077
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit					25.000	
Low Limit					-.50000	

Sample Name: 180-95425-A-87-B Acquired: 10/22/2019 16:36:30 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.03236	.06136	.00035	.04777	.03649
Stddev	.00232	.00016	.00082	.00217	.00030
%RSD	7.1571	.26868	231.60	4.5479	.80971
#1	.03302	.06134	.00110	.05000	.03678
#2	.03428	.06154	.00048	.04763	.03648
#3	.02979	.06121	-.00052	.04566	.03619
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3745.8	6129.1	92773.	7201.1
Stddev	8.4	16.0	193.	33.9
%RSD	.22379	.26178	.20793	.47032
#1	3736.3	6110.6	92990.	7203.7
#2	3752.2	6139.0	92622.	7166.0
#3	3748.7	6137.7	92708.	7233.6

Sample Name: 180-95425-A-90-B Acquired: 10/22/2019 16:41:37 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00016	3.0959	.00778	7.3300	.04950	.00029
Stddev	.00006	.0199	.00093	.0065	.00044	.00005
%RSD	36.581	.64332	12.019	.08799	.89552	15.983
#1	-.00021	3.0962	.00670	7.3259	.04973	.00034
#2	-.00017	3.1156	.00840	7.3375	.04978	.00024
#3	-.00009	3.0758	.00823	7.3268	.04898	.00031
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.132	.00147	-.00020	.04766	.02765	2.9148
Stddev	.021	.00010	.00019	.00053	.00034	.0215
%RSD	.19255	6.8299	94.099	1.1054	1.2135	.73582
#1	11.153	.00148	-.00027	.04786	.02728	2.9383
#2	11.134	.00156	-.00034	.04706	.02793	2.9096
#3	11.110	.00136	.00001	.04805	.02774	2.8963
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-95425-A-90-B Acquired: 10/22/2019 16:41:37 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.1469	.00396	3.1080	.03701	.00010	50.767
Stddev	.0139	.00146	.0163	.00005	.00015	.230
%RSD	.44066	36.915	.52460	.13534	149.77	.45207
#1	3.1378	.00242	3.1201	.03701	.00024	50.705
#2	3.1401	.00533	3.1145	.03696	.00013	51.021
#3	3.1629	.00414	3.0895	.03706	-.00006	50.575
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00395	.18483	.00244	.00269	F 57.155	.00097
Stddev	.00043	.00121	.00126	.00139	.158	.00092
%RSD	10.909	.65646	51.498	51.501	.27621	95.102
#1	.00362	.18589	.00389	.00376	57.263	.00174
#2	.00444	.18351	.00160	.00319	57.227	.00123
#3	.00379	.18508	.00184	.00113	56.974	-.00005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit					25.000	
Low Limit					-.50000	

Sample Name: 180-95425-A-90-B Acquired: 10/22/2019 16:41:37 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.04454	.12485	.00064	.04074	.06043
Stddev	.00300	.00036	.00035	.00286	.00015
%RSD	6.7372	.28787	54.035	7.0274	.25280
#1	.04130	.12491	.00029	.03824	.06059
#2	.04509	.12447	.00065	.04013	.06030
#3	.04722	.12518	.00099	.04386	.06039
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3740.1	6189.7	93501.	7281.7
Stddev	5.1	7.3	185.	57.7
%RSD	.13594	.11745	.19810	.79270
#1	3743.0	6186.3	93294.	7217.6
#2	3734.2	6184.7	93557.	7298.1
#3	3743.0	6198.0	93651.	7329.5

Sample Name: 180-95425-A-93-B Acquired: 10/22/2019 16:46:41 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00001	3.1972	.00628	5.7633	.05229	.00043
Stddev	.00021	.0274	.00162	.0029	.00022	.00008
%RSD	3536.0	.85571	25.745	.05030	.41292	17.505
#1	.00011	3.1658	.00812	5.7637	.05247	.00041
#2	-.00024	3.2163	.00560	5.7659	.05234	.00052
#3	.00014	3.2093	.00511	5.7602	.05205	.00037
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.915	.00144	-.00027	.04827	.07637	2.8764
Stddev	.072	.00007	.00042	.00031	.00050	.0096
%RSD	.66316	4.8192	153.66	.64339	.65397	.33530
#1	10.962	.00146	-.00007	.04799	.07581	2.8805
#2	10.952	.00150	-.00076	.04861	.07676	2.8833
#3	10.832	.00136	.00000	.04823	.07656	2.8653
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-95425-A-93-B Acquired: 10/22/2019 16:46:41 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.5188	.00410	3.1861	.03202	.00051	48.051
Stddev	.0359	.00038	.0354	.00012	.00019	.203
%RSD	2.3608	9.3316	1.1108	.37696	36.592	.42221
#1	1.5442	.00386	3.1874	.03193	.00047	48.048
#2	1.5345	.00390	3.2209	.03197	.00035	48.255
#3	1.4778	.00454	3.1501	.03216	.00071	47.849
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00555	.37319	.00777	.00168	F 47.969	.00087
Stddev	.00007	.00145	.00220	.00311	.323	.00075
%RSD	1.3354	.38807	28.303	184.96	.67268	86.949
#1	.00553	.37486	.00550	.00478	48.225	.00165
#2	.00563	.37235	.00989	.00170	48.076	.00080
#3	.00548	.37236	.00790	-.00144	47.606	.00015
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit					25.000	
Low Limit					-.50000	

Sample Name: 180-95425-A-93-B Acquired: 10/22/2019 16:46:41 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.04878	.12851	.00117	.05402	.07002
Stddev	.00933	.00055	.00028	.00247	.00008
%RSD	19.120	.42857	23.598	4.5776	.12067
#1	.04579	.12796	.00109	.05489	.06993
#2	.04131	.12906	.00095	.05122	.07003
#3	.05923	.12853	.00148	.05593	.07010
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3734.9	6152.2	93494.	7326.7
Stddev	5.2	15.8	303.	90.2
%RSD	.13826	.25611	.32385	1.2317
#1	3740.8	6169.1	93843.	7343.1
#2	3731.1	6149.4	93300.	7229.4
#3	3732.8	6138.0	93339.	7407.7

Sample Name: 180-95425-A-96-B Acquired: 10/22/2019 16:51:43 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00031**	**1.3767**	**.00676**	**6.7402**	**.02176**	**.00012**
Stddev	.00015	.0471	.00074	.0079	.00010	.00007
%RSD	47.411	3.4212	10.970	.11745	.44378	57.948
#1	-.00014	1.3403	.00736	6.7405	.02169	.00007
#2	-.00039	1.3600	.00699	6.7321	.02172	.00020
#3	-.00039	1.4299	.00593	6.7479	.02187	.00009
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**9.4793**	**.00086**	**-.00068**	**.03363**	**.01424**	**1.1005**
Stddev	.0177	.00008	.00018	.00012	.00041	.0050
%RSD	.18639	8.9120	25.763	.35621	2.8600	.45081
#1	9.4995	.00078	-.00051	.03353	.01407	1.1013
#2	9.4717	.00093	-.00086	.03376	.01394	1.0952
#3	9.4667	.00087	-.00067	.03359	.01470	1.1050
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-95425-A-96-B Acquired: 10/22/2019 16:51:43 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.5545	.00433	2.6955	.01340	.00033	48.174
Stddev	.0022	.00114	.0466	.00002	.00020	.141
%RSD	.14363	26.286	1.7286	.14033	60.389	.29199
#1	1.5552	.00520	2.6445	.01339	.00045	48.329
#2	1.5520	.00474	2.7060	.01340	.00010	48.054
#3	1.5563	.00304	2.7359	.01342	.00043	48.140
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00048	.08417	.00374	.00294	F 51.006	.00063
Stddev	.00026	.00066	.00120	.00278	.174	.00024
%RSD	54.780	.77873	32.009	94.340	.34029	37.308
#1	.00073	.08394	.00491	.00598	50.962	.00082
#2	.00049	.08367	.00252	.00053	50.859	.00037
#3	.00021	.08491	.00380	.00231	51.198	.00071
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit					25.000	
Low Limit					-.50000	

Sample Name: 180-95425-A-96-B Acquired: 10/22/2019 16:51:43 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.03063	.04881	.00036	.06539	.04188
Stddev	.00150	.00022	.00023	.00089	.00012
%RSD	4.9096	.45355	62.759	1.3567	.28590
#1	.03209	.04903	.00060	.06594	.04179
#2	.03072	.04859	.00016	.06437	.04202
#3	.02908	.04881	.00032	.06588	.04184
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3768.1	6158.5	93557.	7271.8
Stddev	3.2	10.9	68.	23.7
%RSD	.08387	.17750	.07276	.32549
#1	3764.5	6149.4	93593.	7298.8
#2	3770.3	6155.4	93478.	7254.7
#3	3769.4	6170.6	93599.	7262.0

Sample Name: CCV 3418984 Acquired: 10/22/2019 16:56:50 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.0095	24.286	.50987	2.0623	1.9868	1.9891
Stddev	.0008	.096	.00176	.0019	.0170	.0043
%RSD	.08135	.39538	.34533	.09216	.85610	.21839
#1	1.0103	24.389	.50796	2.0614	2.0061	1.9941
#2	1.0087	24.270	.51143	2.0644	1.9801	1.9866
#3	1.0094	24.199	.51022	2.0609	1.9741	1.9866
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	49.422	.49955	2.0459	1.9562	1.9611	24.850
Stddev	.139	.00079	.0060	.0057	.0036	.105
%RSD	.28189	.15761	.29308	.29214	.18113	.42141
#1	49.549	.49923	2.0485	1.9620	1.9636	24.969
#2	49.273	.50045	2.0501	1.9506	1.9570	24.811
#3	49.444	.49897	2.0390	1.9559	1.9628	24.771
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3418984 Acquired: 10/22/2019 16:56:50 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**125.27**	**2.0160**	**48.658**	**1.9526**	**1.9600**	**125.97**
Stddev	.32	.0027	.180	.0017	.0025	.05
%RSD	.25346	.13274	.37008	.08586	.12547	.03598
#1	125.62	2.0184	48.844	1.9545	1.9618	126.01
#2	125.16	2.0131	48.484	1.9518	1.9610	125.92
#3	125.02	2.0166	48.645	1.9514	1.9572	125.97
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.0434**	**.50472**	**.49597**	**.50941**	**2.0515**	**1.9048**
Stddev	.0053	.00188	.00239	.00046	.0151	.0041
%RSD	.25726	.37198	.48220	.09042	.73666	.21719
#1	2.0439	.50364	.49327	.50953	2.0395	1.9095
#2	2.0484	.50688	.49783	.50891	2.0465	1.9033
#3	2.0379	.50362	.49681	.50981	2.0684	1.9016
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3418984 Acquired: 10/22/2019 16:56:50 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	1.9478	1.9756	.97048	1.9989	1.9501
Stddev	.0109	.0031	.00397	.0114	.0058
%RSD	.55854	.15776	.40958	.56849	.29749
#1	1.9567	1.9785	.97192	2.0117	1.9549
#2	1.9357	1.9723	.97353	1.9898	1.9517
#3	1.9511	1.9761	.96598	1.9953	1.9437
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3345.1	5824.2	87276.	7027.1
Stddev	10.8	10.0	85.	21.4
%RSD	.32282	.17228	.09751	.30472
#1	3344.6	5824.7	87257.	7003.8
#2	3334.5	5813.9	87370.	7045.9
#3	3356.1	5834.0	87203.	7031.8

Sample Name: CCB9 Acquired: 10/22/2019 17:01:38 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00015	.01024	.00003	.00743	-.00004	-.00003
Stddev	.00007	.02776	.00219	.00042	.00011	.00002
%RSD	43.619	271.12	6996.9	5.6304	239.56	66.229
#1	.00011	.02511	.00149	.00787	.00006	-.00004
#2	.00012	-.02179	.00110	.00740	-.00015	-.00001
#3	.00023	.02740	-.00249	.00703	-.00004	-.00003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00163	.00014	-.00020	-.00020	-.00025	-.00060
Stddev	.00239	.00004	.00010	.00027	.00056	.00161
%RSD	146.56	30.422	53.031	133.73	227.65	267.74
#1	.00041	.00013	-.00032	-.00016	-.00088	-.00069
#2	.00010	.00011	-.00016	.00004	-.00008	.00105
#3	.00439	.00019	-.00012	-.00049	.00021	-.00217
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB9 Acquired: 10/22/2019 17:01:38 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05424	.00216	-.02892	.00001	.00025	.04321
Stddev	.02290	.00082	.01707	.00002	.00016	.01042
%RSD	42.208	37.750	59.018	323.06	62.130	24.109
#1	.05862	.00308	-.04838	-.00001	.00041	.03846
#2	.02948	.00152	-.02188	.00002	.00025	.03601
#3	.07464	.00187	-.01650	.00000	.00010	.05516
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00017	.00032	-.00083	.00120	.02796	-.00025
Stddev	.00031	.00014	.00093	.00310	.00417	.00019
%RSD	185.75	42.044	112.67	257.69	14.908	73.339
#1	-.00019	.00048	-.00173	-.00232	.02598	-.00036
#2	.00038	.00026	.00014	.00350	.02516	-.00036
#3	.00031	.00023	-.00090	.00243	.03276	-.00004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB9 Acquired: 10/22/2019 17:01:38 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00248	.00022	.00158	.00096	.00031
Stddev	.00215	.00003	.00078	.00223	.00006
%RSD	86.976	14.150	49.292	232.37	19.660
#1	.00051	.00023	.00222	-.00056	.00031
#2	.00478	.00025	.00071	-.00009	.00025
#3	.00213	.00019	.00181	.00353	.00038
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4075.5	6198.9	95139.	7175.1
Stddev	10.9	6.6	222.	32.7
%RSD	.26687	.10591	.23318	.45618
#1	4087.8	6206.3	94914.	7137.3
#2	4067.0	6193.9	95145.	7194.6
#3	4071.8	6196.4	95357.	7193.4

Sample Name: CCVL 3419892 Acquired: 10/22/2019 17:06:50 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00502	.20025	.01075	.20940	.20182	.00398
Stddev	.00028	.02498	.00132	.00073	.00132	.00001
%RSD	5.4818	12.473	12.319	.34820	.65422	.24465
#1	.00490	.17578	.00966	.20957	.20111	.00397
#2	.00482	.19926	.01037	.21002	.20100	.00399
#3	.00533	.22570	.01222	.20860	.20334	.00397
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.0723	.00507	.04865	.00466	.02530	.10091
Stddev	.0109	.00015	.00027	.00013	.00059	.00183
%RSD	.21432	2.9962	.55472	2.8204	2.3476	1.8096
#1	5.0602	.00503	.04884	.00470	.02464	.10145
#2	5.0813	.00494	.04834	.00476	.02544	.09887
#3	5.0755	.00524	.04877	.00451	.02580	.10240
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCVL 3419892 Acquired: 10/22/2019 17:06:50 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.0732**	**.05265**	**4.9675**	**.01517**	**.04077**	**5.1960**
Stddev	.0420	.00056	.0335	.00004	.00021	.0075
%RSD	.82804	1.0563	.67429	.24319	.51386	.14476
#1	5.0266	.05263	4.9331	.01520	.04064	5.1891
#2	5.1082	.05321	5.0000	.01519	.04102	5.2040
#3	5.0847	.05210	4.9693	.01513	.04067	5.1949
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.03929**	**.00991**	**.00889**	F **.01348**	**.51925**	**.10027**
Stddev	.00027	.00026	.00090	.00128	.00699	.00022
%RSD	.67954	2.6023	10.130	9.5193	1.3463	.21812
#1	.03908	.01002	.00991	.01425	.52659	.10008
#2	.03959	.00961	.00857	.01419	.51848	.10051
#3	.03919	.01009	.00820	.01200	.51267	.10022
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass
Value				.01000		
Range				30.000%		

Sample Name: CCVL 3419892 Acquired: 10/22/2019 17:06:50 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.04900	.05025	.02045	.05146	.01987
Stddev	.00291	.00015	.00100	.00154	.00003
%RSD	5.9460	.30276	4.8716	2.9957	.12869
#1	.05233	.05027	.02002	.05025	.01985
#2	.04693	.05009	.02159	.05094	.01987
#3	.04774	.05040	.01974	.05320	.01990
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3945.3	6175.9	93969.	7193.3
Stddev	9.4	6.9	287.	48.8
%RSD	.23783	.11236	.30503	.67848
#1	3938.3	6174.3	93700.	7245.9
#2	3955.9	6183.5	93938.	7184.3
#3	3941.6	6169.9	94270.	7149.5

Sample Name: 180-97238-A-1-C@5 Acquired: 10/22/2019 17:11:56 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00002	.01810	-.00122	.01105	.00217	-.00015
Stddev	.00009	.01202	.00135	.00076	.00017	.00009
%RSD	467.07	66.418	110.41	6.8704	7.9962	58.555
#1	.00010	.00580	-.00278	.01160	.00235	-.00012
#2	-.00007	.01868	-.00035	.01018	.00200	-.00008
#3	.00003	.02982	-.00054	.01135	.00215	-.00024
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.18572	.00018	.00611	.09489	-.00232	-.00082
Stddev	.00202	.00013	.00020	.00037	.00022	.00215
%RSD	1.0872	71.951	3.2289	.39419	9.2993	261.77
#1	.18704	.00023	.00611	.09523	-.00212	.00152
#2	.18672	.00003	.00591	.09496	-.00255	-.00272
#3	.18339	.00027	.00630	.09449	-.00229	-.00126
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97238-A-1-C@5 Acquired: 10/22/2019 17:11:56 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.36774	.00207	-.01749	.00094	1.5063	372.45
Stddev	.00110	.00056	.00759	.00002	.0040	.49
%RSD	.30004	27.275	43.419	1.9765	.26515	.13131
#1	.36830	.00227	-.02338	.00093	1.5027	372.41
#2	.36647	.00251	-.00892	.00092	1.5106	371.98
#3	.36845	.00143	-.02016	.00096	1.5056	372.96
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02239	-.00010	-.00027	.00207	.04817	-.00062
Stddev	.00023	.00088	.00063	.00218	.01139	.00038
%RSD	1.0216	895.06	234.88	105.00	23.650	60.998
#1	.02213	-.00080	-.00071	.00216	.06100	-.00096
#2	.02255	.00089	.00045	.00421	.03923	-.00021
#3	.02250	-.00039	-.00054	-.00015	.04428	-.00070
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97238-A-1-C@5 Acquired: 10/22/2019 17:11:56 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	-.00157	.00004	.00179	-.00036	.00092
Stddev	.00306	.00005	.00021	.00505	.00005
%RSD	194.59	132.67	11.625	1405.3	5.5365
#1	.00021	.00005	.00158	-.00032	.00093
#2	-.00511	-.00002	.00178	-.00543	.00087
#3	.00018	.00008	.00200	.00467	.00097
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3365.9	5791.7	86590.	7086.1
Stddev	13.0	27.8	122.	16.7
%RSD	.38481	.48076	.14067	.23611
#1	3379.1	5815.6	86457.	7095.3
#2	3353.3	5761.1	86697.	7096.2
#3	3365.4	5798.3	86614.	7066.7

Sample Name: MB 180-295366/1-A Acquired: 10/22/2019 17:17:13 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00003	.02645	.00010	.00421	.00055	-.00005
Stddev	.00051	.00647	.00072	.00035	.00019	.00005
%RSD	1698.0	24.451	756.88	8.4275	34.796	93.719
#1	.00056	.01903	-.00015	.00411	.00054	-.00009
#2	-.00002	.02942	.00091	.00460	.00074	.00000
#3	-.00046	.03090	-.00047	.00392	.00036	-.00008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04810	.00011	.00012	-.00005	.00043	.00744
Stddev	.00331	.00004	.00016	.00016	.00055	.00256
%RSD	6.8778	36.496	132.03	336.97	129.71	34.346
#1	.04501	.00012	.00016	-.00023	-.00020	.00527
#2	.04770	.00007	.00026	-.00000	.00062	.00679
#3	.05159	.00016	-.00005	.00009	.00086	.01026
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: MB 180-295366/1-A Acquired: 10/22/2019 17:17:13 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.06986	.00185	-.02461	.00026	.00040	.12430
Stddev	.02495	.00158	.02345	.00004	.00019	.00481
%RSD	35.718	85.224	95.308	14.767	47.472	3.8702
#1	.08926	.00004	-.01405	.00022	.00045	.12173
#2	.07861	.00260	-.00829	.00029	.00056	.12985
#3	.04171	.00291	-.05148	.00029	.00019	.12133
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00007	-.00034	-.00054	.00229	.03917	-.00020
Stddev	.00022	.00081	.00082	.00193	.00686	.00028
%RSD	311.82	241.38	151.93	84.238	17.506	135.86
#1	-.00007	.00026	-.00006	.00179	.04616	.00011
#2	-.00004	-.00126	-.00007	.00065	.03246	-.00043
#3	.00032	-.00001	-.00148	.00441	.03888	-.00029
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: MB 180-295366/1-A Acquired: 10/22/2019 17:17:13 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	-.00291	.00010	.00078	.00330	.00888
Stddev	.00614	.00008	.00154	.00552	.00001
%RSD	211.00	82.050	197.47	167.37	.09851
#1	-.00940	.00010	-.00068	.00960	.00888
#2	.00282	.00002	.00063	.00105	.00887
#3	-.00215	.00018	.00238	-.00074	.00889
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4140.2	6301.1	97374.	7342.9
Stddev	2.6	5.3	272.	21.0
%RSD	.06362	.08371	.27932	.28629
#1	4141.8	6295.7	97202.	7330.8
#2	4141.7	6306.2	97687.	7330.6
#3	4137.2	6301.4	97232.	7367.1

Sample Name: LCS 180-295366/2-A Acquired: 10/22/2019 17:22:24 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.25452	4.9340	1.0572	1.3418	.99612	.50195
Stddev	.00051	.0606	.0028	.0030	.00282	.00127
%RSD	.20063	1.2272	.26554	.22592	.28265	.25274
#1	.25399	4.9613	1.0599	1.3386	.99573	.50255
#2	.25500	4.9761	1.0574	1.3446	.99911	.50280
#3	.25458	4.8646	1.0543	1.3422	.99352	.50049
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.833	.50920	.49569	.48694	.49823	4.9974
Stddev	.107	.00097	.00051	.00356	.00357	.0248
%RSD	.43268	.19133	.10265	.73104	.71693	.49691
#1	24.910	.51032	.49532	.48999	.49920	4.9826
#2	24.880	.50854	.49627	.48303	.49427	5.0261
#3	24.710	.50875	.49548	.48780	.50121	4.9835
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: LCS 180-295366/2-A Acquired: 10/22/2019 17:22:24 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.480	.50547	24.389	.49078	.49576	25.939
Stddev	.064	.00409	.261	.00063	.00053	.117
%RSD	.25004	.80817	1.0691	.12774	.10737	.45261
#1	25.552	.50978	24.434	.49146	.49529	26.060
#2	25.457	.50166	24.625	.49022	.49634	25.932
#3	25.432	.50496	24.109	.49066	.49563	25.825
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.49664	.49850	.25678	1.0672	1.0054	.98006
Stddev	.00033	.00224	.00218	.0026	.0072	.00079
%RSD	.06652	.44935	.84750	.24278	.71514	.08057
#1	.49631	.50096	.25836	1.0674	1.0115	.97976
#2	.49697	.49658	.25768	1.0646	1.0073	.98096
#3	.49662	.49796	.25429	1.0698	.99745	.97947
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: LCS 180-295366/2-A Acquired: 10/22/2019 17:22:24 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.48501	.49433	1.0045	.49407	.25912
Stddev	.00284	.00130	.0004	.00624	.00064
%RSD	.58641	.26299	.04232	1.2634	.24885
#1	.48241	.49495	1.0041	.49687	.25906
#2	.48457	.49284	1.0048	.49842	.25979
#3	.48805	.49521	1.0048	.48692	.25850
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3713.1	6106.4	92819.	7348.2
Stddev	4.8	4.1	93.	52.9
%RSD	.12801	.06783	.10055	.71981
#1	3717.4	6108.4	92732.	7350.2
#2	3708.0	6101.7	92918.	7294.4
#3	3713.9	6109.2	92806.	7400.1

Sample Name: LB 180-295048/1-B Acquired: 10/22/2019 17:27:09 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00025	.00478	-.00145	.00313	.00042	-.00004
Stddev	.00051	.04362	.00091	.00032	.00018	.00007
%RSD	202.46	911.64	62.509	10.057	43.218	177.89
#1	.00059	.03472	-.00188	.00317	.00037	-.00001
#2	-.00034	-.04526	-.00041	.00343	.00027	.00001
#3	.00050	.02489	-.00206	.00280	.00062	-.00011
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01386	.00007	.00011	-.00009	.00060	.00496
Stddev	.00400	.00009	.00007	.00008	.00053	.00307
%RSD	28.865	139.68	64.577	87.369	88.928	61.840
#1	.01802	-.00004	.00012	-.00007	.00101	.00738
#2	.01352	.00010	.00003	-.00002	.00080	.00151
#3	.01004	.00014	.00017	-.00019	-.00000	.00599
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: LB 180-295048/1-B Acquired: 10/22/2019 17:27:09 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.01882	.00154	-.01688	.00016	.00011	.03754
Stddev	.02490	.00069	.01506	.00005	.00007	.00058
%RSD	132.31	44.693	89.257	30.616	60.690	1.5505
#1	-.04690	.00143	-.02119	.00021	.00016	.03808
#2	-.01009	.00227	-.02932	.00014	.00014	.03764
#3	.00054	.00091	-.00013	.00012	.00003	.03692
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00005	.00049	.00099	.00137	.01982	.00008
Stddev	.00013	.00107	.00107	.00102	.00429	.00050
%RSD	242.86	219.13	108.08	74.964	21.643	647.21
#1	.00008	-.00074	-.00024	.00028	.01742	-.00047
#2	-.00006	.00099	.00171	.00150	.02477	.00018
#3	-.00018	.00123	.00150	.00232	.01727	.00053
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: LB 180-295048/1-B Acquired: 10/22/2019 17:27:09 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00094	.00015	.00114	.00121	.00106
Stddev	.00802	.00010	.00071	.00441	.00006
%RSD	852.37	62.370	62.207	363.34	5.6181
#1	.00059	.00022	.00141	.00502	.00112
#2	-.00690	.00004	.00168	.00223	.00100
#3	.00913	.00019	.00034	-.00362	.00107
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4110.0	6288.0	96196.	7223.9
Stddev	19.0	23.8	342.	34.7
%RSD	.46235	.37927	.35525	.48007
#1	4127.5	6310.5	96531.	7227.3
#2	4112.8	6290.3	96209.	7256.7
#3	4089.8	6263.0	95848.	7187.6

Sample Name: 180-96737-A-10-B Acquired: 10/22/2019 17:32:20 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00000	.40549	.00735	2.3856	.01822	-.00002
Stddev	.00032	.02479	.00076	.0036	.00003	.00005
%RSD	15042.	6.1129	10.371	.14997	.16282	247.57
#1	-.00026	.43103	.00733	2.3818	.01819	-.00000
#2	-.00010	.38153	.00812	2.3859	.01823	.00002
#3	.00036	.40393	.00659	2.3890	.01824	-.00008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.220	.00031	-.00019	.00673	.55455	.43451
Stddev	.039	.00012	.00022	.00012	.00360	.00497
%RSD	.35175	39.208	116.59	1.8487	.64899	1.1434
#1	11.261	.00044	.00005	.00686	.55649	.43140
#2	11.218	.00020	-.00023	.00662	.55677	.43188
#3	11.182	.00028	-.00039	.00670	.55040	.44024
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96737-A-10-B Acquired: 10/22/2019 17:32:20 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.0865	.00307	7.7880	.00563	.00323	36.166
Stddev	.0112	.00085	.0238	.00003	.00008	.077
%RSD	.36135	27.809	.30537	.46346	2.5570	.21411
#1	3.0741	.00342	7.7693	.00560	.00316	36.251
#2	3.0958	.00369	7.8148	.00563	.00332	36.145
#3	3.0896	.00210	7.7800	.00565	.00321	36.101
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00087	.37010	-.00031	.00287	F 34.304	-.00013
Stddev	.00012	.00100	.00112	.00182	.202	.00036
%RSD	13.507	.26955	358.76	63.257	.58817	272.35
#1	-.00096	.36967	-.00138	.00310	34.124	-.00048
#2	-.00090	.36939	-.00041	.00456	34.264	.00023
#3	-.00073	.37124	.00085	.00095	34.522	-.00014
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit					25.000	
Low Limit					-.50000	

Sample Name: 180-96737-A-10-B Acquired: 10/22/2019 17:32:20 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.02514	.01298	.00003	.00330	.05420
Stddev	.00282	.00014	.00088	.00326	.00016
%RSD	11.231	1.0832	3110.7	98.748	.28664
#1	.02821	.01314	.00102	.00693	.05432
#2	.02264	.01292	-.00065	.00061	.05424
#3	.02458	.01288	-.00029	.00238	.05402
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3792.8	6161.9	93361.	7223.7
Stddev	6.2	7.7	293.	19.9
%RSD	.16437	.12425	.31410	.27519
#1	3798.8	6170.6	93032.	7243.2
#2	3793.3	6156.3	93596.	7203.5
#3	3786.4	6158.7	93453.	7224.6

Sample Name: 180-96737-A-19-B Acquired: 10/22/2019 17:37:25 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00020	.33358	.00669	2.3864	.01350	-.00006
Stddev	.00031	.05836	.00115	.0068	.00025	.00005
%RSD	155.00	17.494	17.124	.28569	1.8515	91.400
#1	-.00046	.40077	.00771	2.3822	.01363	.00000
#2	.00014	.29557	.00545	2.3827	.01321	-.00010
#3	-.00028	.30441	.00691	2.3943	.01365	-.00008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.302	.00033	-.00044	.00661	.53115	.38695
Stddev	.057	.00007	.00027	.00040	.00359	.00077
%RSD	.50821	20.223	60.287	6.0211	.67677	.19785
#1	11.240	.00033	-.00023	.00616	.53104	.38761
#2	11.313	.00027	-.00036	.00676	.53480	.38611
#3	11.353	.00040	-.00075	.00691	.52761	.38712
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96737-A-19-B Acquired: 10/22/2019 17:37:25 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.1157	.00255	7.7905	.00494	.00324	36.614
Stddev	.0303	.00093	.0582	.00003	.00011	.087
%RSD	2.7120	36.549	.74739	.70184	3.3331	.23780
#1	1.0829	.00359	7.7447	.00498	.00314	36.523
#2	1.1215	.00179	7.7708	.00491	.00321	36.696
#3	1.1426	.00226	7.8560	.00493	.00335	36.623
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00171	.36325	-.00010	.00202	F 37.234	.00027
Stddev	.00023	.00326	.00116	.00274	.063	.00016
%RSD	13.660	.89685	1198.3	135.36	.16998	57.723
#1	-.00178	.36376	.00100	.00402	37.162	.00015
#2	-.00190	.35977	.00002	.00315	37.257	.00022
#3	-.00145	.36622	-.00131	-.00110	37.283	.00045
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit					25.000	
Low Limit					-.50000	

Sample Name: 180-96737-A-19-B Acquired: 10/22/2019 17:37:25 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.02541	.01211	.00008	.00171	.04882
Stddev	.00402	.00030	.00119	.00149	.00030
%RSD	15.832	2.4957	1569.2	87.015	.61648
#1	.02226	.01183	.00037	.00091	.04893
#2	.02994	.01243	.00109	.00343	.04848
#3	.02404	.01206	-.00123	.00080	.04905
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3791.5	6154.4	92862.	7246.8
Stddev	9.6	13.8	360.	28.0
%RSD	.25255	.22342	.38795	.38575
#1	3788.6	6149.3	92654.	7263.9
#2	3802.1	6169.9	93278.	7262.1
#3	3783.6	6143.9	92655.	7214.6

Sample Name: 180-96737-A-28-B Acquired: 10/22/2019 17:42:30 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00007	.26892	.00666	1.9310	.01794	.00001
Stddev	.00038	.02990	.00114	.0018	.00017	.00008
%RSD	523.52	11.120	17.099	.09151	.97447	1231.7
#1	.00051	.23485	.00787	1.9330	.01805	-.00006
#2	-.00012	.28113	.00561	1.9301	.01774	-.00000
#3	-.00017	.29079	.00650	1.9299	.01803	.00009
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.185	.00019	-.00057	.00595	.39954	.26899
Stddev	.018	.00010	.00006	.00017	.00209	.00262
%RSD	.13846	50.668	10.972	2.8972	.52338	.97407
#1	13.182	.00010	-.00064	.00583	.39832	.26717
#2	13.168	.00019	-.00053	.00615	.39835	.27199
#3	13.204	.00029	-.00053	.00588	.40196	.26780
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96737-A-28-B Acquired: 10/22/2019 17:42:30 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.81954	.00266	8.7314	.00344	.00221	34.147
Stddev	.02454	.00076	.0291	.00003	.00005	.100
%RSD	2.9949	28.533	.33344	.77653	2.1854	.29254
#1	.79120	.00180	8.7474	.00342	.00225	34.239
#2	.83307	.00325	8.6978	.00344	.00222	34.160
#3	.83434	.00292	8.7490	.00347	.00216	34.041
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00231	.23561	.00052	.00325	F 37.356	.00003
Stddev	.00033	.00132	.00254	.00055	.181	.00032
%RSD	14.226	.56170	486.79	16.885	.48526	1125.1
#1	-.00265	.23413	.00097	.00353	37.565	-.00027
#2	-.00228	.23600	-.00221	.00262	37.262	.00037
#3	-.00199	.23669	.00281	.00359	37.241	-.00002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit					25.000	
Low Limit					-.50000	

Sample Name: 180-96737-A-28-B Acquired: 10/22/2019 17:42:30 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.03004	.00841	.00067	.00642	.03715
Stddev	.00324	.00009	.00089	.00140	.00007
%RSD	10.794	1.0820	134.26	21.860	.17721
#1	.02910	.00832	.00169	.00643	.03707
#2	.03364	.00839	.00006	.00501	.03717
#3	.02737	.00850	.00025	.00782	.03720
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3765.8	6103.5	92630.	7185.9
Stddev	5.4	11.4	192.	45.4
%RSD	.14421	.18668	.20769	.63126
#1	3765.2	6102.2	92744.	7133.8
#2	3771.4	6115.4	92408.	7216.7
#3	3760.6	6092.8	92739.	7207.1

Sample Name: LB 180-294885/1-B Acquired: 10/22/2019 17:47:36 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00011	.02150	-.00027	.00371	-.00006	-.00000
Stddev	.00042	.01126	.00087	.00015	.00023	.00004
%RSD	391.50	52.397	326.49	4.0206	396.09	1126.5
#1	.00059	.01725	-.00121	.00365	-.00032	.00002
#2	-.00014	.01297	.00049	.00388	.00011	-.00005
#3	-.00013	.03426	-.00007	.00360	.00004	.00002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01705	.00004	.00012	.00034	.00012	.00404
Stddev	.00179	.00020	.00031	.00021	.00026	.00329
%RSD	10.485	509.25	268.64	60.917	226.70	81.587
#1	.01893	-.00016	.00045	.00032	.00040	.00110
#2	.01683	.00005	.00006	.00056	.00005	.00341
#3	.01538	.00023	-.00017	.00015	-.00011	.00760
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: LB 180-294885/1-B Acquired: 10/22/2019 17:47:36 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.02914	.00020	-.01978	.00007	.00009	.02882
Stddev	.01950	.00176	.00622	.00002	.00022	.01224
%RSD	66.911	902.51	31.444	31.418	241.40	42.459
#1	-.04344	-.00017	-.01300	.00010	-.00000	.01487
#2	-.00693	.00211	-.02522	.00007	.00035	.03775
#3	-.03705	-.00136	-.02113	.00005	-.00007	.03384
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00007	.00018	-.00107	.00093	.05707	-.00002
Stddev	.00043	.00076	.00062	.00171	.00432	.00027
%RSD	662.84	415.86	57.394	184.62	7.5622	1194.5
#1	-.00014	.00106	-.00176	-.00103	.06126	.00011
#2	.00040	-.00023	-.00089	.00214	.05732	-.00033
#3	-.00046	-.00028	-.00057	.00166	.05264	.00015
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: LB 180-294885/1-B Acquired: 10/22/2019 17:47:36 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00069	.00005	.00045	.00040	.00163
Stddev	.00192	.00014	.00048	.00096	.00016
%RSD	280.09	281.69	106.21	239.36	9.8604
#1	.00022	.00020	.00045	-.00063	.00162
#2	.00280	.00001	.00093	.00056	.00147
#3	-.00096	-.00006	-.00003	.00128	.00179
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4107.4	6274.0	96442.	7221.8
Stddev	13.8	17.3	244.	49.0
%RSD	.33654	.27524	.25276	.67828
#1	4091.8	6258.5	96644.	7173.6
#2	4112.4	6270.9	96511.	7220.4
#3	4118.1	6292.6	96171.	7271.5

Sample Name: 180-96737-A-9-B Acquired: 10/22/2019 17:52:46 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00012	.25730	.00428	1.9301	.00871	-.00010
Stddev	.00025	.03267	.00063	.0037	.00011	.00004
%RSD	204.09	12.696	14.839	.19147	1.2878	45.603
#1	.00040	.22805	.00469	1.9332	.00872	-.00007
#2	-.00010	.29255	.00459	1.9310	.00860	-.00015
#3	.00007	.25130	.00355	1.9260	.00882	-.00007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.3585	.00038	-.00049	.00545	.37881	.27401
Stddev	.0147	.00007	.00008	.00029	.00172	.00829
%RSD	.15653	17.939	17.084	5.4020	.45399	3.0247
#1	9.3702	.00036	-.00058	.00560	.37733	.27291
#2	9.3632	.00046	-.00042	.00563	.38070	.26632
#3	9.3421	.00033	-.00046	.00511	.37839	.28279
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96737-A-9-B Acquired: 10/22/2019 17:52:46 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.0241	.00270	8.3174	.00350	.00384	31.595
Stddev	.0341	.00110	.0291	.00005	.00021	.022
%RSD	.48525	40.534	.35014	1.4665	5.3514	.06869
#1	7.0449	.00296	8.2840	.00344	.00407	31.570
#2	7.0427	.00150	8.3379	.00351	.00368	31.611
#3	6.9848	.00365	8.3302	.00353	.00377	31.603
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00134	.22057	-.00065	.00269	F 28.207	-.00026
Stddev	.00017	.00099	.00060	.00095	.050	.00031
%RSD	12.877	.44661	91.339	35.325	.17630	117.88
#1	-.00149	.21973	-.00055	.00159	28.164	-.00051
#2	-.00115	.22165	-.00129	.00326	28.261	-.00036
#3	-.00137	.22034	-.00011	.00321	28.197	.00008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit					25.000	
Low Limit					-.50000	

Sample Name: 180-96737-A-9-B Acquired: 10/22/2019 17:52:46 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.01450	.00901	.00010	.00653	.03544
Stddev	.00585	.00031	.00069	.00163	.00023
%RSD	40.363	3.3878	715.28	24.906	.64007
#1	.00971	.00872	.00087	.00733	.03552
#2	.02102	.00898	-.00010	.00466	.03518
#3	.01277	.00933	-.00047	.00760	.03561
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3796.5	6140.4	92672.	7098.6
Stddev	2.2	3.7	467.	11.3
%RSD	.05883	.05945	.50397	.15967
#1	3796.0	6141.0	93177.	7111.7
#2	3799.0	6143.7	92255.	7091.3
#3	3794.6	6136.5	92586.	7092.9

Sample Name: CCV 3418984 Acquired: 10/22/2019 17:57:53 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.0161	24.759	.50966	2.0476	1.9977	1.9997
Stddev	.0043	.101	.00337	.0050	.0103	.0025
%RSD	.42539	.40857	.66147	.24247	.51572	.12558
#1	1.0180	24.706	.50660	2.0435	2.0094	2.0025
#2	1.0111	24.875	.51327	2.0531	1.9936	1.9977
#3	1.0191	24.695	.50910	2.0461	1.9901	1.9990
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	49.469	.49882	2.0372	1.9452	1.9349	25.037
Stddev	.157	.00067	.0003	.0019	.0036	.050
%RSD	.31790	.13504	.01311	.09849	.18737	.20138
#1	49.649	.49863	2.0374	1.9468	1.9342	25.083
#2	49.361	.49957	2.0373	1.9458	1.9388	25.045
#3	49.397	.49827	2.0369	1.9431	1.9317	24.983
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3418984 Acquired: 10/22/2019 17:57:53 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**125.59**	**2.0195**	**49.137**	**1.9608**	**1.9542**	**126.72**
Stddev	.34	.0047	.102	.0046	.0014	.14
%RSD	.27116	.23375	.20666	.23253	.07033	.10754
#1	125.98	2.0246	49.192	1.9651	1.9529	126.78
#2	125.45	2.0152	49.199	1.9561	1.9556	126.56
#3	125.34	2.0186	49.020	1.9612	1.9541	126.81
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.0367**	**.50226**	**.49647**	**.50567**	**2.0386**	**1.8996**
Stddev	.0021	.00082	.00367	.00252	.0058	.0011
%RSD	.10100	.16371	.74014	.49892	.28383	.05871
#1	2.0344	.50224	.49246	.50282	2.0345	1.8987
#2	2.0382	.50145	.49968	.50762	2.0362	1.9009
#3	2.0376	.50309	.49729	.50656	2.0452	1.8993
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3418984 Acquired: 10/22/2019 17:57:53 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	1.9647	1.9691	.96810	2.0220	1.9499
Stddev	.0074	.0030	.00192	.0114	.0013
%RSD	.37637	.15105	.19882	.56379	.06427
#1	1.9615	1.9724	.96643	2.0347	1.9491
#2	1.9732	1.9684	.96765	2.0127	1.9492
#3	1.9595	1.9666	.97021	2.0186	1.9513
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3351.7	5835.6	87477.	6888.9
Stddev	.4	2.0	161.	27.6
%RSD	.01180	.03403	.18354	.40052
#1	3351.8	5836.8	87303.	6898.6
#2	3351.2	5833.4	87620.	6857.8
#3	3352.0	5836.8	87507.	6910.4

Sample Name: CCB10 Acquired: 10/22/2019 18:02:43 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00046	-.00048	-.00009	.00278	.00010	-.00008
Stddev	.00027	.02131	.00071	.00031	.00012	.00007
%RSD	58.171	4440.9	779.53	11.009	123.49	95.736
#1	-.00072	.02350	.00032	.00243	.00001	.00001
#2	-.00048	-.01726	.00032	.00290	.00005	-.00013
#3	-.00019	-.00769	-.00092	.00300	.00024	-.00011
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00227	.00002	.00006	-.00007	.00056	-.00077
Stddev	.00333	.00009	.00005	.00012	.00045	.00179
%RSD	146.79	496.95	77.061	187.07	80.578	232.99
#1	.00611	-.00007	.00001	.00007	.00061	-.00269
#2	.00029	.00011	.00008	-.00018	.00009	-.00049
#3	.00040	.00001	.00010	-.00009	.00099	.00087
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB10 Acquired: 10/22/2019 18:02:43 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.03749	.00179	-.02527	-.00003	.00041	.03722
Stddev	.03573	.00049	.01195	.00002	.00013	.00548
%RSD	95.322	27.470	47.298	70.713	32.050	14.725
#1	.07210	.00155	-.03898	-.00004	.00028	.04326
#2	.00073	.00147	-.01711	-.00005	.00054	.03256
#3	.03962	.00236	-.01970	-.00001	.00041	.03585
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00012	-.00068	-.00047	.00239	.01496	-.00003
Stddev	.00004	.00040	.00092	.00281	.00873	.00086
%RSD	29.154	59.380	196.45	117.75	58.370	2850.1
#1	-.00008	-.00032	.00033	.00366	.02424	-.00101
#2	-.00015	-.00060	-.00148	-.00083	.00691	.00058
#3	-.00014	-.00112	-.00025	.00434	.01372	.00033
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB10 Acquired: 10/22/2019 18:02:43 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00303	.00014	.00042	.00291	.00052
Stddev	.00192	.00006	.00043	.00226	.00008
%RSD	63.493	45.611	100.73	77.592	14.332
#1	.00093	.00020	.00092	.00198	.00046
#2	.00472	.00008	.00018	.00548	.00060
#3	.00343	.00013	.00017	.00126	.00051
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4079.1	6213.6	94784.	7067.9
Stddev	5.7	10.9	119.	3.4
%RSD	.14042	.17485	.12543	.04875
#1	4084.2	6219.3	94849.	7070.2
#2	4080.3	6220.4	94856.	7063.9
#3	4072.9	6201.1	94646.	7069.5

Sample Name: 180-96737-A-18-B Acquired: 10/22/2019 18:07:56 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00010	.19893	.00352	1.8791	.00672	-.00002
Stddev	.00031	.01302	.00055	.0034	.00009	.00004
%RSD	303.28	6.5453	15.717	.18007	1.3037	170.07
#1	.00025	.21381	.00368	1.8803	.00682	.00000
#2	-.00025	.18962	.00398	1.8817	.00670	-.00001
#3	.00031	.19336	.00291	1.8753	.00665	-.00007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.0956	.00036	-.00042	.00521	.28731	.21019
Stddev	.0147	.00008	.00008	.00025	.00110	.00356
%RSD	.16129	21.775	18.808	4.8019	.38426	1.6921
#1	9.1126	.00045	-.00033	.00500	.28790	.21237
#2	9.0869	.00031	-.00044	.00513	.28604	.20609
#3	9.0874	.00032	-.00049	.00548	.28800	.21212
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96737-A-18-B Acquired: 10/22/2019 18:07:56 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.0459	.00339	8.0843	.00264	.00369	32.466
Stddev	.0250	.00008	.1114	.00002	.00019	.137
%RSD	2.3852	2.3041	1.3776	.80805	5.1332	.42201
#1	1.0174	.00333	8.1838	.00266	.00383	32.616
#2	1.0638	.00348	7.9640	.00262	.00347	32.348
#3	1.0564	.00335	8.1049	.00265	.00376	32.432
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00144	.16787	-.00084	.00212	F 27.848	.00005
Stddev	.00043	.00145	.00142	.00224	.080	.00077
%RSD	29.663	.86666	168.31	105.67	.28610	1555.0
#1	-.00185	.16644	.00046	.00337	27.940	-.00084
#2	-.00146	.16935	-.00063	.00344	27.802	.00044
#3	-.00100	.16782	-.00235	-.00047	27.801	.00055
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit					25.000	
Low Limit					-.50000	

Sample Name: 180-96737-A-18-B Acquired: 10/22/2019 18:07:56 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.01470	.00699	.00074	.00294	.02575
Stddev	.00416	.00003	.00119	.00090	.00016
%RSD	28.316	.42890	160.89	30.446	.63599
#1	.01948	.00698	-.00030	.00386	.02590
#2	.01274	.00696	.00048	.00289	.02558
#3	.01188	.00702	.00204	.00207	.02578
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3806.4	6134.8	93159.	7108.5
Stddev	4.7	3.1	239.	25.1
%RSD	.12262	.04973	.25696	.35358
#1	3807.4	6133.9	93064.	7114.6
#2	3801.4	6138.3	93432.	7130.1
#3	3810.5	6132.4	92983.	7080.9

Sample Name: 180-96737-A-27-B Acquired: 10/22/2019 18:13:02 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00008	.27095	.00539	1.6539	.00934	-.00007
Stddev	.00021	.00869	.00118	.0004	.00017	.00003
%RSD	268.64	3.2062	21.843	.02343	1.7962	41.791
#1	-.00026	.26319	.00452	1.6536	.00947	-.00008
#2	-.00011	.26934	.00493	1.6544	.00940	-.00004
#3	.00015	.28033	.00673	1.6538	.00915	-.00009
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.966	.00027	-.00066	.00511	.46615	.31407
Stddev	.121	.00018	.00010	.00027	.00331	.00394
%RSD	1.0991	68.926	14.462	5.2036	.71081	1.2532
#1	11.104	.00039	-.00072	.00536	.46991	.31634
#2	10.907	.00035	-.00071	.00483	.46369	.30952
#3	10.886	.00006	-.00055	.00514	.46484	.31633
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96737-A-27-B Acquired: 10/22/2019 18:13:02 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.72969	.00275	8.2650	.00366	.00278	30.857
Stddev	.03373	.00070	.0707	.00003	.00019	.388
%RSD	4.6224	25.323	.85580	.91527	7.0142	1.2582
#1	.76864	.00201	8.3422	.00364	.00267	31.302
#2	.71032	.00284	8.2496	.00370	.00300	30.684
#3	.71011	.00339	8.2033	.00364	.00266	30.586
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00194	.27355	-.00035	.00158	F 33.509	-.00012
Stddev	.00029	.00151	.00160	.00038	.458	.00029
%RSD	15.018	.55329	455.18	23.836	1.3671	238.63
#1	-.00214	.27184	.00147	.00189	34.038	-.00015
#2	-.00209	.27470	-.00156	.00116	33.253	-.00039
#3	-.00161	.27412	-.00096	.00167	33.236	.00018
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit					25.000	
Low Limit					-.50000	

Sample Name: 180-96737-A-27-B Acquired: 10/22/2019 18:13:02 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.02128	.01040	.00017	.00181	.04088
Stddev	.00260	.00022	.00072	.00495	.00005
%RSD	12.226	2.0734	427.08	273.78	.12153
#1	.02419	.01017	-.00006	-.00390	.04088
#2	.01919	.01046	.00097	.00492	.04093
#3	.02044	.01059	-.00041	.00439	.04083
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3817.1	6144.6	93977.	7219.7
Stddev	9.8	18.4	195.	47.7
%RSD	.25746	.29871	.20699	.66025
#1	3823.9	6146.8	94108.	7179.2
#2	3821.6	6161.8	94069.	7272.2
#3	3805.8	6125.3	93753.	7207.6

Sample Name: LB 180-295222/1-B Acquired: 10/22/2019 18:18:07 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00015	.01002	-.00077	.00253	.00003	-.00008
Stddev	.00009	.00638	.00166	.00008	.00025	.00011
%RSD	56.753	63.688	216.11	3.3089	925.51	128.35
#1	.00024	.01281	-.00140	.00245	.00015	-.00013
#2	.00015	.00272	.00112	.00261	.00019	.00004
#3	.00007	.01455	-.00202	.00254	-.00026	-.00015
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01676	.00017	.00008	-.00020	.00043	.00257
Stddev	.00100	.00003	.00027	.00014	.00055	.00061
%RSD	5.9649	17.314	348.16	69.915	127.59	23.855
#1	.01684	.00018	.00031	-.00033	.00073	.00300
#2	.01772	.00014	-.00022	-.00006	-.00020	.00187
#3	.01573	.00019	.00014	-.00020	.00076	.00285
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: LB 180-295222/1-B Acquired: 10/22/2019 18:18:07 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.01563	.00163	-.01185	.00010	-.00013	.02476
Stddev	.01227	.00107	.02622	.00003	.00003	.00246
%RSD	78.493	65.554	221.25	26.570	19.503	9.9304
#1	-.02763	.00151	.01216	.00008	-.00011	.02192
#2	-.00311	.00275	-.00788	.00012	-.00016	.02624
#3	-.01615	.00063	-.03983	.00008	-.00013	.02611
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00038	-.00081	-.00059	.00054	.01867	-.00031
Stddev	.00003	.00109	.00043	.00136	.00678	.00016
%RSD	8.3204	134.56	72.421	251.88	36.301	52.361
#1	-.00042	-.00206	-.00026	.00073	.02376	-.00050
#2	-.00038	-.00011	-.00108	.00179	.02127	-.00025
#3	-.00035	-.00025	-.00044	-.00091	.01098	-.00019
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: LB 180-295222/1-B Acquired: 10/22/2019 18:18:07 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00162	.00012	.00123	.00129	.00454
Stddev	.00511	.00003	.00105	.00297	.00019
%RSD	315.86	28.511	86.053	229.86	4.1630
#1	-.00042	.00014	.00019	.00299	.00443
#2	-.00216	.00008	.00230	.00303	.00443
#3	.00743	.00014	.00119	-.00214	.00476
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4129.3	6319.2	97010.	7236.6
Stddev	13.1	22.3	312.	81.2
%RSD	.31699	.35367	.32129	1.1215
#1	4117.6	6297.0	96894.	7153.5
#2	4143.4	6341.7	96774.	7315.7
#3	4126.8	6318.9	97363.	7240.6

Sample Name: 180-96737-A-11-B Acquired: 10/22/2019 18:23:17 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00056	.58610	.00827	2.6097	.03932	.00001
Stddev	.00012	.00723	.00058	.0072	.00044	.00001
%RSD	22.039	1.2344	6.9866	.27443	1.1222	225.27
#1	.00057	.58269	.00806	2.6164	.03906	.00001
#2	.00043	.58120	.00783	2.6106	.03983	-.00001
#3	.00067	.59441	.00893	2.6021	.03906	.00001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	31.427	.00054	-.00046	.00716	.60142	.53843
Stddev	.077	.00005	.00019	.00013	.00439	.00509
%RSD	.24480	9.2462	42.000	1.8229	.72937	.94548
#1	31.347	.00058	-.00048	.00720	.59737	.54402
#2	31.500	.00055	-.00063	.00726	.60608	.53720
#3	31.434	.00048	-.00025	.00701	.60082	.53406
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96737-A-11-B Acquired: 10/22/2019 18:23:17 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.1280	.00240	8.3041	.06359	.00232	77.020
Stddev	.0084	.00118	.0183	.00009	.00008	.285
%RSD	.26957	49.322	.22016	.14557	3.4853	.37017
#1	3.1377	.00309	8.3159	.06369	.00224	76.739
#2	3.1231	.00308	8.3134	.06359	.00231	77.309
#3	3.1232	.00103	8.2830	.06351	.00240	77.013
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00042	.41518	.00015	.00278	F 37.508	.00008
Stddev	.00033	.00273	.00021	.00149	.171	.00035
%RSD	78.090	.65693	143.39	53.700	.45491	443.10
#1	-.00047	.41560	.00028	.00293	37.317	.00016
#2	-.00072	.41226	.00025	.00122	37.646	.00037
#3	-.00007	.41767	-.00009	.00420	37.561	-.00030
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit					25.000	
Low Limit					-.50000	

Sample Name: 180-96737-A-11-B Acquired: 10/22/2019 18:23:17 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.08287	.01953	-.00028	.00628	.06612
Stddev	.00289	.00055	.00040	.00247	.00042
%RSD	3.4840	2.8301	142.91	39.331	.63147
#1	.08598	.01908	-.00074	.00456	.06648
#2	.08028	.01935	.00004	.00911	.06622
#3	.08234	.02014	-.00015	.00517	.06566
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3668.3	6049.7	92030.	7244.9
Stddev	9.2	16.8	66.	13.1
%RSD	.25082	.27745	.07194	.18068
#1	3659.3	6035.2	92014.	7247.6
#2	3667.9	6045.9	91973.	7230.7
#3	3677.6	6068.1	92103.	7256.5

Sample Name: 180-96737-A-11-BSD@5 Acquired: 10/22/2019 18:28:20 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00005**	**.11885**	**.00213**	**.51600**	**.00818**	**.00001**
Stddev	.00021	.01744	.00178	.00135	.00005	.00003
%RSD	399.46	14.677	83.336	.26228	.62915	327.56
#1	-.00015	.13820	.00401	.51525	.00819	-.00001
#2	-.00021	.10435	.00048	.51756	.00812	.00005
#3	.00019	.11399	.00191	.51518	.00822	-.00000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**6.2101**	**.00015**	**-.00012**	**.00138**	**.11713**	**.10705**
Stddev	.0498	.00014	.00017	.00020	.00064	.00235
%RSD	.80263	93.481	139.69	14.581	.54249	2.1916
#1	6.2152	.00019	-.00031	.00116	.11669	.10671
#2	6.2573	-.00001	.00002	.00156	.11786	.10489
#3	6.1580	.00026	-.00008	.00142	.11684	.10955
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96737-A-11-BSD@5 Acquired: 10/22/2019 18:28:20 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.58409	.00210	1.6360	.01254	.00053	15.121
Stddev	.01955	.00053	.0208	.00005	.00005	.031
%RSD	3.3478	25.336	1.2734	.41223	9.9081	.20280
#1	.56755	.00238	1.6220	.01250	.00055	15.106
#2	.57904	.00242	1.6600	.01252	.00047	15.156
#3	.60567	.00148	1.6261	.01259	.00057	15.100
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00026	.07989	-.00130	.00189	7.5333	-.00057
Stddev	.00038	.00019	.00096	.00290	.0680	.00016
%RSD	147.46	.24078	73.925	153.40	.90248	28.724
#1	.00013	.08003	-.00191	.00429	7.5397	-.00065
#2	-.00028	.07967	-.00180	.00272	7.5979	-.00068
#3	-.00063	.07996	-.00019	-.00133	7.4624	-.00038
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96737-A-11-BSD@5 Acquired: 10/22/2019 18:28:20 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.01573	.00433	.00113	.00391	.01377
Stddev	.00440	.00030	.00077	.00147	.00005
%RSD	27.991	7.0240	68.350	37.577	.36187
#1	.02028	.00429	.00197	.00458	.01382
#2	.01149	.00404	.00093	.00223	.01376
#3	.01542	.00465	.00047	.00493	.01373
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3948.7	6230.6	94881.	7261.9
Stddev	5.5	10.7	356.	43.5
%RSD	.14019	.17234	.37492	.59958
#1	3942.4	6219.6	95240.	7232.0
#2	3951.1	6230.9	94875.	7241.9
#3	3952.7	6241.1	94528.	7311.9

Sample Name: 180-96737-A-11-C MS Acquired: 10/22/2019 18:33:28 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.26329	6.0733	1.0834	4.1142	1.0700	.51935
Stddev	.00164	.1289	.0056	.0172	.0205	.00963
%RSD	.62266	2.1222	.52049	.41743	1.9191	1.8538
#1	.26490	6.0131	1.0897	4.1339	1.0678	.51732
#2	.26163	5.9854	1.0817	4.1062	1.0507	.51090
#3	.26334	6.2212	1.0788	4.1024	1.0916	.52983
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	57.516	.51526	.50988	.50534	1.1303	5.8325
Stddev	.888	.00236	.00202	.00128	.0036	.1182
%RSD	1.5439	.45763	.39584	.25343	.31389	2.0260
#1	57.216	.51772	.51213	.50627	1.1314	5.7997
#2	56.816	.51506	.50928	.50388	1.1264	5.7341
#3	58.514	.51301	.50823	.50588	1.1333	5.9636
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96737-A-11-C MS Acquired: 10/22/2019 18:33:28 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	29.630	.52576	33.797	.56687	.50242	106.18
Stddev	.516	.00978	.735	.00321	.00099	1.69
%RSD	1.7430	1.8597	2.1756	.56608	.19624	1.5873
#1	29.411	.52280	33.686	.56971	.50355	105.78
#2	29.259	.51780	33.123	.56339	.50201	104.73
#3	30.220	.53667	34.581	.56752	.50171	108.03
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.50743	.93807	.26193	1.0513	F 43.569	.97765
Stddev	.00172	.00274	.00121	.0073	.799	.00481
%RSD	.33930	.29214	.46147	.69538	1.8343	.49232
#1	.50935	.94018	.26331	1.0598	43.322	.98318
#2	.50692	.93905	.26107	1.0472	42.922	.97442
#3	.50602	.93497	.26140	1.0471	44.462	.97534
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit					25.000	
Low Limit					-.50000	

Sample Name: 180-96737-A-11-C MS Acquired: 10/22/2019 18:33:28 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.57775	.52833	.99928	.52028	.32316
Stddev	.00942	.00288	.00301	.01112	.00048
%RSD	1.6299	.54443	.30162	2.1377	.14765
#1	.57855	.53059	1.0028	.51462	.32370
#2	.56796	.52509	.99770	.51313	.32294
#3	.58674	.52931	.99738	.53310	.32282
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3509.4	5960.6	89834.	7217.3
Stddev	8.4	12.8	362.	133.1
%RSD	.23915	.21408	.40281	1.8439
#1	3500.3	5947.0	89524.	7253.9
#2	3511.0	5962.5	90232.	7328.3
#3	3516.9	5972.3	89747.	7069.8

Sample Name: 180-96737-A-11-D MSD Acquired: 10/22/2019 18:38:12 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.25409	5.7807	1.0621	4.1382	1.0251	.49890
Stddev	.00191	.0116	.0024	.0060	.0003	.00106
%RSD	.75197	.20137	.22501	.14378	.02991	.21209
#1	.25415	5.7849	1.0615	4.1357	1.0255	.49991
#2	.25215	5.7896	1.0648	4.1338	1.0250	.49899
#3	.25597	5.7675	1.0601	4.1449	1.0249	.49780
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	56.750	.50515	.49768	.48757	1.1207	5.5870
Stddev	.222	.00023	.00030	.00337	.0047	.0225
%RSD	.39139	.04565	.05961	.69099	.42053	.40288
#1	57.005	.50531	.49739	.48368	1.1153	5.6130
#2	56.644	.50489	.49766	.48950	1.1230	5.5726
#3	56.600	.50526	.49798	.48953	1.1238	5.5756
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96737-A-11-D MSD Acquired: 10/22/2019 18:38:12 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**28.731**	**.50625**	**32.664**	**.54879**	**.49140**	**105.32**
Stddev	.073	.00093	.305	.00205	.00080	.17
%RSD	.25291	.18420	.93230	.37432	.16191	.16245
#1	28.782	.50545	33.015	.54719	.49082	105.33
#2	28.763	.50727	32.482	.54807	.49106	105.49
#3	28.648	.50604	32.494	.55111	.49230	105.14
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.49402**	**.93511**	**.25735**	**1.0331**	F **44.629**	**.95415**
Stddev	.00088	.00288	.00180	.0023	.138	.00110
%RSD	.17872	.30834	.69928	.22543	.30840	.11478
#1	.49300	.93183	.25770	1.0334	44.788	.95377
#2	.49447	.93724	.25540	1.0307	44.550	.95330
#3	.49458	.93626	.25895	1.0353	44.550	.95538
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit					25.000	
Low Limit					-.50000	

Sample Name: 180-96737-A-11-D MSD Acquired: 10/22/2019 18:38:12 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.55360	.51694	.97284	.49667	.32100
Stddev	.00350	.00264	.00114	.00196	.00028
%RSD	.63283	.51115	.11714	.39365	.08637
#1	.55495	.51401	.97164	.49792	.32128
#2	.55622	.51768	.97390	.49442	.32073
#3	.54962	.51914	.97298	.49768	.32099
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3523.6	5971.9	91137.	7317.5
Stddev	3.7	7.6	323.	54.7
%RSD	.10459	.12794	.35431	.74803
#1	3527.6	5975.4	91347.	7259.0
#2	3523.0	5977.2	91300.	7325.9
#3	3520.3	5963.1	90766.	7367.6

Sample Name: 180-96737-A-11-B PDS Acquired: 10/22/2019 18:42:57 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.25320	5.6595	1.0738	3.8504	1.0675	.52273
Stddev	.00086	.1214	.0037	.0035	.0157	.00682
%RSD	.33851	2.1444	.34797	.09191	1.4669	1.3051
#1	.25419	5.5836	1.0726	3.8502	1.0611	.51851
#2	.25268	5.7995	1.0780	3.8469	1.0854	.53060
#3	.25274	5.5955	1.0708	3.8540	1.0562	.51908
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	56.932	.51121	.50990	.50300	1.1050	5.6709
Stddev	.674	.00062	.00050	.00541	.0089	.0786
%RSD	1.1842	.12091	.09735	1.0749	.80796	1.3855
#1	56.518	.51183	.51047	.50916	1.1140	5.6331
#2	57.710	.51121	.50966	.50083	1.1047	5.7612
#3	56.567	.51060	.50957	.49902	1.0962	5.6183
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96737-A-11-B PDS Acquired: 10/22/2019 18:42:57 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	29.591	.53182	33.006	.56110	.50626	104.02
Stddev	.400	.00689	.341	.00282	.00040	1.15
%RSD	1.3526	1.2948	1.0328	.50176	.07915	1.1067
#1	29.339	.52687	32.865	.56430	.50585	103.25
#2	30.053	.53969	33.395	.56002	.50665	105.34
#3	29.382	.52891	32.758	.55899	.50627	103.46
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.50552	.91180	.25601	1.0287	F 39.602	.97399
Stddev	.00108	.00181	.00029	.0027	.486	.00208
%RSD	.21343	.19873	.11470	.25892	1.2265	.21367
#1	.50609	.91288	.25596	1.0261	39.277	.97634
#2	.50427	.90971	.25574	1.0314	40.161	.97237
#3	.50618	.91281	.25632	1.0285	39.369	.97327
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit					25.000	
Low Limit					-.50000	

Sample Name: 180-96737-A-11-B PDS Acquired: 10/22/2019 18:42:57 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.56799	.53133	.99606	.51648	.31294
Stddev	.01201	.00334	.00178	.00673	.00069
%RSD	2.1140	.62842	.17873	1.3021	.22107
#1	.55866	.53518	.99564	.50949	.31325
#2	.58154	.52949	.99802	.52291	.31343
#3	.56378	.52931	.99453	.51705	.31215
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3513.4	5941.0	90260.	7191.8
Stddev	2.9	3.7	515.	97.4
%RSD	.08375	.06243	.57053	1.3538
#1	3510.2	5936.8	89672.	7267.8
#2	3516.0	5943.9	90476.	7082.1
#3	3514.1	5942.3	90632.	7225.6

Sample Name: 180-96737-A-20-B Acquired: 10/22/2019 18:47:42 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00023	.63076	.00979	2.7316	.01672	.00006
Stddev	.00055	.03070	.00219	.0166	.00036	.00010
%RSD	243.55	4.8679	22.382	.60655	2.1744	161.31
#1	.00070	.66437	.00729	2.7416	.01708	.00011
#2	-.00038	.60419	.01138	2.7125	.01674	-.00005
#3	.00036	.62372	.01070	2.7408	.01635	.00013
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.641	.00049	-.00055	.00779	.83449	.66637
Stddev	.068	.00014	.00021	.00015	.00575	.00452
%RSD	.40755	28.749	39.059	1.9334	.68854	.67858
#1	16.719	.00049	-.00073	.00785	.84086	.67150
#2	16.598	.00035	-.00060	.00790	.82970	.66300
#3	16.605	.00064	-.00031	.00762	.83291	.66459
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96737-A-20-B Acquired: 10/22/2019 18:47:42 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.2573	.00273	8.0849	.01208	.00460	42.643
Stddev	.0202	.00083	.0498	.00002	.00014	.123
%RSD	1.6082	30.397	.61637	.20436	3.0722	.28927
#1	1.2642	.00182	8.1421	.01211	.00476	42.645
#2	1.2346	.00291	8.0505	.01208	.00452	42.518
#3	1.2732	.00345	8.0621	.01206	.00452	42.765
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00183	.56984	-.00032	.00256	F 43.844	.00014
Stddev	.00029	.00344	.00164	.00058	.035	.00048
%RSD	15.864	.60288	505.61	22.634	.07989	343.21
#1	-.00195	.57377	.00011	.00196	43.876	-.00040
#2	-.00204	.56741	.00105	.00311	43.807	.00031
#3	-.00150	.56833	-.00213	.00260	43.850	.00051
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit					25.000	
Low Limit					-.50000	

Sample Name: 180-96737-A-20-B Acquired: 10/22/2019 18:47:42 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.03705	.02402	.00044	.00479	.08393
Stddev	.00772	.00051	.00045	.00263	.00051
%RSD	20.842	2.1051	101.33	54.883	.60239
#1	.04590	.02433	.00081	.00228	.08435
#2	.03355	.02344	-.00006	.00752	.08337
#3	.03170	.02429	.00057	.00456	.08408
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3815.1	6172.8	94420.	7492.0
Stddev	18.2	31.8	315.	21.5
%RSD	.47600	.51548	.33402	.28685
#1	3798.0	6148.5	94073.	7468.3
#2	3834.2	6208.9	94499.	7497.3
#3	3813.0	6161.1	94689.	7510.3

Sample Name: 180-96737-A-29-B Acquired: 10/22/2019 18:52:45 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00020	.54302	.00881	2.3951	.01674	.00007
Stddev	.00013	.04371	.00210	.0011	.00015	.00005
%RSD	66.400	8.0492	23.836	.04677	.92569	64.794
#1	.00017	.55300	.00652	2.3940	.01669	.00011
#2	.00009	.49519	.01065	2.3963	.01692	.00009
#3	.00034	.58088	.00926	2.3950	.01662	.00002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.029	.00045	-.00063	.00764	.76243	.51480
Stddev	.045	.00006	.00028	.00024	.01204	.00433
%RSD	.30113	13.733	44.465	3.1687	1.5785	.84099
#1	15.003	.00044	-.00047	.00788	.75627	.51188
#2	15.082	.00051	-.00047	.00739	.75473	.51273
#3	15.003	.00039	-.00095	.00766	.77630	.51977
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-96737-A-29-B Acquired: 10/22/2019 18:52:45 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.92045	.00287	8.0295	.00716	.00194	40.090
Stddev	.00254	.00052	.0532	.00013	.00013	.092
%RSD	.27548	18.138	.66305	1.7528	6.4473	.22927
#1	.92207	.00343	7.9692	.00715	.00198	40.035
#2	.91753	.00278	8.0701	.00704	.00205	40.196
#3	.92175	.00240	8.0492	.00729	.00180	40.040
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00212	.51338	-.00055	.00320	F 44.499	.00037
Stddev	.00033	.00244	.00050	.00359	.038	.00014
%RSD	15.357	.47433	91.131	112.26	.08464	36.988
#1	-.00243	.51256	-.00104	.00360	44.503	.00039
#2	-.00216	.51612	-.00005	.00658	44.534	.00050
#3	-.00178	.51147	-.00054	-.00058	44.459	.00023
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit					25.000	
Low Limit					-.50000	

Sample Name: 180-96737-A-29-B Acquired: 10/22/2019 18:52:45 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.03268	.01582	-.00019	.00364	.07080
Stddev	.00847	.00035	.00106	.00228	.00040
%RSD	25.930	2.2207	569.23	62.622	.56771
#1	.04177	.01571	.00079	.00610	.07103
#2	.02500	.01553	-.00003	.00321	.07103
#3	.03127	.01621	-.00131	.00160	.07033
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3817.2	6169.1	94349.	7457.1
Stddev	7.8	1.8	1190.	2.9
%RSD	.20431	.02992	1.2614	.03890
#1	3822.7	6168.6	95063.	7459.3
#2	3808.3	6167.6	95009.	7458.2
#3	3820.6	6171.2	92975.	7453.8

Sample Name: CCV 3418984 Acquired: 10/22/2019 18:57:50 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.0184	24.553	.51457	2.0568	1.9792	1.9832
Stddev	.0026	.396	.00180	.0029	.0232	.0110
%RSD	.25059	1.6128	.35049	.14087	1.1724	.55628
#1	1.0205	24.695	.51276	2.0599	1.9907	1.9866
#2	1.0191	24.106	.51637	2.0563	1.9525	1.9708
#3	1.0155	24.859	.51459	2.0541	1.9943	1.9921
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	48.731	.50337	2.0306	1.9311	1.9446	24.617
Stddev	.045	.00147	.0008	.0013	.0066	.169
%RSD	.09292	.29268	.04076	.06601	.33683	.68777
#1	48.774	.50167	2.0298	1.9308	1.9372	24.735
#2	48.684	.50417	2.0307	1.9300	1.9468	24.423
#3	48.734	.50426	2.0314	1.9325	1.9497	24.692
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3418984 Acquired: 10/22/2019 18:57:50 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**125.00**	**2.0262**	**47.976**	**1.9532**	**1.9593**	**126.51**
Stddev	.48	.0051	.461	.0032	.0022	.30
%RSD	.38721	.25318	.96085	.16351	.11504	.23921
#1	125.27	2.0249	48.138	1.9559	1.9572	126.69
#2	124.44	2.0217	47.456	1.9542	1.9617	126.17
#3	125.28	2.0318	48.334	1.9497	1.9592	126.69
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.0240**	**.49883**	**.50726**	**.51129**	**2.0187**	**1.8934**
Stddev	.0028	.00104	.00336	.00183	.0175	.0053
%RSD	.13807	.20920	.66187	.35731	.86595	.27970
#1	2.0268	.49937	.50470	.51124	2.0302	1.8875
#2	2.0241	.49949	.51106	.50949	1.9985	1.8951
#3	2.0212	.49762	.50601	.51315	2.0272	1.8977
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3418984 Acquired: 10/22/2019 18:57:50 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	1.9155	1.9699	.96053	2.0012	1.9323
Stddev	.0177	.0013	.00077	.0268	.0022
%RSD	.92190	.06465	.07968	1.3413	.11390
#1	1.9235	1.9690	.95967	2.0015	1.9298
#2	1.8952	1.9714	.96079	1.9742	1.9332
#3	1.9277	1.9694	.96114	2.0279	1.9340
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3405.5	5887.2	89126.	7240.3
Stddev	6.0	10.2	183.	50.2
%RSD	.17622	.17279	.20533	.69325
#1	3403.0	5891.0	88948.	7211.8
#2	3401.2	5875.7	89115.	7298.2
#3	3412.4	5894.9	89314.	7210.8

Sample Name: CCB11 Acquired: 10/22/2019 19:02:39 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00021	.01144	-.00073	.00367	.00019	-.00005
Stddev	.00045	.02174	.00093	.00035	.00020	.00001
%RSD	216.40	190.11	127.99	9.6460	105.15	28.193
#1	-.00073	.02440	.00015	.00367	.00024	-.00003
#2	.00003	.02358	-.00170	.00402	.00036	-.00006
#3	.00008	-.01367	-.00063	.00331	-.00003	-.00006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00371	.00000	-.00003	-.00039	.00027	.00152
Stddev	.00184	.00007	.00003	.00004	.00050	.00163
%RSD	49.615	5473.6	92.535	10.359	182.93	106.66
#1	.00194	-.00007	-.00000	-.00040	.00068	.00165
#2	.00357	.00007	-.00006	-.00035	-.00028	-.00016
#3	.00561	.00000	-.00003	-.00043	.00042	.00308
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB11 Acquired: 10/22/2019 19:02:39 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.08946	.00156	-.00186	.00003	.00034	.05266
Stddev	.01406	.00057	.02169	.00003	.00006	.00261
%RSD	15.720	36.284	1168.6	112.57	17.928	4.9543
#1	.08634	.00219	-.02681	.00005	.00029	.05567
#2	.07722	.00108	.00866	-.00001	.00041	.05127
#3	.10482	.00142	.01257	.00004	.00033	.05103
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00017	-.00039	-.00135	.00146	.00228	-.00018
Stddev	.00028	.00063	.00143	.00066	.00736	.00049
%RSD	169.23	160.85	105.76	44.876	323.10	272.21
#1	-.00016	-.00064	-.00273	.00094	.00486	-.00039
#2	.00036	-.00086	-.00146	.00125	.00800	.00038
#3	.00030	.00033	.00013	.00220	-.00602	-.00053
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB11 Acquired: 10/22/2019 19:02:39 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00307	.00003	.00192	.00184	.00053
Stddev	.01208	.00006	.00007	.00095	.00009
%RSD	393.89	193.58	3.8256	51.582	16.171
#1	.01599	-.00002	.00198	.00229	.00043
#2	.00115	.00010	.00184	.00247	.00059
#3	-.00794	.00001	.00194	.00075	.00057
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4144.8	6285.4	97806.	7432.7
Stddev	10.9	12.1	64.	21.8
%RSD	.26177	.19289	.06563	.29395
#1	4147.0	6284.1	97735.	7420.8
#2	4133.0	6273.9	97860.	7458.0
#3	4154.4	6298.1	97823.	7419.5

Sample Name: CCVL 3419892 Acquired: 10/22/2019 19:07:52 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00530	.19323	.01071	.20694	.20657	.00414
Stddev	.00017	.02422	.00149	.00014	.00057	.00009
%RSD	3.2578	12.535	13.895	.06931	.27793	2.1090
#1	.00540	.20062	.00902	.20690	.20629	.00424
#2	.00510	.21289	.01183	.20682	.20619	.00407
#3	.00540	.16617	.01127	.20710	.20723	.00412
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.0844	.00507	.04850	.00467	.02528	.10536
Stddev	.0039	.00005	.00021	.00008	.00078	.00160
%RSD	.07730	.89423	.42610	1.7462	3.0850	1.5200
#1	5.0805	.00510	.04871	.00477	.02455	.10502
#2	5.0884	.00508	.04829	.00462	.02610	.10711
#3	5.0842	.00502	.04850	.00464	.02518	.10396
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCVL 3419892 Acquired: 10/22/2019 19:07:52 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.1392**	**.05358**	**5.0444**	**.01523**	**.04066**	**5.2879**
Stddev	.0137	.00158	.0037	.00010	.00005	.0027
%RSD	.26676	2.9430	.07399	.64315	.12081	.05085
#1	5.1447	.05192	5.0479	.01533	.04060	5.2899
#2	5.1236	.05376	5.0405	.01513	.04068	5.2848
#3	5.1494	.05506	5.0449	.01522	.04069	5.2890
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.03895**	**.00916**	**.01060**	**.01189**	**.50621**	**.09909**
Stddev	.00043	.00157	.00051	.00244	.00920	.00039
%RSD	1.0992	17.150	4.8291	20.531	1.8173	.39321
#1	.03914	.01048	.01119	.01444	.51303	.09872
#2	.03925	.00742	.01031	.00958	.49574	.09950
#3	.03846	.00957	.01031	.01166	.50984	.09906
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCVL 3419892 Acquired: 10/22/2019 19:07:52 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.05585	.05045	.02035	.05249	.01985
Stddev	.00722	.00020	.00127	.00114	.00009
%RSD	12.931	.40497	6.2196	2.1677	.45855
#1	.05342	.05030	.02169	.05187	.01986
#2	.06397	.05068	.02020	.05380	.01976
#3	.05015	.05037	.01917	.05180	.01994
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4009.3	6262.2	96282.	7299.5
Stddev	6.0	6.9	252.	31.9
%RSD	.15052	.10973	.26204	.43650
#1	4004.6	6255.0	96045.	7333.3
#2	4007.2	6262.8	96254.	7295.4
#3	4016.1	6268.7	96547.	7269.9

Sample Name: MB 180-295581/1-A Acquired: 10/22/2019 19:12:58 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00039	.03531	-.00029	.00223	.00011	.00003
Stddev	.00026	.01623	.00133	.00042	.00010	.00008
%RSD	66.027	45.965	458.53	18.838	84.611	308.77
#1	-.00012	.03947	-.00088	.00272	.00015	.00011
#2	-.00041	.04906	.00123	.00202	.00000	.00001
#3	-.00064	.01741	-.00122	.00197	.00019	-.00005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00472	.00011	-.00007	-.00003	.00006	.00559
Stddev	.00146	.00006	.00029	.00033	.00046	.00241
%RSD	30.935	57.005	426.11	980.93	726.92	43.118
#1	.00641	.00017	.00021	-.00015	.00040	.00531
#2	.00384	.00005	-.00037	-.00029	.00025	.00813
#3	.00392	.00009	-.00005	.00033	-.00046	.00333
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: MB 180-295581/1-A Acquired: 10/22/2019 19:12:58 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.03348**	**.00034**	**.00087**	**.00009**	**.00009**	**.01407**
Stddev	.03794	.00139	.00372	.00004	.00017	.00700
%RSD	113.32	413.85	426.75	39.290	197.58	49.742
#1	-.06719	.00194	.00086	.00013	.00027	.01617
#2	.00760	-.00035	.00460	.00009	-.00006	.01978
#3	-.04085	-.00058	-.00284	.00006	.00005	.00626
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00023**	**.00026**	**-.00175**	**-.00032**	**.00508**	**-.00036**
Stddev	.00042	.00093	.00035	.00151	.00907	.00040
%RSD	186.79	360.61	19.925	472.44	178.60	109.06
#1	.00040	.00052	-.00160	.00132	.01519	.00009
#2	.00053	.00104	-.00215	-.00165	-.00234	-.00066
#3	-.00026	-.00078	-.00150	-.00064	.00238	-.00051
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: MB 180-295581/1-A Acquired: 10/22/2019 19:12:58 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	-.00093	.00008	.00117	.00632	.00069
Stddev	.00116	.00014	.00078	.00306	.00003
%RSD	125.46	173.29	66.363	48.487	4.9061
#1	-.00068	-.00006	.00160	.00586	.00068
#2	-.00220	.00022	.00163	.00351	.00066
#3	.00009	.00007	.00027	.00958	.00072
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4193.9	6380.6	99435.	7521.6
Stddev	7.0	9.5	106.	25.1
%RSD	.16610	.14913	.10703	.33358
#1	4188.9	6382.1	99323.	7510.7
#2	4201.9	6389.3	99535.	7550.3
#3	4191.0	6370.4	99447.	7503.8

Sample Name: LCS 180-295581/2-A Acquired: 10/22/2019 19:18:09 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.25287	4.7966	1.0281	1.2903	.96884	.48792
Stddev	.00138	.0222	.0075	.0026	.00493	.00134
%RSD	.54521	.46360	.72947	.20054	.50935	.27530
#1	.25189	4.8201	1.0354	1.2928	.97436	.48897
#2	.25444	4.7758	1.0204	1.2876	.96486	.48641
#3	.25227	4.7941	1.0284	1.2905	.96730	.48837
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.177	.49397	.48419	.47663	.48393	4.8821
Stddev	.117	.00203	.00130	.00352	.00351	.0345
%RSD	.48328	.41148	.26854	.73796	.72484	.70614
#1	24.308	.49611	.48549	.47611	.48336	4.9212
#2	24.084	.49207	.48289	.48037	.48769	4.8560
#3	24.139	.49372	.48417	.47340	.48074	4.8691
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: LCS 180-295581/2-A Acquired: 10/22/2019 19:18:09 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.940	.49560	23.564	.48034	.48946	25.517
Stddev	.096	.00136	.142	.00205	.00126	.077
%RSD	.38317	.27523	.60310	.42731	.25797	.30182
#1	25.045	.49690	23.705	.47952	.49084	25.599
#2	24.858	.49418	23.421	.48267	.48837	25.446
#3	24.918	.49572	23.565	.47882	.48915	25.506
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.48293	.48103	.25510	1.0050	.96844	.95370
Stddev	.00138	.00195	.00123	.0026	.01124	.00508
%RSD	.28666	.40525	.48306	.25586	1.1605	.53298
#1	.48439	.48109	.25652	1.0066	.98140	.95842
#2	.48164	.48295	.25435	1.0020	.96144	.94832
#3	.48276	.47905	.25443	1.0064	.96247	.95435
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: LCS 180-295581/2-A Acquired: 10/22/2019 19:18:09 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.47348	.48763	.97784	.48305	.24872
Stddev	.00562	.00247	.00280	.00464	.00119
%RSD	1.1873	.50748	.28661	.96110	.47730
#1	.47723	.48696	.98017	.48541	.24986
#2	.46702	.49037	.97863	.47770	.24749
#3	.47620	.48557	.97473	.48603	.24879
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3746.3	6125.1	94427.	7476.7
Stddev	6.1	18.7	338.	40.5
%RSD	.16162	.30458	.35760	.54129
#1	3742.8	6110.1	94512.	7430.1
#2	3753.3	6146.0	94055.	7497.3
#3	3742.9	6119.3	94714.	7502.8

Sample Name: LB 180-295420/1-C Acquired: 10/22/2019 19:22:53 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00002	-.00667	.00015	.00204	.00012	-.00006
Stddev	.00037	.02378	.00160	.00020	.00006	.00004
%RSD	2255.3	356.55	1048.9	9.7934	50.386	78.053
#1	-.00022	-.02962	-.00169	.00182	.00008	-.00001
#2	.00044	-.00824	.00126	.00209	.00009	-.00009
#3	-.00017	.01785	.00088	.00221	.00020	-.00007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00185	-.00001	.00025	-.00027	.00030	.00128
Stddev	.00326	.00011	.00032	.00008	.00043	.00200
%RSD	176.04	2039.1	125.66	30.268	142.49	156.14
#1	.00290	.00009	.00046	-.00020	-.00004	.00210
#2	-.00180	-.00013	.00041	-.00036	.00015	-.00100
#3	.00445	.00002	-.00011	-.00027	.00078	.00274
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: LB 180-295420/1-C Acquired: 10/22/2019 19:22:53 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.04885	.00098	.00122	.00000	-.00004	.01088
Stddev	.01937	.00031	.00369	.00003	.00016	.00826
%RSD	39.643	31.542	303.82	1497.8	369.88	75.895
#1	-.03029	.00084	.00524	.00000	.00013	.00529
#2	-.06893	.00134	.00043	.00003	-.00020	.02037
#3	-.04733	.00077	-.00202	-.00003	-.00006	.00698
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00015	.00028	-.00164	.00131	.01251	-.00047
Stddev	.00021	.00023	.00210	.00077	.01201	.00072
%RSD	143.10	82.184	127.81	58.997	95.990	151.57
#1	-.00027	.00054	-.00264	.00068	.01330	-.00018
#2	-.00027	.00009	.00077	.00217	.00013	.00005
#3	.00010	.00022	-.00307	.00107	.02411	-.00129
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: LB 180-295420/1-C Acquired: 10/22/2019 19:22:53 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	-.00120	.00014	.00063	.00294	.00502
Stddev	.00204	.00013	.00066	.00514	.00014
%RSD	169.64	92.949	104.14	175.00	2.6914
#1	-.00260	.00018	.00138	-.00253	.00487
#2	.00114	.00024	.00036	.00767	.00505
#3	-.00216	-.00001	.00015	.00367	.00513
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4177.8	6340.4	98421.	7605.8
Stddev	8.6	10.8	365.	60.7
%RSD	.20653	.17028	.37114	.79798
#1	4172.7	6339.4	98077.	7645.0
#2	4187.7	6351.6	98804.	7636.6
#3	4172.9	6330.1	98382.	7535.9

Sample Name: 180-97433-A-1-G Acquired: 10/22/2019 19:28:04 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00008	.03818	.00010	.23777	.00594	.00003
Stddev	.00031	.01230	.00092	.00057	.00017	.00004
%RSD	380.95	32.222	903.21	.24111	2.7961	152.87
#1	.00032	.02796	.00105	.23730	.00590	.00000
#2	.00019	.05183	.00006	.23841	.00612	.00000
#3	-.00027	.03475	-.00080	.23761	.00579	.00007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.1277	.00011	.00006	.00129	.00022	.00766
Stddev	.0029	.00010	.00002	.00043	.00024	.00154
%RSD	.26192	92.521	30.316	33.123	108.29	20.154
#1	1.1311	.00017	.00008	.00152	-.00003	.00875
#2	1.1266	.00017	.00004	.00079	.00024	.00589
#3	1.1255	-.00001	.00007	.00154	.00046	.00834
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97433-A-1-G Acquired: 10/22/2019 19:28:04 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.28860	.00118	.14339	.00550	.00053	10.562
Stddev	.02729	.00144	.00903	.00005	.00006	.033
%RSD	9.4574	121.54	6.3001	.89318	12.182	.30863
#1	.26564	.00163	.15368	.00551	.00048	10.600
#2	.31878	.00235	.13678	.00544	.00050	10.545
#3	.28139	-.00042	.13970	.00554	.00060	10.541
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00015	.00108	-.00038	.00095	.16437	.00566
Stddev	.00034	.00047	.00138	.00169	.00935	.00036
%RSD	227.42	43.598	360.91	178.34	5.6866	6.4141
#1	-.00054	.00056	-.00197	.00013	.16135	.00604
#2	.00008	.00121	.00050	.00289	.17485	.00561
#3	.00001	.00148	.00032	-.00018	.15690	.00532
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97433-A-1-G Acquired: 10/22/2019 19:28:04 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00095	.00157	.00138	.00461	6.2737
Stddev	.00420	.00014	.00048	.00279	.0158
%RSD	444.10	8.6175	34.591	60.626	.25169
#1	-.00333	.00143	.00136	.00767	6.2756
#2	.00111	.00160	.00091	.00221	6.2570
#3	.00507	.00169	.00186	.00394	6.2884
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4039.6	6232.8	97092.	7653.8
Stddev	9.5	9.9	592.	37.8
%RSD	.23537	.15941	.60924	.49439
#1	4036.0	6232.6	97423.	7610.7
#2	4050.4	6242.9	97444.	7669.1
#3	4032.5	6223.0	96409.	7681.5

Sample Name: 180-97433-A-1-G SD@5 Acquired: 10/22/2019 19:33:13 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00039	.02726	.00038	.04719	.00152	-.00000
Stddev	.00019	.01765	.00250	.00068	.00015	.00004
%RSD	48.183	64.761	649.57	1.4350	10.183	5839.8
#1	-.00025	.02255	-.00197	.04709	.00145	.00005
#2	-.00060	.04678	.00013	.04791	.00142	-.00001
#3	-.00031	.01244	.00300	.04656	.00170	-.00004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.23383	.00008	.00008	.00006	-.00026	.00303
Stddev	.00458	.00006	.00013	.00015	.00019	.00152
%RSD	1.9594	80.969	148.72	241.80	72.411	50.220
#1	.22886	.00013	-.00001	.00014	-.00007	.00277
#2	.23788	.00010	.00022	-.00011	-.00027	.00166
#3	.23476	.00001	.00004	.00015	-.00044	.00467
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97433-A-1-G SD@5 Acquired: 10/22/2019 19:33:13 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01214	.00177	.01086	.00108	.00001	2.1381
Stddev	.05804	.00050	.02226	.00001	.00009	.0325
%RSD	477.95	27.974	204.90	1.3389	1429.9	1.5183
#1	-.04451	.00122	.00605	.00108	-.00003	2.1114
#2	.00946	.00190	.03514	.00106	.00011	2.1285
#3	.07148	.00219	-.00860	.00109	-.00006	2.1742
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00023	-.00058	.00044	.00137	.04537	.00095
Stddev	.00037	.00070	.00031	.00100	.01346	.00025
%RSD	164.39	121.14	70.763	73.373	29.677	26.395
#1	.00019	-.00137	.00042	.00236	.04933	.00117
#2	-.00054	-.00028	.00077	.00137	.05641	.00099
#3	-.00033	-.00007	.00014	.00036	.03037	.00068
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97433-A-1-G SD@5 Acquired: 10/22/2019 19:33:13 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	-.00011	.00040	.00148	.00116	1.2516
Stddev	.00518	.00007	.00063	.00206	.0016
%RSD	4856.4	17.128	42.733	177.22	.12675
#1	-.00335	.00038	.00095	.00216	1.2507
#2	.00587	.00048	.00218	-.00121	1.2534
#3	-.00284	.00035	.00131	.00254	1.2506
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4137.8	6334.4	98104.	7448.7
Stddev	11.7	14.9	99.	78.6
%RSD	.28185	.23486	.10078	1.0552
#1	4132.0	6326.9	98065.	7538.9
#2	4130.2	6324.9	98216.	7411.8
#3	4151.2	6351.6	98030.	7395.3

Sample Name: 180-97433-A-1-H MS Acquired: 10/22/2019 19:38:22 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.24329	4.9419	1.0280	1.4862	.98496	.49120
Stddev	.00149	.0488	.0019	.0032	.00599	.00234
%RSD	.61130	.98729	.18883	.21409	.60830	.47707
#1	.24458	4.9965	1.0270	1.4837	.99186	.49389
#2	.24364	4.9025	1.0267	1.4851	.98193	.49016
#3	.24166	4.9268	1.0302	1.4898	.98109	.48956
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.934	.49086	.48402	.46739	.47742	4.9043
Stddev	.137	.00142	.00098	.00320	.00167	.0290
%RSD	.54977	.28929	.20254	.68483	.35068	.59032
#1	25.088	.49064	.48414	.47090	.47935	4.9377
#2	24.824	.48956	.48299	.46664	.47641	4.8870
#3	24.891	.49237	.48494	.46463	.47650	4.8881
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97433-A-1-H MS Acquired: 10/22/2019 19:38:22 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.263	.49903	23.921	.47911	.48554	33.921
Stddev	.081	.00257	.165	.00324	.00066	.069
%RSD	.32111	.51511	.69091	.67585	.13580	.20285
#1	25.341	.50143	24.048	.48250	.48541	33.987
#2	25.179	.49631	23.981	.47879	.48495	33.850
#3	25.268	.49934	23.734	.47605	.48625	33.926
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.48221	.48136	.25210	1.0106	1.1456	.95215
Stddev	.00039	.00189	.00219	.0045	.0076	.00104
%RSD	.08079	.39185	.86980	.44168	.66325	.10969
#1	.48211	.48168	.25455	1.0061	1.1544	.95133
#2	.48265	.48306	.25032	1.0150	1.1414	.95180
#3	.48189	.47933	.25143	1.0105	1.1411	.95333
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97433-A-1-H MS Acquired: 10/22/2019 19:38:22 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.47276	.48117	.97784	.49025	5.1210
Stddev	.00149	.00183	.00337	.00047	.0017
%RSD	.31461	.37983	.34437	.09627	.03374
#1	.47448	.48316	.97776	.49047	5.1191
#2	.47191	.48077	.98125	.48971	5.1224
#3	.47190	.47957	.97451	.49057	5.1216
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3705.5	6107.6	94427.	7400.4
Stddev	4.0	9.2	649.	42.4
%RSD	.10838	.15026	.68738	.57265
#1	3703.8	6107.2	93726.	7355.6
#2	3710.1	6117.0	94547.	7439.9
#3	3702.6	6098.6	95007.	7405.8

Sample Name: 180-97433-A-1-I MSD Acquired: 10/22/2019 19:43:08 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.25315	5.1144	1.0591	1.5174	1.0184	.50628
Stddev	.00070	.0330	.0015	.0039	.0091	.00322
%RSD	.27558	.64528	.13977	.25683	.89183	.63586
#1	.25369	5.1349	1.0581	1.5143	1.0184	.50767
#2	.25236	5.1319	1.0584	1.5162	1.0275	.50857
#3	.25340	5.0763	1.0608	1.5218	1.0093	.50260
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.879	.50729	.49692	.48457	.49514	5.0863
Stddev	.152	.00061	.00013	.00213	.00196	.0202
%RSD	.58854	.11979	.02606	.44011	.39534	.39731
#1	26.054	.50786	.49679	.48471	.49318	5.0968
#2	25.807	.50665	.49705	.48238	.49514	5.0990
#3	25.777	.50738	.49693	.48664	.49709	5.0630
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97433-A-1-I MSD Acquired: 10/22/2019 19:43:08 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**26.268**	**.51486**	**24.847**	**.49613**	**.49983**	**35.300**
Stddev	.087	.00234	.142	.00188	.00066	.141
%RSD	.33193	.45382	.57121	.37937	.13130	.39892
#1	26.297	.51601	24.964	.49656	.50011	35.369
#2	26.337	.51639	24.888	.49407	.49908	35.392
#3	26.170	.51217	24.689	.49775	.50030	35.137
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.49647**	**.49342**	**.26409**	**1.0415**	**1.1787**	**.98007**
Stddev	.00033	.00105	.00164	.0019	.0056	.00053
%RSD	.06743	.21377	.62187	.18283	.47368	.05359
#1	.49677	.49245	.26262	1.0437	1.1739	.97986
#2	.49611	.49454	.26377	1.0407	1.1848	.97969
#3	.49653	.49326	.26586	1.0402	1.1773	.98067
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97433-A-1-I MSD Acquired: 10/22/2019 19:43:08 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.48417	.49903	1.0031	.51178	5.3235
Stddev	.00554	.00077	.0005	.00335	.0065
%RSD	1.1448	.15457	.05014	.65430	.12141
#1	.48367	.49895	1.0029	.51367	5.3181
#2	.48995	.49831	1.0027	.51375	5.3218
#3	.47890	.49985	1.0037	.50791	5.3306
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3724.5	6132.7	94679.	7420.9
Stddev	6.4	3.6	232.	63.3
%RSD	.17176	.05931	.24493	.85358
#1	3731.7	6135.8	94737.	7364.0
#2	3722.3	6133.6	94877.	7409.4
#3	3719.5	6128.7	94424.	7489.2

Sample Name: 180-97433-A-1-G PDS Acquired: 10/22/2019 19:47:53 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.25397	5.0649	1.0685	1.5789	1.0193	.50775
Stddev	.00067	.0318	.0022	.0028	.0022	.00044
%RSD	.26395	.62852	.20339	.17761	.22088	.08636
#1	.25435	5.1007	1.0661	1.5798	1.0170	.50788
#2	.25319	5.0397	1.0691	1.5758	1.0214	.50726
#3	.25436	5.0544	1.0703	1.5812	1.0196	.50811
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.710	.51005	.50062	.48909	.50111	5.0221
Stddev	.031	.00161	.00116	.00251	.00327	.0113
%RSD	.12246	.31502	.23082	.51348	.65156	.22507
#1	25.745	.51100	.50075	.48822	.50311	5.0325
#2	25.683	.50820	.49940	.48713	.49734	5.0237
#3	25.703	.51096	.50170	.49192	.50288	5.0101
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97433-A-1-G PDS Acquired: 10/22/2019 19:47:53 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**25.971**	**.51600**	**24.430**	**.49950**	**.50073**	**36.637**
Stddev	.093	.00188	.088	.00178	.00124	.088
%RSD	.35754	.36418	.36202	.35656	.24724	.24109
#1	26.035	.51795	24.340	.49880	.50145	36.738
#2	25.865	.51420	24.433	.49818	.49930	36.601
#3	26.015	.51586	24.517	.50153	.50144	36.572
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.49936**	**.49597**	**.26122**	**1.0508**	**1.2186**	**.98286**
Stddev	.00125	.00206	.00216	.0032	.0113	.00304
%RSD	.24946	.41504	.82611	.30259	.92420	.30898
#1	.50015	.49756	.26099	1.0479	1.2076	.98176
#2	.49792	.49365	.25918	1.0502	1.2181	.98054
#3	.50001	.49671	.26348	1.0542	1.2301	.98630
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97433-A-1-G PDS Acquired: 10/22/2019 19:47:53 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.49260	.50118	1.0124	.51239	6.3133
Stddev	.00547	.00212	.0045	.00289	.0138
%RSD	1.1101	.42248	.44082	.56404	.21792
#1	.49074	.50169	1.0158	.50918	6.3186
#2	.49875	.49885	1.0074	.51478	6.2976
#3	.48830	.50299	1.0141	.51320	6.3235
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3715.0	6128.2	94175.	7440.9
Stddev	9.9	14.8	436.	9.7
%RSD	.26522	.24200	.46256	.12986
#1	3710.0	6122.7	94284.	7449.7
#2	3726.4	6145.0	94546.	7430.5
#3	3708.7	6117.0	93695.	7442.4

Sample Name: CCV 3418984 Acquired: 10/22/2019 19:52:40 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.0154	24.704	.51538	2.0645	2.0075	1.9940
Stddev	.0011	.232	.00180	.0040	.0254	.0131
%RSD	.10767	.94114	.34933	.19577	1.2642	.65889
#1	1.0152	24.532	.51698	2.0615	1.9844	1.9833
#2	1.0145	24.968	.51343	2.0629	2.0347	2.0087
#3	1.0166	24.610	.51573	2.0691	2.0035	1.9900
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	48.695	.50329	2.0368	1.9192	1.9369	24.735
Stddev	.180	.00173	.0031	.0037	.0063	.172
%RSD	.37014	.34388	.15181	.19531	.32801	.69376
#1	48.711	.50282	2.0333	1.9188	1.9360	24.619
#2	48.867	.50185	2.0387	1.9231	1.9437	24.932
#3	48.507	.50521	2.0385	1.9157	1.9311	24.654
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3418984 Acquired: 10/22/2019 19:52:40 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**125.55**	**2.0347**	**48.227**	**1.9498**	**1.9628**	**127.07**
Stddev	.75	.0016	.512	.0025	.0038	.34
%RSD	.59905	.07869	1.0626	.12931	.19418	.26914
#1	125.01	2.0329	47.783	1.9496	1.9602	126.97
#2	126.41	2.0357	48.788	1.9524	1.9610	127.45
#3	125.24	2.0356	48.110	1.9474	1.9672	126.79
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.0313**	**.49950**	**.50558**	**.51712**	**1.9888**	**1.8990**
Stddev	.0036	.00135	.00186	.00413	.0204	.0043
%RSD	.17602	.26966	.36694	.79925	1.0251	.22530
#1	2.0272	.49898	.50350	.51237	1.9945	1.8988
#2	2.0334	.49849	.50705	.51988	2.0057	1.8948
#3	2.0334	.50103	.50620	.51912	1.9662	1.9033
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3418984 Acquired: 10/22/2019 19:52:40 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	1.9383	1.9654	.96615	2.0154	1.9345
Stddev	.0180	.0027	.00125	.0216	.0059
%RSD	.93001	.13673	.12891	1.0706	.30509
#1	1.9209	1.9650	.96472	1.9951	1.9333
#2	1.9569	1.9683	.96673	2.0381	1.9293
#3	1.9372	1.9629	.96701	2.0129	1.9410
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3405.4	5901.1	89930.	7223.0
Stddev	7.7	5.8	206.	54.5
%RSD	.22577	.09775	.22919	.75421
#1	3412.8	5905.8	90021.	7255.1
#2	3397.5	5902.7	89694.	7160.1
#3	3406.0	5894.6	90075.	7253.9

Sample Name: CCB12 Acquired: 10/22/2019 19:57:27 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00030	.00673	.00022	.00162	-.00006	.00005
Stddev	.00022	.00744	.00178	.00046	.00007	.00010
%RSD	73.640	110.48	798.80	28.406	101.46	196.61
#1	-.00050	.01431	.00201	.00126	-.00014	.00017
#2	-.00006	-.00056	-.00155	.00146	-.00004	.00002
#3	-.00034	.00644	.00021	.00214	-.00002	-.00003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00082	.00006	.00001	-.00029	.00054	.00262
Stddev	.00386	.00016	.00010	.00021	.00041	.00074
%RSD	472.96	289.76	707.87	73.484	76.895	28.126
#1	-.00498	-.00008	-.00002	-.00049	.00009	.00325
#2	.00266	.00001	.00012	-.00007	.00089	.00181
#3	-.00013	.00024	-.00006	-.00030	.00063	.00279
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB12 Acquired: 10/22/2019 19:57:27 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.08138	.00069	-.02212	.00004	.00027	.04063
Stddev	.01187	.00040	.02446	.00001	.00020	.00523
%RSD	14.590	57.173	110.60	20.621	75.174	12.877
#1	.09032	.00111	-.00058	.00005	.00050	.04333
#2	.08592	.00032	-.01706	.00004	.00019	.03460
#3	.06791	.00065	-.04871	.00004	.00012	.04397
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00020	-.00010	.00040	.00258	.00067	-.00037
Stddev	.00008	.00071	.00127	.00104	.00243	.00052
%RSD	38.297	736.12	320.52	40.162	361.86	139.74
#1	-.00020	.00022	.00186	.00363	.00164	-.00078
#2	-.00027	-.00091	-.00044	.00257	.00247	-.00057
#3	-.00012	.00040	-.00023	.00155	-.00210	.00022
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB12 Acquired: 10/22/2019 19:57:27 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00320	.00028	.00045	.00267	.00058
Stddev	.00313	.00006	.00040	.00428	.00001
%RSD	97.929	23.443	89.231	160.38	2.1340
#1	.00629	.00032	.00009	.00750	.00057
#2	.00326	.00030	.00089	.00119	.00059
#3	.00003	.00020	.00037	-.00068	.00057
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4151.4	6297.6	97910.	7399.9
Stddev	4.6	1.3	322.	53.2
%RSD	.10985	.02077	.32868	.71906
#1	4152.8	6299.0	97538.	7420.1
#2	4155.0	6296.4	98082.	7440.0
#3	4146.2	6297.3	98109.	7339.5

Sample Name: 180-97435-A-1-G Acquired: 10/22/2019 20:02:40 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00183	.87181	.00169	.55990	.08715	-.00002
Stddev	.00015	.02566	.00176	.00136	.00112	.00001
%RSD	7.9418	2.9435	104.31	.24329	1.2807	59.420
#1	.00186	.89755	.00260	.55958	.08821	-.00004
#2	.00195	.84623	.00281	.56139	.08599	-.00001
#3	.00167	.87166	-.00034	.55872	.08724	-.00002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.8167	.00017	-.00036	.00324	.03385	.06224
Stddev	.0012	.00003	.00014	.00028	.00070	.00069
%RSD	.03083	19.411	38.760	8.7296	2.0576	1.1055
#1	3.8154	.00016	-.00051	.00357	.03412	.06194
#2	3.8177	.00014	-.00023	.00311	.03436	.06175
#3	3.8168	.00021	-.00034	.00306	.03305	.06302
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97435-A-1-G Acquired: 10/22/2019 20:02:40 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.39219	.00196	1.1803	.00184	.00025	9.6257
Stddev	.01912	.00078	.0238	.00002	.00011	.0313
%RSD	4.8761	39.976	2.0167	1.2023	44.567	.32514
#1	.37469	.00285	1.1891	.00182	.00018	9.6618
#2	.38927	.00142	1.1533	.00187	.00019	9.6077
#3	.41260	.00159	1.1984	.00184	.00037	9.6075
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00023	.00206	-.00140	.00129	13.415	.00839
Stddev	.00031	.00039	.00074	.00209	.043	.00033
%RSD	135.56	18.769	52.765	162.21	.32399	3.9294
#1	.00052	.00212	-.00119	.00329	13.452	.00804
#2	-.00010	.00164	-.00079	.00146	13.367	.00845
#3	.00028	.00241	-.00223	-.00088	13.427	.00869
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97435-A-1-G Acquired: 10/22/2019 20:02:40 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.01373	.00519	.00082	.00286	.06668
Stddev	.00588	.00003	.00056	.00376	.00006
%RSD	42.780	.50462	68.518	131.31	.08376
#1	.01017	.00516	.00018	-.00071	.06667
#2	.01051	.00521	.00107	.00251	.06662
#3	.02051	.00520	.00121	.00679	.06673
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4048.9	6315.0	97758.	7528.7
Stddev	7.5	7.4	407.	53.5
%RSD	.18558	.11755	.41628	.70999
#1	4040.7	6311.9	98050.	7508.7
#2	4050.4	6309.7	97293.	7589.3
#3	4055.5	6323.5	97931.	7488.1

Sample Name: 180-97435-A-1-G SD@5 Acquired: 10/22/2019 20:07:45 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00004	.17057	-.00076	.11340	.01749	-.00006
Stddev	.00059	.03258	.00166	.00055	.00011	.00003
%RSD	1428.1	19.103	217.21	.48778	.61803	48.640
#1	-.00048	.13434	-.00261	.11322	.01746	-.00004
#2	.00068	.19748	-.00026	.11402	.01740	-.00005
#3	-.00007	.17988	.00058	.11296	.01761	-.00010
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.75772	.00008	-.00001	.00037	.00742	.01175
Stddev	.00423	.00005	.00020	.00007	.00030	.00169
%RSD	.55838	64.652	1751.0	19.992	3.9901	14.345
#1	.76053	.00006	.00015	.00029	.00773	.01269
#2	.75286	.00004	.00005	.00038	.00739	.00980
#3	.75978	.00014	-.00023	.00044	.00714	.01275
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97435-A-1-G SD@5 Acquired: 10/22/2019 20:07:45 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.07072	.00095	.20105	.00039	-.00005	1.9170
Stddev	.03681	.00114	.00400	.00001	.00009	.0159
%RSD	52.043	120.22	1.9880	3.2258	176.54	.83044
#1	.03241	-.00003	.19863	.00038	-.00004	1.9302
#2	.10582	.00068	.19885	.00041	-.00015	1.9215
#3	.07394	.00220	.20566	.00039	.00003	1.8993
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00029	.00083	-.00106	.00032	2.6241	.00126
Stddev	.00019	.00075	.00124	.00112	.0187	.00020
%RSD	65.099	90.402	116.52	350.63	.71390	16.261
#1	-.00030	.00112	-.00004	-.00093	2.6456	.00122
#2	-.00010	.00140	-.00070	.00124	2.6152	.00107
#3	-.00047	-.00002	-.00244	.00065	2.6115	.00147
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97435-A-1-G SD@5 Acquired: 10/22/2019 20:07:45 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00481	.00099	.00077	.00233	.01364
Stddev	.00257	.00011	.00086	.00411	.00021
%RSD	53.422	11.433	111.97	176.06	1.5410
#1	.00777	.00086	.00071	-.00068	.01387
#2	.00340	.00104	.00166	.00067	.01360
#3	.00324	.00108	-.00006	.00702	.01346
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4154.5	6362.4	98619.	7567.4
Stddev	2.4	8.5	182.	17.1
%RSD	.05819	.13405	.18427	.22588
#1	4156.2	6372.2	98695.	7549.4
#2	4151.8	6357.4	98411.	7569.4
#3	4155.6	6357.6	98750.	7583.4

Sample Name: 180-97435-A-1-H MS Acquired: 10/22/2019 20:12:56 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.25273	5.8046	1.0390	1.8832	1.0675	.49456
Stddev	.00138	.0673	.0054	.0096	.0027	.00326
%RSD	.54438	1.1603	.52083	.50880	.25659	.66010
#1	.25171	5.8004	1.0450	1.8930	1.0687	.49686
#2	.25219	5.7394	1.0375	1.8826	1.0644	.49082
#3	.25430	5.8739	1.0345	1.8739	1.0695	.49599
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	28.155	.49898	.48768	.47990	.51527	5.0170
Stddev	.111	.00213	.00187	.00235	.00130	.0188
%RSD	.39591	.42739	.38345	.48977	.25316	.37550
#1	28.235	.50144	.48979	.48068	.51637	5.0278
#2	28.028	.49769	.48703	.47726	.51383	4.9952
#3	28.202	.49780	.48622	.48176	.51562	5.0279
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97435-A-1-H MS Acquired: 10/22/2019 20:12:56 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**25.885**	**.50307**	**25.251**	**.48670**	**.48886**	**35.321**
Stddev	.091	.00271	.190	.00261	.00217	.188
%RSD	.35287	.53849	.75095	.53719	.44386	.53322
#1	25.927	.50589	25.223	.48647	.49132	35.466
#2	25.780	.50049	25.077	.48421	.48799	35.108
#3	25.947	.50283	25.453	.48942	.48725	35.388
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.48637**	**.48564**	**.25967**	**1.0156**	**14.217**	**.96898**
Stddev	.00250	.00224	.00085	.0040	.127	.00357
%RSD	.51420	.46217	.32741	.39385	.89119	.36874
#1	.48926	.48812	.26057	1.0198	14.310	.97291
#2	.48490	.48374	.25888	1.0150	14.073	.96809
#3	.48495	.48506	.25955	1.0119	14.269	.96593
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97435-A-1-H MS Acquired: 10/22/2019 20:12:56 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.49216	.49556	.98600	.49481	.31670
Stddev	.00399	.00187	.00509	.00297	.00114
%RSD	.81162	.37680	.51574	.59937	.36044
#1	.49399	.49512	.99187	.49180	.31791
#2	.49491	.49396	.98301	.49491	.31565
#3	.48758	.49761	.98311	.49773	.31653
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3716.1	6130.3	94205.	7478.2
Stddev	14.4	24.5	263.	44.4
%RSD	.38821	.40028	.27942	.59338
#1	3699.6	6102.4	94385.	7483.9
#2	3722.3	6140.2	94328.	7519.4
#3	3726.4	6148.3	93903.	7431.2

Sample Name: 180-97435-A-1-I MSD Acquired: 10/22/2019 20:17:42 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.24634	5.7269	1.0156	1.8279	1.0530	.48495
Stddev	.00054	.0409	.0052	.0042	.0064	.00221
%RSD	.21822	.71473	.51360	.23206	.60633	.45511
#1	.24690	5.7729	1.0176	1.8295	1.0598	.48750
#2	.24583	5.7131	1.0097	1.8231	1.0519	.48384
#3	.24629	5.6946	1.0195	1.8311	1.0472	.48353
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	27.557	.48760	.47761	.47012	.50474	4.9539
Stddev	.102	.00079	.00032	.00318	.00346	.0196
%RSD	.37127	.16252	.06723	.67718	.68489	.39653
#1	27.609	.48783	.47759	.47051	.50440	4.9761
#2	27.439	.48672	.47729	.46676	.50146	4.9389
#3	27.623	.48826	.47794	.47310	.50835	4.9466
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97435-A-1-I MSD Acquired: 10/22/2019 20:17:42 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.365	.49284	25.019	.47693	.47964	34.669
Stddev	.074	.00109	.202	.00089	.00130	.047
%RSD	.28989	.22159	.80899	.18711	.27108	.13464
#1	25.449	.49398	25.206	.47709	.48016	34.697
#2	25.310	.49180	25.046	.47596	.47816	34.615
#3	25.337	.49274	24.804	.47773	.48060	34.695
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.47626	.47393	.25421	.99114	13.998	.94839
Stddev	.00064	.00171	.00233	.00250	.048	.00358
%RSD	.13531	.36001	.91623	.25229	.34424	.37755
#1	.47700	.47209	.25248	.99219	14.012	.94842
#2	.47597	.47424	.25686	.98828	13.944	.94479
#3	.47582	.47547	.25329	.99294	14.037	.95195
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97435-A-1-I MSD Acquired: 10/22/2019 20:17:42 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.48383	.48611	.96407	.49018	.31127
Stddev	.00065	.00089	.00180	.00564	.00151
%RSD	.13417	.18260	.18672	1.1500	.48435
#1	.48442	.48678	.96209	.49248	.31150
#2	.48314	.48510	.96560	.49430	.30966
#3	.48395	.48644	.96454	.48376	.31264
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3727.7	6140.9	94393.	7458.5
Stddev	4.7	15.7	142.	19.1
%RSD	.12593	.25545	.15058	.25569
#1	3732.6	6148.4	94290.	7436.5
#2	3727.2	6151.5	94555.	7468.1
#3	3723.2	6122.9	94334.	7470.8

Sample Name: 180-97435-A-1-G PDS Acquired: 10/22/2019 20:22:27 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.25182	5.8187	1.0451	1.8600	1.0854	.50169
Stddev	.00046	.0726	.0032	.0037	.0073	.00169
%RSD	.18367	1.2473	.30801	.19821	.67497	.33725
#1	.25186	5.7384	1.0478	1.8631	1.0771	.49975
#2	.25133	5.8382	1.0415	1.8560	1.0881	.50286
#3	.25225	5.8796	1.0458	1.8611	1.0910	.50245
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	28.468	.50301	.49578	.48866	.52631	5.0766
Stddev	.060	.00097	.00180	.00201	.00283	.0494
%RSD	.21205	.19340	.36263	.41063	.53734	.97344
#1	28.507	.50363	.49623	.48749	.52654	5.0252
#2	28.399	.50189	.49379	.49098	.52902	5.0809
#3	28.499	.50351	.49730	.48751	.52338	5.1237
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97435-A-1-G PDS Acquired: 10/22/2019 20:22:27 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	26.073	.51290	25.483	.49589	.50034	35.607
Stddev	.079	.00182	.221	.00010	.00097	.070
%RSD	.30270	.35508	.86544	.01922	.19352	.19775
#1	25.983	.51450	25.256	.49578	.50114	35.654
#2	26.113	.51092	25.696	.49596	.49926	35.526
#3	26.125	.51329	25.498	.49592	.50062	35.640
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.49482	.49112	.26002	1.0162	14.454	.98179
Stddev	.00112	.00218	.00122	.0021	.083	.00248
%RSD	.22644	.44478	.47063	.20497	.57412	.25273
#1	.49560	.48880	.26116	1.0164	14.494	.98107
#2	.49354	.49144	.26016	1.0182	14.359	.97975
#3	.49532	.49313	.25873	1.0140	14.510	.98455
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97435-A-1-G PDS Acquired: 10/22/2019 20:22:27 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.49731	.50576	.99073	.49913	.31796
Stddev	.00495	.00109	.00565	.00383	.00072
%RSD	.99617	.21513	.57066	.76833	.22503
#1	.49201	.50623	.99286	.49472	.31803
#2	.49810	.50653	.98431	.50102	.31721
#3	.50182	.50452	.99500	.50166	.31863
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3717.2	6127.9	94348.	7476.6
Stddev	10.3	12.6	122.	22.8
%RSD	.27588	.20619	.12978	.30502
#1	3708.7	6115.5	94456.	7498.6
#2	3728.6	6140.8	94215.	7453.1
#3	3714.2	6127.3	94371.	7478.1

Sample Name: 180-97438-A-1-G Acquired: 10/22/2019 20:27:12 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00002	.00302	.00178	.20042	.00737	.00000
Stddev	.00040	.02520	.00126	.00083	.00022	.00009
%RSD	2104.6	833.12	70.579	.41492	3.0125	2370.6
#1	-.00034	.01145	.00057	.19946	.00713	-.00002
#2	.00043	.02293	.00170	.20094	.00743	-.00008
#3	-.00015	-.02531	.00308	.20086	.00756	.00011
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.74255	.00012	.00031	.00096	-.00035	.00443
Stddev	.01269	.00005	.00010	.00021	.00018	.00266
%RSD	1.7096	40.238	30.631	22.006	50.606	60.063
#1	.73460	.00008	.00043	.00109	-.00054	.00273
#2	.75719	.00017	.00025	.00071	-.00019	.00750
#3	.73587	.00010	.00027	.00106	-.00032	.00307
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97438-A-1-G Acquired: 10/22/2019 20:27:12 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.49315	.00047	.09997	.00047	.00030	84.307
Stddev	.02745	.00073	.02544	.00005	.00004	1.342
%RSD	5.5669	155.37	25.446	10.266	11.799	1.5923
#1	.52476	.00048	.07096	.00049	.00034	83.245
#2	.47526	-.00027	.11053	.00051	.00030	85.816
#3	.47942	.00120	.11844	.00042	.00027	83.860
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00015	.00033	-.00005	.00320	.51019	.00004
Stddev	.00025	.00092	.00093	.00081	.00736	.00023
%RSD	161.96	276.48	2013.2	25.350	1.4422	587.97
#1	.00033	-.00072	-.00006	.00414	.51340	-.00021
#2	-.00013	.00101	.00089	.00277	.51540	.00025
#3	.00026	.00071	-.00096	.00270	.50177	.00008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97438-A-1-G Acquired: 10/22/2019 20:27:12 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00059	.00012	.00021	.00134	.00291
Stddev	.01009	.00006	.00051	.00342	.00011
%RSD	1703.8	45.219	241.22	255.57	3.7109
#1	-.00453	.00009	.00078	.00011	.00280
#2	-.00590	.00019	.00008	.00520	.00289
#3	.01221	.00009	-.00022	-.00129	.00302
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3796.3	6119.0	93954.	7383.2
Stddev	15.9	17.1	179.	105.4
%RSD	.41827	.27965	.19051	1.4280
#1	3804.7	6133.5	94160.	7463.2
#2	3778.0	6100.1	93869.	7263.8
#3	3806.3	6123.5	93833.	7422.8

Sample Name: 180-97438-A-1-G SD@5 Acquired: 10/22/2019 20:32:23 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00005	.00703	.00070	.03900	.00173	.00006
Stddev	.00016	.00609	.00120	.00027	.00040	.00003
%RSD	293.55	86.591	172.01	.69541	23.224	49.619
#1	-.00002	.01398	-.00043	.03900	.00128	.00004
#2	-.00022	.00448	.00195	.03872	.00186	.00010
#3	.00008	.00264	.00057	.03927	.00206	.00005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.14351	.00012	.00007	.00001	.00042	.00082
Stddev	.00385	.00008	.00025	.00023	.00080	.00105
%RSD	2.6825	71.099	349.22	1901.3	192.26	129.05
#1	.14030	.00004	.00036	-.00020	-.00050	-.00029
#2	.14246	.00011	-.00003	.00025	.00099	.00181
#3	.14778	.00021	-.00011	-.00002	.00077	.00093
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97438-A-1-G SD@5 Acquired: 10/22/2019 20:32:23 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.07873	.00192	-.01372	.00008	.00003	16.227
Stddev	.02131	.00095	.03288	.00001	.00008	.048
%RSD	27.072	49.683	239.70	7.1709	250.01	.29411
#1	.10299	.00298	-.05050	.00008	.00010	16.188
#2	.06299	.00164	.01281	.00009	.00005	16.280
#3	.07022	.00113	-.00346	.00008	-.00005	16.213
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00012	.00112	.00022	.00221	.09271	-.00012
Stddev	.00040	.00107	.00052	.00063	.00560	.00013
%RSD	342.43	94.707	232.56	28.347	6.0355	100.99
#1	.00012	.00233	.00077	.00149	.08846	-.00001
#2	-.00057	.00073	.00014	.00260	.09062	-.00010
#3	.00011	.00031	-.00025	.00256	.09905	-.00026
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97438-A-1-G SD@5 Acquired: 10/22/2019 20:32:23 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00311	.00007	.00047	.00246	.00098
Stddev	.00676	.00021	.00084	.00392	.00004
%RSD	217.02	277.63	178.21	159.18	4.4600
#1	.00898	.00014	.00087	.00699	.00102
#2	.00464	-.00016	-.00050	.00014	.00099
#3	-.00427	.00024	.00105	.00026	.00093
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4035.7	6266.5	96647.	7396.1
Stddev	4.6	6.9	514.	32.5
%RSD	.11434	.10988	.53141	.43977
#1	4032.3	6268.0	96143.	7371.8
#2	4034.0	6259.0	97170.	7383.4
#3	4041.0	6272.6	96628.	7433.0

Sample Name: 180-97438-A-1-H MS Acquired: 10/22/2019 20:37:34 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.24704	4.9316	1.0672	1.4690	1.0010	.49588
Stddev	.00064	.0488	.0046	.0030	.0109	.00235
%RSD	.25868	.99034	.42703	.20625	1.0884	.47362
#1	.24657	4.9803	1.0627	1.4660	1.0118	.49842
#2	.24677	4.9318	1.0671	1.4688	1.0012	.49543
#3	.24777	4.8826	1.0718	1.4721	.98997	.49379
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.291	.49766	.49058	.47693	.48323	5.0053
Stddev	.051	.00126	.00266	.00241	.00143	.0253
%RSD	.20092	.25245	.54222	.50590	.29501	.50471
#1	25.233	.49711	.48751	.47693	.48267	5.0217
#2	25.311	.49677	.49201	.47934	.48485	5.0179
#3	25.328	.49910	.49222	.47451	.48217	4.9762
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97438-A-1-H MS Acquired: 10/22/2019 20:37:34 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**26.081**	**.50680**	**24.289**	**.48510**	**.49469**	**109.44**
Stddev	.096	.00164	.144	.00068	.00151	.17
%RSD	.36966	.32448	.59113	.13937	.30603	.15383
#1	26.183	.50600	24.388	.48458	.49374	109.37
#2	26.070	.50571	24.355	.48586	.49389	109.32
#3	25.991	.50869	24.125	.48485	.49643	109.63
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.48708**	**.47631**	**.25837**	**1.0527**	**1.4791**	**.94637**
Stddev	.00158	.00062	.00158	.0071	.0118	.00116
%RSD	.32394	.12983	.61154	.67679	.79956	.12207
#1	.48528	.47618	.25783	1.0448	1.4835	.94548
#2	.48771	.47698	.25712	1.0546	1.4657	.94596
#3	.48824	.47576	.26014	1.0587	1.4881	.94768
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97438-A-1-H MS Acquired: 10/22/2019 20:37:34 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.48176	.49112	.94835	.50406	.25597
Stddev	.00538	.00081	.00416	.00140	.00132
%RSD	1.1158	.16419	.43857	.27792	.51383
#1	.48787	.49039	.94361	.50423	.25485
#2	.47962	.49199	.95006	.50536	.25564
#3	.47778	.49100	.95139	.50258	.25742
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3661.3	6021.6	93286.	7429.0
Stddev	14.4	17.5	263.	64.8
%RSD	.39400	.28981	.28143	.87188
#1	3677.8	6037.1	93340.	7386.4
#2	3655.0	6024.9	93001.	7396.9
#3	3651.1	6002.7	93518.	7503.5

Sample Name: 180-97438-A-1-I MSD Acquired: 10/22/2019 20:42:20 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.24787	4.9427	1.0604	1.4634	.99272	.49329
Stddev	.00088	.0328	.0015	.0049	.00764	.00296
%RSD	.35435	.66417	.14620	.33109	.76919	.59981
#1	.24886	4.9485	1.0609	1.4689	.99818	.49413
#2	.24755	4.9073	1.0586	1.4614	.98399	.49001
#3	.24720	4.9722	1.0616	1.4599	.99598	.49575
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.211	.49554	.48878	.47788	.48287	4.9964
Stddev	.057	.00032	.00150	.00156	.00164	.0151
%RSD	.22764	.06530	.30708	.32585	.34062	.30249
#1	25.179	.49520	.49006	.47727	.48097	5.0112
#2	25.177	.49585	.48914	.47965	.48379	4.9810
#3	25.277	.49557	.48713	.47672	.48385	4.9971
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97438-A-1-I MSD Acquired: 10/22/2019 20:42:20 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	26.068	.50642	24.136	.48636	.49428	109.23
Stddev	.057	.00139	.116	.00036	.00031	.45
%RSD	.21854	.27473	.48251	.07476	.06267	.41015
#1	26.082	.50712	24.048	.48629	.49461	109.30
#2	26.006	.50482	24.091	.48676	.49399	108.75
#3	26.117	.50733	24.268	.48604	.49424	109.64
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.48672	.47469	.25762	1.0482	1.4668	.94654
Stddev	.00108	.00090	.00054	.0029	.0085	.00211
%RSD	.22096	.18957	.20881	.27609	.58198	.22249
#1	.48723	.47538	.25755	1.0481	1.4650	.94868
#2	.48746	.47367	.25819	1.0511	1.4593	.94646
#3	.48549	.47501	.25713	1.0453	1.4761	.94447
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97438-A-1-I MSD Acquired: 10/22/2019 20:42:20 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.47490	.49159	.94711	.49407	.25595
Stddev	.00220	.00074	.00125	.00592	.00006
%RSD	.46324	.14954	.13246	1.1979	.02332
#1	.47479	.49085	.94834	.50054	.25595
#2	.47276	.49233	.94715	.49276	.25589
#3	.47715	.49159	.94583	.48892	.25601
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3660.9	6026.8	92701.	7484.8
Stddev	.8	6.4	179.	37.7
%RSD	.02199	.10660	.19357	.50361
#1	3661.3	6033.2	92710.	7498.0
#2	3660.0	6026.7	92517.	7514.0
#3	3661.5	6020.4	92875.	7442.2

Sample Name: 180-97438-A-1-G PDS Acquired: 10/22/2019 20:47:06 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.24419	5.0528	1.0941	1.4783	1.0270	.51158
Stddev	.00062	.0451	.0034	.0016	.0101	.00133
%RSD	.25221	.89329	.31069	.10677	.98560	.25991
#1	.24469	5.0944	1.0941	1.4797	1.0372	.51309
#2	.24350	5.0592	1.0975	1.4766	1.0267	.51106
#3	.24439	5.0048	1.0907	1.4787	1.0170	.51058
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.419	.51277	.50893	.49549	.49768	5.0442
Stddev	.021	.00069	.00081	.00194	.00285	.0167
%RSD	.08098	.13366	.15917	.39252	.57228	.33142
#1	25.437	.51198	.50879	.49453	.49439	5.0434
#2	25.422	.51324	.50820	.49772	.49940	5.0613
#3	25.397	.51309	.50980	.49420	.49925	5.0279
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97438-A-1-G PDS Acquired: 10/22/2019 20:47:06 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**26.221**	**.51929**	**24.636**	**.50324**	**.50552**	**107.44**
Stddev	.108	.00050	.051	.00079	.00046	.07
%RSD	.41291	.09714	.20503	.15664	.09067	.06273
#1	26.343	.51886	24.671	.50294	.50529	107.41
#2	26.184	.51916	24.659	.50414	.50521	107.52
#3	26.135	.51985	24.578	.50265	.50604	107.40
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.50716**	**.49881**	**.25401**	**1.0864**	**1.4898**	**.98275**
Stddev	.00159	.00306	.00162	.0051	.0085	.00270
%RSD	.31448	.61333	.63738	.46917	.57127	.27517
#1	.50622	.50205	.25522	1.0805	1.4821	.98056
#2	.50626	.49597	.25463	1.0890	1.4883	.98192
#3	.50900	.49841	.25217	1.0896	1.4989	.98578
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97438-A-1-G PDS Acquired: 10/22/2019 20:47:06 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.49594	.50510	.99390	.51415	.25336
Stddev	.00114	.00135	.00209	.00454	.00052
%RSD	.22973	.26783	.21019	.88277	.20545
#1	.49584	.50377	.99153	.51598	.25282
#2	.49486	.50647	.99473	.51748	.25339
#3	.49713	.50505	.99546	.50898	.25386
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3668.1	6095.2	92953.	7398.8
Stddev	4.9	2.2	179.	55.6
%RSD	.13272	.03554	.19257	.75192
#1	3668.2	6094.9	92878.	7334.5
#2	3672.9	6097.5	92823.	7429.6
#3	3663.2	6093.2	93157.	7432.1

Sample Name: CCV 3418984 Acquired: 10/22/2019 20:51:52 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.0186	24.965	.51737	2.0633	2.0067	2.0042
Stddev	.0007	.132	.00141	.0031	.0123	.0067
%RSD	.07215	.52925	.27297	.14935	.61070	.33348
#1	1.0179	25.114	.51597	2.0664	2.0194	2.0118
#2	1.0194	24.921	.51734	2.0634	2.0057	2.0012
#3	1.0187	24.862	.51879	2.0602	1.9950	1.9995
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	49.115	.50442	2.0412	1.9302	1.9441	24.936
Stddev	.127	.00059	.0036	.0055	.0006	.128
%RSD	.25761	.11786	.17597	.28570	.03269	.51203
#1	49.256	.50373	2.0440	1.9250	1.9442	25.083
#2	49.012	.50472	2.0425	1.9360	1.9434	24.860
#3	49.077	.50480	2.0372	1.9295	1.9446	24.865
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3418984 Acquired: 10/22/2019 20:51:52 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**126.41**	**2.0482**	**48.714**	**1.9575**	**1.9688**	**127.88**
Stddev	.41	.0034	.195	.0043	.0025	.23
%RSD	.32577	.16492	.40061	.21966	.12733	.17875
#1	126.79	2.0520	48.915	1.9542	1.9713	128.07
#2	126.45	2.0472	48.701	1.9624	1.9663	127.94
#3	125.97	2.0454	48.526	1.9561	1.9686	127.62
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.0325**	**.50045**	**.50810**	**.51687**	**2.0108**	**1.9014**
Stddev	.0051	.00136	.00333	.00224	.0038	.0004
%RSD	.25008	.27192	.65460	.43313	.19028	.01980
#1	2.0373	.50198	.51064	.51492	2.0083	1.9017
#2	2.0330	.50003	.50934	.51931	2.0152	1.9010
#3	2.0272	.49936	.50434	.51638	2.0088	1.9016
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3418984 Acquired: 10/22/2019 20:51:52 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	1.9532	1.9770	.96547	2.0365	1.9456
Stddev	.0181	.0022	.00256	.0175	.0031
%RSD	.92694	.11015	.26507	.85919	.15781
#1	1.9682	1.9748	.96734	2.0551	1.9491
#2	1.9583	1.9769	.96652	2.0340	1.9432
#3	1.9331	1.9791	.96256	2.0203	1.9446
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3432.6	5945.7	90530.	7226.6
Stddev	6.7	3.1	210.	48.7
%RSD	.19604	.05265	.23208	.67353
#1	3430.5	5946.1	90772.	7177.0
#2	3427.2	5942.4	90425.	7228.5
#3	3440.2	5948.7	90393.	7274.3

Sample Name: CCB13 Acquired: 10/22/2019 20:56:38 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00017	-.00904	-.00023	.00113	.00018	-.00002
Stddev	.00024	.02499	.00205	.00046	.00018	.00008
%RSD	139.91	276.51	877.20	40.963	96.561	365.11
#1	-.00043	.00213	-.00214	.00165	.00038	-.00007
#2	.00006	-.03766	.00194	.00079	.00013	.00007
#3	-.00015	.00842	-.00050	.00094	.00004	-.00007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00174	.00010	-.00001	.00002	.00115	.00088
Stddev	.00094	.00010	.00021	.00024	.00028	.00262
%RSD	53.630	100.85	2144.6	1334.0	23.893	296.26
#1	.00215	.00002	.00009	-.00000	.00090	-.00196
#2	.00067	.00007	.00013	-.00021	.00145	.00319
#3	.00241	.00022	-.00025	.00026	.00110	.00142
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB13 Acquired: 10/22/2019 20:56:38 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.13398	.00117	-.01347	-.00001	.00030	.05235
Stddev	.01952	.00077	.02120	.00003	.00003	.00547
%RSD	14.568	66.023	157.42	399.95	8.5531	10.452
#1	.13436	.00197	-.03400	.00001	.00033	.05722
#2	.15331	.00110	.00834	-.00004	.00028	.05339
#3	.11428	.00043	-.01474	.00001	.00028	.04643
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00044	-.00004	-.00075	.00212	.00105	-.00047
Stddev	.00011	.00029	.00133	.00117	.01369	.00037
%RSD	24.415	668.85	177.87	55.086	1305.4	79.489
#1	-.00044	.00011	.00057	.00259	-.00301	-.00021
#2	-.00033	-.00038	-.00073	.00299	-.01015	-.00030
#3	-.00054	.00014	-.00208	.00079	.01631	-.00090
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB13 Acquired: 10/22/2019 20:56:38 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00059	.00022	.00102	.00052	.00015
Stddev	.00466	.00009	.00107	.00498	.00017
%RSD	785.72	40.834	105.41	965.93	117.46
#1	.00597	.00025	.00152	-.00488	.00034
#2	-.00197	.00029	-.00021	.00494	.00003
#3	-.00222	.00012	.00175	.00149	.00007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4181.5	6352.0	98656.	7367.2
Stddev	12.1	13.3	69.	24.0
%RSD	.28917	.20881	.06967	.32539
#1	4186.3	6359.3	98620.	7362.5
#2	4190.5	6360.1	98736.	7393.2
#3	4167.8	6336.7	98614.	7346.0

Sample Name: 180-97439-A-1-B Acquired: 10/22/2019 21:01:50 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.0642	1.7072	.04141	.58621	.30677	-.00351
Stddev	.0053	.0260	.00183	.00152	.00102	.00008
%RSD	.49772	1.5254	4.4267	.25892	.33275	2.2299
#1	1.0689	1.7235	.04352	.58594	.30739	-.00358
#2	1.0652	1.6771	.04033	.58785	.30559	-.00343
#3	1.0585	1.7209	.04036	.58485	.30733	-.00352
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.023	.01445	.01378	.45912	^ *****	1.1260
Stddev	.065	.00023	.00025	.00326	-----	.0100
%RSD	.53868	1.6220	1.8436	.70971	-----	.88646
#1	12.065	.01466	.01386	.46093	^ -----	1.1253
#2	11.949	.01450	.01399	.46106	^ -----	1.1164
#3	12.056	.01420	.01350	.45535	^ -----	1.1363
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97439-A-1-B Acquired: 10/22/2019 21:01:50 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.73098	.00603	3.4062	.14783	.00711	36.888
Stddev	.01611	.00082	.0127	.00075	.00024	.180
%RSD	2.2046	13.562	.37372	.50419	3.3444	.48688
#1	.71754	.00612	3.4006	.14835	.00684	36.944
#2	.74885	.00681	3.3972	.14816	.00728	36.687
#3	.72656	.00518	3.4208	.14697	.00720	37.032
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.01902	F -.06562	.14558	.04031	F 59.141	5.1063
Stddev	.00091	.00126	.00193	.00257	.375	.0206
%RSD	4.7677	1.9138	1.3280	6.3810	.63446	.40332
#1	-.01825	-.06594	.14629	.04326	59.110	5.1296
#2	-.01879	-.06667	.14706	.03854	58.782	5.0983
#3	-.02002	-.06423	.14339	.03914	59.530	5.0908
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit		10.000			25.000	
Low Limit		-.01000			-.50000	

Sample Name: 180-97439-A-1-B Acquired: 10/22/2019 21:01:50 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.01984	.67886	-.00444	.00533	.04342
Stddev	.00242	.00317	.00093	.00308	.00016
%RSD	12.219	.46746	20.933	57.783	.36575
#1	.02047	.68114	-.00364	.00746	.04356
#2	.01717	.68022	-.00546	.00672	.04344
#3	.02189	.67524	-.00422	.00180	.04324
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3696.9	6161.3	80886.	7839.1
Stddev	8.8	19.6	491.	34.9
%RSD	.23747	.31759	.60712	.44466
#1	3692.0	6147.1	80590.	7813.9
#2	3691.7	6153.2	80615.	7878.8
#3	3707.0	6183.6	81453.	7824.4

Sample Name: 180-97439-A-2-B Acquired: 10/22/2019 21:06:47 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.78925	.87693	.04005	.38308	.20957	-.00274
Stddev	.00507	.02030	.00239	.00202	.00129	.00009
%RSD	.64298	2.3144	5.9563	.52837	.61521	3.4122
#1	.78831	.87920	.03730	.38505	.20844	-.00265
#2	.79473	.85560	.04122	.38318	.20929	-.00274
#3	.78471	.89600	.04163	.38101	.21097	-.00283
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.9397	.01674	.01673	.19233	^ *****	.72391
Stddev	.0167	.00022	.00031	.00123	-----	.00451
%RSD	.24045	1.2915	1.8784	.64179	-----	.62328
#1	6.9328	.01698	.01675	.19152	^ -----	.72726
#2	6.9276	.01665	.01640	.19375	^ -----	.71878
#3	6.9587	.01658	.01703	.19172	^ -----	.72570
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97439-A-2-B Acquired: 10/22/2019 21:06:47 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.46355	.00497	2.0121	.09074	.06758	17.566
Stddev	.00542	.00054	.0264	.00030	.00065	.096
%RSD	1.1683	10.858	1.3120	.32928	.96078	.54409
#1	.46834	.00487	1.9990	.09072	.06829	17.527
#2	.46464	.00449	1.9948	.09105	.06745	17.496
#3	.45768	.00555	2.0425	.09046	.06701	17.675
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00892	.05974	.53503	.05431	F 34.191	2.0923
Stddev	.00066	.00231	.00296	.00153	.222	.0043
%RSD	7.4484	3.8729	.55357	2.8103	.65048	.20505
#1	-.00966	.06101	.53842	.05520	34.050	2.0972
#2	-.00869	.05707	.53294	.05517	34.076	2.0893
#3	-.00840	.06113	.53374	.05254	34.448	2.0905
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit					25.000	
Low Limit					-.50000	

Sample Name: 180-97439-A-2-B Acquired: 10/22/2019 21:06:47 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00916	.16348	-.00246	.02854	.03855
Stddev	.01108	.00044	.00131	.00299	.00034
%RSD	120.92	.26682	53.229	10.486	.87018
#1	.01050	.16376	-.00385	.02510	.03866
#2	.01951	.16371	-.00228	.03049	.03817
#3	-.00252	.16298	-.00125	.03004	.03882
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3834.1	6229.9	85081.	7659.7
Stddev	21.2	24.7	292.	55.4
%RSD	.55276	.39642	.34360	.72333
#1	3810.6	6202.3	85207.	7649.0
#2	3840.0	6237.8	84747.	7719.6
#3	3851.7	6249.7	85289.	7610.4

Sample Name: 180-97439-A-3-B Acquired: 10/22/2019 21:11:44 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.50616	1.5202	.01364	.60229	.17371	-.00189
Stddev	.00536	.0283	.00242	.00158	.00204	.00001
%RSD	1.0588	1.8629	17.730	.26312	1.1756	.71223
#1	.50016	1.5504	.01609	.60387	.17138	-.00188
#2	.50784	1.5160	.01356	.60070	.17518	-.00189
#3	.51047	1.4943	.01126	.60228	.17458	-.00190
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.6299	.00535	.00444	.20897	F -.55690	.74457
Stddev	.0232	.00008	.00013	.00129	.00357	.00132
%RSD	.24097	1.4140	2.8740	.61512	.64110	.17745
#1	9.6036	.00526	.00450	.20976	-.55527	.74323
#2	9.6472	.00537	.00452	.20749	-.55444	.74587
#3	9.6390	.00541	.00429	.20966	-.56100	.74462
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit					25.000	
Low Limit					-.02500	

Sample Name: 180-97439-A-3-B Acquired: 10/22/2019 21:11:44 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.77189	.00438	2.4130	.07121	.00069	31.081
Stddev	.01590	.00062	.0244	.00014	.00005	.096
%RSD	2.0597	14.226	1.0122	.20148	7.0437	.30731
#1	.76501	.00366	2.4001	.07106	.00065	31.069
#2	.79007	.00473	2.4411	.07124	.00067	30.992
#3	.76059	.00476	2.3977	.07134	.00074	31.182
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.01334	F -.03307	.07445	.02197	F 44.830	2.6455
Stddev	.00016	.00198	.00097	.00380	.189	.0091
%RSD	1.2137	5.9740	1.2985	17.306	.42169	.34526
#1	-.01320	-.03155	.07335	.02455	44.752	2.6462
#2	-.01330	-.03530	.07518	.01761	44.693	2.6360
#3	-.01351	-.03236	.07480	.02376	45.046	2.6542
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit		10.000			25.000	
Low Limit		-.01000			-.50000	

Sample Name: 180-97439-A-3-B Acquired: 10/22/2019 21:11:44 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00529	.18242	-.00154	.00514	.03596
Stddev	.00488	.00046	.00108	.00142	.00022
%RSD	92.265	.25441	70.411	27.553	.59906
#1	.00146	.18243	-.00109	.00498	.03578
#2	.01080	.18195	-.00278	.00382	.03590
#3	.00362	.18288	-.00075	.00664	.03620
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3800.5	6245.7	88323.	7636.7
Stddev	3.6	15.0	102.	30.5
%RSD	.09377	.24040	.11563	.39987
#1	3801.6	6251.3	88368.	7671.8
#2	3803.4	6257.1	88395.	7621.6
#3	3796.5	6228.7	88206.	7616.6

Sample Name: LB 180-295261/1-C Acquired: 10/22/2019 21:16:47 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00012	.00487	-.00135	.00116	.00022	.00002
Stddev	.00021	.00525	.00208	.00059	.00002	.00003
%RSD	167.52	107.79	153.86	50.633	9.1598	147.75
#1	.00018	-.00104	.00069	.00153	.00022	-.00001
#2	.00030	.00901	-.00128	.00147	.00025	.00002
#3	-.00010	.00666	-.00346	.00048	.00021	.00005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00966	.00010	.00000	-.00024	.00061	.00258
Stddev	.00340	.00014	.00010	.00016	.00066	.00408
%RSD	35.207	138.60	8546.0	66.858	106.96	158.19
#1	.00629	.00024	-.00009	-.00018	.00090	-.00106
#2	.01309	-.00004	-.00002	-.00043	-.00014	.00698
#3	.00961	.00009	.00011	-.00013	.00108	.00181
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: LB 180-295261/1-C Acquired: 10/22/2019 21:16:47 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.04770	.00043	-.02285	.00002	.00006	.07792
Stddev	.02454	.00073	.02970	.00002	.00004	.00847
%RSD	51.435	170.79	130.01	97.253	61.476	10.870
#1	-.02059	.00025	.00536	.00003	.00002	.07442
#2	-.06838	-.00020	-.02005	.00003	.00009	.08757
#3	-.05414	.00123	-.05385	-.00000	.00007	.07175
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00026	-.00037	-.00031	.00197	.03044	-.00019
Stddev	.00014	.00160	.00040	.00193	.01378	.00022
%RSD	56.147	438.72	128.56	97.980	45.271	114.70
#1	-.00038	-.00221	-.00009	.00420	.02512	.00000
#2	-.00029	.00068	-.00078	.00087	.02010	-.00042
#3	-.00010	.00043	-.00007	.00084	.04608	-.00014
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: LB 180-295261/1-C Acquired: 10/22/2019 21:16:47 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	-.00257	.00011	.00056	.00098	.00241
Stddev	.00097	.00003	.00038	.00048	.00017
%RSD	37.881	24.360	67.208	48.961	7.1316
#1	-.00337	.00010	.00064	.00125	.00222
#2	-.00149	.00008	.00090	.00042	.00256
#3	-.00286	.00014	.00015	.00126	.00244
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4200.5	6413.8	99480.	7524.6
Stddev	5.8	9.9	318.	80.0
%RSD	.13751	.15443	.32005	1.0635
#1	4207.0	6424.9	99372.	7551.6
#2	4196.0	6405.8	99230.	7434.5
#3	4198.5	6410.7	99839.	7587.6

Sample Name: 180-97329-A-1-E Acquired: 10/22/2019 21:21:58 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00018	.03423	.00368	.57922	.09226	.00004
Stddev	.00030	.01631	.00123	.00577	.00023	.00005
%RSD	170.67	47.645	33.425	.99610	.25194	114.50
#1	.00003	.03032	.00313	.58558	.09242	.00009
#2	-.00004	.05213	.00283	.57432	.09199	-.00001
#3	-.00052	.02023	.00509	.57775	.09236	.00004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	31.049	.00017	.00216	.00629	.00016	13.457
Stddev	.021	.00013	.00015	.00054	.00083	.030
%RSD	.06887	78.001	6.7917	8.5234	522.88	.22322
#1	31.026	.00023	.00199	.00580	.00089	13.486
#2	31.069	.00002	.00223	.00622	-.00074	13.459
#3	31.050	.00026	.00225	.00686	.00033	13.426
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97329-A-1-E Acquired: 10/22/2019 21:21:58 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.754	.08294	2.5169	.32711	.00009	119.64
Stddev	.037	.00128	.0391	.00053	.00009	.25
%RSD	.31598	1.5454	1.5525	.16252	101.55	.21221
#1	11.719	.08170	2.4924	.32676	.00013	119.65
#2	11.793	.08286	2.4962	.32685	.00014	119.89
#3	11.750	.08426	2.5619	.32772	-.00001	119.38
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.42274	.00026	-.00143	.00082	.71929	-.00048
Stddev	.00487	.00124	.00143	.00186	.01033	.00062
%RSD	1.1514	472.77	99.848	226.27	1.4357	130.96
#1	.42836	.00118	-.00227	.00296	.72802	.00024
#2	.41979	.00075	-.00224	-.00013	.70789	-.00081
#3	.42006	-.00115	.00022	-.00037	.72197	-.00086
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97329-A-1-E Acquired: 10/22/2019 21:21:58 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	2.1905	.00002	.00119	.00094	.01408
Stddev	.0113	.00005	.00100	.00026	.00012
%RSD	.51512	198.88	83.951	27.995	.87871
#1	2.2021	.00003	.00010	.00072	.01419
#2	2.1796	-.00003	.00139	.00088	.01395
#3	2.1898	.00007	.00206	.00123	.01410
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3642.4	6066.9	93066.	7336.5
Stddev	35.2	49.9	193.	20.0
%RSD	.96735	.82203	.20783	.27195
#1	3602.1	6010.0	93250.	7353.0
#2	3667.3	6103.3	93082.	7314.3
#3	3657.8	6087.3	92865.	7342.2

Sample Name: 180-97360-A-1-G Acquired: 10/22/2019 21:27:02 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00018	.01723	.00007	.10088	.01201	-.00003
Stddev	.00009	.01986	.00179	.00012	.00006	.00006
%RSD	53.702	115.30	2689.8	.12054	.51331	196.85
#1	.00008	.03494	-.00194	.10083	.01203	-.00006
#2	.00027	-.00425	.00150	.10102	.01205	-.00007
#3	.00018	.02100	.00064	.10079	.01194	.00004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.2701	.00016	.07361	.00015	.00016	.01941
Stddev	.0038	.00003	.00017	.00009	.00027	.00252
%RSD	.05171	16.474	.22427	58.704	171.56	12.964
#1	7.2672	.00015	.07357	.00017	-.00003	.02166
#2	7.2744	.00014	.07346	.00005	.00047	.01987
#3	7.2689	.00019	.07379	.00023	.00003	.01669
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97360-A-1-G Acquired: 10/22/2019 21:27:02 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.6809	.00785	33.942	.13053	.20331	83.278
Stddev	.0149	.00087	.123	.00037	.00028	.122
%RSD	.22246	11.131	.36323	.28308	.13980	.14691
#1	6.6851	.00693	33.968	.13084	.20311	83.274
#2	6.6644	.00796	34.051	.13064	.20319	83.403
#3	6.6932	.00867	33.808	.13012	.20364	83.158
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00415	.00134	.00066	.00167	.60433	-.00026
Stddev	.00018	.00044	.00206	.00150	.00954	.00035
%RSD	4.2870	33.025	314.09	89.705	1.5786	130.84
#1	.00425	.00152	-.00104	.00332	.59864	.00012
#2	.00426	.00167	.00295	.00128	.61534	-.00038
#3	.00394	.00084	.00006	.00040	.59901	-.00054
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97360-A-1-G Acquired: 10/22/2019 21:27:02 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.31225	.00017	.00138	-.00087	.00216
Stddev	.00223	.00010	.00105	.00155	.00010
%RSD	.71461	57.364	76.626	178.40	4.8618
#1	.30968	.00013	.00221	-.00265	.00204
#2	.31361	.00010	.00172	.00006	.00224
#3	.31348	.00029	.00019	-.00001	.00219
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3732.5	6097.7	93187.	7268.9
Stddev	5.5	2.9	59.	22.3
%RSD	.14744	.04813	.06344	.30668
#1	3736.5	6096.2	93161.	7243.8
#2	3734.7	6101.0	93146.	7286.4
#3	3726.2	6095.8	93255.	7276.6

Sample Name: 180-97364-A-1-E Acquired: 10/22/2019 21:32:08 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00004	.01797	.00073	.00871	.00354	-.00001
Stddev	.00022	.03634	.00133	.00024	.00003	.00010
%RSD	539.77	202.25	183.44	2.7197	.95463	1286.8
#1	.00020	.05992	.00225	.00889	.00353	-.00001
#2	-.00022	-.00406	.00016	.00844	.00357	-.00010
#3	-.00010	-.00195	-.00023	.00879	.00351	.00009
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.6219	.00012	.00056	.00029	.00118	.00414
Stddev	.0279	.00002	.00018	.00010	.00021	.00150
%RSD	.60280	17.216	31.611	35.627	17.451	36.086
#1	4.6535	.00012	.00064	.00030	.00107	.00253
#2	4.6110	.00010	.00036	.00019	.00106	.00549
#3	4.6011	.00013	.00068	.00039	.00142	.00441
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97364-A-1-E Acquired: 10/22/2019 21:32:08 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.71338	.00257	.84333	.02818	.00447	5.2601
Stddev	.02722	.00073	.00638	.00012	.00010	.0114
%RSD	3.8153	28.387	.75642	.42670	2.3317	.21681
#1	.73920	.00200	.85019	.02826	.00445	5.2627
#2	.68495	.00339	.83757	.02825	.00458	5.2477
#3	.71597	.00231	.84222	.02804	.00437	5.2700
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00004	-.00060	.00030	.00009	.65441	-.00006
Stddev	.00010	.00094	.00114	.00196	.01101	.00016
%RSD	233.11	155.76	375.76	2290.1	1.6821	288.28
#1	-.00015	-.00159	.00152	-.00131	.65194	.00013
#2	-.00003	-.00049	.00014	-.00075	.66644	-.00017
#3	.00005	.00027	-.00075	.00232	.64484	-.00012
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97364-A-1-E Acquired: 10/22/2019 21:32:08 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.02914	.00029	.00090	.00299	.00090
Stddev	.00054	.00016	.00129	.00193	.00007
%RSD	1.8558	55.820	142.88	64.572	7.7401
#1	.02972	.00046	.00143	.00296	.00087
#2	.02904	.00015	-.00057	.00107	.00086
#3	.02866	.00025	.00184	.00494	.00098
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4118.1	6352.1	98261.	7365.0
Stddev	16.7	36.5	61.	5.5
%RSD	.40514	.57533	.06239	.07526
#1	4134.2	6391.8	98299.	7371.3
#2	4100.9	6319.9	98190.	7363.1
#3	4119.1	6344.7	98293.	7360.8

Sample Name: CCV 3418984 Acquired: 10/22/2019 21:37:18 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.0151	24.669	.51214	2.0506	1.9803	1.9910
Stddev	.0018	.110	.00064	.0040	.0102	.0056
%RSD	.17315	.44694	.12550	.19681	.51511	.27975
#1	1.0164	24.778	.51258	2.0537	1.9849	1.9935
#2	1.0158	24.558	.51243	2.0460	1.9874	1.9948
#3	1.0131	24.671	.51140	2.0520	1.9686	1.9846
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	49.087	.50381	2.0472	1.9326	1.9356	24.695
Stddev	.108	.00069	.0015	.0038	.0065	.058
%RSD	.22046	.13791	.07164	.19448	.33675	.23544
#1	48.984	.50456	2.0482	1.9332	1.9328	24.707
#2	49.076	.50367	2.0455	1.9360	1.9430	24.746
#3	49.200	.50319	2.0479	1.9286	1.9309	24.632
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3418984 Acquired: 10/22/2019 21:37:18 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	126.29	2.0241	48.613	1.9556	1.9610	126.93
Stddev	.13	.0066	.100	.0029	.0016	.36
%RSD	.10187	.32797	.20645	.14890	.07941	.28150
#1	126.44	2.0203	48.543	1.9576	1.9628	126.81
#2	126.22	2.0202	48.728	1.9570	1.9603	126.64
#3	126.21	2.0318	48.567	1.9523	1.9599	127.33
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.0444	.50125	.50679	.51373	1.9955	1.8974
Stddev	.0060	.00109	.00106	.00369	.0077	.0017
%RSD	.29272	.21819	.20879	.71772	.38632	.08933
#1	2.0469	.50241	.50637	.51470	1.9866	1.8991
#2	2.0375	.50112	.50601	.50965	1.9988	1.8973
#3	2.0487	.50023	.50800	.51683	2.0009	1.8957
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3418984 Acquired: 10/22/2019 21:37:18 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	1.9278	1.9710	.96667	2.0055	1.9541
Stddev	.0042	.0019	.00298	.0177	.0019
%RSD	.21526	.09752	.30821	.88081	.09748
#1	1.9295	1.9718	.96920	2.0005	1.9550
#2	1.9231	1.9724	.96339	2.0251	1.9519
#3	1.9309	1.9688	.96743	1.9908	1.9554
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3412.7	5936.2	89871.	7111.9
Stddev	9.1	10.0	297.	22.7
%RSD	.26753	.16817	.33029	.31858
#1	3405.9	5926.2	89535.	7138.0
#2	3423.1	5946.2	89981.	7100.2
#3	3409.2	5936.1	90097.	7097.5

Sample Name: CCB14 Acquired: 10/22/2019 21:42:04 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00012	.00109	-.00058	.00103	.00012	-.00001
Stddev	.00029	.02158	.00024	.00007	.00021	.00012
%RSD	236.73	1973.9	41.195	7.1210	172.29	1037.8
#1	.00017	-.00982	-.00065	.00095	.00026	-.00011
#2	.00039	.02595	-.00031	.00108	-.00012	-.00005
#3	-.00019	-.01285	-.00077	.00106	.00022	.00012
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00214	.00015	.00018	-.00020	.00094	.00239
Stddev	.00411	.00020	.00003	.00006	.00057	.00212
%RSD	192.08	135.60	16.494	28.072	60.418	88.556
#1	.00420	.00032	.00020	-.00024	.00043	.00476
#2	-.00259	.00021	.00020	-.00023	.00155	.00177
#3	.00481	-.00008	.00015	-.00014	.00083	.00066
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB14 Acquired: 10/22/2019 21:42:04 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.09245	.00078	-.02597	-.00000	.00036	.04621
Stddev	.01606	.00081	.02205	.00004	.00003	.00373
%RSD	17.376	103.87	84.902	1187.0	9.7643	8.0621
#1	.11094	.00083	-.02853	-.00002	.00032	.04800
#2	.08441	.00156	-.04663	.00004	.00036	.04193
#3	.08199	-.00005	-.00275	-.00003	.00039	.04871
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00036	.00057	.00057	.00066	.00549	-.00004
Stddev	.00027	.00015	.00155	.00095	.00456	.00062
%RSD	74.970	26.599	271.46	144.69	83.061	1480.1
#1	.00062	.00074	-.00098	.00153	.00203	-.00034
#2	.00008	.00047	.00212	-.00035	.00378	-.00045
#3	.00037	.00048	.00058	.00079	.01067	.00067
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB14 Acquired: 10/22/2019 21:42:04 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	-.00092	.00007	.00074	.00537	.00010
Stddev	.00477	.00013	.00098	.00215	.00012
%RSD	520.41	173.18	131.86	40.005	120.96
#1	.00459	.00004	.00092	.00326	.00004
#2	-.00360	.00022	-.00031	.00529	.00024
#3	-.00374	-.00003	.00162	.00756	.00002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4160.7	6338.1	97444.	7213.7
Stddev	4.9	3.2	622.	32.3
%RSD	.11660	.05050	.63787	.44716
#1	4166.0	6341.6	96772.	7179.6
#2	4159.5	6335.3	97562.	7217.9
#3	4156.5	6337.5	97998.	7243.7

Sample Name: CCVL 3419892 Acquired: 10/22/2019 21:47:16 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00500	.20408	.00973	.20319	.20640	.00406
Stddev	.00025	.01301	.00185	.00046	.00065	.00006
%RSD	4.9597	6.3755	19.031	.22604	.31510	1.4058
#1	.00528	.21796	.01012	.20308	.20661	.00400
#2	.00483	.20210	.01136	.20279	.20691	.00407
#3	.00488	.19217	.00772	.20369	.20567	.00411
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.0665	.00521	.04836	.00474	.02540	.10674
Stddev	.0241	.00002	.00015	.00036	.00039	.00235
%RSD	.47599	.37777	.30679	7.5845	1.5179	2.1981
#1	5.0580	.00519	.04833	.00502	.02559	.10594
#2	5.0478	.00523	.04852	.00434	.02565	.10938
#3	5.0937	.00519	.04823	.00487	.02495	.10490
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCVL 3419892 Acquired: 10/22/2019 21:47:16 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.1740**	**.05258**	**5.0865**	**.01532**	**.04044**	**5.2873**
Stddev	.0073	.00143	.0148	.00006	.00030	.0139
%RSD	.14161	2.7170	.29014	.39196	.73241	.26243
#1	5.1803	.05095	5.0851	.01527	.04022	5.2759
#2	5.1659	.05322	5.0724	.01539	.04033	5.2832
#3	5.1757	.05358	5.1019	.01530	.04078	5.3028
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.03877**	**.01009**	**.01056**	**.01134**	**.49998**	**.09985**
Stddev	.00030	.00011	.00050	.00137	.00807	.00048
%RSD	.78245	1.1397	4.7312	12.085	1.6150	.48563
#1	.03858	.00996	.01034	.01151	.50891	.09929
#2	.03912	.01019	.01021	.00989	.49320	.10005
#3	.03861	.01010	.01113	.01261	.49783	.10020
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCVL 3419892 Acquired: 10/22/2019 21:47:16 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.05111	.05030	.02141	.05218	.01991
Stddev	.00317	.00035	.00095	.00688	.00014
%RSD	6.2011	.70015	4.4228	13.178	.71451
#1	.05332	.05023	.02195	.05653	.02005
#2	.05252	.04999	.02031	.05575	.01977
#3	.04748	.05068	.02196	.04425	.01991
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4017.5	6297.6	96237.	7189.0
Stddev	6.6	14.3	134.	72.7
%RSD	.16390	.22649	.13896	1.0109
#1	4022.8	6313.8	96089.	7233.7
#2	4010.2	6292.3	96348.	7228.1
#3	4019.6	6286.9	96276.	7105.1

Sample Name: MB 180-295424/1-A Acquired: 10/22/2019 21:52:23 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00021	.00905	-.00081	.00043	.00015	-.00003
Stddev	.00039	.00550	.00137	.00037	.00025	.00003
%RSD	187.57	60.782	168.36	86.347	168.66	81.605
#1	-.00013	.01539	.00071	.00085	-.00014	-.00006
#2	.00064	.00630	-.00194	.00015	.00033	-.00004
#3	.00012	.00547	-.00121	.00029	.00025	-.00000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00278	.00019	-.00013	.00037	.00234	.01105
Stddev	.00211	.00010	.00024	.00012	.00058	.00605
%RSD	76.099	51.910	179.99	32.866	24.765	54.766
#1	.00418	.00012	-.00016	.00049	.00286	.00446
#2	.00381	.00031	-.00035	.00038	.00171	.01234
#3	.00035	.00014	.00012	.00025	.00246	.01636
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: MB 180-295424/1-A Acquired: 10/22/2019 21:52:23 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05558	.00229	-.01172	.00050	.00014	.03142
Stddev	.02341	.00009	.01760	.00002	.00012	.00321
%RSD	42.118	4.1288	150.11	3.3704	88.341	10.211
#1	.02939	.00237	-.00188	.00049	.00028	.02855
#2	.06289	.00219	-.00125	.00052	.00009	.03084
#3	.07447	.00232	-.03204	.00049	.00005	.03488
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00109	-.00037	-.00034	.00221	.01744	.02901
Stddev	.00059	.00120	.00040	.00034	.01222	.00029
%RSD	53.943	327.77	117.33	15.594	70.063	1.0151
#1	.00046	-.00166	.00010	.00192	.02406	.02928
#2	.00163	.00073	-.00068	.00259	.00334	.02905
#3	.00119	-.00017	-.00044	.00212	.02491	.02870
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: MB 180-295424/1-A Acquired: 10/22/2019 21:52:23 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	-.00084	.00035	-.00046	.00052	.00383
Stddev	.00673	.00013	.00014	.00573	.00016
%RSD	799.22	36.991	29.536	1100.4	4.1432
#1	.00633	.00031	-.00047	.00405	.00392
#2	-.00183	.00049	-.00058	.00361	.00392
#3	-.00702	.00024	-.00031	-.00609	.00364
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4084.3	6272.5	97242.	7166.5
Stddev	4.0	7.6	181.	70.3
%RSD	.09790	.12128	.18603	.98101
#1	4079.9	6267.0	97307.	7106.6
#2	4087.7	6269.3	97382.	7149.0
#3	4085.3	6281.2	97038.	7243.9

Sample Name: LCS 180-295424/2-A Acquired: 10/22/2019 21:57:35 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.24109	5.0680	1.0050	1.2465	1.0135	.50626
Stddev	.00145	.0681	.0033	.0038	.0082	.00246
%RSD	.60127	1.3445	.33195	.30782	.80471	.48627
#1	.24270	5.1442	1.0087	1.2455	1.0103	.50810
#2	.23989	5.0467	1.0040	1.2507	1.0227	.50721
#3	.24069	5.0130	1.0023	1.2433	1.0074	.50346
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.033	.48395	.48886	.48226	.48145	5.0949
Stddev	.062	.00022	.00067	.00104	.00197	.0306
%RSD	.24762	.04478	.13681	.21482	.40892	.59961
#1	25.103	.48370	.48828	.48341	.48372	5.1264
#2	25.012	.48411	.48870	.48194	.48040	5.0929
#3	24.985	.48403	.48959	.48142	.48023	5.0654
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: LCS 180-295424/2-A Acquired: 10/22/2019 21:57:35 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**25.749**	**.51091**	**24.833**	**.48937**	**.50095**	**26.260**
Stddev	.077	.00292	.089	.00242	.00082	.114
%RSD	.29743	.57146	.35955	.49480	.16411	.43299
#1	25.788	.51424	24.900	.49207	.50032	26.384
#2	25.798	.50969	24.867	.48741	.50188	26.236
#3	25.661	.50879	24.731	.48862	.50065	26.160
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.48818**	**.47814**	**.24846**	**.96319**	**1.0194**	**.98519**
Stddev	.00004	.00118	.00075	.00084	.0110	.00163
%RSD	.00757	.24579	.30047	.08744	1.0767	.16590
#1	.48819	.47686	.24930	.96282	1.0312	.98595
#2	.48814	.47918	.24821	.96415	1.0095	.98631
#3	.48821	.47837	.24787	.96259	1.0176	.98331
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: LCS 180-295424/2-A Acquired: 10/22/2019 21:57:35 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.49993	.49434	.95642	.50852	.25486
Stddev	.00274	.00294	.00246	.00879	.00026
%RSD	.54808	.59378	.25731	1.7289	.10182
#1	.50306	.49727	.95401	.50622	.25475
#2	.49796	.49140	.95893	.51824	.25516
#3	.49878	.49435	.95632	.50111	.25468
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3695.8	6065.8	93335.	7040.8
Stddev	2.5	5.0	458.	13.1
%RSD	.06714	.08304	.49053	.18580
#1	3698.4	6066.4	92877.	7026.0
#2	3695.6	6060.4	93793.	7045.7
#3	3693.5	6070.4	93335.	7050.7

Sample Name: 440-252289-A-230-A Acquired: 10/22/2019 22:02:21 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00121	104.76	.04294	.07951	1.2933	.00381
Stddev	.00021	.64	.00016	.00124	.0092	.00007
%RSD	17.445	.60933	.38311	1.5642	.71400	1.8615
#1	-.00142	104.39	.04310	.07825	1.2909	.00378
#2	-.00099	104.38	.04277	.08074	1.2856	.00389
#3	-.00123	105.49	.04296	.07955	1.3036	.00375
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	55.146	.01040	.06711	.20864	.33802	185.11
Stddev	.127	.00014	.00097	.00410	.00695	.57
%RSD	.23038	1.3855	1.4402	1.9665	2.0571	.30682
#1	55.012	.01055	.06779	.20640	.33497	184.57
#2	55.162	.01027	.06753	.20613	.33310	185.06
#3	55.264	.01037	.06600	.21337	.34597	185.71
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-230-A Acquired: 10/22/2019 22:02:21 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**28.718**	**.09977**	**38.078**	**2.7417**	**.01549**	**2.3319**
Stddev	.141	.00067	.257	.0479	.00022	.0067
%RSD	.49009	.67174	.67439	1.7469	1.4118	.28689
#1	28.696	.09911	37.962	2.7127	.01524	2.3395
#2	28.589	.09976	37.901	2.7154	.01565	2.3292
#3	28.868	.10045	38.373	2.7970	.01557	2.3270
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.15535**	**1.5492**	**.01105**	**.00555**	**7.4414**	**.05575**
Stddev	.00082	.0050	.00164	.00262	.0546	.00094
%RSD	.53050	.31984	14.849	47.264	.73437	1.6772
#1	.15473	1.5435	.01094	.00530	7.4000	.05588
#2	.15629	1.5527	.00946	.00307	7.4208	.05476
#3	.15504	1.5513	.01274	.00830	7.5034	.05662
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-230-A Acquired: 10/22/2019 22:02:21 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.47618	8.1678	-.01249	.36752	1.6887
Stddev	.00140	.1516	.00185	.00440	.0008
%RSD	.29446	1.8562	14.803	1.1963	.04528
#1	.47457	8.0622	-.01234	.37255	1.6884
#2	.47706	8.0996	-.01072	.36562	1.6880
#3	.47693	8.3415	-.01440	.36440	1.6895
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3593.9	6422.6	96262.	7664.6
Stddev	5.0	10.6	1466.	51.4
%RSD	.13895	.16505	1.5227	.67119
#1	3596.8	6420.8	97153.	7686.9
#2	3588.2	6413.0	97064.	7701.2
#3	3596.9	6434.0	94571.	7605.8

Sample Name: 440-252289-A230ASD@5 Acquired: 10/22/2019 22:07:27 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00012	21.933	.00971	.01687	.27385	.00077
Stddev	.00016	.290	.00137	.00049	.00403	.00004
%RSD	129.03	1.3214	14.108	2.8875	1.4701	4.5957
#1	.00006	21.599	.00888	.01717	.26934	.00073
#2	-.00019	22.113	.00896	.01631	.27707	.00078
#3	-.00024	22.087	.01129	.01714	.27515	.00080
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.040	.00225	.01332	.04412	.06963	41.069
Stddev	.169	.00021	.00025	.00043	.00026	.582
%RSD	1.4028	9.4687	1.8525	.97636	.36759	1.4174
#1	11.860	.00229	.01307	.04400	.06935	40.432
#2	12.196	.00244	.01331	.04460	.06985	41.574
#3	12.065	.00202	.01357	.04377	.06971	41.201
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A230ASD@5 Acquired: 10/22/2019 22:07:27 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.0659	.02306	8.1640	.58146	.00310	.49233
Stddev	.0937	.00193	.1462	.00166	.00008	.00865
%RSD	1.5448	8.3583	1.7913	.28630	2.5149	1.7567
#1	5.9611	.02140	7.9961	.58327	.00314	.48259
#2	6.1416	.02517	8.2641	.58112	.00301	.49910
#3	6.0950	.02260	8.2317	.57999	.00315	.49530
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.03042	.31394	.00340	.00291	1.5772	.01148
Stddev	.00014	.00177	.00168	.00053	.0056	.00047
%RSD	.47446	.56257	49.382	18.072	.35661	4.0515
#1	.03055	.31191	.00351	.00348	1.5712	.01133
#2	.03045	.31511	.00502	.00281	1.5823	.01111
#3	.03026	.31479	.00167	.00244	1.5782	.01200
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A230ASD@5 Acquired: 10/22/2019 22:07:27 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.10541	1.7246	-.00180	.07861	.36874
Stddev	.00413	.0021	.00073	.00425	.00079
%RSD	3.9200	.12277	40.565	5.4077	.21542
#1	.10105	1.7267	-.00245	.07622	.36856
#2	.10591	1.7244	-.00194	.07609	.36806
#3	.10926	1.7225	-.00101	.08352	.36961
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3940.6	6417.3	97307.	7299.1
Stddev	5.8	6.8	474.	114.8
%RSD	.14770	.10566	.48710	1.5730
#1	3944.7	6412.3	96805.	7430.5
#2	3934.0	6414.7	97371.	7248.7
#3	3943.3	6425.0	97746.	7218.2

Sample Name: 440-252289-A-230-BMS Acquired: 10/22/2019 22:12:31 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.22831	119.76	.95769	1.2084	2.1614	.45141
Stddev	.00171	.19	.00399	.0014	.0075	.00113
%RSD	.74893	.15593	.41612	.11320	.34861	.25073
#1	.22826	119.95	.96187	1.2074	2.1692	.45104
#2	.22662	119.58	.95726	1.2100	2.1542	.45051
#3	.23004	119.76	.95394	1.2079	2.1610	.45268
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	79.015	.45822	.54245	.64660	.79188	181.96
Stddev	.223	.00135	.00020	.00174	.00365	.24
%RSD	.28201	.29450	.03648	.26853	.46106	.13214
#1	78.788	.45804	.54239	.64459	.78798	181.88
#2	79.025	.45965	.54267	.64753	.79522	181.77
#3	79.233	.45697	.54228	.64767	.79244	182.23
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-230-BMS Acquired: 10/22/2019 22:12:31 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	51.290	.57281	58.658	3.1639	.45262	26.244
Stddev	.069	.00031	.140	.0174	.00092	.042
%RSD	.13524	.05440	.23859	.54941	.20235	.15916
#1	51.210	.57310	58.569	3.1554	.45216	26.209
#2	51.334	.57248	58.587	3.1524	.45204	26.232
#3	51.325	.57285	58.820	3.1839	.45368	26.290
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.63040	2.1293	.13216	.89163	7.9601	.86753
Stddev	.00115	.0103	.00244	.00200	.0548	.00067
%RSD	.18180	.48342	1.8475	.22423	.68848	.07695
#1	.62936	2.1205	.12991	.89256	7.9708	.86710
#2	.63163	2.1406	.13476	.89300	7.9007	.86830
#3	.63020	2.1267	.13181	.88934	8.0087	.86719
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-230-BMS Acquired: 10/22/2019 22:12:31 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.90961	9.0851	.89711	.81167	1.9237
Stddev	.00255	.0315	.00199	.00276	.0056
%RSD	.28008	.34658	.22167	.34053	.28850
#1	.91159	9.0590	.89542	.80848	1.9204
#2	.90674	9.0762	.89660	.81322	1.9301
#3	.91049	9.1201	.89930	.81332	1.9205
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3476.5	6323.6	95205.	7644.8
Stddev	6.7	13.8	259.	14.9
%RSD	.19214	.21803	.27194	.19510
#1	3478.1	6318.5	95503.	7661.6
#2	3469.2	6313.0	95035.	7639.4
#3	3482.3	6339.2	95078.	7633.3

Sample Name: 440-252289-A-230CMSD Acquired: 10/22/2019 22:17:33 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.22699	130.08	.96880	1.2162	2.2273	.46701
Stddev	.00044	.35	.00314	.0036	.0066	.00070
%RSD	.19538	.26734	.32419	.29205	.29828	.14968
#1	.22652	130.39	.97155	1.2194	2.2348	.46706
#2	.22706	130.14	.96538	1.2124	2.2248	.46768
#3	.22740	129.70	.96946	1.2168	2.2222	.46629
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	82.633	.46219	.55393	.66991	.78820	198.05
Stddev	.228	.00066	.00087	.00156	.00137	.17
%RSD	.27627	.14215	.15760	.23353	.17437	.08679
#1	82.555	.46282	.55457	.66811	.78841	198.13
#2	82.890	.46151	.55294	.67069	.78674	198.18
#3	82.454	.46226	.55429	.67094	.78946	197.86
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-230CMSD Acquired: 10/22/2019 22:17:33 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	53.968	.59057	62.414	3.0669	.45738	26.826
Stddev	.010	.00307	.124	.0015	.00080	.076
%RSD	.01839	.51924	.19854	.04837	.17503	.28233
#1	53.979	.58790	62.271	3.0659	.45802	26.782
#2	53.959	.59392	62.480	3.0686	.45648	26.913
#3	53.966	.58989	62.491	3.0662	.45764	26.782
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.64459	1.9954	.13906	.89885	8.9828	.87856
Stddev	.00094	.0017	.00072	.00389	.0261	.00196
%RSD	.14525	.08294	.51637	.43239	.29001	.22277
#1	.64545	1.9956	.13988	.90321	8.9799	.87852
#2	.64474	1.9970	.13874	.89763	9.0102	.87662
#3	.64359	1.9937	.13855	.89573	8.9583	.88053
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-230CMSD Acquired: 10/22/2019 22:17:33 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.95908	9.4353	.90453	.86346	1.9239
Stddev	.00520	.0314	.00200	.00425	.0019
%RSD	.54195	.33238	.22086	.49252	.09888
#1	.95900	9.3993	.90292	.86620	1.9260
#2	.95393	9.4559	.90676	.86561	1.9222
#3	.96432	9.4508	.90390	.85856	1.9235
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3468.9	6349.8	95852.	7580.6
Stddev	6.5	8.2	223.	19.4
%RSD	.18853	.12963	.23284	.25650
#1	3462.5	6340.5	95654.	7562.7
#2	3468.5	6352.8	96094.	7601.2
#3	3475.6	6356.1	95807.	7577.8

Sample Name: 440-252289-A-230APDS Acquired: 10/22/2019 22:22:36 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.23269	108.11	.99393	1.2432	2.2412	.47308
Stddev	.00062	.86	.00392	.0016	.0166	.00279
%RSD	.26829	.79427	.39483	.12705	.73929	.58935
#1	.23282	109.10	.99613	1.2415	2.2601	.47630
#2	.23201	107.52	.98940	1.2433	2.2292	.47146
#3	.23323	107.72	.99626	1.2447	2.2344	.47147
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	77.138	.46687	.55984	.65707	.79688	186.26
Stddev	.178	.00058	.00083	.00157	.00417	.70
%RSD	.23087	.12429	.14842	.23875	.52309	.37698
#1	77.224	.46645	.55999	.65591	.79243	187.05
#2	76.933	.46753	.56059	.65643	.79751	185.69
#3	77.256	.46664	.55895	.65885	.80070	186.06
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-230APDS Acquired: 10/22/2019 22:22:36 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	52.487	.58311	60.722	3.0716	.47208	26.975
Stddev	.197	.00194	.504	.0026	.00073	.102
%RSD	.37580	.33345	.82945	.08336	.15484	.37767
#1	52.711	.58535	61.244	3.0712	.47158	27.093
#2	52.340	.58198	60.239	3.0743	.47292	26.907
#3	52.409	.58199	60.683	3.0692	.47175	26.926
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.64538	2.0210	.24172	.91951	8.2907	.91994
Stddev	.00143	.0067	.00301	.00205	.0368	.00158
%RSD	.22092	.33189	1.2436	.22321	.44404	.17188
#1	.64472	2.0133	.23831	.92179	8.3181	.92138
#2	.64440	2.0255	.24287	.91894	8.2489	.92019
#3	.64701	2.0241	.24398	.91780	8.3051	.91824
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-230APDS Acquired: 10/22/2019 22:22:36 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.92345	8.4246	.91903	.83333	1.8752
Stddev	.00408	.0352	.00142	.00927	.0026
%RSD	.44206	.41720	.15495	1.1118	.13854
#1	.92792	8.3916	.91835	.84402	1.8732
#2	.91993	8.4615	.91808	.82797	1.8781
#3	.92248	8.4207	.92067	.82798	1.8742
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3503.5	6380.8	96214.	7626.8
Stddev	3.9	9.0	196.	16.7
%RSD	.11085	.14160	.20377	.21932
#1	3506.3	6383.0	96253.	7607.6
#2	3499.1	6370.8	96388.	7634.7
#3	3505.2	6388.4	96002.	7638.2

Sample Name: 440-252289-A230APDSD Acquired: 10/22/2019 22:27:38 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.23130	108.50	1.0046	1.2376	2.2662	.48067
Stddev	.00058	1.25	.0018	.0010	.0088	.00249
%RSD	.25142	1.1553	.17407	.08262	.38957	.51730
#1	.23197	108.84	1.0041	1.2366	2.2593	.48022
#2	.23091	107.11	1.0066	1.2386	2.2632	.47844
#3	.23102	109.55	1.0032	1.2375	2.2761	.48335
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	77.427	.47176	.56311	.66210	.80154	187.13
Stddev	.251	.00044	.00049	.00105	.00149	.80
%RSD	.32470	.09372	.08658	.15790	.18645	.42565
#1	77.395	.47204	.56295	.66193	.80246	187.34
#2	77.193	.47198	.56272	.66322	.80234	186.25
#3	77.693	.47125	.56365	.66115	.79982	187.80
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A230APDSD Acquired: 10/22/2019 22:27:38 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	52.877	.59046	61.160	3.0798	.47702	27.197
Stddev	.251	.00208	.469	.0067	.00031	.139
%RSD	.47381	.35172	.76639	.21617	.06475	.50959
#1	52.796	.58922	60.977	3.0867	.47670	27.146
#2	52.676	.58931	60.810	3.0734	.47702	27.090
#3	53.158	.59286	61.693	3.0792	.47732	27.353
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.64928	2.0193	.24210	.93090	8.3151	.92872
Stddev	.00125	.0036	.00063	.00219	.0770	.00170
%RSD	.19251	.17858	.26068	.23574	.92631	.18271
#1	.64787	2.0159	.24159	.93252	8.3674	.93045
#2	.64971	2.0189	.24280	.93177	8.2267	.92866
#3	.65025	2.0231	.24190	.92840	8.3513	.92706
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A230APDSD Acquired: 10/22/2019 22:27:38 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.92953	8.3969	.93115	.84059	1.8699
Stddev	.01091	.0428	.00510	.01025	.0008
%RSD	1.1734	.50984	.54759	1.2193	.04074
#1	.92860	8.4361	.92528	.84233	1.8690
#2	.91911	8.4034	.93367	.82958	1.8704
#3	.94087	8.3512	.93450	.84986	1.8701
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3512.2	6393.6	96230.	7631.1
Stddev	8.6	9.1	284.	46.5
%RSD	.24469	.14189	.29528	.60881
#1	3516.5	6400.4	95916.	7622.7
#2	3517.8	6397.3	96307.	7681.2
#3	3502.3	6383.3	96468.	7589.4

Sample Name: 440-252289-A-231-A Acquired: 10/22/2019 22:32:41 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00132**	**113.66**	**.04406**	**.07910**	**1.1702**	**.00414**
Stddev	.00012	1.29	.00273	.00041	.0097	.00015
%RSD	8.9182	1.1378	6.1997	.52166	.82768	3.5914
#1	-.00145	112.95	.04141	.07881	1.1639	.00402
#2	-.00124	115.16	.04390	.07957	1.1814	.00431
#3	-.00126	112.88	.04686	.07892	1.1654	.00409
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**42.590**	**.00684**	**.07057**	**.20784**	**.23100**	**195.57**
Stddev	.028	.00009	.00048	.00100	.00143	1.20
%RSD	.06539	1.3286	.67442	.48218	.61893	.61370
#1	42.613	.00676	.07112	.20732	.23243	195.01
#2	42.559	.00684	.07034	.20720	.22957	196.94
#3	42.597	.00694	.07026	.20899	.23101	194.74
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-231-A Acquired: 10/22/2019 22:32:41 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**30.756**	**.10688**	**40.019**	**2.4062**	**.01468**	**2.1054**
Stddev	.112	.00097	.289	.0028	.00035	.0070
%RSD	.36340	.91199	.72315	.11596	2.3518	.33204
#1	30.694	.10598	39.839	2.4063	.01501	2.0986
#2	30.885	.10792	40.353	2.4033	.01432	2.1126
#3	30.688	.10675	39.865	2.4089	.01472	2.1050
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.15009**	**.85921**	**.00900**	**.00143**	**8.0384**	**.03907**
Stddev	.00085	.00272	.00057	.00183	.0721	.00023
%RSD	.56627	.31639	6.3230	127.90	.89633	.58558
#1	.15061	.85647	.00861	.00208	8.0199	.03887
#2	.15055	.86190	.00874	.00285	8.1179	.03902
#3	.14911	.85926	.00966	-.00064	7.9774	.03932
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-231-A Acquired: 10/22/2019 22:32:41 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.38300	8.8027	-.01286	.41191	1.0515
Stddev	.00586	.0491	.00150	.00452	.0010
%RSD	1.5301	.55784	11.697	1.0965	.09983
#1	.38104	8.7562	-.01137	.40770	1.0503
#2	.38959	8.8540	-.01283	.41135	1.0522
#3	.37838	8.7980	-.01438	.41668	1.0520
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3621.4	6522.4	98447.	7710.9
Stddev	6.4	5.1	73.	14.0
%RSD	.17611	.07830	.07456	.18145
#1	3623.6	6517.1	98519.	7716.0
#2	3614.3	6523.0	98372.	7695.0
#3	3626.4	6527.2	98451.	7721.5

Sample Name: CCV 3418984 Acquired: 10/22/2019 22:37:48 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.0181	24.882	.51242	2.0600	2.0248	2.0017
Stddev	.0039	.145	.00125	.0027	.0065	.0056
%RSD	.37939	.58200	.24354	.13207	.31853	.27790
#1	1.0215	24.714	.51308	2.0631	2.0191	1.9975
#2	1.0139	24.967	.51098	2.0589	2.0318	1.9996
#3	1.0188	24.963	.51319	2.0580	2.0234	2.0080
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	49.520	.50098	2.0529	1.9431	1.9277	25.050
Stddev	.127	.00037	.0031	.0028	.0097	.072
%RSD	.25695	.07358	.14989	.14317	.50091	.28837
#1	49.571	.50064	2.0535	1.9432	1.9346	25.007
#2	49.375	.50137	2.0556	1.9459	1.9319	25.009
#3	49.614	.50094	2.0495	1.9403	1.9167	25.133
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3418984 Acquired: 10/22/2019 22:37:48 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	127.21	2.0440	49.299	1.9689	1.9660	128.08
Stddev	.17	.0072	.145	.0045	.0036	.33
%RSD	.13448	.35386	.29389	.22831	.18486	.25375
#1	127.05	2.0457	49.156	1.9736	1.9701	128.21
#2	127.39	2.0361	49.297	1.9647	1.9647	127.71
#3	127.19	2.0503	49.445	1.9683	1.9632	128.32
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.0522	.50352	.50175	.51056	2.0151	1.9034
Stddev	.0015	.00224	.00409	.00258	.0045	.0040
%RSD	.07537	.44498	.81520	.50580	.22545	.20807
#1	2.0530	.50249	.50624	.50893	2.0156	1.9070
#2	2.0532	.50609	.50078	.50920	2.0194	1.9040
#3	2.0504	.50198	.49823	.51354	2.0103	1.8992
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3418984 Acquired: 10/22/2019 22:37:48 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	1.9677	1.9774	.97098	2.0365	1.9567
Stddev	.0063	.0037	.00131	.0083	.0004
%RSD	.31825	.18764	.13492	.40921	.02195
#1	1.9638	1.9817	.96976	2.0269	1.9567
#2	1.9644	1.9756	.97081	2.0414	1.9563
#3	1.9749	1.9750	.97237	2.0412	1.9572
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3480.1	6067.4	91294.	7130.7
Stddev	3.0	12.9	102.	25.5
%RSD	.08657	.21189	.11208	.35799
#1	3476.9	6057.0	91177.	7146.9
#2	3482.8	6081.8	91337.	7101.3
#3	3480.6	6063.5	91368.	7144.0

Sample Name: CCB15 Acquired: 10/22/2019 22:42:35 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00023	.02476	-.00008	.00062	.00008	-.00007
Stddev	.00020	.02888	.00177	.00023	.00008	.00003
%RSD	85.344	116.62	2145.0	37.121	98.618	43.871
#1	.00045	.04475	-.00189	.00049	.00015	-.00006
#2	.00010	-.00835	.00000	.00089	-.00001	-.00011
#3	.00013	.03789	.00164	.00048	.00010	-.00005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00229	.00009	-.00008	.00006	.00096	-.00106
Stddev	.00338	.00004	.00028	.00025	.00050	.00193
%RSD	147.93	42.461	331.32	398.01	52.017	182.74
#1	-.00156	.00011	-.00029	-.00013	.00060	.00094
#2	.00480	.00004	.00023	-.00003	.00075	-.00293
#3	.00362	.00010	-.00020	.00035	.00153	-.00119
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB15 Acquired: 10/22/2019 22:42:35 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.14226	.00122	-.01366	.00003	.00023	.03346
Stddev	.00917	.00103	.00943	.00002	.00024	.01003
%RSD	6.4460	84.806	69.056	53.527	103.99	29.979
#1	.14043	.00051	-.01925	.00005	.00051	.04095
#2	.15221	.00240	-.00277	.00002	.00008	.03736
#3	.13415	.00074	-.01897	.00002	.00010	.02206
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00009	.00022	-.00033	.00183	.01097	-.00063
Stddev	.00030	.00102	.00165	.00317	.00107	.00071
%RSD	335.92	463.08	495.59	173.04	9.7327	112.58
#1	-.00005	.00063	-.00218	-.00179	.00978	-.00069
#2	.00019	.00096	.00098	.00407	.01129	-.00131
#3	-.00041	-.00094	.00021	.00321	.01184	.00011
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB15 Acquired: 10/22/2019 22:42:35 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	-.00144	.00026	.00077	.00136	.00016
Stddev	.00646	.00008	.00095	.00323	.00002
%RSD	449.77	29.829	123.23	236.60	15.709
#1	.00406	.00017	-.00009	.00425	.00018
#2	.00018	.00028	.00062	.00197	.00016
#3	-.00855	.00032	.00179	-.00212	.00013
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4233.4	6476.9	99842.	7316.0
Stddev	14.1	26.2	404.	68.8
%RSD	.33204	.40376	.40509	.94047
#1	4246.2	6503.1	99902.	7344.6
#2	4218.3	6450.7	99411.	7237.5
#3	4235.7	6477.0	100210.	7365.8

Sample Name: 440-252289-A-232-A Acquired: 10/22/2019 22:47:47 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00172	123.64	.04536	.07819	1.0153	.00455
Stddev	.00053	.45	.00407	.00107	.0020	.00004
%RSD	30.877	.36725	8.9766	1.3690	.19937	.85712
#1	-.00218	124.16	.04127	.07834	1.0150	.00452
#2	-.00114	123.46	.04941	.07918	1.0175	.00454
#3	-.00183	123.31	.04539	.07705	1.0134	.00460
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	35.823	.00591	.08143	.21318	.18836	209.18
Stddev	.029	.00014	.00013	.00126	.00080	.43
%RSD	.08000	2.3108	.15978	.59168	.42572	.20495
#1	35.856	.00592	.08140	.21435	.18754	209.66
#2	35.805	.00604	.08157	.21334	.18914	209.04
#3	35.808	.00576	.08131	.21184	.18842	208.84
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-232-A Acquired: 10/22/2019 22:47:47 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	29.823	.11599	40.422	3.0727	.01572	2.1509
Stddev	.046	.00169	.040	.0098	.00026	.0070
%RSD	.15398	1.4562	.09936	.31855	1.6667	.32495
#1	29.771	.11406	40.418	3.0614	.01586	2.1542
#2	29.843	.11672	40.383	3.0775	.01588	2.1429
#3	29.856	.11719	40.463	3.0791	.01542	2.1557
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.16742	.19601	.00649	.00431	9.4797	.02914
Stddev	.00074	.00407	.00193	.00180	.0225	.00044
%RSD	.44061	2.0752	29.666	41.720	.23690	1.5210
#1	.16811	.19840	.00831	.00564	9.5057	.02863
#2	.16750	.19831	.00669	.00503	9.4674	.02938
#3	.16664	.19131	.00448	.00226	9.4661	.02941
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-232-A Acquired: 10/22/2019 22:47:47 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.34328	9.5521	-.01323	.46735	.62218
Stddev	.00150	.0193	.00057	.00305	.00063
%RSD	.43572	.20191	4.2941	.65243	.10120
#1	.34500	9.5379	-.01277	.47086	.62260
#2	.34228	9.5740	-.01387	.46584	.62249
#3	.34256	9.5443	-.01305	.46535	.62145
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3630.6	6573.6	99574.	7748.3
Stddev	10.5	11.9	289.	16.4
%RSD	.28975	.18030	.29010	.21111
#1	3623.8	6565.7	99635.	7731.1
#2	3625.1	6567.9	99260.	7763.6
#3	3642.7	6587.2	99828.	7750.4

Sample Name: 440-252289-A-233-A Acquired: 10/22/2019 22:53:03 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00331	114.39	.04578	.08012	2.0761	.00389
Stddev	.00049	.23	.00183	.00041	.0131	.00004
%RSD	14.729	.20060	3.9975	.51177	.63019	1.0213
#1	.00292	114.24	.04420	.07976	2.0817	.00386
#2	.00315	114.28	.04534	.08056	2.0611	.00393
#3	.00386	114.66	.04778	.08004	2.0854	.00387
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	59.953	.01624	.05987	.29099	.55214	196.90
Stddev	.087	.00022	.00056	.00134	.00277	.55
%RSD	.14575	1.3347	.94071	.45992	.50128	.27753
#1	59.884	.01606	.06026	.29149	.55467	196.94
#2	59.923	.01648	.06013	.28947	.54918	196.33
#3	60.051	.01618	.05923	.29200	.55257	197.42
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-233-A Acquired: 10/22/2019 22:53:03 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**32.220**	**.09520**	**34.439**	**2.6273**	**.01432**	**2.1776**
Stddev	.118	.00133	.017	.0045	.00010	.0029
%RSD	.36725	1.4023	.04972	.16968	.69693	.13306
#1	32.203	.09371	34.452	2.6239	.01425	2.1794
#2	32.111	.09628	34.420	2.6323	.01429	2.1791
#3	32.346	.09562	34.446	2.6256	.01444	2.1742
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.16261**	**1.7546**	**.02058**	**.00767**	**8.9360**	**.08981**
Stddev	.00056	.0027	.00072	.00038	.0360	.00090
%RSD	.34304	.15210	3.5147	4.9082	.40237	1.0040
#1	.16209	1.7550	.02114	.00729	8.9211	.08954
#2	.16256	1.7518	.01976	.00769	8.9100	.09081
#3	.16320	1.7571	.02083	.00804	8.9770	.08907
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-233-A Acquired: 10/22/2019 22:53:03 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.53114	7.8351	-.01115	.32708	2.9125
Stddev	.00309	.0442	.00089	.00397	.0016
%RSD	.58127	.56424	7.9601	1.2140	.05457
#1	.53105	7.8111	-.01051	.32342	2.9125
#2	.52811	7.8861	-.01077	.32652	2.9141
#3	.53428	7.8080	-.01216	.33130	2.9109
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3638.4	6430.5	97850.	7669.6
Stddev	2.6	2.9	199.	42.6
%RSD	.07143	.04565	.20359	.55527
#1	3636.4	6427.1	98004.	7654.1
#2	3641.4	6432.0	97625.	7717.7
#3	3637.6	6432.4	97922.	7636.8

Sample Name: 440-252289-A-234-A Acquired: 10/22/2019 22:58:07 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00135	129.72	.04550	.06458	1.5231	.00467
Stddev	.00029	.31	.00269	.00039	.0060	.00011
%RSD	21.288	.23742	5.9172	.59633	.39507	2.2714
#1	.00152	130.07	.04585	.06416	1.5290	.00473
#2	.00102	129.61	.04265	.06491	1.5170	.00455
#3	.00151	129.49	.04800	.06468	1.5233	.00474
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	41.143	.01174	.07209	.28243	.32533	190.10
Stddev	.038	.00006	.00033	.00036	.00189	.69
%RSD	.09225	.49753	.45571	.12879	.58234	.36216
#1	41.126	.01177	.07175	.28267	.32729	190.60
#2	41.116	.01167	.07212	.28260	.32520	189.31
#3	41.186	.01178	.07240	.28201	.32351	190.38
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-234-A Acquired: 10/22/2019 22:58:07 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	33.606	.10916	36.779	3.2648	.01168	2.0861
Stddev	.084	.00099	.061	.0055	.00005	.0087
%RSD	.24888	.90304	.16678	.16809	.45375	.41900
#1	33.673	.10963	36.844	3.2603	.01164	2.0889
#2	33.631	.10803	36.722	3.2632	.01174	2.0931
#3	33.512	.10982	36.772	3.2709	.01166	2.0763
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.15969	.81689	.00882	.00215	8.9182	.06013
Stddev	.00042	.00137	.00286	.00181	.0563	.00012
%RSD	.26439	.16791	32.378	84.446	.63089	.20735
#1	.16017	.81755	.00713	.00052	8.9232	.06001
#2	.15950	.81532	.00722	.00182	8.8597	.06012
#3	.15939	.81781	.01212	.00410	8.9719	.06026
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-234-A Acquired: 10/22/2019 22:58:07 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.35306	9.7818	-.01277	.39209	1.7269
Stddev	.00243	.0402	.00106	.00399	.0010
%RSD	.68801	.41086	8.2716	1.0174	.05960
#1	.35102	9.7378	-.01394	.39506	1.7257
#2	.35575	9.7911	-.01247	.38756	1.7275
#3	.35242	9.8165	-.01189	.39366	1.7275
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3640.6	6551.8	99111.	7850.1
Stddev	6.3	12.1	126.	12.3
%RSD	.17256	.18452	.12714	.15659
#1	3633.5	6537.8	99216.	7850.4
#2	3645.2	6558.2	99147.	7837.7
#3	3643.2	6559.2	98972.	7862.3

Sample Name: 440-252289-A-235-A Acquired: 10/22/2019 23:03:23 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00111	132.30	.04743	.07913	1.5911	.00483
Stddev	.00036	.30	.00094	.00021	.0078	.00005
%RSD	32.186	.22784	1.9886	.26261	.48971	1.1198
#1	.00070	132.60	.04645	.07928	1.5872	.00479
#2	.00135	132.30	.04834	.07889	1.6001	.00481
#3	.00129	131.99	.04749	.07922	1.5860	.00489
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	41.783	.01177	.07525	.28276	.34404	200.39
Stddev	.049	.00014	.00017	.00098	.00127	.49
%RSD	.11744	1.1782	.22213	.34603	.36979	.24290
#1	41.840	.01174	.07542	.28293	.34287	200.34
#2	41.752	.01165	.07508	.28170	.34385	200.90
#3	41.758	.01192	.07525	.28363	.34539	199.93
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-235-A Acquired: 10/22/2019 23:03:23 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**35.354**	**.11179**	**39.146**	**3.5139**	**.01122**	**2.1691**
Stddev	.074	.00120	.044	.0053	.00018	.0089
%RSD	.20974	1.0720	.11150	.14942	1.5853	.41204
#1	35.398	.11129	39.185	3.5195	.01111	2.1794
#2	35.396	.11316	39.152	3.5132	.01143	2.1629
#3	35.268	.11092	39.099	3.5091	.01112	2.1651
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.16121**	**1.1260**	**.00864**	**.00629**	**8.3728**	**.06724**
Stddev	.00051	.0031	.00101	.00274	.0507	.00023
%RSD	.31731	.27778	11.680	43.645	.60533	.34256
#1	.16101	1.1295	.00980	.00816	8.4171	.06740
#2	.16083	1.1251	.00800	.00314	8.3838	.06734
#3	.16179	1.1235	.00811	.00756	8.3175	.06697
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-235-A Acquired: 10/22/2019 23:03:23 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.38705	9.8978	-.01317	.40908	1.7428
Stddev	.00271	.0520	.00172	.00193	.0015
%RSD	.69890	.52553	13.088	.47296	.08707
#1	.38676	9.8810	-.01228	.41102	1.7416
#2	.38989	9.9562	-.01516	.40715	1.7445
#3	.38450	9.8563	-.01207	.40905	1.7422
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3642.3	6575.1	98947.	7757.5
Stddev	4.8	4.1	221.	31.6
%RSD	.13280	.06297	.22316	.40717
#1	3637.1	6570.7	99075.	7746.5
#2	3646.8	6578.9	98692.	7732.9
#3	3642.9	6575.7	99074.	7793.2

Sample Name: 440-252289-A-236-A Acquired: 10/22/2019 23:08:38 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00084	116.55	.04030	.07753	1.2131	.00379
Stddev	.00027	.48	.00132	.00023	.0030	.00003
%RSD	32.265	.41333	3.2662	.30144	.24629	.84056
#1	-.00107	117.05	.04030	.07744	1.2166	.00383
#2	-.00054	116.49	.03898	.07779	1.2113	.00378
#3	-.00092	116.10	.04162	.07736	1.2115	.00378
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	50.464	.00393	.06911	.16784	.24581	169.29
Stddev	.066	.00008	.00048	.00089	.00101	.25
%RSD	.13123	2.0948	.70100	.52900	.41067	.14583
#1	50.419	.00396	.06948	.16769	.24520	169.27
#2	50.432	.00383	.06856	.16879	.24698	169.05
#3	50.540	.00399	.06928	.16703	.24525	169.54
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-236-A Acquired: 10/22/2019 23:08:38 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	29.439	.10932	40.951	3.0660	.00657	2.3673
Stddev	.006	.00096	.251	.0058	.00034	.0072
%RSD	.02091	.87533	.61393	.18969	5.2152	.30564
#1	29.444	.10864	41.053	3.0662	.00645	2.3691
#2	29.442	.10891	40.665	3.0717	.00630	2.3735
#3	29.432	.11042	41.136	3.0600	.00695	2.3594
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.12613	.48354	.00841	.00306	8.3264	.04386
Stddev	.00055	.00251	.00057	.00200	.0263	.00052
%RSD	.43874	.51881	6.8158	65.412	.31537	1.1899
#1	.12549	.48423	.00798	.00179	8.3252	.04383
#2	.12637	.48564	.00906	.00203	8.3007	.04439
#3	.12652	.48076	.00818	.00537	8.3532	.04335
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-236-A Acquired: 10/22/2019 23:08:38 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.53421	9.3445	-.01191	.34376	1.0310
Stddev	.00142	.0220	.00155	.00570	.0012
%RSD	.26556	.23533	12.976	1.6590	.11505
#1	.53537	9.3586	-.01370	.34967	1.0300
#2	.53263	9.3558	-.01109	.34332	1.0306
#3	.53464	9.3192	-.01096	.33829	1.0323
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3648.0	6506.2	98151.	7698.6
Stddev	2.8	3.4	207.	52.5
%RSD	.07682	.05224	.21110	.68211
#1	3646.0	6509.0	97948.	7658.9
#2	3651.2	6502.4	98142.	7758.2
#3	3646.9	6507.2	98362.	7678.7

Sample Name: 440-252289-A-237-A Acquired: 10/22/2019 23:13:53 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00120	104.48	.03362	.06052	.96415	.00346
Stddev	.00005	1.44	.00114	.00034	.00706	.00005
%RSD	4.5859	1.3753	3.3974	.55958	.73207	1.5430
#1	-.00120	103.17	.03469	.06080	.95989	.00351
#2	-.00114	106.01	.03242	.06063	.97230	.00340
#3	-.00125	104.26	.03376	.06014	.96026	.00345
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	30.784	.00248	.06200	.14529	.17810	152.02
Stddev	.025	.00007	.00057	.00044	.00049	.86
%RSD	.08155	2.9612	.92098	.30426	.27754	.56758
#1	30.767	.00242	.06257	.14534	.17795	151.41
#2	30.813	.00246	.06199	.14482	.17865	153.01
#3	30.772	.00256	.06143	.14571	.17769	151.65
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-237-A Acquired: 10/22/2019 23:13:53 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	29.113	.09480	35.121	3.1869	.00308	1.8798
Stddev	.134	.00086	.254	.0060	.00008	.0130
%RSD	.46121	.91157	.72358	.18773	2.5522	.69383
#1	29.011	.09415	34.882	3.1800	.00313	1.8703
#2	29.265	.09446	35.388	3.1912	.00299	1.8946
#3	29.063	.09578	35.092	3.1893	.00312	1.8744
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.11042	.26365	.00555	.00139	7.8824	.03158
Stddev	.00156	.00069	.00066	.00286	.0555	.00090
%RSD	1.4114	.26237	11.950	205.23	.70412	2.8387
#1	.11173	.26432	.00570	.00156	7.8379	.03129
#2	.11082	.26294	.00613	-.00155	7.9446	.03259
#3	.10869	.26370	.00482	.00416	7.8647	.03087
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-237-A Acquired: 10/22/2019 23:13:53 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.32659	9.6657	-.01129	.30963	.67803
Stddev	.00302	.0131	.00117	.00072	.00405
%RSD	.92415	.13586	10.379	.23273	.59663
#1	.32421	9.6635	-.01004	.30917	.68082
#2	.32998	9.6798	-.01147	.30926	.67988
#3	.32558	9.6538	-.01236	.31046	.67339
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3711.2	6531.6	98678.	7638.1
Stddev	23.1	40.3	166.	30.1
%RSD	.62166	.61694	.16808	.39452
#1	3694.7	6503.6	98634.	7656.7
#2	3701.5	6513.5	98539.	7603.4
#3	3737.6	6577.8	98862.	7654.3

Sample Name: 440-252289-A-238-A Acquired: 10/22/2019 23:19:09 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00121	110.72	.02763	.05750	.80906	.00361
Stddev	.00076	1.32	.00029	.00030	.00541	.00002
%RSD	62.835	1.1921	1.0659	.51686	.66910	.48322
#1	-.00200	111.36	.02764	.05716	.81249	.00363
#2	-.00049	109.20	.02791	.05772	.80282	.00360
#3	-.00113	111.59	.02733	.05760	.81187	.00360
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	29.846	.00197	.05870	.13019	.14000	162.35
Stddev	.064	.00014	.00024	.00018	.00126	1.15
%RSD	.21476	7.3617	.40148	.13660	.90162	.71005
#1	29.910	.00200	.05857	.13018	.13982	163.05
#2	29.781	.00209	.05856	.13002	.13883	161.02
#3	29.846	.00181	.05898	.13037	.14134	162.98
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-238-A Acquired: 10/22/2019 23:19:09 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.833	.07454	28.909	2.9331	.00289	1.9945
Stddev	.096	.00176	.149	.0117	.00024	.0190
%RSD	.40440	2.3653	.51636	.39884	8.3483	.95173
#1	23.906	.07541	29.062	2.9246	.00291	1.9958
#2	23.723	.07251	28.764	2.9282	.00312	1.9748
#3	23.869	.07570	28.902	2.9464	.00264	2.0127
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.08257	.12865	.00548	.00193	7.8446	.02692
Stddev	.00051	.00127	.00272	.00391	.0819	.00069
%RSD	.62111	.98732	49.635	202.14	1.0445	2.5802
#1	.08281	.12756	.00236	.00420	7.9098	.02612
#2	.08198	.12834	.00731	-.00258	7.7526	.02740
#3	.08292	.13004	.00678	.00418	7.8714	.02723
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-238-A Acquired: 10/22/2019 23:19:09 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.26894	9.2081	-.01031	.32634	.40954
Stddev	.00324	.0701	.00047	.00778	.00112
%RSD	1.2031	.76086	4.5700	2.3846	.27442
#1	.27227	9.2709	-.01065	.33306	.40903
#2	.26581	9.1325	-.01052	.31781	.40876
#3	.26875	9.2210	-.00977	.32815	.41083
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3709.7	6493.5	98757.	7665.3
Stddev	4.5	7.3	310.	29.5
%RSD	.12005	.11253	.31422	.38467
#1	3714.8	6501.6	98870.	7634.5
#2	3706.8	6491.7	98996.	7693.3
#3	3707.4	6487.3	98406.	7668.1

Sample Name: 440-252289-A-239-A Acquired: 10/22/2019 23:24:28 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00083	132.08	.03825	.08500	1.3592	.00425
Stddev	.00015	1.38	.00056	.00018	.0176	.00009
%RSD	18.620	1.0461	1.4763	.20922	1.2956	2.0626
#1	.00067	131.36	.03769	.08486	1.3410	.00415
#2	.00098	131.20	.03882	.08520	1.3607	.00430
#3	.00084	133.67	.03825	.08495	1.3761	.00430
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	69.331	.00612	.06098	.18082	.24775	161.41
Stddev	.203	.00003	.00046	.00057	.00043	1.23
%RSD	.29348	.46082	.75297	.31694	.17557	.75955
#1	69.102	.00611	.06096	.18094	.24801	160.24
#2	69.399	.00611	.06145	.18020	.24799	161.31
#3	69.491	.00616	.06054	.18133	.24724	162.69
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-239-A Acquired: 10/22/2019 23:24:28 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	19.991	.09055	31.861	3.0090	.00474	2.5111
Stddev	.125	.00121	.255	.0018	.00015	.0261
%RSD	.62549	1.3360	.80118	.05884	3.1971	1.0402
#1	19.879	.08973	31.629	3.0082	.00484	2.4936
#2	19.967	.08998	31.821	3.0077	.00457	2.4986
#3	20.126	.09194	32.134	3.0110	.00482	2.5412
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.11152	.82143	.01175	.00606	8.7006	.05732
Stddev	.00044	.00507	.00207	.00540	.0573	.00065
%RSD	.39087	.61743	17.656	89.114	.65917	1.1399
#1	.11197	.82648	.01070	.00269	8.6466	.05666
#2	.11110	.82148	.01040	.00320	8.6945	.05797
#3	.11148	.81634	.01413	.01228	8.7608	.05732
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-239-A Acquired: 10/22/2019 23:24:28 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.51449	8.5877	-.01243	.32846	2.5658
Stddev	.00263	.0388	.00078	.00259	.0022
%RSD	.51116	.45120	6.2528	.78772	.08476
#1	.51483	8.6324	-.01314	.32548	2.5661
#2	.51170	8.5664	-.01256	.33021	2.5635
#3	.51693	8.5643	-.01160	.32967	2.5678
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3648.1	6445.5	98812.	7805.2
Stddev	9.9	16.2	396.	23.5
%RSD	.27065	.25157	.40056	.30076
#1	3636.7	6431.2	98355.	7811.3
#2	3653.9	6463.1	99031.	7825.1
#3	3653.7	6442.3	99049.	7779.3

Sample Name: 440-252289-A-240-A Acquired: 10/22/2019 23:29:44 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00120	114.63	.03080	.06263	.86444	.00399
Stddev	.00036	1.17	.00181	.00041	.00789	.00002
%RSD	30.141	1.0170	5.8763	.65430	.91319	.54283
#1	-.00099	114.98	.02906	.06261	.86431	.00400
#2	-.00162	115.58	.03066	.06223	.87239	.00400
#3	-.00100	113.33	.03268	.06305	.85661	.00396
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	19.497	.00211	.05724	.13079	.13391	149.95
Stddev	.110	.00001	.00032	.00025	.00033	.96
%RSD	.56486	.51840	.55459	.18950	.24841	.64066
#1	19.574	.00212	.05751	.13102	.13416	150.28
#2	19.546	.00211	.05732	.13053	.13353	150.70
#3	19.371	.00210	.05689	.13082	.13403	148.86
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-240-A Acquired: 10/22/2019 23:29:44 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.550	.05824	25.894	2.9234	.00233	2.1977
Stddev	.159	.00183	.152	.0056	.00030	.0181
%RSD	1.0242	3.1487	.58795	.19050	12.883	.82459
#1	15.534	.05935	25.952	2.9287	.00242	2.2029
#2	15.717	.05925	26.010	2.9240	.00257	2.2126
#3	15.400	.05612	25.722	2.9176	.00199	2.1775
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.07696	.24570	.00581	.00386	5.9350	.03033
Stddev	.00052	.00146	.00051	.00195	.0180	.00038
%RSD	.67487	.59259	8.7006	50.551	.30395	1.2650
#1	.07714	.24457	.00639	.00611	5.9538	.02995
#2	.07638	.24734	.00553	.00289	5.9333	.03071
#3	.07737	.24519	.00550	.00259	5.9179	.03033
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-240-A Acquired: 10/22/2019 23:29:44 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.25772	8.3613	-.01043	.31426	.64791
Stddev	.01174	.0204	.00086	.00185	.00093
%RSD	4.5543	.24351	8.2355	.58848	.14327
#1	.27058	8.3804	-.00975	.31250	.64792
#2	.24757	8.3636	-.01015	.31618	.64698
#3	.25502	8.3399	-.01140	.31410	.64884
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3745.1	6528.3	99007.	7745.4
Stddev	7.7	8.1	227.	60.4
%RSD	.20615	.12396	.22973	.77964
#1	3737.6	6519.4	98756.	7695.9
#2	3753.1	6530.3	99064.	7727.6
#3	3744.6	6535.3	99200.	7812.7

Sample Name: CCV 3418984 Acquired: 10/22/2019 23:35:02 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.0153	24.320	.51573	2.0659	1.9996	1.9726
Stddev	.0014	.116	.00062	.0041	.0037	.0013
%RSD	.14300	.47594	.12059	.19777	.18657	.06720
#1	1.0146	24.452	.51566	2.0659	2.0039	1.9733
#2	1.0169	24.274	.51515	2.0618	1.9969	1.9734
#3	1.0143	24.234	.51638	2.0699	1.9981	1.9711
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	48.892	.50323	2.0516	1.9483	1.9558	24.498
Stddev	.095	.00115	.0068	.0060	.0116	.051
%RSD	.19508	.22899	.33006	.30717	.59504	.20933
#1	48.876	.50381	2.0493	1.9543	1.9657	24.527
#2	48.994	.50191	2.0463	1.9423	1.9430	24.529
#3	48.805	.50399	2.0592	1.9484	1.9587	24.439
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3418984 Acquired: 10/22/2019 23:35:02 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	126.96	2.0482	48.162	1.9625	1.9675	128.01
Stddev	.18	.0045	.155	.0007	.0026	.08
%RSD	.14026	.21798	.32284	.03427	.12969	.06028
#1	127.15	2.0456	48.209	1.9633	1.9668	128.05
#2	126.92	2.0456	48.288	1.9620	1.9653	128.05
#3	126.81	2.0533	47.988	1.9622	1.9703	127.92
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.0441	.50305	.50375	.51284	1.9849	1.9049
Stddev	.0046	.00214	.00187	.00408	.0123	.0054
%RSD	.22720	.42444	.37201	.79648	.62023	.28566
#1	2.0429	.50066	.50186	.51664	1.9708	1.9058
#2	2.0402	.50372	.50376	.50852	1.9937	1.8991
#3	2.0492	.50476	.50561	.51336	1.9901	1.9099
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3418984 Acquired: 10/22/2019 23:35:02 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	1.9310	1.9823	.96836	1.9912	1.9487
Stddev	.0065	.0032	.00517	.0088	.0063
%RSD	.33750	.15999	.53374	.44269	.32581
#1	1.9373	1.9856	.96973	2.0007	1.9453
#2	1.9314	1.9793	.96265	1.9895	1.9447
#3	1.9242	1.9820	.97271	1.9833	1.9560
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3506.0	6097.4	92374.	7378.9
Stddev	6.3	6.9	22.	37.8
%RSD	.17939	.11236	.02369	.51285
#1	3507.8	6093.3	92359.	7363.9
#2	3511.3	6105.3	92363.	7350.8
#3	3499.1	6093.6	92399.	7421.9

Sample Name: CCB16 Acquired: 10/22/2019 23:39:49 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00035	.01685	.00003	.00002	-.00007	-.00005
Stddev	.00028	.02267	.00094	.00037	.00033	.00004
%RSD	78.555	134.52	3071.4	1607.1	460.37	68.809
#1	.00045	-.00266	-.00045	-.00007	.00000	-.00005
#2	.00057	.01150	.00112	-.00029	.00021	-.00002
#3	.00004	.04173	-.00057	.00043	-.00043	-.00009
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00036	.00008	.00007	-.00008	.00112	.00231
Stddev	.00205	.00006	.00016	.00020	.00060	.00180
%RSD	571.96	72.059	226.48	254.63	53.742	77.709
#1	.00260	.00001	-.00004	-.00028	.00043	.00211
#2	-.00142	.00010	.00000	.00011	.00144	.00420
#3	-.00011	.00012	.00025	-.00006	.00150	.00063
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB16 Acquired: 10/22/2019 23:39:49 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.08845	.00138	-.00747	.00001	.00031	.02523
Stddev	.01757	.00169	.04063	.00002	.00015	.00902
%RSD	19.868	122.45	543.55	288.79	47.780	35.772
#1	.09823	.00028	.01853	.00003	.00046	.03165
#2	.09896	.00053	.01334	.00001	.00016	.01491
#3	.06816	.00332	-.05429	-.00002	.00030	.02912
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00037	.00073	-.00119	.00230	.00599	-.00047
Stddev	.00047	.00111	.00002	.00118	.00705	.00007
%RSD	126.29	152.72	1.7343	51.107	117.56	14.627
#1	-.00091	.00199	-.00121	.00099	.01399	-.00039
#2	-.00014	-.00009	-.00120	.00266	.00071	-.00050
#3	-.00006	.00027	-.00117	.00326	.00328	-.00052
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB16 Acquired: 10/22/2019 23:39:49 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	-.00145	.00028	.00113	.00583	.00016
Stddev	.00323	.00004	.00061	.00159	.00005
%RSD	222.85	13.036	53.698	27.199	34.402
#1	-.00419	.00028	.00136	.00459	.00012
#2	.00211	.00025	.00160	.00527	.00022
#3	-.00226	.00032	.00045	.00762	.00014
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4244.8	6474.1	100100.	7392.2
Stddev	13.3	10.1	218.	64.3
%RSD	.31223	.15524	.21785	.86977
#1	4259.7	6484.7	99896.	7417.4
#2	4240.2	6472.9	100330.	7440.1
#3	4234.4	6464.7	100060.	7319.2

Sample Name: 440-252289-A-241-A Acquired: 10/22/2019 23:45:01 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00157**	**133.58**	**.03153**	**.06336**	**.86240**	**.00478**
Stddev	.00024	.86	.00075	.00088	.00140	.00012
%RSD	15.092	.64136	2.3826	1.3950	.16259	2.4343
#1	-.00178	133.82	.03135	.06397	.86192	.00482
#2	-.00131	132.63	.03236	.06377	.86130	.00465
#3	-.00161	134.29	.03089	.06235	.86398	.00487
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**21.200**	**.00177**	**.06307**	**.14280**	**.14379**	**170.32**
Stddev	.109	.00002	.00037	.00092	.00057	.54
%RSD	.51271	1.3384	.58053	.64685	.39662	.31566
#1	21.076	.00177	.06344	.14282	.14318	169.91
#2	21.247	.00175	.06271	.14187	.14387	170.13
#3	21.278	.00180	.06306	.14372	.14431	170.93
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-241-A Acquired: 10/22/2019 23:45:01 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.962	.06512	29.456	2.8900	.00295	2.6701
Stddev	.050	.00115	.105	.0109	.00039	.0091
%RSD	.31192	1.7646	.35794	.37848	13.043	.34212
#1	15.931	.06559	29.368	2.8878	.00310	2.6598
#2	15.935	.06381	29.428	2.8803	.00324	2.6772
#3	16.019	.06596	29.573	2.9018	.00252	2.6732
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.08338	.20582	.00618	.00200	6.6322	.03409
Stddev	.00034	.00256	.00197	.00172	.0466	.00059
%RSD	.40513	1.2428	31.955	85.975	.70323	1.7162
#1	.08375	.20330	.00821	.00041	6.6032	.03464
#2	.08327	.20841	.00427	.00177	6.6074	.03414
#3	.08311	.20576	.00606	.00383	6.6860	.03348
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-241-A Acquired: 10/22/2019 23:45:01 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.26246	9.5632	-.01293	.35475	.57428
Stddev	.00671	.0127	.00152	.00528	.00027
%RSD	2.5580	.13326	11.785	1.4889	.04764
#1	.25637	9.5777	-.01454	.35929	.57401
#2	.26133	9.5538	-.01273	.34896	.57429
#3	.26966	9.5581	-.01151	.35601	.57455
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3709.6	6525.9	98925.	7702.3
Stddev	4.2	10.1	272.	42.4
%RSD	.11229	.15439	.27494	.55082
#1	3704.8	6520.7	98659.	7743.1
#2	3711.6	6519.6	99203.	7705.6
#3	3712.3	6537.5	98913.	7658.4

Sample Name: 440-252289-A-242-A Acquired: 10/22/2019 23:50:19 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00028	108.16	.04626	.10111	1.1824	.00400
Stddev	.00047	1.66	.00125	.00101	.0144	.00003
%RSD	169.94	1.5305	2.7039	.99963	1.2191	.65486
#1	-.00037	109.68	.04528	.10057	1.1939	.00402
#2	.00023	106.40	.04767	.10049	1.1662	.00397
#3	-.00070	108.39	.04582	.10228	1.1870	.00401
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	45.168	.01004	.06863	.20735	.30332	170.50
Stddev	.332	.00005	.00014	.00034	.00094	1.49
%RSD	.73598	.46910	.19917	.16616	.30927	.87522
#1	45.548	.00998	.06875	.20696	.30280	172.05
#2	45.021	.01007	.06865	.20763	.30275	169.07
#3	44.934	.01006	.06848	.20745	.30440	170.39
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-242-A Acquired: 10/22/2019 23:50:19 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**34.503**	**.11215**	**39.288**	**2.7843**	**.01417**	**1.4148**
Stddev	.287	.00104	.372	.0088	.00011	.0147
%RSD	.83052	.92328	.94772	.31619	.77220	1.0400
#1	34.810	.11241	39.641	2.7758	.01429	1.4316
#2	34.242	.11101	38.899	2.7933	.01412	1.4082
#3	34.457	.11303	39.325	2.7838	.01409	1.4044
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.16637**	**1.3512**	**.01202**	**.00281**	**8.3584**	**.08062**
Stddev	.00047	.0011	.00176	.00031	.0852	.00035
%RSD	.27951	.08309	14.626	11.187	1.0188	.43588
#1	.16683	1.3516	.01091	.00249	8.4509	.08103
#2	.16639	1.3499	.01110	.00311	8.2833	.08042
#3	.16590	1.3521	.01405	.00282	8.3411	.08042
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-242-A Acquired: 10/22/2019 23:50:19 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.45326	8.3671	-.01122	.36522	1.5332
Stddev	.00356	.0145	.00143	.00161	.0019
%RSD	.78652	.17297	12.759	.44129	.12687
#1	.45097	8.3662	-.01183	.36607	1.5344
#2	.45144	8.3820	-.00959	.36336	1.5343
#3	.45736	8.3531	-.01225	.36622	1.5310
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3666.9	6598.2	100330.	7886.6
Stddev	6.2	5.1	189.	63.6
%RSD	.16809	.07692	.18885	.80584
#1	3661.0	6592.4	100490.	7821.4
#2	3673.3	6601.7	100120.	7948.4
#3	3666.3	6600.6	100380.	7890.2

Sample Name: 440-252289-A-243-A Acquired: 10/22/2019 23:55:26 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00117**	**114.05**	**.04422**	**.07136**	**1.0780**	**.00413**
Stddev	.00026	.71	.00283	.00046	.0049	.00006
%RSD	22.631	.62287	6.4015	.64914	.44998	1.5416
#1	-.00122	114.45	.04573	.07115	1.0790	.00419
#2	-.00141	113.23	.04597	.07103	1.0727	.00406
#3	-.00089	114.47	.04096	.07189	1.0823	.00414
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**33.640**	**.00576**	**.06607**	**.20034**	**.20962**	**175.87**
Stddev	.176	.00010	.00052	.00039	.00051	.99
%RSD	.52291	1.6519	.78090	.19600	.24221	.56197
#1	33.753	.00578	.06624	.20077	.21004	176.11
#2	33.438	.00585	.06549	.19999	.20975	174.79
#3	33.731	.00566	.06647	.20027	.20905	176.72
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-243-A Acquired: 10/22/2019 23:55:26 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	34.029	.11144	38.222	2.7824	.01462	1.2489
Stddev	.141	.00106	.287	.0089	.00017	.0167
%RSD	.41431	.95538	.75173	.31830	1.1428	1.3381
#1	34.045	.11204	38.294	2.7907	.01481	1.2635
#2	33.880	.11208	37.906	2.7731	.01448	1.2307
#3	34.161	.11021	38.467	2.7833	.01459	1.2526
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.15815	.43771	.01016	.00589	8.5500	.03974
Stddev	.00049	.00304	.00099	.00124	.0548	.00041
%RSD	.31271	.69548	9.7019	20.971	.64078	1.0361
#1	.15868	.44122	.01127	.00722	8.5790	.03976
#2	.15769	.43594	.00979	.00478	8.4868	.04014
#3	.15808	.43595	.00941	.00567	8.5842	.03932
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-243-A Acquired: 10/22/2019 23:55:26 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.42840	9.0089	-.01178	.38760	.74327
Stddev	.00181	.0329	.00084	.00425	.00051
%RSD	.42292	.36558	7.1131	1.0959	.06900
#1	.42952	9.0443	-.01171	.38307	.74362
#2	.42631	9.0033	-.01098	.38824	.74350
#3	.42937	8.9792	-.01265	.39150	.74268
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3696.9	6653.6	101000.	7876.5
Stddev	9.1	8.6	253.	43.4
%RSD	.24603	.12995	.25038	.55113
#1	3692.4	6654.2	100710.	7859.6
#2	3707.4	6662.0	101070.	7925.9
#3	3690.9	6644.8	101200.	7844.2

Sample Name: 440-252289-A-244-A Acquired: 10/23/2019 0:00:33 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00127	102.03	.03577	.07078	.84284	.00381
Stddev	.00016	1.17	.00151	.00016	.00387	.00008
%RSD	12.517	1.1457	4.2305	.22204	.45935	2.0013
#1	-.00145	100.76	.03448	.07076	.83845	.00372
#2	-.00114	103.05	.03744	.07063	.84578	.00386
#3	-.00122	102.28	.03540	.07094	.84428	.00385
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	29.180	.00424	.06004	.16742	.16010	166.82
Stddev	.070	.00006	.00010	.00033	.00120	.76
%RSD	.24097	1.3094	.16959	.19556	.74802	.45376
#1	29.149	.00424	.05998	.16772	.16140	165.95
#2	29.130	.00418	.05997	.16707	.15989	167.17
#3	29.260	.00429	.06015	.16747	.15903	167.34
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-244-A Acquired: 10/23/2019 0:00:33 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	28.832	.09939	34.102	2.4308	.01286	1.3677
Stddev	.124	.00107	.411	.0070	.00020	.0085
%RSD	.42994	1.0769	1.2048	.28912	1.5846	.62345
#1	28.713	.09840	33.628	2.4275	.01277	1.3578
#2	28.960	.10052	34.348	2.4389	.01310	1.3727
#3	28.823	.09924	34.332	2.4261	.01272	1.3726
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.13098	.20632	.00783	.00543	8.0182	.02783
Stddev	.00045	.00344	.00013	.00180	.0343	.00074
%RSD	.34647	1.6660	1.6864	33.257	.42784	2.6591
#1	.13150	.20844	.00776	.00650	7.9787	.02815
#2	.13069	.20817	.00799	.00643	8.0359	.02836
#3	.13073	.20236	.00776	.00334	8.0400	.02698
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-244-A Acquired: 10/23/2019 0:00:33 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.30937	8.4507	-.01159	.36461	.49985
Stddev	.00149	.0669	.00152	.00109	.00085
%RSD	.48125	.79136	13.086	.29960	.17092
#1	.31095	8.4388	-.00997	.36585	.50083
#2	.30800	8.5227	-.01298	.36422	.49950
#3	.30914	8.3906	-.01183	.36377	.49923
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3700.6	6578.0	100340.	7728.9
Stddev	3.7	7.0	477.	31.2
%RSD	.10090	.10581	.47576	.40358
#1	3698.1	6577.0	100450.	7764.1
#2	3698.7	6571.5	99814.	7704.9
#3	3704.9	6585.3	100750.	7717.7

Sample Name: 440-252289-A-245-A Acquired: 10/23/2019 0:05:41 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00008	122.19	.05424	.09471	1.8945	.00438
Stddev	.00021	.62	.00148	.00098	.0065	.00003
%RSD	260.40	.50460	2.7294	1.0380	.34242	.62589
#1	-.00005	122.19	.05443	.09430	1.9013	.00438
#2	-.00030	121.58	.05562	.09583	1.8884	.00440
#3	.00011	122.81	.05267	.09400	1.8937	.00435
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	45.324	.01425	.07895	.24629	.45547	200.25
Stddev	.135	.00011	.00028	.00076	.00149	.24
%RSD	.29797	.77944	.35396	.30741	.32773	.12044
#1	45.171	.01419	.07872	.24631	.45385	200.34
#2	45.425	.01417	.07887	.24553	.45577	199.98
#3	45.377	.01437	.07926	.24704	.45679	200.44
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-245-A Acquired: 10/23/2019 0:05:41 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	43.954	.11514	42.619	3.2079	.01749	1.6753
Stddev	.071	.00115	.201	.0125	.00015	.0124
%RSD	.16180	.99576	.47063	.38874	.85072	.74119
#1	43.872	.11560	42.523	3.2223	.01760	1.6612
#2	43.989	.11598	42.486	3.2010	.01754	1.6802
#3	44.001	.11383	42.850	3.2004	.01732	1.6846
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19239	2.5301	.02076	.00443	7.3550	.12064
Stddev	.00089	.0060	.00149	.00226	.0127	.00121
%RSD	.46232	.23744	7.1573	51.102	.17335	1.0007
#1	.19174	2.5232	.01913	.00405	7.3481	.11977
#2	.19340	2.5338	.02113	.00685	7.3472	.12013
#3	.19203	2.5334	.02203	.00238	7.3697	.12202
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-245-A Acquired: 10/23/2019 0:05:41 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.40809	9.5278	-.01248	.41562	2.8226
Stddev	.00517	.0525	.00049	.00305	.0077
%RSD	1.2661	.55133	3.9100	.73275	.27181
#1	.40881	9.5816	-.01196	.41230	2.8140
#2	.40261	9.5251	-.01254	.41628	2.8287
#3	.41287	9.4767	-.01293	.41829	2.8251
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3634.3	6582.1	99453.	7740.6
Stddev	8.1	17.0	276.	52.0
%RSD	.22225	.25884	.27776	.67134
#1	3641.1	6592.7	99134.	7798.5
#2	3636.4	6591.2	99618.	7725.6
#3	3625.3	6562.5	99608.	7697.8

Sample Name: 440-252289-A-246-A Acquired: 10/23/2019 0:10:54 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00076	107.99	.04256	.07945	1.0522	.00411
Stddev	.00018	.49	.00193	.00091	.0074	.00011
%RSD	24.121	.45519	4.5459	1.1418	.70475	2.6418
#1	-.00064	108.47	.04478	.08049	1.0595	.00412
#2	-.00066	108.00	.04124	.07885	1.0526	.00399
#3	-.00097	107.49	.04166	.07900	1.0447	.00421
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	32.228	.00624	.06738	.19026	.23221	175.66
Stddev	.127	.00010	.00028	.00051	.00095	1.01
%RSD	.39465	1.6765	.41975	.26943	.40932	.57370
#1	32.375	.00628	.06738	.18981	.23148	176.78
#2	32.159	.00612	.06766	.19014	.23186	175.39
#3	32.150	.00631	.06710	.19082	.23328	174.82
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-246-A Acquired: 10/23/2019 0:10:54 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**37.131**	**.10772**	**37.402**	**2.6760**	**.01462**	**1.2820**
Stddev	.157	.00070	.153	.0032	.00019	.0079
%RSD	.42286	.64709	.40970	.11945	1.2765	.61759
#1	37.225	.10692	37.579	2.6785	.01441	1.2908
#2	37.219	.10808	37.316	2.6724	.01475	1.2801
#3	36.950	.10817	37.311	2.6770	.01471	1.2753
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.15419**	**.47946**	**.00772**	**.00654**	**8.9264**	**.04655**
Stddev	.00117	.00164	.00227	.00220	.0433	.00009
%RSD	.75775	.34226	29.407	33.641	.48486	.18684
#1	.15286	.47858	.00600	.00888	8.9529	.04646
#2	.15504	.47845	.01029	.00452	8.8765	.04655
#3	.15469	.48135	.00686	.00621	8.9499	.04663
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-246-A Acquired: 10/23/2019 0:10:54 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.29435	9.0309	-.01183	.38286	.86857
Stddev	.00546	.0077	.00121	.00780	.00068
%RSD	1.8555	.08533	10.195	2.0377	.07804
#1	.29992	9.0331	-.01045	.38905	.86807
#2	.29412	9.0373	-.01268	.38543	.86935
#3	.28900	9.0224	-.01237	.37410	.86830
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3669.2	6591.9	99410.	7720.8
Stddev	9.3	16.6	265.	53.4
%RSD	.25379	.25203	.26623	.69164
#1	3672.6	6580.7	99162.	7659.7
#2	3658.6	6584.0	99689.	7758.3
#3	3676.3	6611.0	99379.	7744.4

Sample Name: 440-252289-A-247-A Acquired: 10/23/2019 0:16:01 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00179**	**128.33**	**.04347**	**.07024**	**1.1067**	**.00468**
Stddev	.00030	1.15	.00192	.00048	.0158	.00006
%RSD	16.752	.89231	4.4140	.68482	1.4262	1.2600
#1	-.00202	127.04	.04521	.07072	1.0897	.00464
#2	-.00145	129.24	.04141	.07024	1.1209	.00475
#3	-.00190	128.70	.04380	.06976	1.1095	.00465
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**35.458**	**.00452**	**.07559**	**.20502**	**.18892**	**198.19**
Stddev	.060	.00013	.00024	.00032	.00049	1.62
%RSD	.16889	2.7674	.31839	.15509	.26154	.81898
#1	35.392	.00467	.07545	.20520	.18835	196.34
#2	35.473	.00447	.07587	.20521	.18911	199.38
#3	35.509	.00443	.07546	.20465	.18928	198.84
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-247-A Acquired: 10/23/2019 0:16:01 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**37.628**	**.12115**	**42.007**	**2.9160**	**.01577**	**1.5148**
Stddev	.219	.00018	.365	.0094	.00017	.0047
%RSD	.58102	.14621	.86986	.32226	1.0770	.31275
#1	37.387	.12103	41.589	2.9079	.01577	1.5109
#2	37.815	.12136	42.172	2.9137	.01593	1.5135
#3	37.682	.12108	42.262	2.9263	.01559	1.5201
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.16718**	**.11399**	**.00546**	**.00526**	**9.9230**	**.02824**
Stddev	.00015	.00130	.00133	.00317	.0656	.00021
%RSD	.08756	1.1376	24.411	60.145	.66076	.73069
#1	.16734	.11438	.00393	.00814	9.8851	.02818
#2	.16705	.11505	.00636	.00578	9.9987	.02807
#3	.16715	.11254	.00609	.00187	9.8852	.02847
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-247-A Acquired: 10/23/2019 0:16:01 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.31350	F 10.614	-.01472	.44502	.53213
Stddev	.00496	.053	.00119	.00643	.00042
%RSD	1.5828	.50275	8.1092	1.4460	.07890
#1	.30784	10.675	-.01334	.43762	.53253
#2	.31554	10.579	-.01540	.44811	.53169
#3	.31712	10.586	-.01542	.44933	.53217
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit		10.000			
Low Limit		-.05000			

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3644.1	6640.2	101000.	7847.5
Stddev	4.9	6.8	198.	56.3
%RSD	.13478	.10205	.19588	.71759
#1	3639.0	6632.8	100820.	7911.0
#2	3644.3	6641.6	101210.	7827.9
#3	3648.8	6646.1	100980.	7803.6

Sample Name: 440-252289-A-248-A Acquired: 10/23/2019 0:21:17 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00069	117.86	.06059	.08820	1.6156	.00410
Stddev	.00009	1.07	.00093	.00091	.0168	.00012
%RSD	13.374	.90767	1.5409	1.0291	1.0368	2.8373
#1	.00059	116.93	.06156	.08921	1.5983	.00402
#2	.00071	117.61	.05970	.08792	1.6166	.00406
#3	.00078	119.03	.06052	.08746	1.6318	.00424
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	43.815	.01586	.07547	.26208	.41578	183.09
Stddev	.101	.00010	.00021	.00179	.00174	1.11
%RSD	.22972	.63772	.27333	.68165	.41872	.60389
#1	43.706	.01593	.07526	.26003	.41480	182.07
#2	43.836	.01574	.07547	.26331	.41779	182.92
#3	43.904	.01591	.07567	.26289	.41474	184.26
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-248-A Acquired: 10/23/2019 0:21:17 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	33.769	.11783	41.518	3.0098	.01538	1.7521
Stddev	.224	.00050	.305	.0115	.00010	.0143
%RSD	.66338	.42200	.73373	.38318	.66086	.81568
#1	33.519	.11738	41.311	3.0081	.01548	1.7357
#2	33.837	.11775	41.376	2.9993	.01528	1.7622
#3	33.951	.11836	41.868	3.0221	.01538	1.7583
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20213	3.3352	.01863	.00576	8.8641	.15115
Stddev	.00046	.0104	.00126	.00534	.0472	.00031
%RSD	.22673	.31037	6.7382	92.679	.53298	.20272
#1	.20172	3.3236	.01894	.01027	8.8290	.15150
#2	.20262	3.3382	.01725	.00713	8.8454	.15093
#3	.20206	3.3437	.01970	-.00013	8.9178	.15102
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-248-A Acquired: 10/23/2019 0:21:17 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.46717	9.2341	-.01184	.39468	2.7906
Stddev	.00406	.0561	.00124	.00626	.0036
%RSD	.86995	.60728	10.459	1.5849	.12928
#1	.46283	9.2927	-.01044	.39077	2.7864
#2	.47088	9.1810	-.01229	.40190	2.7926
#3	.46780	9.2285	-.01279	.39139	2.7927
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3649.8	6573.5	99935.	7754.5
Stddev	6.1	14.6	267.	36.6
%RSD	.16665	.22209	.26764	.47220
#1	3648.2	6566.0	99903.	7793.4
#2	3656.5	6590.3	100220.	7749.2
#3	3644.7	6564.2	99684.	7720.7

Sample Name: 440-252289-A-249-A Acquired: 10/23/2019 0:26:31 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00052	126.30	.05687	.07994	1.2954	.00464
Stddev	.00019	.45	.00111	.00012	.0041	.00007
%RSD	36.635	.35410	1.9595	.14696	.31788	1.5918
#1	-.00073	126.77	.05565	.08007	1.2966	.00472
#2	-.00046	125.87	.05712	.07984	1.2908	.00464
#3	-.00036	126.26	.05783	.07991	1.2988	.00457
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	39.741	.00870	.07955	.22768	.27921	194.30
Stddev	.136	.00013	.00029	.00120	.00075	.44
%RSD	.34300	1.5158	.35972	.52868	.26735	.22828
#1	39.682	.00856	.07927	.22843	.27847	194.50
#2	39.643	.00872	.07953	.22832	.27919	193.79
#3	39.896	.00883	.07984	.22629	.27996	194.60
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-249-A Acquired: 10/23/2019 0:26:31 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**34.368**	**.12704**	**43.945**	**2.9771**	**.01661**	**2.0083**
Stddev	.082	.00136	.085	.0141	.00041	.0079
%RSD	.23844	1.0672	.19272	.47277	2.4848	.39125
#1	34.342	.12859	44.016	2.9903	.01709	2.0120
#2	34.302	.12605	43.851	2.9787	.01635	2.0136
#3	34.460	.12648	43.968	2.9623	.01640	1.9992
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.18928**	**1.0530**	**.01357**	**.00511**	**8.7131**	**.05739**
Stddev	.00200	.0037	.00180	.00244	.0021	.00087
%RSD	1.0563	.35004	13.226	47.715	.02422	1.5176
#1	.18932	1.0501	.01228	.00558	8.7154	.05830
#2	.18726	1.0517	.01562	.00247	8.7126	.05657
#3	.19126	1.0571	.01282	.00728	8.7113	.05730
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-249-A Acquired: 10/23/2019 0:26:31 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.41594	F 10.176	-.01276	.43610	1.2411
Stddev	.00058	.023	.00080	.00545	.0007
%RSD	.13960	.22687	6.2893	1.2488	.05954
#1	.41541	10.180	-.01206	.44226	1.2414
#2	.41656	10.151	-.01364	.43194	1.2402
#3	.41585	10.197	-.01258	.43409	1.2416
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit		10.000			
Low Limit		-.05000			

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3648.5	6633.1	100660.	7875.0
Stddev	7.7	5.1	205.	26.5
%RSD	.20986	.07749	.20395	.33667
#1	3648.8	6630.0	100540.	7870.7
#2	3656.0	6639.0	100540.	7903.4
#3	3640.7	6630.2	100890.	7850.9

Sample Name: CCV 3418984 Acquired: 10/23/2019 0:31:47 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.0217	24.664	.51741	2.0593	2.0208	1.9910
Stddev	.0047	.002	.00142	.0054	.0032	.0025
%RSD	.46205	.00901	.27515	.26326	.16077	.12566
#1	1.0263	24.665	.51626	2.0636	2.0199	1.9929
#2	1.0169	24.662	.51900	2.0612	2.0244	1.9919
#3	1.0220	24.666	.51698	2.0532	2.0180	1.9882
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	49.218	.50474	2.0545	1.9394	1.9438	24.678
Stddev	.081	.00029	.0037	.0086	.0078	.020
%RSD	.16557	.05704	.17906	.44574	.40225	.08203
#1	49.306	.50462	2.0554	1.9493	1.9526	24.692
#2	49.145	.50454	2.0504	1.9337	1.9414	24.687
#3	49.205	.50507	2.0576	1.9351	1.9376	24.654
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3418984 Acquired: 10/23/2019 0:31:47 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**128.32**	**2.0632**	**48.549**	**1.9690**	**1.9679**	**129.43**
Stddev	.27	.0036	.053	.0077	.0028	.14
%RSD	.21179	.17386	.10863	.39290	.14296	.10940
#1	128.59	2.0623	48.572	1.9775	1.9673	129.47
#2	128.31	2.0671	48.587	1.9624	1.9709	129.54
#3	128.05	2.0601	48.489	1.9671	1.9654	129.27
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.0490**	**.50363**	**.50798**	**.51433**	**1.9937**	**1.9103**
Stddev	.0042	.00261	.00240	.00499	.0190	.0027
%RSD	.20421	.51828	.47331	.97011	.95184	.14282
#1	2.0532	.50337	.50535	.51551	2.0129	1.9131
#2	2.0449	.50115	.50853	.50886	1.9932	1.9102
#3	2.0488	.50635	.51007	.51862	1.9750	1.9076
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3418984 Acquired: 10/23/2019 0:31:47 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	1.9395	1.9809	.96893	2.0160	1.9593
Stddev	.0140	.0060	.00368	.0089	.0007
%RSD	.72319	.30359	.38009	.44376	.03797
#1	1.9555	1.9878	.97304	2.0114	1.9591
#2	1.9330	1.9779	.96593	2.0263	1.9587
#3	1.9298	1.9770	.96780	2.0102	1.9601
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3496.7	6084.9	92057.	7229.0
Stddev	6.2	5.2	354.	13.5
%RSD	.17701	.08607	.38440	.18664
#1	3496.0	6088.0	91654.	7216.2
#2	3503.3	6087.9	92318.	7243.0
#3	3490.9	6078.9	92199.	7227.7

Sample Name: CCB17 Acquired: 10/23/2019 0:36:35 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00009	.00816	-.00007	.00007	.00017	.00001
Stddev	.00023	.02641	.00185	.00020	.00035	.00004
%RSD	242.56	323.72	2525.4	293.16	211.52	779.31
#1	.00002	.03816	.00179	.00025	-.00001	-.00003
#2	.00035	-.00216	-.00011	.00008	-.00006	.00005
#3	-.00009	-.01153	-.00190	-.00014	.00057	-.00000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00415	.00007	-.00002	-.00007	.00076	.00186
Stddev	.00264	.00004	.00012	.00020	.00018	.00142
%RSD	63.459	55.881	735.14	302.19	22.964	76.419
#1	.00486	.00008	-.00011	-.00017	.00088	.00022
#2	.00637	.00012	.00012	.00016	.00085	.00269
#3	.00124	.00003	-.00007	-.00019	.00056	.00266
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB17 Acquired: 10/23/2019 0:36:35 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.12369	.00075	-.00089	-.00001	.00042	.02287
Stddev	.01941	.00040	.01464	.00001	.00024	.00485
%RSD	15.689	52.997	1644.6	99.617	56.865	21.200
#1	.13480	.00034	-.01494	-.00000	.00029	.01972
#2	.13500	.00077	-.00202	-.00001	.00070	.02845
#3	.10129	.00113	.01429	-.00003	.00027	.02044
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00028	.00037	-.00062	.00304	.00118	-.00024
Stddev	.00023	.00090	.00100	.00088	.00676	.00042
%RSD	82.137	241.98	160.95	29.087	571.13	172.84
#1	-.00018	.00136	-.00134	.00300	-.00356	-.00002
#2	-.00055	.00014	-.00103	.00395	.00893	-.00073
#3	-.00012	-.00039	.00052	.00218	-.00181	.00002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB17 Acquired: 10/23/2019 0:36:35 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00269	.00037	.00125	.00491	.00017
Stddev	.00538	.00019	.00043	.00517	.00004
%RSD	199.68	50.813	34.373	105.39	25.430
#1	.00750	.00053	.00107	.00676	.00013
#2	-.00311	.00042	.00094	-.00093	.00017
#3	.00368	.00016	.00173	.00890	.00021
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4261.0	6511.9	99975.	7331.8
Stddev	19.4	33.5	142.	17.9
%RSD	.45415	.51480	.14218	.24459
#1	4254.7	6497.3	99862.	7317.0
#2	4282.7	6550.3	100130.	7326.6
#3	4245.5	6488.2	99927.	7351.7

Sample Name: MB 180-295274/1-A Acquired: 10/23/2019 0:41:47 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00000**	**.01383**	**-.00059**	**-.00054**	**.00021**	**-.00002**
Stddev	.00044	.02469	.00119	.00030	.00006	.00005
%RSD	23461.	178.59	201.29	55.932	29.865	231.42
#1	.00048	.03248	.00063	-.00069	.00014	.00002
#2	-.00039	.02318	-.00065	-.00019	.00023	-.00001
#3	-.00010	-.01418	-.00175	-.00075	.00025	-.00008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00419**	**.00024**	**-.00013**	**.00031**	**.00112**	**.00593**
Stddev	.00223	.00001	.00007	.00025	.00025	.00122
%RSD	53.105	5.8257	49.702	79.902	22.695	20.570
#1	.00658	.00025	-.00006	.00030	.00101	.00624
#2	.00382	.00023	-.00016	.00056	.00095	.00458
#3	.00217	.00022	-.00018	.00006	.00141	.00696
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: MB 180-295274/1-A Acquired: 10/23/2019 0:41:47 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.12459	.00153	-.02531	.00014	.00008	.02983
Stddev	.00994	.00018	.01861	.00002	.00015	.01004
%RSD	7.9793	11.993	73.538	16.402	188.12	33.650
#1	.13598	.00172	-.01065	.00012	.00009	.04116
#2	.12015	.00135	-.04625	.00013	-.00007	.02627
#3	.11765	.00153	-.01903	.00016	.00023	.02206
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00029	.00002	-.00089	.00166	.01267	.03484
Stddev	.00030	.00059	.00032	.00154	.00369	.00009
%RSD	101.04	2619.1	36.502	93.111	29.097	.27265
#1	.00013	-.00014	-.00052	.00338	.01038	.03494
#2	.00063	.00067	-.00102	.00039	.01070	.03481
#3	.00011	-.00047	-.00112	.00120	.01692	.03476
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: MB 180-295274/1-A Acquired: 10/23/2019 0:41:47 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00616	.00049	-.00001	.00094	.00442
Stddev	.00291	.00009	.00013	.00213	.00011
%RSD	47.201	18.844	1616.5	227.55	2.5117
#1	.00281	.00059	.00006	-.00145	.00441
#2	.00799	.00049	-.00015	.00266	.00453
#3	.00768	.00040	.00007	.00159	.00431
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4176.2	6433.4	99274.	7222.9
Stddev	10.1	9.0	368.	20.4
%RSD	.24160	.13989	.37115	.28201
#1	4169.4	6426.1	99107.	7236.7
#2	4171.4	6430.7	99018.	7232.6
#3	4187.8	6443.5	99696.	7199.5

Sample Name: LCS 180-295274/2-A Acquired: 10/23/2019 0:46:59 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.23438	4.9662	1.0308	1.2724	1.0466	.51330
Stddev	.00053	.0378	.0025	.0038	.0031	.00161
%RSD	.22480	.76083	.23850	.29936	.29974	.31276
#1	.23427	5.0084	1.0287	1.2683	1.0502	.51250
#2	.23391	4.9355	1.0303	1.2732	1.0447	.51226
#3	.23495	4.9547	1.0335	1.2757	1.0449	.51515
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.380	.49023	.49687	.49123	.49045	4.9805
Stddev	.128	.00044	.00099	.00150	.00190	.0095
%RSD	.52375	.08978	.19950	.30534	.38670	.18981
#1	24.271	.49062	.49787	.48968	.49055	4.9915
#2	24.349	.49033	.49686	.49267	.48851	4.9747
#3	24.521	.48975	.49589	.49134	.49230	4.9755
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: LCS 180-295274/2-A Acquired: 10/23/2019 0:46:59 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.818	.52356	24.180	.49920	.51262	26.114
Stddev	.084	.00107	.131	.00065	.00081	.071
%RSD	.32603	.20370	.54039	.12926	.15709	.27328
#1	25.724	.52335	24.236	.49884	.51263	26.046
#2	25.847	.52261	24.031	.49881	.51181	26.107
#3	25.885	.52471	24.274	.49994	.51342	26.188
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.49596	.48556	.25163	.99194	1.0318	1.0011
Stddev	.00065	.00147	.00268	.00609	.0108	.0018
%RSD	.13077	.30305	1.0637	.61415	1.0506	.18144
#1	.49625	.48581	.24875	.99208	1.0197	1.0032
#2	.49641	.48688	.25210	.98578	1.0353	.99988
#3	.49522	.48397	.25405	.99797	1.0405	1.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: LCS 180-295274/2-A Acquired: 10/23/2019 0:46:59 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.49600	.50642	.96724	.51384	.25384
Stddev	.00854	.00046	.00088	.00477	.00056
%RSD	1.7215	.09180	.09087	.92871	.22239
#1	.49700	.50600	.96678	.51916	.25412
#2	.48700	.50636	.96669	.51245	.25421
#3	.50399	.50692	.96825	.50993	.25319
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3769.7	6176.2	95308.	7181.9
Stddev	5.7	9.8	98.	6.6
%RSD	.15092	.15804	.10332	.09211
#1	3763.3	6165.1	95345.	7177.6
#2	3771.8	6180.4	95196.	7189.5
#3	3774.0	6183.2	95382.	7178.5

Sample Name: 440-252289-A-163-A Acquired: 10/23/2019 0:51:46 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00189	133.84	.03466	.05917	1.3512	.00611
Stddev	.00041	1.48	.00185	.00068	.0133	.00010
%RSD	21.654	1.1024	5.3463	1.1471	.98581	1.6254
#1	-.00192	132.26	.03517	.05840	1.3361	.00604
#2	-.00146	135.18	.03260	.05970	1.3611	.00622
#3	-.00228	134.09	.03620	.05940	1.3566	.00606
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.472	.00200	.09893	.18267	.17097	188.41
Stddev	.059	.00011	.00020	.00049	.00019	1.34
%RSD	.25267	5.2639	.20327	.26871	.11303	.71251
#1	23.419	.00211	.09872	.18222	.17080	187.01
#2	23.536	.00199	.09912	.18259	.17093	189.69
#3	23.460	.00190	.09894	.18320	.17118	188.52
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-163-A Acquired: 10/23/2019 0:51:46 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.027	.06498	33.282	3.8982	.00405	3.0706
Stddev	.057	.00109	.231	.0230	.00028	.0085
%RSD	.35743	1.6764	.69416	.59000	6.8119	.27700
#1	15.983	.06409	33.091	3.8970	.00436	3.0615
#2	16.091	.06619	33.539	3.9218	.00383	3.0784
#3	16.006	.06464	33.217	3.8758	.00397	3.0719
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.10427	.31043	.00773	.00335	5.6164	.03018
Stddev	.00080	.00377	.00193	.00231	.0347	.00021
%RSD	.76966	1.2151	24.988	69.036	.61737	.70021
#1	.10453	.30775	.00599	.00115	5.6127	.03020
#2	.10491	.30879	.00739	.00576	5.6528	.03039
#3	.10337	.31474	.00981	.00313	5.5837	.02997
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-163-A Acquired: 10/23/2019 0:51:46 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.29362	8.5527	-.01316	.43469	.62659
Stddev	.00298	.0104	.00223	.00855	.00100
%RSD	1.0149	.12135	16.907	1.9677	.15921
#1	.29217	8.5467	-.01084	.42536	.62544
#2	.29164	8.5467	-.01528	.44215	.62724
#3	.29705	8.5647	-.01337	.43656	.62708
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3700.8	6698.6	101450.	7845.4
Stddev	5.5	7.8	94.	27.3
%RSD	.14821	.11658	.09267	.34734
#1	3706.2	6704.9	101350.	7876.8
#2	3700.9	6701.0	101520.	7831.1
#3	3695.3	6689.9	101500.	7828.3

Sample Name: 440-252289-A163ASD@5 Acquired: 10/23/2019 0:57:02 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00047	27.953	.00692	.01243	.27943	.00129
Stddev	.00021	.245	.00081	.00057	.00232	.00005
%RSD	44.162	.87721	11.706	4.6007	.83049	4.0737
#1	-.00070	28.180	.00785	.01220	.28090	.00134
#2	-.00030	27.693	.00649	.01202	.27675	.00124
#3	-.00041	27.986	.00642	.01309	.28064	.00128
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.0166	.00035	.01950	.03829	.03631	41.159
Stddev	.0389	.00003	.00010	.00046	.00042	.350
%RSD	.77616	7.2554	.51423	1.1937	1.1623	.84986
#1	5.0610	.00037	.01954	.03822	.03658	41.500
#2	4.9884	.00035	.01938	.03878	.03582	40.801
#3	5.0004	.00032	.01956	.03787	.03653	41.178
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A163ASD@5 Acquired: 10/23/2019 0:57:02 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.3588	.01455	7.0150	.85197	.00052	.63856
Stddev	.0142	.00067	.0731	.00193	.00026	.00434
%RSD	.42357	4.5722	1.0424	.22683	49.757	.67980
#1	3.3751	.01420	7.0808	.85187	.00079	.64347
#2	3.3489	.01412	6.9363	.85396	.00050	.63521
#3	3.3524	.01531	7.0279	.85010	.00027	.63701
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01969	.06253	.00094	-.00087	1.1811	.00660
Stddev	.00072	.00024	.00028	.00144	.0147	.00033
%RSD	3.6478	.38633	30.285	164.77	1.2442	5.0735
#1	.02050	.06265	.00061	.00024	1.1897	.00691
#2	.01944	.06269	.00111	-.00250	1.1641	.00665
#3	.01913	.06225	.00110	-.00036	1.1895	.00625
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A163ASD@5 Acquired: 10/23/2019 0:57:02 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.06257	1.8212	-.00138	.09088	.13606
Stddev	.00246	.0035	.00127	.00686	.00004
%RSD	3.9275	.19373	91.873	7.5462	.02603
#1	.06462	1.8215	-.00005	.08921	.13604
#2	.05985	1.8246	-.00258	.08501	.13610
#3	.06325	1.8176	-.00152	.09841	.13603
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4028.2	6572.8	100640.	7534.2
Stddev	.2	8.3	193.	43.1
%RSD	.00394	.12573	.19167	.57160
#1	4028.1	6582.3	100510.	7488.5
#2	4028.4	6568.9	100550.	7540.1
#3	4028.2	6567.2	100860.	7574.0

Sample Name: 440-252289-A-163-BMS Acquired: 10/23/2019 1:02:07 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.21942	179.98	.95142	1.1547	2.1508	.47066
Stddev	.00059	.83	.00276	.0008	.0123	.00211
%RSD	.26799	.46194	.29030	.07122	.56980	.44762
#1	.22004	179.22	.95054	1.1552	2.1404	.46839
#2	.21887	180.87	.95451	1.1551	2.1643	.47255
#3	.21936	179.85	.94920	1.1537	2.1478	.47104
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	44.833	.45414	.61281	.64242	.63915	202.08
Stddev	.070	.00039	.00044	.00218	.00143	.59
%RSD	.15618	.08490	.07159	.33865	.22297	.29218
#1	44.862	.45425	.61328	.64030	.63841	201.42
#2	44.753	.45371	.61242	.64465	.63826	202.54
#3	44.884	.45446	.61273	.64231	.64080	202.29
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-163-BMS Acquired: 10/23/2019 1:02:07 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	39.876	.56968	55.370	4.4485	.44338	27.283
Stddev	.085	.00120	.374	.0089	.00065	.023
%RSD	.21336	.21090	.67549	.20081	.14721	.08371
#1	39.785	.56864	55.015	4.4401	.44382	27.309
#2	39.887	.57099	55.336	4.4579	.44370	27.274
#3	39.955	.56941	55.760	4.4474	.44263	27.265
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.60647	.72373	.13668	.88494	6.5439	.84751
Stddev	.00131	.00170	.00293	.00321	.0184	.00035
%RSD	.21566	.23439	2.1430	.36233	.28164	.04178
#1	.60791	.72246	.13547	.88819	6.5454	.84717
#2	.60615	.72308	.13456	.88178	6.5248	.84749
#3	.60535	.72566	.14002	.88484	6.5615	.84788
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-163-BMS Acquired: 10/23/2019 1:02:07 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.71520	9.7619	.91208	.90005	.78935
Stddev	.00691	.0142	.00464	.00582	.00076
%RSD	.96645	.14542	.50827	.64641	.09568
#1	.70810	9.7782	.90899	.89548	.78937
#2	.71561	9.7548	.91741	.90660	.79009
#3	.72190	9.7526	.90984	.89808	.78858
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3535.9	6541.5	98764.	7758.5
Stddev	2.1	2.1	110.	2.7
%RSD	.05910	.03202	.11142	.03432
#1	3538.2	6539.6	98678.	7761.3
#2	3535.3	6543.8	98726.	7756.0
#3	3534.2	6541.2	98888.	7758.2

Sample Name: 440-252289-A-163CMSD Acquired: 10/23/2019 1:07:11 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.21309	166.41	.93326	1.1527	2.1840	.46126
Stddev	.00030	1.55	.00365	.0039	.0133	.00141
%RSD	.14092	.93444	.39108	.33418	.60776	.30511
#1	.21333	165.33	.93367	1.1524	2.1700	.45989
#2	.21275	168.20	.92943	1.1489	2.1964	.46270
#3	.21318	165.72	.93670	1.1566	2.1855	.46119
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	45.269	.44604	.58975	.63317	.65255	190.12
Stddev	.197	.00015	.00082	.00248	.00214	.89
%RSD	.43534	.03301	.13946	.39094	.32835	.46715
#1	45.089	.44609	.59011	.63593	.65284	189.18
#2	45.237	.44615	.58881	.63242	.65027	190.95
#3	45.480	.44587	.59033	.63116	.65452	190.25
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-163CMSD Acquired: 10/23/2019 1:07:11 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	39.441	.55860	53.018	4.6254	.43871	26.666
Stddev	.028	.00105	.267	.0146	.00088	.020
%RSD	.07027	.18810	.50316	.31515	.20134	.07662
#1	39.415	.55917	52.784	4.6393	.43868	26.658
#2	39.470	.55925	53.308	4.6268	.43785	26.690
#3	39.439	.55739	52.962	4.6102	.43962	26.651
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.59690	.79442	.13434	.86832	9.2768	.85469
Stddev	.00151	.00225	.00071	.00448	.0412	.00305
%RSD	.25221	.28332	.52688	.51574	.44406	.35687
#1	.59692	.79556	.13512	.86791	9.2548	.85544
#2	.59538	.79587	.13415	.86406	9.3243	.85133
#3	.59839	.79183	.13374	.87299	9.2513	.85729
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-163CMSD Acquired: 10/23/2019 1:07:11 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.71530	9.5169	.89967	.87157	.85709
Stddev	.00842	.0291	.00276	.00916	.00132
%RSD	1.1766	.30630	.30728	1.0510	.15355
#1	.70769	9.5191	.89901	.86152	.85702
#2	.72434	9.4868	.90270	.87945	.85581
#3	.71388	9.5450	.89729	.87375	.85844
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3546.3	6547.6	98409.	7742.4
Stddev	4.7	6.3	123.	39.9
%RSD	.13237	.09662	.12519	.51504
#1	3541.7	6540.4	98311.	7785.9
#2	3546.0	6550.1	98369.	7707.7
#3	3551.1	6552.3	98547.	7733.6

Sample Name: 440-252289-A-163APDS Acquired: 10/23/2019 1:12:14 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.22419	133.89	.97351	1.1923	2.2563	.46897
Stddev	.00045	1.94	.00096	.0037	.0242	.00443
%RSD	.20155	1.4516	.09882	.30815	1.0721	.94534
#1	.22424	135.34	.97364	1.1954	2.2694	.47198
#2	.22371	131.68	.97248	1.1882	2.2284	.46388
#3	.22461	134.64	.97439	1.1933	2.2711	.47105
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	45.159	.45257	.58908	.62853	.63346	186.23
Stddev	.060	.00027	.00137	.00239	.00037	1.10
%RSD	.13381	.06059	.23200	.38083	.05792	.59265
#1	45.110	.45243	.58975	.62579	.63340	186.62
#2	45.140	.45240	.58998	.62959	.63385	184.98
#3	45.227	.45289	.58751	.63021	.63312	187.08
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-163APDS Acquired: 10/23/2019 1:12:14 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	39.580	.55066	54.574	4.2166	.45863	27.313
Stddev	.241	.00471	.458	.0112	.00121	.152
%RSD	.60894	.85467	.83856	.26480	.26419	.55786
#1	39.676	.55280	54.758	4.2278	.45816	27.372
#2	39.306	.54527	54.053	4.2055	.45773	27.141
#3	39.759	.55392	54.910	4.2166	.46001	27.428
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.59259	.77875	.23078	.90696	6.3936	.88841
Stddev	.00146	.00184	.00124	.00160	.0326	.00123
%RSD	.24667	.23586	.53904	.17604	.51059	.13860
#1	.59292	.78075	.23104	.90545	6.3692	.88937
#2	.59385	.77835	.22943	.90863	6.3808	.88883
#3	.59099	.77714	.23188	.90681	6.4307	.88702
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-163APDS Acquired: 10/23/2019 1:12:14 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.72594	8.8356	.91919	.88044	.82723
Stddev	.00680	.0188	.00032	.00608	.00164
%RSD	.93631	.21238	.03443	.69069	.19812
#1	.73171	8.8350	.91954	.87784	.82674
#2	.71845	8.8172	.91912	.87609	.82905
#3	.72765	8.8547	.91892	.88739	.82589
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3586.1	6573.0	99403.	7704.6
Stddev	5.4	.9	156.	37.1
%RSD	.14934	.01421	.15711	.48140
#1	3585.4	6572.6	99301.	7670.2
#2	3581.2	6572.3	99325.	7743.9
#3	3591.8	6574.0	99583.	7699.6

Sample Name: 440-252289-A163APDSD Acquired: 10/23/2019 1:17:17 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.23011	135.86	.99989	1.2242	2.2938	.47858
Stddev	.00045	1.92	.00201	.0013	.0204	.00386
%RSD	.19691	1.4111	.20115	.10937	.88711	.80729
#1	.23057	135.24	.99760	1.2236	2.2882	.47763
#2	.23008	138.01	1.0007	1.2257	2.3163	.48283
#3	.22967	134.33	1.0013	1.2233	2.2768	.47528
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	45.178	.46449	.59846	.62810	.63659	188.08
Stddev	.316	.00076	.00093	.00252	.00127	1.89
%RSD	.69875	.16452	.15525	.40131	.20006	1.0031
#1	45.242	.46517	.59869	.62571	.63585	187.68
#2	45.457	.46366	.59743	.63073	.63806	190.13
#3	44.836	.46463	.59925	.62787	.63585	186.42
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A163APDSD Acquired: 10/23/2019 1:17:17 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	39.809	.55857	54.718	4.2447	.46718	27.321
Stddev	.307	.00264	.671	.0032	.00052	.180
%RSD	.77059	.47262	1.2258	.07428	.11112	.65872
#1	39.730	.55770	54.475	4.2412	.46758	27.298
#2	40.147	.56153	55.476	4.2474	.46738	27.511
#3	39.549	.55647	54.203	4.2453	.46660	27.154
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.60069	.78886	.24031	.93341	6.4730	.90159
Stddev	.00084	.00222	.00172	.00107	.0558	.00043
%RSD	.13918	.28114	.71581	.11512	.86265	.04819
#1	.60001	.78631	.24136	.93221	6.4795	.90192
#2	.60045	.78990	.24125	.93374	6.5254	.90175
#3	.60162	.79036	.23833	.93428	6.4143	.90110
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A163APDSD Acquired: 10/23/2019 1:17:17 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.73638	8.8729	.93394	.89378	.83892
Stddev	.00878	.0515	.00122	.01464	.00138
%RSD	1.1917	.58032	.13101	1.6375	.16436
#1	.72974	8.8320	.93330	.89243	.83847
#2	.74633	8.9308	.93316	.90905	.83782
#3	.73308	8.8560	.93535	.87987	.84047
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3564.9	6512.1	99729.	7781.7
Stddev	6.3	12.6	314.	86.2
%RSD	.17574	.19332	.31435	1.1078
#1	3558.2	6497.6	99397.	7791.7
#2	3570.6	6520.7	99772.	7691.0
#3	3566.0	6517.9	100020.	7862.5

Sample Name: 440-252289-A-164-A Acquired: 10/23/2019 1:22:20 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00227**	**122.32**	**.03466**	**.06647**	**1.2118**	**.00585**
Stddev	.00033	1.24	.00233	.00008	.0120	.00014
%RSD	14.428	1.0151	6.7208	.12592	.98970	2.3732
#1	-.00193	123.32	.03722	.06647	1.2249	.00597
#2	-.00258	122.70	.03408	.06656	1.2093	.00588
#3	-.00230	120.93	.03267	.06639	1.2013	.00570
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**21.565**	**.00166**	**.10503**	**.17862**	**.15086**	**182.01**
Stddev	.040	.00022	.00017	.00137	.00038	1.30
%RSD	.18512	13.514	.15729	.76808	.24917	.71224
#1	21.544	.00152	.10522	.17861	.15127	183.32
#2	21.611	.00191	.10496	.18000	.15081	181.98
#3	21.539	.00154	.10491	.17725	.15052	180.73
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-164-A Acquired: 10/23/2019 1:22:20 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.961	.06218	30.801	4.6935	.00401	3.2213
Stddev	.080	.00016	.222	.0311	.00007	.0256
%RSD	.49866	.25658	.71939	.66250	1.7615	.79552
#1	16.040	.06225	31.020	4.6722	.00409	3.2241
#2	15.962	.06229	30.804	4.7292	.00398	3.2455
#3	15.881	.06200	30.577	4.6791	.00396	3.1944
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.10335	.23561	.00528	.00190	6.4445	.04355
Stddev	.00049	.00288	.00142	.00135	.0069	.00040
%RSD	.47129	1.2242	26.978	71.365	.10653	.91107
#1	.10370	.23690	.00502	.00054	6.4365	.04311
#2	.10279	.23763	.00400	.00325	6.4483	.04367
#3	.10355	.23231	.00681	.00190	6.4486	.04387
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-164-A Acquired: 10/23/2019 1:22:20 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.27206	8.7657	-.01375	.41767	.51527
Stddev	.00489	.0509	.00086	.00561	.00124
%RSD	1.7986	.58111	6.2328	1.3443	.23996
#1	.27766	8.7072	-.01276	.42277	.51412
#2	.26994	8.7998	-.01431	.41858	.51512
#3	.26859	8.7901	-.01418	.41166	.51658
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3705.7	6650.9	101670.	7854.6
Stddev	5.2	10.5	362.	57.4
%RSD	.13969	.15763	.35582	.73128
#1	3699.7	6638.8	102020.	7821.4
#2	3709.1	6657.3	101300.	7821.5
#3	3708.2	6656.5	101690.	7920.9

Sample Name: CCV 3418984 Acquired: 10/23/2019 1:27:38 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.0288	24.557	.52255	2.0731	2.0253	1.9908
Stddev	.0034	.182	.00320	.0029	.0122	.0118
%RSD	.33105	.74237	.61236	.13729	.60103	.59017
#1	1.0324	24.759	.52395	2.0700	2.0390	2.0024
#2	1.0283	24.507	.52482	2.0739	2.0213	1.9912
#3	1.0257	24.405	.51889	2.0755	2.0157	1.9789
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	48.831	.50814	2.0559	1.9323	1.9474	24.404
Stddev	.250	.00045	.0032	.0135	.0067	.184
%RSD	.51156	.08841	.15322	.70008	.34423	.75273
#1	49.023	.50865	2.0595	1.9474	1.9540	24.580
#2	48.921	.50782	2.0543	1.9214	1.9406	24.418
#3	48.548	.50794	2.0539	1.9280	1.9478	24.213
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3418984 Acquired: 10/23/2019 1:27:38 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	129.11	2.0678	47.877	1.9719	1.9745	129.74
Stddev	.64	.0097	.266	.0092	.0004	.71
%RSD	.49670	.46924	.55473	.46869	.02226	.54830
#1	129.76	2.0755	48.126	1.9825	1.9750	130.34
#2	129.07	2.0710	47.908	1.9660	1.9741	129.93
#3	128.48	2.0569	47.598	1.9671	1.9743	128.95
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.0454	.50013	.51305	.51395	1.9859	1.9071
Stddev	.0031	.00288	.00301	.00023	.0212	.0037
%RSD	.15224	.57659	.58641	.04549	1.0656	.19568
#1	2.0488	.49868	.50978	.51369	2.0085	1.9112
#2	2.0448	.49826	.51569	.51413	1.9827	1.9040
#3	2.0427	.50345	.51370	.51404	1.9666	1.9060
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3418984 Acquired: 10/23/2019 1:27:38 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	1.9251	1.9848	.97077	1.9933	1.9555
Stddev	.0077	.0077	.00089	.0294	.0029
%RSD	.40033	.38677	.09165	1.4768	.14577
#1	1.9339	1.9933	.97160	2.0209	1.9587
#2	1.9215	1.9782	.97087	1.9967	1.9533
#3	1.9198	1.9829	.96983	1.9623	1.9545
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3505.5	6078.5	92400.	7333.6
Stddev	4.2	7.8	285.	49.9
%RSD	.11864	.12777	.30886	.68081
#1	3507.0	6087.3	92072.	7288.6
#2	3500.8	6072.5	92531.	7324.9
#3	3508.8	6075.6	92596.	7387.3

Sample Name: CCB18 Acquired: 10/23/2019 1:32:25 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00033	.00850	-.00003	.00043	-.00002	.00001
Stddev	.00052	.03724	.00152	.00095	.00021	.00003
%RSD	157.66	438.23	5455.8	221.20	1219.4	308.01
#1	.00003	.00818	-.00157	-.00046	-.00016	.00001
#2	.00003	.04590	.00003	.00143	-.00011	.00003
#3	.00093	-.02858	.00146	.00031	.00022	-.00002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00236	.00002	.00011	-.00017	.00019	.00227
Stddev	.00089	.00002	.00014	.00049	.00068	.00263
%RSD	37.618	97.721	121.48	296.55	349.88	115.93
#1	.00339	-.00000	.00017	-.00062	.00066	.00226
#2	.00184	.00004	.00020	.00036	-.00058	-.00036
#3	.00186	.00003	-.00004	-.00024	.00051	.00491
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB18 Acquired: 10/23/2019 1:32:25 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.16754	.00055	-.01806	-.00001	.00026	.02864
Stddev	.01320	.00039	.02297	.00004	.00013	.00295
%RSD	7.8806	70.435	127.17	366.30	50.330	10.296
#1	.16122	.00010	-.04448	-.00002	.00036	.02523
#2	.15869	.00076	-.00693	-.00005	.00011	.03044
#3	.18272	.00077	-.00278	.00004	.00029	.03024
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00035	-.00005	.00048	.00145	.00461	-.00054
Stddev	.00030	.00051	.00215	.00017	.00576	.00022
%RSD	87.263	1007.7	445.72	11.554	124.81	41.195
#1	-.00015	.00023	.00102	.00142	.01083	-.00068
#2	-.00070	.00026	-.00189	.00131	-.00055	-.00065
#3	-.00019	-.00064	.00232	.00164	.00357	-.00028
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB18 Acquired: 10/23/2019 1:32:25 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00083	.00041	.00111	.00433	.00010
Stddev	.00311	.00008	.00056	.00207	.00008
%RSD	373.37	20.288	50.296	47.732	86.534
#1	-.00193	.00034	.00132	.00199	.00016
#2	.00421	.00050	.00153	.00589	.00000
#3	.00022	.00039	.00048	.00511	.00012
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4237.9	6452.4	99706.	7305.6
Stddev	5.6	4.1	239.	18.1
%RSD	.13181	.06421	.24005	.24768
#1	4231.4	6448.9	99437.	7291.1
#2	4241.0	6457.0	99896.	7299.8
#3	4241.2	6451.4	99786.	7325.9

Sample Name: 440-252289-A-165-A Acquired: 10/23/2019 1:37:38 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00101**	**95.074**	**.03709**	**.06793**	**1.0463**	**.00407**
Stddev	.00031	.740	.00209	.00051	.0103	.00011
%RSD	30.515	.77884	5.6457	.75057	.98000	2.7685
#1	-.00080	94.261	.03652	.06841	1.0345	.00395
#2	-.00088	95.710	.03535	.06799	1.0511	.00408
#3	-.00137	95.251	.03941	.06739	1.0532	.00417
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**27.265**	**.00468**	**.07503**	**.15425**	**.27605**	**150.43**
Stddev	.103	.00004	.00036	.00004	.00057	.80
%RSD	.37751	.79664	.47655	.02751	.20487	.53146
#1	27.149	.00472	.07461	.15429	.27662	149.51
#2	27.301	.00467	.07524	.15422	.27604	150.81
#3	27.346	.00464	.07522	.15422	.27549	150.97
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-165-A Acquired: 10/23/2019 1:37:38 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**24.137**	**.06090**	**25.586**	**4.1375**	**.00728**	**1.3359**
Stddev	.129	.00066	.174	.0082	.00031	.0084
%RSD	.53407	1.0765	.67913	.19778	4.2962	.63079
#1	23.988	.06154	25.412	4.1408	.00741	1.3286
#2	24.217	.06023	25.760	4.1434	.00693	1.3451
#3	24.206	.06092	25.585	4.1281	.00751	1.3339
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.11197**	**.85146**	**.01080**	**-.00036**	**7.7301**	**.05599**
Stddev	.00054	.00427	.00054	.00348	.0435	.00024
%RSD	.47873	.50097	5.0317	965.69	.56270	.43322
#1	.11208	.85636	.01068	-.00164	7.6811	.05572
#2	.11139	.84947	.01032	.00358	7.7451	.05617
#3	.11244	.84856	.01139	-.00302	7.7641	.05609
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-165-A Acquired: 10/23/2019 1:37:38 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.27378	7.7678	-.01141	.32951	1.3885
Stddev	.00284	.0091	.00134	.00354	.0004
%RSD	1.0389	.11659	11.774	1.0732	.02502
#1	.27050	7.7577	-.01294	.32798	1.3882
#2	.27553	7.7704	-.01089	.33355	1.3885
#3	.27532	7.7752	-.01040	.32699	1.3889
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3711.6	6533.1	98768.	7614.0
Stddev	11.7	12.2	277.	40.5
%RSD	.31615	.18613	.28022	.53188
#1	3701.5	6523.4	98664.	7659.9
#2	3708.9	6529.3	98558.	7583.2
#3	3724.5	6546.8	99082.	7598.9

Sample Name: 440-252289-A-166-A Acquired: 10/23/2019 1:42:54 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00183	84.899	.02872	.05533	.72599	.00373
Stddev	.00031	.632	.00216	.00040	.00517	.00006
%RSD	17.060	.74431	7.5288	.71637	.71211	1.5481
#1	-.00187	85.047	.03118	.05497	.72974	.00367
#2	-.00150	84.206	.02784	.05526	.72009	.00375
#3	-.00212	85.444	.02714	.05575	.72814	.00378
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	17.409	.00179	.07041	.12941	.15096	144.70
Stddev	.080	.00005	.00053	.00149	.00027	.58
%RSD	.45847	2.7955	.75673	1.1550	.18213	.40260
#1	17.343	.00175	.06983	.12845	.15125	144.54
#2	17.387	.00177	.07087	.12865	.15071	144.22
#3	17.498	.00184	.07053	.13113	.15092	145.35
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-166-A Acquired: 10/23/2019 1:42:54 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	17.636	.04628	20.738	3.9357	.00481	1.0488
Stddev	.024	.00097	.067	.0213	.00012	.0052
%RSD	.13331	2.0860	.32474	.54210	2.4096	.49369
#1	17.663	.04542	20.779	3.9210	.00479	1.0428
#2	17.623	.04609	20.661	3.9602	.00493	1.0520
#3	17.622	.04732	20.775	3.9260	.00470	1.0515
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.08236	.28189	.00344	.00317	7.6465	.04507
Stddev	.00078	.00049	.00276	.00167	.0222	.00058
%RSD	.94304	.17238	80.359	52.708	.28987	1.2793
#1	.08153	.28137	.00151	.00187	7.6305	.04526
#2	.08247	.28232	.00661	.00505	7.6372	.04442
#3	.08308	.28198	.00220	.00258	7.6718	.04553
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-166-A Acquired: 10/23/2019 1:42:54 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.18174	7.4204	-.01244	.32885	.52533
Stddev	.00204	.0321	.00064	.00175	.00203
%RSD	1.1219	.43190	5.1371	.53288	.38691
#1	.18354	7.4517	-.01315	.33031	.52302
#2	.18216	7.4217	-.01223	.32691	.52614
#3	.17953	7.3876	-.01193	.32934	.52683
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3765.2	6539.2	99725.	7519.3
Stddev	6.8	15.0	295.	36.6
%RSD	.17952	.22995	.29588	.48713
#1	3772.8	6555.7	99748.	7539.4
#2	3763.0	6526.3	99419.	7541.6
#3	3759.9	6535.5	100010.	7477.1

Sample Name: 440-252289-A-167-A Acquired: 10/23/2019 1:48:12 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00207	83.510	.02882	.04799	.74859	.00399
Stddev	.00018	.333	.00293	.00058	.00516	.00004
%RSD	8.7991	.39864	10.169	1.2145	.68930	.94330
#1	-.00194	83.288	.02886	.04863	.74946	.00396
#2	-.00228	83.351	.02587	.04749	.74305	.00397
#3	-.00198	83.893	.03173	.04785	.75326	.00403
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.676	.00140	.07229	.15586	.12657	196.57
Stddev	.020	.00017	.00017	.00088	.00068	.63
%RSD	.12585	11.757	.23938	.56713	.53990	.32048
#1	15.691	.00156	.07249	.15682	.12606	196.59
#2	15.653	.00142	.07218	.15507	.12631	195.93
#3	15.682	.00123	.07221	.15570	.12735	197.18
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-167-A Acquired: 10/23/2019 1:48:12 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.218	.04419	20.209	4.0412	.00423	1.0479
Stddev	.055	.00048	.039	.0283	.00020	.0030
%RSD	.33995	1.0957	.19527	.70090	4.6139	.28496
#1	16.179	.04470	20.164	4.0681	.00445	1.0495
#2	16.194	.04413	20.235	4.0116	.00411	1.0497
#3	16.281	.04374	20.228	4.0439	.00412	1.0445
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.07733	.13589	.00590	.00357	6.5271	.03239
Stddev	.00018	.00121	.00099	.00095	.0133	.00010
%RSD	.23872	.89050	16.860	26.677	.20310	.30381
#1	.07754	.13496	.00584	.00364	6.5131	.03238
#2	.07721	.13546	.00692	.00448	6.5395	.03249
#3	.07722	.13726	.00493	.00258	6.5287	.03229
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-167-A Acquired: 10/23/2019 1:48:12 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.18345	7.4775	-.01247	.46256	.37993
Stddev	.00518	.0378	.00026	.00662	.00069
%RSD	2.8238	.50505	2.0524	1.4311	.18171
#1	.18649	7.5116	-.01222	.46046	.38070
#2	.17746	7.4369	-.01248	.45725	.37971
#3	.18638	7.4839	-.01273	.46998	.37937
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3785.4	6562.5	100690.	7704.6
Stddev	13.1	10.7	197.	19.1
%RSD	.34661	.16246	.19587	.24783
#1	3771.9	6555.2	100540.	7726.6
#2	3786.4	6557.6	100910.	7694.8
#3	3798.1	6574.8	100600.	7692.5

Sample Name: 440-252289-A-168-A Acquired: 10/23/2019 1:53:29 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00043	118.97	.03650	.07527	1.2442	.00488
Stddev	.00031	.82	.00227	.00019	.0078	.00005
%RSD	73.346	.68727	6.2159	.24877	.62392	.95280
#1	-.00079	119.90	.03406	.07533	1.2529	.00488
#2	-.00023	118.58	.03689	.07506	1.2420	.00484
#3	-.00026	118.41	.03855	.07542	1.2379	.00493
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	46.046	.00630	.06592	.17712	.31390	186.74
Stddev	.096	.00012	.00013	.00066	.00246	.19
%RSD	.20876	1.9270	.19845	.37083	.78433	.10394
#1	45.935	.00631	.06601	.17637	.31486	186.92
#2	46.108	.00617	.06577	.17756	.31574	186.78
#3	46.094	.00642	.06598	.17744	.31110	186.53
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-168-A Acquired: 10/23/2019 1:53:29 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.223	.07888	35.024	2.3489	.00465	2.3359
Stddev	.072	.00012	.096	.0053	.00007	.0114
%RSD	.29913	.15122	.27393	.22772	1.3985	.48637
#1	24.303	.07901	35.043	2.3431	.00461	2.3484
#2	24.162	.07884	35.108	2.3498	.00472	2.3328
#3	24.203	.07879	34.919	2.3537	.00462	2.3263
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.11848	.90980	.01021	.00606	7.3074	.06005
Stddev	.00075	.00213	.00069	.00427	.0140	.00073
%RSD	.62969	.23387	6.7714	70.513	.19087	1.2097
#1	.11878	.91120	.01065	.00783	7.3201	.05928
#2	.11763	.90735	.00941	.00119	7.3094	.06016
#3	.11903	.91085	.01056	.00916	7.2925	.06072
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-168-A Acquired: 10/23/2019 1:53:29 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.41333	8.8672	-.01160	.39793	1.7448
Stddev	.00753	.0510	.00046	.00699	.0025
%RSD	1.8214	.57473	3.9720	1.7570	.14502
#1	.42036	8.8498	-.01213	.40179	1.7477
#2	.40539	8.8273	-.01140	.38986	1.7431
#3	.41423	8.9246	-.01127	.40214	1.7436
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3650.4	6519.9	99588.	7739.6
Stddev	8.6	12.2	68.	31.6
%RSD	.23653	.18780	.06783	.40851
#1	3640.6	6506.7	99666.	7703.6
#2	3653.9	6522.1	99545.	7752.4
#3	3656.7	6530.9	99553.	7762.9

Sample Name: 440-252289-A-169-A Acquired: 10/23/2019 1:58:37 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00038	113.19	.04596	.07098	1.7020	.00452
Stddev	.00042	.08	.00145	.00006	.0081	.00005
%RSD	112.41	.07101	3.1502	.09141	.47570	1.0031
#1	-.00065	113.26	.04698	.07105	1.6983	.00447
#2	-.00059	113.11	.04659	.07097	1.6964	.00455
#3	.00011	113.21	.04430	.07093	1.7113	.00455
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	58.696	.01029	.08113	.20946	.42606	180.17
Stddev	.177	.00008	.00026	.00055	.00019	.79
%RSD	.30204	.73723	.31977	.26385	.04475	.43924
#1	58.530	.01035	.08143	.21004	.42589	179.43
#2	58.675	.01020	.08101	.20894	.42603	180.07
#3	58.883	.01030	.08095	.20939	.42627	181.00
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-169-A Acquired: 10/23/2019 1:58:37 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**35.244**	**.10154**	**40.466**	**3.6285**	**.00946**	**1.6367**
Stddev	.159	.00063	.113	.0167	.00028	.0049
%RSD	.45217	.62179	.27815	.46066	2.9700	.29891
#1	35.264	.10223	40.369	3.6128	.00930	1.6420
#2	35.076	.10098	40.438	3.6461	.00979	1.6323
#3	35.392	.10142	40.590	3.6266	.00930	1.6359
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.17486**	**1.3041**	**.01446**	**.00579**	**8.1400**	**.08546**
Stddev	.00091	.0033	.00093	.00266	.0572	.00036
%RSD	.51913	.24999	6.4206	45.940	.70325	.42482
#1	.17467	1.3070	.01540	.00549	8.1291	.08543
#2	.17585	1.3048	.01445	.00858	8.0890	.08584
#3	.17407	1.3006	.01354	.00329	8.2019	.08512
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-169-A Acquired: 10/23/2019 1:58:37 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.42471	8.3989	-.01030	.35841	2.2645
Stddev	.00783	.0191	.00269	.00211	.0073
%RSD	1.8425	.22697	26.131	.58948	.32242
#1	.41586	8.4104	-.01339	.35601	2.2718
#2	.42756	8.4095	-.00906	.35927	2.2646
#3	.43071	8.3769	-.00846	.35996	2.2572
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3620.6	6484.5	98747.	7703.5
Stddev	4.8	12.1	390.	37.8
%RSD	.13223	.18664	.39519	.49095
#1	3615.9	6470.9	98536.	7745.5
#2	3620.4	6488.3	98507.	7692.9
#3	3625.5	6494.2	99197.	7672.2

Sample Name: 440-252289-A-170-A Acquired: 10/23/2019 2:03:53 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00093	105.26	.04074	.05714	1.0650	.00436
Stddev	.00022	.72	.00323	.00045	.0055	.00004
%RSD	24.166	.68720	7.9199	.78411	.51684	.87478
#1	-.00118	104.53	.04278	.05759	1.0614	.00432
#2	-.00076	105.98	.04243	.05669	1.0624	.00437
#3	-.00084	105.26	.03702	.05712	1.0714	.00439
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.694	.00610	.07240	.15291	.25162	147.77
Stddev	.047	.00018	.00046	.00048	.00123	.31
%RSD	.19834	2.9295	.63943	.31080	.48991	.20785
#1	23.669	.00595	.07221	.15340	.25304	147.42
#2	23.749	.00605	.07205	.15245	.25088	148.00
#3	23.666	.00630	.07292	.15289	.25093	147.88
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-170-A Acquired: 10/23/2019 2:03:53 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	22.210	.06436	24.613	3.2756	.00482	1.2195
Stddev	.036	.00166	.095	.0102	.00015	.0052
%RSD	.16208	2.5775	.38661	.31094	3.0690	.42821
#1	22.235	.06487	24.504	3.2850	.00492	1.2243
#2	22.169	.06571	24.653	3.2770	.00489	1.2140
#3	22.226	.06251	24.681	3.2648	.00465	1.2201
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.12351	.77214	.01181	.00464	8.4298	.06979
Stddev	.00047	.00345	.00088	.00053	.0426	.00062
%RSD	.38285	.44728	7.4835	11.516	.50496	.88477
#1	.12402	.77458	.01080	.00524	8.4161	.06908
#2	.12308	.77366	.01245	.00443	8.4776	.07007
#3	.12344	.76819	.01217	.00424	8.3958	.07021
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-170-A Acquired: 10/23/2019 2:03:53 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.22346	7.7084	-.01093	.32974	1.3077
Stddev	.00360	.0227	.00061	.00553	.0023
%RSD	1.6126	.29455	5.6026	1.6779	.17778
#1	.22618	7.7331	-.01053	.33604	1.3060
#2	.22482	7.7037	-.01163	.32750	1.3103
#3	.21937	7.6884	-.01063	.32567	1.3067
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3730.5	6550.7	99305.	7571.3
Stddev	6.4	9.6	187.	1.5
%RSD	.17115	.14682	.18792	.02040
#1	3733.2	6561.5	99111.	7569.5
#2	3723.2	6543.1	99323.	7572.0
#3	3735.1	6547.6	99483.	7572.3

Sample Name: 440-252289-A-171-A Acquired: 10/23/2019 2:09:10 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00230	151.97	.03939	.06157	1.2957	.00606
Stddev	.00046	.84	.00069	.00060	.0082	.00006
%RSD	19.974	.55296	1.7525	.97070	.63525	.95011
#1	-.00224	151.03	.03881	.06205	1.2885	.00606
#2	-.00188	152.22	.04016	.06176	1.2940	.00611
#3	-.00279	152.65	.03920	.06090	1.3047	.00599
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	31.217	.00398	.09780	.20757	.22993	201.21
Stddev	.119	.00015	.00050	.00157	.00074	.57
%RSD	.38176	3.6560	.51537	.75838	.32312	.28561
#1	31.271	.00410	.09766	.20773	.23079	200.57
#2	31.300	.00382	.09738	.20592	.22943	201.68
#3	31.081	.00402	.09836	.20905	.22958	201.39
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-171-A Acquired: 10/23/2019 2:09:10 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**41.192**	**.09837**	**41.460**	**4.2782**	**.00893**	**1.3512**
Stddev	.116	.00038	.135	.0207	.00020	.0096
%RSD	.28081	.38684	.32523	.48473	2.1965	.70826
#1	41.080	.09862	41.348	4.2562	.00910	1.3466
#2	41.311	.09793	41.610	4.2974	.00896	1.3622
#3	41.183	.09855	41.424	4.2809	.00872	1.3448
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.15830**	**.16216**	**.00933**	**.00693**	**8.5525**	**.03383**
Stddev	.00051	.00074	.00116	.00269	.0623	.00062
%RSD	.32296	.45546	12.426	38.830	.72794	1.8395
#1	.15771	.16132	.01067	.01004	8.5725	.03402
#2	.15867	.16267	.00876	.00534	8.6023	.03433
#3	.15851	.16251	.00857	.00542	8.4827	.03313
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-171-A Acquired: 10/23/2019 2:09:10 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.33400	F 11.036	-.01731	.44746	.63667
Stddev	.00689	.039	.00177	.00327	.00024
%RSD	2.0641	.35053	10.233	.73126	.03703
#1	.33380	11.009	-.01637	.44368	.63649
#2	.34100	11.080	-.01935	.44941	.63659
#3	.32721	11.018	-.01620	.44929	.63694
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit		10.000			
Low Limit		-.05000			

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3613.2	6628.1	100440.	7706.3
Stddev	2.8	4.2	311.	6.8
%RSD	.07765	.06369	.30995	.08782
#1	3615.1	6625.6	100690.	7700.8
#2	3609.9	6625.8	100090.	7704.2
#3	3614.4	6633.0	100530.	7713.9

Sample Name: 440-252289-A-172-A Acquired: 10/23/2019 2:14:27 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00096	131.59	.04913	.08858	1.7871	.00509
Stddev	.00038	.66	.00183	.00088	.0035	.00008
%RSD	39.539	.50514	3.7332	.99726	.19663	1.4873
#1	-.00137	132.30	.04780	.08944	1.7909	.00503
#2	-.00062	131.46	.05122	.08767	1.7862	.00518
#3	-.00090	130.99	.04837	.08863	1.7841	.00508
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	48.528	.00866	.08204	.24105	.33326	196.79
Stddev	.051	.00009	.00037	.00210	.00243	.61
%RSD	.10509	.98445	.44575	.87217	.72913	.31009
#1	48.537	.00871	.08166	.24233	.33509	197.17
#2	48.574	.00870	.08208	.23862	.33050	197.11
#3	48.473	.00856	.08239	.24219	.33418	196.09
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-172-A Acquired: 10/23/2019 2:14:27 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**43.179**	**.12065**	**45.727**	**3.0053**	**.01732**	**1.5341**
Stddev	.061	.00011	.196	.0022	.00029	.0058
%RSD	.14206	.09247	.42763	.07265	1.6618	.37830
#1	43.213	.12053	45.853	3.0068	.01715	1.5281
#2	43.216	.12070	45.827	3.0028	.01766	1.5344
#3	43.109	.12073	45.502	3.0064	.01716	1.5397
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.20924**	**.50217**	**.00939**	**.00339**	**8.0407**	**.05386**
Stddev	.00024	.00190	.00245	.00206	.0166	.00013
%RSD	.11370	.37916	26.116	60.880	.20656	.24703
#1	.20911	.50007	.01000	.00417	8.0595	.05396
#2	.20951	.50266	.01148	.00494	8.0280	.05371
#3	.20909	.50378	.00669	.00105	8.0347	.05390
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-172-A Acquired: 10/23/2019 2:14:27 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.40969	8.5500	-.01146	.43797	1.4539
Stddev	.00564	.0155	.00242	.00177	.0011
%RSD	1.3764	.18141	21.104	.40525	.07621
#1	.41586	8.5679	-.01271	.43969	1.4551
#2	.40841	8.5412	-.01298	.43807	1.4537
#3	.40480	8.5409	-.00867	.43615	1.4529
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3612.5	6605.4	100750.	7743.7
Stddev	4.1	13.0	364.	41.5
%RSD	.11325	.19631	.36109	.53613
#1	3612.0	6591.2	100340.	7718.0
#2	3608.7	6608.4	100910.	7721.5
#3	3616.8	6616.6	101010.	7791.6

Sample Name: 440-252289-A-173-A Acquired: 10/23/2019 2:19:43 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00123**	**141.70**	**.05087**	**.08787**	**1.8099**	**.00574**
Stddev	.00028	1.56	.00100	.00026	.0142	.00003
%RSD	22.508	1.1043	1.9731	.29984	.78403	.58799
#1	-.00097	141.18	.05116	.08781	1.7966	.00571
#2	-.00153	140.47	.04976	.08815	1.8082	.00573
#3	-.00121	143.46	.05170	.08764	1.8248	.00578
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**46.959**	**.00760**	**.09601**	**.25913**	**.27996**	**216.94**
Stddev	.194	.00005	.00011	.00105	.00065	1.56
%RSD	.41325	.64709	.11566	.40426	.23100	.71985
#1	46.796	.00766	.09602	.26001	.28069	216.00
#2	46.908	.00759	.09612	.25797	.27947	216.07
#3	47.174	.00756	.09589	.25942	.27971	218.74
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-173-A Acquired: 10/23/2019 2:19:43 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	43.849	.13148	52.356	3.3254	.02094	2.0828
Stddev	.243	.00062	.387	.0076	.00024	.0105
%RSD	.55401	.46871	.73835	.22782	1.1314	.50349
#1	43.629	.13091	52.075	3.3207	.02076	2.0827
#2	43.807	.13213	52.197	3.3341	.02121	2.0723
#3	44.110	.13139	52.797	3.3213	.02086	2.0933
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.23959	.32646	.00716	.00386	6.9986	.04282
Stddev	.00011	.00186	.00125	.00035	.0428	.00040
%RSD	.04511	.56908	17.494	9.0458	.61141	.92677
#1	.23953	.32807	.00594	.00368	7.0157	.04319
#2	.23951	.32443	.00710	.00363	6.9499	.04286
#3	.23971	.32690	.00844	.00426	7.0302	.04240
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-173-A Acquired: 10/23/2019 2:19:43 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.41350	9.0244	-.01211	.48311	.86989
Stddev	.00457	.0376	.00167	.00597	.00111
%RSD	1.1049	.41711	13.785	1.2359	.12725
#1	.41508	8.9914	-.01233	.48078	.86944
#2	.40835	9.0163	-.01365	.47866	.87115
#3	.41707	9.0654	-.01034	.48990	.86908
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3601.0	6680.3	101630.	7874.9
Stddev	5.6	12.5	95.	53.5
%RSD	.15654	.18680	.09393	.67998
#1	3594.4	6668.1	101660.	7903.9
#2	3604.3	6679.7	101710.	7907.6
#3	3604.1	6693.0	101530.	7813.1

Sample Name: CCV 3418984 Acquired: 10/23/2019 2:24:59 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.0170	24.527	.51005	2.0566	2.0421	1.9876
Stddev	.0030	.120	.00205	.0018	.0083	.0045
%RSD	.29611	.48884	.40257	.08946	.40492	.22486
#1	1.0176	24.644	.50926	2.0544	2.0512	1.9897
#2	1.0197	24.404	.51239	2.0575	2.0351	1.9825
#3	1.0137	24.533	.50852	2.0577	2.0401	1.9907
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	48.985	.49896	2.0436	1.9388	1.9290	24.483
Stddev	.154	.00198	.0036	.0077	.0063	.050
%RSD	.31432	.39744	.17371	.39528	.32630	.20609
#1	48.813	.49882	2.0436	1.9325	1.9221	24.486
#2	49.030	.50101	2.0472	1.9364	1.9307	24.431
#3	49.111	.49705	2.0401	1.9473	1.9343	24.532
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3418984 Acquired: 10/23/2019 2:24:59 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	129.32	2.0667	48.135	1.9615	1.9595	129.64
Stddev	.49	.0014	.193	.0022	.0024	.14
%RSD	.37742	.06679	.39992	.10981	.12444	.10832
#1	129.69	2.0670	48.237	1.9590	1.9590	129.77
#2	128.77	2.0652	47.913	1.9627	1.9622	129.49
#3	129.50	2.0679	48.255	1.9628	1.9574	129.65
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.0409	.50041	.49895	.51057	1.9837	1.8933
Stddev	.0048	.00050	.00112	.00203	.0049	.0040
%RSD	.23523	.09938	.22450	.39714	.24577	.21226
#1	2.0398	.50071	.49796	.51046	1.9781	1.8944
#2	2.0462	.50069	.50016	.51265	1.9863	1.8967
#3	2.0368	.49984	.49872	.50860	1.9867	1.8889
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3418984 Acquired: 10/23/2019 2:24:59 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	1.9464	1.9729	.96174	2.0024	1.9397
Stddev	.0096	.0021	.00397	.0157	.0082
%RSD	.49186	.10673	.41263	.78585	.42402
#1	1.9450	1.9707	.95797	2.0055	1.9443
#2	1.9566	1.9732	.96588	1.9854	1.9446
#3	1.9376	1.9748	.96136	2.0164	1.9302
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3518.8	6131.7	92459.	7095.9
Stddev	4.5	10.5	57.	53.6
%RSD	.12911	.17046	.06121	.75494
#1	3518.6	6134.6	92443.	7093.6
#2	3514.3	6120.1	92412.	7150.6
#3	3523.4	6140.5	92522.	7043.6

Sample Name: CCB19 Acquired: 10/23/2019 2:29:46 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00003	.01987	-.00096	-.00012	.00003	-.00001
Stddev	.00048	.04075	.00177	.00021	.00014	.00001
%RSD	1555.0	205.11	183.82	172.88	479.54	115.06
#1	-.00051	-.02666	-.00263	.00011	-.00011	-.00002
#2	.00041	.04921	.00089	-.00019	.00016	.00000
#3	.00020	.03706	-.00115	-.00028	.00004	-.00002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00081	.00016	-.00009	-.00017	.00120	.00261
Stddev	.00237	.00008	.00005	.00022	.00030	.00078
%RSD	292.51	47.928	59.624	129.73	24.832	29.742
#1	-.00355	.00010	-.00003	.00005	.00130	.00241
#2	.00061	.00014	-.00013	-.00038	.00087	.00195
#3	.00051	.00025	-.00010	-.00017	.00145	.00346
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB19 Acquired: 10/23/2019 2:29:46 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.15414	.00026	-.02685	.00001	.00028	.02764
Stddev	.03140	.00044	.02754	.00004	.00011	.01035
%RSD	20.371	168.39	102.59	349.28	40.139	37.443
#1	.18144	.00040	-.05493	-.00004	.00021	.03823
#2	.16116	.00062	.00013	.00003	.00021	.02714
#3	.11983	-.00023	-.02575	.00004	.00041	.01755
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00021	-.00049	.00036	-.00004	.00404	-.00046
Stddev	.00026	.00071	.00067	.00063	.00857	.00046
%RSD	123.76	146.91	186.13	1569.1	211.96	101.67
#1	-.00019	.00030	-.00011	-.00077	.01200	-.00056
#2	-.00048	-.00109	.00112	.00028	.00516	.00005
#3	.00004	-.00067	.00007	.00037	-.00503	-.00086
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB19 Acquired: 10/23/2019 2:29:46 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00327	.00033	.00164	.00085	.00012
Stddev	.00415	.00008	.00031	.00392	.00005
%RSD	126.89	24.405	19.193	461.64	40.541
#1	.00806	.00025	.00200	-.00323	.00014
#2	.00079	.00041	.00146	.00459	.00007
#3	.00096	.00033	.00145	.00119	.00016
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4266.2	6504.5	100920.	7258.0
Stddev	11.2	14.7	754.	35.3
%RSD	.26346	.22657	.74709	.48690
#1	4278.1	6520.7	100050.	7217.4
#2	4264.5	6500.7	101290.	7281.3
#3	4255.8	6492.0	101420.	7275.5

Sample Name: 440-252289-A-174-A Acquired: 10/23/2019 2:34:59 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00169	155.05	.05104	.07742	1.7300	.00634
Stddev	.00016	1.09	.00261	.00070	.0139	.00009
%RSD	9.7722	.70531	5.1046	.89932	.80493	1.3410
#1	-.00165	156.29	.05383	.07818	1.7460	.00628
#2	-.00186	154.64	.04866	.07725	1.7229	.00644
#3	-.00154	154.21	.05063	.07682	1.7210	.00630
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	40.213	.00594	.09548	.25438	.25177	232.37
Stddev	.164	.00006	.00010	.00148	.00120	.54
%RSD	.40659	.96822	.10645	.58248	.47851	.23309
#1	40.069	.00587	.09560	.25547	.25305	232.48
#2	40.391	.00597	.09545	.25269	.25066	232.85
#3	40.179	.00598	.09540	.25497	.25161	231.78
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-174-A Acquired: 10/23/2019 2:34:59 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	42.558	.12825	54.565	2.9783	.01933	2.3468
Stddev	.083	.00030	.142	.0039	.00049	.0069
%RSD	.19614	.23345	.25947	.13064	2.5098	.29354
#1	42.650	.12855	54.500	2.9743	.01954	2.3525
#2	42.487	.12795	54.727	2.9784	.01878	2.3391
#3	42.537	.12825	54.467	2.9821	.01968	2.3486
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.21296	.36228	.00657	.00624	7.6001	.04101
Stddev	.00087	.00136	.00119	.00229	.0153	.00124
%RSD	.41033	.37452	18.093	36.684	.20133	3.0163
#1	.21239	.36086	.00656	.00581	7.5968	.03962
#2	.21252	.36240	.00777	.00871	7.6168	.04198
#3	.21397	.36357	.00539	.00419	7.5867	.04143
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-174-A Acquired: 10/23/2019 2:34:59 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.37148	9.4983	-.01368	.52626	.81075
Stddev	.00453	.0205	.00108	.00743	.00068
%RSD	1.2200	.21565	7.9222	1.4119	.08441
#1	.37671	9.5078	-.01419	.53247	.81125
#2	.36870	9.4748	-.01442	.51803	.81103
#3	.36904	9.5123	-.01244	.52828	.80997
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3586.6	6624.7	100760.	7703.5
Stddev	5.1	15.2	251.	41.2
%RSD	.14136	.22873	.24892	.53428
#1	3580.9	6609.7	100490.	7708.3
#2	3590.7	6624.2	100990.	7660.2
#3	3588.1	6640.0	100800.	7742.1

Sample Name: 440-252289-A-187-A Acquired: 10/23/2019 2:40:15 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00070**	**111.87**	**.04436**	**.08157**	**1.5122**	**.00444**
Stddev	.00007	.30	.00142	.00025	.0063	.00008
%RSD	9.9306	.26558	3.1976	.30440	.41491	1.7621
#1	-.00064	111.53	.04597	.08175	1.5085	.00437
#2	-.00069	111.97	.04329	.08167	1.5086	.00443
#3	-.00078	112.09	.04381	.08128	1.5194	.00452
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**43.573**	**.00924**	**.07686**	**.22692**	**.43215**	**191.15**
Stddev	.155	.00020	.00008	.00077	.00212	.94
%RSD	.35653	2.1932	.10949	.33724	.48948	.49148
#1	43.478	.00906	.07696	.22770	.43320	190.90
#2	43.488	.00920	.07682	.22690	.43353	190.35
#3	43.752	.00946	.07680	.22617	.42971	192.18
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-187-A Acquired: 10/23/2019 2:40:15 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**41.248**	**.10447**	**40.806**	**3.1394**	**.01920**	**1.4161**
Stddev	.156	.00144	.336	.0042	.00007	.0157
%RSD	.37929	1.3739	.82349	.13342	.35672	1.1107
#1	41.067	.10612	40.516	3.1434	.01915	1.4034
#2	41.350	.10374	40.728	3.1350	.01919	1.4113
#3	41.325	.10355	41.174	3.1398	.01928	1.4337
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.18627**	**.85870**	**.00931**	**.00423**	**8.4638**	**.04791**
Stddev	.00075	.00242	.00202	.00240	.0578	.00019
%RSD	.40126	.28206	21.650	56.678	.68319	.39481
#1	.18677	.86112	.01164	.00409	8.4744	.04787
#2	.18662	.85870	.00823	.00191	8.4014	.04775
#3	.18541	.85627	.00807	.00670	8.5156	.04812
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-187-A Acquired: 10/23/2019 2:40:15 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.34568	8.7211	-.01073	.39675	1.7300
Stddev	.00471	.0369	.00148	.00561	.0020
%RSD	1.3621	.42297	13.766	1.4150	.11766
#1	.34039	8.7636	-.01128	.39418	1.7290
#2	.34722	8.7021	-.00906	.39288	1.7287
#3	.34942	8.6976	-.01186	.40319	1.7323
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3632.2	6562.7	100020.	7724.6
Stddev	4.4	5.6	207.	27.9
%RSD	.12180	.08507	.20712	.36124
#1	3637.3	6569.1	99846.	7756.5
#2	3629.2	6558.9	99957.	7704.7
#3	3630.2	6560.1	100250.	7712.5

Sample Name: 440-252289-A-188-A Acquired: 10/23/2019 2:45:31 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00105**	**103.75**	**.04132**	**.07532**	**1.2362**	**.00419**
Stddev	.00038	.35	.00107	.00043	.0023	.00004
%RSD	36.439	.33667	2.5948	.57136	.18951	.89711
#1	-.00149	103.75	.04028	.07517	1.2378	.00415
#2	-.00085	104.10	.04242	.07581	1.2372	.00420
#3	-.00081	103.40	.04124	.07499	1.2335	.00423
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**34.558**	**.00644**	**.07039**	**.19260**	**.25892**	**177.20**
Stddev	.083	.00009	.00035	.00039	.00132	.51
%RSD	.23888	1.3827	.49066	.20109	.50849	.28564
#1	34.470	.00637	.07019	.19299	.25904	177.37
#2	34.633	.00640	.07078	.19222	.25754	177.60
#3	34.572	.00654	.07018	.19260	.26017	176.63
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-188-A Acquired: 10/23/2019 2:45:31 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**37.743**	**.10004**	**37.668**	**2.7121**	**.01845**	**1.3958**
Stddev	.014	.00103	.078	.0063	.00018	.0039
%RSD	.03655	1.0333	.20756	.23179	.99577	.27593
#1	37.756	.09884	37.752	2.7072	.01832	1.3929
#2	37.746	.10067	37.597	2.7099	.01835	1.3944
#3	37.728	.10059	37.656	2.7192	.01866	1.4002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.17308**	**.24095**	**.00472**	**.00702**	**8.8037**	**.03663**
Stddev	.00071	.00101	.00123	.00259	.0511	.00063
%RSD	.40905	.42090	26.063	36.864	.58064	1.7188
#1	.17378	.24105	.00407	.00495	8.7747	.03620
#2	.17236	.24191	.00395	.00992	8.8627	.03736
#3	.17309	.23989	.00614	.00618	8.7736	.03635
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-188-A Acquired: 10/23/2019 2:45:31 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.30192	8.0445	-.01024	.38144	.74952
Stddev	.00234	.0335	.00206	.00371	.00061
%RSD	.77507	.41579	20.109	.97242	.08116
#1	.30411	8.0094	-.01124	.38373	.74944
#2	.30219	8.0483	-.00787	.38343	.74895
#3	.29945	8.0759	-.01161	.37716	.75016
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3660.7	6546.9	100080.	7667.7
Stddev	3.9	6.5	353.	23.4
%RSD	.10772	.09978	.35261	.30569
#1	3656.1	6540.1	100410.	7658.3
#2	3663.0	6547.5	100130.	7694.4
#3	3663.0	6553.1	99707.	7650.4

Sample Name: 440-252289-A-189-A Acquired: 10/23/2019 2:50:39 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00103**	**123.32**	**.05111**	**.08281**	**1.3918**	**.00485**
Stddev	.00013	.32	.00117	.00016	.0066	.00004
%RSD	12.638	.25859	2.2961	.18739	.47164	.79401
#1	-.00118	123.22	.04985	.08272	1.3857	.00481
#2	-.00097	123.06	.05133	.08271	1.3909	.00489
#3	-.00094	123.68	.05217	.08299	1.3987	.00484
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**39.827**	**.00933**	**.08068**	**.23157**	**.29866**	**194.98**
Stddev	.039	.00014	.00021	.00171	.00277	.34
%RSD	.09698	1.4943	.25762	.73704	.92616	.17454
#1	39.803	.00944	.08046	.23353	.30149	194.59
#2	39.806	.00937	.08088	.23043	.29596	195.17
#3	39.872	.00917	.08069	.23075	.29852	195.19
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-189-A Acquired: 10/23/2019 2:50:39 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	36.029	.11246	43.600	3.2455	.01860	2.4763
Stddev	.035	.00076	.099	.0116	.00028	.0072
%RSD	.09697	.67293	.22732	.35575	1.4802	.29080
#1	35.995	.11299	43.518	3.2565	.01889	2.4746
#2	36.027	.11280	43.710	3.2335	.01856	2.4701
#3	36.065	.11159	43.572	3.2464	.01834	2.4842
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20191	.87983	.00730	.00654	8.5414	.04708
Stddev	.00078	.00210	.00183	.00150	.0165	.00009
%RSD	.38822	.23899	25.088	23.001	.19265	.19489
#1	.20235	.88224	.00675	.00592	8.5275	.04699
#2	.20100	.87835	.00581	.00544	8.5596	.04717
#3	.20237	.87891	.00934	.00825	8.5370	.04708
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-189-A Acquired: 10/23/2019 2:50:39 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.35069	9.1131	-.01188	.42431	1.1194
Stddev	.00627	.0352	.00316	.00458	.0011
%RSD	1.7890	.38662	26.572	1.0802	.09737
#1	.34344	9.0934	-.01015	.42803	1.1198
#2	.35422	9.0920	-.00997	.42571	1.1203
#3	.35439	9.1537	-.01552	.41919	1.1182
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3643.5	6617.9	100390.	7755.9
Stddev	2.4	4.3	387.	14.5
%RSD	.06638	.06495	.38583	.18688
#1	3645.9	6622.6	99941.	7772.5
#2	3641.0	6616.8	100650.	7749.6
#3	3643.5	6614.2	100570.	7745.6

Sample Name: 440-252289-A-190-A Acquired: 10/23/2019 2:55:55 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00084	105.19	.05339	.08556	1.4290	.00434
Stddev	.00023	.38	.00113	.00063	.0061	.00014
%RSD	27.710	.35863	2.1232	.73063	.42763	3.2568
#1	-.00070	104.76	.05208	.08484	1.4360	.00442
#2	-.00111	105.45	.05400	.08587	1.4262	.00418
#3	-.00072	105.38	.05408	.08596	1.4248	.00443
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	35.840	.00844	.07415	.19510	.28870	179.08
Stddev	.107	.00005	.00010	.00078	.00122	.32
%RSD	.29853	.59371	.14080	.39915	.42127	.18061
#1	35.718	.00850	.07405	.19457	.28995	178.74
#2	35.920	.00840	.07426	.19475	.28753	179.38
#3	35.881	.00843	.07416	.19600	.28861	179.12
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-190-A Acquired: 10/23/2019 2:55:55 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	31.543	.09885	38.388	3.0193	.01646	2.4272
Stddev	.029	.00052	.086	.0073	.00009	.0233
%RSD	.09179	.52715	.22485	.24042	.57421	.95971
#1	31.533	.09825	38.321	3.0230	.01651	2.4118
#2	31.575	.09915	38.486	3.0109	.01652	2.4540
#3	31.520	.09915	38.359	3.0240	.01635	2.4158
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.21700	.91614	.00943	.00569	6.7722	.05519
Stddev	.00085	.00125	.00061	.00112	.0617	.00090
%RSD	.39236	.13644	6.4826	19.729	.91160	1.6360
#1	.21651	.91752	.00953	.00682	6.7065	.05425
#2	.21651	.91582	.00998	.00568	6.8289	.05527
#3	.21798	.91508	.00877	.00457	6.7813	.05605
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-190-A Acquired: 10/23/2019 2:55:55 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.30681	7.8886	-.01021	.36996	1.3660
Stddev	.00388	.0359	.00057	.00394	.0006
%RSD	1.2630	.45484	5.5396	1.0655	.04293
#1	.30399	7.8674	-.00983	.37448	1.3658
#2	.30520	7.8683	-.00994	.36721	1.3655
#3	.31123	7.9300	-.01086	.36821	1.3666
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3686.5	6585.9	100250.	7638.3
Stddev	5.2	20.3	239.	25.4
%RSD	.14206	.30749	.23831	.33282
#1	3690.9	6597.8	100030.	7610.6
#2	3680.7	6562.5	100510.	7660.6
#3	3688.0	6597.4	100210.	7643.7

Sample Name: 440-252289-A-191-A Acquired: 10/23/2019 3:01:11 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00052	109.92	.04604	.07449	1.3563	.00452
Stddev	.00022	.41	.00143	.00076	.0023	.00003
%RSD	41.170	.37137	3.1041	1.0155	.16735	.68046
#1	-.00048	109.62	.04761	.07366	1.3563	.00454
#2	-.00033	109.75	.04483	.07465	1.3540	.00448
#3	-.00076	110.38	.04567	.07515	1.3586	.00453
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	41.062	.00979	.07584	.20650	.33427	182.63
Stddev	.097	.00008	.00041	.00106	.00203	.71
%RSD	.23664	.84706	.54328	.51278	.60736	.38610
#1	40.950	.00987	.07538	.20716	.33645	181.94
#2	41.121	.00971	.07616	.20528	.33244	182.60
#3	41.115	.00981	.07600	.20705	.33393	183.35
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-191-A Acquired: 10/23/2019 3:01:11 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	38.385	.10309	39.858	2.9928	.01971	2.5771
Stddev	.034	.00064	.146	.0108	.00024	.0128
%RSD	.08887	.61748	.36578	.36153	1.2380	.49572
#1	38.366	.10338	39.726	3.0043	.01954	2.5648
#2	38.364	.10236	39.834	2.9828	.01999	2.5761
#3	38.424	.10353	40.015	2.9915	.01959	2.5903
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19441	.77078	.00961	.00417	7.8778	.04661
Stddev	.00081	.00258	.00114	.00048	.0418	.00051
%RSD	.41921	.33537	11.879	11.513	.53031	1.0973
#1	.19405	.77009	.00962	.00374	7.8464	.04602
#2	.19534	.76860	.00847	.00469	7.8618	.04687
#3	.19383	.77364	.01075	.00407	7.9252	.04695
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-191-A Acquired: 10/23/2019 3:01:11 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.34341	7.8125	-.01034	.38815	1.4015
Stddev	.00426	.0511	.00217	.00651	.0029
%RSD	1.2416	.65383	20.985	1.6784	.21021
#1	.33924	7.8435	-.01245	.39548	1.3983
#2	.34324	7.7535	-.01044	.38301	1.4040
#3	.34776	7.8404	-.00812	.38597	1.4022
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3650.3	6568.3	100690.	7723.8
Stddev	1.1	8.0	187.	7.1
%RSD	.03047	.12151	.18564	.09134
#1	3651.3	6571.0	100470.	7728.9
#2	3650.4	6559.3	100820.	7715.8
#3	3649.1	6574.5	100770.	7726.8

Sample Name: 440-252289-A-192-A Acquired: 10/23/2019 3:06:28 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00061	118.19	.04786	.08276	1.7571	.00473
Stddev	.00026	.25	.00198	.00047	.0046	.00004
%RSD	42.546	.21169	4.1383	.56485	.26473	.84791
#1	.00037	118.35	.04605	.08268	1.7614	.00472
#2	.00089	118.32	.04997	.08327	1.7578	.00478
#3	.00057	117.90	.04754	.08234	1.7522	.00470
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	54.028	.01180	.08369	.23038	1.5512	205.24
Stddev	.102	.00008	.00010	.00067	.0033	.53
%RSD	.18956	.65906	.11892	.29013	.21561	.25923
#1	54.137	.01189	.08377	.22967	1.5517	205.78
#2	54.012	.01176	.08358	.23100	1.5542	205.24
#3	53.934	.01174	.08371	.23046	1.5476	204.71
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-192-A Acquired: 10/23/2019 3:06:28 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**44.569**	**.11503**	**43.533**	**3.2988**	**.01776**	**1.6451**
Stddev	.064	.00053	.281	.0259	.00016	.0092
%RSD	.14335	.46272	.64591	.78582	.89648	.55611
#1	44.631	.11564	43.856	3.2689	.01758	1.6345
#2	44.572	.11466	43.348	3.3135	.01783	1.6500
#3	44.503	.11480	43.394	3.3140	.01788	1.6507
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.23619**	**1.0242**	**.01385**	**.00564**	**8.6341**	**.12652**
Stddev	.00075	.0025	.00065	.00140	.0334	.00080
%RSD	.31658	.24499	4.7013	24.887	.38682	.63372
#1	.23587	1.0269	.01314	.00533	8.6105	.12598
#2	.23705	1.0220	.01398	.00442	8.6194	.12612
#3	.23566	1.0239	.01442	.00717	8.6723	.12744
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-192-A Acquired: 10/23/2019 3:06:28 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.55464	8.4060	-.01106	.40438	2.6410
Stddev	.00166	.0569	.00248	.00729	.0005
%RSD	.30016	.67669	22.375	1.8032	.02039
#1	.55454	8.3409	-.01339	.41273	2.6408
#2	.55636	8.4464	-.01134	.40113	2.6406
#3	.55303	8.4305	-.00846	.39927	2.6416
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3616.1	6533.5	100350.	7784.0
Stddev	10.4	10.3	388.	31.5
%RSD	.28795	.15693	.38666	.40524
#1	3613.8	6532.8	100800.	7747.6
#2	3607.0	6523.6	100150.	7802.8
#3	3627.4	6544.1	100110.	7801.7

Sample Name: 440-252289-A-193-A Acquired: 10/23/2019 3:11:44 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00107	118.09	.04664	.06653	1.3086	.00490
Stddev	.00042	1.60	.00256	.00078	.0199	.00004
%RSD	39.245	1.3517	5.4924	1.1660	1.5207	.73368
#1	-.00131	117.01	.04410	.06565	1.2960	.00486
#2	-.00132	117.34	.04922	.06713	1.2983	.00491
#3	-.00058	119.92	.04661	.06681	1.3316	.00493
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	56.282	.00687	.08084	.20441	.40032	189.98
Stddev	.345	.00013	.00022	.00089	.00242	1.97
%RSD	.61368	1.8383	.26991	.43744	.60340	1.0352
#1	56.022	.00673	.08085	.20388	.40202	188.60
#2	56.150	.00695	.08105	.20544	.40139	189.10
#3	56.674	.00695	.08061	.20391	.39756	192.23
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-193-A Acquired: 10/23/2019 3:11:44 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	37.013	.11263	45.169	3.1662	.01618	1.7728
Stddev	.336	.00048	.545	.0102	.00027	.0207
%RSD	.90848	.42869	1.2074	.32140	1.6592	1.1676
#1	36.817	.11250	44.839	3.1761	.01648	1.7603
#2	36.821	.11222	44.868	3.1669	.01608	1.7614
#3	37.402	.11316	45.798	3.1558	.01598	1.7967
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19703	.38559	.00951	.00427	7.3200	.03568
Stddev	.00071	.00357	.00127	.00017	.0340	.00116
%RSD	.36218	.92461	13.307	4.0787	.46478	3.2481
#1	.19628	.38966	.00858	.00411	7.2822	.03528
#2	.19712	.38411	.00900	.00425	7.3297	.03699
#3	.19770	.38300	.01095	.00445	7.3482	.03478
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-193-A Acquired: 10/23/2019 3:11:44 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.38740	8.4239	-.01207	.40767	.93958
Stddev	.00449	.0124	.00145	.00673	.00066
%RSD	1.1602	.14747	12.056	1.6516	.06986
#1	.38523	8.4275	-.01318	.40024	.93916
#2	.38441	8.4342	-.01260	.40943	.94033
#3	.39257	8.4101	-.01042	.41336	.93924
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3610.0	6514.1	100070.	7683.5
Stddev	4.1	7.6	276.	69.2
%RSD	.11403	.11668	.27541	.90116
#1	3606.8	6515.2	99807.	7719.1
#2	3614.6	6521.1	100060.	7727.7
#3	3608.5	6506.0	100360.	7603.7

Sample Name: 440-252289-A-194-A Acquired: 10/23/2019 3:17:01 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00117	129.22	.04798	.06639	1.3980	.00532
Stddev	.00027	.33	.00030	.00013	.0083	.00003
%RSD	23.217	.25276	.62319	.20205	.59576	.56950
#1	-.00086	128.91	.04765	.06655	1.3983	.00535
#2	-.00138	129.18	.04807	.06631	1.3896	.00530
#3	-.00128	129.56	.04822	.06633	1.4063	.00530
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	41.313	.00635	.08998	.23079	.27626	205.41
Stddev	.169	.00017	.00016	.00036	.00066	.73
%RSD	.40809	2.7576	.17386	.15388	.23791	.35507
#1	41.161	.00632	.08983	.23102	.27691	204.94
#2	41.284	.00619	.09014	.23038	.27628	205.05
#3	41.495	.00653	.08998	.23096	.27560	206.25
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-194-A Acquired: 10/23/2019 3:17:01 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**34.403**	**.12477**	**48.216**	**3.2714**	**.01866**	**2.3742**
Stddev	.119	.00032	.105	.0222	.00027	.0118
%RSD	.34699	.25479	.21710	.67780	1.4530	.49546
#1	34.330	.12512	48.097	3.2474	.01873	2.3876
#2	34.338	.12468	48.294	3.2911	.01836	2.3658
#3	34.541	.12451	48.257	3.2757	.01889	2.3690
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.20544**	**.22556**	**.00633**	**.00585**	**6.8762**	**.03400**
Stddev	.00092	.00260	.00382	.00180	.0065	.00019
%RSD	.44964	1.1543	60.294	30.667	.09454	.55982
#1	.20462	.22692	.00973	.00451	6.8716	.03422
#2	.20527	.22256	.00705	.00789	6.8735	.03387
#3	.20644	.22720	.00220	.00515	6.8837	.03392
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 440-252289-A-194-A Acquired: 10/23/2019 3:17:01 Type: Unk
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.38405	9.5793	-.01366	.44246	.75035
Stddev	.00303	.0280	.00122	.00589	.00083
%RSD	.78790	.29203	8.9002	1.3306	.11012
#1	.38754	9.5509	-.01345	.43579	.75069
#2	.38244	9.5803	-.01496	.44693	.74941
#3	.38217	9.6068	-.01256	.44465	.75096
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3634.0	6624.7	100910.	7824.4
Stddev	2.5	3.3	190.	60.1
%RSD	.06771	.04913	.18836	.76783
#1	3635.3	6628.4	101030.	7869.0
#2	3635.6	6622.4	101010.	7848.1
#3	3631.2	6623.3	100690.	7756.1

Sample Name: CCV 3418984 Acquired: 10/23/2019 3:22:18 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.0160**	**24.363**	**.51612**	**2.0576**	**2.0188**	**1.9816**
Stddev	.0021	.160	.00149	.0066	.0101	.0099
%RSD	.20242	.65735	.28822	.32108	.50218	.50062
#1	1.0180	24.544	.51727	2.0604	2.0302	1.9927
#2	1.0161	24.307	.51444	2.0500	2.0107	1.9737
#3	1.0139	24.238	.51664	2.0623	2.0155	1.9783
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**48.985**	**.50718**	**2.0478**	**1.9285**	**1.9453**	**24.179**
Stddev	.195	.00081	.0048	.0137	.0152	.096
%RSD	.39908	.15903	.23262	.70925	.78334	.39806
#1	49.184	.50649	2.0477	1.9366	1.9530	24.272
#2	48.793	.50698	2.0432	1.9127	1.9277	24.080
#3	48.980	.50807	2.0527	1.9363	1.9551	24.184
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3418984 Acquired: 10/23/2019 3:22:18 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	130.42	2.0939	47.543	1.9511	1.9686	131.45
Stddev	.59	.0105	.303	.0057	.0030	.78
%RSD	.45179	.50144	.63764	.29493	.15082	.59349
#1	131.09	2.1059	47.804	1.9574	1.9691	132.35
#2	130.01	2.0865	47.211	1.9461	1.9654	131.04
#3	130.14	2.0892	47.614	1.9498	1.9713	130.97
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.0370	.49954	.50801	.50843	1.9997	1.9011
Stddev	.0044	.00150	.00181	.00251	.0273	.0028
%RSD	.21439	.30022	.35692	.49370	1.3642	.14902
#1	2.0392	.50125	.50852	.50559	2.0086	1.9017
#2	2.0320	.49844	.50951	.50936	1.9691	1.8981
#3	2.0398	.49894	.50600	.51035	2.0215	1.9037
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3418984 Acquired: 10/23/2019 3:22:18 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	1.9184	1.9704	.96367	1.9861	1.9450
Stddev	.0106	.0067	.00375	.0090	.0054
%RSD	.55452	.33821	.38921	.45433	.27667
#1	1.9150	1.9769	.96358	1.9890	1.9462
#2	1.9098	1.9636	.95997	1.9759	1.9391
#3	1.9303	1.9707	.96747	1.9933	1.9496
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3502.6	6072.1	92812.	7136.1
Stddev	14.8	25.0	75.	40.9
%RSD	.42199	.41111	.08102	.57352
#1	3513.8	6092.4	92726.	7104.0
#2	3508.3	6079.8	92843.	7182.2
#3	3485.9	6044.2	92866.	7122.1

Sample Name: CCB20 Acquired: 10/23/2019 3:27:05 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00004	.01015	-.00177	-.00015	.00017	.00003
Stddev	.00026	.01157	.00007	.00009	.00031	.00004
%RSD	666.56	113.99	3.8782	57.644	186.61	158.74
#1	.00031	.02240	-.00182	-.00015	.00048	.00007
#2	.00002	-.00060	-.00169	-.00006	-.00014	-.00002
#3	-.00021	.00866	-.00179	-.00024	.00016	.00003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00044	.00011	.00018	-.00015	.00096	.00365
Stddev	.00339	.00018	.00014	.00027	.00047	.00058
%RSD	777.05	166.16	80.703	187.72	49.155	15.886
#1	-.00234	-.00001	.00002	-.00025	.00059	.00307
#2	.00348	.00002	.00029	-.00035	.00149	.00365
#3	-.00245	.00031	.00022	.00016	.00081	.00423
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB20 Acquired: 10/23/2019 3:27:05 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.17097	-.00127	-.01179	.00001	.00032	.01750
Stddev	.01039	.00062	.01327	.00002	.00005	.00354
%RSD	6.0748	48.987	112.60	182.34	16.321	20.202
#1	.17553	-.00198	-.02361	.00003	.00036	.01371
#2	.17829	-.00091	-.01431	.00001	.00026	.02071
#3	.15908	-.00091	.00257	-.00001	.00034	.01809
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00027	.00073	.00016	.00175	-.00187	.00006
Stddev	.00034	.00020	.00062	.00087	.00856	.00022
%RSD	126.70	27.371	389.48	49.690	457.18	374.21
#1	.00012	.00067	.00083	.00203	-.01135	.00030
#2	-.00039	.00057	.00002	.00078	.00531	.00002
#3	-.00055	.00096	-.00038	.00245	.00042	-.00014
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB20 Acquired: 10/23/2019 3:27:05 Type: QC
Method: PITT-6500ICP-2(v3863) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91022E Custom ID2: 6500ICP2 Custom ID3: Int: 3421175
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00170	.00038	.00139	-.00046	.00015
Stddev	.00102	.00004	.00030	.00479	.00004
%RSD	59.692	11.366	21.858	1041.0	23.588
#1	.00164	.00043	.00164	.00344	.00020
#2	.00072	.00037	.00105	.00099	.00014
#3	.00275	.00034	.00147	-.00581	.00013
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4262.4	6477.8	100720.	7222.9
Stddev	14.1	12.5	799.	26.7
%RSD	.33015	.19372	.79293	.36924
#1	4276.0	6490.6	101440.	7204.3
#2	4247.9	6465.5	99861.	7210.9
#3	4263.5	6477.4	100860.	7253.5

Report Generated By Teledyne Leeman QuickTrace

Analyst: pitbal02

Worksheet file: C:\Users\Public\Documents\Teledyne CETAC\QuickTrace\Worksheets\HGZ91018B.wszf

Creation Date: 10/18/2019 3:34:12 PM

Comment:

Results

Sample Name	Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Residual	Flags	% Recovery
Calibration Blank	STD	10/18/19 04:56:58 pm	0.000	199	12.25	11.49		N/A
Standard #1 (0.2 ug/L)	STD	10/18/19 04:57:55 pm	0.200	1977	0.47	8.59		N/A
Standard #2 (0.5 ug/L)	STD	10/18/19 04:58:53 pm	0.500	4631	1.19	2.93		N/A
Standard #3 (1.0 ug/L)	STD	10/18/19 04:59:51 pm	1.000	8962	2.93	-16.78		N/A
Standard #4 (5 ug/L)	STD	10/18/19 05:00:49 pm	5.000	45046	1.33	-15.19		N/A
Standard #5 (10 ug/L)	STD	10/18/19 05:01:47 pm	10.000	90350	1.04	8.95		N/A

Calibration

Equation: Abs = 9017.386x + 95.748

R2: 0.99999

SEE: 128.0603

Flags:

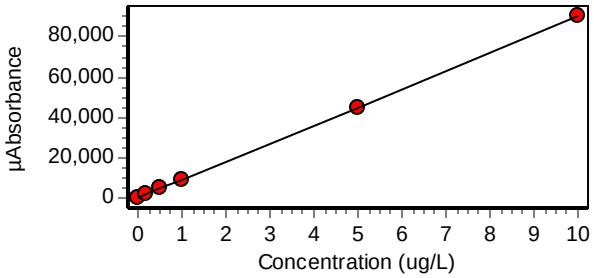

ICV 180-295364/7-A	ICV	10/18/19 05:04:10 pm	2.534	22946	1.31			101.36
ICB 180-295364/8-A	ICB	10/18/19 05:05:10 pm	0.006	154	24.42			N/A
CRA 180-295364/9-A	CRDL	10/18/19 05:06:08 pm	0.211	1994	0.67			105.27
CCV 180-295364/10-A	CCV	10/18/19 05:07:08 pm	5.029	45444	1.27			100.58
CCB 180-295364/11-	CCB	10/18/19 05:08:07 pm	0.006	154	35.49			N/A
MB 180-294703/1-B	MB	10/18/19 05:09:03 pm	0.046	509	2.51			N/A
LCS 180-294703/2	LCS	10/18/19 05:10:00 pm	2.480	22455	1.57			99.18
180-96707-A-2-L	UNK	10/18/19 05:10:56 pm	0.100	1000	1.02			N/A
180-96707-A-3-L	UNK	10/18/19 05:11:53 pm	0.152	1465	1.79			N/A
180-96707-A-4-L	UNK	10/18/19 05:12:50 pm	0.097	972	3.28			N/A
180-96794-A-9-F	UNK	10/18/19 05:13:47 pm	0.115	1130	2.34			N/A
180-96794-A-9-G MS	UNK	10/18/19 05:14:44 pm	1.077	9803	1.52			N/A
180-96794-A-9-H MSD	UNK	10/18/19 05:15:42 pm	1.073	9772	1.51			N/A
CCV 180-295364/10-A	CCV	10/18/19 05:16:40 pm	5.101	46089	1.07			102.01
CCB 180-295364/11-	CCB	10/18/19 05:17:40 pm	0.007	155	19.60			N/A
MB 180-295383/1-A	MB	10/18/19 05:18:37 pm	0.073	750	2.76			N/A
LCS 180-295383/2-A	LCS	10/18/19 05:19:35 pm	2.686	24320	1.37			107.46
180-96906-F-1-A	UNK	10/18/19 05:20:33 pm	0.069	717	3.58			N/A
180-96906-F-1-B	UNK	10/18/19 05:21:31 pm	1.103	10039	1.34			N/A
180-96906-F-1-C	UNK	10/18/19 05:22:27 pm	1.086	9888	1.73			N/A
180-96906-F-2-A	UNK	10/18/19 05:23:23 pm	0.074	760	3.04			N/A
180-96909-F-1-A	UNK	10/18/19 05:24:20 pm	0.085	864	3.63			N/A

Sample Name	Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Residual	Flags	% Recovery
180-96909-E-2-A	UNK	10/18/19 05:25:17 pm	0.075	775	3.04			N/A
180-96909-E-2-B	UNK	10/18/19 05:26:13 pm	1.125	10238	1.46			N/A
CCV 180-295364/10-A	CCV	10/18/19 05:27:12 pm	5.110	46177	1.23			102.20
CCB 180-295364/11-	CCB	10/18/19 05:28:12 pm	0.005	142	30.73			N/A
180-96909-E-2-C	UNK	10/18/19 05:29:09 pm	1.103	10044	1.91			N/A
180-97177-F-1-B	UNK	10/18/19 05:30:06 pm	0.071	732	4.83			N/A
180-97177-A-2-B	UNK	10/18/19 05:31:03 pm	0.067	697	2.81			N/A
180-96796-E-1-B	UNK	10/18/19 05:32:01 pm	0.073	755	4.59			N/A
180-96796-E-2-B	UNK	10/18/19 05:32:58 pm	0.080	813	3.84			N/A
180-97095-D-1-A	UNK	10/18/19 05:33:56 pm	0.091	920	2.72			N/A
180-96613-G-4-B	UNK	10/18/19 05:34:54 pm	0.064	676	3.88			N/A
180-96613-H-4-B	UNK	10/18/19 05:35:50 pm	0.064	677	4.02			N/A
180-96613-G-5-B	UNK	10/18/19 05:36:47 pm	0.089	896	0.97			N/A
180-96613-H-5-B	UNK	10/18/19 05:37:44 pm	0.089	897	3.07			N/A
CCV 180-295364/10-A	CCV	10/18/19 05:38:43 pm	5.034	45490	1.27			100.68
CCB 180-295364/11-	CCB	10/18/19 05:39:42 pm	0.005	138	35.53			N/A
180-97418-F-1-A	UNK	10/18/19 05:40:39 pm	0.063	667	3.14			N/A
180-97418-A-2-A	UNK	10/18/19 05:41:36 pm	0.064	672	3.59			N/A
180-97096-L-1-A	UNK	10/18/19 05:42:33 pm	0.060	640	2.95			N/A
180-97096-L-2-A	UNK	10/18/19 05:43:30 pm	0.063	662	2.62			N/A
180-96677-G-1-B	UNK	10/18/19 05:44:27 pm	0.062	654	1.92			N/A
180-96677-H-1-B	UNK	10/18/19 05:45:25 pm	0.063	666	1.80			N/A
180-96890-A-2-A	UNK	10/18/19 05:46:23 pm	0.060	638	4.72			N/A
MB 180-295387/1-A	MB	10/18/19 05:47:20 pm	0.059	630	4.34			N/A
LCS 180-295387	LCS	10/18/19 05:48:18 pm	2.635	23860	1.58			105.42
180-96676-G-1-B	UNK	10/18/19 05:49:15 pm	0.100	995	3.15			N/A
CCV 180-295364/10-A	CCV	10/18/19 05:50:14 pm	5.011	45281	1.30			100.22
CCB 180-295364/11-	CCB	10/18/19 05:51:13 pm	0.006	149	39.25			N/A
180-96676-H-1-B	UNK	10/18/19 05:52:10 pm	0.104	1034	3.12			N/A
180-96676-G-2-B	UNK	10/18/19 05:53:07 pm	0.101	1005	1.77			N/A
180-96676-G-2-C MS	UNK	10/18/19 05:54:03 pm	1.144	10409	1.38			N/A
180-96676-G-2-D MSD	UNK	10/18/19 05:55:00 pm	1.125	10244	1.54			N/A
180-96676-H-2-B	UNK	10/18/19 05:55:57 pm	0.090	903	2.88			N/A
180-96676-G-3-B	UNK	10/18/19 05:56:54 pm	0.094	942	2.66			N/A
180-96676-G-3-C MS	UNK	10/18/19 05:57:52 pm	1.135	10332	1.54			N/A
180-96676-G-3-D MSD	UNK	10/18/19 05:58:49 pm	1.126	10252	1.62			N/A
180-96676-H-3-B	UNK	10/18/19 05:59:47 pm	0.083	843	1.66			N/A
180-96676-G-4-B	UNK	10/18/19 06:00:44 pm	0.084	854	2.56			N/A
CCV 180-295364/10-A	CCV	10/18/19 06:01:43 pm	5.021	45371	1.39			100.42
CCB 180-295364/11-	CCB	10/18/19 06:02:43 pm	0.005	139	47.45			N/A
180-96677-H-4-D	UNK	10/18/19 06:03:41 pm	0.080	818	1.86			N/A
180-96677-G-2-B	UNK	10/18/19 06:04:38 pm	0.078	801	1.21			N/A
180-96677-H-2-B	UNK	10/18/19 06:05:35 pm	0.080	816	2.63			N/A

Sample Name	Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Residual	Flags	% Recovery
180-96677-G-3-B	UNK	10/18/19 06:06:32 pm	0.080	821	1.14			N/A
180-96677-H-3-B	UNK	10/18/19 06:07:28 pm	0.077	790	1.77			N/A
180-96677-G-4-B	UNK	10/18/19 06:08:25 pm	0.085	864	2.16			N/A
180-96676-H-4-B	UNK	10/18/19 06:12:17 pm	0.082	833	3.64			N/A
180-96677-G-5-B	UNK	10/18/19 06:13:14 pm	0.076	784	2.19			N/A
180-96677-H-5-B	UNK	10/18/19 06:14:11 pm	0.075	776	3.33			N/A
180-96677-G-6-B	UNK	10/18/19 06:15:08 pm	0.077	791	2.78			N/A
CRA 180-295364/9-A	CRDL	10/18/19 06:16:07 pm	0.206	1957	1.65			103.23
CCV 180-295364/10-A	CCV	10/18/19 06:17:07 pm	5.063	45747	0.69			101.25
CCB 180-295364/11-	CCB	10/18/19 06:18:06 pm	0.004	134	37.51			N/A
180-96677-H-7-B	UNK	10/18/19 06:19:04 pm	0.076	784	0.85			N/A
180-96677-G-8-B	UNK	10/18/19 06:20:01 pm	0.069	719	2.40			N/A
180-96677-H-8-B	UNK	10/18/19 06:20:59 pm	0.052	565	1.94			N/A
MB 180-295256/1-A	MB	10/18/19 06:21:56 pm	0.020	272	9.85			N/A
LCS 180-295256/2-A	LCS	10/18/19 06:22:53 pm	2.443	22124	1.24			97.71
180-95690-E-1-C	UNK	10/18/19 06:23:51 pm	0.219	2070	1.29			N/A
180-95690-E-9-C	UNK	10/18/19 06:24:48 pm	0.471	4343	1.33			N/A
180-95690-E-9-D MS	UNK	10/18/19 06:25:45 pm	1.426	12955	1.47			N/A
180-95690-E-9-E MSD	UNK	10/18/19 06:26:42 pm	1.428	12976	1.38			N/A
CCV 180-295364/10-A	CCV	10/18/19 06:27:41 pm	4.936	44601	1.46			98.71
CCB 180-295364/11-	CCB	10/18/19 06:28:41 pm	0.006	146	25.26			N/A
MB 180-295254/1-A	MB	10/18/19 06:29:38 pm	0.058	621	2.79			N/A
LCS 180-295254/2-A	LCS	10/18/19 06:30:35 pm	2.476	22425	1.30			99.05
LB 180-295179/1-B	UNK	10/18/19 06:31:33 pm	0.049	536	2.19			N/A
180-97021-F-2-B	UNK	10/18/19 06:32:30 pm	0.036	424	3.18			N/A
180-97021-F-3-B	UNK	10/18/19 06:33:28 pm	0.033	397	8.38			N/A
180-97021-B-4-B	UNK	10/18/19 06:34:26 pm	0.029	354	3.56			N/A
180-97021-B-5-C	UNK	10/18/19 06:35:23 pm	0.029	355	6.32			N/A
180-97021-B-6-B	UNK	10/18/19 06:36:21 pm	0.026	329	7.79			N/A
180-97021-B-7-B	UNK	10/18/19 06:37:18 pm	0.028	347	3.28			N/A
180-97021-B-8-B	UNK	10/18/19 06:38:15 pm	0.024	316	4.28			N/A
CCV 180-295364/10-A	CCV	10/18/19 06:39:15 pm	4.951	44742	1.50			99.02
CCB 180-295364/11-	CCB	10/18/19 06:40:14 pm	0.005	143	32.15			N/A
180-97021-B-8-C MS	UNK	10/18/19 06:41:12 pm	1.003	9136	0.92			N/A
180-97021-B-8-D MSD	UNK	10/18/19 06:42:09 pm	0.973	8866	1.16			N/A
180-97021-B-9-C	UNK	10/18/19 06:43:07 pm	0.022	294	5.48			N/A
180-97021-B-10-C	UNK	10/18/19 06:44:04 pm	0.023	300	8.79			N/A
180-97089-A-1-B	UNK	10/18/19 06:45:02 pm	0.035	407	5.72			N/A
180-97089-A-2-B	UNK	10/18/19 06:45:59 pm	0.027	337	5.39			N/A
180-97089-A-3-B	UNK	10/18/19 06:46:57 pm	0.026	335	1.85			N/A
180-97089-A-4-B	UNK	10/18/19 06:47:55 pm	0.025	324	7.94			N/A
180-97089-A-5-B	UNK	10/18/19 06:48:52 pm	0.021	290	11.32			N/A
180-97089-A-6-B	UNK	10/18/19 06:49:50 pm	0.032	385	7.93			N/A

Sample Name	Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Residual	Flags	% Recovery
CCV 180-295364/10-A	CCV	10/18/19 06:50:49 pm	4.934	44592	1.51			98.69
CCB 180-295364/11-	CCB	10/18/19 06:51:48 pm	0.006	146	19.71			N/A
180-97089-A-7-B	UNK	10/18/19 06:52:46 pm	0.023	300	5.92			N/A
180-97089-A-8-B	UNK	10/18/19 06:53:43 pm	0.020	273	5.23			N/A
180-97089-A-9-B	UNK	10/18/19 06:54:41 pm	0.022	296	1.96			N/A
MB 180-295253/1-A	MB	10/18/19 06:55:38 pm	0.015	227	11.34			N/A
LCS 180-295253/2-A	LCS	10/18/19 06:56:36 pm	2.399	21730	1.31			95.97
LB 180-294981/1-D	UNK	10/18/19 06:57:33 pm	0.026	328	1.69			N/A
180-96777-A-2-M	UNK	10/18/19 06:58:31 pm	0.020	279	9.49			N/A
180-96777-A-2-N MS	UNK	10/18/19 06:59:28 pm	0.974	8881	1.23			N/A
180-96777-A-2-O MSD	UNK	10/18/19 07:00:26 pm	0.984	8965	1.44			N/A
180-96777-A-8-E	UNK	10/18/19 07:01:24 pm	0.015	235	5.25			N/A
CCV 180-295364/10-A	CCV	10/18/19 07:02:23 pm	4.938	44625	1.50			98.76
CCB 180-295364/11-	CCB	10/18/19 07:03:22 pm	0.004	132	46.56			N/A
180-96777-A-9-E	UNK	10/18/19 07:04:20 pm	0.017	246	9.89			N/A
180-96777-A-10-E	UNK	10/18/19 07:05:18 pm	0.019	269	14.72			N/A
180-96785-A-1-F	UNK	10/18/19 07:06:15 pm	0.018	261	12.70			N/A
180-96862-A-2-D	UNK	10/18/19 07:07:13 pm	0.025	325	5.91			N/A
180-96862-A-3-E	UNK	10/18/19 07:08:11 pm	0.022	296	8.86			N/A
180-96862-A-4-O	UNK	10/18/19 07:09:08 pm	0.020	278	5.99			N/A
180-96862-A-4-P MS	UNK	10/18/19 07:10:06 pm	0.988	9008	1.16			N/A
180-96862-A-4-Q MSD	UNK	10/18/19 07:11:04 pm	0.995	9067	1.48			N/A
180-96862-A-5-E	UNK	10/18/19 07:12:01 pm	0.020	278	11.10			N/A
180-96862-A-6-E	UNK	10/18/19 07:12:59 pm	0.017	248	3.92			N/A
CCV 180-295364/10-A	CCV	10/18/19 07:13:58 pm	4.919	44456	1.29			98.39
CCB 180-295364/11-	CCB	10/18/19 07:14:58 pm	0.003	121	47.32			N/A
180-97086-A-2-E	UNK	10/18/19 07:15:56 pm	0.020	272	8.63			N/A
180-97160-A-1-F	UNK	10/18/19 07:16:53 pm	0.025	320	12.61			N/A
180-97160-A-2-F	UNK	10/18/19 07:17:51 pm	0.027	341	3.77			N/A
180-97160-A-3-F	UNK	10/18/19 07:18:49 pm	0.024	313	6.88			N/A
180-97160-A-4-F	UNK	10/18/19 07:19:47 pm	0.025	324	8.57			N/A
MB 180-295389/1-A	MB	10/18/19 07:20:44 pm	0.069	717	2.59			N/A
LCS 180-295389/2-A	LCS	10/18/19 07:21:42 pm	2.777	25142	0.97			111.10
180-97005-B-7-B	UNK	10/18/19 07:22:40 pm	0.059	629	1.77			N/A
180-97005-B-8-B	UNK	10/18/19 07:23:38 pm	0.063	667	4.27			N/A
180-97005-B-9-B	UNK	10/18/19 07:24:35 pm	0.059	629	2.20			N/A
CRA 180-295364/9-A	CRDL	10/18/19 07:25:34 pm	0.224	2117	1.29			112.08
CCV 180-295364/10-A	CCV	10/18/19 07:26:33 pm	5.308	47962	0.42			106.16
CCB 180-295364/11-	CCB	10/18/19 07:27:33 pm	0.009	181	16.91			N/A
180-97005-B-10-D	UNK	10/18/19 07:28:31 pm	0.061	649	2.71			N/A
180-96947-O-1-B	UNK	10/18/19 07:29:28 pm	0.001	104	95.11			N/A
180-96950-K-2-B	UNK	10/18/19 07:30:26 pm	0.055	589	3.23			N/A
180-96958-O-1-A	UNK	10/18/19 07:31:24 pm	-0.009	14	20.52			N/A

Sample Name	Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Residual	Flags	% Recovery
180-96975-G-1-C	UNK	10/18/19 07:32:22 pm	0.059	625	1.32			N/A
180-96975-D-1-E MS	UNK	10/18/19 07:33:20 pm	1.119	10190	1.20			N/A
180-96975-D-1-F MSD	UNK	10/18/19 07:34:18 pm	1.080	9835	0.84			N/A
180-96975-G-2-C	UNK	10/18/19 07:35:16 pm	0.056	603	4.35			N/A
180-96975-G-3-C	UNK	10/18/19 07:36:14 pm	0.060	637	2.21			N/A
180-96975-G-4-C	UNK	10/18/19 07:37:12 pm	0.059	631	4.55			N/A
CCV 180-295364/10-A	CCV	10/18/19 07:38:11 pm	5.312	47998	0.94			106.24
CCB 180-295364/11-	CCB	10/18/19 07:39:11 pm	0.012	203	13.79			N/A
180-96975-G-5-C	UNK	10/18/19 07:40:09 pm	0.058	615	3.73			N/A
180-97080-C-1-B	UNK	10/18/19 07:41:07 pm	0.055	594	1.67			N/A
180-97080-C-2-B	UNK	10/18/19 07:42:05 pm	0.055	594	4.43			N/A
180-97080-C-3-B	UNK	10/18/19 07:43:03 pm	0.056	604	1.38			N/A
180-97080-C-4-B	UNK	10/18/19 07:44:01 pm	0.056	602	4.54			N/A
180-97080-C-5-B	UNK	10/18/19 07:44:59 pm	0.057	607	1.91			N/A
180-97080-C-6-B	UNK	10/18/19 07:45:57 pm	0.018	259	18.60			N/A
180-97080-C-7-B	UNK	10/18/19 07:46:55 pm	0.055	592	2.29			N/A
180-97080-C-8-B	UNK	10/18/19 07:47:53 pm	0.046	507	3.69			N/A
CCV 180-295364/10-A	CCV	10/18/19 07:48:52 pm	5.306	47946	0.93			106.13
CCB 180-295364/11-	CCB	10/18/19 07:49:52 pm	0.009	175	30.25			N/A
MB 180-295382/1-A	MB	10/18/19 07:50:50 pm	0.054	583	2.73			N/A
LCS 180-295382/2-A	LCS	10/18/19 07:51:48 pm	2.644	23941	0.81			105.77
LB 180-295177/1-D	UNK	10/18/19 07:52:46 pm	0.053	573	1.81			N/A
180-97236-A-1-J	UNK	10/18/19 07:53:44 pm	0.053	571	5.16			N/A
180-97236-A-1-K MS	UNK	10/18/19 07:54:42 pm	5.140	46442	0.63			N/A
180-97236-A-1-L MSD	UNK	10/18/19 07:55:40 pm	5.276	47675	0.58			N/A
180-97241-A-1-E	UNK	10/18/19 07:56:38 pm	0.458	4222	0.46			N/A
180-97255-A-1-B	UNK	10/18/19 07:57:36 pm	0.056	601	2.85			N/A
180-97263-A-1-B	UNK	10/18/19 07:58:34 pm	0.051	559	4.84			N/A
180-97287-A-1-H	UNK	10/18/19 07:59:32 pm	0.053	577	4.37			N/A
CCV 180-295364/10-A	CCV	10/18/19 08:00:32 pm	5.301	47902	0.62			106.03
CCB 180-295364/11-	CCB	10/18/19 08:01:31 pm	0.012	204	9.56			N/A
180-97290-A-1-C	UNK	10/18/19 08:02:29 pm	0.045	503	1.17			N/A
180-97290-A-3-C	UNK	10/18/19 08:03:28 pm	0.044	496	2.71			N/A
600-193622-A-1-D	UNK	10/18/19 08:04:26 pm	0.048	531	2.09			N/A
LB 180-295177/16-B	UNK	10/18/19 08:05:24 pm	0.049	534	4.84			N/A
MB 180-295251/1-A	MB	10/18/19 08:06:23 pm	0.017	252	11.22			N/A
LCS 180-295251/2-A	LCS	10/18/19 08:07:21 pm	2.579	23351	0.77			103.16
LB 180-295031/1-C	UNK	10/18/19 08:08:19 pm	0.020	273	9.56			N/A
180-96057-A-2-C	UNK	10/18/19 08:09:18 pm	0.052	563	5.15			N/A
180-96057-A-3-C	UNK	10/18/19 08:10:16 pm	0.162	1557	1.62			N/A
180-97046-A-1-F	UNK	10/18/19 08:11:14 pm	0.017	245	8.52			N/A
CCV 180-295364/10-A	CCV	10/18/19 08:12:13 pm	5.291	47810	0.73			105.83
CCB 180-295364/11-	CCB	10/18/19 08:13:13 pm	0.011	194	13.37			N/A

Sample Name	Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Residual	Flags	% Recovery
180-97126-A-1-D	UNK	10/18/19 08:14:11 pm	0.020	279	2.58			N/A
180-97130-A-1-C	UNK	10/18/19 08:15:10 pm	0.022	294	13.50			N/A
180-97148-A-1-D	UNK	10/18/19 08:16:08 pm	0.024	311	10.64			N/A
180-97235-A-1-M	UNK	10/18/19 08:17:06 pm	0.023	305	4.04			N/A
180-97235-A-2-C	UNK	10/18/19 08:18:05 pm	0.021	281	5.95			N/A
180-97235-A-3-C	UNK	10/18/19 08:19:03 pm	0.019	266	11.91			N/A
180-97235-A-1-N MS	UNK	10/18/19 08:20:01 pm	5.328	48141	0.52			N/A
180-97235-A-1-O MSD	UNK	10/18/19 08:21:00 pm	5.177	46781	0.44			N/A
MB 180-295252/1-A	MB	10/18/19 08:21:58 pm	0.015	232	12.25			N/A
LCS 180-295252/2-A	LCS	10/18/19 08:22:56 pm	2.550	23088	0.51			101.99
CCV 180-295364/10-A	CCV	10/18/19 08:23:55 pm	5.273	47641	0.94			105.45
CCB 180-295364/11-	CCB	10/18/19 08:24:55 pm	0.010	187	4.90			N/A
LB 180-295117/1-B	UNK	10/18/19 08:25:53 pm	0.023	301	5.90			N/A
180-97189-A-1-C	UNK	10/18/19 08:26:51 pm	3.772	34113	0.53			N/A
180-97233-A-1-E	UNK	10/18/19 08:27:50 pm	0.018	262	6.19			N/A
180-97238-A-1-B	UNK	10/18/19 08:28:48 pm	0.019	265	6.07			N/A
180-97253-A-1-C	UNK	10/18/19 08:29:47 pm	0.015	230	10.91			N/A
180-97290-A-2-C	UNK	10/18/19 08:30:45 pm	0.023	300	4.58			N/A
180-97290-A-4-C	UNK	10/18/19 08:31:44 pm	0.019	267	2.26			N/A
180-97290-A-4-D MS	UNK	10/18/19 08:32:43 pm	1.058	9634	0.72			N/A
180-97290-A-4-E MSD	UNK	10/18/19 08:33:41 pm	1.029	9374	0.64			N/A
CRA 180-295364/9-A	CRDL	10/18/19 08:34:40 pm	0.219	2069	1.40			109.41
CCV 180-295364/10-A	CCV	10/18/19 08:35:39 pm	5.308	47956	0.75			106.15
CCB 180-295364/11-	CCB	10/18/19 08:36:39 pm	0.011	199	17.86			N/A

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job Number: 180-97287-1

SDG No.:

Project: San Jacinto River Waste Pits Superfund

Client Sample ID	Lab Sample ID
11187072-NORTH-IMPCT-INITIALS	180-97287-1

Comments:

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: 11187072-NORTH-IMPCT-INITIALS
Lab Sample ID: 180-97287-1
Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-97287-1
SDG ID.:
Matrix: Solid
Date Sampled: 10/15/2019 15:00
Reporting Basis: DRY
Date Received: 10/16/2019 09:00
% Solids: 62.5

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
57-12-5	Cyanide, Total	ND	0.80	0.43	mg/Kg			1	EPA 9014
18496-25-8	Sulfide	76	48	16	mg/Kg		F1	1	EPA 9034

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: 11187072-NORTH-IMPCT-INITIALS
Lab Sample ID: 180-97287-1
Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-97287-1
SDG ID.:
Matrix: Solid
Date Sampled: 10/15/2019 15:00
Reporting Basis: WET
Date Received: 10/16/2019 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Ignitability	>140			Degrees F			1	EPA 1020B
	pH	7.9	0.1	0.1	SU		HF	1	EPA 9045D
	Free Liquid	CNF			NONE			1	EPA 9095B

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Analyst: CMR Batch Start Date: 10/25/2019

Reporting Units: ug/L Analytical Batch No.: 296145

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
9	ICV	13:11	Cyanide, Total	199	200	99	90-110		WCN0.2ICV_00804
10	ICB	13:12	Cyanide, Total	ND					
11	CCV	13:14	Cyanide, Total	102	100	102	90-110		WCN0.1L3_00514
12	CCB	13:16	Cyanide, Total	ND					
23	CCV	13:35	Cyanide, Total	103	100	103	90-110		WCN0.1L3_00514
24	CCB	13:37	Cyanide, Total	ND					
29	CCV	13:45	Cyanide, Total	102	100	102	90-110		WCN0.1L3_00514
30	CCB	13:47	Cyanide, Total	ND					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Analyst: CMR Batch Start Date: 10/18/2019

Reporting Units: mg/L Analytical Batch No.: 295417

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	ICV	16:30	Sulfide	12.6	12.1	104	85-115		WSULFSICVCCV_00687
2	ICB	16:30	Sulfide	ND					
11	CCV	16:30	Sulfide	12.2	12.1	101	85-115		WSULFSICVCCV_00687
12	CCB	16:30	Sulfide	ND					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Analyst: PMH Batch Start Date: 10/28/2019

Reporting Units: SU Analytical Batch No.: 296263

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
12	CCV	16:12	pH	7.0	7.00	100	99-101		WpHBuffer7P_00022
23	CCV	16:28	pH	7.0	7.00	100	99-101		WpHBuffer7P_00022

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 296145	Date: 10/25/2019 13:23	Prep Batch: 296087	Date: 10/25/2019 10:30				
EPA 9014	MB 180-296087/4-A	Cyanide, Total	ND		mg/Kg	0.50	1
Batch ID: 295417	Date: 10/18/2019 16:30	Prep Batch: 295377	Date: 10/18/2019 13:45				
EPA 9034	MB 180-295377/1-A	Sulfide	ND		mg/Kg	30	1

FORM III-IN

5-IN
MATRIX SPIKE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Matrix: Solid

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 295417	Date: 10/18/2019 16:30		Prep Batch: 295377			Date: 10/18/2019 13:45					
EPA 9034	180-97287-1	Sulfide	76		mg/Kg						F1
EPA 9034	180-97287-1 MS	Sulfide	145		mg/Kg	175	40	75-125			F1

Calculations are performed before rounding to avoid round-off errors in calculated results.
Note - Results and Reporting Limits have been adjusted for dry weight.

FORM V-IN

5-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Matrix: Solid

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 295417	Date: 10/18/2019 16:30		Prep Batch: 295377			Date: 10/18/2019 13:45					
EPA 9034	180-97287-1 MSD	Sulfide	140		mg/Kg	176	37	75-125	3	20	F1

Calculations are performed before rounding to avoid round-off errors in calculated results.
Note - Results and Reporting Limits have been adjusted for dry weight.

FORM V-IN

6-IN
DUPLICATE
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Matrix: Solid

Method	Client Sample ID	Lab Sample ID	Analyte	Result	Unit	RPD	RPD Limit	Qual
Batch ID: 296616 Date: 10/30/2019 16:36								
EPA 9095B	11187072-NORTH-IMP CT-INITIALS	180-97287-1	Free Liquid	CNF	NONE			
EPA 9095B	11187072-NORTH-IMP CT-INITIALS	180-97287-1 DU	Free Liquid	CNF	NONE	NC	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VI-IN

7A-IN
LAB CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Matrix: Solid

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 296145	Date: 10/25/2019 13:21		Prep Batch: 296087			Date: 10/25/2019 10:30					
						LCS Source: WCNSoilLCS_00025					
EPA 9014	LCS 180-296087/3-A	Cyanide, Total	158		mg/Kg	190	83	26-139			
Batch ID: 295417	Date: 10/18/2019 16:30		Prep Batch: 295377			Date: 10/18/2019 13:45					
						LCS Source: WSULFPSP_00687					
EPA 9034	LCS 180-295377/2-A	Sulfide	105		mg/Kg	111	94	85-115			
Batch ID: 296263	Date: 10/28/2019 15:56										
						LCS Source: WpHBuffer7CCV_00053					
EPA 9045D	LCS 180-296263/1	pH	7.0		SU	7.00	100	99-101			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

7A-IN
LOW LEVEL CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Matrix: Solid

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 296145	Date: 10/25/2019 13:18		Prep Batch: 296087			Date: 10/25/2019 10:30					
						LCS Source: WCN0.5L1_00967					
EPA 9014	LLCS 180-296087/1-A	Cyanide, Total	0.0490		mg/Kg	0.0500	98	90-110			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

7A-IN
HIGH LEVEL CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Matrix: Solid

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 296145	Date: 10/25/2019 13:19		Prep Batch: 296087			Date: 10/25/2019 10:30					
						LCS Source: WCN10Pi_00701					
EPA 9014	HLCS 180-296087/2-A	Cyanide, Total	0.252		mg/Kg	0.250	101	90-110			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-97287-1

SDG Number:

Matrix: Solid Instrument ID: SEAL2

Method: EPA 9014 MDL Date: 12/07/2017 11:54

Prep Method: 9010C

Analyte	Wavelength/ Mass	RL (mg/Kg)	MDL (mg/Kg)
Cyanide, Total		0.5	0.272

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-97287-1

SDG Number:

Matrix: Solid Instrument ID: SEAL2

Method: EPA 9014 XMDL Date: 11/19/2018 14:17

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Cyanide, Total		10	4.4

FORM IX - IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-97287-1

SDG Number:

Matrix: Solid Instrument ID: NOEQUIP

Method: 2540G RL Date: 01/31/2010 13:27

Analyte	Wavelength/ Mass	RL (%)	
Percent Moisture		0.1	
Percent Solids		0.1	

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-97287-1

SDG Number:

Matrix: Solid Instrument ID: NOEQUIP

Method: 2540G XRL Date: 01/31/2010 13:31

Analyte	Wavelength/ Mass	XRL (%)	
Percent Moisture		0.1	
Percent Solids		0.1	

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-97287-1

SDG Number:

Matrix: Solid Instrument ID: NOEQUIP

Method: EPA 1020B XRL Date: 01/07/2010 13:21

Analyte	Wavelength/ Mass	XRL (Degrees F)	
Ignitability		1	

FORM IX - IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-97287-1

SDG Number:

Matrix: Solid Instrument ID: NOEQUIP

Method: EPA 1020B MDL Date: 06/01/2014 00:00

Analyte	Wavelength/ Mass	RL (Degrees F)	MDL (Degrees F)
Ignitability		1	1

FORM IX - IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-97287-1

SDG Number:

Matrix: Solid Instrument ID: NOEQUIP

Method: EPA 9034 MDL Date: 03/01/2017 14:29

Prep Method: 9030B

Analyte	Wavelength/ Mass	RL (mg/Kg)	MDL (mg/Kg)
Sulfide		30	10

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-97287-1

SDG Number:

Matrix: Solid Instrument ID: NOEQUIP

Method: EPA 9034 XMDL Date: 01/07/2010 12:12

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Sulfide		3	0.5897

FORM IX - IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-97287-1

SDG Number:

Matrix: Solid Instrument ID: NOEQUIP

Method: EPA 9045D RL Date: 07/09/2019 10:56

Analyte	Wavelength/ Mass	RL (SU)	
pH		0.1	

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-97287-1

SDG Number:

Matrix: Solid Instrument ID: NOEQUIP

Method: EPA 9045D XRL Date: 07/09/2019 10:57

Analyte	Wavelength/ Mass	XRL (SU)	
pH		0.1	

FORM IX - IN

12-IN
PREPARATION LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Prep Method: 9010C

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
LLCS 180-296087/1-A	10/25/2019 10:30	296087		50	50
HLCS 180-296087/2-A	10/25/2019 10:30	296087		50	50
LCS 180-296087/3-A	10/25/2019 10:30	296087	1.00		50
MB 180-296087/4-A	10/25/2019 10:30	296087	1.00		50
180-97287-1	10/25/2019 10:30	296087	1.00		50

FORM XII-IN

12-IN
PREPARATION LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Prep Method: 9030B

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight (g)	Initial Volume	Final Volume (mL)
MB 180-295377/1-A	10/18/2019 13:45	295377	5.00		50
LCS 180-295377/2-A	10/18/2019 13:45	295377	5.00		50
180-97287-1	10/18/2019 13:45	295377	5.01		50
180-97287-1 MS	10/18/2019 13:45	295377	5.05		50
180-97287-1 MSD	10/18/2019 13:45	295377	5.04		50

FORM XII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Instrument ID: SEAL2 Analysis Method: EPA 9014

Start Date: 10/25/2019 12:57 End Date: 10/25/2019 13:47

Lab Sample Id	D/F	Type	Time	Analytes																							
				CN																							
ZZZZZZ			12:57																								
ZZZZZZ			12:58																								
ZZZZZZ			13:00																								
ZZZZZZ			13:02																								
ZZZZZZ			13:04																								
ZZZZZZ			13:06																								
ZZZZZZ			13:07																								
ZZZZZZ			13:09																								
ICV 180-296145/9	1		13:11	X																							
ICB 180-296145/10	1		13:12	X																							
CCV 180-296145/11	1		13:14	X																							
CCB 180-296145/12	1		13:16	X																							
LLCS 180-296087/1-A	1	T	13:18	X																							
HLCS 180-296087/2-A	1	T	13:19	X																							
LCS 180-296087/3-A	10	T	13:21	X																							
MB 180-296087/4-A	1	T	13:23	X																							
ZZZZZZ			13:25																								
ZZZZZZ			13:27																								
ZZZZZZ			13:28																								
ZZZZZZ			13:30																								
ZZZZZZ			13:32																								
ZZZZZZ			13:33																								
CCV 180-296145/23	1		13:35	X																							
CCB 180-296145/24	1		13:37	X																							
ZZZZZZ			13:38																								
180-97287-1	1	T	13:40	X																							
ZZZZZZ			13:42																								
ZZZZZZ			13:43																								
CCV 180-296145/29	1		13:45	X																							
CCB 180-296145/30	1		13:47	X																							

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: 2540G

Start Date: 10/17/2019 11:41 End Date: 10/17/2019 11:41

Lab Sample Id	D/F	Type	Time	Analytes																							
				% Sol	Moist																						
180-97287-1	1	T	11:41	X	X																						
180-97287-1 DU	1	T	11:41	X	X																						
ZZZZZZ			11:41																								
ZZZZZZ			11:41																								
ZZZZZZ			11:41																								
ZZZZZZ			11:41																								
ZZZZZZ			11:41																								
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ZZZZZZ			11:41																								
ZZZZZZ			11:41																								

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: EPA 1020B

Start Date: 10/18/2019 09:07 End Date: 10/18/2019 09:07

Lab Sample Id	D/F	Type	Time	Analytes																							
				Ign																							
ZZZZZZ			09:07																								
ZZZZZZ			09:07																								
ZZZZZZ			09:07																								
ZZZZZZ			09:07																								
ZZZZZZ			09:07																								
ZZZZZZ			09:07																								
ZZZZZZ			09:07																								
ZZZZZZ			09:07																								
ZZZZZZ			09:07																								
180-97287-1	1	T	09:07	X																							

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: EPA 9034

Start Date: 10/18/2019 16:30 End Date: 10/18/2019 16:30

Lab Sample Id	D/F	Type	Time	Analytes																							
				S2																							
ICV 180-295417/1	1		16:30	X																							
ICB 180-295417/2	1		16:30	X																							
MB 180-295377/1-A	1	T	16:30	X																							
LCS 180-295377/2-A	1	T	16:30	X																							
180-97287-1	1	T	16:30	X																							
180-97287-1 MS	1	T	16:30	X																							
180-97287-1 MSD	1	T	16:30	X																							
ZZZZZZ			16:30																								
ZZZZZZ			16:30																								
ZZZZZZ			16:30																								
CCV 180-295417/11	1		16:30	X																							
CCB 180-295417/12	1		16:30	X																							

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: EPA 9045D

Start Date: 10/28/2019 15:56 End Date: 10/28/2019 16:32

Lab Sample Id	D/F	Type	Time	Analytes																							
				pH																							
LCS 180-296263/1	1	T	15:56	X																							
ZZZZZZ			15:57																								
ZZZZZZ			15:58																								
ZZZZZZ			16:00																								
ZZZZZZ			16:01																								
ZZZZZZ			16:03																								
ZZZZZZ			16:04																								
ZZZZZZ			16:06																								
ZZZZZZ			16:07																								
ZZZZZZ			16:09																								
ZZZZZZ			16:10																								
CCV 180-296263/12	1		16:12	X																							
ZZZZZZ			16:13																								
ZZZZZZ			16:14																								
ZZZZZZ			16:16																								
ZZZZZZ			16:17																								
ZZZZZZ			16:19																								
ZZZZZZ			16:20																								
ZZZZZZ			16:22																								
180-97287-1	1	T	16:23	X																							
ZZZZZZ			16:25																								
ZZZZZZ			16:26																								
CCV 180-296263/23	1		16:28	X																							
ZZZZZZ			16:29																								
ZZZZZZ			16:31																								
CCV 180-296263/26			16:32																								

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-97287-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: EPA 9095B

Start Date: 10/30/2019 16:36 End Date: 10/30/2019 16:36

Lab Sample Id	D/F	Type	Time	Analytes																								
				PF																								
180-97287-1	1	T	16:36	X																								
180-97287-1 DU	1	T	16:36	X																								
ZZZZZZ			16:36																									
ZZZZZZ			16:36																									
ZZZZZZ			16:36																									
ZZZZZZ			16:36																									
ZZZZZZ			16:36																									
ZZZZZZ			16:36																									

Prep Types:
T = Total/NA

FORM XIII-IN

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 296087 Batch Start Date: 10/25/19 10:30 Batch Analyst: Reagle, Carl M

Batch Method: 9010C Batch End Date: 10/25/19 12:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	SulfideCheck	ChlorineCheck	WCN0.5L1 00967	WCN10Pi 00701
LLCS 180-296087/1		9010C, EPA 9014		50 mL	50 mL	N	N	5 mL	
HLCS 180-296087/2		9010C, EPA 9014		50 mL	50 mL	N	N		1.25 mL
LCS 180-296087/3		9010C, EPA 9014		1.00 g	50 mL	N	N		
MB 180-296087/4		9010C, EPA 9014		1.00 g	50 mL	N	N		
180-97287-A-1	11187072-NORTH-I MPCT-INITIALS	9010C, EPA 9014	T	1.00 g	50 mL	N	N		

Lab Sample ID	Client Sample ID	Method Chain	Basis	WCNSoilLCS 00025					
LLCS 180-296087/1		9010C, EPA 9014							
HLCS 180-296087/2		9010C, EPA 9014							
LCS 180-296087/3		9010C, EPA 9014		1 g					
MB 180-296087/4		9010C, EPA 9014							
180-97287-A-1	11187072-NORTH-I MPCT-INITIALS	9010C, EPA 9014	T						

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 296087 Batch Start Date: 10/25/19 10:30 Batch Analyst: Reagle, Carl M

Batch Method: 9010C Batch End Date: 10/25/19 12:00

Batch Notes	
Batch Comment	PH STRIPS LOT # 564992
Distillation End Time	10/25/2019 12:00
Distillation Start Time	10/25/2019 10:30
Distillation Temperature	150 Degrees C
KI-Starch Paper Lot #	3120543
Lead Acetate Lot #	1276537
Magnesium Chloride Reagent ID Number	3144620
Sodium Hydroxide ID	3258303
Pipette/Syringe/Dispenser ID	B747014653
Sulfamic Acid ID	3273176
Sulfuric Acid Reagent ID Number	3258304
Uncorrected Distill Temperature	150 Degrees C

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 296145 Batch Start Date: 10/25/19 12:57 Batch Analyst: Reagle, Carl M

Batch Method: EPA 9014 Batch End Date: 10/25/19 13:47

Lab Sample ID	Client Sample ID	Method Chain	Basis	WCN0.1L3 00514	WCN0.2ICV 00804				
ICV 180-296145/9		EPA 9014			1 mL				
CCV 180-296145/11		EPA 9014		1 mL					
CCV 180-296145/23		EPA 9014		1 mL					
CCV 180-296145/29		EPA 9014		1 mL					

Batch Notes	
Buffer Reagent ID	2970819
Chloramine-T ID	3427392
First End time	10/25/2019 12:58
Second End time	10/25/2019 13:00
Sodium Hydroxide ID	3258303
Pipette/Syringe/Dispenser ID	B747014653
Pyridine-Barbituric Acid ID	3399184
First Start time	10/25/2019 12:57
Second Start time	10/25/2019 12:58

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295218 Batch Start Date: 10/17/19 11:41 Batch Analyst: Hoelzle, Paloma M

Batch Method: 2540G Batch End Date: 10/18/19 11:26

Lab Sample ID	Client Sample ID	Method Chain	Basis	DISH#	DishWeight	SampleMassWet	SampleMassDry		
180-97287-B-1	11187072-NORTH-I MPCT-INITIALS	2540G	T	eSZ69 0.1170	2.56 g	9.10 g	6.65 g		
180-97287-B-1 DU	11187072-NORTH-I MPCT-INITIALS	2540G	T	eSZ68 0.1181	2.54 g	9.08 g	6.53 g		

Batch Notes	
Balance ID	1126472457
Batch Comment	Completed by: PMH
Date and Time Samples in Desiccator	10/18/2019 08:45
Date and Time Samples out of Desiccator	10/18/2019 11:21
Date samples were placed in the oven	10/17/2019
Oven Temp In	105 Degrees C
Time samples were place in the oven	12:56
Date samples were removed from oven	10/18/2019
Oven Temp Out	105 Degrees C
Time Samples were removed from oven	08:43
Oven ID	5005
Thermometer ID	Wet-34 (WC) CF; 0
Temperature - Start - Uncorrected	105 Degrees C
Temperature - End - Uncorrected	105 Degrees C

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295336 Batch Start Date: 10/18/19 09:07 Batch Analyst: Smith, Abbey V

Batch Method: EPA 1020B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	ObsFlash				
180-97287-A-1	11187072-NORTH-I MPCT-INITIALS	EPA 1020B	T	1 g	>140 Degrees F				

Batch Notes	
Barometer ID	161018587
Barometric Pressure - Corrected	28.99 inHg
Barometric Pressure Correction Factor	0.0 Degrees F
Equipment ID	setaflash rapid tester
Thermometer Correction	0.0 Degrees F
Thermometer ID	seta-1
Barometric Pressure - Uncorrected	28.99 inHg
Uncorrected Temperature	140 Degrees F

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295377 Batch Start Date: 10/18/19 13:45 Batch Analyst: Reagle, Carl M

Batch Method: 9030B Batch End Date: 10/18/19 15:15

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	DistillUnitPort	Initial pH	Final pH	AcidVolAdded
MB 180-295377/1		9030B, EPA 9034		5.00 g	50 mL	11	n/a SU	<2 SU	10 mL
LCS 180-295377/2		9030B, EPA 9034		5.00 g	50 mL	12	n/a SU	<2 SU	10 mL
180-97287-A-1	11187072-NORTH-I MPCT-INITIALS	9030B, EPA 9034	T	5.01 g	50 mL	13	n/a SU	<2 SU	10 mL
180-97287-A-1 MS	11187072-NORTH-I MPCT-INITIALS	9030B, EPA 9034	T	5.05 g	50 mL	14	n/a SU	<2 SU	10 mL
180-97287-A-1 MSD	11187072-NORTH-I MPCT-INITIALS	9030B, EPA 9034	T	5.04 g	50 mL	15	n/a SU	<2 SU	10 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	WSULFPSP 00687					
MB 180-295377/1		9030B, EPA 9034							
LCS 180-295377/2		9030B, EPA 9034		1 mL					
180-97287-A-1	11187072-NORTH-I MPCT-INITIALS	9030B, EPA 9034	T						
180-97287-A-1 MS	11187072-NORTH-I MPCT-INITIALS	9030B, EPA 9034	T	1 mL					
180-97287-A-1 MSD	11187072-NORTH-I MPCT-INITIALS	9030B, EPA 9034	T	1 mL					

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295377 Batch Start Date: 10/18/19 13:45 Batch Analyst: Reagle, Carl M

Batch Method: 9030B Batch End Date: 10/18/19 15:15

Batch Notes	
Balance ID	8946
Blank Matrix ID	3232375
Distillation End Time	10/18/2019 15:15
Distilliation Unit ID	12
Distillation Start Time	10/18/2019 13:45
Oven, Bath or Block Temperature 1	70 Degrees C
pH Indicator ID	HC412469
Pipette ID	B645274412
Pipette/Syringe/Dispenser ID	05J90870
Sulfuric Acid Reagent ID Number	3047790
Thermometer ID	122503737
Uncorrected Temperature	70 Degrees C
Zinc Acetate Buffer ID	3397403

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 295417 Batch Start Date: 10/18/19 16:40 Batch Analyst: Reagle, Carl M

Batch Method: EPA 9034 Batch End Date: 10/18/19 17:15

Lab Sample ID	Client Sample ID	Method Chain	Basis	BuretStart1	BuretStop1	IodineAmount	TitrantVolume1	FinalAmount	WSULFSICVCCV 00687
ICV 180-295417/1		EPA 9034		0 mL	8.23 mL	10 mL	8.23 mL	50 mL	1 mL
ICB 180-295417/2		EPA 9034		0 mL	9.82 mL	10 mL	9.82 mL	50 mL	
MB 180-295377/1-A		EPA 9034		0 mL	9.84 mL	10 mL	9.84 mL	50 mL	
LCS 180-295377/2-A		EPA 9034		0 mL	8.50 mL	10 mL	8.5 mL	50 mL	
180-97287-A-1-C	11187072-NORTH-I MPCT-INITIALS	EPA 9034	T	0 mL	9.24 mL	10 mL	9.24 mL	50 mL	
180-97287-A-1-D MS	11187072-NORTH-I MPCT-INITIALS	EPA 9034	T	0 mL	8.67 mL	10 mL	8.67 mL	50 mL	
180-97287-A-1-E MSD	11187072-NORTH-I MPCT-INITIALS	EPA 9034	T	0 mL	8.71 mL	10 mL	8.71 mL	50 mL	
CCV 180-295417/11		EPA 9034		0 mL	8.27 mL	10 mL	8.27 mL	50 mL	1 mL
CCB 180-295417/12		EPA 9034		0 mL	9.86 mL	10 mL	9.86 mL	50 mL	

Batch Notes	
Buret ID	07N25256
Hydrochloric Acid ID	2992131
Iodine ID	3278486
Normality of Iodine Solution	0.02384 N
Sodium Thiosulfate ID	3358763
Pipette/Syringe/Dispenser ID	B711828347
Starch Reagent ID	3267441
Normality of First Titrant	0.02420 N
Zinc Acetate Buffer ID	3384720

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 296263 Batch Start Date: 10/28/19 15:56 Batch Analyst: Hoelzle, Paloma M

Batch Method: EPA 9045D Batch End Date: 10/28/19 16:34

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	SampleTemp	WpHBuffer7CCV 00053	WpHBuffer7P 00022	
LCS 180-296263/1		EPA 9045D		20 mL	20 mL	20.4 Celsius	20 mL		
CCV 180-296263/12		EPA 9045D		20 mL	20 mL	20.7 Celsius		20 mL	
180-97287-A-1	11187072-NORTH-I MPCT-INITIALS	EPA 9045D	T	20.01 g	20 mL	20.7 Celsius			
CCV 180-296263/23		EPA 9045D		20 mL	20 mL	20.8 Celsius		20 mL	

Batch Notes	
Balance ID	cfz-1200I (sn 15900520)
Batch Comment	Shake Time Start:11:27 End:11:32 Settle Time Start:11:33 End:14:05
pH Buffer 1 ID	2655162 pH buffer std 2.00
pH Buffer 2 ID	3310867 pH buffer std 4.00
pH Buffer 3 ID	3251542 pH buffer std 7.00
pH Buffer 4 ID	3222369 pH buffer std 10.00
pH Buffer 5 ID	3419981 pH buffer std 13.00
pH Buffer 6 ID	3315265 pH buffer std 7.00 (Second Source/LCS)
Calibration Date and Time	10/28/2019 14:33
pH Meter Calibration Slope	98.1
pH Meter ID	Accumet AR25 (SN AR93315378)
Pipette/Syringe/Dispenser ID	19C42840
Probe ID	8172BNWP
Sufficient volume for sample dup	YES
Thermometer ID	ar93315378

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-97287-1

SDG No.:

Batch Number: 296616 Batch Start Date: 10/30/19 16:36 Batch Analyst: Hoelzle, Paloma M

Batch Method: EPA 9095B Batch End Date: 10/30/19 16:56

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	FreeLiquid				
180-97287-A-1	11187072-NORTH-I MPCT-INITIALS	EPA 9095B	T	100.09 g	0 mL				
180-97287-A-1 DU	11187072-NORTH-I MPCT-INITIALS	EPA 9095B	T	100.09 g	0 mL				

Batch Notes	
Filter ID	V#4394

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

AQ2 Tray Report

Software Version:	2.1.4
Report Requested By:	TestAmerica
Date & Time:	2019-10-25 13:58:35
Tray Number:	2
Tray Name:	102519cna

CYANIDE

Calibration Chart

Type	Absorbance	Calc mg/L	Target mg/L	% Error
*1	-0.0040	0.0009	0.0000	
S90	0.0016	0.0062	0.0050	23.46
S91	0.0061	0.0104	0.0100	4.02
S92	0.0481	0.0499	0.0500	-0.22
S93	0.1020	0.1005	0.1000	0.54
S94	0.2571	0.2462	0.2500	-1.51
S95	0.5290	0.5018	0.5000	0.35
S0	-0.0041	0.0008	0.0000	

Polynomial Order:	1
Correlation Coefficient:	0.9999
Carryover(%):	-0.0
Calibration equation:	y = bx + a
y =:	Concentration mg/L
x =:	Measured absorbance
a =:	4.662572E-003
b =:	9.396885E-001
Date & Time:	2019-10-25 13:09:28

Calibration Graph

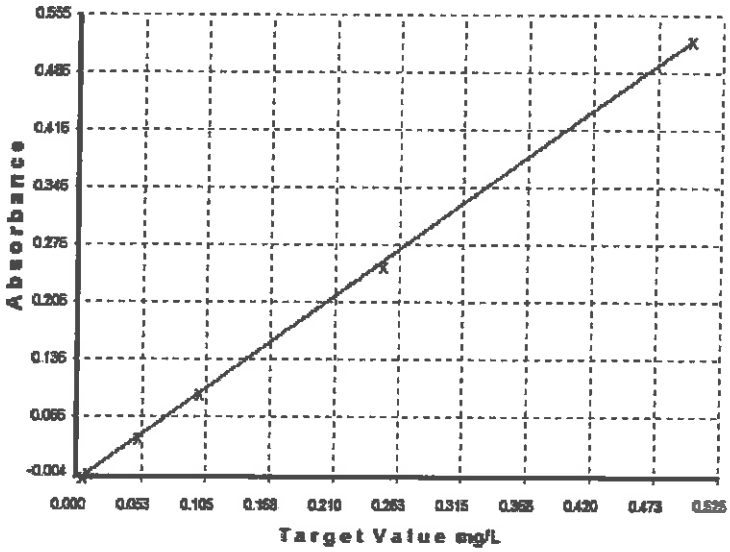

Reagents

Name	Batch	Prepared By	Expiry Date
CN-PHOS BUFFER	2970812 cmr 10/25/19	TestAmerica	2019-10-26 00:00:00
CN-CHLORAMINE T	~~3423846~~ 3427392	TestAmerica	~~2019-10-24~~ 00:00:00 10-28-19
CN-PYRIDINE_BAR	3399184	TestAmerica	2020-04-01 00:00:00

cmr 10/25/19

Test Results

Cup	Type	ID	Details	Result	Units	QC Pro	Auto Dil.	Man Dil.	User	Time/Date
	S1	Standard 1		-0.0040					TA	2019-10-25 12:57:12
	S90	Standard 90		0.0016					TA	2019-10-25 12:58:59
	S91	Standard 91		0.0061					TA	2019-10-25 13:00:43
	S92	Standard 92		0.0481					TA	2019-10-25 13:02:26
	S93	Standard 93		0.1020					TA	2019-10-25 13:04:13
	S94	Standard 94		0.2571					TA	2019-10-25 13:06:00
	S95	Standard 95		0.5290					TA	2019-10-25 13:07:44
	S0	Standard 0		-0.0041					TA	2019-10-25 13:09:28
1	ICV	ICV		0.1986	mg/L				TA	2019-10-25 13:11:15
2	ICB	ICB		0.0014	mg/L				TA	2019-10-25 13:12:59
	CCV	CCV		0.1021	mg/L				TA	2019-10-25 13:14:43
	CCB	CCB		0.0017	mg/L				TA	2019-10-25 13:16:28
3	U1	LLCS 180-2960871-A		0.0490	mg/L				TA	2019-10-25 13:18:12
4	U2	HLCS 180-2960872-A		0.2518	mg/L				TA	2019-10-25 13:19:57
5	U3	LCS 180-2960873-A		3.1545	mg/L		x10.0000		TA	2019-10-25 13:21:41
6	U4	MB 180-2960874-A		0.0016ELL	mg/L				TA	2019-10-25 13:23:26
7	U5	180-96863-A-1-G		0.0119	mg/L				TA	2019-10-25 13:25:13

8	U6	180-96865-E-1-C	0.0072	mg/L	TA	2019-10-25 13:27:00
9	U7	180-97084-A-2-G	0.0011ELL	mg/L	TA	2019-10-25 13:28:45
10	U8	180-97084-A-2-H MS	0.1020	mg/L	TA	2019-10-25 13:30:29
11	U9	180-97084-A-2-I MSD	0.1039	mg/L	TA	2019-10-25 13:32:14
12	U10	180-97148-D-1-B	0.0267	mg/L	TA	2019-10-25 13:33:59
	CCV	CCV	0.1034	mg/L	TA	2019-10-25 13:35:46
	CCB	CCB	0.0015	mg/L	TA	2019-10-25 13:37:33
13	U11	180-97284-A-2-G	0.0061ELL	mg/L	TA	2019-10-25 13:38:52
14	U12	180-97287-A-1-M	0.0029ELL	mg/L	TA	2019-10-25 13:40:35
15	U13	180-97290-A-1-F	0.0069	mg/L	TA	2019-10-25 13:42:13
16	U14	180-97290-A-3-H	0.6105ELH	mg/L	TA	2019-10-25 13:43:50
	CCV	CCV	0.1024	mg/L	TA	2019-10-25 13:45:27
	CCB	CCB	0.0006	mg/L	TA	2019-10-25 13:47:06

Sulfide Analysis Standardization Logsheet

Analyst: CMR **Date:** 10/18/2019

Standardization of Sodium Thiosulfate Titrant (A)				Reagent #:	3358763
Titrate 10mL of 0.025N Potassium Biiodate to clear endpoint					
KH(IO3)2 Lot #:	3389553	**KI Lot #:**	3026681	**1:4 H2SO4:**	3351623
Trial 1 mL:	10.34	**Trail 2 mL:**	10.32	**Trial 3 mL:**	10.33
Average mL (X):	10.33	**Normality of Titrant:**	0.02420		
N of $Na_2S_2O_3$ = (10mL $KH(IO_3)_2$)(0.025N) / XmL $Na_2S_2O_3$					

Standardization of Iodine Solution (B)				Reagent #:	3278486
Titrate 20mL of Iodine solution to clear endpoint using the sodium thiosulfate titrant standardized above					
Trial 1 mL:	19.74	**Trail 2 mL:**	19.72	**Trial 3 mL:**	19.64
Average mL (Y):	19.70	**Normality of Iodine:**	0.02384		
N of Iodine = (Y mL $Na_2S_2O_3$)(N of $Na_2S_2O_3$) / 20mL Iodine					

Sulfide Spike Concentration Determination			
Titrate 1.0mL of Standard and 10mL Iodine Solution to a clear endpoint using the standardized sodium thiosulfate titrant			
Primary Standard ID:	3425129	**Secondary Standard ID:**	3425158
mL Titrant to endpoint:	8.42	mL Titrant to endpoint:	8.29
Primary Stock Conc. (mg/L):	553.7	Second Stock Conc. (mg/L):	604.1

Std Conc. (mg/L) = {[(mL B*N B) - (mL A * N A)] x 16000}/mL Std

A is Sodium Thiosulfate titrant, B is Iodine Solution

TALS Reagent weight (g): Analyzed Conc / 534			
Primary Std:	1.037	Secondary Std:	1.131

General Chemistry Worksheet

Batch Number: 180-295417
Method: 9034
Analyst: Reagle, Carl M

Date Open: Oct 18 2019 ~~4:30PM~~ cmr 10/18/19 446 - 515
Batch End:

Titrant volume

Lab ID	Client ID	Method Chain	Basis	First additional Buret Start volume	Amount of Iodine	Final weight/volume of sample	WSULFSICVCCV_00687
ICV~180-295417/1		9034_Calc		0 mL	10 mL	8.23 - 50 mL	1 mL
ICB~180-295417/2		9034_Calc		0 mL	10 mL	9.82 - 50 mL	
MB~180-295377/1-A		9034_Calc		0 mL	10 mL	9.84 - 50 mL	
LCS~180-295377/2-A		9034_Calc		0 mL	10 mL	8.50 - 50 mL	
180-97287-A-1-C		9034_Calc	T	0 mL	10 mL	9.24 - 50 mL	
180-97287-A-1-D~MS		9034_Calc	T	0 mL	10 mL	8.67 - 50 mL	
180-97287-A-1-E~MSD		9034_Calc	T	0 mL	10 mL	8.21 ~~8.67~~ - 50 mL cmr 10/18/19	
180-97342-A-1-A		9034_Calc	T	0 mL	10 mL	~~8.71~~ 50 mL 9.85 cmr 10/18/19	
180-97342-A-2-A		9034_Calc	T	0 mL	10 mL	9.72 - 50 mL	
180-97342-A-3-A		9034_Calc	T	0 mL	10 mL	9.70 50 mL	
CCV~180-295417/1		9034_Calc		0 mL	10 mL	8.27 - 50 mL	1 mL
CCB~180-295417/1		9034_Calc		0 mL	10 mL	9.86 - 50 mL	

Page 3437 of 3447

Normality of First Titrant:	0.02420 N
Normality of Iodine Solution:	0.02384 N
Buret ID:	07N25256
Zinc Acetate Buffer ID:	3384720
Sodium Hydroxide ID:	N/A
Filter ID:	N/A
Iodine ID:	3278486
Hydrochloric Acid ID:	2992131
Sodium Thiosulfate ID:	3358763
Starch Reagent ID:	3267441
Pipette/Syringe/Dispenser ID:	B711828347

Subcontract Data

Shipping and Receiving Documents

CHAIN OF CUSTODY RECORD

COC NO.: 59351

Address: 2055 Niagara Falls Blvd PAGE ___ OF ___

Phone: 716-297-6150 Fax:

Project No/ Phase/Task Code: 11187072	Laboratory Name: Eurofins / TestAmerica	Lab Location: Pittsburgh	SSOW ID:
Project Name: San Jacinto	Lab Contact: Carrie Gamber / Beth Hitt		Cooler No:
Project Location: Texas			Carrier:
GHD Chemistry Contact: Debbie Brennan			Airbill No:
Sampler(s): Don Pope			Total # of Containers: 4

Item	Sample Identification (Containers for each sample may be combined on one line)	Date (mm/dd/yy)	Time (hh:mm)	Matrix Code (see back of COC)	Grab (G) or Comp (C)	Filtered (Y/N)	See SSOW												Total Containers/sample	MS/MSD Request	Comments/ Special Instructions:
	PRESERVATION - (SEE BACK OF COC FOR ABBREVIATIONS)																				
1	11187072-North-Impt-Initials	10/15/19	15:00	SO			X														* See SSOW for analysis
2																					* Std. TAT
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

180-97287 Chain of Custody

TAT Required in business days (use separate COCs for different TATs):

☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 1 Week ☐ 2 Week ☐ Other:

Notes/ Special Requirements:

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1. Don Pope	GHD	10/15/19	15:15	1. [signature]	TAMIN	10/16/19	900
2.				2.			
3.				3.			

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT – ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE – Fully Executed Copy (CRA) YELLOW – Receiving Laboratory Copy PINK – Shipper GOLDENROD – Sampling Crew

GHD Form: COC-10B (20110804)

180-97287 Waybill

ORIGIN ID:DKKA (716) 297-2160
BRITT GEBHARDT
GHD
2055 NIAGARA FALLS BLVD

NIAGARA FALLS, NY 14304
UNITED STATES US

SHIP [illegible] 19
ACTWG [illegible] LB MAN
CAD: 6[illegible]//CAFE3211

BILL SENDER

TO **SAMPLE CUSTODIAN**
EUROFINS/TEST AMERICA
301 ALPHA DRIVE

PITTSBURGH PA 152381330
(412) 963-7058
REF: 11187072 – NI0402 GEB (POPE)

551C3/2A3C/104C

FedEx Express

J181118060501ev

WED – 16 OCT 3:00P
STANDARD OVERNIGHT

TRK# 0201 **4576 5884 0166**

EK AGCA

15238
PA-US **PIT:**

Uncorrected temp 3.6 °C
Thermometer ID 10

CF 0 Initials TJ

PT-WI-SR-001 effective 11/8/18

Part # 154254-354 RIT EXP 02/20

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrier L	Carrier Tracking No(s):	COC No: 180-376648.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com	State of Origin: Texas	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Texas		Job #: 180-97287-1
Address: 4955 Yarrow Street,	Due Date Requested: 11/1/2019			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: San Jacinto River Waste Pits Superfund	Project #: 18020662			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8011/8011_Soil_Prep Standard 8011 list	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
11187072-NORTH-IMPCT-INITIALS (180-97287-1)	10/15/19	15:00 Central		Solid			X	1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 4	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	10/18/19 1700	ONAIR	[signature]	10/19/19 0845	ETAPEN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.4, 1.8, 1.0, PUP, 10/19/19

Ver: 01/16/2019

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrier L	Carrier Tracking No(s):	COC No: 180-376658.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com	State of Origin: Texas	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Texas		Job #: 180-97287-1
Address: 880 Riverside Parkway, ,	Due Date Requested: 11/1/2019			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: San Jacinto River Waste Pits Superfund	Project #: 18020662			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1311_T Full List w/ Totals	Total_TEQ	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
11187072-NORTH-IMPCT-INITIALS (180-97287-1)	10/15/19	15:00 Central		Solid			X	X	1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 4	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	10/18/19 1740	TMP	[signature]	10/19/19 - 9:00	ETA-SAC
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 4.6° C

Ver: 01/16/2019

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrier L	Carrier Tracking No(s):	COC No: 180-377071.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com	State of Origin: Texas	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Texas		Job #: 180-97287-1
Address: 10 Hazelwood Drive, ,	Due Date Requested: 11/1/2019			
City: Amherst	TAT Requested (days):			
State, Zip: NY, 14228-2298				
Phone: 716-691-2600(Tel) 716-691-7991(Fax)	PO #:			
Email:	WO #:			
Project Name: San Jacinto River Waste Pits Superfund	Project #: 18020662			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015D_DAI_G/8015_Dir_Inj_AP (MOD) Local Method	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
11187072-NORTH-IMPCT-INITIALS (180-97287-2)	10/24/19	08:45 Central		Water			X	3	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 4

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	10/24/19 1700	MRIV		10/25/19 1000	TAB
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: #1 4.0°

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 180-97287-1

Login Number: 97287
List Number: 1
Creator: Say, Thomas C

List Source: Eurofins TestAmerica, Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 180-97287-1

Login Number: 97287
List Number: 4
Creator: Hulbert, Michael J

List Source: Eurofins TestAmerica, Buffalo
List Creation: 10/28/19 10:37 AM

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.0 #1
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 180-97287-1

Login Number: 97287
List Number: 3
Creator: Kintaudi, Pauline W

List Source: Eurofins TestAmerica, Sacramento
List Creation: 10/21/19 10:57 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.6c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Job Number: 180-97287-2

Job Description: San Jacinto River Waste Pits Superfund

For:
GHD Services Inc.
5551 Corporate Boulevard
Suite 200
Baton Rouge, LA 70808

Attention: Janie Smith

Approved for release.
Carrie L Gamber
Senior Project Manager
12/20/2019 8:26 AM

Carrie L Gamber, Senior Project Manager
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2428
carrie.gamber@testamericainc.com
12/20/2019

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of TestAmerica and its client. All questions regarding this report should be directed to the TestAmerica Project Manager or designee who has signed this report.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins TestAmerica Project Manager.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE

Client: GHD Services Inc.

Project: San Jacinto River Waste Pits Superfund

Report Number: 180-97287-2

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 10/16/2019; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 3.6 C.

TCLP METHOMYL

The data was being reported without a passing PT. The prep and analytical QC was within control limits for the target analyte. The sample results were non-detect: 11187072-NORTH-IMPCT-INITIALS (180-97287-1).

Detection Summary

Client: GHD Services Inc.
Job ID: 180-97287-2
Project/Site: San Jacinto River Waste Pits Superfund

Client Sample ID: 11187072-NORTH-IMPCT-INITIALS
Lab Sample ID: 180-97287-1

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-97287-2

Method: 8321A - Carbamates (LC/MS) - TCLP

Client Sample ID: 11187072-NORTH-IMPCT-INITIALS
Date Collected: 10/15/19 15:00
Date Received: 10/16/19 09:00

Lab Sample ID: 180-97287-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methomyl	ND		0.78	0.12	ug/L		11/02/19 16:31	11/21/19 17:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Atrazine-d5	*70*		*60 - 142*	*11/02/19 16:31*	*11/21/19 17:32*	*1*
Diuron-d6	*81*		*50 - 150*	*11/02/19 16:31*	*11/21/19 17:32*	*1*

Default Detection Limits

Client: GHD Services Inc.
Job ID: 180-97287-2
Project/Site: San Jacinto River Waste Pits Superfund

Method: 8321A - Carbamates (LC/MS) - TCLP

Prep: 3535
Leach: 1311

Analyte	RL	MDL	Units
Methomyl	1.0	0.16	ug/L

Surrogate Summary

Client: GHD Services Inc.
Job ID: 180-97287-2
Project/Site: San Jacinto River Waste Pits Superfund

Method: 8321A - Carbamates (LC/MS)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
		ATR	DRNd6						
Lab Sample ID	**Client Sample ID**	**(60-142)**	**(50-150)**						
LCS 280-476273/2-A	Lab Control Sample	72	86						
LCSD 280-476273/3-A	Lab Control Sample Dup	73	87						
MB 280-476273/1-A	Method Blank	73	89						

Surrogate Legend

ATR = Atrazine-d5

DRNd6 = Diuron-d6

Method: 8321A - Carbamates (LC/MS)

Matrix: Solid **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)							
		ATR	DRNd6						
Lab Sample ID	**Client Sample ID**	**(60-142)**	**(50-150)**						
180-97287-1	11187072-NORTH-IMPCT-INITI	70	81						

Surrogate Legend

ATR = Atrazine-d5

DRNd6 = Diuron-d6

QC Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-97287-2

Method: 8321A - Carbamates (LC/MS)

Lab Sample ID: MB 280-476273/1-A
Matrix: Solid
Analysis Batch: 478590

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 476273

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methomyl	ND		1.3	0.21	ug/L		11/02/19 16:31	11/21/19 17:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Atrazine-d5	*73*		*60 - 142*	*11/02/19 16:31*	*11/21/19 17:07*	*1*
Diuron-d6	*89*		*50 - 150*	*11/02/19 16:31*	*11/21/19 17:07*	*1*

Lab Sample ID: LCS 280-476273/2-A
Matrix: Solid
Analysis Batch: 478590

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 476273

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Methomyl			2.67	2.61		ug/L		98	55 - 143		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Atrazine-d5	*72*		*60 - 142*
Diuron-d6	*86*		*50 - 150*

Lab Sample ID: LCSD 280-476273/3-A
Matrix: Solid
Analysis Batch: 478590

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 476273

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methomyl			2.67	2.05		ug/L		77	55 - 143	24	40

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Atrazine-d5	*73*		*60 - 142*
Diuron-d6	*87*		*50 - 150*

QC Association Summary

Client: GHD Services Inc.
Job ID: 180-97287-2
Project/Site: San Jacinto River Waste Pits Superfund

LCMS

Leach Batch: 475665

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-97287-1	11187072-NORTH-IMPCT-INITIALS	TCLP	Solid	1311	

Prep Batch: 476273

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-97287-1	11187072-NORTH-IMPCT-INITIALS	TCLP	Solid	3535	475665
MB 280-476273/1-A	Method Blank	Total/NA	Solid	3535	
LCS 280-476273/2-A	Lab Control Sample	Total/NA	Solid	3535	
LCSD 280-476273/3-A	Lab Control Sample Dup	Total/NA	Solid	3535	

Analysis Batch: 478590

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-97287-1	11187072-NORTH-IMPCT-INITIALS	TCLP	Solid	8321A	476273
MB 280-476273/1-A	Method Blank	Total/NA	Solid	8321A	476273
LCS 280-476273/2-A	Lab Control Sample	Total/NA	Solid	8321A	476273
LCSD 280-476273/3-A	Lab Control Sample Dup	Total/NA	Solid	8321A	476273

Lab Chronicle

Client: GHD Services Inc.
Job ID: 180-97287-2
Project/Site: San Jacinto River Waste Pits Superfund

Client Sample ID: 11187072-NORTH-IMPCT-INITIALS
Lab Sample ID: 180-97287-1

Date Collected: 10/15/19 15:00
Matrix: Solid
Date Received: 10/16/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			1.0 g	1.0 mL	475665	10/28/19 18:21	DFB1	TAL DEN
TCLP	Prep	3535			256.6 mL	10 mL	476273	11/02/19 16:31	KSA	TAL DEN
TCLP	Analysis	8321A		1			478590	11/21/19 17:32	HKF	TAL DEN
	Instrument ID:	LC_LCMS3								

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Analyst References:

Lab: TAL DEN

Batch Type: Leach

DFB1 = David Bourgery

Batch Type: Prep

KSA = Kayla Anders

Batch Type: Analysis

HKF = Heather Fiedler

Accreditation/Certification Summary

Client: GHD Services Inc. Job ID: 180-97287-2
Project/Site: San Jacinto River Waste Pits Superfund

Laboratory: Eurofins TestAmerica, Pittsburgh

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704528-15-2	03-31-20

Laboratory: Eurofins TestAmerica, Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-21
A2LA	ISO/IEC 17025	2907.01	10-31-21
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	01-08-20
Arizona	State	AZ0713	12-20-19
Arkansas DEQ	State	19-047-0	06-01-20
California	State	2513	01-08-20
Connecticut	State	PH-0686	09-30-20
Florida	NELAP	E87667-57	06-30-20
Georgia	State	4025-011	01-08-20
Illinois	NELAP	2000172019-1	04-30-20
Iowa	State	IA#370	12-01-20
Kansas	NELAP	E-10166	04-30-20
Louisiana	NELAP	30785	06-30-20
Maine	State	2019011 (231)	03-03-21
Minnesota	NELAP	1545373	12-31-19
Nevada	State	CO000262020-1	07-31-20
New Hampshire	NELAP	205319	04-28-20
New Jersey	NELAP	190002	06-30-20
New York	NELAP	59923	04-01-20
North Carolina (WW/SW)	State	358	12-31-19
North Dakota	State	R-034	01-08-20
Oregon	NELAP	4025-011	01-08-20
Pennsylvania	NELAP	013	08-01-20
South Carolina	State	72002001	01-08-20
Texas	NELAP	T104704183-19-17	09-30-20
US Fish & Wildlife	Federal		07-31-20
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	Federal		03-26-21
USDA	US Federal Programs	P330-18-00099	03-26-21
Utah	NELAP	CO000262019-11	07-31-20
Virginia	NELAP	10490	06-14-20
Washington	State	C583-19	08-05-20
West Virginia DEP	State	354	11-30-20
Wisconsin	State	999615430	08-31-20
Wyoming (UST)	A2LA	2907.01	10-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: GHD Services Inc.
Job ID: 180-97287-2
Project/Site: San Jacinto River Waste Pits Superfund

Method	Method Description	Protocol	Laboratory
8321A	Carbamates (LC/MS)	SW846	TAL DEN
1311	TCLP Extraction	SW846	TAL DEN
3535	Solid-Phase Extraction (SPE)	SW846	TAL DEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Sample Summary

Client: GHD Services Inc.
Job ID: 180-97287-2
Project/Site: San Jacinto River Waste Pits Superfund

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-97287-1	11187072-NORTH-IMPCT-INITIALS	Solid	10/15/19 15:00	10/16/19 09:00	

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Denver Job No.: 180-97287-2

SDG No.:

Instrument ID: LC_LCMS3 Analysis Batch Number: 478588

Lab Sample ID: STD0025 280-478588/4 IC Client Sample ID:

Date Analyzed: 11/21/19 14:00 Lab File ID: CP319K20034.d GC Column: Synergi Hydro ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Fluometuron	3.44	Baseline	fiedlerh	11/22/19 19:08
Propham	4.21	Baseline	fiedlerh	11/22/19 19:09

Lab Sample ID: STD005 280-478588/5 IC Client Sample ID:

Date Analyzed: 11/21/19 14:09 Lab File ID: CP319K20035.d GC Column: Synergi Hydro ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Fluometuron	3.42	Baseline	fiedlerh	11/22/19 19:07

Lab Sample ID: STD010 280-478588/6 IC Client Sample ID:

Date Analyzed: 11/21/19 14:17 Lab File ID: CP319K20036.d GC Column: Synergi Hydro ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Fluometuron	3.44	Baseline	fiedlerh	11/22/19 18:59

Lab Sample ID: STD020 280-478588/7 IC Client Sample ID:

Date Analyzed: 11/21/19 14:25 Lab File ID: CP319K20037.d GC Column: Synergi Hydro ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Diuron	3.73	Baseline	fiedlerh	11/22/19 18:38

8321A

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Denver Job No.: 180-97287-2

SDG No.:

Instrument ID: LC_LCMS3 Analysis Batch Number: 478590

Lab Sample ID: CCV050 280-478590/26 Client Sample ID:

Date Analyzed: 11/21/19 16:59 Lab File ID: CP319K20056.d GC Column: Synergi Hydro ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Aminocarb	0.72	Baseline	fiedlerh	11/22/19 19:15

8321A

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Denver Job No.: 180-97287-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
CARB LCS_00044	06/27/20	10/03/19	Acetonitrile, Lot Acetonitrile_00227	10 mL	CARBAldicarbU_00030	200 uL	Aldicarb	2 ug/mL
					CARBUltraMix_00031	200 uL	Aminocarb	2 ug/mL
							Carbamicacid,methyl4-dimethylamino-3,5-xylyl ester	2 ug/mL
							Carbanilic acid,m-chloro-4-chloro-2-butynyl ester	2 ug/mL
							Carbaryl	2 ug/mL
							Carbofuran	2 ug/mL
							Chlorpropham	2 ug/mL
							Diuron	2 ug/mL
							Fenuron	2 ug/mL
							Fluometuron	2 ug/mL
							Linuron	2 ug/mL
							Methiocarb	2 ug/mL
							Methomyl	2 ug/mL
							Monuron	2 ug/mL
							Neburon	2 ug/mL
							Oxamyl	2 ug/mL
							Propham	2 ug/mL
							Propoxur	2 ug/mL
							Siduron	2 ug/mL
							Swep	2 ug/mL
.CARBAldicarbU_00030	01/31/21	Agilent, Lot CS-5906			(Purchased Reagent)		Aldicarb	100 ug/mL
.CARBUltraMix_00031	07/31/21	Agilent (was Ultra), Lot 0006471399			(Purchased Reagent)		Aminocarb	100 ug/mL
							Carbamicacid,methyl4-dimethylamino-3,5-xylyl ester	100 ug/mL
							Carbanilic acid,m-chloro-4-chloro-2-butynyl ester	100 ug/mL
							Carbaryl	100 ug/mL
							Carbofuran	100 ug/mL
							Chlorpropham	100 ug/mL
							Diuron	100 ug/mL
							Fenuron	100 ug/mL
							Fluometuron	100 ug/mL
							Linuron	100 ug/mL
							Methiocarb	100 ug/mL
							Methomyl	100 ug/mL
							Monuron	100 ug/mL
							Neburon	100 ug/mL
							Oxamyl	100 ug/mL
							Propham	100 ug/mL
							Propoxur	100 ug/mL
							Siduron	100 ug/mL
							Swep	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Denver Job No.: 180-97287-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
Carb_CS_Cal_00033	12/31/19	06/28/19	Acetonitrile, Lot 216037	10 mL	Atrazine_rest_00031	50 uL	Atrazine-d5	0.5 ug/mL
					Carb_CSaldica_00019	50 uL	Aldicarb	0.5 ug/mL
					Carb_prim_CS__00016	50 uL	Aminocarb	0.5 ug/mL
							Carbamicacid,methyl4-dimethylamino-3,5-xylyl ester	0.5 ug/mL
							Carbaryl	0.5 ug/mL
							Carbofuran	0.5 ug/mL
							Chlorpropham	0.5 ug/mL
							Diuron	0.5 ug/mL
							Fenuron	0.5 ug/mL
							Fluometuron	0.5 ug/mL
							Linuron	0.5 ug/mL
							Methiocarb	0.5 ug/mL
							Methomyl	0.5 ug/mL
							Monuron	0.5 ug/mL
							Neburon	0.5 ug/mL
							Propham	0.5 ug/mL
							Propoxur	0.5 ug/mL
							Siduron	0.5 ug/mL
					Diurond6_res_00030	50 uL	Diuron-d6	0.505 ug/mL
.Atrazine_rest_00031	02/28/22	restek, Lot A0145963			(Purchased Reagent)		Atrazine-d5	100 ug/mL
.Carb_CSaldica_00019	09/30/20	Chem Service, Lot 8269500			(Purchased Reagent)		Aldicarb	100 ug/mL
.Carb_prim_CS__00016	12/31/19	06/28/19	Acetonitrile, Lot 216037	10 mL	Carb_Chemserv_00014	1 mL	Aminocarb	100 ug/mL
							Carbamicacid,methyl4-dimethylamino-3,5-xylyl ester	100 ug/mL
							Carbaryl	100 ug/mL
							Carbofuran	100 ug/mL
							Chlorpropham	100 ug/mL
							Diuron	100 ug/mL
							Fenuron	100 ug/mL
							Fluometuron	100 ug/mL
							Linuron	100 ug/mL
							Methiocarb	100 ug/mL
							Methomyl	100 ug/mL
							Monuron	100 ug/mL
							Neburon	100 ug/mL
							Propham	100 ug/mL
							Propoxur	100 ug/mL
							Siduron	100 ug/mL
..Carb_Chemserv_00014	12/31/19	Chemservice, Lot 8618300			(Purchased Reagent)		Aminocarb	1000 ug/mL
							Carbamicacid,methyl4-dimethylamino-3,5-xylyl ester	1000 ug/mL
							Carbaryl	1000 ug/mL
							Carbofuran	1000 ug/mL
							Chlorpropham	1000 ug/mL
							Diuron	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Denver Job No.: 180-97287-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Fenuron	1000 ug/mL
							Fluometuron	1000 ug/mL
							Linuron	1000 ug/mL
							Methiocarb	1000 ug/mL
							Methomyl	1000 ug/mL
							Monuron	1000 ug/mL
							Neburon	1000 ug/mL
							Propham	1000 ug/mL
							Propoxur	1000 ug/mL
							Siduron	1000 ug/mL
.Diurond6_res_00030	12/31/20		restek, Lot A0138080		(Purchased Reagent)		Diuron-d6	101 ug/mL
CARB_Prep_Sur_00057	04/24/20	10/24/19	Acetonitrile, Lot ACN_00226	25 mL	Atrazine_rest_00030	0.075 mL	Atrazine-d5	5.02 ug/mL
					Atrazine_rest_00035	1.18 mL	Atrazine-d5	5.02 ug/mL
					Diurond6_res_00031	1.25 mL	Diuron-d6	5.05 ug/mL
.Atrazine_rest_00030	10/31/21		restek, Lot A0142761		(Purchased Reagent)		Atrazine-d5	100 ug/mL
.Atrazine_rest_00035	06/30/22		restek, Lot A0150086		(Purchased Reagent)		Atrazine-d5	100 ug/mL
.Diurond6_res_00031	12/31/20		restek, Lot A0138080		(Purchased Reagent)		Diuron-d6	101 ug/mL

Reagent

Atrazine_rest_00030

RESTEK® CERTIFIED REFERENCE MATERIAL

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Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

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Reference Material Producer
Certificate #3222.01

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ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31984 **Lot No.:** A0142761

Description : Atrazine-d5 Standard

Atrazine-d5 Standard 100µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : October 31, 2021 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Atrazine-d5 **CAS #** 163165-75-1 (Lot C-323) **Purity** 99%	101.0 µg/mL	+/- 0.7162 +/- 4.6575 +/- 4.7758	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID

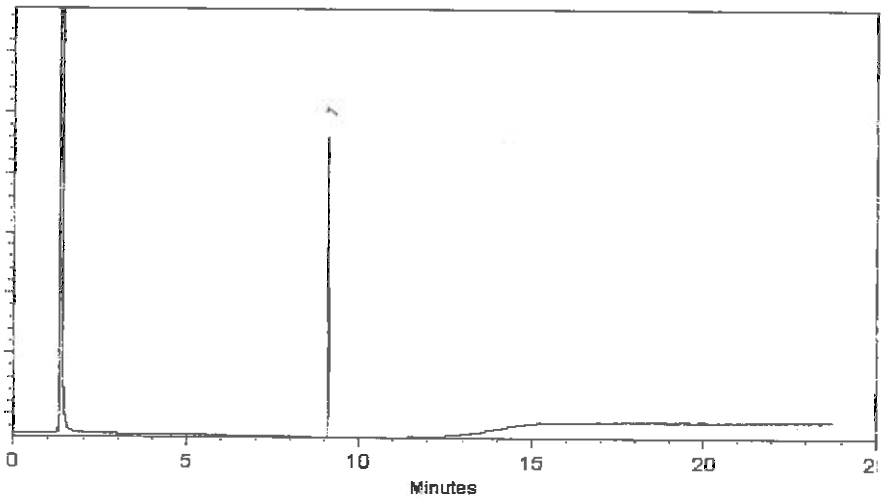

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Clara Windle - Operations Technician I

Date Mixed: 29-Oct-2018 **Balance:** B442140311

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 31-Oct-2018

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

Atrazine_rest_00031

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31984 **Lot No.:** A0145963

Description : Atrazine-d5 Standard

Atrazine-d5 Standard 100µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 28, 2022 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Atrazine-d5	100.0 µg/mL	+/- 0.7091	µg/mL	Gravimetric
	CAS # 163165-75-1 (Lot C-323)		+/- 4.6114	µg/mL	Unstressed
	Purity 99%		+/- 4.7285	µg/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID

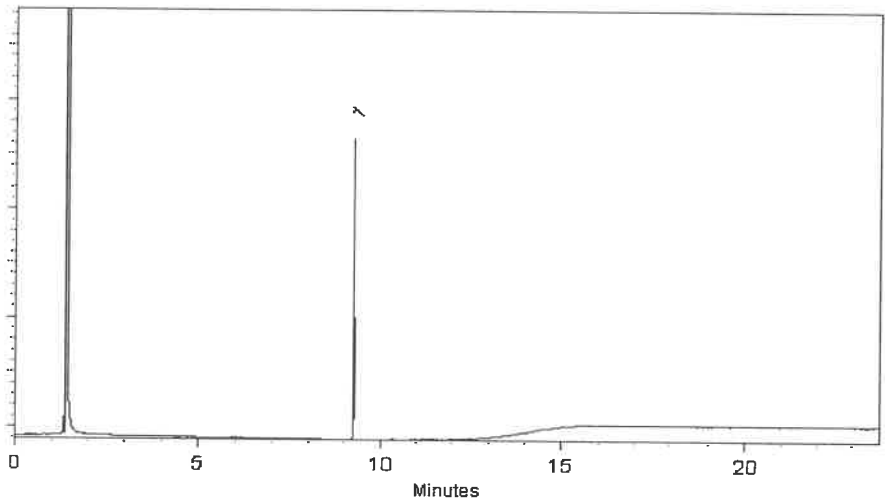

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Jessica McClenahan - Operations Technician I

Date Mixed: 12-Feb-2019 **Balance:** 1128360905

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 15-Feb-2019

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

Atrazine_rest_00035

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31984 **Lot No.:** A0150086

Description : Atrazine-d5 Standard

Atrazine-d5 Standard 100µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2022 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Atrazine-d5 **CAS #** 163165-75-1 (Lot CD-233) **Purity** 99%	100.0 µg/mL	+/- 0.7091	µg/mL	Gravimetric
			+/- 4.6114	µg/mL	Unstressed
			+/- 4.7285	µg/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID

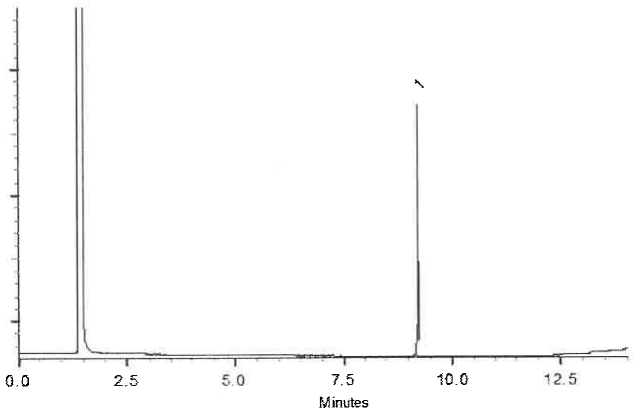

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Russ Bookhamer - Operations Technician I

Date Mixed: 13-Jun-2019 **Balance:** 1128360905

Justine Albertson - Operations Tech-ARM QC

Date Passed: 17-Jun-2019

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

Reagent

Carb_Chemserv_00014

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info@chemservice.com • www.chemservice.com

CERTIFICATE OF ANALYSIS

Carbamate & Urea Pesticides Mixture #2 - 632

CONCENTRATION	1000ug/ml in Acetonitrile
CATALOG NUMBER	M-CUP6322A4-1ML
LOT NUMBER	8618300
DATE CERTIFIED	06/05/19
EXPIRATION DATE	12/31/19
STORAGE	Room Temperature
HANDLING	See Safety Data Sheet
INTENDED USE	For laboratory use only.
ISO GUIDE 34 CERTIFIED	[X]

ID	Analyte	CAS	Weight Analyte (mg)	Lot	Purity	Certified Concentration (ug/mL)
N-11065	Aminocarb	2032-59-9	50.400	00020021	99.50	1003.0
N-11123	Barban	101-27-9	50.600	00022587	99.00	1001.9
N-11402	Carbaryl	63-25-2	50.400	00015538	99.50	1003.0
N-11405	Carbofuran	1563-66-2	50.400	6924500	99.50	1003.0
N-11458	Chlorpropham	101-21-3	51.100	00025239	97.90	1000.5
N-11827	Diuron	330-54-1	50.500	5612200	99.50	1005.0
N-11967	Fenuron	101-42-8	50.800	8076500	99.50	1010.9
N-11992	Fluometuron	2164-17-2	50.500	00015176	99.50	1005.0
N-12322	Linuron	330-55-2	50.400	00016253	99.50	1003.0
N-12398	Methiocarb	2032-65-7	50.300	4971100	99.50	1001.0
N-12399	Methomyl	16752-77-5	50.800	00019348	99.10	1006.9
N-12497	Monuron	150-68-5	50.400	00018043	99.20	999.9
N-12647	Neburon	555-37-3	50.500	00017499	99.50	1005.0
N-12735	Oxamyl	23135-22-0	50.400	00018587	99.50	1003.0
N-13109	Propham	122-42-9	50.600	3524400	99.50	1006.9
N-11128	Propoxur	114-26-1	50.700	00024127	99.00	1003.9
N-13211	Siduron	1982-49-6	50.600	4245300	99.50	1006.9
N-13260	SWEP	1918-18-9	50.600	8172900	99.50	1006.9
N-13753	Zectran	315-18-4	51.200	00022831	98.10	1004.5

Analytical Test	Value
CONCENTRATION (HPLC)	VERIFIED

Chem Service, Inc. is accredited to ISO Guide 34:2009, ISO/IEC 17025:2005 and certified to ISO 9001:2008

ISO/IEC 17025 Accreditation Number: 63520
ISO GUIDE 34 Accreditation Number: 63520

COA Form
Revision 3 (3/2015)

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1-800-452-9994 • 1-610-692-3026 • Fax 1-610-692-8729
info@chemservice.com • www.chemservice.com

CERTIFICATE OF ANALYSIS

Instructions for Use:
Shake mixture prior to use. If particles are present, sonicate for homogeneity. If sample is diluted to lower concentrations, Class A volumetric glassware must be used.
Minimum Sample Size- 0.2 uL for Direct Injection.
Chem Service Inc. guarantees the expanded uncertainty of the above analytes to be +/- 2.0% of the certified concentrations based on gravimetric preparation. The test results published in this report were obtained using equipment capable of producing results that are traceable to NIST and through NIST to the International System of Units (SI). The reported expanded uncertainty of measurement is stated as the combined standard uncertainty of measurement multiplied by the coverage factor k (k=2) such that the coverage probability corresponds to approximately 95%. For certified reference materials, homogeneity and thermal stability testing are available upon request.

Certified By:

Mary Beth O'Donnell

Mary Beth O'Donnell
CSM/TC

Chem Service, Inc. is accredited to ISO Guide 34:2009, ISO/IEC 17025:2005 and certified to ISO 9001:2008

PJLA
ISO/IEC 17025
Accreditation Number: 63520

PJLA
Reference Material Producer
ISO GUIDE 34
Accreditation Number: 63520

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CERTIFICATE OF ANALYSIS

HPLC Sample Report

Sample name: M-CUP6322A4

Injection Data File Name M-CUP6322A4.D

Injection Acquired Date 6/4/2019 3:31:27 PM

Column Name Raptor Biphenyl **Injection volume:** 0.400

Sample Vial Number 4

Acq. method: alan.M
Analysis method: alan.M

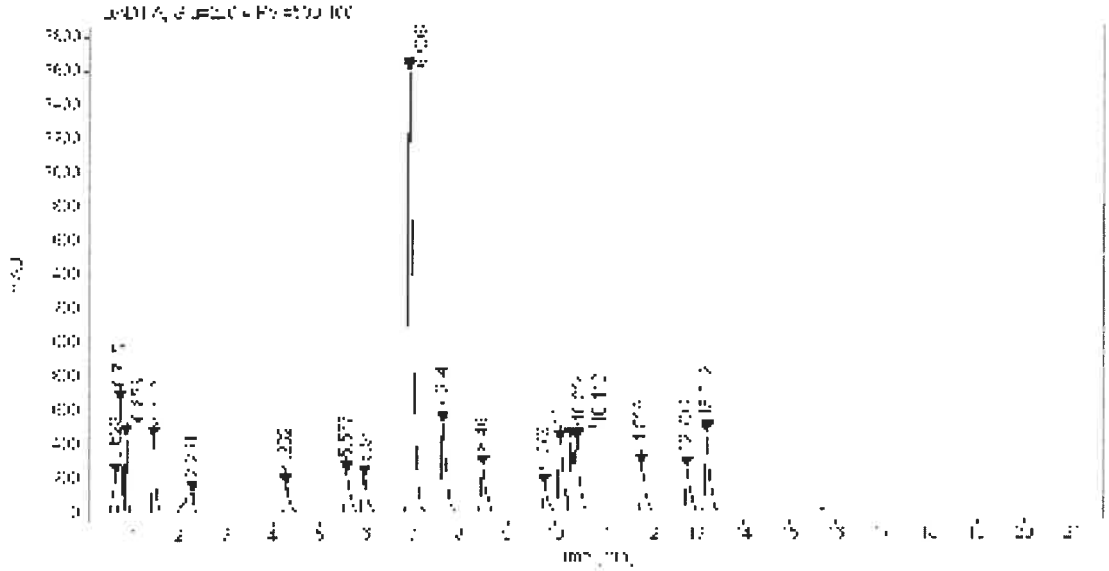

Chem Service, Inc. is accredited to ISO Guide 34:2009, ISO/IEC 17025:2005 and certified to ISO 9001:2008

ISO/IEC 17025 Accreditation Number:63520
ISO GUIDE 34 Accreditation Number:63520

CHEM SERVICE INC

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info@chemservice.com • www.chemservice.com

CERTIFICATE OF ANALYSIS

HPLC Sample Report

Signal: DAD1 A, Sig=220,4 Ref=500,100

RT [min]	Type	Width [min]	Area	Height	Area%	Name
0.623	BV	0.0749	707.8055	147.8532	2.0723	
0.715	VV	0.0482	1340.0430	420.6989	3.9233	
0.853	VB	0.0494	954.5800	289.8801	2.7948	
1.442	BB	0.0615	1204.6067	283.8322	3.5268	
2.261	BB	0.1549	906.7086	74.5661	2.6546	
4.282	BB	0.1027	727.0323	102.6217	2.1286	
5.577	BV	0.1001	1047.6161	150.7953	3.0672	
5.941	VB	0.0991	939.7137	136.7870	2.7512	
6.906	BB	0.1055	12685.0400	1672.0262	37.1385	
7.634	BB	0.0952	2212.4404	334.3132	6.4775	
8.460	BB	0.1054	1286.9805	175.9125	3.7679	
9.778	BB	0.0881	623.3257	100.9126	1.8249	
10.100	BV	0.0972	1764.3790	263.1732	5.1656	
10.324	VV	0.0811	1495.7662	276.6998	4.3792	
10.443	VB	0.1031	1962.2175	268.8651	5.7449	
11.828	BB	0.1036	1224.0406	170.8120	3.5837	
12.796	BB	0.0965	1090.0214	162.0232	3.1913	
13.212	BB	0.0958	1963.6792	293.8496	5.8077	
		Sum	34155.9965			

Chem Service, Inc. is accredited to ISO Guide 34:2009, ISO/IEC 17025:2005 and certified to ISO 9001:2008

ISO/IEC 17025 Accreditation Number 63520
ISO GUIDE 34 Accreditation Number 63520

Reagent

Carb_CSaldica_00019

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CERTIFICATE OF ANALYSIS

Aldicarb Solution

CONCENTRATION	100ug/ml in Methanol
CATALOG NUMBER	S-11044M1-1ML
LOT NUMBER	8269500
DATE CERTIFIED	03/05/19
EXPIRATION DATE	09/30/20
STORAGE	Room Temperature
HANDLING	See Safety Data Sheet
INTENDED USE	For laboratory use only.
ISO GUIDE 34 CERTIFIED	[X]

ID	Analyte	CAS	Weight Analyte (mg)	Lot	Purity	Certified Concentration (ug/mL)
N-11044	Aldicarb	116-06-3	5.010	00023634	98.90	99.1

Analytical Test	Value
CONCENTRATION (HPLC)	VERIFIED

Instructions for Use:
Mix/shake solution prior to use. If particles are present, sonicate for homogeneity. If sample is diluted to lower concentrations, Class A volumetric glassware must be used.
Minimum Sample Size- 0.2 uL for Direct Injection.
Chem Service Inc. guarantees the expanded uncertainty of the above analyte to be +/- 2.0% of the certified concentration based on gravimetric preparation. The test results published in this report were obtained using equipment capable of producing results that are traceable to NIST and through NIST to the International System of Units (SI). The reported expanded uncertainty of measurement is stated as the combined standard uncertainty of measurement multiplied by the coverage factor k (k=2) such that the coverage probability corresponds to approximately 95%. For certified reference materials, homogeneity and thermal stability testing are available upon request.

Certified By:

Mary Beth O'Donnell

Mary Beth O'Donnell
CSM/TC

Chem Service, Inc. is accredited to ISO Guide 34:2009, ISO/IEC 17025:2005 and certified to ISO 9001:2008

ISO/IEC 17025 Accreditation Number 63520
ISO GUIDE 34 Accreditation Number 63520

COA Form
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CERTIFICATE OF ANALYSIS

HPLC Sample Report

Sample name: S-11044M1

Injection Data File Name S-11044M1 2.D

Injection Acquired Date 3/5/2019 7:38:54 AM

Column Name Raptor Biphenyl **Injection volume:** 2.000

Acq. method: 225-75ACN.M Sample Vial Number 1

Analysis method: 225-75ACN.M

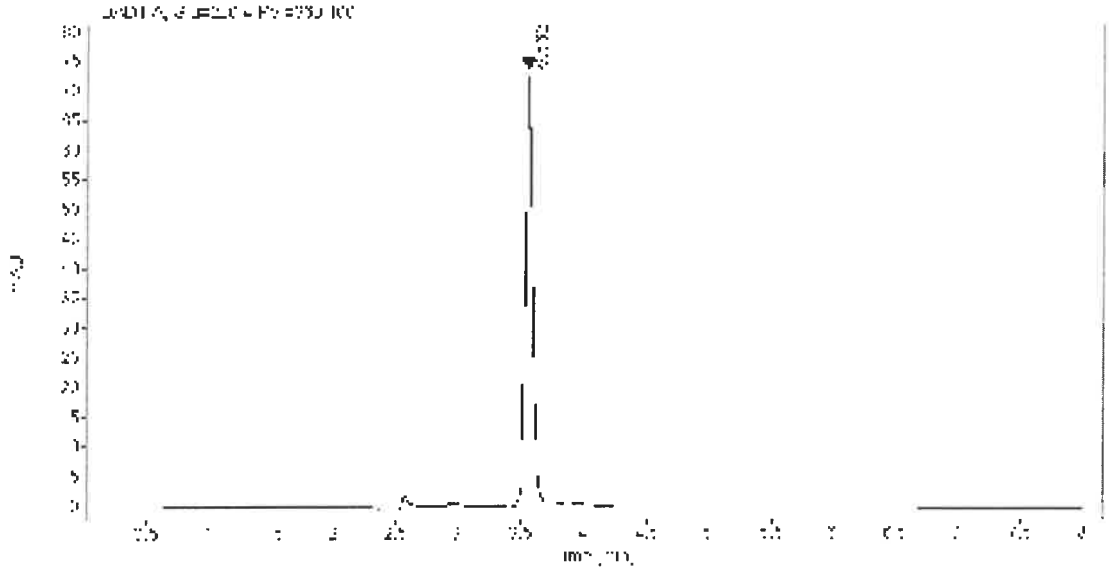

Signal: DAD1 A, Sig=220,4 Ref=360,100

RT [min]	Type	Width [min]	Area	Height	Area%	Name
3.562	BV R	0.0583	179.1609	46.1487	100.0000	
		Sum	179.1609			

Chem Service, Inc. is accredited to ISO Guide 34:2009, ISO/IEC 17025:2005 and certified to ISO 9001:2008

ISO/IEC 17025 Accreditation Number:63520
ISO GUIDE 34 Accreditation Number:63520

Reagent

CARBAldicarbU_00030

Agilent

Certificate of Analysis
ISO Guide 34

Aldicarb Standard

Product Number:	PST-940A100A01			**Page:**	1 of 1
Lot Number:	CS-5906	**Lot Issue Date:**	13-Dec-2018	**Expiration Date:**	31-Jan-2021

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with Agilent's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
aldicarb	000116-06-3	RM14309	100.3 ± 0.5 µg/mL

Matrix: acetonitrile

Storage: Store at Room Temperature (15° to 30°C).

Agilent uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

Monica Bourgeois
QMS Representative

Received AR
6/21/19

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER
ISO Guide 34 Cert No.
AR-1936

Produced in accordance with TUV USA Inc 56 100 18560026
registered ISO 9001 Quality Managment System

ANAB ACCREDITED TESTING LABORATORY
ISO17025 Cert No.
AT-1937

250 Smith Street North Kingstown, Rhode Island 02852 www.agilent.com/quality

Reagent

CARBUltraMix_00031

Agilent

Certificate of Analysis
ISO 17034

Carbamate Pesticides Standard

Product Number: PPM-632A-1 **Page:** 1 of 2

Lot Number: 0006471399 **Lot Issue Date:** 06-Jun-2019 **Expiration Date:** 31-Jul-2021

This ISO 17034 Reference Material (RM) was manufactured and verified in accordance with Agilent's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
aminocarb	002032-59-9	RM02656	100.1 ± 0.5 µg/mL
barban	000101-27-9	RM10772	100.3 ± 0.5 µg/mL
carbaryl	000063-25-2	RM11068	100.2 ± 0.5 µg/mL
carbofuran	001563-66-2	RM12282	100.2 ± 0.5 µg/mL
chlorpropham	000101-21-3	RM02736	100.4 ± 0.5 µg/mL
diuron	000330-54-1	RM14124	100.4 ± 0.5 µg/mL
fenuron	000101-42-8	RM02972	100.2 ± 0.5 µg/mL
fluometuron	002164-17-2	RM12971	100.4 ± 0.5 µg/mL
linuron	000330-55-2	RM14683	100.4 ± 0.5 µg/mL
methiocarb	002032-65-7	RM14577	100.4 ± 0.5 µg/mL
methomyl	016752-77-5	RM14356	100.4 ± 0.5 µg/mL
mexacarbate	000315-18-4	NT00502	100.4 ± 0.5 µg/mL
monuron	000150-68-5	RM12469	100.1 ± 0.5 µg/mL
neburon	000555-37-3	RM14707	100.3 ± 0.5 µg/mL
oxamyl	023135-22-0	rm14790-03	100.4 ± 0.5 µg/mL
propham	000122-42-9	RM03274	100.1 ± 0.5 µg/mL
propoxur	000114-26-1	RM11363	100.4 ± 0.5 µg/mL
siduron (mix of isomers)	001982-49-6	RM03313	100.3 ± 0.5 µg/mL
SWEP	001918-18-9	RM03322	100.1 ± 0.5 µg/mL

Matrix: methanol (methyl alcohol)

Storage: Store Frozen (-25° to -10°C).

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER
ISO 17034 Cert No. AR-1936

Produced in accordance with TUV USA Inc 56 100 18560026 registered ISO 9001 Quality Management System

ANAB ACCREDITED TESTING LABORATORY
ISO17025 Cert No. AT-1937

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Certificate of Analysis
ISO 17034

Carbamate Pesticides Standard

Product Number: PPM-632A-1 **Page:** 2 of 2

Lot Number: 0006471399 **Lot Issue Date:** 06-Jun-2019 **Expiration Date:** 31-Jul-2021

Analyte	CAS#	Analyte Lot	True Value

Agilent uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

Monica Bourgeois
QMS Representative

ISO 17034 Cert No.
AR-1936

Produced in accordance with TUV USA Inc 56 100 18560026
registered ISO 9001 Quality Management System

ISO17025 Cert No.
AT-1937

Reagent

Diurond6_res_00030

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Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31989 **Lot No.:** A0138080

Description : Diuron-d6 Standard

Diuron-d6 Standard 100µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : December 31, 2020 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Diuron-d6	100.0 µg/mL	+/- 0.7091	µg/mL	Gravimetric
	CAS # 1007536-67-5 (Lot H-432)		+/- 7.3281	µg/mL	Unstressed
	Purity 99%		+/- 20.7024	µg/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Column:
150mm x 4.6mm
Allure C18 Cat.(#9164565)

Flow Rate:
1.0 ml/min.

Mobile Phase A:
0.14% H3PO4 in water

Mobile Phase B:
acetonitrile

Mobile Phase Composition:
90%B Isocratic

Det. Type:
Wavelength: 220 & 254 nm

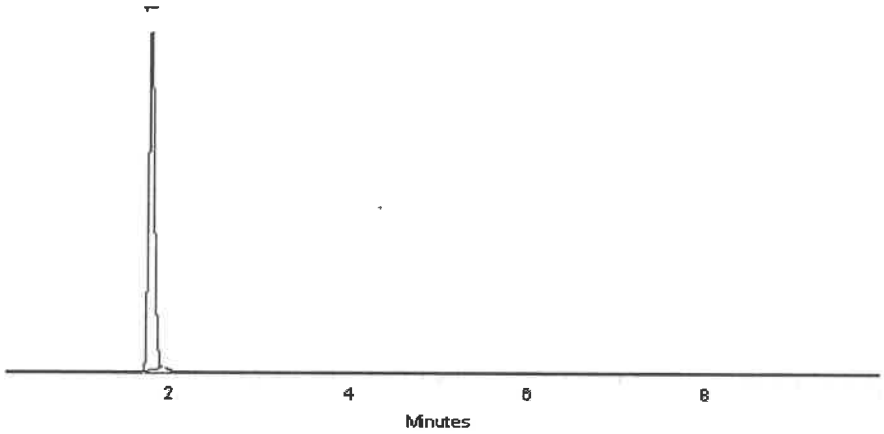

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Dustin J Lidgett
Dustin Lidgett - Mix Technician

Date Mixed: 16-May-2018 **Balance:** B442140311

Jennifer L Pollino
Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 21-May-2018

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

Reagent

Diurond6_res_00031

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31989 **Lot No.:** A0138080

Description : Diuron-d6 Standard

Diuron-d6 Standard 100µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : December 31, 2020 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Diuron-d6	100.0 µg/mL	+/- 0.7091 µg/mL	Gravimetric
	CAS # 1007536-67-5 (Lot H-432)		+/- 7.3281 µg/mL	Unstressed
	Purity 99%		+/- 20.7024 µg/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Column:
150mm x 4.6mm
Allure C18 Cat.(#9164565)

Flow Rate:
1.0 ml/min.

Mobile Phase A:
0.14% H3PO4 in water

Mobile Phase B:
acetonitrile

Mobile Phase Composition:
90%B Isocratic

Det. Type:
Wavelength: 220 & 254 nm

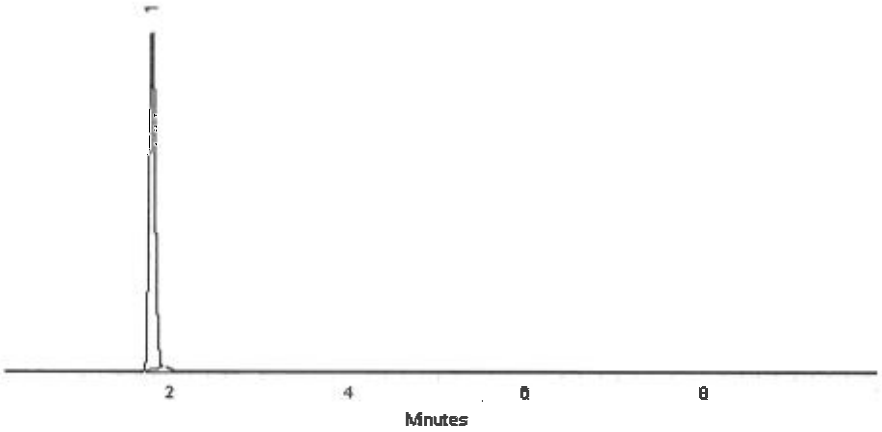

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Dustin J Lidgett

Dustin Lidgett - Mix Technician **Date Mixed:** 16-May-2018 **Balance:** B442140311

Jennifer J Pollino

Jennifer Pollino - Operations Tech-ARM QC **Date Passed:** 21-May-2018

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Method 8321A Carbamates

Carbamates (LCMS) by Method 8321A

FORM II
LCMS SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Denver Job No.: 180-97287-2

SDG No.:

Matrix: Solid (TCLP) Level: Low

GC Column (1): Synergi Hyd ID: 3 (mm)

Client Sample ID	Lab Sample ID	ATR #	DRNd6 #
11187072-NORTH-IMPCT-INITIALS	180-97287-1	70	81
	MB 280-476273/1-A	73	89
	LCS 280-476273/2-A	72	86
	LCSD 280-476273/3-A	73	87

	QC LIMITS
ATR = Atrazine-d5	60-142
DRNd6 = Diuron-d6	50-150

Column to be used to flag recovery values

FORM II 8321A

FORM III
LCMS LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Denver Job No.: 180-97287-2

SDG No.:

Matrix: Water Level: Low Lab File ID: CP319K20058.d

Lab ID: LCS 280-476273/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Methomyl	2.67	2.61	98	55-143	

Column to be used to flag recovery and RPD values

FORM III 8321A

FORM III
LCMS LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Denver Job No.: 180-97287-2

SDG No.:

Matrix: Water Level: Low Lab File ID: CP319K20059.d

Lab ID: LCSD 280-476273/3-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
Methomyl	2.67	2.05	77	24	40	55-143	

Column to be used to flag recovery and RPD values

FORM III 8321A

FORM IV
LCMS METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Denver Job No.: 180-97287-2

SDG No.:

Lab File ID: CP319K20057.d Lab Sample ID: MB 280-476273/1-A

Matrix: Water Date Extracted: 11/02/2019 16:31

Instrument ID: LC_LCMS3 Date Analyzed: 11/21/2019 17:07

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 280-476273/2-A	CP319K20058.d	11/21/2019 17:15
	LCSD 280-476273/3-A	CP319K20059.d	11/21/2019 17:23
11187072-NORTH-IMPCT-INITIALS	180-97287-1	CP319K20060.d	11/21/2019 17:32

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Denver
Job No.: 180-97287-2
SDG No.:
Client Sample ID: 11187072-NORTH-IMPCT-INITIALS
Lab Sample ID: 180-97287-1
Matrix: Solid (TCLP)
Lab File ID: CP319K20060.d
Analysis Method: 8321A
Date Collected: 10/15/2019 15:00
Extraction Method: 3535
Date Extracted: 11/02/2019 16:31
Sample wt/vol: 256.6(mL)
Date Analyzed: 11/21/2019 17:32
Con. Extract Vol.: 10(mL)
Dilution Factor: 1
Injection Volume: 20(uL)
GC Column: Synergi Hydro 4 ID: 3(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 478590
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
16752-77-5	Methomyl	ND		0.78	0.12

CAS NO.	SURROGATE	%REC	Q	LIMITS
163165-75-1	Atrazine-d5	70		60-142
STL01549	Diuron-d6	81		50-150

Eurofins TestAmerica, Denver
Target Compound Quantitation Report

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20060.d
Lims ID: 180-97287-B-1-C
Client ID: 11187072-NORTH-IMPCT-INITIALS
Sample Type: Client
Inject. Date: 21-Nov-2019 17:32:05 ALS Bottle#: 25 Worklist Smp#: 30
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 180-97287-B-1-C
Misc. Info.: CP319K20
Operator ID: Instrument ID: LC_LCMS3

Method: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\Carbs8321.m
Limit Group: LC - 8321A Carbamates
Last Update: 22-Nov-2019 19:24:59 Calib Date: 21-Nov-2019 14:49:37
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20040.d

Column 1 : Det: F1:MRM
Process Host: CTX0304

First Level Reviewer: fiedlerh Date: 22-Nov-2019 19:21:29
Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
$ 12 Atrazine-d5								
221.0 > 179.0	3.634	3.587	0.047	3567831	70.6		5148	
$ 13 Diuron-d6								
238.9 > 77.9	3.680	3.680	0.0	410531	82.2		1822	

Report Date: 22-Nov-2019 19:25:13 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Denver

Data File:	\\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20060.d				
Injection Date:	21-Nov-2019 17:32:05	Instrument ID:	LC_LCMS3		
Lims ID:	180-97287-B-1-C	Lab Sample ID:	280-97287-1		
Client ID:	11187072-NORTH-IMPCT-INITIALS				
Operator ID:		ALS Bottle#:	25	Worklist Smp#:	30
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	Carbs8321	Limit Group:	LC - 8321A Carbamates		

3 Methomyl (ND)

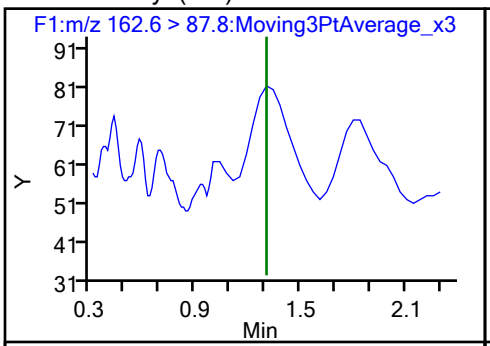

RT

$ 12 Atrazine-d5

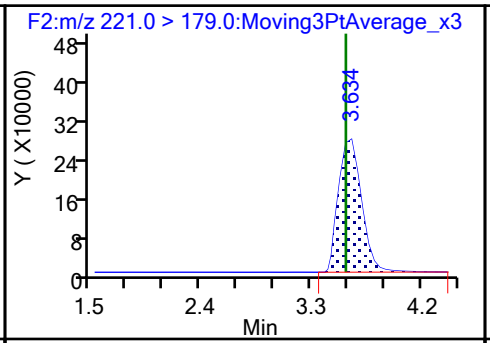

RT

$ 13 Diuron-d6

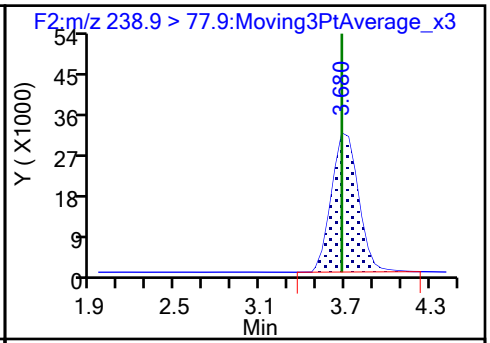

RT

Eurofins TestAmerica, Denver
Recovery Report

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20060.d
Lims ID: 180-97287-B-1-C
Client ID: 11187072-NORTH-IMPCT-INITIALS
Sample Type: Client
Inject. Date: 21-Nov-2019 17:32:05 ALS Bottle#: 25 Worklist Smp#: 30
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 180-97287-B-1-C
Misc. Info.: CP319K20
Operator ID: Instrument ID: LC_LCMS3

Method: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\Carbs8321.m
Limit Group: LC - 8321A Carbamates
Last Update: 22-Nov-2019 19:24:59 Calib Date: 21-Nov-2019 14:49:37
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20040.d

Column 1 : Det: F1:MRM
Process Host: CTX0304

First Level Reviewer: fiedlerh Date: 22-Nov-2019 19:21:29

Compound	Amount Added	Amount Recovered	% Rec.
$ 12 Atrazine-d5	100.4	70.6	70.32
$ 13 Diuron-d6	101.0	82.2	81.40

FORM VI
LCMS BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Denver Job No.: 180-97287-2 Analy Batch No.: 478588

SDG No.:

Instrument ID: LC_LCMS3 GC Column: Synergi Hyd ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/21/2019 14:00 Calibration End Date: 11/21/2019 14:49 Calibration ID: 40329

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0025 280-478588/4	CP319K20034.d
Level 2	STD005 280-478588/5	CP319K20035.d
Level 3	STD010 280-478588/6	CP319K20036.d
Level 4	STD020 280-478588/7	CP319K20037.d
Level 5	STD050 280-478588/8	CP319K20038.d
Level 6	STD100 280-478588/9	CP319K20039.d
Level 7	STD200 280-478588/10	CP319K20040.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7				RT WINDOW	AVG RT
Aminocarb	0.730	0.730	0.730	0.730	0.730	0.730	0.730				0.630 - 0.830	0.730
Mexacarbate	0.949	0.949	0.949	0.949	0.949	0.949	0.949				0.849 - 1.049	0.949
Methomyl	1.305	1.305	1.305	1.305	1.305	1.305	1.305				1.205 - 1.405	1.305
Fenuron	1.804	1.804	1.804	1.804	1.804	1.804	1.804				1.704 - 1.904	1.804
Aldicarb	2.522	2.522	2.522	2.522	2.522	2.522	2.522				2.422 - 2.622	2.522
Monuron	2.791	2.791	2.791	2.791	2.791	2.791	2.791				2.691 - 2.891	2.791
Propoxur	3.153	3.153	3.153	3.153	3.126	3.126	3.126				3.026 - 3.226	3.141
Carbofuran	3.205	3.205	3.205	3.205	3.205	3.205	3.205				3.105 - 3.305	3.205
Fluometuron	3.442	3.415	3.442	3.415	3.415	3.415	3.415				3.315 - 3.515	3.423
Carbaryl	3.494	3.494	3.494	3.494	3.494	3.494	3.494				3.394 - 3.594	3.494
Diuron	3.727	3.727	3.727	3.727	3.727	3.727	3.727				3.627 - 3.827	3.727
Propham	4.212	4.212	4.212	4.212	4.212	4.212	4.212				4.112 - 4.312	4.212
Siduron	4.398	4.398	4.398	4.398	4.398	4.398	4.398				4.298 - 4.498	4.398
Methiocarb	4.521	4.521	4.521	4.521	4.521	4.521	4.521				4.421 - 4.621	4.521
Linuron	4.703	4.703	4.703	4.703	4.703	4.703	4.703				4.603 - 4.803	4.703
Chlorpropham	5.228	5.228	5.228	5.228	5.228	5.228	5.228				5.128 - 5.328	5.228
Neburon	5.653	5.653	5.653	5.653	5.653	5.653	5.653				5.553 - 5.753	5.653
Atrazine-d5	3.587	3.587	3.587	3.587	3.587	3.587	3.587				3.487 - 3.687	3.587
Diuron-d6	3.680	3.680	3.680	3.680	3.680	3.680	3.680				3.580 - 3.780	3.680

FORM VI
LCMS BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Denver Job No.: 180-97287-2 Analy Batch No.: 478588

SDG No.:

Instrument ID: LC_LCMS3 GC Column: Synergi Hyd ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/21/2019 14:00 Calibration End Date: 11/21/2019 14:49 Calibration ID: 40329

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0025 280-478588/4	CP319K20034.d
Level 2	STD005 280-478588/5	CP319K20035.d
Level 3	STD010 280-478588/6	CP319K20036.d
Level 4	STD020 280-478588/7	CP319K20037.d
Level 5	STD050 280-478588/8	CP319K20038.d
Level 6	STD100 280-478588/9	CP319K20039.d
Level 7	STD200 280-478588/10	CP319K20040.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4		B	M1	M2								
Aminocarb	94012 112097	121163 102021	125997 54448	117599	Qua	-229104.52	146660.573	-454.03068						0.9980		0.9900
Mexacarbate	117154 123230	138887 112296	143408 102989	129692	Ave		123950.898				11.7		20.0			
Methomyl	7370.4 7365.3	7655.6 6724.7	8443.6 6064.8	8121.9	Ave		7392.32143				10.9		20.0			
Fenuron	29680 27617	34786 24027	33371 21299	30189	Ave		28709.7136				16.8		20.0			
Aldicarb	10342 7147.7	10884 5759.4	10606 4482.4	9155.4	Ave		8339.47429				30.7	*	20.0			
Monuron	13150 13672	14244 12705	15128 11986	14119	Ave		13572.0279				7.7		20.0			
Propoxur	44309 33727	47508 26374	46621 20981	40164	Ave		37097.4950				28.0	*	20.0			
Carbofuran	31019 30483	36509 27332	36376 25621	33114	Ave		31493.4079				13.3		20.0			
Fluometuron	4698.8 4953.1	5068.8 4588.7	5599.1 4457.0	4826.2	Ave		4884.51643				7.7		20.0			
Carbaryl	18615 22312	24461 19215	23734 18587	23197	Ave		21445.7836				11.9		20.0			
Diuron	2631.2 3604.3	3508.8 3396.8	3534.8 3303.3	3803.4	Ave		3397.50643				11.0		20.0			
Propham	1278.0 2871.3	3087.0 2814.2	3148.6 2903.5	2440.9	Lin1	-2142.3270	2889.29881							0.9970		0.9900
Siduron	13904 17311	17156 16975	16654 18167	15987	Ave		16593.4257				8.2		20.0			
Methiocarb	9584.4 10451	11411 9768.1	10235 9716.3	10710	Ave		10267.9429				6.4		20.0			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
LCMS BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Denver Job No.: 180-97287-2 Analy Batch No.: 478588

SDG No.:

Instrument ID: LC_LCMS3 GC Column: Synergi Hyd ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/21/2019 14:00 Calibration End Date: 11/21/2019 14:49 Calibration ID: 40329

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4		B	M1	M2								
Linuron	3538.4 4703.3	4373.6 4533.4	4642.6 4712.3	4744.1	Ave		4463.94286				9.6		20.0			
Chlorpropham	2605.6 2653.8	2889.8 2563.2	2646.3 2663.9	2838.1	Ave		2694.36500				4.5		20.0			
Neburon	11974 13447	12344 12812	13851 13005	13693	Ave		13017.8986				5.4		20.0			
Atrazine-d5	38152 59421	46938 45178	48339 58006	57695	Ave		50532.5464				15.9		20.0			
Diuron-d6	4440.0 5283.1	5428.3 4769.8	5277.3 4738.0	5017.0	Ave		4993.37553				7.2		20.0			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
LCMS BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Denver Job No.: 180-97287-2 Analy Batch No.: 478588

SDG No.:

Instrument ID: LC_LCMS3 GC Column: Synergi Hyd ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/21/2019 14:00 Calibration End Date: 11/21/2019 14:49 Calibration ID: 40329

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0025 280-478588/4	CP319K20034.d
Level 2	STD005 280-478588/5	CP319K20035.d
Level 3	STD010 280-478588/6	CP319K20036.d
Level 4	STD020 280-478588/7	CP319K20037.d
Level 5	STD050 280-478588/8	CP319K20038.d
Level 6	STD100 280-478588/9	CP319K20039.d
Level 7	STD200 280-478588/10	CP319K20040.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Aminocarb	Qua	235031 10202148	605815 10889605	1259974	2351980	5604873	2.50 100	5.00 200	10.0	20.0	50.0
Mexacarbate	Ave	292886 11229599	694433 20597887	1434082	2593842	6161478	2.50 100	5.00 200	10.0	20.0	50.0
Methomyl	Ave	18426 672474	38278 1212952	84436	162437	368265	2.50 100	5.00 200	10.0	20.0	50.0
Fenuron	Ave	74199 2402703	173929 4259735	333709	603783	1380842	2.50 100	5.00 200	10.0	20.0	50.0
Aldicarb	Ave	25854 575941	54420 896478	106058	183108	357386	2.50 100	5.00 200	10.0	20.0	50.0
Monuron	Ave	32876 1270465	71219 2397297	151284	282370	683598	2.50 100	5.00 200	10.0	20.0	50.0
Propoxur	Ave	110772 2637373	237538 4196237	466205	803273	1686350	2.50 100	5.00 200	10.0	20.0	50.0
Carbofuran	Ave	77548 2733230	182546 5124213	363755	662277	1524137	2.50 100	5.00 200	10.0	20.0	50.0
Fluometuron	Ave	11747 458867	25344 891391	55991	96523	247657	2.50 100	5.00 200	10.0	20.0	50.0
Carbaryl	Ave	46537 1921460	122303 3717423	237344	463933	1115616	2.50 100	5.00 200	10.0	20.0	50.0
Diuron	Ave	6578 339679	17544 660653	35348	76067	180217	2.50 100	5.00 200	10.0	20.0	50.0
Propham	Lin1	3195 281420	15435 580691	31486	48817	143563	2.50 100	5.00 200	10.0	20.0	50.0
Siduron	Ave	34760 1697537	85780 3633452	166539	319735	865535	2.50 100	5.00 200	10.0	20.0	50.0
Methiocarb	Ave	23961 976809	57054 1943262	102354	214192	522550	2.50 100	5.00 200	10.0	20.0	50.0
Linuron	Ave	8846 453335	21868 942456	46426	94881	235166	2.50 100	5.00 200	10.0	20.0	50.0

FORM VI
LCMS BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Denver Job No.: 180-97287-2 Analy Batch No.: 478588

SDG No.:

Instrument ID: LC_LCMS3 GC Column: Synergi Hyd ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/21/2019 14:00 Calibration End Date: 11/21/2019 14:49 Calibration ID: 40329

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Chlorpropham	Ave	6514 256319	14449 532771	26463	56761	132688	2.50 100	5.00 200	10.0	20.0	50.0
Neburon	Ave	29934 1281201	61719 2600964	138509	273868	672338	2.50 100	5.00 200	10.0	20.0	50.0
Atrazine-d5	Ave	95380 4517826	234689 11601101	483390	1153892	2971033	2.50 100	5.00 200	10.0	20.0	50.0
Diuron-d6	Ave	11211 481752	27413 957085	53301	101344	266796	2.53 101	5.05 202	10.1	20.2	50.5

Curve Type Legend:

Ave = Average
Lin1 = Linear 1/conc
Qua = Quadratic

Eurofins TestAmerica, Denver
Target Compound Quantitation Report

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20034.d
Lims ID: std0025
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 21-Nov-2019 14:00:56 ALS Bottle#: 2 Worklist Smp#: 4
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: STD0025
Misc. Info.: CP319K20
Operator ID: Instrument ID: LC_LCMS3
Sublist: chrom-Carbs8321*sub1

Method: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\Carbs8321.m
Limit Group: LC - 8321A Carbamates
Last Update: 22-Nov-2019 19:25:22 Calib Date: 21-Nov-2019 14:49:37
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20040.d

Column 1 : Det: F1:MRM
Process Host: CTX0304

First Level Reviewer: fiedlerh Date: 22-Nov-2019 19:14:28
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
1 Aminocarb								
209.0 > 152.0	0.730	0.730	0.0	235031	3.20		1843	
2 Carbamicacid,methyl4-dimethylamino								
223.0 > 165.9	0.949	0.949	0.0	292886	2.36		1539	
3 Methomyl								
162.6 > 87.8	1.305	1.305	0.0	18426	2.49		103	
4 Fenuron								
164.7 > 71.7	1.804	1.804	0.0	74199	2.58		443	
5 Aldicarb								
212.6 > 88.8	2.522	2.522	0.0	25854	3.10		44.0	
6 Monuron								
198.8 > 71.9	2.791	2.791	0.0	32876	2.42	Target=1.00	242	
198.8 > 125.9	2.829	2.791	0.038	0		0.00(0.90-1.10)		
7 Propoxur								
272.8 > 232.0	3.153	3.126	0.027	110772	2.99		135	
8 Carbofuran								
221.7 > 122.9	3.205	3.205	0.0	77548	2.46		302	
9 Fluometuron								M
232.6 > 45.7	3.442	3.415	0.027	11747	2.40		71.8	M
10 Carbaryl								
201.8 > 144.8	3.494	3.494	0.0	46537	2.17		281	
$ 12 Atrazine-d5								
221.0 > 179.0	3.587	3.587	0.0	95380	1.89		248	
$ 13 Diuron-d6								
238.9 > 77.9	3.680	3.680	0.0	11211	2.25		79.8	

Report Date: 22-Nov-2019 19:25:23 Chrom Revision: 2.3 09-Oct-2019 11:13:36
Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20034.d
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
11 Diuron								R
234.7 > 71.7	3.727	3.727	0.0	6578	1.94	Target=1.00	38.5	R
232.8 > 71.7	3.415	3.727	-0.312	62981		0.10(0.90-1.10)	609	
14 Propham								M
137.6 > 91.8	4.212	4.212	0.0	3195	1.85		13.2	M
15 Siduron								R
232.9 > 93.8	4.398	4.398	0.0	34760	2.09	Target=1.00	136	R
232.9 > 136.8	4.398	4.398	0.0	66602		0.52(0.90-1.10)	152	
16 Methiocarb								
225.8 > 168.9	4.521	4.521	0.0	23961	2.33		65.3	
17 Linuron								R
248.8 > 159.9	4.703	4.703	0.0	8846	1.98	Target=1.00	88.6	R
248.8 > 182.1	4.703	4.703	0.0	5412		1.63(0.90-1.10)	67.0	
18 Chlorpropham								R
214.0 > 153.8	5.228	5.228	0.0	6514	2.42	Target=1.00	70.8	R
214.0 > 171.9	5.228	5.228	0.0	10422		0.63(0.90-1.10)	68.4	
19 Neburon								R
275.0 > 88.0	5.653	5.653	0.0	29934	2.30	Target=1.00	283	R
275.0 > 114.0	5.653	5.653	0.0	12430		2.41(0.90-1.10)	93.9	

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Review Flags
M - Manually Integrated

Reagents:

Carb_CS_Cal_00033 Amount Added: 5.00 Units: uL

Report Date: 22-Nov-2019 19:25:23 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Denver

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20034.d

Injection Date: 21-Nov-2019 14:00:56 Instrument ID: LC_LCMS3

Lims ID: std0025

Client ID:

Operator ID: ALS Bottle#: 2 Worklist Smp#: 4

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: Carbs8321 Limit Group: LC - 8321A Carbamates

1 Aminocarb

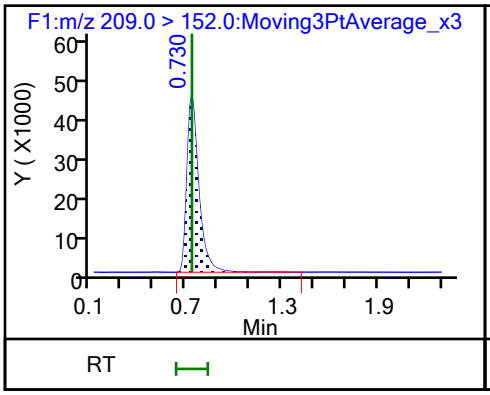

2 Carbamicacid,methyl4-dimethylamino

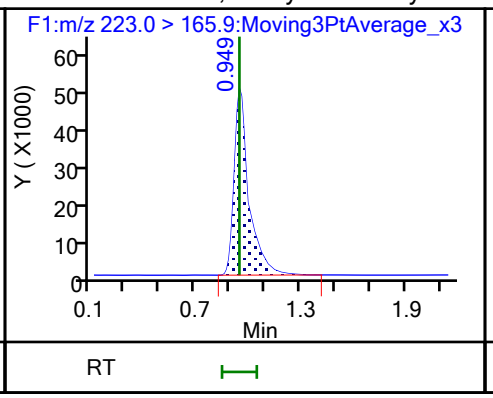

3 Methomyl

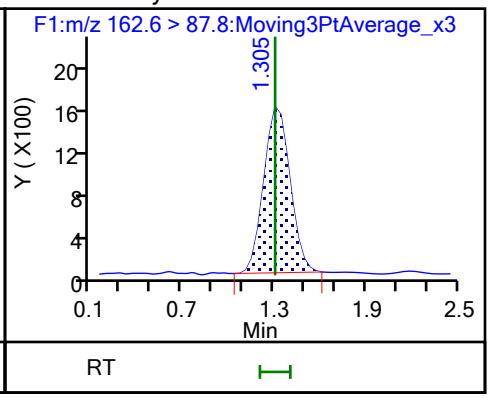

4 Fenuron

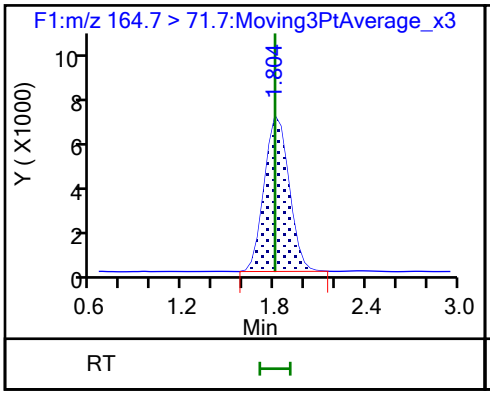

5 Aldicarb

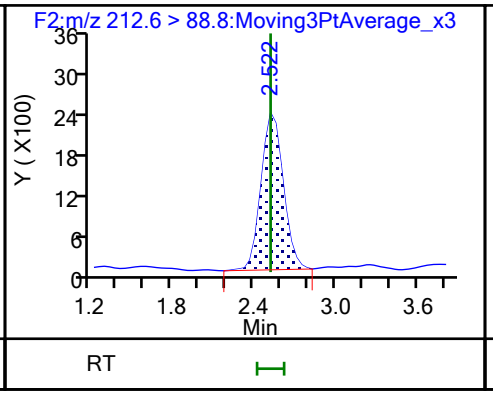

6 Monuron

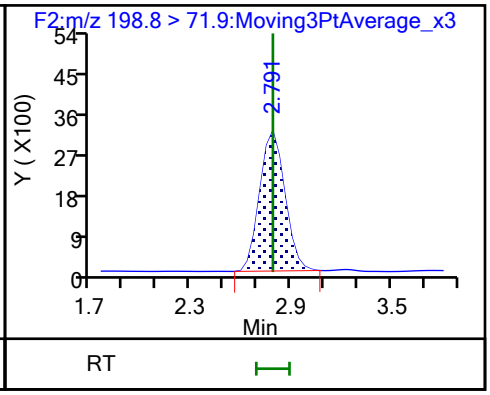

6 Monuron

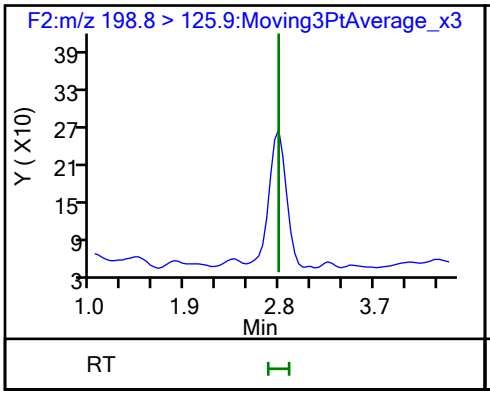

7 Propoxur

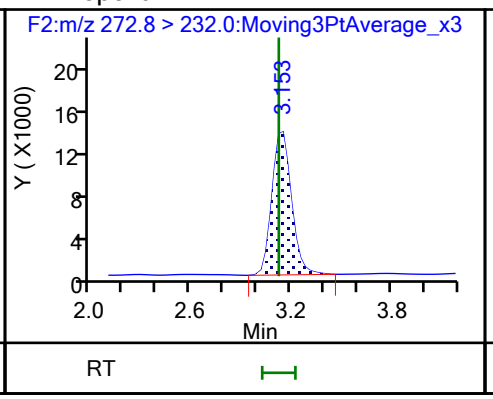

8 Carbofuran

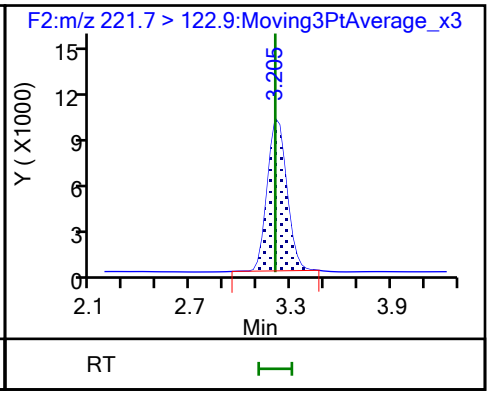

9 Fluometuron (M)

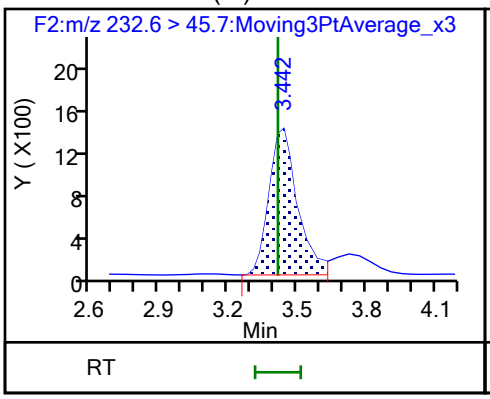

10 Carbaryl

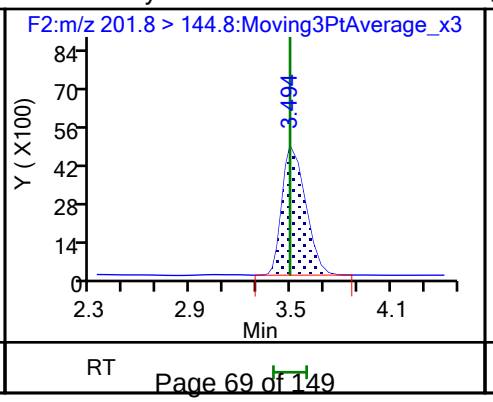

$ 12 Atrazine-d5

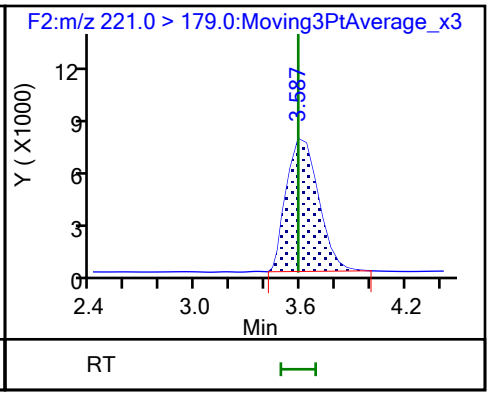

$ 13 Diuron-d6

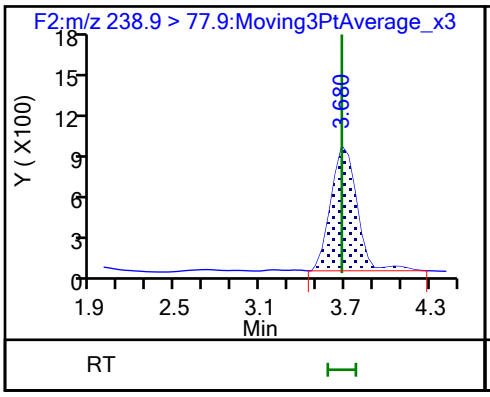

11 Diuron

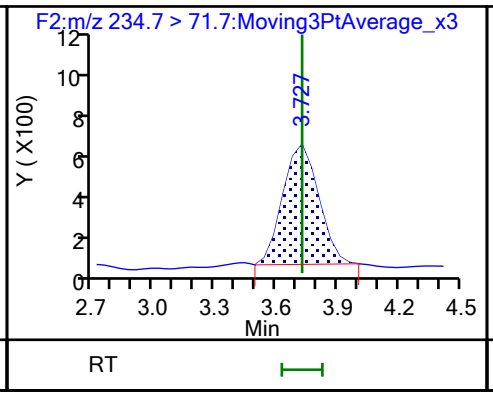

11 Diuron

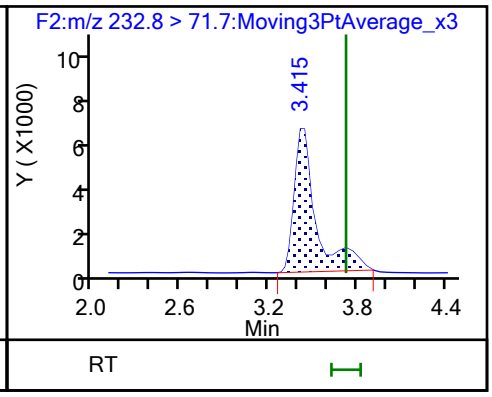

14 Propham (M)

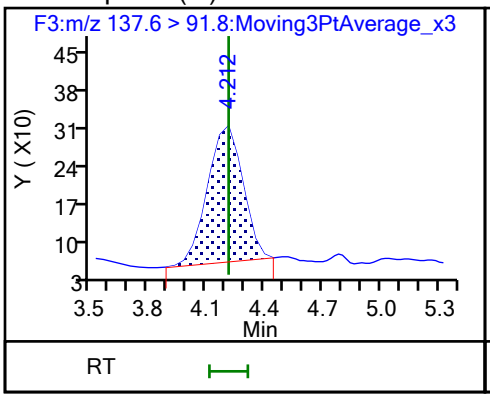

15 Siduron

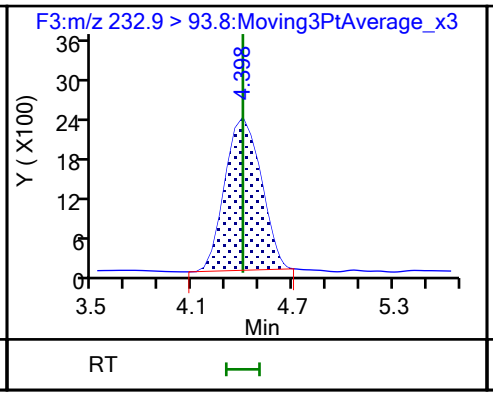

15 Siduron

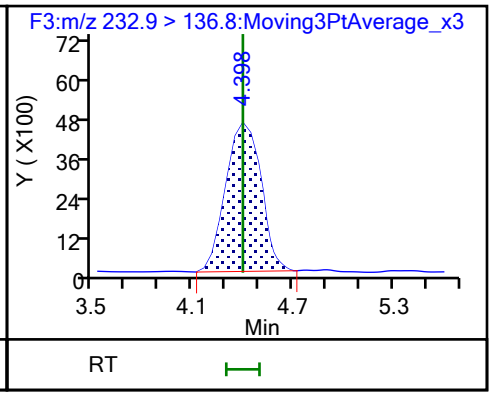

16 Methiocarb

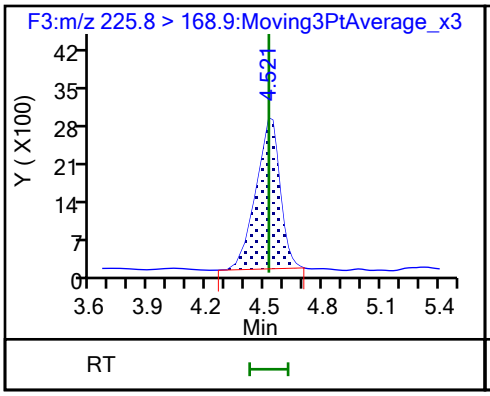

17 Linuron

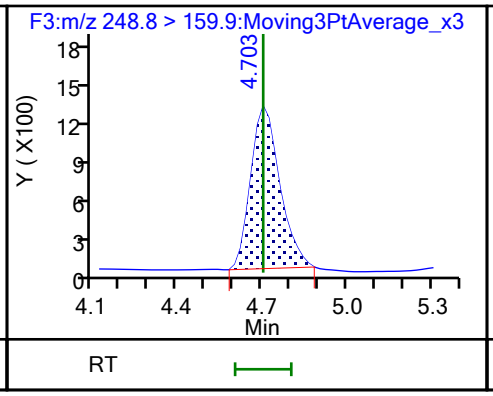

17 Linuron

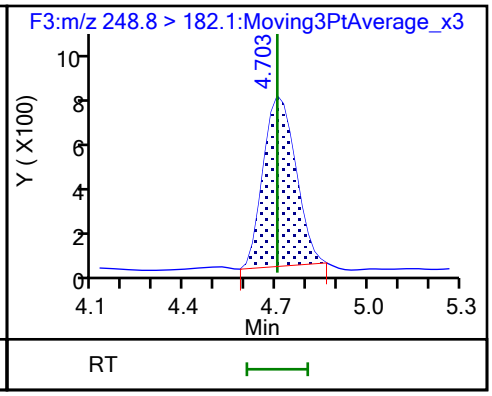

18 Chlorpropham

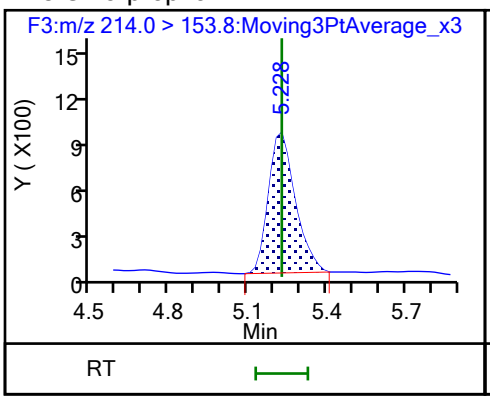

18 Chlorpropham

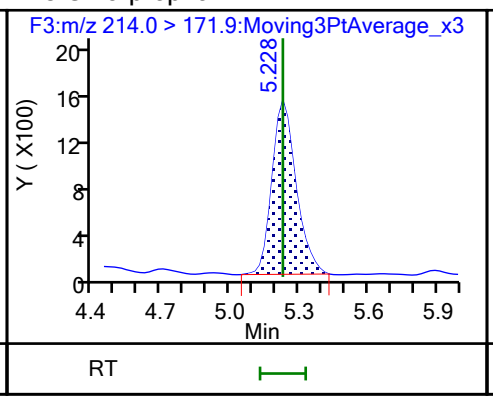

19 Neburon

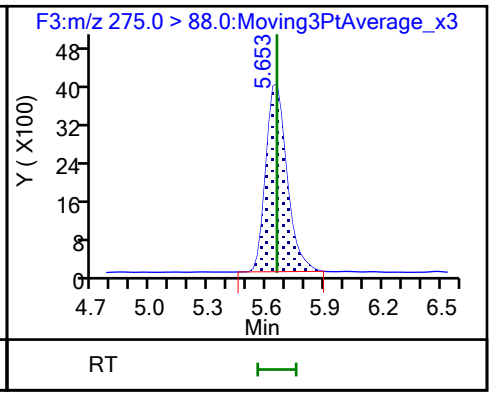

19 Neburon

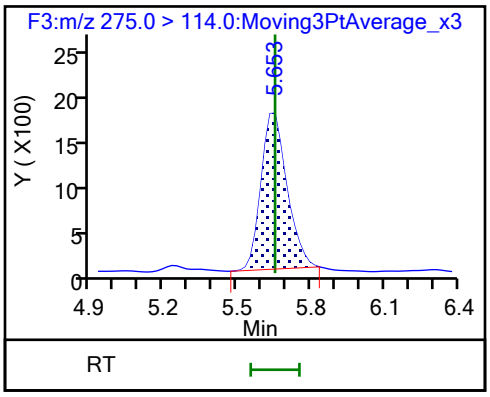
F3:m/z 275.0 > 114.0:Moving3PtAverage_x3
5.653
Y (X100)
25
20
15
10
5
0
4.9
5.2
5.5
5.8
6.1
6.4
Min
RT

Eurofins TestAmerica, Denver

Data File:	\\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20034.d				
Injection Date:	21-Nov-2019 14:00:56	Instrument ID:	LC_LCMS3		
Lims ID:	std0025				
Client ID:					
Operator ID:		ALS Bottle#:	2	Worklist Smp#:	4
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	Carbs8321	Limit Group:	LC - 8321A Carbamates		
Column:		Detector	F2:MRM		

9 Fluometuron, CAS: 2164-17-2

Signal: 1

Processing Integration Results

RT: 3.44
Area: 13821
Amount: 2.762526
Amount Units: ug/l

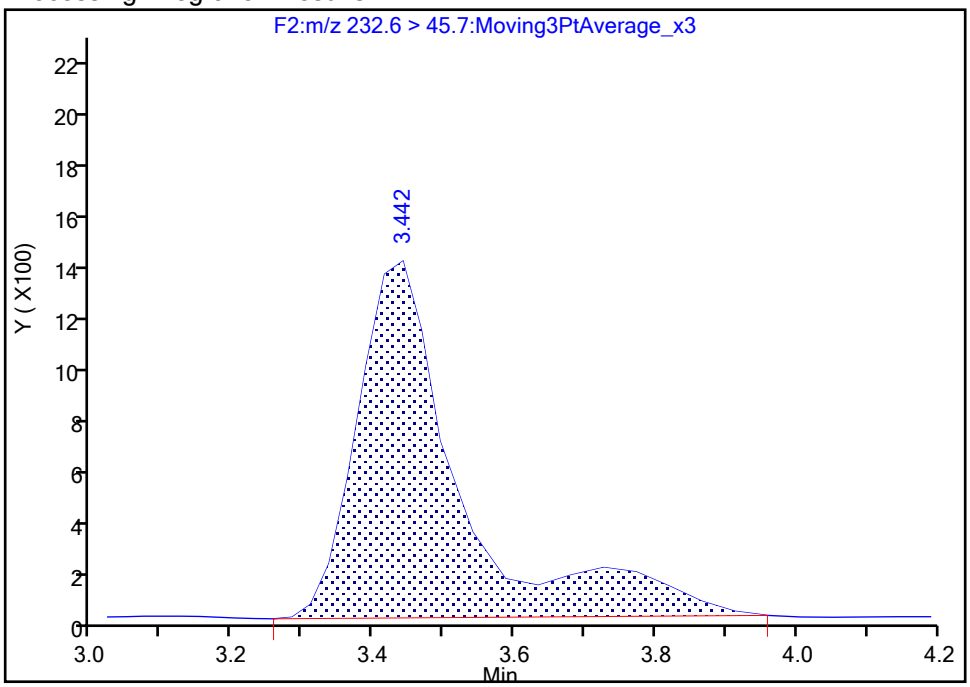

Manual Integration Results

RT: 3.44
Area: 11747
Amount: 2.404946
Amount Units: ug/l

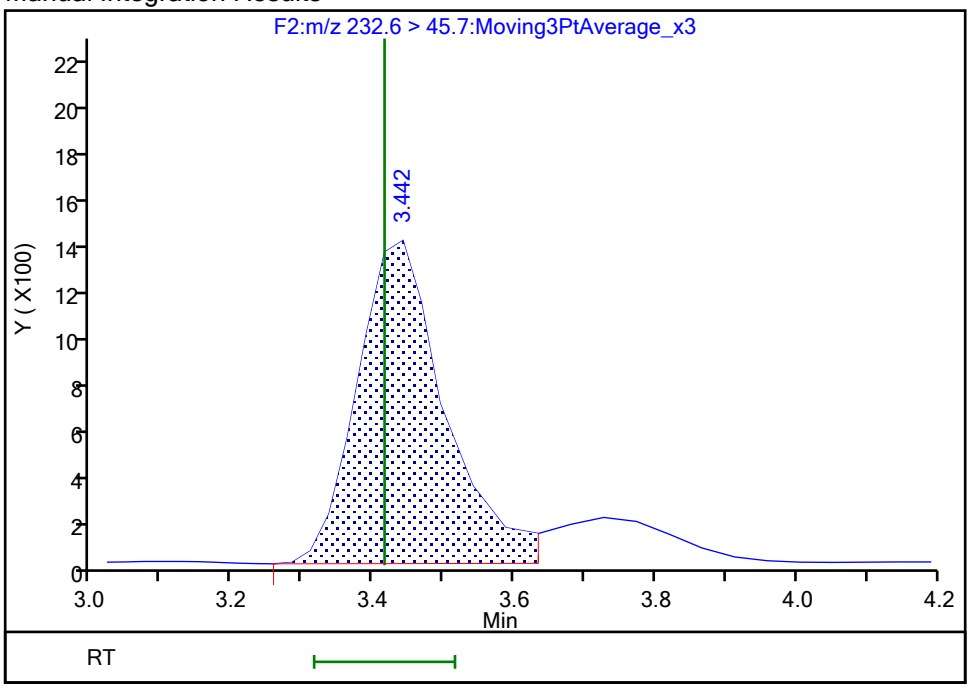

Reviewer: fiedlerh, 22-Nov-2019 19:08:42
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

Data File:	\\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20034.d				
Injection Date:	21-Nov-2019 14:00:56	Instrument ID:	LC_LCMS3		
Lims ID:	std0025				
Client ID:					
Operator ID:		ALS Bottle#:	2	Worklist Smp#:	4
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	Carbs8321	Limit Group:	LC - 8321A Carbamates		
Column:		Detector	F3:MRM		

14 Propham, CAS: 122-42-9

Signal: 1

Processing Integration Results

Not Detected

Expected RT: 4.21

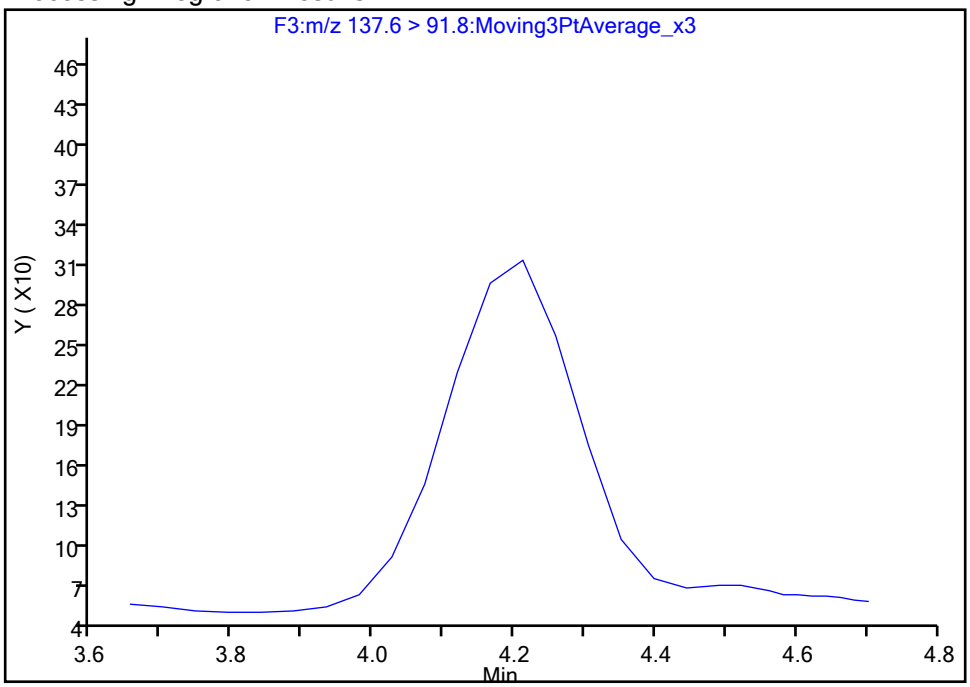

Manual Integration Results

RT:	4.21
Area:	3195
Amount:	1.847274
Amount Units:	ug/l

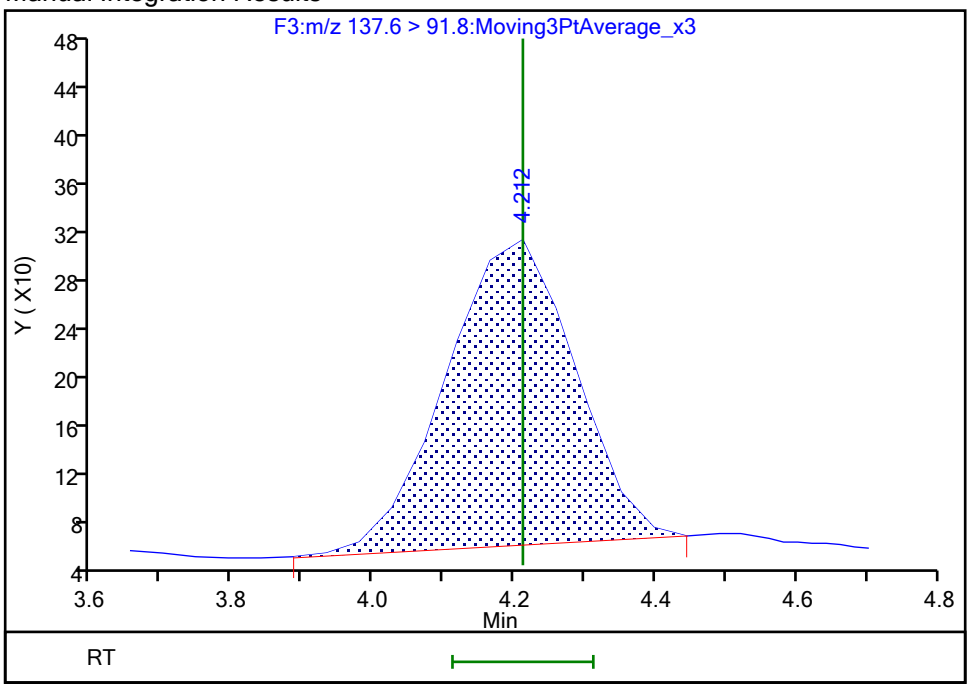

Reviewer: fiedlerh, 22-Nov-2019 19:09:00

Audit Action: Manually Integrated Audit Reason: Baseline

Eurofins TestAmerica, Denver
Target Compound Quantitation Report

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20035.d
Lims ID: std005
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 21-Nov-2019 14:09:03 ALS Bottle#: 3 Worklist Smp#: 5
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: STD005
Misc. Info.: CP319K20
Operator ID: Instrument ID: LC_LCMS3
Sublist: chrom-Carbs8321*sub1

Method: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\Carbs8321.m
Limit Group: LC - 8321A Carbamates
Last Update: 22-Nov-2019 19:25:26 Calib Date: 21-Nov-2019 14:49:37
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20040.d

Column 1 : Det: F1:MRM
Process Host: CTX0304

First Level Reviewer: fiedlerh Date: 22-Nov-2019 19:07:43
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
1 Aminocarb								
209.0 > 152.0	0.730	0.730	0.0	605815	5.80		3693	
2 Carbamicacid,methyl4-dimethylamino								
223.0 > 165.9	0.949	0.949	0.0	694433	5.60		3617	
3 Methomyl								
162.6 > 87.8	1.305	1.305	0.0	38278	5.18		355	
4 Fenuron								
164.7 > 71.7	1.804	1.804	0.0	173929	6.06		1181	
5 Aldicarb								
212.6 > 88.8	2.522	2.522	0.0	54420	6.53		104	
6 Monuron								R
198.8 > 71.9	2.791	2.791	0.0	71219	5.25	Target=1.00	432	R
198.8 > 125.9	2.791	2.791	0.0	9255		7.70(0.90-1.10)	63.0	
7 Propoxur								
272.8 > 232.0	3.153	3.126	0.027	237538	6.40		404	
8 Carbofuran								
221.7 > 122.9	3.205	3.205	0.0	182546	5.80		842	
9 Fluometuron								M
232.6 > 45.7	3.415	3.415	0.0	25344	5.19		76.4	M
10 Carbaryl								
201.8 > 144.8	3.494	3.494	0.0	122303	5.70		878	
$ 12 Atrazine-d5								
221.0 > 179.0	3.587	3.587	0.0	234689	4.64		650	
$ 13 Diuron-d6								
238.9 > 77.9	3.680	3.680	0.0	27413	5.49		190	

Report Date: 22-Nov-2019 19:25:26 Chrom Revision: 2.3 09-Oct-2019 11:13:36
Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20035.d
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
11 Diuron								R
234.7 > 71.7	3.727	3.727	0.0	17544	5.16	Target=1.00	93.2	R
232.8 > 71.7	3.727	3.727	0.0	28621		0.61(0.90-1.10)	2.6	
14 Propham								
137.6 > 91.8	4.212	4.212	0.0	15435	6.08		105	
15 Siduron								R
232.9 > 93.8	4.398	4.398	0.0	85780	5.17	Target=1.00	350	R
232.9 > 136.8	4.398	4.398	0.0	122999		0.70(0.90-1.10)	366	
16 Methiocarb								
225.8 > 168.9	4.521	4.521	0.0	57054	5.56		253	
17 Linuron								R
248.8 > 159.9	4.703	4.703	0.0	21868	4.90	Target=1.00	190	R
248.8 > 182.1	4.703	4.703	0.0	14691		1.49(0.90-1.10)	173	
18 Chlorpropham								R
214.0 > 153.8	5.228	5.228	0.0	14449	5.36	Target=1.00	153	R
214.0 > 171.9	5.228	5.228	0.0	24396		0.59(0.90-1.10)	168	
19 Neburon								R
275.0 > 88.0	5.653	5.653	0.0	61719	4.74	Target=1.00	603	R
275.0 > 114.0	5.653	5.653	0.0	26507		2.33(0.90-1.10)	192	

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Review Flags
M - Manually Integrated

Reagents:

Carb_CS_Cal_00033 Amount Added: 10.00 Units: uL

Report Date: 22-Nov-2019 19:25:26 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Denver

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20035.d

Injection Date: 21-Nov-2019 14:09:03 Instrument ID: LC_LCMS3

Lims ID: std005

Client ID:

Operator ID: ALS Bottle#: 3 Worklist Smp#: 5

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: Carbs8321 Limit Group: LC - 8321A Carbamates

1 Aminocarb

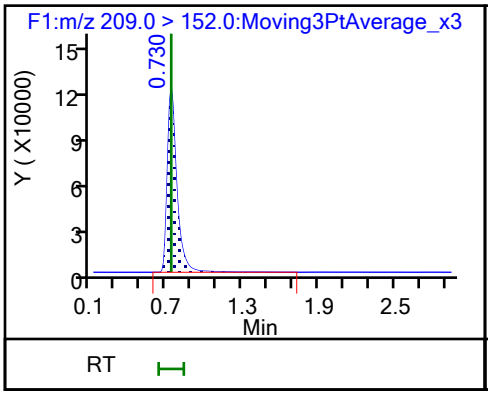

2 Carbamicacid,methyl4-dimethylamino

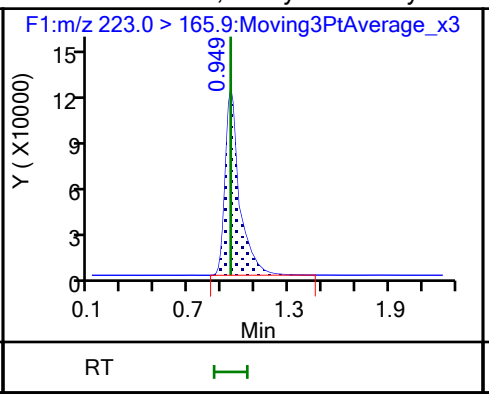

3 Methomyl

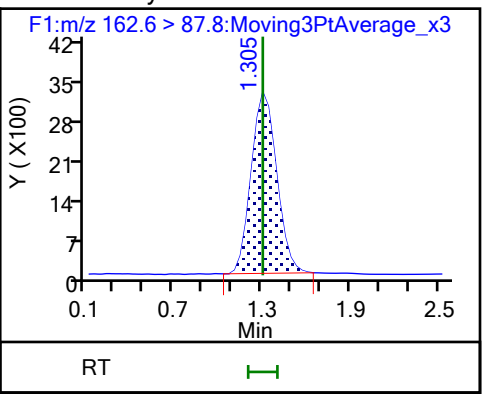

4 Fenuron

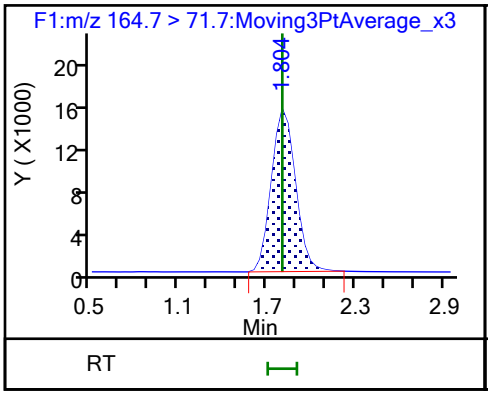

5 Aldicarb

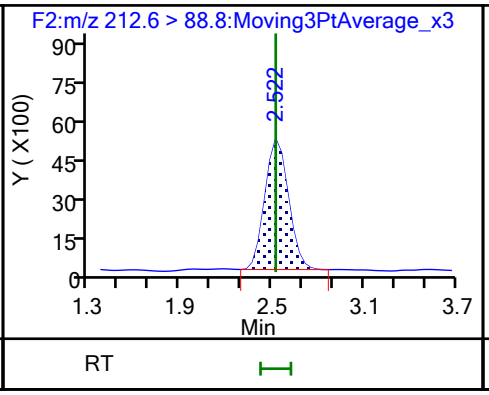

6 Monuron

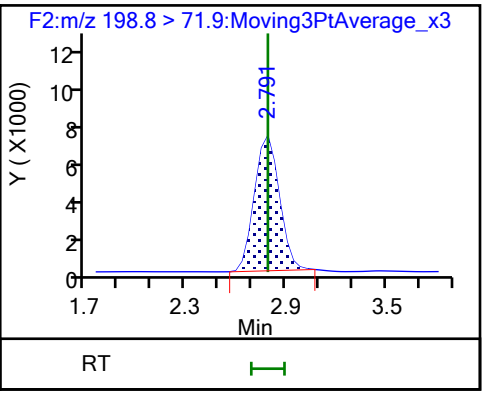

6 Monuron

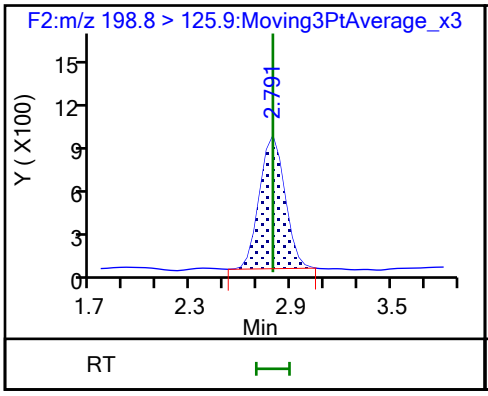

7 Propoxur

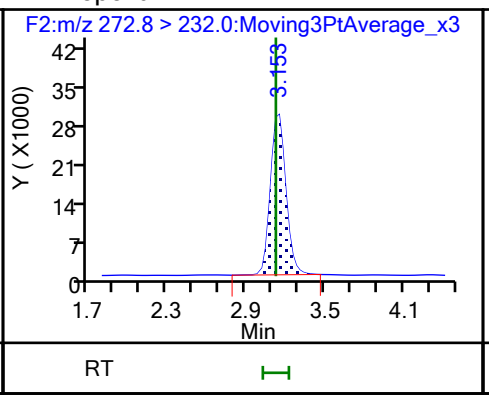

8 Carbofuran

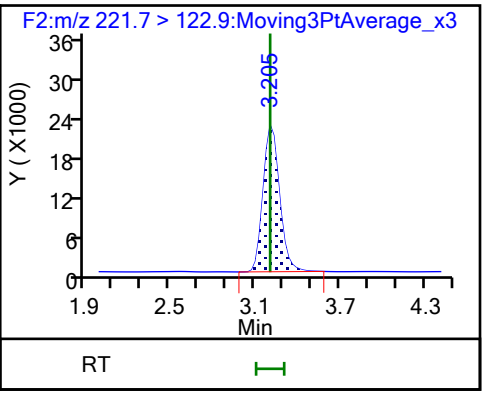

9 Fluometuron (M)

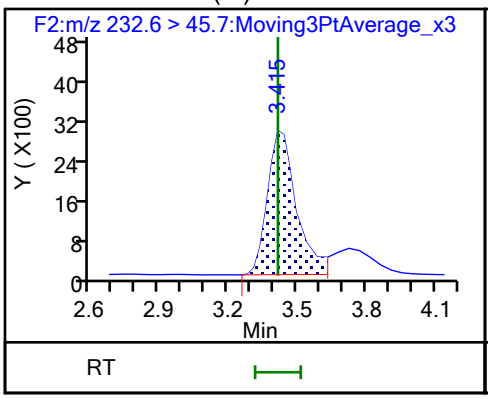

10 Carbaryl

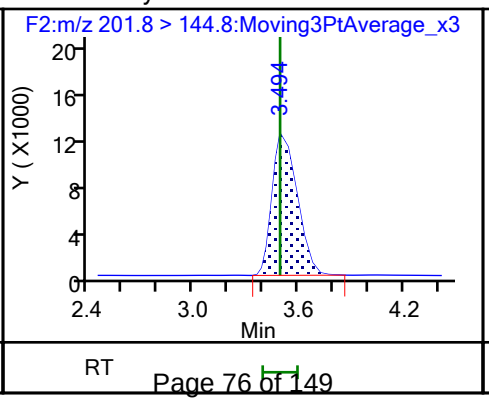

$ 12 Atrazine-d5

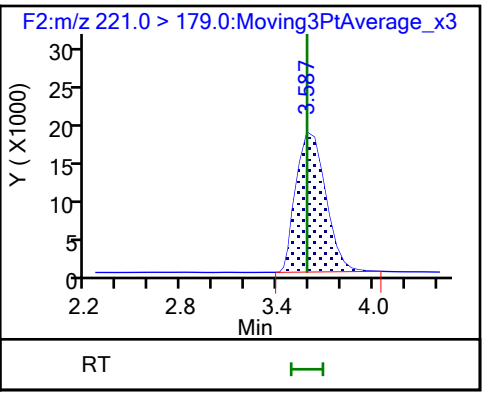

$ 13 Diuron-d6

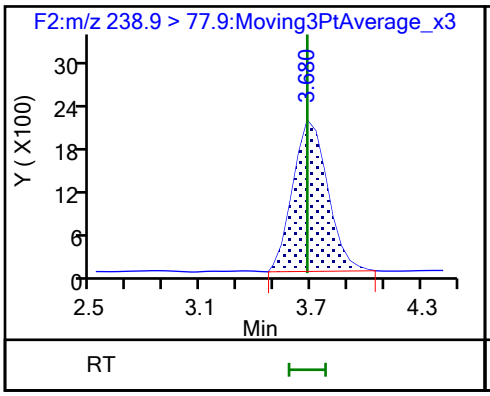

11 Diuron

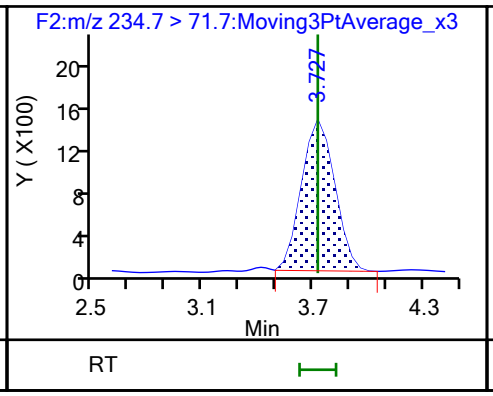

11 Diuron

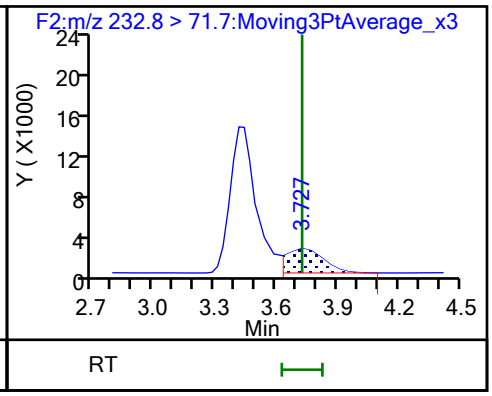

14 Propham

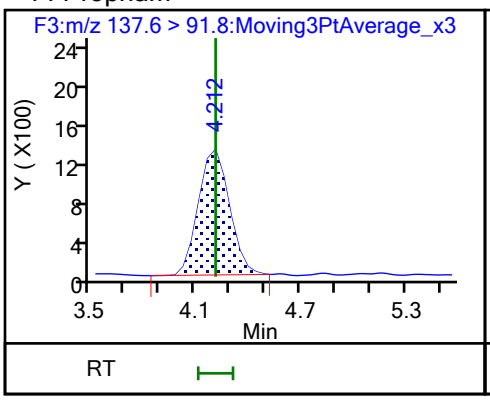

15 Siduron

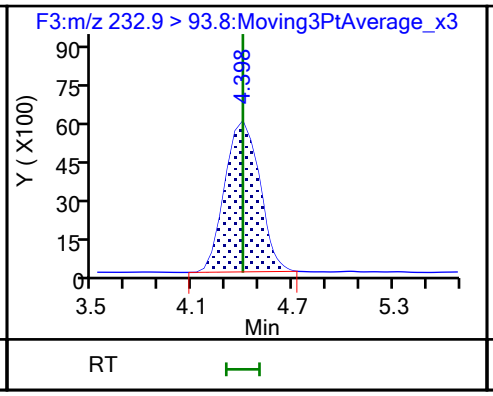

15 Siduron

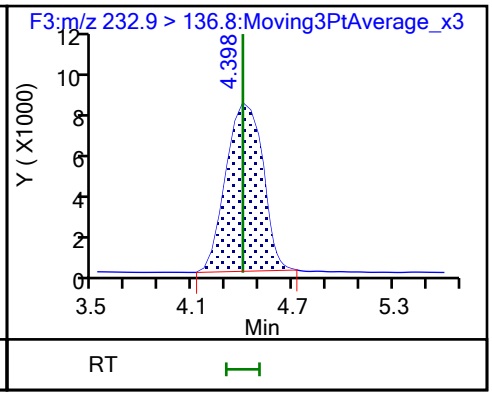

16 Methiocarb

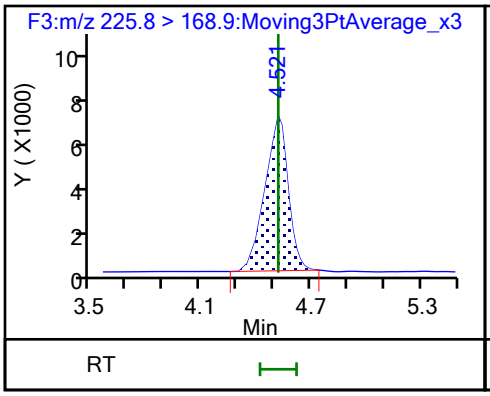

17 Linuron

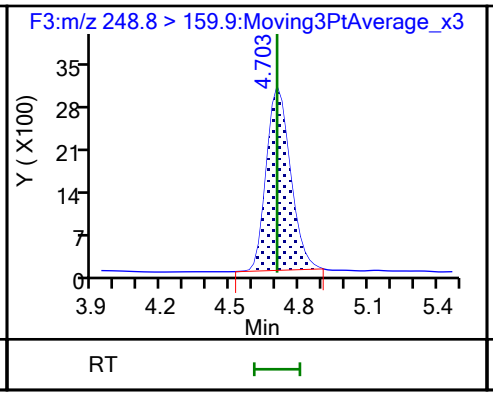

17 Linuron

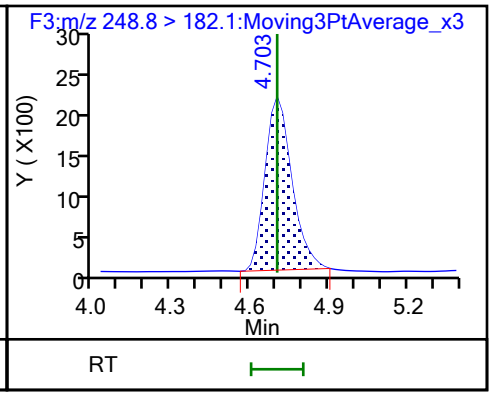

18 Chlorpropham

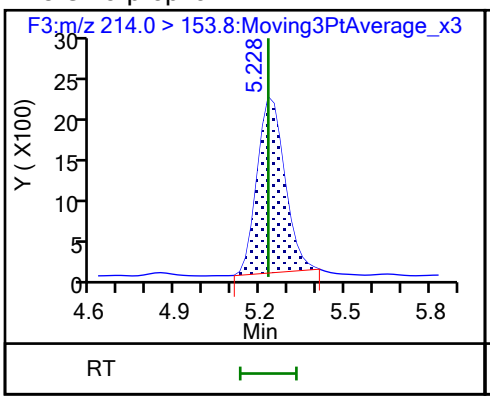

18 Chlorpropham

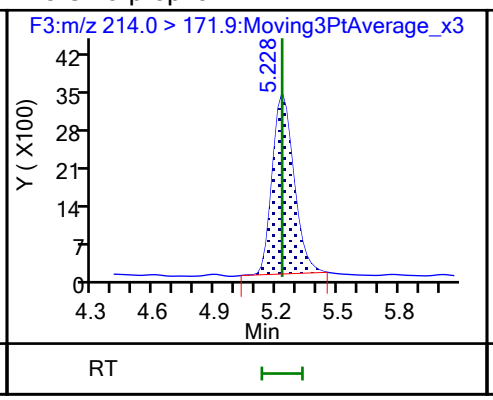

19 Neburon

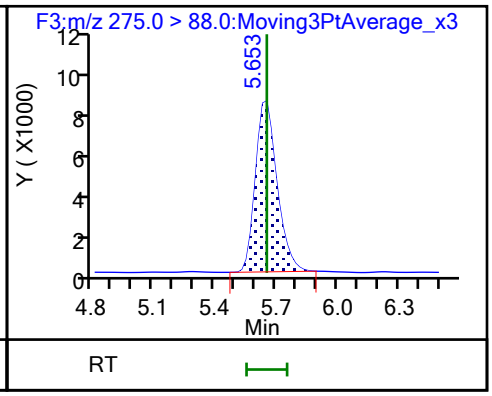

19 Neburon

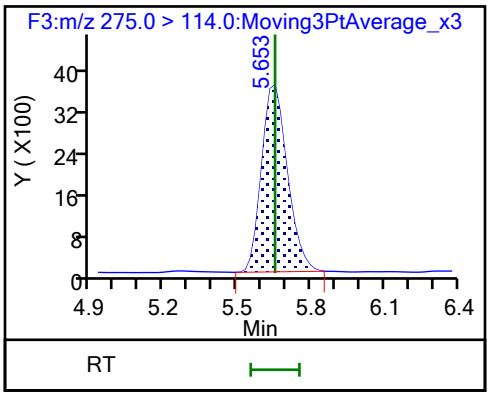
F3:m/z 275.0 > 114.0:Moving3PtAverage_x3
5.653
Y (X100)
40
32
24
16
8
0
4.9
5.2
5.5
5.8
6.1
6.4
Min
RT

Eurofins TestAmerica, Denver

Data File:	\\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20035.d				
Injection Date:	21-Nov-2019 14:09:03	Instrument ID:	LC_LCMS3		
Lims ID:	std005				
Client ID:					
Operator ID:		ALS Bottle#:	3	Worklist Smp#:	5
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	Carbs8321	Limit Group:	LC - 8321A Carbamates		
Column:		Detector	F2:MRM		

9 Fluometuron, CAS: 2164-17-2

Signal: 1

Processing Integration Results

RT: 3.42
Area: 29907
Amount: 5.825961
Amount Units: ug/l

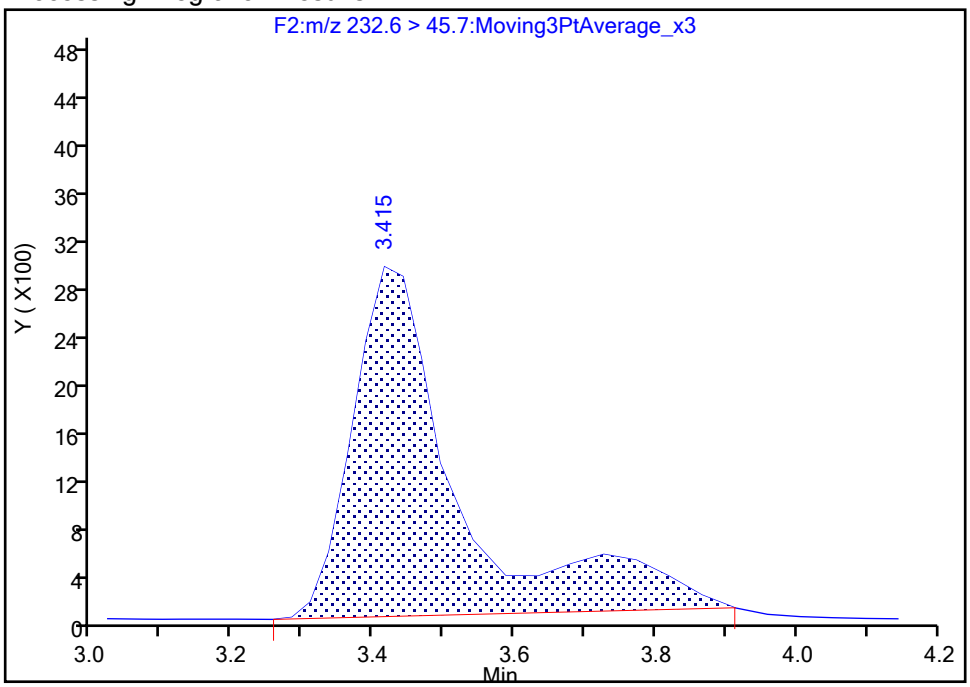

Manual Integration Results

RT: 3.42
Area: 25344
Amount: 5.188641
Amount Units: ug/l

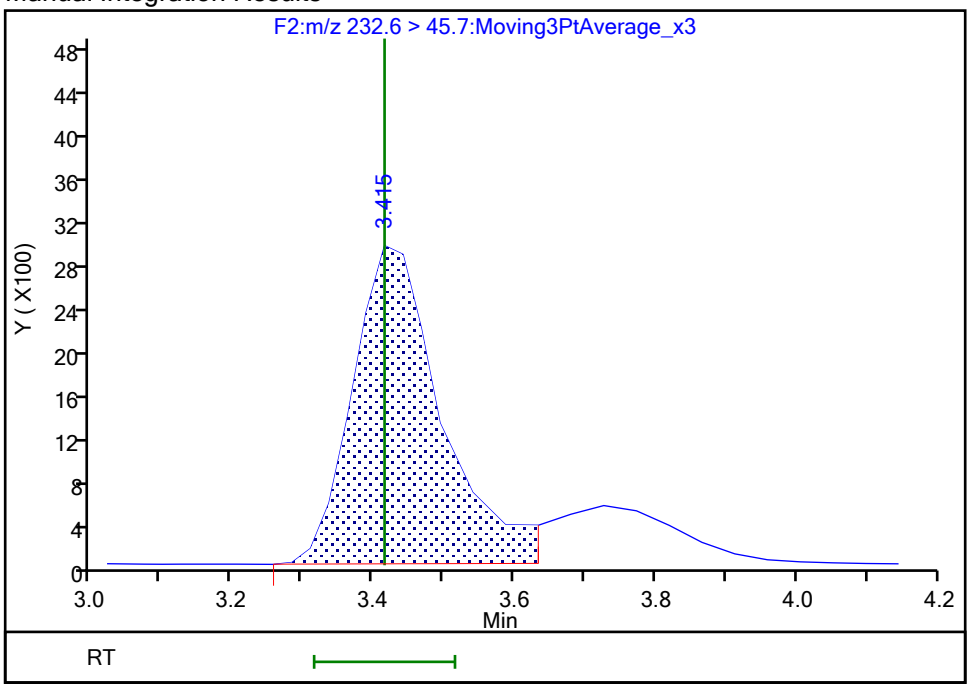

Reviewer: fiedlerh, 22-Nov-2019 19:07:39
Audit Action: Manually Integrated Audit Reason: Baseline

Eurofins TestAmerica, Denver
Target Compound Quantitation Report

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20036.d
Lims ID: std010
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 21-Nov-2019 14:17:09 ALS Bottle#: 4 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: STD010
Misc. Info.: CP319K20
Operator ID: Instrument ID: LC_LCMS3
Sublist: chrom-Carbs8321*sub1

Method: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\Carbs8321.m
Limit Group: LC - 8321A Carbamates
Last Update: 22-Nov-2019 19:25:29 Calib Date: 21-Nov-2019 14:49:37
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20040.d

Column 1 : Det: F1:MRM
Process Host: CTX0304

First Level Reviewer: fiedlerh Date: 22-Nov-2019 18:59:52
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
1 Aminocarb								
209.0 > 152.0	0.730	0.730	0.0	1259974	10.5		8097	
2 Carbamicacid,methyl4-dimethylamino								
223.0 > 165.9	0.949	0.949	0.0	1434082	11.6		4129	
3 Methomyl								
162.6 > 87.8	1.305	1.305	0.0	84436	11.4		519	
4 Fenuron								
164.7 > 71.7	1.804	1.804	0.0	333709	11.6		1534	
5 Aldicarb								
212.6 > 88.8	2.522	2.522	0.0	106058	12.7		218	
6 Monuron								R
198.8 > 71.9	2.791	2.791	0.0	151284	11.1	Target=1.00	808	R
198.8 > 125.9	2.791	2.791	0.0	15286		9.90(0.90-1.10)	132	
7 Propoxur								
272.8 > 232.0	3.153	3.126	0.027	466205	12.6		790	
8 Carbofuran								
221.7 > 122.9	3.205	3.205	0.0	363755	11.6		1351	
9 Fluometuron								M
232.6 > 45.7	3.442	3.415	0.027	55991	11.5		94.9	M
10 Carbaryl								
201.8 > 144.8	3.494	3.494	0.0	237344	11.1		1405	
$ 12 Atrazine-d5								
221.0 > 179.0	3.587	3.587	0.0	483390	9.57		1181	
$ 13 Diuron-d6								
238.9 > 77.9	3.680	3.680	0.0	53301	10.7		240	

Report Date: 22-Nov-2019 19:25:30 Chrom Revision: 2.3 09-Oct-2019 11:13:36
Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20036.d
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
11 Diuron								R
234.7 > 71.7	3.727	3.727	0.0	35348	10.4	Target=1.00	127	R
232.8 > 71.7	3.727	3.727	0.0	52240		0.68(0.90-1.10)	2.2	
14 Propham								
137.6 > 91.8	4.212	4.212	0.0	31486	11.6		186	
15 Siduron								R
232.9 > 93.8	4.398	4.398	0.0	166539	10.0	Target=1.00	455	R
232.9 > 136.8	4.398	4.398	0.0	268469		0.62(0.90-1.10)	547	
16 Methiocarb								
225.8 > 168.9	4.521	4.521	0.0	102354	9.97		291	
17 Linuron								R
248.8 > 159.9	4.703	4.703	0.0	46426	10.4	Target=1.00	386	R
248.8 > 182.1	4.703	4.703	0.0	31100		1.49(0.90-1.10)	310	
18 Chlorpropham								R
214.0 > 153.8	5.228	5.228	0.0	26463	9.82	Target=1.00	250	R
214.0 > 171.9	5.228	5.228	0.0	43819		0.60(0.90-1.10)	195	
19 Neburon								R
275.0 > 88.0	5.653	5.653	0.0	138509	10.6	Target=1.00	896	R
275.0 > 114.0	5.653	5.653	0.0	53584		2.58(0.90-1.10)	399	

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Review Flags
M - Manually Integrated

Reagents:

Carb_CS_Cal_00033 Amount Added: 20.00 Units: uL

Report Date: 22-Nov-2019 19:25:30 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Denver

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20036.d

Injection Date: 21-Nov-2019 14:17:09 Instrument ID: LC_LCMS3

Lims ID: std010

Client ID:

Operator ID: ALS Bottle#: 4 Worklist Smp#: 6

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: Carbs8321 Limit Group: LC - 8321A Carbamates

1 Aminocarb

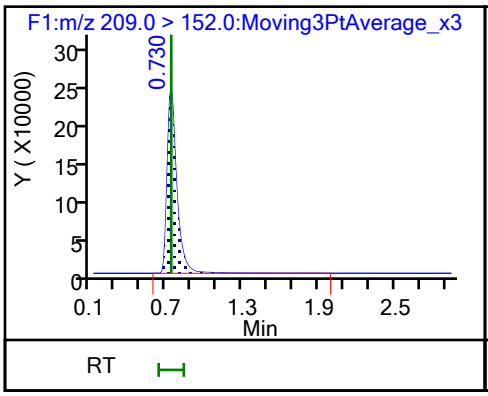

2 Carbamicacid,methyl4-dimethylamino

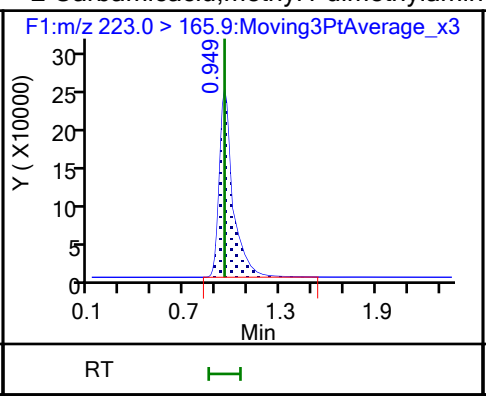

3 Methomyl

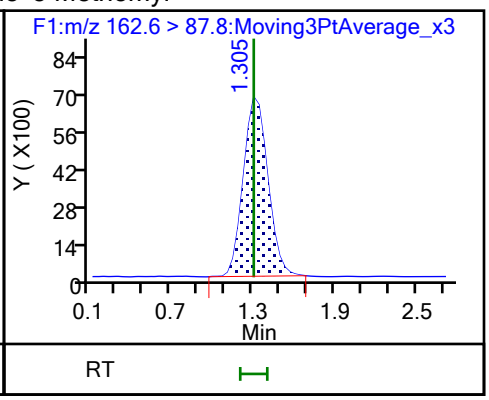

4 Fenuron

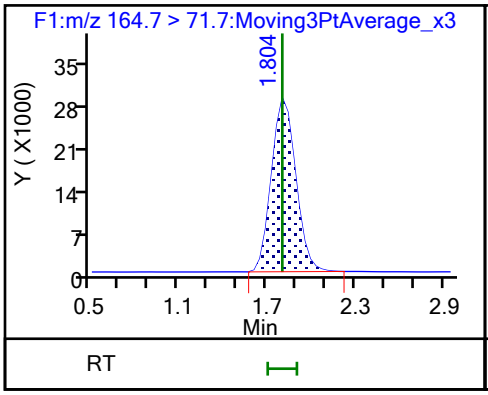

5 Aldicarb

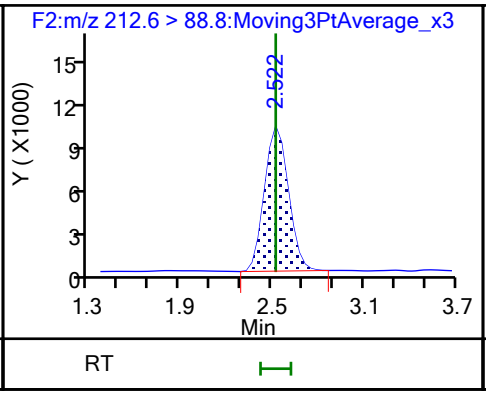

6 Monuron

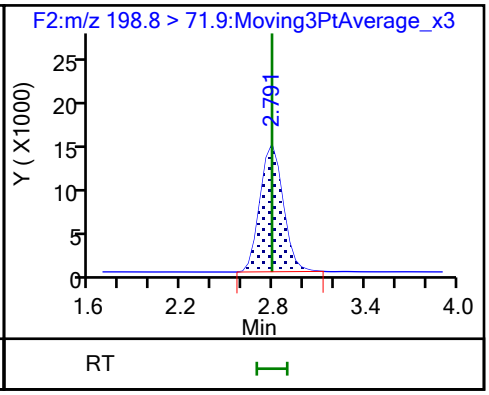

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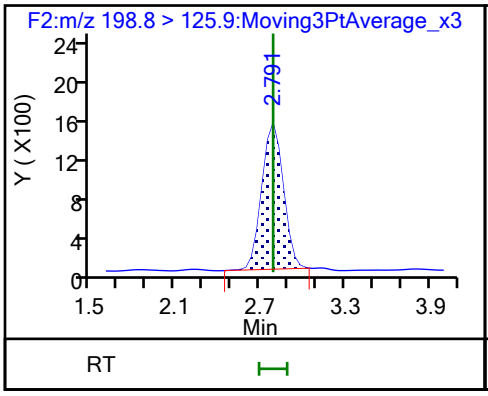

7 Propoxur

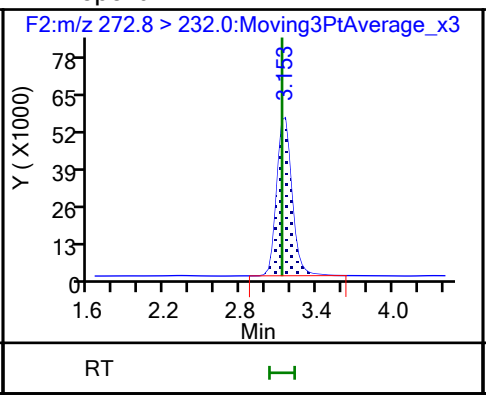

8 Carbofuran

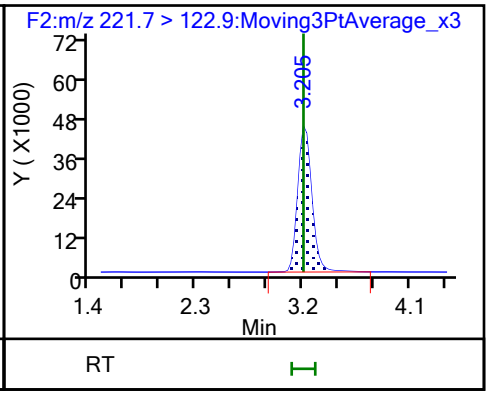

9 Fluometuron (M)

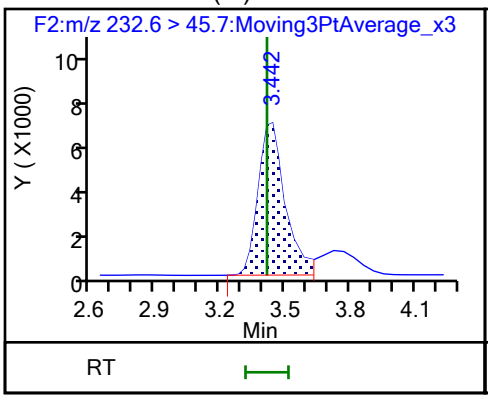

10 Carbaryl

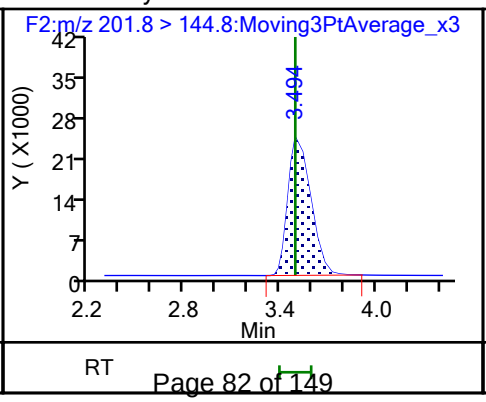

$ 12 Atrazine-d5

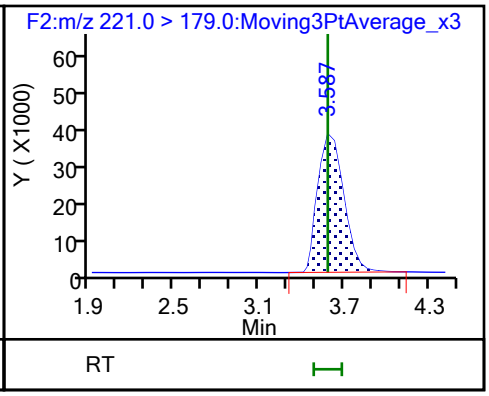

$ 13 Diuron-d6

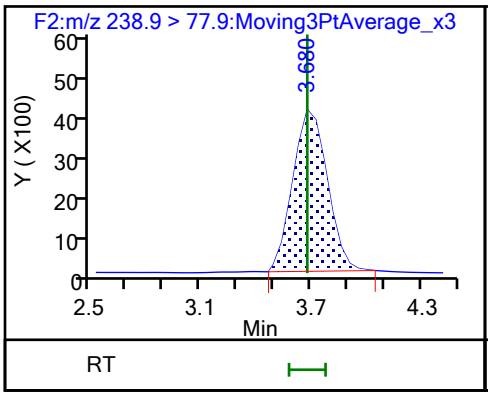

11 Diuron

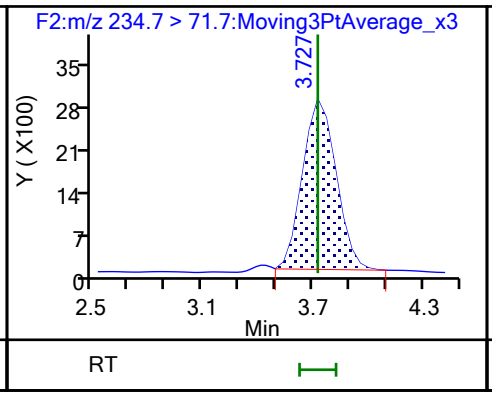

11 Diuron

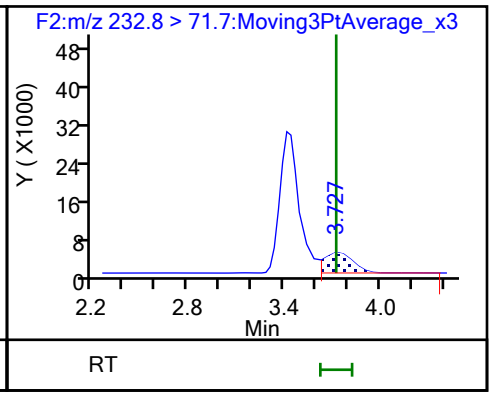

14 Propham

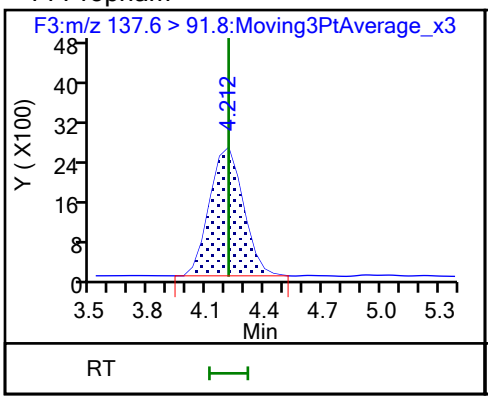

15 Siduron

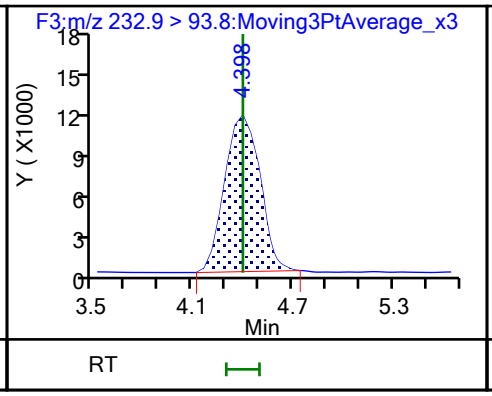

15 Siduron

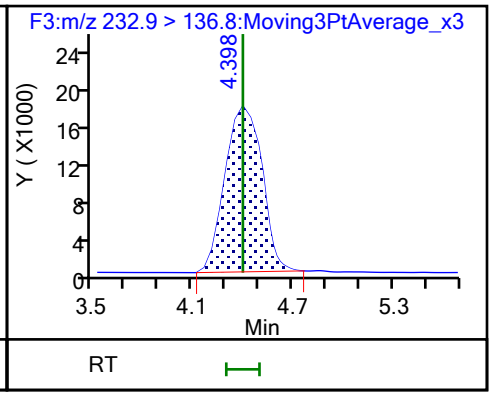

16 Methiocarb

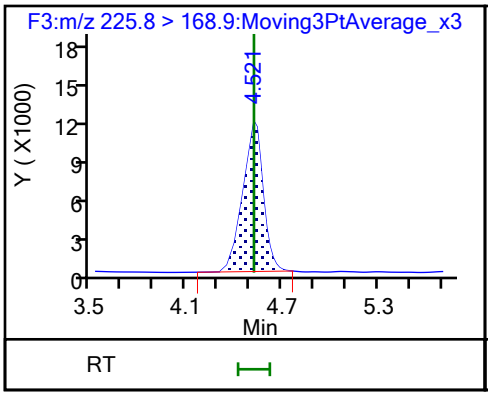

17 Linuron

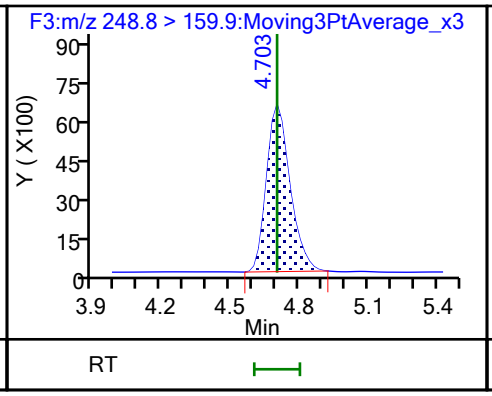

17 Linuron

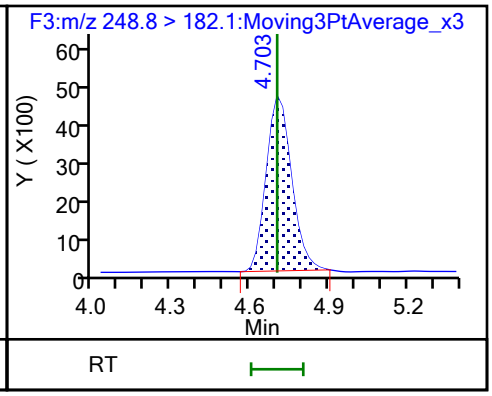

18 Chlorpropham

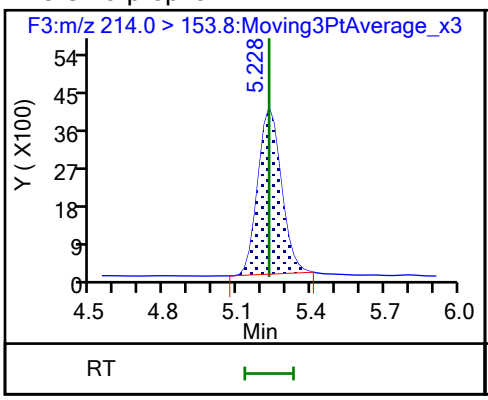

18 Chlorpropham

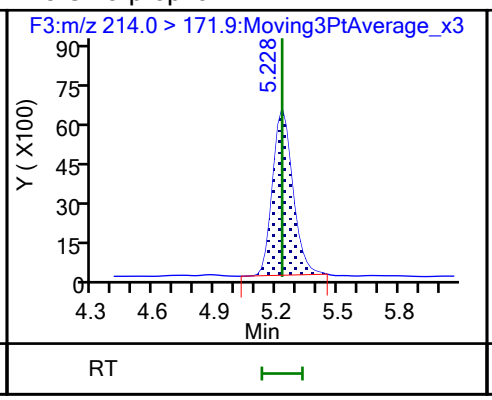

19 Neburon

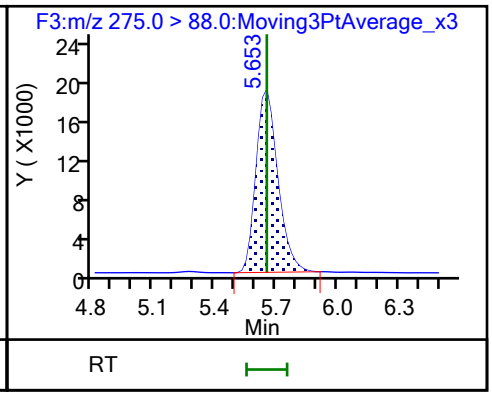

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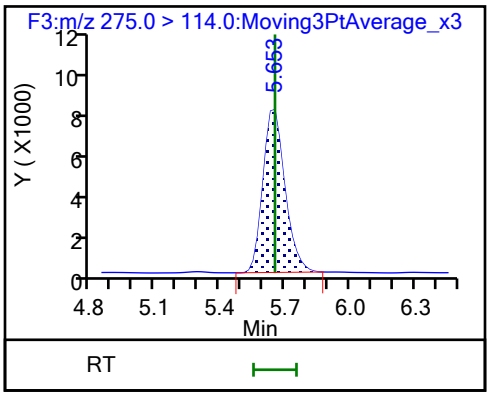
F3:m/z 275.0 > 114.0:Moving3PtAverage_x3
5.653
Y (X1000)
12
10
8
6
4
2
0
4.8
5.1
5.4
5.7
6.0
6.3
Min
RT

Eurofins TestAmerica, Denver

Data File:	\\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20036.d				
Injection Date:	21-Nov-2019 14:17:09	Instrument ID:	LC_LCMS3		
Lims ID:	std010				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	6
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	Carbs8321	Limit Group:	LC - 8321A Carbamates		
Column:		Detector	F2:MRM		

9 Fluometuron, CAS: 2164-17-2

Signal: 1

Processing Integration Results

RT: 3.44
Area: 65085
Amount: 12.365778
Amount Units: ug/l

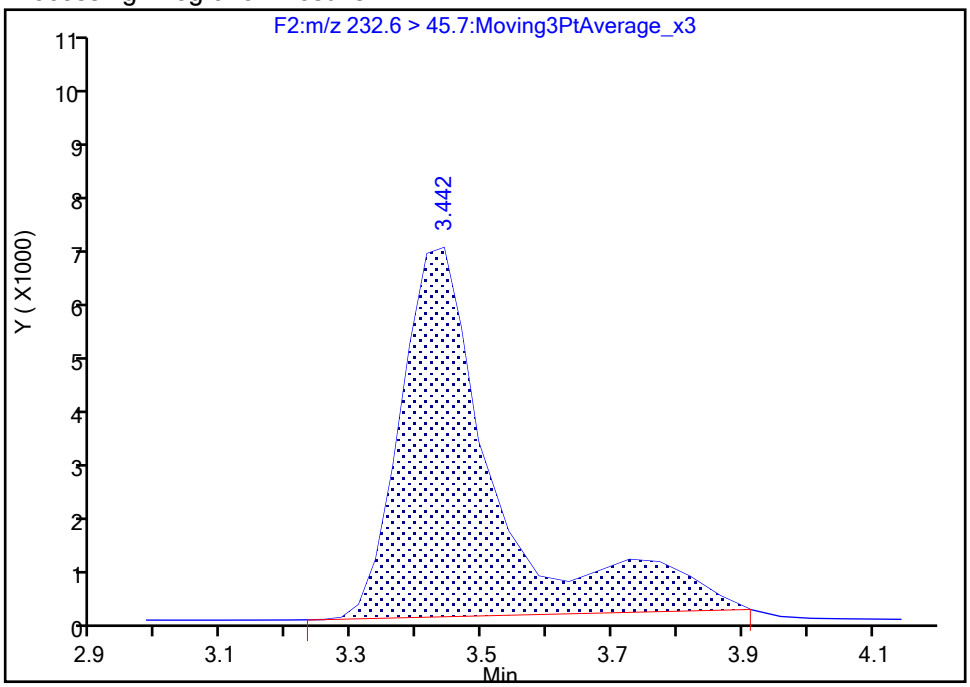

Manual Integration Results

RT: 3.44
Area: 55991
Amount: 11.462957
Amount Units: ug/l

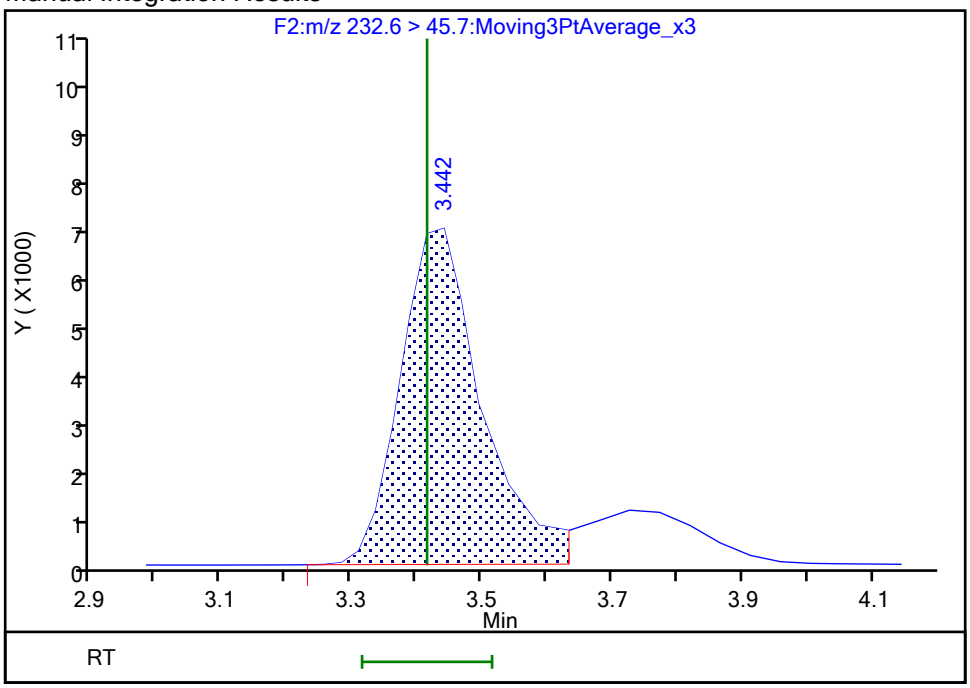

Reviewer: fiedlerh, 22-Nov-2019 18:59:43
Audit Action: Manually Integrated Audit Reason: Baseline

Eurofins TestAmerica, Denver
Target Compound Quantitation Report

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20037.d
Lims ID: std020
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 21-Nov-2019 14:25:16 ALS Bottle#: 5 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: STD020
Misc. Info.: CP319K20
Operator ID: Instrument ID: LC_LCMS3
Sublist: chrom-Carbs8321*sub1

Method: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\Carbs8321.m
Limit Group: LC - 8321A Carbamates
Last Update: 22-Nov-2019 19:25:33 Calib Date: 21-Nov-2019 14:49:37
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20040.d

Column 1 : Det: F1:MRM
Process Host: CTX0304

First Level Reviewer: fiedlerh Date: 22-Nov-2019 18:38:28
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
1 Aminocarb								
209.0 > 152.0	0.730	0.730	0.0	2351980	18.7		5796	
2 Carbamicacid,methyl4-dimethylamino								
223.0 > 165.9	0.949	0.949	0.0	2593842	20.9		5106	
3 Methomyl								
162.6 > 87.8	1.305	1.305	0.0	162437	22.0		850	
4 Fenuron								
164.7 > 71.7	1.804	1.804	0.0	603783	21.0		2612	
5 Aldicarb								
212.6 > 88.8	2.522	2.522	0.0	183108	22.0		326	
6 Monuron								R
198.8 > 71.9	2.791	2.791	0.0	282370	20.8	Target=1.00	1030	R
198.8 > 125.9	2.791	2.791	0.0	28069		10.06(0.90-1.10)	216	
7 Propoxur								
272.8 > 232.0	3.153	3.153	0.0	803273	21.7		1309	
8 Carbofuran								
221.7 > 122.9	3.205	3.205	0.0	662277	21.0		2187	
9 Fluometuron								
232.6 > 45.7	3.415	3.415	0.0	96523	19.8		99.0	
10 Carbaryl								
201.8 > 144.8	3.494	3.494	0.0	463933	21.6		2731	
$ 12 Atrazine-d5								
221.0 > 179.0	3.587	3.587	0.0	1153892	22.8		3025	
$ 13 Diuron-d6								
238.9 > 77.9	3.680	3.680	0.0	101344	20.3		522	

Report Date: 22-Nov-2019 19:25:33 Chrom Revision: 2.3 09-Oct-2019 11:13:36
Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20037.d
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
11 Diuron								RM
234.7 > 71.7	3.727	3.727	0.0	76067	22.4	Target=1.00	230	RM
232.8 > 71.7	3.727	3.727	0.0	98508		0.77(0.90-1.10)	2.4	
14 Propham								
137.6 > 91.8	4.212	4.212	0.0	48817	17.6		312	
15 Siduron								R
232.9 > 93.8	4.398	4.398	0.0	319735	19.3	Target=1.00	641	R
232.9 > 136.8	4.398	4.398	0.0	596749		0.54(0.90-1.10)	776	
16 Methiocarb								
225.8 > 168.9	4.521	4.521	0.0	214192	20.9		685	
17 Linuron								R
248.8 > 159.9	4.703	4.703	0.0	94881	21.3	Target=1.00	715	R
248.8 > 182.1	4.703	4.703	0.0	57146		1.66(0.90-1.10)	535	
18 Chlorpropham								R
214.0 > 153.8	5.228	5.228	0.0	56761	21.1	Target=1.00	625	R
214.0 > 171.9	5.228	5.228	0.0	85391		0.66(0.90-1.10)	522	
19 Neburon								R
275.0 > 88.0	5.653	5.653	0.0	273868	21.0	Target=1.00	903	R
275.0 > 114.0	5.632	5.653	-0.021	106723		2.57(0.90-1.10)	658	

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Review Flags
M - Manually Integrated

Reagents:

Carb_CS_Cal_00033 Amount Added: 40.00 Units: uL

Report Date: 22-Nov-2019 19:25:33 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Denver

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20037.d

Injection Date: 21-Nov-2019 14:25:16 Instrument ID: LC_LCMS3

Lims ID: std020

Client ID:

Operator ID: ALS Bottle#: 5 Worklist Smp#: 7

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: Carbs8321 Limit Group: LC - 8321A Carbamates

1 Aminocarb

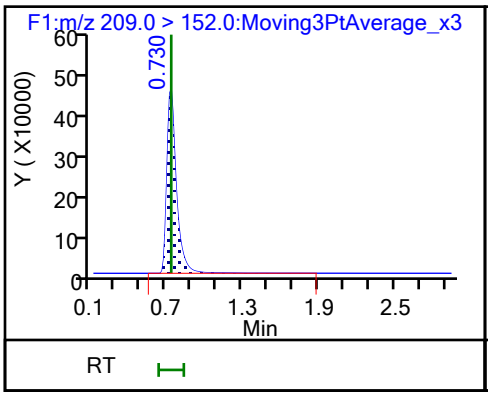

2 Carbamicacid,methyl4-dimethylamino

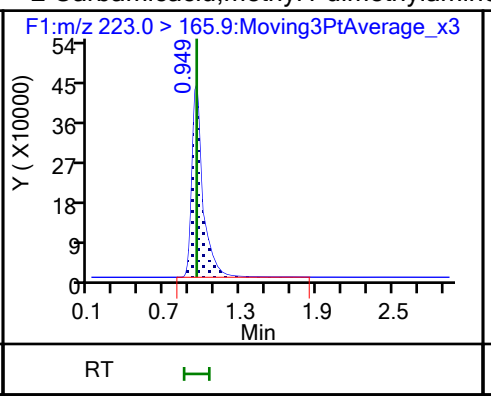

3 Methomyl

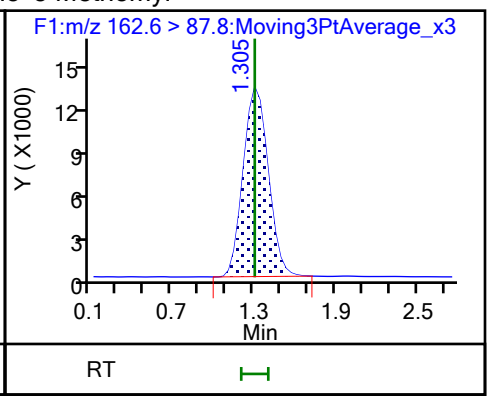

4 Fenuron

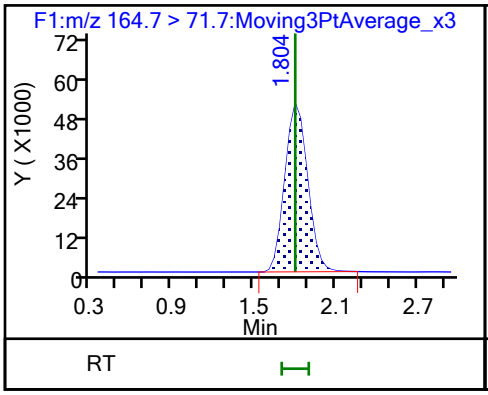

5 Aldicarb

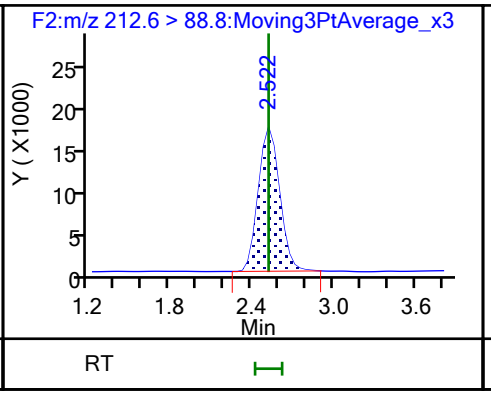

6 Monuron

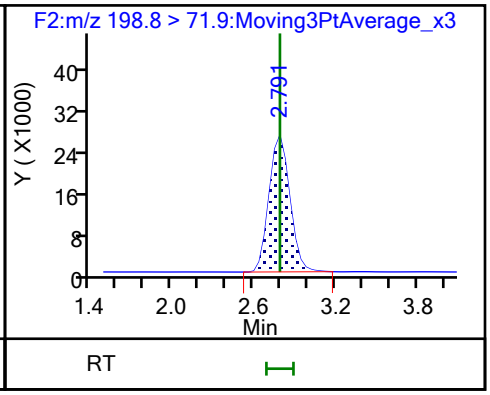

6 Monuron

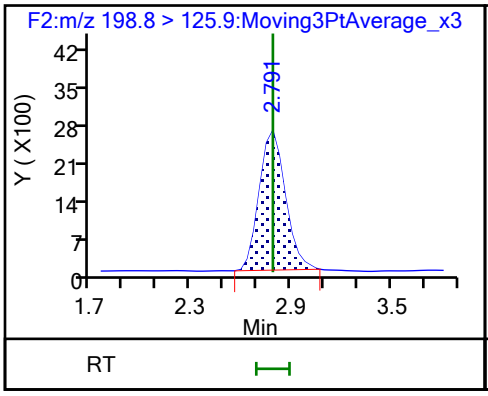

7 Propoxur

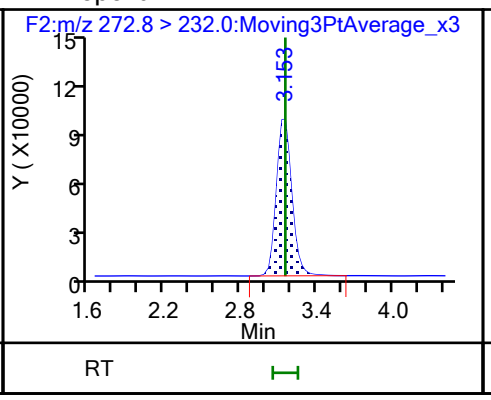

8 Carbofuran

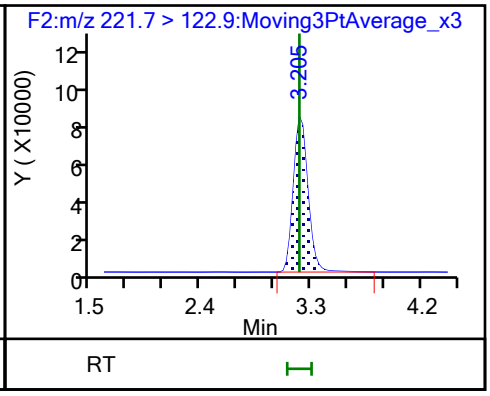

9 Fluometuron

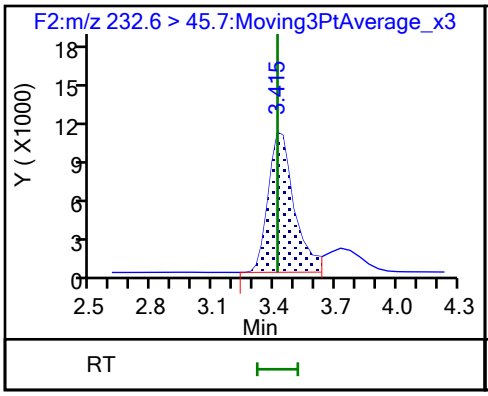

10 Carbaryl

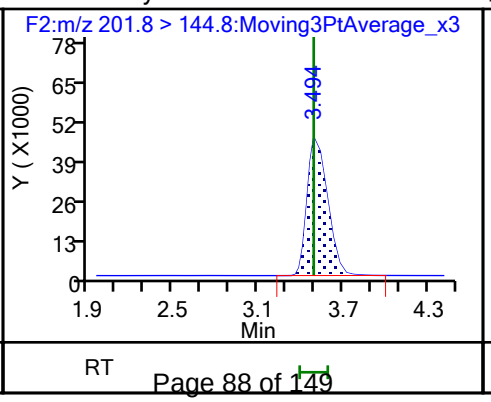

$ 12 Atrazine-d5

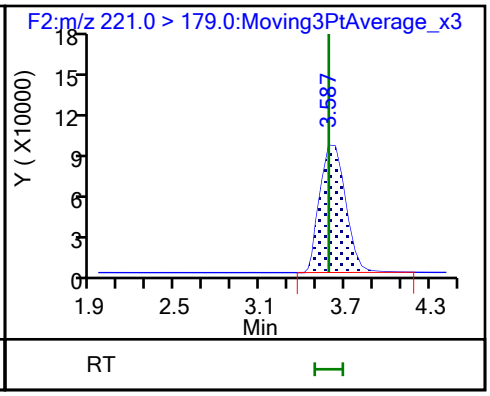

$ 13 Diuron-d6

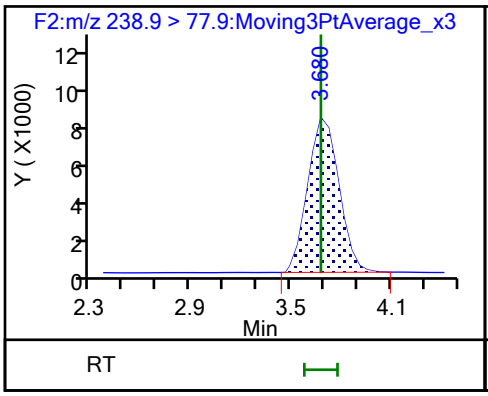

11 Diuron (M)

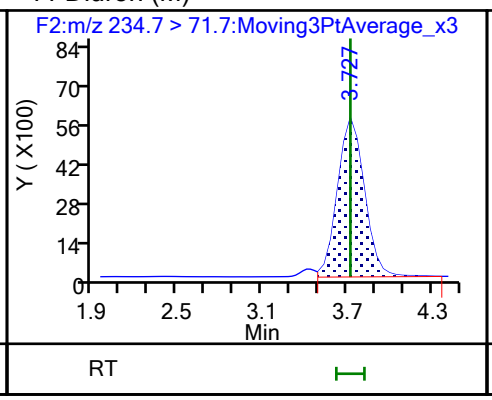

11 Diuron

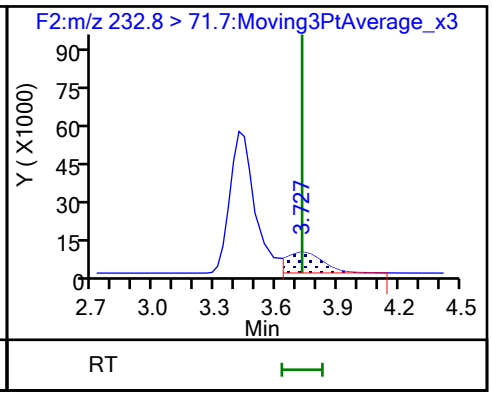

14 Propham

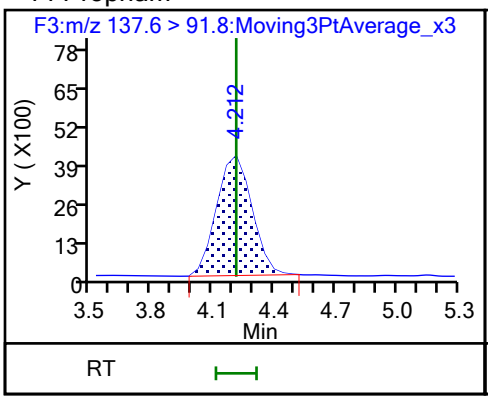

15 Siduron

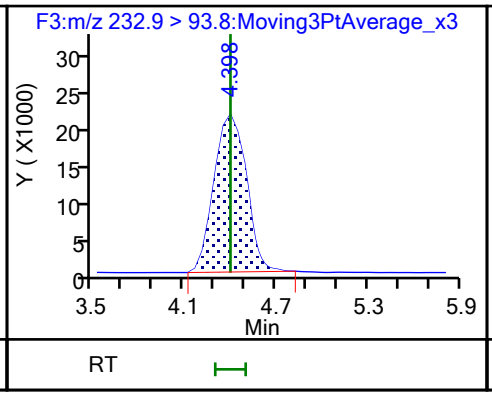

15 Siduron

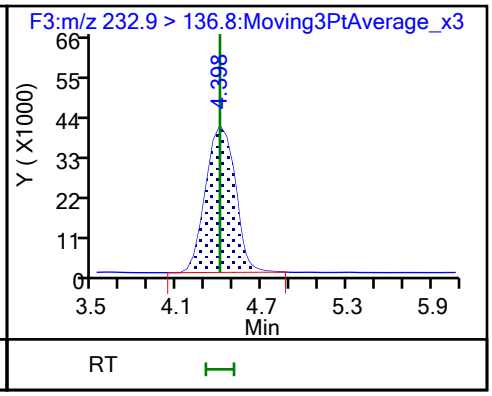

16 Methiocarb

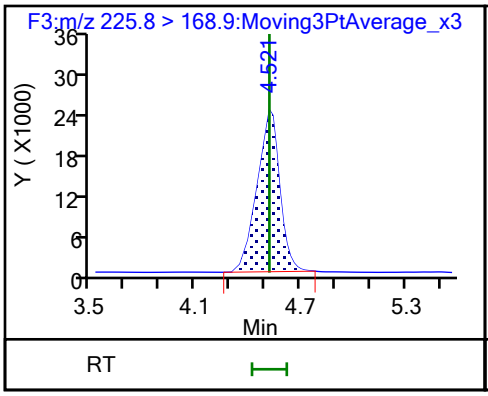

17 Linuron

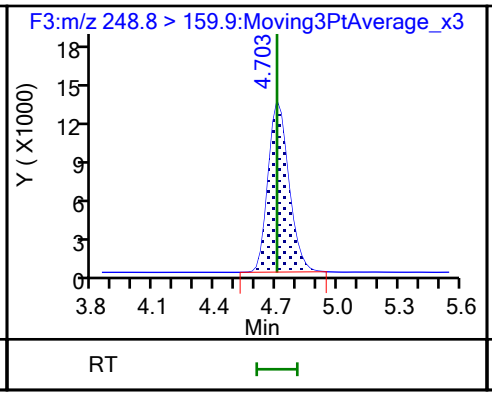

17 Linuron

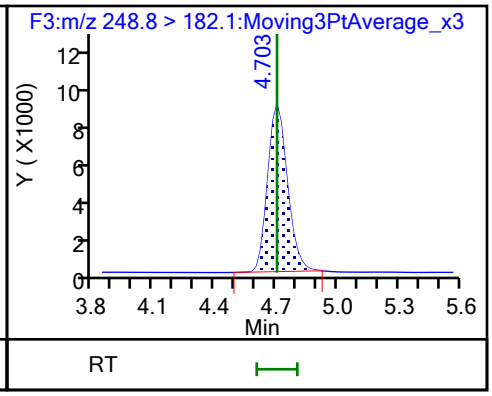

18 Chlorpropham

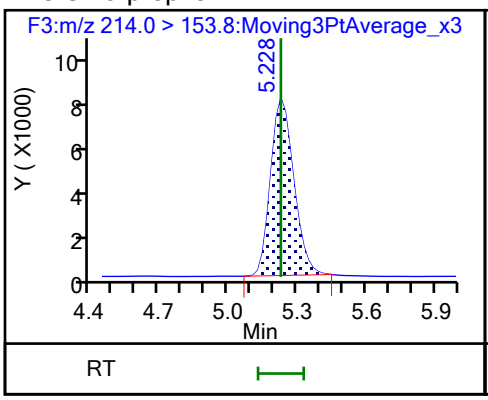

18 Chlorpropham

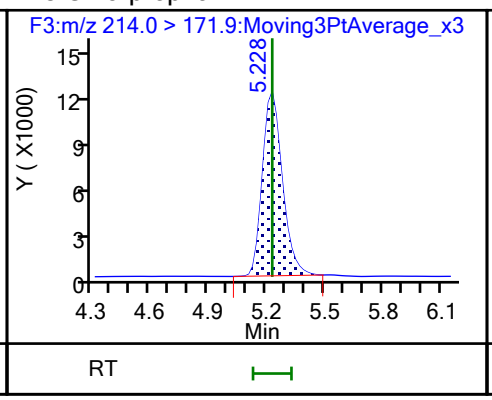

19 Neburon

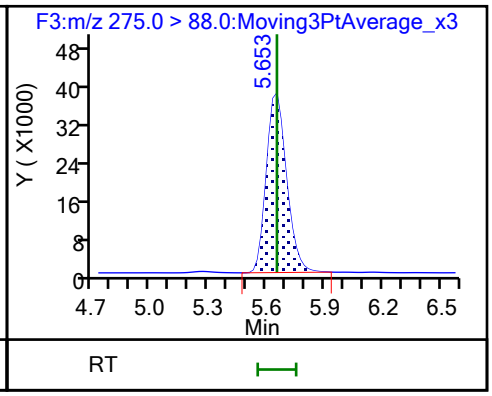

19 Neburon

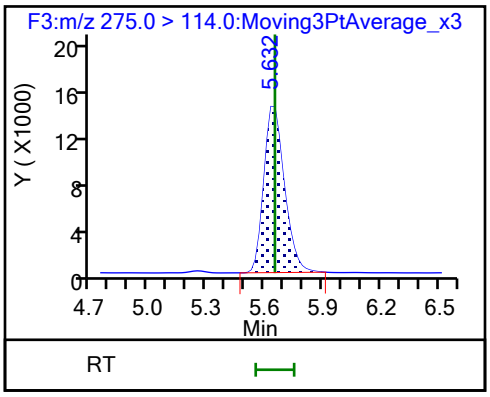
F3:m/z 275.0 > 114.0:Moving3PtAverage_x3
5.632
Y (X1000)
20
16
12
8
4
0
4.7
5.0
5.3
5.6
5.9
6.2
6.5
Min
RT

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

Data File:	\\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20037.d				
Injection Date:	21-Nov-2019 14:25:16	Instrument ID:	LC_LCMS3		
Lims ID:	std020				
Client ID:					
Operator ID:		ALS Bottle#:	5	Worklist Smp#:	7
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	Carbs8321	Limit Group:	LC - 8321A Carbamates		
Column:		Detector	F2:MRM		

11 Diuron, CAS: 330-54-1

Signal: 1

Processing Integration Results

RT: 3.73
Area: 71630
Amount: 21.281630
Amount Units: ug/l

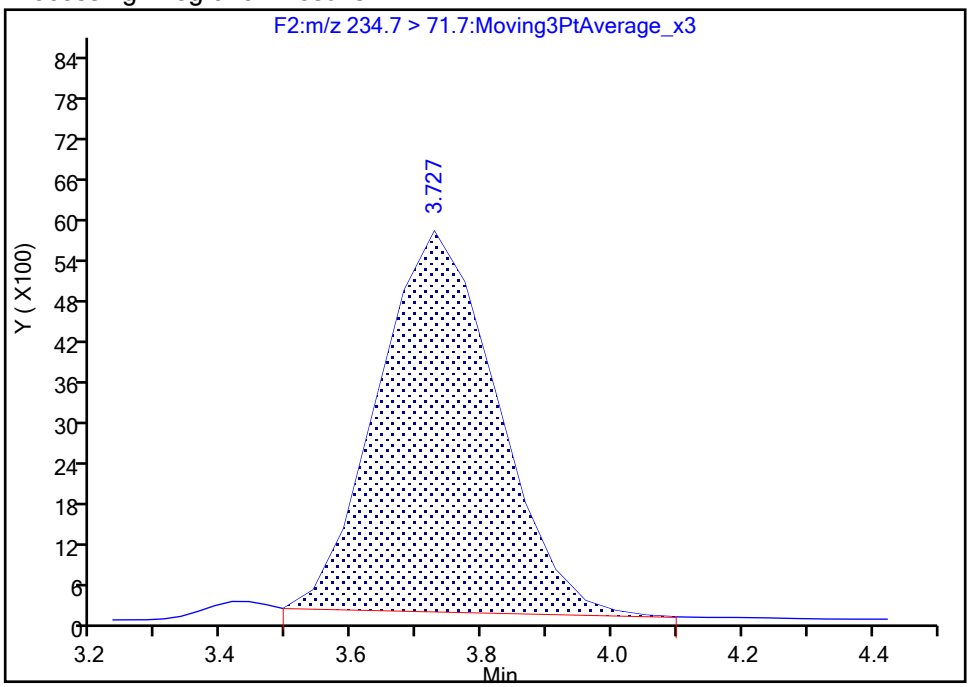

Manual Integration Results

RT: 3.73
Area: 76067
Amount: 22.389067
Amount Units: ug/l

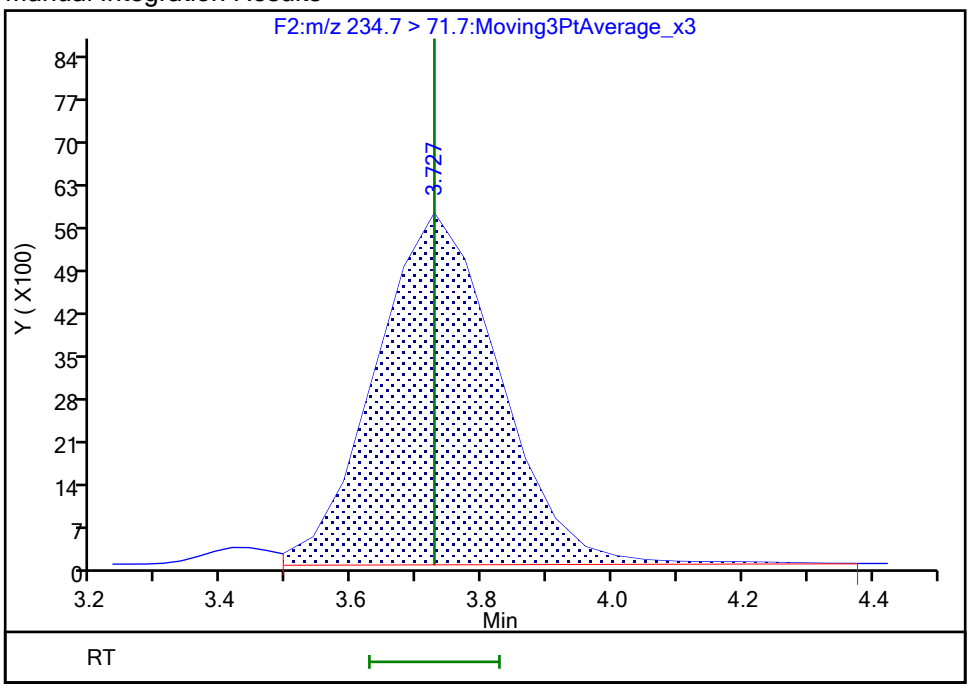

Reviewer: fiedlerh, 22-Nov-2019 18:38:23

Audit Action: Manually Integrated Audit Reason: Baseline

Eurofins TestAmerica, Denver
Target Compound Quantitation Report

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20038.d
Lims ID: std050
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 21-Nov-2019 14:33:23 ALS Bottle#: 6 Worklist Smp#: 8
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: STD050
Misc. Info.: CP319K20
Operator ID: Instrument ID: LC_LCMS3
Sublist: chrom-Carbs8321*sub1

Method: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\Carbs8321.m
Limit Group: LC - 8321A Carbamates
Last Update: 22-Nov-2019 19:25:36 Calib Date: 21-Nov-2019 14:49:37
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20040.d

Column 1 : Det: F1:MRM
Process Host: CTX0304

First Level Reviewer: fiedlerh Date: 22-Nov-2019 18:59:11
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
1 Aminocarb								
209.0 > 152.0	0.730	0.730	0.0	5604873	46.5		9746	
2 Carbamicacid,methyl4-dimethylamino								
223.0 > 165.9	0.949	0.949	0.0	6161478	49.7		8024	
3 Methomyl								
162.6 > 87.8	1.305	1.305	0.0	368265	49.8		1801	
4 Fenuron								
164.7 > 71.7	1.804	1.804	0.0	1380842	48.1		3792	
5 Aldicarb								
212.6 > 88.8	2.522	2.522	0.0	357386	42.9		473	
6 Monuron								R
198.8 > 71.9	2.791	2.791	0.0	683598	50.4	Target=1.00	1494	R
198.8 > 125.9	2.791	2.791	0.0	68463		9.98(0.90-1.10)	818	
7 Propoxur								
272.8 > 232.0	3.126	3.126	0.0	1686350	45.5		1331	
8 Carbofuran								
221.7 > 122.9	3.205	3.205	0.0	1524137	48.4		5906	
9 Fluometuron								
232.6 > 45.7	3.415	3.415	0.0	247657	50.7		104	
10 Carbaryl								
201.8 > 144.8	3.494	3.494	0.0	1115616	52.0		6560	
$ 12 Atrazine-d5								
221.0 > 179.0	3.587	3.587	0.0	2971033	58.8		5539	
$ 13 Diuron-d6								
238.9 > 77.9	3.680	3.680	0.0	266796	53.4		984	

Report Date: 22-Nov-2019 19:25:36 Chrom Revision: 2.3 09-Oct-2019 11:13:36
Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20038.d
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
11 Diuron								R
234.7 > 71.7	3.727	3.727	0.0	180217	53.0	Target=1.00	215	R
232.8 > 71.7	3.727	3.727	0.0	238296		0.76(0.90-1.10)	2.1	
14 Propham								
137.6 > 91.8	4.212	4.212	0.0	143563	50.4		601	
15 Siduron								R
232.9 > 93.8	4.398	4.398	0.0	865535	52.2	Target=1.00	1152	R
232.9 > 136.8	4.398	4.398	0.0	1317236		0.66(0.90-1.10)	699	
16 Methiocarb								
225.8 > 168.9	4.521	4.521	0.0	522550	50.9		1154	
17 Linuron								R
248.8 > 159.9	4.703	4.703	0.0	235166	52.7	Target=1.00	1888	R
248.8 > 182.1	4.703	4.703	0.0	149239		1.58(0.90-1.10)	1428	
18 Chlorpropham								R
214.0 > 153.8	5.228	5.228	0.0	132688	49.2	Target=1.00	849	R
214.0 > 171.9	5.228	5.228	0.0	224115		0.59(0.90-1.10)	986	
19 Neburon								R
275.0 > 88.0	5.653	5.653	0.0	672338	51.6	Target=1.00	1327	R
275.0 > 114.0	5.653	5.653	0.0	266165		2.53(0.90-1.10)	830	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Reagents:

Carb_CS_Cal_00033 Amount Added: 100.00 Units: uL

Report Date: 22-Nov-2019 19:25:36 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Denver

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20038.d

Injection Date: 21-Nov-2019 14:33:23 Instrument ID: LC_LCMS3

Lims ID: std050

Client ID:

Operator ID: ALS Bottle#: 6 Worklist Smp#: 8

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: Carbs8321 Limit Group: LC - 8321A Carbamates

1 Aminocarb

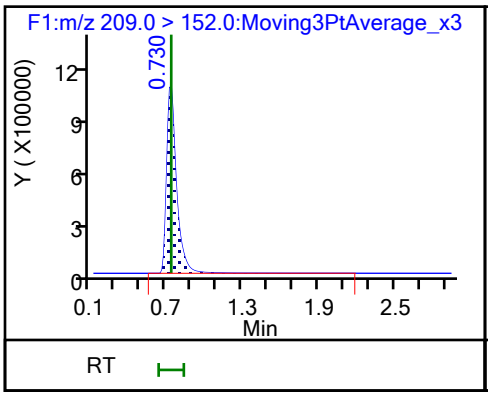

2 Carbamicacid,methyl4-dimethylamino

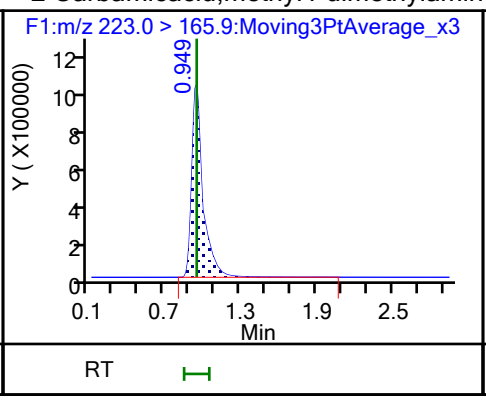

3 Methomyl

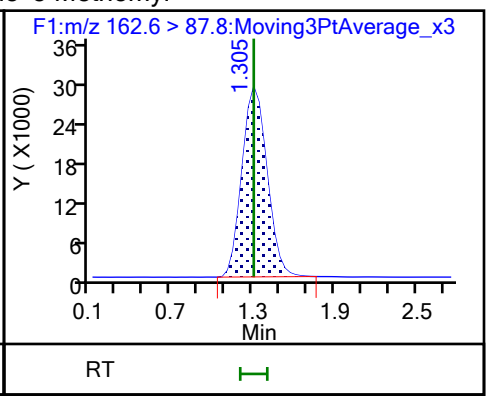

4 Fenuron

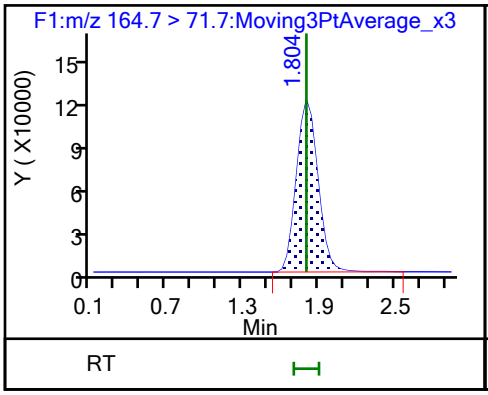

5 Aldicarb

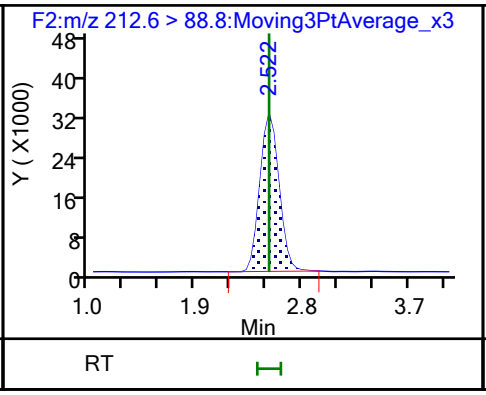

6 Monuron

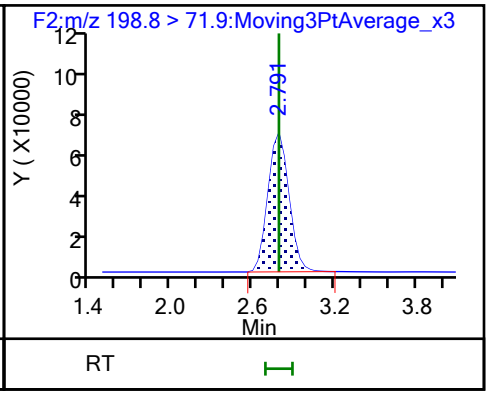

6 Monuron

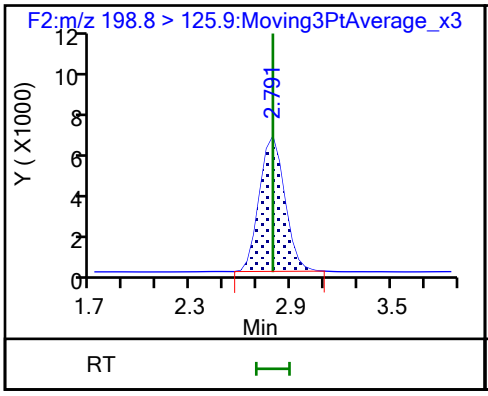

7 Propoxur

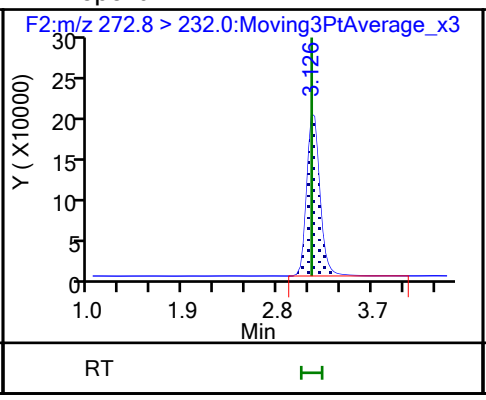

8 Carbofuran

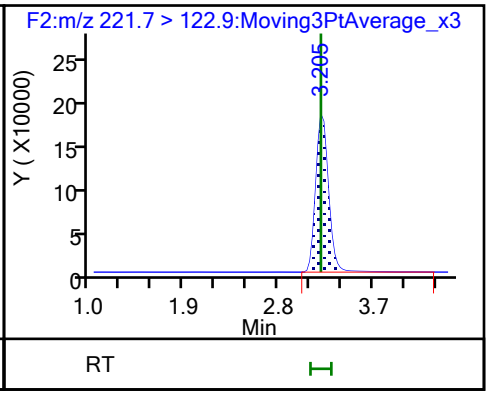

9 Fluometuron

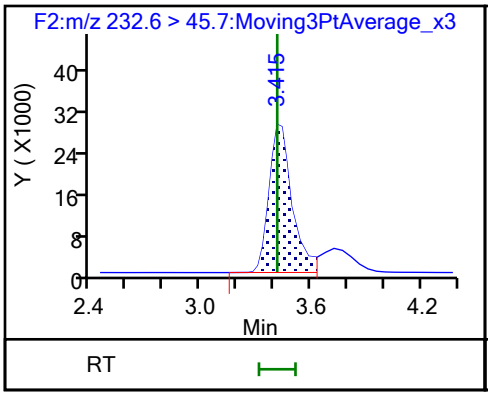

10 Carbaryl

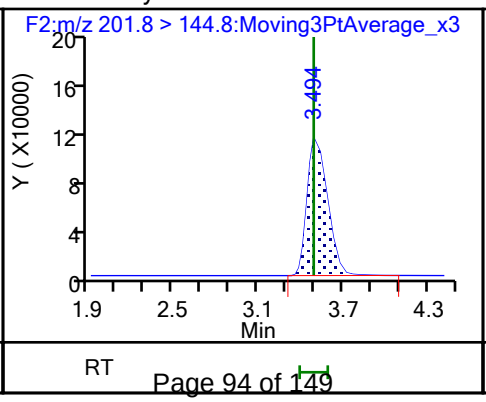

$ 12 Atrazine-d5

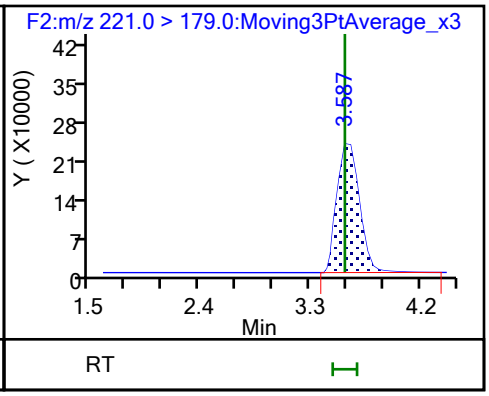

$ 13 Diuron-d6

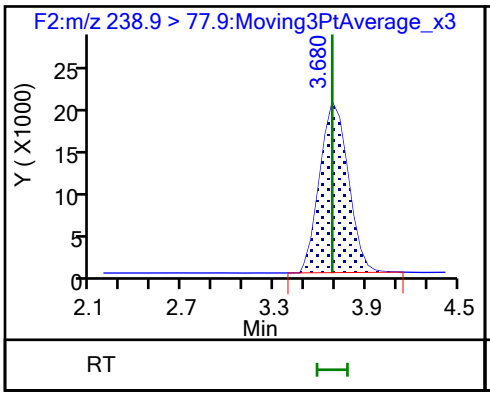

11 Diuron

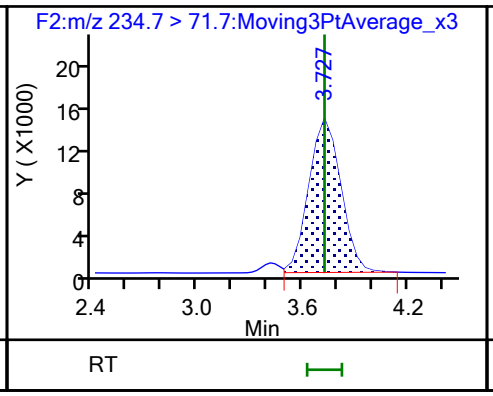

11 Diuron

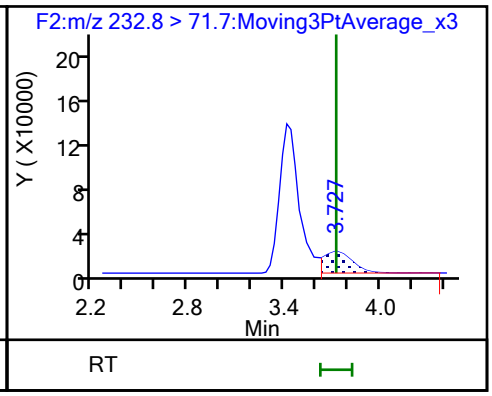

14 Propham

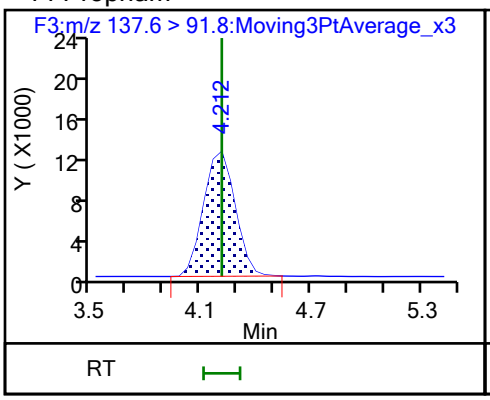

15 Siduron

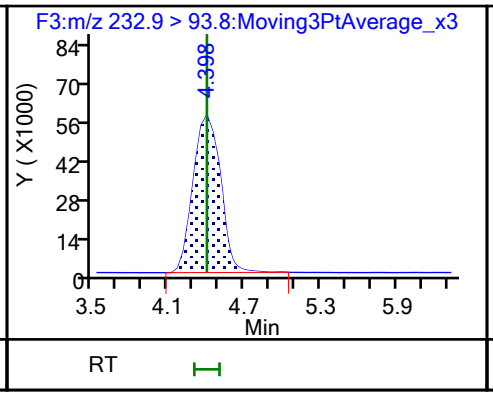

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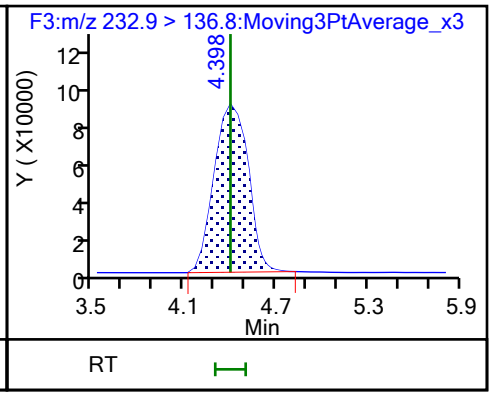

16 Methiocarb

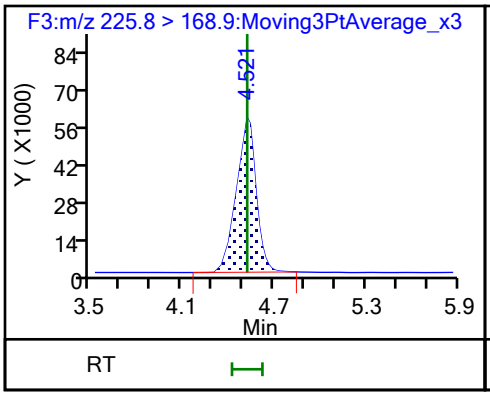

17 Linuron

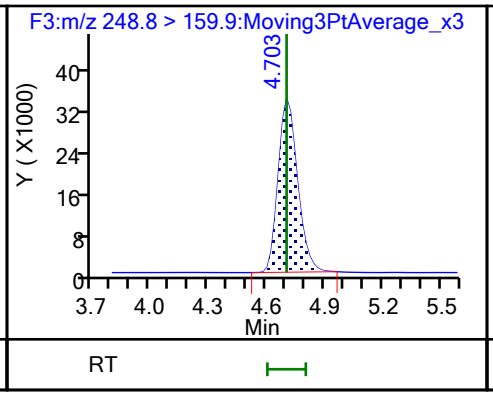

17 Linuron

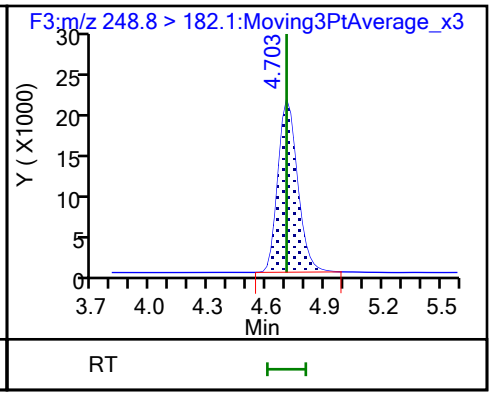

18 Chlorpropham

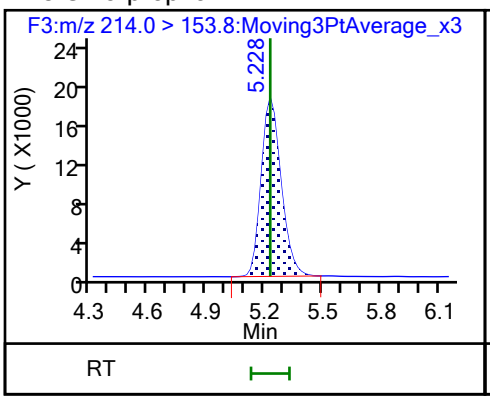

18 Chlorpropham

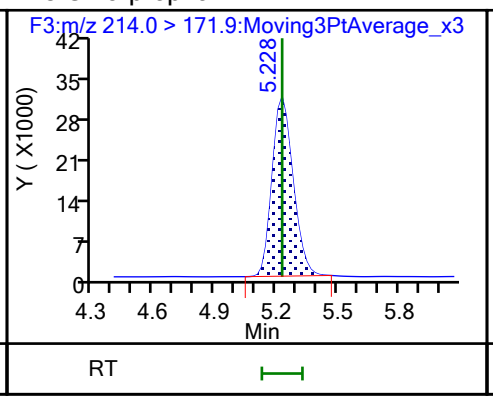

19 Neburon

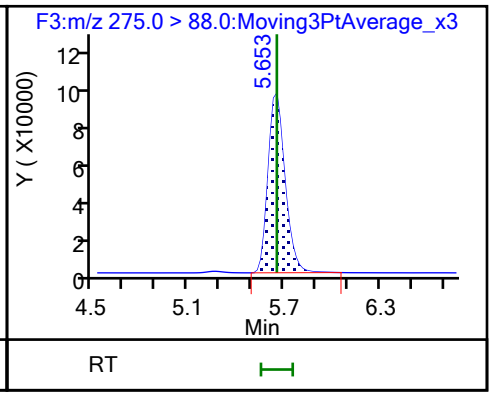

19 Neburon

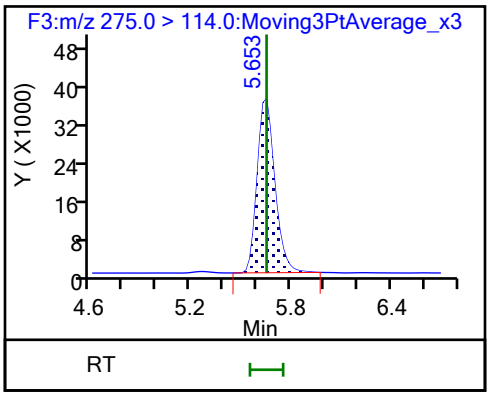
F3:m/z 275.0 > 114.0:Moving3PtAverage_x3
5.653
Y (X1000)
48
40
32
24
16
8
0
4.6
5.2
5.8
6.4
Min
RT

Eurofins TestAmerica, Denver
Target Compound Quantitation Report

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20039.d
Lims ID: std100
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 21-Nov-2019 14:41:30 ALS Bottle#: 7 Worklist Smp#: 9
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: STD100
Misc. Info.: CP319K20
Operator ID: Instrument ID: LC_LCMS3
Sublist: chrom-Carbs8321*sub1

Method: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\Carbs8321.m
Limit Group: LC - 8321A Carbamates
Last Update: 22-Nov-2019 19:25:39 Calib Date: 21-Nov-2019 14:49:37
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20040.d

Column 1 : Det: F1:MRM
Process Host: CTX0304

First Level Reviewer: fiedlerh Date: 22-Nov-2019 18:59:19
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
1 Aminocarb								
209.0 > 152.0	0.730	0.730	0.0	10202148	105.7		28613	
2 Carbamicacid,methyl4-dimethylamino								
223.0 > 165.9	0.949	0.949	0.0	11229599	90.6		4766	
3 Methomyl								
162.6 > 87.8	1.305	1.305	0.0	672474	91.0		1824	
4 Fenuron								
164.7 > 71.7	1.804	1.804	0.0	2402703	83.7		2824	
5 Aldicarb								
212.6 > 88.8	2.522	2.522	0.0	575941	69.1		768	
6 Monuron								R
198.8 > 71.9	2.791	2.791	0.0	1270465	93.6	Target=1.00	3614	R
198.8 > 125.9	2.791	2.791	0.0	131005		9.70(0.90-1.10)	653	
7 Propoxur								
272.8 > 232.0	3.126	3.126	0.0	2637373	71.1		1415	
8 Carbofuran								
221.7 > 122.9	3.205	3.205	0.0	2733230	86.8		5918	
9 Fluometuron								
232.6 > 45.7	3.415	3.415	0.0	458867	93.9		104	
10 Carbaryl								
201.8 > 144.8	3.494	3.494	0.0	1921460	89.6		8006	
$ 12 Atrazine-d5								
221.0 > 179.0	3.587	3.587	0.0	4517826	89.4		9921	
$ 13 Diuron-d6								
238.9 > 77.9	3.680	3.680	0.0	481752	96.5		1948	

Report Date: 22-Nov-2019 19:25:39 Chrom Revision: 2.3 09-Oct-2019 11:13:36
Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20039.d
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
11 Diuron								R
234.7 > 71.7	3.727	3.727	0.0	339679	100.0	Target=1.00	213	R
232.8 > 71.7	3.727	3.727	0.0	470051		0.72(0.90-1.10)	2.4	
14 Propham								
137.6 > 91.8	4.212	4.212	0.0	281420	98.1		1223	
15 Siduron								R
232.9 > 93.8	4.398	4.398	0.0	1697537	102.3	Target=1.00	888	R
232.9 > 136.8	4.398	4.398	0.0	2616097		0.65(0.90-1.10)	989	
16 Methiocarb								
225.8 > 168.9	4.521	4.521	0.0	976809	95.1		1988	
17 Linuron								R
248.8 > 159.9	4.703	4.703	0.0	453335	101.6	Target=1.00	1701	R
248.8 > 182.1	4.703	4.703	0.0	300890		1.51(0.90-1.10)	1735	
18 Chlorpropham								R
214.0 > 153.8	5.228	5.228	0.0	256319	95.1	Target=1.00	1590	R
214.0 > 171.9	5.228	5.228	0.0	467645		0.55(0.90-1.10)	1592	
19 Neburon								R
275.0 > 88.0	5.653	5.653	0.0	1281201	98.4	Target=1.00	1305	R
275.0 > 114.0	5.653	5.653	0.0	528164		2.43(0.90-1.10)	1045	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Reagents:

Carb_CS_Cal_00033 Amount Added: 200.00 Units: uL

Report Date: 22-Nov-2019 19:25:39 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Denver

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20039.d

Injection Date: 21-Nov-2019 14:41:30 Instrument ID: LC_LCMS3

Lims ID: std100

Client ID:

Operator ID: ALS Bottle#: 7 Worklist Smp#: 9

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: Carbs8321 Limit Group: LC - 8321A Carbamates

1 Aminocarb

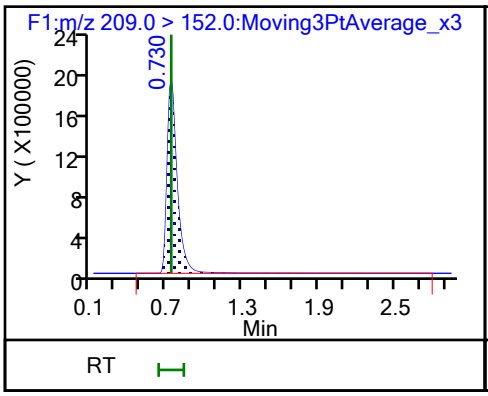

2 Carbamicacid,methyl4-dimethylamino

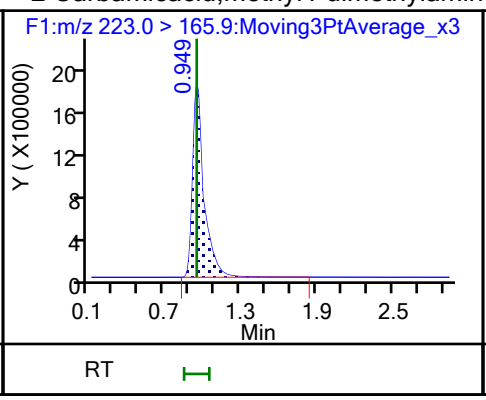

3 Methomyl

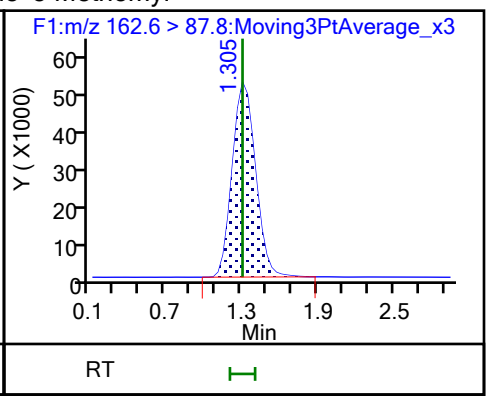

4 Fenuron

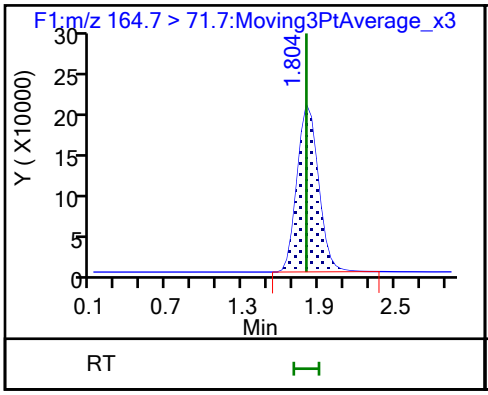

5 Aldicarb

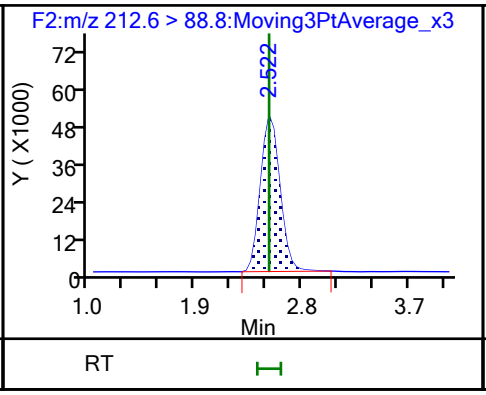

6 Monuron

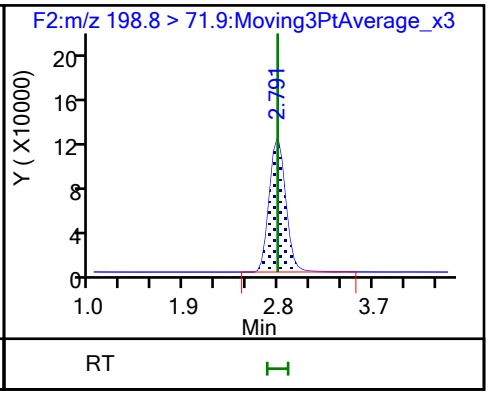

6 Monuron

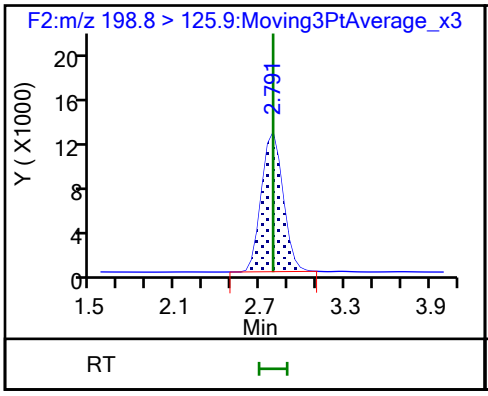

7 Propoxur

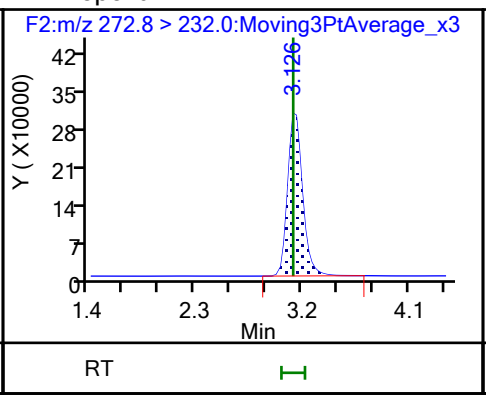

8 Carbofuran

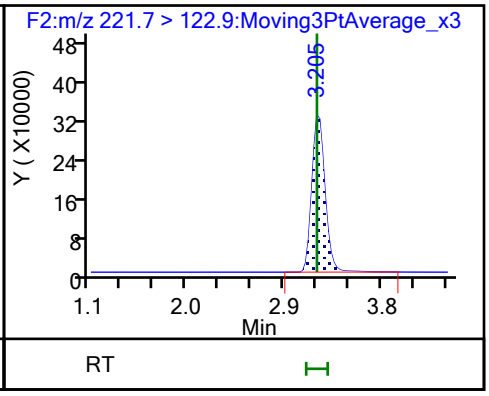

9 Fluometuron

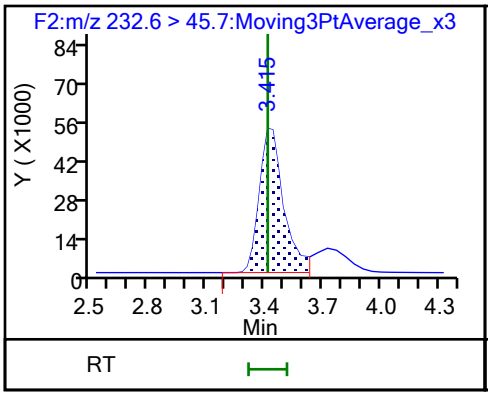

10 Carbaryl

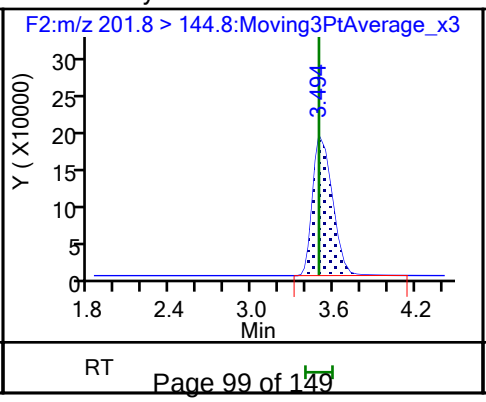

$ 12 Atrazine-d5

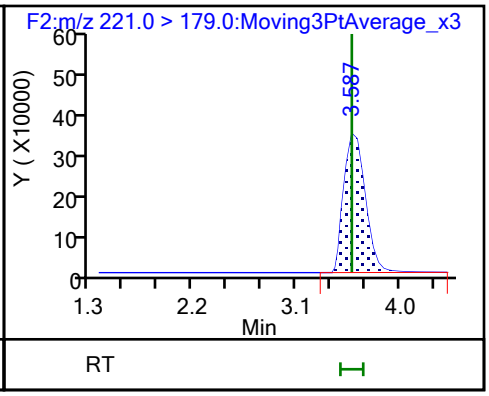

$ 13 Diuron-d6

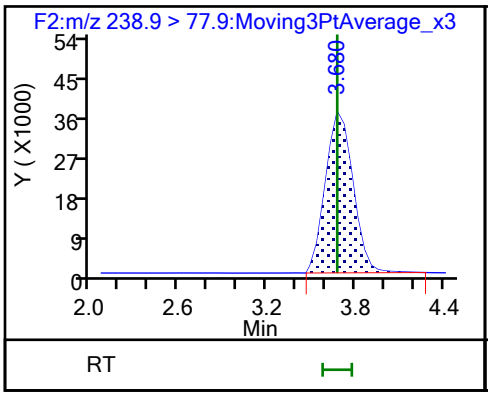

11 Diuron

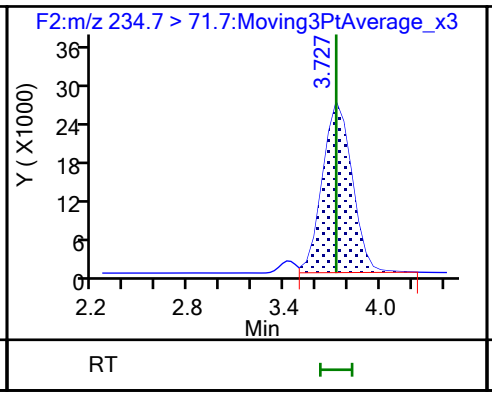

11 Diuron

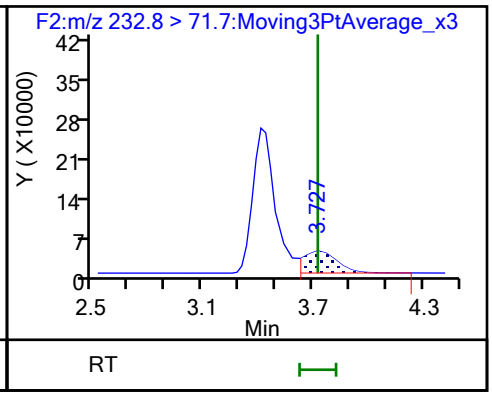

14 Propham

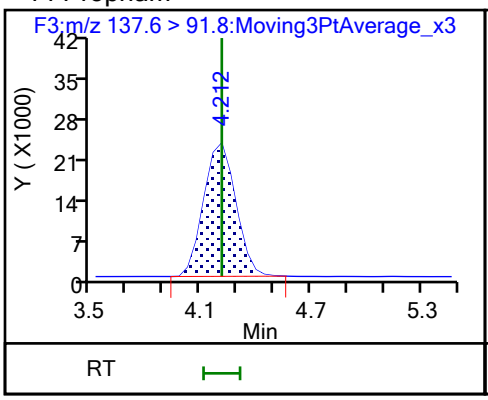

15 Siduron

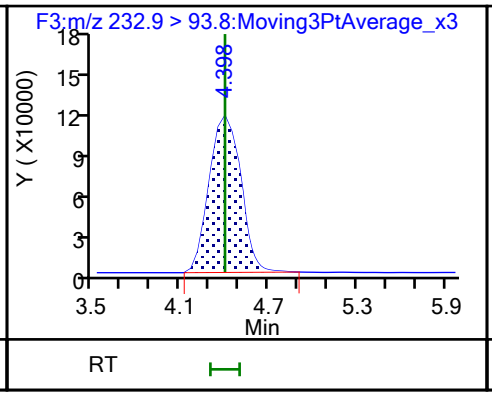

15 Siduron

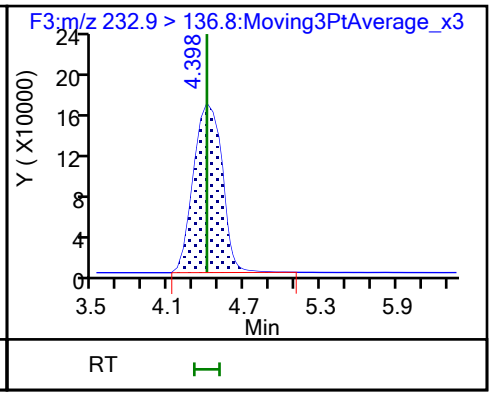

16 Methiocarb

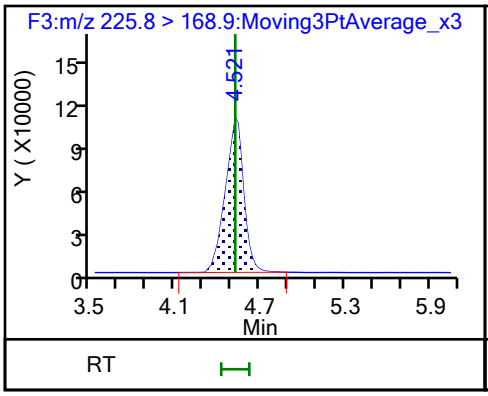

17 Linuron

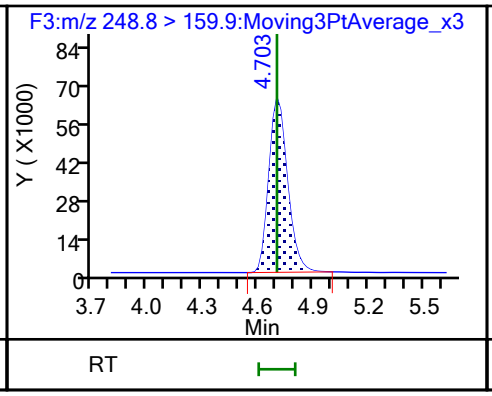

17 Linuron

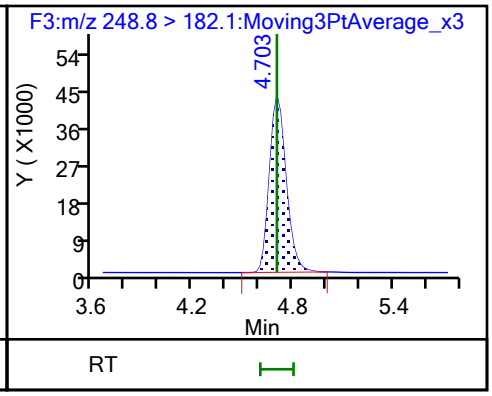

18 Chlorpropham

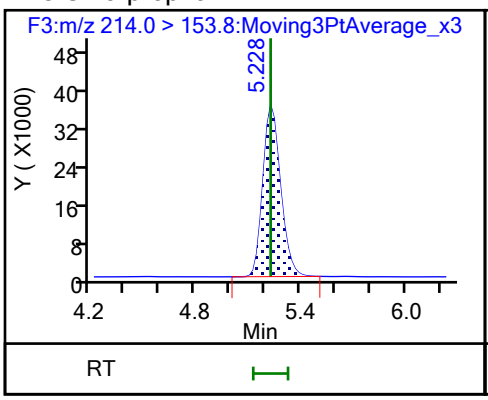

18 Chlorpropham

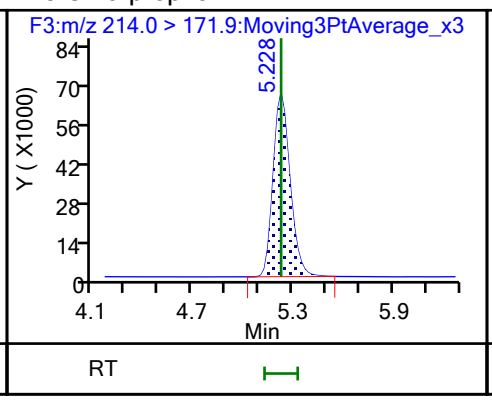

19 Neburon

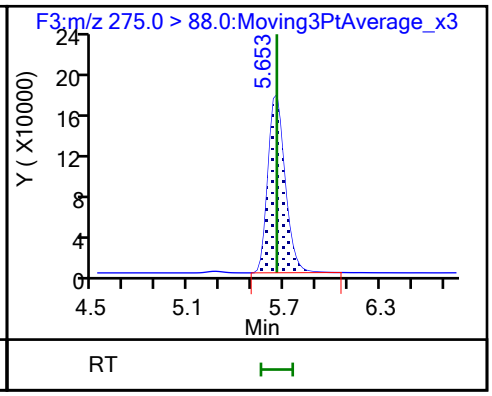

19 Neburon

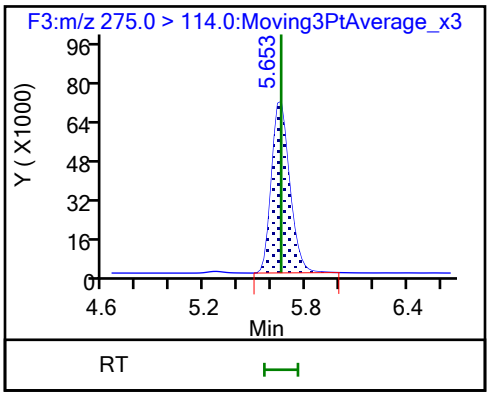
F3:m/z 275.0 > 114.0:Moving3PtAverage_x3
5.653
Y (X1000)
96
80
64
48
32
16
0
4.6
5.2
5.8
6.4
Min
RT

Eurofins TestAmerica, Denver
Target Compound Quantitation Report

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20040.d
Lims ID: std200
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 21-Nov-2019 14:49:37 ALS Bottle#: 8 Worklist Smp#: 10
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: STD200
Misc. Info.: CP319K20
Operator ID: Instrument ID: LC_LCMS3
Sublist: chrom-Carbs8321*sub1

Method: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\Carbs8321.m
Limit Group: LC - 8321A Carbamates
Last Update: 22-Nov-2019 19:25:41 Calib Date: 21-Nov-2019 14:49:37
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20040.d

Column 1 : Det: F1:MRM
Process Host: CTX0304

First Level Reviewer: fiedlerh Date: 22-Nov-2019 18:59:27
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
1 Aminocarb								
209.0 > 152.0	0.730	0.730	0.0	10889605	121.6		17.9	
2 Carbamicacid,methyl4-dimethylamino								
223.0 > 165.9	0.949	0.949	0.0	20597887	166.2		5675	
3 Methomyl								
162.6 > 87.8	1.305	1.305	0.0	1212952	164.1		1826	
4 Fenuron								
164.7 > 71.7	1.804	1.804	0.0	4259735	148.4		4617	
5 Aldicarb								
212.6 > 88.8	2.522	2.522	0.0	896478	107.5		1199	
6 Monuron								R
198.8 > 71.9	2.791	2.791	0.0	2397297	176.6	Target=1.00	2905	R
198.8 > 125.9	2.791	2.791	0.0	259412		9.24(0.90-1.10)	1345	
7 Propoxur								
272.8 > 232.0	3.126	3.126	0.0	4196237	113.1		2021	
8 Carbofuran								
221.7 > 122.9	3.205	3.205	0.0	5124213	162.7		13802	
9 Fluometuron								
232.6 > 45.7	3.415	3.415	0.0	891391	182.5		103	
10 Carbaryl								
201.8 > 144.8	3.494	3.494	0.0	3717423	173.3		14306	
$ 12 Atrazine-d5								
221.0 > 179.0	3.587	3.587	0.0	11601101	229.6		24434	
$ 13 Diuron-d6								
238.9 > 77.9	3.680	3.680	0.0	957085	191.7		5638	

Report Date: 22-Nov-2019 19:25:41 Chrom Revision: 2.3 09-Oct-2019 11:13:36
Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20040.d
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
11 Diuron								R
234.7 > 71.7	3.727	3.727	0.0	660653	194.5	Target=1.00	240	R
232.8 > 71.7	3.727	3.727	0.0	916813		0.72(0.90-1.10)	2.2	
14 Propham								
137.6 > 91.8	4.212	4.212	0.0	580691	201.7		1377	
15 Siduron								R
232.9 > 93.8	4.398	4.398	0.0	3633452	219.0	Target=1.00	966	R
232.9 > 136.8	4.398	4.398	0.0	6416378		0.57(0.90-1.10)	1354	
16 Methiocarb								
225.8 > 168.9	4.521	4.521	0.0	1943262	189.3		2333	
17 Linuron								R
248.8 > 159.9	4.703	4.703	0.0	942456	211.1	Target=1.00	3107	R
248.8 > 182.1	4.703	4.703	0.0	630965		1.49(0.90-1.10)	2630	
18 Chlorpropham								R
214.0 > 153.8	5.228	5.228	0.0	532771	197.7	Target=1.00	2354	R
214.0 > 171.9	5.228	5.228	0.0	935648		0.57(0.90-1.10)	2553	
19 Neburon								R
275.0 > 88.0	5.653	5.653	0.0	2600964	199.8	Target=1.00	1225	R
275.0 > 114.0	5.653	5.653	0.0	1028323		2.53(0.90-1.10)	1135	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Reagents:

Carb_CS_Cal_00033 Amount Added: 400.00 Units: uL

Report Date: 22-Nov-2019 19:25:41 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Denver

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20040.d

Injection Date: 21-Nov-2019 14:49:37 Instrument ID: LC_LCMS3

Lims ID: std200

Client ID:

Operator ID: ALS Bottle#: 8 Worklist Smp#: 10

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: Carbs8321 Limit Group: LC - 8321A Carbamates

1 Aminocarb

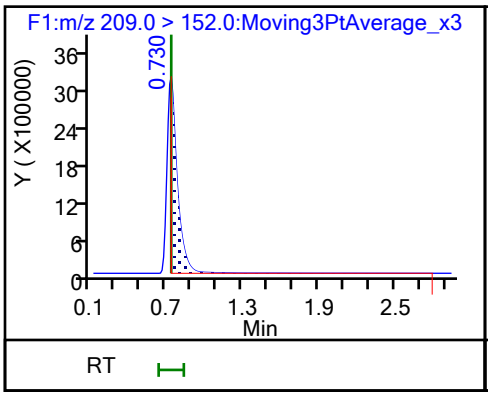

2 Carbamicacid,methyl4-dimethylamino

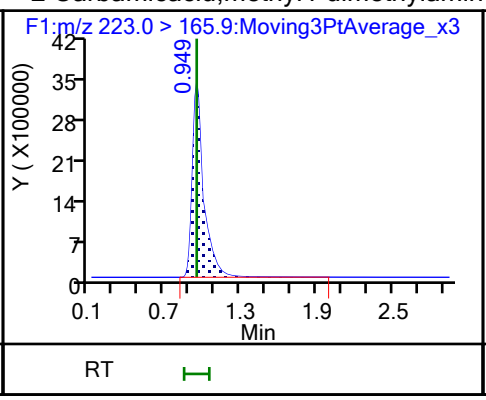

3 Methomyl

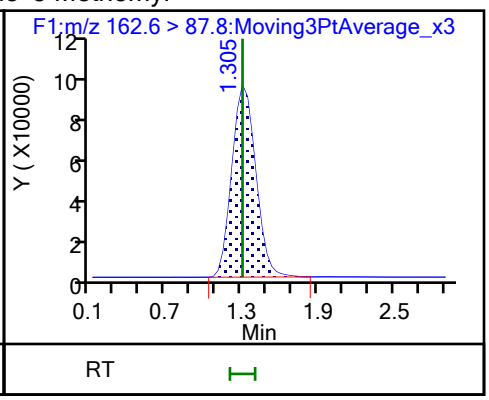

4 Fenuron

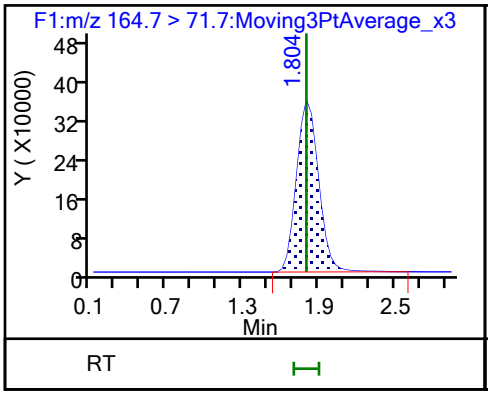

5 Aldicarb

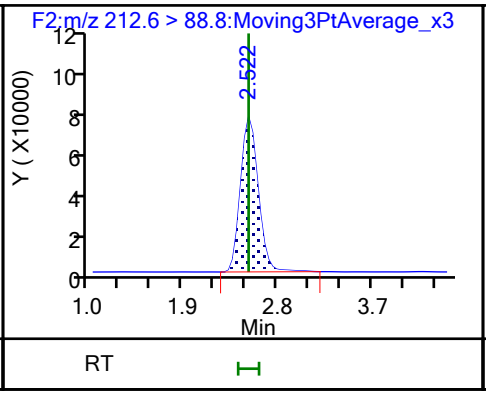

6 Monuron

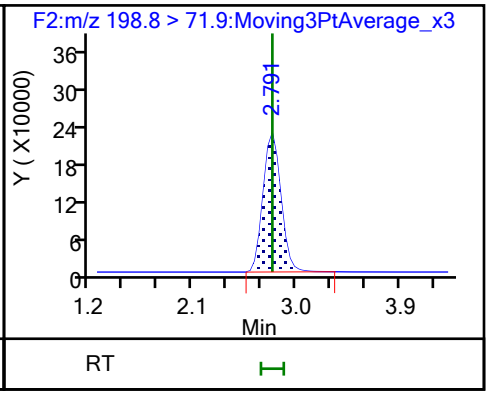

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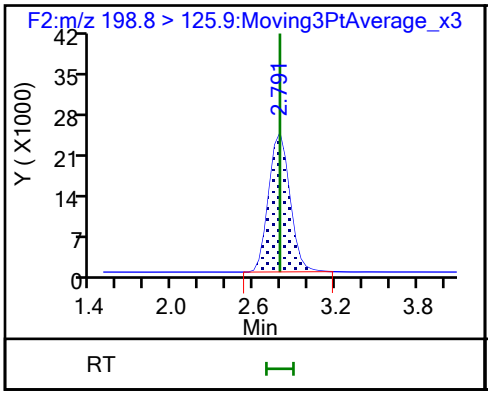

7 Propoxur

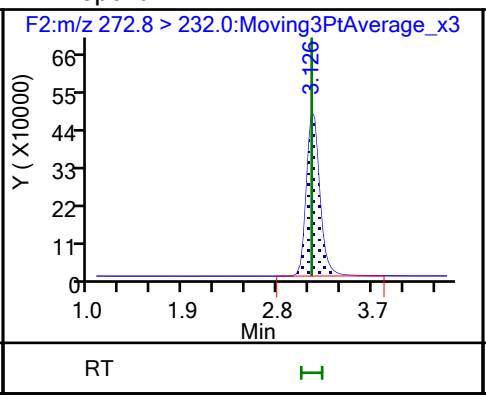

8 Carbofuran

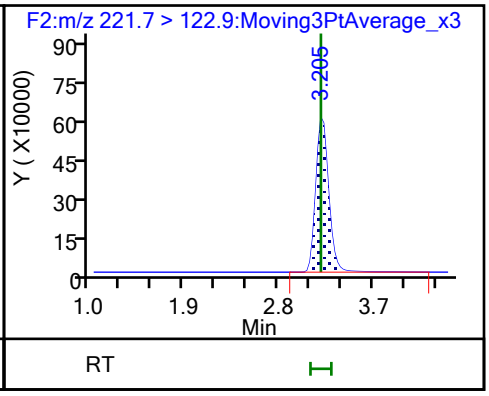

9 Fluometuron

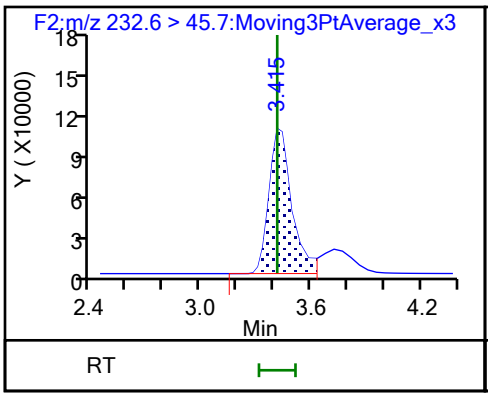

10 Carbaryl

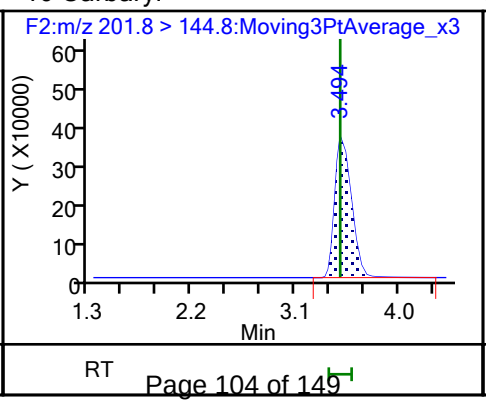

$ 12 Atrazine-d5

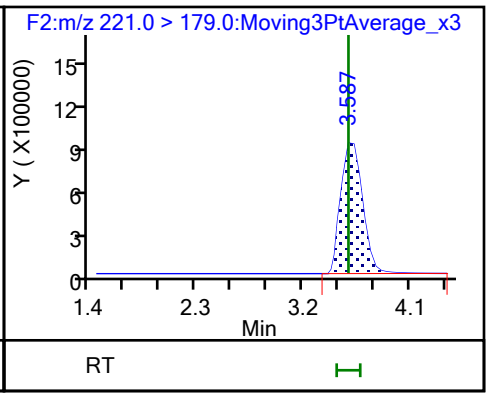

$ 13 Diuron-d6

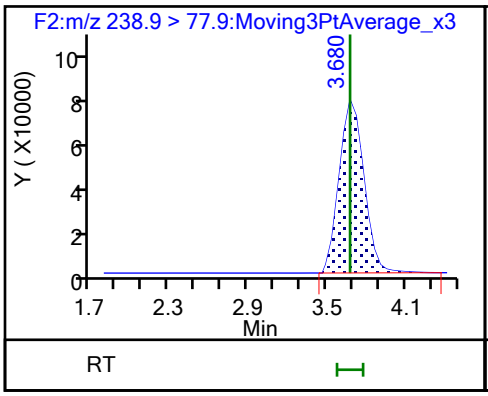

11 Diuron

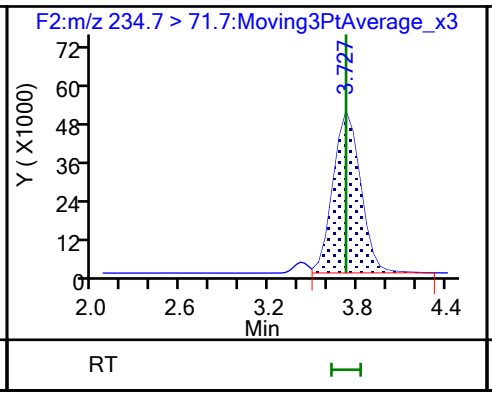

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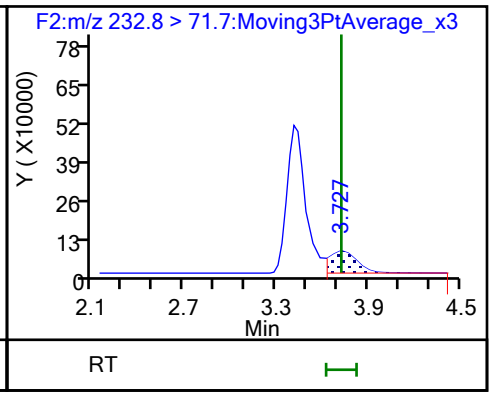

14 Propham

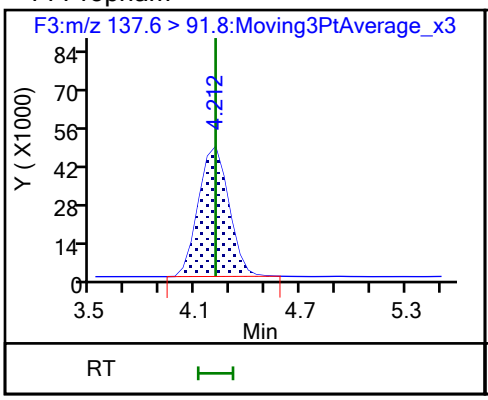

15 Siduron

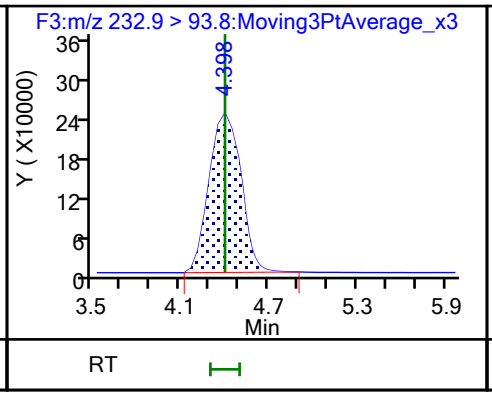

15 Siduron

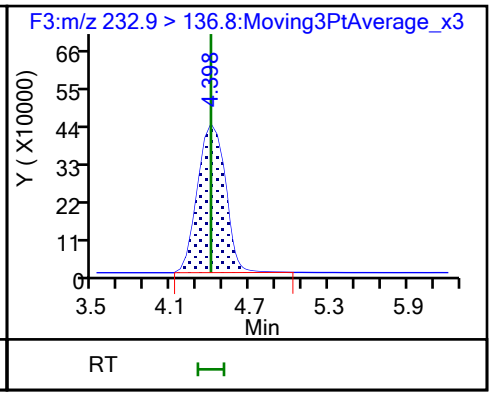

16 Methiocarb

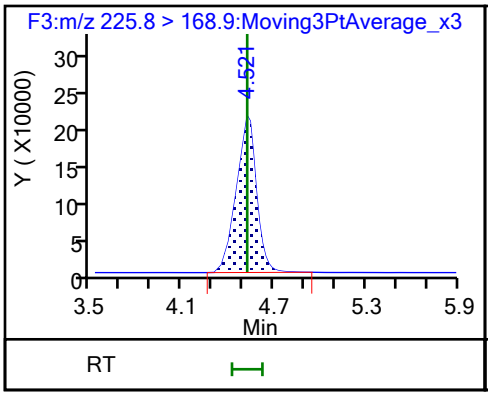

17 Linuron

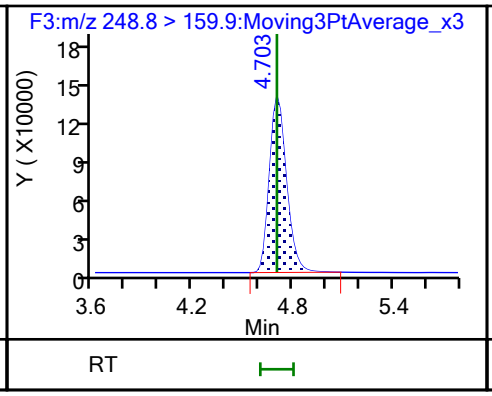

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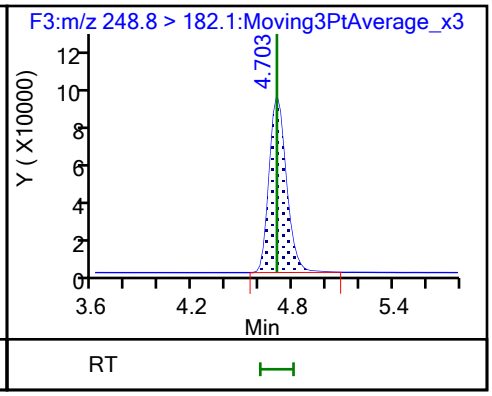

18 Chlorpropham

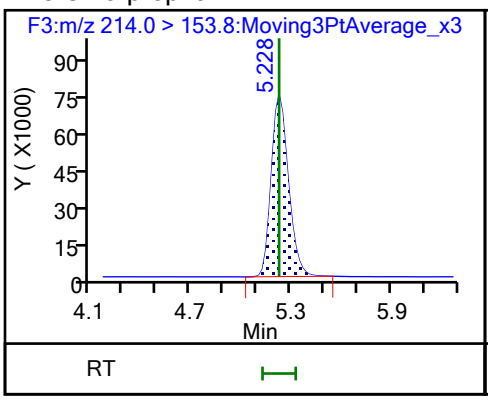

18 Chlorpropham

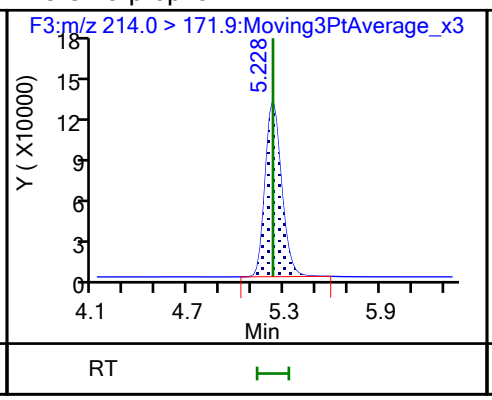

19 Neburon

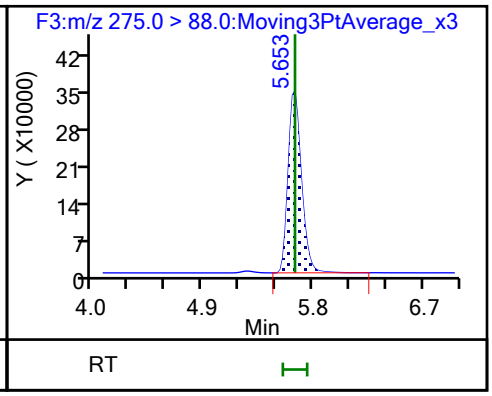

19 Neburon

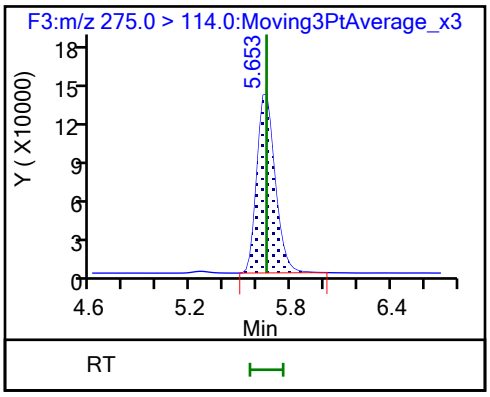
F3:m/z 275.0 > 114.0:Moving3PtAverage_x3
5.653
Y (X10000)
18
15
12
9
6
3
0
4.6
5.2
5.8
6.4
Min
RT

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Denver Job No.: 180-97287-2

SDG No.:

Lab Sample ID: CCV050 280-478590/26 Calibration Date: 11/21/2019 16:59

Instrument ID: LC_LCMS3 Calib Start Date: 11/21/2019 14:00

GC Column: Synergi Hydro 4 ID: 3.00(mm) Calib End Date: 11/21/2019 14:49

Lab File ID: CP319K20056.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Aminocarb	Qua		110053		45.5	50.0	-9.0	30.0
Mexacarbate	Ave	123951	121400		49.0	50.0	-2.1	30.0
Methomyl	Ave	7392	7504		50.8	50.0	1.5	30.0
Fenuron	Ave	28710	26883		46.8	50.0	-6.4	30.0
Aldicarb	Ave	8339	7033		42.2	50.0	-15.7	30.0
Monuron	Ave	13572	13712		50.5	50.0	1.0	30.0
Propoxur	Ave	37097	33277		44.9	50.0	-10.3	30.0
Carbofuran	Ave	31493	30036		47.7	50.0	-4.6	30.0
Fluometuron	Ave	4885	4656		47.7	50.0	-4.7	30.0
Carbaryl	Ave	21446	22214		51.8	50.0	3.6	30.0
Diuron	Ave	3398	3879		57.1	50.0	14.2	30.0
Propham	Lin1		1378		24.6	50.0	-50.8*	30.0
Siduron	Ave	16593	21098		63.6	50.0	27.1	30.0
Methiocarb	Ave	10268	10231		49.8	50.0	-0.4	30.0
Linuron	Ave	4464	4628		51.8	50.0	3.7	30.0
Chlorpropham	Ave	2694	2641		49.0	50.0	-2.0	30.0
Neburon	Ave	13018	13073		50.2	50.0	0.4	30.0
Atrazine-d5	Ave	50533	60336		59.7	50.0	19.4	30.0
Diuron-d6	Ave	4993	5279		53.4	50.5	5.7	30.0

Eurofins TestAmerica, Denver
Target Compound Quantitation Report

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20056.d
Lims ID: CCV050
Client ID:
Sample Type: CCV
Inject. Date: 21-Nov-2019 16:59:35 ALS Bottle#: 6 Worklist Smp#: 26
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: CCV050
Misc. Info.: CP319K20
Operator ID: Instrument ID: LC_LCMS3
Sublist: chrom-Carbs8321*sub1

Method: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\Carbs8321.m
Limit Group: LC - 8321A Carbamates
Last Update: 22-Nov-2019 19:24:59 Calib Date: 21-Nov-2019 14:49:37
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20040.d

Column 1 : Det: F1:MRM
Process Host: CTX0304

First Level Reviewer: fiedlerh Date: 22-Nov-2019 19:15:49
Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
1 Aminocarb								M
209.0 > 152.0	0.718	0.730	-0.012	5502639	45.5		4378	M
2 Carbamicacid,methyl4-dimethylamino								
223.0 > 165.9	0.949	0.949	0.0	6069985	49.0		4782	
3 Methomyl								
162.6 > 87.8	1.305	1.305	0.0	375197	50.8		1554	
4 Fenuron								
164.7 > 71.7	1.804	1.804	0.0	1344165	46.8		2351	
5 Aldicarb								
212.6 > 88.8	2.522	2.522	0.0	351668	42.2		403	
6 Monuron								R
198.8 > 71.9	2.791	2.791	0.0	685576	50.5	Target=1.00	1773	R
198.8 > 125.9	2.791	2.791	0.0	69564		9.86(0.90-1.10)	374	
7 Propoxur								
272.8 > 232.0	3.126	3.126	0.0	1663827	44.9		1543	
8 Carbofuran								
221.7 > 122.9	3.205	3.205	0.0	1501820	47.7		3734	
9 Fluometuron								
232.6 > 45.7	3.415	3.415	0.0	232780	47.7		92.1	
10 Carbaryl								
201.8 > 144.8	3.494	3.494	0.0	1110717	51.8		5638	
$ 12 Atrazine-d5								
221.0 > 179.0	3.587	3.587	0.0	3016793	59.7		5723	
$ 13 Diuron-d6								
238.9 > 77.9	3.680	3.680	0.0	266567	53.4		1743	

Report Date: 22-Nov-2019 19:25:00 Chrom Revision: 2.3 09-Oct-2019 11:13:36
Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20056.d
Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
11 Diuron								R
234.7 > 71.7	3.727	3.727	0.0	193950	57.1	Target=1.00	194	R
232.8 > 71.7	3.727	3.727	0.0	296788		0.65(0.90-1.10)	2.6	
14 Propham								
137.6 > 91.8	4.212	4.212	0.0	68916	24.6		341	
15 Siduron								R
232.9 > 93.8	4.398	4.398	0.0	1054877	63.6	Target=1.00	789	R
232.9 > 136.8	4.398	4.398	0.0	1571305		0.67(0.90-1.10)	1240	
16 Methiocarb								
225.8 > 168.9	4.521	4.521	0.0	511551	49.8		1010	
17 Linuron								R
248.8 > 159.9	4.703	4.703	0.0	231384	51.8	Target=1.00	1382	R
248.8 > 182.1	4.703	4.703	0.0	148201		1.56(0.90-1.10)	1160	
18 Chlorpropham								R
214.0 > 153.8	5.228	5.228	0.0	132030	49.0	Target=1.00	683	R
214.0 > 171.9	5.208	5.228	-0.020	231350		0.57(0.90-1.10)	1041	
19 Neburon								R
275.0 > 88.0	5.632	5.653	-0.021	653650	50.2	Target=1.00	982	R
275.0 > 114.0	5.632	5.653	-0.021	272474		2.40(0.90-1.10)	1021	

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Review Flags
M - Manually Integrated

Reagents:

Carb_CS_Cal_00033 Amount Added: 100.00 Units: uL

Report Date: 22-Nov-2019 19:25:00 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Denver

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20056.d

Injection Date: 21-Nov-2019 16:59:35 Instrument ID: LC_LCMS3

Lims ID: CCV050

Client ID:

Operator ID: ALS Bottle#: 6 Worklist Smp#: 26

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: Carbs8321 Limit Group: LC - 8321A Carbamates

1 Aminocarb (M)

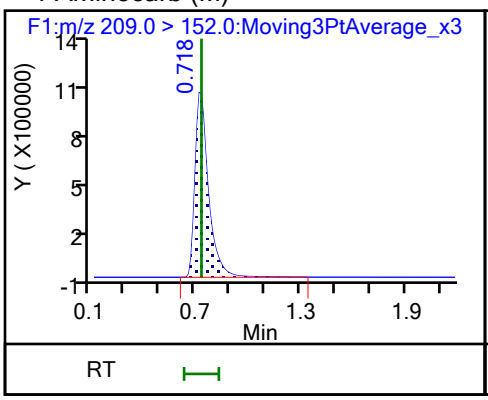

2 Carbamicacid,methyl4-dimethylamino

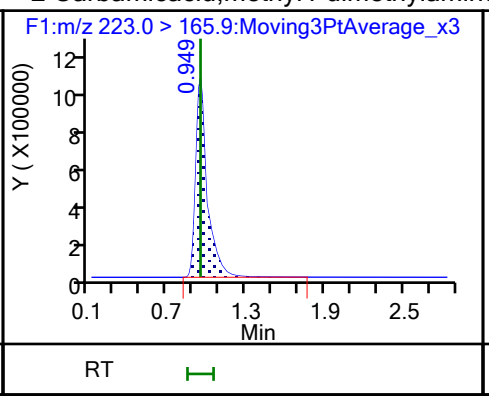

3 Methomyl

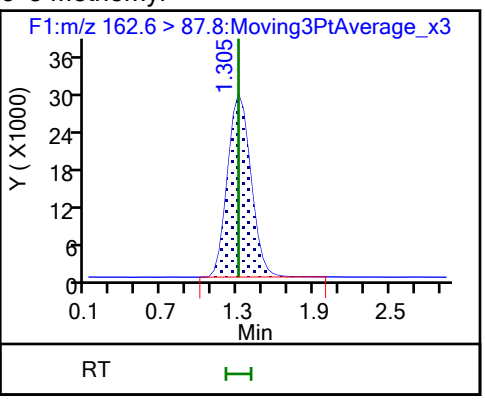

4 Fenuron

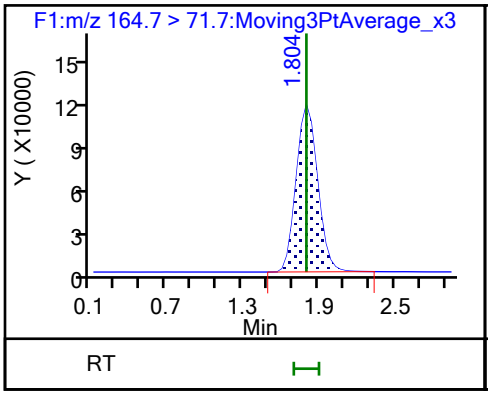

5 Aldicarb

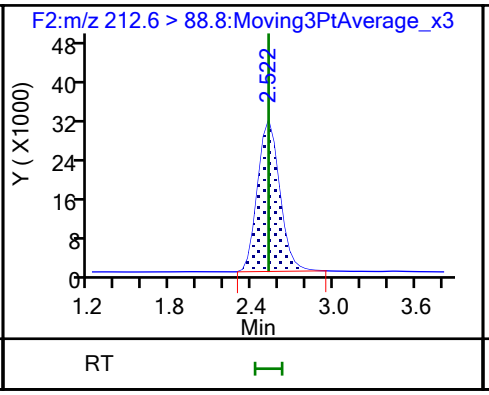

6 Monuron

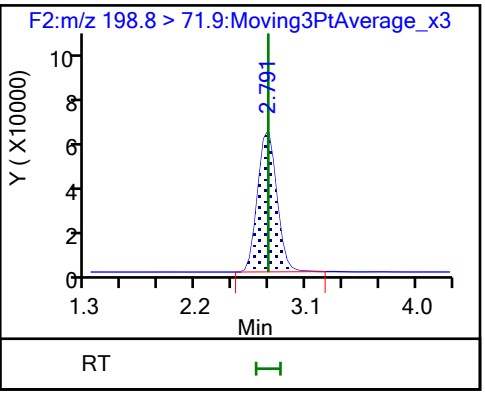

6 Monuron

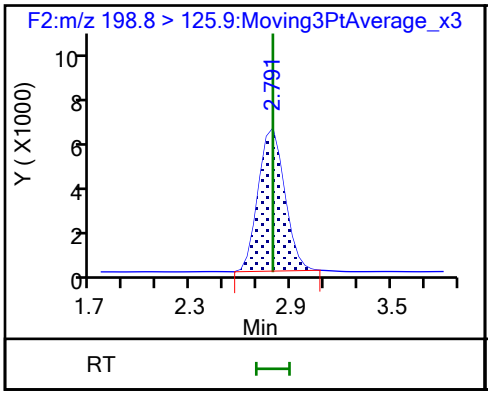

7 Propoxur

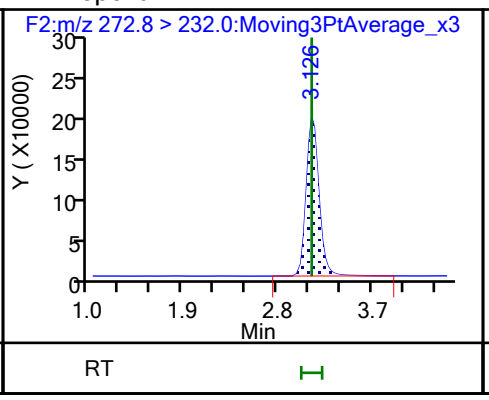

8 Carbofuran

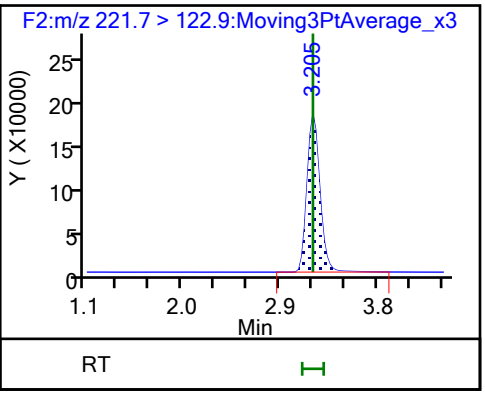

9 Fluometuron

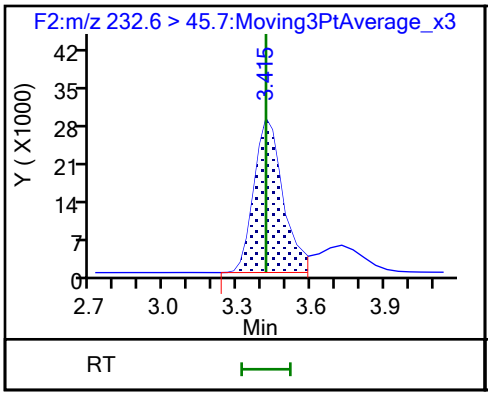

10 Carbaryl

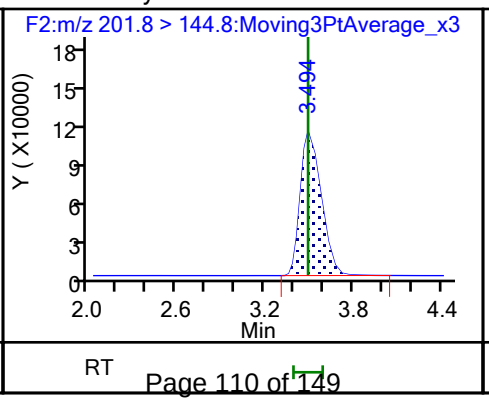

$ 12 Atrazine-d5

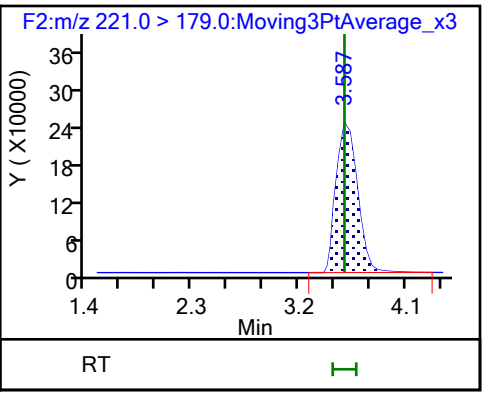

$ 13 Diuron-d6

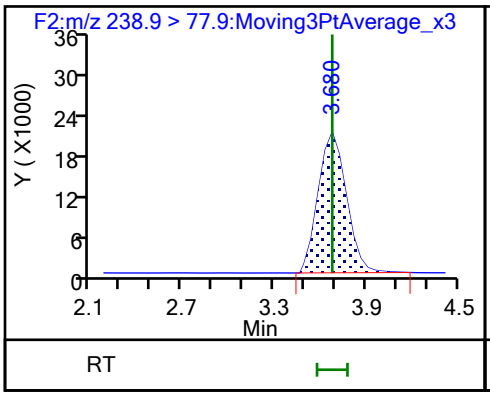

11 Diuron

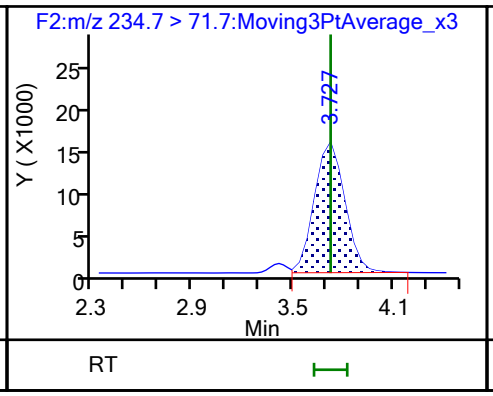

11 Diuron

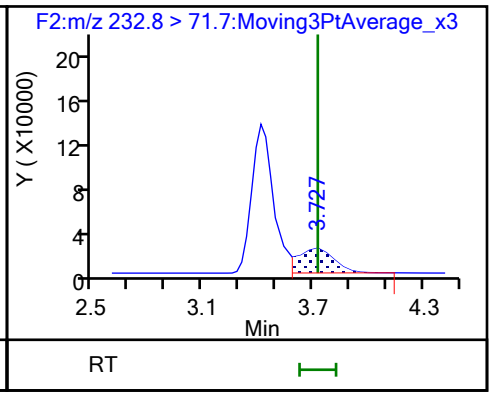

14 Propham

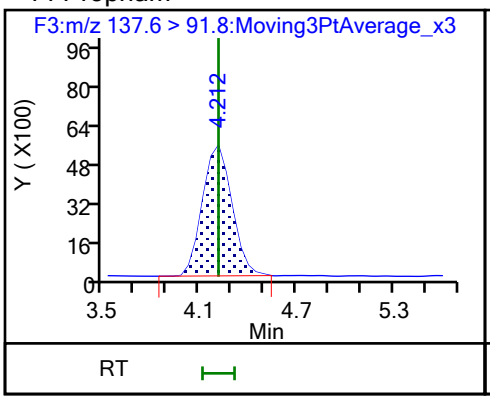

15 Siduron

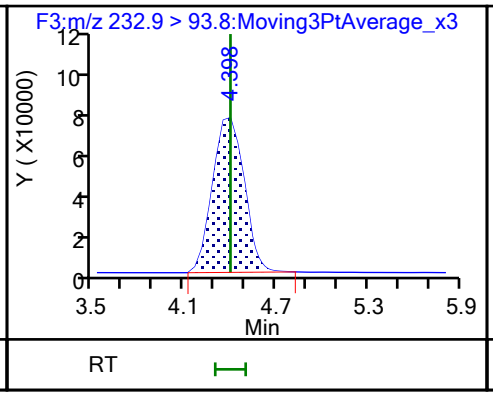

15 Siduron

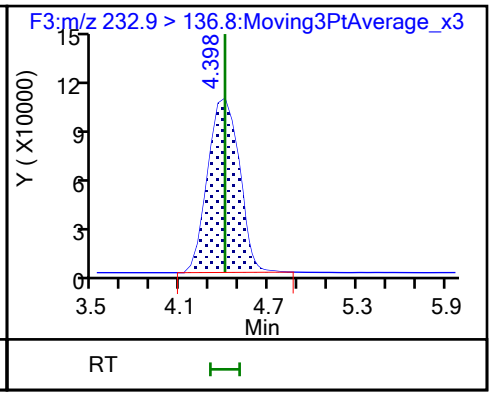

16 Methiocarb

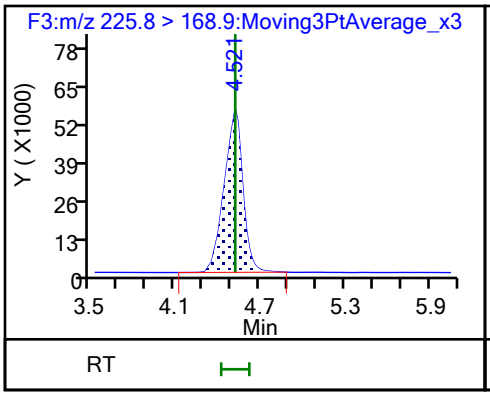

17 Linuron

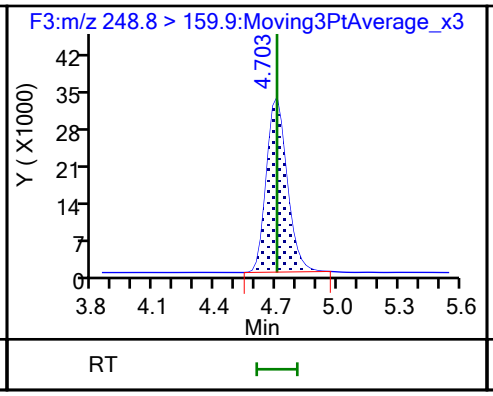

17 Linuron

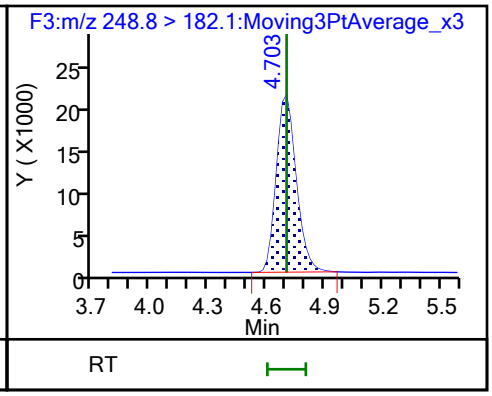

18 Chlorpropham

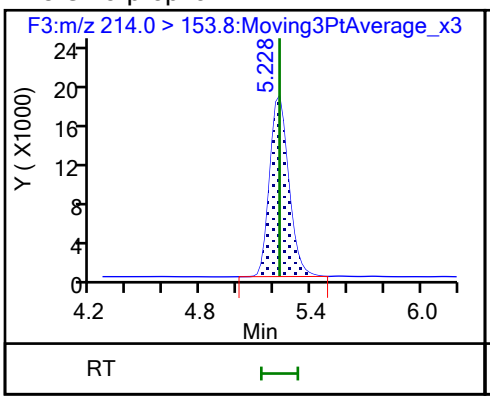

18 Chlorpropham

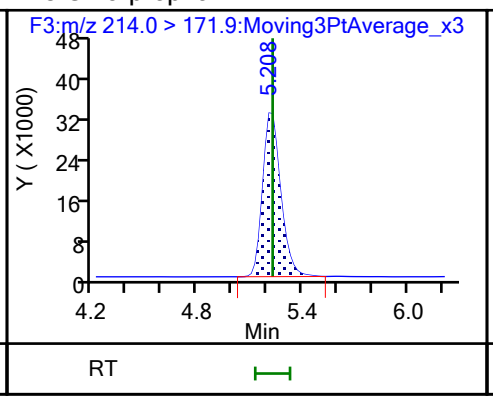

19 Neburon

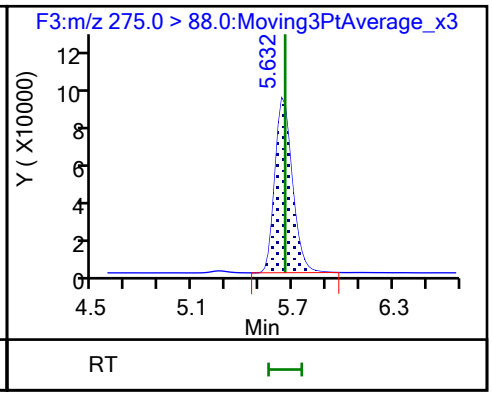

19 Neburon

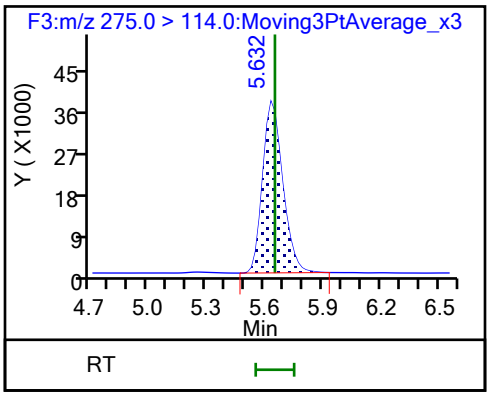
F3:m/z 275.0 > 114.0:Moving3PtAverage_x3
5.632
Y (X1000)
45
36
27
18
9
0
4.7
5.0
5.3
5.6
5.9
6.2
6.5
Min
RT

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

Data File:	\\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20056.d				
Injection Date:	21-Nov-2019 16:59:35	Instrument ID:	LC_LCMS3		
Lims ID:	CCV050				
Client ID:					
Operator ID:		ALS Bottle#:	6	Worklist Smp#:	26
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	Carbs8321	Limit Group:	LC - 8321A Carbamates		
Column:		Detector	F1:MRM		

1 Aminocarb, CAS: 2032-59-9

Signal: 1

Processing Integration Results

RT: 0.72
Area: 3787756
Amount: 30.215142
Amount Units: ug/l

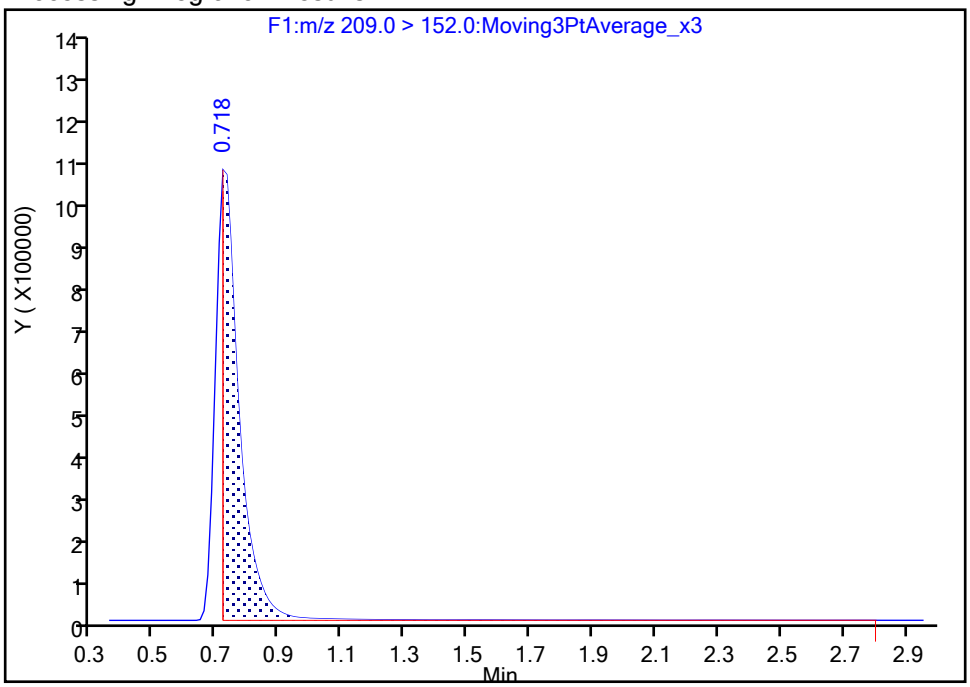

Manual Integration Results

RT: 0.72
Area: 5502639
Amount: 45.487133
Amount Units: ug/l

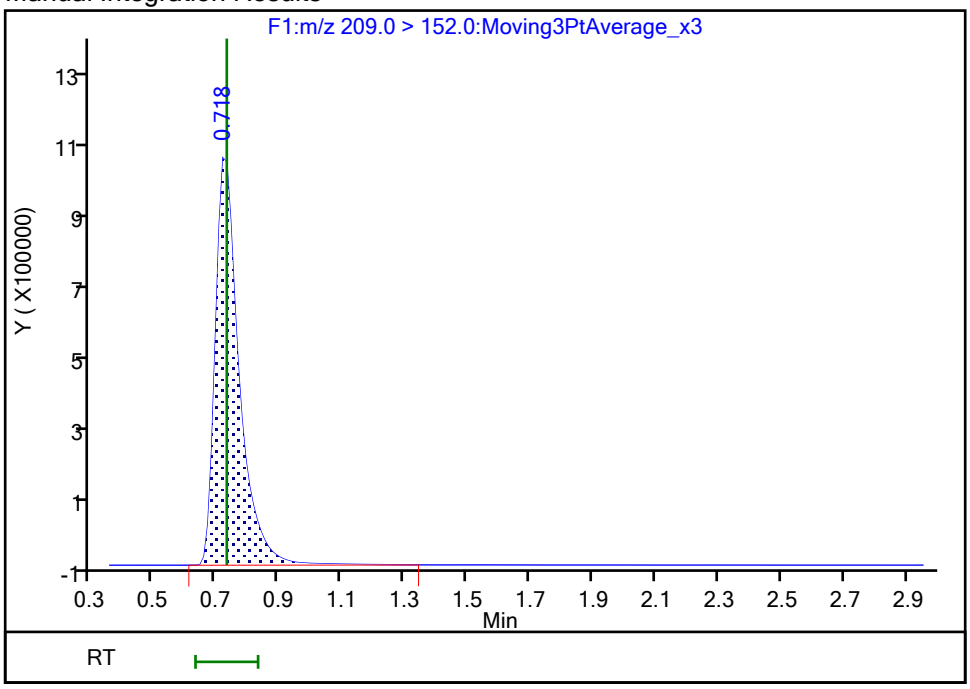

Reviewer: fiedlerh, 22-Nov-2019 19:15:44

Audit Action: Manually Integrated Audit Reason: Baseline

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Denver Job No.: 180-97287-2

SDG No.:

Lab Sample ID: CCV020 280-478590/33 Calibration Date: 11/21/2019 17:56

Instrument ID: LC_LCMS3 Calib Start Date: 11/21/2019 14:00

GC Column: Synergi Hydro 4 ID: 3.00(mm) Calib End Date: 11/21/2019 14:49

Lab File ID: CP319K20063.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Aminocarb	Qua		120585		19.1	20.0	-4.3	30.0
Mexacarbate	Ave	123951	133915		21.6	20.0	8.0	30.0
Methomyl	Ave	7392	8218		22.2	20.0	11.2	30.0
Fenuron	Ave	28710	29659		20.7	20.0	3.3	30.0
Aldicarb	Ave	8339	8999		21.6	20.0	7.9	30.0
Monuron	Ave	13572	14125		20.8	20.0	4.1	30.0
Propoxur	Ave	37097	40635		21.9	20.0	9.5	30.0
Carbofuran	Ave	31493	33222		21.1	20.0	5.5	30.0
Fluometuron	Ave	4885	4786		19.6	20.0	-2.0	30.0
Carbaryl	Ave	21446	24349		22.7	20.0	13.5	30.0
Diuron	Ave	3398	5042		29.7	20.0	48.4*	30.0
Propham	Lin1		1353		10.1	20.0	-49.5*	30.0
Siduron	Ave	16593	21751		26.2	20.0	31.1*	30.0
Methiocarb	Ave	10268	10401		20.3	20.0	1.3	30.0
Linuron	Ave	4464	4517		20.2	20.0	1.2	30.0
Chlorpropham	Ave	2694	2791		20.7	20.0	3.6	30.0
Neburon	Ave	13018	13718		21.1	20.0	5.4	30.0
Atrazine-d5	Ave	50533	60595		24.0	20.0	19.9	30.0
Diuron-d6	Ave	4993	6035		24.4	20.2	20.9	30.0

Eurofins TestAmerica, Denver
Target Compound Quantitation Report

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20063.d
Lims ID: CCV020
Client ID:
Sample Type: CCV
Inject. Date: 21-Nov-2019 17:56:31 ALS Bottle#: 5 Worklist Smp#: 33
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: CCV020
Misc. Info.: CP319K20
Operator ID: Instrument ID: LC_LCMS3
Sublist: chrom-Carbs8321*sub1

Method: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\Carbs8321.m
Limit Group: LC - 8321A Carbamates
Last Update: 22-Nov-2019 19:25:20 Calib Date: 21-Nov-2019 14:49:37
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20040.d

Column 1 : Det: F1:MRM
Process Host: CTX0304

First Level Reviewer: fiedlerh Date: 22-Nov-2019 19:22:28
Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
1 Aminocarb								
209.0 > 152.0	0.718	0.730	-0.012	2411702	19.1		7057	
2 Carbamicacid,methyl4-dimethylamino								
223.0 > 165.9	0.949	0.949	0.0	2678306	21.6		4664	
3 Methomyl								
162.6 > 87.8	1.305	1.305	0.0	164355	22.2		1205	
4 Fenuron								
164.7 > 71.7	1.804	1.804	0.0	593179	20.7		1981	
5 Aldicarb								
212.6 > 88.8	2.522	2.522	0.0	179973	21.6		352	
6 Monuron								R
198.8 > 71.9	2.791	2.791	0.0	282494	20.8	Target=1.00	883	R
198.8 > 125.9	2.791	2.791	0.0	31808		8.88(0.90-1.10)	494	
7 Propoxur								
272.8 > 232.0	3.126	3.126	0.0	812700	21.9		972	
8 Carbofuran								
221.7 > 122.9	3.205	3.205	0.0	664440	21.1		1828	
9 Fluometuron								
232.6 > 45.7	3.415	3.415	0.0	95718	19.6		96.6	
10 Carbaryl								
201.8 > 144.8	3.494	3.494	0.0	486978	22.7		2760	
$ 12 Atrazine-d5								
221.0 > 179.0	3.587	3.587	0.0	1211893	24.0		2634	
$ 13 Diuron-d6								
238.9 > 77.9	3.680	3.680	0.0	121903	24.4		513	

Report Date: 22-Nov-2019 19:25:20 Chrom Revision: 2.3 09-Oct-2019 11:13:36
Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20063.d
Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
11 Diuron								R
234.7 > 71.7	3.727	3.727	0.0	100842	29.7	Target=1.00	220	R
232.8 > 71.7	3.727	3.727	0.0	122878		0.82(0.90-1.10)	2.6	
14 Propham								
137.6 > 91.8	4.212	4.212	0.0	27058	10.1		151	
15 Siduron								R
232.9 > 93.8	4.351	4.398	-0.047	435018	26.2	Target=1.00	1134	R
232.9 > 136.8	4.351	4.398	-0.047	650102		0.67(0.90-1.10)	688	
16 Methiocarb								
225.8 > 168.9	4.521	4.521	0.0	208027	20.3		514	
17 Linuron								R
248.8 > 159.9	4.683	4.703	-0.020	90343	20.2	Target=1.00	578	R
248.8 > 182.1	4.683	4.703	-0.020	61444		1.47(0.90-1.10)	516	
18 Chlorpropham								R
214.0 > 153.8	5.208	5.228	-0.020	55816	20.7	Target=1.00	420	R
214.0 > 171.9	5.208	5.228	-0.020	91174		0.61(0.90-1.10)	372	
19 Neburon								R
275.0 > 88.0	5.632	5.653	-0.021	274361	21.1	Target=1.00	998	R
275.0 > 114.0	5.632	5.653	-0.021	113168		2.42(0.90-1.10)	641	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Reagents:

Carb_CS_Cal_00033 Amount Added: 40.00 Units: uL

Report Date: 22-Nov-2019 19:25:20 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Denver

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20063.d

Injection Date: 21-Nov-2019 17:56:31 Instrument ID: LC_LCMS3

Lims ID: CCV020

Client ID:

Operator ID: ALS Bottle#: 5 Worklist Smp#: 33

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: Carbs8321 Limit Group: LC - 8321A Carbamates

1 Aminocarb

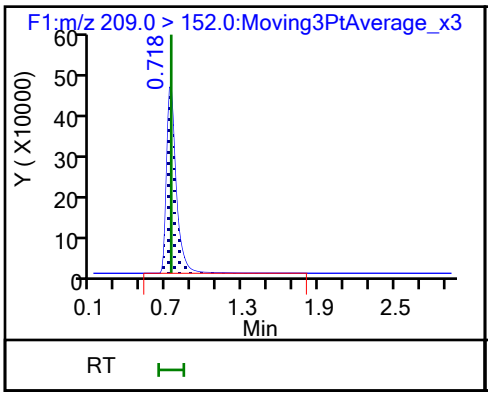

2 Carbamicacid,methyl4-dimethylamino

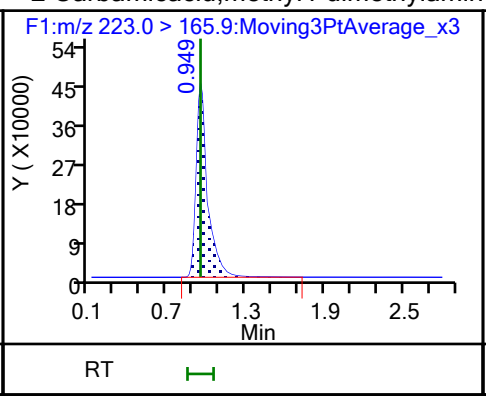

3 Methomyl

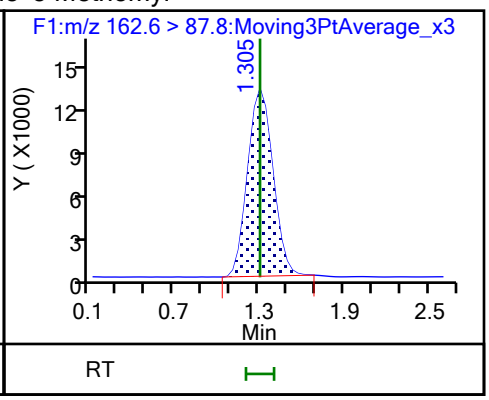

4 Fenuron

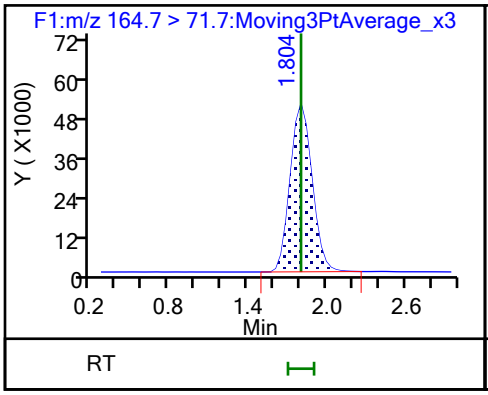

5 Aldicarb

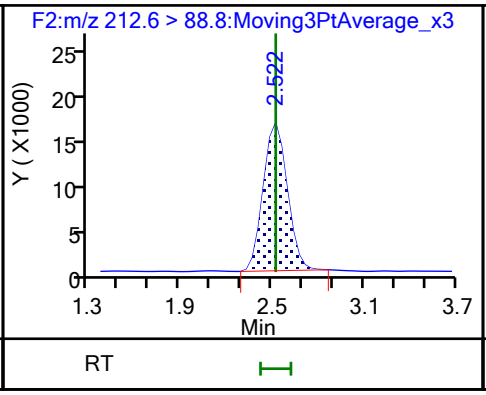

6 Monuron

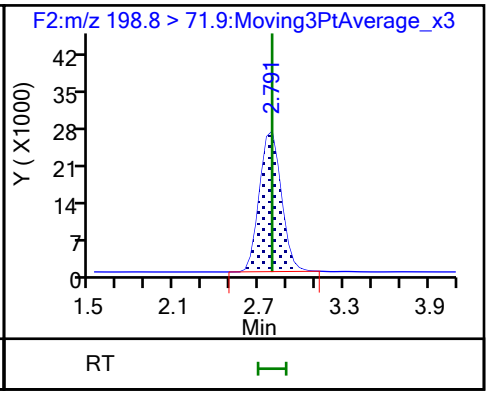

6 Monuron

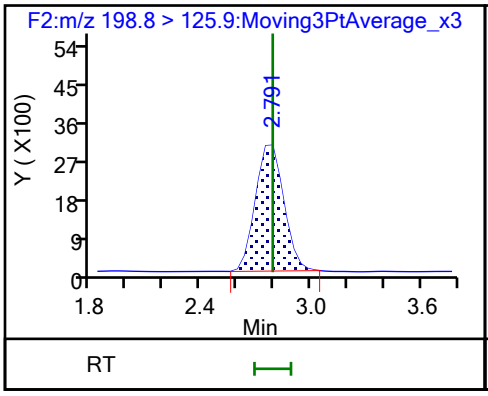

7 Propoxur

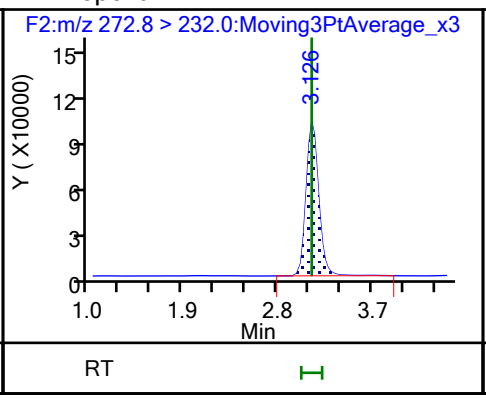

8 Carbofuran

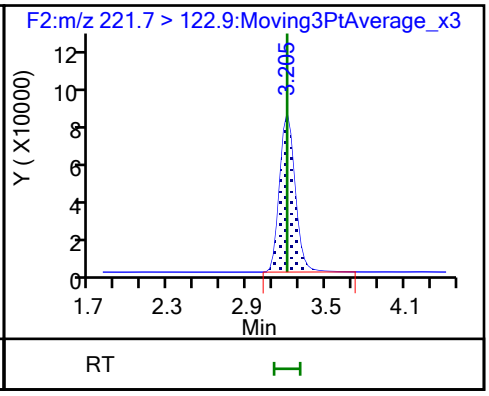

9 Fluometuron

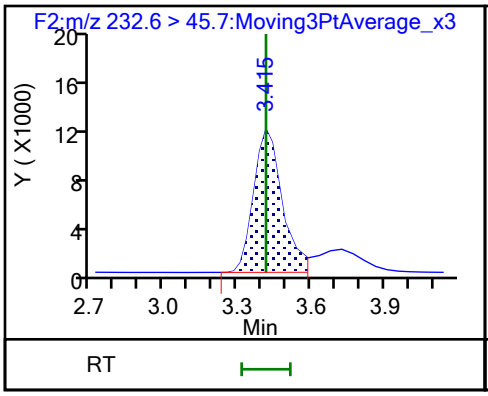

10 Carbaryl

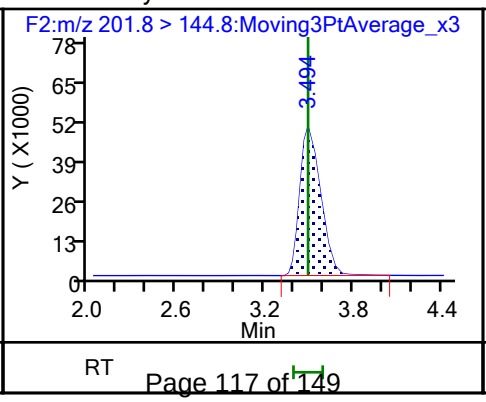

$ 12 Atrazine-d5

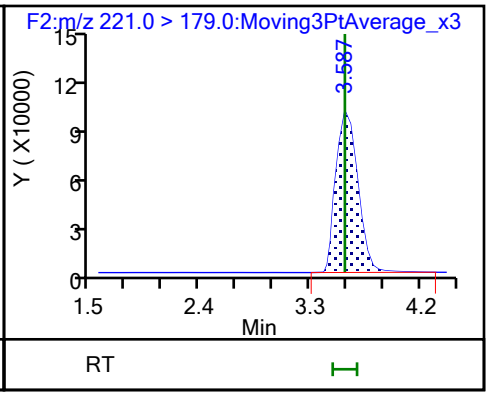

$ 13 Diuron-d6

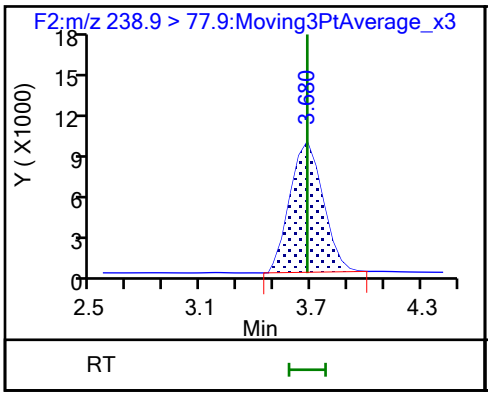

11 Diuron

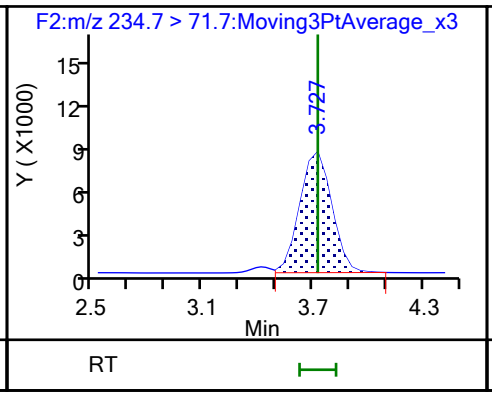

11 Diuron

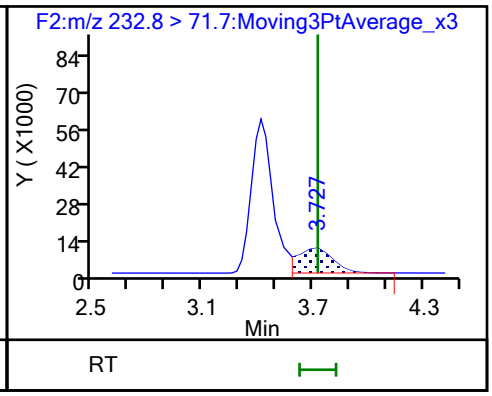

14 Propham

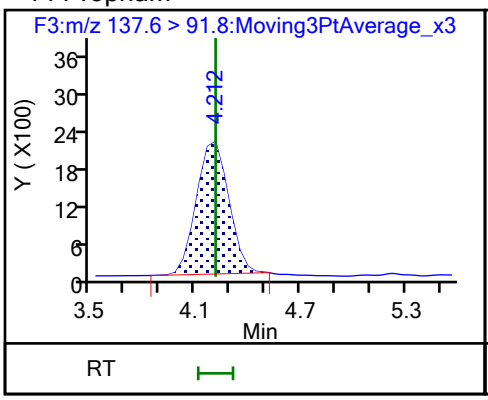

15 Siduron

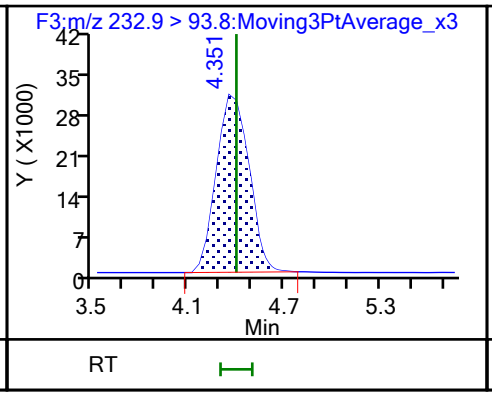

15 Siduron

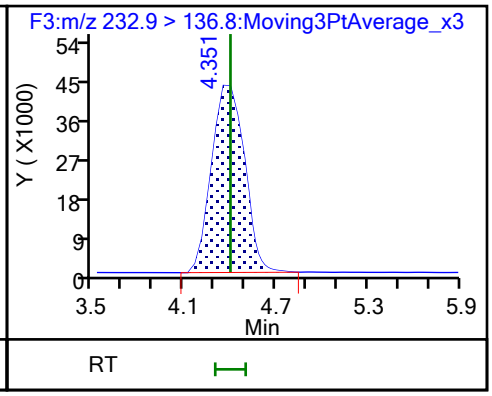

16 Methiocarb

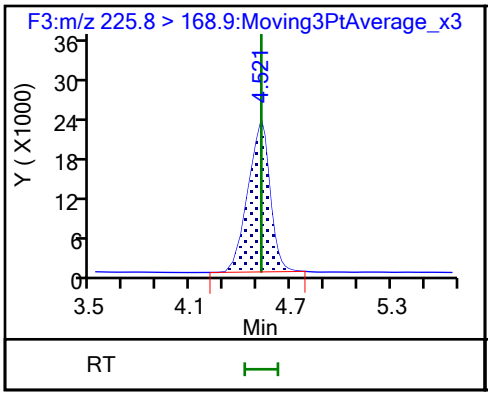

17 Linuron

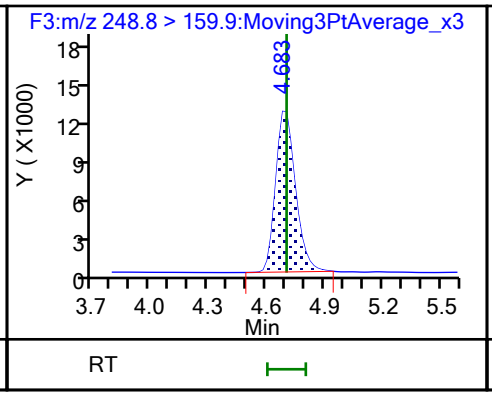

17 Linuron

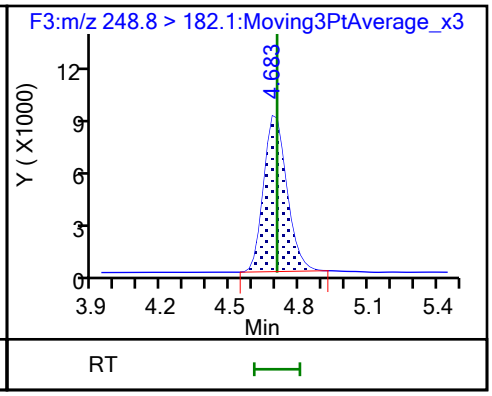

18 Chlorpropham

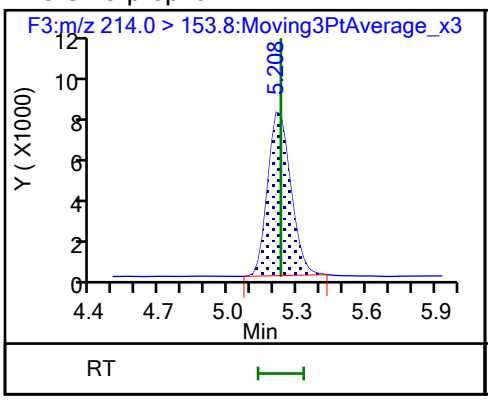

18 Chlorpropham

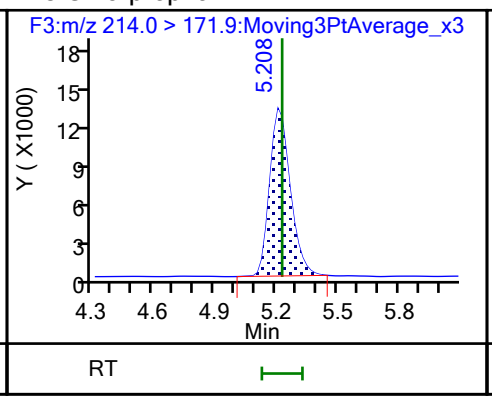

19 Neburon

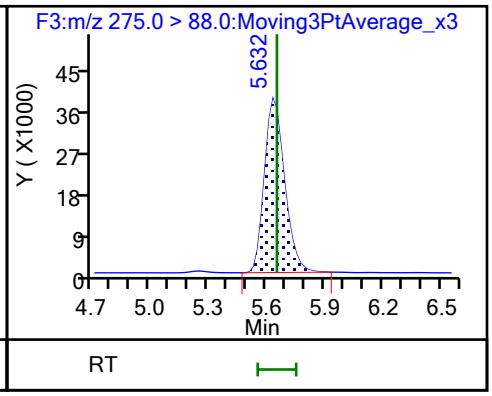

19 Neburon

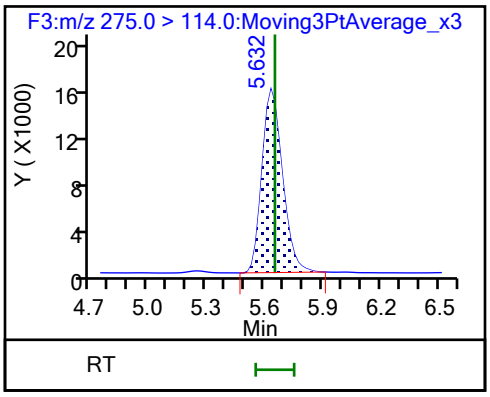
F3:m/z 275.0 > 114.0:Moving3PtAverage_x3
5.632
Y (X1000)
20
16
12
8
4
0
4.7
5.0
5.3
5.6
5.9
6.2
6.5
Min
RT

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Denver
Job No.: 180-97287-2
SDG No.:
Client Sample ID:
Lab Sample ID: MB 280-476273/1-A
Matrix: Solid
Lab File ID: CP319K20057.d
Analysis Method: 8321A
Date Collected:
Extraction Method: 3535
Date Extracted: 11/02/2019 16:31
Sample wt/vol: 150(mL)
Date Analyzed: 11/21/2019 17:07
Con. Extract Vol.: 10(mL)
Dilution Factor: 1
Injection Volume: 20(uL)
GC Column: Synergi Hydro 4 ID: 3(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 478590
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
16752-77-5	Methomyl	ND		1.3	0.21

CAS NO.	SURROGATE	%REC	Q	LIMITS
163165-75-1	Atrazine-d5	73		60-142
STL01549	Diuron-d6	89		50-150

Eurofins TestAmerica, Denver
Target Compound Quantitation Report

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20057.d
Lims ID: MB 280-476273/1-A
Client ID:
Sample Type: MB
Inject. Date: 21-Nov-2019 17:07:41 ALS Bottle#: 22 Worklist Smp#: 27
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: MB 280-476273/1-A
Misc. Info.: CP319K20
Operator ID: Instrument ID: LC_LCMS3

Method: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\Carbs8321.m
Limit Group: LC - 8321A Carbamates
Last Update: 22-Nov-2019 19:24:59 Calib Date: 21-Nov-2019 14:49:37
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20040.d

Column 1 : Det: F1:MRM
Process Host: CTX0304

First Level Reviewer: fiedlerh Date: 22-Nov-2019 19:17:48
Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
7 Propoxur								
272.8 > 232.0	3.153	3.126	0.027	5309	0.1431		3.7	
8 Carbofuran								
221.7 > 122.9	3.153	3.205	-0.052	17208	0.5464		17.4	
$ 12 Atrazine-d5								
221.0 > 179.0	3.634	3.587	0.047	3705138	73.3		10965	
$ 13 Diuron-d6								
238.9 > 77.9	3.727	3.680	0.047	448308	89.8		2241	

Report Date: 22-Nov-2019 19:25:04 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Denver

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20057.d

Injection Date: 21-Nov-2019 17:07:41 Instrument ID: LC_LCMS3

Lims ID: MB 280-476273/1-A

Client ID:

Operator ID: ALS Bottle#: 22 Worklist Smp#: 27

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: Carbs8321 Limit Group: LC - 8321A Carbamates

1 Aminocarb (ND)

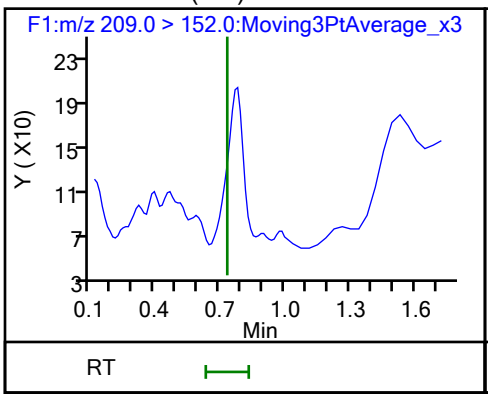

2 Carbamicacid,methyl4-dimethylamino (3ND)

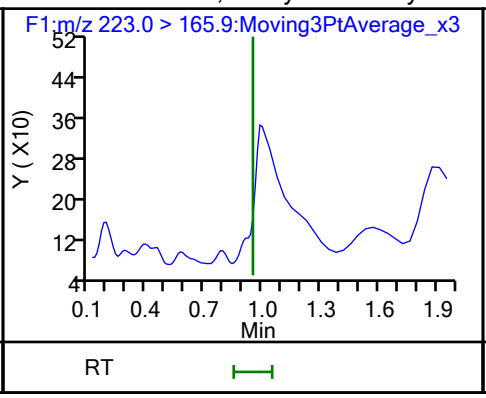

3 Methomyl (ND)

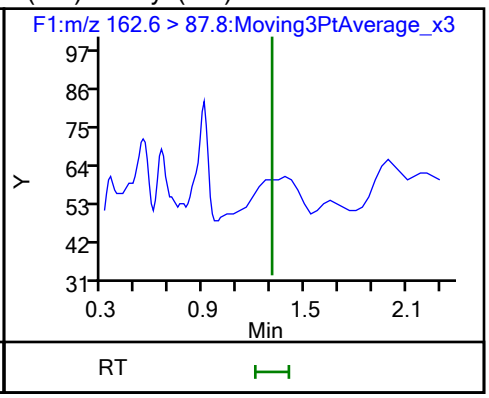

4 Fenuron (ND)

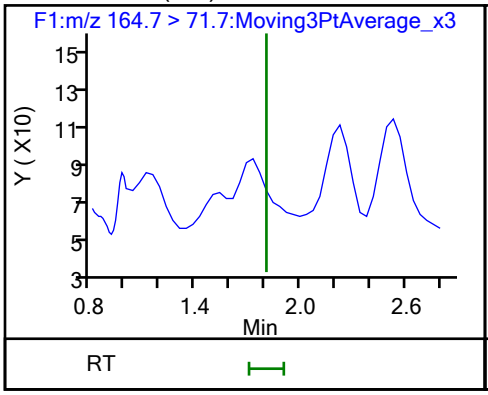

5 Aldicarb (ND)

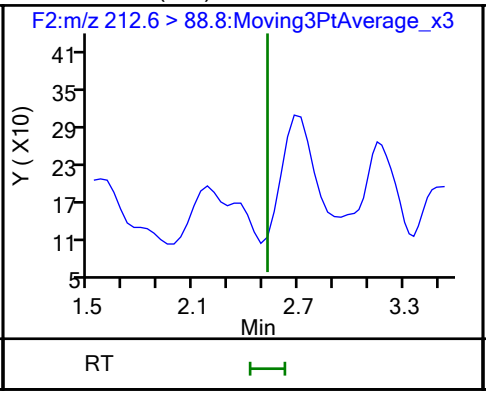

6 Monuron (ND)

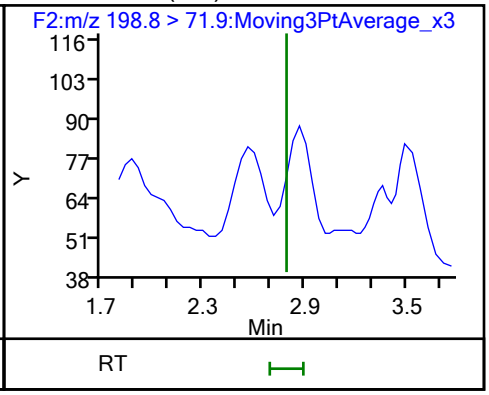

6 Monuron (ND)

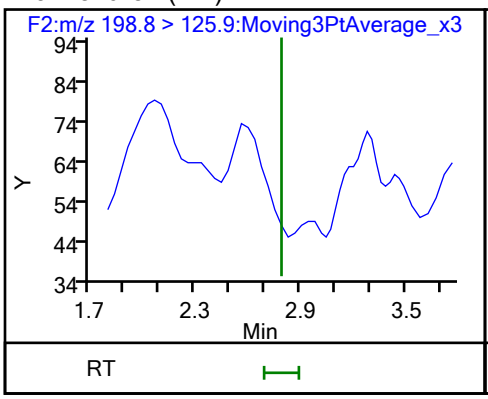

7 Propoxur

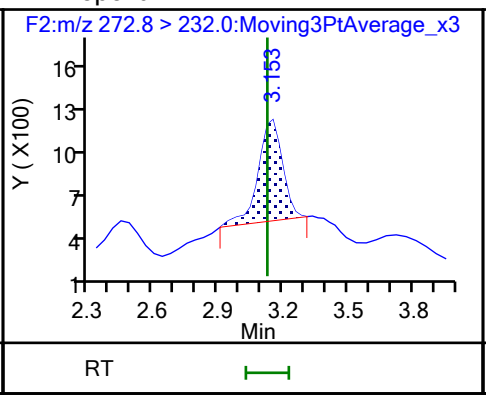

8 Carbofuran

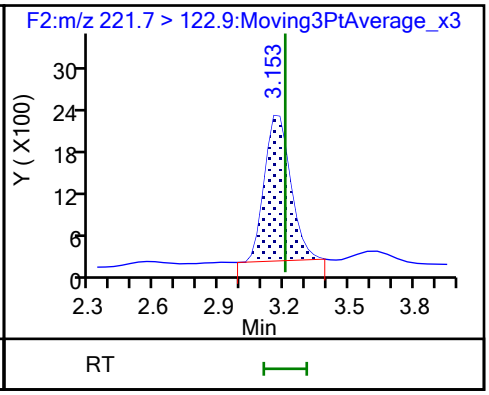

9 Fluometuron (ND)

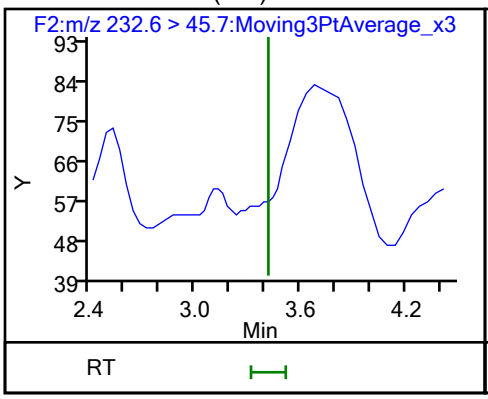

10 Carbaryl (ND)

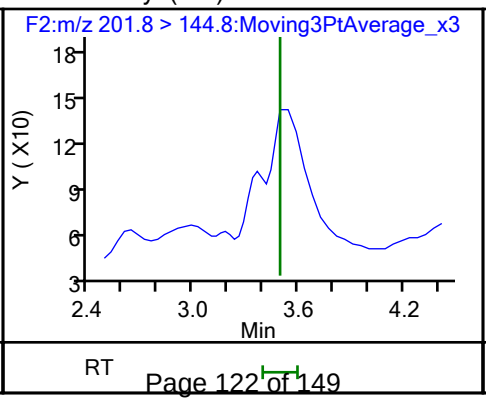

$ 12 Atrazine-d5

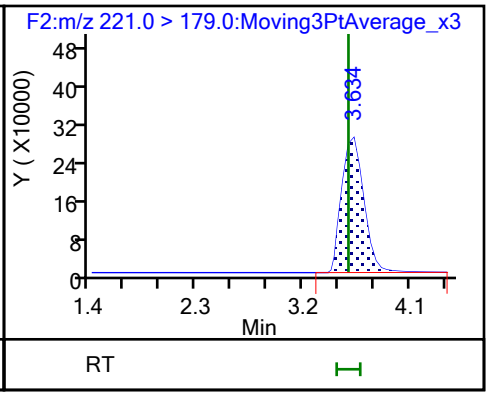

$ 13 Diuron-d6

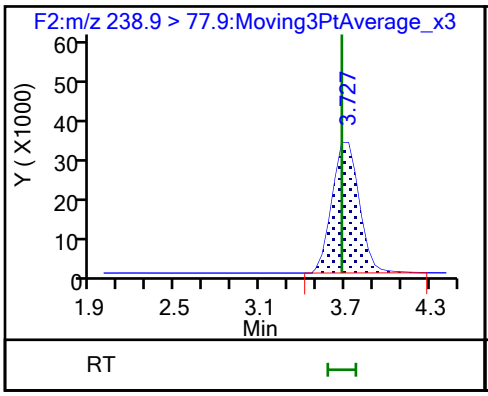

11 Diuron (ND)

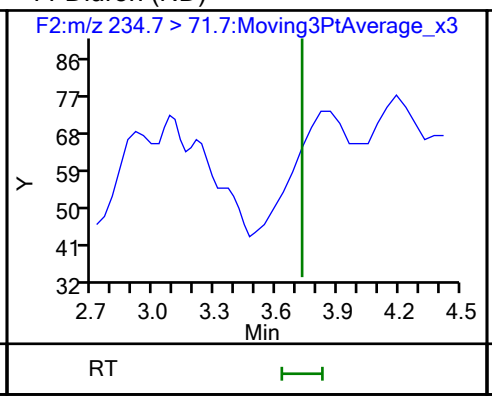

11 Diuron (ND)

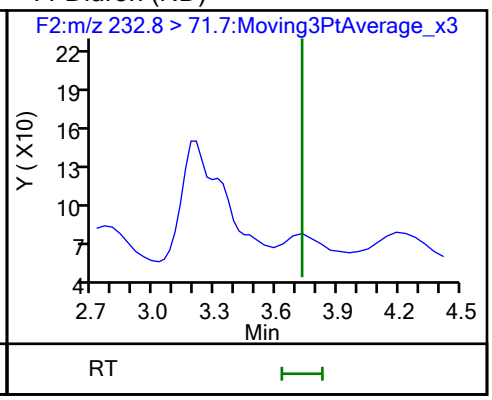

14 Propham (ND)

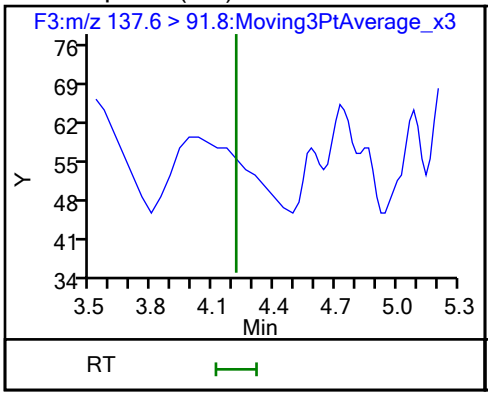

15 Siduron (ND)

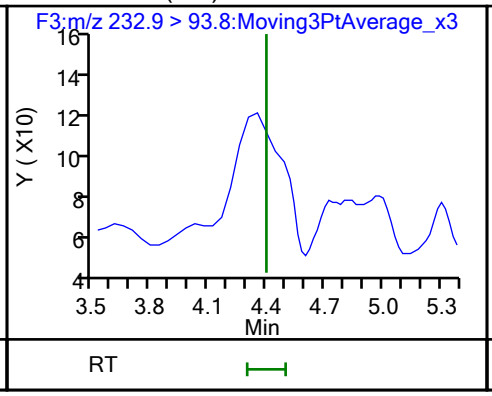

15 Siduron (ND)

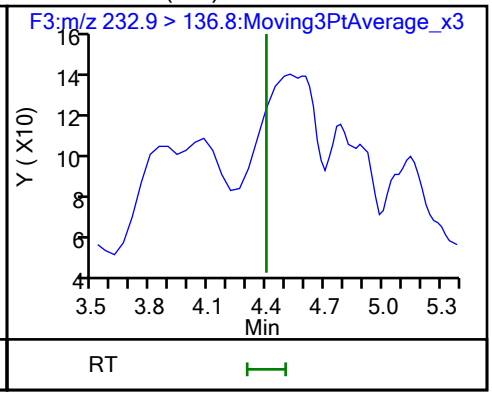

16 Methiocarb (ND)

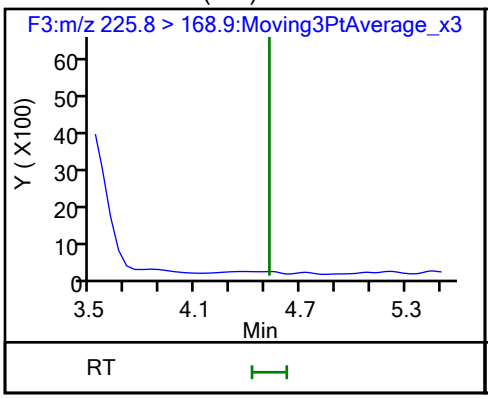

17 Linuron (ND)

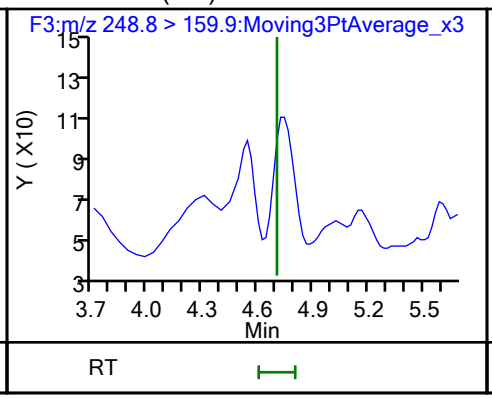

17 Linuron (ND)

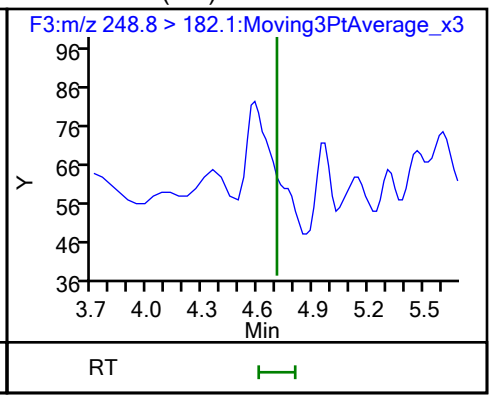

18 Chlorpropham (ND)

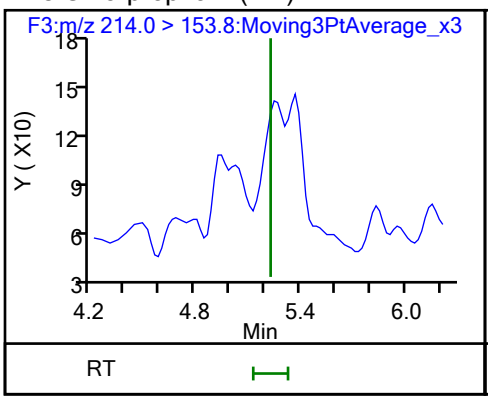

18 Chlorpropham (ND)

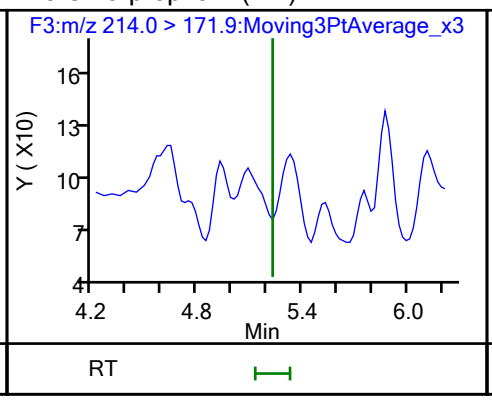

19 Neburon (ND)

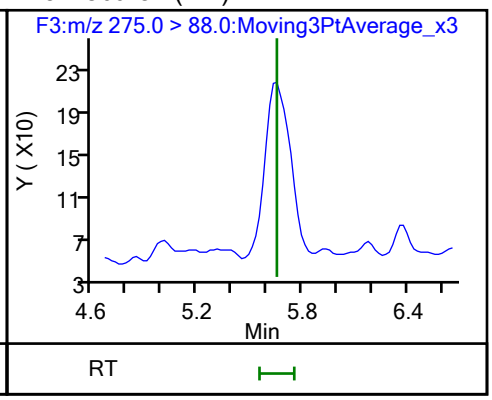

19 Neburon (ND)

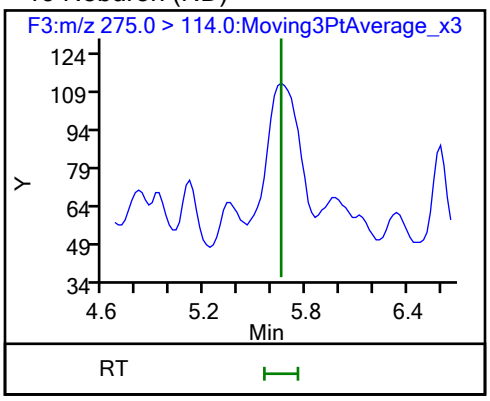

Eurofins TestAmerica, Denver
Recovery Report

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20057.d
Lims ID: MB 280-476273/1-A
Client ID:
Sample Type: MB
Inject. Date: 21-Nov-2019 17:07:41 ALS Bottle#: 22 Worklist Smp#: 27
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: MB 280-476273/1-A
Misc. Info.: CP319K20
Operator ID: Instrument ID: LC_LCMS3

Method: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\Carbs8321.m
Limit Group: LC - 8321A Carbamates
Last Update: 22-Nov-2019 19:24:59 Calib Date: 21-Nov-2019 14:49:37
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20040.d

Column 1 : Det: F1:MRM
Process Host: CTX0304

First Level Reviewer: fiedlerh Date: 22-Nov-2019 19:17:48

Compound	Amount Added	Amount Recovered	% Rec.
$ 12 Atrazine-d5	100.4	73.3	73.03
$ 13 Diuron-d6	101.0	89.8	88.89

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Denver
Job No.: 180-97287-2
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 280-476273/2-A
Matrix: Solid
Lab File ID: CP319K20058.d
Analysis Method: 8321A
Date Collected:
Extraction Method: 3535
Date Extracted: 11/02/2019 16:31
Sample wt/vol: 150(mL)
Date Analyzed: 11/21/2019 17:15
Con. Extract Vol.: 10(mL)
Dilution Factor: 1
Injection Volume: 20(uL)
GC Column: Synergi Hydro 4 ID: 3(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 478590
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
16752-77-5	Methomyl	2.61		1.3	0.21

CAS NO.	SURROGATE	%REC	Q	LIMITS
163165-75-1	Atrazine-d5	72		60-142
STL01549	Diuron-d6	86		50-150

Eurofins TestAmerica, Denver
Target Compound Quantitation Report

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20058.d
Lims ID: LCS 280-476273/2-A
Client ID:
Sample Type: LCS
Inject. Date: 21-Nov-2019 17:15:49 ALS Bottle#: 23 Worklist Smp#: 28
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: LCS 280-476273/2-A
Misc. Info.: CP319K20
Operator ID: Instrument ID: LC_LCMS3

Method: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\Carbs8321.m
Limit Group: LC - 8321A Carbamates
Last Update: 22-Nov-2019 19:24:59 Calib Date: 21-Nov-2019 14:49:37
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20040.d

Column 1 : Det: F1:MRM
Process Host: CTX0304

First Level Reviewer: fiedlerh Date: 22-Nov-2019 19:18:10
Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
1 Aminocarb								
209.0 > 152.0	0.767	0.730	0.037	3033885	24.0		9917	
2 Carbamicacid,methyl4-dimethylamino								
223.0 > 165.9	0.985	0.949	0.036	4775648	38.5		4245	
3 Methomyl								
162.6 > 87.8	1.343	1.305	0.038	289660	39.2		971	
4 Fenuron								
164.7 > 71.7	1.842	1.804	0.038	908072	31.6		2415	
5 Aldicarb								
212.6 > 88.8	2.560	2.522	0.038	144557	17.3		162	
6 Monuron								R
198.8 > 71.9	2.791	2.791	0.0	385683	28.4	Target=1.00	1199	R
198.8 > 125.9	2.791	2.791	0.0	40784		9.46(0.90-1.10)	166	
7 Propoxur								
272.8 > 232.0	3.153	3.126	0.027	1157952	31.2		692	
8 Carbofuran								
221.7 > 122.9	3.231	3.205	0.026	1180139	37.5		1268	
9 Fluometuron								
232.6 > 45.7	3.442	3.415	0.027	191743	39.3		142	
10 Carbaryl								
201.8 > 144.8	3.494	3.494	0.0	364568	17.0		1603	
$ 12 Atrazine-d5								
221.0 > 179.0	3.634	3.587	0.047	3640667	72.0		4899	
$ 13 Diuron-d6								
238.9 > 77.9	3.680	3.680	0.0	432442	86.6		3266	

Report Date: 22-Nov-2019 19:25:07 Chrom Revision: 2.3 09-Oct-2019 11:13:36
Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20058.d
Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
11 Diuron								R
234.7 > 71.7	3.727	3.727	0.0	117962	34.7	Target=1.00	162	R
232.8 > 71.7	3.727	3.727	0.0	172897		0.68(0.90-1.10)	2.0	
14 Propham								
137.6 > 91.8	4.212	4.212	0.0	121098	42.7		590	
15 Siduron								R
232.9 > 93.8	4.491	4.398	0.093	772178	46.5	Target=1.00	700	R
232.9 > 136.8	4.491	4.398	0.093	1320972		0.58(0.90-1.10)	803	
16 Methiocarb								
225.8 > 168.9	4.521	4.521	0.0	245547	23.9		204	
17 Linuron								R
248.8 > 159.9	4.703	4.703	0.0	183999	41.2	Target=1.00	1658	R
248.8 > 182.1	4.703	4.703	0.0	119127		1.54(0.90-1.10)	945	
18 Chlorpropham								R
214.0 > 153.8	5.228	5.228	0.0	104710	38.9	Target=1.00	713	R
214.0 > 171.9	5.228	5.228	0.0	175077		0.60(0.90-1.10)	354	
19 Neburon								R
275.0 > 88.0	5.632	5.653	-0.021	541238	41.6	Target=1.00	1504	R
275.0 > 114.0	5.632	5.653	-0.021	228103		2.37(0.90-1.10)	1096	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Report Date: 22-Nov-2019 19:25:07 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Denver

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20058.d

Injection Date: 21-Nov-2019 17:15:49 Instrument ID: LC_LCMS3

Lims ID: LCS 280-476273/2-A

Client ID:

Operator ID: ALS Bottle#: 23 Worklist Smp#: 28

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: Carbs8321 Limit Group: LC - 8321A Carbamates

1 Aminocarb

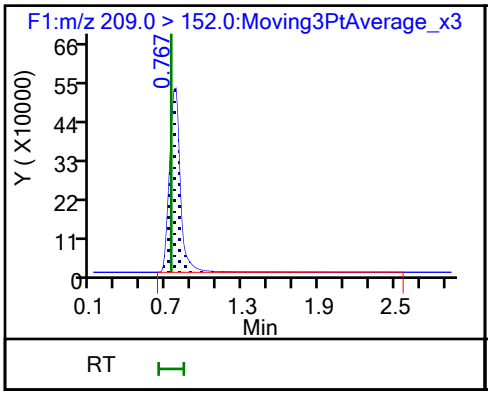

2 Carbamicacid,methyl4-dimethylamino

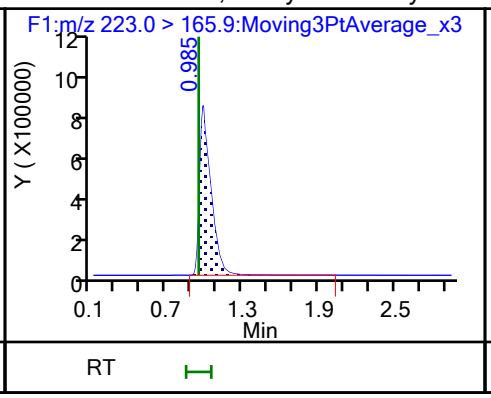

3 Methomyl

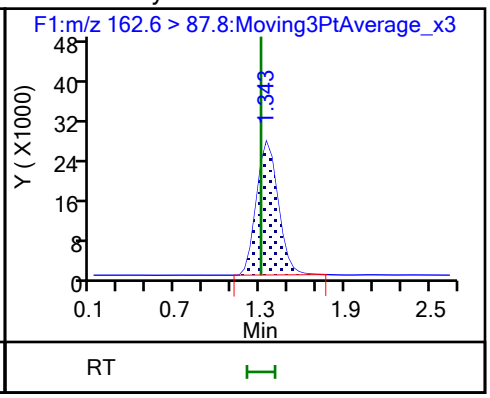

4 Fenuron

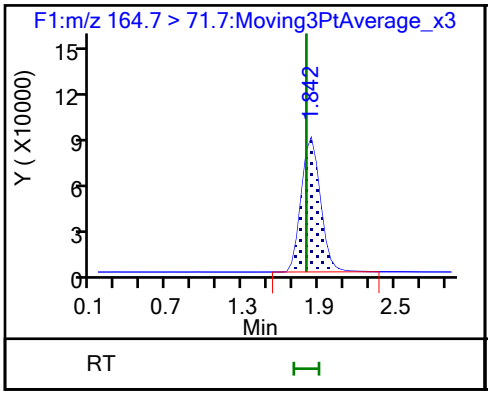

5 Aldicarb

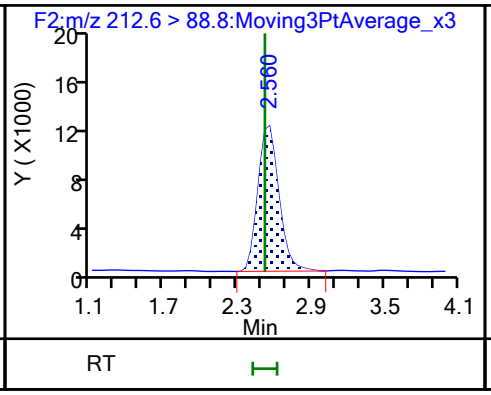

6 Monuron

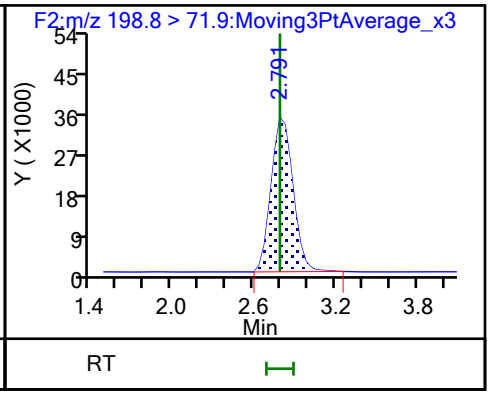

6 Monuron

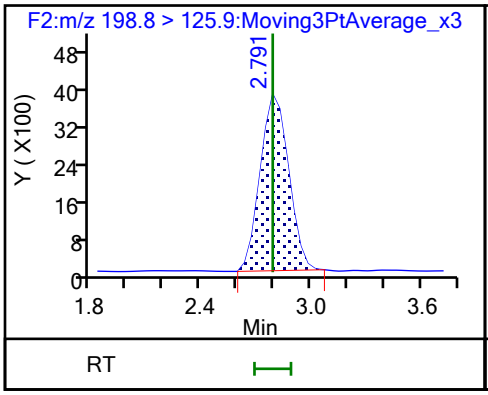

7 Propoxur

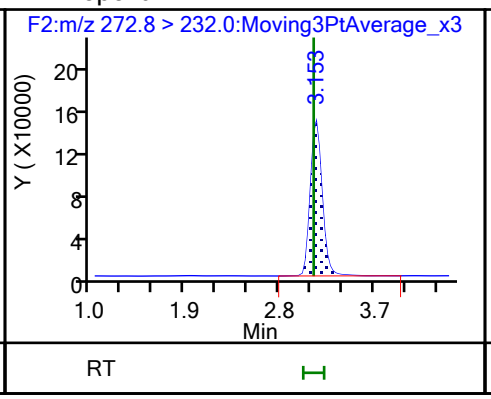

8 Carbofuran

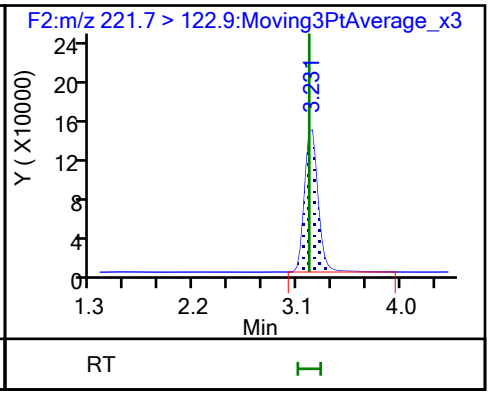

9 Fluometuron

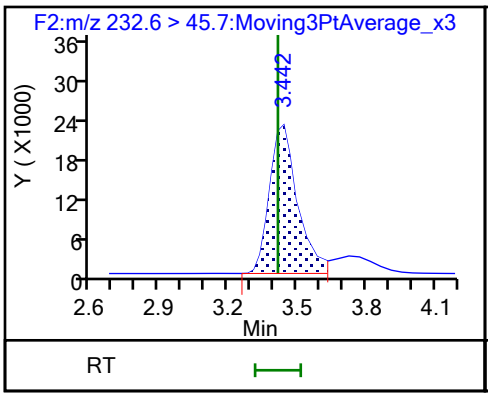

10 Carbaryl

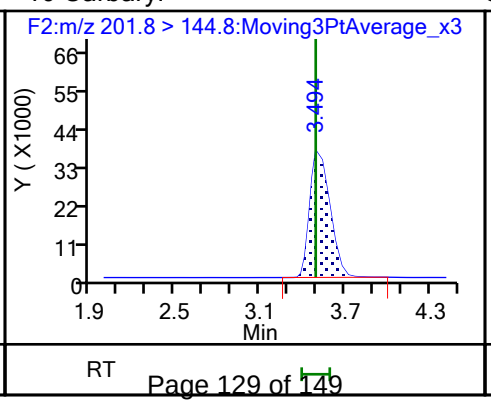

$ 12 Atrazine-d5

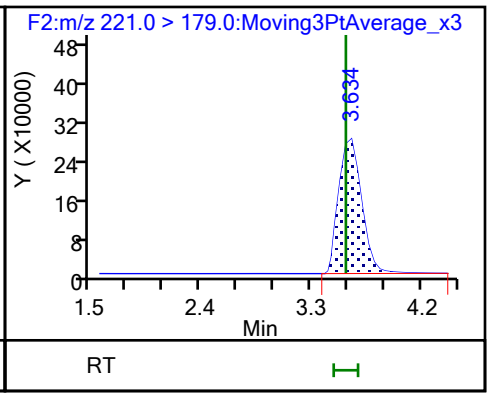

$ 13 Diuron-d6

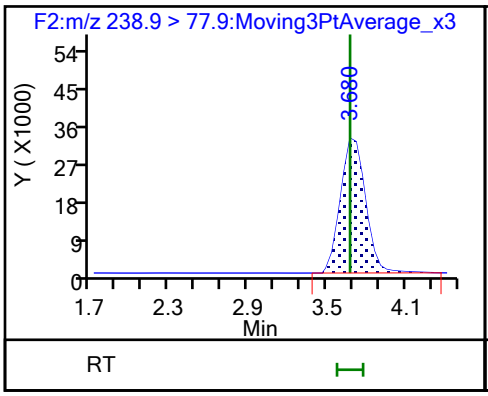

11 Diuron

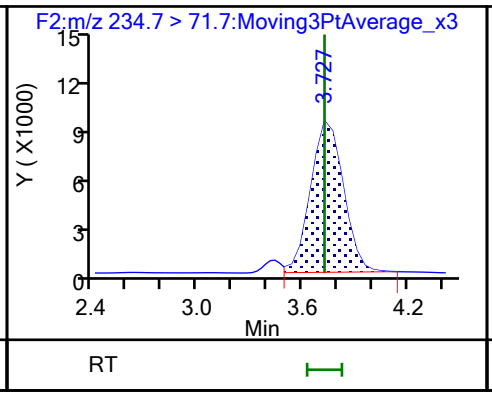

11 Diuron

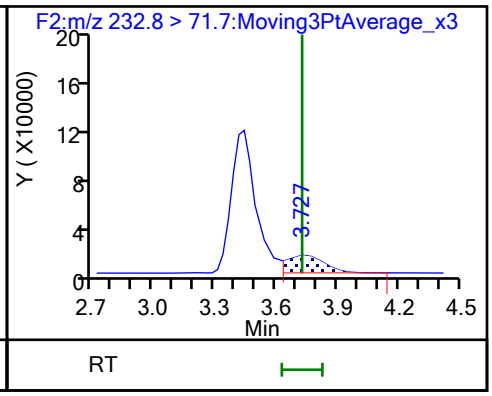

14 Propham

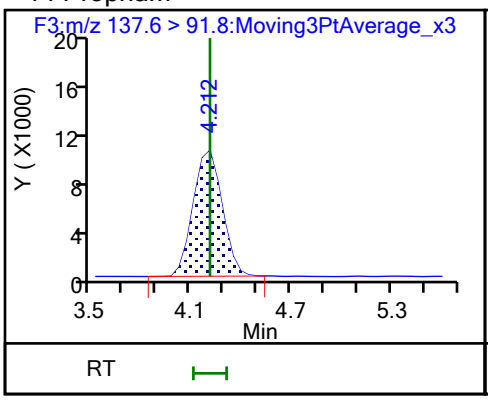

15 Siduron

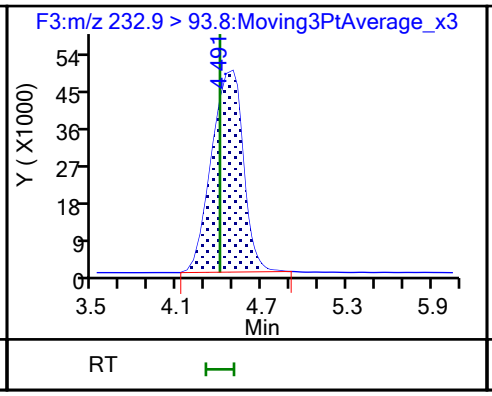

15 Siduron

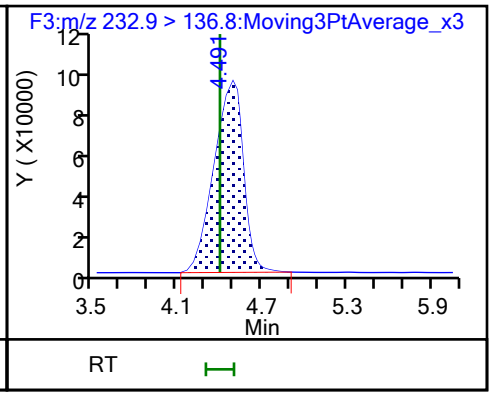

16 Methiocarb

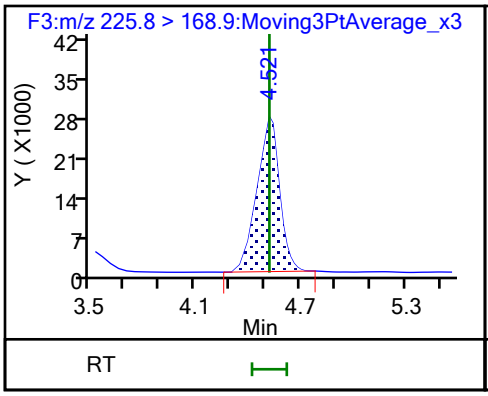

17 Linuron

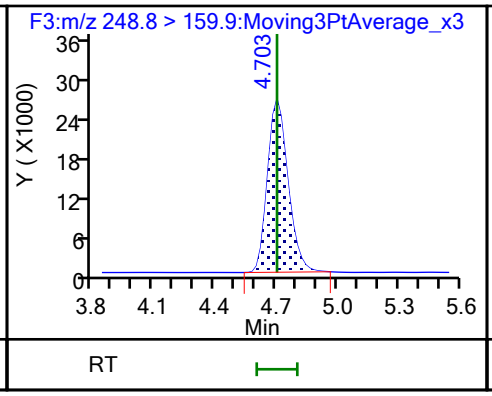

17 Linuron

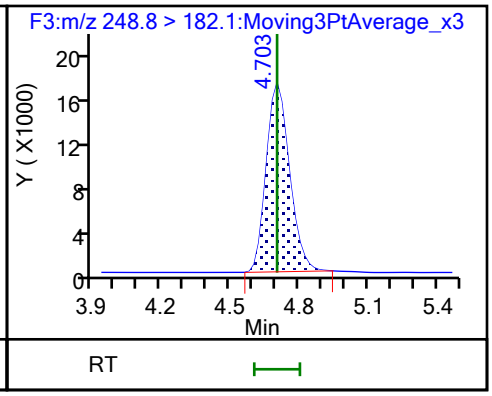

18 Chlorpropham

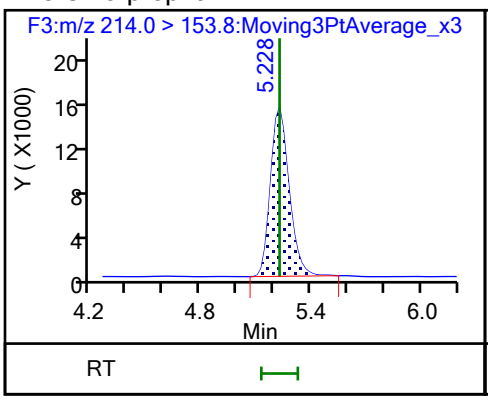

18 Chlorpropham

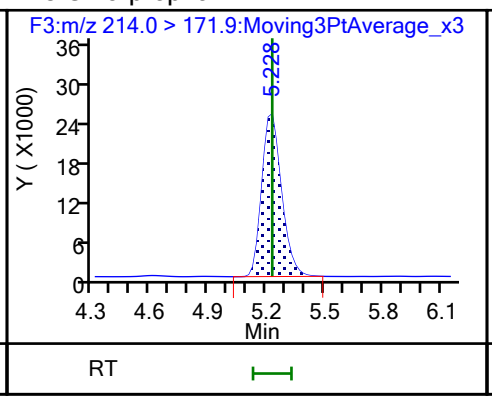

19 Neburon

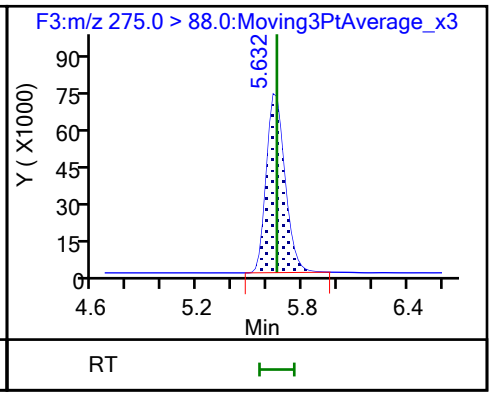

19 Neburon

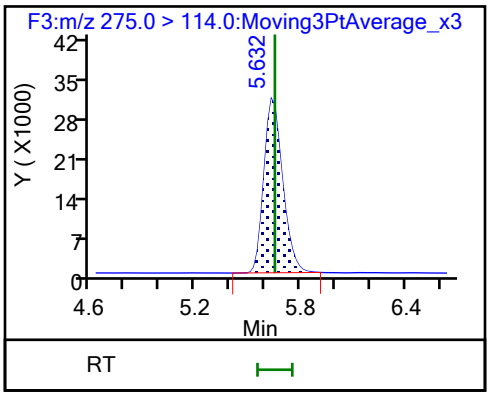
F3:m/z 275.0 > 114.0:Moving3PtAverage_x3
5.632
Y (X1000)
42
35
28
21
14
7
0
4.6
5.2
5.8
6.4
Min
RT

Eurofins TestAmerica, Denver
Recovery Report

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20058.d
Lims ID: LCS 280-476273/2-A
Client ID:
Sample Type: LCS
Inject. Date: 21-Nov-2019 17:15:49 ALS Bottle#: 23 Worklist Smp#: 28
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: LCS 280-476273/2-A
Misc. Info.: CP319K20
Operator ID: Instrument ID: LC_LCMS3

Method: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\Carbs8321.m
Limit Group: LC - 8321A Carbamates
Last Update: 22-Nov-2019 19:24:59 Calib Date: 21-Nov-2019 14:49:37
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20040.d

Column 1 : Det: F1:MRM
Process Host: CTX0304

First Level Reviewer: fiedlerh Date: 22-Nov-2019 19:18:10

Compound	Amount Added	Amount Recovered	% Rec.
$ 12 Atrazine-d5	100.4	72.0	71.76
$ 13 Diuron-d6	101.0	86.6	85.75

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Denver
Job No.: 180-97287-2
SDG No.:
Client Sample ID:
Lab Sample ID: LCSD 280-476273/3-A
Matrix: Solid
Lab File ID: CP319K20059.d
Analysis Method: 8321A
Date Collected:
Extraction Method: 3535
Date Extracted: 11/02/2019 16:31
Sample wt/vol: 150(mL)
Date Analyzed: 11/21/2019 17:23
Con. Extract Vol.: 10(mL)
Dilution Factor: 1
Injection Volume: 20(uL)
GC Column: Synergi Hydro 4 ID: 3(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 478590
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
16752-77-5	Methomyl	2.05		1.3	0.21

CAS NO.	SURROGATE	%REC	Q	LIMITS
163165-75-1	Atrazine-d5	73		60-142
STL01549	Diuron-d6	87		50-150

Eurofins TestAmerica, Denver
Target Compound Quantitation Report

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20059.d
Lims ID: LCSD 280-476273/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 21-Nov-2019 17:23:57 ALS Bottle#: 24 Worklist Smp#: 29
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 280-476273/3-A
Misc. Info.: CP319K20
Operator ID: Instrument ID: LC_LCMS3

Method: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\Carbs8321.m
Limit Group: LC - 8321A Carbamates
Last Update: 22-Nov-2019 19:24:59 Calib Date: 21-Nov-2019 14:49:37
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20040.d

Column 1 : Det: F1:MRM
Process Host: CTX0304
Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
1 Aminocarb								
209.0 > 152.0	0.767	0.730	0.037	1496221	12.2		12.7	
2 Carbamicacid,methyl4-dimethylamino								
223.0 > 165.9	0.985	0.949	0.036	4721490	38.1		3234	
3 Methomyl								
162.6 > 87.8	1.343	1.305	0.038	226851	30.7		1020	
4 Fenuron								
164.7 > 71.7	1.842	1.804	0.038	910798	31.7		1945	
5 Aldicarb								
212.6 > 88.8	2.560	2.522	0.038	127013	15.2		139	
6 Monuron								R
198.8 > 71.9	2.791	2.791	0.0	381665	28.1	Target=1.00	862	R
198.8 > 125.9	2.791	2.791	0.0	45906		8.31(0.90-1.10)	324	
7 Propoxur								
272.8 > 232.0	3.153	3.126	0.027	1178075	31.8		1016	
8 Carbofuran								
221.7 > 122.9	3.231	3.205	0.026	1199423	38.1		973	
9 Fluometuron								
232.6 > 45.7	3.442	3.415	0.027	202666	41.5		122	
10 Carbaryl								
201.8 > 144.8	3.494	3.494	0.0	379668	17.7		1043	
$ 12 Atrazine-d5								
221.0 > 179.0	3.634	3.587	0.047	3714551	73.5		6816	
$ 13 Diuron-d6								
238.9 > 77.9	3.680	3.680	0.0	440439	88.2		1843	
11 Diuron								R
234.7 > 71.7	3.727	3.727	0.0	122924	36.2	Target=1.00	189	R
232.8 > 71.7	3.727	3.727	0.0	179597		0.68(0.90-1.10)	1.8	

Report Date: 22-Nov-2019 19:25:10 Chrom Revision: 2.3 09-Oct-2019 11:13:36
Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20059.d
Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
14 Propham								
137.6 > 91.8	4.212	4.212	0.0	119799	42.2		708	
15 Siduron								R
232.9 > 93.8	4.491	4.398	0.093	811441	48.9	Target=1.00	842	R
232.9 > 136.8	4.491	4.398	0.093	1431817		0.57(0.90-1.10)	1032	
16 Methiocarb								
225.8 > 168.9	4.521	4.521	0.0	244831	23.8		270	
17 Linuron								R
248.8 > 159.9	4.703	4.703	0.0	191516	42.9	Target=1.00	1161	R
248.8 > 182.1	4.703	4.703	0.0	123228		1.55(0.90-1.10)	822	
18 Chlorpropham								R
214.0 > 153.8	5.228	5.228	0.0	99645	37.0	Target=1.00	486	R
214.0 > 171.9	5.228	5.228	0.0	173405		0.57(0.90-1.10)	453	
19 Neburon								R
275.0 > 88.0	5.632	5.653	-0.021	570067	43.8	Target=1.00	1867	R
275.0 > 114.0	5.632	5.653	-0.021	225481		2.53(0.90-1.10)	1409	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Report Date: 22-Nov-2019 19:25:10 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Denver

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20059.d

Injection Date: 21-Nov-2019 17:23:57 Instrument ID: LC_LCMS3

Lims ID: LCSD 280-476273/3-A

Client ID:

Operator ID: ALS Bottle#: 24 Worklist Smp#: 29

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: Carbs8321 Limit Group: LC - 8321A Carbamates

1 Aminocarb

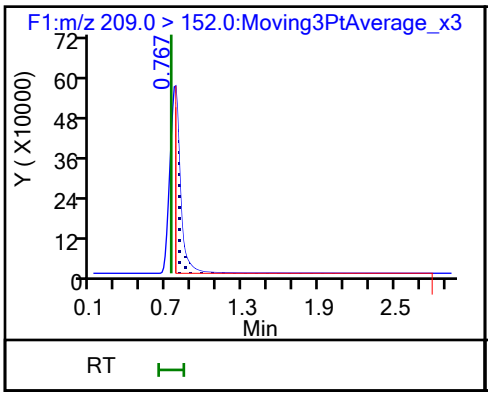

2 Carbamicacid,methyl4-dimethylamino

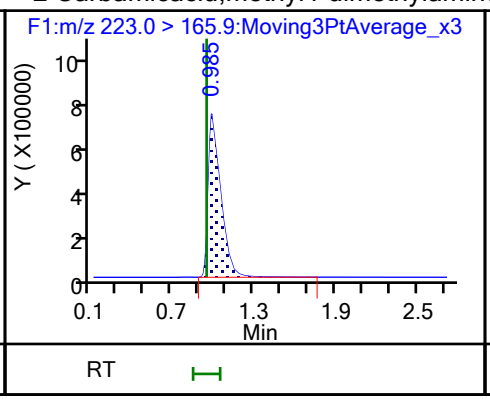

3 Methomyl

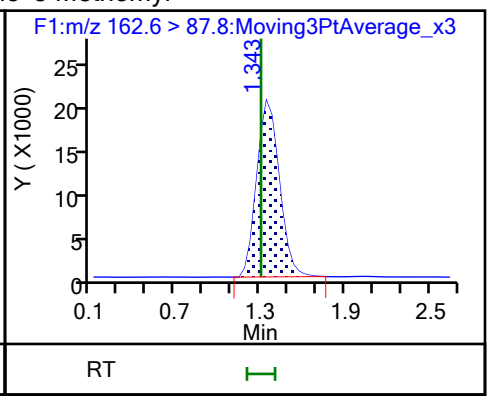

4 Fenuron

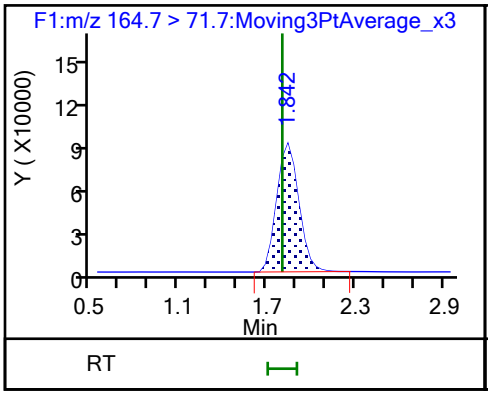

5 Aldicarb

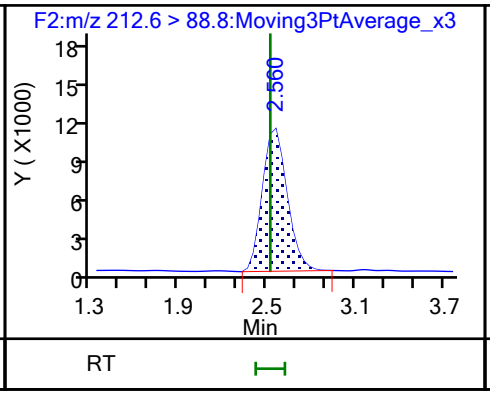

6 Monuron

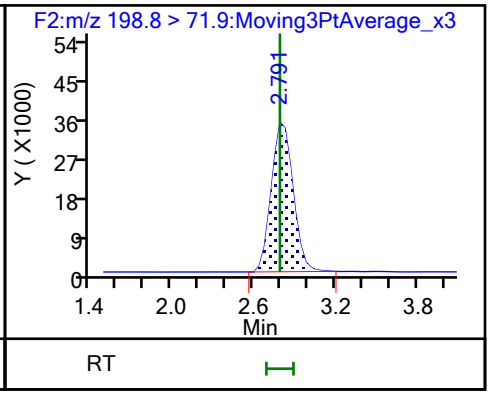

6 Monuron

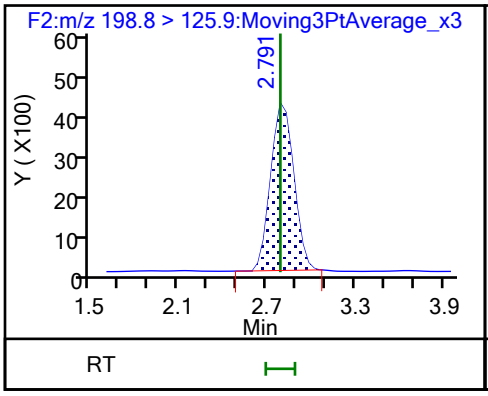

7 Propoxur

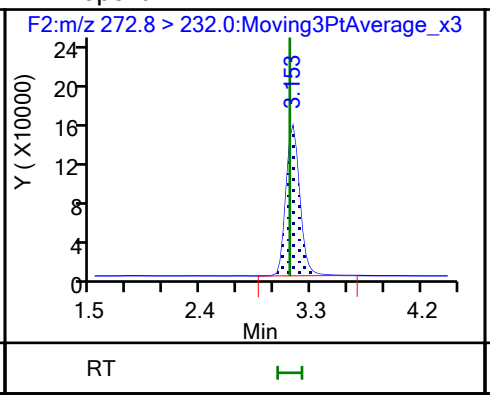

8 Carbofuran

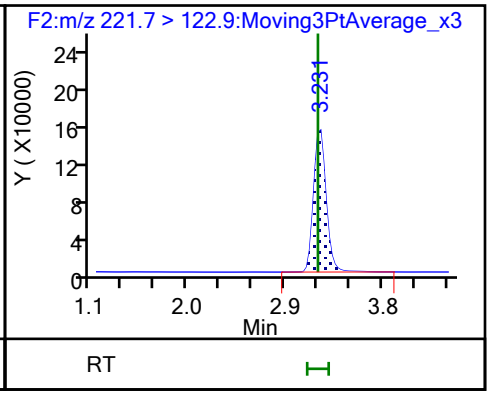

9 Fluometuron

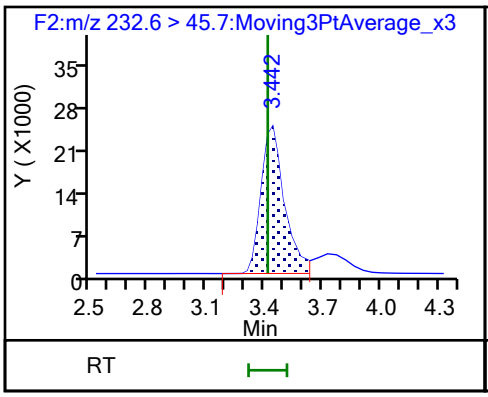

10 Carbaryl

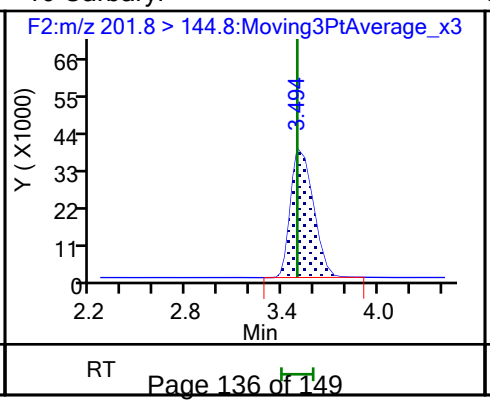

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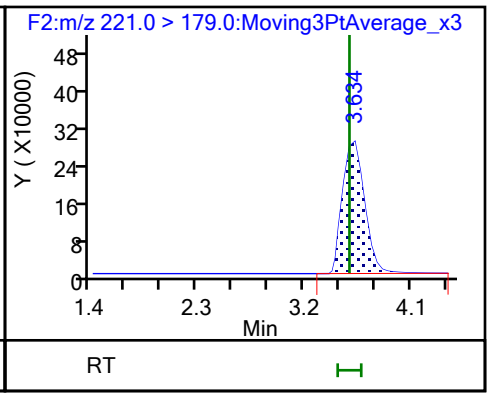

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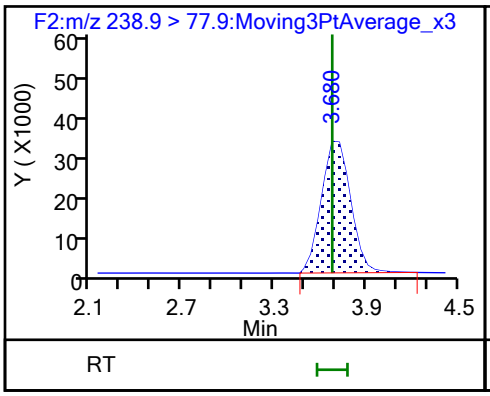

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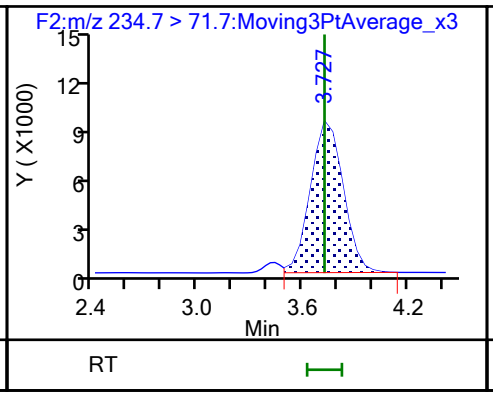

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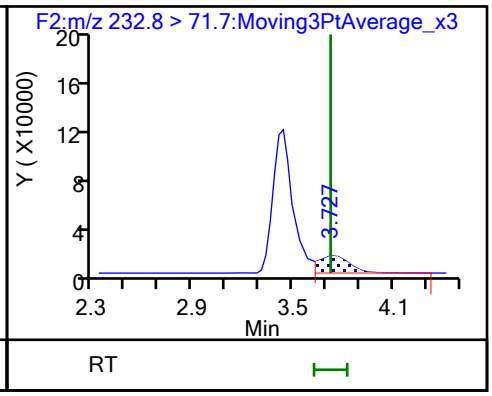

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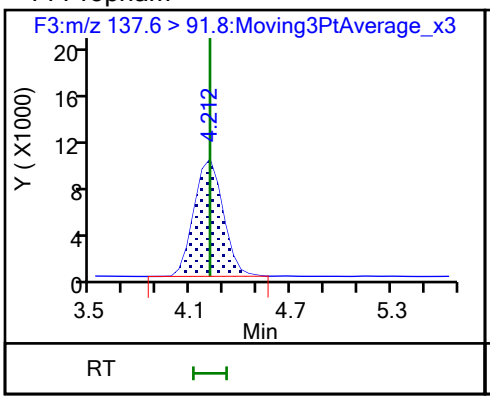

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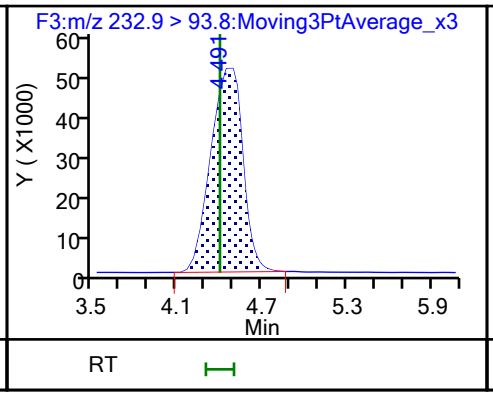

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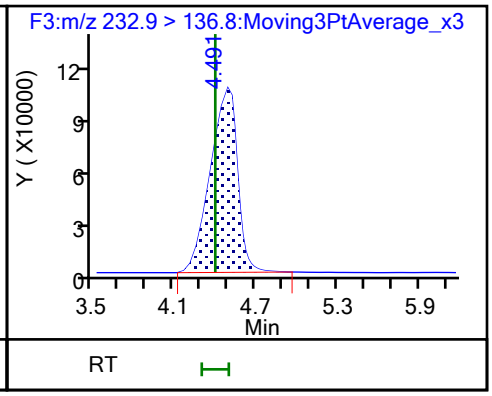

16 Methiocarb

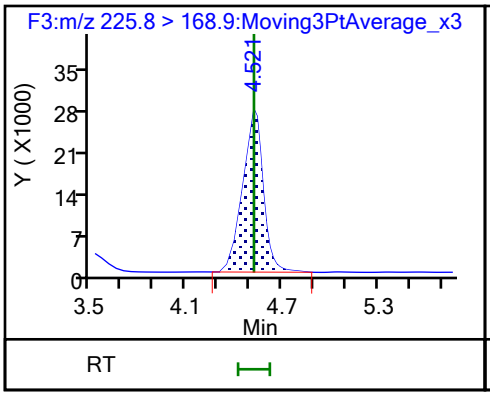

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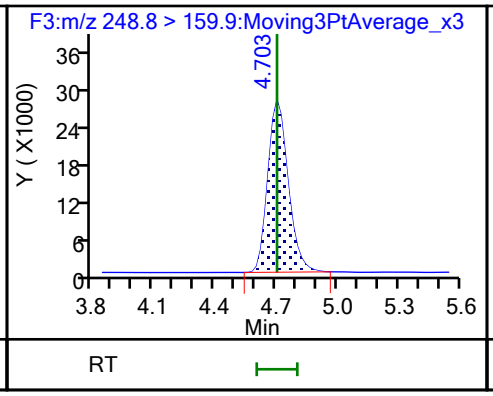

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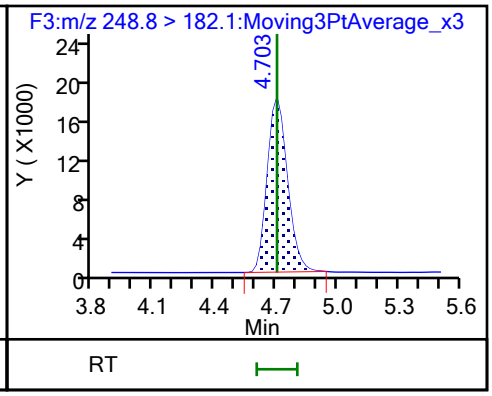

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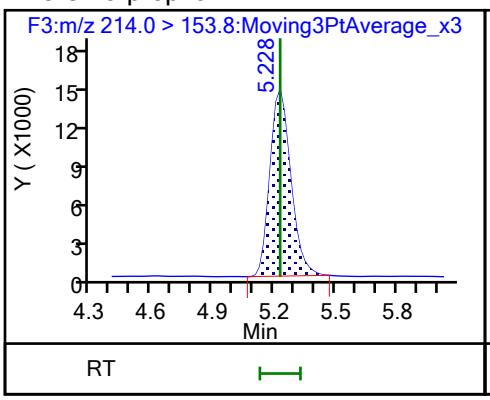

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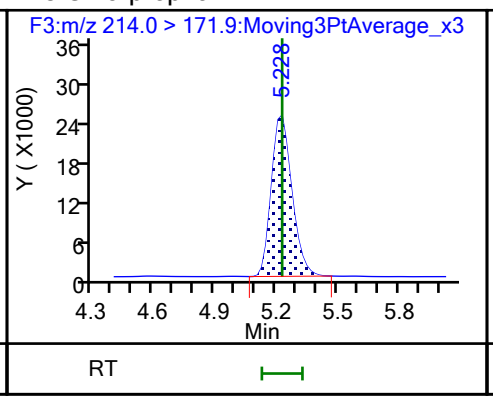

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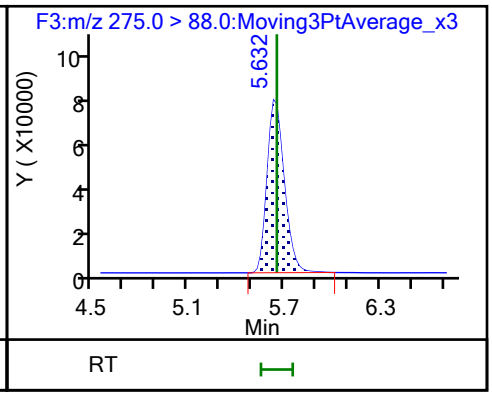

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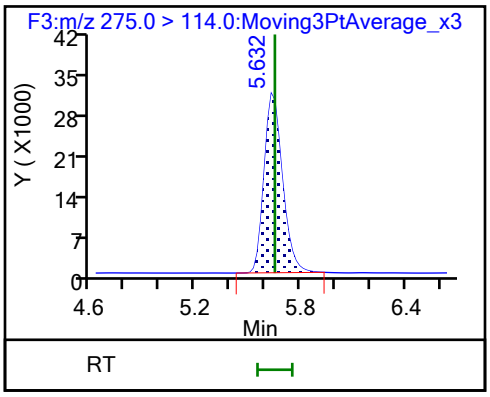
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5.632
Y (X1000)
42
35
28
21
14
7
0
4.6
5.2
5.8
6.4
Min
RT

Eurofins TestAmerica, Denver
Recovery Report

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20059.d
Lims ID: LCSD 280-476273/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 21-Nov-2019 17:23:57 ALS Bottle#: 24 Worklist Smp#: 29
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 280-476273/3-A
Misc. Info.: CP319K20
Operator ID: Instrument ID: LC_LCMS3

Method: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\Carbs8321.m
Limit Group: LC - 8321A Carbamates
Last Update: 22-Nov-2019 19:24:59 Calib Date: 21-Nov-2019 14:49:37
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Denver\ChromData\LC_LCMS3\20191122-87378.b\CP319K20040.d

Column 1 : Det: F1:MRM
Process Host: CTX0304

Compound	Amount Added	Amount Recovered	% Rec.
$ 12 Atrazine-d5	100.4	73.5	73.22
$ 13 Diuron-d6	101.0	88.2	87.33

LCMS ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Denver Job No.: 180-97287-2

SDG No.:

Instrument ID: LC_LCMS3 Start Date: 11/21/2019 14:00

Analysis Batch Number: 478588 End Date: 11/21/2019 16:10

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
STD0025 280-478588/4 IC		11/21/2019 14:00	1	CP319K20034.d	Synergi Hydro 4 3(mm)
STD005 280-478588/5 IC		11/21/2019 14:09	1	CP319K20035.d	Synergi Hydro 4 3(mm)
STD010 280-478588/6 IC		11/21/2019 14:17	1	CP319K20036.d	Synergi Hydro 4 3(mm)
STD020 280-478588/7 IC		11/21/2019 14:25	1	CP319K20037.d	Synergi Hydro 4 3(mm)
STD050 280-478588/8 IC		11/21/2019 14:33	1	CP319K20038.d	Synergi Hydro 4 3(mm)
STD100 280-478588/9 IC		11/21/2019 14:41	1	CP319K20039.d	Synergi Hydro 4 3(mm)
STD200 280-478588/10 IC		11/21/2019 14:49	1	CP319K20040.d	Synergi Hydro 4 3(mm)
ICB 280-478588/11		11/21/2019 14:57	1		Synergi Hydro 4 3(mm)
ICV 280-478588/12		11/21/2019 15:05	1		Synergi Hydro 4 3(mm)
ZZZZZ		11/21/2019 15:13	1		Synergi Hydro 4 3(mm)
ZZZZZ		11/21/2019 15:22	1		Synergi Hydro 4 3(mm)
ZZZZZ		11/21/2019 15:30	1		Synergi Hydro 4 3(mm)
ZZZZZ		11/21/2019 15:38	1		Synergi Hydro 4 3(mm)
ZZZZZ		11/21/2019 15:46	1		Synergi Hydro 4 3(mm)
ZZZZZ		11/21/2019 15:54	1		Synergi Hydro 4 3(mm)
ZZZZZ		11/21/2019 16:02	1		Synergi Hydro 4 3(mm)
CCV020 280-478588/20		11/21/2019 16:10	1		Synergi Hydro 4 3(mm)

8321A

LCMS ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Denver Job No.: 180-97287-2

SDG No.:

Instrument ID: LC_LCMS3 Start Date: 11/21/2019 16:59

Analysis Batch Number: 478590 End Date: 11/21/2019 17:56

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV050 280-478590/26		11/21/2019 16:59	1	CP319K20056.d	Synergi Hydro 4 3(mm)
MB 280-476273/1-A		11/21/2019 17:07	1	CP319K20057.d	Synergi Hydro 4 3(mm)
LCS 280-476273/2-A		11/21/2019 17:15	1	CP319K20058.d	Synergi Hydro 4 3(mm)
LCSD 280-476273/3-A		11/21/2019 17:23	1	CP319K20059.d	Synergi Hydro 4 3(mm)
180-97287-1		11/21/2019 17:32	1	CP319K20060.d	Synergi Hydro 4 3(mm)
ZZZZZ		11/21/2019 17:40	1		Synergi Hydro 4 3(mm)
ZZZZZ		11/21/2019 17:48	1		Synergi Hydro 4 3(mm)
CCV020 280-478590/33		11/21/2019 17:56	1	CP319K20063.d	Synergi Hydro 4 3(mm)

8321A

LCMS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Denver Job No.: 180-97287-2

SDG No.:

Batch Number: 475665 Batch Start Date: 10/28/19 18:21 Batch Analyst: Bourgery, David F

Batch Method: 1311 Batch End Date: 11/18/19 17:04

Lab Sample ID	Client Sample ID	Method Chain	Basis	ExtractFluid					
180-97287-B-1	11187072-NORTH-I MPCT-INITIALS	1311, 3535, 8321A	P	t2					

Batch Notes	
Balance ID	24950431
First End time	10/29/19 11:28
First Start time	10/28/19 18:21
TCLP Fluid 1 ID	T2_00112
TCLP Fluid 1 pH	2.93
Tumbler Rotations per Minute	31

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

LCMS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Denver Job No.: 180-97287-2

SDG No.:

Batch Number: 476273 Batch Start Date: 11/02/19 16:31 Batch Analyst: Anders, Kayla S

Batch Method: 3535 Batch End Date: 11/02/19 18:14

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	CARB LCS 00044	CARB_Prep_Sur 00057
MB 280-476273/1		3535, 8321A				150 mL	10 mL		0.2 mL
LCS 280-476273/2		3535, 8321A				150 mL	10 mL	0.2 mL	0.2 mL
LCSD 280-476273/3		3535, 8321A				150 mL	10 mL	0.2 mL	0.2 mL
180-97287-B-1-B	11187072-NORTH-I MPCT-INITIALS	3535, 8321A	P	432.1 g	175.5 g	256.6 mL	10 mL		0.2 mL

Batch Notes	
Balance ID	24350888
Batch Comment	DV-LC-0016 HPLOC_Water_000965
First End time	11/02/2019 17:29
Pipette/Syringe/Dispenser ID	Jiji
Rinse Solvent Lot	ACN_00041/42
Rinse Solvent Name	ACN
Solvent Lot #	ACN_00041/42
Solvent Name	ACN
SPE Cartridge Lot ID	8B-S100-HCH
SPE Cartridge Type	Strata-X 33u Polymeric Reversed Phase
Analyst ID - Spike Analyst	KA
Analyst ID - Spike Witness Analyst	Reviewer:EB
First Start time	11/02/2019 16:44

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Subcontract Data

Shipping and Receiving Documents

CHAIN OF CUSTODY RECORD

COC NO.: 59351

Address: 2055 Niagara Falls Blvd PAGE ___ OF ___

Phone: 716-297-6150 Fax:

Project No/ Phase/Task Code: 11187072	Laboratory Name: Eurofins / TestAmerica	Lab Location: Pittsburgh	SSOW ID:
Project Name: San Jacinto	Lab Contact: Carrie Gamber / Beth Hitt		Cooler No:
Project Location: Texas			Carrier:
GHD Chemistry Contact: Debbie Brennan			Airbill No:
Sampler(s): Don Pope			Total # of Containers: 4

Item	Sample Identification (Containers for each sample may be combined on one line)	Date (mm/dd/yy)	Time (hh:mm)	Matrix Code (see back of COC)	Grab (G) or Comp (C)	Filtered (Y/N)	See SSOW												Total Containers/sample	MS/MSD Request	Comments/ Special Instructions:
	PRESERVATION - (SEE BACK OF COC FOR ABBREVIATIONS)																				
1	11187072-North-Impd-Initials	10/15/19	15:00	SO			X														* See SSOW for analysis
2																					* Std. TAT
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

180-97287 Chain of Custody

TAT Required in business days (use separate COCs for different TATs):

☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 1 Week ☐ 2 Week ☐ Other:

Notes/ Special Requirements:

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1. Don Pope	GHD	10/15/19	15:15	1. [signature]	TAMIN	10/16/19	900
2.				2.			
3.				3.			

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT – ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE – Fully Executed Copy (CRA) YELLOW – Receiving Laboratory Copy PINK – Shipper GOLDENROD – Sampling Crew

GHD Form: COC-10B (20110804)

180-97287 Waybill

ORIGIN ID:DKKA (716) 297-2160
BRITT GEBHARDT
GHD
2055 NIAGARA FALLS BLVD

NIAGARA FALLS, NY 14304
UNITED STATES US

SHIP [illegible] 19
ACTWG [illegible] LB MAN
CAD: 6[illegible]//CAFE3211

BILL SENDER

TO **SAMPLE CUSTODIAN**
EUROFINS/TEST AMERICA
301 ALPHA DRIVE

PITTSBURGH PA 152381330
(412) 963-7058
REF: 11187072 – NI0402 GEB (POPE)

551C3/2A3C/104C

FedEx Express

J181118060501ev

WED – 16 OCT 3:00P
STANDARD OVERNIGHT

TRK# 0201 **4576 5884 0166**

EK AGCA

15238
PA-US **PIT:**

Uncorrected temp 3.6 °C
Thermometer ID 10

CF 0 Initials TJ

PT-WI-SR-001 effective 11/8/18

Part # 154254-354 RIT EXP 02/20

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 180-97287-2

Login Number: 97287
List Number: 1
Creator: Say, Thomas C

List Source: Eurofins TestAmerica, Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 180-97287-2

Login Number: 97287
List Number: 2
Creator: Petunin, Peter

List Source: Eurofins TestAmerica, Denver
List Creation: 10/19/19 12:03 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

Job Number: 180-100205-1

Job Description: San Jacinto River Waste Pits Superfund

For:
GHD Services Inc.
5551 Corporate Boulevard
Suite 200
Baton Rouge, LA 70808

Attention: Janie Smith

Approved for release.
Carrie L Gamber
Senior Project Manager
5/26/2020 9:08 AM

Carrie L Gamber, Senior Project Manager
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2428
carrie.gamber@testamericainc.com
05/26/2020
Revision: 1

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of TestAmerica and its client. All questions regarding this report should be directed to the TestAmerica Project Manager or designee who has signed this report.

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F2	MS/MSD RPD exceeds control limits

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Dioxin

Qualifier	Qualifier Description
*	Isotope Dilution analyte is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE

Client: GHD Services Inc.

Project: San Jacinto River Waste Pits Superfund

Report Number: 180-100205-1 REVISED

NOTE: Per the client's request, the TEQ summaries have been removed from this report.

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 12/19/2019; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 1.8 C.

NOTE: Results for non-detect PCDD/PCDF analytes are reported using the Estimated Detection Limit (EDL) convention, which provides the lowest possible detection limits for each analyte in each sample based on the magnitude of chromatographic and detector 'noise' at the expected retention time of each analyte. EDL values are typically well below 1 pg/g, and the TEQ-weighted sum of EDL values is below the targeted action limit of 30 pg/g in each reported sample.

VOLATILES
Bromoform exceeded the RPD limit for the MS/MSD of sample 11187072-N.TREATMENT AREA #2 (180-100205-1) in batch 180-302272.

The continuing calibration verification (CCV) analyzed in batch 180-302272 was outside the method criteria for the following analytes: 2-Butanone, Bromoform, Carbon Disulfide, Chloroethane and Trichlorofluoromethane, low. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analytes is considered estimated.

The continuing calibration verification (CCV) analyzed in batch 180-302272 was outside the method criteria for the following analyte: Methacrylonitrile, low. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte is considered estimated.

The continuing calibration verification (CCV) analyzed in batch 180-302272 was outside the method criteria for the following analyte: Isobutyl alcohol, low minimum RRF. A low-level LCS (LLCS), spiked at the reporting limit (RL), was prepared with this batch. The affected target analytes recovered within acceptance limits; therefore, the LLCS demonstrates the analytical system had sufficient sensitivity to detect the compound . As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte is considered estimated.

SEMIVOLATILES
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

8015D GLYCOLS
The closing continuing calibration verification (CCVC) associated with batch 302642 recovered above the upper control limit for Dinoseb. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

PESTICIDES
The CCV for Mirex was analyzed within 12 hours of field samples.

PCBS
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

HERBICIDES
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

CARBAMATES

The standard TCLP tumble time is 16 hours to 20 hours. These samples tumbled for 20 hours and 20 minutes: 11187072-N.TREATMENT AREA #2 (180-100205-1), 11187072-N.TREATMENT AREA #3 (180-100205-3) and 11187072-N.TREATMENT AREA #4 (180-100205-5)

The following samples were re-prepared outside of preparation holding time due to the failure of the LCS. The TCLP was not re-leached as the hold time was expired on the solids. The TCLP leaches were re-run. 11187072-N.TREATMENT AREA #2 (180-100205-1), 11187072-N.TREATMENT AREA #3 (180-100205-3) and 11187072-N.TREATMENT AREA #4 (180-100205-5).

DIOXINS

EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD and 13C-1,2,3,7,8,9-HxCDD associated with the following samples run on instrument 3D5 exceeded this criteria: 11187072-N.TREATMENT AREA #2 (180-100205-1), 11187072-N.TREATMENT AREA #3 (180-100205-3), 11187072-N.TREATMENT AREA #4 (180-100205-5), (CCV 320-349283/2), (LCS 320-348771/2-A), (LCSD 320-348771/3-A) and (MB 320-348771/1-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

METALS

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GENERAL CHEMSITRY

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-100205-1

Client Sample ID: 11187072-N.TREATMENT AREA #2 — Lab Sample ID: 180-100205-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDF	11	J	50	6.7	pg/L	1		1613B	TCLP
1,2,3,4,7,8-HxCDD	20	J q	250	7.2	pg/L	1		1613B	TCLP
1,2,3,7,8,9-HxCDF	15	J q	250	9.9	pg/L	1		1613B	TCLP
1,2,3,4,6,7,8-HpCDD	23	J	250	7.4	pg/L	1		1613B	TCLP
1,2,3,4,7,8,9-HpCDF	31	J q	250	13	pg/L	1		1613B	TCLP
OCDD	77	J	500	10	pg/L	1		1613B	TCLP
OCDF	95	J	500	18	pg/L	1		1613B	TCLP
Total TCDF	11	J	50	6.7	pg/L	1		1613B	TCLP
Total HxCDD	20	J q	250	7.2	pg/L	1		1613B	TCLP
Total HxCDF	15	J q	250	12	pg/L	1		1613B	TCLP
Total HpCDD	23	J	250	7.4	pg/L	1		1613B	TCLP
Total HpCDF	31	J q	250	11	pg/L	1		1613B	TCLP
Barium	0.53	J	2.0	0.026	mg/L	1		EPA 6010C	TCLP
Ignitability	>140				Degrees F	1		EPA 1020B	Total/NA
Sulfide	72		42	14	mg/Kg	1	☼	EPA 9034	Total/NA
pH	8.5	HF	0.1	0.1	SU	1		EPA 9045D	Total/NA
Free Liquid	CNF				NONE	1		EPA 9095B	Total/NA

Client Sample ID: 11187072-N.TREATMENT AREA #2 — Lab Sample ID: 180-100205-2

No Detections.

Client Sample ID: 11187072-N.TREATMENT AREA #3 — Lab Sample ID: 180-100205-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.44	J	2.0	0.026	mg/L	1		EPA 6010C	TCLP
Chromium	0.011	J	0.50	0.0078	mg/L	1		EPA 6010C	TCLP
Ignitability	>140				Degrees F	1		EPA 1020B	Total/NA
Sulfide	59		44	15	mg/Kg	1	☼	EPA 9034	Total/NA
pH	8.7	HF	0.1	0.1	SU	1		EPA 9045D	Total/NA
Free Liquid	CNF				NONE	1		EPA 9095B	Total/NA

Client Sample ID: 11187072-N.TREATMENT AREA #3 — Lab Sample ID: 180-100205-4

No Detections.

Client Sample ID: 11187072-N.TREATMENT AREA #4 — Lab Sample ID: 180-100205-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.48	J	2.0	0.026	mg/L	1		EPA 6010C	TCLP
Ignitability	>140				Degrees F	1		EPA 1020B	Total/NA
Sulfide	24	J	45	15	mg/Kg	1	☼	EPA 9034	Total/NA
pH	7.9	HF	0.1	0.1	SU	1		EPA 9045D	Total/NA
Free Liquid	CNF				NONE	1		EPA 9095B	Total/NA

Client Sample ID: 11187072-N.TREATMENT AREA #4 — Lab Sample ID: 180-100205-6

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-100205-1

Method: EPA 8260C - Volatile Organic Compounds by GC/MS - TCLP

Client Sample ID: 11187072-N.TREATMENT AREA #2
Date Collected: 12/18/19 13:30
Date Received: 12/19/19 10:00

Lab Sample ID: 180-100205-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.20	0.16	mg/L			12/23/19 09:39	1
1,1,1-Trichloroethane	ND		0.20	0.10	mg/L			12/23/19 09:39	1
1,2-Dichloroethane	ND		0.20	0.058	mg/L			12/23/19 09:39	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.12	mg/L			12/23/19 09:39	1
2-Butanone (MEK)	ND		0.20	0.12	mg/L			12/23/19 09:39	1
Benzene	ND		0.20	0.079	mg/L			12/23/19 09:39	1
1,1,2-Trichloroethane	ND		0.20	0.096	mg/L			12/23/19 09:39	1
Carbon tetrachloride	ND		0.20	0.13	mg/L			12/23/19 09:39	1
Chlorobenzene	ND		0.20	0.063	mg/L			12/23/19 09:39	1
Chloroform	ND		0.20	0.085	mg/L			12/23/19 09:39	1
Tetrachloroethene	ND		0.20	0.080	mg/L			12/23/19 09:39	1
Trichloroethene	ND		0.20	0.060	mg/L			12/23/19 09:39	1
1,2,3-Trichloropropane	ND		0.20	0.11	mg/L			12/23/19 09:39	1
Vinyl chloride	ND		0.20	0.15	mg/L			12/23/19 09:39	1
1,1-Dichloroethene	ND		0.20	0.11	mg/L			12/23/19 09:39	1
1,3-Dichloropropene, Total	ND		0.40	0.13	mg/L			12/23/19 09:39	1
1,4-Dichlorobenzene	ND		0.20	0.041	mg/L			12/23/19 09:39	1
4-Methyl-2-pentanone (MIBK)	ND		0.20	0.074	mg/L			12/23/19 09:39	1
Acetone	ND		0.80	0.13	mg/L			12/23/19 09:39	1
Acetonitrile	ND		2.0	2.0	mg/L			12/23/19 09:39	1
Acrylonitrile	ND		2.0	1.3	mg/L			12/23/19 09:39	1
Bromoform	ND	F2	0.20	0.10	mg/L			12/23/19 09:39	1
Bromomethane	ND		0.20	0.18	mg/L			12/23/19 09:39	1
Carbon disulfide	ND		0.20	0.12	mg/L			12/23/19 09:39	1
Dichlorobromomethane	ND		0.20	0.094	mg/L			12/23/19 09:39	1
Dichlorodifluoromethane	ND		0.20	0.12	mg/L			12/23/19 09:39	1
Ethylbenzene	ND		0.20	0.086	mg/L			12/23/19 09:39	1
1,2-Dibromoethane	ND		0.20	0.11	mg/L			12/23/19 09:39	1
Hexachlorobutadiene	ND		0.20	0.073	mg/L			12/23/19 09:39	1
Isobutyl alcohol	ND		5.0	3.6	mg/L			12/23/19 09:39	1
Methacrylonitrile	ND		2.0	1.6	mg/L			12/23/19 09:39	1
Methylene Chloride	ND		0.20	0.15	mg/L			12/23/19 09:39	1
Styrene	ND		0.20	0.053	mg/L			12/23/19 09:39	1
Toluene	ND		0.20	0.067	mg/L			12/23/19 09:39	1
trans-1,3-Dichloropropene	ND		0.20	0.069	mg/L			12/23/19 09:39	1
Trichlorofluoromethane	ND		0.20	0.058	mg/L			12/23/19 09:39	1
Xylenes, Total	ND		0.40	0.17	mg/L			12/23/19 09:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*86*		*58 - 139*		*12/23/19 09:39*	*1*
4-Bromofluorobenzene (Surr)	*86*		*64 - 122*		*12/23/19 09:39*	*1*
Dibromofluoromethane (Surr)	*81*		*70 - 127*		*12/23/19 09:39*	*1*
Toluene-d8 (Surr)	*79*		*71 - 125*		*12/23/19 09:39*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-100205-1

Method: EPA 8260C - Volatile Organic Compounds by GC/MS - TCLP

Client Sample ID: 11187072-N.TREATMENT AREA #3
Date Collected: 12/18/19 14:00
Date Received: 12/19/19 10:00

Lab Sample ID: 180-100205-3
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.20	0.16	mg/L			12/23/19 10:05	1
1,1,1-Trichloroethane	ND		0.20	0.10	mg/L			12/23/19 10:05	1
1,2-Dichloroethane	ND		0.20	0.058	mg/L			12/23/19 10:05	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.12	mg/L			12/23/19 10:05	1
2-Butanone (MEK)	ND		0.20	0.12	mg/L			12/23/19 10:05	1
Benzene	ND		0.20	0.079	mg/L			12/23/19 10:05	1
1,1,2-Trichloroethane	ND		0.20	0.096	mg/L			12/23/19 10:05	1
Carbon tetrachloride	ND		0.20	0.13	mg/L			12/23/19 10:05	1
Chlorobenzene	ND		0.20	0.063	mg/L			12/23/19 10:05	1
Chloroform	ND		0.20	0.085	mg/L			12/23/19 10:05	1
Tetrachloroethene	ND		0.20	0.080	mg/L			12/23/19 10:05	1
Trichloroethene	ND		0.20	0.060	mg/L			12/23/19 10:05	1
1,2,3-Trichloropropane	ND		0.20	0.11	mg/L			12/23/19 10:05	1
Vinyl chloride	ND		0.20	0.15	mg/L			12/23/19 10:05	1
1,1-Dichloroethene	ND		0.20	0.11	mg/L			12/23/19 10:05	1
1,3-Dichloropropene, Total	ND		0.40	0.13	mg/L			12/23/19 10:05	1
1,4-Dichlorobenzene	ND		0.20	0.041	mg/L			12/23/19 10:05	1
4-Methyl-2-pentanone (MIBK)	ND		0.20	0.074	mg/L			12/23/19 10:05	1
Acetone	ND		0.80	0.13	mg/L			12/23/19 10:05	1
Acetonitrile	ND		2.0	2.0	mg/L			12/23/19 10:05	1
Acrylonitrile	ND		2.0	1.3	mg/L			12/23/19 10:05	1
Bromoform	ND		0.20	0.10	mg/L			12/23/19 10:05	1
Bromomethane	ND		0.20	0.18	mg/L			12/23/19 10:05	1
Carbon disulfide	ND		0.20	0.12	mg/L			12/23/19 10:05	1
Dichlorobromomethane	ND		0.20	0.094	mg/L			12/23/19 10:05	1
Dichlorodifluoromethane	ND		0.20	0.12	mg/L			12/23/19 10:05	1
Ethylbenzene	ND		0.20	0.086	mg/L			12/23/19 10:05	1
1,2-Dibromoethane	ND		0.20	0.11	mg/L			12/23/19 10:05	1
Hexachlorobutadiene	ND		0.20	0.073	mg/L			12/23/19 10:05	1
Isobutyl alcohol	ND		5.0	3.6	mg/L			12/23/19 10:05	1
Methacrylonitrile	ND		2.0	1.6	mg/L			12/23/19 10:05	1
Methylene Chloride	ND		0.20	0.15	mg/L			12/23/19 10:05	1
Styrene	ND		0.20	0.053	mg/L			12/23/19 10:05	1
Toluene	ND		0.20	0.067	mg/L			12/23/19 10:05	1
trans-1,3-Dichloropropene	ND		0.20	0.069	mg/L			12/23/19 10:05	1
Trichlorofluoromethane	ND		0.20	0.058	mg/L			12/23/19 10:05	1
Xylenes, Total	ND		0.40	0.17	mg/L			12/23/19 10:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*58 - 139*		*12/23/19 10:05*	*1*
4-Bromofluorobenzene (Surr)	*89*		*64 - 122*		*12/23/19 10:05*	*1*
Dibromofluoromethane (Surr)	*85*		*70 - 127*		*12/23/19 10:05*	*1*
Toluene-d8 (Surr)	*81*		*71 - 125*		*12/23/19 10:05*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-100205-1

Method: EPA 8260C - Volatile Organic Compounds by GC/MS - TCLP

Client Sample ID: 11187072-N.TREATMENT AREA #4
Date Collected: 12/18/19 14:30
Date Received: 12/19/19 10:00

Lab Sample ID: 180-100205-5
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.20	0.16	mg/L			12/23/19 10:32	1
1,1,1-Trichloroethane	ND		0.20	0.10	mg/L			12/23/19 10:32	1
1,2-Dichloroethane	ND		0.20	0.058	mg/L			12/23/19 10:32	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.12	mg/L			12/23/19 10:32	1
2-Butanone (MEK)	ND		0.20	0.12	mg/L			12/23/19 10:32	1
Benzene	ND		0.20	0.079	mg/L			12/23/19 10:32	1
1,1,2-Trichloroethane	ND		0.20	0.096	mg/L			12/23/19 10:32	1
Carbon tetrachloride	ND		0.20	0.13	mg/L			12/23/19 10:32	1
Chlorobenzene	ND		0.20	0.063	mg/L			12/23/19 10:32	1
Chloroform	ND		0.20	0.085	mg/L			12/23/19 10:32	1
Tetrachloroethene	ND		0.20	0.080	mg/L			12/23/19 10:32	1
Trichloroethene	ND		0.20	0.060	mg/L			12/23/19 10:32	1
1,2,3-Trichloropropane	ND		0.20	0.11	mg/L			12/23/19 10:32	1
Vinyl chloride	ND		0.20	0.15	mg/L			12/23/19 10:32	1
1,1-Dichloroethene	ND		0.20	0.11	mg/L			12/23/19 10:32	1
1,3-Dichloropropene, Total	ND		0.40	0.13	mg/L			12/23/19 10:32	1
1,4-Dichlorobenzene	ND		0.20	0.041	mg/L			12/23/19 10:32	1
4-Methyl-2-pentanone (MIBK)	ND		0.20	0.074	mg/L			12/23/19 10:32	1
Acetone	ND		0.80	0.13	mg/L			12/23/19 10:32	1
Acetonitrile	ND		2.0	2.0	mg/L			12/23/19 10:32	1
Acrylonitrile	ND		2.0	1.3	mg/L			12/23/19 10:32	1
Bromoform	ND		0.20	0.10	mg/L			12/23/19 10:32	1
Bromomethane	ND		0.20	0.18	mg/L			12/23/19 10:32	1
Carbon disulfide	ND		0.20	0.12	mg/L			12/23/19 10:32	1
Dichlorobromomethane	ND		0.20	0.094	mg/L			12/23/19 10:32	1
Dichlorodifluoromethane	ND		0.20	0.12	mg/L			12/23/19 10:32	1
Ethylbenzene	ND		0.20	0.086	mg/L			12/23/19 10:32	1
1,2-Dibromoethane	ND		0.20	0.11	mg/L			12/23/19 10:32	1
Hexachlorobutadiene	ND		0.20	0.073	mg/L			12/23/19 10:32	1
Isobutyl alcohol	ND		5.0	3.6	mg/L			12/23/19 10:32	1
Methacrylonitrile	ND		2.0	1.6	mg/L			12/23/19 10:32	1
Methylene Chloride	ND		0.20	0.15	mg/L			12/23/19 10:32	1
Styrene	ND		0.20	0.053	mg/L			12/23/19 10:32	1
Toluene	ND		0.20	0.067	mg/L			12/23/19 10:32	1
trans-1,3-Dichloropropene	ND		0.20	0.069	mg/L			12/23/19 10:32	1
Trichlorofluoromethane	ND		0.20	0.058	mg/L			12/23/19 10:32	1
Xylenes, Total	ND		0.40	0.17	mg/L			12/23/19 10:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*58 - 139*		*12/23/19 10:32*	*1*
4-Bromofluorobenzene (Surr)	*94*		*64 - 122*		*12/23/19 10:32*	*1*
Dibromofluoromethane (Surr)	*90*		*70 - 127*		*12/23/19 10:32*	*1*
Toluene-d8 (Surr)	*85*		*71 - 125*		*12/23/19 10:32*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-100205-1

Method: EPA 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Client Sample ID: 11187072-N.TREATMENT AREA #2
Date Collected: 12/18/19 13:30
Date Received: 12/19/19 10:00

Lab Sample ID: 180-100205-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.050	0.0045	mg/L		12/21/19 06:10	12/23/19 21:13	1
2,4,5-Trichlorophenol	ND		0.050	0.0079	mg/L		12/21/19 06:10	12/23/19 21:13	1
2,4,6-Trichlorophenol	ND		0.050	0.0095	mg/L		12/21/19 06:10	12/23/19 21:13	1
2,4-Dinitrotoluene	ND		0.050	0.0079	mg/L		12/21/19 06:10	12/23/19 21:13	1
2-Methylphenol	ND		0.050	0.0040	mg/L		12/21/19 06:10	12/23/19 21:13	1
Methylphenol, 3 & 4	ND		0.050	0.0079	mg/L		12/21/19 06:10	12/23/19 21:13	1
Hexachlorobenzene	ND		0.050	0.0055	mg/L		12/21/19 06:10	12/23/19 21:13	1
Hexachlorobutadiene	ND		0.050	0.0084	mg/L		12/21/19 06:10	12/23/19 21:13	1
Hexachloroethane	ND		0.050	0.0040	mg/L		12/21/19 06:10	12/23/19 21:13	1
Nitrobenzene	ND		0.050	0.012	mg/L		12/21/19 06:10	12/23/19 21:13	1
Pentachlorophenol	ND		0.25	0.0075	mg/L		12/21/19 06:10	12/23/19 21:13	1
Pyridine	ND		0.10	0.0082	mg/L		12/21/19 06:10	12/23/19 21:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*88*		*55 - 107*	*12/21/19 06:10*	*12/23/19 21:13*	*1*
2-Fluorophenol (Surr)	*78*		*60 - 108*	*12/21/19 06:10*	*12/23/19 21:13*	*1*
2,4,6-Tribromophenol (Surr)	*50*		*24 - 113*	*12/21/19 06:10*	*12/23/19 21:13*	*1*
Nitrobenzene-d5 (Surr)	*78*		*62 - 115*	*12/21/19 06:10*	*12/23/19 21:13*	*1*
Phenol-d5 (Surr)	*59*		*52 - 107*	*12/21/19 06:10*	*12/23/19 21:13*	*1*
Terphenyl-d14 (Surr)	*100*		*44 - 116*	*12/21/19 06:10*	*12/23/19 21:13*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-100205-1

Method: EPA 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Client Sample ID: 11187072-N.TREATMENT AREA #3
Date Collected: 12/18/19 14:00
Date Received: 12/19/19 10:00

Lab Sample ID: 180-100205-3
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.050	0.0045	mg/L		12/21/19 06:10	12/23/19 21:40	1
2,4,5-Trichlorophenol	ND		0.050	0.0079	mg/L		12/21/19 06:10	12/23/19 21:40	1
2,4,6-Trichlorophenol	ND		0.050	0.0095	mg/L		12/21/19 06:10	12/23/19 21:40	1
2,4-Dinitrotoluene	ND		0.050	0.0079	mg/L		12/21/19 06:10	12/23/19 21:40	1
2-Methylphenol	ND		0.050	0.0040	mg/L		12/21/19 06:10	12/23/19 21:40	1
Methylphenol, 3 & 4	ND		0.050	0.0079	mg/L		12/21/19 06:10	12/23/19 21:40	1
Hexachlorobenzene	ND		0.050	0.0055	mg/L		12/21/19 06:10	12/23/19 21:40	1
Hexachlorobutadiene	ND		0.050	0.0084	mg/L		12/21/19 06:10	12/23/19 21:40	1
Hexachloroethane	ND		0.050	0.0040	mg/L		12/21/19 06:10	12/23/19 21:40	1
Nitrobenzene	ND		0.050	0.012	mg/L		12/21/19 06:10	12/23/19 21:40	1
Pentachlorophenol	ND		0.25	0.0075	mg/L		12/21/19 06:10	12/23/19 21:40	1
Pyridine	ND		0.10	0.0082	mg/L		12/21/19 06:10	12/23/19 21:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*89*		*55 - 107*	*12/21/19 06:10*	*12/23/19 21:40*	*1*
2-Fluorophenol (Surr)	*79*		*60 - 108*	*12/21/19 06:10*	*12/23/19 21:40*	*1*
2,4,6-Tribromophenol (Surr)	*51*		*24 - 113*	*12/21/19 06:10*	*12/23/19 21:40*	*1*
Nitrobenzene-d5 (Surr)	*80*		*62 - 115*	*12/21/19 06:10*	*12/23/19 21:40*	*1*
Phenol-d5 (Surr)	*57*		*52 - 107*	*12/21/19 06:10*	*12/23/19 21:40*	*1*
Terphenyl-d14 (Surr)	*105*		*44 - 116*	*12/21/19 06:10*	*12/23/19 21:40*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-100205-1

Method: EPA 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Client Sample ID: 11187072-N.TREATMENT AREA #4
Date Collected: 12/18/19 14:30
Date Received: 12/19/19 10:00

Lab Sample ID: 180-100205-5
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.050	0.0045	mg/L		12/21/19 06:10	12/23/19 22:07	1
2,4,5-Trichlorophenol	ND		0.050	0.0079	mg/L		12/21/19 06:10	12/23/19 22:07	1
2,4,6-Trichlorophenol	ND		0.050	0.0095	mg/L		12/21/19 06:10	12/23/19 22:07	1
2,4-Dinitrotoluene	ND		0.050	0.0079	mg/L		12/21/19 06:10	12/23/19 22:07	1
2-Methylphenol	ND		0.050	0.0040	mg/L		12/21/19 06:10	12/23/19 22:07	1
Methylphenol, 3 & 4	ND		0.050	0.0079	mg/L		12/21/19 06:10	12/23/19 22:07	1
Hexachlorobenzene	ND		0.050	0.0055	mg/L		12/21/19 06:10	12/23/19 22:07	1
Hexachlorobutadiene	ND		0.050	0.0084	mg/L		12/21/19 06:10	12/23/19 22:07	1
Hexachloroethane	ND		0.050	0.0040	mg/L		12/21/19 06:10	12/23/19 22:07	1
Nitrobenzene	ND		0.050	0.012	mg/L		12/21/19 06:10	12/23/19 22:07	1
Pentachlorophenol	ND		0.25	0.0075	mg/L		12/21/19 06:10	12/23/19 22:07	1
Pyridine	ND		0.10	0.0082	mg/L		12/21/19 06:10	12/23/19 22:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*87*		*55 - 107*	*12/21/19 06:10*	*12/23/19 22:07*	*1*
2-Fluorophenol (Surr)	*76*		*60 - 108*	*12/21/19 06:10*	*12/23/19 22:07*	*1*
2,4,6-Tribromophenol (Surr)	*57*		*24 - 113*	*12/21/19 06:10*	*12/23/19 22:07*	*1*
Nitrobenzene-d5 (Surr)	*79*		*62 - 115*	*12/21/19 06:10*	*12/23/19 22:07*	*1*
Phenol-d5 (Surr)	*62*		*52 - 107*	*12/21/19 06:10*	*12/23/19 22:07*	*1*
Terphenyl-d14 (Surr)	*101*		*44 - 116*	*12/21/19 06:10*	*12/23/19 22:07*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-100205-1

Method: 8015D - Glycols- Direct Injection (GC/FID)

Client Sample ID: 11187072-N.TREATMENT AREA #2
Date Collected: 01/07/20 09:00
Date Received: 12/19/19 10:00

Lab Sample ID: 180-100205-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene glycol	ND		10	1.9	mg/L		01/09/20 07:38	01/09/20 09:38	1
2-Ethoxyethanol	ND		20	2.5	mg/L		01/09/20 07:38	01/09/20 09:38	1
2-Methoxyethanol	ND		10	2.4	mg/L		01/09/20 07:38	01/09/20 09:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Butanediol	*98*		*66 - 130*	*01/09/20 07:38*	*01/09/20 09:38*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-100205-1

Method: 8015D - Glycols- Direct Injection (GC/FID)

Client Sample ID: 11187072-N.TREATMENT AREA #3
Date Collected: 01/07/20 09:00
Date Received: 12/19/19 10:00

Lab Sample ID: 180-100205-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene glycol	ND		10	1.9	mg/L		01/09/20 07:38	01/09/20 10:34	1
2-Ethoxyethanol	ND		20	2.5	mg/L		01/09/20 07:38	01/09/20 10:34	1
2-Methoxyethanol	ND		10	2.4	mg/L		01/09/20 07:38	01/09/20 10:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Butanediol	*95*		*66 - 130*	*01/09/20 07:38*	*01/09/20 10:34*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-100205-1

Method: 8015D - Glycols- Direct Injection (GC/FID)

Client Sample ID: 11187072-N.TREATMENT AREA #4
Date Collected: 01/07/20 09:00
Date Received: 12/19/19 10:00

Lab Sample ID: 180-100205-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene glycol	ND		10	1.9	mg/L		01/09/20 07:38	01/09/20 10:52	1
2-Ethoxyethanol	ND		20	2.5	mg/L		01/09/20 07:38	01/09/20 10:52	1
2-Methoxyethanol	ND		10	2.4	mg/L		01/09/20 07:38	01/09/20 10:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Butanediol	*97*		*66 - 130*	*01/09/20 07:38*	*01/09/20 10:52*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-100205-1

Method: EPA 8081B - Organochlorine Pesticides (GC) - TCLP

Client Sample ID: 11187072-N.TREATMENT AREA #2
Date Collected: 12/18/19 13:30
Date Received: 12/19/19 10:00

Lab Sample ID: 180-100205-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	ND		0.0050	0.0029	mg/L		12/21/19 05:15	12/24/19 03:07	1
Endrin	ND		0.00050	0.000091	mg/L		12/21/19 05:15	12/24/19 03:07	1
gamma-BHC (Lindane)	ND		0.00050	0.00012	mg/L		12/21/19 05:15	12/24/19 03:07	1
Heptachlor	ND		0.00050	0.00018	mg/L		12/21/19 05:15	12/24/19 03:07	1
Heptachlor epoxide	ND		0.00050	0.00014	mg/L		12/21/19 05:15	12/24/19 03:07	1
cis-Chlordane	ND		0.00050	0.00015	mg/L		12/21/19 05:15	12/24/19 03:07	1
Methoxychlor	ND		0.00050	0.00031	mg/L		12/21/19 05:15	12/24/19 03:07	1
Toxaphene	ND		0.040	0.020	mg/L		12/21/19 05:15	12/24/19 03:07	1
trans-Chlordane	ND		0.00050	0.00016	mg/L		12/21/19 05:15	12/24/19 03:07	1
4,4'-DDD	ND		0.00050	0.00021	mg/L		12/21/19 05:15	12/24/19 03:07	1
4,4'-DDE	ND		0.00050	0.00012	mg/L		12/21/19 05:15	12/24/19 03:07	1
4,4'-DDT	ND		0.00050	0.00012	mg/L		12/21/19 05:15	12/24/19 03:07	1
Dieldrin	ND		0.00050	0.00011	mg/L		12/21/19 05:15	12/24/19 03:07	1
Endosulfan I	ND		0.00050	0.00027	mg/L		12/21/19 05:15	12/24/19 03:07	1
Endosulfan II	ND		0.00050	0.00013	mg/L		12/21/19 05:15	12/24/19 03:07	1
Endosulfan sulfate	ND		0.00050	0.00026	mg/L		12/21/19 05:15	12/24/19 03:07	1
Mirex	ND		0.00050	0.000084	mg/L		12/21/19 05:15	12/24/19 03:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*76*		*62 - 150*	*12/21/19 05:15*	*12/24/19 03:07*	*1*
DCB Decachlorobiphenyl (Surr)	*94*		*62 - 150*	*12/21/19 05:15*	*12/24/19 03:07*	*1*
Tetrachloro-m-xylene	*70*		*54 - 138*	*12/21/19 05:15*	*12/24/19 03:07*	*1*
Tetrachloro-m-xylene	*88*		*54 - 138*	*12/21/19 05:15*	*12/24/19 03:07*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-100205-1

Method: EPA 8081B - Organochlorine Pesticides (GC) - TCLP

Client Sample ID: 11187072-N.TREATMENT AREA #3
Date Collected: 12/18/19 14:00
Date Received: 12/19/19 10:00

Lab Sample ID: 180-100205-3
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	ND		0.0050	0.0029	mg/L		12/21/19 05:15	12/24/19 03:23	1
Endrin	ND		0.00050	0.000091	mg/L		12/21/19 05:15	12/24/19 03:23	1
gamma-BHC (Lindane)	ND		0.00050	0.00012	mg/L		12/21/19 05:15	12/24/19 03:23	1
Heptachlor	ND		0.00050	0.00018	mg/L		12/21/19 05:15	12/24/19 03:23	1
Heptachlor epoxide	ND		0.00050	0.00014	mg/L		12/21/19 05:15	12/24/19 03:23	1
cis-Chlordane	ND		0.00050	0.00015	mg/L		12/21/19 05:15	12/24/19 03:23	1
Methoxychlor	ND		0.00050	0.00031	mg/L		12/21/19 05:15	12/24/19 03:23	1
Toxaphene	ND		0.040	0.020	mg/L		12/21/19 05:15	12/24/19 03:23	1
trans-Chlordane	ND		0.00050	0.00016	mg/L		12/21/19 05:15	12/24/19 03:23	1
4,4'-DDD	ND		0.00050	0.00021	mg/L		12/21/19 05:15	12/24/19 03:23	1
4,4'-DDE	ND		0.00050	0.00012	mg/L		12/21/19 05:15	12/24/19 03:23	1
4,4'-DDT	ND		0.00050	0.00012	mg/L		12/21/19 05:15	12/24/19 03:23	1
Dieldrin	ND		0.00050	0.00011	mg/L		12/21/19 05:15	12/24/19 03:23	1
Endosulfan I	ND		0.00050	0.00027	mg/L		12/21/19 05:15	12/24/19 03:23	1
Endosulfan II	ND		0.00050	0.00013	mg/L		12/21/19 05:15	12/24/19 03:23	1
Endosulfan sulfate	ND		0.00050	0.00026	mg/L		12/21/19 05:15	12/24/19 03:23	1
Mirex	ND		0.00050	0.000084	mg/L		12/21/19 05:15	12/24/19 03:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*73*		*62 - 150*	*12/21/19 05:15*	*12/24/19 03:23*	*1*
DCB Decachlorobiphenyl (Surr)	*93*		*62 - 150*	*12/21/19 05:15*	*12/24/19 03:23*	*1*
Tetrachloro-m-xylene	*68*		*54 - 138*	*12/21/19 05:15*	*12/24/19 03:23*	*1*
Tetrachloro-m-xylene	*89*		*54 - 138*	*12/21/19 05:15*	*12/24/19 03:23*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-100205-1

Method: EPA 8081B - Organochlorine Pesticides (GC) - TCLP

Client Sample ID: 11187072-N.TREATMENT AREA #4
Date Collected: 12/18/19 14:30
Date Received: 12/19/19 10:00

Lab Sample ID: 180-100205-5
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	ND		0.0050	0.0029	mg/L		12/21/19 05:15	12/24/19 03:38	1
Endrin	ND		0.00050	0.000091	mg/L		12/21/19 05:15	12/24/19 03:38	1
gamma-BHC (Lindane)	ND		0.00050	0.00012	mg/L		12/21/19 05:15	12/24/19 03:38	1
Heptachlor	ND		0.00050	0.00018	mg/L		12/21/19 05:15	12/24/19 03:38	1
Heptachlor epoxide	ND		0.00050	0.00014	mg/L		12/21/19 05:15	12/24/19 03:38	1
cis-Chlordane	ND		0.00050	0.00015	mg/L		12/21/19 05:15	12/24/19 03:38	1
Methoxychlor	ND		0.00050	0.00031	mg/L		12/21/19 05:15	12/24/19 03:38	1
Toxaphene	ND		0.040	0.020	mg/L		12/21/19 05:15	12/24/19 03:38	1
trans-Chlordane	ND		0.00050	0.00016	mg/L		12/21/19 05:15	12/24/19 03:38	1
4,4'-DDD	ND		0.00050	0.00021	mg/L		12/21/19 05:15	12/24/19 03:38	1
4,4'-DDE	ND		0.00050	0.00012	mg/L		12/21/19 05:15	12/24/19 03:38	1
4,4'-DDT	ND		0.00050	0.00012	mg/L		12/21/19 05:15	12/24/19 03:38	1
Dieldrin	ND		0.00050	0.00011	mg/L		12/21/19 05:15	12/24/19 03:38	1
Endosulfan I	ND		0.00050	0.00027	mg/L		12/21/19 05:15	12/24/19 03:38	1
Endosulfan II	ND		0.00050	0.00013	mg/L		12/21/19 05:15	12/24/19 03:38	1
Endosulfan sulfate	ND		0.00050	0.00026	mg/L		12/21/19 05:15	12/24/19 03:38	1
Mirex	ND		0.00050	0.000084	mg/L		12/21/19 05:15	12/24/19 03:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*78*		*62 - 150*	*12/21/19 05:15*	*12/24/19 03:38*	*1*
DCB Decachlorobiphenyl (Surr)	*94*		*62 - 150*	*12/21/19 05:15*	*12/24/19 03:38*	*1*
Tetrachloro-m-xylene	*69*		*54 - 138*	*12/21/19 05:15*	*12/24/19 03:38*	*1*
Tetrachloro-m-xylene	*89*		*54 - 138*	*12/21/19 05:15*	*12/24/19 03:38*	*1*

Client Sample Results

Client: GHD Services Inc.
Job ID: 180-100205-1
Project/Site: San Jacinto River Waste Pits Superfund

Method: EPA 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography - TCLP

Client Sample ID: 11187072-N.TREATMENT AREA #2
Lab Sample ID: 180-100205-1
Date Collected: 12/18/19 13:30
Matrix: Solid
Date Received: 12/19/19 10:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.00039	0.00019	mg/L		12/21/19 02:15	12/31/19 01:11	1
PCB-1221	ND		0.00039	0.00022	mg/L		12/21/19 02:15	12/31/19 01:11	1
PCB-1232	ND		0.00039	0.00020	mg/L		12/21/19 02:15	12/31/19 01:11	1
PCB-1242	ND		0.00039	0.00036	mg/L		12/21/19 02:15	12/31/19 01:11	1
PCB-1248	ND		0.00039	0.00012	mg/L		12/21/19 02:15	12/31/19 01:11	1
PCB-1254	ND		0.00039	0.00037	mg/L		12/21/19 02:15	12/31/19 01:11	1
PCB-1260	ND		0.00039	0.00015	mg/L		12/21/19 02:15	12/31/19 01:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*94*		*45 - 133*	*12/21/19 02:15*	*12/31/19 01:11*	*1*
Tetrachloro-m-xylene (Surr)	*90*		*45 - 133*	*12/21/19 02:15*	*12/31/19 01:11*	*1*
DCB Decachlorobiphenyl (Surr)	*100*		*59 - 144*	*12/21/19 02:15*	*12/31/19 01:11*	*1*
DCB Decachlorobiphenyl (Surr)	*93*		*59 - 144*	*12/21/19 02:15*	*12/31/19 01:11*	*1*

Client Sample Results

Client: GHD Services Inc.
Job ID: 180-100205-1
Project/Site: San Jacinto River Waste Pits Superfund

Method: EPA 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography - TCLP

Client Sample ID: 11187072-N.TREATMENT AREA #3
Lab Sample ID: 180-100205-3
Date Collected: 12/18/19 14:00
Matrix: Solid
Date Received: 12/19/19 10:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.00040	0.00019	mg/L		12/21/19 02:15	12/31/19 01:29	1
PCB-1221	ND		0.00040	0.00023	mg/L		12/21/19 02:15	12/31/19 01:29	1
PCB-1232	ND		0.00040	0.00021	mg/L		12/21/19 02:15	12/31/19 01:29	1
PCB-1242	ND		0.00040	0.00036	mg/L		12/21/19 02:15	12/31/19 01:29	1
PCB-1248	ND		0.00040	0.00012	mg/L		12/21/19 02:15	12/31/19 01:29	1
PCB-1254	ND		0.00040	0.00038	mg/L		12/21/19 02:15	12/31/19 01:29	1
PCB-1260	ND		0.00040	0.00016	mg/L		12/21/19 02:15	12/31/19 01:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*95*		*45 - 133*	*12/21/19 02:15*	*12/31/19 01:29*	*1*
Tetrachloro-m-xylene (Surr)	*89*		*45 - 133*	*12/21/19 02:15*	*12/31/19 01:29*	*1*
DCB Decachlorobiphenyl (Surr)	*100*		*59 - 144*	*12/21/19 02:15*	*12/31/19 01:29*	*1*
DCB Decachlorobiphenyl (Surr)	*94*		*59 - 144*	*12/21/19 02:15*	*12/31/19 01:29*	*1*

Client Sample Results

Client: GHD Services Inc.
Job ID: 180-100205-1
Project/Site: San Jacinto River Waste Pits Superfund

Method: EPA 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography - TCLP

Client Sample ID: 11187072-N.TREATMENT AREA #4
Lab Sample ID: 180-100205-5
Date Collected: 12/18/19 14:30
Matrix: Solid
Date Received: 12/19/19 10:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.00040	0.00019	mg/L		12/21/19 02:15	12/31/19 01:48	1
PCB-1221	ND		0.00040	0.00023	mg/L		12/21/19 02:15	12/31/19 01:48	1
PCB-1232	ND		0.00040	0.00021	mg/L		12/21/19 02:15	12/31/19 01:48	1
PCB-1242	ND		0.00040	0.00036	mg/L		12/21/19 02:15	12/31/19 01:48	1
PCB-1248	ND		0.00040	0.00012	mg/L		12/21/19 02:15	12/31/19 01:48	1
PCB-1254	ND		0.00040	0.00038	mg/L		12/21/19 02:15	12/31/19 01:48	1
PCB-1260	ND		0.00040	0.00016	mg/L		12/21/19 02:15	12/31/19 01:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*94*		*45 - 133*	*12/21/19 02:15*	*12/31/19 01:48*	*1*
Tetrachloro-m-xylene (Surr)	*89*		*45 - 133*	*12/21/19 02:15*	*12/31/19 01:48*	*1*
DCB Decachlorobiphenyl (Surr)	*98*		*59 - 144*	*12/21/19 02:15*	*12/31/19 01:48*	*1*
DCB Decachlorobiphenyl (Surr)	*92*		*59 - 144*	*12/21/19 02:15*	*12/31/19 01:48*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-100205-1

Method: EPA 8151A - Herbicides (GC) - TCLP

Client Sample ID: 11187072-N.TREATMENT AREA #2
Date Collected: 12/18/19 13:30
Date Received: 12/19/19 10:00

Lab Sample ID: 180-100205-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		0.040	0.020	mg/L		12/21/19 03:55	12/27/19 13:57	20
Silvex (2,4,5-TP)	ND		0.010	0.0030	mg/L		12/21/19 03:55	12/27/19 13:57	20
Dinoseb	ND		0.040	0.038	mg/L		12/21/19 03:55	12/27/19 13:57	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*83*		*23 - 122*	*12/21/19 03:55*	*12/27/19 13:57*	*20*
2,4-Dichlorophenylacetic acid	*75*		*23 - 122*	*12/21/19 03:55*	*12/27/19 13:57*	*20*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-100205-1

Method: EPA 8151A - Herbicides (GC) - TCLP

Client Sample ID: 11187072-N.TREATMENT AREA #3
Date Collected: 12/18/19 14:00
Date Received: 12/19/19 10:00

Lab Sample ID: 180-100205-3
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		0.040	0.020	mg/L		12/21/19 03:55	12/27/19 14:22	20
Silvex (2,4,5-TP)	ND		0.010	0.0030	mg/L		12/21/19 03:55	12/27/19 14:22	20
Dinoseb	ND		0.040	0.038	mg/L		12/21/19 03:55	12/27/19 14:22	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*79*		*23 - 122*	*12/21/19 03:55*	*12/27/19 14:22*	*20*
2,4-Dichlorophenylacetic acid	*75*		*23 - 122*	*12/21/19 03:55*	*12/27/19 14:22*	*20*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-100205-1

Method: EPA 8151A - Herbicides (GC) - TCLP

Client Sample ID: 11187072-N.TREATMENT AREA #4
Date Collected: 12/18/19 14:30
Date Received: 12/19/19 10:00

Lab Sample ID: 180-100205-5
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		0.040	0.020	mg/L		12/21/19 03:55	12/27/19 14:47	20
Silvex (2,4,5-TP)	ND		0.010	0.0030	mg/L		12/21/19 03:55	12/27/19 14:47	20
Dinoseb	ND		0.040	0.038	mg/L		12/21/19 03:55	12/27/19 14:47	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*85*		*23 - 122*	*12/21/19 03:55*	*12/27/19 14:47*	*20*
2,4-Dichlorophenylacetic acid	*78*		*23 - 122*	*12/21/19 03:55*	*12/27/19 14:47*	*20*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-100205-1

Method: 8321A - Carbamates (LC/MS) - TCLP

Client Sample ID: 11187072-N.TREATMENT AREA #2
Date Collected: 12/18/19 13:30
Date Received: 12/19/19 10:00

Lab Sample ID: 180-100205-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methomyl	ND		0.85	0.13	ug/L		12/28/19 14:56	12/31/19 12:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Atrazine-d5	*108*		*60 - 142*	*12/28/19 14:56*	*12/31/19 12:42*	*1*
Diuron-d6	*130*		*50 - 150*	*12/28/19 14:56*	*12/31/19 12:42*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-100205-1

Method: 8321A - Carbamates (LC/MS) - TCLP

Client Sample ID: 11187072-N.TREATMENT AREA #3
Date Collected: 12/18/19 14:00
Date Received: 12/19/19 10:00

Lab Sample ID: 180-100205-3
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methomyl	ND		0.78	0.12	ug/L		12/28/19 14:56	12/31/19 12:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Atrazine-d5	*106*		*60 - 142*	*12/28/19 14:56*	*12/31/19 12:51*	*1*
Diuron-d6	*130*		*50 - 150*	*12/28/19 14:56*	*12/31/19 12:51*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-100205-1

Method: 8321A - Carbamates (LC/MS) - TCLP

Client Sample ID: 11187072-N.TREATMENT AREA #4
Date Collected: 12/18/19 14:30
Date Received: 12/19/19 10:00

Lab Sample ID: 180-100205-5
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methomyl	ND		0.82	0.13	ug/L		12/28/19 14:56	12/31/19 12:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Atrazine-d5	*112*		*60 - 142*	*12/28/19 14:56*	*12/31/19 12:59*	*1*
Diuron-d6	*132*		*50 - 150*	*12/28/19 14:56*	*12/31/19 12:59*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-100205-1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - TCLP

Client Sample ID: 11187072-N.TREATMENT AREA #2
Date Collected: 12/18/19 13:30
Date Received: 12/19/19 10:00

Lab Sample ID: 180-100205-1
Matrix: Solid

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		50	12	pg/L		12/31/19 11:06	01/07/20 02:35	1
2,3,7,8-TCDF	**11**	**J**	50	6.7	pg/L		12/31/19 11:06	01/07/20 02:35	1
1,2,3,7,8-PeCDD	ND		250	19	pg/L		12/31/19 11:06	01/07/20 02:35	1
1,2,3,7,8-PeCDF	ND		250	10	pg/L		12/31/19 11:06	01/07/20 02:35	1
2,3,4,7,8-PeCDF	ND		250	11	pg/L		12/31/19 11:06	01/07/20 02:35	1
1,2,3,4,7,8-HxCDD	**20**	**J q**	250	7.2	pg/L		12/31/19 11:06	01/07/20 02:35	1
1,2,3,6,7,8-HxCDD	ND		250	7.9	pg/L		12/31/19 11:06	01/07/20 02:35	1
1,2,3,7,8,9-HxCDD	ND		250	6.7	pg/L		12/31/19 11:06	01/07/20 02:35	1
1,2,3,4,7,8-HxCDF	ND		250	15	pg/L		12/31/19 11:06	01/07/20 02:35	1
1,2,3,6,7,8-HxCDF	ND		250	13	pg/L		12/31/19 11:06	01/07/20 02:35	1
1,2,3,7,8,9-HxCDF	**15**	**J q**	250	9.9	pg/L		12/31/19 11:06	01/07/20 02:35	1
2,3,4,6,7,8-HxCDF	ND		250	9.2	pg/L		12/31/19 11:06	01/07/20 02:35	1
1,2,3,4,6,7,8-HpCDD	**23**	**J**	250	7.4	pg/L		12/31/19 11:06	01/07/20 02:35	1
1,2,3,4,6,7,8-HpCDF	ND		250	9.0	pg/L		12/31/19 11:06	01/07/20 02:35	1
1,2,3,4,7,8,9-HpCDF	**31**	**J q**	250	13	pg/L		12/31/19 11:06	01/07/20 02:35	1
OCDD	**77**	**J**	500	10	pg/L		12/31/19 11:06	01/07/20 02:35	1
OCDF	**95**	**J**	500	18	pg/L		12/31/19 11:06	01/07/20 02:35	1
Total TCDD	ND		50	12	pg/L		12/31/19 11:06	01/07/20 02:35	1
Total TCDF	**11**	**J**	50	6.7	pg/L		12/31/19 11:06	01/07/20 02:35	1
Total PeCDD	ND		250	19	pg/L		12/31/19 11:06	01/07/20 02:35	1
Total PeCDF	ND		250	11	pg/L		12/31/19 11:06	01/07/20 02:35	1
Total HxCDD	**20**	**J q**	250	7.2	pg/L		12/31/19 11:06	01/07/20 02:35	1
Total HxCDF	**15**	**J q**	250	12	pg/L		12/31/19 11:06	01/07/20 02:35	1
Total HpCDD	**23**	**J**	250	7.4	pg/L		12/31/19 11:06	01/07/20 02:35	1
Total HpCDF	**31**	**J q**	250	11	pg/L		12/31/19 11:06	01/07/20 02:35	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*71*		*25 - 164*	*12/31/19 11:06*	*01/07/20 02:35*	*1*
13C-2,3,7,8-TCDF	*76*		*24 - 169*	*12/31/19 11:06*	*01/07/20 02:35*	*1*
13C-1,2,3,7,8-PeCDD	*67*		*25 - 181*	*12/31/19 11:06*	*01/07/20 02:35*	*1*
13C-1,2,3,7,8-PeCDF	*71*		*24 - 185*	*12/31/19 11:06*	*01/07/20 02:35*	*1*
13C-2,3,4,7,8-PeCDF	*76*		*21 - 178*	*12/31/19 11:06*	*01/07/20 02:35*	*1*
13C-1,2,3,4,7,8-HxCDD	*81*		*32 - 141*	*12/31/19 11:06*	*01/07/20 02:35*	*1*
13C-1,2,3,6,7,8-HxCDD	*79*		*28 - 130*	*12/31/19 11:06*	*01/07/20 02:35*	*1*
13C-1,2,3,4,7,8-HxCDF	*79*		*26 - 152*	*12/31/19 11:06*	*01/07/20 02:35*	*1*
13C-1,2,3,6,7,8-HxCDF	*78*		*26 - 123*	*12/31/19 11:06*	*01/07/20 02:35*	*1*
13C-1,2,3,7,8,9-HxCDF	*67*		*29 - 147*	*12/31/19 11:06*	*01/07/20 02:35*	*1*
13C-2,3,4,6,7,8-HxCDF	*75*		*28 - 136*	*12/31/19 11:06*	*01/07/20 02:35*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*70*		*23 - 140*	*12/31/19 11:06*	*01/07/20 02:35*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*73*		*28 - 143*	*12/31/19 11:06*	*01/07/20 02:35*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*74*		*26 - 138*	*12/31/19 11:06*	*01/07/20 02:35*	*1*
13C-OCDD	*60*		*17 - 157*	*12/31/19 11:06*	*01/07/20 02:35*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*112*		*35 - 197*	*12/31/19 11:06*	*01/07/20 02:35*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-100205-1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - TCLP

Client Sample ID: 11187072-N.TREATMENT AREA #3
Date Collected: 12/18/19 14:00
Date Received: 12/19/19 10:00

Lab Sample ID: 180-100205-3
Matrix: Solid

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		50	12	pg/L		12/31/19 11:06	01/07/20 03:23	1
2,3,7,8-TCDF	ND		50	6.5	pg/L		12/31/19 11:06	01/07/20 03:23	1
1,2,3,7,8-PeCDD	ND		250	20	pg/L		12/31/19 11:06	01/07/20 03:23	1
1,2,3,7,8-PeCDF	ND		250	8.4	pg/L		12/31/19 11:06	01/07/20 03:23	1
2,3,4,7,8-PeCDF	ND		250	9.2	pg/L		12/31/19 11:06	01/07/20 03:23	1
1,2,3,4,7,8-HxCDD	ND		250	8.7	pg/L		12/31/19 11:06	01/07/20 03:23	1
1,2,3,6,7,8-HxCDD	ND		250	9.2	pg/L		12/31/19 11:06	01/07/20 03:23	1
1,2,3,7,8,9-HxCDD	ND		250	7.9	pg/L		12/31/19 11:06	01/07/20 03:23	1
1,2,3,4,7,8-HxCDF	ND		250	12	pg/L		12/31/19 11:06	01/07/20 03:23	1
1,2,3,6,7,8-HxCDF	ND		250	11	pg/L		12/31/19 11:06	01/07/20 03:23	1
1,2,3,7,8,9-HxCDF	ND		250	7.3	pg/L		12/31/19 11:06	01/07/20 03:23	1
2,3,4,6,7,8-HxCDF	ND		250	7.5	pg/L		12/31/19 11:06	01/07/20 03:23	1
1,2,3,4,6,7,8-HpCDD	ND		250	7.5	pg/L		12/31/19 11:06	01/07/20 03:23	1
1,2,3,4,6,7,8-HpCDF	ND		250	8.5	pg/L		12/31/19 11:06	01/07/20 03:23	1
1,2,3,4,7,8,9-HpCDF	ND		250	12	pg/L		12/31/19 11:06	01/07/20 03:23	1
OCDD	ND		500	11	pg/L		12/31/19 11:06	01/07/20 03:23	1
OCDF	ND		500	19	pg/L		12/31/19 11:06	01/07/20 03:23	1
Total TCDD	ND		50	12	pg/L		12/31/19 11:06	01/07/20 03:23	1
Total TCDF	ND		50	6.5	pg/L		12/31/19 11:06	01/07/20 03:23	1
Total PeCDD	ND		250	20	pg/L		12/31/19 11:06	01/07/20 03:23	1
Total PeCDF	ND		250	9.2	pg/L		12/31/19 11:06	01/07/20 03:23	1
Total HxCDD	ND		250	9.2	pg/L		12/31/19 11:06	01/07/20 03:23	1
Total HxCDF	ND		250	12	pg/L		12/31/19 11:06	01/07/20 03:23	1
Total HpCDD	ND		250	7.5	pg/L		12/31/19 11:06	01/07/20 03:23	1
Total HpCDF	ND		250	12	pg/L		12/31/19 11:06	01/07/20 03:23	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*75*		*25 - 164*	*12/31/19 11:06*	*01/07/20 03:23*	*1*
13C-2,3,7,8-TCDF	*78*		*24 - 169*	*12/31/19 11:06*	*01/07/20 03:23*	*1*
13C-1,2,3,7,8-PeCDD	*67*		*25 - 181*	*12/31/19 11:06*	*01/07/20 03:23*	*1*
13C-1,2,3,7,8-PeCDF	*71*		*24 - 185*	*12/31/19 11:06*	*01/07/20 03:23*	*1*
13C-2,3,4,7,8-PeCDF	*77*		*21 - 178*	*12/31/19 11:06*	*01/07/20 03:23*	*1*
13C-1,2,3,4,7,8-HxCDD	*80*		*32 - 141*	*12/31/19 11:06*	*01/07/20 03:23*	*1*
13C-1,2,3,6,7,8-HxCDD	*76*		*28 - 130*	*12/31/19 11:06*	*01/07/20 03:23*	*1*
13C-1,2,3,4,7,8-HxCDF	*75*		*26 - 152*	*12/31/19 11:06*	*01/07/20 03:23*	*1*
13C-1,2,3,6,7,8-HxCDF	*75*		*26 - 123*	*12/31/19 11:06*	*01/07/20 03:23*	*1*
13C-1,2,3,7,8,9-HxCDF	*70*		*29 - 147*	*12/31/19 11:06*	*01/07/20 03:23*	*1*
13C-2,3,4,6,7,8-HxCDF	*71*		*28 - 136*	*12/31/19 11:06*	*01/07/20 03:23*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*69*		*23 - 140*	*12/31/19 11:06*	*01/07/20 03:23*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*74*		*28 - 143*	*12/31/19 11:06*	*01/07/20 03:23*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*76*		*26 - 138*	*12/31/19 11:06*	*01/07/20 03:23*	*1*
13C-OCDD	*56*		*17 - 157*	*12/31/19 11:06*	*01/07/20 03:23*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*117*		*35 - 197*	*12/31/19 11:06*	*01/07/20 03:23*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-100205-1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - TCLP

Client Sample ID: 11187072-N.TREATMENT AREA #4
Date Collected: 12/18/19 14:30
Date Received: 12/19/19 10:00

Lab Sample ID: 180-100205-5
Matrix: Solid

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		47	12	pg/L		12/31/19 11:06	01/07/20 04:10	1
2,3,7,8-TCDF	ND		47	6.6	pg/L		12/31/19 11:06	01/07/20 04:10	1
1,2,3,7,8-PeCDD	ND		240	16	pg/L		12/31/19 11:06	01/07/20 04:10	1
1,2,3,7,8-PeCDF	ND		240	8.3	pg/L		12/31/19 11:06	01/07/20 04:10	1
2,3,4,7,8-PeCDF	ND		240	9.4	pg/L		12/31/19 11:06	01/07/20 04:10	1
1,2,3,4,7,8-HxCDD	ND		240	6.9	pg/L		12/31/19 11:06	01/07/20 04:10	1
1,2,3,6,7,8-HxCDD	ND		240	7.5	pg/L		12/31/19 11:06	01/07/20 04:10	1
1,2,3,7,8,9-HxCDD	ND		240	6.3	pg/L		12/31/19 11:06	01/07/20 04:10	1
1,2,3,4,7,8-HxCDF	ND		240	10	pg/L		12/31/19 11:06	01/07/20 04:10	1
1,2,3,6,7,8-HxCDF	ND		240	11	pg/L		12/31/19 11:06	01/07/20 04:10	1
1,2,3,7,8,9-HxCDF	ND		240	7.1	pg/L		12/31/19 11:06	01/07/20 04:10	1
2,3,4,6,7,8-HxCDF	ND		240	6.8	pg/L		12/31/19 11:06	01/07/20 04:10	1
1,2,3,4,6,7,8-HpCDD	ND		240	5.9	pg/L		12/31/19 11:06	01/07/20 04:10	1
1,2,3,4,6,7,8-HpCDF	ND		240	8.3	pg/L		12/31/19 11:06	01/07/20 04:10	1
1,2,3,4,7,8,9-HpCDF	ND		240	11	pg/L		12/31/19 11:06	01/07/20 04:10	1
OCDD	ND		470	9.9	pg/L		12/31/19 11:06	01/07/20 04:10	1
OCDF	ND		470	16	pg/L		12/31/19 11:06	01/07/20 04:10	1
Total TCDD	ND		47	12	pg/L		12/31/19 11:06	01/07/20 04:10	1
Total TCDF	ND		47	6.6	pg/L		12/31/19 11:06	01/07/20 04:10	1
Total PeCDD	ND		240	16	pg/L		12/31/19 11:06	01/07/20 04:10	1
Total PeCDF	ND		240	9.4	pg/L		12/31/19 11:06	01/07/20 04:10	1
Total HxCDD	ND		240	7.5	pg/L		12/31/19 11:06	01/07/20 04:10	1
Total HxCDF	ND		240	11	pg/L		12/31/19 11:06	01/07/20 04:10	1
Total HpCDD	ND		240	5.9	pg/L		12/31/19 11:06	01/07/20 04:10	1
Total HpCDF	ND		240	11	pg/L		12/31/19 11:06	01/07/20 04:10	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*77*		*25 - 164*	*12/31/19 11:06*	*01/07/20 04:10*	*1*
13C-2,3,7,8-TCDF	*80*		*24 - 169*	*12/31/19 11:06*	*01/07/20 04:10*	*1*
13C-1,2,3,7,8-PeCDD	*68*		*25 - 181*	*12/31/19 11:06*	*01/07/20 04:10*	*1*
13C-1,2,3,7,8-PeCDF	*78*		*24 - 185*	*12/31/19 11:06*	*01/07/20 04:10*	*1*
13C-2,3,4,7,8-PeCDF	*78*		*21 - 178*	*12/31/19 11:06*	*01/07/20 04:10*	*1*
13C-1,2,3,4,7,8-HxCDD	*78*		*32 - 141*	*12/31/19 11:06*	*01/07/20 04:10*	*1*
13C-1,2,3,6,7,8-HxCDD	*80*		*28 - 130*	*12/31/19 11:06*	*01/07/20 04:10*	*1*
13C-1,2,3,4,7,8-HxCDF	*80*		*26 - 152*	*12/31/19 11:06*	*01/07/20 04:10*	*1*
13C-1,2,3,6,7,8-HxCDF	*74*		*26 - 123*	*12/31/19 11:06*	*01/07/20 04:10*	*1*
13C-1,2,3,7,8,9-HxCDF	*70*		*29 - 147*	*12/31/19 11:06*	*01/07/20 04:10*	*1*
13C-2,3,4,6,7,8-HxCDF	*75*		*28 - 136*	*12/31/19 11:06*	*01/07/20 04:10*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*72*		*23 - 140*	*12/31/19 11:06*	*01/07/20 04:10*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*76*		*28 - 143*	*12/31/19 11:06*	*01/07/20 04:10*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*80*		*26 - 138*	*12/31/19 11:06*	*01/07/20 04:10*	*1*
13C-OCDD	*58*		*17 - 157*	*12/31/19 11:06*	*01/07/20 04:10*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*116*		*35 - 197*	*12/31/19 11:06*	*01/07/20 04:10*	*1*

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-100205-1

Method: EPA 6010C - Metals (ICP) - TCLP

Client Sample ID: 11187072-N.TREATMENT AREA #2
Date Collected: 12/18/19 13:30
Date Received: 12/19/19 10:00

Lab Sample ID: 180-100205-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.50	0.041	mg/L		12/20/19 19:27	12/23/19 10:47	1
Barium	**0.53**	**J**	2.0	0.026	mg/L		12/20/19 19:27	12/23/19 10:47	1
Cadmium	ND		0.50	0.0028	mg/L		12/20/19 19:27	12/23/19 10:47	1
Chromium	ND		0.50	0.0078	mg/L		12/20/19 19:27	12/23/19 10:47	1
Lead	ND		0.50	0.029	mg/L		12/20/19 19:27	12/23/19 10:47	1
Selenium	ND		0.50	0.036	mg/L		12/20/19 19:27	12/23/19 10:47	1
Silver	ND		0.50	0.0085	mg/L		12/20/19 19:27	12/23/19 10:47	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-100205-1

Method: EPA 6010C - Metals (ICP) - TCLP

Client Sample ID: 11187072-N.TREATMENT AREA #3
Date Collected: 12/18/19 14:00
Date Received: 12/19/19 10:00

Lab Sample ID: 180-100205-3
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.50	0.041	mg/L		12/20/19 19:27	12/23/19 10:52	1
Barium	**0.44**	**J**	2.0	0.026	mg/L		12/20/19 19:27	12/23/19 10:52	1
Cadmium	ND		0.50	0.0028	mg/L		12/20/19 19:27	12/23/19 10:52	1
Chromium	**0.011**	**J**	0.50	0.0078	mg/L		12/20/19 19:27	12/23/19 10:52	1
Lead	ND		0.50	0.029	mg/L		12/20/19 19:27	12/23/19 10:52	1
Selenium	ND		0.50	0.036	mg/L		12/20/19 19:27	12/23/19 10:52	1
Silver	ND		0.50	0.0085	mg/L		12/20/19 19:27	12/23/19 10:52	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-100205-1

Method: EPA 6010C - Metals (ICP) - TCLP

Client Sample ID: 11187072-N.TREATMENT AREA #4
Date Collected: 12/18/19 14:30
Date Received: 12/19/19 10:00

Lab Sample ID: 180-100205-5
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.50	0.041	mg/L		12/20/19 19:27	12/23/19 10:58	1
Barium	**0.48**	**J**	2.0	0.026	mg/L		12/20/19 19:27	12/23/19 10:58	1
Cadmium	ND		0.50	0.0028	mg/L		12/20/19 19:27	12/23/19 10:58	1
Chromium	ND		0.50	0.0078	mg/L		12/20/19 19:27	12/23/19 10:58	1
Lead	ND		0.50	0.029	mg/L		12/20/19 19:27	12/23/19 10:58	1
Selenium	ND		0.50	0.036	mg/L		12/20/19 19:27	12/23/19 10:58	1
Silver	ND		0.50	0.0085	mg/L		12/20/19 19:27	12/23/19 10:58	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-100205-1

Method: EPA 7470A - Mercury (CVAA) - TCLP

Client Sample ID: 11187072-N.TREATMENT AREA #2
Date Collected: 12/18/19 13:30
Date Received: 12/19/19 10:00

Lab Sample ID: 180-100205-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00010	mg/L		12/20/19 14:15	12/23/19 16:08	1

Client Sample Results

Client: GHD Services Inc.
Job ID: 180-100205-1
Project/Site: San Jacinto River Waste Pits Superfund

Method: EPA 7470A - Mercury (CVAA) - TCLP

Client Sample ID: 11187072-N.TREATMENT AREA #3
Lab Sample ID: 180-100205-3
Date Collected: 12/18/19 14:00
Matrix: Solid
Date Received: 12/19/19 10:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00010	mg/L		12/20/19 14:15	12/23/19 16:08	1

Client Sample Results

Client: GHD Services Inc.
Job ID: 180-100205-1
Project/Site: San Jacinto River Waste Pits Superfund

Method: EPA 7470A - Mercury (CVAA) - TCLP

Client Sample ID: 11187072-N.TREATMENT AREA #4
Lab Sample ID: 180-100205-5
Date Collected: 12/18/19 14:30
Matrix: Solid
Date Received: 12/19/19 10:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00010	mg/L		12/20/19 14:15	12/23/19 16:09	1

Client Sample Results

Client: GHD Services Inc.
Job ID: 180-100205-1
Project/Site: San Jacinto River Waste Pits Superfund

General Chemistry

Client Sample ID: 11187072-N.TREATMENT AREA #2
Lab Sample ID: 180-100205-1
Date Collected: 12/18/19 13:30
Matrix: Solid
Date Received: 12/19/19 10:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	28.6		0.1	0.1	%			12/24/19 08:49	1
Percent Solids	71.4		0.1	0.1	%			12/24/19 08:49	1
Ignitability	>140				Degrees F			12/31/19 09:37	1
pH	8.5	HF	0.1	0.1	SU			12/31/19 10:49	1
Free Liquid	CNF				NONE			12/31/19 15:24	1

Client Sample Results

Client: GHD Services Inc.
Job ID: 180-100205-1
Project/Site: San Jacinto River Waste Pits Superfund

General Chemistry

Client Sample ID: 11187072-N.TREATMENT AREA #2
Lab Sample ID: 180-100205-1
Date Collected: 12/18/19 13:30
Matrix: Solid
Date Received: 12/19/19 10:00
Percent Solids: 71.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.68	0.37	mg/Kg	☼	12/23/19 13:28	12/23/19 21:27	1
Sulfide	**72**		42	14	mg/Kg	☼	12/23/19 12:30	12/23/19 14:50	1

Client Sample Results

Client: GHD Services Inc.
Job ID: 180-100205-1
Project/Site: San Jacinto River Waste Pits Superfund

General Chemistry

Client Sample ID: 11187072-N.TREATMENT AREA #3
Lab Sample ID: 180-100205-3
Date Collected: 12/18/19 14:00
Matrix: Solid
Date Received: 12/19/19 10:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	32.6		0.1	0.1	%			12/24/19 08:49	1
Percent Solids	67.4		0.1	0.1	%			12/24/19 08:49	1
Ignitability	>140				Degrees F			12/31/19 09:37	1
pH	8.7	HF	0.1	0.1	SU			12/31/19 10:50	1
Free Liquid	CNF				NONE			12/31/19 15:24	1

Client Sample Results

Client: GHD Services Inc.
Job ID: 180-100205-1
Project/Site: San Jacinto River Waste Pits Superfund

General Chemistry

Client Sample ID: 11187072-N.TREATMENT AREA #3
Lab Sample ID: 180-100205-3
Date Collected: 12/18/19 14:00
Matrix: Solid
Date Received: 12/19/19 10:00
Percent Solids: 67.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.74	0.40	mg/Kg	☼	12/23/19 13:28	12/23/19 21:29	1
Sulfide	**59**		44	15	mg/Kg	☼	12/23/19 12:30	12/23/19 14:52	1

Client Sample Results

Client: GHD Services Inc.
Job ID: 180-100205-1
Project/Site: San Jacinto River Waste Pits Superfund

General Chemistry

Client Sample ID: 11187072-N.TREATMENT AREA #4
Lab Sample ID: 180-100205-5
Date Collected: 12/18/19 14:30
Matrix: Solid
Date Received: 12/19/19 10:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	33.3		0.1	0.1	%			12/24/19 08:49	1
Percent Solids	66.7		0.1	0.1	%			12/24/19 08:49	1
Ignitability	>140				Degrees F			12/31/19 09:37	1
pH	7.9	HF	0.1	0.1	SU			12/31/19 10:51	1
Free Liquid	CNF				NONE			12/31/19 15:24	1

Client Sample Results

Client: GHD Services Inc.
Job ID: 180-100205-1
Project/Site: San Jacinto River Waste Pits Superfund

General Chemistry

Client Sample ID: 11187072-N.TREATMENT AREA #4
Lab Sample ID: 180-100205-5
Date Collected: 12/18/19 14:30
Matrix: Solid
Date Received: 12/19/19 10:00
Percent Solids: 66.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.74	0.40	mg/Kg	☼	12/23/19 13:28	12/23/19 21:31	1
Sulfide	**24**	**J**	45	15	mg/Kg	☼	12/23/19 12:30	12/23/19 14:54	1

Default Detection Limits

Client: GHD Services Inc.
Job ID: 180-100205-1
Project/Site: San Jacinto River Waste Pits Superfund

Method: EPA 8260C - Volatile Organic Compounds by GC/MS - TCLP

Leach: EPA 1311

Analyte	RL	MDL	Units
1,1,1,2-Tetrachloroethane	0.20	0.16	mg/L
1,1,1-Trichloroethane	0.20	0.10	mg/L
1,1,2,2-Tetrachloroethane	0.20	0.12	mg/L
1,1,2-Trichloroethane	0.20	0.096	mg/L
1,1-Dichloroethene	0.20	0.11	mg/L
1,2,3-Trichloropropane	0.20	0.11	mg/L
1,2-Dibromoethane	0.20	0.11	mg/L
1,2-Dichloroethane	0.20	0.058	mg/L
1,3-Dichloropropene, Total	0.40	0.13	mg/L
1,4-Dichlorobenzene	0.20	0.041	mg/L
2-Butanone (MEK)	0.20	0.12	mg/L
4-Methyl-2-pentanone (MIBK)	0.20	0.074	mg/L
Acetone	0.80	0.13	mg/L
Acetonitrile	2.0	2.0	mg/L
Acrylonitrile	2.0	1.3	mg/L
Benzene	0.20	0.079	mg/L
Bromoform	0.20	0.10	mg/L
Bromomethane	0.20	0.18	mg/L
Carbon disulfide	0.20	0.12	mg/L
Carbon tetrachloride	0.20	0.13	mg/L
Chlorobenzene	0.20	0.063	mg/L
Chloroform	0.20	0.085	mg/L
Dichlorobromomethane	0.20	0.094	mg/L
Dichlorodifluoromethane	0.20	0.12	mg/L
Ethylbenzene	0.20	0.086	mg/L
Hexachlorobutadiene	0.20	0.073	mg/L
Isobutyl alcohol	5.0	3.6	mg/L
Methacrylonitrile	2.0	1.6	mg/L
Methylene Chloride	0.20	0.15	mg/L
Styrene	0.20	0.053	mg/L
Tetrachloroethene	0.20	0.080	mg/L
Toluene	0.20	0.067	mg/L
trans-1,3-Dichloropropene	0.20	0.069	mg/L
Trichloroethene	0.20	0.060	mg/L
Trichlorofluoromethane	0.20	0.058	mg/L
Vinyl chloride	0.20	0.15	mg/L
Xylenes, Total	0.40	0.17	mg/L

Method: EPA 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Prep: 3510C

Leach: EPA 1311

Analyte	RL	MDL	Units
1,4-Dichlorobenzene	0.050	0.0045	mg/L
2,4,5-Trichlorophenol	0.050	0.0079	mg/L
2,4,6-Trichlorophenol	0.050	0.0095	mg/L
2,4-Dinitrotoluene	0.050	0.0079	mg/L
2-Methylphenol	0.050	0.0040	mg/L
Hexachlorobenzene	0.050	0.0055	mg/L
Hexachlorobutadiene	0.050	0.0084	mg/L
Hexachloroethane	0.050	0.0040	mg/L
Methylphenol, 3 & 4	0.050	0.0079	mg/L

Method: EPA 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP (Continued)

Prep: 3510C

Leach: EPA 1311

Analyte	RL	MDL	Units
Nitrobenzene	0.050	0.012	mg/L
Pentachlorophenol	0.25	0.0075	mg/L
Pyridine	0.10	0.0082	mg/L

Method: 8015D - Glycols- Direct Injection (GC/FID)

Prep: 8015 Prep

Analyte	RL	MDL	Units
2-Ethoxyethanol	20	2.5	mg/L
2-Methoxyethanol	10	2.4	mg/L
Ethylene glycol	10	1.9	mg/L

Method: EPA 8081B - Organochlorine Pesticides (GC) - TCLP

Prep: 3510C

Leach: EPA 1311

Analyte	RL	MDL	Units
4,4'-DDD	0.00050	0.00021	mg/L
4,4'-DDE	0.00050	0.00012	mg/L
4,4'-DDT	0.00050	0.00012	mg/L
Chlordane (technical)	0.0050	0.0029	mg/L
cis-Chlordane	0.00050	0.00015	mg/L
Dieldrin	0.00050	0.00011	mg/L
Endosulfan I	0.00050	0.00027	mg/L
Endosulfan II	0.00050	0.00013	mg/L
Endosulfan sulfate	0.00050	0.00026	mg/L
Endrin	0.00050	0.000091	mg/L
gamma-BHC (Lindane)	0.00050	0.00012	mg/L
Heptachlor	0.00050	0.00018	mg/L
Heptachlor epoxide	0.00050	0.00014	mg/L
Methoxychlor	0.00050	0.00031	mg/L
Mirex	0.00050	0.000084	mg/L
Toxaphene	0.040	0.020	mg/L
trans-Chlordane	0.00050	0.00016	mg/L

Method: EPA 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography - TCLP

Prep: 3510C

Leach: EPA 1311

Analyte	RL	MDL	Units
PCB-1016	0.00040	0.00019	mg/L
PCB-1221	0.00040	0.00023	mg/L
PCB-1232	0.00040	0.00021	mg/L
PCB-1242	0.00040	0.00037	mg/L
PCB-1248	0.00040	0.00012	mg/L
PCB-1254	0.00040	0.00038	mg/L
PCB-1260	0.00040	0.00016	mg/L

Method: EPA 8151A - Herbicides (GC) - TCLP

Prep: 8151A

Leach: EPA 1311

Analyte	RL	MDL	Units
2,4-D	0.040	0.020	mg/L

Method: EPA 8151A - Herbicides (GC) - TCLP (Continued)

Prep: 8151A
Leach: EPA 1311

Analyte	RL	MDL	Units
Dinoseb	0.040	0.038	mg/L
Silvex (2,4,5-TP)	0.010	0.0030	mg/L

Method: 8321A - Carbamates (LC/MS) - TCLP

Prep: 3535
Leach: 1311

Analyte	RL	MDL	Units
Methomyl	1.0	0.16	ug/L

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - TCLP

Prep: HRMS-Sep
Leach: 1311

Analyte	RL		Units
1,2,3,4,6,7,8-HpCDD	250		pg/L
1,2,3,4,6,7,8-HpCDF	250		pg/L
1,2,3,4,7,8,9-HpCDF	250		pg/L
1,2,3,4,7,8-HxCDD	250		pg/L
1,2,3,4,7,8-HxCDF	250		pg/L
1,2,3,6,7,8-HxCDD	250		pg/L
1,2,3,6,7,8-HxCDF	250		pg/L
1,2,3,7,8,9-HxCDD	250		pg/L
1,2,3,7,8,9-HxCDF	250		pg/L
1,2,3,7,8-PeCDD	250		pg/L
1,2,3,7,8-PeCDF	250		pg/L
2,3,4,6,7,8-HxCDF	250		pg/L
2,3,4,7,8-PeCDF	250		pg/L
2,3,7,8-TCDD	50		pg/L
2,3,7,8-TCDF	50		pg/L
OCDD	500		pg/L
OCDF	500		pg/L
Total HpCDD	250		pg/L
Total HpCDF	250		pg/L
Total HxCDD	250		pg/L
Total HxCDF	250		pg/L
Total PeCDD	250		pg/L
Total PeCDF	250		pg/L
Total TCDD	50		pg/L
Total TCDF	50		pg/L

Method: EPA 6010C - Metals (ICP) - TCLP

Prep: 3010A
Leach: EPA 1311

Analyte	RL	MDL	Units
Arsenic	0.050	0.0041	mg/L
Barium	0.20	0.0026	mg/L
Cadmium	0.050	0.00028	mg/L
Chromium	0.050	0.00078	mg/L
Lead	0.050	0.0029	mg/L
Selenium	0.050	0.0036	mg/L
Silver	0.050	0.00085	mg/L

Default Detection Limits

Client: GHD Services Inc.
Job ID: 180-100205-1
Project/Site: San Jacinto River Waste Pits Superfund

Method: EPA 7470A - Mercury (CVAA) - TCLP

Prep: 7470A
Leach: EPA 1311

Analyte	RL	MDL	Units
Mercury	0.00020	0.00010	mg/L

General Chemistry

Analyte	RL	MDL	Units
Percent Moisture	0.1	0.1	%
Percent Solids	0.1	0.1	%
pH	0.1	0.1	SU

General Chemistry

Prep: 9010C

Analyte	RL	MDL	Units
Cyanide, Total	0.50	0.27	mg/Kg

General Chemistry

Prep: 9030B

Analyte	RL	MDL	Units
Sulfide	30	10	mg/Kg

Surrogate Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-100205-1

Method: EPA 8260C - Volatile Organic Compounds by GC/MS

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(58-139)	(64-122)	(70-127)	(71-125)
LCS 180-302272/4	Lab Control Sample	82	92	80	88

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: EPA 8260C - Volatile Organic Compounds by GC/MS

Matrix: Solid **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(58-139)	(64-122)	(70-127)	(71-125)
180-100205-1	11187072-N.TREATMENT ARE	86	86	81	79
180-100205-1 MS	11187072-N.TREATMENT AREA #2	87	94	84	87
180-100205-1 MSD	11187072-N.TREATMENT AREA #2	86	93	86	92
180-100205-3	11187072-N.TREATMENT AREA #3	93	89	85	81
180-100205-5	11187072-N.TREATMENT AREA #4	98	94	90	85
LB 180-302046/1-A	Method Blank	85	86	82	80

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: EPA 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	TBP	NBZ	PHL	TPHL
Lab Sample ID	Client Sample ID	(55-107)	(60-108)	(24-113)	(62-115)	(52-107)	(44-116)
LCS 180-302206/2-A	Lab Control Sample	89	81	85	83	80	105
MB 180-302206/1-A	Method Blank	91	83	81	84	81	106

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol (Surr)
TBP = 2,4,6-Tribromophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPHL = Terphenyl-d14 (Surr)

Surrogate Summary

Client: GHD Services Inc. Job ID: 180-100205-1

Project/Site: San Jacinto River Waste Pits Superfund

Method: EPA 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	TBP	NBZ	PHL	TPHL
Lab Sample ID	Client Sample ID	(55-107)	(60-108)	(24-113)	(62-115)	(52-107)	(44-116)
180-100205-1	11187072-N.TREATMENT ARE	88	78	50	78	59	100
180-100205-3	11187072-N.TREATMENT AREA #3	89	79	51	80	57	105
180-100205-5	11187072-N.TREATMENT AREA #4	87	76	57	79	62	101
LB 180-301984/1-F	Method Blank	87	82	76	82	78	101

Surrogate Legend

FBP = 2-Fluorobiphenyl

2FP = 2-Fluorophenol (Surr)

TBP = 2,4,6-Tribromophenol (Surr)

NBZ = Nitrobenzene-d5 (Surr)

PHL = Phenol-d5 (Surr)

TPHL = Terphenyl-d14 (Surr)

Method: 8015D - Glycols- Direct Injection (GC/FID)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		14BD
Lab Sample ID	Client Sample ID	(66-130)
180-100205-2	11187072-N.TREATMENT ARE	98
180-100205-2 MS	11187072-N.TREATMENT AREA #2	100
180-100205-2 MSD	11187072-N.TREATMENT AREA #2	92
180-100205-4	11187072-N.TREATMENT AREA #3	95
180-100205-6	11187072-N.TREATMENT AREA #4	97
LCS 480-512921/2-A	Lab Control Sample	94
MB 480-512921/1-A	Method Blank	91

Surrogate Legend

14BD = 1,4-Butanediol

Method: EPA 8081B - Organochlorine Pesticides (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCB1	DCB2	TCX1	TCX2
Lab Sample ID	Client Sample ID	(62-150)	(62-150)	(54-138)	(54-138)
LCS 180-302205/2-A	Lab Control Sample	73	97	67	85
MB 180-302205/1-A	Method Blank	76	96	65	83

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)

TCX = Tetrachloro-m-xylene

Surrogate Summary

Client: GHD Services Inc. Job ID: 180-100205-1
Project/Site: San Jacinto River Waste Pits Superfund

Method: EPA 8081B - Organochlorine Pesticides (GC)

Matrix: Solid **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCB1	DCB2	TCX1	TCX2
Lab Sample ID	Client Sample ID	(62-150)	(62-150)	(54-138)	(54-138)
180-100205-1	11187072-N.TREATMENT ARE	76	94	70	88
180-100205-3	11187072-N.TREATMENT AREA #3	73	93	68	89
180-100205-5	11187072-N.TREATMENT AREA #4	78	94	69	89
LB 180-301984/1-E	Method Blank	76	93	67	87

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)
TCX = Tetrachloro-m-xylene

Method: EPA 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TCX1	TCX2	DCB1	DCB2
Lab Sample ID	Client Sample ID	(45-133)	(45-133)	(59-144)	(59-144)
LCS 180-302202/2-A	Lab Control Sample	104	99	109	108
MB 180-302202/1-A	Method Blank	98	93	96	101

Surrogate Legend

TCX = Tetrachloro-m-xylene (Surr)
DCB = DCB Decachlorobiphenyl (Surr)

Method: EPA 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)			
		TCX1	TCX2	DCB1	DCB2
Lab Sample ID	Client Sample ID	(45-133)	(45-133)	(59-144)	(59-144)
180-100205-1	11187072-N.TREATMENT ARE	94	90	100	93
180-100205-3	11187072-N.TREATMENT AREA #3	95	89	100	94
180-100205-5	11187072-N.TREATMENT AREA #4	94	89	98	92
LB 180-301984/1-D	Method Blank	97	94	100	96

Surrogate Legend

TCX = Tetrachloro-m-xylene (Surr)
DCB = DCB Decachlorobiphenyl (Surr)

Method: EPA 8151A - Herbicides (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		DCPAA1	DCPAA2
Lab Sample ID	Client Sample ID	(23-122)	(23-122)
LCS 180-302208/2-A	Lab Control Sample	81	72
LCSD 180-302208/3-A	Lab Control Sample Dup	84	74
MB 180-302208/1-A	Method Blank	73	66

Surrogate Legend

DCPAA = 2,4-Dichlorophenylacetic acid

Surrogate Summary

Client: GHD Services Inc. Job ID: 180-100205-1
Project/Site: San Jacinto River Waste Pits Superfund

Method: EPA 8151A - Herbicides (GC)

Matrix: Solid **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)	
		DCPAA1	DCPAA2
Lab Sample ID	Client Sample ID	(23-122)	(23-122)
180-100205-1	11187072-N.TREATMENT ARE	83	75
180-100205-3	11187072-N.TREATMENT AREA #3	79	75
180-100205-5	11187072-N.TREATMENT AREA #4	85	78
LB 180-301984/1-G	Method Blank	77	70

Surrogate Legend

DCPAA = 2,4-Dichlorophenylacetic acid

Method: 8321A - Carbamates (LC/MS)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		ATR	DRNd6
Lab Sample ID	Client Sample ID	(60-142)	(50-150)
LB 280-481805/1-A	Method Blank	112	134
LCS 280-481805/2-A	Lab Control Sample	108	122
LCSD 280-481805/3-A	Lab Control Sample Dup	115	128

Surrogate Legend

ATR = Atrazine-d5
DRNd6 = Diuron-d6

Method: 8321A - Carbamates (LC/MS)

Matrix: Solid **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)	
		ATR	DRNd6
Lab Sample ID	Client Sample ID	(60-142)	(50-150)
180-100205-1	11187072-N.TREATMENT ARE	108	130
180-100205-3	11187072-N.TREATMENT AREA #3	106	130
180-100205-5	11187072-N.TREATMENT AREA #4	112	132

Surrogate Legend

ATR = Atrazine-d5
DRNd6 = Diuron-d6

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		37TCDD
Lab Sample ID	Client Sample ID	(31-191)
LCS 320-348771/2-A	Lab Control Sample	116
LCSD 320-348771/3-A	Lab Control Sample Dup	113

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Surrogate Summary

Client: GHD Services Inc. Job ID: 180-100205-1
Project/Site: San Jacinto River Waste Pits Superfund

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	**Client Sample ID**	**37TCDD (35-197)**							
MB 320-348771/1-A	Method Blank	114							

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Solid **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	**Client Sample ID**	**37TCDD (35-197)**							
180-100205-1	11187072-N.TREATMENT ARE	112							
180-100205-3	11187072-N.TREATMENT AREA #3	117							
180-100205-5	11187072-N.TREATMENT AREA #4	116							

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-100205-1

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Solid **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		TCDD	TCDF	PeCDD	PeCDF	PeCF	HxCDD	HxDD	HxCDF
Lab Sample ID	Client Sample ID	(20-175)	(22-152)	(21-227)	(21-192)	(13-328)	(21-193)	(25-163)	(19-202)
LCS 320-348771/2-A	Lab Control Sample	76	79	70	75	82	77	76	77
LCSD 320-348771/3-A	Lab Control Sample Dup	65	66	59	61	66	66	65	66

		Percent Isotope Dilution Recovery (Acceptance Limits)						
		HxDF	HxCF	13CHxCF	HpCDD	HpCDF	HpCDF2	OCDD
Lab Sample ID	Client Sample ID	(21-159)	(17-205)	(22-176)	(26-166)	(21-158)	(20-186)	(13-199)
LCS 320-348771/2-A	Lab Control Sample	75	67	70	61	68	71	46
LCSD 320-348771/3-A	Lab Control Sample Dup	64	57	58	50	56	64	37

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Solid **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		TCDD	TCDF	PeCDD	PeCDF	PeCF	HxCDD	HxDD	HxCDF
Lab Sample ID	Client Sample ID	(25-164)	(24-169)	(25-181)	(24-185)	(21-178)	(32-141)	(28-130)	(26-152)
MB 320-348771/1-A	Method Blank	74	75	67	71	74	79	82	77

		Percent Isotope Dilution Recovery (Acceptance Limits)						
		HxDF	HxCF	13CHxCF	HpCDD	HpCDF	HpCDF2	OCDD
Lab Sample ID	Client Sample ID	(26-123)	(29-147)	(28-136)	(23-140)	(28-143)	(26-138)	(17-157)
MB 320-348771/1-A	Method Blank	76	66	72	61	68	69	50

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD

HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Solid **Prep Type: TCLP**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		TCDD	TCDF	PeCDD	PeCDF	PeCF	HxCDD	HxDD	HxCDF
Lab Sample ID	Client Sample ID	(25-164)	(24-169)	(25-181)	(24-185)	(21-178)	(32-141)	(28-130)	(26-152)
180-100205-1	11187072-N.TREATMENT ARE	71	76	67	71	76	81	79	79
180-100205-3	11187072-N.TREATMENT AREA #3	75	78	67	71	77	80	76	75
180-100205-5	11187072-N.TREATMENT AREA #4	77	80	68	78	78	78	80	80

		Percent Isotope Dilution Recovery (Acceptance Limits)						
		HxDF	HxCF	13CHxCF	HpCDD	HpCDF	HpCDF2	OCDD
Lab Sample ID	Client Sample ID	(26-123)	(29-147)	(28-136)	(23-140)	(28-143)	(26-138)	(17-157)
180-100205-1	11187072-N.TREATMENT ARE	78	67	75	70	73	74	60
180-100205-3	11187072-N.TREATMENT AREA #3	75	70	71	69	74	76	56
180-100205-5	11187072-N.TREATMENT AREA #4	74	70	75	72	76	80	58

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: EPA 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: LCS 180-302272/4
Matrix: Solid
Analysis Batch: 302272

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	0.0400	0.0389		mg/L		97	81 - 124
1,1,1-Trichloroethane	0.0400	0.0404		mg/L		101	77 - 130
1,2-Dichloroethane	0.0400	0.0395		mg/L		99	62 - 129
1,1,2,2-Tetrachloroethane	0.0400	0.0370		mg/L		92	61 - 130
2-Butanone (MEK)	0.0400	0.0260		mg/L		65	33 - 133
Benzene	0.0400	0.0403		mg/L		101	72 - 118
1,1,2-Trichloroethane	0.0400	0.0386		mg/L		97	75 - 119
Carbon tetrachloride	0.0400	0.0370		mg/L		92	69 - 137
Chlorobenzene	0.0400	0.0429		mg/L		107	77 - 122
Chloroform	0.0400	0.0365		mg/L		91	78 - 119
Tetrachloroethene	0.0400	0.0409		mg/L		102	75 - 125
Trichloroethene	0.0400	0.0396		mg/L		99	76 - 120
1,2,3-Trichloropropane	0.0400	0.0369		mg/L		92	65 - 130
Vinyl chloride	0.0400	0.0322		mg/L		80	52 - 130
1,1-Dichloroethene	0.0400	0.0342		mg/L		86	60 - 131
1,3-Dichloropropene, Total	0.0800	0.0777		mg/L		97	68 - 126
1,4-Dichlorobenzene	0.0400	0.0403		mg/L		101	76 - 119
4-Methyl-2-pentanone (MIBK)	0.0400	0.0343		mg/L		86	36 - 138
Acetone	0.0400	0.0297		mg/L		74	13 - 150
Acrylonitrile	0.400	0.378		mg/L		95	43 - 134
Bromoform	0.0400	0.0296		mg/L		74	61 - 149
Bromomethane	0.0400	0.0286		mg/L		72	30 - 150
Carbon disulfide	0.0400	0.0309		mg/L		77	54 - 150
Dichlorobromomethane	0.0400	0.0368		mg/L		92	79 - 119
Dichlorodifluoromethane	0.0400	0.0327		mg/L		82	33 - 150
Ethylbenzene	0.0400	0.0411		mg/L		103	73 - 127
1,2-Dibromoethane	0.0400	0.0418		mg/L		105	75 - 118
Hexachlorobutadiene	0.0400	0.0385		mg/L		96	45 - 150
Methylene Chloride	0.0400	0.0370		mg/L		93	63 - 124
Styrene	0.0400	0.0438		mg/L		109	76 - 125
Toluene	0.0400	0.0426		mg/L		107	69 - 125
trans-1,3-Dichloropropene	0.0400	0.0388		mg/L		97	65 - 130
Trichlorofluoromethane	0.0400	0.0299		mg/L		75	45 - 150
Xylenes, Total	0.0800	0.0815		mg/L		102	73 - 123

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*82*		*58 - 139*
4-Bromofluorobenzene (Surr)	*92*		*64 - 122*
Dibromofluoromethane (Surr)	*80*		*70 - 127*
Toluene-d8 (Surr)	*88*		*71 - 125*

Lab Sample ID: LB 180-302046/1-A
Matrix: Solid
Analysis Batch: 302272

Client Sample ID: Method Blank
Prep Type: TCLP

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.050	0.039	mg/L			12/23/19 09:12	1
1,1,1-Trichloroethane	ND		0.050	0.025	mg/L			12/23/19 09:12	1

Method: EPA 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LB 180-302046/1-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: TCLP**
Analysis Batch: 302272

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		0.050	0.015	mg/L			12/23/19 09:12	1
1,1,2,2-Tetrachloroethane	ND		0.050	0.030	mg/L			12/23/19 09:12	1
2-Butanone (MEK)	ND		0.050	0.029	mg/L			12/23/19 09:12	1
Benzene	ND		0.050	0.020	mg/L			12/23/19 09:12	1
1,1,2-Trichloroethane	ND		0.050	0.024	mg/L			12/23/19 09:12	1
Carbon tetrachloride	ND		0.050	0.033	mg/L			12/23/19 09:12	1
Chlorobenzene	ND		0.050	0.016	mg/L			12/23/19 09:12	1
Chloroform	ND		0.050	0.021	mg/L			12/23/19 09:12	1
Tetrachloroethene	ND		0.050	0.020	mg/L			12/23/19 09:12	1
Trichloroethene	ND		0.050	0.015	mg/L			12/23/19 09:12	1
1,2,3-Trichloropropane	ND		0.050	0.028	mg/L			12/23/19 09:12	1
Vinyl chloride	ND		0.050	0.037	mg/L			12/23/19 09:12	1
1,1-Dichloroethene	ND		0.050	0.029	mg/L			12/23/19 09:12	1
1,3-Dichloropropene, Total	ND		0.10	0.033	mg/L			12/23/19 09:12	1
1,4-Dichlorobenzene	ND		0.050	0.010	mg/L			12/23/19 09:12	1
4-Methyl-2-pentanone (MIBK)	ND		0.050	0.019	mg/L			12/23/19 09:12	1
Acetone	ND		0.20	0.032	mg/L			12/23/19 09:12	1
Acetonitrile	ND		0.50	0.49	mg/L			12/23/19 09:12	1
Acrylonitrile	ND		0.50	0.34	mg/L			12/23/19 09:12	1
Bromoform	ND		0.050	0.026	mg/L			12/23/19 09:12	1
Bromomethane	ND		0.050	0.045	mg/L			12/23/19 09:12	1
Carbon disulfide	ND		0.050	0.030	mg/L			12/23/19 09:12	1
Dichlorobromomethane	ND		0.050	0.024	mg/L			12/23/19 09:12	1
Dichlorodifluoromethane	ND		0.050	0.029	mg/L			12/23/19 09:12	1
Ethylbenzene	ND		0.050	0.022	mg/L			12/23/19 09:12	1
1,2-Dibromoethane	ND		0.050	0.027	mg/L			12/23/19 09:12	1
Hexachlorobutadiene	ND		0.050	0.018	mg/L			12/23/19 09:12	1
Isobutyl alcohol	ND		1.3	0.91	mg/L			12/23/19 09:12	1
Methacrylonitrile	ND		0.50	0.39	mg/L			12/23/19 09:12	1
Methylene Chloride	ND		0.050	0.039	mg/L			12/23/19 09:12	1
Styrene	ND		0.050	0.013	mg/L			12/23/19 09:12	1
Toluene	ND		0.050	0.017	mg/L			12/23/19 09:12	1
trans-1,3-Dichloropropene	ND		0.050	0.017	mg/L			12/23/19 09:12	1
Trichlorofluoromethane	ND		0.050	0.015	mg/L			12/23/19 09:12	1
Xylenes, Total	ND		0.10	0.043	mg/L			12/23/19 09:12	1

Surrogate	*LB %Recovery*	*LB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*85*		*58 - 139*		*12/23/19 09:12*	*1*
4-Bromofluorobenzene (Surr)	*86*		*64 - 122*		*12/23/19 09:12*	*1*
Dibromofluoromethane (Surr)	*82*		*70 - 127*		*12/23/19 09:12*	*1*
Toluene-d8 (Surr)	*80*		*71 - 125*		*12/23/19 09:12*	*1*

Lab Sample ID: 180-100205-1 MS **Client Sample ID: 11187072-N.TREATMENT AREA #2**
Matrix: Solid **Prep Type: TCLP**
Analysis Batch: 302272

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		1.60	1.51		mg/L		94	81 - 124

Method: EPA 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 180-100205-1 MS **Client Sample ID: 11187072-N.TREATMENT AREA #2**
Matrix: Solid **Prep Type: TCLP**
Analysis Batch: 302272

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	ND		1.60	1.60		mg/L		100	77 - 130
1,2-Dichloroethane	ND		1.60	1.60		mg/L		100	62 - 129
1,1,2,2-Tetrachloroethane	ND		1.60	1.55		mg/L		97	61 - 130
2-Butanone (MEK)	ND		1.60	0.892		mg/L		56	33 - 133
Benzene	ND		1.60	1.49		mg/L		93	72 - 118
1,1,2-Trichloroethane	ND		1.60	1.61		mg/L		101	75 - 119
Carbon tetrachloride	ND		1.60	1.56		mg/L		97	69 - 137
Chlorobenzene	ND		1.60	1.60		mg/L		100	77 - 122
Chloroform	ND		1.60	1.34		mg/L		84	78 - 119
Tetrachloroethene	ND		1.60	1.38		mg/L		86	75 - 125
Trichloroethene	ND		1.60	1.42		mg/L		88	76 - 120
1,2,3-Trichloropropane	ND		1.60	1.44		mg/L		90	65 - 130
Vinyl chloride	ND		1.60	1.18		mg/L		74	52 - 130
1,1-Dichloroethene	ND		1.60	1.19		mg/L		74	60 - 131
1,3-Dichloropropene, Total	ND		3.20	3.18		mg/L		99	68 - 126
1,4-Dichlorobenzene	ND		1.60	1.49		mg/L		93	76 - 119
4-Methyl-2-pentanone (MIBK)	ND		1.60	1.02		mg/L		64	36 - 138
Acetone	ND		1.60	0.920		mg/L		57	13 - 150
Acrylonitrile	ND		16.0	17.2		mg/L		108	43 - 134
Bromoform	ND	F2	1.60	1.75		mg/L		109	61 - 149
Bromomethane	ND		1.60	1.07		mg/L		67	30 - 150
Carbon disulfide	ND		1.60	1.20		mg/L		75	54 - 150
Dichlorobromomethane	ND		1.60	1.51		mg/L		94	79 - 119
Dichlorodifluoromethane	ND		1.60	1.14		mg/L		72	33 - 150
Ethylbenzene	ND		1.60	1.48		mg/L		92	73 - 127
1,2-Dibromoethane	ND		1.60	1.66		mg/L		104	75 - 118
Hexachlorobutadiene	ND		1.60	1.46		mg/L		91	45 - 150
Methylene Chloride	ND		1.60	1.57		mg/L		98	63 - 124
Styrene	ND		1.60	1.64		mg/L		103	76 - 125
Toluene	ND		1.60	1.55		mg/L		97	69 - 125
trans-1,3-Dichloropropene	ND		1.60	1.59		mg/L		100	65 - 130
Trichlorofluoromethane	ND		1.60	1.12		mg/L		70	45 - 150
Xylenes, Total	ND		3.20	2.95		mg/L		92	73 - 123

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*87*		*58 - 139*
4-Bromofluorobenzene (Surr)	*94*		*64 - 122*
Dibromofluoromethane (Surr)	*84*		*70 - 127*
Toluene-d8 (Surr)	*87*		*71 - 125*

Lab Sample ID: 180-100205-1 MSD **Client Sample ID: 11187072-N.TREATMENT AREA #2**
Matrix: Solid **Prep Type: TCLP**
Analysis Batch: 302272

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	ND		1.60	1.58		mg/L		99	81 - 124	4	20
1,1,1-Trichloroethane	ND		1.60	1.73		mg/L		108	77 - 130	8	20
1,2-Dichloroethane	ND		1.60	1.62		mg/L		101	62 - 129	1	20

Method: EPA 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 180-100205-1 MSD **Client Sample ID: 11187072-N.TREATMENT AREA #2**
Matrix: Solid **Prep Type: TCLP**
Analysis Batch: 302272

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,2,2-Tetrachloroethane	ND		1.60	1.57		mg/L		98	61 - 130	1	21
2-Butanone (MEK)	ND		1.60	0.851		mg/L		53	33 - 133	5	35
Benzene	ND		1.60	1.62		mg/L		101	72 - 118	8	20
1,1,2-Trichloroethane	ND		1.60	1.63		mg/L		102	75 - 119	1	20
Carbon tetrachloride	ND		1.60	1.44		mg/L		90	69 - 137	8	20
Chlorobenzene	ND		1.60	1.70		mg/L		106	77 - 122	6	20
Chloroform	ND		1.60	1.45		mg/L		91	78 - 119	8	20
Tetrachloroethene	ND		1.60	1.61		mg/L		101	75 - 125	16	20
Trichloroethene	ND		1.60	1.56		mg/L		98	76 - 120	10	20
1,2,3-Trichloropropane	ND		1.60	1.64		mg/L		102	65 - 130	13	21
Vinyl chloride	ND		1.60	1.29		mg/L		81	52 - 130	9	21
1,1-Dichloroethene	ND		1.60	1.31		mg/L		82	60 - 131	10	35
1,3-Dichloropropene, Total	ND		3.20	3.23		mg/L		101	68 - 126	2	20
1,4-Dichlorobenzene	ND		1.60	1.58		mg/L		99	76 - 119	6	20
4-Methyl-2-pentanone (MIBK)	ND		1.60	1.06		mg/L		66	36 - 138	4	33
Acetone	ND		1.60	0.961		mg/L		60	13 - 150	4	35
Acrylonitrile	ND		16.0	16.0		mg/L		100	43 - 134	8	30
Bromoform	ND	F2	1.60	1.36	F2	mg/L		85	61 - 149	25	20
Bromomethane	ND		1.60	1.14		mg/L		71	30 - 150	6	35
Carbon disulfide	ND		1.60	1.17		mg/L		73	54 - 150	2	35
Dichlorobromomethane	ND		1.60	1.50		mg/L		94	79 - 119	1	20
Dichlorodifluoromethane	ND		1.60	1.24		mg/L		77	33 - 150	8	25
Ethylbenzene	ND		1.60	1.64		mg/L		102	73 - 127	10	20
1,2-Dibromoethane	ND		1.60	1.68		mg/L		105	75 - 118	1	20
Hexachlorobutadiene	ND		1.60	1.60		mg/L		100	45 - 150	9	35
Methylene Chloride	ND		1.60	1.66		mg/L		103	63 - 124	5	25
Styrene	ND		1.60	1.75		mg/L		109	76 - 125	6	20
Toluene	ND		1.60	1.66		mg/L		104	69 - 125	7	20
trans-1,3-Dichloropropene	ND		1.60	1.60		mg/L		100	65 - 130	0	20
Trichlorofluoromethane	ND		1.60	1.15		mg/L		72	45 - 150	3	35
Xylenes, Total	ND		3.20	3.24		mg/L		101	73 - 123	10	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*86*		*58 - 139*
4-Bromofluorobenzene (Surr)	*93*		*64 - 122*
Dibromofluoromethane (Surr)	*86*		*70 - 127*
Toluene-d8 (Surr)	*92*		*71 - 125*

Method: EPA 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 180-302206/1-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 302307 **Prep Batch: 302206**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.050	0.0045	mg/L		12/21/19 06:10	12/23/19 13:32	1
2,4,5-Trichlorophenol	ND		0.050	0.0079	mg/L		12/21/19 06:10	12/23/19 13:32	1
2,4,6-Trichlorophenol	ND		0.050	0.0095	mg/L		12/21/19 06:10	12/23/19 13:32	1
2,4-Dinitrotoluene	ND		0.050	0.0079	mg/L		12/21/19 06:10	12/23/19 13:32	1

Method: EPA 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 180-302206/1-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 302307 **Prep Batch: 302206**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	ND		0.050	0.0040	mg/L		12/21/19 06:10	12/23/19 13:32	1
Methylphenol, 3 & 4	ND		0.050	0.0079	mg/L		12/21/19 06:10	12/23/19 13:32	1
Hexachlorobenzene	ND		0.050	0.0055	mg/L		12/21/19 06:10	12/23/19 13:32	1
Hexachlorobutadiene	ND		0.050	0.0084	mg/L		12/21/19 06:10	12/23/19 13:32	1
Hexachloroethane	ND		0.050	0.0040	mg/L		12/21/19 06:10	12/23/19 13:32	1
Nitrobenzene	ND		0.050	0.012	mg/L		12/21/19 06:10	12/23/19 13:32	1
Pentachlorophenol	ND		0.25	0.0075	mg/L		12/21/19 06:10	12/23/19 13:32	1
Pyridine	ND		0.10	0.0082	mg/L		12/21/19 06:10	12/23/19 13:32	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*91*		*55 - 107*	*12/21/19 06:10*	*12/23/19 13:32*	*1*
2-Fluorophenol (Surr)	*83*		*60 - 108*	*12/21/19 06:10*	*12/23/19 13:32*	*1*
2,4,6-Tribromophenol (Surr)	*81*		*24 - 113*	*12/21/19 06:10*	*12/23/19 13:32*	*1*
Nitrobenzene-d5 (Surr)	*84*		*62 - 115*	*12/21/19 06:10*	*12/23/19 13:32*	*1*
Phenol-d5 (Surr)	*81*		*52 - 107*	*12/21/19 06:10*	*12/23/19 13:32*	*1*
Terphenyl-d14 (Surr)	*106*		*44 - 116*	*12/21/19 06:10*	*12/23/19 13:32*	*1*

Lab Sample ID: LCS 180-302206/2-A **Client Sample ID: Lab Control Sample**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 302307 **Prep Batch: 302206**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	0.250	0.207		mg/L		83	60 - 100
2,4,5-Trichlorophenol	0.250	0.193		mg/L		77	54 - 100
2,4,6-Trichlorophenol	0.250	0.184		mg/L		74	56 - 100
2,4-Dinitrotoluene	0.250	0.131		mg/L		52	42 - 100
2-Methylphenol	0.250	0.200		mg/L		80	60 - 101
Methylphenol, 3 & 4	0.500	0.423		mg/L		85	62 - 106
Hexachlorobenzene	0.250	0.138		mg/L		55	37 - 100
Hexachlorobutadiene	0.250	0.215		mg/L		86	50 - 103
Hexachloroethane	0.250	0.197		mg/L		79	59 - 104
Nitrobenzene	0.250	0.207		mg/L		83	58 - 113
Pentachlorophenol	0.250	0.119	J	mg/L		48	18 - 100
Pyridine	0.250	0.212		mg/L		85	54 - 119

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*89*		*55 - 107*
2-Fluorophenol (Surr)	*81*		*60 - 108*
2,4,6-Tribromophenol (Surr)	*85*		*24 - 113*
Nitrobenzene-d5 (Surr)	*83*		*62 - 115*
Phenol-d5 (Surr)	*80*		*52 - 107*
Terphenyl-d14 (Surr)	*105*		*44 - 116*

Method: EPA 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LB 180-301984/1-F **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: TCLP**
Analysis Batch: 302307 **Prep Batch: 302206**

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		0.050	0.0045	mg/L		12/21/19 06:10	12/23/19 18:57	1
2,4,5-Trichlorophenol	ND		0.050	0.0079	mg/L		12/21/19 06:10	12/23/19 18:57	1
2,4,6-Trichlorophenol	ND		0.050	0.0095	mg/L		12/21/19 06:10	12/23/19 18:57	1
2,4-Dinitrotoluene	ND		0.050	0.0079	mg/L		12/21/19 06:10	12/23/19 18:57	1
2-Methylphenol	ND		0.050	0.0040	mg/L		12/21/19 06:10	12/23/19 18:57	1
Methylphenol, 3 & 4	ND		0.050	0.0079	mg/L		12/21/19 06:10	12/23/19 18:57	1
Hexachlorobenzene	ND		0.050	0.0055	mg/L		12/21/19 06:10	12/23/19 18:57	1
Hexachlorobutadiene	ND		0.050	0.0084	mg/L		12/21/19 06:10	12/23/19 18:57	1
Hexachloroethane	ND		0.050	0.0040	mg/L		12/21/19 06:10	12/23/19 18:57	1
Nitrobenzene	ND		0.050	0.012	mg/L		12/21/19 06:10	12/23/19 18:57	1
Pentachlorophenol	ND		0.25	0.0075	mg/L		12/21/19 06:10	12/23/19 18:57	1
Pyridine	ND		0.10	0.0082	mg/L		12/21/19 06:10	12/23/19 18:57	1

Surrogate	*LB %Recovery*	*LB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*87*		*55 - 107*	*12/21/19 06:10*	*12/23/19 18:57*	*1*
2-Fluorophenol (Surr)	*82*		*60 - 108*	*12/21/19 06:10*	*12/23/19 18:57*	*1*
2,4,6-Tribromophenol (Surr)	*76*		*24 - 113*	*12/21/19 06:10*	*12/23/19 18:57*	*1*
Nitrobenzene-d5 (Surr)	*82*		*62 - 115*	*12/21/19 06:10*	*12/23/19 18:57*	*1*
Phenol-d5 (Surr)	*78*		*52 - 107*	*12/21/19 06:10*	*12/23/19 18:57*	*1*
Terphenyl-d14 (Surr)	*101*		*44 - 116*	*12/21/19 06:10*	*12/23/19 18:57*	*1*

Method: 8015D - Glycols- Direct Injection (GC/FID)

Lab Sample ID: MB 480-512921/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 512922 **Prep Batch: 512921**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene glycol	ND		10	1.9	mg/L		01/09/20 07:38	01/09/20 09:02	1
2-Ethoxyethanol	ND		20	2.5	mg/L		01/09/20 07:38	01/09/20 09:02	1
2-Methoxyethanol	ND		10	2.4	mg/L		01/09/20 07:38	01/09/20 09:02	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Butanediol	*91*		*66 - 130*	*01/09/20 07:38*	*01/09/20 09:02*	*1*

Lab Sample ID: LCS 480-512921/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 512922 **Prep Batch: 512921**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylene glycol	20.0	14.9		mg/L		74	46 - 129
2-Ethoxyethanol	20.0	16.7	J	mg/L		84	44 - 144
2-Methoxyethanol	20.0	16.1		mg/L		81	48 - 138

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Butanediol	*94*		*66 - 130*

Method: 8015D - Glycols- Direct Injection (GC/FID) (Continued)

Lab Sample ID: 180-100205-2 MS **Client Sample ID: 11187072-N.TREATMENT AREA #2**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 512922 **Prep Batch: 512921**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylene glycol	ND		20.0	16.5		mg/L		83	46 - 143
2-Ethoxyethanol	ND		20.0	18.1	J	mg/L		91	55 - 159
2-Methoxyethanol	ND		20.0	17.2		mg/L		86	66 - 147

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,4-Butanediol	*100*		*66 - 130*

Lab Sample ID: 180-100205-2 MSD **Client Sample ID: 11187072-N.TREATMENT AREA #2**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 512922 **Prep Batch: 512921**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethylene glycol	ND		20.0	16.2		mg/L		81	46 - 143	2	50
2-Ethoxyethanol	ND		20.0	17.6	J	mg/L		88	55 - 159	3	50
2-Methoxyethanol	ND		20.0	16.2		mg/L		81	66 - 147	6	50

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,4-Butanediol	*92*		*66 - 130*

Method: EPA 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 180-302205/1-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 302301 **Prep Batch: 302205**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	ND		0.0050	0.0029	mg/L		12/21/19 05:15	12/23/19 23:47	1
Endrin	ND		0.00050	0.000091	mg/L		12/21/19 05:15	12/23/19 23:47	1
gamma-BHC (Lindane)	ND		0.00050	0.00012	mg/L		12/21/19 05:15	12/23/19 23:47	1
Heptachlor	ND		0.00050	0.00018	mg/L		12/21/19 05:15	12/23/19 23:47	1
Heptachlor epoxide	ND		0.00050	0.00014	mg/L		12/21/19 05:15	12/23/19 23:47	1
cis-Chlordane	ND		0.00050	0.00015	mg/L		12/21/19 05:15	12/23/19 23:47	1
Methoxychlor	ND		0.00050	0.00031	mg/L		12/21/19 05:15	12/23/19 23:47	1
Toxaphene	ND		0.040	0.020	mg/L		12/21/19 05:15	12/23/19 23:47	1
trans-Chlordane	ND		0.00050	0.00016	mg/L		12/21/19 05:15	12/23/19 23:47	1
4,4'-DDD	ND		0.00050	0.00021	mg/L		12/21/19 05:15	12/23/19 23:47	1
4,4'-DDE	ND		0.00050	0.00012	mg/L		12/21/19 05:15	12/23/19 23:47	1
4,4'-DDT	ND		0.00050	0.00012	mg/L		12/21/19 05:15	12/23/19 23:47	1
Dieldrin	ND		0.00050	0.00011	mg/L		12/21/19 05:15	12/23/19 23:47	1
Endosulfan I	ND		0.00050	0.00027	mg/L		12/21/19 05:15	12/23/19 23:47	1
Endosulfan II	ND		0.00050	0.00013	mg/L		12/21/19 05:15	12/23/19 23:47	1
Endosulfan sulfate	ND		0.00050	0.00026	mg/L		12/21/19 05:15	12/23/19 23:47	1
Mirex	ND		0.00050	0.000084	mg/L		12/21/19 05:15	12/23/19 23:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*76*		*62 - 150*	*12/21/19 05:15*	*12/23/19 23:47*	*1*
DCB Decachlorobiphenyl (Surr)	*96*		*62 - 150*	*12/21/19 05:15*	*12/23/19 23:47*	*1*
Tetrachloro-m-xylene	*65*		*54 - 138*	*12/21/19 05:15*	*12/23/19 23:47*	*1*

Method: EPA 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 180-302205/1-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 302301 **Prep Batch: 302205**

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*83*		*54 - 138*	*12/21/19 05:15*	*12/23/19 23:47*	*1*

Lab Sample ID: LCS 180-302205/2-A **Client Sample ID: Lab Control Sample**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 302301 **Prep Batch: 302205**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Endrin	0.0100	0.00828		mg/L		83	71 - 134
gamma-BHC (Lindane)	0.0100	0.00927		mg/L		93	66 - 127
Heptachlor	0.0100	0.00775		mg/L		78	66 - 134
Heptachlor epoxide	0.0100	0.00847		mg/L		85	65 - 141
cis-Chlordane	0.0100	0.00834		mg/L		83	60 - 142
Methoxychlor	0.0100	0.00814		mg/L		81	59 - 131
trans-Chlordane	0.0100	0.00845		mg/L		84	61 - 143
4,4'-DDD	0.0100	0.00895		mg/L		90	71 - 136
4,4'-DDE	0.0100	0.00908		mg/L		91	75 - 133
4,4'-DDT	0.0100	0.00802		mg/L		80	56 - 132
Dieldrin	0.0100	0.00852		mg/L		85	75 - 131
Endosulfan I	0.0100	0.00877		mg/L		88	63 - 144
Endosulfan II	0.0100	0.00849		mg/L		85	76 - 136
Endosulfan sulfate	0.0100	0.00874		mg/L		87	48 - 131

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*73*		*62 - 150*
DCB Decachlorobiphenyl (Surr)	*97*		*62 - 150*
Tetrachloro-m-xylene	*67*		*54 - 138*
Tetrachloro-m-xylene	*85*		*54 - 138*

Lab Sample ID: LB 180-301984/1-E **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: TCLP**
Analysis Batch: 302301 **Prep Batch: 302205**

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	ND		0.0050	0.0029	mg/L		12/21/19 05:15	12/24/19 01:35	1
Endrin	ND		0.00050	0.000091	mg/L		12/21/19 05:15	12/24/19 01:35	1
gamma-BHC (Lindane)	ND		0.00050	0.00012	mg/L		12/21/19 05:15	12/24/19 01:35	1
Heptachlor	ND		0.00050	0.00018	mg/L		12/21/19 05:15	12/24/19 01:35	1
Heptachlor epoxide	ND		0.00050	0.00014	mg/L		12/21/19 05:15	12/24/19 01:35	1
cis-Chlordane	ND		0.00050	0.00015	mg/L		12/21/19 05:15	12/24/19 01:35	1
Methoxychlor	ND		0.00050	0.00031	mg/L		12/21/19 05:15	12/24/19 01:35	1
Toxaphene	ND		0.040	0.020	mg/L		12/21/19 05:15	12/24/19 01:35	1
trans-Chlordane	ND		0.00050	0.00016	mg/L		12/21/19 05:15	12/24/19 01:35	1
4,4'-DDD	ND		0.00050	0.00021	mg/L		12/21/19 05:15	12/24/19 01:35	1
4,4'-DDE	ND		0.00050	0.00012	mg/L		12/21/19 05:15	12/24/19 01:35	1
4,4'-DDT	ND		0.00050	0.00012	mg/L		12/21/19 05:15	12/24/19 01:35	1
Dieldrin	ND		0.00050	0.00011	mg/L		12/21/19 05:15	12/24/19 01:35	1
Endosulfan I	ND		0.00050	0.00027	mg/L		12/21/19 05:15	12/24/19 01:35	1
Endosulfan II	ND		0.00050	0.00013	mg/L		12/21/19 05:15	12/24/19 01:35	1

Method: EPA 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LB 180-301984/1-E **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: TCLP**
Analysis Batch: 302301 **Prep Batch: 302205**

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan sulfate	ND		0.00050	0.00026	mg/L		12/21/19 05:15	12/24/19 01:35	1
Mirex	ND		0.00050	0.000084	mg/L		12/21/19 05:15	12/24/19 01:35	1

Surrogate	*LB %Recovery*	*LB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*76*		*62 - 150*	*12/21/19 05:15*	*12/24/19 01:35*	*1*
DCB Decachlorobiphenyl (Surr)	*93*		*62 - 150*	*12/21/19 05:15*	*12/24/19 01:35*	*1*
Tetrachloro-m-xylene	*67*		*54 - 138*	*12/21/19 05:15*	*12/24/19 01:35*	*1*
Tetrachloro-m-xylene	*87*		*54 - 138*	*12/21/19 05:15*	*12/24/19 01:35*	*1*

Method: EPA 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 180-302202/1-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 302855 **Prep Batch: 302202**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.00040	0.00019	mg/L		12/21/19 02:15	12/30/19 23:37	1
PCB-1221	ND		0.00040	0.00023	mg/L		12/21/19 02:15	12/30/19 23:37	1
PCB-1232	ND		0.00040	0.00021	mg/L		12/21/19 02:15	12/30/19 23:37	1
PCB-1242	ND		0.00040	0.00037	mg/L		12/21/19 02:15	12/30/19 23:37	1
PCB-1248	ND		0.00040	0.00012	mg/L		12/21/19 02:15	12/30/19 23:37	1
PCB-1254	ND		0.00040	0.00038	mg/L		12/21/19 02:15	12/30/19 23:37	1
PCB-1260	ND		0.00040	0.00016	mg/L		12/21/19 02:15	12/30/19 23:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*98*		*45 - 133*	*12/21/19 02:15*	*12/30/19 23:37*	*1*
Tetrachloro-m-xylene (Surr)	*93*		*45 - 133*	*12/21/19 02:15*	*12/30/19 23:37*	*1*
DCB Decachlorobiphenyl (Surr)	*96*		*59 - 144*	*12/21/19 02:15*	*12/30/19 23:37*	*1*
DCB Decachlorobiphenyl (Surr)	*101*		*59 - 144*	*12/21/19 02:15*	*12/30/19 23:37*	*1*

Lab Sample ID: LCS 180-302202/2-A **Client Sample ID: Lab Control Sample**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 302855 **Prep Batch: 302202**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	0.0400	0.0446		mg/L		112	55 - 124
PCB-1260	0.0400	0.0462		mg/L		115	56 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene (Surr)	*104*		*45 - 133*
Tetrachloro-m-xylene (Surr)	*99*		*45 - 133*
DCB Decachlorobiphenyl (Surr)	*109*		*59 - 144*
DCB Decachlorobiphenyl (Surr)	*108*		*59 - 144*

Method: EPA 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: LB 180-301984/1-D **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: TCLP**
Analysis Batch: 302855 **Prep Batch: 302202**

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.00040	0.00019	mg/L		12/21/19 02:15	12/31/19 02:26	1
PCB-1221	ND		0.00040	0.00023	mg/L		12/21/19 02:15	12/31/19 02:26	1
PCB-1232	ND		0.00040	0.00021	mg/L		12/21/19 02:15	12/31/19 02:26	1
PCB-1242	ND		0.00040	0.00037	mg/L		12/21/19 02:15	12/31/19 02:26	1
PCB-1248	ND		0.00040	0.00012	mg/L		12/21/19 02:15	12/31/19 02:26	1
PCB-1254	ND		0.00040	0.00038	mg/L		12/21/19 02:15	12/31/19 02:26	1
PCB-1260	ND		0.00040	0.00016	mg/L		12/21/19 02:15	12/31/19 02:26	1

Surrogate	*LB %Recovery*	*LB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene (Surr)	*97*		*45 - 133*	*12/21/19 02:15*	*12/31/19 02:26*	*1*
Tetrachloro-m-xylene (Surr)	*94*		*45 - 133*	*12/21/19 02:15*	*12/31/19 02:26*	*1*
DCB Decachlorobiphenyl (Surr)	*100*		*59 - 144*	*12/21/19 02:15*	*12/31/19 02:26*	*1*
DCB Decachlorobiphenyl (Surr)	*96*		*59 - 144*	*12/21/19 02:15*	*12/31/19 02:26*	*1*

Method: EPA 8151A - Herbicides (GC)

Lab Sample ID: MB 180-302208/1-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 302642 **Prep Batch: 302208**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		0.040	0.020	mg/L		12/21/19 03:55	12/27/19 11:26	20
Silvex (2,4,5-TP)	ND		0.010	0.0030	mg/L		12/21/19 03:55	12/27/19 11:26	20
Dinoseb	ND		0.040	0.038	mg/L		12/21/19 03:55	12/27/19 11:26	20

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*73*		*23 - 122*	*12/21/19 03:55*	*12/27/19 11:26*	*20*
2,4-Dichlorophenylacetic acid	*66*		*23 - 122*	*12/21/19 03:55*	*12/27/19 11:26*	*20*

Lab Sample ID: LCS 180-302208/2-A **Client Sample ID: Lab Control Sample**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 302642 **Prep Batch: 302208**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
2,4-D			0.200	0.155		mg/L		77	19 - 127		
Silvex (2,4,5-TP)			0.0500	0.0394		mg/L		79	24 - 128		
Dinoseb			0.200	0.231		mg/L		115	10 - 150		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4-Dichlorophenylacetic acid	*81*		*23 - 122*
2,4-Dichlorophenylacetic acid	*72*		*23 - 122*

Lab Sample ID: LCSD 180-302208/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 302642 **Prep Batch: 302208**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,4-D			0.200	0.164		mg/L		82	19 - 127	6	35

Method: EPA 8151A - Herbicides (GC) (Continued)

Lab Sample ID: LCSD 180-302208/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 302642 **Prep Batch: 302208**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silvex (2,4,5-TP)			0.0500	0.0405		mg/L		81	24 - 128	3	35
Dinoseb			0.200	0.237		mg/L		118	10 - 150	2	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4-Dichlorophenylacetic acid	*84*		*23 - 122*
2,4-Dichlorophenylacetic acid	*74*		*23 - 122*

Lab Sample ID: LB 180-301984/1-G **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: TCLP**
Analysis Batch: 302642 **Prep Batch: 302208**

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		0.040	0.020	mg/L		12/21/19 03:55	12/27/19 13:07	20
Silvex (2,4,5-TP)	ND		0.010	0.0030	mg/L		12/21/19 03:55	12/27/19 13:07	20
Dinoseb	ND		0.040	0.038	mg/L		12/21/19 03:55	12/27/19 13:07	20

Surrogate	*LB %Recovery*	*LB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*77*		*23 - 122*	*12/21/19 03:55*	*12/27/19 13:07*	*20*
2,4-Dichlorophenylacetic acid	*70*		*23 - 122*	*12/21/19 03:55*	*12/27/19 13:07*	*20*

Method: 8321A - Carbamates (LC/MS)

Lab Sample ID: LB 280-481805/1-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 482046 **Prep Batch: 481805**

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methomyl	ND		1.0	0.16	ug/L		12/28/19 14:56	12/31/19 12:18	1

Surrogate	*LB %Recovery*	*LB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Atrazine-d5	*112*		*60 - 142*	*12/28/19 14:56*	*12/31/19 12:18*	*1*
Diuron-d6	*134*		*50 - 150*	*12/28/19 14:56*	*12/31/19 12:18*	*1*

Lab Sample ID: LCS 280-481805/2-A **Client Sample ID: Lab Control Sample**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 482046 **Prep Batch: 481805**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Methomyl			2.00	2.03		ug/L		102	55 - 143		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Atrazine-d5	*108*		*60 - 142*
Diuron-d6	*122*		*50 - 150*

Method: 8321A - Carbamates (LC/MS) (Continued)

Lab Sample ID: LCSD 280-481805/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 482046 **Prep Batch: 481805**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methomyl			2.00	2.08		ug/L		104	55 - 143	2	40

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Atrazine-d5	*115*		*60 - 142*
Diuron-d6	*128*		*50 - 150*

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-348771/1-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 349283 **Prep Batch: 348771**

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		10	3.1	pg/L		12/31/19 11:06	01/07/20 00:06	1
2,3,7,8-TCDF	ND		10	1.7	pg/L		12/31/19 11:06	01/07/20 00:06	1
1,2,3,7,8-PeCDD	ND		50	4.2	pg/L		12/31/19 11:06	01/07/20 00:06	1
1,2,3,7,8-PeCDF	ND		50	2.0	pg/L		12/31/19 11:06	01/07/20 00:06	1
2,3,4,7,8-PeCDF	ND		50	2.1	pg/L		12/31/19 11:06	01/07/20 00:06	1
1,2,3,4,7,8-HxCDD	ND		50	1.8	pg/L		12/31/19 11:06	01/07/20 00:06	1
1,2,3,6,7,8-HxCDD	ND		50	1.9	pg/L		12/31/19 11:06	01/07/20 00:06	1
1,2,3,7,8,9-HxCDD	ND		50	1.6	pg/L		12/31/19 11:06	01/07/20 00:06	1
1,2,3,4,7,8-HxCDF	ND		50	3.0	pg/L		12/31/19 11:06	01/07/20 00:06	1
1,2,3,6,7,8-HxCDF	ND		50	2.9	pg/L		12/31/19 11:06	01/07/20 00:06	1
1,2,3,7,8,9-HxCDF	ND		50	2.1	pg/L		12/31/19 11:06	01/07/20 00:06	1
2,3,4,6,7,8-HxCDF	ND		50	2.0	pg/L		12/31/19 11:06	01/07/20 00:06	1
1,2,3,4,6,7,8-HpCDD	ND		50	2.3	pg/L		12/31/19 11:06	01/07/20 00:06	1
1,2,3,4,6,7,8-HpCDF	ND		50	2.2	pg/L		12/31/19 11:06	01/07/20 00:06	1
1,2,3,4,7,8,9-HpCDF	ND		50	3.1	pg/L		12/31/19 11:06	01/07/20 00:06	1
OCDD	ND		100	2.8	pg/L		12/31/19 11:06	01/07/20 00:06	1
OCDF	ND		100	5.5	pg/L		12/31/19 11:06	01/07/20 00:06	1
Total TCDD	ND		10	3.1	pg/L		12/31/19 11:06	01/07/20 00:06	1
Total TCDF	ND		10	1.7	pg/L		12/31/19 11:06	01/07/20 00:06	1
Total PeCDD	ND		50	4.2	pg/L		12/31/19 11:06	01/07/20 00:06	1
Total PeCDF	ND		50	2.1	pg/L		12/31/19 11:06	01/07/20 00:06	1
Total HxCDD	ND		50	1.9	pg/L		12/31/19 11:06	01/07/20 00:06	1
Total HxCDF	ND		50	3.0	pg/L		12/31/19 11:06	01/07/20 00:06	1
Total HpCDD	ND		50	2.3	pg/L		12/31/19 11:06	01/07/20 00:06	1
Total HpCDF	ND		50	3.1	pg/L		12/31/19 11:06	01/07/20 00:06	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*74*		*25 - 164*	*12/31/19 11:06*	*01/07/20 00:06*	*1*
13C-2,3,7,8-TCDF	*75*		*24 - 169*	*12/31/19 11:06*	*01/07/20 00:06*	*1*
13C-1,2,3,7,8-PeCDD	*67*		*25 - 181*	*12/31/19 11:06*	*01/07/20 00:06*	*1*
13C-1,2,3,7,8-PeCDF	*71*		*24 - 185*	*12/31/19 11:06*	*01/07/20 00:06*	*1*
13C-2,3,4,7,8-PeCDF	*74*		*21 - 178*	*12/31/19 11:06*	*01/07/20 00:06*	*1*
13C-1,2,3,4,7,8-HxCDD	*79*		*32 - 141*	*12/31/19 11:06*	*01/07/20 00:06*	*1*
13C-1,2,3,6,7,8-HxCDD	*82*		*28 - 130*	*12/31/19 11:06*	*01/07/20 00:06*	*1*
13C-1,2,3,4,7,8-HxCDF	*77*		*26 - 152*	*12/31/19 11:06*	*01/07/20 00:06*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-348771/1-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 349283 **Prep Batch: 348771**

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,6,7,8-HxCDF	76		26 - 123	12/31/19 11:06	01/07/20 00:06	1
13C-1,2,3,7,8,9-HxCDF	66		29 - 147	12/31/19 11:06	01/07/20 00:06	1
13C-2,3,4,6,7,8-HxCDF	72		28 - 136	12/31/19 11:06	01/07/20 00:06	1
13C-1,2,3,4,6,7,8-HpCDD	61		23 - 140	12/31/19 11:06	01/07/20 00:06	1
13C-1,2,3,4,6,7,8-HpCDF	68		28 - 143	12/31/19 11:06	01/07/20 00:06	1
13C-1,2,3,4,7,8,9-HpCDF	69		26 - 138	12/31/19 11:06	01/07/20 00:06	1
13C-OCDD	50		17 - 157	12/31/19 11:06	01/07/20 00:06	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	114		35 - 197	12/31/19 11:06	01/07/20 00:06	1

Lab Sample ID: LCS 320-348771/2-A **Client Sample ID: Lab Control Sample**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 349283 **Prep Batch: 348771**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	200	205		pg/L		103	67 - 158
2,3,7,8-TCDF	200	200		pg/L		100	75 - 158
1,2,3,7,8-PeCDD	1000	1090		pg/L		109	70 - 142
1,2,3,7,8-PeCDF	1000	1050		pg/L		105	80 - 134
2,3,4,7,8-PeCDF	1000	974		pg/L		97	68 - 160
1,2,3,4,7,8-HxCDD	1000	986		pg/L		99	70 - 164
1,2,3,6,7,8-HxCDD	1000	1070		pg/L		107	76 - 134
1,2,3,7,8,9-HxCDD	1000	870		pg/L		87	64 - 162
1,2,3,4,7,8-HxCDF	1000	1020		pg/L		102	72 - 134
1,2,3,6,7,8-HxCDF	1000	1070		pg/L		107	84 - 130
1,2,3,7,8,9-HxCDF	1000	1100		pg/L		110	78 - 130
2,3,4,6,7,8-HxCDF	1000	1100		pg/L		110	70 - 156
1,2,3,4,6,7,8-HpCDD	1000	1050		pg/L		105	70 - 140
1,2,3,4,6,7,8-HpCDF	1000	1120		pg/L		112	82 - 122
1,2,3,4,7,8,9-HpCDF	1000	1040		pg/L		104	78 - 138
OCDD	2000	2030		pg/L		101	78 - 144
OCDF	2000	2630		pg/L		131	63 - 170

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	76		20 - 175
13C-2,3,7,8-TCDF	79		22 - 152
13C-1,2,3,7,8-PeCDD	70		21 - 227
13C-1,2,3,7,8-PeCDF	75		21 - 192
13C-2,3,4,7,8-PeCDF	82		13 - 328
13C-1,2,3,4,7,8-HxCDD	77		21 - 193
13C-1,2,3,6,7,8-HxCDD	76		25 - 163
13C-1,2,3,4,7,8-HxCDF	77		19 - 202
13C-1,2,3,6,7,8-HxCDF	75		21 - 159
13C-1,2,3,7,8,9-HxCDF	67		17 - 205
13C-2,3,4,6,7,8-HxCDF	70		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	61		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	68		21 - 158

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-348771/2-A **Client Sample ID: Lab Control Sample**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 349283 **Prep Batch: 348771**

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-1,2,3,4,7,8,9-HpCDF	71		20 - 186
13C-OCDD	46		13 - 199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
37Cl4-2,3,7,8-TCDD	116		31 - 191

Lab Sample ID: LCSD 320-348771/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 349283 **Prep Batch: 348771**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD			200	199		pg/L		100	67 - 158	3	50
2,3,7,8-TCDF			200	202		pg/L		101	75 - 158	1	50
1,2,3,7,8-PeCDD			1000	1070		pg/L		107	70 - 142	2	50
1,2,3,7,8-PeCDF			1000	1020		pg/L		102	80 - 134	2	50
2,3,4,7,8-PeCDF			1000	967		pg/L		97	68 - 160	1	50
1,2,3,4,7,8-HxCDD			1000	964		pg/L		96	70 - 164	2	50
1,2,3,6,7,8-HxCDD			1000	1040		pg/L		104	76 - 134	2	50
1,2,3,7,8,9-HxCDD			1000	812		pg/L		81	64 - 162	7	50
1,2,3,4,7,8-HxCDF			1000	1000		pg/L		100	72 - 134	2	50
1,2,3,6,7,8-HxCDF			1000	1010		pg/L		101	84 - 130	5	50
1,2,3,7,8,9-HxCDF			1000	1100		pg/L		110	78 - 130	0	50
2,3,4,6,7,8-HxCDF			1000	1070		pg/L		107	70 - 156	2	50
1,2,3,4,6,7,8-HpCDD			1000	1080		pg/L		108	70 - 140	3	50
1,2,3,4,6,7,8-HpCDF			1000	1100		pg/L		110	82 - 122	2	50
1,2,3,4,7,8,9-HpCDF			1000	983		pg/L		98	78 - 138	6	50
OCDD			2000	2050		pg/L		103	78 - 144	1	50
OCDF			2000	2780		pg/L		139	63 - 170	6	50

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	65		20 - 175
13C-2,3,7,8-TCDF	66		22 - 152
13C-1,2,3,7,8-PeCDD	59		21 - 227
13C-1,2,3,7,8-PeCDF	61		21 - 192
13C-2,3,4,7,8-PeCDF	66		13 - 328
13C-1,2,3,4,7,8-HxCDD	66		21 - 193
13C-1,2,3,6,7,8-HxCDD	65		25 - 163
13C-1,2,3,4,7,8-HxCDF	66		19 - 202
13C-1,2,3,6,7,8-HxCDF	64		21 - 159
13C-1,2,3,7,8,9-HxCDF	57		17 - 205
13C-2,3,4,6,7,8-HxCDF	58		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	50		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	56		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	64		20 - 186
13C-OCDD	37		13 - 199

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
37Cl4-2,3,7,8-TCDD	113		31 - 191

Method: EPA 6010C - Metals (ICP)

Lab Sample ID: MB 180-302194/1-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 302329 **Prep Batch: 302194**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.050	0.0041	mg/L		12/20/19 19:27	12/23/19 09:05	1
Barium	ND		0.20	0.0026	mg/L		12/20/19 19:27	12/23/19 09:05	1
Cadmium	ND		0.050	0.00028	mg/L		12/20/19 19:27	12/23/19 09:05	1
Chromium	ND		0.050	0.00078	mg/L		12/20/19 19:27	12/23/19 09:05	1
Lead	ND		0.050	0.0029	mg/L		12/20/19 19:27	12/23/19 09:05	1
Selenium	ND		0.050	0.0036	mg/L		12/20/19 19:27	12/23/19 09:05	1
Silver	ND		0.050	0.00085	mg/L		12/20/19 19:27	12/23/19 09:05	1

Lab Sample ID: LCS 180-302194/2-A **Client Sample ID: Lab Control Sample**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 302329 **Prep Batch: 302194**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	1.19		mg/L		119	80 - 120
Barium	1.00	1.12		mg/L		112	80 - 120
Cadmium	0.500	0.580		mg/L		116	80 - 120
Chromium	0.500	0.556		mg/L		111	80 - 120
Lead	0.500	0.562		mg/L		112	80 - 120
Selenium	1.00	1.20		mg/L		120	80 - 120
Silver	0.250	0.287		mg/L		115	80 - 120

Lab Sample ID: LB 180-301984/1-C **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: TCLP**
Analysis Batch: 302329 **Prep Batch: 302194**

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.50	0.041	mg/L		12/20/19 19:27	12/23/19 09:15	1
Barium	ND		2.0	0.026	mg/L		12/20/19 19:27	12/23/19 09:15	1
Cadmium	ND		0.50	0.0028	mg/L		12/20/19 19:27	12/23/19 09:15	1
Chromium	ND		0.50	0.0078	mg/L		12/20/19 19:27	12/23/19 09:15	1
Lead	ND		0.50	0.029	mg/L		12/20/19 19:27	12/23/19 09:15	1
Selenium	ND		0.50	0.036	mg/L		12/20/19 19:27	12/23/19 09:15	1
Silver	ND		0.50	0.0085	mg/L		12/20/19 19:27	12/23/19 09:15	1

Method: EPA 7470A - Mercury (CVAA)

Lab Sample ID: MB 180-302169/1-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 302379 **Prep Batch: 302169**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00010	mg/L		12/20/19 14:15	12/23/19 15:47	1

Lab Sample ID: LCS 180-302169/2-A **Client Sample ID: Lab Control Sample**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 302379 **Prep Batch: 302169**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00250	0.00242		mg/L		97	80 - 120

Method: EPA 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LB 180-301984/1-B
Client Sample ID: Method Blank
Matrix: Solid
Prep Type: TCLP
Analysis Batch: 302379
Prep Batch: 302169

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00010	mg/L		12/20/19 14:15	12/23/19 15:52	1

Method: 2540G - SM 2540G

Lab Sample ID: 180-100205-3 DU
Client Sample ID: 11187072-N.TREATMENT AREA #3
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 302416

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	32.6		36.1		%		10	10
Percent Solids	67.4		63.9		%		5	10

Lab Sample ID: 180-100205-5 DU
Client Sample ID: 11187072-N.TREATMENT AREA #4
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 302416

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	33.3		33.1		%		0.8	10
Percent Solids	66.7		66.9		%		0.4	10

Method: EPA 9014 - Cyanide

Lab Sample ID: MB 180-302344/4-A
Client Sample ID: Method Blank
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 302414
Prep Batch: 302344

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.50	0.27	mg/Kg		12/23/19 13:28	12/23/19 20:45	1

Lab Sample ID: HLCS 180-302344/2-A
Client Sample ID: Lab Control Sample
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 302414
Prep Batch: 302344

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.250	0.242		mg/Kg		97	90 - 110

Lab Sample ID: LCS 180-302344/3-A
Client Sample ID: Lab Control Sample
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 302414
Prep Batch: 302344

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	190	120		mg/Kg		63	26 - 139

Lab Sample ID: LLCS 180-302344/1-A
Client Sample ID: Lab Control Sample
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 302414
Prep Batch: 302344

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.0500	0.0503		mg/Kg		101	90 - 110

QC Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-100205-1

Method: EPA 9034 - Sulfide, Acid soluble and Insoluble (Titrimetric)

Lab Sample ID: MB 180-302260/1-A
Matrix: Solid
Analysis Batch: 302491

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 302260

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		30	10	mg/Kg		12/23/19 12:30	12/23/19 14:19	1

Lab Sample ID: LCS 180-302260/2-A
Matrix: Solid
Analysis Batch: 302491

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 302260

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	134	119		mg/Kg		89	85 - 115

Method: EPA 9045D - pH

Lab Sample ID: LCS 180-302956/1
Matrix: Solid
Analysis Batch: 302956

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100	99 - 101

QC Association Summary

Client: GHD Services Inc.
Job ID: 180-100205-1
Project/Site: San Jacinto River Waste Pits Superfund

GC/MS VOA

Leach Batch: 302046

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100205-1	11187072-N.TREATMENT AREA #2	TCLP	Solid	EPA 1311	
180-100205-3	11187072-N.TREATMENT AREA #3	TCLP	Solid	EPA 1311	
180-100205-5	11187072-N.TREATMENT AREA #4	TCLP	Solid	EPA 1311	
LB 180-302046/1-A	Method Blank	TCLP	Solid	EPA 1311	
180-100205-1 MS	11187072-N.TREATMENT AREA #2	TCLP	Solid	EPA 1311	
180-100205-1 MSD	11187072-N.TREATMENT AREA #2	TCLP	Solid	EPA 1311	

Analysis Batch: 302272

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100205-1	11187072-N.TREATMENT AREA #2	TCLP	Solid	EPA 8260C	302046
180-100205-3	11187072-N.TREATMENT AREA #3	TCLP	Solid	EPA 8260C	302046
180-100205-5	11187072-N.TREATMENT AREA #4	TCLP	Solid	EPA 8260C	302046
LB 180-302046/1-A	Method Blank	TCLP	Solid	EPA 8260C	302046
LCS 180-302272/4	Lab Control Sample	Total/NA	Solid	EPA 8260C	
180-100205-1 MS	11187072-N.TREATMENT AREA #2	TCLP	Solid	EPA 8260C	302046
180-100205-1 MSD	11187072-N.TREATMENT AREA #2	TCLP	Solid	EPA 8260C	302046

GC/MS Semi VOA

Leach Batch: 301984

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100205-1	11187072-N.TREATMENT AREA #2	TCLP	Solid	EPA 1311	
180-100205-3	11187072-N.TREATMENT AREA #3	TCLP	Solid	EPA 1311	
180-100205-5	11187072-N.TREATMENT AREA #4	TCLP	Solid	EPA 1311	
LB 180-301984/1-F	Method Blank	TCLP	Solid	1311	

Prep Batch: 302206

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100205-1	11187072-N.TREATMENT AREA #2	TCLP	Solid	3510C	301984
180-100205-3	11187072-N.TREATMENT AREA #3	TCLP	Solid	3510C	301984
180-100205-5	11187072-N.TREATMENT AREA #4	TCLP	Solid	3510C	301984
LB 180-301984/1-F	Method Blank	TCLP	Solid	3510C	301984
MB 180-302206/1-A	Method Blank	Total/NA	Solid	3510C	
LCS 180-302206/2-A	Lab Control Sample	Total/NA	Solid	3510C	

Analysis Batch: 302307

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100205-1	11187072-N.TREATMENT AREA #2	TCLP	Solid	EPA 8270D	302206
180-100205-3	11187072-N.TREATMENT AREA #3	TCLP	Solid	EPA 8270D	302206
180-100205-5	11187072-N.TREATMENT AREA #4	TCLP	Solid	EPA 8270D	302206
LB 180-301984/1-F	Method Blank	TCLP	Solid	EPA 8270D	302206
MB 180-302206/1-A	Method Blank	Total/NA	Solid	EPA 8270D	302206
LCS 180-302206/2-A	Lab Control Sample	Total/NA	Solid	EPA 8270D	302206

GC VOA

Prep Batch: 512921

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100205-2	11187072-N.TREATMENT AREA #2	Total/NA	Water	8015 Prep	
180-100205-4	11187072-N.TREATMENT AREA #3	Total/NA	Water	8015 Prep	
180-100205-6	11187072-N.TREATMENT AREA #4	Total/NA	Water	8015 Prep	
MB 480-512921/1-A	Method Blank	Total/NA	Water	8015 Prep	

GC VOA (Continued)

Prep Batch: 512921 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 480-512921/2-A	Lab Control Sample	Total/NA	Water	8015 Prep	
180-100205-2 MS	11187072-N.TREATMENT AREA #2	Total/NA	Water	8015 Prep	
180-100205-2 MSD	11187072-N.TREATMENT AREA #2	Total/NA	Water	8015 Prep	

Analysis Batch: 512922

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100205-2	11187072-N.TREATMENT AREA #2	Total/NA	Water	8015D	512921
180-100205-4	11187072-N.TREATMENT AREA #3	Total/NA	Water	8015D	512921
180-100205-6	11187072-N.TREATMENT AREA #4	Total/NA	Water	8015D	512921
MB 480-512921/1-A	Method Blank	Total/NA	Water	8015D	512921
LCS 480-512921/2-A	Lab Control Sample	Total/NA	Water	8015D	512921
180-100205-2 MS	11187072-N.TREATMENT AREA #2	Total/NA	Water	8015D	512921
180-100205-2 MSD	11187072-N.TREATMENT AREA #2	Total/NA	Water	8015D	512921

GC Semi VOA

Leach Batch: 301984

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100205-1	11187072-N.TREATMENT AREA #2	TCLP	Solid	EPA 1311	
180-100205-3	11187072-N.TREATMENT AREA #3	TCLP	Solid	EPA 1311	
180-100205-5	11187072-N.TREATMENT AREA #4	TCLP	Solid	EPA 1311	
LB 180-301984/1-D	Method Blank	TCLP	Solid	1311	
LB 180-301984/1-E	Method Blank	TCLP	Solid	1311	
LB 180-301984/1-G	Method Blank	TCLP	Solid	1311	

Prep Batch: 302202

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100205-1	11187072-N.TREATMENT AREA #2	TCLP	Solid	3510C	301984
180-100205-3	11187072-N.TREATMENT AREA #3	TCLP	Solid	3510C	301984
180-100205-5	11187072-N.TREATMENT AREA #4	TCLP	Solid	3510C	301984
LB 180-301984/1-D	Method Blank	TCLP	Solid	3510C	301984
MB 180-302202/1-A	Method Blank	Total/NA	Solid	3510C	
LCS 180-302202/2-A	Lab Control Sample	Total/NA	Solid	3510C	

Prep Batch: 302205

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100205-1	11187072-N.TREATMENT AREA #2	TCLP	Solid	3510C	301984
180-100205-3	11187072-N.TREATMENT AREA #3	TCLP	Solid	3510C	301984
180-100205-5	11187072-N.TREATMENT AREA #4	TCLP	Solid	3510C	301984
LB 180-301984/1-E	Method Blank	TCLP	Solid	3510C	301984
MB 180-302205/1-A	Method Blank	Total/NA	Solid	3510C	
LCS 180-302205/2-A	Lab Control Sample	Total/NA	Solid	3510C	

Prep Batch: 302208

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100205-1	11187072-N.TREATMENT AREA #2	TCLP	Solid	8151A	301984
180-100205-3	11187072-N.TREATMENT AREA #3	TCLP	Solid	8151A	301984
180-100205-5	11187072-N.TREATMENT AREA #4	TCLP	Solid	8151A	301984
LB 180-301984/1-G	Method Blank	TCLP	Solid	8151A	301984
MB 180-302208/1-A	Method Blank	Total/NA	Solid	8151A	
LCS 180-302208/2-A	Lab Control Sample	Total/NA	Solid	8151A	

GC Semi VOA (Continued)

Prep Batch: 302208 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 180-302208/3-A	Lab Control Sample Dup	Total/NA	Solid	8151A	

Analysis Batch: 302301

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100205-1	11187072-N.TREATMENT AREA #2	TCLP	Solid	EPA 8081B	302205
180-100205-3	11187072-N.TREATMENT AREA #3	TCLP	Solid	EPA 8081B	302205
180-100205-5	11187072-N.TREATMENT AREA #4	TCLP	Solid	EPA 8081B	302205
LB 180-301984/1-E	Method Blank	TCLP	Solid	EPA 8081B	302205
MB 180-302205/1-A	Method Blank	Total/NA	Solid	EPA 8081B	302205
LCS 180-302205/2-A	Lab Control Sample	Total/NA	Solid	EPA 8081B	302205

Analysis Batch: 302642

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100205-1	11187072-N.TREATMENT AREA #2	TCLP	Solid	EPA 8151A	302208
180-100205-3	11187072-N.TREATMENT AREA #3	TCLP	Solid	EPA 8151A	302208
180-100205-5	11187072-N.TREATMENT AREA #4	TCLP	Solid	EPA 8151A	302208
LB 180-301984/1-G	Method Blank	TCLP	Solid	EPA 8151A	302208
MB 180-302208/1-A	Method Blank	Total/NA	Solid	EPA 8151A	302208
LCS 180-302208/2-A	Lab Control Sample	Total/NA	Solid	EPA 8151A	302208
LCSD 180-302208/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 8151A	302208

Analysis Batch: 302855

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100205-1	11187072-N.TREATMENT AREA #2	TCLP	Solid	EPA 8082A	302202
180-100205-3	11187072-N.TREATMENT AREA #3	TCLP	Solid	EPA 8082A	302202
180-100205-5	11187072-N.TREATMENT AREA #4	TCLP	Solid	EPA 8082A	302202
LB 180-301984/1-D	Method Blank	TCLP	Solid	EPA 8082A	302202
MB 180-302202/1-A	Method Blank	Total/NA	Solid	EPA 8082A	302202
LCS 180-302202/2-A	Lab Control Sample	Total/NA	Solid	EPA 8082A	302202

LCMS

Leach Batch: 481447

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100205-1	11187072-N.TREATMENT AREA #2	TCLP	Solid	1311	
180-100205-3	11187072-N.TREATMENT AREA #3	TCLP	Solid	1311	
180-100205-5	11187072-N.TREATMENT AREA #4	TCLP	Solid	1311	

Prep Batch: 481805

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100205-1	11187072-N.TREATMENT AREA #2	TCLP	Solid	3535	481447
180-100205-3	11187072-N.TREATMENT AREA #3	TCLP	Solid	3535	481447
180-100205-5	11187072-N.TREATMENT AREA #4	TCLP	Solid	3535	481447
LB 280-481805/1-A	Method Blank	Total/NA	Solid	3535	
LCS 280-481805/2-A	Lab Control Sample	Total/NA	Solid	3535	
LCSD 280-481805/3-A	Lab Control Sample Dup	Total/NA	Solid	3535	

Analysis Batch: 482046

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100205-1	11187072-N.TREATMENT AREA #2	TCLP	Solid	8321A	481805
180-100205-3	11187072-N.TREATMENT AREA #3	TCLP	Solid	8321A	481805

LCMS (Continued)

Analysis Batch: 482046 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100205-5	11187072-N.TREATMENT AREA #4	TCLP	Solid	8321A	481805
LB 280-481805/1-A	Method Blank	Total/NA	Solid	8321A	481805
LCS 280-481805/2-A	Lab Control Sample	Total/NA	Solid	8321A	481805
LCSD 280-481805/3-A	Lab Control Sample Dup	Total/NA	Solid	8321A	481805

Specialty Organics

Leach Batch: 347820

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100205-1	11187072-N.TREATMENT AREA #2	TCLP	Solid	1311	
180-100205-3	11187072-N.TREATMENT AREA #3	TCLP	Solid	1311	
180-100205-5	11187072-N.TREATMENT AREA #4	TCLP	Solid	1311	

Prep Batch: 348771

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100205-1	11187072-N.TREATMENT AREA #2	TCLP	Solid	HRMS-Sep	347820
180-100205-3	11187072-N.TREATMENT AREA #3	TCLP	Solid	HRMS-Sep	347820
180-100205-5	11187072-N.TREATMENT AREA #4	TCLP	Solid	HRMS-Sep	347820
MB 320-348771/1-A	Method Blank	Total/NA	Solid	HRMS-Sep	
LCS 320-348771/2-A	Lab Control Sample	Total/NA	Solid	HRMS-Sep	
LCSD 320-348771/3-A	Lab Control Sample Dup	Total/NA	Solid	HRMS-Sep	

Analysis Batch: 349283

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100205-1	11187072-N.TREATMENT AREA #2	TCLP	Solid	1613B	348771
180-100205-3	11187072-N.TREATMENT AREA #3	TCLP	Solid	1613B	348771
180-100205-5	11187072-N.TREATMENT AREA #4	TCLP	Solid	1613B	348771
MB 320-348771/1-A	Method Blank	Total/NA	Solid	1613B	348771
LCS 320-348771/2-A	Lab Control Sample	Total/NA	Solid	1613B	348771
LCSD 320-348771/3-A	Lab Control Sample Dup	Total/NA	Solid	1613B	348771

Metals

Leach Batch: 301984

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100205-1	11187072-N.TREATMENT AREA #2	TCLP	Solid	EPA 1311	
180-100205-3	11187072-N.TREATMENT AREA #3	TCLP	Solid	EPA 1311	
180-100205-5	11187072-N.TREATMENT AREA #4	TCLP	Solid	EPA 1311	
LB 180-301984/1-B	Method Blank	TCLP	Solid	1311	
LB 180-301984/1-C	Method Blank	TCLP	Solid	1311	

Prep Batch: 302169

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100205-1	11187072-N.TREATMENT AREA #2	TCLP	Solid	7470A	301984
180-100205-3	11187072-N.TREATMENT AREA #3	TCLP	Solid	7470A	301984
180-100205-5	11187072-N.TREATMENT AREA #4	TCLP	Solid	7470A	301984
LB 180-301984/1-B	Method Blank	TCLP	Solid	7470A	301984
MB 180-302169/1-A	Method Blank	Total/NA	Solid	7470A	
LCS 180-302169/2-A	Lab Control Sample	Total/NA	Solid	7470A	

QC Association Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-100205-1

Metals

Prep Batch: 302194

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100205-1	11187072-N.TREATMENT AREA #2	TCLP	Solid	3010A	301984
180-100205-3	11187072-N.TREATMENT AREA #3	TCLP	Solid	3010A	301984
180-100205-5	11187072-N.TREATMENT AREA #4	TCLP	Solid	3010A	301984
LB 180-301984/1-C	Method Blank	TCLP	Solid	3010A	301984
MB 180-302194/1-A	Method Blank	Total/NA	Solid	3010A	
LCS 180-302194/2-A	Lab Control Sample	Total/NA	Solid	3010A	

Analysis Batch: 302329

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100205-1	11187072-N.TREATMENT AREA #2	TCLP	Solid	EPA 6010C	302194
180-100205-3	11187072-N.TREATMENT AREA #3	TCLP	Solid	EPA 6010C	302194
180-100205-5	11187072-N.TREATMENT AREA #4	TCLP	Solid	EPA 6010C	302194
LB 180-301984/1-C	Method Blank	TCLP	Solid	EPA 6010C	302194
MB 180-302194/1-A	Method Blank	Total/NA	Solid	EPA 6010C	302194
LCS 180-302194/2-A	Lab Control Sample	Total/NA	Solid	EPA 6010C	302194

Analysis Batch: 302379

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100205-1	11187072-N.TREATMENT AREA #2	TCLP	Solid	EPA 7470A	302169
180-100205-3	11187072-N.TREATMENT AREA #3	TCLP	Solid	EPA 7470A	302169
180-100205-5	11187072-N.TREATMENT AREA #4	TCLP	Solid	EPA 7470A	302169
LB 180-301984/1-B	Method Blank	TCLP	Solid	EPA 7470A	302169
MB 180-302169/1-A	Method Blank	Total/NA	Solid	EPA 7470A	302169
LCS 180-302169/2-A	Lab Control Sample	Total/NA	Solid	EPA 7470A	302169

General Chemistry

Prep Batch: 302260

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100205-1	11187072-N.TREATMENT AREA #2	Total/NA	Solid	9030B	
180-100205-3	11187072-N.TREATMENT AREA #3	Total/NA	Solid	9030B	
180-100205-5	11187072-N.TREATMENT AREA #4	Total/NA	Solid	9030B	
MB 180-302260/1-A	Method Blank	Total/NA	Solid	9030B	
LCS 180-302260/2-A	Lab Control Sample	Total/NA	Solid	9030B	

Prep Batch: 302344

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100205-1	11187072-N.TREATMENT AREA #2	Total/NA	Solid	9010C	
180-100205-3	11187072-N.TREATMENT AREA #3	Total/NA	Solid	9010C	
180-100205-5	11187072-N.TREATMENT AREA #4	Total/NA	Solid	9010C	
MB 180-302344/4-A	Method Blank	Total/NA	Solid	9010C	
HLCS 180-302344/2-A	Lab Control Sample	Total/NA	Solid	9010C	
LCS 180-302344/3-A	Lab Control Sample	Total/NA	Solid	9010C	
LLCS 180-302344/1-A	Lab Control Sample	Total/NA	Solid	9010C	

Analysis Batch: 302414

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100205-1	11187072-N.TREATMENT AREA #2	Total/NA	Solid	EPA 9014	302344
180-100205-3	11187072-N.TREATMENT AREA #3	Total/NA	Solid	EPA 9014	302344
180-100205-5	11187072-N.TREATMENT AREA #4	Total/NA	Solid	EPA 9014	302344
MB 180-302344/4-A	Method Blank	Total/NA	Solid	EPA 9014	302344

General Chemistry (Continued)

Analysis Batch: 302414 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HLCS 180-302344/2-A	Lab Control Sample	Total/NA	Solid	EPA 9014	302344
LCS 180-302344/3-A	Lab Control Sample	Total/NA	Solid	EPA 9014	302344
LLCS 180-302344/1-A	Lab Control Sample	Total/NA	Solid	EPA 9014	302344

Analysis Batch: 302416

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100205-1	11187072-N.TREATMENT AREA #2	Total/NA	Solid	2540G	
180-100205-3	11187072-N.TREATMENT AREA #3	Total/NA	Solid	2540G	
180-100205-5	11187072-N.TREATMENT AREA #4	Total/NA	Solid	2540G	
180-100205-3 DU	11187072-N.TREATMENT AREA #3	Total/NA	Solid	2540G	
180-100205-5 DU	11187072-N.TREATMENT AREA #4	Total/NA	Solid	2540G	

Analysis Batch: 302491

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100205-1	11187072-N.TREATMENT AREA #2	Total/NA	Solid	EPA 9034	302260
180-100205-3	11187072-N.TREATMENT AREA #3	Total/NA	Solid	EPA 9034	302260
180-100205-5	11187072-N.TREATMENT AREA #4	Total/NA	Solid	EPA 9034	302260
MB 180-302260/1-A	Method Blank	Total/NA	Solid	EPA 9034	302260
LCS 180-302260/2-A	Lab Control Sample	Total/NA	Solid	EPA 9034	302260

Analysis Batch: 302956

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100205-1	11187072-N.TREATMENT AREA #2	Total/NA	Solid	EPA 9045D	
180-100205-3	11187072-N.TREATMENT AREA #3	Total/NA	Solid	EPA 9045D	
180-100205-5	11187072-N.TREATMENT AREA #4	Total/NA	Solid	EPA 9045D	
LCS 180-302956/1	Lab Control Sample	Total/NA	Solid	EPA 9045D	

Analysis Batch: 302977

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100205-1	11187072-N.TREATMENT AREA #2	Total/NA	Solid	EPA 1020B	
180-100205-3	11187072-N.TREATMENT AREA #3	Total/NA	Solid	EPA 1020B	
180-100205-5	11187072-N.TREATMENT AREA #4	Total/NA	Solid	EPA 1020B	

Analysis Batch: 303035

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-100205-1	11187072-N.TREATMENT AREA #2	Total/NA	Solid	EPA 9095B	
180-100205-3	11187072-N.TREATMENT AREA #3	Total/NA	Solid	EPA 9095B	
180-100205-5	11187072-N.TREATMENT AREA #4	Total/NA	Solid	EPA 9095B	

Lab Chronicle

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-100205-1

Client Sample ID: 11187072-N.TREATMENT AREA #2

Date Collected: 12/18/19 13:30
Date Received: 12/19/19 10:00

Lab Sample ID: 180-100205-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	EPA 1311			25.00 g	500 mL	302046	12/19/19 16:30	JAS	TAL PIT
TCLP	Analysis	EPA 8260C		1	0.125 mL	5 mL	302272	12/23/19 09:39	PJJ	TAL PIT
	Instrument ID:	CHHP4								
TCLP	Leach	EPA 1311			100.00 g	2000 mL	301984	12/19/19 16:30	JAS	TAL PIT
TCLP	Prep	3510C			200 mL	10.0 mL	302206	12/21/19 06:10	CBY	TAL PIT
TCLP	Analysis	EPA 8270D		1	1 mL	1 mL	302307	12/23/19 21:13	DLF	TAL PIT
	Instrument ID:	CH71								
TCLP	Leach	EPA 1311			100.00 g	2000 mL	301984	12/19/19 16:30	JAS	TAL PIT
TCLP	Prep	3510C			100 mL	40.0 mL	302205	12/21/19 05:15	CBY	TAL PIT
TCLP	Analysis	EPA 8081B		1			302301	12/24/19 03:07	DFE	TAL PIT
	Instrument ID:	CHGC15								
TCLP	Leach	EPA 1311			100.00 g	2000 mL	301984	12/19/19 16:30	JAS	TAL PIT
TCLP	Prep	3510C			1020 mL	40.0 mL	302202	12/21/19 02:15	CBY	TAL PIT
TCLP	Analysis	EPA 8082A		1			302855	12/31/19 01:11	JMO	TAL PIT
	Instrument ID:	CHGC16								
TCLP	Leach	EPA 1311			100.00 g	2000 mL	301984	12/19/19 16:30	JAS	TAL PIT
TCLP	Prep	8151A			100 mL	10.0 mL	302208	12/21/19 03:55	CBY	TAL PIT
TCLP	Analysis	EPA 8151A		20			302642	12/27/19 13:57	DFE	TAL PIT
	Instrument ID:	CGC1								
TCLP	Leach	1311			1.0 g	1.0 mL	481447	12/23/19 17:03	JSM	TAL DEN
TCLP	Prep	3535			234.7 mL	10 mL	481805	12/28/19 14:56	KSA	TAL DEN
TCLP	Analysis	8321A		1			482046	12/31/19 12:42	TMC	TAL DEN
	Instrument ID:	LC_LCMS3								
TCLP	Leach	1311			100.05 g	2000 mL	347820	12/26/19 15:00	DPM	TAL SAC
TCLP	Prep	HRMS-Sep			200.99 g	20 uL	348771	12/31/19 11:06	NR	TAL SAC
TCLP	Analysis	1613B		1			349283	01/07/20 02:35	AS	TAL SAC
	Instrument ID:	3D5								
TCLP	Leach	EPA 1311			100.00 g	2000 mL	301984	12/19/19 16:30	JAS	TAL PIT
TCLP	Prep	3010A			5 mL	50 mL	302194	12/20/19 19:27	MWW	TAL PIT
TCLP	Analysis	EPA 6010C		1			302329	12/23/19 10:47	RJG	TAL PIT
	Instrument ID:	C								
TCLP	Leach	EPA 1311			100.00 g	2000 mL	301984	12/19/19 16:30	JAS	TAL PIT
TCLP	Prep	7470A			50 mL	50 mL	302169	12/20/19 14:15	NAM	TAL PIT
TCLP	Analysis	EPA 7470A		1			302379	12/23/19 16:08	NAM	TAL PIT
	Instrument ID:	HGZ								
Total/NA	Analysis	2540G		1			302416	12/24/19 08:49	PMH	TAL PIT
	Instrument ID:	NOEQUIP								
Total/NA	Analysis	EPA 1020B		1			302977	12/31/19 09:37	AVS	TAL PIT
	Instrument ID:	NOEQUIP								
Total/NA	Analysis	EPA 9045D		1	20.0 g	20 mL	302956	12/31/19 10:49	MTW	TAL PIT
	Instrument ID:	NOEQUIP								
Total/NA	Analysis	EPA 9095B		1			303035	12/31/19 15:24	PMH	TAL PIT
	Instrument ID:	NOEQUIP								

Lab Chronicle

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-100205-1

Client Sample ID: 11187072-N.TREATMENT AREA #2

Lab Sample ID: 180-100205-1
Date Collected: 12/18/19 13:30
Matrix: Solid
Date Received: 12/19/19 10:00
Percent Solids: 71.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	9010C			1.03 g	50 mL	302344	12/23/19 13:28	BSH	TAL PIT
Total/NA	Analysis	EPA 9014		1			302414	12/23/19 21:27	BSH	TAL PIT
	Instrument ID: SEAL2									
Total/NA	Prep	9030B			5.05 g	50 mL	302260	12/23/19 12:30	CMR	TAL PIT
Total/NA	Analysis	EPA 9034		1			302491	12/23/19 14:50	CMR	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: 11187072-N.TREATMENT AREA #2

Lab Sample ID: 180-100205-2
Date Collected: 01/07/20 09:00
Matrix: Water
Date Received: 12/19/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8015 Prep			.5 mL	1 mL	512921	01/09/20 07:38	MAN	TAL BUF
Total/NA	Analysis	8015D		1			512922	01/09/20 09:38	MAN	TAL BUF
	Instrument ID: PE-01									

Client Sample ID: 11187072-N.TREATMENT AREA #3

Lab Sample ID: 180-100205-3
Date Collected: 12/18/19 14:00
Matrix: Solid
Date Received: 12/19/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	EPA 1311			25.00 g	500 mL	302046	12/19/19 16:30	JAS	TAL PIT
TCLP	Analysis	EPA 8260C		1	0.125 mL	5 mL	302272	12/23/19 10:05	PJJ	TAL PIT
	Instrument ID: CHHP4									
TCLP	Leach	EPA 1311			100.00 g	2000 mL	301984	12/19/19 16:30	JAS	TAL PIT
TCLP	Prep	3510C			200 mL	10.0 mL	302206	12/21/19 06:10	CBY	TAL PIT
TCLP	Analysis	EPA 8270D		1	1 mL	1 mL	302307	12/23/19 21:40	DLF	TAL PIT
	Instrument ID: CH71									
TCLP	Leach	EPA 1311			100.00 g	2000 mL	301984	12/19/19 16:30	JAS	TAL PIT
TCLP	Prep	3510C			100 mL	40.0 mL	302205	12/21/19 05:15	CBY	TAL PIT
TCLP	Analysis	EPA 8081B		1			302301	12/24/19 03:23	DFE	TAL PIT
	Instrument ID: CHGC15									
TCLP	Leach	EPA 1311			100.00 g	2000 mL	301984	12/19/19 16:30	JAS	TAL PIT
TCLP	Prep	3510C			1010 mL	40.0 mL	302202	12/21/19 02:15	CBY	TAL PIT
TCLP	Analysis	EPA 8082A		1			302855	12/31/19 01:29	JMO	TAL PIT
	Instrument ID: CHGC16									
TCLP	Leach	EPA 1311			100.00 g	2000 mL	301984	12/19/19 16:30	JAS	TAL PIT
TCLP	Prep	8151A			100 mL	10.0 mL	302208	12/21/19 03:55	CBY	TAL PIT
TCLP	Analysis	EPA 8151A		20			302642	12/27/19 14:22	DFE	TAL PIT
	Instrument ID: CGC1									
TCLP	Leach	1311			1.0 g	1.0 mL	481447	12/23/19 17:03	JSM	TAL DEN
TCLP	Prep	3535			257 mL	10 mL	481805	12/28/19 14:56	KSA	TAL DEN
TCLP	Analysis	8321A		1			482046	12/31/19 12:51	TMC	TAL DEN
	Instrument ID: LC_LCMS3									

Lab Chronicle

Client: GHD Services Inc.
Job ID: 180-100205-1
Project/Site: San Jacinto River Waste Pits Superfund

Client Sample ID: 11187072-N.TREATMENT AREA #3
Lab Sample ID: 180-100205-3

Date Collected: 12/18/19 14:00
Matrix: Solid
Date Received: 12/19/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			100.47 g	2000 mL	347820	12/26/19 15:00	DPM	TAL SAC
TCLP	Prep	HRMS-Sep			200.56 g	20 uL	348771	12/31/19 11:06	NR	TAL SAC
TCLP	Analysis	1613B		1			349283	01/07/20 03:23	AS	TAL SAC
	Instrument ID:	3D5								
TCLP	Leach	EPA 1311			100.00 g	2000 mL	301984	12/19/19 16:30	JAS	TAL PIT
TCLP	Prep	3010A			5 mL	50 mL	302194	12/20/19 19:27	MWW	TAL PIT
TCLP	Analysis	EPA 6010C		1			302329	12/23/19 10:52	RJG	TAL PIT
	Instrument ID:	C								
TCLP	Leach	EPA 1311			100.00 g	2000 mL	301984	12/19/19 16:30	JAS	TAL PIT
TCLP	Prep	7470A			50 mL	50 mL	302169	12/20/19 14:15	NAM	TAL PIT
TCLP	Analysis	EPA 7470A		1			302379	12/23/19 16:08	NAM	TAL PIT
	Instrument ID:	HGZ								
Total/NA	Analysis	2540G		1			302416	12/24/19 08:49	PMH	TAL PIT
	Instrument ID:	NOEQUIP								
Total/NA	Analysis	EPA 1020B		1			302977	12/31/19 09:37	AVS	TAL PIT
	Instrument ID:	NOEQUIP								
Total/NA	Analysis	EPA 9045D		1	20.0 g	20 mL	302956	12/31/19 10:50	MTW	TAL PIT
	Instrument ID:	NOEQUIP								
Total/NA	Analysis	EPA 9095B		1			303035	12/31/19 15:24	PMH	TAL PIT
	Instrument ID:	NOEQUIP								

Client Sample ID: 11187072-N.TREATMENT AREA #3
Lab Sample ID: 180-100205-3

Date Collected: 12/18/19 14:00
Matrix: Solid
Date Received: 12/19/19 10:00
Percent Solids: 67.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	9010C			1.00 g	50 mL	302344	12/23/19 13:28	BSH	TAL PIT
Total/NA	Analysis	EPA 9014		1			302414	12/23/19 21:29	BSH	TAL PIT
	Instrument ID:	SEAL2								
Total/NA	Prep	9030B			5.03 g	50 mL	302260	12/23/19 12:30	CMR	TAL PIT
Total/NA	Analysis	EPA 9034		1			302491	12/23/19 14:52	CMR	TAL PIT
	Instrument ID:	NOEQUIP								

Client Sample ID: 11187072-N.TREATMENT AREA #3
Lab Sample ID: 180-100205-4

Date Collected: 01/07/20 09:00
Matrix: Water
Date Received: 12/19/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8015 Prep			.5 mL	1 mL	512921	01/09/20 07:38	MAN	TAL BUF
Total/NA	Analysis	8015D		1			512922	01/09/20 10:34	MAN	TAL BUF
	Instrument ID:	PE-01								

Lab Chronicle

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 180-100205-1

Client Sample ID: 11187072-N.TREATMENT AREA #4

Lab Sample ID: 180-100205-5

Date Collected: 12/18/19 14:30

Matrix: Solid

Date Received: 12/19/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	EPA 1311			25.00 g	500 mL	302046	12/19/19 16:30	JAS	TAL PIT
TCLP	Analysis	EPA 8260C		1	0.125 mL	5 mL	302272	12/23/19 10:32	PJJ	TAL PIT
	Instrument ID:	CHHP4								
TCLP	Leach	EPA 1311			100.00 g	2000 mL	301984	12/19/19 16:30	JAS	TAL PIT
TCLP	Prep	3510C			200 mL	10.0 mL	302206	12/21/19 06:10	CBY	TAL PIT
TCLP	Analysis	EPA 8270D		1	1 mL	1 mL	302307	12/23/19 22:07	DLF	TAL PIT
	Instrument ID:	CH71								
TCLP	Leach	EPA 1311			100.00 g	2000 mL	301984	12/19/19 16:30	JAS	TAL PIT
TCLP	Prep	3510C			100 mL	40.0 mL	302205	12/21/19 05:15	CBY	TAL PIT
TCLP	Analysis	EPA 8081B		1			302301	12/24/19 03:38	DFE	TAL PIT
	Instrument ID:	CHGC15								
TCLP	Leach	EPA 1311			100.00 g	2000 mL	301984	12/19/19 16:30	JAS	TAL PIT
TCLP	Prep	3510C			1010 mL	40.0 mL	302202	12/21/19 02:15	CBY	TAL PIT
TCLP	Analysis	EPA 8082A		1			302855	12/31/19 01:48	JMO	TAL PIT
	Instrument ID:	CHGC16								
TCLP	Leach	EPA 1311			100.00 g	2000 mL	301984	12/19/19 16:30	JAS	TAL PIT
TCLP	Prep	8151A			100 mL	10.0 mL	302208	12/21/19 03:55	CBY	TAL PIT
TCLP	Analysis	EPA 8151A		20			302642	12/27/19 14:47	DFE	TAL PIT
	Instrument ID:	CGC1								
TCLP	Leach	1311			1.0 g	1.0 mL	481447	12/23/19 17:03	JSM	TAL DEN
TCLP	Prep	3535			243.9 mL	10 mL	481805	12/28/19 14:56	KSA	TAL DEN
TCLP	Analysis	8321A		1			482046	12/31/19 12:59	TMC	TAL DEN
	Instrument ID:	LC_LCMS3								
TCLP	Leach	1311			100.23 g	2000 mL	347820	12/26/19 15:00	DPM	TAL SAC
TCLP	Prep	HRMS-Sep			211.15 g	20 uL	348771	12/31/19 11:06	NR	TAL SAC
TCLP	Analysis	1613B		1			349283	01/07/20 04:10	AS	TAL SAC
	Instrument ID:	3D5								
TCLP	Leach	EPA 1311			100.00 g	2000 mL	301984	12/19/19 16:30	JAS	TAL PIT
TCLP	Prep	3010A			5 mL	50 mL	302194	12/20/19 19:27	MWW	TAL PIT
TCLP	Analysis	EPA 6010C		1			302329	12/23/19 10:58	RJG	TAL PIT
	Instrument ID:	C								
TCLP	Leach	EPA 1311			100.00 g	2000 mL	301984	12/19/19 16:30	JAS	TAL PIT
TCLP	Prep	7470A			50 mL	50 mL	302169	12/20/19 14:15	NAM	TAL PIT
TCLP	Analysis	EPA 7470A		1			302379	12/23/19 16:09	NAM	TAL PIT
	Instrument ID:	HGZ								
Total/NA	Analysis	2540G		1			302416	12/24/19 08:49	PMH	TAL PIT
	Instrument ID:	NOEQUIP								
Total/NA	Analysis	EPA 1020B		1			302977	12/31/19 09:37	AVS	TAL PIT
	Instrument ID:	NOEQUIP								
Total/NA	Analysis	EPA 9045D		1	20.0 g	20 mL	302956	12/31/19 10:51	MTW	TAL PIT
	Instrument ID:	NOEQUIP								
Total/NA	Analysis	EPA 9095B		1			303035	12/31/19 15:24	PMH	TAL PIT
	Instrument ID:	NOEQUIP								

Lab Chronicle

Client: GHD Services Inc.
Job ID: 180-100205-1
Project/Site: San Jacinto River Waste Pits Superfund

Client Sample ID: 11187072-N.TREATMENT AREA #4
Lab Sample ID: 180-100205-5

Date Collected: 12/18/19 14:30
Matrix: Solid
Date Received: 12/19/19 10:00
Percent Solids: 66.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	9010C			1.02 g	50 mL	302344	12/23/19 13:28	BSH	TAL PIT
Total/NA	Analysis	EPA 9014		1			302414	12/23/19 21:31	BSH	TAL PIT
	Instrument ID: SEAL2									
Total/NA	Prep	9030B			5.01 g	50 mL	302260	12/23/19 12:30	CMR	TAL PIT
Total/NA	Analysis	EPA 9034		1			302491	12/23/19 14:54	CMR	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: 11187072-N.TREATMENT AREA #4
Lab Sample ID: 180-100205-6

Date Collected: 01/07/20 09:00
Matrix: Water
Date Received: 12/19/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8015 Prep			.5 mL	1 mL	512921	01/09/20 07:38	MAN	TAL BUF
Total/NA	Analysis	8015D		1			512922	01/09/20 10:52	MAN	TAL BUF
	Instrument ID: PE-01									

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600
TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058
TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Analyst References:

Lab: TAL BUF
- Batch Type: Prep
  - MAN = Mary Neary
- Batch Type: Analysis
  - MAN = Mary Neary

Lab: TAL DEN
- Batch Type: Leach
  - JSM = Jerimie Meadows
- Batch Type: Prep
  - KSA = Kayla Anders
- Batch Type: Analysis
  - TMC = Taylor Cooper

Lab: TAL PIT
- Batch Type: Leach
  - JAS = Jeremy Stundon
- Batch Type: Prep
  - BSH = Brandon Hough
  - CBY = Charles Yushinski
  - CMR = Carl Reagle
  - MWW = Margaret Wanyoike
  - NAM = Nicole Marfisi
- Batch Type: Analysis
  - AVS = Abbey Smith
  - BSH = Brandon Hough
  - CMR = Carl Reagle
  - DFE = David Eppinger
  - DLF = Donald Ferguson
  - JMO = John Oravec
  - MTW = Michael Wesoloski
  - NAM = Nicole Marfisi
  - PJJ = Patrick Journet
  - PMH = Paloma Hoelzle
  - RJG = Rob Good

Lab: TAL SAC
- Batch Type: Leach
  - DPM = Dmitry Melnik
- Batch Type: Prep
  - NR = Noe Ruiz
- Batch Type: Analysis
  - AS = Ajay Sharda

Accreditation/Certification Summary

Client: GHD Services Inc. Job ID: 180-100205-1
Project/Site: San Jacinto River Waste Pits Superfund

Laboratory: Eurofins TestAmerica, Pittsburgh

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704528-15-2	03-31-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
EPA 8151A	8151A	Solid	Dinoseb

Laboratory: Eurofins TestAmerica, Buffalo

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	88-0686	07-06-20
California	State	2931	04-01-20
Connecticut	State	PH-0568	09-30-20
Florida	NELAP	E87672	06-30-20
Georgia	State	10026 (NY)	03-31-20
Georgia (DW)	State	956	03-31-20
Illinois	NELAP	200003	09-30-20
Iowa	State	374	02-28-21
Kansas	NELAP	E-10187	01-31-20
Kentucky (DW)	State	90029	12-31-20
Kentucky (UST)	State	30	03-31-20
Kentucky (WW)	State	KY90029	12-31-20
Louisiana	NELAP	02031	06-30-20
Maine	State	NY00044	12-04-20
Maryland	State	294	03-31-20
Massachusetts	State	M-NY044	06-30-20
Michigan	State	9937	03-31-20
Minnesota	NELAP	1524384	12-31-20
New Hampshire	NELAP	2337	03-12-20
New Jersey	NELAP	NY455	06-30-20
New York	NELAP	10026	04-01-20
North Dakota	State	R-176	03-31-20
Oklahoma	State	9421	09-01-20
Oregon	NELAP	NY200003	06-10-20
Pennsylvania	NELAP	68-00281	07-31-20
Rhode Island	State	LAO00328	12-30-20
Tennessee	State	02970	03-31-20
Texas	NELAP	T104704412-18-10	08-01-20
USDA	US Federal Programs	P330-18-00039	02-06-21
Virginia	NELAP	460185	09-14-20
Washington	State	C784	02-10-20
Wisconsin	State	998310390	08-31-20

Accreditation/Certification Summary

Client: GHD Services Inc. Job ID: 180-100205-1
Project/Site: San Jacinto River Waste Pits Superfund

Laboratory: Eurofins TestAmerica, Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-21
A2LA	ISO/IEC 17025	2907.01	10-31-21
Alabama	State Program	40730	09-30-12 *
Arizona	State	AZ0713	12-20-20
Arkansas DEQ	State	19-047-0	05-31-20
Connecticut	State	PH-0686	09-30-20
Florida	NELAP	E87667-57	06-30-20
Georgia	State	4025-011	01-08-20
Illinois	NELAP	2000172019-1	04-13-20
Iowa	State	IA#370	12-01-20
Kansas	NELAP	E-10166	04-30-20
Louisiana	NELAP	30785	06-30-20
Maine	State	2019011 (231)	03-03-21
Minnesota	NELAP	1788752	12-31-20
Nevada	State	CO000262020-1	02-26-20
New Hampshire	NELAP	205319	04-28-20
New Jersey	NELAP	190002	06-30-20
North Dakota	State	R-034	01-08-20
Oklahoma	State	2018-006	08-31-20
Pennsylvania	NELAP	013	08-01-20
South Carolina	State	72002001	01-08-20
Texas	NELAP	T104704183-19-17	09-30-20
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	US Federal Programs	P330-18-00099	03-26-21
Utah	NELAP	CO000262019-11	07-31-20
Virginia	NELAP	10490	06-14-20
Washington	State	C583-19	08-05-20
West Virginia DEP	State	354	11-30-20
Wisconsin	State	999615430	08-31-20
Wyoming (UST)	A2LA	2907.01	10-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

Client: GHD Services Inc. Job ID: 180-100205-1
Project/Site: San Jacinto River Waste Pits Superfund

Laboratory: Eurofins TestAmerica, Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704399	05-31-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1613B	HRMS-Sep	Solid	1,2,3,4,6,7,8-HpCDD
1613B	HRMS-Sep	Solid	1,2,3,4,6,7,8-HpCDF
1613B	HRMS-Sep	Solid	1,2,3,4,7,8,9-HpCDF
1613B	HRMS-Sep	Solid	1,2,3,4,7,8-HxCDD
1613B	HRMS-Sep	Solid	1,2,3,4,7,8-HxCDF
1613B	HRMS-Sep	Solid	1,2,3,6,7,8-HxCDD
1613B	HRMS-Sep	Solid	1,2,3,6,7,8-HxCDF
1613B	HRMS-Sep	Solid	1,2,3,7,8,9-HxCDD
1613B	HRMS-Sep	Solid	1,2,3,7,8,9-HxCDF
1613B	HRMS-Sep	Solid	1,2,3,7,8-PeCDD
1613B	HRMS-Sep	Solid	1,2,3,7,8-PeCDF
1613B	HRMS-Sep	Solid	2,3,4,6,7,8-HxCDF
1613B	HRMS-Sep	Solid	2,3,4,7,8-PeCDF
1613B	HRMS-Sep	Solid	2,3,7,8-TCDD
1613B	HRMS-Sep	Solid	2,3,7,8-TCDF
1613B	HRMS-Sep	Solid	OCDD
1613B	HRMS-Sep	Solid	OCDF
1613B	HRMS-Sep	Solid	Total HpCDD
1613B	HRMS-Sep	Solid	Total HpCDF
1613B	HRMS-Sep	Solid	Total HxCDD
1613B	HRMS-Sep	Solid	Total HxCDF
1613B	HRMS-Sep	Solid	Total PeCDD
1613B	HRMS-Sep	Solid	Total PeCDF
1613B	HRMS-Sep	Solid	Total TCDD
1613B	HRMS-Sep	Solid	Total TCDF

Method Summary

Client: GHD Services Inc.
Job ID: 180-100205-1
Project/Site: San Jacinto River Waste Pits Superfund

Method	Method Description	Protocol	Laboratory
EPA 8260C	Volatile Organic Compounds by GC/MS	SW846	TAL PIT
EPA 8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PIT
8015D	Glycols- Direct Injection (GC/FID)	SW846	TAL BUF
EPA 8081B	Organochlorine Pesticides (GC)	SW846	TAL PIT
EPA 8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL PIT
EPA 8151A	Herbicides (GC)	SW846	TAL PIT
8321A	Carbamates (LC/MS)	SW846	TAL DEN
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	TAL SAC
TEQ	Total TEQ Calculation	TAL SOP	TAL SAC
EPA 6010C	Metals (ICP)	SW846	TAL PIT
EPA 7470A	Mercury (CVAA)	SW846	TAL PIT
2540G	SM 2540G	SM22	TAL PIT
EPA 1020B	Ignitability, Small Scale Closed-Cup Method	SW846	TAL PIT
EPA 9014	Cyanide	SW846	TAL PIT
EPA 9034	Sulfide, Acid soluble and Insoluble (Titrimetric)	SW846	TAL PIT
EPA 9045D	pH	SW846	TAL PIT
EPA 9095B	Paint Filter	SW846	TAL PIT
1311	TCLP Extraction	SW846	TAL DEN
1311	TCLP Extraction	SW846	TAL SAC
3010A	Preparation, Total Metals	SW846	TAL PIT
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL PIT
3535	Solid-Phase Extraction (SPE)	SW846	TAL DEN
5030C	Purge and Trap	SW846	TAL PIT
7470A	Preparation, Mercury	SW846	TAL PIT
8015 Prep	8015 Direct Injection Prep (Aqueous)	SW846	TAL BUF
8151A	Extraction (Herbicides)	SW846	TAL PIT
9010C	Cyanide, Distillation	SW846	TAL PIT
9030B	Sulfide, Distillation (Acid Soluble and Insoluble)	SW846	TAL PIT
EPA 1311	TCLP Extraction	SW846	TAL PIT
HRMS-Sep	Separatory Funnel (Liquid-Liquid) Extraction	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency
SM22 = Standard Methods For The Examination Of Water And Wastewater, 22nd Edition
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600
TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058
TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GHD Services Inc.
Job ID: 180-100205-1
Project/Site: San Jacinto River Waste Pits Superfund

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-100205-1	11187072-N.TREATMENT AREA #2	Solid	12/18/19 13:30	12/19/19 10:00	
180-100205-2	11187072-N.TREATMENT AREA #2	Water	01/07/20 09:00	12/19/19 10:00	
180-100205-3	11187072-N.TREATMENT AREA #3	Solid	12/18/19 14:00	12/19/19 10:00	
180-100205-4	11187072-N.TREATMENT AREA #3	Water	01/07/20 09:00	12/19/19 10:00	
180-100205-5	11187072-N.TREATMENT AREA #4	Solid	12/18/19 14:30	12/19/19 10:00	
180-100205-6	11187072-N.TREATMENT AREA #4	Water	01/07/20 09:00	12/19/19 10:00	

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-100205-1

SDG No.:

Instrument ID: CHHP4 Analysis Batch Number: 271562

Lab Sample ID: IC 180-271562/18 Client Sample ID:

Date Analyzed: 02/28/19 14:12 Lab File ID: 40222818.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
n-Butanol	7.67	Poor chromatography	journetp	03/11/19 15:36

EPA 8260C

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-100205-1

SDG No.:

Instrument ID: CHHP4 Analysis Batch Number: 298171

Lab Sample ID: IC 180-298171/2 Client Sample ID:

Date Analyzed: 11/14/19 07:36 Lab File ID: 41114002.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dichlorodifluoromethane	1.61	Poor chromatography	journetp	11/14/19 08:10
Chloromethane	1.77	Poor chromatography	journetp	11/14/19 08:10
Vinyl chloride	1.90	Poor chromatography	journetp	11/14/19 08:29
1,3-Butadiene	1.95	Poor chromatography	journetp	11/14/19 08:10
Bromomethane	2.28	Poor chromatography	journetp	11/14/19 08:10
Chloroethane	2.47	Poor chromatography	journetp	11/14/19 08:11
Trichlorofluoromethane	2.55	Poor chromatography	journetp	11/14/19 08:10
Dichlorofluoromethane	2.67	Poor chromatography	journetp	11/14/19 08:10
1,1,2-Trichloro-1,2,2-trifluoroethane	3.42	Poor chromatography	journetp	11/14/19 08:10
Carbon disulfide	3.48	Poor chromatography	journetp	11/14/19 08:10
Allyl chloride	3.75	Poor chromatography	journetp	11/14/19 08:11
Methyl acetate	3.79	Poor chromatography	journetp	11/14/19 08:11
2,2-Dichloropropane	5.79	Poor chromatography	journetp	11/14/19 08:11
2-Butanone (MEK)	5.82	Poor chromatography	journetp	11/14/19 08:11
Isobutyl alcohol	6.80	Poor chromatography	journetp	11/14/19 08:11
1,4-Dioxane	7.91	Poor chromatography	journetp	11/14/19 08:29

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-100205-1

SDG No.:

Instrument ID: CHHP4 Analysis Batch Number: 298171

Lab Sample ID: IC 180-298171/3 Client Sample ID:

Date Analyzed: 11/14/19 08:02 Lab File ID: 41114003.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dichlorodifluoromethane	1.62	Poor chromatography	journetp	11/14/19 09:54
Vinyl chloride	1.89	Poor chromatography	journetp	11/14/19 09:54
1,3-Butadiene	1.98	Poor chromatography	journetp	11/14/19 08:27
Bromomethane	2.29	Poor chromatography	journetp	11/14/19 08:27
Chloroethane	2.44	Poor chromatography	journetp	11/14/19 08:27
Trichlorofluoromethane	2.56	Poor chromatography	journetp	11/14/19 08:27
Dichlorofluoromethane	2.68	Poor chromatography	journetp	11/14/19 08:28
1,1,2-Trichloro-1,2,2-trifluoroethane	3.44	Poor chromatography	journetp	11/14/19 08:28
Carbon disulfide	3.50	Poor chromatography	journetp	11/14/19 08:28
Methyl acetate	3.80	Poor chromatography	journetp	11/14/19 08:28

Lab Sample ID: IC 180-298171/4 Client Sample ID:

Date Analyzed: 11/14/19 08:29 Lab File ID: 41114004.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloromethane	1.78	Poor chromatography	journetp	11/14/19 08:53
Vinyl chloride	1.92	Poor chromatography	journetp	11/14/19 08:53
1,3-Butadiene	1.97	Poor chromatography	journetp	11/14/19 08:53
Bromomethane	2.27	Poor chromatography	journetp	11/14/19 08:53
Chloroethane	2.44	Poor chromatography	journetp	11/14/19 08:53
Trichlorofluoromethane	2.55	Poor chromatography	journetp	11/14/19 08:53
Dichlorofluoromethane	2.68	Poor chromatography	journetp	11/14/19 08:53
1,1-Dichloroethene	3.21	Poor chromatography	journetp	11/14/19 13:02
1,1,2-Trichloro-1,2,2-trifluoroethane	3.45	Poor chromatography	journetp	11/14/19 08:54
Carbon disulfide	3.49	Poor chromatography	journetp	11/14/19 08:54
4-Methyl-2-pentanone (MIBK)	8.70	Poor chromatography	journetp	11/14/19 13:04

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-100205-1

SDG No.:

Instrument ID: CHHP4 Analysis Batch Number: 298171

Lab Sample ID: ICIS 180-298171/5 Client Sample ID:

Date Analyzed: 11/14/19 11:09 Lab File ID: 41114005.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloromethane	1.79	Poor chromatography	journetp	11/14/19 11:46
Vinyl chloride	1.92	Poor chromatography	journetp	11/14/19 11:46
1,3-Butadiene	1.95	Poor chromatography	journetp	11/14/19 11:46
Bromomethane	2.27	Poor chromatography	journetp	11/14/19 11:46
Chloroethane	2.44	Poor chromatography	journetp	11/14/19 11:46
Trichlorofluoromethane	2.67	Poor chromatography	journetp	11/14/19 11:47
1,1,2-Trichloro-1,2,2-trifluoroethane	3.41	Poor chromatography	journetp	11/14/19 11:47
Carbon disulfide	3.49	Poor chromatography	journetp	11/14/19 11:47
1,4-Dioxane	7.91	Poor chromatography	journetp	11/14/19 13:54
4-Methyl-2-pentanone (MIBK)	8.70	Poor chromatography	journetp	11/14/19 13:57

Lab Sample ID: IC 180-298171/6 Client Sample ID:

Date Analyzed: 11/14/19 11:35 Lab File ID: 41114006.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dichlorodifluoromethane	1.60	Poor chromatography	journetp	11/14/19 11:58
Chloromethane	1.80	Poor chromatography	journetp	11/14/19 11:58
Vinyl chloride	1.91	Poor chromatography	journetp	11/14/19 11:58
1,3-Butadiene	1.96	Poor chromatography	journetp	11/14/19 11:59
Bromomethane	2.27	Poor chromatography	journetp	11/14/19 11:59
Chloroethane	2.44	Poor chromatography	journetp	11/14/19 11:59
Dichlorofluoromethane	2.68	Poor chromatography	journetp	11/14/19 11:59
Trichlorofluoromethane	2.68	Poor chromatography	journetp	11/14/19 11:59
1,1-Dichloroethene	3.21	Poor chromatography	journetp	11/14/19 13:00
1,1,2-Trichloro-1,2,2-trifluoroethane	3.42	Poor chromatography	journetp	11/14/19 11:59
Carbon disulfide	3.50	Poor chromatography	journetp	11/14/19 11:59

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-100205-1

SDG No.:

Instrument ID: CHHP4 Analysis Batch Number: 298171

Lab Sample ID: IC 180-298171/7 Client Sample ID:

Date Analyzed: 11/14/19 12:18 Lab File ID: 41114007.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloromethane	1.78	Poor chromatography	journetp	11/14/19 12:58
Vinyl chloride	1.92	Poor chromatography	journetp	11/14/19 12:57
Chloroethane	2.44	Poor chromatography	journetp	11/14/19 12:52
Trichlorofluoromethane	2.56	Poor chromatography	journetp	11/14/19 13:40
1,1,2-Trichloro-1,2,2-trifluoroethane	3.43	Poor chromatography	journetp	11/14/19 13:40
Carbon disulfide	3.50	Poor chromatography	journetp	11/14/19 13:40
4-Methyl-2-pentanone (MIBK)	8.70	Poor chromatography	journetp	11/14/19 13:04

Lab Sample ID: IC 180-298171/8 Client Sample ID:

Date Analyzed: 11/14/19 12:45 Lab File ID: 41114008.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dichlorodifluoromethane	1.66	Poor chromatography	journetp	11/14/19 13:41
Chloromethane	1.79	Poor chromatography	journetp	11/14/19 13:41
Vinyl chloride	1.91	Poor chromatography	journetp	11/14/19 13:41
Chloroethane	2.45	Poor chromatography	journetp	11/14/19 13:41
Trichlorofluoromethane	2.55	Poor chromatography	journetp	11/14/19 13:42
Dichlorofluoromethane	2.68	Poor chromatography	journetp	11/14/19 13:42
1,1-Dichloroethene	3.22	Poor chromatography	journetp	11/14/19 13:42
1,1,2-Trichloro-1,2,2-trifluoroethane	3.43	Poor chromatography	journetp	11/14/19 13:42
Carbon disulfide	3.50	Poor chromatography	journetp	11/14/19 13:42
TBA-d9 (IS)	4.12	Poor chromatography	journetp	11/14/19 13:41

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-100205-1

SDG No.:

Instrument ID: CHHP4 Analysis Batch Number: 302272

Lab Sample ID: CCVIS 180-302272/2 Client Sample ID:

Date Analyzed: 12/23/19 06:57 Lab File ID: 4122302.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloromethane	1.91	Poor chromatography	journetp	12/23/19 07:35
Vinyl chloride	1.94	Poor chromatography	journetp	12/23/19 07:34
1,3-Butadiene	1.96	Poor chromatography	journetp	12/23/19 07:35
Bromomethane	2.26	Poor chromatography	journetp	12/23/19 07:35
Chloroethane	2.44	Poor chromatography	journetp	12/23/19 07:35
Trichlorofluoromethane	2.55	Poor chromatography	journetp	12/23/19 07:35
Dichlorofluoromethane	2.67	Poor chromatography	journetp	12/23/19 07:35
1,1-Dichloroethene	3.22	Poor chromatography	journetp	12/23/19 07:36
Iodomethane	3.41	Poor chromatography	journetp	12/23/19 07:36
1,1,2-Trichloro-1,2,2-trifluoroethane	3.45	Poor chromatography	journetp	12/23/19 07:37
Carbon disulfide	3.49	Poor chromatography	journetp	12/23/19 07:37
Methylene Chloride	3.99	Poor chromatography	journetp	12/23/19 07:37
1,1,1-Trichloroethane	6.40	Poor chromatography	journetp	12/23/19 07:40
Cyclohexane	6.47	Poor chromatography	journetp	12/23/19 07:40

Lab Sample ID: CCV 180-302272/3 Client Sample ID:

Date Analyzed: 12/23/19 07:23 Lab File ID: 4122303.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acetonitrile	3.72	Poor chromatography	journetp	12/23/19 09:21
Tert-butyl ethyl ether	5.63	Poor chromatography	journetp	12/23/19 09:21

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-100205-1

SDG No.:

Instrument ID: CHHP4 Analysis Batch Number: 302272

Lab Sample ID: LCS 180-302272/4 Client Sample ID:

Date Analyzed: 12/23/19 07:53 Lab File ID: 4122304.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dichlorodifluoromethane	1.62	Poor chromatography	journetp	12/23/19 09:23
Vinyl chloride	1.94	Poor chromatography	journetp	12/23/19 09:23
Bromomethane	2.29	Poor chromatography	journetp	12/23/19 09:24
Trichlorofluoromethane	2.55	Poor chromatography	journetp	12/23/19 09:24
1,1-Dichloroethene	3.21	Poor chromatography	journetp	12/23/19 09:25
Carbon disulfide	3.49	Poor chromatography	journetp	12/23/19 09:25
Methylene Chloride	3.98	Poor chromatography	journetp	12/23/19 09:25
1,1,1-Trichloroethane	6.40	Poor chromatography	journetp	12/23/19 09:26

EPA 8260C

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-100205-1

SDG No.:

Instrument ID: CHHP4 Analysis Batch Number: 302272

Lab Sample ID: LB 180-302046/1-A Client Sample ID:

Date Analyzed: 12/23/19 09:12 Lab File ID: 4122307.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acetone	3.32	Invalid Compound ID	journetp	12/23/19 09:44
Methylene Chloride	3.98	Poor chromatography	journetp	12/24/19 10:11
Chloroform	6.24	Invalid Compound ID	journetp	12/23/19 09:44
1,1,1,2-Tetrachloroethane		Invalid Compound ID	journetp	12/23/19 09:44
1,1,1-Trichloroethane		Invalid Compound ID	journetp	12/23/19 09:44
1,1,2,2-Tetrachloroethane		Invalid Compound ID	journetp	12/23/19 09:44
1,1,2-Trichloroethane		Invalid Compound ID	journetp	12/23/19 09:44
1,1-Dichloroethene		Invalid Compound ID	journetp	12/23/19 09:44
1,2,3-Trichloropropane		Invalid Compound ID	journetp	12/23/19 09:44
1,2-Dibromoethane		Invalid Compound ID	journetp	12/23/19 09:44
1,2-Dichloroethane		Invalid Compound ID	journetp	12/23/19 09:44
1,4-Dichlorobenzene		Invalid Compound ID	journetp	12/23/19 09:44
2-Butanone (MEK)		Invalid Compound ID	journetp	12/23/19 09:44
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	journetp	12/23/19 09:44
Acetonitrile		Invalid Compound ID	journetp	12/23/19 09:44
Acrylonitrile		Invalid Compound ID	journetp	12/23/19 09:44
Benzene		Invalid Compound ID	journetp	12/23/19 09:44
Bromoform		Invalid Compound ID	journetp	12/23/19 09:44
Bromomethane		Invalid Compound ID	journetp	12/23/19 09:44
Carbon disulfide		Invalid Compound ID	journetp	12/23/19 09:44
Carbon tetrachloride		Invalid Compound ID	journetp	12/23/19 09:44
Chlorobenzene		Invalid Compound ID	journetp	12/23/19 09:44
cis-1,3-Dichloropropene		Invalid Compound ID	journetp	12/23/19 09:44
Dichlorobromomethane		Invalid Compound ID	journetp	12/23/19 09:44
Dichlorodifluoromethane		Invalid Compound ID	journetp	12/23/19 09:44
Ethylbenzene		Invalid Compound ID	journetp	12/23/19 09:44
Hexachlorobutadiene		Invalid Compound ID	journetp	12/23/19 09:44
Isobutyl alcohol		Invalid Compound ID	journetp	12/23/19 09:44
Methacrylonitrile		Invalid Compound ID	journetp	12/23/19 09:44
m-Xylene & p-Xylene		Invalid Compound ID	journetp	12/23/19 09:44

EPA 8260C

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-100205-1

SDG No.:

Instrument ID: CHHP4 Analysis Batch Number: 302272

Lab Sample ID: LB 180-302046/1-A Client Sample ID:

Date Analyzed: 12/23/19 09:12 Lab File ID: 4122307.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
o-Xylene		Invalid Compound ID	journetp	12/23/19 09:44
Styrene		Invalid Compound ID	journetp	12/23/19 09:44
Tetrachloroethene		Invalid Compound ID	journetp	12/23/19 09:44
Toluene		Invalid Compound ID	journetp	12/23/19 09:44
trans-1,3-Dichloropropene		Invalid Compound ID	journetp	12/23/19 09:44
Trichloroethene		Invalid Compound ID	journetp	12/23/19 09:44
Trichlorofluoromethane		Invalid Compound ID	journetp	12/23/19 09:44
Vinyl chloride		Invalid Compound ID	journetp	12/23/19 09:44

EPA 8260C

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-100205-1

SDG No.:

Instrument ID: CHHP4 Analysis Batch Number: 302272

Lab Sample ID: 180-100205-1 Client Sample ID: 11187072-N.TREATMENT AREA #2

Date Analyzed: 12/23/19 09:39 Lab File ID: 4122308.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,1,2-Trichloroethane		Invalid Compound ID	journetp	12/24/19 10:13
1,1-Dichloroethene		Invalid Compound ID	journetp	12/24/19 10:11
1,2-Dibromoethane		Invalid Compound ID	journetp	12/24/19 10:13
1,2-Dichloroethane		Invalid Compound ID	journetp	12/24/19 10:12
1,4-Dichlorobenzene		Invalid Compound ID	journetp	12/24/19 10:13
2-Butanone (MEK)		Invalid Compound ID	journetp	12/24/19 10:12
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	journetp	12/24/19 10:12
Acetonitrile		Invalid Compound ID	journetp	12/24/19 10:12
Acrylonitrile		Invalid Compound ID	journetp	12/24/19 10:12
Benzene		Invalid Compound ID	journetp	12/24/19 10:12
Bromomethane		Invalid Compound ID	journetp	12/24/19 10:11
Carbon disulfide		Invalid Compound ID	journetp	12/24/19 10:12
cis-1,3-Dichloropropene		Invalid Compound ID	journetp	12/24/19 10:12
Dichlorobromomethane		Invalid Compound ID	journetp	12/24/19 10:12
Dichlorodifluoromethane		Invalid Compound ID	journetp	12/24/19 10:11
Ethylbenzene		Invalid Compound ID	journetp	12/24/19 10:13
Hexachlorobutadiene		Invalid Compound ID	journetp	12/24/19 10:13
Isobutyl alcohol		Invalid Compound ID	journetp	12/24/19 10:12
Methacrylonitrile		Invalid Compound ID	journetp	12/24/19 10:12
m-Xylene & p-Xylene		Invalid Compound ID	journetp	12/24/19 10:13
o-Xylene		Invalid Compound ID	journetp	12/24/19 10:13
Styrene		Invalid Compound ID	journetp	12/24/19 10:13
Toluene		Invalid Compound ID	journetp	12/24/19 10:13
Trichlorofluoromethane		Invalid Compound ID	journetp	12/24/19 10:11
Vinyl chloride		Invalid Compound ID	journetp	12/24/19 10:11

EPA 8260C

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-100205-1

SDG No.:

Instrument ID: CHHP4 Analysis Batch Number: 302272

Lab Sample ID: 180-100205-3 Client Sample ID: 11187072-N.TREATMENT AREA #3

Date Analyzed: 12/23/19 10:05 Lab File ID: 4122309.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,1,1,2-Tetrachloroethane		Invalid Compound ID	journetp	12/24/19 10:14
1,1,2,2-Tetrachloroethane		Invalid Compound ID	journetp	12/24/19 10:14
1,1,2-Trichloroethane		Invalid Compound ID	journetp	12/24/19 10:14
1,2-Dichloroethane		Invalid Compound ID	journetp	12/24/19 10:13
1,4-Dichlorobenzene		Invalid Compound ID	journetp	12/24/19 10:14
2-Butanone (MEK)		Invalid Compound ID	journetp	12/24/19 10:13
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	journetp	12/24/19 10:13
Acetonitrile		Invalid Compound ID	journetp	12/24/19 10:13
Benzene		Invalid Compound ID	journetp	12/24/19 10:13
Bromomethane		Invalid Compound ID	journetp	12/24/19 10:13
Dichlorodifluoromethane		Invalid Compound ID	journetp	12/24/19 10:13
Ethylbenzene		Invalid Compound ID	journetp	12/24/19 10:14
Hexachlorobutadiene		Invalid Compound ID	journetp	12/24/19 10:14
Isobutyl alcohol		Invalid Compound ID	journetp	12/24/19 10:13
Methacrylonitrile		Invalid Compound ID	journetp	12/24/19 10:13
m-Xylene & p-Xylene		Invalid Compound ID	journetp	12/24/19 10:14
o-Xylene		Invalid Compound ID	journetp	12/24/19 10:14
Styrene		Invalid Compound ID	journetp	12/24/19 10:14
Toluene		Invalid Compound ID	journetp	12/24/19 10:14
Trichloroethene		Invalid Compound ID	journetp	12/24/19 10:13
Vinyl chloride		Invalid Compound ID	journetp	12/24/19 10:13

EPA 8260C

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-100205-1

SDG No.:

Instrument ID: CHHP4 Analysis Batch Number: 302272

Lab Sample ID: 180-100205-5 Client Sample ID: 11187072-N.TREATMENT AREA #4

Date Analyzed: 12/23/19 10:32 Lab File ID: 4122310.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acetone	3.32	Poor chromatography	journetp	12/24/19 10:14
1,1,1,2-Tetrachloroethane		Invalid Compound ID	journetp	12/24/19 10:15
1,1,2,2-Tetrachloroethane		Invalid Compound ID	journetp	12/24/19 10:15
1,1,2-Trichloroethane		Invalid Compound ID	journetp	12/24/19 10:15
1,2,3-Trichloropropane		Invalid Compound ID	journetp	12/24/19 10:15
1,2-Dibromoethane		Invalid Compound ID	journetp	12/24/19 10:15
1,2-Dichloroethane		Invalid Compound ID	journetp	12/24/19 10:15
1,4-Dichlorobenzene		Invalid Compound ID	journetp	12/24/19 10:15
2-Butanone (MEK)		Invalid Compound ID	journetp	12/24/19 10:14
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	journetp	12/24/19 10:15
Acetonitrile		Invalid Compound ID	journetp	12/24/19 10:14
Benzene		Invalid Compound ID	journetp	12/24/19 10:15
Bromoform		Invalid Compound ID	journetp	12/24/19 10:15
Bromomethane		Invalid Compound ID	journetp	12/24/19 10:14
Chlorobenzene		Invalid Compound ID	journetp	12/24/19 10:15
Dichlorodifluoromethane		Invalid Compound ID	journetp	12/24/19 10:14
Ethylbenzene		Invalid Compound ID	journetp	12/24/19 10:15
Hexachlorobutadiene		Invalid Compound ID	journetp	12/24/19 10:15
Isobutyl alcohol		Invalid Compound ID	journetp	12/24/19 10:15
Methacrylonitrile		Invalid Compound ID	journetp	12/24/19 10:14
m-Xylene & p-Xylene		Invalid Compound ID	journetp	12/24/19 10:15
o-Xylene		Invalid Compound ID	journetp	12/24/19 10:15
Styrene		Invalid Compound ID	journetp	12/24/19 10:15
Tetrachloroethene		Invalid Compound ID	journetp	12/24/19 10:15
Toluene		Invalid Compound ID	journetp	12/24/19 10:15
Vinyl chloride		Invalid Compound ID	journetp	12/24/19 10:14

EPA 8260C

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-100205-1

SDG No.:

Instrument ID: CHHP4 Analysis Batch Number: 302272

Lab Sample ID: 180-100205-1 MS Client Sample ID: 11187072-N.TREATMENT AREA #2 MS

Date Analyzed: 12/23/19 12:15 Lab File ID: 4122314.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Vinyl chloride	1.98	Poor chromatography	journetp	12/24/19 10:31
Bromomethane	2.23	Poor chromatography	journetp	12/24/19 10:31
Methylene Chloride	4.00	Poor chromatography	journetp	12/24/19 10:32
1,1,1-Trichloroethane	6.40	Poor chromatography	journetp	12/24/19 10:32
Carbon tetrachloride	6.57	Poor chromatography	journetp	12/24/19 10:33

Lab Sample ID: 180-100205-1 MSD Client Sample ID: 11187072-N.TREATMENT AREA #2 MSD

Date Analyzed: 12/23/19 12:42 Lab File ID: 4122315.D GC Column: DB-624 ID: 0.18(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dichlorodifluoromethane	1.61	Poor chromatography	journetp	12/24/19 10:35
Vinyl chloride	1.92	Poor chromatography	journetp	12/24/19 10:36
Bromomethane	2.28	Poor chromatography	journetp	12/24/19 10:36
Trichlorofluoromethane	2.56	Poor chromatography	journetp	12/24/19 10:37
1,1-Dichloroethene	3.21	Poor chromatography	journetp	12/24/19 10:44
Carbon disulfide	3.50	Poor chromatography	journetp	12/24/19 10:45
Methylene Chloride	3.99	Poor chromatography	journetp	12/24/19 10:45
1,1,1-Trichloroethane	6.40	Poor chromatography	journetp	12/24/19 10:45

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-100205-1

SDG No.:

Instrument ID: CH71 Analysis Batch Number: 302239

Lab Sample ID: IC 180-302239/4 Client Sample ID:

Date Analyzed: 12/21/19 11:07 Lab File ID: S1220004.D GC Column: Rxi-5SilMS ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,4-Dioxane	1.41	Incomplete Integration	fergusond	12/21/19 12:37
Methyl methanesulfonate	4.38	Incomplete Integration	fergusond	12/21/19 12:37
Dimethyl phthalate	8.58	Incomplete Integration	fergusond	12/21/19 12:37
3-Nitroaniline	8.79	Incomplete Integration	fergusond	12/21/19 12:38
3,3'-Dichlorobenzidine	13.54	Incomplete Integration	fergusond	12/21/19 12:38
Bis(2-ethylhexyl) phthalate	13.63	Incomplete Integration	fergusond	12/21/19 12:38
Dibenz(a,h)anthracene	18.67	Incomplete Integration	fergusond	12/21/19 12:43
Benzo[g,h,i]perylene	19.19	Incomplete Integration	fergusond	12/21/19 12:40

Lab Sample ID: IC 180-302239/5 Client Sample ID:

Date Analyzed: 12/21/19 11:34 Lab File ID: S1220005.D GC Column: Rxi-5SilMS ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,4-Dioxane	1.41	Incomplete Integration	fergusond	12/21/19 12:43
N-Nitrosodimethylamine	1.96	Incomplete Integration	fergusond	12/21/19 12:43
Benzoic acid	6.94	Incomplete Integration	fergusond	12/21/19 12:44
4,6-Dinitro-2-methylphenol	9.38	Incomplete Integration	fergusond	12/21/19 12:45
Benzo[k]fluoranthene	15.71	Incomplete Integration	fergusond	12/21/19 12:46
Benzo[a]pyrene	16.32	Incomplete Integration	fergusond	12/21/19 12:48
Indeno[1,2,3-cd]pyrene	18.59	Incomplete Integration	fergusond	12/21/19 12:48
Dibenz(a,h)anthracene	18.63	Incomplete Integration	fergusond	12/21/19 12:49
Benzo[g,h,i]perylene	19.14	Incomplete Integration	fergusond	12/21/19 12:49

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-100205-1

SDG No.:

Instrument ID: CH71 Analysis Batch Number: 302239

Lab Sample ID: IC 180-302239/6 Client Sample ID:

Date Analyzed: 12/21/19 12:01 Lab File ID: S1220006.D GC Column: Rxi-5SilMS ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Di-n-octyl phthalate	14.84	Incomplete Integration	fergusond	12/21/19 12:52
Benzo[k]fluoranthene	15.68	Incomplete Integration	fergusond	12/21/19 12:52
Benzo[a]pyrene	16.29	Incomplete Integration	fergusond	12/21/19 12:53
Dibenz(a,h)anthracene	18.60	Incomplete Integration	fergusond	12/21/19 12:54
Benzo[g,h,i]perylene	19.11	Incomplete Integration	fergusond	12/21/19 12:55

Lab Sample ID: IC 180-302239/9 Client Sample ID:

Date Analyzed: 12/21/19 13:22 Lab File ID: S1220009.D GC Column: Rxi-5SilMS ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzoic acid	6.98	Peak assignment corrected	fergusond	12/21/19 14:07

Lab Sample ID: IC 180-302239/11 Client Sample ID:

Date Analyzed: 12/21/19 14:16 Lab File ID: S1220011.D GC Column: Rxi-5SilMS ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzoic acid	7.01	Peak assignment corrected	fergusond	12/21/19 15:14

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-100205-1

SDG No.:

Instrument ID: CH71 Analysis Batch Number: 302307

Lab Sample ID: CCVIS 180-302307/4 Client Sample ID:

Date Analyzed: 12/23/19 11:44 Lab File ID: S1223004.D GC Column: Rxi-5SilMS ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzo[k]fluoranthene	15.73	Incomplete Integration	fergusond	12/23/19 12:26

Lab Sample ID: LCS 180-302206/2-A Client Sample ID:

Date Analyzed: 12/23/19 14:53 Lab File ID: S1223012.D GC Column: Rxi-5SilMS ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Pyridine	2.02	Incomplete Integration	fergusond	12/24/19 07:49

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-100205-1

SDG No.:

Instrument ID: CHGC15 Analysis Batch Number: 279115

Lab Sample ID: IC 180-279115/2 Client Sample ID:

Date Analyzed: 05/18/19 12:14 Lab File ID: Q0518190000002.D GC Column: MR-1 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	7.05	Baseline Smoothing	eppinged	05/18/19 12:35
Toxaphene Peak 2	7.32	Baseline Smoothing	eppinged	05/18/19 12:35
Toxaphene Peak 3	7.70	Baseline Smoothing	eppinged	05/18/19 12:35
Toxaphene Peak 4	7.95	Baseline Smoothing	eppinged	05/18/19 12:35
Dibutylchlorendate ISTD	8.28	Baseline Smoothing	eppinged	05/18/19 12:35

Lab Sample ID: IC 180-279115/2 Client Sample ID:

Date Analyzed: 05/18/19 12:14 Lab File ID: Q0518190000002.D GC Column: MR-2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	7.26	Baseline Smoothing	eppinged	05/18/19 12:35
Toxaphene Peak 2	7.39	Baseline Smoothing	eppinged	05/18/19 12:35
Toxaphene Peak 3	7.90	Baseline Smoothing	eppinged	05/18/19 12:36
Dibutylchlorendate ISTD	8.39	Baseline Smoothing	eppinged	05/18/19 12:34
Toxaphene Peak 4	8.63	Baseline Smoothing	eppinged	05/18/19 12:36

Lab Sample ID: IC 180-279115/3 Client Sample ID:

Date Analyzed: 05/18/19 12:29 Lab File ID: Q0518190000003.D GC Column: MR-1 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	7.05	Baseline Smoothing	eppinged	05/18/19 12:49
Toxaphene Peak 2	7.32	Baseline Smoothing	eppinged	05/18/19 12:49
Toxaphene Peak 3	7.70	Baseline Smoothing	eppinged	05/18/19 12:49
Toxaphene Peak 4	7.94	Baseline Smoothing	eppinged	05/18/19 12:49
Dibutylchlorendate ISTD	8.28	Baseline Smoothing	eppinged	05/18/19 12:49

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-100205-1

SDG No.:

Instrument ID: CHGC15 Analysis Batch Number: 279115

Lab Sample ID: IC 180-279115/3 Client Sample ID:

Date Analyzed: 05/18/19 12:29 Lab File ID: Q0518190000003.D GC Column: MR-2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	7.26	Baseline Smoothing	eppinged	05/18/19 12:49
Toxaphene Peak 2	7.39	Baseline Smoothing	eppinged	05/18/19 12:49
Toxaphene Peak 3	7.90	Baseline Smoothing	eppinged	05/18/19 12:49
Dibutylchlorendate ISTD	8.39	Baseline Smoothing	eppinged	05/18/19 12:49
Toxaphene Peak 4	8.63	Baseline Smoothing	eppinged	05/18/19 12:49

Lab Sample ID: IC 180-279115/4 Client Sample ID:

Date Analyzed: 05/18/19 12:45 Lab File ID: Q0518190000004.D GC Column: MR-1 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	7.05	Baseline Smoothing	eppinged	05/18/19 13:04
Toxaphene Peak 2	7.32	Baseline Smoothing	eppinged	05/18/19 13:04
Toxaphene Peak 3	7.70	Baseline Smoothing	eppinged	05/18/19 13:04
Toxaphene Peak 4	7.94	Baseline Smoothing	eppinged	05/18/19 13:04
Dibutylchlorendate ISTD	8.28	Baseline Smoothing	eppinged	05/18/19 13:04

Lab Sample ID: IC 180-279115/4 Client Sample ID:

Date Analyzed: 05/18/19 12:45 Lab File ID: Q0518190000004.D GC Column: MR-2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	7.26	Baseline Smoothing	eppinged	05/18/19 13:04
Toxaphene Peak 2	7.39	Baseline Smoothing	eppinged	05/18/19 13:04
Toxaphene Peak 3	7.90	Baseline Smoothing	eppinged	05/18/19 13:04
Dibutylchlorendate ISTD	8.39	Baseline Smoothing	eppinged	05/18/19 13:04
Toxaphene Peak 4	8.63	Baseline Smoothing	eppinged	05/18/19 13:04

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-100205-1

SDG No.:

Instrument ID: CHGC15 Analysis Batch Number: 279115

Lab Sample ID: IC 180-279115/5 Client Sample ID:

Date Analyzed: 05/18/19 13:00 Lab File ID: Q0518190000005.D GC Column: MR-2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	7.26	Baseline Smoothing	eppinged	05/18/19 13:18
Toxaphene Peak 2	7.39	Baseline Smoothing	eppinged	05/18/19 13:18
Toxaphene Peak 3	7.89	Baseline Smoothing	eppinged	05/18/19 13:18
Dibutylchlorendate ISTD	8.39	Baseline Smoothing	eppinged	05/18/19 13:18
Toxaphene Peak 4	8.63	Baseline Smoothing	eppinged	05/18/19 13:18

Lab Sample ID: IC 180-279115/6 Client Sample ID:

Date Analyzed: 05/18/19 13:16 Lab File ID: Q0518190000006.D GC Column: MR-1 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	7.05	Baseline Smoothing	eppinged	05/18/19 13:32
Toxaphene Peak 2	7.32	Baseline Smoothing	eppinged	05/18/19 13:32
Toxaphene Peak 3	7.70	Baseline Smoothing	eppinged	05/18/19 13:32
Toxaphene Peak 4	7.94	Baseline Smoothing	eppinged	05/18/19 13:32
Dibutylchlorendate ISTD	8.28	Baseline Smoothing	eppinged	05/18/19 13:32

Lab Sample ID: IC 180-279115/6 Client Sample ID:

Date Analyzed: 05/18/19 13:16 Lab File ID: Q0518190000006.D GC Column: MR-2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	7.26	Baseline Smoothing	eppinged	05/18/19 13:32
Toxaphene Peak 2	7.39	Baseline Smoothing	eppinged	05/18/19 13:32
Toxaphene Peak 3	7.90	Baseline Smoothing	eppinged	05/18/19 13:32
Dibutylchlorendate ISTD	8.39	Baseline Smoothing	eppinged	05/18/19 13:32
Toxaphene Peak 4	8.63	Baseline Smoothing	eppinged	05/18/19 13:32

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-100205-1

SDG No.:

Instrument ID: CHGC15 Analysis Batch Number: 279115

Lab Sample ID: IC 180-279115/7 Client Sample ID:

Date Analyzed: 05/18/19 14:56 Lab File ID: Q0518190000007.D GC Column: MR-1 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dibutylchlorendate ISTD	8.25	Baseline Smoothing	eppinged	05/18/19 15:35

Lab Sample ID: IC 180-279115/7 Client Sample ID:

Date Analyzed: 05/18/19 14:56 Lab File ID: Q0518190000007.D GC Column: MR-2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1-Bromo-2-nitrobenzene	4.06	Baseline Smoothing	eppinged	05/18/19 16:26
Chlordane (technical) Peak 1	6.05	Baseline Smoothing	eppinged	05/18/19 16:31
Chlordane (technical) Peak 2	6.41	Baseline Smoothing	eppinged	05/18/19 16:31
Chlordane (technical) Peak 3	7.02	Baseline Smoothing	eppinged	05/18/19 16:31
Chlordane (technical) Peak 4	7.07	Baseline Smoothing	eppinged	05/18/19 16:31
Dibutylchlorendate ISTD	8.37	Baseline Smoothing	eppinged	05/18/19 16:30

Lab Sample ID: IC 180-279115/9 Client Sample ID:

Date Analyzed: 05/18/19 15:26 Lab File ID: Q0518190000009.D GC Column: MR-2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chlordane (technical) Peak 2	6.41	Baseline Smoothing	eppinged	05/18/19 15:46
Chlordane (technical) Peak 3	7.02	Baseline Smoothing	eppinged	05/18/19 15:46
Chlordane (technical) Peak 4	7.07	Baseline Smoothing	eppinged	05/18/19 15:46

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-100205-1

SDG No.:

Instrument ID: CHGC15 Analysis Batch Number: 279115

Lab Sample ID: IC 180-279115/11 Client Sample ID:

Date Analyzed: 05/18/19 15:57 Lab File ID: Q0518190000011.D GC Column: MR-2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chlordane (technical) Peak 1	6.05	Baseline Smoothing	eppinged	05/18/19 16:15
Chlordane (technical) Peak 2	6.41	Baseline Smoothing	eppinged	05/18/19 16:15
Chlordane (technical) Peak 3	7.02	Baseline Smoothing	eppinged	05/18/19 16:15
Chlordane (technical) Peak 4	7.07	Baseline Smoothing	eppinged	05/18/19 16:15
Dibutylchlorendate ISTD	8.37	Baseline Smoothing	eppinged	05/18/19 16:15

Lab Sample ID: ICV 180-279115/30 Client Sample ID:

Date Analyzed: 05/18/19 20:51 Lab File ID: Q0518190000030.D GC Column: MR-1 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	7.01	Baseline Smoothing	eppinged	05/20/19 04:50
Toxaphene Peak 2	7.28	Baseline Smoothing	eppinged	05/20/19 04:50
Toxaphene Peak 3	7.66	Baseline Smoothing	eppinged	05/20/19 04:50
Toxaphene Peak 4	7.90	Baseline Smoothing	eppinged	05/20/19 04:50

Lab Sample ID: ICV 180-279115/30 Client Sample ID:

Date Analyzed: 05/18/19 20:51 Lab File ID: Q0518190000030.D GC Column: MR-2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	7.24	Baseline Smoothing	eppinged	05/20/19 04:51
Toxaphene Peak 2	7.37	Baseline Smoothing	eppinged	05/20/19 04:51
Toxaphene Peak 3	7.88	Baseline Smoothing	eppinged	05/20/19 04:51
Toxaphene Peak 4	8.61	Baseline Smoothing	eppinged	05/20/19 04:51

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-100205-1

SDG No.:

Instrument ID: CHGC15 Analysis Batch Number: 283759

Lab Sample ID: IC 180-283759/2 Client Sample ID:

Date Analyzed: 07/02/19 15:33 Lab File ID: Q070219A0000002.D GC Column: MR-1 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dibutylchlorendate ISTD	8.23	Split Peak	eppinged	07/03/19 07:17
Endrin ketone	8.28	Split Peak	eppinged	07/03/19 07:18

Lab Sample ID: IC 180-283759/2 Client Sample ID:

Date Analyzed: 07/02/19 15:33 Lab File ID: Q070219A0000002.D GC Column: MR-2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Endrin ketone	8.91	Split Peak	eppinged	07/03/19 07:18
DCB Decachlorobiphenyl (Surr)	10.62	Incomplete Integration	eppinged	07/03/19 07:18

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-100205-1

SDG No.:

Instrument ID: CHGC15 Analysis Batch Number: 302301

Lab Sample ID: PEM 180-302301/27 Client Sample ID:

Date Analyzed: 12/23/19 17:21 Lab File ID: Q1223190000027.D GC Column: MR-1 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
DCB Decachlorobiphenyl (Surr)	9.95	Peak assignment corrected	eppinged	12/24/19 04:14

Lab Sample ID: PEM 180-302301/27 Client Sample ID:

Date Analyzed: 12/23/19 17:21 Lab File ID: Q1223190000027.D GC Column: MR-2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
DCB Decachlorobiphenyl (Surr)	10.55	Peak assignment corrected	eppinged	12/24/19 04:14

Lab Sample ID: CCV 180-302301/28 Client Sample ID:

Date Analyzed: 12/23/19 17:36 Lab File ID: Q1223190000028.D GC Column: MR-1 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	6.97	Baseline Smoothing	eppinged	12/24/19 04:15
Toxaphene Peak 2	7.24	Baseline Smoothing	eppinged	12/24/19 04:15
Toxaphene Peak 3	7.61	Baseline Smoothing	eppinged	12/24/19 04:15
Toxaphene Peak 4	7.85	Baseline Smoothing	eppinged	12/24/19 04:15

Lab Sample ID: CCV 180-302301/28 Client Sample ID:

Date Analyzed: 12/23/19 17:36 Lab File ID: Q1223190000028.D GC Column: MR-2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	7.18	Baseline Smoothing	eppinged	12/24/19 04:15
Toxaphene Peak 2	7.31	Baseline Smoothing	eppinged	12/24/19 04:15
Toxaphene Peak 3	7.81	Baseline Smoothing	eppinged	12/24/19 04:15
Toxaphene Peak 4	8.53	Baseline Smoothing	eppinged	12/24/19 04:15

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-100205-1

SDG No.:

Instrument ID: CHGC15 Analysis Batch Number: 302301

Lab Sample ID: PEM 180-302301/53 Client Sample ID:

Date Analyzed: 12/24/19 00:02 Lab File ID: Q1223190000053.D GC Column: MR-1 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Endrin ketone	8.21	Split Peak	eppinged	12/24/19 04:17

Lab Sample ID: PEM 180-302301/53 Client Sample ID:

Date Analyzed: 12/24/19 00:02 Lab File ID: Q1223190000053.D GC Column: MR-2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Endrin ketone	8.87	Baseline Smoothing	eppinged	12/24/19 04:17

Lab Sample ID: CCV 180-302301/54 Client Sample ID:

Date Analyzed: 12/24/19 00:18 Lab File ID: Q1223190000054.D GC Column: MR-2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	7.18	Baseline Smoothing	eppinged	12/24/19 04:18
Toxaphene Peak 2	7.31	Baseline Smoothing	eppinged	12/24/19 04:18
Toxaphene Peak 3	7.81	Baseline Smoothing	eppinged	12/24/19 04:18
Dibutylchlorendate ISTD	8.29	Baseline Smoothing	eppinged	12/24/19 04:18
Toxaphene Peak 4	8.53	Baseline Smoothing	eppinged	12/24/19 04:18

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-100205-1

SDG No.:

Instrument ID: CHGC16 Analysis Batch Number: 302855

Lab Sample ID: IC 180-302855/2 Client Sample ID:

Date Analyzed: 12/30/19 09:35 Lab File ID: 12309003.D GC Column: RTX-CLP1 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1262 Peak 1	8.14	Instrument noise	oravecj	12/30/19 11:10
PCB-1262 Peak 2	8.61	Instrument noise	oravecj	12/30/19 11:10
PCB-1262 Peak 3	9.17	Instrument noise	oravecj	12/30/19 11:10
PCB-1262 Peak 4	9.65	Instrument noise	oravecj	12/30/19 11:10
PCB-1262 Peak 5	9.78	Instrument noise	oravecj	12/30/19 11:10
PCB-205 (IS)	10.71	Instrument noise	oravecj	12/30/19 11:10

Lab Sample ID: IC 180-302855/5 Client Sample ID:

Date Analyzed: 12/30/19 10:31 Lab File ID: 12309006.D GC Column: RTX-CLP1 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Tetrachloro-m-xylene	3.21	Instrument noise	oravecj	12/31/19 05:15
PCB-1016 Peak 1	3.52	Instrument noise	oravecj	12/31/19 05:15
PCB-1016 Peak 2	3.85	Instrument noise	oravecj	12/31/19 05:21
PCB-1016 Peak 3	4.07	Split Peak	oravecj	12/31/19 05:43
PCB-1016 Peak 4	4.26	Split Peak	oravecj	12/31/19 05:43
PCB-1016 Peak 5	4.57	Instrument noise	oravecj	12/31/19 05:22

Lab Sample ID: IC 180-302855/5 Client Sample ID:

Date Analyzed: 12/30/19 10:31 Lab File ID: 12309006.D GC Column: RTX-CLP2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Tetrachloro-m-xylene	3.65	Instrument noise	oravecj	12/31/19 05:15
PCB-1016 Peak 1	4.66	Instrument noise	oravecj	12/31/19 05:15
PCB-1016 Peak 2	5.30	Split Peak	oravecj	12/31/19 05:16
PCB-1016 Peak 3	5.50	Split Peak	oravecj	12/31/19 05:17
PCB-1016 Peak 4	6.25	Instrument noise	oravecj	12/31/19 05:15
PCB-1016 Peak 5	6.46	Instrument noise	oravecj	12/31/19 05:15

EPA 8082A

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-100205-1

SDG No.:

Instrument ID: CHGC16 Analysis Batch Number: 302855

Lab Sample ID: MB 180-302202/1-A Client Sample ID:

Date Analyzed: 12/30/19 23:37 Lab File ID: 12309048.D GC Column: RTX-CLP1 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1016		Unspecified		
PCB-1232		Unspecified		
PCB-1242		Unspecified		
PCB-1248		Unspecified		
PCB-1254		Unspecified		
PCB-1016 Peak 1		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1016 Peak 2		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1016 Peak 3		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1016 Peak 4		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1016 Peak 5		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1232 Peak 1		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1232 Peak 2		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1232 Peak 3		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1232 Peak 4		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1232 Peak 5		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1242 Peak 1		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1242 Peak 2		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1242 Peak 3		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1242 Peak 4		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1242 Peak 5		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1248 Peak 1		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1248 Peak 2		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1248 Peak 3		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1248 Peak 4		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1248 Peak 5		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1254 Peak 1		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1254 Peak 2		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1254 Peak 3		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1254 Peak 4		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1254 Peak 5		Invalid Compound ID	oravecj	12/31/19 06:29

EPA 8082A

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-100205-1

SDG No.:

Instrument ID: CHGC16 Analysis Batch Number: 302855

Lab Sample ID: MB 180-302202/1-A Client Sample ID:

Date Analyzed: 12/30/19 23:37 Lab File ID: 12309048.D GC Column: RTX-CLP2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1016		Unspecified		
PCB-1232		Unspecified		
PCB-1242		Unspecified		
PCB-1248		Unspecified		
PCB-1254		Unspecified		
PCB-1016 Peak 1		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1016 Peak 2		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1016 Peak 3		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1016 Peak 4		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1016 Peak 5		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1232 Peak 1		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1232 Peak 2		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1232 Peak 3		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1232 Peak 4		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1232 Peak 5		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1242 Peak 1		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1242 Peak 2		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1242 Peak 3		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1242 Peak 4		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1242 Peak 5		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1248 Peak 1		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1248 Peak 2		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1248 Peak 3		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1248 Peak 4		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1248 Peak 5		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1254 Peak 1		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1254 Peak 2		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1254 Peak 3		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1254 Peak 4		Invalid Compound ID	oravecj	12/31/19 06:29
PCB-1254 Peak 5		Invalid Compound ID	oravecj	12/31/19 06:29

EPA 8082A

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-100205-1

SDG No.:

Instrument ID: CHGC16 Analysis Batch Number: 302855

Lab Sample ID: 180-100205-1 Client Sample ID: 11187072-N.TREATMENT AREA #2

Date Analyzed: 12/31/19 01:11 Lab File ID: 12309053.D GC Column: RTX-CLP1 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1221		Unspecified		
PCB-1221 Peak 1		Invalid Compound ID	oravecj	12/31/19 06:31
PCB-1221 Peak 2		Invalid Compound ID	oravecj	12/31/19 06:31
PCB-1221 Peak 3		Invalid Compound ID	oravecj	12/31/19 06:31

Lab Sample ID: 180-100205-1 Client Sample ID: 11187072-N.TREATMENT AREA #2

Date Analyzed: 12/31/19 01:11 Lab File ID: 12309053.D GC Column: RTX-CLP2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1221		Unspecified		
PCB-1221 Peak 1		Invalid Compound ID	oravecj	12/31/19 06:31
PCB-1221 Peak 2		Invalid Compound ID	oravecj	12/31/19 06:31
PCB-1221 Peak 3		Invalid Compound ID	oravecj	12/31/19 06:31

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-100205-1

SDG No.:

Instrument ID: CHGC16 Analysis Batch Number: 302855

Lab Sample ID: 180-100205-3 Client Sample ID: 11187072-N.TREATMENT AREA #3

Date Analyzed: 12/31/19 01:29 Lab File ID: 12309054.D GC Column: RTX-CLP1 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1242		Unspecified		
PCB-1248		Unspecified		
PCB-1242 Peak 1		Invalid Compound ID	oravecj	12/31/19 06:31
PCB-1242 Peak 2		Invalid Compound ID	oravecj	12/31/19 06:31
PCB-1242 Peak 3		Invalid Compound ID	oravecj	12/31/19 06:31
PCB-1242 Peak 4		Invalid Compound ID	oravecj	12/31/19 06:31
PCB-1242 Peak 5		Invalid Compound ID	oravecj	12/31/19 06:31
PCB-1248 Peak 1		Invalid Compound ID	oravecj	12/31/19 06:31
PCB-1248 Peak 2		Invalid Compound ID	oravecj	12/31/19 06:31
PCB-1248 Peak 3		Invalid Compound ID	oravecj	12/31/19 06:31
PCB-1248 Peak 4		Invalid Compound ID	oravecj	12/31/19 06:31
PCB-1248 Peak 5		Invalid Compound ID	oravecj	12/31/19 06:31

Lab Sample ID: 180-100205-3 Client Sample ID: 11187072-N.TREATMENT AREA #3

Date Analyzed: 12/31/19 01:29 Lab File ID: 12309054.D GC Column: RTX-CLP2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1242		Unspecified		
PCB-1248		Unspecified		
PCB-1242 Peak 1		Invalid Compound ID	oravecj	12/31/19 06:31
PCB-1242 Peak 2		Invalid Compound ID	oravecj	12/31/19 06:31
PCB-1242 Peak 3		Invalid Compound ID	oravecj	12/31/19 06:31
PCB-1242 Peak 4		Invalid Compound ID	oravecj	12/31/19 06:31
PCB-1242 Peak 5		Invalid Compound ID	oravecj	12/31/19 06:31
PCB-1248 Peak 1		Invalid Compound ID	oravecj	12/31/19 06:31
PCB-1248 Peak 2		Invalid Compound ID	oravecj	12/31/19 06:31
PCB-1248 Peak 3		Invalid Compound ID	oravecj	12/31/19 06:31
PCB-1248 Peak 4		Invalid Compound ID	oravecj	12/31/19 06:31
PCB-1248 Peak 5		Invalid Compound ID	oravecj	12/31/19 06:31

EPA 8082A

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-100205-1

SDG No.:

Instrument ID: CHGC16 Analysis Batch Number: 302855

Lab Sample ID: 180-100205-5 Client Sample ID: 11187072-N.TREATMENT AREA #4

Date Analyzed: 12/31/19 01:48 Lab File ID: 12309055.D GC Column: RTX-CLP1 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1248		Unspecified		
PCB-1254		Unspecified		
PCB-1248 Peak 1		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1248 Peak 2		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1248 Peak 3		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1248 Peak 4		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1248 Peak 5		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1254 Peak 1		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1254 Peak 2		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1254 Peak 3		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1254 Peak 4		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1254 Peak 5		Invalid Compound ID	oravecj	12/31/19 06:32

Lab Sample ID: 180-100205-5 Client Sample ID: 11187072-N.TREATMENT AREA #4

Date Analyzed: 12/31/19 01:48 Lab File ID: 12309055.D GC Column: RTX-CLP2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1248		Unspecified		
PCB-1254		Unspecified		
PCB-1248 Peak 1		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1248 Peak 2		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1248 Peak 3		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1248 Peak 4		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1248 Peak 5		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1254 Peak 1		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1254 Peak 2		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1254 Peak 3		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1254 Peak 4		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1254 Peak 5		Invalid Compound ID	oravecj	12/31/19 06:32

EPA 8082A

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-100205-1

SDG No.:

Instrument ID: CHGC16 Analysis Batch Number: 302855

Lab Sample ID: LB 180-301984/1-D Client Sample ID:

Date Analyzed: 12/31/19 02:26 Lab File ID: 12309057.D GC Column: RTX-CLP1 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1232		Unspecified		
PCB-1242		Unspecified		
PCB-1248		Unspecified		
PCB-1254		Unspecified		
PCB-1232 Peak 1		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1232 Peak 2		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1232 Peak 3		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1232 Peak 4		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1232 Peak 5		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1242 Peak 1		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1242 Peak 2		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1242 Peak 3		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1242 Peak 4		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1242 Peak 5		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1248 Peak 1		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1248 Peak 2		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1248 Peak 3		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1248 Peak 4		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1248 Peak 5		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1254 Peak 1		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1254 Peak 2		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1254 Peak 3		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1254 Peak 4		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1254 Peak 5		Invalid Compound ID	oravecj	12/31/19 06:32

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-100205-1

SDG No.:

Instrument ID: CHGC16 Analysis Batch Number: 302855

Lab Sample ID: LB 180-301984/1-D Client Sample ID:

Date Analyzed: 12/31/19 02:26 Lab File ID: 12309057.D GC Column: RTX-CLP2 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1232		Unspecified		
PCB-1242		Unspecified		
PCB-1248		Unspecified		
PCB-1254		Unspecified		
PCB-1232 Peak 1		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1232 Peak 2		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1232 Peak 3		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1232 Peak 4		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1232 Peak 5		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1242 Peak 1		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1242 Peak 2		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1242 Peak 3		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1242 Peak 4		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1242 Peak 5		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1248 Peak 1		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1248 Peak 2		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1248 Peak 3		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1248 Peak 4		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1248 Peak 5		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1254 Peak 1		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1254 Peak 2		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1254 Peak 3		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1254 Peak 4		Invalid Compound ID	oravecj	12/31/19 06:32
PCB-1254 Peak 5		Invalid Compound ID	oravecj	12/31/19 06:32

EPA 8082A

HERBICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-100205-1

SDG No.:

Instrument ID: CGC1 Analysis Batch Number: 288571

Lab Sample ID: IC 180-288571/2 Client Sample ID:

Date Analyzed: 08/19/19 18:39 Lab File ID: 0819190000015.D GC Column: RTX-50 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,4-Dichlorophenylacetic acid	8.03	Baseline Smoothing	fritschj	08/20/19 08:28
MCPA	8.67	Baseline Smoothing	fritschj	08/20/19 08:30

Lab Sample ID: IC 180-288571/2 Client Sample ID:

Date Analyzed: 08/19/19 18:39 Lab File ID: 0819190000015.D GC Column: RTX-1701 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,4-Dichlorophenylacetic acid	8.00	Split Peak	fritschj	08/20/19 08:28
MCPP	8.43	Baseline Smoothing	fritschj	08/20/19 08:28
MCPA	8.73	Baseline Smoothing	fritschj	08/20/19 08:29
2,4-DB	11.15	Incomplete Integration	fritschj	08/20/19 08:30
Dinoseb	11.80	Incomplete Integration	fritschj	08/20/19 08:30

Lab Sample ID: IC 180-288571/3 Client Sample ID:

Date Analyzed: 08/19/19 19:04 Lab File ID: 0819190000016.D GC Column: RTX-50 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,4-Dichlorophenylacetic acid	8.03	Baseline Smoothing	fritschj	08/20/19 08:32

Lab Sample ID: IC 180-288571/3 Client Sample ID:

Date Analyzed: 08/19/19 19:04 Lab File ID: 0819190000016.D GC Column: RTX-1701 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,4-Dichlorophenylacetic acid	8.00	Baseline Smoothing	fritschj	08/20/19 08:32
MCPP	8.42	Baseline Smoothing	fritschj	08/20/19 08:33

HERBICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-100205-1

SDG No.:

Instrument ID: CGC1 Analysis Batch Number: 288571

Lab Sample ID: ICRT 180-288571/5 Client Sample ID:

Date Analyzed: 08/19/19 19:54 Lab File ID: 0819190000018.D GC Column: RTX-50 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dalapon	2.18	Peak assignment corrected	fritschj	08/20/19 08:15
2,4-Dichlorophenylacetic acid	8.03	Peak assignment corrected	fritschj	08/20/19 08:15
MCPP	8.25	Peak assignment corrected	fritschj	08/20/19 08:17
Dicamba	8.33	Peak assignment corrected	fritschj	08/20/19 08:18
MCPA	8.67	Peak assignment corrected	fritschj	08/20/19 08:18
Dichlorprop	8.95	Peak assignment corrected	fritschj	08/20/19 08:19
2,4-D	9.44	Peak assignment corrected	fritschj	08/20/19 08:19
Pentachlorophenol	9.97	Peak assignment corrected	fritschj	08/20/19 08:21
Silvex (2,4,5-TP)	10.12	Peak assignment corrected	fritschj	08/20/19 08:22
2,4,5-T	10.67	Peak assignment corrected	fritschj	08/20/19 08:23
Dinoseb	10.93	Peak assignment corrected	fritschj	08/20/19 08:24
2,4-DB	11.06	Peak assignment corrected	fritschj	08/20/19 08:24

Lab Sample ID: ICRT 180-288571/5 Client Sample ID:

Date Analyzed: 08/19/19 19:54 Lab File ID: 0819190000018.D GC Column: RTX-1701 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dalapon	2.35	Peak assignment corrected	fritschj	08/20/19 08:15
2,4-Dichlorophenylacetic acid	8.00	Peak assignment corrected	fritschj	08/20/19 08:16
Dicamba	8.27	Peak assignment corrected	fritschj	08/20/19 08:18
MCPP	8.42	Baseline Smoothing	fritschj	08/20/19 09:09
MCPA	8.73	Peak assignment corrected	fritschj	08/20/19 08:18
Dichlorprop	9.10	Peak assignment corrected	fritschj	08/20/19 08:19
2,4-D	9.49	Peak assignment corrected	fritschj	08/20/19 08:19
Pentachlorophenol	9.69	Peak assignment corrected	fritschj	08/20/19 08:22
Silvex (2,4,5-TP)	10.26	Peak assignment corrected	fritschj	08/20/19 08:22
2,4,5-T	10.72	Peak assignment corrected	fritschj	08/20/19 08:23
2,4-DB	11.15	Peak assignment corrected	fritschj	08/20/19 08:24
Dinoseb	11.80	Peak assignment corrected	fritschj	08/20/19 08:24

EPA 8151A

HERBICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-100205-1

SDG No.:

Instrument ID: CGC1 Analysis Batch Number: 288571

Lab Sample ID: IC 180-288571/6 Client Sample ID:

Date Analyzed: 08/19/19 20:19 Lab File ID: 0819190000019.D GC Column: RTX-1701 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,4-Dichlorophenylacetic acid	8.00	Baseline Smoothing	fritschj	08/20/19 08:38
MCPP	8.42	Baseline Smoothing	fritschj	08/20/19 09:01

Lab Sample ID: IC 180-288571/7 Client Sample ID:

Date Analyzed: 08/19/19 20:44 Lab File ID: 0819190000020.D GC Column: RTX-50 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
MCPA	8.67	Baseline Smoothing	fritschj	08/20/19 08:39
Dichlorprop	8.95	Baseline Smoothing	fritschj	08/20/19 08:39

Lab Sample ID: IC 180-288571/7 Client Sample ID:

Date Analyzed: 08/19/19 20:44 Lab File ID: 0819190000020.D GC Column: RTX-1701 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,4-Dichlorophenylacetic acid	8.00	Baseline Smoothing	fritschj	08/20/19 08:39
MCPP	8.42	Baseline Smoothing	fritschj	08/20/19 09:01

Lab Sample ID: IC 180-288571/8 Client Sample ID:

Date Analyzed: 08/19/19 21:09 Lab File ID: 0819190000021.D GC Column: RTX-50 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
MCPP	8.25	Baseline Smoothing	fritschj	08/20/19 08:40
MCPA	8.67	Baseline Smoothing	fritschj	08/20/19 08:40

EPA 8151A

HERBICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-100205-1

SDG No.:

Instrument ID: CGC1 Analysis Batch Number: 288571

Lab Sample ID: IC 180-288571/8 Client Sample ID:

Date Analyzed: 08/19/19 21:09 Lab File ID: 0819190000021.D GC Column: RTX-1701 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,4-Dichlorophenylacetic acid	8.00	Baseline Smoothing	fritschj	08/20/19 08:39
MCPP	8.42	Baseline Smoothing	fritschj	08/20/19 08:59

Lab Sample ID: ICV 180-288571/9 Client Sample ID:

Date Analyzed: 08/19/19 21:34 Lab File ID: 0819190000022.D GC Column: RTX-50 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Pentachlorophenol	9.97	Baseline Smoothing	fritschj	08/20/19 08:48

HERBICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsb Job No.: 180-100205-1

SDG No.:

Instrument ID: CGC1 Analysis Batch Number: 302642

Lab Sample ID: CCVRT 180-302642/1 Client Sample ID:

Date Analyzed: 12/27/19 11:01 Lab File ID: 1227190000001.D GC Column: RTX-1701 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,4-Dichlorophenylacetic acid	8.18	Peak assignment corrected	eppinged	12/27/19 11:22

Lab Sample ID: 180-100205-1 Client Sample ID: 11187072-N.TREATMENT AREA #2

Date Analyzed: 12/27/19 13:57 Lab File ID: 1227190000008.D GC Column: RTX-50 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Silvex (2,4,5-TP)	9.88	Baseline Smoothing	eppinged	12/27/19 14:52

Lab Sample ID: 180-100205-1 Client Sample ID: 11187072-N.TREATMENT AREA #2

Date Analyzed: 12/27/19 13:57 Lab File ID: 1227190000008.D GC Column: RTX-1701 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Silvex (2,4,5-TP)	10.44	Baseline Smoothing	eppinged	12/27/19 14:52

Lab Sample ID: 180-100205-5 Client Sample ID: 11187072-N.TREATMENT AREA #4

Date Analyzed: 12/27/19 14:47 Lab File ID: 1227190000010.D GC Column: RTX-50 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Silvex (2,4,5-TP)	9.88	Baseline Smoothing	eppinged	12/27/19 15:27

Lab Sample ID: 180-100205-5 Client Sample ID: 11187072-N.TREATMENT AREA #4

Date Analyzed: 12/27/19 14:47 Lab File ID: 1227190000010.D GC Column: RTX-1701 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Silvex (2,4,5-TP)	10.44	Baseline Smoothing	eppinged	12/27/19 15:27

EPA 8151A

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Denver Job No.: 180-100205-1

SDG No.:

Instrument ID: LC_LCMS3 Analysis Batch Number: 482046

Lab Sample ID: STD0025 280-482046/4 IC Client Sample ID:

Date Analyzed: 12/31/19 10:16 Lab File ID: CP319L31002.d GC Column: Synergi Hydro ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Aldicarb	2.56	Incomplete Integration	coopert	12/31/19 11:22
Monuron	2.83	Incomplete Integration	coopert	12/31/19 11:22
Fluometuron	3.47	Incomplete Integration	coopert	12/31/19 11:22
Diuron	3.77	Incomplete Integration	coopert	12/31/19 11:22
Propham	4.26	Incomplete Integration	coopert	12/31/19 11:22

Lab Sample ID: STD005 280-482046/5 IC Client Sample ID:

Date Analyzed: 12/31/19 10:24 Lab File ID: CP319L31003.d GC Column: Synergi Hydro ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Monuron	2.83	Incomplete Integration	coopert	12/31/19 11:24
Fluometuron	3.47	Incomplete Integration	coopert	12/31/19 11:24
Diuron-d6	3.73	Incomplete Integration	coopert	12/31/19 11:24
Diuron	3.77	Incomplete Integration	coopert	12/31/19 11:23
Propham	4.26	Incomplete Integration	coopert	12/31/19 11:23
Chlorpropham	5.25	Incomplete Integration	coopert	12/31/19 11:23

Lab Sample ID: STD010 280-482046/6 IC Client Sample ID:

Date Analyzed: 12/31/19 10:32 Lab File ID: CP319L31004.d GC Column: Synergi Hydro ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Fluometuron	3.47	Incomplete Integration	coopert	12/31/19 11:24
Diuron	3.77	Incomplete Integration	coopert	12/31/19 11:25

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Denver Job No.: 180-100205-1

SDG No.:

Instrument ID: LC_LCMS3 Analysis Batch Number: 482046

Lab Sample ID: STD020 280-482046/7 IC Client Sample ID:

Date Analyzed: 12/31/19 10:40 Lab File ID: CP319L31005.d GC Column: Synergi Hydro ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Fluometuron	3.47	Incomplete Integration	coopert	12/31/19 11:25
Diuron	3.77	Incomplete Integration	coopert	12/31/19 11:25

Lab Sample ID: STD050 280-482046/8 IC Client Sample ID:

Date Analyzed: 12/31/19 10:48 Lab File ID: CP319L31006.d GC Column: Synergi Hydro ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Fluometuron	3.47	Incomplete Integration	coopert	12/31/19 11:26

Lab Sample ID: ICV 280-482046/12 Client Sample ID:

Date Analyzed: 12/31/19 11:20 Lab File ID: CP319L31010.d GC Column: Synergi Hydro ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Aminocarb	0.73	Baseline	coopert	12/31/19 11:37
Fluometuron	3.47	Baseline	coopert	12/31/19 11:37

Lab Sample ID: CCV050 280-482046/18 Client Sample ID:

Date Analyzed: 12/31/19 12:10 Lab File ID: CP319L31016.d GC Column: Synergi Hydro ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Fluometuron	3.47	Incomplete Integration	coopert	12/31/19 12:59

Lab Sample ID: LCS 280-481805/2-A Client Sample ID:

Date Analyzed: 12/31/19 12:26 Lab File ID: CP319L31018.d GC Column: Synergi Hydro ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methomyl	1.34	Incomplete Integration	coopert	12/31/19 13:53

8321A

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Denver Job No.: 180-100205-1

SDG No.:

Instrument ID: LC_LCMS3 Analysis Batch Number: 482046

Lab Sample ID: LCSD 280-481805/3-A Client Sample ID:

Date Analyzed: 12/31/19 12:34 Lab File ID: CP319L31019.d GC Column: Synergi Hydro ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methomyl	1.34	Incomplete Integration	coopert	12/31/19 13:53

Lab Sample ID: CCV100 280-482046/25 Client Sample ID:

Date Analyzed: 12/31/19 13:07 Lab File ID: CP319L31023.d GC Column: Synergi Hydro ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Fluometuron	3.47	Incomplete Integration	coopert	12/31/19 13:37

8321A

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Sacram Job No.: 180-100205-1

SDG No.:

Instrument ID: 3D5 Analysis Batch Number: 345037

Lab Sample ID: IC 320-345037/4 Client Sample ID:

Date Analyzed: 12/12/19 12:16 Lab File ID: 12DE193D5_4.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
13C-2,3,4,7,8-PeCDF	23.41	Peak assignment corrected	stephensk	12/12/19 13:35
13C-1,2,3,4,7,8-HxCDD	31.55	Peak assignment corrected	stephensk	12/12/19 13:36
13C-1,2,3,4,7,8,9-HpCDF	34.72	Peak assignment corrected	stephensk	12/12/19 13:36

Lab Sample ID: IC 320-345037/6 Client Sample ID:

Date Analyzed: 12/12/19 13:51 Lab File ID: 12DE193D5_6.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
13C-2,3,4,7,8-PeCDF	23.42	Peak assignment corrected	stephensk	12/12/19 14:41
13C-1,2,3,4,7,8-HxCDD	31.55	Peak assignment corrected	stephensk	12/12/19 14:41
13C-1,2,3,4,7,8,9-HpCDF	34.72	Peak assignment corrected	stephensk	12/12/19 14:41

Lab Sample ID: IC 320-345037/7 Client Sample ID:

Date Analyzed: 12/12/19 14:39 Lab File ID: 12DE193D5_7.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
13C-2,3,4,7,8-PeCDF	23.42	Peak assignment corrected	stephensk	12/12/19 15:48
13C-1,2,3,4,7,8-HxCDD	31.55	Peak assignment corrected	stephensk	12/12/19 15:48
13C-1,2,3,4,7,8,9-HpCDF	34.72	Peak assignment corrected	stephensk	12/12/19 15:49

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Sacram Job No.: 180-100205-1

SDG No.:

Instrument ID: 3D5 Analysis Batch Number: 349283

Lab Sample ID: 180-100205-1 Client Sample ID: 11187072-N.TREATMENT AREA #2

Date Analyzed: 01/07/20 02:35 Lab File ID: 06JA20A3D5_7.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,6,7,8-HxCDD		Invalid Compound ID	dadunj	01/08/20 09:04
2,3,4,6,7,8-HxCDF		Invalid Compound ID	dadunj	01/08/20 09:03
1,2,3,7,8,9-HxCDF	31.81	Split Peak	dadunj	01/08/20 09:04
1,2,3,4,6,7,8-HpCDD	34.14	Split Peak	dadunj	01/08/20 09:04
1,2,3,4,7,8,9-HpCDF	34.44	Split Peak	dadunj	01/08/20 09:04
OCDF	36.52	Split Peak	dadunj	01/08/20 09:04

Lab Sample ID: 180-100205-5 Client Sample ID: 11187072-N.TREATMENT AREA #4

Date Analyzed: 01/07/20 04:10 Lab File ID: 06JA20A3D5_9.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,4,7,8-HxCDD		Invalid Compound ID	dadunj	01/08/20 09:07
1,2,3,6,7,8-HxCDD		Invalid Compound ID	dadunj	01/08/20 09:07
OCDD		Invalid Compound ID	dadunj	01/08/20 09:08

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
BSbAgZn INT_00011	01/25/20	10/25/19	2% Nitric Acid, Lot 690201	1000 mL	M4400-5M74B_00001	50 mL	B	250 mg/L
					MAG1000_00002	50 mL	Silver	50 mg/L
					MSB1000_00002	50 mL	Sb	50 mg/L
					MZN1000_00002	50 mL	Zn	50 mg/L
.M4400-5M74B_00001	05/17/21	CPI International, Lot 1009207-1			(Purchased Reagent)		B	5000 ppm
.MAG1000_00002	10/26/20	CPI International, Lot 975475-12			(Purchased Reagent)		Silver	1000 ppm
.MSB1000_00002	09/06/20	CPI International, Lot 153992-34			(Purchased Reagent)		Sb	1000 ppm
.MZN1000_00002	10/01/20	CPI International, Lot 984272-23			(Purchased Reagent)		Zn	1000 ppm
GCAPPIX1L1_00025	03/17/20	09/17/19	Hexane, Lot 3295450	25 mL	GCAPPX1WORKST_00019	0.025 mL	Chlorobenside	0.002 ug/mL
							DCPA	0.001 ug/mL
							Hexachlorobenzene	0.001 ug/mL
							Isodrin	0.001 ug/mL
							Mirex	0.001 ug/mL
							oxy-Chlordane	0.001 ug/mL
.GCAPPX1WORKST_00019	03/17/20	09/17/19	Hexane, Lot 3295450	10 mL	GCAPPIX1STD_00006	1 mL	Chlorobenside	2 ug/mL
							DCPA	1 ug/mL
							Hexachlorobenzene	1 ug/mL
							Isodrin	1 ug/mL
							Mirex	1 ug/mL
							oxy-Chlordane	1 ug/mL
..GCAPPIX1STD_00006	03/26/20	ACCUSTANDARD, Lot 216031541-02			(Purchased Reagent)		Chlorobenside	20 ug/mL
							DCPA	10 ug/mL
							Hexachlorobenzene	10 ug/mL
							Isodrin	10 ug/mL
							Mirex	10 ug/mL
							oxy-Chlordane	10 ug/mL
GCAPPIX1L2_00024	03/17/20	09/17/19	Hexane, Lot 3295450	25 mL	GCAPPX1WORKST_00019	0.125 mL	Chlorobenside	0.01 ug/mL
							DCPA	0.005 ug/mL
							Hexachlorobenzene	0.005 ug/mL
							Isodrin	0.005 ug/mL
							Mirex	0.005 ug/mL
							oxy-Chlordane	0.005 ug/mL
.GCAPPX1WORKST_00019	03/17/20	09/17/19	Hexane, Lot 3295450	10 mL	GCAPPIX1STD_00006	1 mL	Chlorobenside	2 ug/mL
							DCPA	1 ug/mL
							Hexachlorobenzene	1 ug/mL
							Isodrin	1 ug/mL
							Mirex	1 ug/mL
							oxy-Chlordane	1 ug/mL
..GCAPPIX1STD_00006	03/26/20	ACCUSTANDARD, Lot 216031541-02			(Purchased Reagent)		Chlorobenside	20 ug/mL
							DCPA	10 ug/mL
							Hexachlorobenzene	10 ug/mL
							Isodrin	10 ug/mL
							Mirex	10 ug/mL
							oxy-Chlordane	10 ug/mL
GCAPPIX1L3_00032	03/17/20	09/17/19	Hexane, Lot 3295450	40 mL	GCAPPX1WORKST_00019	1 mL	Chlorobenside	0.05 ug/mL
							DCPA	0.025 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Hexachlorobenzene	0.025 ug/mL
							Isodrin	0.025 ug/mL
							Mirex	0.025 ug/mL
							oxy-Chlordane	0.025 ug/mL
.GCAPPX1WORKST_00019	03/17/20	09/17/19	Hexane, Lot 3295450	10 mL	GCAPPIX1STD_00006	1 mL	Chlorobenside	2 ug/mL
							DCPA	1 ug/mL
							Hexachlorobenzene	1 ug/mL
							Isodrin	1 ug/mL
							Mirex	1 ug/mL
							oxy-Chlordane	1 ug/mL
..GCAPPIX1STD_00006	03/26/20	ACCUSTANDARD, Lot 216031541-02			(Purchased Reagent)		Chlorobenside	20 ug/mL
							DCPA	10 ug/mL
							Hexachlorobenzene	10 ug/mL
							Isodrin	10 ug/mL
							Mirex	10 ug/mL
							oxy-Chlordane	10 ug/mL
GCAPPIX1L4_00024	03/17/20	09/17/19	Hexane, Lot 3295450	25 mL	GCAPPX1WORKST_00019	1.25 mL	Chlorobenside	0.1 ug/mL
							DCPA	0.05 ug/mL
							Hexachlorobenzene	0.05 ug/mL
							Isodrin	0.05 ug/mL
							Mirex	0.05 ug/mL
							oxy-Chlordane	0.05 ug/mL
.GCAPPX1WORKST_00019	03/17/20	09/17/19	Hexane, Lot 3295450	10 mL	GCAPPIX1STD_00006	1 mL	Chlorobenside	2 ug/mL
							DCPA	1 ug/mL
							Hexachlorobenzene	1 ug/mL
							Isodrin	1 ug/mL
							Mirex	1 ug/mL
							oxy-Chlordane	1 ug/mL
..GCAPPIX1STD_00006	03/26/20	ACCUSTANDARD, Lot 216031541-02			(Purchased Reagent)		Chlorobenside	20 ug/mL
							DCPA	10 ug/mL
							Hexachlorobenzene	10 ug/mL
							Isodrin	10 ug/mL
							Mirex	10 ug/mL
							oxy-Chlordane	10 ug/mL
GCAPPIX1L5_00022	03/17/20	09/17/19	Hexane, Lot 3295450	25 mL	GCAPPX1WORKST_00019	2.5 mL	Chlorobenside	0.2 ug/mL
							DCPA	0.1 ug/mL
							Hexachlorobenzene	0.1 ug/mL
							Isodrin	0.1 ug/mL
							Mirex	0.1 ug/mL
							oxy-Chlordane	0.1 ug/mL
.GCAPPX1WORKST_00019	03/17/20	09/17/19	Hexane, Lot 3295450	10 mL	GCAPPIX1STD_00006	1 mL	Chlorobenside	2 ug/mL
							DCPA	1 ug/mL
							Hexachlorobenzene	1 ug/mL
							Isodrin	1 ug/mL
							Mirex	1 ug/mL
							oxy-Chlordane	1 ug/mL
..GCAPPIX1STD_00006	03/26/20	ACCUSTANDARD, Lot 216031541-02			(Purchased Reagent)		Chlorobenside	20 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							DCPA	10 ug/mL
							Hexachlorobenzene	10 ug/mL
							Isodrin	10 ug/mL
							Mirex	10 ug/mL
							oxy-Chlordane	10 ug/mL
GCAPPIX1L6_00022	03/17/20	09/17/19	Hexane, Lot 3295450	12.5 mL	GCAPPX1WORKST_00019	2.5 mL	Chlorobenside	0.4 ug/mL
							DCPA	0.2 ug/mL
							Hexachlorobenzene	0.2 ug/mL
							Isodrin	0.2 ug/mL
							Mirex	0.2 ug/mL
							oxy-Chlordane	0.2 ug/mL
.GCAPPX1WORKST_00019	03/17/20	09/17/19	Hexane, Lot 3295450	10 mL	GCAPPIX1STD_00006	1 mL	Chlorobenside	2 ug/mL
							DCPA	1 ug/mL
							Hexachlorobenzene	1 ug/mL
							Isodrin	1 ug/mL
							Mirex	1 ug/mL
							oxy-Chlordane	1 ug/mL
..GCAPPIX1STD_00006	03/26/20	ACCUSTANDARD, Lot 216031541-02			(Purchased Reagent)		Chlorobenside	20 ug/mL
							DCPA	10 ug/mL
							Hexachlorobenzene	10 ug/mL
							Isodrin	10 ug/mL
							Mirex	10 ug/mL
							oxy-Chlordane	10 ug/mL
GCAPPX1ICV_00023	03/26/20	09/17/19	Hexane, Lot 3295450	40 mL	GCAPPIX12NDST_00007	0.06 mL	Mirex	0.03 ug/mL
.GCAPPIX12NDST_00007	03/26/20	ACCUSTANDARD, Lot 216031526-02			(Purchased Reagent)		Mirex	20 ug/mL
GCAR1248CALL4_00022	02/28/20	08/27/19	Hexane, Lot 2938930	100 mL	GCPCBI1248STD_00006	0.05 mL	PCB-1248 Peak 1	0.5 ug/mL
							PCB-1248 Peak 2	0.5 ug/mL
							PCB-1248 Peak 3	0.5 ug/mL
							PCB-1248 Peak 4	0.5 ug/mL
							PCB-1248 Peak 5	0.5 ug/mL
.GCPCBI1248STD_00006	07/31/20	RESTEK, Lot A01303107			(Purchased Reagent)		PCB-1248 Peak 1	1000 ug/mL
							PCB-1248 Peak 2	1000 ug/mL
							PCB-1248 Peak 3	1000 ug/mL
							PCB-1248 Peak 4	1000 ug/mL
							PCB-1248 Peak 5	1000 ug/mL
GCAR1248ICV_00020	02/28/20	08/27/19	HEXANE, Lot 2938930	100 mL	GCPCBI1248STD_00009	0.05 mL	PCB-1248	0.5 ug/mL
.GCPCBI1248STD_00009	04/30/22	RESTEK, Lot A0116431			(Purchased Reagent)		PCB-1248	1000 ug/mL
GCAR1660CALL1_00025	02/26/20	08/27/19	HEXANE, Lot 2938930	100 mL	GC1660WORKS_00021	0.01 mL	PCB-1016 Peak 1	0.01 ug/mL
							PCB-1016 Peak 2	0.01 ug/mL
							PCB-1016 Peak 3	0.01 ug/mL
							PCB-1016 Peak 4	0.01 ug/mL
							PCB-1016 Peak 5	0.01 ug/mL
							PCB-1260 Peak 1	0.01 ug/mL
							PCB-1260 Peak 2	0.01 ug/mL
							PCB-1260 Peak 3	0.01 ug/mL
							PCB-1260 Peak 4	0.01 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1260 Peak 5	0.01 ug/mL
							DCB Decachlorobiphenyl (Surr)	0.0005 ug/mL
							Tetrachloro-m-xylene	0.0005 ug/mL
.GC1660WORKS_00021	02/26/20	02/26/19	Hexane, Lot 2938930	40 mL	GCPCBI1660STD_00014	4 mL	PCB-1016 Peak 1	100 ug/mL
							PCB-1016 Peak 2	100 ug/mL
							PCB-1016 Peak 3	100 ug/mL
							PCB-1016 Peak 4	100 ug/mL
							PCB-1016 Peak 5	100 ug/mL
							PCB-1260 Peak 1	100 ug/mL
							PCB-1260 Peak 2	100 ug/mL
							PCB-1260 Peak 3	100 ug/mL
							PCB-1260 Peak 4	100 ug/mL
							PCB-1260 Peak 5	100 ug/mL
					GCPEST(SURR)S_00009	1 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPCBI1660STD_00014	08/30/22	RESTEK, Lot A0119290			(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL
							PCB-1016 Peak 5	1000 ug/mL
							PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL
..GCPEST(SURR)S_00009	11/30/23	RESTEK, Lot A0130424			(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
GCAR1660CALL2_00019	02/26/20	08/27/19	HEXANE, Lot 2938930	100 mL	GC1660WORKS_00021	0.1 mL	PCB-1016 Peak 1	0.1 ug/mL
							PCB-1016 Peak 2	0.1 ug/mL
							PCB-1016 Peak 3	0.1 ug/mL
							PCB-1016 Peak 4	0.1 ug/mL
							PCB-1016 Peak 5	0.1 ug/mL
							PCB-1260 Peak 1	0.1 ug/mL
							PCB-1260 Peak 2	0.1 ug/mL
							PCB-1260 Peak 3	0.1 ug/mL
							PCB-1260 Peak 4	0.1 ug/mL
							PCB-1260 Peak 5	0.1 ug/mL
							DCB Decachlorobiphenyl (Surr)	0.005 ug/mL
							Tetrachloro-m-xylene	0.005 ug/mL
.GC1660WORKS_00021	02/26/20	02/26/19	Hexane, Lot 2938930	40 mL	GCPCBI1660STD_00014	4 mL	PCB-1016 Peak 1	100 ug/mL
							PCB-1016 Peak 2	100 ug/mL
							PCB-1016 Peak 3	100 ug/mL
							PCB-1016 Peak 4	100 ug/mL
							PCB-1016 Peak 5	100 ug/mL
							PCB-1260 Peak 1	100 ug/mL
							PCB-1260 Peak 2	100 ug/mL
							PCB-1260 Peak 3	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1260 Peak 4	100 ug/mL
							PCB-1260 Peak 5	100 ug/mL
					GCPEST(SURR)S_00009	1 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPCBI1660STD_00014	08/30/22		RESTEK, Lot A0119290		(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL
							PCB-1016 Peak 5	1000 ug/mL
							PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL
..GCPEST(SURR)S_00009	11/30/23		RESTEK, Lot A0130424		(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
GCAR1660CALL3_00018	02/26/20	08/27/19	HEXANE, Lot 2938930	100 mL	GC1660WORKS_00021	0.25 mL	PCB-1016 Peak 1	0.25 ug/mL
							PCB-1016 Peak 2	0.25 ug/mL
							PCB-1016 Peak 3	0.25 ug/mL
							PCB-1016 Peak 4	0.25 ug/mL
							PCB-1016 Peak 5	0.25 ug/mL
							PCB-1260 Peak 1	0.25 ug/mL
							PCB-1260 Peak 2	0.25 ug/mL
							PCB-1260 Peak 3	0.25 ug/mL
							PCB-1260 Peak 4	0.25 ug/mL
							PCB-1260 Peak 5	0.25 ug/mL
							DCB Decachlorobiphenyl (Surr)	0.0125 ug/mL
							Tetrachloro-m-xylene	0.0125 ug/mL
.GC1660WORKS_00021	02/26/20	02/26/19	Hexane, Lot 2938930	40 mL	GCPCBI1660STD_00014	4 mL	PCB-1016 Peak 1	100 ug/mL
							PCB-1016 Peak 2	100 ug/mL
							PCB-1016 Peak 3	100 ug/mL
							PCB-1016 Peak 4	100 ug/mL
							PCB-1016 Peak 5	100 ug/mL
							PCB-1260 Peak 1	100 ug/mL
							PCB-1260 Peak 2	100 ug/mL
							PCB-1260 Peak 3	100 ug/mL
							PCB-1260 Peak 4	100 ug/mL
							PCB-1260 Peak 5	100 ug/mL
					GCPEST(SURR)S_00009	1 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPCBI1660STD_00014	08/30/22		RESTEK, Lot A0119290		(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL
							PCB-1016 Peak 5	1000 ug/mL
							PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL
..GCPEST(SURR)S_00009	11/30/23		RESTEK, Lot A0130424		(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
GCAR1660CALL4_00019	02/26/20	08/27/19	HEXANE, Lot 2938930	200 mL	GC1660WORKS_00021	1 mL	PCB-1016 Peak 1	0.5 ug/mL
							PCB-1016 Peak 2	0.5 ug/mL
							PCB-1016 Peak 3	0.5 ug/mL
							PCB-1016 Peak 4	0.5 ug/mL
							PCB-1016 Peak 5	0.5 ug/mL
							PCB-1260 Peak 1	0.5 ug/mL
							PCB-1260 Peak 2	0.5 ug/mL
							PCB-1260 Peak 3	0.5 ug/mL
							PCB-1260 Peak 4	0.5 ug/mL
							PCB-1260 Peak 5	0.5 ug/mL
							DCB Decachlorobiphenyl (Surr)	0.025 ug/mL
							Tetrachloro-m-xylene	0.025 ug/mL
.GC1660WORKS_00021	02/26/20	02/26/19	Hexane, Lot 2938930	40 mL	GCPCBI1660STD_00014	4 mL	PCB-1016 Peak 1	100 ug/mL
							PCB-1016 Peak 2	100 ug/mL
							PCB-1016 Peak 3	100 ug/mL
							PCB-1016 Peak 4	100 ug/mL
							PCB-1016 Peak 5	100 ug/mL
							PCB-1260 Peak 1	100 ug/mL
							PCB-1260 Peak 2	100 ug/mL
							PCB-1260 Peak 3	100 ug/mL
							PCB-1260 Peak 4	100 ug/mL
							PCB-1260 Peak 5	100 ug/mL
					GCPEST(SURR)S_00009	1 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPCBI1660STD_00014	08/30/22		RESTEK, Lot A0119290		(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL
							PCB-1016 Peak 5	1000 ug/mL
							PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL
..GCPEST(SURR)S_00009	11/30/23		RESTEK, Lot A0130424		(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
GCAR1660CALL4_00019	02/26/20	08/27/19	HEXANE, Lot 2938930	200 mL	GC1660WORKS_00021	1 mL	PCB-1016	0.5 ug/mL
							PCB-1260	0.5 ug/mL
.GC1660WORKS_00021	02/26/20	02/26/19	Hexane, Lot 2938930	40 mL	GCPCBI1660STD_00014	4 mL	PCB-1016	100 ug/mL
							PCB-1260	100 ug/mL
..GCPCBI1660STD_00014	08/30/22		RESTEK, Lot A0119290		(Purchased Reagent)		PCB-1016	1000 ug/mL
							PCB-1260	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
GCAR1660CALL5_00019	02/26/20	08/27/19	HEXANE, Lot 2938930	200 mL	GC1660WORKS_00021	2 mL	PCB-1016 Peak 1	1 ug/mL
							PCB-1016 Peak 2	1 ug/mL
							PCB-1016 Peak 3	1 ug/mL
							PCB-1016 Peak 4	1 ug/mL
							PCB-1016 Peak 5	1 ug/mL
							PCB-1260 Peak 1	1 ug/mL
							PCB-1260 Peak 2	1 ug/mL
							PCB-1260 Peak 3	1 ug/mL
							PCB-1260 Peak 4	1 ug/mL
							PCB-1260 Peak 5	1 ug/mL
							DCB Decachlorobiphenyl (Surr)	0.05 ug/mL
							Tetrachloro-m-xylene	0.05 ug/mL
.GC1660WORKS_00021	02/26/20	02/26/19	Hexane, Lot 2938930	40 mL	GCPCBI1660STD_00014	4 mL	PCB-1016 Peak 1	100 ug/mL
							PCB-1016 Peak 2	100 ug/mL
							PCB-1016 Peak 3	100 ug/mL
							PCB-1016 Peak 4	100 ug/mL
							PCB-1016 Peak 5	100 ug/mL
							PCB-1260 Peak 1	100 ug/mL
							PCB-1260 Peak 2	100 ug/mL
							PCB-1260 Peak 3	100 ug/mL
							PCB-1260 Peak 4	100 ug/mL
							PCB-1260 Peak 5	100 ug/mL
					GCPEST(SURR)S_00009	1 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPCBI1660STD_00014	08/30/22	RESTEK, Lot A0119290			(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL
							PCB-1016 Peak 5	1000 ug/mL
							PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL
..GCPEST(SURR)S_00009	11/30/23	RESTEK, Lot A0130424			(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
GCAR1660CALL6_00017	02/26/20	08/27/19	HEXANE, Lot 2938930	100 mL	GC1660WORKS_00021	2 mL	PCB-1016 Peak 1	2 ug/mL
							PCB-1016 Peak 2	2 ug/mL
							PCB-1016 Peak 3	2 ug/mL
							PCB-1016 Peak 4	2 ug/mL
							PCB-1016 Peak 5	2 ug/mL
							PCB-1260 Peak 1	2 ug/mL
							PCB-1260 Peak 2	2 ug/mL
							PCB-1260 Peak 3	2 ug/mL
							PCB-1260 Peak 4	2 ug/mL
							PCB-1260 Peak 5	2 ug/mL
							DCB Decachlorobiphenyl (Surr)	0.1 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Tetrachloro-m-xylene	0.1 ug/mL
.GC1660WORKS_00021	02/26/20	02/26/19	Hexane, Lot 2938930	40 mL	GCPCBI1660STD_00014	4 mL	PCB-1016 Peak 1	100 ug/mL
							PCB-1016 Peak 2	100 ug/mL
							PCB-1016 Peak 3	100 ug/mL
							PCB-1016 Peak 4	100 ug/mL
							PCB-1016 Peak 5	100 ug/mL
							PCB-1260 Peak 1	100 ug/mL
							PCB-1260 Peak 2	100 ug/mL
							PCB-1260 Peak 3	100 ug/mL
							PCB-1260 Peak 4	100 ug/mL
							PCB-1260 Peak 5	100 ug/mL
					GCPEST(SURR)S_00009	1 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPCBI1660STD_00014	08/30/22	RESTEK, Lot A0119290			(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL
							PCB-1016 Peak 5	1000 ug/mL
							PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL
..GCPEST(SURR)S_00009	11/30/23	RESTEK, Lot A0130424			(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
GCAR1660CALL7_00018	02/26/20	08/27/19	HEXANE, Lot 2938930	100 mL	GC1660WORKS_00021	4 mL	PCB-1016 Peak 1	4 ug/mL
							PCB-1016 Peak 2	4 ug/mL
							PCB-1016 Peak 3	4 ug/mL
							PCB-1016 Peak 4	4 ug/mL
							PCB-1016 Peak 5	4 ug/mL
							PCB-1260 Peak 1	4 ug/mL
							PCB-1260 Peak 2	4 ug/mL
							PCB-1260 Peak 3	4 ug/mL
							PCB-1260 Peak 4	4 ug/mL
							PCB-1260 Peak 5	4 ug/mL
							DCB Decachlorobiphenyl (Surr)	0.2 ug/mL
							Tetrachloro-m-xylene	0.2 ug/mL
.GC1660WORKS_00021	02/26/20	02/26/19	Hexane, Lot 2938930	40 mL	GCPCBI1660STD_00014	4 mL	PCB-1016 Peak 1	100 ug/mL
							PCB-1016 Peak 2	100 ug/mL
							PCB-1016 Peak 3	100 ug/mL
							PCB-1016 Peak 4	100 ug/mL
							PCB-1016 Peak 5	100 ug/mL
							PCB-1260 Peak 1	100 ug/mL
							PCB-1260 Peak 2	100 ug/mL
							PCB-1260 Peak 3	100 ug/mL
							PCB-1260 Peak 4	100 ug/mL
							PCB-1260 Peak 5	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					GCPEST(SURR)S_00009	1 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPCBI1660STD_00014	08/30/22		RESTEK, Lot A0119290		(Purchased Reagent)		PCB-1016 Peak 1	1000 ug/mL
							PCB-1016 Peak 2	1000 ug/mL
							PCB-1016 Peak 3	1000 ug/mL
							PCB-1016 Peak 4	1000 ug/mL
							PCB-1016 Peak 5	1000 ug/mL
							PCB-1260 Peak 1	1000 ug/mL
							PCB-1260 Peak 2	1000 ug/mL
							PCB-1260 Peak 3	1000 ug/mL
							PCB-1260 Peak 4	1000 ug/mL
							PCB-1260 Peak 5	1000 ug/mL
..GCPEST(SURR)S_00009	11/30/23		RESTEK, Lot A0130424		(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
GCAR1660ICV_00015	02/28/20	08/27/19	Hexane, Lot 2938930	100 mL	GCPCBI1660STD_00016	0.05 mL	PCB-1016	0.5 ug/mL
							PCB-1260	0.5 ug/mL
.GCPCBI1660STD_00016	01/30/22		RESTEK, Lot A0114674		(Purchased Reagent)		PCB-1016	1000 ug/mL
							PCB-1260	1000 ug/mL
GCAR2154CALL4_00021	02/28/20	08/27/19	Hexane, Lot 2938930	100 mL	GCPCB2154 mix_00005	0.05 mL	PCB-1221 Peak 1	0.5 ug/mL
							PCB-1221 Peak 2	0.5 ug/mL
							PCB-1221 Peak 3	0.5 ug/mL
							PCB-1254 Peak 1	0.5 ug/mL
							PCB-1254 Peak 2	0.5 ug/mL
							PCB-1254 Peak 3	0.5 ug/mL
							PCB-1254 Peak 4	0.5 ug/mL
							PCB-1254 Peak 5	0.5 ug/mL
.GCPCB2154 mix_00005	04/30/22		RESTEK, Lot a0116420		(Purchased Reagent)		PCB-1221 Peak 1	1000 ug/mL
							PCB-1221 Peak 2	1000 ug/mL
							PCB-1221 Peak 3	1000 ug/mL
							PCB-1254 Peak 1	1000 ug/mL
							PCB-1254 Peak 2	1000 ug/mL
							PCB-1254 Peak 3	1000 ug/mL
							PCB-1254 Peak 4	1000 ug/mL
							PCB-1254 Peak 5	1000 ug/mL
GCAR2154ICV_00021	02/28/20	08/27/19	HEXANE, Lot 2938930	100 mL	GCPCB2154 mix_00004	0.05 mL	PCB-1221	0.5 ug/mL
							PCB-1254	0.5 ug/mL
.GCPCB2154 mix_00004	02/28/22		RESTEK, Lot a0115555		(Purchased Reagent)		PCB-1221	1000 ug/mL
							PCB-1254	1000 ug/mL
GCAR3262CALL4_00014	02/28/20	08/27/19	Hexane, Lot 2938930	100 mL	GCPCB3262 mix_00003	0.05 mL	PCB-1232 Peak 1	0.5 ug/mL
							PCB-1232 Peak 2	0.5 ug/mL
							PCB-1232 Peak 3	0.5 ug/mL
							PCB-1232 Peak 4	0.5 ug/mL
							PCB-1232 Peak 5	0.5 ug/mL
							PCB-1262 Peak 1	0.5 ug/mL
							PCB-1262 Peak 2	0.5 ug/mL
							PCB-1262 Peak 3	0.5 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1262 Peak 4	0.5 ug/mL
							PCB-1262 Peak 5	0.5 ug/mL
.GCPCB3262 mix_00003	10/30/21		RESTEK, Lot A0112323		(Purchased Reagent)		PCB-1232 Peak 1	1000 ug/mL
							PCB-1232 Peak 2	1000 ug/mL
							PCB-1232 Peak 3	1000 ug/mL
							PCB-1232 Peak 4	1000 ug/mL
							PCB-1232 Peak 5	1000 ug/mL
							PCB-1262 Peak 1	1000 ug/mL
							PCB-1262 Peak 2	1000 ug/mL
							PCB-1262 Peak 3	1000 ug/mL
							PCB-1262 Peak 4	1000 ug/mL
							PCB-1262 Peak 5	1000 ug/mL
GCAR3262ICV_00012	02/28/20	08/27/19	HEAXANE, Lot 2938930	100 mL	GCPCB3262 mix_00004	0.05 mL	PCB-1232	0.5 ug/mL
.GCPCB3262 mix_00004	08/30/21		RESTEK, Lot A0110988		(Purchased Reagent)		PCB-1232	1000 ug/mL
GCAR4268CALL4_00014	02/28/20	08/27/19	Hexane, Lot 2938930	100 mL	GCPCB4268 mix_00004	0.05 mL	PCB-1242 Peak 1	0.5 ug/mL
							PCB-1242 Peak 2	0.5 ug/mL
							PCB-1242 Peak 3	0.5 ug/mL
							PCB-1242 Peak 4	0.5 ug/mL
							PCB-1242 Peak 5	0.5 ug/mL
							PCB-1268 Peak 1	0.5 ug/mL
							PCB-1268 Peak 2	0.5 ug/mL
							PCB-1268 Peak 3	0.5 ug/mL
							PCB-1268 Peak 4	0.5 ug/mL
.GCPCB4268 mix_00004	05/30/21		RESTEK, Lot A0109391		(Purchased Reagent)		PCB-1242 Peak 1	1000 ug/mL
							PCB-1242 Peak 2	1000 ug/mL
							PCB-1242 Peak 3	1000 ug/mL
							PCB-1242 Peak 4	1000 ug/mL
							PCB-1242 Peak 5	1000 ug/mL
							PCB-1268 Peak 1	1000 ug/mL
							PCB-1268 Peak 2	1000 ug/mL
							PCB-1268 Peak 3	1000 ug/mL
							PCB-1268 Peak 4	1000 ug/mL
GCAR4268ICV_00012	02/28/20	08/27/19	HEXANE, Lot 2938930	100 mL	GCPCB4268 mix_00003	0.05 mL	PCB-1242	0.5 ug/mL
.GCPCB4268 mix_00003	04/30/22		RESTEK, Lot A0116616		(Purchased Reagent)		PCB-1242	1000 ug/mL
GCCHLORICV_00011	09/04/19	03/04/19	Hexane, Lot 3019174	40 mL	TECHCHLORDANE_00002	0.002 mL	Chlordane (technical)	0.25 ug/mL
.TECHCHLORDANE_00002	02/29/20		RESTEK, Lot A0117232		(Purchased Reagent)		Chlordane (technical)	5000 ug/mL
GCCHLORLEVEL1_00011	09/04/19	03/04/19	Hexane, Lot 3019174	40 mL	GCCHLORINTSTD_00006	0.004 mL	Chlordane (technical) Peak 1	0.005 ug/mL
							Chlordane (technical) Peak 2	0.005 ug/mL
							Chlordane (technical) Peak 3	0.005 ug/mL
							Chlordane (technical) Peak 4	0.005 ug/mL
.GCCHLORINTSTD_00006	02/29/20	03/04/19	Hexane, Lot 3019174	40 mL	TECHCHLORDANE_00001	400 uL	Chlordane (technical) Peak 1	50 ug/mL
							Chlordane (technical) Peak 2	50 ug/mL
							Chlordane (technical) Peak 3	50 ug/mL
							Chlordane (technical) Peak 4	50 ug/mL
..TECHCHLORDANE_00001	02/29/20		RESTEK, Lot A0117443		(Purchased Reagent)		Chlordane (technical) Peak 1	5000 ug/mL
							Chlordane (technical) Peak 2	5000 ug/mL

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Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Chlordane (technical) Peak 3	5000 ug/mL
							Chlordane (technical) Peak 4	5000 ug/mL
GCCHLORLEVEL2_00009	09/04/19	03/04/19	Hexane, Lot 3019174	40 mL	GCCHLORINTSTD_00006	0.02 mL	Chlordane (technical) Peak 1	0.025 ug/mL
							Chlordane (technical) Peak 2	0.025 ug/mL
							Chlordane (technical) Peak 3	0.025 ug/mL
							Chlordane (technical) Peak 4	0.025 ug/mL
.GCCHLORINTSTD_00006	02/29/20	03/04/19	Hexane, Lot 3019174	40 mL	TECHCHLORDANE_00001	400 uL	Chlordane (technical) Peak 1	50 ug/mL
							Chlordane (technical) Peak 2	50 ug/mL
							Chlordane (technical) Peak 3	50 ug/mL
							Chlordane (technical) Peak 4	50 ug/mL
..TECHCHLORDANE_00001	02/29/20	RESTEK, Lot A0117443			(Purchased Reagent)		Chlordane (technical) Peak 1	5000 ug/mL
							Chlordane (technical) Peak 2	5000 ug/mL
							Chlordane (technical) Peak 3	5000 ug/mL
							Chlordane (technical) Peak 4	5000 ug/mL
GCCHLORLEVEL3_00015	09/04/19	03/04/19	Hexane, Lot 3019174	40 mL	GCCHLORINTSTD_00006	0.2 mL	Chlordane (technical) Peak 1	0.25 ug/mL
							Chlordane (technical) Peak 2	0.25 ug/mL
							Chlordane (technical) Peak 3	0.25 ug/mL
							Chlordane (technical) Peak 4	0.25 ug/mL
.GCCHLORINTSTD_00006	02/29/20	03/04/19	Hexane, Lot 3019174	40 mL	TECHCHLORDANE_00001	400 uL	Chlordane (technical) Peak 1	50 ug/mL
							Chlordane (technical) Peak 2	50 ug/mL
							Chlordane (technical) Peak 3	50 ug/mL
							Chlordane (technical) Peak 4	50 ug/mL
..TECHCHLORDANE_00001	02/29/20	RESTEK, Lot A0117443			(Purchased Reagent)		Chlordane (technical) Peak 1	5000 ug/mL
							Chlordane (technical) Peak 2	5000 ug/mL
							Chlordane (technical) Peak 3	5000 ug/mL
							Chlordane (technical) Peak 4	5000 ug/mL
GCCHLORLEVEL3_00017	02/29/20	09/19/19	Hexane, Lot 3295450	40 mL	GCCHLORINTSTD_00006	0.2 mL	Chlordane (technical)	0.25 ug/mL
.GCCHLORINTSTD_00006	02/29/20	03/04/19	Hexane, Lot 3019174	40 mL	TECHCHLORDANE_00001	400 uL	Chlordane (technical)	50 ug/mL
..TECHCHLORDANE_00001	02/29/20	RESTEK, Lot A0117443			(Purchased Reagent)		Chlordane (technical)	5000 ug/mL
GCCHLORLEVEL4_00009	09/04/19	03/04/19	Hexane, Lot 3019174	40 mL	GCCHLORINTSTD_00006	1 mL	Chlordane (technical) Peak 1	1.25 ug/mL
							Chlordane (technical) Peak 2	1.25 ug/mL
							Chlordane (technical) Peak 3	1.25 ug/mL
							Chlordane (technical) Peak 4	1.25 ug/mL
.GCCHLORINTSTD_00006	02/29/20	03/04/19	Hexane, Lot 3019174	40 mL	TECHCHLORDANE_00001	400 uL	Chlordane (technical) Peak 1	50 ug/mL
							Chlordane (technical) Peak 2	50 ug/mL
							Chlordane (technical) Peak 3	50 ug/mL
							Chlordane (technical) Peak 4	50 ug/mL
..TECHCHLORDANE_00001	02/29/20	RESTEK, Lot A0117443			(Purchased Reagent)		Chlordane (technical) Peak 1	5000 ug/mL
							Chlordane (technical) Peak 2	5000 ug/mL
							Chlordane (technical) Peak 3	5000 ug/mL
							Chlordane (technical) Peak 4	5000 ug/mL
GCCHLORLEVEL5_00011	09/04/19	03/04/19	Hexane, Lot 3019174	40 mL	GCCHLORINTSTD_00006	2 mL	Chlordane (technical) Peak 1	2.5 ug/mL
							Chlordane (technical) Peak 2	2.5 ug/mL
							Chlordane (technical) Peak 3	2.5 ug/mL
							Chlordane (technical) Peak 4	2.5 ug/mL
.GCCHLORINTSTD_00006	02/29/20	03/04/19	Hexane, Lot 3019174	40 mL	TECHCHLORDANE_00001	400 uL	Chlordane (technical) Peak 1	50 ug/mL

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Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Chlordane (technical) Peak 2	50 ug/mL
							Chlordane (technical) Peak 3	50 ug/mL
							Chlordane (technical) Peak 4	50 ug/mL
..TECHCHLORDANE_00001	02/29/20		RESTEK, Lot A0117443		(Purchased Reagent)		Chlordane (technical) Peak 1	5000 ug/mL
							Chlordane (technical) Peak 2	5000 ug/mL
							Chlordane (technical) Peak 3	5000 ug/mL
							Chlordane (technical) Peak 4	5000 ug/mL
GCHERBCALSL1_00027	06/30/20	04/03/19	Hexane, Lot 1932891	40 mL	GCHERBICALSTK_00021	0.125 mL	2,4-Dichlorophenylacetic acid	0.02 ug/mL
							2,4,5-T	0.005 ug/mL
							2,4-D	0.02 ug/mL
							2,4-DB	0.02 ug/mL
							Dalapon	0.02 ug/mL
							Dicamba	0.01 ug/mL
							Dichlorprop	0.02 ug/mL
							Dinoseb	0.02 ug/mL
							MCPA	2 ug/mL
							MCPP	2 ug/mL
							Pentachlorophenol	0.005 ug/mL
							Silvex (2,4,5-TP)	0.005 ug/mL
.GCHERBICALSTK_00021	06/30/20	04/03/19	Hexane, Lot 1932891	10 mL	GCDCAASSTD_00008	0.064 mL	2,4-Dichlorophenylacetic acid	6.4 ug/mL
					GCHERBICALMIX_00018	0.32 mL	2,4,5-T	1.6 ug/mL
							2,4-D	6.4 ug/mL
							2,4-DB	6.4 ug/mL
							Dalapon	6.4 ug/mL
							Dicamba	3.2 ug/mL
							Dichlorprop	6.4 ug/mL
							Dinoseb	6.4 ug/mL
							MCPA	640 ug/mL
							MCPP	640 ug/mL
							Pentachlorophenol	1.6 ug/mL
							Silvex (2,4,5-TP)	1.6 ug/mL
..GCDCAASSTD_00008	06/30/20		RESTEK, Lot A0140943		(Purchased Reagent)		2,4-Dichlorophenylacetic acid	1000 ug/mL
..GCHERBICALMIX_00018	07/31/20		restek, Lot A0142217		(Purchased Reagent)		2,4,5-T	50 ug/mL
							2,4-D	200 ug/mL
							2,4-DB	200 ug/mL
							Dalapon	200 ug/mL
							Dicamba	100 ug/mL
							Dichlorprop	200 ug/mL
							Dinoseb	200 ug/mL
							MCPA	20000 ug/mL
							MCPP	20000 ug/mL
							Pentachlorophenol	50 ug/mL
							Silvex (2,4,5-TP)	50 ug/mL
GCHERBCALSL2_00024	06/30/20	04/03/19	Hexane, Lot 1932891	40 mL	GCHERBICALSTK_00021	0.25 mL	2,4-Dichlorophenylacetic acid	0.04 ug/mL
							2,4,5-T	0.01 ug/mL
							2,4-D	0.04 ug/mL
							2,4-DB	0.04 ug/mL

REAGENT TRACEABILITY SUMMARY

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Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Dalapon	0.04 ug/mL
							Dicamba	0.02 ug/mL
							Dichlorprop	0.04 ug/mL
							Dinoseb	0.04 ug/mL
							MCPA	4 ug/mL
							MCPP	4 ug/mL
							Pentachlorophenol	0.01 ug/mL
							Silvex (2,4,5-TP)	0.01 ug/mL
.GCHERBICALSTK_00021	06/30/20	04/03/19	Hexane, Lot 1932891	10 mL	GCDCAASSTD_00008	0.064 mL	2,4-Dichlorophenylacetic acid	6.4 ug/mL
					GCHERBICALMIX_00018	0.32 mL	2,4,5-T	1.6 ug/mL
							2,4-D	6.4 ug/mL
							2,4-DB	6.4 ug/mL
							Dalapon	6.4 ug/mL
							Dicamba	3.2 ug/mL
							Dichlorprop	6.4 ug/mL
							Dinoseb	6.4 ug/mL
							MCPA	640 ug/mL
							MCPP	640 ug/mL
							Pentachlorophenol	1.6 ug/mL
							Silvex (2,4,5-TP)	1.6 ug/mL
..GCDCAASSTD_00008	06/30/20		RESTEK, Lot A0140943		(Purchased Reagent)		2,4-Dichlorophenylacetic acid	1000 ug/mL
..GCHERBICALMIX_00018	07/31/20		restek, Lot A0142217		(Purchased Reagent)		2,4,5-T	50 ug/mL
							2,4-D	200 ug/mL
							2,4-DB	200 ug/mL
							Dalapon	200 ug/mL
							Dicamba	100 ug/mL
							Dichlorprop	200 ug/mL
							Dinoseb	200 ug/mL
							MCPA	20000 ug/mL
							MCPP	20000 ug/mL
							Pentachlorophenol	50 ug/mL
							Silvex (2,4,5-TP)	50 ug/mL
GCHERBCALSL3_00028	06/30/20	04/03/19	Hexane, Lot 1932891	100 mL	GCHERBICALSTK_00021	1.25 mL	2,4-Dichlorophenylacetic acid	0.08 ug/mL
							2,4,5-T	0.02 ug/mL
							2,4-D	0.08 ug/mL
							2,4-DB	0.08 ug/mL
							Dalapon	0.08 ug/mL
							Dicamba	0.04 ug/mL
							Dichlorprop	0.08 ug/mL
							Dinoseb	0.08 ug/mL
							MCPA	8 ug/mL
							MCPP	8 ug/mL
							Pentachlorophenol	0.02 ug/mL
							Silvex (2,4,5-TP)	0.02 ug/mL
.GCHERBICALSTK_00021	06/30/20	04/03/19	Hexane, Lot 1932891	10 mL	GCDCAASSTD_00008	0.064 mL	2,4-Dichlorophenylacetic acid	6.4 ug/mL
					GCHERBICALMIX_00018	0.32 mL	2,4,5-T	1.6 ug/mL
							2,4-D	6.4 ug/mL

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Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,4-DB	6.4 ug/mL
							Dalapon	6.4 ug/mL
							Dicamba	3.2 ug/mL
							Dichlorprop	6.4 ug/mL
							Dinoseb	6.4 ug/mL
							MCPA	640 ug/mL
							MCPP	640 ug/mL
							Pentachlorophenol	1.6 ug/mL
							Silvex (2,4,5-TP)	1.6 ug/mL
..GCDCAASSTD_00008	06/30/20		RESTEK, Lot A0140943		(Purchased Reagent)		2,4-Dichlorophenylacetic acid	1000 ug/mL
..GCHERBICALMIX_00018	07/31/20		restek, Lot A0142217		(Purchased Reagent)		2,4,5-T	50 ug/mL
							2,4-D	200 ug/mL
							2,4-DB	200 ug/mL
							Dalapon	200 ug/mL
							Dicamba	100 ug/mL
							Dichlorprop	200 ug/mL
							Dinoseb	200 ug/mL
							MCPA	20000 ug/mL
							MCPP	20000 ug/mL
							Pentachlorophenol	50 ug/mL
							Silvex (2,4,5-TP)	50 ug/mL
GCHERBCALSL4_00027	06/30/20	04/03/19	Hexane, Lot 1932891	40 mL	GCHERBICALSTK_00021	1 mL	2,4-Dichlorophenylacetic acid	0.16 ug/mL
							2,4,5-T	0.04 ug/mL
							2,4-D	0.16 ug/mL
							2,4-DB	0.16 ug/mL
							Dalapon	0.16 ug/mL
							Dicamba	0.08 ug/mL
							Dichlorprop	0.16 ug/mL
							Dinoseb	0.16 ug/mL
							MCPA	16 ug/mL
							MCPP	16 ug/mL
							Pentachlorophenol	0.04 ug/mL
							Silvex (2,4,5-TP)	0.04 ug/mL
.GCHERBICALSTK_00021	06/30/20	04/03/19	Hexane, Lot 1932891	10 mL	GCDCAASSTD_00008	0.064 mL	2,4-Dichlorophenylacetic acid	6.4 ug/mL
					GCHERBICALMIX_00018	0.32 mL	2,4,5-T	1.6 ug/mL
							2,4-D	6.4 ug/mL
							2,4-DB	6.4 ug/mL
							Dalapon	6.4 ug/mL
							Dicamba	3.2 ug/mL
							Dichlorprop	6.4 ug/mL
							Dinoseb	6.4 ug/mL
							MCPA	640 ug/mL
							MCPP	640 ug/mL
							Pentachlorophenol	1.6 ug/mL
							Silvex (2,4,5-TP)	1.6 ug/mL
..GCDCAASSTD_00008	06/30/20		RESTEK, Lot A0140943		(Purchased Reagent)		2,4-Dichlorophenylacetic acid	1000 ug/mL
..GCHERBICALMIX_00018	07/31/20		restek, Lot A0142217		(Purchased Reagent)		2,4,5-T	50 ug/mL

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Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,4-D	200 ug/mL
							2,4-DB	200 ug/mL
							Dalapon	200 ug/mL
							Dicamba	100 ug/mL
							Dichlorprop	200 ug/mL
							Dinoseb	200 ug/mL
							MCPA	20000 ug/mL
							MCPP	20000 ug/mL
							Pentachlorophenol	50 ug/mL
							Silvex (2,4,5-TP)	50 ug/mL
GCHERBCALSL5_00024	06/30/20	04/03/19	Hexane, Lot 1932891	40 mL	GCHERBICALSTK_00021	2 mL	2,4-Dichlorophenylacetic acid	0.32 ug/mL
							2,4,5-T	0.08 ug/mL
							2,4-D	0.32 ug/mL
							2,4-DB	0.32 ug/mL
							Dalapon	0.32 ug/mL
							Dicamba	0.16 ug/mL
							Dichlorprop	0.32 ug/mL
							Dinoseb	0.32 ug/mL
							MCPA	32 ug/mL
							MCPP	32 ug/mL
							Pentachlorophenol	0.08 ug/mL
							Silvex (2,4,5-TP)	0.08 ug/mL
.GCHERBICALSTK_00021	06/30/20	04/03/19	Hexane, Lot 1932891	10 mL	GCDCAASSTD_00008	0.064 mL	2,4-Dichlorophenylacetic acid	6.4 ug/mL
					GCHERBICALMIX_00018	0.32 mL	2,4,5-T	1.6 ug/mL
							2,4-D	6.4 ug/mL
							2,4-DB	6.4 ug/mL
							Dalapon	6.4 ug/mL
							Dicamba	3.2 ug/mL
							Dichlorprop	6.4 ug/mL
							Dinoseb	6.4 ug/mL
							MCPA	640 ug/mL
							MCPP	640 ug/mL
							Pentachlorophenol	1.6 ug/mL
							Silvex (2,4,5-TP)	1.6 ug/mL
..GCDCAASSTD_00008	06/30/20	RESTEK, Lot A0140943			(Purchased Reagent)		2,4-Dichlorophenylacetic acid	1000 ug/mL
..GCHERBICALMIX_00018	07/31/20	restek, Lot A0142217			(Purchased Reagent)		2,4,5-T	50 ug/mL
							2,4-D	200 ug/mL
							2,4-DB	200 ug/mL
							Dalapon	200 ug/mL
							Dicamba	100 ug/mL
							Dichlorprop	200 ug/mL
							Dinoseb	200 ug/mL
							MCPA	20000 ug/mL
							MCPP	20000 ug/mL
							Pentachlorophenol	50 ug/mL
							Silvex (2,4,5-TP)	50 ug/mL
GCHERBCALSL6_00012	06/30/20	04/03/19	Hexane, Lot 1932891	20 mL	GCHERBICALSTK_00021	2 mL	2,4-Dichlorophenylacetic acid	0.64 ug/mL

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Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,4,5-T	0.16 ug/mL
							2,4-D	0.64 ug/mL
							2,4-DB	0.64 ug/mL
							Dalapon	0.64 ug/mL
							Dicamba	0.32 ug/mL
							Dichlorprop	0.64 ug/mL
							Dinoseb	0.64 ug/mL
							MCPA	64 ug/mL
							MCPP	64 ug/mL
							Pentachlorophenol	0.16 ug/mL
							Silvex (2,4,5-TP)	0.16 ug/mL
.GCHERBICALSTK_00021	06/30/20	04/03/19	Hexane, Lot 1932891	10 mL	GCDCAASSTD_00008	0.064 mL	2,4-Dichlorophenylacetic acid	6.4 ug/mL
					GCHERBICALMIX_00018	0.32 mL	2,4,5-T	1.6 ug/mL
							2,4-D	6.4 ug/mL
							2,4-DB	6.4 ug/mL
							Dalapon	6.4 ug/mL
							Dicamba	3.2 ug/mL
							Dichlorprop	6.4 ug/mL
							Dinoseb	6.4 ug/mL
							MCPA	640 ug/mL
							MCPP	640 ug/mL
							Pentachlorophenol	1.6 ug/mL
							Silvex (2,4,5-TP)	1.6 ug/mL
..GCDCAASSTD_00008	06/30/20	RESTEK, Lot A0140943			(Purchased Reagent)		2,4-Dichlorophenylacetic acid	1000 ug/mL
..GCHERBICALMIX_00018	07/31/20	restek, Lot A0142217			(Purchased Reagent)		2,4,5-T	50 ug/mL
							2,4-D	200 ug/mL
							2,4-DB	200 ug/mL
							Dalapon	200 ug/mL
							Dicamba	100 ug/mL
							Dichlorprop	200 ug/mL
							Dinoseb	200 ug/mL
							MCPA	20000 ug/mL
							MCPP	20000 ug/mL
							Pentachlorophenol	50 ug/mL
							Silvex (2,4,5-TP)	50 ug/mL
GCHERBCALSL7_00011	06/30/20	04/03/19	Hexane, Lot 1932891	40 mL	GCHERBICALSTK_00021	0.0625 mL	2,4-Dichlorophenylacetic acid	0.01 ug/mL
							2,4,5-T	0.0025 ug/mL
							2,4-D	0.01 ug/mL
							2,4-DB	0.01 ug/mL
							Dalapon	0.01 ug/mL
							Dicamba	0.005 ug/mL
							Dichlorprop	0.01 ug/mL
							Dinoseb	0.01 ug/mL
							MCPA	1 ug/mL
							MCPP	1 ug/mL
							Pentachlorophenol	0.0025 ug/mL
							Silvex (2,4,5-TP)	0.0025 ug/mL

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Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.GCHERBICALSTK_00021	06/30/20	04/03/19	Hexane, Lot 1932891	10 mL	GCDCAASSTD_00008	0.064 mL	2,4-Dichlorophenylacetic acid	6.4 ug/mL
					GCHERBICALMIX_00018	0.32 mL	2,4,5-T	1.6 ug/mL
							2,4-D	6.4 ug/mL
							2,4-DB	6.4 ug/mL
							Dalapon	6.4 ug/mL
							Dicamba	3.2 ug/mL
							Dichlorprop	6.4 ug/mL
							Dinoseb	6.4 ug/mL
							MCPA	640 ug/mL
							MCPP	640 ug/mL
							Pentachlorophenol	1.6 ug/mL
							Silvex (2,4,5-TP)	1.6 ug/mL
..GCDCAASSTD_00008	06/30/20		RESTEK, Lot A0140943		(Purchased Reagent)		2,4-Dichlorophenylacetic acid	1000 ug/mL
..GCHERBICALMIX_00018	07/31/20		restek, Lot A0142217		(Purchased Reagent)		2,4,5-T	50 ug/mL
							2,4-D	200 ug/mL
							2,4-DB	200 ug/mL
							Dalapon	200 ug/mL
							Dicamba	100 ug/mL
							Dichlorprop	200 ug/mL
							Dinoseb	200 ug/mL
							MCPA	20000 ug/mL
							MCPP	20000 ug/mL
							Pentachlorophenol	50 ug/mL
							Silvex (2,4,5-TP)	50 ug/mL
GCHERBICVSTD_00022	09/10/19	08/10/19	Hexane, Lot 1932891	40 mL	GCHERBICVINT_00008	2 mL	2,4-D	0.2 ug/mL
							Dinoseb	0.2 ug/mL
							Silvex (2,4,5-TP)	0.05 ug/mL
.GCHERBICVINT_00008	07/31/19	04/03/19	Hexane, Lot 1932891	10 mL	Herbmix1.sec_00004	0.2 mL	2,4-D	4 ug/mL
							Dinoseb	4 ug/mL
							Silvex (2,4,5-TP)	1 ug/mL
..Herbmix1.sec_00004	07/31/19		restek, Lot A0120175		(Purchased Reagent)		2,4-D	200 ug/mL
							Dinoseb	200 ug/mL
							Silvex (2,4,5-TP)	50 ug/mL
GCMATRIXWORKS_00034	03/18/20	09/18/19	ACETONE, Lot 2680072	200 mL	AR1016(10000)_00001	0.8 mL	PCB-1016	40 ug/mL
					AR1260(10000)_00001	0.8 mL	PCB-1260	40 ug/mL
.AR1016(10000)_00001	03/31/22		restek, Lot A0125929		(Purchased Reagent)		PCB-1016	10000 ug/mL
.AR1260(10000)_00001	03/31/22		Restek, Lot A0126325		(Purchased Reagent)		PCB-1260	10000 ug/mL
GCPest L1_00026	08/03/19	02/06/19	Hexane, Lot 3019174	40 mL	GCCLPSURRSTK_00010	0.008 mL	DCB Decachlorobiphenyl (Surr)	0.001 ug/mL
							Tetrachloro-m-xylene	0.001 ug/mL
					GCPestCAL_00014	0.004 mL	4,4'-DDD	0.001 ug/mL
							4,4'-DDE	0.001 ug/mL
							4,4'-DDT	0.001 ug/mL
							Aldrin	0.001 ug/mL
							alpha-BHC	0.001 ug/mL
							beta-BHC	0.001 ug/mL
							cis-Chlordane	0.001 ug/mL
							delta-BHC	0.001 ug/mL

REAGENT TRACEABILITY SUMMARY

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Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Dieldrin	0.001 ug/mL
							Endosulfan I	0.001 ug/mL
							Endosulfan II	0.001 ug/mL
							Endosulfan sulfate	0.001 ug/mL
							Endrin	0.001 ug/mL
							Endrin aldehyde	0.001 ug/mL
							Endrin ketone	0.001 ug/mL
							gamma-BHC (Lindane)	0.001 ug/mL
							Heptachlor	0.001 ug/mL
							Heptachlor epoxide	0.001 ug/mL
							Methoxychlor	0.001 ug/mL
							trans-Chlordane	0.001 ug/mL
.GCCLPSURRSTK_00010	08/03/19	08/03/18	Hexane, Lot 2819206	20 mL	GCPEST(SURR)S_00009	0.5 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPEST(SURR)S_00009	11/30/23	RESTEK, Lot A0130424			(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
.GCPestCAL_00014	02/06/20	02/06/19	Hexane, Lot 3019174	20 mL	GCPESTAB3STD_00004	0.1 mL	4,4'-DDD	10 ug/mL
							4,4'-DDE	10 ug/mL
							4,4'-DDT	10 ug/mL
							Aldrin	10 ug/mL
							alpha-BHC	10 ug/mL
							beta-BHC	10 ug/mL
							cis-Chlordane	10 ug/mL
							delta-BHC	10 ug/mL
							Dieldrin	10 ug/mL
							Endosulfan I	10 ug/mL
							Endosulfan II	10 ug/mL
							Endosulfan sulfate	10 ug/mL
							Endrin	10 ug/mL
							Endrin aldehyde	10 ug/mL
							Endrin ketone	10 ug/mL
							gamma-BHC (Lindane)	10 ug/mL
							Heptachlor	10 ug/mL
							Heptachlor epoxide	10 ug/mL
							Methoxychlor	10 ug/mL
							trans-Chlordane	10 ug/mL
..GCPESTAB3STD_00004	09/30/22	RESTEK, Lot A0137734			(Purchased Reagent)		4,4'-DDD	2000 ug/mL
							4,4'-DDE	2000 ug/mL
							4,4'-DDT	2000 ug/mL
							Aldrin	2000 ug/mL
							alpha-BHC	2000 ug/mL
							beta-BHC	2000 ug/mL
							cis-Chlordane	2000 ug/mL
							delta-BHC	2000 ug/mL
							Dieldrin	2000 ug/mL
							Endosulfan I	2000 ug/mL
							Endosulfan II	2000 ug/mL
							Endosulfan sulfate	2000 ug/mL

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Endrin	2000 ug/mL
							Endrin aldehyde	2000 ug/mL
							Endrin ketone	2000 ug/mL
							gamma-BHC (Lindane)	2000 ug/mL
							Heptachlor	2000 ug/mL
							Heptachlor epoxide	2000 ug/mL
							Methoxychlor	2000 ug/mL
							trans-Chlordane	2000 ug/mL
GCPESTICVSTD_00022	07/31/19	07/02/19	Hexane, Lot 3019174	40 mL	GC2PESTAB3STD_00003	0.001 mL	4,4'-DDD	0.05 ug/mL
							4,4'-DDE	0.05 ug/mL
							4,4'-DDT	0.05 ug/mL
							cis-Chlordane	0.05 ug/mL
							Dieldrin	0.05 ug/mL
							Endosulfan I	0.05 ug/mL
							Endosulfan II	0.05 ug/mL
							Endosulfan sulfate	0.05 ug/mL
							Endrin	0.05 ug/mL
							gamma-BHC (Lindane)	0.05 ug/mL
							Heptachlor	0.05 ug/mL
							Heptachlor epoxide	0.05 ug/mL
							Methoxychlor	0.05 ug/mL
							trans-Chlordane	0.05 ug/mL
.GC2PESTAB3STD_00003	06/30/19		RESTEK, Lot A0108854		(Purchased Reagent)		4,4'-DDD	2000 ug/mL
							4,4'-DDE	2000 ug/mL
							4,4'-DDT	2000 ug/mL
							cis-Chlordane	2000 ug/mL
							Dieldrin	2000 ug/mL
							Endosulfan I	2000 ug/mL
							Endosulfan II	2000 ug/mL
							Endosulfan sulfate	2000 ug/mL
							Endrin	2000 ug/mL
							gamma-BHC (Lindane)	2000 ug/mL
							Heptachlor	2000 ug/mL
							Heptachlor epoxide	2000 ug/mL
							Methoxychlor	2000 ug/mL
							trans-Chlordane	2000 ug/mL
GCPESTISSPK2_00016	11/08/19	05/08/19	Hexane, Lot 3151769	100 mL	DBC Internal_00002	0.5 mL	Dibutylchlorendate ISTD	1 ug/mL
					GCpest/pcbINT_00004	0.1 mL	1-Bromo-2-nitrobenzene	1 ug/mL
.DBC Internal_00002	05/31/20		RESTEK, Lot A0126147		(Purchased Reagent)		Dibutylchlorendate ISTD	200 ug/mL
.GCpest/pcbINT_00004	04/30/20		restek, Lot A0124315		(Purchased Reagent)		1-Bromo-2-nitrobenzene	1000 ug/mL
GCPESTISSPK2_00017	04/26/20	10/26/19	Hexane, Lot 3383237	100 mL	DBC Internal_00002	0.5 mL	Dibutylchlorendate ISTD	1 ug/mL
					GCpest/pcbINT_00004	0.1 mL	1-Bromo-2-nitrobenzene	1 ug/mL
.DBC Internal_00002	05/31/20		RESTEK, Lot A0126147		(Purchased Reagent)		Dibutylchlorendate ISTD	200 ug/mL
.GCpest/pcbINT_00004	04/30/20		restek, Lot A0124315		(Purchased Reagent)		1-Bromo-2-nitrobenzene	1000 ug/mL
GCPestL2_00022	08/03/19	02/06/19	Hexane, Lot 3019174	40 mL	GCCLPSURRSTK_00010	0.04 mL	DCB Decachlorobiphenyl (Surr)	0.005 ug/mL
							Tetrachloro-m-xylene	0.005 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					GCPestCAL_00014	0.02 mL	4,4'-DDD	0.005 ug/mL
							4,4'-DDE	0.005 ug/mL
							4,4'-DDT	0.005 ug/mL
							Aldrin	0.005 ug/mL
							alpha-BHC	0.005 ug/mL
							beta-BHC	0.005 ug/mL
							cis-Chlordane	0.005 ug/mL
							delta-BHC	0.005 ug/mL
							Dieldrin	0.005 ug/mL
							Endosulfan I	0.005 ug/mL
							Endosulfan II	0.005 ug/mL
							Endosulfan sulfate	0.005 ug/mL
							Endrin	0.005 ug/mL
							Endrin aldehyde	0.005 ug/mL
							Endrin ketone	0.005 ug/mL
							gamma-BHC (Lindane)	0.005 ug/mL
							Heptachlor	0.005 ug/mL
							Heptachlor epoxide	0.005 ug/mL
							Methoxychlor	0.005 ug/mL
							trans-Chlordane	0.005 ug/mL
.GCCLPSURRSTK_00010	08/03/19	08/03/18	Hexane, Lot 2819206	20 mL	GCPEST(SURR)S_00009	0.5 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPEST(SURR)S_00009	11/30/23	RESTEK, Lot A0130424			(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
.GCPestCAL_00014	02/06/20	02/06/19	Hexane, Lot 3019174	20 mL	GCPESTAB3STD_00004	0.1 mL	4,4'-DDD	10 ug/mL
							4,4'-DDE	10 ug/mL
							4,4'-DDT	10 ug/mL
							Aldrin	10 ug/mL
							alpha-BHC	10 ug/mL
							beta-BHC	10 ug/mL
							cis-Chlordane	10 ug/mL
							delta-BHC	10 ug/mL
							Dieldrin	10 ug/mL
							Endosulfan I	10 ug/mL
							Endosulfan II	10 ug/mL
							Endosulfan sulfate	10 ug/mL
							Endrin	10 ug/mL
							Endrin aldehyde	10 ug/mL
							Endrin ketone	10 ug/mL
							gamma-BHC (Lindane)	10 ug/mL
							Heptachlor	10 ug/mL
							Heptachlor epoxide	10 ug/mL
							Methoxychlor	10 ug/mL
							trans-Chlordane	10 ug/mL
..GCPESTAB3STD_00004	09/30/22	RESTEK, Lot A0137734			(Purchased Reagent)		4,4'-DDD	2000 ug/mL
							4,4'-DDE	2000 ug/mL
							4,4'-DDT	2000 ug/mL
							Aldrin	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							alpha-BHC	2000 ug/mL
							beta-BHC	2000 ug/mL
							cis-Chlordane	2000 ug/mL
							delta-BHC	2000 ug/mL
							Dieldrin	2000 ug/mL
							Endosulfan I	2000 ug/mL
							Endosulfan II	2000 ug/mL
							Endosulfan sulfate	2000 ug/mL
							Endrin	2000 ug/mL
							Endrin aldehyde	2000 ug/mL
							Endrin ketone	2000 ug/mL
							gamma-BHC (Lindane)	2000 ug/mL
							Heptachlor	2000 ug/mL
							Heptachlor epoxide	2000 ug/mL
							Methoxychlor	2000 ug/mL
							trans-Chlordane	2000 ug/mL
GCPestL3_00028	08/03/19	02/06/19	Hexane, Lot 3019174	100 mL	GCCLPSURRSTK_00010	0.5 mL	DCB Decachlorobiphenyl (Surr)	0.025 ug/mL
							Tetrachloro-m-xylene	0.025 ug/mL
					GCPestCAL_00014	0.25 mL	4,4'-DDD	0.025 ug/mL
							4,4'-DDE	0.025 ug/mL
							4,4'-DDT	0.025 ug/mL
							Aldrin	0.025 ug/mL
							alpha-BHC	0.025 ug/mL
							beta-BHC	0.025 ug/mL
							cis-Chlordane	0.025 ug/mL
							delta-BHC	0.025 ug/mL
							Dieldrin	0.025 ug/mL
							Endosulfan I	0.025 ug/mL
							Endosulfan II	0.025 ug/mL
							Endosulfan sulfate	0.025 ug/mL
							Endrin	0.025 ug/mL
							Endrin aldehyde	0.025 ug/mL
							Endrin ketone	0.025 ug/mL
							gamma-BHC (Lindane)	0.025 ug/mL
							Heptachlor	0.025 ug/mL
							Heptachlor epoxide	0.025 ug/mL
							Methoxychlor	0.025 ug/mL
							trans-Chlordane	0.025 ug/mL
.GCCLPSURRSTK_00010	08/03/19	08/03/18	Hexane, Lot 2819206	20 mL	GCPEST(SURR)S_00009	0.5 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPEST(SURR)S_00009	11/30/23	RESTEK, Lot A0130424			(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
.GCPestCAL_00014	02/06/20	02/06/19	Hexane, Lot 3019174	20 mL	GCPESTAB3STD_00004	0.1 mL	4,4'-DDD	10 ug/mL
							4,4'-DDE	10 ug/mL
							4,4'-DDT	10 ug/mL
							Aldrin	10 ug/mL
							alpha-BHC	10 ug/mL

REAGENT TRACEABILITY SUMMARY

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SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							beta-BHC	10 ug/mL
							cis-Chlordane	10 ug/mL
							delta-BHC	10 ug/mL
							Dieldrin	10 ug/mL
							Endosulfan I	10 ug/mL
							Endosulfan II	10 ug/mL
							Endosulfan sulfate	10 ug/mL
							Endrin	10 ug/mL
							Endrin aldehyde	10 ug/mL
							Endrin ketone	10 ug/mL
							gamma-BHC (Lindane)	10 ug/mL
							Heptachlor	10 ug/mL
							Heptachlor epoxide	10 ug/mL
							Methoxychlor	10 ug/mL
							trans-Chlordane	10 ug/mL
..GCPESTAB3STD_00004	09/30/22		RESTEK, Lot A0137734		(Purchased Reagent)		4,4'-DDD	2000 ug/mL
							4,4'-DDE	2000 ug/mL
							4,4'-DDT	2000 ug/mL
							Aldrin	2000 ug/mL
							alpha-BHC	2000 ug/mL
							beta-BHC	2000 ug/mL
							cis-Chlordane	2000 ug/mL
							delta-BHC	2000 ug/mL
							Dieldrin	2000 ug/mL
							Endosulfan I	2000 ug/mL
							Endosulfan II	2000 ug/mL
							Endosulfan sulfate	2000 ug/mL
							Endrin	2000 ug/mL
							Endrin aldehyde	2000 ug/mL
							Endrin ketone	2000 ug/mL
							gamma-BHC (Lindane)	2000 ug/mL
							Heptachlor	2000 ug/mL
							Heptachlor epoxide	2000 ug/mL
							Methoxychlor	2000 ug/mL
							trans-Chlordane	2000 ug/mL
GCPestL3_00032	02/06/20	09/17/19	Hexane, Lot 3295450	100 mL	GCCLPSURRSTK_00011	0.5 mL	DCB Decachlorobiphenyl (Surr)	0.025 ug/mL
							Tetrachloro-m-xylene	0.025 ug/mL
					GCPestCAL_00014	0.25 mL	4,4'-DDD	0.025 ug/mL
							4,4'-DDE	0.025 ug/mL
							4,4'-DDT	0.025 ug/mL
							cis-Chlordane	0.025 ug/mL
							Dieldrin	0.025 ug/mL
							Endosulfan I	0.025 ug/mL
							Endosulfan II	0.025 ug/mL
							Endosulfan sulfate	0.025 ug/mL
							Endrin	0.025 ug/mL
							gamma-BHC (Lindane)	0.025 ug/mL

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Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Heptachlor	0.025 ug/mL
							Heptachlor epoxide	0.025 ug/mL
							Methoxychlor	0.025 ug/mL
							trans-Chlordane	0.025 ug/mL
.GCCLPSURRSTK_00011	08/08/20	08/08/19	Hexane, Lot 3200099	20 mL	GCPEST(SURR)S_00010	0.5 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPEST(SURR)S_00010	11/30/24	RESTEK, Lot A0141110			(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
.GCPestCAL_00014	02/06/20	02/06/19	Hexane, Lot 3019174	20 mL	GCPESTAB3STD_00004	0.1 mL	4,4'-DDD	10 ug/mL
							4,4'-DDE	10 ug/mL
							4,4'-DDT	10 ug/mL
							cis-Chlordane	10 ug/mL
							Dieldrin	10 ug/mL
							Endosulfan I	10 ug/mL
							Endosulfan II	10 ug/mL
							Endosulfan sulfate	10 ug/mL
							Endrin	10 ug/mL
							gamma-BHC (Lindane)	10 ug/mL
							Heptachlor	10 ug/mL
							Heptachlor epoxide	10 ug/mL
							Methoxychlor	10 ug/mL
							trans-Chlordane	10 ug/mL
..GCPESTAB3STD_00004	09/30/22	RESTEK, Lot A0137734			(Purchased Reagent)		4,4'-DDD	2000 ug/mL
							4,4'-DDE	2000 ug/mL
							4,4'-DDT	2000 ug/mL
							cis-Chlordane	2000 ug/mL
							Dieldrin	2000 ug/mL
							Endosulfan I	2000 ug/mL
							Endosulfan II	2000 ug/mL
							Endosulfan sulfate	2000 ug/mL
							Endrin	2000 ug/mL
							gamma-BHC (Lindane)	2000 ug/mL
							Heptachlor	2000 ug/mL
							Heptachlor epoxide	2000 ug/mL
							Methoxychlor	2000 ug/mL
							trans-Chlordane	2000 ug/mL
GCPestL4_00021	08/03/19	02/06/19	Hexane, Lot 3019174	40 mL	GCCLPSURRSTK_00010	0.4 mL	DCB Decachlorobiphenyl (Surr)	0.05 ug/mL
							Tetrachloro-m-xylene	0.05 ug/mL
					GCPestCAL_00014	0.2 mL	4,4'-DDD	0.05 ug/mL
							4,4'-DDE	0.05 ug/mL
							4,4'-DDT	0.05 ug/mL
							Aldrin	0.05 ug/mL
							alpha-BHC	0.05 ug/mL
							beta-BHC	0.05 ug/mL
							cis-Chlordane	0.05 ug/mL
							delta-BHC	0.05 ug/mL
							Dieldrin	0.05 ug/mL

REAGENT TRACEABILITY SUMMARY

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Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Endosulfan I	0.05 ug/mL
							Endosulfan II	0.05 ug/mL
							Endosulfan sulfate	0.05 ug/mL
							Endrin	0.05 ug/mL
							Endrin aldehyde	0.05 ug/mL
							Endrin ketone	0.05 ug/mL
							gamma-BHC (Lindane)	0.05 ug/mL
							Heptachlor	0.05 ug/mL
							Heptachlor epoxide	0.05 ug/mL
							Methoxychlor	0.05 ug/mL
							trans-Chlordane	0.05 ug/mL
.GCCLPSURRSTK_00010	08/03/19	08/03/18	Hexane, Lot 2819206	20 mL	GCPEST(SURR)S_00009	0.5 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPEST(SURR)S_00009	11/30/23	RESTEK, Lot A0130424			(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
.GCPestCAL_00014	02/06/20	02/06/19	Hexane, Lot 3019174	20 mL	GCPESTAB3STD_00004	0.1 mL	4,4'-DDD	10 ug/mL
							4,4'-DDE	10 ug/mL
							4,4'-DDT	10 ug/mL
							Aldrin	10 ug/mL
							alpha-BHC	10 ug/mL
							beta-BHC	10 ug/mL
							cis-Chlordane	10 ug/mL
							delta-BHC	10 ug/mL
							Dieldrin	10 ug/mL
							Endosulfan I	10 ug/mL
							Endosulfan II	10 ug/mL
							Endosulfan sulfate	10 ug/mL
							Endrin	10 ug/mL
							Endrin aldehyde	10 ug/mL
							Endrin ketone	10 ug/mL
							gamma-BHC (Lindane)	10 ug/mL
							Heptachlor	10 ug/mL
							Heptachlor epoxide	10 ug/mL
							Methoxychlor	10 ug/mL
							trans-Chlordane	10 ug/mL
..GCPESTAB3STD_00004	09/30/22	RESTEK, Lot A0137734			(Purchased Reagent)		4,4'-DDD	2000 ug/mL
							4,4'-DDE	2000 ug/mL
							4,4'-DDT	2000 ug/mL
							Aldrin	2000 ug/mL
							alpha-BHC	2000 ug/mL
							beta-BHC	2000 ug/mL
							cis-Chlordane	2000 ug/mL
							delta-BHC	2000 ug/mL
							Dieldrin	2000 ug/mL
							Endosulfan I	2000 ug/mL
							Endosulfan II	2000 ug/mL
							Endosulfan sulfate	2000 ug/mL
							Endrin	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

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SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Endrin aldehyde	2000 ug/mL
							Endrin ketone	2000 ug/mL
							gamma-BHC (Lindane)	2000 ug/mL
							Heptachlor	2000 ug/mL
							Heptachlor epoxide	2000 ug/mL
							Methoxychlor	2000 ug/mL
							trans-Chlordane	2000 ug/mL
GCPestL5_00021	08/03/19	02/06/19	Hexane, Lot 3019174	40 mL	GCCLPSURRSTK_00010	0.8 mL	DCB Decachlorobiphenyl (Surr)	0.1 ug/mL
							Tetrachloro-m-xylene	0.1 ug/mL
					GCPestCAL_00014	0.4 mL	4,4'-DDD	0.1 ug/mL
							4,4'-DDE	0.1 ug/mL
							4,4'-DDT	0.1 ug/mL
							Aldrin	0.1 ug/mL
							alpha-BHC	0.1 ug/mL
							beta-BHC	0.1 ug/mL
							cis-Chlordane	0.1 ug/mL
							delta-BHC	0.1 ug/mL
							Dieldrin	0.1 ug/mL
							Endosulfan I	0.1 ug/mL
							Endosulfan II	0.1 ug/mL
							Endosulfan sulfate	0.1 ug/mL
							Endrin	0.1 ug/mL
							Endrin aldehyde	0.1 ug/mL
							Endrin ketone	0.1 ug/mL
							gamma-BHC (Lindane)	0.1 ug/mL
							Heptachlor	0.1 ug/mL
							Heptachlor epoxide	0.1 ug/mL
							Methoxychlor	0.1 ug/mL
							trans-Chlordane	0.1 ug/mL
.GCCLPSURRSTK_00010	08/03/19	08/03/18	Hexane, Lot 2819206	20 mL	GCPEST(SURR)S_00009	0.5 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPEST(SURR)S_00009	11/30/23	RESTEK, Lot A0130424			(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
.GCPestCAL_00014	02/06/20	02/06/19	Hexane, Lot 3019174	20 mL	GCPESTAB3STD_00004	0.1 mL	4,4'-DDD	10 ug/mL
							4,4'-DDE	10 ug/mL
							4,4'-DDT	10 ug/mL
							Aldrin	10 ug/mL
							alpha-BHC	10 ug/mL
							beta-BHC	10 ug/mL
							cis-Chlordane	10 ug/mL
							delta-BHC	10 ug/mL
							Dieldrin	10 ug/mL
							Endosulfan I	10 ug/mL
							Endosulfan II	10 ug/mL
							Endosulfan sulfate	10 ug/mL
							Endrin	10 ug/mL
							Endrin aldehyde	10 ug/mL

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Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Endrin ketone	10 ug/mL
							gamma-BHC (Lindane)	10 ug/mL
							Heptachlor	10 ug/mL
							Heptachlor epoxide	10 ug/mL
							Methoxychlor	10 ug/mL
							trans-Chlordane	10 ug/mL
..GCPESTAB3STD_00004	09/30/22		RESTEK, Lot A0137734		(Purchased Reagent)		4,4'-DDD	2000 ug/mL
							4,4'-DDE	2000 ug/mL
							4,4'-DDT	2000 ug/mL
							Aldrin	2000 ug/mL
							alpha-BHC	2000 ug/mL
							beta-BHC	2000 ug/mL
							cis-Chlordane	2000 ug/mL
							delta-BHC	2000 ug/mL
							Dieldrin	2000 ug/mL
							Endosulfan I	2000 ug/mL
							Endosulfan II	2000 ug/mL
							Endosulfan sulfate	2000 ug/mL
							Endrin	2000 ug/mL
							Endrin aldehyde	2000 ug/mL
							Endrin ketone	2000 ug/mL
							gamma-BHC (Lindane)	2000 ug/mL
							Heptachlor	2000 ug/mL
							Heptachlor epoxide	2000 ug/mL
							Methoxychlor	2000 ug/mL
							trans-Chlordane	2000 ug/mL
GCPestL6_00021	08/03/19	02/06/19	Hexane, Lot 3019174	40 mL	GCCLPSURRSTK_00010	1.6 mL	DCB Decachlorobiphenyl (Surr)	0.2 ug/mL
							Tetrachloro-m-xylene	0.2 ug/mL
					GCPestCAL_00014	0.8 mL	4,4'-DDD	0.2 ug/mL
							4,4'-DDE	0.2 ug/mL
							4,4'-DDT	0.2 ug/mL
							Aldrin	0.2 ug/mL
							alpha-BHC	0.2 ug/mL
							beta-BHC	0.2 ug/mL
							cis-Chlordane	0.2 ug/mL
							delta-BHC	0.2 ug/mL
							Dieldrin	0.2 ug/mL
							Endosulfan I	0.2 ug/mL
							Endosulfan II	0.2 ug/mL
							Endosulfan sulfate	0.2 ug/mL
							Endrin	0.2 ug/mL
							Endrin aldehyde	0.2 ug/mL
							Endrin ketone	0.2 ug/mL
							gamma-BHC (Lindane)	0.2 ug/mL
							Heptachlor	0.2 ug/mL
							Heptachlor epoxide	0.2 ug/mL
							Methoxychlor	0.2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							trans-Chlordane	0.2 ug/mL
.GCCLPSURRSTK_00010	08/03/19	08/03/18	Hexane, Lot 2819206	20 mL	GCPEST(SURR)S_00009	0.5 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPEST(SURR)S_00009	11/30/23	RESTEK, Lot A0130424			(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
.GCPestCAL_00014	02/06/20	02/06/19	Hexane, Lot 3019174	20 mL	GCPESTAB3STD_00004	0.1 mL	4,4'-DDD	10 ug/mL
							4,4'-DDE	10 ug/mL
							4,4'-DDT	10 ug/mL
							Aldrin	10 ug/mL
							alpha-BHC	10 ug/mL
							beta-BHC	10 ug/mL
							cis-Chlordane	10 ug/mL
							delta-BHC	10 ug/mL
							Dieldrin	10 ug/mL
							Endosulfan I	10 ug/mL
							Endosulfan II	10 ug/mL
							Endosulfan sulfate	10 ug/mL
							Endrin	10 ug/mL
							Endrin aldehyde	10 ug/mL
							Endrin ketone	10 ug/mL
							gamma-BHC (Lindane)	10 ug/mL
							Heptachlor	10 ug/mL
							Heptachlor epoxide	10 ug/mL
							Methoxychlor	10 ug/mL
							trans-Chlordane	10 ug/mL
..GCPESTAB3STD_00004	09/30/22	RESTEK, Lot A0137734			(Purchased Reagent)		4,4'-DDD	2000 ug/mL
							4,4'-DDE	2000 ug/mL
							4,4'-DDT	2000 ug/mL
							Aldrin	2000 ug/mL
							alpha-BHC	2000 ug/mL
							beta-BHC	2000 ug/mL
							cis-Chlordane	2000 ug/mL
							delta-BHC	2000 ug/mL
							Dieldrin	2000 ug/mL
							Endosulfan I	2000 ug/mL
							Endosulfan II	2000 ug/mL
							Endosulfan sulfate	2000 ug/mL
							Endrin	2000 ug/mL
							Endrin aldehyde	2000 ug/mL
							Endrin ketone	2000 ug/mL
							gamma-BHC (Lindane)	2000 ug/mL
							Heptachlor	2000 ug/mL
							Heptachlor epoxide	2000 ug/mL
							Methoxychlor	2000 ug/mL
							trans-Chlordane	2000 ug/mL
GCPESTPEMSTD_00040	01/31/20	08/16/19	Hexane, Lot 3295450	100 mL	GCCLPSURRSTK_00011	0.5 mL	DCB Decachlorobiphenyl (Surr)	0.025 ug/mL
							Tetrachloro-m-xylene	0.025 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					GCPEST(PEM2)_00001	0.5 mL	4,4'-DDT	0.05 ug/mL
							Endrin	0.025 ug/mL
.GCCLPSURRSTK_00011	08/08/20	08/08/19	Hexane, Lot 3200099	20 mL	GCPEST(SURR)S_00010	0.5 mL	DCB Decachlorobiphenyl (Surr)	5 ug/mL
							Tetrachloro-m-xylene	5 ug/mL
..GCPEST(SURR)S_00010	11/30/24	RESTEK, Lot A0141110			(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
.GCPEST(PEM2)_00001	01/31/20	RESTEK, Lot A0123952			(Purchased Reagent)		4,4'-DDT	10 ug/mL
							Endrin	5 ug/mL
GCTOXICV_00010	09/26/19	03/26/19	Hexane, Lot 3019174	40 mL	GCTOX2NDSOURC_00001	0.008 mL	Toxaphene	1 ug/mL
.GCTOX2NDSOURC_00001	04/30/20	RESTEK, Lot A0116660			(Purchased Reagent)		Toxaphene	5000 ug/mL
GCTOXLEVEL1_00011	06/04/19	12/04/18	Hexane, Lot 2938930	40 mL	GCTOXINTERSTD_00006	0.016 mL	Toxaphene Peak 1	0.02 ug/mL
							Toxaphene Peak 2	0.02 ug/mL
							Toxaphene Peak 3	0.02 ug/mL
							Toxaphene Peak 4	0.02 ug/mL
.GCTOXINTERSTD_00006	12/04/19	12/04/18	Hexane, Lot 2938930	40 mL	GCTOXSTDSTD_00002	0.4 mL	Toxaphene Peak 1	50 ug/mL
							Toxaphene Peak 2	50 ug/mL
							Toxaphene Peak 3	50 ug/mL
							Toxaphene Peak 4	50 ug/mL
..GCTOXSTDSTD_00002	10/31/20	RESTEK, Lot A0120412			(Purchased Reagent)		Toxaphene Peak 1	5000 ug/mL
							Toxaphene Peak 2	5000 ug/mL
							Toxaphene Peak 3	5000 ug/mL
							Toxaphene Peak 4	5000 ug/mL
GCTOXLEVEL2_00009	06/04/19	12/04/18	Hexane, Lot 2938930	40 mL	GCTOXINTERSTD_00006	0.16 mL	Toxaphene Peak 1	0.2 ug/mL
							Toxaphene Peak 2	0.2 ug/mL
							Toxaphene Peak 3	0.2 ug/mL
							Toxaphene Peak 4	0.2 ug/mL
.GCTOXINTERSTD_00006	12/04/19	12/04/18	Hexane, Lot 2938930	40 mL	GCTOXSTDSTD_00002	0.4 mL	Toxaphene Peak 1	50 ug/mL
							Toxaphene Peak 2	50 ug/mL
							Toxaphene Peak 3	50 ug/mL
							Toxaphene Peak 4	50 ug/mL
..GCTOXSTDSTD_00002	10/31/20	RESTEK, Lot A0120412			(Purchased Reagent)		Toxaphene Peak 1	5000 ug/mL
							Toxaphene Peak 2	5000 ug/mL
							Toxaphene Peak 3	5000 ug/mL
							Toxaphene Peak 4	5000 ug/mL
GCTOXLEVEL3_00018	06/04/19	12/04/18	Hexane, Lot 2938930	40 mL	GCTOXINTERSTD_00006	0.8 mL	Toxaphene Peak 1	1 ug/mL
							Toxaphene Peak 2	1 ug/mL
							Toxaphene Peak 3	1 ug/mL
							Toxaphene Peak 4	1 ug/mL
.GCTOXINTERSTD_00006	12/04/19	12/04/18	Hexane, Lot 2938930	40 mL	GCTOXSTDSTD_00002	0.4 mL	Toxaphene Peak 1	50 ug/mL
							Toxaphene Peak 2	50 ug/mL
							Toxaphene Peak 3	50 ug/mL
							Toxaphene Peak 4	50 ug/mL
..GCTOXSTDSTD_00002	10/31/20	RESTEK, Lot A0120412			(Purchased Reagent)		Toxaphene Peak 1	5000 ug/mL
							Toxaphene Peak 2	5000 ug/mL
							Toxaphene Peak 3	5000 ug/mL
							Toxaphene Peak 4	5000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
GCTOXLEVEL3_00021	12/31/19	12/05/19	Hexane, Lot 3200099	40 mL	GCTOXINTERSTD_00006	0.8 mL	Toxaphene	1 ug/mL
.GCTOXINTERSTD_00006	12/04/19	12/04/18	Hexane, Lot 2938930	40 mL	GCTOXSTDSTD_00002	0.4 mL	Toxaphene	50 ug/mL
..GCTOXSTDSTD_00002	10/31/20	RESTEK, Lot A0120412			(Purchased Reagent)		Toxaphene	5000 ug/mL
GCTOXLEVEL4_00010	06/04/19	12/04/18	Hexane, Lot 2938930	20 mL	GCTOXINTERSTD_00006	1 mL	Toxaphene Peak 1	2.5 ug/mL
							Toxaphene Peak 2	2.5 ug/mL
							Toxaphene Peak 3	2.5 ug/mL
							Toxaphene Peak 4	2.5 ug/mL
.GCTOXINTERSTD_00006	12/04/19	12/04/18	Hexane, Lot 2938930	40 mL	GCTOXSTDSTD_00002	0.4 mL	Toxaphene Peak 1	50 ug/mL
							Toxaphene Peak 2	50 ug/mL
							Toxaphene Peak 3	50 ug/mL
							Toxaphene Peak 4	50 ug/mL
..GCTOXSTDSTD_00002	10/31/20	RESTEK, Lot A0120412			(Purchased Reagent)		Toxaphene Peak 1	5000 ug/mL
							Toxaphene Peak 2	5000 ug/mL
							Toxaphene Peak 3	5000 ug/mL
							Toxaphene Peak 4	5000 ug/mL
GCTOXLEVEL5_00013	06/04/19	12/04/18	Hexane, Lot 2938930	20 mL	GCTOXINTERSTD_00006	2 mL	Toxaphene Peak 1	5 ug/mL
							Toxaphene Peak 2	5 ug/mL
							Toxaphene Peak 3	5 ug/mL
							Toxaphene Peak 4	5 ug/mL
.GCTOXINTERSTD_00006	12/04/19	12/04/18	Hexane, Lot 2938930	40 mL	GCTOXSTDSTD_00002	0.4 mL	Toxaphene Peak 1	50 ug/mL
							Toxaphene Peak 2	50 ug/mL
							Toxaphene Peak 3	50 ug/mL
							Toxaphene Peak 4	50 ug/mL
..GCTOXSTDSTD_00002	10/31/20	RESTEK, Lot A0120412			(Purchased Reagent)		Toxaphene Peak 1	5000 ug/mL
							Toxaphene Peak 2	5000 ug/mL
							Toxaphene Peak 3	5000 ug/mL
							Toxaphene Peak 4	5000 ug/mL
Herb(RTS)spk_00009	02/28/20	restek, Lot A0135473			(Purchased Reagent)		2,4,5-T	5 ug/mL
							2,4-D	20 ug/mL
							2,4-DB	20 ug/mL
							Dalapon	20 ug/mL
							Dicamba	10 ug/mL
							Dichlorprop	20 ug/mL
							Dinoseb	20 ug/mL
							MCPA	2000 ug/mL
							MCPP	2000 ug/mL
							Pentachlorophenol	5 ug/mL
							Silvex (2,4,5-TP)	5 ug/mL
M6500CCV_00039	03/17/20	12/17/19	5%HNO3 - 5%HCL, Lot 221803 -4119020	1000 mL	MTAPITTCALTRA_00011	10 mL	Arsenic	0.5 ppm
							Cadmium	0.5 ppm
							Lead	0.5 ppm
							Selenium	0.5 ppm
							Silver	1 ppm
					MTAPITTCALTRC_00011	10 mL	Barium	2 ppm
							Chromium	2 ppm
.MTAPITTCALTRA_00011	06/04/20	Inorganic Ventures, Lot N2-MEB673400			(Purchased Reagent)		Arsenic	50 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Cadmium	50 ppm
							Lead	50 ppm
							Selenium	50 ppm
							Silver	100 ppm
.MTAPITTCALTRC_00011	06/04/20	Inorganic Ventures, Lot N2-MEB673401			(Purchased Reagent)		Barium	200 ppm
							Chromium	200 ppm
M6500ICV_00008	01/30/20	12/18/19	5%HNO3 - 5%HCL, Lot 221803- 4119020	1000 mL	MTAPITTICPICV_00015	20 mL	Arsenic	0.25 ppm
							Barium	1 ppm
							Cadmium	0.25 ppm
							Chromium	1 ppm
							Lead	0.25 ppm
							Selenium	0.25 ppm
							Silver	0.5 ppm
.MTAPITTICPICV_00015	01/30/20	SPEX, Lot 50-201CR			(Purchased Reagent)		Arsenic	12.5 ppm
							Barium	50 ppm
							Cadmium	12.5 ppm
							Chromium	50 ppm
							Lead	12.5 ppm
							Selenium	12.5 ppm
							Silver	25 ppm
MHgworkingCal_02212	12/21/19	12/20/19	2% Nitric Acid, Lot cont #:3330882	100 mL	MHgIntcal_01280	1 mL	Mercury	100 ppb
.MHgIntcal_01280	12/21/19	12/20/19	2% Nitric Acid, Lot cont #: 3330882	100 mL	MCGHG1-1_00014	1 mL	Mercury	10 ppm
..MCGHG1-1_00014	02/11/20	Inorganic Ventures, Lot N2-HG669550			(Purchased Reagent)		Mercury	1000 ppm
MHgworkingCal_02213	12/24/19	12/23/19	2% Nitric Acid, Lot cont #:3330882	100 mL	MHgIntcal_01281	1 mL	Mercury	100 ppb
.MHgIntcal_01281	12/24/19	12/23/19	2% Nitric Acid, Lot cont #: 3330882	100 mL	MCGHG1-1_00014	1 mL	Mercury	10 ppm
..MCGHG1-1_00014	02/11/20	Inorganic Ventures, Lot N2-HG669550			(Purchased Reagent)		Mercury	1000 ppm
MHgWorkingicv_02163	12/24/19	12/23/19	2% Nitric Acid, Lot cont#: 3330882	100 mL	MHgIntICV_01243	1 mL	Mercury	100 ppb
.MHgIntICV_01243	12/24/19	12/23/19	2% Nitric Acid, Lot cont #: 3330882	100 mL	MHGICV-1_00010	1 mL	Mercury	10 ppm
..MHGICV-1_00010	02/11/20	ULTRA SCIENTIFIC, Lot CS-0444			(Purchased Reagent)		Mercury	1000 ppm
MICSAB_00105	03/09/20	12/09/19	5%HNO3 - 5%HCL, Lot 221803 - 4119020	1000 mL	M6500ICSA_00003	100 mL	Al	500 ppm
							Ca	500 ppm
							Fe	200 ppm
							Mg	500 ppm
					MCGTL1-1_00011	1 mL	Tl	1 ppm
					MTAPITTICSADD_00018	100 mL	B	1 ppm
							Li	1 ppm
							Si	1 ppm
							Sn	1 ppm
							Sr	1 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Ti	1 ppm
					MTAPITTICSB_00013	100 mL	Arsenic	1 ppm
							Barium	0.5 ppm
							Be	0.5 ppm
							Cadmium	1 ppm
							Chromium	0.5 ppm
							Co	0.5 ppm
							Cu	0.5 ppm
							K	10 ppm
							Lead	1 ppm
							Mn	0.5 ppm
							Na	10 ppm
							Ni	1 ppm
							Selenium	1 ppm
							Silver	1 ppm
							V	0.5 ppm
							Zn	1 ppm
					MTAPITTICSB1_00013	100 mL	Mo	1 ppm
							Sb	1 ppm
.M6500ICSA_00003	01/11/21	CPI International, Lot 1013122-1			(Purchased Reagent)		Al	5000 ppm
							Ca	5000 ppm
							Fe	2000 ppm
							Mg	5000 ppm
.MCGTL1-1_00011	04/11/20	CPI, Lot 148983-92			(Purchased Reagent)		Tl	1000 ppm
.MTAPITTICSADD_00018	06/25/20	Inorganic Ventures, Lot N2-MEB673405			(Purchased Reagent)		B	10 ppm
							Li	10 ppm
							Si	10 ppm
							Sn	10 ppm
							Sr	10 ppm
							Ti	10 ppm
.MTAPITTICSB_00013	06/25/20	Inorganic Ventures, Lot N2-MEB666958			(Purchased Reagent)		Arsenic	10 ppm
							Barium	5 ppm
							Be	5 ppm
							Cadmium	10 ppm
							Chromium	5 ppm
							Co	5 ppm
							Cu	5 ppm
							K	100 ppm
							Lead	10 ppm
							Mn	5 ppm
							Na	100 ppm
							Ni	10 ppm
							Selenium	10 ppm
							Silver	10 ppm
							V	5 ppm
							Zn	10 ppm
.MTAPITTICSB1_00013	06/25/20	Inorganic Ventures, Lot N2-MEB673404			(Purchased Reagent)		Mo	10 ppm
							Sb	10 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
MICSAICP_00093	02/22/20	11/22/19	5%HNO3 - 5%HCL, Lot 221803 - 4119020	1000 mL	M6500ICSA_00003	100 mL	Al	500 ppm
							Ca	500 ppm
							Fe	200 ppm
							Mg	500 ppm
.M6500ICSA_00003	01/11/21	CPI International, Lot 1013122-1			(Purchased Reagent)		Al	5000 ppm
							Ca	5000 ppm
							Fe	2000 ppm
							Mg	5000 ppm
MICVLCCVL_00014	03/11/20	12/11/19	5%HNO3 - 5%HCL, Lot 221803 - 4119020	1000 mL	MTAPITTCRA1DO_00008	10 mL	Arsenic	0.01 ppm
							Barium	0.2 ppm
							Cadmium	0.005 ppm
							Chromium	0.005 ppm
							Lead	0.01 ppm
							Selenium	0.01 ppm
							Silver	0.005 ppm
.MTAPITTCRA1DO_00008	06/11/20	Inorganic Ventures, Lot N2-MEB673399			(Purchased Reagent)		Arsenic	1 ppm
							Barium	20 ppm
							Cadmium	0.5 ppm
							Chromium	0.5 ppm
							Lead	1 ppm
							Selenium	1 ppm
							Silver	0.5 ppm
op-p/pcb sur_00024	12/30/19	06/25/19	ACETONE, Lot 2680072	2000 mL	GCDCBStock_00008	1.6 mL	DCB Decachlorobiphenyl (Surr)	0.8 ug/mL
					GCTCMXSTD_00010	0.8 mL	Tetrachloro-m-xylene	0.8 ug/mL
.GCDCBStock_00008	01/31/21	ULTRA, Lot CK-4355			(Purchased Reagent)		DCB Decachlorobiphenyl (Surr)	1000 ug/mL
.GCTCMXSTD_00010	10/30/20	Ultra Scientific, Lot CL-3352			(Purchased Reagent)		Tetrachloro-m-xylene	2000 ug/mL
OP8270TCLPSPi_00038	04/23/20	10/23/19	Methanol, Lot 0000177891	100 mL	svTCLPacids_00010	5 mL	2,4,5-Trichlorophenol	100 ug/mL
							2,4,6-Trichlorophenol	100 ug/mL
							2-Methylphenol	100 ug/mL
							3 & 4 Methylphenol	200 ug/mL
							3-Methylphenol	200 ug/mL
							Methyl Phenols,Total	300 ug/mL
							Methylphenol, 3 & 4	200 ug/mL
							Pentachlorophenol	100 ug/mL
							Total Cresols	300 ug/mL
					svTCLPbns_00010	5 mL	1,4-Dichlorobenzene	100 ug/mL
							2,4-Dinitrotoluene	100 ug/mL
							Hexachlorobenzene	100 ug/mL
							Hexachlorobutadiene	100 ug/mL
							Hexachloroethane	100 ug/mL
							Nitrobenzene	100 ug/mL
							Pyridine	100 ug/mL
.svTCLPacids_00010	02/28/21	Restek, Lot A0134153			(Purchased Reagent)		2,4,5-Trichlorophenol	2000 ug/mL
							2,4,6-Trichlorophenol	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Methylphenol	2000 ug/mL
							3 & 4 Methylphenol	4000 ug/mL
							3-Methylphenol	4000 ug/mL
							Methyl Phenols,Total	6000 ug/mL
							Methylphenol, 3 & 4	4000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Total Cresols	6000 ug/mL
.svTCLPbns_00010	05/31/22		Restek, Lot A0141077		(Purchased Reagent)		1,4-Dichlorobenzene	2000 ug/mL
							2,4-Dinitrotoluene	2000 ug/mL
							Hexachlorobenzene	2000 ug/mL
							Hexachlorobutadiene	2000 ug/mL
							Hexachloroethane	2000 ug/mL
							Nitrobenzene	2000 ug/mL
							Pyridine	2000 ug/mL
OPHERBRTSSURR_00010	08/31/20		RESTEK, Lot A0125706		(Purchased Reagent)		2,4-Dichlorophenylacetic acid	10 ug/mL
OPPESTMATRIX_00037	04/30/20	10/31/19	ACETONE, Lot 2680072	100 mL	GCPESTAB3STD_00004	0.05 mL	4,4'-DDD	1 ug/mL
							4,4'-DDE	1 ug/mL
							4,4'-DDT	1 ug/mL
							Aldrin	1 ug/mL
							alpha-BHC	1 ug/mL
							beta-BHC	1 ug/mL
							cis-Chlordane	1 ug/mL
							delta-BHC	1 ug/mL
							Dieldrin	1 ug/mL
							Endosulfan I	1 ug/mL
							Endosulfan II	1 ug/mL
							Endosulfan sulfate	1 ug/mL
							Endrin	1 ug/mL
							Endrin aldehyde	1 ug/mL
							Endrin ketone	1 ug/mL
							gamma-BHC (Lindane)	1 ug/mL
							Heptachlor	1 ug/mL
							Heptachlor epoxide	1 ug/mL
							Methoxychlor	1 ug/mL
							trans-Chlordane	1 ug/mL
.GCPESTAB3STD_00004	09/30/22		RESTEK, Lot A0137734		(Purchased Reagent)		4,4'-DDD	2000 ug/mL
							4,4'-DDE	2000 ug/mL
							4,4'-DDT	2000 ug/mL
							Aldrin	2000 ug/mL
							alpha-BHC	2000 ug/mL
							beta-BHC	2000 ug/mL
							cis-Chlordane	2000 ug/mL
							delta-BHC	2000 ug/mL
							Dieldrin	2000 ug/mL
							Endosulfan I	2000 ug/mL
							Endosulfan II	2000 ug/mL
							Endosulfan sulfate	2000 ug/mL

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Endrin	2000 ug/mL
							Endrin aldehyde	2000 ug/mL
							Endrin ketone	2000 ug/mL
							gamma-BHC (Lindane)	2000 ug/mL
							Heptachlor	2000 ug/mL
							Heptachlor epoxide	2000 ug/mL
							Methoxychlor	2000 ug/mL
							trans-Chlordane	2000 ug/mL
OPQL8270SURi_00088	06/04/20	12/04/19	Methanol, Lot 000023046	500 mL	SVLVSURSPK_00008	20 mL	2,4,6-Tribromophenol (Surr)	200 ug/mL
							2-Fluorobiphenyl	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5 (Surr)	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL
							Terphenyl-d14 (Surr)	200 ug/mL
.SVLVSURSPK_00008	11/30/23	Restek, Lot A0143524			(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
PCBINT_00010	02/01/20	08/01/19	Hexane, Lot 1932891	100 mL	GCBZ#205STD1_00006	10 mL	PCB-205 (IS)	10 ug/mL
					GCpest/pcbINT_00005	1 mL	1-Bromo-2-nitrobenzene	10 ug/mL
.GCBZ#205STD1_00006	09/06/26	AccuStandard, Lot 216091034			(Purchased Reagent)		PCB-205 (IS)	100 ug/mL
.GCpest/pcbINT_00005	04/30/20	restek, Lot A0141134			(Purchased Reagent)		1-Bromo-2-nitrobenzene	1000 ug/mL
SVDFTPP50i_00036							Aramite, Total	
							Diallate	
							Methyl Phenols,Total	
							Phthalates, Total	
							Tentatively Identified Compound	
					SVTUNINGMIXs_00008	500 uL	4,4'-DDD	0 ug/mL
							4,4'-DDE	0 ug/mL
							4,4'-DDT	50 ug/mL
							Benzidine_T	50 ug/mL
							DFTPP	50 ug/mL
							Pentachlorophenol_T	50 ug/mL
.SVTUNINGMIXs_00008	03/31/22	Restek, Lot A0147424			(Purchased Reagent)		4,4'-DDD	0 ug/mL
							4,4'-DDE	0 ug/mL
							4,4'-DDT	1000 ug/mL
							Benzidine_T	1000 ug/mL
							DFTPP	1000 ug/mL
							Pentachlorophenol_T	1000 ug/mL
SVTAP2NDSRC2i_00017	12/31/19	10/15/19	MeCl2, Lot 3373271	1 mL	SVTAPITINTRNi_00023	10 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenanthrene-d10	4 ug/mL
.SVTAPITINTRNi_00023	10/15/20	10/15/19	MeCl2, Lot 3373271	25 mL	SVLVIntstd_00010	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..SVLVIntstd_00010	09/30/23	Restek, Lot A0141743			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
SVTAP2NDSRCEi_00028	12/31/19	10/15/19	MeCl2, Lot 3373271	10 mL	SVTAPITINTRNi_00023	100 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
.SVTAPITINTRNi_00023	10/15/20	10/15/19	MeCl2, Lot 3373271	25 mL	SVLVIntstd_00010	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..SVLVIntstd_00010	09/30/23	Restek, Lot A0141743			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
SVTAP2NDSRCEi_00028	12/31/19	10/15/19	MeCl2, Lot 3373271	10 mL	SVLVSURRSPK_00021	20 uL	2,4,6-Tribromophenol (Surr)	10 ug/mL
							2-Fluorobiphenyl	10 ug/mL
							2-Fluorophenol (Surr)	10 ug/mL
							Nitrobenzene-d5 (Surr)	10 ug/mL
							Phenol-d5 (Surr)	10 ug/mL
							Terphenyl-d14 (Surr)	10 ug/mL
					SVSEC L1/STD1_00001	100 uL	1,4-Dichlorobenzene	10 ug/mL
							2,4,5-Trichlorophenol	10 ug/mL
							2,4,6-Trichlorophenol	10 ug/mL
							2,4-Dinitrotoluene	10 ug/mL
							2-Methylphenol	10 ug/mL
							Hexachlorobenzene	10 ug/mL
							Hexachlorobutadiene	10 ug/mL
							Hexachloroethane	10 ug/mL
							Methylphenol, 3 & 4	10 ug/mL
							Nitrobenzene	10 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Pentachlorophenol	20 ug/mL
							Pyridine	20 ug/mL
.SVLVSURRSPK_00021	12/31/21		Restek, Lot A0123269		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
.SVSEC L1/STD1_00001	12/31/19		Restek, Lot A0138890		(Purchased Reagent)		1,4-Dichlorobenzene	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Methylphenol, 3 & 4	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Pyridine	2000 ug/mL
SVTAPAMOC10i_00024	02/28/20	12/07/19	MeCl2, Lot 3373271	1 mL	SVTAPITINTRNi_00023	10 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
.SVTAPITINTRNi_00023	10/15/20	10/15/19	MeCl2, Lot 3373271	25 mL	SVLVIntstd_00010	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..SVLVIntstd_00010	09/30/23		Restek, Lot A0141743		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
SVTAPITINTRNi_00022	06/22/20	06/22/19	MeCl2, Lot 3157036	25 mL	SVLVIntstd_00010	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
.SVLVIntstd_00010	09/30/23		Restek, Lot A0141743		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
SVTAPSTD0.38i_00010	04/15/20	10/15/19	MeCl2, Lot 3373271	1 mL	SVTAPITINTRNi_00023	10 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
					SVTAPITSTCKi_00023	4.75 uL	Benzo[e]pyrene	0.19 ug/mL
							Benzoic acid	0.19 ug/mL
							Indene	0.19 ug/mL
							2,3,5,6-Tetrachlorophenol	0.19 ug/mL
							2-Naphthylamine	0.19 ug/mL
							7,12-Dimethylbenz(a)anthracene	0.19 ug/mL
							1,1'-Biphenyl	0.19 ug/mL
							1,2,4,5-Tetrachlorobenzene	0.19 ug/mL
							1,2,4-Trichlorobenzene	0.19 ug/mL
							1,2-Dichlorobenzene	0.19 ug/mL
							1,2-Diphenylhydrazine	0.19 ug/mL
							1,3-Dichlorobenzene	0.19 ug/mL
							1,3-Dinitrobenzene	0.19 ug/mL
							1,4-Dichlorobenzene	0.19 ug/mL
							1,4-Dioxane	0.19 ug/mL
							1-Methylnaphthalene	0.19 ug/mL
							2,2'-oxybis[1-chloropropane]	0.19 ug/mL
							2,3,4,6-Tetrachlorophenol	0.19 ug/mL
							2,4,5-Trichlorophenol	0.19 ug/mL
							2,4,6-Trichlorophenol	0.19 ug/mL
							2,4-Dichlorophenol	0.19 ug/mL
							2,4-Dimethylphenol	0.19 ug/mL
							2,4-Dinitrophenol	0.38 ug/mL
							2,4-Dinitrotoluene	0.19 ug/mL
							2,6-Dichlorophenol	0.19 ug/mL
							2,6-Dinitrotoluene	0.19 ug/mL
							2-Chloronaphthalene	0.19 ug/mL
							2-Chlorophenol	0.19 ug/mL
							2-Methylnaphthalene	0.19 ug/mL
							2-Methylphenol	0.19 ug/mL
							2-Nitroaniline	0.19 ug/mL
							2-Nitrophenol	0.19 ug/mL
							3-Nitroaniline	0.19 ug/mL
							4,6-Dinitro-2-methylphenol	0.38 ug/mL
							4-Bromophenyl phenyl ether	0.19 ug/mL
							4-Chloro-3-methylphenol	0.19 ug/mL
							4-Chloroaniline	0.19 ug/mL
							4-Chlorophenyl phenyl ether	0.19 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Nitroaniline	0.19 ug/mL
							4-Nitrophenol	0.38 ug/mL
							Acenaphthene	0.19 ug/mL
							Acenaphthylene	0.19 ug/mL
							Acetophenone	0.19 ug/mL
							Aniline	0.19 ug/mL
							Anthracene	0.19 ug/mL
							Azobenzene	0.19 ug/mL
							Benzo[a]anthracene	0.19 ug/mL
							Benzo[a]pyrene	0.19 ug/mL
							Benzo[b]fluoranthene	0.19 ug/mL
							Benzo[g,h,i]perylene	0.19 ug/mL
							Benzo[k]fluoranthene	0.19 ug/mL
							Benzyl alcohol	0.19 ug/mL
							Bis(2-chloroethoxy)methane	0.19 ug/mL
							Bis(2-chloroethyl)ether	0.19 ug/mL
							Bis(2-ethylhexyl) phthalate	0.19 ug/mL
							Butyl benzyl phthalate	0.19 ug/mL
							Carbazole	0.19 ug/mL
							Chrysene	0.19 ug/mL
							Di-n-butyl phthalate	0.19 ug/mL
							Di-n-octyl phthalate	0.19 ug/mL
							Dibenz(a,h)anthracene	0.19 ug/mL
							Dibenzofuran	0.19 ug/mL
							Diethyl phthalate	0.19 ug/mL
							Dimethyl phthalate	0.19 ug/mL
							Fluoranthene	0.19 ug/mL
							Fluorene	0.19 ug/mL
							Hexachlorobenzene	0.19 ug/mL
							Hexachlorobutadiene	0.19 ug/mL
							Hexachlorocyclopentadiene	0.19 ug/mL
							Hexachloroethane	0.19 ug/mL
							Hexadecane	0.19 ug/mL
							Indeno[1,2,3-cd]pyrene	0.19 ug/mL
							Isophorone	0.19 ug/mL
							Methylphenol, 3 & 4	0.19 ug/mL
							n-Decane	0.19 ug/mL
							N-Nitrosodi-n-propylamine	0.19 ug/mL
							N-Nitrosodimethylamine	0.19 ug/mL
							N-Nitrosodiphenylamine	0.19 ug/mL
							n-Octadecane	0.19 ug/mL
							Naphthalene	0.19 ug/mL
							Nitrobenzene	0.19 ug/mL
							Pentachlorophenol	0.38 ug/mL
							Phenanthrene	0.19 ug/mL
							Phenol	0.19 ug/mL
							Pyrene	0.19 ug/mL
							Pyridine	0.38 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Atrazine	0.19 ug/mL
							Benzaldehyde	0.19 ug/mL
							Caprolactam	0.19 ug/mL
							3,3'-Dichlorobenzidine	0.19 ug/mL
							Benzidine	0.19 ug/mL
							2,4,6-Tribromophenol (Surr)	0.19 ug/mL
							2-Fluorobiphenyl	0.19 ug/mL
							2-Fluorophenol (Surr)	0.19 ug/mL
							Nitrobenzene-d5 (Surr)	0.19 ug/mL
							Phenol-d5 (Surr)	0.19 ug/mL
							Terphenyl-d14 (Surr)	0.19 ug/mL
							Methyl methanesulfonate	0.19 ug/mL
							N-Nitrosopyrrolidine	0.19 ug/mL
.SVTAPITINTRNi_00023	10/15/20	10/15/19	MeCl2, Lot 3373271	25 mL	SVLVIntstd_00010	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..SVLVIntstd_00010	09/30/23	Restek, Lot A0141743			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.SVTAPITSTCKi_00023	04/15/20	10/15/19	MeCl2, Lot 3373271	20 mL	SV LIST3/STD1_00002	400 uL	Benzo[e]pyrene	40 ug/mL
					SV LST1/STD10_00001	400 uL	Benzoic acid	40 ug/mL
							Indene	40 ug/mL
					SV2356TCPs_00004	800 uL	2,3,5,6-Tetrachlorophenol	40 ug/mL
					SV2NAPAMINEs_00009	800 uL	2-Naphthylamine	40 ug/mL
					sv712dimbenza_00012	800 uL	7,12-Dimethylbenz(a)anthracene	40 ug/mL
					SVLIST1/STD1_00002	800 uL	1,1'-Biphenyl	40 ug/mL
							1,2,4,5-Tetrachlorobenzene	40 ug/mL
							1,2,4-Trichlorobenzene	40 ug/mL
							1,2-Dichlorobenzene	40 ug/mL
							1,2-Diphenylhydrazine	40 ug/mL
							1,3-Dichlorobenzene	40 ug/mL
							1,3-Dinitrobenzene	40 ug/mL
							1,4-Dichlorobenzene	40 ug/mL
							1,4-Dioxane	40 ug/mL
							1-Methylnaphthalene	40 ug/mL
							2,2'-oxybis[1-chloropropane]	40 ug/mL
							2,3,4,6-Tetrachlorophenol	40 ug/mL
							2,4,5-Trichlorophenol	40 ug/mL
							2,4,6-Trichlorophenol	40 ug/mL
							2,4-Dichlorophenol	40 ug/mL
							2,4-Dimethylphenol	40 ug/mL
							2,4-Dinitrophenol	80 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,4-Dinitrotoluene	40 ug/mL
							2,6-Dichlorophenol	40 ug/mL
							2,6-Dinitrotoluene	40 ug/mL
							2-Chloronaphthalene	40 ug/mL
							2-Chlorophenol	40 ug/mL
							2-Methylnaphthalene	40 ug/mL
							2-Methylphenol	40 ug/mL
							2-Nitroaniline	40 ug/mL
							2-Nitrophenol	40 ug/mL
							3-Nitroaniline	40 ug/mL
							4,6-Dinitro-2-methylphenol	80 ug/mL
							4-Bromophenyl phenyl ether	40 ug/mL
							4-Chloro-3-methylphenol	40 ug/mL
							4-Chloroaniline	40 ug/mL
							4-Chlorophenyl phenyl ether	40 ug/mL
							4-Nitroaniline	40 ug/mL
							4-Nitrophenol	80 ug/mL
							Acenaphthene	40 ug/mL
							Acenaphthylene	40 ug/mL
							Acetophenone	40 ug/mL
							Aniline	40 ug/mL
							Anthracene	40 ug/mL
							Azobenzene	40 ug/mL
							Benzo[a]anthracene	40 ug/mL
							Benzo[a]pyrene	40 ug/mL
							Benzo[b]fluoranthene	40 ug/mL
							Benzo[g,h,i]perylene	40 ug/mL
							Benzo[k]fluoranthene	40 ug/mL
							Benzyl alcohol	40 ug/mL
							Bis(2-chloroethoxy)methane	40 ug/mL
							Bis(2-chloroethyl)ether	40 ug/mL
							Bis(2-ethylhexyl) phthalate	40 ug/mL
							Butyl benzyl phthalate	40 ug/mL
							Carbazole	40 ug/mL
							Chrysene	40 ug/mL
							Di-n-butyl phthalate	40 ug/mL
							Di-n-octyl phthalate	40 ug/mL
							Dibenz(a,h)anthracene	40 ug/mL
							Dibenzofuran	40 ug/mL
							Diethyl phthalate	40 ug/mL
							Dimethyl phthalate	40 ug/mL
							Fluoranthene	40 ug/mL
							Fluorene	40 ug/mL
							Hexachlorobenzene	40 ug/mL
							Hexachlorobutadiene	40 ug/mL
							Hexachlorocyclopentadiene	40 ug/mL
							Hexachloroethane	40 ug/mL
							Hexadecane	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Indeno[1,2,3-cd]pyrene	40 ug/mL
							Isophorone	40 ug/mL
							Methylphenol, 3 & 4	40 ug/mL
							n-Decane	40 ug/mL
							N-Nitrosodi-n-propylamine	40 ug/mL
							N-Nitrosodimethylamine	40 ug/mL
							N-Nitrosodiphenylamine	40 ug/mL
							n-Octadecane	40 ug/mL
							Naphthalene	40 ug/mL
							Nitrobenzene	40 ug/mL
							Pentachlorophenol	80 ug/mL
							Phenanthrene	40 ug/mL
							Phenol	40 ug/mL
							Pyrene	40 ug/mL
							Pyridine	80 ug/mL
					SVLIST1/STD11_00003	400 uL	Atrazine	40 ug/mL
							Benzaldehyde	40 ug/mL
							Caprolactam	40 ug/mL
					SVLIST1/STD9_00004	400 uL	3,3'-Dichlorobenzidine	40 ug/mL
							Benzidine	40 ug/mL
					SVLVSURRSPK_00021	160 uL	2,4,6-Tribromophenol (Surr)	40 ug/mL
							2-Fluorobiphenyl	40 ug/mL
							2-Fluorophenol (Surr)	40 ug/mL
							Nitrobenzene-d5 (Surr)	40 ug/mL
							Phenol-d5 (Surr)	40 ug/mL
							Terphenyl-d14 (Surr)	40 ug/mL
					svmethylmetha_00012	800 uL	Methyl methanesulfonate	40 ug/mL
					SVNNITROPYROs_00019	800 uL	N-Nitrosopyrrolidine	40 ug/mL
..SV LIST3/STD1_00002	06/30/20	Restek, Lot a0123781			(Purchased Reagent)		Benzo[e]pyrene	2000 ug/mL
..SV LST1/STD10_00001	08/31/20	Restek, Lot A0145854			(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
..SV2356TCPs_00004	09/21/20	Absolute, Lot 092115			(Purchased Reagent)		2,3,5,6-Tetrachlorophenol	1000 ug/mL
..SV2NAPAMINEs_00009	11/19/22	Ultra Scientific, Lot Cs-5614			(Purchased Reagent)		2-Naphthylamine	1000 ug/mL
..sv712dimbenza_00012	05/31/21	Absolute, Lot 053116			(Purchased Reagent)		7,12-Dimethylbenz(a)anthracene	1000 ug/mL
..SVLIST1/STD1_00002	09/30/20	Restek, Lot A0147571			(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							Methylphenol, 3 & 4	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
..SVLIST1/STD11_00003	09/30/20		Restek, Lot A0147257		(Purchased Reagent)		Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
..SVLIST1/STD9_00004	07/31/20		Restek, Lot A0145230		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
							Benzidine	2000 ug/mL
..SVLVSURRSPK_00021	12/31/21		Restek, Lot A0123269		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
..svmethylmetha_00012	03/27/22		Absolute, Lot 032717		(Purchased Reagent)		Methyl methanesulfonate	1000 ug/mL
..SVNNITROPYROs_00019	11/06/21		absolute, Lot 110618		(Purchased Reagent)		N-Nitrosopyrrolidine	1000 ug/mL
SVTAPSTD10i_00354	12/25/19	12/18/19	MeCl2, Lot 3499215	1 mL	SVTAPITINTRNi_00023	10 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
					SVTAPITSTCKi_00023	125 uL	Benzo[e]pyrene	5 ug/mL
							Benzoic acid	5 ug/mL
							Indene	5 ug/mL
							2,3,5,6-Tetrachlorophenol	5 ug/mL
							2-Naphthylamine	5 ug/mL
							7,12-Dimethylbenz(a)anthracene	5 ug/mL
							1,1'-Biphenyl	5 ug/mL
							1,2,4,5-Tetrachlorobenzene	5 ug/mL
							1,2,4-Trichlorobenzene	5 ug/mL
							1,2-Dichlorobenzene	5 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2-Diphenylhydrazine	5 ug/mL
							1,3-Dichlorobenzene	5 ug/mL
							1,3-Dinitrobenzene	5 ug/mL
							1,4-Dichlorobenzene	5 ug/mL
							1,4-Dioxane	5 ug/mL
							1-Methylnaphthalene	5 ug/mL
							2,2'-oxybis[1-chloropropane]	5 ug/mL
							2,3,4,6-Tetrachlorophenol	5 ug/mL
							2,4,5-Trichlorophenol	5 ug/mL
							2,4,6-Trichlorophenol	5 ug/mL
							2,4-Dichlorophenol	5 ug/mL
							2,4-Dimethylphenol	5 ug/mL
							2,4-Dinitrophenol	10 ug/mL
							2,4-Dinitrotoluene	5 ug/mL
							2,6-Dichlorophenol	5 ug/mL
							2,6-Dinitrotoluene	5 ug/mL
							2-Chloronaphthalene	5 ug/mL
							2-Chlorophenol	5 ug/mL
							2-Methylnaphthalene	5 ug/mL
							2-Methylphenol	5 ug/mL
							2-Nitroaniline	5 ug/mL
							2-Nitrophenol	5 ug/mL
							3-Nitroaniline	5 ug/mL
							4,6-Dinitro-2-methylphenol	10 ug/mL
							4-Bromophenyl phenyl ether	5 ug/mL
							4-Chloro-3-methylphenol	5 ug/mL
							4-Chloroaniline	5 ug/mL
							4-Chlorophenyl phenyl ether	5 ug/mL
							4-Nitroaniline	5 ug/mL
							4-Nitrophenol	10 ug/mL
							Acenaphthene	5 ug/mL
							Acenaphthylene	5 ug/mL
							Acetophenone	5 ug/mL
							Aniline	5 ug/mL
							Anthracene	5 ug/mL
							Azobenzene	5 ug/mL
							Benzo[a]anthracene	5 ug/mL
							Benzo[a]pyrene	5 ug/mL
							Benzo[b]fluoranthene	5 ug/mL
							Benzo[g,h,i]perylene	5 ug/mL
							Benzo[k]fluoranthene	5 ug/mL
							Benzyl alcohol	5 ug/mL
							Bis(2-chloroethoxy)methane	5 ug/mL
							Bis(2-chloroethyl)ether	5 ug/mL
							Bis(2-ethylhexyl) phthalate	5 ug/mL
							Butyl benzyl phthalate	5 ug/mL
							Carbazole	5 ug/mL
							Chrysene	5 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Di-n-butyl phthalate	5 ug/mL
							Di-n-octyl phthalate	5 ug/mL
							Dibenz(a,h)anthracene	5 ug/mL
							Dibenzofuran	5 ug/mL
							Diethyl phthalate	5 ug/mL
							Dimethyl phthalate	5 ug/mL
							Fluoranthene	5 ug/mL
							Fluorene	5 ug/mL
							Hexachlorobenzene	5 ug/mL
							Hexachlorobutadiene	5 ug/mL
							Hexachlorocyclopentadiene	5 ug/mL
							Hexachloroethane	5 ug/mL
							Hexadecane	5 ug/mL
							Indeno[1,2,3-cd]pyrene	5 ug/mL
							Isophorone	5 ug/mL
							Methylphenol, 3 & 4	5 ug/mL
							n-Decane	5 ug/mL
							N-Nitrosodi-n-propylamine	5 ug/mL
							N-Nitrosodimethylamine	5 ug/mL
							N-Nitrosodiphenylamine	5 ug/mL
							n-Octadecane	5 ug/mL
							Naphthalene	5 ug/mL
							Nitrobenzene	5 ug/mL
							Pentachlorophenol	10 ug/mL
							Phenanthrene	5 ug/mL
							Phenol	5 ug/mL
							Pyrene	5 ug/mL
							Pyridine	10 ug/mL
							Atrazine	5 ug/mL
							Benzaldehyde	5 ug/mL
							Caprolactam	5 ug/mL
							3,3'-Dichlorobenzidine	5 ug/mL
							Benzidine	5 ug/mL
							2,4,6-Tribromophenol (Surr)	5 ug/mL
							2-Fluorobiphenyl	5 ug/mL
							2-Fluorophenol (Surr)	5 ug/mL
							Nitrobenzene-d5 (Surr)	5 ug/mL
							Phenol-d5 (Surr)	5 ug/mL
							Terphenyl-d14 (Surr)	5 ug/mL
							Methyl methanesulfonate	5 ug/mL
							N-Nitrosopyrrolidine	5 ug/mL
.SVTAPITINTRNi_00023	10/15/20	10/15/19	MeCl2, Lot 3373271	25 mL	SVLVIntstd_00010	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..SVLVIntstd_00010	09/30/23	Restek, Lot A0141743			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.SVTAPITSTCKi_00023	04/15/20	10/15/19	MeCl2, Lot 3373271	20 mL	SV LIST3/STD1_00002	400 uL	Benzo[e]pyrene	40 ug/mL
					SV LST1/STD10_00001	400 uL	Benzoic acid	40 ug/mL
							Indene	40 ug/mL
					SV2356TCPs_00004	800 uL	2,3,5,6-Tetrachlorophenol	40 ug/mL
					SV2NAPAMINEs_00009	800 uL	2-Naphthylamine	40 ug/mL
					sv712dimbenza_00012	800 uL	7,12-Dimethylbenz(a)anthracene	40 ug/mL
					SVLIST1/STD1_00002	800 uL	1,1'-Biphenyl	40 ug/mL
							1,2,4,5-Tetrachlorobenzene	40 ug/mL
							1,2,4-Trichlorobenzene	40 ug/mL
							1,2-Dichlorobenzene	40 ug/mL
							1,2-Diphenylhydrazine	40 ug/mL
							1,3-Dichlorobenzene	40 ug/mL
							1,3-Dinitrobenzene	40 ug/mL
							1,4-Dichlorobenzene	40 ug/mL
							1,4-Dioxane	40 ug/mL
							1-Methylnaphthalene	40 ug/mL
							2,2'-oxybis[1-chloropropane]	40 ug/mL
							2,3,4,6-Tetrachlorophenol	40 ug/mL
							2,4,5-Trichlorophenol	40 ug/mL
							2,4,6-Trichlorophenol	40 ug/mL
							2,4-Dichlorophenol	40 ug/mL
							2,4-Dimethylphenol	40 ug/mL
							2,4-Dinitrophenol	80 ug/mL
							2,4-Dinitrotoluene	40 ug/mL
							2,6-Dichlorophenol	40 ug/mL
							2,6-Dinitrotoluene	40 ug/mL
							2-Chloronaphthalene	40 ug/mL
							2-Chlorophenol	40 ug/mL
							2-Methylnaphthalene	40 ug/mL
							2-Methylphenol	40 ug/mL
							2-Nitroaniline	40 ug/mL
							2-Nitrophenol	40 ug/mL
							3-Nitroaniline	40 ug/mL
							4,6-Dinitro-2-methylphenol	80 ug/mL
							4-Bromophenyl phenyl ether	40 ug/mL
							4-Chloro-3-methylphenol	40 ug/mL
							4-Chloroaniline	40 ug/mL
							4-Chlorophenyl phenyl ether	40 ug/mL
							4-Nitroaniline	40 ug/mL
							4-Nitrophenol	80 ug/mL
							Acenaphthene	40 ug/mL
							Acenaphthylene	40 ug/mL
							Acetophenone	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Aniline	40 ug/mL
							Anthracene	40 ug/mL
							Azobenzene	40 ug/mL
							Benzo[a]anthracene	40 ug/mL
							Benzo[a]pyrene	40 ug/mL
							Benzo[b]fluoranthene	40 ug/mL
							Benzo[g,h,i]perylene	40 ug/mL
							Benzo[k]fluoranthene	40 ug/mL
							Benzyl alcohol	40 ug/mL
							Bis(2-chloroethoxy)methane	40 ug/mL
							Bis(2-chloroethyl)ether	40 ug/mL
							Bis(2-ethylhexyl) phthalate	40 ug/mL
							Butyl benzyl phthalate	40 ug/mL
							Carbazole	40 ug/mL
							Chrysene	40 ug/mL
							Di-n-butyl phthalate	40 ug/mL
							Di-n-octyl phthalate	40 ug/mL
							Dibenz(a,h)anthracene	40 ug/mL
							Dibenzofuran	40 ug/mL
							Diethyl phthalate	40 ug/mL
							Dimethyl phthalate	40 ug/mL
							Fluoranthene	40 ug/mL
							Fluorene	40 ug/mL
							Hexachlorobenzene	40 ug/mL
							Hexachlorobutadiene	40 ug/mL
							Hexachlorocyclopentadiene	40 ug/mL
							Hexachloroethane	40 ug/mL
							Hexadecane	40 ug/mL
							Indeno[1,2,3-cd]pyrene	40 ug/mL
							Isophorone	40 ug/mL
							Methylphenol, 3 & 4	40 ug/mL
							n-Decane	40 ug/mL
							N-Nitrosodi-n-propylamine	40 ug/mL
							N-Nitrosodimethylamine	40 ug/mL
							N-Nitrosodiphenylamine	40 ug/mL
							n-Octadecane	40 ug/mL
							Naphthalene	40 ug/mL
							Nitrobenzene	40 ug/mL
							Pentachlorophenol	80 ug/mL
							Phenanthrene	40 ug/mL
							Phenol	40 ug/mL
							Pyrene	40 ug/mL
							Pyridine	80 ug/mL
					SVLIST1/STD11_00003	400 uL	Atrazine	40 ug/mL
							Benzaldehyde	40 ug/mL
							Caprolactam	40 ug/mL
					SVLIST1/STD9_00004	400 uL	3,3'-Dichlorobenzidine	40 ug/mL
							Benzidine	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					SVLVSURRSPK_00021	160 uL	2,4,6-Tribromophenol (Surr)	40 ug/mL
							2-Fluorobiphenyl	40 ug/mL
							2-Fluorophenol (Surr)	40 ug/mL
							Nitrobenzene-d5 (Surr)	40 ug/mL
							Phenol-d5 (Surr)	40 ug/mL
							Terphenyl-d14 (Surr)	40 ug/mL
					svmethylmetha_00012	800 uL	Methyl methanesulfonate	40 ug/mL
					SVNNITROPYROs_00019	800 uL	N-Nitrosopyrrolidine	40 ug/mL
..SV LIST3/STD1_00002	06/30/20	Restek, Lot a0123781			(Purchased Reagent)		Benzo[e]pyrene	2000 ug/mL
..SV LST1/STD10_00001	08/31/20	Restek, Lot A0145854			(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
..SV2356TCPs_00004	09/21/20	Absolute, Lot 092115			(Purchased Reagent)		2,3,5,6-Tetrachlorophenol	1000 ug/mL
..SV2NAPAMINEs_00009	11/19/22	Ultra Scientific, Lot Cs-5614			(Purchased Reagent)		2-Naphthylamine	1000 ug/mL
..sv712dimbenza_00012	05/31/21	Absolute, Lot 053116			(Purchased Reagent)		7,12-Dimethylbenz(a)anthracene	1000 ug/mL
..SVLIST1/STD1_00002	09/30/20	Restek, Lot A0147571			(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							Methylphenol, 3 & 4	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
..SVLIST1/STD11_00003	09/30/20	Restek, Lot A0147257			(Purchased Reagent)		Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Caprolactam	2000 ug/mL
..SVLIST1/STD9_00004	07/31/20		Restek, Lot A0145230		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
							Benzidine	2000 ug/mL
..SVLVSURRSPK_00021	12/31/21		Restek, Lot A0123269		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
..svmethylmetha_00012	03/27/22		Absolute, Lot 032717		(Purchased Reagent)		Methyl methanesulfonate	1000 ug/mL
..SVNNITROPYROs_00019	11/06/21		absolute, Lot 110618		(Purchased Reagent)		N-Nitrosopyrrolidine	1000 ug/mL
SVTAPSTD2.0i_00021	04/15/20	10/15/19	MeCl2, Lot 3373271	1 mL	SVTAPITINTRNi_00023	10 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
					SVTAPITSTCKi_00023	25 uL	Benzo[e]pyrene	1 ug/mL
							Benzoic acid	1 ug/mL
							Indene	1 ug/mL
							2,3,5,6-Tetrachlorophenol	1 ug/mL
							2-Naphthylamine	1 ug/mL
							7,12-Dimethylbenz(a)anthracene	1 ug/mL
							1,1'-Biphenyl	1 ug/mL
							1,2,4,5-Tetrachlorobenzene	1 ug/mL
							1,2,4-Trichlorobenzene	1 ug/mL
							1,2-Dichlorobenzene	1 ug/mL
							1,2-Diphenylhydrazine	1 ug/mL
							1,3-Dichlorobenzene	1 ug/mL
							1,3-Dinitrobenzene	1 ug/mL
							1,4-Dichlorobenzene	1 ug/mL
							1,4-Dioxane	1 ug/mL
							1-Methylnaphthalene	1 ug/mL
							2,2'-oxybis[1-chloropropane]	1 ug/mL
							2,3,4,6-Tetrachlorophenol	1 ug/mL
							2,4,5-Trichlorophenol	1 ug/mL
							2,4,6-Trichlorophenol	1 ug/mL
							2,4-Dichlorophenol	1 ug/mL
							2,4-Dimethylphenol	1 ug/mL
							2,4-Dinitrophenol	2 ug/mL
							2,4-Dinitrotoluene	1 ug/mL
							2,6-Dichlorophenol	1 ug/mL
							2,6-Dinitrotoluene	1 ug/mL
							2-Chloronaphthalene	1 ug/mL
							2-Chlorophenol	1 ug/mL
							2-Methylnaphthalene	1 ug/mL
							2-Methylphenol	1 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Nitroaniline	1 ug/mL
							2-Nitrophenol	1 ug/mL
							3-Nitroaniline	1 ug/mL
							4,6-Dinitro-2-methylphenol	2 ug/mL
							4-Bromophenyl phenyl ether	1 ug/mL
							4-Chloro-3-methylphenol	1 ug/mL
							4-Chloroaniline	1 ug/mL
							4-Chlorophenyl phenyl ether	1 ug/mL
							4-Nitroaniline	1 ug/mL
							4-Nitrophenol	2 ug/mL
							Acenaphthene	1 ug/mL
							Acenaphthylene	1 ug/mL
							Acetophenone	1 ug/mL
							Aniline	1 ug/mL
							Anthracene	1 ug/mL
							Azobenzene	1 ug/mL
							Benzo[a]anthracene	1 ug/mL
							Benzo[a]pyrene	1 ug/mL
							Benzo[b]fluoranthene	1 ug/mL
							Benzo[g,h,i]perylene	1 ug/mL
							Benzo[k]fluoranthene	1 ug/mL
							Benzyl alcohol	1 ug/mL
							Bis(2-chloroethoxy)methane	1 ug/mL
							Bis(2-chloroethyl)ether	1 ug/mL
							Bis(2-ethylhexyl) phthalate	1 ug/mL
							Butyl benzyl phthalate	1 ug/mL
							Carbazole	1 ug/mL
							Chrysene	1 ug/mL
							Di-n-butyl phthalate	1 ug/mL
							Di-n-octyl phthalate	1 ug/mL
							Dibenz(a,h)anthracene	1 ug/mL
							Dibenzofuran	1 ug/mL
							Diethyl phthalate	1 ug/mL
							Dimethyl phthalate	1 ug/mL
							Fluoranthene	1 ug/mL
							Fluorene	1 ug/mL
							Hexachlorobenzene	1 ug/mL
							Hexachlorobutadiene	1 ug/mL
							Hexachlorocyclopentadiene	1 ug/mL
							Hexachloroethane	1 ug/mL
							Hexadecane	1 ug/mL
							Indeno[1,2,3-cd]pyrene	1 ug/mL
							Isophorone	1 ug/mL
							Methylphenol, 3 & 4	1 ug/mL
							n-Decane	1 ug/mL
							N-Nitrosodi-n-propylamine	1 ug/mL
							N-Nitrosodimethylamine	1 ug/mL
							N-Nitrosodiphenylamine	1 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							n-Octadecane	1 ug/mL
							Naphthalene	1 ug/mL
							Nitrobenzene	1 ug/mL
							Pentachlorophenol	2 ug/mL
							Phenanthrene	1 ug/mL
							Phenol	1 ug/mL
							Pyrene	1 ug/mL
							Pyridine	2 ug/mL
							Atrazine	1 ug/mL
							Benzaldehyde	1 ug/mL
							Caprolactam	1 ug/mL
							3,3'-Dichlorobenzidine	1 ug/mL
							Benzidine	1 ug/mL
							2,4,6-Tribromophenol (Surr)	1 ug/mL
							2-Fluorobiphenyl	1 ug/mL
							2-Fluorophenol (Surr)	1 ug/mL
							Nitrobenzene-d5 (Surr)	1 ug/mL
							Phenol-d5 (Surr)	1 ug/mL
							Terphenyl-d14 (Surr)	1 ug/mL
							Methyl methanesulfonate	1 ug/mL
							N-Nitrosopyrrolidine	1 ug/mL
.SVTAPITINTRNi_00023	10/15/20	10/15/19	MeCl2, Lot 3373271	25 mL	SVLVIntstd_00010	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..SVLVIntstd_00010	09/30/23	Restek, Lot A0141743			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.SVTAPITSTCKi_00023	04/15/20	10/15/19	MeCl2, Lot 3373271	20 mL	SV LIST3/STD1_00002	400 uL	Benzo[e]pyrene	40 ug/mL
					SV LST1/STD10_00001	400 uL	Benzoic acid	40 ug/mL
							Indene	40 ug/mL
					SV2356TCPs_00004	800 uL	2,3,5,6-Tetrachlorophenol	40 ug/mL
					SV2NAPAMINEs_00009	800 uL	2-Naphthylamine	40 ug/mL
					sv712dimbenza_00012	800 uL	7,12-Dimethylbenz(a)anthracene	40 ug/mL
					SVLIST1/STD1_00002	800 uL	1,1'-Biphenyl	40 ug/mL
							1,2,4,5-Tetrachlorobenzene	40 ug/mL
							1,2,4-Trichlorobenzene	40 ug/mL
							1,2-Dichlorobenzene	40 ug/mL
							1,2-Diphenylhydrazine	40 ug/mL
							1,3-Dichlorobenzene	40 ug/mL
							1,3-Dinitrobenzene	40 ug/mL
							1,4-Dichlorobenzene	40 ug/mL
							1,4-Dioxane	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1-Methylnaphthalene	40 ug/mL
							2,2'-oxybis[1-chloropropane]	40 ug/mL
							2,3,4,6-Tetrachlorophenol	40 ug/mL
							2,4,5-Trichlorophenol	40 ug/mL
							2,4,6-Trichlorophenol	40 ug/mL
							2,4-Dichlorophenol	40 ug/mL
							2,4-Dimethylphenol	40 ug/mL
							2,4-Dinitrophenol	80 ug/mL
							2,4-Dinitrotoluene	40 ug/mL
							2,6-Dichlorophenol	40 ug/mL
							2,6-Dinitrotoluene	40 ug/mL
							2-Chloronaphthalene	40 ug/mL
							2-Chlorophenol	40 ug/mL
							2-Methylnaphthalene	40 ug/mL
							2-Methylphenol	40 ug/mL
							2-Nitroaniline	40 ug/mL
							2-Nitrophenol	40 ug/mL
							3-Nitroaniline	40 ug/mL
							4,6-Dinitro-2-methylphenol	80 ug/mL
							4-Bromophenyl phenyl ether	40 ug/mL
							4-Chloro-3-methylphenol	40 ug/mL
							4-Chloroaniline	40 ug/mL
							4-Chlorophenyl phenyl ether	40 ug/mL
							4-Nitroaniline	40 ug/mL
							4-Nitrophenol	80 ug/mL
							Acenaphthene	40 ug/mL
							Acenaphthylene	40 ug/mL
							Acetophenone	40 ug/mL
							Aniline	40 ug/mL
							Anthracene	40 ug/mL
							Azobenzene	40 ug/mL
							Benzo[a]anthracene	40 ug/mL
							Benzo[a]pyrene	40 ug/mL
							Benzo[b]fluoranthene	40 ug/mL
							Benzo[g,h,i]perylene	40 ug/mL
							Benzo[k]fluoranthene	40 ug/mL
							Benzyl alcohol	40 ug/mL
							Bis(2-chloroethoxy)methane	40 ug/mL
							Bis(2-chloroethyl)ether	40 ug/mL
							Bis(2-ethylhexyl) phthalate	40 ug/mL
							Butyl benzyl phthalate	40 ug/mL
							Carbazole	40 ug/mL
							Chrysene	40 ug/mL
							Di-n-butyl phthalate	40 ug/mL
							Di-n-octyl phthalate	40 ug/mL
							Dibenz(a,h)anthracene	40 ug/mL
							Dibenzofuran	40 ug/mL
							Diethyl phthalate	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Dimethyl phthalate	40 ug/mL
							Fluoranthene	40 ug/mL
							Fluorene	40 ug/mL
							Hexachlorobenzene	40 ug/mL
							Hexachlorobutadiene	40 ug/mL
							Hexachlorocyclopentadiene	40 ug/mL
							Hexachloroethane	40 ug/mL
							Hexadecane	40 ug/mL
							Indeno[1,2,3-cd]pyrene	40 ug/mL
							Isophorone	40 ug/mL
							Methylphenol, 3 & 4	40 ug/mL
							n-Decane	40 ug/mL
							N-Nitrosodi-n-propylamine	40 ug/mL
							N-Nitrosodimethylamine	40 ug/mL
							N-Nitrosodiphenylamine	40 ug/mL
							n-Octadecane	40 ug/mL
							Naphthalene	40 ug/mL
							Nitrobenzene	40 ug/mL
							Pentachlorophenol	80 ug/mL
							Phenanthrene	40 ug/mL
							Phenol	40 ug/mL
							Pyrene	40 ug/mL
							Pyridine	80 ug/mL
					SVLIST1/STD11_00003	400 uL	Atrazine	40 ug/mL
							Benzaldehyde	40 ug/mL
							Caprolactam	40 ug/mL
					SVLIST1/STD9_00004	400 uL	3,3'-Dichlorobenzidine	40 ug/mL
							Benzidine	40 ug/mL
					SVLVSURRSPK_00021	160 uL	2,4,6-Tribromophenol (Surr)	40 ug/mL
							2-Fluorobiphenyl	40 ug/mL
							2-Fluorophenol (Surr)	40 ug/mL
							Nitrobenzene-d5 (Surr)	40 ug/mL
							Phenol-d5 (Surr)	40 ug/mL
							Terphenyl-d14 (Surr)	40 ug/mL
					svmethylmetha_00012	800 uL	Methyl methanesulfonate	40 ug/mL
					SVNNITROPYROs_00019	800 uL	N-Nitrosopyrrolidine	40 ug/mL
..SV LIST3/STD1_00002	06/30/20	Restek, Lot a0123781			(Purchased Reagent)		Benzo[e]pyrene	2000 ug/mL
..SV LST1/STD10_00001	08/31/20	Restek, Lot A0145854			(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
..SV2356TCPs_00004	09/21/20	Absolute, Lot 092115			(Purchased Reagent)		2,3,5,6-Tetrachlorophenol	1000 ug/mL
..SV2NAPAMINEs_00009	11/19/22	Ultra Scientific, Lot Cs-5614			(Purchased Reagent)		2-Naphthylamine	1000 ug/mL
..sv712dimbenza_00012	05/31/21	Absolute, Lot 053116			(Purchased Reagent)		7,12-Dimethylbenz(a)anthracene	1000 ug/mL
..SVLIST1/STD1_00002	09/30/20	Restek, Lot A0147571			(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							Methylphenol, 3 & 4	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
..SVLIST1/STD11_00003	09/30/20		Restek, Lot A0147257		(Purchased Reagent)		Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
..SVLIST1/STD9_00004	07/31/20		Restek, Lot A0145230		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
							Benzidine	2000 ug/mL
..SVLVSURRSPK_00021	12/31/21		Restek, Lot A0123269		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
..svmethylmetha_00012	03/27/22		Absolute, Lot 032717		(Purchased Reagent)		Methyl methanesulfonate	1000 ug/mL
..SVNNITROPYROs_00019	11/06/21		absolute, Lot 110618		(Purchased Reagent)		N-Nitrosopyrrolidine	1000 ug/mL
SVTAPSTD20i_00018	04/15/20	10/15/19	MeCl2, Lot 3373271	1 mL	SVTAPITINTRNi_00023	10 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
					SVTAPITSTCKi_00023	250 uL	Benzo[e]pyrene	10 ug/mL
							Benzoic acid	10 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Indene	10 ug/mL
							2,3,5,6-Tetrachlorophenol	10 ug/mL
							2-Naphthylamine	10 ug/mL
							7,12-Dimethylbenz(a)anthracene	10 ug/mL
							1,1'-Biphenyl	10 ug/mL
							1,2,4,5-Tetrachlorobenzene	10 ug/mL
							1,2,4-Trichlorobenzene	10 ug/mL
							1,2-Dichlorobenzene	10 ug/mL
							1,2-Diphenylhydrazine	10 ug/mL
							1,3-Dichlorobenzene	10 ug/mL
							1,3-Dinitrobenzene	10 ug/mL
							1,4-Dichlorobenzene	10 ug/mL
							1,4-Dioxane	10 ug/mL
							1-Methylnaphthalene	10 ug/mL
							2,2'-oxybis[1-chloropropane]	10 ug/mL
							2,3,4,6-Tetrachlorophenol	10 ug/mL
							2,4,5-Trichlorophenol	10 ug/mL
							2,4,6-Trichlorophenol	10 ug/mL
							2,4-Dichlorophenol	10 ug/mL
							2,4-Dimethylphenol	10 ug/mL
							2,4-Dinitrophenol	20 ug/mL
							2,4-Dinitrotoluene	10 ug/mL
							2,6-Dichlorophenol	10 ug/mL
							2,6-Dinitrotoluene	10 ug/mL
							2-Chloronaphthalene	10 ug/mL
							2-Chlorophenol	10 ug/mL
							2-Methylnaphthalene	10 ug/mL
							2-Methylphenol	10 ug/mL
							2-Nitroaniline	10 ug/mL
							2-Nitrophenol	10 ug/mL
							3-Nitroaniline	10 ug/mL
							4,6-Dinitro-2-methylphenol	20 ug/mL
							4-Bromophenyl phenyl ether	10 ug/mL
							4-Chloro-3-methylphenol	10 ug/mL
							4-Chloroaniline	10 ug/mL
							4-Chlorophenyl phenyl ether	10 ug/mL
							4-Nitroaniline	10 ug/mL
							4-Nitrophenol	20 ug/mL
							Acenaphthene	10 ug/mL
							Acenaphthylene	10 ug/mL
							Acetophenone	10 ug/mL
							Aniline	10 ug/mL
							Anthracene	10 ug/mL
							Azobenzene	10 ug/mL
							Benzo[a]anthracene	10 ug/mL
							Benzo[a]pyrene	10 ug/mL
							Benzo[b]fluoranthene	10 ug/mL
							Benzo[g,h,i]perylene	10 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[k]fluoranthene	10 ug/mL
							Benzyl alcohol	10 ug/mL
							Bis(2-chloroethoxy)methane	10 ug/mL
							Bis(2-chloroethyl)ether	10 ug/mL
							Bis(2-ethylhexyl) phthalate	10 ug/mL
							Butyl benzyl phthalate	10 ug/mL
							Carbazole	10 ug/mL
							Chrysene	10 ug/mL
							Di-n-butyl phthalate	10 ug/mL
							Di-n-octyl phthalate	10 ug/mL
							Dibenz(a,h)anthracene	10 ug/mL
							Dibenzofuran	10 ug/mL
							Diethyl phthalate	10 ug/mL
							Dimethyl phthalate	10 ug/mL
							Fluoranthene	10 ug/mL
							Fluorene	10 ug/mL
							Hexachlorobenzene	10 ug/mL
							Hexachlorobutadiene	10 ug/mL
							Hexachlorocyclopentadiene	10 ug/mL
							Hexachloroethane	10 ug/mL
							Hexadecane	10 ug/mL
							Indeno[1,2,3-cd]pyrene	10 ug/mL
							Isophorone	10 ug/mL
							Methylphenol, 3 & 4	10 ug/mL
							n-Decane	10 ug/mL
							N-Nitrosodi-n-propylamine	10 ug/mL
							N-Nitrosodimethylamine	10 ug/mL
							N-Nitrosodiphenylamine	10 ug/mL
							n-Octadecane	10 ug/mL
							Naphthalene	10 ug/mL
							Nitrobenzene	10 ug/mL
							Pentachlorophenol	20 ug/mL
							Phenanthrene	10 ug/mL
							Phenol	10 ug/mL
							Pyrene	10 ug/mL
							Pyridine	20 ug/mL
							Atrazine	10 ug/mL
							Benzaldehyde	10 ug/mL
							Caprolactam	10 ug/mL
							3,3'-Dichlorobenzidine	10 ug/mL
							Benzidine	10 ug/mL
							2,4,6-Tribromophenol (Surr)	10 ug/mL
							2-Fluorobiphenyl	10 ug/mL
							2-Fluorophenol (Surr)	10 ug/mL
							Nitrobenzene-d5 (Surr)	10 ug/mL
							Phenol-d5 (Surr)	10 ug/mL
							Terphenyl-d14 (Surr)	10 ug/mL
							Methyl methanesulfonate	10 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							N-Nitrosopyrrolidine	10 ug/mL
.SVTAPITINTRNi_00023	10/15/20	10/15/19	MeCl2, Lot 3373271	25 mL	SVLVIntstd_00010	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..SVLVIntstd_00010	09/30/23	Restek, Lot A0141743			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.SVTAPITSTCKi_00023	04/15/20	10/15/19	MeCl2, Lot 3373271	20 mL	SV LIST3/STD1_00002	400 uL	Benzo[e]pyrene	40 ug/mL
					SV LST1/STD10_00001	400 uL	Benzoic acid	40 ug/mL
							Indene	40 ug/mL
					SV2356TCPs_00004	800 uL	2,3,5,6-Tetrachlorophenol	40 ug/mL
					SV2NAPAMINEs_00009	800 uL	2-Naphthylamine	40 ug/mL
					sv712dimbenza_00012	800 uL	7,12-Dimethylbenz(a)anthracene	40 ug/mL
					SVLIST1/STD1_00002	800 uL	1,1'-Biphenyl	40 ug/mL
							1,2,4,5-Tetrachlorobenzene	40 ug/mL
							1,2,4-Trichlorobenzene	40 ug/mL
							1,2-Dichlorobenzene	40 ug/mL
							1,2-Diphenylhydrazine	40 ug/mL
							1,3-Dichlorobenzene	40 ug/mL
							1,3-Dinitrobenzene	40 ug/mL
							1,4-Dichlorobenzene	40 ug/mL
							1,4-Dioxane	40 ug/mL
							1-Methylnaphthalene	40 ug/mL
							2,2'-oxybis[1-chloropropane]	40 ug/mL
							2,3,4,6-Tetrachlorophenol	40 ug/mL
							2,4,5-Trichlorophenol	40 ug/mL
							2,4,6-Trichlorophenol	40 ug/mL
							2,4-Dichlorophenol	40 ug/mL
							2,4-Dimethylphenol	40 ug/mL
							2,4-Dinitrophenol	80 ug/mL
							2,4-Dinitrotoluene	40 ug/mL
							2,6-Dichlorophenol	40 ug/mL
							2,6-Dinitrotoluene	40 ug/mL
							2-Chloronaphthalene	40 ug/mL
							2-Chlorophenol	40 ug/mL
							2-Methylnaphthalene	40 ug/mL
							2-Methylphenol	40 ug/mL
							2-Nitroaniline	40 ug/mL
							2-Nitrophenol	40 ug/mL
							3-Nitroaniline	40 ug/mL
							4,6-Dinitro-2-methylphenol	80 ug/mL
							4-Bromophenyl phenyl ether	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Chloro-3-methylphenol	40 ug/mL
							4-Chloroaniline	40 ug/mL
							4-Chlorophenyl phenyl ether	40 ug/mL
							4-Nitroaniline	40 ug/mL
							4-Nitrophenol	80 ug/mL
							Acenaphthene	40 ug/mL
							Acenaphthylene	40 ug/mL
							Acetophenone	40 ug/mL
							Aniline	40 ug/mL
							Anthracene	40 ug/mL
							Azobenzene	40 ug/mL
							Benzo[a]anthracene	40 ug/mL
							Benzo[a]pyrene	40 ug/mL
							Benzo[b]fluoranthene	40 ug/mL
							Benzo[g,h,i]perylene	40 ug/mL
							Benzo[k]fluoranthene	40 ug/mL
							Benzyl alcohol	40 ug/mL
							Bis(2-chloroethoxy)methane	40 ug/mL
							Bis(2-chloroethyl)ether	40 ug/mL
							Bis(2-ethylhexyl) phthalate	40 ug/mL
							Butyl benzyl phthalate	40 ug/mL
							Carbazole	40 ug/mL
							Chrysene	40 ug/mL
							Di-n-butyl phthalate	40 ug/mL
							Di-n-octyl phthalate	40 ug/mL
							Dibenz(a,h)anthracene	40 ug/mL
							Dibenzofuran	40 ug/mL
							Diethyl phthalate	40 ug/mL
							Dimethyl phthalate	40 ug/mL
							Fluoranthene	40 ug/mL
							Fluorene	40 ug/mL
							Hexachlorobenzene	40 ug/mL
							Hexachlorobutadiene	40 ug/mL
							Hexachlorocyclopentadiene	40 ug/mL
							Hexachloroethane	40 ug/mL
							Hexadecane	40 ug/mL
							Indeno[1,2,3-cd]pyrene	40 ug/mL
							Isophorone	40 ug/mL
							Methylphenol, 3 & 4	40 ug/mL
							n-Decane	40 ug/mL
							N-Nitrosodi-n-propylamine	40 ug/mL
							N-Nitrosodimethylamine	40 ug/mL
							N-Nitrosodiphenylamine	40 ug/mL
							n-Octadecane	40 ug/mL
							Naphthalene	40 ug/mL
							Nitrobenzene	40 ug/mL
							Pentachlorophenol	80 ug/mL
							Phenanthrene	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenol	40 ug/mL
							Pyrene	40 ug/mL
							Pyridine	80 ug/mL
					SVLIST1/STD11_00003	400 uL	Atrazine	40 ug/mL
							Benzaldehyde	40 ug/mL
							Caprolactam	40 ug/mL
					SVLIST1/STD9_00004	400 uL	3,3'-Dichlorobenzidine	40 ug/mL
							Benzidine	40 ug/mL
					SVLVSURRSPK_00021	160 uL	2,4,6-Tribromophenol (Surr)	40 ug/mL
							2-Fluorobiphenyl	40 ug/mL
							2-Fluorophenol (Surr)	40 ug/mL
							Nitrobenzene-d5 (Surr)	40 ug/mL
							Phenol-d5 (Surr)	40 ug/mL
							Terphenyl-d14 (Surr)	40 ug/mL
					svmethylmetha_00012	800 uL	Methyl methanesulfonate	40 ug/mL
					SVNNITROPYROs_00019	800 uL	N-Nitrosopyrrolidine	40 ug/mL
..SV LIST3/STD1_00002	06/30/20		Restek, Lot a0123781		(Purchased Reagent)		Benzo[e]pyrene	2000 ug/mL
..SV LST1/STD10_00001	08/31/20		Restek, Lot A0145854		(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
..SV2356TCPs_00004	09/21/20		Absolute, Lot 092115		(Purchased Reagent)		2,3,5,6-Tetrachlorophenol	1000 ug/mL
..SV2NAPAMINEs_00009	11/19/22		Ultra Scientific, Lot Cs-5614		(Purchased Reagent)		2-Naphthylamine	1000 ug/mL
..sv712dimbenza_00012	05/31/21		Absolute, Lot 053116		(Purchased Reagent)		7,12-Dimethylbenz(a)anthracene	1000 ug/mL
..SVLIST1/STD1_00002	09/30/20		Restek, Lot A0147571		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							Methylphenol, 3 & 4	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
..SVLIST1/STD11_00003	09/30/20		Restek, Lot A0147257		(Purchased Reagent)		Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
..SVLIST1/STD9_00004	07/31/20		Restek, Lot A0145230		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
							Benzidine	2000 ug/mL
..SVLVSURRSPK_00021	12/31/21		Restek, Lot A0123269		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
..svmethylmetha_00012	03/27/22		Absolute, Lot 032717		(Purchased Reagent)		Methyl methanesulfonate	1000 ug/mL
..SVNNITROPYROs_00019	11/06/21		absolute, Lot 110618		(Purchased Reagent)		N-Nitrosopyrrolidine	1000 ug/mL
SVTAPSTD4.0i_00020	04/15/20	10/15/19	MeCl2, Lot 3373271	1 mL	SVTAPITINTRNi_00023	10 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
					SVTAPITSTCKi_00023	50 uL	Benzo[e]pyrene	2 ug/mL
							Benzoic acid	2 ug/mL
							Indene	2 ug/mL
							2,3,5,6-Tetrachlorophenol	2 ug/mL
							2-Naphthylamine	2 ug/mL
							7,12-Dimethylbenz(a)anthracene	2 ug/mL
							1,1'-Biphenyl	2 ug/mL
							1,2,4,5-Tetrachlorobenzene	2 ug/mL
							1,2,4-Trichlorobenzene	2 ug/mL
							1,2-Dichlorobenzene	2 ug/mL
							1,2-Diphenylhydrazine	2 ug/mL
							1,3-Dichlorobenzene	2 ug/mL
							1,3-Dinitrobenzene	2 ug/mL
							1,4-Dichlorobenzene	2 ug/mL
							1,4-Dioxane	2 ug/mL
							1-Methylnaphthalene	2 ug/mL
							2,2'-oxybis[1-chloropropane]	2 ug/mL
							2,3,4,6-Tetrachlorophenol	2 ug/mL
							2,4,5-Trichlorophenol	2 ug/mL
							2,4,6-Trichlorophenol	2 ug/mL
							2,4-Dichlorophenol	2 ug/mL
							2,4-Dimethylphenol	2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,4-Dinitrophenol	4 ug/mL
							2,4-Dinitrotoluene	2 ug/mL
							2,6-Dichlorophenol	2 ug/mL
							2,6-Dinitrotoluene	2 ug/mL
							2-Chloronaphthalene	2 ug/mL
							2-Chlorophenol	2 ug/mL
							2-Methylnaphthalene	2 ug/mL
							2-Methylphenol	2 ug/mL
							2-Nitroaniline	2 ug/mL
							2-Nitrophenol	2 ug/mL
							3-Nitroaniline	2 ug/mL
							4,6-Dinitro-2-methylphenol	4 ug/mL
							4-Bromophenyl phenyl ether	2 ug/mL
							4-Chloro-3-methylphenol	2 ug/mL
							4-Chloroaniline	2 ug/mL
							4-Chlorophenyl phenyl ether	2 ug/mL
							4-Nitroaniline	2 ug/mL
							4-Nitrophenol	4 ug/mL
							Acenaphthene	2 ug/mL
							Acenaphthylene	2 ug/mL
							Acetophenone	2 ug/mL
							Aniline	2 ug/mL
							Anthracene	2 ug/mL
							Azobenzene	2 ug/mL
							Benzo[a]anthracene	2 ug/mL
							Benzo[a]pyrene	2 ug/mL
							Benzo[b]fluoranthene	2 ug/mL
							Benzo[g,h,i]perylene	2 ug/mL
							Benzo[k]fluoranthene	2 ug/mL
							Benzyl alcohol	2 ug/mL
							Bis(2-chloroethoxy)methane	2 ug/mL
							Bis(2-chloroethyl)ether	2 ug/mL
							Bis(2-ethylhexyl) phthalate	2 ug/mL
							Butyl benzyl phthalate	2 ug/mL
							Carbazole	2 ug/mL
							Chrysene	2 ug/mL
							Di-n-butyl phthalate	2 ug/mL
							Di-n-octyl phthalate	2 ug/mL
							Dibenz(a,h)anthracene	2 ug/mL
							Dibenzofuran	2 ug/mL
							Diethyl phthalate	2 ug/mL
							Dimethyl phthalate	2 ug/mL
							Fluoranthene	2 ug/mL
							Fluorene	2 ug/mL
							Hexachlorobenzene	2 ug/mL
							Hexachlorobutadiene	2 ug/mL
							Hexachlorocyclopentadiene	2 ug/mL
							Hexachloroethane	2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Hexadecane	2 ug/mL
							Indeno[1,2,3-cd]pyrene	2 ug/mL
							Isophorone	2 ug/mL
							Methylphenol, 3 & 4	2 ug/mL
							n-Decane	2 ug/mL
							N-Nitrosodi-n-propylamine	2 ug/mL
							N-Nitrosodimethylamine	2 ug/mL
							N-Nitrosodiphenylamine	2 ug/mL
							n-Octadecane	2 ug/mL
							Naphthalene	2 ug/mL
							Nitrobenzene	2 ug/mL
							Pentachlorophenol	4 ug/mL
							Phenanthrene	2 ug/mL
							Phenol	2 ug/mL
							Pyrene	2 ug/mL
							Pyridine	4 ug/mL
							Atrazine	2 ug/mL
							Benzaldehyde	2 ug/mL
							Caprolactam	2 ug/mL
							3,3'-Dichlorobenzidine	2 ug/mL
							Benzidine	2 ug/mL
							2,4,6-Tribromophenol (Surr)	2 ug/mL
							2-Fluorobiphenyl	2 ug/mL
							2-Fluorophenol (Surr)	2 ug/mL
							Nitrobenzene-d5 (Surr)	2 ug/mL
							Phenol-d5 (Surr)	2 ug/mL
							Terphenyl-d14 (Surr)	2 ug/mL
							Methyl methanesulfonate	2 ug/mL
							N-Nitrosopyrrolidine	2 ug/mL
.SVTAPITINTRNi_00023	10/15/20	10/15/19	MeCl2, Lot 3373271	25 mL	SVLVIntstd_00010	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..SVLVIntstd_00010	09/30/23	Restek, Lot A0141743			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.SVTAPITSTCKi_00023	04/15/20	10/15/19	MeCl2, Lot 3373271	20 mL	SV LIST3/STD1_00002	400 uL	Benzo[e]pyrene	40 ug/mL
					SV LST1/STD10_00001	400 uL	Benzoic acid	40 ug/mL
							Indene	40 ug/mL
					SV2356TCPs_00004	800 uL	2,3,5,6-Tetrachlorophenol	40 ug/mL
					SV2NAPAMINEs_00009	800 uL	2-Naphthylamine	40 ug/mL
					sv712dimbenza_00012	800 uL	7,12-Dimethylbenz(a)anthracene	40 ug/mL
					SVLIST1/STD1_00002	800 uL	1,1'-Biphenyl	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,4,5-Tetrachlorobenzene	40 ug/mL
							1,2,4-Trichlorobenzene	40 ug/mL
							1,2-Dichlorobenzene	40 ug/mL
							1,2-Diphenylhydrazine	40 ug/mL
							1,3-Dichlorobenzene	40 ug/mL
							1,3-Dinitrobenzene	40 ug/mL
							1,4-Dichlorobenzene	40 ug/mL
							1,4-Dioxane	40 ug/mL
							1-Methylnaphthalene	40 ug/mL
							2,2'-oxybis[1-chloropropane]	40 ug/mL
							2,3,4,6-Tetrachlorophenol	40 ug/mL
							2,4,5-Trichlorophenol	40 ug/mL
							2,4,6-Trichlorophenol	40 ug/mL
							2,4-Dichlorophenol	40 ug/mL
							2,4-Dimethylphenol	40 ug/mL
							2,4-Dinitrophenol	80 ug/mL
							2,4-Dinitrotoluene	40 ug/mL
							2,6-Dichlorophenol	40 ug/mL
							2,6-Dinitrotoluene	40 ug/mL
							2-Chloronaphthalene	40 ug/mL
							2-Chlorophenol	40 ug/mL
							2-Methylnaphthalene	40 ug/mL
							2-Methylphenol	40 ug/mL
							2-Nitroaniline	40 ug/mL
							2-Nitrophenol	40 ug/mL
							3-Nitroaniline	40 ug/mL
							4,6-Dinitro-2-methylphenol	80 ug/mL
							4-Bromophenyl phenyl ether	40 ug/mL
							4-Chloro-3-methylphenol	40 ug/mL
							4-Chloroaniline	40 ug/mL
							4-Chlorophenyl phenyl ether	40 ug/mL
							4-Nitroaniline	40 ug/mL
							4-Nitrophenol	80 ug/mL
							Acenaphthene	40 ug/mL
							Acenaphthylene	40 ug/mL
							Acetophenone	40 ug/mL
							Aniline	40 ug/mL
							Anthracene	40 ug/mL
							Azobenzene	40 ug/mL
							Benzo[a]anthracene	40 ug/mL
							Benzo[a]pyrene	40 ug/mL
							Benzo[b]fluoranthene	40 ug/mL
							Benzo[g,h,i]perylene	40 ug/mL
							Benzo[k]fluoranthene	40 ug/mL
							Benzyl alcohol	40 ug/mL
							Bis(2-chloroethoxy)methane	40 ug/mL
							Bis(2-chloroethyl)ether	40 ug/mL
							Bis(2-ethylhexyl) phthalate	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Butyl benzyl phthalate	40 ug/mL
							Carbazole	40 ug/mL
							Chrysene	40 ug/mL
							Di-n-butyl phthalate	40 ug/mL
							Di-n-octyl phthalate	40 ug/mL
							Dibenz(a,h)anthracene	40 ug/mL
							Dibenzofuran	40 ug/mL
							Diethyl phthalate	40 ug/mL
							Dimethyl phthalate	40 ug/mL
							Fluoranthene	40 ug/mL
							Fluorene	40 ug/mL
							Hexachlorobenzene	40 ug/mL
							Hexachlorobutadiene	40 ug/mL
							Hexachlorocyclopentadiene	40 ug/mL
							Hexachloroethane	40 ug/mL
							Hexadecane	40 ug/mL
							Indeno[1,2,3-cd]pyrene	40 ug/mL
							Isophorone	40 ug/mL
							Methylphenol, 3 & 4	40 ug/mL
							n-Decane	40 ug/mL
							N-Nitrosodi-n-propylamine	40 ug/mL
							N-Nitrosodimethylamine	40 ug/mL
							N-Nitrosodiphenylamine	40 ug/mL
							n-Octadecane	40 ug/mL
							Naphthalene	40 ug/mL
							Nitrobenzene	40 ug/mL
							Pentachlorophenol	80 ug/mL
							Phenanthrene	40 ug/mL
							Phenol	40 ug/mL
							Pyrene	40 ug/mL
							Pyridine	80 ug/mL
					SVLIST1/STD11_00003	400 uL	Atrazine	40 ug/mL
							Benzaldehyde	40 ug/mL
							Caprolactam	40 ug/mL
					SVLIST1/STD9_00004	400 uL	3,3'-Dichlorobenzidine	40 ug/mL
							Benzidine	40 ug/mL
					SVLVSURRSPK_00021	160 uL	2,4,6-Tribromophenol (Surr)	40 ug/mL
							2-Fluorobiphenyl	40 ug/mL
							2-Fluorophenol (Surr)	40 ug/mL
							Nitrobenzene-d5 (Surr)	40 ug/mL
							Phenol-d5 (Surr)	40 ug/mL
							Terphenyl-d14 (Surr)	40 ug/mL
					svmethylmetha_00012	800 uL	Methyl methanesulfonate	40 ug/mL
					SVNNITROPYROs_00019	800 uL	N-Nitrosopyrrolidine	40 ug/mL
..SV LIST3/STD1_00002	06/30/20		Restek, Lot a0123781		(Purchased Reagent)		Benzo[e]pyrene	2000 ug/mL
..SV LST1/STD10_00001	08/31/20		Restek, Lot A0145854		(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
..SV2356TCPs_00004	09/21/20		Absolute, Lot 092115		(Purchased Reagent)		2,3,5,6-Tetrachlorophenol	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..SV2NAPAMINEs_00009	11/19/22	Ultra Scientific, Lot Cs-5614			(Purchased Reagent)		2-Naphthylamine	1000 ug/mL
..sv712dimbenza_00012	05/31/21	Absolute, Lot 053116			(Purchased Reagent)		7,12-Dimethylbenz(a)anthracene	1000 ug/mL
..SVLIST1/STD1_00002	09/30/20	Restek, Lot A0147571			(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							Methylphenol, 3 & 4	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
..SVLIST1/STD11_00003	09/30/20		Restek, Lot A0147257		(Purchased Reagent)		Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
..SVLIST1/STD9_00004	07/31/20		Restek, Lot A0145230		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
							Benzidine	2000 ug/mL
..SVLVSURRSPK_00021	12/31/21		Restek, Lot A0123269		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
..svmethylmetha_00012	03/27/22		Absolute, Lot 032717		(Purchased Reagent)		Methyl methanesulfonate	1000 ug/mL
..SVNNITROPYROs_00019	11/06/21		absolute, Lot 110618		(Purchased Reagent)		N-Nitrosopyrrolidine	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
SVTAPSTD40i_00018	04/15/20	10/15/19	MeCl2, Lot 3373271	1 mL	SVTAPITINTRNi_00023	10 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
					SVTAPITSTCKi_00023	500 uL	Benzo[e]pyrene	20 ug/mL
							Benzoic acid	20 ug/mL
							Indene	20 ug/mL
							2,3,5,6-Tetrachlorophenol	20 ug/mL
							2-Naphthylamine	20 ug/mL
							7,12-Dimethylbenz(a)anthracene	20 ug/mL
							1,1'-Biphenyl	20 ug/mL
							1,2,4,5-Tetrachlorobenzene	20 ug/mL
							1,2,4-Trichlorobenzene	20 ug/mL
							1,2-Dichlorobenzene	20 ug/mL
							1,2-Diphenylhydrazine	20 ug/mL
							1,3-Dichlorobenzene	20 ug/mL
							1,3-Dinitrobenzene	20 ug/mL
							1,4-Dichlorobenzene	20 ug/mL
							1,4-Dioxane	20 ug/mL
							1-Methylnaphthalene	20 ug/mL
							2,2'-oxybis[1-chloropropane]	20 ug/mL
							2,3,4,6-Tetrachlorophenol	20 ug/mL
							2,4,5-Trichlorophenol	20 ug/mL
							2,4,6-Trichlorophenol	20 ug/mL
							2,4-Dichlorophenol	20 ug/mL
							2,4-Dimethylphenol	20 ug/mL
							2,4-Dinitrophenol	40 ug/mL
							2,4-Dinitrotoluene	20 ug/mL
							2,6-Dichlorophenol	20 ug/mL
							2,6-Dinitrotoluene	20 ug/mL
							2-Chloronaphthalene	20 ug/mL
							2-Chlorophenol	20 ug/mL
							2-Methylnaphthalene	20 ug/mL
							2-Methylphenol	20 ug/mL
							2-Nitroaniline	20 ug/mL
							2-Nitrophenol	20 ug/mL
							3-Nitroaniline	20 ug/mL
							4,6-Dinitro-2-methylphenol	40 ug/mL
							4-Bromophenyl phenyl ether	20 ug/mL
							4-Chloro-3-methylphenol	20 ug/mL
							4-Chloroaniline	20 ug/mL
							4-Chlorophenyl phenyl ether	20 ug/mL
							4-Nitroaniline	20 ug/mL
							4-Nitrophenol	40 ug/mL
							Acenaphthene	20 ug/mL
							Acenaphthylene	20 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Acetophenone	20 ug/mL
							Aniline	20 ug/mL
							Anthracene	20 ug/mL
							Azobenzene	20 ug/mL
							Benzo[a]anthracene	20 ug/mL
							Benzo[a]pyrene	20 ug/mL
							Benzo[b]fluoranthene	20 ug/mL
							Benzo[g,h,i]perylene	20 ug/mL
							Benzo[k]fluoranthene	20 ug/mL
							Benzyl alcohol	20 ug/mL
							Bis(2-chloroethoxy)methane	20 ug/mL
							Bis(2-chloroethyl)ether	20 ug/mL
							Bis(2-ethylhexyl) phthalate	20 ug/mL
							Butyl benzyl phthalate	20 ug/mL
							Carbazole	20 ug/mL
							Chrysene	20 ug/mL
							Di-n-butyl phthalate	20 ug/mL
							Di-n-octyl phthalate	20 ug/mL
							Dibenz(a,h)anthracene	20 ug/mL
							Dibenzofuran	20 ug/mL
							Diethyl phthalate	20 ug/mL
							Dimethyl phthalate	20 ug/mL
							Fluoranthene	20 ug/mL
							Fluorene	20 ug/mL
							Hexachlorobenzene	20 ug/mL
							Hexachlorobutadiene	20 ug/mL
							Hexachlorocyclopentadiene	20 ug/mL
							Hexachloroethane	20 ug/mL
							Hexadecane	20 ug/mL
							Indeno[1,2,3-cd]pyrene	20 ug/mL
							Isophorone	20 ug/mL
							Methylphenol, 3 & 4	20 ug/mL
							n-Decane	20 ug/mL
							N-Nitrosodi-n-propylamine	20 ug/mL
							N-Nitrosodimethylamine	20 ug/mL
							N-Nitrosodiphenylamine	20 ug/mL
							n-Octadecane	20 ug/mL
							Naphthalene	20 ug/mL
							Nitrobenzene	20 ug/mL
							Pentachlorophenol	40 ug/mL
							Phenanthrene	20 ug/mL
							Phenol	20 ug/mL
							Pyrene	20 ug/mL
							Pyridine	40 ug/mL
							Atrazine	20 ug/mL
							Benzaldehyde	20 ug/mL
							Caprolactam	20 ug/mL
							3,3'-Dichlorobenzidine	20 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzidine	20 ug/mL
							2,4,6-Tribromophenol (Surr)	20 ug/mL
							2-Fluorobiphenyl	20 ug/mL
							2-Fluorophenol (Surr)	20 ug/mL
							Nitrobenzene-d5 (Surr)	20 ug/mL
							Phenol-d5 (Surr)	20 ug/mL
							Terphenyl-d14 (Surr)	20 ug/mL
							Methyl methanesulfonate	20 ug/mL
							N-Nitrosopyrrolidine	20 ug/mL
.SVTAPITINTRNi_00023	10/15/20	10/15/19	MeCl2, Lot 3373271	25 mL	SVLVIntstd_00010	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..SVLVIntstd_00010	09/30/23	Restek, Lot A0141743			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.SVTAPITSTCKi_00023	04/15/20	10/15/19	MeCl2, Lot 3373271	20 mL	SV LIST3/STD1_00002	400 uL	Benzo[e]pyrene	40 ug/mL
					SV LST1/STD10_00001	400 uL	Benzoic acid	40 ug/mL
							Indene	40 ug/mL
					SV2356TCPs_00004	800 uL	2,3,5,6-Tetrachlorophenol	40 ug/mL
					SV2NAPAMINEs_00009	800 uL	2-Naphthylamine	40 ug/mL
					sv712dimbenza_00012	800 uL	7,12-Dimethylbenz(a)anthracene	40 ug/mL
					SVLIST1/STD1_00002	800 uL	1,1'-Biphenyl	40 ug/mL
							1,2,4,5-Tetrachlorobenzene	40 ug/mL
							1,2,4-Trichlorobenzene	40 ug/mL
							1,2-Dichlorobenzene	40 ug/mL
							1,2-Diphenylhydrazine	40 ug/mL
							1,3-Dichlorobenzene	40 ug/mL
							1,3-Dinitrobenzene	40 ug/mL
							1,4-Dichlorobenzene	40 ug/mL
							1,4-Dioxane	40 ug/mL
							1-Methylnaphthalene	40 ug/mL
							2,2'-oxybis[1-chloropropane]	40 ug/mL
							2,3,4,6-Tetrachlorophenol	40 ug/mL
							2,4,5-Trichlorophenol	40 ug/mL
							2,4,6-Trichlorophenol	40 ug/mL
							2,4-Dichlorophenol	40 ug/mL
							2,4-Dimethylphenol	40 ug/mL
							2,4-Dinitrophenol	80 ug/mL
							2,4-Dinitrotoluene	40 ug/mL
							2,6-Dichlorophenol	40 ug/mL
							2,6-Dinitrotoluene	40 ug/mL
							2-Chloronaphthalene	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Chlorophenol	40 ug/mL
							2-Methylnaphthalene	40 ug/mL
							2-Methylphenol	40 ug/mL
							2-Nitroaniline	40 ug/mL
							2-Nitrophenol	40 ug/mL
							3-Nitroaniline	40 ug/mL
							4,6-Dinitro-2-methylphenol	80 ug/mL
							4-Bromophenyl phenyl ether	40 ug/mL
							4-Chloro-3-methylphenol	40 ug/mL
							4-Chloroaniline	40 ug/mL
							4-Chlorophenyl phenyl ether	40 ug/mL
							4-Nitroaniline	40 ug/mL
							4-Nitrophenol	80 ug/mL
							Acenaphthene	40 ug/mL
							Acenaphthylene	40 ug/mL
							Acetophenone	40 ug/mL
							Aniline	40 ug/mL
							Anthracene	40 ug/mL
							Azobenzene	40 ug/mL
							Benzo[a]anthracene	40 ug/mL
							Benzo[a]pyrene	40 ug/mL
							Benzo[b]fluoranthene	40 ug/mL
							Benzo[g,h,i]perylene	40 ug/mL
							Benzo[k]fluoranthene	40 ug/mL
							Benzyl alcohol	40 ug/mL
							Bis(2-chloroethoxy)methane	40 ug/mL
							Bis(2-chloroethyl)ether	40 ug/mL
							Bis(2-ethylhexyl) phthalate	40 ug/mL
							Butyl benzyl phthalate	40 ug/mL
							Carbazole	40 ug/mL
							Chrysene	40 ug/mL
							Di-n-butyl phthalate	40 ug/mL
							Di-n-octyl phthalate	40 ug/mL
							Dibenz(a,h)anthracene	40 ug/mL
							Dibenzofuran	40 ug/mL
							Diethyl phthalate	40 ug/mL
							Dimethyl phthalate	40 ug/mL
							Fluoranthene	40 ug/mL
							Fluorene	40 ug/mL
							Hexachlorobenzene	40 ug/mL
							Hexachlorobutadiene	40 ug/mL
							Hexachlorocyclopentadiene	40 ug/mL
							Hexachloroethane	40 ug/mL
							Hexadecane	40 ug/mL
							Indeno[1,2,3-cd]pyrene	40 ug/mL
							Isophorone	40 ug/mL
							Methylphenol, 3 & 4	40 ug/mL
							n-Decane	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							N-Nitrosodi-n-propylamine	40 ug/mL
							N-Nitrosodimethylamine	40 ug/mL
							N-Nitrosodiphenylamine	40 ug/mL
							n-Octadecane	40 ug/mL
							Naphthalene	40 ug/mL
							Nitrobenzene	40 ug/mL
							Pentachlorophenol	80 ug/mL
							Phenanthrene	40 ug/mL
							Phenol	40 ug/mL
							Pyrene	40 ug/mL
							Pyridine	80 ug/mL
					SVLIST1/STD11_00003	400 uL	Atrazine	40 ug/mL
							Benzaldehyde	40 ug/mL
							Caprolactam	40 ug/mL
					SVLIST1/STD9_00004	400 uL	3,3'-Dichlorobenzidine	40 ug/mL
							Benzidine	40 ug/mL
					SVLVSURRSPK_00021	160 uL	2,4,6-Tribromophenol (Surr)	40 ug/mL
							2-Fluorobiphenyl	40 ug/mL
							2-Fluorophenol (Surr)	40 ug/mL
							Nitrobenzene-d5 (Surr)	40 ug/mL
							Phenol-d5 (Surr)	40 ug/mL
							Terphenyl-d14 (Surr)	40 ug/mL
					svmethylmetha_00012	800 uL	Methyl methanesulfonate	40 ug/mL
					SVNNITROPYROs_00019	800 uL	N-Nitrosopyrrolidine	40 ug/mL
..SV LIST3/STD1_00002	06/30/20		Restek, Lot a0123781		(Purchased Reagent)		Benzo[e]pyrene	2000 ug/mL
..SV LST1/STD10_00001	08/31/20		Restek, Lot A0145854		(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
..SV2356TCPs_00004	09/21/20		Absolute, Lot 092115		(Purchased Reagent)		2,3,5,6-Tetrachlorophenol	1000 ug/mL
..SV2NAPAMINEs_00009	11/19/22		Ultra Scientific, Lot Cs-5614		(Purchased Reagent)		2-Naphthylamine	1000 ug/mL
..sv712dimbenza_00012	05/31/21		Absolute, Lot 053116		(Purchased Reagent)		7,12-Dimethylbenz(a)anthracene	1000 ug/mL
..SVLIST1/STD1_00002	09/30/20		Restek, Lot A0147571		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Isophorone	1000 ug/mL
							Methylphenol, 3 & 4	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
..SVLIST1/STD11_00003	09/30/20		Restek, Lot A0147257		(Purchased Reagent)		Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
..SVLIST1/STD9_00004	07/31/20		Restek, Lot A0145230		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
							Benzidine	2000 ug/mL
..SVLVSURRSPK_00021	12/31/21		Restek, Lot A0123269		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
..svmethylmetha_00012	03/27/22		Absolute, Lot 032717		(Purchased Reagent)		Methyl methanesulfonate	1000 ug/mL
..SVNNITROPYROs_00019	11/06/21		absolute, Lot 110618		(Purchased Reagent)		N-Nitrosopyrrolidine	1000 ug/mL
SVTAPSTD60i_00018	04/15/20	10/15/19	MeCl2, Lot 3373271	1 mL	SVTAPITINTRNi_00023	10 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
					SVTAPITSTCKi_00023	750 uL	Benzo[e]pyrene	30 ug/mL
							Benzoic acid	30 ug/mL
							Indene	30 ug/mL
							2,3,5,6-Tetrachlorophenol	30 ug/mL
							2-Naphthylamine	30 ug/mL
							7,12-Dimethylbenz(a)anthracene	30 ug/mL
							1,1'-Biphenyl	30 ug/mL
							1,2,4,5-Tetrachlorobenzene	30 ug/mL
							1,2,4-Trichlorobenzene	30 ug/mL
							1,2-Dichlorobenzene	30 ug/mL
							1,2-Diphenylhydrazine	30 ug/mL
							1,3-Dichlorobenzene	30 ug/mL
							1,3-Dinitrobenzene	30 ug/mL
							1,4-Dichlorobenzene	30 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,4-Dioxane	30 ug/mL
							1-Methylnaphthalene	30 ug/mL
							2,2'-oxybis[1-chloropropane]	30 ug/mL
							2,3,4,6-Tetrachlorophenol	30 ug/mL
							2,4,5-Trichlorophenol	30 ug/mL
							2,4,6-Trichlorophenol	30 ug/mL
							2,4-Dichlorophenol	30 ug/mL
							2,4-Dimethylphenol	30 ug/mL
							2,4-Dinitrophenol	60 ug/mL
							2,4-Dinitrotoluene	30 ug/mL
							2,6-Dichlorophenol	30 ug/mL
							2,6-Dinitrotoluene	30 ug/mL
							2-Chloronaphthalene	30 ug/mL
							2-Chlorophenol	30 ug/mL
							2-Methylnaphthalene	30 ug/mL
							2-Methylphenol	30 ug/mL
							2-Nitroaniline	30 ug/mL
							2-Nitrophenol	30 ug/mL
							3-Nitroaniline	30 ug/mL
							4,6-Dinitro-2-methylphenol	60 ug/mL
							4-Bromophenyl phenyl ether	30 ug/mL
							4-Chloro-3-methylphenol	30 ug/mL
							4-Chloroaniline	30 ug/mL
							4-Chlorophenyl phenyl ether	30 ug/mL
							4-Nitroaniline	30 ug/mL
							4-Nitrophenol	60 ug/mL
							Acenaphthene	30 ug/mL
							Acenaphthylene	30 ug/mL
							Acetophenone	30 ug/mL
							Aniline	30 ug/mL
							Anthracene	30 ug/mL
							Azobenzene	30 ug/mL
							Benzo[a]anthracene	30 ug/mL
							Benzo[a]pyrene	30 ug/mL
							Benzo[b]fluoranthene	30 ug/mL
							Benzo[g,h,i]perylene	30 ug/mL
							Benzo[k]fluoranthene	30 ug/mL
							Benzyl alcohol	30 ug/mL
							Bis(2-chloroethoxy)methane	30 ug/mL
							Bis(2-chloroethyl)ether	30 ug/mL
							Bis(2-ethylhexyl) phthalate	30 ug/mL
							Butyl benzyl phthalate	30 ug/mL
							Carbazole	30 ug/mL
							Chrysene	30 ug/mL
							Di-n-butyl phthalate	30 ug/mL
							Di-n-octyl phthalate	30 ug/mL
							Dibenz(a,h)anthracene	30 ug/mL
							Dibenzofuran	30 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Diethyl phthalate	30 ug/mL
							Dimethyl phthalate	30 ug/mL
							Fluoranthene	30 ug/mL
							Fluorene	30 ug/mL
							Hexachlorobenzene	30 ug/mL
							Hexachlorobutadiene	30 ug/mL
							Hexachlorocyclopentadiene	30 ug/mL
							Hexachloroethane	30 ug/mL
							Hexadecane	30 ug/mL
							Indeno[1,2,3-cd]pyrene	30 ug/mL
							Isophorone	30 ug/mL
							Methylphenol, 3 & 4	30 ug/mL
							n-Decane	30 ug/mL
							N-Nitrosodi-n-propylamine	30 ug/mL
							N-Nitrosodimethylamine	30 ug/mL
							N-Nitrosodiphenylamine	30 ug/mL
							n-Octadecane	30 ug/mL
							Naphthalene	30 ug/mL
							Nitrobenzene	30 ug/mL
							Pentachlorophenol	60 ug/mL
							Phenanthrene	30 ug/mL
							Phenol	30 ug/mL
							Pyrene	30 ug/mL
							Pyridine	60 ug/mL
							Atrazine	30 ug/mL
							Benzaldehyde	30 ug/mL
							Caprolactam	30 ug/mL
							3,3'-Dichlorobenzidine	30 ug/mL
							Benzidine	30 ug/mL
							2,4,6-Tribromophenol (Surr)	30 ug/mL
							2-Fluorobiphenyl	30 ug/mL
							2-Fluorophenol (Surr)	30 ug/mL
							Nitrobenzene-d5 (Surr)	30 ug/mL
							Phenol-d5 (Surr)	30 ug/mL
							Terphenyl-d14 (Surr)	30 ug/mL
							Methyl methanesulfonate	30 ug/mL
							N-Nitrosopyrrolidine	30 ug/mL
.SVTAPITINTRNi_00023	10/15/20	10/15/19	MeCl2, Lot 3373271	25 mL	SVLVIntstd_00010	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..SVLVIntstd_00010	09/30/23	Restek, Lot A0141743			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenanthrene-d10	2000 ug/mL
.SVTAPITSTCKi_00023	04/15/20	10/15/19	MeCl2, Lot 3373271	20 mL	SV LIST3/STD1_00002	400 uL	Benzo[e]pyrene	40 ug/mL
					SV LST1/STD10_00001	400 uL	Benzoic acid	40 ug/mL
							Indene	40 ug/mL
					SV2356TCPs_00004	800 uL	2,3,5,6-Tetrachlorophenol	40 ug/mL
					SV2NAPAMINEs_00009	800 uL	2-Naphthylamine	40 ug/mL
					sv712dimbenza_00012	800 uL	7,12-Dimethylbenz(a)anthracene	40 ug/mL
					SVLIST1/STD1_00002	800 uL	1,1'-Biphenyl	40 ug/mL
							1,2,4,5-Tetrachlorobenzene	40 ug/mL
							1,2,4-Trichlorobenzene	40 ug/mL
							1,2-Dichlorobenzene	40 ug/mL
							1,2-Diphenylhydrazine	40 ug/mL
							1,3-Dichlorobenzene	40 ug/mL
							1,3-Dinitrobenzene	40 ug/mL
							1,4-Dichlorobenzene	40 ug/mL
							1,4-Dioxane	40 ug/mL
							1-Methylnaphthalene	40 ug/mL
							2,2'-oxybis[1-chloropropane]	40 ug/mL
							2,3,4,6-Tetrachlorophenol	40 ug/mL
							2,4,5-Trichlorophenol	40 ug/mL
							2,4,6-Trichlorophenol	40 ug/mL
							2,4-Dichlorophenol	40 ug/mL
							2,4-Dimethylphenol	40 ug/mL
							2,4-Dinitrophenol	80 ug/mL
							2,4-Dinitrotoluene	40 ug/mL
							2,6-Dichlorophenol	40 ug/mL
							2,6-Dinitrotoluene	40 ug/mL
							2-Chloronaphthalene	40 ug/mL
							2-Chlorophenol	40 ug/mL
							2-Methylnaphthalene	40 ug/mL
							2-Methylphenol	40 ug/mL
							2-Nitroaniline	40 ug/mL
							2-Nitrophenol	40 ug/mL
							3-Nitroaniline	40 ug/mL
							4,6-Dinitro-2-methylphenol	80 ug/mL
							4-Bromophenyl phenyl ether	40 ug/mL
							4-Chloro-3-methylphenol	40 ug/mL
							4-Chloroaniline	40 ug/mL
							4-Chlorophenyl phenyl ether	40 ug/mL
							4-Nitroaniline	40 ug/mL
							4-Nitrophenol	80 ug/mL
							Acenaphthene	40 ug/mL
							Acenaphthylene	40 ug/mL
							Acetophenone	40 ug/mL
							Aniline	40 ug/mL
							Anthracene	40 ug/mL
							Azobenzene	40 ug/mL
							Benzo[a]anthracene	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[a]pyrene	40 ug/mL
							Benzo[b]fluoranthene	40 ug/mL
							Benzo[g,h,i]perylene	40 ug/mL
							Benzo[k]fluoranthene	40 ug/mL
							Benzyl alcohol	40 ug/mL
							Bis(2-chloroethoxy)methane	40 ug/mL
							Bis(2-chloroethyl)ether	40 ug/mL
							Bis(2-ethylhexyl) phthalate	40 ug/mL
							Butyl benzyl phthalate	40 ug/mL
							Carbazole	40 ug/mL
							Chrysene	40 ug/mL
							Di-n-butyl phthalate	40 ug/mL
							Di-n-octyl phthalate	40 ug/mL
							Dibenz(a,h)anthracene	40 ug/mL
							Dibenzofuran	40 ug/mL
							Diethyl phthalate	40 ug/mL
							Dimethyl phthalate	40 ug/mL
							Fluoranthene	40 ug/mL
							Fluorene	40 ug/mL
							Hexachlorobenzene	40 ug/mL
							Hexachlorobutadiene	40 ug/mL
							Hexachlorocyclopentadiene	40 ug/mL
							Hexachloroethane	40 ug/mL
							Hexadecane	40 ug/mL
							Indeno[1,2,3-cd]pyrene	40 ug/mL
							Isophorone	40 ug/mL
							Methylphenol, 3 & 4	40 ug/mL
							n-Decane	40 ug/mL
							N-Nitrosodi-n-propylamine	40 ug/mL
							N-Nitrosodimethylamine	40 ug/mL
							N-Nitrosodiphenylamine	40 ug/mL
							n-Octadecane	40 ug/mL
							Naphthalene	40 ug/mL
							Nitrobenzene	40 ug/mL
							Pentachlorophenol	80 ug/mL
							Phenanthrene	40 ug/mL
							Phenol	40 ug/mL
							Pyrene	40 ug/mL
							Pyridine	80 ug/mL
					SVLIST1/STD11_00003	400 uL	Atrazine	40 ug/mL
							Benzaldehyde	40 ug/mL
							Caprolactam	40 ug/mL
					SVLIST1/STD9_00004	400 uL	3,3'-Dichlorobenzidine	40 ug/mL
							Benzidine	40 ug/mL
					SVLVSURRSPK_00021	160 uL	2,4,6-Tribromophenol (Surr)	40 ug/mL
							2-Fluorobiphenyl	40 ug/mL
							2-Fluorophenol (Surr)	40 ug/mL
							Nitrobenzene-d5 (Surr)	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenol-d5 (Surr)	40 ug/mL
							Terphenyl-d14 (Surr)	40 ug/mL
					svmethylmetha_00012	800 uL	Methyl methanesulfonate	40 ug/mL
					SVNNITROPYROs_00019	800 uL	N-Nitrosopyrrolidine	40 ug/mL
..SV LIST3/STD1_00002	06/30/20	Restek, Lot a0123781			(Purchased Reagent)		Benzo[e]pyrene	2000 ug/mL
..SV LST1/STD10_00001	08/31/20	Restek, Lot A0145854			(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
..SV2356TCPs_00004	09/21/20	Absolute, Lot 092115			(Purchased Reagent)		2,3,5,6-Tetrachlorophenol	1000 ug/mL
..SV2NAPAMINEs_00009	11/19/22	Ultra Scientific, Lot Cs-5614			(Purchased Reagent)		2-Naphthylamine	1000 ug/mL
..sv712dimbenza_00012	05/31/21	Absolute, Lot 053116			(Purchased Reagent)		7,12-Dimethylbenz(a)anthracene	1000 ug/mL
..SVLIST1/STD1_00002	09/30/20	Restek, Lot A0147571			(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							Methylphenol, 3 & 4	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
..SVLIST1/STD11_00003	09/30/20		Restek, Lot A0147257		(Purchased Reagent)		Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
..SVLIST1/STD9_00004	07/31/20		Restek, Lot A0145230		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
							Benzidine	2000 ug/mL
..SVLVSURRSPK_00021	12/31/21		Restek, Lot A0123269		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
..svmethylmetha_00012	03/27/22		Absolute, Lot 032717		(Purchased Reagent)		Methyl methanesulfonate	1000 ug/mL
..SVNNITROPYROs_00019	11/06/21		absolute, Lot 110618		(Purchased Reagent)		N-Nitrosopyrrolidine	1000 ug/mL
SVTAPSTD80i_00018	04/15/20	10/15/19	MeCl2, Lot 3373271	1 mL	SVTAPITINTRNi_00023	10 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
					SVTAPITSTCKi_00023	1000 uL	Benzo[e]pyrene	40 ug/mL
							Benzoic acid	40 ug/mL
							Indene	40 ug/mL
							2,3,5,6-Tetrachlorophenol	40 ug/mL
							2-Naphthylamine	40 ug/mL
							7,12-Dimethylbenz(a)anthracene	40 ug/mL
							1,1'-Biphenyl	40 ug/mL
							1,2,4,5-Tetrachlorobenzene	40 ug/mL
							1,2,4-Trichlorobenzene	40 ug/mL
							1,2-Dichlorobenzene	40 ug/mL
							1,2-Diphenylhydrazine	40 ug/mL
							1,3-Dichlorobenzene	40 ug/mL
							1,3-Dinitrobenzene	40 ug/mL
							1,4-Dichlorobenzene	40 ug/mL
							1,4-Dioxane	40 ug/mL
							1-Methylnaphthalene	40 ug/mL
							2,2'-oxybis[1-chloropropane]	40 ug/mL
							2,3,4,6-Tetrachlorophenol	40 ug/mL
							2,4,5-Trichlorophenol	40 ug/mL
							2,4,6-Trichlorophenol	40 ug/mL
							2,4-Dichlorophenol	40 ug/mL
							2,4-Dimethylphenol	40 ug/mL
							2,4-Dinitrophenol	80 ug/mL
							2,4-Dinitrotoluene	40 ug/mL
							2,6-Dichlorophenol	40 ug/mL
							2,6-Dinitrotoluene	40 ug/mL
							2-Chloronaphthalene	40 ug/mL
							2-Chlorophenol	40 ug/mL
							2-Methylnaphthalene	40 ug/mL
							2-Methylphenol	40 ug/mL
							2-Nitroaniline	40 ug/mL
							2-Nitrophenol	40 ug/mL
							3-Nitroaniline	40 ug/mL
							4,6-Dinitro-2-methylphenol	80 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Bromophenyl phenyl ether	40 ug/mL
							4-Chloro-3-methylphenol	40 ug/mL
							4-Chloroaniline	40 ug/mL
							4-Chlorophenyl phenyl ether	40 ug/mL
							4-Nitroaniline	40 ug/mL
							4-Nitrophenol	80 ug/mL
							Acenaphthene	40 ug/mL
							Acenaphthylene	40 ug/mL
							Acetophenone	40 ug/mL
							Aniline	40 ug/mL
							Anthracene	40 ug/mL
							Azobenzene	40 ug/mL
							Benzo[a]anthracene	40 ug/mL
							Benzo[a]pyrene	40 ug/mL
							Benzo[b]fluoranthene	40 ug/mL
							Benzo[g,h,i]perylene	40 ug/mL
							Benzo[k]fluoranthene	40 ug/mL
							Benzyl alcohol	40 ug/mL
							Bis(2-chloroethoxy)methane	40 ug/mL
							Bis(2-chloroethyl)ether	40 ug/mL
							Bis(2-ethylhexyl) phthalate	40 ug/mL
							Butyl benzyl phthalate	40 ug/mL
							Carbazole	40 ug/mL
							Chrysene	40 ug/mL
							Di-n-butyl phthalate	40 ug/mL
							Di-n-octyl phthalate	40 ug/mL
							Dibenz(a,h)anthracene	40 ug/mL
							Dibenzofuran	40 ug/mL
							Diethyl phthalate	40 ug/mL
							Dimethyl phthalate	40 ug/mL
							Fluoranthene	40 ug/mL
							Fluorene	40 ug/mL
							Hexachlorobenzene	40 ug/mL
							Hexachlorobutadiene	40 ug/mL
							Hexachlorocyclopentadiene	40 ug/mL
							Hexachloroethane	40 ug/mL
							Hexadecane	40 ug/mL
							Indeno[1,2,3-cd]pyrene	40 ug/mL
							Isophorone	40 ug/mL
							Methylphenol, 3 & 4	40 ug/mL
							n-Decane	40 ug/mL
							N-Nitrosodi-n-propylamine	40 ug/mL
							N-Nitrosodimethylamine	40 ug/mL
							N-Nitrosodiphenylamine	40 ug/mL
							n-Octadecane	40 ug/mL
							Naphthalene	40 ug/mL
							Nitrobenzene	40 ug/mL
							Pentachlorophenol	80 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenanthrene	40 ug/mL
							Phenol	40 ug/mL
							Pyrene	40 ug/mL
							Pyridine	80 ug/mL
							Atrazine	40 ug/mL
							Benzaldehyde	40 ug/mL
							Caprolactam	40 ug/mL
							3,3'-Dichlorobenzidine	40 ug/mL
							Benzidine	40 ug/mL
							2,4,6-Tribromophenol (Surr)	40 ug/mL
							2-Fluorobiphenyl	40 ug/mL
							2-Fluorophenol (Surr)	40 ug/mL
							Nitrobenzene-d5 (Surr)	40 ug/mL
							Phenol-d5 (Surr)	40 ug/mL
							Terphenyl-d14 (Surr)	40 ug/mL
							Methyl methanesulfonate	40 ug/mL
							N-Nitrosopyrrolidine	40 ug/mL
.SVTAPITINTRNi_00023	10/15/20	10/15/19	MeCl2, Lot 3373271	25 mL	SVLVIntstd_00010	5 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
..SVLVIntstd_00010	09/30/23	Restek, Lot A0141743			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.SVTAPITSTCKi_00023	04/15/20	10/15/19	MeCl2, Lot 3373271	20 mL	SV LIST3/STD1_00002	400 uL	Benzo[e]pyrene	40 ug/mL
					SV LST1/STD10_00001	400 uL	Benzoic acid	40 ug/mL
							Indene	40 ug/mL
					SV2356TCPs_00004	800 uL	2,3,5,6-Tetrachlorophenol	40 ug/mL
					SV2NAPAMINEs_00009	800 uL	2-Naphthylamine	40 ug/mL
					sv712dimbenza_00012	800 uL	7,12-Dimethylbenz(a)anthracene	40 ug/mL
					SVLIST1/STD1_00002	800 uL	1,1'-Biphenyl	40 ug/mL
							1,2,4,5-Tetrachlorobenzene	40 ug/mL
							1,2,4-Trichlorobenzene	40 ug/mL
							1,2-Dichlorobenzene	40 ug/mL
							1,2-Diphenylhydrazine	40 ug/mL
							1,3-Dichlorobenzene	40 ug/mL
							1,3-Dinitrobenzene	40 ug/mL
							1,4-Dichlorobenzene	40 ug/mL
							1,4-Dioxane	40 ug/mL
							1-Methylnaphthalene	40 ug/mL
							2,2'-oxybis[1-chloropropane]	40 ug/mL
							2,3,4,6-Tetrachlorophenol	40 ug/mL
							2,4,5-Trichlorophenol	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,4,6-Trichlorophenol	40 ug/mL
							2,4-Dichlorophenol	40 ug/mL
							2,4-Dimethylphenol	40 ug/mL
							2,4-Dinitrophenol	80 ug/mL
							2,4-Dinitrotoluene	40 ug/mL
							2,6-Dichlorophenol	40 ug/mL
							2,6-Dinitrotoluene	40 ug/mL
							2-Chloronaphthalene	40 ug/mL
							2-Chlorophenol	40 ug/mL
							2-Methylnaphthalene	40 ug/mL
							2-Methylphenol	40 ug/mL
							2-Nitroaniline	40 ug/mL
							2-Nitrophenol	40 ug/mL
							3-Nitroaniline	40 ug/mL
							4,6-Dinitro-2-methylphenol	80 ug/mL
							4-Bromophenyl phenyl ether	40 ug/mL
							4-Chloro-3-methylphenol	40 ug/mL
							4-Chloroaniline	40 ug/mL
							4-Chlorophenyl phenyl ether	40 ug/mL
							4-Nitroaniline	40 ug/mL
							4-Nitrophenol	80 ug/mL
							Acenaphthene	40 ug/mL
							Acenaphthylene	40 ug/mL
							Acetophenone	40 ug/mL
							Aniline	40 ug/mL
							Anthracene	40 ug/mL
							Azobenzene	40 ug/mL
							Benzo[a]anthracene	40 ug/mL
							Benzo[a]pyrene	40 ug/mL
							Benzo[b]fluoranthene	40 ug/mL
							Benzo[g,h,i]perylene	40 ug/mL
							Benzo[k]fluoranthene	40 ug/mL
							Benzyl alcohol	40 ug/mL
							Bis(2-chloroethoxy)methane	40 ug/mL
							Bis(2-chloroethyl)ether	40 ug/mL
							Bis(2-ethylhexyl) phthalate	40 ug/mL
							Butyl benzyl phthalate	40 ug/mL
							Carbazole	40 ug/mL
							Chrysene	40 ug/mL
							Di-n-butyl phthalate	40 ug/mL
							Di-n-octyl phthalate	40 ug/mL
							Dibenz(a,h)anthracene	40 ug/mL
							Dibenzofuran	40 ug/mL
							Diethyl phthalate	40 ug/mL
							Dimethyl phthalate	40 ug/mL
							Fluoranthene	40 ug/mL
							Fluorene	40 ug/mL
							Hexachlorobenzene	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Hexachlorobutadiene	40 ug/mL
							Hexachlorocyclopentadiene	40 ug/mL
							Hexachloroethane	40 ug/mL
							Hexadecane	40 ug/mL
							Indeno[1,2,3-cd]pyrene	40 ug/mL
							Isophorone	40 ug/mL
							Methylphenol, 3 & 4	40 ug/mL
							n-Decane	40 ug/mL
							N-Nitrosodi-n-propylamine	40 ug/mL
							N-Nitrosodimethylamine	40 ug/mL
							N-Nitrosodiphenylamine	40 ug/mL
							n-Octadecane	40 ug/mL
							Naphthalene	40 ug/mL
							Nitrobenzene	40 ug/mL
							Pentachlorophenol	80 ug/mL
							Phenanthrene	40 ug/mL
							Phenol	40 ug/mL
							Pyrene	40 ug/mL
							Pyridine	80 ug/mL
					SVLIST1/STD11_00003	400 uL	Atrazine	40 ug/mL
							Benzaldehyde	40 ug/mL
							Caprolactam	40 ug/mL
					SVLIST1/STD9_00004	400 uL	3,3'-Dichlorobenzidine	40 ug/mL
							Benzidine	40 ug/mL
					SVLVSURRSPK_00021	160 uL	2,4,6-Tribromophenol (Surr)	40 ug/mL
							2-Fluorobiphenyl	40 ug/mL
							2-Fluorophenol (Surr)	40 ug/mL
							Nitrobenzene-d5 (Surr)	40 ug/mL
							Phenol-d5 (Surr)	40 ug/mL
							Terphenyl-d14 (Surr)	40 ug/mL
					svmethylmetha_00012	800 uL	Methyl methanesulfonate	40 ug/mL
					SVNNITROPYROs_00019	800 uL	N-Nitrosopyrrolidine	40 ug/mL
..SV LIST3/STD1_00002	06/30/20		Restek, Lot a0123781		(Purchased Reagent)		Benzo[e]pyrene	2000 ug/mL
..SV LST1/STD10_00001	08/31/20		Restek, Lot A0145854		(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
..SV2356TCPs_00004	09/21/20		Absolute, Lot 092115		(Purchased Reagent)		2,3,5,6-Tetrachlorophenol	1000 ug/mL
..SV2NAPAMINEs_00009	11/19/22		Ultra Scientific, Lot Cs-5614		(Purchased Reagent)		2-Naphthylamine	1000 ug/mL
..sv712dimbenza_00012	05/31/21		Absolute, Lot 053116		(Purchased Reagent)		7,12-Dimethylbenz(a)anthracene	1000 ug/mL
..SVLIST1/STD1_00002	09/30/20		Restek, Lot A0147571		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							Methylphenol, 3 & 4	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
..SVLIST1/STD11_00003	09/30/20		Restek, Lot A0147257		(Purchased Reagent)		Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
..SVLIST1/STD9_00004	07/31/20		Restek, Lot A0145230		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
							Benzidine	2000 ug/mL
..SVLVSURRSPK_00021	12/31/21		Restek, Lot A0123269		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
..svmethylmetha_00012	03/27/22		Absolute, Lot 032717		(Purchased Reagent)		Methyl methanesulfonate	1000 ug/mL
..SVNNITROPYROs_00019	11/06/21		absolute, Lot 110618		(Purchased Reagent)		N-Nitrosopyrrolidine	1000 ug/mL
TA-SPIKE1_00006	03/06/21		CPI, Lot 1021235-1		(Purchased Reagent)		Arsenic	200 mg/L
							Barium	200 mg/L
							Be	100 mg/L
							Cadmium	100 mg/L
							Chromium	100 mg/L
							Co	100 mg/L
							Cu	100 mg/L
							Lead	100 mg/L
							Li	100 mg/L
							Mn	100 mg/L
							Mo	100 mg/L
							Ni	100 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Selenium	200 mg/L
							Si	200 mg/L
							SiO2	428 mg/L
							Sn	200 mg/L
							Sr	100 mg/L
							Ti	100 mg/L
							Tl	200 mg/L
							V	100 mg/L
TA-SPIKE2_00004	03/06/21	CPI, Lot 1022516-1			(Purchased Reagent)		Al	1000 mg/L
							Ca	5000 mg/L
							Fe	1000 mg/L
							K	5000 mg/L
							Mg	5000 mg/L
							Na	5000 mg/L
VOA8260INT_00092	03/22/19	02/22/19	Methanol, Lot 2922068	10 mL	VOA8260INTRES_00157	1 mL	1,4-Dichlorobenzene-d4	25 ug/mL
							Chlorobenzene-d5	25 ug/mL
							Fluorobenzene (IS)	25 ug/mL
							TBA-d9 (IS)	500 ug/mL
.VOA8260INTRES_00157	12/31/22	Restek, Lot A0133525			(Purchased Reagent)		1,4-Dichlorobenzene-d4	250 ug/mL
							Chlorobenzene-d5	250 ug/mL
							Fluorobenzene (IS)	250 ug/mL
							TBA-d9 (IS)	5000 ug/mL
VOA8260INT_00101	12/08/19	11/08/19	Methanol, Lot 3167192	10 mL	VOA8260INTRES_00165	1 mL	1,4-Dichlorobenzene-d4	25 ug/mL
							Chlorobenzene-d5	25 ug/mL
							Fluorobenzene (IS)	25 ug/mL
							TBA-d9 (IS)	500 ug/mL
.VOA8260INTRES_00165	01/31/24	Restek, Lot A0145169			(Purchased Reagent)		1,4-Dichlorobenzene-d4	250 ug/mL
							Chlorobenzene-d5	250 ug/mL
							Fluorobenzene (IS)	250 ug/mL
							TBA-d9 (IS)	5000 ug/mL
VOA8260INT_00102	01/06/20	12/06/19	Methanol, Lot 3167189	10 mL	VOA8260INTRES_00168	1 mL	1,4-Dichlorobenzene-d4	25 ug/mL
							Chlorobenzene-d5	25 ug/mL
							Fluorobenzene (IS)	25 ug/mL
							TBA-d9 (IS)	500 ug/mL
.VOA8260INTRES_00168	01/31/24	Restek, Lot A0145169			(Purchased Reagent)		1,4-Dichlorobenzene-d4	250 ug/mL
							Chlorobenzene-d5	250 ug/mL
							Fluorobenzene (IS)	250 ug/mL
							TBA-d9 (IS)	5000 ug/mL
VOA8260SURR_00101	12/07/19	11/07/19	Methanol, Lot 3167192	100 mL	VOA8260SURRES_00159	1 mL	1,2-Dichloroethane-d4 (Surr)	25 ug/mL
							4-Bromofluorobenzene (Surr)	25 ug/mL
							Dibromofluoromethane (Surr)	25 ug/mL
							Toluene-d8 (Surr)	25 ug/mL
.VOA8260SURRES_00159	11/30/23	Restek, Lot A0143613			(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Dibromofluoromethane (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
VOA8260SURR_00102	01/06/20	12/06/19	Methanol, Lot 3167189	100 mL	VOA8260SURRES_00141	1 mL	1,2-Dichloroethane-d4 (Surr)	25 ug/mL
							4-Bromofluorobenzene (Surr)	25 ug/mL
							Dibromofluoromethane (Surr)	25 ug/mL
							Toluene-d8 (Surr)	25 ug/mL
.VOA8260SURRES_00141	11/30/22	Restek, Lot A0132615			(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Dibromofluoromethane (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
VOA8260VOA2ND_00383	12/23/19	12/16/19	Methanol, Lot 3167189	10 mL	VOA8260GAS2ND_00291	0.1 mL	Bromomethane	25 ug/mL
							Dichlorodifluoromethane	25 ug/mL
							Trichlorofluoromethane	25 ug/mL
							Vinyl chloride	25 ug/mL
					VOA8260VOA2ND_00381	1 mL	2-Butanone (MEK)	25 ug/mL
							4-Methyl-2-pentanone (MIBK)	25 ug/mL
							Acetone	25 ug/mL
							1,1,1,2-Tetrachloroethane	25 ug/mL
							1,1,1-Trichloroethane	25 ug/mL
							1,1,2,2-Tetrachloroethane	25 ug/mL
							1,1,2-Trichloroethane	25 ug/mL
							1,1-Dichloroethene	25 ug/mL
							1,2,3-Trichloropropane	25 ug/mL
							1,2-Dibromoethane	25 ug/mL
							1,2-Dichloroethane	25 ug/mL
							1,3-Dichloropropene, Total	50 ug/mL
							1,4-Dichlorobenzene	25 ug/mL
							Acrylonitrile	250 ug/mL
							Benzene	25 ug/mL
							Bromoform	25 ug/mL
							Carbon disulfide	25 ug/mL
							Carbon tetrachloride	25 ug/mL
							Chlorobenzene	25 ug/mL
							Chloroform	25 ug/mL
							Dichlorobromomethane	25 ug/mL
							Ethylbenzene	25 ug/mL
							Hexachlorobutadiene	25 ug/mL
							Isobutyl alcohol	625 ug/mL
							Methylene Chloride	25 ug/mL
							Styrene	25 ug/mL
							Tetrachloroethene	25 ug/mL
							Toluene	25 ug/mL
							trans-1,3-Dichloropropene	25 ug/mL
							Trichloroethene	25 ug/mL
							Xylenes, Total	50 ug/mL
.VOA8260GAS2ND_00291	04/30/22	Restek, Lot A0148330			(Purchased Reagent)		Bromomethane	2500 ug/mL
							Dichlorodifluoromethane	2500 ug/mL
							Trichlorofluoromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.VOA8260VOA2ND_00381	01/06/20	12/06/19	Methanol, Lot 3167189	10 mL	VOA8260KET2ND_00118	0.2 mL	2-Butanone (MEK)	250 ug/mL
							4-Methyl-2-pentanone (MIBK)	250 ug/mL
							Acetone	250 ug/mL
					VOA8260MEGA2_00093	1 mL	1,1,1,2-Tetrachloroethane	250 ug/mL
							1,1,1-Trichloroethane	250 ug/mL
							1,1,2,2-Tetrachloroethane	250 ug/mL
							1,1,2-Trichloroethane	250 ug/mL
							1,1-Dichloroethene	250 ug/mL
							1,2,3-Trichloropropane	250 ug/mL
							1,2-Dibromoethane	250 ug/mL
							1,2-Dichloroethane	250 ug/mL
							1,3-Dichloropropene, Total	500 ug/mL
							1,4-Dichlorobenzene	250 ug/mL
							Acrylonitrile	2500 ug/mL
							Benzene	250 ug/mL
							Bromoform	250 ug/mL
							Carbon disulfide	250 ug/mL
							Carbon tetrachloride	250 ug/mL
							Chlorobenzene	250 ug/mL
							Chloroform	250 ug/mL
							Dichlorobromomethane	250 ug/mL
							Ethylbenzene	250 ug/mL
							Hexachlorobutadiene	250 ug/mL
							Isobutyl alcohol	6250 ug/mL
							Methylene Chloride	250 ug/mL
							Styrene	250 ug/mL
							Tetrachloroethene	250 ug/mL
							Toluene	250 ug/mL
							trans-1,3-Dichloropropene	250 ug/mL
							Trichloroethene	250 ug/mL
							Xylenes, Total	500 ug/mL
..VOA8260KET2ND_00118	12/31/20	Restek, Lot A0133078			(Purchased Reagent)		2-Butanone (MEK)	12500 ug/mL
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL
							Acetone	12500 ug/mL
..VOA8260MEGA2_00093	06/30/21	Restek, Lot A0144202			(Purchased Reagent)		1,1,1,2-Tetrachloroethane	2500 ug/mL
							1,1,1-Trichloroethane	2500 ug/mL
							1,1,2,2-Tetrachloroethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,2,3-Trichloropropane	2500 ug/mL
							1,2-Dibromoethane	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,3-Dichloropropene, Total	5000 ug/mL
							1,4-Dichlorobenzene	2500 ug/mL
							Acrylonitrile	25000 ug/mL
							Benzene	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon disulfide	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chloroform	2500 ug/mL
							Dichlorobromomethane	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Hexachlorobutadiene	2500 ug/mL
							Isobutyl alcohol	62500 ug/mL
							Methylene Chloride	2500 ug/mL
							Styrene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Toluene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							Trichloroethene	2500 ug/mL
							Xylenes, Total	5000 ug/mL
VOA8260VOAPRI_00380	11/20/19	11/13/19	Methanol, Lot 3167194	10 mL	VOA8260GAS1ST_00284	0.1 mL	Bromomethane	25 ug/mL
							Butadiene	25 ug/mL
							Chloroethane	25 ug/mL
							Chloromethane	25 ug/mL
							Dichlorodifluoromethane	25 ug/mL
							Dichlorofluoromethane	25 ug/mL
							Trichlorofluoromethane	25 ug/mL
							Vinyl chloride	25 ug/mL
					VOA8260VOAPRI_00378	1 mL	2-Butanone (MEK)	25 ug/mL
							2-Hexanone	25 ug/mL
							4-Methyl-2-pentanone (MIBK)	25 ug/mL
							Acetone	25 ug/mL
							1,1,1,2-Tetrachloroethane	25 ug/mL
							1,1,1-Trichloroethane	25 ug/mL
							1,1,2,2-Tetrachloroethane	25 ug/mL
							1,1,2-Trichloro-1,2,2-trifluor oethane	25 ug/mL
							1,1,2-Trichloroethane	25 ug/mL
							1,1-Dichloroethane	25 ug/mL
							1,1-Dichloroethene	25 ug/mL
							1,1-Dichloropropene	25 ug/mL
							1,2,3-Trichlorobenzene	25 ug/mL
							1,2,3-Trichloropropane	25 ug/mL
							1,2,4-Trichlorobenzene	25 ug/mL
							1,2,4-Trimethylbenzene	25 ug/mL
							1,2-Dibromo-3-Chloropropane	25 ug/mL
							1,2-Dibromoethane	25 ug/mL
							1,2-Dichlorobenzene	25 ug/mL
							1,2-Dichloroethane	25 ug/mL
							1,2-Dichloropropane	25 ug/mL
							1,3,5-Trimethylbenzene	25 ug/mL
							1,3-Dichlorobenzene	25 ug/mL
							1,3-Dichloropropane	25 ug/mL
							1,4-Dichlorobenzene	25 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,4-Dioxane	500 ug/mL
							2,2-Dichloropropane	25 ug/mL
							2-Chlorotoluene	25 ug/mL
							2-Methyl-2-propanol	250 ug/mL
							3-Chloro-1-propene	25 ug/mL
							4-Chlorotoluene	25 ug/mL
							4-Isopropyltoluene	25 ug/mL
							Acrylonitrile	250 ug/mL
							Benzene	25 ug/mL
							Bromobenzene	25 ug/mL
							Bromoform	25 ug/mL
							Carbon disulfide	25 ug/mL
							Carbon tetrachloride	25 ug/mL
							Chlorobenzene	25 ug/mL
							Chlorobromomethane	25 ug/mL
							Chlorodibromomethane	25 ug/mL
							Chloroform	25 ug/mL
							cis-1,2-Dichloroethene	25 ug/mL
							cis-1,3-Dichloropropene	25 ug/mL
							Cyclohexane	25 ug/mL
							Dibromomethane	25 ug/mL
							Dichlorobromomethane	25 ug/mL
							Ethyl ether	25 ug/mL
							Ethyl methacrylate	25 ug/mL
							Ethylbenzene	25 ug/mL
							Hexachlorobutadiene	25 ug/mL
							Hexane	25 ug/mL
							Iodomethane	25 ug/mL
							Isobutyl alcohol	625 ug/mL
							Isopropylbenzene	25 ug/mL
							m-Xylene & p-Xylene	25 ug/mL
							Methyl acetate	50 ug/mL
							Methyl tert-butyl ether	25 ug/mL
							Methylcyclohexane	25 ug/mL
							Methylene Chloride	25 ug/mL
							n-Butylbenzene	25 ug/mL
							n-Heptane	25 ug/mL
							N-Propylbenzene	25 ug/mL
							Naphthalene	25 ug/mL
							o-Xylene	25 ug/mL
							sec-Butylbenzene	25 ug/mL
							Styrene	25 ug/mL
							tert-Butylbenzene	25 ug/mL
							Tetrachloroethene	25 ug/mL
							Tetrahydrofuran	50 ug/mL
							Toluene	25 ug/mL
							trans-1,2-Dichloroethene	25 ug/mL
							trans-1,3-Dichloropropene	25 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							trans-1,4-Dichloro-2-butene	25 ug/mL
							Trichloroethene	25 ug/mL
.VOA8260GAS1ST_00284	03/31/22		Restek, Lot A0146651		(Purchased Reagent)		Bromomethane	2500 ug/mL
							Butadiene	2500 ug/mL
							Chloroethane	2500 ug/mL
							Chloromethane	2500 ug/mL
							Dichlorodifluoromethane	2500 ug/mL
							Dichlorofluoromethane	2500 ug/mL
							Trichlorofluoromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
.VOA8260VOAPRI_00378	12/06/19	11/06/19	Methanol, Lot 3167194	10 mL	VOA8260KET1ST_00134	0.2 mL	2-Butanone (MEK)	250 ug/mL
							2-Hexanone	250 ug/mL
							4-Methyl-2-pentanone (MIBK)	250 ug/mL
							Acetone	250 ug/mL
					VOA8260MEGA1_00091	1 mL	1,1,1,2-Tetrachloroethane	250 ug/mL
							1,1,1-Trichloroethane	250 ug/mL
							1,1,2,2-Tetrachloroethane	250 ug/mL
							1,1,2-Trichloro-1,2,2-trifluoroethane	250 ug/mL
							1,1,2-Trichloroethane	250 ug/mL
							1,1-Dichloroethane	250 ug/mL
							1,1-Dichloroethene	250 ug/mL
							1,1-Dichloropropene	250 ug/mL
							1,2,3-Trichlorobenzene	250 ug/mL
							1,2,3-Trichloropropane	250 ug/mL
							1,2,4-Trichlorobenzene	250 ug/mL
							1,2,4-Trimethylbenzene	250 ug/mL
							1,2-Dibromo-3-Chloropropane	250 ug/mL
							1,2-Dibromoethane	250 ug/mL
							1,2-Dichlorobenzene	250 ug/mL
							1,2-Dichloroethane	250 ug/mL
							1,2-Dichloropropane	250 ug/mL
							1,3,5-Trimethylbenzene	250 ug/mL
							1,3-Dichlorobenzene	250 ug/mL
							1,3-Dichloropropane	250 ug/mL
							1,4-Dichlorobenzene	250 ug/mL
							1,4-Dioxane	5000 ug/mL
							2,2-Dichloropropane	250 ug/mL
							2-Chlorotoluene	250 ug/mL
							2-Methyl-2-propanol	2500 ug/mL
							3-Chloro-1-propene	250 ug/mL
							4-Chlorotoluene	250 ug/mL
							4-Isopropyltoluene	250 ug/mL
							Acrylonitrile	2500 ug/mL
							Benzene	250 ug/mL
							Bromobenzene	250 ug/mL
							Bromoform	250 ug/mL
							Carbon disulfide	250 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Carbon tetrachloride	250 ug/mL
							Chlorobenzene	250 ug/mL
							Chlorobromomethane	250 ug/mL
							Chlorodibromomethane	250 ug/mL
							Chloroform	250 ug/mL
							cis-1,2-Dichloroethene	250 ug/mL
							cis-1,3-Dichloropropene	250 ug/mL
							Cyclohexane	250 ug/mL
							Dibromomethane	250 ug/mL
							Dichlorobromomethane	250 ug/mL
							Ethyl ether	250 ug/mL
							Ethyl methacrylate	250 ug/mL
							Ethylbenzene	250 ug/mL
							Hexachlorobutadiene	250 ug/mL
							Hexane	250 ug/mL
							Iodomethane	250 ug/mL
							Isobutyl alcohol	6250 ug/mL
							Isopropylbenzene	250 ug/mL
							m-Xylene & p-Xylene	250 ug/mL
							Methyl acetate	500 ug/mL
							Methyl tert-butyl ether	250 ug/mL
							Methylcyclohexane	250 ug/mL
							Methylene Chloride	250 ug/mL
							n-Butylbenzene	250 ug/mL
							n-Heptane	250 ug/mL
							N-Propylbenzene	250 ug/mL
							Naphthalene	250 ug/mL
							o-Xylene	250 ug/mL
							sec-Butylbenzene	250 ug/mL
							Styrene	250 ug/mL
							tert-Butylbenzene	250 ug/mL
							Tetrachloroethene	250 ug/mL
							Tetrahydrofuran	500 ug/mL
							Toluene	250 ug/mL
							trans-1,2-Dichloroethene	250 ug/mL
							trans-1,3-Dichloropropene	250 ug/mL
							trans-1,4-Dichloro-2-butene	250 ug/mL
							Trichloroethene	250 ug/mL
..VOA8260KET1ST_00134	12/31/21	Restek, Lot A0143988			(Purchased Reagent)		2-Butanone (MEK)	12500 ug/mL
							2-Hexanone	12500 ug/mL
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL
							Acetone	12500 ug/mL
..VOA8260MEGA1_00091	06/30/21	Restek, Lot A0143774			(Purchased Reagent)		1,1,1,2-Tetrachloroethane	2500 ug/mL
							1,1,1-Trichloroethane	2500 ug/mL
							1,1,2,2-Tetrachloroethane	2500 ug/mL
							1,1,2-Trichloro-1,2,2-trifluor oethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,1-Dichloropropene	2500 ug/mL
							1,2,3-Trichlorobenzene	2500 ug/mL
							1,2,3-Trichloropropane	2500 ug/mL
							1,2,4-Trichlorobenzene	2500 ug/mL
							1,2,4-Trimethylbenzene	2500 ug/mL
							1,2-Dibromo-3-Chloropropane	2500 ug/mL
							1,2-Dibromoethane	2500 ug/mL
							1,2-Dichlorobenzene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,2-Dichloropropane	2500 ug/mL
							1,3,5-Trimethylbenzene	2500 ug/mL
							1,3-Dichlorobenzene	2500 ug/mL
							1,3-Dichloropropane	2500 ug/mL
							1,4-Dichlorobenzene	2500 ug/mL
							1,4-Dioxane	50000 ug/mL
							2,2-Dichloropropane	2500 ug/mL
							2-Chlorotoluene	2500 ug/mL
							2-Methyl-2-propanol	25000 ug/mL
							3-Chloro-1-propene	2500 ug/mL
							4-Chlorotoluene	2500 ug/mL
							4-Isopropyltoluene	2500 ug/mL
							Acrylonitrile	25000 ug/mL
							Benzene	2500 ug/mL
							Bromobenzene	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon disulfide	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chlorobromomethane	2500 ug/mL
							Chlorodibromomethane	2500 ug/mL
							Chloroform	2500 ug/mL
							cis-1,2-Dichloroethene	2500 ug/mL
							cis-1,3-Dichloropropene	2500 ug/mL
							Cyclohexane	2500 ug/mL
							Dibromomethane	2500 ug/mL
							Dichlorobromomethane	2500 ug/mL
							Ethyl ether	2500 ug/mL
							Ethyl methacrylate	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Hexachlorobutadiene	2500 ug/mL
							Hexane	2500 ug/mL
							Iodomethane	2500 ug/mL
							Isobutyl alcohol	62500 ug/mL
							Isopropylbenzene	2500 ug/mL
							m-Xylene & p-Xylene	2500 ug/mL
							Methyl acetate	5000 ug/mL

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Methyl tert-butyl ether	2500 ug/mL
							Methylcyclohexane	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							n-Butylbenzene	2500 ug/mL
							n-Heptane	2500 ug/mL
							N-Propylbenzene	2500 ug/mL
							Naphthalene	2500 ug/mL
							o-Xylene	2500 ug/mL
							sec-Butylbenzene	2500 ug/mL
							Styrene	2500 ug/mL
							tert-Butylbenzene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Tetrahydrofuran	5000 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							trans-1,4-Dichloro-2-butene	2500 ug/mL
							Trichloroethene	2500 ug/mL
VOABFB50_00112							1,2-Dichloroethene, Total	
							1,3-Dichloropropene, Total	
							Tentatively Identified Compound	
							Total BTEX	
							Xylenes, Total	
					VOABFBRES_00077	1 mL	BFB	50 ug/mL
.VOABFBRES_00077	07/31/23		Restek, Lot A0139387		(Purchased Reagent)		BFB	2500 ug/mL
VOABFB50_00120							1,2-Dichloroethene, Total	
							1,3-Dichloropropene, Total	
							Tentatively Identified Compound	
							Total BTEX	
							Xylenes, Total	
					VOABFBRES_00088	1 mL	BFB	50 ug/mL
.VOABFBRES_00088	04/30/24		Restek, Lot A0147670		(Purchased Reagent)		BFB	2500 ug/mL
VOABFB50_00122							1,2-Dichloroethene, Total	
							1,3-Dichloropropene, Total	
							Tentatively Identified Compound	
							Total BTEX	
							Xylenes, Total	
					VOABFBRES_00086	1 mL	BFB	50 ug/mL
.VOABFBRES_00086	04/30/24		Restek, Lot A0147670		(Purchased Reagent)		BFB	2500 ug/mL
VOACEVE2ND_00016	03/05/19	02/26/19	Methanol, Lot 2922068	10 mL	VOACEVERES2ND_00111	200 uL	2-Chloroethyl vinyl ether	50 ug/mL
.VOACEVERES2ND_00111	07/31/21		Restek, Lot A0139838		(Purchased Reagent)		2-Chloroethyl vinyl ether	2500 ug/mL
VOALIST22ND_00009	01/17/20	12/17/19	Methanol, Lot 3167192	10 mL	VOALIST2STD6S_00034	0.1 mL	Methacrylonitrile	250 ug/mL
					VOALIST3STD1S_00047	0.1 mL	Acetonitrile	250 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.VOALIST2STD6S_00034	05/31/20	Restek, Lot A0143097			(Purchased Reagent)		Methacrylonitrile	25000 ug/mL
.VOALIST3STD1S_00047	11/30/20	Restek, Lot A0143318			(Purchased Reagent)		Acetonitrile	25000 ug/mL
VOAList2PRI_00018	03/08/19	02/08/19	Methanol, Lot 2922076	10 mL	VOALIST2STD3P_00028	200 uL	Cyclohexanone	500 ug/mL
					VOALIST2STD6P_00029	100 uL	1,2,3-Trimethylbenzene	25 ug/mL
							1,3,5-Trichlorobenzene	25 ug/mL
							2-Chloro-1,3-butadiene	25 ug/mL
							Benzyl chloride	25 ug/mL
							Isooctane	25 ug/mL
							Isopropyl alcohol	250 ug/mL
							Methacrylonitrile	250 ug/mL
							n-Butanol	625 ug/mL
					VOALIST2STD7P_00028	100 uL	Ethyl acetate	50 ug/mL
							Ethyl acrylate	25 ug/mL
							Methyl methacrylate	50 ug/mL
							n-Butyl acetate	25 ug/mL
					VOALIST3STD1P_00050	100 uL	Acetonitrile	250 ug/mL
							Isopropyl ether	25 ug/mL
							Propionitrile	250 ug/mL
							Tert-amyl methyl ether	25 ug/mL
							Tert-butyl ethyl ether	25 ug/mL
.VOALIST2STD3P_00028	08/31/21	Restek, Lot A0140237			(Purchased Reagent)		Cyclohexanone	25000 ug/mL
.VOALIST2STD6P_00029	09/30/19	Restek, Lot A0135915			(Purchased Reagent)		1,2,3-Trimethylbenzene	2500 ug/mL
							1,3,5-Trichlorobenzene	2500 ug/mL
							2-Chloro-1,3-butadiene	2500 ug/mL
							Benzyl chloride	2500 ug/mL
							Isooctane	2500 ug/mL
							Isopropyl alcohol	25000 ug/mL
							Methacrylonitrile	25000 ug/mL
							n-Butanol	62500 ug/mL
.VOALIST2STD7P_00028	08/31/19	Restek, Lot A0135442			(Purchased Reagent)		Ethyl acetate	5000 ug/mL
							Ethyl acrylate	2500 ug/mL
							Methyl methacrylate	5000 ug/mL
							n-Butyl acetate	2500 ug/mL
.VOALIST3STD1P_00050	11/30/19	Restek, Lot A0132831			(Purchased Reagent)		Acetonitrile	25000 ug/mL
							Isopropyl ether	2500 ug/mL
							Propionitrile	25000 ug/mL
							Tert-amyl methyl ether	2500 ug/mL
							Tert-butyl ethyl ether	2500 ug/mL
WCN0.1L3_00530	12/25/19	12/23/19	Sodium Hyroxide, Lot 4704D69	100 mL	WCN10Pi_00710	1 mL	Cyanide, Total	0.1 mg/L
.WCN10Pi_00710	12/30/19	12/23/19	Sodium Hyroxide, Lot 4704D69	100 mL	WCN1000P_00047	1 mL	Cyanide, Total	10 mg/L
..WCN1000P_00047	03/18/20	LabChem Inc., Lot J260-11			(Purchased Reagent)		Cyanide, Total	1000 mg/L
WCN0.2ICV_00819	12/25/19	12/23/19	Sodium Hyroxide, Lot 4704D69	100 mL	WCN10Si_00706	2 mL	Cyanide, Total	0.2 mg/L
.WCN10Si_00706	12/30/19	12/23/19	Sodium Hyroxide, Lot 4704D69	100 mL	WCN1000S_00034	1 mL	Cyanide, Total	10 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..WCN1000S_00034	02/29/20	Ricca Chemical Co., Lot 4908J29			(Purchased Reagent)		Cyanide, Total	1000 mg/L
WCN0.5L1_00982	12/25/19	12/23/19	Sodium Hyroxide, Lot 4704D69	100 mL	WCN10Pi_00710	5 mL	Cyanide, Total	0.5 mg/L
.WCN10Pi_00710	12/30/19	12/23/19	Sodium Hyroxide, Lot 4704D69	100 mL	WCN1000P_00047	1 mL	Cyanide, Total	10 mg/L
..WCN1000P_00047	03/18/20	LabChem Inc., Lot J260-11			(Purchased Reagent)		Cyanide, Total	1000 mg/L
WCN10Pi_00710	12/30/19	12/23/19	Sodium Hyroxide, Lot 4704D69	100 mL	WCN1000P_00047	1 mL	Cyanide, Total	10 mg/L
.WCN1000P_00047	03/18/20	LabChem Inc., Lot J260-11			(Purchased Reagent)		Cyanide, Total	1000 mg/L
WCNSoilLCS_00025	04/30/20	Phenova, Lot 7069-06			(Purchased Reagent)		Cyanide, Total	190 mg/Kg
WpHBuffer7CCV_00033	09/19/20	LabChem, Lot H250-16			(Purchased Reagent)		pH	7 SU
WpHBuffer7P_00020	07/12/20	Lab Chem, Lot H191-04			(Purchased Reagent)		pH	7 SU
WSULFPSP_00720	12/24/19	12/23/19	DI Water, Lot Super Q	250 mL	WSulfide_00005	1.234 g	Sulfide	658.956 mg/L
.WSulfide_00005	05/10/21	Sigma-Aldrich, Lot MKCF4407			(Purchased Reagent)		Sulfide	0.1335 g/g
WSULFSICVCCV_00720	12/24/19	12/23/19	DI Water, Lot Super Q	250 mL	WSulfide_00006	1.316 g	Sulfide	702.744 mg/L
.WSulfide_00006	03/09/20	GFS Chemicals, Lot C579586			(Purchased Reagent)		Sulfide	0.1335 g/g

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
GLY_ALT_CCV_00023	07/12/19	06/12/19	Methanol, Lot 198123	1 mL	Glycol ALT_00012	100 uL	2-Ethoxyethanol	1000 ng/uL
							2-Methoxyethanol	1000 ng/uL
							Ethylene glycol	1000 ng/uL
.Glycol ALT_00012	07/12/19	SPEXertificate, Lot EN190523022			(Purchased Reagent)		2-Ethoxyethanol	10000 ng/uL
							2-Methoxyethanol	10000 ng/uL
							Ethylene glycol	10000 ng/uL
GLY_CCV_1000_00109	07/12/19	06/12/19	Methanol/water, Lot 196628	1 mL	GLY_STK_00108	100 uL	2,2'-Oxybisethanol	1000 ng/uL
							2-Ethoxyethanol	1000 ng/uL
							2-Methoxyethanol	1000 ng/uL
							Ethylene glycol	1000 ng/uL
							Propylene glycol	1000 ng/uL
							Triethylene Glycol	1000 ng/uL
.GLY_STK_00108	07/12/19	Ultra, Lot CS-1398			(Purchased Reagent)		2,2'-Oxybisethanol	10000 ng/uL
							2-Ethoxyethanol	10000 ng/uL
							2-Methoxyethanol	10000 ng/uL
							Ethylene glycol	10000 ng/uL
							Propylene glycol	10000 ng/uL
							Triethylene Glycol	10000 ng/uL
GLY_CCV_1000_00114	01/16/20	12/16/19	Methanol, Lot 198123	1 mL	GLY_STK_00114	100 uL	2,2'-Oxybisethanol	1000 ng/uL
							2-Ethoxyethanol	1000 ng/uL
							2-Methoxyethanol	1000 ng/uL
							Ethylene glycol	1000 ng/uL
							Propylene glycol	1000 ng/uL
							Triethylene Glycol	1000 ng/uL
.GLY_STK_00114	01/16/20	Agilent, Lot 0006476060			(Purchased Reagent)		2,2'-Oxybisethanol	10000 ng/uL
							2-Ethoxyethanol	10000 ng/uL
							2-Methoxyethanol	10000 ng/uL
							Ethylene glycol	10000 ng/uL
							Propylene glycol	10000 ng/uL
							Triethylene Glycol	10000 ng/uL
GLY_SURR1000_00103	07/11/19	06/11/19	Methanol/Water, Lot 198123	10 mL	GLY_SUR_10000_00095	1000 uL	1,4-Butanediol	1010 ug/mL
.GLY_SUR_10000_00095	07/11/19	06/11/19	Methanol, Lot 198123	10 mL	GLY_SURR_neat_00023	100 uL	1,4-Butanediol	10100 ng/uL
..GLY_SURR_neat_00023	06/11/20	Chem Service, Lot 7323500			(Purchased Reagent)		1,4-Butanediol	1010000 ng/uL
GLY_SURR1000_00108	01/16/20	12/16/19	Methanol, Lot 198123	10 mL	GLY_SUR_10000_00100	1000 uL	1,4-Butanediol	1010 ug/mL
.GLY_SUR_10000_00100	01/16/20	12/16/19	Methanol, Lot 198123	10 mL	GLY_SURR_neat_00023	100 uL	1,4-Butanediol	10100 ng/uL
..GLY_SURR_neat_00023	06/11/20	Chem Service, Lot 7323500			(Purchased Reagent)		1,4-Butanediol	1010000 ng/uL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Denver Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
CARB LCS_00045	11/19/20	11/19/19	Acetonitrile, Lot Acetonitrile_00230	10 mL	CARBAldicarbU_00030	200 uL	Aldicarb	2 ug/mL
					CARBUltraMix_00031	200 uL	Aminocarb	2 ug/mL
							Carbamicacid,methyl4-dimethylamino-3,5-xylyl ester	2 ug/mL
							Carbanilic acid,m-chloro-4-chloro-2-butynyl ester	2 ug/mL
							Carbaryl	2 ug/mL
							Carbofuran	2 ug/mL
							Chlorpropham	2 ug/mL
							Diuron	2 ug/mL
							Fenuron	2 ug/mL
							Fluometuron	2 ug/mL
							Linuron	2 ug/mL
							Methiocarb	2 ug/mL
							Methomyl	2 ug/mL
							Monuron	2 ug/mL
							Neburon	2 ug/mL
							Oxamyl	2 ug/mL
							Propham	2 ug/mL
							Propoxur	2 ug/mL
							Siduron	2 ug/mL
							Swep	2 ug/mL
.CARBAldicarbU_00030	01/31/21	Agilent, Lot CS-5906			(Purchased Reagent)		Aldicarb	100 ug/mL
.CARBUltraMix_00031	07/31/21	Agilent (was Ultra), Lot 0006471399			(Purchased Reagent)		Aminocarb	100 ug/mL
							Carbamicacid,methyl4-dimethylamino-3,5-xylyl ester	100 ug/mL
							Carbanilic acid,m-chloro-4-chloro-2-butynyl ester	100 ug/mL
							Carbaryl	100 ug/mL
							Carbofuran	100 ug/mL
							Chlorpropham	100 ug/mL
							Diuron	100 ug/mL
							Fenuron	100 ug/mL
							Fluometuron	100 ug/mL
							Linuron	100 ug/mL
							Methiocarb	100 ug/mL
							Methomyl	100 ug/mL
							Monuron	100 ug/mL
							Neburon	100 ug/mL
							Oxamyl	100 ug/mL
							Propham	100 ug/mL
							Propoxur	100 ug/mL
							Siduron	100 ug/mL
							Swep	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Denver Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
Carb_CS_Cal_00033	12/31/19	06/28/19	Acetonitrile, Lot 216037	10 mL	Atrazine_rest_00031	50 uL	Atrazine-d5	0.5 ug/mL
					Carb_CSaldica_00019	50 uL	Aldicarb	0.5 ug/mL
					Carb_prim_CS__00016	50 uL	Aminocarb	0.5 ug/mL
							Carbamicacid,methyl4-dimethylamino-3,5-xylyl ester	0.5 ug/mL
							Carbaryl	0.5 ug/mL
							Carbofuran	0.5 ug/mL
							Chlorpropham	0.5 ug/mL
							Diuron	0.5 ug/mL
							Fenuron	0.5 ug/mL
							Fluometuron	0.5 ug/mL
							Linuron	0.5 ug/mL
							Methiocarb	0.5 ug/mL
							Methomyl	0.5 ug/mL
							Monuron	0.5 ug/mL
							Neburon	0.5 ug/mL
							Propham	0.5 ug/mL
							Propoxur	0.5 ug/mL
							Siduron	0.5 ug/mL
					Diurond6_res_00030	50 uL	Diuron-d6	0.505 ug/mL
.Atrazine_rest_00031	02/28/22	restek, Lot A0145963			(Purchased Reagent)		Atrazine-d5	100 ug/mL
.Carb_CSaldica_00019	09/30/20	Chem Service, Lot 8269500			(Purchased Reagent)		Aldicarb	100 ug/mL
.Carb_prim_CS__00016	12/31/19	06/28/19	Acetonitrile, Lot 216037	10 mL	Carb_Chemserv_00014	1 mL	Aminocarb	100 ug/mL
							Carbamicacid,methyl4-dimethylamino-3,5-xylyl ester	100 ug/mL
							Carbaryl	100 ug/mL
							Carbofuran	100 ug/mL
							Chlorpropham	100 ug/mL
							Diuron	100 ug/mL
							Fenuron	100 ug/mL
							Fluometuron	100 ug/mL
							Linuron	100 ug/mL
							Methiocarb	100 ug/mL
							Methomyl	100 ug/mL
							Monuron	100 ug/mL
							Neburon	100 ug/mL
							Propham	100 ug/mL
							Propoxur	100 ug/mL
							Siduron	100 ug/mL
..Carb_Chemserv_00014	12/31/19	Chemservice, Lot 8618300			(Purchased Reagent)		Aminocarb	1000 ug/mL
							Carbamicacid,methyl4-dimethylamino-3,5-xylyl ester	1000 ug/mL
							Carbaryl	1000 ug/mL
							Carbofuran	1000 ug/mL
							Chlorpropham	1000 ug/mL
							Diuron	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Denver Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Fenuron	1000 ug/mL
							Fluometuron	1000 ug/mL
							Linuron	1000 ug/mL
							Methiocarb	1000 ug/mL
							Methomyl	1000 ug/mL
							Monuron	1000 ug/mL
							Neburon	1000 ug/mL
							Propham	1000 ug/mL
							Propoxur	1000 ug/mL
							Siduron	1000 ug/mL
.Diurond6_res_00030	12/31/20	restek, Lot A0138080			(Purchased Reagent)		Diuron-d6	101 ug/mL
Carb_ICV_W_00053	12/31/19	06/28/19	Acetonitrile, Lot 216037	10 mL	Atrazine_rest_00031	50 uL	Atrazine-d5	0.5 mg/L
					CARBUltraMix_00030	50 uL	Methomyl	0.5 mg/L
					Diurond6_res_00030	50 uL	Diuron-d6	0.505 mg/L
.Atrazine_rest_00031	02/28/22	restek, Lot A0145963			(Purchased Reagent)		Atrazine-d5	100 ug/mL
.CARBUltraMix_00030	07/31/21	Agilent (was Ultra), Lot 0006471399			(Purchased Reagent)		Methomyl	100 ug/mL
.Diurond6_res_00030	12/31/20	restek, Lot A0138080			(Purchased Reagent)		Diuron-d6	101 ug/mL
CARB_Prep_Sur_00058	11/16/20	11/16/19	Acetonitrile, Lot ACN_00230	25 mL	Atrazine_rest_00036	1.25 mL	Atrazine-d5	5 ug/mL
					Diurond6_res_00033	1.25 mL	Diuron-d6	5.05 ug/mL
.Atrazine_rest_00036	10/31/22	restek, Lot A0153504			(Purchased Reagent)		Atrazine-d5	100 ug/mL
.Diurond6_res_00033	12/31/20	restek, Lot A0138080			(Purchased Reagent)		Diuron-d6	101 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
HRDXNCP_00040	08/30/20	08/30/19	C14, Lot STBH7678	6 mL	HRDXNCP_00039	1.2 mL	1,2,3,4,6,7,9-HpCDD	40 pg/uL
							1,2,3,4,6,7-HxCDD	40 pg/uL
							1,2,3,4,6,8-HxCDF	40 pg/uL
							1,2,3,4,8,9-HxCDF	40 pg/uL
							1,2,3,7-TCDD	40 pg/uL
							1,2,3,8,9-PeCDD	40 pg/uL
							1,2,3,8,9-PeCDF	40 pg/uL
							1,2,3,9-TCDD	40 pg/uL
							1,2,3,9-TCDF	40 pg/uL
							1,2,4,6,7,9-HxCDD	40 pg/uL
							1,2,4,7,9-PeCDD	40 pg/uL
							1,2,8,9-TCDD	40 pg/uL
							1,2,8,9-TCDF	40 pg/uL
							1,3,4,6,8-PeCDF	40 pg/uL
							1,3,6,8-TCDD	40 pg/uL
							1,3,6,8-TCDF	40 pg/uL
							13C-2,3,7,8-TCDD	40 pg/uL
							13C-2,3,7,8-TCDF	40 pg/uL
							2,3,4,7-TCDF	40 pg/uL
							2,3,7,8-TCDD	40 pg/uL
							2,3,7,8-TCDF	40 pg/uL
.HRDXNCP_00039	03/31/25		CIL, Lot ER03111502		(Purchased Reagent)		1,2,3,4,6,7,9-HpCDD	200 ng/mL
							1,2,3,4,6,7-HxCDD	200 ng/mL
							1,2,3,4,6,8-HxCDF	200 ng/mL
							1,2,3,4,8,9-HxCDF	200 ng/mL
							1,2,3,7-TCDD	200 ng/mL
							1,2,3,8,9-PeCDD	200 ng/mL
							1,2,3,8,9-PeCDF	200 ng/mL
							1,2,3,9-TCDD	200 ng/mL
							1,2,3,9-TCDF	200 ng/mL
							1,2,4,6,7,9-HxCDD	200 ng/mL
							1,2,4,7,9-PeCDD	200 ng/mL
							1,2,8,9-TCDD	200 ng/mL
							1,2,8,9-TCDF	200 ng/mL
							1,3,4,6,8-PeCDF	200 ng/mL
							1,3,6,8-TCDD	200 ng/mL
							1,3,6,8-TCDF	200 ng/mL
							13C-2,3,7,8-TCDD	200 ng/mL
							13C-2,3,7,8-TCDF	200 ng/mL
							2,3,4,7-TCDF	200 ng/mL
							2,3,7,8-TCDD	200 ng/mL
							2,3,7,8-TCDF	200 ng/mL
HRDXNIC_00042	04/29/20	07/02/19	C14, Lot STBH7678	0.5 mL	HRDXNIDA_00303	0.125 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.25 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNSU_00196	0.05 mL	37Cl4-2,3,7,8-TCDD	40 ng/mL
					HRDXNTA_00102	0.5 mL	1,2,3,4,6,7,8-HpCDD	200 ng/mL
							1,2,3,4,6,7,8-HpCDF	200 ng/mL
							1,2,3,4,7,8,9-HpCDF	200 ng/mL
							1,2,3,4,7,8-HxCDD	200 ng/mL
							1,2,3,4,7,8-HxCDF	200 ng/mL
							1,2,3,6,7,8-HxCDD	200 ng/mL
							1,2,3,6,7,8-HxCDF	200 ng/mL
							1,2,3,7,8,9-HxCDD	200 ng/mL
							1,2,3,7,8,9-HxCDF	200 ng/mL
							1,2,3,7,8-PeCDD	200 ng/mL
							1,2,3,7,8-PeCDF	200 ng/mL
							2,3,4,6,7,8-HxCDF	200 ng/mL
							2,3,4,7,8-PeCDF	200 ng/mL
							2,3,7,8-TCDD	40 ng/mL
							2,3,7,8-TCDF	40 ng/mL
							OCDD	400 ng/mL
							OCDF	400 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00102	03/01/25	Wellington Labs, Lot 13PAR0418			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	200 ng/mL
							1,2,3,4,6,7,8-HpCDF	200 ng/mL
							1,2,3,4,7,8,9-HpCDF	200 ng/mL
							1,2,3,4,7,8-HxCDD	200 ng/mL
							1,2,3,4,7,8-HxCDF	200 ng/mL
							1,2,3,6,7,8-HxCDD	200 ng/mL
							1,2,3,6,7,8-HxCDF	200 ng/mL
							1,2,3,7,8,9-HxCDD	200 ng/mL
							1,2,3,7,8,9-HxCDF	200 ng/mL
							1,2,3,7,8-PeCDD	200 ng/mL
							1,2,3,7,8-PeCDF	200 ng/mL
							2,3,4,6,7,8-HxCDF	200 ng/mL
							2,3,4,7,8-PeCDF	200 ng/mL
							2,3,7,8-TCDD	40 ng/mL
							2,3,7,8-TCDF	40 ng/mL
							OCDD	400 ng/mL
							OCDF	400 ng/mL
HRDXNIDA_00406	11/30/20	12/02/19	Acetone, Lot 0000236139	500 mL	HRDXNIDA_00364	5 mL	13C-1,2,3,4,6,7,8-HpCDD	2 pg/uL
							13C-1,2,3,4,6,7,8-HpCDF	2 pg/uL
							13C-2,3,7,8-TCDF	2 pg/uL
							13C-2,3,7,8-TCDD	2 pg/uL
							13C-1,2,3,6,7,8-HxCDF	2 pg/uL
							13C-1,2,3,7,8,9-HxCDF	2 pg/uL
							13C-2,3,4,6,7,8-HxCDF	2 pg/uL
							13C-1,2,3,7,8-PeCDD	2 pg/uL
							13C-1,2,3,7,8-PeCDF	2 pg/uL
							13C-1,2,3,6,7,8-HxCDD	2 pg/uL
							13C-OCDD	4 pg/uL
					HRDXNIDA_00379	2.5 mL	13C-1,2,3,4,7,8,9-HpCDF	2 pg/uL
							13C-2,3,4,7,8-PeCDF	2 pg/uL
							13C-1,2,3,4,7,8-HxCDD	2 pg/uL

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-1,2,3,4,7,8-HxCDF	2 pg/uL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIDA_00379	04/11/26	04/11/19	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00375	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00376	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00377	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00378	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00375	05/31/26	CIL, Lot ER04251601			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00376	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00377	06/30/26	CIL, Lot ER04211601			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00378	07/31/27	CIL, Lot ER04211701			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
HRDXNIS_00121	10/09/20	10/09/19	C14, Lot STBJ0716	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
.HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
..HRDXNIS_00110	09/30/26	CIL, Lot ER08221601			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
..HRDXNIS_00111	01/31/27	CIL, Lot ER11081602			(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
HRDXNL2_00027	04/29/20	07/02/19	C14, Lot STBH7678	1 mL	HRDXNIDA_00303	0.25 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.5 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIS_00117	1 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00217	0.625 mL	37Cl4-2,3,7,8-TCDD	0.5 ng/mL
					HRDXNTA_00113	0.125 mL	1,2,3,4,6,7,8-HpCDD	2.5 ng/mL
							1,2,3,4,6,7,8-HpCDF	2.5 ng/mL
							1,2,3,4,7,8,9-HpCDF	2.5 ng/mL
							1,2,3,4,7,8-HxCDD	2.5 ng/mL
							1,2,3,4,7,8-HxCDF	2.5 ng/mL
							1,2,3,6,7,8-HxCDD	2.5 ng/mL
							1,2,3,6,7,8-HxCDF	2.5 ng/mL
							1,2,3,7,8,9-HxCDD	2.5 ng/mL
							1,2,3,7,8,9-HxCDF	2.5 ng/mL
							1,2,3,7,8-PeCDD	2.5 ng/mL
							1,2,3,7,8-PeCDF	2.5 ng/mL
							2,3,4,6,7,8-HxCDF	2.5 ng/mL
							2,3,4,7,8-PeCDF	2.5 ng/mL
							2,3,7,8-TCDD	0.5 ng/mL
							2,3,7,8-TCDF	0.5 ng/mL
							OCDD	5 ng/mL
							OCDF	5 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26	CIL, Lot ER08221601			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27	CIL, Lot ER11081602			(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00217	07/01/20	07/01/19	Isooctane, Lot 0000201867	500 mL	HRDXNSU_00196	1000 uL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
..HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
...HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
....HRDXNSU_00187	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00113	05/29/20	05/29/19	Acetone, Lot 00000197752	25 mL	HRDXNTA_00092	0.25 mL	1,2,3,4,6,7,8-HpCDD	20 ng/mL
							1,2,3,4,6,7,8-HpCDF	20 ng/mL
							1,2,3,4,7,8,9-HpCDF	20 ng/mL
							1,2,3,4,7,8-HxCDD	20 ng/mL
							1,2,3,4,7,8-HxCDF	20 ng/mL
							1,2,3,6,7,8-HxCDD	20 ng/mL
							1,2,3,6,7,8-HxCDF	20 ng/mL
							1,2,3,7,8,9-HxCDD	20 ng/mL
							1,2,3,7,8,9-HxCDF	20 ng/mL
							1,2,3,7,8-PeCDD	20 ng/mL
							1,2,3,7,8-PeCDF	20 ng/mL
							2,3,4,6,7,8-HxCDF	20 ng/mL
							2,3,4,7,8-PeCDF	20 ng/mL
							2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL
							OCDD	40 ng/mL
							OCDF	40 ng/mL
..HRDXNTA_00092	04/30/26	CIL, Lot ER02241602			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL3_00025	04/29/20	07/02/19	C14, Lot STBH7678	0.5 mL	HRDXNIDA_00303	0.125 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.25 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIS_00117	0.5 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00217	1.25 mL	37Cl4-2,3,7,8-TCDD	2 ng/mL
					HRDXNTA_00113	0.25 mL	1,2,3,4,6,7,8-HpCDD	10 ng/mL
							1,2,3,4,6,7,8-HpCDF	10 ng/mL
							1,2,3,4,7,8,9-HpCDF	10 ng/mL
							1,2,3,4,7,8-HxCDD	10 ng/mL
							1,2,3,4,7,8-HxCDF	10 ng/mL
							1,2,3,6,7,8-HxCDD	10 ng/mL
							1,2,3,6,7,8-HxCDF	10 ng/mL
							1,2,3,7,8,9-HxCDD	10 ng/mL
							1,2,3,7,8,9-HxCDF	10 ng/mL
							1,2,3,7,8-PeCDD	10 ng/mL
							1,2,3,7,8-PeCDF	10 ng/mL
							2,3,4,6,7,8-HxCDF	10 ng/mL
							2,3,4,7,8-PeCDF	10 ng/mL
							2,3,7,8-TCDD	2 ng/mL
							2,3,7,8-TCDF	2 ng/mL
							OCDD	20 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							OCDF	20 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26	CIL, Lot ER08221601			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27	CIL, Lot ER11081602			(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00217	07/01/20	07/01/19	Isooctane, Lot 0000201867	500 mL	HRDXNSU_00196	1000 uL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
..HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
...HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
....HRDXNSU_00187	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00113	05/29/20	05/29/19	Acetone, Lot 00000197752	25 mL	HRDXNTA_00092	0.25 mL	1,2,3,4,6,7,8-HpCDD	20 ng/mL

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,4,6,7,8-HpCDF	20 ng/mL
							1,2,3,4,7,8,9-HpCDF	20 ng/mL
							1,2,3,4,7,8-HxCDD	20 ng/mL
							1,2,3,4,7,8-HxCDF	20 ng/mL
							1,2,3,6,7,8-HxCDD	20 ng/mL
							1,2,3,6,7,8-HxCDF	20 ng/mL
							1,2,3,7,8,9-HxCDD	20 ng/mL
							1,2,3,7,8,9-HxCDF	20 ng/mL
							1,2,3,7,8-PeCDD	20 ng/mL
							1,2,3,7,8-PeCDF	20 ng/mL
							2,3,4,6,7,8-HxCDF	20 ng/mL
							2,3,4,7,8-PeCDF	20 ng/mL
							2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL
							OCDD	40 ng/mL
							OCDF	40 ng/mL
..HRDXNTA_00092	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL4_00086	04/29/20	10/03/19	C14, Lot STBH7678	1 mL	HRDXNIDA_00364	0.5 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIDA_00379	0.25 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIS_00117	1 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00196	0.025 mL	37Cl4-2,3,7,8-TCDD	10 ng/mL
					HRDXNTA_00093	0.025 mL	1,2,3,4,6,7,8-HpCDD	50 ng/mL
							1,2,3,4,6,7,8-HpCDF	50 ng/mL
							1,2,3,4,7,8,9-HpCDF	50 ng/mL
							1,2,3,4,7,8-HxCDD	50 ng/mL
							1,2,3,4,7,8-HxCDF	50 ng/mL
							1,2,3,6,7,8-HxCDD	50 ng/mL
							1,2,3,6,7,8-HxCDF	50 ng/mL
							1,2,3,7,8,9-HxCDD	50 ng/mL
							1,2,3,7,8,9-HxCDF	50 ng/mL
							1,2,3,7,8-PeCDD	50 ng/mL
							1,2,3,7,8-PeCDF	50 ng/mL
							2,3,4,6,7,8-HxCDF	50 ng/mL
							2,3,4,7,8-PeCDF	50 ng/mL
							2,3,7,8-TCDD	10 ng/mL
							2,3,7,8-TCDF	10 ng/mL
							OCDD	100 ng/mL
							OCDF	100 ng/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIDA_00379	04/11/26	04/11/19	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00375	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00376	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00377	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL

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SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					HRDXNIDA_00378	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00375	05/31/26		CIL, Lot ER04251601		(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00376	01/31/27		CIL, Lot ER01061701		(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00377	06/30/26		CIL, Lot ER04211601		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00378	07/31/27		CIL, Lot ER04211701		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26		CIL, Lot ER08221601		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27		CIL, Lot ER11081602		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00093	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL5_00028	04/29/20	07/02/19	C14, Lot STBH7678	0.2 mL	HRDXNIDA_00303	0.05 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.1 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-OCDD	200 ng/mL
					HRDXNIS_00117	0.2 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00196	0.02 mL	37Cl4-2,3,7,8-TCDD	40 ng/mL
					HRDXNTA_00093	0.02 mL	1,2,3,4,6,7,8-HpCDD	200 ng/mL
							1,2,3,4,6,7,8-HpCDF	200 ng/mL
							1,2,3,4,7,8,9-HpCDF	200 ng/mL
							1,2,3,4,7,8-HxCDD	200 ng/mL
							1,2,3,4,7,8-HxCDF	200 ng/mL
							1,2,3,6,7,8-HxCDD	200 ng/mL
							1,2,3,6,7,8-HxCDF	200 ng/mL
							1,2,3,7,8,9-HxCDD	200 ng/mL
							1,2,3,7,8,9-HxCDF	200 ng/mL
							1,2,3,7,8-PeCDD	200 ng/mL
							1,2,3,7,8-PeCDF	200 ng/mL
							2,3,4,6,7,8-HxCDF	200 ng/mL
							2,3,4,7,8-PeCDF	200 ng/mL
							2,3,7,8-TCDD	40 ng/mL
							2,3,7,8-TCDF	40 ng/mL
							OCDD	400 ng/mL
							OCDF	400 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNIDA_00359	12/31/20		CIL, Lot ER100610-02		(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21		CIL, Lot ER012111-01		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28		CIL, Lot ER03151801		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27		CIL, Lot ER04051701		(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26		CIL, Lot ER08221601		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27		CIL, Lot ER11081602		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00093	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL6_00024	04/29/20	07/02/19	C14, Lot STBH7678	0.2 mL	HRDXNIDA_00303	0.05 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.1 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-OCDD	200 ng/mL
					HRDXNIS_00117	0.2 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00196	0.1 mL	37Cl4-2,3,7,8-TCDD	200 ng/mL
					HRDXNTA_00093	0.1 mL	1,2,3,4,6,7,8-HpCDD	1000 ng/mL
							1,2,3,4,6,7,8-HpCDF	1000 ng/mL
							1,2,3,4,7,8,9-HpCDF	1000 ng/mL
							1,2,3,4,7,8-HxCDD	1000 ng/mL
							1,2,3,4,7,8-HxCDF	1000 ng/mL
							1,2,3,6,7,8-HxCDD	1000 ng/mL
							1,2,3,6,7,8-HxCDF	1000 ng/mL
							1,2,3,7,8,9-HxCDD	1000 ng/mL
							1,2,3,7,8,9-HxCDF	1000 ng/mL
							1,2,3,7,8-PeCDD	1000 ng/mL
							1,2,3,7,8-PeCDF	1000 ng/mL
							2,3,4,6,7,8-HxCDF	1000 ng/mL
							2,3,4,7,8-PeCDF	1000 ng/mL
							2,3,7,8-TCDD	200 ng/mL
							2,3,7,8-TCDF	200 ng/mL
							OCDD	2000 ng/mL
							OCDF	2000 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNIDA_00359	12/31/20		CIL, Lot ER100610-02		(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21		CIL, Lot ER012111-01		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28		CIL, Lot ER03151801		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27		CIL, Lot ER04051701		(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26		CIL, Lot ER08221601		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27		CIL, Lot ER11081602		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00093	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNSU_00223	12/02/20	12/02/19	Isooctane, Lot 0000221197	500 mL	HRDXNSU_00196	1000 uL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
HRDXNTA_00117	10/18/20	10/18/19	Acetone, Lot 00000236139	25 mL	HRDXNTA_00093	0.25 mL	1,2,3,4,6,7,8-HpCDD	20 ng/mL
							1,2,3,4,6,7,8-HpCDF	20 ng/mL
							1,2,3,4,7,8,9-HpCDF	20 ng/mL
							1,2,3,4,7,8-HxCDD	20 ng/mL
							1,2,3,4,7,8-HxCDF	20 ng/mL
							1,2,3,6,7,8-HxCDD	20 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-100205-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,6,7,8-HxCDF	20 ng/mL
							1,2,3,7,8,9-HxCDD	20 ng/mL
							1,2,3,7,8,9-HxCDF	20 ng/mL
							1,2,3,7,8-PeCDD	20 ng/mL
							1,2,3,7,8-PeCDF	20 ng/mL
							2,3,4,6,7,8-HxCDF	20 ng/mL
							2,3,4,7,8-PeCDF	20 ng/mL
							2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL
							OCDD	40 ng/mL
							OCDF	40 ng/mL
.HRDXNTA_00093	04/30/26	CIL, Lot ER02241602			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL

Reagent

AR1016(10000)_00001

110 Benner Circle
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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 572370 **Lot No.:** A0125929

Description : Custom Aroclor 1016 Standard

Custom Aroclor 1016 Standard 10,000µg/mL, Isooctane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2022 **Storage:** 10°C or colder

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Aroclor 1016	10,060.0 µg/mL	+/- 93.0971 µg/mL	Gravimetric
	CAS # 12674-11-2 (Lot 5013300)		+/- 326.8660 µg/mL	Unstressed
	Purity —%		+/- 422.6873 µg/mL	Stressed

Solvent: Isooctane
CAS # 540-84-1
Purity 99%

Reagent

AR1260(10000)_00001

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 572371 **Lot No.:** A0126325

Description : Custom Aroclor 1260 Standard

Custom Aroclor 1260 Standard 10,000µg/mL, Isooctane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2022 **Storage:** 10°C or colder

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1260		10,020.0 µg/mL	+/- 92.7270	µg/mL	Gravimetric
	CAS # 11096-82-5	(Lot W-129-06)		+/- 325.5664	µg/mL	Unstressed
	Purity ----%			+/- 421.0066	µg/mL	Stressed

Solvent: Isooctane
CAS # 540-84-1
Purity 99%

Reagent

DBC Internal_00002

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32025 **Lot No.:** A0126147

Description : Dibutyl Chlorendate Mix

Dibutylchlorendate 200µg/mL, Acetone, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Dibutyl chlorendate **CAS #** 1770-80-5 (Lot CAP-25493-47) **Purity** 99%	202.0 µg/mL	+/- 1.4323 µg/mL +/- 9.3150 µg/mL +/- 9.5516 µg/mL		Gravimetric Unstressed Stressed

Solvent: Acetone
CAS # 67-64-1
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

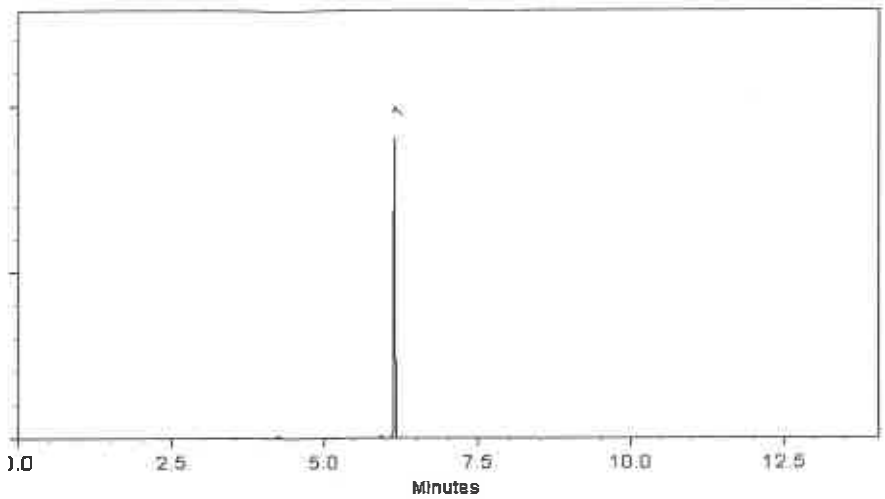

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Matt Fragassi - Mix Technician

Date Mixed: 24-Mar-2017 **Balance:** 1127510105

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 28-Mar-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

Reagent

GC2PESTAB3STD_00003

RESTEK CERTIFIED REFERENCE MATERIAL

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Rec'd 10-26-18

Catalog No. : 32415.sec **Lot No.:** A0108854

Description : Organochlorine Pesticide Mix AB #3

Organochlorine Pesticide Mix AB #3 2,000µg/mL, Hexane/Toluene (50:50), 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2019 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)			
1	alpha-BHC		2,009.5	µg/mL	+/-	11.7929	µg/mL	Gravimetric
	CAS # 319-84-6.SEC	(Lot 1623900)			+/-	78.6071	µg/mL	Unstressed
	Purity 99%				+/-	124.7419	µg/mL	Stressed
2	gamma-BHC (Lindane)		2,010.0	µg/mL	+/-	11.7958	µg/mL	Gravimetric
	CAS # 58-89-9.SEC	(Lot LC00563V)			+/-	78.6267	µg/mL	Unstressed
	Purity 99%				+/-	124.7729	µg/mL	Stressed
3	beta-BHC		2,003.1	µg/mL	+/-	11.7554	µg/mL	Gravimetric
	CAS # 319-85-7.SEC	(Lot 1808700)			+/-	78.3575	µg/mL	Unstressed
	Purity 98%				+/-	124.3458	µg/mL	Stressed
4	delta-BHC		2,003.5	µg/mL	+/-	11.7577	µg/mL	Gravimetric
	CAS # 319-86-8.SEC	(Lot 1912200)			+/-	78.3724	µg/mL	Unstressed
	Purity 99%				+/-	124.3694	µg/mL	Stressed
5	Heptachlor		2,000.5	µg/mL	+/-	11.7401	µg/mL	Gravimetric
	CAS # 76-44-8.SEC	(Lot 1745400)			+/-	78.2551	µg/mL	Unstressed
	Purity 99%				+/-	124.1832	µg/mL	Stressed
6	Aldrin		2,004.1	µg/mL	+/-	11.7612	µg/mL	Gravimetric
	CAS # 309-00-2.SEC	(Lot ER062311-01)			+/-	78.3959	µg/mL	Unstressed
	Purity 98%				+/-	124.4067	µg/mL	Stressed
7	Heptachlor epoxide (isomer B)		2,006.0	µg/mL	+/-	11.7723	µg/mL	Gravimetric
	CAS # 1024-57-3.SEC	(Lot 3352500)			+/-	78.4702	µg/mL	Unstressed
	Purity 99%				+/-	124.5246	µg/mL	Stressed

8	trans-Chlordane **CAS #** 5103-74-2.SEC **Purity** 99%	(Lot LC06193V)	2,006.0	µg/mL	+/- +/- +/-	11.7723 78.4702 124.5246	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
9	cis-Chlordane **CAS #** 5103-71-9.SEC **Purity** 99%	(Lot 24407)	2,009.0	µg/mL	+/- +/- +/-	11.7899 78.5876 124.7108	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
10	Endosulfan I **CAS #** 959-98-8.SEC **Purity** 98%	(Lot 1710200)	2,002.1	µg/mL	+/- +/- +/-	11.7497 78.3192 124.2860	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
11	4,4'-DDE **CAS #** 72-55-9.SEC **Purity** 99%	(Lot 1833500)	2,001.5	µg/mL	+/- +/- +/-	11.7451 78.2942 124.2453	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
12	Dieldrin **CAS #** 60-57-1.SEC **Purity** 98%	(Lot 1274700)	1,995.3	µg/mL	+/- +/- +/-	11.7094 78.0509 123.8591	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
13	Endrin **CAS #** 72-20-8 * **Purity** 99%	(Lot LC06045V)	2,000.0	µg/mL	+/- +/- +/-	11.7371 78.2355 124.1521	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
14	4,4'-DDD **CAS #** 72-54-8.SEC **Purity** 98%	(Lot 1141700)	2,009.0	µg/mL	+/- +/- +/-	11.7899 78.5876 124.7108	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
15	Endosulfan II **CAS #** 33213-65-9.SEC **Purity** 99%	(Lot 3437500)	2,010.0	µg/mL	+/- +/- +/-	11.7958 78.6267 124.7729	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
16	Endrin aldehyde **CAS #** 7421-93-4.SEC **Purity** 98%	(Lot 21752)	2,016.4	µg/mL	+/- +/- +/-	11.8331 78.8751 125.1671	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
17	4,4'-DDT **CAS #** 50-29-3.SEC **Purity** 99%	(Lot 3478000)	2,016.5	µg/mL	+/- +/- +/-	11.8340 78.8809 125.1764	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
18	Endosulfan sulfate **CAS #** 1031-07-8.SEC **Purity** 98%	(Lot 1888900)	2,007.5	µg/mL	+/- +/- +/-	11.7813 78.5301 124.6196	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
19	Methoxychlor **CAS #** 72-43-5.SEC **Purity** 99%	(Lot LC09014V)	2,007.0	µg/mL	+/- +/- +/-	11.7782 78.5093 124.5867	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
20	Endrin ketone **CAS #** 53494-70-5.SEC **Purity** 98%	(Lot 091307RD)	2,007.5	µg/mL	+/- +/- +/-	11.7813 78.5301 124.6196	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Hexane/Toluene (50:50)
CAS # 110-54-3/108-88-3
Purity 99%

*** Restek is unable to identify a reliable and/or acceptable second source for this material - the same batch of neat material may have been used to produce both the primary and secondary standard. The primary and secondary standards were prepared using different equipment and personnel.**

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
150°C to 300°C
@ 4°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
300°C

Det. Type:
ECD

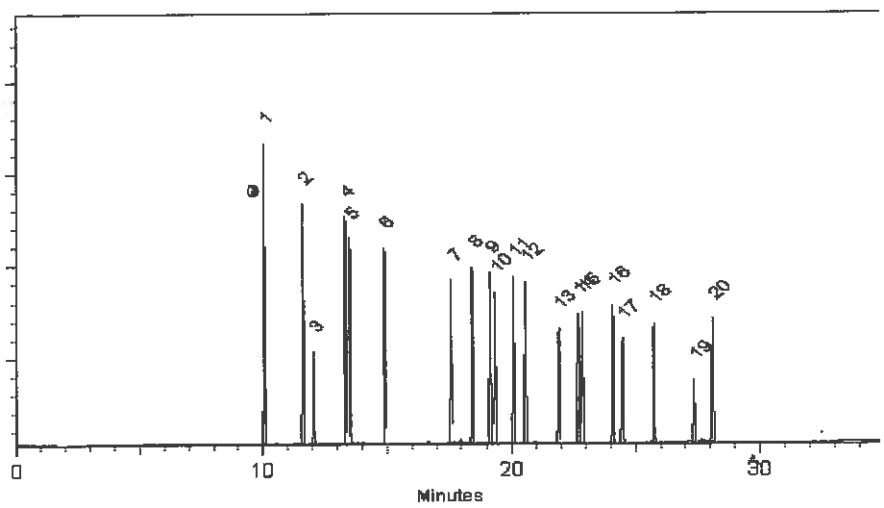

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Lane Kibe - Mix Technician

Date Mixed: 04-Feb-2015 **Balance:** B345965662

Diane Shaffer - Operations Tech-ARM QC

Date Passed: 12-Feb-2015

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

Reagent

GCBZ#205STD1_00006

125 Market Street
New Haven, CT 06513
USA

AccuStandard® Inc.

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

CERTIFICATE OF ANALYSIS

Catalog No: C-205S-TP
Description: 2,3,3',4,4',5,5',6-Octachlorobiphenyl
Lot: 216091034
Solvent: Isooctane
Hazards: *Refer to SDS for complete safety information*

Signal Word: Danger

Date Certified: Sep 6, 2016
Expiration: Sep 6, 2026
Sample Size: 1 mL
Components: 1
Storage Condition: Ambient (>5 °C)/Sonicate

Included on ISO/IEC 17025 Scope of Accreditation: Yes

Included on ISO Guide 34 Scope of Accreditation: Yes

Component	CAS #	Purity % (GC/MS)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
2,3,3',4,4',5,5',6-Octachlorobiphenyl	74472-53-0	99.0	100.2	99.2

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] All weights are traceable through NIST, Test No. 822-275872-11

[2] Certified Analyte Concentration = Purity x Prepared Concentration. The Uncertainty associated with the gravimetric values reported on this certificate is ±0.24%. The CRM Uncertainty calculated for this product is ±5%. These values are the expanded uncertainty and represent an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker

See reverse side for additional information

Certified By: Larry Decker, Organic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001

Reagent

GCDCAASSTD_00008

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567804 **Lot No.:** A0140943

Description : DCAA Standard

DCAA Standard 1,000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2020 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
I	2,4-dichlorophenylacetic acid **CAS #** 19719-28-9 **Purity** 99% (Lot S30618V)	1,004.7 µg/mL	+/- 5.9674	µg/mL	Gravimetric
			+/- 53.4489	µg/mL	Unstressed
			+/- 53.5384	µg/mL	Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Reagent

GCDCBStock_00008

Certificate of Analysis

Decachlorobiphenyl Solution

Product Number: PPS-150 **Page:** 1 of 1

Lot Number: CP-6040 **Lot Issue Date:** 16-Dec-2016 **Expiration Date:** 31-Jan-2021

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
decachlorobiphenyl (BZ # 209)	002051-24-3	RM01256	1000 ± 5 µg/mL

Matrix: toluene

Storage: Store at Room Temperature (15° to 30°C).

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

John Russo
President

Monica Bourgeois
Director of QA/RA

ISO 9001
Registered
TUV USA, Inc.

250 SMITH STREET • NORTH KINGSTOWN, RHODE ISLAND 02852 • WWW.ULTRASCI.COM

Reagent

GCHERBICALMIX_00018

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

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CERTIFIED REFERENCE MATERIAL

Gravimetric Certificate

ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569749 **Lot No.:** A0142217

Description : Herbicide List #1 Standard (2015)

Herbicide List #1 Standard (2015) 50-20,000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : October 31, 2021 **Storage:** 10°C or colder

Handling: This product is photosensitive.

C E R T I F I E D V A L U E S

Component #	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	2,4,5-T		50.5 µg/mL	+/- 0.3581 µg/mL	Gravimetric
	CAS # 93-76-5	(Lot 6693400)		+/- 2.6937 µg/mL	Unstressed
	Purity 99%			+/- 2.6982 µg/mL	Stressed
2	2,4,5-TP (silvex)		50.0 µg/mL	+/- 0.3545 µg/mL	Gravimetric
	CAS # 93-72-1	(Lot 5299900)		+/- 2.6671 µg/mL	Unstressed
	Purity 99%			+/- 2.6715 µg/mL	Stressed
3	2,4-D		201.0 µg/mL	+/- 1.4253 µg/mL	Gravimetric
	CAS # 94-75-7	(Lot 7677600)		+/- 10.7216 µg/mL	Unstressed
	Purity 99%			+/- 10.7395 µg/mL	Stressed
4	2,4-DB		201.0 µg/mL	+/- 1.4253 µg/mL	Gravimetric
	CAS # 94-82-6	(Lot 5262300)		+/- 10.7216 µg/mL	Unstressed
	Purity 99%			+/- 10.7395 µg/mL	Stressed
5	Dalapon		200.5 µg/mL	+/- 1.4214 µg/mL	Gravimetric
	CAS # 75-99-0	(Lot 7138100)		+/- 10.6923 µg/mL	Unstressed
	Purity 95%			+/- 10.7101 µg/mL	Stressed
6	Dicamba		100.5 µg/mL	+/- 0.7126 µg/mL	Gravimetric
	CAS # 1918-00-9	(Lot 7173700)		+/- 5.3608 µg/mL	Unstressed
	Purity 99%			+/- 5.3697 µg/mL	Stressed
7	Dichlorprop		201.0 µg/mL	+/- 1.4253 µg/mL	Gravimetric
	CAS # 120-36-5	(Lot 4619200)		+/- 10.7216 µg/mL	Unstressed
	Purity 99%			+/- 10.7395 µg/mL	Stressed

8	Dinoseb			201.0	µg/mL	+/-	1.4253	µg/mL	Gravimetric
	CAS #	88-85-7	(Lot 50001)			+/-	10.7216	µg/mL	Unstressed
	Purity	99%				+/-	10.7395	µg/mL	Stressed
9	MCPA			20,198.3	µg/mL	+/-	118.2655	µg/mL	Gravimetric
	CAS #	94-74-6	(Lot 7204500)			+/-	1,074.3731	µg/mL	Unstressed
	Purity	97%				+/-	1,076.1727	µg/mL	Stressed
10	MCPP (Mecoprop)			20,094.0	µg/mL	+/-	117.6548	µg/mL	Gravimetric
	CAS #	93-65-2	(Lot 6899400)			+/-	1,068.8247	µg/mL	Unstressed
	Purity	99%				+/-	1,070.6150	µg/mL	Stressed
11	Pentachlorophenol			50.5	µg/mL	+/-	0.3581	µg/mL	Gravimetric
	CAS #	87-86-5	(Lot 180924JACG)			+/-	2.6937	µg/mL	Unstressed
	Purity	99%				+/-	2.6982	µg/mL	Stressed
12	Picloram			201.8	µg/mL	+/-	1.4306	µg/mL	Gravimetric
	CAS #	1918-02-1	(Lot 34ATO)			+/-	10.7622	µg/mL	Unstressed
	Purity	97%				+/-	10.7801	µg/mL	Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Tom Suckar - Mix Technician

Date Mixed: 09-Oct-2018 **Balance:** 1128360905

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

Specific Reference Material Notes:
Failure to derivatize this standard will lead to incorrect quantitative results.

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

GCPCB2154 mix_00004

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited Reference Material Producer Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569745 **Lot No.:** A0115555

Description : PCB-1221/1254 Standard

PCB-1221/1254 Standard 1000 µg/ml, Hexane, 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 28, 2022 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1221		1,000.0 µg/mL	+/- 5.9397	µg/mL	Gravimetric
	CAS # 11104-28-2	(Lot 1240100)		+/- 31.7072	µg/mL	Unstressed
	Purity ----%			+/- 41.4130	µg/mL	Stressed
2	Aroclor 1254		1,000.0 µg/mL	+/- 5.9397	µg/mL	Gravimetric
	CAS # 11097-69-1	(Lot 124-191-B)		+/- 31.7072	µg/mL	Unstressed
	Purity ----%			+/- 41.4130	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

GCPCB2154 mix_00005

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ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569745.sec **Lot No.:** A0116420

Description : PCB-1221/1254 Standard

PCB-1221/1254 Standard 1000 µg/ml, Hexane, 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2022 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Aroclor 1221 **CAS #** 11104-28-2.SEC (Lot W-126-07) **Purity** ----%	1,004.0 µg/mL	+/- 5.9635 µg/mL +/- 31.8340 µg/mL +/- 41.5787 µg/mL	Gravimetric Unstressed Stressed
2	Aroclor 1254 **CAS #** 11097-69-1.SEC (Lot RM00922) **Purity** ----%	1,002.0 µg/mL	+/- 5.9516 µg/mL +/- 31.7706 µg/mL +/- 41.4958 µg/mL	Gravimetric Unstressed Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

GCPCB3262 mix_00003

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
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Certificate of Analysis

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ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569746 **Lot No.:** A0112323

Description : PCB-1232/1262 Standard

PCB-1232/1262 Standard 1000 µg/ml, Hexane, 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : October 31, 2021 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1232 **CAS #** 11141-16-5 (Lot W-107-05) **Purity** ----%	1,000.0 µg/mL	+/- 10.0737 +/- 32.1814 +/- 42.2011	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	Aroclor 1262 **CAS #** 37324-23-5 (Lot 3067100) **Purity** ----%	1,000.0 µg/mL	+/- 10.0737 +/- 32.1814 +/- 42.2011	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

GCPCB3262 mix_00004

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Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569746.sec **Lot No.:** A0110988

Description : PCB-1232/1262 Standard

PCB-1232/1262 Standard 1000 µg/ml, Hexane, 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2021 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1232 **CAS #** 11141-16-5.SEC (Lot 130604JLM) **Purity** ----%	1,000.0 µg/mL	+/- 10.0737 µg/mL +/- 32.1814 µg/mL +/- 42.2011 µg/mL		Gravimetric Unstressed Stressed
2	Aroclor 1262 **CAS #** 37324-23-5.SEC (Lot W-130-05) **Purity** ----%	1,004.0 µg/mL	+/- 10.1140 µg/mL +/- 32.3101 µg/mL +/- 42.3699 µg/mL		Gravimetric Unstressed Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

GCPCB4268 mix_00003

RESTEK CERTIFIED REFERENCE MATERIAL

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Bellefonte, PA 16823-8812
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Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited Reference Material Producer Certificate #3222.01

ilac-MRA

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ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569747 **Lot No.:** A0116616

Description : PCB-1242/1268 Standard

PCB-1242/1268 Standard 1000 µg/ml, Hexane, 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2022 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1242 **CAS #** 53469-21-9 **Purity** ----%	(Lot 01141-A)	1,000.0 µg/mL	+/- 5.9397 +/- 31.7072 +/- 41.4130	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	Aroclor 1268 **CAS #** 11100-14-4 **Purity** ----%	(Lot 2743900)	1,002.0 µg/mL	+/- 5.9516 +/- 31.7706 +/- 41.4958	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

GCPCB4268 mix_00004

RESTEK CERTIFIED REFERENCE MATERIAL

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569747.sec **Lot No.:** A0109391

Description : PCB-1242/1268 Standard

PCB-1242/1268 Standard 1000 µg/ml, Hexane, 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2021 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1242 **CAS #** 53469-21-9.SEC (Lot NTO1020) **Purity** 99%	1,000.0 µg/mL	+/- 5.9397 +/- 31.1358 +/- 41.4093	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	Aroclor 1268 **CAS #** 11100-14-4.SEC (Lot W-131-05) **Purity** ----%	1,004.0 µg/mL	+/- 5.9635 +/- 31.2604 +/- 41.5749	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

GCPCBI1248STD_00006

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32010 **Lot No.:** A0103107

Description : Aroclor® 1248 Standard

Aroclor® 1248 Standard 1,000µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2020 **Storage:** 25°C nominal

Handling: This product contains PCB's

C E R T I F I E D V A L U E S

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1248	1,000.4 µg/mL	+/- 5.8709	µg/mL	Gravimetric
	CAS # 12672-29-6 (Lot W-108-07)		+/- 31.1348	µg/mL	Unstressed
	Purity ----%		+/- 41.4157	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

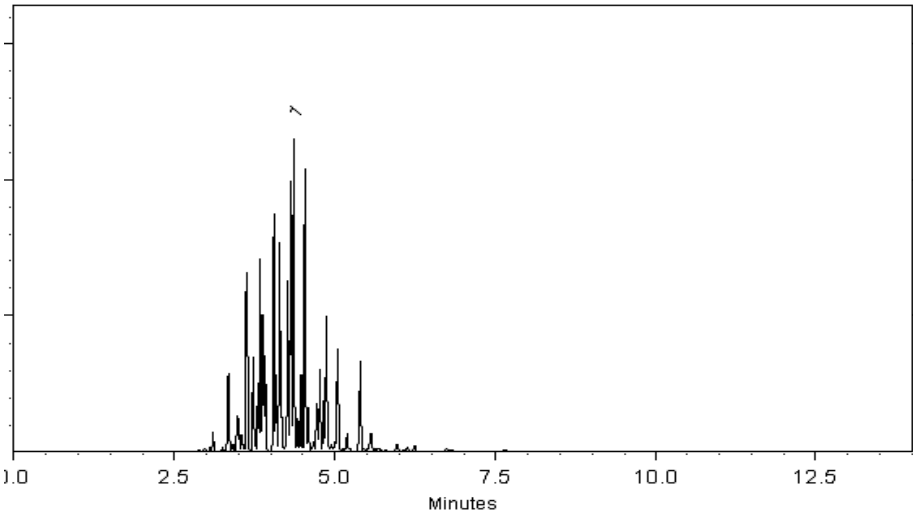

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cheryl Graham - Mix Technician

Date Mixed: 02-May-2014 **Balance:** 1128342313

Jennifer L. Pollino - QC Analyst

Date Passed: 06-May-2014

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31840, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

GCPCBI1248STD_00009

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32010.sec **Lot No.:** A0116431

Description : Aroclor® 1248 Standard

Aroclor® 1248 Standard 1,000µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2022 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1248	1.002.0 µg/mL	+/- 5.9516	µg/mL	Gravimetric
	CAS # 12672-29-6.SEC (Lot 106-248)		+/- 31.7706	µg/mL	Unstressed
	Purity ----%		+/- 41.4958	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

GCPCBI1660STD_00014

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Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32039 **Lot No.:** A0119290

Description : Aroclor® 1016/1260 Mix

Aroclor® 1016/1260 Mix 1,000 µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2022 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1016 **CAS #** 12674-11-2 **Purity** ----%	(Lot W-125-01)	1,005.0 µg/mL	+/- 5.8567 +/- 31.8448 +/- 41.6041	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	Aroclor 1260 **CAS #** 11096-82-5 **Purity** ----%	(Lot W-129-06)	1,007.2 µg/mL	+/- 5.8695 +/- 31.9145 +/- 41.6951	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

GCPCBI1660STD_00016

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32039.SEC **Lot No.:** A0114674

Description : Aroclor® 1016/1260 Mix

Aroclor® 1016/1260 Mix 1,000 µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2022 **Storage:** 25°C nominal

Handling: This product contains PCB's

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Aroclor 1016 **CAS #** 12674-11-2.SEC (Lot 129) **Purity** ----%	1.000.7 µg/mL	+/- 5.9437 µg/mL +/- 31.7284 µg/mL +/- 41.4406 µg/mL	Gravimetric Unstressed Stressed
2	Aroclor 1260 **CAS #** 11096-82-5.SEC (Lot NTO1023) **Purity** ----%	1.000.0 µg/mL	+/- 5.9397 µg/mL +/- 31.7072 µg/mL +/- 41.4130 µg/mL	Gravimetric Unstressed Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Reagent

GCPEST(PEM2)_00001

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571991 **Lot No.:** A0123952

Description : 8081 Performance Evaluation Mix

8081 Performance Evaluation Mix 5-10 µg/ml, Hexane/Toluene (90:10), 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Endrin **CAS #** 72-20-8 **Purity** 98%	(Lot SZBD119XV)	5.0 µg/mL	+/- 0.1541 +/- 0.2734 +/- 0.3619	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	4,4'-DDT **CAS #** 50-29-3 **Purity** 99%	(Lot S37912V)	10.0 µg/mL	+/- 0.3090 +/- 0.5480 +/- 0.7254	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Hexane/Toluene (90:10)
CAS # 110-54-3/108-88-3
Purity 99%

Rec'd
4-3-19

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

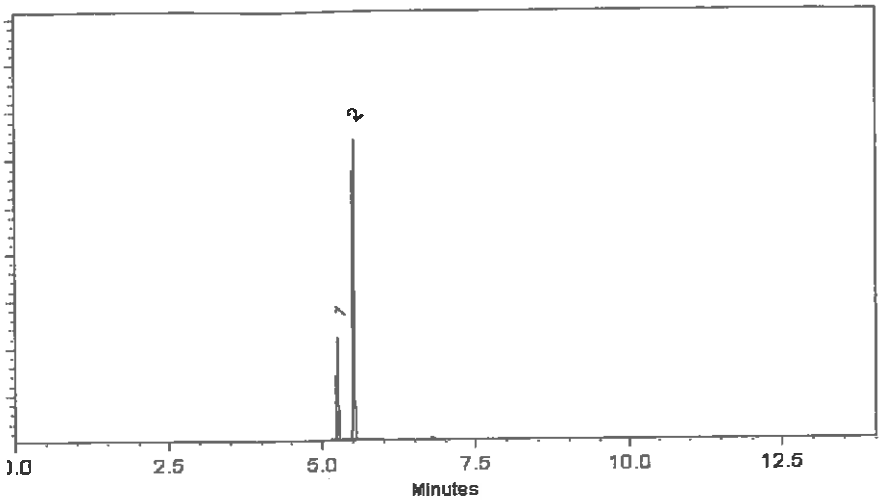

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Isaiah Harrison - Mix Technician

Date Mixed: 04-Jan-2017 **Balance:** 1128353505

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 10-Jan-2017

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

Reagent

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32000 **Lot No.:** A0130424

Description : Pesticide Surrogate Mix

Pesticide Surrogate Mix 200 µg/mL, Acetone, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2023 **Storage:** 10°C or colder

Handling: Contains PCBs - sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2,4,5,6-Tetrachloro-m-xylene		201.2 µg/mL	+/- 1.1725	µg/mL	Gravimetric
	CAS # 877-09-8	(Lot 0052481)		+/- 6.3751	µg/mL	Unstressed
	Purity 98%			+/- 8.3288	µg/mL	Stressed
2	Decachlorobiphenyl (BZ# 209)		201.5 µg/mL	+/- 1.1742	µg/mL	Gravimetric
	CAS # 2051-24-3	(Lot ER071509-01)		+/- 6.3848	µg/mL	Unstressed
	Purity 99%			+/- 8.3415	µg/mL	Stressed

Solvent: Acetone
CAS # 67-64-1
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

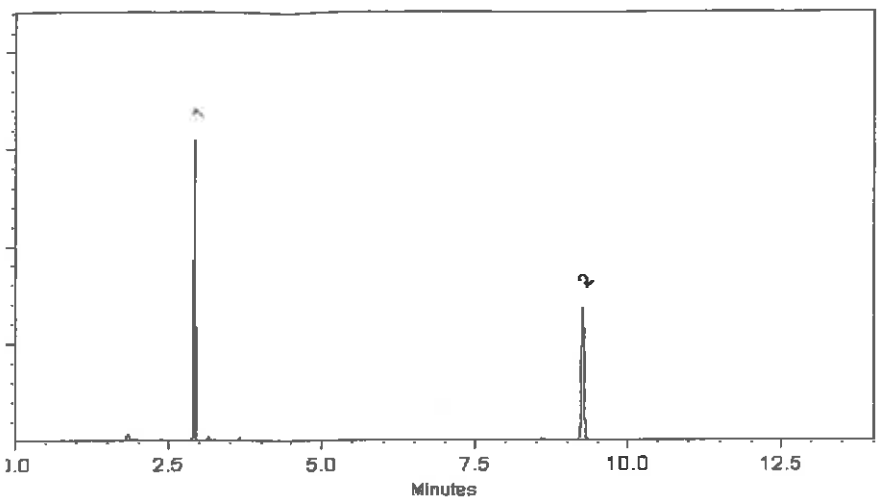

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 31-Aug-2017 **Balance:** B345965662

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 07-Sep-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

Reagent

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32000 **Lot No.:** A0141110

Description : Pesticide Surrogate Mix

Pesticide Surrogate Mix 200 µg/mL, Acetone, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2024 **Storage:** 10°C or colder

Handling: Contains PCBs - sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2,4,5,6-Tetrachloro-m-xylene **CAS #** 877-09-8 **Purity** 98%	(Lot 0052481)	201.4 µg/mL	+/- 1.1736 µg/mL +/- 6.3813 µg/mL +/- 8.3370 µg/mL		Gravimetric Unstressed Stressed
2	Decachlorobiphenyl (BZ# 209) **CAS #** 2051-24-3 **Purity** 99%	(Lot ER071509-01)	200.6 µg/mL	+/- 1.1690 µg/mL +/- 6.3563 µg/mL +/- 8.3043 µg/mL		Gravimetric Unstressed Stressed

Solvent: Acetone
CAS # 67-64-1
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

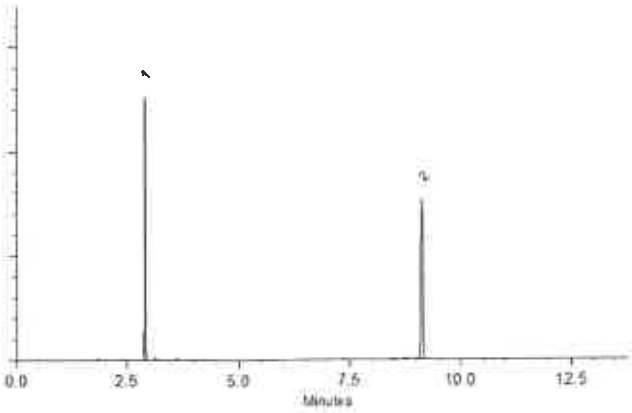

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 29-Aug-2018 **Balance:** B707717271

Justine Albertson - Operations Tech-ARM QC

Date Passed: 04-Sep-2018

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32279 **Lot No.:** A0124315

Description : 1-Bromo-2-nitrobenzene Standard

1-Bromo-2-nitrobenzene Standard 1000 µg/mL, Acetone, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1-Bromo-2-nitrobenzene **CAS #** 577-19-5 (Lot 643872/1) **Purity** 99%	1,006.0 µg/mL	+/- 5.9753 µg/mL +/- 56.4187 µg/mL +/- 57.7382 µg/mL	Gravimetric Unstressed Stressed

Solvent: Acetone
CAS # 67-64-1
Purity 99%

Reagent

GCpest/pcbINT_00005

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32279 **Lot No.:** A0141134

Description : 1-Bromo-2-nitrobenzene Standard

1-Bromo-2-nitrobenzene Standard 1000 µg/mL, Acetone, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2021 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)			
1	1-Bromo-2-nitrobenzene		1,005.0	µg/mL	+/-	5.9694	µg/mL	Gravimetric
	CAS # 577-19-5	(Lot 643872/1)			+/-	56.3626	µg/mL	Unstressed
	Purity 99%				+/-	57.6808	µg/mL	Stressed

Solvent: Acetone
CAS # 67-64-1
Purity 99%

Rec'd 11-19-18

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID

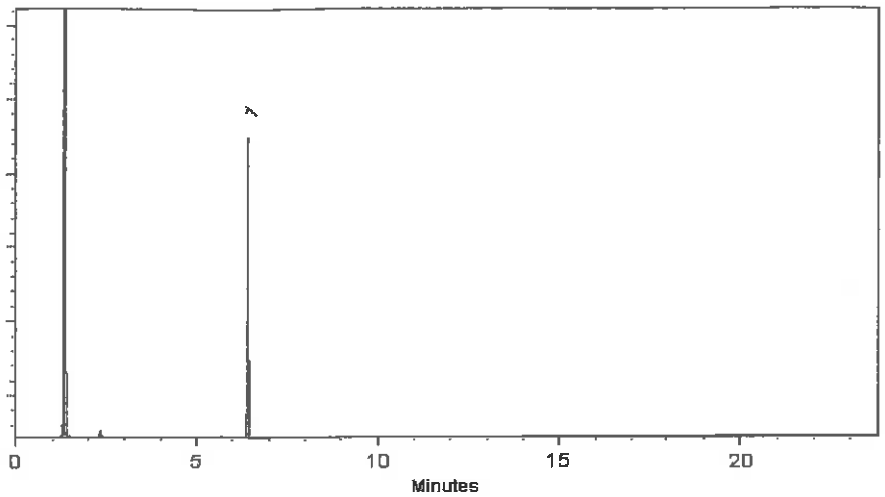

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Dustin J Lidgett

Dustin Lidgett - Mix Technician

Date Mixed: 29-Aug-2018 **Balance:** B442140311

Jennifer L Pollino

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 31-Aug-2018

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

Reagent

GCPESTAB3STD_00004

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Rec'd 10-26-18

Catalog No. : 32415 **Lot No.:** A0137734

Description : Organochlorine Pesticide Mix AB #3

Organochlorine Pesticide Mix AB #3 2,000 µg/mL, Hexane/Toluene (50:50), 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2022 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	alpha-BHC **CAS #** 319-84-6 **Purity** 99%	(Lot 0911942)	2,016.5 µg/mL	+/- 11.8340 +/- 91.8500 +/- 132.6190	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	gamma-BHC (Lindane) **CAS #** 58-89-9 **Purity** 99%	(Lot 6815700)	2,018.5 µg/mL	+/- 11.8457 +/- 91.9411 +/- 132.7505	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
3	beta-BHC **CAS #** 319-85-7 **Purity** 98%	(Lot BCBS8692V)	2,009.5 µg/mL	+/- 11.7928 +/- 91.5307 +/- 132.1579	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
4	delta-BHC **CAS #** 319-86-8 **Purity** 99%	(Lot ER02101401)	2,018.5 µg/mL	+/- 11.8457 +/- 91.9411 +/- 132.7505	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
5	Heptachlor **CAS #** 76-44-8 **Purity** 99%	(Lot NT060133)	2,015.0 µg/mL	+/- 11.8251 +/- 91.7817 +/- 132.5203	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
6	Aldrin **CAS #** 309-00-2 **Purity** 99%	(Lot 7321900)	2,014.5 µg/mL	+/- 11.8222 +/- 91.7589 +/- 132.4874	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
7	Heptachlor epoxide (isomer B) **CAS #** 1024-57-3 **Purity** 99%	(Lot ER121511-01)	2,007.5 µg/mL	+/- 11.7811 +/- 91.4401 +/- 132.0271	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

8	trans-Chlordane			2,009.0	µg/mL	+/-	11.7899	µg/mL	Gravimetric
	CAS #	5103-74-2	(Lot ER061906-04)			+/-	91.5084	µg/mL	Unstressed
	Purity	99%				+/-	132.1257	µg/mL	Stressed
9	cis-Chlordane			2,008.0	µg/mL	+/-	11.7841	µg/mL	Gravimetric
	CAS #	5103-71-9	(Lot ER062410-01)			+/-	91.4628	µg/mL	Unstressed
	Purity	99%				+/-	132.0599	µg/mL	Stressed
10	Endosulfan I			2,016.0	µg/mL	+/-	11.8310	µg/mL	Gravimetric
	CAS #	959-98-8	(Lot ER012105-02)			+/-	91.8272	µg/mL	Unstressed
	Purity	99%				+/-	132.5861	µg/mL	Stressed
11	4,4'-DDE			2,012.5	µg/mL	+/-	11.8105	µg/mL	Gravimetric
	CAS #	72-55-9	(Lot GHYQG)			+/-	91.6678	µg/mL	Unstressed
	Purity	99%				+/-	132.3559	µg/mL	Stressed
12	Dieldrin			1,999.2	µg/mL	+/-	11.7324	µg/mL	Gravimetric
	CAS #	60-[illegible]	(Lot 5709400)			+/-	91.0620	µg/mL	Unstressed
	Purity	98%				+/-	131.4812	µg/mL	Stressed
13	Endrin			2,012.4	µg/mL	+/-	11.8101	µg/mL	Gravimetric
	CAS #	72-20-8	(Lot 6898800)			+/-	91.6646	µg/mL	Unstressed
	Purity	98%				+/-	132.3513	µg/mL	Stressed
14	4,4'-DDD			2,005.5	µg/mL	+/-	11.7694	µg/mL	Gravimetric
	CAS #	72-54-8	(Lot HAN02-KNCK)			+/-	91.3490	µg/mL	Unstressed
	Purity	99%				+/-	131.8955	µg/mL	Stressed
15	Endosulfan II			2,018.0	µg/mL	+/-	11.8428	µg/mL	Gravimetric
	CAS #	33213-65-9	(Lot 7276300)			+/-	91.9183	µg/mL	Unstressed
	Purity	99%				+/-	132.7176	µg/mL	Stressed
16	Endrin aldehyde			2,015.5	µg/mL	+/-	11.8281	µg/mL	Gravimetric
	CAS #	7421-93-4	(Lot ER082306-01)			+/-	91.8045	µg/mL	Unstressed
	Purity	99%				+/-	132.5532	µg/mL	Stressed
17	4,4'-DDT			2,016.5	µg/mL	+/-	11.8340	µg/mL	Gravimetric
	CAS #	50-29-3	(Lot S37912V)			+/-	91.8500	µg/mL	Unstressed
	Purity	99%				+/-	132.6190	µg/mL	Stressed
18	Endosulfan sulfate			2,009.3	µg/mL	+/-	11.7914	µg/mL	Gravimetric
	CAS #	1031-07-8	(Lot BCBT8804)			+/-	91.5198	µg/mL	Unstressed
	Purity	95%				+/-	132.1422	µg/mL	Stressed
19	Methoxychlor			2,006.5	µg/mL	+/-	11.7753	µg/mL	Gravimetric
	CAS #	72-43-5	(Lot 7322100)			+/-	91.3945	µg/mL	Unstressed
	Purity	99%				+/-	131.9613	µg/mL	Stressed
20	Endrin ketone			2,007.0	µg/mL	+/-	11.7782	µg/mL	Gravimetric
	CAS #	53494-70-5	(Lot 160405JLM)			+/-	91.4173	µg/mL	Unstressed
	Purity	99%				+/-	131.9942	µg/mL	Stressed

Solvent: Hexane/Toluene (50:50)
CAS # 110-54-3/108-88-3
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
150°C to 300°C
@ 4°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
300°C

Det. Type:
ECD

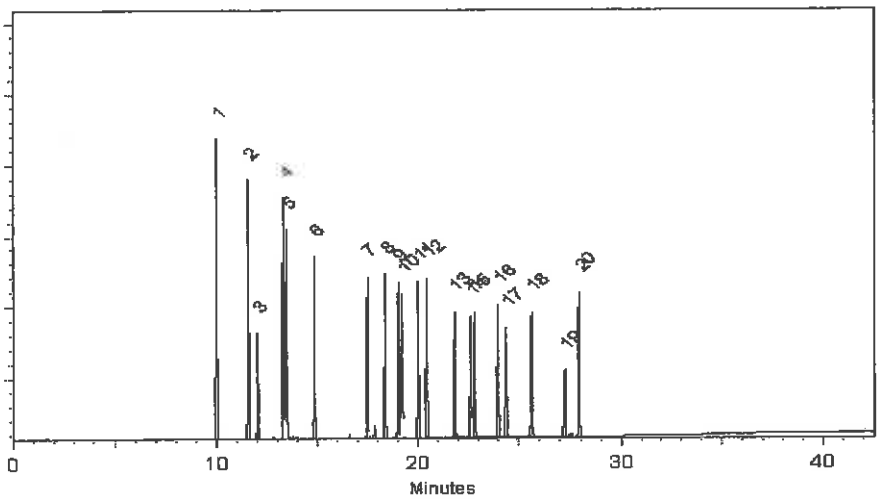

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 03-May-2018 **Balance:** B442140311

Amanda Miller - Operations Tech-ARM QC

Date Passed: 18-May-2018

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

GCTCMXSTD_00010

Certificate of Analysis

2,4,5,6-Tetrachloro-m-xylene Solution

Product Number: IST-440 **Page:** 1 of 1

Lot Number: CL-3352A **Lot Issue Date:** 05-Oct-2017 **Expiration Date:** 31-Oct-2020

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
2,4,5,6-tetrachloro-m-xylene	000877-09-8	RM04082	2006 ± 10 µg/mL

Matrix: acetone

Storage: Store at Room Temperature (15° to 30°C).

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

John Russo
President

Monica Bourgeois
Director of QA/RA

ISO 9001
Registered
TUV USA, Inc.

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Reagent

GCTOX2NDSOURC_00001

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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ACCREDITED
ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32071-SL **Lot No.:** A0116660

Description : Toxaphene Standard

Toxaphene Standard 5,000 µg/mL, Isooctane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Toxaphene	5,036.0 µg/mL	+/- 46.8321 µg/mL	Gravimetric
	CAS # 8001-35-2 (Lot NT052152)		+/- 163.6931 µg/mL	Unstressed
	Purity ----%		+/- 211.6461 µg/mL	Stressed

Solvent: Isooctane
CAS # 540-84-1
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

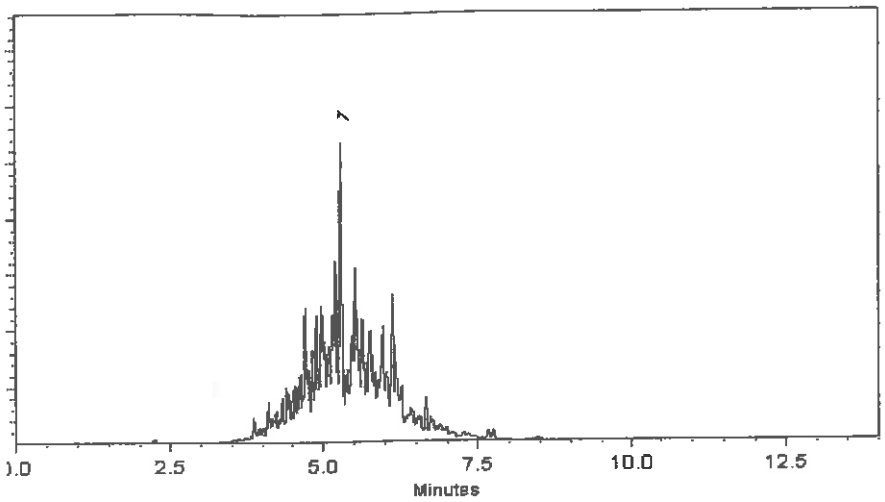

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cheryl Graham - Mix Technician

Date Mixed: 18-Jan-2016 **Balance:** B442140311

Jodi E. Breon - QA Analyst

Date Passed: 05-Feb-2016

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

Reagent

GCTOXSTDSTD_00002

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32071 **Lot No.:** A0120412

Description : Toxaphene Standard

Toxaphene Standard 5,000 µg/mL, Isooctane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : October 31, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Toxaphene **CAS #** 8001-35-2 (Lot NT053206) **Purity** ---%	5,024.0 µg/mL	+/- 29.4836 µg/mL Gravimetric +/- 159.2305 µg/mL Unstressed +/- 208.0080 µg/mL Stressed	

Solvent: Isooctane
CAS # 540-84-1
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

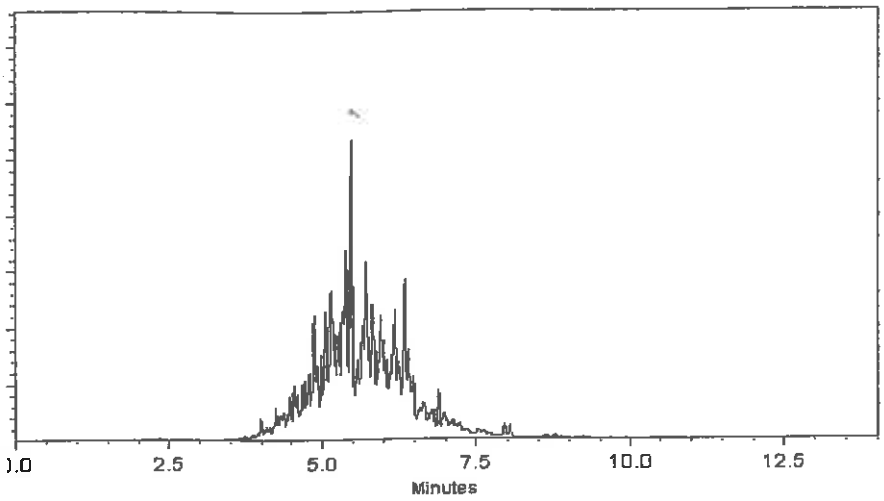

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Dawn Brownson - Mix Technician

Date Mixed: 14-Jul-2016 **Balance:** 1125113331

Jennifer L. Pollino - QC Analyst

Date Passed: 20-Jul-2016

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

Reagent

Herb(RTS)spk_00009

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CERTIFIED REFERENCE MATERIAL

Gravimetric Certificate

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ACCREDITED
ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569750 **Lot No.:** A0135473

Description : Herbicide LCS RTS (2015)

Herbicide LCS RTS (2015) 5-2000 µg/mL, Methanol, 25mL/bottle

Container Size : 25 mL **Pkg Amt:** > 25 mL

Expiration Date : February 29, 2020 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Component #	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2,4,5-T		5.0 µg/mL	+/- 0.0436	µg/mL	Gravimetric
	CAS # 93-76-5	(Lot 6693400)		+/- 0.2690	µg/mL	Unstressed
	Purity 99%			+/- 0.2694	µg/mL	Stressed
2	2,4,5-TP (silvex)		5.0 µg/mL	+/- 0.0436	µg/mL	Gravimetric
	CAS # 93-72-1	(Lot 5299900)		+/- 0.2690	µg/mL	Unstressed
	Purity 99%			+/- 0.2694	µg/mL	Stressed
3	2,4-D		20.0 µg/mL	+/- 0.1556	µg/mL	Gravimetric
	CAS # 94-75-7	(Lot 6780500)		+/- 1.0698	µg/mL	Unstressed
	Purity 99%			+/- 1.0716	µg/mL	Stressed
4	2,4-DB		20.0 µg/mL	+/- 0.1555	µg/mL	Gravimetric
	CAS # 94-82-6	(Lot 5262300)		+/- 1.0687	µg/mL	Unstressed
	Purity 99%			+/- 1.0705	µg/mL	Stressed
5	Dalapon		20.0 µg/mL	+/- 0.1558	µg/mL	Gravimetric
	CAS # 75-99-0	(Lot 6249700)		+/- 1.0711	µg/mL	Unstressed
	Purity 95%			+/- 1.0729	µg/mL	Stressed
6	Dicamba		10.0 µg/mL	+/- 0.0777	µg/mL	Gravimetric
	CAS # 1918-00-9	(Lot 6875900)		+/- 0.5344	µg/mL	Unstressed
	Purity 99%			+/- 0.5353	µg/mL	Stressed
7	Dichlorprop		20.0 µg/mL	+/- 0.1555	µg/mL	Gravimetric
	CAS # 120-36-5	(Lot 5810200)		+/- 1.0687	µg/mL	Unstressed
	Purity 99%			+/- 1.0705	µg/mL	Stressed

8	Dinoseb **CAS #** 88-85-7 **Purity** 99%	(Lot 50001)	20.0	µg/mL	+/-	0.1556	µg/mL	Gravimetric
					+/-	1.0698	µg/mL	Unstressed
					+/-	1.0716	µg/mL	Stressed
9	MCPA **CAS #** 94-74-6 **Purity** 96%	(Lot 6376200)	2,002.0	µg/mL	+/-	11.6397	µg/mL	Gravimetric
					+/-	106.4790	µg/mL	Unstressed
					+/-	106.6574	µg/mL	Stressed
10	MCPP (Mecoprop) **CAS #** 93-65-2 **Purity** 99%	(Lot 6899400)	2,000.0	µg/mL	+/-	11.6282	µg/mL	Gravimetric
					+/-	106.3734	µg/mL	Unstressed
					+/-	106.5517	µg/mL	Stressed
11	Pentachlorophenol **CAS #** 87-86-5 **Purity** 99%	(Lot 170306KJA)	5.0	µg/mL	+/-	0.0434	µg/mL	Gravimetric
					+/-	0.2679	µg/mL	Unstressed
					+/-	0.2683	µg/mL	Stressed
12	Picloram **CAS #** 1918-02-1 **Purity** 98%	(Lot 34ATO)	20.0	µg/mL	+/-	0.1554	µg/mL	Gravimetric
					+/-	1.0683	µg/mL	Unstressed
					+/-	1.0701	µg/mL	Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

F. Joseph Tallon - Mix Technician **Date Mixed:** 22-Feb-2018 **Balance:** B251644995

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

Specific Reference Material Notes:
Failure to derivatize this standard will lead to incorrect quantitative results.

Reagent

Herbmix1.sec_00004

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ilac-MRA

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ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569749.sec **Lot No.:** A0120175

Description : Herbicide List #1 Standard (2015)

Herbicide List #1 Standard (2015) 50-20,000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : July 31, 2019 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Dalapon **CAS #** 75-99-0.SEC (Lot 692400) **Purity** 95%	200.0 µg/mL	+/- 1.4180 µg/mL +/- 10.6669 µg/mL +/- 10.6847 µg/mL	Gravimetric Unstressed Stressed
2	Dicamba **CAS #** 1918-00-9.SEC (Lot SZBB175XV) **Purity** 99%	100.0 µg/mL	+/- 0.7091 µg/mL +/- 5.3341 µg/mL +/- 5.3430 µg/mL	Gravimetric Unstressed Stressed
3	MCPP (Mecoprop) **CAS #** 93-65-2.SEC (Lot 1-KAS-91-1) **Purity** 99%	20,040.0 µg/mL	+/- 117.3386 µg/mL +/- 1,065.9524 µg/mL +/- 1,067.7379 µg/mL	Gravimetric Unstressed Stressed
4	MCPA **CAS #** 94-74-6.SEC (Lot FBV01/) **Purity** 98%	20,124.3 µg/mL	+/- 117.8322 µg/mL +/- 1,070.4364 µg/mL +/- 1,072.2294 µg/mL	Gravimetric Unstressed Stressed
5	Dichlorprop **CAS #** 120-36-5.SEC (Lot 11007) **Purity** 99%	200.0 µg/mL	+/- 1.4182 µg/mL +/- 10.6683 µg/mL +/- 10.6860 µg/mL	Gravimetric Unstressed Stressed
6	2,4-D **CAS #** 94-75-7.SEC (Lot 31119) **Purity** 99%	202.0 µg/mL	+/- 1.4323 µg/mL +/- 10.7750 µg/mL +/- 10.7929 µg/mL	Gravimetric Unstressed Stressed
7	Pentachlorophenol **CAS #** 87-86-5.SEC (Lot 1239600) **Purity** 99%	50.0 µg/mL	+/- 0.3545 µg/mL +/- 2.6671 µg/mL +/- 2.6715 µg/mL	Gravimetric Unstressed Stressed

8	2,4,5-TP (silvex)			50.0	µg/mL	+/-	0.3545	µg/mL	Gravimetric
	CAS #	93-72-1.SEC	(Lot 80703)			+/-	2.6671	µg/mL	Unstressed
	Purity	99%				+/-	2.6715	µg/mL	Stressed
9	2,4,5-T			50.0	µg/mL	+/-	0.3545	µg/mL	Gravimetric
	CAS #	93-76-5.SEC	(Lot 20724)			+/-	2.6671	µg/mL	Unstressed
	Purity	99%				+/-	2.6715	µg/mL	Stressed
10	2,4-DB			201.0	µg/mL	+/-	1.4253	µg/mL	Gravimetric
	CAS #	94-82-6.SEC	(Lot 20822)			+/-	10.7216	µg/mL	Unstressed
	Purity	99%				+/-	10.7395	µg/mL	Stressed
11	Dinoseb			200.0	µg/mL	+/-	1.4182	µg/mL	Gravimetric
	CAS #	88-85-7.SEC	(Lot 2837700)			+/-	10.6683	µg/mL	Unstressed
	Purity	99%				+/-	10.6860	µg/mL	Stressed
12	Picloram			200.0	µg/mL	+/-	1.4182	µg/mL	Gravimetric
	CAS #	1918-02-1.SEC	(Lot 40121)			+/-	10.6683	µg/mL	Unstressed
	Purity	99%				+/-	10.6860	µg/mL	Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Specific Reference Material Notes:
Failure to derivatize this standard will lead to incorrect quantitative results.

Reagent

M4400-5M74B_00001

3186736
ID: M4400-5M74B_00001
Exp:05/17/21 Prpd:RSK Opn:05/17/19
5000ppm BORON

3186737
ID: M4400-5M74B_00001
Exp:05/17/21 Prpd:RSK Opn:05/17/19
5000ppm BORON

REPORT OF ANALYSIS

Single-Element Aqueous RM

Boron (B) – 5000 µg/mL

Product #: 4400-5M74

Matrix: H_2O

Lot #: 1009207-1

Element	Certified Concentration
B	**4981 µg/mL**

Intended Use: This solution is intended for use as a reference material (RM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This RM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO Guide 34**, and **ISO/IEC 17025**. This RM was prepared to a nominal concentration of 5000 µg/mL by gravimetric methods using 99.9995% pure boric acid (H_3BO_3) dissolved and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this RM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration was determined based upon gravimetric procedures. Secondary verification of the certified concentration was performed using ICP-OES and is traceable to **NIST SRM 3107**. The uncertainty associated with the certified concentration is ±0.5% relative, which is the sum of the estimated errors due to the purity of the raw materials, the gravimetric preparation of the solution, and transpiration through the container. This represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the RM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original RM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

May 15, 2019

Chuck Goudreau, Certifying Officer **Certification Date**

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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F: 707.545.7901

Europe
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1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

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Reagent

M6500ICSA_00003

3297067
ID: M6500ICSA_00003
Exp: 01/11/21 Prpd: RJG
ICP ICSA STOCK

CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

Product #: TA-ICP-ICSA

ICP ICSA Mix

Lot #: 1013122-1

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
Al	5000 ± 25 mg/L	Fe	2000 ± 10 mg/L
Ca	5000 ± 25 mg/L	Mg	5000 ± 25 mg/L

REC 71619

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see reverse side).** The solution was stabilized using high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentrations were determined based upon gravimetric procedures. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see reverse side).** The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

July 11, 2019
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM		Analyte	Aq. SRM	MO SRM		Analyte	Aq. SRM	MO SRM
Ag	3151	1077a		Hf	3122	—		S	3154	2770
Al	3101a	1075a		Hg	3133	3133		Sb	3102a	3102a
As	3103a	3103a		Ho	3123a	—		Sc	3148a	3148a
Au	3121	—		In	3124a	3124a		Se	3149	3149
B	3107	3107		K	3141a	3141a		Si	3150	1066a
Ba	3104a	1051b		La	3127a	3127a		Sm	3147a	—
Be	3105a	3105a		Li	3129a	3129a		Sn	3161a	1057b
Bi	3106	3106		Lu	3130a	—		SO_4^{-2}	3181	—
Br^-	3184	—		Mg	3131a	3131a		Sr	3153a	3153a
Ca	3109a	3109a		Mn	3132	3132		Ta	3155	—
Cd	3108	1053a		Mo	3134	3134		Tb	3157a	—
Ce	3110	3110		Na	3152a	3152a		Te	3156	—
Cl^-	3182	1818a		Nb	3137	—		Th	3159	—
Co	3113	3113		Nd	3135a	—		Ti	3162a	3162a
Cr	3112a	1078b		Ni	3136	1065b		Tl	3158	3158
Cs	3111a	—		NO_3^-	3185	—		Tm	3160a	—
Cu	3114	1080a		P	3139a	3139a		U	3164	—
Dy	3115a	—		Pb	3128	3128		V	3165	1052b
Er	3116a	—		Pd	3138	—		W	3163	3163
Eu	3117a	—		PO_4^{-3}	3186	—		Y	3167a	3167a
F^-	3183	—		Pr	3142a	—		Yb	3166a	—
Fe	3126a	1079b		Pt	3140	3140		Zn	3168a	3168a
Ga	3119a	—		Rb	3145a	—		Zr	3169	3169
Gd	3118a	—		Re	3143	—				
Ge	3120a	—		Rh	3144	3144				

Reagent

MAG1000_00002

3172752
ID: MAG1000_00002
Exp: 10/26/20 Prpd: RJR
1000ppm SILVER

3172753
ID: MAG1000_00002
Exp: 10/26/20 Prpd: RJR
1000ppm SILVER

3172754
ID: MAG1000_00002
Exp: 10/26/20 Prpd: RJR
1000ppm SILVER

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-1000511

SE Std Silver (Ag) – 1000 µg/mL

Lot #: 975475-22

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty
Ag	996 ± 3 µg/mL (w/v)
	987 ± 3 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure silver (Ag) metal dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3151, lot #992212**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	MAJOR	Co	<0.5	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	<2	Cs	<1	Hf	<0.2	Mg	<5	Pb	2	Sc	<5	Tl	<2
As	<2	Cr	<0.5	Hg	3	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	2	Cu	9	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	2	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

April 26, 2019
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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The Netherlands

www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MCGHG1-1_00014

INORGANIC VENTURES
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CERTIFICATE OF ANALYSIS

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fax: 540.585.3012
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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01

ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGHG1
Lot Number:	N2-HG669550
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Mercury
Starting Material:	Hg metal
Starting Material Lot#:	1959
Starting Material Purity:	99.9994%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1002 ± 3 µg/mL

Density: 1.026 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **999 ± 5 µg/mL**
ICP Assay NIST SRM 3133 Lot Number: 061204

Assay Method #2 **1003 ± 3 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

O	Ag		0.001159	M	Eu	<	0.000201	O	Na		0.000435	M	Se	<	0.015915	O	Zn	<	0.001510
O	Al		0.000090	O	Fe		0.000113	M	Nb	<	0.000201	O	Si		0.000526	M	Zr	<	0.000201
M	As	<	0.000402	M	Ga	<	0.000201	M	Nd	<	0.000201	M	Sm	<	0.000201				
M	Au	<	0.003631	M	Gd	<	0.000201	M	Ni	<	0.000402	M	Sn	<	0.001007				
M	B	<	0.001208	M	Ge	<	0.000201	M	Os	<	0.000605	M	Sr	<	0.000201				
M	Ba	<	0.000201	M	Hf	<	0.000201	O	P	<	0.032370	M	Ta	<	0.000201				
M	Be	<	0.000201	s	Hg	<		M	Pb	<	0.000201	M	Tb	<	0.000201				
M	Bi	<	0.000201	M	Ho	<	0.000201	M	Pd	<	0.000403	M	Te	<	0.002216				
O	Ca		0.000746	M	In	<	0.000201	M	Pr	<	0.000201	M	Th	<	0.000201				
M	Cd	<	0.000201	M	Ir	<	0.000201	M	Pt	<	0.000402	M	Ti	<	0.000402				
M	Ce	<	0.000201	O	K		0.002008	M	Rb	<	0.000201	O	Tl	<	0.016508				
M	Co	<	0.000201	M	La	<	0.000201	M	Re	<	0.000201	M	Tm	<	0.000201				
O	Cr	<	0.003021	O	Li	<	0.000107	M	Rh	<	0.000201	M	U	<	0.008058				
M	Cs	<	0.001208	M	Lu	<	0.000201	M	Ru	<	0.000201	M	V	<	0.000201				
M	Cu	<	0.000402	O	Mg		0.000096	O	S	<	0.053950	M	W	<	0.000604				
M	Dy	<	0.000201	M	Mn	<	0.000604	M	Sb	<	0.001208	M	Y	<	0.000201				
M	Er	<	0.000201	M	Mo		0.000971	M	Sc	<	0.000201	M	Yb	<	0.000201				

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 200.59 +2 4 Hg(OH)(aq) 1+
Chemical Compatibility - Stable in HNO3. Avoid basic media forming insoluble carbonate. The sulfide, basic carbonate, oxalate, phosphate, arsenite, arsenate and iodide are insoluble in water.
Stability - 2-100 ppb levels not stable in 1% HNO3 / LDPE container, stable in 10% HNO3 packaged in borosilicate glass. 1-100 ppm levels stable in 7% HNO3 packaged in borosilicate glass. 1000-10,000 ppm solutions are chemically stable for years in 5-10% HNO3 / LDPE container.
Hg Containing Samples (Preparation and Solution) - Metal (soluble in HNO3); Oxide (Soluble in HNO3); Ores and Organic based (The literature has more references to the preparation of Hg containing samples than any other element. Please consult the literature for your specific sample type, since such preparations are prone to error. Or e-mail our technical staff and we will contact you to discuss your particular sample preparation questions in further detail.).
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 202 amu	9 ppt	n/a	186W16O
ICP-OES 184.950 nm	0.03 / 0.005 µg/mL	1	
ICP-OES 194.227 nm	0.03 / 0.005 µg/mL	1	V
ICP-OES 253.652 nm	0.1 / 0.03 µg/mL	1	Ta, Co, Th ,Rh , Fe, U

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 10, 2018

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **August 10, 2022**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Reagent

MCGTL1-1_00011

RJR 10/18/18

2941253
ID: MCGTL1-1_00011
Exp: 04/11/20 Prpd: RJR
1000ppm THALLIUM

2941252
ID: MCGTL1-1_00011
Exp: 04/11/20 Prpd: RJR
1000ppm THALLIUM

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Product #: TA-1000581

Lot #: 148983-92

Single-Element Aqueous CRM

SE Std Thallium (Tl) – 1000 µg/mL

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty
Tl	1002 ± 3 µg/mL (w/v)
	997 ± 3 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001, ISO 17034,** and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.99% pure thallium (Tl) metal dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3158, lot #993012**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<1	Co	<1	Ge	<0.5	Mg	<5	Pd	<0.5	Si	<100	V	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mn	<1	Pr	<0.2	Sm	<0.2	W	<0.5
As	<2	Cr	<0.5	Hg	13	Mo	<0.5	Pt	<0.5	Sn	<0.5	Y	<0.5
Au	<0.5	Cu	2	Ho	<0.2	Na	<25	Rb	<0.5	Sr	<1	Yb	<0.2
B	<5	Dy	<0.2	In	nd	Nb	<0.5	Re	<0.2	Ta	<0.5	Zn	<2
Ba	<1	Er	<0.2	Ir	<0.2	Nd	<0.2	Rh	<0.5	Tb	<0.5		
Bi	0.3	Eu	<0.2	K	<25	Ni	<2	Ru	<0.5	Te	<1		
Ca	<25	Fe	<10	La	<0.5	Os	<0.5	Sb	<0.5	Ti	<2		
Cd	<0.5	Ga	<0.5	Li	<2	P	<100	Sc	<5	Tl	MAJOR		
Ce	<0.2	Gd	<0.2	Lu	<0.2	Pb	5	Se	<2	Tm	<0.2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

October 11, 2018
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MHGICV-1_00010

Certificate of Analysis

ISO Guide 34 Reference Material

Product Number: ICP-080
Lot Number: CS-0444

Lot Issue Date: 02-Feb 2018
Expiration Date: 28-Feb 2025

Product Name: Mercury ICP Standard

Description:
This Reference Material (RM) was gravimetrically prepared in accordance with ISO Guide 34 and under ULTRA Scientific's ISO 9001 registered quality system. The neat materials used for this product have been verified by ULTRA's ISO 17025 laboratory and under ULTRA's ISO Guide 34 accreditation. The analyte concentrations were verified by ULTRA's ISO 17025 accredited laboratory. For each analyte, the true value, with its uncertainty value calculated at the 95% confidence level, is reported below.

Analyte	Starting Material	Lot Number	Purity (%)	Calculated Value	Traceability & Method
mercury	mercuric nitrate	RM11214	99.999%	1001 ± 2 µg/mL	NIST SRM 3133; ICP-MS

Solvent: 2% nitric acid in low TOC water (< 50 ppb)

Non-Certified Values:

Density: 1.0101 g/mL @ 20.00 ± 0.05°C

Trace Metallic Impurities in Solution Standard in µg/mL

*___	Al	<0.005 ND	*___	Ga	<0.005 ND	n___	Nb		n___	S	
*___	Sb	<0.005 ND	n___	Ge		n___	Os		n___	Ta	
*___	As	<0.005 ND	n___	Au		*___	Pd	<0.005 ND	n___	Te	
*___	Ba	<0.005 ND	n___	Hf		*___	P	<0.005 ND	n___	Tb	
*___	Be	<0.005 ND	n___	Ho		*___	Pt	<0.005 ND	n___	Tl	
*___	Bi	<0.005 ND	*___	In	<0.005 ND	*__	K	<0.005 ND	*___	Th	<0.005 ND
*___	B	<0.005 ND	n___	Ir		n___	Pr		n___	Tm	
*___	Cd	<0.005 ND	*___	Fe	<0.005 ND	n___	Re		*___	Sn	<0.005 ND
*___	Cs	<0.005 ND	*___	La	<0.005 ND	n___	Rh		*___	Ti	<0.005 ND
*___	Ca	<0.005 ND	*___	Pb	<0.005 ND	n___	Rb		n___	W	
n___	Ce		*___	Li	<0.005 ND	n___	Ru		n___	U	
*___	Cr	<0.005 ND	n___	Lu		n___	Sm		*___	V	<0.005 ND
*___	Co	<0.005 ND	*___	Mg	<0.005 ND	n___	Sc		n___	Yb	
*___	Cu	<0.005 ND	*___	Mn	<0.005 ND	*___	Se	<0.005 ND	n___	Y	
n___	Dy		s___	Hg		*___	Si	<0.005 ND	*___	Zn	<0.005 ND
*___	Er	<0.005 ND	*___	Mo	<0.005 ND	*___	Ag	<0.005 ND	n___	Zr	
*___	Eu	<0.005 ND	n___	Nd		*___	Na	<0.005 ND			
*___	Gd	<0.005 ND	*___	Ni	<0.005 ND	*___	Sr	<0.005 ND			

* - element checked; i - spectral interference; n – element not checked; D – element detected; ND – element not detected; s - standard element

ANAB ACCREDITED ISO GUIDE 34 REFERENCE MATERIAL PRODUCER

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

Certificate of Analysis

ISO Guide 34 Reference Material

Product Number: ICP-080 **Lot Issue Date:** 02-Feb 2018
Lot Number: CS-0444 **Expiration Date:** 28-Feb 2025

Storage: Store at Room Temperature (15° to 30°C).

Traceability:
Traceability has been established through an unbroken chain of comparisons, each having stated uncertainties. Comparisons are based on appropriate physical or chemical measurements, including gravimetric or volumetric dilution, where the mass or volume of a solution before and after dilution is measured. The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1, ISO 9001, ISO 17025, and ISO Guide 34. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 819.

Estimation of Uncertainties:
The true value is reported, with its uncertainty value calculated at the 95% confidence level.

Homogeneity:
This RM was formulated and unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Intended Use:
This RM is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods and continuing calibration verification.

Instructions for Use:
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening and should be processed without delay for the true value to be valid within the stated uncertainties. Do not pipet from the bottle. Do not return any material removed for pipetting to the bottle. Tightly cap the bottle after removing any material and store according to the instructions noted above.

Hazards:
Refer to the Safety Data Sheet for information regarding this RM.

Expiration of Certification:
The certification of this RM is valid, within the measurement uncertainty specified, until the expiration date specified above, provided the RM is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the RM is damaged, contaminated, or otherwise modified.

Maintenance of Certification:
The real-time, long term stability of the RM may be monitored over the lifetime of the certification. If substantive changes occur that affect the certification before the expiration of this certificate, ULTRA Scientific will notify the purchaser.

John Russo
President

Monica Bourgeois
Director of QA/RA

ANAB ACCREDITED ISO GUIDE 34 REFERENCE MATERIAL PRODUCER

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

Reagent

MSB1000_00002

CPI INTERNATIONAL

3100147
ID: MSB1000_00002
Exp: 09/06/20 Prpd: RJG
1000ppm ANTIMONY

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

SE Std Antimony (Sb) – 1000 µg/mL

Matrix: 5% HNO_3/tr. HF

Product #: TA-100023

Lot #: 153992-34

Element	Certified Concentration & Uncertainty
Sb	1000 ± 5 µg/mL (w/v)
	977 ± 5 µg/g (w/w)

REC 3-11-19

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure antimony (Sb) metal dissolved in high purity nitric acid (HNO_3), trace hydrofluoric acid (HF) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3102a, lot #140911**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Mg	<5	Pd	<0.5	Si	<1000	V	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mn	<1	Pr	<0.2	Sm	<0.2	W	<0.5
As	<2	Cr	<0.5	Hg	<0.5	Mo	<0.5	Pt	<0.5	Sn	<0.5	Y	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Na	<25	Rb	<0.5	Sr	<1	Yb	<0.2
B	<5	Dy	<0.2	In	nd	Nb	0.6	Re	<0.2	Ta	<0.5	Zn	<2
Ba	<1	Er	<0.2	Ir	<0.2	Nd	<0.2	Rh	<0.5	Tb	<0.5		
Bi	<0.2	Eu	<0.2	K	<25	Ni	<2	Ru	<0.5	Te	<1		
Ca	<25	Fe	<10	La	4	Os	<0.5	Sb	MAJOR	Ti	<2		
Cd	<0.5	Ga	<0.5	Li	<2	P	<100	Sc	<5	Tl	<0.5		
Ce	<0.2	Gd	<0.2	Lu	<0.2	Pb	<1	Se	<2	Tm	<0.2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

March 6, 2019
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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F: +31 20 420 28 36

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Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

MTAPITTCALTRA_00011

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	TAPITT-CAL-TRA
Lot Number:	N2-MEB673400
Matrix:	3% (v/v) HNO3
Value / Analyte(s):	100 µg/mL ea: Silver, Thallium, 50 µg/mL ea: Arsenic, Cadmium, Lead, Antimony, Selenium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	**50.01 ± 0.30 µg/mL**	**Arsenic, As**	**50.00 ± 0.27 µg/mL**
Cadmium, Cd	**50.00 ± 0.21 µg/mL**	**Lead, Pb**	**50.01 ± 0.22 µg/mL**
Selenium, Se	**50.00 ± 0.35 µg/mL**	**Silver, Ag**	**100.0 ± 0.4 µg/mL**
Thallium, Tl	**100.0 ± 0.5 µg/mL**		

Density: 1.014 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	992212
Ag	Volhard	999c	999c
As	ICP Assay	3103a	100818
As	Calculated		See Sec. 4.2
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Sb	ICP Assay	3102a	140911
Se	ICP Assay	3149	100901
Se	Calculated		See Sec. 4.2
Tl	ICP Assay	3158	151215
Tl	Calculated		See Sec. 4.2

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

November 05, 2018

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **November 05, 2022**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Reagent

MTAPITTCALTRC_00011

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
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CERTIFICATE OF ANALYSIS

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1.0 ACCREDITATION / REGISTRATION

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ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	TAPITT-CAL-TRC-REV
Lot Number:	N2-MEB673401
Matrix:	3% (v/v) HNO3
Value / Analyte(s):	200 µg/mL ea:

Boron,	Barium,	Beryllium,
Cobalt,	Chromium,	Copper,
Lithium,	Manganese,	Nickel,
Strontium,	Vanadium,	Zinc

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Barium, Ba	**200.0 ± 0.9 µg/mL**	**Beryllium, Be**	**200.0 ± 1.0 µg/mL**
Boron, B	**200.0 ± 1.4 µg/mL**	**Chromium, Cr**	**200.0 ± 1.2 µg/mL**
Cobalt, Co	**200.0 ± 1.0 µg/mL**	**Copper, Cu**	**200.0 ± 0.8 µg/mL**
Lithium, Li	**200.0 ± 0.8 µg/mL**	**Manganese, Mn**	**199.9 ± 0.8 µg/mL**
Nickel, Ni	**200.0 ± 0.9 µg/mL**	**Strontium, Sr**	**199.9 ± 0.8 µg/mL**
Vanadium, V	**200.0 ± 0.8 µg/mL**	**Zinc, Zn**	**199.9 ± 0.9 µg/mL**

Density: 1.025 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
B	ICP Assay	3107	110830
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Co	ICP Assay	3113	000630 Co
Co	EDTA	928	928
Cr	ICP Assay	3112a	030730Cr3
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Li	ICP Assay	3129a	100714
Li	Gravimetric		See Sec. 4.2
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Sr	EDTA	928	928
Sr	ICP Assay	3153a	990906
V	EDTA	928	928
V	ICP Assay	3165	992706
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

November 05, 2018

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **November 05, 2022**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Reagent

MTAPITTCRA1DO_00008

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
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CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	TAPITT-CRA-1DOD
Lot Number:	N2-MEB673399
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	500 µg/mL ea: Calcium, Potassium, Sodium, Magnesium, 20 µg/mL ea: Aluminum, Barium, 10 µg/mL ea: Iron, 5 µg/mL ea: Vanadium, Strontium, Cobalt, Lithium, 4 µg/mL ea: Nickel, 2.5 µg/mL ea: Copper, 2 µg/mL ea: Thallium, Zinc, 1.5 µg/mL ea: Manganese, 1 µg/mL ea: Lead, Selenium, Arsenic, 0.5 µg/mL ea: Chromium, Cadmium, Silver, 0.4 µg/mL ea: Beryllium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	20.00 ± 0.10 µg/mL	Arsenic, As	1.000 ± 0.008 µg/mL
Barium, Ba	20.00 ± 0.10 µg/mL	Beryllium, Be	0.4000 ± 0.0025 µg/mL
Cadmium, Cd	0.5001 ± 0.0037 µg/mL	Calcium, Ca	500.1 ± 2.5 µg/mL
Chromium, Cr	0.5000 ± 0.0031 µg/mL	Cobalt, Co	4.999 ± 0.022 µg/mL
Copper, Cu	2.501 ± 0.015 µg/mL	Iron, Fe	10.00 ± 0.05 µg/mL
Lead, Pb	1.000 ± 0.005 µg/mL	Lithium, Li	5.000 ± 0.026 µg/mL
Magnesium, Mg	500.0 ± 2.5 µg/mL	Manganese, Mn	1.500 ± 0.007 µg/mL
Nickel, Ni	4.000 ± 0.024 µg/mL	Potassium, K	500.0 ± 2.4 µg/mL
Selenium, Se	1.001 ± 0.008 µg/mL	Silver, Ag	0.5002 ± 0.0040 µg/mL
Sodium, Na	500.1 ± 2.3 µg/mL	Strontium, Sr	5.000 ± 0.030 µg/mL
Thallium, Tl	2.000 ± 0.016 µg/mL	Vanadium, V	5.001 ± 0.030 µg/mL
Zinc, Zn	2.000 ± 0.012 µg/mL		

Density: 1.033 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	992212
Ag	Volhard	999b	999b
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
As	ICP Assay	3103a	100818
As	Calculated		See Sec. 4.2
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Cd	ICP Assay	3108	060531
Cd	EDTA	928	928
Co	ICP Assay	3113	000630 Co
Co	EDTA	928	928
Cr	Calculated		See Sec. 4.2
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Li	ICP Assay	3129a	100714
Li	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	050302
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Pb	Calculated		See Sec. 4.2
Se	Calculated		See Sec. 4.2
Sr	EDTA	928	928
Sr	ICP Assay	3153a	990906
Tl	Calculated		See Sec. 4.2
V	ICP Assay	3165	160906
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Low Silver Note: This solution contains “LOW” levels of Silver. Please store this entire bottle inside a sealed glass jar.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

November 05, 2018

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **November 05, 2022**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Reagent

MTAPITTICPICV_00015

3038899
ID: MTAPITTICPICV_00015
Exp: 01/30/20 Prpd: RJG
TAPITT-ICP-ICV

Reference Materials Producer
Cert #2495.01

SPEXertificate®

Certificate of Reference Material

Chemical Testing
Cert #2495.02

Catalog Number: XCAL-59-250 **Lot No.** 50-201CR

Description: Custom Assurance Standard

Matrix: 10% HNO_3 / Tr. Tart. Acid / Tr. HF

REC 1-16-19

This **ASSURANCE®** Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for analytical instrumentation such as ICP-OES, DCP, AA, ICP-MS, and XRF. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

The CRM is prepared from high purity single element concentrates of individual elements using Class A laboratory ware to give precise concentrations.

Instrumental Analysis by ICP Spectrometer:

Analyte	Labeled	Uncertainty	SRM	Analyte	Labeled	Uncertainty	SRM
K	2500 µg/mL	±50 µg/mL	3141a*	Ni	50 µg/mL	±1 µg/mL	3136*
Na	2500 µg/mL	±50 µg/mL	3152a*	Si	50 µg/mL	±1 µg/mL	3150*
Ca	1250 µg/mL	±30 µg/mL	3109a*	Sn	50 µg/mL	±1 µg/mL	3161a*
Mg	1250 µg/mL	±30 µg/mL	3131a*	Sr	50 µg/mL	±1 µg/mL	3153a*
Al	625 µg/mL	±10 µg/mL	3101a*	Ti	50 µg/mL	±1 µg/mL	3162a*
Fe	625 µg/mL	±10 µg/mL	3126a*	V	50 µg/mL	±1 µg/mL	3165*
B	50 µg/mL	±1 µg/mL	3107*	Zn	50 µg/mL	±1 µg/mL	3168a*
Ba	50 µg/mL	±1 µg/mL	3104a*	Ag	25 µg/mL	±0.5 µg/mL	3151*
Be	50 µg/mL	±1 µg/mL	3105a*	Tl	25 µg/mL	±0.5 µg/mL	3158*
Co	50 µg/mL	±1 µg/mL	3113*	As	12.5 µg/mL	±0.3 µg/mL	3103a*
Cr	50 µg/mL	±1 µg/mL	3112a*	Cd	12.5 µg/mL	±0.3 µg/mL	3108*
Cu	50 µg/mL	±1 µg/mL	3114*	Pb	12.5 µg/mL	±0.3 µg/mL	3128*
Li	50 µg/mL	±1 µg/mL	3129a*	Sb	12.5 µg/mL	±0.3 µg/mL	3102a*
Mn	50 µg/mL	±1 µg/mL	3132*	Se	12.5 µg/mL	±0.3 µg/mL	3149*
Mo	50 µg/mL	±1 µg/mL	3134*				

* - indicates NIST SRM † - indicates SPEX CertiPrep CRM (when NIST SRM is not available)

SPEX CertiPrep Reference Multi: Lot# MULTI1YP

Balances are calibrated regularly with weight sets traceable to NIST#s 32856, 32867 and others. This CRM is guaranteed stable and accurate to ±2% of the labeled value. This includes uncertainty components due to preparation, measurement, homogeneity, and short-term and long-term stability. This guarantee is valid for a period of one year from the date of certification only when the material is kept tightly capped and stored under ambient laboratory conditions.

Date of Certification: JAN - - 2019 Certifying Officer: Katherine Cullinan

Katherine Cullinan, QC Manager

Page 1 of 2
Rev. 0

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Report of Certification

This Certified Reference Material (CRM) has been prepared and certified under an ISO 9001 (certified by DQS), ISO 17025 (accredited by A2LA) and ISO 17034 (accredited by A2LA) quality system consistent with the following guides:

- ISO 9001: Quality management systems – Requirements
- ISO/IEC 17025: General requirements for the competence of testing and calibration laboratories
- ISO 17034: General requirements for the competence of reference material producers
- ISO Guide 30: Reference Materials – Selected terms and definitions
- ISO Guide 31: Reference Materials – Contents of certificates and labels
- ISO Guide 35: Reference Materials – General and principals for certification
- Guide to the Expression of Uncertainty in Measurement, 2008
- EURACHEM/CITAC Guide: Qualifying Uncertainty in Analytical Measurement – Third Edition
- NIST Technical Note 1297

Material Source:

All analytes and matrix materials are obtained and verified by SPEX CertiPrep from pre-qualified vendors as per ISO 9001, ISO 17025, and ISO 17034 guidelines. Vendor identifications are proprietary; however, sources of all materials used in the preparation and testing of SPEX CertiPrep CRMs are tracked and documented. For further assistance, please contact Sales Support at crmsales@spexcsp.com.

Instructions for Use:

Primary usage of this CRM is in neat form or diluted serially with matrix of a purity at or greater than the purity of the original matrix solution. If dilution is required, the diluent must be compatible with all certified analytes and contain stabilizers appropriate for the period of intended use. The CRM can also be used as a spike or with a spike, again with appropriate compatibility considerations. All solutions should be thoroughly mixed, by shaking, prior to use and never pipetted directly from the bottle. Do not return excess solution to the bottle. All surfaces that come in contact with the solution must be thoroughly cleaned and leached prior to use. Dilutions should be performed only with Class A volumetric glassware. See SDS for health and safety information.

Method of Preparation:

Clean laboratory procedures and techniques have been used throughout the preparation. All materials, equipment, analytical instrumentation and personnel have been qualified prior to use. The highest purity acids applicable, 18 megohm, double deionized water, acid-leached triple-rinsed bottles (where appropriate), and Class A/calibrated volumetrics have been used in all preparations.

Homogeneity:

The homogeneity of the CRM has been confirmed by procedures consistent with ISO 17025, ISO 17034, and ASTM D6362-98 Appendix X2. Random, replicate samples of the final, packaged material have been analyzed to prove homogeneity in accordance with our internal procedure 4600-HOMOGEN-1A. Since the product is highly homogeneous, any sample size taken for analysis would be within the uncertainty budget. This is consistent with the intended use of the CRM.

Statistical Estimator and Confidence Limits:

The certified value 'X' listed on the reverse of this document is at the 95% level of confidence and can be expressed as:

- $X = x \pm U$ where X=certified value, U=expanded uncertainty, x=property value
- $U = ku_c$ where k=2 is the coverage factor at the 95% confidence level
- u_c=combined standard uncertainty obtained by combining the individual element standard uncertainty components u_i, and $u_c = \sqrt{\Sigma u_i^2}$

Certification Report:

All certified values reported were derived from the Certification Report, SPEX CertiPrep's traceability documentation, identified by the lot number of this CRM. During the stated period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution. For further assistance, please contact Sales Support at crmsales@spexcsp.com.

Legal Notice:

SPEX CertiPrep reference materials are not for any cosmetic, drug or household application and are to be used only by qualified individuals who are trained in appropriate procedures. No claims against SPEX CertiPrep, LLC. of any kind whatsoever, whether based on breach of warranty, alleged negligence, or otherwise, with respect to this Reference Material shall be greater than the purchase price. In no event shall SPEX CertiPrep, LLC. be liable for any loss of profits or any incidental, special, or consequential damages.

SPEX CertiPrep®
Your Science is Our Passion®

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Reagent

MTAPITTICSADD_00018

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CERTIFICATE OF ANALYSIS

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	TAPITT-ICS-ADD
Lot Number:	N2-MEB673405
Matrix:	7% (v/v) HNO3 tr. HF
Value / Analyte(s):	10 µg/mL ea: Boron, Lithium, Silicon, Tin, Strontium, Titanium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Boron, B	**10.00 ± 0.06 µg/mL**	**Lithium, Li**	**10.00 ± 0.05 µg/mL**
Silicon, Si	**10.00 ± 0.07 µg/mL**	**Strontium, Sr**	**10.00 ± 0.06 µg/mL**
Tin, Sn	**10.00 ± 0.08 µg/mL**	**Titanium, Ti**	**10.00 ± 0.06 µg/mL**

Density: 1.034 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
B	ICP Assay	3107	110830
B	Calculated		See Sec. 4.2
Li	ICP Assay	3129a	100714
Li	Gravimetric		See Sec. 4.2
Si	ICP Assay	3150	130912
Sn	ICP Assay	3161a	140917
Sr	EDTA	928	928
Sr	ICP Assay	3153a	990906
Ti	ICP Assay	3162a	130925
Ti	Calculated		See Sec. 4.2

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

November 05, 2018

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **November 05, 2022**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Reagent

MTAPITTICSB_00013

INORGANIC VENTURES
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CERTIFICATE OF ANALYSIS

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	TAPITT-ICS-B
Lot Number:	N2-MEB666958
Matrix:	3% (v/v) HNO3
Value / Analyte(s):	100 µg/mL ea: Sodium, Potassium, 10 µg/mL ea: Zinc, Nickel, Lead, Selenium, Silver, Arsenic, Cadmium, 5 µg/mL ea: Cobalt, Chromium, Copper, Barium, Beryllium, Vanadium, Manganese

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Arsenic, As	**10.00 ± 0.06 µg/mL**	**Barium, Ba**	**5.000 ± 0.030 µg/mL**
Beryllium, Be	**5.000 ± 0.030 µg/mL**	**Cadmium, Cd**	**10.00 ± 0.06 µg/mL**
Chromium, Cr	**5.001 ± 0.026 µg/mL**	**Cobalt, Co**	**5.000 ± 0.026 µg/mL**
Copper, Cu	**5.000 ± 0.030 µg/mL**	**Lead, Pb**	**10.00 ± 0.05 µg/mL**
Manganese, Mn	**5.000 ± 0.026 µg/mL**	**Nickel, Ni**	**10.00 ± 0.06 µg/mL**
Potassium, K	**100.0 ± 0.4 µg/mL**	**Selenium, Se**	**10.00 ± 0.05 µg/mL**
Silver, Ag	**10.00 ± 0.07 µg/mL**	**Sodium, Na**	**100.0 ± 0.4 µg/mL**
Vanadium, V	**5.000 ± 0.030 µg/mL**	**Zinc, Zn**	**10.00 ± 0.06 µg/mL**

Density: 1.017 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	992212
Ag	Volhard	999c	999c
As	ICP Assay	3103a	100818
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Co	ICP Assay	3113	000630 Co
Co	EDTA	928	928
Cr	ICP Assay	3112a	030730Cr3
Cr	Calculated		See Sec. 4.2
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Se	Calculated		See Sec. 4.2
V	EDTA	928	928
V	ICP Assay	3165	992706
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Low Silver Note: This solution contains “LOW” levels of Silver. Please store this entire bottle inside a sealed glass jar.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

April 03, 2018

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **April 03, 2021**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Reagent

MTAPITTICSB1_00013

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	TAPITT-ICS-B1
Lot Number:	N2-MEB673404
Matrix:	3% (v/v) HNO3 tr. HF
Value / Analyte(s):	10 µg/mL ea: Molybdenum, Antimony

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	**10.00 ± 0.07 µg/mL**	**Molybdenum, Mo**	**10.00 ± 0.07 µg/mL**

Density: 1.013 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Mo	ICP Assay	3134	130418
Mo	Calculated		See Sec. 4.2
Sb	ICP Assay	3102a	140911
Sb	Calculated		See Sec. 4.2

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

November 05, 2018

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **November 05, 2022**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Reagent

MZN1000_00002

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: TA-1000681

SE Std Zinc (Zn) – 1000 µg/mL

Lot #: 984272-23

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty
Zn	1005 ± 3 µg/mL (w/v)
	998 ± 3 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.9999% pure zinc (Zn) metal dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3168a, lot #120629**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	3	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Tl	<2
As	6	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	12	W	<0.5
Bi	<0.2	Eu	<0.2	K	296	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	1	Tb	<0.5	Zn	MAJOR
Ce	<0.2	Gd	<0.2										

3150242
ID: MZN1000_00002
Exp. 10/01/20 Prpd: RJR
1000ppm ZINC

3150241
ID: MZN1000_00002
Exp: 10/01/20 Prpd: RJR
1000ppm ZINC

RECEIVED 4-18-19 RJR

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

April 16, 2019
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

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1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

Reagent

OPHERBRTSSURR_00010

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

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CERTIFIED REFERENCE MATERIAL

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568751 **Lot No.:** A0140416

Description : Herbicide Surrogate RTS

Herbicide Surrogate RTS 10µg/mL, Methanol, 100mL/bottle

Container Size : 100 mL **Pkg Amt:** > 100 mL

Expiration Date : August 31, 2020 **Storage:** 10°C or colder

Handling: This product is photosensitive.

3173325
ID: OPHERBRTSSURR_00010
Exp: 08/31/20 Prpd: JBF
HERBICIDE SURROOGATE RTS

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	2,4-dichlorophenylacetic acid **CAS #** 19719-28-9 (Lot S30618V) **Purity** 99%	10.0 µg/mL	+/- 0.0706 µg/mL +/- 0.5334 µg/mL +/- 0.5343 µg/mL	Gravimetric Unstressed Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

Reagent

SV LST1/STD10_00001

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ILAC-MRA

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Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569731 **Lot No.:** A0145854

Description : 8270 List 1 / Std #10

8270 List 1 / Std #10 2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : August 31, 2020 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Indene **CAS #** 95-13-6 **Purity** 98%	(Lot MKBT8433V)	2,000.2 µg/mL	+/- 11.6292 µg/mL +/- 112.1481 µg/mL +/- 114.7722 µg/mL		Gravimetric Unstressed Stressed
2	Benzoic acid **CAS #** 65-85-0 **Purity** 99%	(Lot MKCC9722)	2,000.1 µg/mL	+/- 11.6288 µg/mL +/- 112.1436 µg/mL +/- 114.7676 µg/mL		Gravimetric Unstressed Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Reagent

SV2356TCPs_00004

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ISO 9001 QS Registered
ISO 17025-34-35-43 Accredited
Scopes: http://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT

Part Number: 70315
Lot Number: 092115
Description: 2,3,5,6-Tetrachlorophenol

Solvent(s): **Lot#**
Methylene chloride 72062

Expiration Date: 092120
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 1000

Formulated By: Paul Barron 092115 DATE

Reviewed By: Pedro L. Rentas 092115 DATE

5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to (mL): 25.0 0.001 Flask Uncertainty

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty	MSDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. 2,3,5,6-Tetrachlorophenol	315	060697	1000	98	0.2	0.02551	0.02555	1001.7	0.0057	00935-95-5	N/A	N/A

Method GC8MSD-3.M: Column: SPB-5 (30m X 0.25mm ID X 0.25µm film thickness) Temp 1 = 50°C (1min.), Temp 2 = 300°C (9 min.), Rate = 10°C/min., Injector B= 200°C, Detector B = 300°C. Scan Rate = 2, Split Ratio = 100:1. Analysis performed by Lance R. Boynton.

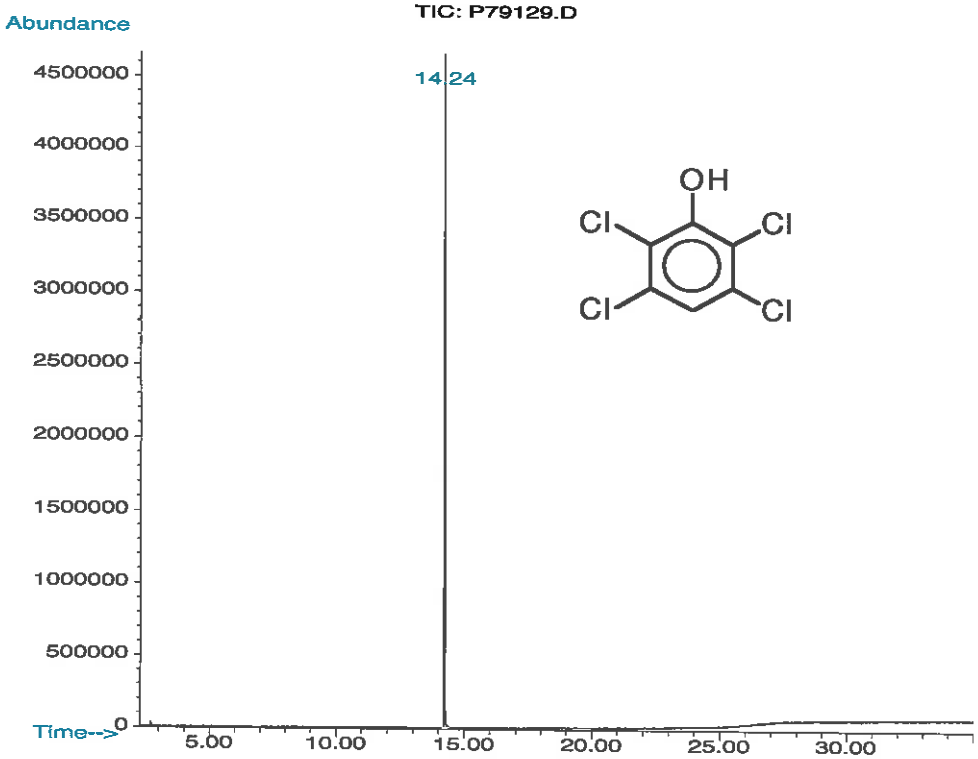

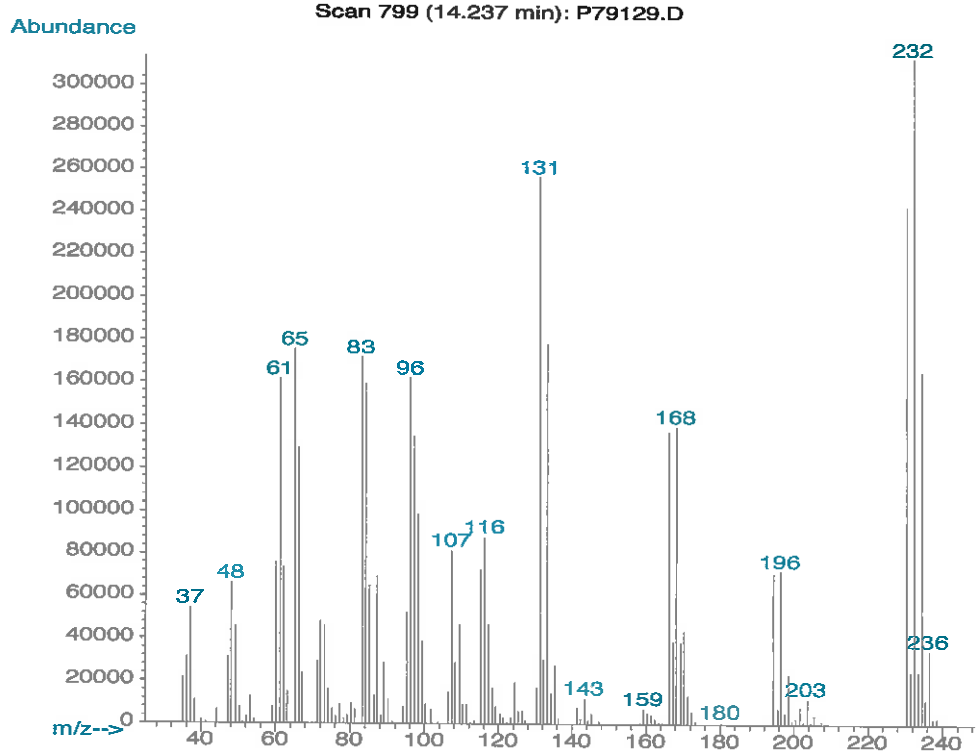

Reagent

SV2NAPAMINEs_00009

Agilent

Certificate of Analysis
ISO Guide 34

2-Naphthylamine Standard

Product Number:	EPA-1135			**Page:**	1 of 1
Lot Number:	CS-5614	**Lot Issue Date:**	19-Nov-2018	**Expiration Date:**	31-Dec-2022

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with Agilent's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
2-naphthylamine	000091-59-8	RM10617	1002 ± 5 µg/mL

Matrix: methanol (methyl alcohol)

Storage: Store at Room Temperature (15° to 30°C).

Agilent uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

Monica Bourgeois
QMS Representative

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER
ISO Guide 34 Cert No. AR-1936

Produced in accordance with TUV USA Inc 56 100 18560026 registered ISO 9001 Quality Managment System

ANAB ACCREDITED TESTING LABORATORY
ISO17025 Cert No. AT-1937

250 Smith Street North Kingstown, Rhode Island 02852 www.ultrasci.com

Reagent

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sv712dimbenza_00012

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Certified Reference Material CRM

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ISO 17025-34-35-43 Accredited
Scopes: http://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT

Part Number: 70411
Lot Number: 053116
Description: 7,12-Dimethylbenz(a)anthracene

Solvent(s): **Lot#**
Methylene chloride 76782

Expiration Date: 053121
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 1000
NIST Test ID#: 822-275872-11 5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to (mL): 100.0 0.003 Flask Uncertainty

Formulated By:		053116 DATE
Reviewed By:	Pedro L. Rentas	053116 DATE

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight (g)	Actual Weight (g)	Actual Conc(µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	MSDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. 7,12-Dimethylbenz(a)anthracene	411	GGR4E-DC	1000	98	0.2	0.10205	0.10231	1002.5	4.2	57-97-6	N/A	orl-rat 327mg/kg

Method GC8MSD-3.M: Column:SPB-5 (30m X 0.25mm ID X 0.25µm film thickness), Temp 1 = 50°C (1min.), Temp 2 = 300°C (9 min.), Rate = 10°C/min., Injector B= 200°C, Detector B = 300°C, Scan Rate = 2, Analysis performed by Candice Warren.

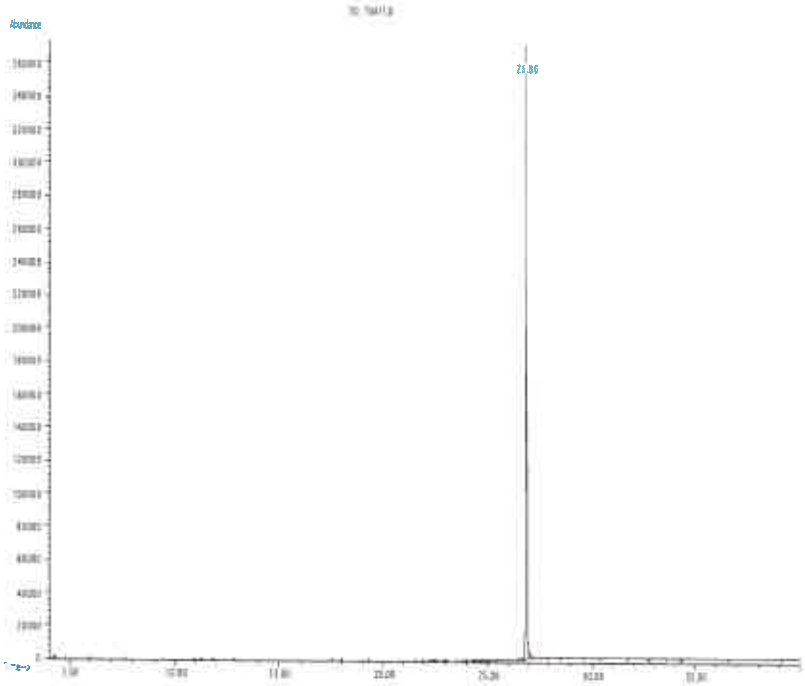

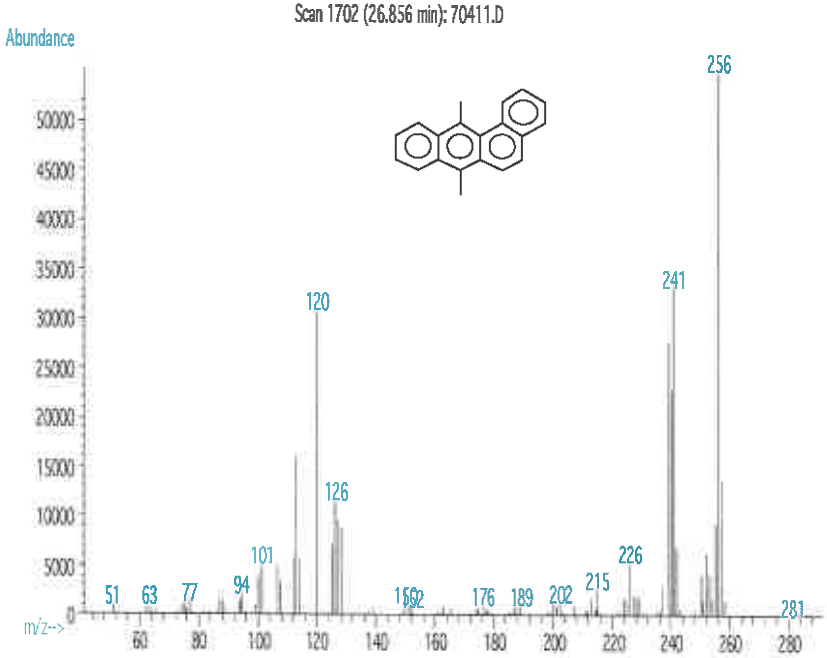

- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

Reagent

SVLIST1/STD1_00002

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Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571995 **Lot No.:** A0147571

Description : 8270 List 1 / Std #1 MegaMix (2017)

8270 List 1 / Std #1 MegaMix (2017) 500-2000µg/mL, Methylene chloride, 5mL/ampul

Container Size : **Pkg Amt:** > 5 mL

Expiration Date : September 30, 2020 **Storage:** 0°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,4-Dioxane		1,004.1 µg/mL	+/- 5.8379	µg/mL	Gravimetric
	CAS # 123-91-1	(Lot SHBJ5124)		+/- 12.0031	µg/mL	Unstressed
	Purity 99%			+/- 19.1027	µg/mL	Stressed
2	N-Nitrosodimethylamine		1,004.7 µg/mL	+/- 5.8414	µg/mL	Gravimetric
	CAS # 62-75-9	(Lot 190214JLM)		+/- 12.0102	µg/mL	Unstressed
	Purity 99%			+/- 19.1141	µg/mL	Stressed
3	Pyridine		2,005.9 µg/mL	+/- 11.6625	µg/mL	Gravimetric
	CAS # 110-86-1	(Lot SHBJ3129)		+/- 23.9787	µg/mL	Unstressed
	Purity 99%			+/- 38.1617	µg/mL	Stressed
4	Phenol		1,008.7 µg/mL	+/- 5.8647	µg/mL	Gravimetric
	CAS # 108-95-2	(Lot SHBF9719V)		+/- 12.0581	µg/mL	Unstressed
	Purity 99%			+/- 19.1902	µg/mL	Stressed
5	Aniline		1,006.5 µg/mL	+/- 5.8519	µg/mL	Gravimetric
	CAS # 62-53-3	(Lot K22Z462)		+/- 12.0318	µg/mL	Unstressed
	Purity 99%			+/- 19.1484	µg/mL	Stressed
6	Bis(2-chloroethyl)ether		1,006.2 µg/mL	+/- 5.8501	µg/mL	Gravimetric
	CAS # 111-44-4	(Lot SHBJ2059)		+/- 12.0282	µg/mL	Unstressed
	Purity 99%			+/- 19.1427	µg/mL	Stressed
7	n-Decane (C10)		1,008.6 µg/mL	+/- 5.8641	µg/mL	Gravimetric
	CAS # 124-18-5	(Lot SHBK4937)		+/- 12.0569	µg/mL	Unstressed
	Purity 99%			+/- 19.1883	µg/mL	Stressed

24	Bis(2-chloroethoxy)methane		1,002.7	µg/mL	+/-	5.8298	µg/mL	Gravimetric
	CAS # 111-91-1	(Lot 8238500)			+/-	11.9863	µg/mL	Unstressed
	Purity 99%				+/-	19.0761	µg/mL	Stressed
25	2,4-Dichlorophenol		1,005.3	µg/mL	+/-	5.8449	µg/mL	Gravimetric
	CAS # 120-83-2	(Lot BCBJ8113V)			+/-	12.0174	µg/mL	Unstressed
	Purity 99%				+/-	19.1255	µg/mL	Stressed
26	1,2,4-Trichlorobenzene		1,005.9	µg/mL	+/-	5.8484	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBJ9215)			+/-	12.0246	µg/mL	Unstressed
	Purity 99%				+/-	19.1370	µg/mL	Stressed
27	Naphthalene		1,002.3	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBZ8680V)			+/-	11.9816	µg/mL	Unstressed
	Purity 99%				+/-	19.0685	µg/mL	Stressed
28	2,6-Dichlorophenol		1,005.4	µg/mL	+/-	5.8455	µg/mL	Gravimetric
	CAS # 87-65-0	(Lot MKBP8620V)			+/-	12.0186	µg/mL	Unstressed
	Purity 99%				+/-	19.1274	µg/mL	Stressed
29	4-Chloroaniline		1,005.1	µg/mL	+/-	5.8437	µg/mL	Gravimetric
	CAS # 106-47-8	(Lot BCBJ1580V)			+/-	12.0150	µg/mL	Unstressed
	Purity 99%				+/-	19.1217	µg/mL	Stressed
30	Hexachlorobutadiene		1,005.8	µg/mL	+/-	5.8478	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot J31X013)			+/-	12.0234	µg/mL	Unstressed
	Purity 99%				+/-	19.1351	µg/mL	Stressed
31	4-Chloro-3-methylphenol		1,008.2	µg/mL	+/-	5.8618	µg/mL	Gravimetric
	CAS # 59-50-7	(Lot STBC7309V)			+/-	12.0521	µg/mL	Unstressed
	Purity 99%				+/-	19.1807	µg/mL	Stressed
32	2-Methylnaphthalene		1,004.7	µg/mL	+/-	5.8416	µg/mL	Gravimetric
	CAS # 91-57-6	(Lot STBG8884)			+/-	12.0107	µg/mL	Unstressed
	Purity 96%				+/-	19.1148	µg/mL	Stressed
33	1-Methylnaphthalene		1,008.5	µg/mL	+/-	5.8635	µg/mL	Gravimetric
	CAS # 90-12-0	(Lot 525000-9)			+/-	12.0557	µg/mL	Unstressed
	Purity 99%				+/-	19.1864	µg/mL	Stressed
34	1,2,4,5-Tetrachlorobenzene		1,001.7	µg/mL	+/-	5.8240	µg/mL	Gravimetric
	CAS # 95-94-3	(Lot MKBW7717V)			+/-	11.9744	µg/mL	Unstressed
	Purity 99%				+/-	19.0571	µg/mL	Stressed
35	Hexachlorocyclopentadiene		1,004.2	µg/mL	+/-	5.8385	µg/mL	Gravimetric
	CAS # 77-47-4	(Lot 0012015)			+/-	12.0043	µg/mL	Unstressed
	Purity 99%				+/-	19.1046	µg/mL	Stressed
36	2,4,6-Trichlorophenol		1,005.4	µg/mL	+/-	5.8455	µg/mL	Gravimetric
	CAS # 88-06-2	(Lot STBF3742V)			+/-	12.0186	µg/mL	Unstressed
	Purity 99%				+/-	19.1274	µg/mL	Stressed
37	2,4,5-Trichlorophenol		1,003.8	µg/mL	+/-	5.8362	µg/mL	Gravimetric
	CAS # 95-95-4	(Lot FHN01)			+/-	11.9995	µg/mL	Unstressed
	Purity 99%				+/-	19.0970	µg/mL	Stressed
38	2-Chloronaphthalene		1,006.4	µg/mL	+/-	5.8513	µg/mL	Gravimetric
	CAS # 91-58-7	(Lot AJ2UI)			+/-	12.0306	µg/mL	Unstressed
	Purity 99%				+/-	19.1465	µg/mL	Stressed
39	Biphenyl		1,006.9	µg/mL	+/-	5.8542	µg/mL	Gravimetric
	CAS # 92-52-4	(Lot MKCD8504)			+/-	12.0365	µg/mL	Unstressed
	Purity 99%				+/-	19.1560	µg/mL	Stressed

56	4-Nitroaniline **CAS #** 100-01-6 **Purity** 99%	(Lot BCBT9940)	1,006.8	µg/mL	+/-	5.8536 12.0353 19.1541	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
57	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol) **CAS #** 534-52-1 **Purity** 99%	(Lot LRAC0549)	2,008.4	µg/mL	+/-	11.6770 24.0085 38.2092	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
58	Diphenylamine **CAS #** 122-39-4 **Purity** 99%	(Lot MKBN8295V)	852.7	µg/mL	+/-	4.9691 10.1988 16.2259	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
59	Azobenzene **CAS #** 103-33-3 **Purity** 99%	(Lot BCBW2006)	1,001.4	µg/mL	+/-	5.8222 11.9708 19.0513	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
60	4-Bromophenyl phenyl ether **CAS #** 101-55-3 **Purity** 99%	(Lot STBB9729V)	1,005.8	µg/mL	+/-	5.8478 12.0234 19.1351	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
61	Hexachlorobenzene **CAS #** 118-74-1 **Purity** 99%	(Lot 7990700)	1,004.8	µg/mL	+/-	5.8420 12.0114 19.1160	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
62	Pentachlorophenol **CAS #** 87-86-5 **Purity** 99%	(Lot 190227CGKJ)	2,010.3	µg/mL	+/-	11.6881 24.0313 38.2454	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
63	n-Octadecane (C18) **CAS #** 593-45-3 **Purity** 99%	(Lot O8LZH)	1,007.4	µg/mL	+/-	5.8571 12.0425 19.1655	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
64	Phenanthrene **CAS #** 85-01-8 **Purity** 99%	(Lot MKCD3760)	1,009.2	µg/mL	+/-	5.8676 12.0640 19.1997	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
65	Anthracene **CAS #** 120-12-7 **Purity** 99%	(Lot MKCC7378)	1,004.6	µg/mL	+/-	5.8408 12.0091 19.1122	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
66	Carbazole **CAS #** 86-74-8 **Purity** 99%	(Lot 8210200)	1,004.7	µg/mL	+/-	5.8414 12.0102 19.1141	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
67	Di-n-butylphthalate **CAS #** 84-74-2 **Purity** 99%	(Lot MKBW8599V)	1,009.5	µg/mL	+/-	5.8693 12.0676 19.2054	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
68	Fluoranthene **CAS #** 206-44-0 **Purity** 98%	(Lot MKBQ6360V)	1,007.3	µg/mL	+/-	5.8568 12.0418 19.1644	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
69	Pyrene **CAS #** 129-00-0 **Purity** 99%	(Lot BCBW7698)	1,000.7	µg/mL	+/-	5.8182 11.9624 19.0380	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
70	Benzyl butyl phthalate **CAS #** 85-68-7 **Purity** 99%	(Lot MKCF0058)	1,008.5	µg/mL	+/-	5.8635 12.0557 19.1864	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
71	Benz(a)anthracene **CAS #** 56-55-3 **Purity** 96%	(Lot 0022018)	1,007.1	µg/mL	+/-	5.8556 12.0394 19.1605	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID

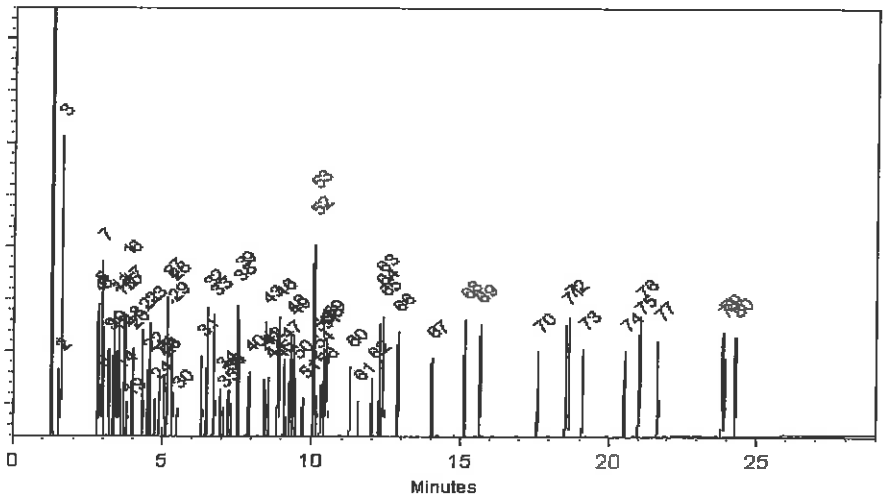

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cydnei L. Crust
Cydnei L. Crust - Mix Technician

Date Mixed: 28-Mar-2019 **Balance:** B442140311

Fang-Yun Lo - QC Analyst

Date Passed: 01-May-2019

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

SVLIST1/STD11_00003

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569732 **Lot No.:** A0147257

Description : 8270 List 1 / Std #11

8270 List 1 / Std #11 2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : September 30, 2020 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Benzaldehyde **CAS #** 100-52-7 (Lot SHBJ3062) **Purity** 99%	2,004.5 µg/mL	+/- 11.6543 µg/mL +/- 64.2556 µg/mL +/- 74.6946 µg/mL	Gravimetric Unstressed Stressed
2	epsilon-Caprolactam **CAS #** 105-60-2 (Lot I16X016) **Purity** 99%	2,001.7 µg/mL	+/- 11.6381 µg/mL +/- 64.1658 µg/mL +/- 74.5903 µg/mL	Gravimetric Unstressed Stressed
3	Atrazine **CAS #** 1912-24-9 (Lot 77P7D) **Purity** 99%	2,002.2 µg/mL	+/- 11.6410 µg/mL +/- 64.1818 µg/mL +/- 74.6089 µg/mL	Gravimetric Unstressed Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Reagent

SVLIST1/STD9_00004

110 Benner Circle
Bellefonte, PA 16823-8812
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CERTIFIED REFERENCE MATERIAL

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569730 **Lot No.:** A0145230

Description : 8270 List 1 / Std #9

8270 List 1 / Std #9 2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : July 31, 2020 **Storage:** 10°C or colder

Handling: Contains carcinogen/reproductive toxin.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Benzidine **CAS #** 92-87-5 (Lot 190115JACG) **Purity** 99%	2,009.3 µg/mL	+/- 11.6822 µg/mL +/- 24.0193 µg/mL +/- 38.2264 µg/mL	Gravimetric Unstressed Stressed
2	3,3'-Dichlorobenzidine **CAS #** 91-94-1 (Lot 190104JACG) **Purity** 99%	2,004.5 µg/mL	+/- 11.6543 µg/mL +/- 23.9619 µg/mL +/- 38.1350 µg/mL	Gravimetric Unstressed Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Reagent

SVLVIntstd_00010

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567684 **Lot No.:** A0141743

Description : 8270 Internal Standard

8270 Internal Standard 2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : September 30, 2023 **Storage:** 10°C or colder

Handling: Sonication required. Mix is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dichlorobenzene-d4 **CAS #** 3855-82-1 (Lot PR-18488) **Purity** 99%	2,008.7 µg/mL	+/- 11.6788 µg/mL +/- 90.4731 µg/mL +/- 100.3910 µg/mL	Gravimetric Unstressed Stressed
2	Naphthalene-d8 **CAS #** 1146-65-2 (Lot M-1452) **Purity** 99%	2,009.2 µg/mL	+/- 11.6817 µg/mL +/- 90.4956 µg/mL +/- 100.4160 µg/mL	Gravimetric Unstressed Stressed
3	Acenaphthene-d10 **CAS #** 15067-26-2 (Lot PR-28021) **Purity** 99%	2,008.3 µg/mL	+/- 11.6764 µg/mL +/- 90.4550 µg/mL +/- 100.3710 µg/mL	Gravimetric Unstressed Stressed
4	Phenanthrene-d10 **CAS #** 1517-22-2 (Lot PR-23065) **Purity** 98%	2,007.3 µg/mL	+/- 11.6708 µg/mL +/- 90.4115 µg/mL +/- 100.3228 µg/mL	Gravimetric Unstressed Stressed
5	Chrysene-d12 **CAS #** 1719-03-5 (Lot PR-28823) **Purity** 99%	2,006.0 µg/mL	+/- 11.6631 µg/mL +/- 90.3514 µg/mL +/- 100.2561 µg/mL	Gravimetric Unstressed Stressed
6	Perylene-d12 **CAS #** 1520-96-3 (Lot PR-27342) **Purity** 99%	2,008.6 µg/mL	+/- 11.6782 µg/mL +/- 90.4685 µg/mL +/- 100.3860 µg/mL	Gravimetric Unstressed Stressed

Reagent

SVLVSURRSPK_00021

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CERTIFIED REFERENCE MATERIAL

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Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567685 **Lot No.:** A0123269

Description : 8270 Surrogate Standard

8270 Surrogate Standard 5,000 ug/ml, Methylene Chloride, 5 ml/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : December 31, 2021 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

C E R T I F I E D V A L U E S

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2-Fluorophenol		5,017.0 µg/mL	+/- 29.1677	µg/mL	Gravimetric
	CAS # 367-12-4	(Lot STBD7945V)		+/- 146.4126	µg/mL	Unstressed
	Purity 99%			+/- 177.6661	µg/mL	Stressed
2	Phenol-d5		4,965.4 µg/mL	+/- 28.8690	µg/mL	Gravimetric
	CAS # 4165-62-2	(Lot X-479)		+/- 144.9056	µg/mL	Unstressed
	Purity 99%			+/- 175.8373	µg/mL	Stressed
3	Nitrobenzene-d5		5,019.4 µg/mL	+/- 29.1814	µg/mL	Gravimetric
	CAS # 4165-60-0	(Lot PR-25462)		+/- 146.4812	µg/mL	Unstressed
	Purity 99%			+/- 177.7494	µg/mL	Stressed
4	2-Fluorobiphenyl		5,031.5 µg/mL	+/- 29.2518	µg/mL	Gravimetric
	CAS # 321-60-8	(Lot 10194342)		+/- 146.8343	µg/mL	Unstressed
	Purity 99%			+/- 178.1779	µg/mL	Stressed
5	2,4,6-Tribromophenol		5,026.7 µg/mL	+/- 29.2238	µg/mL	Gravimetric
	CAS # 118-79-6	(Lot 29699MJV)		+/- 146.6942	µg/mL	Unstressed
	Purity 99%			+/- 178.0079	µg/mL	Stressed
6	p-Terphenyl-d14		5,029.2 µg/mL	+/- 29.2387	µg/mL	Gravimetric
	CAS # 1718-51-0	(Lot PR-21037)		+/- 146.7686	µg/mL	Unstressed
	Purity 99%			+/- 178.0982	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Tech Tips:
Due to the limited solubility of p-terphenyl-d14 in methanol, we do not recommend that this mixture be diluted in methanol.

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID

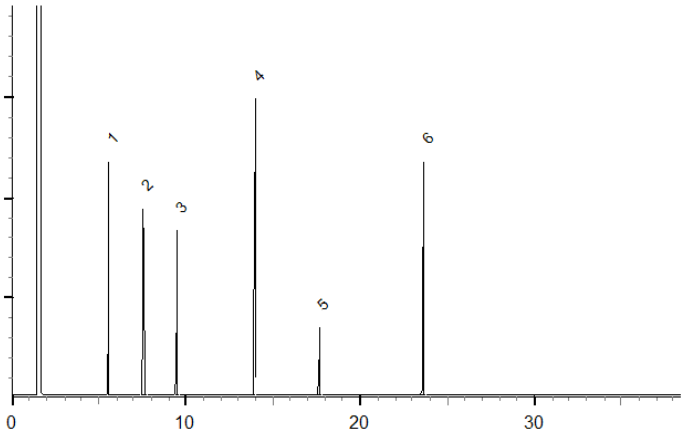

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Dawn Brownson - Mix Technician

Date Mixed: 06-Dec-2016 **Balance:** B345965662

Justine Albertson - Operations Tech-ARM QC

Date Passed: 08-Dec-2016

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

SVLVSURSPK_00008

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CERTIFIED REFERENCE MATERIAL

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Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567685 **Lot No.:** A0143524

Description : 8270 Surrogate Standard

8270 Surrogate Standard 5,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : November 30, 2023 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	2-Fluorophenol **CAS #** 367-12-4 **Purity** 99%	(Lot STBF3761V)	4,998.8 µg/mL	+/- 29.0635 µg/mL +/- 145.8817 µg/mL +/- 177.0219 µg/mL	Gravimetric Unstressed Stressed
2	Phenol-d5 **CAS #** 4165-62-2 **Purity** 99%	(Lot CD-105)	5,018.9 µg/mL	+/- 29.1801 µg/mL +/- 146.4674 µg/mL +/- 177.7325 µg/mL	Gravimetric Unstressed Stressed
3	Nitrobenzene-d5 **CAS #** 4165-60-0 **Purity** 99%	(Lot PR-29603)	5,009.3 µg/mL	+/- 29.1243 µg/mL +/- 146.1872 µg/mL +/- 177.3925 µg/mL	Gravimetric Unstressed Stressed
4	2-Fluorobiphenyl **CAS #** 321-60-8 **Purity** 99%	(Lot M09E045)	5,024.7 µg/mL	+/- 29.2138 µg/mL +/- 146.6366 µg/mL +/- 177.9379 µg/mL	Gravimetric Unstressed Stressed
5	2,4,6-Tribromophenol **CAS #** 118-79-6 **Purity** 99%	(Lot 29699MJV)	5,012.1 µg/mL	+/- 29.1410 µg/mL +/- 146.2708 µg/mL +/- 177.4940 µg/mL	Gravimetric Unstressed Stressed
6	p-Terphenyl-d14 **CAS #** 1718-51-0 **Purity** 99%	(Lot B180320L)	5,022.9 µg/mL	+/- 29.2038 µg/mL +/- 146.5860 µg/mL +/- 177.8765 µg/mL	Gravimetric Unstressed Stressed

Reagent

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svmethylmetha_00012

Absolute Standards, Inc.
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Analytical Reference Material ARM

ISO 9001 QS Registered
ISO 17025-34-35-43 Accredited
Scopes: http://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT

Part Number: 70443
Lot Number: 032717
Description: Methyl methane sulfonate

Solvent(s): **Lot#**
Methylene chloride 76782

Expiration Date: 032722
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 1000
NIST Test ID#: 822-275872-11 5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to (mL): 25.0 0.001 Flask Uncertainty

Formulated By: Bryan Njeba	032717	DATE
Reviewed By: Pedro L. Rentas	032717	DATE

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight (g)	Actual Weight (g)	Actual Conc(µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	CAS#	OSHA PEL (TWA)	LD50
1. Methyl methane sulfonate	443	07322PW	1000	99	0.2	0.02525	0.02527	1000.8	5.7	66-27-3	N/A	orl-rat 225mg/kg

MSDS Information (Solvent Safety Info. On Attached pg.)

Method GC6MSD-1: Column: Vocol (60m X 0.25mm ID X 1.5µm film thickness). Temp. 1=35°C (10min.), Temp. 2=200°C (8.75 min.), Rate=4°C/min., Injector Temp.=200°C, Detector Temp.=220°C. Analysis performed by Pedro Rentas.

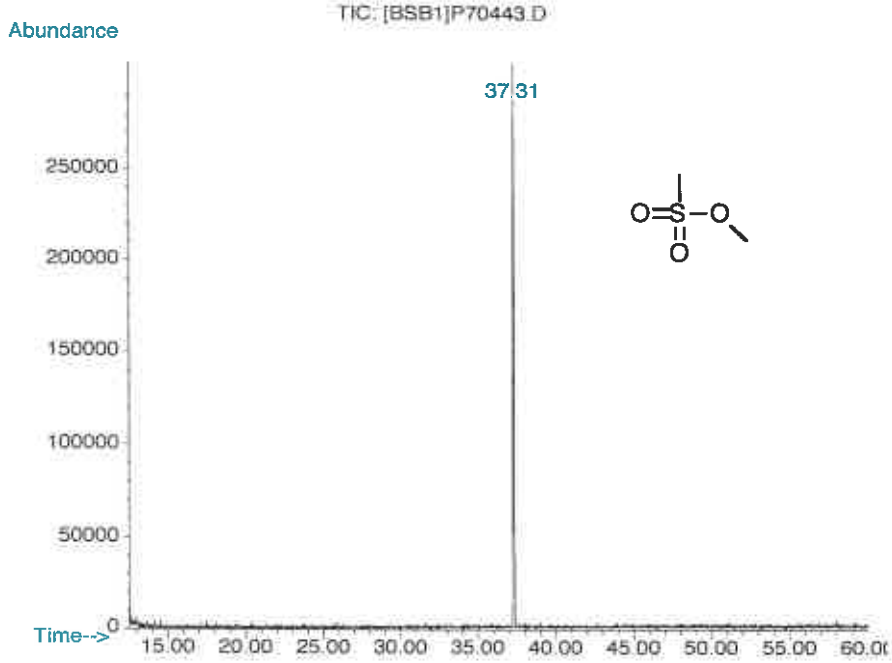

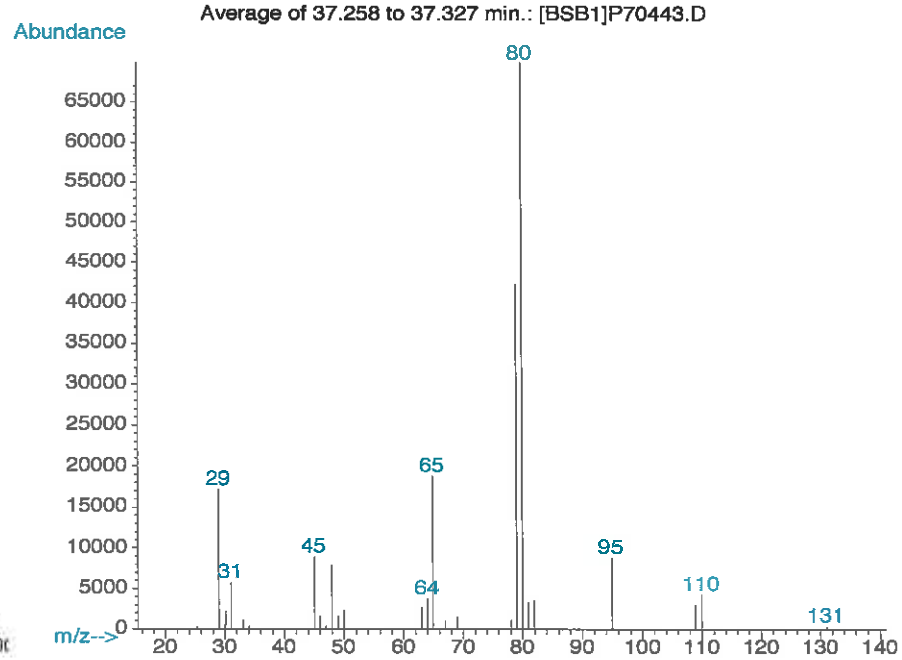

- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

Reagent

SVNNITROPYROs_00019

Absolute Standards, Inc.
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www.absolutestandards.com

Certified Reference Material CRM

ISO 9001 QS Registered
ISO 17025-34-35-43 Accredited
Scopes: http://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT

Part Number: 70451
Lot Number: 110618
Description: N-Nitrosopyrrolidine

Solvent(s): Methylene chloride **Lot#** 102669

Expiration Date: 110621
Recommended Storage: Freezer (0 °C)
Nominal Concentration (µg/mL): 1000
NIST Test ID#: 2684186

5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to (mL): 25.0 0.001 Flask Uncertainty

Formulated By:	Eli Aliaga	110618 DATE
Reviewed By:	Pedro L. Rentas	110618 DATE

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight (g)	Actual Weight (g)	Actual Conc(µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. N-Nitrosopyrrolidine	451	04025BM	1000	99	0.2	0.02525	0.02527	1000.8	5.7	930-55-2	N/A	ori-rat 900mg/kg

Method GC8MSD-3.M: Column:SPB-5 (30m X 0.25mm ID X 0.25µm film thickness) Temp 1 = 50°C (1min.), Temp 2 = 300°C (9min.), Rate = 10°C/min., Injector B= 200°C, Detector B = 275°C, Split Ratio = 100:1, Scan Rate = 2. Analysis performed by: Candice Warren.

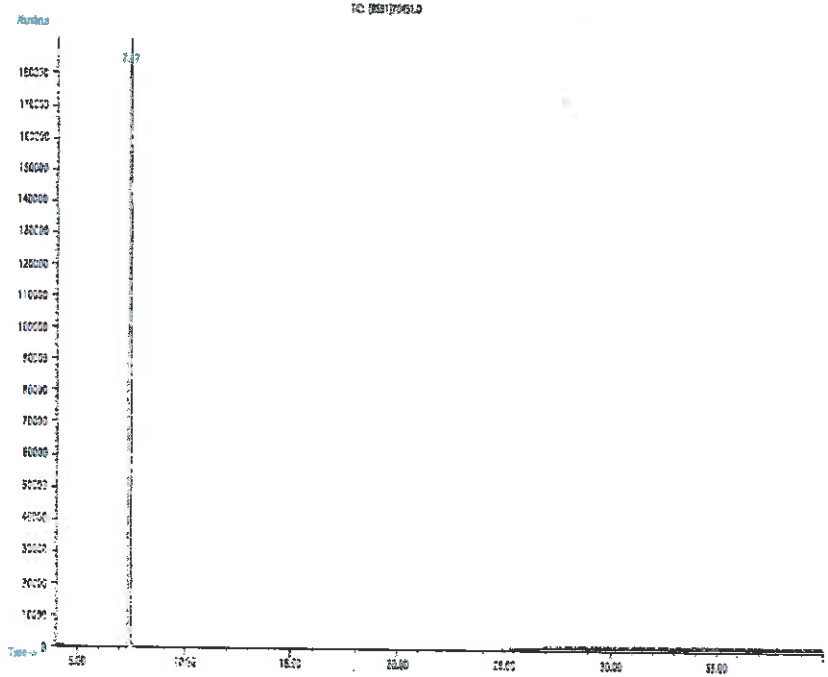

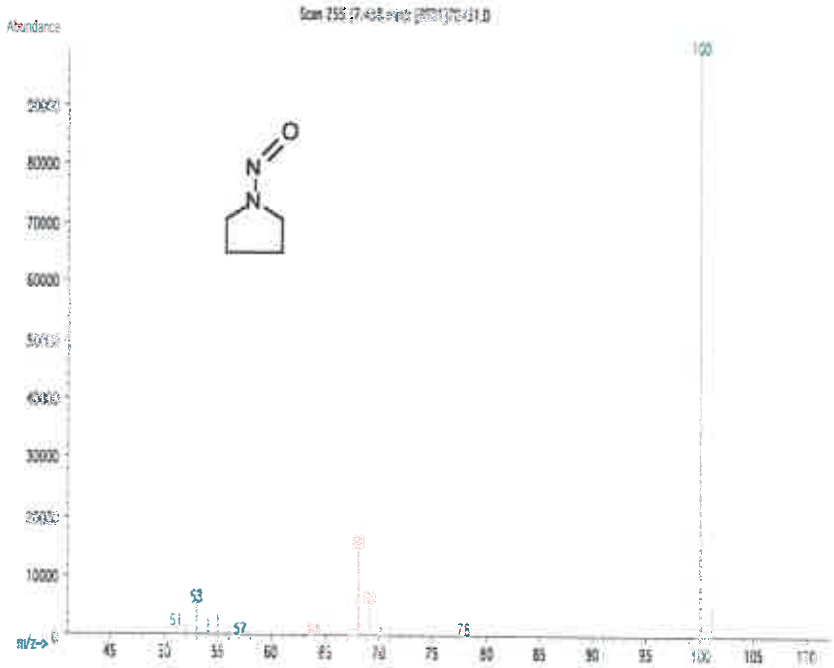

- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

Reagent

SVSEC L1/STD1_00001

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571995.SEC **Lot No.:** A0138890

Description : 8270 List 1 / Std #1 MegaMix (2017)

8270 List 1 / Std #1 MegaMix (2017) 500-2,000µg/mL, Methylene chloride, 5mL/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : December 31, 2019 **Storage:** 0°C or colder

Handling: Carcinogen/reproductive toxin, Photosensitive, Sonicate.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dioxane CAS # 123-91-1.SEC (Lot MUFZH) Purity 99%	1,006.2 µg/mL	+/- 5.8637 µg/mL +/- 12.0348 µg/mL +/- 19.1468 µg/mL	Gravimetric Unstressed Stressed
2	N-Nitrosodimethylamine CAS # 62-75-9.SEC (Lot 61H72) Purity 99%	1,000.6 µg/mL	+/- 5.8310 µg/mL +/- 11.9678 µg/mL +/- 19.0402 µg/mL	Gravimetric Unstressed Stressed
3	Pyridine CAS # 110-86-1.SEC (Lot QN8DK) Purity 99%	2,007.0 µg/mL	+/- 11.6689 µg/mL +/- 23.9918 µg/mL +/- 38.1826 µg/mL	Gravimetric Unstressed Stressed
4	Phenol CAS # 108-95-2.SEC (Lot EDPYN) Purity 99%	1,010.0 µg/mL	+/- 5.8858 µg/mL +/- 12.0802 µg/mL +/- 19.2191 µg/mL	Gravimetric Unstressed Stressed
5	Aniline CAS # 62-53-3.SEC (Lot ZCD3N) Purity 99%	1,002.2 µg/mL	+/- 5.8403 µg/mL +/- 11.9869 µg/mL +/- 19.0707 µg/mL	Gravimetric Unstressed Stressed
6	Bis(2-chloroethyl)ether CAS # 111-44-4.SEC (Lot FA010143) Purity 99%	1,006.8 µg/mL	+/- 5.8671 µg/mL +/- 12.0419 µg/mL +/- 19.1582 µg/mL	Gravimetric Unstressed Stressed
7	n-Decane (C10) CAS # 124-18-5.SEC (Lot UCVNN) Purity 99%	1,007.0 µg/mL	+/- 5.8683 µg/mL +/- 12.0443 µg/mL +/- 19.1620 µg/mL	Gravimetric Unstressed Stressed

24	Bis(2-chloroethoxy)methane **CAS #** 111-91-1 * **Purity** 99%	(Lot 4621000)	1,008.0	µg/mL	+/- +/- +/-	5.8741 12.0563 19.1811	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
25	2,4-Dichlorophenol **CAS #** 120-83-2.SEC **Purity** 99%	(Lot FHM01)	1,009.2	µg/mL	+/- +/- +/-	5.8811 12.0706 19.2039	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
26	1,2,4-Trichlorobenzene **CAS #** 120-82-1.SEC **Purity** 99%	(Lot 3LYYC)	1,007.0	µg/mL	+/- +/- +/-	5.8683 12.0443 19.1620	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
27	Naphthalene **CAS #** 91-20-3.SEC **Purity** 99%	(Lot SKZ5N)	1,003.2	µg/mL	+/- +/- +/-	5.8462 11.9989 19.0897	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
28	2,6-Dichlorophenol **CAS #** 87-65-0.SEC **Purity** 99%	(Lot SIDBB)	1,003.8	µg/mL	+/- +/- +/-	5.8497 12.0061 19.1011	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
29	4-Chloroaniline **CAS #** 106-47-8.SEC **Purity** 99%	(Lot 10171860)	1,002.2	µg/mL	+/- +/- +/-	5.8403 11.9869 19.0707	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
30	Hexachlorobutadiene **CAS #** 87-68-3.SEC **Purity** 97%	(Lot 6878400)	1,009.0	µg/mL	+/- +/- +/-	5.8799 12.0682 19.2000	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
31	4-Chloro-3-methylphenol **CAS #** 59-50-7.SEC **Purity** 99%	(Lot FDO02)	1,007.4	µg/mL	+/- +/- +/-	5.8706 12.0491 19.1696	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
32	2-Methylnaphthalene **CAS #** 91-57-6.SEC **Purity** 98%	(Lot 76023-1)	1,010.0	µg/mL	+/- +/- +/-	5.8857 12.0801 19.2189	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
33	1-Methylnaphthalene **CAS #** 90-12-0.SEC **Purity** 99%	(Lot OEE3F)	1,007.4	µg/mL	+/- +/- +/-	5.8706 12.0491 19.1696	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
34	1,2,4,5-Tetrachlorobenzene **CAS #** 95-94-3.SEC **Purity** 99%	(Lot AF02)	1,003.4	µg/mL	+/- +/- +/-	5.8473 12.0013 19.0935	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
35	Hexachlorocyclopentadiene **CAS #** 77-47-4.SEC **Purity** 99%	(Lot 6975000)	1,008.4	µg/mL	+/- +/- +/-	5.8765 12.0611 19.1887	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
36	2,4,6-Trichlorophenol **CAS #** 88-06-2.SEC **Purity** 98%	(Lot UUMYM)	1,009.6	µg/mL	+/- +/- +/-	5.8834 12.0754 19.2114	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
37	2,4,5-Trichlorophenol **CAS #** 95-95-4.SEC **Purity** 99%	(Lot MKBQ9937V)	1,004.8	µg/mL	+/- +/- +/-	5.8555 12.0180 19.1202	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
38	2-Chloronaphthalene **CAS #** 91-58-7.SEC **Purity** 99%	(Lot 6779200)	1,005.0	µg/mL	+/- +/- +/-	5.8567 12.0204 19.1240	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
39	Biphenyl **CAS #** 92-52-4.SEC **Purity** 99%	(Lot 33OQE)	1,009.4	µg/mL	+/- +/- +/-	5.8823 12.0730 19.2077	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

56	4-Nitroaniline			1,002.0	µg/mL	+/-	5.8392	µg/mL	Gravimetric
	CAS #	100-01-6.SEC	(Lot 5ITRC)			+/-	11.9845	µg/mL	Unstressed
	Purity	99%				+/-	19.0669	µg/mL	Stressed
57	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)			2,005.2	µg/mL	+/-	11.6584	µg/mL	Gravimetric
	CAS #	534-52-1.SEC	(Lot 3256700)			+/-	23.9703	µg/mL	Unstressed
	Purity	99%				+/-	38.1483	µg/mL	Stressed
58	Diphenylamine			853.0	µg/mL	+/-	4.9709	µg/mL	Gravimetric
	CAS #	122-39-4.SEC	(Lot 10164691)			+/-	10.2024	µg/mL	Unstressed
	Purity	99%				+/-	16.2316	µg/mL	Stressed
59	Azobenzene			1,006.0	µg/mL	+/-	5.8625	µg/mL	Gravimetric
	CAS #	103-33-3.SEC	(Lot JUWAG)			+/-	12.0324	µg/mL	Unstressed
	Purity	99%				+/-	19.1430	µg/mL	Stressed
60	4-Bromophenyl phenyl ether			1,008.2	µg/mL	+/-	5.8753	µg/mL	Gravimetric
	CAS #	101-55-3.SEC	(Lot 84C6D)			+/-	12.0587	µg/mL	Unstressed
	Purity	99%				+/-	19.1849	µg/mL	Stressed
61	Hexachlorobenzene			1,001.6	µg/mL	+/-	5.8368	µg/mL	Gravimetric
	CAS #	118-74-1.SEC	(Lot G137934)			+/-	11.9797	µg/mL	Unstressed
	Purity	99%				+/-	19.0593	µg/mL	Stressed
62	Pentachlorophenol			2,018.0	µg/mL	+/-	11.7328	µg/mL	Gravimetric
	CAS #	87-86-5.SEC	(Lot 6143700)			+/-	24.1233	µg/mL	Unstressed
	Purity	99%				+/-	38.3919	µg/mL	Stressed
63	n-Octadecane (C18)			1,008.0	µg/mL	+/-	5.8741	µg/mL	Gravimetric
	CAS #	593-45-3.SEC	(Lot G14U045)			+/-	12.0563	µg/mL	Unstressed
	Purity	99%				+/-	19.1811	µg/mL	Stressed
64	Phenanthrene			1,001.6	µg/mL	+/-	5.8366	µg/mL	Gravimetric
	CAS #	85-01-8.SEC	(Lot 7248800)			+/-	11.9793	µg/mL	Unstressed
	Purity	98%				+/-	19.0585	µg/mL	Stressed
65	Anthracene			1,002.6	µg/mL	+/-	5.8427	µg/mL	Gravimetric
	CAS #	120-12-7.SEC	(Lot WDFNJ)			+/-	11.9917	µg/mL	Unstressed
	Purity	99%				+/-	19.0783	µg/mL	Stressed
66	Carbazole			1,005.6	µg/mL	+/-	5.8602	µg/mL	Gravimetric
	CAS #	86-74-8.SEC	(Lot LMIZB)			+/-	12.0276	µg/mL	Unstressed
	Purity	99%				+/-	19.1354	µg/mL	Stressed
67	Di-n-butylphthalate			1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS #	84-74-2.SEC	(Lot 42FSG)			+/-	11.9606	µg/mL	Unstressed
	Purity	99%				+/-	19.0288	µg/mL	Stressed
68	Fluoranthene			1,008.8	µg/mL	+/-	5.8788	µg/mL	Gravimetric
	CAS #	206-44-0.SEC	(Lot FREGF)			+/-	12.0659	µg/mL	Unstressed
	Purity	99%				+/-	19.1963	µg/mL	Stressed
69	Pyrene			1,003.6	µg/mL	+/-	5.8485	µg/mL	Gravimetric
	CAS #	129-00-0.SEC	(Lot ROVJC)			+/-	12.0037	µg/mL	Unstressed
	Purity	99%				+/-	19.0973	µg/mL	Stressed
70	Benzyl butyl phthalate			1,002.0	µg/mL	+/-	5.8389	µg/mL	Gravimetric
	CAS #	85-68-7.SEC	(Lot GX3GL)			+/-	11.9839	µg/mL	Unstressed
	Purity	98%				+/-	19.0660	µg/mL	Stressed
71	Benz(a)anthracene			1,000.6	µg/mL	+/-	5.8310	µg/mL	Gravimetric
	CAS #	56-55-3.SEC	(Lot MTENF)			+/-	11.9678	µg/mL	Unstressed
	Purity	99%				+/-	19.0402	µg/mL	Stressed

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID

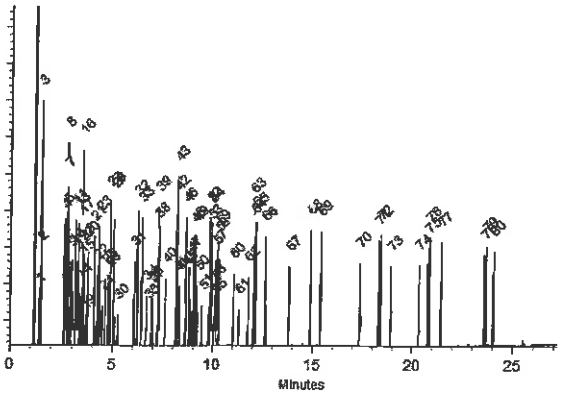

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Lane Klbe - Mix Technician

Date Mixed: 14-Jun-2018 **Balance:** B345965662

Justine Albertson - Operations Tech-ARM QC

Date Passed: 21-Jun-2018

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

Reagent

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svTCLPacids_00010

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
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Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31027 **Lot No.:** A0134153

Description : TCLP Acid Mix

TCLP Acids Method 1311 Std 2000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 28, 2021 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	2-Methylphenol (o-cresol) **CAS #** 95-48-7 **Purity** 99%	(Lot SHBC1479V)	2,010.0 µg/mL	+/- 11.7958 µg/mL +/- 58.6804 µg/mL +/- 71.1979 µg/mL	Gravimetric Unstressed Stressed
2	3-Methylphenol (m-cresol) **CAS #** 108-39-4 **Purity** 99%	(Lot SHBD0627V)	2,008.0 µg/mL	+/- 11.7841 µg/mL +/- 58.6221 µg/mL +/- 71.1271 µg/mL	Gravimetric Unstressed Stressed
3	4-Methylphenol (p-cresol) **CAS #** 106-44-5 **Purity** 99%	(Lot 49396APV)	2,000.0 µg/mL	+/- 11.7371 µg/mL +/- 58.3885 µg/mL +/- 70.8437 µg/mL	Gravimetric Unstressed Stressed
4	2,4,5-Trichlorophenol **CAS #** 95-95-4 **Purity** 99%	(Lot FHN01)	2,008.0 µg/mL	+/- 11.7841 µg/mL +/- 58.6221 µg/mL +/- 71.1271 µg/mL	Gravimetric Unstressed Stressed
5	2,4,6-Trichlorophenol **CAS #** 88-06-2 **Purity** 99%	(Lot STBF3742V)	2,009.0 µg/mL	+/- 11.7899 µg/mL +/- 58.6513 µg/mL +/- 71.1625 µg/mL	Gravimetric Unstressed Stressed
6	Pentachlorophenol **CAS #** 87-86-5 **Purity** 99%	(Lot 170717KJA)	2,003.0 µg/mL	+/- 11.7547 µg/mL +/- 58.4761 µg/mL +/- 70.9500 µg/mL	Gravimetric Unstressed Stressed

Reagent

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svTCLPbns_00010

110 Benner Circle
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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31028 **Lot No.:** A0141077

Description : TCLP B/N Mix

TCLP B/N Mix 2000 µg/mL, Acetone, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2022 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Pyridine **CAS #** 110-86-1 **Purity** 99%	(Lot SHBC7174V)	2,019.0 µg/mL	+/- 11.8486 µg/mL +/- 99.8886 µg/mL +/- 102.3717 µg/mL		Gravimetric Unstressed Stressed
2	1,4-Dichlorobenzene **CAS #** 106-46-7 **Purity** 99%	(Lot MKBS4401V)	2,010.0 µg/mL	+/- 11.7958 µg/mL +/- 99.4433 µg/mL +/- 101.9154 µg/mL		Gravimetric Unstressed Stressed
3	Hexachloroethane **CAS #** 67-72-1 **Purity** 99%	(Lot 4H3SF)	2,018.5 µg/mL	+/- 11.8457 µg/mL +/- 99.8638 µg/mL +/- 102.3464 µg/mL		Gravimetric Unstressed Stressed
4	Nitrobenzene **CAS #** 98-95-3 **Purity** 99%	(Lot SHBG5577V)	2,017.5 µg/mL	+/- 11.8398 µg/mL +/- 99.8144 µg/mL +/- 102.2957 µg/mL		Gravimetric Unstressed Stressed
5	Hexachlorobutadiene **CAS #** 87-68-3 **Purity** 99%	(Lot J31X013)	2,008.5 µg/mL	+/- 11.7870 µg/mL +/- 99.3691 µg/mL +/- 101.8394 µg/mL		Gravimetric Unstressed Stressed
6	2,4-Dinitrotoluene **CAS #** 121-14-2 **Purity** 99%	(Lot MKAA0690)	2,009.5 µg/mL	+/- 11.7929 µg/mL +/- 99.4186 µg/mL +/- 101.8901 µg/mL		Gravimetric Unstressed Stressed
7	Hexachlorobenzene **CAS #** 118-74-1 **Purity** 99%	(Lot LRAB8468)	2,009.0 µg/mL	+/- 11.7899 µg/mL +/- 99.3938 µg/mL +/- 101.8647 µg/mL		Gravimetric Unstressed Stressed

Reagent

SVTUNINGMIXs_00008

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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Reference Material Producer
Certificate #3222.01

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ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31615 **Lot No.:** A0147424

Description : GC/MS Tuning Mixture

GC/MS Tuning Mixture 1,000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2022 **Storage:** 10°C or colder

Handling: Contains carcinogen/reproductive toxin.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Pentachlorophenol **CAS #** 87-86-5 (Lot 190227CGKJ) **Purity** 99%	1,000.4 µg/mL	+/- 5.8709 µg/mL +/- 45.5674 µg/mL +/- 65.7932 µg/mL	Gravimetric Unstressed Stressed
2	DFTPP (Decafluorotriphenylphosphine) **CAS #** 5074-71-5 (Lot 10198748) **Purity** 99%	1,000.0 µg/mL	+/- 5.8686 µg/mL +/- 45.5492 µg/mL +/- 65.7669 µg/mL	Gravimetric Unstressed Stressed
3	Benzidine **CAS #** 92-87-5 (Lot 190115JACG) **Purity** 99%	1,000.0 µg/mL	+/- 5.8686 µg/mL +/- 45.5492 µg/mL +/- 65.7669 µg/mL	Gravimetric Unstressed Stressed
4	4,4'-DDT **CAS #** 50-29-3 (Lot S37912V) **Purity** 99%	1,000.4 µg/mL	+/- 5.8709 µg/mL +/- 45.5674 µg/mL +/- 65.7932 µg/mL	Gravimetric Unstressed Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Reagent

TA-SPIKE1_00006

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

September 6, 2019

Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM		Analyte	Aq. SRM	MO SRM		Analyte	Aq. SRM	MO SRM
Ag	3151	1077a		Hf	3122	—		S	3154	2770
Al	3101a	1075a		Hg	3133	3133		Sb	3102a	3102a
As	3103a	3103a		Ho	3123a	—		Sc	3148a	3148a
Au	3121	—		In	3124a	3124a		Se	3149	3149
B	3107	3107		K	3141a	3141a		Si	3150	1066a
Ba	3104a	1051b		La	3127a	3127a		Sm	3147a	—
Be	3105a	3105a		Li	3129a	3129a		Sn	3161a	1057b
Bi	3106	3106		Lu	3130a	—		SO_4^{-2}	3181	—
Br^-	3184	—		Mg	3131a	3131a		Sr	3153a	3153a
Ca	3109a	3109a		Mn	3132	3132		Ta	3155	—
Cd	3108	1053a		Mo	3134	3134		Tb	3157a	—
Ce	3110	3110		Na	3152a	3152a		Te	3156	—
Cl^-	3182	1818a		Nb	3137	—		Th	3159	—
Co	3113	3113		Nd	3135a	—		Ti	3162a	3162a
Cr	3112a	1078b		Ni	3136	1065b		Tl	3158	3158
Cs	3111a	—		NO_3^-	3185	—		Tm	3160a	—
Cu	3114	1080a		P	3139a	3139a		U	3164	—
Dy	3115a	—		Pb	3128	3128		V	3165	1052b
Er	3116a	—		Pd	3138	—		W	3163	3163
Eu	3117a	—		PO_4^{-3}	3186	—		Y	3167a	3167a
F^-	3183	—		Pr	3142a	—		Yb	3166a	—
Fe	3126a	1079b		Pt	3140	3140		Zn	3168a	3168a
Ga	3119a	—		Rb	3145a	—		Zr	3169	3169
Gd	3118a	—		Re	3143	—				
Ge	3120a	—		Rh	3144	3144				

3361246
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CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

Product #: TA-SPIKE1+

Spike Mix # 1

Lot #: 1021235-1

Matrix: 5% HNO_3/tr. HF

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
As	200.0 ± 1.0 mg/L	Li	100.0 ± 0.5 mg/L	Sn	200.0 ± 1.0 mg/L
Ba	200.0 ± 1.0 mg/L	Mn	100.0 ± 0.5 mg/L	Sr	100.0 ± 0.5 mg/L
Be	99.99 ± 0.50 mg/L	Mo	100.0 ± 0.5 mg/L	Ti	100.0 ± 0.5 mg/L
Cd	100.0 ± 0.5 mg/L	Ni	100.0 ± 0.5 mg/L	Tl	200.0 ± 1.0 mg/L
Co	99.98 ± 0.50 mg/L	Pb	100.0 ± 0.5 mg/L	V	100.0 ± 0.5 mg/L
Cr	100.0 ± 0.5 mg/L	Se	200.0 ± 1.0 mg/L		
Cu	100.0 ± 0.5 mg/L	Si	200.0 ± 1.0 mg/L		

Source Material Lot# Chart

Element	Source Material Lot#	Element	Source Material Lot#	Element	Source Material Lot#
As	166531	Li	170237	Sn	171360
Ba	150283r	Mn	985851	Sr	976606
Be	989234	Mo	118881r	Ti	148663
Cd	173171	Ni	752769	Tl	983036
Co	979870	Pb	168223	V	983037
Cr	880115	Se	929078		
Cu	148793	Si	977647		

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see reverse side)**. The solution was stabilized using high purity nitric acid (HNO_3), trace hydrofluoric acid (HF) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentrations were determined based upon gravimetric procedures. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see reverse side)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

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Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

Reagent

TA-SPIKE2_00004

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

Homogeneity: This solution was determined to be homogeneous by procedures consistent with the requirements of ISO Guide 34 and ISO Guide 35. Replicate samples of the finished solution were analyzed to confirm its homogeneity, in accordance with QSP 6-13 Assessment of Homogeneity and Stability. To ensure homogeneity, users should not take a smaller sub-sample than specified in the Instructions for Use, as doing so will invalidate the certified values and uncertainties.

Quality Manual Rev: No. 5, 03/01/2013

Further Information: Please contact CPI International for further information about this CRM.

Quality Certifications: This CRM was prepared under a quality management system that is registered/accredited to the following:

- ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. No. 44 100 16560231)
- ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (A2LA Cert. No. 2848.01)
- ISO Guide 34 – General Requirements for the Competence of Reference Material Producers (A2LA Cert. No. 2848.02)
    - ISO Guide 34 references additional requirements specified in ISO Guide 31 and ISO Guide 35.

This CRM is traceable to the following NIST SRMs:

Analyte	Aq. SRM	MO SRM		Analyte	Aq. SRM	MO SRM		Analyte	Aq. SRM	MO SRM
Ag	3151	1077a		Hf	3122	—		S	3154	2770
Al	3101a	1075a		Hg	3133	3133		Sb	3102a	3102a
As	3103a	3103a		Ho	3123a	—		Sc	3148a	3148a
Au	3121	—		In	3124a	3124a		Se	3149	3149
B	3107	3107		K	3141a	3141a		Si	3150	1066a
Ba	3104a	1051b		La	3127a	3127a		Sm	3147a	—
Be	3105a	3105a		Li	3129a	3129a		Sn	3161a	1057b
Bi	3106	3106		Lu	3130a	—		SO_4^{-2}	3181	—
Br^-	3184	—		Mg	3131a	3131a		Sr	3153a	3153a
Ca	3109a	3109a		Mn	3132	3132		Ta	3155	—
Cd	3108	1053a		Mo	3134	3134		Tb	3157a	—
Ce	3110	3110		Na	3152a	3152a		Te	3156	—
Cl^-	3182	1818a		Nb	3137	—		Th	3159	—
Co	3113	3113		Nd	3135a	—		Ti	3162a	3162a
Cr	3112a	1078b		Ni	3136	1065b		Tl	3158	3158
Cs	3111a	—		NO_3^-	3185	—		Tm	3160a	—
Cu	3114	1080a		P	3139a	3139a		U	3164	—
Dy	3115a	—		Pb	3128	3128		V	3165	1052b
Er	3116a	—		Pd	3138	—		W	3163	3163
Eu	3117a	—		PO_4^{-3}	3186	—		Y	3167a	3167a
F^-	3183	—		Pr	3142a	—		Yb	3166a	—
Fe	3126a	1079b		Pt	3140	3140		Zn	3168a	3168a
Ga	3119a	—		Rb	3145a	—		Zr	3169	3169
Gd	3118a	—		Re	3143	—				
Ge	3120a	—		Rh	3144	3144				

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CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

Product #: TA-SPIKE2

Spike Mix # 2

Lot #: 1022516-1

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
Al	1000 ± 5 mg/L	Fe	1000 ± 5 mg/L	Mg	5000 ± 25 mg/L
Ca	5000 ± 25 mg/L	K	5000 ± 25 mg/L	Na	5000 ± 25 mg/L

Source Material Lot# Chart

Element	Source Material Lot#	Element	Source Material Lot#		Source Material Lot#
Al	992545	Fe	1004971	Mg	116835
Ca	150704	K	983959	Na	994710

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see reverse side)**. The solution was stabilized using high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentrations were determined based upon gravimetric procedures. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see reverse side)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

September 6, 2019
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

Reagent

TECHCHLORDANE_00001

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Fax: (814)353-1309

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571052-FL **Lot No.:** A0117443

Description : Chlordane Standard

Chlordane Standard 5000 µg/mL, Isooctane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 29, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)		
1	Chlordane		5,002.0 µg/mL	+/-	29.3545	µg/mL	Gravimetric
	CAS # 57-74-9.SEC	(Lot 30912)		+/-	158.5332	µg/mL	Unstressed
	Purity ----%			+/-	207.0971	µg/mL	Stressed

Solvent: Isooctane
CAS # 540-84-1
Purity 99%

TECH
CHLORDANE
1ST

Tech Tips:
CAS #57-74-9 nomenclature is based on EPA method 8081B.

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

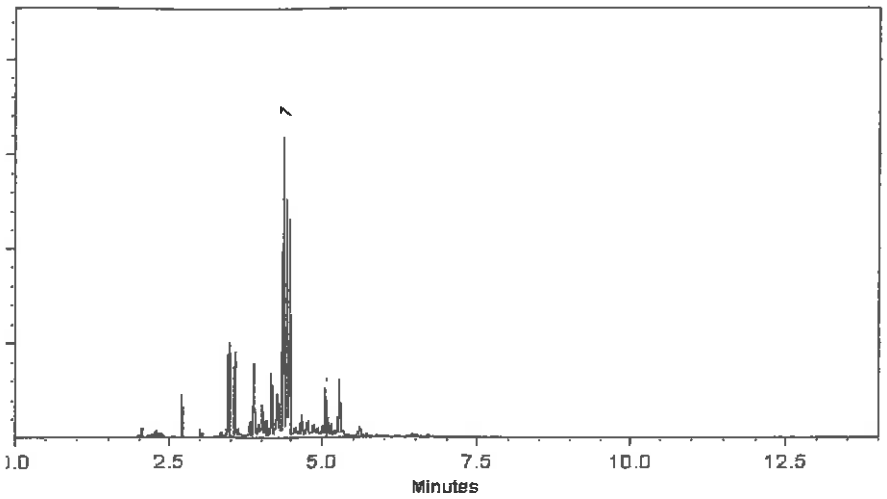

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Brandon Reish - Mix Technician

Date Mixed: 19-Feb-2016 **Balance:** B345965662

Jennifer L. Pollino - QC Analyst

Date Passed: 23-Feb-2016

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

Reagent

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571052-sl **Lot No.:** A0117232

Description : Chlordane Standard

Chlordane Standard 5000 µg/mL, Isooctane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 29, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Chlordane	5,050.0 µg/mL	+/- 29.6362 µg/mL	Gravimetric
	CAS # 57-74-9.SEC (Lot 30912)		+/- 160.0545 µg/mL	Unstressed
	Purity ----%		+/- 209.0845 µg/mL	Stressed

Solvent: Isooctane
CAS # 540-84-1
Purity 99%

TECH CHLORDANE 2nd

Tech Tips:
CAS #57-74-9 nomenclature is based on EPA method 8081B.

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

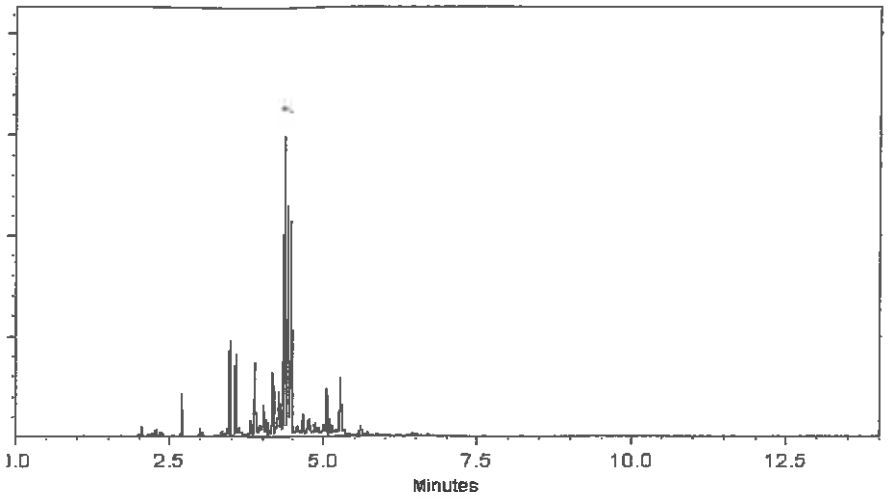

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Brandon Cook - Mix Technician

Date Mixed: 10-Feb-2016 **Balance:** 1128353505

Jennifer L. Pollino - QC Analyst

Date Passed: 23-Feb-2016

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

Reagent

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569722 **Lot No.:** A0146651

Description : 8260 List 1 / Std #3 Gases (2015)

8260 List 1 / Std #3 Gases (2015) 2,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2022 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Dichlorodifluoromethane (CFC-12) **CAS #** 75-71-8 (Lot 00012554) **Purity** 99%	2,500.2 µg/mL	+/- 19.5056 µg/mL +/- 140.7858 µg/mL +/- 144.0522 µg/mL	Gravimetric Unstressed Stressed
2	Chloromethane (methyl chloride) **CAS #** 74-87-3 (Lot SHBJ6334) **Purity** 99%	2,501.5 µg/mL	+/- 20.4136 µg/mL +/- 140.9867 µg/mL +/- 144.2520 µg/mL	Gravimetric Unstressed Stressed
3	Vinyl chloride **CAS #** 75-01-4 (Lot 00012557) **Purity** 99%	2,502.6 µg/mL	+/- 19.3699 µg/mL +/- 140.9018 µg/mL +/- 144.1719 µg/mL	Gravimetric Unstressed Stressed
4	1,3-Butadiene **CAS #** 106-99-0 (Lot SHBK2299) **Purity** 99%	2,502.4 µg/mL	+/- 21.0409 µg/mL +/- 141.1253 µg/mL +/- 144.3895 µg/mL	Gravimetric Unstressed Stressed
5	Bromomethane (methyl bromide) **CAS #** 74-83-9 (Lot 101604) **Purity** 99%	2,501.9 µg/mL	+/- 18.1039 µg/mL +/- 140.6930 µg/mL +/- 143.9660 µg/mL	Gravimetric Unstressed Stressed
6	Chloroethane (ethyl chloride) **CAS #** 75-00-3 (Lot 107-401039114-1) **Purity** 99%	2,498.4 µg/mL	+/- 18.1959 µg/mL +/- 140.5102 µg/mL +/- 143.7782 µg/mL	Gravimetric Unstressed Stressed
7	Dichlorofluoromethane (CFC-21) **CAS #** 75-43-4 (Lot 7978700) **Purity** 99%	2,500.0 µg/mL	+/- 14.5352 µg/mL +/- 140.1725 µg/mL +/- 143.4524 µg/mL	Gravimetric Unstressed Stressed

8	Trichlorofluoromethane (CFC-11)		2,505.7	µg/mL	+/-	19.3191	µg/mL	Gravimetric
	CAS # 75-69-4	(Lot SHBH4155V)			+/-	141.0656	µg/mL	Unstressed
	Purity 99%				+/-	144.3399	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Tech Tips:
Raw material may contain trace amounts of tert-Butanol.

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD

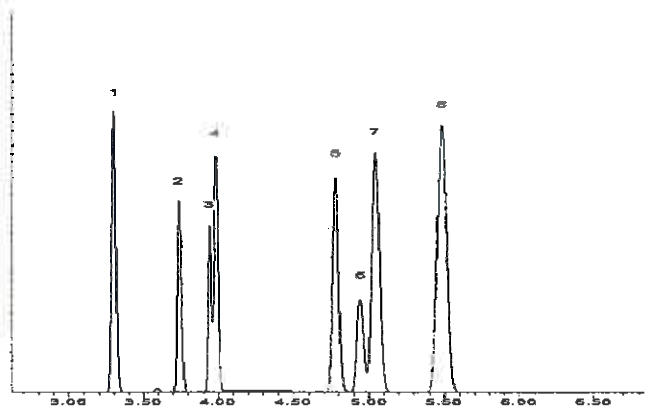

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 05-Mar-2019 **Balance:** B707717271

John Lidgett - AD Chemist

Date Passed: 12-Mar-2019

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569722.SEC **Lot No.:** A0148330

Description : 8260 List 1 / Std #3 Gases (2015)

8260 List 1 / Std #3 Gases (2015) 2,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2022 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Dichlorodifluoromethane (CFC-12) **CAS #** 75-71-8.SEC (Lot 25587) **Purity** 99%	2,513.2 µg/mL	+/- 19.3767 µg/mL +/- 141.4861 µg/mL +/- 144.7702 µg/mL	Gravimetric Unstressed Stressed
2	Chloromethane (methyl chloride) **CAS #** 74-87-3.SEC (Lot 18343) **Purity** 99%	2,505.2 µg/mL	+/- 20.4180 µg/mL +/- 141.1888 µg/mL +/- 144.4589 µg/mL	Gravimetric Unstressed Stressed
3	Vinyl chloride **CAS #** 75-01-4.SEC (Lot MKBK6872V) **Purity** 99%	2,524.8 µg/mL	+/- 17.9317 µg/mL +/- 141.9344 µg/mL +/- 145.2382 µg/mL	Gravimetric Unstressed Stressed
4	1,3-Butadiene **CAS #** 106-99-0.SEC (Lot 24033) **Purity** 99%	2,521.5 µg/mL	+/- 17.6825 µg/mL +/- 141.7249 µg/mL +/- 145.0252 µg/mL	Gravimetric Unstressed Stressed
5	Bromomethane (methyl bromide) **CAS #** 74-83-9.SEC (Lot Q119-46) **Purity** 99%	2,505.9 µg/mL	+/- 24.7917 µg/mL +/- 141.9274 µg/mL +/- 145.1827 µg/mL	Gravimetric Unstressed Stressed
6	Chloroethane (ethyl chloride) **CAS #** 75-00-3.SEC (Lot 00004202) **Purity** 99%	2,507.1 µg/mL	+/- 24.1112 µg/mL +/- 141.8739 µg/mL +/- 145.1334 µg/mL	Gravimetric Unstressed Stressed
7	Dichlorofluoromethane (CFC-21) **CAS #** 75-43-4 * (Lot 7978700) **Purity** 99%	2,500.0 µg/mL	+/- 14.5352 µg/mL +/- 140.1725 µg/mL +/- 143.4524 µg/mL	Gravimetric Unstressed Stressed

8	Trichlorofluoromethane (CFC-11)		2,507.2 µg/mL	+/-	21.4957	µg/mL	Gravimetric
	CAS # 75-69-4.SEC	(Lot 253600)		+/-	141.4611	µg/mL	Unstressed
	Purity 99%			+/-	144.7303	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

*** Restek is unable to identify a reliable and/or acceptable second source for this material - the same batch of neat material may have been used to produce both the primary and secondary standard. The primary and secondary standards were prepared using different equipment and personnel.**

Tech Tips:
Raw material may contain trace amounts of tert-Butanol.

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD

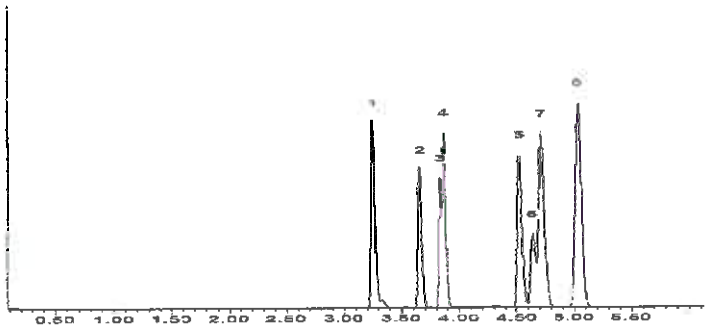

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Lane Klbe - Mix Technician

Date Mixed: 18-Apr-2019 **Balance:** 1128342314

Fang-Yun Lo - GC Analyst

Date Passed: 30-Apr-2019

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

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ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568718 **Lot No.:** A0133525

Description : 8260 Internal Standard 2014

8260 Internal Standard 2014 250-5,000µg/mL, P&T Methanol/Water (90:10), 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : December 31, 2022 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	tert-Butyl-d9-alcohol **CAS #** 25725-11-5 (Lot CD-107) **Purity** 98%	5,043.8 µg/mL	+/- 29.3235 µg/mL +/- 107.9879 µg/mL +/- 111.1273 µg/mL	Gravimetric Unstressed Stressed
2	2-Butanone-d5 **CAS #** 24313-50-6 (Lot M-276) **Purity** 99%	1,258.0 µg/mL	+/- 7.3141 µg/mL +/- 26.9339 µg/mL +/- 27.7169 µg/mL	Gravimetric Unstressed Stressed
3	Fluorobenzene **CAS #** 462-06-6 (Lot BCBK8171V) **Purity** 99%	251.8 µg/mL	+/- 1.4674 µg/mL +/- 5.3920 µg/mL +/- 5.5487 µg/mL	Gravimetric Unstressed Stressed
4	1,4-Dioxane-d8 **CAS #** 17647-74-4 (Lot I-19942) **Purity** 99%	5,037.4 µg/mL	+/- 29.2862 µg/mL +/- 107.8502 µg/mL +/- 110.9856 µg/mL	Gravimetric Unstressed Stressed
5	Chlorobenzene-d5 **CAS #** 3114-55-4 (Lot PR-22736) **Purity** 99%	251.6 µg/mL	+/- 1.4660 µg/mL +/- 5.3870 µg/mL +/- 5.5435 µg/mL	Gravimetric Unstressed Stressed
6	1,4-Dichlorobenzene-d4 **CAS #** 3855-82-1 (Lot PR-18488) **Purity** 99%	251.4 µg/mL	+/- 1.4652 µg/mL +/- 5.3841 µg/mL +/- 5.5406 µg/mL	Gravimetric Unstressed Stressed

Reagent

VOA8260INTRES_00165

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Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568718 **Lot No.:** A0145169

Description : 8260 Internal Standard 2014

8260 Internal Standard 2014 250-5,000µg/mL, P&T Methanol/Water (90:10), 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : January 31, 2024 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	tert-Butyl-d9-alcohol **CAS #** 25725-11-5 (Lot CD-107) **Purity** 98%	5,044.0 µg/mL	+/- 29.3246 µg/mL +/- 107.9918 µg/mL +/- 111.1314 µg/mL	Gravimetric Unstressed Stressed
2	2-Butanone-d5 **CAS #** 24313-50-6 (Lot M-276) **Purity** 99%	1,254.2 µg/mL	+/- 7.2922 µg/mL +/- 26.8533 µg/mL +/- 27.6340 µg/mL	Gravimetric Unstressed Stressed
3	Fluorobenzene **CAS #** 462-06-6 (Lot BCBK8171V) **Purity** 99%	252.1 µg/mL	+/- 1.4689 µg/mL +/- 5.3977 µg/mL +/- 5.5545 µg/mL	Gravimetric Unstressed Stressed
4	1,4-Dioxane-d8 **CAS #** 17647-74-4 (Lot I-19942) **Purity** 99%	5,027.8 µg/mL	+/- 29.2304 µg/mL +/- 107.6448 µg/mL +/- 110.7743 µg/mL	Gravimetric Unstressed Stressed
5	Chlorobenzene-d5 **CAS #** 3114-55-4 (Lot PR-23926) **Purity** 99%	250.6 µg/mL	+/- 1.4603 µg/mL +/- 5.3661 µg/mL +/- 5.5220 µg/mL	Gravimetric Unstressed Stressed
6	1,4-Dichlorobenzene-d4 **CAS #** 3855-82-1 (Lot PR-18488) **Purity** 99%	251.6 µg/mL	+/- 1.4660 µg/mL +/- 5.3871 µg/mL +/- 5.5436 µg/mL	Gravimetric Unstressed Stressed

Reagent

VOA8260INTRES_00168

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568718 **Lot No.:** A0145169

Description : 8260 Internal Standard 2014

8260 Internal Standard 2014 250-5,000µg/mL, P&T Methanol/Water (90:10), 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : January 31, 2024 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	tert-Butyl-d9-alcohol **CAS #** 25725-11-5 (Lot CD-107) **Purity** 98%	5,044.0 µg/mL	+/- 29.3246 µg/mL +/- 107.9918 µg/mL +/- 111.1314 µg/mL	Gravimetric Unstressed Stressed
2	2-Butanone-d5 **CAS #** 24313-50-6 (Lot M-276) **Purity** 99%	1,254.2 µg/mL	+/- 7.2922 µg/mL +/- 26.8533 µg/mL +/- 27.6340 µg/mL	Gravimetric Unstressed Stressed
3	Fluorobenzene **CAS #** 462-06-6 (Lot BCBK8171V) **Purity** 99%	252.1 µg/mL	+/- 1.4689 µg/mL +/- 5.3977 µg/mL +/- 5.5545 µg/mL	Gravimetric Unstressed Stressed
4	1,4-Dioxane-d8 **CAS #** 17647-74-4 (Lot I-19942) **Purity** 99%	5,027.8 µg/mL	+/- 29.2304 µg/mL +/- 107.6448 µg/mL +/- 110.7743 µg/mL	Gravimetric Unstressed Stressed
5	Chlorobenzene-d5 **CAS #** 3114-55-4 (Lot PR-23926) **Purity** 99%	250.6 µg/mL	+/- 1.4603 µg/mL +/- 5.3661 µg/mL +/- 5.5220 µg/mL	Gravimetric Unstressed Stressed
6	1,4-Dichlorobenzene-d4 **CAS #** 3855-82-1 (Lot PR-18488) **Purity** 99%	251.6 µg/mL	+/- 1.4660 µg/mL +/- 5.3871 µg/mL +/- 5.5436 µg/mL	Gravimetric Unstressed Stressed

Reagent

VOA8260KET1ST_00134

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569721 **Lot No.:** A0143988

Description : 8260 List 1/ Std #2 Ketones (2015)

8260 List 1/ Std #2 Ketones (2015) 12,500µg/mL, P&T Methanol/Water (90:10), 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : December 31, 2021 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Acetone **CAS #** 67-64-1 **Purity** 99%	(Lot SHBJ7699)	12,500.5 µg/mL	+/- 72.6790 µg/mL +/- 754.2106 µg/mL +/- 756.0012 µg/mL	Gravimetric Unstressed Stressed
2	2-Butanone (MEK) **CAS #** 78-93-3 **Purity** 99%	(Lot SHBF2461V)	12,501.0 µg/mL	+/- 72.6819 µg/mL +/- 754.2407 µg/mL +/- 756.0314 µg/mL	Gravimetric Unstressed Stressed
3	4-Methyl-2-pentanone (MIBK) **CAS #** 108-10-1 **Purity** 99%	(Lot SHBH8930)	12,501.5 µg/mL	+/- 72.6848 µg/mL +/- 754.2709 µg/mL +/- 756.0617 µg/mL	Gravimetric Unstressed Stressed
4	2-Hexanone **CAS #** 591-78-6 **Purity** 99%	(Lot MKCD9048)	12,501.8 µg/mL	+/- 72.6863 µg/mL +/- 754.2860 µg/mL +/- 756.0768 µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol/Water (90:10)
CAS # 67-56-1/7732-18-5
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

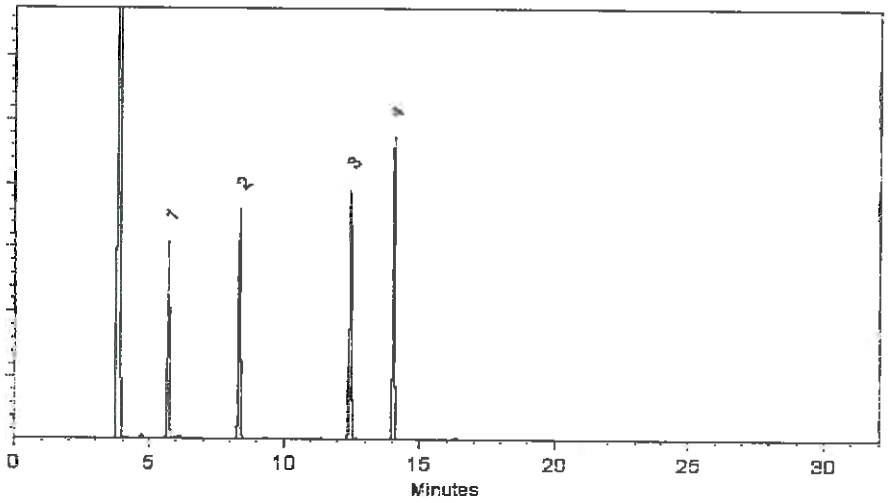

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

F. Joseph Talion - Mix Technician

Date Mixed: 11-Dec-2018 **Balance:** B251644995

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 14-Dec-2018

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

VOA8260KET2ND_00118

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569721.SEC **Lot No.:** A0133078

Description : 8260 List 1/ Std #2 Ketones (2015)

8260 List 1/ Std #2 Ketones (2015) 12,500µg/mL, P&T Methanol/Water (90:10), 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : December 31, 2020 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Acetone		0.0 µg/mL	+/- < 0.0001	
	CAS # 67-64-1.SEC	(Lot P14A572)		+/- < 0.0001	Unstressed
	Purity 99%			+/- < 0.0001	Stressed
2	2-Butanone (MEK)		0.0 µg/mL	+/- < 0.0001	
	CAS # 78-93-3.SEC	(Lot RA58J)		+/- < 0.0001	Unstressed
	Purity 99%			+/- < 0.0001	Stressed
3	4-Methyl-2-pentanone (MIBK)		0.0 µg/mL	+/- < 0.0001	
	CAS # 108-10-1.SEC	(Lot E29T040)		+/- < 0.0001	Unstressed
	Purity 99%			+/- < 0.0001	Stressed
4	2-Hexanone		0.0 µg/mL	+/- < 0.0001	
	CAS # 591-78-6.SEC	(Lot V3NRA)		+/- < 0.0001	Unstressed
	Purity 99%			+/- < 0.0001	Stressed

Solvent: P&T Methanol/Water (90:10)
CAS # 67-56-1/7732-18-5
Purity 99%

Reagent

VOA8260MEGA1_00091

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571992 **Lot No.:** A0143774

Description : 8260 List 1 / Std #1 MegaMix (2017)

8260 List 1 / Std #1 MegaMix (2017) 1,250-62,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2021 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Diethyl ether (ethyl ether) CAS # 60-29-7 (Lot SHBJ5713) Purity 99%	2,500.6 µg/mL	+/- 14.5388	µg/mL	Gravimetric
			+/- 150.8738	µg/mL	Unstressed
			+/- 151.2320	µg/mL	Stressed
2	1,1,2-Trichlorotrifluoroethane (CFC-113) CAS # 76-13-1 (Lot 00009482) Purity 99%	2,501.6 µg/mL	+/- 14.5447	µg/mL	Gravimetric
			+/- 150.9341	µg/mL	Unstressed
			+/- 151.2925	µg/mL	Stressed
3	1,1-dichloroethene CAS # 75-35-4 (Lot SHBG8609V) Purity 99%	2,501.9 µg/mL	+/- 14.5461	µg/mL	Gravimetric
			+/- 150.9492	µg/mL	Unstressed
			+/- 151.3076	µg/mL	Stressed
4	tert-Butanol (TBA) CAS # 75-65-0 (Lot SHBJ9404) Purity 99%	25,008.1 µg/mL	+/- 145.3918	µg/mL	Gravimetric
			+/- 1,508.8503	µg/mL	Unstressed
			+/- 1,512.4325	µg/mL	Stressed
5	Methyl acetate CAS # 79-20-9 (Lot SHBG4345V) Purity 99%	5,000.8 µg/mL	+/- 29.0748	µg/mL	Gravimetric
			+/- 301.7174	µg/mL	Unstressed
			+/- 302.4337	µg/mL	Stressed
6	Iodomethane (methyl iodide) CAS # 74-88-4 (Lot SHBH4362V) Purity 99%	2,500.6 µg/mL	+/- 14.5388	µg/mL	Gravimetric
			+/- 150.8738	µg/mL	Unstressed
			+/- 151.2320	µg/mL	Stressed
7	Allyl chloride (3-chloropropene) CAS # 107-05-1 (Lot WXBB7852V) Purity 99%	2,502.0 µg/mL	+/- 14.5468	µg/mL	Gravimetric
			+/- 150.9567	µg/mL	Unstressed
			+/- 151.3151	µg/mL	Stressed

8	Methylene chloride (dichloromethane) **CAS #** 75-09-2 **Purity** 99%	(Lot SHBK5095)	2,500.8	µg/mL	+/-	14.5396	µg/mL	Gravimetric
					+/-	150.8813	µg/mL	Unstressed
					+/-	151.2395	µg/mL	Stressed
9	Carbon disulfide **CAS #** 75-15-0 **Purity** 99%	(Lot U22D706)	2,501.1	µg/mL	+/-	14.5418	µg/mL	Gravimetric
					+/-	150.9040	µg/mL	Unstressed
					+/-	151.2622	µg/mL	Stressed
10	Acrylonitrile **CAS #** 107-13-1 **Purity** 99%	(Lot R15D047)	25,010.4	µg/mL	+/-	145.4049	µg/mL	Gravimetric
					+/-	1,508.9860	µg/mL	Unstressed
					+/-	1,512.5686	µg/mL	Stressed
11	Methyl-tert-butyl ether (MTBE) **CAS #** 1634-04-4 **Purity** 99%	(Lot SHBH9526)	2,500.3	µg/mL	+/-	14.5367	µg/mL	Gravimetric
					+/-	150.8512	µg/mL	Unstressed
					+/-	151.2093	µg/mL	Stressed
12	cis-1,2-Dichloroethene **CAS #** 156-59-2 **Purity** 99%	(Lot MKBX5945V)	2,501.3	µg/mL	+/-	14.5425	µg/mL	Gravimetric
					+/-	150.9115	µg/mL	Unstressed
					+/-	151.2698	µg/mL	Stressed
13	n-Hexane (C6) **CAS #** 110-54-3 **Purity** 99%	(Lot SHBH8106)	2,500.8	µg/mL	+/-	14.5396	µg/mL	Gravimetric
					+/-	150.8813	µg/mL	Unstressed
					+/-	151.2395	µg/mL	Stressed
14	1,1-Dichloroethane **CAS #** 75-34-3 **Purity** 99%	(Lot 462600)	2,500.4	µg/mL	+/-	14.5374	µg/mL	Gravimetric
					+/-	150.8587	µg/mL	Unstressed
					+/-	151.2169	µg/mL	Stressed
15	2,2-Dichloropropane **CAS #** 594-20-7 **Purity** 99%	(Lot BCBT5124)	2,500.9	µg/mL	+/-	14.5403	µg/mL	Gravimetric
					+/-	150.8889	µg/mL	Unstressed
					+/-	151.2471	µg/mL	Stressed
16	trans-1,2-Dichloroethene **CAS #** 156-60-5 **Purity** 99%	(Lot MKBH9850V)	2,500.3	µg/mL	+/-	14.5367	µg/mL	Gravimetric
					+/-	150.8512	µg/mL	Unstressed
					+/-	151.2093	µg/mL	Stressed
17	Isobutanol (2-Methyl-1-propanol) **CAS #** 78-83-1 **Purity** 99%	(Lot SHBK0551)	62,500.9	µg/mL	+/-	363.3665	µg/mL	Gravimetric
					+/-	3,770.9529	µg/mL	Unstressed
					+/-	3,779.9058	µg/mL	Stressed
18	chloroform **CAS #** 67-66-3 **Purity** 99%	(Lot SHBJ9076)	2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
					+/-	150.8662	µg/mL	Unstressed
					+/-	151.2244	µg/mL	Stressed
19	Bromochloromethane **CAS #** 74-97-5 **Purity** 98%	(Lot 00008541)	2,500.6	µg/mL	+/-	14.5387	µg/mL	Gravimetric
					+/-	150.8718	µg/mL	Unstressed
					+/-	151.2300	µg/mL	Stressed
20	Tetrahydrofuran **CAS #** 109-99-9 **Purity** 99%	(Lot SHBJ6179)	5,000.6	µg/mL	+/-	29.0741	µg/mL	Gravimetric
					+/-	301.7099	µg/mL	Unstressed
					+/-	302.4262	µg/mL	Stressed
21	1,1,1-trichloroethane **CAS #** 71-55-6 **Purity** 99%	(Lot B15W12061)	2,500.8	µg/mL	+/-	14.5396	µg/mL	Gravimetric
					+/-	150.8813	µg/mL	Unstressed
					+/-	151.2395	µg/mL	Stressed
22	Cyclohexane **CAS #** 110-82-7 **Purity** 99%	(Lot MKCC9660)	2,500.9	µg/mL	+/-	14.5403	µg/mL	Gravimetric
					+/-	150.8889	µg/mL	Unstressed
					+/-	151.2471	µg/mL	Stressed
23	1,1-Dichloropropene **CAS #** 563-58-6 **Purity** 99%	(Lot 180531JLM)	2,500.6	µg/mL	+/-	14.5388	µg/mL	Gravimetric
					+/-	150.8738	µg/mL	Unstressed
					+/-	151.2320	µg/mL	Stressed

24	carbon tetrachloride **CAS #** 56-23-5 **Purity** 99%	(Lot SHBJ2110)	2,501.1	µg/mL	+/-	14.5418	µg/mL	Gravimetric
					+/-	150.9040	µg/mL	Unstressed
					+/-	151.2622	µg/mL	Stressed
25	n-Heptane (C7) **CAS #** 142-82-5 **Purity** 99%	(Lot SHBJ2424)	2,501.6	µg/mL	+/-	14.5447	µg/mL	Gravimetric
					+/-	150.9341	µg/mL	Unstressed
					+/-	151.2925	µg/mL	Stressed
26	1,2-Dichloroethane **CAS #** 107-06-2 **Purity** 99%	(Lot SHBJ0707)	2,501.3	µg/mL	+/-	14.5425	µg/mL	Gravimetric
					+/-	150.9115	µg/mL	Unstressed
					+/-	151.2698	µg/mL	Stressed
27	Benzene **CAS #** 71-43-2 **Purity** 99%	(Lot SHBJ5344)	2,500.9	µg/mL	+/-	14.5403	µg/mL	Gravimetric
					+/-	150.8889	µg/mL	Unstressed
					+/-	151.2471	µg/mL	Stressed
28	Trichloroethene **CAS #** 79-01-6 **Purity** 99%	(Lot SHBH1955V)	2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
					+/-	150.8662	µg/mL	Unstressed
					+/-	151.2244	µg/mL	Stressed
29	Methylcyclohexane **CAS #** 108-87-2 **Purity** 99%	(Lot SHBJ0457)	2,501.6	µg/mL	+/-	14.5447	µg/mL	Gravimetric
					+/-	150.9341	µg/mL	Unstressed
					+/-	151.2925	µg/mL	Stressed
30	1,2-Dichloropropane **CAS #** 78-87-5 **Purity** 99%	(Lot BCBR0882V)	2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
					+/-	150.8662	µg/mL	Unstressed
					+/-	151.2244	µg/mL	Stressed
31	1,4-Dioxane **CAS #** 123-91-1 **Purity** 99%	(Lot SHBJ7415)	50,001.1	µg/mL	+/-	290.6957	µg/mL	Gravimetric
					+/-	3,016.7880	µg/mL	Unstressed
					+/-	3,023.9503	µg/mL	Stressed
32	Dibromomethane **CAS #** 74-95-3 **Purity** 99%	(Lot 10201030)	2,502.0	µg/mL	+/-	14.5468	µg/mL	Gravimetric
					+/-	150.9567	µg/mL	Unstressed
					+/-	151.3151	µg/mL	Stressed
33	cis-1,3-Dichloropropene **CAS #** 10061-01-5 **Purity** 99%	(Lot 25076)	2,501.4	µg/mL	+/-	14.5432	µg/mL	Gravimetric
					+/-	150.9190	µg/mL	Unstressed
					+/-	151.2773	µg/mL	Stressed
34	Toluene **CAS #** 108-88-3 **Purity** 99%	(Lot SHBJ5659)	2,500.1	µg/mL	+/-	14.5359	µg/mL	Gravimetric
					+/-	150.8436	µg/mL	Unstressed
					+/-	151.2017	µg/mL	Stressed
35	Ethyl methacrylate **CAS #** 97-63-2 **Purity** 99%	(Lot 69796APV)	2,502.8	µg/mL	+/-	14.5512	µg/mL	Gravimetric
					+/-	151.0020	µg/mL	Unstressed
					+/-	151.3605	µg/mL	Stressed
36	trans-1,3-Dichloropropene **CAS #** 10061-02-6 **Purity** 98%	(Lot C797620)	2,500.6	µg/mL	+/-	14.5387	µg/mL	Gravimetric
					+/-	150.8718	µg/mL	Unstressed
					+/-	151.2300	µg/mL	Stressed
37	1,1,2-Trichloroethane **CAS #** 79-00-5 **Purity** 99%	(Lot FGB01)	2,500.4	µg/mL	+/-	14.5374	µg/mL	Gravimetric
					+/-	150.8587	µg/mL	Unstressed
					+/-	151.2169	µg/mL	Stressed
38	1,3-Dichloropropane **CAS #** 142-28-9 **Purity** 99%	(Lot BCBG2162V)	2,500.9	µg/mL	+/-	14.5403	µg/mL	Gravimetric
					+/-	150.8889	µg/mL	Unstressed
					+/-	151.2471	µg/mL	Stressed
39	Tetrachloroethene **CAS #** 127-18-4 **Purity** 99%	(Lot SHBH9691)	2,501.0	µg/mL	+/-	14.5410	µg/mL	Gravimetric
					+/-	150.8964	µg/mL	Unstressed
					+/-	151.2547	µg/mL	Stressed

40	dibromochloromethane **CAS #** 124-48-1 **Purity** 98%	(Lot MKCC0877)	2,502.4	µg/mL	+/-	14.5493	µg/mL	Gravimetric
					+/-	150.9827	µg/mL	Unstressed
					+/-	151.3411	µg/mL	Stressed
41	1,2-Dibromoethane (EDB) **CAS #** 106-93-4 **Purity** 99%	(Lot BCBH3877V)	2,500.4	µg/mL	+/-	14.5374	µg/mL	Gravimetric
					+/-	150.8587	µg/mL	Unstressed
					+/-	151.2169	µg/mL	Stressed
42	Chlorobenzene **CAS #** 108-90-7 **Purity** 99%	(Lot SHBH4459V)	2,501.1	µg/mL	+/-	14.5418	µg/mL	Gravimetric
					+/-	150.9040	µg/mL	Unstressed
					+/-	151.2622	µg/mL	Stressed
43	m-Xylene **CAS #** 108-38-3 **Purity** 99%	(Lot SHBJ2338)	1,251.5	µg/mL	+/-	7.2763	µg/mL	Gravimetric
					+/-	75.5085	µg/mL	Unstressed
					+/-	75.6878	µg/mL	Stressed
44	p-Xylene **CAS #** 106-42-3 **Purity** 99%	(Lot SHBJ0052)	1,250.1	µg/mL	+/-	7.2683	µg/mL	Gravimetric
					+/-	75.4256	µg/mL	Unstressed
					+/-	75.6047	µg/mL	Stressed
45	Ethylbenzene **CAS #** 100-41-4 **Purity** 99%	(Lot SHBJ3183)	2,500.0	µg/mL	+/-	14.5352	µg/mL	Gravimetric
					+/-	150.8361	µg/mL	Unstressed
					+/-	151.1942	µg/mL	Stressed
46	1,1,1,2-Tetrachloroethane **CAS #** 630-20-6 **Purity** 99%	(Lot MKBS3769V)	2,500.0	µg/mL	+/-	14.5352	µg/mL	Gravimetric
					+/-	150.8361	µg/mL	Unstressed
					+/-	151.1942	µg/mL	Stressed
47	o-Xylene **CAS #** 95-47-6 **Purity** 99%	(Lot SHBH7231)	2,500.8	µg/mL	+/-	14.5396	µg/mL	Gravimetric
					+/-	150.8813	µg/mL	Unstressed
					+/-	151.2395	µg/mL	Stressed
48	Styrene **CAS #** 100-42-5 **Purity** 99%	(Lot MKCC9766)	2,500.0	µg/mL	+/-	14.5352	µg/mL	Gravimetric
					+/-	150.8361	µg/mL	Unstressed
					+/-	151.1942	µg/mL	Stressed
49	Isopropylbenzene (cumene) **CAS #** 98-82-8 **Purity** 99%	(Lot 10185056)	2,500.1	µg/mL	+/-	14.5359	µg/mL	Gravimetric
					+/-	150.8436	µg/mL	Unstressed
					+/-	151.2017	µg/mL	Stressed
50	bromoform **CAS #** 75-25-2 **Purity** 99%	(Lot SHBG3138V)	2,501.0	µg/mL	+/-	14.5410	µg/mL	Gravimetric
					+/-	150.8964	µg/mL	Unstressed
					+/-	151.2547	µg/mL	Stressed
51	bromodichloromethane **CAS #** 75-27-4 **Purity** 99%	(Lot MKCF8470)	2,501.6	µg/mL	+/-	14.5447	µg/mL	Gravimetric
					+/-	150.9341	µg/mL	Unstressed
					+/-	151.2925	µg/mL	Stressed
52	1,1,2,2-Tetrachloroethane **CAS #** 79-34-5 **Purity** 99%	(Lot CFA4D)	2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
					+/-	150.8662	µg/mL	Unstressed
					+/-	151.2244	µg/mL	Stressed
53	1,2,3-Trichloropropane **CAS #** 96-18-4 **Purity** 99%	(Lot BCBH8722V)	2,501.3	µg/mL	+/-	14.5425	µg/mL	Gravimetric
					+/-	150.9115	µg/mL	Unstressed
					+/-	151.2698	µg/mL	Stressed
54	trans-1,4-dichloro-2-butene **CAS #** 110-57-6 **Purity** 94%	(Lot MKBX7788V)	2,500.0	µg/mL	+/-	14.5355	µg/mL	Gravimetric
					+/-	150.8389	µg/mL	Unstressed
					+/-	151.1971	µg/mL	Stressed
55	n-Propylbenzene **CAS #** 103-65-1 **Purity** 99%	(Lot WXBC3346V)	2,500.0	µg/mL	+/-	14.5352	µg/mL	Gravimetric
					+/-	150.8361	µg/mL	Unstressed
					+/-	151.1942	µg/mL	Stressed

56	Bromobenzene			2,500.1	µg/mL	+/-	14.5359	µg/mL	Gravimetric
	CAS # 108-86-1	(Lot WXBC5147V)				+/-	150.8436	µg/mL	Unstressed
	Purity 99%					+/-	151.2017	µg/mL	Stressed
57	1,3,5-Trimethylbenzene			2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
	CAS # 108-67-8	(Lot BCBS7648V)				+/-	150.8662	µg/mL	Unstressed
	Purity 99%					+/-	151.2244	µg/mL	Stressed
58	2-Chlorotoluene			2,500.1	µg/mL	+/-	14.5359	µg/mL	Gravimetric
	CAS # 95-49-8	(Lot MKBW5554V)				+/-	150.8436	µg/mL	Unstressed
	Purity 99%					+/-	151.2017	µg/mL	Stressed
59	4-Chlorotoluene			2,500.9	µg/mL	+/-	14.5403	µg/mL	Gravimetric
	CAS # 106-43-4	(Lot MKBL7753V)				+/-	150.8889	µg/mL	Unstressed
	Purity 99%					+/-	151.2471	µg/mL	Stressed
60	tert-Butylbenzene			2,500.1	µg/mL	+/-	14.5359	µg/mL	Gravimetric
	CAS # 98-06-6	(Lot STBD6954V)				+/-	150.8436	µg/mL	Unstressed
	Purity 99%					+/-	151.2017	µg/mL	Stressed
61	1,2,4-Trimethylbenzene			2,499.9	µg/mL	+/-	14.5348	µg/mL	Gravimetric
	CAS # 95-63-6	(Lot MKBH5027V)				+/-	150.8320	µg/mL	Unstressed
	Purity 97%					+/-	151.1901	µg/mL	Stressed
62	sec-Butylbenzene			2,501.1	µg/mL	+/-	14.5418	µg/mL	Gravimetric
	CAS # 135-98-8	(Lot MKBR9260V)				+/-	150.9040	µg/mL	Unstressed
	Purity 99%					+/-	151.2622	µg/mL	Stressed
63	p-Isopropyltoluene (p-Cymene)			2,501.1	µg/mL	+/-	14.5418	µg/mL	Gravimetric
	CAS # 99-87-6	(Lot MKBV3556V)				+/-	150.9040	µg/mL	Unstressed
	Purity 99%					+/-	151.2622	µg/mL	Stressed
64	1,3-Dichlorobenzene			2,501.4	µg/mL	+/-	14.5432	µg/mL	Gravimetric
	CAS # 541-73-1	(Lot BCBQ7100V)				+/-	150.9190	µg/mL	Unstressed
	Purity 99%					+/-	151.2773	µg/mL	Stressed
65	1,4-Dichlorobenzene			2,501.5	µg/mL	+/-	14.5439	µg/mL	Gravimetric
	CAS # 106-46-7	(Lot MKBS4401V)				+/-	150.9266	µg/mL	Unstressed
	Purity 99%					+/-	151.2849	µg/mL	Stressed
66	n-Butylbenzene			2,501.0	µg/mL	+/-	14.5410	µg/mL	Gravimetric
	CAS # 104-51-8	(Lot 09804AE)				+/-	150.8964	µg/mL	Unstressed
	Purity 99%					+/-	151.2547	µg/mL	Stressed
67	1,2-Dichlorobenzene			2,502.9	µg/mL	+/-	14.5519	µg/mL	Gravimetric
	CAS # 95-50-1	(Lot SHBG3111V)				+/-	151.0095	µg/mL	Unstressed
	Purity 99%					+/-	151.3681	µg/mL	Stressed
68	1,2-Dibromo-3-chloropropane			2,502.0	µg/mL	+/-	14.5468	µg/mL	Gravimetric
	CAS # 96-12-8	(Lot FBL01)				+/-	150.9567	µg/mL	Unstressed
	Purity 99%					+/-	151.3151	µg/mL	Stressed
69	1,2,4-Trichlorobenzene			2,502.1	µg/mL	+/-	14.5476	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBJ9215)				+/-	150.9643	µg/mL	Unstressed
	Purity 99%					+/-	151.3227	µg/mL	Stressed
70	Hexachlorobutadiene			2,501.5	µg/mL	+/-	14.5439	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot J31X013)				+/-	150.9266	µg/mL	Unstressed
	Purity 99%					+/-	151.2849	µg/mL	Stressed
71	Naphthalene			2,502.8	µg/mL	+/-	14.5512	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBZ8680V)				+/-	151.0020	µg/mL	Unstressed
	Purity 99%					+/-	151.3605	µg/mL	Stressed

72	1,2,3-Trichlorobenzene **CAS #** 87-61-6 **Purity** 99%	(Lot MKBX7627V)	2,502.5	µg/mL	+/-	14.5498	µg/mL	Gravimetric
					+/-	150.9869	µg/mL	Unstressed
					+/-	151.3454	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
40°C (hold 6 min.) to 240°C
@ 6°C/min. (hold 10 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD

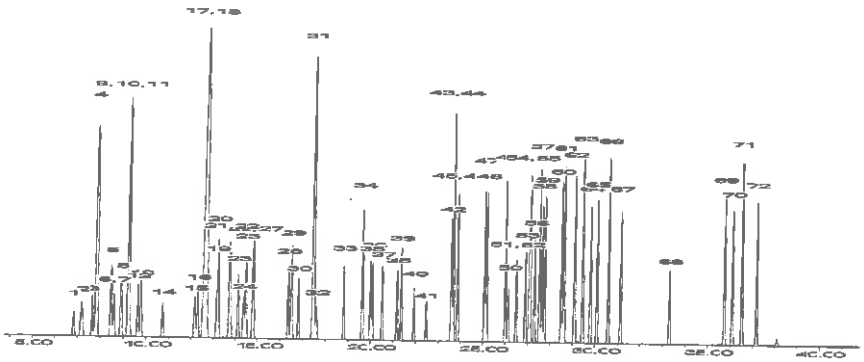

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

F. Joseph Tallon - Mix Technician

Date Mixed: 05-Dec-2018 **Balance:** B251644995

Diane Shaffer - Operations Tech-ARM QC

Date Passed: 21-Dec-2018

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

VOA8260MEGA2_00093

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571992.SEC **Lot No.:** A0144202

Description : 8260 List 1 / Std #1 MegaMix (2017)

8260 List 1 / Std #1 MegaMix (2017) 1,250-62,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2021 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Diethyl ether (ethyl ether)	2,517.0 µg/mL	+/- 14.6339	µg/mL	Gravimetric
	CAS # 60-29-7.SEC (Lot F23X068)		+/- 151.8598	µg/mL	Unstressed
	Purity 98%		+/- 152.2203	µg/mL	Stressed
2	1,1,2-Trichlorotrifluoroethane (CFC-113)	2,506.7 µg/mL	+/- 14.5740	µg/mL	Gravimetric
	CAS # 76-13-1.SEC (Lot 18342)		+/- 151.2383	µg/mL	Unstressed
	Purity 99%		+/- 151.5974	µg/mL	Stressed
3	1,1-Dichloroethene	2,503.3 µg/mL	+/- 14.5546	µg/mL	Gravimetric
	CAS # 75-35-4.SEC (Lot 7692300)		+/- 151.0372	µg/mL	Unstressed
	Purity 99%		+/- 151.3958	µg/mL	Stressed
4	tert-Butanol (TBA)	25,000.8 µg/mL	+/- 145.3491	µg/mL	Gravimetric
	CAS # 75-65-0.SEC (Lot XYXDO)		+/- 1,508.4071	µg/mL	Unstressed
	Purity 98%		+/- 1,511.9883	µg/mL	Stressed
5	Methyl acetate	5,002.3 µg/mL	+/- 29.0840	µg/mL	Gravimetric
	CAS # 79-20-9.SEC (Lot UCNEL)		+/- 301.8129	µg/mL	Unstressed
	Purity 99%		+/- 302.5295	µg/mL	Stressed
6	Iodomethane (methyl iodide)	2,503.5 µg/mL	+/- 14.5556	µg/mL	Gravimetric
	CAS # 74-88-4.SEC (Lot Y25A027)		+/- 151.0472	µg/mL	Unstressed
	Purity 99%		+/- 151.4059	µg/mL	Stressed
7	Allyl chloride (3-chloropropene)	2,511.7 µg/mL	+/- 14.6030	µg/mL	Gravimetric
	CAS # 107-05-1.SEC (Lot H3HGC)		+/- 151.5400	µg/mL	Unstressed
	Purity 99%		+/- 151.8998	µg/mL	Stressed

8	Methylene chloride (dichloromethane)			2,506.7	µg/mL	+/-	14.5740	µg/mL	Gravimetric
	CAS #	75-09-2.SEC	(Lot FGM02)			+/-	151.2383	µg/mL	Unstressed
	Purity	99%				+/-	151.5974	µg/mL	Stressed
9	Carbon disulfide			2,500.7	µg/mL	+/-	14.5391	µg/mL	Gravimetric
	CAS #	75-15-0.SEC	(Lot MKBL1376V)			+/-	150.8763	µg/mL	Unstressed
	Purity	99%				+/-	151.2345	µg/mL	Stressed
10	Acrylonitrile			25,001.2	µg/mL	+/-	145.3513	µg/mL	Gravimetric
	CAS #	107-13-1.SEC	(Lot UERIL)			+/-	1,508.4304	µg/mL	Unstressed
	Purity	99%				+/-	1,512.0117	µg/mL	Stressed
11	Methyl-tert-butyl ether (MTBE)			2,501.5	µg/mL	+/-	14.5439	µg/mL	Gravimetric
	CAS #	1634-04-4.SEC	(Lot ZHKYA)			+/-	150.9266	µg/mL	Unstressed
	Purity	99%				+/-	151.2849	µg/mL	Stressed
12	cis-1,2-Dichloroethene			2,501.3	µg/mL	+/-	14.5427	µg/mL	Gravimetric
	CAS #	156-59-2.SEC	(Lot HGC01-BLKT)			+/-	150.9137	µg/mL	Unstressed
	Purity	98%				+/-	151.2720	µg/mL	Stressed
13	n-Hexane (C6)			2,503.2	µg/mL	+/-	14.5541	µg/mL	Gravimetric
	CAS #	110-54-3.SEC	(Lot K24W001)			+/-	151.0320	µg/mL	Unstressed
	Purity	97%				+/-	151.3905	µg/mL	Stressed
14	1,1-Dichloroethane			2,502.0	µg/mL	+/-	14.5468	µg/mL	Gravimetric
	CAS #	75-34-3.SEC	(Lot 5379000)			+/-	150.9567	µg/mL	Unstressed
	Purity	99%				+/-	151.3151	µg/mL	Stressed
15	2,2-Dichloropropane			2,503.2	µg/mL	+/-	14.5541	µg/mL	Gravimetric
	CAS #	594-20-7.SEC	(Lot I7E8E)			+/-	151.0320	µg/mL	Unstressed
	Purity	98%				+/-	151.3905	µg/mL	Stressed
16	trans-1,2-Dichloroethene			2,501.0	µg/mL	+/-	14.5409	µg/mL	Gravimetric
	CAS #	156-60-5.SEC	(Lot TS5UB)			+/-	150.8954	µg/mL	Unstressed
	Purity	97%				+/-	151.2537	µg/mL	Stressed
17	Isobutanol (2-Methyl-1-propanol)			62,508.3	µg/mL	+/-	363.4098	µg/mL	Gravimetric
	CAS #	78-83-1.SEC	(Lot PH2XK)			+/-	3,771.4029	µg/mL	Unstressed
	Purity	99%				+/-	3,780.3569	µg/mL	Stressed
18	Chloroform			2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
	CAS #	67-66-3.SEC	(Lot 1297547)			+/-	150.8662	µg/mL	Unstressed
	Purity	99%				+/-	151.2244	µg/mL	Stressed
19	Bromochloromethane			2,507.0	µg/mL	+/-	14.5759	µg/mL	Gravimetric
	CAS #	74-97-5.SEC	(Lot 5670200)			+/-	151.2584	µg/mL	Unstressed
	Purity	99%				+/-	151.6175	µg/mL	Stressed
20	Tetrahydrofuran			5,006.7	µg/mL	+/-	29.1092	µg/mL	Gravimetric
	CAS #	109-99-9.SEC	(Lot 8DAOJ)			+/-	302.0744	µg/mL	Unstressed
	Purity	99%				+/-	302.7916	µg/mL	Stressed
21	1,1,1-Trichloroethane			2,507.7	µg/mL	+/-	14.5798	µg/mL	Gravimetric
	CAS #	71-55-6.SEC	(Lot 7998000)			+/-	151.2986	µg/mL	Unstressed
	Purity	99%				+/-	151.6579	µg/mL	Stressed
22	Cyclohexane			2,508.0	µg/mL	+/-	14.5817	µg/mL	Gravimetric
	CAS #	110-82-7.SEC	(Lot YADRA)			+/-	151.3188	µg/mL	Unstressed
	Purity	99%				+/-	151.6780	µg/mL	Stressed
23	1,1-Dichloropropene			2,502.4	µg/mL	+/-	14.5492	µg/mL	Gravimetric
	CAS #	563-58-6.SEC	(Lot 5221100)			+/-	150.9809	µg/mL	Unstressed
	Purity	96%				+/-	151.3393	µg/mL	Stressed

24	Carbon tetrachloride			2,510.3	µg/mL	+/-	14.5953	µg/mL	Gravimetric
	CAS #	56-23-5.SEC	(Lot 11466)			+/-	151.4595	µg/mL	Unstressed
	Purity	99%				+/-	151.8191	µg/mL	Stressed
25	n-Heptane (C7)			2,511.8	µg/mL	+/-	14.6040	µg/mL	Gravimetric
	CAS #	142-82-5.SEC	(Lot TFHUC)			+/-	151.5500	µg/mL	Unstressed
	Purity	99%				+/-	151.9098	µg/mL	Stressed
26	1,2-Dichloroethane			2,501.3	µg/mL	+/-	14.5430	µg/mL	Gravimetric
	CAS #	107-06-2.SEC	(Lot FO6PK)			+/-	150.9165	µg/mL	Unstressed
	Purity	99%				+/-	151.2748	µg/mL	Stressed
27	Benzene			2,504.8	µg/mL	+/-	14.5633	µg/mL	Gravimetric
	CAS #	71-43-2.SEC	(Lot B28Y008)			+/-	151.1277	µg/mL	Unstressed
	Purity	99%				+/-	151.4865	µg/mL	Stressed
28	Trichloroethene			2,508.7	µg/mL	+/-	14.5856	µg/mL	Gravimetric
	CAS #	79-01-6.SEC	(Lot H04X050)			+/-	151.3590	µg/mL	Unstressed
	Purity	99%				+/-	151.7183	µg/mL	Stressed
29	Methylcyclohexane			2,504.5	µg/mL	+/-	14.5614	µg/mL	Gravimetric
	CAS #	108-87-2.SEC	(Lot Q02QG)			+/-	151.1076	µg/mL	Unstressed
	Purity	99%				+/-	151.4663	µg/mL	Stressed
30	1,2-Dichloropropane			2,504.0	µg/mL	+/-	14.5585	µg/mL	Gravimetric
	CAS #	78-87-5.SEC	(Lot ERRBI-RH)			+/-	151.0774	µg/mL	Unstressed
	Purity	99%				+/-	151.4361	µg/mL	Stressed
31	1,4-Dioxane			50,008.0	µg/mL	+/-	290.7356	µg/mL	Gravimetric
	CAS #	123-91-1.SEC	(Lot YVP2C)			+/-	3,017.2028	µg/mL	Unstressed
	Purity	99%				+/-	3,024.3661	µg/mL	Stressed
32	Dibromomethane			2,509.5	µg/mL	+/-	14.5904	µg/mL	Gravimetric
	CAS #	74-95-3.SEC	(Lot FGI01-OICH)			+/-	151.4093	µg/mL	Unstressed
	Purity	99%				+/-	151.7687	µg/mL	Stressed
33	cis-1,3-Dichloropropene			2,502.0	µg/mL	+/-	14.5468	µg/mL	Gravimetric
	CAS #	10061-01-5.SEC	(Lot 487OA)			+/-	150.9567	µg/mL	Unstressed
	Purity	99%				+/-	151.3151	µg/mL	Stressed
34	Toluene			2,501.5	µg/mL	+/-	14.5439	µg/mL	Gravimetric
	CAS #	108-88-3.SEC	(Lot YND2B-BD)			+/-	150.9266	µg/mL	Unstressed
	Purity	99%				+/-	151.2849	µg/mL	Stressed
35	Ethyl methacrylate			2,508.8	µg/mL	+/-	14.5866	µg/mL	Gravimetric
	CAS #	97-63-2.SEC	(Lot MLWYK-LS)			+/-	151.3690	µg/mL	Unstressed
	Purity	99%				+/-	151.7284	µg/mL	Stressed
36	trans-1,3-Dichloropropene			2,502.9	µg/mL	+/-	14.5520	µg/mL	Gravimetric
	CAS #	10061-02-6.SEC	(Lot ZDMSL)			+/-	151.0098	µg/mL	Unstressed
	Purity	96%				+/-	151.3684	µg/mL	Stressed
37	1,1,2-Trichloroethane			2,502.5	µg/mL	+/-	14.5498	µg/mL	Gravimetric
	CAS #	79-00-5.SEC	(Lot 7871500)			+/-	150.9869	µg/mL	Unstressed
	Purity	99%				+/-	151.3454	µg/mL	Stressed
38	1,3-Dichloropropane			2,502.7	µg/mL	+/-	14.5507	µg/mL	Gravimetric
	CAS #	142-28-9.SEC	(Lot AGN01-EFPC)			+/-	150.9970	µg/mL	Unstressed
	Purity	99%				+/-	151.3555	µg/mL	Stressed
39	Tetrachloroethene			2,505.0	µg/mL	+/-	14.5643	µg/mL	Gravimetric
	CAS #	127-18-4.SEC	(Lot F09W014)			+/-	151.1378	µg/mL	Unstressed
	Purity	99%				+/-	151.4966	µg/mL	Stressed

40	Dibromochloromethane			2,502.4	µg/mL	+/-	14.5494	µg/mL	Gravimetric
	CAS #	124-48-1.SEC	(Lot 10206360)			+/-	150.9832	µg/mL	Unstressed
	Purity	97%				+/-	151.3417	µg/mL	Stressed
41	1,2-Dibromoethane (EDB)			2,503.3	µg/mL	+/-	14.5546	µg/mL	Gravimetric
	CAS #	106-93-4.SEC	(Lot 3505900)			+/-	151.0372	µg/mL	Unstressed
	Purity	99%				+/-	151.3958	µg/mL	Stressed
42	Chlorobenzene			2,504.8	µg/mL	+/-	14.5633	µg/mL	Gravimetric
	CAS #	108-90-7.SEC	(Lot 1161936)			+/-	151.1277	µg/mL	Unstressed
	Purity	99%				+/-	151.4865	µg/mL	Stressed
43	m-Xylene			1,251.7	µg/mL	+/-	7.2941	µg/mL	Gravimetric
	CAS #	108-38-3.SEC	(Lot OUKMG-GB)			+/-	75.5202	µg/mL	Unstressed
	Purity	99%				+/-	75.6995	µg/mL	Stressed
44	p-Xylene			1,253.7	µg/mL	+/-	7.3058	µg/mL	Gravimetric
	CAS #	106-42-3.SEC	(Lot GM01)			+/-	75.6409	µg/mL	Unstressed
	Purity	99%				+/-	75.8205	µg/mL	Stressed
45	Ethylbenzene			2,503.5	µg/mL	+/-	14.5556	µg/mL	Gravimetric
	CAS #	100-41-4.SEC	(Lot PI4SE)			+/-	151.0472	µg/mL	Unstressed
	Purity	99%				+/-	151.4059	µg/mL	Stressed
46	1,1,1,2-Tetrachloroethane			2,506.7	µg/mL	+/-	14.5740	µg/mL	Gravimetric
	CAS #	630-20-6.SEC	(Lot GC01)			+/-	151.2383	µg/mL	Unstressed
	Purity	99%				+/-	151.5974	µg/mL	Stressed
47	o-Xylene			2,504.2	µg/mL	+/-	14.5594	µg/mL	Gravimetric
	CAS #	95-47-6.SEC	(Lot FGL01)			+/-	151.0875	µg/mL	Unstressed
	Purity	99%				+/-	151.4462	µg/mL	Stressed
48	Styrene			2,507.2	µg/mL	+/-	14.5769	µg/mL	Gravimetric
	CAS #	100-42-5.SEC	(Lot OFIOL-IA)			+/-	151.2685	µg/mL	Unstressed
	Purity	99%				+/-	151.6276	µg/mL	Stressed
49	Isopropylbenzene (cumene)			2,505.2	µg/mL	+/-	14.5653	µg/mL	Gravimetric
	CAS #	98-82-8.SEC	(Lot 2PHXG-IH)			+/-	151.1478	µg/mL	Unstressed
	Purity	99%				+/-	151.5067	µg/mL	Stressed
50	Bromoform			2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
	CAS #	75-25-2.SEC	(Lot 5461400)			+/-	150.8661	µg/mL	Unstressed
	Purity	97%				+/-	151.2243	µg/mL	Stressed
51	Bromodichloromethane			2,501.3	µg/mL	+/-	14.5427	µg/mL	Gravimetric
	CAS #	75-27-4.SEC	(Lot 13780)			+/-	150.9137	µg/mL	Unstressed
	Purity	98%				+/-	151.2720	µg/mL	Stressed
52	1,1,2,2-Tetrachloroethane			2,502.0	µg/mL	+/-	14.5468	µg/mL	Gravimetric
	CAS #	79-34-5.SEC	(Lot CFA4D-AQ)			+/-	150.9567	µg/mL	Unstressed
	Purity	99%				+/-	151.3151	µg/mL	Stressed
53	1,2,3-Trichloropropane			2,505.7	µg/mL	+/-	14.5682	µg/mL	Gravimetric
	CAS #	96-18-4.SEC	(Lot GUHZN)			+/-	151.1780	µg/mL	Unstressed
	Purity	99%				+/-	151.5369	µg/mL	Stressed
54	trans-1,4-Dichloro-2-butene			2,514.2	µg/mL	+/-	14.6177	µg/mL	Gravimetric
	CAS #	110-57-6.SEC	(Lot 100700-3)			+/-	151.6922	µg/mL	Unstressed
	Purity	98%				+/-	152.0524	µg/mL	Stressed
55	n-Propylbenzene			2,503.7	µg/mL	+/-	14.5565	µg/mL	Gravimetric
	CAS #	103-65-1.SEC	(Lot T2HFC)			+/-	151.0573	µg/mL	Unstressed
	Purity	99%				+/-	151.4159	µg/mL	Stressed

56	Bromobenzene **CAS #** 108-86-1.SEC **Purity** 99%	(Lot 2FUHG-EM)	2,506.2	µg/mL	+/- +/- +/-	14.5711 151.2081 151.5671	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
57	1,3,5-Trimethylbenzene **CAS #** 108-67-8.SEC **Purity** 99%	(Lot FGH02-CMLN)	2,510.0	µg/mL	+/- +/- +/-	14.5934 151.4394 151.7990	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
58	2-Chlorotoluene **CAS #** 95-49-8.SEC **Purity** 99%	(Lot SW8QG-AO)	2,504.7	µg/mL	+/- +/- +/-	14.5623 151.1176 151.4764	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
59	4-Chlorotoluene **CAS #** 106-43-4.SEC **Purity** 99%	(Lot P4XHJ-AO)	2,509.2	µg/mL	+/- +/- +/-	14.5885 151.3891 151.7486	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
60	tert-Butylbenzene **CAS #** 98-06-6.SEC **Purity** 99%	(Lot D6OHC)	2,505.8	µg/mL	+/- +/- +/-	14.5691 151.1880 151.5470	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
61	1,2,4-Trimethylbenzene **CAS #** 95-63-6.SEC **Purity** 99%	(Lot JMIYD)	2,508.7	µg/mL	+/- +/- +/-	14.5856 151.3590 151.7183	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
62	sec-Butylbenzene **CAS #** 135-98-8.SEC **Purity** 99%	(Lot OGN01-IMA)	2,504.7	µg/mL	+/- +/- +/-	14.5623 151.1176 151.4764	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
63	4-Isopropyltoluene (p-cymene) **CAS #** 99-87-6.SEC **Purity** 99%	(Lot 6628200)	2,500.3	µg/mL	+/- +/- +/-	14.5372 150.8562 151.2143	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
64	1,3-Dichlorobenzene **CAS #** 541-73-1.SEC **Purity** 99%	(Lot FMDFD)	2,506.3	µg/mL	+/- +/- +/-	14.5720 151.2182 151.5772	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
65	1,4-Dichlorobenzene **CAS #** 106-46-7.SEC **Purity** 99%	(Lot 4Y5DC)	2,509.8	µg/mL	+/- +/- +/-	14.5924 151.4294 151.7889	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
66	n-Butylbenzene **CAS #** 104-51-8.SEC **Purity** 99%	(Lot MMPGA)	2,513.7	µg/mL	+/- +/- +/-	14.6147 151.6607 152.0207	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
67	1,2-Dichlorobenzene **CAS #** 95-50-1.SEC **Purity** 99%	(Lot R6QDM)	2,501.8	µg/mL	+/- +/- +/-	14.5459 150.9467 151.3051	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
68	1,2-Dibromo-3-chloropropane **CAS #** 96-12-8.SEC **Purity** 98%	(Lot LC00408V)	2,508.5	µg/mL	+/- +/- +/-	14.5845 151.3473 151.7066	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
69	1,2,4-Trichlorobenzene **CAS #** 120-82-1.SEC **Purity** 99%	(Lot 3LYYC)	2,503.3	µg/mL	+/- +/- +/-	14.5546 151.0372 151.3958	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
70	Hexachlorobutadiene **CAS #** 87-68-3.SEC **Purity** 97%	(Lot 5526800)	2,504.4	µg/mL	+/- +/- +/-	14.5607 151.1002 151.4590	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
71	Naphthalene **CAS #** 91-20-3.SEC **Purity** 99%	(Lot 4KW3H-OO)	2,503.3	µg/mL	+/- +/- +/-	14.5546 151.0372 151.3958	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

72	1,2,3-Trichlorobenzene		2,512.2	µg/mL	+/-	14.6063	µg/mL	Gravimetric
	CAS # 87-61-6.SEC	(Lot A0043055)			+/-	151.5740	µg/mL	Unstressed
	Purity 98%				+/-	151.9338	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
40°C (hold 6 min.) to 240°C
@ 6°C/min. (hold 10 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD

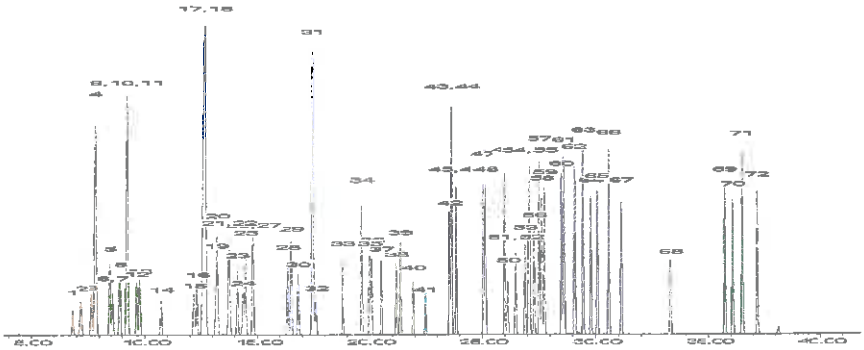

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Brandon Reish - Mix Technician

Date Mixed: 17-Dec-2018 **Balance:** 1127510105

Diane Shaffer - Operations Tech-ARM QC

Date Passed: 21-Dec-2018

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

VOA8260SURRES_00141

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited Reference Material Producer Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567650 **Lot No.:** A0132615

Description : 8260 Surrogate Standard

8260 Surrogate Standard 2,500µg/mL, P&T Methanol, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : November 30, 2022 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Dibromofluoromethane **CAS #** 1868-53-7 **Purity** 99.8%	(Lot 0012017)	2,500.2 µg/mL	+/- 14.5364 µg/mL +/- 140.1837 µg/mL +/- 143.4639 µg/mL	Gravimetric Unstressed Stressed
2	1,2-Dichloroethane-d4 **CAS #** 17060-07-0 **Purity** 99%	(Lot PR-26748)	2,500.2 µg/mL	+/- 14.5361 µg/mL +/- 140.1809 µg/mL +/- 143.4610 µg/mL	Gravimetric Unstressed Stressed
3	Toluene-d8 **CAS #** 2037-26-5 **Purity** 99%	(Lot PR-26623)	2,500.2 µg/mL	+/- 14.5364 µg/mL +/- 140.1837 µg/mL +/- 143.4639 µg/mL	Gravimetric Unstressed Stressed
4	1-Bromo-4-fluorobenzene (BFB) **CAS #** 460-00-4 **Purity** 99%	(Lot 20401KOV)	2,500.3 µg/mL	+/- 14.5370 µg/mL +/- 140.1893 µg/mL +/- 143.4696 µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Reagent

VOA8260SURRES_00159

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Bellefonte, PA 16823-8812
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Fax: (814)353-1309

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567650 **Lot No.:** A0143613

Description : 8260 Surrogate Standard

8260 Surrogate Standard 2,500µg/mL, P&T Methanol, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : November 30, 2023 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Dibromofluoromethane **CAS #** 1868-53-7 **Purity** 99%	(Lot 0012017)	2,506.4 µg/mL	+/- 14.5724 µg/mL +/- 140.5314 µg/mL +/- 143.8196 µg/mL		Gravimetric Unstressed Stressed
2	1,2-Dichloroethane-d4 **CAS #** 17060-07-0 **Purity** 99%	(Lot PR-29377)	2,503.8 µg/mL	+/- 14.5570 µg/mL +/- 140.3828 µg/mL +/- 143.6676 µg/mL		Gravimetric Unstressed Stressed
3	Toluene-d8 **CAS #** 2037-26-5 **Purity** 99%	(Lot PR-27311)	2,512.2 µg/mL	+/- 14.6059 µg/mL +/- 140.8538 µg/mL +/- 144.1496 µg/mL		Gravimetric Unstressed Stressed
4	1-Bromo-4-fluorobenzene (BFB) **CAS #** 460-00-4 **Purity** 99%	(Lot 20401KO)	2,501.8 µg/mL	+/- 14.5457 µg/mL +/- 140.2734 µg/mL +/- 143.5557 µg/mL		Gravimetric Unstressed Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Reagent

VOABFBRES_00077

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 30067 **Lot No.:** A0139387

Description : 4-Bromofluorobenzene Standard

4-Bromofluorobenzene Standard 2,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : July 31, 2023 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1-Bromo-4-fluorobenzene (BFB)	2,517.0 µg/mL	+/- 14.7712	µg/mL	Gravimetric
	CAS # 460-00-4 (Lot 20401KO)		+/- 141.1400	µg/mL	Unstressed
	Purity 99%		+/- 144.4418	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Reagent

VOABFBRES_00086

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Certificate #3222.01

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Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 30067 **Lot No.:** A0147670

Description : 4-Bromofluorobenzene Standard

4-Bromofluorobenzene Standard 2,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2024 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1-Bromo-4-fluorobenzene (BFB)	2,511.0 µg/mL	+/- 14.7360	µg/mL	Gravimetric
	CAS # 460-00-4 (Lot 20401KO)		+/- 140.8035	µg/mL	Unstressed
	Purity 99%		+/- 144.0975	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

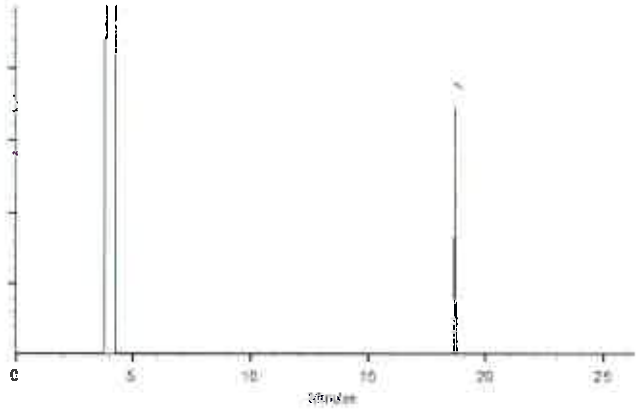

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Dustin J Lidgett

Dustin Lidgett - Mix Technician

Date Mixed: 01-Apr-2019 **Balance:** 1127510105

Justine Albertson - Operations Tech-ARM QC

Date Passed: 04-Apr-2019

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

VOABFBRES_00088

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Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 30067 **Lot No.:** A0147670

Description : 4-Bromofluorobenzene Standard

4-Bromofluorobenzene Standard 2,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2024 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1-Bromo-4-fluorobenzene (BFB)	2,511.0 µg/mL	+/- 14.7360	µg/mL	Gravimetric
	CAS # 460-00-4 (Lot 20401KO)		+/- 140.8035	µg/mL	Unstressed
	Purity 99%		+/- 144.0975	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

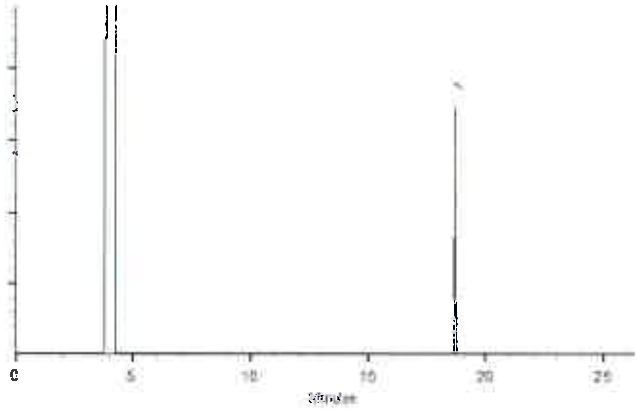

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Dustin J Lidgett

Dustin Lidgett - Mix Technician

Date Mixed: 01-Apr-2019 **Balance:** 1127510105

Justine Albertson - Operations Tech-ARM QC

Date Passed: 04-Apr-2019

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

VOACEVERES2ND_00111

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569723.SEC **Lot No.:** A0139838

Description : 8260 List 1 / Std #4 2-CEVE (2015)

8260 List 1 / Std #4 2-CEVE (2015) 2,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : July 31, 2021 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2-Chloroethyl vinyl ether	2,507.0 µg/mL	+/- 14.7125	µg/mL	Gravimetric
	CAS # 110-75-8.SEC (Lot BQZ2K-QD)		+/- 53.7124	µg/mL	Unstressed
	Purity 99%		+/- 55.2718	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Tech Tips:

Degradation of tetrachloroethylene to pentachloroethane may occur if solutions containing 2-chloroethyl vinyl ether are combined with solutions that contain tetrachloroethylene.

Reagent

VOALIST2STD3P_00028

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569727 **Lot No.:** A0140237

Description : 8260 List 2/ Std #3 Cyclohexanone (2015)

8260 List 2/ Std #3 Cyclohexanone (2015) 25,000µg/mL, Water, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2021 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)			
1	Cyclohexanone **CAS #** 108-94-1 (Lot MKBS9093V) **Purity** 99%	25,148.7 µg/mL	+/-	147.2510	µg/mL	Gravimetric
			+/-	1,517.4305	µg/mL	Unstressed
			+/-	1,521.0327	µg/mL	Stressed

Solvent: Water
CAS # 7732-18-5
Purity 99%

Reagent

VOALIST2STD6P_00029

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 570808 **Lot No.:** A0135915

Description : 8260 List 2 / Std #6

8260 List 2 / Std #6 2,500-62,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2019 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	2-Propanol (isopropanol)		25,201.5 µg/mL	+/- 147.5603 µg/mL	Gravimetric
	CAS # 67-63-0	(Lot SHBG4888V)		+/- 1,246.7862 µg/mL	Unstressed
	Purity 99%			+/- 1,277.7827 µg/mL	Stressed
2	Chloroprene (2-chloro-1,3-butadiene)		2,510.0 µg/mL	+/- 14.7301 µg/mL	Gravimetric
	CAS # 126-99-8	(Lot 180302JLM)		+/- 124.1804 µg/mL	Unstressed
	Purity 99%			+/- 127.2675 µg/mL	Stressed
3	Methacrylonitrile		25,081.5 µg/mL	+/- 146.8577 µg/mL	Gravimetric
	CAS # 126-98-7	(Lot 1012014)		+/- 1,240.8495 µg/mL	Unstressed
	Purity 99%			+/- 1,271.6983 µg/mL	Stressed
4	2,2,4-Trimethylpentane (isooctane)		2,523.0 µg/mL	+/- 14.8064 µg/mL	Gravimetric
	CAS # 540-84-1	(Lot SHBD2922V)		+/- 124.8236 µg/mL	Unstressed
	Purity 99%			+/- 127.9267 µg/mL	Stressed
5	1-Butanol		62,543.5 µg/mL	+/- 366.1871 µg/mL	Gravimetric
	CAS # 71-36-3	(Lot SHBH9510)		+/- 3,094.1935 µg/mL	Unstressed
	Purity 99%			+/- 3,171.1186 µg/mL	Stressed
6	2-Nitropropane		5,026.4 µg/mL	+/- 29.4308 µg/mL	Gravimetric
	CAS # 79-46-9	(Lot BCBL0537V)		+/- 248.6706 µg/mL	Unstressed
	Purity 98%			+/- 254.8528 µg/mL	Stressed
7	1-Chlorohexane		2,519.1 µg/mL	+/- 14.7834 µg/mL	Gravimetric
	CAS # 544-10-5	(Lot 05107LK)		+/- 124.6302 µg/mL	Unstressed
	Purity 98%			+/- 127.7284 µg/mL	Stressed

8	1,2,3-Trimethylbenzene		2,502.6	µg/mL	+/-	14.6867	µg/mL	Gravimetric
	CAS # 526-73-8	(Lot 877605-13)			+/-	123.8143	µg/mL	Unstressed
	Purity 97%				+/-	126.8923	µg/mL	Stressed
9	Benzyl chloride		2,513.5	µg/mL	+/-	14.7506	µg/mL	Gravimetric
	CAS # 100-44-7	(Lot SHBB7346V)			+/-	124.3536	µg/mL	Unstressed
	Purity 99%				+/-	127.4450	µg/mL	Stressed
10	1,3,5-Trichlorobenzene		2,501.5	µg/mL	+/-	14.6802	µg/mL	Gravimetric
	CAS # 108-70-3	(Lot 11319AS)			+/-	123.7599	µg/mL	Unstressed
	Purity 99%				+/-	126.8365	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

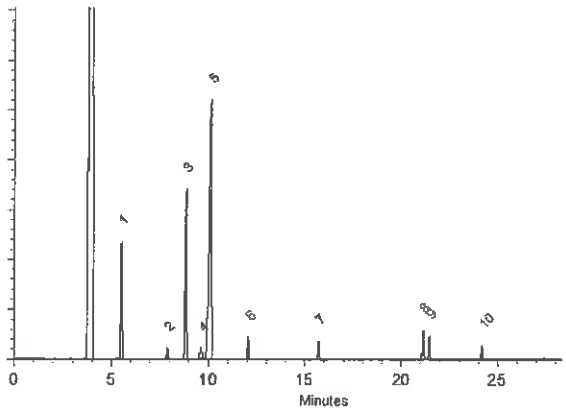

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cydnei L. Crust
Cydnei L. Crust - Mix Technician

Date Mixed: 06-Mar-2018 **Balance:** B707717271

Justine Albertson - Operations Tech-ARM QC

Date Passed: 08-Mar-2018

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

Reagent

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 570808.SEC **Lot No.:** A0143097

Description : 8260 List 2 / Std #6

8260 List 2 / Std #6 2,500-62,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2020 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	2-Propanol (isopropanol) **CAS #** 67-63-0.SEC (Lot NWVYK) **Purity** 99%	25,047.5 µg/mL	+/- 146.6586 µg/mL +/- 1,239.1674 µg/mL +/- 1,269.9744 µg/mL	Gravimetric Unstressed Stressed
2	Chloroprene (2-chloro-1,3-butadiene) **CAS #** 126-99-8 * (Lot 180921JLM) **Purity** 99%	2,509.0 µg/mL	+/- 14.7242 µg/mL +/- 124.1310 µg/mL +/- 127.2168 µg/mL	Gravimetric Unstressed Stressed
3	Methacrylonitrile **CAS #** 126-98-7 * (Lot 1012014) **Purity** 99%	25,031.0 µg/mL	+/- 146.5620 µg/mL +/- 1,238.3511 µg/mL +/- 1,269.1379 µg/mL	Gravimetric Unstressed Stressed
4	2,2,4-Trimethylpentane (Isooctane) **CAS #** 540-84-1.SEC (Lot 4597900) **Purity** 99%	2,513.5 µg/mL	+/- 14.7506 µg/mL +/- 124.3536 µg/mL +/- 127.4450 µg/mL	Gravimetric Unstressed Stressed
5	1-Butanol **CAS #** 71-36-3.SEC (Lot TOY3I) **Purity** 99%	62,799.0 µg/mL	+/- 367.6830 µg/mL +/- 3,106.8338 µg/mL +/- 3,184.0731 µg/mL	Gravimetric Unstressed Stressed
6	2-Nitropropane **CAS #** 79-46-9.SEC (Lot 6M3NJ) **Purity** 98%	5,003.9 µg/mL	+/- 29.2988 µg/mL +/- 247.5555 µg/mL +/- 253.7099 µg/mL	Gravimetric Unstressed Stressed
7	1-Chlorohexane **CAS #** 544-10-5.SEC (Lot 3890000) **Purity** 98%	2,501.9 µg/mL	+/- 14.6828 µg/mL +/- 123.7817 µg/mL +/- 126.8588 µg/mL	Gravimetric Unstressed Stressed

8	1,2,3-Trimethylbenzene			2,512.3	µg/mL	+/-	14.7436	µg/mL	Gravimetric
	CAS #	526-73-8.SEC	(Lot 7754800)			+/-	124.2942	µg/mL	Unstressed
	Purity	97%				+/-	127.3841	µg/mL	Stressed
9	Benzyl chloride			2,501.0	µg/mL	+/-	14.6773	µg/mL	Gravimetric
	CAS #	100-44-7.SEC	(Lot H29N03)			+/-	123.7352	µg/mL	Unstressed
	Purity	99%				+/-	126.8112	µg/mL	Stressed
10	1,3,5-Trichlorobenzene			2,506.5	µg/mL	+/-	14.7095	µg/mL	Gravimetric
	CAS #	108-70-3.SEC	(Lot I28U021)			+/-	124.0073	µg/mL	Unstressed
	Purity	99%				+/-	127.0900	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

*** Restek is unable to identify a reliable and/or acceptable second source for this material - the same batch of neat material may have been used to produce both the primary and secondary standard. The primary and secondary standards were prepared using different equipment and personnel.**

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

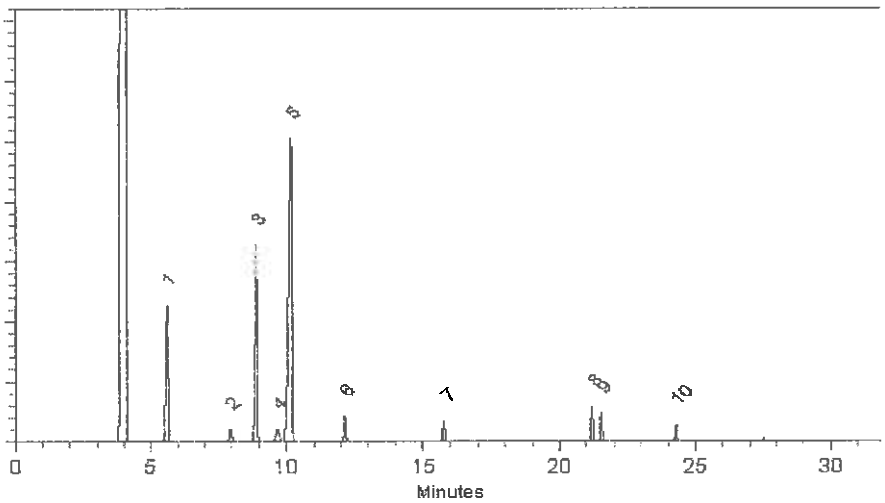

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Matt Fragassi - Mix Technician

Date Mixed: 08-Nov-2018 **Balance:** 1128342314

Diane Shaffer - Operations Tech-ARM QC

Date Passed: 13-Nov-2018

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

VOALIST2STD7P_00028

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 570809 **Lot No.:** A0135442

Description : 8260 List 2 / Std #7

8260 List 2 / Std #7 2,500-5,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2019 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Ethyl acetate **CAS #** 141-78-6 **Purity** 99%	(Lot SHBH7407)	5,048.8 µg/mL	+/- 29.5618 µg/mL +/- 304.6366 µg/mL +/- 305.3597 µg/mL	Gravimetric Unstressed Stressed
2	Ethyl acrylate **CAS #** 140-88-5 **Purity** 99%	(Lot 10129902)	2,522.8 µg/mL	+/- 14.8052 µg/mL +/- 152.2250 µg/mL +/- 152.5864 µg/mL	Gravimetric Unstressed Stressed
3	Methyl methacrylate **CAS #** 80-62-6 **Purity** 99%	(Lot MKBH4379V)	5,048.0 µg/mL	+/- 29.5572 µg/mL +/- 304.5883 µg/mL +/- 305.3113 µg/mL	Gravimetric Unstressed Stressed
4	Butyl acetate **CAS #** 123-86-4 **Purity** 99%	(Lot SHBH0056V)	2,522.0 µg/mL	+/- 14.8005 µg/mL +/- 152.1767 µg/mL +/- 152.5380 µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Reagent

VOALIST3STD1P_00050

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571993 **Lot No.:** A0132831

Description : 8260 List 3/ Std#1 Polar Additions (2017)

8260 List 3/ Std#1 Polar Additions (2017) 2,500-25,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2019 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)			
1	Acetonitrile		25,004.8	µg/mL	+/-	146.4086	µg/mL	Gravimetric
	CAS # 75-05-8	(Lot SHBB1630V)			+/-	1,237.0550	µg/mL	Unstressed
	Purity 99%				+/-	1,267.8094	µg/mL	Stressed
2	Diisopropyl ether (DIPE)		2,501.6	µg/mL	+/-	14.6808	µg/mL	Gravimetric
	CAS # 108-20-3	(Lot SHBC0391V)			+/-	123.7649	µg/mL	Unstressed
	Purity 99%				+/-	126.8416	µg/mL	Stressed
3	Ethyl-tert-butyl ether (ETBE)		2,502.0	µg/mL	+/-	14.6831	µg/mL	Gravimetric
	CAS # 637-92-3	(Lot MKCC2702)			+/-	123.7846	µg/mL	Unstressed
	Purity 99%				+/-	126.8619	µg/mL	Stressed
4	Propionitrile		25,006.0	µg/mL	+/-	146.4156	µg/mL	Gravimetric
	CAS # 107-12-0	(Lot BCBQ1587V)			+/-	1,237.1143	µg/mL	Unstressed
	Purity 99%				+/-	1,267.8703	µg/mL	Stressed
5	tert-Amyl alcohol		25,005.2	µg/mL	+/-	146.4109	µg/mL	Gravimetric
	CAS # 75-85-4	(Lot STBB1898V)			+/-	1,237.0747	µg/mL	Unstressed
	Purity 99%				+/-	1,267.8297	µg/mL	Stressed
6	tert-Amyl methyl ether (TAME)		2,506.1	µg/mL	+/-	14.7069	µg/mL	Gravimetric
	CAS # 994-05-8	(Lot HMBD8698V)			+/-	123.9853	µg/mL	Unstressed
	Purity 98%				+/-	127.0675	µg/mL	Stressed

Reagent

VOALIST3STD1S_00047

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571993.SEC **Lot No.:** A0143318

Description : 8260 List 3/ Std#1 Polar Additions (2017)

8260 List 3/ Std#1 Polar Additions (2017) 2,500-25,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2020 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L., K=2)	
1	Acetonitrile	25,020.5 µg/mL	+/- 146.5005 µg/mL	Gravimetric
	CAS # 75-05-8.SEC (Lot 7KGDA)		+/- 1,237.8317 µg/mL	Unstressed
	Purity 99%		+/- 1,268.6055 µg/mL	Stressed
2	Diisopropyl ether (DIPE)	2,506.8 µg/mL	+/- 14.7115 µg/mL	Gravimetric
	CAS # 108-20-3.SEC (Lot LL7TN-SH)		+/- 124.0241 µg/mL	Unstressed
	Purity 98%		+/- 127.1073 µg/mL	Stressed
3	Ethyl-tert-butyl ether (ETBE)	2,509.0 µg/mL	+/- 14.7242 µg/mL	Gravimetric
	CAS # 637-92-3.SEC (Lot MHBJG-QK)		+/- 124.1310 µg/mL	Unstressed
	Purity 99%		+/- 127.2168 µg/mL	Stressed
4	Propionitrile	25,017.5 µg/mL	+/- 146.4830 µg/mL	Gravimetric
	CAS # 107-12-0.SEC (Lot PS48O)		+/- 1,237.6833 µg/mL	Unstressed
	Purity 99%		+/- 1,268.4534 µg/mL	Stressed
5	tert-Amyl alcohol	25,019.0 µg/mL	+/- 146.4917 µg/mL	Gravimetric
	CAS # 75-85-4.SEC (Lot ZL6RD)		+/- 1,237.7575 µg/mL	Unstressed
	Purity 99%		+/- 1,268.5294 µg/mL	Stressed
6	tert-Amyl methyl ether (TAME)	2,510.3 µg/mL	+/- 14.7317 µg/mL	Gravimetric
	CAS # 994-05-8.SEC (Lot 7375800)		+/- 124.1938 µg/mL	Unstressed
	Purity 98%		+/- 127.2812 µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

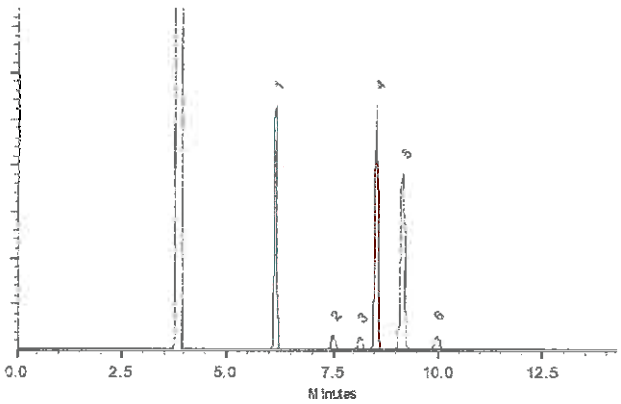

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Dustin J. Lidgett
Dustin Lidgett - Mix Technician

Date Mixed: 15-Nov-2018 **Balance:** 1128342314

Justine Albertson - Operations Tech-ARM QC

Date Passed: 20-Nov-2018

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

WCN1000P_00047

LabChem
performance through chemistry
Jackson's Pointe Commerce Park - Building 1000
1010 Jackson's Pointe Court, Zelienople, PA 16063
Ph: 412-826-5230 | Fax: 724-473-0647 | www.labchem.com

CERTIFICATE OF ANALYSIS

Description: CYANIDE STANDARD, 1000ppm (1ml = 1mg CN)

Mfg. Date: 09/18/2019

Catalog Number: LC13545

Exp. Date: 03/18/2020

Lot Number: J260-11

ANALYTICAL SECTION

Test	Specification	Test Result
Appearance	clear, colorless solution	Pass Test
Concentration ppm CN	1000ppm +/- 10ppm	1001 ppm
Concentration mg CN/mL	1.000mg/mL +/- 0.010 mg CN/mL	1.001 mg CN/mL
Traceable to NIST	Potassium Chloride	999b

Intended Use - Product is intended for use in manufacturing procedures and laboratory procedures and protocols.

Storage Information - Unless otherwise noted on the product label, store the product under normal lab conditions in its tightly closed, original container. Do not pipet directly from the container or return unused portions to the container.

Instructions for Handling and Use - Please refer to the associated product label and Safety Data Sheet (SDS) for information regarding safety and handling of this product.

Preparation - All products are manufactured and tested according to established, documented procedures and methodology. Production documentation records manufacturing data, raw material traceability and testing history on a per lot basis. Balances, thermometers, and glassware are calibrated before first use and on a regular schedule with references traceable to NIST standards.

Submitted by: Greg Albright, Chemist Supervisor

An ISO9001:2008 certified company. Registration # 0306-01 12/20/2019 1:03 PM

Form #17.13 07/28/2016

Reagent

WCN1000S_00034

RICCA CHEMICAL COMPANY®

1490 Lammers Pike
Batesville, IN 47006
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

Certificate of Analysis

Cyanide Standard, 1000 ppm CN^-

Lot Number: 4908J29 **Product Number:** 2543

Manufacture Date: AUG 23, 2019
Expiration Date: FEB 2020

This standard is prepared using accurate volumetric techniques from material that has been assayed against Silver Nitrate solution certified traceable to NIST Standard Reference Material 999. The certified value reported is the prepared value based upon the method of preparation of the material. The uncertainty in the prepared value is the combined uncertainty based on the stability of the assayed Potassium Cyanide, and the uncertainty in the mass and volume measurements.

Use 0.16% (w/v) (0.04 N) Sodium Hydroxide or 0.225 % (w/v) (0.04 N) Potassium Hydroxide to make dilutions of this standard. Restandardize weekly if extreme accuracy is required.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Potassium Cyanide	151-50-8	ACS
Sodium Hydroxide	1310-73-2	Reagent

Test	Specification	Result
Appearance	Colorless liquid	Passed
Cyanide (CN^-)	995-1005 ppm	1000 ppm

Specification	Reference
Stock Standard Cyanide Solution	APHA (4500-CN- F)
Stock Cyanide Solution	APHA (4500-CN- E)
Stock Cyanide Solution	APHA (4500-CN- K)
Stock Cyanide Solution	APHA (4500-CN- H)
Cyanide Reference Solution (1000 mg/L)	EPA (SW-846) (7.3.3.2)
Cyanide Calibration Stock Solution (1,000 mg/L CN-)	EPA (SW-846) (9213)
Stock Cyanide Solution	EPA (335.3)
Stock Cyanide Solution	EPA (335.2)
Cyanide Solution Stock	ASTM (D 4282)
Simple Cyanide Solution, Stock (1.0 g/L CN)	ASTM (D 4374)

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container
2543-16	500 mL amber poly	6 months
2543-4	120 mL amber poly	6 months

Recommended Storage: 2°C - 8°C (36°F - 46°F)

3361866
ID: WCN1000S_00034
Exp:02/29/20 Prpd:BSH Opn:09/12/19
Cyanide 1000 ppm Secondar

3361867
ID: WCN1000S_00034
Exp:02/29/20 Prpd:BSH Opn:09/12/19
Cyanide 1000 ppm Secondar

Jim Gibbs (08/23/2019)
Quality Control Supervisor
This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

This test report shall not be reproduced, except in full, without the written approval of Ricca Chemical Company.

Reagent

WCNSoilLCS_00025

phenova
Certified Reference Materials

info@phenova.com • www.phenova.com • 1-866-942-2978

Cyanide in Soil — Lot #7069-06

TNI Analyte Code	Analyte	Certified Value mg/kg	Acceptance Limits mg/kg	Acceptance Limits %
1645	Cyanide, total	190	41.4 - 209	21.8 - 110

Certified Values = "100% true concentration" of each analyte as determined from gravimetric and volumetric measurements made during standard manufacture.

Acceptance Limits = Generated based on the criteria established by The NELAC Institute (TNI) Fields of Proficiency Testing tables using regression equations and/or fixed percentage limits, historical data, and other criteria distributed by accrediting agencies as applicable. Please note that regression based acceptance criteria are based on the Assigned Value and may have different criteria at different concentrations.

Store at 20-25°C.

Catalog #: QC-CN-SOIL

Expiration Date: 04/20

Preparation Instructions: The Cyanide in Soil standard is provided as a pre-spiked, ready-to-use standard that is ready for preparation and analysis as received. Due to potential settling during shipping, homogenize before taking an aliquot. Digest and analyze the standard by your normal procedure. The standard is pre-dried so percent moisture is 0%. The standard should be stored at 20-25°C.

3055959
ID: WCNSoilLCS_00025
Exp:04/30/20 Prpd:JAS Opn:02/06/19
Cyanide Solid LCS

3055960
ID: WCNSoilLCS_00025
Exp:04/30/20 Prpd:JAS Opn:02/06/19
Cyanide Solid LCS

Approved by: BJW

Date: 12/18

Reviewed by: AMB

Date: 12/18

Reagent

WpHBuffer7CCV_00033

LabChem
performance through chemistry
Jackson's Pointe Commerce Park - Building 1000
1010 Jackson's Pointe Court, Zelienople, PA 16063
Ph: 412-826-5230 | Fax: 724-473-0647 | www.labchem.com

2939079
ID: WpHBuffer7CCV_00033
Exp:09/19/20 Prpd:MTW Opn:10/04/18
pH Buffer 7 LCS

CERTIFICATE OF ANALYSIS

Description: BUFFER SOLUTION pH 7.0 Yellow

Mfg. Date: 09/19/2018

Catalog Number: LC12380

Exp. Date: 09/19/2020

Lot Number: H250-16

ANALYTICAL SECTION

Test	Specification	Test Result
Appearance	clear, yellow solution	Pass Test
pH @ 25 degrees C	pH 7.00 +/- 0.01	7.01
Traceable to NIST SRMs		186g 187f

Intended Use - Product is intended for use in manufacturing procedures and laboratory procedures and protocols.

Storage Information - Unless otherwise noted on the product label, store the product under normal lab conditions in its tightly closed, original container. Do not pipet directly from the container or return unused portions to the container.

Instructions for Handling and Use - Please refer to the associated product label and Safety Data Sheet (SDS) for information regarding safety and handling of this product.

Preparation - All products are manufactured and tested according to established, documented procedures and methodology. Production documentation records manufacturing data, raw material traceability and testing history on a per lot basis. Balances, thermometers, and glassware are calibrated before first use and on a regular schedule with references traceable to NIST standards.

Submitted by: Greg Albright, Chemist Supervisor

An ISO9001:2008 certified company. Registration # 0306-01

10/16/2018 11:43 AM

Form #17.13 07/28/2016

Reagent

WpHBuffer7P_00020

2923701
ID: WpHBuffer7P_00020
Exp:07/12/20 Prpd:MTW Opn:10/02/18
pH Buffer 7

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CERTIFICATE OF ANALYSIS

Description: BUFFER SOLUTION pH 7.0

Catalog Number: LC12370

Mfg. Date: 07/12/2018

Lot Number: H191-04

Exp. Date: 07/12/2020

ANALYTICAL SECTION

Test	Specification	Test Result
Appearance	clear, colorless solution	Pass Test
pH @ 25 degrees C	pH 7.00 +/- 0.01	6.99
Verified against NIST buffer		186g, 187f

Intended Use - Product is intended for use in manufacturing procedures and laboratory procedures and protocols.

Storage Information - Unless otherwise noted on the product label, store the product under normal lab conditions in its tightly closed, original container. Do not pipet directly from the container or return unused portions to the container.

Instructions for Handling and Use - Please refer to the associated product label and Safety Data Sheet (SDS) for information regarding safety and handling of this product.

Preparation - All products are manufactured and tested according to established, documented procedures and methodology. Production documentation records manufacturing data, raw material traceability and testing history on a per lot basis. Balances, thermometers, and glassware are calibrated before first use and on a regular schedule with references traceable to NIST standards.

Submitted by: Greg Albright, Chemist Supervisor

An ISO9001:2008 certified company. Registration # 0306-01

10/02/2018 2:26 PM

Form #17.13 07/28/2016

Reagent

WSulfide_00005

SIGMA-ALDRICH®
sigma-aldrich.com
3050 Spruce Street, Saint Louis, MO 63103, USA
Website: www.sigmaaldrich.com
Email USA: techserv@sial.com
Outside USA: eurtechserv@sial.com

Certificate of Analysis

Product Name:
Sodium sulfide nonahydrate - ACS reagent, ≥98.0%

Product Number:	**208043**
Batch Number:	**MKCF4407**
Brand:	SIGALD
CAS Number:	1313-84-4
MDL Number:	MFCD00149184
Formula:	Na2S · 9H2O
Formula Weight:	240.18 g/mol
Storage Temperature:	Store at 2 - 8 °C
Quality Release Date:	22 NOV 2017

$Na_2S \cdot 9H_2O$

Test	Specification	Result
Appearance (Color)	Colorless to Very Faint Yellow and White to Faint Yellow	White
Appearance (Form) Crystals or Chunks	Conforms to Requirements	Crystals
ICP Major Analysis Confirms Sodium and Sulfur Components	Confirmed	Confirmed
Titration by Na2S2O3	≥ 98.0 %	98.0 %
Ammonia (NH4)	≤ 0.005 %	< 0.005 %
Assay (Sulfite and Thiosulfate)	≤ 0.1 %	< 0.1 %
Iron (Fe)	Pass	Pass
Meets ACS Requirements	Current ACS Specification	Conforms

Michael Grady, Manager
Quality Control
Milwaukee, WI US

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at Sigma-Aldrich.com. For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.

Reagent

WSulfide_00006

Certificate of Analysis

GFS CHEMICALS

ISO 9001:2008 Manufacture of Chemical Products
Certificate Number 1348 Issue No. 6
ISO 9001:2008 Stockist, Distributor, and
Manufacturer of Fine Chemicals
Certificate Number S1348 Issue No. 6

SODIUM SULFIDE, NONAHYDRATE, REAGENT (ACS)
Item #: 1040
Lot #: C579586

2895260
ID: WSulfide_00006
Exp:03/09/20 Prpd:TAM Opn:09/14/15
sodium sulfide, nonahydra

1700988
ID: WSulfide_00003
Exp:09/09/16 Prpd:MTW Opn:09/14/16
sodium sulfide, nonahydra

Certified Values:

Specifications (Max Limits or as Specified)	Pass/Fail	Numerical Result
Assay 98.0% min	PASS	102.8%
Sulfite and Thiosulfate (as SO4) 0.1%	PASS	<0.1%
Iron Pass test	PASS	pass test
Ammonium 0.005%	PASS	<0.005%
Appearance Colorless to slightly yellow crystals	PASS	conforms

Traceable to N.I.S.T. (Y/N)? Y
Comments:

Certificate Prepared By: Nicholas E. Dangler — Signature on file.

Certifying Officer: Charles Fontaine, QA Manager, Analytical Division — Signature on file.

QA to Retest Point: 12 months from shipment

Recertification Batch #: 256373

Not for direct use in food, cosmetics, finished pharmaceuticals or drug products. Supplier is not responsible for compliance with FDA Current Good Manufacturing Practice (cGMP) requirements, including without limitation those for finished drug products in 21 C.F.R Parts 210 and 211. Consult warranty limitations at www.gfschemicals.com/statics/documents/aboutus/termsandconditions.html
For resale by GFS authorized distributors only.

GFS Chemicals, Inc. P.O. Box 245 Powell, OH 43065 * Signed Orig. Doc. On File
1-800-858-9682 (U.S. and Canada) 1-740-881-5501(International) 1-740-881-5989(Fax)

Reagent

GLY_STK_00108

Certificate of Analysis

Agilent

Custom Standard

Product Number: CUS-8384 **Page:** 1 of 1

Lot Number: CS-1398 **Lot Issue Date:** 26-Mar-2018 **Expiration Date:** 30-Apr-2020

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA Scientific's ISO 9001 registered quality system. A review of the gravimetric preparation data by our ISO 17025 accredited laboratory serves to verify the concentration of each analyte. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
2-methoxyethanol	000109-86-4	RM01198	10001 ± 50 µg/mL
2-ethoxyethanol	000110-80-5	RM01025	10048 ± 50 µg/mL
ethylene glycol	000107-21-1	RM12125	10037 ± 50 µg/mL
diethylene glycol	000111-46-6	RM03684	10012 ± 50 µg/mL
propylene glycol	000057-55-6	RM09856	10042 ± 50 µg/mL
triethylene glycol	000112-27-6	RM00376	10008 ± 50 µg/mL

Matrix: methanol (methyl alcohol)

Storage: Store at Room Temperature (15° to 30°C).

ID's 5000259
260
261
262
263
264
421
422
433
434

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

ISO 9001
Registered
TUV USA, Inc.

John Russo
President

Monica Bourgeois
Director of QA/RA

250 Smith Street North Kingstown, Rhode Island 02852 www.ultrasci.com

Reagent

GLY_STK_00114

Agilent

Certificate of Analysis
ISO 17034

Custom Standard

Product Number: CUS-8384 **Page:** 1 of 1

Lot Number: 0006476060 **Lot Issue Date:** 24-Jun-2019 **Expiration Date:** 31-Jul-2021

This ISO 17034 Reference Material (RM) was manufactured and verified in accordance with Agilent Technologies ISO 9001 registered quality system. A review of the gravimetric preparation data by our ISO 17025 accredited laboratory serves to verify the concentration of each analyte. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
2-methoxyethanol	000109-86-4	RM01198	10042 ± 50 µg/mL
2-ethoxyethanol	000110-80-5	RM01025	10042 ± 50 µg/mL
ethylene glycol	000107-21-1	RM12125	10045 ± 50 µg/mL
diethylene glycol	000111-46-6	RM12474	10041 ± 50 µg/mL
propylene glycol	000057-55-6	RM09856	10048 ± 50 µg/mL
triethylene glycol	000112-27-6	RM00376	10046 ± 50 µg/mL

Matrix: methanol (methyl alcohol)

Storage: Store at Room Temperature (15° to 30°C).

Agilent uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

Monica Bourgeois
QMS Representative

5376711
ID: GLY_STK_00111
Exp: 07/31/21 Prpd: JLS
8015 Glycol Stock 10,000

5376712
ID: GLY_STK_00112
Exp: 07/31/21 Prpd: JLS
8015 Glycol Stock 10,000

5376713
ID: GLY_STK_00113
Exp: 07/31/21 Prpd: JLS
8015 Glycol Stock 10,000

5376714
ID: GLY_STK_00114
Exp: 07/31/21 Prpd: JLS
8015 Glycol Stock 10,000

5376715
ID: GLY_STK_00115
Exp: 07/31/21 Prpd: JLS
8015 Glycol Stock 10,000

ANAB ACCREDITED 9017058 REFERENCE MATERIAL PRODUCER
ISO 17034 Cert No. AR-1936

Produced in accordance with TUV USA Inc 56 100 18560026 registered ISO 9001 Quality Management System

ANAB ACCREDITED 2475.01 TESTING LABORATORY
ISO17025 Cert No. AT-1937

250 Smith Street North Kingstown, Rhode Island 02852 www.agilent.com/quality

Reagent

GLY_SURR_neat_00023

660 Tower Lane • P.O. Box 599 • West Chester, PA 19381-0599
1-800-452-9994 • 1-610-692-3026 • Fax 1-610-692-8729
info@chemservice.com • www.chemservice.com

CERTIFICATE OF ANALYSIS

1,4-Butanediol

CATALOG NUMBER	N-10211-1G
LOT NUMBER	7323500
DATE CERTIFIED	01/28/15
EXPIRATION DATE	01/31/24
CAS NUMBER	110-63-4
MOLECULAR FORMULA	C4H10O2
MOLECULAR WEIGHT	90.12
STORAGE	Store in a cool dry place.
HANDLING	See Safety Data Sheet
INTENDED USE	For laboratory use only.
ISO GUIDE 34 CERTIFIED	[ ]

Analytical Test	Value
% PURITY (GC/FID)	98.2

Chem Service, Inc. guarantees the purity to be +/- 0.5% deviation prior to the expiration date shown on the label and exclusive of any customer contamination.

4598506
ID: GLY_SURR_neat_00020
Exp: 01/31/24 Prpd: JLS
8015 Glycol Surrogate (Ne

4598507
ID: GLY_SURR_neat_00021
Exp: 01/31/24 Prpd: JLS
8015 Glycol Surrogate (Ne

Certified By:

Mary Beth O'Donnell

Mary Beth O'Donnell
CSM/TC

4598508
ID: GLY_SURR_neat_00022
Exp: 01/31/24 Prpd: JLS
8015 Glycol Surrogate (Ne

4598509
ID: GLY_SURR_neat_00023
Exp: 01/31/24 Prpd: JLS
8015 Glycol Surrogate (Ne

4598510
ID: GLY_SURR_neat_00024
Exp: 01/31/24 Prpd: JLS
8015 Glycol Surrogate (Ne

Chem Service, Inc. is accredited to ISO Guide 34:2009, ISO/IEC 17025:2005 and certified to ISO 9001:2008

ISO/IEC 17025
Accreditation Number 3320

Reference Material Producer
ISO GUIDE 34
Accreditation Number 3320

COA Form
Revision 3 (3/2015)

Reagent

Glycol ALT_00012

Reference Materials Producer
Cert #2495.01

SPEXertificate®
Certificate of Reference Material

Chemical Testing
Cert #2495.02

Catalog Number: VO-TANY-2 **Lot No.** EN190523022

Description: Custom

Matrix: Methanol

Manufactured Date: 5-23-2019
Expiration Date: 5-22-2020

This **SPEXOrganics®** Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for organic chromatography instrumentation such as GC, GC-MS, LC, and LC-MS. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

Certified Compounds:

Compound	CAS #	Labeled	Purity	Certified†	Uncertainty
2-Ethoxyethanol	110-80-5	10000 µg/mL	99%	10073 µg/mL	± 353 µg/mL
2-Methoxyethanol	109-86-4	10000 µg/mL	99.9%	10107 µg/mL	± 354 µg/mL
Diethylene glycol	111-46-6	10000 µg/mL	100%	10150 µg/mL	± 355 µg/mL
Propylene Glycol	57-55-6	10000 µg/mL	99%	10197 µg/mL	± 357 µg/mL
Triethylene glycol	112-27-6	10000 µg/mL	99%	9950 µg/mL	± 348 µg/mL
Ethylene glycol	107-21-1	10000 µg/mL	99.5%	9958 µg/mL	± 349 µg/mL

12-16

Final Solution Verification:

Final solution integrity verified by Gas Chromatography/Mass Spectrometry. The mass spectrum of each compound was confirmed against the NIST mass spectral database.

† Certified concentration based on gravimetric weights and corrected for the purity of the compound(s) used to prepare the standard. Analytical balance calibration is verified daily with C1 weight set #23-190006 which is registered with Atlantic Scale, and traceable to NIST and NJ Division of Weights and Measures.

This CRM is guaranteed stable and accurate to within the uncertainty listed for the certified value. This includes uncertainty components due to preparation, homogeneity, short term and long term stability. During the stated period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution. For further information, contact the Sales Support Department at crmsales@spexcsp.com.

Date of Certification: 5-23-2019

Certifying Officer: Shannon Mace
Shannon Macieira, Operations Manager

© 2019 SPEX CertiPrep, LLC

Reagent

Atrazine_rest_00031

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31984 **Lot No.:** A0145963

Description : Atrazine-d5 Standard

Atrazine-d5 Standard 100µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 28, 2022 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Atrazine-d5	100.0 µg/mL	+/- 0.7091	µg/mL	Gravimetric
	CAS # 163165-75-1 (Lot C-323)		+/- 4.6114	µg/mL	Unstressed
	Purity 99%		+/- 4.7285	µg/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID

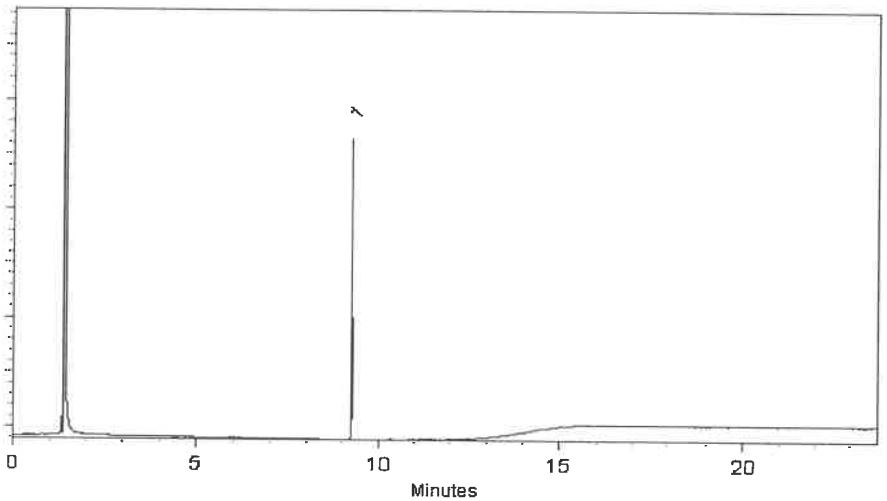

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Jessica McClenahan - Operations Technician I

Date Mixed: 12-Feb-2019 **Balance:** 1128360905

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 15-Feb-2019

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

Atrazine_rest_00036

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31984 **Lot No.:** A0153504

Description : Atrazine-d5 Standard

Atrazine-d5 Standard 100µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : October 31, 2022 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Atrazine-d5	100.0 µg/mL	+/- 0.7091 µg/mL	Gravimetric
	CAS # 163165-75-1 (Lot CD-233)		+/- 4.6114 µg/mL	Unstressed
	Purity 99%		+/- 4.7285 µg/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID

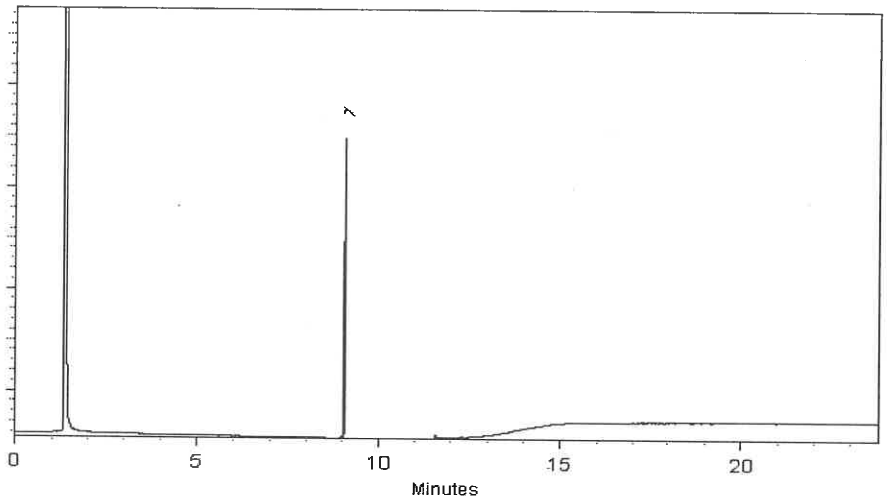

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Jessica McClenahan

Jessica McClenahan - Operations Technician I

Date Mixed: 01-Oct-2019 **Balance:** 1128360905

Jennifer L Pollino

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 04-Oct-2019

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

Carb_Chemserv_00014

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CERTIFICATE OF ANALYSIS

Carbamate & Urea Pesticides Mixture #2 - 632

CONCENTRATION	1000ug/ml in Acetonitrile
CATALOG NUMBER	M-CUP6322A4-1ML
LOT NUMBER	8618300
DATE CERTIFIED	06/05/19
EXPIRATION DATE	12/31/19
STORAGE	Room Temperature
HANDLING	See Safety Data Sheet
INTENDED USE	For laboratory use only.
ISO GUIDE 34 CERTIFIED	[X]

ID	Analyte	CAS	Weight Analyte (mg)	Lot	Purity	Certified Concentration (ug/mL)
N-11065	Aminocarb	2032-59-9	50.400	00020021	99.50	1003.0
N-11123	Barban	101-27-9	50.600	00022587	99.00	1001.9
N-11402	Carbaryl	63-25-2	50.400	00015538	99.50	1003.0
N-11405	Carbofuran	1563-66-2	50.400	6924500	99.50	1003.0
N-11458	Chlorpropham	101-21-3	51.100	00025239	97.90	1000.5
N-11827	Diuron	330-54-1	50.500	5612200	99.50	1005.0
N-11967	Fenuron	101-42-8	50.800	8076500	99.50	1010.9
N-11992	Fluometuron	2164-17-2	50.500	00015176	99.50	1005.0
N-12322	Linuron	330-55-2	50.400	00016253	99.50	1003.0
N-12398	Methiocarb	2032-65-7	50.300	4971100	99.50	1001.0
N-12399	Methomyl	16752-77-5	50.800	00019348	99.10	1006.9
N-12497	Monuron	150-68-5	50.400	00018043	99.20	999.9
N-12647	Neburon	555-37-3	50.500	00017499	99.50	1005.0
N-12735	Oxamyl	23135-22-0	50.400	00018587	99.50	1003.0
N-13109	Propham	122-42-9	50.600	3524400	99.50	1006.9
N-11128	Propoxur	114-26-1	50.700	00024127	99.00	1003.9
N-13211	Siduron	1982-49-6	50.600	4245300	99.50	1006.9
N-13260	SWEP	1918-18-9	50.600	8172900	99.50	1006.9
N-13753	Zectran	315-18-4	51.200	00022831	98.10	1004.5

Analytical Test	Value
CONCENTRATION (HPLC)	VERIFIED

Chem Service, Inc. is accredited to ISO Guide 34:2009, ISO/IEC 17025:2005 and certified to ISO 9001:2008

ISO/IEC 17025 Accreditation Number: 63520
ISO GUIDE 34 Accreditation Number: 63520

COA Form
Revision 3 (3/2015)

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1-800-452-9994 • 1-610-692-3026 • Fax 1-610-692-8729
info@chemservice.com • www.chemservice.com

CERTIFICATE OF ANALYSIS

Instructions for Use:
Shake mixture prior to use. If particles are present, sonicate for homogeneity. If sample is diluted to lower concentrations, Class A volumetric glassware must be used.
Minimum Sample Size- 0.2 uL for Direct Injection.
Chem Service Inc. guarantees the expanded uncertainty of the above analytes to be +/- 2.0% of the certified concentrations based on gravimetric preparation. The test results published in this report were obtained using equipment capable of producing results that are traceable to NIST and through NIST to the International System of Units (SI). The reported expanded uncertainty of measurement is stated as the combined standard uncertainty of measurement multiplied by the coverage factor k (k=2) such that the coverage probability corresponds to approximately 95%. For certified reference materials, homogeneity and thermal stability testing are available upon request.

Certified By:

Mary Beth O'Donnell

Mary Beth O'Donnell
CSM/TC

Chem Service, Inc. is accredited to ISO Guide 34:2009, ISO/IEC 17025:2005 and certified to ISO 9001:2008

PJLA
ISO/IEC 17025
Accreditation Number: 63520

PJLA
Reference Material Producer
ISO GUIDE 34
Accreditation Number: 63520

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CERTIFICATE OF ANALYSIS

HPLC Sample Report

Sample name: M-CUP6322A4

Injection Data File Name M-CUP6322A4.D

Injection Acquired Date 6/4/2019 3:31:27 PM

Column Name Raptor Biphenyl **Injection volume:** 0.400

Sample Vial Number 4

Acq. method: alan.M

Analysis method: alan.M

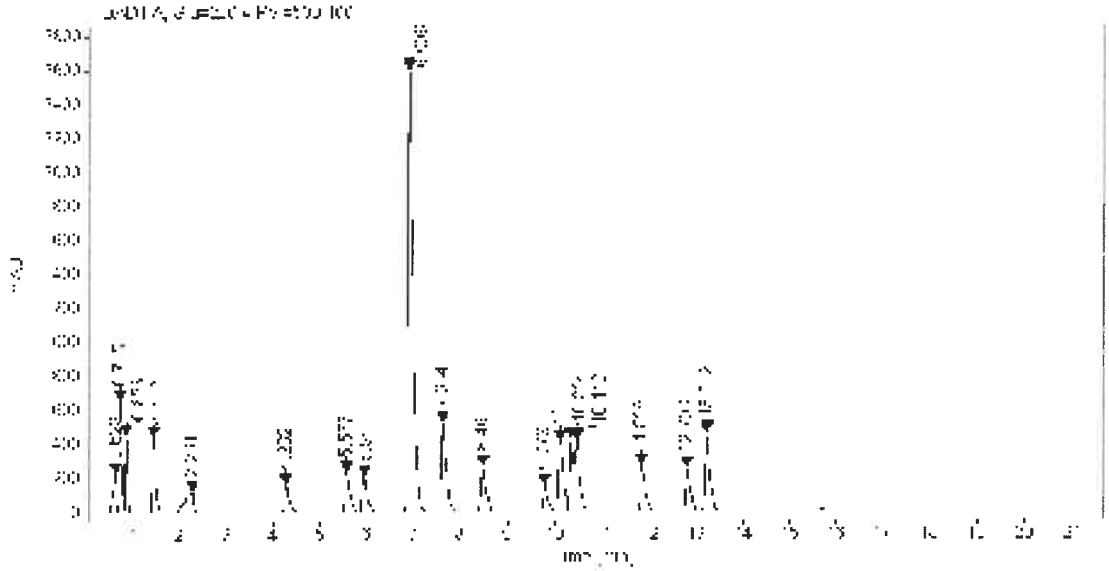

Chem Service, Inc. is accredited to ISO Guide 34:2009, ISO/IEC 17025:2005 and certified to ISO 9001:2008

ISO/IEC 17025 Accreditation Number:63520

ISO GUIDE 34 Accreditation Number:63520

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CERTIFICATE OF ANALYSIS

HPLC Sample Report

Signal: DAD1 A, Sig=220,4 Ref=500,100

RT [min]	Type	Width [min]	Area	Height	Area%	Name
0.623	BV	0.0749	707.8055	147.8532	2.0723	
0.715	VV	0.0482	1340.0430	420.6989	3.9233	
0.853	VB	0.0494	954.5800	289.8801	2.7948	
1.442	BB	0.0615	1204.6067	283.8322	3.5268	
2.261	BB	0.1549	906.7086	74.5661	2.6546	
4.282	BB	0.1027	727.0323	102.6217	2.1286	
5.577	BV	0.1001	1047.6161	150.7953	3.0672	
5.941	VB	0.0991	939.7137	136.7870	2.7512	
6.906	BB	0.1055	12685.0400	1672.0262	37.1385	
7.634	BB	0.0952	2212.4404	334.3132	6.4775	
8.460	BB	0.1054	1286.9805	175.9125	3.7679	
9.778	BB	0.0881	623.3257	100.9126	1.8249	
10.100	BV	0.0972	1764.3790	263.1732	5.1656	
10.324	VV	0.0811	1495.7662	276.6998	4.3792	
10.443	VB	0.1031	1962.2175	268.8651	5.7449	
11.828	BB	0.1036	1224.0406	170.8120	3.5837	
12.796	BB	0.0965	1090.0214	162.0232	3.1913	
13.212	BB	0.0958	1963.6792	293.8496	5.8077	
		Sum	34155.9965			

Chem Service, Inc. is accredited to ISO Guide 34:2009, ISO/IEC 17025:2005 and certified to ISO 9001:2008

ISO/IEC 17025
Accreditation Number 63520

ISO GUIDE 34
Accreditation Number 63520

Reagent

Carb_CSaldica_00019

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1-800-452-9994 • 1-610-692-3026 • Fax 1-610-692-8729
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CERTIFICATE OF ANALYSIS

Aldicarb Solution

CONCENTRATION	100ug/ml in Methanol
CATALOG NUMBER	S-11044M1-1ML
LOT NUMBER	8269500
DATE CERTIFIED	03/05/19
EXPIRATION DATE	09/30/20
STORAGE	Room Temperature
HANDLING	See Safety Data Sheet
INTENDED USE	For laboratory use only.
ISO GUIDE 34 CERTIFIED	[X]

ID	Analyte	CAS	Weight Analyte (mg)	Lot	Purity	Certified Concentration (ug/mL)
N-11044	Aldicarb	116-06-3	5.010	00023634	98.90	99.1

Analytical Test	Value
CONCENTRATION (HPLC)	VERIFIED

Instructions for Use:
Mix/shake solution prior to use. If particles are present, sonicate for homogeneity. If sample is diluted to lower concentrations, Class A volumetric glassware must be used.
Minimum Sample Size- 0.2 uL for Direct Injection.
Chem Service Inc. guarantees the expanded uncertainty of the above analyte to be +/- 2.0% of the certified concentration based on gravimetric preparation. The test results published in this report were obtained using equipment capable of producing results that are traceable to NIST and through NIST to the International System of Units (SI). The reported expanded uncertainty of measurement is stated as the combined standard uncertainty of measurement multiplied by the coverage factor k (k=2) such that the coverage probability corresponds to approximately 95%. For certified reference materials, homogeneity and thermal stability testing are available upon request.

Certified By:

Mary Beth O'Donnell

Mary Beth O'Donnell
CSM/TC

Chem Service, Inc. is accredited to ISO Guide 34:2009, ISO/IEC 17025:2005 and certified to ISO 9001:2008

ISO/IEC 17025 Accreditation Number 63520
ISO GUIDE 34 Accreditation Number 63520

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CERTIFICATE OF ANALYSIS

HPLC Sample Report

Sample name: S-11044M1

Injection Data File Name S-11044M1 2.D

Injection Acquired Date 3/5/2019 7:38:54 AM

Column Name Raptor Biphenyl **Injection volume:** 2.000

Acq. method: 225-75ACN.M Sample Vial Number 1

Analysis method: 225-75ACN.M

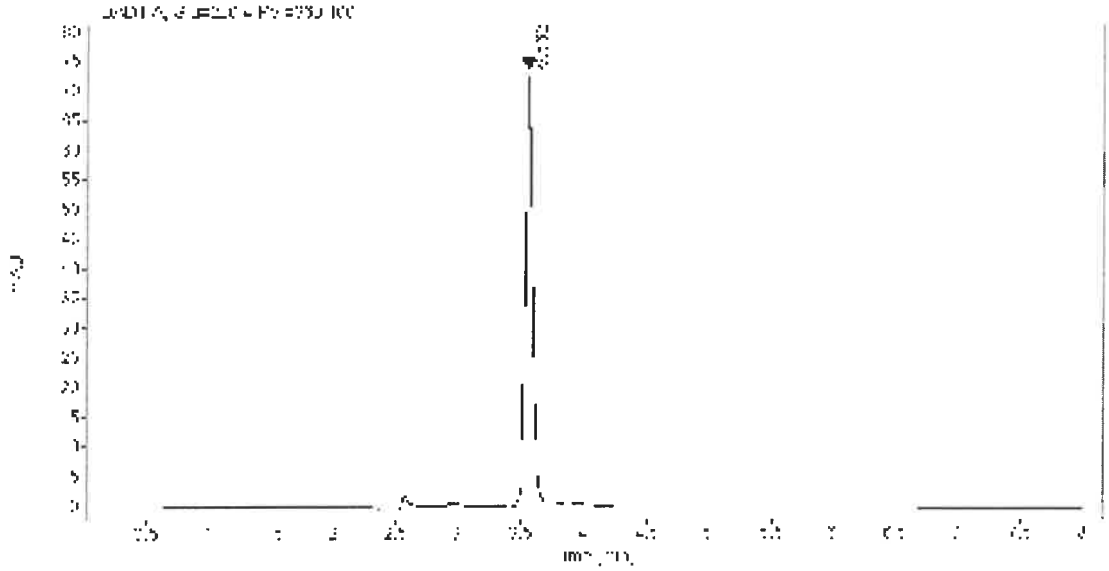

Signal: DAD1 A, Sig=220,4 Ref=360,100

RT [min]	Type	Width [min]	Area	Height	Area%	Name
3.562	BV R	0.0583	179.1609	46.1487	100.0000	
		Sum	179.1609			

Chem Service, Inc. is accredited to ISO Guide 34:2009, ISO/IEC 17025:2005 and certified to ISO 9001:2008

ISO/IEC 17025 Accreditation Number:63520
ISO GUIDE 34 Accreditation Number:63520

Reagent

CARBAldicarbU_00030

Agilent

Certificate of Analysis
ISO Guide 34

Aldicarb Standard

Product Number:	PST-940A100A01			**Page:**	1 of 1
Lot Number:	CS-5906	**Lot Issue Date:**	13-Dec-2018	**Expiration Date:**	31-Jan-2021

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with Agilent's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
aldicarb	000116-06-3	RM14309	100.3 ± 0.5 µg/mL

Matrix: acetonitrile

Storage: Store at Room Temperature (15° to 30°C).

Agilent uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

M Bourgeois

Monica Bourgeois
QMS Representative

Received AR
6/21/19

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER
ISO Guide 34 Cert No.
AR-1936

Produced in accordance with TUV USA Inc 56 100 18560026
registered ISO 9001 Quality Managment System

ANAB ACCREDITED TESTING LABORATORY
ISO17025 Cert No.
AT-1937

250 Smith Street North Kingstown, Rhode Island 02852 www.agilent.com/quality

Reagent

CARBUltraMix_00030

Agilent

Certificate of Analysis
ISO 17034

Carbamate Pesticides Standard

Product Number: PPM-632A-1 **Page:** 1 of 2

Lot Number: 0006471399 **Lot Issue Date:** 06-Jun-2019 **Expiration Date:** 31-Jul-2021

This ISO 17034 Reference Material (RM) was manufactured and verified in accordance with Agilent's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
aminocarb	002032-59-9	RM02656	100.1 ± 0.5 µg/mL
barban	000101-27-9	RM10772	100.3 ± 0.5 µg/mL
carbaryl	000063-25-2	RM11068	100.2 ± 0.5 µg/mL
carbofuran	001563-66-2	RM12282	100.2 ± 0.5 µg/mL
chlorpropham	000101-21-3	RM02736	100.4 ± 0.5 µg/mL
diuron	000330-54-1	RM14124	100.4 ± 0.5 µg/mL
fenuron	000101-42-8	RM02972	100.2 ± 0.5 µg/mL
fluometuron	002164-17-2	RM12971	100.4 ± 0.5 µg/mL
linuron	000330-55-2	RM14683	100.4 ± 0.5 µg/mL
methiocarb	002032-65-7	RM14577	100.4 ± 0.5 µg/mL
methomyl	016752-77-5	RM14356	100.4 ± 0.5 µg/mL
mexacarbate	000315-18-4	NT00502	100.4 ± 0.5 µg/mL
monuron	000150-68-5	RM12469	100.1 ± 0.5 µg/mL
neburon	000555-37-3	RM14707	100.3 ± 0.5 µg/mL
oxamyl	023135-22-0	rm14790-03	100.4 ± 0.5 µg/mL
propham	000122-42-9	RM03274	100.1 ± 0.5 µg/mL
propoxur	000114-26-1	RM11363	100.4 ± 0.5 µg/mL
siduron (mix of isomers)	001982-49-6	RM03313	100.3 ± 0.5 µg/mL
SWEP	001918-18-9	RM03322	100.1 ± 0.5 µg/mL

Matrix: methanol (methyl alcohol)

Storage: Store Frozen (-25° to -10°C).

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER
ISO 17034 Cert No. AR-1936

Produced in accordance with TUV USA Inc 56 100 18560026
registered ISO 9001 Quality Management System

ANAB ACCREDITED TESTING LABORATORY
ISO17025 Cert No. AT-1937

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Certificate of Analysis
ISO 17034

Carbamate Pesticides Standard

Product Number: PPM-632A-1 **Page:** 2 of 2

Lot Number: 0006471399 **Lot Issue Date:** 06-Jun-2019 **Expiration Date:** 31-Jul-2021

Analyte	CAS#	Analyte Lot	True Value

Agilent uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

Monica Bourgeois
QMS Representative

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER
ISO 17034 Cert No.
AR-1936

Produced in accordance with TUV USA Inc 56 100 18560026
registered ISO 9001 Quality Management System

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY
ISO17025 Cert No.
AT-1937

Reagent

CARBUltraMix_00031

Agilent

Certificate of Analysis
ISO 17034

Carbamate Pesticides Standard

Product Number: PPM-632A-1 **Page:** 1 of 2

Lot Number: 0006471399 **Lot Issue Date:** 06-Jun-2019 **Expiration Date:** 31-Jul-2021

This ISO 17034 Reference Material (RM) was manufactured and verified in accordance with Agilent's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
aminocarb	002032-59-9	RM02656	100.1 ± 0.5 µg/mL
barban	000101-27-9	RM10772	100.3 ± 0.5 µg/mL
carbaryl	000063-25-2	RM11068	100.2 ± 0.5 µg/mL
carbofuran	001563-66-2	RM12282	100.2 ± 0.5 µg/mL
chlorpropham	000101-21-3	RM02736	100.4 ± 0.5 µg/mL
diuron	000330-54-1	RM14124	100.4 ± 0.5 µg/mL
fenuron	000101-42-8	RM02972	100.2 ± 0.5 µg/mL
fluometuron	002164-17-2	RM12971	100.4 ± 0.5 µg/mL
linuron	000330-55-2	RM14683	100.4 ± 0.5 µg/mL
methiocarb	002032-65-7	RM14577	100.4 ± 0.5 µg/mL
methomyl	016752-77-5	RM14356	100.4 ± 0.5 µg/mL
mexacarbate	000315-18-4	NT00502	100.4 ± 0.5 µg/mL
monuron	000150-68-5	RM12469	100.1 ± 0.5 µg/mL
neburon	000555-37-3	RM14707	100.3 ± 0.5 µg/mL
oxamyl	023135-22-0	rm14790-03	100.4 ± 0.5 µg/mL
propham	000122-42-9	RM03274	100.1 ± 0.5 µg/mL
propoxur	000114-26-1	RM11363	100.4 ± 0.5 µg/mL
siduron (mix of isomers)	001982-49-6	RM03313	100.3 ± 0.5 µg/mL
SWEP	001918-18-9	RM03322	100.1 ± 0.5 µg/mL

Matrix: methanol (methyl alcohol)

Storage: Store Frozen (-25° to -10°C).

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER
ISO 17034 Cert No. AR-1936

Produced in accordance with TUV USA Inc 56 100 18560026 registered ISO 9001 Quality Management System

ANAB ACCREDITED TESTING LABORATORY
ISO17025 Cert No. AT-1937

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Certificate of Analysis
ISO 17034

Carbamate Pesticides Standard

Product Number: PPM-632A-1 **Page:** 2 of 2

Lot Number: 0006471399 **Lot Issue Date:** 06-Jun-2019 **Expiration Date:** 31-Jul-2021

Analyte	CAS#	Analyte Lot	True Value

Agilent uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

Monica Bourgeois
QMS Representative

ISO 17034 Cert No.
AR-1936

Produced in accordance with TUV USA Inc 56 100 18560026
registered ISO 9001 Quality Management System

ISO17025 Cert No.
AT-1937

Reagent

Diurond6_res_00030

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31989 **Lot No.:** A0138080

Description : Diuron-d6 Standard

Diuron-d6 Standard 100µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : December 31, 2020 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Diuron-d6	100.0 µg/mL	+/- 0.7091	µg/mL	Gravimetric
	CAS # 1007536-67-5 (Lot H-432)		+/- 7.3281	µg/mL	Unstressed
	Purity 99%		+/- 20.7024	µg/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Column:
150mm x 4.6mm
Allure C18 Cat.(#9164565)

Flow Rate:
1.0 ml/min.

Mobile Phase A:
0.14% H3PO4 in water

Mobile Phase B:
acetonitrile

Mobile Phase Composition:
90%B Isocratic

Det. Type:
Wavelength: 220 & 254 nm

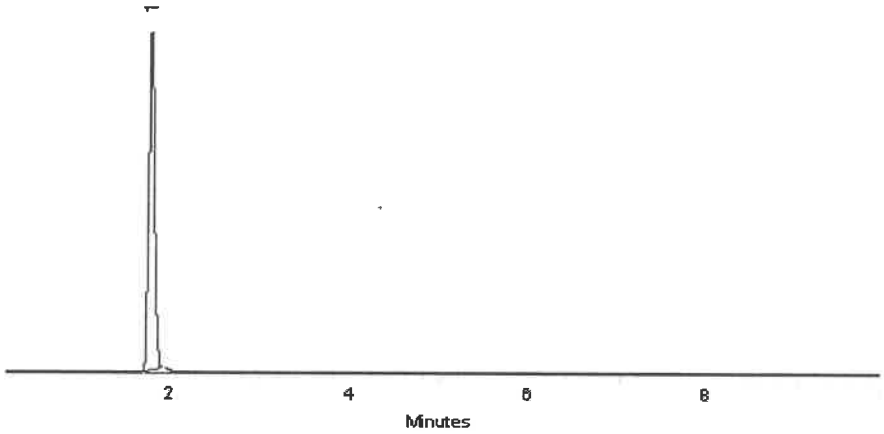

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Dustin J Lidgett
Dustin Lidgett - Mix Technician

Date Mixed: 16-May-2018 **Balance:** B442140311

Jennifer L Pollino
Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 21-May-2018

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

Reagent

Diurond6_res_00033

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CERTIFIED REFERENCE MATERIAL

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Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31989 **Lot No.:** A0138080

Description : Diuron-d6 Standard

Diuron-d6 Standard 100µg/mL, Acetonitrile, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : December 31, 2020 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Diuron-d6	100.0 µg/mL	+/- 0.7091 µg/mL	Gravimetric
	CAS # 1007536-67-5 (Lot H-432)		+/- 7.3281 µg/mL	Unstressed
	Purity 99%		+/- 20.7024 µg/mL	Stressed

Solvent: Acetonitrile
CAS # 75-05-8
Purity 99%

Column:
150mm x 4.6mm
Allure C18 Cat.(#9164565)

Flow Rate:
1.0 ml/min.

Mobile Phase A:
0.14% H3PO4 in water

Mobile Phase B:
acetonitrile

Mobile Phase Composition:
90%B Isocratic

Det. Type:
Wavelength: 220 & 254 nm

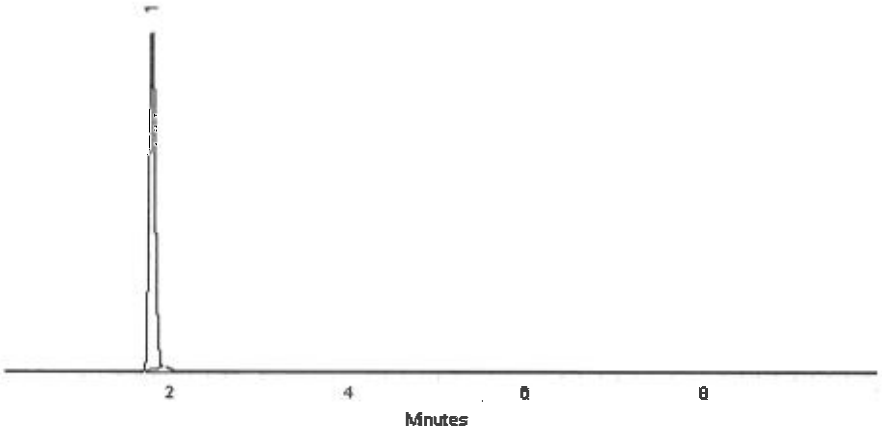

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Dustin J Lidgett
Dustin Lidgett - Mix Technician

Date Mixed: 16-May-2018 **Balance:** B442140311

Jennifer J Pollino
Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 21-May-2018

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

HRDXNCP_00039

received 8/30/19 KSS

(pg 1/6)

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

PCDD/PCDF Window Defining and Isomer Specificity Mix (DB-5)

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number:	EDF-4147
Solution Lot:	ER03111502
Expiration Date:	March 2025
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/ analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies.
- Ampules are overfilled to ensure a minimum 1 2 mL volume We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

March 24, 2015
Date

Component	Chromatographic Purity	Concentration
1,3,6,8-Tetrachlorodibenzo-p-dioxin	99.9%	200.3 ± 2.0 ng/mL
1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin	99.8%	200.6 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzo-p-dioxin	99.2%	200.3 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	98.9%	200.1 ± 2.0 ng/mL
1,2,3,9-Tetrachlorodibenzo-p-dioxin	99.6%	199.9 ± 2.0 ng/mL
1,2,8,9-Tetrachlorodibenzo-p-dioxin	99.2%	200.2 ± 2.0 ng/mL
1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin	98.9%	200.6 ± 2.0 ng/mL
1,2,3,8,9-Pentachlorodibenzo-p-dioxin	99.0%	200.1 ± 2.0 ng/mL
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin	98.7%	200.2 ± 2.0 ng/mL
1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin	99.0%	200.5 ± 2.0 ng/mL
1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin	98.9%	200.1 ± 2.0 ng/mL
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	99.8%	200.3 ± 2.0 ng/mL
1,3,6,8-Tetrachlorodibenzofuran	98.5%	200.1 ± 2.0 ng/mL
1,2,3,9-Tetrachlorodibenzofuran	98.2%	200.4 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzofuran	99.4%	200.0 ± 2.0 ng/mL
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	99.2%	200.5 ± 2.0 ng/mL
2,3,4,7-Tetrachlorodibenzofuran	98.7%	200.2 ± 2.0 ng/mL
1,2,8,9-Tetrachlorodibenzofuran	99.3%	199.9 ± 2.0 ng/mL
1,3,4,6,8-Pentachlorodibenzofuran	99.5%	200.6 ± 2.0 ng/mL
1,2,3,8,9-Pentachlorodibenzofuran	99.0%	200.5 ± 2.0 ng/mL
1,2,3,4,6,8-Hexachlorodibenzofuran	98.6%	200.5 ± 2.0 ng/mL
1,2,3,4,8,9-Hexachlorodibenzofuran	99.7%	200.5 ± 2.0 ng/mL
1,2,3,4,6,7,8-Heptachlorodibenzofuran	98.9%	200.6 ± 2.0 ng/mL
1,2,3,4,7,8,9-Heptachlorodibenzofuran	99.1%	200.1 ± 2.0 ng/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Stock solution concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.

Standard Solution Assay Parameters

Analysis Method:	GC/MS
Column:	DB-5ms 30 m x 0.25 mm ID, 0.25 µm film thickness
Temp Program:	140°C to 200°C at 40°C/min 200°C to 300°C at 4°C/min
Injector Temp:	Cool-on-Column
Detector Temp:	280°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	1

Solution Standard Verification and Homogeneity

Compound	Verified Concentration ng/mL	Acceptance Criteria	%RSD - Homogeneity %	Acceptance Criteria
1,3,6,8-Tetrachlorodibenzo-p-dioxin	200 4	± 10%	1 6	≤ 5%
1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin/ 2,3,7,8-Tetrachlorodibenzo-p-dioxin/ 1,2,3,9-Tetrachlorodibenzo-p-dioxin [1]	591.2	± 10%	1 6	≤ 5%
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	196 8	± 10%	2 7	≤ 5%
1,2,8,9-Tetrachlorodibenzo-p-dioxin	197 2	± 10%	2 8	≤ 5%
1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin	194 6	± 10%	2 8	≤ 5%
1,2,3,8,9-Pentachlorodibenzo-p-dioxin	194 7	± 10%	2 3	≤ 5%
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin	195 3	± 10%	1 7	≤ 5%
1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin	192.6	± 10%	2 3	≤ 5%
1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin	191.2	± 10%	2 5	≤ 5%
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	196 7	± 10%	2 1	≤ 5%
1,3,6,8-Tetrachlorodibenzofuran	202 3	± 10%	2 1	≤ 5%
1,2,3,9-Tetrachlorodibenzofuran	194 4	± 10%	2 4	≤ 5%
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	198 0	± 10%	3.3	≤ 5%
2,3,4,7-Tetrachlorodibenzofuran/ 2,3,7,8-Tetrachlorodibenzofuran [1]	399.3	± 10%	2.4	≤ 5%
1,2,8,9-Tetrachlorodibenzofuran	198 9	± 10%	2.9	≤ 5%
1,3,4,6,8-Pentachlorodibenzofuran	195 0	± 10%	2.1	≤ 5%
1,2,3,8,9-Pentachlorodibenzofuran	199.6	± 10%	2.1	≤ 5%
1,2,3,4,6,8-Hexachlorodibenzofuran	195.5	± 10%	2.4	≤ 5%
1,2,3,4,8,9-Hexachlorodibenzofuran	196.4	± 10%	1.8	≤ 5%
1,2,3,4,6,7,8-Heptachlorodibenzofuran	197.4	± 10%	2.9	≤ 5%
1,2,3,4,7,8,9-Heptachlorodibenzofuran	195.3	± 10%	2.1	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The %RSD of samples pulled from across the lot demonstrate homogeneity.
- Product is compared to prior lot and meets acceptance criteria of ± 10%.

[1] Compounds co-elute. Concentration is the sum of both or all analytes.

Neat Material Data

Compound	Lot Number	CAS Number	Chemical Formula	Molecular Weight	Chromatographic Purity
1,3,6,8-Tetrachlorodibenzo-p-dioxin	ER040811-02	33423-92-6	$C_{12}H_4Cl_4O_2$	321.97	99.9%
1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin	ER021510-01	NA	$C_{12}H_4Cl_4O_2$	321.97	99.8%
2,3,7,8-Tetrachlorodibenzo-p-dioxin	ER061009-02	1746-01-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	ER01031401	76523-40-5	$^{13}C_{12}H_4Cl_4O_2$	333.84	98.9%
1,2,3,9-Tetrachlorodibenzo-p-dioxin	ER0529401	71669-26-6	$C_{12}H_4Cl_4O_2$	321.97	99.6%
1,2,8,9-Tetrachlorodibenzo-p-dioxin	ER11201301	62470-54-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%
1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin	ER11051302	NA	$C_{12}H_3Cl_5O_2$	356.42	98.9%
1,2,3,8,9-Pentachlorodibenzo-p-dioxin	ER05161401	NA	$C_{12}H_3Cl_5O_2$	356.42	99.0%
1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin	ER08101402	NA	$C_{12}H_2Cl_6O_2$	390.86	98.7%
1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin	ER030107-01	NA	$C_{12}H_2Cl_6O_2$	390.86	99.0%
1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin	ER01201502	58200-70-7	$C_{12}HCl_7O_2$	425.31	98.9%
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	ER100207-02	35822-46-9	$C_{12}HCl_7O_2$	425.31	99.8%
1,3,6,8-Tetrachlorodibenzofuran	ER021808-01	71998-72-6	$C_{12}H_4Cl_4O$	305.98	98.5%
1,2,3,9-Tetrachlorodibenzofuran	ER071107-01	NA	$C_{12}H_4Cl_4O$	305.98	98.2%
2,3,7,8-Tetrachlorodibenzofuran	ER101211-02	51207-31-9	$C_{12}H_4Cl_4O$	305.98	99.4%
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	ER12101304	89059-46-1	$^{13}C_{12}H_4Cl_4O$	317.88	99.2%
2,3,4,7-Tetrachlorodibenzofuran	ER052307-01	NA	$C_{12}H_4Cl_4O$	305.98	98.7%
1,2,8,9-Tetrachlorodibenzofuran	ER041508-03	NA	$C_{12}H_4Cl_4O$	305.98	99.3%
1,3,4,6,8-Pentachlorodibenzofuran	ER04231401	NA	$C_{12}H_3Cl_5O$	340.42	99.5%
1,2,3,8,9-Pentachlorodibenzofuran	ER12101303	NA	$C_{12}H_3Cl_5O$	340.42	99.0%
1,2,3,4,6,8-Hexachlorodibenzofuran	ER04231402	NA	$C_{12}H_2Cl_6O$	374.86	98.6%
1,2,3,4,8,9-Hexachlorodibenzofuran	ER12091401	92341-07-6	$C_{12}H_2Cl_6O$	374.86	99.7%
1,2,3,4,6,7,8-Heptachlorodibenzofuran	ER02281403	67562-39-4	$C_{12}HCl_7O$	409.31	98.9%
1,2,3,4,7,8,9-Heptachlorodibenzofuran	ER01121503	55673-89-7	$C_{12}HCl_7O$	409.31	99.1%

Product Analysis

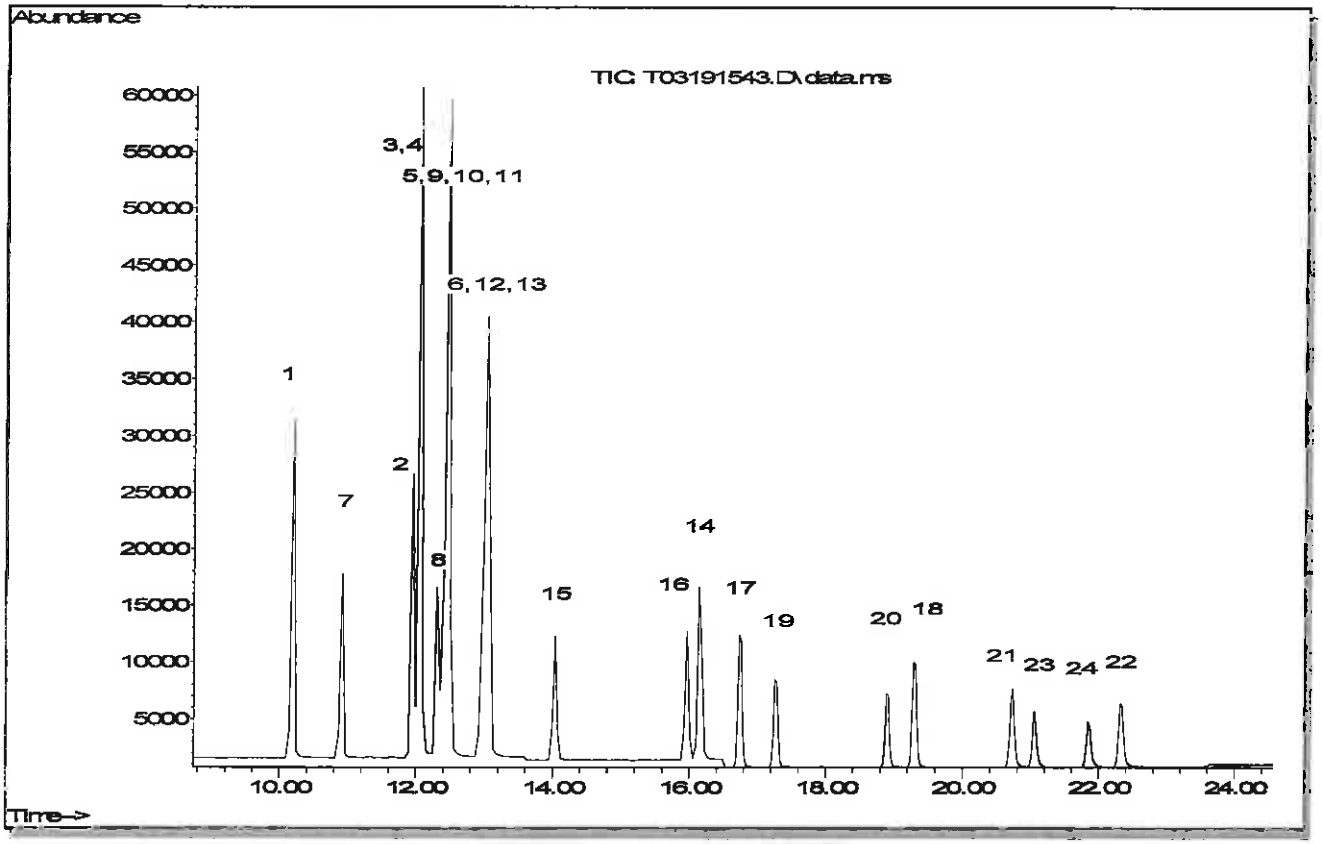

1 1,3,6,8-Tetrachlorodibenzofuran
2 2,3,4,7-Tetrachlorodibenzofuran
3 2,3,7,8-Tetrachlorodibenzofuran
4 2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$
5 1,2,3,9-Tetrachlorodibenzofuran
6 1,2,8,9-Tetrachlorodibenzofuran
7 1,3,6,8-Tetrachlorodibenzo-p-dioxin
8 1,2,3,7/1,2,3,8-Tetrachlorodibenzo-p-dioxin
9 1,2,3,9-Tetrachlorodibenzo-p-dioxin
10 2,3,7,8-Tetrachlorodibenzo-p-dioxin
11 2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$
12 1,2,8,9-Tetrachlorodibenzo-p-dioxin
13 1,3,4,6,8-Pentachlorodibenzofuran
14 1,2,3,8,9-Pentachlorodibenzofuran
15 1,2,4,6,8/1,2,4,7,9-Pentachlorodibenzo-p-dioxin
16 1,2,3,8,9-Pentachlorodibenzo-p-dioxin
17 1,2,3,4,6,8-Hexachlorodibenzofuran
18 1,2,3,4,8,9-Hexachlorodibenzofuran
19 1,2,4,6,7,9/1,2,4,6,8,9-Hexachlorodibenzo-p-dioxin
20 1,2,3,4,6,7-Hexachlorodibenzo-p-dioxin
21 1,2,3,4,6,7,8-Heptachlorodibenzofuran
22 1,2,3,4,7,8,9-Heptachlorodibenzofuran
23 1,2,3,4,6,7,9-Heptachlorodibenzo-p-dioxin
24 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin

COA Revision History

Revision No.	Date	Reason for Revision
00	March 24, 2015	Initial version

Reagent

HRDXNIDA_00075

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-$^{13}C_{12}$

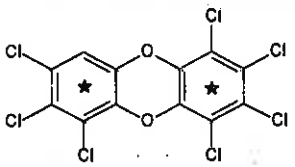

Catalog Number:	ED-972
Solution Lot:	ER111010-01
Expiration Date:	November 2020
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature Do not store cold
Intended Use:	For laboratory use only Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-$^{13}C_{12}$	98.9%	50.03 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER111010-01	50.5	± 5%	0.5	≤ 3%
Previous Lot	ER011807-01	47.4	± 5%	1.8	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

January 15, 2016
Date

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}HO_2Cl_7$
Compound Lot:	ER100110-01	**CAS Number:**	NA
		Molecular Weight:	437.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.9%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.10% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		98.91%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

Spectral and Physical Data

GC/FID

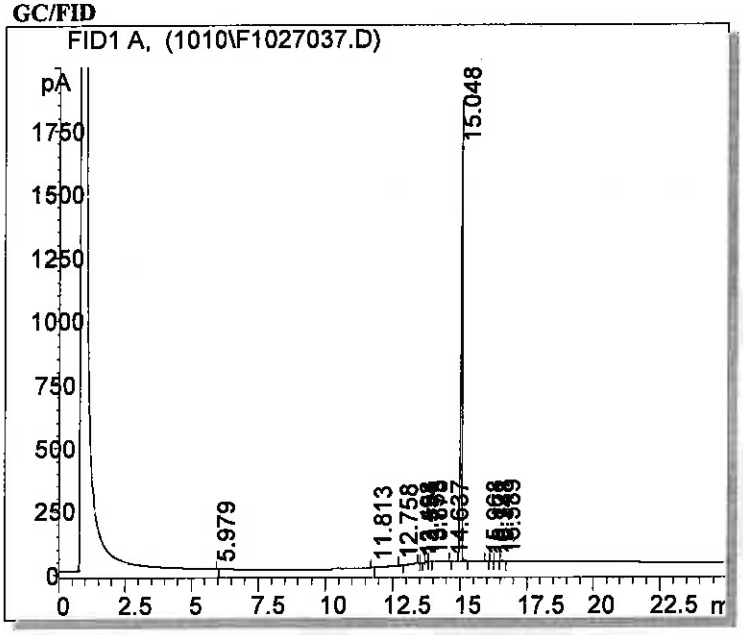

Column:	DB-5ms, 30m x 0.53mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-column
Detector Temp:	325°C
Data File Name:	S:\GC\GC6\2010\1010\F1027037.D
Instrument:	GC#6
Sample Name:	ER100110-01
Acquired:	October 28, 2010

Peak #	Ret Time	Area	Height	Area %
1	5.98	0.34	0.18	0.00
2	11.81	1.00	0.08	0.01
3	12.76	10.96	2.89	0.16
4	13.50	1.19	0.32	0.02
5	13.55	2.63	0.80	0.04
6	13.75	13.39	3.28	0.19
7	13.88	7.04	1.81	0.10
8	14.64	0.86	0.28	0.01
9	15.05	6900.70	1812.09	98.81
10	15.97	3.15	0.73	0.05
11	16.17	2.25	0.55	0.03
12	16.35	5.12	1.10	0.07
13	16.59	18.93	4.26	0.27
14	26.99	15.17	0.35	0.22
15	35.58	0.06	0.21	0.00
16	41.80	0.77	0.13	0.01

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-13C
Lab Number : [illegible]
Instrument : Agilent 5973N MSD/5890 GC
Operator-Inst ID : [illegible] - 010106
Date Reported : Wed Oct 27 [illegible] 2010
Column Type : [illegible], 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 300°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 290°C

Scan Range : 50-550

Total Ion Chromatogram

Mass Spectrum

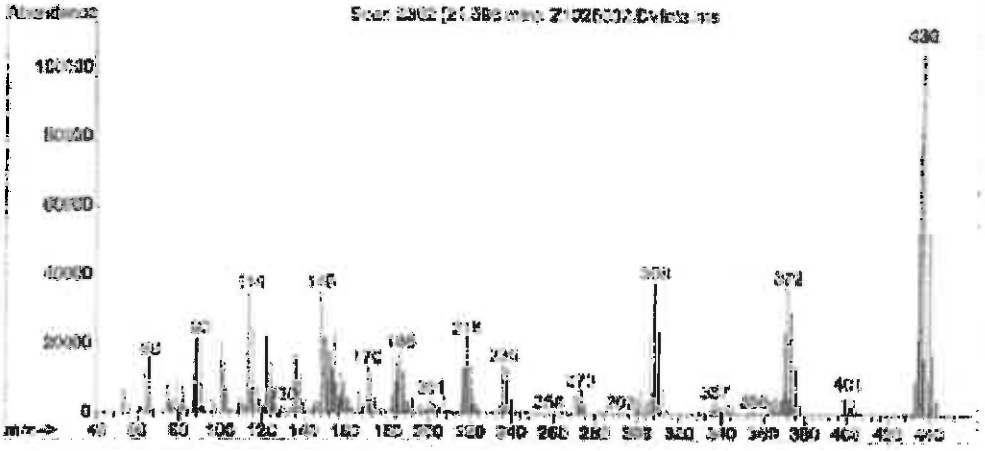

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

COA Revision History

Revision No.	Date	Reason for Revision
00	November 24, 2010	Initial version
01	January 15, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

Reagent

HRDXNIDA_00247

Recd 8-17-16

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$

HpCDF

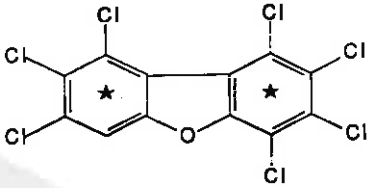

Catalog Number:	EF-988
Solution Lot:	ER04251601
Expiration Date:	March 2026
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	99.1%	49.99 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04251601	49.11	± 5%	0.2	≤ 3%
Previous Lot	ER053107-02	50.58	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

June 21, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}HCl_7O$
Compound Lot:	ER04041602	**CAS Number:**	109719-94-0
		Molecular Weight:	421.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.1%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS SIM	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.16% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.10%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data (cont.)

GC/FID

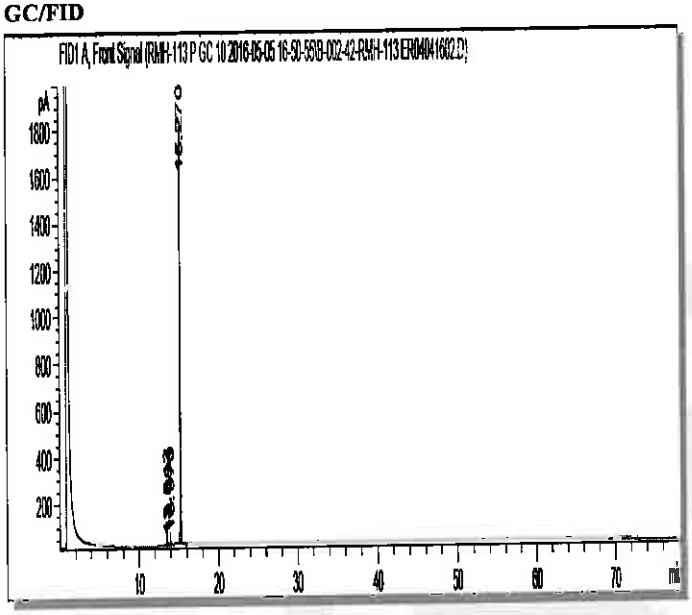

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Data File Name:	RMH-113 P GC 10 2016-05-05 16-50-55\B-002-42.D
Instrument:	GC#10
Sample Name:	ER04041602
Acquired:	May 05, 2016

Peak #	Ret Time	Area	Height	Area %
1	13.51	8.76	2.52	0.12
2	13.68	17.42	7.45	0.24
3	13.97	39.65	15.48	0.54
4	15.27	7226.95	1798.33	99.10

Spectral and Physical Data (cont.)

GC/MS

```
Compound Name          : 1,2,3,4,7,8,9-Heptachlorodibenzofuran-13C12
Lot Number             : EM04041602
Instrument             : Agilent GCMS
Operator               : ECM(SGIUFFRE)
Date Reported          : Wed May 04 15:34:28 2016
Column Type            : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program          : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.         : Cool on-column
Carrier Gas            : Helium
Flow Rate (mL\min)     : 0.80 mL/min
Transfer Line Temp.    : 280°C
Scan Range             : 50-550
```

Total Ion Chromatogram

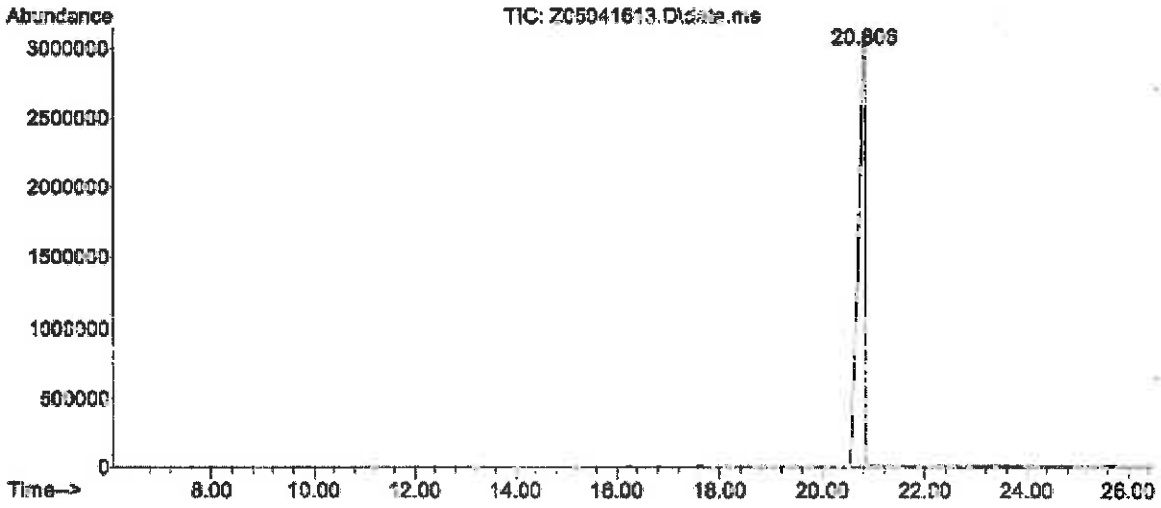

Mass Spectrum

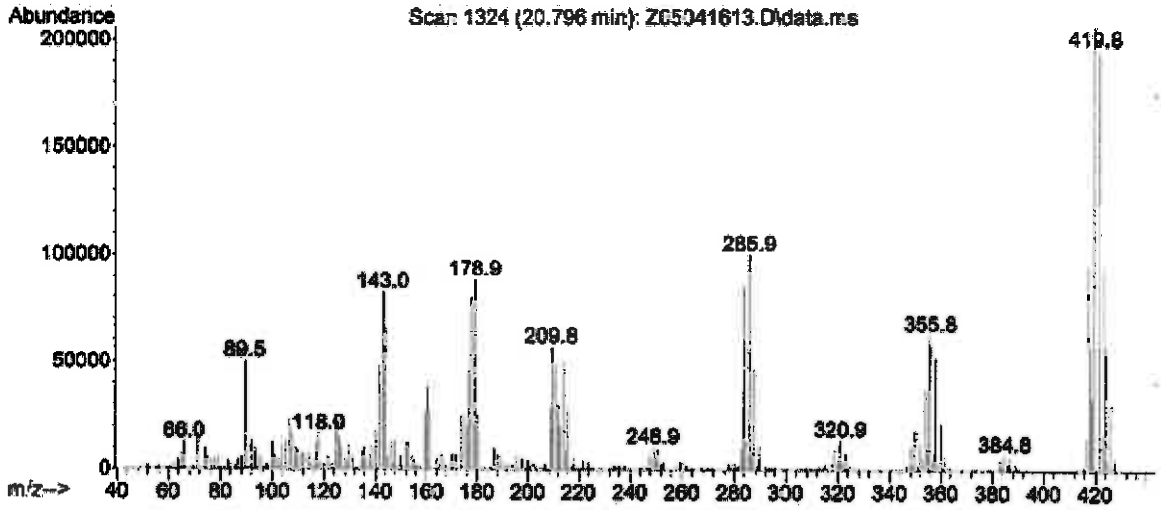

COA Revision History

Revision No.	Date	Reason for Revision
00	June 21, 2016	Initial version

Reagent

HRDXNIDA_00297

r: 9/28/17 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

1042065
ID: HRDXNIDA_00297
Exp: 01/31/27 Prpd: SKV
13C-2,3,4,7,8-PeCDF [50ug

CIL

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$

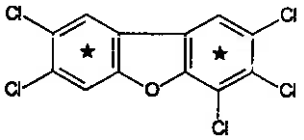

Catalog Number: EF-958
Solution Lot: ER01061701
Expiration Date: January 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	97.9%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s); measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER01061701	50.51	± 5%	0.1	≤ 3%
Previous Lot	ER11041601	49.56	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

January 27, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3Cl_5O$
Compound Lot:	ER11101601	**CAS Number:**	116843-02-8
		Molecular Weight:	352.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0102	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.02% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 0.5%
Mass Balance Purity Factor		98.33%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

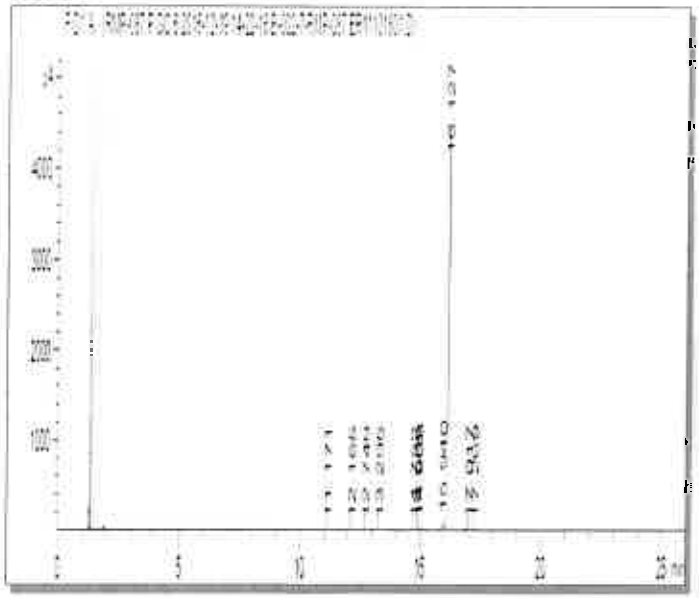

Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 100°C to 300°C at 15°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: RMP-087 P GC 6 2016-12-19 14-22-16\B-002-7.D
Instrument: GC#6
Sample Name: ER11101601
Acquired: December 19, 2016

Peak #	Ret Time	Area	Height	Area %
1	11.17	0.94	0.40	0.01
2	12.17	1.30	0.39	0.01
3	12.75	0.47	0.20	0.00
4	13.30	0.90	0.35	0.01
5	14.75	1.70	0.87	0.02
6	14.91	1.09	0.56	0.01
7	14.97	32.24	17.54	0.29
8	15.94	124.38	64.36	1.13
9	16.13	10866.60	4688.80	98.41
10	17.02	6.31	2.46	0.06
11	17.27	6.76	2.34	0.06

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 2,3,4,7,8-Pentachlorodibenzofuran-13C12
Lot Number	: ER11101601
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRS)
Date Reported	: Tue Dec 20 12:19:55 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.50 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

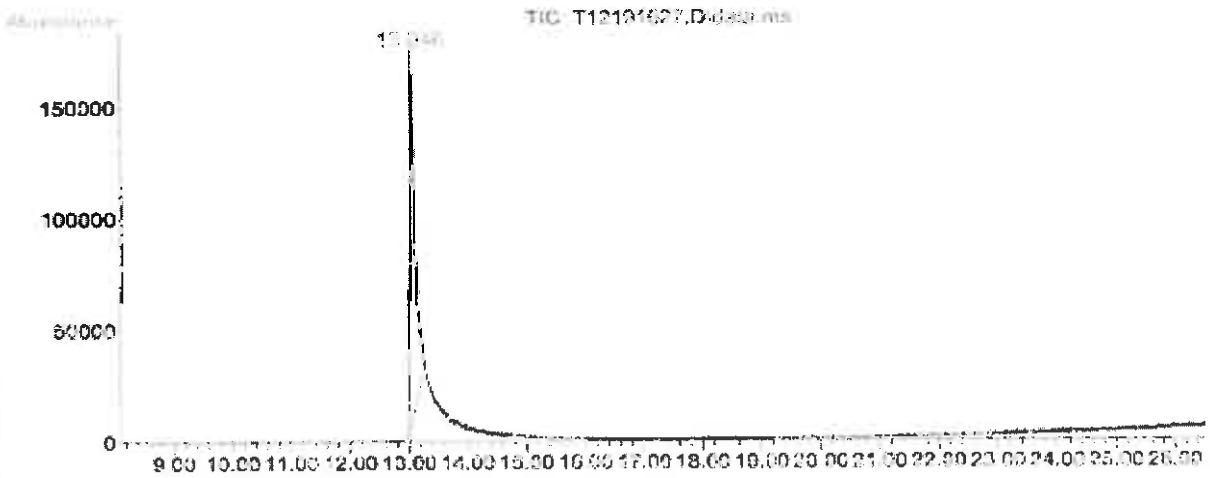

Mass Spectrum

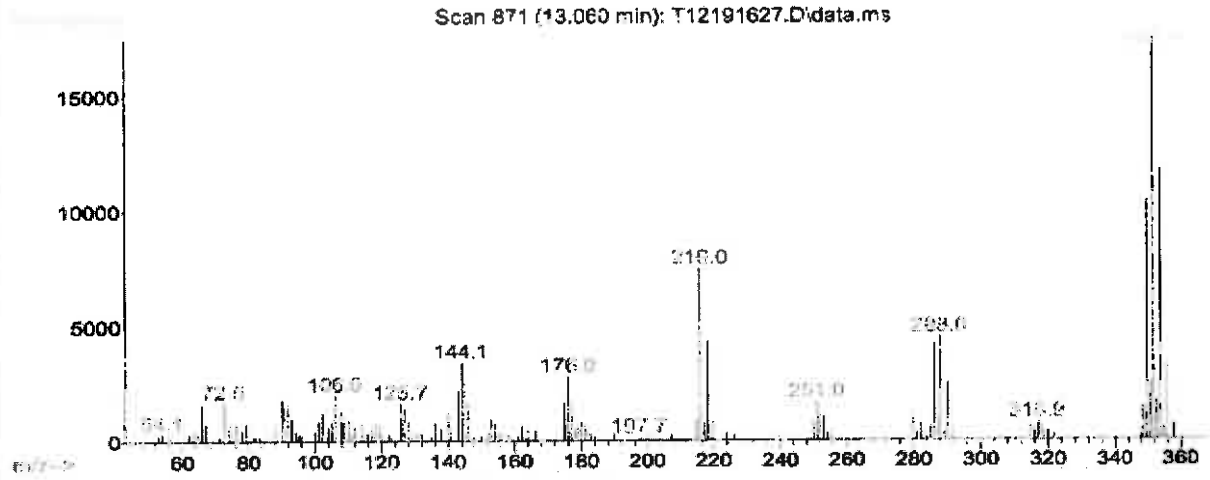

Reagent

HRDXNIDA_00301

n: 9/20/17 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

1042073
ID: HRDXNIDA_00301
Exp: 10/31/21 Prpd: SKV
13C-1,2,3,4,7,8-HxCDD [50

CIL

Certificate of Analysis

Certificate Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 9001
GMP/GLP

1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

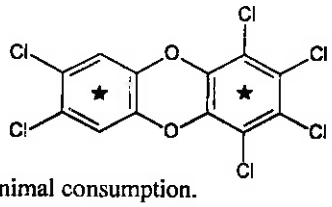

Catalog Number: ED-946
Solution Lot: ER102711-01
Expiration Date: October 2021
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.0%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER102711-01	48.2	± 5%	0.2	≤ 3%
Previous Lot	ER012208-01	49.6	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS ACCREDITED
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

September 17, 2015
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O_2$
Compound Lot:	ER011008-01	**CAS Number:**	109719-80-4
		Molecular Weight:	402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.2%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.08% $^{13}C_0$ vs $^{13}C_{12}$
		0.19% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.19%

- Chromatographic purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

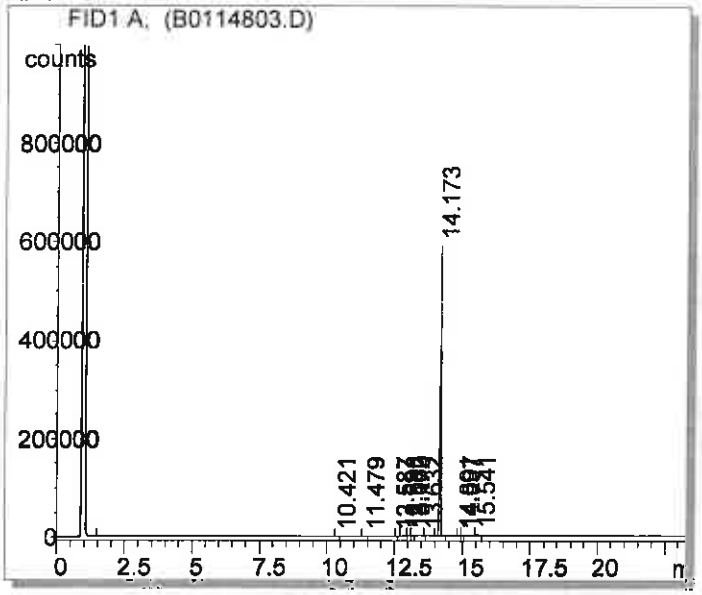

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0114803.D
Instrument:	GC#2
Sample Name:	ER011008-01
Acquired:	January 14, 2008

Peak #	Ret Time	Area	Height	Area %
1	10.42	287.44	132.33	0.02
2	11.48	242.24	92.03	0.01
3	12.59	389.12	196.33	0.02
4	12.90	3015.36	1199.07	0.17
5	13.06	2243.36	788.13	0.13
6	13.17	2243.90	754.45	0.13
7	13.63	2349.03	134.07	0.02
8	14.17	427.02	588610.00	99.20
9	14.89	1731980.00	110.79	0.03
10	15.00	512.26	86.41	0.02
11	15.54	4077.63	1008.44	0.23

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

Compound Name : 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-13C12
Lot Number : [illegible]-01
Instrument : Agilent 5973N MSD/6890N GC
Operator-Inst ID : REC - C1010E
Date Reported : Wed Jan 16 11:15:58 2008
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 300°C@6°C/min (5 min)
Injection Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 280°C

Scan Range : 50-550

Total Ion Chromatogram

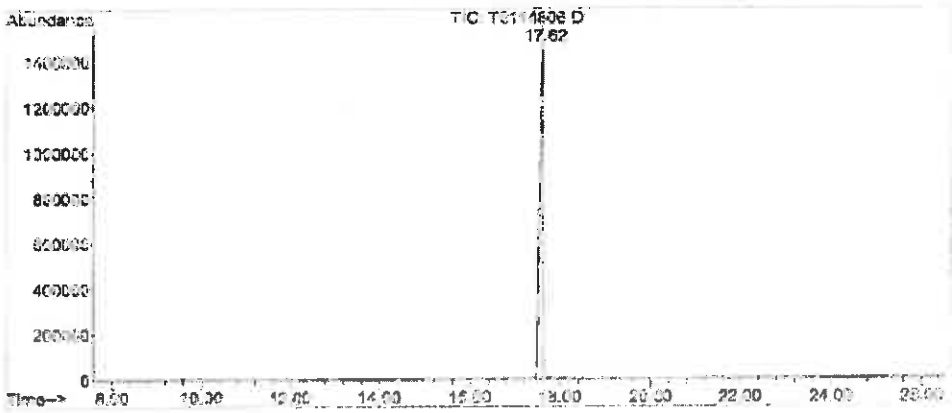

Mass Spectrum

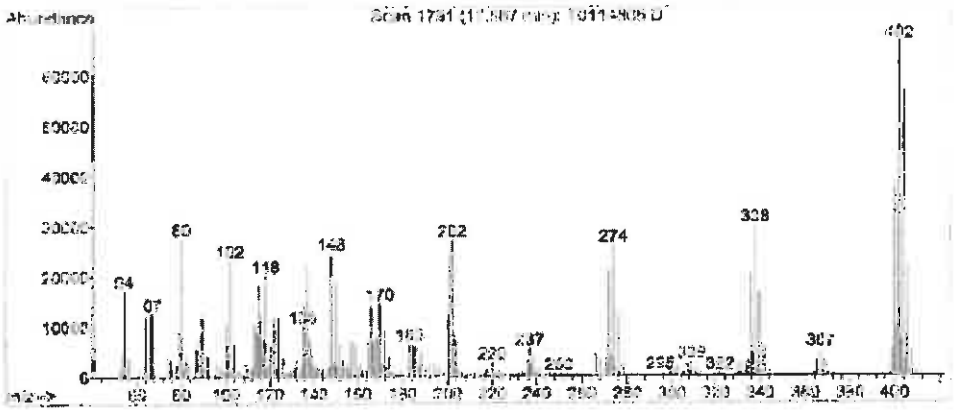

COA Revision History

Revision No.	Date	Reason for Revision
00	November 12, 2011	Initial version
01	September 17, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet"

Reagent

HRDXNIDA_00302

r: 9/20/17 SKV

1042074
ID: HRDXNIDA_00302
Exp: 07/31/20 Prpd: SKV
13C-1,2,3,4,7,8-HxCDF [50

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

Certificate of Analysis

1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

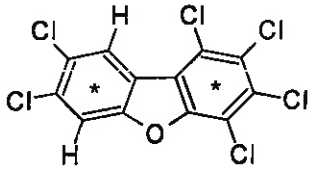

Catalog Number:	EF-963
Solution Lot:	ER072810-02
Expiration Date:	July 2020
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Protect from air and light, store at room temperature. Do not store cold.
Intended Use:	For laboratory use only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration.

Component	Chromatographic Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.6%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Acceptance Criteria	%RSD - Homogeneity Actual Results	Acceptance Criteria
New Lot	ER072810-02	47.4	± 5%	0.3	≤ 3%
Previous Lot	LR011907-01	46.6	—	1.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

November 15, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$
Compound Lot:	35135-45

Chemical Formula:	$^{13}C_{12}H_2OCl_6$
CAS Number:	114423-98-2
Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.6%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% C_0 vs C_{12}
		0.13% C_6 vs C_{12}
Purity Factor		99.57%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

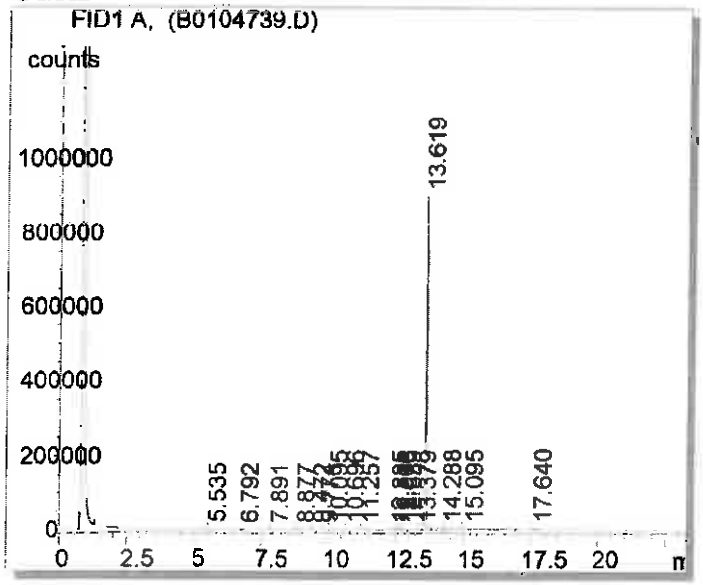

Column:	DB-5ms, 30m x 0.53mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0104739.D
Instrument:	GC#2
Sample Name:	35135-45
Acquired:	January 05, 2007

Peak #	Ret Time	Area	Height	Area %
1	4.21	615.24	161.26	0.02
2	5.21	1024.94	292.85	0.04
3	6.09	326.05	83.67	0.01
4	7.10	301.83	31.69	0.01
5	7.75	169.71	40.31	0.01
6	8.38	136.91	47.17	0.01
7	8.97	123.76	38.29	0.00
8	12.30	2684.80	1153.73	0.10
9	12.48	1162.83	467.42	0.04
10	12.56	1893.94	719.41	0.07
11	12.68	466.69	180.24	0.02
12	12.86	690.32	301.63	0.03
13	13.62	2651450.00	979725.00	99.58
14	14.34	274.11	82.01	0.01
15	15.17	1208.09	320.67	0.05
16	19.00	166.44	32.66	0.01

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

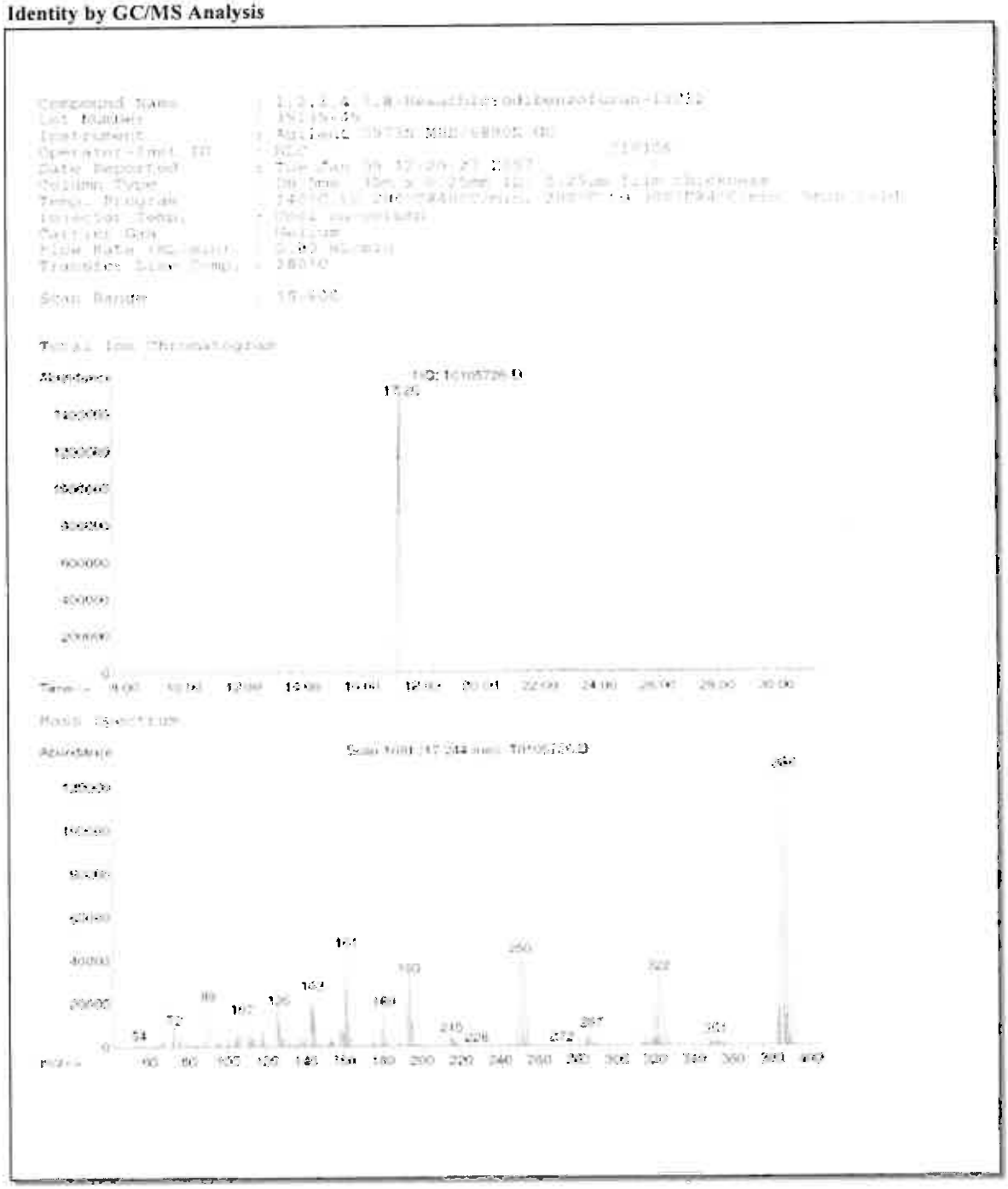

COA Revision History

Revision No.	Date	Reason for Revision
00	September 22, 2010	Initial version
01	September 22, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet"
02	November 15, 2016	Corrected Molecular Weight from 368.77 to 386.77

Reagent

HRDXNIDA_00353

r: 11/28/18 SKV

Cerilliant Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Certificate of Analysis

1,2,3,4,6,7,8-Heptachlorodibenzofuran-$^{13}C_{12}$

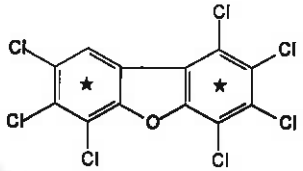

Catalog Number: EF-974
Solution Lot: ER08101404
Expiration Date: November 2024
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,6,7,8-Heptachlorodibenzofuran-$^{13}C_{12}$	98.3%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER08101404	48.75	± 5%	0.3	≤ 3%
Previous Lot	ER102711-02	51.49	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

December 03, 2015
Date

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 60°C to 300°C at 40°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 4
Linearity (r): 1.000

Neat Material Data

Compound Name: 1,2,3,4,6,7,8-Heptachlorodibenzofuran-$^{13}C_{12}$
Compound Lot: ER020507-02

Chemical Formula: $^{13}C_{12}HCl_7O$
CAS Number: 109719-84-8
Molecular Weight: 421.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	98.7%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.16% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS	SP10-0105	Pass
		no single DD/DF impurity ≥1.0%
Purity Factor		98.69%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

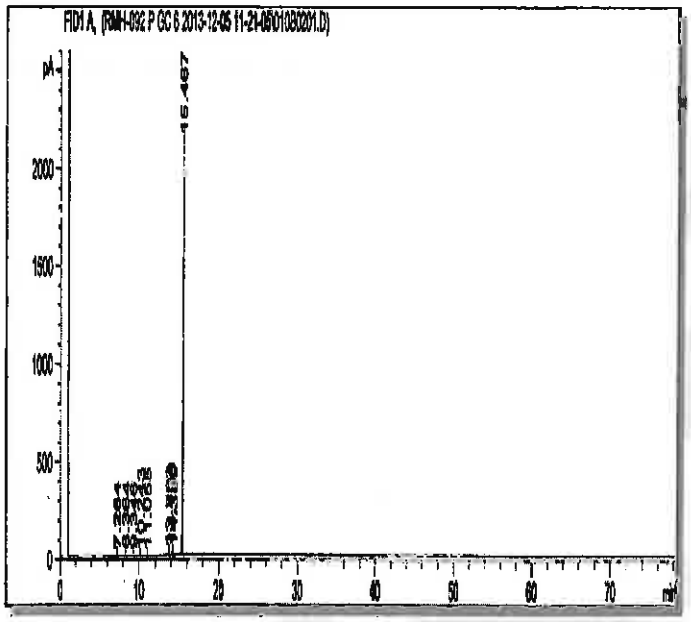

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-092 P GC 6 2013-12-05 11-21-05\010B0201.D
Instrument:	GC#6
Sample Name:	ER020507-02
Acquired:	December 05, 2013

Peak #	Ret Time	Area	Height	Area %
1	7.26	4.41	2.08	0.05
2	8.36	11.76	5.45	0.12
3	9.35	5.20	2.32	0.05
4	10.24	1.47	0.62	0.02
5	11.06	0.34	0.17	0.00
6	13.75	8.81	4.38	0.09
7	13.80	23.67	9.98	0.25
8	14.13	43.07	16.42	0.45
9	14.20	21.73	8.77	0.23
10	14.39	4.79	1.81	0.05
11	15.47	9349.36	2200.33	98.68

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 1,2,3,4,6,7,8-Heptachlorodibenzofuran-13C12
Lot Number : ER020507-02
Instrument : Agilent GCMS
Operator : ECM(BRYAN_DOCKERY)
Date Reported : Tue Dec 17 09:08:58 2013
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL\min) : 0.80 mL/min
Transfer Line Temp. : 280°C
Scan Range : 50-550

Total Ion Chromatogram

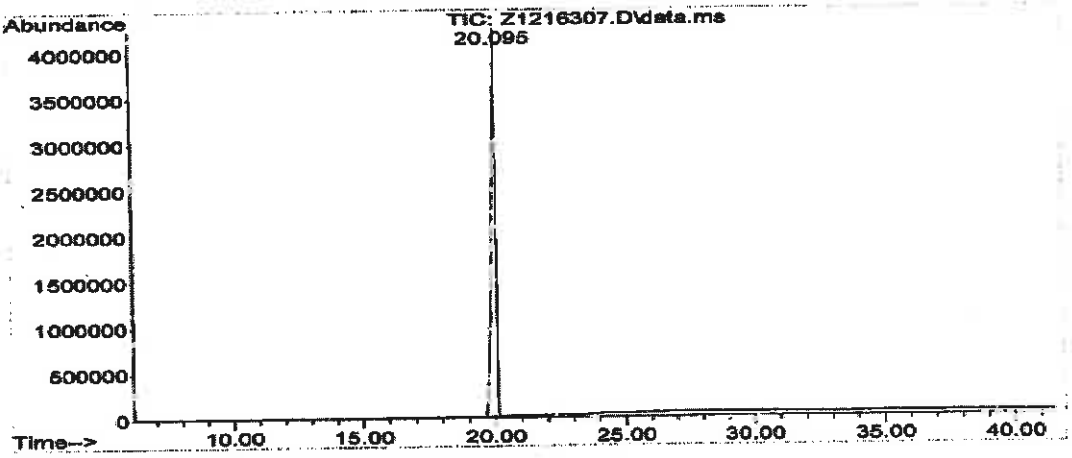

Mass Spectrum

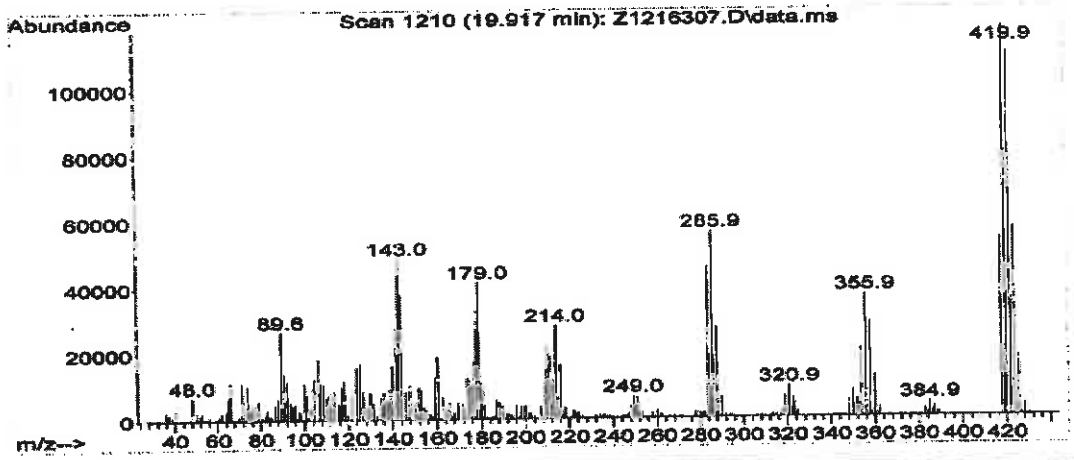

COA Revision History

Revision No.	Date	Reason for Revision
00	January 19, 2015	Initial version
01	December 04, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet"

Reagent

HRDXNIDA_00354

Rec: 11/28/18 SKV

Cerilliant Analytical Reference Standards
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CIL

Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$

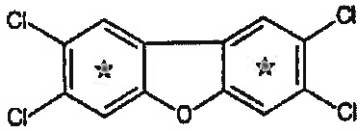

Catalog Number: EF-904
Solution Lot: ER09131601
Expiration Date: September 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	99.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER09131601	49.91	± 5%	0.2	≤ 3%
Previous Lot	ER12101304	51.13	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

November 02, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_4Cl_4O$
Compound Lot:	ER01161401	**CAS Number:**	89059-46-1
		Molecular Weight:	317.88

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.2%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS SIM	SP10-0105	No single DD/DF ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.00% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.24%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

GC/FID

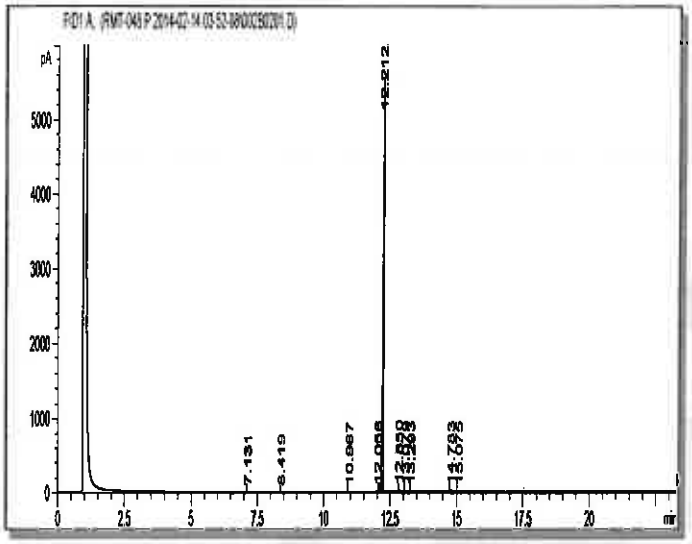

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMT-048 P 2014-02-14 03-52-08\002B0201.D
Instrument:	GC#10
Sample Name:	ER01161401
Acquired:	February 14, 2014

Peak #	Ret Time	Area	Height	Area %
1	7.13	1.19	0.61	0.01
2	8.42	3.23	1.42	0.03
3	10.97	3.57	1.04	0.03
4	12.06	20.86	12.47	0.18
5	12.21	11764.70	5466.96	99.29
6	12.85	30.72	15.48	0.26
7	13.08	7.62	4.03	0.06
8	13.29	5.47	2.91	0.05
9	14.78	7.62	2.76	0.06
10	15.08	3.87	1.33	0.03

GC/MS

Compound Name	: 2,3,7,8-Tetrachlorodibenzofuran-13C12
Lot Number	: ER01161401
Instrument	: Agilent GCMS
Operator	: ECM(SAMUEL_GIUFFRE)
Date Reported	: Thu Feb 13 11:57:07 2014
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

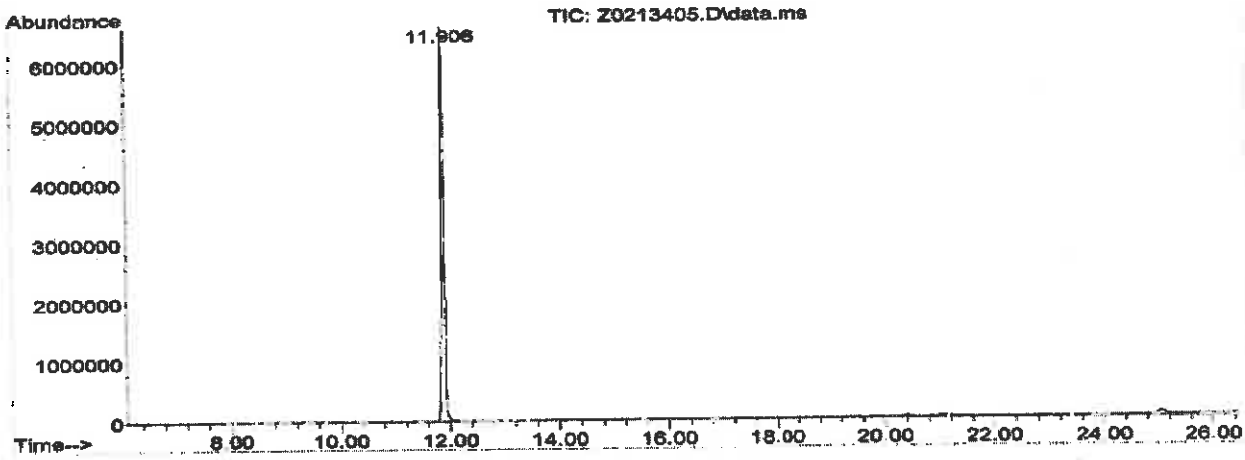

Mass Spectrum

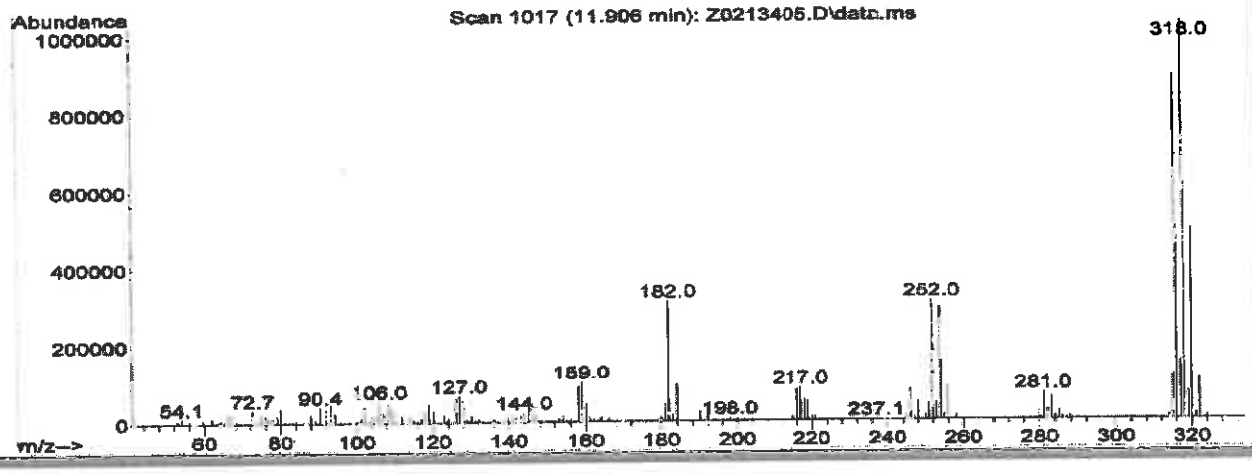

COA Revision History

Revision No.	Date	Reason for Revision
00	November 02, 2016	Initial version

Reagent

HRDXNIDA_00355

Rec: 11/28/18 SJV

Cerilliant Analytical Reference Standards
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CIL

Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$

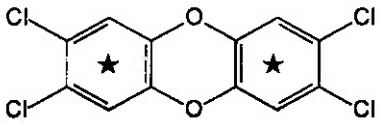

Catalog Number: ED-900
Solution Lot: ER03031601
Expiration Date: March 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.4%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution, and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER03031601	52.66	± 5%	0.3	≤ 3%
Previous Lot	ER01031401	49.83	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

March 24, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-35ms 30 m x 0.53 mm ID, 1.0 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_4Cl_4O_2$
Compound Lot:	ER01201405	**CAS Number:**	76523-40-5
		Molecular Weight:	333.88

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity and Distribution by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.05% $^{13}C_6$ vs $^{13}C_{12}$
Impurities by GC/MS SIM Analysis	SP10-0105	no single DD/DF impurity $\geq$0.5%
Mass Balance Purity Factor		99.34%

- The primary chromatographic purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Mass Balance Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

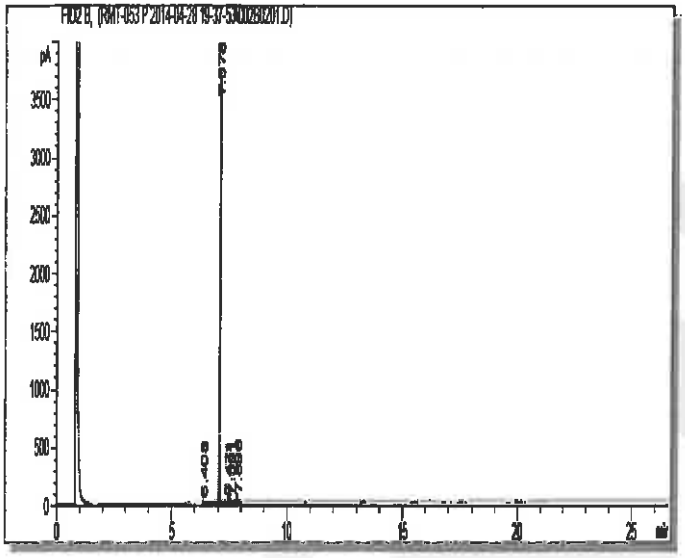

Column:	DB-35ms, 30 m x 0.53 mm ID, 1.0 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMT-053 P 2014-04-28 19-37-53\002B0201.D
Instrument:	GC#6
Sample Name:	ER01201405
Acquired:	April 28, 2014

Peak #	Ret Time	Area	Height	Area %
1	6.41	4 36	2.80	0.08
2	7 08	5225 21	3678.99	99.32
3	7 47	5 29	3.00	0.10
4	7 59	9 11	4.81	0.17
5	7.90	17 05	9.22	0.32

GC/MS

Compound Name	: 2,3,7,8-Tetrachlorodibenzo-p-dioxin-13C12
Lot Number	: ERD1201405
Instrument	: Agilent GCMS
Operator	: ECM(SAMUEL_GIUITRE)
Date Reported	: Tue May 06 09:30:26 2014
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,280°C to 220°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

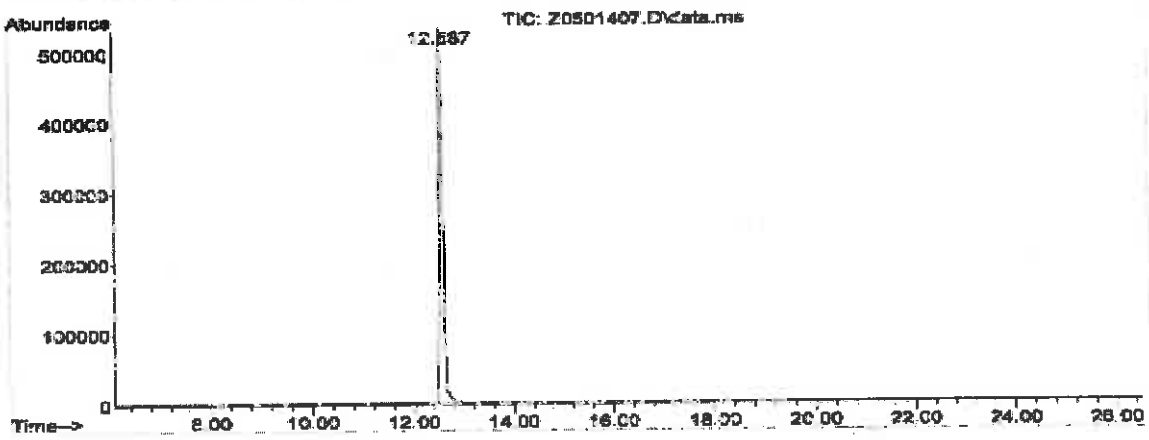

Mass Spectrum

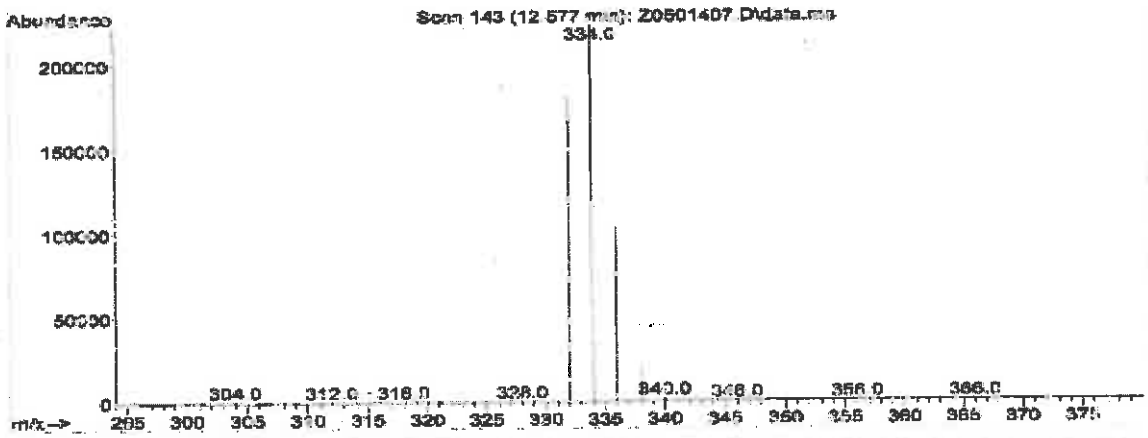

Reagent

HRDXNIDA_00357

r: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
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CIL

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Certificate of Analysis

1,2,3,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

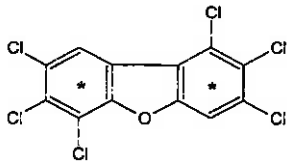

Catalog Number: EF-985
Solution Lot: ER02241603
Expiration Date: April 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.6%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER02241603	50.09	± 5%	0.4	≤ 3%
Previous Lot	ER053107-03	50.81	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

May 04, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O$
Compound Lot:	ER051607-01	**CAS Number:**	116843-03-9
		Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.06% $^{13}C_6$ vs $^{13}C_{12}$
Impurities by GC/MS SIM Analysis	SP10-0105	no single DD/DF impurity ≥ 0.5%
Mass Balance Purity Factor		99.01%

- The chromatographic purity is calculated as the average of two independently performed analyses utilizing two different methods Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Mass Balance Purity Factor
- Mass Balance Purity Factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

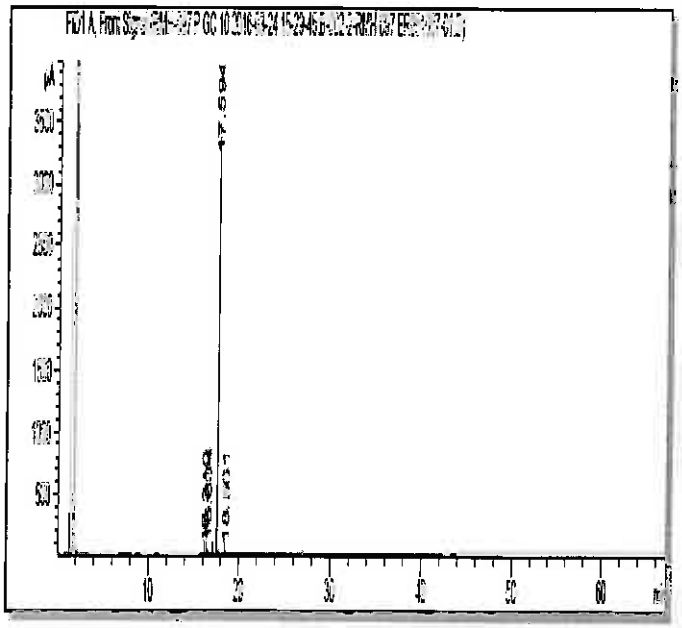

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	40°C to 300°C at 15°C/min hold 50 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-097 P GC 10 2016-03-24 15-29-45\B-002-2.D
Instrument:	GC#10
Sample Name:	ER051607-01
Acquired:	March 24, 2016

Peak #	Ret Time	Area	Height	Area %
1	16.31	6.97	3.21	0.08
2	16.60	77.08	33.51	0.83
3	17.59	9156.82	3458.38	99.00
4	18.56	8.48	2.69	0.09

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 1,2,3,6,7,8-Hexachlorodibenzofuran-13C12
Lot Number	: ER051607-01
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Fri Mar 18 07:08:54 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

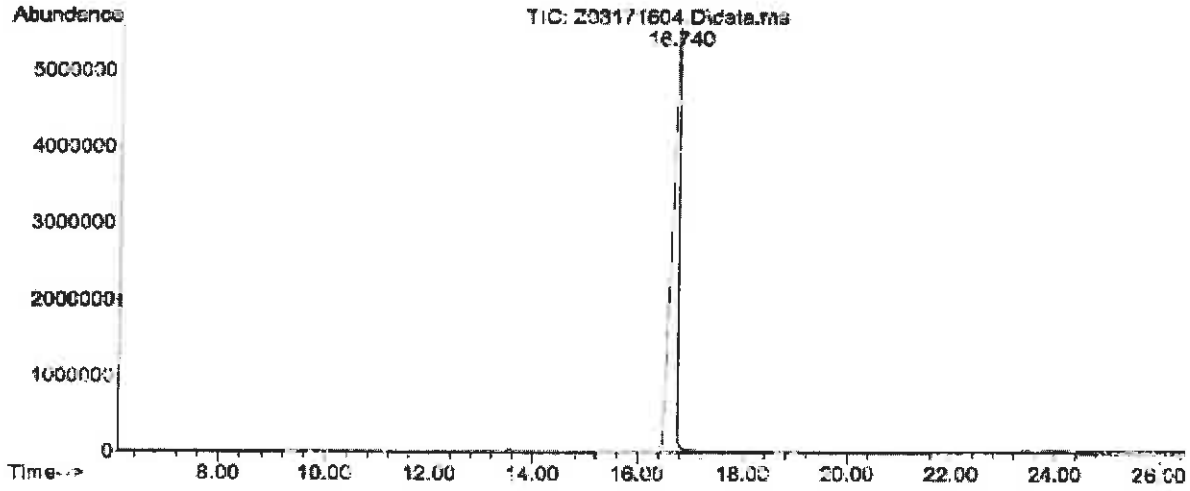

Mass Spectrum

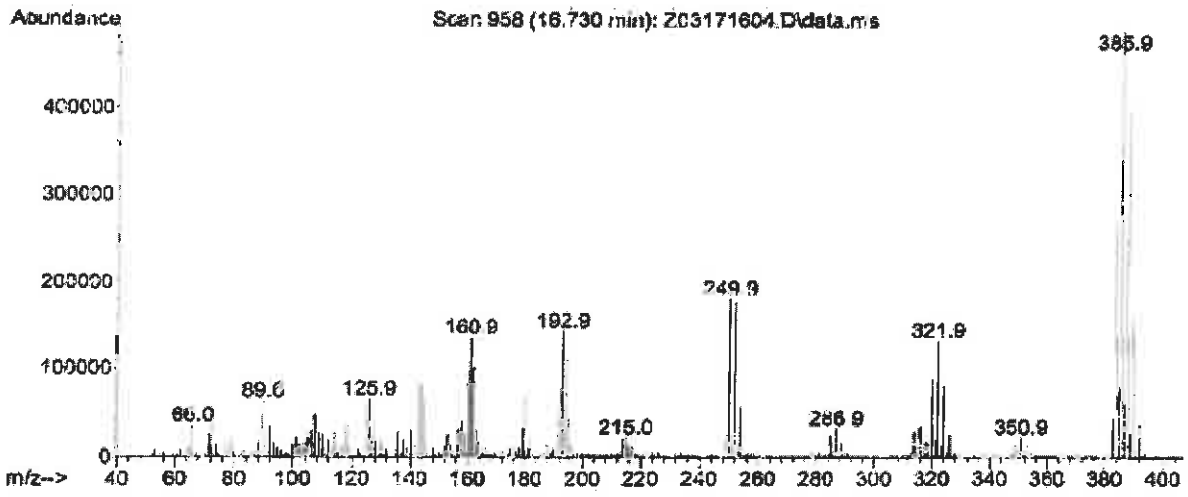

COA Revision History

Revision No.	Date	Reason for Revision
00	May 04, 2016	Initial version

Reagent

HRDXNIDA_00358

r: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,7,8,9-Hexachlorodibenzofuran-$^{13}C_{12}$

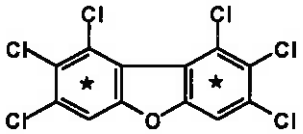

Catalog Number: EF-986
Solution Lot: ER100610-01
Expiration Date: December 2020
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For laboratory use only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
1,2,3,7,8,9-Hexachlorodibenzofuran-$^{13}C_{12}$	99.5%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER100610-01	51.2	± 5%	0.4	≤ 3%
Previous Lot	ER100107-01	49.9	± 5%	1.4	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

February 14, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2OCl_6$
Compound Lot:	ER080108-03	**CAS Number:**	116843-04-0
		Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.5%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.03% $^{13}C_0$ vs $^{13}C_{12}$
		0.09% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.49%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

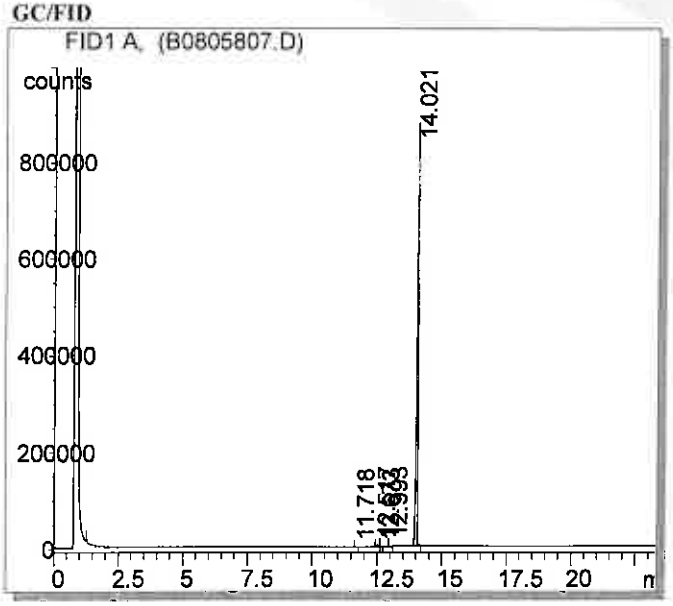

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0805807.D
Instrument:	GC#2
Sample Name:	ER080108-03
Acquired:	August 05, 2008

Peak #	Ret Time	Area	Height	Area %
1	11.72	318.47	152.10	0.01
2	12.52	8294.54	2994.64	0.30
3	12.67	155.17	67.29	0.01
4	12.99	4248.66	1646.53	0.16
5	14.02	2708910.00	880320.00	99.52

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

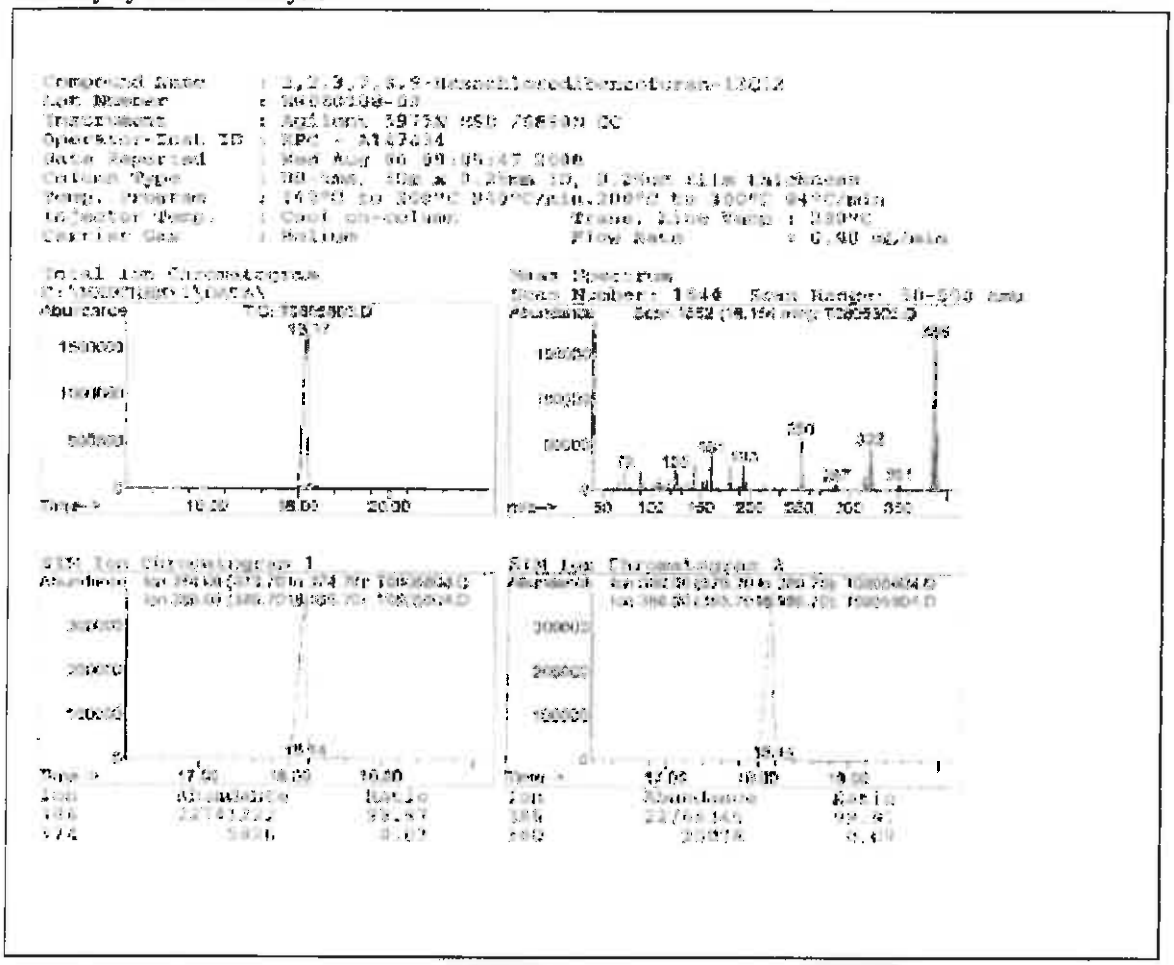

COA Revision History

Revision No.	Date	Reason for Revision
00	January 12, 2011	Initial version
01	November 05, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".
02	February 14, 2017	Corrected Isotopic Purity by GC/MS SIM from C to ^{13}C.

Reagent

HRDXNIDA_00359

r: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
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CIL

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

2,3,4,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

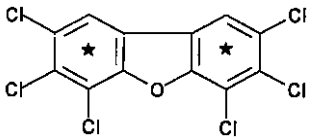

Catalog Number: EF-987
Solution Lot: ER100610-02
Expiration Date: December 2020
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For laboratory use only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
2,3,4,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.4%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER100610-02	50.9	± 5%	0.6	≤ 3%
Previous Lot	ER031507-03	50.3	± 5%	1.8	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

January 15, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,4,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O$
Compound Lot:	ER061906-02	**CAS Number:**	116843-05-1
		Molecular Weight:	386.73

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.4%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.04% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.40%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

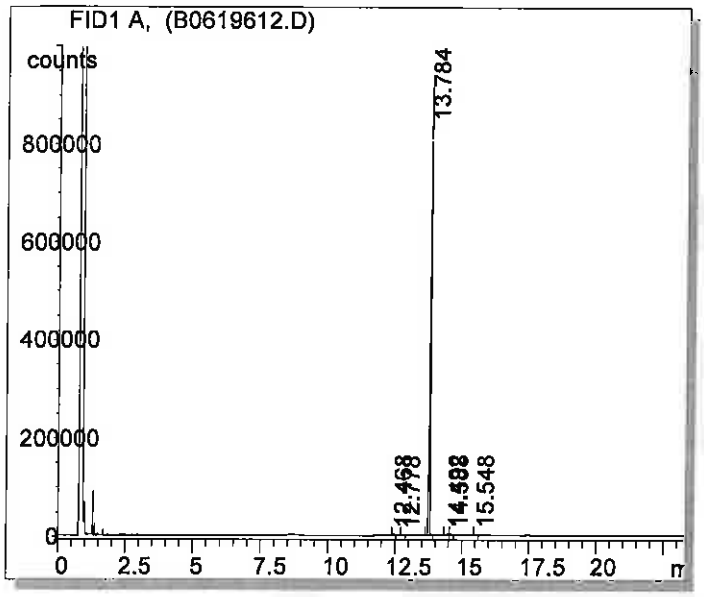

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0619612.D
Instrument:	GC#2
Sample Name:	ER061906-02
Acquired:	June 19, 2006

Peak #	Ret Time	Area	Height	Area %
1	12.47	4458	1822	0.18
2	12.78	3496	1304	0.14
3	13.78	2443150	925399	99.39
4	14.49	1528	387	0.06
5	14.59	4236	1332	0.17
6	15.55	1361	348	0.06

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 2,3,4,6,7,8-Hexachlorodibenzofuran-13C12
Lab Number : ZR061906-02
Instrument : Agilent 5975N MSD /6890N GC
Operator Inst ID : RPC - A147434
Date Reported : Tue Jun 20 08:44:12 2006
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 290°C 8.0°C/min,200°C to 330°C @4°C/min
Injector Temp. : Cool on-column Trans. Line Temp : 280°C
Carrier Gas : Helium Flow Rate : 0.80 mL/min

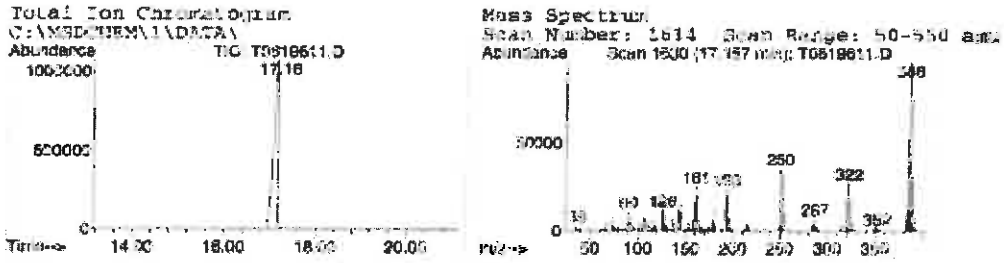

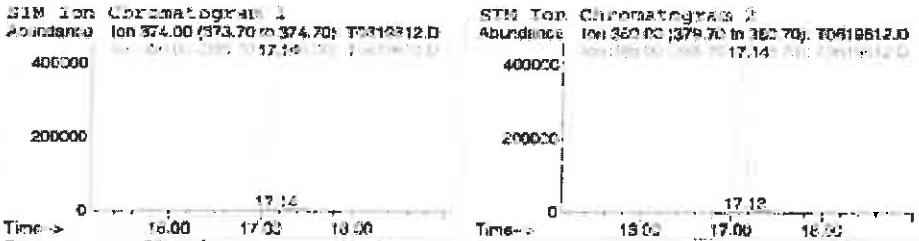

COA Revision History

Revision No.	Date	Reason for Revision
00	January 04, 2011	Initial version
01	January 15, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Reagent

HRDXNIDA_00360

r: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

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Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,7,8-Pentachlorodibenzo-p-dioxin-$^{13}C_{12}$

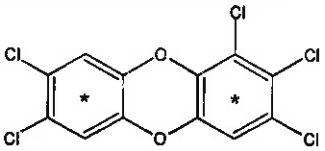

Catalog Number: ED-955
Solution Lot: ER08041401
Expiration Date: August 2024
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,7,8-Pentachlorodibenzo-p-dioxin-$^{13}C_{12}$	98.2%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER08041401	48.80	± 5%	0.3	≤ 3%
Previous Lot	ER030907-02	49.84	± 5%	0.4	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

February 10, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,7,8-Pentachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3Cl_5O_2$
Compound Lot:	ER06241403	**CAS Number:**	109719-79-1
		Molecular Weight:	368.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.9%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS-SIM Analysis	SP10-0105	0.07% $^{13}C_0$ vs $^{13}C_{12}$
		0.14% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS	SP10-0105	No single DD/DF $\geq$ 0.5%
Mass Balance Purity Factor		98.90%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

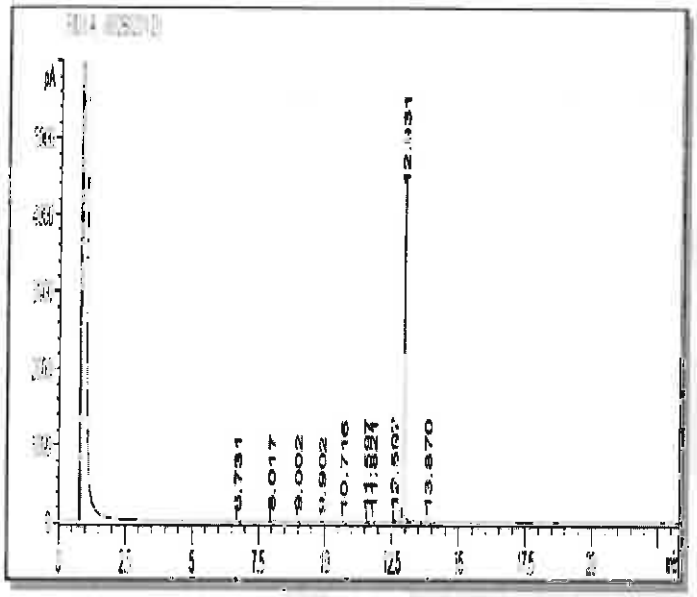

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min, hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMP-085 P GC 6 2014-07-30 18-11-11\002B0201.D
Instrument:	GC#6
Sample Name:	ER06241403
Acquired:	July 30, 2014

Peak #	Ret Time	Area	Height	Area %
1	6.73	7.32	3.42	0.07
2	8.02	3.79	1.60	0.04
3	9.00	8.74	3.64	0.08
4	9.90	3.38	1.35	0.03
5	10.72	1.31	0.45	0.01
6	11.60	14.46	6.69	0.14
7	11.82	2.21	1.11	0.02
8	12.60	68.05	28.10	0.64
9	12.93	10594.10	4235.85	98.91
10	13.87	7.09	2.57	0.07

Spectral and Physical Data (cont.)

GC/MS

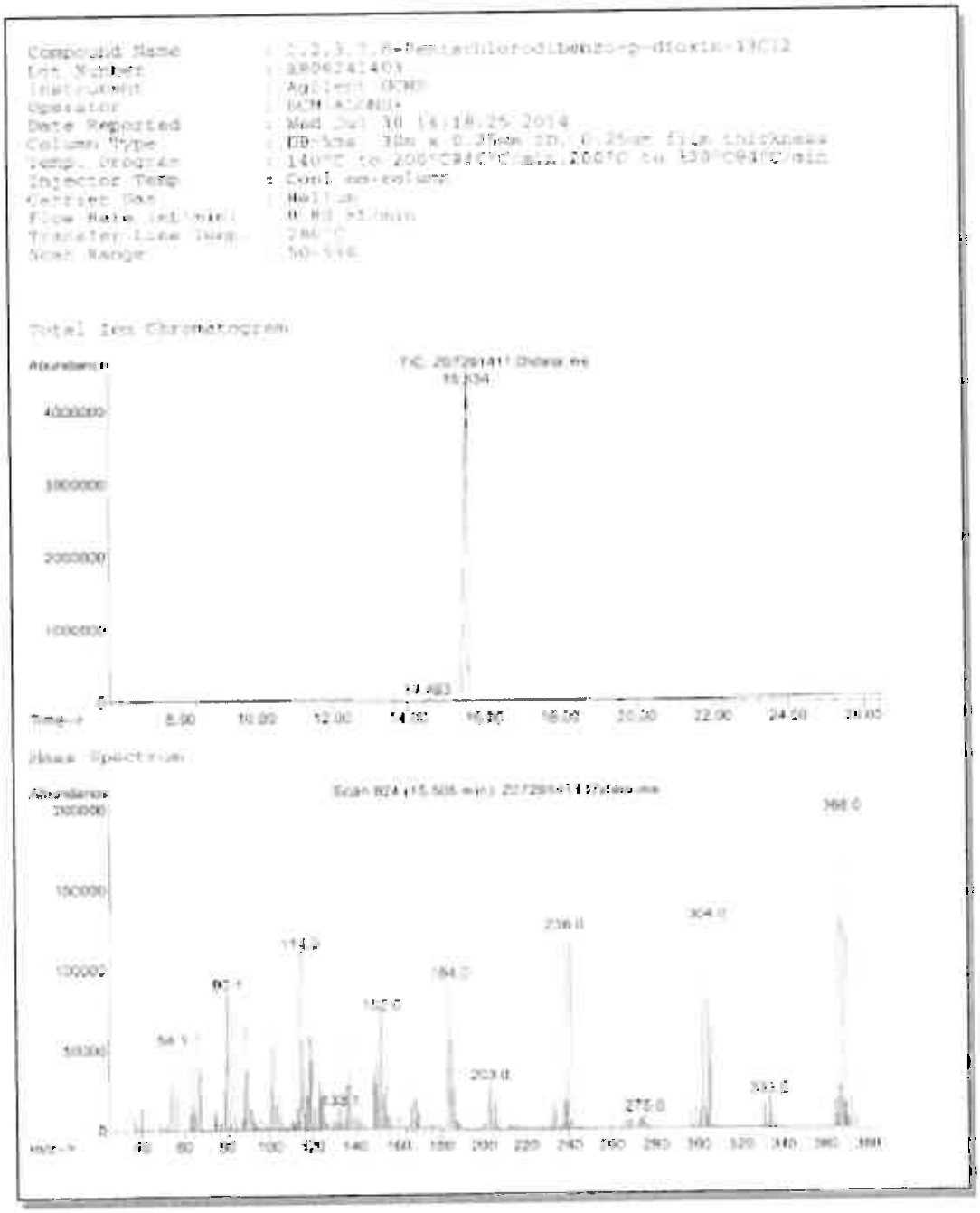

COA Revision History

Revision No.	Date	Reason for Revision
00	September 24, 2014	Initial version
01	February 10, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Reagent

HRDXNIDA_00361

r: 1/15/19 SKV

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Analytical Reference Standards
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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$

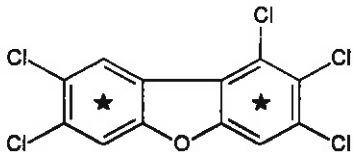

Catalog Number: EF-952
Solution Lot: ER012111-01
Expiration Date: January 2021
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For laboratory use only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
1,2,3,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	99.2%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER012111-01	50.7	± 5%	0.4	≤ 3%
Previous Lot	ER0100407-02	51.0	± 5%	0.5	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

February 15, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3OCl_5$
Compound Lot:	ER090110-01	**CAS Number:**	109719-77-9
		Molecular Weight:	352.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.2%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.03% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.17%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

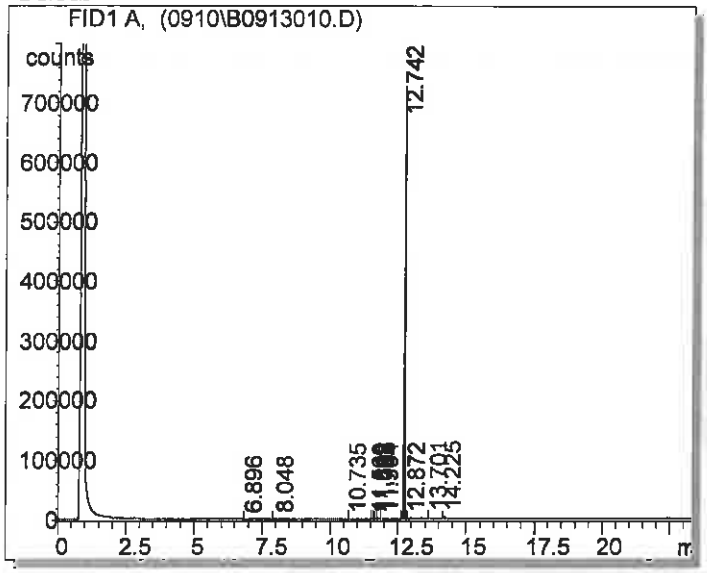

Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 100°C to 300°C at 15°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: S:\GC\GC2\2010\0910\B0913010.D
Instrument: GC#2
Sample Name: ER090110-01
Acquired: September 13, 2010

Peak #	Ret Time	Area	Height	Area %
1	6.90	618.64	296.84	0.04
2	8.05	254 50	102.70	0.01
3	10.74	162 25	70.86	0.01
4	11 57	145 03	82.11	0.01
5	11 62	468 46	216.27	0.03
6	11 69	1863 76	870.51	0.11
7	11.79	1631 76	576.35	0.10
8	11.90	421 31	184.81	0.02
9	12.74	1702290 00	729831.00	99.20
10	12.87	308 15	147.54	0.02
11	13.70	3743 55	1299.40	0.22
12	14.23	4032 24	1491.01	0.23

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

Compound Name : 1,2,3,7,8-Pentachlorodibenzofuran-13C12
Lot Number : EX090110-01
Instrument : Agilent 5973N MSD/6890N GC
Operator-Inst ID : RPC - C10106
Date Reported : Tue Sep 14 11:05:33 2010
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 280°C

Scan Range : 50-550

Total Ion Chromatogram

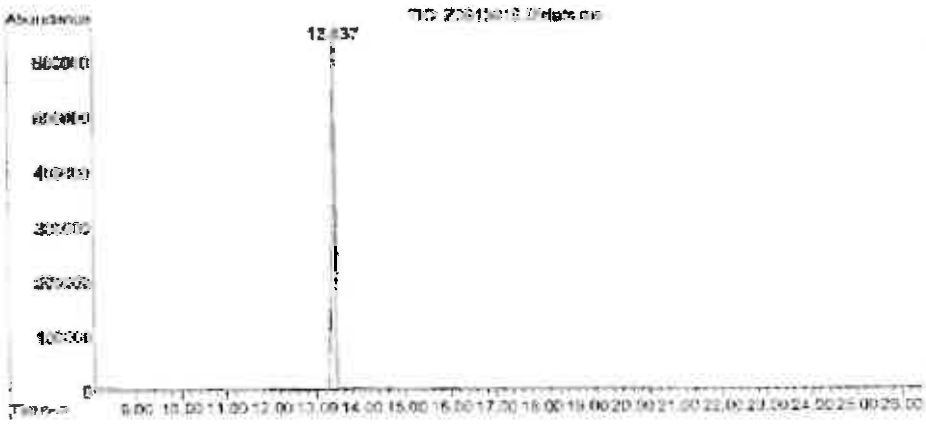

Mass Spectrum

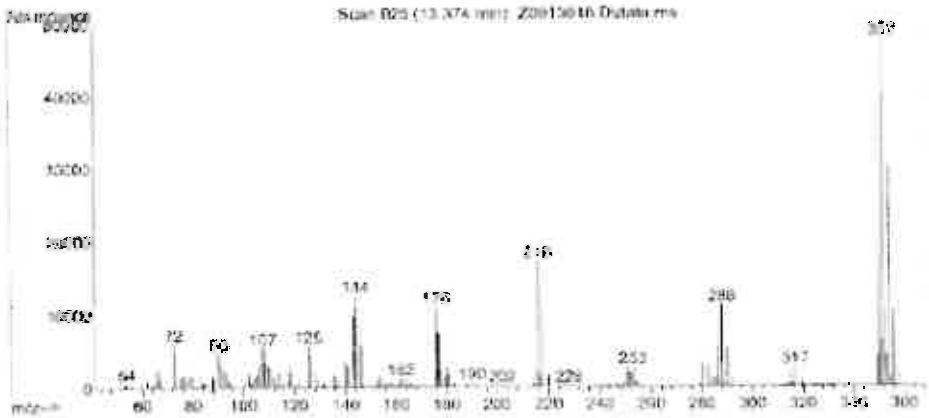

COA Revision History

Revision No.	Date	Reason for Revision
00	February 11, 2011	Initial version
01	March 01, 2011	Corrected typographical error: Chemical Structure
02	February 15, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Reagent

HRDXNIDA_00362

P: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

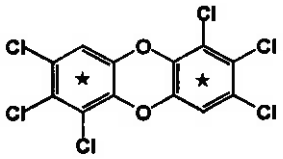

Catalog Number: ED-966
Solution Lot: ER03151801
Expiration Date: March 2028
Solvent: n-Nonane:Toluene (80:20) (v/v)
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	> 99.9%	50.03 ± 0.28 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER03151801	52.29	± 5%	0.2	≤ 3%
Previous Lot	ER010209-01	48.05	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using balances that have been qualified and calibrated to ISO 17025 requirements. All calibrations utilize NIST traceable weights which are calibrated externally by a qualified ISO 17025 accredited calibration laboratory to NIST standards. Qualification of each balance includes the assignment of a minimum weighing by a qualified and ISO 17025 accredited calibration vendor taking into consideration the balance and installed environmental conditions to ensure compliance with USP tolerances of NMT 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

April 19, 2018
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O_2$
Compound Lot:	FN01151802	**CAS Number:**	109719-81-5
		Molecular Weight:	402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.04% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 1.0%
Mass Balance Purity Factor		98.96%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

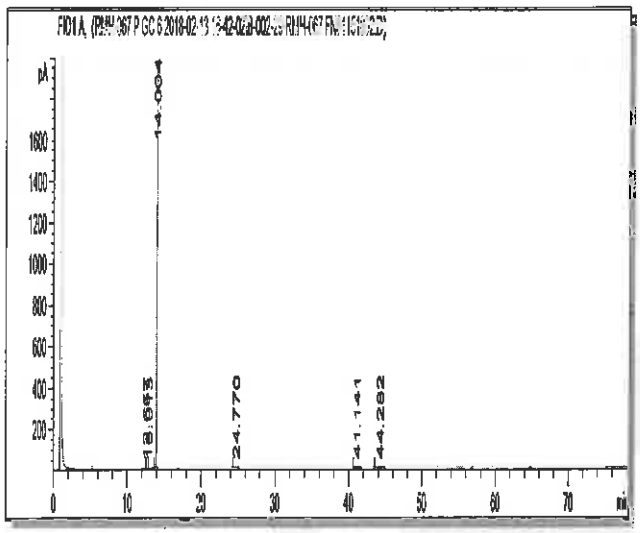

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-067 P GC 6 2018-02-13 16-42-02\B-002-29.D
Instrument:	GC#6
Sample Name:	FN01151802
Acquired:	February 13, 2018

Peak #	Ret Time	Area	Height	Area %
1	12.66	1 69	0.62	0.03
2	13.01	1 96	0.53	0.03
3	14 00	5617 62	1952.76	98.87
4	24 77	5.26	0.34	0.09
5	41 14	10.58	0.38	0.19
6	44 28	44.69	1.49	0.79

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-13C12
Lot Number	: FN01151802
Instrument	: Agilent GCMS
Operator	: FCM(SGIUFTRE)
Date Reported	: Mon Mar 05 10:17:32 2018
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

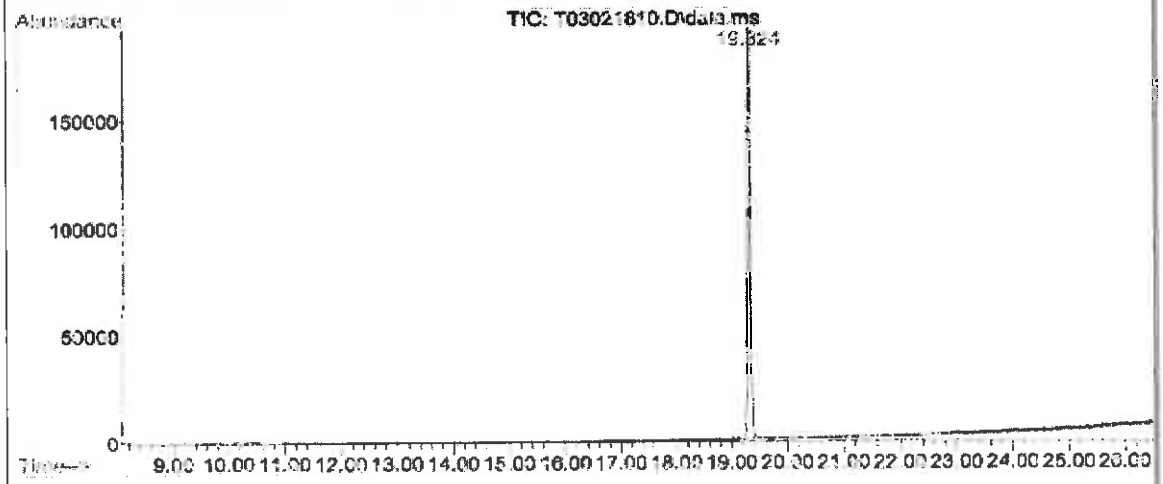

Mass Spectrum

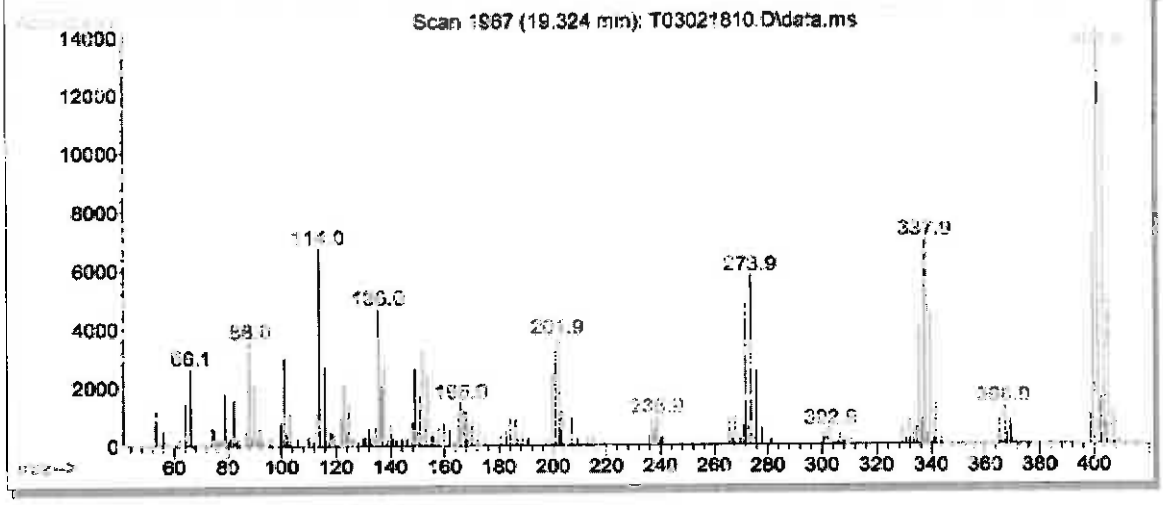

Reagent

HRDXNIDA_00365

Rec 11/28/18 SKV

1450145
ID: HRDXNIDA_00347
Exp: 04/30/27 Prpd: SKV
13C-OCDD [10 ug/mL]

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Octachlorodibenzo-p-dioxin-$^{13}C_{12}$

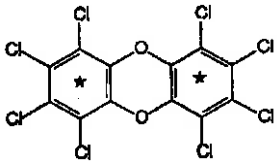

Catalog Number: ED-981-1.2
Solution Lot: ER04051701
Expiration Date: April 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
Octachlorodibenzo-p-dioxin-$^{13}C_{12}$	> 99.9%	10.00 ± 0.05 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04057101	10.22	± 5%	1.1	≤ 5%
Previous Lot	ER06061601	10.17	± 5%	0 8	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB Accredited ISO 17034 Reference Material Producer

Darron Ellsworth, Quality Assurance Manager

May 19, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.25 mm ID, 0.25 µm film thickness
Temp Program:	70°C to 200°C at 40°C/min 200°C to 280°C at 10°C/min hold 15 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	3
Linearity (r):	0.997

Neat Material Data

Compound Name:	Octachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}Cl_8O_2$
Compound Lot:	ER04041601	**CAS Number:**	114423-97-1
		Molecular Weight:	471.66

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.1%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.07% $^{13}C_0$ vs $^{13}C_{12}$
		0.96% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.15%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

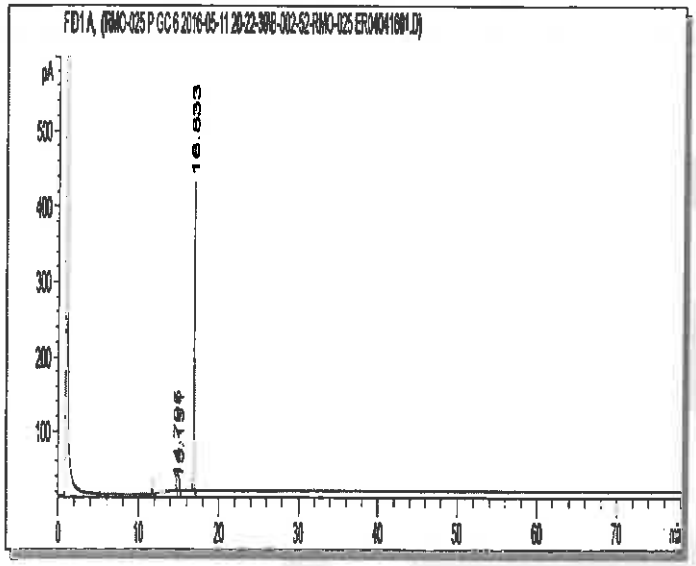

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMO-025 P GC 6 2016-05-11 20-22-39\B-002-52.D
Instrument:	GC#6
Sample Name:	ER04041601
Acquired:	May 11, 2016

Peak #	Ret Time	Area	Height	Area %
1	14.80	12.12	3.62	0.61
2	15.15	4.72	1.32	0.24
3	16.83	1980.56	409.54	99.16

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: Octachlorodibenzo-p-dioxin-13C12
Lot Number	: ERC4041601
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Wed May 04 13:45:40 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

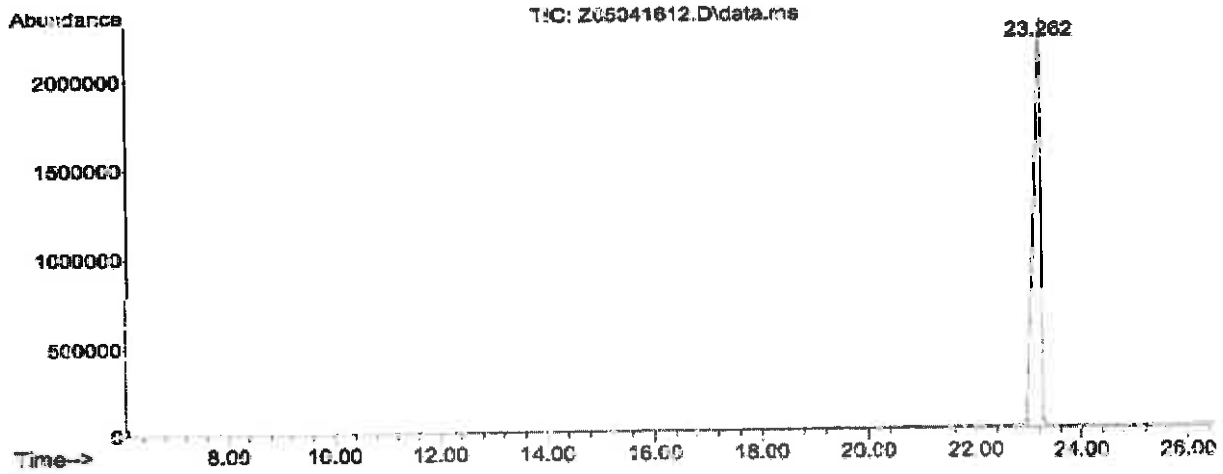

Mass Spectrum

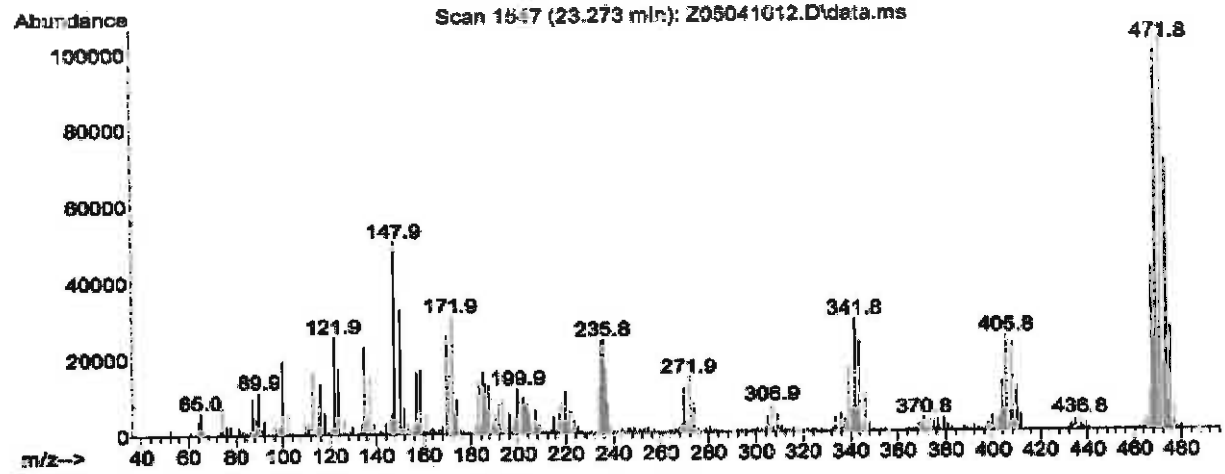

Reagent

HRDXNIDA_00375

nc 4/8/16 BWJ

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Analytical Reference Standards
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CIL

Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$

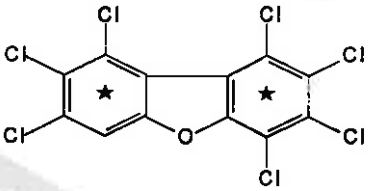

Catalog Number: EF-988
Solution Lot: ER04251601
Expiration Date: May 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	99.1%	49.99 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass, Purity Factor of the analyte(s), measured mass of the solution, and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04251601	49.11	± 5%	0.2	≤ 3%
Previous Lot	ER053107-02	50.58	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

November 09, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}HCl_7O$
Compound Lot:	ER04041602	**CAS Number:**	109719-94-0
		Molecular Weight:	421.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.1%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS SIM	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.16% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.10%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data (cont.)

GC/FID

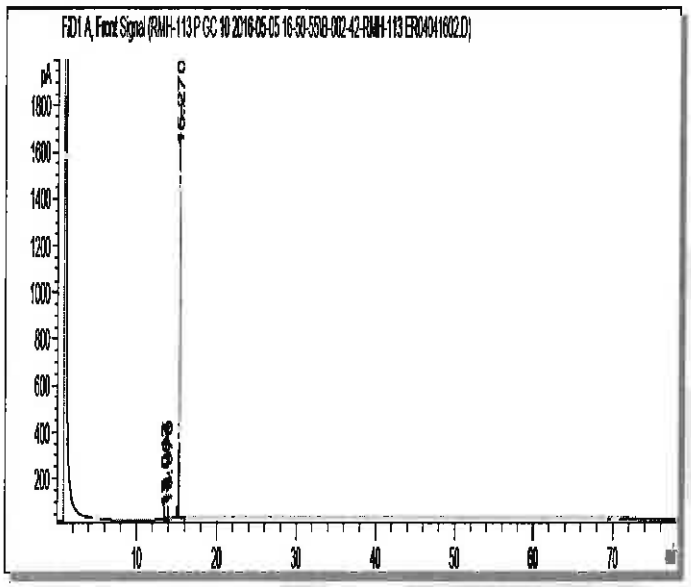

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-113 P GC 10 2016-05-05 16-50-55\B-002-42.D
Instrument:	GC#10
Sample Name:	ER04041602
Acquired:	May 05, 2016

Peak #	Ret Time	Area	Height	Area %
1	13.51	8.76	2.52	0.12
2	13.68	17.42	7.45	0.24
3	13.97	39.65	15.48	0.54
4	15.27	7226.95	1798.33	99.10

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 1,2,3,4,7,8,9-Heptachlorodibenzofuran-13C12
Lot Number	: ER04041602
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Wed May 04 15:34:28 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

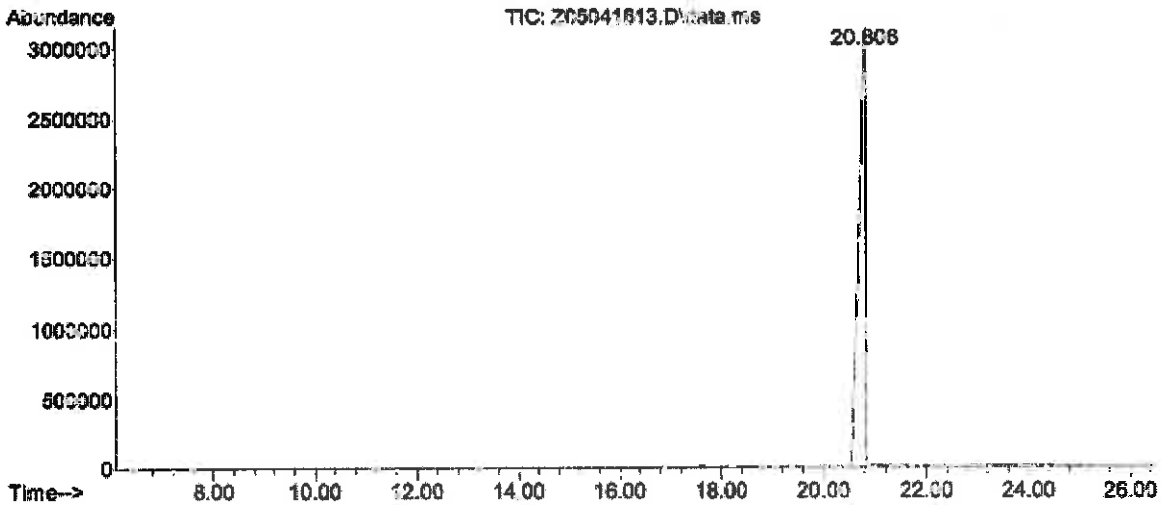

Mass Spectrum

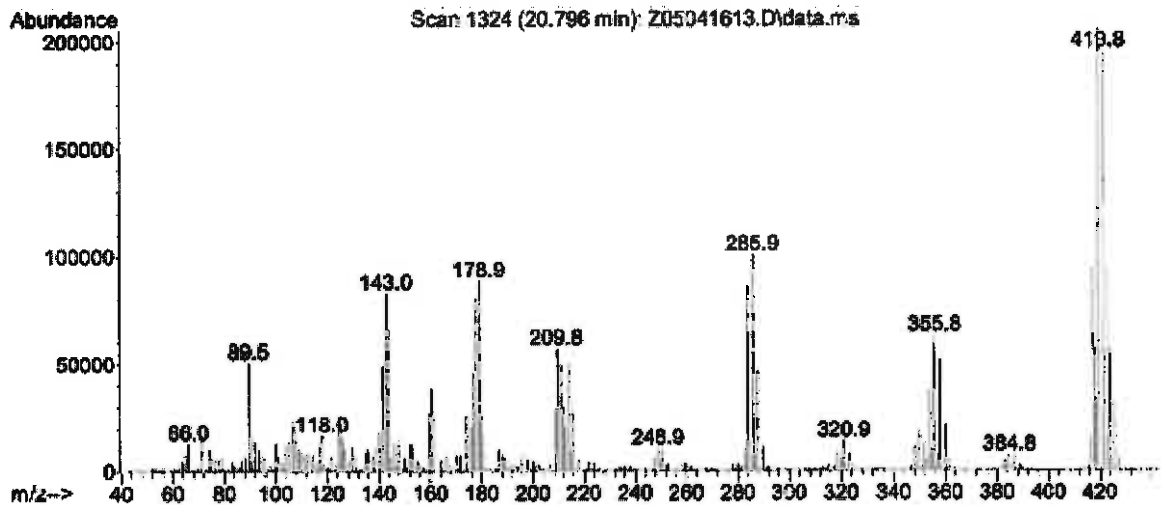

COA Revision History

Revision No.	Date	Reason for Revision
00	June 21, 2016	Initial version
01	November 09, 2016	Corrected Expiration Date from March 2026 to May 2026.

Reagent

HRDXNIDA_00376

N: 4/8/19 SW

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CIL

Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$

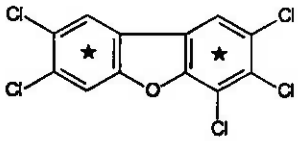

Catalog Number:	EF-958
Solution Lot:	ER01061701
Expiration Date:	January 2027
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	97.9%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass, Purity Factor of the analyte(s), measured mass of the solution, and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Acceptance Criteria	%RSD - Homogeneity Actual Results	Acceptance Criteria
New Lot	ER01061701	50.51	± 5%	0.1	≤ 3%
Previous Lot	ER11041601	49.56	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

January 27, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3Cl_5O$
Compound Lot:	ER11101601	**CAS Number:**	116843-02-8
		Molecular Weight:	352.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0102	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.02% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 0.5%
Mass Balance Purity Factor		**98.33%**

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

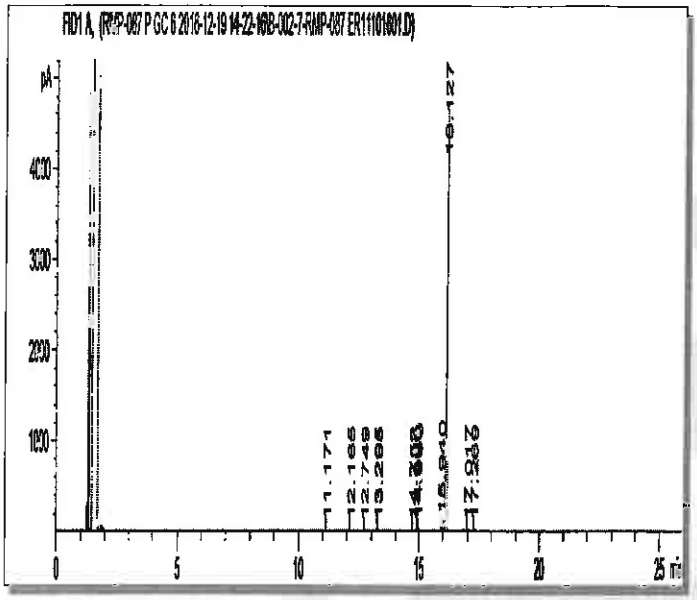

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMP-087 P GC 6 2016-12-19 14-22-16\B-002-7.D
Instrument:	GC#6
Sample Name:	ER11101601
Acquired:	December 19, 2016

Peak #	Ret Time	Area	Height	Area %
1	11.17	0.94	0.40	0.01
2	12.17	1.30	0.39	0.01
3	12.75	0.47	0.20	0.00
4	13.30	0.90	0.35	0.01
5	14.75	1.70	0.87	0.02
6	14.91	1.09	0.56	0.01
7	14.97	32.24	17.54	0.29
8	15.94	124.38	64.36	1.13
9	16.13	10866.60	4688.80	98.41
10	17.02	6.31	2.46	0.06
11	17.27	6.76	2.34	0.06

Spectral and Physical Data (cont.)

GC/MS

```
Compound Name          : 2,3,4,7,8-Pentachlorodibenzofuran-13C12
Lot Number             : ER11101601
Instrument             : Agilent GCMS
Operator               : ECM(SGIUFFRE)
Date Reported          : Tue Dec 20 12:19:55 2016
Column Type            : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program          : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.         : Cool on-column
Carrier Gas            : Helium
Flow Rate (mL\min)     : 0.80 mL/min
Transfer Line Temp.    : 280°C
Scan Range             : 50-550
```

Total Ion Chromatogram

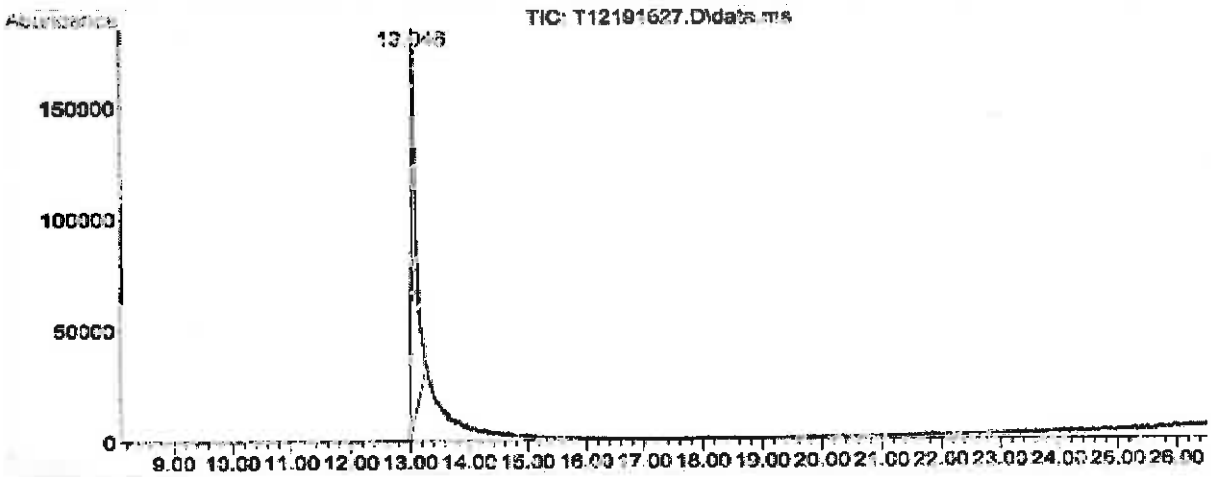

Mass Spectrum

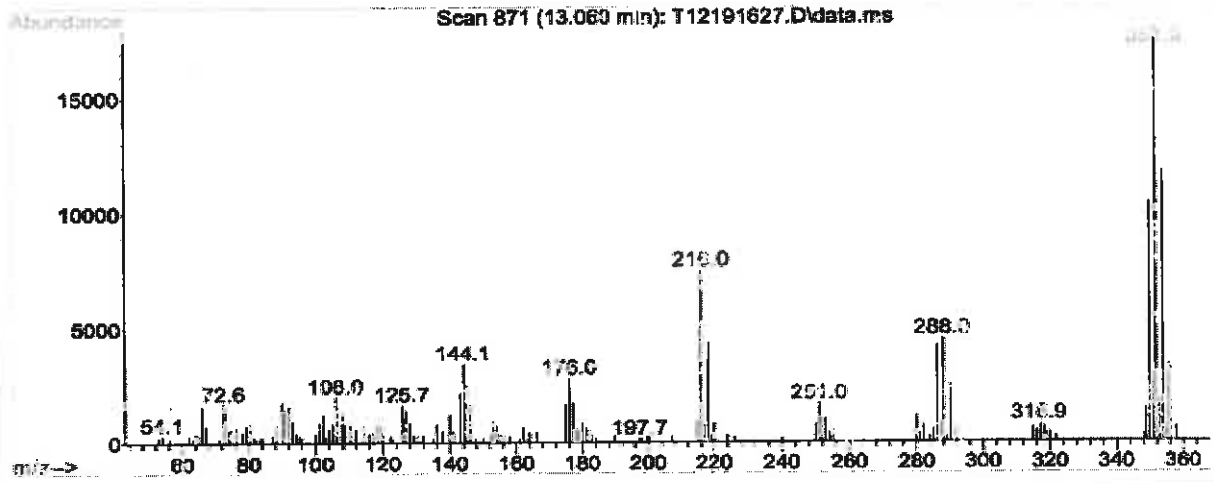

Reagent

HRDXNIDA_00377

r: 4/8/19 SKJ

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CIL

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

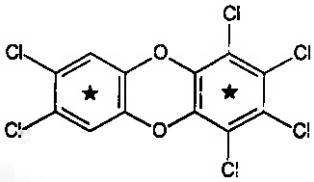

Catalog Number:	ED-946
Solution Lot:	ER04211601
Expiration Date:	June 2026
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.3%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04211601	49.24	± 5%	0.4	≤ 3%
Previous Lot	ER102711-01	49.69	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

August 11, 2016
Date

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 60°C to 300°C at 40°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 4
Linearity (r): 1.000

Neat Material Data

Compound Name: 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$
Compound Lot: ER011008-01

Chemical Formula: $^{13}C_{12}H_2Cl_6O_2$
CAS Number: 109719-80-4
Molecular Weight: 402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.08% $^{13}C_0$ vs $^{13}C_{12}$
		0.21% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.26%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

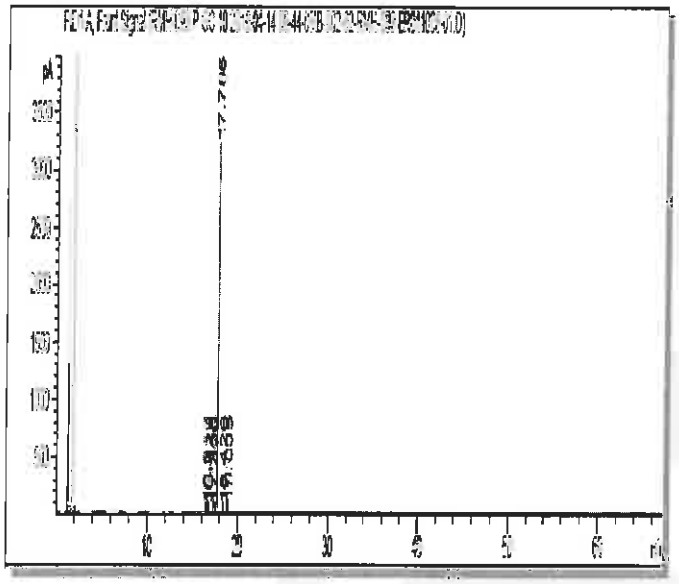

Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 40°C to 300°C at 15°C/min hold 50 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: RMH-098 P GC 10 2016-04-14 08-44-08\B-002-62.D
Instrument: GC#10
Sample Name: ER011008-01
Acquired: April 14, 2016

Peak #	Ret Time	Area	Height	Area %
1	16.56	16.58	7.74	0.19
2	16.72	11.25	5.08	0.13
3	16.83	8.45	4.05	0.10
4	17.30	1.81	0.71	0.02
5	17.48	1.07	0.50	0.01
6	17.79	8682.22	3203.58	99.29
7	18.43	1.99	0.68	0.02
8	19.01	20.62	6.08	0.24

Spectral and Physical Data (cont.)

GC/MS

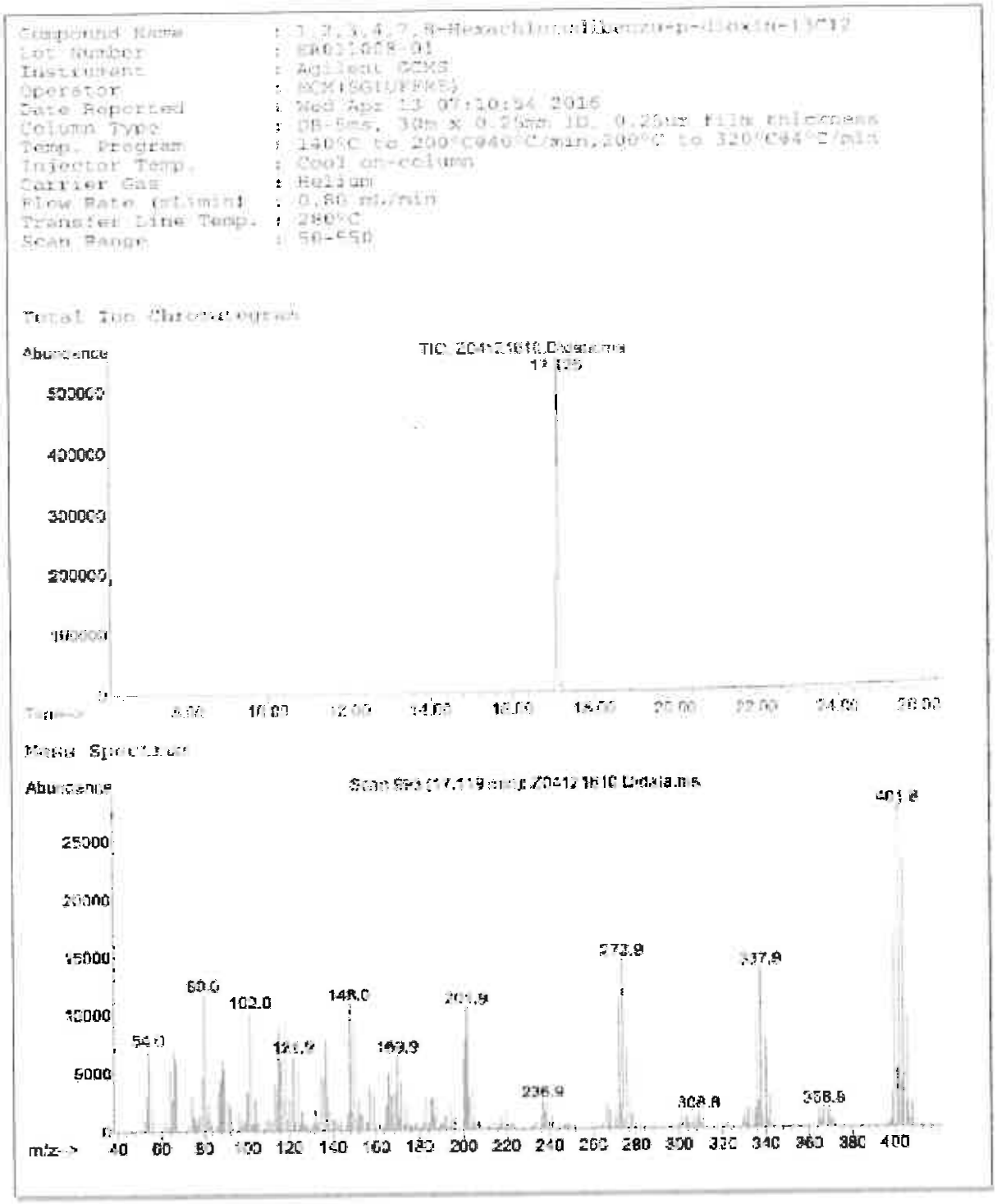

Reagent

HRDXNIDA_00378

r: 4/8/19 SKJ

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Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

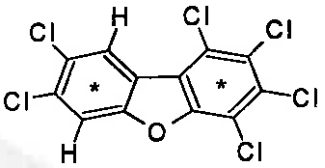

Catalog Number:	EF-963
Solution Lot:	ER04211701
Expiration Date:	July 2027
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.4%	50.00 ± 0.28 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04211701	49.47	± 5%	0.2	≤ 3%
Previous Lot	ER072810-02	45.87	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release

Traceability

- Gravemetrically prepared using balances that have been qualified and calibrated to ISO 17025 requirements. All calibrations utilize NIST traceable weights which are calibrated externally by a qualified ISO 17025 accredited calibration laboratory to NIST standards. Qualification of each balance includes the assignment of a minimum weighing by a qualified and ISO 17025 accredited calibration vendor taking into consideration the balance and installed environmental conditions to ensure compliance with USP tolerances of NMT 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

September 11, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}Cl_6H_2O$
Compound Lot:	ER11281601	**CAS Number:**	114423-98-2
		Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0102	99.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.06% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 0.5%
Mass Balance Purity Factor		99.31%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

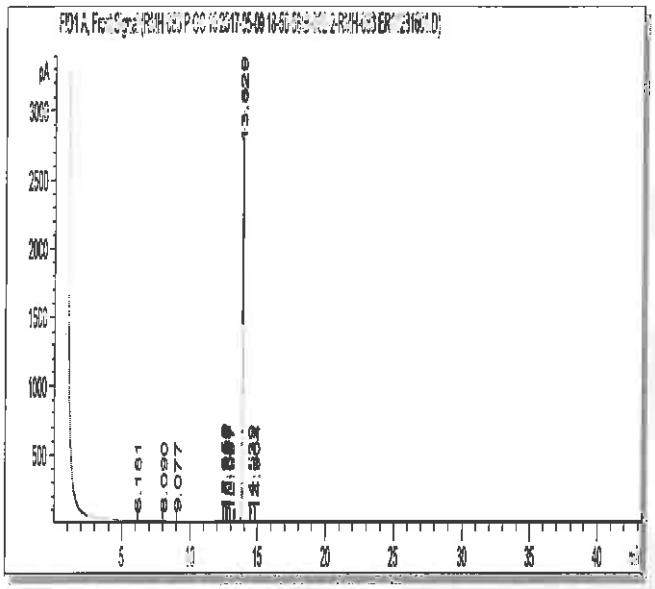

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 30 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-083 P GC 10 2017-05-09 18-50-58\B-002-2.D
Instrument:	GC#10
Sample Name:	ER11281601
Acquired:	May 09, 2017

Peak #	Ret Time	Area	Height	Area %
1	6.18	1.10	0.64	0.01
2	8.09	2.00	0.70	0.02
3	9.08	1.17	0.48	0.01
4	12.55	14.76	7.25	0.16
5	12.73	32.67	11.32	0.36
6	12.84	5.45	2.50	0.06
7	13.00	2.51	1.30	0.03
8	13.83	8993.56	3122.16	99.30
9	14.54	1.11	0.20	0.01
10	14.90	2.71	0.86	0.03

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 1,2,3,4,7,8-hexachlorodibenzofuran-13C12
Lot Number : SRI128160[illegible]
Instrument : Agilent GCMS
Operator : ECM(SGIDEFKE)
Date Reported : Mon May 08 09:30:09 2017
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@60°C/min,200°C to 320°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL\min) : 0.80 mL/min
Transfer Line Temp. : 280°C
Scan Range : 50-550

Total Ion Chromatogram

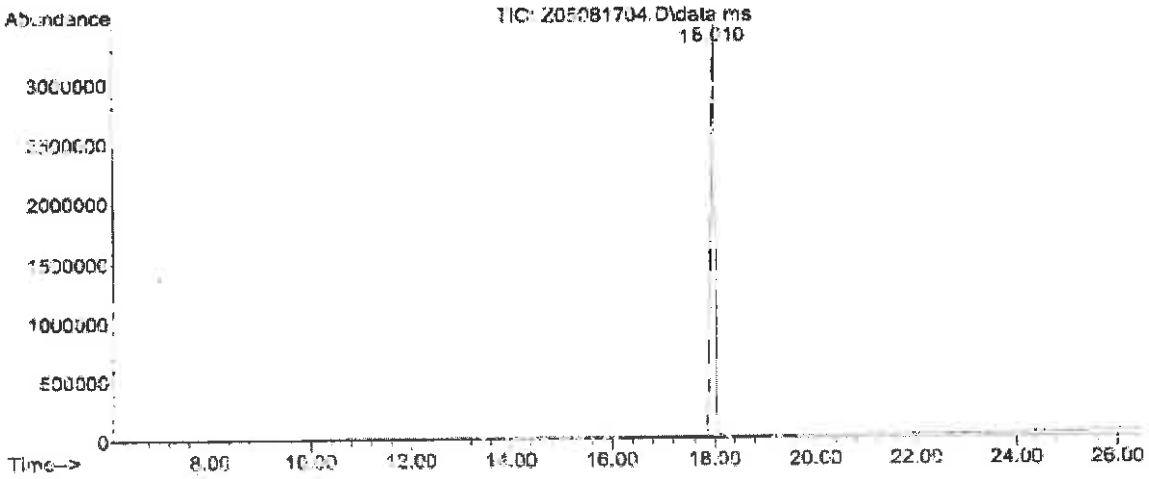

Mass Spectrum

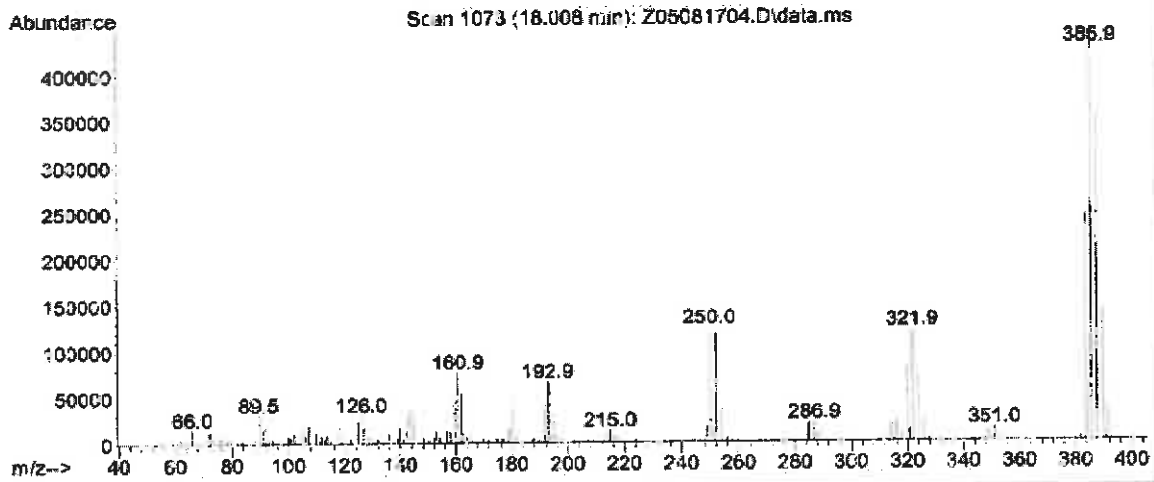

Reagent

HRDXNIS_00110

r: 9/4/18 SKV

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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

Catalog Number: ED-996
Solution Lot: ER08221601
Expiration Date: September 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER08221601	49.20	± 5%	0.3	≤ 3%
Previous Lot	ER021313-01	49.56	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

September 28, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O_2$
Compound Lot:	ER110510-01	**CAS Number:**	109719-82-6
		Molecular Weight:	402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.04% $^{13}C_0$ vs $^{13}C_{12}$
		0.27% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.02%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

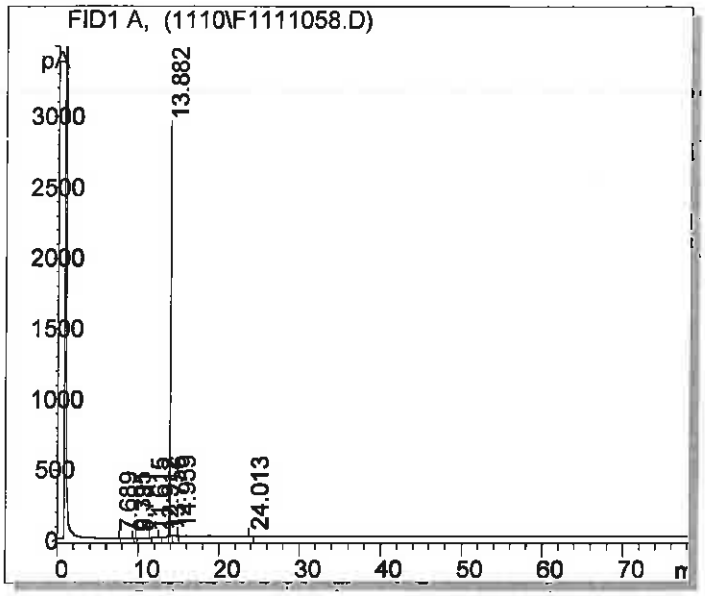

Column:	DB-5ms 30m x 0.53mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-column
Detector Temp:	325°C
Data File Name:	S:\GC\GC6\2010\1110\F1111058.D
Instrument:	GC#6
Sample Name:	ER110510-01
Acquired:	November 12, 2010

Peak #	Ret Time	Area	Height	Area %
1	4 69	0.45	0.10	0.01
2	9.40	0 72	0.14	0.01
3	9.78	0 80	0.13	0.01
4	11 62	7.34	2.54	0.09
5	12 91	2.59	0.23	0.03
6	13 76	1.91	1.00	0.02
7	13 88	8026.07	2938.74	99.11
8	14.96	36.82	11.38	0.45
9	24.01	21.08	1.62	0.26

Spectral and Physical Data (cont.)

GC/MS

```
Compound Name      : 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-13C12
Lot Number         : ER110510-01
Instrument         : Agilent 5973N MSD /6890N GC
Operator-Inst ID   : RPC - A147434
Date Reported      : Fri Nov 12 16:41:14 2010
Column Type        : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program      : 140°C to 200°C @40°C/min,200°C to 320°C @4°C/min
Injector Temp.     : Cool on-column          Trans. Line Temp : 280°C
Carrier Gas        : Helium                  Flow Rate        : 0.80 mL/min
```

Total Ion Chromatogram
S:\GCMS\GCMS2\2010\1110\

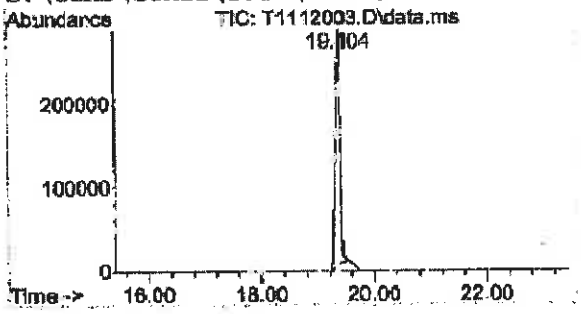

Mass Spectrum
Scan Number: 1976 Scan Range: 50-550 amu

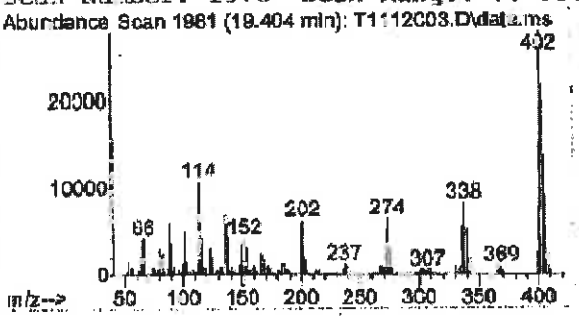

SIM Ion Chromatogram 1

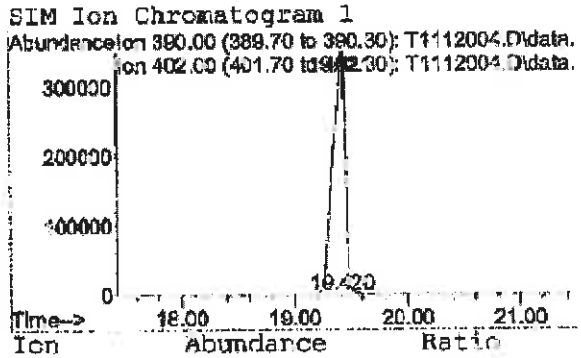

Ion	Abundance	Ratio
402	26368380	99.96
390	9776	0.04

SIM Ion Chromatogram 2

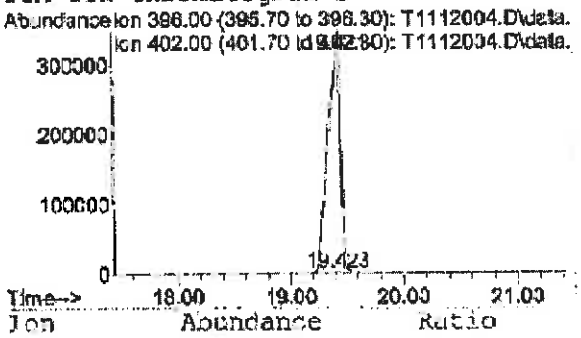

Ion	Abundance	Ratio
402	26368380	99.73
396	71626	0.27

Reagent

HRDXNIS_00111

Rec: 9/4/18 SKV

Cerilliant
Analytical Reference Standards
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Certificate of Analysis

1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$

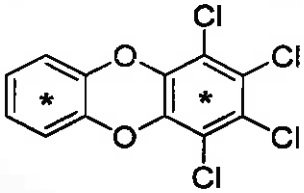

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number: ED-911
Solution Lot: ER11081602
Expiration Date: January 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.7%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER11081602	51.01	± 10%	0.1	≤ 3%
Previous Lot	ER060710-01	50.59	± 10%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

January 23, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_4Cl_4O_2$
Compound Lot:	ER02021602	**CAS Number:**	114423-99-3
		Molecular Weight:	333.88

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS	SP10-0105	no single DD/DF impurity ≥ 1.0%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.03% $^{13}C_0$ vs $^{13}C_{12}$
		0.01% $^{13}C_6$ vs $^{13}C_{12}$
Identity by ^{1}H-NMR Analysis	USP <761>, SP10-0116	Consistent with Structure
Residual Solvent by ^{1}H-NMR Analysis	USP <761>, SP10-0116	0.31% Dichloromethane
Mass Balance Purity Factor		98.71%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

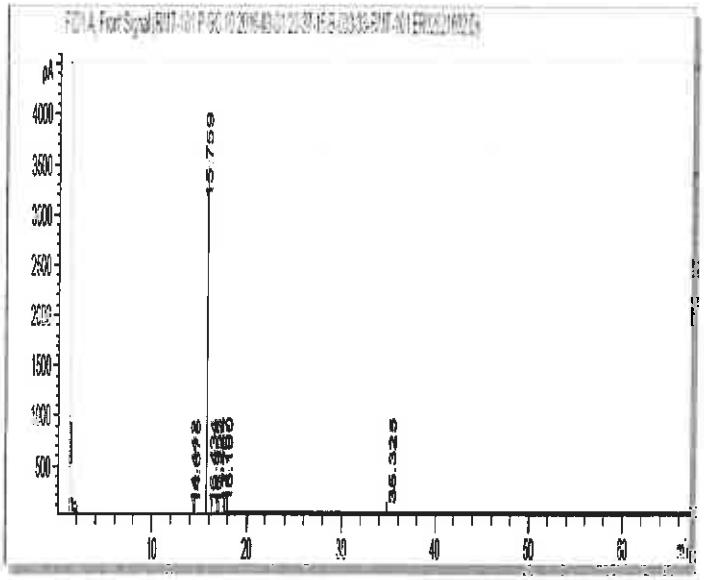

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	40°C to 300°C at 15°C/min hold 50 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMT-101 P GC 10 2016-03-01 20-37-15\B-003-33.D
Instrument:	GC#10
Sample Name:	ER02021602
Acquired:	March 01, 2016

Peak #	Ret Time	Area	Height	Area %
1	14.44	1.34	0.53	0.02
2	14.68	3.60	0.58	0.05
3	15.76	7522.29	3054.11	99.22
4	16.43	3.51	0.80	0.05
5	16.96	2.38	1.09	0.03
6	17.13	4.79	2.26	0.06
7	17.77	8.72	3.38	0.11
8	18.10	1.68	0.54	0.02
9	35.33	32.94	1.28	0.43

^{1}H NMR

Instrument:	JEOL ECS 400
Solvent:	Chloroform-D

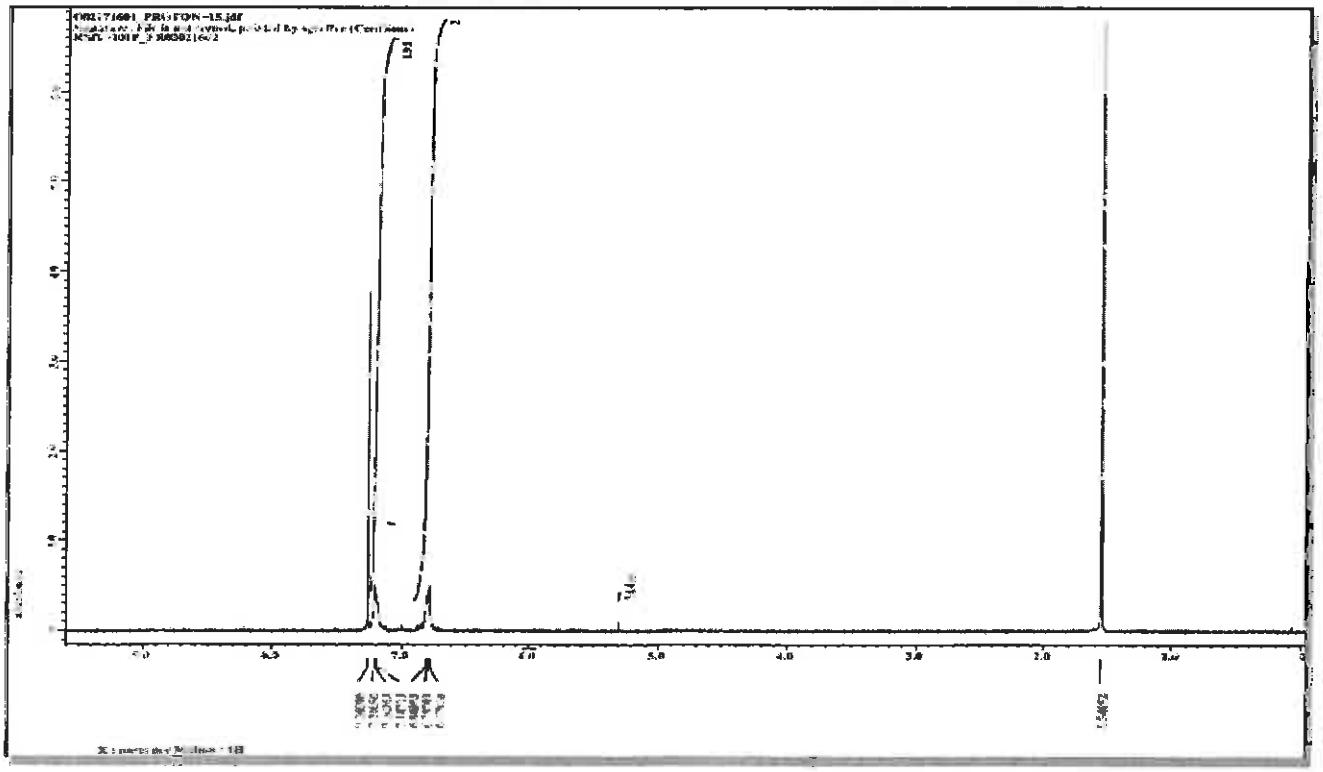

Spectral and Physical Data (cont.)

GC/MS

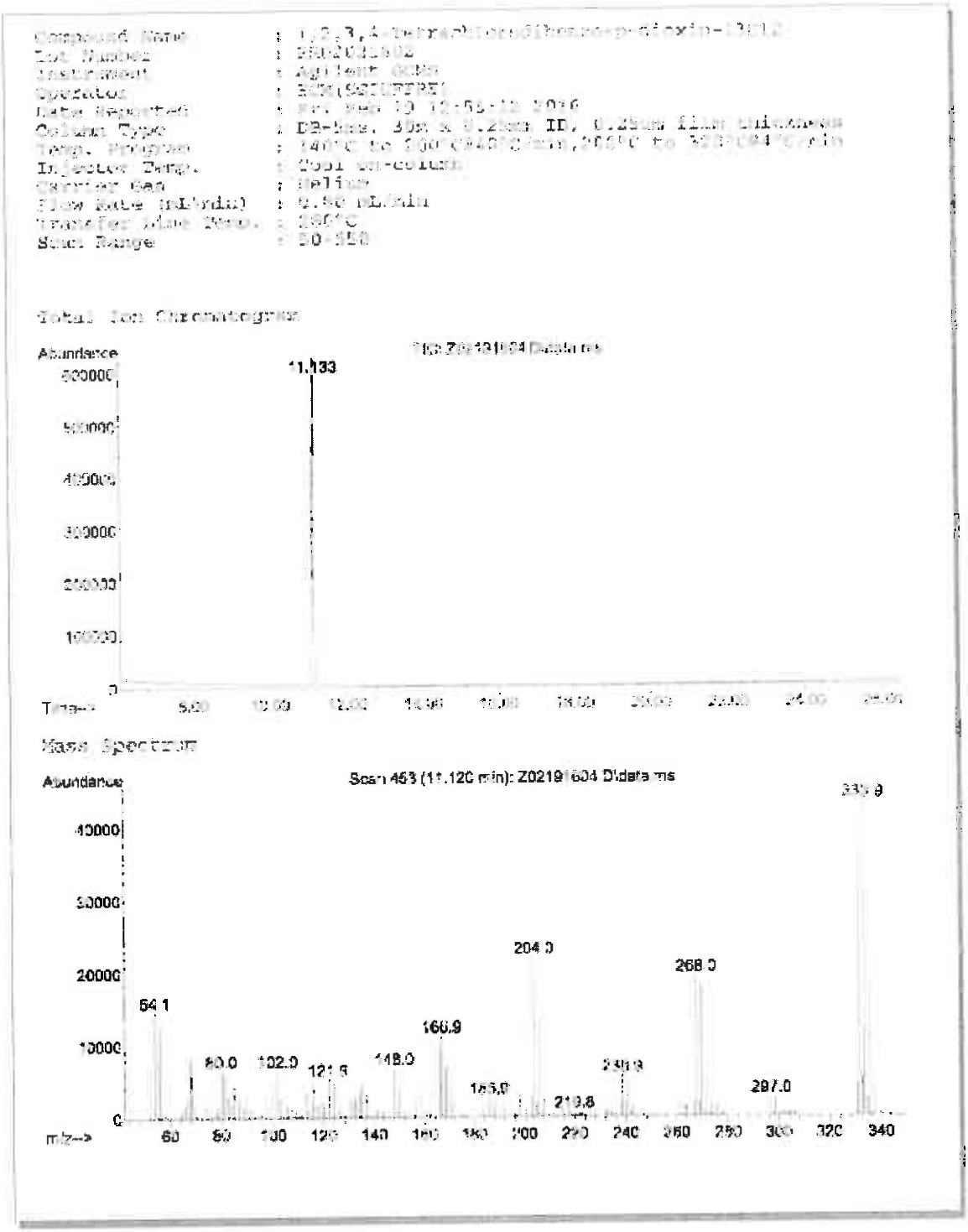

Reagent

HRDXNSU_00187

r: 7/30/18 SKJ

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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$

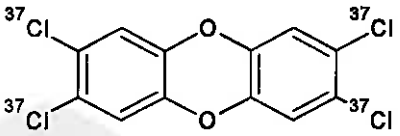

Catalog Number:	ED-907
Solution Lot:	ER05211501
Expiration Date:	July 2025
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold
Shipping:	Ambient.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Instructions for Use:	Sonicate before use.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration
- For MS Applications, we advise laboratories not to mix lots during a single sequence.

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$	98.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Acceptance Criteria	%RSD - Homogeneity Actual Results	Acceptance Criteria
New Lot	ER05211501	50.60	± 10%	0.2	≤ 5%
Previous Lot	ER052010-02	49.73	± 10%	0.5	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after

ACLASS ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

August 03, 2015
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$	**Chemical Formula:**	$C_{12}H_4O_2{}^{37}Cl_4$
Compound Lot:	ER040510-01	**CAS Number**	85508-50-5
		Molecular Weight	328.02

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{37}Cl_0$ vs $^{37}Cl_4$
Identity by ^{1}H-NMR Analysis	USP <761>, SP10-0116	Consistent with Structure
Residual Solvent Analysis by ^{1}H-NMR	USP <761>, SP10-0116	1.2% Chloroform
Purity Factor		97.14%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

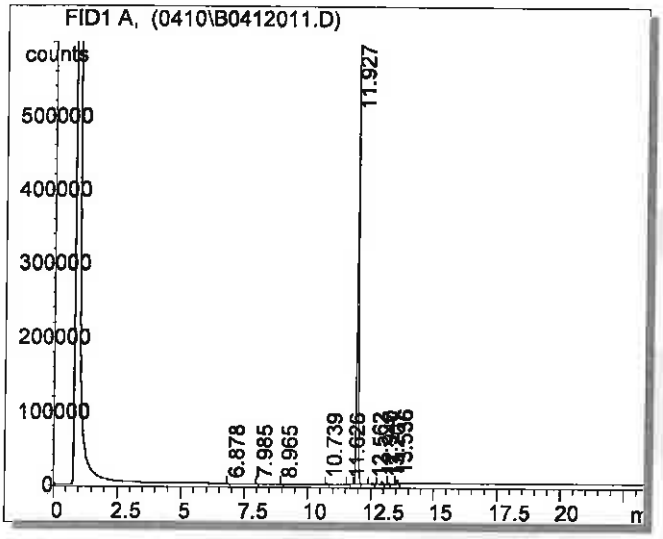

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	S:\GC\GC2\2010\0410\B0412011.D
Instrument:	GC#2
Sample Name:	ER040510-01
Acquired:	April 13, 2010

Peak #	Ret Time	Area	Height	Area %
1	6.88	245.58	89.37	0.01
2	7.99	304.03	131.27	0.01
3	8.97	233.91	72.32	0.01
4	10.74	931.14	265.29	0.04
5	11.63	127.86	46.74	0.01
6	11.93	2261830.00	580792.00	98.34
7	12.56	6435.54	1838.17	0.28
8	12.94	13336.80	4373.86	0.58
9	13.20	2178.30	729.98	0.09
10	13.54	14483.80	5038.43	0.63

^{1}H NMR

Instrument:	JEOL ECS 400
Solvent:	Toluene-D_8

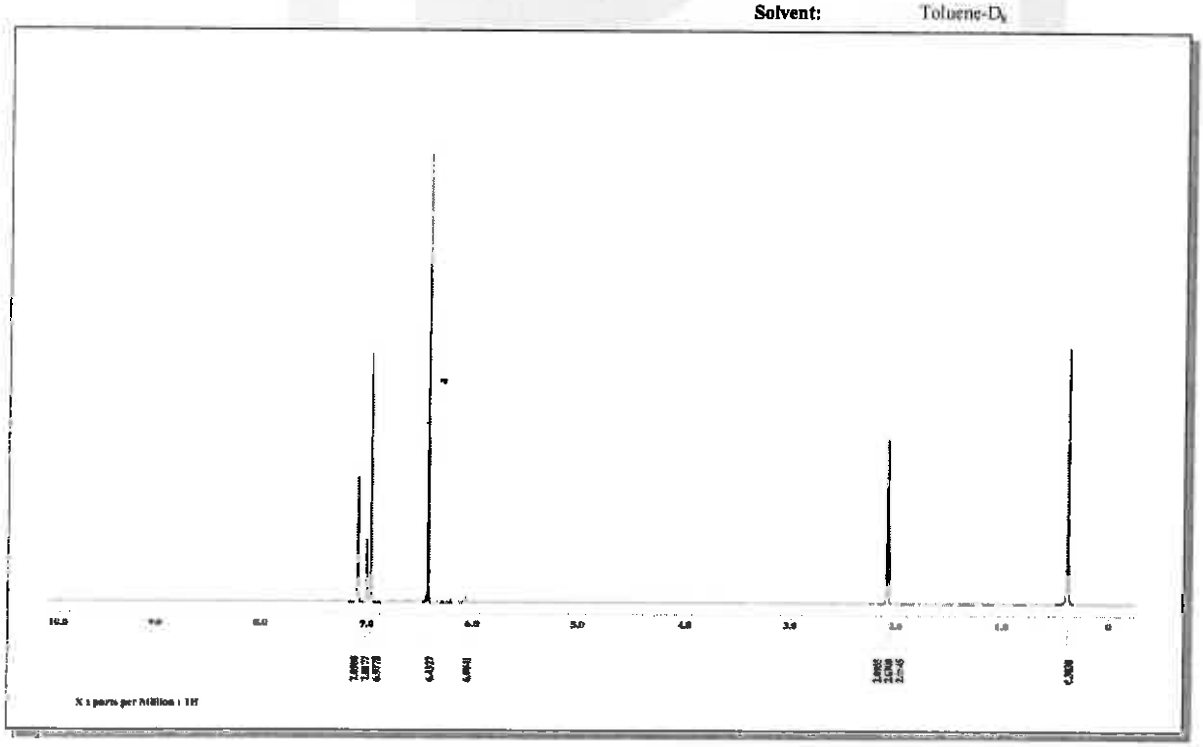

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

Compound Name : 2,3,7,8-Tetrachlorodibenzo-p-dioxin-37C14
Lot Number : KR060510-02
Instrument : Agilent 5973N MSD/6890N GC
Operator-Inst ID : RPC - C10106
Date Acquired : Mon Apr 19 23:23:00 2010
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 320°C@10°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 280°C

Scan Range : 50-550

Total Ion Chromatogram

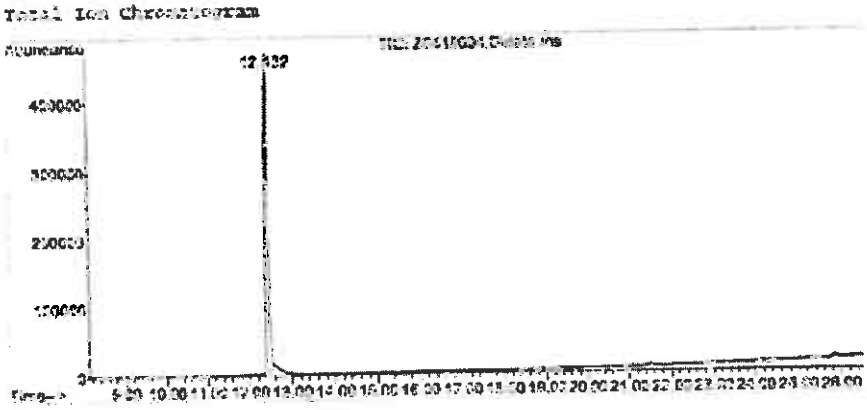

Mass Spectrum

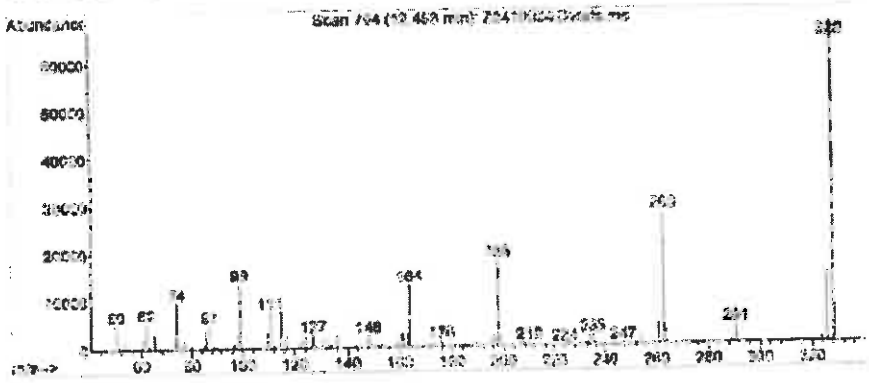

Reagent

HRDXNTA_00092

R: 7/6/18 SKJ

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Certificate of Analysis

Method 1613 PAR Stock Solution

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number: EDF-7999-10X
Solution Lot: ER02241602
Expiration Date: April 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/ analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 volume. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Lot Number	CAS Number	Chemical Formula	Molecular Weight	Chromatographic Purity	Concentration
2,3,7,8-TeCDD	ER04271502	1746-01-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%	399.9 ± 4.0 ng/mL
2,3,7,8-TeCDF	ER101211-02	51207-31-9	$C_{12}H_4Cl_4O$	305.97	99.4%	399.9 ± 4.0 ng/mL
1,2,3,7,8-PeCDD	ER110909-02	40321-76-4	$C_{12}H_3Cl_5O_2$	356.42	99.2%	2000 ± 20 ng/mL
1,2,3,7,8-PeCDF	ER03121401	57117-41-6	$C_{12}H_3Cl_5O$	340.42	99.5%	1999 ± 20 ng/mL
2,3,4,7,8-PeCDF	ER070710-01	57117-31-4	$C_{12}H_3Cl_5O$	340.42	99.4%	1999 ± 20 ng/mL
1,2,3,4,7,8-HxCDD	ER080108-02	39227-28-6	$C_{12}H_2Cl_6O_2$	390.86	98.6%	2000 ± 20 ng/mL
1,2,3,6,7,8-HxCDD	ER03231501	57653-85-7	$C_{12}H_2Cl_6O_2$	390.86	99.6%	2000 ± 20 ng/mL
1,2,3,7,8,9-HxCDD	ER02041601	19408-74-3	$C_{12}H_2Cl_6O_2$	390.86	99.2%	2000 ± 20 ng/mL
1,2,3,4,7,8-HxCDF	ER021110-01	70648-26-9	$C_{12}H_2Cl_6O$	374.86	99.0%	2000 ± 20 ng/mL
1,2,3,6,7,8-HxCDF	ER04161501	57117-44-9	$C_{12}H_2Cl_6O$	374.86	99.8%	2000 ± 20 ng/mL
1,2,3,7,8,9-HxCDF	ER060107-01	72918-21-9	$C_{12}H_2Cl_6O$	374.86	97.5%	1999 ± 20 ng/mL
2,3,4,6,7,8-HxCDF	ER02041602	60851-34-5	$C_{12}H_2Cl_6O$	374.86	99.1%	2001 ± 20 ng/mL
1,2,3,4,6,7,8-HpCDD	ER01201504	35822-46-9	$C_{12}HCl_7O_2$	425.31	98.5%	1999 ± 20 ng/mL
1,2,3,4,6,7,8-HpCDF	ER02281403	67562-39-4	$C_{12}HCl_7O$	409.31	98.9%	1999 ± 20 ng/mL
1,2,3,4,7,8,9-HpCDF	ER01121503	55673-89-7	$C_{12}HCl_7O$	409.31	99.1%	1999 ± 20 ng/mL
OCDD	ER05221301	3268-87-9	$C_{12}Cl_8O_2$	459.75	99.9%	3999 ± 40 ng/mL
OCDF	ER040811-01	39001-02-0	$C_{12}Cl_8O$	443.75	98.9%	4000 ± 40 ng/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Stock solution concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

April 28, 2016
Date

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.

Standard Solution Assay Parameters

Analysis Method: GC/ECD
Column: DB-5ms, 30 m x 0.25 mm ID, 0 25 µm film thickness
Temp Program: 140°C to 200°C at 40°C/min, 200°C to 300°C at 4°C/min hold 3 min
Injector Temp: Cool on-column
Detector Temp: 280°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 1

Solution Standard Verification and Homogeneity

Compound	Verified Concentration ng/mL	Acceptance Criteria	%RSD - Homogeneity %	Acceptance Criteria
2,3,7,8-TeCDD	397 1	± 10%	0.7	≤ 5%
2,3,7,8-TeCDF	386 6	± 10%	0.7	≤ 5%
1,2,3,7,8-PeCDD	1937	± 10%	0 8	≤ 5%
1,2,3,7,8-PeCDF	1919	± 10%	0.8	≤ 5%
2,3,4,7,8-PeCDF	1941	± 10%	0.8	≤ 5%
1,2,3,4,7,8-HxCDD	1932	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDD	1987	± 10%	0 8	≤ 5%
1,2,3,7,8,9-HxCDD	1943	± 10%	0 7	≤ 5%
1,2,3,4,7,8-HxCDF	1933	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDF	1909	± 10%	0.9	≤ 5%
1,2,3,7,8,9-HxCDF	1942	± 10%	0.7	≤ 5%
2,3,4,6,7,8-HxCDF	1950	± 10%	0.8	≤ 5%
1.2.3.4.6.7.8-HpCDD	1930	± 10%	0.9	≤ 5%
1,2,3,4,6,7,8-HpCDF	1919	± 10%	0.9	≤ 5%
1,2,3,4,7,8,9-HpCDF	1943	± 10%	1.0	≤ 5%
OCDD	3844	± 10%	1.0	≤ 5%
OCDF	3906	± 10%	0.9	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The %RSD of samples pulled from across the lot demonstrate homogeneity.
- Product is compared to prior lot and meets acceptance criteria of ± 10%.

Product Analysis

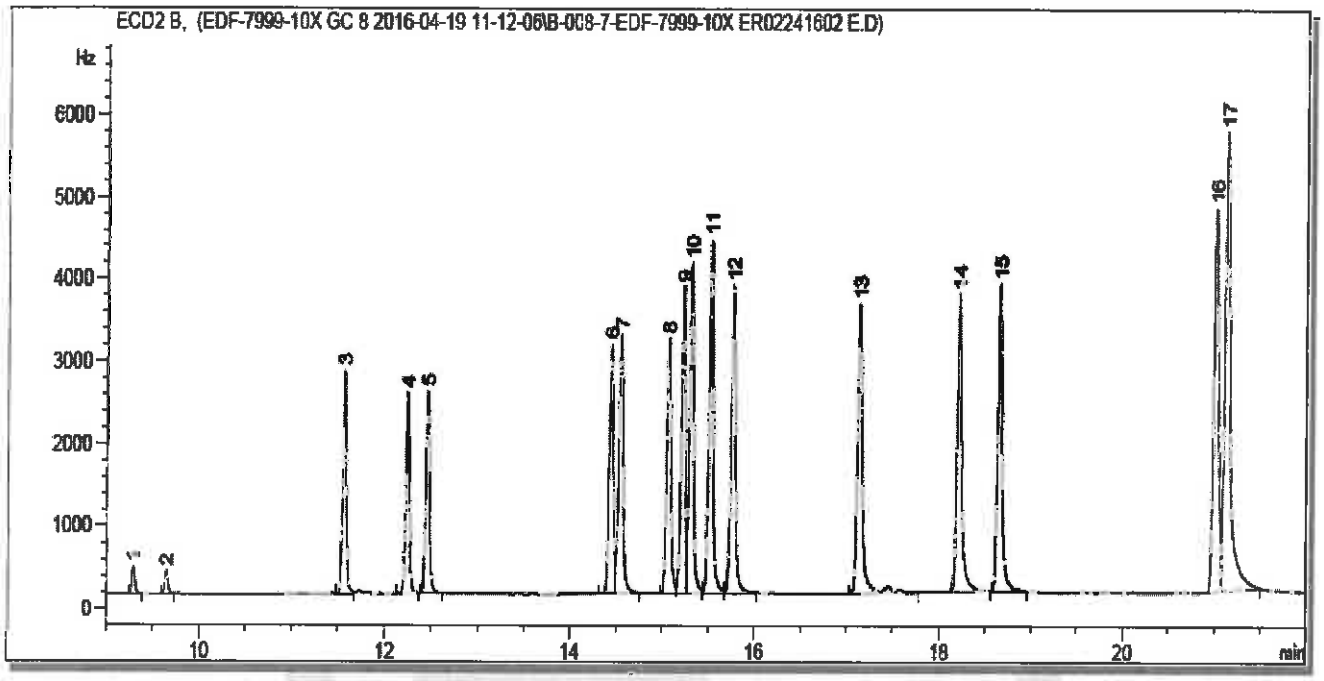

Peak:	Analyte:
1	2,3,7,8-Tetrachlorodibenzofuran
2	2,3,7,8-Tetrachloro-p-dioxin
3	1,2,3,7,8-Pentachlorodibenzofuran
4	2,3,4,7,8-Pentachlorodibenzofuran
5	1,2,3,7,8-Pentachlorodibenzo-p-dioxin
6	1,2,3,4,7,8-Hexachlorodibenzofuran
7	1,2,3,6,7,8-Hexachlorodibenzofuran
8	2,3,4,6,7,8-Hexachlorodibenzofuran
9	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin
10	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin
11	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin
12	1,2,3,7,8,9-Hexachlorodibenzofuran
13	1,2,3,4,6,7,8-Heptachlorodibenzofuran
14	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin
15	1,2,3,4,7,8,9-Heptachlorodibenzofuran
16	Octachlorodibenzo-p-dioxin
17	Octachlorodibenzofuran

COA Revision History

Revision No.	Date	Reason for Revision
00	April 28, 2016	Initial version

Reagent

HRDXNTA_00093

R: 7/6/18 SKJ

Cerilliant
Analytical Reference Standards
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CIL

Certificate of Analysis

Method 1613 PAR Stock Solution

Certificate Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number: EDF-7999-10X
Solution Lot: ER02241602
Expiration Date: April 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/ analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 volume. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Lot Number	CAS Number	Chemical Formula	Molecular Weight	Chromatographic Purity	Concentration
2,3,7,8-TeCDD	ER04271502	1746-01-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%	399.9 ± 4.0 ng/mL
2,3,7,8-TeCDF	ER101211-02	51207-31-9	$C_{12}H_4Cl_4O$	305.97	99.4%	399.9 ± 4.0 ng/mL
1,2,3,7,8-PeCDD	ER110909-02	40321-76-4	$C_{12}H_3Cl_5O_2$	356.42	99.2%	2000 ± 20 ng/mL
1,2,3,7,8-PeCDF	ER03121401	57117-41-6	$C_{12}H_3Cl_5O$	340.42	99.5%	1999 ± 20 ng/mL
2,3,4,7,8-PeCDF	ER070710-01	57117-31-4	$C_{12}H_3Cl_5O$	340.42	99.4%	1999 ± 20 ng/mL
1,2,3,4,7,8-HxCDD	ER080108-02	39227-28-6	$C_{12}H_2Cl_6O_2$	390.86	98.6%	2000 ± 20 ng/mL
1,2,3,6,7,8-HxCDD	ER03231501	57653-85-7	$C_{12}H_2Cl_6O_2$	390.86	99.6%	2000 ± 20 ng/mL
1,2,3,7,8,9-HxCDD	ER02041601	19408-74-3	$C_{12}H_2Cl_6O_2$	390.86	99.2%	2000 ± 20 ng/mL
1,2,3,4,7,8-HxCDF	ER021110-01	70648-26-9	$C_{12}H_2Cl_6O$	374.86	99.0%	2000 ± 20 ng/mL
1,2,3,6,7,8-HxCDF	ER04161501	57117-44-9	$C_{12}H_2Cl_6O$	374.86	99.8%	2000 ± 20 ng/mL
1,2,3,7,8,9-HxCDF	ER060107-01	72918-21-9	$C_{12}H_2Cl_6O$	374.86	97.5%	1999 ± 20 ng/mL
2,3,4,6,7,8-HxCDF	ER02041602	60851-34-5	$C_{12}H_2Cl_6O$	374.86	99.1%	2001 ± 20 ng/mL
1,2,3,4,6,7,8-HpCDD	ER01201504	35822-46-9	$C_{12}HCl_7O_2$	425.31	98.5%	1999 ± 20 ng/mL
1,2,3,4,6,7,8-HpCDF	ER02281403	67562-39-4	$C_{12}HCl_7O$	409.31	98.9%	1999 ± 20 ng/mL
1,2,3,4,7,8,9-HpCDF	ER01121503	55673-89-7	$C_{12}HCl_7O$	409.31	99.1%	1999 ± 20 ng/mL
OCDD	ER05221301	3268-87-9	$C_{12}Cl_8O_2$	459.75	99.9%	3999 ± 40 ng/mL
OCDF	ER040811-01	39001-02-0	$C_{12}Cl_8O$	443.75	98.9%	4000 ± 40 ng/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Stock solution concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

April 28, 2016
Date

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.

Standard Solution Assay Parameters

Analysis Method: GC/ECD
Column: DB-5ms, 30 m x 0.25 mm ID, 0 25 µm film thickness
Temp Program: 140°C to 200°C at 40°C/min, 200°C to 300°C at 4°C/min hold 3 min
Injector Temp: Cool on-column
Detector Temp: 280°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 1

Solution Standard Verification and Homogeneity

Compound	Verified Concentration ng/mL	Acceptance Criteria	%RSD - Homogeneity %	Acceptance Criteria
2,3,7,8-TeCDD	397 1	± 10%	0.7	≤ 5%
2,3,7,8-TeCDF	386 6	± 10%	0.7	≤ 5%
1,2,3,7,8-PeCDD	1937	± 10%	0 8	≤ 5%
1,2,3,7,8-PeCDF	1919	± 10%	0.8	≤ 5%
2,3,4,7,8-PeCDF	1941	± 10%	0.8	≤ 5%
1,2,3,4,7,8-HxCDD	1932	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDD	1987	± 10%	0 8	≤ 5%
1,2,3,7,8,9-HxCDD	1943	± 10%	0 7	≤ 5%
1,2,3,4,7,8-HxCDF	1933	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDF	1909	± 10%	0.9	≤ 5%
1,2,3,7,8,9-HxCDF	1942	± 10%	0.7	≤ 5%
2,3,4,6,7,8-HxCDF	1950	± 10%	0.8	≤ 5%
1.2.3.4.6.7.8-HpCDD	1930	± 10%	0.9	≤ 5%
1,2,3,4,6,7,8-HpCDF	1919	± 10%	0.9	≤ 5%
1,2,3,4,7,8,9-HpCDF	1943	± 10%	1.0	≤ 5%
OCDD	3844	± 10%	1.0	≤ 5%
OCDF	3906	± 10%	0.9	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The %RSD of samples pulled from across the lot demonstrate homogeneity.
- Product is compared to prior lot and meets acceptance criteria of ± 10%.

Product Analysis

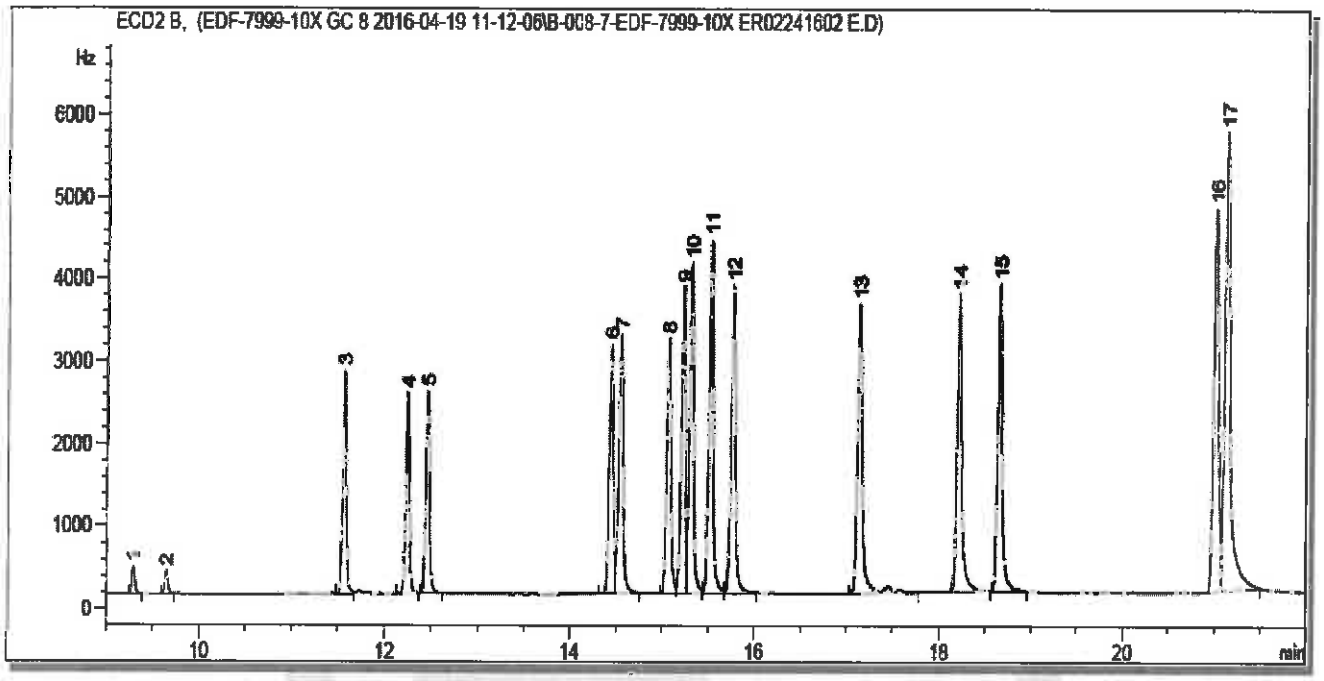

Peak:	Analyte:
1	2,3,7,8-Tetrachlorodibenzofuran
2	2,3,7,8-Tetrachloro-p-dioxin
3	1,2,3,7,8-Pentachlorodibenzofuran
4	2,3,4,7,8-Pentachlorodibenzofuran
5	1,2,3,7,8-Pentachlorodibenzo-p-dioxin
6	1,2,3,4,7,8-Hexachlorodibenzofuran
7	1,2,3,6,7,8-Hexachlorodibenzofuran
8	2,3,4,6,7,8-Hexachlorodibenzofuran
9	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin
10	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin
11	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin
12	1,2,3,7,8,9-Hexachlorodibenzofuran
13	1,2,3,4,6,7,8-Heptachlorodibenzofuran
14	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin
15	1,2,3,4,7,8,9-Heptachlorodibenzofuran
16	Octachlorodibenzo-p-dioxin
17	Octachlorodibenzofuran

COA Revision History

Revision No.	Date	Reason for Revision
00	April 28, 2016	Initial version

Reagent

HRDXNTA_00102

Rec: 1/31/19 SKV

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

EPA-1613PAR

U.S. EPA Method 1613 Native PCDD/PCDF
Precision and Recovery Stock Solution

PRODUCT CODE:	EPA-1613PAR
LOT NUMBER:	13PAR0418
SOLVENT(S):	Nonane/Toluene
DATE PREPARED: (mm/dd/yyyy)	04/11/2018
LAST TESTED: (mm/dd/yyyy)	04/12/2018
EXPIRY DATE: (mm/dd/yyyy)	03/01/2025
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION:

EPA-1613PAR is a solution/mixture of all the 2,3,7,8-substituted chlorinated dibenzo-p-dioxins (PCDDs) and 2,3,7,8-substituted dibenzofurans (PCDFs). The components and their concentrations are given in Table A.

EPA-1613PAR was designed for, and prepared to be used according to, U.S. EPA Method 1613 (Revision B).

The individual PCDDs and PCDFs all have chemical purities of >98%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: HRGC/HRMS Data (SIR; 10,000 mass resolving power)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Table A: **EPA-1613PAR; Components and Concentrations (ng/ml, ± 5% in nonane/ 2.4% toluene)**

	Concentration (ng/ml)
PCDDs:	
2,3,7,8-Tetrachlorodibenzo-p-dioxin	40
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	200
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	200
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	200
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	200
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	200
Octachlorodibenzo-p-dioxin	400
PCDFs:	
2,3,7,8-Tetrachlorodibenzofuran	40
1,2,3,7,8-Pentachlorodibenzofuran	200
2,3,4,7,8-Pentachlorodibenzofuran	200
1,2,3,4,7,8-Hexachlorodibenzofuran	200
1,2,3,6,7,8-Hexachlorodibenzofuran	200
1,2,3,7,8,9-Hexachlorodibenzofuran	200
2,3,4,6,7,8-Hexachlorodibenzofuran	200
1,2,3,4,6,7,8-Heptachlorodibenzofuran	200
1,2,3,4,7,8,9-Heptachlorodibenzofuran	200
Octachlorodibenzofuran	400

Certified By: _____ **Date:** 04/16/2018 (mm/dd/yyyy)

B.G. Chittim, General Manager

Figure 1: **EPA-1613PAR; HRGC/HRMS Data (60 m DB-5 Column)**

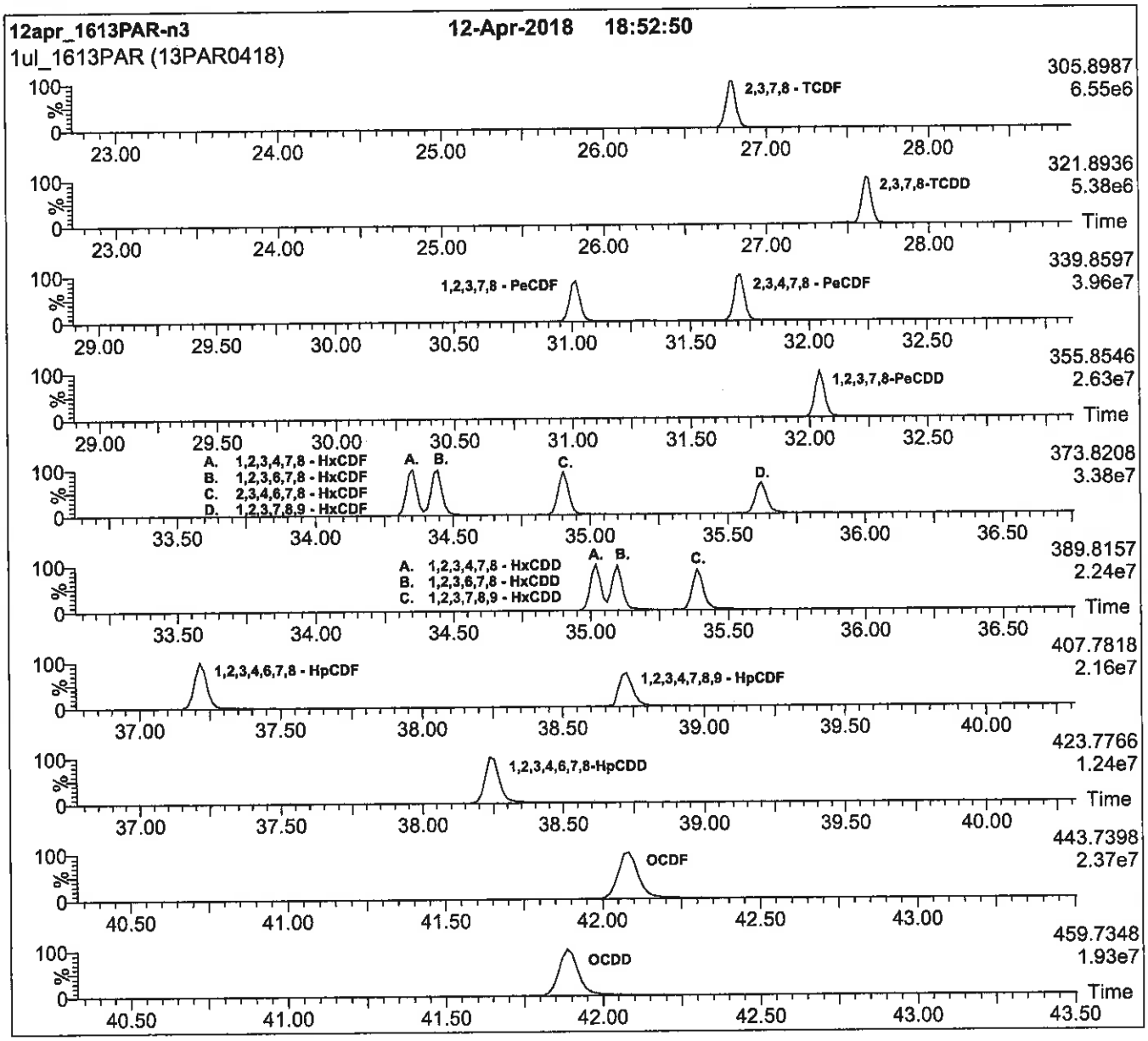

HRGC/HRMS:

Agilent 6890N (HRGC)
Autospec Ultima (HRMS)

Chromatographic Conditions:

Column: 60 m DB-5 (0.25 mm id, 0.25 µm film thickness) Agilent J&W

Flow:	Constant at 1 ml/min	Oven:	150 °C (1 min)
Injector:	280 °C (Splitless Injection)		12 °C/min to 200 °C
Ionization:	EI+		3 °C/min to 235 °C
Detector:	280 °C		235 °C (8 min)
	SIR at 10,000 mass resolving power		8 °C/min to 310 °C
			310 °C (8 min)

Method 8260C

Volatile Organic Compounds (GC/MS) by Method 8260C

FORM II
GC/MS VOA SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Matrix: Solid (TCLP) Level: Low

GC Column (1): DB-624 ID: 0.18(mm)

Client Sample ID	Lab Sample ID	DBFM #	DCA #	TOL #	BFB #
11187072-N.TREATMENT AREA #2	180-100205-1	81	86	79	86
11187072-N.TREATMENT AREA #3	180-100205-3	85	93	81	89
11187072-N.TREATMENT AREA #4	180-100205-5	90	98	85	94
	LB 180-302046/1-A	82	85	80	86
	LCS 180-302272/4	80	82	88	92
11187072-N.TREATMENT AREA #2 MS	180-100205-1 MS	84	87	87	94
11187072-N.TREATMENT AREA #2 MSD	180-100205-1 MSD	86	86	92	93

	QC LIMITS
DBFM = Dibromofluoromethane (Surr)	70-127
DCA = 1,2-Dichloroethane-d4 (Surr)	58-139
TOL = Toluene-d8 (Surr)	71-125
BFB = 4-Bromofluorobenzene (Surr)	64-122

Column to be used to flag recovery values

FORM II EPA 8260C

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 4122304.D

Lab ID: LCS 180-302272/4 Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
1,1,1,2-Tetrachloroethane	0.0400	0.0389	97	81-124	
1,1,1-Trichloroethane	0.0400	0.0404	101	77-130	
1,2-Dichloroethane	0.0400	0.0395	99	62-129	
1,1,2,2-Tetrachloroethane	0.0400	0.0370	92	61-130	
2-Butanone (MEK)	0.0400	0.0260	65	33-133	
Benzene	0.0400	0.0403	101	72-118	
1,1,2-Trichloroethane	0.0400	0.0386	97	75-119	
Carbon tetrachloride	0.0400	0.0370	92	69-137	
Chlorobenzene	0.0400	0.0429	107	77-122	
Chloroform	0.0400	0.0365	91	78-119	
Tetrachloroethene	0.0400	0.0409	102	75-125	
Trichloroethene	0.0400	0.0396	99	76-120	
1,2,3-Trichloropropane	0.0400	0.0369	92	65-130	
Vinyl chloride	0.0400	0.0322	80	52-130	
1,1-Dichloroethene	0.0400	0.0342	86	60-131	
1,3-Dichloropropene, Total	0.0800	0.0777	97	68-126	
1,4-Dichlorobenzene	0.0400	0.0403	101	76-119	
4-Methyl-2-pentanone (MIBK)	0.0400	0.0343	86	36-138	
Acetone	0.0400	0.0297	74	13-150	
Acrylonitrile	0.400	0.378	95	43-134	
Bromoform	0.0400	0.0296	74	61-149	
Bromomethane	0.0400	0.0286	72	30-150	
Carbon disulfide	0.0400	0.0309	77	54-150	
Dichlorobromomethane	0.0400	0.0368	92	79-119	
Dichlorodifluoromethane	0.0400	0.0327	82	33-150	
Ethylbenzene	0.0400	0.0411	103	73-127	
1,2-Dibromoethane	0.0400	0.0418	105	75-118	
Hexachlorobutadiene	0.0400	0.0385	96	45-150	
Methylene Chloride	0.0400	0.0370	93	63-124	
Styrene	0.0400	0.0438	109	76-125	
Toluene	0.0400	0.0426	107	69-125	
trans-1,3-Dichloropropene	0.0400	0.0388	97	65-130	
Trichlorofluoromethane	0.0400	0.0299	75	45-150	
Xylenes, Total	0.0800	0.0815	102	73-123	

Column to be used to flag recovery and RPD values

FORM III EPA 8260C

FORM III
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Matrix: Solid (TCLP) Level: Low Lab File ID: 4122314.D

Lab ID: 180-100205-1 MS Client ID: 11187072-N.TREATMENT AREA #2 MS

COMPOUND	SPIKE ADDED (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS CONCENTRATION (mg/L)	MS % REC	QC LIMITS REC	#
1,1,1,2-Tetrachloroethane	1.60	ND	1.51	94	81-124	
1,1,1-Trichloroethane	1.60	ND	1.60	100	77-130	
1,2-Dichloroethane	1.60	ND	1.60	100	62-129	
1,1,2,2-Tetrachloroethane	1.60	ND	1.55	97	61-130	
2-Butanone (MEK)	1.60	ND	0.892	56	33-133	
Benzene	1.60	ND	1.49	93	72-118	
1,1,2-Trichloroethane	1.60	ND	1.61	101	75-119	
Carbon tetrachloride	1.60	ND	1.56	97	69-137	
Chlorobenzene	1.60	ND	1.60	100	77-122	
Chloroform	1.60	ND	1.34	84	78-119	
Tetrachloroethene	1.60	ND	1.38	86	75-125	
Trichloroethene	1.60	ND	1.42	88	76-120	
1,2,3-Trichloropropane	1.60	ND	1.44	90	65-130	
Vinyl chloride	1.60	ND	1.18	74	52-130	
1,1-Dichloroethene	1.60	ND	1.19	74	60-131	
1,3-Dichloropropene, Total	3.20	ND	3.18	99	68-126	
1,4-Dichlorobenzene	1.60	ND	1.49	93	76-119	
4-Methyl-2-pentanone (MIBK)	1.60	ND	1.02	64	36-138	
Acetone	1.60	ND	0.920	57	13-150	
Acrylonitrile	16.0	ND	17.2	108	43-134	
Bromoform	1.60	ND	1.75	109	61-149	
Bromomethane	1.60	ND	1.07	67	30-150	
Carbon disulfide	1.60	ND	1.20	75	54-150	
Dichlorobromomethane	1.60	ND	1.51	94	79-119	
Dichlorodifluoromethane	1.60	ND	1.14	72	33-150	
Ethylbenzene	1.60	ND	1.48	92	73-127	
1,2-Dibromoethane	1.60	ND	1.66	104	75-118	
Hexachlorobutadiene	1.60	ND	1.46	91	45-150	
Methylene Chloride	1.60	ND	1.57	98	63-124	
Styrene	1.60	ND	1.64	103	76-125	
Toluene	1.60	ND	1.55	97	69-125	
trans-1,3-Dichloropropene	1.60	ND	1.59	100	65-130	
Trichlorofluoromethane	1.60	ND	1.12	70	45-150	
Xylenes, Total	3.20	ND	2.95	92	73-123	

Column to be used to flag recovery and RPD values

FORM III EPA 8260C

FORM III
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Matrix: Solid (TCLP) Level: Low Lab File ID: 4122315.D

Lab ID: 180-100205-1 MSD Client ID: 11187072-N.TREATMENT AREA #2 MS

COMPOUND	SPIKE ADDED (mg/L)	MSD CONCENTRATION (mg/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
1,1,1,2-Tetrachloroethane	1.60	1.58	99	4	20	81-124	
1,1,1-Trichloroethane	1.60	1.73	108	8	20	77-130	
1,2-Dichloroethane	1.60	1.62	101	1	20	62-129	
1,1,2,2-Tetrachloroethane	1.60	1.57	98	1	21	61-130	
2-Butanone (MEK)	1.60	0.851	53	5	35	33-133	
Benzene	1.60	1.62	101	8	20	72-118	
1,1,2-Trichloroethane	1.60	1.63	102	1	20	75-119	
Carbon tetrachloride	1.60	1.44	90	8	20	69-137	
Chlorobenzene	1.60	1.70	106	6	20	77-122	
Chloroform	1.60	1.45	91	8	20	78-119	
Tetrachloroethene	1.60	1.61	101	16	20	75-125	
Trichloroethene	1.60	1.56	98	10	20	76-120	
1,2,3-Trichloropropane	1.60	1.64	102	13	21	65-130	
Vinyl chloride	1.60	1.29	81	9	21	52-130	
1,1-Dichloroethene	1.60	1.31	82	10	35	60-131	
1,3-Dichloropropene, Total	3.20	3.23	101	2	20	68-126	
1,4-Dichlorobenzene	1.60	1.58	99	6	20	76-119	
4-Methyl-2-pentanone (MIBK)	1.60	1.06	66	4	33	36-138	
Acetone	1.60	0.961	60	4	35	13-150	
Acrylonitrile	16.0	16.0	100	8	30	43-134	
Bromoform	1.60	1.36	85	25	20	61-149	F2
Bromomethane	1.60	1.14	71	6	35	30-150	
Carbon disulfide	1.60	1.17	73	2	35	54-150	
Dichlorobromomethane	1.60	1.50	94	1	20	79-119	
Dichlorodifluoromethane	1.60	1.24	77	8	25	33-150	
Ethylbenzene	1.60	1.64	102	10	20	73-127	
1,2-Dibromoethane	1.60	1.68	105	1	20	75-118	
Hexachlorobutadiene	1.60	1.60	100	9	35	45-150	
Methylene Chloride	1.60	1.66	103	5	25	63-124	
Styrene	1.60	1.75	109	6	20	76-125	
Toluene	1.60	1.66	104	7	20	69-125	
trans-1,3-Dichloropropene	1.60	1.60	100	0	20	65-130	
Trichlorofluoromethane	1.60	1.15	72	3	35	45-150	
Xylenes, Total	3.20	3.24	101	10	20	73-123	

Column to be used to flag recovery and RPD values

FORM III EPA 8260C

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab File ID: 40222801.D BFB Injection Date: 02/28/2019

Instrument ID: CHHP4 BFB Injection Time: 05:31

Analysis Batch No.: 271562

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	18.9	
75	30.0 - 60.0 % of mass 95	52.9	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	7.1	
173	Less than 2.0 % of mass 174	0.0	(0.0) 1
174	50.0 - 120.00 % of mass 95	84.3	
175	5.0 - 9.0 % of mass 174	6.1	(7.3) 1
176	95.0 - 101.0 % of mass 174	80.6	(95.7) 1
177	5.0 - 9.0 % of mass 176	5.6	(6.9) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	IC 180-271562/4	40222804.D	02/28/2019	7:13
	IC 180-271562/5	40222805.D	02/28/2019	7:41
	IC 180-271562/6	40222806.D	02/28/2019	8:08
	IC 180-271562/7	40222807.D	02/28/2019	8:41
	IC 180-271562/8	40222808.D	02/28/2019	9:12
	IC 180-271562/9	40222809.D	02/28/2019	9:50
	IC 180-271562/18	40222818.D	02/28/2019	14:12

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab File ID: 41114001.D BFB Injection Date: 11/14/2019

Instrument ID: CHHP4 BFB Injection Time: 06:54

Analysis Batch No.: 298171

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	18.7	
75	30.0 - 60.0 % of mass 95	55.3	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.7	
173	Less than 2.0 % of mass 174	0.0	(0.0) 1
174	50.0 - 120.00 % of mass 95	83.1	
175	5.0 - 9.0 % of mass 174	6.4	(7.7) 1
176	95.0 - 101.0 % of mass 174	80.9	(97.4) 1
177	5.0 - 9.0 % of mass 176	5.7	(7.0) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	IC 180-298171/2	41114002.D	11/14/2019	7:36
	IC 180-298171/3	41114003.D	11/14/2019	8:02
	IC 180-298171/4	41114004.D	11/14/2019	8:29
	ICIS 180-298171/5	41114005.D	11/14/2019	11:09
	IC 180-298171/6	41114006.D	11/14/2019	11:35
	IC 180-298171/7	41114007.D	11/14/2019	12:18
	IC 180-298171/8	41114008.D	11/14/2019	12:45

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab File ID: 4122301.D BFB Injection Date: 12/23/2019

Instrument ID: CHHP4 BFB Injection Time: 06:12

Analysis Batch No.: 302272

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	16.7	
75	30.0 - 60.0 % of mass 95	50.6	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.9	
173	Less than 2.0 % of mass 174	0.0	(0.0) 1
174	50.0 - 120.00 % of mass 95	89.2	
175	5.0 - 9.0 % of mass 174	6.2	(7.0) 1
176	95.0 - 101.0 % of mass 174	85.0	(95.3) 1
177	5.0 - 9.0 % of mass 176	5.8	(6.8) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCVIS 180-302272/2	4122302.D	12/23/2019	6:57
	CCV 180-302272/3	4122303.D	12/23/2019	7:23
	LCS 180-302272/4	4122304.D	12/23/2019	7:53
	LB 180-302046/1-A	4122307.D	12/23/2019	9:12
11187072-N.TREATMENT AREA #2	180-100205-1	4122308.D	12/23/2019	9:39
11187072-N.TREATMENT AREA #3	180-100205-3	4122309.D	12/23/2019	10:05
11187072-N.TREATMENT AREA #4	180-100205-5	4122310.D	12/23/2019	10:32
11187072-N.TREATMENT AREA #2 MS	180-100205-1 MS	4122314.D	12/23/2019	12:15
11187072-N.TREATMENT AREA #2 MSD	180-100205-1 MSD	4122315.D	12/23/2019	12:42

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Sample No.: CCVIS 180-302272/2 Date Analyzed: 12/23/2019 06:57

Instrument ID: CHHP4 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): 4122302.D Heated Purge: (Y/N) N

Calibration ID: 42049

		TBAd9		FB		CBNZd5	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		346140	4.14	2148543	7.16	524353	10.28
UPPER LIMIT		692280	4.64	4297086	7.66	1048706	10.78
LOWER LIMIT		173070	3.64	1074272	6.66	262177	9.78
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCV 180-302272/3		450649	4.10	3017871	7.16	776161	10.27
LCS 180-302272/4		286345	4.12	2096448	7.15	511861	10.28
LB 180-302046/1-A		505127	4.10	3201244	7.16	812025	10.27
180-100205-1	11187072-N.TREATMENT AREA #2	405131	4.11	2708880	7.16	692165	10.27
180-100205-3	11187072-N.TREATMENT AREA #3	503966	4.10	2763531	7.15	725910	10.27
180-100205-5	11187072-N.TREATMENT AREA #4	493086	4.11	2611358	7.15	680524	10.27
180-100205-1 MS	11187072-N.TREATMENT AREA #2 MS	316538	4.13	1968485	7.16	499115	10.27
180-100205-1 MSD	11187072-N.TREATMENT AREA #2 MSD	295653	4.13	1952970	7.15	488403	10.28

TBAd9 = TBA-d9 (IS)
FB = Fluorobenzene (IS)
CBNZd5 = Chlorobenzene-d5

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8260C

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Sample No.: CCVIS 180-302272/2 Date Analyzed: 12/23/2019 06:57

Instrument ID: CHHP4 GC Column: DB-624 ID: 0.18(mm)

Lab File ID (Standard): 4122302.D Heated Purge: (Y/N) N

Calibration ID: 42049

		DCBd4					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		816230	12.63				
UPPER LIMIT		1632460	13.13				
LOWER LIMIT		408115	12.13				
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCV 180-302272/3		1218715	12.63				
LCS 180-302272/4		792955	12.63				
LB 180-302046/1-A		1242962	12.63				
180-100205-1	11187072-N.TREATMENT AREA #2	1093471	12.63				
180-100205-3	11187072-N.TREATMENT AREA #3	1147015	12.63				
180-100205-5	11187072-N.TREATMENT AREA #4	1104129	12.62				
180-100205-1 MS	11187072-N.TREATMENT AREA #2 MS	812177	12.63				
180-100205-1 MSD	11187072-N.TREATMENT AREA #2 MSD	774847	12.63				

DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8260C

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Client Sample ID: 11187072-N.TREATMENT AREA #2 Lab Sample ID: 180-100205-1

Matrix: Solid (TCLP) Lab File ID: 4122308.D

Analysis Method: EPA 8260C Date Collected: 12/18/2019 13:30

Sample wt/vol: 0.125(mL) Date Analyzed: 12/23/2019 09:39

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 302272 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	ND		0.20	0.16
71-55-6	1,1,1-Trichloroethane	ND		0.20	0.10
107-06-2	1,2-Dichloroethane	ND		0.20	0.058
79-34-5	1,1,2,2-Tetrachloroethane	ND		0.20	0.12
78-93-3	2-Butanone (MEK)	ND		0.20	0.12
71-43-2	Benzene	ND		0.20	0.079
79-00-5	1,1,2-Trichloroethane	ND		0.20	0.096
56-23-5	Carbon tetrachloride	ND		0.20	0.13
108-90-7	Chlorobenzene	ND		0.20	0.063
67-66-3	Chloroform	ND		0.20	0.085
127-18-4	Tetrachloroethene	ND		0.20	0.080
79-01-6	Trichloroethene	ND		0.20	0.060
96-18-4	1,2,3-Trichloropropane	ND		0.20	0.11
75-01-4	Vinyl chloride	ND		0.20	0.15
75-35-4	1,1-Dichloroethene	ND		0.20	0.11
542-75-6	1,3-Dichloropropene, Total	ND		0.40	0.13
106-46-7	1,4-Dichlorobenzene	ND		0.20	0.041
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		0.20	0.074
67-64-1	Acetone	ND		0.80	0.13
75-05-8	Acetonitrile	ND		2.0	2.0
107-13-1	Acrylonitrile	ND		2.0	1.3
75-25-2	Bromoform	ND	F2	0.20	0.10
74-83-9	Bromomethane	ND		0.20	0.18
75-15-0	Carbon disulfide	ND		0.20	0.12
75-27-4	Dichlorobromomethane	ND		0.20	0.094
75-71-8	Dichlorodifluoromethane	ND		0.20	0.12
100-41-4	Ethylbenzene	ND		0.20	0.086
106-93-4	1,2-Dibromoethane	ND		0.20	0.11
87-68-3	Hexachlorobutadiene	ND		0.20	0.073
78-83-1	Isobutyl alcohol	ND		5.0	3.6
126-98-7	Methacrylonitrile	ND		2.0	1.6
75-09-2	Methylene Chloride	ND		0.20	0.15
100-42-5	Styrene	ND		0.20	0.053
108-88-3	Toluene	ND		0.20	0.067
10061-02-6	trans-1,3-Dichloropropene	ND		0.20	0.069

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-100205-1
SDG No.:
Client Sample ID: 11187072-N.TREATMENT AREA #2
Lab Sample ID: 180-100205-1
Matrix: Solid (TCLP)
Lab File ID: 4122308.D
Analysis Method: EPA 8260C
Date Collected: 12/18/2019 13:30
Sample wt/vol: 0.125(mL)
Date Analyzed: 12/23/2019 09:39
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: DB-624 ID: 0.18(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 302272
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-69-4	Trichlorofluoromethane	ND		0.20	0.058
1330-20-7	Xylenes, Total	ND		0.40	0.17

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	86		58-139
460-00-4	4-Bromofluorobenzene (Surr)	86		64-122
1868-53-7	Dibromofluoromethane (Surr)	81		70-127
2037-26-5	Toluene-d8 (Surr)	79		71-125

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122308.D
Lims ID: 180-100205-A-1-A
Client ID: 11187072-N.TREATMENT AREA #2
Sample Type: Client
Inject. Date: 23-Dec-2019 09:39:30 ALS Bottle#: 8 Worklist Smp#: 8
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0030118-008
Operator ID: 034635 Instrument ID: CHHP4

Method: \\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\MSVOA_CHHP4.m
Limit Group: VOA 8260C_D ICAL
Last Update: 24-Dec-2019 13:17:39 Calib Date: 14-Nov-2019 12:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114008.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0309

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.109	4.096	0.013	89	405131	5000.0	
* 2 Fluorobenzene (IS)	96	7.159	7.157	0.002	98	2708880	250.0	
* 3 Chlorobenzene-d5	119	10.274	10.271	0.003	98	692165	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.629	12.627	0.002	92	1093471	250.0	
$ 5 Dibromofluoromethane (Surr	113	6.427	6.420	0.007	0	921973	203.6	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.807	6.799	0.007	0	920442	214.1	
$ 7 Toluene-d8 (Surr)	98	8.815	8.813	0.002	0	3637401	197.0	
$ 8 4-Bromofluorobenzene (Surr	95	11.465	11.468	-0.003	0	1482121	214.3	
10 Dichlorodifluoromethane	85		1.617				ND	U
11 Chloromethane	50		1.831				ND	U
12 Vinyl chloride	62		1.938				ND	U
13 Butadiene	39		1.970				ND	U
14 Bromomethane	94		2.285				ND	U
15 Chloroethane	64		2.418				ND	U
17 Trichlorofluoromethane	101		2.552				ND	U
16 Dichlorofluoromethane	67		2.691				ND	U
19 Ethyl ether	59		2.942				ND	U
20 Acrolein	56		3.108				ND	U
21 1,1-Dichloroethene	96		3.209				ND	U
23 Acetone	43	3.334	3.311	0.023	63	21677	14.2	
24 Iodomethane	142		3.407				ND	U
22 1,1,2-Trichloro-1,2,2-trif	101		3.449				ND	U
25 Carbon disulfide	76		3.492				ND	U
26 Isopropyl alcohol	45		3.578				ND	U
27 Acetonitrile	40		3.717				ND	U
28 3-Chloro-1-propene	76		3.765				ND	U
29 Methyl acetate	43		3.786				ND	U
30 Methylene Chloride	84	3.991	3.984	0.007	51	26898	5.31	
31 2-Methyl-2-propanol	59		4.251				ND	U
32 Acrylonitrile	53		4.363				ND	U
33 trans-1,2-Dichloroethene	96		4.411				ND	U
34 Methyl tert-butyl ether	73		4.422				ND	U
35 Hexane	57	4.841	4.833	0.008	88	33184	3.72	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
36 1,1-Dichloroethane	63		5.057				ND	
38 Vinyl acetate	43		5.100				ND	U
37 2-Chloro-1,3-butadiene	53		5.148				ND	U
39 Isopropyl ether	45		5.148				ND	U
40 Tert-butyl ethyl ether	59		5.629				ND	U
42 cis-1,2-Dichloroethene	96		5.800				ND	U
41 2,2-Dichloropropane	97		5.800				ND	U
43 2-Butanone (MEK)	43		5.821				ND	U
44 Propionitrile	54		5.891				ND	U
45 Ethyl acetate	43		5.891				ND	U
47 Methacrylonitrile	41		6.067				ND	U
46 Chlorobromomethane	128		6.099				ND	
48 Tetrahydrofuran	42		6.110				ND	U
49 Chloroform	83	6.246	6.238	0.008	93	30143	3.46	
50 1,1,1-Trichloroethane	97		6.398				ND	
51 Cyclohexane	56		6.473				ND	
53 Carbon tetrachloride	117		6.575				ND	
52 1,1-Dichloropropene	75		6.585				ND	U
59 Isobutyl alcohol	41		6.788				ND	U
54 Benzene	78		6.804				ND	U
55 1,2-Dichloroethane	62		6.890				ND	U
57 Isooctane	57		6.959				ND	U
56 Tert-amyl methyl ether	73		6.986				ND	U
58 n-Heptane	43		7.173				ND	U
61 Trichloroethene	130		7.547				ND	
62 Ethyl acrylate	55		7.670				ND	U
63 Methylcyclohexane	83		7.787				ND	U
60 n-Butanol	56		7.793				ND	U
64 1,2-Dichloropropane	63		7.819				ND	U
66 Methyl methacrylate	69		7.905				ND	U
65 Dibromomethane	93		7.910				ND	
67 1,4-Dioxane	88		7.910				ND	U
68 Dichlorobromomethane	83		8.108				ND	U
70 2-Chloroethyl vinyl ether	63		8.407				ND	U
71 cis-1,3-Dichloropropene	75		8.551				ND	U
72 4-Methyl-2-pentanone (MIBK	43		8.701				ND	U
73 Toluene	91		8.882				ND	U
74 trans-1,3-Dichloropropene	75		9.133				ND	
75 Ethyl methacrylate	69		9.192				ND	U
76 1,1,2-Trichloroethane	97		9.326				ND	U
77 Tetrachloroethene	164		9.395				ND	
78 1,3-Dichloropropane	76		9.486				ND	
79 2-Hexanone	43		9.545				ND	U
80 n-Butyl acetate	43		9.668				ND	U
81 Chlorodibromomethane	129		9.705				ND	U
82 Ethylene Dibromide	107		9.817				ND	U
84 Chlorobenzene	112		10.303				ND	
85 1,1,1,2-Tetrachloroethane	131		10.394				ND	
86 Ethylbenzene	106		10.405				ND	U
87 m-Xylene & p-Xylene	106		10.533				ND	U
88 o-Xylene	106		10.912				ND	U
89 Styrene	104		10.939				ND	U

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
90 Bromoform	173		11.126				ND	
91 Isopropylbenzene	105		11.286				ND	U
92 Cyclohexanone	55		11.372				ND	U
93 1,1,2,2-Tetrachloroethane	83		11.602				ND	
94 Bromobenzene	156		11.602				ND	U
96 trans-1,4-Dichloro-2-buten	53		11.639				ND	U
95 1,2,3-Trichloropropane	110		11.655				ND	
97 N-Propylbenzene	120		11.703				ND	U
98 2-Chlorotoluene	126		11.788				ND	U
99 1,3,5-Trimethylbenzene	105		11.890				ND	U
100 4-Chlorotoluene	126		11.917				ND	U
101 tert-Butylbenzene	119		12.200				ND	U
103 1,2,4-Trimethylbenzene	105		12.264				ND	U
104 sec-Butylbenzene	105		12.424				ND	U
105 1,3-Dichlorobenzene	146		12.547				ND	U
106 4-Isopropyltoluene	119		12.584				ND	U
107 1,4-Dichlorobenzene	146		12.654				ND	U
108 1,2,3-Trimethylbenzene	105		12.670				ND	U
109 Benzyl chloride	91		12.766				ND	U
110 n-Butylbenzene	91		12.990				ND	U
111 1,2-Dichlorobenzene	146		13.006				ND	U
112 1,2-Dibromo-3-Chloropropan	75		13.802				ND	U
114 1,3,5-Trichlorobenzene	180		13.990				ND	U
113 1,2,4-Trichlorobenzene	180		14.625				ND	U
115 Hexachlorobutadiene	225		14.769				ND	U
116 Naphthalene	128		14.892				ND	U
117 1,2,3-Trichlorobenzene	180		15.111				ND	U
S 130 Xylenes, Total	106		1.000				ND	
S 129 1,2-Dichloroethene, Total	96		1.000				ND	
S 131 1,3-Dichloropropene, Total	1		0.000				ND	
T 142 2-ethoxy-2-methyl butane T	59		0.000				ND	U
T 146 Ethanol TIC	45		0.000				ND	U

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

VOA8260INT_00102	Amount Added: 10.00	Units: uL	Run Reagent
VOA8260SURR_00102	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 24-Dec-2019 13:17:41 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122308.D				
Injection Date:	23-Dec-2019 09:39:30	Instrument ID:	CHHP4	Operator ID:	034635
Lims ID:	180-100205-A-1-A	Lab Sample ID:	180-100205-1	Worklist Smp#:	8
Client ID:	11187072-N.TREATMENT AREA #2				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

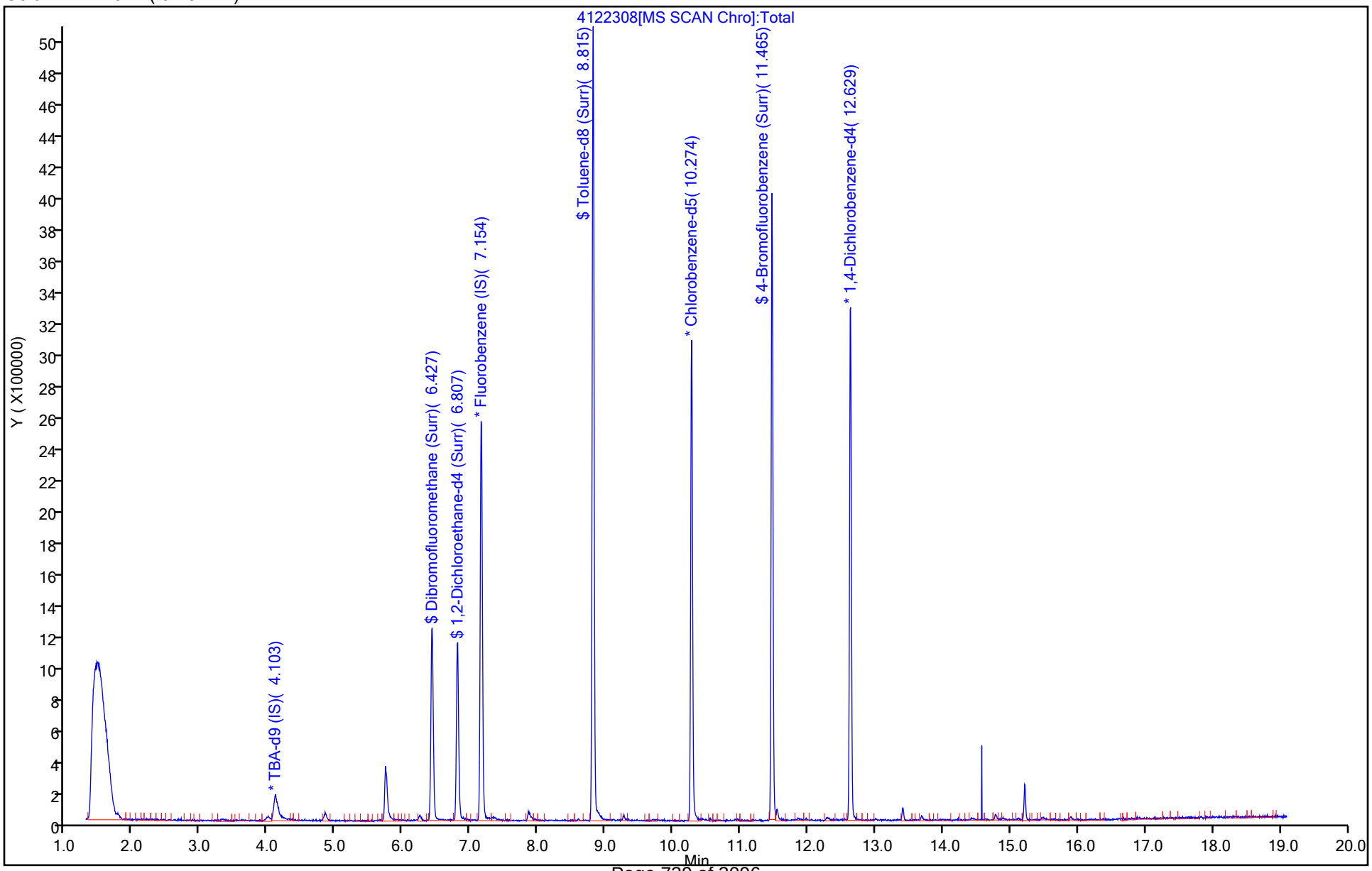

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122308.D
Lims ID: 180-100205-A-1-A
Client ID: 11187072-N.TREATMENT AREA #2
Sample Type: Client
Inject. Date: 23-Dec-2019 09:39:30 ALS Bottle#: 8 Worklist Smp#: 8
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0030118-008
Operator ID: 034635 Instrument ID: CHHP4

Method: \\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\MSVOA_CHHP4.m
Limit Group: VOA 8260C_D ICAL
Last Update: 24-Dec-2019 13:17:39 Calib Date: 14-Nov-2019 12:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114008.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0309

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	250.0	203.6	81.43
$ 6 1,2-Dichloroethane-d4 (Surr)	250.0	214.1	85.64
$ 7 Toluene-d8 (Surr)	250.0	197.0	78.80
$ 8 4-Bromofluorobenzene (Surr)	250.0	214.3	85.73

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122308.D				
Injection Date:	23-Dec-2019 09:39:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-1-A	Lab Sample ID:	180-100205-1		
Client ID:	11187072-N.TREATMENT AREA #2				
Operator ID:	034635	ALS Bottle#:	8	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

55 1,2-Dichloroethane, CAS: 107-06-2

Processing Results

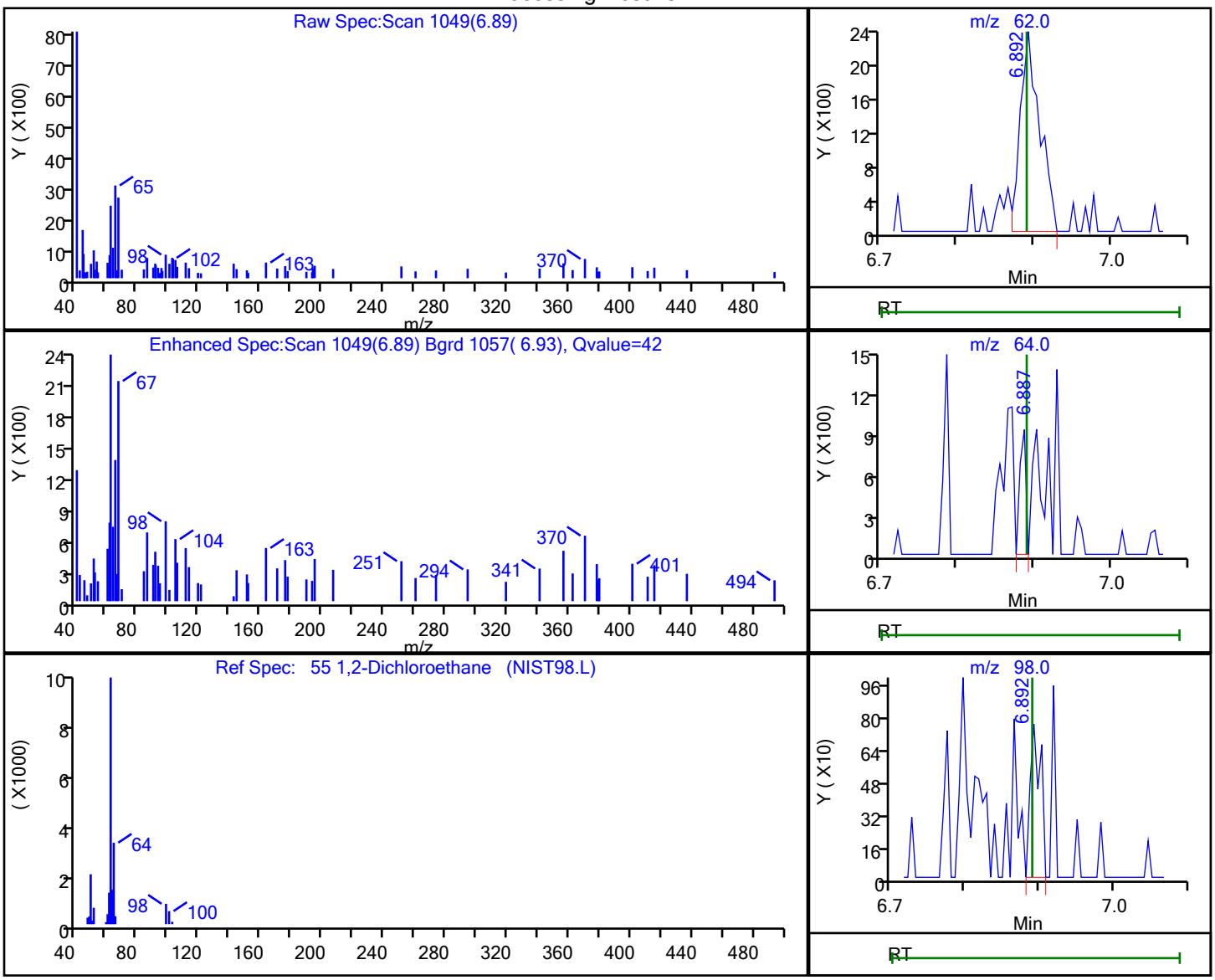

RT	Mass	Response	Amount
6.89	62.00	4151	0.930814
6.89	64.00	504	
6.89	98.00	747	

Reviewer: journetp, 24-Dec-2019 10:12:40

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122308.D				
Injection Date:	23-Dec-2019 09:39:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-1-A	Lab Sample ID:	180-100205-1		
Client ID:	11187072-N.TREATMENT AREA #2				
Operator ID:	034635	ALS Bottle#:	8	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

43 2-Butanone (MEK), CAS: 78-93-3

Processing Results

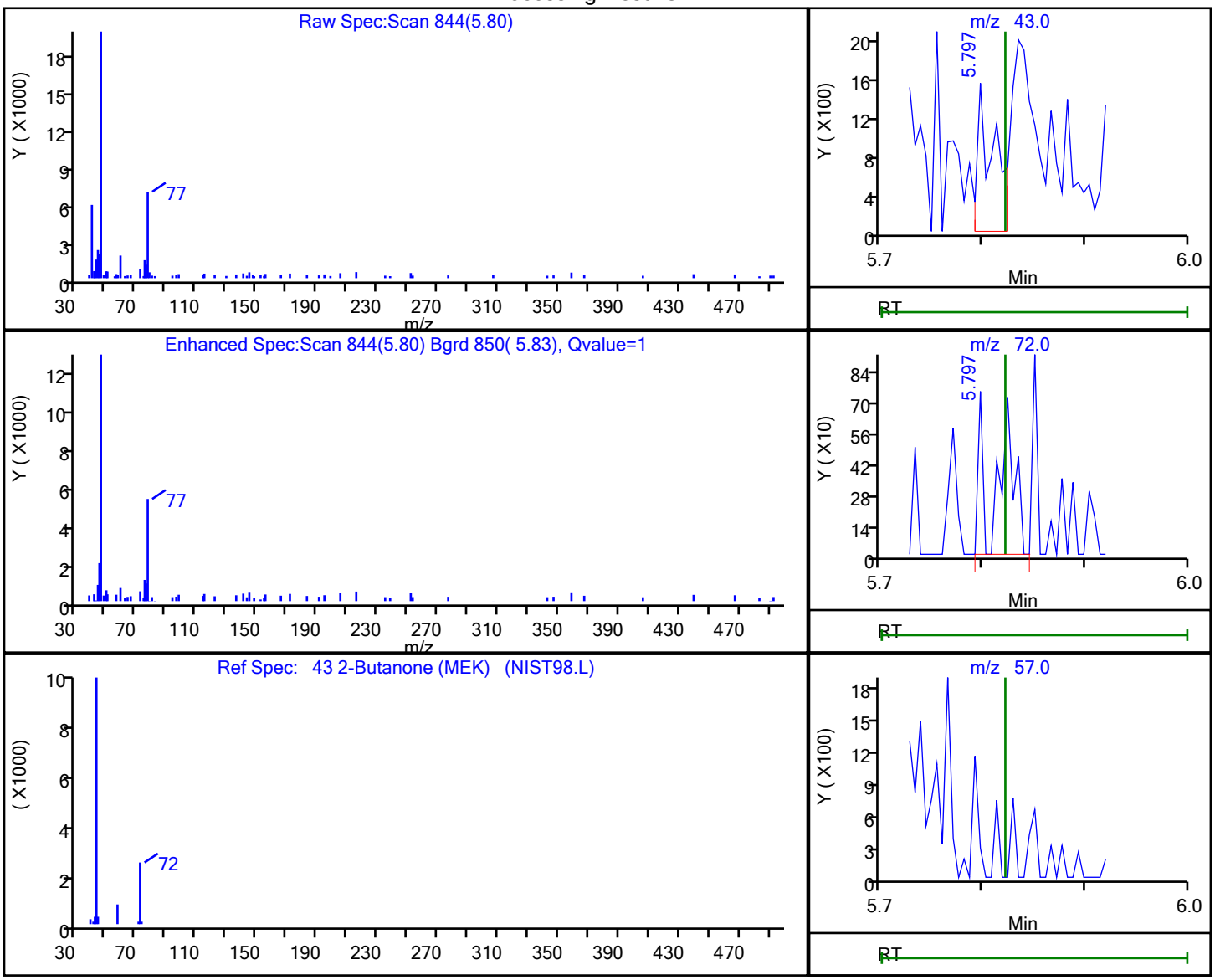

RT	Mass	Response	Amount
5.80	43.00	1718	1.061416
5.80	72.00	920	
5.82	57.00	0	

Reviewer: journetp, 24-Dec-2019 10:12:29

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122308.D				
Injection Date:	23-Dec-2019 09:39:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-1-A	Lab Sample ID:	180-100205-1		
Client ID:	11187072-N.TREATMENT AREA #2				
Operator ID:	034635	ALS Bottle#:	8	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

54 Benzene, CAS: 71-43-2

Processing Results

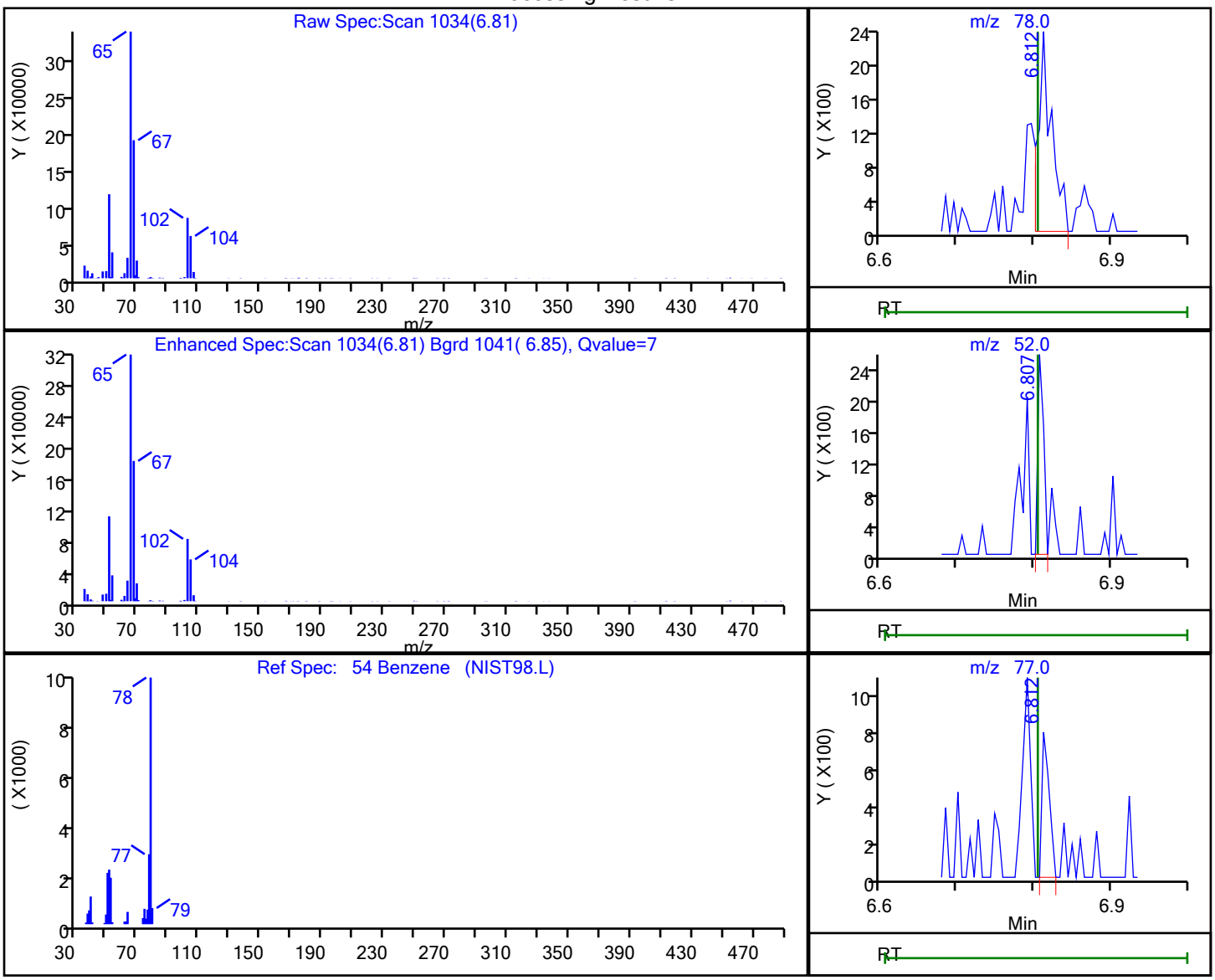

RT	Mass	Response	Amount
6.81	78.00	2770	0.149988
6.81	52.00	1334	
6.81	77.00	498	

Reviewer: journetp, 24-Dec-2019 10:12:40

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 24-Dec-2019 13:17:43 Chrom Revision: 2.3 15-Dec-2019 06:20:02

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122308.D				
Injection Date:	23-Dec-2019 09:39:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-1-A	Lab Sample ID:	180-100205-1		
Client ID:	11187072-N.TREATMENT AREA #2				
Operator ID:	034635	ALS Bottle#:	8	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

76 1,1,2-Trichloroethane, CAS: 79-00-5

Processing Results

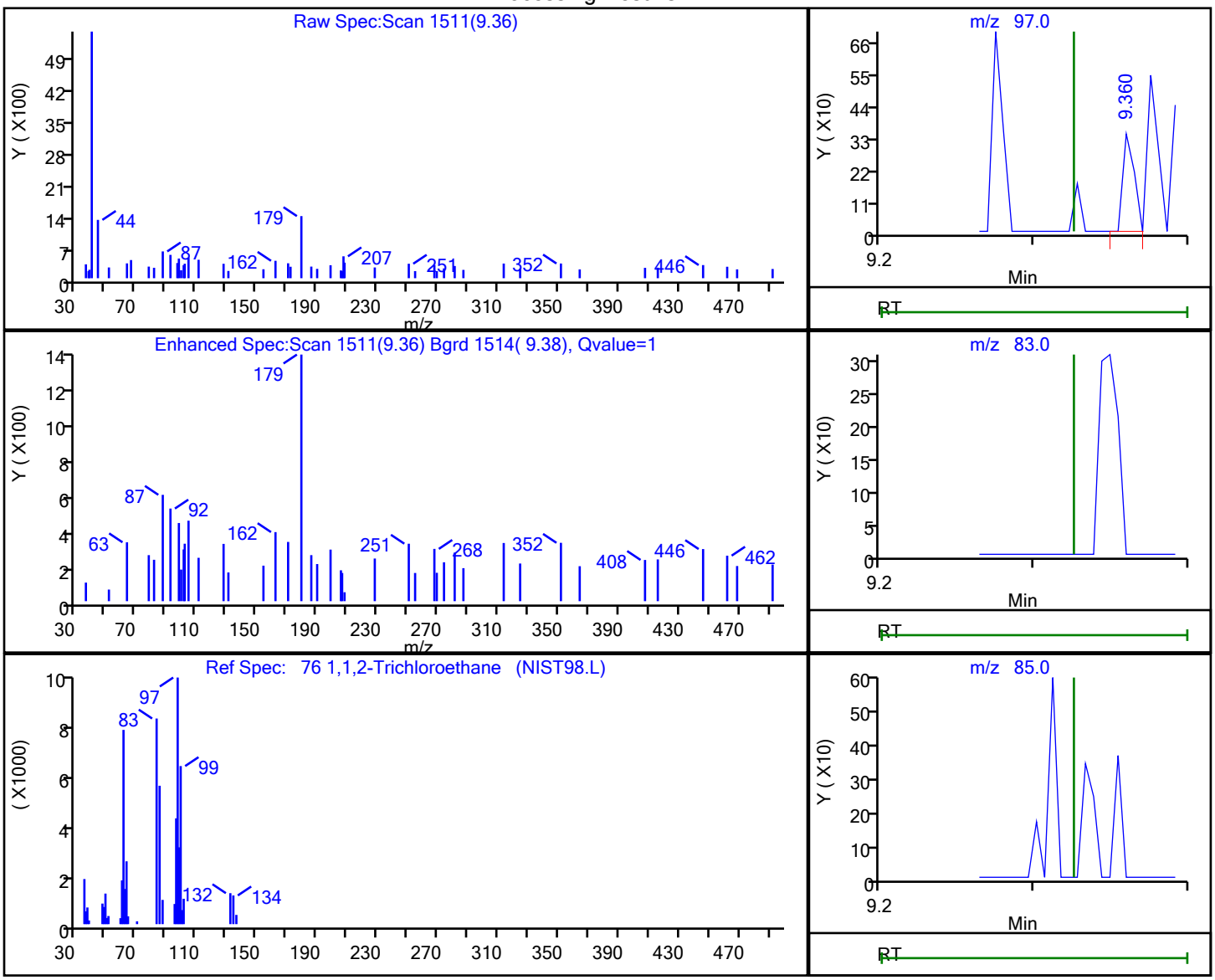

RT	Mass	Response	Amount
9.36	97.00	174	0.059829
9.33	83.00	0	
9.33	85.00	0	

Reviewer: journetp, 24-Dec-2019 10:13:06

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 24-Dec-2019 13:17:42 Chrom Revision: 2.3 15-Dec-2019 06:20:02

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122308.D				
Injection Date:	23-Dec-2019 09:39:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-1-A	Lab Sample ID:	180-100205-1		
Client ID:	11187072-N.TREATMENT AREA #2				
Operator ID:	034635	ALS Bottle#:	8	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

12 Vinyl chloride, CAS: 75-01-4

Processing Results

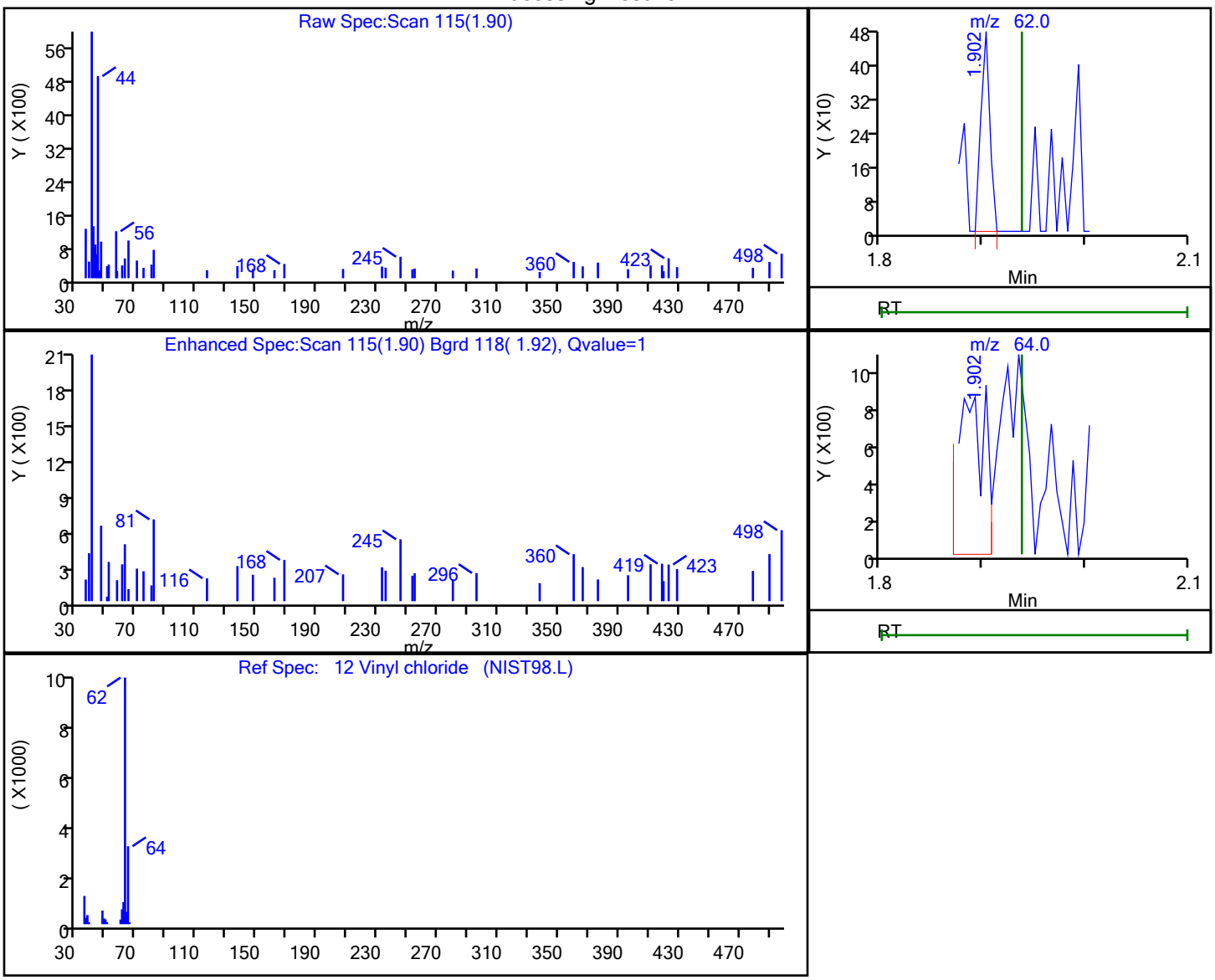

RT	Mass	Response	Amount
1.90	62.00	291	0.047251
1.90	64.00	1608	

Reviewer: journetp, 24-Dec-2019 10:11:56

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122308.D				
Injection Date:	23-Dec-2019 09:39:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-1-A	Lab Sample ID:	180-100205-1		
Client ID:	11187072-N.TREATMENT AREA #2				
Operator ID:	034635	ALS Bottle#:	8	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

71 cis-1,3-Dichloropropene, CAS: 10061-01-5

Processing Results

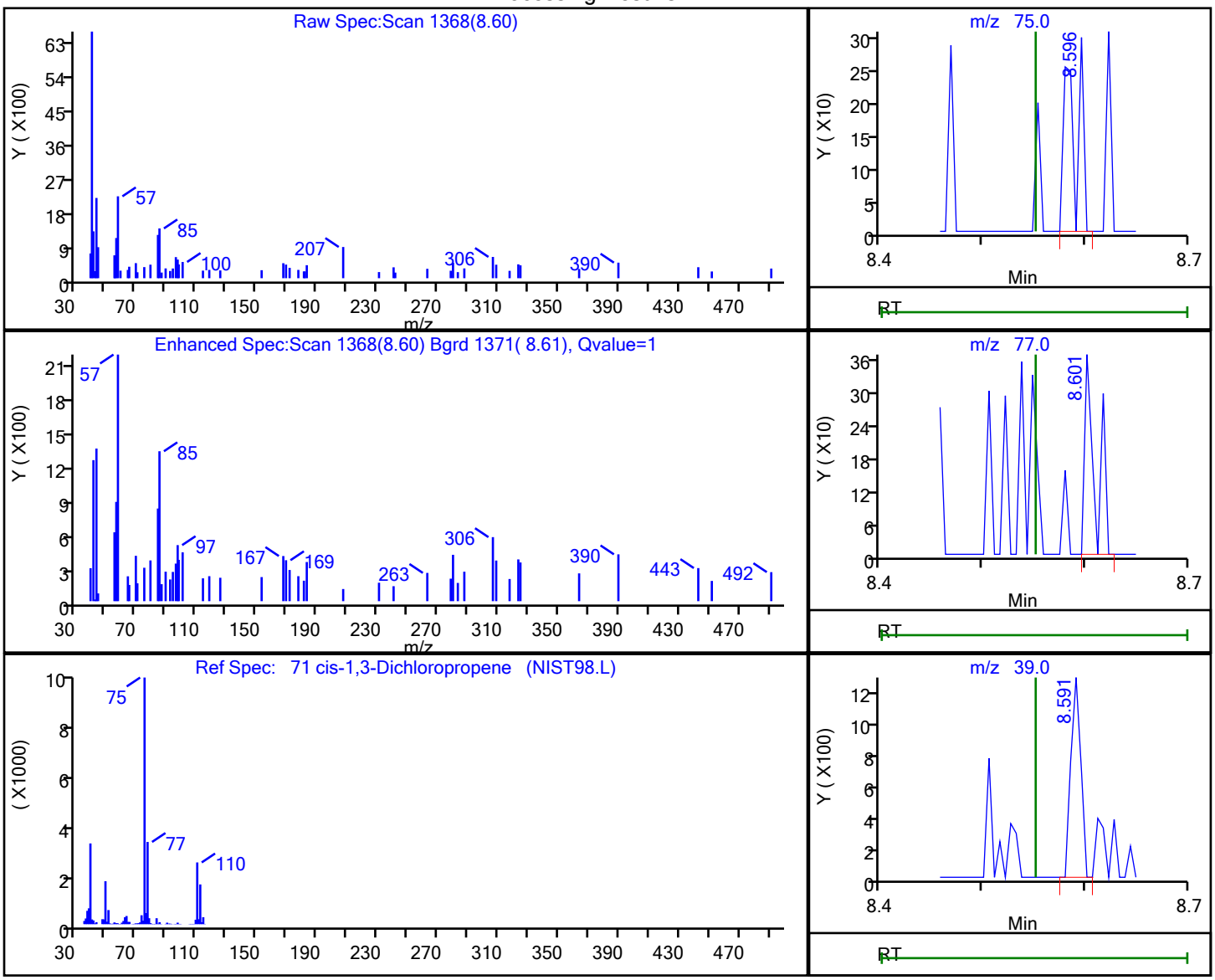

RT	Mass	Response	Amount
8.60	75.00	254	0.037864
8.60	77.00	267	
8.59	39.00	846	

Reviewer: journetp, 24-Dec-2019 10:12:58

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 24-Dec-2019 13:17:44 Chrom Revision: 2.3 15-Dec-2019 06:20:02

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122308.D				
Injection Date:	23-Dec-2019 09:39:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-1-A	Lab Sample ID:	180-100205-1		
Client ID:	11187072-N.TREATMENT AREA #2				
Operator ID:	034635	ALS Bottle#:	8	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

107 1,4-Dichlorobenzene, CAS: 106-46-7

Processing Results

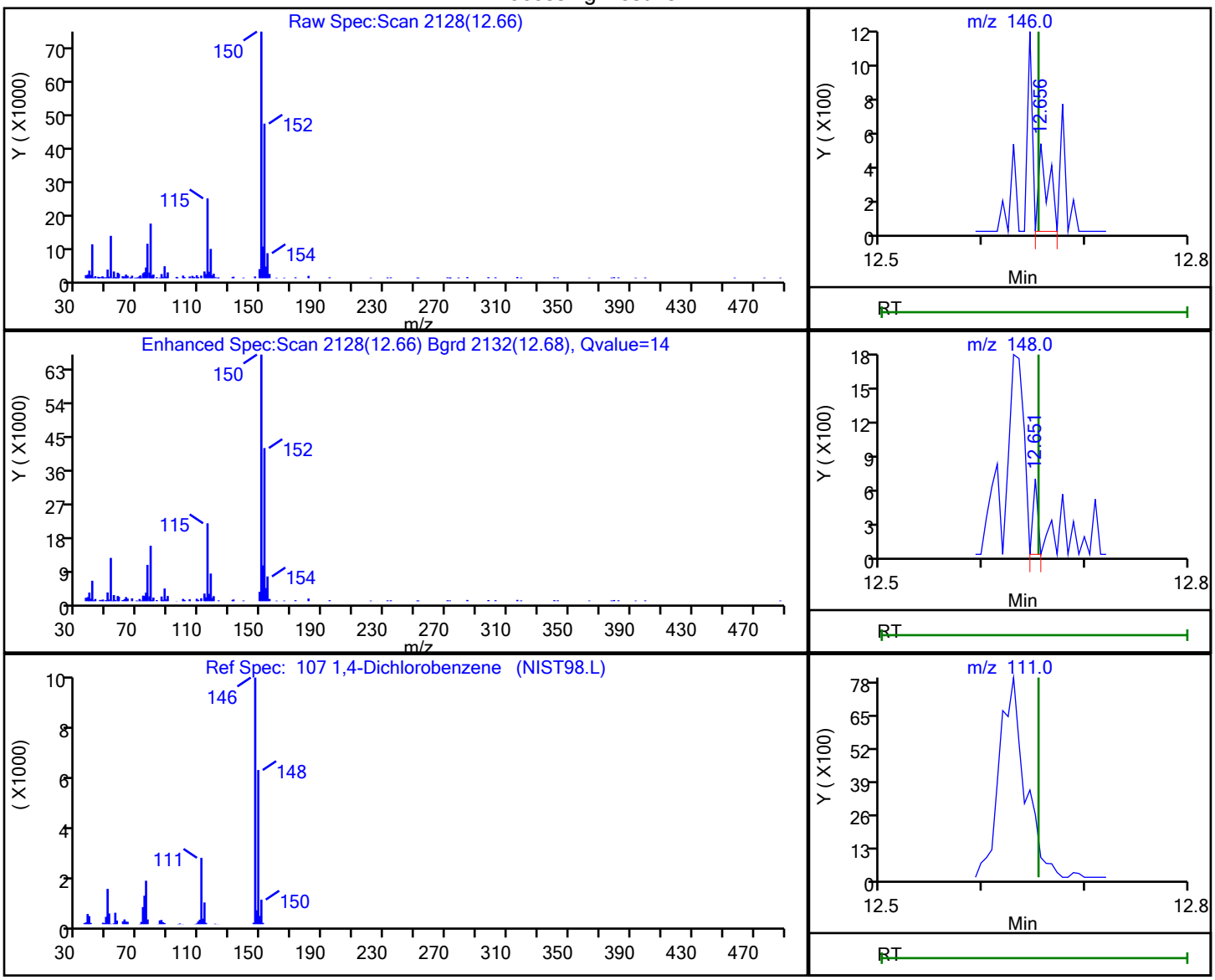

RT	Mass	Response	Amount
12.66	146.00	345	0.032961
12.65	148.00	216	
12.65	111.00	0	

Reviewer: journetp, 24-Dec-2019 10:13:32

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 24-Dec-2019 13:17:43 Chrom Revision: 2.3 15-Dec-2019 06:20:02

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122308.D				
Injection Date:	23-Dec-2019 09:39:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-1-A	Lab Sample ID:	180-100205-1		
Client ID:	11187072-N.TREATMENT AREA #2				
Operator ID:	034635	ALS Bottle#:	8	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

72 4-Methyl-2-pentanone (MIBK), CAS: 108-10-1

Processing Results

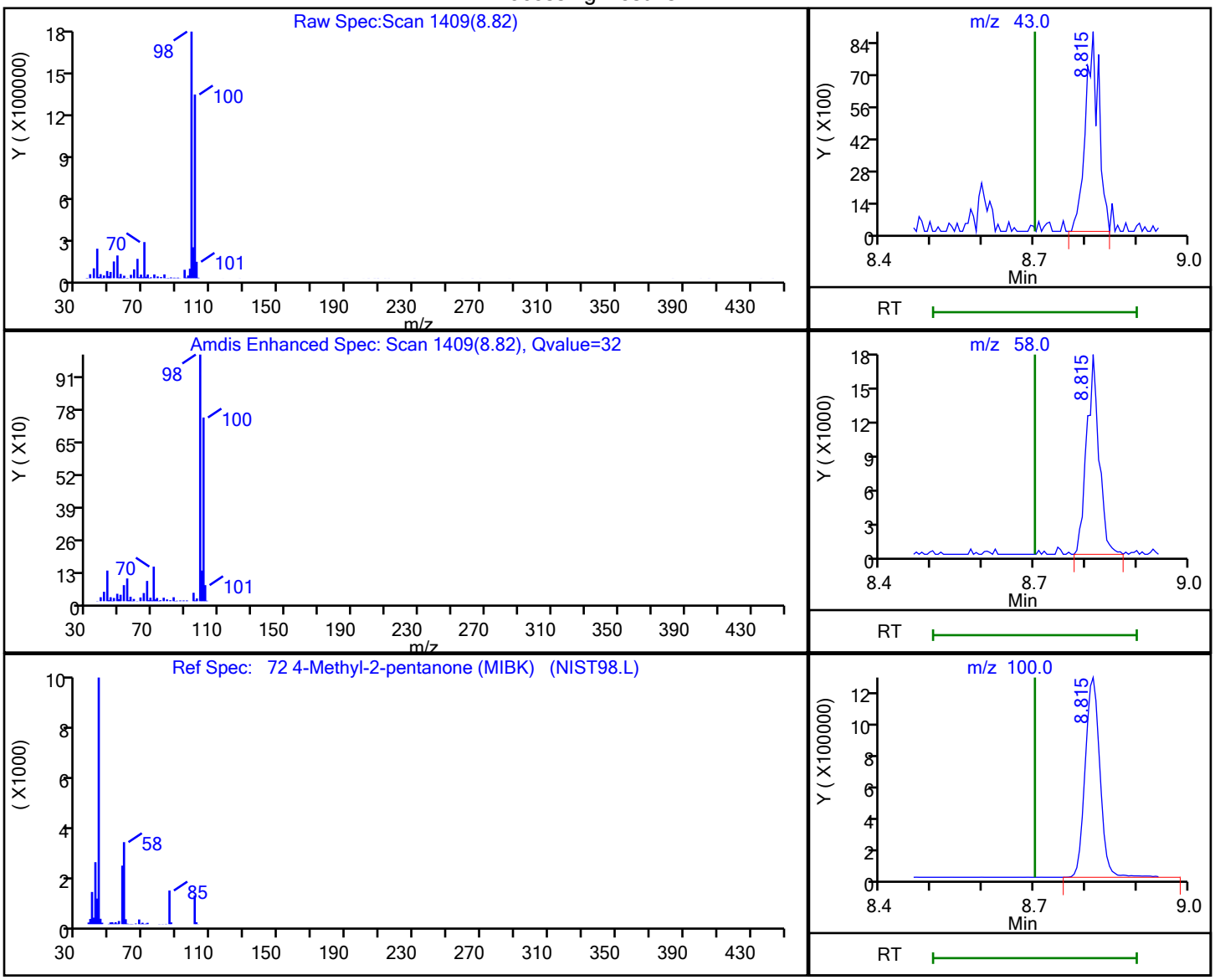

RT	Mass	Response	Amount
8.82	43.00	16249	23.324654
8.82	58.00	29849	
8.82	100.00	2629565	

Reviewer: journetp, 24-Dec-2019 10:12:58

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122308.D				
Injection Date:	23-Dec-2019 09:39:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-1-A	Lab Sample ID:	180-100205-1		
Client ID:	11187072-N.TREATMENT AREA #2				
Operator ID:	034635	ALS Bottle#:	8	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

27 Acetonitrile, CAS: 75-05-8

Processing Results

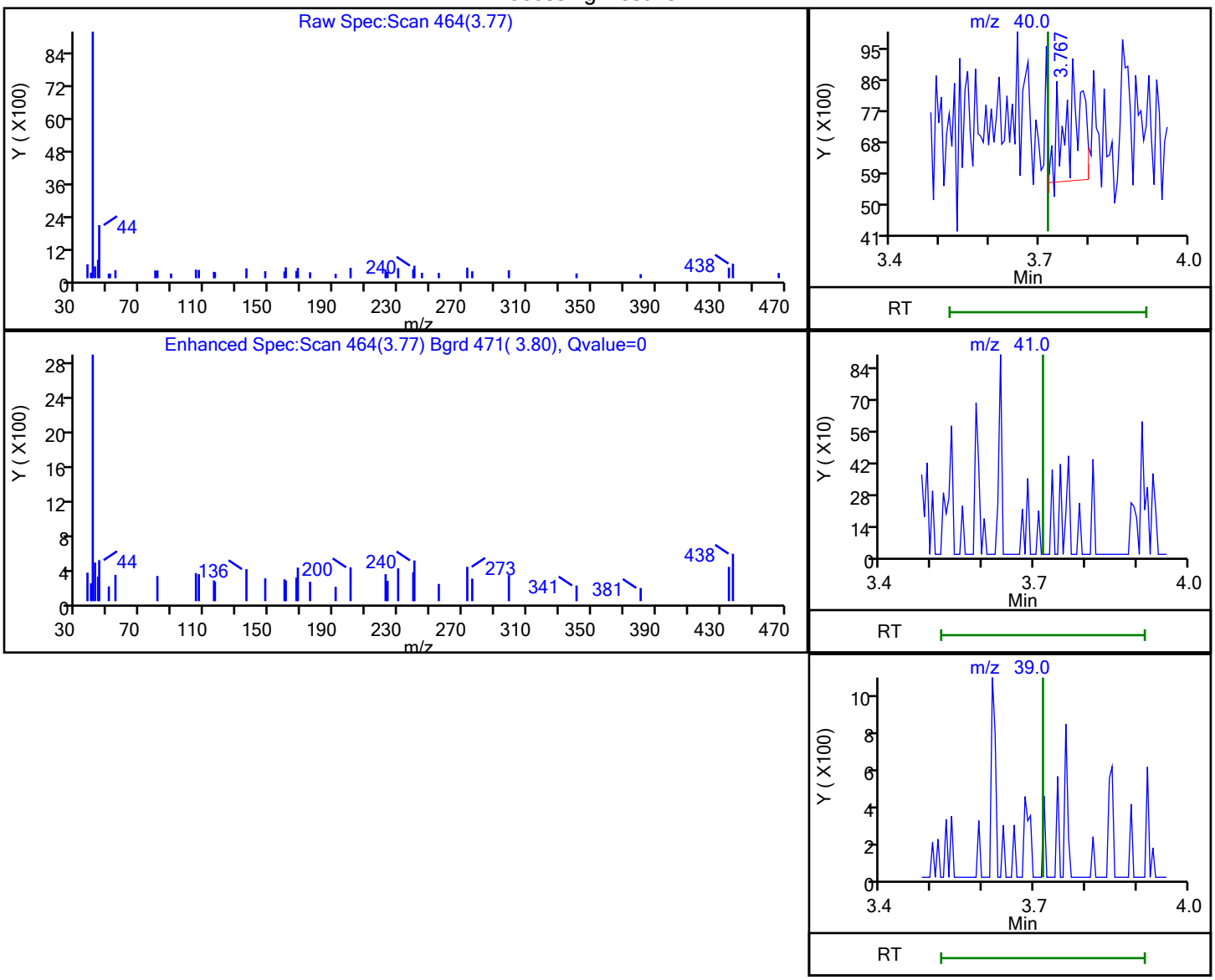

RT	Mass	Response	Amount
3.77	40.00	7767	48.684076
3.72	41.00	0	
3.72	39.00	0	

Reviewer: journetp, 24-Dec-2019 10:12:08

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 24-Dec-2019 13:17:42 Chrom Revision: 2.3 15-Dec-2019 06:20:02

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122308.D				
Injection Date:	23-Dec-2019 09:39:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-1-A	Lab Sample ID:	180-100205-1		
Client ID:	11187072-N.TREATMENT AREA #2				
Operator ID:	034635	ALS Bottle#:	8	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

14 Bromomethane, CAS: 74-83-9

Processing Results

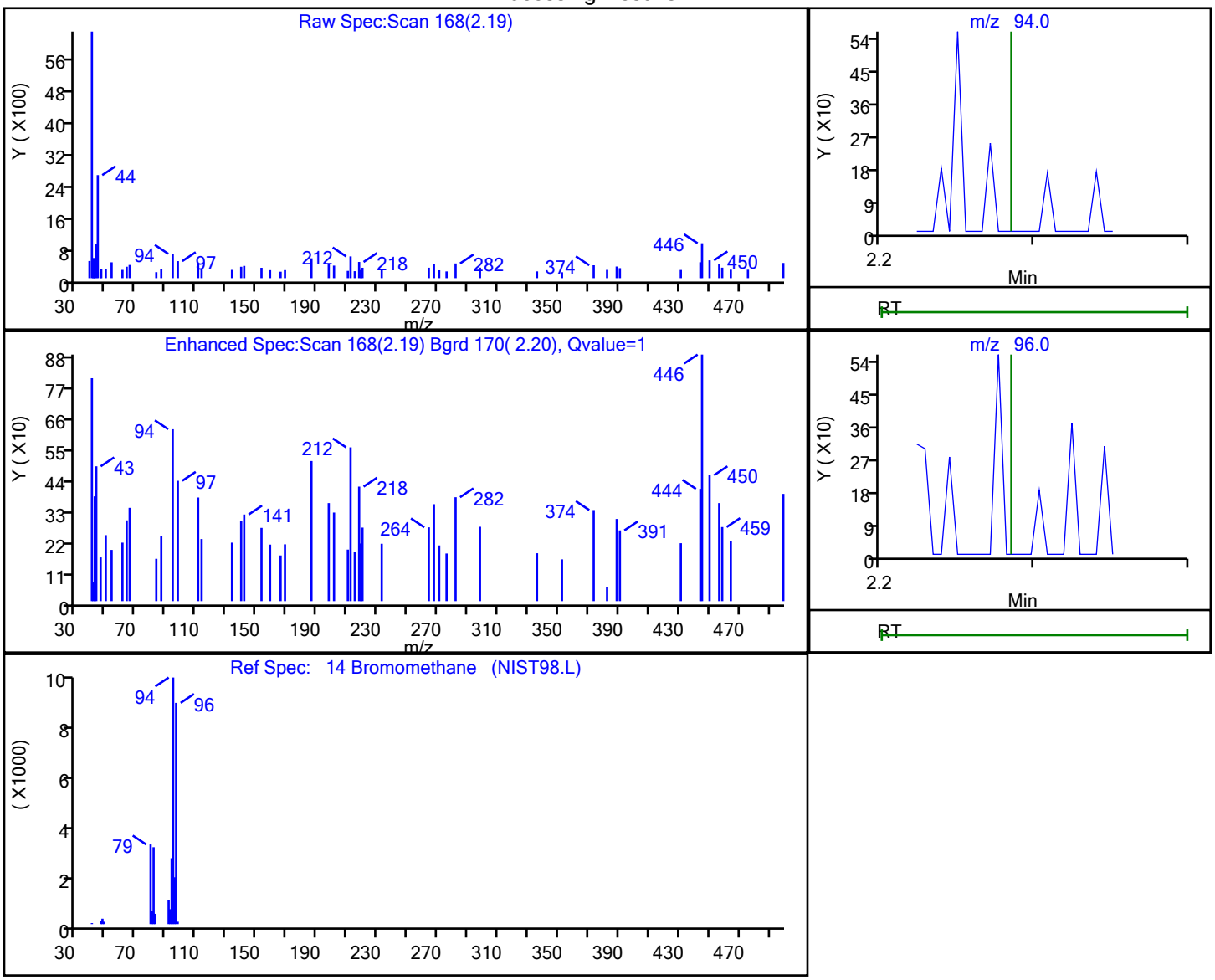

RT	Mass	Response	Amount
2.19	94.00	477	0.120378
2.18	96.00	151	

Reviewer: journetp, 24-Dec-2019 10:11:56

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122308.D				
Injection Date:	23-Dec-2019 09:39:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-1-A	Lab Sample ID:	180-100205-1		
Client ID:	11187072-N.TREATMENT AREA #2				
Operator ID:	034635	ALS Bottle#:	8	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

25 Carbon disulfide, CAS: 75-15-0

Processing Results

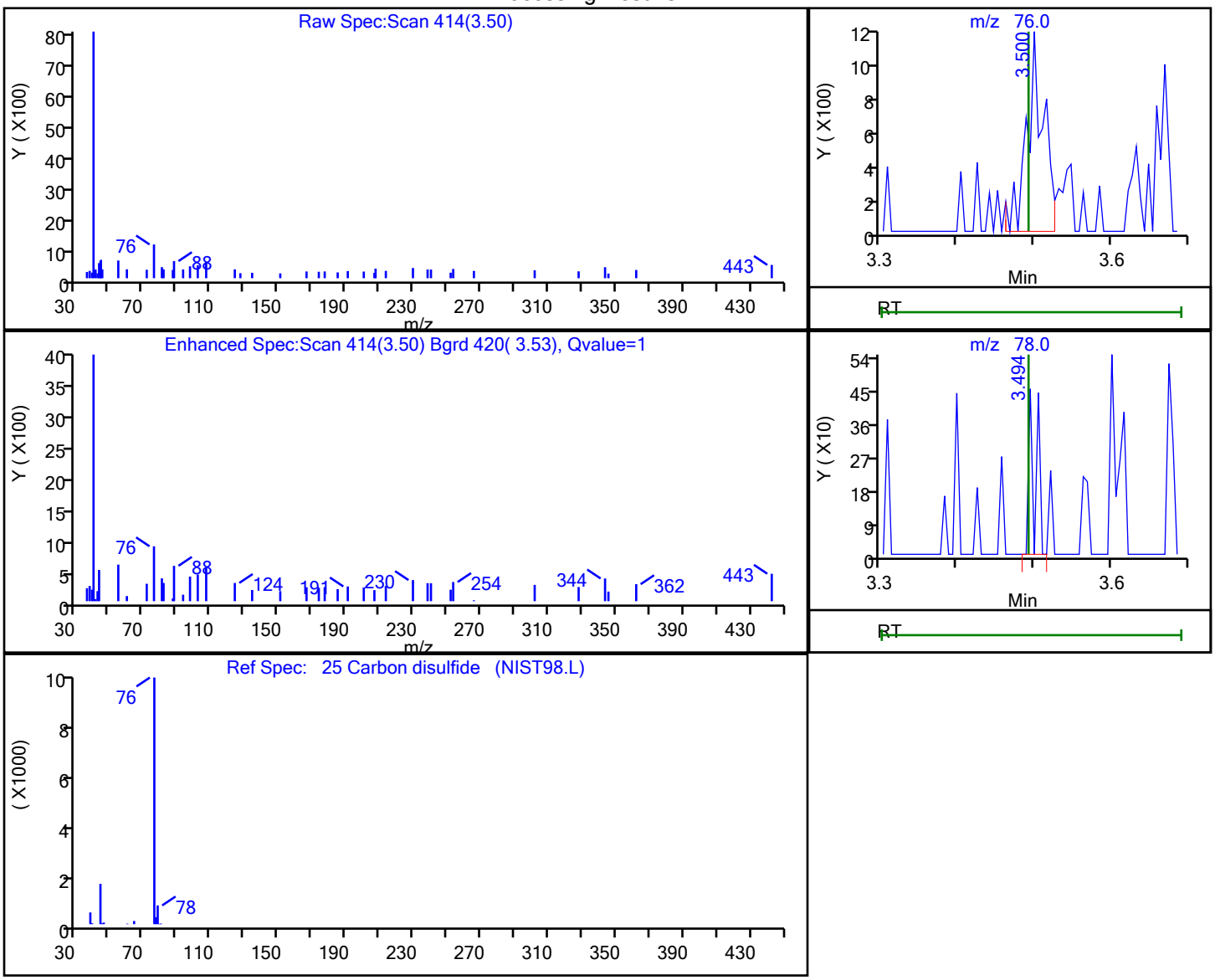

RT	Mass	Response	Amount
3.50	76.00	1709	0.105154
3.49	78.00	287	

Reviewer: journetp, 24-Dec-2019 10:12:07

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 24-Dec-2019 13:17:41 Chrom Revision: 2.3 15-Dec-2019 06:20:02

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122308.D				
Injection Date:	23-Dec-2019 09:39:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-1-A	Lab Sample ID:	180-100205-1		
Client ID:	11187072-N.TREATMENT AREA #2				
Operator ID:	034635	ALS Bottle#:	8	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

10 Dichlorodifluoromethane, CAS: 75-71-8

Processing Results

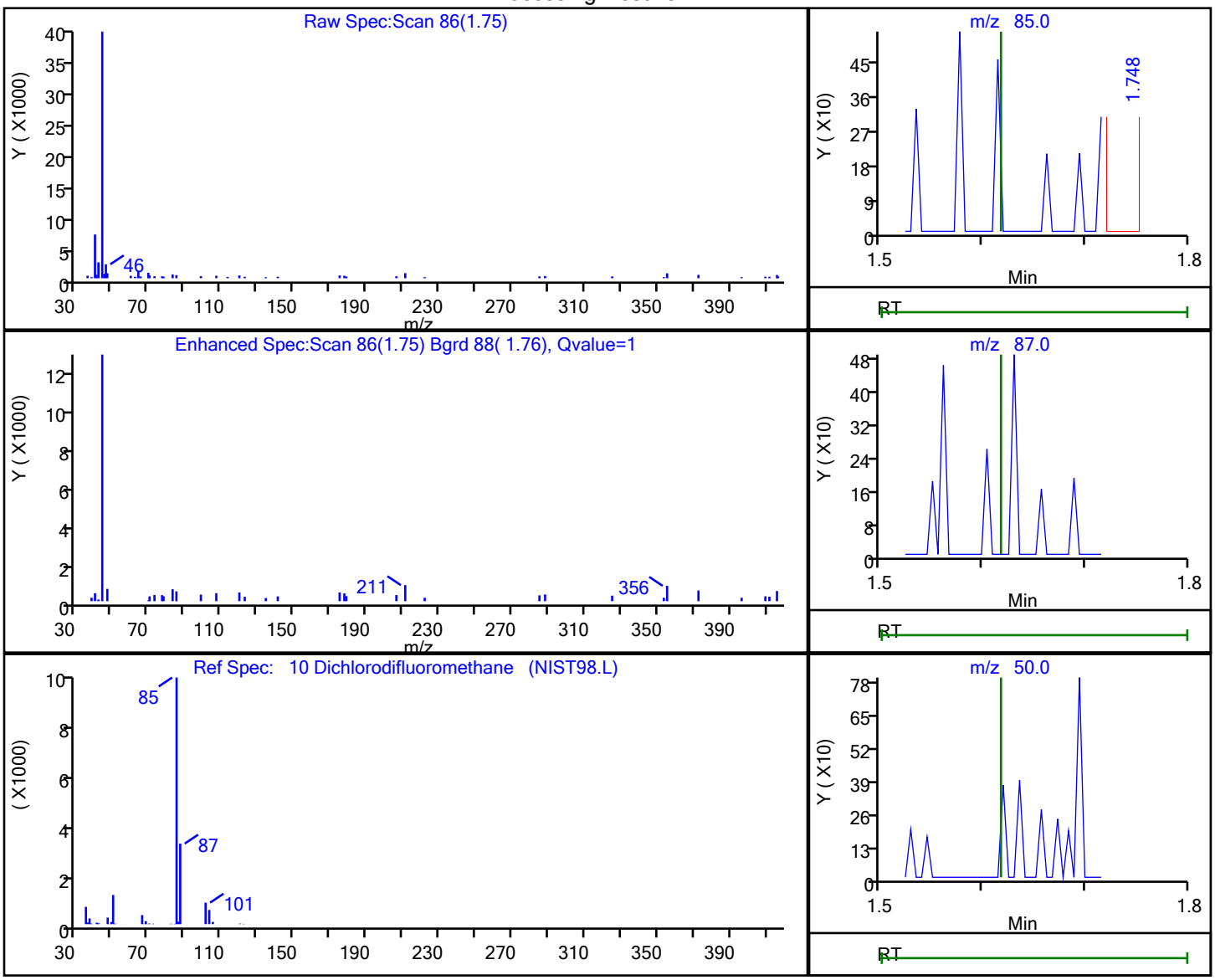

RT	Mass	Response	Amount
1.75	85.00	454	0.073266
1.62	87.00	0	
1.62	50.00	0	

Reviewer: journetp, 24-Dec-2019 10:11:55

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 24-Dec-2019 13:17:43 Chrom Revision: 2.3 15-Dec-2019 06:20:02

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122308.D				
Injection Date:	23-Dec-2019 09:39:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-1-A	Lab Sample ID:	180-100205-1		
Client ID:	11187072-N.TREATMENT AREA #2				
Operator ID:	034635	ALS Bottle#:	8	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

86 Ethylbenzene, CAS: 100-41-4

Processing Results

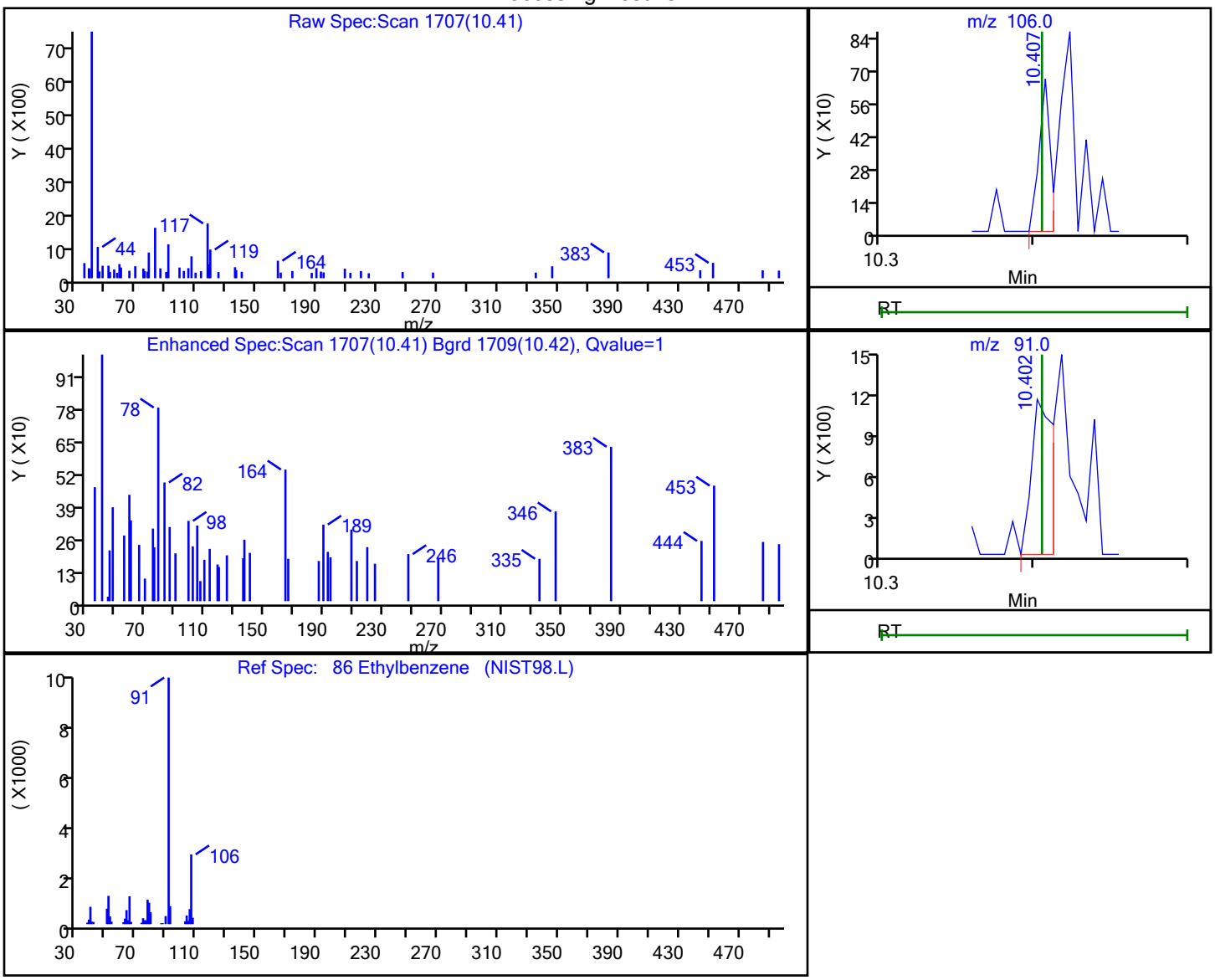

RT	Mass	Response	Amount
10.41	106.00	348	0.043995
10.40	91.00	1149	

Reviewer: journetp, 24-Dec-2019 10:13:16

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 24-Dec-2019 13:17:43 Chrom Revision: 2.3 15-Dec-2019 06:20:02

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122308.D				
Injection Date:	23-Dec-2019 09:39:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-1-A	Lab Sample ID:	180-100205-1		
Client ID:	11187072-N.TREATMENT AREA #2				
Operator ID:	034635	ALS Bottle#:	8	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

82 Ethylene Dibromide, CAS: 106-93-4

Processing Results

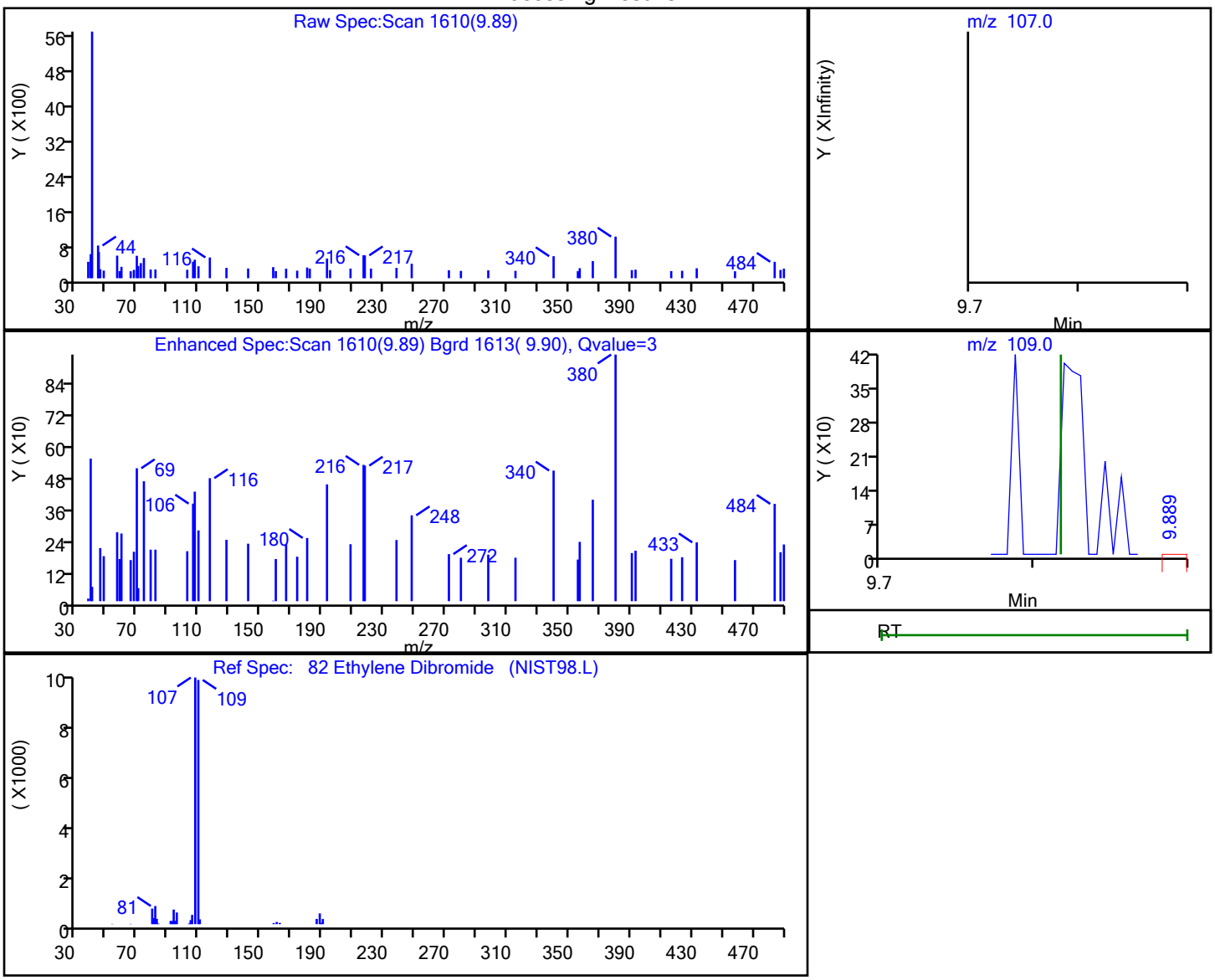

RT	Mass	Response	Amount
9.89	107.00	213	0.082558
9.89	109.00	161	

Reviewer: journetp, 24-Dec-2019 10:13:12

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122308.D				
Injection Date:	23-Dec-2019 09:39:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-1-A	Lab Sample ID:	180-100205-1		
Client ID:	11187072-N.TREATMENT AREA #2				
Operator ID:	034635	ALS Bottle#:	8	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

115 Hexachlorobutadiene, CAS: 87-68-3

Processing Results

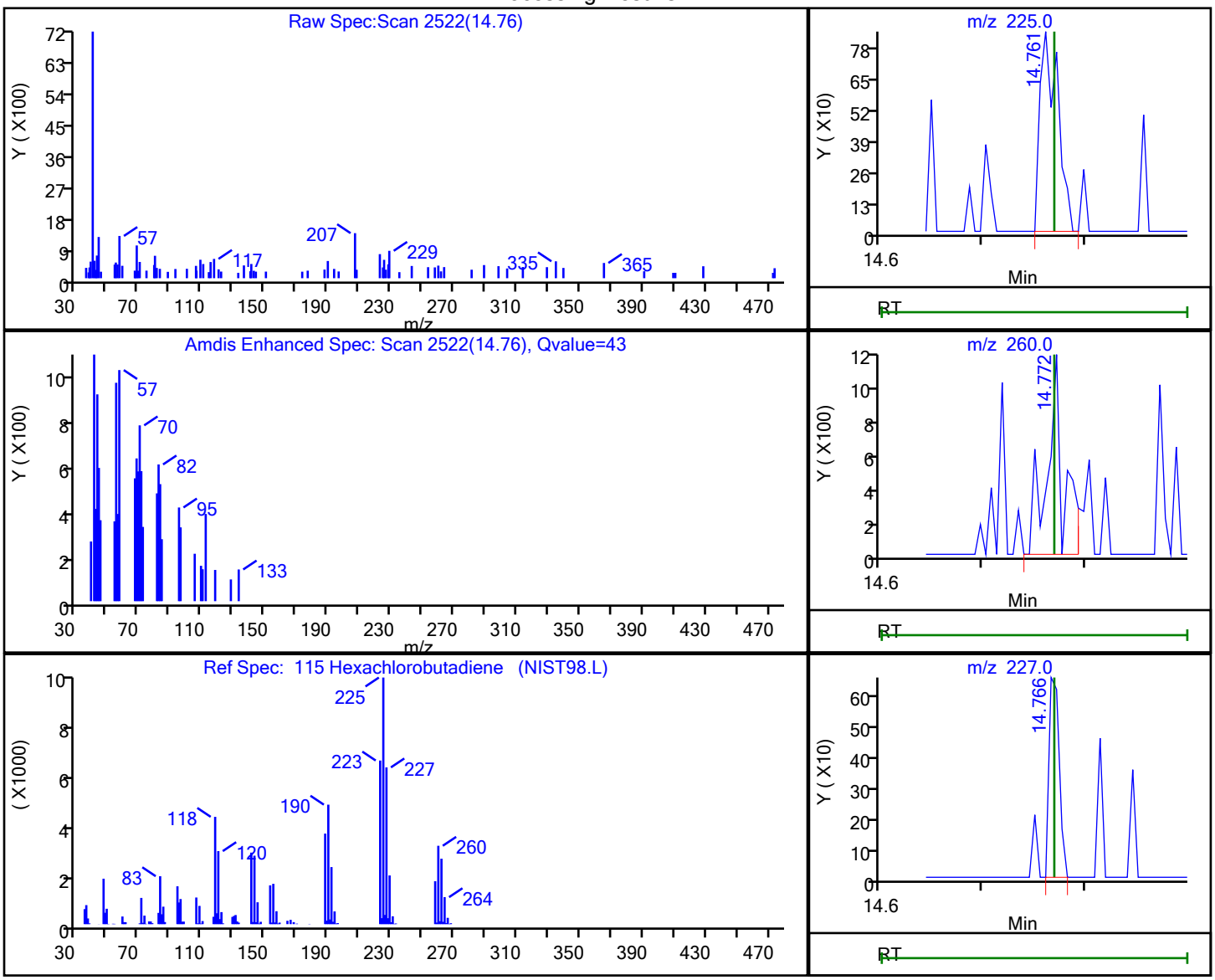

RT	Mass	Response	Amount
14.76	225.00	1026	0.188459
14.77	260.00	1293	
14.77	227.00	461	

Reviewer: journetp, 24-Dec-2019 10:13:32

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 24-Dec-2019 13:17:43 Chrom Revision: 2.3 15-Dec-2019 06:20:02

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122308.D				
Injection Date:	23-Dec-2019 09:39:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-1-A	Lab Sample ID:	180-100205-1		
Client ID:	11187072-N.TREATMENT AREA #2				
Operator ID:	034635	ALS Bottle#:	8	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

59 Isobutyl alcohol, CAS: 78-83-1

Processing Results

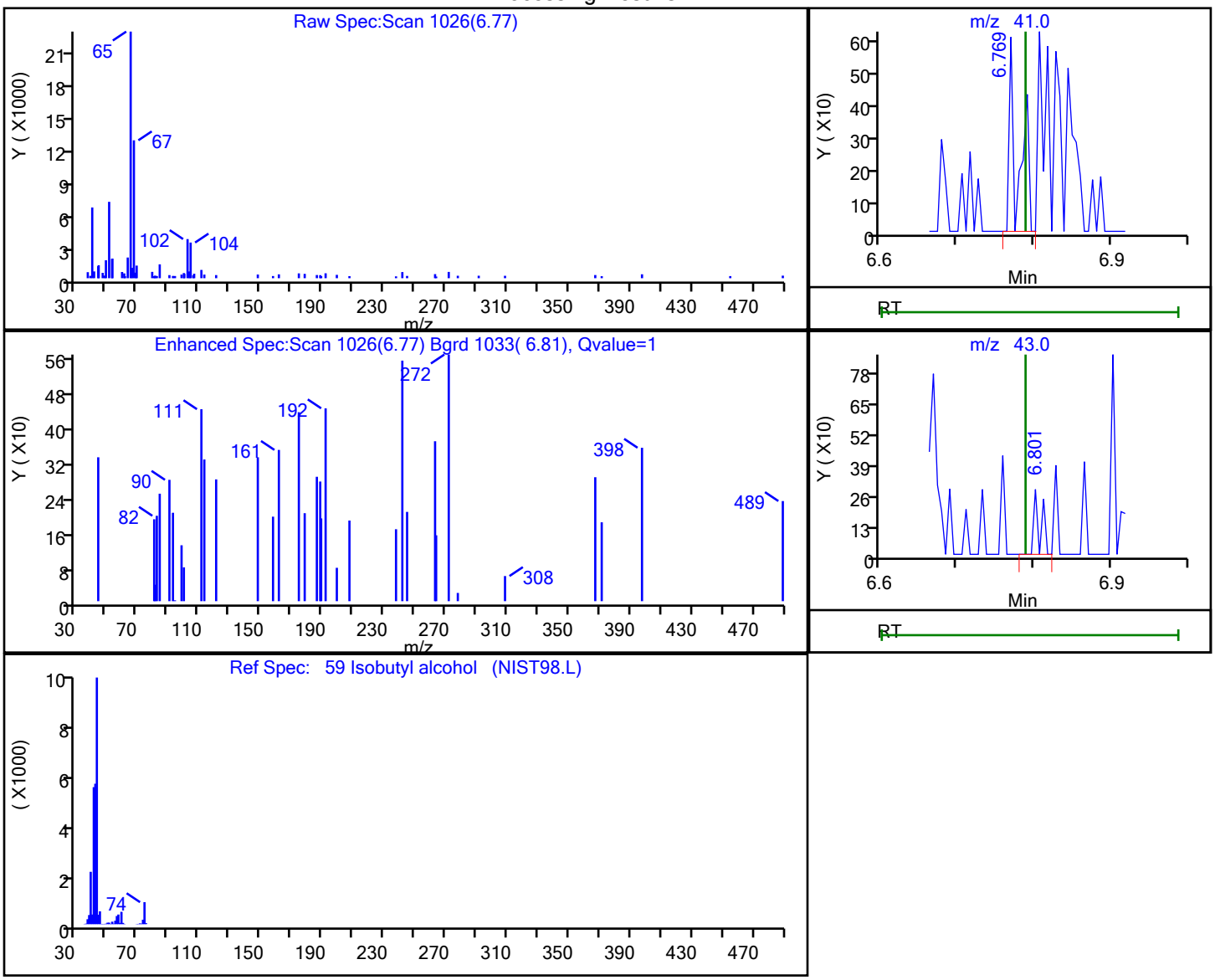

RT	Mass	Response	Amount
6.77	41.00	468	8.620556
6.80	43.00	164	

Reviewer: journetp, 24-Dec-2019 10:12:39

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 24-Dec-2019 13:17:42 Chrom Revision: 2.3 15-Dec-2019 06:20:02

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122308.D				
Injection Date:	23-Dec-2019 09:39:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-1-A	Lab Sample ID:	180-100205-1		
Client ID:	11187072-N.TREATMENT AREA #2				
Operator ID:	034635	ALS Bottle#:	8	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

47 Methacrylonitrile, CAS: 126-98-7

Processing Results

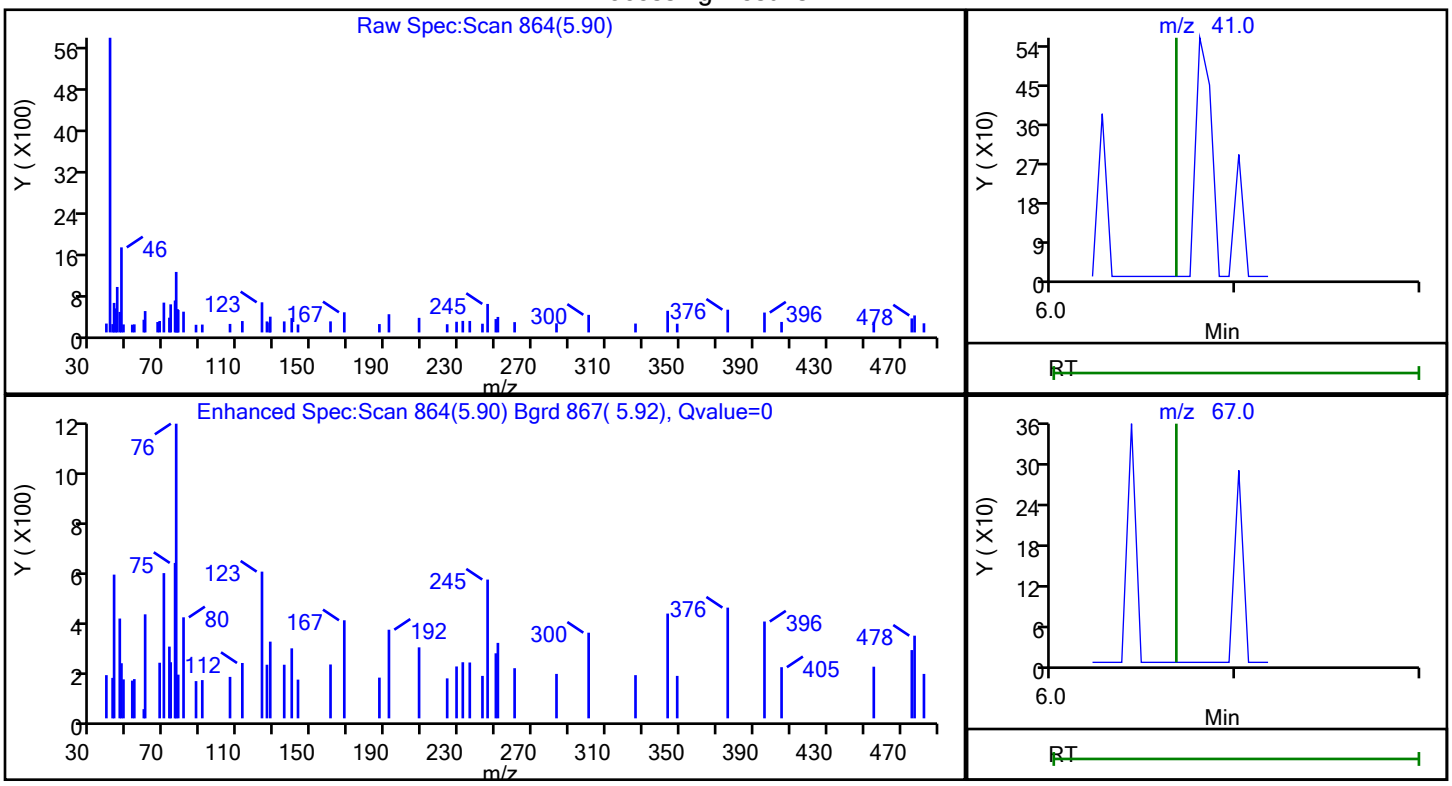

RT	Mass	Response	Amount
5.90	41.00	52	-56.082834
5.91	67.00	289	

Reviewer: journetp, 24-Dec-2019 10:12:30

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122308.D				
Injection Date:	23-Dec-2019 09:39:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-1-A	Lab Sample ID:	180-100205-1		
Client ID:	11187072-N.TREATMENT AREA #2				
Operator ID:	034635	ALS Bottle#:	8	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

89 Styrene, CAS: 100-42-5

Processing Results

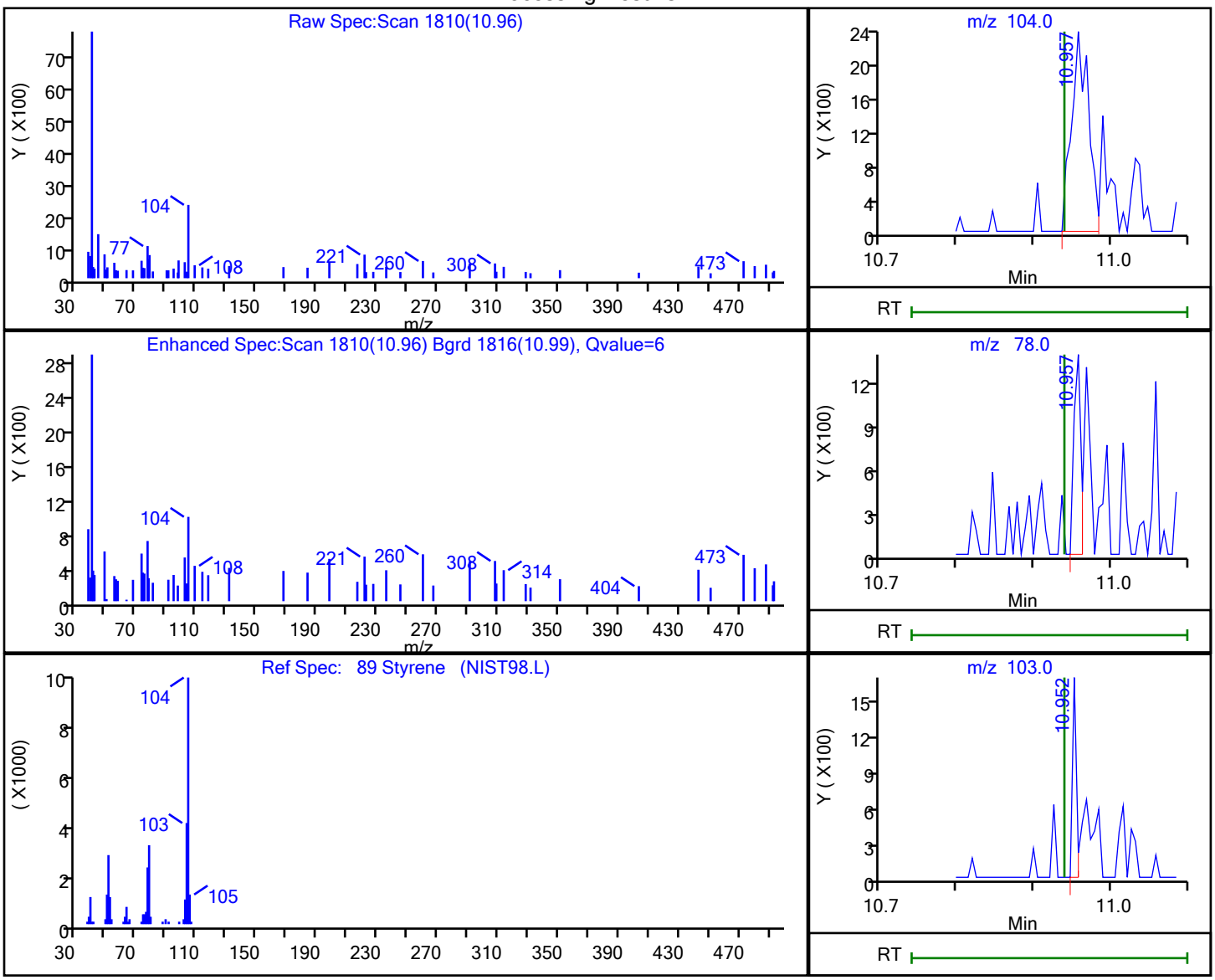

RT	Mass	Response	Amount
10.96	104.00	3579	0.264956
10.96	78.00	858	
10.95	103.00	599	

Reviewer: journetp, 24-Dec-2019 10:13:16

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122308.D				
Injection Date:	23-Dec-2019 09:39:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-1-A	Lab Sample ID:	180-100205-1		
Client ID:	11187072-N.TREATMENT AREA #2				
Operator ID:	034635	ALS Bottle#:	8	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

73 Toluene, CAS: 108-88-3

Processing Results

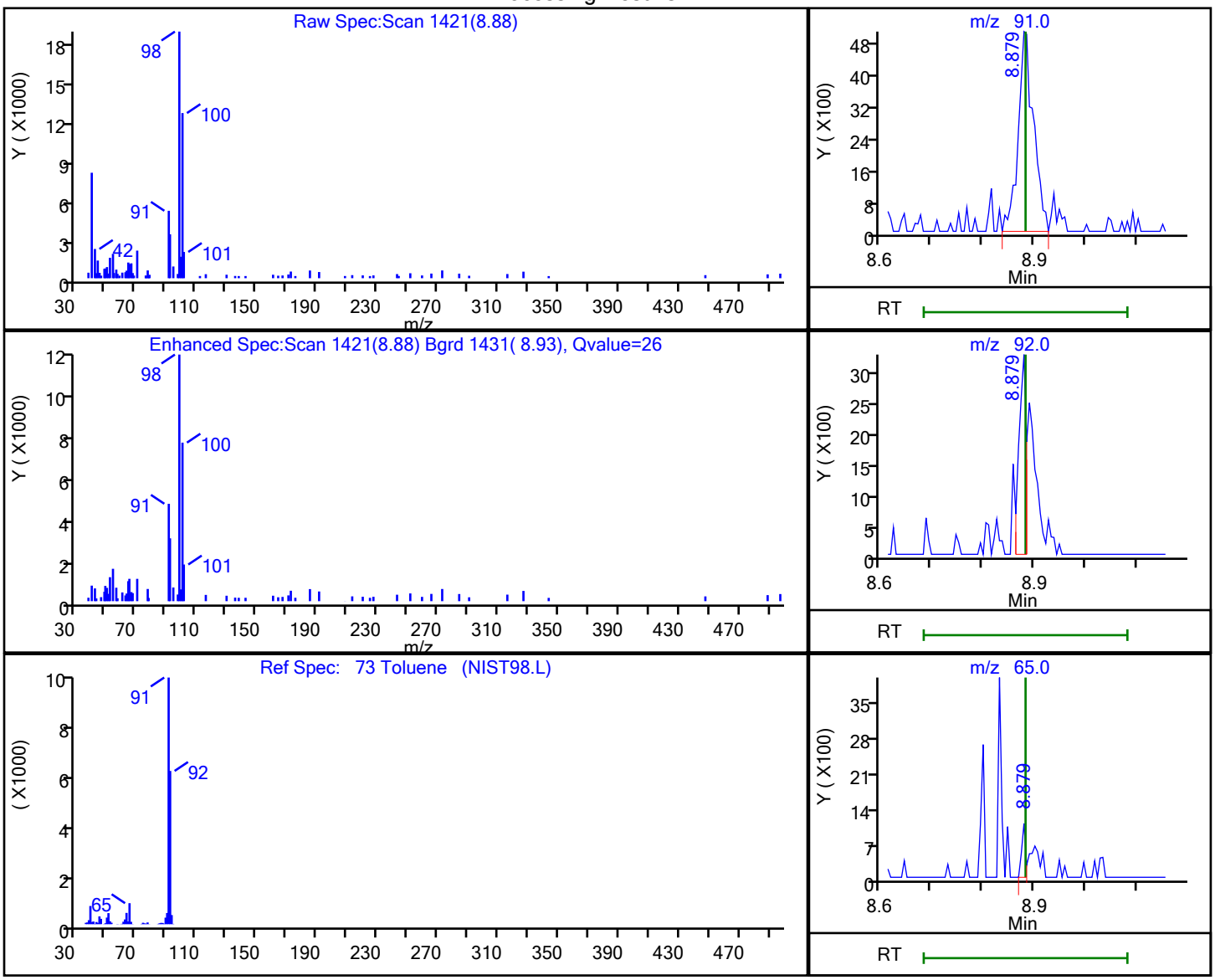

RT	Mass	Response	Amount
8.88	91.00	10556	0.544090
8.88	92.00	3251	
8.88	65.00	567	

Reviewer: journetp, 24-Dec-2019 10:13:03

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 24-Dec-2019 13:17:43 Chrom Revision: 2.3 15-Dec-2019 06:20:02

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122308.D				
Injection Date:	23-Dec-2019 09:39:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-1-A	Lab Sample ID:	180-100205-1		
Client ID:	11187072-N.TREATMENT AREA #2				
Operator ID:	034635	ALS Bottle#:	8	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

87 m-Xylene & p-Xylene, CAS: 179601-23-1

Processing Results

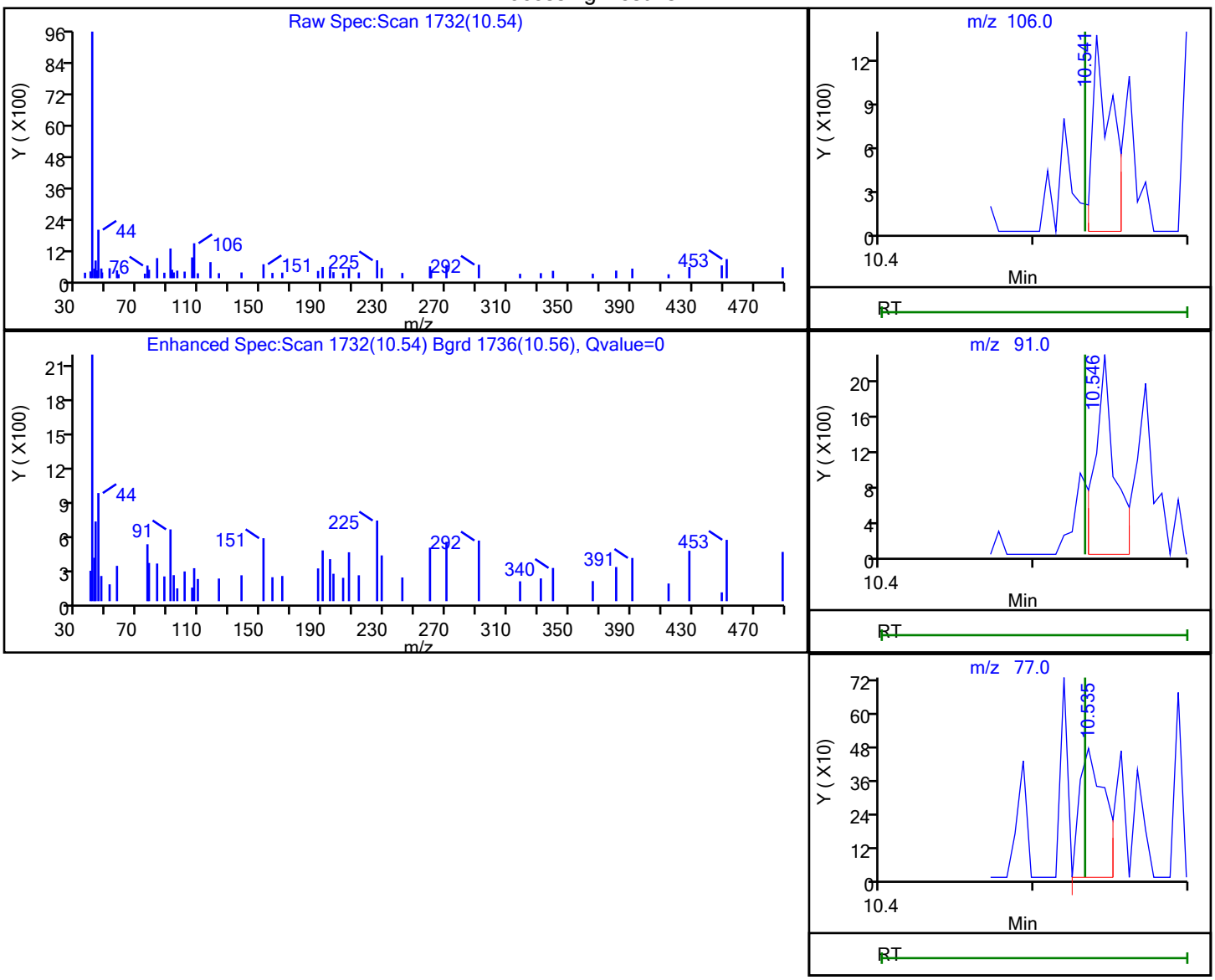

RT	Mass	Response	Amount
10.54	106.00	1172	0.116254
10.55	91.00	2032	
10.54	77.00	538	

Reviewer: journetp, 24-Dec-2019 10:13:16

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 24-Dec-2019 13:17:43 Chrom Revision: 2.3 15-Dec-2019 06:20:02

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122308.D				
Injection Date:	23-Dec-2019 09:39:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-1-A	Lab Sample ID:	180-100205-1		
Client ID:	11187072-N.TREATMENT AREA #2				
Operator ID:	034635	ALS Bottle#:	8	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

88 o-Xylene, CAS: 95-47-6

Processing Results

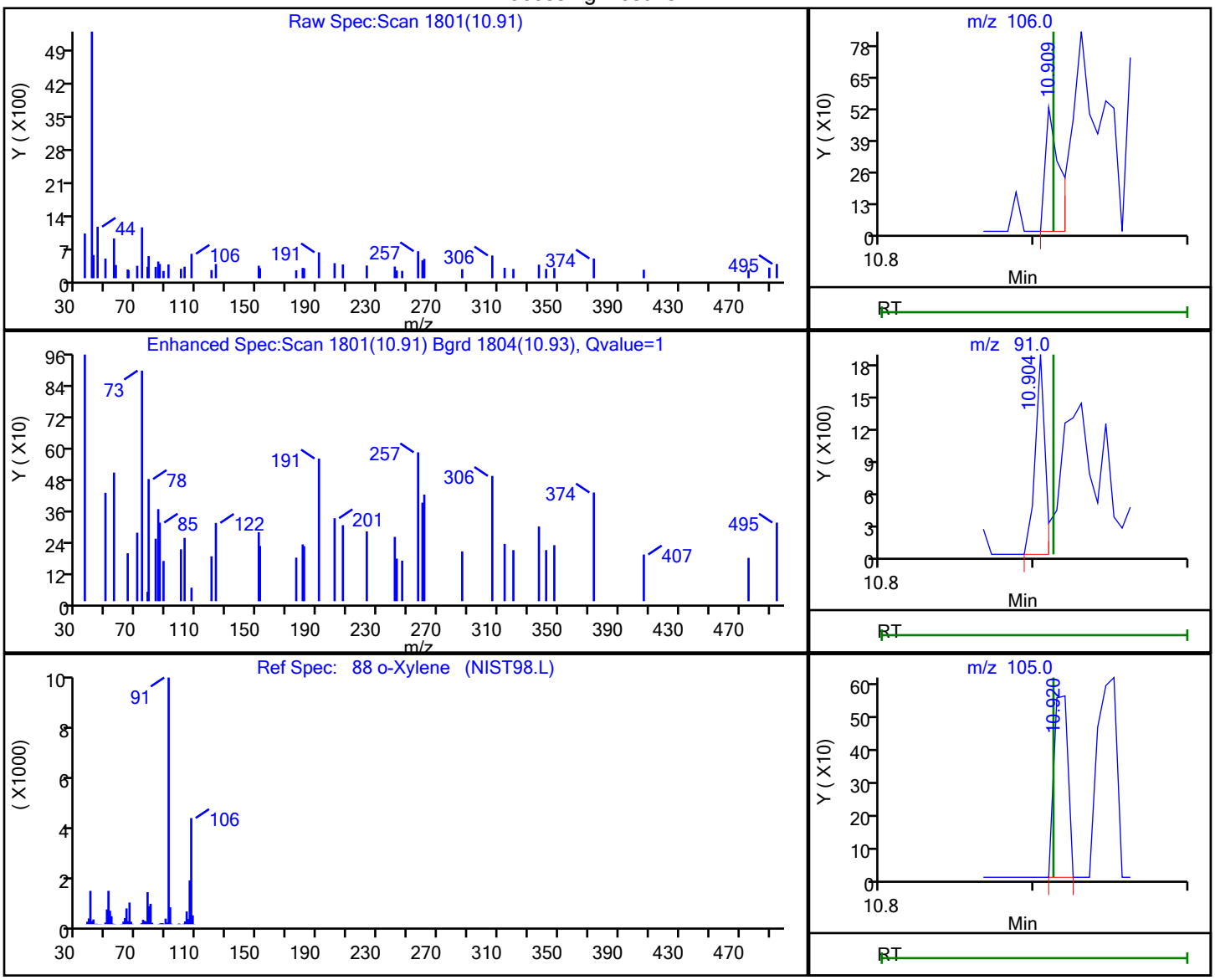

RT	Mass	Response	Amount
10.91	106.00	333	0.036503
10.90	91.00	843	
10.92	105.00	358	

Reviewer: journetp, 24-Dec-2019 10:13:16

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Client Sample ID: 11187072-N.TREATMENT AREA #3 Lab Sample ID: 180-100205-3

Matrix: Solid (TCLP) Lab File ID: 4122309.D

Analysis Method: EPA 8260C Date Collected: 12/18/2019 14:00

Sample wt/vol: 0.125(mL) Date Analyzed: 12/23/2019 10:05

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 302272 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	ND		0.20	0.16
71-55-6	1,1,1-Trichloroethane	ND		0.20	0.10
107-06-2	1,2-Dichloroethane	ND		0.20	0.058
79-34-5	1,1,2,2-Tetrachloroethane	ND		0.20	0.12
78-93-3	2-Butanone (MEK)	ND		0.20	0.12
71-43-2	Benzene	ND		0.20	0.079
79-00-5	1,1,2-Trichloroethane	ND		0.20	0.096
56-23-5	Carbon tetrachloride	ND		0.20	0.13
108-90-7	Chlorobenzene	ND		0.20	0.063
67-66-3	Chloroform	ND		0.20	0.085
127-18-4	Tetrachloroethene	ND		0.20	0.080
79-01-6	Trichloroethene	ND		0.20	0.060
96-18-4	1,2,3-Trichloropropane	ND		0.20	0.11
75-01-4	Vinyl chloride	ND		0.20	0.15
75-35-4	1,1-Dichloroethene	ND		0.20	0.11
542-75-6	1,3-Dichloropropene, Total	ND		0.40	0.13
106-46-7	1,4-Dichlorobenzene	ND		0.20	0.041
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		0.20	0.074
67-64-1	Acetone	ND		0.80	0.13
75-05-8	Acetonitrile	ND		2.0	2.0
107-13-1	Acrylonitrile	ND		2.0	1.3
75-25-2	Bromoform	ND		0.20	0.10
74-83-9	Bromomethane	ND		0.20	0.18
75-15-0	Carbon disulfide	ND		0.20	0.12
75-27-4	Dichlorobromomethane	ND		0.20	0.094
75-71-8	Dichlorodifluoromethane	ND		0.20	0.12
100-41-4	Ethylbenzene	ND		0.20	0.086
106-93-4	1,2-Dibromoethane	ND		0.20	0.11
87-68-3	Hexachlorobutadiene	ND		0.20	0.073
78-83-1	Isobutyl alcohol	ND		5.0	3.6
126-98-7	Methacrylonitrile	ND		2.0	1.6
75-09-2	Methylene Chloride	ND		0.20	0.15
100-42-5	Styrene	ND		0.20	0.053
108-88-3	Toluene	ND		0.20	0.067
10061-02-6	trans-1,3-Dichloropropene	ND		0.20	0.069

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-100205-1
SDG No.:
Client Sample ID: 11187072-N.TREATMENT AREA #3
Lab Sample ID: 180-100205-3
Matrix: Solid (TCLP)
Lab File ID: 4122309.D
Analysis Method: EPA 8260C
Date Collected: 12/18/2019 14:00
Sample wt/vol: 0.125(mL)
Date Analyzed: 12/23/2019 10:05
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: DB-624 ID: 0.18(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 302272
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-69-4	Trichlorofluoromethane	ND		0.20	0.058
1330-20-7	Xylenes, Total	ND		0.40	0.17

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	93		58-139
460-00-4	4-Bromofluorobenzene (Surr)	89		64-122
1868-53-7	Dibromofluoromethane (Surr)	85		70-127
2037-26-5	Toluene-d8 (Surr)	81		71-125

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122309.D
Lims ID: 180-100205-A-3-A
Client ID: 11187072-N.TREATMENT AREA #3
Sample Type: Client
Inject. Date: 23-Dec-2019 10:05:30 ALS Bottle#: 9 Worklist Smp#: 9
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0030118-009
Operator ID: 034635 Instrument ID: CHHP4

Method: \\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\MSVOA_CHHP4.m
Limit Group: VOA 8260C_D ICAL
Last Update: 24-Dec-2019 13:17:33 Calib Date: 14-Nov-2019 12:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114008.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0309

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.104	4.096	0.008	91	503966	5000.0	
* 2 Fluorobenzene (IS)	96	7.154	7.157	-0.003	98	2763531	250.0	
* 3 Chlorobenzene-d5	119	10.274	10.271	0.003	98	725910	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.625	12.627	-0.002	93	1147015	250.0	
$ 5 Dibromofluoromethane (Surr	113	6.423	6.420	0.003	0	985994	213.4	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.802	6.799	0.003	0	1017605	232.0	
$ 7 Toluene-d8 (Surr)	98	8.816	8.813	0.003	0	3903382	201.6	
$ 8 4-Bromofluorobenzene (Surr	95	11.466	11.468	-0.002	0	1611186	222.2	
10 Dichlorodifluoromethane	85		1.617				ND	U
12 Vinyl chloride	62		1.938				ND	U
14 Bromomethane	94		2.285				ND	U
17 Trichlorofluoromethane	101		2.552				ND	
21 1,1-Dichloroethene	96		3.209				ND	
23 Acetone	43	3.324	3.311	0.013	83	19268	12.4	
25 Carbon disulfide	76		3.492				ND	
27 Acetonitrile	40		3.717				ND	U
30 Methylene Chloride	84	3.997	3.984	0.013	81	25771	4.99	
32 Acrylonitrile	53		4.363				ND	
43 2-Butanone (MEK)	43		5.821				ND	U
47 Methacrylonitrile	41		6.067				ND	U
49 Chloroform	83	6.246	6.238	0.008	91	21325	2.40	
50 1,1,1-Trichloroethane	97		6.398				ND	
53 Carbon tetrachloride	117		6.575				ND	
59 Isobutyl alcohol	41		6.788				ND	U
54 Benzene	78		6.804				ND	U
55 1,2-Dichloroethane	62		6.890				ND	U
61 Trichloroethene	130		7.547				ND	U
68 Dichlorobromomethane	83		8.108				ND	
71 cis-1,3-Dichloropropene	75		8.551				ND	
72 4-Methyl-2-pentanone (MIBK	43		8.701				ND	U
73 Toluene	91		8.882				ND	U
74 trans-1,3-Dichloropropene	75		9.133				ND	
76 1,1,2-Trichloroethane	97		9.326				ND	U

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
77 Tetrachloroethene	164		9.395				ND	
82 Ethylene Dibromide	107		9.817				ND	
84 Chlorobenzene	112		10.303				ND	
85 1,1,1,2-Tetrachloroethane	131		10.394				ND	U
86 Ethylbenzene	106		10.405				ND	U
87 m-Xylene & p-Xylene	106		10.533				ND	U
88 o-Xylene	106		10.912				ND	U
89 Styrene	104		10.939				ND	U
90 Bromoform	173		11.126				ND	
93 1,1,2,2-Tetrachloroethane	83		11.602				ND	U
95 1,2,3-Trichloropropane	110		11.655				ND	
107 1,4-Dichlorobenzene	146		12.654				ND	U
115 Hexachlorobutadiene	225		14.769				ND	U
S 130 Xylenes, Total	106		1.000				ND	
S 131 1,3-Dichloropropene, Total	1		0.000				ND	

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

VOA8260INT_00102	Amount Added: 10.00	Units: uL	Run Reagent
VOA8260SURR_00102	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 24-Dec-2019 13:17:35 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122309.D				
Injection Date:	23-Dec-2019 10:05:30	Instrument ID:	CHHP4	Operator ID:	034635
Lims ID:	180-100205-A-3-A	Lab Sample ID:	180-100205-3	Worklist Smp#:	9
Client ID:	11187072-N.TREATMENT AREA #3				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

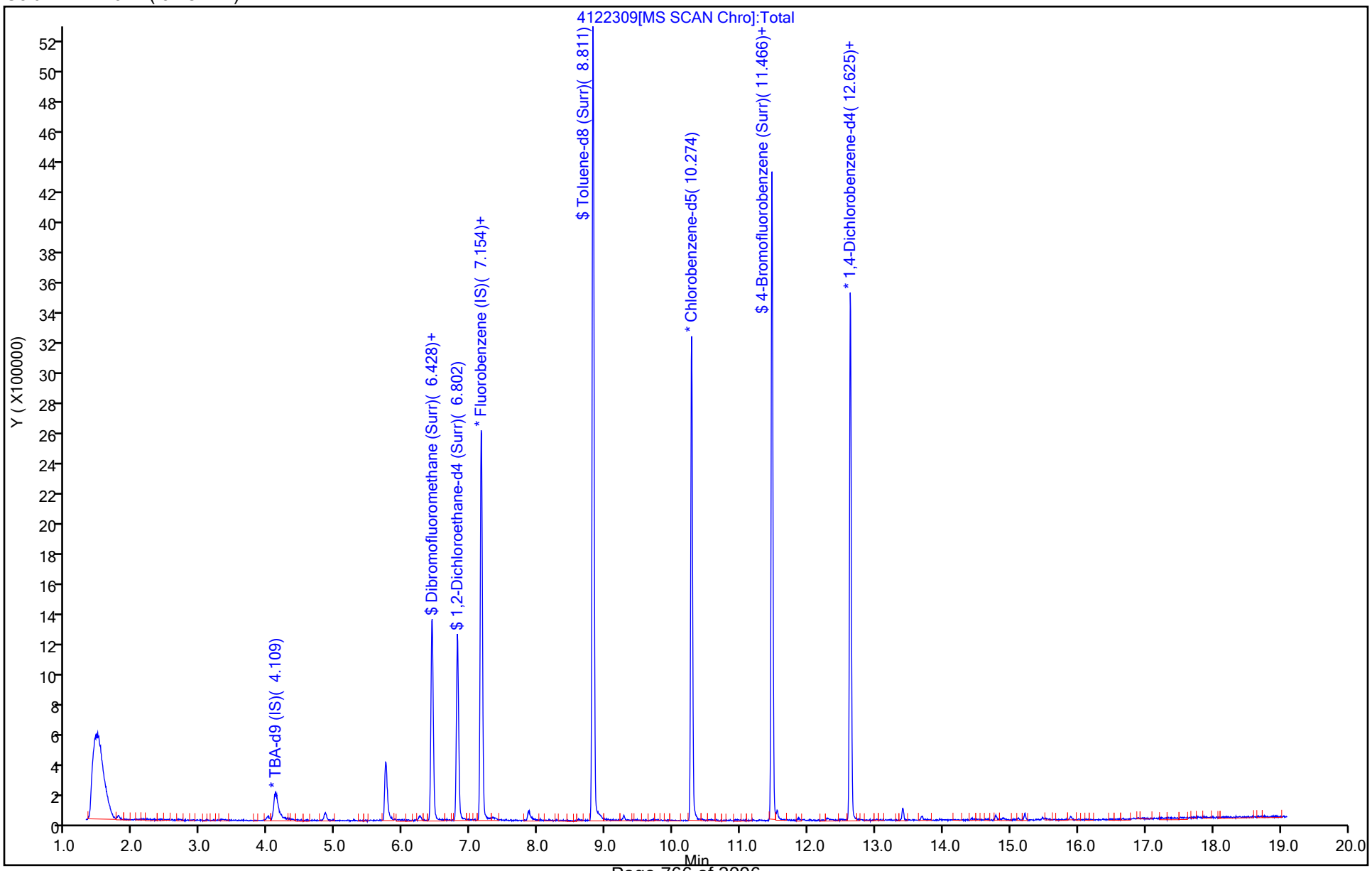

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122309.D
Lims ID: 180-100205-A-3-A
Client ID: 11187072-N.TREATMENT AREA #3
Sample Type: Client
Inject. Date: 23-Dec-2019 10:05:30 ALS Bottle#: 9 Worklist Smp#: 9
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0030118-009
Operator ID: 034635 Instrument ID: CHHP4

Method: \\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\MSVOA_CHHP4.m
Limit Group: VOA 8260C_D ICAL
Last Update: 24-Dec-2019 13:17:33 Calib Date: 14-Nov-2019 12:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114008.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0309

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	250.0	213.4	85.36
$ 6 1,2-Dichloroethane-d4 (Surr)	250.0	232.0	92.80
$ 7 Toluene-d8 (Surr)	250.0	201.6	80.63
$ 8 4-Bromofluorobenzene (Surr)	250.0	222.2	88.86

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122309.D				
Injection Date:	23-Dec-2019 10:05:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-3-A	Lab Sample ID:	180-100205-3		
Client ID:	11187072-N.TREATMENT AREA #3				
Operator ID:	034635	ALS Bottle#:	9	Worklist Smp#:	9
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

85 1,1,1,2-Tetrachloroethane, CAS: 630-20-6

Processing Results

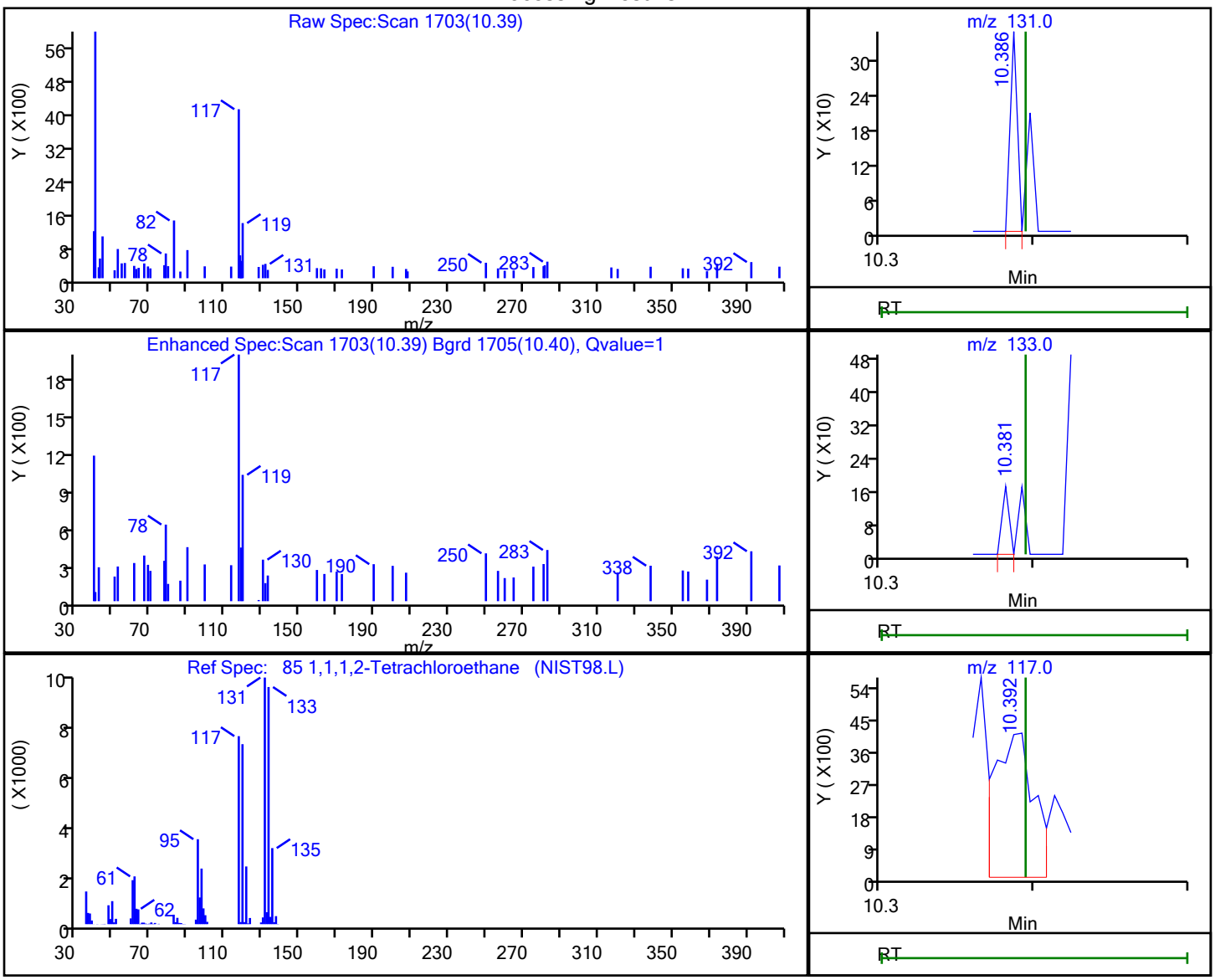

RT	Mass	Response	Amount
10.39	131.00	110	0.023206
10.38	133.00	53	
10.39	117.00	7496	

Reviewer: journetp, 24-Dec-2019 10:14:11

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122309.D				
Injection Date:	23-Dec-2019 10:05:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-3-A	Lab Sample ID:	180-100205-3		
Client ID:	11187072-N.TREATMENT AREA #3				
Operator ID:	034635	ALS Bottle#:	9	Worklist Smp#:	9
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

55 1,2-Dichloroethane, CAS: 107-06-2

Processing Results

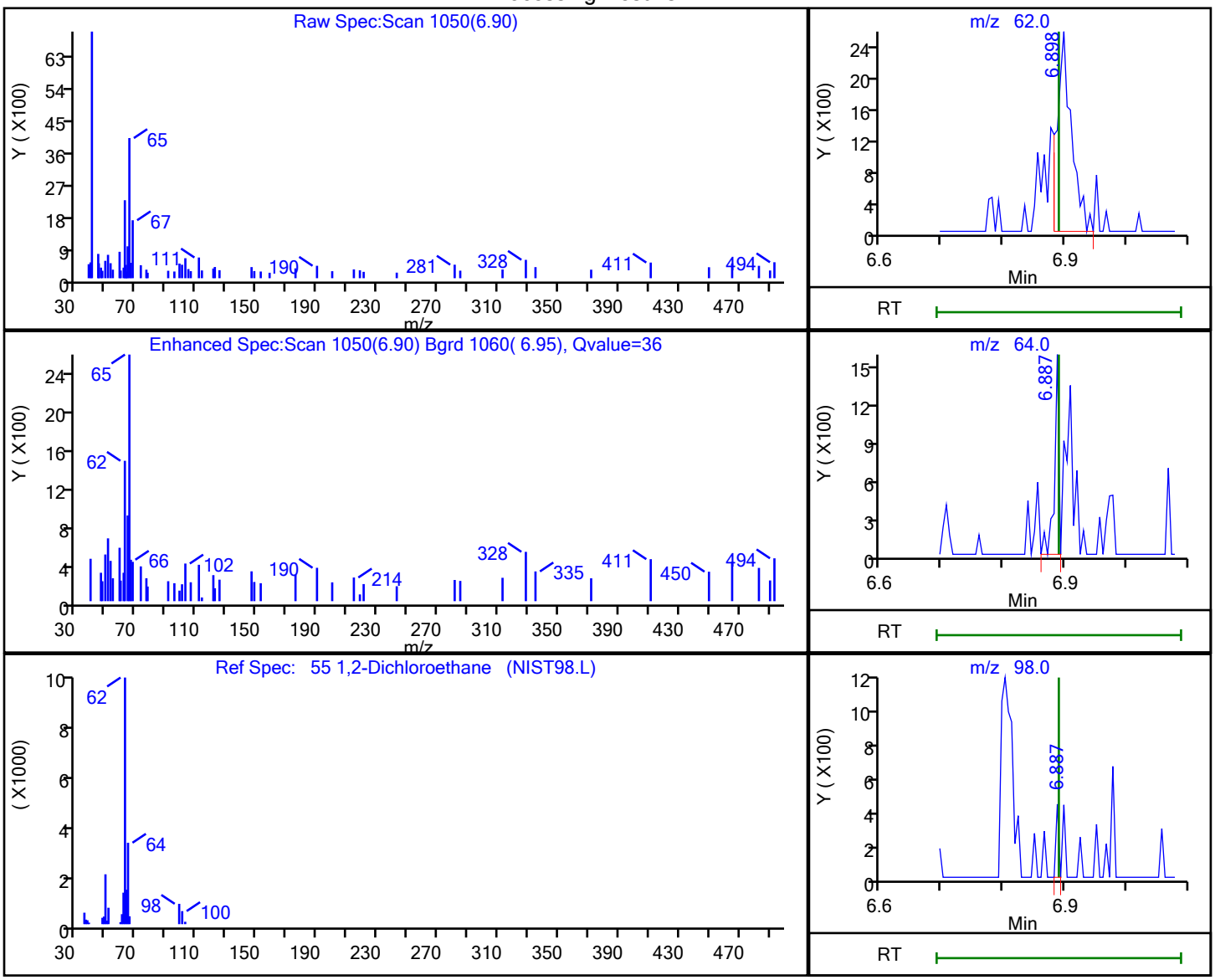

RT	Mass	Response	Amount
6.90	62.00	4164	0.915264
6.89	64.00	759	
6.89	98.00	134	

Reviewer: journetp, 24-Dec-2019 10:13:56

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 24-Dec-2019 13:17:36 Chrom Revision: 2.3 15-Dec-2019 06:20:02

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122309.D				
Injection Date:	23-Dec-2019 10:05:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-3-A	Lab Sample ID:	180-100205-3		
Client ID:	11187072-N.TREATMENT AREA #3				
Operator ID:	034635	ALS Bottle#:	9	Worklist Smp#:	9
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

93 1,1,2,2-Tetrachloroethane, CAS: 79-34-5

Processing Results

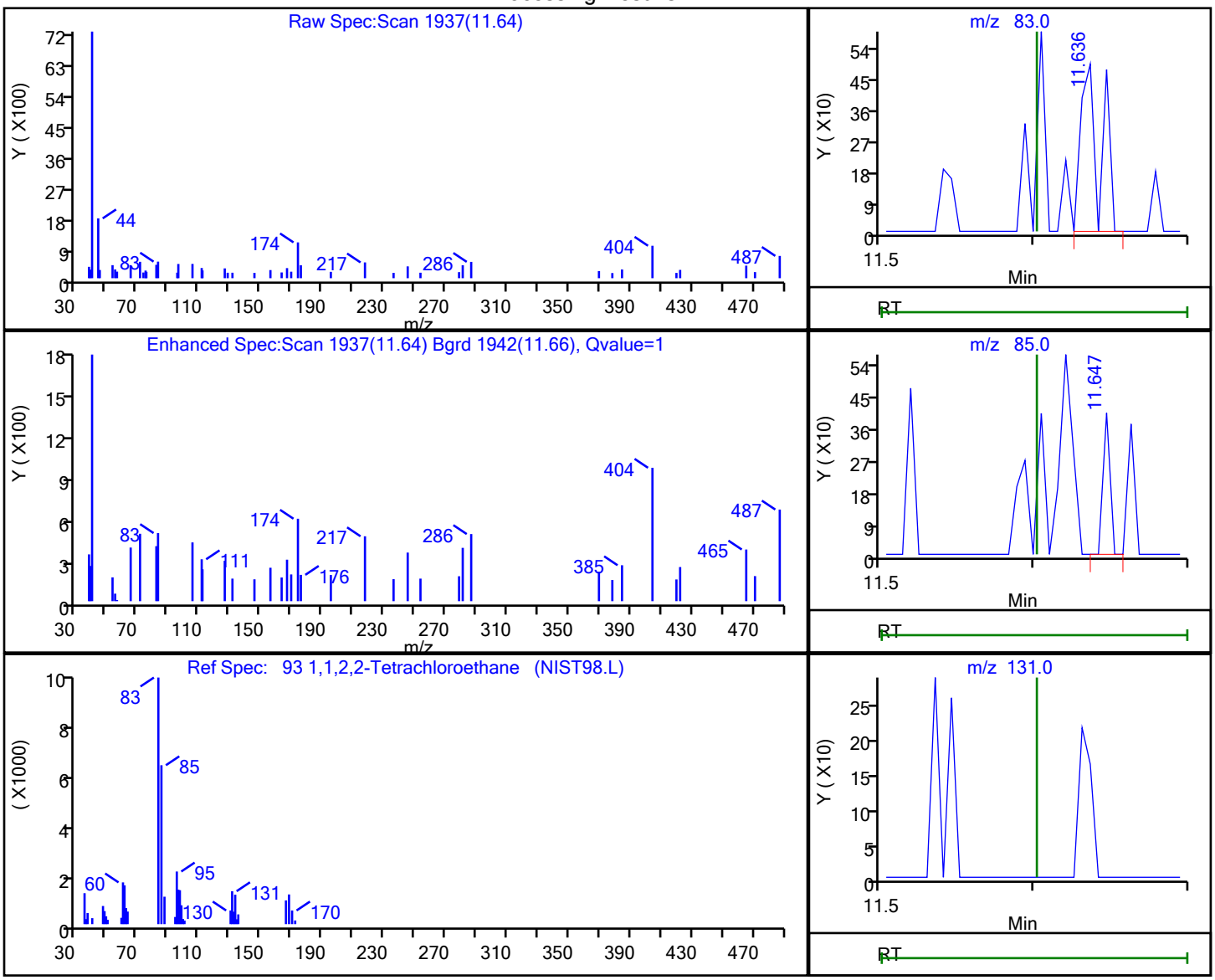

RT	Mass	Response	Amount
11.64	83.00	434	0.140582
11.65	85.00	128	
11.60	131.00	0	

Reviewer: journetp, 24-Dec-2019 10:14:14

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122309.D				
Injection Date:	23-Dec-2019 10:05:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-3-A	Lab Sample ID:	180-100205-3		
Client ID:	11187072-N.TREATMENT AREA #3				
Operator ID:	034635	ALS Bottle#:	9	Worklist Smp#:	9
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

43 2-Butanone (MEK), CAS: 78-93-3

Processing Results

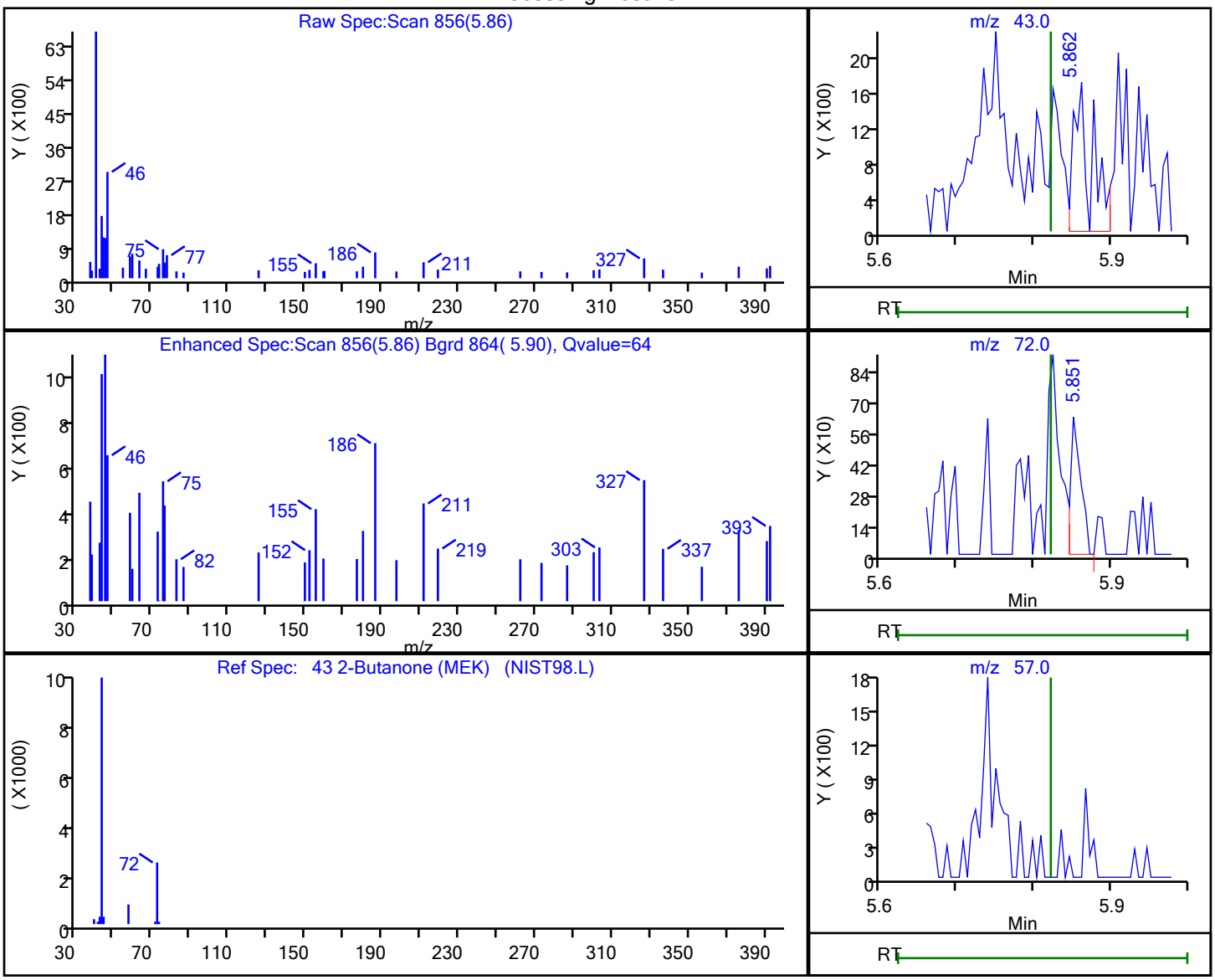

RT	Mass	Response	Amount
5.86	43.00	2694	1.631494
5.85	72.00	582	
5.82	57.00	0	

Reviewer: journetp, 24-Dec-2019 10:13:52

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 24-Dec-2019 13:17:36 Chrom Revision: 2.3 15-Dec-2019 06:20:02

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122309.D				
Injection Date:	23-Dec-2019 10:05:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-3-A	Lab Sample ID:	180-100205-3		
Client ID:	11187072-N.TREATMENT AREA #3				
Operator ID:	034635	ALS Bottle#:	9	Worklist Smp#:	9
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

54 Benzene, CAS: 71-43-2

Processing Results

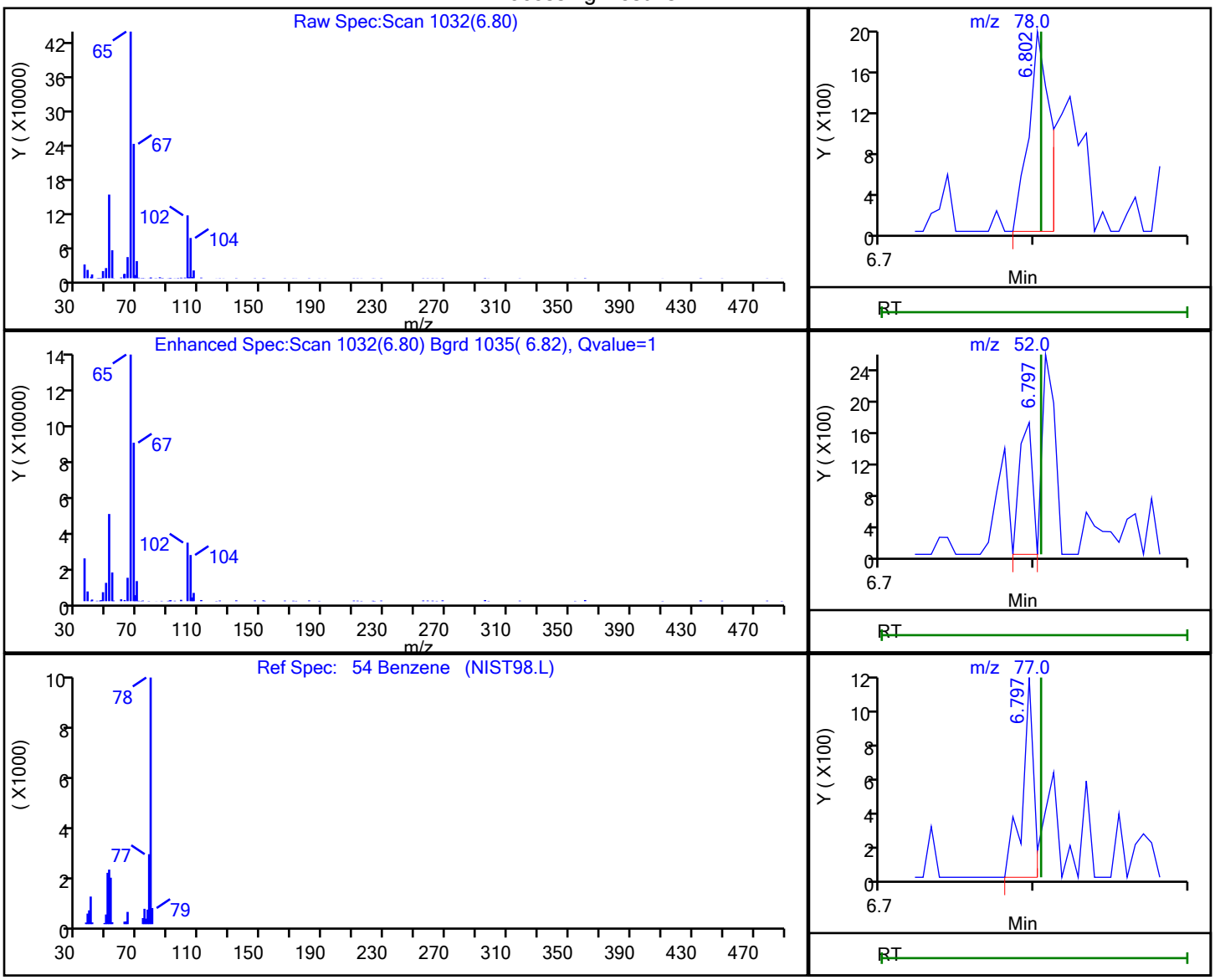

RT	Mass	Response	Amount
6.80	78.00	1852	0.098298
6.80	52.00	986	
6.80	77.00	581	

Reviewer: journetp, 24-Dec-2019 10:13:56

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 24-Dec-2019 13:17:36 Chrom Revision: 2.3 15-Dec-2019 06:20:02

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122309.D				
Injection Date:	23-Dec-2019 10:05:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-3-A	Lab Sample ID:	180-100205-3		
Client ID:	11187072-N.TREATMENT AREA #3				
Operator ID:	034635	ALS Bottle#:	9	Worklist Smp#:	9
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

76 1,1,2-Trichloroethane, CAS: 79-00-5

Processing Results

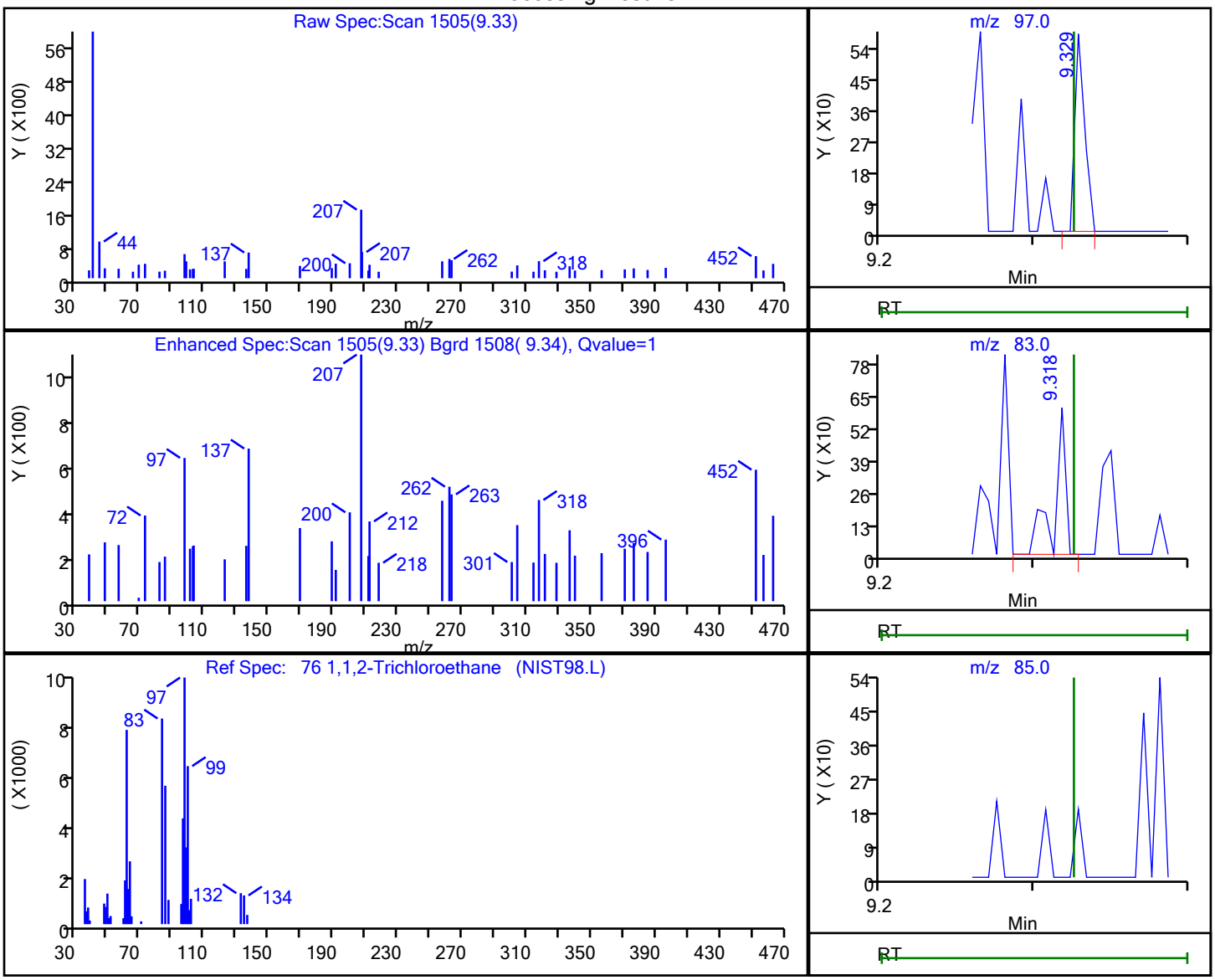

RT	Mass	Response	Amount
9.33	97.00	262	0.085900
9.32	83.00	303	
9.33	85.00	0	

Reviewer: journetp, 24-Dec-2019 10:14:03

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122309.D				
Injection Date:	23-Dec-2019 10:05:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-3-A	Lab Sample ID:	180-100205-3		
Client ID:	11187072-N.TREATMENT AREA #3				
Operator ID:	034635	ALS Bottle#:	9	Worklist Smp#:	9
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

61 Trichloroethene, CAS: 79-01-6

Processing Results

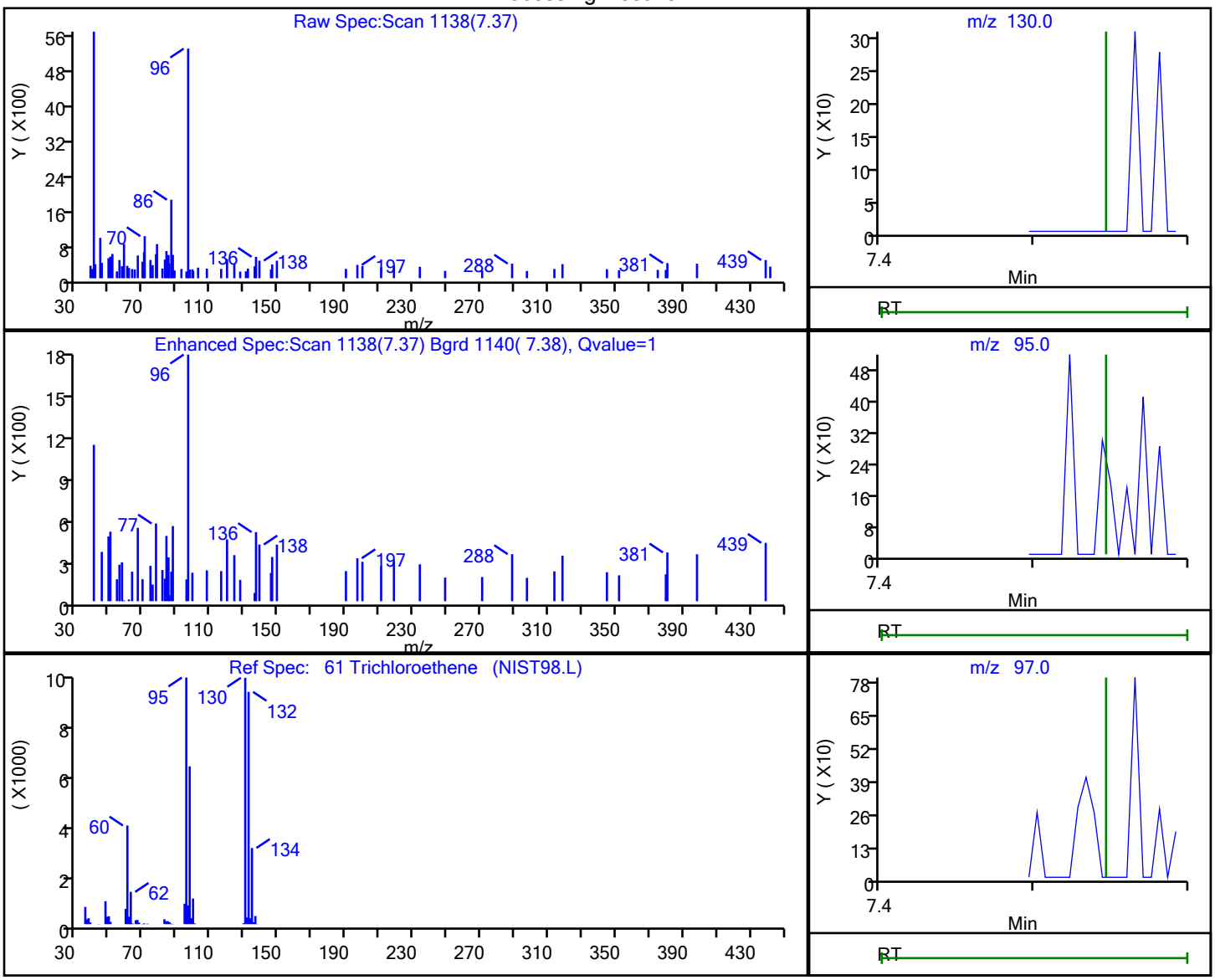

RT	Mass	Response	Amount
7.37	130.00	51	0.008920
7.36	95.00	410	
7.37	97.00	302	

Reviewer: journetp, 24-Dec-2019 10:13:56

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 24-Dec-2019 13:17:35 Chrom Revision: 2.3 15-Dec-2019 06:20:02

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122309.D				
Injection Date:	23-Dec-2019 10:05:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-3-A	Lab Sample ID:	180-100205-3		
Client ID:	11187072-N.TREATMENT AREA #3				
Operator ID:	034635	ALS Bottle#:	9	Worklist Smp#:	9
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

12 Vinyl chloride, CAS: 75-01-4

Processing Results

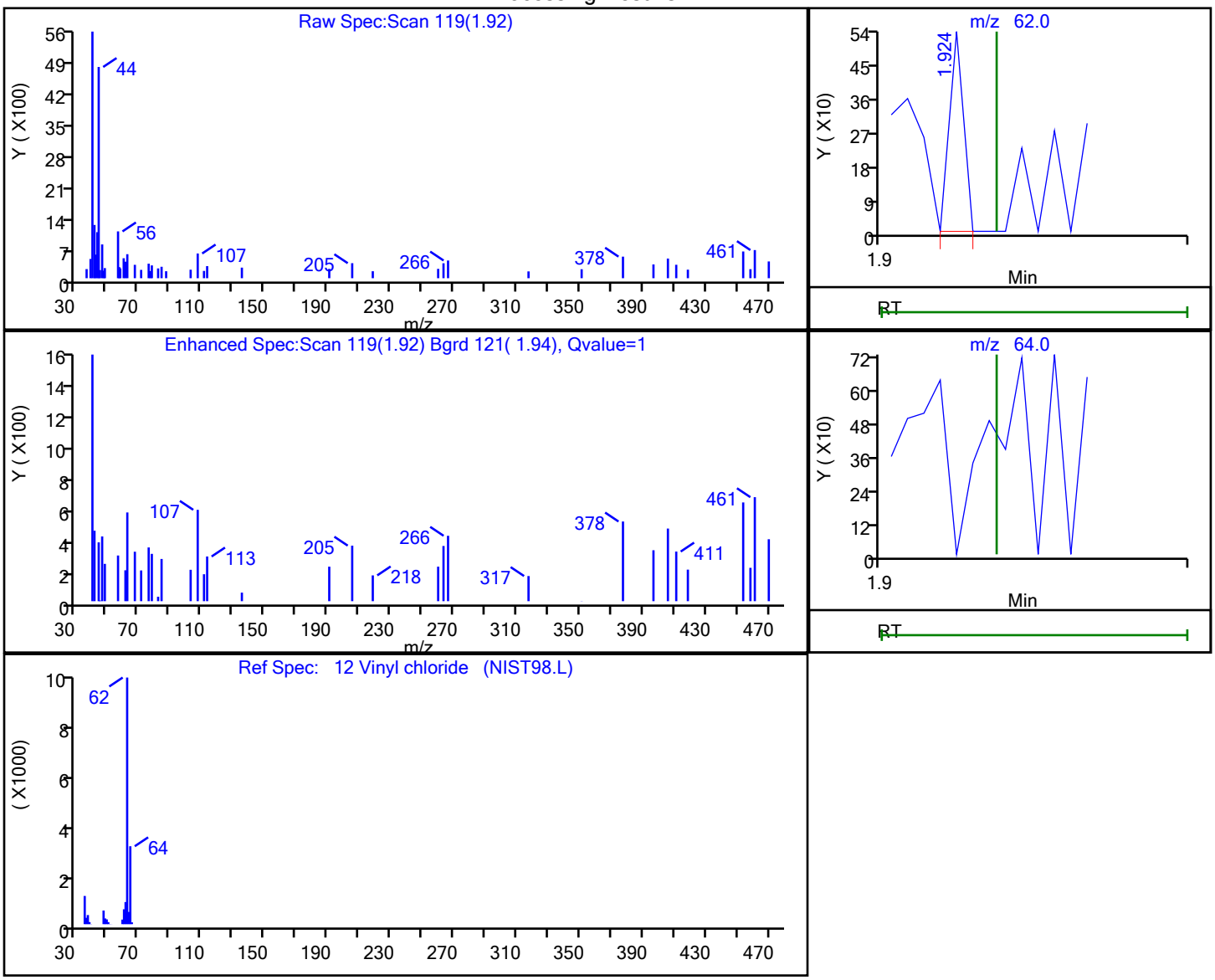

RT	Mass	Response	Amount
1.92	62.00	173	0.027535
1.92	64.00	725	

Reviewer: journetp, 24-Dec-2019 10:13:44

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122309.D				
Injection Date:	23-Dec-2019 10:05:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-3-A	Lab Sample ID:	180-100205-3		
Client ID:	11187072-N.TREATMENT AREA #3				
Operator ID:	034635	ALS Bottle#:	9	Worklist Smp#:	9
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

107 1,4-Dichlorobenzene, CAS: 106-46-7

Processing Results

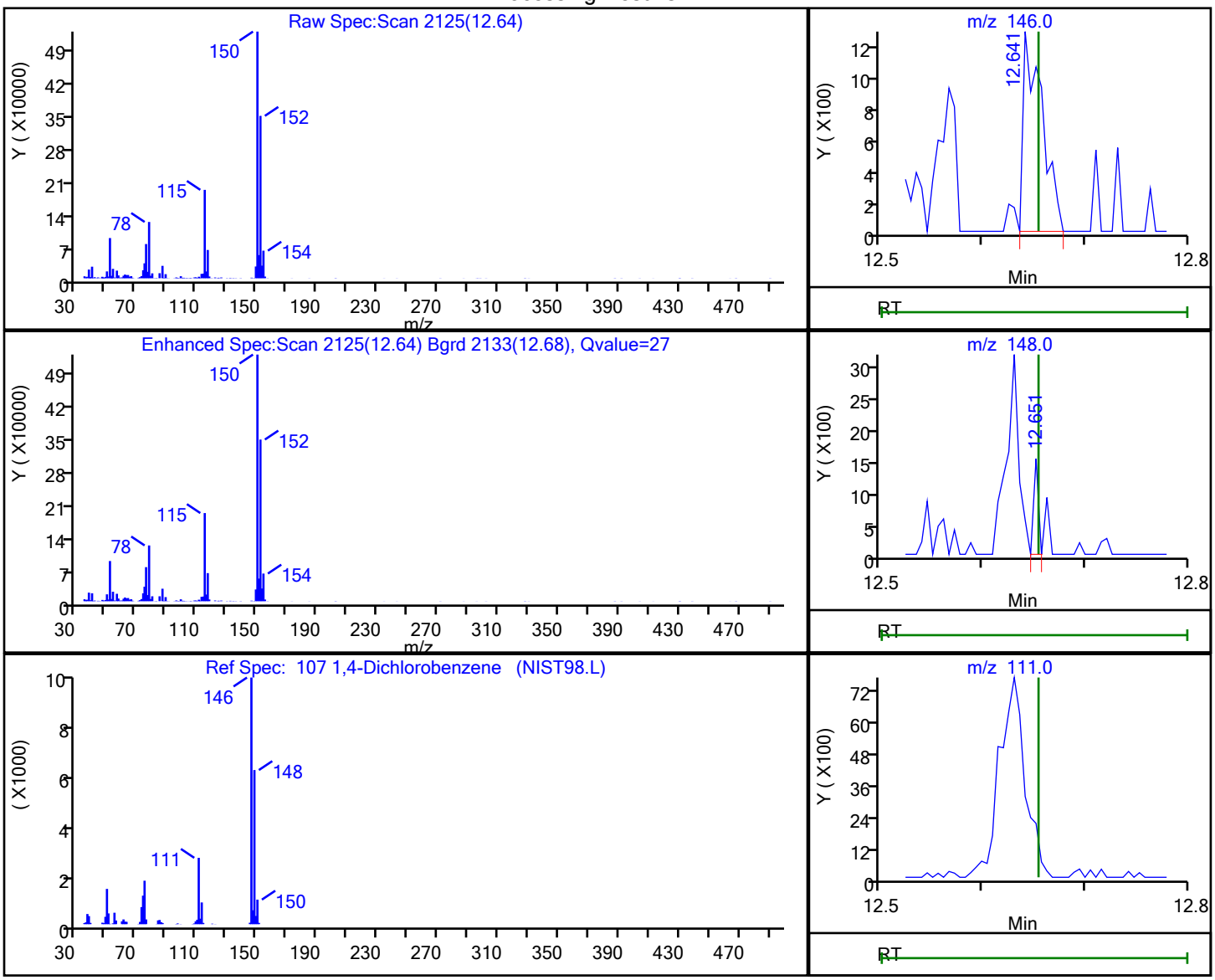

RT	Mass	Response	Amount
12.64	146.00	1631	0.148549
12.65	148.00	477	
12.65	111.00	0	

Reviewer: journetp, 24-Dec-2019 10:14:16

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122309.D				
Injection Date:	23-Dec-2019 10:05:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-3-A	Lab Sample ID:	180-100205-3		
Client ID:	11187072-N.TREATMENT AREA #3				
Operator ID:	034635	ALS Bottle#:	9	Worklist Smp#:	9
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

72 4-Methyl-2-pentanone (MIBK), CAS: 108-10-1

Processing Results

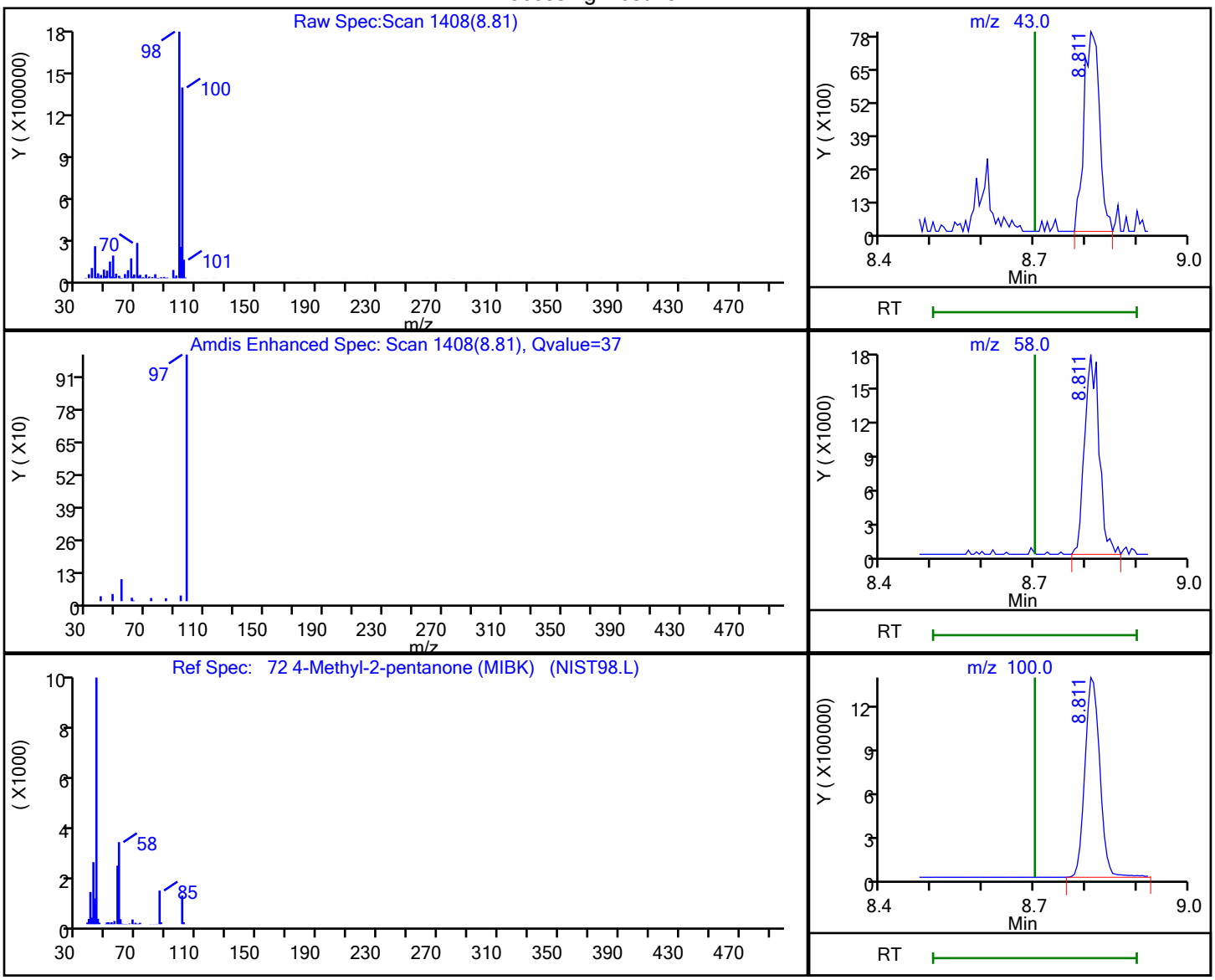

RT	Mass	Response	Amount
8.81	43.00	16767	23.213805
8.81	58.00	35483	
8.81	100.00	2834643	

Reviewer: journetp, 24-Dec-2019 10:13:58

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122309.D				
Injection Date:	23-Dec-2019 10:05:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-3-A	Lab Sample ID:	180-100205-3		
Client ID:	11187072-N.TREATMENT AREA #3				
Operator ID:	034635	ALS Bottle#:	9	Worklist Smp#:	9
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

27 Acetonitrile, CAS: 75-05-8

Processing Results

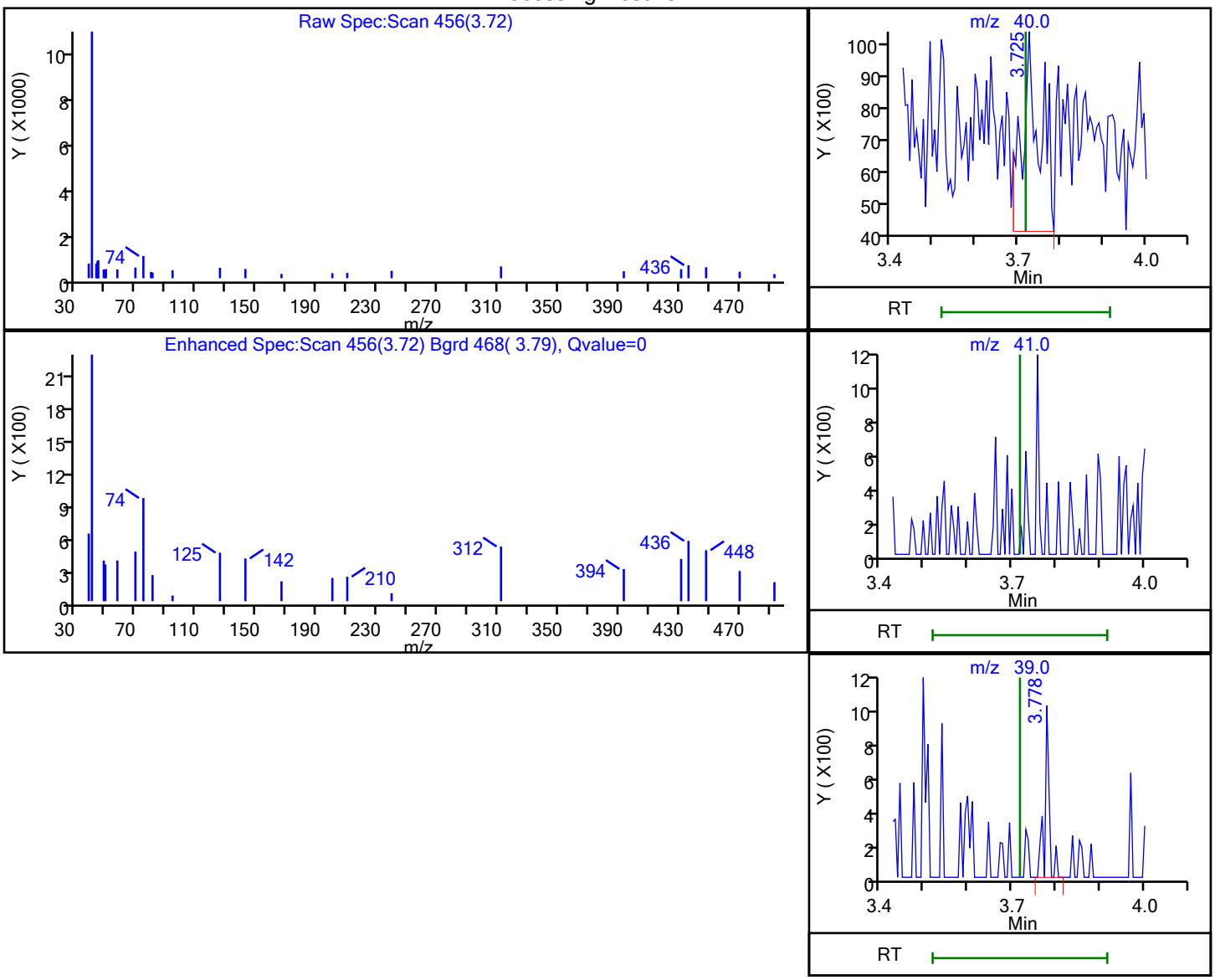

RT	Mass	Response	Amount
3.72	40.00	18057	84.362787
3.72	41.00	0	
3.78	39.00	679	

Reviewer: journetp, 24-Dec-2019 10:13:48

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122309.D				
Injection Date:	23-Dec-2019 10:05:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-3-A	Lab Sample ID:	180-100205-3		
Client ID:	11187072-N.TREATMENT AREA #3				
Operator ID:	034635	ALS Bottle#:	9	Worklist Smp#:	9
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

14 Bromomethane, CAS: 74-83-9

Processing Results

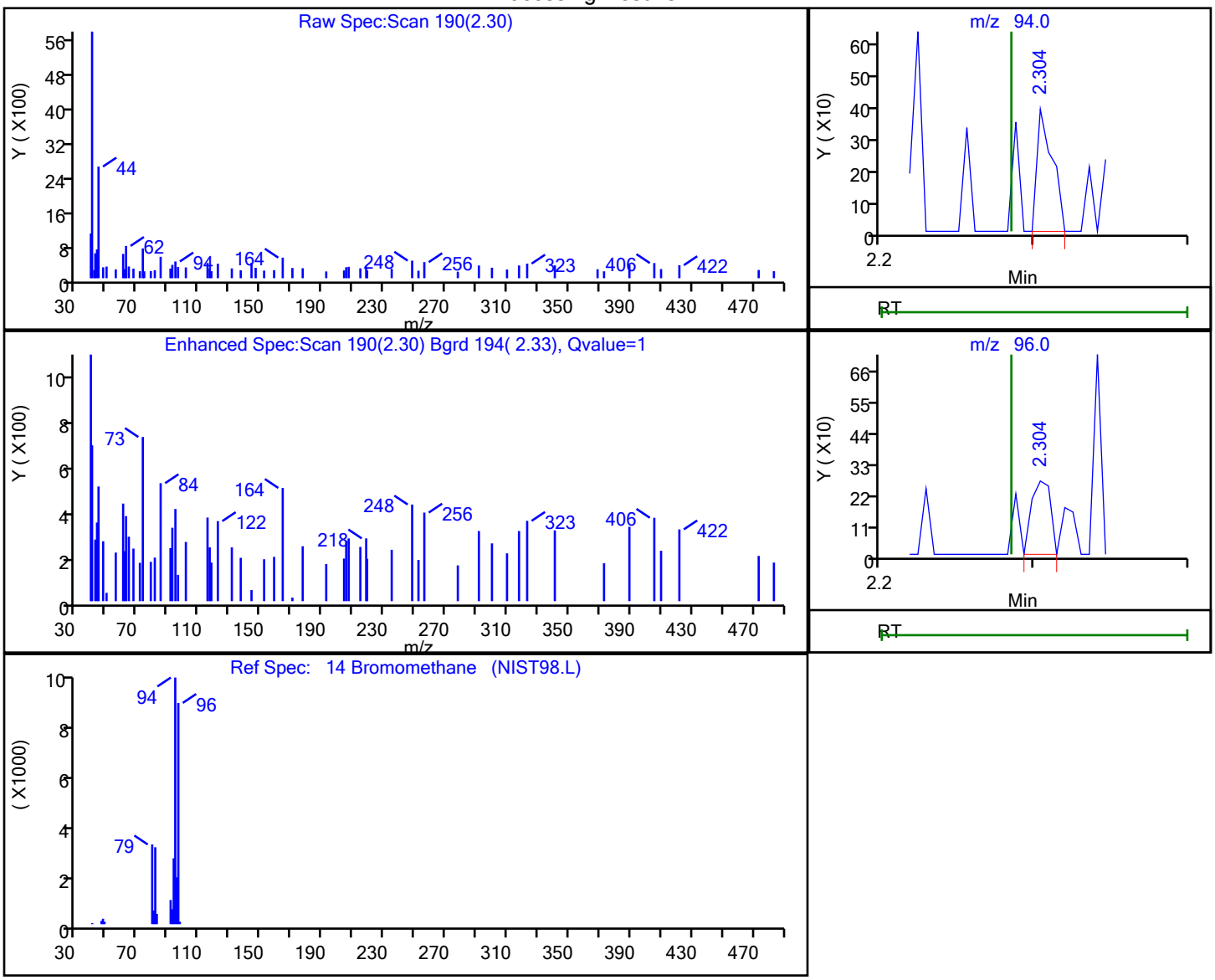

RT	Mass	Response	Amount
2.30	94.00	272	0.067285
2.30	96.00	226	

Reviewer: journetp, 24-Dec-2019 10:13:44

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122309.D				
Injection Date:	23-Dec-2019 10:05:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-3-A	Lab Sample ID:	180-100205-3		
Client ID:	11187072-N.TREATMENT AREA #3				
Operator ID:	034635	ALS Bottle#:	9	Worklist Smp#:	9
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

10 Dichlorodifluoromethane, CAS: 75-71-8

Processing Results

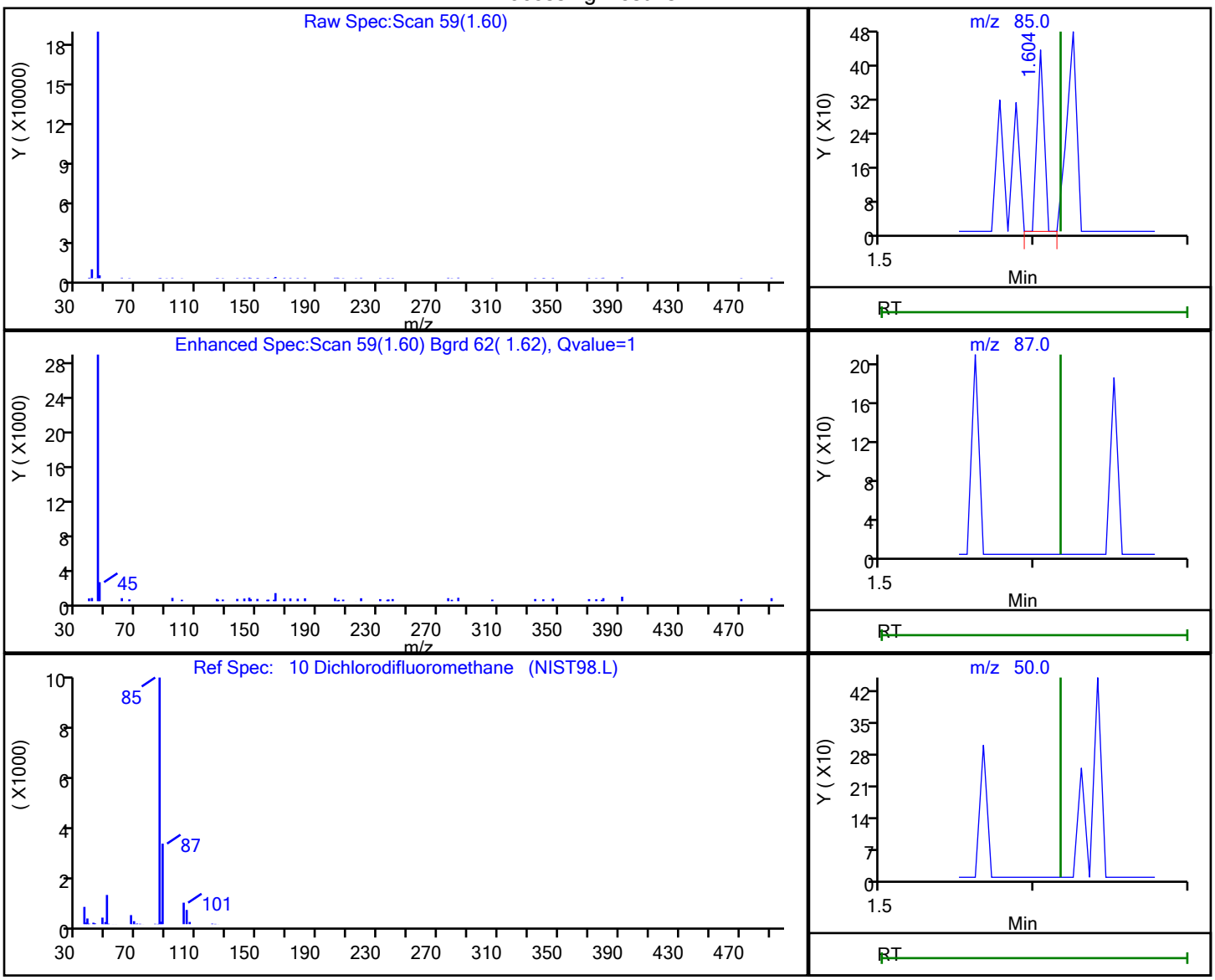

RT	Mass	Response	Amount
1.60	85.00	137	0.021672
1.62	87.00	0	
1.62	50.00	0	

Reviewer: journetp, 24-Dec-2019 10:13:44

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122309.D				
Injection Date:	23-Dec-2019 10:05:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-3-A	Lab Sample ID:	180-100205-3		
Client ID:	11187072-N.TREATMENT AREA #3				
Operator ID:	034635	ALS Bottle#:	9	Worklist Smp#:	9
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

86 Ethylbenzene, CAS: 100-41-4

Processing Results

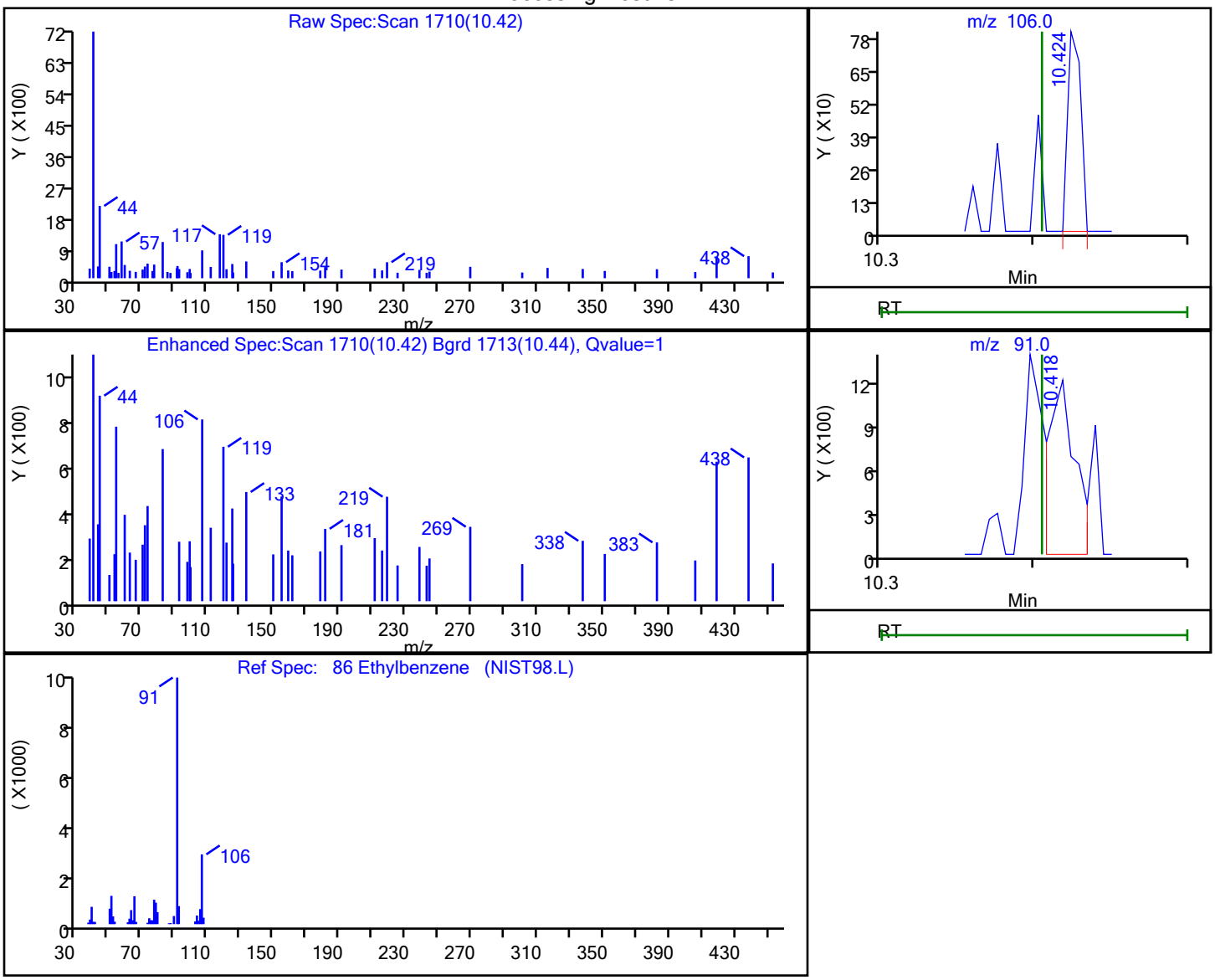

RT	Mass	Response	Amount
10.42	106.00	477	0.057500
10.42	91.00	1404	

Reviewer: journetp, 24-Dec-2019 10:14:11

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122309.D				
Injection Date:	23-Dec-2019 10:05:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-3-A	Lab Sample ID:	180-100205-3		
Client ID:	11187072-N.TREATMENT AREA #3				
Operator ID:	034635	ALS Bottle#:	9	Worklist Smp#:	9
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

115 Hexachlorobutadiene, CAS: 87-68-3

Processing Results

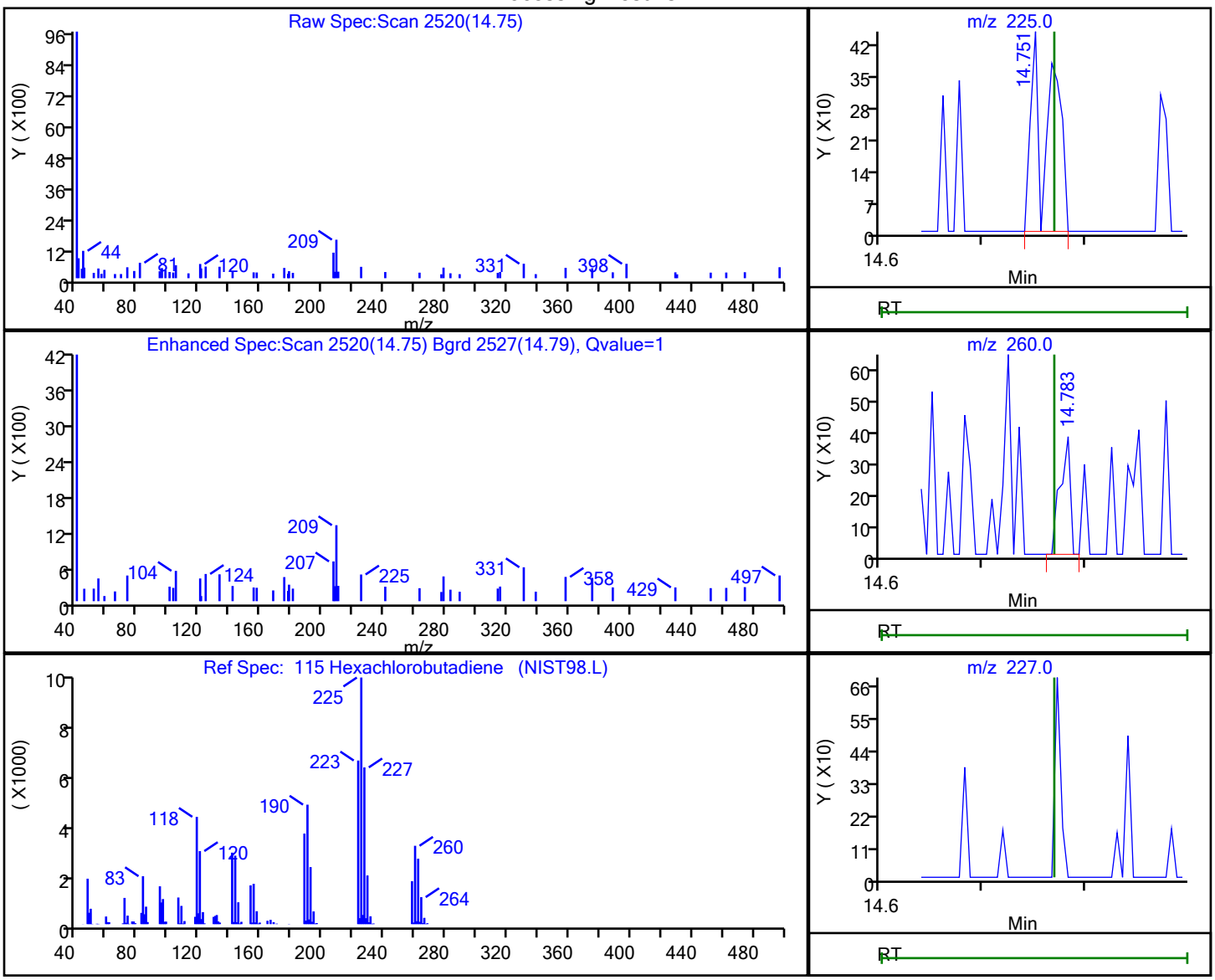

RT	Mass	Response	Amount
14.75	225.00	594	0.104014
14.78	260.00	260	
14.77	227.00	0	

Reviewer: journetp, 24-Dec-2019 10:14:19

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122309.D				
Injection Date:	23-Dec-2019 10:05:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-3-A	Lab Sample ID:	180-100205-3		
Client ID:	11187072-N.TREATMENT AREA #3				
Operator ID:	034635	ALS Bottle#:	9	Worklist Smp#:	9
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

59 Isobutyl alcohol, CAS: 78-83-1

Processing Results

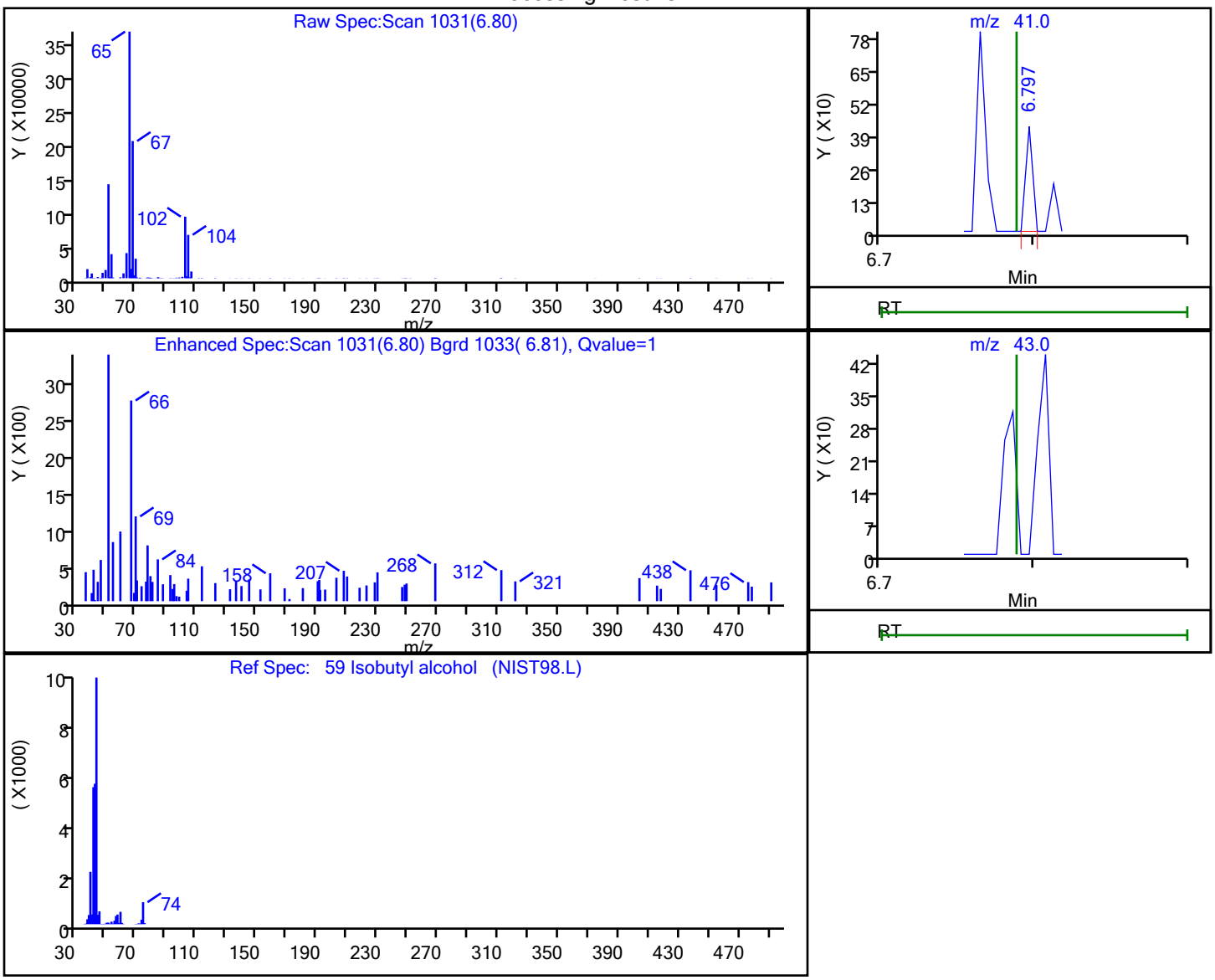

RT	Mass	Response	Amount
6.80	41.00	136	2.455578
6.79	43.00	0	

Reviewer: journetp, 24-Dec-2019 10:13:56

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122309.D				
Injection Date:	23-Dec-2019 10:05:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-3-A	Lab Sample ID:	180-100205-3		
Client ID:	11187072-N.TREATMENT AREA #3				
Operator ID:	034635	ALS Bottle#:	9	Worklist Smp#:	9
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

47 Methacrylonitrile, CAS: 126-98-7

Processing Results

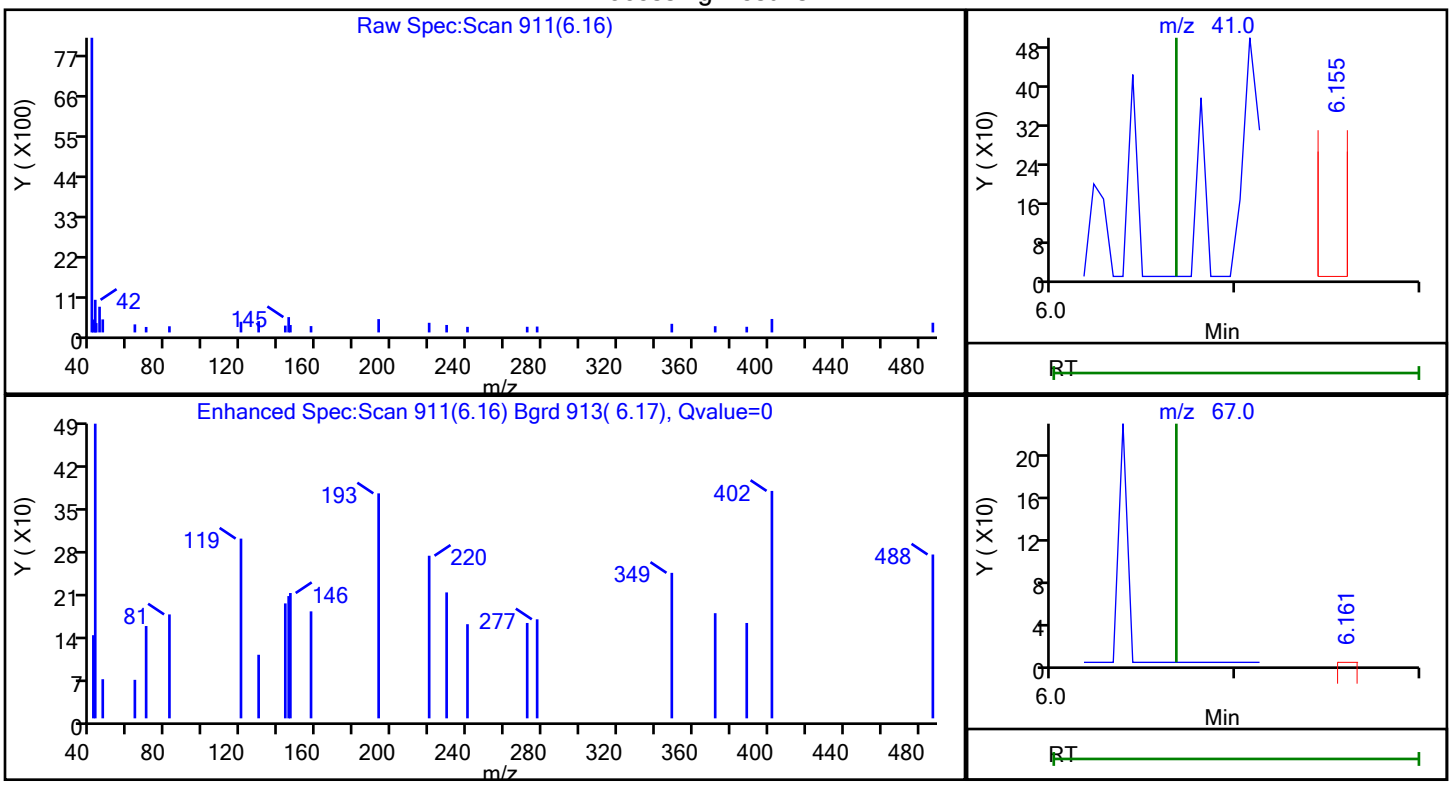

RT	Mass	Response	Amount
6.16	41.00	164	-56.042291
6.16	67.00	196	

Reviewer: journetp, 24-Dec-2019 10:13:52

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122309.D				
Injection Date:	23-Dec-2019 10:05:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-3-A	Lab Sample ID:	180-100205-3		
Client ID:	11187072-N.TREATMENT AREA #3				
Operator ID:	034635	ALS Bottle#:	9	Worklist Smp#:	9
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

89 Styrene, CAS: 100-42-5

Processing Results

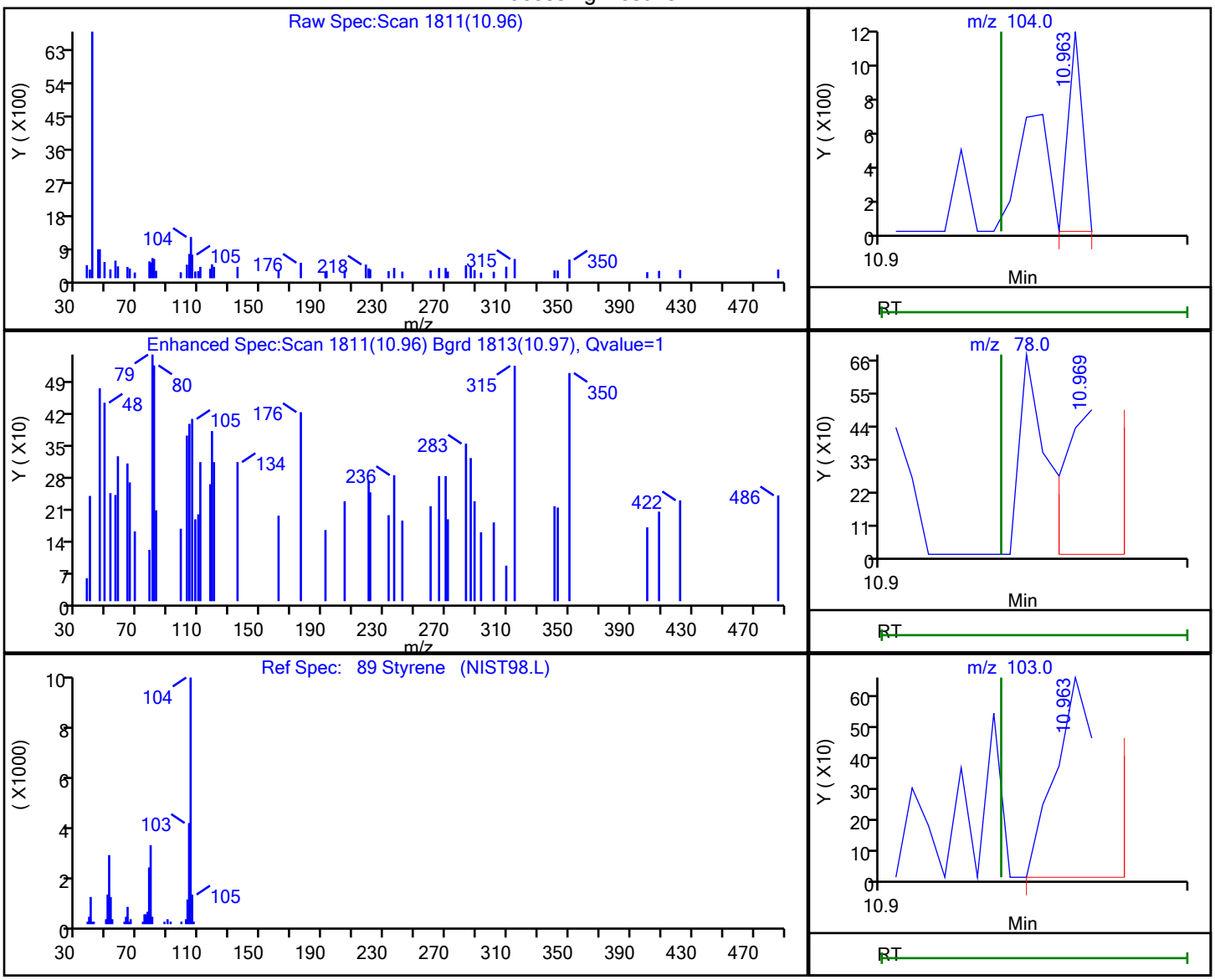

RT	Mass	Response	Amount
10.96	104.00	359	0.025342
10.97	78.00	630	
10.96	103.00	639	

Reviewer: journetp, 24-Dec-2019 10:14:11

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122309.D				
Injection Date:	23-Dec-2019 10:05:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-3-A	Lab Sample ID:	180-100205-3		
Client ID:	11187072-N.TREATMENT AREA #3				
Operator ID:	034635	ALS Bottle#:	9	Worklist Smp#:	9
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

73 Toluene, CAS: 108-88-3

Processing Results

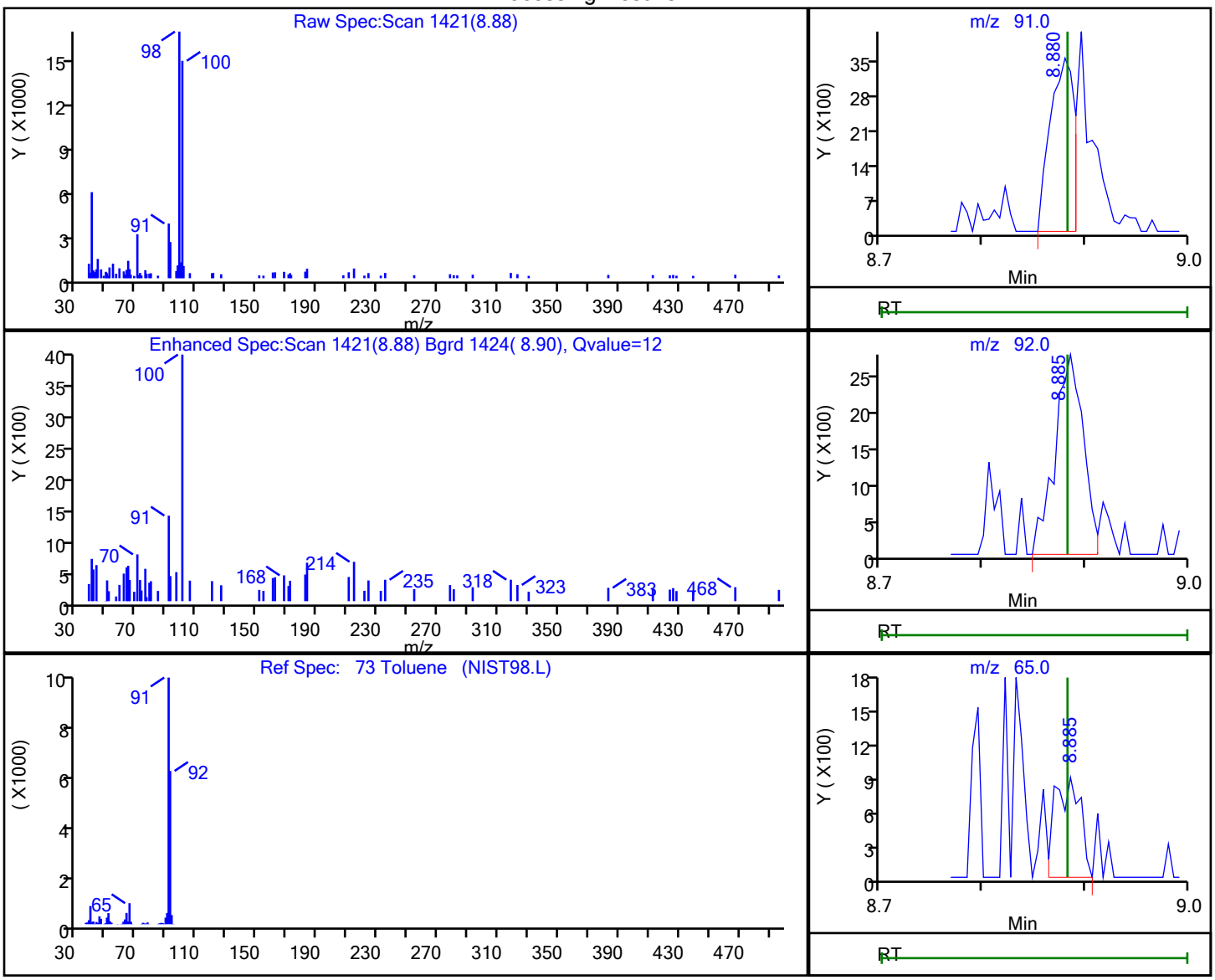

RT	Mass	Response	Amount
8.88	91.00	5891	0.289526
8.89	92.00	5307	
8.89	65.00	1506	

Reviewer: journetp, 24-Dec-2019 10:14:00

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122309.D				
Injection Date:	23-Dec-2019 10:05:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-3-A	Lab Sample ID:	180-100205-3		
Client ID:	11187072-N.TREATMENT AREA #3				
Operator ID:	034635	ALS Bottle#:	9	Worklist Smp#:	9
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

87 m-Xylene & p-Xylene, CAS: 179601-23-1

Processing Results

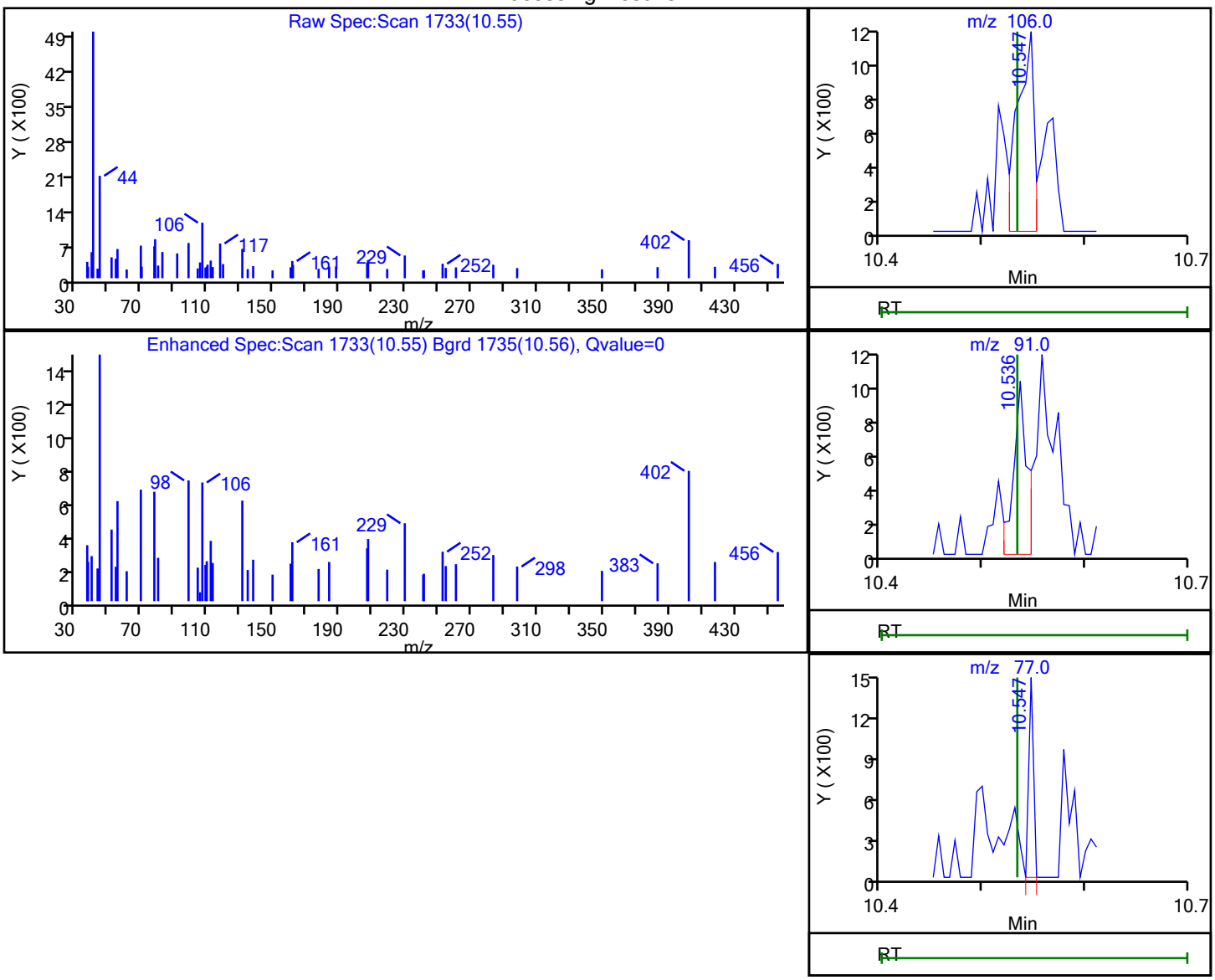

RT	Mass	Response	Amount
10.55	106.00	1267	0.119835
10.54	91.00	961	
10.55	77.00	455	

Reviewer: journetp, 24-Dec-2019 10:14:11

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122309.D				
Injection Date:	23-Dec-2019 10:05:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-3-A	Lab Sample ID:	180-100205-3		
Client ID:	11187072-N.TREATMENT AREA #3				
Operator ID:	034635	ALS Bottle#:	9	Worklist Smp#:	9
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

88 o-Xylene, CAS: 95-47-6

Processing Results

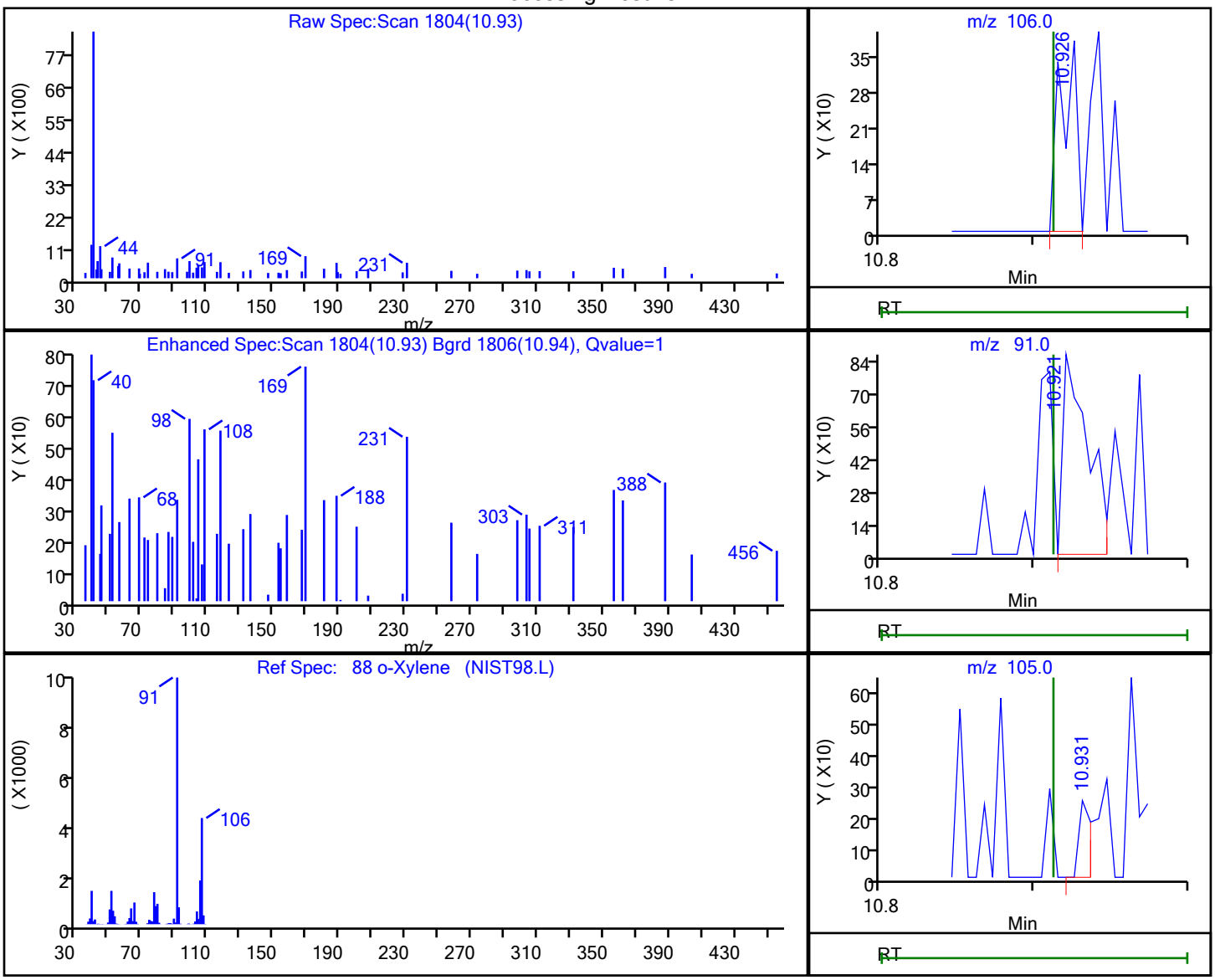

RT	Mass	Response	Amount
10.93	106.00	278	0.029057
10.92	91.00	1004	
10.93	105.00	136	

Reviewer: journetp, 24-Dec-2019 10:14:11

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Client Sample ID: 11187072-N.TREATMENT AREA #4 Lab Sample ID: 180-100205-5

Matrix: Solid (TCLP) Lab File ID: 4122310.D

Analysis Method: EPA 8260C Date Collected: 12/18/2019 14:30

Sample wt/vol: 0.125(mL) Date Analyzed: 12/23/2019 10:32

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 302272 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	ND		0.20	0.16
71-55-6	1,1,1-Trichloroethane	ND		0.20	0.10
107-06-2	1,2-Dichloroethane	ND		0.20	0.058
79-34-5	1,1,2,2-Tetrachloroethane	ND		0.20	0.12
78-93-3	2-Butanone (MEK)	ND		0.20	0.12
71-43-2	Benzene	ND		0.20	0.079
79-00-5	1,1,2-Trichloroethane	ND		0.20	0.096
56-23-5	Carbon tetrachloride	ND		0.20	0.13
108-90-7	Chlorobenzene	ND		0.20	0.063
67-66-3	Chloroform	ND		0.20	0.085
127-18-4	Tetrachloroethene	ND		0.20	0.080
79-01-6	Trichloroethene	ND		0.20	0.060
96-18-4	1,2,3-Trichloropropane	ND		0.20	0.11
75-01-4	Vinyl chloride	ND		0.20	0.15
75-35-4	1,1-Dichloroethene	ND		0.20	0.11
542-75-6	1,3-Dichloropropene, Total	ND		0.40	0.13
106-46-7	1,4-Dichlorobenzene	ND		0.20	0.041
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		0.20	0.074
67-64-1	Acetone	ND		0.80	0.13
75-05-8	Acetonitrile	ND		2.0	2.0
107-13-1	Acrylonitrile	ND		2.0	1.3
75-25-2	Bromoform	ND		0.20	0.10
74-83-9	Bromomethane	ND		0.20	0.18
75-15-0	Carbon disulfide	ND		0.20	0.12
75-27-4	Dichlorobromomethane	ND		0.20	0.094
75-71-8	Dichlorodifluoromethane	ND		0.20	0.12
100-41-4	Ethylbenzene	ND		0.20	0.086
106-93-4	1,2-Dibromoethane	ND		0.20	0.11
87-68-3	Hexachlorobutadiene	ND		0.20	0.073
78-83-1	Isobutyl alcohol	ND		5.0	3.6
126-98-7	Methacrylonitrile	ND		2.0	1.6
75-09-2	Methylene Chloride	ND		0.20	0.15
100-42-5	Styrene	ND		0.20	0.053
108-88-3	Toluene	ND		0.20	0.067
10061-02-6	trans-1,3-Dichloropropene	ND		0.20	0.069

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-100205-1
SDG No.:
Client Sample ID: 11187072-N.TREATMENT AREA #4
Lab Sample ID: 180-100205-5
Matrix: Solid (TCLP)
Lab File ID: 4122310.D
Analysis Method: EPA 8260C
Date Collected: 12/18/2019 14:30
Sample wt/vol: 0.125(mL)
Date Analyzed: 12/23/2019 10:32
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: DB-624 ID: 0.18(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 302272
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-69-4	Trichlorofluoromethane	ND		0.20	0.058
1330-20-7	Xylenes, Total	ND		0.40	0.17

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	98		58-139
460-00-4	4-Bromofluorobenzene (Surr)	94		64-122
1868-53-7	Dibromofluoromethane (Surr)	90		70-127
2037-26-5	Toluene-d8 (Surr)	85		71-125

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122310.D
Lims ID: 180-100205-A-5-A
Client ID: 11187072-N.TREATMENT AREA #4
Sample Type: Client
Inject. Date: 23-Dec-2019 10:32:30 ALS Bottle#: 10 Worklist Smp#: 10
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0030118-010
Operator ID: 034635 Instrument ID: CHHP4

Method: \\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\MSVOA_CHHP4.m
Limit Group: VOA 8260C_D ICAL
Last Update: 24-Dec-2019 13:17:28 Calib Date: 14-Nov-2019 12:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114008.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0309

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.109	4.096	0.013	88	493086	5000.0	
* 2 Fluorobenzene (IS)	96	7.154	7.157	-0.003	98	2611358	250.0	
* 3 Chlorobenzene-d5	119	10.274	10.271	0.003	98	680524	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.624	12.627	-0.003	93	1104129	250.0	
$ 5 Dibromofluoromethane (Surr	113	6.422	6.420	0.002	0	986624	226.0	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.801	6.799	0.002	0	1015492	245.0	
$ 7 Toluene-d8 (Surr)	98	8.810	8.813	-0.003	0	3876549	213.5	
$ 8 4-Bromofluorobenzene (Surr	95	11.465	11.468	-0.003	0	1590939	234.0	
10 Dichlorodifluoromethane	85		1.617				ND	U
12 Vinyl chloride	62		1.938				ND	U
14 Bromomethane	94		2.285				ND	U
17 Trichlorofluoromethane	101		2.552				ND	
21 1,1-Dichloroethene	96		3.209				ND	
23 Acetone	43	3.318	3.311	0.007	83	21010	14.3	Ma
25 Carbon disulfide	76		3.492				ND	
27 Acetonitrile	40		3.717				ND	U
30 Methylene Chloride	84	4.002	3.984	0.018	61	24647	5.05	
32 Acrylonitrile	53		4.363				ND	
43 2-Butanone (MEK)	43		5.821				ND	U
47 Methacrylonitrile	41		6.067				ND	U
49 Chloroform	83	6.235	6.238	-0.003	94	31258	3.72	
50 1,1,1-Trichloroethane	97		6.398				ND	
53 Carbon tetrachloride	117		6.575				ND	
59 Isobutyl alcohol	41		6.788				ND	U
54 Benzene	78		6.804				ND	U
55 1,2-Dichloroethane	62		6.890				ND	U
61 Trichloroethene	130		7.547				ND	
68 Dichlorobromomethane	83		8.108				ND	
71 cis-1,3-Dichloropropene	75		8.551				ND	
72 4-Methyl-2-pentanone (MIBK	43		8.701				ND	U
73 Toluene	91		8.882				ND	U
74 trans-1,3-Dichloropropene	75		9.133				ND	
76 1,1,2-Trichloroethane	97		9.326				ND	U

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
77 Tetrachloroethene	164		9.395				ND	U
82 Ethylene Dibromide	107		9.817				ND	U
84 Chlorobenzene	112		10.303				ND	U
85 1,1,1,2-Tetrachloroethane	131		10.394				ND	U
86 Ethylbenzene	106		10.405				ND	U
87 m-Xylene & p-Xylene	106		10.533				ND	U
88 o-Xylene	106		10.912				ND	U
89 Styrene	104		10.939				ND	U
90 Bromoform	173		11.126				ND	U
93 1,1,2,2-Tetrachloroethane	83		11.602				ND	U
95 1,2,3-Trichloropropane	110		11.655				ND	U
107 1,4-Dichlorobenzene	146		12.654				ND	U
115 Hexachlorobutadiene	225		14.769				ND	U
S 130 Xylenes, Total	106		1.000				ND	
S 131 1,3-Dichloropropene, Total	1		0.000				ND	

QC Flag Legend

Review Flags

M - Manually Integrated
U - Marked Undetected
a - User Assigned ID

Reagents:

VOA8260INT_00102	Amount Added: 10.00	Units: uL	Run Reagent
VOA8260SURR_00102	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 24-Dec-2019 13:17:29 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122310.D				
Injection Date:	23-Dec-2019 10:32:30	Instrument ID:	CHHP4	Operator ID:	034635
Lims ID:	180-100205-A-5-A	Lab Sample ID:	180-100205-5	Worklist Smp#:	10
Client ID:	11187072-N.TREATMENT AREA #4				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

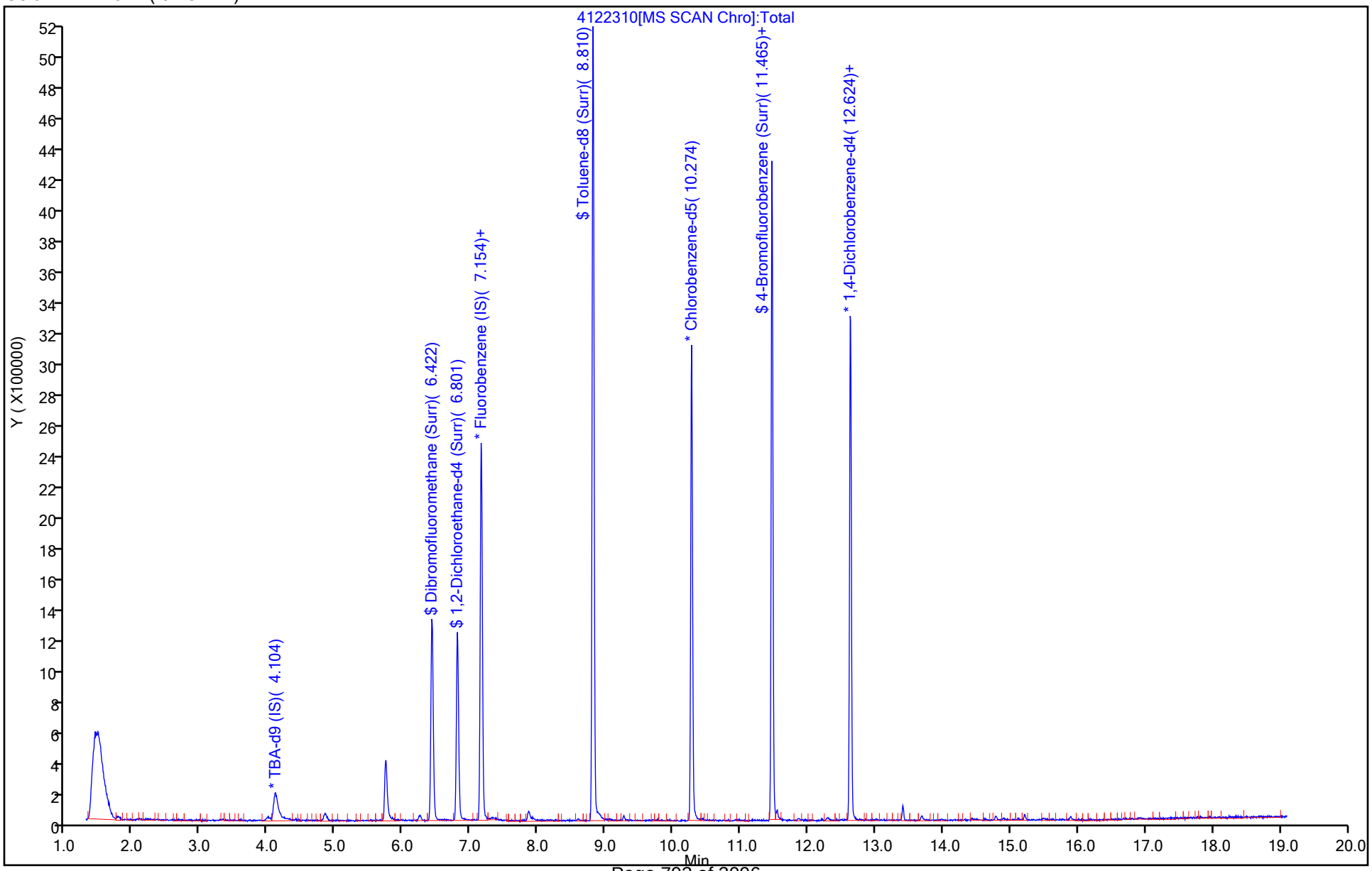

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122310.D
Lims ID: 180-100205-A-5-A
Client ID: 11187072-N.TREATMENT AREA #4
Sample Type: Client
Inject. Date: 23-Dec-2019 10:32:30 ALS Bottle#: 10 Worklist Smp#: 10
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0030118-010
Operator ID: 034635 Instrument ID: CHHP4

Method: \\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\MSVOA_CHHP4.m
Limit Group: VOA 8260C_D ICAL
Last Update: 24-Dec-2019 13:17:28 Calib Date: 14-Nov-2019 12:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114008.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0309

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	250.0	226.0	90.40
$ 6 1,2-Dichloroethane-d4 (Surr)	250.0	245.0	98.01
$ 7 Toluene-d8 (Surr)	250.0	213.5	85.42
$ 8 4-Bromofluorobenzene (Surr)	250.0	234.0	93.60

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122310.D				
Injection Date:	23-Dec-2019 10:32:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-5-A	Lab Sample ID:	180-100205-5		
Client ID:	11187072-N.TREATMENT AREA #4				
Operator ID:	034635	ALS Bottle#:	10	Worklist Smp#:	10
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

55 1,2-Dichloroethane, CAS: 107-06-2

Processing Results

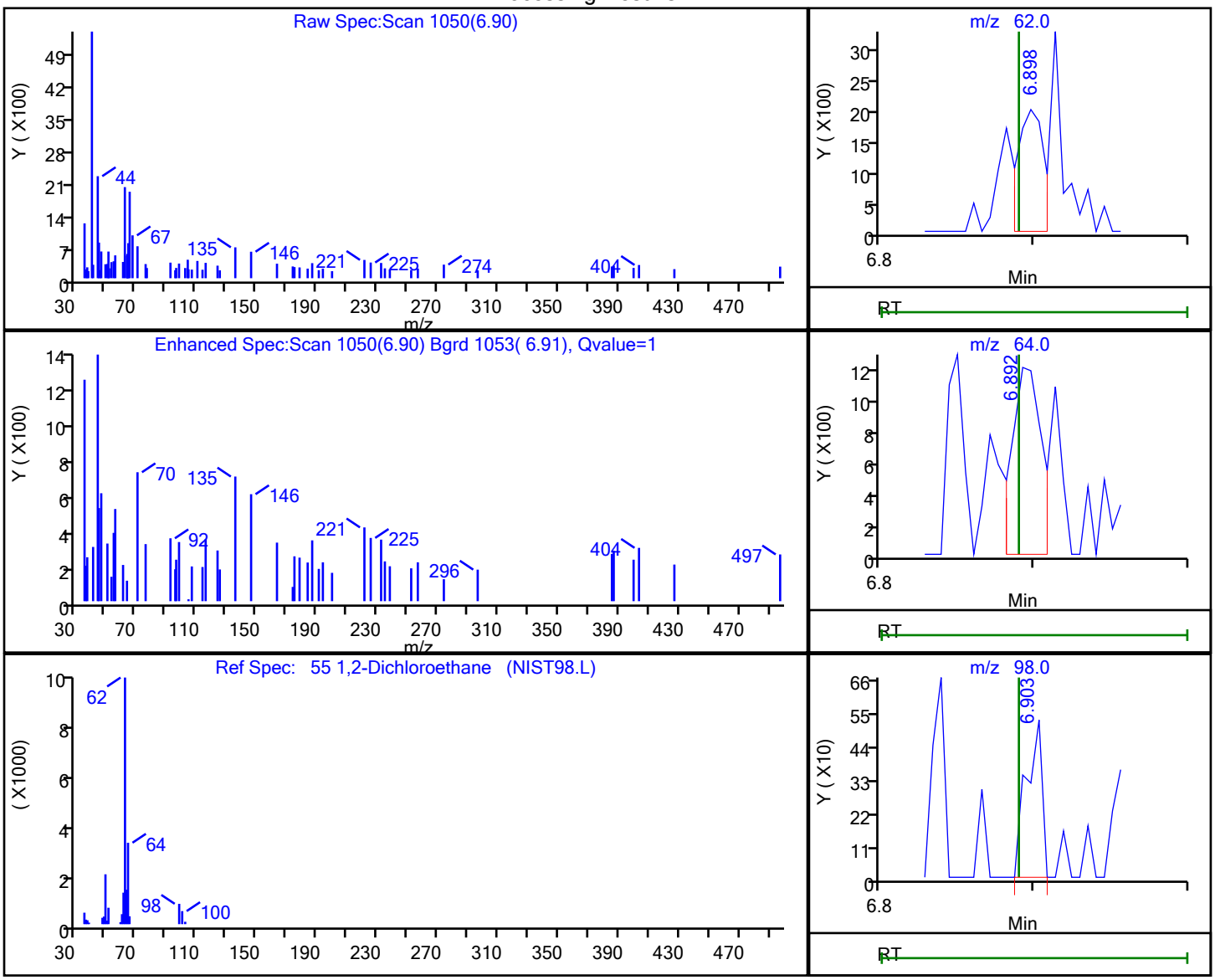

RT	Mass	Response	Amount
6.90	62.00	2346	0.545710
6.89	64.00	1590	
6.90	98.00	379	

Reviewer: journetp, 24-Dec-2019 10:15:03

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 24-Dec-2019 13:17:30 Chrom Revision: 2.3 15-Dec-2019 06:20:02

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122310.D				
Injection Date:	23-Dec-2019 10:32:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-5-A	Lab Sample ID:	180-100205-5		
Client ID:	11187072-N.TREATMENT AREA #4				
Operator ID:	034635	ALS Bottle#:	10	Worklist Smp#:	10
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

93 1,1,2,2-Tetrachloroethane, CAS: 79-34-5

Processing Results

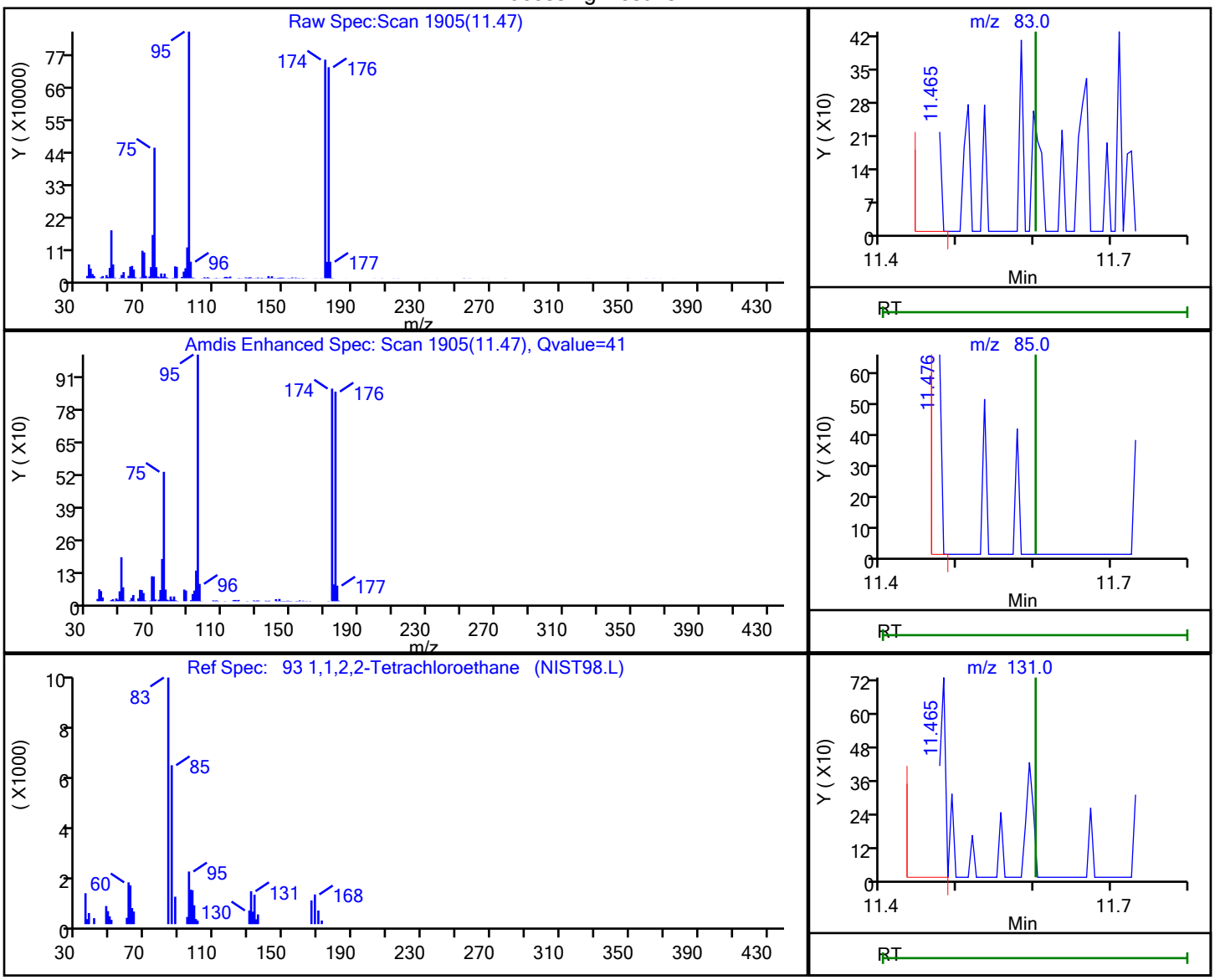

RT	Mass	Response	Amount
11.47	83.00	840	0.290240
11.48	85.00	210	
11.47	131.00	2701	

Reviewer: journetp, 24-Dec-2019 10:15:10

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122310.D				
Injection Date:	23-Dec-2019 10:32:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-5-A	Lab Sample ID:	180-100205-5		
Client ID:	11187072-N.TREATMENT AREA #4				
Operator ID:	034635	ALS Bottle#:	10	Worklist Smp#:	10
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

43 2-Butanone (MEK), CAS: 78-93-3

Processing Results

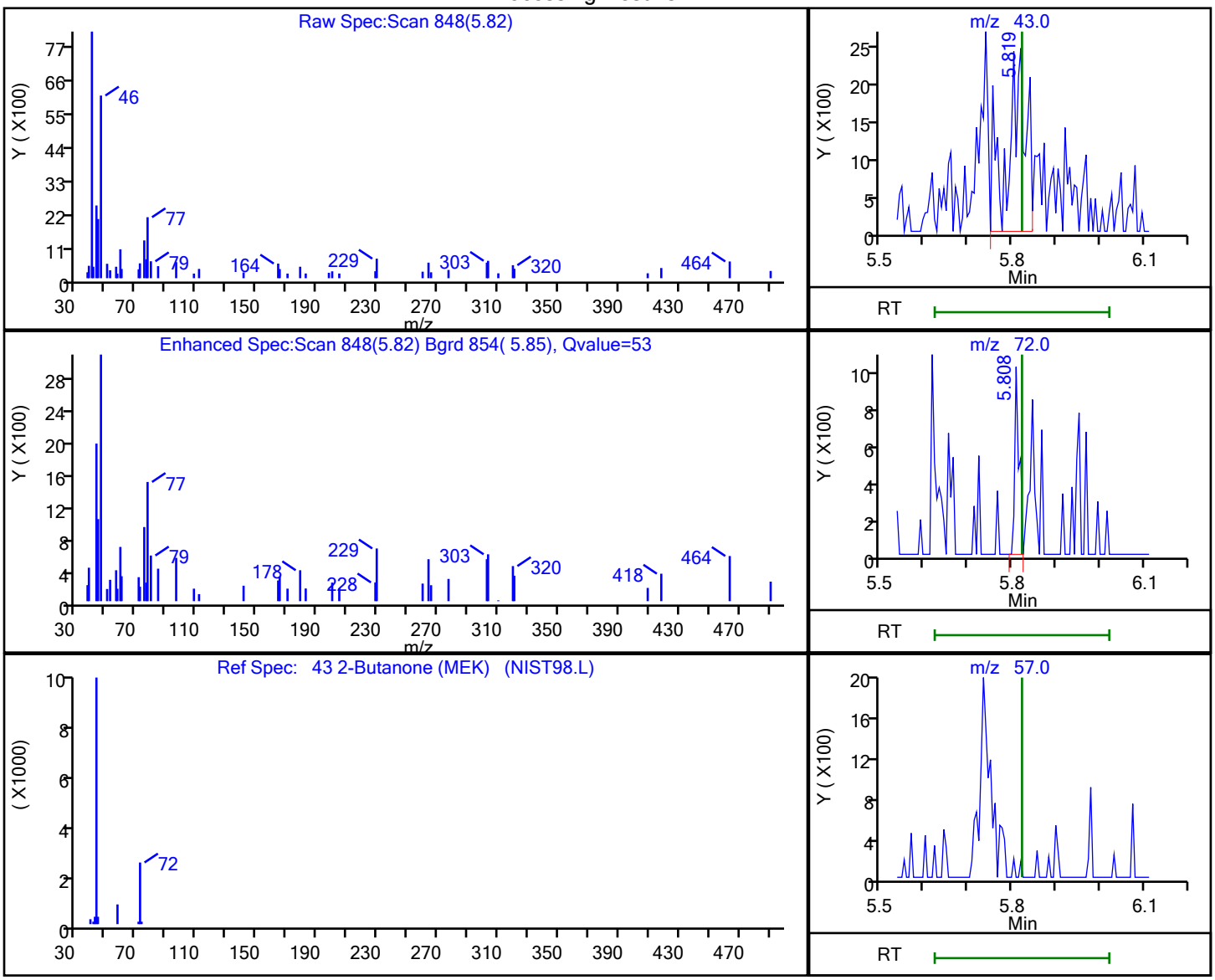

RT	Mass	Response	Amount
5.82	43.00	6823	4.372815
5.81	72.00	664	
5.82	57.00	0	

Reviewer: journetp, 24-Dec-2019 10:14:58

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122310.D				
Injection Date:	23-Dec-2019 10:32:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-5-A	Lab Sample ID:	180-100205-5		
Client ID:	11187072-N.TREATMENT AREA #4				
Operator ID:	034635	ALS Bottle#:	10	Worklist Smp#:	10
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

54 Benzene, CAS: 71-43-2

Processing Results

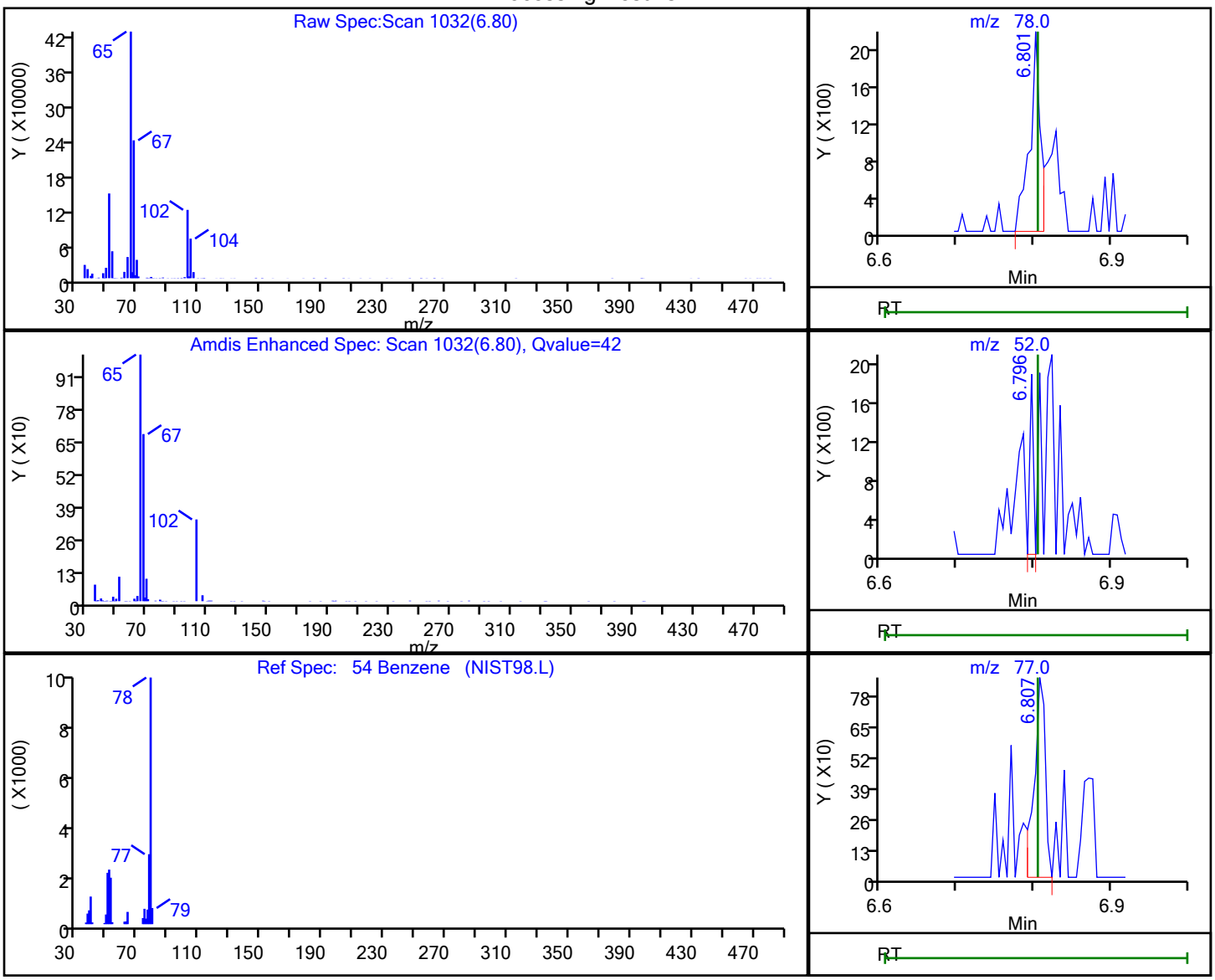

RT	Mass	Response	Amount
6.80	78.00	2056	0.115485
6.80	52.00	590	
6.81	77.00	854	

Reviewer: journetp, 24-Dec-2019 10:15:02

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 24-Dec-2019 13:17:30 Chrom Revision: 2.3 15-Dec-2019 06:20:02

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122310.D				
Injection Date:	23-Dec-2019 10:32:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-5-A	Lab Sample ID:	180-100205-5		
Client ID:	11187072-N.TREATMENT AREA #4				
Operator ID:	034635	ALS Bottle#:	10	Worklist Smp#:	10
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

76 1,1,2-Trichloroethane, CAS: 79-00-5

Processing Results

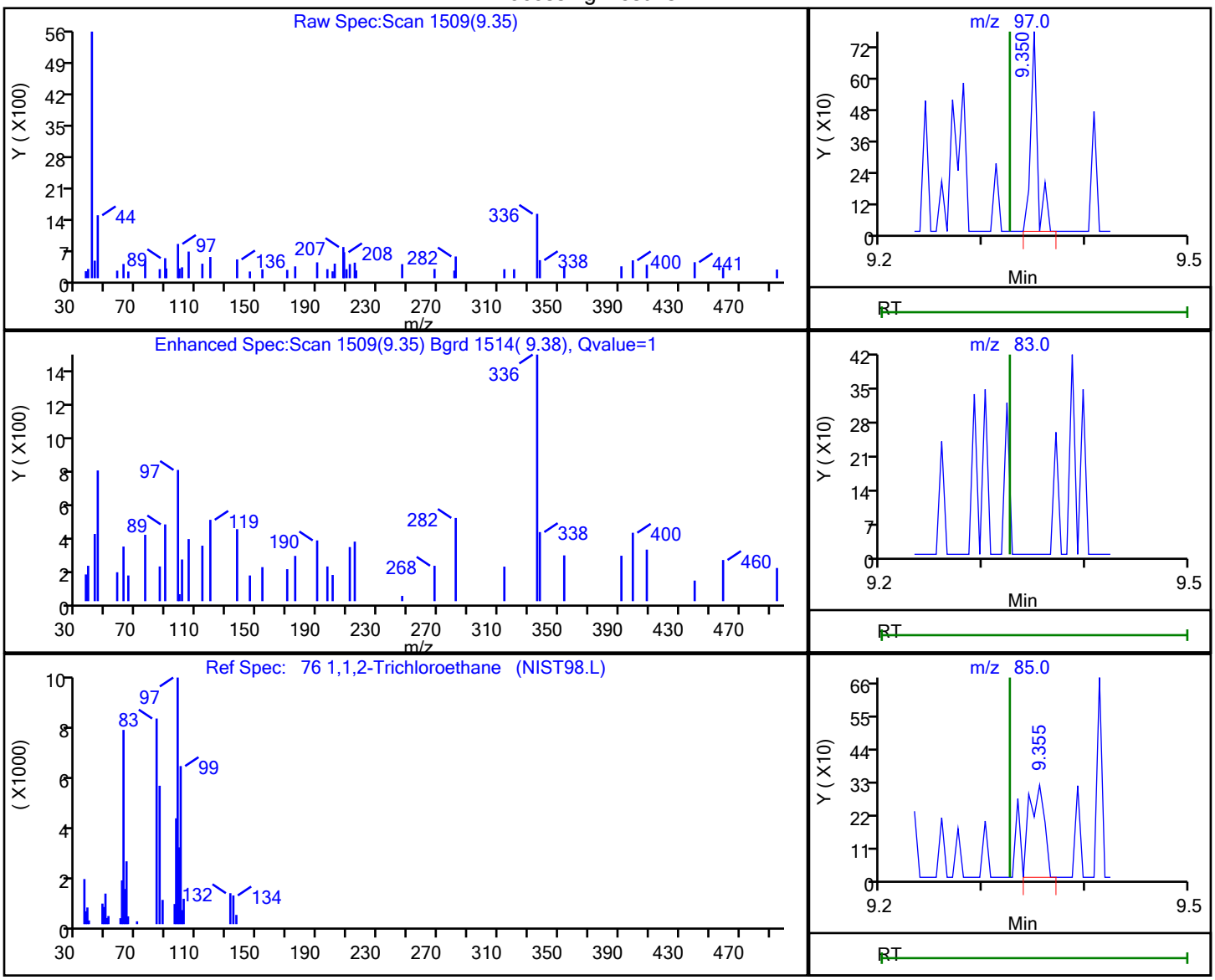

RT	Mass	Response	Amount
9.35	97.00	359	0.125552
9.33	83.00	0	
9.35	85.00	315	

Reviewer: journetp, 24-Dec-2019 10:15:10

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122310.D				
Injection Date:	23-Dec-2019 10:32:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-5-A	Lab Sample ID:	180-100205-5		
Client ID:	11187072-N.TREATMENT AREA #4				
Operator ID:	034635	ALS Bottle#:	10	Worklist Smp#:	10
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

84 Chlorobenzene, CAS: 108-90-7

Processing Results

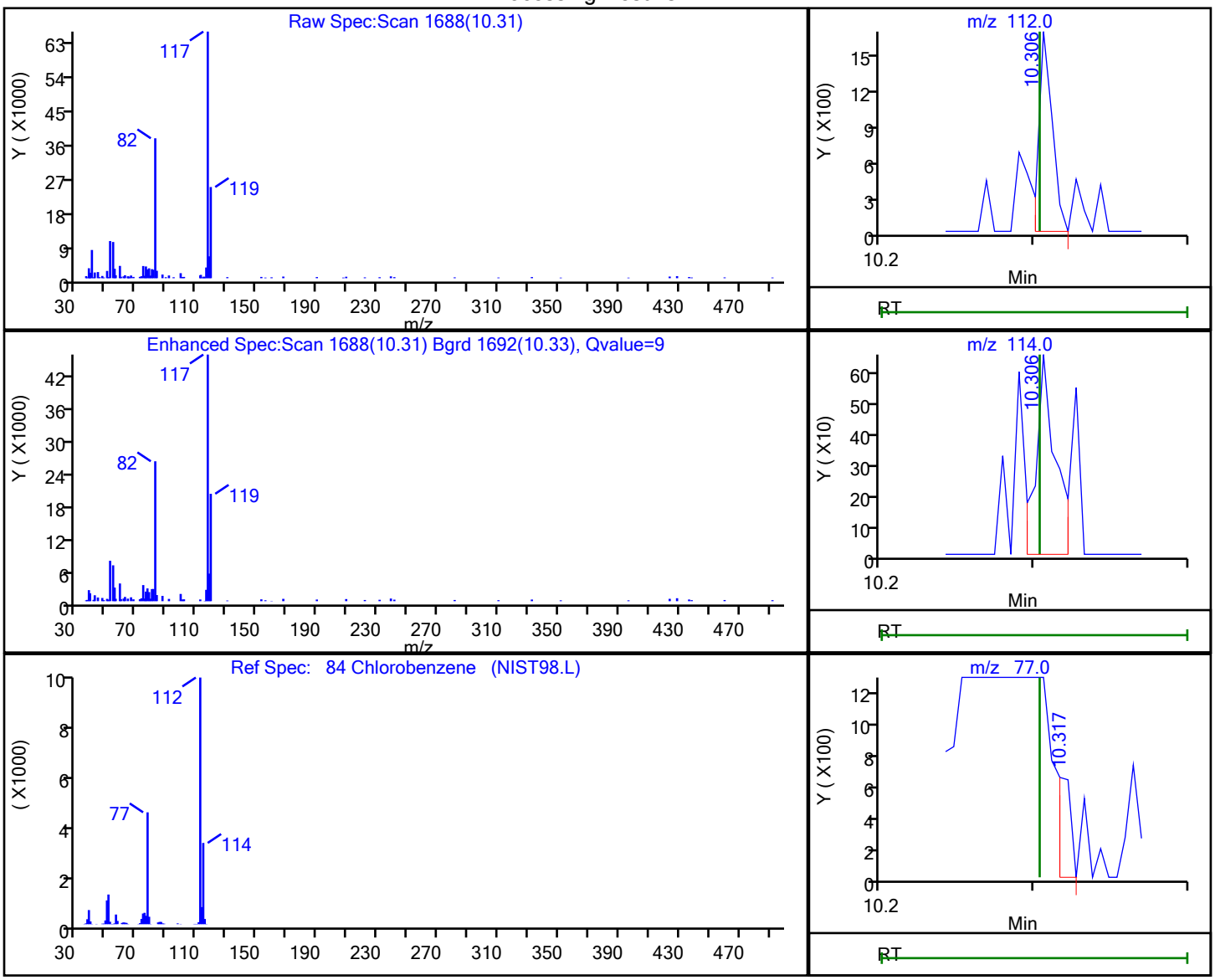

RT	Mass	Response	Amount
10.31	112.00	973	0.079744
10.31	114.00	588	
10.32	77.00	400	

Reviewer: journetp, 24-Dec-2019 10:15:10

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122310.D				
Injection Date:	23-Dec-2019 10:32:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-5-A	Lab Sample ID:	180-100205-5		
Client ID:	11187072-N.TREATMENT AREA #4				
Operator ID:	034635	ALS Bottle#:	10	Worklist Smp#:	10
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

12 Vinyl chloride, CAS: 75-01-4

Processing Results

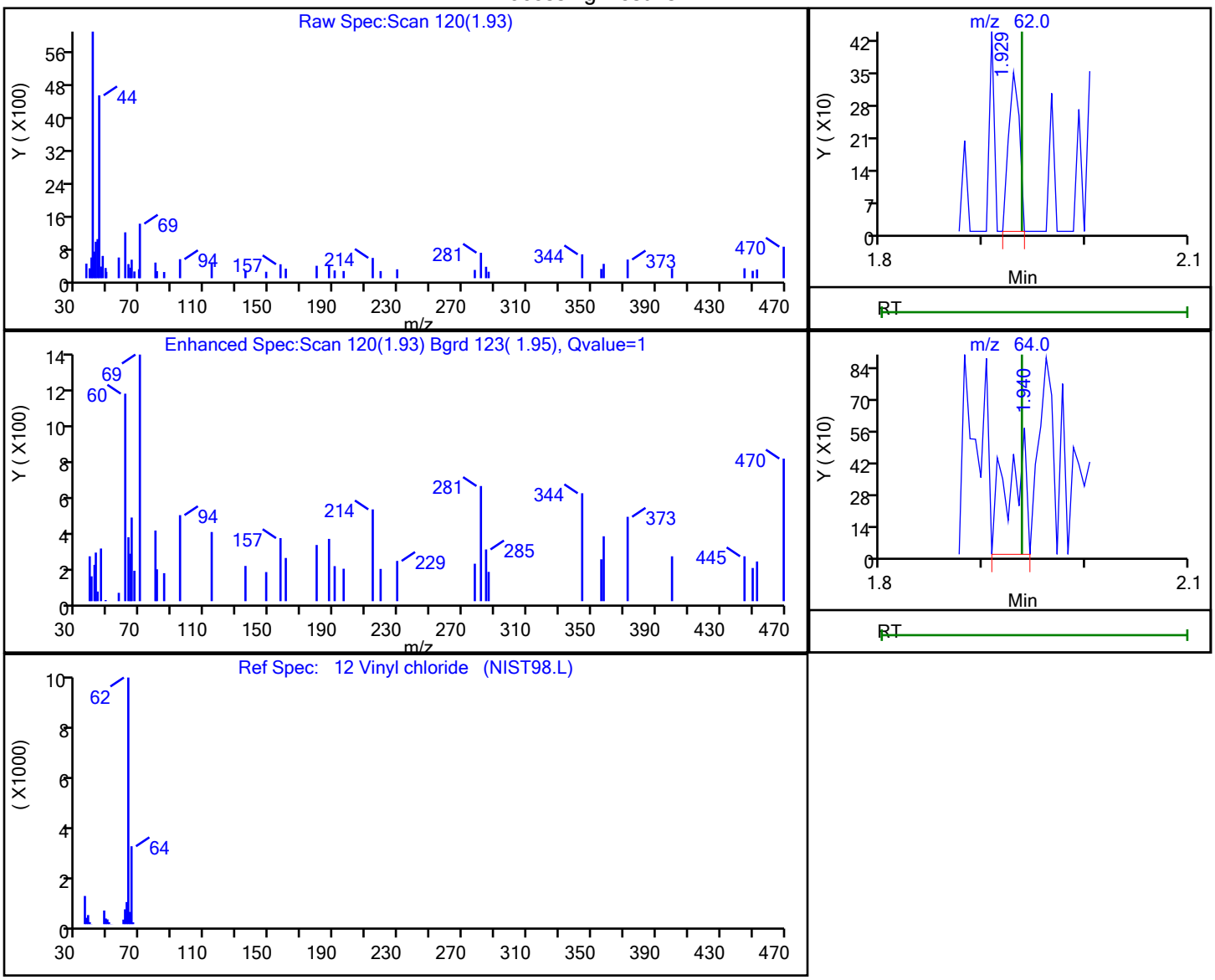

RT	Mass	Response	Amount
1.93	62.00	254	0.042783
1.94	64.00	694	

Reviewer: journetp, 24-Dec-2019 10:14:32

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 24-Dec-2019 13:17:31 Chrom Revision: 2.3 15-Dec-2019 06:20:02

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122310.D				
Injection Date:	23-Dec-2019 10:32:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-5-A	Lab Sample ID:	180-100205-5		
Client ID:	11187072-N.TREATMENT AREA #4				
Operator ID:	034635	ALS Bottle#:	10	Worklist Smp#:	10
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

107 1,4-Dichlorobenzene, CAS: 106-46-7

Processing Results

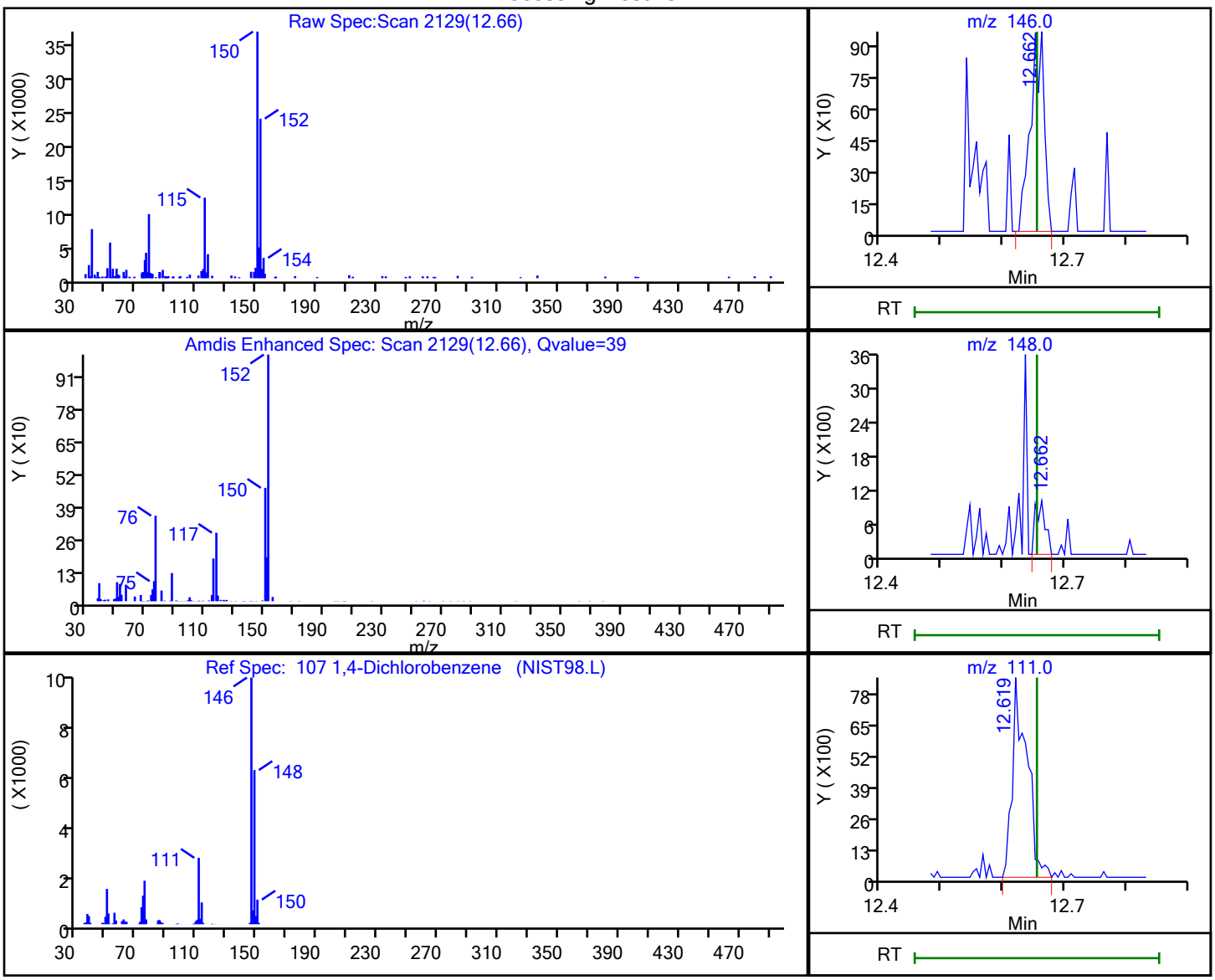

RT	Mass	Response	Amount
12.66	146.00	1491	0.141072
12.66	148.00	1058	
12.62	111.00	14237	

Reviewer: journetp, 24-Dec-2019 10:15:10

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122310.D				
Injection Date:	23-Dec-2019 10:32:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-5-A	Lab Sample ID:	180-100205-5		
Client ID:	11187072-N.TREATMENT AREA #4				
Operator ID:	034635	ALS Bottle#:	10	Worklist Smp#:	10
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

72 4-Methyl-2-pentanone (MIBK), CAS: 108-10-1

Processing Results

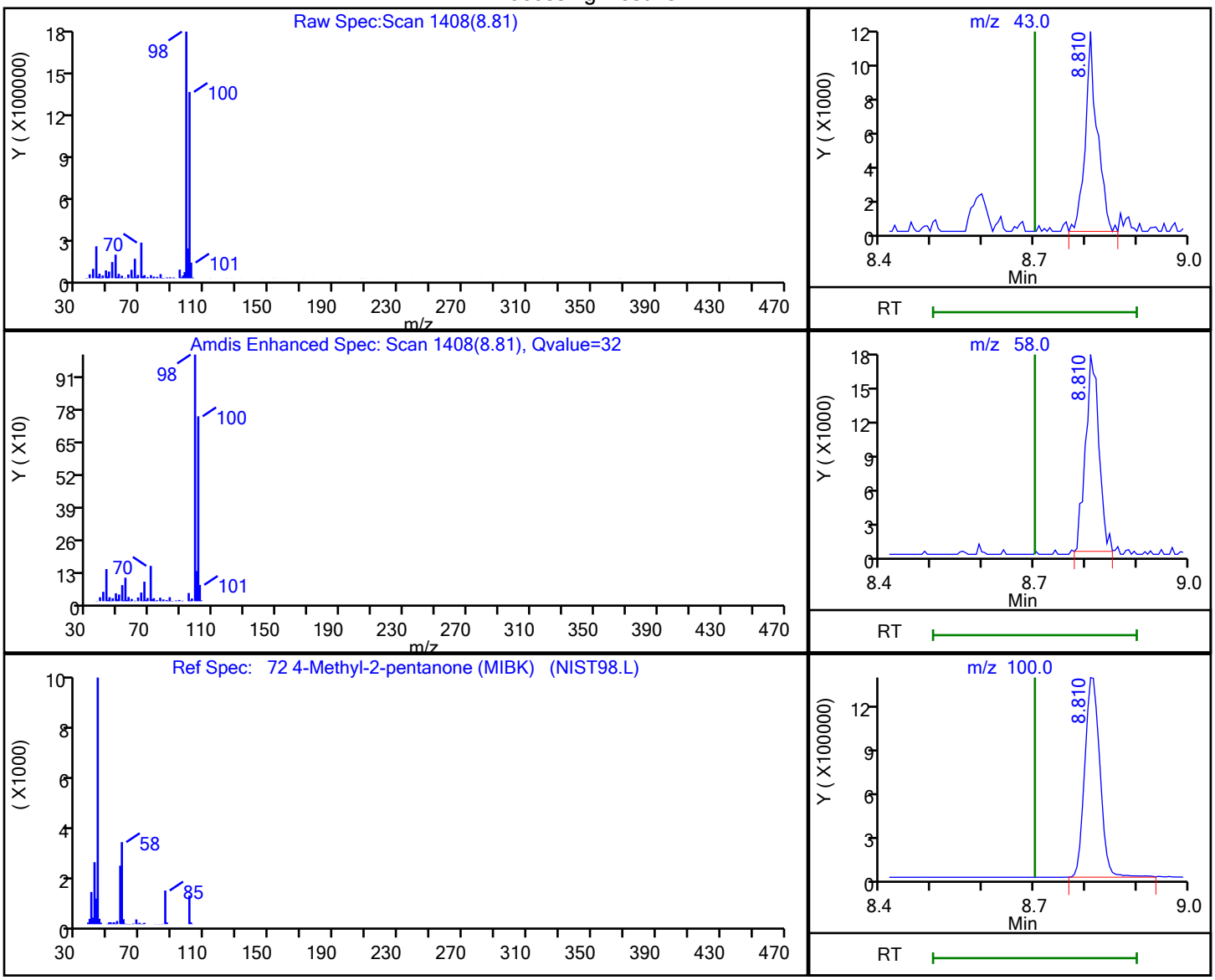

RT	Mass	Response	Amount
8.81	43.00	18148	24.259948
8.81	58.00	32242	
8.81	100.00	2816066	

Reviewer: journetp, 24-Dec-2019 10:15:04

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122310.D				
Injection Date:	23-Dec-2019 10:32:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-5-A	Lab Sample ID:	180-100205-5		
Client ID:	11187072-N.TREATMENT AREA #4				
Operator ID:	034635	ALS Bottle#:	10	Worklist Smp#:	10
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

23 Acetone, CAS: 67-64-1

Signal: 1

Processing Integration Results

RT: 3.39
Area: 2648
Amount: 1.801243
Amount Units: ng

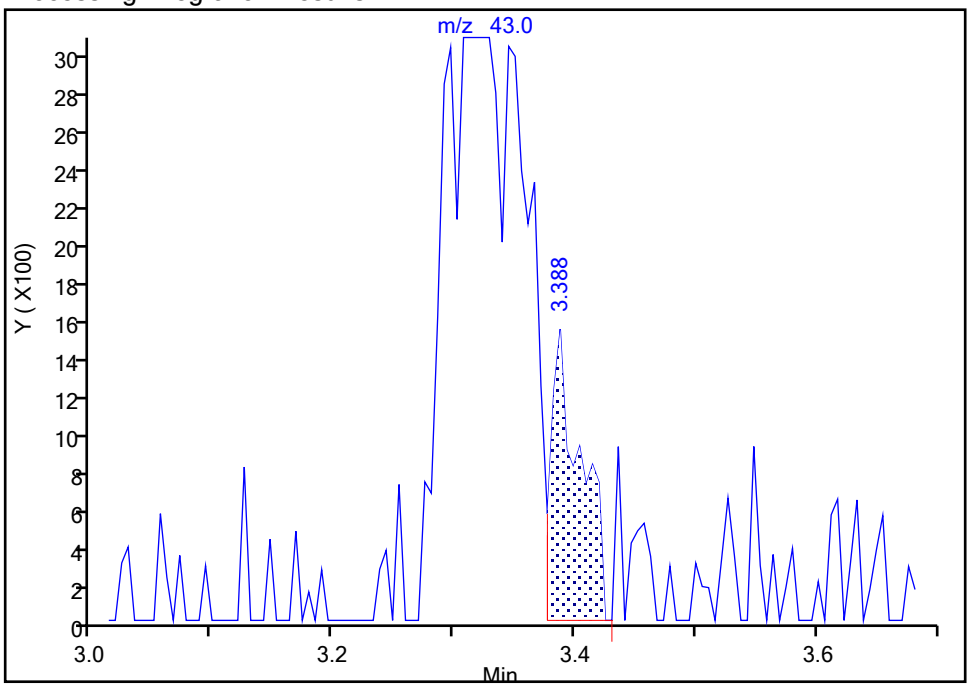

Manual Integration Results

RT: 3.32
Area: 21010
Amount: 14.291586
Amount Units: ng

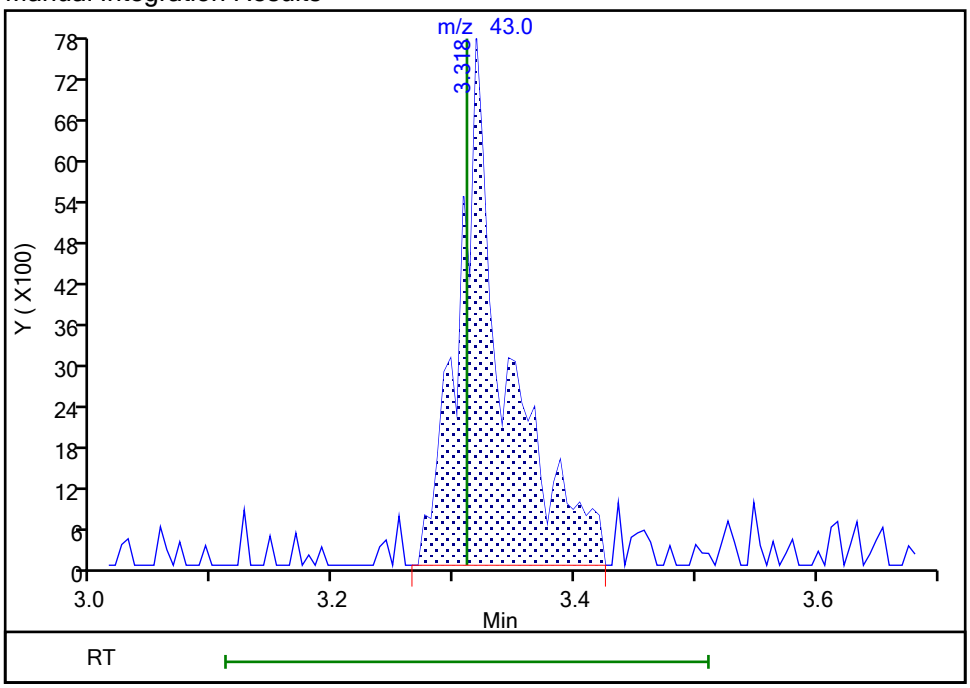

Reviewer: journetp, 24-Dec-2019 10:14:52

Audit Action: Manually Integrated Audit Reason: Poor chromatography

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122310.D				
Injection Date:	23-Dec-2019 10:32:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-5-A	Lab Sample ID:	180-100205-5		
Client ID:	11187072-N.TREATMENT AREA #4				
Operator ID:	034635	ALS Bottle#:	10	Worklist Smp#:	10
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

27 Acetonitrile, CAS: 75-05-8

Processing Results

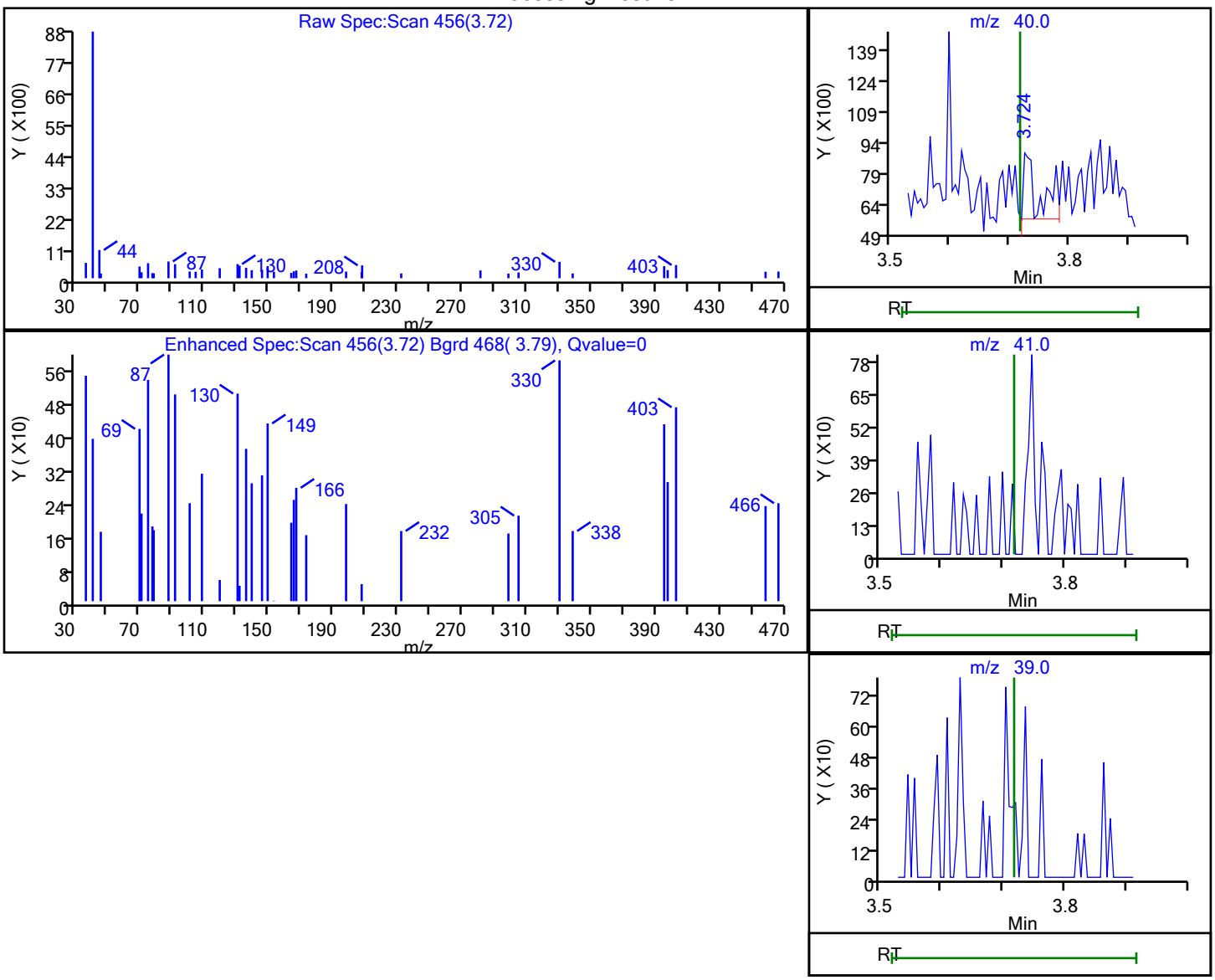

RT	Mass	Response	Amount
3.72	40.00	5694	42.001734
3.72	41.00	0	
3.72	39.00	0	

Reviewer: journetp, 24-Dec-2019 10:14:55

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122310.D				
Injection Date:	23-Dec-2019 10:32:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-5-A	Lab Sample ID:	180-100205-5		
Client ID:	11187072-N.TREATMENT AREA #4				
Operator ID:	034635	ALS Bottle#:	10	Worklist Smp#:	10
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

90 Bromoform, CAS: 75-25-2

Processing Results

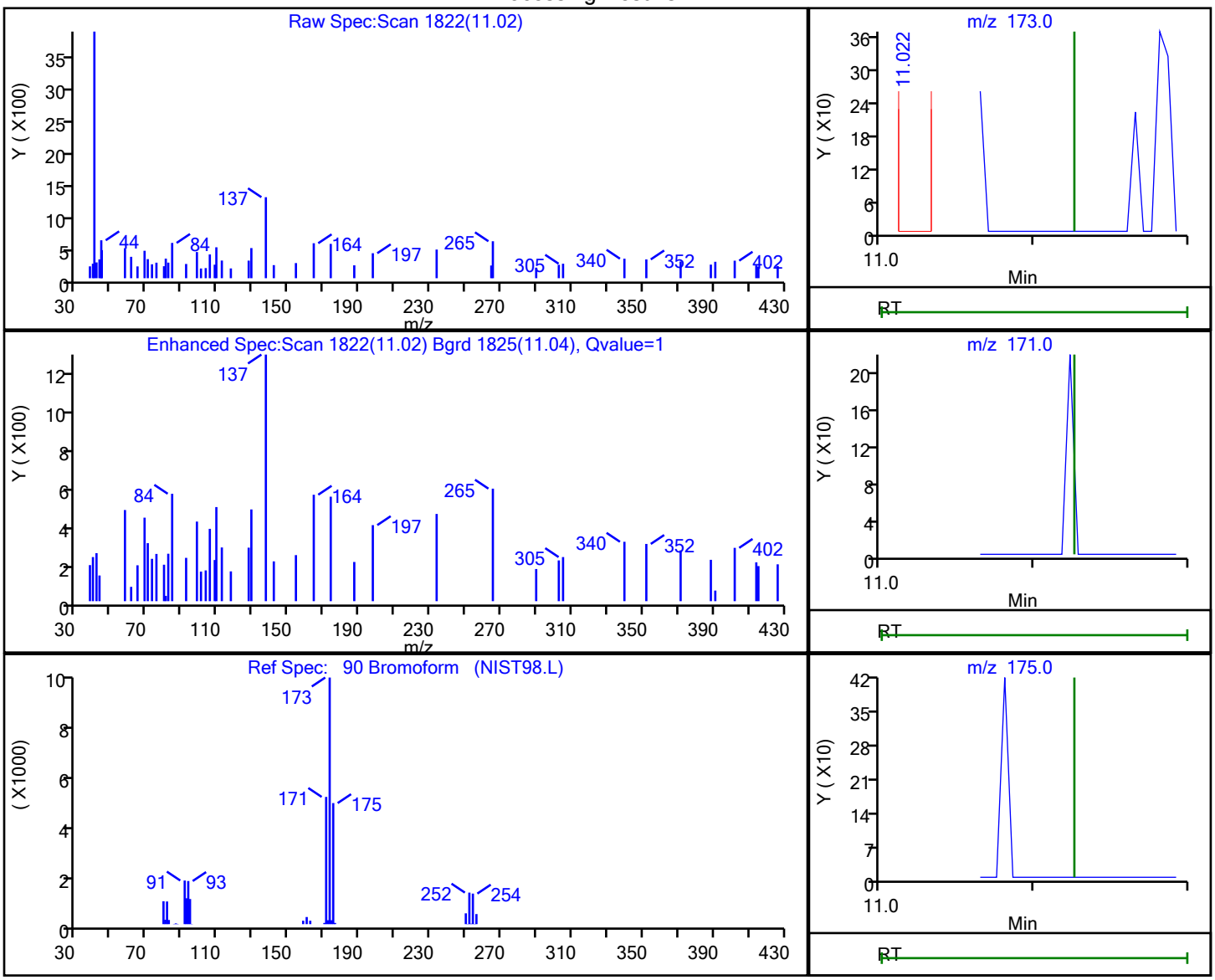

RT	Mass	Response	Amount
11.02	173.00	171	0.096426
11.13	171.00	0	
11.13	175.00	0	

Reviewer: journetp, 24-Dec-2019 10:15:10

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 24-Dec-2019 13:17:30 Chrom Revision: 2.3 15-Dec-2019 06:20:02

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122310.D				
Injection Date:	23-Dec-2019 10:32:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-5-A	Lab Sample ID:	180-100205-5		
Client ID:	11187072-N.TREATMENT AREA #4				
Operator ID:	034635	ALS Bottle#:	10	Worklist Smp#:	10
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

14 Bromomethane, CAS: 74-83-9

Processing Results

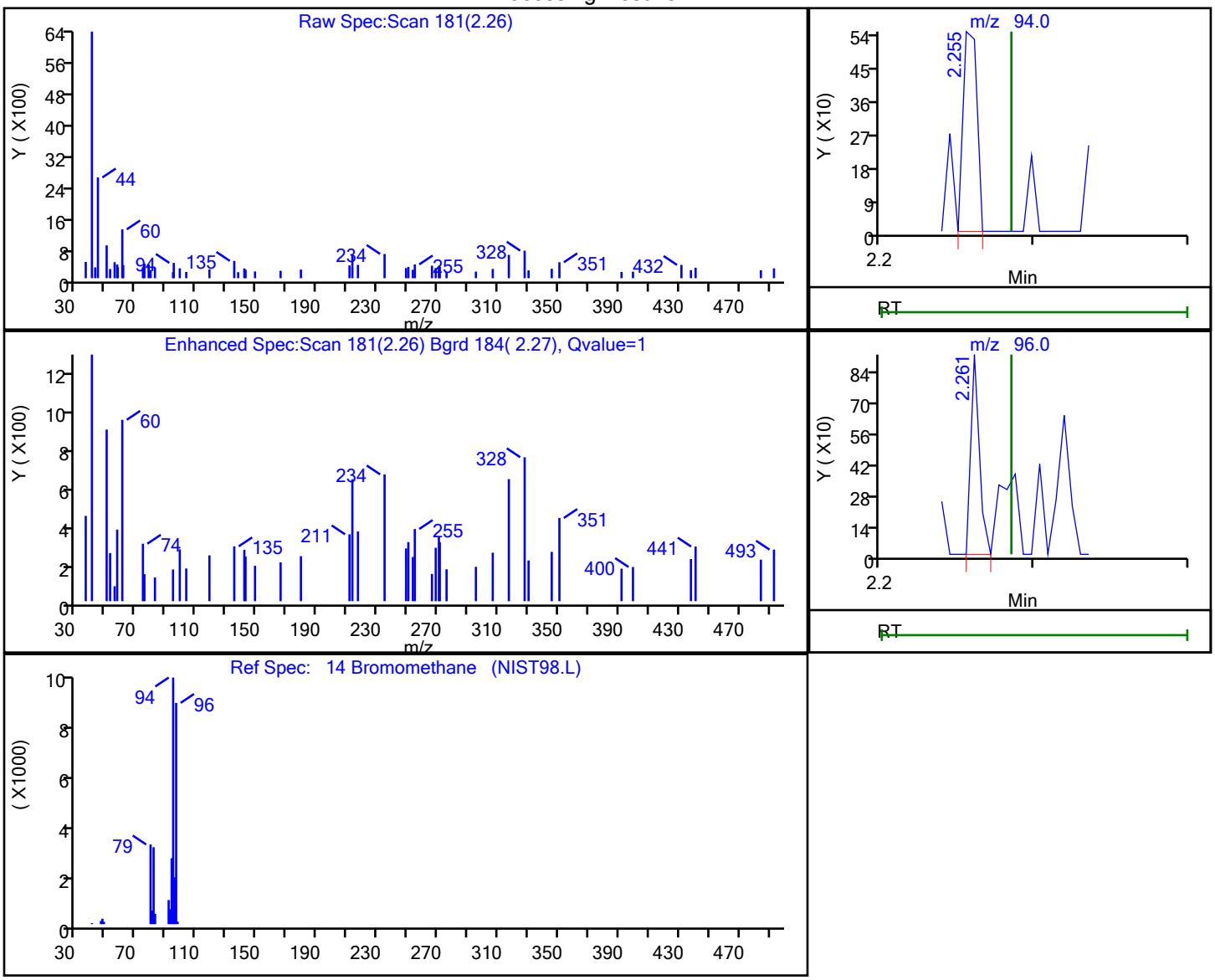

RT	Mass	Response	Amount
2.26	94.00	343	0.089793
2.26	96.00	355	

Reviewer: journetp, 24-Dec-2019 10:14:33

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122310.D				
Injection Date:	23-Dec-2019 10:32:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-5-A	Lab Sample ID:	180-100205-5		
Client ID:	11187072-N.TREATMENT AREA #4				
Operator ID:	034635	ALS Bottle#:	10	Worklist Smp#:	10
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

10 Dichlorodifluoromethane, CAS: 75-71-8

Processing Results

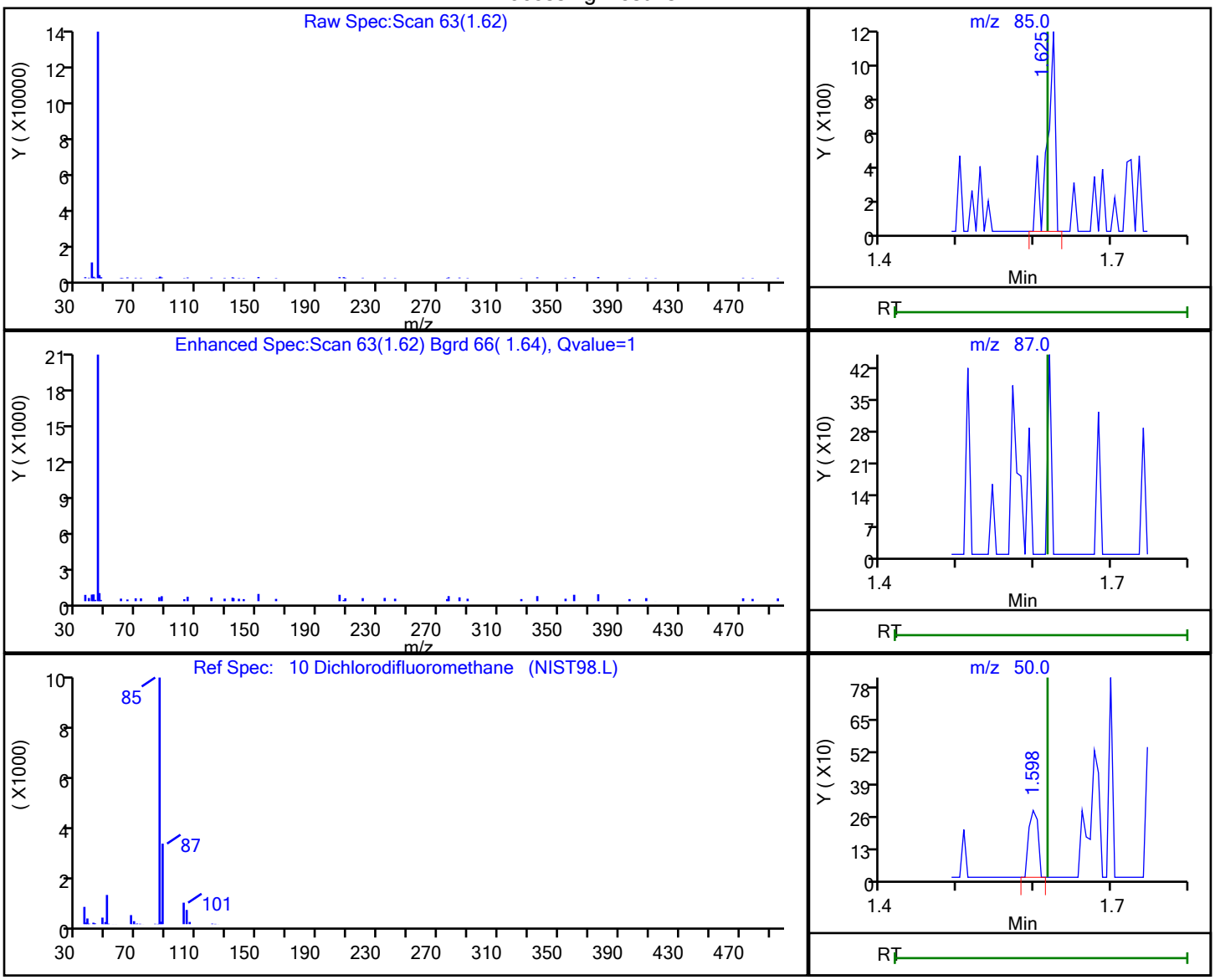

RT	Mass	Response	Amount
1.62	85.00	850	0.142296
1.62	87.00	0	
1.60	50.00	228	

Reviewer: journetp, 24-Dec-2019 10:14:32

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122310.D				
Injection Date:	23-Dec-2019 10:32:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-5-A	Lab Sample ID:	180-100205-5		
Client ID:	11187072-N.TREATMENT AREA #4				
Operator ID:	034635	ALS Bottle#:	10	Worklist Smp#:	10
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

86 Ethylbenzene, CAS: 100-41-4

Processing Results

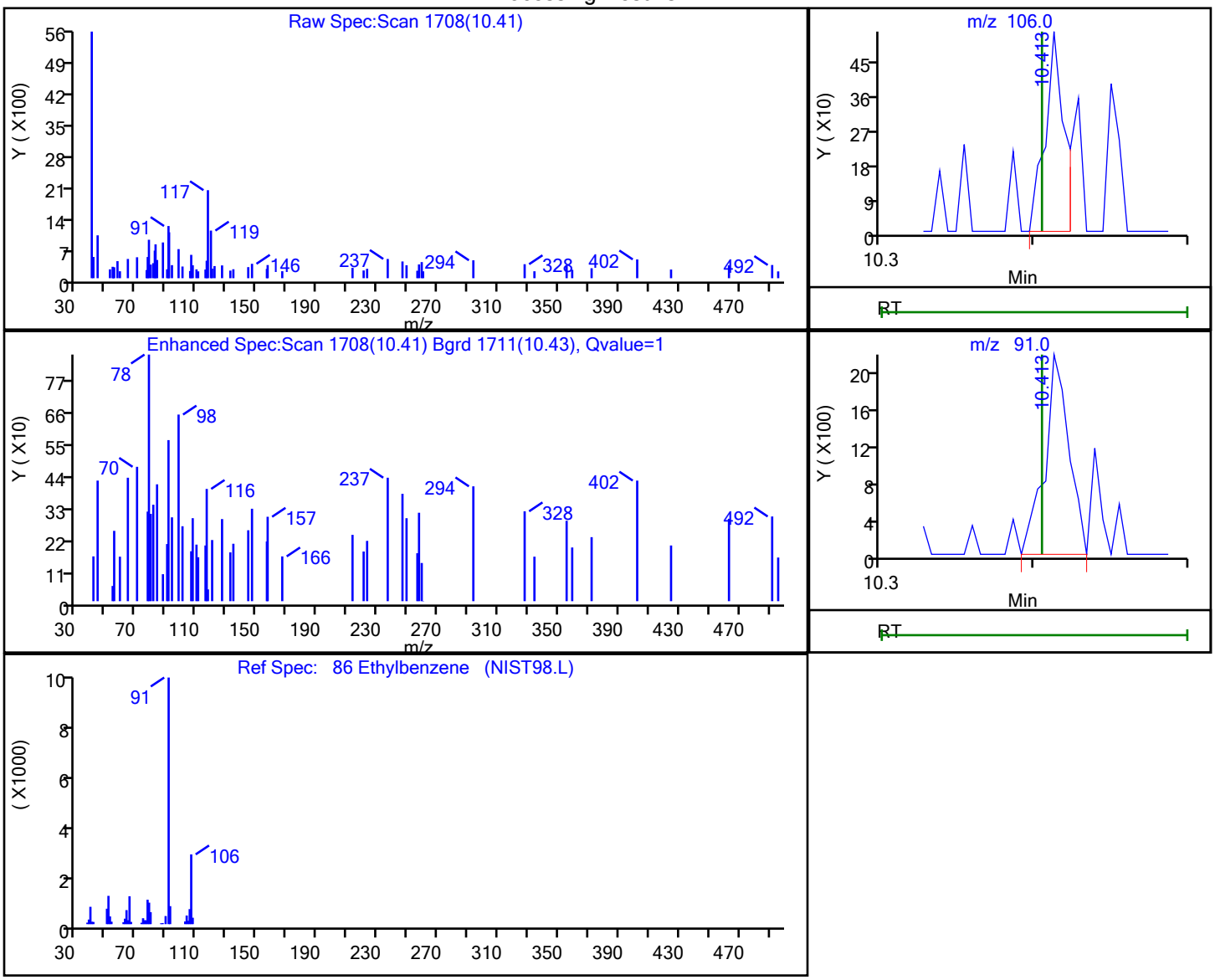

RT	Mass	Response	Amount
10.41	106.00	455	0.058506
10.41	91.00	2404	

Reviewer: journetp, 24-Dec-2019 10:15:10

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 24-Dec-2019 13:17:31 Chrom Revision: 2.3 15-Dec-2019 06:20:02

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122310.D				
Injection Date:	23-Dec-2019 10:32:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-5-A	Lab Sample ID:	180-100205-5		
Client ID:	11187072-N.TREATMENT AREA #4				
Operator ID:	034635	ALS Bottle#:	10	Worklist Smp#:	10
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

115 Hexachlorobutadiene, CAS: 87-68-3

Processing Results

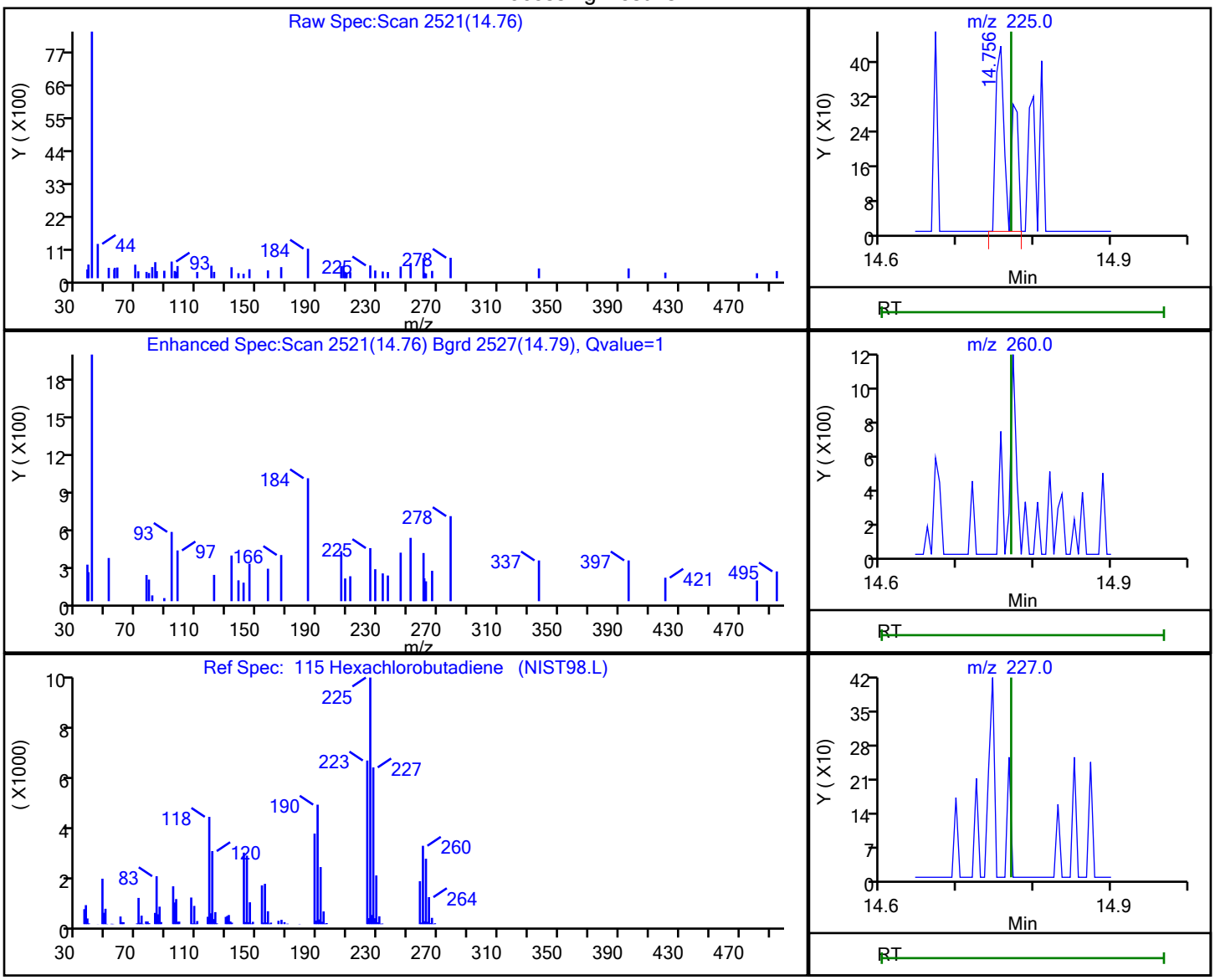

RT	Mass	Response	Amount
14.76	225.00	496	0.090227
14.77	260.00	0	
14.77	227.00	0	

Reviewer: journetp, 24-Dec-2019 10:15:10

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122310.D				
Injection Date:	23-Dec-2019 10:32:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-5-A	Lab Sample ID:	180-100205-5		
Client ID:	11187072-N.TREATMENT AREA #4				
Operator ID:	034635	ALS Bottle#:	10	Worklist Smp#:	10
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

59 Isobutyl alcohol, CAS: 78-83-1

Processing Results

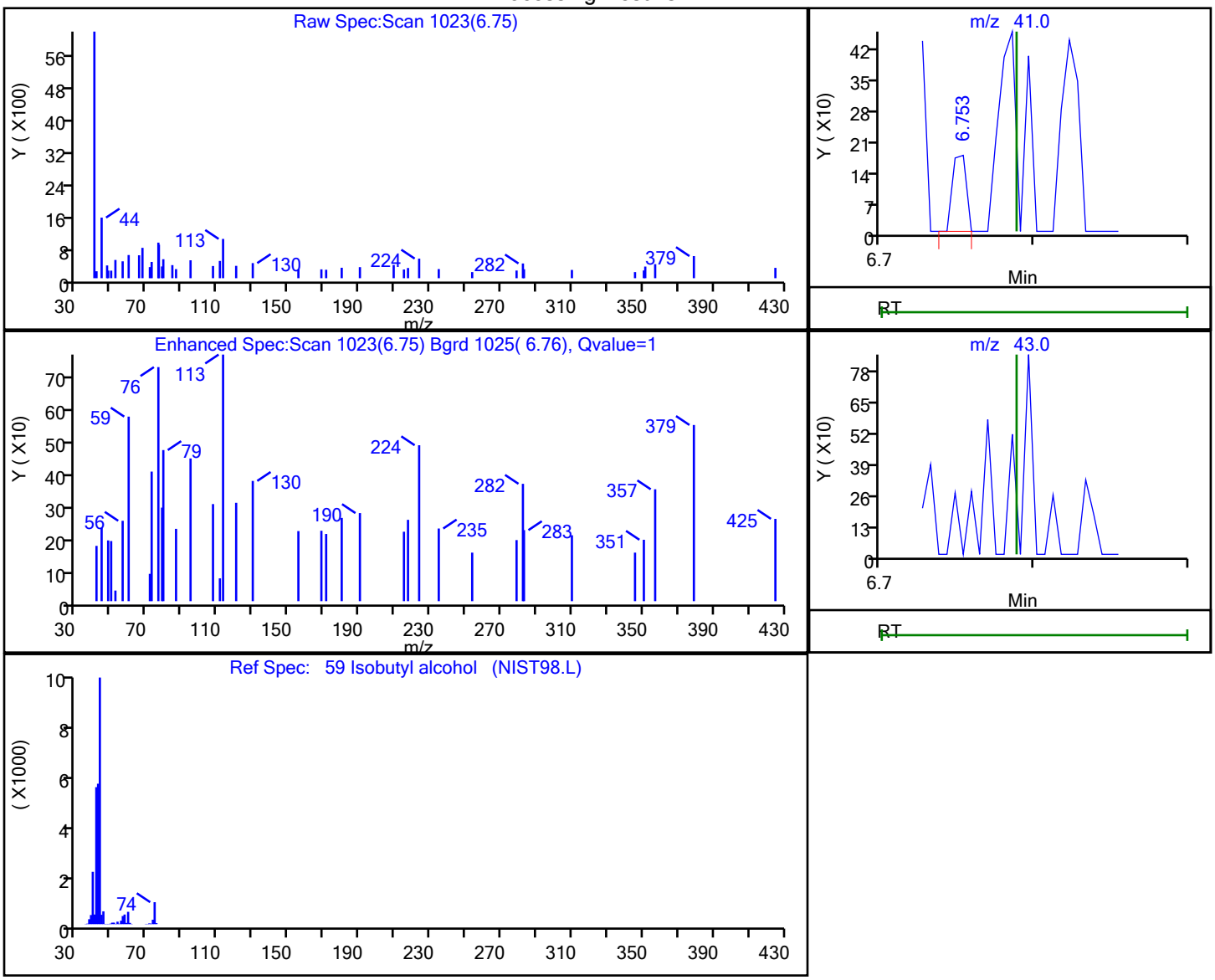

RT	Mass	Response	Amount
6.75	41.00	108	2.063652
6.79	43.00	0	

Reviewer: journetp, 24-Dec-2019 10:15:01

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122310.D				
Injection Date:	23-Dec-2019 10:32:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-5-A	Lab Sample ID:	180-100205-5		
Client ID:	11187072-N.TREATMENT AREA #4				
Operator ID:	034635	ALS Bottle#:	10	Worklist Smp#:	10
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

47 Methacrylonitrile, CAS: 126-98-7

Processing Results

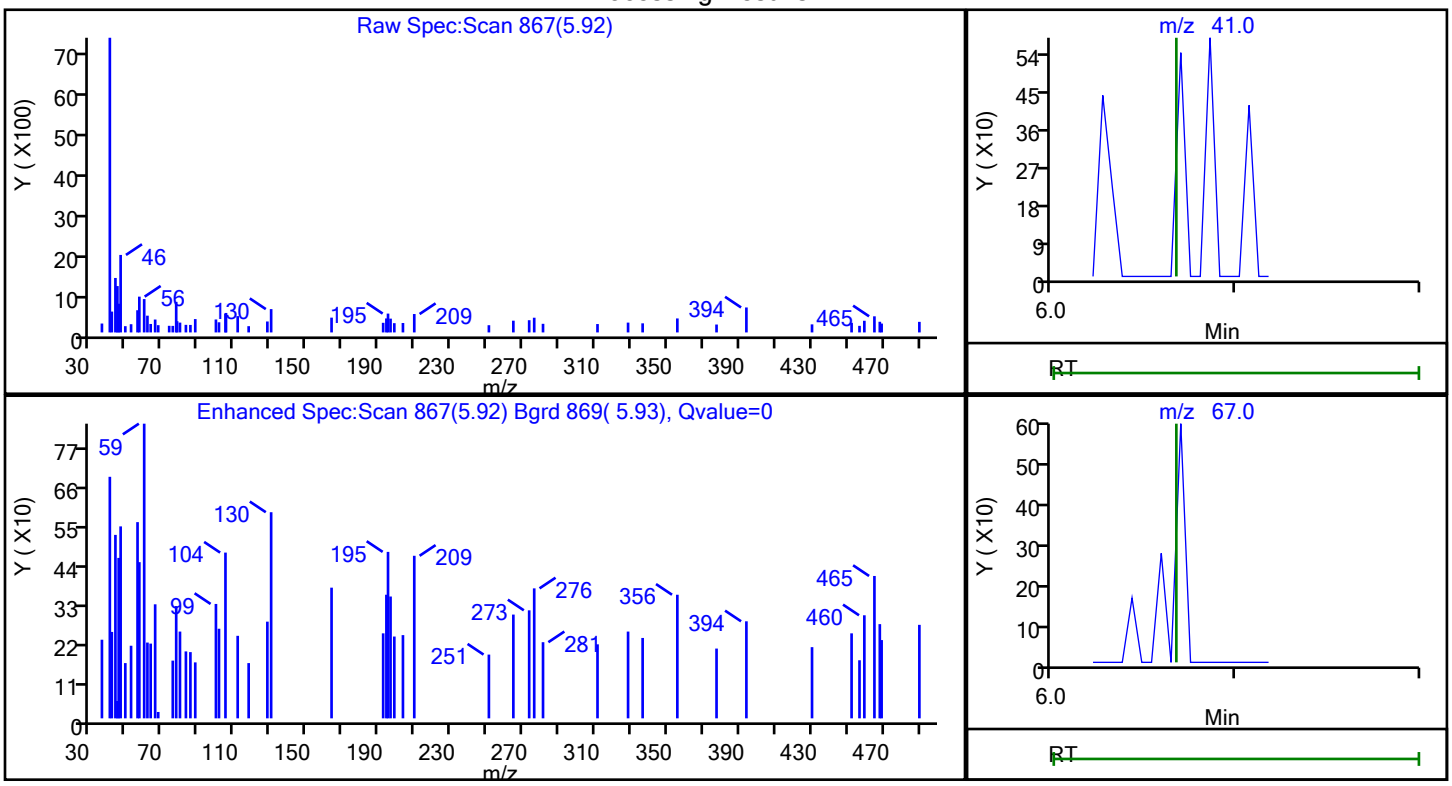

RT	Mass	Response	Amount
5.92	41.00	291	-55.989687
5.92	67.00	58	

Reviewer: journetp, 24-Dec-2019 10:14:59

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 24-Dec-2019 13:17:30 Chrom Revision: 2.3 15-Dec-2019 06:20:02

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122310.D				
Injection Date:	23-Dec-2019 10:32:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-5-A	Lab Sample ID:	180-100205-5		
Client ID:	11187072-N.TREATMENT AREA #4				
Operator ID:	034635	ALS Bottle#:	10	Worklist Smp#:	10
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

89 Styrene, CAS: 100-42-5

Processing Results

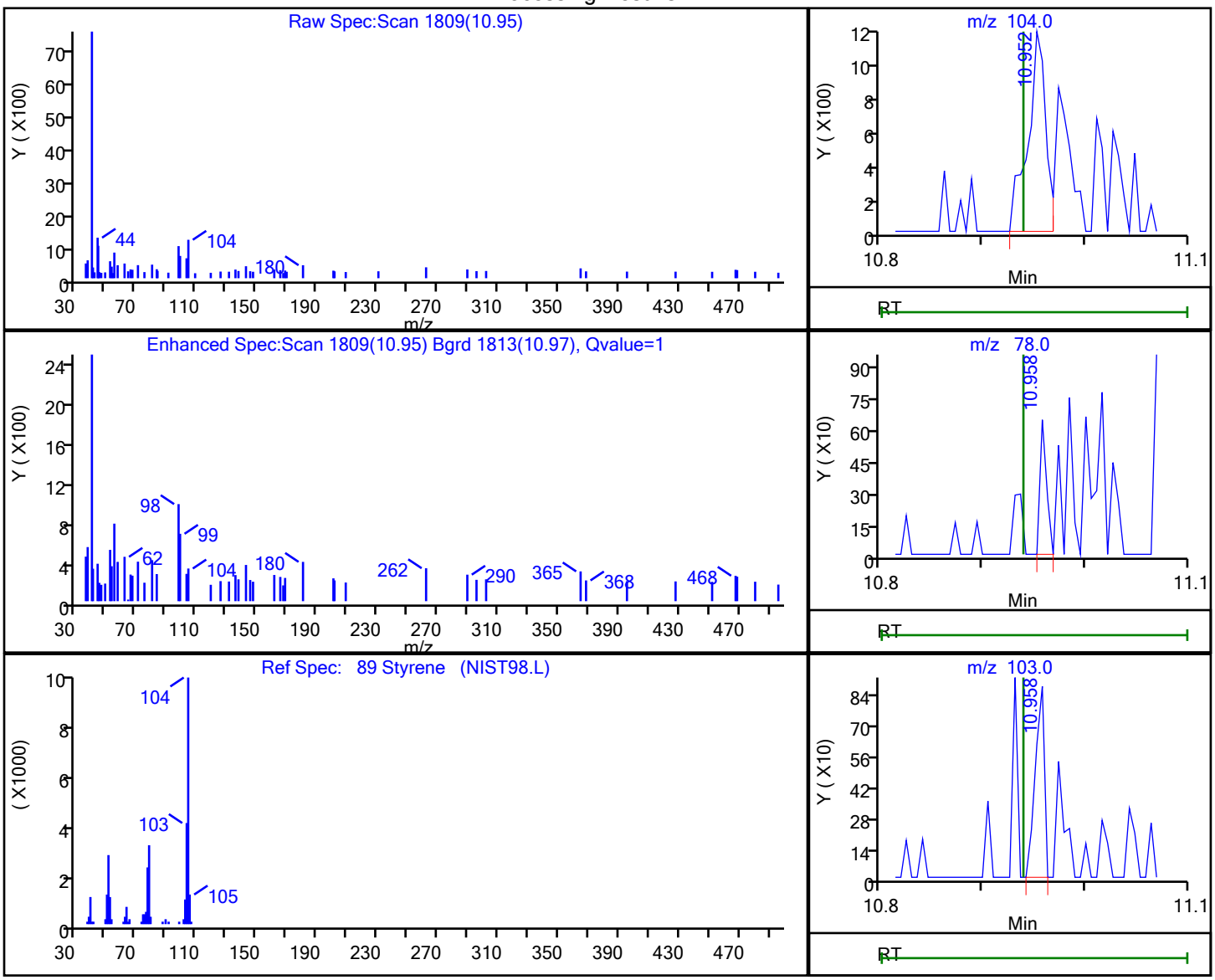

RT	Mass	Response	Amount
10.95	104.00	1441	0.108503
10.96	78.00	291	
10.96	103.00	544	

Reviewer: journetp, 24-Dec-2019 10:15:10

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122310.D				
Injection Date:	23-Dec-2019 10:32:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-5-A	Lab Sample ID:	180-100205-5		
Client ID:	11187072-N.TREATMENT AREA #4				
Operator ID:	034635	ALS Bottle#:	10	Worklist Smp#:	10
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

73 Toluene, CAS: 108-88-3

Processing Results

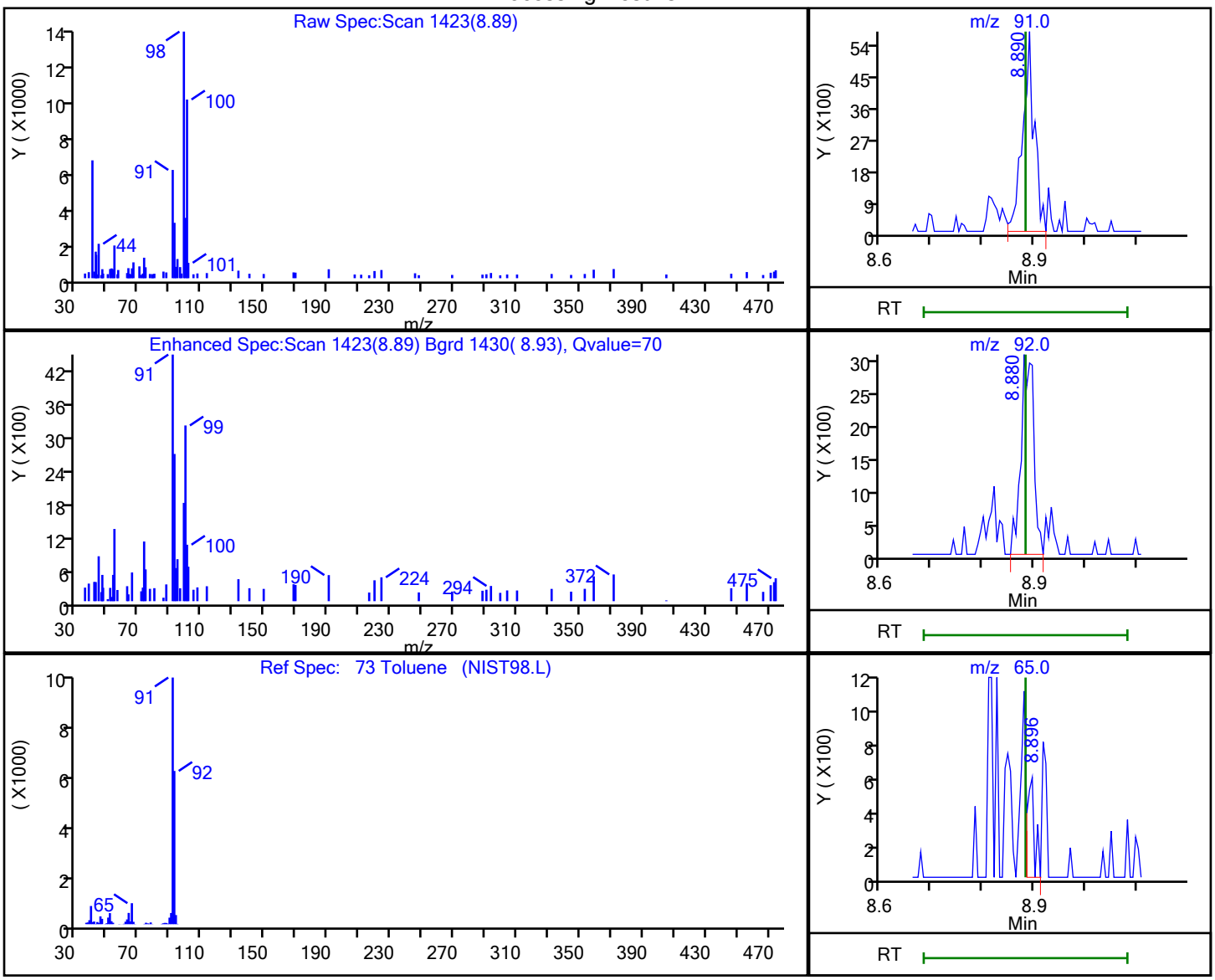

RT	Mass	Response	Amount
8.89	91.00	9039	0.473869
8.88	92.00	5349	
8.90	65.00	581	

Reviewer: journetp, 24-Dec-2019 10:15:05

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122310.D				
Injection Date:	23-Dec-2019 10:32:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-5-A	Lab Sample ID:	180-100205-5		
Client ID:	11187072-N.TREATMENT AREA #4				
Operator ID:	034635	ALS Bottle#:	10	Worklist Smp#:	10
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

87 m-Xylene & p-Xylene, CAS: 179601-23-1

Processing Results

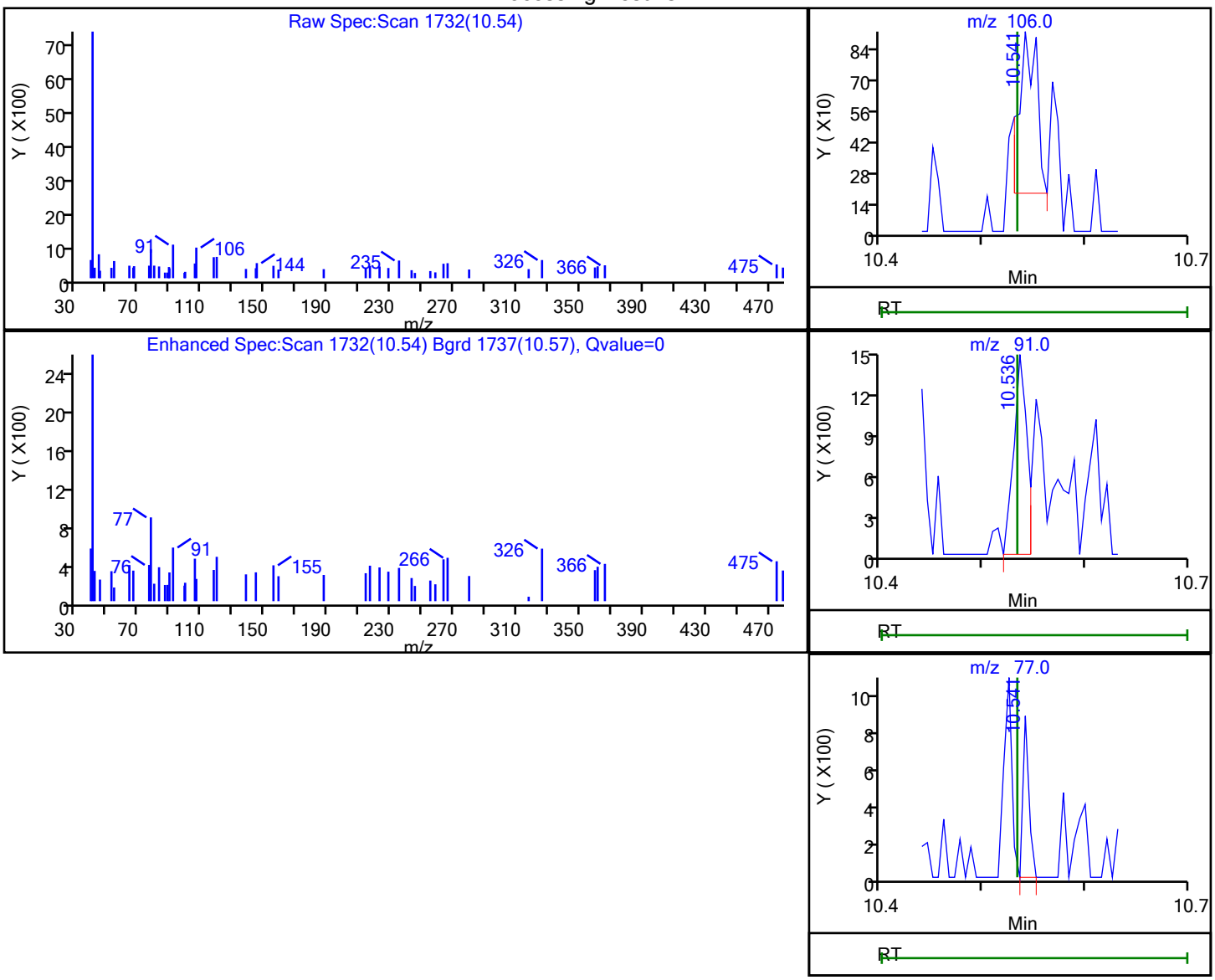

RT	Mass	Response	Amount
10.54	106.00	895	0.090296
10.54	91.00	1292	
10.54	77.00	357	

Reviewer: journetp, 24-Dec-2019 10:15:10

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122310.D				
Injection Date:	23-Dec-2019 10:32:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-5-A	Lab Sample ID:	180-100205-5		
Client ID:	11187072-N.TREATMENT AREA #4				
Operator ID:	034635	ALS Bottle#:	10	Worklist Smp#:	10
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

88 o-Xylene, CAS: 95-47-6

Processing Results

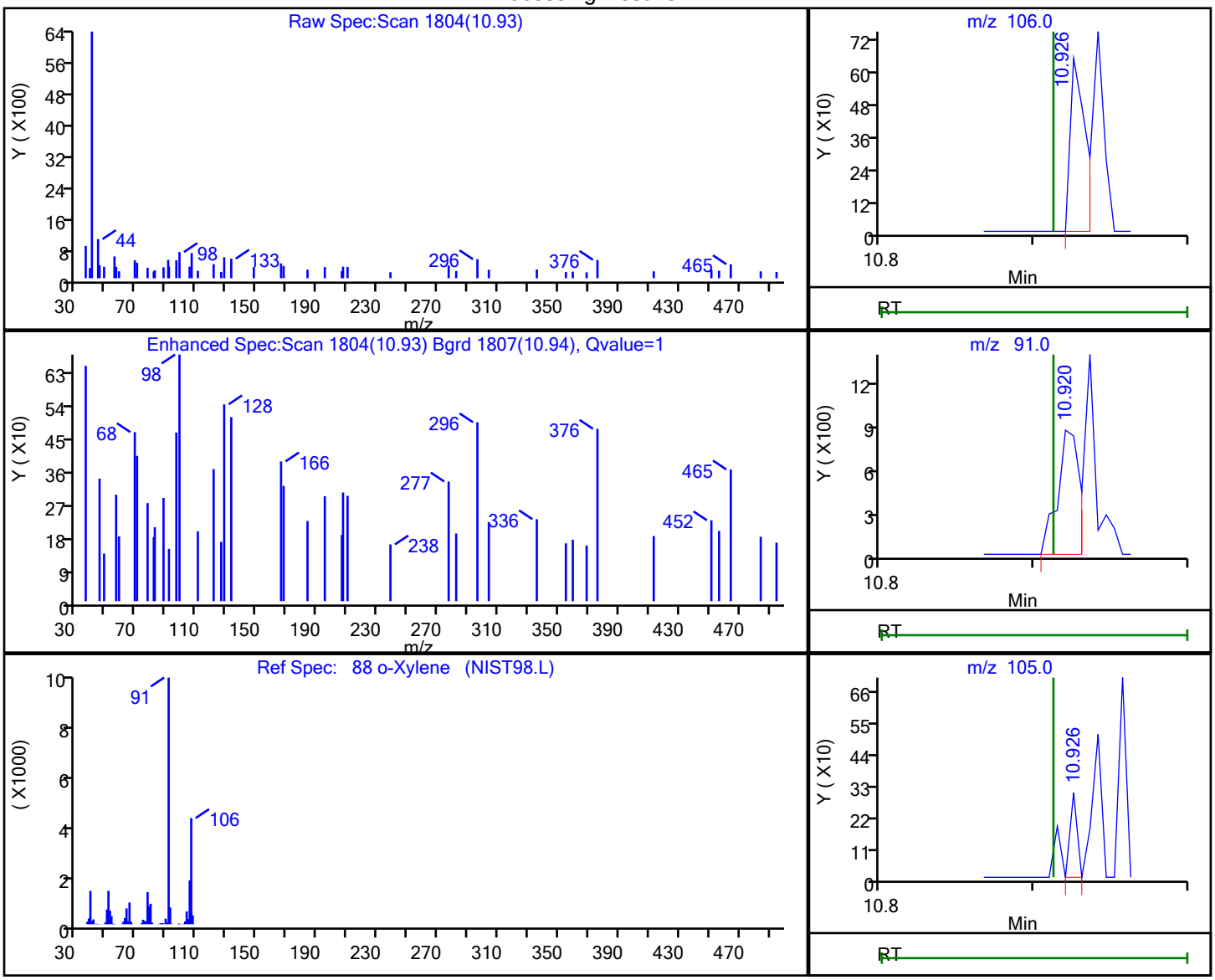

RT	Mass	Response	Amount
10.93	106.00	446	0.049726
10.92	91.00	813	
10.93	105.00	95	

Reviewer: journetp, 24-Dec-2019 10:15:10

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 271562

SDG No.:

Instrument ID: CHHP4 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/28/2019 06:43 Calibration End Date: 02/28/2019 14:12 Calibration ID: 39611

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-271562/18	40222818.D
Level 2	IC 180-271562/4	40222804.D
Level 3	IC 180-271562/5	40222805.D
Level 4	IC 180-271562/6	40222806.D
Level 5	IC 180-271562/7	40222807.D
Level 6	IC 180-271562/8	40222808.D
Level 7	IC 180-271562/9	40222809.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Isopropyl alcohol	0.0114 0.0190	0.0209 0.0201	0.0172	0.0188	0.0191	Lin1	-1.580	0.0199			0.0100				0.9970		0.9900
Acetonitrile	0.0172 +++++	0.0286 +++++	0.0250	0.0254	0.0255	Lin	-0.534	0.0257			0.0100				0.9970		0.9900
Isopropyl ether	1.0075 1.1292	1.5417 +++++	1.3185	1.3170	1.2489	Ave		1.2604			0.0100	14.5		20.0			
Chloroprene	0.5036 0.6283	0.7647 0.6136	0.6813	0.6869	0.6609	Ave		0.6485			0.0100	12.4		20.0			
Tert-butyl ethyl ether	0.9343 1.1128	1.4631 +++++	1.2737	1.2692	1.2070	Ave		1.2100			0.0100	14.6		20.0			
Ethyl acetate	0.3084 0.4304	0.4548 0.3623	0.4253	0.4471	0.4135	Ave		0.4060			0.0100	12.9		20.0			
Propionitrile	0.0393 0.0628	0.0653 0.0574	0.0584	0.0602	0.0597	Ave		0.0576			0.0100	14.8		20.0			
Methacrylonitrile	0.1999 +++++	0.3111 +++++	0.2648	0.2673	0.2430	Lin	13.889	0.2476			0.0100				0.9900		0.9900
Isooctane	1.2407 1.3283	1.8515 +++++	1.6563	1.5694	1.5099	Ave		1.5260			0.0100	14.5		20.0			
Tert-amyl methyl ether	0.9694 1.1382	1.4883 +++++	1.3039	1.3021	1.2203	Ave		1.2370			0.0100	14.2		20.0			
n-Butanol	0.0025 0.0082	0.0062 0.0081	0.0063	0.0077	0.0078	Lin	-3.548	0.0083		*	0.0100				1.0000		0.9900
Ethyl acrylate	1.4146 2.3954	2.5247 +++++	2.3190	2.5390	2.3363	Lin	-6.317	2.4165			0.0100				0.9980		0.9900
Methyl methacrylate	0.2146 0.3293	0.3671 +++++	0.3254	0.3458	0.3282	Lin	-0.135	0.3310			0.0100				0.9990		0.9900
2-Chloroethyl vinyl ether	0.1477 0.1961	0.1774 0.1830	0.1765	0.1950	0.2029	Ave		0.1826			0.0100	10.1		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 271562

SDG No.:

Instrument ID: CHHP4 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/28/2019 06:43 Calibration End Date: 02/28/2019 14:12 Calibration ID: 39611

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
n-Butyl acetate	1.0413 2.5342	2.5819 2.3051	2.4130	2.6575	2.5090	Lin1	-14.82	2.4611			0.0100				0.9930		0.9900
Cyclohexanone	0.0168 0.0330	0.0405 +++++	0.0293	0.0338	0.0342	Qua	-4.833	0.0355	0		0.0100				0.9970		0.9900
1,2,3-Trimethylbenzene	3.5399 +++++	5.8051 +++++	4.8011	4.8743	4.5485	Lin	19.709	4.6036			0.0100				0.9920		0.9900
Benzyl chloride	0.8450 1.7075	1.6054 1.9040	1.4227	1.6150	1.5543	Lin1	-27.11	1.8318			0.0100				0.9940		0.9900
1,3,5-Trichlorobenzene	0.3019 0.3472	0.8980 0.3172	0.3881	0.4430	0.5495	Ave		0.4636			0.0100	45.2	*	20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 271562

SDG No.:

Instrument ID: CHHP4 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/28/2019 06:43 Calibration End Date: 02/28/2019 14:12 Calibration ID: 39611

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-271562/18	40222818.D
Level 2	IC 180-271562/4	40222804.D
Level 3	IC 180-271562/5	40222805.D
Level 4	IC 180-271562/6	40222806.D
Level 5	IC 180-271562/7	40222807.D
Level 6	IC 180-271562/8	40222808.D
Level 7	IC 180-271562/9	40222809.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Isopropyl alcohol	FB	Lin1	19947 662997	74623 1687917	158570	259346	332322	250 5000	500 10000	1250	2000	2500
Acetonitrile	FB	Lin	29989 +++++	102148 +++++	231070	349895	442618	250 +++++	500 +++++	1250	2000	2500
Isopropyl ether	FB	Ave	175965 3929849	550211 +++++	1216504	1816431	2169804	25.0 500	50.0 +++++	125	200	250
Chloroprene	FB	Ave	87961 2186524	272896 5147941	628596	947347	1148178	25.0 500	50.0 1000	125	200	250
Tert-butyl ethyl ether	FB	Ave	163173 3872996	522160 +++++	1175225	1750495	2097049	25.0 500	50.0 +++++	125	200	250
Ethyl acetate	FB	Ave	107716 2996157	324600 6079447	784776	1233419	1436818	50.0 1000	100 2000	250	400	500
Propionitrile	FB	Ave	68630 2186746	233088 4813522	539275	830458	1036845	250 5000	500 10000	1250	2000	2500
Methacrylonitrile	FB	Lin	349151 +++++	1110153 +++++	2443055	3686755	4222067	250 +++++	500 +++++	1250	2000	2500
Isooctane	FB	Ave	216684 4622857	660796 +++++	1528208	2164584	2623324	25.0 500	50.0 +++++	125	200	250
Tert-amyl methyl ether	FB	Ave	169315 3961257	531174 +++++	1203066	1795860	2120253	25.0 500	50.0 +++++	125	200	250
n-Butanol	FB	Lin	11115 710099	55051 1702674	145002	265853	336626	625 12500	1250 25000	3125	5000	6250
Ethyl acrylate	CBNZ d5	Lin	53591 1924468	196735 +++++	474826	785475	910997	25.0 500	50.0 +++++	125	200	250
Methyl methacrylate	FB	Lin	74975 2292445	262032 +++++	600516	953736	1140550	50.0 1000	100 +++++	250	400	500
2-Chloroethyl vinyl ether	FB	Ave	51582 1364997	126623 3070388	325775	537788	704932	50.0 1000	100 2000	250	400	500
n-Butyl acetate	CBNZ d5	Lin1	39449 2036032	201188 4240753	494073	822141	978322	25.0 500	50.0 1000	125	200	250

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 271562

SDG No.:

Instrument ID: CHHP4 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/28/2019 06:43 Calibration End Date: 02/28/2019 14:12 Calibration ID: 39611

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Cyclohexanone	CBNZ d5	Qua	12724 530022	63171 +++++	120167	209378	266581	500 10000	1000 +++++	2500	4000	5000
1,2,3-Trimethylbenzene	DCBd 4	Lin	110931 +++++	401238 +++++	909599	1323562	1636140	25.0 +++++	50.0 +++++	125	200	250
Benzyl chloride	DCBd 4	Lin1	26480 1258663	110963 2986051	269536	438532	559109	25.0 500	50.0 1000	125	200	250
1,3,5-Trichlorobenzene	DCBd 4	Ave	9460 255939	62068 497500	73527	120303	197670	25.0 500	50.0 1000	125	200	250

Curve Type Legend:

Ave = Average ISTD
Lin = Linear ISTD
Lin1 = Linear 1/conc ISTD
Qua = Quadratic ISTD

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 271562

SDG No.:

Instrument ID: CHHP4 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/28/2019 06:43 Calibration End Date: 02/28/2019 14:12 Calibration ID: 39611

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-271562/18	40222818.D
Level 2	IC 180-271562/4	40222804.D
Level 3	IC 180-271562/5	40222805.D
Level 4	IC 180-271562/6	40222806.D
Level 5	IC 180-271562/7	40222807.D
Level 6	IC 180-271562/8	40222808.D
Level 7	IC 180-271562/9	40222809.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
Isopropyl alcohol	-10.8 1.9	21.0	-7.3	-1.5	-0.7	-2.7	50 30	30	30	30	30	30
Acetonitrile	-24.9 +++++	15.6	-0.9	-0.2	0.0	+++++	50	30	30	30	30	
Isopropyl ether	-20.1 +++++	22.3	4.6	4.5	-0.9	-10.4	50	30	30	30	30	30
Chloroprene	-22.3 -5.4	17.9	5.1	5.9	1.9	-3.1	50 30	30	30	30	30	30
Tert-butyl ethyl ether	-22.8 +++++	20.9	5.3	4.9	-0.2	-8.0	50	30	30	30	30	30
Ethyl acetate	-24.0 -10.8	12.0	4.8	10.1	1.9	6.0	50 30	30	30	30	30	30
Propionitrile	-31.8 -0.4	13.4	1.5	4.5	3.6	9.1	50 30	30	30	30	30	30
Methacrylonitrile	-41.7 +++++	14.4	2.5	5.2	-4.1	+++++	50	30	30	30	30	
Isooctane	-18.7 +++++	21.3	8.5	2.8	-1.1	-13.0	50	30	30	30	30	30
Tert-amyl methyl ether	-21.6 +++++	20.3	5.4	5.3	-1.4	-8.0	50	30	30	30	30	30
n-Butanol	-0.8 -0.4	8.6	-10.5	1.5	0.3	1.8	50 30	30	30	30	30	30
Ethyl acrylate	-31.0 +++++	9.7	-1.9	6.4	-2.3	-0.4	50	30	30	30	30	30
Methyl methacrylate	-34.3 +++++	11.3	-1.5	4.5	-0.8	-0.5	50	30	30	30	30	30
2-Chloroethyl vinyl ether	-19.1 0.2	-2.9	-3.3	6.7	11.1	7.4	50 30	30	30	30	30	30
n-Butyl acetate	-33.6 -5.7	17.0	2.9	11.0	4.4	4.2	50 30	30	30	30	30	30

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 271562

SDG No.:

Instrument ID: CHHP4 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/28/2019 06:43 Calibration End Date: 02/28/2019 14:12 Calibration ID: 39611

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
Cyclohexanone	-25.4 +++++	28.6	-10.9	0.9	1.8	-0.2	50	30	30	30	30	30
1,2,3-Trimethylbenzene	-40.2 +++++	17.5	0.9	3.7	-2.9	+++++	50	30	30	30	30	
Benzyl chloride	5.3 5.4	17.2	-10.5	-4.4	-9.2	-3.8	50 30	30	30	30	30	30
1,3,5-Trichlorobenzene	-34.9 -31.6 *	93.7 *	-16.3	-4.4	18.5	-25.1	50 30	30	30	30	30	30

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20190228-25793.b\40222804.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 28-Feb-2019 07:13:30 ALS Bottle#: 4 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0025793-004
Operator ID: 034635 Instrument ID: CHHP4
Sublist: chrom-MSVOA_CHHP4*sub121

Method: \\chromna\Pittsburgh\ChromData\CHHP4\20190228-25793.b\MSVOA_CHHP4.m
Limit Group: VOA 8260C_D ICAL
Last Update: 12-Mar-2019 11:56:32 Calib Date: 28-Feb-2019 14:12:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP4\20190228-25793.b\40222818.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0301

First Level Reviewer: journetp Date: 28-Feb-2019 07:42:02

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.275	4.275	0.000	79	792851	5000.0	5000.0	
* 2 Fluorobenzene (IS)	96	7.282	7.282	0.000	98	1784448	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.391	10.391	0.000	92	389615	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.747	12.747	0.000	80	345591	250.0	250.0	
26 Isopropyl alcohol	45	3.724	3.724	0.000	0	74623	500.0	604.9	
27 Acetonitrile	40	3.885	3.885	0.000	0	102148	500.0	577.8	
39 Isopropyl ether	45	5.290	5.290	0.000	0	550211	50.0	61.2	
37 2-Chloro-1,3-butadiene	53	5.295	5.295	0.000	0	272896	50.0	59.0	
40 Tert-butyl ethyl ether	59	5.760	5.760	0.000	0	522160	50.0	60.5	
45 Ethyl acetate	43	6.027	6.027	0.000	0	324600	100.0	112.0	
44 Propionitrile	54	6.027	6.027	0.000	0	233088	500.0	567.0	
47 Methacrylonitrile	41	6.203	6.203	0.000	0	1110153	500.0	572.1	
57 Isooctane	57	7.085	7.085	0.000	0	660796	50.0	60.7	
56 Tert-amyl methyl ether	73	7.111	7.111	0.000	0	531174	50.0	60.2	
60 n-Butanol	56	7.629	7.629	0.000	0	55051	1250.0	1357.9	
62 Ethyl acrylate	55	7.790	7.790	0.000	0	196735	50.0	54.9	
66 Methyl methacrylate	69	8.025	8.025	0.000	0	262032	100.0	111.3	
70 2-Chloroethyl vinyl ether	63	8.527	8.527	0.000	0	126623	100.0	97.1	
80 n-Butyl acetate	43	9.782	9.782	0.000	0	201188	50.0	58.5	
92 Cyclohexanone	55	11.502	11.502	0.000	91	63171	1000.0	1285.7	
108 1,2,3-Trimethylbenzene	105	12.790	12.790	0.000	0	401238	50.0	58.8	
109 Benzyl chloride	91	12.886	12.886	0.000	0	110963	50.0	58.6	
114 1,3,5-Trichlorobenzene	180	14.109	14.109	0.000	0	62068	50.0	96.9	

Reagents:

VOAList2PRI_00018	Amount Added: 2.00	Units: uL
VOACEVE2ND_00016	Amount Added: 2.00	Units: uL
VOA8260INT_00092	Amount Added: 10.00	Units: uL

Report Date: 12-Mar-2019 11:56:33 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20190228-25793.b\40222804.D				
Injection Date:	28-Feb-2019 07:13:30	Instrument ID:	CHHP4	Operator ID:	034635
Lims ID:	IC			Worklist Smp#:	4
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

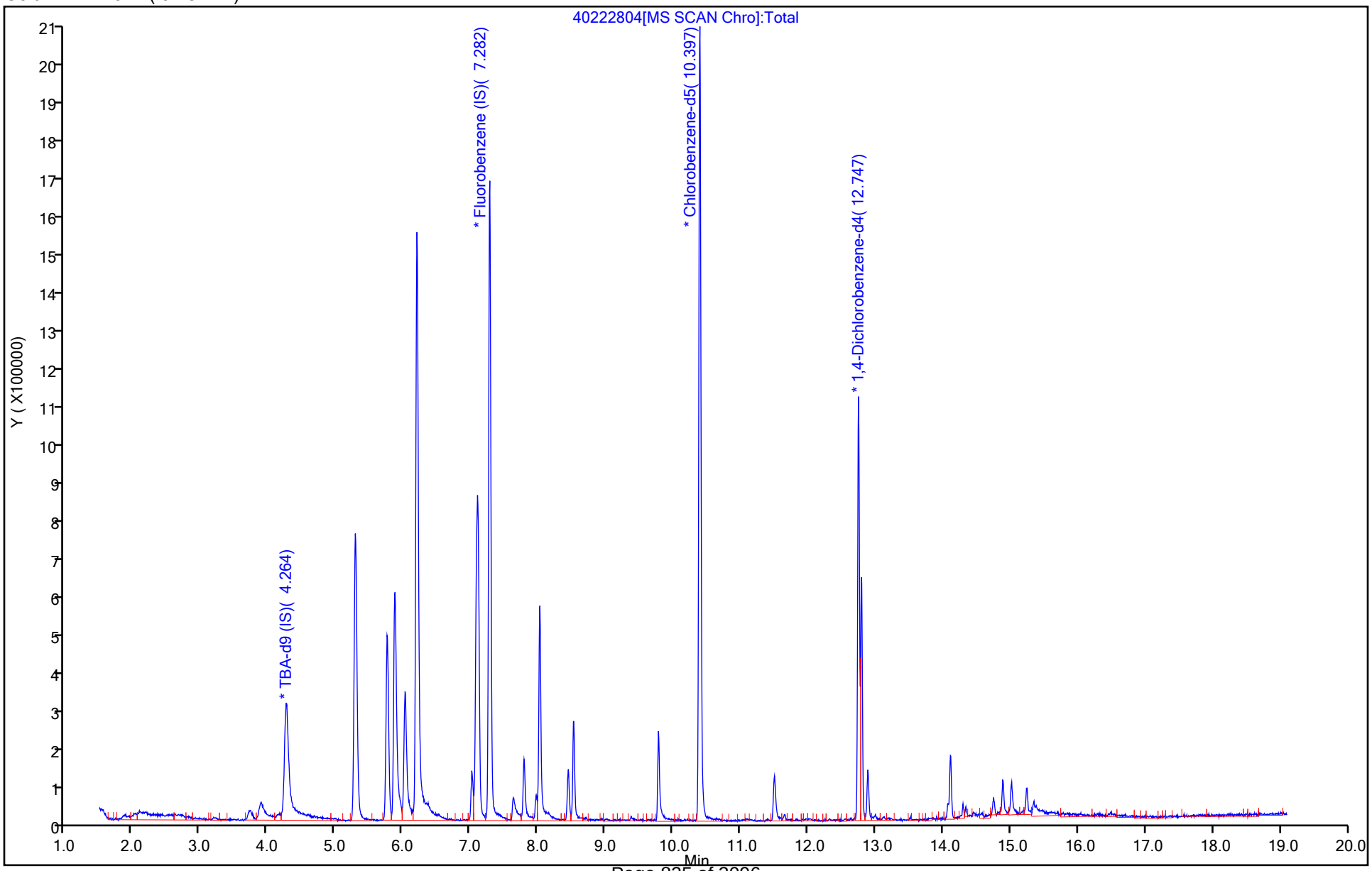

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20190228-25793.b\40222805.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 28-Feb-2019 07:41:30 ALS Bottle#: 5 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0025793-005
Operator ID: 034635 Instrument ID: CHHP4
Sublist: chrom-MSVOA_CHHP4*sub121

Method: \\chromna\Pittsburgh\ChromData\CHHP4\20190228-25793.b\MSVOA_CHHP4.m
Limit Group: VOA 8260C_D ICAL
Last Update: 12-Mar-2019 11:56:34 Calib Date: 28-Feb-2019 14:12:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP4\20190228-25793.b\40222818.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0301

First Level Reviewer: journetp Date: 28-Feb-2019 08:40:33

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.263	4.275	-0.012	91	873540	5000.0	5000.0	
* 2 Fluorobenzene (IS)	96	7.281	7.282	-0.001	98	1845340	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.390	10.391	-0.001	97	409507	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.746	12.747	-0.001	91	378913	250.0	250.0	
26 Isopropyl alcohol	45	3.723	3.724	-0.001	0	158570	1250.0	1159.3	
27 Acetonitrile	40	3.884	3.885	-0.001	0	231070	1250.0	1239.2	
39 Isopropyl ether	45	5.283	5.290	-0.007	0	1216504	125.0	130.8	
37 2-Chloro-1,3-butadiene	53	5.294	5.295	-0.001	0	628596	125.0	131.3	
40 Tert-butyl ethyl ether	59	5.759	5.760	-0.001	0	1175225	125.0	131.6	
44 Propionitrile	54	6.021	6.027	-0.006	0	539275	1250.0	1268.5	
45 Ethyl acetate	43	6.026	6.027	-0.001	0	784776	250.0	261.9	
47 Methacrylonitrile	41	6.202	6.203	-0.001	0	2443055	1250.0	1280.8	
57 Isooctane	57	7.084	7.085	0.000	0	1528208	125.0	135.7	
56 Tert-amyl methyl ether	73	7.110	7.111	-0.001	0	1203066	125.0	131.8	
60 n-Butanol	56	7.623	7.629	-0.006	0	145002	3125.0	2796.7	
62 Ethyl acrylate	55	7.789	7.790	-0.001	0	474826	125.0	122.6	
66 Methyl methacrylate	69	8.024	8.025	-0.001	0	600516	250.0	246.2	
70 2-Chloroethyl vinyl ether	63	8.521	8.527	-0.006	0	325775	250.0	241.6	
80 n-Butyl acetate	43	9.781	9.782	-0.001	0	494073	125.0	128.6	
92 Cyclohexanone	55	11.502	11.502	0.000	91	120167	2500.0	2228.1	
108 1,2,3-Trimethylbenzene	105	12.789	12.790	-0.001	0	909599	125.0	126.1	
109 Benzyl chloride	91	12.885	12.886	-0.001	0	269536	125.0	111.9	
114 1,3,5-Trichlorobenzene	180	14.109	14.109	0.000	0	73527	125.0	104.6	

Reagents:

VOAList2PRI_00018	Amount Added:	5.00	Units: uL
VOACEVE2ND_00016	Amount Added:	5.00	Units: uL
VOA8260INT_00092	Amount Added:	10.00	Units: uL

Report Date: 12-Mar-2019 11:56:35 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20190228-25793.b\40222805.D				
Injection Date:	28-Feb-2019 07:41:30	Instrument ID:	CHHP4	Operator ID:	034635
Lims ID:	IC			Worklist Smp#:	5
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

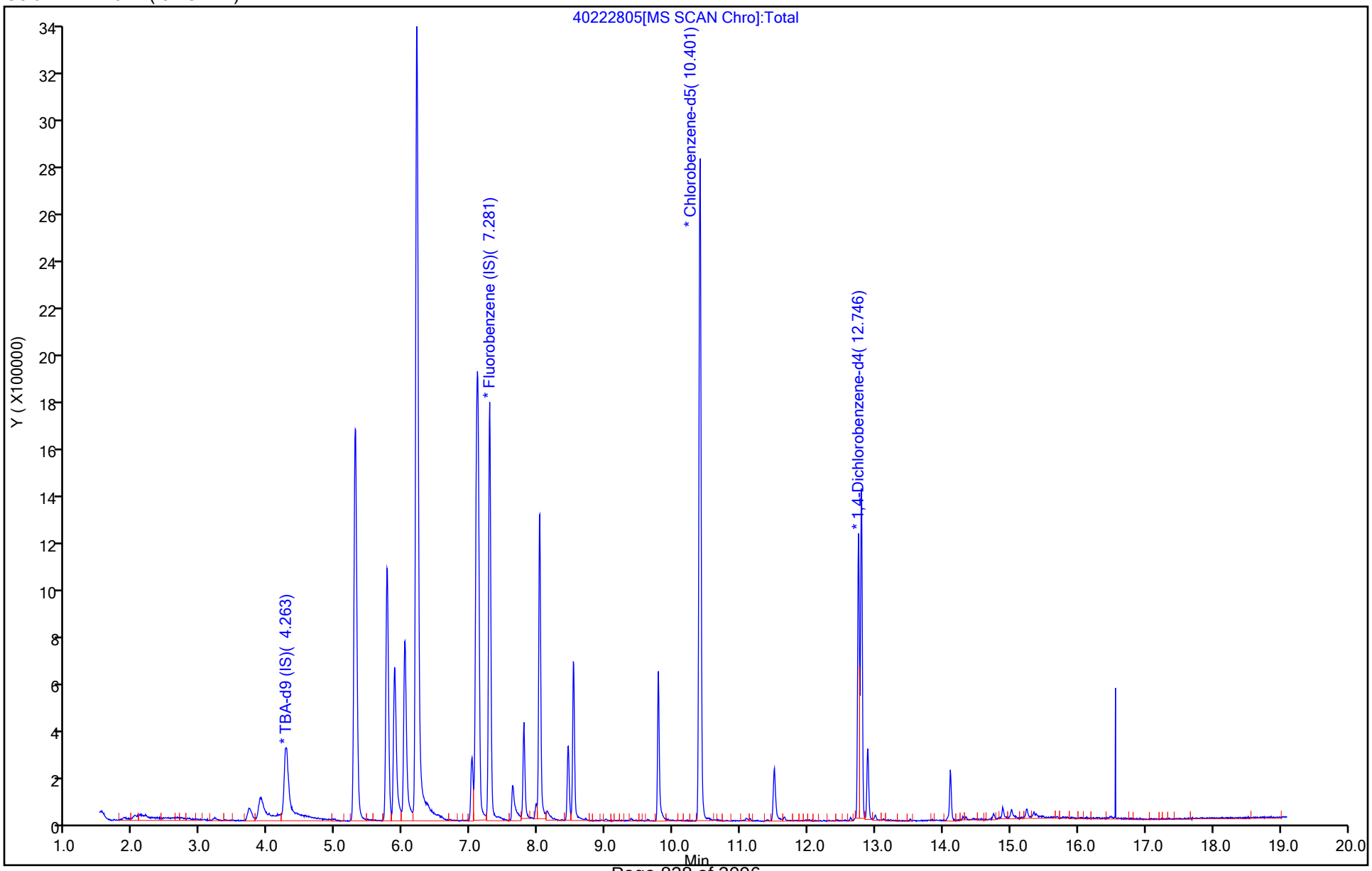

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20190228-25793.b\40222806.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 28-Feb-2019 08:08:30 ALS Bottle#: 6 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0025793-006
Operator ID: 034635 Instrument ID: CHHP4
Sublist: chrom-MSVOA_CHHP4*sub121

Method: \\chromna\Pittsburgh\ChromData\CHHP4\20190228-25793.b\MSVOA_CHHP4.m
Limit Group: VOA 8260C_D ICAL
Last Update: 12-Mar-2019 11:56:36 Calib Date: 28-Feb-2019 14:12:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP4\20190228-25793.b\40222818.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0301

First Level Reviewer: journetp Date: 28-Feb-2019 08:40:57

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.266	4.266	0.000	91	792650	5000.0	5000.0	
* 2 Fluorobenzene (IS)	96	7.279	7.279	0.000	98	1724021	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.394	10.394	0.000	97	386705	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.750	12.750	0.000	91	339422	250.0	250.0	
26 Isopropyl alcohol	45	3.721	3.721	0.000	0	259346	2000.0	1969.8	
27 Acetonitrile	40	3.898	3.898	0.000	0	349895	2000.0	1995.6	
39 Isopropyl ether	45	5.287	5.287	0.000	0	1816431	200.0	209.0	
37 2-Chloro-1,3-butadiene	53	5.292	5.292	0.000	0	947347	200.0	211.9	
40 Tert-butyl ethyl ether	59	5.762	5.762	0.000	0	1750495	200.0	209.8	
45 Ethyl acetate	43	6.024	6.024	0.000	0	1233419	400.0	440.6	
44 Propionitrile	54	6.024	6.024	0.000	0	830458	2000.0	2091.0	
47 Methacrylonitrile	41	6.200	6.200	0.000	0	3686755	2000.0	2103.4	
57 Isooctane	57	7.087	7.087	0.000	0	2164584	200.0	205.7	
56 Tert-amyl methyl ether	73	7.108	7.108	0.000	0	1795860	200.0	210.5	
60 n-Butanol	56	7.626	7.626	0.000	0	265853	5000.0	5076.6	
62 Ethyl acrylate	55	7.787	7.787	0.000	0	785475	200.0	212.8	
66 Methyl methacrylate	69	8.022	8.022	0.000	0	953736	400.0	418.2	
70 2-Chloroethyl vinyl ether	63	8.524	8.524	0.000	0	537788	400.0	427.0	
80 n-Butyl acetate	43	9.779	9.779	0.000	0	822141	200.0	222.0	
92 Cyclohexanone	55	11.494	11.494	0.000	92	209378	4000.0	4037.0	
108 1,2,3-Trimethylbenzene	105	12.792	12.792	0.000	0	1323562	200.0	207.5	
109 Benzyl chloride	91	12.883	12.883	0.000	0	438532	200.0	191.1	
114 1,3,5-Trichlorobenzene	180	14.112	14.112	0.000	0	120303	200.0	191.1	

Reagents:

VOAList2PRI_00018	Amount Added: 8.00	Units: uL
VOACEVE2ND_00016	Amount Added: 8.00	Units: uL
VOA8260INT_00092	Amount Added: 10.00	Units: uL

Report Date: 12-Mar-2019 11:56:38 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20190228-25793.b\40222806.D				
Injection Date:	28-Feb-2019 08:08:30	Instrument ID:	CHHP4	Operator ID:	034635
Lims ID:	IC			Worklist Smp#:	6
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

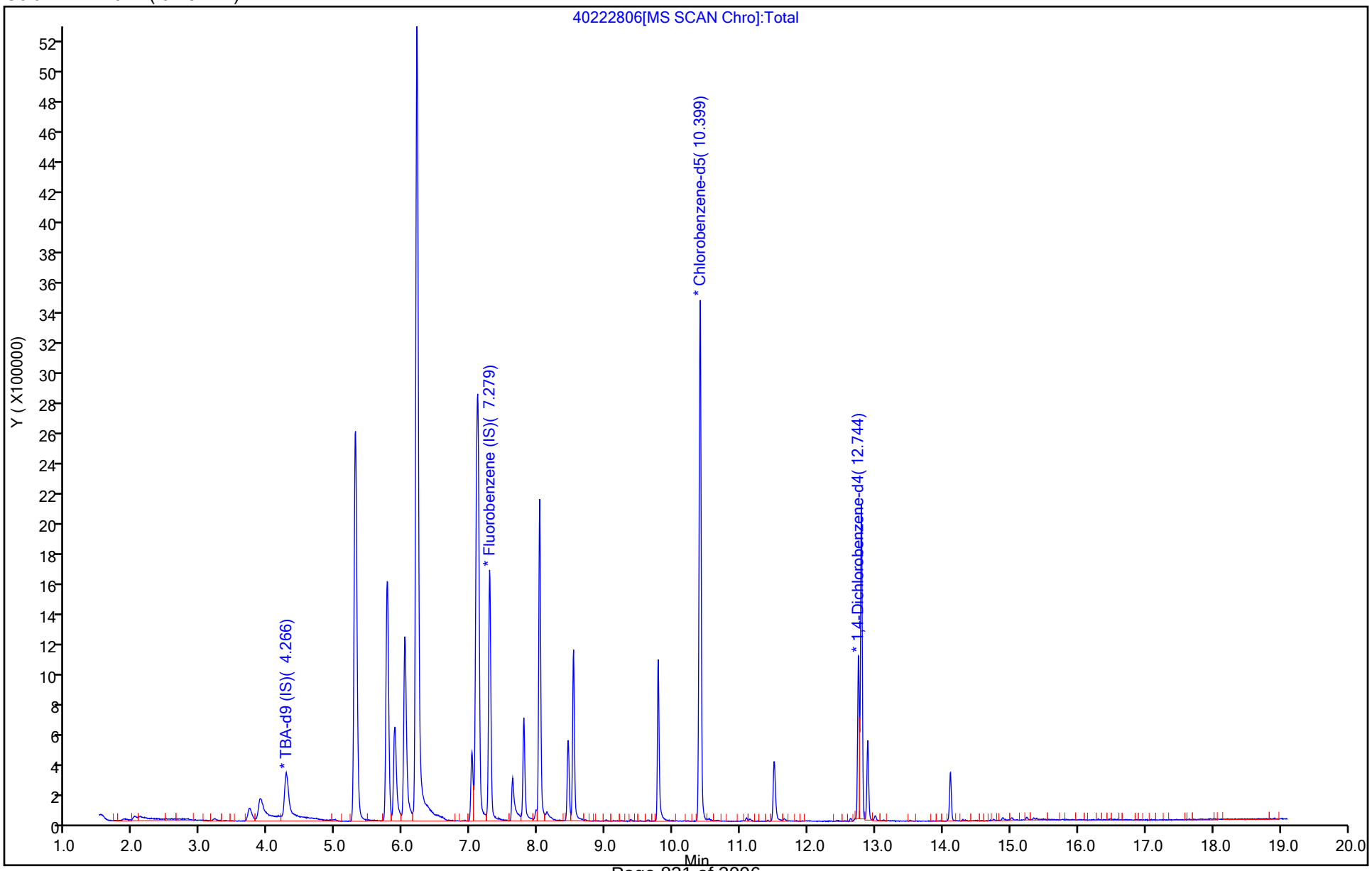

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20190228-25793.b\40222807.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 28-Feb-2019 08:41:30 ALS Bottle#: 7 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0025793-007
Operator ID: 034635 Instrument ID: CHHP4
Sublist: chrom-MSVOA_CHHP4*sub121

Method: \\chromna\Pittsburgh\ChromData\CHHP4\20190228-25793.b\MSVOA_CHHP4.m
Limit Group: VOA 8260C_D ICAL
Last Update: 12-Mar-2019 11:56:39 Calib Date: 28-Feb-2019 14:12:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP4\20190228-25793.b\40222818.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0301

First Level Reviewer: journetp Date: 28-Feb-2019 09:07:55

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.267	4.266	0.001	91	795685	5000.0	5000.0	
* 2 Fluorobenzene (IS)	96	7.280	7.279	0.001	98	1737418	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.395	10.394	0.001	97	389926	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.751	12.750	0.001	91	359712	250.0	250.0	
26 Isopropyl alcohol	45	3.728	3.721	0.007	0	332322	2500.0	2483.1	
27 Acetonitrile	40	3.888	3.898	-0.010	0	442618	2500.0	2499.6	
39 Isopropyl ether	45	5.288	5.287	0.001	0	2169804	250.0	247.7	
37 2-Chloro-1,3-butadiene	53	5.293	5.292	0.001	0	1148178	250.0	254.8	
40 Tert-butyl ethyl ether	59	5.758	5.762	-0.004	0	2097049	250.0	249.4	
44 Propionitrile	54	6.025	6.024	0.001	0	1036845	2500.0	2590.5	
45 Ethyl acetate	43	6.025	6.024	0.001	0	1436818	500.0	509.3	
47 Methacrylonitrile	41	6.201	6.200	0.001	0	4222067	2500.0	2397.9	
57 Isooctane	57	7.088	7.087	0.001	0	2623324	250.0	247.4	
56 Tert-amyl methyl ether	73	7.109	7.108	0.001	0	2120253	250.0	246.6	
60 n-Butanol	56	7.617	7.626	-0.009	0	336626	6250.0	6268.7	
62 Ethyl acrylate	55	7.788	7.787	0.001	0	910997	250.0	244.3	
66 Methyl methacrylate	69	8.023	8.022	0.001	0	1140550	500.0	496.2	
70 2-Chloroethyl vinyl ether	63	8.520	8.524	-0.004	0	704932	500.0	555.4	
80 n-Butyl acetate	43	9.781	9.779	0.002	0	978322	250.0	260.9	
92 Cyclohexanone	55	11.495	11.494	0.001	92	266581	5000.0	5092.3	
108 1,2,3-Trimethylbenzene	105	12.793	12.792	0.001	0	1636140	250.0	242.7	
109 Benzyl chloride	91	12.884	12.883	0.001	0	559109	250.0	226.9	
114 1,3,5-Trichlorobenzene	180	14.113	14.112	0.001	0	197670	250.0	296.4	

Reagents:

VOAList2PRI_00018	Amount Added:	10.00	Units: uL
VOACEVE2ND_00016	Amount Added:	10.00	Units: uL
VOA8260INT_00092	Amount Added:	10.00	Units: uL

Report Date: 12-Mar-2019 11:56:40 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20190228-25793.b\40222807.D				
Injection Date:	28-Feb-2019 08:41:30	Instrument ID:	CHHP4	Operator ID:	034635
Lims ID:	IC			Worklist Smp#:	7
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

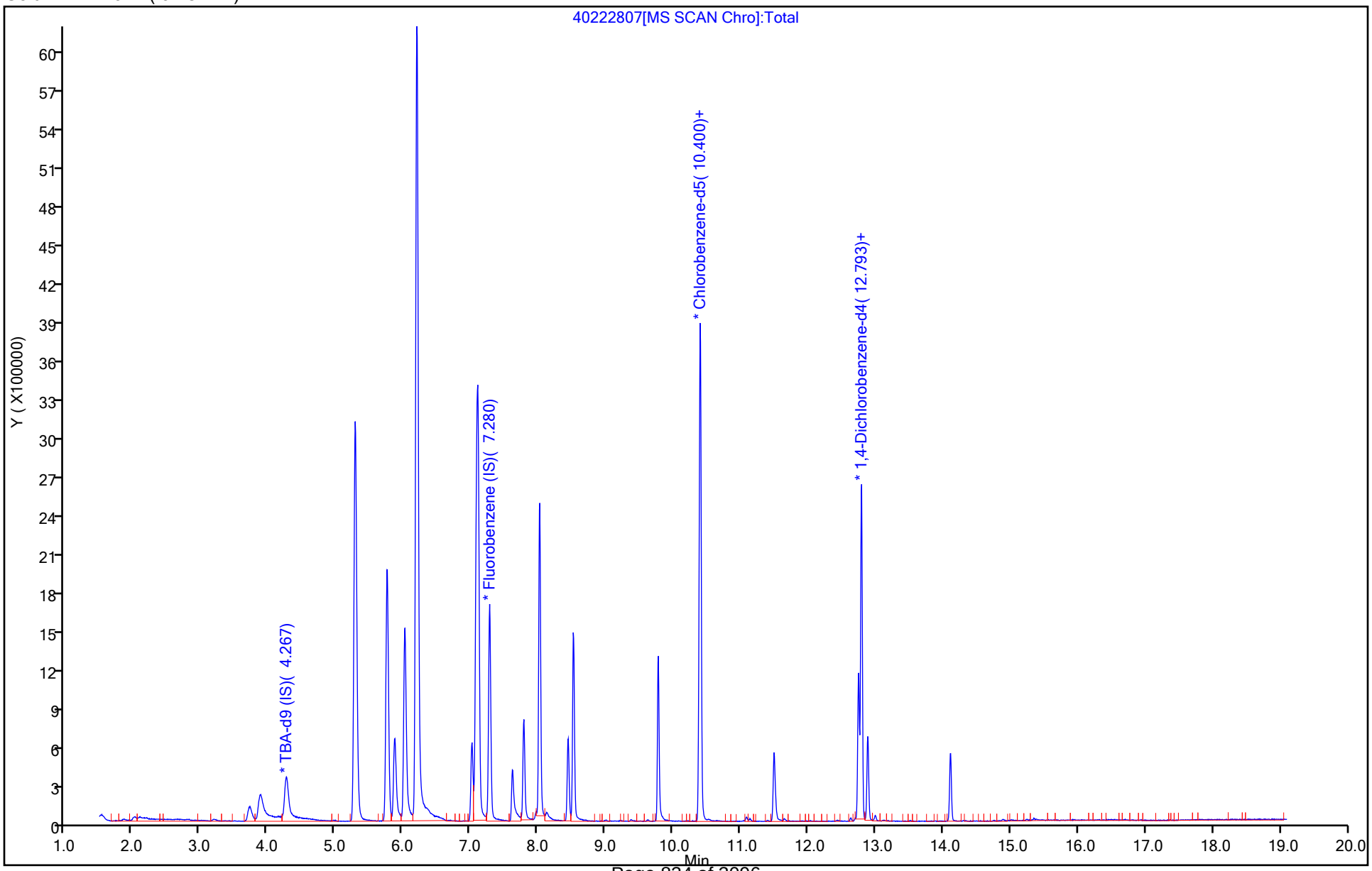

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20190228-25793.b\40222808.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 28-Feb-2019 09:12:30 ALS Bottle#: 8 Worklist Smp#: 8
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0025793-008
Operator ID: 034635 Instrument ID: CHHP4
Sublist: chrom-MSVOA_CHHP4*sub121

Method: \\chromna\Pittsburgh\ChromData\CHHP4\20190228-25793.b\MSVOA_CHHP4.m
Limit Group: VOA 8260C_D ICAL
Last Update: 12-Mar-2019 11:56:41 Calib Date: 28-Feb-2019 14:12:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP4\20190228-25793.b\40222818.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0301

First Level Reviewer: journetp Date: 12-Mar-2019 11:06:27

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.272	4.266	0.006	90	759058	5000.0	5000.0	
* 2 Fluorobenzene (IS)	96	7.280	7.279	0.001	98	1740168	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.394	10.394	0.000	96	401709	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.750	12.750	0.000	92	368570	250.0	250.0	
26 Isopropyl alcohol	45	3.732	3.721	0.011	0	662997	5000.0	4867.2	
27 Acetonitrile	40	3.877	3.898	-0.021	0	1163447	5000.0	6526.2	
39 Isopropyl ether	45	5.287	5.287	0.000	0	3929849	500.0	447.9	
37 2-Chloro-1,3-butadiene	53	5.292	5.292	0.000	0	2186524	500.0	484.4	
40 Tert-butyl ethyl ether	59	5.762	5.762	0.000	0	3872996	500.0	459.8	
45 Ethyl acetate	43	6.024	6.024	0.000	0	2996157	1000.0	1060.3	
44 Propionitrile	54	6.024	6.024	0.000	0	2186746	5000.0	5454.8	
47 Methacrylonitrile	41	6.206	6.200	0.006	0	7637700	5000.0	4376.1	
57 Isooctane	57	7.087	7.087	0.000	0	4622857	500.0	435.2	
56 Tert-amyl methyl ether	73	7.109	7.108	0.001	0	3961257	500.0	460.0	
60 n-Butanol	56	7.616	7.626	-0.010	0	710099	12500	12729	
62 Ethyl acrylate	55	7.787	7.787	0.000	0	1924468	500.0	498.2	
66 Methyl methacrylate	69	8.022	8.022	0.000	0	2292445	1000.0	995.3	
70 2-Chloroethyl vinyl ether	63	8.524	8.524	0.000	0	1364997	1000.0	1073.7	
80 n-Butyl acetate	43	9.774	9.779	-0.005	0	2036032	500.0	520.9	
92 Cyclohexanone	55	11.495	11.494	0.001	92	530022	10000	9984.9	
108 1,2,3-Trimethylbenzene	105	12.793	12.792	0.001	0	2990640	500.0	436.4	
109 Benzyl chloride	91	12.883	12.883	0.000	0	1258663	500.0	480.9	
114 1,3,5-Trichlorobenzene	180	14.107	14.112	-0.005	0	255939	500.0	374.5	

Reagents:

VOAList2PRI_00018	Amount Added:	20.00	Units: uL
VOACEVE2ND_00016	Amount Added:	20.00	Units: uL
VOA8260INT_00092	Amount Added:	10.00	Units: uL

Report Date: 12-Mar-2019 11:56:42 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20190228-25793.b\40222808.D				
Injection Date:	28-Feb-2019 09:12:30	Instrument ID:	CHHP4	Operator ID:	034635
Lims ID:	IC			Worklist Smp#:	8
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

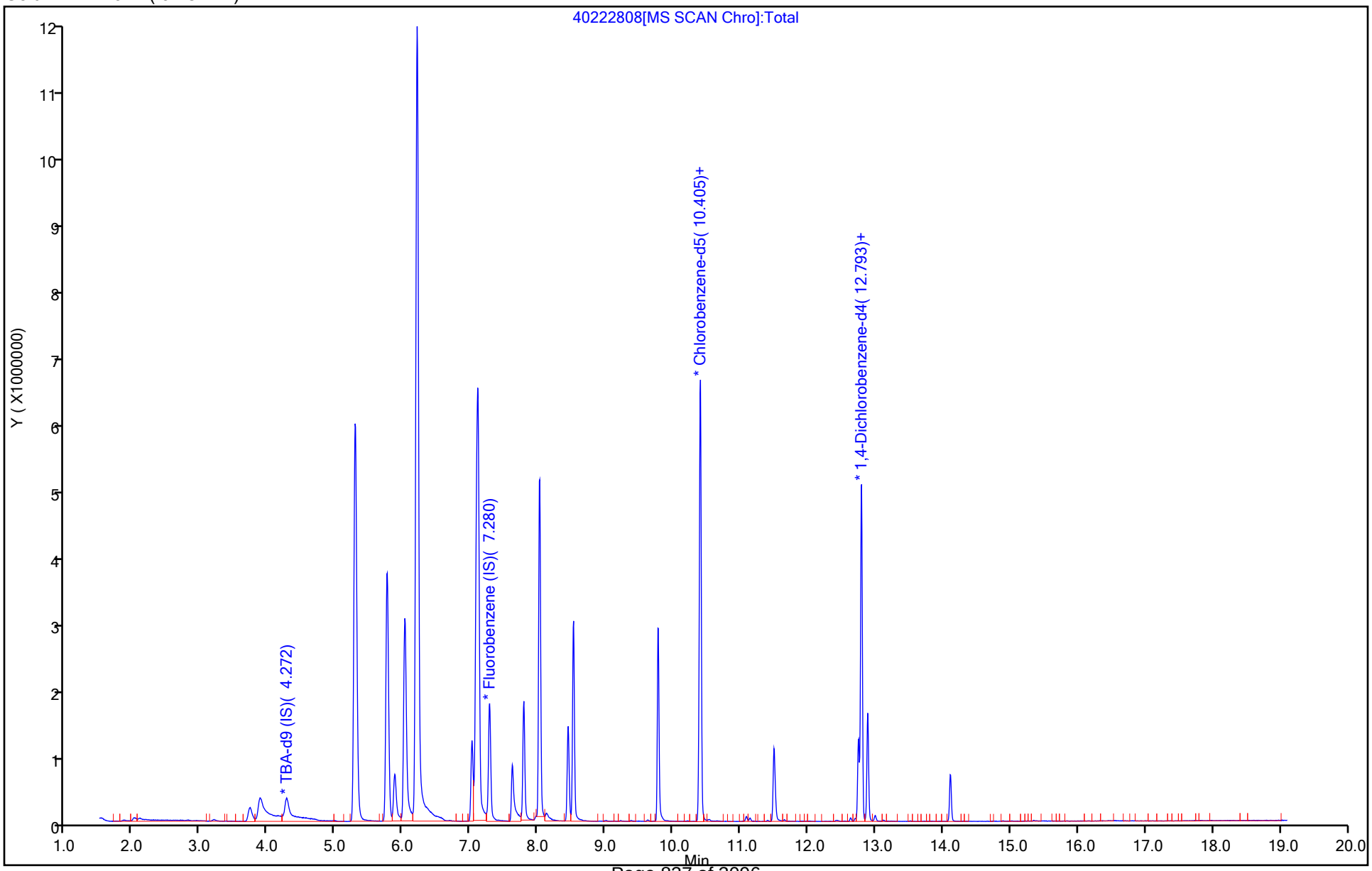

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20190228-25793.b\40222809.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 28-Feb-2019 09:50:30 ALS Bottle#: 9 Worklist Smp#: 9
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0025793-009
Operator ID: 034635 Instrument ID: CHHP4
Sublist: chrom-MSVOA_CHHP4*sub121

Method: \\chromna\Pittsburgh\ChromData\CHHP4\20190228-25793.b\MSVOA_CHHP4.m
Limit Group: VOA 8260C_D ICAL
Last Update: 12-Mar-2019 11:56:43 Calib Date: 28-Feb-2019 14:12:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP4\20190228-25793.b\40222818.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0301

First Level Reviewer: journetp Date: 28-Feb-2019 10:27:03

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.301	4.266	0.035	91	441567	5000.0	5000.0	
* 2 Fluorobenzene (IS)	96	7.276	7.279	-0.003	98	2097361	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.391	10.394	-0.003	95	459940	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.747	12.750	-0.003	92	392072	250.0	250.0	
26 Isopropyl alcohol	45	3.750	3.721	0.029	0	1687917	10000	10193	
27 Acetonitrile	40	3.895	3.898	-0.003	0	2422698	10000	11260	
39 Isopropyl ether	45	5.289	5.287	0.002	0	8255793	1000.0	780.7	
37 2-Chloro-1,3-butadiene	53	5.284	5.292	-0.008	0	5147941	1000.0	946.3	
40 Tert-butyl ethyl ether	59	5.764	5.762	0.002	0	8365234	1000.0	824.1	
44 Propionitrile	54	6.031	6.024	0.007	0	4813522	10000	9962.3	
45 Ethyl acetate	43	6.026	6.024	0.002	0	6079447	2000.0	1785.0	
47 Methacrylonitrile	41	6.218	6.200	0.018	0	13595983	10000	6490.1	
57 Isooctane	57	7.084	7.087	-0.003	0	9576923	1000.0	748.1	
56 Tert-amyl methyl ether	73	7.111	7.108	0.003	0	8331960	1000.0	802.8	
60 n-Butanol	56	7.623	7.626	-0.003	0	1702674	25000	24901	
62 Ethyl acrylate	55	7.784	7.787	-0.003	0	4195473	1000.0	946.3	
66 Methyl methacrylate	69	8.024	8.022	0.002	0	4855010	2000.0	1748.6	
70 2-Chloroethyl vinyl ether	63	8.521	8.524	-0.003	0	3070388	2000.0	2003.8	
80 n-Butyl acetate	43	9.776	9.779	-0.003	0	4240753	1000.0	942.6	
92 Cyclohexanone	55	11.496	11.494	0.002	92	1333364	20000	23745	
108 1,2,3-Trimethylbenzene	105	12.789	12.792	-0.003	0	5276904	1000.0	726.6	
109 Benzyl chloride	91	12.885	12.883	0.002	0	2986051	1000.0	1054.2	
114 1,3,5-Trichlorobenzene	180	14.109	14.112	-0.003	0	497500	1000.0	684.3	

Reagents:

VOAList2PRI_00018	Amount Added:	40.00	Units: uL
VOACEVE2ND_00016	Amount Added:	40.00	Units: uL
VOA8260INT_00092	Amount Added:	10.00	Units: uL

Report Date: 12-Mar-2019 11:56:44 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20190228-25793.b\40222809.D				
Injection Date:	28-Feb-2019 09:50:30	Instrument ID:	CHHP4	Operator ID:	034635
Lims ID:	IC			Worklist Smp#:	9
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

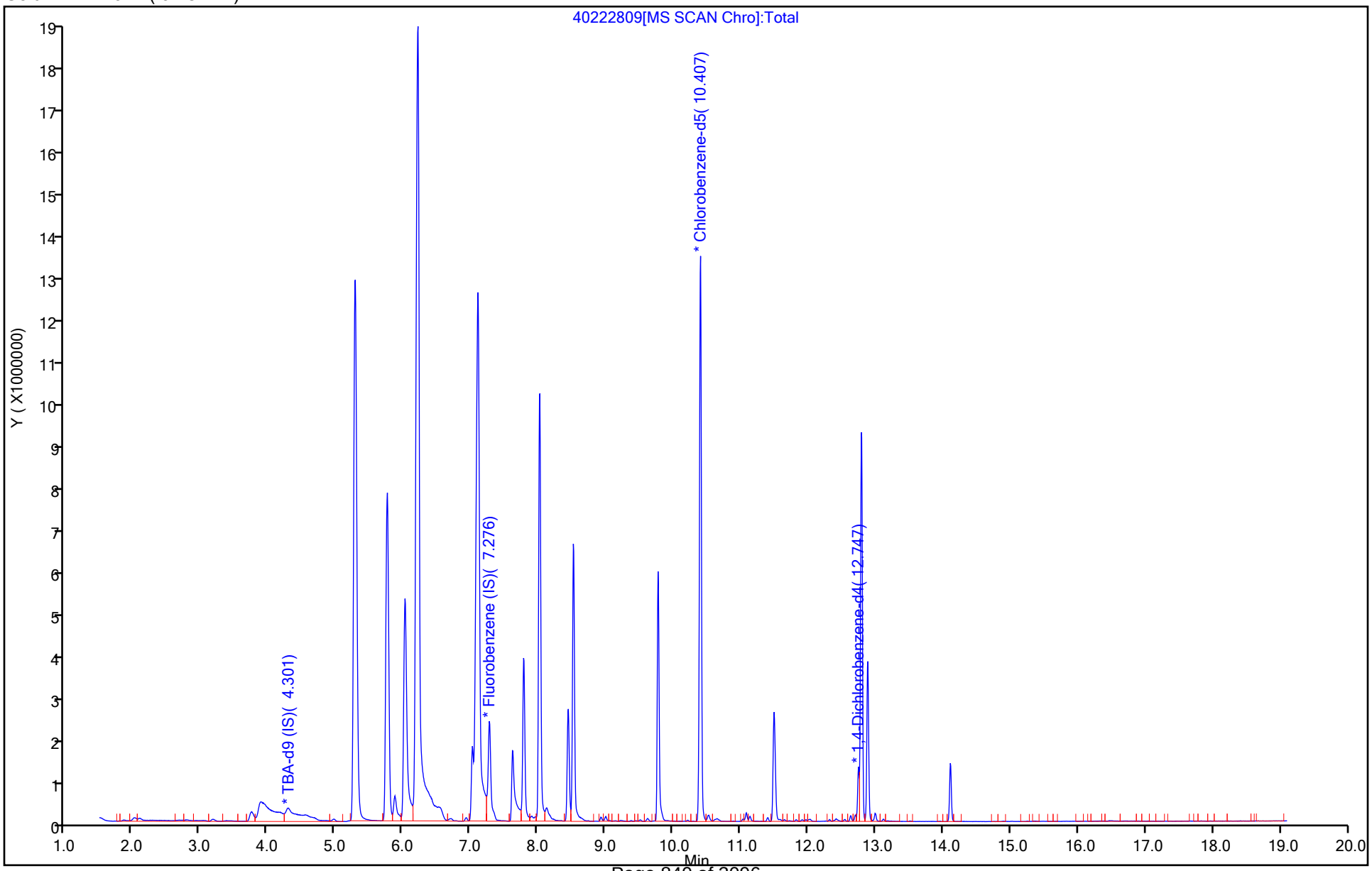

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20190228-25793.b\40222818.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 28-Feb-2019 14:12:30 ALS Bottle#: 18 Worklist Smp#: 18
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0025793-018
Operator ID: 034635 Instrument ID: CHHP4
Sublist: chrom-MSVOA_CHHP4*sub121

Method: \\chromna\Pittsburgh\ChromData\CHHP4\20190228-25793.b\MSVOA_CHHP4.m
Limit Group: VOA 8260C_D ICAL
Last Update: 12-Mar-2019 11:56:46 Calib Date: 28-Feb-2019 14:12:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP4\20190228-25793.b\40222818.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0301

First Level Reviewer: journetp Date: 11-Mar-2019 15:35:51

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.272	4.266	0.006	92	732658	5000.0	5000.0	
* 2 Fluorobenzene (IS)	96	7.280	7.279	0.001	98	1746516	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.394	10.394	0.000	97	378851	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.750	12.750	0.000	92	313377	250.0	250.0	
26 Isopropyl alcohol	45	3.727	3.721	0.006	0	19947	250.0	223.0	
27 Acetonitrile	40	3.920	3.898	0.022	0	29989	250.0	187.9	
39 Isopropyl ether	45	5.287	5.287	0.000	0	175965	25.0	20.0	
37 2-Chloro-1,3-butadiene	53	5.298	5.292	0.006	0	87961	25.0	19.4	
40 Tert-butyl ethyl ether	59	5.763	5.762	0.001	0	163173	25.0	19.3	
45 Ethyl acetate	43	6.035	6.024	0.011	0	107716	50.0	38.0	
44 Propionitrile	54	6.035	6.024	0.011	0	68630	250.0	170.6	
47 Methacrylonitrile	41	6.206	6.200	0.006	0	349151	250.0	145.8	
57 Isooctane	57	7.082	7.087	-0.005	0	216684	25.0	20.3	
56 Tert-amyl methyl ether	73	7.114	7.108	0.006	0	169315	25.0	19.6	
60 n-Butanol	56	7.665	7.626	0.039	0	11115	625.0	619.7	M
62 Ethyl acrylate	55	7.787	7.787	0.000	0	53591	25.0	17.2	
66 Methyl methacrylate	69	8.028	8.022	0.006	0	74975	50.0	32.8	
70 2-Chloroethyl vinyl ether	63	8.525	8.524	0.001	0	51582	50.0	40.4	
80 n-Butyl acetate	43	9.791	9.779	0.012	0	39449	25.0	16.6	
92 Cyclohexanone	55	11.511	11.494	0.017	91	12724	500.0	373.0	
108 1,2,3-Trimethylbenzene	105	12.793	12.792	0.001	0	110931	25.0	14.9	
109 Benzyl chloride	91	12.884	12.883	0.001	0	26480	25.0	26.3	
114 1,3,5-Trichlorobenzene	180	14.118	14.112	0.006	0	9460	25.0	16.3	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

VOAList2PRI_00018	Amount Added: 1.00	Units: uL
VOACEVE2ND_00016	Amount Added: 1.00	Units: uL
VOA8260INT_00092	Amount Added: 10.00	Units: uL

Report Date: 12-Mar-2019 11:56:47 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20190228-25793.b\40222818.D

Injection Date: 28-Feb-2019 14:12:30 Instrument ID: CHHP4 Operator ID: 034635

Lims ID: IC Worklist Smp#: 18

Client ID:

Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 18

Method: MSVOA_CHHP4 Limit Group: VOA 8260C_D ICAL

Column: DB-624 (0.18 mm)

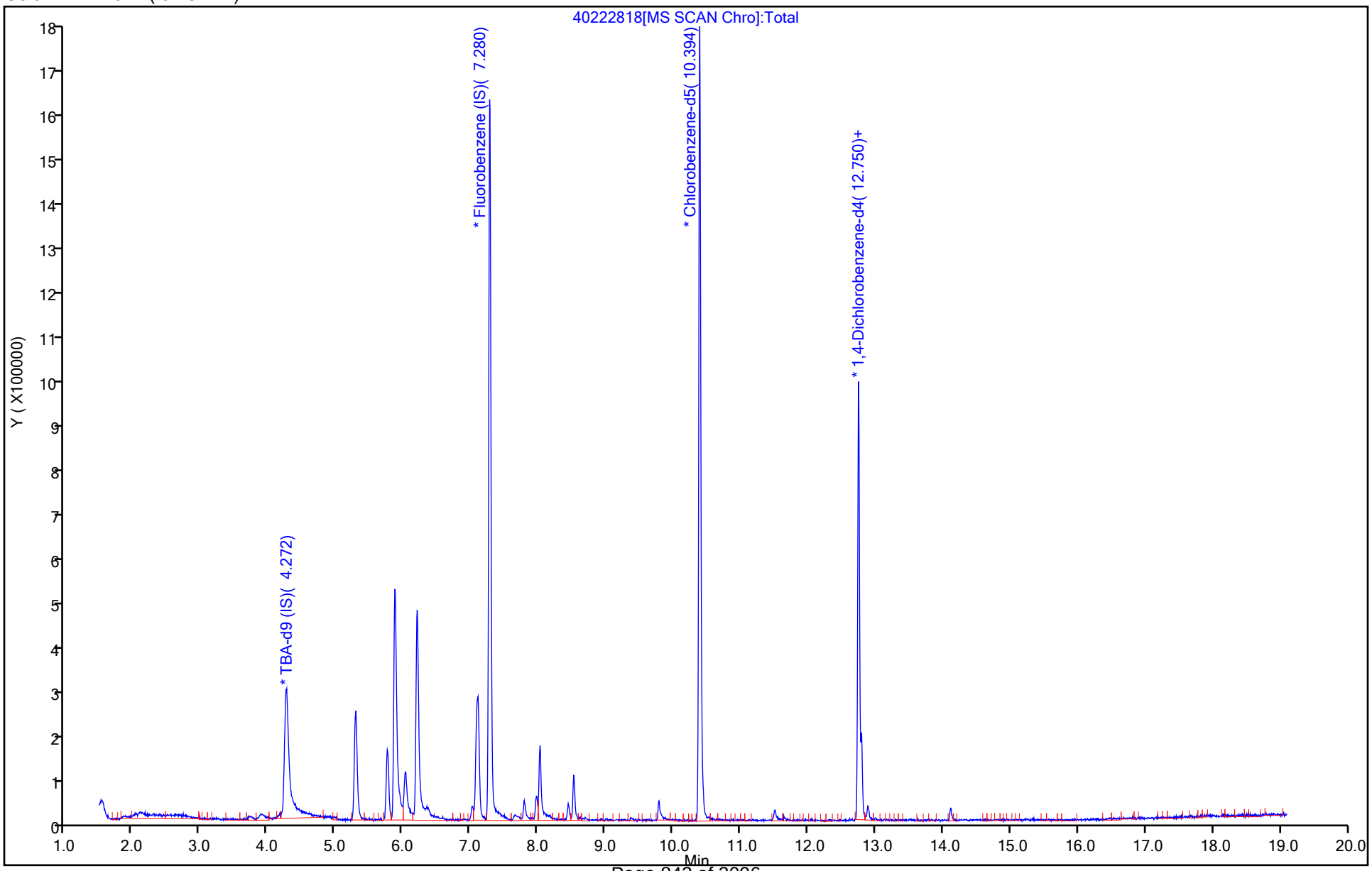

Manual Integration/User Assign Peak Report

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20190228-25793.b\40222818.D				
Injection Date:	28-Feb-2019 14:12:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	18	Worklist Smp#:	18
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

60 n-Butanol, CAS: 71-36-3

Signal: 1

Processing Integration Results

RT: 7.64
Area: 1633
Amount: 37.547049
Amount Units: ng

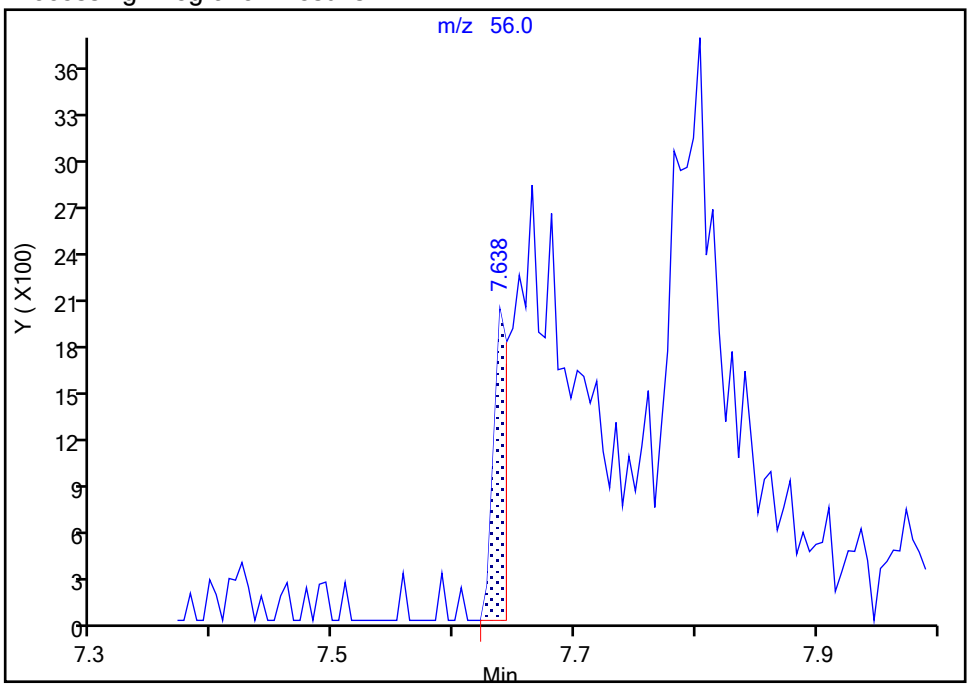

Manual Integration Results

RT: 7.66
Area: 11115
Amount: 619.7021
Amount Units: ng

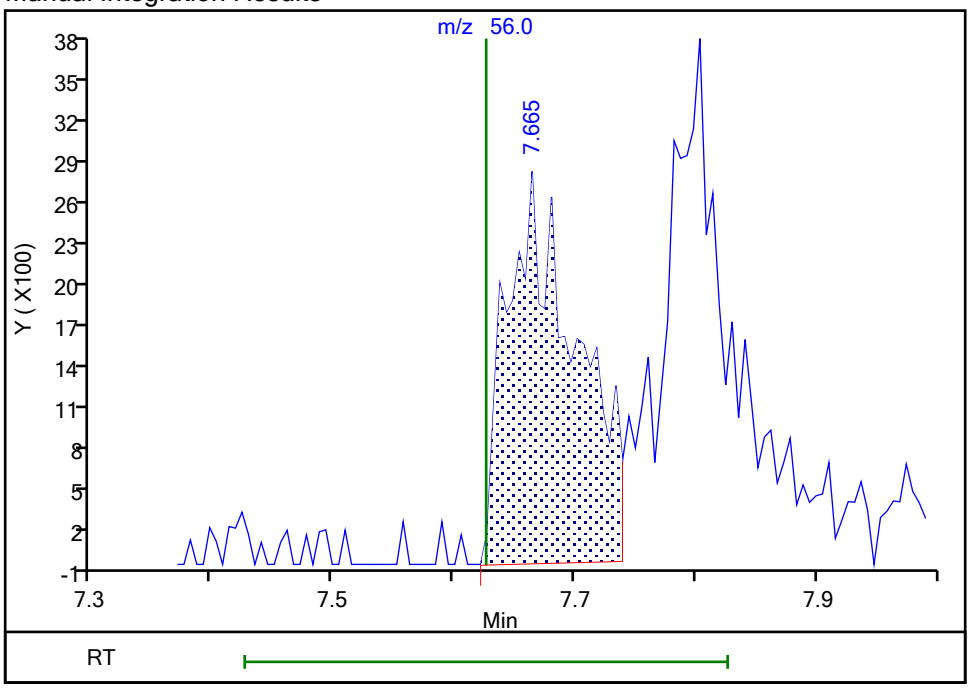

Reviewer: journetp, 11-Mar-2019 15:36:19

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Calibration / Isopropyl alcohol

Curve Type:	Linear
Weighting:	Conc
Origin:	None
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	-1.58
Slope:	0.01989

Error Coefficients

Standard Error:	836000
Relative Standard Error:	11.2
Correlation Coefficient:	0.989
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-271562/18	250.0	2.855256	250.0	1746516.0	0.011421	Y
2	IC 180-271562/4	500.0	10.454634	250.0	1784448.0	0.020909	Y
3	IC 180-271562/5	1250.0	21.482491	250.0	1845340.0	0.017186	Y
4	IC 180-271562/6	2000.0	37.607721	250.0	1724021.0	0.018804	Y
5	IC 180-271562/7	2500.0	47.818372	250.0	1737418.0	0.019127	Y
6	IC 180-271562/8	5000.0	95.248993	250.0	1740168.0	0.01905	Y
7	IC 180-271562/9	10000.0	201.195335	250.0	2097361.0	0.02012	Y

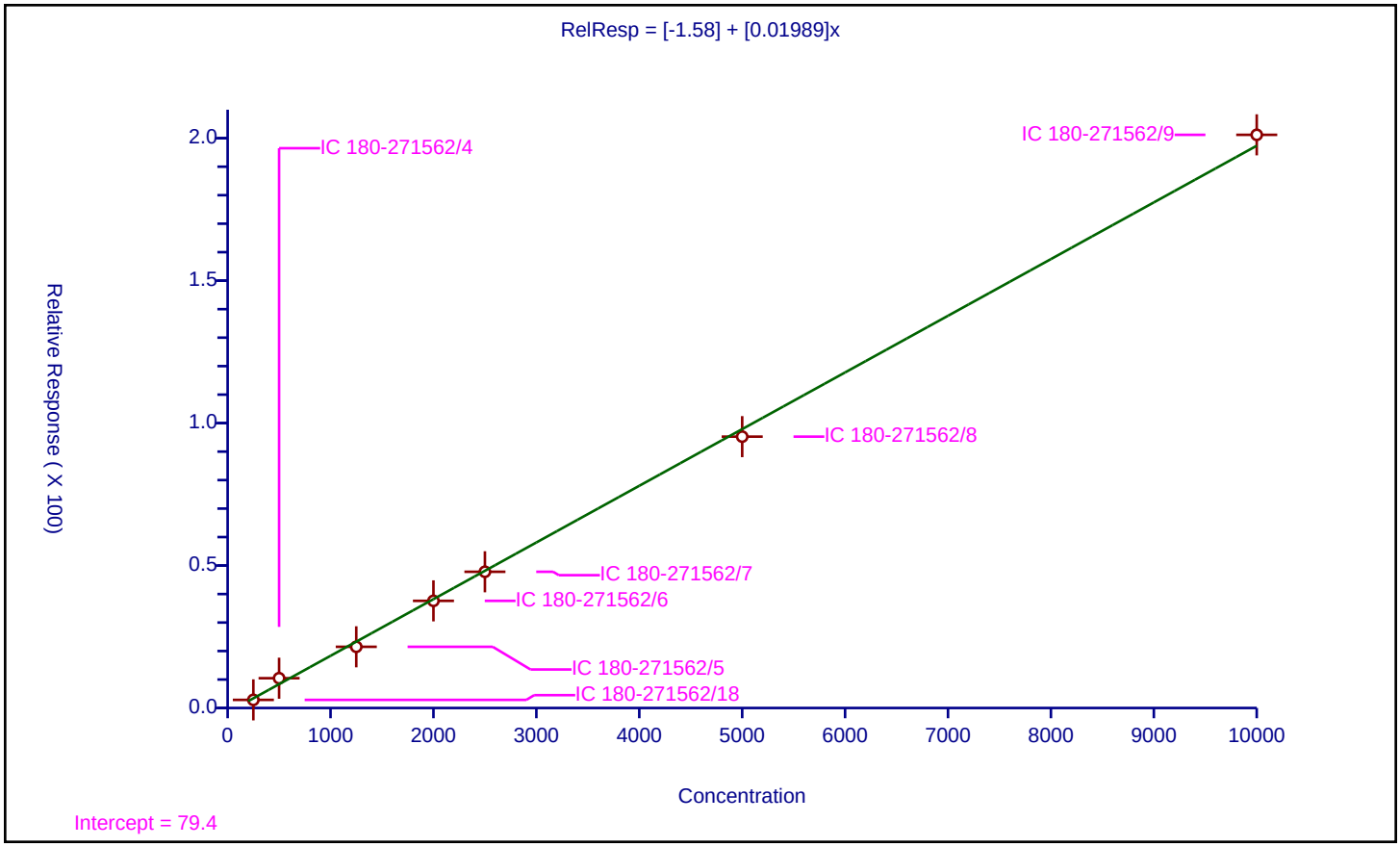

Calibration / Acetonitrile

Curve Type:	Linear
Weighting:	None
Origin:	None
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	-0.534
Slope:	0.02569

Error Coefficients

Standard Error:	357000
Relative Standard Error:	16.9
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-271562/18	250.0	4.292689	250.0	1746516.0	0.017171	Y
2	IC 180-271562/4	500.0	14.310868	250.0	1784448.0	0.028622	Y
3	IC 180-271562/5	1250.0	31.304529	250.0	1845340.0	0.025044	Y
4	IC 180-271562/6	2000.0	50.738216	250.0	1724021.0	0.025369	Y
5	IC 180-271562/7	2500.0	63.689049	250.0	1737418.0	0.025476	Y
6	IC 180-271562/8	5000.0	167.145787	250.0	1740168.0	0.033429	N
7	IC 180-271562/9	10000.0	288.779328	250.0	2097361.0	0.028878	N

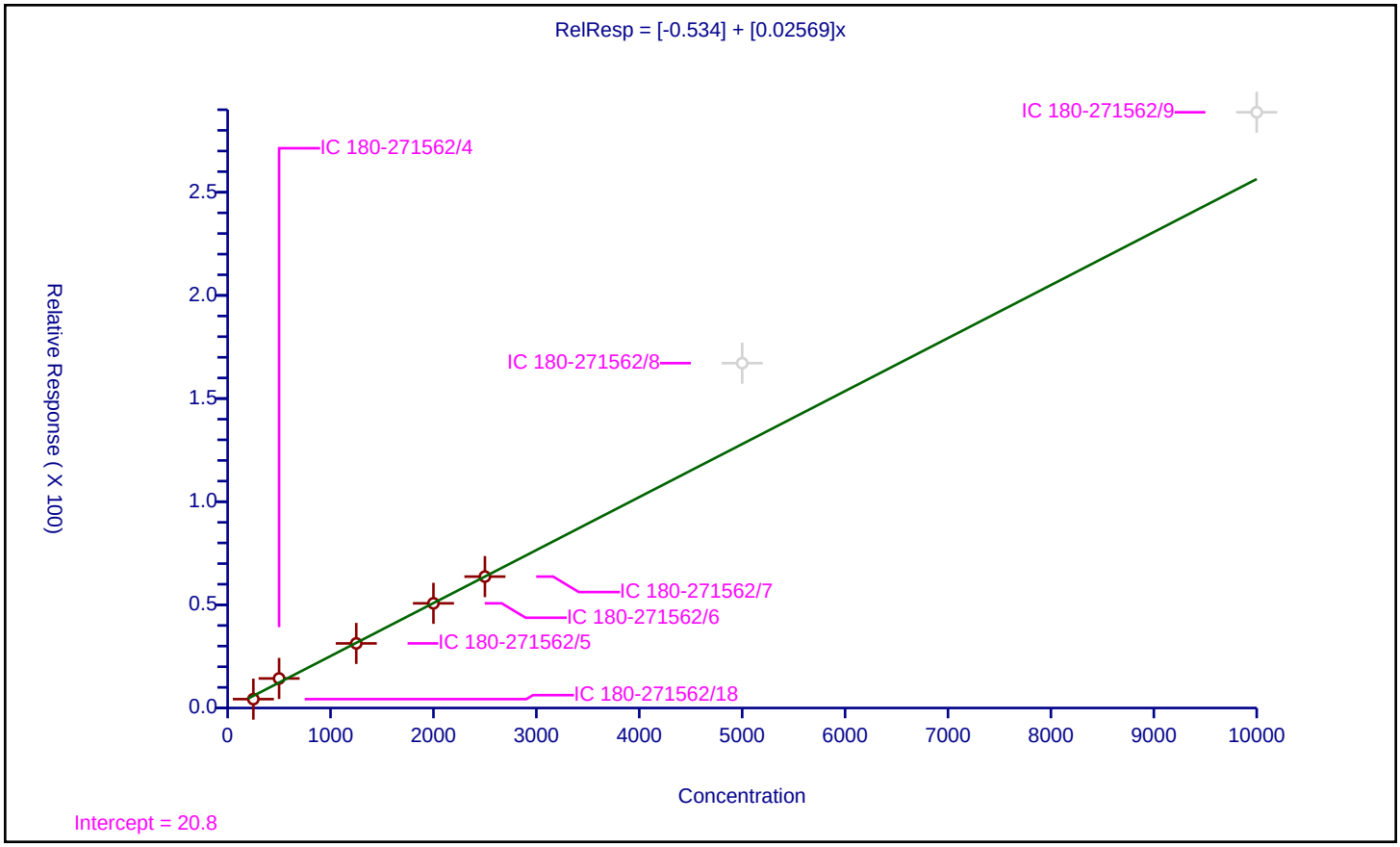

Calibration / Isopropyl ether

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.26

Error Coefficients

Standard Error:	2250000
Relative Standard Error:	14.5
Correlation Coefficient:	0.993
Coefficient of Determination (Adjusted):	0.969

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-271562/18	25.0	25.188003	250.0	1746516.0	1.00752	Y
2	IC 180-271562/4	50.0	77.084202	250.0	1784448.0	1.541684	Y
3	IC 180-271562/5	125.0	164.807569	250.0	1845340.0	1.318461	Y
4	IC 180-271562/6	200.0	263.400359	250.0	1724021.0	1.317002	Y
5	IC 180-271562/7	250.0	312.216749	250.0	1737418.0	1.248867	Y
6	IC 180-271562/8	500.0	564.578966	250.0	1740168.0	1.129158	Y
7	IC 180-271562/9	1000.0	984.069147	250.0	2097361.0	0.984069	N

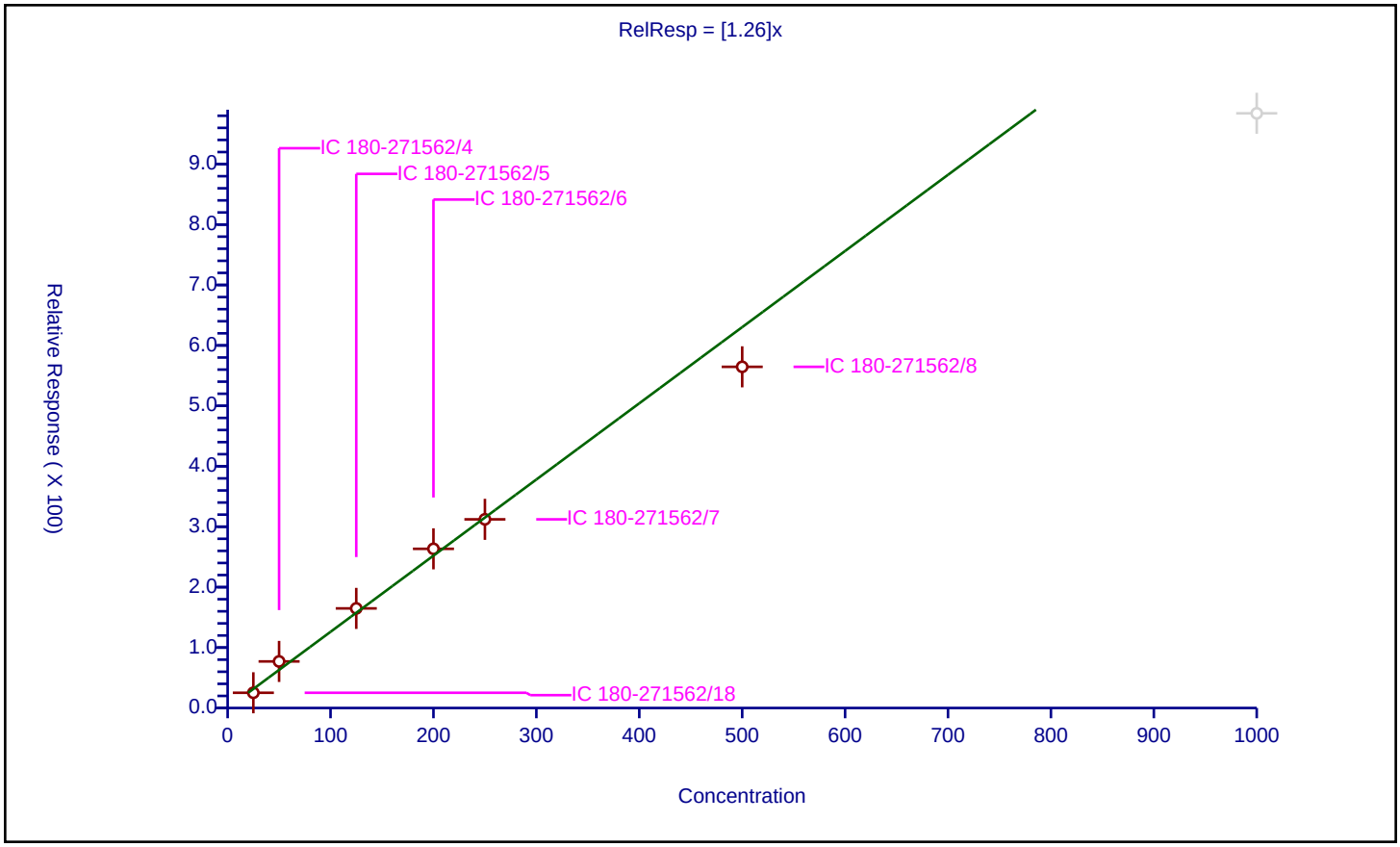

Calibration / 2-Chloro-1,3-butadiene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.6485

Error Coefficients

Standard Error:	2380000
Relative Standard Error:	12.4
Correlation Coefficient:	0.994
Coefficient of Determination (Adjusted):	0.979

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-271562/18	25.0	12.590924	250.0	1746516.0	0.503637	Y
2	IC 180-271562/4	50.0	38.232551	250.0	1784448.0	0.764651	Y
3	IC 180-271562/5	125.0	85.159916	250.0	1845340.0	0.681279	Y
4	IC 180-271562/6	200.0	137.374632	250.0	1724021.0	0.686873	Y
5	IC 180-271562/7	250.0	165.213265	250.0	1737418.0	0.660853	Y
6	IC 180-271562/8	500.0	314.125418	250.0	1740168.0	0.628251	Y
7	IC 180-271562/9	1000.0	613.621236	250.0	2097361.0	0.613621	Y

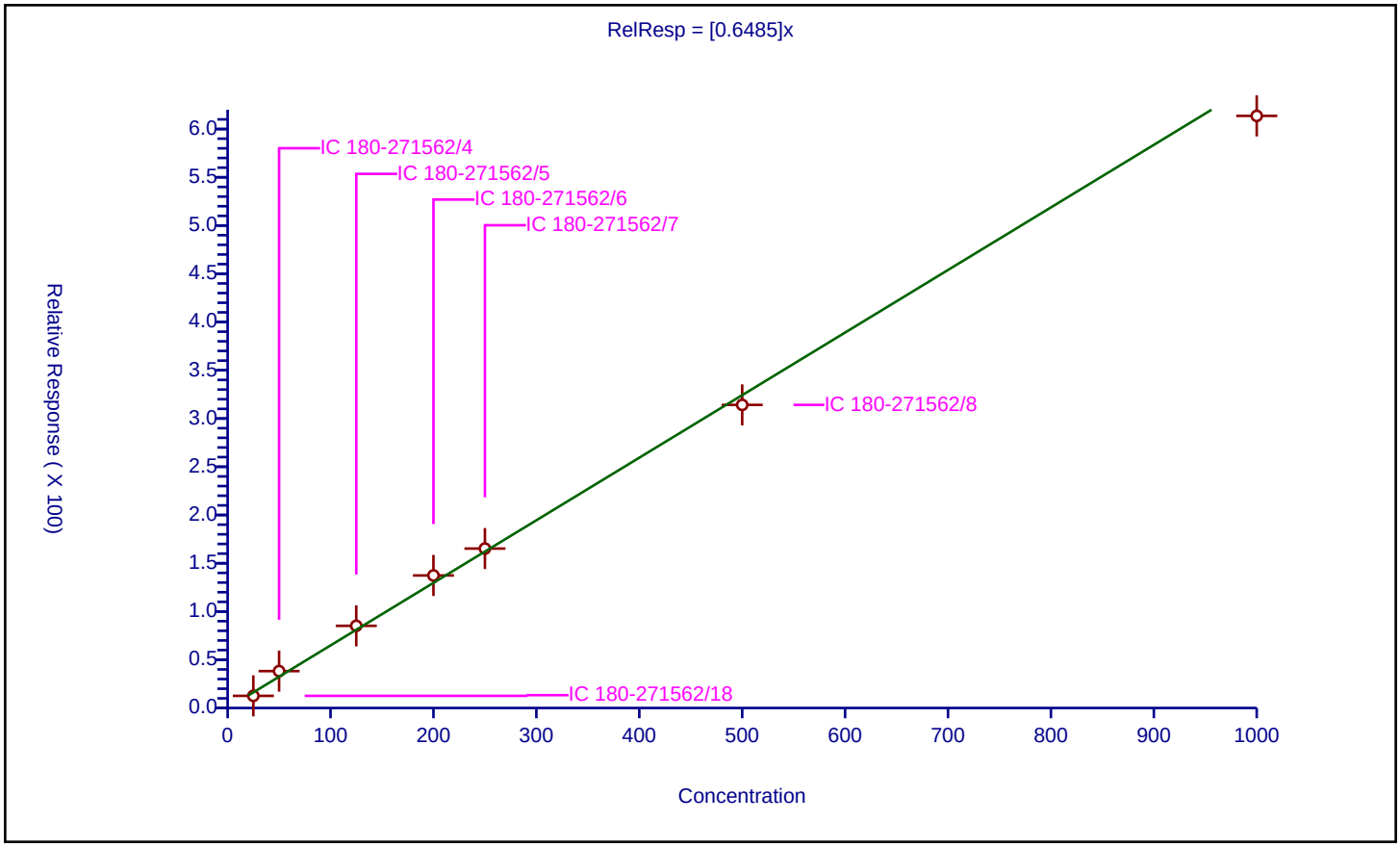

Calibration / Tert-butyl ethyl ether

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.21

Error Coefficients

Standard Error:	2200000
Relative Standard Error:	14.6
Correlation Coefficient:	0.994
Coefficient of Determination (Adjusted):	0.969

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-271562/18	25.0	23.356929	250.0	1746516.0	0.934277	Y
2	IC 180-271562/4	50.0	73.154275	250.0	1784448.0	1.463086	Y
3	IC 180-271562/5	125.0	159.215239	250.0	1845340.0	1.273722	Y
4	IC 180-271562/6	200.0	253.83899	250.0	1724021.0	1.269195	Y
5	IC 180-271562/7	250.0	301.74791	250.0	1737418.0	1.206992	Y
6	IC 180-271562/8	500.0	556.41122	250.0	1740168.0	1.112822	Y
7	IC 180-271562/9	1000.0	997.114231	250.0	2097361.0	0.997114	N

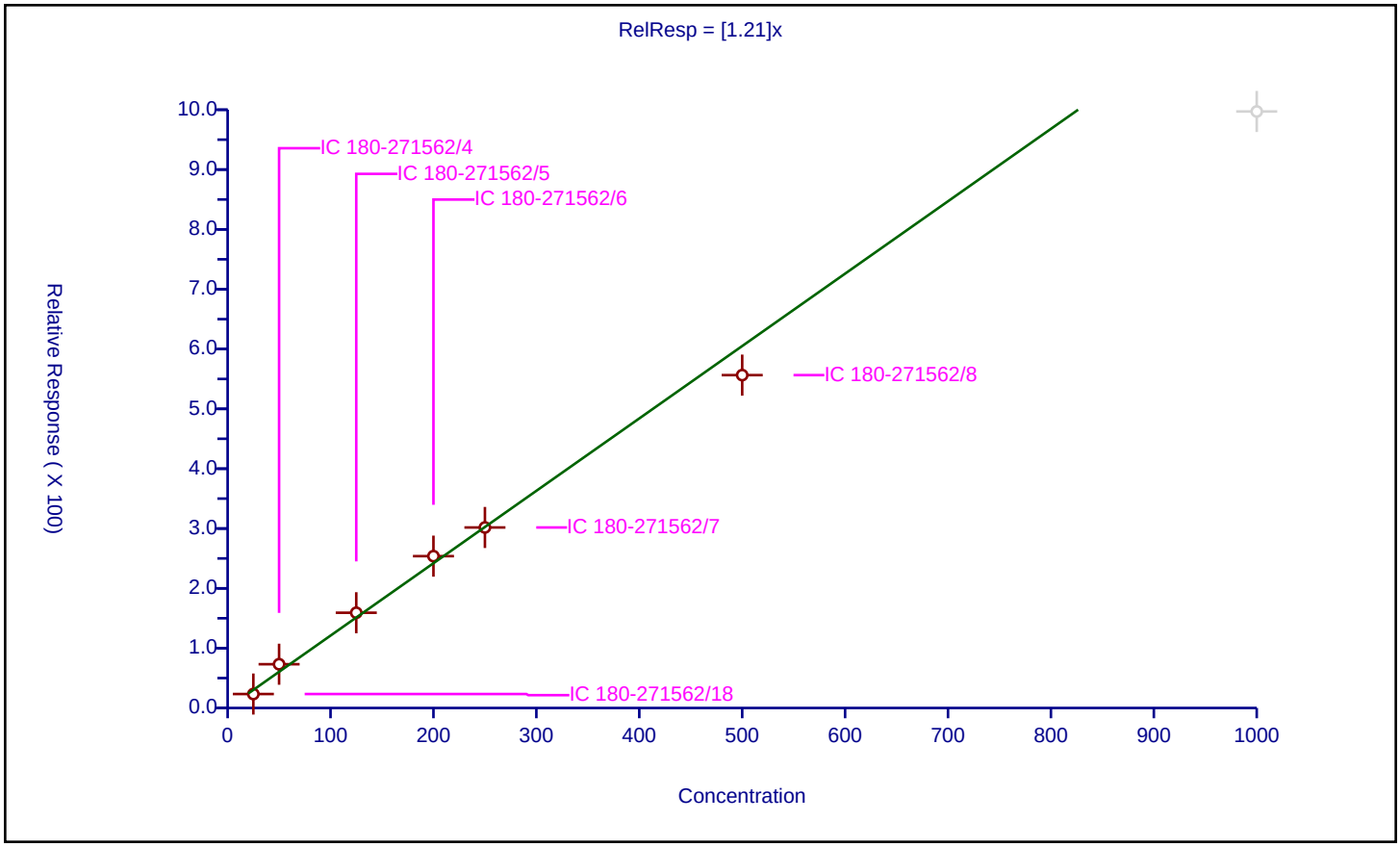

Calibration / Propionitrile

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.05759

Error Coefficients

Standard Error:	2240000
Relative Standard Error:	14.8
Correlation Coefficient:	0.997
Coefficient of Determination (Adjusted):	0.973

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-271562/18	250.0	9.823844	250.0	1746516.0	0.039295	Y
2	IC 180-271562/4	500.0	32.655477	250.0	1784448.0	0.065311	Y
3	IC 180-271562/5	1250.0	73.05903	250.0	1845340.0	0.058447	Y
4	IC 180-271562/6	2000.0	120.424577	250.0	1724021.0	0.060212	Y
5	IC 180-271562/7	2500.0	149.193372	250.0	1737418.0	0.059677	Y
6	IC 180-271562/8	5000.0	314.157311	250.0	1740168.0	0.062831	Y
7	IC 180-271562/9	10000.0	573.759358	250.0	2097361.0	0.057376	Y

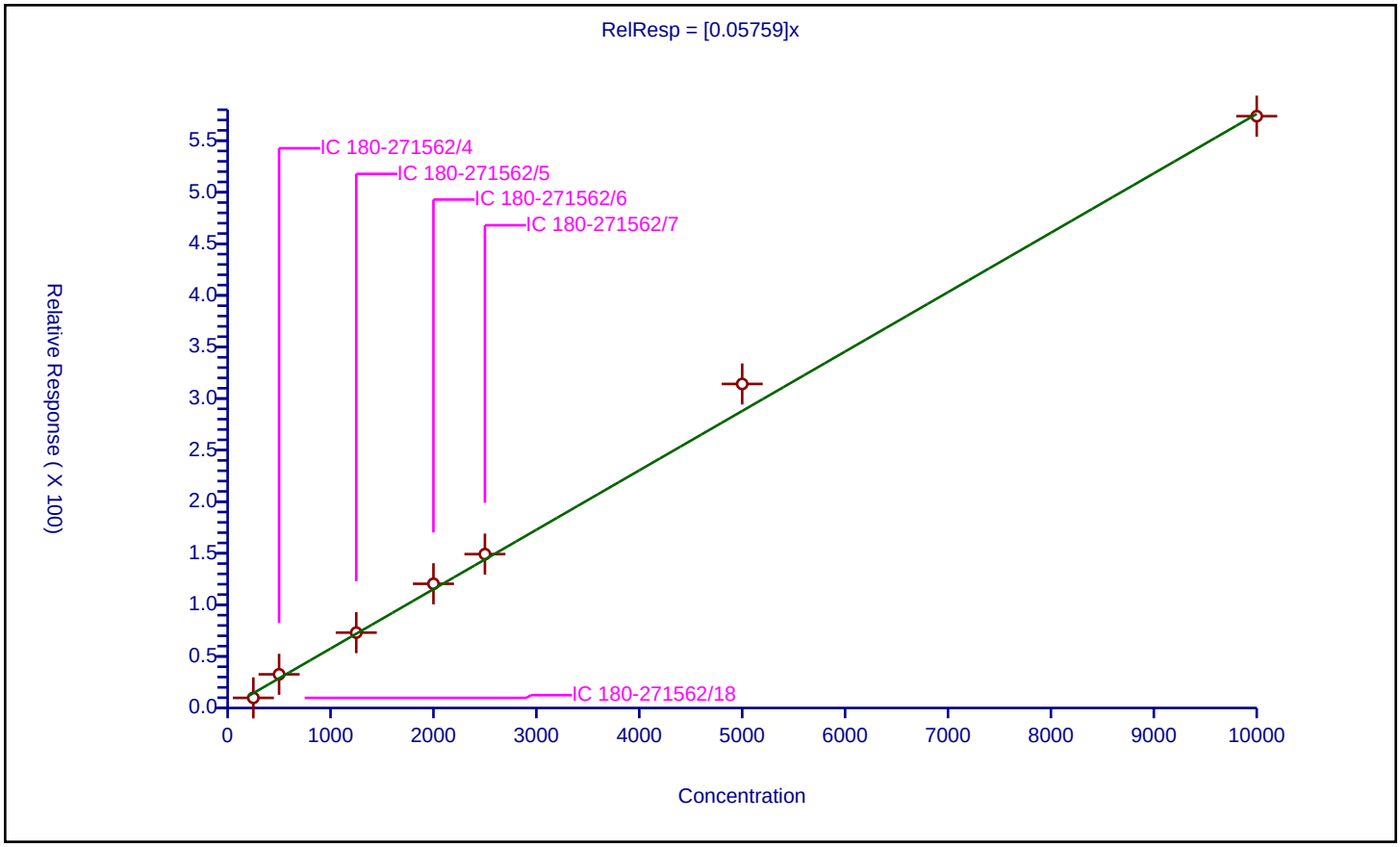

Calibration / Ethyl acetate

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.406

Error Coefficients

Standard Error:	2890000
Relative Standard Error:	12.9
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.978

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-271562/18	50.0	15.418696	250.0	1746516.0	0.308374	Y
2	IC 180-271562/4	100.0	45.476248	250.0	1784448.0	0.454762	Y
3	IC 180-271562/5	250.0	106.318619	250.0	1845340.0	0.425274	Y
4	IC 180-271562/6	400.0	178.857885	250.0	1724021.0	0.447145	Y
5	IC 180-271562/7	500.0	206.74616	250.0	1737418.0	0.413492	Y
6	IC 180-271562/8	1000.0	430.440768	250.0	1740168.0	0.430441	Y
7	IC 180-271562/9	2000.0	724.654339	250.0	2097361.0	0.362327	Y

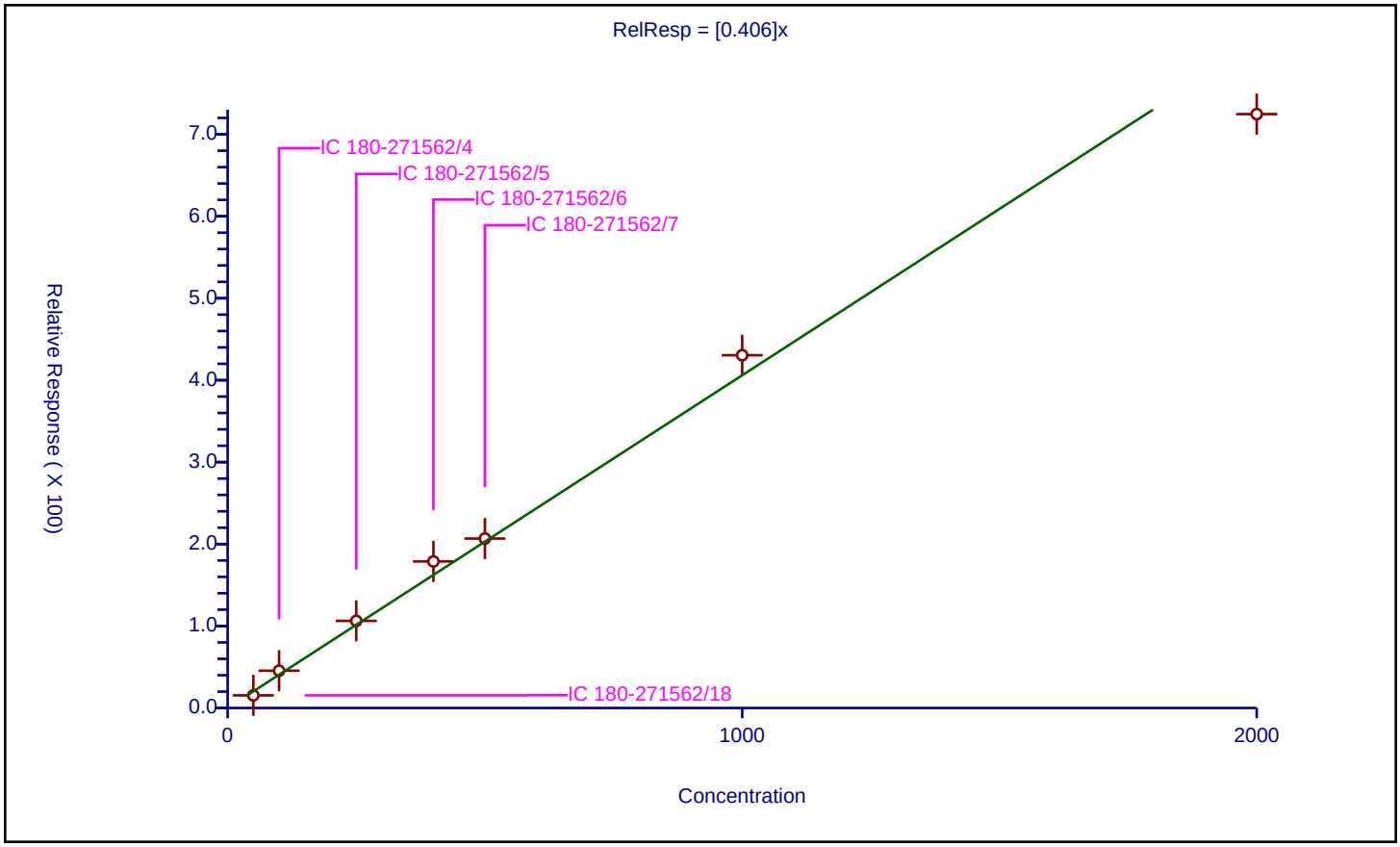

Calibration / Methacrylonitrile

Curve Type:	Linear
Weighting:	None
Origin:	None
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	13.89
Slope:	0.2476

Error Coefficients

Standard Error:	3590000
Relative Standard Error:	25.8
Correlation Coefficient:	0.993
Coefficient of Determination (Adjusted):	0.990

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-271562/18	250.0	49.978214	250.0	1746516.0	0.199913	Y
2	IC 180-271562/4	500.0	155.531711	250.0	1784448.0	0.311063	Y
3	IC 180-271562/5	1250.0	330.97627	250.0	1845340.0	0.264781	Y
4	IC 180-271562/6	2000.0	534.615733	250.0	1724021.0	0.267308	Y
5	IC 180-271562/7	2500.0	607.520326	250.0	1737418.0	0.243008	Y
6	IC 180-271562/8	5000.0	1097.264747	250.0	1740168.0	0.219453	N
7	IC 180-271562/9	10000.0	1620.605966	250.0	2097361.0	0.162061	N

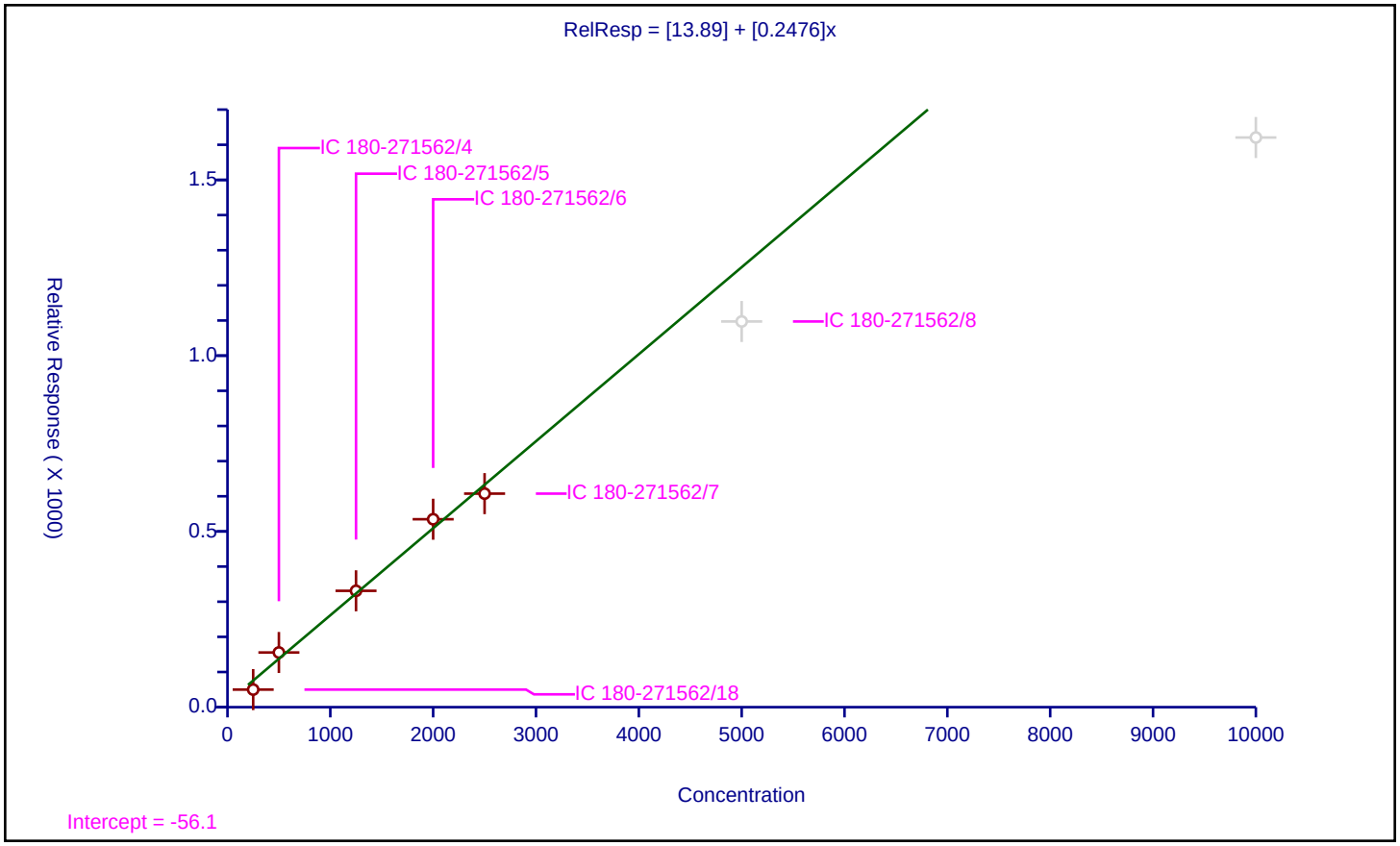

Calibration / Isooctane

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.526

Error Coefficients

Standard Error:	2670000
Relative Standard Error:	14.5
Correlation Coefficient:	0.989
Coefficient of Determination (Adjusted):	0.968

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-271562/18	25.0	31.016607	250.0	1746516.0	1.240664	Y
2	IC 180-271562/4	50.0	92.577088	250.0	1784448.0	1.851542	Y
3	IC 180-271562/5	125.0	207.036102	250.0	1845340.0	1.656289	Y
4	IC 180-271562/6	200.0	313.885968	250.0	1724021.0	1.56943	Y
5	IC 180-271562/7	250.0	377.474505	250.0	1737418.0	1.509898	Y
6	IC 180-271562/8	500.0	664.139468	250.0	1740168.0	1.328279	Y
7	IC 180-271562/9	1000.0	1141.544422	250.0	2097361.0	1.141544	N

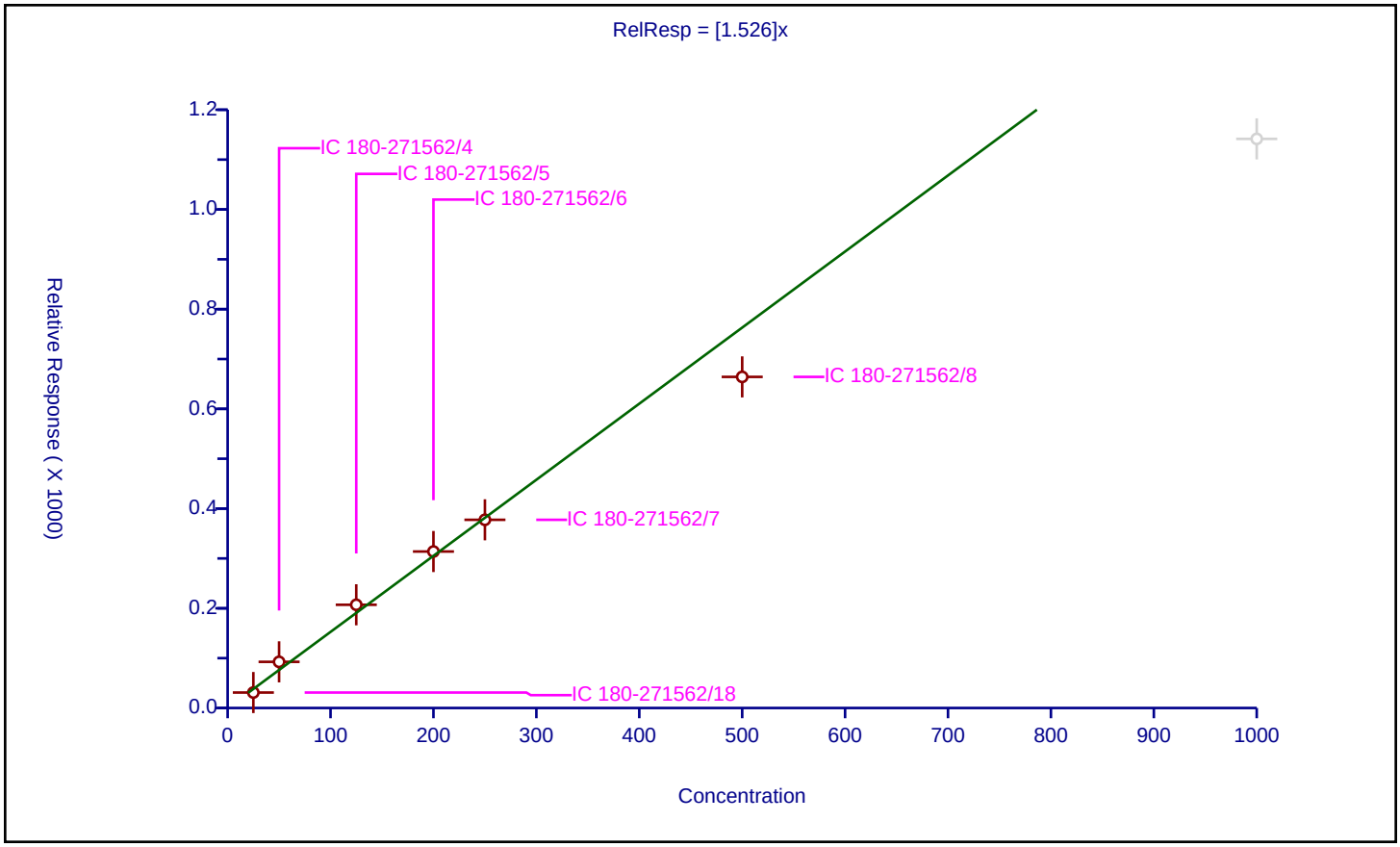

Calibration / Tert-amyl methyl ether

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.237

Error Coefficients

Standard Error:	2240000
Relative Standard Error:	14.2
Correlation Coefficient:	0.994
Coefficient of Determination (Adjusted):	0.971

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-271562/18	25.0	24.236108	250.0	1746516.0	0.969444	Y
2	IC 180-271562/4	50.0	74.417131	250.0	1784448.0	1.488343	Y
3	IC 180-271562/5	125.0	162.987038	250.0	1845340.0	1.303896	Y
4	IC 180-271562/6	200.0	260.417362	250.0	1724021.0	1.302087	Y
5	IC 180-271562/7	250.0	305.086772	250.0	1737418.0	1.220347	Y
6	IC 180-271562/8	500.0	569.091174	250.0	1740168.0	1.138182	Y
7	IC 180-271562/9	1000.0	993.148056	250.0	2097361.0	0.993148	N

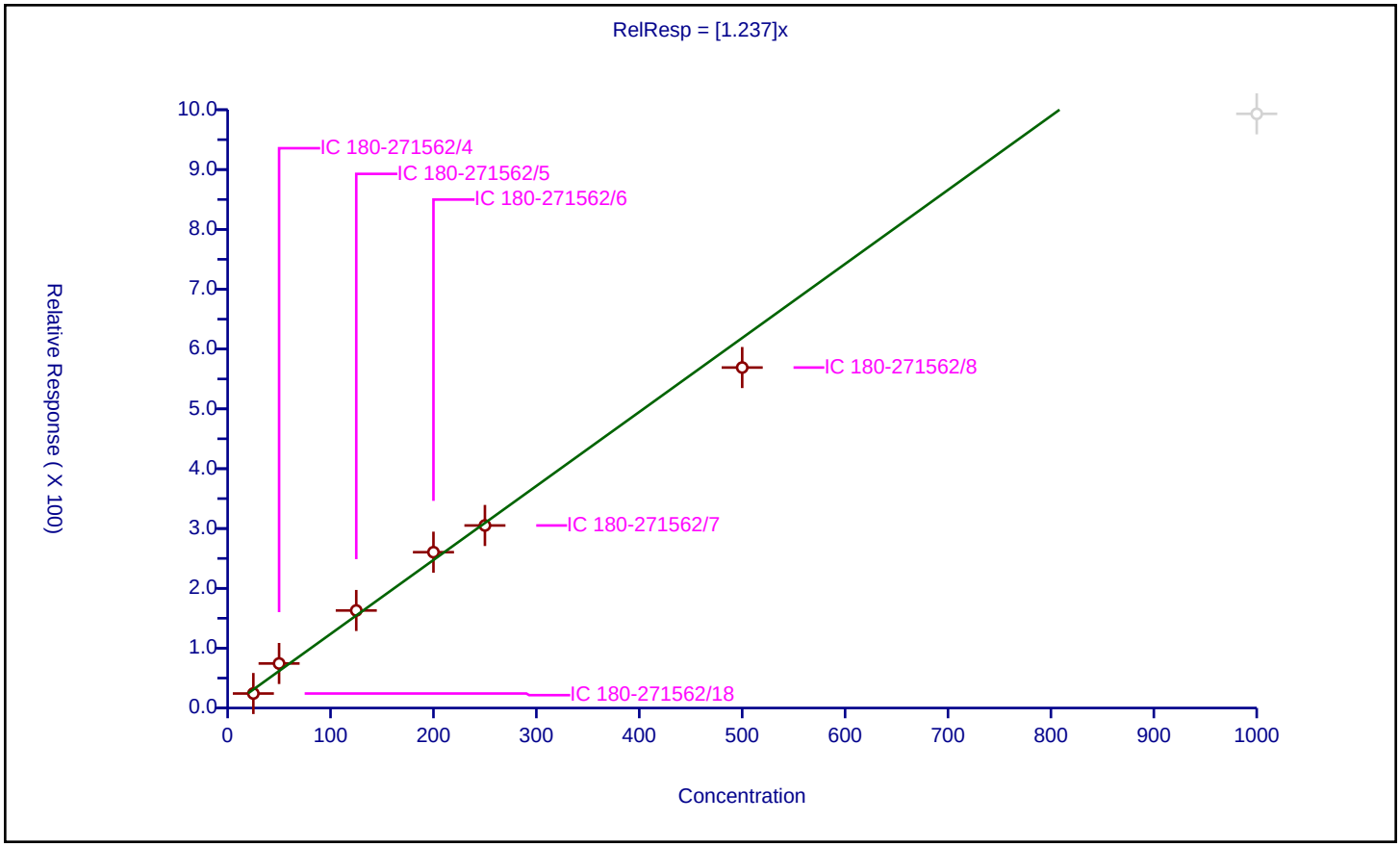

Calibration / n-Butanol

Curve Type:	Linear
Weighting:	None
Origin:	None
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	-3.548
Slope:	0.008293

Error Coefficients

Standard Error:	850000
Relative Standard Error:	6.2
Correlation Coefficient:	0.997
Coefficient of Determination (Adjusted):	1.000

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-271562/18	625.0	1.591025	250.0	1746516.0	0.002546	Y
2	IC 180-271562/4	1250.0	7.712609	250.0	1784448.0	0.00617	Y
3	IC 180-271562/5	3125.0	19.644347	250.0	1845340.0	0.006286	Y
4	IC 180-271562/6	5000.0	38.5513	250.0	1724021.0	0.00771	Y
5	IC 180-271562/7	6250.0	48.437682	250.0	1737418.0	0.00775	Y
6	IC 180-271562/8	12500.0	102.015869	250.0	1740168.0	0.008161	Y
7	IC 180-271562/9	25000.0	202.954332	250.0	2097361.0	0.008118	Y

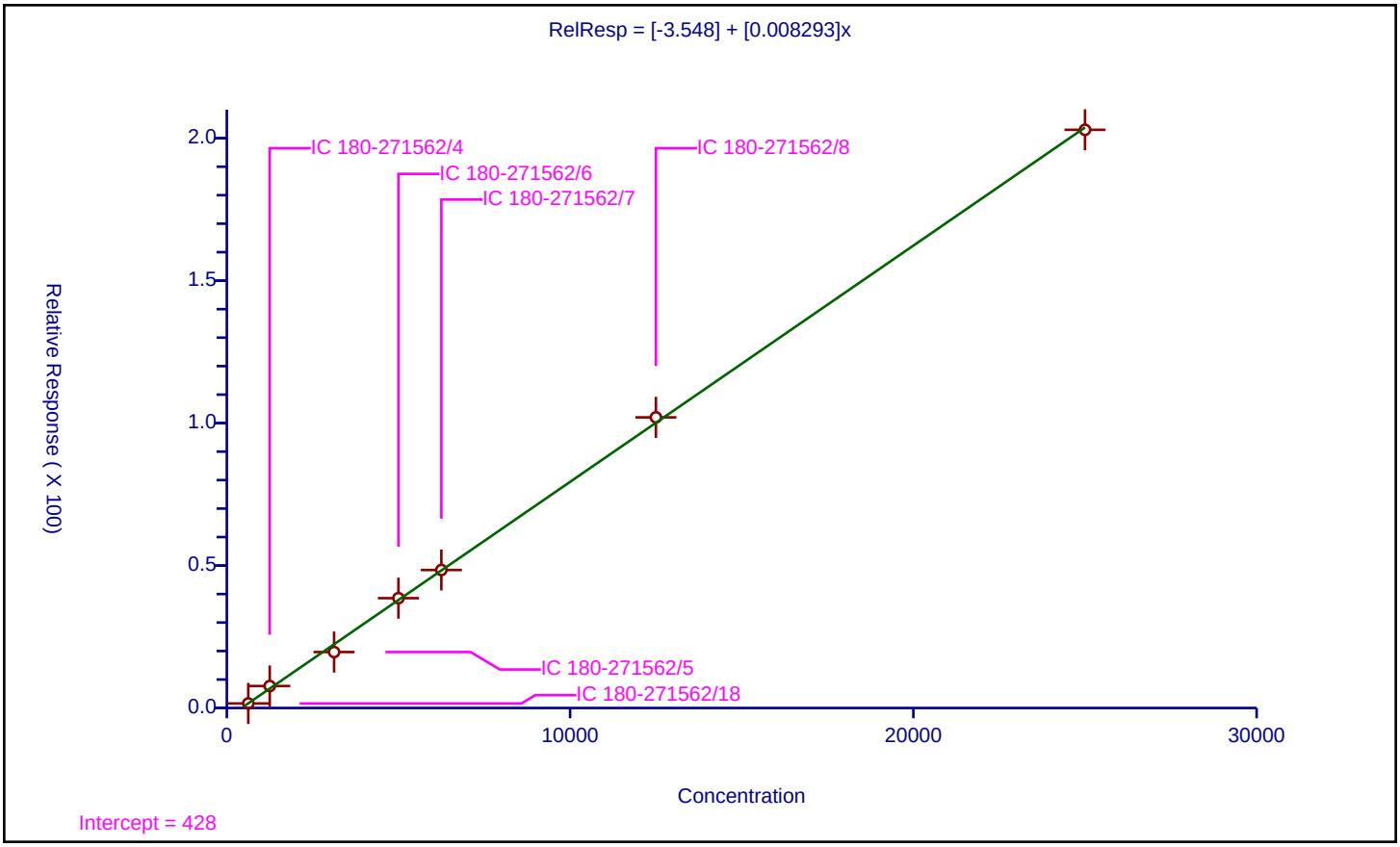

Calibration / Ethyl acrylate

Curve Type:	Linear
Weighting:	None
Origin:	None
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	-6.317
Slope:	2.416

Error Coefficients

Standard Error:	1160000
Relative Standard Error:	16.6
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-271562/18	25.0	35.364167	250.0	378851.0	1.414567	Y
2	IC 180-271562/4	50.0	126.236798	250.0	389615.0	2.524736	Y
3	IC 180-271562/5	125.0	289.876608	250.0	409507.0	2.319013	Y
4	IC 180-271562/6	200.0	507.799873	250.0	386705.0	2.538999	Y
5	IC 180-271562/7	250.0	584.083262	250.0	389926.0	2.336333	Y
6	IC 180-271562/8	500.0	1197.675432	250.0	401709.0	2.395351	Y
7	IC 180-271562/9	1000.0	2280.445819	250.0	459940.0	2.280446	N

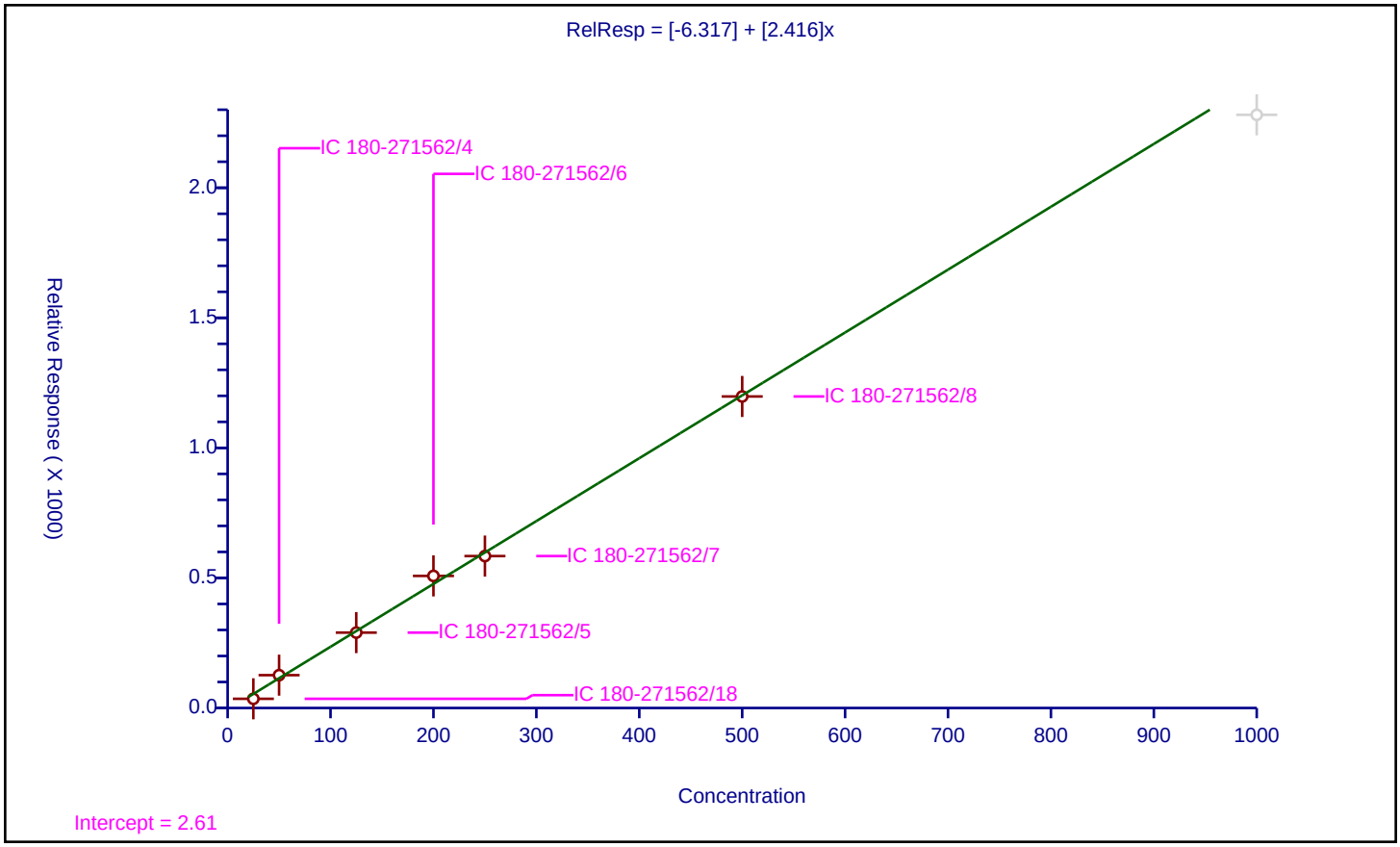

Calibration / Methyl methacrylate

Curve Type:	Linear
Weighting:	None
Origin:	None
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	-0.1345
Slope:	0.331

Error Coefficients

Standard Error:	1410000
Relative Standard Error:	18.2
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-271562/18	50.0	10.73208	250.0	1746516.0	0.214642	Y
2	IC 180-271562/4	100.0	36.710512	250.0	1784448.0	0.367105	Y
3	IC 180-271562/5	250.0	81.355739	250.0	1845340.0	0.325423	Y
4	IC 180-271562/6	400.0	138.3011	250.0	1724021.0	0.345753	Y
5	IC 180-271562/7	500.0	164.115659	250.0	1737418.0	0.328231	Y
6	IC 180-271562/8	1000.0	329.342483	250.0	1740168.0	0.329342	Y
7	IC 180-271562/9	2000.0	578.70462	250.0	2097361.0	0.289352	N

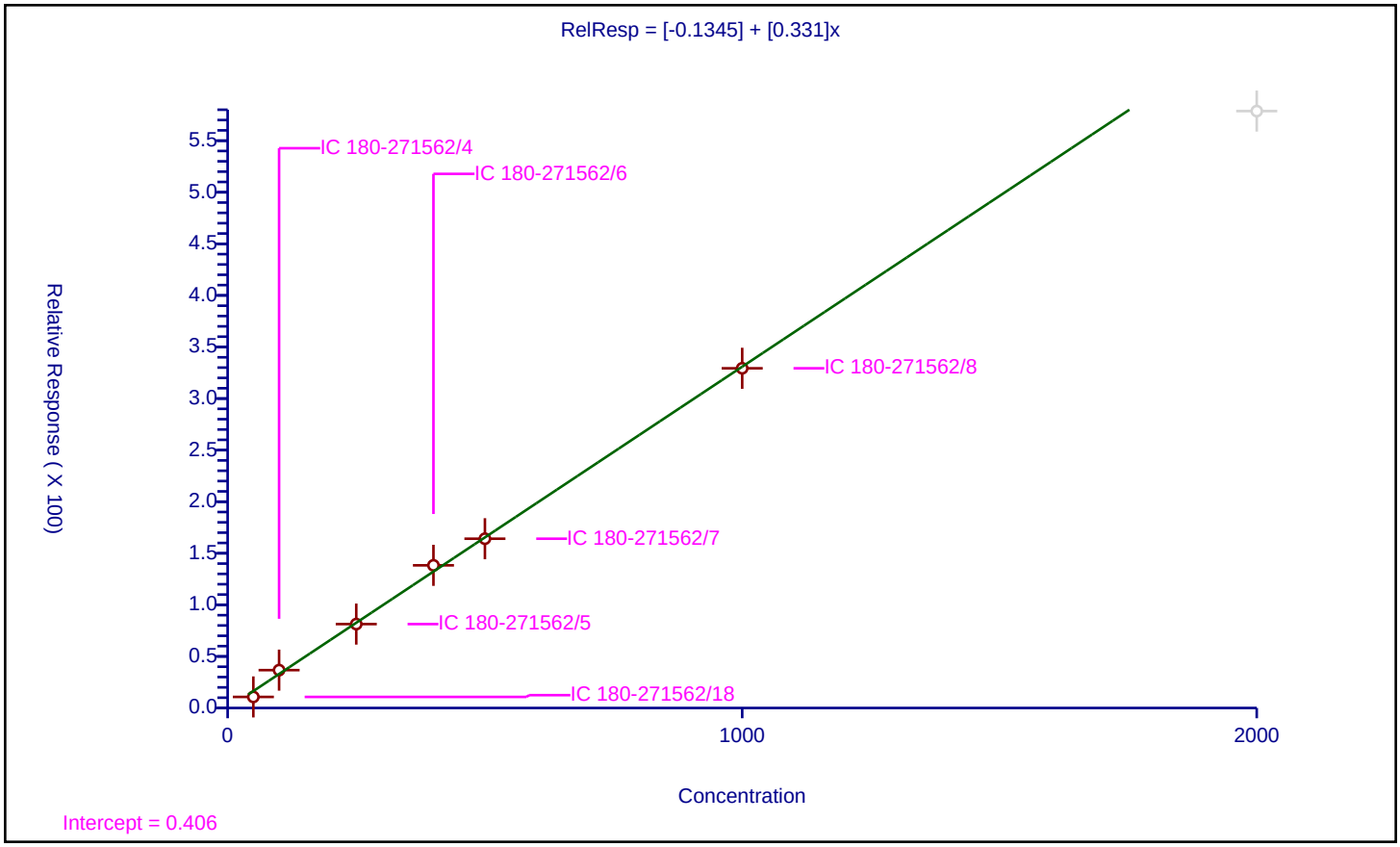

Calibration / 2-Chloroethyl vinyl ether

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.1826

Error Coefficients

Standard Error:	1430000
Relative Standard Error:	10.1
Correlation Coefficient:	0.997
Coefficient of Determination (Adjusted):	0.987

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-271562/18	50.0	7.383557	250.0	1746516.0	0.147671	Y
2	IC 180-271562/4	100.0	17.7398	250.0	1784448.0	0.177398	Y
3	IC 180-271562/5	250.0	44.134821	250.0	1845340.0	0.176539	Y
4	IC 180-271562/6	400.0	77.984549	250.0	1724021.0	0.194961	Y
5	IC 180-271562/7	500.0	101.433852	250.0	1737418.0	0.202868	Y
6	IC 180-271562/8	1000.0	196.101325	250.0	1740168.0	0.196101	Y
7	IC 180-271562/9	2000.0	365.982299	250.0	2097361.0	0.182991	Y

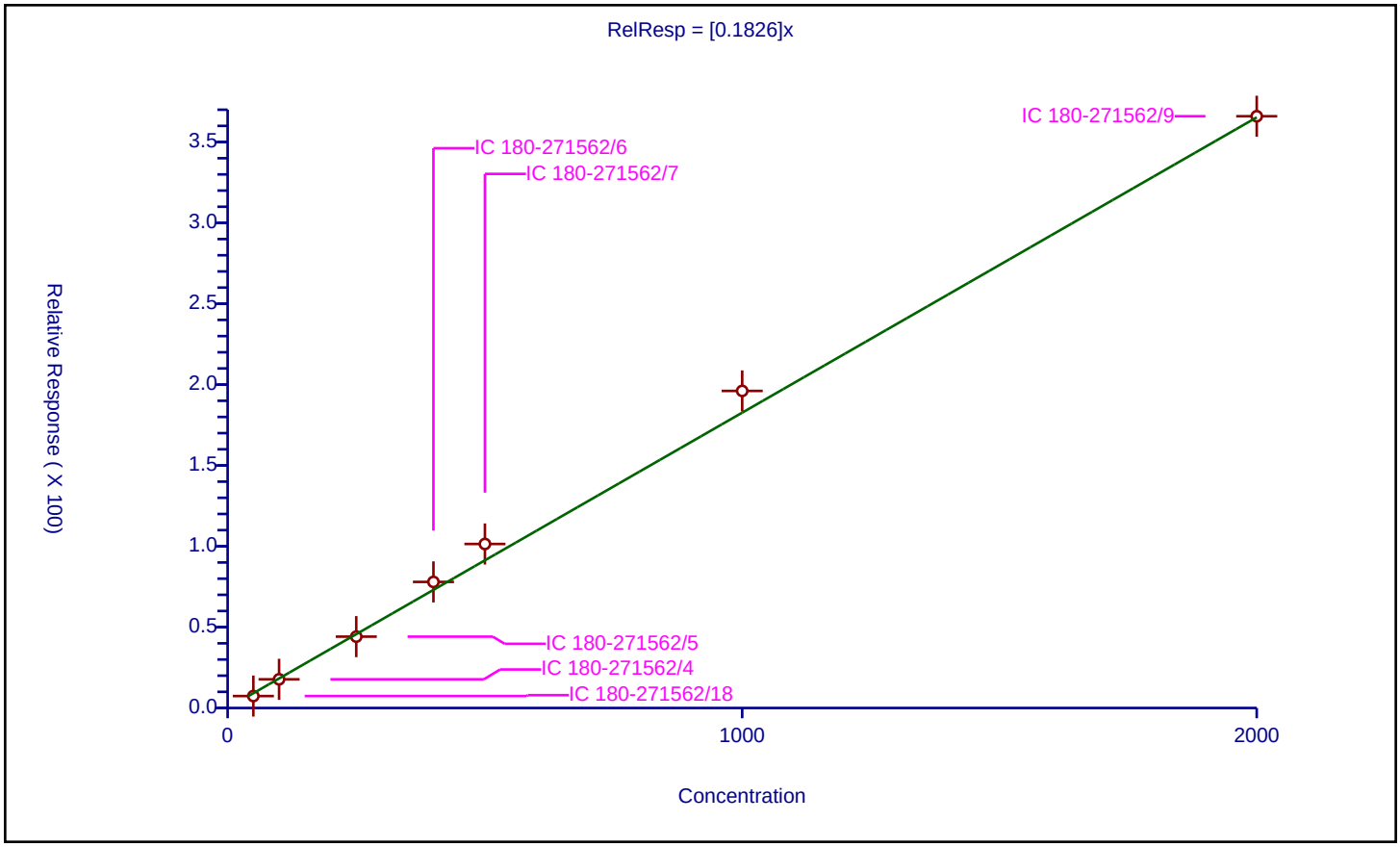

Calibration / n-Butyl acetate

Curve Type:	Linear
Weighting:	Conc
Origin:	None
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	-14.82
Slope:	2.461

Error Coefficients

Standard Error:	2190000
Relative Standard Error:	18.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-271562/18	25.0	26.032002	250.0	378851.0	1.04128	Y
2	IC 180-271562/4	50.0	129.094106	250.0	389615.0	2.581882	Y
3	IC 180-271562/5	125.0	301.626712	250.0	409507.0	2.413014	Y
4	IC 180-271562/6	200.0	531.503989	250.0	386705.0	2.65752	Y
5	IC 180-271562/7	250.0	627.248504	250.0	389926.0	2.508994	Y
6	IC 180-271562/8	500.0	1267.106288	250.0	401709.0	2.534213	Y
7	IC 180-271562/9	1000.0	2305.057725	250.0	459940.0	2.305058	Y

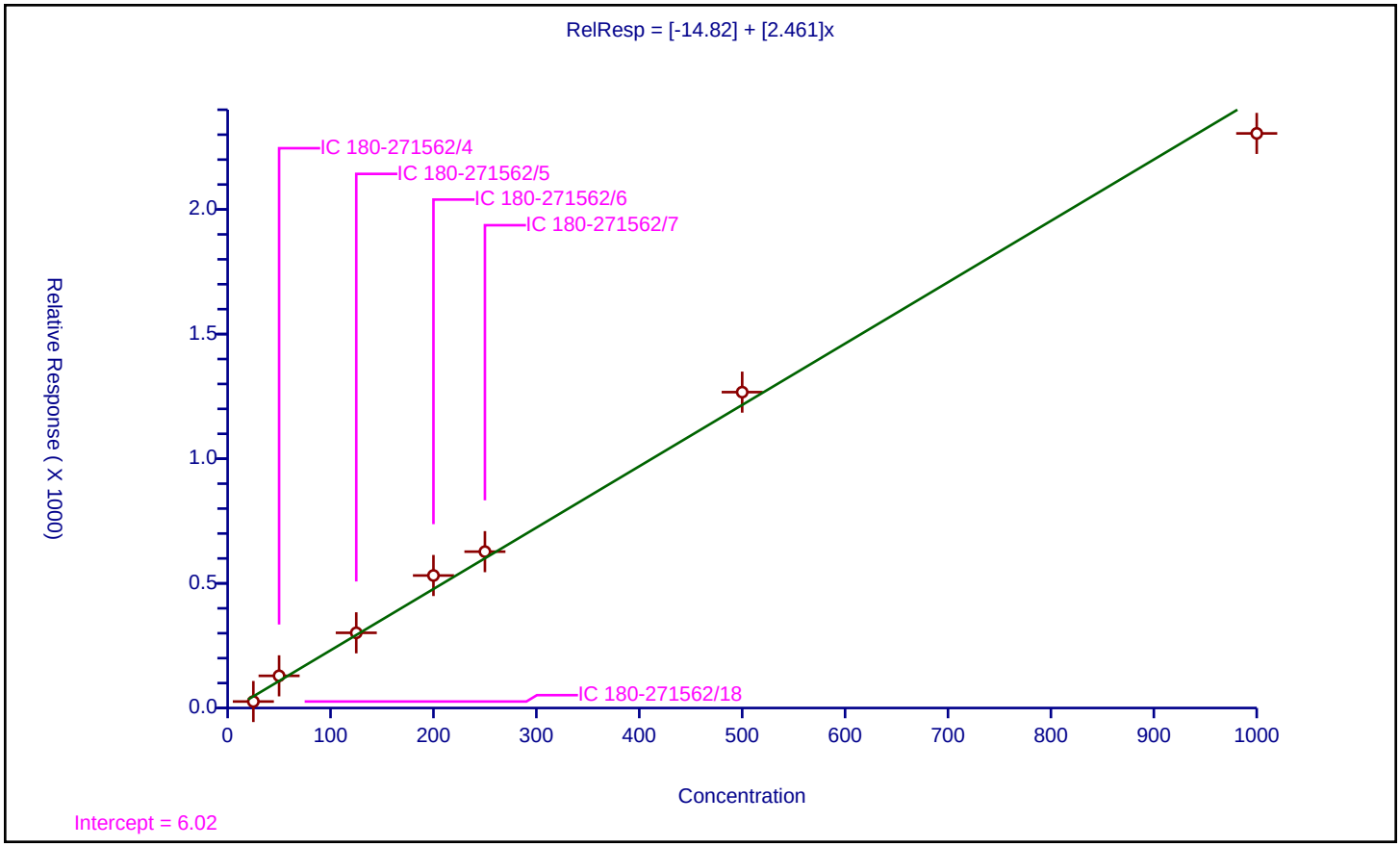

Calibration / Cyclohexanone

Curve Type:	Quadratic
Weighting:	None
Origin:	None
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	-4.833
Slope:	0.03555
Second Order:	-2.031E-07

Error Coefficients

Standard Error:	371000
Relative Standard Error:	23.0
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-271562/18	500.0	8.396441	250.0	378851.0	0.016793	Y
2	IC 180-271562/4	1000.0	40.534245	250.0	389615.0	0.040534	Y
3	IC 180-271562/5	2500.0	73.360773	250.0	409507.0	0.029344	Y
4	IC 180-271562/6	4000.0	135.360288	250.0	386705.0	0.03384	Y
5	IC 180-271562/7	5000.0	170.917687	250.0	389926.0	0.034184	Y
6	IC 180-271562/8	10000.0	329.854447	250.0	401709.0	0.032985	Y
7	IC 180-271562/9	20000.0	724.74888	250.0	459940.0	0.036237	N

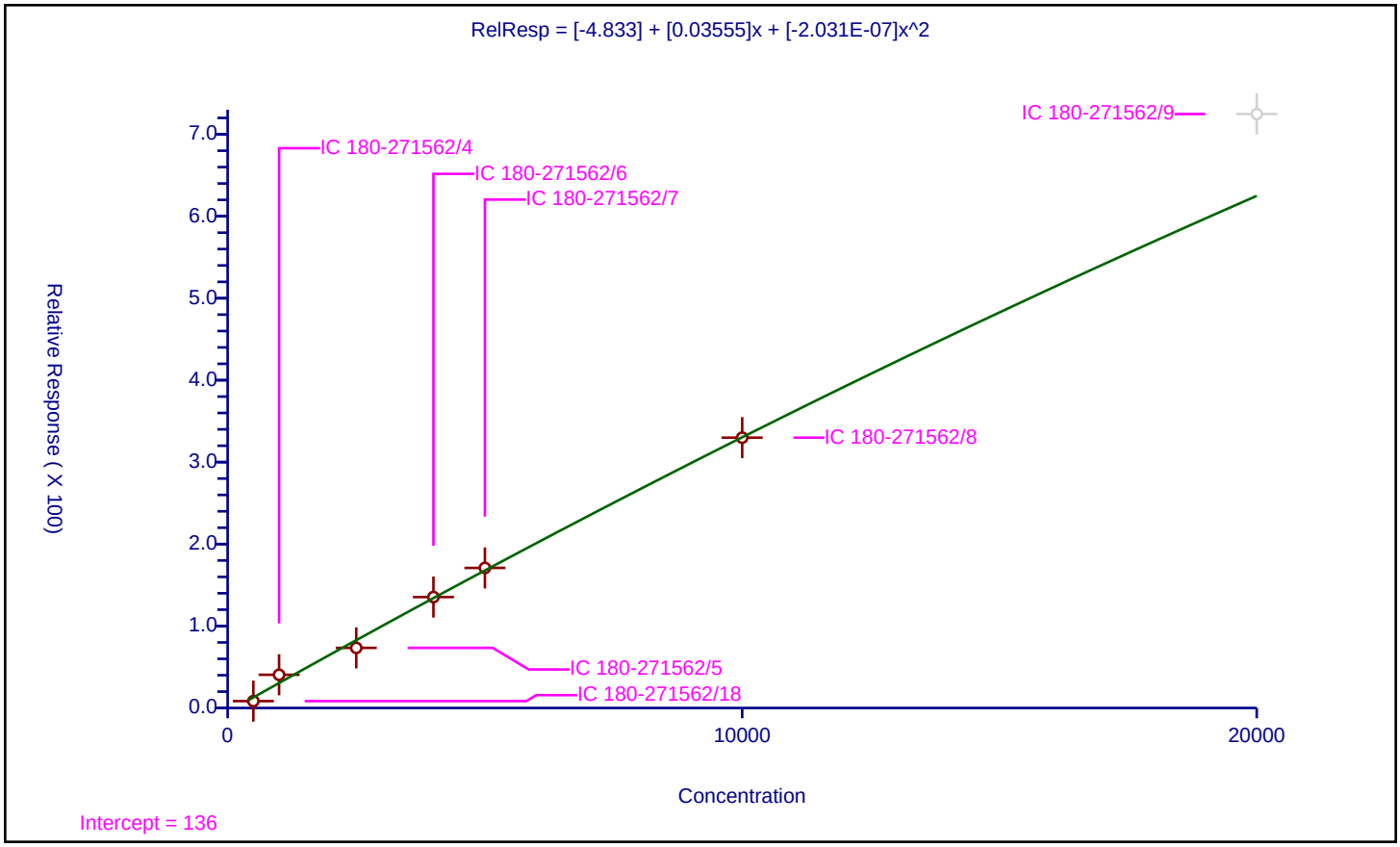

Calibration / 1,2,3-Trimethylbenzene

Curve Type:	Linear
Weighting:	None
Origin:	None
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	19.71
Slope:	4.604

Error Coefficients

Standard Error:	1340000
Relative Standard Error:	25.5
Correlation Coefficient:	0.996
Coefficient of Determination (Adjusted):	0.992

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-271562/18	25.0	88.496444	250.0	313377.0	3.539858	Y
2	IC 180-271562/4	50.0	290.254955	250.0	345591.0	5.805099	Y
3	IC 180-271562/5	125.0	600.137103	250.0	378913.0	4.801097	Y
4	IC 180-271562/6	200.0	974.864623	250.0	339422.0	4.874323	Y
5	IC 180-271562/7	250.0	1137.118028	250.0	359712.0	4.548472	Y
6	IC 180-271562/8	500.0	2028.542746	250.0	368570.0	4.057085	N
7	IC 180-271562/9	1000.0	3364.754433	250.0	392072.0	3.364754	N

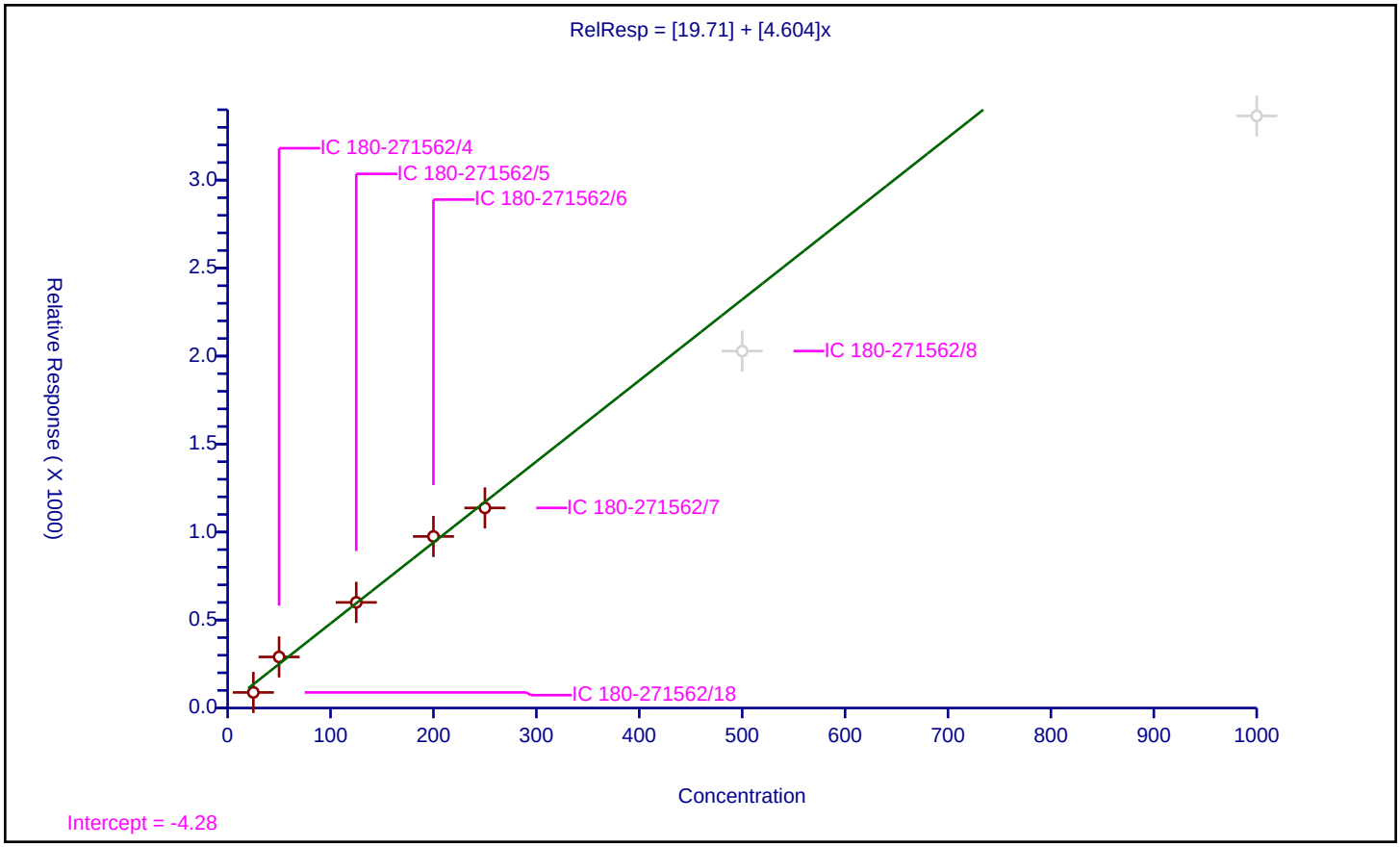

Calibration / Benzyl chloride

Curve Type:	Linear
Weighting:	Conc
Origin:	None
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	-27.11
Slope:	1.832

Error Coefficients

Standard Error:	1490000
Relative Standard Error:	10.8
Correlation Coefficient:	0.993
Coefficient of Determination (Adjusted):	0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-271562/18	25.0	21.124716	250.0	313377.0	0.844989	Y
2	IC 180-271562/4	50.0	80.270464	250.0	345591.0	1.605409	Y
3	IC 180-271562/5	125.0	177.835018	250.0	378913.0	1.42268	Y
4	IC 180-271562/6	200.0	322.999098	250.0	339422.0	1.614995	Y
5	IC 180-271562/7	250.0	388.581004	250.0	359712.0	1.554324	Y
6	IC 180-271562/8	500.0	853.747592	250.0	368570.0	1.707495	Y
7	IC 180-271562/9	1000.0	1904.019542	250.0	392072.0	1.90402	Y

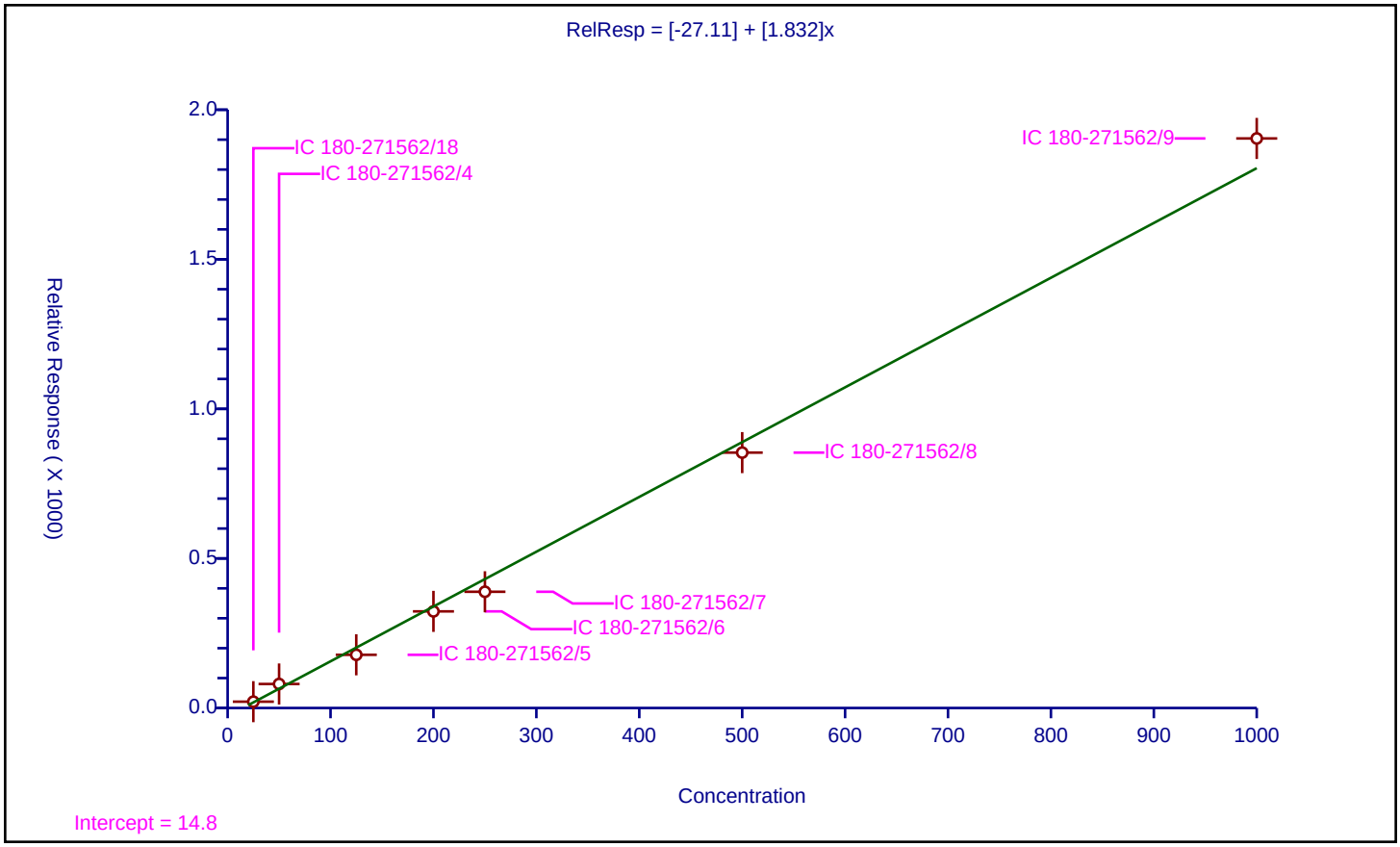

Calibration / 1,3,5-Trichlorobenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.4636

Error Coefficients

Standard Error:	250000
Relative Standard Error:	45.2
Correlation Coefficient:	0.976
Coefficient of Determination (Adjusted):	0.752

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 180-271562/18	25.0	7.546821	250.0	313377.0	0.301873	Y
2	IC 180-271562/4	50.0	44.899896	250.0	345591.0	0.897998	Y
3	IC 180-271562/5	125.0	48.511796	250.0	378913.0	0.388094	Y
4	IC 180-271562/6	200.0	88.608723	250.0	339422.0	0.443044	Y
5	IC 180-271562/7	250.0	137.380738	250.0	359712.0	0.549523	Y
6	IC 180-271562/8	500.0	173.602708	250.0	368570.0	0.347205	Y
7	IC 180-271562/9	1000.0	317.224897	250.0	392072.0	0.317225	Y

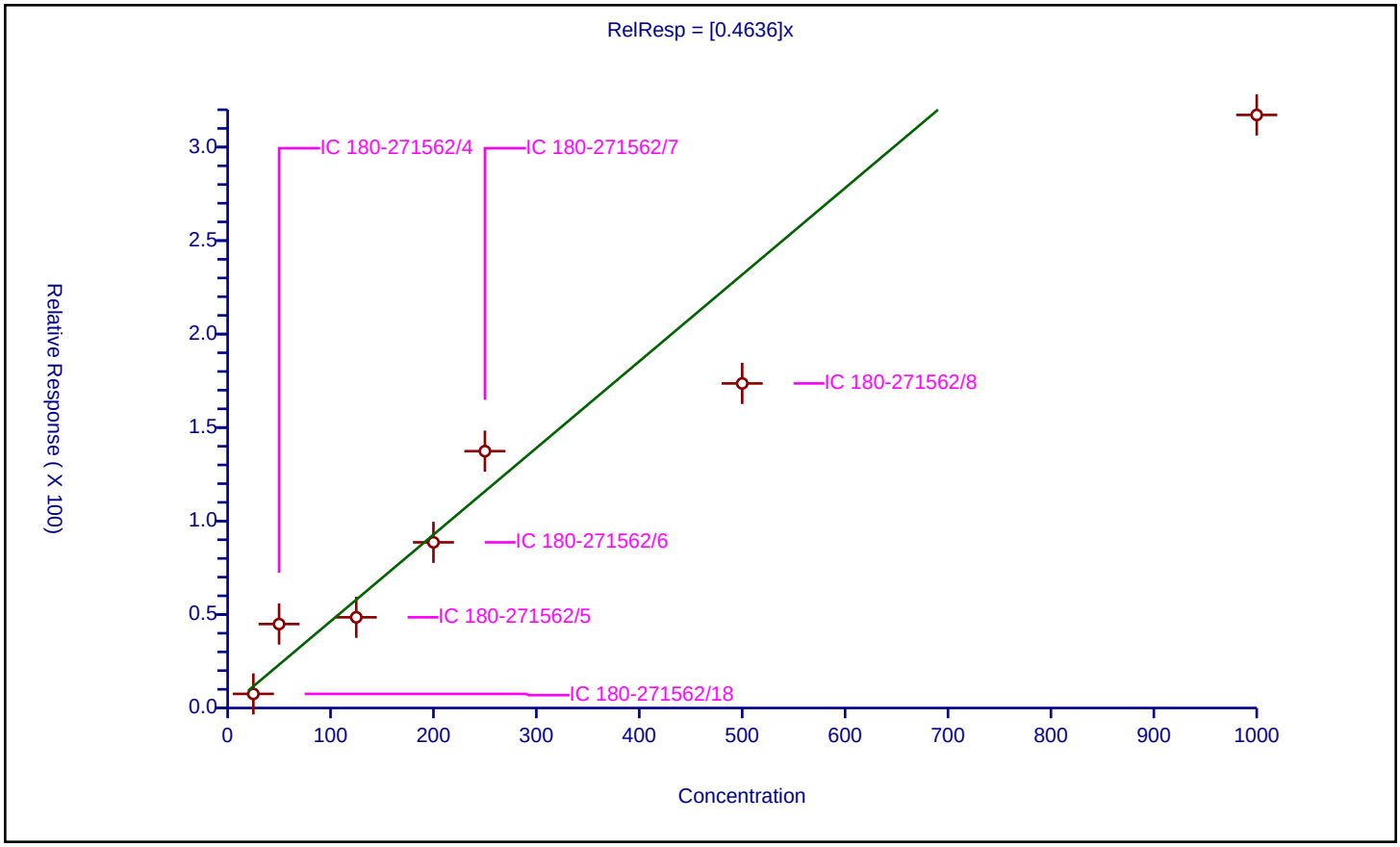

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 298171

SDG No.:

Instrument ID: CHHP4 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/14/2019 07:36 Calibration End Date: 11/14/2019 12:45 Calibration ID: 42049

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-298171/2	41114002.D
Level 2	IC 180-298171/3	41114003.D
Level 3	IC 180-298171/4	41114004.D
Level 4	ICIS 180-298171/5	41114005.D
Level 5	IC 180-298171/6	41114006.D
Level 6	IC 180-298171/7	41114007.D
Level 7	IC 180-298171/8	41114008.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Dichlorodifluoromethane	0.4194 0.6717	0.5231 0.7575	0.5439	0.5488	0.5386	Ave		0.5719			0.1000	19.2		20.0			
Chloromethane	0.3717 0.5119	0.4275 0.5679	0.4204	0.5043	0.4272	Ave		0.4615			0.1000	14.7		20.0			
Vinyl chloride	0.4812 0.6943	0.5208 +++++	0.5426	0.5337	0.6375	Ave		0.5684			0.1000	14.2		20.0			
1,3-Butadiene	0.5995 0.6130	0.5906 0.6756	0.6042	0.5944	0.6085	Ave		0.6123			0.0100	4.7		20.0			
Bromomethane	0.3125 0.3824	0.3541 0.4354	0.3446	0.3772	0.3536	Ave		0.3657			0.0500	10.5		20.0			
Chloroethane	0.3984 0.4406	0.3867 +++++	0.4270	0.4159	0.4101	Lin	-2.631	0.4384			0.0500				0.9980		0.9900
Trichlorofluoromethane	0.6524 0.9071	0.7366 0.9950	0.7870	0.7841	0.7949	Ave		0.8082			0.1000	13.9		20.0			
Dichlorofluoromethane	0.7483 0.8702	0.8230 1.1176	0.9236	0.8509	0.9105	Ave		0.8920			0.0100	12.9		20.0			
Ethyl ether	0.2558 0.2608	0.2489 0.3137	0.2659	0.2690	0.2471	Ave		0.2659			0.0100	8.5		20.0			
1,1-Dichloroethene	0.3039 0.5502	0.3479 0.5840	0.4701	0.4768	0.4892	Lin2	-6.653	0.5379			0.1000				0.9910		0.9900
Acetone	0.1358 0.1606	0.1213 0.1607	0.1259	0.1326	0.1483	Ave		0.1407			0.0500	11.4		20.0			
Iodomethane	0.4704 0.5832	0.4588 0.6457	0.5012	0.5280	0.4853	Ave		0.5246			0.0100	12.9		20.0			
1,1,2-Trichloro-1,2,2-trifluoroethane	0.4180 0.5519	0.4840 0.6291	0.4908	0.4871	0.5219	Ave		0.5118			0.1000	12.9		20.0			
Carbon disulfide	1.3148 1.5870	1.3789 1.7254	1.4985	1.4675	1.5275	Ave		1.4999			0.1000	9.0		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 298171

SDG No.:

Instrument ID: CHHP4 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/14/2019 07:36 Calibration End Date: 11/14/2019 12:45 Calibration ID: 42049

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Allyl chloride	0.2865 0.3684	0.3212 0.4632	0.3681	0.3590	0.3670	Ave		0.3619			0.0100	15.0		20.0			
Methyl acetate	0.1258 0.1242	0.1267 0.1651	0.1341	0.1315	0.1250	Ave		0.1332			0.1000	10.9		20.0			
Methylene Chloride	0.5157 0.4606	0.4492 0.5268	0.4242	0.4806	0.4128	Ave		0.4671			0.1000	9.3		20.0			
tert-Butyl alcohol	2.1513 2.0351	1.8303 1.9361	1.8449	1.6473	1.6820	Ave		1.8753			0.0100	9.7		20.0			
Acrylonitrile	0.0533 0.0581	0.0537 0.0745	0.0641	0.0635	0.0568	Ave		0.0606			0.0100	12.4		20.0			
trans-1,2-Dichloroethene	0.4266 0.5453	0.4479 +++++	0.4989	0.5048	0.4884	Ave		0.4853			0.1000	8.7		20.0			
Methyl tert-butyl ether	0.5897 0.6890	0.6110 0.8966	0.7161	0.7482	0.6362	Ave		0.6981			0.1000	15.0		20.0			
Hexane	0.7309 0.8389	0.8037 0.9053	0.8446	0.8206	0.8133	Ave		0.8225			0.0100	6.4		20.0			
1,1-Dichloroethane	0.7563 0.8829	0.7926 0.9405	0.8639	0.8858	0.8176	Ave		0.8485			0.2000	7.4		20.0			
2,2-Dichloropropane	0.0891 0.1225	0.0963 0.1351	0.1103	0.1154	0.1120	Ave		0.1115			0.0100	13.8		20.0			
cis-1,2-Dichloroethene	0.4350 0.5400	0.4743 0.5740	0.5099	0.5283	0.4949	Ave		0.5081			0.1000	9.0		20.0			
2-Butanone (MEK)	0.1617 0.1760	0.1211 +++++	0.1302	0.1409	0.1663	Ave		0.1494			0.0500	14.6		20.0			
Chlorobromomethane	0.1724 0.1923	0.1586 0.2243	0.1925	0.1998	0.1794	Ave		0.1885			0.0100	11.2		20.0			
Tetrahydrofuran	0.0478 0.0474	0.0431 0.0630	0.0540	0.0532	0.0457	Ave		0.0506			0.0100	13.3		20.0			
Chloroform	0.8510 0.7860	0.7998 0.8485	0.8197	0.7682	0.7513	Ave		0.8035			0.2000	4.8		20.0			
1,1,1-Trichloroethane	0.5292 0.6323	0.6483 0.6764	0.6628	0.6295	0.6272	Ave		0.6294			0.1000	7.6		20.0			
Cyclohexane	0.6024 0.6788	0.6858 0.7042	0.7011	0.6689	0.6661	Ave		0.6725			0.1000	5.1		20.0			
Carbon tetrachloride	0.4909 0.5775	0.5161 0.6025	0.5871	0.5826	0.5841	Ave		0.5630			0.1000	7.5		20.0			
1,1-Dichloropropene	0.6207 0.7016	0.6665 0.7296	0.7515	0.7233	0.7337	Ave		0.7038			0.0100	6.5		20.0			
Isobutyl alcohol	0.0057 0.0048	0.0042 0.0060	0.0052	0.0049	0.0042	Ave		0.0050		*	0.0100	13.7		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 298171

SDG No.:

Instrument ID: CHHP4 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/14/2019 07:36 Calibration End Date: 11/14/2019 12:45 Calibration ID: 42049

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Benzene	1.7418 1.5806	1.8822 1.4985	1.8497	1.7675	1.6105	Ave		1.7044			0.5000	8.5		20.0			
1,2-Dichloroethane	0.3538 0.4169	0.3888 0.4411	0.4432	0.4483	0.3888	Ave		0.4116			0.1000	8.7		20.0			
n-Heptane	0.6675 0.7582	0.7734 0.7573	0.8355	0.7598	0.7767	Ave		0.7612			0.0100	6.5		20.0			
Trichloroethene	0.4493 0.5252	0.4870 0.5840	0.5180	0.5317	0.5254	Ave		0.5172			0.2000	8.0		20.0			
Methylcyclohexane	0.8350 0.9135	0.9199 0.9481	1.0145	0.9502	0.9542	Ave		0.9336			0.1000	5.8		20.0			
1,2-Dichloropropane	0.3779 0.4314	0.3931 0.5071	0.4574	0.4523	0.4260	Ave		0.4350			0.1000	9.9		20.0			
Dibromomethane	0.1416 0.1755	0.1418 0.2136	0.1764	0.1779	0.1684	Ave		0.1707			0.0100	14.4		20.0			
1,4-Dioxane	0.0027 0.0019	0.0020 +++++	0.0023	0.0020	0.0020	Ave		0.0021		*	0.0100	13.3		20.0			
Dichlorobromomethane	0.4716 0.5374	0.3883 0.6012	0.5292	0.5461	0.5204	Ave		0.5134			0.2000	13.1		20.0			
cis-1,3-Dichloropropene	0.5672 0.6393	0.5012 0.7046	0.6389	0.6539	0.6287	Ave		0.6191			0.2000	10.6		20.0			
4-Methyl-2-pentanone (MIBK)	0.7132 1.2265	0.4835 +++++	0.7595	0.9075	1.1775	Qua	-13.29	0.7912	0.0013044		0.1000				0.9910		0.9900
Toluene	8.4416 6.0729	6.7215 5.5548	7.8308	7.5091	6.9214	Ave		7.0074			0.4000	14.3		20.0			
trans-1,3-Dichloropropene	1.6144 1.9035	1.4157 2.1048	1.8405	2.0404	1.9386	Ave		1.8368			0.1000	13.2		20.0			
Ethyl methacrylate	1.1582 1.2966	0.9343 1.5206	1.3489	1.3415	1.3412	Ave		1.2773			0.0100	14.5		20.0			
1,1,2-Trichloroethane	1.0752 1.0616	0.9140 1.1331	1.0532	1.0831	1.0327	Ave		1.0504			0.1000	6.5		20.0			
Tetrachloroethene	1.5434 1.9068	1.3966 1.9646	1.7471	1.7964	1.7900	Ave		1.7350			0.2000	11.5		20.0			
1,3-Dichloropropane	1.8113 1.9128	1.5377 2.1689	1.9648	2.0261	1.9866	Ave		1.9155			0.0100	10.4		20.0			
2-Hexanone	0.5075 0.9287	0.5108 0.9540	0.5871	0.7318	0.8915	Qua	-16.53	0.7963	0.0004054		0.1000				0.9950		0.9900
Chlorodibromomethane	1.1262 1.2189	1.0563 1.4039	1.2273	1.2848	1.1998	Ave		1.2167			0.1000	9.1		20.0			
1,2-Dibromoethane	0.7841 0.9211	0.7998 1.1150	0.9975	0.9807	0.9246	Ave		0.9319			0.1000	12.4		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 298171

SDG No.:

Instrument ID: CHHP4 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/14/2019 07:36 Calibration End Date: 11/14/2019 12:45 Calibration ID: 42049

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Chlorobenzene	4.5326 4.1844	4.7004 4.0523	4.8872	4.7709	4.2493	Ave		4.4824			0.5000	7.2		20.0			
1,1,1,2-Tetrachloroethane	1.6501 1.6988	1.4602 1.6714	1.6934	1.7368	1.5166	Ave		1.6325			0.0100	6.3		20.0			
Ethylbenzene	2.5973 2.9442	2.8633 2.7505	3.0373	3.0338	2.7722	Ave		2.8570			0.1000	5.7		20.0			
m-Xylene & p-Xylene	3.8473 3.5471	3.5797 3.4174	3.7912	3.8316	3.4743	Ave		3.6412			0.1000	4.9		20.0			
o-Xylene	3.7265 3.1395	3.3495 3.0763	3.2639	3.4173	3.0917	Ave		3.2950			0.3000	7.0		20.0			
Styrene	5.9442 4.3373	5.0863 4.1444	5.0103	5.0723	4.5573	Ave		4.8789			0.3000	12.3		20.0			
Bromoform	0.7406 0.6098	0.5768 0.7286	0.6425	0.6462	0.6158	Ave		0.6515			0.1000	9.4		20.0			
Isopropylbenzene	9.2613 5.9802	8.8506 +++++	7.9597	7.7660	7.1965	Ave		7.8357			0.1000	15.0		20.0			
1,1,2,2-Tetrachloroethane	1.3155 0.9277	0.9877 1.0774	1.0496	1.0520	1.0326	Ave		1.0632			0.3000	11.5		20.0			
Bromobenzene	1.3191 1.2640	1.2556 1.3084	1.2618	1.3330	1.2146	Ave		1.2795			0.0100	3.3		20.0			
trans-1,4-Dichloro-2-butene	0.1201 0.1261	0.1243 0.1522	0.1260	0.1386	0.1285	Ave		0.1308			0.0100	8.4		20.0			
1,2,3-Trichloropropane	0.2693 0.2036	0.2181 0.2377	0.2278	0.2386	0.2171	Ave		0.2303			0.0100	9.2		20.0			
N-Propylbenzene	1.8493 1.7701	1.8548 1.7143	1.8185	1.8906	1.7943	Ave		1.8131			0.0100	3.3		20.0			
2-Chlorotoluene	1.4853 1.4324	1.4618 1.4313	1.4546	1.5996	1.3990	Ave		1.4663			0.0100	4.4		20.0			
1,3,5-Trimethylbenzene	5.3768 3.7280	5.1049 +++++	4.6649	4.9165	4.2331	Ave		4.6707			0.0100	12.9		20.0			
4-Chlorotoluene	1.4604 1.4051	1.4631 1.4268	1.4224	1.5415	1.4655	Ave		1.4550			0.0100	3.1		20.0			
tert-Butylbenzene	4.4347 3.5086	4.5835 3.1374	4.1869	4.3414	3.6903	Ave		3.9833			0.0100	13.6		20.0			
1,2,4-Trimethylbenzene	4.8270 3.7570	5.0522 3.3021	4.6700	4.6275	4.0456	Ave		4.3259			0.0100	14.7		20.0			
sec-Butylbenzene	6.6030 +++++	6.7645 +++++	6.1119	5.6672	5.0593	Ave		6.0412			0.0100	11.6		20.0			
1,3-Dichlorobenzene	2.5554 2.3284	2.5797 2.2604	2.6193	2.5427	2.3480	Ave		2.4620			0.6000	5.9		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 298171

SDG No.:

Instrument ID: CHHP4 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/14/2019 07:36 Calibration End Date: 11/14/2019 12:45 Calibration ID: 42049

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
4-Isopropyltoluene	5.4449 4.0426	5.9000 +++++	5.4606	4.9264	4.4090	Ave		5.0306			0.0100	14.0		20.0			
1,4-Dichlorobenzene	2.4763 2.2653	2.5330 2.2544	2.4851	2.4266	2.3108	Ave		2.3931			0.5000	4.8		20.0			
n-Butylbenzene	5.0985 4.2412	4.8524 3.4301	5.3228	4.6329	4.3955	Ave		4.5676			0.0100	13.8		20.0			
1,2-Dichlorobenzene	2.3448 2.3199	1.9983 2.1138	2.3922	2.1805	2.1466	Ave		2.2137			0.4000	6.4		20.0			
1,2-Dibromo-3-Chloropropane	0.1441 0.1381	0.1011 +++++	0.1439	0.1224	0.1087	Ave		0.1264			0.0500	14.7		20.0			
1,2,4-Trichlorobenzene	1.8074 1.8004	1.5205 1.8728	1.7595	1.7560	1.5776	Ave		1.7278			0.2000	7.5		20.0			
Hexachlorobutadiene	1.2133 1.4055	1.0771 1.3265	1.2240	1.3161	1.1504	Ave		1.2447			0.0100	9.0		20.0			
Naphthalene	2.6228 2.4370	1.9115 2.4804	2.3113	2.4502	1.9692	Ave		2.3118			0.0100	11.7		20.0			
1,2,3-Trichlorobenzene	1.5077 1.5638	1.2357 1.6111	1.4764	1.4950	1.2390	Ave		1.4470			0.0100	10.4		20.0			
Dibromofluoromethane (Surr)	0.3729 0.4143	0.3862 0.5060	0.4348	0.4043	0.4072	Ave		0.4180				10.4		20.0			
1,2-Dichloroethane-d4 (Surr)	0.3708 0.4063	0.3929 0.4519	0.4201	0.3742	0.3612	Ave		0.3968				8.1		20.0			
Toluene-d8 (Surr)	8.3982 5.7807	6.3443 5.6544	7.0249	6.8565	6.6240	Ave		6.6690				13.8		20.0			
4-Bromofluorobenzene (Surr)	2.5932 2.3676	2.4733 2.5724	2.3755	2.5077	2.5940	Ave		2.4977				3.9		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 298171

SDG No.:

Instrument ID: CHHP4 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/14/2019 07:36 Calibration End Date: 11/14/2019 12:45 Calibration ID: 42049

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-298171/2	41114002.D
Level 2	IC 180-298171/3	41114003.D
Level 3	IC 180-298171/4	41114004.D
Level 4	ICIS 180-298171/5	41114005.D
Level 5	IC 180-298171/6	41114006.D
Level 6	IC 180-298171/7	41114007.D
Level 7	IC 180-298171/8	41114008.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Dichlorodifluoromethane	FB	Ave	143414 3549308	378269 4946681	987279	1432462	1916643	25.0 375	50.0 500	125	200	250
Chloromethane	FB	Ave	127091 2704808	309131 3708591	763115	1316203	1519965	25.0 375	50.0 500	125	200	250
Vinyl chloride	FB	Ave	164546 3668713	376634 +++++	984989	1393125	2268412	25.0 375	50.0 +++++	125	200	250
1,3-Butadiene	FB	Ave	204993 3238885	427117 4411505	1096757	1551522	2165285	25.0 375	50.0 500	125	200	250
Bromomethane	FB	Ave	106863 2020659	256094 2843235	625533	984515	1258178	25.0 375	50.0 500	125	200	250
Chloroethane	FB	Lin	136214 2328016	279632 +++++	775049	1085415	1459346	25.0 375	50.0 +++++	125	200	250
Trichlorofluoromethane	FB	Ave	223072 4792577	532698 6497064	1428649	2046665	2828516	25.0 375	50.0 500	125	200	250
Dichlorofluoromethane	FB	Ave	255861 4597956	595165 7297731	1676509	2220972	3239859	25.0 375	50.0 500	125	200	250
Ethyl ether	FB	Ave	87480 1378019	179996 2048172	482627	702140	879349	25.0 375	50.0 500	125	200	250
1,1-Dichloroethene	FB	Lin2	103909 2906838	251598 3813199	853364	1244547	1740579	25.0 375	50.0 500	125	200	250
Acetone	FB	Ave	46419 848366	87703 1049574	228612	346182	527637	25.0 375	50.0 500	125	200	250
Iodomethane	FB	Ave	160852 3081321	331772 4216133	909705	1378127	1726694	25.0 375	50.0 500	125	200	250
1,1,2-Trichloro-1,2,2-trifluoroetha ne	FB	Ave	142925 2916016	350017 4108274	890895	1271376	1857161	25.0 375	50.0 500	125	200	250
Carbon disulfide	FB	Ave	449555 8385135	997194 11266413	2720075	3830235	5435196	25.0 375	50.0 500	125	200	250
Allyl chloride	FB	Ave	97957 1946387	232261 3024926	668116	937097	1306067	25.0 375	50.0 500	125	200	250

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 298171

SDG No.:

Instrument ID: CHHP4 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/14/2019 07:36 Calibration End Date: 11/14/2019 12:45 Calibration ID: 42049

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Methyl acetate	FB	Ave	86053 1312215	183255 2156093	486781	686316	889467	50.0 750	100 1000	250	400	500
Methylene Chloride	FB	Ave	176323 2433462	324849 3439684	770093	1254520	1468811	25.0 375	50.0 500	125	200	250
tert-Butyl alcohol	TBAd 9	Ave	52709 654889	97182 1104279	271700	352006	443014	250 3750	500 5000	1250	2000	2500
Acrylonitrile	FB	Ave	182341 3071422	388311 4867375	1163607	1657964	2020899	250 3750	500 5000	1250	2000	2500
trans-1,2-Dichloroethene	FB	Ave	145865 2881046	323918 +++++	905550	1317625	1738035	25.0 375	50.0 +++++	125	200	250
Methyl tert-butyl ether	FB	Ave	201617 3640640	441875 5854476	1299841	1952793	2263824	25.0 375	50.0 500	125	200	250
Hexane	FB	Ave	249924 4432637	581253 5911225	1533163	2141766	2894109	25.0 375	50.0 500	125	200	250
1,1-Dichloroethane	FB	Ave	258586 4665059	573223 6141658	1568113	2312004	2909139	25.0 375	50.0 500	125	200	250
2,2-Dichloropropane	FB	Ave	30469 647292	69647 882136	200187	301245	398449	25.0 375	50.0 500	125	200	250
cis-1,2-Dichloroethene	FB	Ave	148742 2853261	343004 3748275	925545	1378966	1761117	25.0 375	50.0 500	125	200	250
2-Butanone (MEK)	FB	Ave	55272 930184	87606 +++++	236328	367822	591814	25.0 375	50.0 +++++	125	200	250
Chlorobromomethane	FB	Ave	58931 1016136	114730 1464932	349393	521567	638327	25.0 375	50.0 500	125	200	250
Tetrahydrofuran	FB	Ave	32710 500508	62336 823328	195861	277931	325248	50.0 750	100 1000	250	400	500
Chloroform	FB	Ave	290977 4152919	578398 5540936	1487864	2005050	2673306	25.0 375	50.0 500	125	200	250
1,1,1-Trichloroethane	FB	Ave	180943 3340684	468829 4416866	1203160	1643051	2231896	25.0 375	50.0 500	125	200	250
Cyclohexane	FB	Ave	205971 3586540	495930 4598533	1272702	1745947	2370372	25.0 375	50.0 500	125	200	250
Carbon tetrachloride	FB	Ave	167848 3051267	373254 3934559	1065784	1520624	2078328	25.0 375	50.0 500	125	200	250
1,1-Dichloropropene	FB	Ave	212219 3707013	482020 4764538	1364143	1887936	2610676	25.0 375	50.0 500	125	200	250
Isobutyl alcohol	FB	Ave	48767 630102	75813 979469	238220	320016	378057	625 9375	1250 12500	3125	5000	6250
Benzene	FB	Ave	595562 8351565	1361215 9785002	3357504	4613438	5730615	25.0 375	50.0 500	125	200	250
1,2-Dichloroethane	FB	Ave	120982 2202928	281190 2880622	804507	1170076	1383317	25.0 375	50.0 500	125	200	250

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 298171

SDG No.:

Instrument ID: CHHP4 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/14/2019 07:36 Calibration End Date: 11/14/2019 12:45 Calibration ID: 42049

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
n-Heptane	FB	Ave	228223 4006278	559335 4944796	1516646	1983161	2763635	25.0 375	50.0 500	125	200	250
Trichloroethene	FB	Ave	153622 2775248	352225 3813323	940278	1387802	1869412	25.0 375	50.0 500	125	200	250
Methylcyclohexane	FB	Ave	285516 4826759	665289 6190856	1841565	2480138	3395439	25.0 375	50.0 500	125	200	250
1,2-Dichloropropane	FB	Ave	129206 2279176	284297 3311309	830351	1180456	1515711	25.0 375	50.0 500	125	200	250
Dibromomethane	FB	Ave	48427 927296	102550 1394988	320245	464317	599081	25.0 375	50.0 500	125	200	250
1,4-Dioxane	FB	Ave	18245 199343	29243 +++++	81986	104669	143538	500 7500	1000 +++++	2500	4000	5000
Dichlorobromomethane	FB	Ave	161234 2839272	280848 3925649	960522	1425396	1851733	25.0 375	50.0 500	125	200	250
cis-1,3-Dichloropropene	FB	Ave	193950 3377715	362462 4600975	1159657	1706620	2237120	25.0 375	50.0 500	125	200	250
4-Methyl-2-pentanone (MIBK)	CBNZ d5	Qua	52525 1542989	88387 +++++	345486	580141	978126	25.0 375	50.0 +++++	125	200	250
Toluene	CBNZ d5	Ave	621716 7639974	1228652 9415843	3561963	4800272	5749451	25.0 375	50.0 500	125	200	250
trans-1,3-Dichloropropene	CBNZ d5	Ave	118899 2394666	258780 3567743	837166	1304359	1610387	25.0 375	50.0 500	125	200	250
Ethyl methacrylate	CBNZ d5	Ave	85301 1631167	170792 2577597	613589	857586	1114109	25.0 375	50.0 500	125	200	250
1,1,2-Trichloroethane	CBNZ d5	Ave	79191 1335584	167077 1920667	479084	692372	857862	25.0 375	50.0 500	125	200	250
Tetrachloroethene	CBNZ d5	Ave	113673 2398812	255283 3330101	794681	1148368	1486916	25.0 375	50.0 500	125	200	250
1,3-Dichloropropane	CBNZ d5	Ave	133404 2406362	281090 3676421	893703	1295219	1650190	25.0 375	50.0 500	125	200	250
2-Hexanone	CBNZ d5	Qua	37377 1168315	93377 1617192	267056	467822	740515	25.0 375	50.0 500	125	200	250
Chlorodibromomethane	CBNZ d5	Ave	82946 1533385	193080 2379707	558260	821345	996655	25.0 375	50.0 500	125	200	250
1,2-Dibromoethane	CBNZ d5	Ave	57751 1158811	146206 1890093	453744	626935	768085	25.0 375	50.0 500	125	200	250
Chlorobenzene	CBNZ d5	Ave	333824 5264137	859202 6868938	2223024	3049846	3529766	25.0 375	50.0 500	125	200	250
1,1,1,2-Tetrachloroethane	CBNZ d5	Ave	121530 2137171	266921 2833149	770288	1110274	1259832	25.0 375	50.0 500	125	200	250
Ethylbenzene	CBNZ d5	Ave	191290 3704010	523402 4662412	1381544	1939416	2302821	25.0 375	50.0 500	125	200	250

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 298171

SDG No.:

Instrument ID: CHHP4 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/14/2019 07:36 Calibration End Date: 11/14/2019 12:45 Calibration ID: 42049

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
m-Xylene & p-Xylene	CBNZ d5	Ave	283352 4462465	654356 5792753	1724481	2449400	2886027	25.0 375	50.0 500	125	200	250
o-Xylene	CBNZ d5	Ave	274458 3949653	612261 5214613	1484652	2184540	2568179	25.0 375	50.0 500	125	200	250
Styrene	CBNZ d5	Ave	437785 5456573	929750 7025071	2279017	3242503	3785622	25.0 375	50.0 500	125	200	250
Bromoform	CBNZ d5	Ave	54542 767194	105442 1235034	292268	413068	511558	25.0 375	50.0 500	125	200	250
Isopropylbenzene	CBNZ d5	Ave	682090 7523413	1617835 +++++	3620591	4964527	5977951	25.0 375	50.0 +++++	125	200	250
1,1,2,2-Tetrachloroethane	CBNZ d5	Ave	96885 1167072	180543 1826319	477434	672512	857719	25.0 375	50.0 500	125	200	250
Bromobenzene	DCBd 4	Ave	150768 2244895	332470 3198924	808212	1213021	1582664	25.0 375	50.0 500	125	200	250
trans-1,4-Dichloro-2-butene	DCBd 4	Ave	13728 223970	32903 372165	80724	126112	167504	25.0 375	50.0 500	125	200	250
1,2,3-Trichloropropane	DCBd 4	Ave	30778 361616	57741 581112	145890	217101	282851	25.0 375	50.0 500	125	200	250
N-Propylbenzene	DCBd 4	Ave	211358 3143662	491110 4191328	1164764	1720366	2338159	25.0 375	50.0 500	125	200	250
2-Chlorotoluene	DCBd 4	Ave	169760 2543879	387057 3499407	931691	1455586	1822938	25.0 375	50.0 500	125	200	250
1,3,5-Trimethylbenzene	DCBd 4	Ave	614531 6620836	1351689 +++++	2987938	4473871	5516003	25.0 375	50.0 +++++	125	200	250
4-Chlorotoluene	DCBd 4	Ave	166911 2495399	387401 3488346	911069	1402723	1909605	25.0 375	50.0 500	125	200	250
tert-Butylbenzene	DCBd 4	Ave	506862 6231123	1213643 7670763	2681772	3950600	4808714	25.0 375	50.0 500	125	200	250
1,2,4-Trimethylbenzene	DCBd 4	Ave	551699 6672251	1337745 8073273	2991211	4210917	5271704	25.0 375	50.0 500	125	200	250
sec-Butylbenzene	DCBd 4	Ave	754680 +++++	1791132 +++++	3914779	5156998	6592586	25.0 +++++	50.0 +++++	125	200	250
1,3-Dichlorobenzene	DCBd 4	Ave	292062 4135192	683055 5526377	1677692	2313791	3059593	25.0 375	50.0 500	125	200	250
4-Isopropyltoluene	DCBd 4	Ave	622314 7179585	1562227 +++++	3497612	4482935	5745261	25.0 375	50.0 +++++	125	200	250
1,4-Dichlorobenzene	DCBd 4	Ave	283024 4023101	670709 5511788	1591745	2208151	3011121	25.0 375	50.0 500	125	200	250
n-Butylbenzene	DCBd 4	Ave	582722 7532269	1284838 8386187	3409308	4215842	5727667	25.0 375	50.0 500	125	200	250
1,2-Dichlorobenzene	DCBd 4	Ave	267998 4120142	529126 5168007	1532247	1984160	2797166	25.0 375	50.0 500	125	200	250

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 298171

SDG No.:

Instrument ID: CHHP4 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/14/2019 07:36 Calibration End Date: 11/14/2019 12:45 Calibration ID: 42049

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
1,2-Dibromo-3-Chloropropane	DCBd 4	Ave	16467 245178	26771 +++++	92146	111354	141670	25.0 375	50.0 +++++	125	200	250
1,2,4-Trichlorobenzene	DCBd 4	Ave	206578 3197506	402596 4578694	1127013	1597957	2055743	25.0 375	50.0 500	125	200	250
Hexachlorobutadiene	DCBd 4	Ave	138678 2496084	285201 3243135	783970	1197599	1499070	25.0 375	50.0 500	125	200	250
Naphthalene	DCBd 4	Ave	299770 4328026	506136 6064417	1480449	2229652	2566056	25.0 375	50.0 500	125	200	250
1,2,3-Trichlorobenzene	DCBd 4	Ave	172320 2777277	327201 3938868	945673	1360381	1614569	25.0 375	50.0 500	125	200	250
Dibromofluoromethane (Surr)	FB	Ave	127491 2188831	279324 3304253	789267	1055204	1449094	25.0 375	50.0 500	125	200	250
1,2-Dichloroethane-d4 (Surr)	FB	Ave	126797 2146557	284175 2950886	762519	976725	1285393	25.0 375	50.0 500	125	200	250
Toluene-d8 (Surr)	CBNZ d5	Ave	618523 7272439	1159709 9584773	3195358	4383070	5502392	25.0 375	50.0 500	125	200	250
4-Bromofluorobenzene (Surr)	CBNZ d5	Ave	190984 2978616	452097 4360529	1080533	1603079	2154771	25.0 375	50.0 500	125	200	250

Curve Type Legend:

Ave = Average ISTD
Lin = Linear ISTD
Lin2 = Linear 1/conc^2 ISTD
Qua = Quadratic ISTD

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 298171

SDG No.:

Instrument ID: CHHP4 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/14/2019 07:36 Calibration End Date: 11/14/2019 12:45 Calibration ID: 42049

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-298171/2	41114002.D
Level 2	IC 180-298171/3	41114003.D
Level 3	IC 180-298171/4	41114004.D
Level 4	ICIS 180-298171/5	41114005.D
Level 5	IC 180-298171/6	41114006.D
Level 6	IC 180-298171/7	41114007.D
Level 7	IC 180-298171/8	41114008.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
Dichlorodifluoromethane	-26.7 32.5 *	-8.5	-4.9	-4.0	-5.8	17.5	50 30	30	30	30	30	30
Chloromethane	-19.5 23.1	-7.4	-8.9	9.3	-7.5	10.9	50 30	30	30	30	30	30
Vinyl chloride	-15.3 +++++	-8.4	-4.5	-6.1	12.2	22.2	50	30	30	30	30	30
1,3-Butadiene	-2.1 10.3	-3.5	-1.3	-2.9	-0.6	0.1	50 30	30	30	30	30	30
Bromomethane	-14.5 19.1	-3.2	-5.8	3.1	-3.3	4.6	50 30	30	30	30	30	30
Chloroethane	14.9 +++++	0.2	2.2	-2.1	-4.1	2.1	50	30	30	30	30	30
Trichlorofluoromethane	-19.3 23.1	-8.9	-2.6	-3.0	-1.6	12.2	50 30	30	30	30	30	30
Dichlorofluoromethane	-16.1 25.3	-7.7	3.5	-4.6	2.1	-2.4	50 30	30	30	30	30	30
Ethyl ether	-3.8 18.0	-6.4	0.0	1.2	-7.1	-1.9	50 30	30	30	30	30	30
1,1-Dichloroethene	6.0 11.0	-10.6	-2.7	-5.2	-4.1	5.6	50 30	30	30	30	30	30
Acetone	-3.5 14.2	-13.8	-10.5	-5.8	5.4	14.1	50 30	30	30	30	30	30
Iodomethane	-10.3 23.1	-12.6	-4.5	0.6	-7.5	11.2	50 30	30	30	30	30	30
1,1,2-Trichloro-1,2,2-trifluoroethane	-18.3 22.9	-5.4	-4.1	-4.8	2.0	7.8	50 30	30	30	30	30	30
Carbon disulfide	-12.3 15.0	-8.1	-0.1	-2.2	1.8	5.8	50 30	30	30	30	30	30
Allyl chloride	-20.8 28.0	-11.3	1.7	-0.8	1.4	1.8	50 30	30	30	30	30	30

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 298171

SDG No.:

Instrument ID: CHHP4 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/14/2019 07:36 Calibration End Date: 11/14/2019 12:45 Calibration ID: 42049

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
Methyl acetate	-5.5 24.0	-4.9	0.7	-1.3	-6.2	-6.8	50 30	30	30	30	30	30
Methylene Chloride	10.4 12.8	-3.8	-9.2	2.9	-11.6	-1.4	50 30	30	30	30	30	30
tert-Butyl alcohol	14.7 3.2	-2.4	-1.6	-12.2	-10.3	8.5	50 30	30	30	30	30	30
Acrylonitrile	-12.0 23.0	-11.4	5.8	4.8	-6.3	-4.1	50 30	30	30	30	30	30
trans-1,2-Dichloroethene	-12.1 +++++	-7.7	2.8	4.0	0.6	12.4	50	30	30	30	30	30
Methyl tert-butyl ether	-15.5 28.4	-12.5	2.6	7.2	-8.9	-1.3	50 30	30	30	30	30	30
Hexane	-11.1 10.1	-2.3	2.7	-0.2	-1.1	2.0	50 30	30	30	30	30	30
1,1-Dichloroethane	-10.9 10.8	-6.6	1.8	4.4	-3.6	4.1	50 30	30	30	30	30	30
2,2-Dichloropropane	-20.1 21.1	-13.6	-1.1	3.5	0.4	9.8	50 30	30	30	30	30	30
cis-1,2-Dichloroethene	-14.4 13.0	-6.6	0.4	4.0	-2.6	6.3	50 30	30	30	30	30	30
2-Butanone (MEK)	8.2 +++++	-18.9	-12.8	-5.7	11.3	17.9	50	30	30	30	30	30
Chlorobromomethane	-8.6 19.0	-15.8	2.1	6.0	-4.8	2.0	50 30	30	30	30	30	30
Tetrahydrofuran	-5.5 24.6	-14.8	6.6	5.2	-9.7	-6.4	50 30	30	30	30	30	30
Chloroform	5.9 5.6	-0.5	2.0	-4.4	-6.5	-2.2	50 30	30	30	30	30	30
1,1,1-Trichloroethane	-15.9 7.5	3.0	5.3	0.0	-0.3	0.5	50 30	30	30	30	30	30
Cyclohexane	-10.4 4.7	2.0	4.3	-0.5	-0.9	0.9	50 30	30	30	30	30	30
Carbon tetrachloride	-12.8 7.0	-8.3	4.3	3.5	3.7	2.6	50 30	30	30	30	30	30
1,1-Dichloropropene	-11.8 3.7	-5.3	6.8	2.8	4.2	-0.3	50 30	30	30	30	30	30
Isobutyl alcohol	13.9 19.8	-16.3	4.8	-2.1	-15.2	-4.8	50 30	30	30	30	30	30
Benzene	2.2 -12.1	10.4	8.5	3.7	-5.5	-7.3	50 30	30	30	30	30	30
1,2-Dichloroethane	-14.0 7.2	-5.5	7.7	8.9	-5.5	1.3	50 30	30	30	30	30	30

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 298171

SDG No.:

Instrument ID: CHHP4 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/14/2019 07:36 Calibration End Date: 11/14/2019 12:45 Calibration ID: 42049

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
n-Heptane	-12.3 -0.5	1.6	9.8	-0.2	2.0	-0.4	50 30	30	30	30	30	30
Trichloroethene	-13.1 12.9	-5.8	0.1	2.8	1.6	1.5	50 30	30	30	30	30	30
Methylcyclohexane	-10.6 1.5	-1.5	8.7	1.8	2.2	-2.2	50 30	30	30	30	30	30
1,2-Dichloropropane	-13.1 16.6	-9.6	5.2	4.0	-2.1	-0.8	50 30	30	30	30	30	30
Dibromomethane	-17.1 25.1	-17.0	3.3	4.2	-1.4	2.8	50 30	30	30	30	30	30
1,4-Dioxane	24.5 +++++	-5.6	5.4	-6.4	-5.9	-12.0	50	30	30	30	30	30
Dichlorobromomethane	-8.2 17.1	-24.4	3.1	6.4	1.4	4.7	50 30	30	30	30	30	30
cis-1,3-Dichloropropene	-8.4 13.8	-19.0	3.2	5.6	1.5	3.3	50 30	30	30	30	30	30
4-Methyl-2-pentanone (MIBK)	48.3 +++++	-11.7	-8.0	-6.0	7.7	-1.0	50	30	30	30	30	30
Toluene	20.5 -20.7	-4.1	11.8	7.2	-1.2	-13.3	50 30	30	30	30	30	30
trans-1,3-Dichloropropene	-12.1 14.6	-22.9	0.2	11.1	5.5	3.6	50 30	30	30	30	30	30
Ethyl methacrylate	-9.3 19.0	-26.9	5.6	5.0	5.0	1.5	50 30	30	30	30	30	30
1,1,2-Trichloroethane	2.4 7.9	-13.0	0.3	3.1	-1.7	1.1	50 30	30	30	30	30	30
Tetrachloroethene	-11.0 13.2	-19.5	0.7	3.5	3.2	9.9	50 30	30	30	30	30	30
1,3-Dichloropropane	-5.4 13.2	-19.7	2.6	5.8	3.7	-0.1	50 30	30	30	30	30	30
2-Hexanone	44.1 -1.0	3.0	-14.3	-6.6	6.0	2.2	50 30	30	30	30	30	30
Chlorodibromomethane	-7.4 15.4	-13.2	0.9	5.6	-1.4	0.2	50 30	30	30	30	30	30
1,2-Dibromoethane	-15.9 19.7	-14.2	7.0	5.2	-0.8	-1.2	50 30	30	30	30	30	30
Chlorobenzene	1.1 -9.6	4.9	9.0	6.4	-5.2	-6.6	50 30	30	30	30	30	30
1,1,1,2-Tetrachloroethane	1.1 2.4	-10.6	3.7	6.4	-7.1	4.1	50 30	30	30	30	30	30
Ethylbenzene	-9.1 -3.7	0.2	6.3	6.2	-3.0	3.1	50 30	30	30	30	30	30

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 298171

SDG No.:

Instrument ID: CHHP4 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/14/2019 07:36 Calibration End Date: 11/14/2019 12:45 Calibration ID: 42049

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
m-Xylene & p-Xylene	5.7 -6.1	-1.7	4.1	5.2	-4.6	-2.6	50 30	30	30	30	30	30
o-Xylene	13.1 -6.6	1.7	-0.9	3.7	-6.2	-4.7	50 30	30	30	30	30	30
Styrene	21.8 -15.1	4.3	2.7	4.0	-6.6	-11.1	50 30	30	30	30	30	30
Bromoform	13.7 11.8	-11.5	-1.4	-0.8	-5.5	-6.4	50 30	30	30	30	30	30
Isopropylbenzene	18.2 +++++	13.0	1.6	-0.9	-8.2	-23.7	50	30	30	30	30	30
1,1,2,2-Tetrachloroethane	23.7 1.3	-7.1	-1.3	-1.1	-2.9	-12.7	50 30	30	30	30	30	30
Bromobenzene	3.1 2.3	-1.9	-1.4	4.2	-5.1	-1.2	50 30	30	30	30	30	30
trans-1,4-Dichloro-2-butene	-8.2 16.3	-5.0	-3.7	5.9	-1.8	-3.6	50 30	30	30	30	30	30
1,2,3-Trichloropropane	16.9 3.2	-5.3	-1.1	3.6	-5.7	-11.6	50 30	30	30	30	30	30
N-Propylbenzene	2.0 -5.4	2.3	0.3	4.3	-1.0	-2.4	50 30	30	30	30	30	30
2-Chlorotoluene	1.3 -2.4	-0.3	-0.8	9.1	-4.6	-2.3	50 30	30	30	30	30	30
1,3,5-Trimethylbenzene	15.1 +++++	9.3	-0.1	5.3	-9.4	-20.2	50	30	30	30	30	30
4-Chlorotoluene	0.4 -1.9	0.6	-2.2	5.9	0.7	-3.4	50 30	30	30	30	30	30
tert-Butylbenzene	11.3 -21.2	15.1	5.1	9.0	-7.4	-11.9	50 30	30	30	30	30	30
1,2,4-Trimethylbenzene	11.6 -23.7	16.8	8.0	7.0	-6.5	-13.2	50 30	30	30	30	30	30
sec-Butylbenzene	9.3 +++++	12.0	1.2	-6.2	-16.3	+++++	50	30	30	30	30	
1,3-Dichlorobenzene	3.8 -8.2	4.8	6.4	3.3	-4.6	-5.4	50 30	30	30	30	30	30
4-Isopropyltoluene	8.2 +++++	17.3	8.5	-2.1	-12.4	-19.6	50	30	30	30	30	30
1,4-Dichlorobenzene	3.5 -5.8	5.8	3.8	1.4	-3.4	-5.3	50 30	30	30	30	30	30
n-Butylbenzene	11.6 -24.9	6.2	16.5	1.4	-3.8	-7.1	50 30	30	30	30	30	30
1,2-Dichlorobenzene	5.9 -4.5	-9.7	8.1	-1.5	-3.0	4.8	50 30	30	30	30	30	30

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 298171

SDG No.:

Instrument ID: CHHP4 GC Column: DB-624 ID: 0.18(mm) Heated Purge: (Y/N) N

Calibration Start Date: 11/14/2019 07:36 Calibration End Date: 11/14/2019 12:45 Calibration ID: 42049

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
1,2-Dibromo-3-Chloropropane	14.0 +++++	-20.0	13.8	-3.2	-14.0	9.2	50	30	30	30	30	30
1,2,4-Trichlorobenzene	4.6 8.4	-12.0	1.8	1.6	-8.7	4.2	50 30	30	30	30	30	30
Hexachlorobutadiene	-2.5 6.6	-13.5	-1.7	5.7	-7.6	12.9	50 30	30	30	30	30	30
Naphthalene	13.5 7.3	-17.3	0.0	6.0	-14.8	5.4	50 30	30	30	30	30	30
1,2,3-Trichlorobenzene	4.2 11.3	-14.6	2.0	3.3	-14.4	8.1	50 30	30	30	30	30	30
Dibromofluoromethane (Surr)	-10.8 21.1	-7.6	4.0	-3.3	-2.6	-0.9	50 30	30	30	30	30	30
1,2-Dichloroethane-d4 (Surr)	-6.5 13.9	-1.0	5.9	-5.7	-9.0	2.4	50 30	30	30	30	30	30
Toluene-d8 (Surr)	25.9 -15.2	-4.9	5.3	2.8	-0.7	-13.3	50 30	30	30	30	30	30
4-Bromofluorobenzene (Surr)	3.8 3.0	-1.0	-4.9	0.4	3.9	-5.2	50 30	30	30	30	30	30

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114002.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 14-Nov-2019 07:36:30 ALS Bottle#: 2 Worklist Smp#: 2
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029543-002
Operator ID: 034635 Instrument ID: CHHP4
Sublist: chrom-MSVOA_CHHP4*sub156

Method: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\MSVOA_CHHP4.m
Limit Group: VOA 8260C_D ICAL
Last Update: 14-Nov-2019 14:39:54 Calib Date: 14-Nov-2019 12:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114008.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0329

First Level Reviewer: journetp Date: 14-Nov-2019 08:12:15

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.121	4.121	0.000	88	490010	5000.0	5000.0	
* 2 Fluorobenzene (IS)	96	7.150	7.150	0.000	98	3419210	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.275	10.275	0.000	98	736494	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.626	12.626	0.000	92	1142937	250.0	250.0	
$ 5 Dibromofluoromethane (Surr	113	6.429	6.429	0.000	0	127491	25.0	22.3	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.798	6.798	0.000	0	126797	25.0	23.4	
$ 7 Toluene-d8 (Surr)	98	8.817	8.817	0.000	0	618523	25.0	31.5	
$ 8 4-Bromofluorobenzene (Surr	95	11.472	11.472	0.000	0	190984	25.0	26.0	
$ 141 Total BTEX	95		0.000				ND	ND	
10 Dichlorodifluoromethane	85	1.605	1.605	0.000	29	143414	25.0	18.3	M
11 Chloromethane	50	1.765	1.765	0.000	51	127091	25.0	20.1	M
12 Vinyl chloride	62	1.904	1.904	0.000	31	164546	25.0	21.2	M
13 Butadiene	39	1.947	1.947	0.000	79	204993	25.0	24.5	M
14 Bromomethane	94	2.284	2.284	0.000	80	106863	25.0	21.4	M
15 Chloroethane	64	2.465	2.465	0.000	76	136214	25.0	28.7	M
17 Trichlorofluoromethane	101	2.551	2.551	0.000	97	223072	25.0	20.2	M
16 Dichlorofluoromethane	67	2.674	2.674	0.000	93	255861	25.0	21.0	M
19 Ethyl ether	59	2.925	2.925	0.000	88	87480	25.0	24.1	
21 1,1-Dichloroethene	96	3.208	3.208	0.000	95	103909	25.0	26.5	
23 Acetone	43	3.299	3.299	0.000	83	46419	25.0	24.1	
24 Iodomethane	142	3.395	3.395	0.000	97	160852	25.0	22.4	
22 1,1,2-Trichloro-1,2,2-trif	101	3.421	3.421	0.000	69	142925	25.0	20.4	M
25 Carbon disulfide	76	3.480	3.480	0.000	98	449555	25.0	21.9	M
28 3-Chloro-1-propene	76	3.753	3.753	0.000	90	97957	25.0	19.8	M
29 Methyl acetate	43	3.790	3.790	0.000	39	86053	50.0	47.2	M
30 Methylene Chloride	84	3.972	3.972	0.000	90	176323	25.0	27.6	
31 2-Methyl-2-propanol	59	4.250	4.250	0.000	98	52709	250.0	286.8	
32 Acrylonitrile	53	4.367	4.367	0.000	99	182341	250.0	220.0	
33 trans-1,2-Dichloroethene	96	4.415	4.415	0.000	96	145865	25.0	22.0	
34 Methyl tert-butyl ether	73	4.420	4.420	0.000	98	201617	25.0	21.1	
35 Hexane	57	4.826	4.826	0.000	92	249924	25.0	22.2	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 1,1-Dichloroethane	63	5.045	5.045	0.000	96	258586	25.0	22.3	
41 2,2-Dichloropropane	97	5.793	5.783	0.010	63	30469	25.0	20.0	M
42 cis-1,2-Dichloroethene	96	5.799	5.799	0.000	85	148742	25.0	21.4	
43 2-Butanone (MEK)	43	5.815	5.815	0.000	30	55272	25.0	27.1	M
46 Chlorobromomethane	128	6.093	6.093	0.000	96	58931	25.0	22.9	
48 Tetrahydrofuran	42	6.119	6.119	0.000	89	32710	50.0	47.3	
49 Chloroform	83	6.237	6.237	0.000	94	290977	25.0	26.5	
50 1,1,1-Trichloroethane	97	6.397	6.397	0.000	98	180943	25.0	21.0	
51 Cyclohexane	56	6.466	6.466	0.000	88	205971	25.0	22.4	
53 Carbon tetrachloride	117	6.573	6.573	0.000	81	167848	25.0	21.8	
52 1,1-Dichloropropene	75	6.589	6.589	0.000	94	212219	25.0	22.0	
59 Isobutyl alcohol	41	6.798	6.798	0.000	35	48767	625.0	711.7	M
54 Benzene	78	6.803	6.803	0.000	97	595562	25.0	25.5	
55 1,2-Dichloroethane	62	6.889	6.889	0.000	95	120982	25.0	21.5	
58 n-Heptane	43	7.172	7.172	0.000	92	228223	25.0	21.9	
61 Trichloroethene	130	7.546	7.546	0.000	97	153622	25.0	21.7	
63 Methylcyclohexane	83	7.781	7.781	0.000	88	285516	25.0	22.4	
64 1,2-Dichloropropane	63	7.823	7.823	0.000	90	129206	25.0	21.7	
65 Dibromomethane	93	7.914	7.914	0.000	93	48427	25.0	20.7	
67 1,4-Dioxane	88	7.914	7.914	0.000	34	18245	500.0	622.6	M
68 Dichlorobromomethane	83	8.107	8.107	0.000	98	161234	25.0	23.0	
71 cis-1,3-Dichloropropene	75	8.555	8.555	0.000	93	193950	25.0	22.9	
72 4-Methyl-2-pentanone (MIBK	43	8.710	8.710	0.000	96	52525	25.0	37.1	
73 Toluene	91	8.881	8.881	0.000	98	621716	25.0	30.1	
74 trans-1,3-Dichloropropene	75	9.138	9.138	0.000	92	118899	25.0	22.0	
75 Ethyl methacrylate	69	9.202	9.202	0.000	86	85301	25.0	22.7	
76 1,1,2-Trichloroethane	97	9.335	9.335	0.000	87	79191	25.0	25.6	
77 Tetrachloroethene	164	9.399	9.399	0.000	98	113673	25.0	22.2	
78 1,3-Dichloropropane	76	9.490	9.490	0.000	89	133404	25.0	23.6	
79 2-Hexanone	43	9.560	9.560	0.000	96	37377	25.0	36.0	
81 Chlorodibromomethane	129	9.704	9.704	0.000	90	82946	25.0	23.1	
82 Ethylene Dibromide	107	9.821	9.821	0.000	97	57751	25.0	21.0	
84 Chlorobenzene	112	10.302	10.302	0.000	95	333824	25.0	25.3	
85 1,1,1,2-Tetrachloroethane	131	10.398	10.398	0.000	43	121530	25.0	25.3	
86 Ethylbenzene	106	10.404	10.404	0.000	98	191290	25.0	22.7	
87 m-Xylene & p-Xylene	106	10.543	10.543	0.000	0	283352	25.0	26.4	
88 o-Xylene	106	10.916	10.916	0.000	97	274458	25.0	28.3	
89 Styrene	104	10.943	10.943	0.000	95	437785	25.0	30.5	
90 Bromoform	173	11.125	11.125	0.000	97	54542	25.0	28.4	
91 Isopropylbenzene	105	11.285	11.285	0.000	96	682090	25.0	29.5	
93 1,1,2,2-Tetrachloroethane	83	11.600	11.600	0.000	67	96885	25.0	30.9	
94 Bromobenzene	156	11.606	11.606	0.000	91	150768	25.0	25.8	
96 trans-1,4-Dichloro-2-buten	53	11.643	11.643	0.000	61	13728	25.0	23.0	
95 1,2,3-Trichloropropane	110	11.659	11.659	0.000	83	30778	25.0	29.2	
97 N-Propylbenzene	120	11.707	11.707	0.000	98	211358	25.0	25.5	
98 2-Chlorotoluene	126	11.787	11.787	0.000	95	169760	25.0	25.3	
99 1,3,5-Trimethylbenzene	105	11.889	11.889	0.000	94	614531	25.0	28.8	
100 4-Chlorotoluene	126	11.921	11.921	0.000	97	166911	25.0	25.1	
101 tert-Butylbenzene	119	12.199	12.199	0.000	94	506862	25.0	27.8	
103 1,2,4-Trimethylbenzene	105	12.263	12.263	0.000	97	551699	25.0	27.9	
104 sec-Butylbenzene	105	12.423	12.423	0.000	94	754680	25.0	27.3	
105 1,3-Dichlorobenzene	146	12.551	12.551	0.000	97	292062	25.0	25.9	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
106 4-Isopropyltoluene	119	12.583	12.583	0.000	97	622314	25.0	27.1	
107 1,4-Dichlorobenzene	146	12.653	12.653	0.000	95	283024	25.0	25.9	
110 n-Butylbenzene	91	12.995	12.995	0.000	98	582722	25.0	27.9	
111 1,2-Dichlorobenzene	146	13.011	13.011	0.000	96	267998	25.0	26.5	
112 1,2-Dibromo-3-Chloropropan	75	13.807	13.807	0.000	77	16467	25.0	28.5	
113 1,2,4-Trichlorobenzene	180	14.629	14.629	0.000	92	206578	25.0	26.2	
115 Hexachlorobutadiene	225	14.768	14.768	0.000	95	138678	25.0	24.4	
116 Naphthalene	128	14.896	14.896	0.000	97	299770	25.0	28.4	
117 1,2,3-Trichlorobenzene	180	15.110	15.110	0.000	95	172320	25.0	26.0	
S 129 1,2-Dichloroethene, Total	96				0		50.0	43.4	
S 130 Xylenes, Total	106				0		50.0	54.7	
S 131 1,3-Dichloropropene, Total	1				0		50.0	44.9	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

Reagents:

VOA8260SURR_00101 Amount Added: 1.00 Units: uL
VOA8260INT_00101 Amount Added: 10.00 Units: uL
VOA8260VOAPRI_00380 Amount Added: 1.00 Units: uL

Report Date: 14-Nov-2019 14:39:56 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114002.D

Injection Date: 14-Nov-2019 07:36:30 Instrument ID: CHHP4 Operator ID: 034635

Lims ID: IC Worklist Smp#: 2

Client ID:

Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 2

Method: MSVOA_CHHP4 Limit Group: VOA 8260C_D ICAL

Column: DB-624 (0.18 mm)

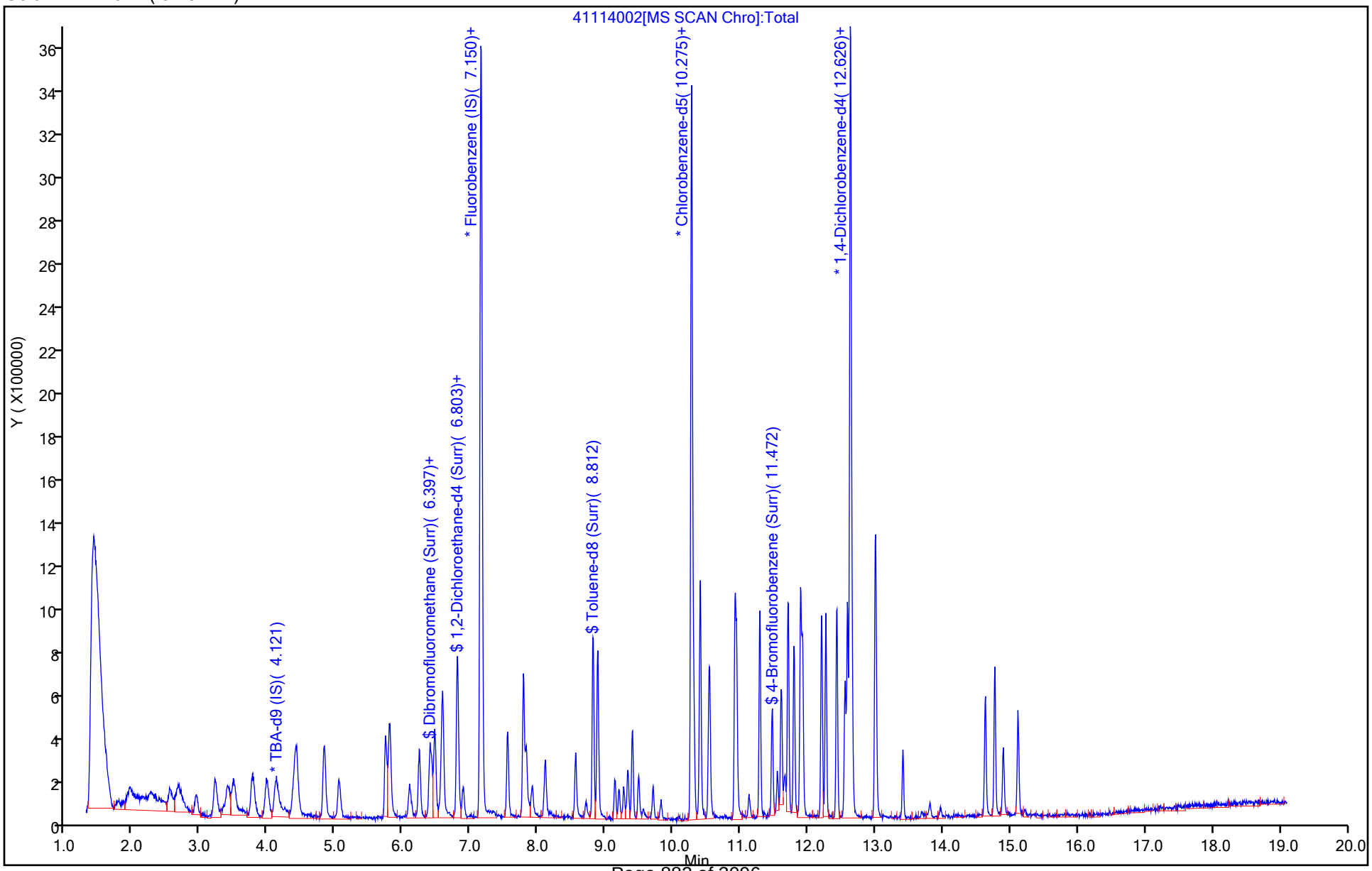

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114002.D				
Injection Date:	14-Nov-2019 07:36:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

10 Dichlorodifluoromethane, CAS: 75-71-8

Signal: 1

Processing Integration Results

RT: 1.77
Area: 13546
Amount: 25.000000
Amount Units: ng

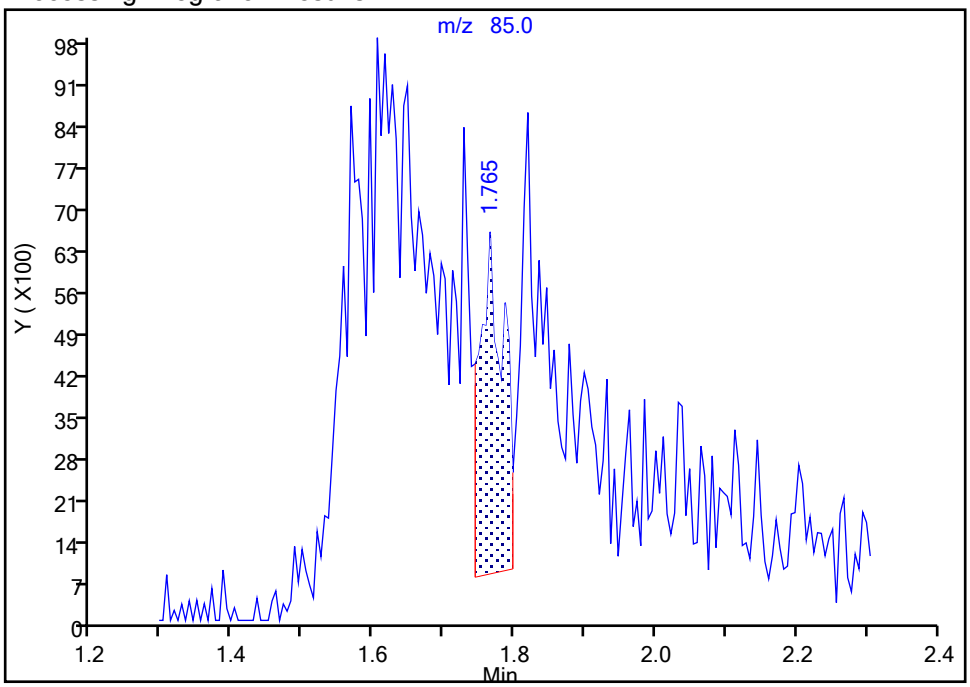

Manual Integration Results

RT: 1.61
Area: 143414
Amount: 18.336018
Amount Units: ng

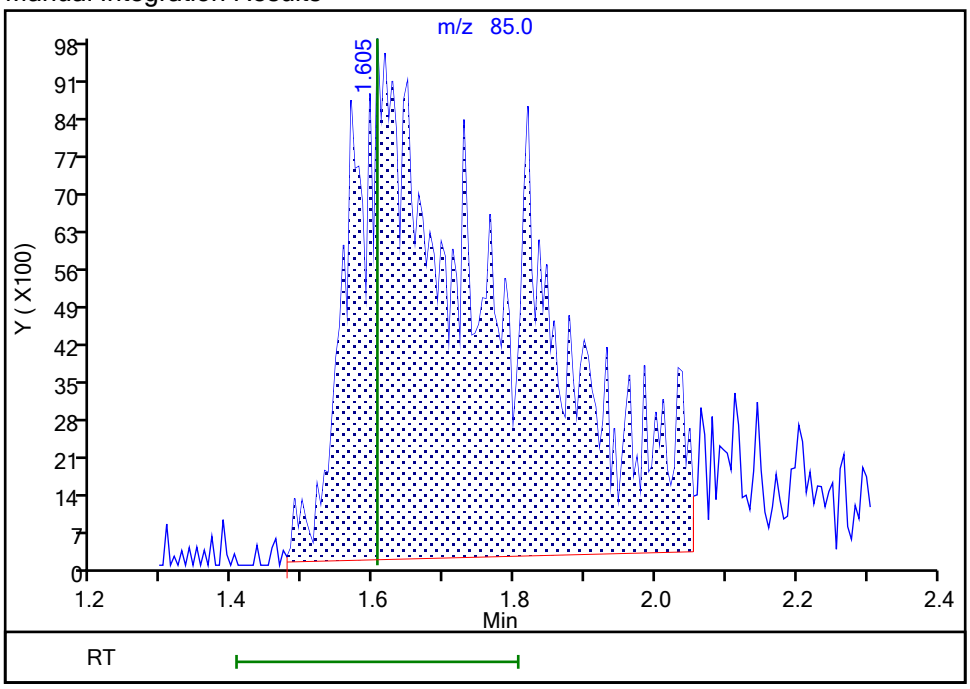

Reviewer: journetp, 14-Nov-2019 08:10:00

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114002.D				
Injection Date:	14-Nov-2019 07:36:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

11 Chloromethane, CAS: 74-87-3

Signal: 1

Processing Integration Results

RT: 1.82
Area: 39173
Amount: 25.000000
Amount Units: ng

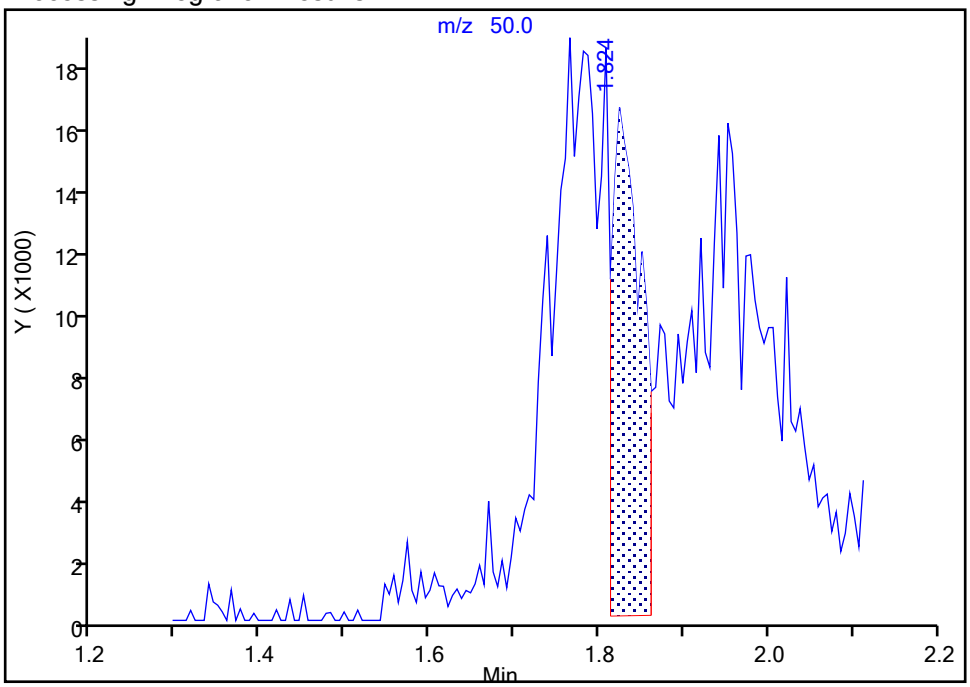

Manual Integration Results

RT: 1.77
Area: 127091
Amount: 20.133178
Amount Units: ng

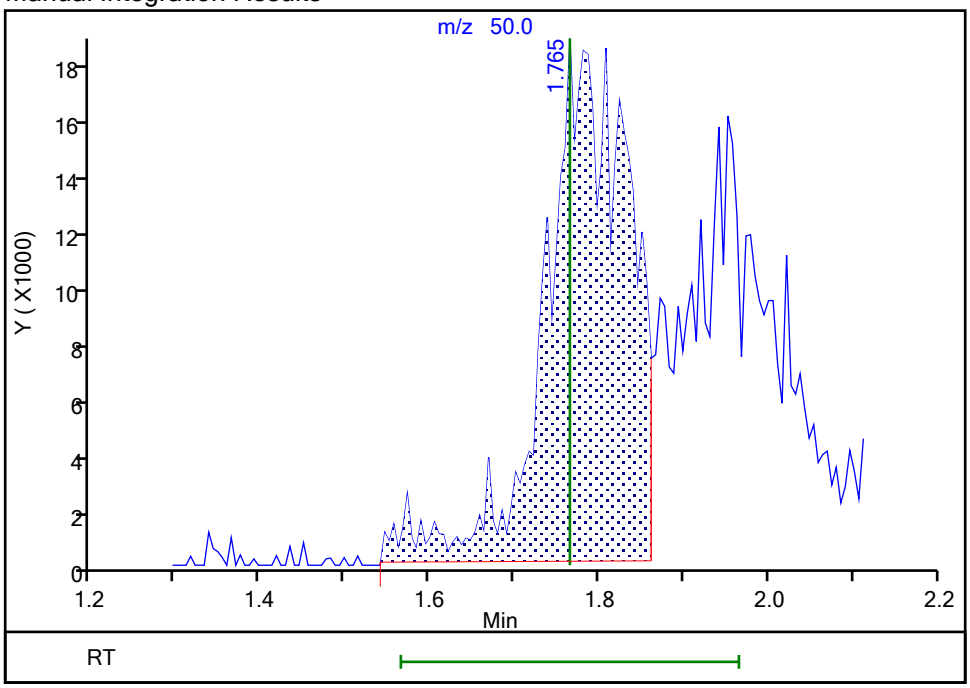

Reviewer: journetp, 14-Nov-2019 08:10:09
Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114002.D				
Injection Date:	14-Nov-2019 07:36:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

12 Vinyl chloride, CAS: 75-01-4

Signal: 1

Processing Integration Results

RT: 2.03
Area: 10484
Amount: 3.658007
Amount Units: ng

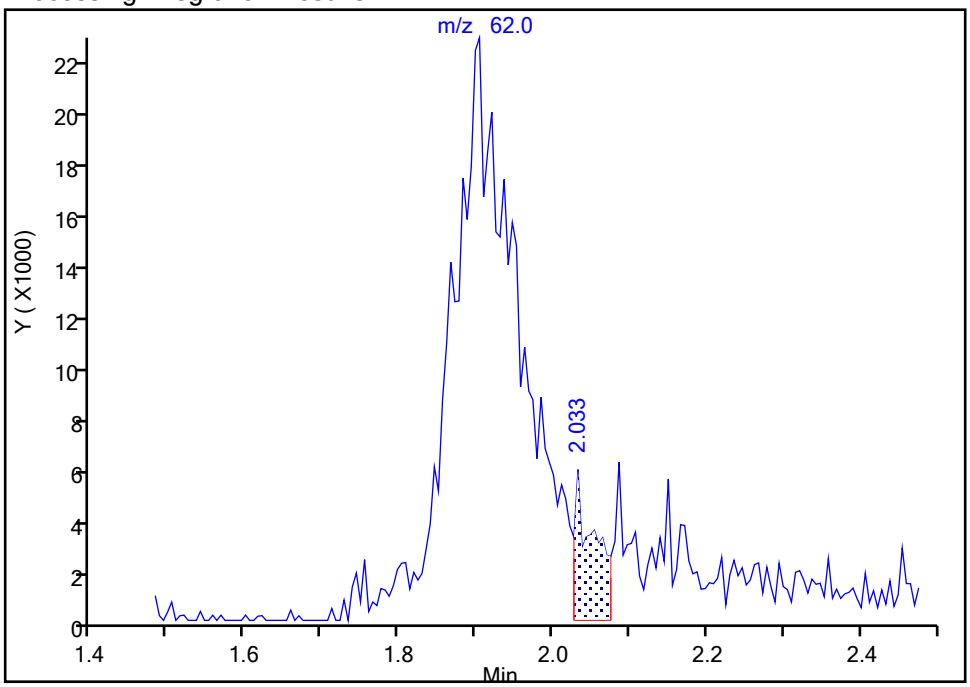

Manual Integration Results

RT: 1.90
Area: 164546
Amount: 21.167376
Amount Units: ng

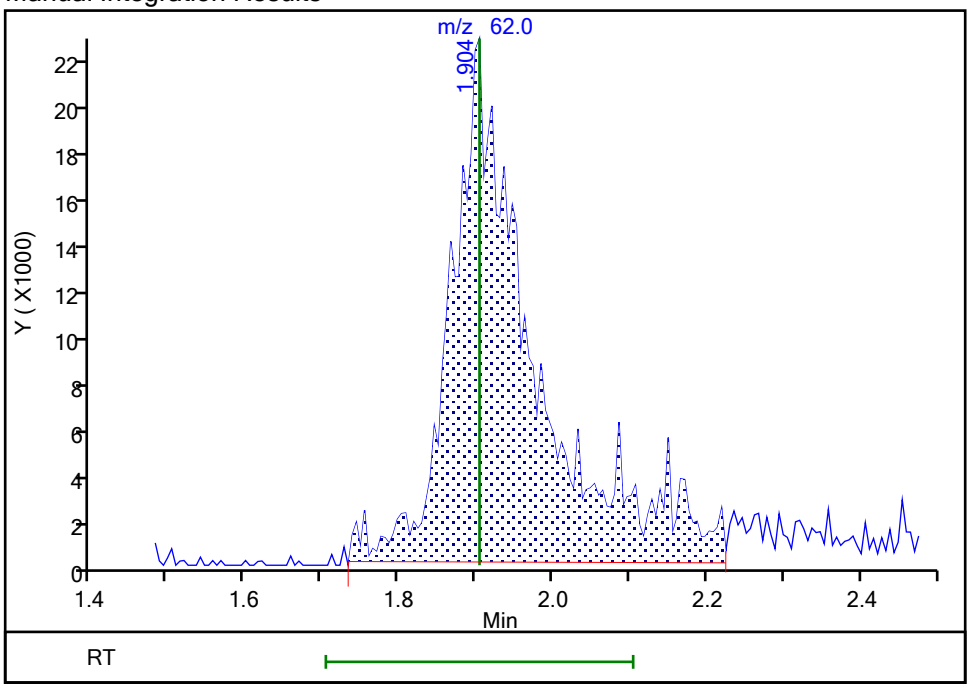

Reviewer: journetp, 14-Nov-2019 08:29:40

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114002.D				
Injection Date:	14-Nov-2019 07:36:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

13 Butadiene, CAS: 106-99-0

Signal: 1

Processing Integration Results

RT: 2.01
Area: 45128
Amount: 25.000000
Amount Units: ng

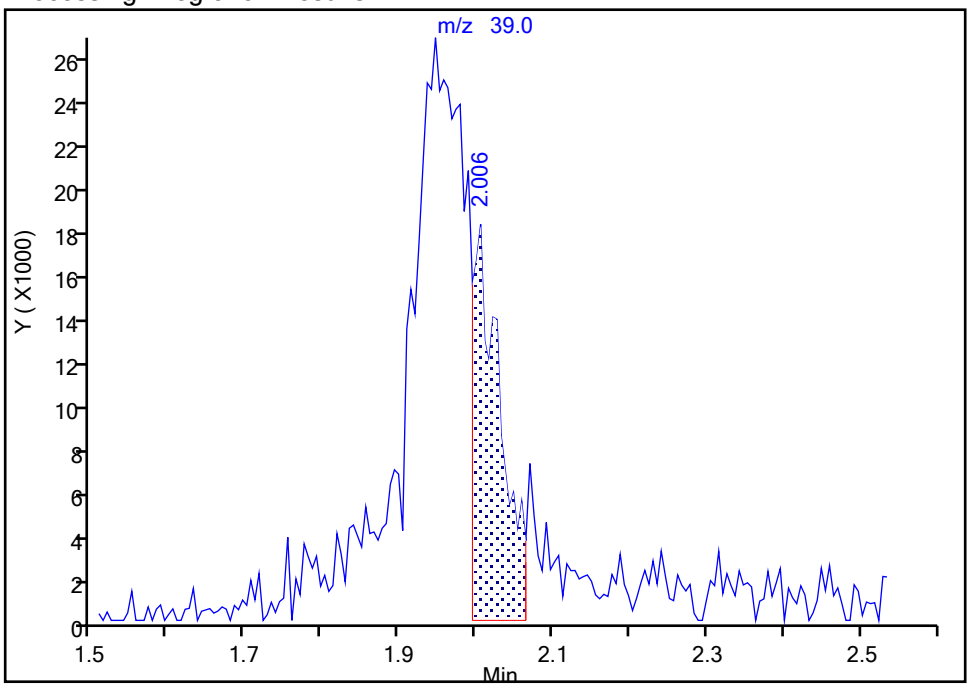

Manual Integration Results

RT: 1.95
Area: 204993
Amount: 24.480121
Amount Units: ng

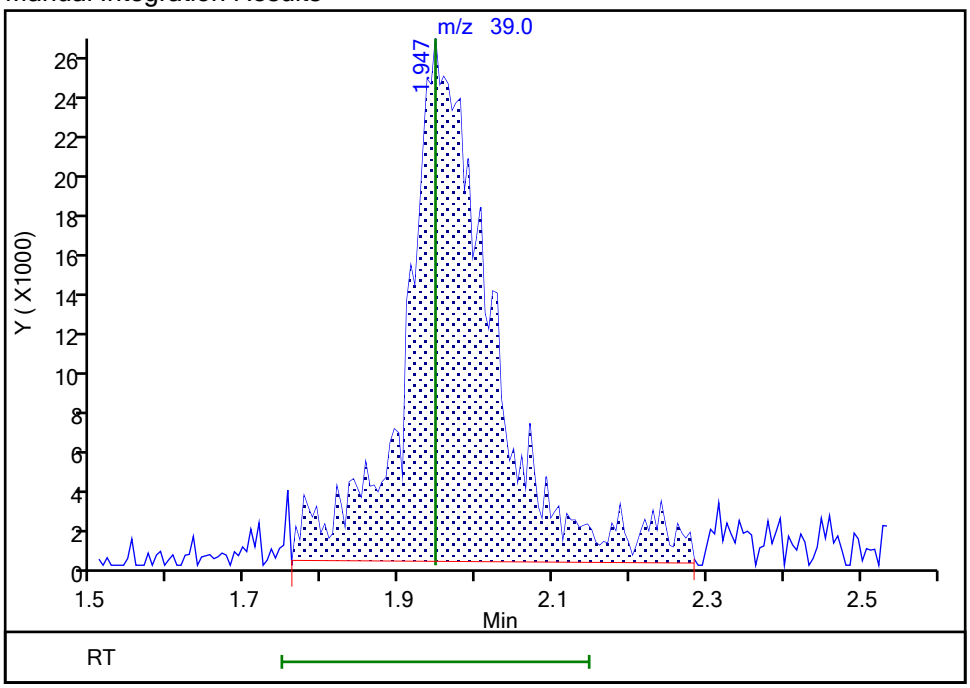

Reviewer: journetp, 14-Nov-2019 08:10:16

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114002.D				
Injection Date:	14-Nov-2019 07:36:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

14 Bromomethane, CAS: 74-83-9

Signal: 1

Processing Integration Results

RT: 2.28
Area: 86035
Amount: 25.000000
Amount Units: ng

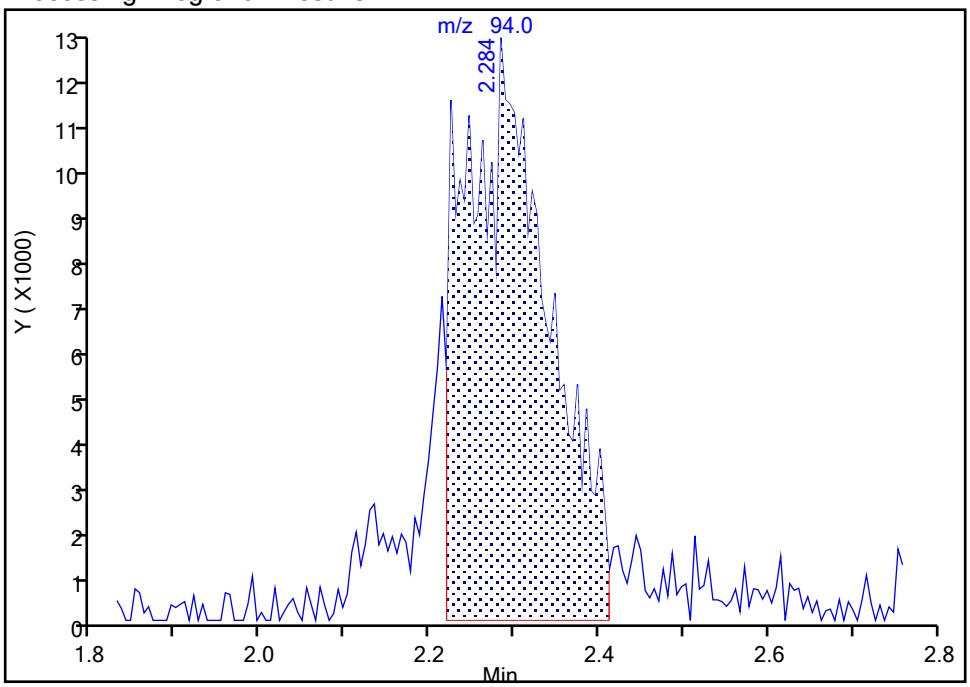

Manual Integration Results

RT: 2.28
Area: 106863
Amount: 21.365760
Amount Units: ng

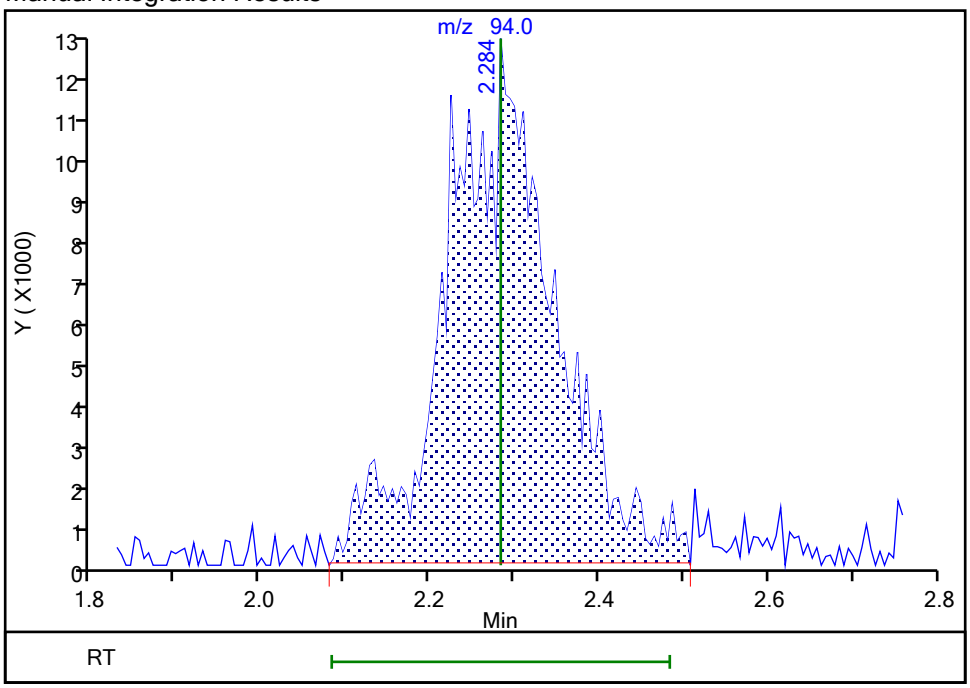

Reviewer: journetp, 14-Nov-2019 08:10:29
Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114002.D				
Injection Date:	14-Nov-2019 07:36:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

15 Chloroethane, CAS: 75-00-3

Signal: 1

Not Detected
Expected RT: 2.47

Processing Integration Results

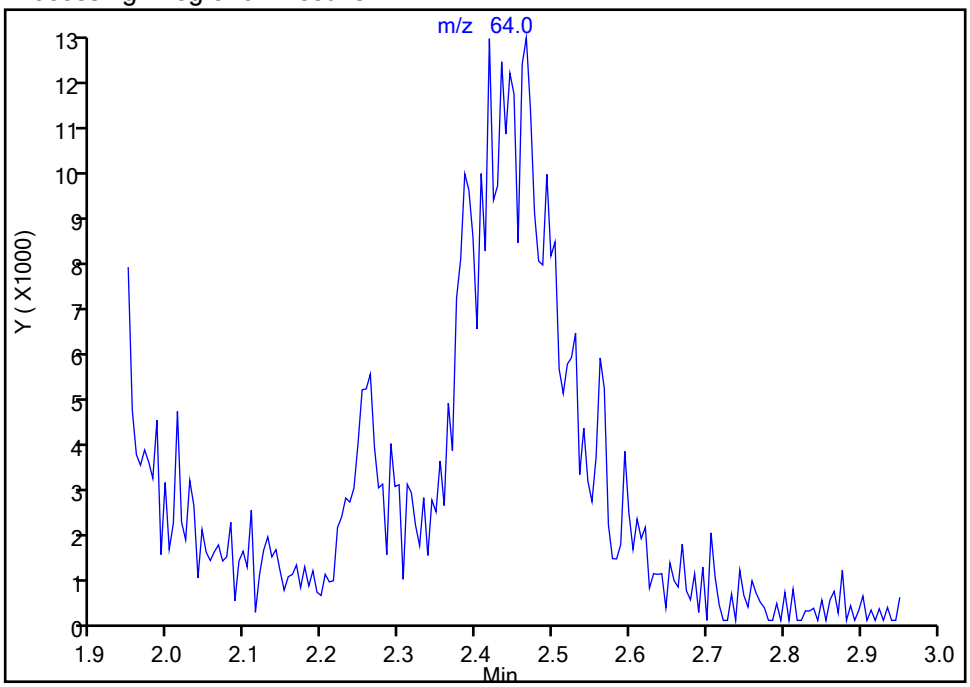

Manual Integration Results

RT: 2.47
Area: 136214
Amount: 28.717849
Amount Units: ng

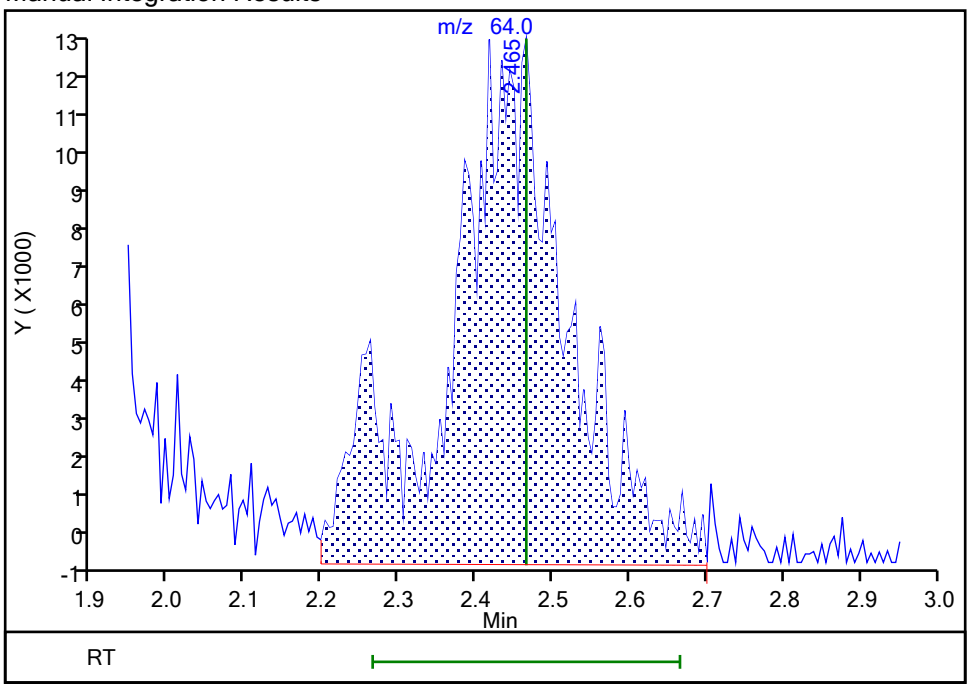

Reviewer: journetp, 14-Nov-2019 08:11:59
Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114002.D				
Injection Date:	14-Nov-2019 07:36:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

17 Trichlorofluoromethane, CAS: 75-69-4

Signal: 1

Processing Integration Results

RT: 2.55
Area: 77668
Amount: 25.000000
Amount Units: ng

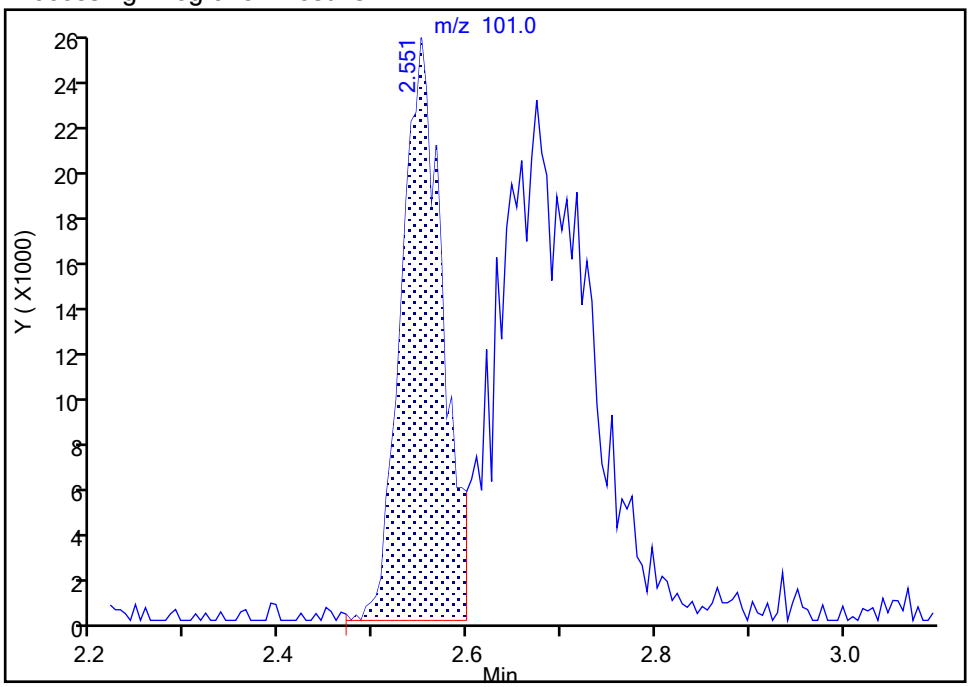

Manual Integration Results

RT: 2.55
Area: 223072
Amount: 20.181984
Amount Units: ng

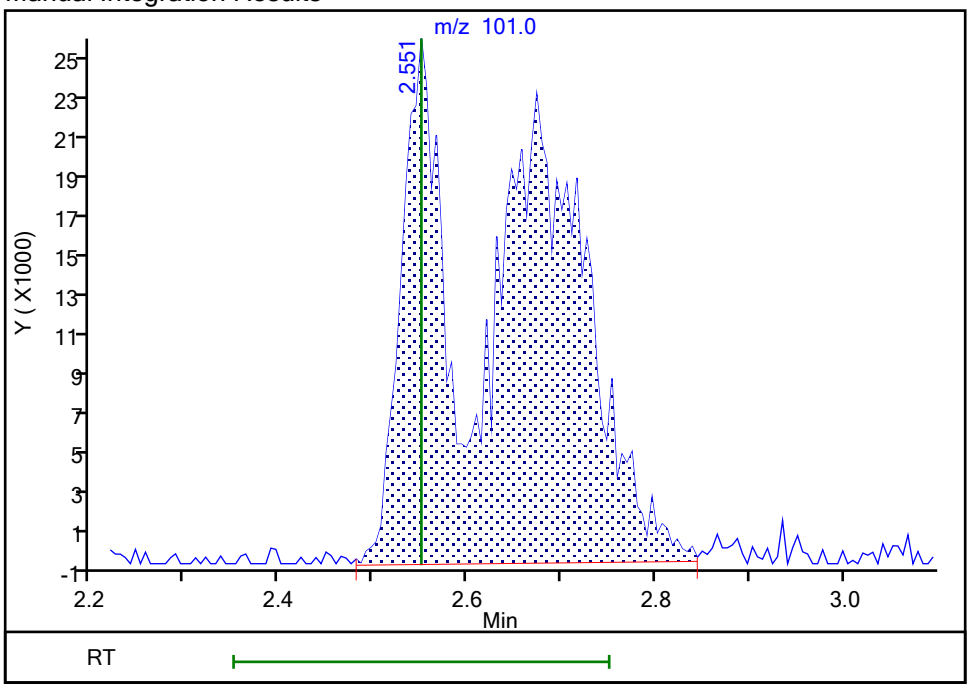

Reviewer: journetp, 14-Nov-2019 08:10:39

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114002.D				
Injection Date:	14-Nov-2019 07:36:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

16 Dichlorofluoromethane, CAS: 75-43-4

Signal: 1

Processing Integration Results

RT: 2.52
Area: 33692
Amount: 25.000000
Amount Units: ng

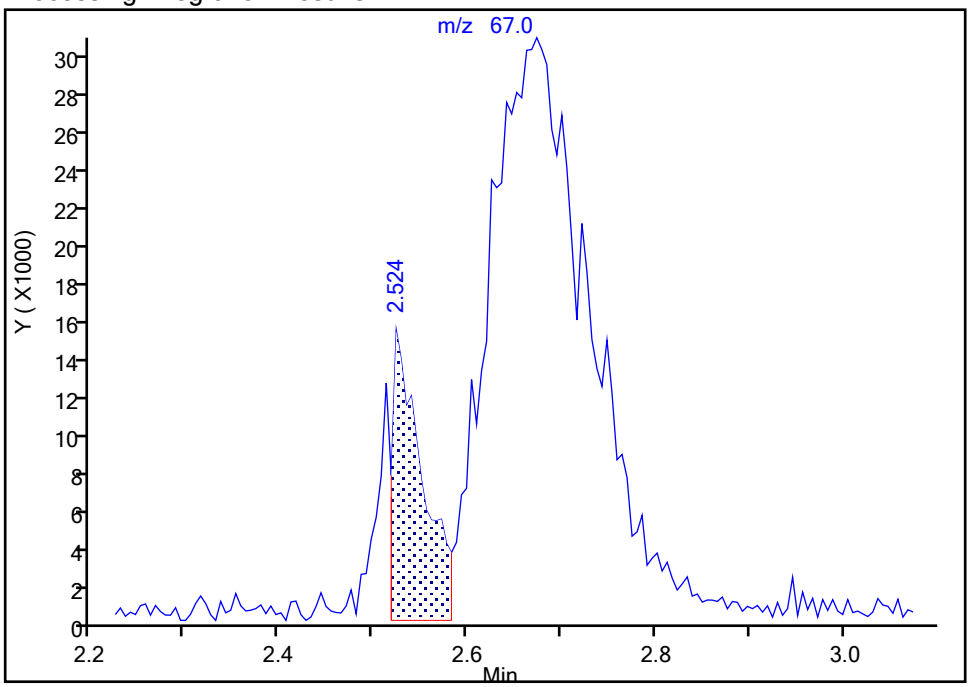

Manual Integration Results

RT: 2.67
Area: 255861
Amount: 20.972399
Amount Units: ng

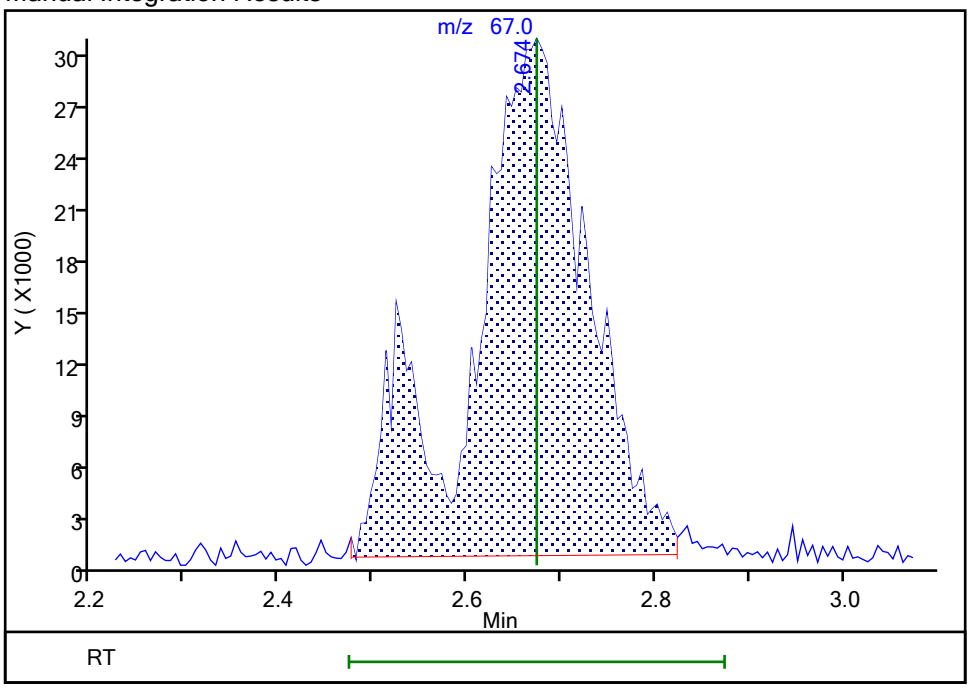

Reviewer: journetp, 14-Nov-2019 08:10:34

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114002.D				
Injection Date:	14-Nov-2019 07:36:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

22 1,1,2-Trichloro-1,2,2-trifluoroethane, CAS: 76-13-1

Signal: 1

Processing Integration Results

RT: 3.42
Area: 35352
Amount: 25.000000
Amount Units: ng

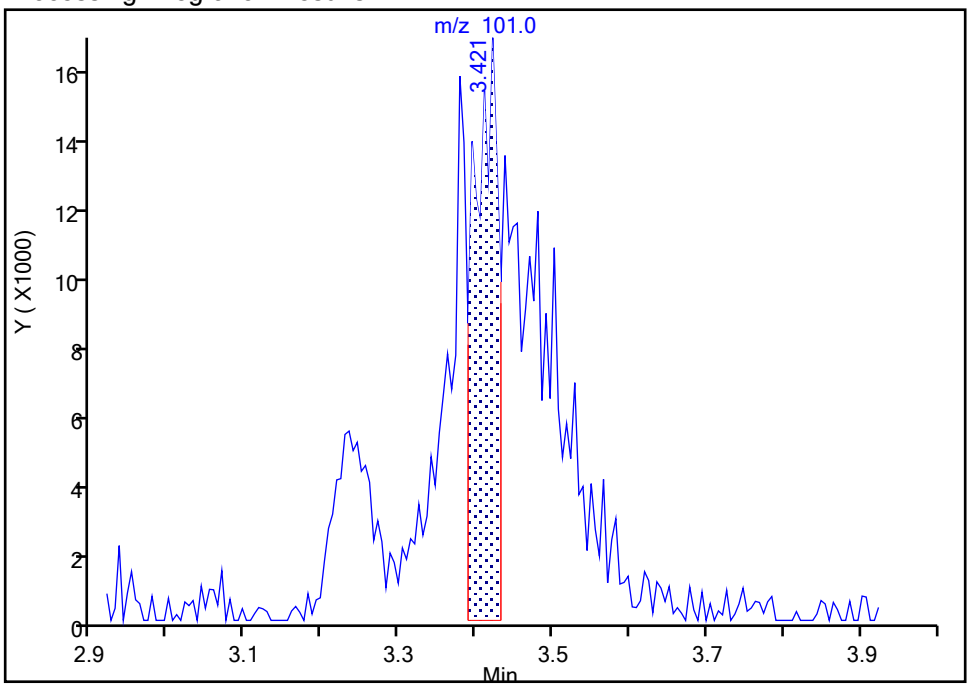

Manual Integration Results

RT: 3.42
Area: 142925
Amount: 20.417038
Amount Units: ng

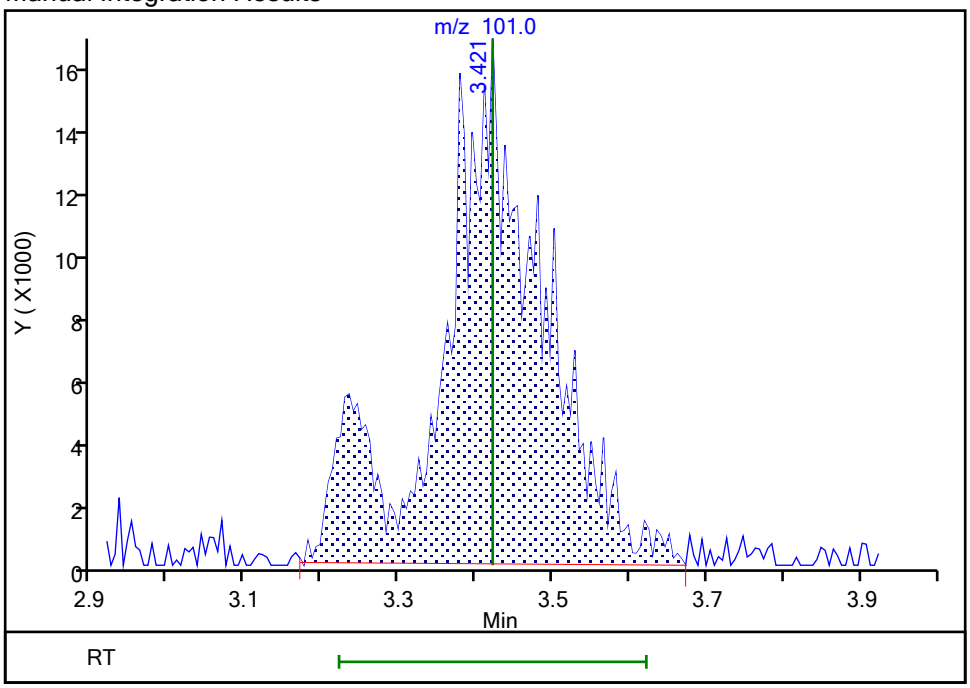

Reviewer: journetp, 14-Nov-2019 08:10:51

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114002.D				
Injection Date:	14-Nov-2019 07:36:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

25 Carbon disulfide, CAS: 75-15-0

Signal: 1

Processing Integration Results

RT: 3.48
Area: 370884
Amount: 25.000000
Amount Units: ng

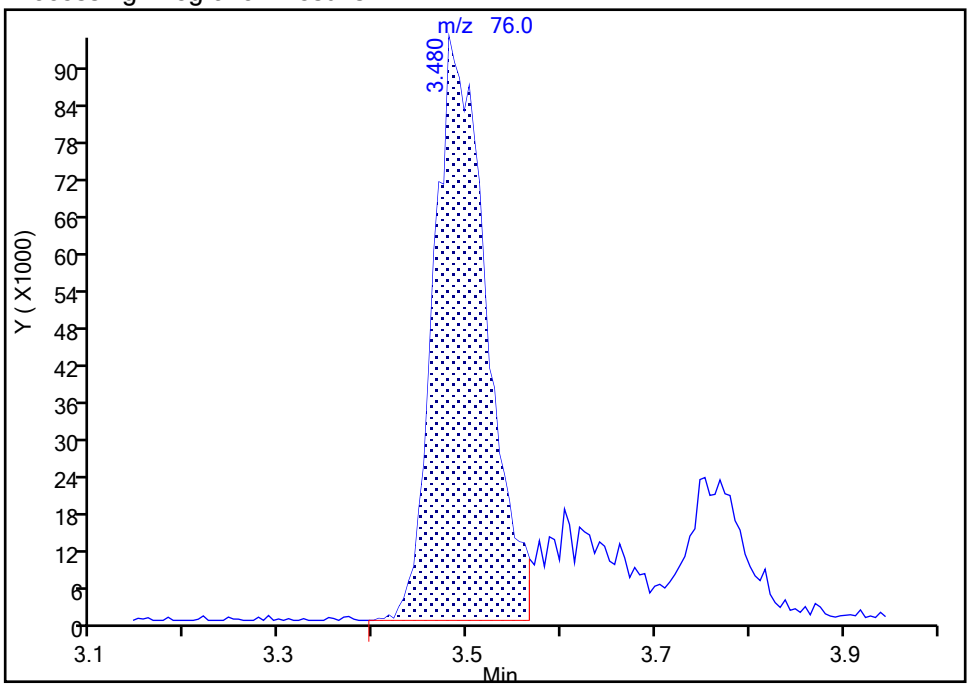

Manual Integration Results

RT: 3.48
Area: 449555
Amount: 21.914412
Amount Units: ng

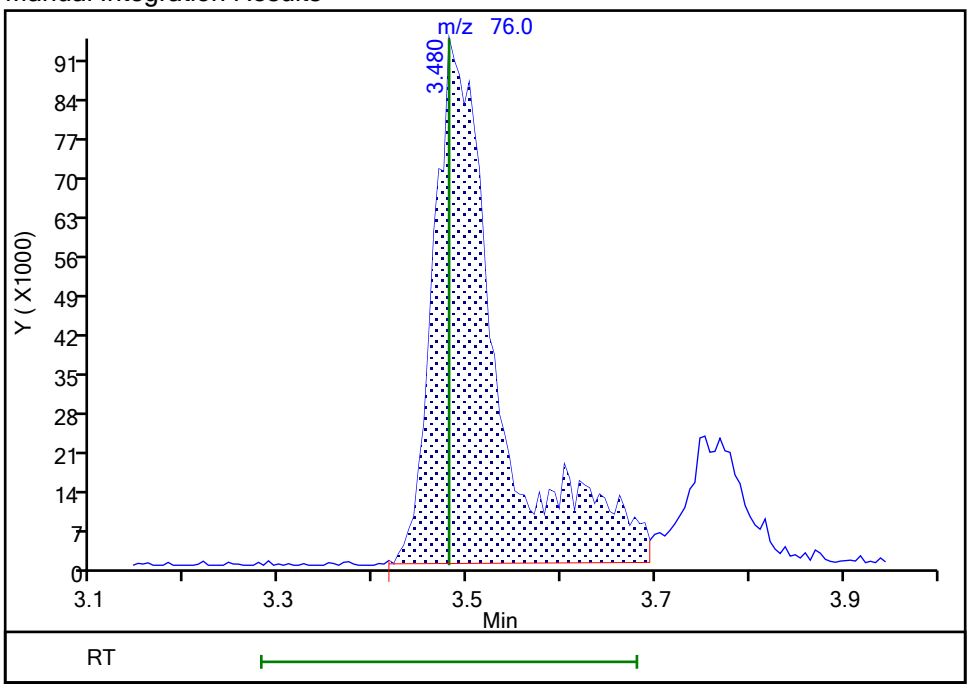

Reviewer: journetp, 14-Nov-2019 08:10:57

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114002.D				
Injection Date:	14-Nov-2019 07:36:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

28 3-Chloro-1-propene, CAS: 107-05-1

Signal: 1

Processing Integration Results

RT: 3.75
Area: 90332
Amount: 25.000000
Amount Units: ng

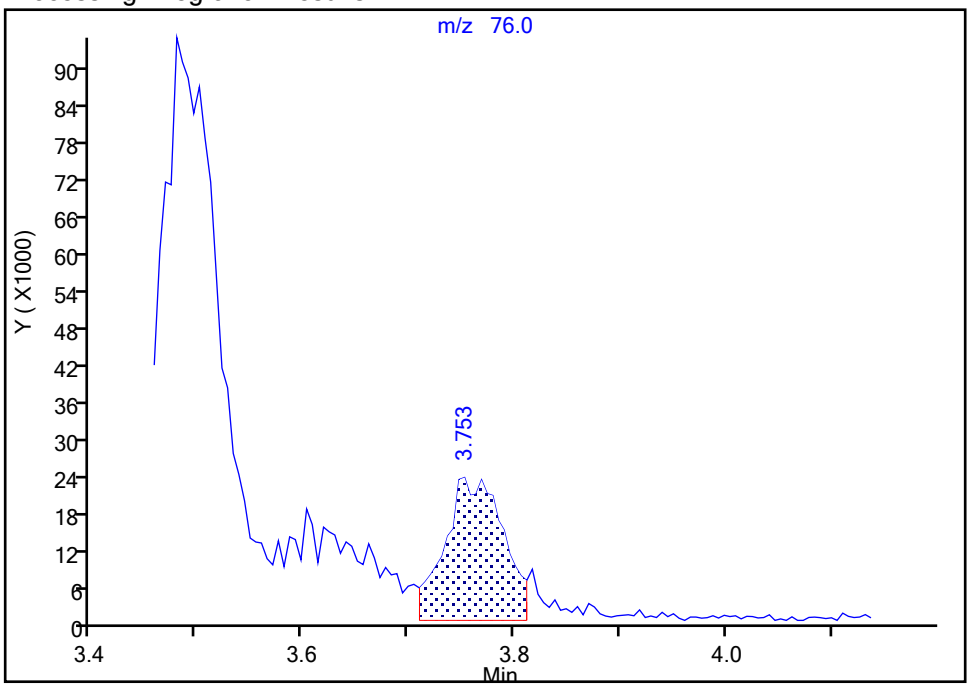

Manual Integration Results

RT: 3.75
Area: 97957
Amount: 19.789875
Amount Units: ng

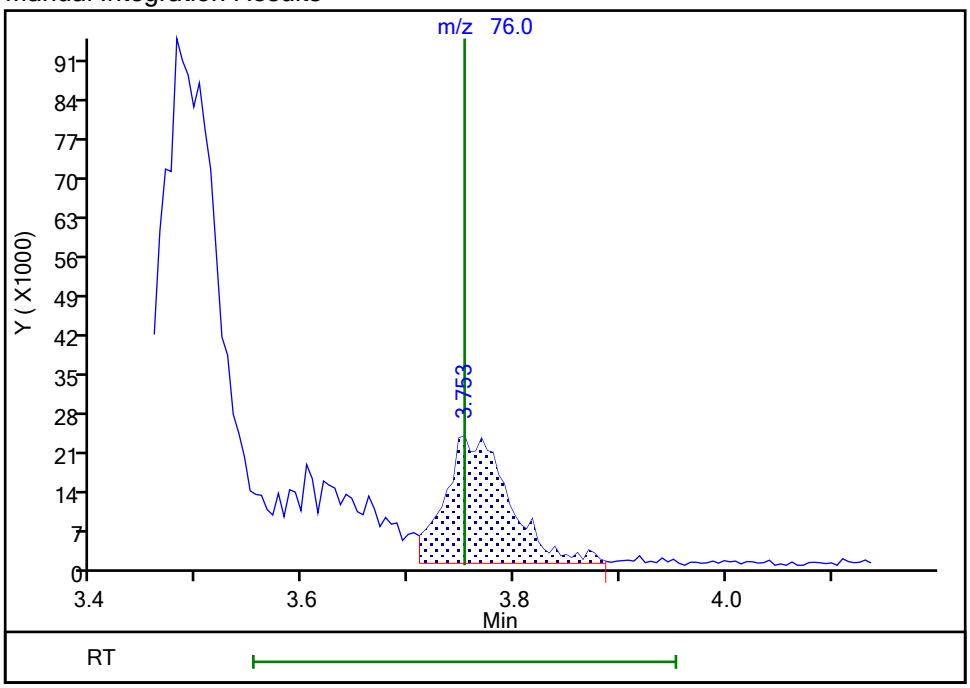

Reviewer: journetp, 14-Nov-2019 08:11:01

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114002.D				
Injection Date:	14-Nov-2019 07:36:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

29 Methyl acetate, CAS: 79-20-9

Signal: 1

Processing Integration Results

RT: 3.90
Area: 2234
Amount: 50.000000
Amount Units: ng

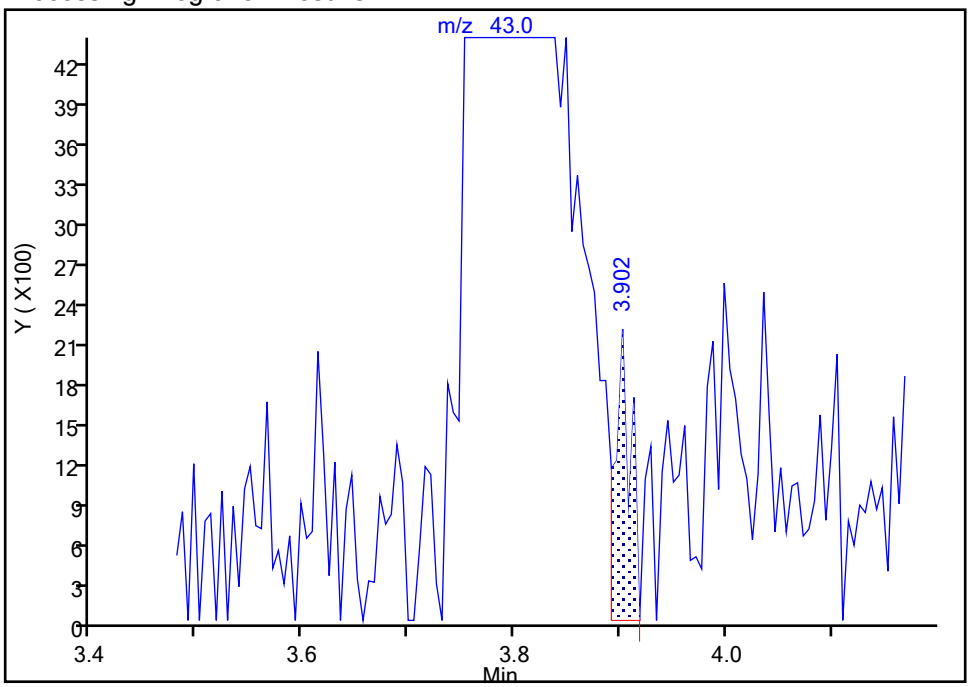

Manual Integration Results

RT: 3.79
Area: 86053
Amount: 47.239036
Amount Units: ng

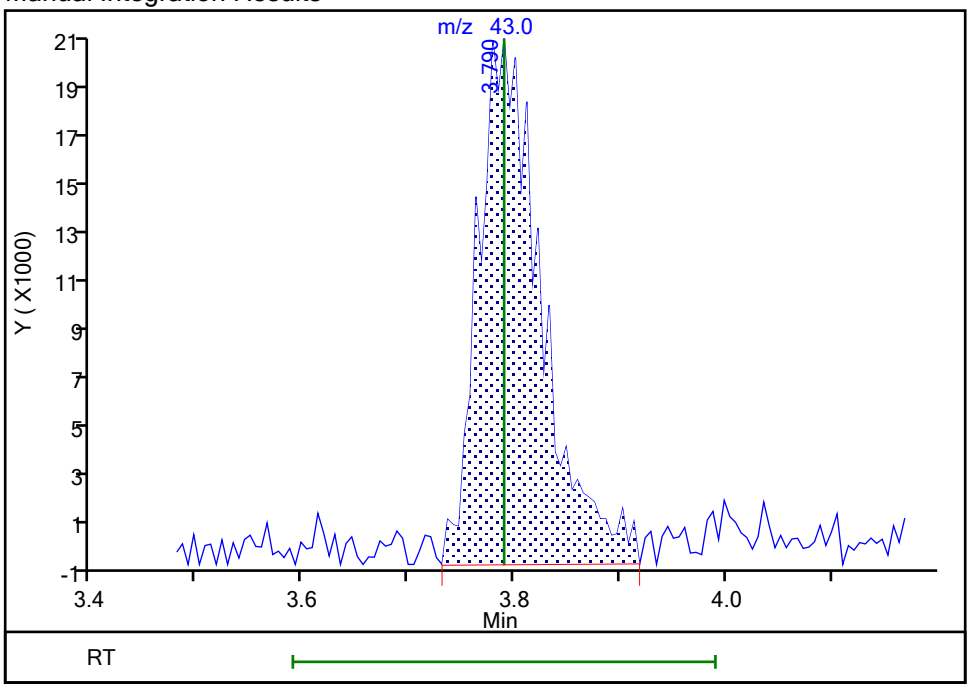

Reviewer: journetp, 14-Nov-2019 08:11:06

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114002.D				
Injection Date:	14-Nov-2019 07:36:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

41 2,2-Dichloropropane, CAS: 594-20-7

Signal: 2

Processing Integration Results

RT: 5.79
Area: 17351
Amount: 25.000000
Amount Units: ng

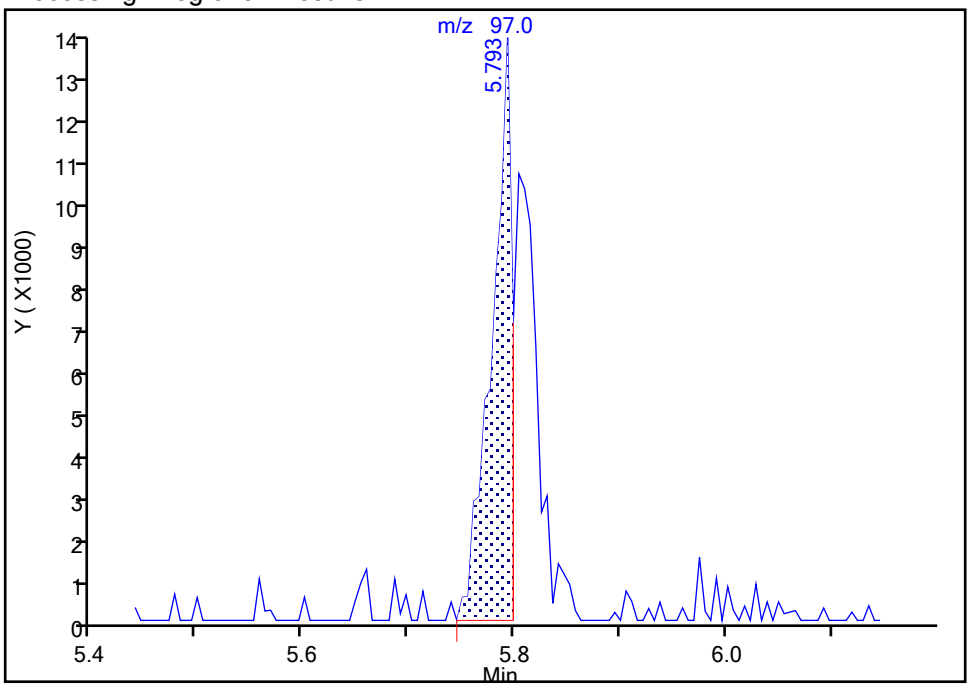

Manual Integration Results

RT: 5.79
Area: 30469
Amount: 19.975243
Amount Units: ng

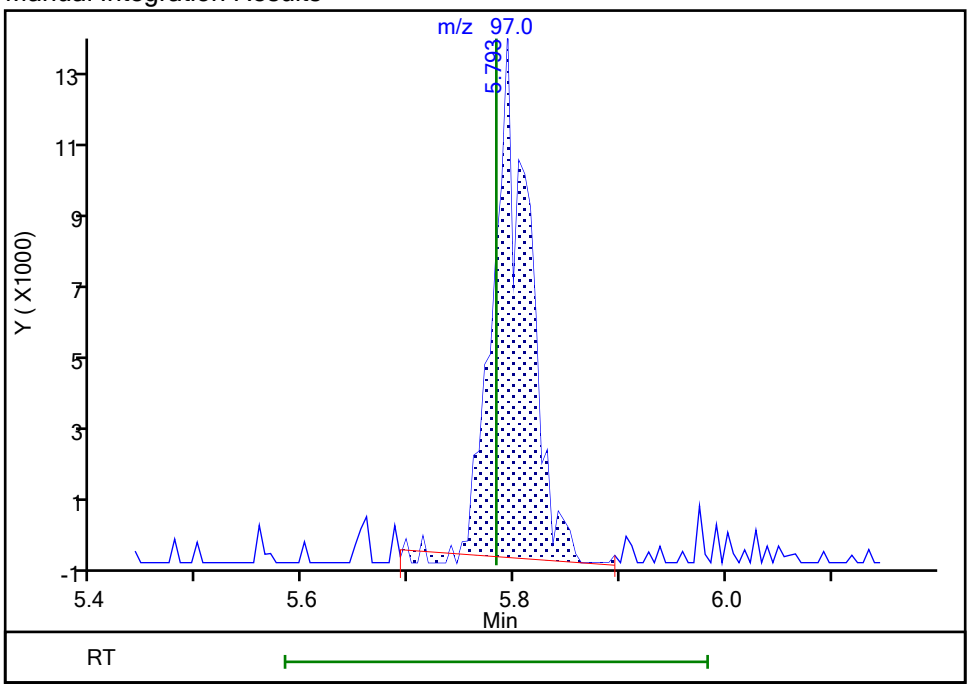

Reviewer: journetp, 14-Nov-2019 08:11:17
Audit Action: Manually Integrated Audit Reason: Poor chromatography

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114002.D				
Injection Date:	14-Nov-2019 07:36:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

43 2-Butanone (MEK), CAS: 78-93-3

Signal: 1

Processing Integration Results

RT: 5.81
Area: 47448
Amount: 25.000000
Amount Units: ng

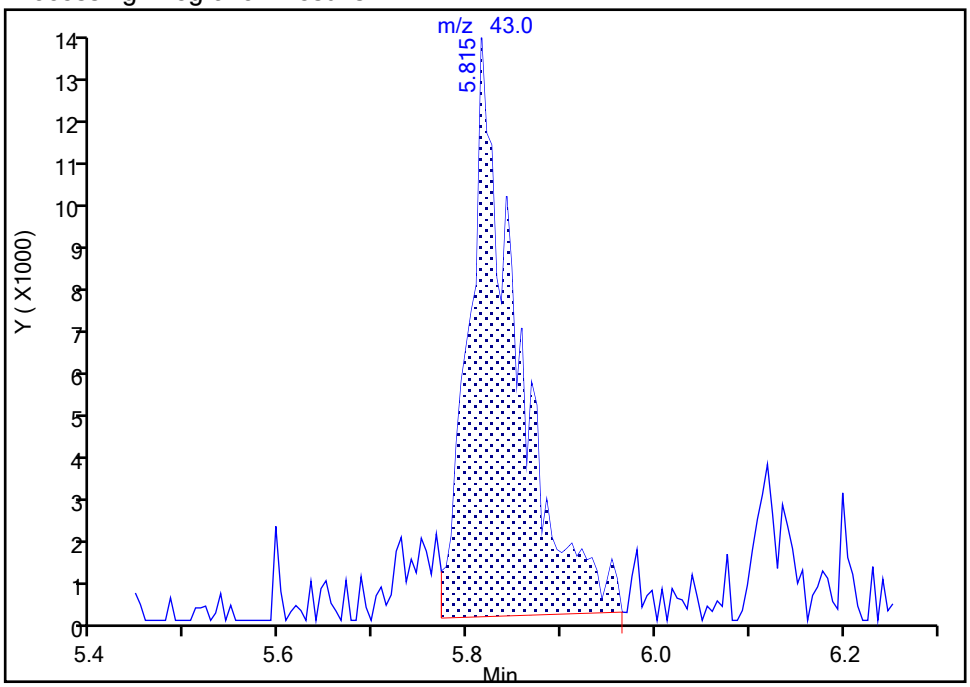

Manual Integration Results

RT: 5.81
Area: 55272
Amount: 27.054002
Amount Units: ng

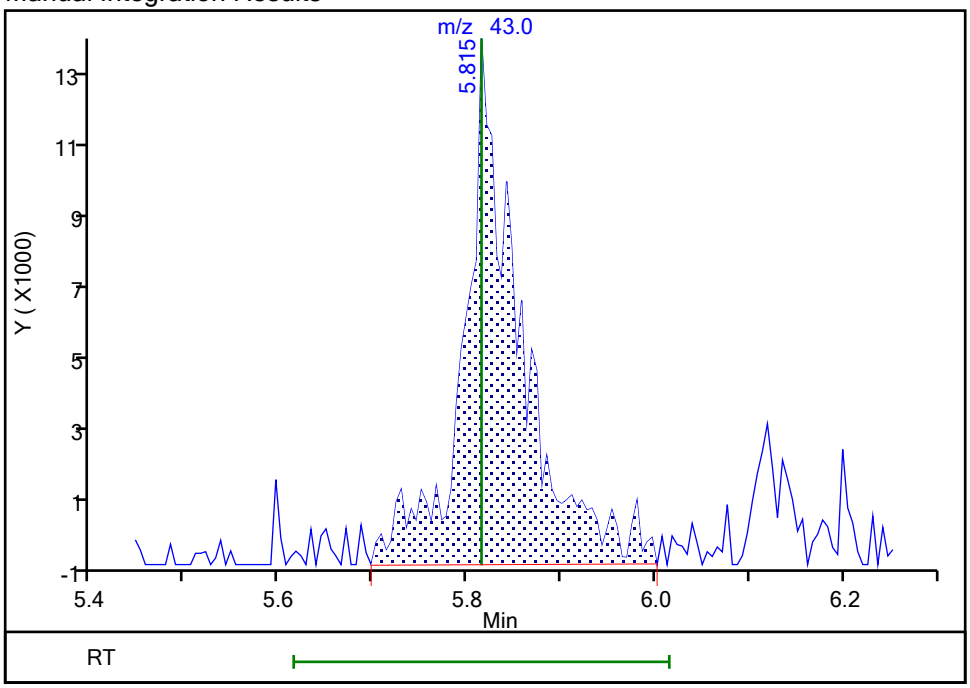

Reviewer: journetp, 14-Nov-2019 08:11:24
Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114002.D				
Injection Date:	14-Nov-2019 07:36:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

59 Isobutyl alcohol, CAS: 78-83-1

Signal: 1

Processing Integration Results

RT: 6.86
Area: 8775
Amount: 625.0000
Amount Units: ng

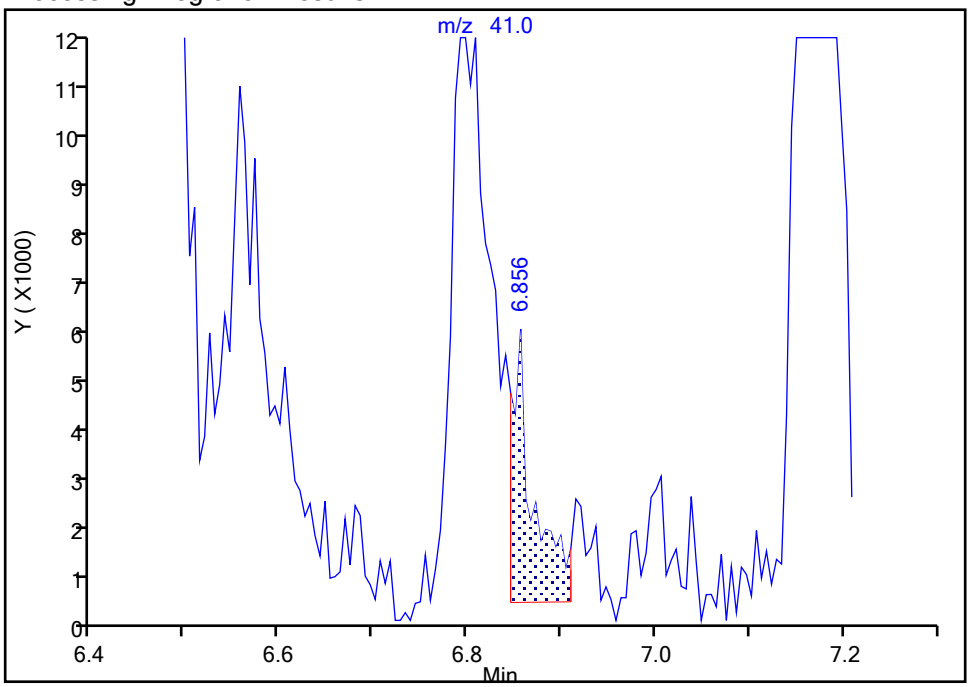

Manual Integration Results

RT: 6.80
Area: 48767
Amount: 711.6713
Amount Units: ng

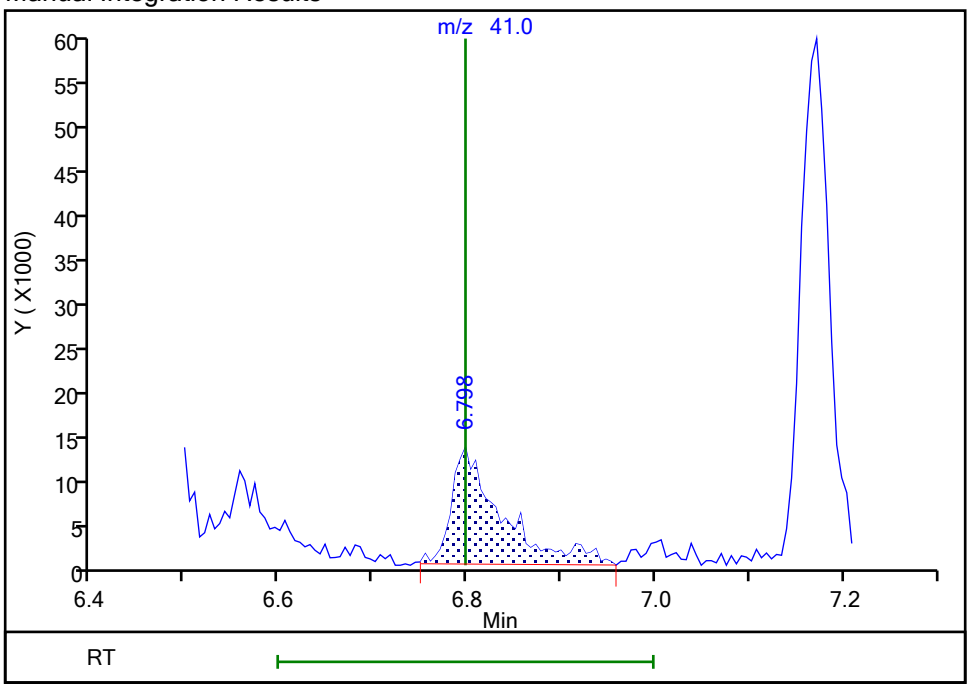

Reviewer: journetp, 14-Nov-2019 08:11:33

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114002.D				
Injection Date:	14-Nov-2019 07:36:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

67 1,4-Dioxane, CAS: 123-91-1

Signal: 1

Processing Integration Results

RT: 7.91
Area: 15605
Amount: 530.2242
Amount Units: ng

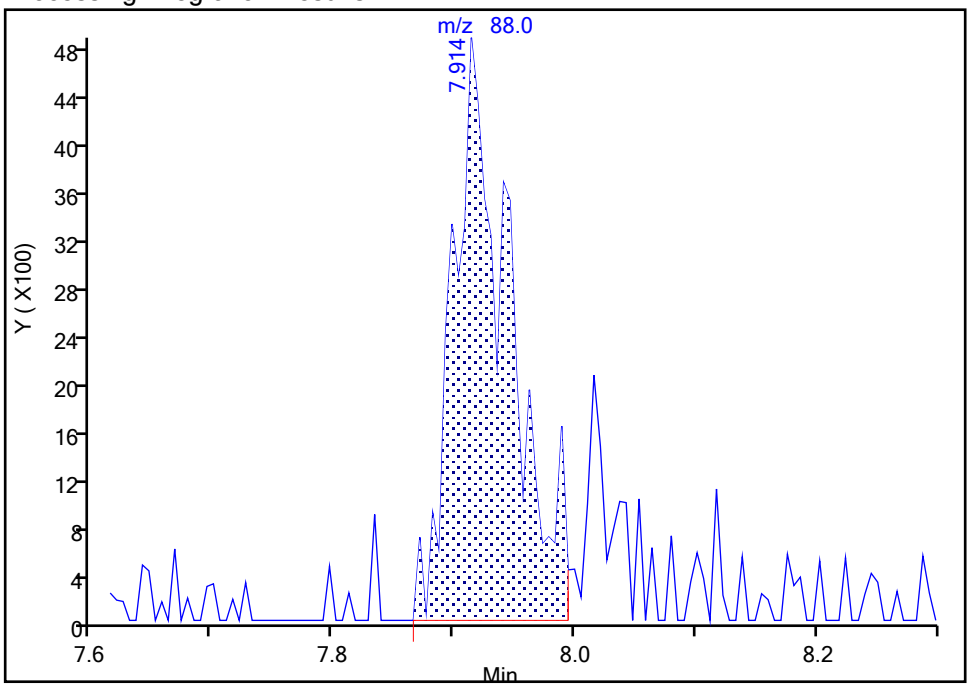

Manual Integration Results

RT: 7.91
Area: 18245
Amount: 622.5667
Amount Units: ng

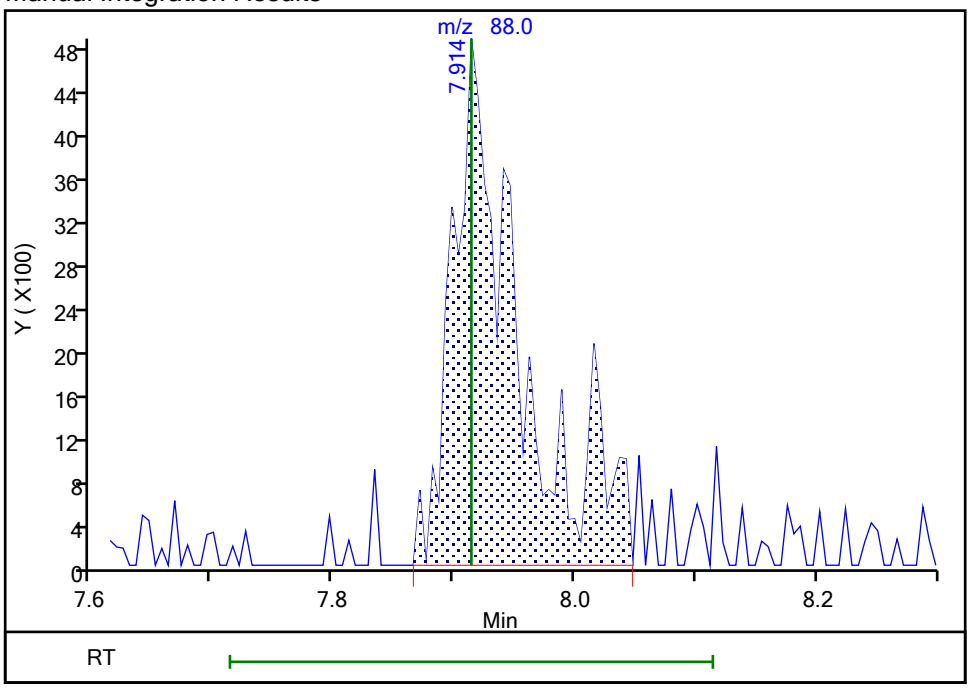

Reviewer: journetp, 14-Nov-2019 08:29:25

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114003.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 14-Nov-2019 08:02:30 ALS Bottle#: 3 Worklist Smp#: 3
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029543-003
Operator ID: 034635 Instrument ID: CHHP4
Sublist: chrom-MSVOA_CHHP4*sub156

Method: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\MSVOA_CHHP4.m
Limit Group: VOA 8260C_D ICAL
Last Update: 14-Nov-2019 14:40:02 Calib Date: 14-Nov-2019 12:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114008.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0329

First Level Reviewer: journetp Date: 14-Nov-2019 08:29:08

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.115	4.121	-0.006	88	530961	5000.0	5000.0	
* 2 Fluorobenzene (IS)	96	7.154	7.150	0.004	98	3615953	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.274	10.275	-0.001	97	913970	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.625	12.626	-0.001	92	1323917	250.0	250.0	
$ 5 Dibromofluoromethane (Surr	113	6.423	6.429	-0.006	0	279324	50.0	46.2	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.802	6.798	0.004	0	284175	50.0	49.5	
$ 7 Toluene-d8 (Surr)	98	8.810	8.817	-0.007	0	1159709	50.0	47.6	
$ 8 4-Bromofluorobenzene (Surr	95	11.466	11.472	-0.006	0	452097	50.0	49.5	
$ 141 Total BTEX	95		0.000				ND	ND	
10 Dichlorodifluoromethane	85	1.620	1.605	0.015	34	378269	50.0	45.7	M
11 Chloromethane	50	1.791	1.765	0.026	67	309131	50.0	46.3	
12 Vinyl chloride	62	1.892	1.904	-0.012	50	376634	50.0	45.8	Ma
13 Butadiene	39	1.978	1.947	0.031	99	427117	50.0	48.2	M
14 Bromomethane	94	2.288	2.284	0.004	86	256094	50.0	48.4	M
15 Chloroethane	64	2.437	2.465	-0.028	84	279632	50.0	50.1	M
17 Trichlorofluoromethane	101	2.560	2.551	0.009	97	532698	50.0	45.6	M
16 Dichlorofluoromethane	67	2.678	2.674	0.004	95	595165	50.0	46.1	M
19 Ethyl ether	59	2.945	2.925	0.020	91	179996	50.0	46.8	
21 1,1-Dichloroethene	96	3.212	3.208	0.004	96	251598	50.0	44.7	
23 Acetone	43	3.324	3.299	0.025	88	87703	50.0	43.1	
24 Iodomethane	142	3.410	3.395	0.015	97	331772	50.0	43.7	
22 1,1,2-Trichloro-1,2,2-trif	101	3.442	3.421	0.021	58	350017	50.0	47.3	M
25 Carbon disulfide	76	3.495	3.480	0.015	99	997194	50.0	46.0	M
28 3-Chloro-1-propene	76	3.768	3.753	0.015	91	232261	50.0	44.4	
29 Methyl acetate	43	3.800	3.790	0.010	52	183255	100.0	95.1	M
30 Methylene Chloride	84	3.987	3.972	0.015	90	324849	50.0	48.1	
31 2-Methyl-2-propanol	59	4.243	4.250	-0.007	99	97182	500.0	488.0	
32 Acrylonitrile	53	4.371	4.367	0.004	100	388311	500.0	443.1	
33 trans-1,2-Dichloroethene	96	4.419	4.415	0.004	99	323918	50.0	46.1	
34 Methyl tert-butyl ether	73	4.419	4.420	-0.001	85	441875	50.0	43.8	
35 Hexane	57	4.831	4.826	0.005	93	581253	50.0	48.9	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 1,1-Dichloroethane	63	5.060	5.045	0.015	95	573223	50.0	46.7	
41 2,2-Dichloropropane	97	5.798	5.783	0.015	65	69647	50.0	43.2	
42 cis-1,2-Dichloroethene	96	5.803	5.799	0.004	81	343004	50.0	46.7	
43 2-Butanone (MEK)	43	5.835	5.815	0.020	95	87606	50.0	40.5	
46 Chlorobromomethane	128	6.091	6.093	-0.002	97	114730	50.0	42.1	
48 Tetrahydrofuran	42	6.118	6.119	-0.001	89	62336	100.0	85.2	
49 Chloroform	83	6.241	6.237	0.004	94	578398	50.0	49.8	
50 1,1,1-Trichloroethane	97	6.401	6.397	0.004	98	468829	50.0	51.5	
51 Cyclohexane	56	6.476	6.466	0.010	89	495930	50.0	51.0	
53 Carbon tetrachloride	117	6.572	6.573	-0.001	95	373254	50.0	45.8	
52 1,1-Dichloropropene	75	6.593	6.589	0.004	96	482020	50.0	47.3	
59 Isobutyl alcohol	41	6.791	6.798	-0.007	34	75813	1250.0	1046.2	
54 Benzene	78	6.807	6.803	0.004	98	1361215	50.0	55.2	
55 1,2-Dichloroethane	62	6.887	6.889	-0.001	98	281190	50.0	47.2	
58 n-Heptane	43	7.170	7.172	-0.002	91	559335	50.0	50.8	
61 Trichloroethene	130	7.544	7.546	-0.002	98	352225	50.0	47.1	
63 Methylcyclohexane	83	7.785	7.781	0.004	86	665289	50.0	49.3	
64 1,2-Dichloropropane	63	7.828	7.823	0.005	93	284297	50.0	45.2	
65 Dibromomethane	93	7.913	7.914	-0.001	94	102550	50.0	41.5	
67 1,4-Dioxane	88	7.918	7.914	0.004	35	29243	1000.0	943.6	
68 Dichlorobromomethane	83	8.105	8.107	-0.002	99	280848	50.0	37.8	
71 cis-1,3-Dichloropropene	75	8.554	8.555	-0.001	96	362462	50.0	40.5	
72 4-Methyl-2-pentanone (MIBK	43	8.704	8.710	-0.006	94	88387	50.0	44.1	
73 Toluene	91	8.880	8.881	-0.001	99	1228652	50.0	48.0	
74 trans-1,3-Dichloropropene	75	9.136	9.138	-0.002	93	258780	50.0	38.5	
75 Ethyl methacrylate	69	9.195	9.202	-0.007	89	170792	50.0	36.6	
76 1,1,2-Trichloroethane	97	9.329	9.335	-0.006	89	167077	50.0	43.5	
77 Tetrachloroethene	164	9.393	9.399	-0.006	98	255283	50.0	40.2	
78 1,3-Dichloropropane	76	9.484	9.490	-0.006	89	281090	50.0	40.1	
79 2-Hexanone	43	9.553	9.560	-0.007	98	93377	50.0	51.5	
81 Chlorodibromomethane	129	9.703	9.704	-0.001	90	193080	50.0	43.4	
82 Ethylene Dibromide	107	9.820	9.821	-0.001	100	146206	50.0	42.9	
84 Chlorobenzene	112	10.301	10.302	-0.001	92	859202	50.0	52.4	
85 1,1,1,2-Tetrachloroethane	131	10.397	10.398	-0.001	93	266921	50.0	44.7	
86 Ethylbenzene	106	10.397	10.404	-0.007	98	523402	50.0	50.1	
87 m-Xylene & p-Xylene	106	10.536	10.543	-0.007	0	654356	50.0	49.2	
88 o-Xylene	106	10.915	10.916	-0.001	96	612261	50.0	50.8	
89 Styrene	104	10.942	10.943	-0.001	94	929750	50.0	52.1	
90 Bromoform	173	11.129	11.125	0.004	95	105442	50.0	44.3	
91 Isopropylbenzene	105	11.284	11.285	-0.001	97	1617835	50.0	56.5	
93 1,1,2,2-Tetrachloroethane	83	11.594	11.600	-0.006	64	180543	50.0	46.4	
94 Bromobenzene	156	11.599	11.606	-0.007	94	332470	50.0	49.1	
96 trans-1,4-Dichloro-2-buten	53	11.642	11.643	-0.001	76	32903	50.0	47.5	
95 1,2,3-Trichloropropane	110	11.658	11.659	-0.001	80	57741	50.0	47.3	
97 N-Propylbenzene	120	11.701	11.707	-0.006	98	491110	50.0	51.1	
98 2-Chlorotoluene	126	11.791	11.787	0.004	96	387057	50.0	49.8	
99 1,3,5-Trimethylbenzene	105	11.888	11.889	-0.001	96	1351689	50.0	54.6	
100 4-Chlorotoluene	126	11.914	11.921	-0.007	98	387401	50.0	50.3	
101 tert-Butylbenzene	119	12.203	12.199	0.004	93	1213643	50.0	57.5	
103 1,2,4-Trimethylbenzene	105	12.261	12.263	-0.002	97	1337745	50.0	58.4	
104 sec-Butylbenzene	105	12.427	12.423	0.004	95	1791132	50.0	56.0	
105 1,3-Dichlorobenzene	146	12.545	12.551	-0.006	96	683055	50.0	52.4	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
106 4-Isopropyltoluene	119	12.582	12.583	-0.001	96	1562227	50.0	58.6	
107 1,4-Dichlorobenzene	146	12.651	12.653	-0.002	94	670709	50.0	52.9	
110 n-Butylbenzene	91	12.993	12.995	-0.002	96	1284838	50.0	53.1	
111 1,2-Dichlorobenzene	146	13.004	13.011	-0.007	97	529126	50.0	45.1	
112 1,2-Dibromo-3-Chloropropan	75	13.800	13.807	-0.007	87	26771	50.0	40.0	
113 1,2,4-Trichlorobenzene	180	14.628	14.629	-0.001	94	402596	50.0	44.0	
115 Hexachlorobutadiene	225	14.767	14.768	-0.001	96	285201	50.0	43.3	
116 Naphthalene	128	14.890	14.896	-0.006	97	506136	50.0	41.3	
117 1,2,3-Trichlorobenzene	180	15.109	15.110	-0.001	95	327201	50.0	42.7	
S 129 1,2-Dichloroethene, Total	96				0		100.0	92.8	
S 130 Xylenes, Total	106				0		100.0	100.0	
S 131 1,3-Dichloropropene, Total	1				0		100.0	79.0	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

VOA8260INT_00101	Amount Added: 10.00	Units: uL
VOA8260SURR_00101	Amount Added: 2.00	Units: uL
VOA8260VOAPRI_00380	Amount Added: 2.00	Units: uL

Report Date: 14-Nov-2019 14:40:04 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114003.D				
Injection Date:	14-Nov-2019 08:02:30	Instrument ID:	CHHP4	Operator ID:	034635
Lims ID:	IC			Worklist Smp#:	3
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

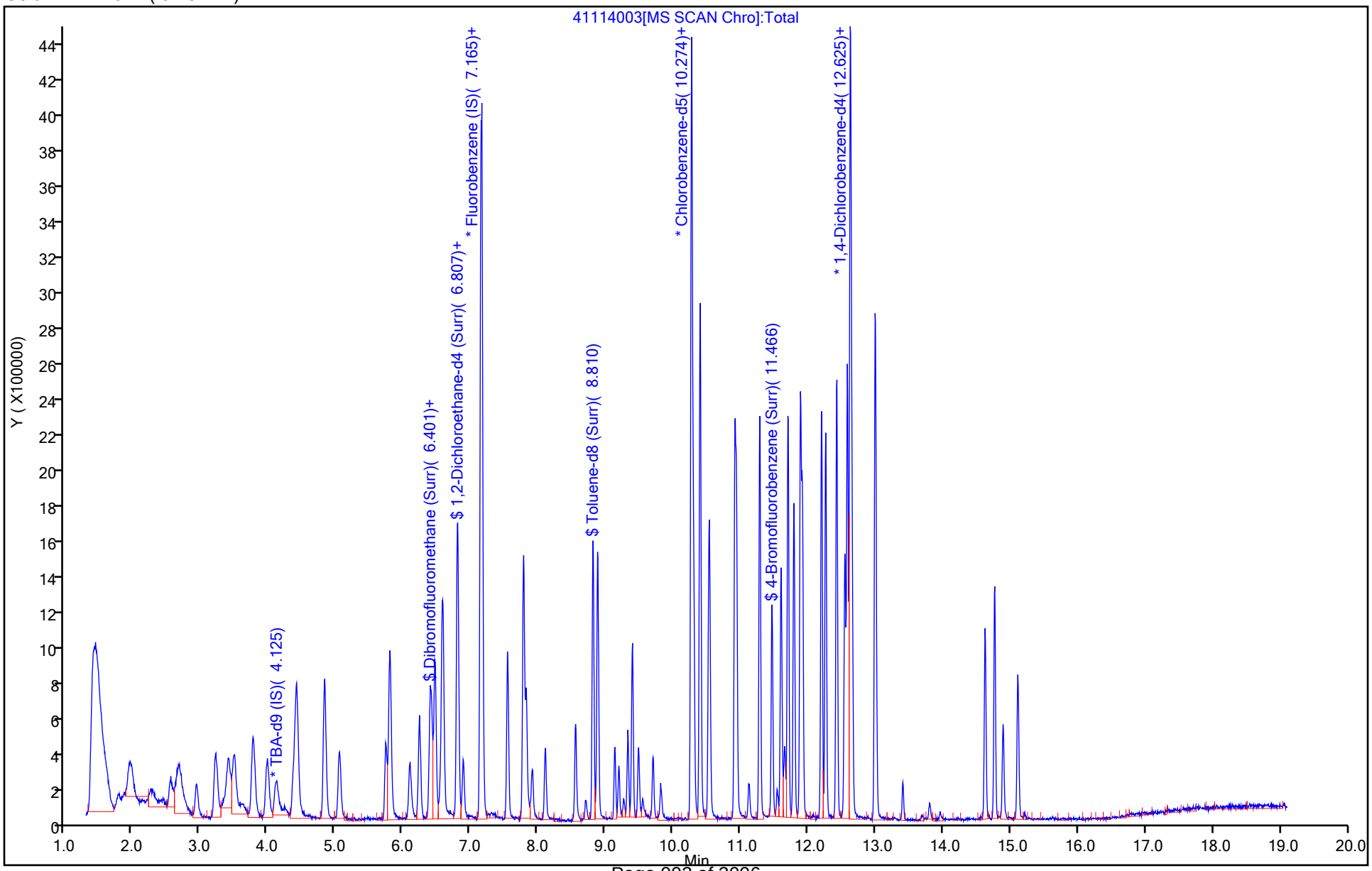

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114003.D				
Injection Date:	14-Nov-2019 08:02:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	3	Worklist Smp#:	3
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

10 Dichlorodifluoromethane, CAS: 75-71-8

Signal: 1

Processing Integration Results

RT: 1.62
Area: 282271
Amount: 38.927220
Amount Units: ng

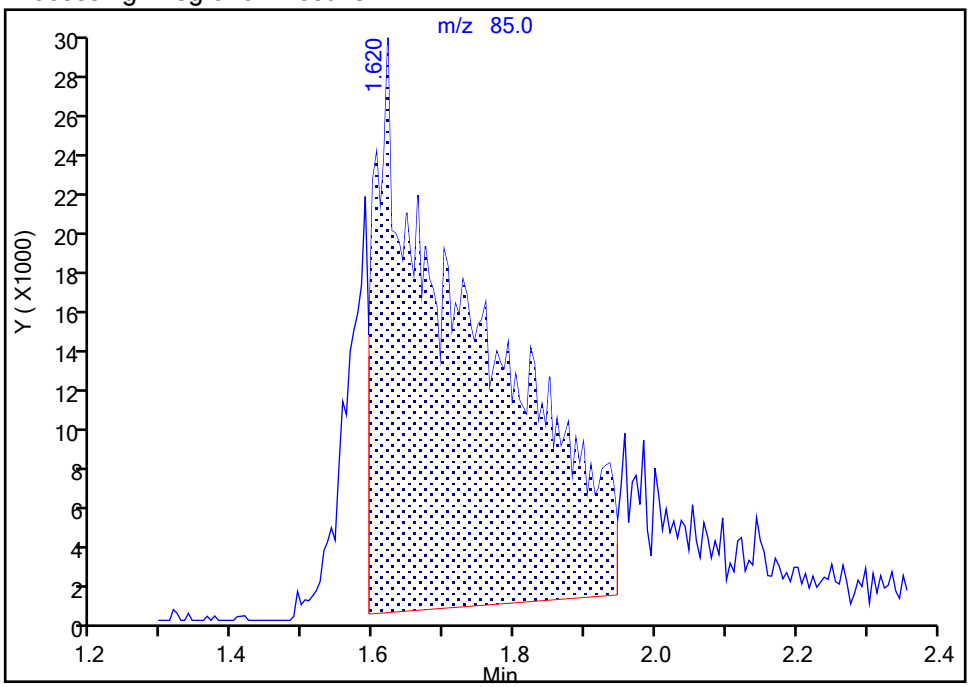

Manual Integration Results

RT: 1.62
Area: 378269
Amount: 45.731687
Amount Units: ng

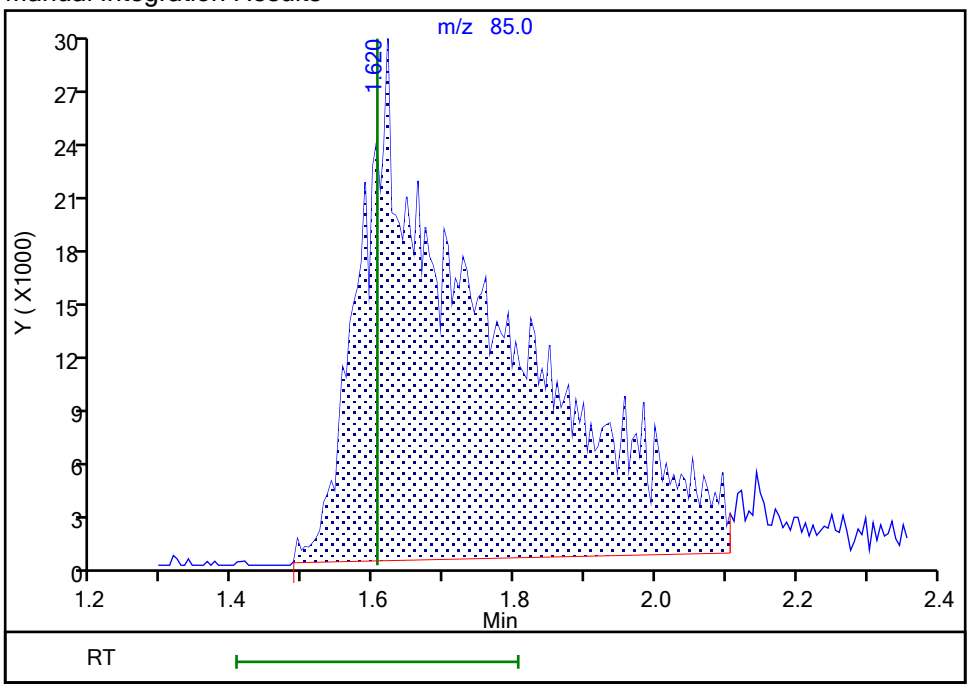

Reviewer: journetp, 14-Nov-2019 09:54:52

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114003.D				
Injection Date:	14-Nov-2019 08:02:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	3	Worklist Smp#:	3
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

12 Vinyl chloride, CAS: 75-01-4

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 1.90

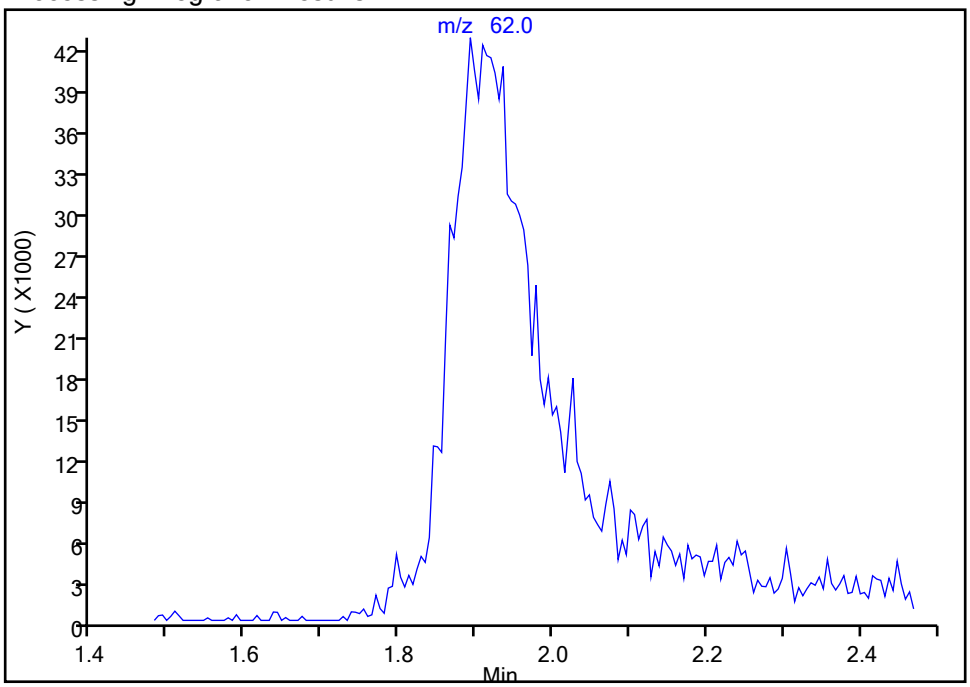

Manual Integration Results

RT: 1.89
Area: 376634
Amount: 45.814422
Amount Units: ng

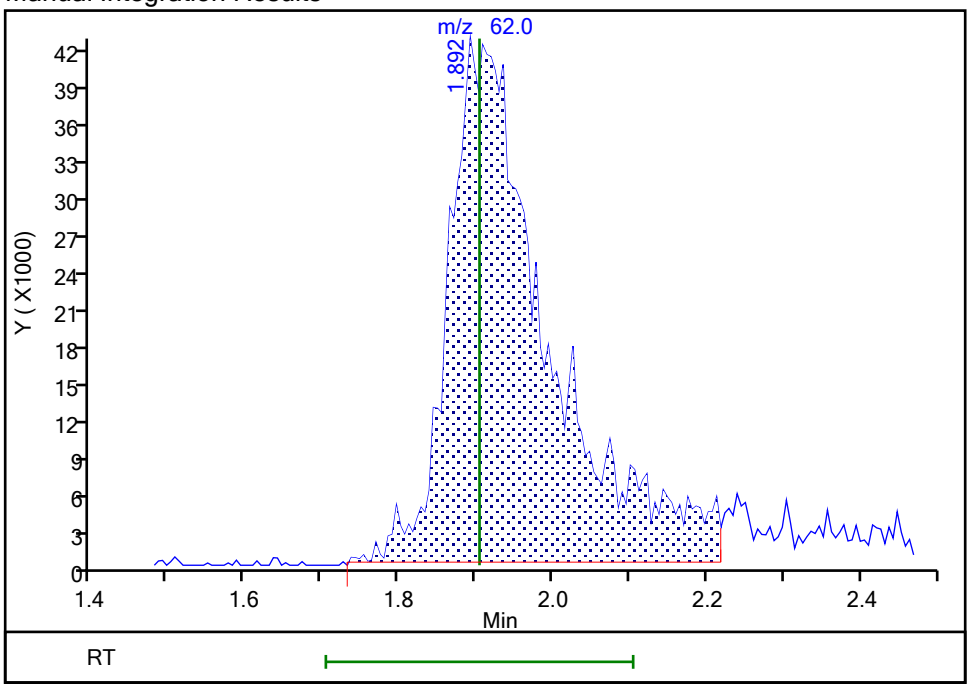

Reviewer: journetp, 14-Nov-2019 09:54:38
Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114003.D				
Injection Date:	14-Nov-2019 08:02:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	3	Worklist Smp#:	3
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

13 Butadiene, CAS: 106-99-0

Signal: 1

Processing Integration Results

RT: 1.86
Area: 25351
Amount: 5.523963
Amount Units: ng

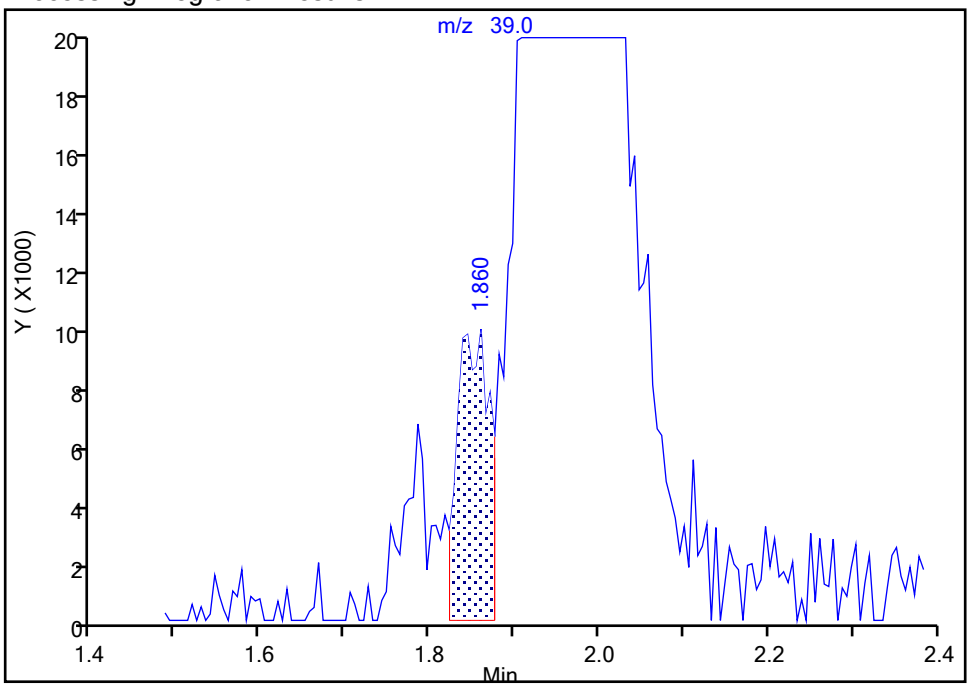

Manual Integration Results

RT: 1.98
Area: 427117
Amount: 48.230790
Amount Units: ng

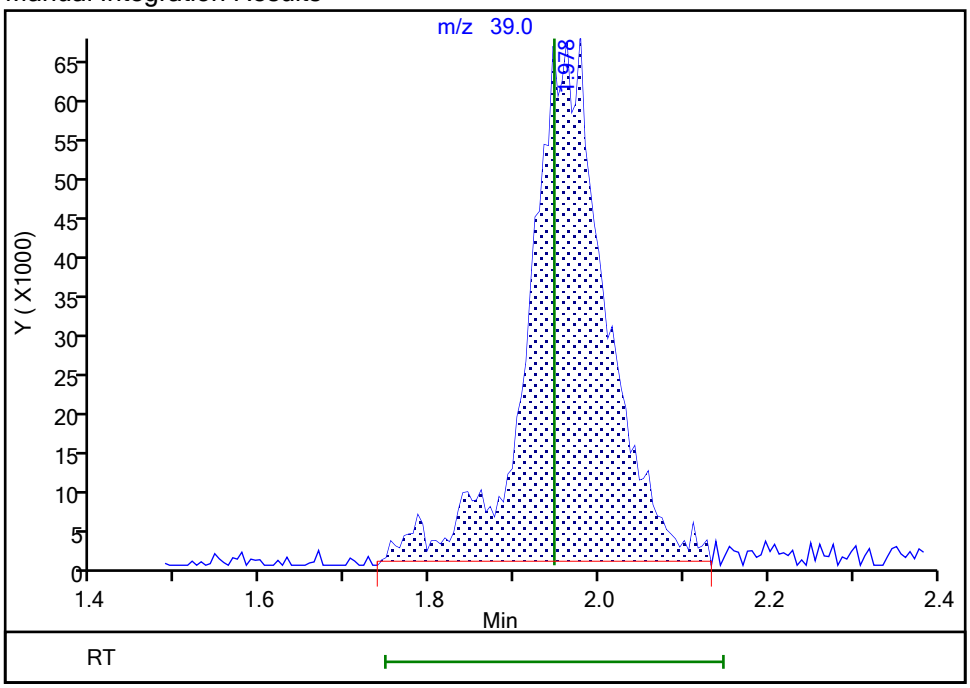

Reviewer: journetp, 14-Nov-2019 08:27:46

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114003.D				
Injection Date:	14-Nov-2019 08:02:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	3	Worklist Smp#:	3
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

14 Bromomethane, CAS: 74-83-9

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 2.28

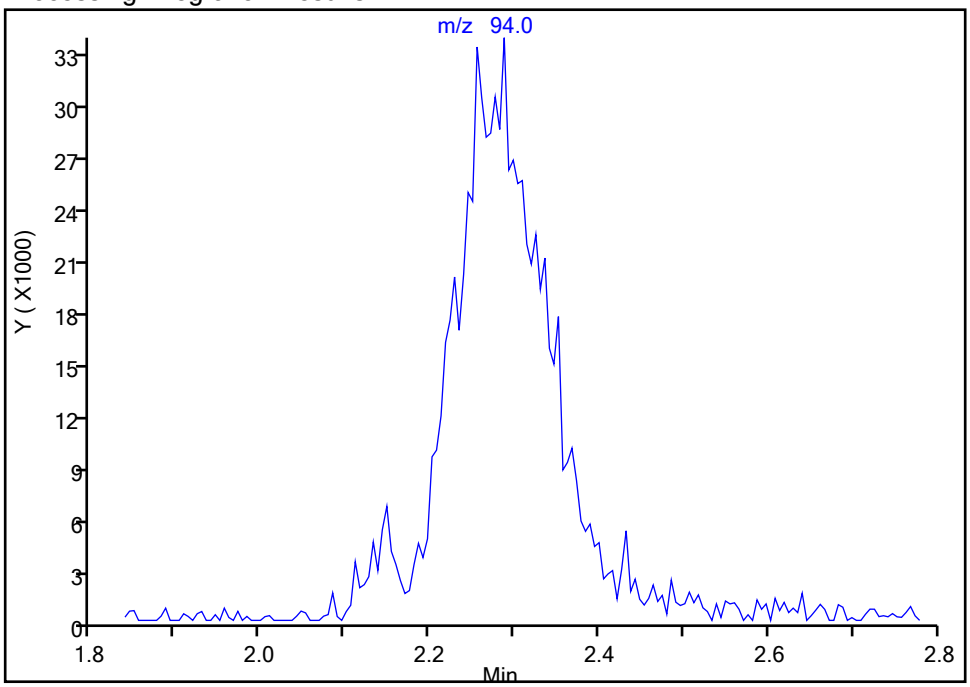

Manual Integration Results

RT: 2.29
Area: 256094
Amount: 48.416498
Amount Units: ng

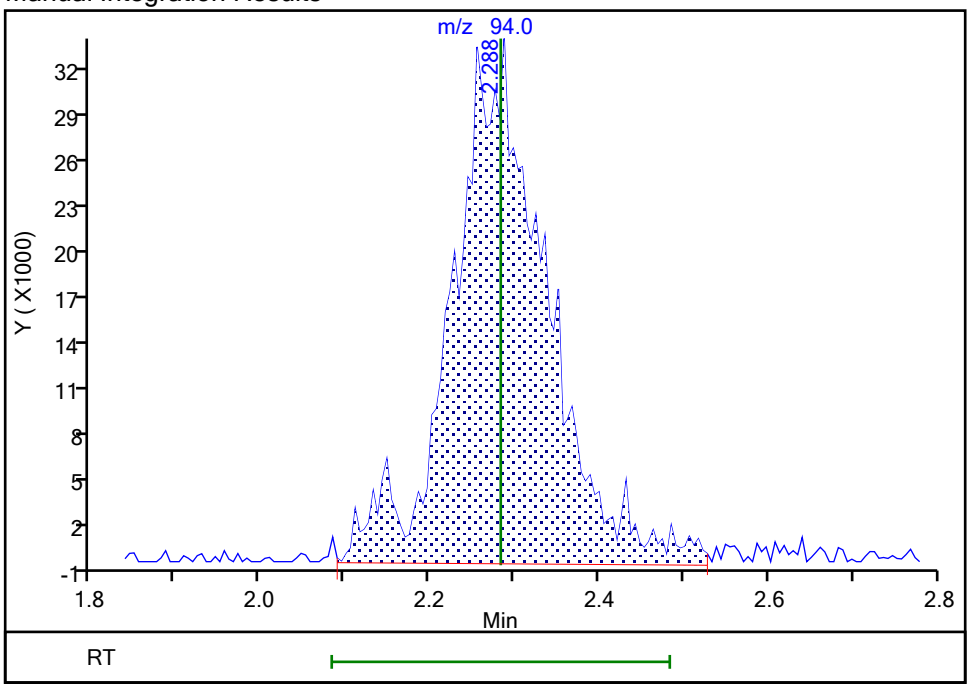

Reviewer: journetp, 14-Nov-2019 08:27:13
Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114003.D				
Injection Date:	14-Nov-2019 08:02:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	3	Worklist Smp#:	3
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

15 Chloroethane, CAS: 75-00-3

Signal: 1

Not Detected
Expected RT: 2.47

Processing Integration Results

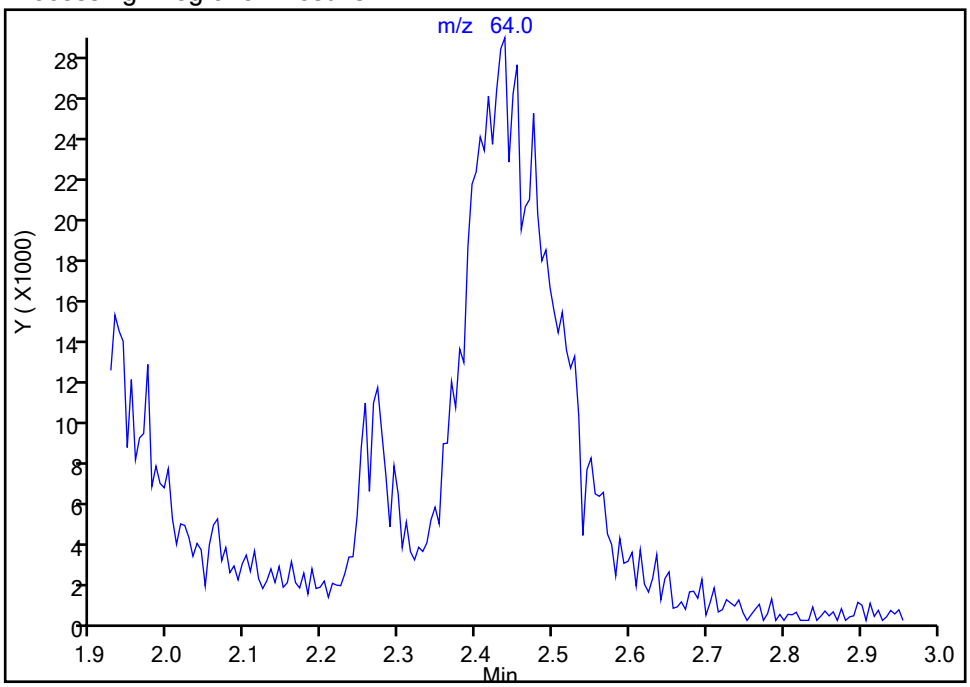

RT: 2.44
Area: 279632
Amount: 50.098794
Amount Units: ng

Manual Integration Results

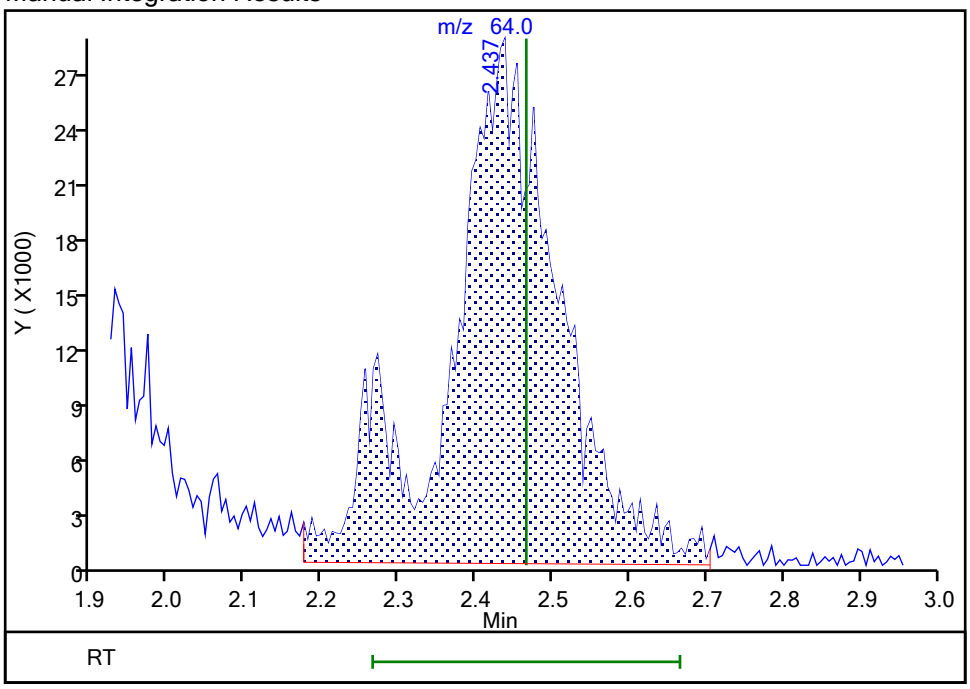

Reviewer: journetp, 14-Nov-2019 08:27:52
Audit Action: Manually Integrated Audit Reason: Poor chromatography

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114003.D				
Injection Date:	14-Nov-2019 08:02:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	3	Worklist Smp#:	3
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

17 Trichlorofluoromethane, CAS: 75-69-4

Signal: 1

Processing Integration Results

RT: 2.56
Area: 184684
Amount: 28.131635
Amount Units: ng

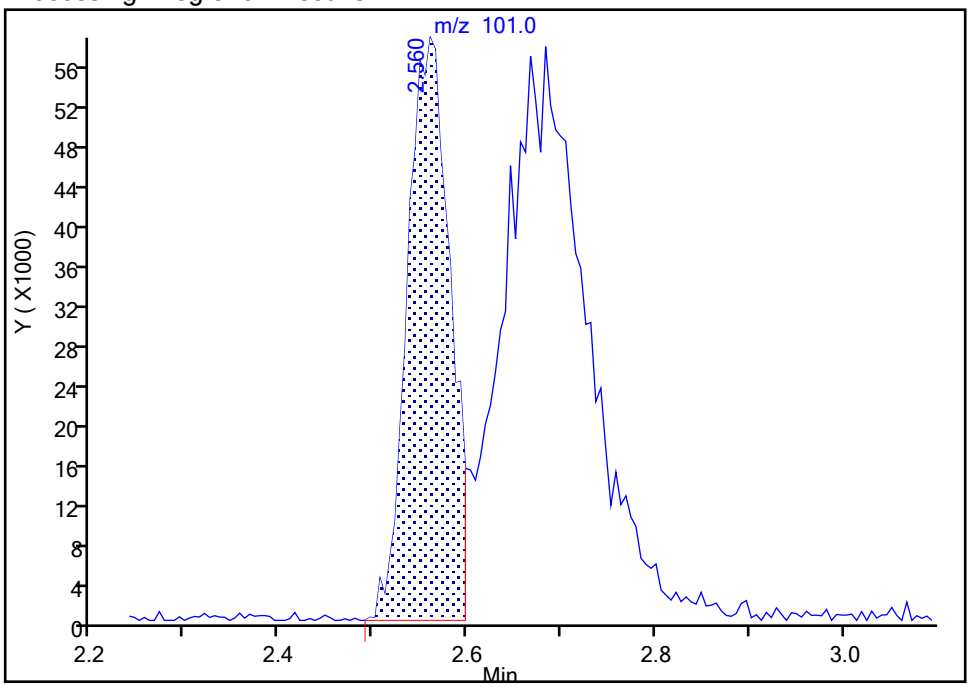

Manual Integration Results

RT: 2.56
Area: 532698
Amount: 45.572501
Amount Units: ng

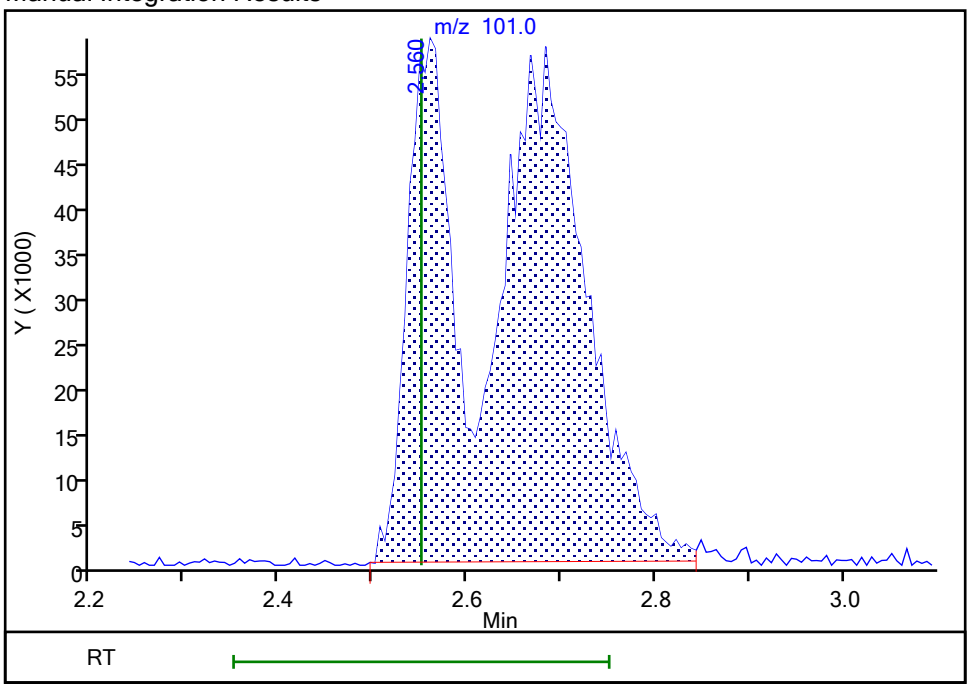

Reviewer: journetp, 14-Nov-2019 08:27:58
Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114003.D				
Injection Date:	14-Nov-2019 08:02:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	3	Worklist Smp#:	3
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

16 Dichlorofluoromethane, CAS: 75-43-4

Signal: 1

Processing Integration Results

RT: 2.73
Area: 101600
Amount: 15.806667
Amount Units: ng

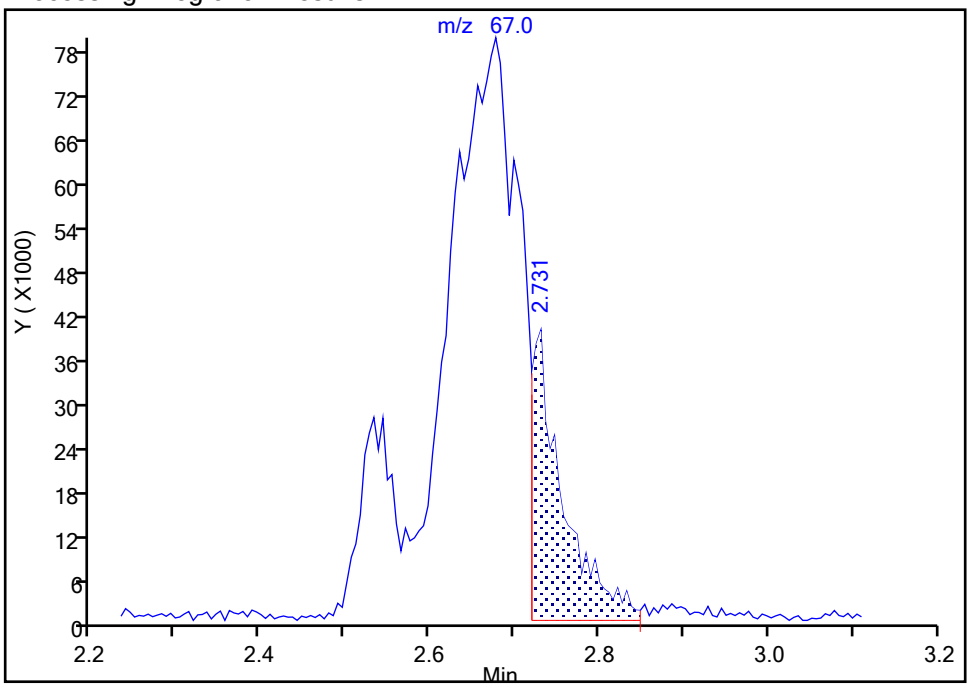

Manual Integration Results

RT: 2.68
Area: 595165
Amount: 46.130100
Amount Units: ng

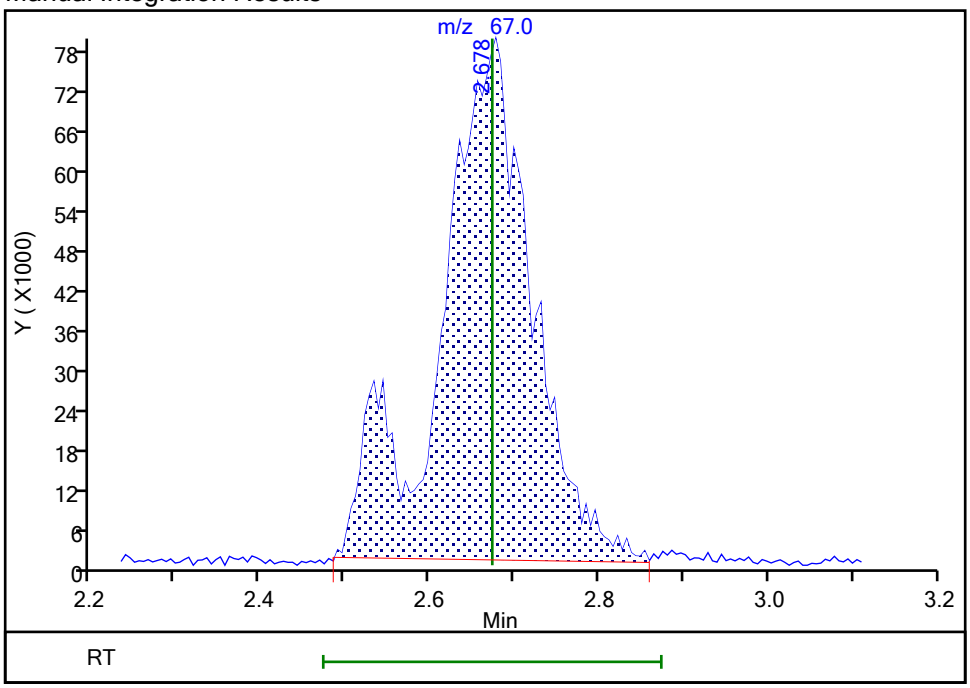

Reviewer: journetp, 14-Nov-2019 08:28:02

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114003.D				
Injection Date:	14-Nov-2019 08:02:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	3	Worklist Smp#:	3
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

22 1,1,2-Trichloro-1,2,2-trifluoroethane, CAS: 76-13-1

Signal: 1

Processing Integration Results

RT: 3.25
Area: 49881
Amount: 14.163538
Amount Units: ng

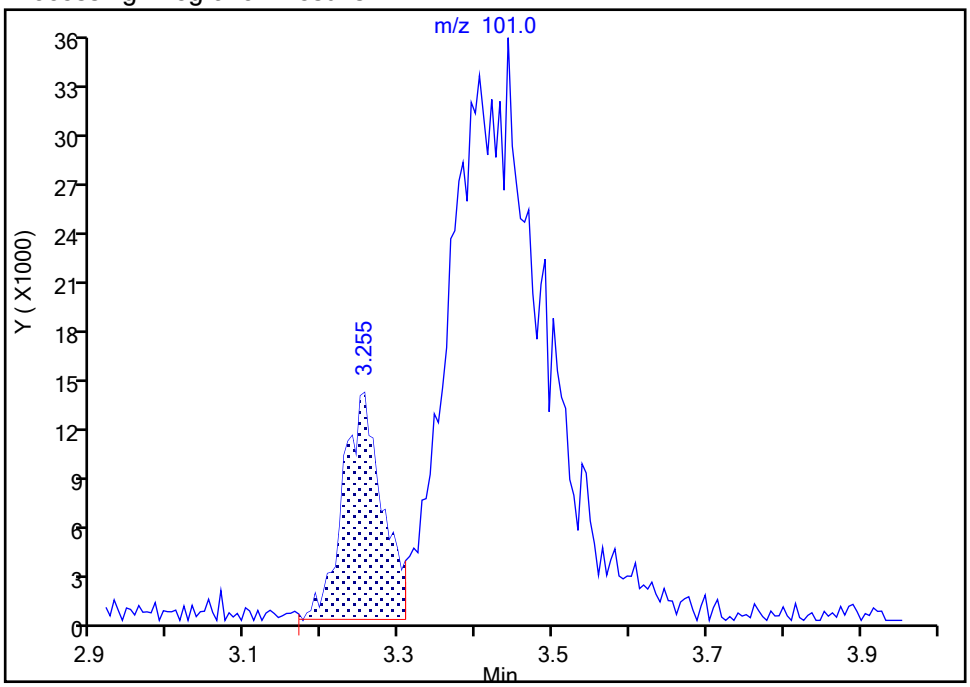

Manual Integration Results

RT: 3.44
Area: 350017
Amount: 47.279913
Amount Units: ng

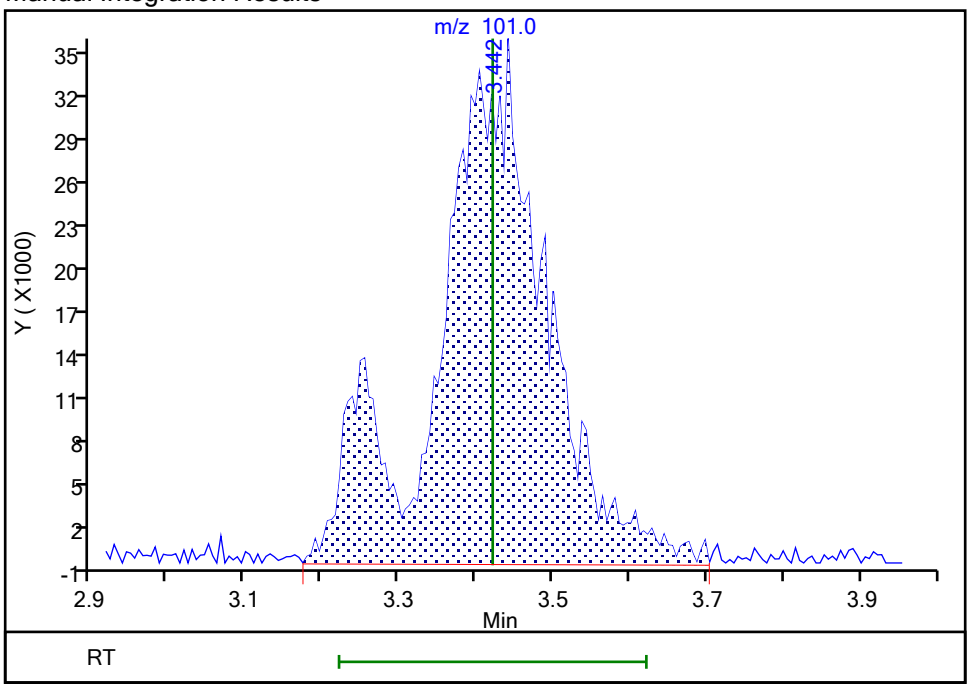

Reviewer: journetp, 14-Nov-2019 08:28:17

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114003.D				
Injection Date:	14-Nov-2019 08:02:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	3	Worklist Smp#:	3
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

25 Carbon disulfide, CAS: 75-15-0

Signal: 1

Processing Integration Results

RT: 3.50
Area: 774050
Amount: 44.875189
Amount Units: ng

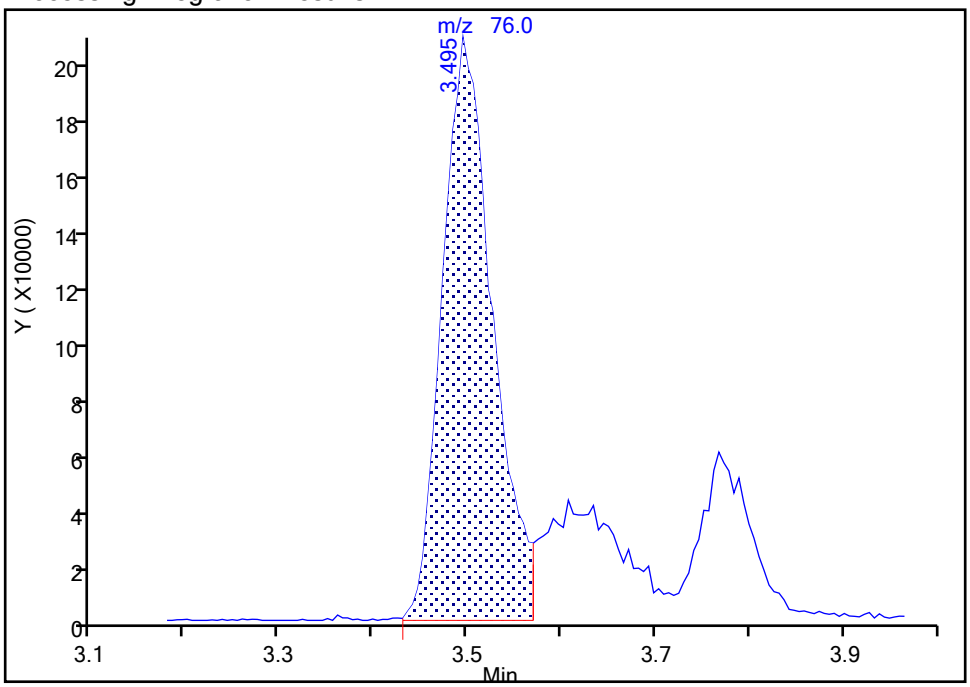

Manual Integration Results

RT: 3.50
Area: 997194
Amount: 45.965251
Amount Units: ng

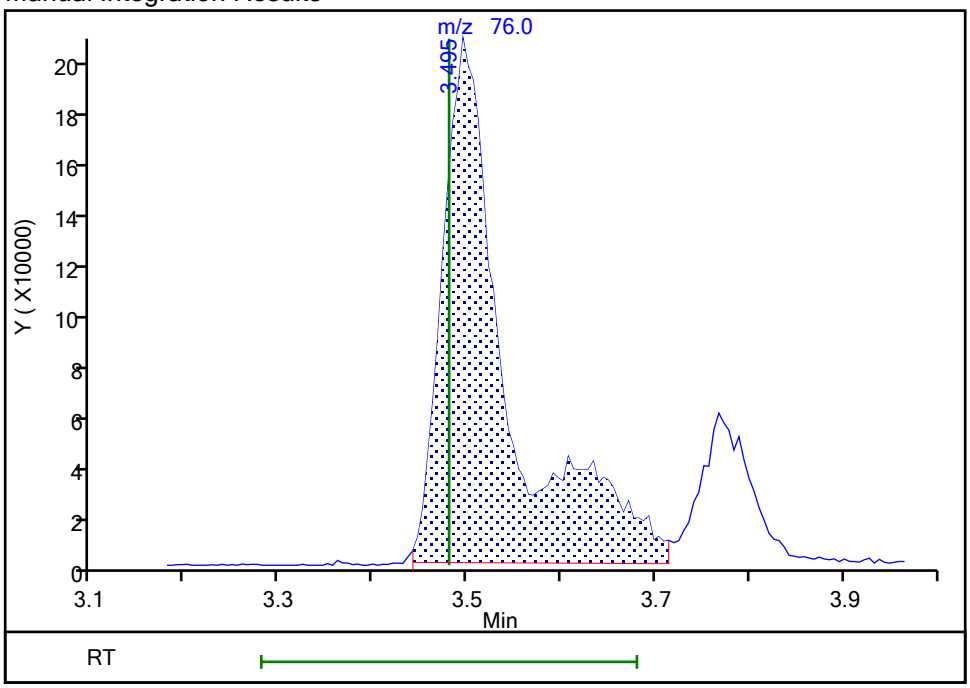

Reviewer: journetp, 14-Nov-2019 08:28:29
Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114003.D				
Injection Date:	14-Nov-2019 08:02:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	3	Worklist Smp#:	3
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

29 Methyl acetate, CAS: 79-20-9

Signal: 1

Processing Integration Results

RT: 3.80
Area: 111009
Amount: 75.769390
Amount Units: ng

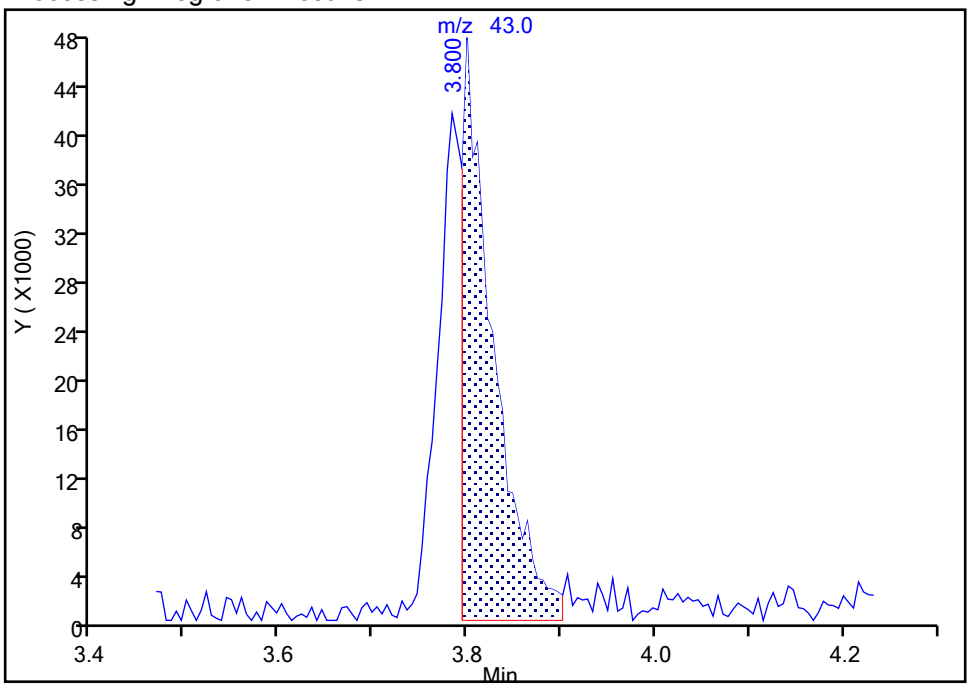

Manual Integration Results

RT: 3.80
Area: 183255
Amount: 95.124818
Amount Units: ng

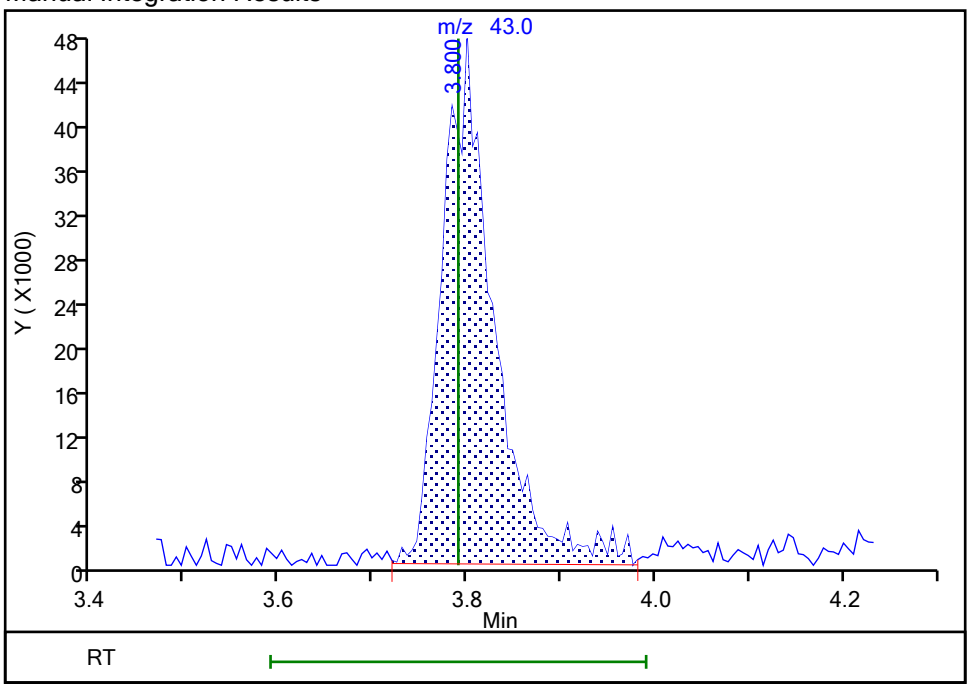

Reviewer: journetp, 14-Nov-2019 08:28:39

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114004.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 14-Nov-2019 08:29:30 ALS Bottle#: 4 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029543-004
Operator ID: 034635 Instrument ID: CHHP4
Sublist: chrom-MSVOA_CHHP4*sub156

Method: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\MSVOA_CHHP4.m
Limit Group: VOA 8260C_D ICAL
Last Update: 14-Nov-2019 14:40:08 Calib Date: 14-Nov-2019 12:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114008.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0329

First Level Reviewer: journetp Date: 14-Nov-2019 08:54:59

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.129	4.129	0.000	88	589097	5000.0	5000.0	
* 2 Fluorobenzene (IS)	96	7.153	7.153	0.000	98	3630412	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.273	10.273	0.000	97	909729	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.623	12.623	0.000	93	1281026	250.0	250.0	
$ 5 Dibromofluoromethane (Surr	113	6.421	6.421	0.000	0	789267	125.0	130.0	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.801	6.801	0.000	0	762519	125.0	132.3	
$ 7 Toluene-d8 (Surr)	98	8.809	8.809	0.000	0	3195358	125.0	131.7	
$ 8 4-Bromofluorobenzene (Surr	95	11.464	11.464	0.000	0	1080533	125.0	118.9	
$ 141 Total BTEX	95		0.000				ND	ND	
10 Dichlorodifluoromethane	85	1.592	1.592	0.000	39	987279	125.0	118.9	
11 Chloromethane	50	1.784	1.784	0.000	97	763115	125.0	113.9	M
12 Vinyl chloride	62	1.923	1.923	0.000	97	984989	125.0	119.3	M
13 Butadiene	39	1.966	1.966	0.000	97	1096757	125.0	123.4	M
14 Bromomethane	94	2.270	2.270	0.000	86	625533	125.0	117.8	M
15 Chloroethane	64	2.441	2.441	0.000	74	775049	125.0	127.7	M
17 Trichlorofluoromethane	101	2.548	2.548	0.000	98	1428649	125.0	121.7	M
16 Dichlorofluoromethane	67	2.676	2.676	0.000	96	1676509	125.0	129.4	M
19 Ethyl ether	59	2.933	2.933	0.000	88	482627	125.0	125.0	
21 1,1-Dichloroethene	96	3.205	3.205	0.000	97	853364	125.0	121.6	Ma
23 Acetone	43	3.323	3.323	0.000	100	228612	125.0	111.9	
24 Iodomethane	142	3.403	3.403	0.000	98	909705	125.0	119.4	
22 1,1,2-Trichloro-1,2,2-trif	101	3.451	3.451	0.000	93	890895	125.0	119.9	M
25 Carbon disulfide	76	3.494	3.494	0.000	100	2720075	125.0	124.9	M
28 3-Chloro-1-propene	76	3.772	3.772	0.000	92	668116	125.0	127.1	
29 Methyl acetate	43	3.782	3.782	0.000	97	486781	250.0	251.7	
30 Methylene Chloride	84	3.975	3.975	0.000	90	770093	125.0	113.5	
31 2-Methyl-2-propanol	59	4.252	4.252	0.000	99	271700	1250.0	1229.7	
32 Acrylonitrile	53	4.365	4.365	0.000	100	1163607	1250.0	1322.5	
33 trans-1,2-Dichloroethene	96	4.413	4.413	0.000	99	905550	125.0	128.5	
34 Methyl tert-butyl ether	73	4.423	4.423	0.000	96	1299841	125.0	128.2	
35 Hexane	57	4.829	4.829	0.000	95	1533163	125.0	128.4	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 1,1-Dichloroethane	63	5.048	5.048	0.000	96	1568113	125.0	127.3	
41 2,2-Dichloropropane	97	5.796	5.796	0.000	73	200187	125.0	123.6	
42 cis-1,2-Dichloroethene	96	5.802	5.802	0.000	81	925545	125.0	125.4	
43 2-Butanone (MEK)	43	5.823	5.823	0.000	99	236328	125.0	108.9	
46 Chlorobromomethane	128	6.095	6.095	0.000	96	349393	125.0	127.7	
48 Tetrahydrofuran	42	6.117	6.117	0.000	85	195861	250.0	266.5	
49 Chloroform	83	6.240	6.240	0.000	94	1487864	125.0	127.5	
50 1,1,1-Trichloroethane	97	6.395	6.395	0.000	98	1203160	125.0	131.6	
51 Cyclohexane	56	6.464	6.464	0.000	89	1272702	125.0	130.3	
53 Carbon tetrachloride	117	6.565	6.565	0.000	95	1065784	125.0	130.4	
52 1,1-Dichloropropene	75	6.587	6.587	0.000	96	1364143	125.0	133.5	
59 Isobutyl alcohol	41	6.790	6.790	0.000	39	238220	3125.0	3274.2	
54 Benzene	78	6.806	6.806	0.000	98	3357504	125.0	135.7	
55 1,2-Dichloroethane	62	6.886	6.886	0.000	97	804507	125.0	134.6	
58 n-Heptane	43	7.169	7.169	0.000	88	1516646	125.0	137.2	
61 Trichloroethene	130	7.543	7.543	0.000	99	940278	125.0	125.2	
63 Methylcyclohexane	83	7.784	7.784	0.000	88	1841565	125.0	135.8	
64 1,2-Dichloropropane	63	7.821	7.821	0.000	92	830351	125.0	131.4	
65 Dibromomethane	93	7.912	7.912	0.000	95	320245	125.0	129.2	
67 1,4-Dioxane	88	7.922	7.922	0.000	64	81986	2500.0	2634.8	
68 Dichlorobromomethane	83	8.104	8.104	0.000	99	960522	125.0	128.8	
71 cis-1,3-Dichloropropene	75	8.553	8.553	0.000	96	1159657	125.0	129.0	
72 4-Methyl-2-pentanone (MIBK	43	8.702	8.702	0.000	95	345486	125.0	115.0	M
73 Toluene	91	8.879	8.879	0.000	97	3561963	125.0	139.7	
74 trans-1,3-Dichloropropene	75	9.130	9.130	0.000	93	837166	125.0	125.2	
75 Ethyl methacrylate	69	9.188	9.188	0.000	89	613589	125.0	132.0	
76 1,1,2-Trichloroethane	97	9.327	9.327	0.000	91	479084	125.0	125.3	
77 Tetrachloroethene	164	9.391	9.391	0.000	96	794681	125.0	125.9	
78 1,3-Dichloropropane	76	9.488	9.488	0.000	91	893703	125.0	128.2	
79 2-Hexanone	43	9.546	9.546	0.000	96	267056	125.0	107.1	
81 Chlorodibromomethane	129	9.701	9.701	0.000	90	558260	125.0	126.1	
82 Ethylene Dibromide	107	9.814	9.814	0.000	98	453744	125.0	133.8	
84 Chlorobenzene	112	10.305	10.305	0.000	92	2223024	125.0	136.3	
85 1,1,1,2-Tetrachloroethane	131	10.396	10.396	0.000	94	770288	125.0	129.7	
86 Ethylbenzene	106	10.401	10.401	0.000	97	1381544	125.0	132.9	
87 m-Xylene & p-Xylene	106	10.535	10.535	0.000	0	1724481	125.0	130.1	
88 o-Xylene	106	10.914	10.914	0.000	95	1484652	125.0	123.8	
89 Styrene	104	10.941	10.941	0.000	94	2279017	125.0	128.4	
90 Bromoform	173	11.128	11.128	0.000	96	292268	125.0	123.3	
91 Isopropylbenzene	105	11.283	11.283	0.000	97	3620591	125.0	127.0	
93 1,1,2,2-Tetrachloroethane	83	11.598	11.598	0.000	65	477434	125.0	123.4	
94 Bromobenzene	156	11.598	11.598	0.000	93	808212	125.0	123.3	
96 trans-1,4-Dichloro-2-buten	53	11.635	11.635	0.000	61	80724	125.0	120.4	
95 1,2,3-Trichloropropane	110	11.657	11.657	0.000	83	145890	125.0	123.6	
97 N-Propylbenzene	120	11.705	11.705	0.000	96	1164764	125.0	125.4	
98 2-Chlorotoluene	126	11.790	11.790	0.000	97	931691	125.0	124.0	
99 1,3,5-Trimethylbenzene	105	11.886	11.886	0.000	96	2987938	125.0	124.8	
100 4-Chlorotoluene	126	11.918	11.918	0.000	97	911069	125.0	122.2	
101 tert-Butylbenzene	119	12.201	12.201	0.000	92	2681772	125.0	131.4	
103 1,2,4-Trimethylbenzene	105	12.260	12.260	0.000	96	2991211	125.0	134.9	
104 sec-Butylbenzene	105	12.426	12.426	0.000	95	3914779	125.0	126.5	
105 1,3-Dichlorobenzene	146	12.549	12.549	0.000	95	1677692	125.0	133.0	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
106 4-Isopropyltoluene	119	12.581	12.581	0.000	94	3497612	125.0	135.7	
107 1,4-Dichlorobenzene	146	12.650	12.650	0.000	93	1591745	125.0	129.8	
110 n-Butylbenzene	91	12.992	12.992	0.000	95	3409308	125.0	145.7	
111 1,2-Dichlorobenzene	146	13.003	13.003	0.000	95	1532247	125.0	135.1	
112 1,2-Dibromo-3-Chloropropan	75	13.799	13.799	0.000	81	92146	125.0	142.3	
113 1,2,4-Trichlorobenzene	180	14.621	14.621	0.000	94	1127013	125.0	127.3	
115 Hexachlorobutadiene	225	14.771	14.771	0.000	96	783970	125.0	122.9	
116 Naphthalene	128	14.889	14.889	0.000	97	1480449	125.0	125.0	
117 1,2,3-Trichlorobenzene	180	15.113	15.113	0.000	95	945673	125.0	127.5	
S 129 1,2-Dichloroethene, Total	96				0		250.0	253.9	
S 130 Xylenes, Total	106				0		250.0	254.0	
S 131 1,3-Dichloropropene, Total	1				0		250.0	254.2	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

VOA8260INT_00101	Amount Added: 10.00	Units: uL
VOA8260SURR_00101	Amount Added: 5.00	Units: uL
VOA8260VOAPRI_00380	Amount Added: 5.00	Units: uL

Report Date: 14-Nov-2019 14:40:09 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114004.D				
Injection Date:	14-Nov-2019 08:29:30	Instrument ID:	CHHP4	Operator ID:	034635
Lims ID:	IC			Worklist Smp#:	4
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

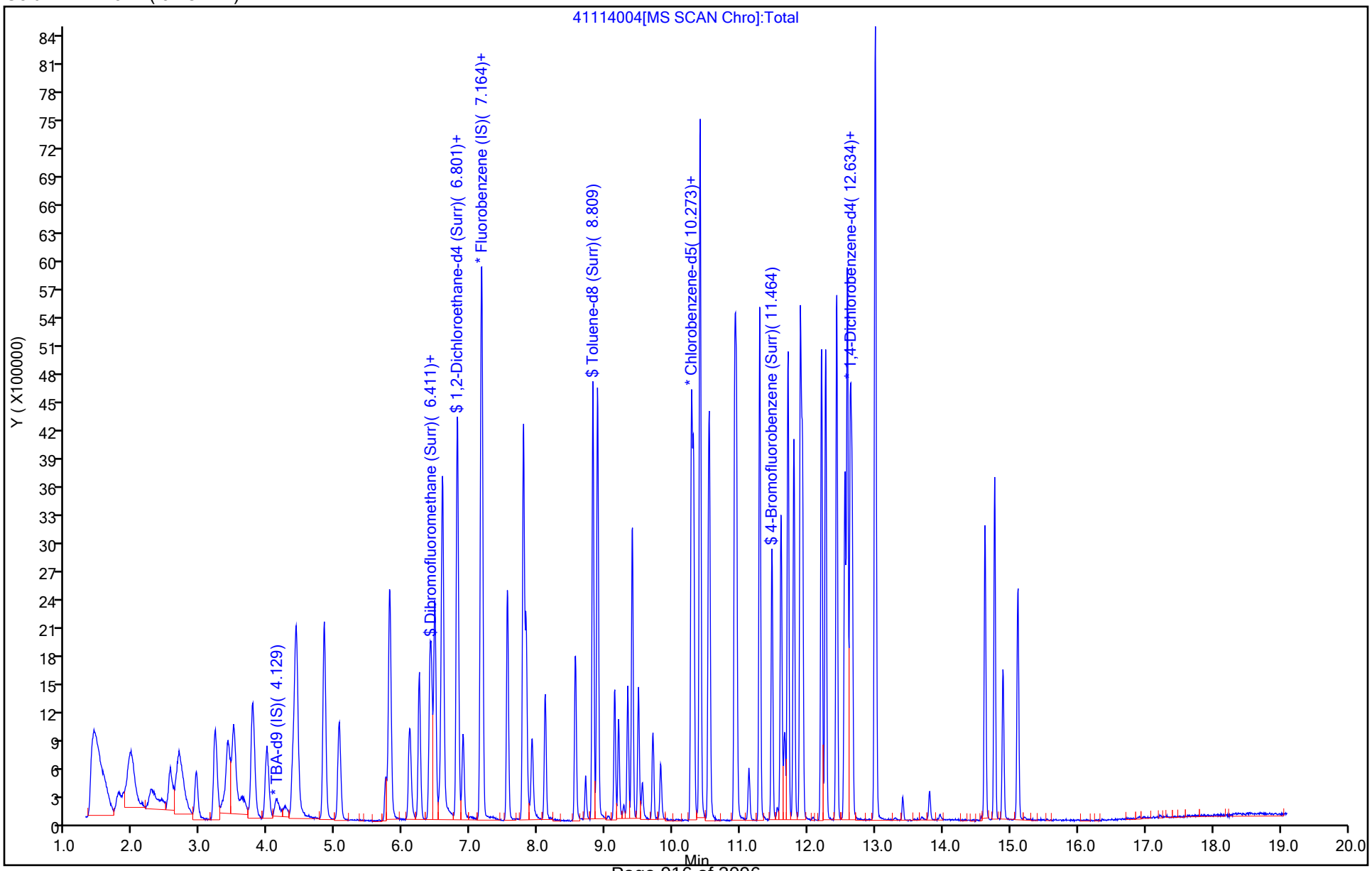

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114004.D				
Injection Date:	14-Nov-2019 08:29:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	4	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

11 Chloromethane, CAS: 74-87-3

Signal: 1

Processing Integration Results

RT: 1.78
Area: 1349831
Amount: 180.7515
Amount Units: ng

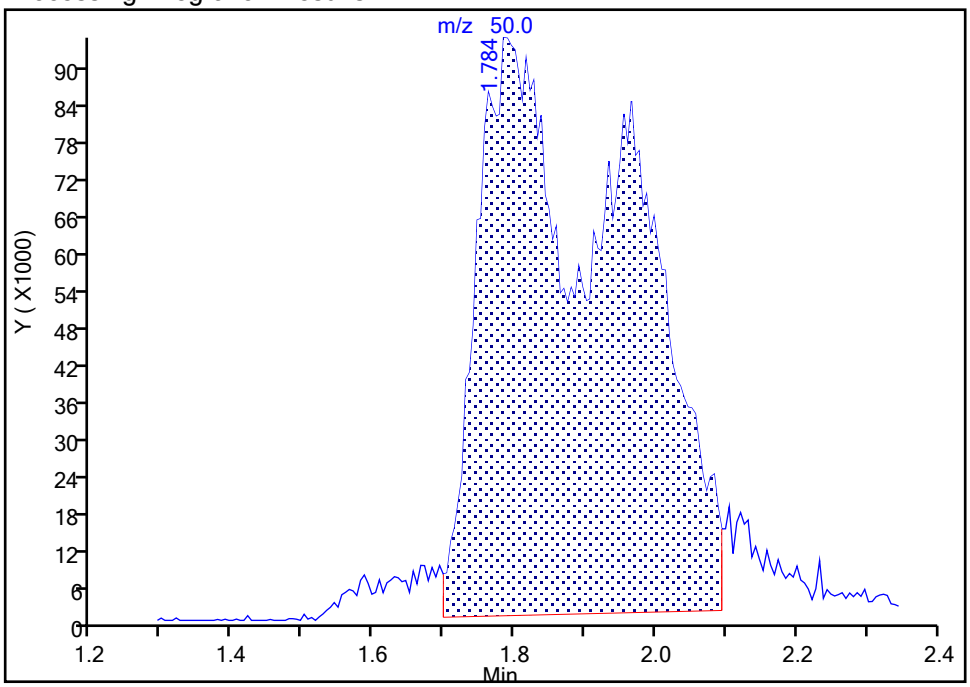

Manual Integration Results

RT: 1.78
Area: 763115
Amount: 113.8564
Amount Units: ng

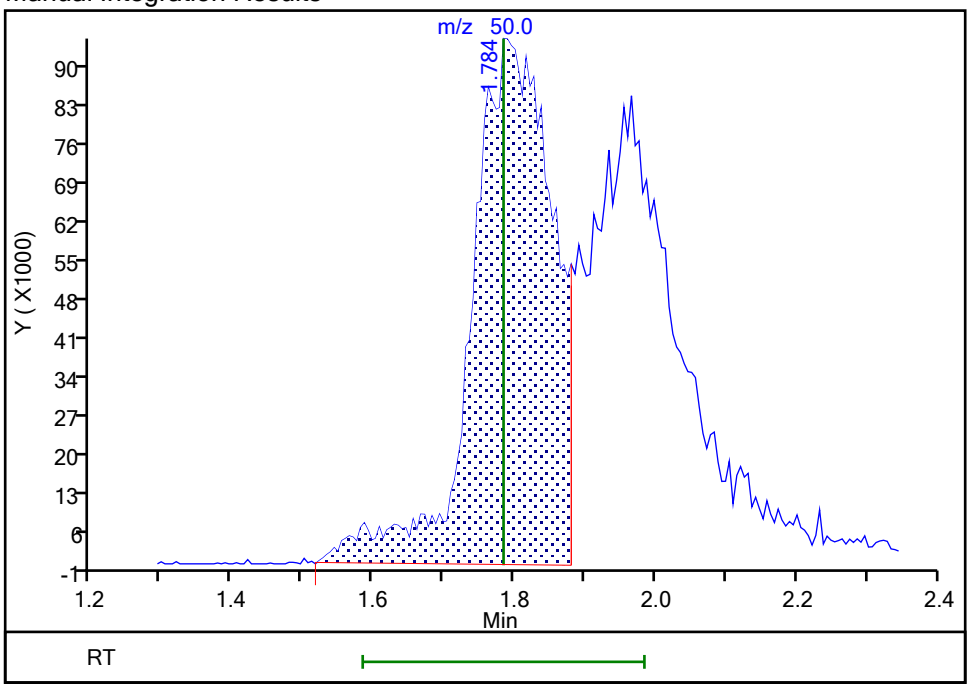

Reviewer: journetp, 14-Nov-2019 08:53:08

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114004.D				
Injection Date:	14-Nov-2019 08:29:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	4	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

12 Vinyl chloride, CAS: 75-01-4

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 1.92

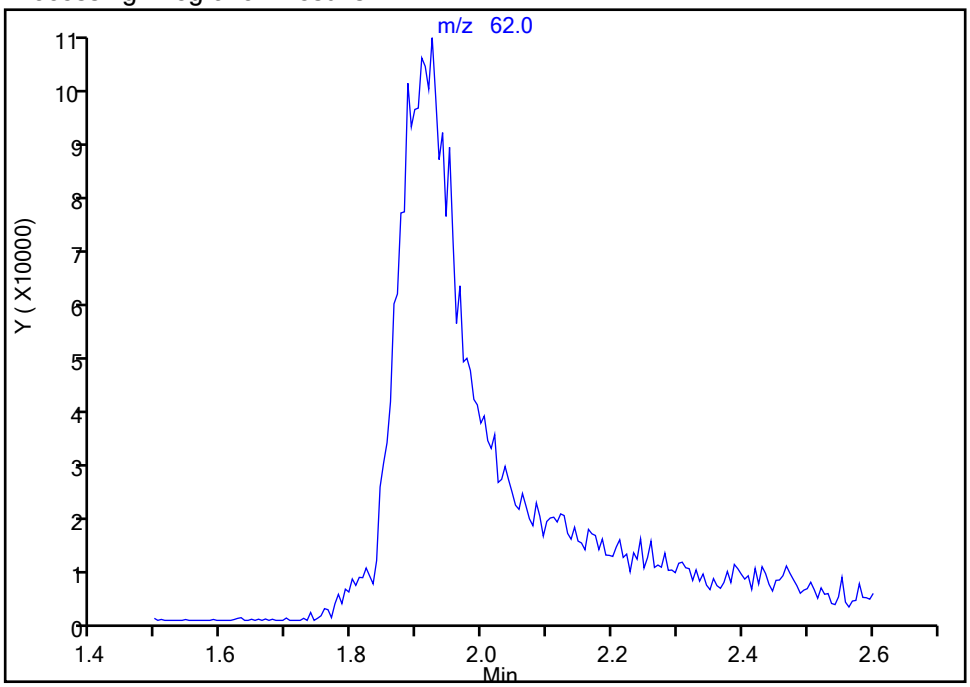

Manual Integration Results

RT: 1.92
Area: 984989
Amount: 119.3386
Amount Units: ng

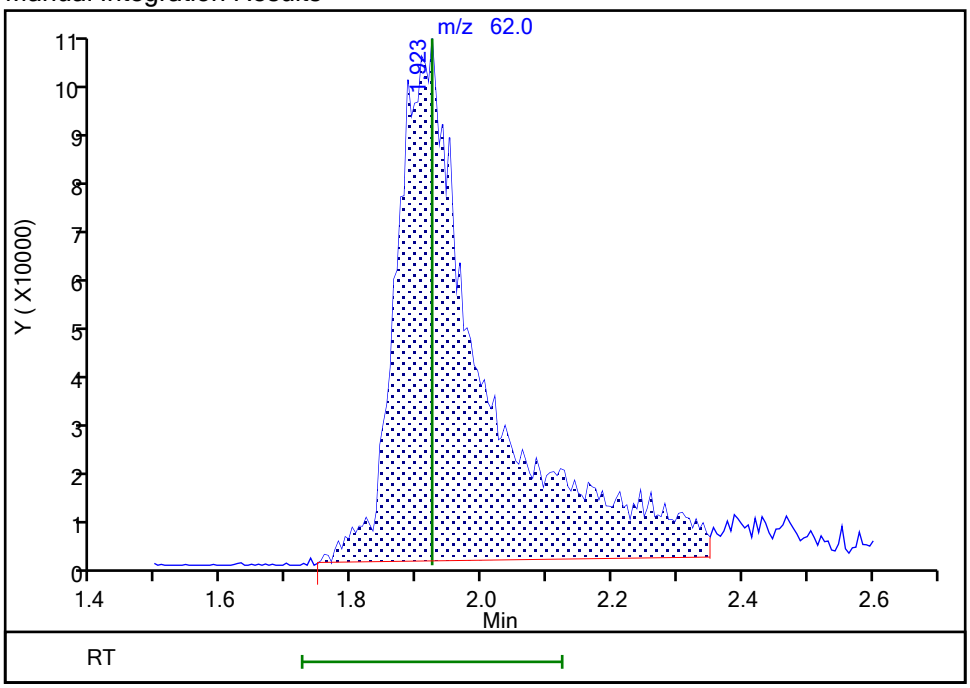

Reviewer: journetp, 14-Nov-2019 08:53:20
Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

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Injection Date:	14-Nov-2019 08:29:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	4	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

13 Butadiene, CAS: 106-99-0

Signal: 1

Processing Integration Results

RT: 1.97
Area: 1025392
Amount: 120.7014
Amount Units: ng

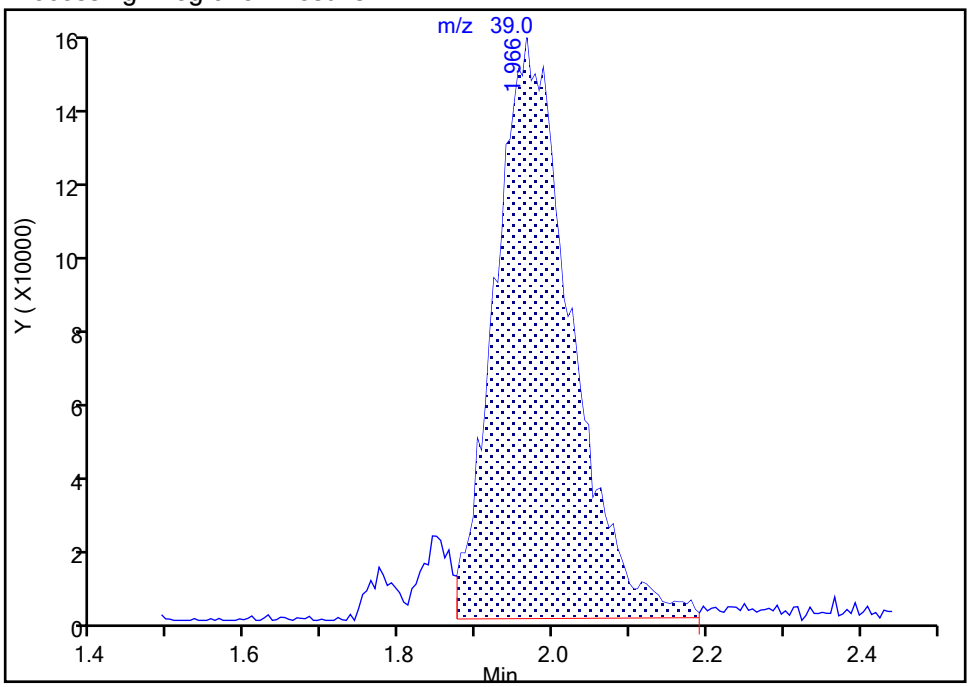

Manual Integration Results

RT: 1.97
Area: 1096757
Amount: 123.3544
Amount Units: ng

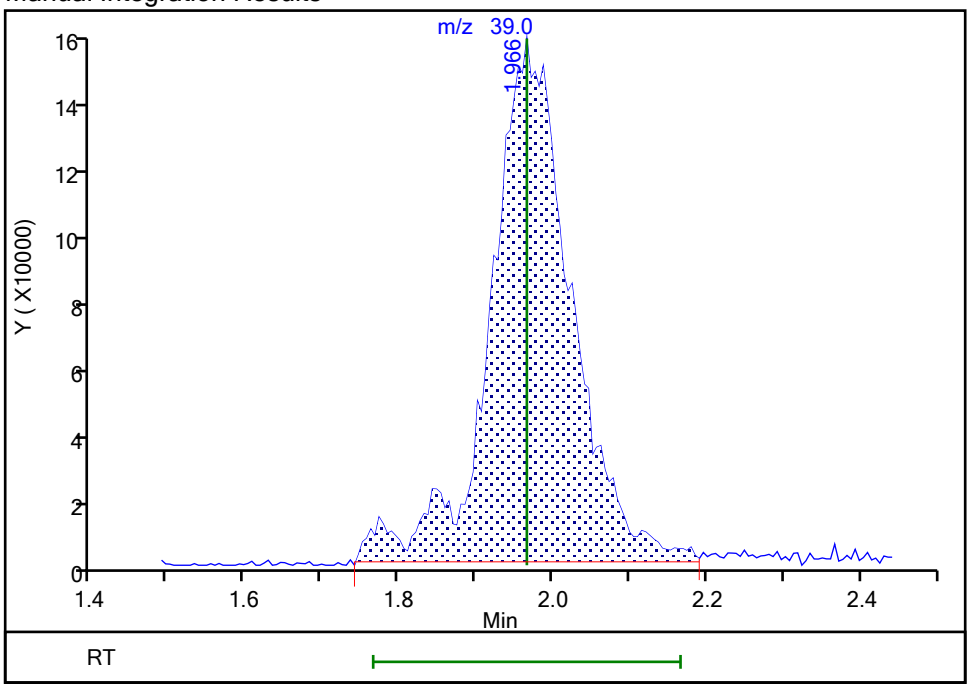

Reviewer: journetp, 14-Nov-2019 08:53:26

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114004.D				
Injection Date:	14-Nov-2019 08:29:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	4	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

14 Bromomethane, CAS: 74-83-9

Signal: 1

Processing Integration Results

RT: 2.27
Area: 602902
Amount: 124.7028
Amount Units: ng

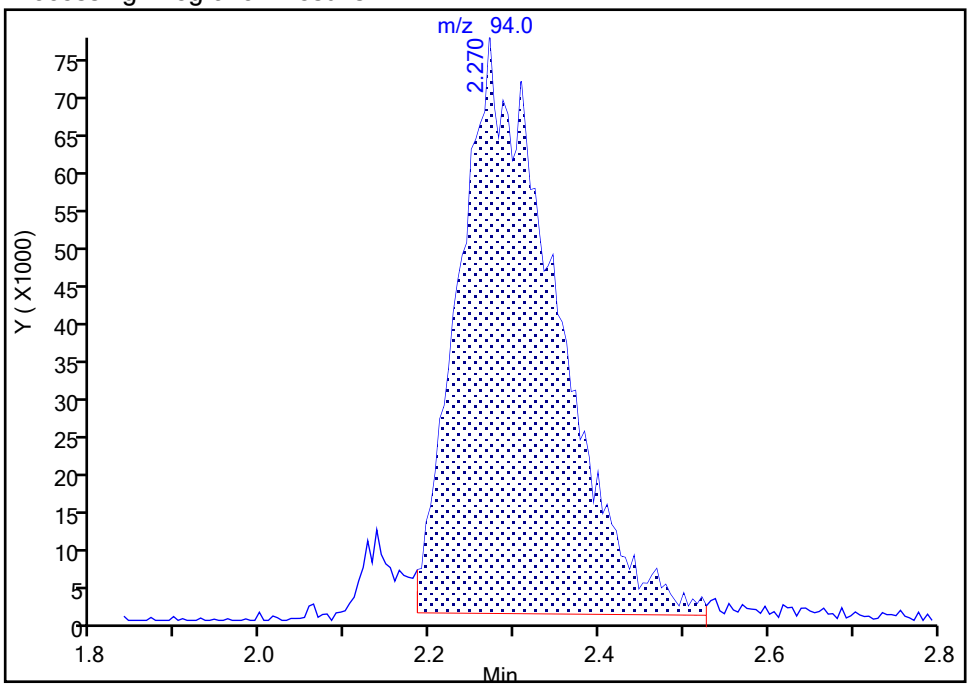

Manual Integration Results

RT: 2.27
Area: 625533
Amount: 117.7907
Amount Units: ng

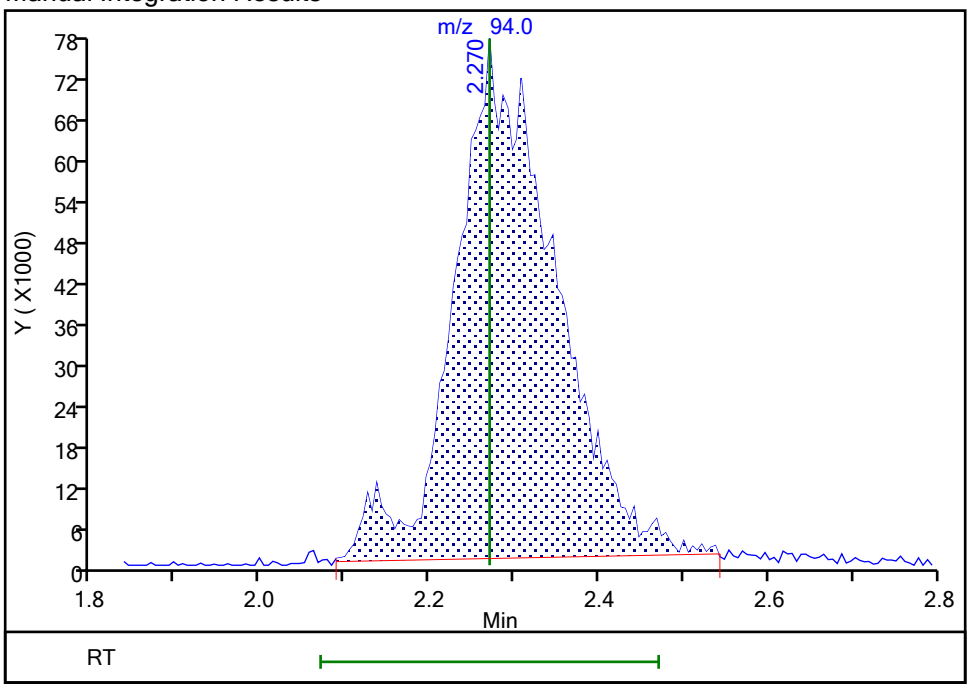

Reviewer: journetp, 14-Nov-2019 08:53:34

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

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Injection Date:	14-Nov-2019 08:29:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	4	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

15 Chloroethane, CAS: 75-00-3

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 2.44

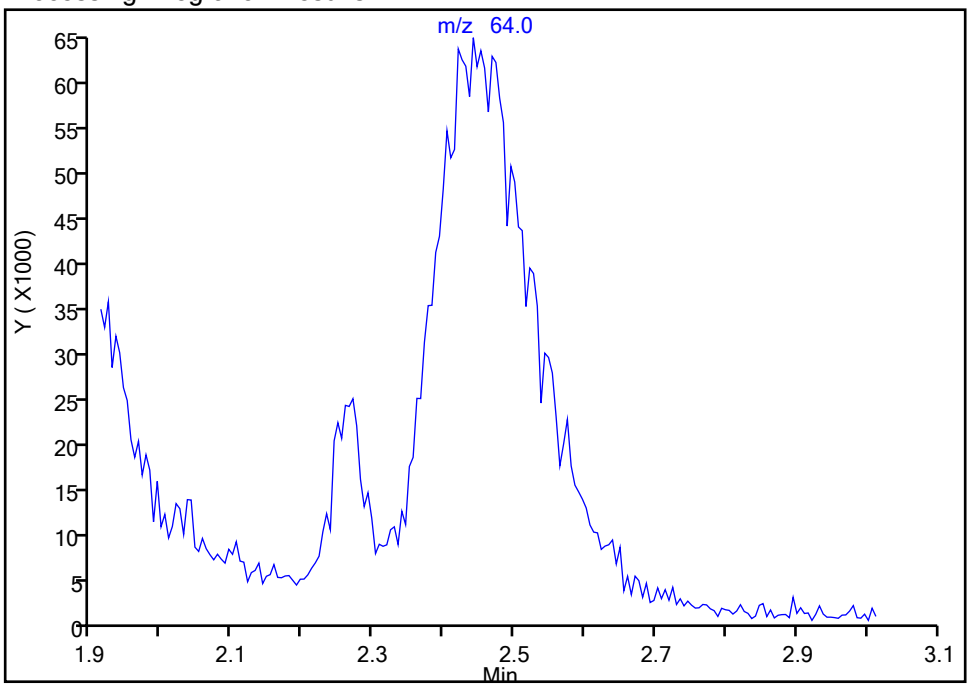

Manual Integration Results

RT: 2.44
Area: 775049
Amount: 127.7391
Amount Units: ng

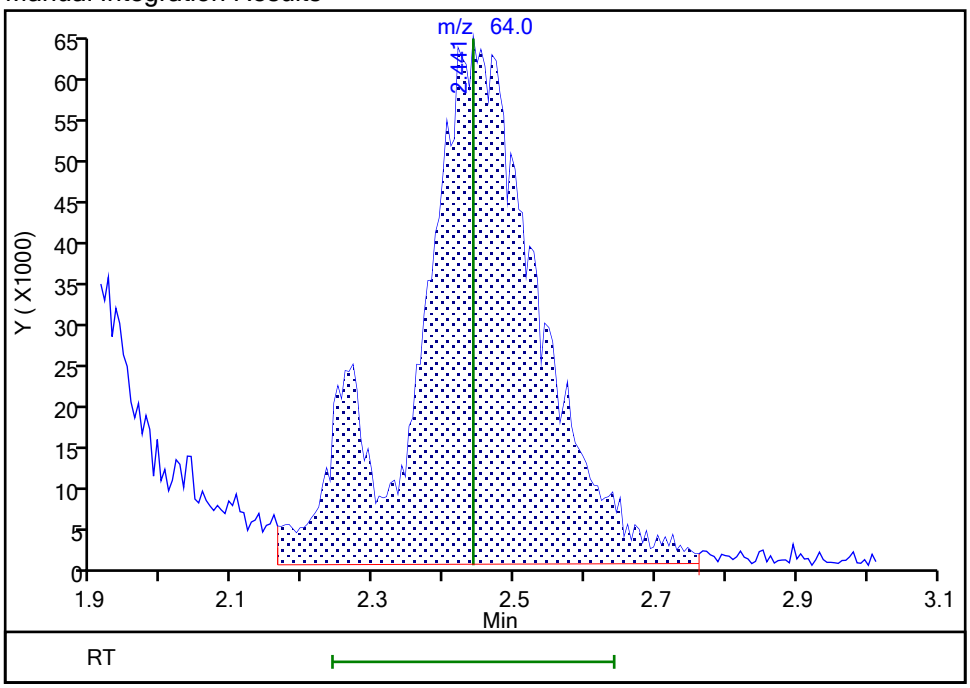

Reviewer: journetp, 14-Nov-2019 08:53:42
Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

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Injection Date:	14-Nov-2019 08:29:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	4	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

17 Trichlorofluoromethane, CAS: 75-69-4

Signal: 1

Processing Integration Results

RT: 2.55
Area: 488848
Amount: 60.899487
Amount Units: ng

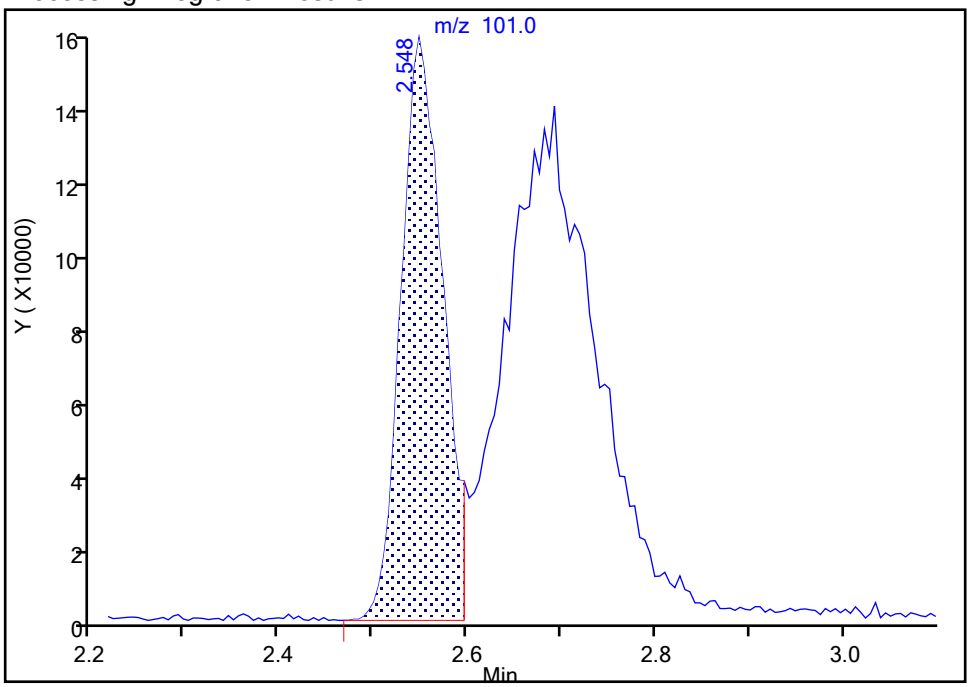

Manual Integration Results

RT: 2.55
Area: 1428649
Amount: 121.7346
Amount Units: ng

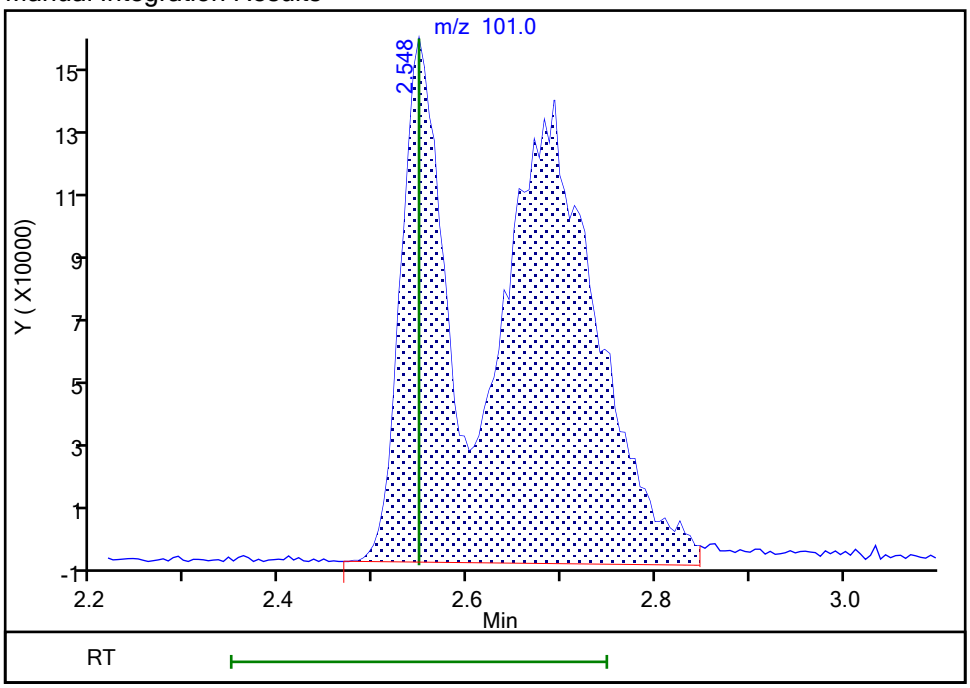

Reviewer: journetp, 14-Nov-2019 08:53:47

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

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Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	4	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

16 Dichlorofluoromethane, CAS: 75-43-4

Signal: 1

Processing Integration Results

RT: 2.68
Area: 1478702
Amount: 128.0368
Amount Units: ng

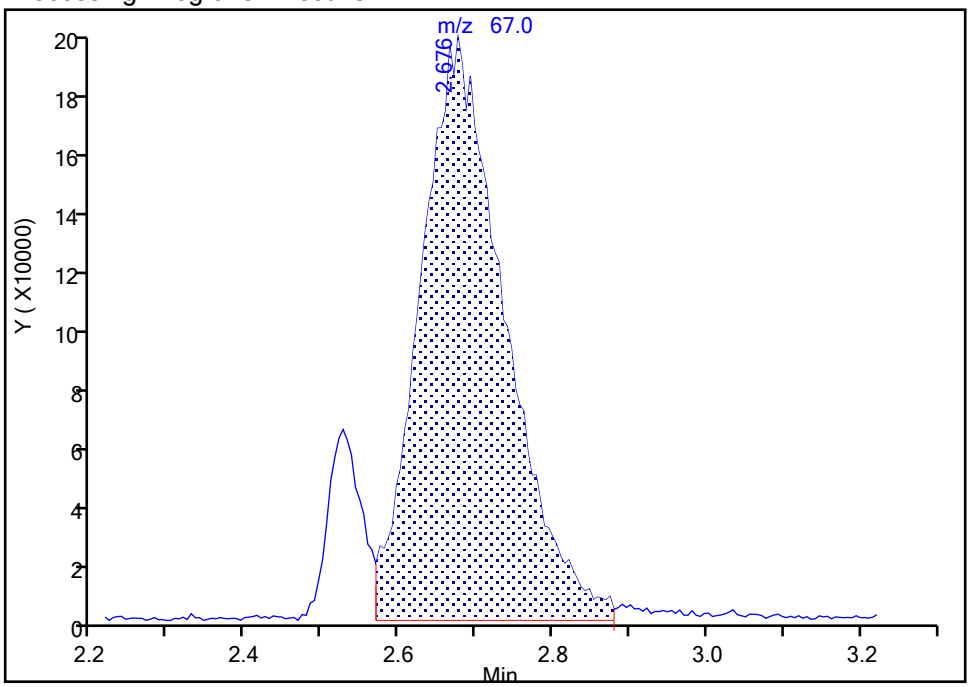

Manual Integration Results

RT: 2.68
Area: 1676509
Amount: 129.4255
Amount Units: ng

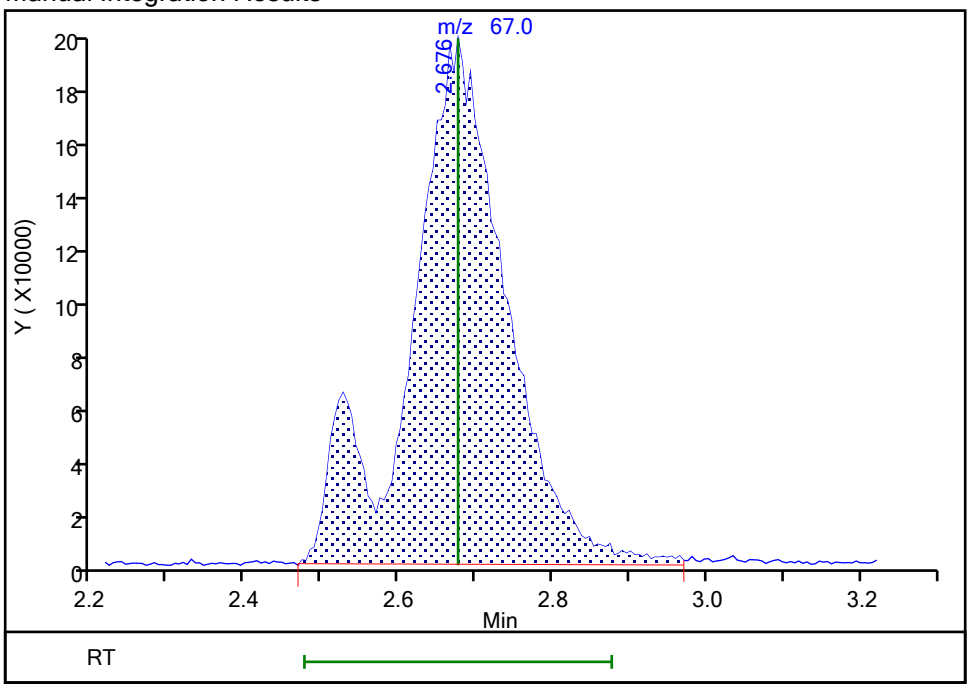

Reviewer: journetp, 14-Nov-2019 08:53:57

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114004.D				
Injection Date:	14-Nov-2019 08:29:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	4	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

21 1,1-Dichloroethene, CAS: 75-35-4

Signal: 1

Processing Integration Results

RT: 3.21
Area: 665957
Amount: 113.7439
Amount Units: ng

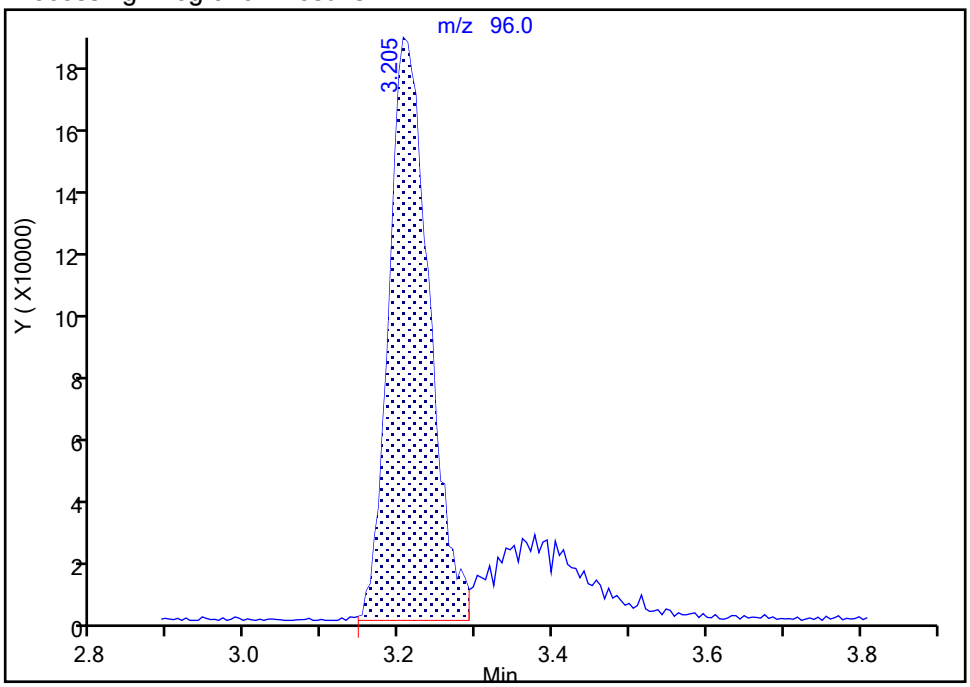

Manual Integration Results

RT: 3.21
Area: 853364
Amount: 121.6165
Amount Units: ng

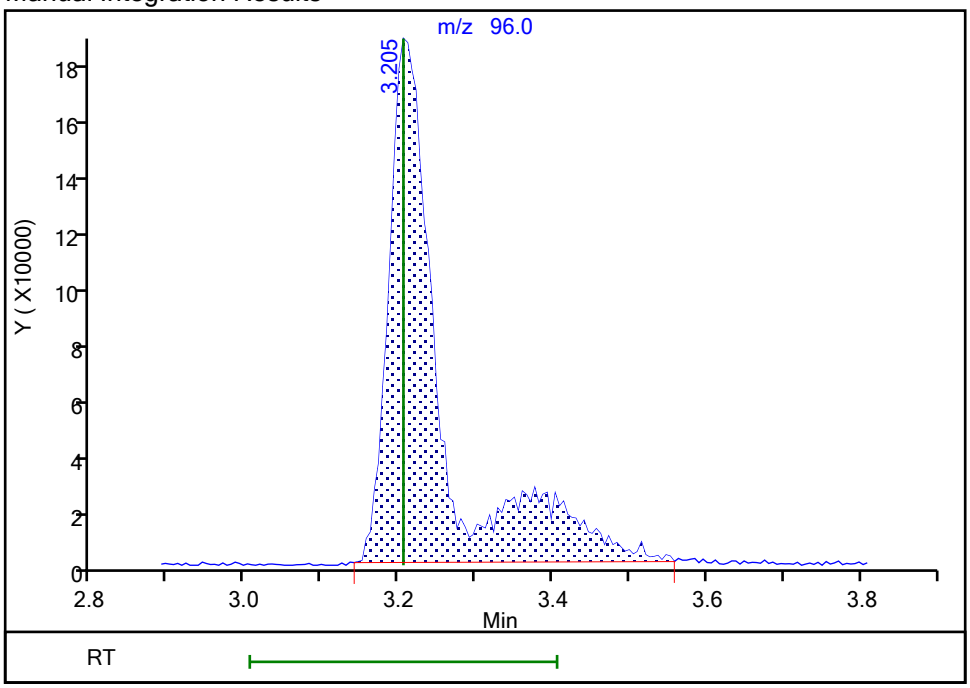

Reviewer: journetp, 14-Nov-2019 13:02:50
Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114004.D				
Injection Date:	14-Nov-2019 08:29:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	4	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

22 1,1,2-Trichloro-1,2,2-trifluoroethane, CAS: 76-13-1

Signal: 1

Processing Integration Results

RT: 3.45
Area: 777007
Amount: 120.6875
Amount Units: ng

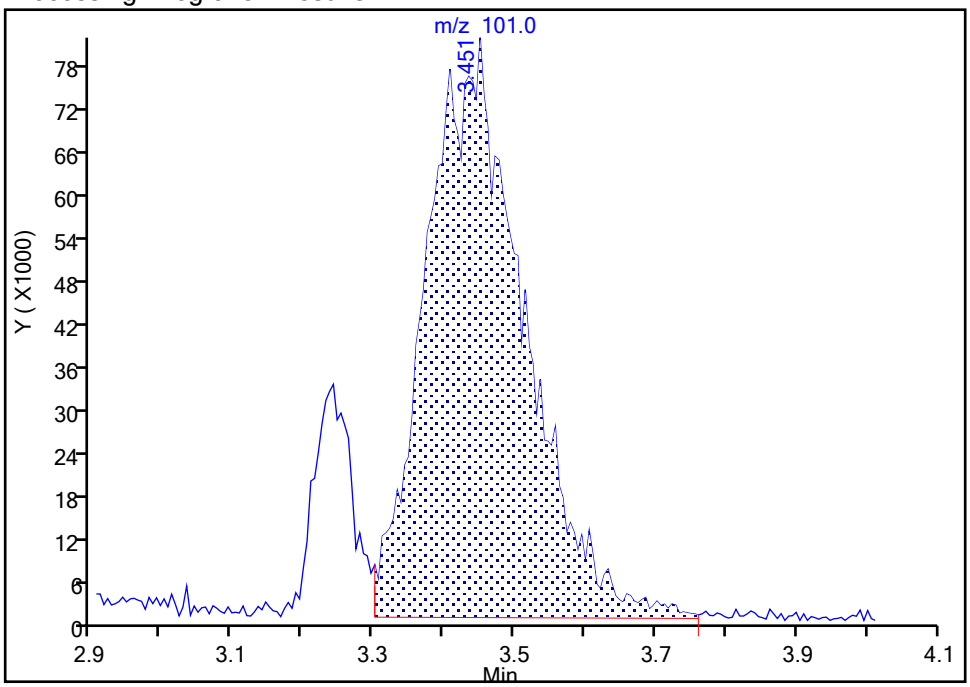

Manual Integration Results

RT: 3.45
Area: 890895
Amount: 119.8618
Amount Units: ng

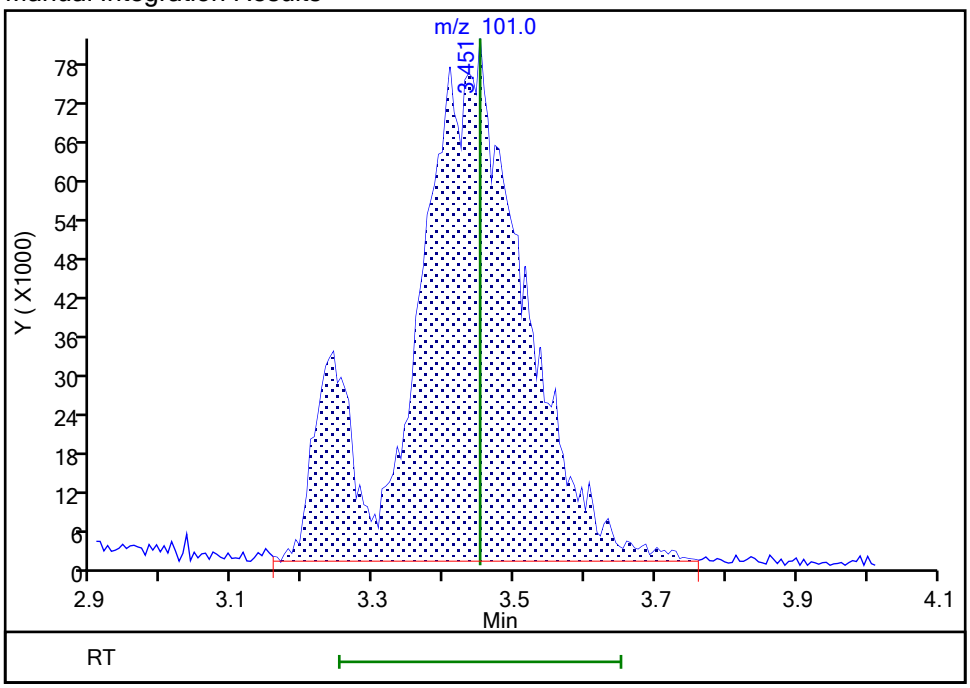

Reviewer: journetp, 14-Nov-2019 08:54:07

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114004.D				
Injection Date:	14-Nov-2019 08:29:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	4	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

25 Carbon disulfide, CAS: 75-15-0

Signal: 1

Processing Integration Results

RT: 3.49
Area: 1990261
Amount: 108.4834
Amount Units: ng

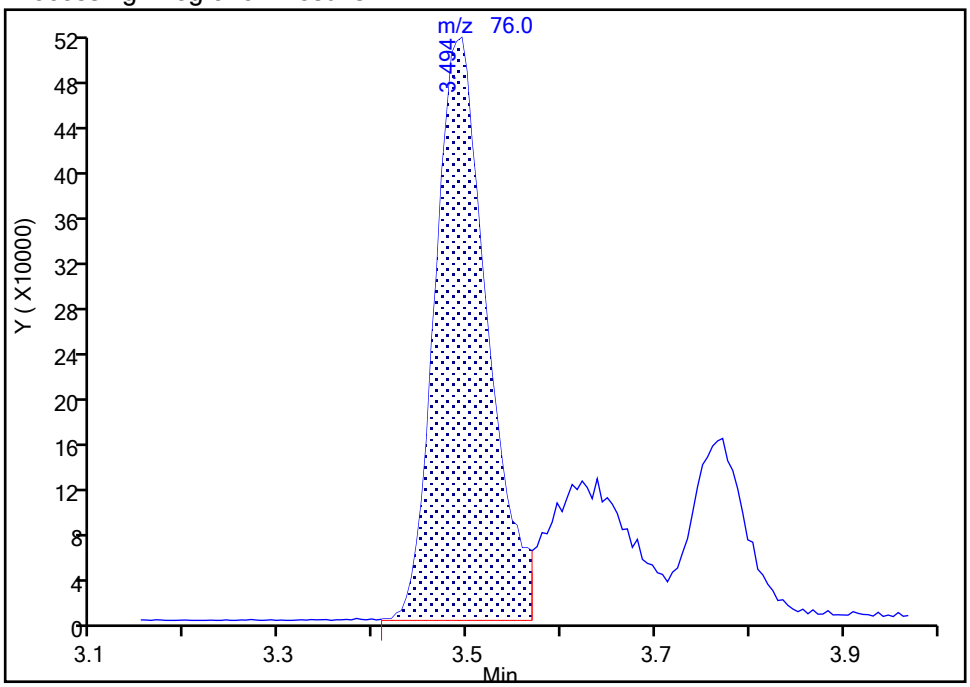

Manual Integration Results

RT: 3.49
Area: 2720075
Amount: 124.8814
Amount Units: ng

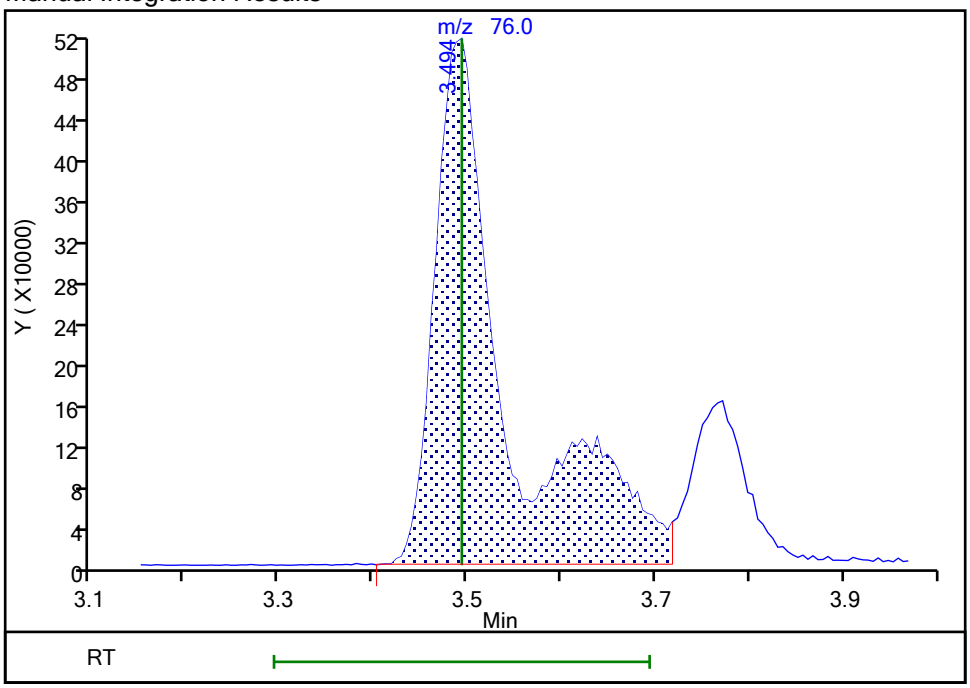

Reviewer: journetp, 14-Nov-2019 08:54:12

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114004.D				
Injection Date:	14-Nov-2019 08:29:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	4	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

72 4-Methyl-2-pentanone (MIBK), CAS: 108-10-1

Signal: 1

Processing Integration Results

RT: 8.70
Area: 318628
Amount: 102.7699
Amount Units: ng

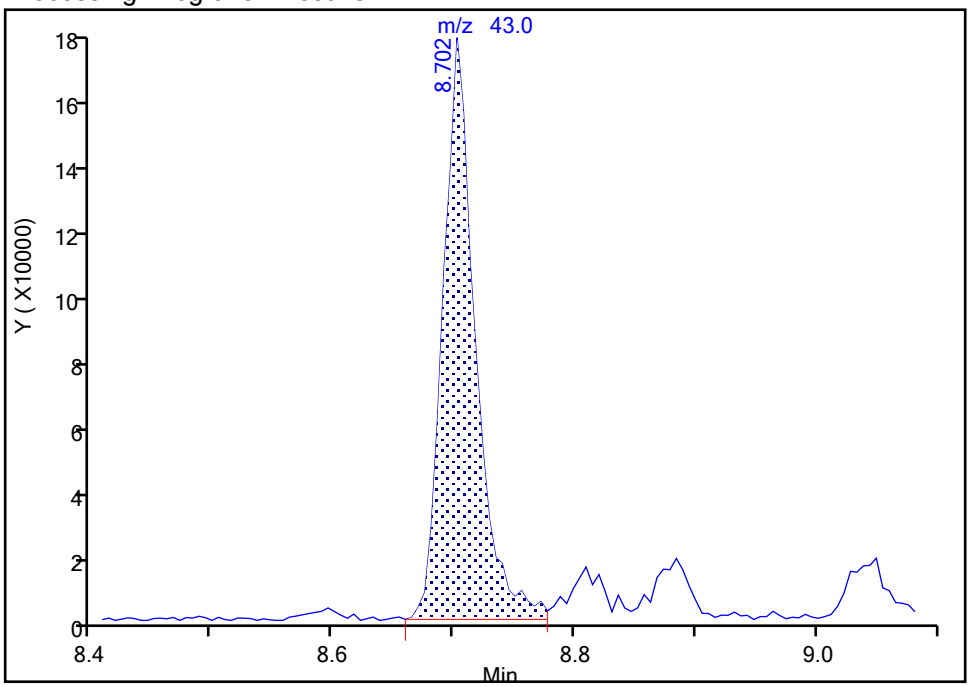

Manual Integration Results

RT: 8.70
Area: 345486
Amount: 115.0022
Amount Units: ng

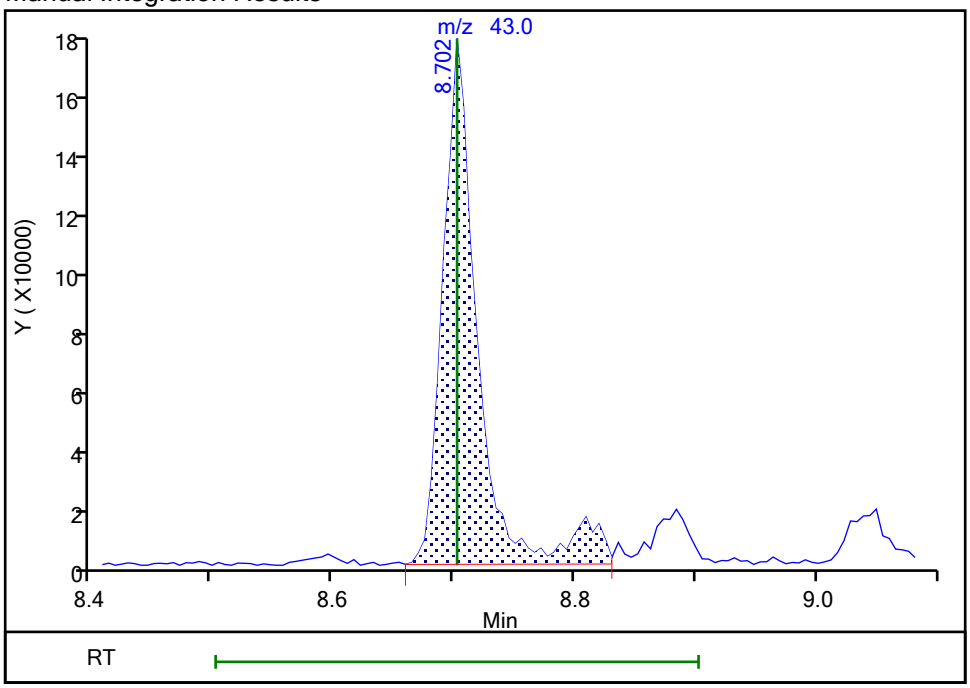

Reviewer: journetp, 14-Nov-2019 13:04:03

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114005.D
Lims ID: ICIS
Client ID:
Sample Type: ICIS Calib Level: 4
Inject. Date: 14-Nov-2019 11:09:30 ALS Bottle#: 5 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029543-005
Operator ID: 034635 Instrument ID: CHHP4
Sublist: chrom-MSVOA_CHHP4*sub156

Method: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\MSVOA_CHHP4.m
Limit Group: VOA 8260C_D ICAL
Last Update: 14-Nov-2019 14:40:13 Calib Date: 14-Nov-2019 12:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114008.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0329

First Level Reviewer: journetp Date: 14-Nov-2019 11:58:13

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.114	4.114	0.000	88	534213	5000.0	5000.0	
* 2 Fluorobenzene (IS)	96	7.153	7.153	0.000	98	3262633	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.273	10.273	0.000	97	799076	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.629	12.629	0.000	92	1137467	250.0	250.0	
$ 5 Dibromofluoromethane (Surr	113	6.422	6.422	0.000	0	1055204	200.0	193.5	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.801	6.801	0.000	0	976725	200.0	188.6	
$ 7 Toluene-d8 (Surr)	98	8.810	8.810	0.000	0	4383070	200.0	205.6	
$ 8 4-Bromofluorobenzene (Surr	95	11.470	11.470	0.000	0	1603079	200.0	200.8	
$ 141 Total BTEX	95		0.000				ND	ND	
10 Dichlorodifluoromethane	85	1.646	1.646	0.000	55	1432462	200.0	191.9	
11 Chloromethane	50	1.785	1.785	0.000	98	1316203	200.0	218.5	M
12 Vinyl chloride	62	1.918	1.918	0.000	82	1393125	200.0	187.8	M
13 Butadiene	39	1.950	1.950	0.000	94	1551522	200.0	194.2	M
14 Bromomethane	94	2.265	2.265	0.000	90	984515	200.0	206.3	M
15 Chloroethane	64	2.436	2.436	0.000	60	1085415	200.0	195.7	M
17 Trichlorofluoromethane	101	2.666	2.666	0.000	98	2046665	200.0	194.1	M
16 Dichlorofluoromethane	67	2.661	2.661	0.000	97	2220972	200.0	190.8	
19 Ethyl ether	59	2.928	2.928	0.000	88	702140	200.0	202.3	
21 1,1-Dichloroethene	96	3.211	3.211	0.000	99	1244547	200.0	189.7	
23 Acetone	43	3.307	3.307	0.000	97	346182	200.0	188.5	
24 Iodomethane	142	3.409	3.409	0.000	98	1378127	200.0	201.3	
22 1,1,2-Trichloro-1,2,2-trif	101	3.414	3.414	0.000	78	1271376	200.0	190.3	M
25 Carbon disulfide	76	3.489	3.489	0.000	100	3830235	200.0	195.7	M
28 3-Chloro-1-propene	76	3.761	3.761	0.000	92	937097	200.0	198.4	
29 Methyl acetate	43	3.788	3.788	0.000	97	686316	400.0	394.8	
30 Methylene Chloride	84	3.975	3.975	0.000	92	1254520	200.0	205.8	
31 2-Methyl-2-propanol	59	4.247	4.247	0.000	98	352006	2000.0	1756.9	
32 Acrylonitrile	53	4.370	4.370	0.000	99	1657964	2000.0	2096.8	
33 trans-1,2-Dichloroethene	96	4.408	4.408	0.000	99	1317625	200.0	208.0	
34 Methyl tert-butyl ether	73	4.424	4.424	0.000	95	1952793	200.0	214.3	
35 Hexane	57	4.830	4.830	0.000	94	2141766	200.0	199.5	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 1,1-Dichloroethane	63	5.049	5.049	0.000	96	2312004	200.0	208.8	
41 2,2-Dichloropropane	97	5.791	5.797	-0.006	89	301245	200.0	207.0	
42 cis-1,2-Dichloroethene	96	5.797	5.797	0.000	81	1378966	200.0	208.0	
43 2-Butanone (MEK)	43	5.813	5.813	0.000	38	367822	200.0	188.7	
46 Chlorobromomethane	128	6.090	6.090	0.000	95	521567	200.0	212.0	
48 Tetrahydrofuran	42	6.106	6.106	0.000	89	277931	400.0	420.8	
49 Chloroform	83	6.235	6.235	0.000	94	2005050	200.0	191.2	
50 1,1,1-Trichloroethane	97	6.395	6.395	0.000	98	1643051	200.0	200.0	
51 Cyclohexane	56	6.470	6.470	0.000	89	1745947	200.0	198.9	
53 Carbon tetrachloride	117	6.571	6.571	0.000	96	1520624	200.0	207.0	
52 1,1-Dichloropropene	75	6.587	6.587	0.000	95	1887936	200.0	205.5	
59 Isobutyl alcohol	41	6.785	6.785	0.000	78	320016	5000.0	4894.2	
54 Benzene	78	6.806	6.806	0.000	98	4613438	200.0	207.4	
55 1,2-Dichloroethane	62	6.886	6.886	0.000	97	1170076	200.0	217.8	
58 n-Heptane	43	7.169	7.169	0.000	88	1983161	200.0	199.6	
61 Trichloroethene	130	7.543	7.543	0.000	98	1387802	200.0	205.6	
63 Methylcyclohexane	83	7.784	7.784	0.000	88	2480138	200.0	203.5	
64 1,2-Dichloropropane	63	7.821	7.821	0.000	93	1180456	200.0	207.9	
65 Dibromomethane	93	7.907	7.907	0.000	95	464317	200.0	208.4	
67 1,4-Dioxane	88	7.912	7.912	0.000	34	104669	4000.0	3743.0	M
68 Dichlorobromomethane	83	8.104	8.104	0.000	98	1425396	200.0	212.7	
71 cis-1,3-Dichloropropene	75	8.553	8.553	0.000	96	1706620	200.0	211.2	
72 4-Methyl-2-pentanone (MIBK	43	8.703	8.703	0.000	95	580141	200.0	188.0	M
73 Toluene	91	8.879	8.879	0.000	95	4800272	200.0	214.3	
74 trans-1,3-Dichloropropene	75	9.135	9.135	0.000	94	1304359	200.0	222.2	
75 Ethyl methacrylate	69	9.194	9.194	0.000	89	857586	200.0	210.0	
76 1,1,2-Trichloroethane	97	9.328	9.328	0.000	92	692372	200.0	206.2	
77 Tetrachloroethene	164	9.397	9.397	0.000	96	1148368	200.0	207.1	
78 1,3-Dichloropropane	76	9.488	9.488	0.000	92	1295219	200.0	211.6	
79 2-Hexanone	43	9.541	9.541	0.000	97	467822	200.0	186.8	
81 Chlorodibromomethane	129	9.702	9.702	0.000	90	821345	200.0	211.2	
82 Ethylene Dibromide	107	9.814	9.814	0.000	98	626935	200.0	210.5	
84 Chlorobenzene	112	10.305	10.305	0.000	90	3049846	200.0	212.9	
85 1,1,1,2-Tetrachloroethane	131	10.396	10.396	0.000	95	1110274	200.0	212.8	
86 Ethylbenzene	106	10.401	10.401	0.000	95	1939416	200.0	212.4	
87 m-Xylene & p-Xylene	106	10.530	10.530	0.000	0	2449400	200.0	210.5	
88 o-Xylene	106	10.914	10.914	0.000	93	2184540	200.0	207.4	
89 Styrene	104	10.941	10.941	0.000	93	3242503	200.0	207.9	
90 Bromoform	173	11.123	11.123	0.000	96	413068	200.0	198.4	
91 Isopropylbenzene	105	11.283	11.283	0.000	97	4964527	200.0	198.2	
94 Bromobenzene	156	11.603	11.603	0.000	93	1213021	200.0	208.4	
93 1,1,2,2-Tetrachloroethane	83	11.598	11.598	0.000	91	672512	200.0	197.9	
96 trans-1,4-Dichloro-2-buten	53	11.635	11.635	0.000	79	126112	200.0	211.8	
95 1,2,3-Trichloropropane	110	11.657	11.657	0.000	86	217101	200.0	207.2	
97 N-Propylbenzene	120	11.705	11.705	0.000	94	1720366	200.0	208.5	
98 2-Chlorotoluene	126	11.790	11.790	0.000	96	1455586	200.0	218.2	
99 1,3,5-Trimethylbenzene	105	11.887	11.887	0.000	96	4473871	200.0	210.5	
100 4-Chlorotoluene	126	11.919	11.919	0.000	97	1402723	200.0	211.9	
101 tert-Butylbenzene	119	12.202	12.202	0.000	92	3950600	200.0	218.0	
103 1,2,4-Trimethylbenzene	105	12.261	12.261	0.000	96	4210917	200.0	213.9	
104 sec-Butylbenzene	105	12.426	12.426	0.000	95	5156998	200.0	187.6	
105 1,3-Dichlorobenzene	146	12.549	12.549	0.000	95	2313791	200.0	206.6	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
106 4-Isopropyltoluene	119	12.586	12.586	0.000	93	4482935	200.0	195.9	
107 1,4-Dichlorobenzene	146	12.651	12.651	0.000	94	2208151	200.0	202.8	
110 n-Butylbenzene	91	12.992	12.992	0.000	94	4215842	200.0	202.9	
111 1,2-Dichlorobenzene	146	13.003	13.003	0.000	94	1984160	200.0	197.0	
112 1,2-Dibromo-3-Chloropropan	75	13.804	13.804	0.000	84	111354	200.0	193.7	
113 1,2,4-Trichlorobenzene	180	14.627	14.627	0.000	95	1597957	200.0	203.3	
115 Hexachlorobutadiene	225	14.766	14.766	0.000	96	1197599	200.0	211.5	
116 Naphthalene	128	14.889	14.889	0.000	98	2229652	200.0	212.0	
117 1,2,3-Trichlorobenzene	180	15.113	15.113	0.000	94	1360381	200.0	206.6	
S 129 1,2-Dichloroethene, Total	96				0		400.0	416.0	
S 130 Xylenes, Total	106				0		400.0	417.9	
S 131 1,3-Dichloropropene, Total	1				0		400.0	433.4	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

Reagents:

VOA8260INT_00101	Amount Added: 10.00	Units: uL
VOA8260SURR_00101	Amount Added: 8.00	Units: uL
VOA8260VOAPRI_00380	Amount Added: 8.00	Units: uL

Report Date: 14-Nov-2019 14:40:15 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114005.D				
Injection Date:	14-Nov-2019 11:09:30	Instrument ID:	CHHP4	Operator ID:	034635
Lims ID:	ICIS			Worklist Smp#:	5
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

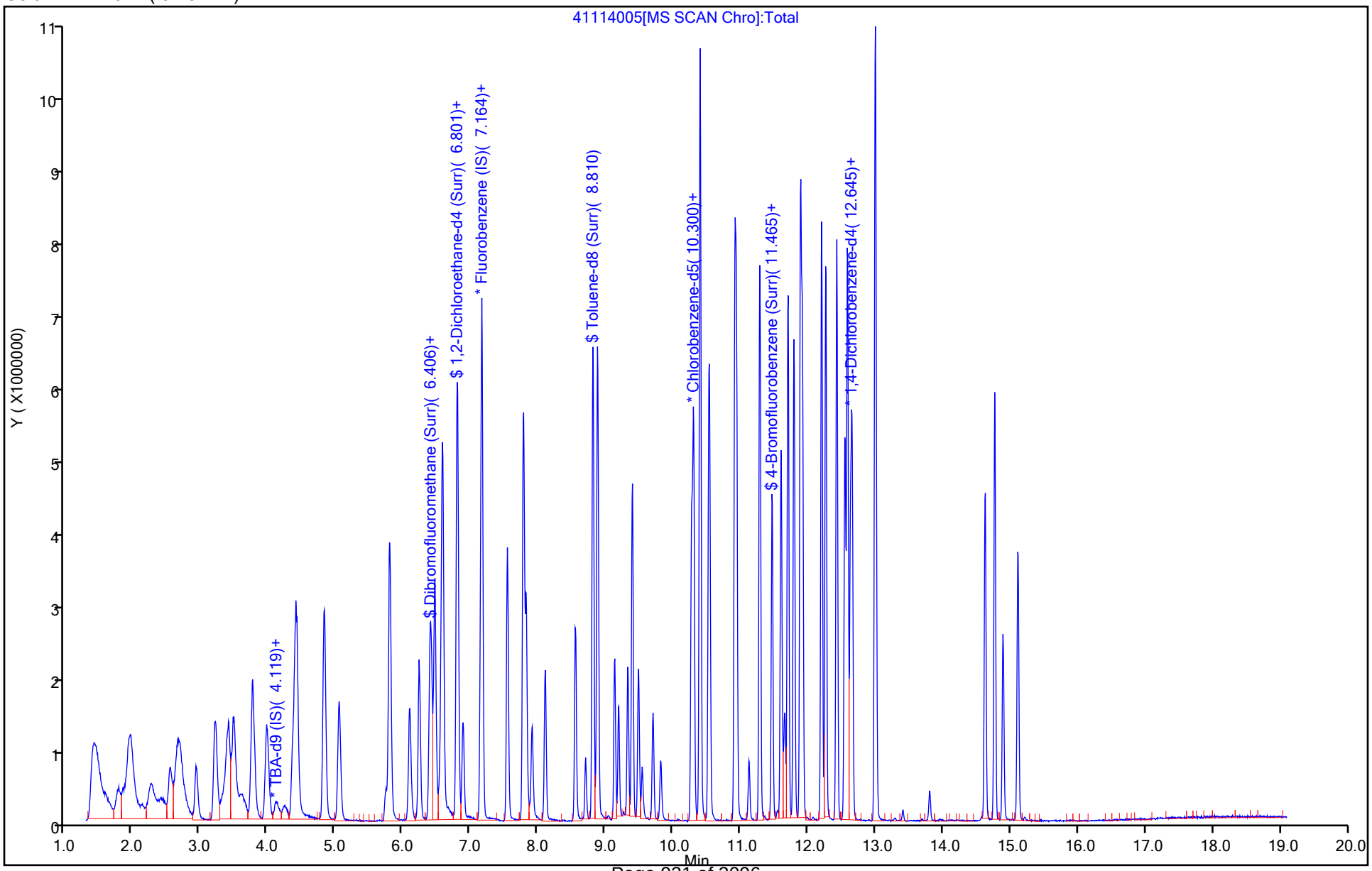

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114005.D				
Injection Date:	14-Nov-2019 11:09:30	Instrument ID:	CHHP4		
Lims ID:	ICIS				
Client ID:					
Operator ID:	034635	ALS Bottle#:	5	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

11 Chloromethane, CAS: 74-87-3

Signal: 1

Processing Integration Results

RT: 1.78
Area: 1200049
Amount: 220.4050
Amount Units: ng

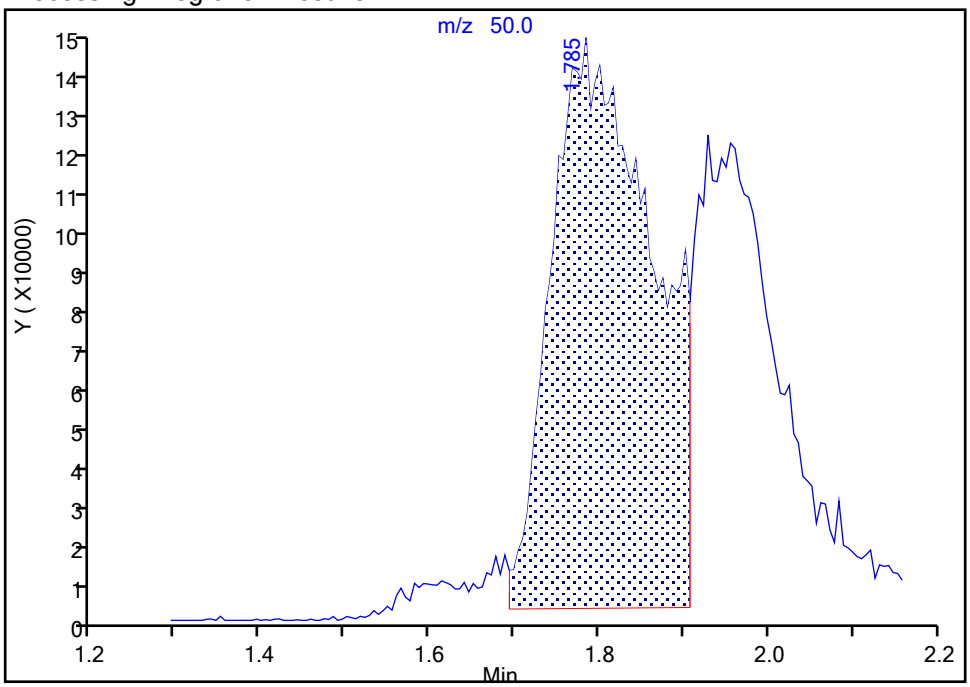

Manual Integration Results

RT: 1.78
Area: 1316203
Amount: 218.5133
Amount Units: ng

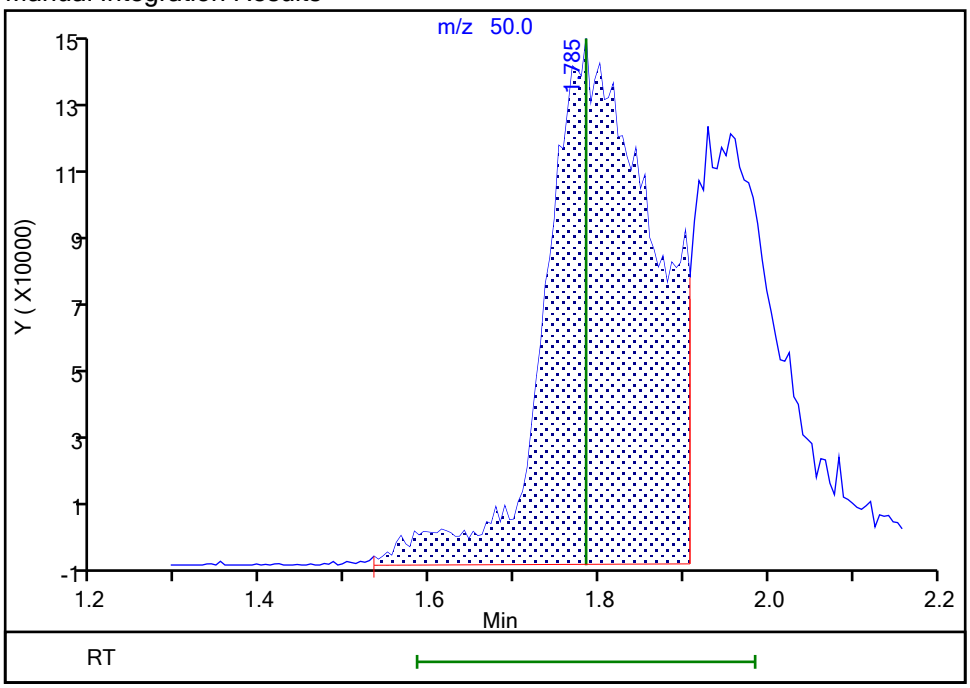

Reviewer: journetp, 14-Nov-2019 11:46:23

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114005.D				
Injection Date:	14-Nov-2019 11:09:30	Instrument ID:	CHHP4		
Lims ID:	ICIS				
Client ID:					
Operator ID:	034635	ALS Bottle#:	5	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

12 Vinyl chloride, CAS: 75-01-4

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 1.92

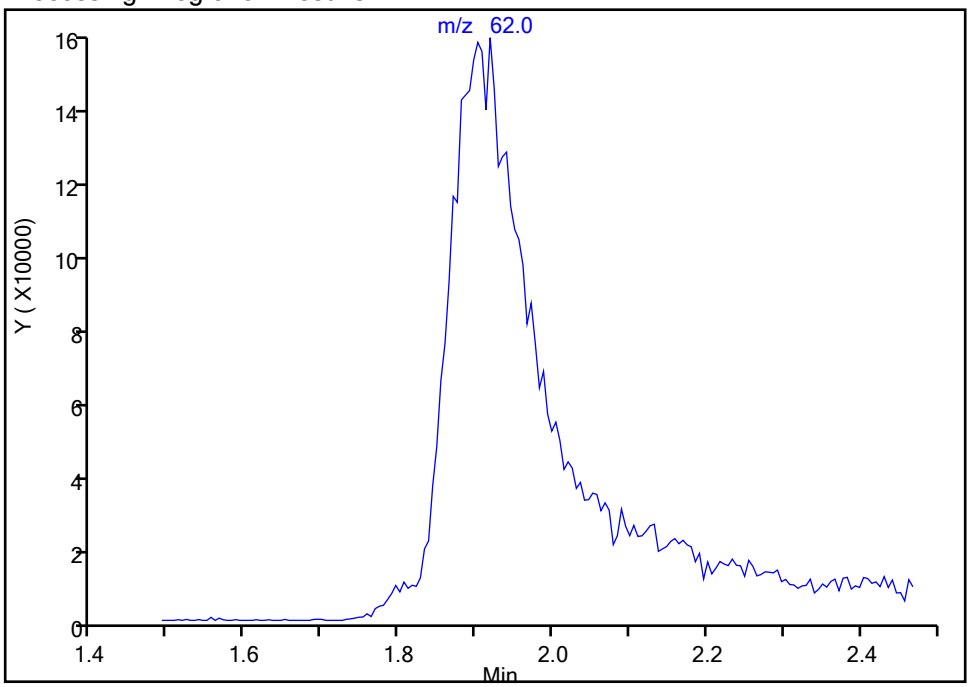

Manual Integration Results

RT: 1.92
Area: 1393125
Amount: 187.8137
Amount Units: ng

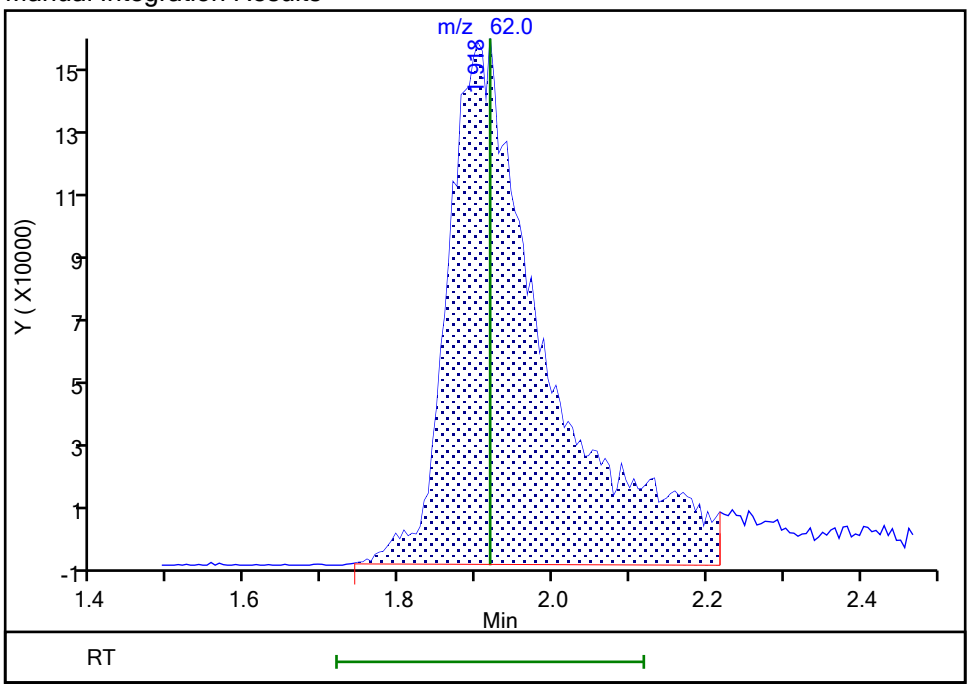

Reviewer: journetp, 14-Nov-2019 11:46:29
Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114005.D				
Injection Date:	14-Nov-2019 11:09:30	Instrument ID:	CHHP4		
Lims ID:	ICIS				
Client ID:					
Operator ID:	034635	ALS Bottle#:	5	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

13 Butadiene, CAS: 106-99-0

Signal: 1

Processing Integration Results

RT: 1.95
Area: 1427175
Amount: 190.3031
Amount Units: ng

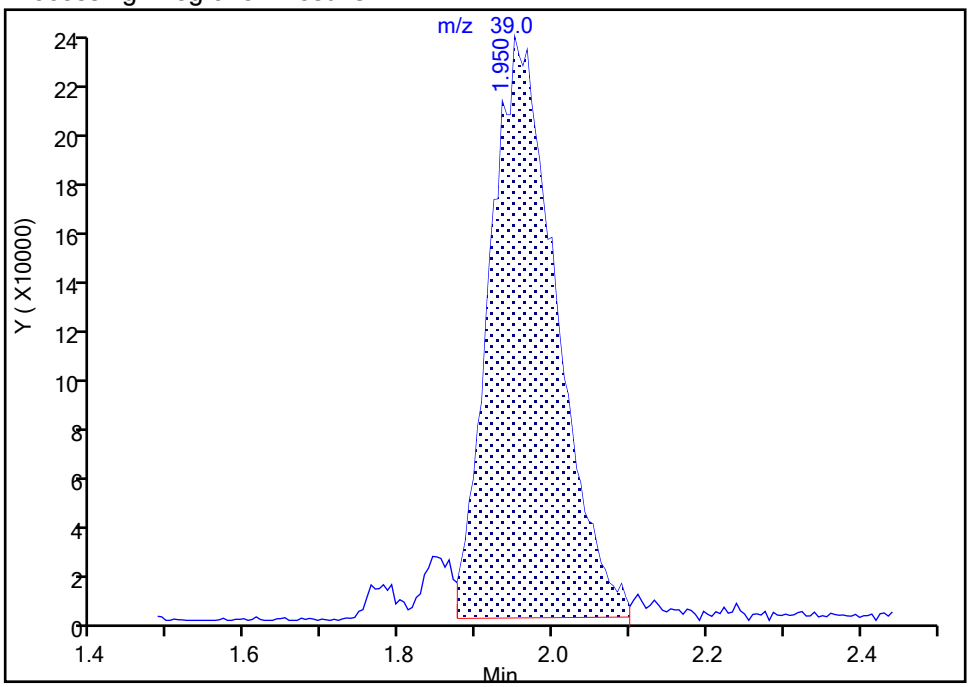

Manual Integration Results

RT: 1.95
Area: 1551522
Amount: 194.1735
Amount Units: ng

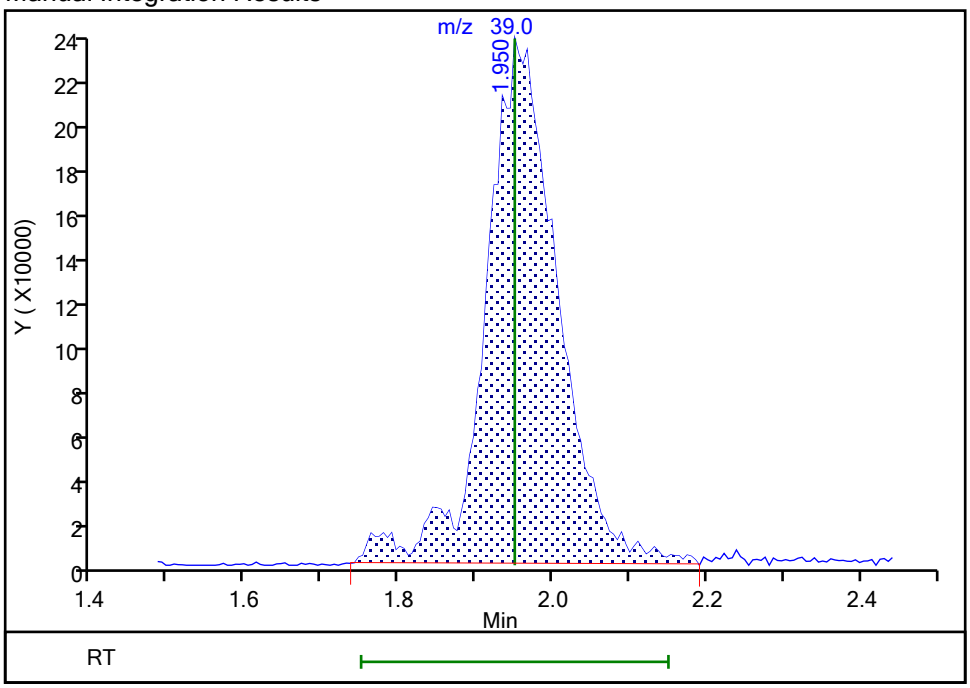

Reviewer: journetp, 14-Nov-2019 11:46:36

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114005.D				
Injection Date:	14-Nov-2019 11:09:30	Instrument ID:	CHHP4		
Lims ID:	ICIS				
Client ID:					
Operator ID:	034635	ALS Bottle#:	5	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

14 Bromomethane, CAS: 74-83-9

Signal: 1

Processing Integration Results

RT: 2.27
Area: 939800
Amount: 211.8274
Amount Units: ng

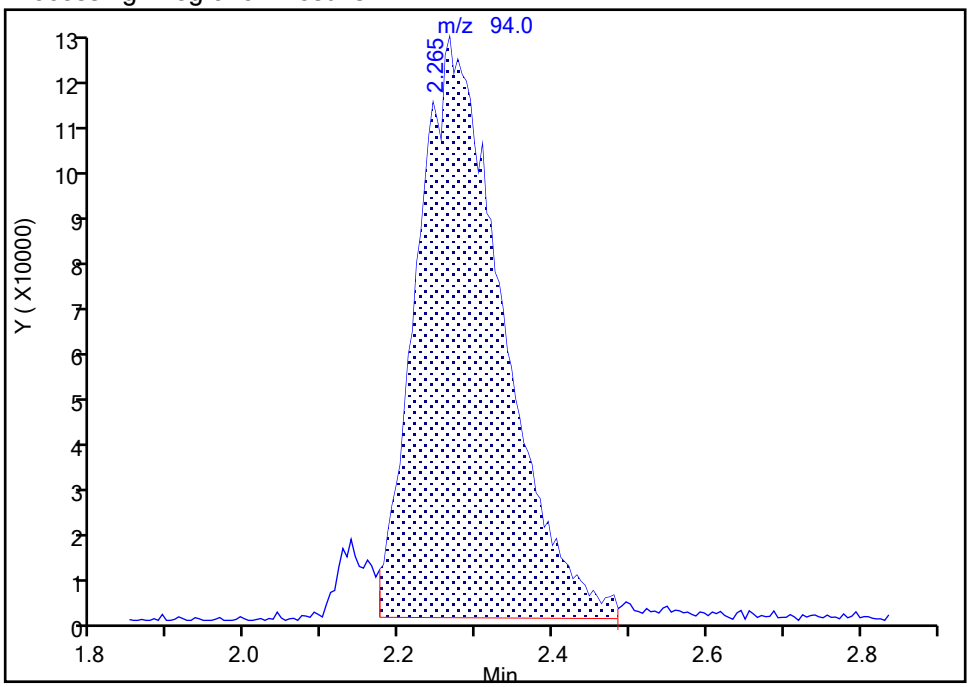

Manual Integration Results

RT: 2.27
Area: 984515
Amount: 206.2865
Amount Units: ng

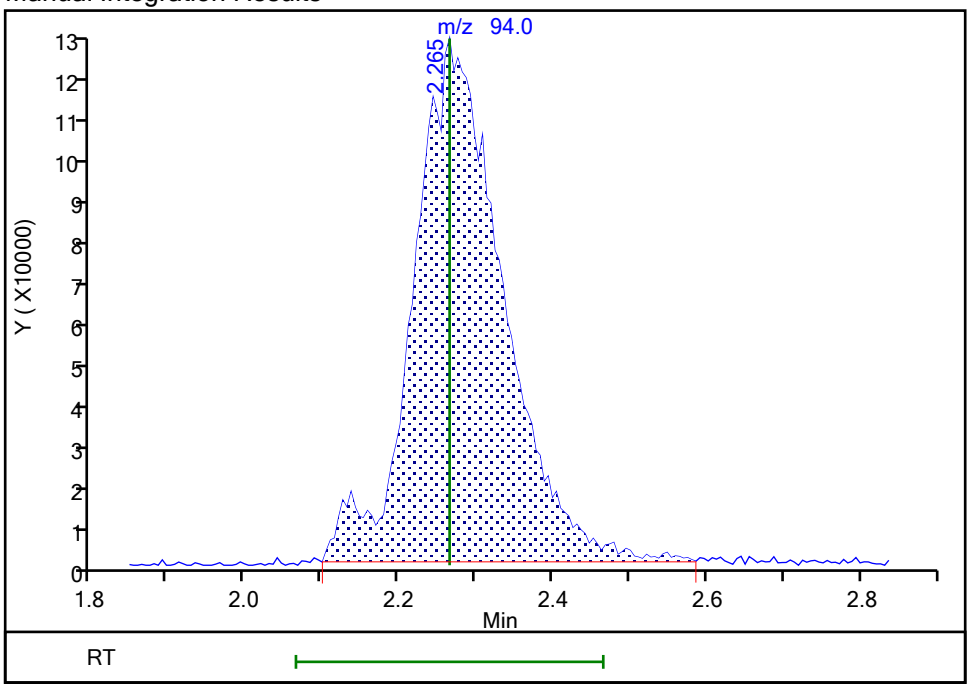

Reviewer: journetp, 14-Nov-2019 11:46:58

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114005.D				
Injection Date:	14-Nov-2019 11:09:30	Instrument ID:	CHHP4		
Lims ID:	ICIS				
Client ID:					
Operator ID:	034635	ALS Bottle#:	5	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

15 Chloroethane, CAS: 75-00-3

Signal: 1

Processing Integration Results

RT: 2.26
Area: 110080
Amount: 12.208012
Amount Units: ng

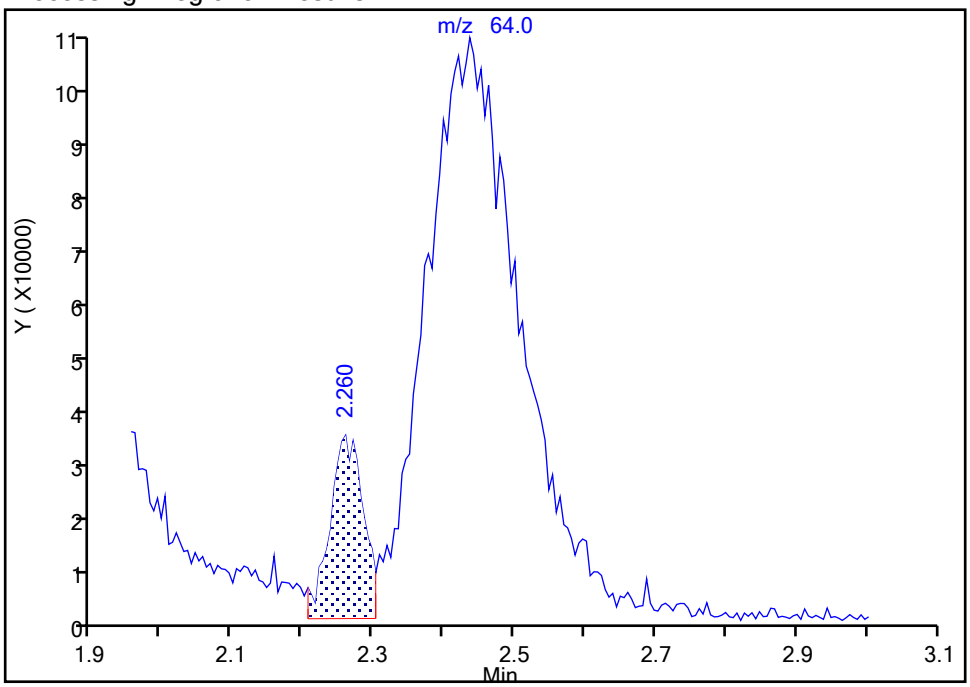

Manual Integration Results

RT: 2.44
Area: 1085415
Amount: 195.7069
Amount Units: ng

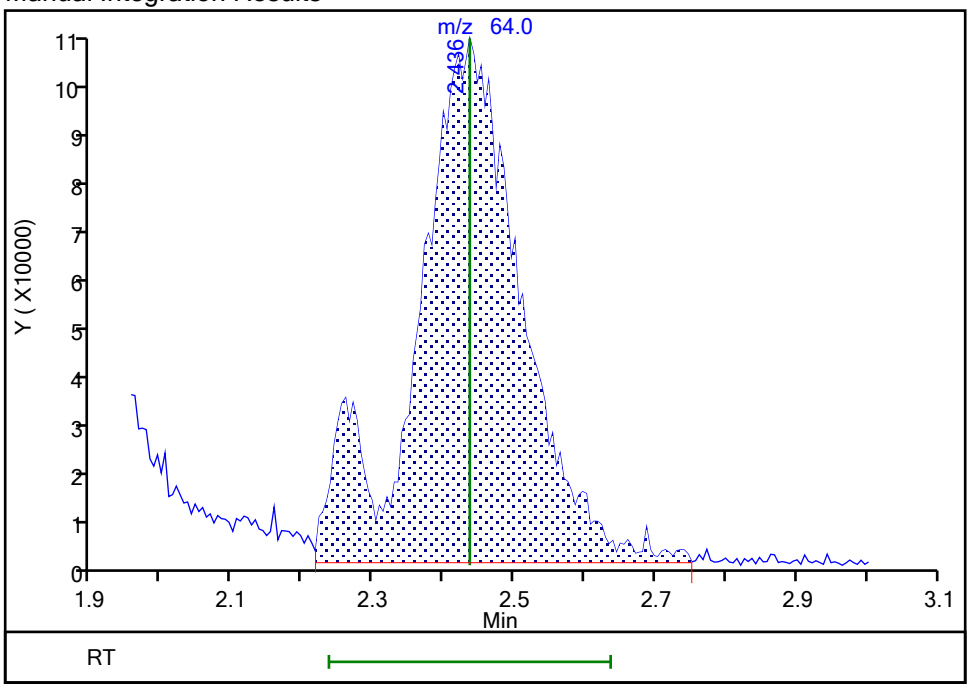

Reviewer: journetp, 14-Nov-2019 11:46:49

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114005.D				
Injection Date:	14-Nov-2019 11:09:30	Instrument ID:	CHHP4		
Lims ID:	ICIS				
Client ID:					
Operator ID:	034635	ALS Bottle#:	5	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

17 Trichlorofluoromethane, CAS: 75-69-4

Signal: 1

Processing Integration Results

RT: 2.54
Area: 675355
Amount: 81.377469
Amount Units: ng

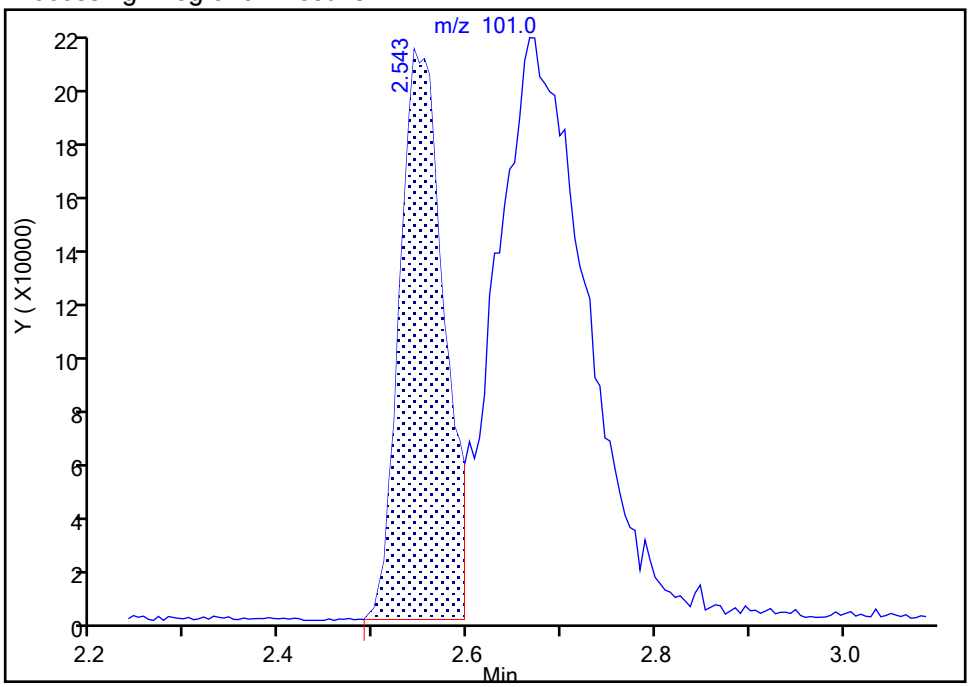

Manual Integration Results

RT: 2.67
Area: 2046665
Amount: 194.0542
Amount Units: ng

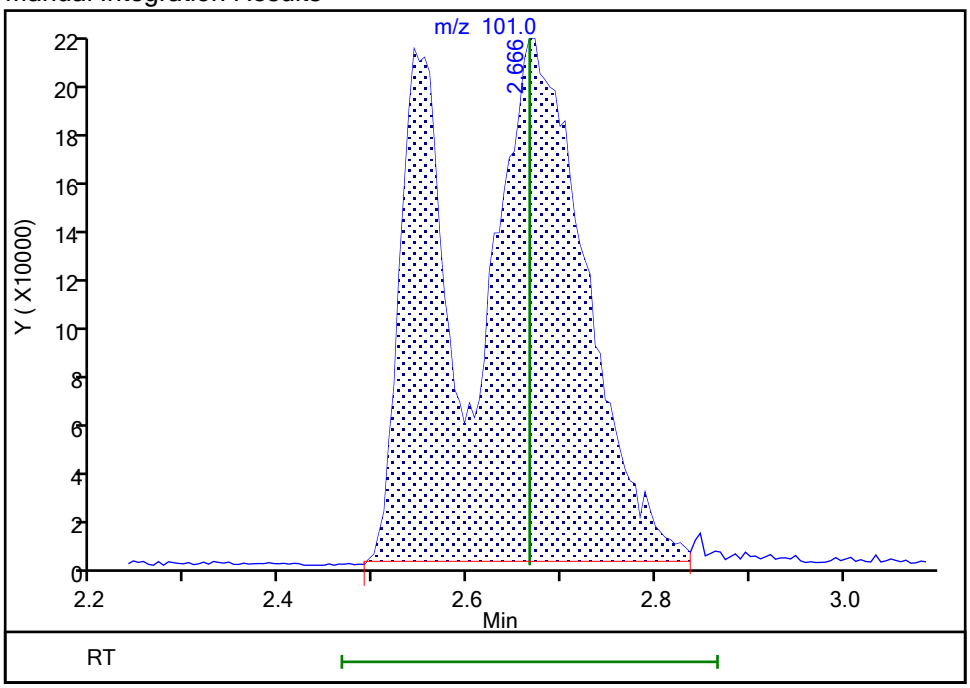

Reviewer: journetp, 14-Nov-2019 11:47:10

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114005.D				
Injection Date:	14-Nov-2019 11:09:30	Instrument ID:	CHHP4		
Lims ID:	ICIS				
Client ID:					
Operator ID:	034635	ALS Bottle#:	5	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

22 1,1,2-Trichloro-1,2,2-trifluoroethane, CAS: 76-13-1

Signal: 1

Processing Integration Results

RT: 3.41
Area: 1081174
Amount: 181.9302
Amount Units: ng

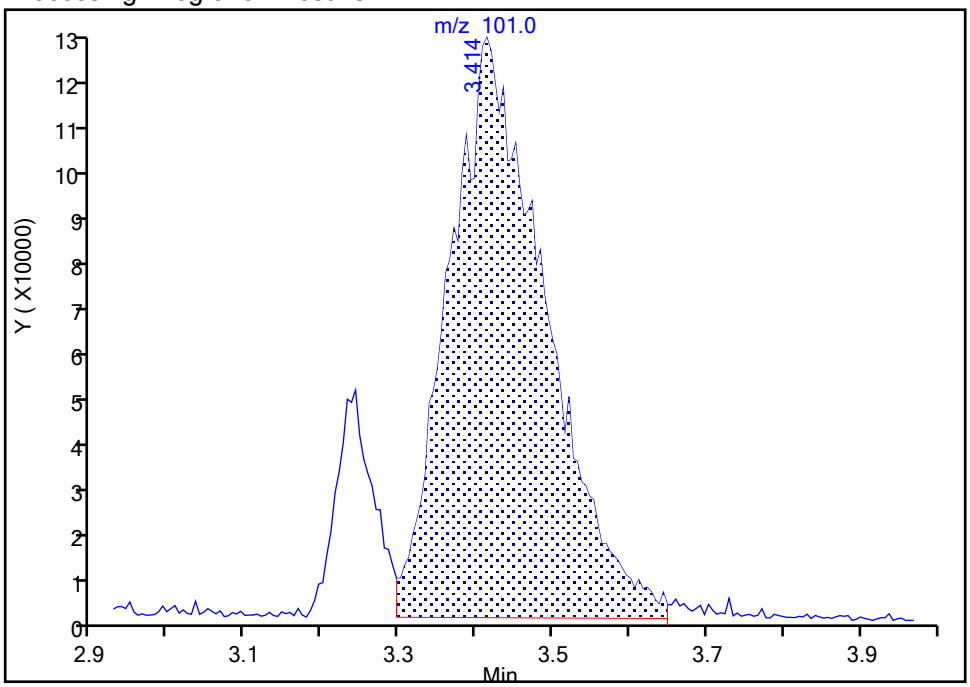

Manual Integration Results

RT: 3.41
Area: 1271376
Amount: 190.3339
Amount Units: ng

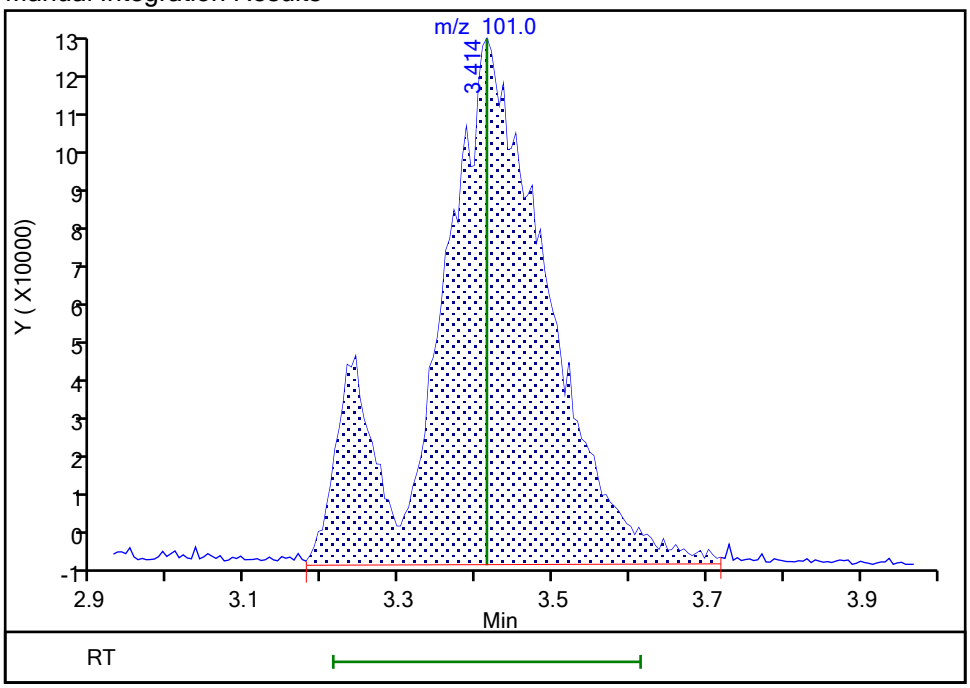

Reviewer: journetp, 14-Nov-2019 11:47:23

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114005.D				
Injection Date:	14-Nov-2019 11:09:30	Instrument ID:	CHHP4		
Lims ID:	ICIS				
Client ID:					
Operator ID:	034635	ALS Bottle#:	5	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

25 Carbon disulfide, CAS: 75-15-0

Signal: 1

Processing Integration Results

RT: 3.49
Area: 2933298
Amount: 167.9508
Amount Units: ng

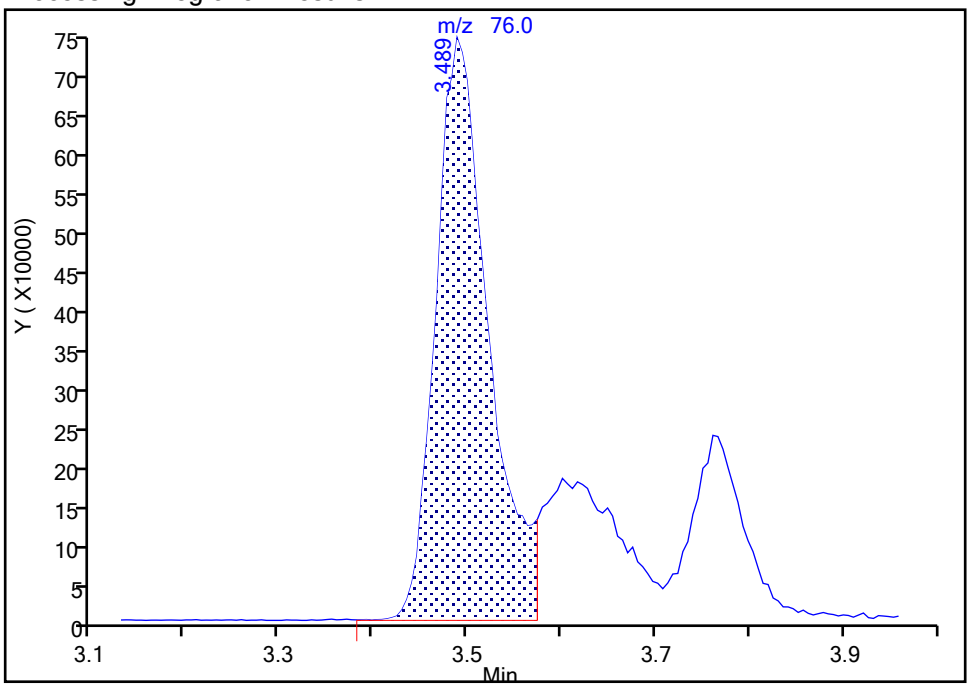

Manual Integration Results

RT: 3.49
Area: 3830235
Amount: 195.6726
Amount Units: ng

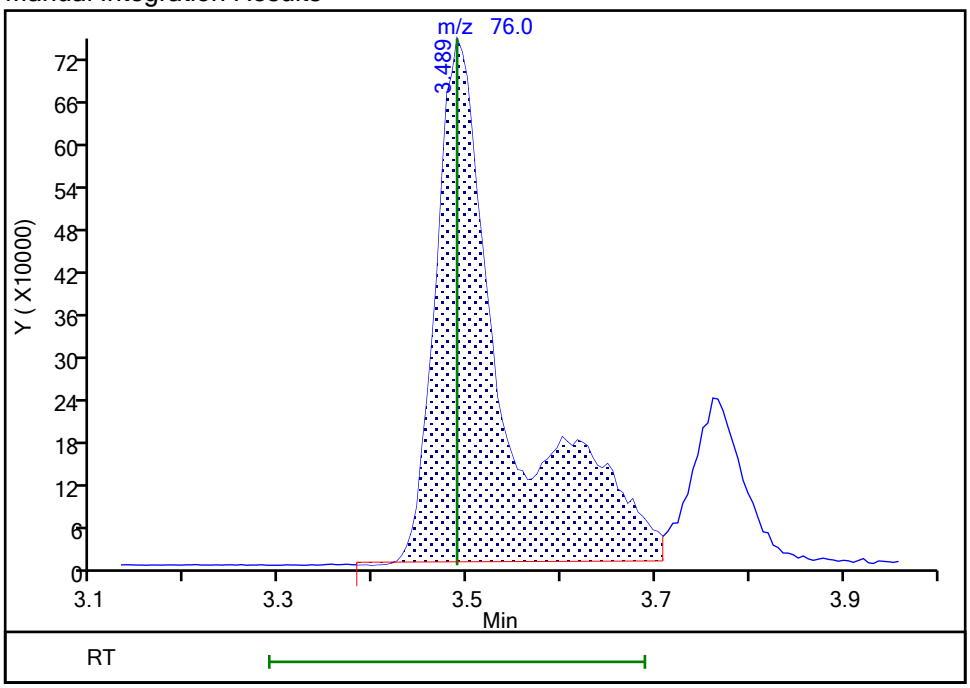

Reviewer: journetp, 14-Nov-2019 11:47:36

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114005.D				
Injection Date:	14-Nov-2019 11:09:30	Instrument ID:	CHHP4		
Lims ID:	ICIS				
Client ID:					
Operator ID:	034635	ALS Bottle#:	5	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

67 1,4-Dioxane, CAS: 123-91-1

Signal: 1

Processing Integration Results

RT: 7.91
Area: 90943
Amount: 4026.0452
Amount Units: ng

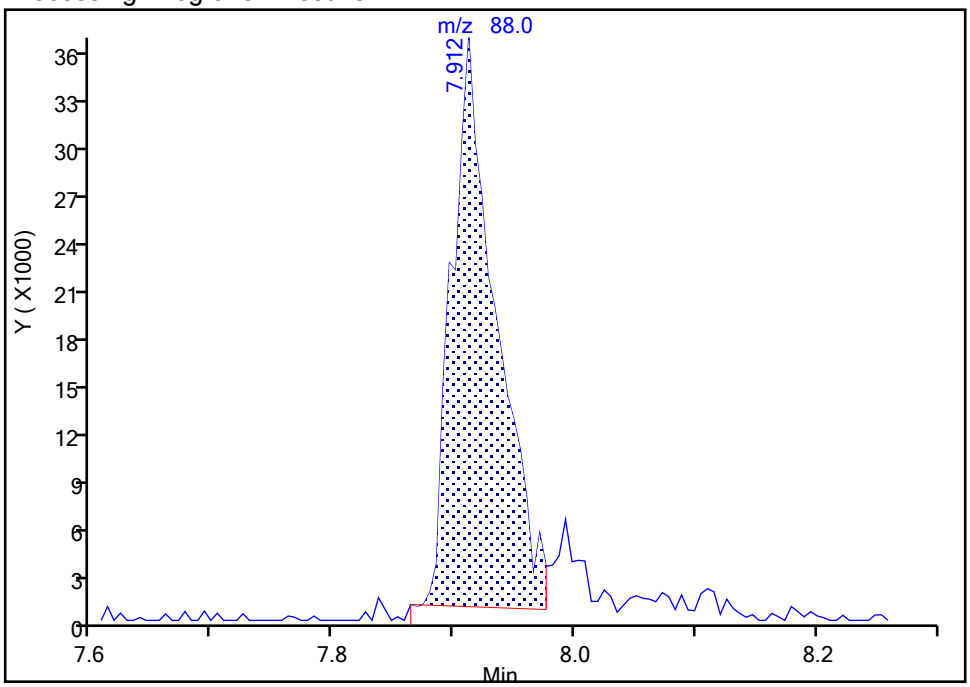

Manual Integration Results

RT: 7.91
Area: 104669
Amount: 3742.9812
Amount Units: ng

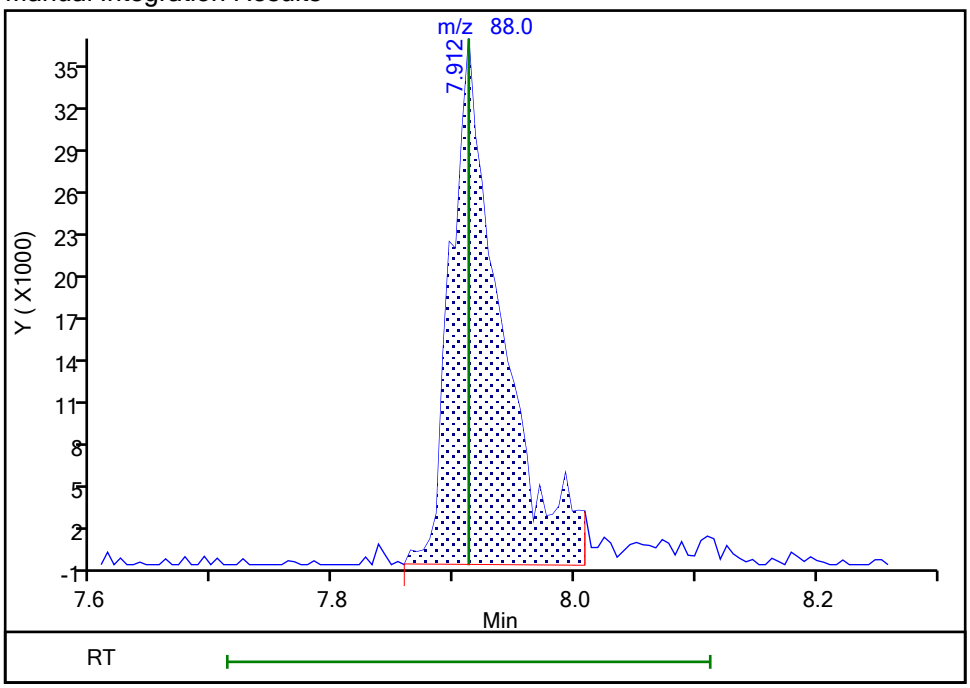

Reviewer: journetp, 14-Nov-2019 13:54:18

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114005.D				
Injection Date:	14-Nov-2019 11:09:30	Instrument ID:	CHHP4		
Lims ID:	ICIS				
Client ID:					
Operator ID:	034635	ALS Bottle#:	5	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

72 4-Methyl-2-pentanone (MIBK), CAS: 108-10-1

Signal: 1

Processing Integration Results

RT: 8.70
Area: 549724
Amount: 188.1627
Amount Units: ng

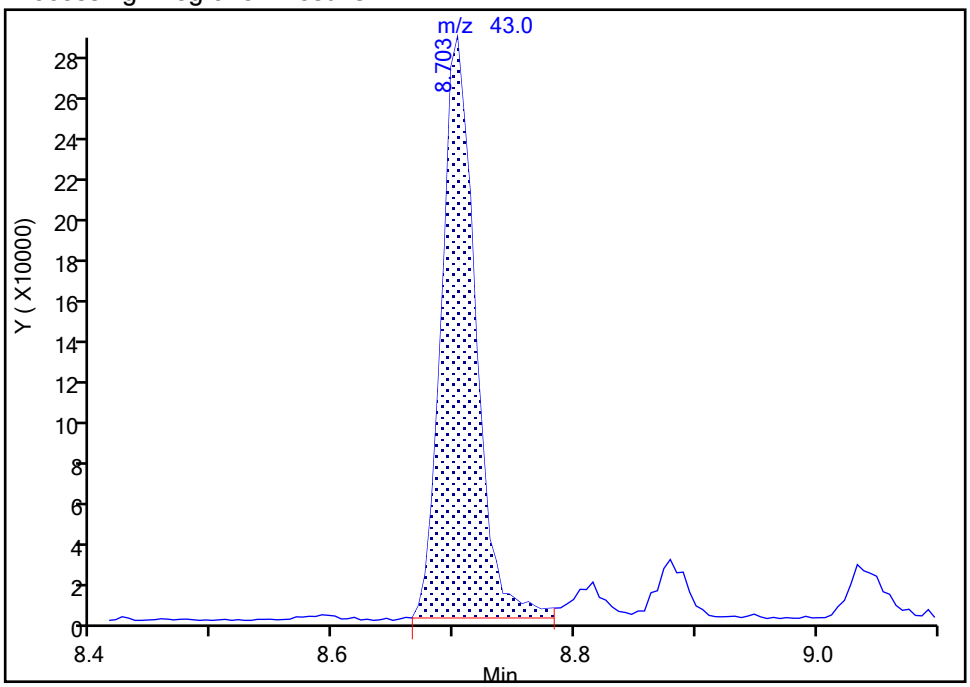

Manual Integration Results

RT: 8.70
Area: 580141
Amount: 187.9669
Amount Units: ng

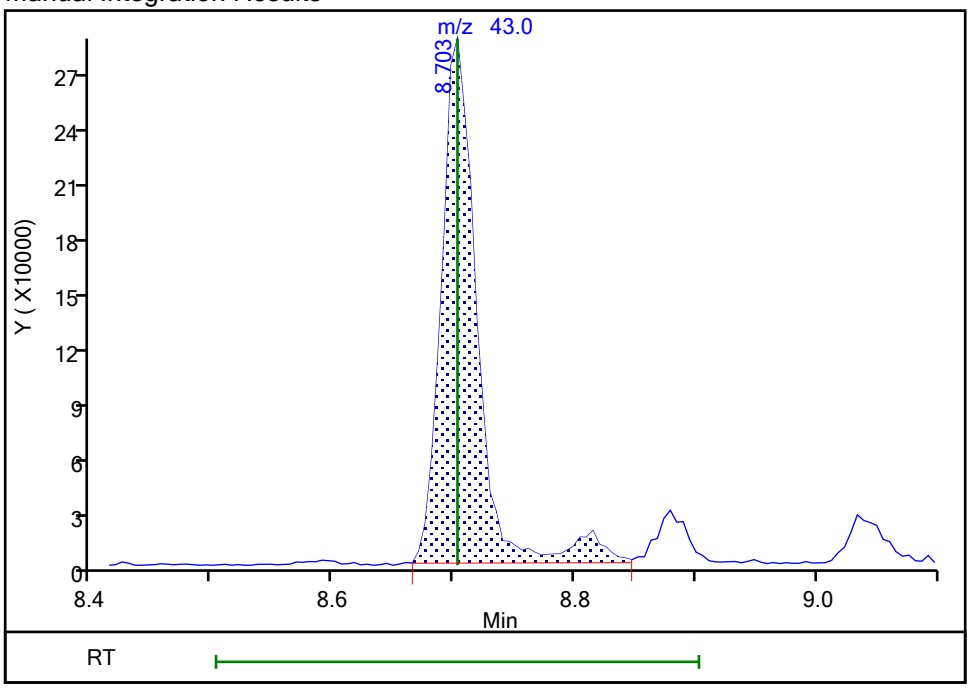

Reviewer: journetp, 14-Nov-2019 13:57:50

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114006.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 14-Nov-2019 11:35:30 ALS Bottle#: 6 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029543-006
Operator ID: 034635 Instrument ID: CHHP4
Sublist: chrom-MSVOA_CHHP4*sub156

Method: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\MSVOA_CHHP4.m
Limit Group: VOA 8260C_D ICAL
Last Update: 14-Nov-2019 14:40:19 Calib Date: 14-Nov-2019 12:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114008.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0329

First Level Reviewer: journetp Date: 14-Nov-2019 12:04:58

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.131	4.114	0.017	90	526768	5000.0	5000.0	
* 2 Fluorobenzene (IS)	96	7.149	7.153	-0.004	99	3558342	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.274	10.273	0.001	98	830679	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.625	12.629	-0.004	93	1303073	250.0	250.0	
$ 5 Dibromofluoromethane (Surr	113	6.422	6.422	0.000	0	1449094	250.0	243.6	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.796	6.801	-0.005	0	1285393	250.0	227.6	
$ 7 Toluene-d8 (Surr)	98	8.810	8.810	0.000	0	5502392	250.0	248.3	
$ 8 4-Bromofluorobenzene (Surr	95	11.465	11.470	-0.005	0	2154771	250.0	259.6	
$ 141 Total BTEX	95		0.000				ND	ND	
10 Dichlorodifluoromethane	85	1.599	1.646	-0.048	31	1916643	250.0	235.5	M
11 Chloromethane	50	1.796	1.785	0.011	98	1519965	250.0	231.4	M
12 Vinyl chloride	62	1.908	1.918	-0.010	51	2268412	250.0	280.4	M
13 Butadiene	39	1.956	1.950	0.006	94	2165285	250.0	248.5	M
14 Bromomethane	94	2.272	2.265	0.007	91	1258178	250.0	241.7	M
15 Chloroethane	64	2.437	2.436	0.001	60	1459346	250.0	239.9	M
16 Dichlorofluoromethane	67	2.678	2.661	0.017	94	3239859	250.0	255.2	M
17 Trichlorofluoromethane	101	2.678	2.666	0.012	99	2828516	250.0	245.9	M
19 Ethyl ether	59	2.934	2.928	0.006	88	879349	250.0	232.4	
21 1,1-Dichloroethene	96	3.212	3.211	0.001	98	1740579	250.0	239.7	M
23 Acetone	43	3.319	3.307	0.012	99	527637	250.0	263.4	
24 Iodomethane	142	3.409	3.409	0.000	99	1726694	250.0	231.2	
22 1,1,2-Trichloro-1,2,2-trif	101	3.420	3.414	0.006	60	1857161	250.0	254.9	M
25 Carbon disulfide	76	3.495	3.489	0.006	99	5435196	250.0	254.6	M
28 3-Chloro-1-propene	76	3.767	3.761	0.006	91	1306067	250.0	253.5	
29 Methyl acetate	43	3.789	3.788	0.001	54	889467	500.0	469.2	
30 Methylene Chloride	84	3.981	3.975	0.006	89	1468811	250.0	220.9	
31 2-Methyl-2-propanol	59	4.243	4.247	-0.004	98	443014	2500.0	2242.3	
32 Acrylonitrile	53	4.366	4.370	-0.004	98	2020899	2500.0	2343.5	
33 trans-1,2-Dichloroethene	96	4.414	4.408	0.006	98	1738035	250.0	251.6	
34 Methyl tert-butyl ether	73	4.419	4.424	-0.005	85	2263824	250.0	227.8	
35 Hexane	57	4.836	4.830	0.006	94	2894109	250.0	247.2	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 1,1-Dichloroethane	63	5.055	5.049	0.006	95	2909139	250.0	240.9	
41 2,2-Dichloropropane	97	5.797	5.797	0.000	91	398449	250.0	251.0	
42 cis-1,2-Dichloroethene	96	5.803	5.797	0.006	81	1761117	250.0	243.5	
43 2-Butanone (MEK)	43	5.813	5.813	0.000	98	591814	250.0	278.3	
46 Chlorobromomethane	128	6.091	6.090	0.001	96	638327	250.0	237.9	
48 Tetrahydrofuran	42	6.118	6.106	0.012	88	325248	500.0	451.6	
49 Chloroform	83	6.241	6.235	0.006	93	2673306	250.0	233.8	
50 1,1,1-Trichloroethane	97	6.401	6.395	0.006	98	2231896	250.0	249.1	
51 Cyclohexane	56	6.471	6.470	0.001	90	2370372	250.0	247.6	
53 Carbon tetrachloride	117	6.572	6.571	0.001	96	2078328	250.0	259.4	
52 1,1-Dichloropropene	75	6.588	6.587	0.001	95	2610676	250.0	260.6	
59 Isobutyl alcohol	41	6.786	6.785	0.001	55	378057	6250.0	5301.4	
54 Benzene	78	6.807	6.806	0.001	98	5730615	250.0	236.2	
55 1,2-Dichloroethane	62	6.887	6.886	0.001	96	1383317	250.0	236.1	
58 n-Heptane	43	7.170	7.169	0.001	86	2763635	250.0	255.1	
61 Trichloroethene	130	7.544	7.543	0.001	96	1869412	250.0	253.9	
63 Methylcyclohexane	83	7.785	7.784	0.001	88	3395439	250.0	255.5	
64 1,2-Dichloropropane	63	7.822	7.821	0.001	91	1515711	250.0	244.8	
65 Dibromomethane	93	7.908	7.907	0.001	96	599081	250.0	246.5	
67 1,4-Dioxane	88	7.918	7.912	0.006	39	143538	5000.0	4706.4	
68 Dichlorobromomethane	83	8.105	8.104	0.001	98	1851733	250.0	253.4	
71 cis-1,3-Dichloropropene	75	8.554	8.553	0.001	94	2237120	250.0	253.9	
72 4-Methyl-2-pentanone (MIBK	43	8.698	8.703	-0.005	96	978126	250.0	269.3	
73 Toluene	91	8.880	8.879	0.001	93	5749451	250.0	246.9	
74 trans-1,3-Dichloropropene	75	9.131	9.135	-0.004	93	1610387	250.0	263.9	
75 Ethyl methacrylate	69	9.190	9.194	-0.004	89	1114109	250.0	262.5	
76 1,1,2-Trichloroethane	97	9.329	9.328	0.001	92	857862	250.0	245.8	
77 Tetrachloroethene	164	9.398	9.397	0.001	96	1486916	250.0	257.9	
78 1,3-Dichloropropane	76	9.489	9.488	0.001	91	1650190	250.0	259.3	
79 2-Hexanone	43	9.542	9.541	0.001	96	740515	250.0	264.9	
81 Chlorodibromomethane	129	9.703	9.702	0.001	91	996655	250.0	246.5	
82 Ethylene Dibromide	107	9.815	9.814	0.001	99	768085	250.0	248.1	
84 Chlorobenzene	112	10.301	10.305	-0.004	90	3529766	250.0	237.0	
85 1,1,1,2-Tetrachloroethane	131	10.397	10.396	0.001	95	1259832	250.0	232.3	
86 Ethylbenzene	106	10.402	10.401	0.001	94	2302821	250.0	242.6	
87 m-Xylene & p-Xylene	106	10.536	10.530	0.006	0	2886027	250.0	238.5	
88 o-Xylene	106	10.915	10.914	0.001	93	2568179	250.0	234.6	
89 Styrene	104	10.937	10.941	-0.004	93	3785622	250.0	233.5	
90 Bromoform	173	11.124	11.123	0.001	97	511558	250.0	236.3	
91 Isopropylbenzene	105	11.284	11.283	0.001	96	5977951	250.0	229.6	
93 1,1,2,2-Tetrachloroethane	83	11.599	11.598	0.001	64	857719	250.0	242.8	
94 Bromobenzene	156	11.599	11.603	-0.004	93	1582664	250.0	237.3	
96 trans-1,4-Dichloro-2-buten	53	11.636	11.635	0.001	85	167504	250.0	245.6	
95 1,2,3-Trichloropropane	110	11.658	11.657	0.001	83	282851	250.0	235.6	
97 N-Propylbenzene	120	11.700	11.705	-0.005	91	2338159	250.0	247.4	
98 2-Chlorotoluene	126	11.791	11.790	0.001	97	1822938	250.0	238.5	
99 1,3,5-Trimethylbenzene	105	11.887	11.887	0.000	96	5516003	250.0	226.6	
100 4-Chlorotoluene	126	11.914	11.919	-0.005	95	1909605	250.0	251.8	
101 tert-Butylbenzene	119	12.203	12.202	0.001	91	4808714	250.0	231.6	
103 1,2,4-Trimethylbenzene	105	12.261	12.261	0.000	96	5271704	250.0	233.8	
104 sec-Butylbenzene	105	12.427	12.426	0.001	93	6592586	250.0	209.4	
105 1,3-Dichlorobenzene	146	12.545	12.549	-0.004	94	3059593	250.0	238.4	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
106 4-Isopropyltoluene	119	12.582	12.586	-0.004	90	5745261	250.0	219.1	
107 1,4-Dichlorobenzene	146	12.651	12.651	0.001	90	3011121	250.0	241.4	
110 n-Butylbenzene	91	12.993	12.992	0.001	89	5727667	250.0	240.6	
111 1,2-Dichlorobenzene	146	13.004	13.003	0.001	92	2797166	250.0	242.4	
112 1,2-Dibromo-3-Chloropropan	75	13.800	13.804	-0.004	85	141670	250.0	215.1	
113 1,2,4-Trichlorobenzene	180	14.623	14.627	-0.004	95	2055743	250.0	228.3	
115 Hexachlorobutadiene	225	14.767	14.766	0.001	97	1499070	250.0	231.1	
116 Naphthalene	128	14.890	14.889	0.001	98	2566056	250.0	213.0	
117 1,2,3-Trichlorobenzene	180	15.109	15.113	-0.004	95	1614569	250.0	214.1	
S 129 1,2-Dichloroethene, Total	96				0		500.0	495.1	
S 130 Xylenes, Total	106				0		500.0	473.1	
S 131 1,3-Dichloropropene, Total	1				0		500.0	517.7	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

Reagents:

VOA8260INT_00101 Amount Added: 10.00 Units: uL
VOA8260SURR_00101 Amount Added: 10.00 Units: uL
VOA8260VOAPRI_00380 Amount Added: 10.00 Units: uL

Report Date: 14-Nov-2019 14:40:20 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114006.D				
Injection Date:	14-Nov-2019 11:35:30	Instrument ID:	CHHP4	Operator ID:	034635
Lims ID:	IC			Worklist Smp#:	6
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

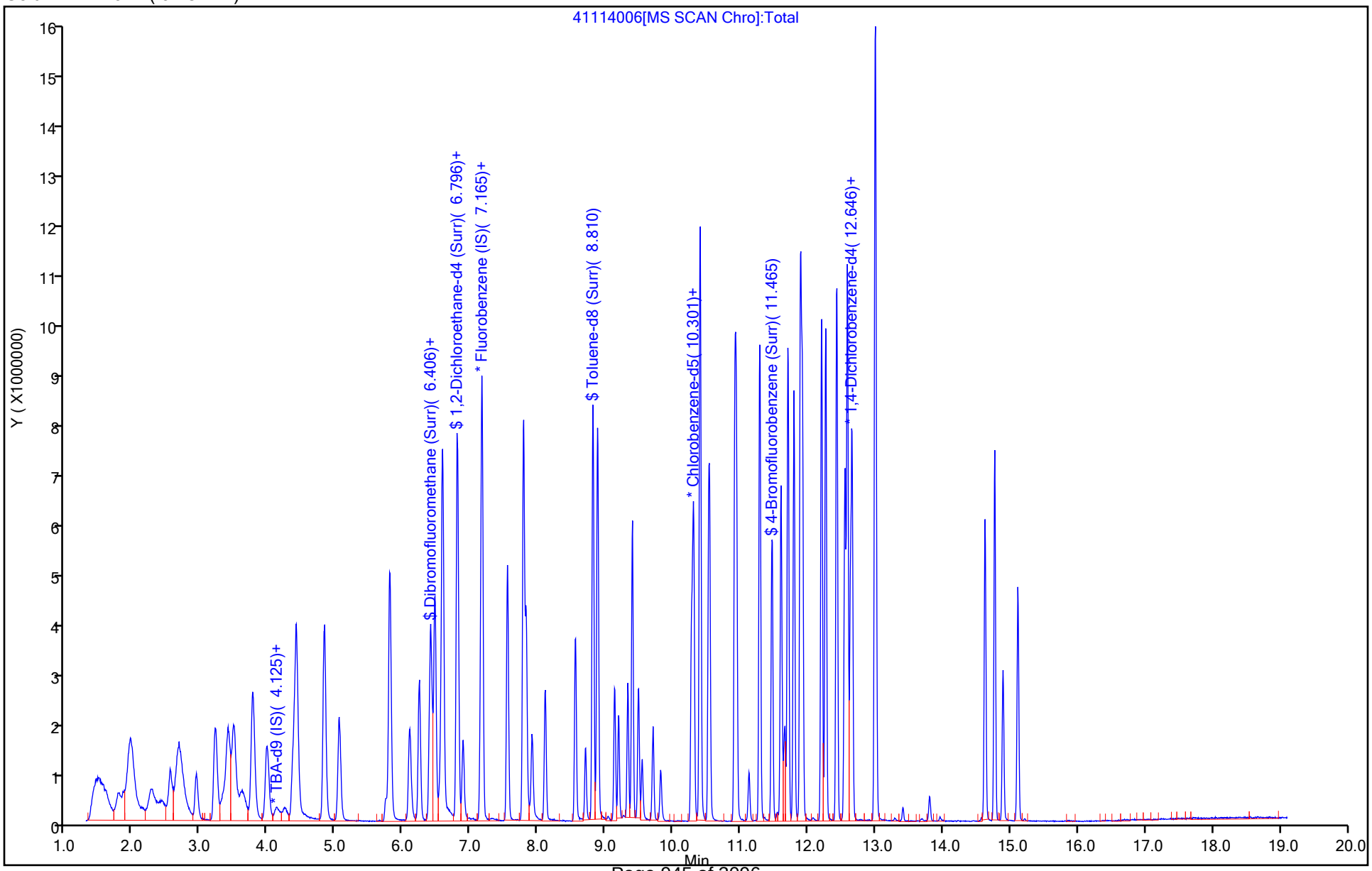

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114006.D				
Injection Date:	14-Nov-2019 11:35:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

10 Dichlorodifluoromethane, CAS: 75-71-8

Signal: 1

Processing Integration Results

RT: 1.60
Area: 1582322
Amount: 224.1438
Amount Units: ng

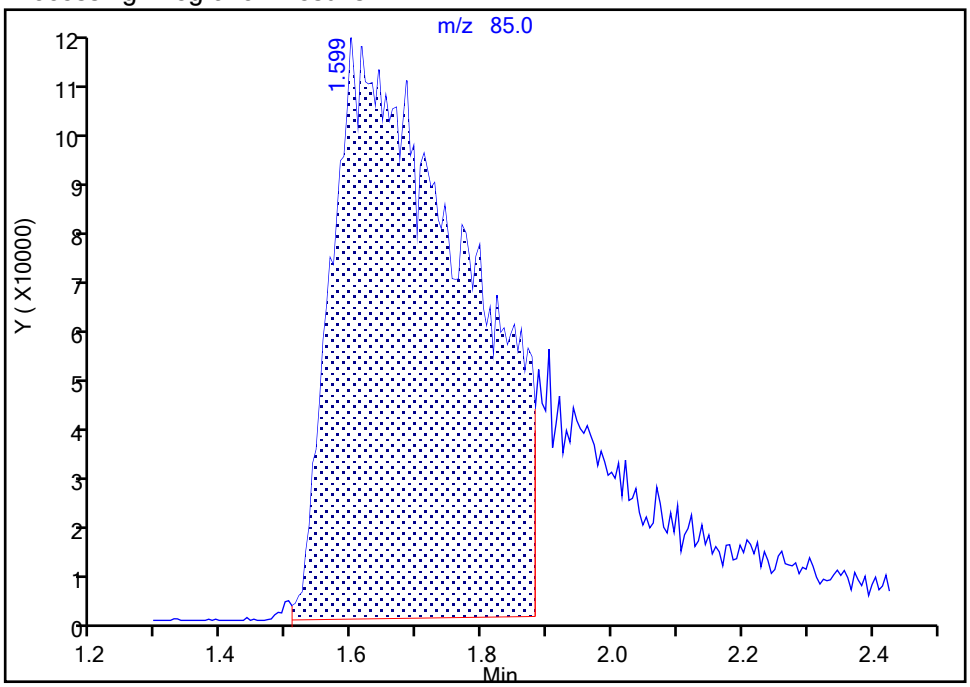

Manual Integration Results

RT: 1.60
Area: 1916643
Amount: 235.4685
Amount Units: ng

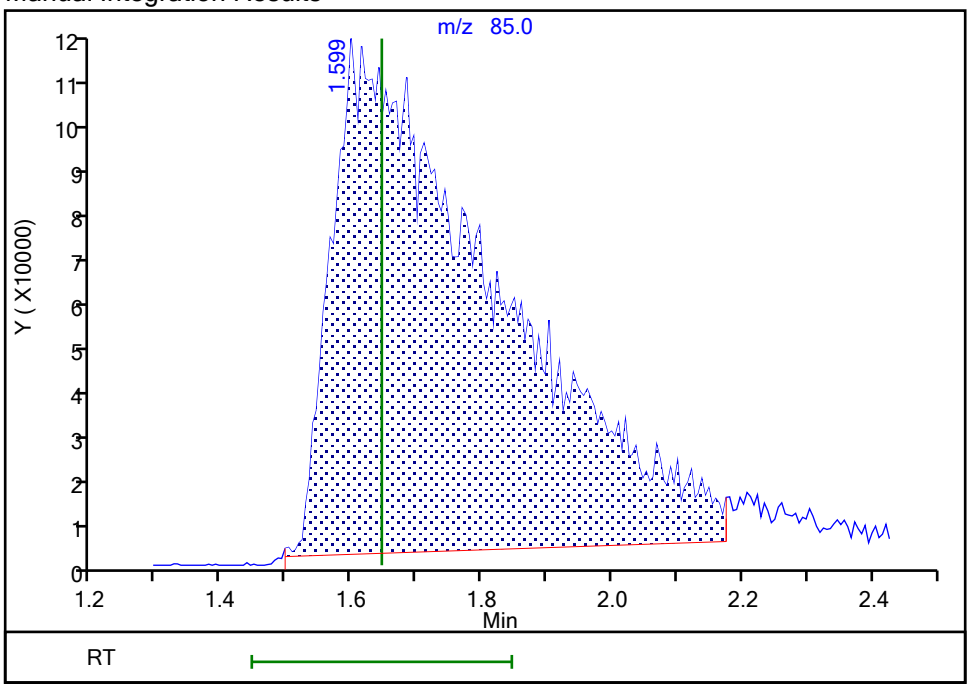

Reviewer: journetp, 14-Nov-2019 11:58:51

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114006.D				
Injection Date:	14-Nov-2019 11:35:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

11 Chloromethane, CAS: 74-87-3

Signal: 1

Processing Integration Results

RT: 1.96
Area: 2873043
Amount: 398.7236
Amount Units: ng

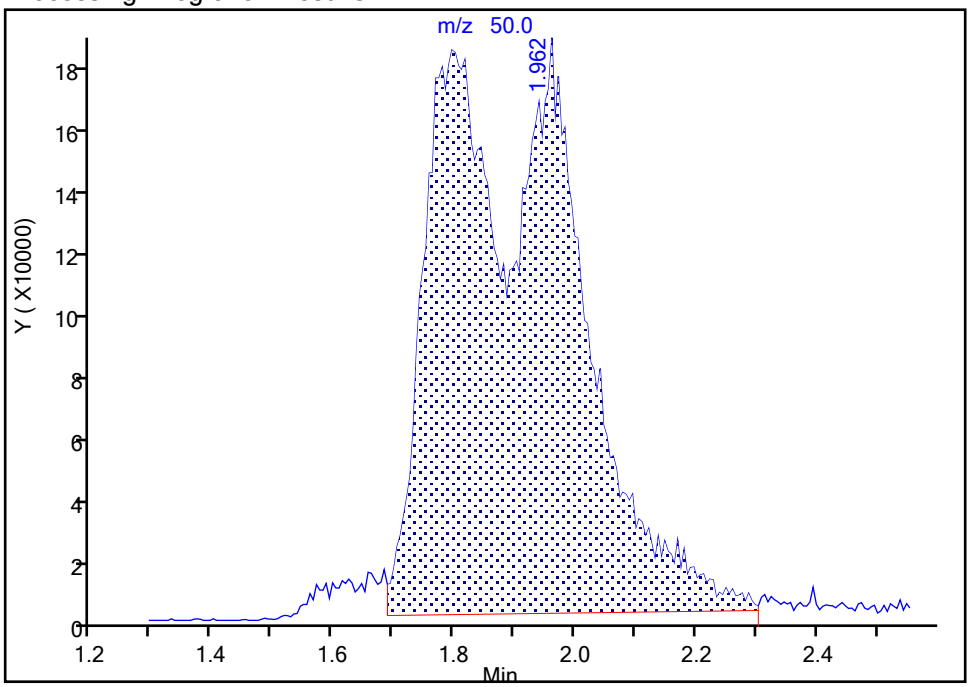

Manual Integration Results

RT: 1.80
Area: 1519965
Amount: 231.3712
Amount Units: ng

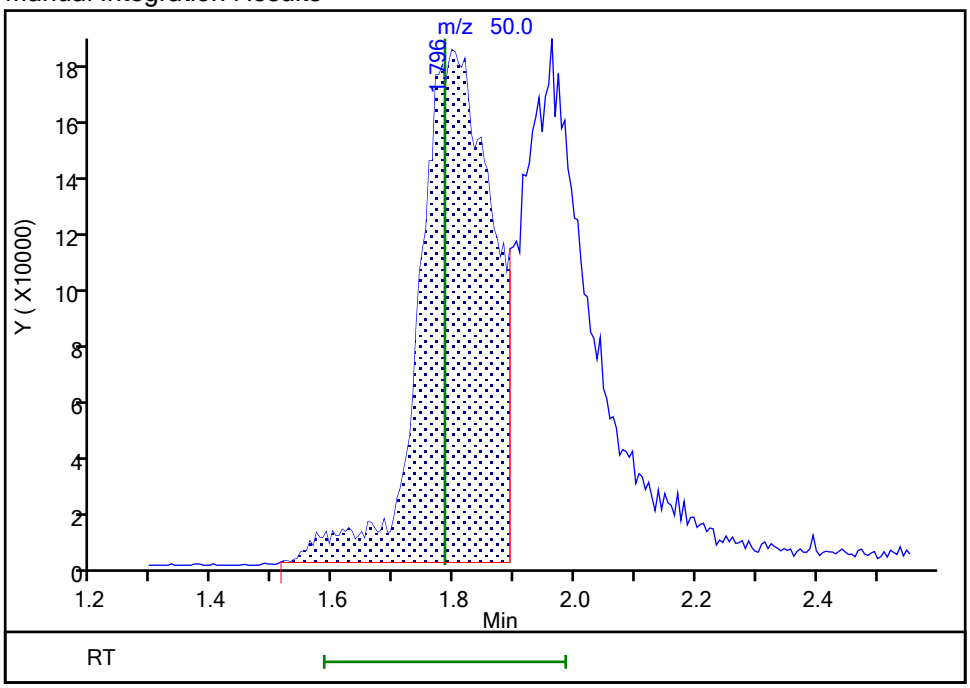

Reviewer: journetp, 14-Nov-2019 11:58:39

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114006.D				
Injection Date:	14-Nov-2019 11:35:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

12 Vinyl chloride, CAS: 75-01-4

Signal: 1

Processing Integration Results

RT: 1.91
Area: 2169606
Amount: 283.5257
Amount Units: ng

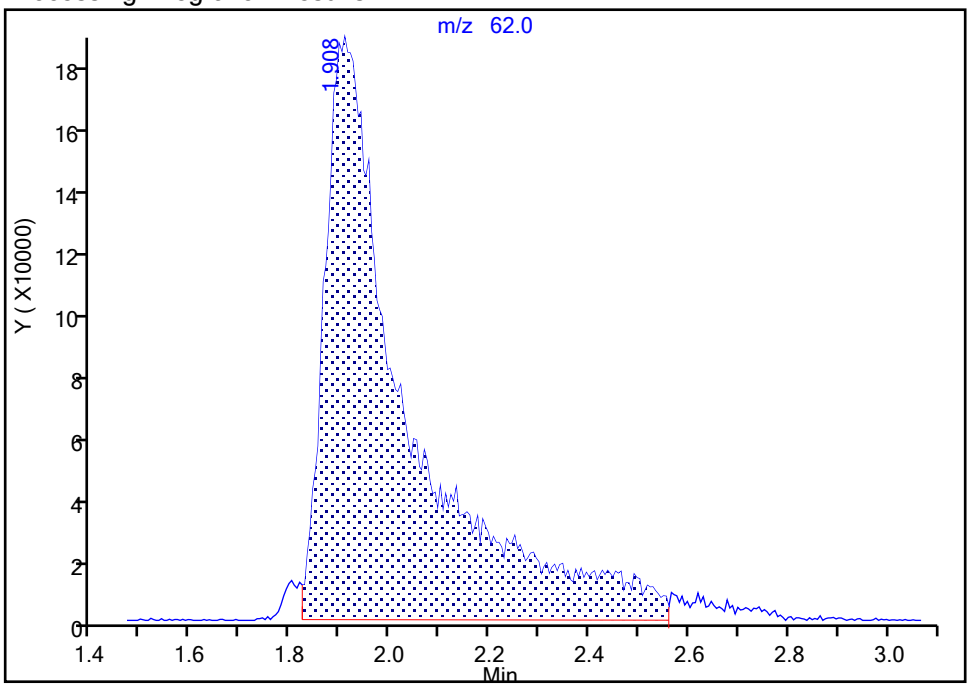

Manual Integration Results

RT: 1.91
Area: 2268412
Amount: 280.4011
Amount Units: ng

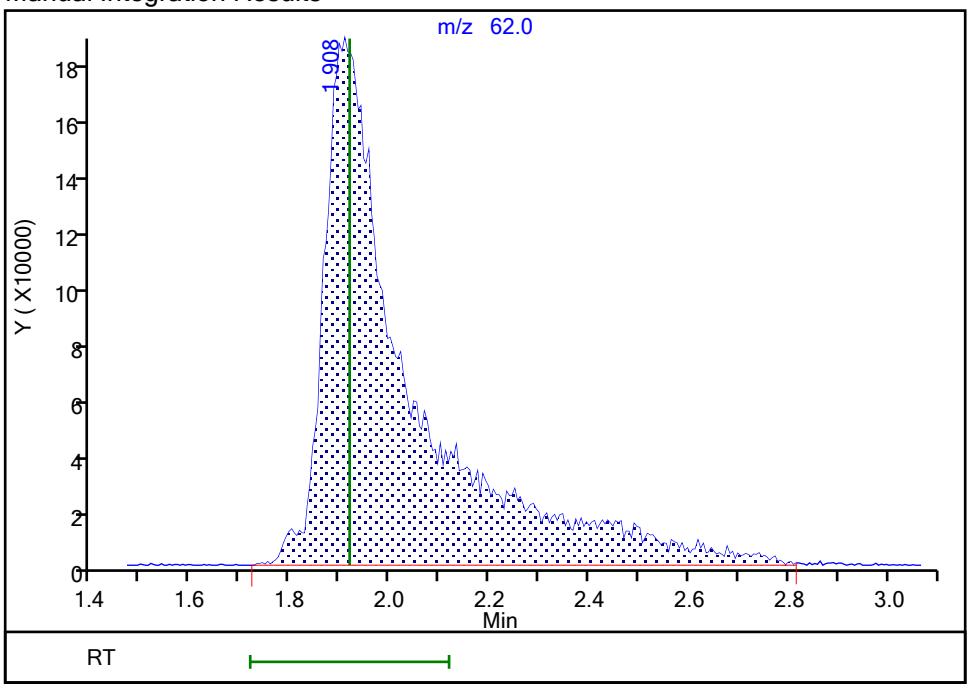

Reviewer: journetp, 14-Nov-2019 11:58:59

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114006.D				
Injection Date:	14-Nov-2019 11:35:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

13 Butadiene, CAS: 106-99-0

Signal: 1

Processing Integration Results

RT: 1.96
Area: 2016060
Amount: 239.6394
Amount Units: ng

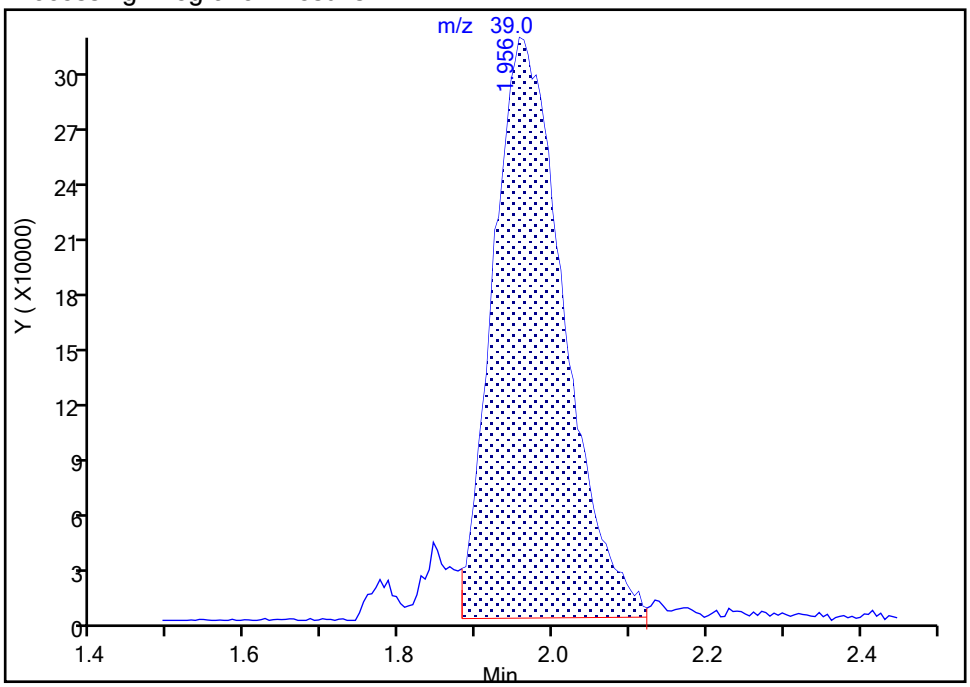

Manual Integration Results

RT: 1.96
Area: 2165285
Amount: 248.4664
Amount Units: ng

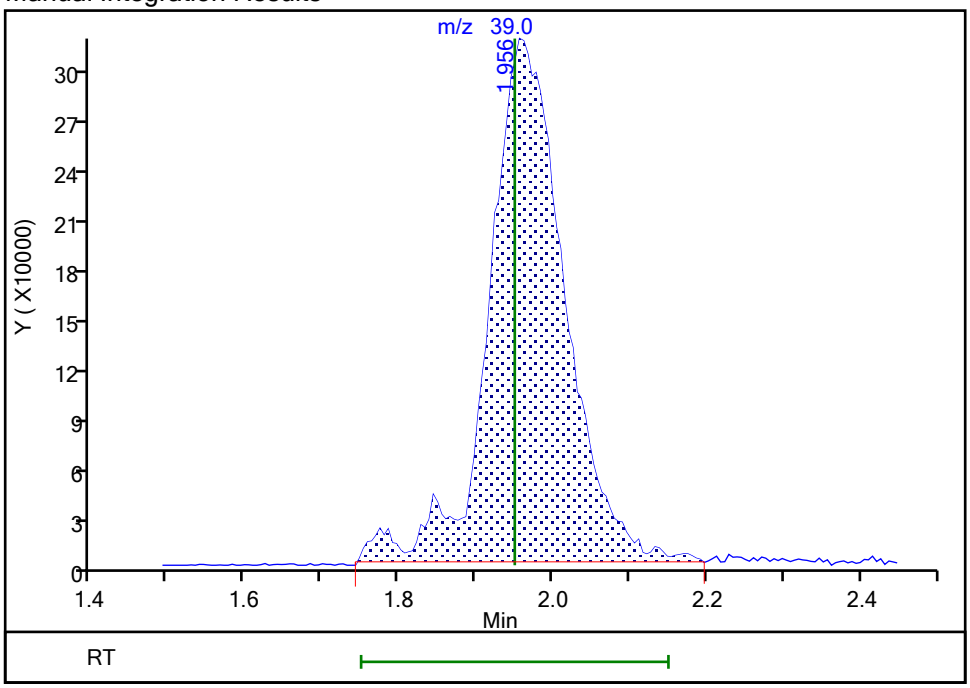

Reviewer: journetp, 14-Nov-2019 11:59:07

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114006.D				
Injection Date:	14-Nov-2019 11:35:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

14 Bromomethane, CAS: 74-83-9

Signal: 1

Processing Integration Results

RT: 2.27
Area: 1222443
Amount: 247.9383
Amount Units: ng

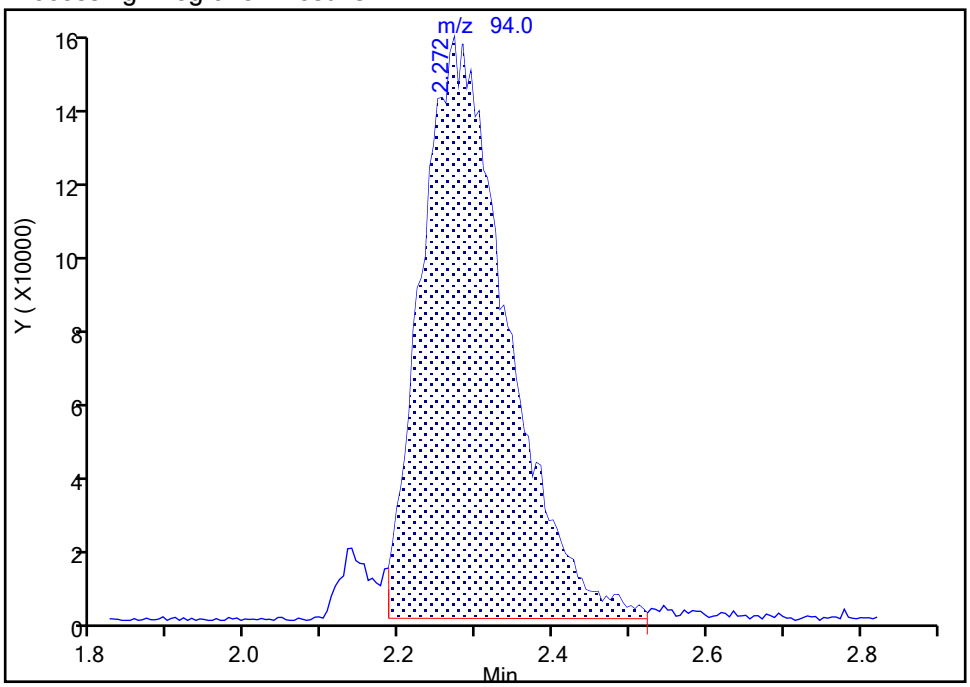

Manual Integration Results

RT: 2.27
Area: 1258178
Amount: 241.7192
Amount Units: ng

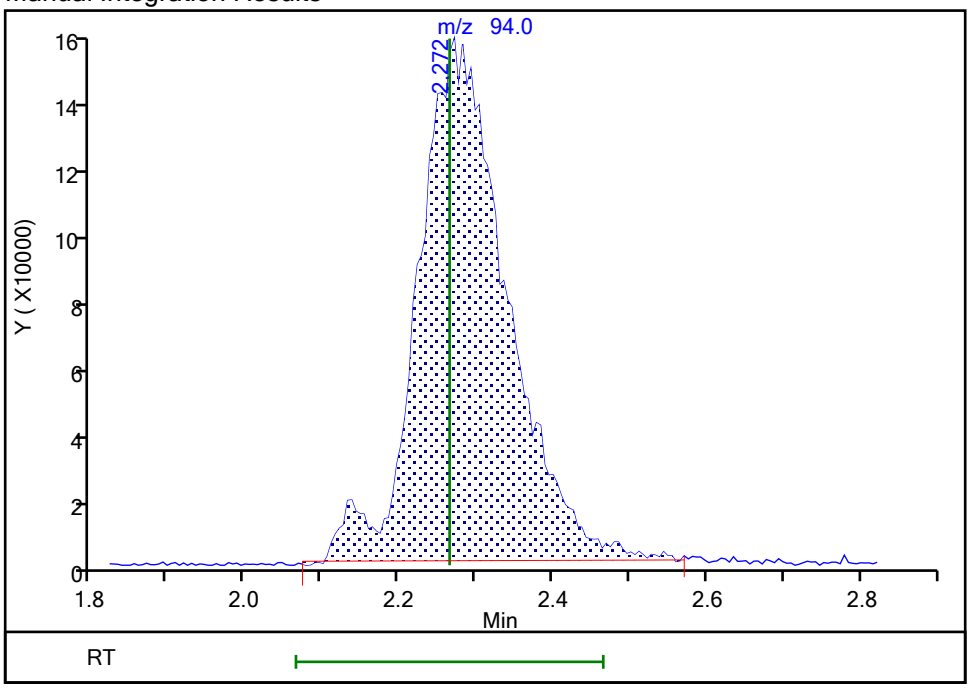

Reviewer: journetp, 14-Nov-2019 11:59:12

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114006.D				
Injection Date:	14-Nov-2019 11:35:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

15 Chloroethane, CAS: 75-00-3

Signal: 1

Processing Integration Results

RT: 2.27
Area: 168010
Amount: -69.092208
Amount Units: ng

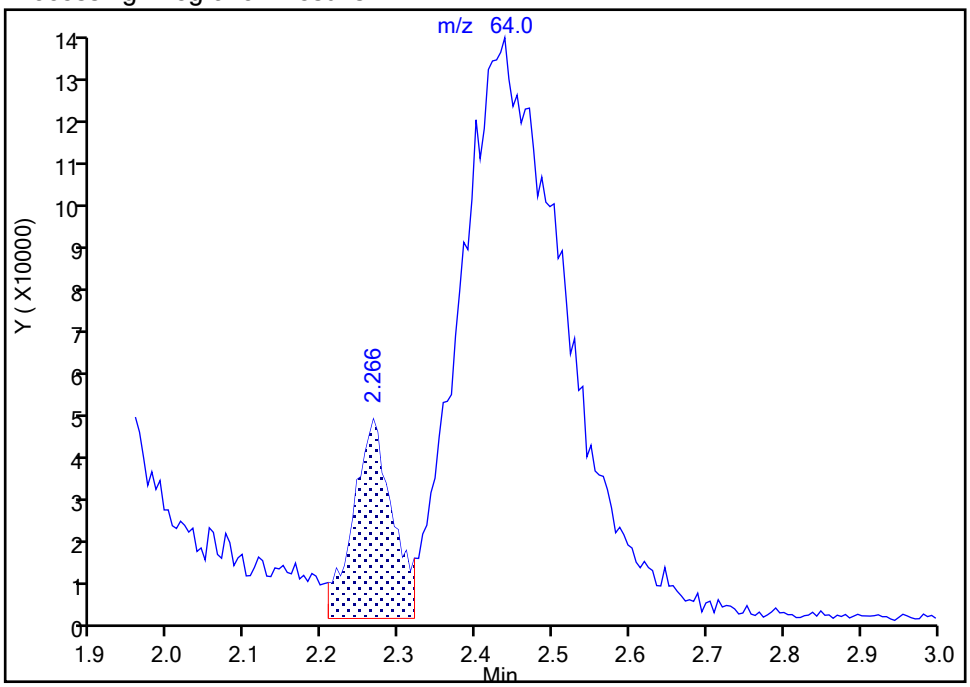

Manual Integration Results

RT: 2.44
Area: 1459346
Amount: 239.8653
Amount Units: ng

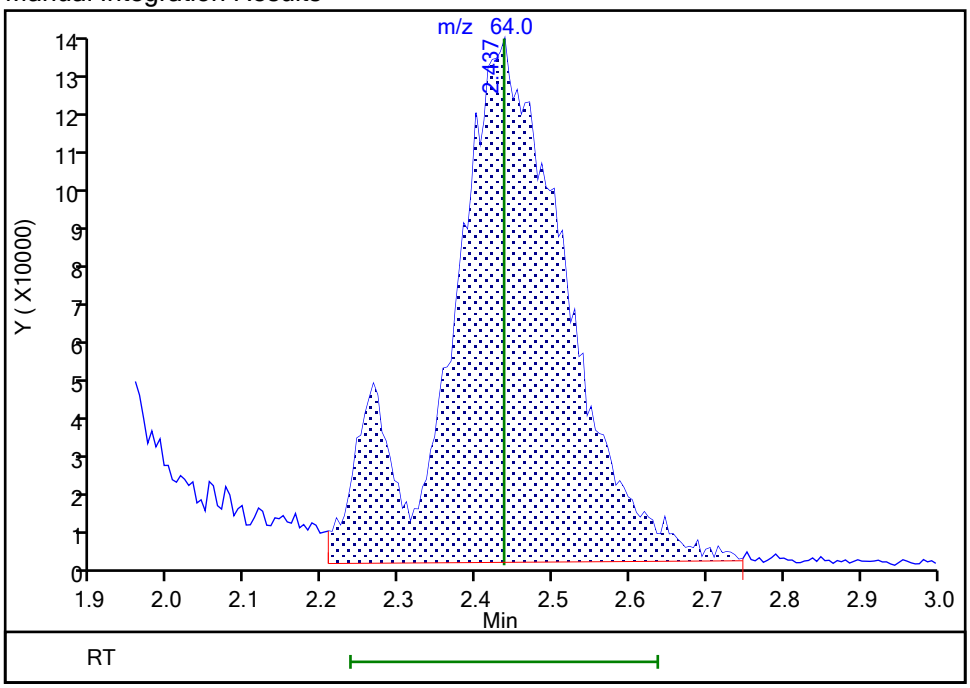

Reviewer: journetp, 14-Nov-2019 11:59:19

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114006.D				
Injection Date:	14-Nov-2019 11:35:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

16 Dichlorofluoromethane, CAS: 75-43-4

Signal: 1

Processing Integration Results

RT: 2.68
Area: 2931306
Amount: 246.9635
Amount Units: ng

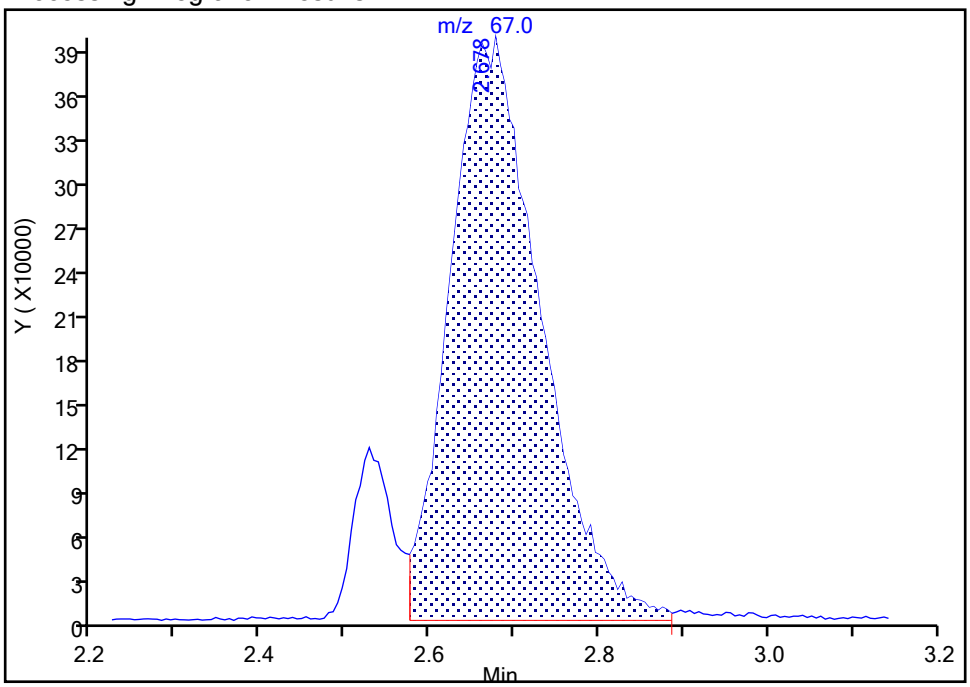

Manual Integration Results

RT: 2.68
Area: 3239859
Amount: 255.1809
Amount Units: ng

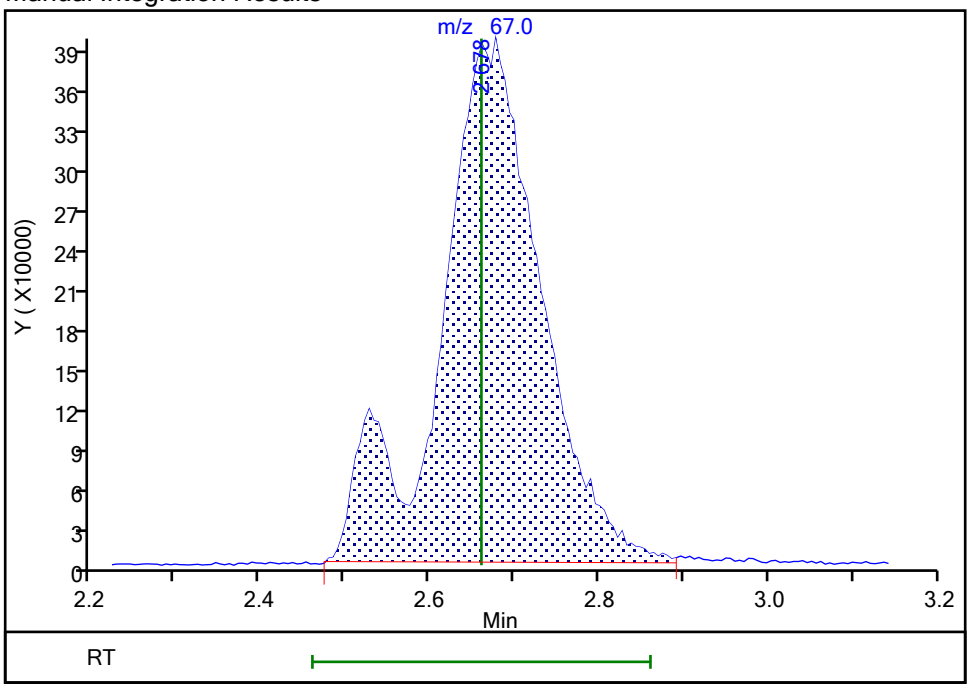

Reviewer: journetp, 14-Nov-2019 11:59:25

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114006.D				
Injection Date:	14-Nov-2019 11:35:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

17 Trichlorofluoromethane, CAS: 75-69-4

Signal: 1

Processing Integration Results

RT: 2.55
Area: 923206
Amount: 100.7292
Amount Units: ng

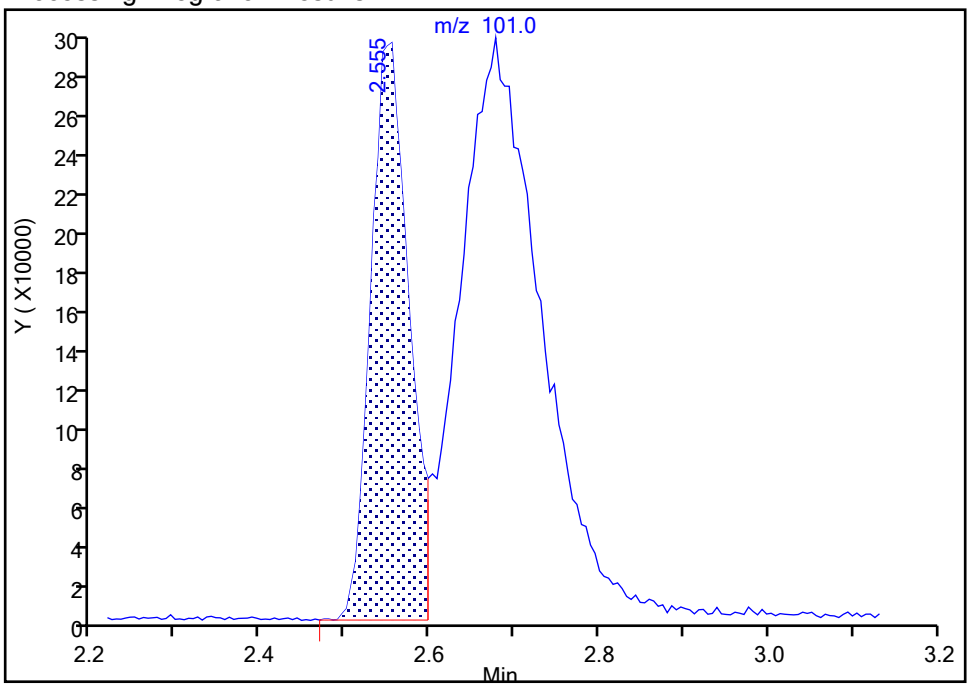

Manual Integration Results

RT: 2.68
Area: 2828516
Amount: 245.8983
Amount Units: ng

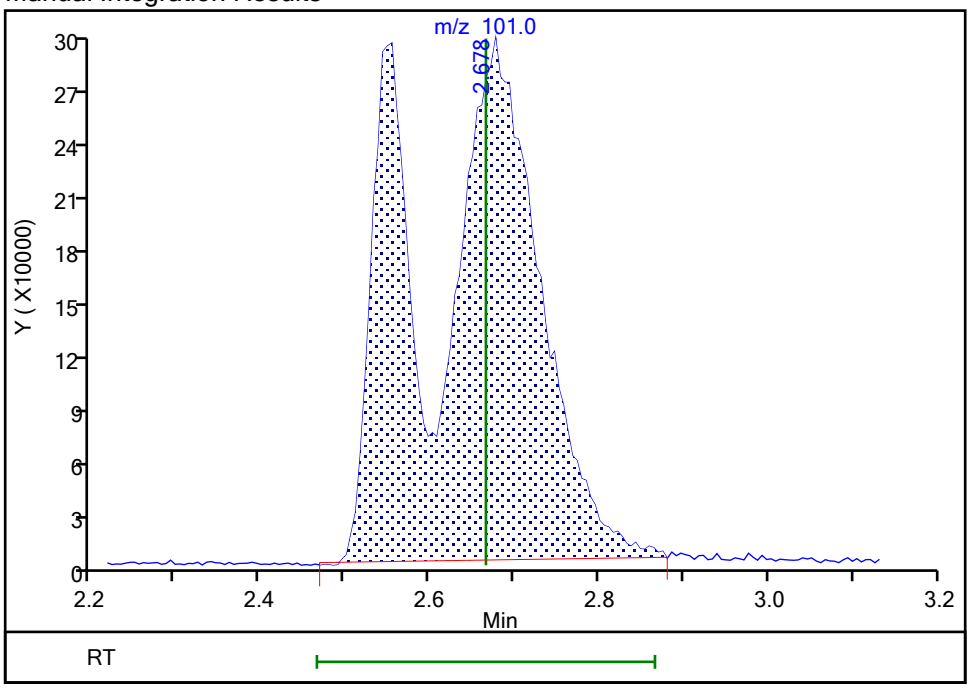

Reviewer: journetp, 14-Nov-2019 11:59:30

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114006.D				
Injection Date:	14-Nov-2019 11:35:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

21 1,1-Dichloroethene, CAS: 75-35-4

Signal: 1

Processing Integration Results

RT: 3.21
Area: 1335245
Amount: 232.5036
Amount Units: ng

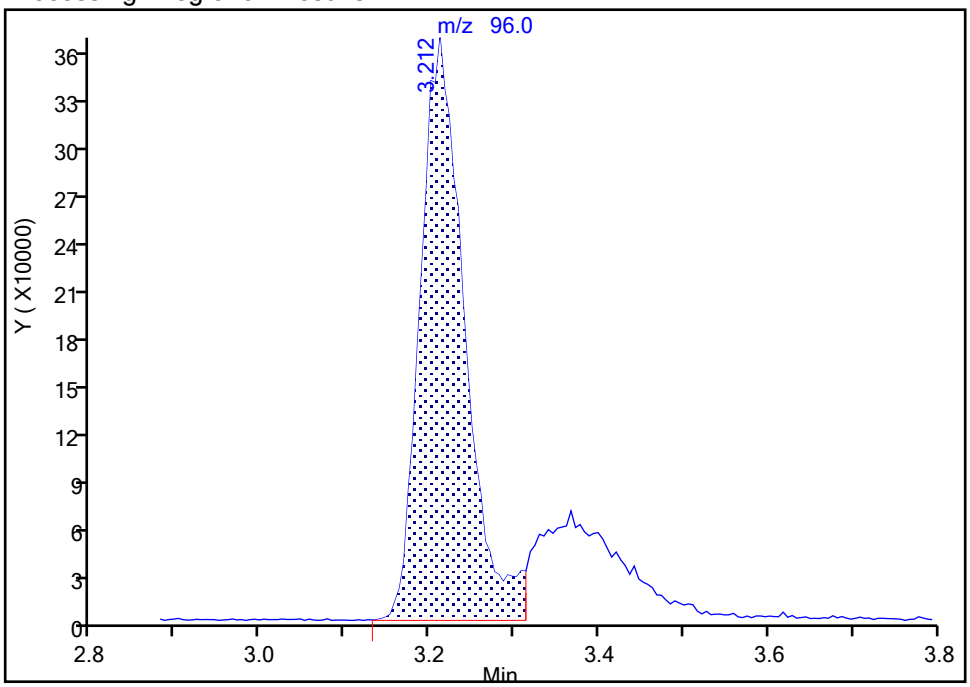

Manual Integration Results

RT: 3.21
Area: 1740579
Amount: 239.7117
Amount Units: ng

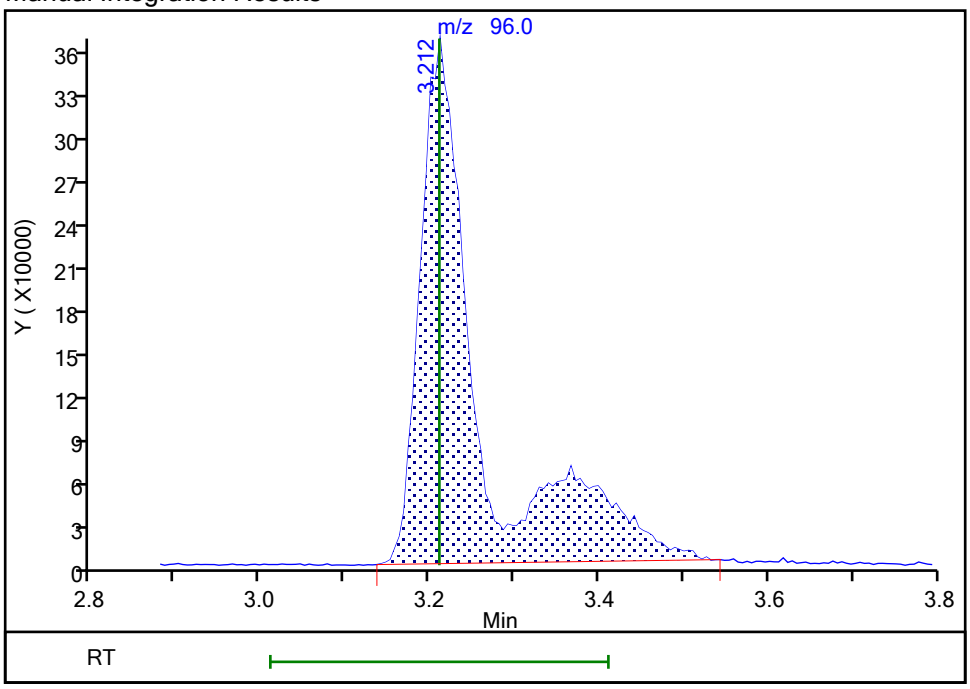

Reviewer: journetp, 14-Nov-2019 13:00:22

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114006.D				
Injection Date:	14-Nov-2019 11:35:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

22 1,1,2-Trichloro-1,2,2-trifluoroethane, CAS: 76-13-1

Signal: 1

Processing Integration Results

RT: 3.42
Area: 1638961
Amount: 245.9943
Amount Units: ng

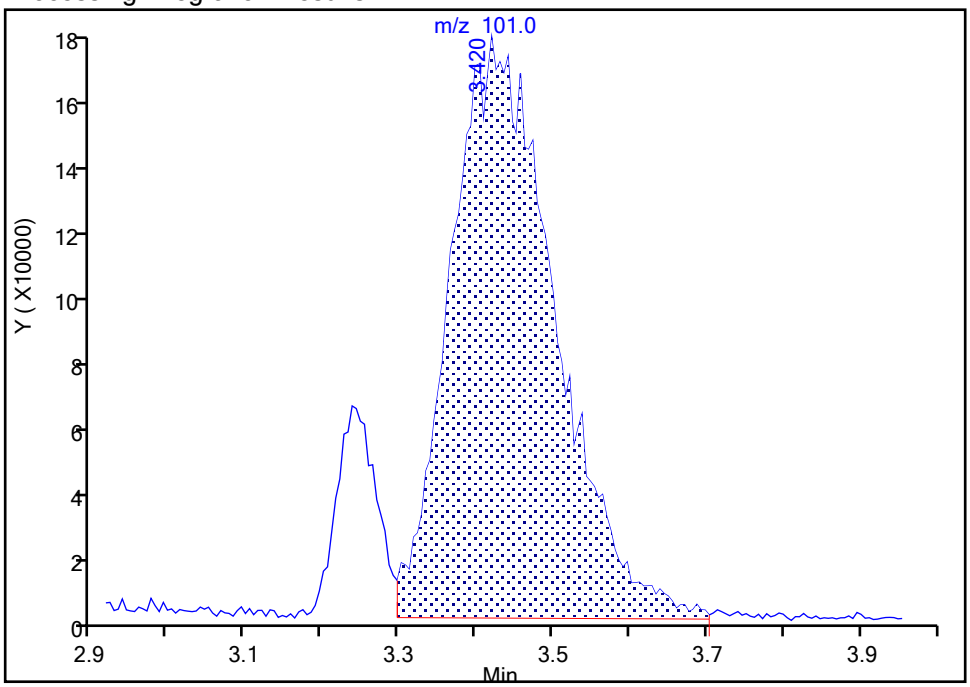

Manual Integration Results

RT: 3.42
Area: 1857161
Amount: 254.9249
Amount Units: ng

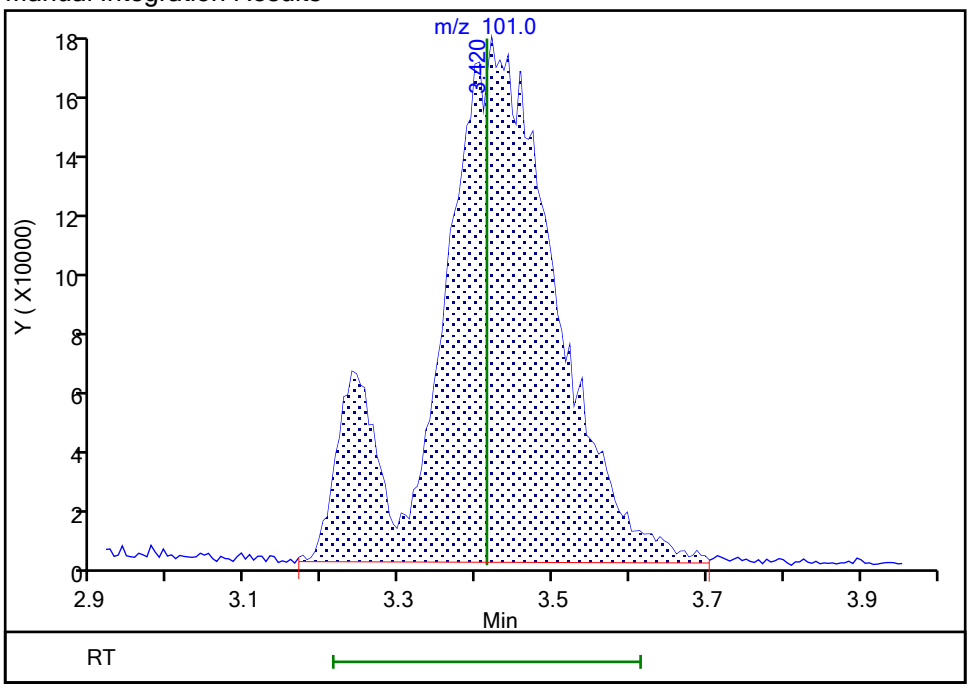

Reviewer: journetp, 14-Nov-2019 11:59:39
Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114006.D				
Injection Date:	14-Nov-2019 11:35:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	6	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

25 Carbon disulfide, CAS: 75-15-0

Signal: 1

Processing Integration Results

RT: 3.49
Area: 3653272
Amount: 191.9367
Amount Units: ng

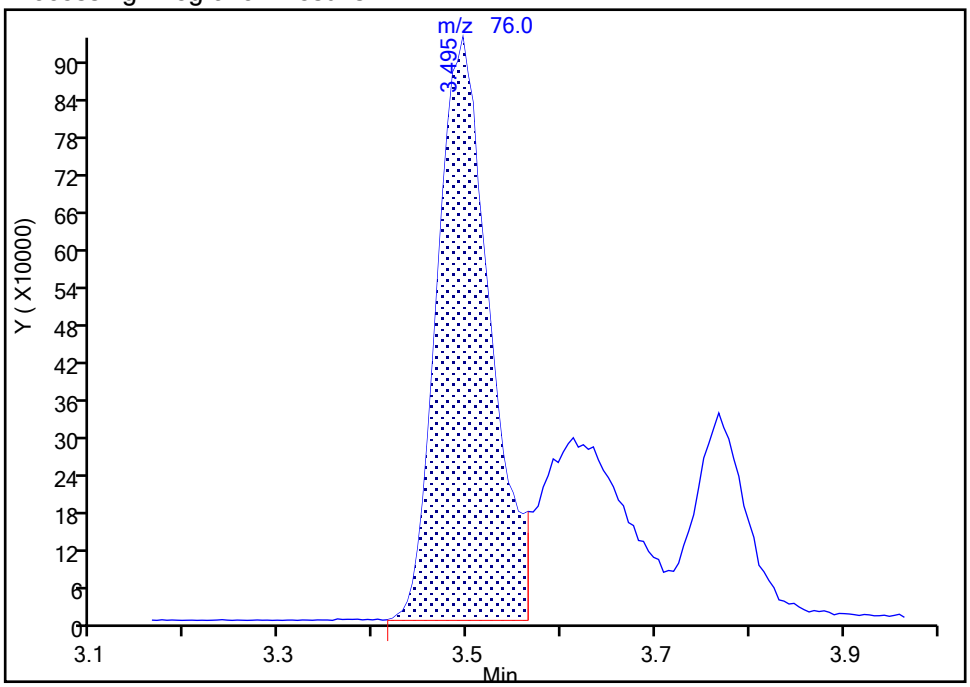

Manual Integration Results

RT: 3.49
Area: 5435196
Amount: 254.5894
Amount Units: ng

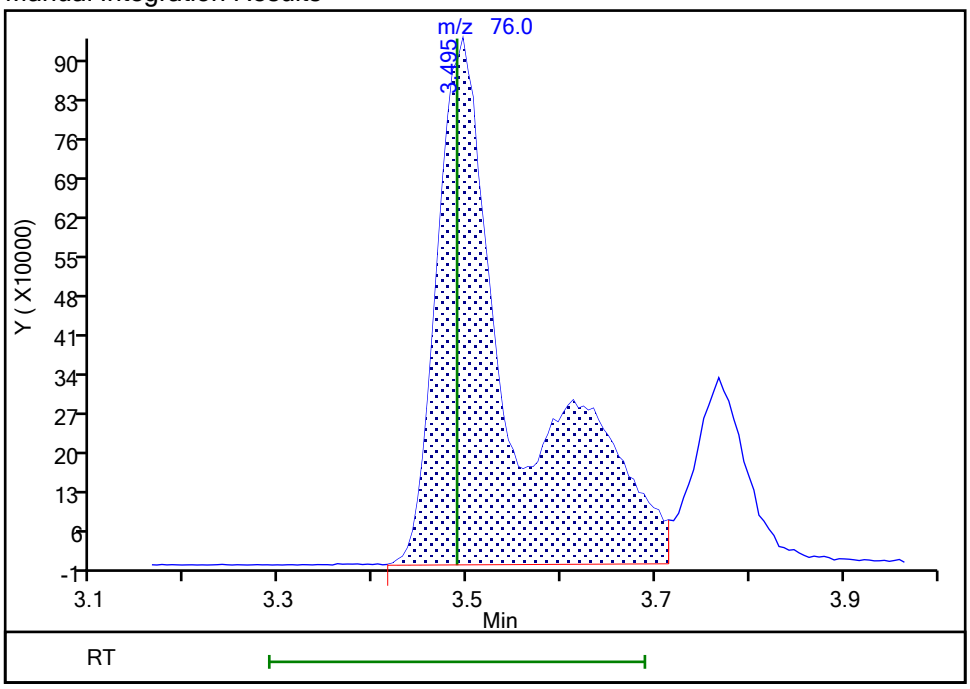

Reviewer: journetp, 14-Nov-2019 11:59:45

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114007.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 14-Nov-2019 12:18:30 ALS Bottle#: 7 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029543-007
Operator ID: 034635 Instrument ID: CHHP4
Sublist: chrom-MSVOA_CHHP4*sub156

Method: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\MSVOA_CHHP4.m
Limit Group: VOA 8260C_D ICAL
Last Update: 14-Nov-2019 14:40:25 Calib Date: 14-Nov-2019 12:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114008.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0329

First Level Reviewer: journetp Date: 14-Nov-2019 12:59:49

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.111	4.114	-0.003	90	429063	5000.0	5000.0	
* 2 Fluorobenzene (IS)	96	7.156	7.153	0.003	99	3522464	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.276	10.273	0.003	97	838701	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.632	12.629	0.003	91	1183981	250.0	250.0	
$ 5 Dibromofluoromethane (Surr	113	6.419	6.422	-0.003	0	2188831	375.0	371.7	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.804	6.801	0.003	0	2146557	375.0	384.0	
$ 7 Toluene-d8 (Surr)	98	8.812	8.810	0.002	0	7272439	375.0	325.1	
$ 8 4-Bromofluorobenzene (Surr	95	11.467	11.470	-0.003	0	2978616	375.0	355.5	
$ 141 Total BTEX	95		0.000				ND	ND	
10 Dichlorodifluoromethane	85	1.659	1.646	0.013	85	3549308	375.0	440.5	
11 Chloromethane	50	1.782	1.785	-0.003	99	2704808	375.0	415.9	M
12 Vinyl chloride	62	1.916	1.918	-0.002	97	3668713	375.0	458.1	M
13 Butadiene	39	1.958	1.950	0.008	93	3238885	375.0	375.4	
14 Bromomethane	94	2.273	2.265	0.008	89	2020659	375.0	392.2	
15 Chloroethane	64	2.444	2.436	0.008	61	2328016	375.0	382.9	Ma
16 Dichlorofluoromethane	67	2.674	2.661	0.013	93	4597956	375.0	365.8	
17 Trichlorofluoromethane	101	2.562	2.666	-0.104	97	4792577	375.0	420.9	M
19 Ethyl ether	59	2.936	2.928	0.008	89	1378019	375.0	367.8	
21 1,1-Dichloroethene	96	3.219	3.211	0.008	98	2906838	375.0	395.9	
23 Acetone	43	3.310	3.307	0.003	93	848366	375.0	427.8	
24 Iodomethane	142	3.411	3.409	0.002	99	3081321	375.0	416.8	
22 1,1,2-Trichloro-1,2,2-trif	101	3.427	3.414	0.013	59	2916016	375.0	404.3	M
25 Carbon disulfide	76	3.497	3.489	0.008	100	8385135	375.0	396.8	M
28 3-Chloro-1-propene	76	3.769	3.761	0.008	90	1946387	375.0	381.7	
29 Methyl acetate	43	3.785	3.788	-0.003	57	1312215	750.0	699.2	
30 Methylene Chloride	84	3.983	3.975	0.008	88	2433462	375.0	369.7	
31 2-Methyl-2-propanol	59	4.234	4.247	-0.013	98	654889	3750.0	4069.6	
32 Acrylonitrile	53	4.368	4.370	-0.002	96	3071422	3750.0	3597.9	
33 trans-1,2-Dichloroethene	96	4.416	4.408	0.008	97	2881046	375.0	421.3	
34 Methyl tert-butyl ether	73	4.426	4.424	0.002	96	3640640	375.0	370.1	
35 Hexane	57	4.832	4.830	0.002	94	4432637	375.0	382.5	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 1,1-Dichloroethane	63	5.057	5.049	0.008	95	4665059	375.0	390.2	
41 2,2-Dichloropropane	97	5.799	5.797	0.002	87	647292	375.0	411.9	
42 cis-1,2-Dichloroethene	96	5.805	5.797	0.008	82	2853261	375.0	398.6	
43 2-Butanone (MEK)	43	5.815	5.813	0.002	41	930184	375.0	442.0	
46 Chlorobromomethane	128	6.098	6.090	0.008	95	1016136	375.0	382.6	
48 Tetrahydrofuran	42	6.114	6.106	0.008	86	500508	750.0	702.0	
49 Chloroform	83	6.243	6.235	0.008	93	4152919	375.0	366.8	
50 1,1,1-Trichloroethane	97	6.398	6.395	0.003	96	3340684	375.0	376.7	
51 Cyclohexane	56	6.472	6.470	0.002	90	3586540	375.0	378.5	
53 Carbon tetrachloride	117	6.574	6.571	0.003	94	3051267	375.0	384.7	
52 1,1-Dichloropropene	75	6.590	6.587	0.003	92	3707013	375.0	373.8	
59 Isobutyl alcohol	41	6.788	6.785	0.003	92	630102	9375.0	8925.7	
54 Benzene	78	6.804	6.806	-0.002	92	8351565	375.0	347.8	
55 1,2-Dichloroethane	62	6.889	6.886	0.003	96	2202928	375.0	379.9	
58 n-Heptane	43	7.172	7.169	0.003	82	4006278	375.0	373.5	
61 Trichloroethene	130	7.546	7.543	0.003	96	2775248	375.0	380.8	
63 Methylcyclohexane	83	7.787	7.784	0.002	87	4826759	375.0	366.9	
64 1,2-Dichloropropane	63	7.824	7.821	0.003	93	2279176	375.0	371.8	
65 Dibromomethane	93	7.909	7.907	0.002	96	927296	375.0	385.4	
67 1,4-Dioxane	88	7.915	7.912	0.003	36	199343	7500.0	6602.7	
68 Dichlorobromomethane	83	8.107	8.104	0.003	97	2839272	375.0	392.5	
71 cis-1,3-Dichloropropene	75	8.550	8.553	-0.003	93	3377715	375.0	387.2	
72 4-Methyl-2-pentanone (MIBK	43	8.700	8.703	-0.003	95	1542989	375.0	371.1	M
73 Toluene	91	8.882	8.879	0.003	89	7639974	375.0	325.0	
74 trans-1,3-Dichloropropene	75	9.133	9.135	-0.002	93	2394666	375.0	388.6	
75 Ethyl methacrylate	69	9.191	9.194	-0.003	89	1631167	375.0	380.6	
76 1,1,2-Trichloroethane	97	9.330	9.328	0.002	93	1335584	375.0	379.0	
77 Tetrachloroethene	164	9.394	9.397	-0.003	93	2398812	375.0	412.1	
78 1,3-Dichloropropane	76	9.485	9.488	-0.003	91	2406362	375.0	374.5	
79 2-Hexanone	43	9.539	9.541	-0.002	94	1168315	375.0	383.3	
81 Chlorodibromomethane	129	9.699	9.702	-0.003	91	1533385	375.0	375.7	
82 Ethylene Dibromide	107	9.817	9.814	0.003	98	1158811	375.0	370.7	
84 Chlorobenzene	112	10.303	10.305	-0.002	86	5264137	375.0	350.1	
85 1,1,1,2-Tetrachloroethane	131	10.399	10.396	0.003	96	2137171	375.0	390.2	
86 Ethylbenzene	106	10.404	10.401	0.003	89	3704010	375.0	386.5	
87 m-Xylene & p-Xylene	106	10.532	10.530	0.002	0	4462465	375.0	365.3	
88 o-Xylene	106	10.917	10.914	0.003	90	3949653	375.0	357.3	
89 Styrene	104	10.938	10.941	-0.003	89	5456573	375.0	333.4	
90 Bromoform	173	11.125	11.123	0.002	96	767194	375.0	351.0	
91 Isopropylbenzene	105	11.286	11.283	0.003	92	7523413	375.0	286.2	
93 1,1,2,2-Tetrachloroethane	83	11.601	11.598	0.003	65	1167072	375.0	327.2	
94 Bromobenzene	156	11.601	11.603	-0.002	91	2244895	375.0	370.5	
96 trans-1,4-Dichloro-2-buten	53	11.638	11.635	0.003	89	223970	375.0	361.5	
95 1,2,3-Trichloropropane	110	11.654	11.657	-0.003	84	361616	375.0	331.6	
97 N-Propylbenzene	120	11.708	11.705	0.003	95	3143662	375.0	366.1	
98 2-Chlorotoluene	126	11.793	11.790	0.003	92	2543879	375.0	366.3	
99 1,3,5-Trimethylbenzene	105	11.889	11.887	0.002	92	6620836	375.0	299.3	
100 4-Chlorotoluene	126	11.916	11.919	-0.003	93	2495399	375.0	362.1	
101 tert-Butylbenzene	119	12.204	12.202	0.002	89	6231123	375.0	330.3	
103 1,2,4-Trimethylbenzene	105	12.263	12.261	0.002	89	6672251	375.0	325.7	
104 sec-Butylbenzene	105	12.429	12.426	0.003	90	8044890	375.0	281.2	
105 1,3-Dichlorobenzene	146	12.546	12.549	-0.003	92	4135192	375.0	354.7	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
106 4-Isopropyltoluene	119	12.584	12.586	-0.002	95	7179585	375.0	301.4	
107 1,4-Dichlorobenzene	146	12.653	12.651	0.003	91	4023101	375.0	355.0	
110 n-Butylbenzene	91	12.995	12.992	0.003	83	7532269	375.0	348.2	
111 1,2-Dichlorobenzene	146	13.006	13.003	0.003	89	4120142	375.0	393.0	
112 1,2-Dibromo-3-Chloropropan	75	13.802	13.804	-0.002	81	245178	375.0	409.7	
113 1,2,4-Trichlorobenzene	180	14.624	14.627	-0.003	95	3197506	375.0	390.8	
115 Hexachlorobutadiene	225	14.769	14.766	0.003	96	2496084	375.0	423.4	
116 Naphthalene	128	14.892	14.889	0.003	99	4328026	375.0	395.3	
117 1,2,3-Trichlorobenzene	180	15.111	15.113	-0.002	94	2777277	375.0	405.3	
S 129 1,2-Dichloroethene, Total	96				0		750.0	819.9	
S 130 Xylenes, Total	106				0		750.0	722.6	
S 131 1,3-Dichloropropene, Total	1				0		750.0	775.8	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

VOA8260INT_00101 Amount Added: 10.00 Units: uL

VOA8260SURR_00101 Amount Added: 15.00 Units: uL

VOA8260VOAPRI_00380 Amount Added: 15.00 Units: uL

Report Date: 14-Nov-2019 14:40:26 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114007.D

Injection Date: 14-Nov-2019 12:18:30 Instrument ID: CHHP4 Operator ID: 034635

Lims ID: IC Worklist Smp#: 7

Client ID:

Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 7

Method: MSVOA_CHHP4 Limit Group: VOA 8260C_D ICAL

Column: DB-624 (0.18 mm)

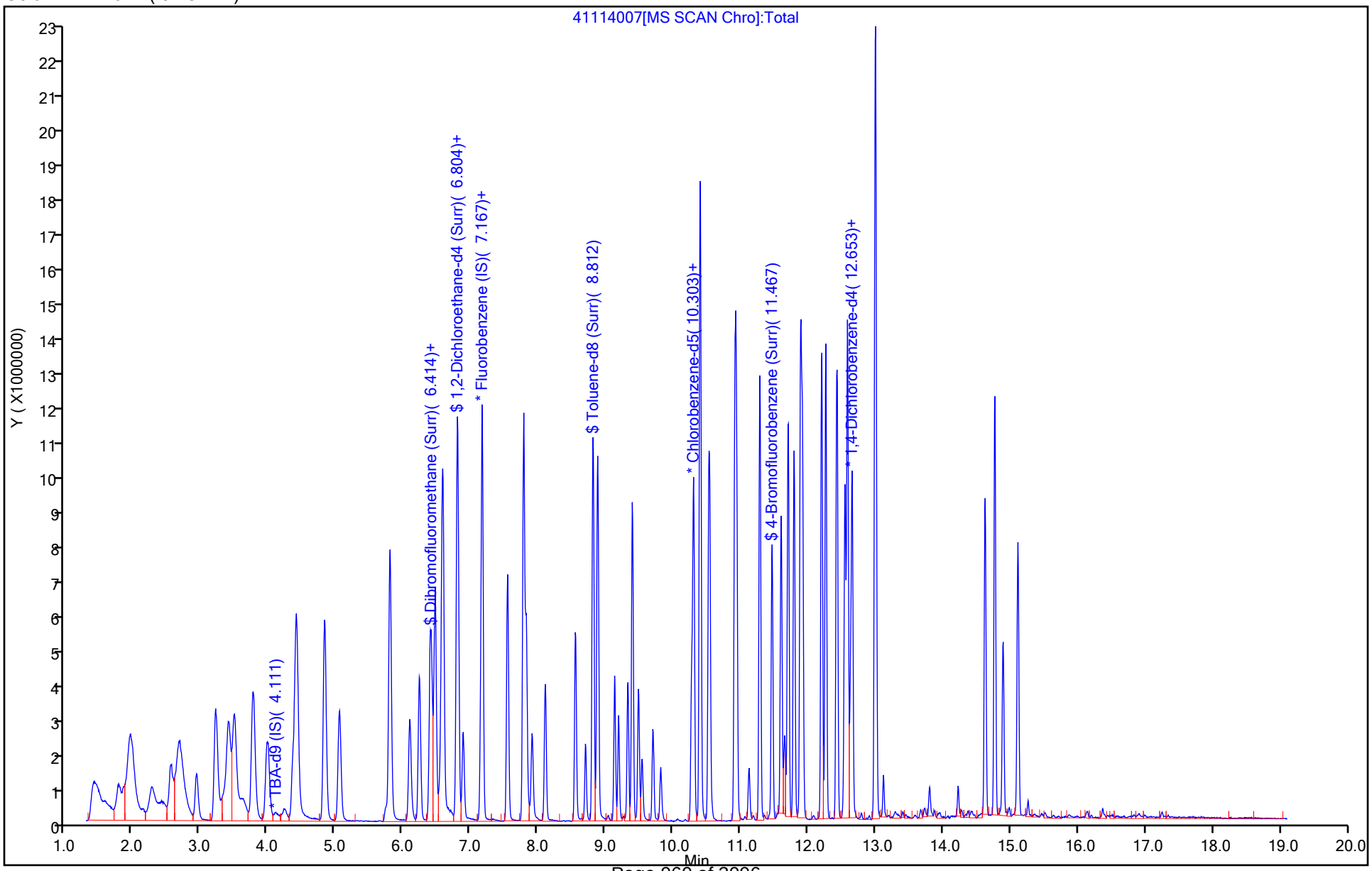

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114007.D				
Injection Date:	14-Nov-2019 12:18:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	7	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

11 Chloromethane, CAS: 74-87-3

Signal: 1

Processing Integration Results

RT: 1.78
Area: 4586555
Amount: 646.9381
Amount Units: ng

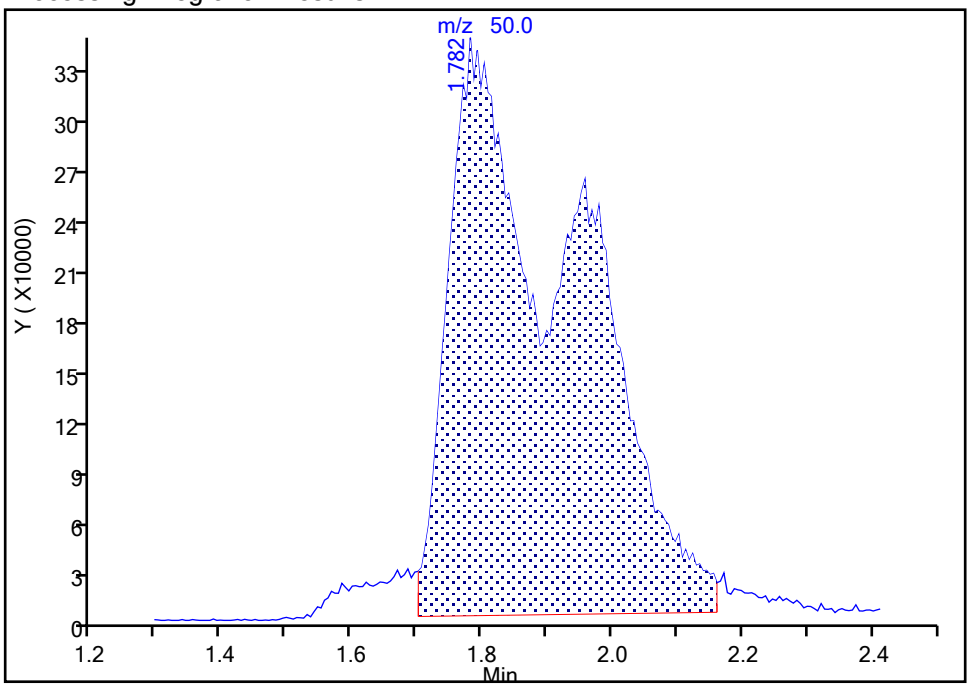

Manual Integration Results

RT: 1.78
Area: 2704808
Amount: 415.9232
Amount Units: ng

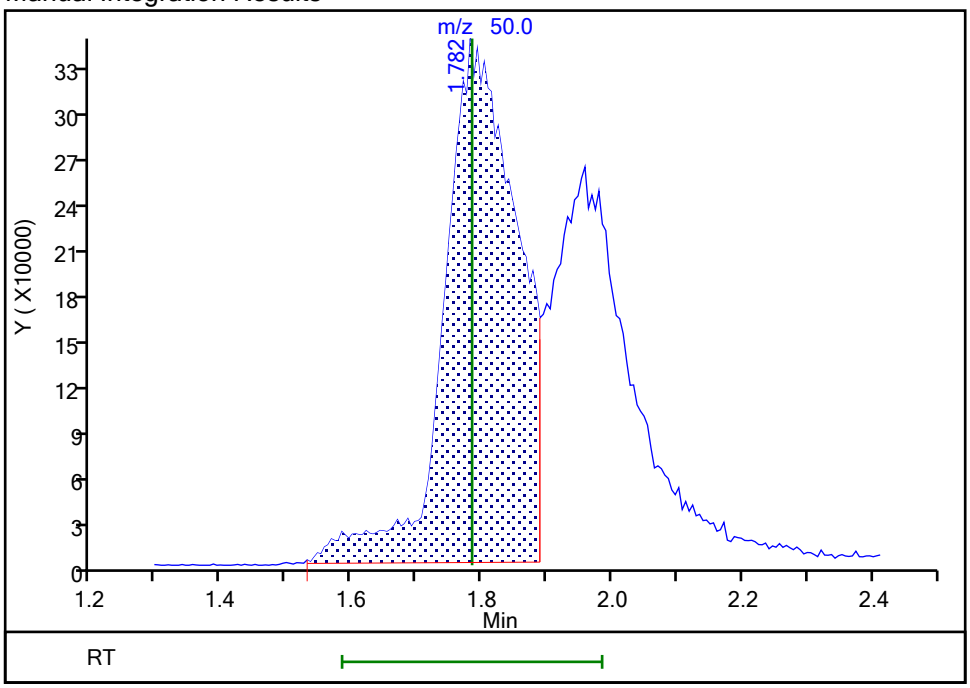

Reviewer: journetp, 14-Nov-2019 12:58:14

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114007.D				
Injection Date:	14-Nov-2019 12:18:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	7	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

12 Vinyl chloride, CAS: 75-01-4

Signal: 1

Processing Integration Results

RT: 1.92
Area: 2979057
Amount: 386.8001
Amount Units: ng

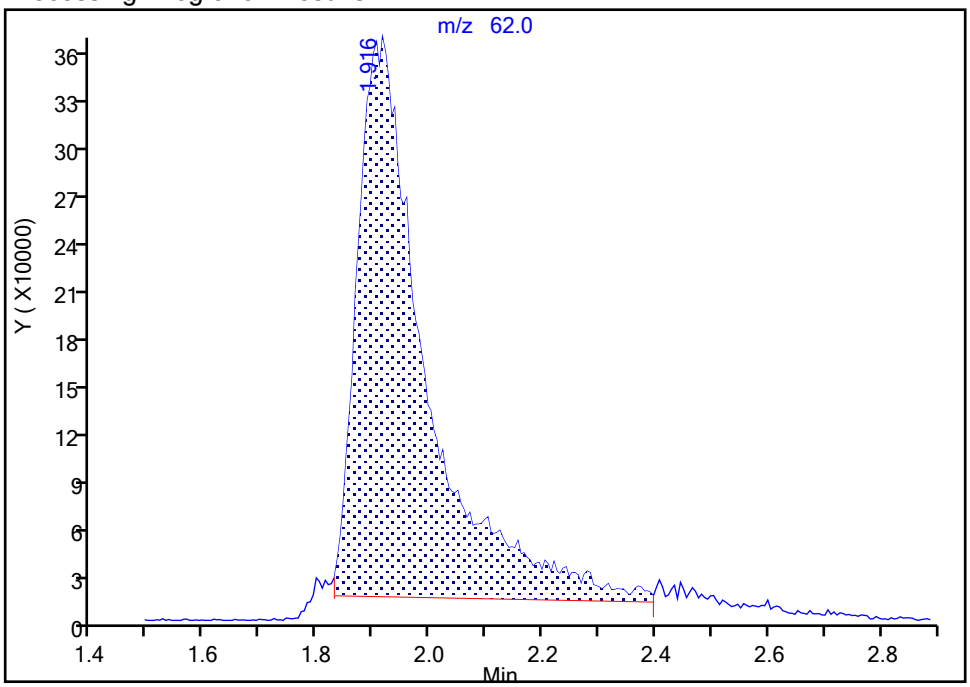

Manual Integration Results

RT: 1.92
Area: 3668713
Amount: 458.1130
Amount Units: ng

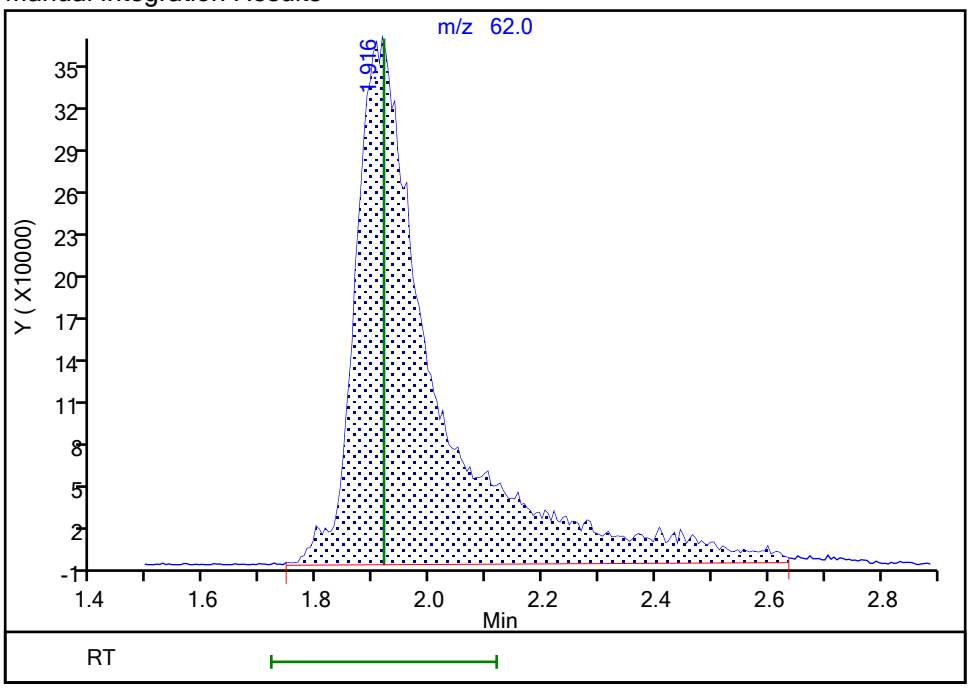

Reviewer: journetp, 14-Nov-2019 12:57:45

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114007.D				
Injection Date:	14-Nov-2019 12:18:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	7	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

15 Chloroethane, CAS: 75-00-3

Signal: 1

Processing Integration Results

RT: 2.26
Area: 293165
Amount: -106.924771
Amount Units: ng

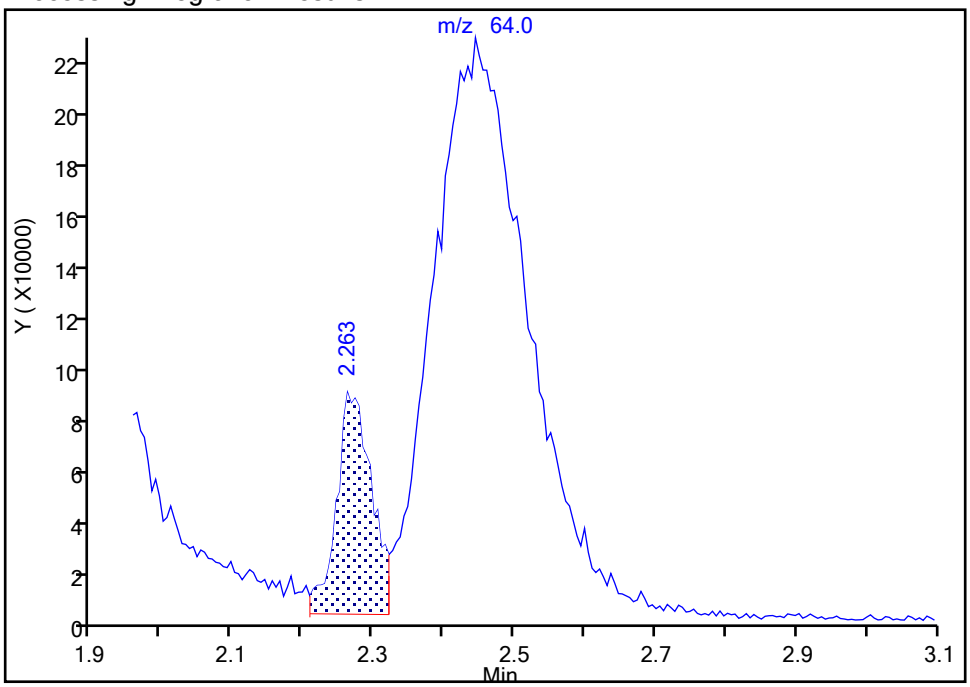

Manual Integration Results

RT: 2.44
Area: 2328016
Amount: 382.8721
Amount Units: ng

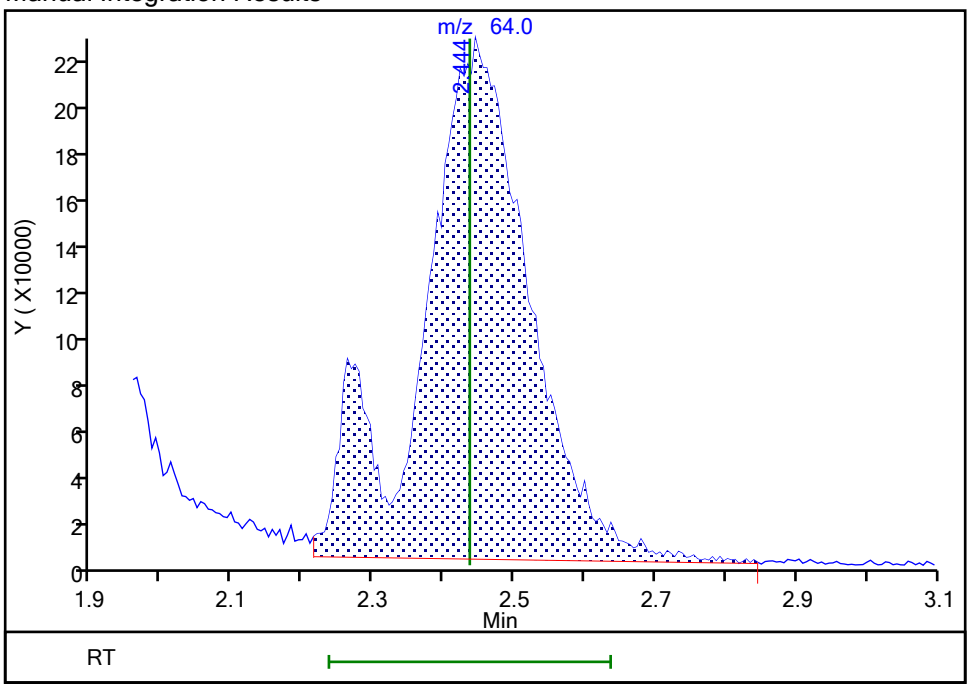

Reviewer: journetp, 14-Nov-2019 12:52:30

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114007.D				
Injection Date:	14-Nov-2019 12:18:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	7	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

17 Trichlorofluoromethane, CAS: 75-69-4

Signal: 1

Processing Integration Results

RT: 2.68
Area: 3324024
Amount: 322.8643
Amount Units: ng

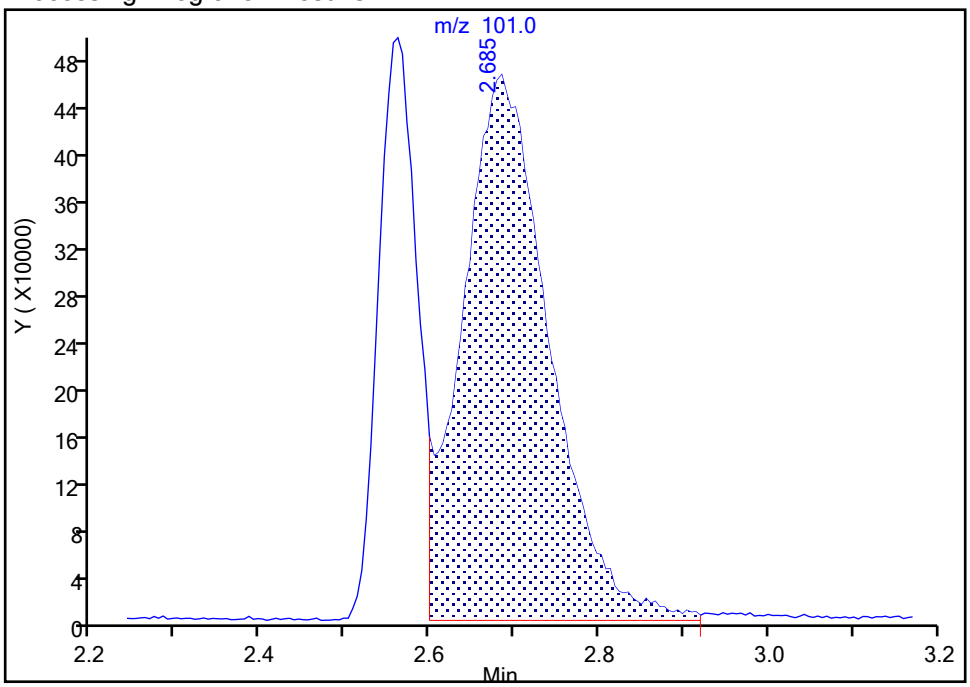

Manual Integration Results

RT: 2.56
Area: 4792577
Amount: 420.8885
Amount Units: ng

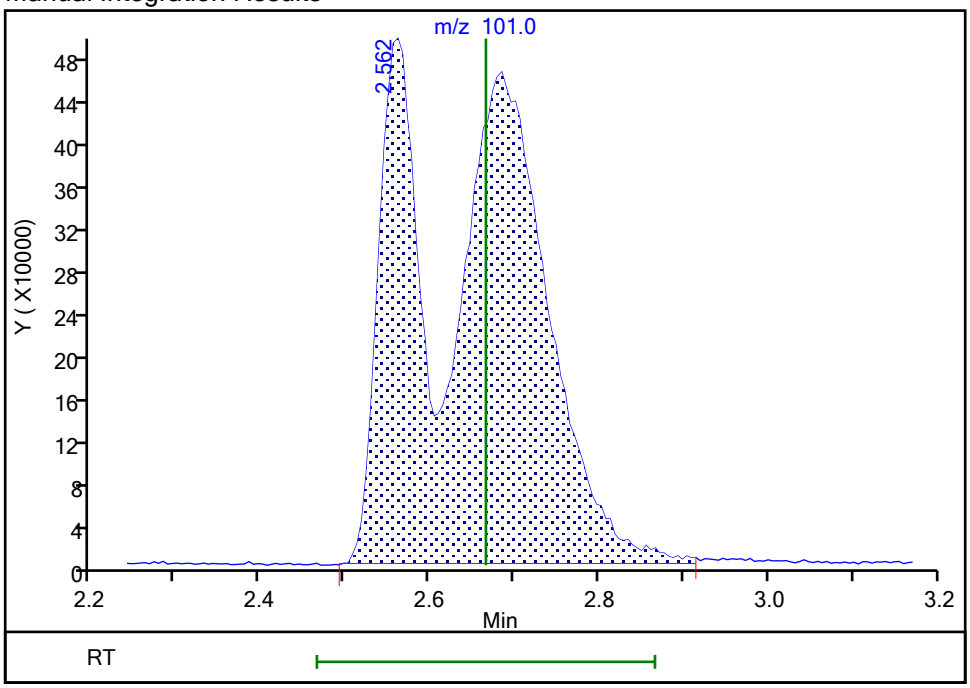

Reviewer: journetp, 14-Nov-2019 13:40:23

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114007.D				
Injection Date:	14-Nov-2019 12:18:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	7	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

22 1,1,2-Trichloro-1,2,2-trifluoroethane, CAS: 76-13-1

Signal: 1

Processing Integration Results

RT: 3.43
Area: 2581112
Amount: 380.2830
Amount Units: ng

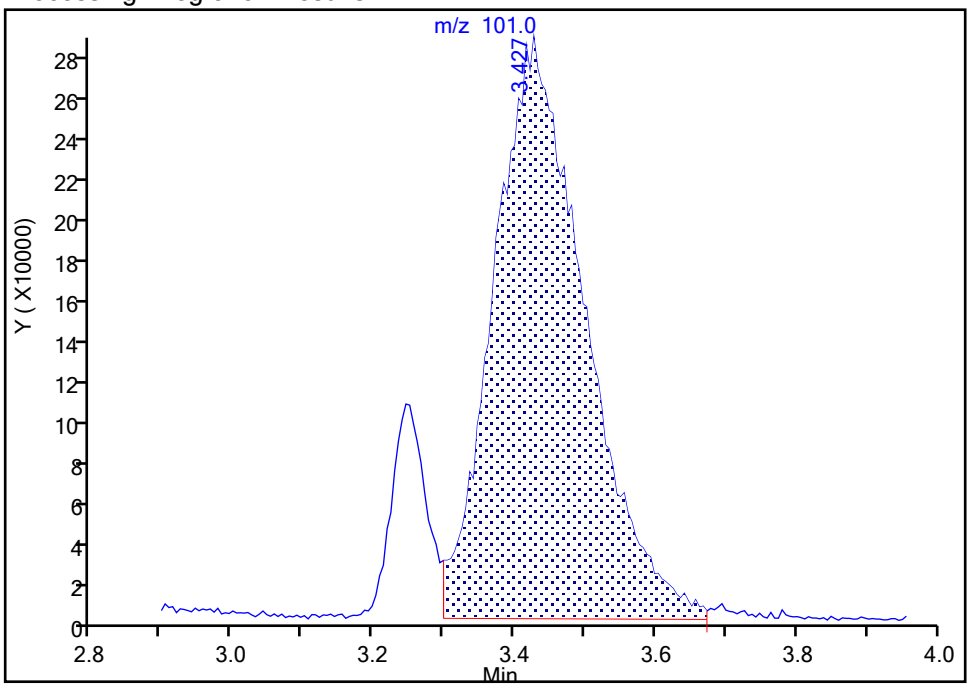

Manual Integration Results

RT: 3.43
Area: 2916016
Amount: 404.3465
Amount Units: ng

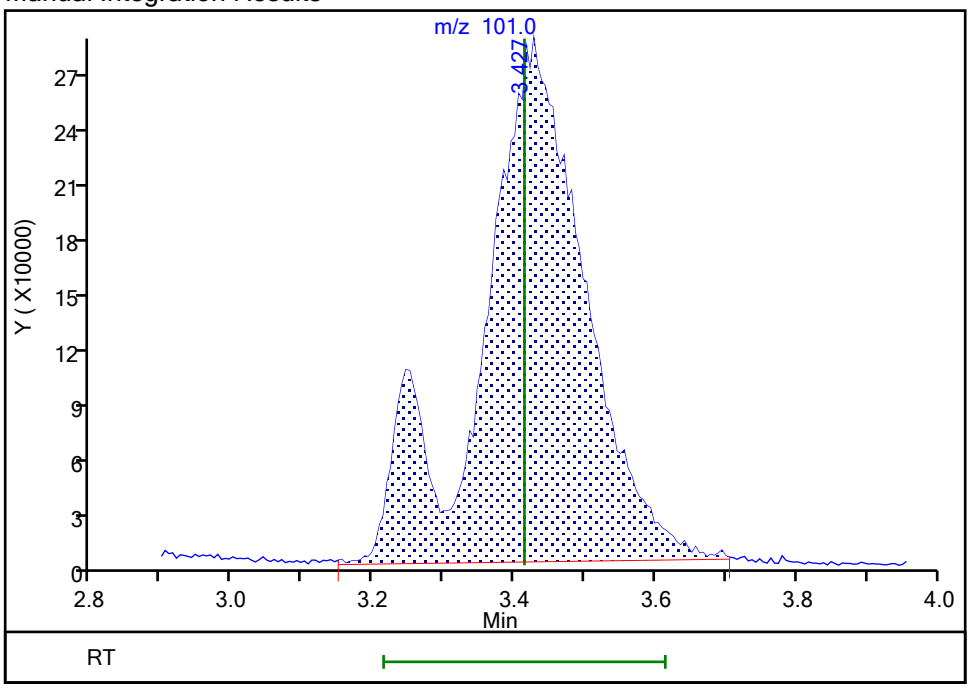

Reviewer: journetp, 14-Nov-2019 13:40:40

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114007.D				
Injection Date:	14-Nov-2019 12:18:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	7	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

25 Carbon disulfide, CAS: 75-15-0

Signal: 1

Processing Integration Results

RT: 3.50
Area: 6588314
Amount: 332.6485
Amount Units: ng

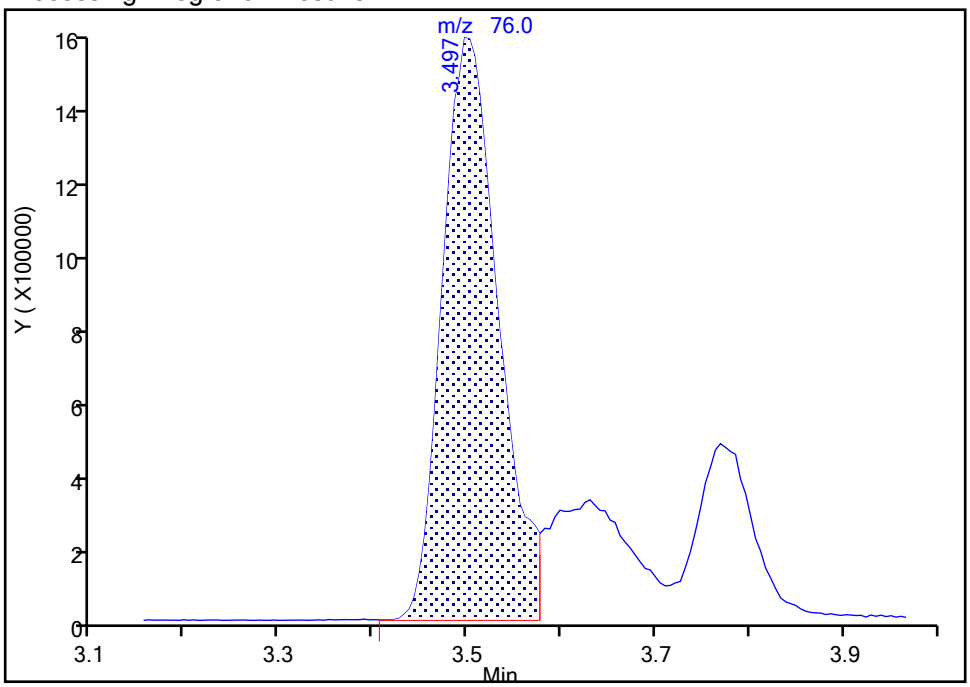

Manual Integration Results

RT: 3.50
Area: 8385135
Amount: 396.7677
Amount Units: ng

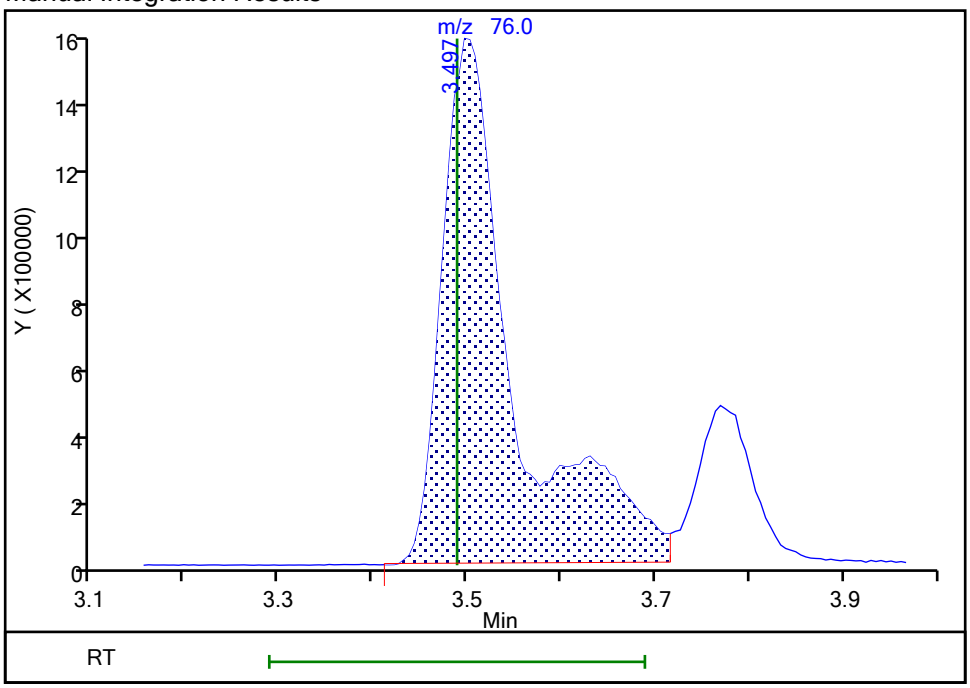

Reviewer: journetp, 14-Nov-2019 13:40:45

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114007.D				
Injection Date:	14-Nov-2019 12:18:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	7	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

72 4-Methyl-2-pentanone (MIBK), CAS: 108-10-1

Signal: 1

Processing Integration Results

RT: 8.70
Area: 1481276
Amount: 512.3130
Amount Units: ng

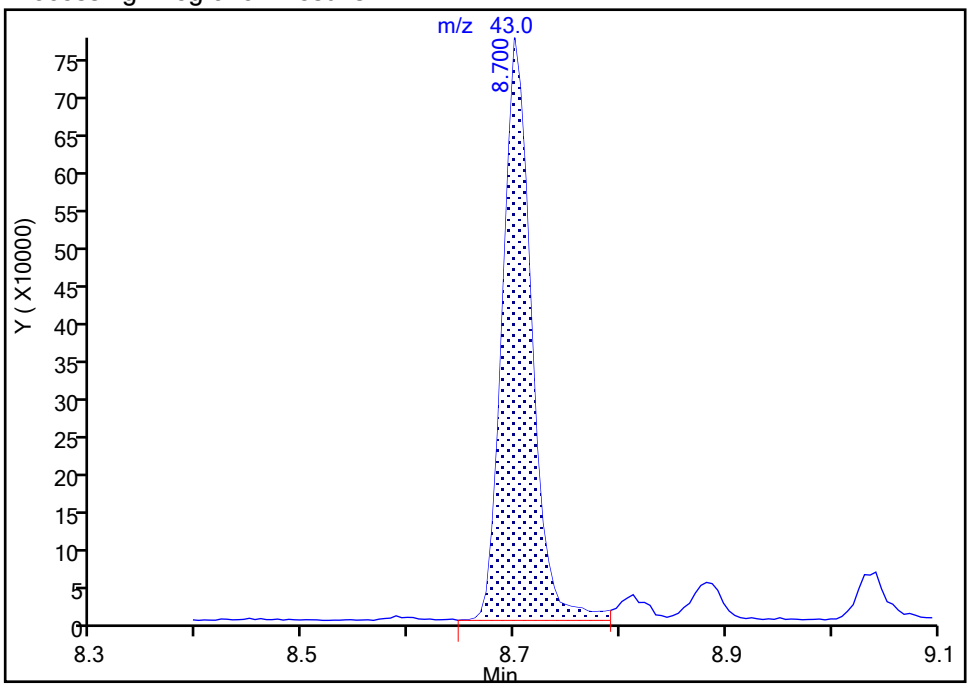

Manual Integration Results

RT: 8.70
Area: 1542989
Amount: 371.0964
Amount Units: ng

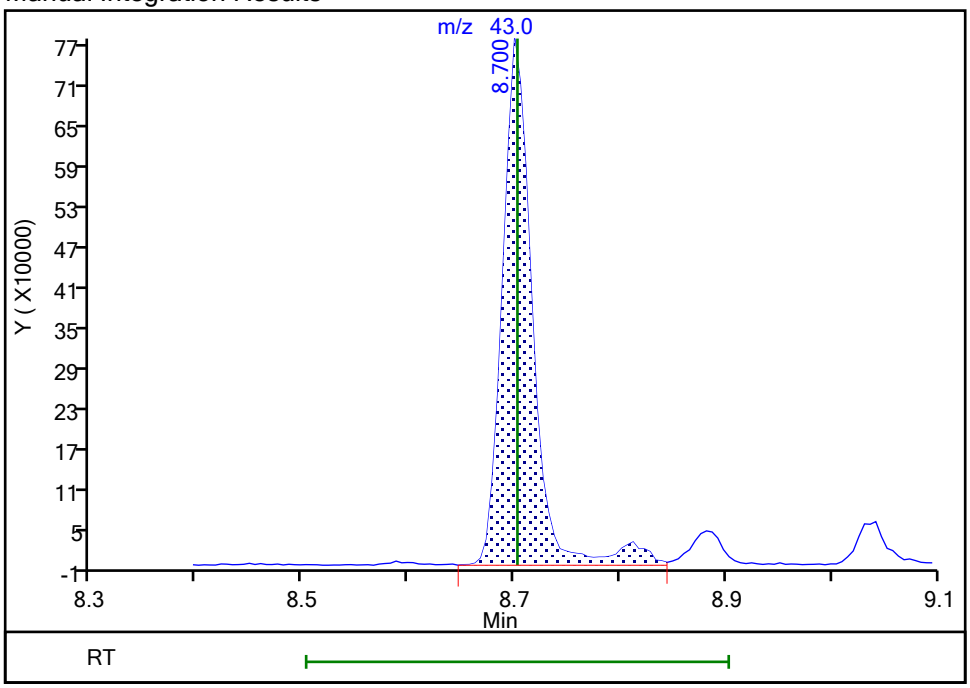

Reviewer: journetp, 14-Nov-2019 13:04:51

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114008.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 14-Nov-2019 12:45:30 ALS Bottle#: 8 Worklist Smp#: 8
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0029543-008
Operator ID: 034635 Instrument ID: CHHP4
Sublist: chrom-MSVOA_CHHP4*sub156

Method: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\MSVOA_CHHP4.m
Limit Group: VOA 8260C_D ICAL
Last Update: 14-Nov-2019 14:40:31 Calib Date: 14-Nov-2019 12:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114008.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0329

First Level Reviewer: journetp Date: 14-Nov-2019 13:53:56

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.120	4.114	0.006	88	570368	5000.0	5000.0	M
* 2 Fluorobenzene (IS)	96	7.154	7.153	0.001	99	3264956	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.274	10.273	0.001	97	847545	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.630	12.629	0.001	91	1222452	250.0	250.0	
$ 5 Dibromofluoromethane (Surr	113	6.422	6.422	0.000	0	3304253	500.0	605.3	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.802	6.801	0.001	0	2950886	500.0	569.5	
$ 7 Toluene-d8 (Surr)	98	8.810	8.810	0.000	0	9584773	500.0	423.9	
$ 8 4-Bromofluorobenzene (Surr	95	11.465	11.470	-0.005	0	4360529	500.0	515.0	
$ 141 Total BTEX	95		0.000				ND	ND	
10 Dichlorodifluoromethane	85	1.657	1.646	0.011	96	4946681	500.0	662.3	M
11 Chloromethane	50	1.791	1.785	0.006	67	3708591	500.0	615.3	M
12 Vinyl chloride	62	1.908	1.918	-0.010	40	5017952	500.0	676.0	M
13 Butadiene	39	1.967	1.950	0.017	93	4411505	500.0	551.7	
14 Bromomethane	94	2.277	2.265	0.012	92	2843235	500.0	595.3	
15 Chloroethane	64	2.448	2.436	0.012	95	3222057	500.0	568.7	M
16 Dichlorofluoromethane	67	2.678	2.661	0.017	92	7297731	500.0	626.4	M
17 Trichlorofluoromethane	101	2.549	2.666	-0.117	98	6497064	500.0	615.6	M
19 Ethyl ether	59	2.934	2.928	0.006	89	2048172	500.0	589.8	
21 1,1-Dichloroethene	96	3.217	3.211	0.006	98	3813199	500.0	555.2	M
23 Acetone	43	3.313	3.307	0.006	100	1049574	500.0	571.0	
24 Iodomethane	142	3.404	3.409	-0.005	100	4216133	500.0	615.3	
22 1,1,2-Trichloro-1,2,2-trif	101	3.431	3.414	0.017	91	4108274	500.0	614.6	M
25 Carbon disulfide	76	3.495	3.489	0.006	99	11266413	500.0	575.1	M
28 3-Chloro-1-propene	76	3.767	3.761	0.006	87	3024926	500.0	640.0	
29 Methyl acetate	43	3.783	3.788	-0.005	91	2156093	1000.0	1239.5	
30 Methylene Chloride	84	3.986	3.975	0.011	87	3439684	500.0	563.8	
31 2-Methyl-2-propanol	59	4.248	4.247	0.001	99	1104279	5000.0	5162.1	
32 Acrylonitrile	53	4.366	4.370	-0.004	96	4867375	5000.0	6151.4	
33 trans-1,2-Dichloroethene	96	4.414	4.408	0.006	96	4015524	500.0	633.5	
34 Methyl tert-butyl ether	73	4.419	4.424	-0.005	85	5854476	500.0	642.1	
35 Hexane	57	4.830	4.830	0.000	94	5911225	500.0	550.3	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 1,1-Dichloroethane	63	5.050	5.049	0.001	94	6141658	500.0	554.2	
41 2,2-Dichloropropane	97	5.797	5.797	0.000	90	882136	500.0	605.6	
42 cis-1,2-Dichloroethene	96	5.803	5.797	0.006	78	3748275	500.0	564.9	
43 2-Butanone (MEK)	43	5.819	5.813	0.006	47	1179321	500.0	604.5	
46 Chlorobromomethane	128	6.091	6.090	0.001	94	1464932	500.0	595.1	
48 Tetrahydrofuran	42	6.107	6.106	0.001	86	823328	1000.0	1245.8	
49 Chloroform	83	6.241	6.235	0.006	93	5540936	500.0	528.0	
50 1,1,1-Trichloroethane	97	6.401	6.395	0.006	96	4416866	500.0	537.4	
51 Cyclohexane	56	6.471	6.470	0.001	89	4598533	500.0	523.6	
53 Carbon tetrachloride	117	6.572	6.571	0.001	90	3934559	500.0	535.1	
52 1,1-Dichloropropene	75	6.588	6.587	0.001	93	4764538	500.0	518.3	
59 Isobutyl alcohol	41	6.780	6.785	-0.005	93	979469	12500	14969	
54 Benzene	78	6.807	6.806	0.001	96	9785002	500.0	439.6	
55 1,2-Dichloroethane	62	6.887	6.886	0.001	95	2880622	500.0	535.9	
58 n-Heptane	43	7.176	7.169	0.007	80	4944796	500.0	497.4	
61 Trichloroethene	130	7.544	7.543	0.001	95	3813323	500.0	564.5	
63 Methylcyclohexane	83	7.785	7.784	0.001	85	6190856	500.0	507.7	
64 1,2-Dichloropropane	63	7.822	7.821	0.001	87	3311309	500.0	582.8	
65 Dibromomethane	93	7.913	7.907	0.006	94	1394988	500.0	625.6	
67 1,4-Dioxane	88	7.913	7.912	0.001	37	355000	10000	12686	
68 Dichlorobromomethane	83	8.105	8.104	0.001	95	3925649	500.0	585.4	
71 cis-1,3-Dichloropropene	75	8.554	8.553	0.001	91	4600975	500.0	569.1	
72 4-Methyl-2-pentanone (MIBK	43	8.704	8.703	0.001	94	1996943	500.0	440.9	
73 Toluene	91	8.880	8.879	0.001	85	9415843	500.0	396.3	
74 trans-1,3-Dichloropropene	75	9.136	9.135	0.001	93	3567743	500.0	572.9	
75 Ethyl methacrylate	69	9.190	9.194	-0.004	90	2577597	500.0	595.2	
76 1,1,2-Trichloroethane	97	9.329	9.328	0.001	92	1920667	500.0	539.3	
77 Tetrachloroethene	164	9.398	9.397	0.001	90	3330101	500.0	566.2	
78 1,3-Dichloropropane	76	9.489	9.488	0.001	93	3676421	500.0	566.1	
79 2-Hexanone	43	9.542	9.541	0.001	95	1617192	500.0	495.1	
81 Chlorodibromomethane	129	9.703	9.702	0.000	91	2379707	500.0	576.9	
82 Ethylene Dibromide	107	9.820	9.814	0.006	99	1890093	500.0	598.3	
84 Chlorobenzene	112	10.306	10.305	0.001	86	6868938	500.0	452.0	
85 1,1,1,2-Tetrachloroethane	131	10.397	10.396	0.001	96	2833149	500.0	511.9	
86 Ethylbenzene	106	10.402	10.401	0.001	86	4662412	500.0	481.4	
87 m-Xylene & p-Xylene	106	10.536	10.530	0.006	0	5792753	500.0	469.3	
88 o-Xylene	106	10.915	10.914	0.001	91	5214613	500.0	466.8	
89 Styrene	104	10.937	10.941	-0.004	87	7025071	500.0	424.7	
90 Bromoform	173	11.124	11.123	0.001	96	1235034	500.0	559.2	
91 Isopropylbenzene	105	11.284	11.283	0.001	84	9088534	500.0	342.1	
93 1,1,2,2-Tetrachloroethane	83	11.599	11.598	0.001	68	1826319	500.0	506.7	
94 Bromobenzene	156	11.604	11.603	0.001	91	3198924	500.0	511.3	
96 trans-1,4-Dichloro-2-buten	53	11.642	11.635	0.007	88	372165	500.0	581.7	
95 1,2,3-Trichloropropane	110	11.658	11.657	0.001	86	581112	500.0	516.0	
97 N-Propylbenzene	120	11.706	11.705	0.001	81	4191328	500.0	472.8	
98 2-Chlorotoluene	126	11.791	11.790	0.001	93	3499407	500.0	488.1	
99 1,3,5-Trimethylbenzene	105	11.887	11.887	0.000	88	8062428	500.0	353.0	
100 4-Chlorotoluene	126	11.919	11.919	0.000	94	3488346	500.0	490.3	
101 tert-Butylbenzene	119	12.203	12.202	0.001	86	7670763	500.0	393.8	
103 1,2,4-Trimethylbenzene	105	12.267	12.261	0.006	85	8073273	500.0	381.7	
104 sec-Butylbenzene	105	12.427	12.426	0.001	85	9236476	500.0	312.7	
105 1,3-Dichlorobenzene	146	12.545	12.549	-0.004	89	5526377	500.0	459.1	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
106 4-Isopropyltoluene	119	12.587	12.586	0.001	95	8537260	500.0	347.1	
107 1,4-Dichlorobenzene	146	12.651	12.651	0.001	84	5511788	500.0	471.0	
110 n-Butylbenzene	91	12.993	12.992	0.001	84	8386187	500.0	375.5	
111 1,2-Dichlorobenzene	146	13.004	13.003	0.001	87	5168007	500.0	477.4	
112 1,2-Dibromo-3-Chloropropan	75	13.800	13.804	-0.004	81	412252	500.0	667.2	
113 1,2,4-Trichlorobenzene	180	14.623	14.627	-0.004	94	4578694	500.0	542.0	
115 Hexachlorobutadiene	225	14.767	14.766	0.001	95	3243135	500.0	532.9	
116 Naphthalene	128	14.890	14.889	0.001	98	6064417	500.0	536.5	
117 1,2,3-Trichlorobenzene	180	15.109	15.113	-0.004	93	3938868	500.0	556.7	
S 129 1,2-Dichloroethene, Total	96				0		1000.0	1198.5	
S 130 Xylenes, Total	106				0		1000.0	936.1	
S 131 1,3-Dichloropropene, Total	1				0		1000.0	1142.0	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

Reagents:

VOA8260INT_00101	Amount Added: 10.00	Units: uL
VOA8260SURR_00101	Amount Added: 20.00	Units: uL
VOA8260VOAPRI_00380	Amount Added: 20.00	Units: uL

Report Date: 14-Nov-2019 14:40:33 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114008.D

Injection Date: 14-Nov-2019 12:45:30 Instrument ID: CHHP4 Operator ID: 034635

Lims ID: IC Worklist Smp#: 8

Client ID:

Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 8

Method: MSVOA_CHHP4 Limit Group: VOA 8260C_D ICAL

Column: DB-624 (0.18 mm)

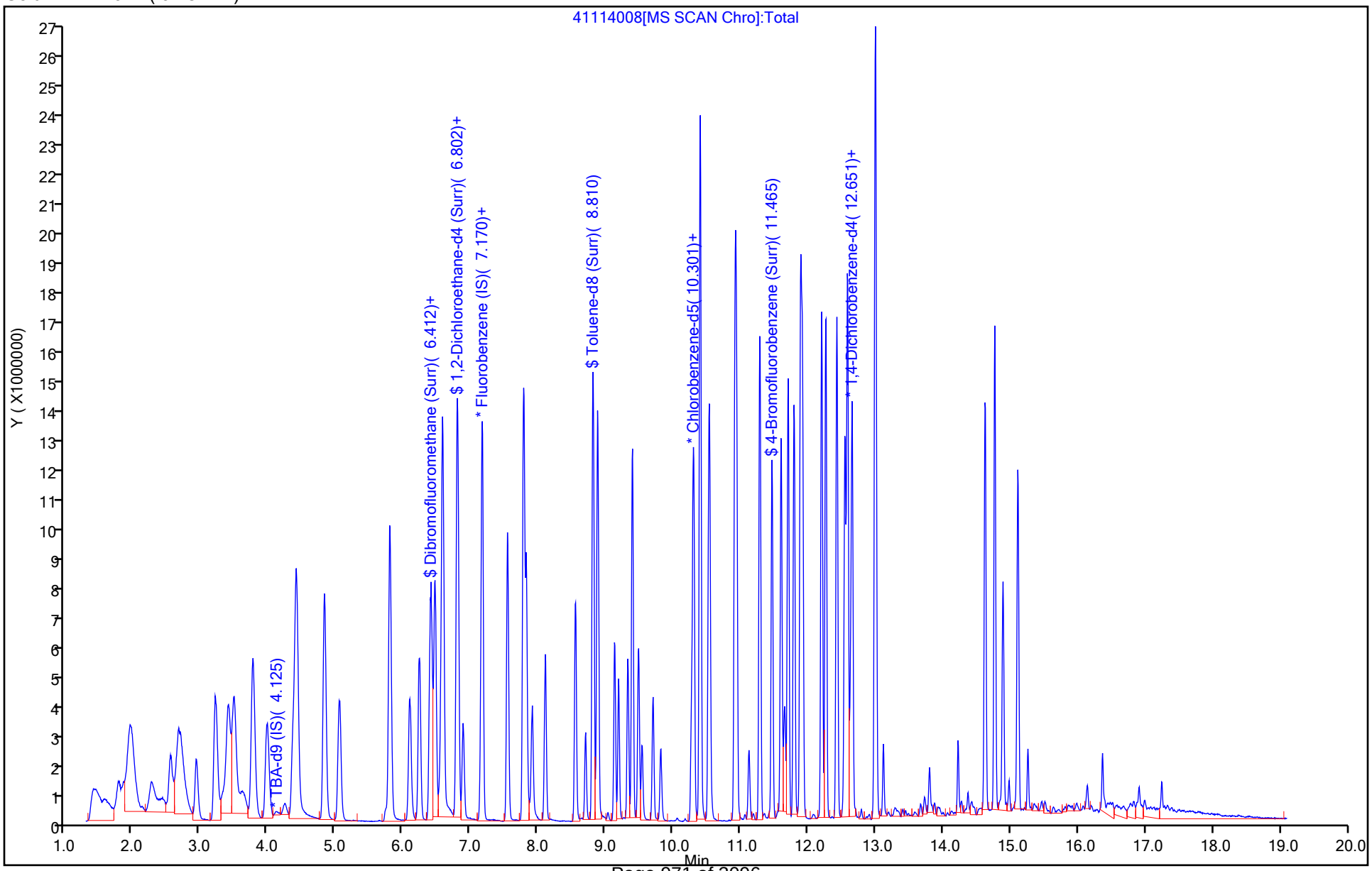

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114008.D				
Injection Date:	14-Nov-2019 12:45:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	8	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

10 Dichlorodifluoromethane, CAS: 75-71-8

Signal: 1

Processing Integration Results

RT: 1.66
Area: 4811523
Amount: 647.5836
Amount Units: ng

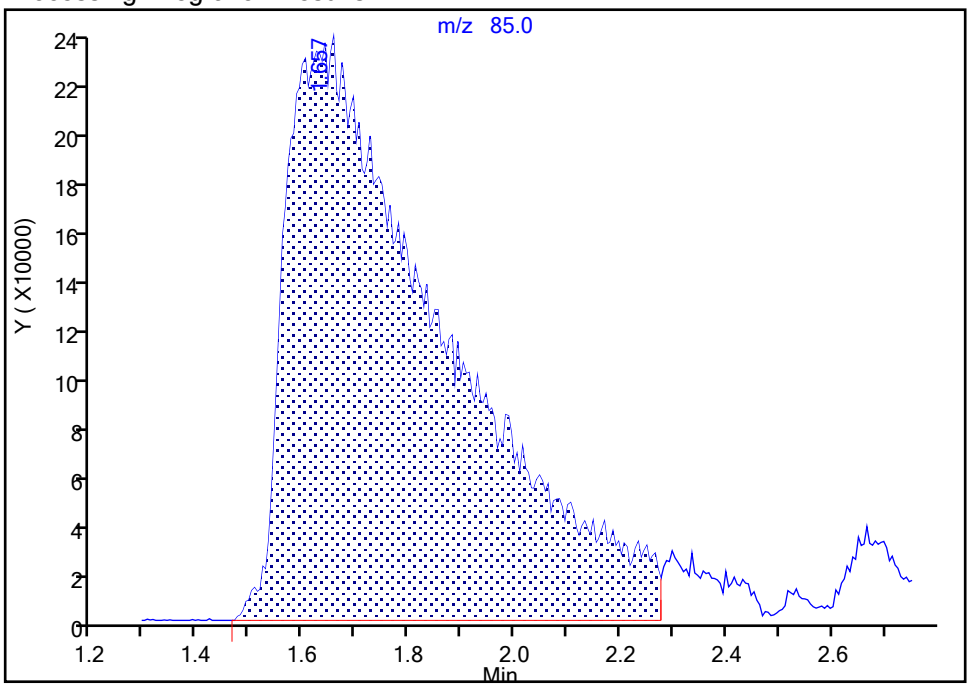

Manual Integration Results

RT: 1.66
Area: 4946681
Amount: 662.3321
Amount Units: ng

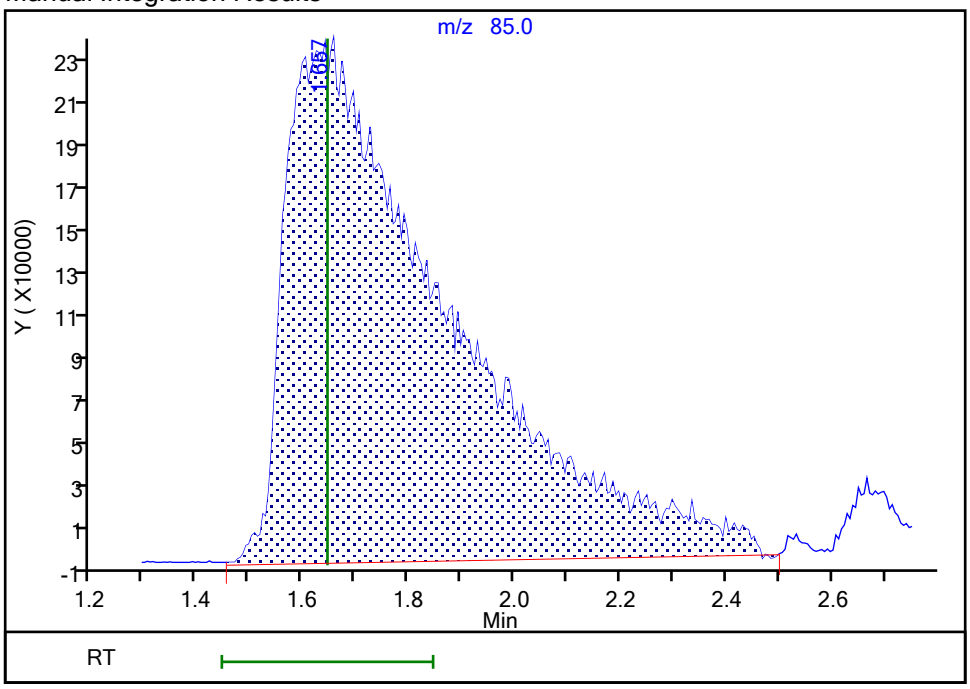

Reviewer: journetp, 14-Nov-2019 13:41:37

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114008.D				
Injection Date:	14-Nov-2019 12:45:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	8	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

11 Chloromethane, CAS: 74-87-3

Signal: 1

Not Detected
Expected RT: 1.78

Processing Integration Results

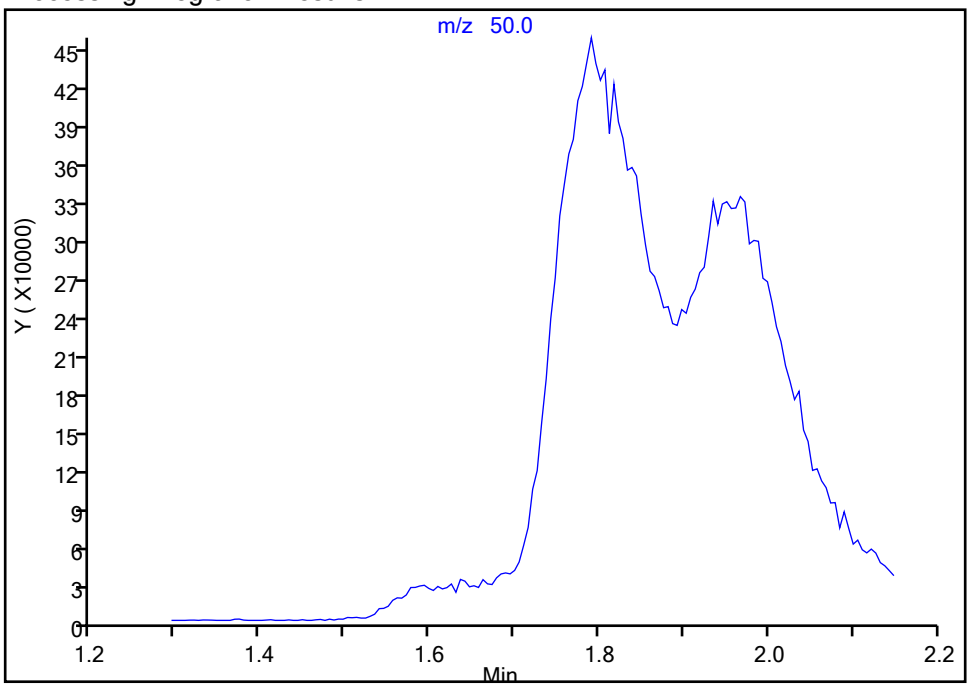

Manual Integration Results

RT: 1.79
Area: 3708591
Amount: 615.2547
Amount Units: ng

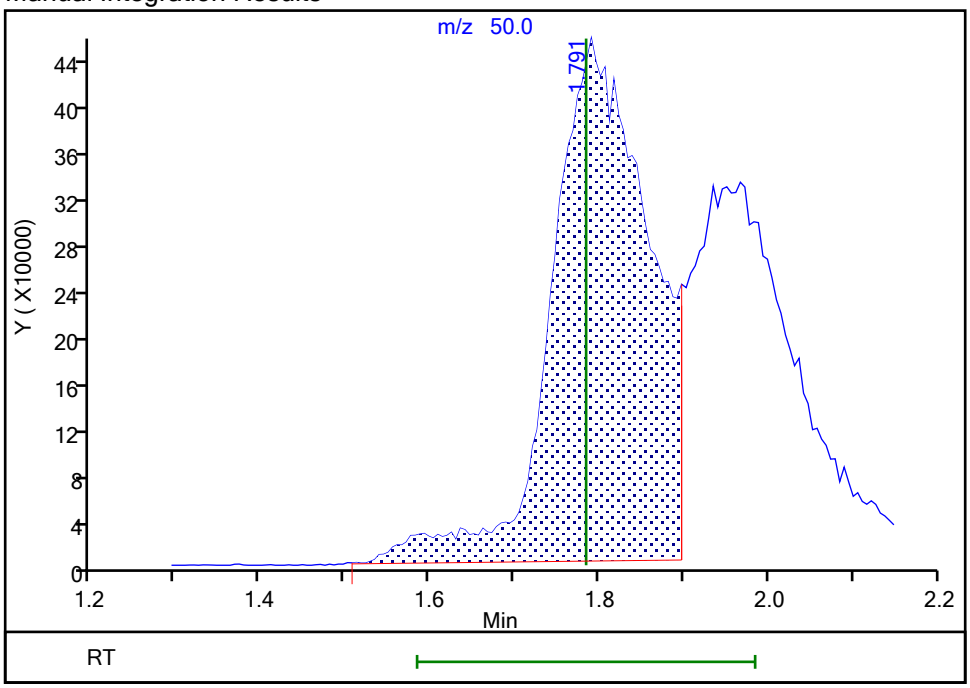

Reviewer: journetp, 14-Nov-2019 13:41:43
Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114008.D				
Injection Date:	14-Nov-2019 12:45:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	8	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

12 Vinyl chloride, CAS: 75-01-4

Signal: 1

Processing Integration Results

RT: 1.91
Area: 4924586
Amount: 633.8369
Amount Units: ng

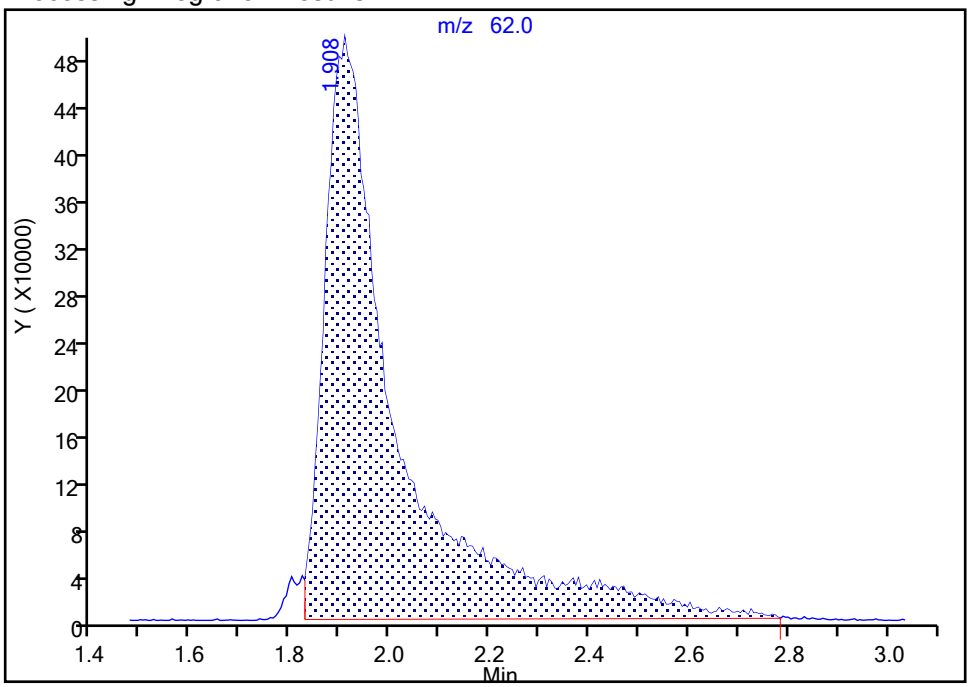

Manual Integration Results

RT: 1.91
Area: 5017952
Amount: 676.0124
Amount Units: ng

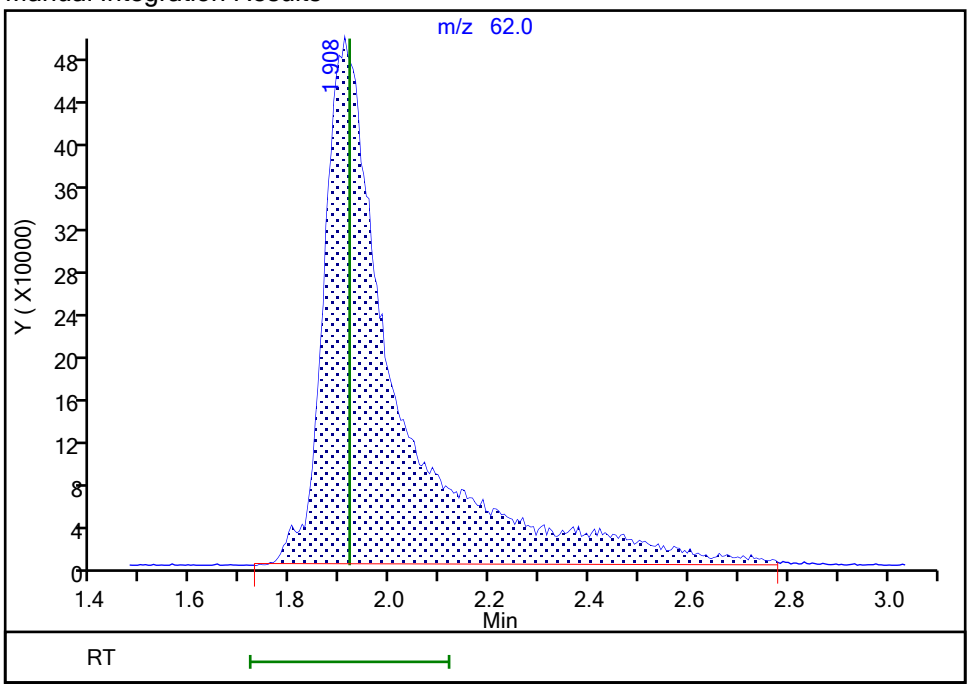

Reviewer: journetp, 14-Nov-2019 13:41:50

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114008.D				
Injection Date:	14-Nov-2019 12:45:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	8	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

15 Chloroethane, CAS: 75-00-3

Signal: 1

Processing Integration Results

RT: 2.27
Area: 406646
Amount: -21.681878
Amount Units: ng

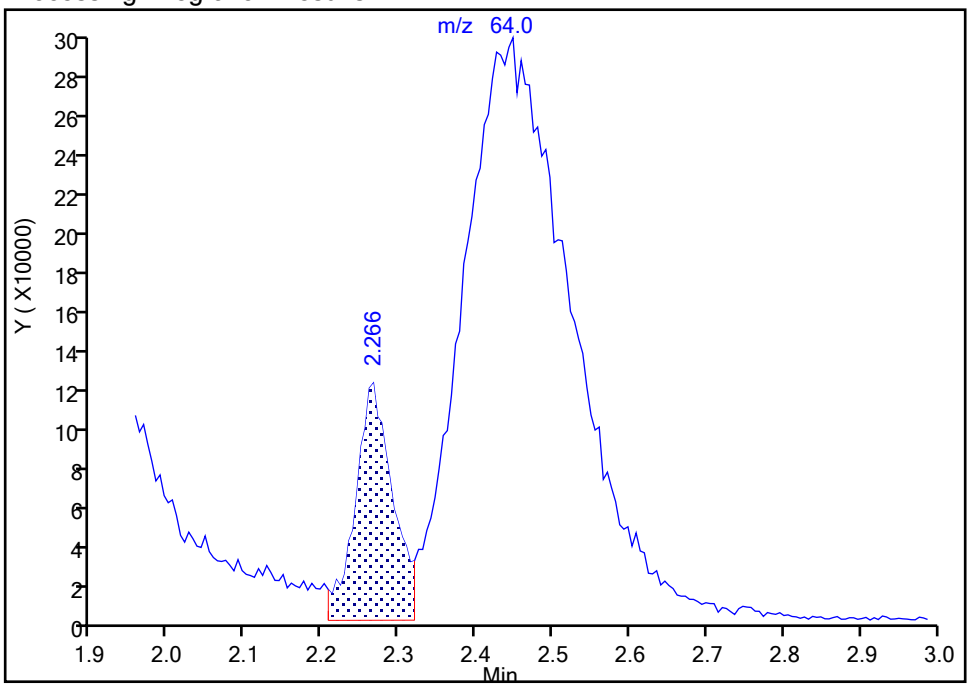

Manual Integration Results

RT: 2.45
Area: 3222057
Amount: 568.7430
Amount Units: ng

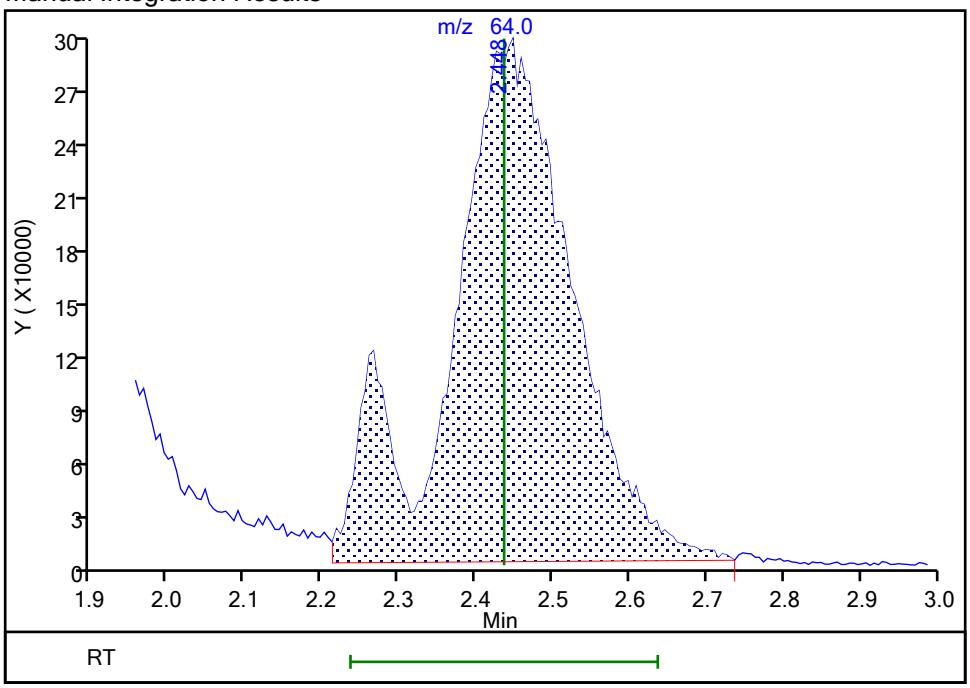

Reviewer: journetp, 14-Nov-2019 13:41:57

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114008.D				
Injection Date:	14-Nov-2019 12:45:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	8	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

17 Trichlorofluoromethane, CAS: 75-69-4

Signal: 1

Processing Integration Results

RT: 2.55
Area: 2139120
Amount: 229.7843
Amount Units: ng

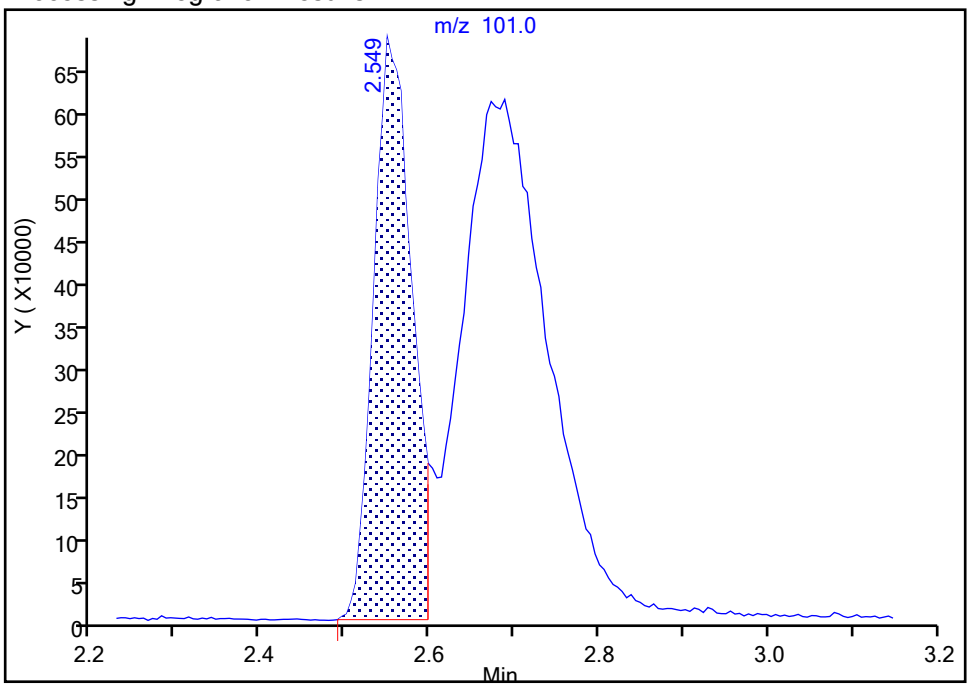

Manual Integration Results

RT: 2.55
Area: 6497064
Amount: 615.5798
Amount Units: ng

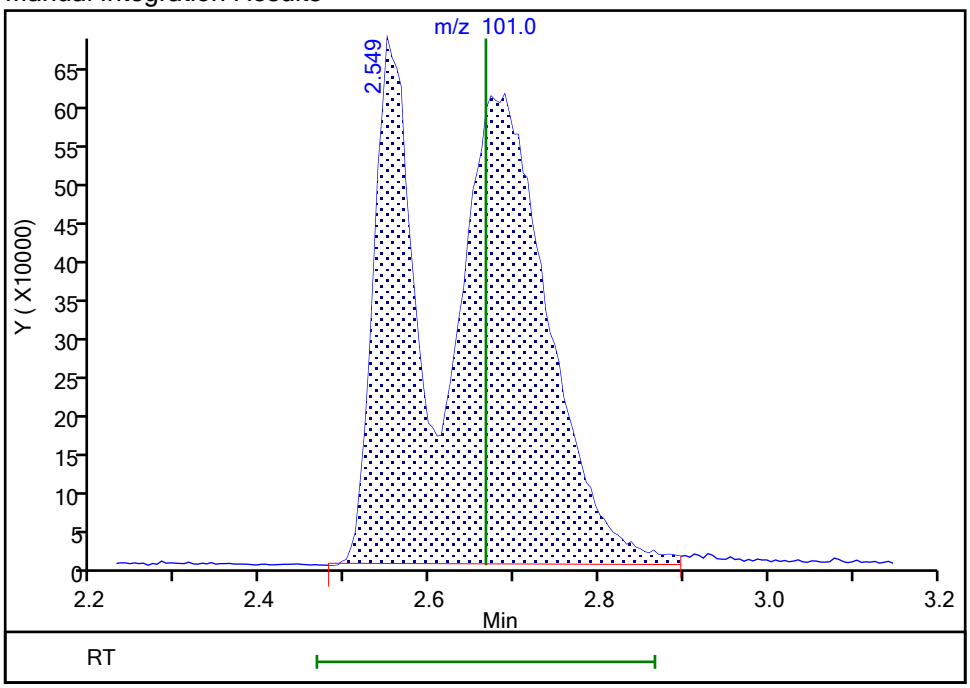

Reviewer: journetp, 14-Nov-2019 13:42:06

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114008.D				
Injection Date:	14-Nov-2019 12:45:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	8	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

16 Dichlorofluoromethane, CAS: 75-43-4

Signal: 1

Processing Integration Results

RT: 2.68
Area: 6427704
Amount: 563.7878
Amount Units: ng

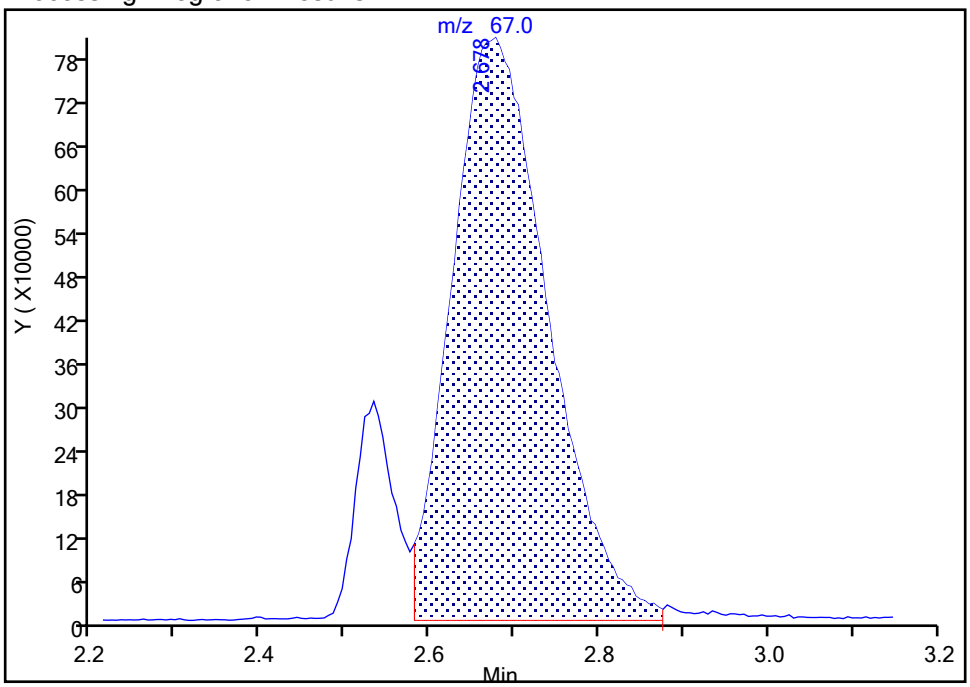

Manual Integration Results

RT: 2.68
Area: 7297731
Amount: 626.4412
Amount Units: ng

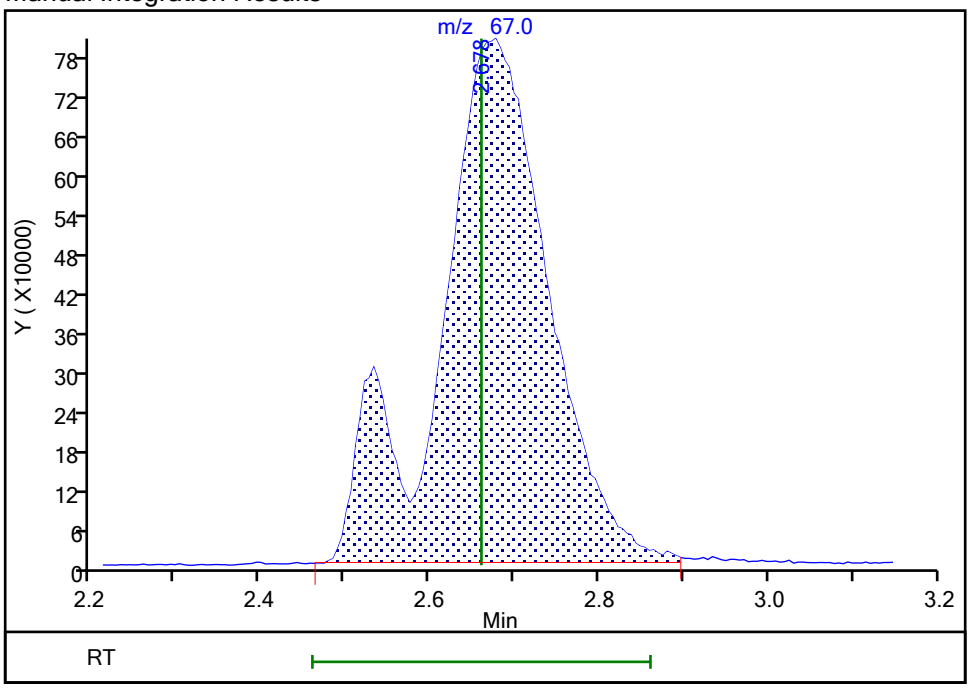

Reviewer: journetp, 14-Nov-2019 13:42:12

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114008.D				
Injection Date:	14-Nov-2019 12:45:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	8	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

21 1,1-Dichloroethene, CAS: 75-35-4

Signal: 1

Processing Integration Results

RT: 3.22
Area: 3069432
Amount: 529.3267
Amount Units: ng

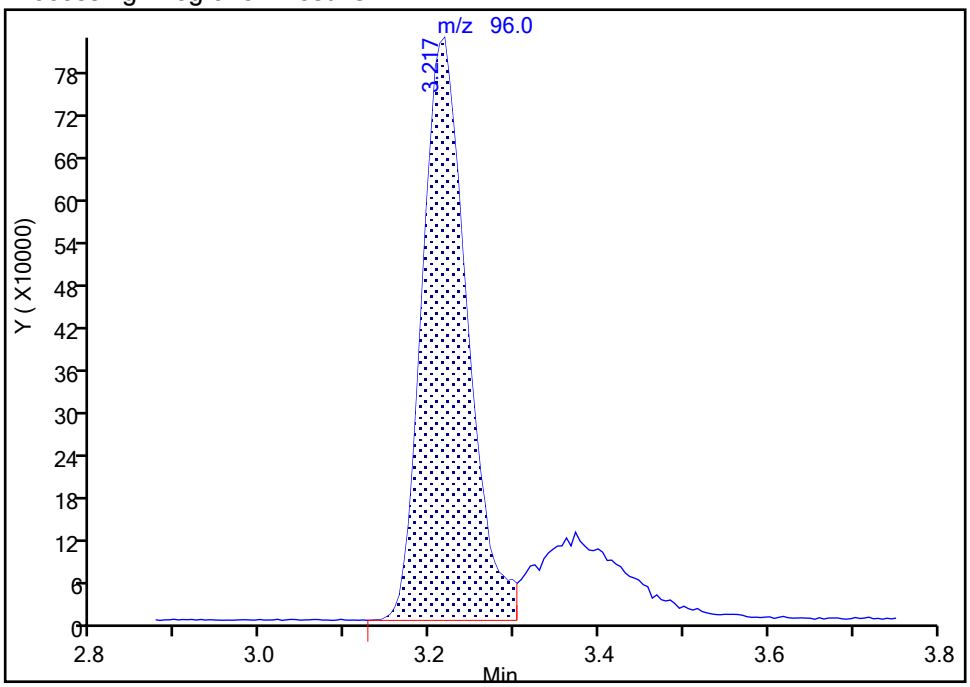

Manual Integration Results

RT: 3.22
Area: 3813199
Amount: 555.1793
Amount Units: ng

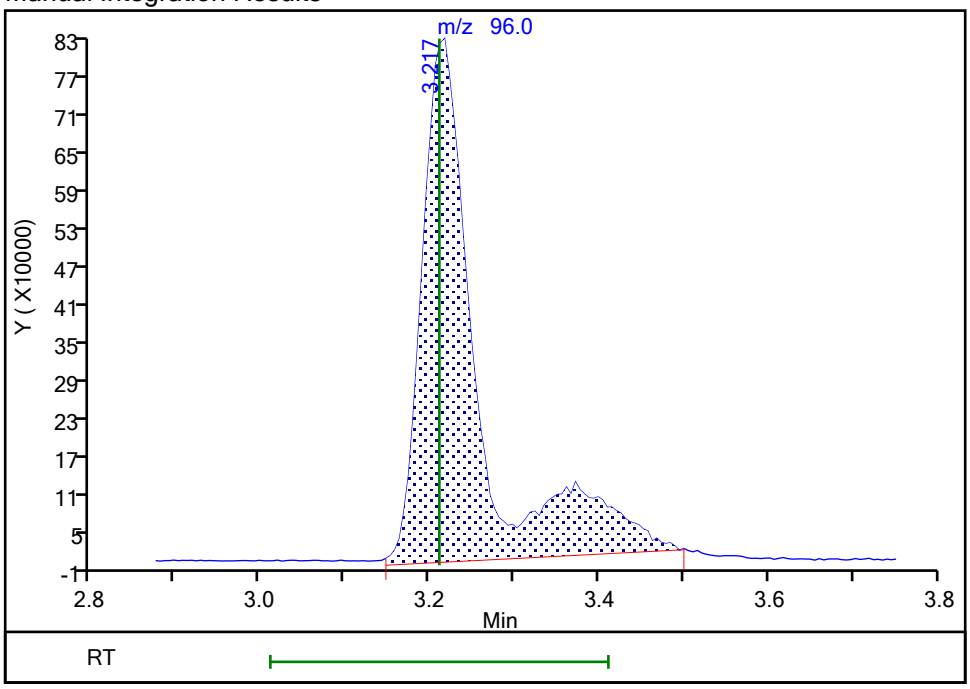

Reviewer: journetp, 14-Nov-2019 13:42:20
Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114008.D				
Injection Date:	14-Nov-2019 12:45:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	8	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

22 1,1,2-Trichloro-1,2,2-trifluoroethane, CAS: 76-13-1

Signal: 1

Processing Integration Results

RT: 3.43
Area: 3648798
Amount: 556.7971
Amount Units: ng

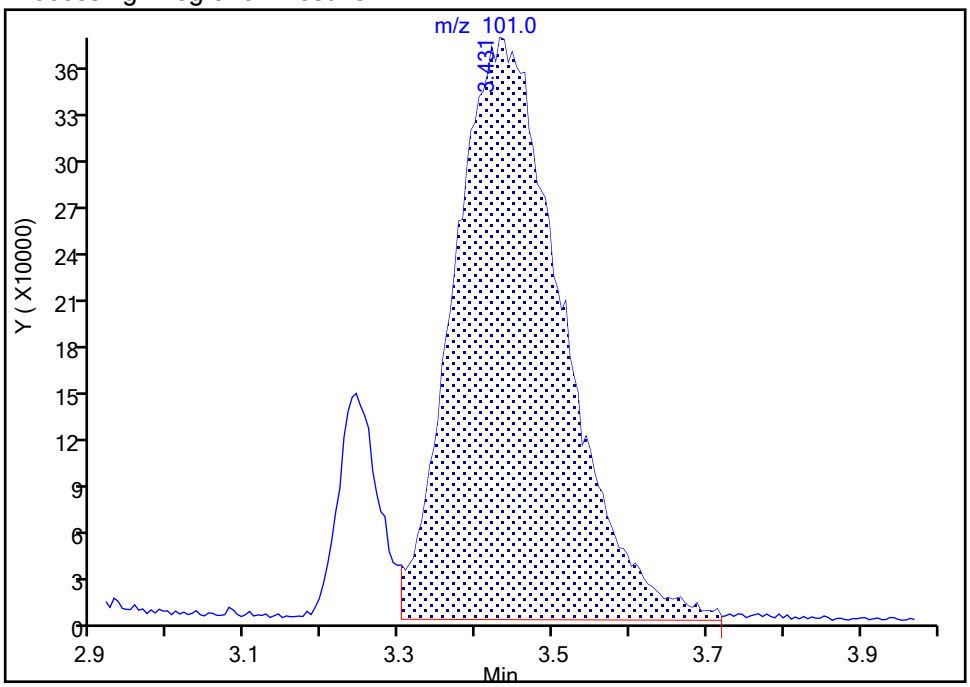

Manual Integration Results

RT: 3.43
Area: 4108274
Amount: 614.5997
Amount Units: ng

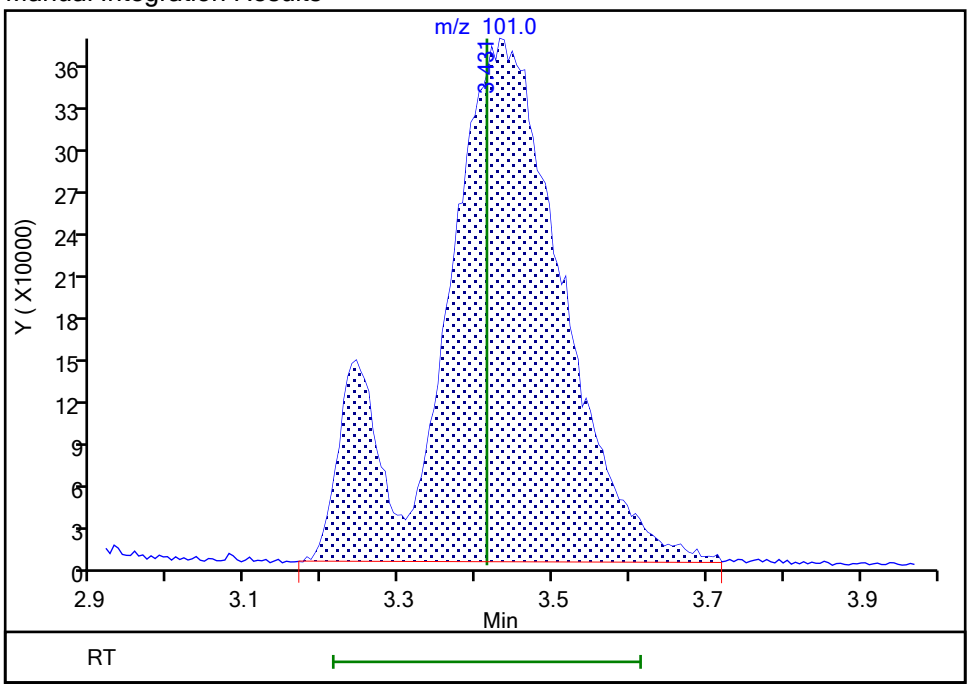

Reviewer: journetp, 14-Nov-2019 13:42:29

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114008.D				
Injection Date:	14-Nov-2019 12:45:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	8	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

25 Carbon disulfide, CAS: 75-15-0

Signal: 1

Processing Integration Results

RT: 3.49
Area: 8586437
Amount: 456.1686
Amount Units: ng

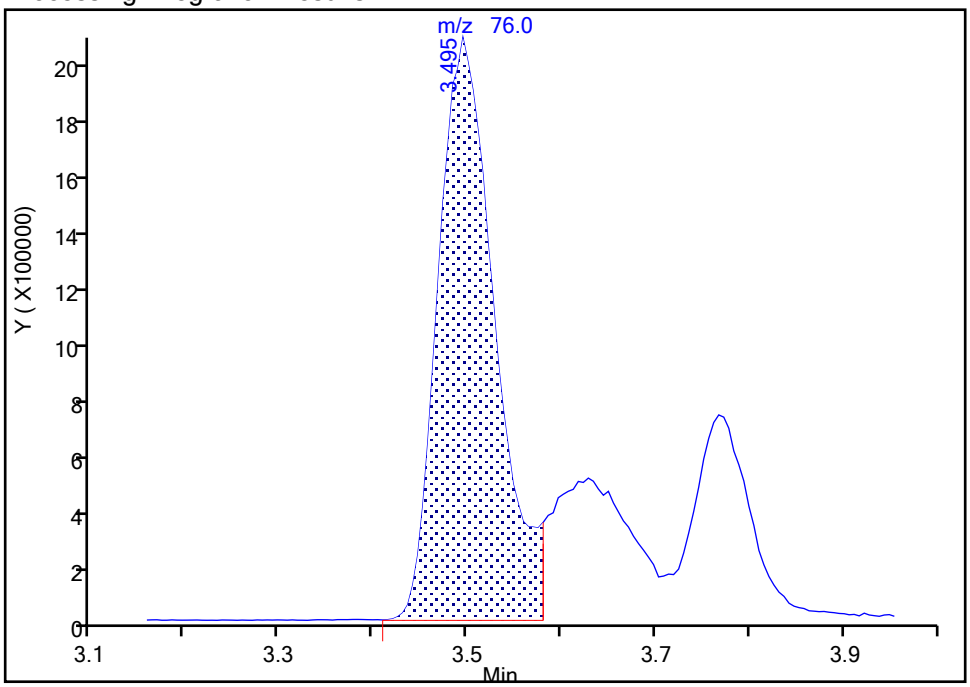

Manual Integration Results

RT: 3.49
Area: 11266413
Amount: 575.1500
Amount Units: ng

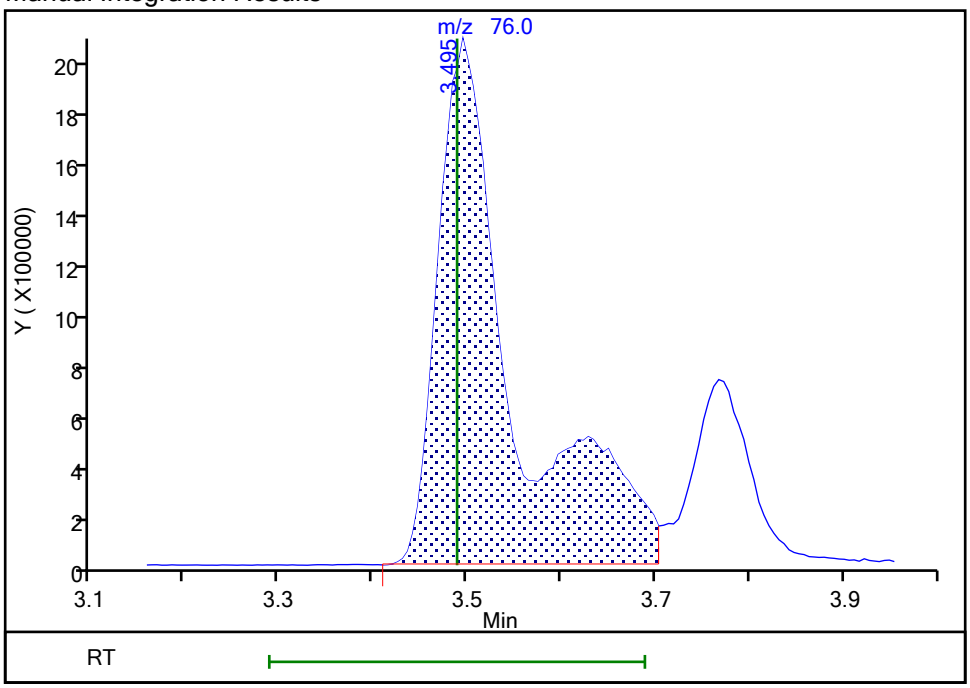

Reviewer: journetp, 14-Nov-2019 13:42:34

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114008.D				
Injection Date:	14-Nov-2019 12:45:30	Instrument ID:	CHHP4		
Lims ID:	IC				
Client ID:					
Operator ID:	034635	ALS Bottle#:	8	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

* 1 TBA-d9 (IS), CAS: 25725-11-5

Signal: 1

Processing Integration Results

RT: 4.12
Area: 535251
Amount: 5000.0000
Amount Units: ng

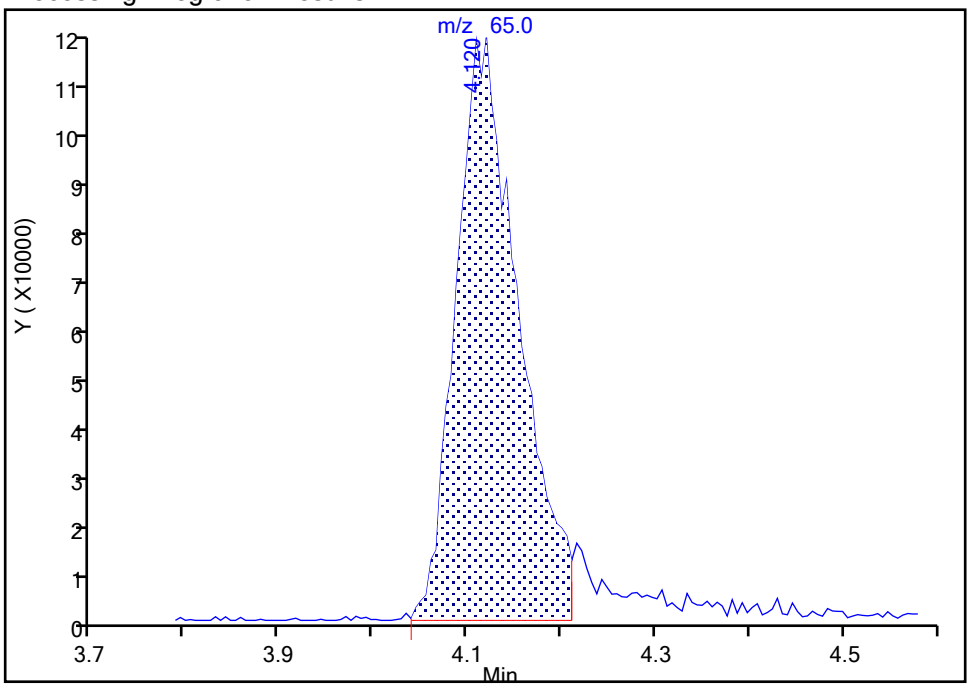

Manual Integration Results

RT: 4.12
Area: 570368
Amount: 5000.0000
Amount Units: ng

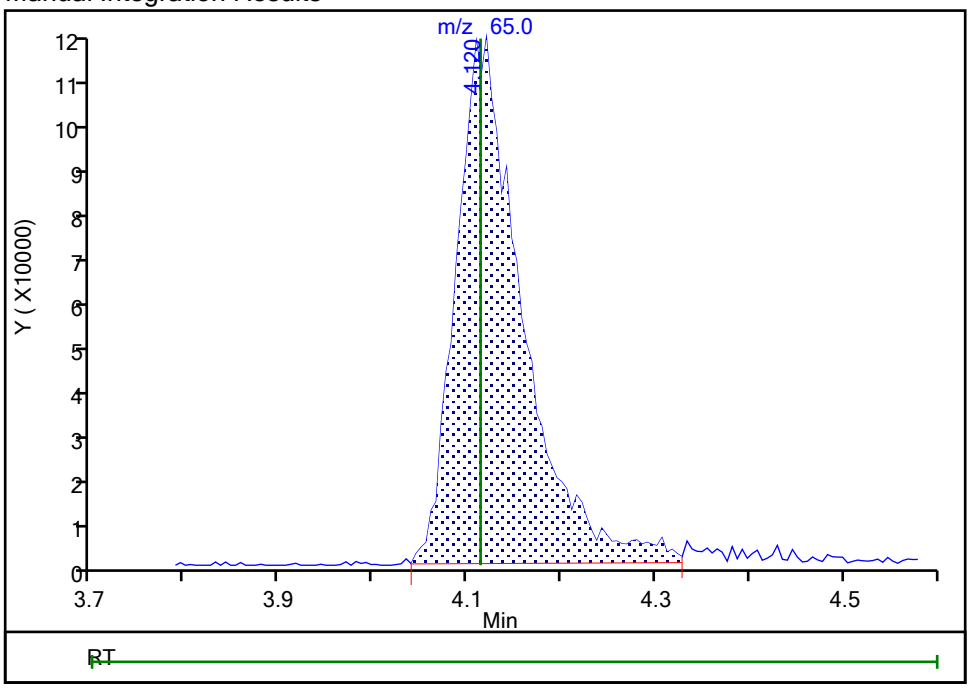

Reviewer: journetp, 14-Nov-2019 13:41:28

Audit Action: Manually Integrated Audit Reason: Poor chromatography

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCVIS 180-302272/2 Calibration Date: 12/23/2019 06:57

Instrument ID: CHHP4 Calib Start Date: 02/28/2019 06:43

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 02/28/2019 14:12

Lab File ID: 4122302.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Chloroethyl vinyl ether	Ave	0.1826	0.1360	0.0100	59.6	80.0	-25.5*	20.0

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122302.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 23-Dec-2019 06:57:30 ALS Bottle#: 2 Worklist Smp#: 2
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0030118-002
Operator ID: 034635 Instrument ID: CHHP4
Sublist: chrom-MSVOA_CHHP4*sub141

Method: \\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\MSVOA_CHHP4.m
Limit Group: VOA 8260C_D ICAL
Last Update: 24-Dec-2019 13:18:48 Calib Date: 14-Nov-2019 12:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114008.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0309

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.138	4.138	0.000	88	346140	5000.0	5000.0	
* 2 Fluorobenzene (IS)	96	7.156	7.156	0.000	98	2148543	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.276	10.276	0.000	98	524353	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.632	12.632	0.000	91	816230	250.0	250.0	
$ 5 Dibromofluoromethane (Surr	113	6.424	6.424	0.000	0	634054	200.0	176.5	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.803	6.803	0.000	0	640594	200.0	187.9	
$ 7 Toluene-d8 (Surr)	98	8.812	8.812	0.000	0	2771869	200.0	198.2	
$ 8 4-Bromofluorobenzene (Surr	95	11.467	11.467	0.000	0	1118612	200.0	213.5	
$ 141 Total BTEX	95		0.000				ND	ND	
10 Dichlorodifluoromethane	85	1.627	1.627	0.000	50	911569	200.0	185.5	
11 Chloromethane	50	1.905	1.905	0.000	63	656468	200.0	165.5	M
12 Vinyl chloride	62	1.937	1.937	0.000	86	844979	200.0	173.0	Ma
13 Butadiene	39	1.963	1.963	0.000	93	896304	200.0	170.3	M
14 Bromomethane	94	2.257	2.257	0.000	87	455486	200.0	144.9	M
15 Chloroethane	64	2.444	2.444	0.000	64	512390	200.0	142.0	M
17 Trichlorofluoromethane	101	2.551	2.551	0.000	99	1053586	200.0	151.7	M
16 Dichlorofluoromethane	67	2.669	2.669	0.000	95	1140887	200.0	148.8	M
19 Ethyl ether	59	2.936	2.936	0.000	87	353317	200.0	154.6	
20 Acrolein	56	3.123	3.123	0.000	0	292742	875.0	694.7	
21 1,1-Dichloroethene	96	3.219	3.219	0.000	98	705044	200.0	164.9	M
23 Acetone	43	3.326	3.326	0.000	100	232506	200.0	192.2	
24 Iodomethane	142	3.411	3.411	0.000	99	1083955	200.0	240.4	M
22 1,1,2-Trichloro-1,2,2-trif	101	3.454	3.454	0.000	73	805953	200.0	183.2	M
25 Carbon disulfide	76	3.491	3.491	0.000	99	1983804	200.0	153.9	M
28 3-Chloro-1-propene	76	3.764	3.764	0.000	90	577212	200.0	185.6	
29 Methyl acetate	43	3.796	3.796	0.000	96	478180	400.0	417.7	
30 Methylene Chloride	84	3.993	3.993	0.000	88	712940	200.0	177.6	M
31 2-Methyl-2-propanol	59	4.266	4.266	0.000	100	255911	2000.0	1971.2	
32 Acrylonitrile	53	4.373	4.373	0.000	99	1189198	2000.0	2283.9	
33 trans-1,2-Dichloroethene	96	4.415	4.415	0.000	99	744813	200.0	178.6	
34 Methyl tert-butyl ether	73	4.431	4.431	0.000	95	970778	200.0	161.8	
35 Hexane	57	4.832	4.832	0.000	91	1225165	200.0	173.3	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 1,1-Dichloroethane	63	5.051	5.051	0.000	96	1230676	200.0	168.8	
38 Vinyl acetate	43	5.105	5.105	0.000	0	1183001	200.0	268.0	
42 cis-1,2-Dichloroethene	96	5.804	5.804	0.000	82	763372	200.0	174.8	
41 2,2-Dichloropropane	97	5.804	5.804	0.000	61	168130	200.0	175.4	
43 2-Butanone (MEK)	43	5.815	5.815	0.000	39	202265	200.0	157.6	
46 Chlorobromomethane	128	6.093	6.093	0.000	92	316694	200.0	195.5	
48 Tetrahydrofuran	42	6.120	6.120	0.000	82	172432	400.0	396.5	
49 Chloroform	83	6.242	6.242	0.000	94	1213315	200.0	175.7	
50 1,1,1-Trichloroethane	97	6.397	6.397	0.000	98	1070542	200.0	197.9	M
51 Cyclohexane	56	6.467	6.467	0.000	87	1327450	200.0	229.7	M
53 Carbon tetrachloride	117	6.579	6.579	0.000	95	847644	200.0	175.2	
52 1,1-Dichloropropene	75	6.590	6.590	0.000	96	1088098	200.0	179.9	
59 Isobutyl alcohol	41	6.787	6.787	0.000	93	221615	5000.0	5146.8	
54 Benzene	78	6.803	6.803	0.000	98	2832401	200.0	193.4	
55 1,2-Dichloroethane	62	6.889	6.889	0.000	98	725308	200.0	205.1	
58 n-Heptane	43	7.172	7.172	0.000	86	1146705	200.0	175.3	
61 Trichloroethene	130	7.546	7.546	0.000	99	828790	200.0	186.4	
63 Methylcyclohexane	83	7.786	7.786	0.000	83	1475773	200.0	183.9	
64 1,2-Dichloropropane	63	7.818	7.818	0.000	93	670230	200.0	179.3	
65 Dibromomethane	93	7.909	7.909	0.000	92	291563	200.0	198.7	
67 1,4-Dioxane	88	7.914	7.914	0.000	41	107555	4000.0	5840.6	
68 Dichlorobromomethane	83	8.107	8.107	0.000	99	814247	200.0	184.5	
70 2-Chloroethyl vinyl ether	63	8.411	8.411	0.000	0	467499	400.0	297.8	
71 cis-1,3-Dichloropropene	75	8.550	8.550	0.000	96	1079050	200.0	202.8	
72 4-Methyl-2-pentanone (MIBK	43	8.705	8.705	0.000	95	369462	200.0	183.8	
73 Toluene	91	8.881	8.881	0.000	97	2995173	200.0	203.8	
74 trans-1,3-Dichloropropene	75	9.132	9.132	0.000	92	860469	200.0	223.3	
75 Ethyl methacrylate	69	9.191	9.191	0.000	88	606559	200.0	226.4	
76 1,1,2-Trichloroethane	97	9.330	9.330	0.000	92	467568	200.0	212.2	
77 Tetrachloroethene	164	9.394	9.394	0.000	97	709301	200.0	194.9	
78 1,3-Dichloropropane	76	9.485	9.485	0.000	89	867225	200.0	215.9	
79 2-Hexanone	43	9.538	9.538	0.000	94	302796	200.0	184.7	
81 Chlorodibromomethane	129	9.704	9.704	0.000	90	509298	200.0	199.6	
82 Ethylene Dibromide	107	9.816	9.816	0.000	100	433744	200.0	221.9	
84 Chlorobenzene	112	10.302	10.302	0.000	93	1969306	200.0	209.5	
85 1,1,1,2-Tetrachloroethane	131	10.399	10.399	0.000	94	679825	200.0	198.5	
86 Ethylbenzene	106	10.404	10.404	0.000	97	1199590	200.0	200.2	
87 m-Xylene & p-Xylene	106	10.537	10.537	0.000	0	1495225	200.0	195.8	
88 o-Xylene	106	10.917	10.917	0.000	94	1384705	200.0	200.4	
89 Styrene	104	10.938	10.938	0.000	94	2203048	200.0	215.3	
90 Bromoform	173	11.125	11.125	0.000	97	275275	200.0	201.5	
91 Isopropylbenzene	105	11.285	11.285	0.000	96	3402023	200.0	207.0	
93 1,1,2,2-Tetrachloroethane	83	11.601	11.601	0.000	65	470848	200.0	211.1	
94 Bromobenzene	156	11.601	11.601	0.000	91	818809	200.0	196.0	
96 trans-1,4-Dichloro-2-buten	53	11.638	11.638	0.000	89	76649	200.0	179.4	
95 1,2,3-Trichloropropane	110	11.659	11.659	0.000	84	156093	200.0	207.6	
97 N-Propylbenzene	120	11.702	11.702	0.000	96	1093353	200.0	184.7	
98 2-Chlorotoluene	126	11.793	11.793	0.000	97	882715	200.0	184.4	
99 1,3,5-Trimethylbenzene	105	11.889	11.889	0.000	95	2890780	200.0	189.6	
100 4-Chlorotoluene	126	11.916	11.916	0.000	97	894591	200.0	188.3	
101 tert-Butylbenzene	119	12.204	12.204	0.000	92	2533579	200.0	194.8	
103 1,2,4-Trimethylbenzene	105	12.263	12.263	0.000	97	2889795	200.0	204.6	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
104 sec-Butylbenzene	105	12.423	12.423	0.000	95	3632586	200.0	184.2	
105 1,3-Dichlorobenzene	146	12.546	12.546	0.000	96	1572514	200.0	195.6	
106 4-Isopropyltoluene	119	12.584	12.584	0.000	95	3266767	200.0	198.9	
107 1,4-Dichlorobenzene	146	12.653	12.653	0.000	92	1514960	200.0	193.9	
110 n-Butylbenzene	91	12.995	12.995	0.000	95	2983408	200.0	200.1	
111 1,2-Dichlorobenzene	146	13.006	13.006	0.000	95	1359510	200.0	188.1	
112 1,2-Dibromo-3-Chloropropan	75	13.802	13.802	0.000	87	68814	200.0	166.8	
113 1,2,4-Trichlorobenzene	180	14.624	14.624	0.000	95	885892	200.0	157.0	
115 Hexachlorobutadiene	225	14.763	14.763	0.000	94	722676	200.0	177.8	
116 Naphthalene	128	14.891	14.891	0.000	97	1188427	200.0	157.5	
117 1,2,3-Trichlorobenzene	180	15.110	15.110	0.000	95	569163	200.0	120.5	
S 130 Xylenes, Total	106				0		400.0	396.1	
S 129 1,2-Dichloroethene, Total	96				0		400.0	353.4	
S 131 1,3-Dichloropropene, Total	1				0		400.0	426.2	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND
Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

VOA8260VOA2ND_00383	Amount Added: 8.00	Units: uL
VOA8260INT_00102	Amount Added: 10.00	Units: uL
VOA8260SURR_00102	Amount Added: 8.00	Units: uL
VOAACRPRI_00023	Amount Added: 35.00	Units: uL
VOACEVEPRI_00059	Amount Added: 8.00	Units: uL
VOAVAPRI_00031	Amount Added: 8.00	Units: uL

Report Date: 24-Dec-2019 13:18:52 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122302.D				
Injection Date:	23-Dec-2019 06:57:30	Instrument ID:	CHHP4	Operator ID:	034635
Lims ID:	CCVIS			Worklist Smp#:	2
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

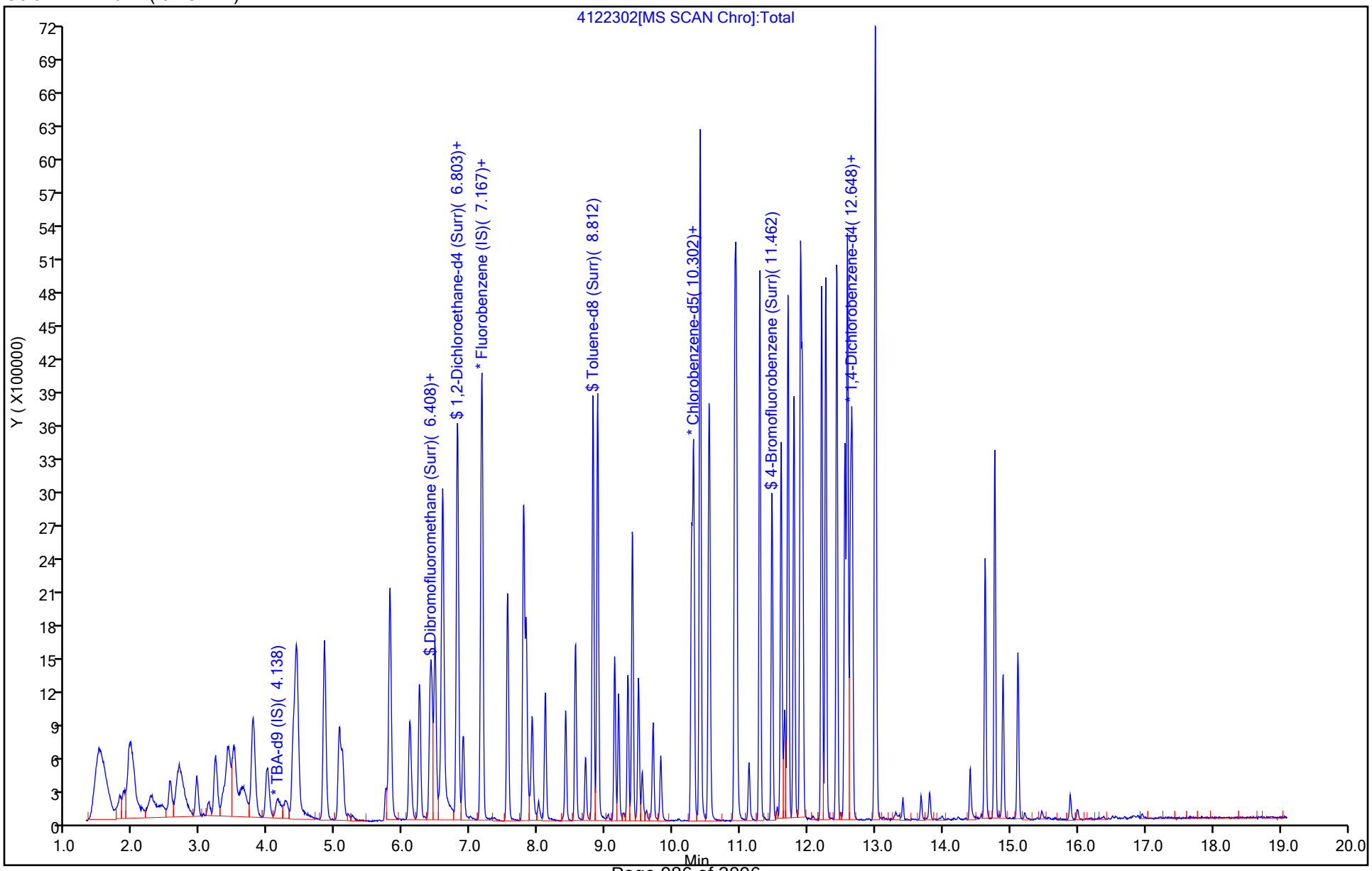

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCVIS 180-302272/2 Calibration Date: 12/23/2019 06:57

Instrument ID: CHHP4 Calib Start Date: 10/18/2019 08:09

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 10/18/2019 13:14

Lab File ID: 4122302.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Acrolein	Ave	0.0490	0.0389	0.0100	139	175	-20.6*	20.0
Vinyl acetate	Ave	0.5137	0.6883	0.0100	53.6	40.0	34.0*	20.0

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122302.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 23-Dec-2019 06:57:30 ALS Bottle#: 2 Worklist Smp#: 2
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0030118-002
Operator ID: 034635 Instrument ID: CHHP4
Sublist: chrom-MSVOA_CHHP4*sub141

Method: \\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\MSVOA_CHHP4.m
Limit Group: VOA 8260C_D ICAL
Last Update: 24-Dec-2019 13:18:48 Calib Date: 14-Nov-2019 12:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114008.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0309

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.138	4.138	0.000	88	346140	5000.0	5000.0	
* 2 Fluorobenzene (IS)	96	7.156	7.156	0.000	98	2148543	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.276	10.276	0.000	98	524353	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.632	12.632	0.000	91	816230	250.0	250.0	
$ 5 Dibromofluoromethane (Surr	113	6.424	6.424	0.000	0	634054	200.0	176.5	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.803	6.803	0.000	0	640594	200.0	187.9	
$ 7 Toluene-d8 (Surr)	98	8.812	8.812	0.000	0	2771869	200.0	198.2	
$ 8 4-Bromofluorobenzene (Surr	95	11.467	11.467	0.000	0	1118612	200.0	213.5	
$ 141 Total BTEX	95		0.000				ND	ND	
10 Dichlorodifluoromethane	85	1.627	1.627	0.000	50	911569	200.0	185.5	
11 Chloromethane	50	1.905	1.905	0.000	63	656468	200.0	165.5	M
12 Vinyl chloride	62	1.937	1.937	0.000	86	844979	200.0	173.0	Ma
13 Butadiene	39	1.963	1.963	0.000	93	896304	200.0	170.3	M
14 Bromomethane	94	2.257	2.257	0.000	87	455486	200.0	144.9	M
15 Chloroethane	64	2.444	2.444	0.000	64	512390	200.0	142.0	M
17 Trichlorofluoromethane	101	2.551	2.551	0.000	99	1053586	200.0	151.7	M
16 Dichlorofluoromethane	67	2.669	2.669	0.000	95	1140887	200.0	148.8	M
19 Ethyl ether	59	2.936	2.936	0.000	87	353317	200.0	154.6	
20 Acrolein	56	3.123	3.123	0.000	0	292742	875.0	694.7	
21 1,1-Dichloroethene	96	3.219	3.219	0.000	98	705044	200.0	164.9	M
23 Acetone	43	3.326	3.326	0.000	100	232506	200.0	192.2	
24 Iodomethane	142	3.411	3.411	0.000	99	1083955	200.0	240.4	M
22 1,1,2-Trichloro-1,2,2-trif	101	3.454	3.454	0.000	73	805953	200.0	183.2	M
25 Carbon disulfide	76	3.491	3.491	0.000	99	1983804	200.0	153.9	M
28 3-Chloro-1-propene	76	3.764	3.764	0.000	90	577212	200.0	185.6	
29 Methyl acetate	43	3.796	3.796	0.000	96	478180	400.0	417.7	
30 Methylene Chloride	84	3.993	3.993	0.000	88	712940	200.0	177.6	M
31 2-Methyl-2-propanol	59	4.266	4.266	0.000	100	255911	2000.0	1971.2	
32 Acrylonitrile	53	4.373	4.373	0.000	99	1189198	2000.0	2283.9	
33 trans-1,2-Dichloroethene	96	4.415	4.415	0.000	99	744813	200.0	178.6	
34 Methyl tert-butyl ether	73	4.431	4.431	0.000	95	970778	200.0	161.8	
35 Hexane	57	4.832	4.832	0.000	91	1225165	200.0	173.3	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 1,1-Dichloroethane	63	5.051	5.051	0.000	96	1230676	200.0	168.8	
38 Vinyl acetate	43	5.105	5.105	0.000	0	1183001	200.0	268.0	
42 cis-1,2-Dichloroethene	96	5.804	5.804	0.000	82	763372	200.0	174.8	
41 2,2-Dichloropropane	97	5.804	5.804	0.000	61	168130	200.0	175.4	
43 2-Butanone (MEK)	43	5.815	5.815	0.000	39	202265	200.0	157.6	
46 Chlorobromomethane	128	6.093	6.093	0.000	92	316694	200.0	195.5	
48 Tetrahydrofuran	42	6.120	6.120	0.000	82	172432	400.0	396.5	
49 Chloroform	83	6.242	6.242	0.000	94	1213315	200.0	175.7	
50 1,1,1-Trichloroethane	97	6.397	6.397	0.000	98	1070542	200.0	197.9	M
51 Cyclohexane	56	6.467	6.467	0.000	87	1327450	200.0	229.7	M
53 Carbon tetrachloride	117	6.579	6.579	0.000	95	847644	200.0	175.2	
52 1,1-Dichloropropene	75	6.590	6.590	0.000	96	1088098	200.0	179.9	
59 Isobutyl alcohol	41	6.787	6.787	0.000	93	221615	5000.0	5146.8	
54 Benzene	78	6.803	6.803	0.000	98	2832401	200.0	193.4	
55 1,2-Dichloroethane	62	6.889	6.889	0.000	98	725308	200.0	205.1	
58 n-Heptane	43	7.172	7.172	0.000	86	1146705	200.0	175.3	
61 Trichloroethene	130	7.546	7.546	0.000	99	828790	200.0	186.4	
63 Methylcyclohexane	83	7.786	7.786	0.000	83	1475773	200.0	183.9	
64 1,2-Dichloropropane	63	7.818	7.818	0.000	93	670230	200.0	179.3	
65 Dibromomethane	93	7.909	7.909	0.000	92	291563	200.0	198.7	
67 1,4-Dioxane	88	7.914	7.914	0.000	41	107555	4000.0	5840.6	
68 Dichlorobromomethane	83	8.107	8.107	0.000	99	814247	200.0	184.5	
70 2-Chloroethyl vinyl ether	63	8.411	8.411	0.000	0	467499	400.0	297.8	
71 cis-1,3-Dichloropropene	75	8.550	8.550	0.000	96	1079050	200.0	202.8	
72 4-Methyl-2-pentanone (MIBK	43	8.705	8.705	0.000	95	369462	200.0	183.8	
73 Toluene	91	8.881	8.881	0.000	97	2995173	200.0	203.8	
74 trans-1,3-Dichloropropene	75	9.132	9.132	0.000	92	860469	200.0	223.3	
75 Ethyl methacrylate	69	9.191	9.191	0.000	88	606559	200.0	226.4	
76 1,1,2-Trichloroethane	97	9.330	9.330	0.000	92	467568	200.0	212.2	
77 Tetrachloroethene	164	9.394	9.394	0.000	97	709301	200.0	194.9	
78 1,3-Dichloropropane	76	9.485	9.485	0.000	89	867225	200.0	215.9	
79 2-Hexanone	43	9.538	9.538	0.000	94	302796	200.0	184.7	
81 Chlorodibromomethane	129	9.704	9.704	0.000	90	509298	200.0	199.6	
82 Ethylene Dibromide	107	9.816	9.816	0.000	100	433744	200.0	221.9	
84 Chlorobenzene	112	10.302	10.302	0.000	93	1969306	200.0	209.5	
85 1,1,1,2-Tetrachloroethane	131	10.399	10.399	0.000	94	679825	200.0	198.5	
86 Ethylbenzene	106	10.404	10.404	0.000	97	1199590	200.0	200.2	
87 m-Xylene & p-Xylene	106	10.537	10.537	0.000	0	1495225	200.0	195.8	
88 o-Xylene	106	10.917	10.917	0.000	94	1384705	200.0	200.4	
89 Styrene	104	10.938	10.938	0.000	94	2203048	200.0	215.3	
90 Bromoform	173	11.125	11.125	0.000	97	275275	200.0	201.5	
91 Isopropylbenzene	105	11.285	11.285	0.000	96	3402023	200.0	207.0	
93 1,1,2,2-Tetrachloroethane	83	11.601	11.601	0.000	65	470848	200.0	211.1	
94 Bromobenzene	156	11.601	11.601	0.000	91	818809	200.0	196.0	
96 trans-1,4-Dichloro-2-buten	53	11.638	11.638	0.000	89	76649	200.0	179.4	
95 1,2,3-Trichloropropane	110	11.659	11.659	0.000	84	156093	200.0	207.6	
97 N-Propylbenzene	120	11.702	11.702	0.000	96	1093353	200.0	184.7	
98 2-Chlorotoluene	126	11.793	11.793	0.000	97	882715	200.0	184.4	
99 1,3,5-Trimethylbenzene	105	11.889	11.889	0.000	95	2890780	200.0	189.6	
100 4-Chlorotoluene	126	11.916	11.916	0.000	97	894591	200.0	188.3	
101 tert-Butylbenzene	119	12.204	12.204	0.000	92	2533579	200.0	194.8	
103 1,2,4-Trimethylbenzene	105	12.263	12.263	0.000	97	2889795	200.0	204.6	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
104 sec-Butylbenzene	105	12.423	12.423	0.000	95	3632586	200.0	184.2	
105 1,3-Dichlorobenzene	146	12.546	12.546	0.000	96	1572514	200.0	195.6	
106 4-Isopropyltoluene	119	12.584	12.584	0.000	95	3266767	200.0	198.9	
107 1,4-Dichlorobenzene	146	12.653	12.653	0.000	92	1514960	200.0	193.9	
110 n-Butylbenzene	91	12.995	12.995	0.000	95	2983408	200.0	200.1	
111 1,2-Dichlorobenzene	146	13.006	13.006	0.000	95	1359510	200.0	188.1	
112 1,2-Dibromo-3-Chloropropan	75	13.802	13.802	0.000	87	68814	200.0	166.8	
113 1,2,4-Trichlorobenzene	180	14.624	14.624	0.000	95	885892	200.0	157.0	
115 Hexachlorobutadiene	225	14.763	14.763	0.000	94	722676	200.0	177.8	
116 Naphthalene	128	14.891	14.891	0.000	97	1188427	200.0	157.5	
117 1,2,3-Trichlorobenzene	180	15.110	15.110	0.000	95	569163	200.0	120.5	
S 130 Xylenes, Total	106				0		400.0	396.1	
S 129 1,2-Dichloroethene, Total	96				0		400.0	353.4	
S 131 1,3-Dichloropropene, Total	1				0		400.0	426.2	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

VOA8260VOA2ND_00383	Amount Added: 8.00	Units: uL
VOA8260INT_00102	Amount Added: 10.00	Units: uL
VOA8260SURR_00102	Amount Added: 8.00	Units: uL
VOAACRPRI_00023	Amount Added: 35.00	Units: uL
VOACEVEPRI_00059	Amount Added: 8.00	Units: uL
VOAVAPRI_00031	Amount Added: 8.00	Units: uL

Report Date: 24-Dec-2019 13:18:52 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122302.D				
Injection Date:	23-Dec-2019 06:57:30	Instrument ID:	CHHP4	Operator ID:	034635
Lims ID:	CCVIS			Worklist Smp#:	2
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

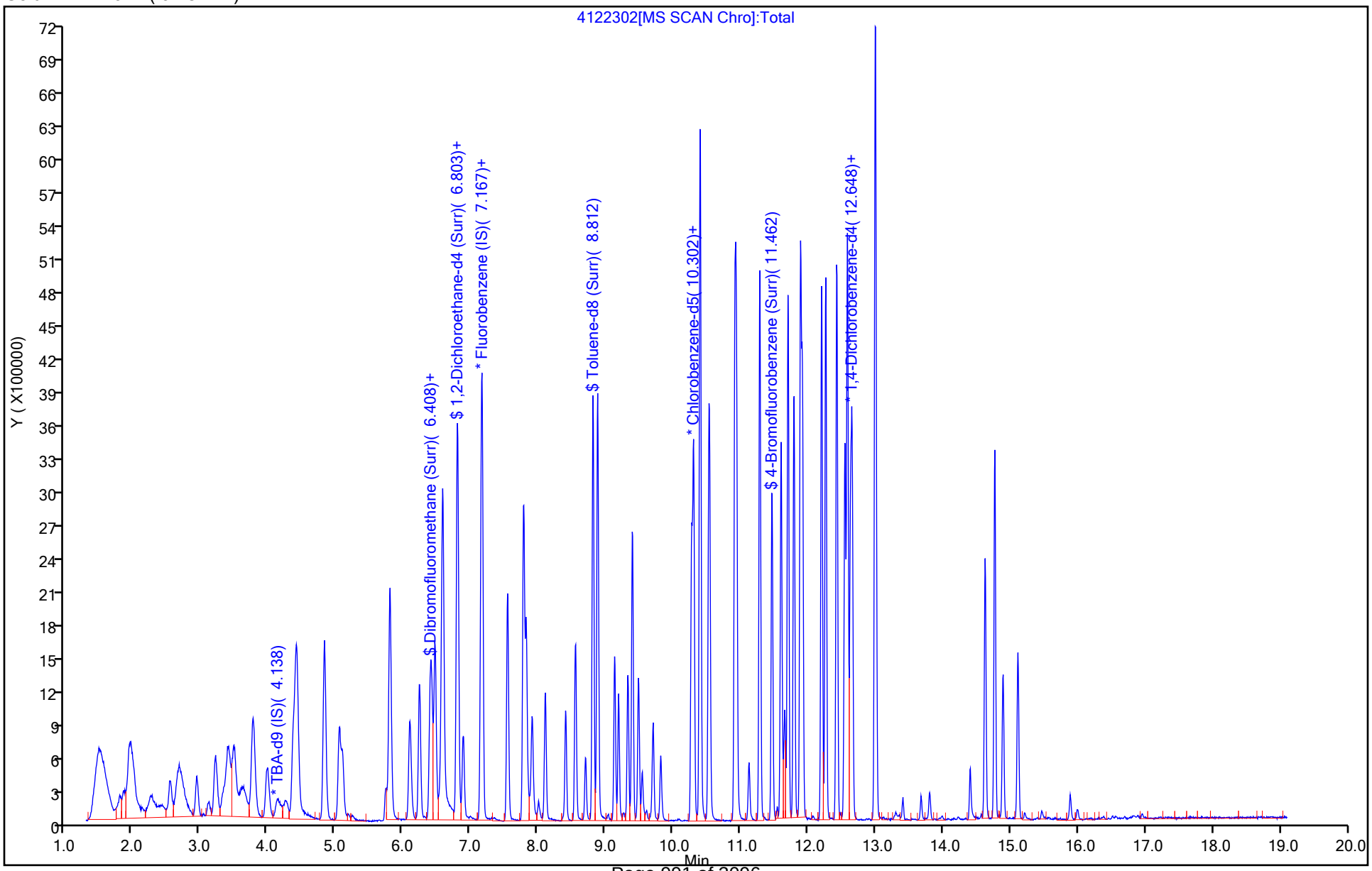

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCVIS 180-302272/2 Calibration Date: 12/23/2019 06:57

Instrument ID: CHHP4 Calib Start Date: 11/14/2019 07:36

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 11/14/2019 12:45

Lab File ID: 4122302.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.5719	0.5303	0.1000	37.1	40.0	-7.3	20.0
Chloromethane	Ave	0.4615	0.3819	0.1000	33.1	40.0	-17.3	20.0
Vinyl chloride	Ave	0.5684	0.4916	0.1000	34.6	40.0	-13.5	20.0
1,3-Butadiene	Ave	0.6123	0.5215	0.0100	34.1	40.0	-14.8	20.0
Bromomethane	Ave	0.3657	0.2650	0.0500	29.0	40.0	-27.5*	20.0
Chloroethane	Lin		0.2981	0.0500	28.4	40.0	-29.0*	20.0
Trichlorofluoromethane	Ave	0.8082	0.6130	0.1000	30.3	40.0	-24.2*	20.0
Dichlorofluoromethane	Ave	0.8920	0.6638	0.0100	29.8	40.0	-25.6*	20.0
Ethyl ether	Ave	0.2659	0.2056	0.0100	30.9	40.0	-22.7*	20.0
1,1-Dichloroethene	Lin2		0.4102	0.1000	33.0	40.0	-17.6	20.0
Acetone	Ave	0.1407	0.1353	0.0500	38.4	40.0	-3.9	20.0
Iodomethane	Ave	0.5246	0.6306	0.0100	48.1	40.0	20.2*	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.5118	0.4689	0.1000	36.6	40.0	-8.4	20.0
Carbon disulfide	Ave	1.500	1.154	0.1000	30.8	40.0	-23.1*	20.0
Allyl chloride	Ave	0.3619	0.3358	0.0100	37.1	40.0	-7.2	20.0
Methyl acetate	Ave	0.1332	0.1391	0.1000	83.5	80.0	4.4	20.0
Methylene Chloride	Ave	0.4671	0.4148	0.1000	35.5	40.0	-11.2	20.0
tert-Butyl alcohol	Ave	1.875	1.848	0.0100	394	400	-1.4	20.0
Acrylonitrile	Ave	0.0606	0.0692	0.0100	457	400	14.2	20.0
trans-1,2-Dichloroethene	Ave	0.4853	0.4333	0.1000	35.7	40.0	-10.7	20.0
Methyl tert-butyl ether	Ave	0.6981	0.5648	0.1000	32.4	40.0	-19.1	20.0
Hexane	Ave	0.8225	0.7128	0.0100	34.7	40.0	-13.3	20.0
1,1-Dichloroethane	Ave	0.8485	0.7160	0.2000	33.8	40.0	-15.6	20.0
2,2-Dichloropropane	Ave	0.1115	0.0978	0.0100	35.1	40.0	-12.3	20.0
cis-1,2-Dichloroethene	Ave	0.5081	0.4441	0.1000	35.0	40.0	-12.6	20.0
2-Butanone (MEK)	Ave	0.1494	0.1177	0.0500	31.5	40.0	-21.2*	20.0
Chlorobromomethane	Ave	0.1885	0.1843	0.0100	39.1	40.0	-2.2	20.0
Tetrahydrofuran	Ave	0.0506	0.0502	0.0100	79.3	80.0	-0.9	20.0
Chloroform	Ave	0.8035	0.7059	0.2000	35.1	40.0	-12.1	20.0
1,1,1-Trichloroethane	Ave	0.6294	0.6228	0.1000	39.6	40.0	-1.0	20.0
Cyclohexane	Ave	0.6725	0.7723	0.1000	45.9	40.0	14.8	20.0
Carbon tetrachloride	Ave	0.5630	0.4932	0.1000	35.0	40.0	-12.4	20.0
1,1-Dichloropropene	Ave	0.7038	0.6330	0.0100	36.0	40.0	-10.1	20.0
Isobutyl alcohol	Ave	0.0050	0.0052*	0.0100	1030	1000	2.9	20.0
Benzene	Ave	1.704	1.648	0.5000	38.7	40.0	-3.3	20.0
1,2-Dichloroethane	Ave	0.4116	0.4220	0.1000	41.0	40.0	2.5	20.0
n-Heptane	Ave	0.7612	0.6671	0.0100	35.1	40.0	-12.4	20.0
Trichloroethene	Ave	0.5172	0.4822	0.2000	37.3	40.0	-6.8	20.0
Methylcyclohexane	Ave	0.9336	0.8586	0.1000	36.8	40.0	-8.0	20.0
1,2-Dichloropropane	Ave	0.4350	0.3899	0.1000	35.9	40.0	-10.4	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCVIS 180-302272/2 Calibration Date: 12/23/2019 06:57

Instrument ID: CHHP4 Calib Start Date: 11/14/2019 07:36

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 11/14/2019 12:45

Lab File ID: 4122302.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dibromomethane	Ave	0.1707	0.1696	0.0100	39.7	40.0	-0.7	20.0
1,4-Dioxane	Ave	0.0021	0.0031*	0.0100	1170	800	46.0*	20.0
Dichlorobromomethane	Ave	0.5134	0.4737	0.2000	36.9	40.0	-7.7	20.0
cis-1,3-Dichloropropene	Ave	0.6191	0.6278	0.2000	40.6	40.0	1.4	20.0
4-Methyl-2-pentanone (MIBK)	Qua		0.8808	0.1000	36.8	40.0	-8.1	20.0
Toluene	Ave	7.007	7.140	0.4000	40.8	40.0	1.9	20.0
trans-1,3-Dichloropropene	Ave	1.837	2.051	0.1000	44.7	40.0	11.7	20.0
Ethyl methacrylate	Ave	1.277	1.446	0.0100	45.3	40.0	13.2	20.0
1,1,2-Trichloroethane	Ave	1.050	1.115	0.1000	42.4	40.0	6.1	20.0
Tetrachloroethene	Ave	1.735	1.691	0.2000	39.0	40.0	-2.5	20.0
1,3-Dichloropropane	Ave	1.915	2.067	0.0100	43.2	40.0	7.9	20.0
2-Hexanone	Qua		0.7218	0.1000	36.9	40.0	-7.7	20.0
Chlorodibromomethane	Ave	1.217	1.214	0.1000	39.9	40.0	-0.2	20.0
1,2-Dibromoethane	Ave	0.9319	1.034	0.1000	44.4	40.0	11.0	20.0
Chlorobenzene	Ave	4.482	4.695	0.5000	41.9	40.0	4.7	20.0
1,1,1,2-Tetrachloroethane	Ave	1.632	1.621	0.0100	39.7	40.0	-0.7	20.0
Ethylbenzene	Ave	2.857	2.860	0.1000	40.0	40.0	0.1	20.0
m-Xylene & p-Xylene	Ave	3.641	3.564	0.1000	39.2	40.0	-2.1	20.0
o-Xylene	Ave	3.295	3.301	0.3000	40.1	40.0	0.2	20.0
Styrene	Ave	4.879	5.252	0.3000	43.1	40.0	7.6	20.0
Bromoform	Ave	0.6515	0.6562	0.1000	40.3	40.0	0.7	20.0
Isopropylbenzene	Ave	7.836	8.110	0.1000	41.4	40.0	3.5	20.0
1,1,2,2-Tetrachloroethane	Ave	1.063	1.122	0.3000	42.2	40.0	5.6	20.0
Bromobenzene	Ave	1.280	1.254	0.0100	39.2	40.0	-2.0	20.0
trans-1,4-Dichloro-2-butene	Ave	0.1308	0.1174	0.0100	35.9	40.0	-10.3	20.0
1,2,3-Trichloropropane	Ave	0.2303	0.2391	0.0100	41.5	40.0	3.8	20.0
N-Propylbenzene	Ave	1.813	1.674	0.0100	36.9	40.0	-7.7	20.0
2-Chlorotoluene	Ave	1.466	1.352	0.0100	36.9	40.0	-7.8	20.0
1,3,5-Trimethylbenzene	Ave	4.671	4.427	0.0100	37.9	40.0	-5.2	20.0
4-Chlorotoluene	Ave	1.455	1.370	0.0100	37.7	40.0	-5.8	20.0
tert-Butylbenzene	Ave	3.983	3.880	0.0100	39.0	40.0	-2.6	20.0
1,2,4-Trimethylbenzene	Ave	4.326	4.426	0.0100	40.9	40.0	2.3	20.0
sec-Butylbenzene	Ave	6.041	5.563	0.0100	36.8	40.0	-7.9	20.0
1,3-Dichlorobenzene	Ave	2.462	2.408	0.6000	39.1	40.0	-2.2	20.0
4-Isopropyltoluene	Ave	5.031	5.003	0.0100	39.8	40.0	-0.6	20.0
1,4-Dichlorobenzene	Ave	2.393	2.320	0.5000	38.8	40.0	-3.1	20.0
n-Butylbenzene	Ave	4.568	4.569	0.0100	40.0	40.0	0.0	20.0
1,2-Dichlorobenzene	Ave	2.214	2.082	0.4000	37.6	40.0	-6.0	20.0
1,2-Dibromo-3-Chloropropane	Ave	0.1264	0.1054	0.0500	33.4	40.0	-16.6	20.0
1,2,4-Trichlorobenzene	Ave	1.728	1.357	0.2000	31.4	40.0	-21.5*	20.0
Hexachlorobutadiene	Ave	1.245	1.107	0.0100	35.6	40.0	-11.1	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCVIS 180-302272/2 Calibration Date: 12/23/2019 06:57

Instrument ID: CHHP4 Calib Start Date: 11/14/2019 07:36

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 11/14/2019 12:45

Lab File ID: 4122302.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Naphthalene	Ave	2.312	1.820	0.0100	31.5	40.0	-21.3*	20.0
1,2,3-Trichlorobenzene	Ave	1.447	0.8716	0.0100	24.1	40.0	-39.8*	20.0
Dibromofluoromethane (Surr)	Ave	0.4180	0.3689		35.3	40.0	-11.7	20.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3968	0.3727		37.6	40.0	-6.1	20.0
Toluene-d8 (Surr)	Ave	6.669	6.608		39.6	40.0	-0.9	20.0
4-Bromofluorobenzene (Surr)	Ave	2.498	2.667		42.7	40.0	6.8	20.0

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122302.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 23-Dec-2019 06:57:30 ALS Bottle#: 2 Worklist Smp#: 2
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0030118-002
Operator ID: 034635 Instrument ID: CHHP4
Sublist: chrom-MSVOA_CHHP4*sub141

Method: \\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\MSVOA_CHHP4.m
Limit Group: VOA 8260C_D ICAL
Last Update: 24-Dec-2019 13:18:48 Calib Date: 14-Nov-2019 12:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114008.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0309

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.138	4.138	0.000	88	346140	5000.0	5000.0	
* 2 Fluorobenzene (IS)	96	7.156	7.156	0.000	98	2148543	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.276	10.276	0.000	98	524353	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.632	12.632	0.000	91	816230	250.0	250.0	
$ 5 Dibromofluoromethane (Surr	113	6.424	6.424	0.000	0	634054	200.0	176.5	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.803	6.803	0.000	0	640594	200.0	187.9	
$ 7 Toluene-d8 (Surr)	98	8.812	8.812	0.000	0	2771869	200.0	198.2	
$ 8 4-Bromofluorobenzene (Surr	95	11.467	11.467	0.000	0	1118612	200.0	213.5	
$ 141 Total BTEX	95		0.000				ND	ND	
10 Dichlorodifluoromethane	85	1.627	1.627	0.000	50	911569	200.0	185.5	
11 Chloromethane	50	1.905	1.905	0.000	63	656468	200.0	165.5	M
12 Vinyl chloride	62	1.937	1.937	0.000	86	844979	200.0	173.0	Ma
13 Butadiene	39	1.963	1.963	0.000	93	896304	200.0	170.3	M
14 Bromomethane	94	2.257	2.257	0.000	87	455486	200.0	144.9	M
15 Chloroethane	64	2.444	2.444	0.000	64	512390	200.0	142.0	M
17 Trichlorofluoromethane	101	2.551	2.551	0.000	99	1053586	200.0	151.7	M
16 Dichlorofluoromethane	67	2.669	2.669	0.000	95	1140887	200.0	148.8	M
19 Ethyl ether	59	2.936	2.936	0.000	87	353317	200.0	154.6	
20 Acrolein	56	3.123	3.123	0.000	0	292742	875.0	694.7	
21 1,1-Dichloroethene	96	3.219	3.219	0.000	98	705044	200.0	164.9	M
23 Acetone	43	3.326	3.326	0.000	100	232506	200.0	192.2	
24 Iodomethane	142	3.411	3.411	0.000	99	1083955	200.0	240.4	M
22 1,1,2-Trichloro-1,2,2-trif	101	3.454	3.454	0.000	73	805953	200.0	183.2	M
25 Carbon disulfide	76	3.491	3.491	0.000	99	1983804	200.0	153.9	M
28 3-Chloro-1-propene	76	3.764	3.764	0.000	90	577212	200.0	185.6	
29 Methyl acetate	43	3.796	3.796	0.000	96	478180	400.0	417.7	
30 Methylene Chloride	84	3.993	3.993	0.000	88	712940	200.0	177.6	M
31 2-Methyl-2-propanol	59	4.266	4.266	0.000	100	255911	2000.0	1971.2	
32 Acrylonitrile	53	4.373	4.373	0.000	99	1189198	2000.0	2283.9	
33 trans-1,2-Dichloroethene	96	4.415	4.415	0.000	99	744813	200.0	178.6	
34 Methyl tert-butyl ether	73	4.431	4.431	0.000	95	970778	200.0	161.8	
35 Hexane	57	4.832	4.832	0.000	91	1225165	200.0	173.3	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 1,1-Dichloroethane	63	5.051	5.051	0.000	96	1230676	200.0	168.8	
38 Vinyl acetate	43	5.105	5.105	0.000	0	1183001	200.0	268.0	
42 cis-1,2-Dichloroethene	96	5.804	5.804	0.000	82	763372	200.0	174.8	
41 2,2-Dichloropropane	97	5.804	5.804	0.000	61	168130	200.0	175.4	
43 2-Butanone (MEK)	43	5.815	5.815	0.000	39	202265	200.0	157.6	
46 Chlorobromomethane	128	6.093	6.093	0.000	92	316694	200.0	195.5	
48 Tetrahydrofuran	42	6.120	6.120	0.000	82	172432	400.0	396.5	
49 Chloroform	83	6.242	6.242	0.000	94	1213315	200.0	175.7	
50 1,1,1-Trichloroethane	97	6.397	6.397	0.000	98	1070542	200.0	197.9	M
51 Cyclohexane	56	6.467	6.467	0.000	87	1327450	200.0	229.7	M
53 Carbon tetrachloride	117	6.579	6.579	0.000	95	847644	200.0	175.2	
52 1,1-Dichloropropene	75	6.590	6.590	0.000	96	1088098	200.0	179.9	
59 Isobutyl alcohol	41	6.787	6.787	0.000	93	221615	5000.0	5146.8	
54 Benzene	78	6.803	6.803	0.000	98	2832401	200.0	193.4	
55 1,2-Dichloroethane	62	6.889	6.889	0.000	98	725308	200.0	205.1	
58 n-Heptane	43	7.172	7.172	0.000	86	1146705	200.0	175.3	
61 Trichloroethene	130	7.546	7.546	0.000	99	828790	200.0	186.4	
63 Methylcyclohexane	83	7.786	7.786	0.000	83	1475773	200.0	183.9	
64 1,2-Dichloropropane	63	7.818	7.818	0.000	93	670230	200.0	179.3	
65 Dibromomethane	93	7.909	7.909	0.000	92	291563	200.0	198.7	
67 1,4-Dioxane	88	7.914	7.914	0.000	41	107555	4000.0	5840.6	
68 Dichlorobromomethane	83	8.107	8.107	0.000	99	814247	200.0	184.5	
70 2-Chloroethyl vinyl ether	63	8.411	8.411	0.000	0	467499	400.0	297.8	
71 cis-1,3-Dichloropropene	75	8.550	8.550	0.000	96	1079050	200.0	202.8	
72 4-Methyl-2-pentanone (MIBK	43	8.705	8.705	0.000	95	369462	200.0	183.8	
73 Toluene	91	8.881	8.881	0.000	97	2995173	200.0	203.8	
74 trans-1,3-Dichloropropene	75	9.132	9.132	0.000	92	860469	200.0	223.3	
75 Ethyl methacrylate	69	9.191	9.191	0.000	88	606559	200.0	226.4	
76 1,1,2-Trichloroethane	97	9.330	9.330	0.000	92	467568	200.0	212.2	
77 Tetrachloroethene	164	9.394	9.394	0.000	97	709301	200.0	194.9	
78 1,3-Dichloropropane	76	9.485	9.485	0.000	89	867225	200.0	215.9	
79 2-Hexanone	43	9.538	9.538	0.000	94	302796	200.0	184.7	
81 Chlorodibromomethane	129	9.704	9.704	0.000	90	509298	200.0	199.6	
82 Ethylene Dibromide	107	9.816	9.816	0.000	100	433744	200.0	221.9	
84 Chlorobenzene	112	10.302	10.302	0.000	93	1969306	200.0	209.5	
85 1,1,1,2-Tetrachloroethane	131	10.399	10.399	0.000	94	679825	200.0	198.5	
86 Ethylbenzene	106	10.404	10.404	0.000	97	1199590	200.0	200.2	
87 m-Xylene & p-Xylene	106	10.537	10.537	0.000	0	1495225	200.0	195.8	
88 o-Xylene	106	10.917	10.917	0.000	94	1384705	200.0	200.4	
89 Styrene	104	10.938	10.938	0.000	94	2203048	200.0	215.3	
90 Bromoform	173	11.125	11.125	0.000	97	275275	200.0	201.5	
91 Isopropylbenzene	105	11.285	11.285	0.000	96	3402023	200.0	207.0	
93 1,1,2,2-Tetrachloroethane	83	11.601	11.601	0.000	65	470848	200.0	211.1	
94 Bromobenzene	156	11.601	11.601	0.000	91	818809	200.0	196.0	
96 trans-1,4-Dichloro-2-buten	53	11.638	11.638	0.000	89	76649	200.0	179.4	
95 1,2,3-Trichloropropane	110	11.659	11.659	0.000	84	156093	200.0	207.6	
97 N-Propylbenzene	120	11.702	11.702	0.000	96	1093353	200.0	184.7	
98 2-Chlorotoluene	126	11.793	11.793	0.000	97	882715	200.0	184.4	
99 1,3,5-Trimethylbenzene	105	11.889	11.889	0.000	95	2890780	200.0	189.6	
100 4-Chlorotoluene	126	11.916	11.916	0.000	97	894591	200.0	188.3	
101 tert-Butylbenzene	119	12.204	12.204	0.000	92	2533579	200.0	194.8	
103 1,2,4-Trimethylbenzene	105	12.263	12.263	0.000	97	2889795	200.0	204.6	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
104 sec-Butylbenzene	105	12.423	12.423	0.000	95	3632586	200.0	184.2	
105 1,3-Dichlorobenzene	146	12.546	12.546	0.000	96	1572514	200.0	195.6	
106 4-Isopropyltoluene	119	12.584	12.584	0.000	95	3266767	200.0	198.9	
107 1,4-Dichlorobenzene	146	12.653	12.653	0.000	92	1514960	200.0	193.9	
110 n-Butylbenzene	91	12.995	12.995	0.000	95	2983408	200.0	200.1	
111 1,2-Dichlorobenzene	146	13.006	13.006	0.000	95	1359510	200.0	188.1	
112 1,2-Dibromo-3-Chloropropan	75	13.802	13.802	0.000	87	68814	200.0	166.8	
113 1,2,4-Trichlorobenzene	180	14.624	14.624	0.000	95	885892	200.0	157.0	
115 Hexachlorobutadiene	225	14.763	14.763	0.000	94	722676	200.0	177.8	
116 Naphthalene	128	14.891	14.891	0.000	97	1188427	200.0	157.5	
117 1,2,3-Trichlorobenzene	180	15.110	15.110	0.000	95	569163	200.0	120.5	
S 130 Xylenes, Total	106				0		400.0	396.1	
S 129 1,2-Dichloroethene, Total	96				0		400.0	353.4	
S 131 1,3-Dichloropropene, Total	1				0		400.0	426.2	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND
Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

VOA8260VOA2ND_00383	Amount Added: 8.00	Units: uL
VOA8260INT_00102	Amount Added: 10.00	Units: uL
VOA8260SURR_00102	Amount Added: 8.00	Units: uL
VOAACRPRI_00023	Amount Added: 35.00	Units: uL
VOACEVEPRI_00059	Amount Added: 8.00	Units: uL
VOAVAPRI_00031	Amount Added: 8.00	Units: uL

Report Date: 24-Dec-2019 13:18:52 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122302.D				
Injection Date:	23-Dec-2019 06:57:30	Instrument ID:	CHHP4	Operator ID:	034635
Lims ID:	CCVIS			Worklist Smp#:	2
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

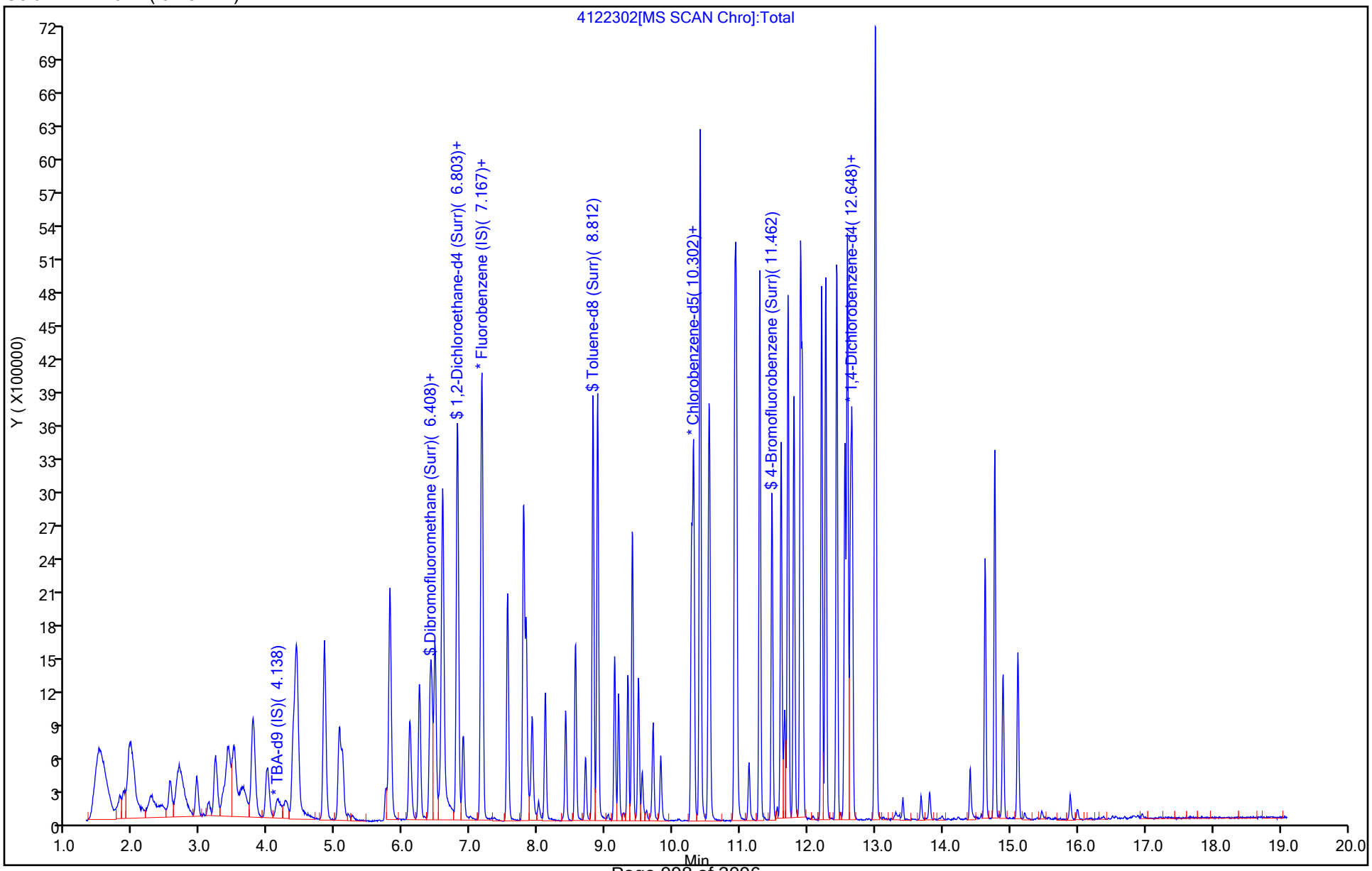

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122302.D				
Injection Date:	23-Dec-2019 06:57:30	Instrument ID:	CHHP4		
Lims ID:	CCVIS				
Client ID:					
Operator ID:	034635	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

11 Chloromethane, CAS: 74-87-3

Signal: 1

Processing Integration Results

RT: 1.95
Area: 1057885
Amount: 266.6968
Amount Units: ng

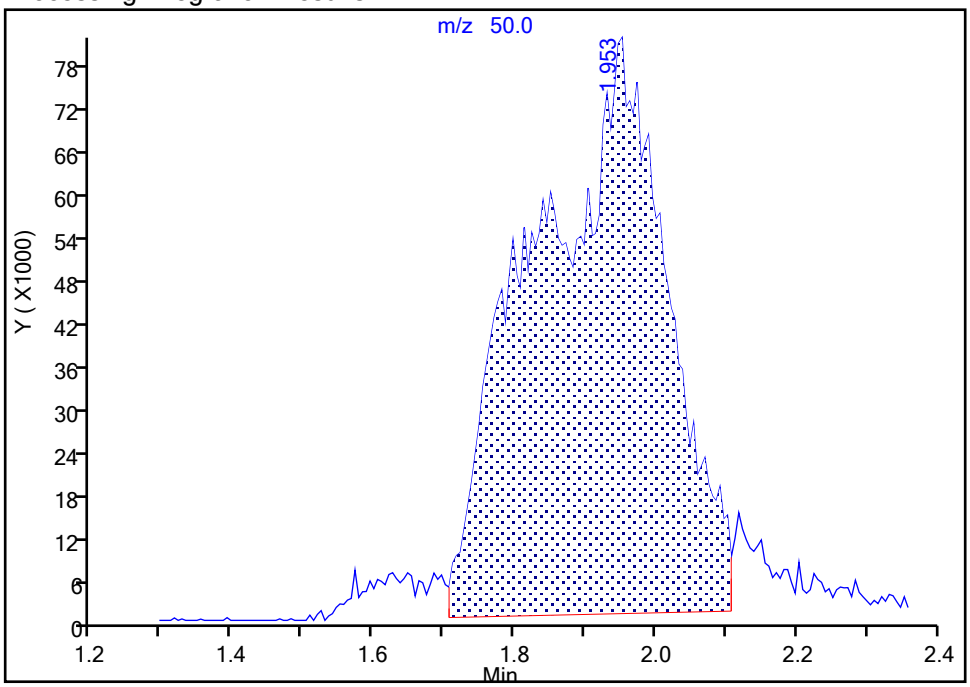

Manual Integration Results

RT: 1.90
Area: 656468
Amount: 165.4980
Amount Units: ng

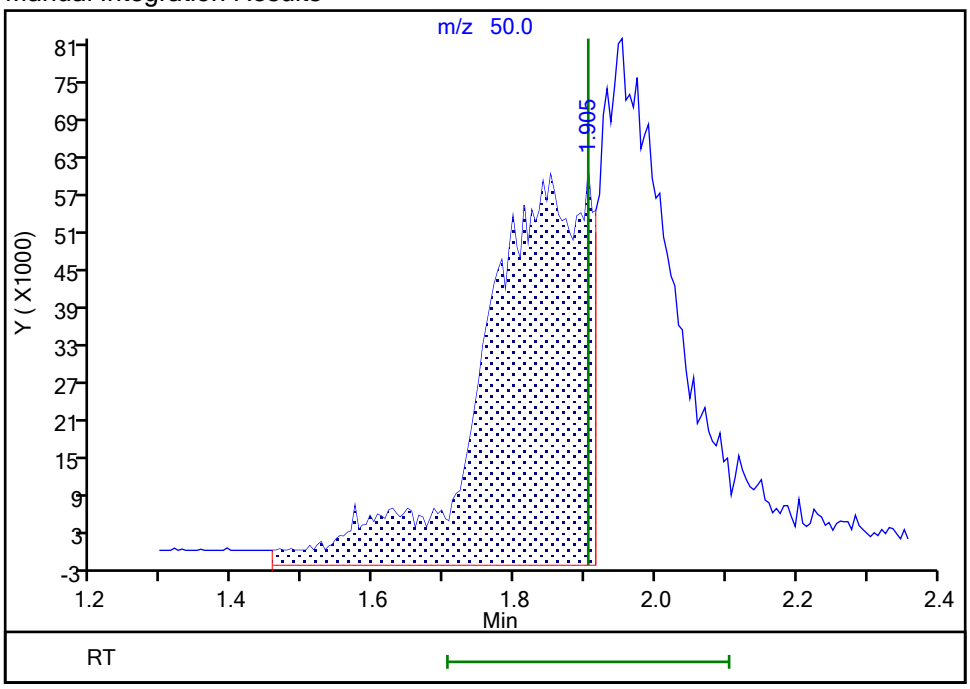

Reviewer: journetp, 23-Dec-2019 07:35:04

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122302.D				
Injection Date:	23-Dec-2019 06:57:30	Instrument ID:	CHHP4		
Lims ID:	CCVIS				
Client ID:					
Operator ID:	034635	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

12 Vinyl chloride, CAS: 75-01-4

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 1.94

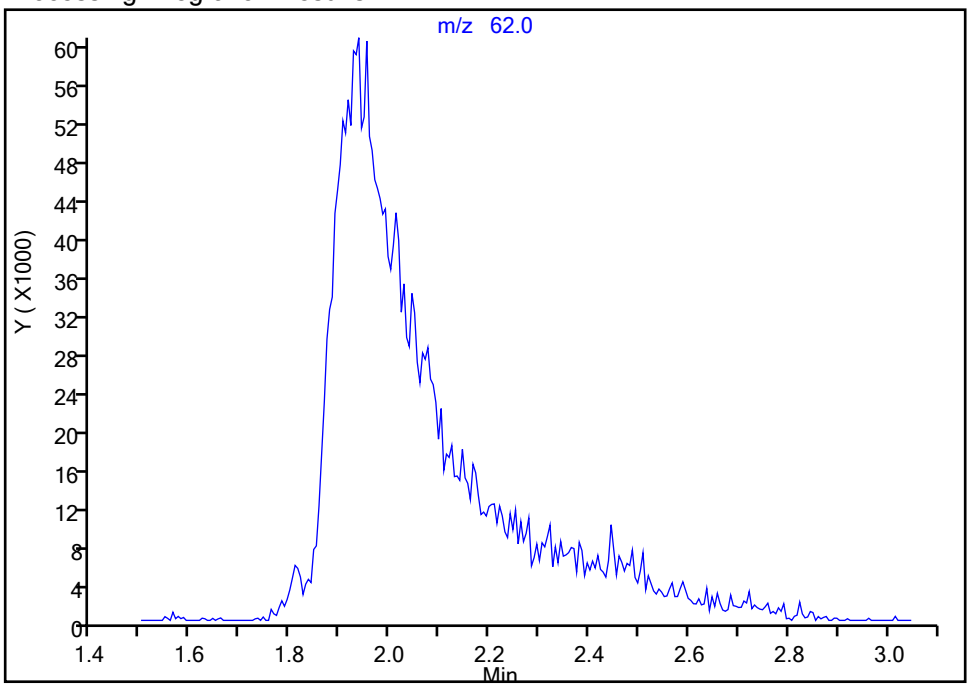

Manual Integration Results

RT: 1.94
Area: 844979
Amount: 172.9846
Amount Units: ng

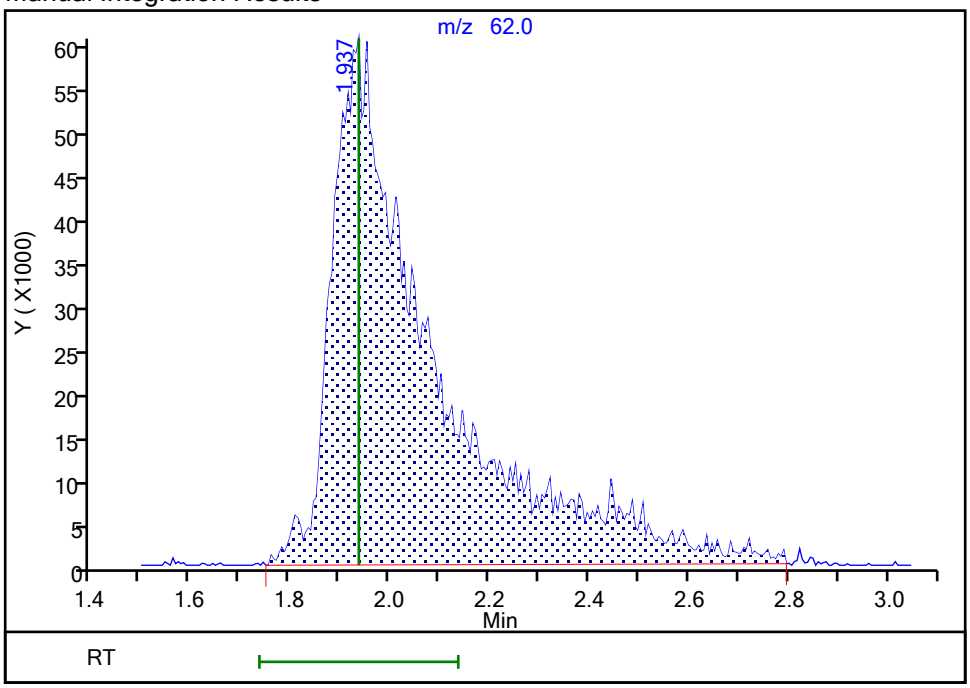

Reviewer: journetp, 23-Dec-2019 07:34:52
Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122302.D				
Injection Date:	23-Dec-2019 06:57:30	Instrument ID:	CHHP4		
Lims ID:	CCVIS				
Client ID:					
Operator ID:	034635	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

13 Butadiene, CAS: 106-99-0

Signal: 1

Processing Integration Results

RT: 1.96
Area: 774435
Amount: 147.1774
Amount Units: ng

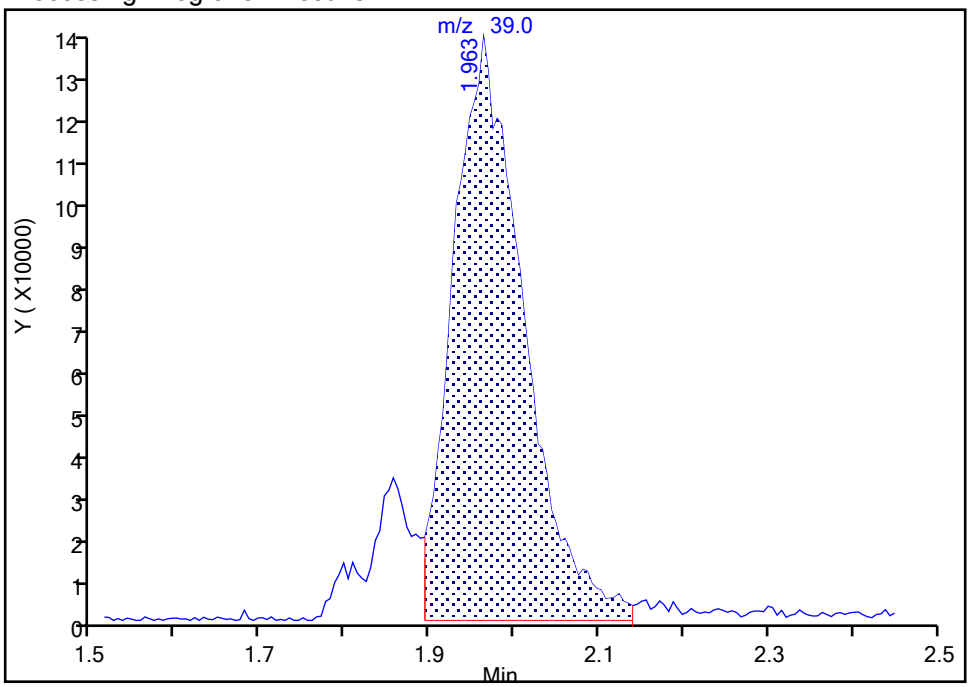

Manual Integration Results

RT: 1.96
Area: 896304
Amount: 170.3380
Amount Units: ng

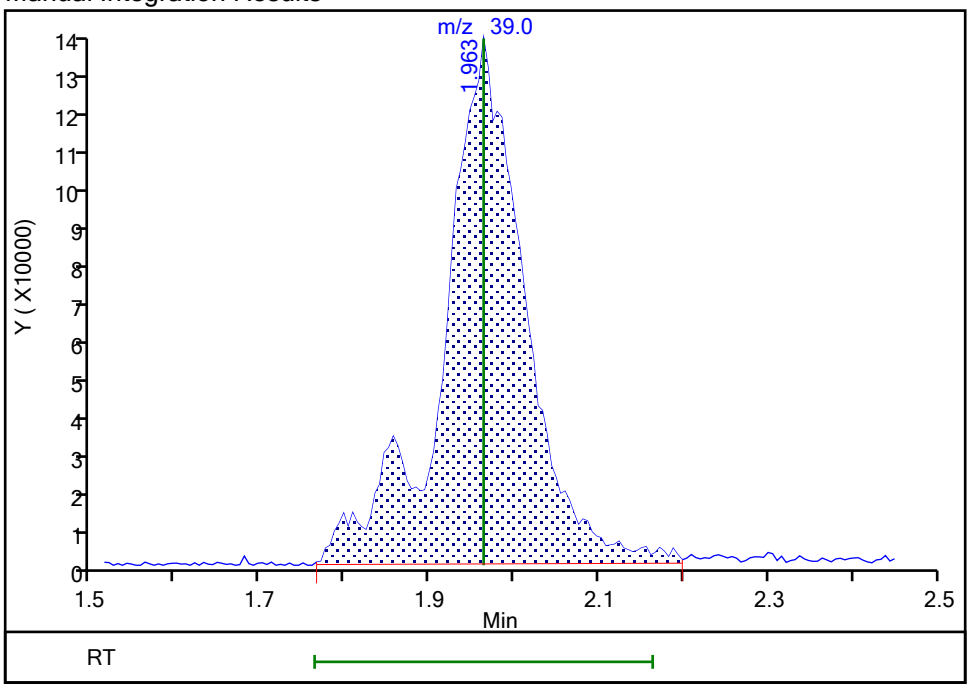

Reviewer: journetp, 23-Dec-2019 07:35:13

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122302.D				
Injection Date:	23-Dec-2019 06:57:30	Instrument ID:	CHHP4		
Lims ID:	CCVIS				
Client ID:					
Operator ID:	034635	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

14 Bromomethane, CAS: 74-83-9

Signal: 1

Not Detected
Expected RT: 2.26

Processing Integration Results

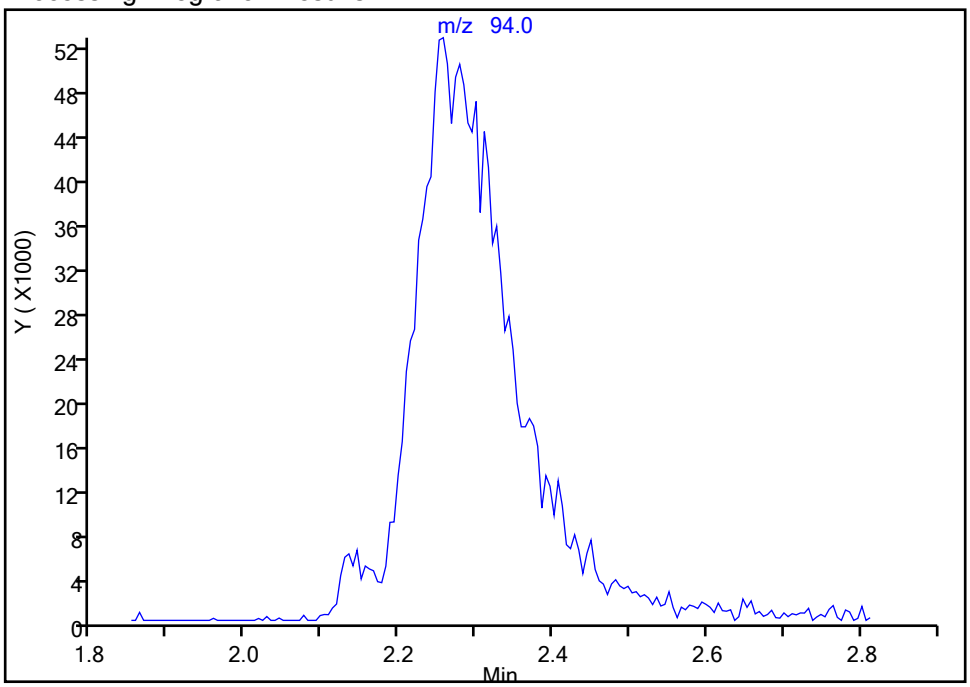

Manual Integration Results

RT: 2.26
Area: 455486
Amount: 144.9265
Amount Units: ng

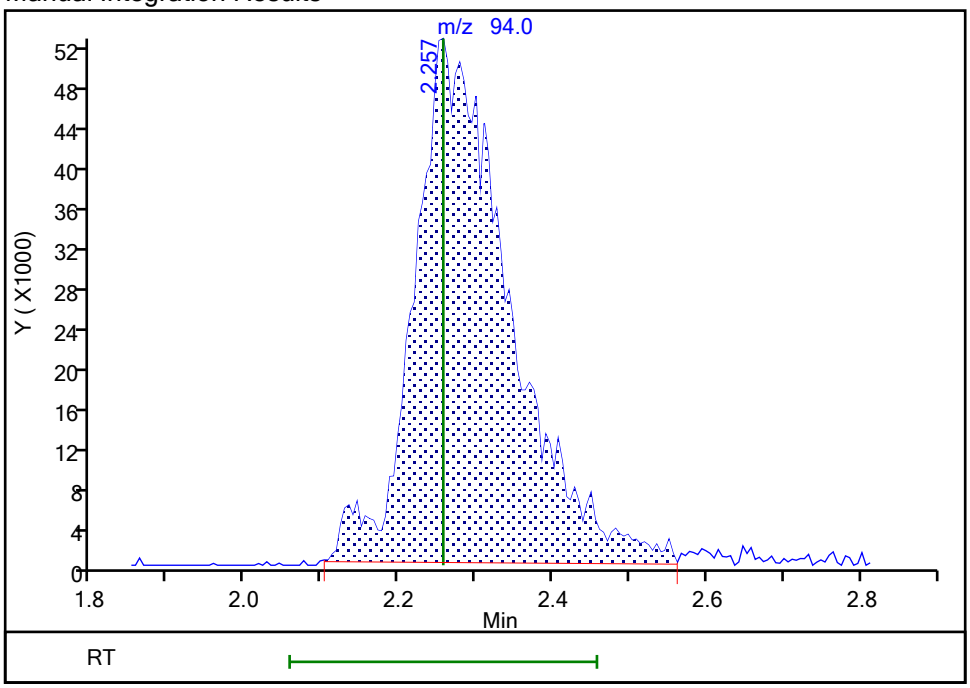

Reviewer: journetp, 23-Dec-2019 07:35:37
Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122302.D				
Injection Date:	23-Dec-2019 06:57:30	Instrument ID:	CHHP4		
Lims ID:	CCVIS				
Client ID:					
Operator ID:	034635	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

15 Chloroethane, CAS: 75-00-3

Signal: 1

Processing Integration Results

RT: 2.26
Area: 50103
Amount: 19.298526
Amount Units: ng

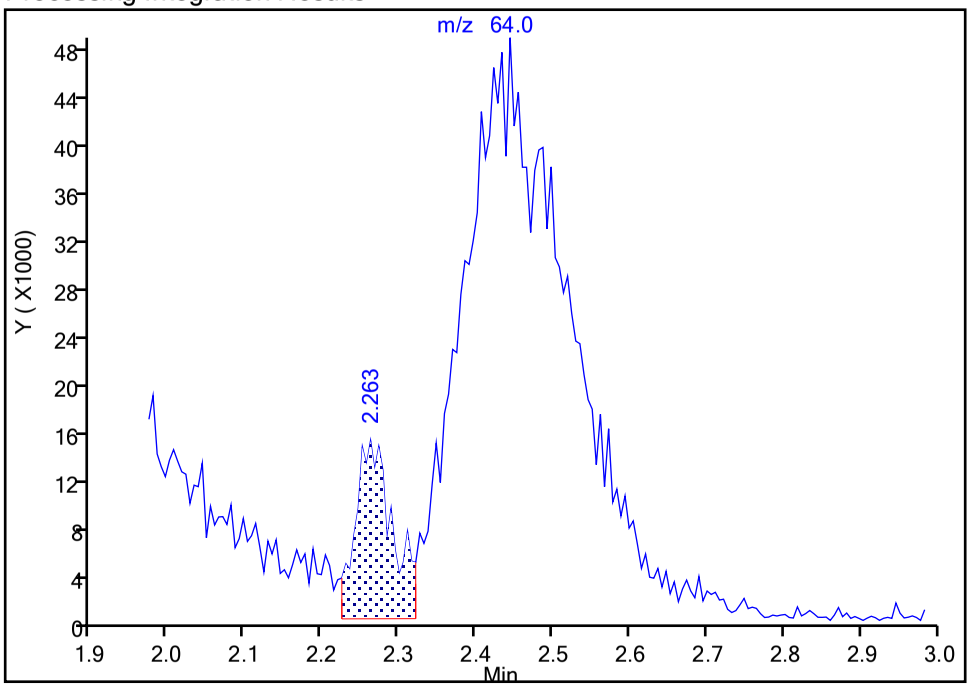

Manual Integration Results

RT: 2.44
Area: 512390
Amount: 141.9919
Amount Units: ng

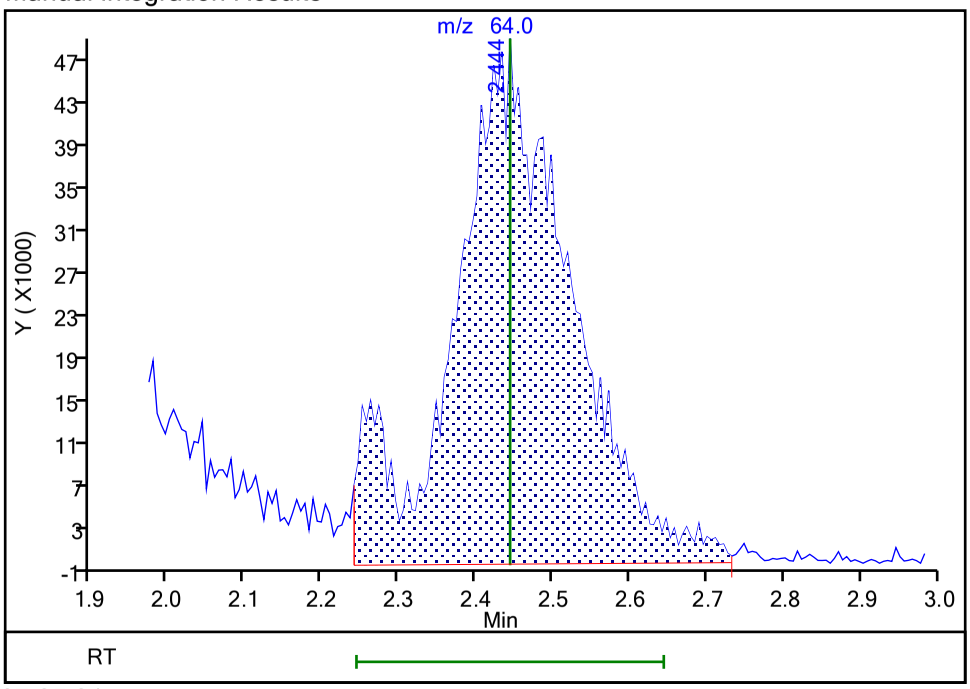

Reviewer: journetp, 23-Dec-2019 07:35:31

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122302.D				
Injection Date:	23-Dec-2019 06:57:30	Instrument ID:	CHHP4		
Lims ID:	CCVIS				
Client ID:					
Operator ID:	034635	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

17 Trichlorofluoromethane, CAS: 75-69-4

Signal: 1

Processing Integration Results

RT: 2.55
Area: 334452
Amount: 48.154216
Amount Units: ng

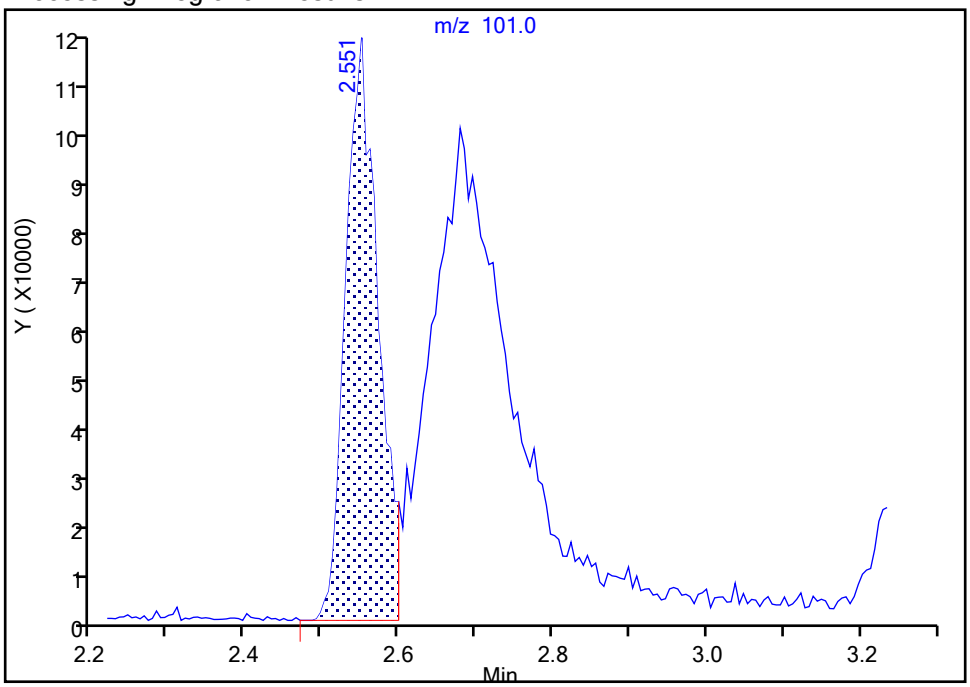

Manual Integration Results

RT: 2.55
Area: 1053586
Amount: 151.6947
Amount Units: ng

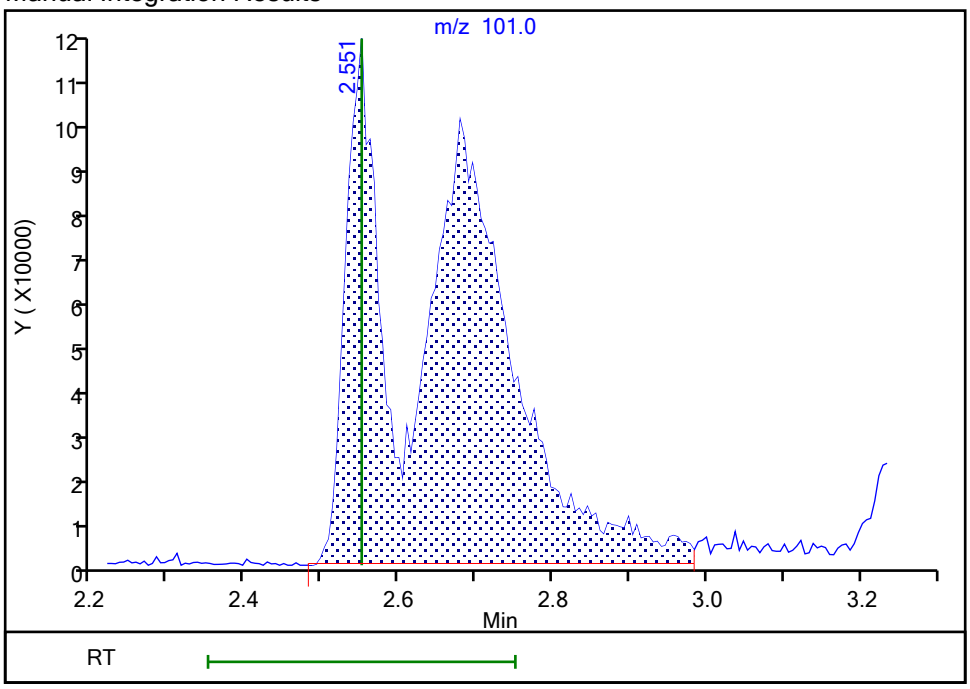

Reviewer: journetp, 23-Dec-2019 07:35:48

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122302.D				
Injection Date:	23-Dec-2019 06:57:30	Instrument ID:	CHHP4		
Lims ID:	CCVIS				
Client ID:					
Operator ID:	034635	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

16 Dichlorofluoromethane, CAS: 75-43-4

Signal: 1

Processing Integration Results

RT: 2.67
Area: 1019595
Amount: 133.0005
Amount Units: ng

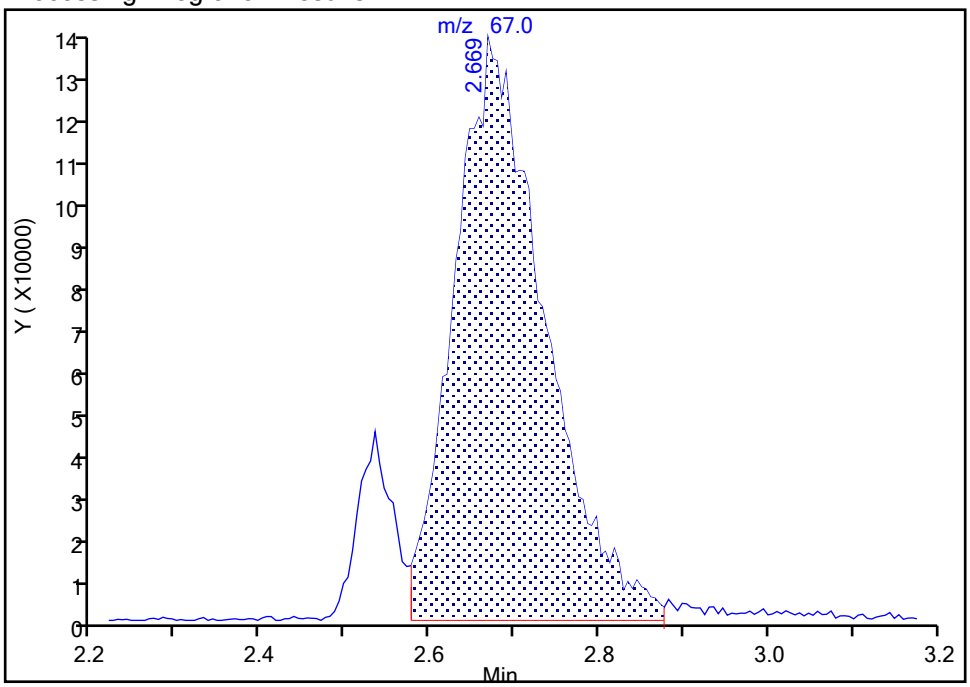

Manual Integration Results

RT: 2.67
Area: 1140887
Amount: 148.8224
Amount Units: ng

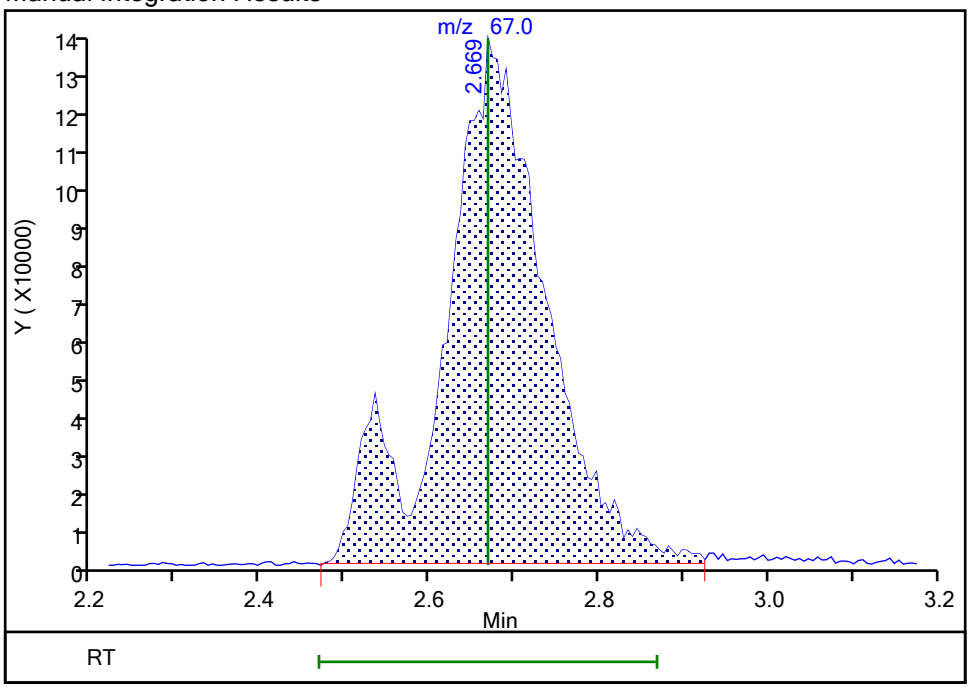

Reviewer: journetp, 23-Dec-2019 07:35:56

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122302.D				
Injection Date:	23-Dec-2019 06:57:30	Instrument ID:	CHHP4		
Lims ID:	CCVIS				
Client ID:					
Operator ID:	034635	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

21 1,1-Dichloroethene, CAS: 75-35-4

Signal: 1

Processing Integration Results

RT: 3.22
Area: 375991
Amount: 93.701710
Amount Units: ng

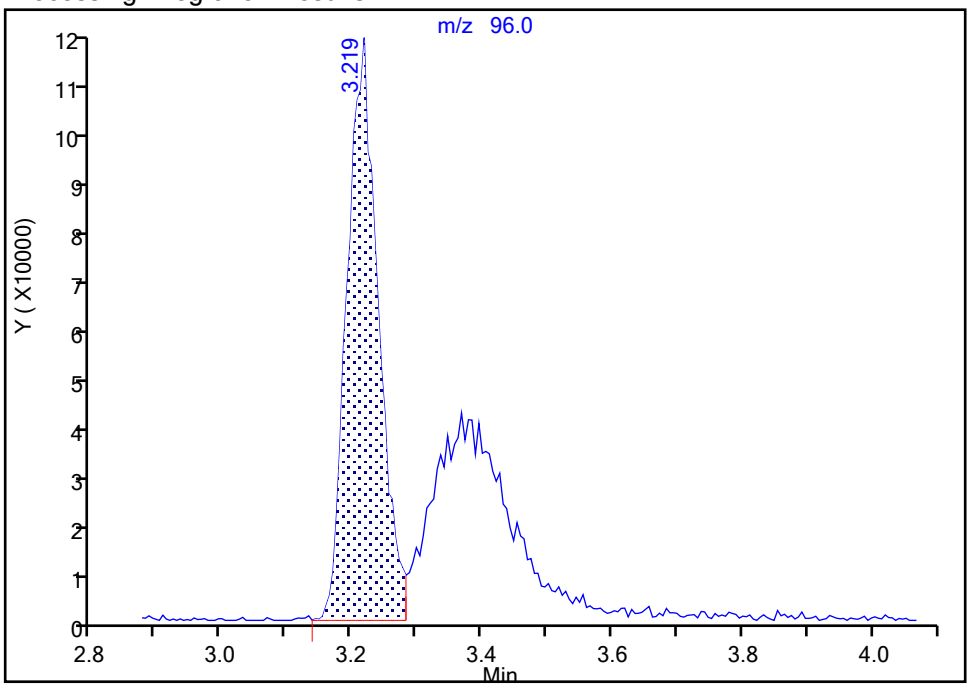

Manual Integration Results

RT: 3.22
Area: 705044
Amount: 164.8818
Amount Units: ng

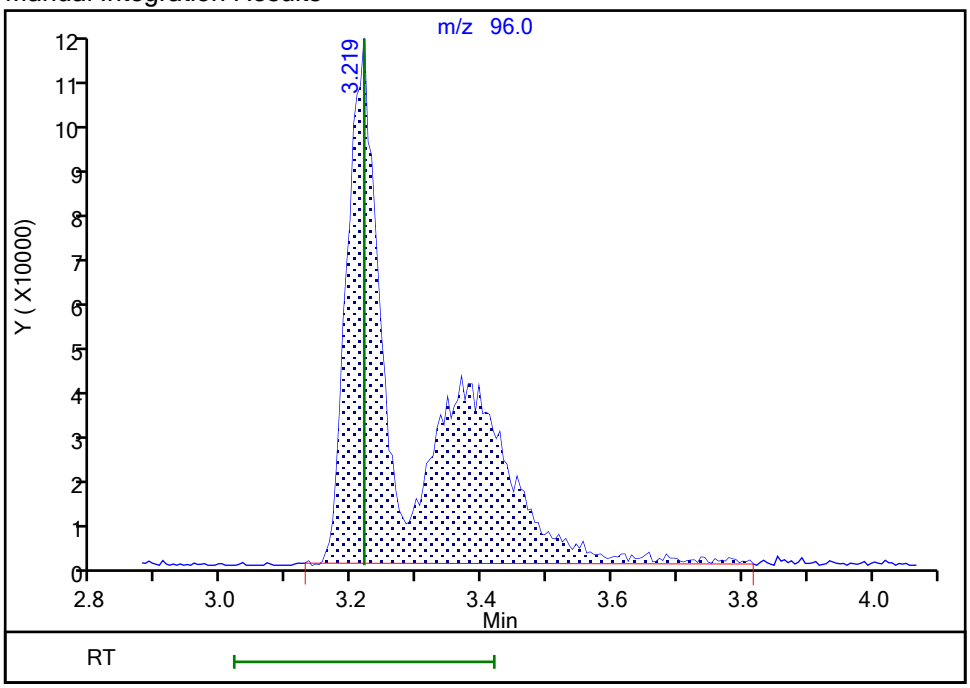

Reviewer: journetp, 23-Dec-2019 07:36:35

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122302.D				
Injection Date:	23-Dec-2019 06:57:30	Instrument ID:	CHHP4		
Lims ID:	CCVIS				
Client ID:					
Operator ID:	034635	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

24 Iodomethane, CAS: 74-88-4

Signal: 1

Processing Integration Results

RT: 3.41
Area: 540356
Amount: 119.8447
Amount Units: ng

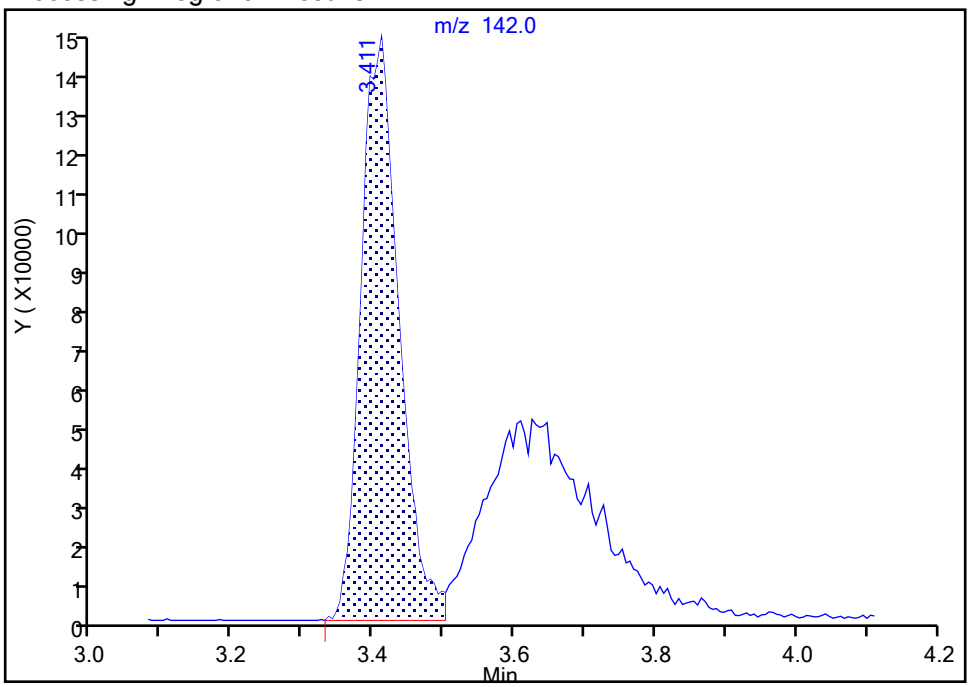

Manual Integration Results

RT: 3.41
Area: 1083955
Amount: 240.4086
Amount Units: ng

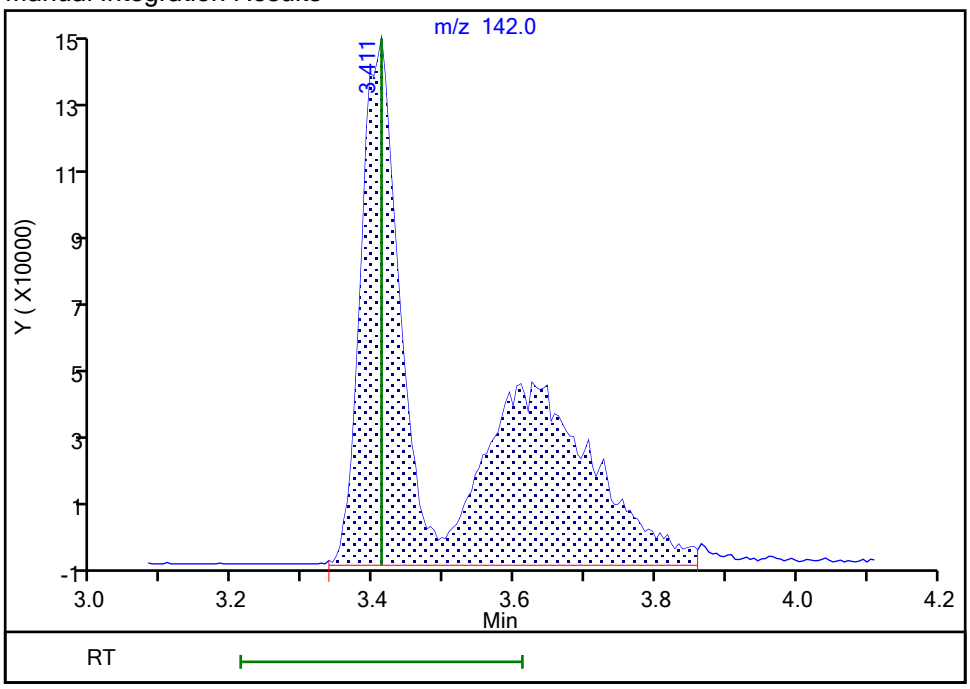

Reviewer: journetp, 23-Dec-2019 07:36:51

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122302.D				
Injection Date:	23-Dec-2019 06:57:30	Instrument ID:	CHHP4		
Lims ID:	CCVIS				
Client ID:					
Operator ID:	034635	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

22 1,1,2-Trichloro-1,2,2-trifluoroethane, CAS: 76-13-1

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 3.45

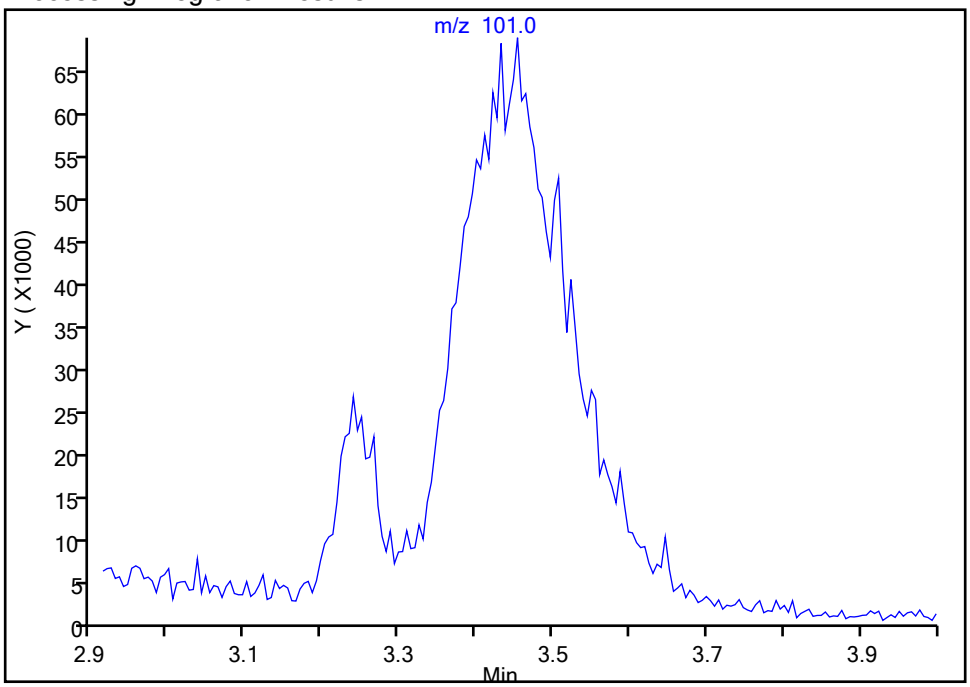

Manual Integration Results

RT: 3.45
Area: 805953
Amount: 183.2213
Amount Units: ng

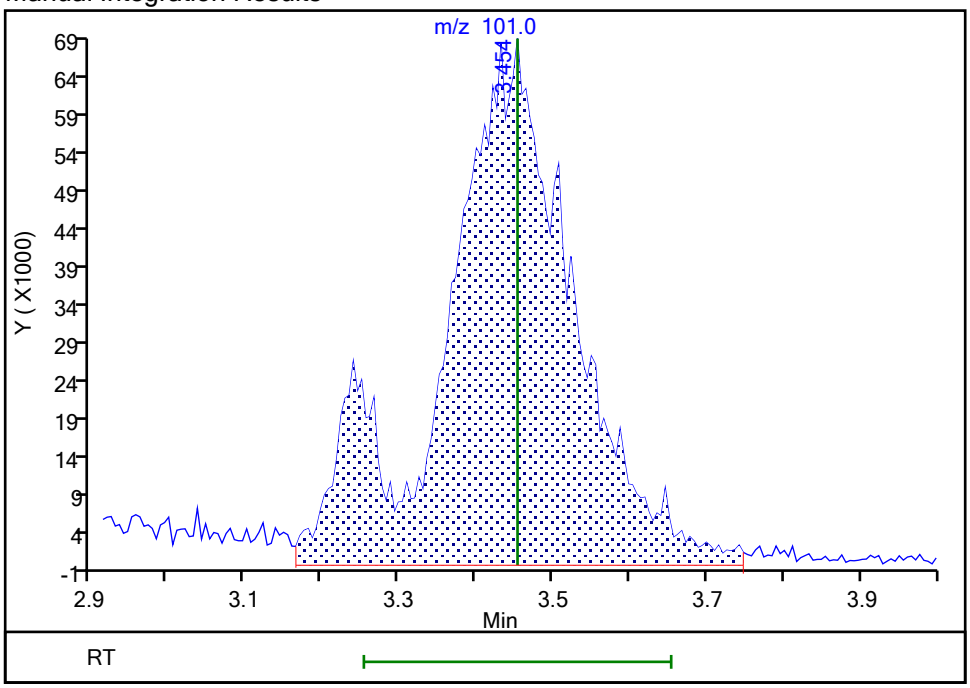

Reviewer: journetp, 23-Dec-2019 07:37:00
Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122302.D				
Injection Date:	23-Dec-2019 06:57:30	Instrument ID:	CHHP4		
Lims ID:	CCVIS				
Client ID:					
Operator ID:	034635	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

25 Carbon disulfide, CAS: 75-15-0

Signal: 1

Processing Integration Results

RT: 3.49
Area: 1126246
Amount: 87.369927
Amount Units: ng

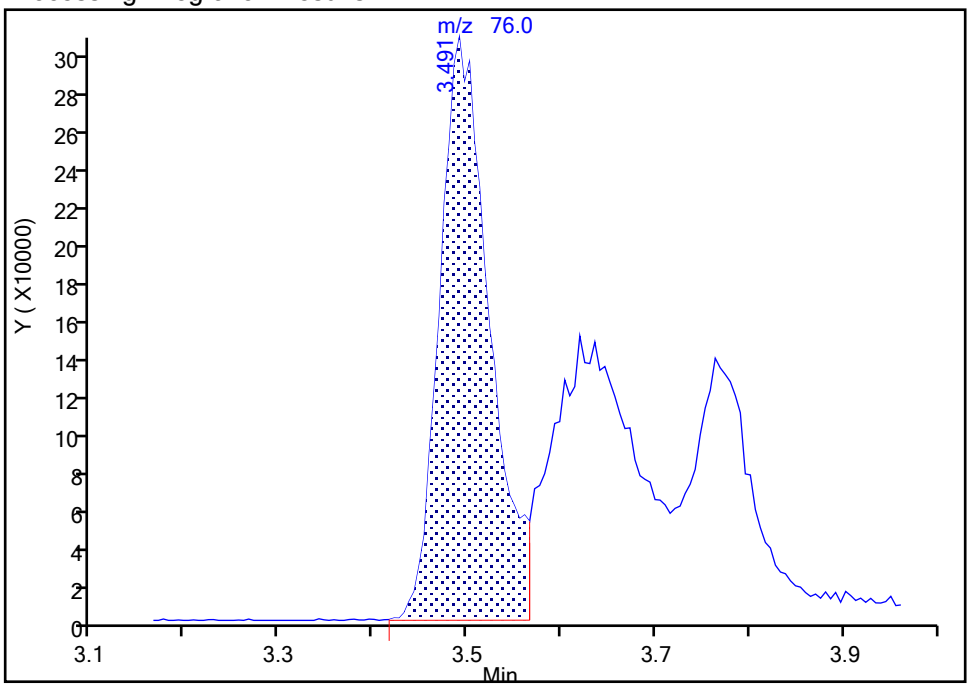

Manual Integration Results

RT: 3.49
Area: 1983804
Amount: 153.8960
Amount Units: ng

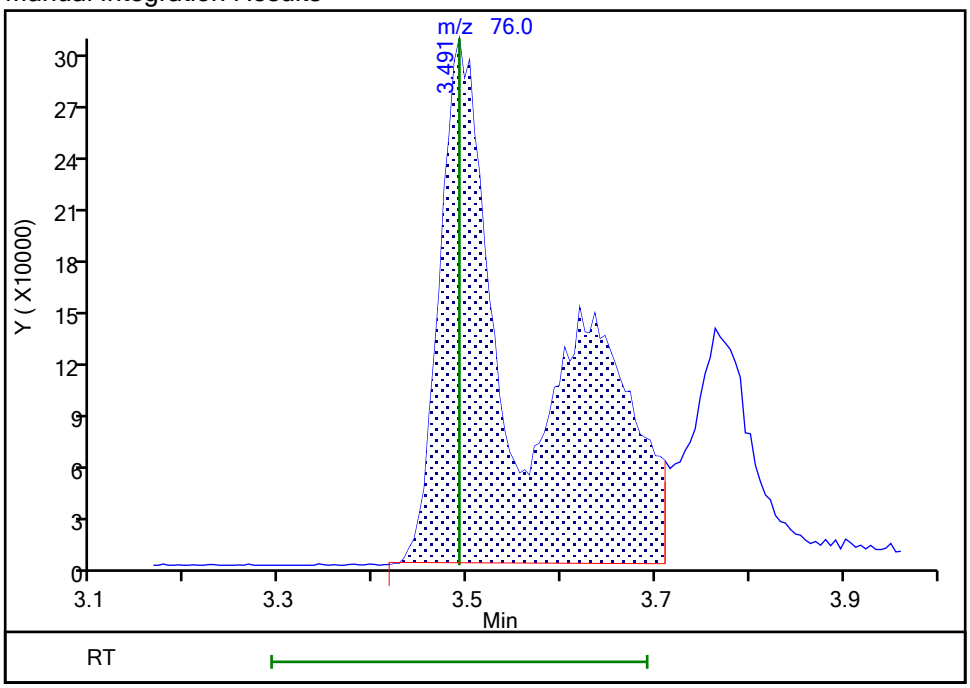

Reviewer: journetp, 23-Dec-2019 07:37:07

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122302.D				
Injection Date:	23-Dec-2019 06:57:30	Instrument ID:	CHHP4		
Lims ID:	CCVIS				
Client ID:					
Operator ID:	034635	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

30 Methylene Chloride, CAS: 75-09-2

Signal: 1

Processing Integration Results

RT: 3.99
Area: 470625
Amount: 117.2305
Amount Units: ng

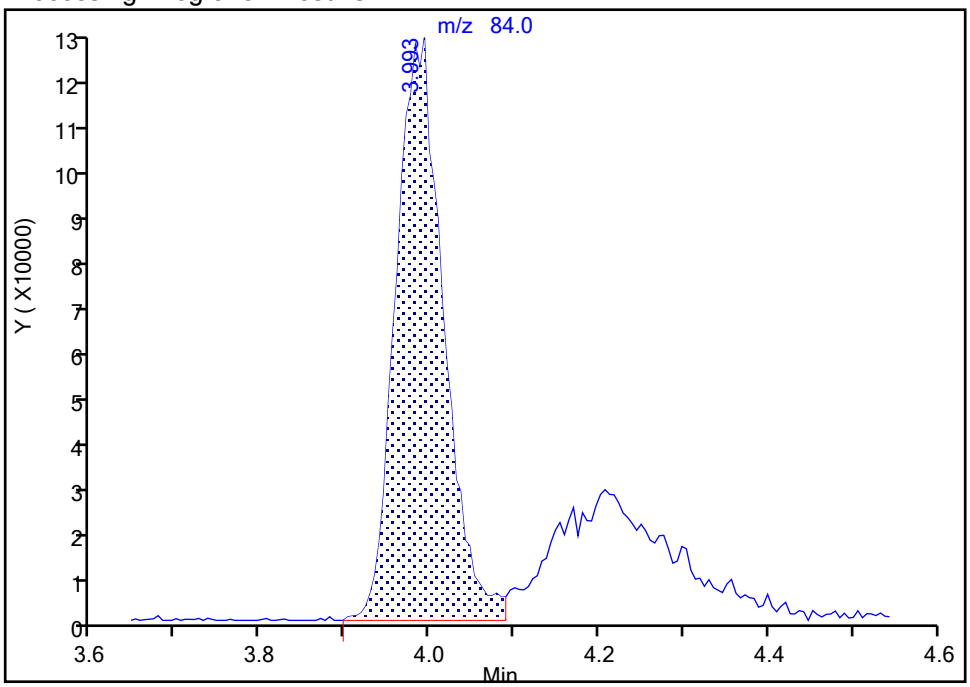

Manual Integration Results

RT: 3.99
Area: 712940
Amount: 177.5900
Amount Units: ng

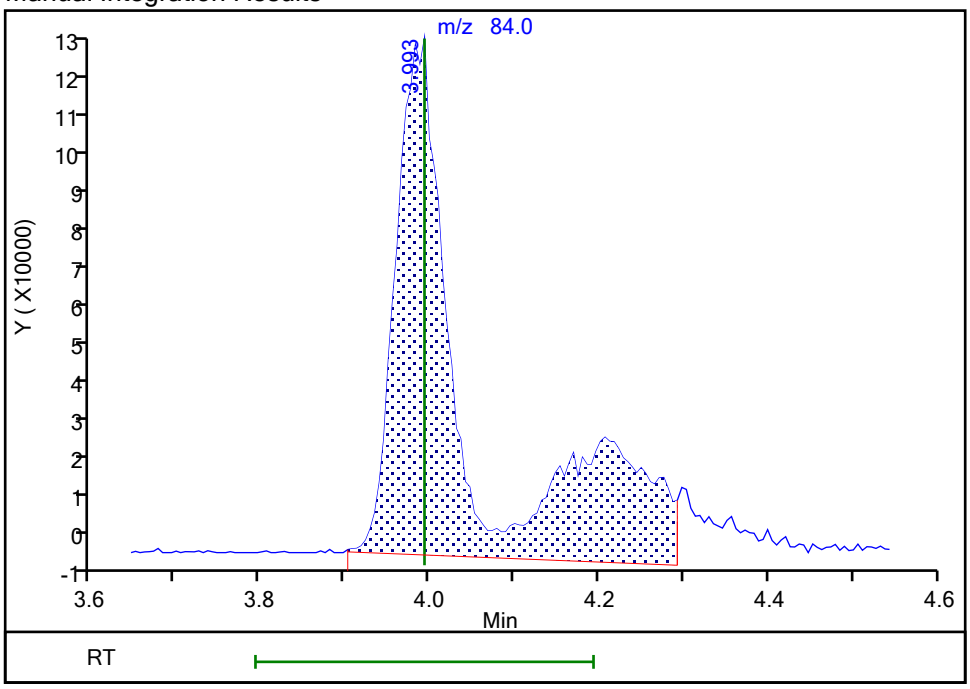

Reviewer: journetp, 23-Dec-2019 07:37:14

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122302.D				
Injection Date:	23-Dec-2019 06:57:30	Instrument ID:	CHHP4		
Lims ID:	CCVIS				
Client ID:					
Operator ID:	034635	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

50 1,1,1-Trichloroethane, CAS: 71-55-6

Signal: 1

Processing Integration Results

RT: 6.40
Area: 895152
Amount: 165.4920
Amount Units: ng

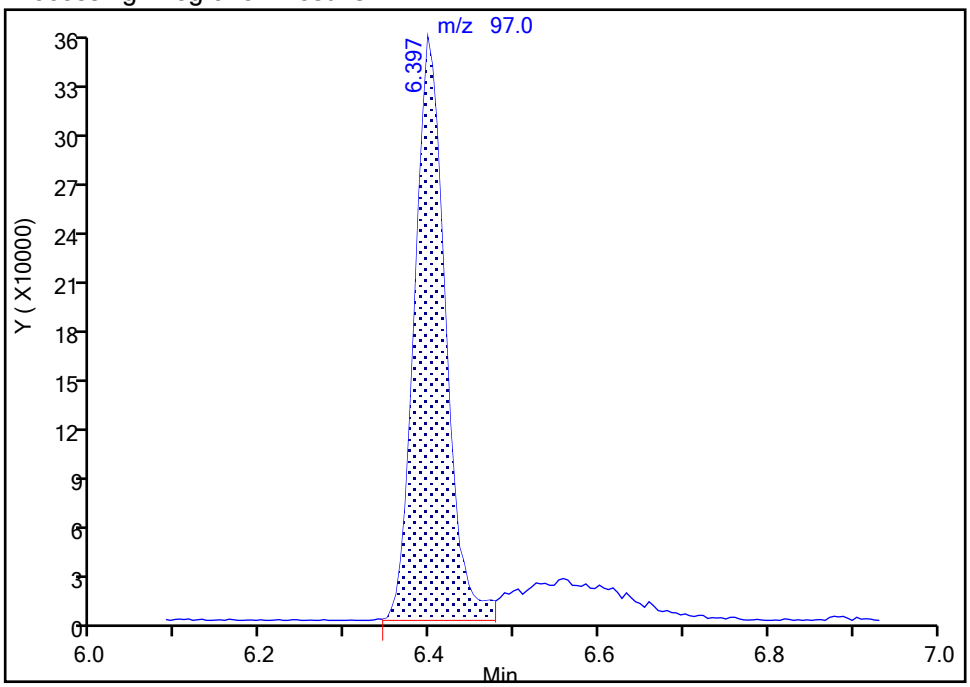

Manual Integration Results

RT: 6.40
Area: 1070542
Amount: 197.9173
Amount Units: ng

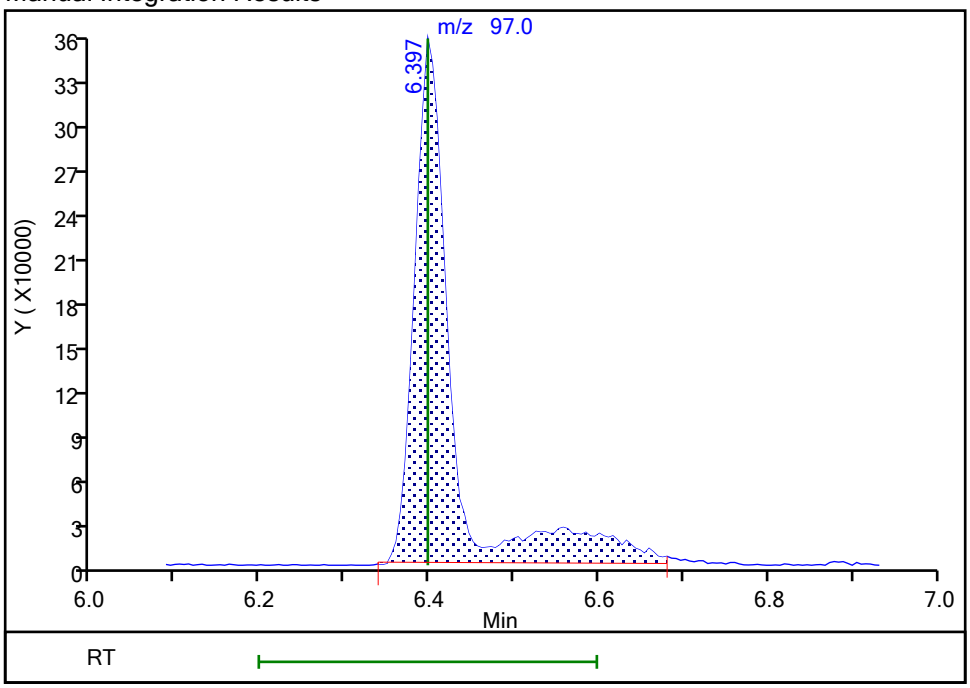

Reviewer: journetp, 23-Dec-2019 07:40:10

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122302.D				
Injection Date:	23-Dec-2019 06:57:30	Instrument ID:	CHHP4		
Lims ID:	CCVIS				
Client ID:					
Operator ID:	034635	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

51 Cyclohexane, CAS: 110-82-7

Signal: 1

Processing Integration Results

RT: 6.47
Area: 865830
Amount: 149.8128
Amount Units: ng

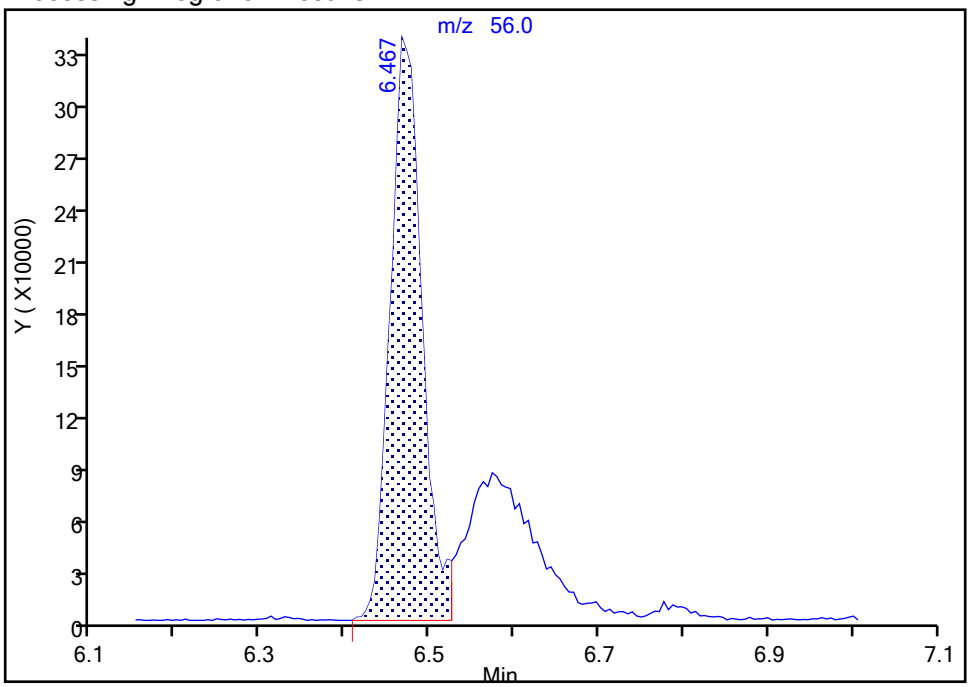

Manual Integration Results

RT: 6.47
Area: 1327450
Amount: 229.6860
Amount Units: ng

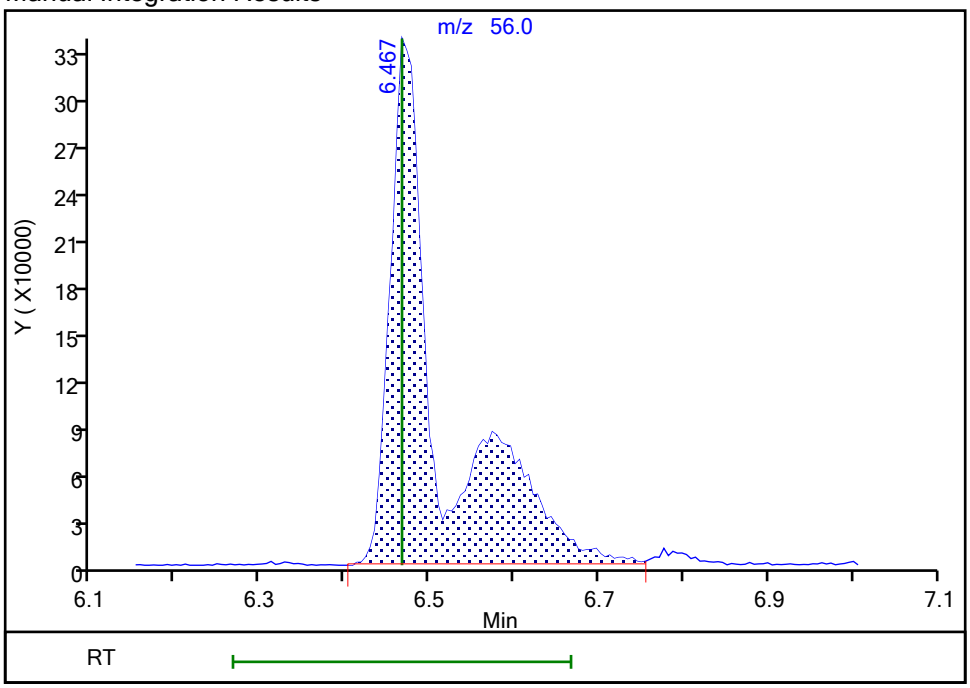

Reviewer: journetp, 23-Dec-2019 07:40:17

Audit Action: Manually Integrated Audit Reason: Poor chromatography

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCV 180-302272/3 Calibration Date: 12/23/2019 07:23

Instrument ID: CHHP4 Calib Start Date: 02/28/2019 06:43

GC Column: DB-624 ID: 0.18(mm) Calib End Date: 02/28/2019 14:12

Lab File ID: 4122303.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Isopropyl alcohol	Lin1		0.0119	0.0100	255	400	-36.2*	20.0
Acetonitrile	Lin		0.0219	0.0100	346	400	-13.6	20.0
Chloroprene	Ave	0.6485	0.8906	0.0100	54.9	40.0	37.3*	20.0
Isopropyl ether	Ave	1.260	1.298	0.0100	41.2	40.0	3.0	20.0
Tert-butyl ethyl ether	Ave	1.210	0.9577	0.0100	31.7	40.0	-20.9*	20.0
Ethyl acetate	Ave	0.4060	0.2091	0.0100	41.2	80.0	-48.5*	20.0
Propionitrile	Ave	0.0576	0.0304	0.0100	211	400	-47.3*	20.0
Methacrylonitrile	Lin		0.1344	0.0100	206	400	-48.5*	20.0
Isooctane	Ave	1.526	2.399	0.0100	62.9	40.0	57.2*	20.0
Tert-amyl methyl ether	Ave	1.237	0.9041	0.0100	29.2	40.0	-26.9*	20.0
Ethyl acrylate	Lin		1.270	0.0100	21.5	40.0	-46.1*	20.0
n-Butanol	Lin		0.0001*	0.0100		1000	-90.9*	20.0
Methyl methacrylate	Lin		0.2129	0.0100	51.5	80.0	-35.6*	20.0
n-Butyl acetate	Lin1		1.375	0.0100	23.5	40.0	-41.1*	20.0
Cyclohexanone	Qua		0.0310	0.0100	740	800	-7.6	20.0
1,2,3-Trimethylbenzene	Lin		4.776	0.0100	40.6	40.0	1.6	20.0
Benzyl chloride	Lin1		1.692	0.0100	39.9	40.0	-0.2	20.0
1,3,5-Trichlorobenzene	Ave	0.4636	2.409	0.0100	208	40.0	419.7*	20.0

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122303.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 23-Dec-2019 07:23:30 ALS Bottle#: 3 Worklist Smp#: 3
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0030118-003
Operator ID: 034635 Instrument ID: CHHP4
Sublist: chrom-MSVOA_CHHP4*sub113

Method: \\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\MSVOA_CHHP4.m
Limit Group: VOA 8260C_D ICAL
Last Update: 24-Dec-2019 13:18:43 Calib Date: 14-Nov-2019 12:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114008.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0309

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.096	4.096	0.000	88	450649	5000.0	5000.0	
* 2 Fluorobenzene (IS)	96	7.157	7.157	0.000	98	3017871	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.271	10.271	0.000	98	776161	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.627	12.627	0.000	92	1218715	250.0	250.0	
26 Isopropyl alcohol	45	3.578	3.578	0.000	0	287376	2000.0	1276.1	
27 Acetonitrile	40	3.717	3.717	0.000	0	529686	2000.0	1728.6	M
37 2-Chloro-1,3-butadiene	53	5.148	5.148	0.000	0	2150050	200.0	274.7	
39 Isopropyl ether	45	5.148	5.148	0.000	0	3134598	200.0	206.0	
40 Tert-butyl ethyl ether	59	5.629	5.629	0.000	0	2312099	200.0	158.3	M
44 Propionitrile	54	5.891	5.891	0.000	0	733121	2000.0	1054.5	
45 Ethyl acetate	43	5.891	5.891	0.000	0	1009533	400.0	206.0	
47 Methacrylonitrile	41	6.067	6.067	0.000	0	3243959	2000.0	1029.4	
57 Isooctane	57	6.959	6.959	0.000	0	5791512	200.0	314.4	
56 Tert-amyl methyl ether	73	6.986	6.986	0.000	0	2182794	200.0	146.2	
62 Ethyl acrylate	55	7.670	7.670	0.000	0	788725	200.0	107.7	
60 n-Butanol	56	7.793	7.793	0.000	0	2960	5000.0	457.4	
66 Methyl methacrylate	69	7.905	7.905	0.000	0	1027853	400.0	257.6	
80 n-Butyl acetate	43	9.668	9.668	0.000	0	853666	200.0	117.7	
92 Cyclohexanone	55	11.372	11.372	0.000	90	384466	4000.0	3697.8	
108 1,2,3-Trimethylbenzene	105	12.670	12.670	0.000	0	4656052	200.0	203.2	
109 Benzyl chloride	91	12.766	12.766	0.000	0	1649915	200.0	199.6	
114 1,3,5-Trichlorobenzene	180	13.990	13.990	0.000	0	2348636	200.0	1039.3	E

QC Flag Legend

Processing Flags
E - Exceeded Maximum Amount
Review Flags
M - Manually Integrated

Reagents:

VOALIST22ND_00009	Amount Added: 8.00	Units: uL
VOA8260INT_00102	Amount Added: 10.00	Units: uL

Report Date: 24-Dec-2019 13:18:44 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122303.D				
Injection Date:	23-Dec-2019 07:23:30	Instrument ID:	CHHP4	Operator ID:	034635
Lims ID:	CCV			Worklist Smp#:	3
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

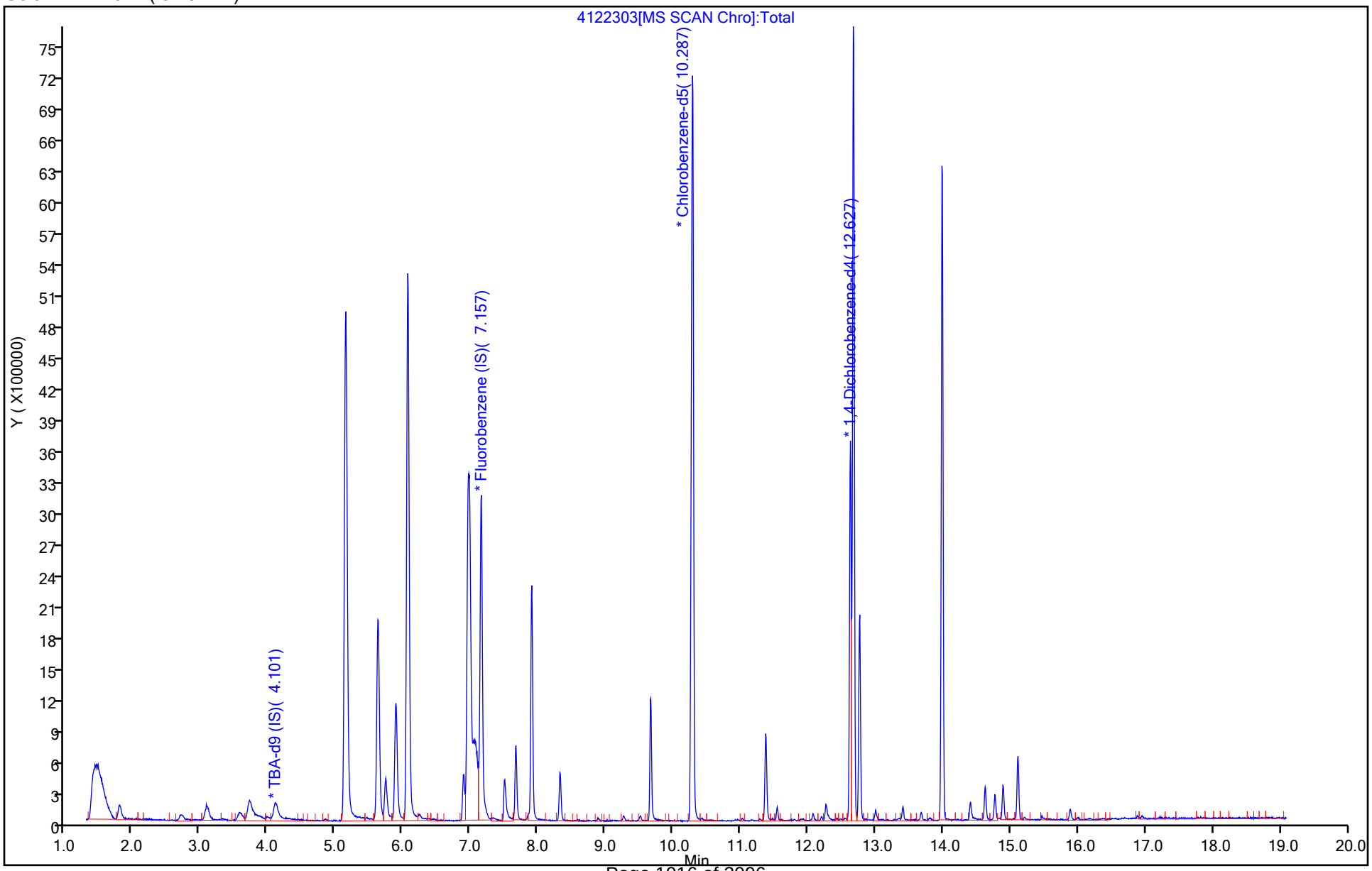

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122303.D				
Injection Date:	23-Dec-2019 07:23:30	Instrument ID:	CHHP4		
Lims ID:	CCV				
Client ID:					
Operator ID:	034635	ALS Bottle#:	3	Worklist Smp#:	3
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

27 Acetonitrile, CAS: 75-05-8

Signal: 1

Processing Integration Results

RT: 3.72
Area: 363878
Amount: 1194.0002
Amount Units: ng

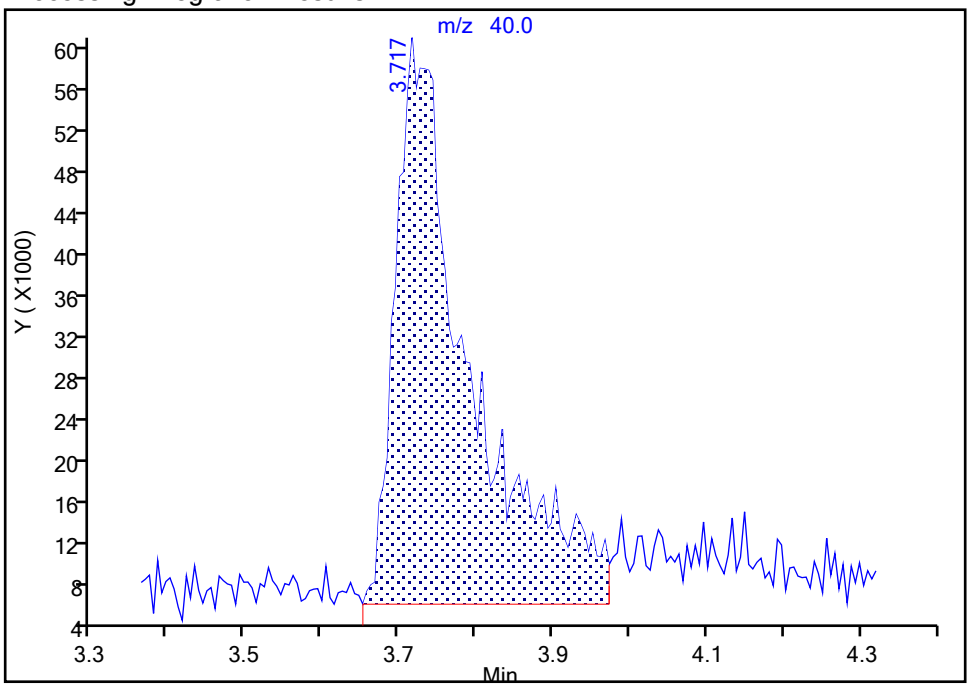

Manual Integration Results

RT: 3.72
Area: 529686
Amount: 1728.5982
Amount Units: ng

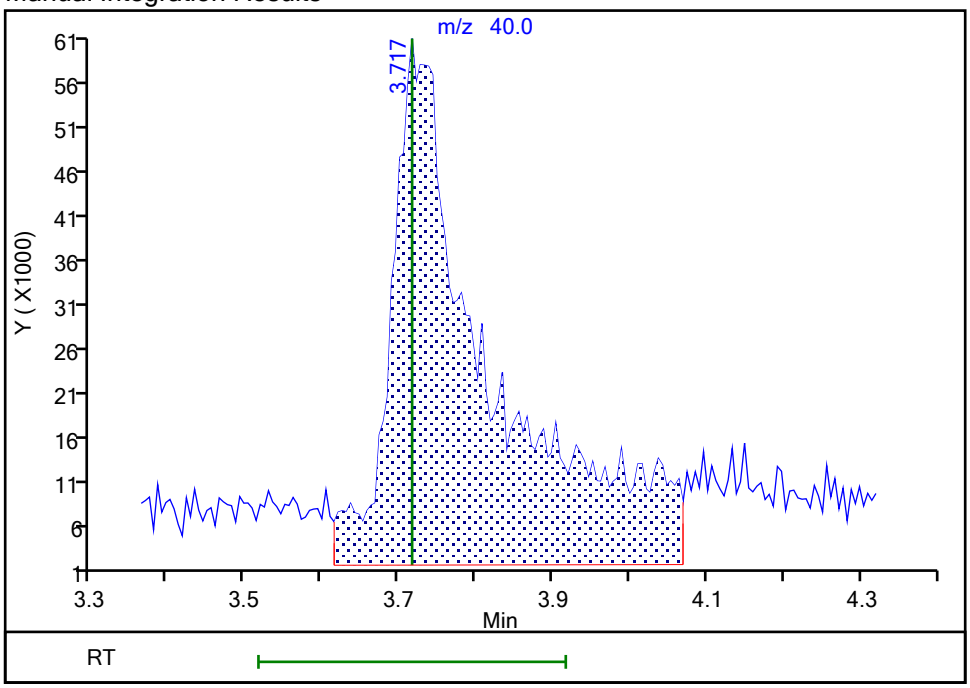

Reviewer: journetp, 23-Dec-2019 09:21:44

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122303.D				
Injection Date:	23-Dec-2019 07:23:30	Instrument ID:	CHHP4		
Lims ID:	CCV				
Client ID:					
Operator ID:	034635	ALS Bottle#:	3	Worklist Smp#:	3
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

40 Tert-butyl ethyl ether, CAS: 637-92-3

Signal: 1

Processing Integration Results

RT: 5.63
Area: 2226212
Amount: 152.4105
Amount Units: ng

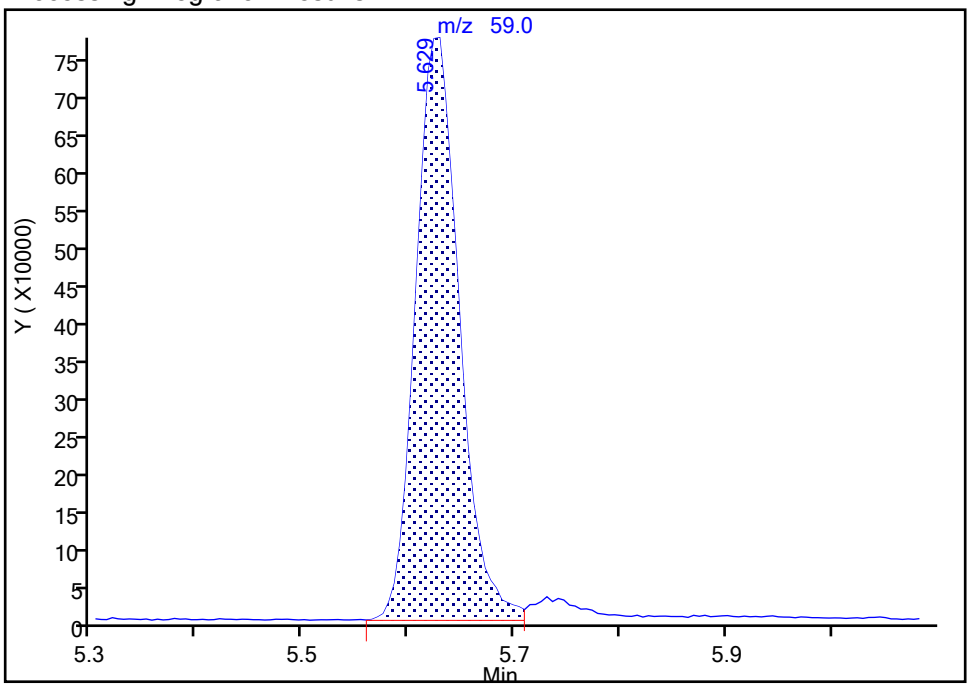

Manual Integration Results

RT: 5.63
Area: 2312099
Amount: 158.2905
Amount Units: ng

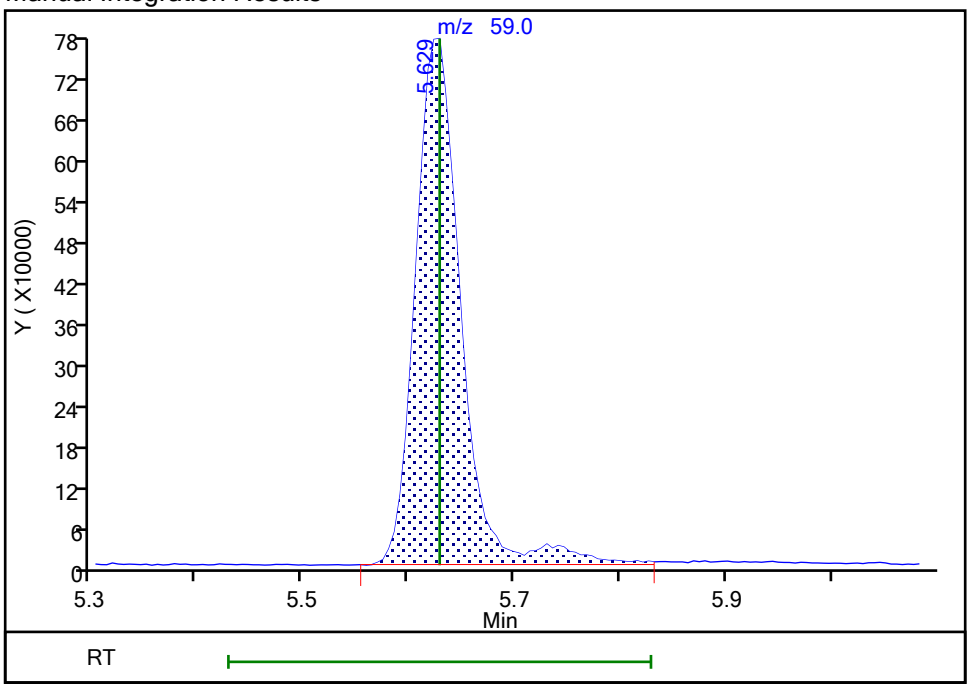

Reviewer: journetp, 23-Dec-2019 09:21:56

Audit Action: Manually Integrated Audit Reason: Poor chromatography

TestAmerica Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20190228-25793.b\40222801.D
Lims ID: BFB
Client ID:
Sample Type: BFB
Inject. Date: 28-Feb-2019 05:31:30 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 5.0 mL Dil. Factor: 1.0000
Sample Info: 180-0025793-001
Operator ID: 034635 Instrument ID: CHHP4

Method: \\chromna\Pittsburgh\ChromData\CHHP4\20190228-25793.b\MSVOA_CHHP4.m
Limit Group: VOA 8260C_D ICAL
Last Update: 12-Mar-2019 11:01:59 Calib Date: 28-Feb-2019 14:12:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP4\20190228-25793.b\40222818.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0301

First Level Reviewer: journetp Date: 28-Feb-2019 05:56:33

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
$ 9 BFB	95	11.585	11.586	-0.001	0	1087872	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

VOABFB50_00112 Amount Added: 1.00 Units: uL

Report Date: 12-Mar-2019 11:02:00 Chrom Revision: 2.3 11-Feb-2019 16:31:10

MS Tune Report

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20190228-25793.b\40222801.D				
Injection Date:	28-Feb-2019 05:31:30	Instrument ID:	CHHP4		
Lims ID:	BFB				
Client ID:					
Operator ID:	034635	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	5.0 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Tune Method:	BFB Method 8260				

$ 9 BFB

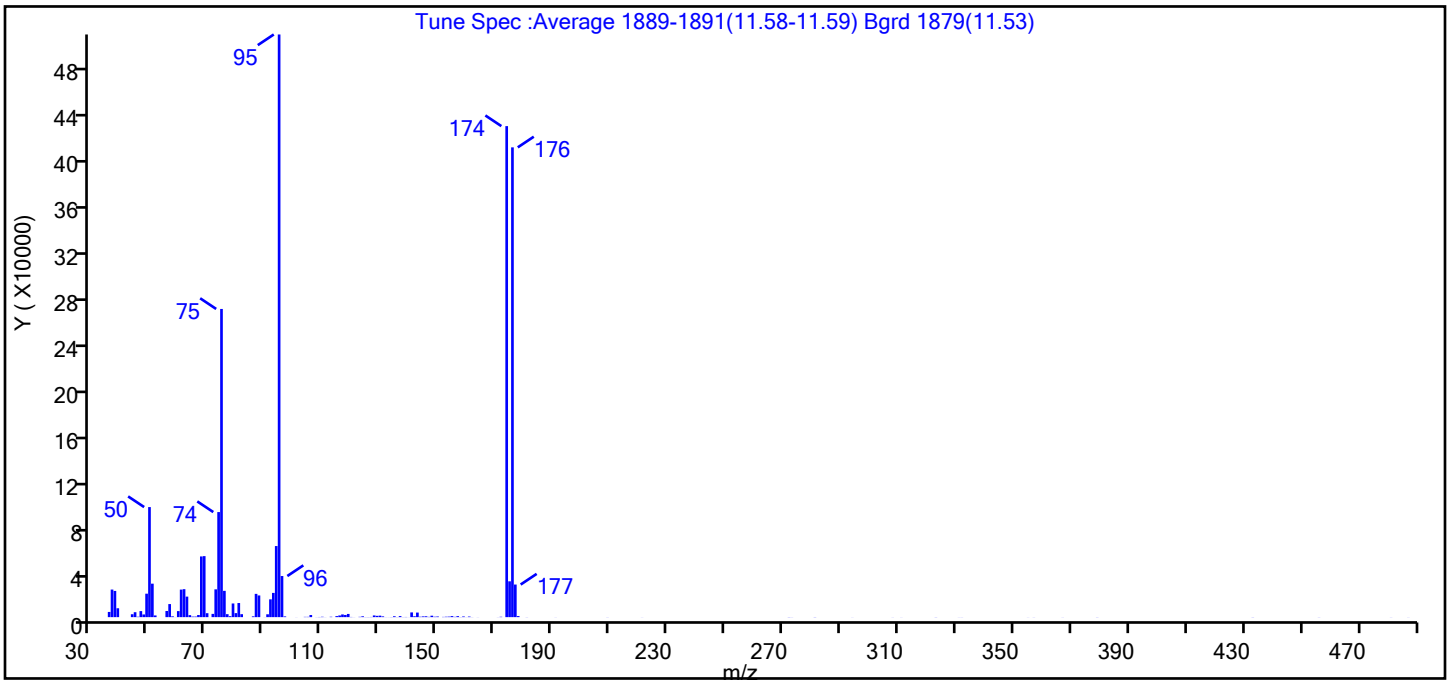

m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	18.9
75	30 to 60% of m/z 95	52.9
96	5 to 9% of m/z 95	7.1
173	Less than 2% of m/z 174	0.0 (0.0)
174	50 to 120% of m/z 95	84.3
175	5 to 9% of m/z 174	6.1 (7.3)
176	Greater than 95% but less than 101% of m/z 174	80.6 (95.7)
177	5 to 9% of m/z 176	5.6 (6.9)

Report Date: 12-Mar-2019 11:02:00 Chrom Revision: 2.3 11-Feb-2019 16:31:10

Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20190228-25793.b\40222801.D\MSVOA_CHHP4.rslt\spectra.d
Injection Date: 28-Feb-2019 05:31:30
Spectrum: Tune Spec :Average 1889-1891(11.58-11.59) Bgrd 1879(11.53)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 134

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	4516	78.00	835	125.00	104	160.00	63
37.00	23928	79.00	11856	126.00	122	161.00	505
38.00	22736	80.00	3498	127.00	172	162.00	74
39.00	7710	81.00	12239	128.00	1471	164.00	55
44.00	2515	82.00	2578	129.00	1130	171.00	64
45.00	4277	86.00	678	130.00	1286	172.00	313
46.00	353	87.00	20192	131.00	659	174.00	425920
47.00	5237	88.00	18816	132.00	65	175.00	31072
48.00	2332	90.00	64	133.00	61	176.00	407488
49.00	20344	91.00	2472	134.00	120	177.00	28280
50.00	95472	92.00	15447	135.00	767	178.00	921
51.00	29040	93.00	21024	136.00	101	181.00	79
52.00	1466	94.00	61664	137.00	903	191.00	57
56.00	5346	95.00	505408	138.00	91	209.00	73
57.00	11339	96.00	35664	139.00	157	221.00	54
58.00	695	97.00	630	140.00	50	272.00	122
59.00	60	101.00	52	141.00	4106	273.00	67
60.00	5237	104.00	245	142.00	755	281.00	127
61.00	23888	105.00	247	143.00	3965	294.00	53
62.00	24256	106.00	1833	144.00	357	308.00	58
63.00	17808	108.00	64	145.00	637	311.00	51
64.00	1737	109.00	147	146.00	735	323.00	99
65.00	458	110.00	317	147.00	234	331.00	56
66.00	492	111.00	56	148.00	1240	332.00	68
67.00	1839	113.00	335	149.00	357	355.00	54
68.00	52648	115.00	907	150.00	552	357.00	65
69.00	52928	116.00	1442	152.00	215	367.00	61
70.00	3419	117.00	2342	153.00	359	379.00	89
72.00	2827	118.00	1898	154.00	449	433.00	101
73.00	24112	119.00	2779	155.00	886	456.00	80
74.00	91136	120.00	169	156.00	251	481.00	66
75.00	267328	121.00	55	157.00	852	487.00	59
76.00	22808	123.00	262	158.00	114		

Report Date: 12-Mar-2019 11:02:00 Chrom Revision: 2.3 11-Feb-2019 16:31:10
Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20190228-25793.b\40222801.D\MSVOA_CHHP4.rslt\spectra.d
Injection Date: 28-Feb-2019 05:31:30
Spectrum: Tune Spec :Average 1889-1891(11.58-11.59) Bgrd 1879(11.53)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 134

m/z	Y	m/z	Y	m/z	Y	m/z	Y
77.00	2572	124.00	723	159.00	575		

Report Date: 12-Mar-2019 11:02:00 Chrom Revision: 2.3 11-Feb-2019 16:31:10

TestAmerica Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20190228-25793.b\40222801.D				
Injection Date:	28-Feb-2019 05:31:30	Instrument ID:	CHHP4	Operator ID:	034635
Lims ID:	BFB			Worklist Smp#:	1
Client ID:					
Injection Vol:	5.0 mL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

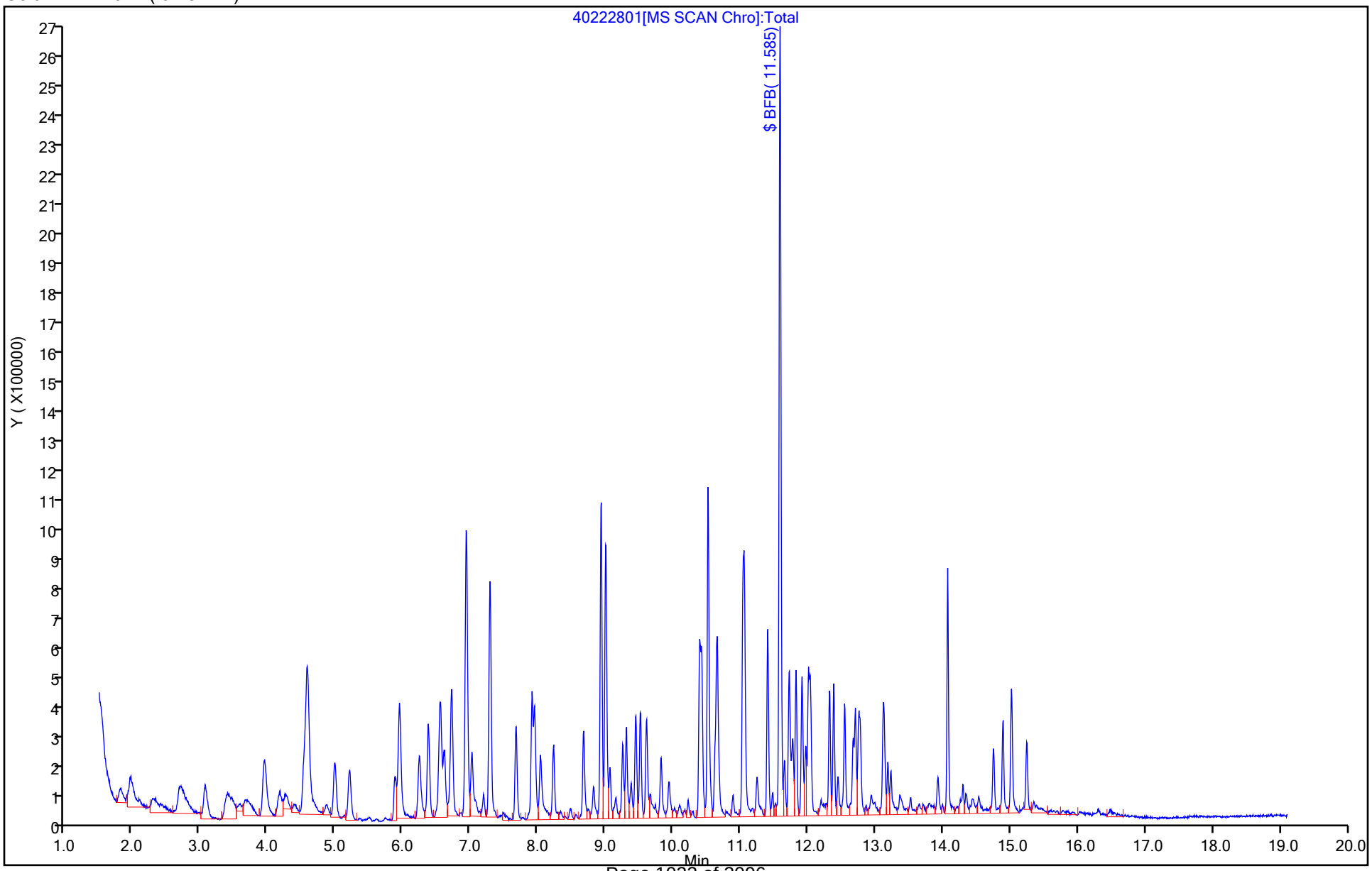

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114001.D
Lims ID: BFB
Client ID:
Sample Type: BFB
Inject. Date: 14-Nov-2019 06:54:30 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 5.0 mL Dil. Factor: 1.0000
Sample Info: 180-0029543-001
Operator ID: 034635 Instrument ID: CHHP4

Method: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\MSVOA_CHHP4.m
Limit Group: VOA 8260C_D ICAL
Last Update: 14-Nov-2019 16:47:54 Calib Date: 14-Nov-2019 12:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114008.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0329

First Level Reviewer: journetp Date: 14-Nov-2019 07:17:01

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
$ 9 BFB	95	11.467	11.467	0.000	0	1904603	NR	NR	

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Reagents:

VOABFB50_00120 Amount Added: 1.00 Units: uL

MS Tune Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114001.D				
Injection Date:	14-Nov-2019 06:54:30	Instrument ID:	CHHP4		
Lims ID:	BFB				
Client ID:					
Operator ID:	034635	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	5.0 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Tune Method:	BFB Method 8260				

$ 9 BFB

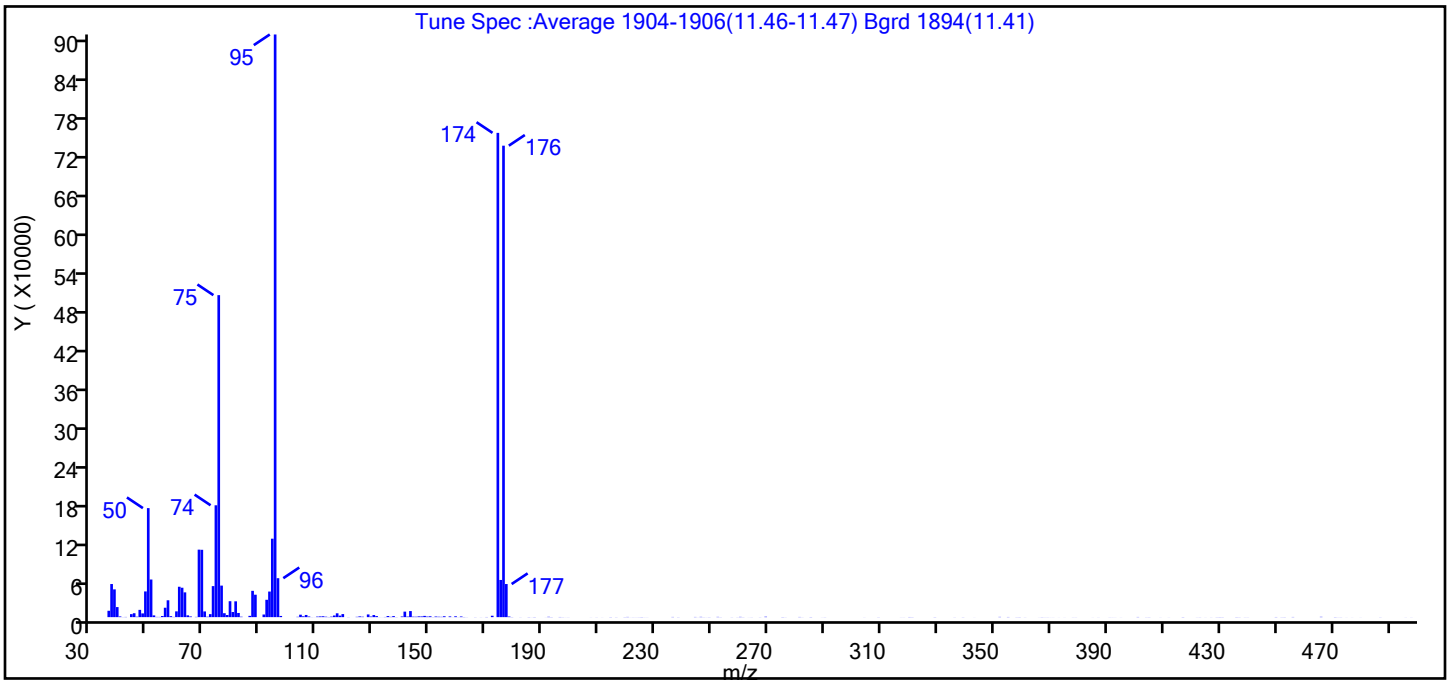

m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	18.7
75	30 to 60% of m/z 95	55.3
96	5 to 9% of m/z 95	6.7
173	Less than 2% of m/z 174	0.0 (0.0)
174	50 to 120% of m/z 95	83.1
175	5 to 9% of m/z 174	6.4 (7.7)
176	Greater than 95% but less than 101% of m/z 174	80.9 (97.4)
177	5 to 9% of m/z 176	5.7 (7.0)

Report Date: 14-Nov-2019 16:47:54 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114001.D\MSVOA_CHHP4.rslt\spectra.d
Injection Date: 14-Nov-2019 06:54:30
Spectrum: Tune Spec :Average 1904-1906(11.46-11.47) Bgrd 1894(11.41)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 235

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	9933	106.00	3402	175.00	57976	320.00	242
37.00	51632	107.00	1011	176.00	735040	321.00	157
38.00	43304	108.00	124	177.00	51616	329.00	180
39.00	15682	109.00	62	178.00	919	336.00	100
40.00	1095	110.00	829	179.00	201	339.00	136
41.00	132	111.00	1130	182.00	106	343.00	53
42.00	313	112.00	1361	185.00	187	352.00	368
44.00	4686	113.00	699	186.00	55	355.00	259
45.00	6092	114.00	254	187.00	228	358.00	132
46.00	692	115.00	819	191.00	56	359.00	172
47.00	11354	116.00	2557	192.00	491	361.00	89
48.00	5850	117.00	5994	193.00	196	366.00	59
49.00	40088	118.00	2366	196.00	250	367.00	153
50.00	169984	119.00	4775	197.00	125	368.00	83
51.00	58672	121.00	147	198.00	61	369.00	95
52.00	2707	122.00	6	199.00	88	370.00	50
53.00	369	124.00	475	207.00	64	371.00	54
54.00	328	125.00	1155	209.00	95	373.00	47
55.00	1755	126.00	680	211.00	57	375.00	50
56.00	14672	128.00	4208	214.00	201	378.00	82
57.00	26296	129.00	948	216.00	132	379.00	80
58.00	1502	130.00	3281	219.00	176	385.00	51
59.00	339	131.00	1605	220.00	318	387.00	70
60.00	9030	132.00	105	221.00	59	391.00	88
61.00	47384	133.00	60	222.00	100	392.00	78
62.00	45856	134.00	268	223.00	83	393.00	59
63.00	38624	135.00	1727	224.00	120	395.00	57
64.00	2805	136.00	466	225.00	211	401.00	281
65.00	1088	137.00	1622	226.00	74	404.00	104
67.00	372	138.00	170	227.00	72	405.00	144
68.00	105232	140.00	1003	236.00	300	409.00	66
69.00	105000	141.00	8604	238.00	144	412.00	62
70.00	8899	142.00	855	244.00	295	417.00	207

Report Date: 14-Nov-2019 16:47:54 Chrom Revision: 2.3 09-Oct-2019 11:13:36
Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114001.D\MSVOA_CHHP4.rslt\spectra.d
Injection Date: 14-Nov-2019 06:54:30
Spectrum: Tune Spec :Average 1904-1906(11.46-11.47) Bgrd 1894(11.41)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 235

m/z	Y	m/z	Y	m/z	Y	m/z	Y
71.00	669	143.00	9438	245.00	55	422.00	76
72.00	4704	144.00	728	246.00	404	423.00	112
73.00	48392	145.00	643	247.00	116	425.00	56
74.00	174400	146.00	1185	248.00	67	427.00	82
75.00	502016	147.00	1089	249.00	150	429.00	139
76.00	49168	148.00	1959	252.00	380	430.00	188
77.00	6132	149.00	871	253.00	129	431.00	158
78.00	3337	150.00	1336	257.00	113	436.00	191
79.00	24840	151.00	170	259.00	106	437.00	133
80.00	7987	152.00	979	260.00	390	439.00	98
81.00	24664	153.00	631	261.00	131	440.00	87
82.00	6509	154.00	482	263.00	52	450.00	237
83.00	688	155.00	1356	264.00	101	452.00	127
86.00	1998	157.00	1156	267.00	120	453.00	166
87.00	41008	158.00	80	269.00	632	456.00	281
88.00	34976	159.00	1324	275.00	211	466.00	474
91.00	4116	160.00	116	276.00	95	471.00	213
92.00	27048	161.00	1021	281.00	287	472.00	86
93.00	39912	162.00	244	282.00	90	473.00	113
94.00	122312	163.00	100	285.00	229	475.00	51
95.00	908416	166.00	137	289.00	58	477.00	51
96.00	60736	168.00	88	290.00	122	480.00	56
97.00	1859	169.00	19	304.00	69	487.00	122
103.00	491	170.00	247	309.00	133	496.00	68
104.00	3818	172.00	2172	317.00	69	498.00	74
105.00	1291	174.00	755008	318.00	70		

Report Date: 14-Nov-2019 16:47:55 Chrom Revision: 2.3 09-Oct-2019 11:13:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114001.D				
Injection Date:	14-Nov-2019 06:54:30	Instrument ID:	CHHP4	Operator ID:	034635
Lims ID:	BFB			Worklist Smp#:	1
Client ID:					
Injection Vol:	5.0 mL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

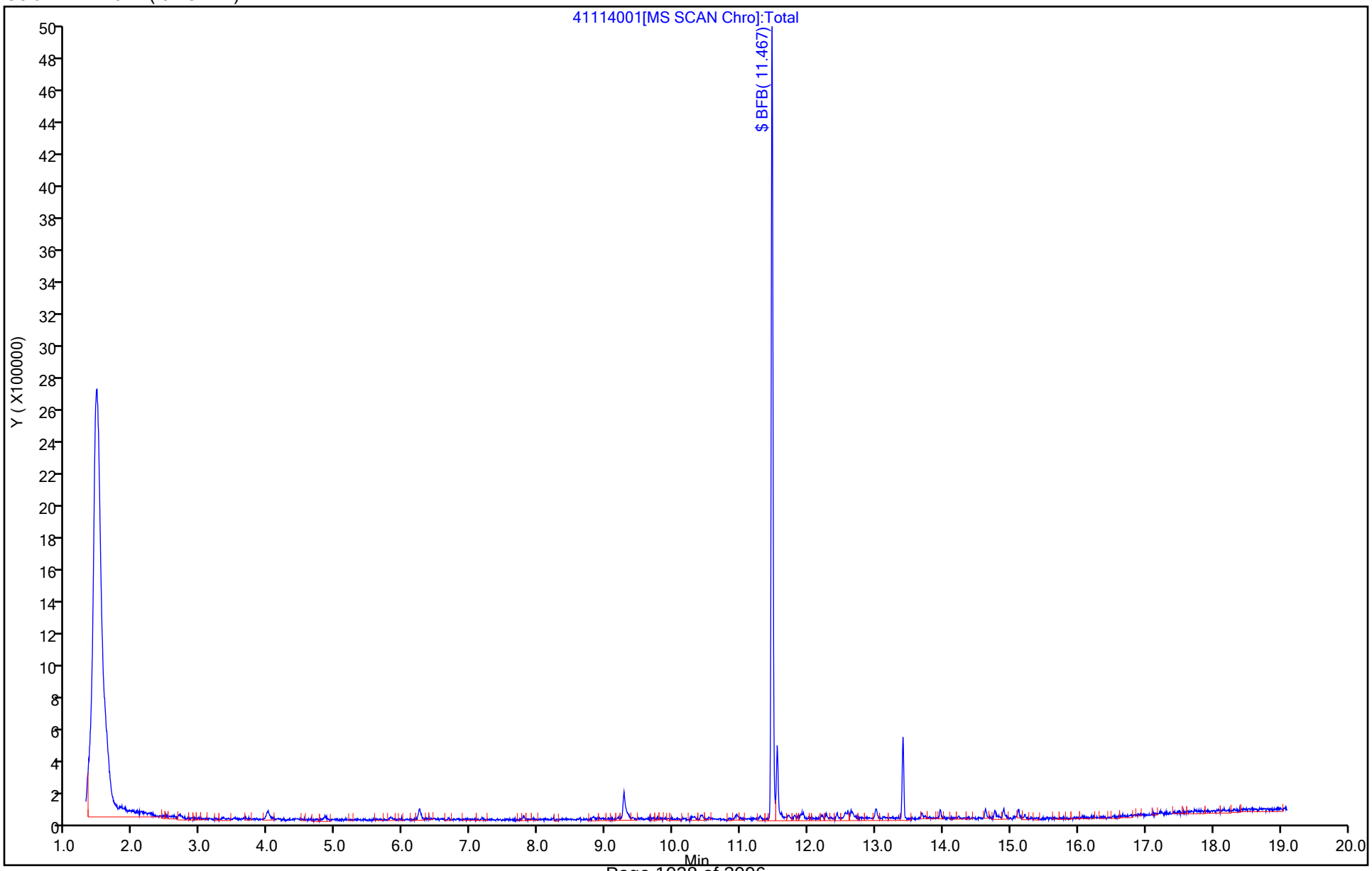

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122301.D				
Lims ID:	BFB				
Client ID:					
Sample Type:	BFB				
Inject. Date:	23-Dec-2019 06:12:30	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	5.0 mL	Dil. Factor:	1.0000		
Sample Info:	180-0030118-001				
Operator ID:	034635	Instrument ID:	CHHP4		
Method:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\MSVOA_CHHP4.m				
Limit Group:	VOA 8260C_D ICAL				
Last Update:	24-Dec-2019 11:01:24	Calib Date:	14-Nov-2019 12:45:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114008.D				
Column 1 :	DB-624 (0.18 mm)		Det: MS SCAN		
Process Host:	CTX0309				

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
$ 9 BFB	95	11.467	11.467	0.000	0	880098	NR	NR	

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Reagents:

VOABFB50_00122 Amount Added: 1.00 Units: uL

MS Tune Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122301.D				
Injection Date:	23-Dec-2019 06:12:30	Instrument ID:	CHHP4		
Lims ID:	BFB				
Client ID:					
Operator ID:	034635	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	5.0 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Tune Method:	BFB Method 8260				

$ 9 BFB

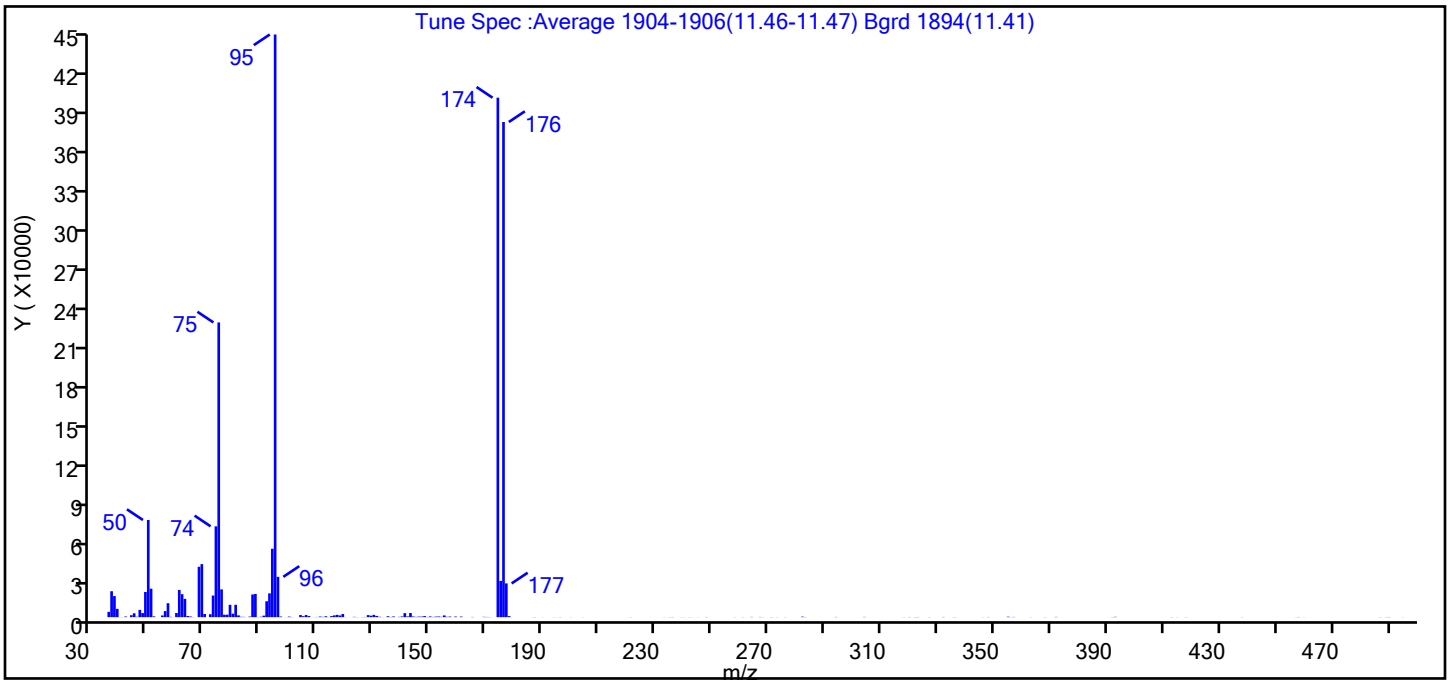

m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	16.7
75	30 to 60% of m/z 95	50.6
96	5 to 9% of m/z 95	6.9
173	Less than 2% of m/z 174	0.0 (0.0)
174	50 to 120% of m/z 95	89.2
175	5 to 9% of m/z 174	6.2 (7.0)
176	Greater than 95% but less than 101% of m/z 174	85.0 (95.3)
177	5 to 9% of m/z 176	5.8 (6.8)

Report Date: 24-Dec-2019 11:01:24 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122301.D\MSVOA_CHHP4.rslt\spectra.d
Injection Date: 23-Dec-2019 06:12:30
Spectrum: Tune Spec :Average 1904-1906(11.46-11.47) Bgrd 1894(11.41)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 176

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	4005	84.00	197	136.00	158	242.00	80
37.00	19656	86.00	440	137.00	531	243.00	50
38.00	15971	87.00	17208	139.00	228	245.00	60
39.00	6278	88.00	17584	140.00	522	248.00	140
40.00	70	89.00	76	141.00	3042	258.00	71
41.00	65	90.00	315	142.00	550	261.00	97
42.00	481	91.00	1140	143.00	3115	264.00	174
44.00	1453	92.00	12037	144.00	488	267.00	158
45.00	2933	93.00	18040	145.00	226	268.00	73
46.00	315	94.00	51872	146.00	413	271.00	107
47.00	5500	95.00	441856	147.00	438	273.00	77
48.00	3098	96.00	30560	148.00	827	276.00	81
49.00	19088	97.00	479	149.00	155	282.00	378
50.00	73680	99.00	63	150.00	549	283.00	126
51.00	21592	100.00	428	151.00	179	294.00	159
52.00	585	101.00	96	152.00	417	304.00	173
53.00	2	104.00	1603	153.00	486	318.00	82
55.00	1272	105.00	703	154.00	256	320.00	126
56.00	4579	106.00	1594	155.00	1297	322.00	111
57.00	10579	107.00	834	156.00	253	323.00	128
58.00	229	109.00	58	157.00	446	327.00	109
59.00	62	110.00	148	159.00	473	332.00	148
60.00	3146	111.00	468	161.00	463	336.00	107
61.00	20624	112.00	216	165.00	164	346.00	66
62.00	17432	113.00	682	169.00	231	348.00	128
63.00	13864	114.00	66	170.00	167	355.00	344
64.00	851	115.00	823	171.00	131	356.00	58
65.00	495	116.00	1356	174.00	393920	357.00	170
66.00	79	117.00	1747	175.00	27472	363.00	65
68.00	38176	118.00	1269	176.00	375488	368.00	95
69.00	40208	119.00	2382	177.00	25592	372.00	186
70.00	2390	120.00	80	178.00	793	392.00	106
72.00	2211	123.00	224	187.00	105	393.00	237

Report Date: 24-Dec-2019 11:01:24 Chrom Revision: 2.3 15-Dec-2019 06:20:02
Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122301.D\MSVOA_CHHP4.rslt\spectra.d
Injection Date: 23-Dec-2019 06:12:30
Spectrum: Tune Spec :Average 1904-1906(11.46-11.47) Bgrd 1894(11.41)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 176

m/z	Y	m/z	Y	m/z	Y	m/z	Y
73.00	16392	124.00	104	190.00	53	413.00	100
74.00	68880	125.00	12	194.00	71	415.00	64
75.00	223488	126.00	107	196.00	110	418.00	87
76.00	21056	127.00	163	200.00	70	438.00	85
77.00	1847	128.00	1548	204.00	63	457.00	54
78.00	1859	129.00	1086	221.00	90	458.00	115
79.00	9359	130.00	1736	233.00	69	460.00	53
80.00	2644	131.00	918	235.00	88	487.00	99
81.00	9374	132.00	317	236.00	114	489.00	82
82.00	1338	133.00	58	239.00	58	490.00	128
83.00	273	135.00	688	240.00	58	495.00	70

Report Date: 24-Dec-2019 11:01:25 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122301.D				
Injection Date:	23-Dec-2019 06:12:30	Instrument ID:	CHHP4	Operator ID:	034635
Lims ID:	BFB			Worklist Smp#:	1
Client ID:					
Injection Vol:	5.0 mL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

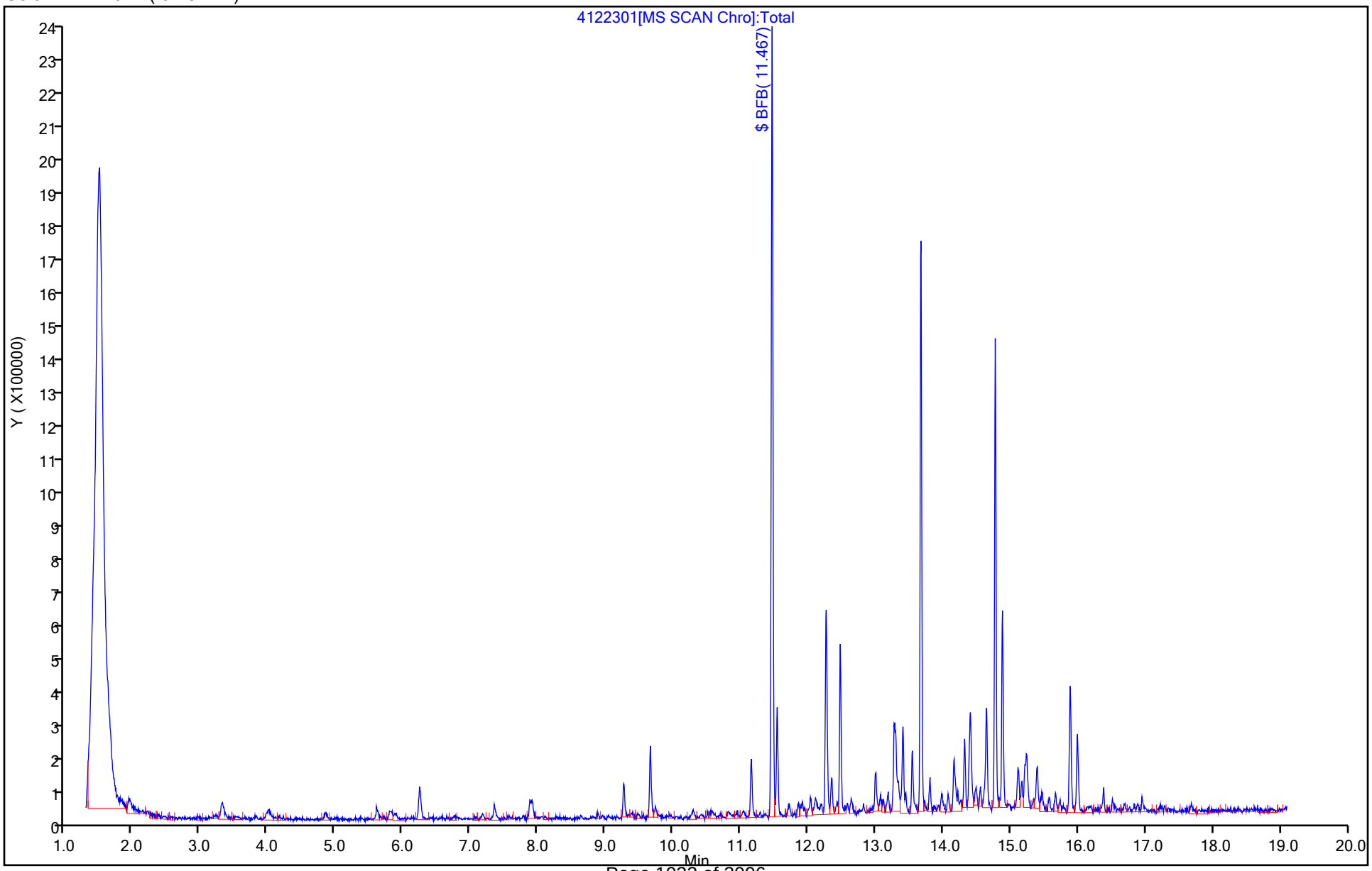

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Client Sample ID: Lab Sample ID: LB 180-302046/1-A

Matrix: Solid (TCLP) Lab File ID: 4122307.D

Analysis Method: EPA 8260C Date Collected:

Sample wt/vol: 0.5(mL) Date Analyzed: 12/23/2019 09:12

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 302272 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	ND		0.050	0.039
71-55-6	1,1,1-Trichloroethane	ND		0.050	0.025
107-06-2	1,2-Dichloroethane	ND		0.050	0.015
79-34-5	1,1,2,2-Tetrachloroethane	ND		0.050	0.030
78-93-3	2-Butanone (MEK)	ND		0.050	0.029
71-43-2	Benzene	ND		0.050	0.020
79-00-5	1,1,2-Trichloroethane	ND		0.050	0.024
56-23-5	Carbon tetrachloride	ND		0.050	0.033
108-90-7	Chlorobenzene	ND		0.050	0.016
67-66-3	Chloroform	ND		0.050	0.021
127-18-4	Tetrachloroethene	ND		0.050	0.020
79-01-6	Trichloroethene	ND		0.050	0.015
96-18-4	1,2,3-Trichloropropane	ND		0.050	0.028
75-01-4	Vinyl chloride	ND		0.050	0.037
75-35-4	1,1-Dichloroethene	ND		0.050	0.029
542-75-6	1,3-Dichloropropene, Total	ND		0.10	0.033
106-46-7	1,4-Dichlorobenzene	ND		0.050	0.010
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		0.050	0.019
67-64-1	Acetone	ND		0.20	0.032
75-05-8	Acetonitrile	ND		0.50	0.49
107-13-1	Acrylonitrile	ND		0.50	0.34
75-25-2	Bromoform	ND		0.050	0.026
74-83-9	Bromomethane	ND		0.050	0.045
75-15-0	Carbon disulfide	ND		0.050	0.030
75-27-4	Dichlorobromomethane	ND		0.050	0.024
75-71-8	Dichlorodifluoromethane	ND		0.050	0.029
100-41-4	Ethylbenzene	ND		0.050	0.022
106-93-4	1,2-Dibromoethane	ND		0.050	0.027
87-68-3	Hexachlorobutadiene	ND		0.050	0.018
78-83-1	Isobutyl alcohol	ND		1.3	0.91
126-98-7	Methacrylonitrile	ND		0.50	0.39
75-09-2	Methylene Chloride	ND		0.050	0.039
100-42-5	Styrene	ND		0.050	0.013
108-88-3	Toluene	ND		0.050	0.017
10061-02-6	trans-1,3-Dichloropropene	ND		0.050	0.017
75-69-4	Trichlorofluoromethane	ND		0.050	0.015

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Client Sample ID: Lab Sample ID: LB 180-302046/1-A

Matrix: Solid (TCLP) Lab File ID: 4122307.D

Analysis Method: EPA 8260C Date Collected:

Sample wt/vol: 0.5(mL) Date Analyzed: 12/23/2019 09:12

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 302272 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
1330-20-7	Xylenes, Total	ND		0.10	0.043

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	85		58-139
460-00-4	4-Bromofluorobenzene (Surr)	86		64-122
1868-53-7	Dibromofluoromethane (Surr)	82		70-127
2037-26-5	Toluene-d8 (Surr)	80		71-125

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122307.D
Lims ID: LB 180-302046/1-A
Client ID:
Sample Type: LB
Inject. Date: 23-Dec-2019 09:12:30 ALS Bottle#: 7 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0030118-007
Operator ID: 034635 Instrument ID: CHHP4

Method: \\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\MSVOA_CHHP4.m
Limit Group: VOA 8260C_D ICAL
Last Update: 24-Dec-2019 13:17:50 Calib Date: 14-Nov-2019 12:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114008.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0309

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.101	4.096	0.005	88	505127	5000.0	5000.0	
* 2 Fluorobenzene (IS)	96	7.157	7.157	0.000	98	3201244	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.271	10.271	0.000	98	812025	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.627	12.627	0.000	92	1242962	250.0	250.0	
$ 5 Dibromofluoromethane (Surr	113	6.425	6.420	0.005	0	1098948	250.0	205.3	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.804	6.799	0.005	0	1080798	250.0	212.7	
$ 7 Toluene-d8 (Surr)	98	8.813	8.813	0.000	0	4331406	250.0	200.0	
$ 8 4-Bromofluorobenzene (Surr	95	11.462	11.468	-0.006	0	1751226	250.0	215.9	
10 Dichlorodifluoromethane	85		1.617					ND	U
11 Chloromethane	50		1.831					ND	U
12 Vinyl chloride	62		1.938					ND	U
13 Butadiene	39		1.970					ND	U
14 Bromomethane	94		2.285					ND	U
15 Chloroethane	64		2.418					ND	U
17 Trichlorofluoromethane	101		2.552					ND	U
16 Dichlorofluoromethane	67		2.691					ND	U
19 Ethyl ether	59		2.942					ND	U
20 Acrolein	56		3.108					ND	U
21 1,1-Dichloroethene	96		3.209					ND	U
23 Acetone	43	3.321	3.311	0.010	85	23872		13.2	
24 Iodomethane	142		3.407					ND	U
22 1,1,2-Trichloro-1,2,2-trif	101		3.449					ND	U
25 Carbon disulfide	76		3.492					ND	U
26 Isopropyl alcohol	45		3.578					ND	U
27 Acetonitrile	40		3.717					ND	U
28 3-Chloro-1-propene	76		3.765					ND	U
29 Methyl acetate	43		3.786					ND	U
30 Methylene Chloride	84	3.978	3.984	-0.006	81	31265		5.23	M
31 2-Methyl-2-propanol	59		4.251					ND	U
32 Acrylonitrile	53		4.363					ND	U
33 trans-1,2-Dichloroethene	96		4.411					ND	U
34 Methyl tert-butyl ether	73		4.422					ND	U
35 Hexane	57		4.833					ND	U

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
36 1,1-Dichloroethane	63		5.057					ND	U
38 Vinyl acetate	43		5.100					ND	U
37 2-Chloro-1,3-butadiene	53		5.148					ND	U
39 Isopropyl ether	45		5.148					ND	U
40 Tert-butyl ethyl ether	59		5.629					ND	U
42 cis-1,2-Dichloroethene	96		5.800					ND	U
41 2,2-Dichloropropane	97		5.800					ND	U
43 2-Butanone (MEK)	43		5.821					ND	U
44 Propionitrile	54		5.891					ND	U
45 Ethyl acetate	43		5.891					ND	U
47 Methacrylonitrile	41		6.067					ND	U
46 Chlorobromomethane	128		6.099					ND	U
48 Tetrahydrofuran	42		6.110					ND	U
49 Chloroform	83	6.243	6.238	0.005	92	31492		3.06	
50 1,1,1-Trichloroethane	97		6.398					ND	U
51 Cyclohexane	56		6.473					ND	U
53 Carbon tetrachloride	117		6.575					ND	U
52 1,1-Dichloropropene	75		6.585					ND	U
59 Isobutyl alcohol	41		6.788					ND	U
54 Benzene	78		6.804					ND	U
55 1,2-Dichloroethane	62		6.890					ND	U
57 Isooctane	57		6.959					ND	U
56 Tert-amyl methyl ether	73		6.986					ND	U
58 n-Heptane	43		7.173					ND	U
61 Trichloroethene	130		7.547					ND	U
62 Ethyl acrylate	55		7.670					ND	U
63 Methylcyclohexane	83		7.787					ND	U
60 n-Butanol	56		7.793					ND	U
64 1,2-Dichloropropane	63		7.819					ND	U
66 Methyl methacrylate	69		7.905					ND	U
65 Dibromomethane	93		7.910					ND	U
67 1,4-Dioxane	88		7.910					ND	U
68 Dichlorobromomethane	83		8.108					ND	U
70 2-Chloroethyl vinyl ether	63		8.407					ND	U
71 cis-1,3-Dichloropropene	75		8.551					ND	U
72 4-Methyl-2-pentanone (MIBK	43		8.701					ND	U
73 Toluene	91		8.882					ND	U
74 trans-1,3-Dichloropropene	75		9.133					ND	U
75 Ethyl methacrylate	69		9.192					ND	U
76 1,1,2-Trichloroethane	97		9.326					ND	U
77 Tetrachloroethene	164		9.395					ND	U
78 1,3-Dichloropropane	76		9.486					ND	U
79 2-Hexanone	43		9.545					ND	U
80 n-Butyl acetate	43		9.668					ND	U
81 Chlorodibromomethane	129		9.705					ND	U
82 Ethylene Dibromide	107		9.817					ND	U
84 Chlorobenzene	112		10.303					ND	U
85 1,1,1,2-Tetrachloroethane	131		10.394					ND	U
86 Ethylbenzene	106		10.405					ND	U
87 m-Xylene & p-Xylene	106		10.533					ND	U
88 o-Xylene	106		10.912					ND	U
89 Styrene	104		10.939					ND	U

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
90 Bromoform	173		11.126					ND	U
91 Isopropylbenzene	105		11.286					ND	U
92 Cyclohexanone	55		11.372					ND	U
93 1,1,2,2-Tetrachloroethane	83		11.602					ND	U
94 Bromobenzene	156		11.602					ND	U
96 trans-1,4-Dichloro-2-buten	53		11.639					ND	U
95 1,2,3-Trichloropropane	110		11.655					ND	U
97 N-Propylbenzene	120		11.703					ND	U
98 2-Chlorotoluene	126		11.788					ND	U
99 1,3,5-Trimethylbenzene	105		11.890					ND	U
100 4-Chlorotoluene	126		11.917					ND	U
101 tert-Butylbenzene	119		12.200					ND	U
103 1,2,4-Trimethylbenzene	105		12.264					ND	U
104 sec-Butylbenzene	105		12.424					ND	U
105 1,3-Dichlorobenzene	146		12.547					ND	U
106 4-Isopropyltoluene	119		12.584					ND	U
107 1,4-Dichlorobenzene	146		12.654					ND	U
108 1,2,3-Trimethylbenzene	105		12.670					ND	U
109 Benzyl chloride	91		12.766					ND	U
110 n-Butylbenzene	91		12.990					ND	U
111 1,2-Dichlorobenzene	146		13.006					ND	U
112 1,2-Dibromo-3-Chloropropan	75		13.802					ND	U
114 1,3,5-Trichlorobenzene	180		13.990					ND	U
113 1,2,4-Trichlorobenzene	180		14.625					ND	U
115 Hexachlorobutadiene	225		14.769					ND	U
116 Naphthalene	128		14.892					ND	U
117 1,2,3-Trichlorobenzene	180		15.111					ND	U
S 130 Xylenes, Total	106		1.000					ND	
S 129 1,2-Dichloroethene, Total	96		1.000					ND	
S 131 1,3-Dichloropropene, Total	1		0.000					ND	

QC Flag Legend

Review Flags

M - Manually Integrated

U - Marked Undetected

Reagents:

VOA8260INT_00102	Amount Added: 10.00	Units: uL	Run Reagent
VOA8260SURR_00102	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 24-Dec-2019 13:17:55 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122307.D				
Injection Date:	23-Dec-2019 09:12:30	Instrument ID:	CHHP4	Operator ID:	034635
Lims ID:	LB 180-302046/1-A			Worklist Smp#:	7
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

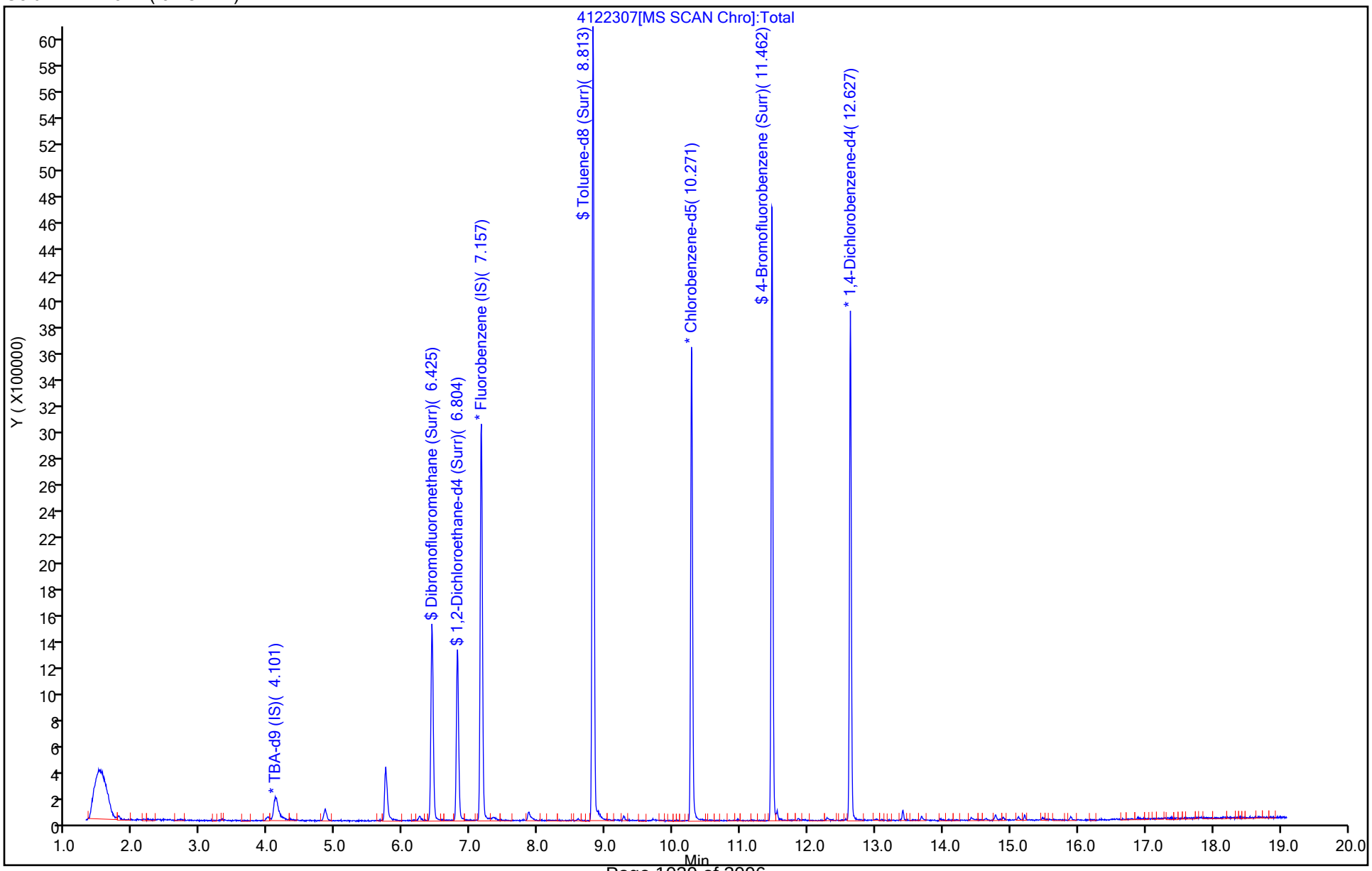

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122307.D
Lims ID: LB 180-302046/1-A
Client ID:
Sample Type: LB
Inject. Date: 23-Dec-2019 09:12:30 ALS Bottle#: 7 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0030118-007
Operator ID: 034635 Instrument ID: CHHP4

Method: \\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\MSVOA_CHHP4.m
Limit Group: VOA 8260C_D ICAL
Last Update: 24-Dec-2019 13:17:50 Calib Date: 14-Nov-2019 12:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114008.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0309

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	250.0	205.3	82.13
$ 6 1,2-Dichloroethane-d4 (Surr)	250.0	212.7	85.09
$ 7 Toluene-d8 (Surr)	250.0	200.0	79.98
$ 8 4-Bromofluorobenzene (Surr)	250.0	215.9	86.35

Report Date: 24-Dec-2019 13:17:56 Chrom Revision: 2.3 15-Dec-2019 06:20:02

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122307.D				
Injection Date:	23-Dec-2019 09:12:30	Instrument ID:	CHHP4		
Lims ID:	LB 180-302046/1-A				
Client ID:					
Operator ID:	034635	ALS Bottle#:	7	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

55 1,2-Dichloroethane, CAS: 107-06-2

Processing Results

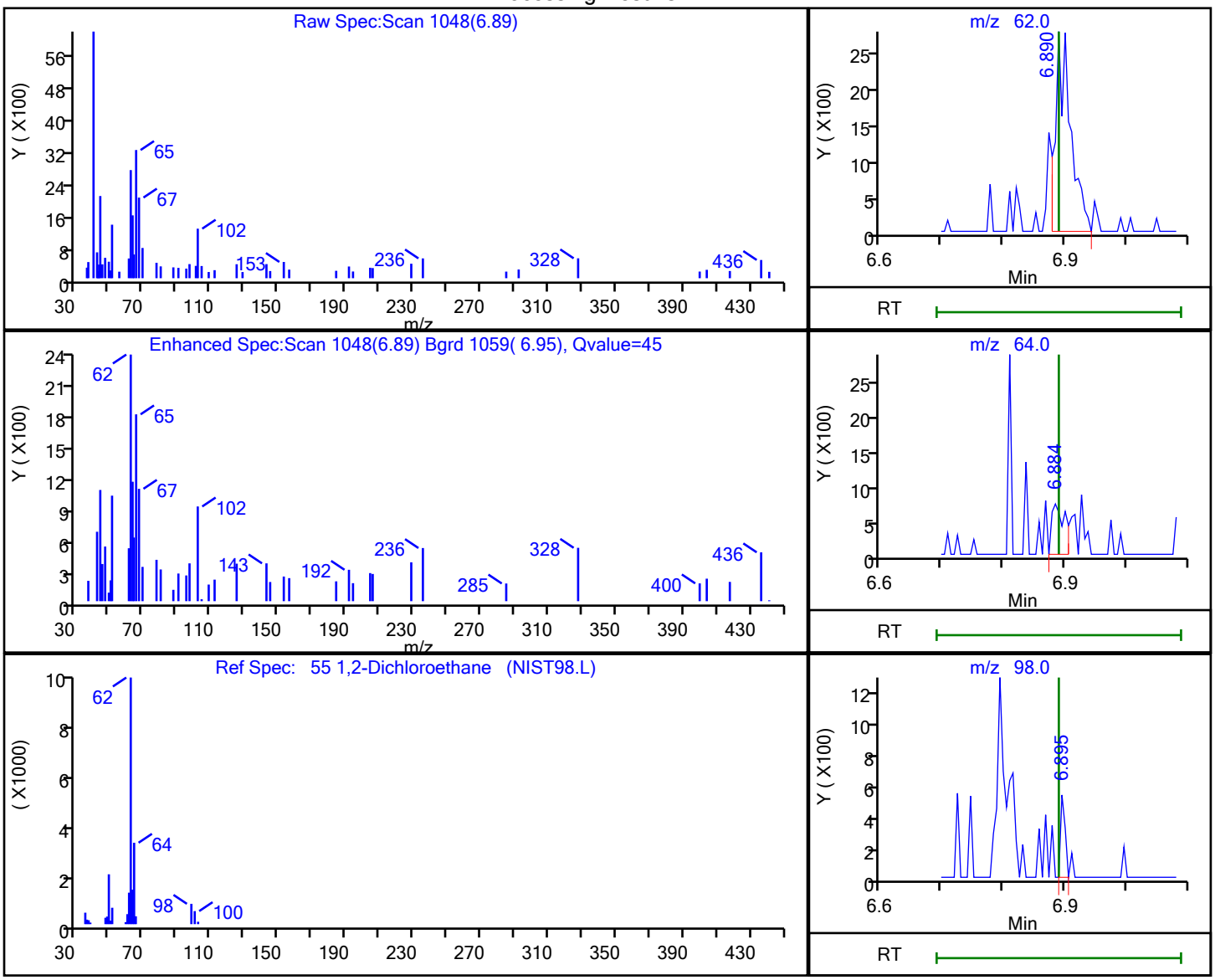

RT	Mass	Response	Amount
6.89	62.00	4641	0.880629
6.88	64.00	1065	
6.89	98.00	271	

Reviewer: journetp, 23-Dec-2019 09:44:39

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 24-Dec-2019 13:17:57 Chrom Revision: 2.3 15-Dec-2019 06:20:02

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122307.D				
Injection Date:	23-Dec-2019 09:12:30	Instrument ID:	CHHP4		
Lims ID:	LB 180-302046/1-A				
Client ID:					
Operator ID:	034635	ALS Bottle#:	7	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

93 1,1,2,2-Tetrachloroethane, CAS: 79-34-5

Processing Results

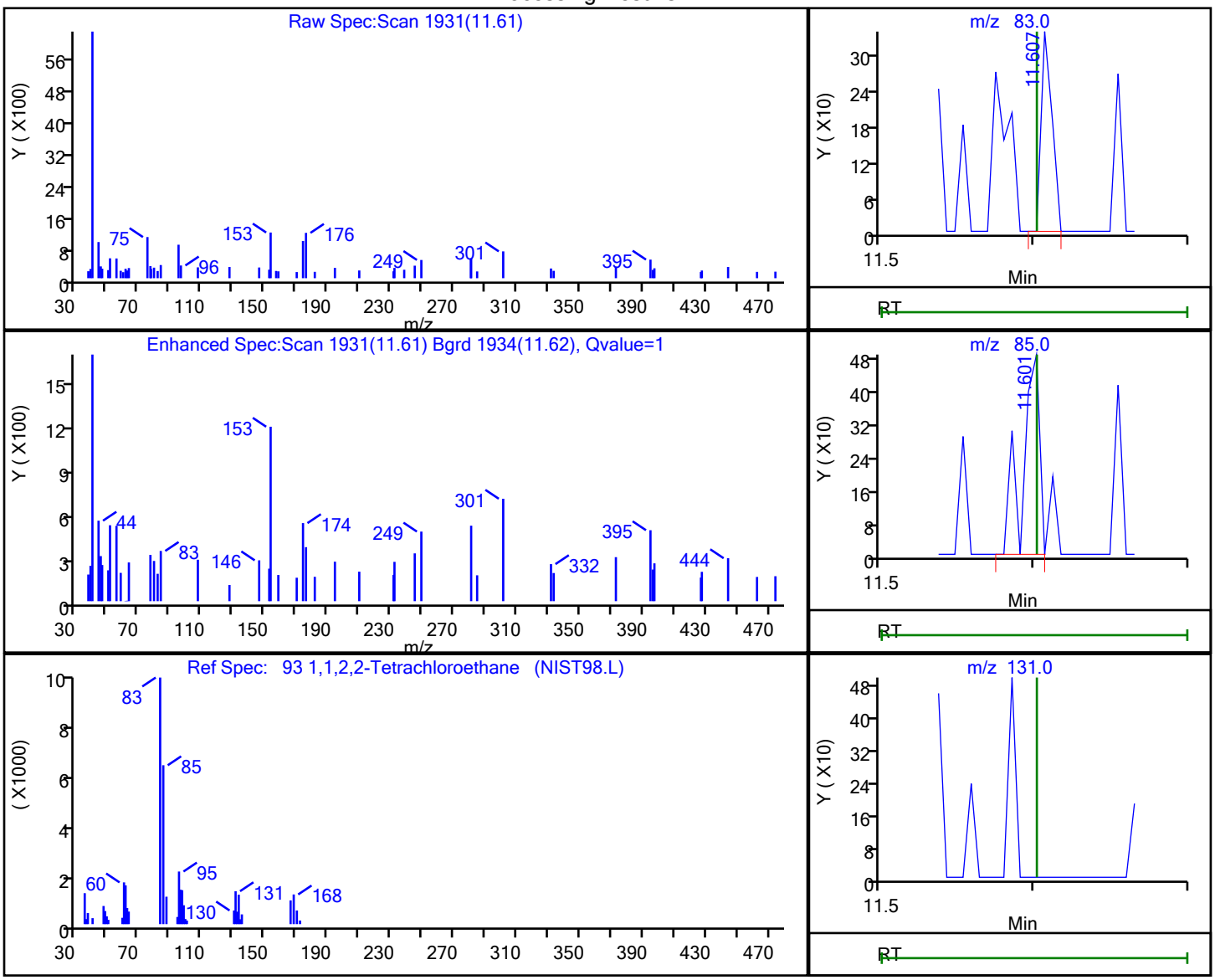

RT	Mass	Response	Amount
11.61	83.00	163	0.047200
11.60	85.00	382	
11.60	131.00	0	

Reviewer: journetp, 23-Dec-2019 09:44:43

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 24-Dec-2019 13:17:56 Chrom Revision: 2.3 15-Dec-2019 06:20:02

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122307.D				
Injection Date:	23-Dec-2019 09:12:30	Instrument ID:	CHHP4		
Lims ID:	LB 180-302046/1-A				
Client ID:					
Operator ID:	034635	ALS Bottle#:	7	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

54 Benzene, CAS: 71-43-2

Processing Results

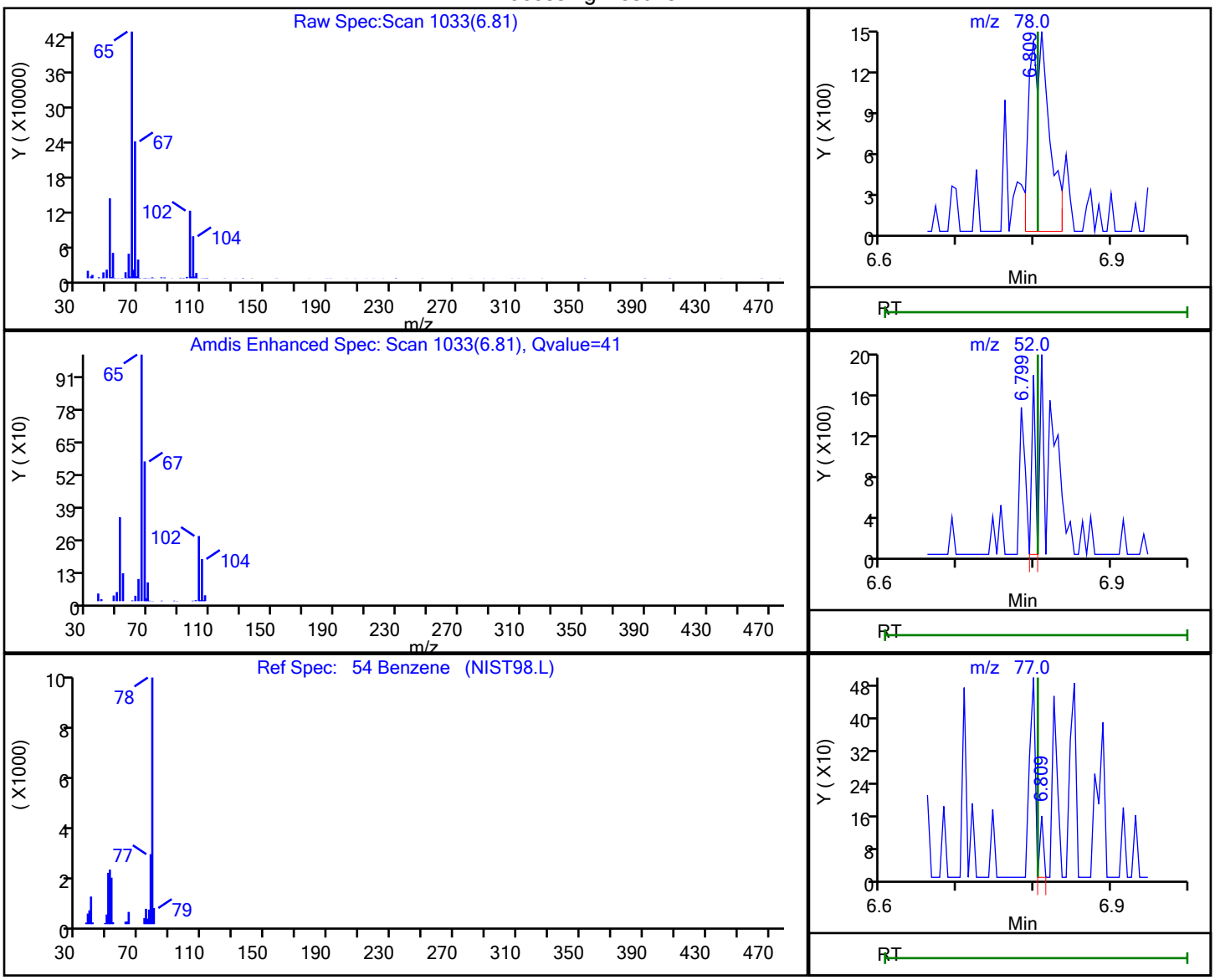

RT	Mass	Response	Amount
6.81	78.00	2522	0.115556
6.80	52.00	558	
6.81	77.00	49	

Reviewer: journetp, 23-Dec-2019 09:44:39

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 24-Dec-2019 13:17:57 Chrom Revision: 2.3 15-Dec-2019 06:20:02

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122307.D				
Injection Date:	23-Dec-2019 09:12:30	Instrument ID:	CHHP4		
Lims ID:	LB 180-302046/1-A				
Client ID:					
Operator ID:	034635	ALS Bottle#:	7	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

76 1,1,2-Trichloroethane, CAS: 79-00-5

Processing Results

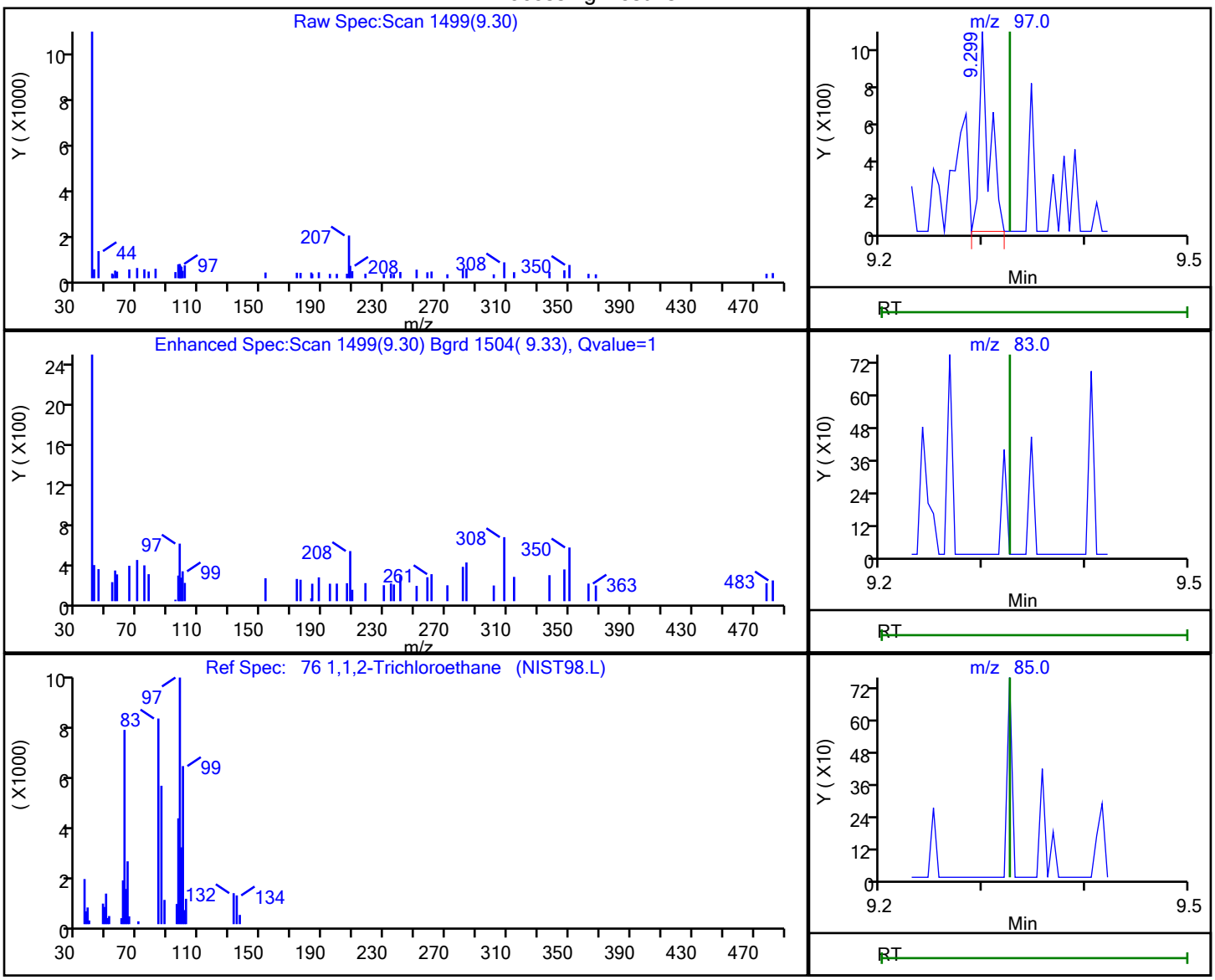

RT	Mass	Response	Amount
9.30	97.00	738	0.216301
9.33	83.00	0	
9.33	85.00	0	

Reviewer: journetp, 23-Dec-2019 09:44:42

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122307.D				
Injection Date:	23-Dec-2019 09:12:30	Instrument ID:	CHHP4		
Lims ID:	LB 180-302046/1-A				
Client ID:					
Operator ID:	034635	ALS Bottle#:	7	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

84 Chlorobenzene, CAS: 108-90-7

Processing Results

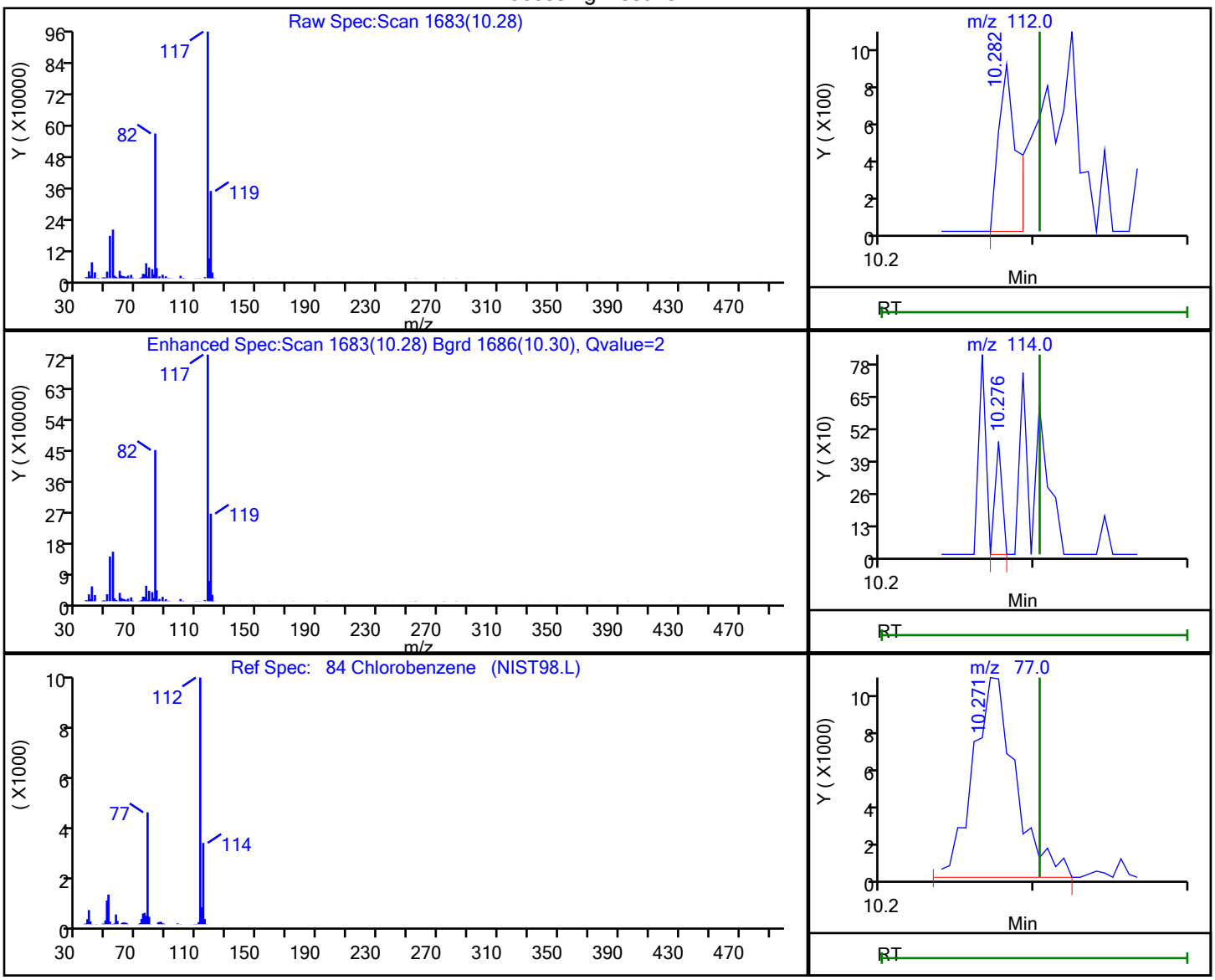

RT	Mass	Response	Amount
10.28	112.00	690	0.047392
10.28	114.00	147	
10.27	77.00	20790	

Reviewer: journetp, 23-Dec-2019 09:44:43

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122307.D				
Injection Date:	23-Dec-2019 09:12:30	Instrument ID:	CHHP4		
Lims ID:	LB 180-302046/1-A				
Client ID:					
Operator ID:	034635	ALS Bottle#:	7	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

49 Chloroform, CAS: 67-66-3

Signal: 2

Processing Integration Results

RT: 6.25
Area: 20761
Amount: 3.060827
Amount Units: ng

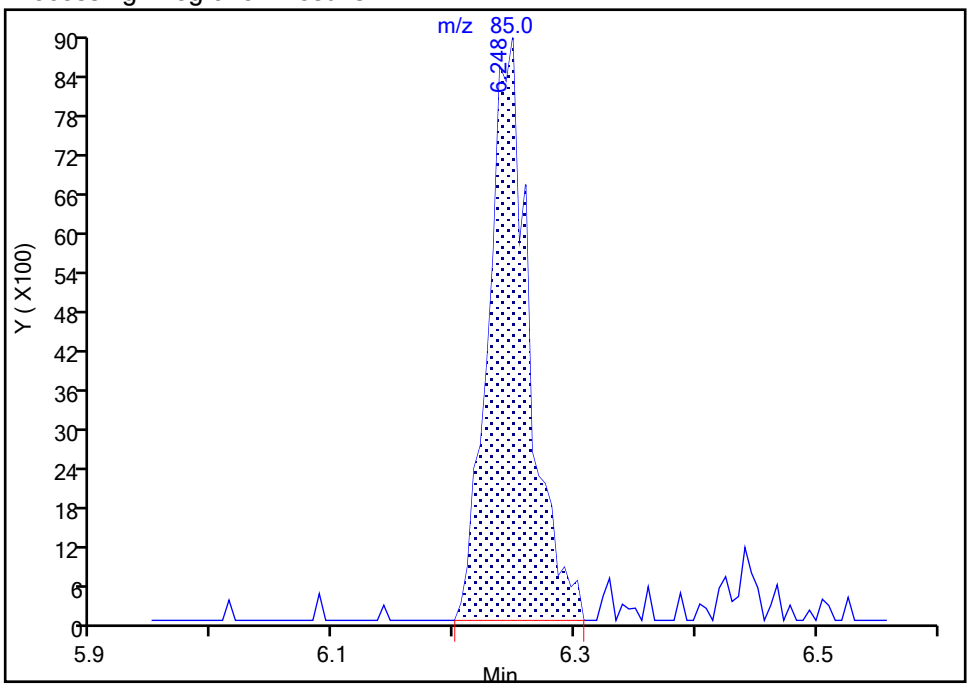

Manual Integration Results

RT: 6.25
Area: 20761
Amount: 3.060827
Amount Units: ng

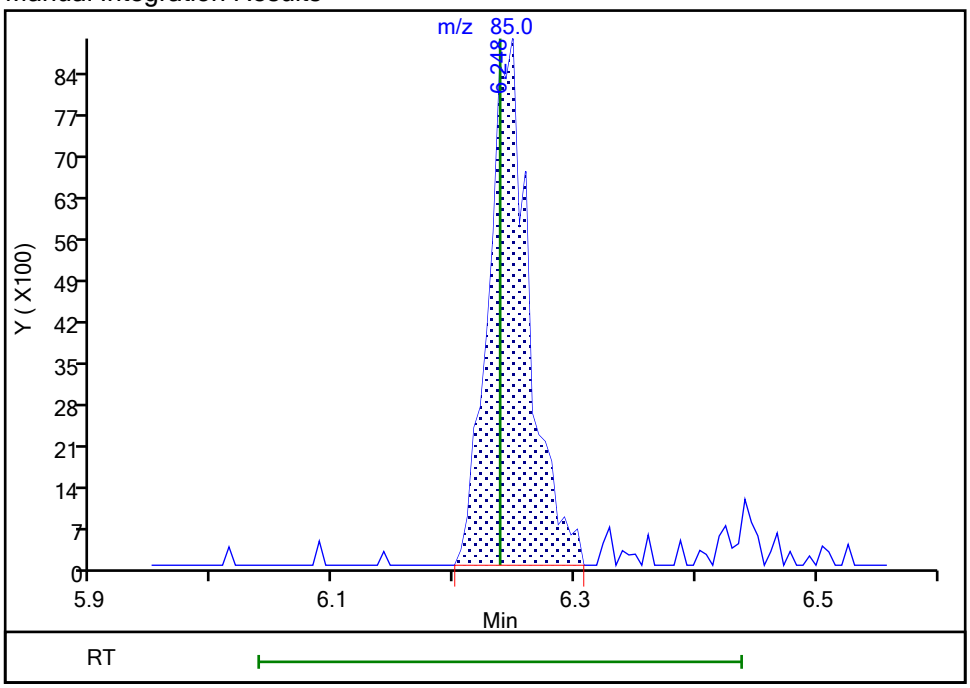

Reviewer: journetp, 23-Dec-2019 09:44:38

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 24-Dec-2019 13:17:57 Chrom Revision: 2.3 15-Dec-2019 06:20:02

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122307.D				
Injection Date:	23-Dec-2019 09:12:30	Instrument ID:	CHHP4		
Lims ID:	LB 180-302046/1-A				
Client ID:					
Operator ID:	034635	ALS Bottle#:	7	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

95 1,2,3-Trichloropropane, CAS: 96-18-4

Processing Results

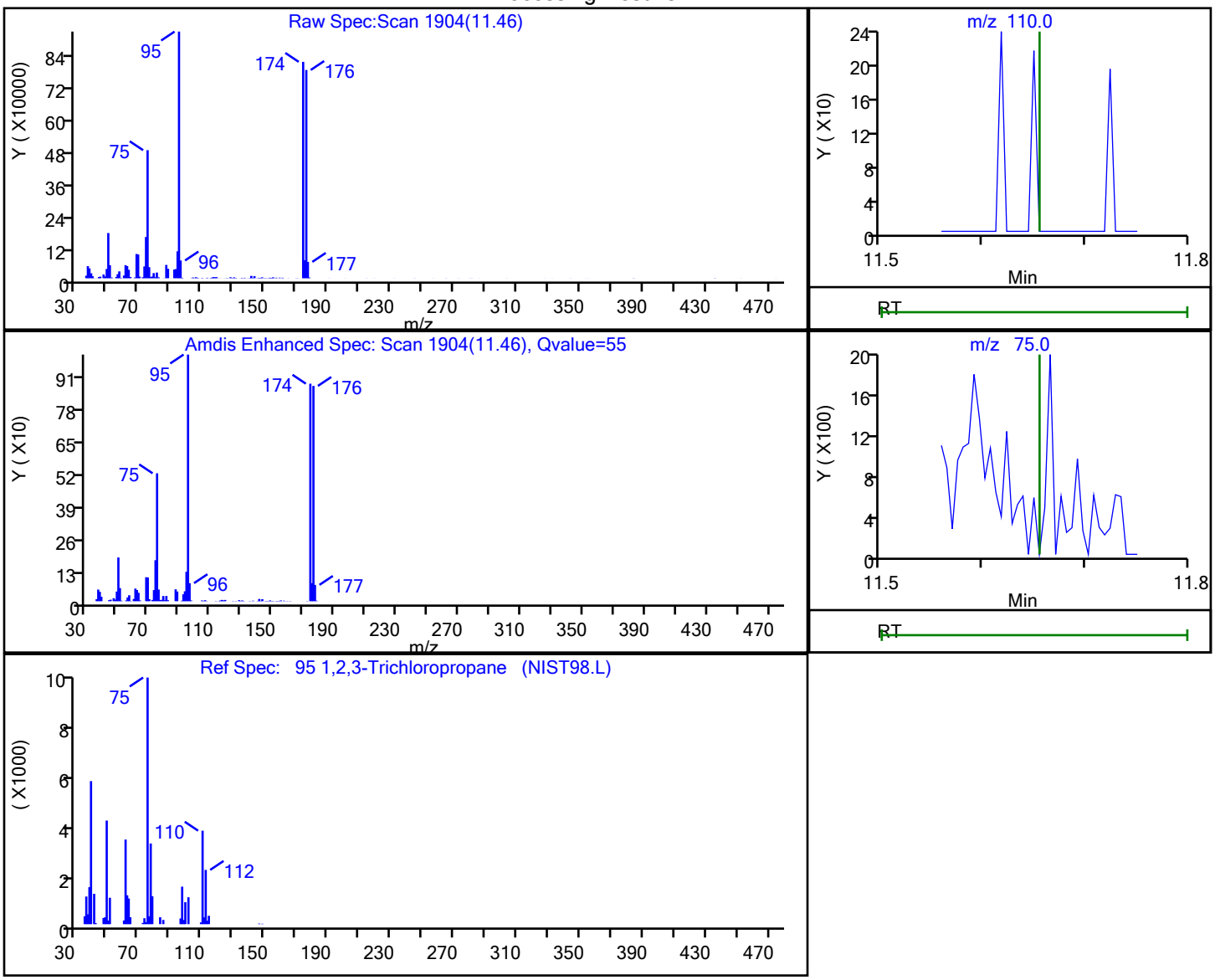

RT	Mass	Response	Amount
11.46	110.00	862	0.752841
11.46	75.00	897829	

Reviewer: journetp, 23-Dec-2019 09:44:44

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122307.D				
Injection Date:	23-Dec-2019 09:12:30	Instrument ID:	CHHP4		
Lims ID:	LB 180-302046/1-A				
Client ID:					
Operator ID:	034635	ALS Bottle#:	7	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

12 Vinyl chloride, CAS: 75-01-4

Processing Results

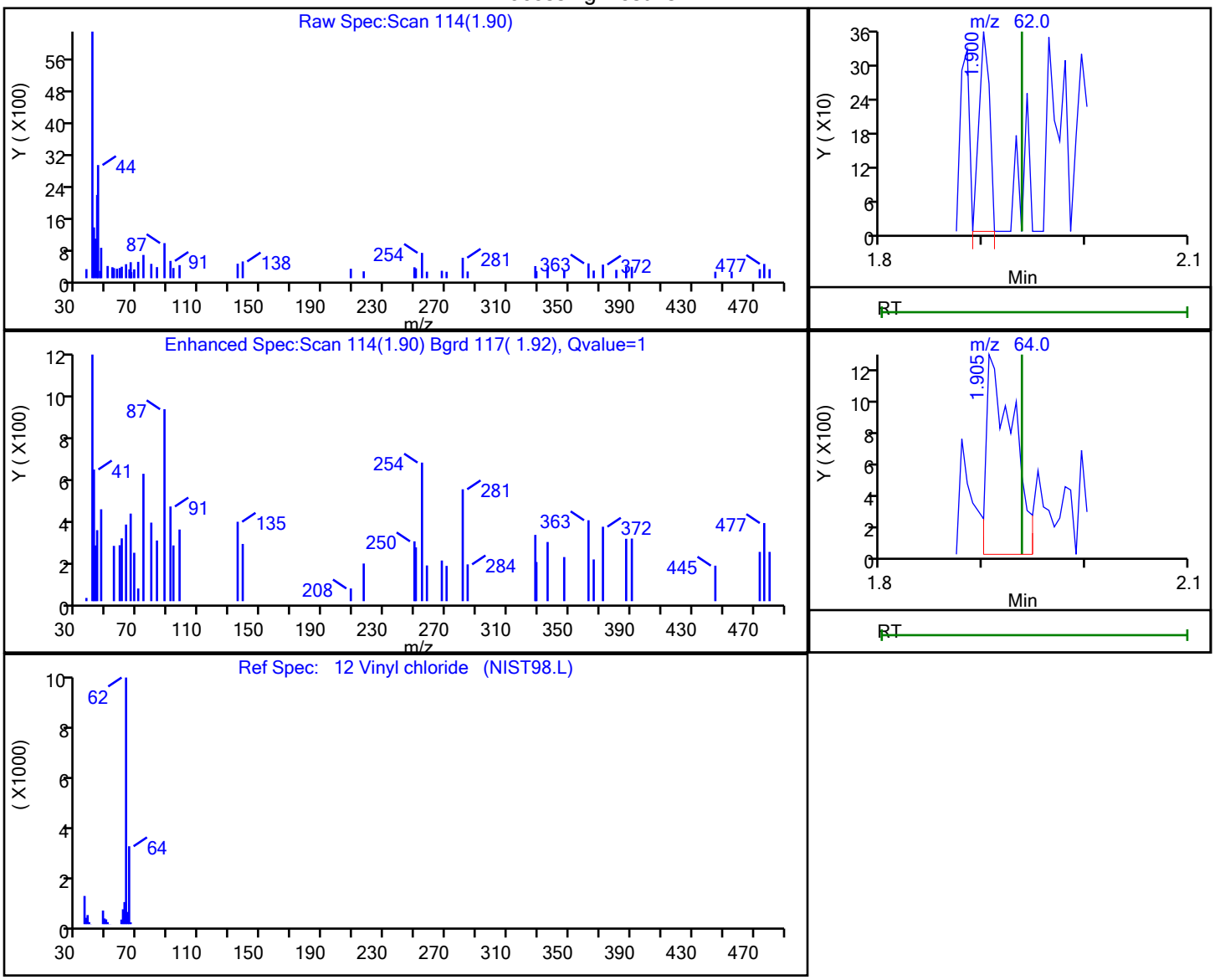

RT	Mass	Response	Amount
1.90	62.00	254	0.034900
1.91	64.00	2311	

Reviewer: journetp, 23-Dec-2019 09:44:31

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 24-Dec-2019 13:17:57 Chrom Revision: 2.3 15-Dec-2019 06:20:02

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122307.D				
Injection Date:	23-Dec-2019 09:12:30	Instrument ID:	CHHP4		
Lims ID:	LB 180-302046/1-A				
Client ID:					
Operator ID:	034635	ALS Bottle#:	7	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

71 cis-1,3-Dichloropropene, CAS: 10061-01-5

Processing Results

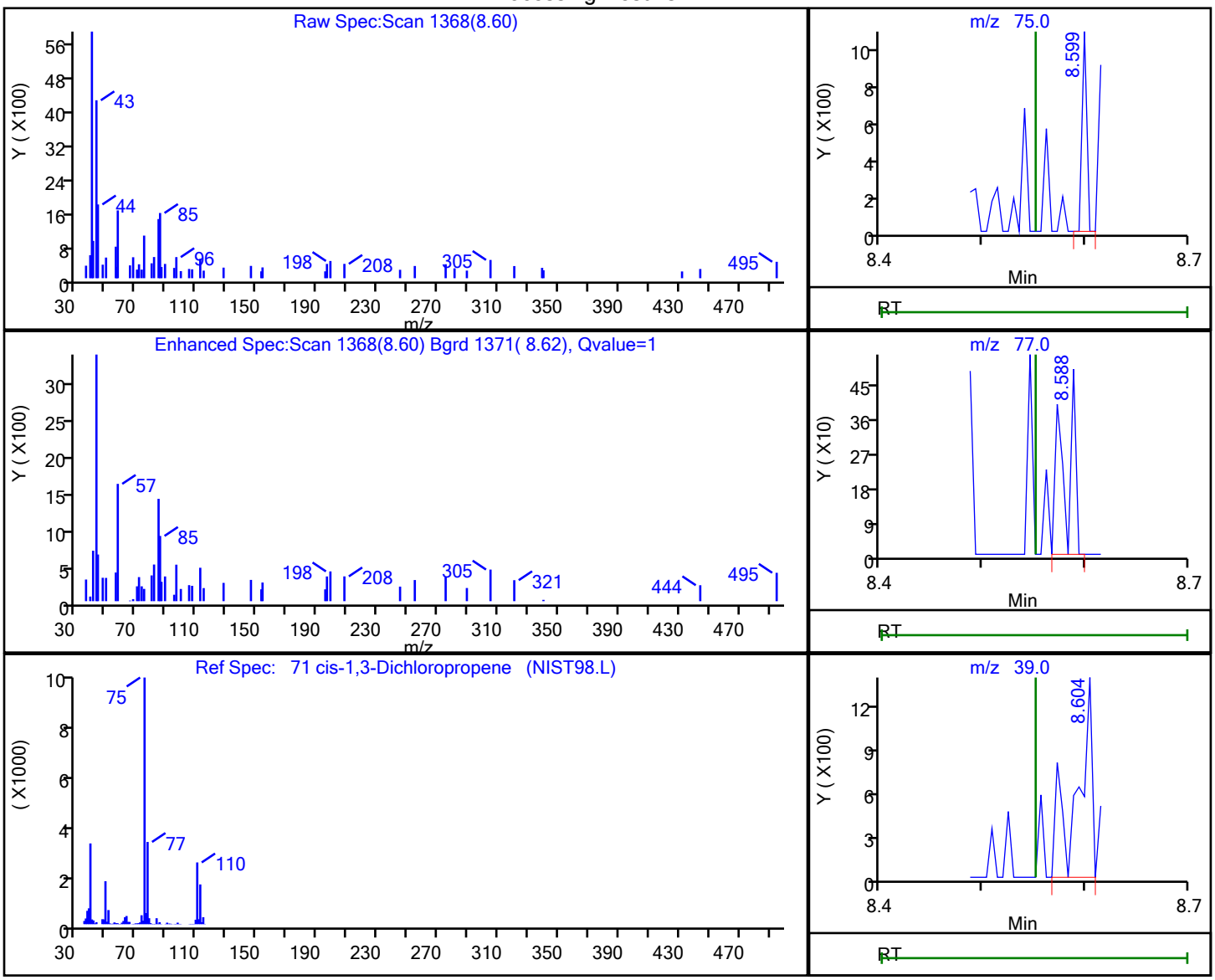

RT	Mass	Response	Amount
8.60	75.00	323	0.040744
8.59	77.00	357	
8.60	39.00	1366	

Reviewer: journetp, 23-Dec-2019 09:44:41

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 24-Dec-2019 13:17:58 Chrom Revision: 2.3 15-Dec-2019 06:20:02

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122307.D				
Injection Date:	23-Dec-2019 09:12:30	Instrument ID:	CHHP4		
Lims ID:	LB 180-302046/1-A				
Client ID:					
Operator ID:	034635	ALS Bottle#:	7	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

107 1,4-Dichlorobenzene, CAS: 106-46-7

Processing Results

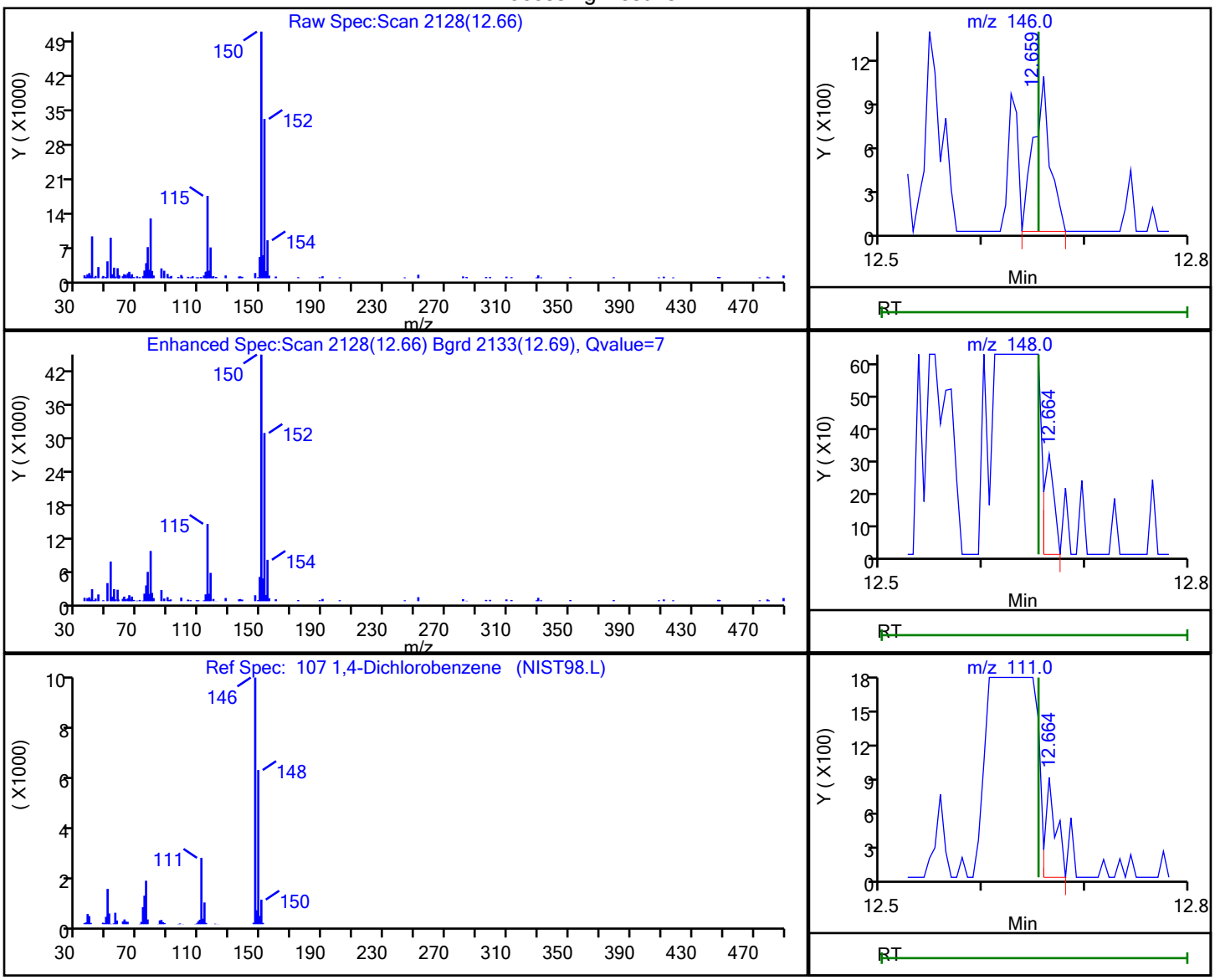

RT	Mass	Response	Amount
12.66	146.00	1190	0.100017
12.66	148.00	216	
12.66	111.00	629	

Reviewer: journetp, 23-Dec-2019 09:44:44

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122307.D				
Injection Date:	23-Dec-2019 09:12:30	Instrument ID:	CHHP4		
Lims ID:	LB 180-302046/1-A				
Client ID:					
Operator ID:	034635	ALS Bottle#:	7	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

72 4-Methyl-2-pentanone (MIBK), CAS: 108-10-1

Processing Results

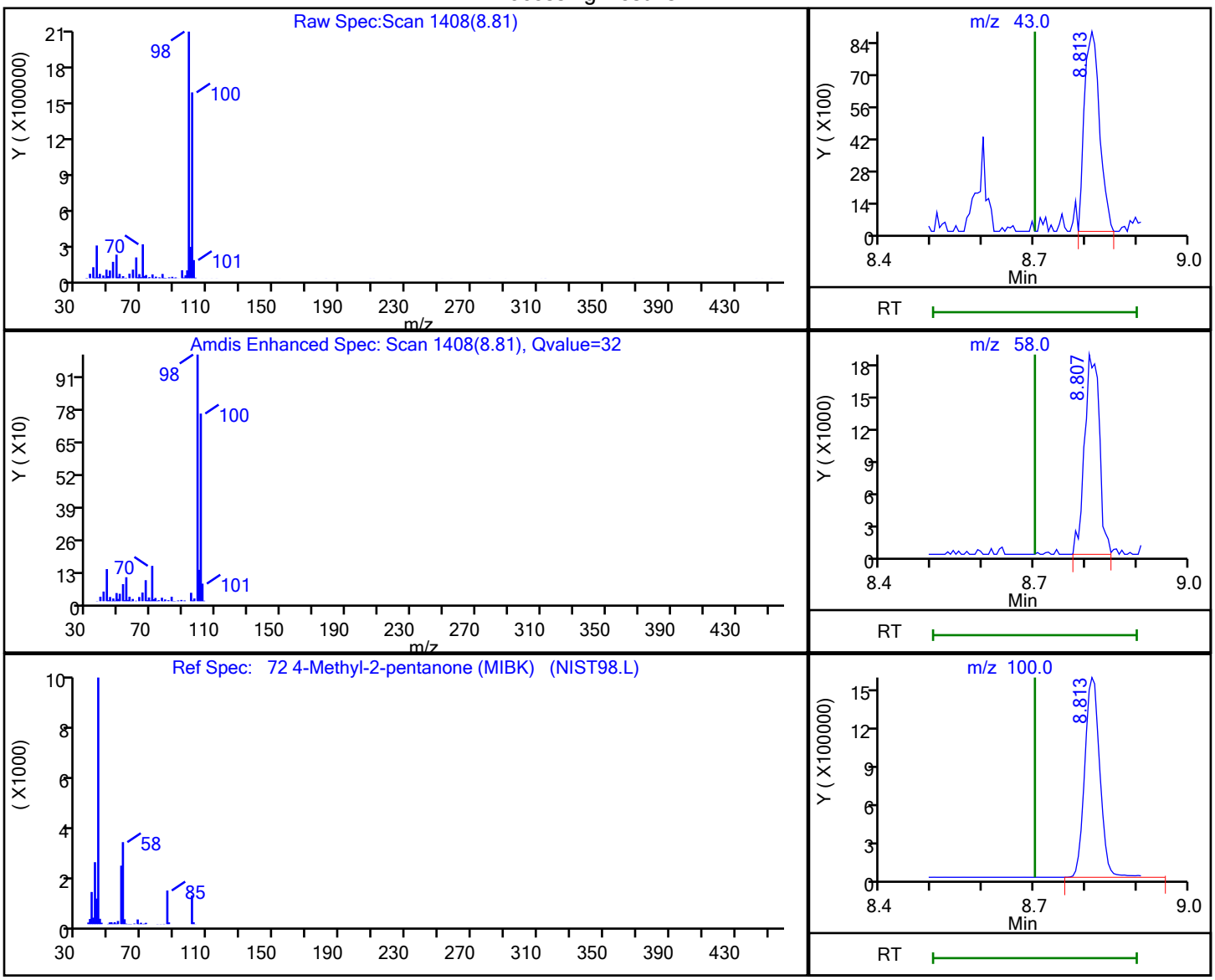

RT	Mass	Response	Amount
8.81	43.00	18380	23.077836
8.81	58.00	36552	
8.81	100.00	3196541	

Reviewer: journetp, 23-Dec-2019 09:44:41

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122307.D				
Injection Date:	23-Dec-2019 09:12:30	Instrument ID:	CHHP4		
Lims ID:	LB 180-302046/1-A				
Client ID:					
Operator ID:	034635	ALS Bottle#:	7	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

23 Acetone, CAS: 67-64-1

Signal: 2

Processing Integration Results

RT: 3.33
Area: 5163
Amount: 13.246185
Amount Units: ng

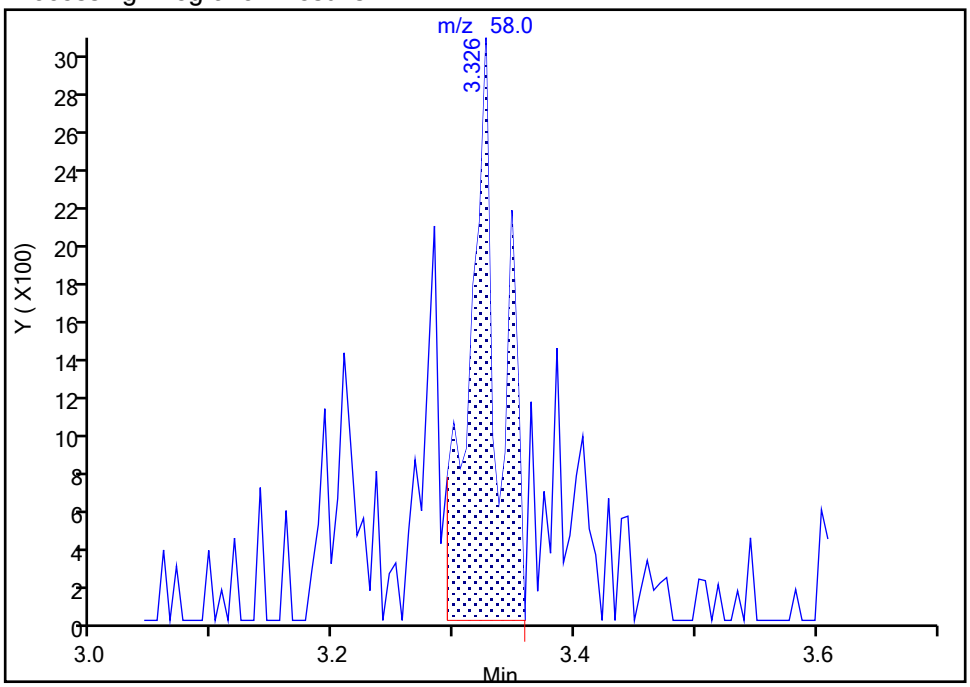

Manual Integration Results

RT: 3.33
Area: 5163
Amount: 13.246185
Amount Units: ng

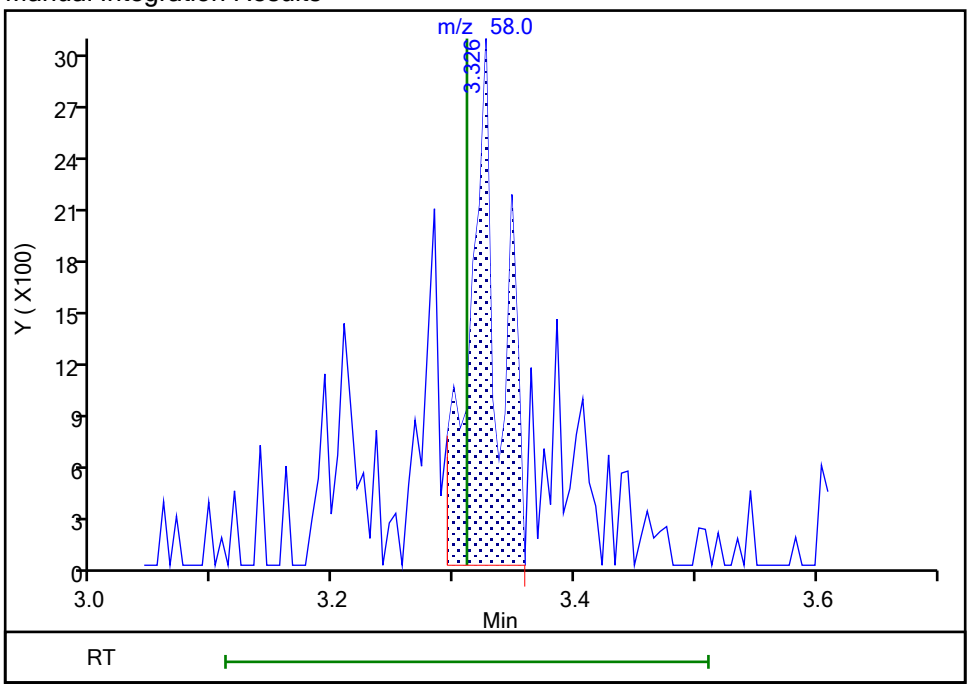

Reviewer: journetp, 23-Dec-2019 09:44:33

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122307.D				
Injection Date:	23-Dec-2019 09:12:30	Instrument ID:	CHHP4		
Lims ID:	LB 180-302046/1-A				
Client ID:					
Operator ID:	034635	ALS Bottle#:	7	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

27 Acetonitrile, CAS: 75-05-8

Processing Results

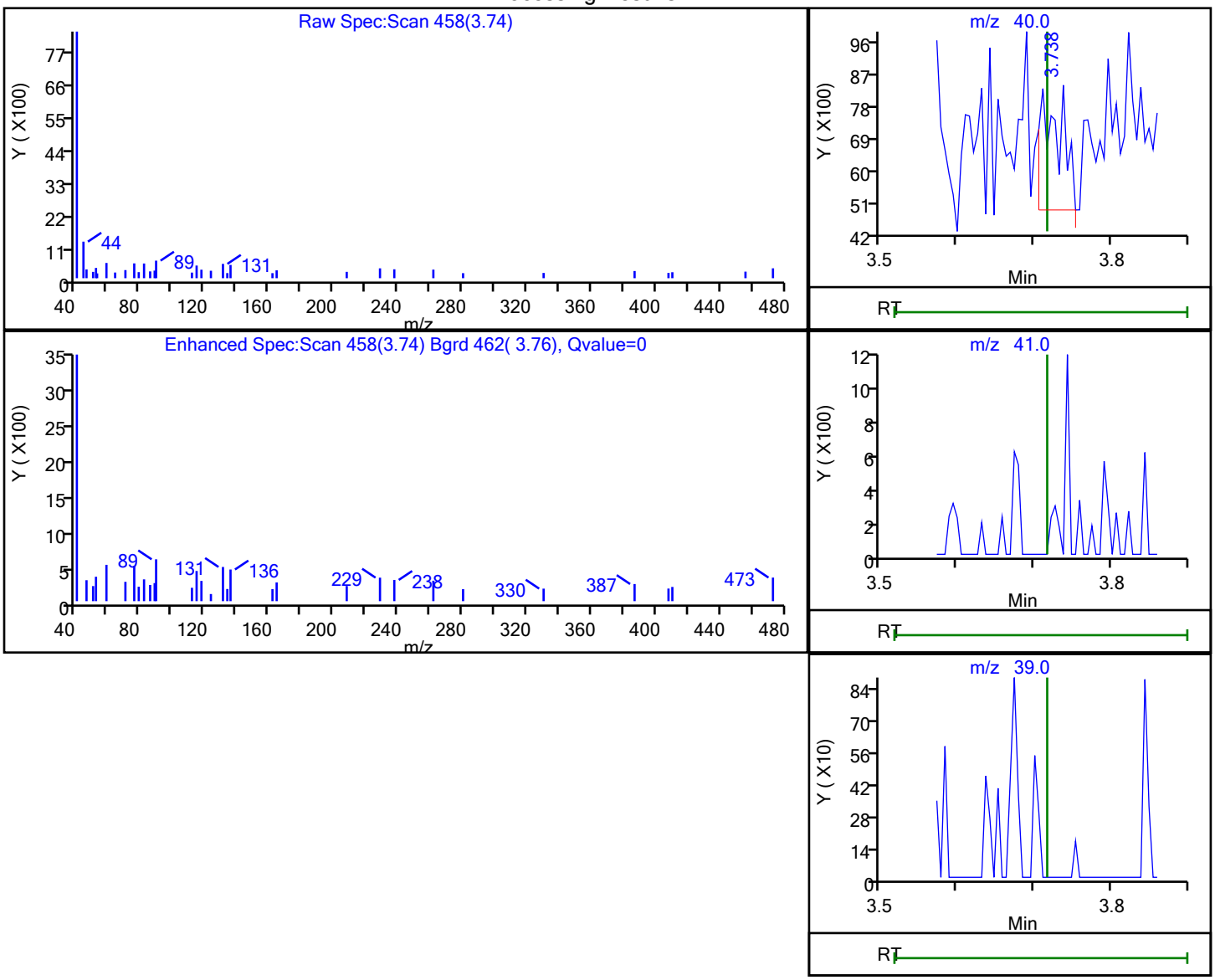

RT	Mass	Response	Amount
3.74	40.00	6392	40.213798
3.72	41.00	0	
3.72	39.00	0	

Reviewer: journetp, 23-Dec-2019 09:44:34

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 24-Dec-2019 13:17:55 Chrom Revision: 2.3 15-Dec-2019 06:20:02

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122307.D				
Injection Date:	23-Dec-2019 09:12:30	Instrument ID:	CHHP4		
Lims ID:	LB 180-302046/1-A				
Client ID:					
Operator ID:	034635	ALS Bottle#:	7	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

32 Acrylonitrile, CAS: 107-13-1

Processing Results

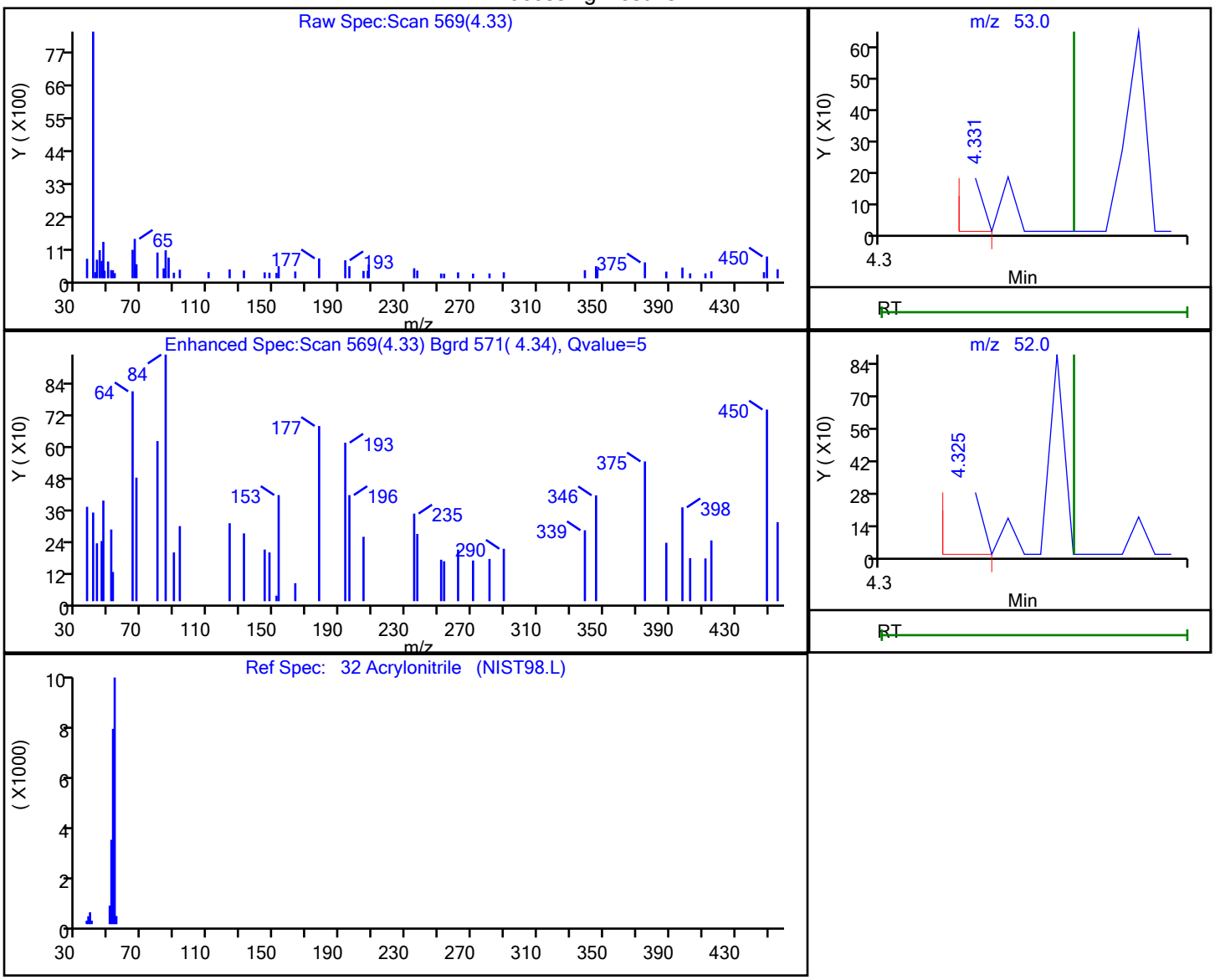

RT	Mass	Response	Amount
4.33	53.00	55	0.070893
4.33	52.00	219	

Reviewer: journetp, 23-Dec-2019 09:44:35

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 24-Dec-2019 13:17:55 Chrom Revision: 2.3 15-Dec-2019 06:20:02

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122307.D				
Injection Date:	23-Dec-2019 09:12:30	Instrument ID:	CHHP4		
Lims ID:	LB 180-302046/1-A				
Client ID:					
Operator ID:	034635	ALS Bottle#:	7	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

25 Carbon disulfide, CAS: 75-15-0

Processing Results

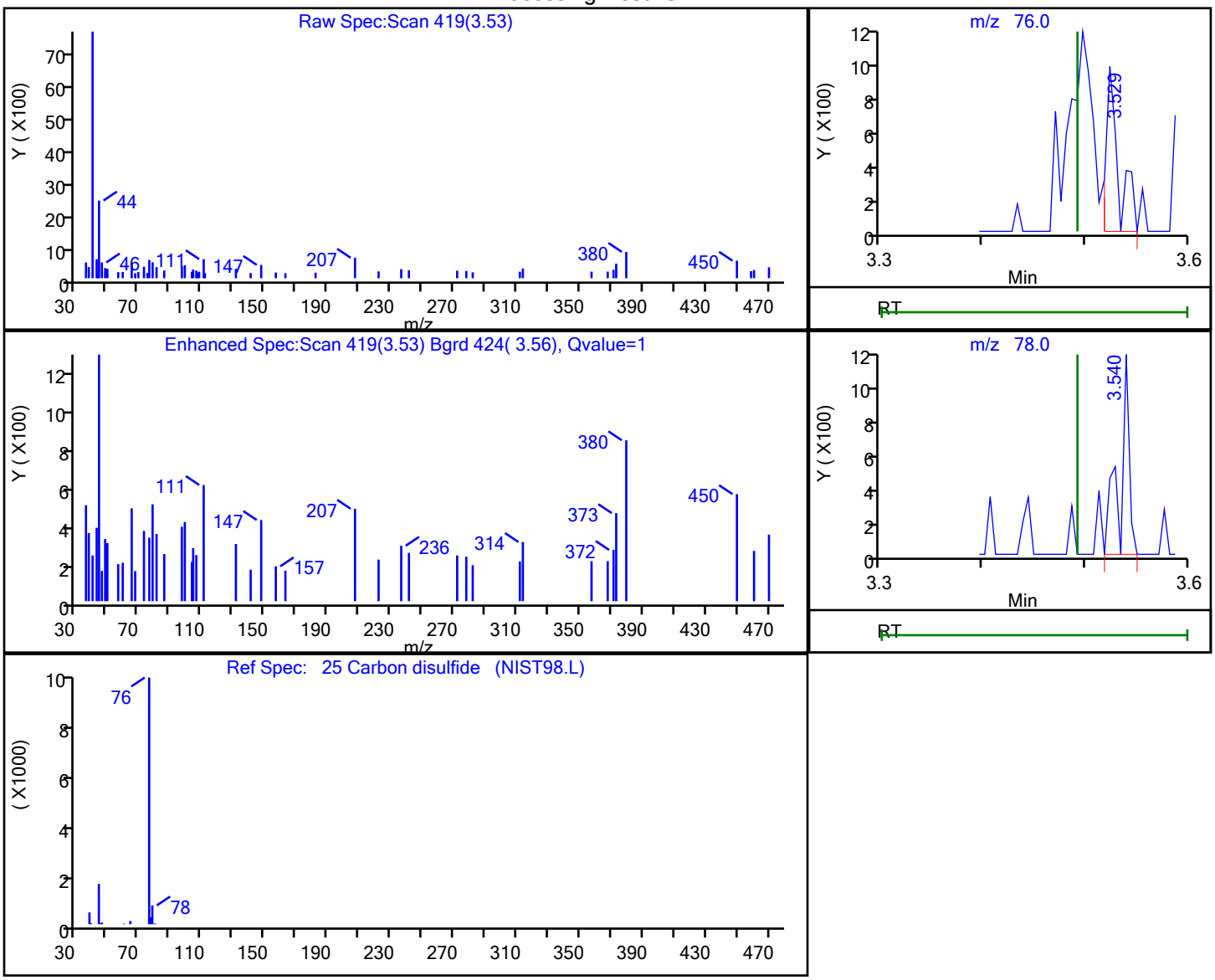

RT	Mass	Response	Amount
3.53	76.00	803	0.041809
3.54	78.00	707	

Reviewer: journetp, 23-Dec-2019 09:44:33

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 24-Dec-2019 13:17:55 Chrom Revision: 2.3 15-Dec-2019 06:20:02

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122307.D				
Injection Date:	23-Dec-2019 09:12:30	Instrument ID:	CHHP4		
Lims ID:	LB 180-302046/1-A				
Client ID:					
Operator ID:	034635	ALS Bottle#:	7	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

10 Dichlorodifluoromethane, CAS: 75-71-8

Processing Results

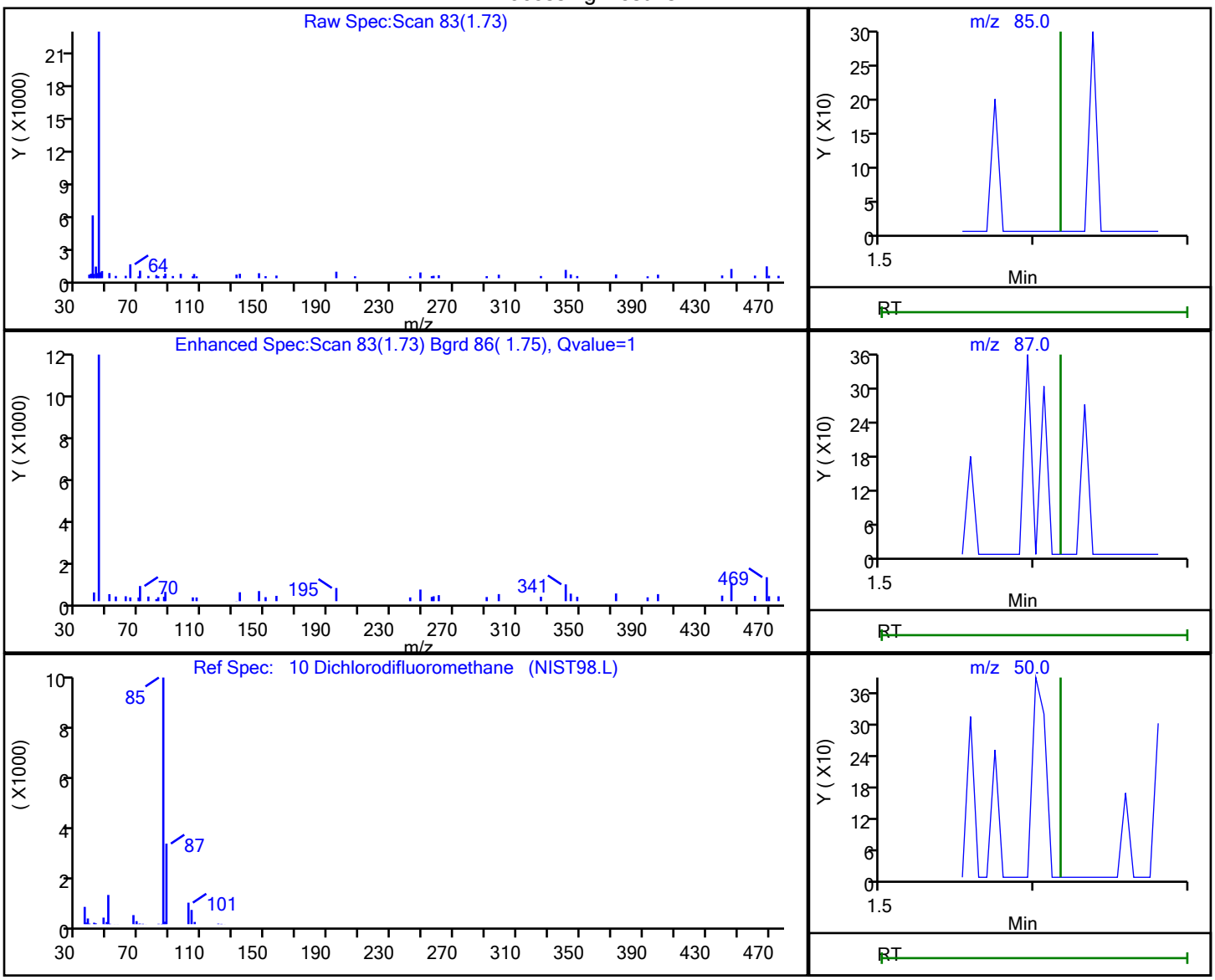

RT	Mass	Response	Amount
1.73	85.00	202	0.027585
1.62	87.00	0	
1.62	50.00	0	

Reviewer: journetp, 23-Dec-2019 09:44:30

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122307.D				
Injection Date:	23-Dec-2019 09:12:30	Instrument ID:	CHHP4		
Lims ID:	LB 180-302046/1-A				
Client ID:					
Operator ID:	034635	ALS Bottle#:	7	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

86 Ethylbenzene, CAS: 100-41-4

Processing Results

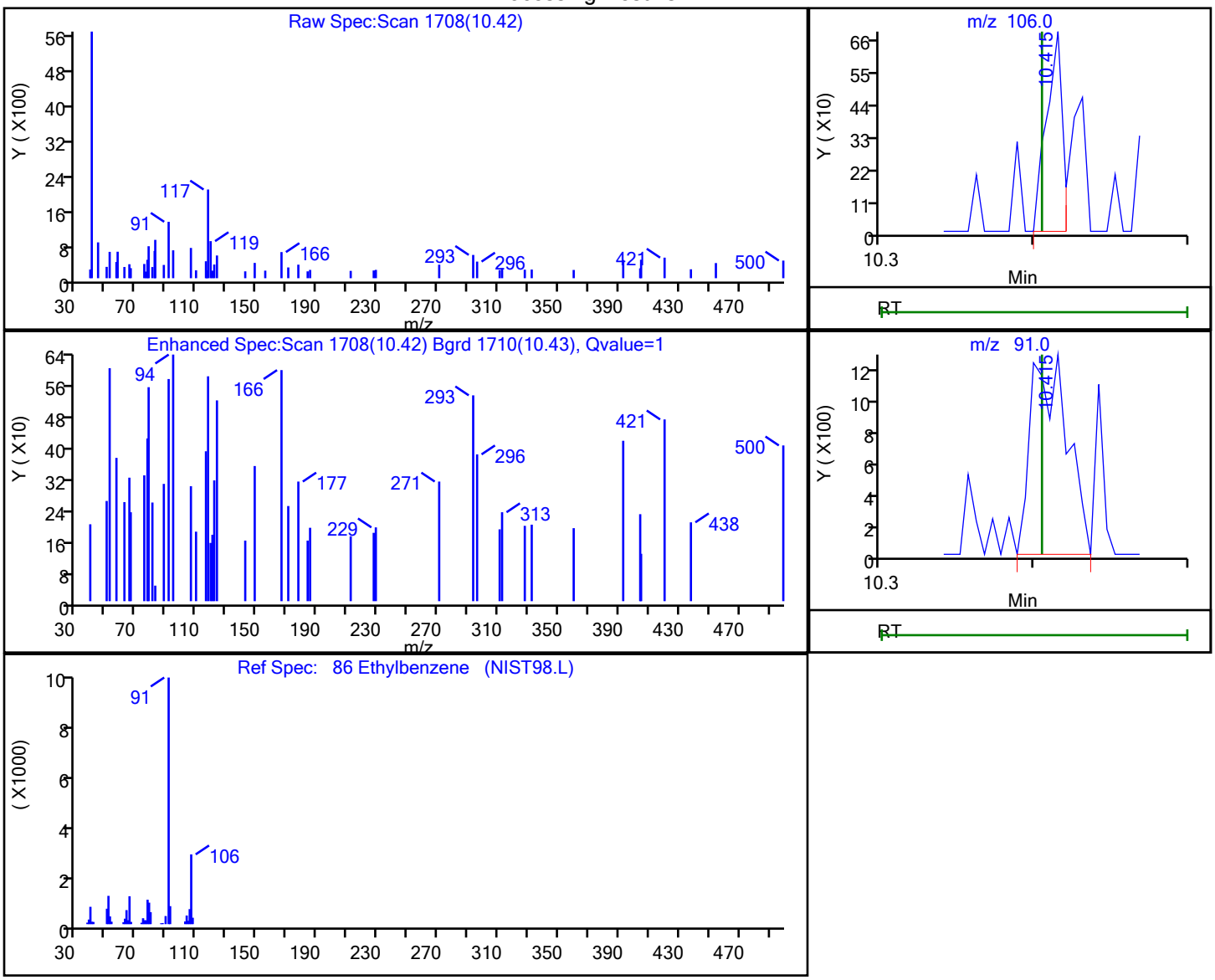

RT	Mass	Response	Amount
10.42	106.00	510	0.054959
10.42	91.00	2110	

Reviewer: journetp, 23-Dec-2019 09:44:43

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 24-Dec-2019 13:17:58 Chrom Revision: 2.3 15-Dec-2019 06:20:02

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122307.D				
Injection Date:	23-Dec-2019 09:12:30	Instrument ID:	CHHP4		
Lims ID:	LB 180-302046/1-A				
Client ID:					
Operator ID:	034635	ALS Bottle#:	7	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

115 Hexachlorobutadiene, CAS: 87-68-3

Processing Results

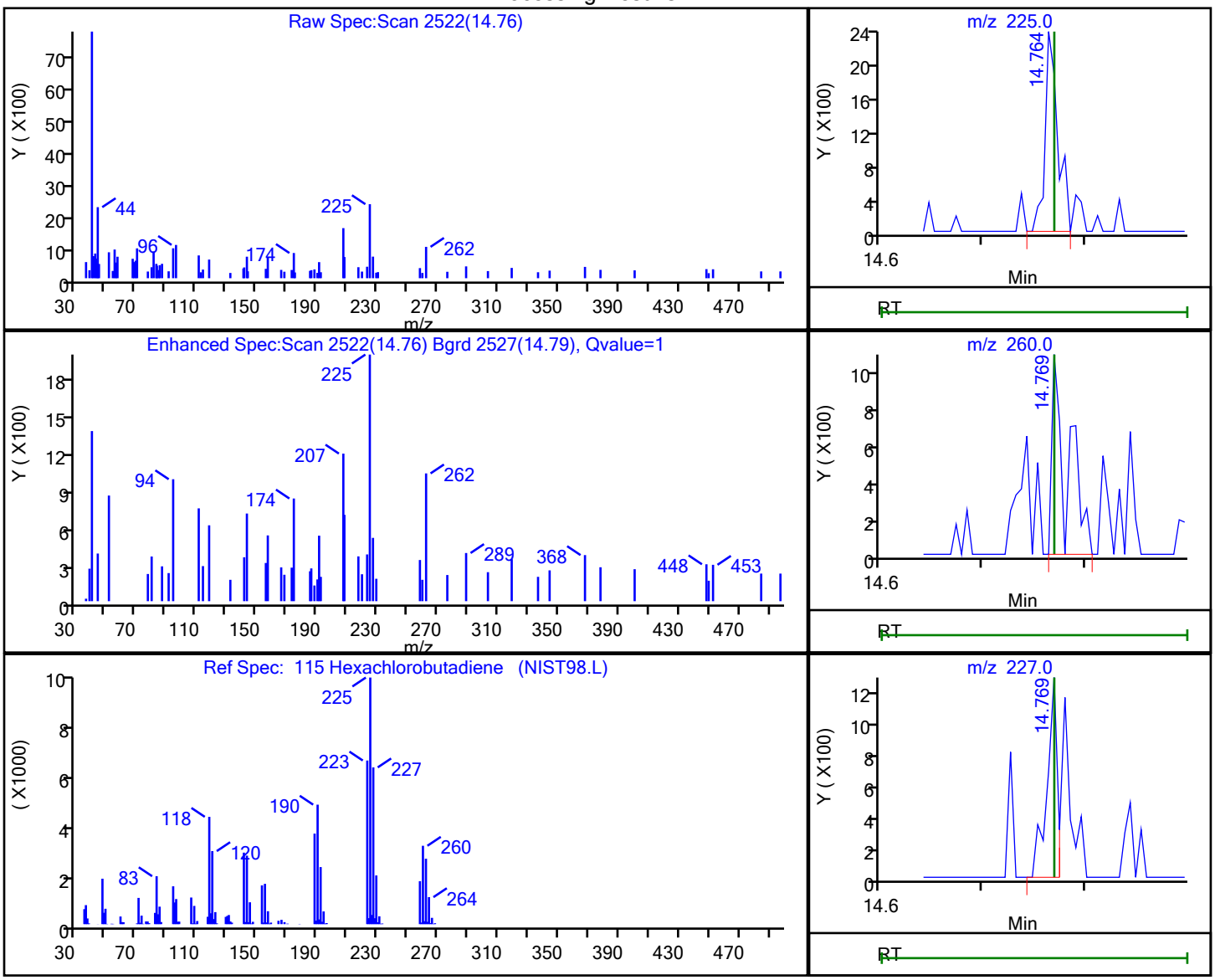

RT	Mass	Response	Amount
14.76	225.00	2030	0.328030
14.77	260.00	1158	
14.77	227.00	906	

Reviewer: journetp, 23-Dec-2019 09:44:44

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 24-Dec-2019 13:17:56 Chrom Revision: 2.3 15-Dec-2019 06:20:02

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122307.D				
Injection Date:	23-Dec-2019 09:12:30	Instrument ID:	CHHP4		
Lims ID:	LB 180-302046/1-A				
Client ID:					
Operator ID:	034635	ALS Bottle#:	7	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

59 Isobutyl alcohol, CAS: 78-83-1

Processing Results

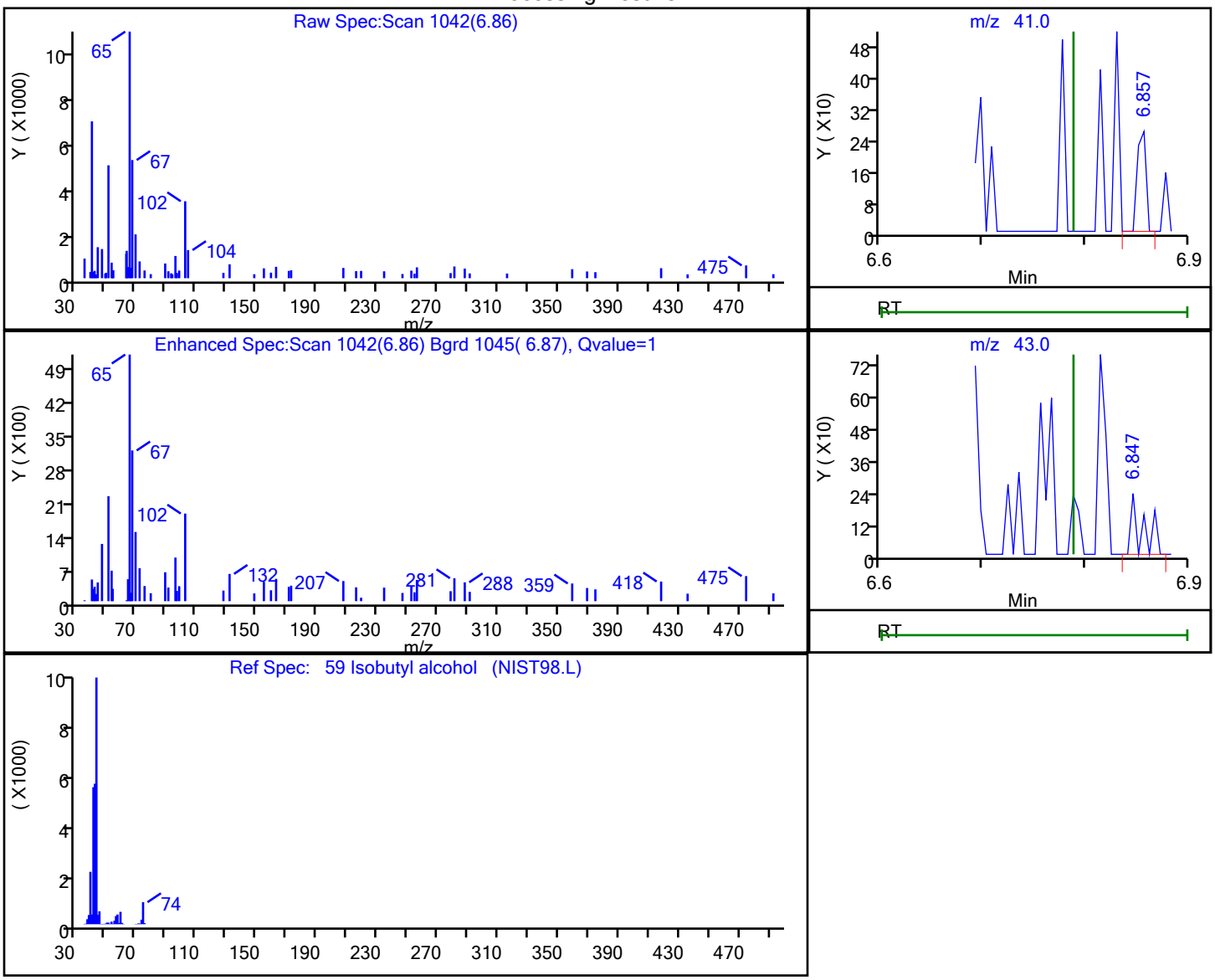

RT	Mass	Response	Amount
6.86	41.00	154	2.400386
6.85	43.00	176	

Reviewer: journetp, 23-Dec-2019 09:44:39

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 24-Dec-2019 13:17:56 Chrom Revision: 2.3 15-Dec-2019 06:20:02

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122307.D				
Injection Date:	23-Dec-2019 09:12:30	Instrument ID:	CHHP4		
Lims ID:	LB 180-302046/1-A				
Client ID:					
Operator ID:	034635	ALS Bottle#:	7	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

47 Methacrylonitrile, CAS: 126-98-7

Processing Results

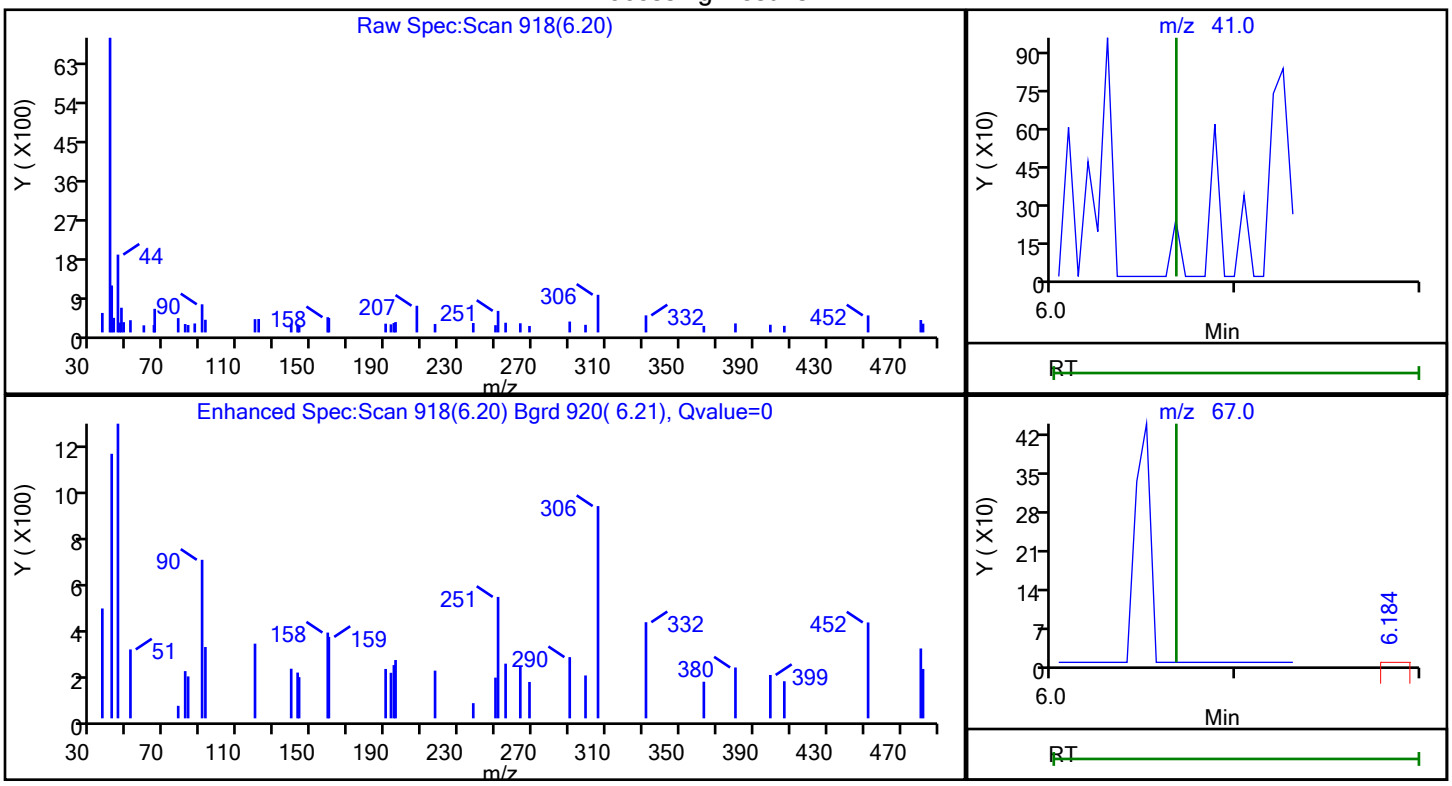

RT	Mass	Response	Amount
6.20	41.00	737	-55.869733
6.18	67.00	211	

Reviewer: journetp, 23-Dec-2019 09:44:37

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122307.D				
Injection Date:	23-Dec-2019 09:12:30	Instrument ID:	CHHP4		
Lims ID:	LB 180-302046/1-A				
Client ID:					
Operator ID:	034635	ALS Bottle#:	7	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

30 Methylene Chloride, CAS: 75-09-2

Signal: 2

Processing Integration Results

RT: 3.99
Area: 31435
Amount: 4.804657
Amount Units: ng

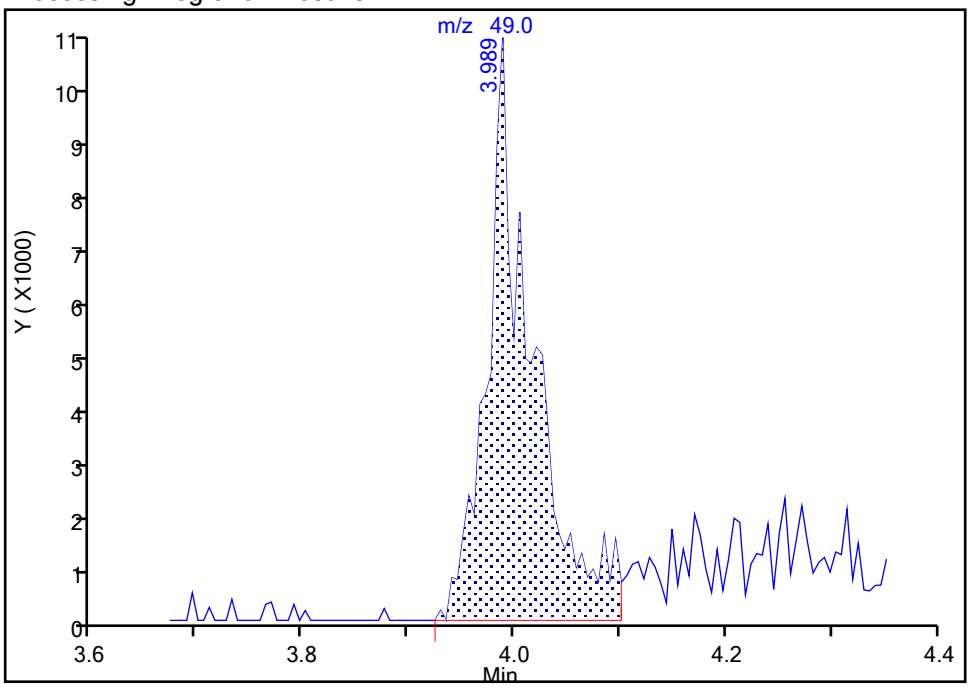

Manual Integration Results

RT: 3.99
Area: 31435
Amount: 5.226960
Amount Units: ng

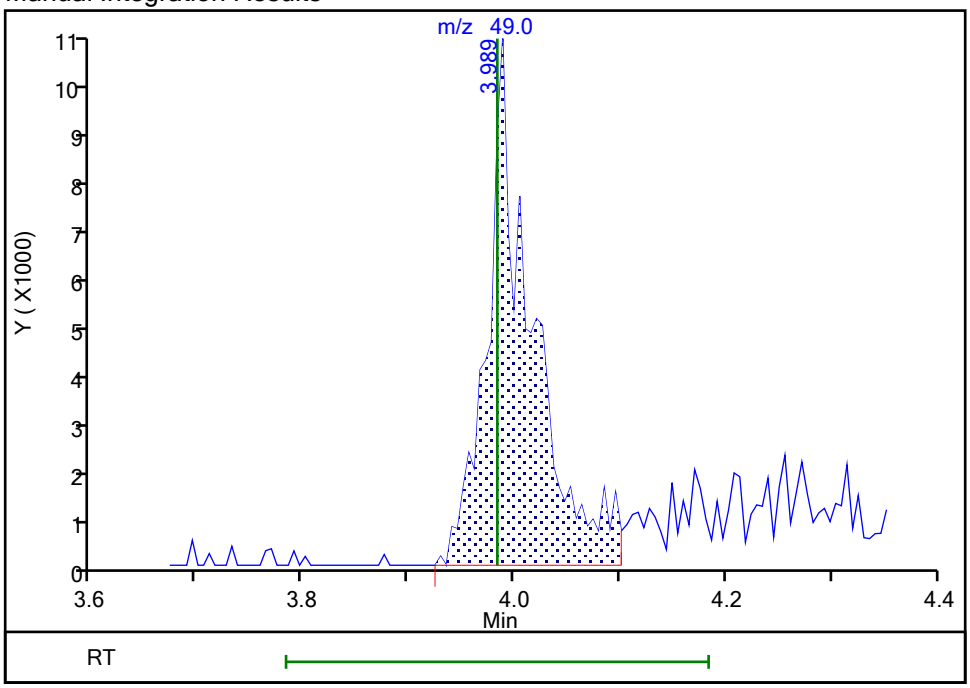

Reviewer: journetp, 23-Dec-2019 09:44:34

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122307.D				
Injection Date:	23-Dec-2019 09:12:30	Instrument ID:	CHHP4		
Lims ID:	LB 180-302046/1-A				
Client ID:					
Operator ID:	034635	ALS Bottle#:	7	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

30 Methylene Chloride, CAS: 75-09-2

Signal: 3

Processing Integration Results

RT: 4.00
Area: 8149
Amount: 4.804657
Amount Units: ng

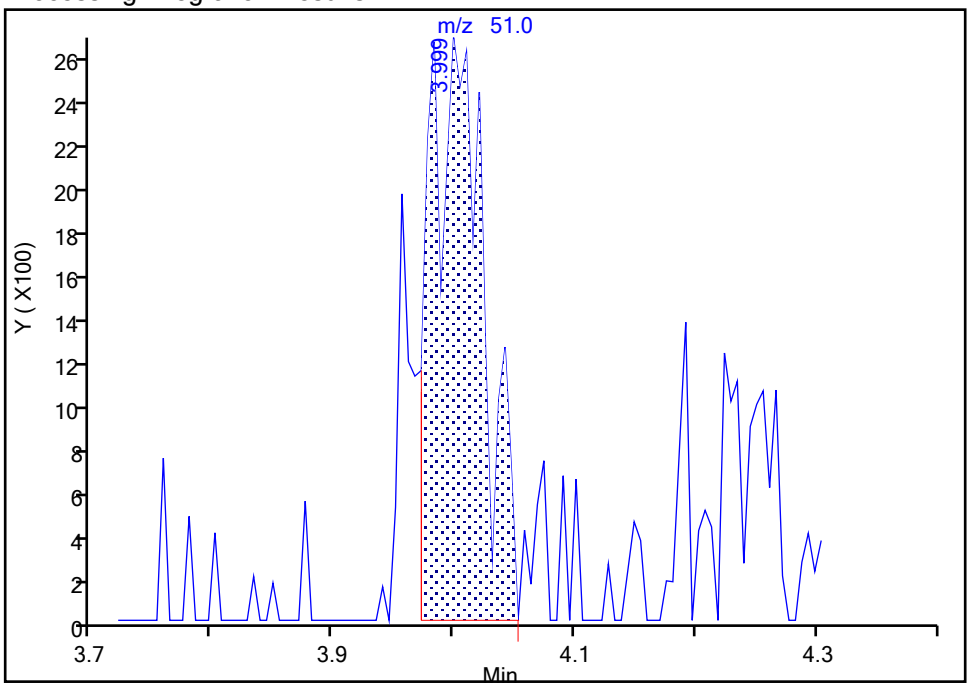

Manual Integration Results

RT: 4.00
Area: 8149
Amount: 5.226960
Amount Units: ng

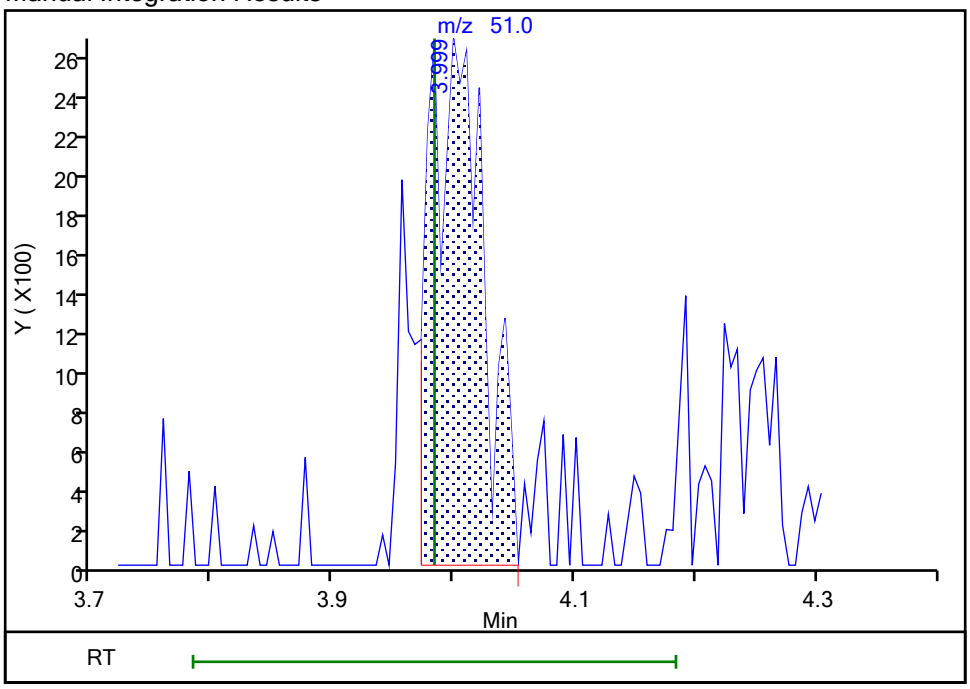

Reviewer: journetp, 23-Dec-2019 09:44:34
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122307.D				
Injection Date:	23-Dec-2019 09:12:30	Instrument ID:	CHHP4		
Lims ID:	LB 180-302046/1-A				
Client ID:					
Operator ID:	034635	ALS Bottle#:	7	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

30 Methylene Chloride, CAS: 75-09-2

Signal: 1

Processing Integration Results

RT: 3.98
Area: 28739
Amount: 4.804657
Amount Units: ng

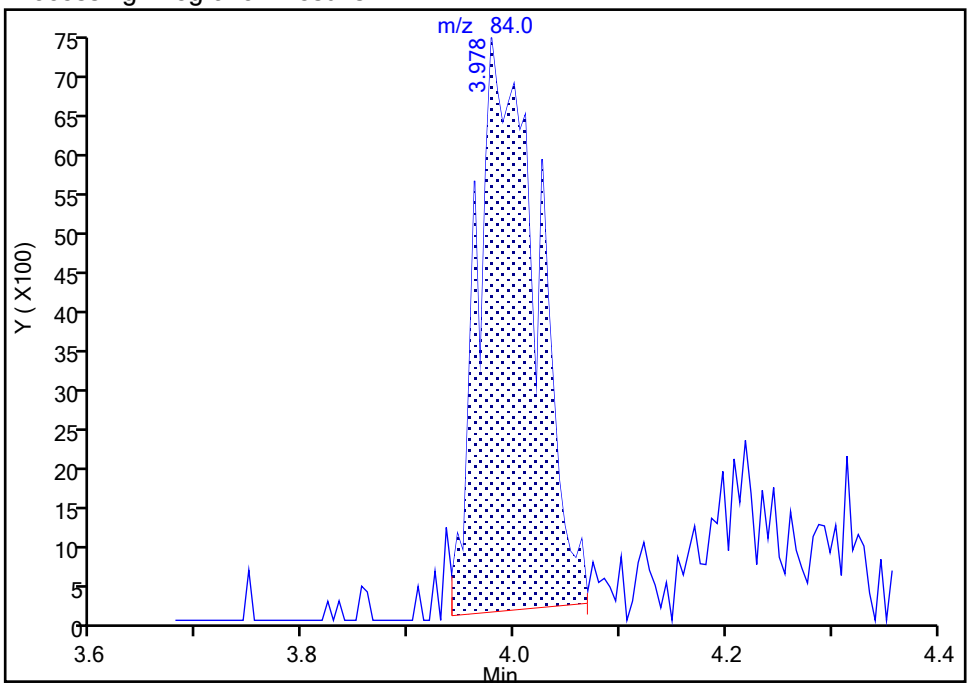

Manual Integration Results

RT: 3.98
Area: 31265
Amount: 5.226960
Amount Units: ng

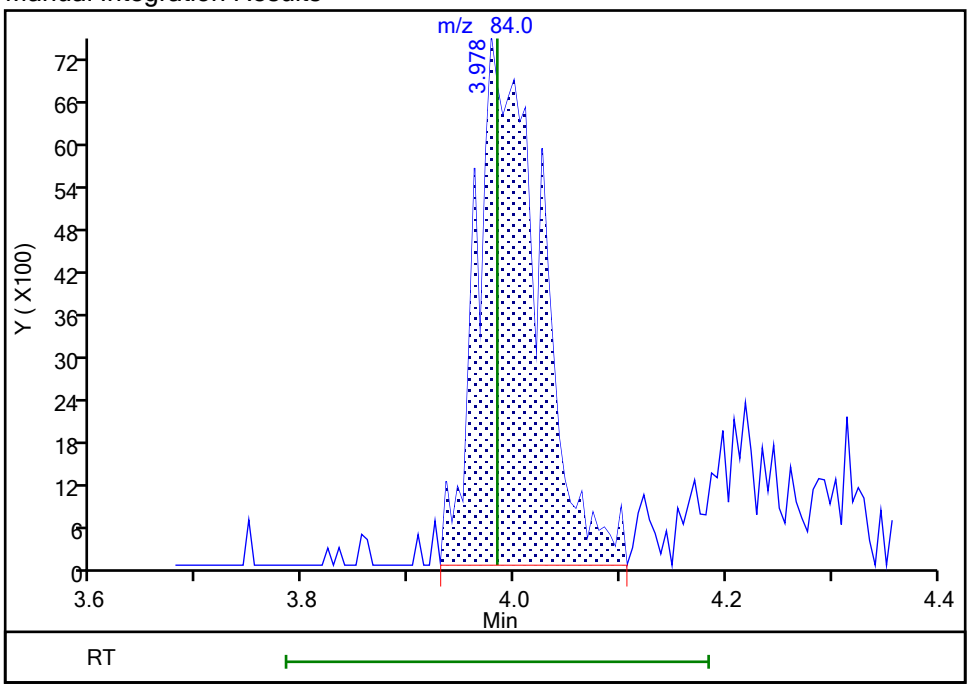

Reviewer: journetp, 24-Dec-2019 10:11:39

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Report Date: 24-Dec-2019 13:17:57 Chrom Revision: 2.3 15-Dec-2019 06:20:02

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122307.D				
Injection Date:	23-Dec-2019 09:12:30	Instrument ID:	CHHP4		
Lims ID:	LB 180-302046/1-A				
Client ID:					
Operator ID:	034635	ALS Bottle#:	7	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

89 Styrene, CAS: 100-42-5

Processing Results

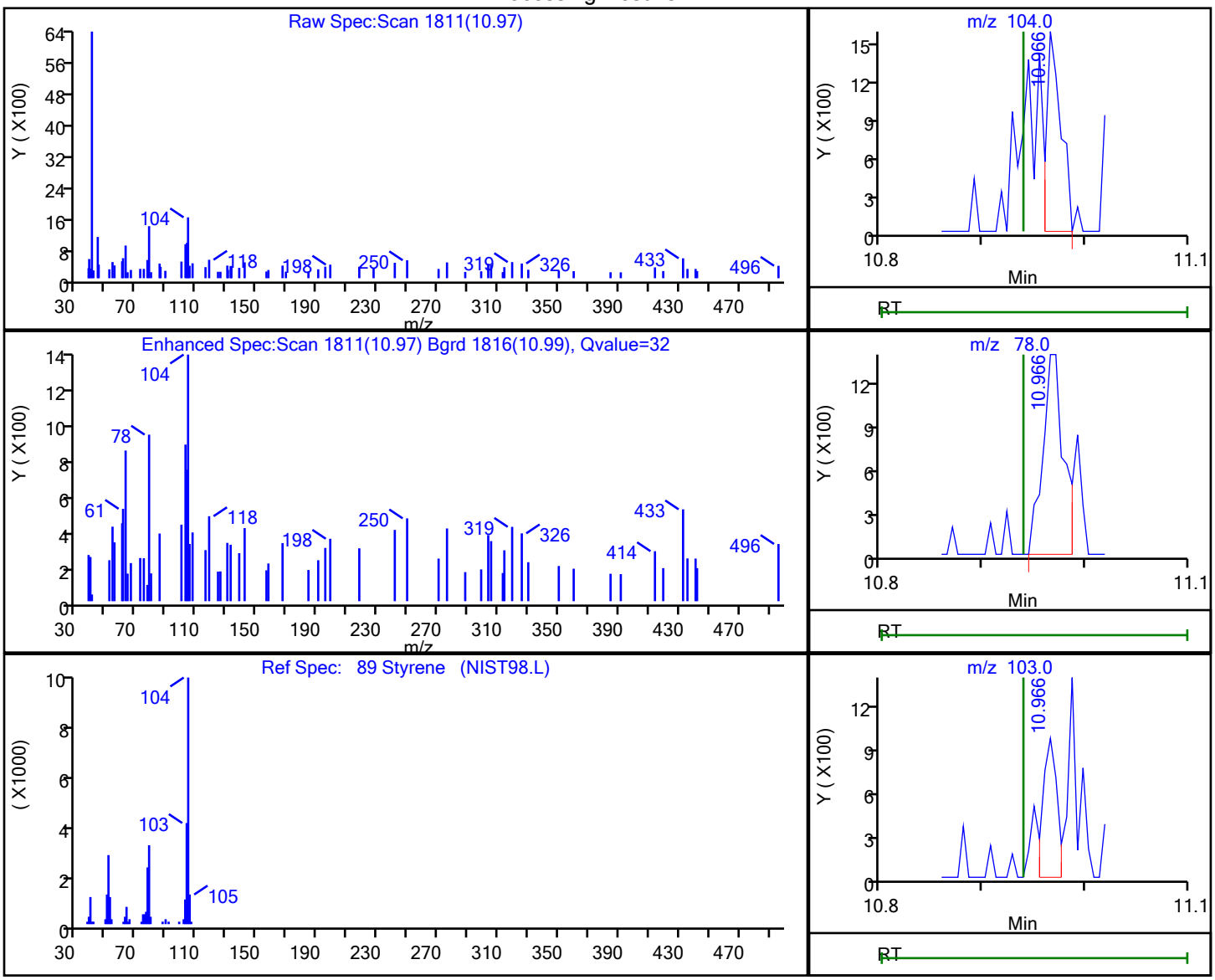

RT	Mass	Response	Amount
10.97	104.00	1514	0.095538
10.97	78.00	1894	
10.97	103.00	871	

Reviewer: journetp, 23-Dec-2019 09:44:43

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122307.D				
Injection Date:	23-Dec-2019 09:12:30	Instrument ID:	CHHP4		
Lims ID:	LB 180-302046/1-A				
Client ID:					
Operator ID:	034635	ALS Bottle#:	7	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

73 Toluene, CAS: 108-88-3

Processing Results

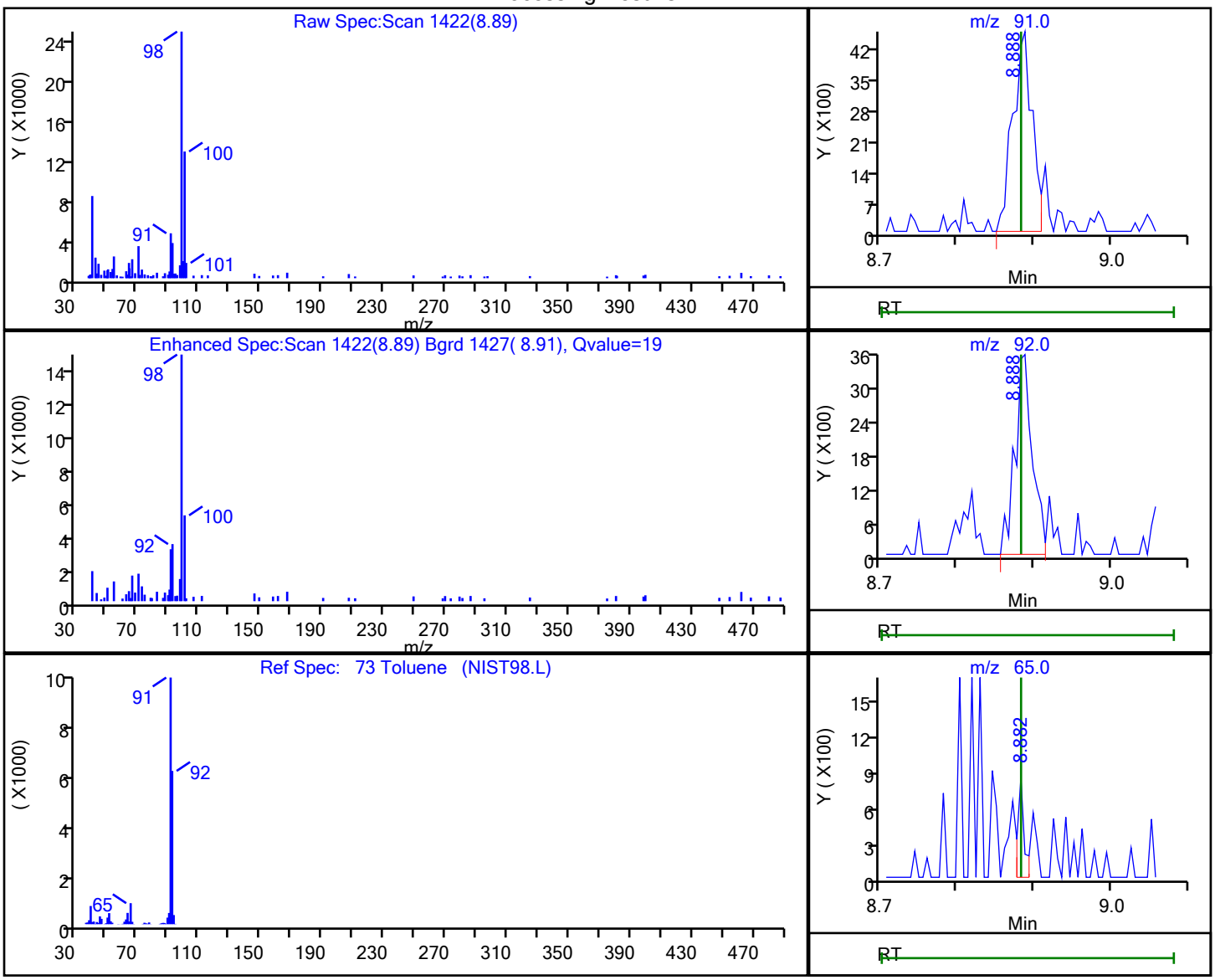

RT	Mass	Response	Amount
8.89	91.00	8055	0.353897
8.89	92.00	5640	
8.88	65.00	472	

Reviewer: journetp, 23-Dec-2019 09:44:41

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 24-Dec-2019 13:17:57 Chrom Revision: 2.3 15-Dec-2019 06:20:02

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122307.D				
Injection Date:	23-Dec-2019 09:12:30	Instrument ID:	CHHP4		
Lims ID:	LB 180-302046/1-A				
Client ID:					
Operator ID:	034635	ALS Bottle#:	7	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

87 m-Xylene & p-Xylene, CAS: 179601-23-1

Processing Results

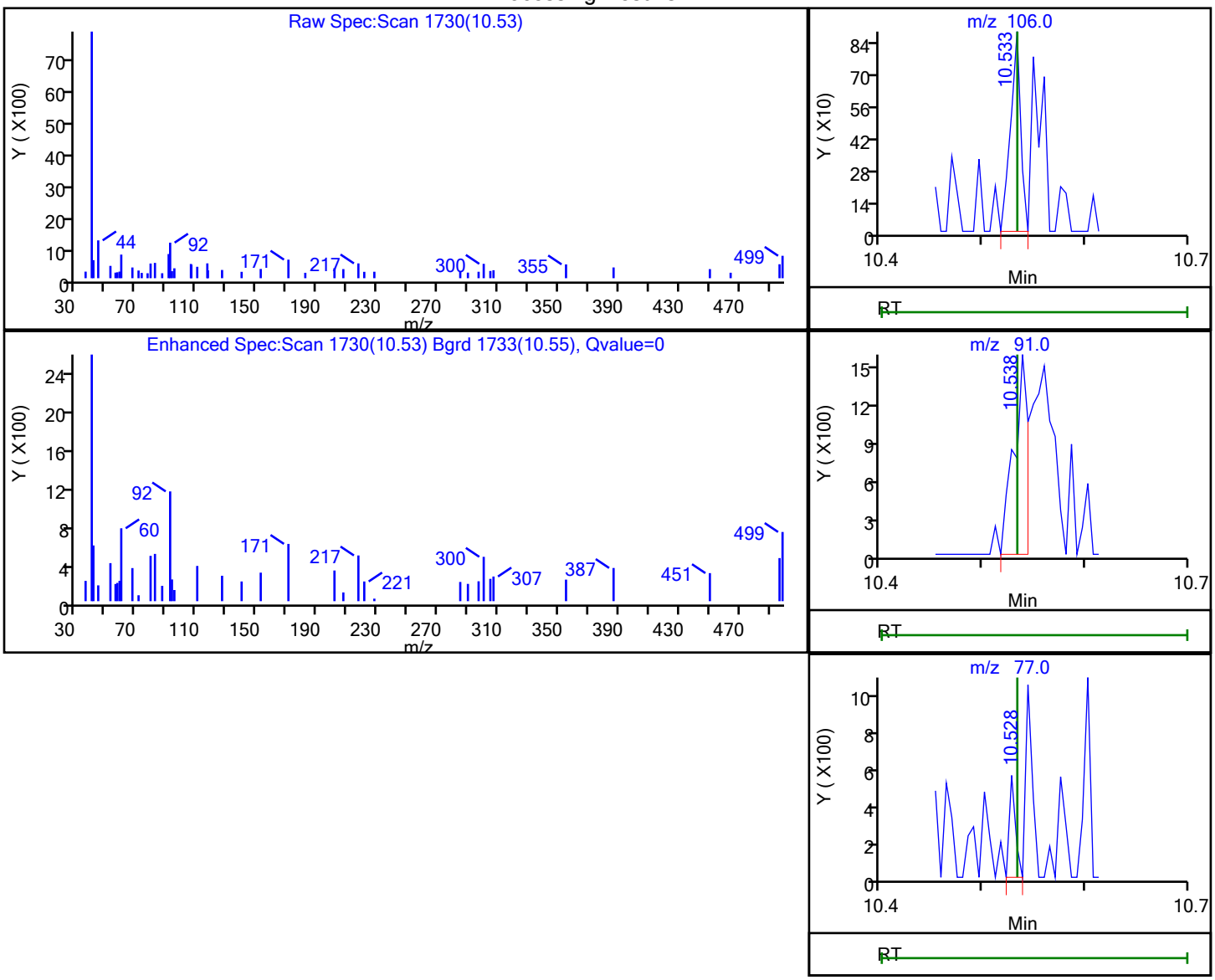

RT	Mass	Response	Amount
10.53	106.00	611	0.051661
10.54	91.00	1523	
10.53	77.00	216	

Reviewer: journetp, 23-Dec-2019 09:44:43

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 24-Dec-2019 13:17:57 Chrom Revision: 2.3 15-Dec-2019 06:20:02

User Disabled Compound Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122307.D				
Injection Date:	23-Dec-2019 09:12:30	Instrument ID:	CHHP4		
Lims ID:	LB 180-302046/1-A				
Client ID:					
Operator ID:	034635	ALS Bottle#:	7	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

88 o-Xylene, CAS: 95-47-6

Processing Results

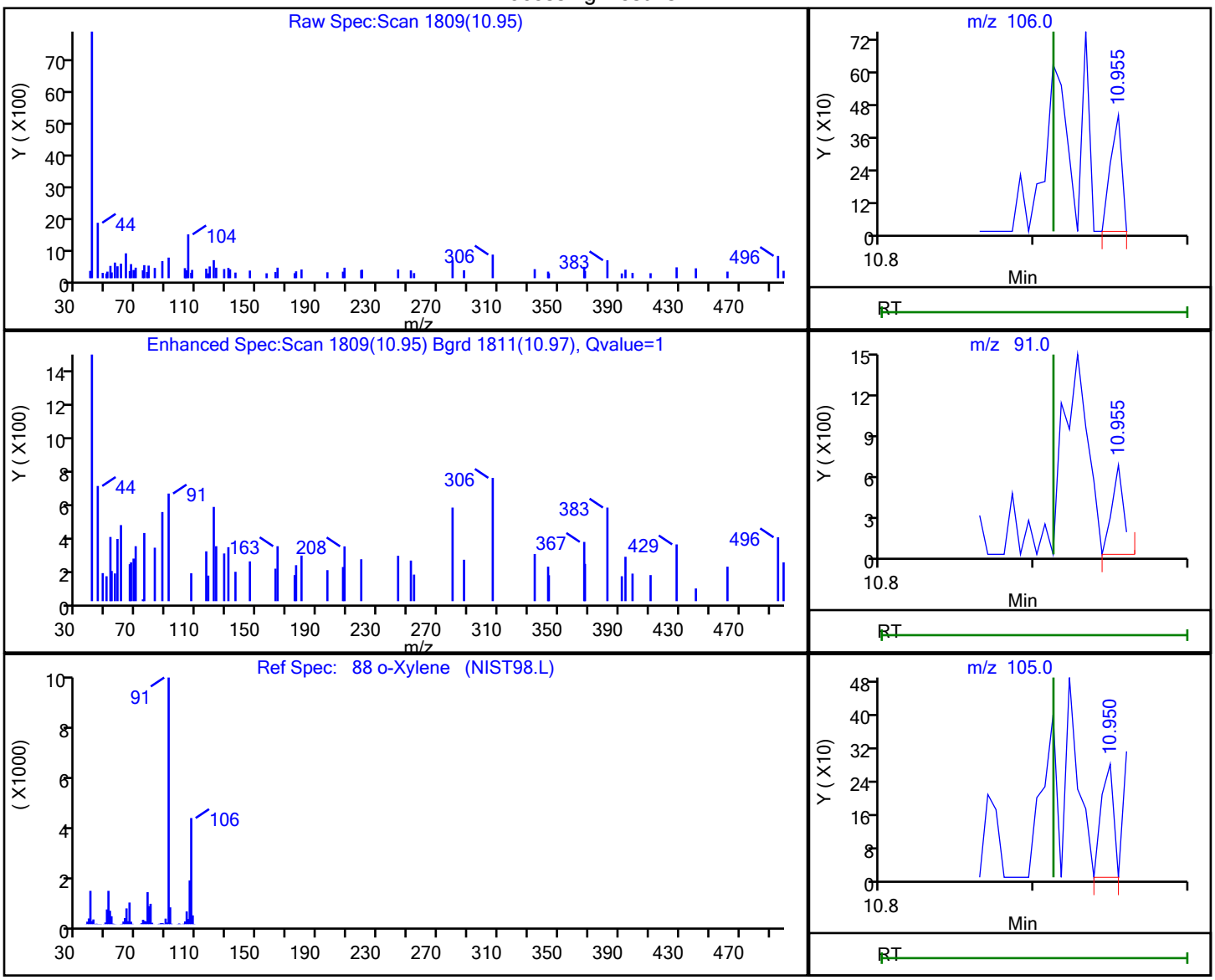

RT	Mass	Response	Amount
10.95	106.00	219	0.020463
10.95	91.00	347	
10.95	105.00	153	

Reviewer: journetp, 23-Dec-2019 09:44:43

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 180-302272/4

Matrix: Solid Lab File ID: 4122304.D

Analysis Method: EPA 8260C Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 12/23/2019 07:53

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 302272 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	0.0389		0.0050	0.0039
71-55-6	1,1,1-Trichloroethane	0.0404		0.0050	0.0025
107-06-2	1,2-Dichloroethane	0.0395		0.0050	0.0015
79-34-5	1,1,2,2-Tetrachloroethane	0.0370		0.0050	0.0030
78-93-3	2-Butanone (MEK)	0.0260		0.0050	0.0029
71-43-2	Benzene	0.0403		0.0050	0.0020
79-00-5	1,1,2-Trichloroethane	0.0386		0.0050	0.0024
56-23-5	Carbon tetrachloride	0.0370		0.0050	0.0033
108-90-7	Chlorobenzene	0.0429		0.0050	0.0016
67-66-3	Chloroform	0.0365		0.0050	0.0021
127-18-4	Tetrachloroethene	0.0409		0.0050	0.0020
79-01-6	Trichloroethene	0.0396		0.0050	0.0015
96-18-4	1,2,3-Trichloropropane	0.0369		0.0050	0.0028
75-01-4	Vinyl chloride	0.0322		0.0050	0.0037
75-35-4	1,1-Dichloroethene	0.0342		0.0050	0.0029
542-75-6	1,3-Dichloropropene, Total	0.0777		0.010	0.0033
106-46-7	1,4-Dichlorobenzene	0.0403		0.0050	0.0010
108-10-1	4-Methyl-2-pentanone (MIBK)	0.0343		0.0050	0.0019
67-64-1	Acetone	0.0297		0.020	0.0032
107-13-1	Acrylonitrile	0.378		0.050	0.034
75-25-2	Bromoform	0.0296		0.0050	0.0026
74-83-9	Bromomethane	0.0286		0.0050	0.0045
75-15-0	Carbon disulfide	0.0309		0.0050	0.0030
75-27-4	Dichlorobromomethane	0.0368		0.0050	0.0024
75-71-8	Dichlorodifluoromethane	0.0327		0.0050	0.0029
100-41-4	Ethylbenzene	0.0411		0.0050	0.0022
106-93-4	1,2-Dibromoethane	0.0418		0.0050	0.0027
87-68-3	Hexachlorobutadiene	0.0385		0.0050	0.0018
78-83-1	Isobutyl alcohol	0.821		0.13	0.091
75-09-2	Methylene Chloride	0.0370		0.0050	0.0039
100-42-5	Styrene	0.0438		0.0050	0.0013
108-88-3	Toluene	0.0426		0.0050	0.0017
10061-02-6	trans-1,3-Dichloropropene	0.0388		0.0050	0.0017
75-69-4	Trichlorofluoromethane	0.0299		0.0050	0.0015
1330-20-7	Xylenes, Total	0.0815		0.010	0.0043

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 180-302272/4

Matrix: Solid Lab File ID: 4122304.D

Analysis Method: EPA 8260C Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 12/23/2019 07:53

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 302272 Units: mg/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	82		58-139
460-00-4	4-Bromofluorobenzene (Surr)	92		64-122
1868-53-7	Dibromofluoromethane (Surr)	80		70-127
2037-26-5	Toluene-d8 (Surr)	88		71-125

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122304.D
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 23-Dec-2019 07:53:30 ALS Bottle#: 4 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0030118-004
Operator ID: 034635 Instrument ID: CHHP4

Method: \\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\MSVOA_CHHP4.m
Limit Group: VOA 8260C_D ICAL
Last Update: 24-Dec-2019 13:18:35 Calib Date: 14-Nov-2019 12:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114008.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0309

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.123	4.123	0.000	88	286345	5000.0	5000.0	
* 2 Fluorobenzene (IS)	96	7.152	7.152	0.000	98	2096448	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.277	10.277	0.000	98	511861	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.627	12.627	0.000	90	792955	250.0	250.0	
$ 5 Dibromofluoromethane (Surr	113	6.420	6.420	0.000	0	701897	250.0	200.3	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.799	6.799	0.000	0	681752	250.0	204.9	
$ 7 Toluene-d8 (Surr)	98	8.813	8.813	0.000	0	3011345	250.0	220.5	
$ 8 4-Bromofluorobenzene (Surr	95	11.468	11.468	0.000	0	1178733	250.0	230.5	
$ 141 Total BTEX	95		0.000				ND	ND	
10 Dichlorodifluoromethane	85	1.617	1.617	0.000	34	785214	200.0	163.7	M
11 Chloromethane	50	1.831	1.831	0.000	47	651244	200.0	168.3	M
12 Vinyl chloride	62	1.938	1.938	0.000	42	766200	200.0	160.8	M
13 Butadiene	39	1.970	1.970	0.000	92	854732	200.0	166.5	M
14 Bromomethane	94	2.285	2.285	0.000	92	438638	200.0	143.0	M
15 Chloroethane	64	2.418	2.418	0.000	89	499785	200.0	141.9	M
17 Trichlorofluoromethane	101	2.552	2.552	0.000	99	1013993	200.0	149.6	M
16 Dichlorofluoromethane	67	2.691	2.691	0.000	96	1101493	200.0	147.3	M
19 Ethyl ether	59	2.942	2.942	0.000	87	367675	200.0	164.9	
20 Acrolein	56	3.108	3.108	0.000	0	255428	875.0	621.2	M
21 1,1-Dichloroethene	96	3.209	3.209	0.000	97	716441	200.0	171.2	M
23 Acetone	43	3.311	3.311	0.000	91	175210	200.0	148.5	
24 Iodomethane	142	3.407	3.407	0.000	98	1097773	200.0	249.5	M
22 1,1,2-Trichloro-1,2,2-trif	101	3.449	3.449	0.000	82	761108	200.0	177.3	M
25 Carbon disulfide	76	3.492	3.492	0.000	99	1943972	200.0	154.6	M
28 3-Chloro-1-propene	76	3.765	3.765	0.000	90	586354	200.0	193.2	
29 Methyl acetate	43	3.786	3.786	0.000	96	405113	400.0	362.7	
30 Methylene Chloride	84	3.984	3.984	0.000	88	725658	200.0	185.2	M
31 2-Methyl-2-propanol	59	4.251	4.251	0.000	99	207585	2000.0	1932.9	
32 Acrylonitrile	53	4.363	4.363	0.000	99	961356	2000.0	1892.2	
33 trans-1,2-Dichloroethene	96	4.411	4.411	0.000	99	789993	200.0	194.1	
34 Methyl tert-butyl ether	73	4.422	4.422	0.000	90	876791	200.0	149.8	
35 Hexane	57	4.833	4.833	0.000	91	1259464	200.0	182.6	
36 1,1-Dichloroethane	63	5.057	5.057	0.000	95	1245346	200.0	175.0	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
38 Vinyl acetate	43	5.100	5.100	0.000	0	958417	200.0	222.5	
42 cis-1,2-Dichloroethene	96	5.800	5.800	0.000	80	803247	200.0	188.5	
41 2,2-Dichloropropane	97	5.805	5.800	0.005	89	181917	200.0	194.5	
43 2-Butanone (MEK)	43	5.821	5.821	0.000	40	163064	200.0	130.2	
46 Chlorobromomethane	128	6.099	6.099	0.000	89	303670	200.0	192.1	
48 Tetrahydrofuran	42	6.110	6.110	0.000	73	144356	400.0	340.2	
49 Chloroform	83	6.238	6.238	0.000	93	1231243	200.0	182.7	
50 1,1,1-Trichloroethane	97	6.398	6.398	0.000	98	1067343	200.0	202.2	M
51 Cyclohexane	56	6.473	6.473	0.000	87	1326177	200.0	235.2	M
53 Carbon tetrachloride	117	6.575	6.575	0.000	96	872435	200.0	184.8	
52 1,1-Dichloropropene	75	6.585	6.585	0.000	95	1076778	200.0	182.4	
59 Isobutyl alcohol	41	6.788	6.788	0.000	90	172378	5000.0	4102.8	
54 Benzene	78	6.804	6.804	0.000	98	2878307	200.0	201.4	
55 1,2-Dichloroethane	62	6.890	6.890	0.000	97	681396	200.0	197.4	
58 n-Heptane	43	7.173	7.173	0.000	85	1145704	200.0	179.5	
61 Trichloroethene	130	7.547	7.547	0.000	97	859797	200.0	198.2	
63 Methylcyclohexane	83	7.787	7.787	0.000	84	1443939	200.0	184.4	
64 1,2-Dichloropropane	63	7.819	7.819	0.000	94	669684	200.0	183.6	
65 Dibromomethane	93	7.910	7.910	0.000	95	282153	200.0	197.1	
67 1,4-Dioxane	88	7.910	7.910	0.000	65	76208	4000.0	4241.2	
68 Dichlorobromomethane	83	8.108	8.108	0.000	99	793234	200.0	184.2	
70 2-Chloroethyl vinyl ether	63	8.407	8.407	0.000	0	388527	400.0	253.7	
71 cis-1,3-Dichloropropene	75	8.551	8.551	0.000	96	1009977	200.0	194.5	
72 4-Methyl-2-pentanone (MIBK	43	8.701	8.701	0.000	95	329084	200.0	171.5	
73 Toluene	91	8.882	8.882	0.000	98	3057517	200.0	213.1	
74 trans-1,3-Dichloropropene	75	9.133	9.133	0.000	93	728910	200.0	193.8	
75 Ethyl methacrylate	69	9.192	9.192	0.000	88	531248	200.0	203.1	
76 1,1,2-Trichloroethane	97	9.326	9.326	0.000	91	415526	200.0	193.2	
77 Tetrachloroethene	164	9.395	9.395	0.000	97	726453	200.0	204.5	
78 1,3-Dichloropropane	76	9.486	9.486	0.000	88	772967	200.0	197.1	
79 2-Hexanone	43	9.545	9.545	0.000	94	246007	200.0	158.8	
81 Chlorodibromomethane	129	9.705	9.705	0.000	90	439545	200.0	176.4	
82 Ethylene Dibromide	107	9.817	9.817	0.000	98	399052	200.0	209.2	
84 Chlorobenzene	112	10.303	10.303	0.000	93	1969001	200.0	214.5	
85 1,1,1,2-Tetrachloroethane	131	10.394	10.394	0.000	95	650688	200.0	194.7	
86 Ethylbenzene	106	10.405	10.405	0.000	97	1203314	200.0	205.7	
87 m-Xylene & p-Xylene	106	10.533	10.533	0.000	0	1499237	200.0	201.1	
88 o-Xylene	106	10.912	10.912	0.000	95	1392539	200.0	206.4	
89 Styrene	104	10.939	10.939	0.000	94	2185283	200.0	218.8	
90 Bromoform	173	11.126	11.126	0.000	97	197566	200.0	148.1	
91 Isopropylbenzene	105	11.286	11.286	0.000	97	3459771	200.0	215.7	
93 1,1,2,2-Tetrachloroethane	83	11.602	11.602	0.000	64	402599	200.0	184.9	
94 Bromobenzene	156	11.602	11.602	0.000	91	800818	200.0	197.3	
96 trans-1,4-Dichloro-2-buten	53	11.639	11.639	0.000	71	40601	200.0	97.8	
95 1,2,3-Trichloropropane	110	11.655	11.655	0.000	82	134897	200.0	184.7	
97 N-Propylbenzene	120	11.703	11.703	0.000	97	1123259	200.0	195.3	
98 2-Chlorotoluene	126	11.788	11.788	0.000	97	884495	200.0	190.2	
99 1,3,5-Trimethylbenzene	105	11.890	11.890	0.000	95	2948613	200.0	199.0	
100 4-Chlorotoluene	126	11.917	11.917	0.000	97	891846	200.0	193.3	
101 tert-Butylbenzene	119	12.200	12.200	0.000	92	2585239	200.0	204.6	
103 1,2,4-Trimethylbenzene	105	12.264	12.264	0.000	97	2941359	200.0	214.4	
104 sec-Butylbenzene	105	12.424	12.424	0.000	95	3720515	200.0	194.2	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
105 1,3-Dichlorobenzene	146	12.547	12.547	0.000	96	1558894	200.0	199.6	
106 4-Isopropyltoluene	119	12.584	12.584	0.000	94	3287330	200.0	206.0	
107 1,4-Dichlorobenzene	146	12.654	12.654	0.000	93	1530323	200.0	201.6	
110 n-Butylbenzene	91	12.990	12.990	0.000	95	3043388	200.0	210.1	
111 1,2-Dichlorobenzene	146	13.006	13.006	0.000	96	1293567	200.0	184.2	
112 1,2-Dibromo-3-Chloropropan	75	13.802	13.802	0.000	88	56022	200.0	139.8	
113 1,2,4-Trichlorobenzene	180	14.625	14.625	0.000	94	867961	200.0	158.4	
115 Hexachlorobutadiene	225	14.769	14.769	0.000	93	759698	200.0	192.4	
116 Naphthalene	128	14.892	14.892	0.000	97	1020970	200.0	139.2	
117 1,2,3-Trichlorobenzene	180	15.111	15.111	0.000	95	548482	200.0	119.5	
S 130 Xylenes, Total	106				0		400.0	407.5	
S 129 1,2-Dichloroethene, Total	96				0		400.0	382.6	
S 131 1,3-Dichloropropene, Total	1				0		400.0	388.4	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

Reagents:

VOAVAPRI_00031	Amount Added: 8.00	Units: uL	
VOAACRPRI_00023	Amount Added: 35.00	Units: uL	
VOA8260VOA2ND_00383	Amount Added: 8.00	Units: uL	
VOACEVEPRI_00059	Amount Added: 8.00	Units: uL	
VOA8260INT_00102	Amount Added: 10.00	Units: uL	Run Reagent
VOA8260SURR_00102	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 24-Dec-2019 13:18:38 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122304.D				
Injection Date:	23-Dec-2019 07:53:30	Instrument ID:	CHHP4	Operator ID:	034635
Lims ID:	LCS			Worklist Smp#:	4
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

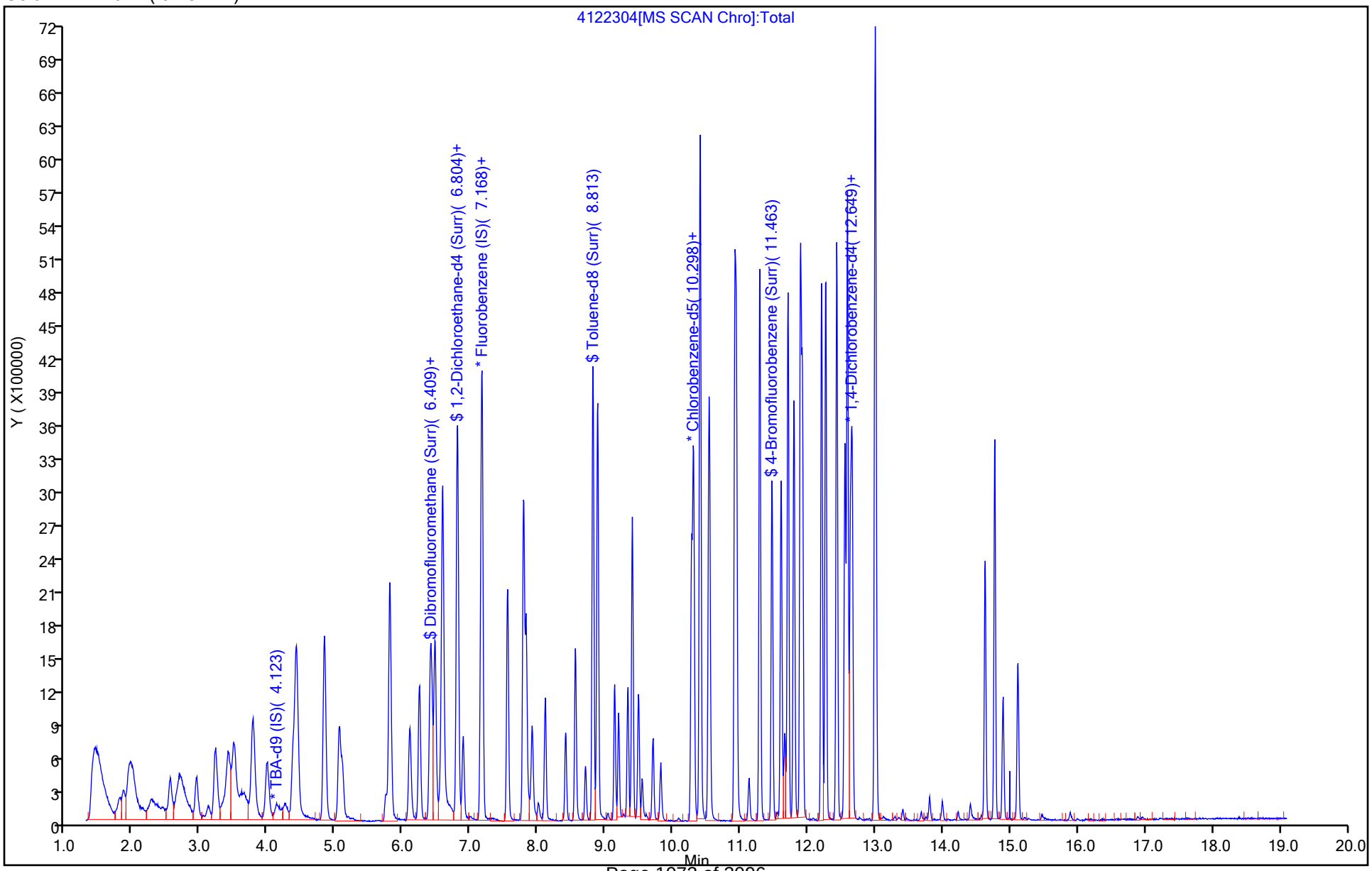

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122304.D
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 23-Dec-2019 07:53:30 ALS Bottle#: 4 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0030118-004
Operator ID: 034635 Instrument ID: CHHP4

Method: \\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\MSVOA_CHHP4.m
Limit Group: VOA 8260C_D ICAL
Last Update: 24-Dec-2019 13:18:35 Calib Date: 14-Nov-2019 12:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114008.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0309

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	250.0	200.3	80.10
$ 6 1,2-Dichloroethane-d4 (Surr)	250.0	204.9	81.96
$ 7 Toluene-d8 (Surr)	250.0	220.5	88.22
$ 8 4-Bromofluorobenzene (Surr)	250.0	230.5	92.20

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122304.D				
Injection Date:	23-Dec-2019 07:53:30	Instrument ID:	CHHP4		
Lims ID:	LCS				
Client ID:					
Operator ID:	034635	ALS Bottle#:	4	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

50 1,1,1-Trichloroethane, CAS: 71-55-6

Signal: 1

Processing Integration Results

RT: 6.40
Area: 927019
Amount: 175.6421
Amount Units: ng

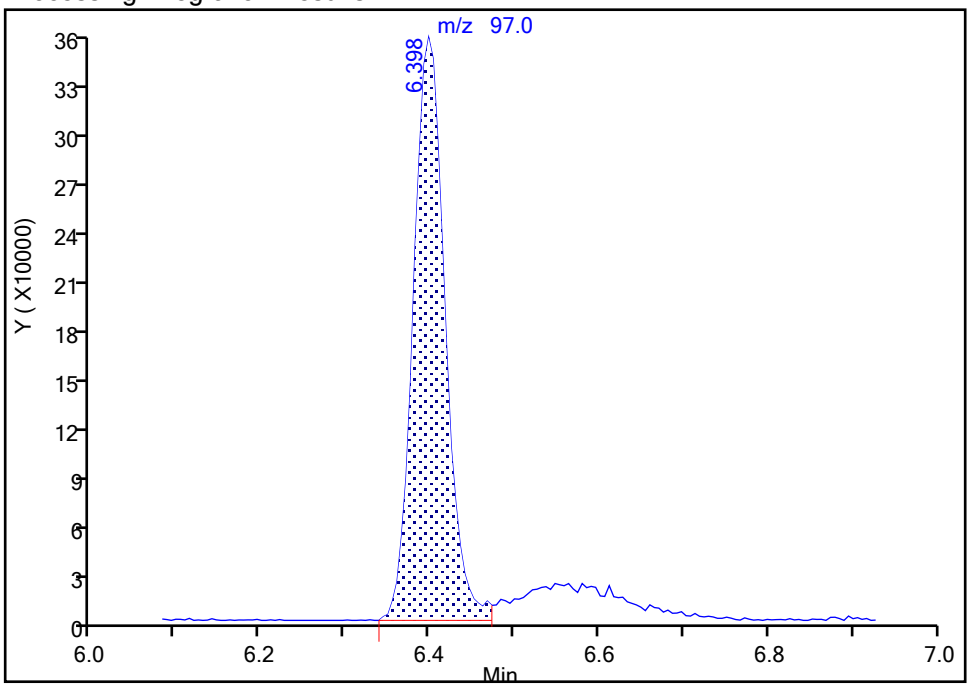

Manual Integration Results

RT: 6.40
Area: 1067343
Amount: 202.2293
Amount Units: ng

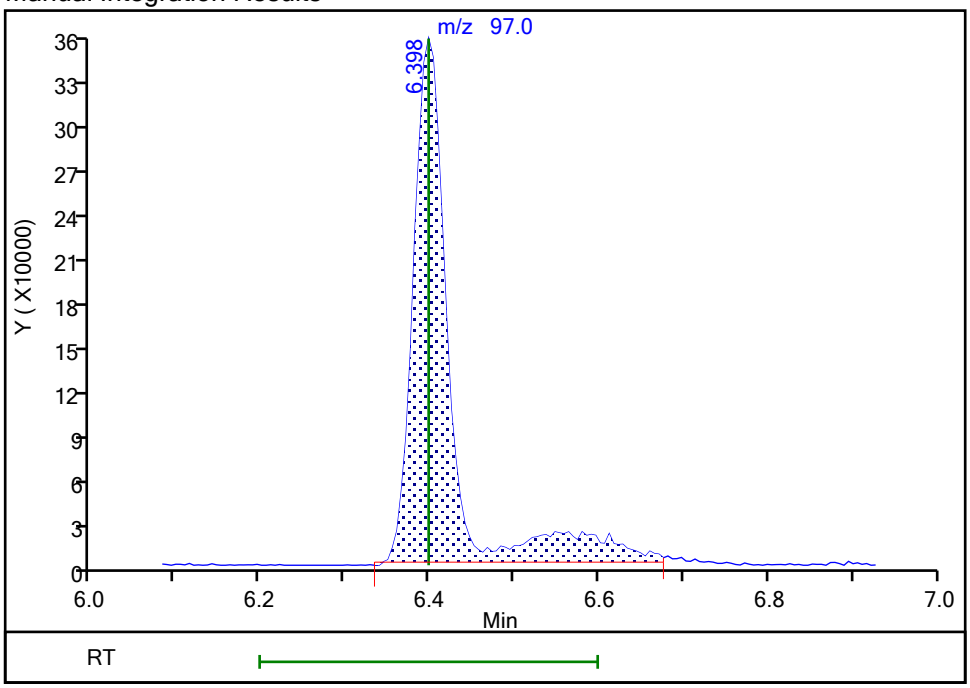

Reviewer: journetp, 23-Dec-2019 09:26:05

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122304.D				
Injection Date:	23-Dec-2019 07:53:30	Instrument ID:	CHHP4		
Lims ID:	LCS				
Client ID:					
Operator ID:	034635	ALS Bottle#:	4	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

12 Vinyl chloride, CAS: 75-01-4

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 1.94

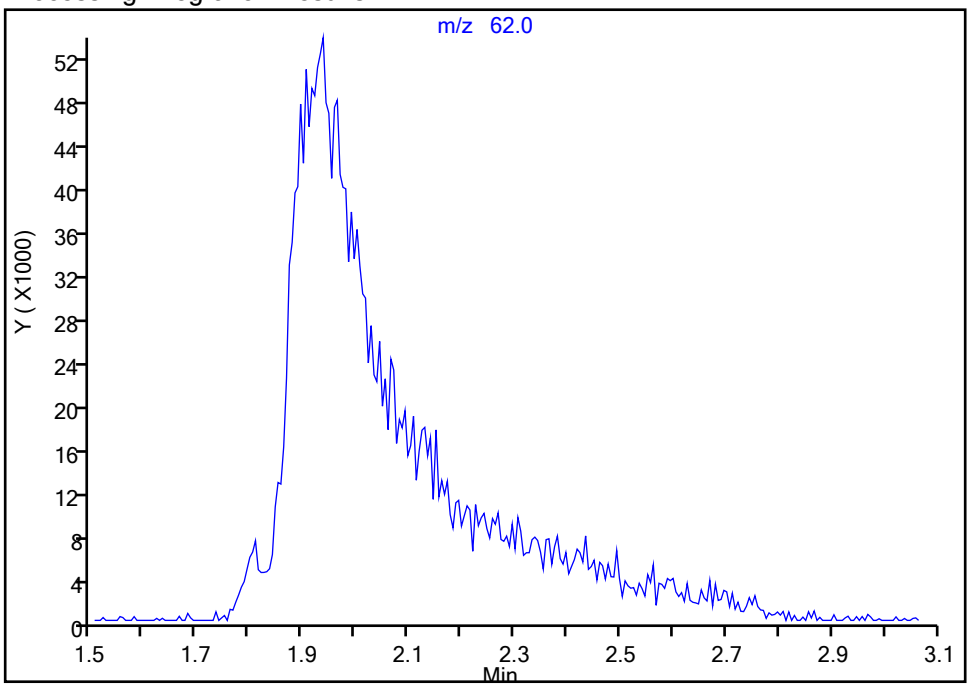

Manual Integration Results

RT: 1.94
Area: 766200
Amount: 160.7546
Amount Units: ng

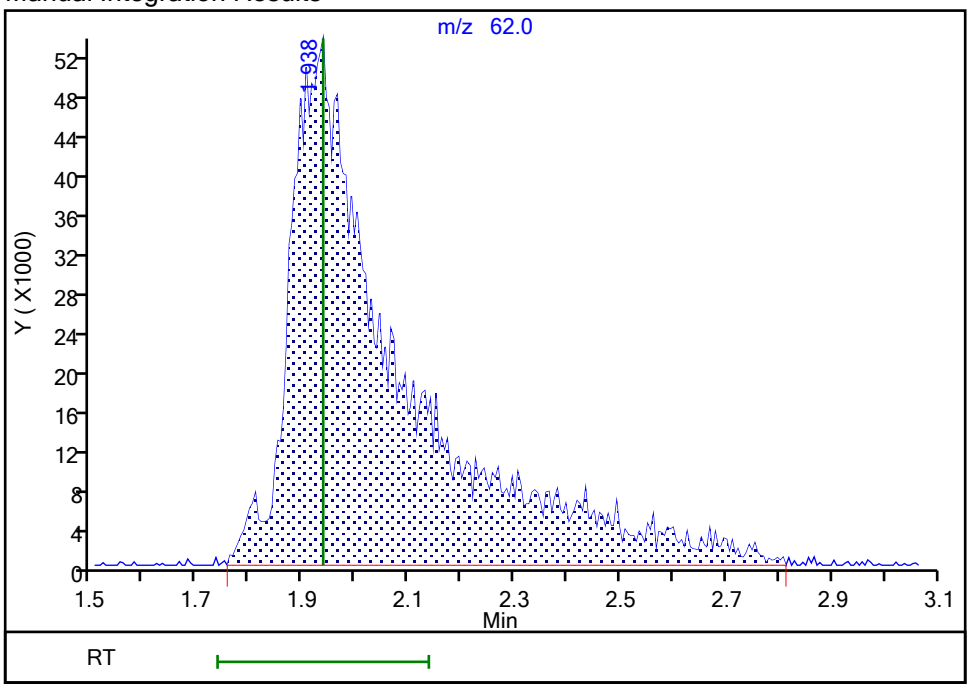

Reviewer: journetp, 23-Dec-2019 09:23:45
Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122304.D				
Injection Date:	23-Dec-2019 07:53:30	Instrument ID:	CHHP4		
Lims ID:	LCS				
Client ID:					
Operator ID:	034635	ALS Bottle#:	4	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

21 1,1-Dichloroethene, CAS: 75-35-4

Signal: 1

Processing Integration Results

RT: 3.21
Area: 454347
Amount: 113.0938
Amount Units: ng

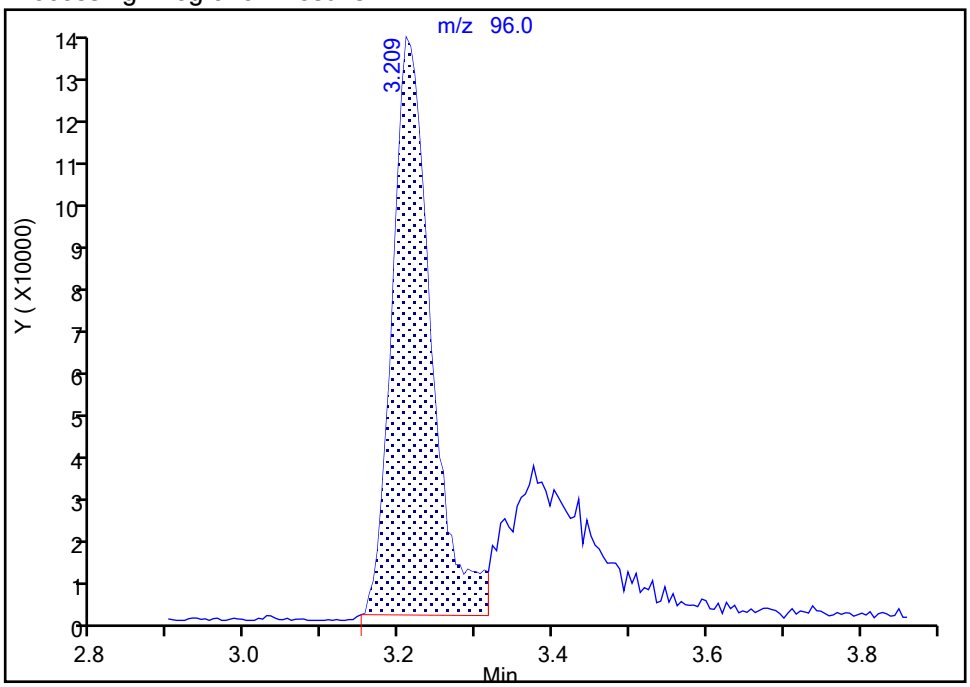

Manual Integration Results

RT: 3.21
Area: 716441
Amount: 171.1983
Amount Units: ng

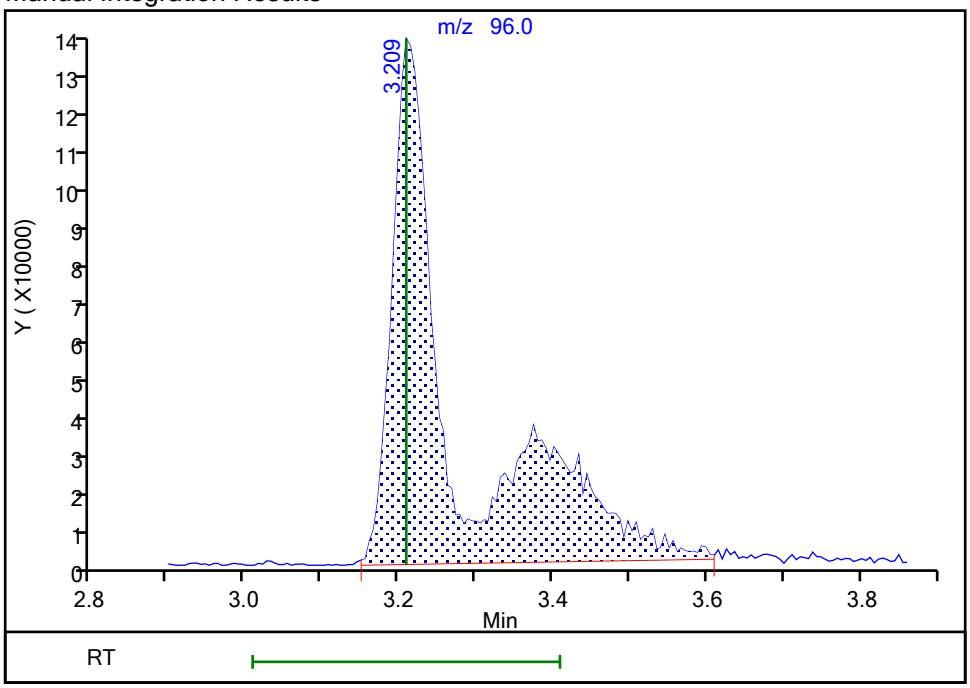

Reviewer: journetp, 23-Dec-2019 09:25:08

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122304.D				
Injection Date:	23-Dec-2019 07:53:30	Instrument ID:	CHHP4		
Lims ID:	LCS				
Client ID:					
Operator ID:	034635	ALS Bottle#:	4	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

14 Bromomethane, CAS: 74-83-9

Signal: 1

Processing Integration Results

RT: 2.28
Area: 402959
Amount: 131.3994
Amount Units: ng

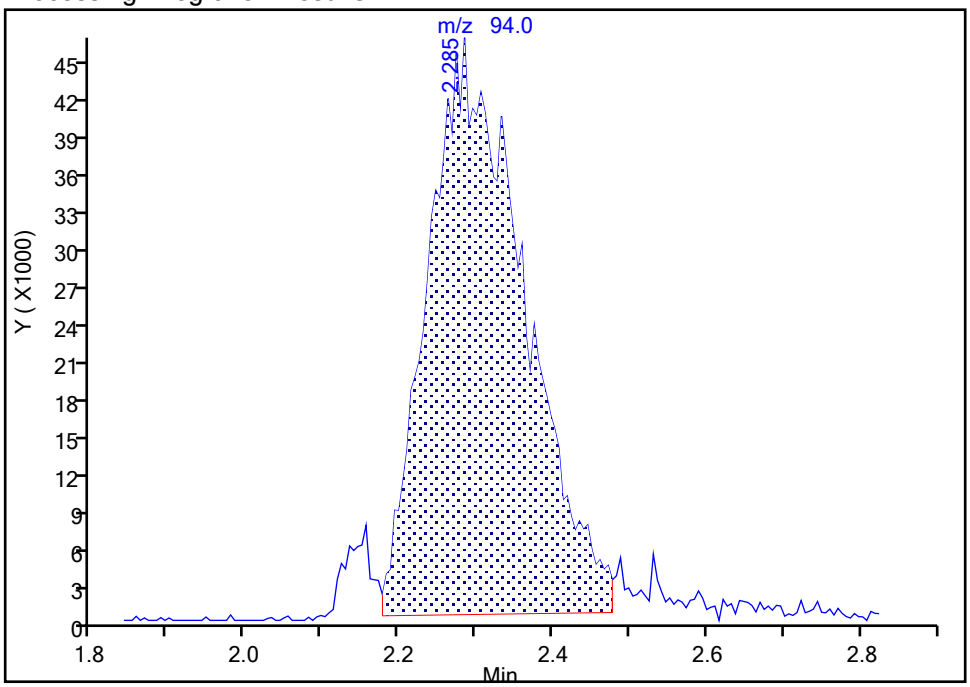

Manual Integration Results

RT: 2.28
Area: 438638
Amount: 143.0339
Amount Units: ng

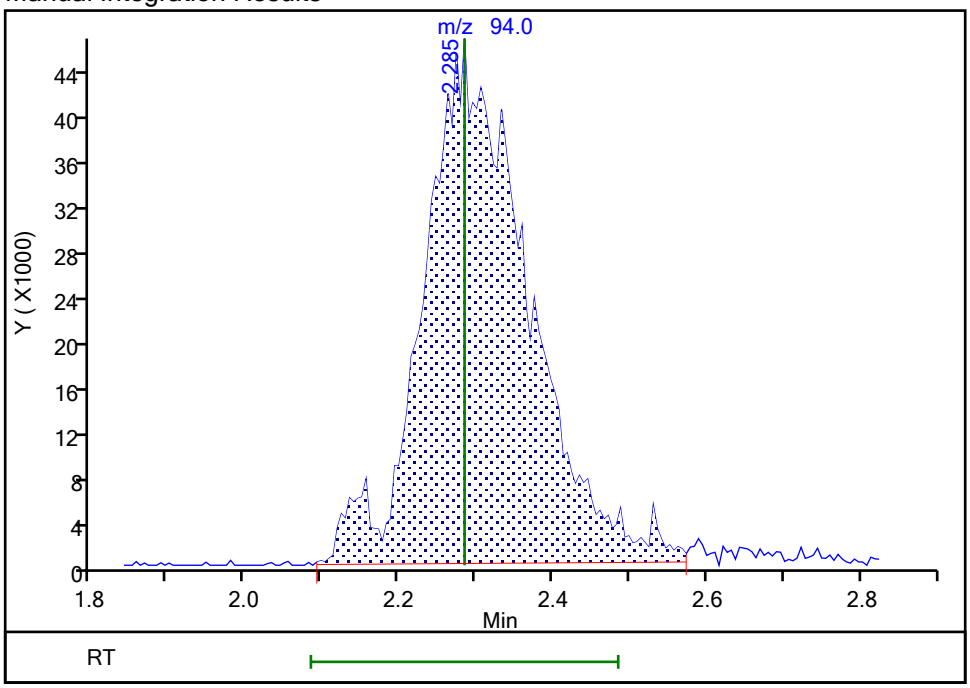

Reviewer: journetp, 23-Dec-2019 09:24:32

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122304.D				
Injection Date:	23-Dec-2019 07:53:30	Instrument ID:	CHHP4		
Lims ID:	LCS				
Client ID:					
Operator ID:	034635	ALS Bottle#:	4	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

25 Carbon disulfide, CAS: 75-15-0

Signal: 1

Processing Integration Results

RT: 3.49
Area: 1226265
Amount: 97.492902
Amount Units: ng

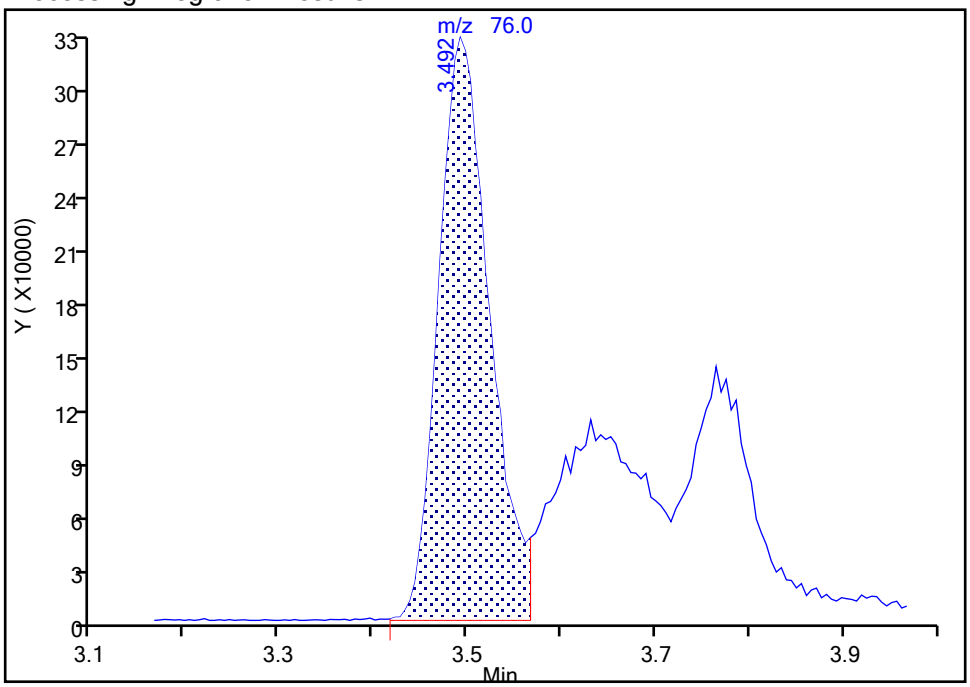

Manual Integration Results

RT: 3.49
Area: 1943972
Amount: 154.5534
Amount Units: ng

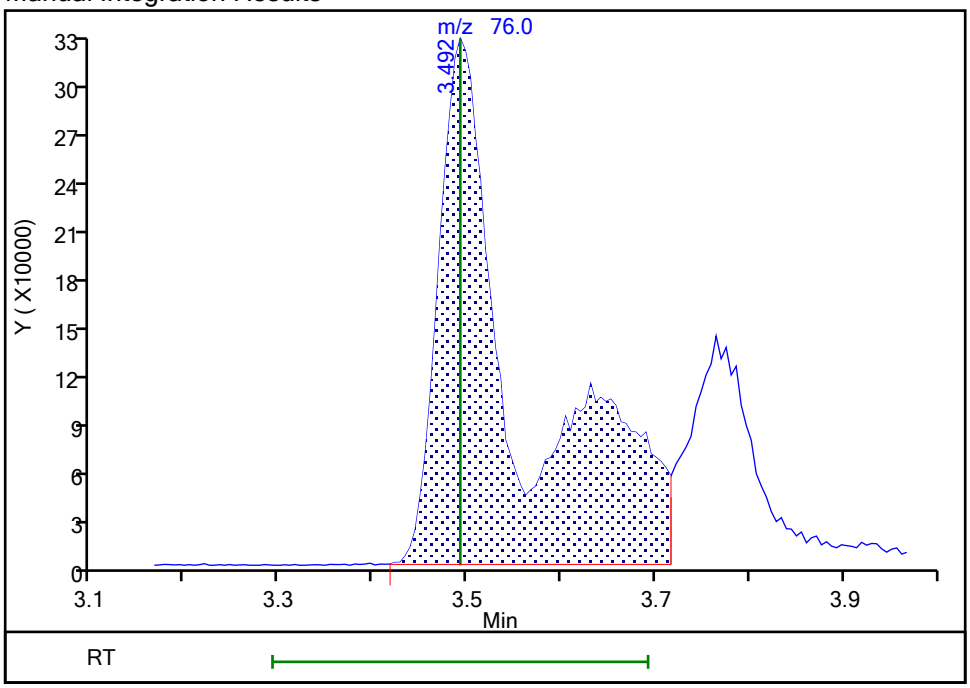

Reviewer: journetp, 23-Dec-2019 09:25:40

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122304.D				
Injection Date:	23-Dec-2019 07:53:30	Instrument ID:	CHHP4		
Lims ID:	LCS				
Client ID:					
Operator ID:	034635	ALS Bottle#:	4	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

10 Dichlorodifluoromethane, CAS: 75-71-8

Signal: 1

Processing Integration Results

RT: 1.62
Area: 100181
Amount: 20.890100
Amount Units: ng

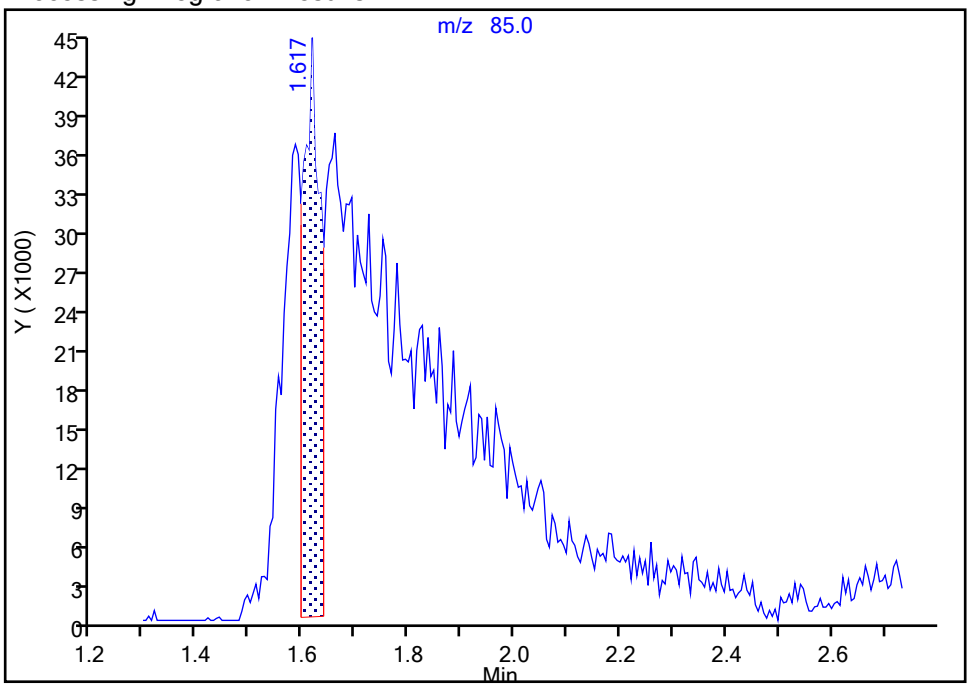

Manual Integration Results

RT: 1.62
Area: 785214
Amount: 163.7356
Amount Units: ng

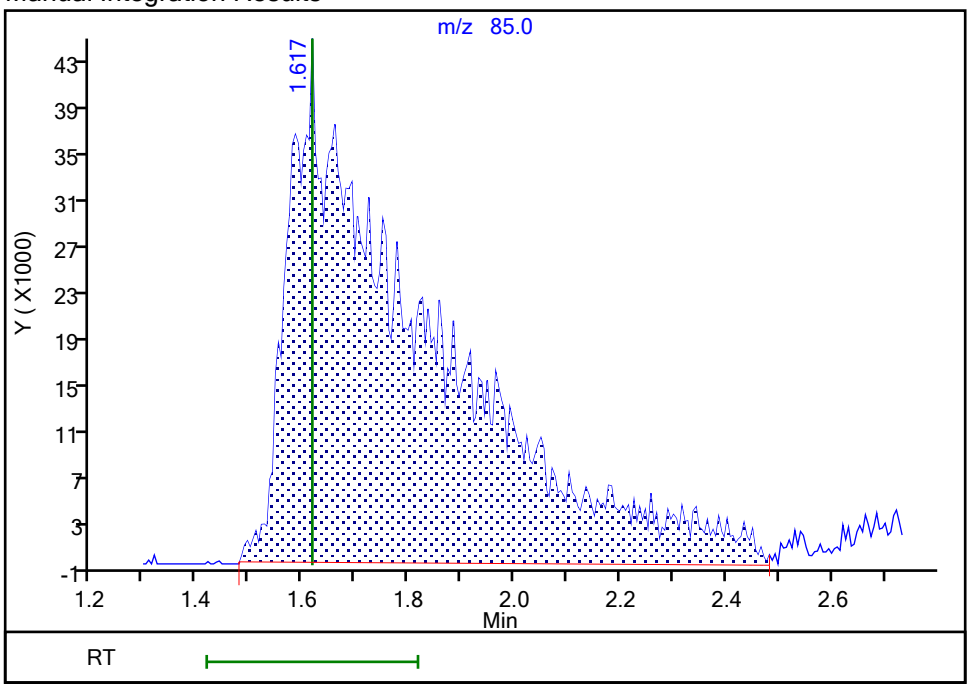

Reviewer: journetp, 23-Dec-2019 09:23:02

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122304.D				
Injection Date:	23-Dec-2019 07:53:30	Instrument ID:	CHHP4		
Lims ID:	LCS				
Client ID:					
Operator ID:	034635	ALS Bottle#:	4	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

30 Methylene Chloride, CAS: 75-09-2

Signal: 1

Processing Integration Results

RT: 3.98
Area: 528602
Amount: 134.9442
Amount Units: ng

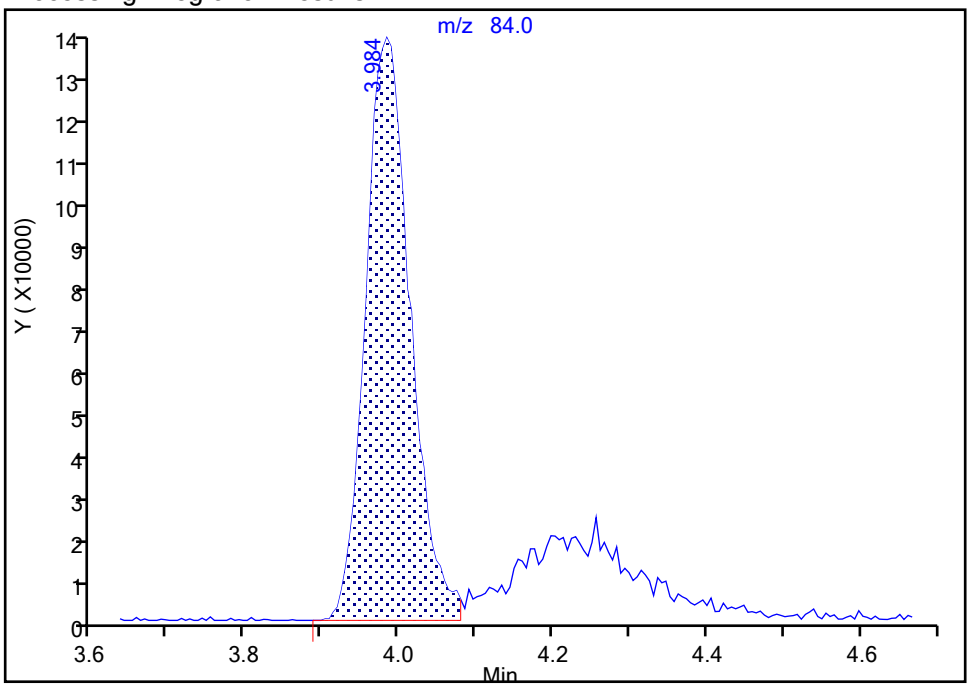

Manual Integration Results

RT: 3.98
Area: 725658
Amount: 185.2497
Amount Units: ng

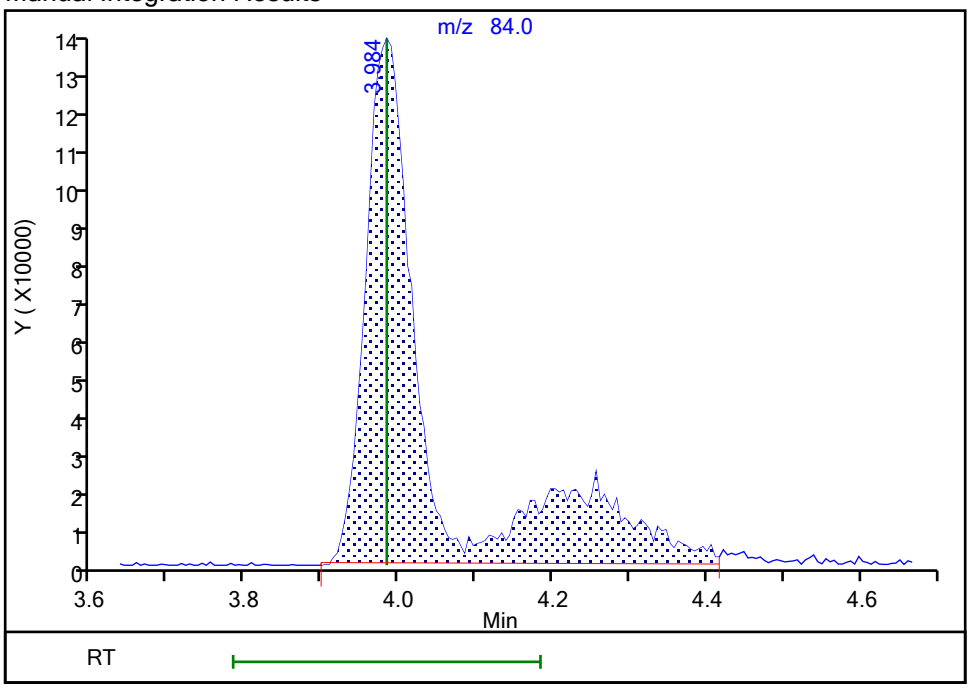

Reviewer: journetp, 23-Dec-2019 09:25:50

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122304.D				
Injection Date:	23-Dec-2019 07:53:30	Instrument ID:	CHHP4		
Lims ID:	LCS				
Client ID:					
Operator ID:	034635	ALS Bottle#:	4	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

17 Trichlorofluoromethane, CAS: 75-69-4

Signal: 1

Processing Integration Results

RT: 2.55
Area: 336606
Amount: 49.668647
Amount Units: ng

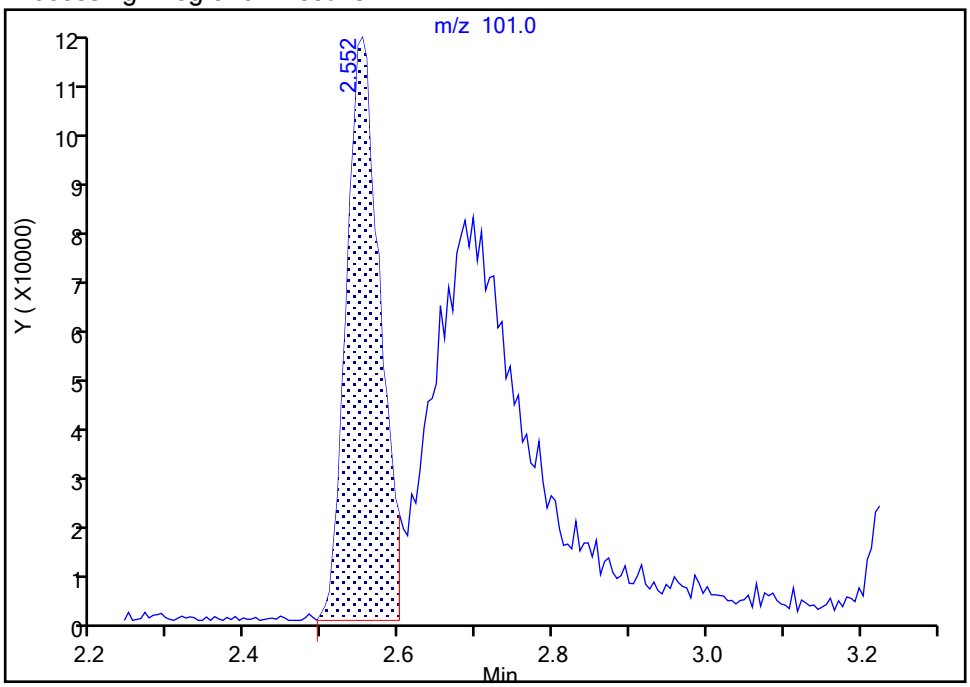

Manual Integration Results

RT: 2.55
Area: 1013993
Amount: 149.6220
Amount Units: ng

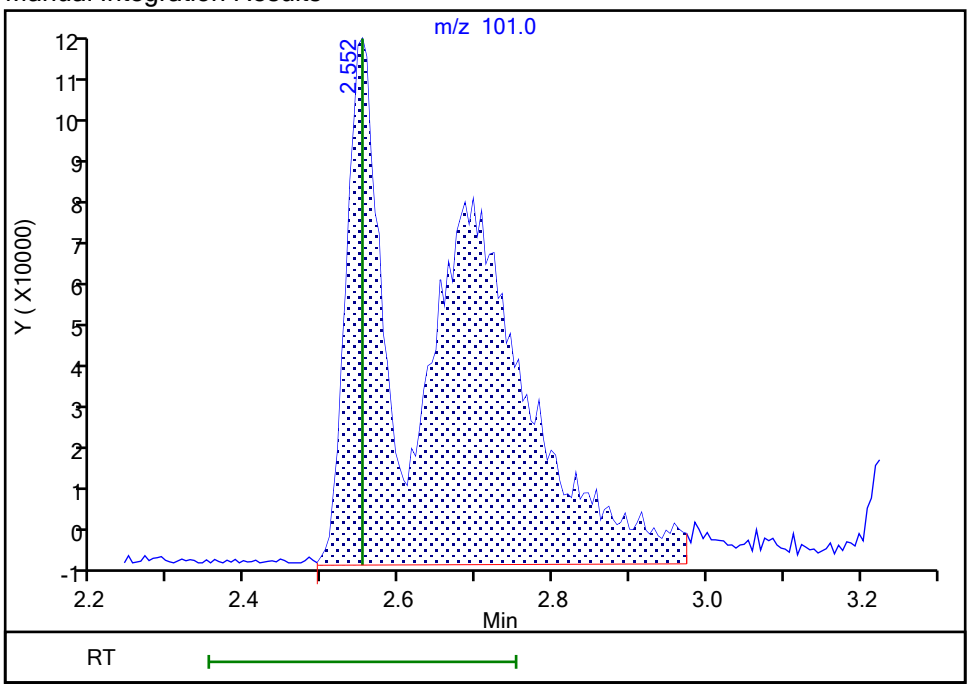

Reviewer: journetp, 23-Dec-2019 09:24:41

Audit Action: Manually Integrated Audit Reason: Poor chromatography

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Client Sample ID: 11187072-N.TREATMENT AREA #2 MS Lab Sample ID: 180-100205-1 MS

Matrix: Solid (TCLP) Lab File ID: 4122314.D

Analysis Method: EPA 8260C Date Collected: 12/18/2019 13:30

Sample wt/vol: 0.125(mL) Date Analyzed: 12/23/2019 12:15

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 302272 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	1.51		0.20	0.16
71-55-6	1,1,1-Trichloroethane	1.60		0.20	0.10
107-06-2	1,2-Dichloroethane	1.60		0.20	0.058
79-34-5	1,1,2,2-Tetrachloroethane	1.55		0.20	0.12
78-93-3	2-Butanone (MEK)	0.892		0.20	0.12
71-43-2	Benzene	1.49		0.20	0.079
79-00-5	1,1,2-Trichloroethane	1.61		0.20	0.096
56-23-5	Carbon tetrachloride	1.56		0.20	0.13
108-90-7	Chlorobenzene	1.60		0.20	0.063
67-66-3	Chloroform	1.34		0.20	0.085
127-18-4	Tetrachloroethene	1.38		0.20	0.080
79-01-6	Trichloroethene	1.42		0.20	0.060
96-18-4	1,2,3-Trichloropropane	1.44		0.20	0.11
75-01-4	Vinyl chloride	1.18		0.20	0.15
75-35-4	1,1-Dichloroethene	1.19		0.20	0.11
542-75-6	1,3-Dichloropropene, Total	3.18		0.40	0.13
106-46-7	1,4-Dichlorobenzene	1.49		0.20	0.041
108-10-1	4-Methyl-2-pentanone (MIBK)	1.02		0.20	0.074
67-64-1	Acetone	0.920		0.80	0.13
107-13-1	Acrylonitrile	17.2		2.0	1.3
75-25-2	Bromoform	1.75		0.20	0.10
74-83-9	Bromomethane	1.07		0.20	0.18
75-15-0	Carbon disulfide	1.20		0.20	0.12
75-27-4	Dichlorobromomethane	1.51		0.20	0.094
75-71-8	Dichlorodifluoromethane	1.14		0.20	0.12
100-41-4	Ethylbenzene	1.48		0.20	0.086
106-93-4	1,2-Dibromoethane	1.66		0.20	0.11
87-68-3	Hexachlorobutadiene	1.46		0.20	0.073
78-83-1	Isobutyl alcohol	37.7		5.0	3.6
75-09-2	Methylene Chloride	1.57		0.20	0.15
100-42-5	Styrene	1.64		0.20	0.053
108-88-3	Toluene	1.55		0.20	0.067
10061-02-6	trans-1,3-Dichloropropene	1.59		0.20	0.069
75-69-4	Trichlorofluoromethane	1.12		0.20	0.058
1330-20-7	Xylenes, Total	2.95		0.40	0.17

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Client Sample ID: 11187072-N.TREATMENT AREA #2 MS Lab Sample ID: 180-100205-1 MS

Matrix: Solid (TCLP) Lab File ID: 4122314.D

Analysis Method: EPA 8260C Date Collected: 12/18/2019 13:30

Sample wt/vol: 0.125(mL) Date Analyzed: 12/23/2019 12:15

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 302272 Units: mg/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	87		58-139
460-00-4	4-Bromofluorobenzene (Surr)	94		64-122
1868-53-7	Dibromofluoromethane (Surr)	84		70-127
2037-26-5	Toluene-d8 (Surr)	87		71-125

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122314.D
Lims ID: 180-100205-A-1-A MS
Client ID:
Sample Type: MS
Inject. Date: 23-Dec-2019 12:15:30 ALS Bottle#: 14 Worklist Smp#: 14
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0030118-014
Operator ID: 034635 Instrument ID: CHHP4

Method: \\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\MSVOA_CHHP4.m
Limit Group: VOA 8260C_D ICAL
Last Update: 24-Dec-2019 13:17:01 Calib Date: 14-Nov-2019 12:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114008.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0309

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.127	4.096	0.031	88	316538	5000.0	5000.0	
* 2 Fluorobenzene (IS)	96	7.156	7.157	-0.001	98	1968485	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.270	10.271	-0.001	98	499115	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.626	12.627	-0.001	91	812177	250.0	250.0	
$ 5 Dibromofluoromethane (Surr	113	6.429	6.420	0.009	0	692042	250.0	210.3	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.803	6.799	0.004	0	681562	250.0	218.2	
$ 7 Toluene-d8 (Surr)	98	8.812	8.813	-0.001	0	2881653	250.0	216.4	
$ 8 4-Bromofluorobenzene (Surr	95	11.467	11.468	-0.001	0	1177207	250.0	236.1	
$ 141 Total BTEX	95		0.000				ND	ND	
10 Dichlorodifluoromethane	85	1.658	1.617	0.041	97	643978	200.0	143.0	
11 Chloromethane	50	1.910	1.831	0.079	45	586169	200.0	161.3	Ma
12 Vinyl chloride	62	1.984	1.938	0.046	51	660149	200.0	147.5	M
13 Butadiene	39	1.920	1.970	-0.050	93	643269	200.0	133.4	M
14 Bromomethane	94	2.230	2.285	-0.055	90	385450	200.0	133.9	M
15 Chloroethane	64	2.374	2.418	-0.044	97	402982	200.0	122.7	M
17 Trichlorofluoromethane	101	2.567	2.552	0.015	97	891977	200.0	140.2	
16 Dichlorofluoromethane	67	2.625	2.691	-0.066	98	960039	200.0	136.7	M
19 Ethyl ether	59	2.946	2.942	0.004	87	354233	200.0	169.2	
20 Acrolein	56	3.122	3.108	0.014	0	222054	875.0	575.1	
21 1,1-Dichloroethene	96	3.229	3.209	0.020	98	577360	200.0	148.7	
23 Acetone	43	3.320	3.311	0.009	100	127413	200.0	115.0	
24 Iodomethane	142	3.416	3.407	0.009	98	959312	200.0	232.2	M
22 1,1,2-Trichloro-1,2,2-trif	101	3.357	3.449	-0.092	93	631504	200.0	156.7	M
25 Carbon disulfide	76	3.507	3.492	0.015	99	1767468	200.0	149.7	
28 3-Chloro-1-propene	76	3.774	3.765	0.009	90	498351	200.0	174.9	
29 Methyl acetate	43	3.806	3.786	0.020	96	420184	400.0	400.7	a
30 Methylene Chloride	84	3.998	3.984	0.014	88	721001	200.0	196.0	M
31 2-Methyl-2-propanol	59	4.271	4.251	0.020	99	205675	2000.0	1732.4	
32 Acrylonitrile	53	4.372	4.363	0.009	98	1027059	2000.0	2152.9	
33 trans-1,2-Dichloroethene	96	4.420	4.411	0.009	99	681946	200.0	178.5	
34 Methyl tert-butyl ether	73	4.431	4.422	0.009	94	915098	200.0	166.5	
35 Hexane	57	4.842	4.833	0.009	90	1000502	200.0	154.5	
36 1,1-Dichloroethane	63	5.061	5.057	0.004	96	1063921	200.0	159.2	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
38 Vinyl acetate	43	5.104	5.100	0.004	0	1041126	200.0	257.4	
42 cis-1,2-Dichloroethene	96	5.804	5.800	0.004	81	714903	200.0	178.7	
41 2,2-Dichloropropane	97	5.799	5.800	-0.001	60	161087	200.0	183.4	
43 2-Butanone (MEK)	43	5.815	5.821	-0.006	31	131177	200.0	111.5	
46 Chlorobromomethane	128	6.103	6.099	0.004	90	282734	200.0	190.5	
48 Tetrahydrofuran	42	6.124	6.110	0.014	86	159184	400.0	399.5	
49 Chloroform	83	6.242	6.238	0.004	93	1058238	200.0	167.3	
50 1,1,1-Trichloroethane	97	6.402	6.398	0.004	98	989419	200.0	199.7	M
51 Cyclohexane	56	6.477	6.473	0.004	88	1097997	200.0	207.4	
53 Carbon tetrachloride	117	6.573	6.575	-0.002	97	861826	200.0	194.4	M
52 1,1-Dichloropropene	75	6.589	6.585	0.004	97	898629	200.0	162.1	
59 Isobutyl alcohol	41	6.787	6.788	-0.001	96	186133	5000.0	4718.1	
54 Benzene	78	6.808	6.804	0.004	97	2503195	200.0	186.5	
55 1,2-Dichloroethane	62	6.894	6.890	0.004	99	648573	200.0	200.1	
58 n-Heptane	43	7.172	7.173	-0.001	85	954545	200.0	159.3	
61 Trichloroethene	130	7.551	7.547	0.004	98	720380	200.0	176.9	
63 Methylcyclohexane	83	7.786	7.787	-0.001	83	1322485	200.0	179.9	
64 1,2-Dichloropropane	63	7.823	7.819	0.004	93	618767	200.0	180.6	
65 Dibromomethane	93	7.914	7.910	0.004	94	268952	200.0	200.0	
67 1,4-Dioxane	88	7.909	7.910	-0.001	38	79465	4000.0	4709.9	
68 Dichlorobromomethane	83	8.106	8.108	-0.002	100	761953	200.0	188.5	
70 2-Chloroethyl vinyl ether	63	8.406	8.407	-0.001	0	415415	400.0	288.9	
71 cis-1,3-Dichloropropene	75	8.555	8.551	0.004	96	966370	200.0	198.2	
72 4-Methyl-2-pentanone (MIBK	43	8.705	8.701	0.004	94	218371	200.0	128.0	
73 Toluene	91	8.881	8.882	-0.001	98	2703279	200.0	193.2	
74 trans-1,3-Dichloropropene	75	9.137	9.133	0.004	93	731139	200.0	199.4	
75 Ethyl methacrylate	69	9.191	9.192	-0.001	87	551625	200.0	216.3	
76 1,1,2-Trichloroethane	97	9.330	9.326	0.004	91	423330	200.0	201.9	
77 Tetrachloroethene	164	9.394	9.395	-0.001	97	598018	200.0	172.6	
78 1,3-Dichloropropane	76	9.485	9.486	-0.001	89	752200	200.0	196.7	
79 2-Hexanone	43	9.543	9.545	-0.002	95	177910	200.0	124.7	
81 Chlorodibromomethane	129	9.704	9.705	-0.001	90	479746	200.0	197.5	
82 Ethylene Dibromide	107	9.816	9.817	-0.001	98	385463	200.0	207.2	
84 Chlorobenzene	112	10.302	10.303	-0.001	94	1789225	200.0	199.9	
85 1,1,1,2-Tetrachloroethane	131	10.398	10.394	0.004	96	614728	200.0	188.6	
86 Ethylbenzene	106	10.404	10.405	-0.001	98	1053406	200.0	184.7	
87 m-Xylene & p-Xylene	106	10.537	10.533	0.004	0	1298999	200.0	178.7	
88 o-Xylene	106	10.916	10.912	0.004	95	1247618	200.0	189.7	
89 Styrene	104	10.938	10.939	-0.001	93	2000944	200.0	205.4	
90 Bromoform	173	11.125	11.126	-0.001	98	283734	200.0	218.1	
91 Isopropylbenzene	105	11.285	11.286	-0.001	96	3084771	200.0	197.2	
93 1,1,2,2-Tetrachloroethane	83	11.600	11.602	-0.002	65	412455	200.0	194.3	
94 Bromobenzene	156	11.600	11.602	-0.002	90	763894	200.0	183.8	
96 trans-1,4-Dichloro-2-buten	53	11.643	11.639	0.004	86	106419	200.0	250.4	
95 1,2,3-Trichloropropane	110	11.659	11.655	0.004	83	134353	200.0	179.6	
97 N-Propylbenzene	120	11.702	11.703	-0.001	97	972207	200.0	165.1	
98 2-Chlorotoluene	126	11.792	11.788	0.004	97	790386	200.0	165.9	
99 1,3,5-Trimethylbenzene	105	11.889	11.890	-0.001	95	2646956	200.0	174.4	
100 4-Chlorotoluene	126	11.915	11.917	-0.002	97	811917	200.0	171.8	
101 tert-Butylbenzene	119	12.199	12.200	-0.002	92	2301451	200.0	177.8	
103 1,2,4-Trimethylbenzene	105	12.263	12.264	-0.001	97	2676620	200.0	190.5	
104 sec-Butylbenzene	105	12.423	12.424	-0.001	95	3301659	200.0	168.2	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
105 1,3-Dichlorobenzene	146	12.546	12.547	-0.001	96	1471018	200.0	183.9	
106 4-Isopropyltoluene	119	12.583	12.584	-0.001	95	2982789	200.0	182.5	
107 1,4-Dichlorobenzene	146	12.653	12.654	-0.001	93	1448795	200.0	186.4	
110 n-Butylbenzene	91	12.994	12.990	0.004	94	2708216	200.0	182.5	
111 1,2-Dichlorobenzene	146	13.005	13.006	-0.001	96	1257536	200.0	174.9	
112 1,2-Dibromo-3-Chloropropan	75	13.801	13.802	-0.001	87	60672	200.0	147.8	
113 1,2,4-Trichlorobenzene	180	14.624	14.625	-0.001	94	918084	200.0	163.6	
115 Hexachlorobutadiene	225	14.768	14.769	-0.001	93	739578	200.0	182.9	
116 Naphthalene	128	14.891	14.892	-0.001	97	1153144	200.0	153.5	
117 1,2,3-Trichlorobenzene	180	15.110	15.111	-0.001	96	627027	200.0	133.4	
S 130 Xylenes, Total	106				0		400.0	368.3	
S 129 1,2-Dichloroethene, Total	96				0		400.0	357.2	
S 131 1,3-Dichloropropene, Total	1				0		400.0	397.6	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

VOAVAPRI_00031	Amount Added: 8.00	Units: uL	
VOACEVEPRI_00059	Amount Added: 8.00	Units: uL	
VOAACRPRI_00023	Amount Added: 35.00	Units: uL	
VOA8260VOA2ND_00383	Amount Added: 8.00	Units: uL	
VOA8260INT_00102	Amount Added: 10.00	Units: uL	Run Reagent
VOA8260SURR_00102	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 24-Dec-2019 13:17:03 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122314.D				
Injection Date:	23-Dec-2019 12:15:30	Instrument ID:	CHHP4	Operator ID:	034635
Lims ID:	180-100205-A-1-A MS			Worklist Smp#:	14
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

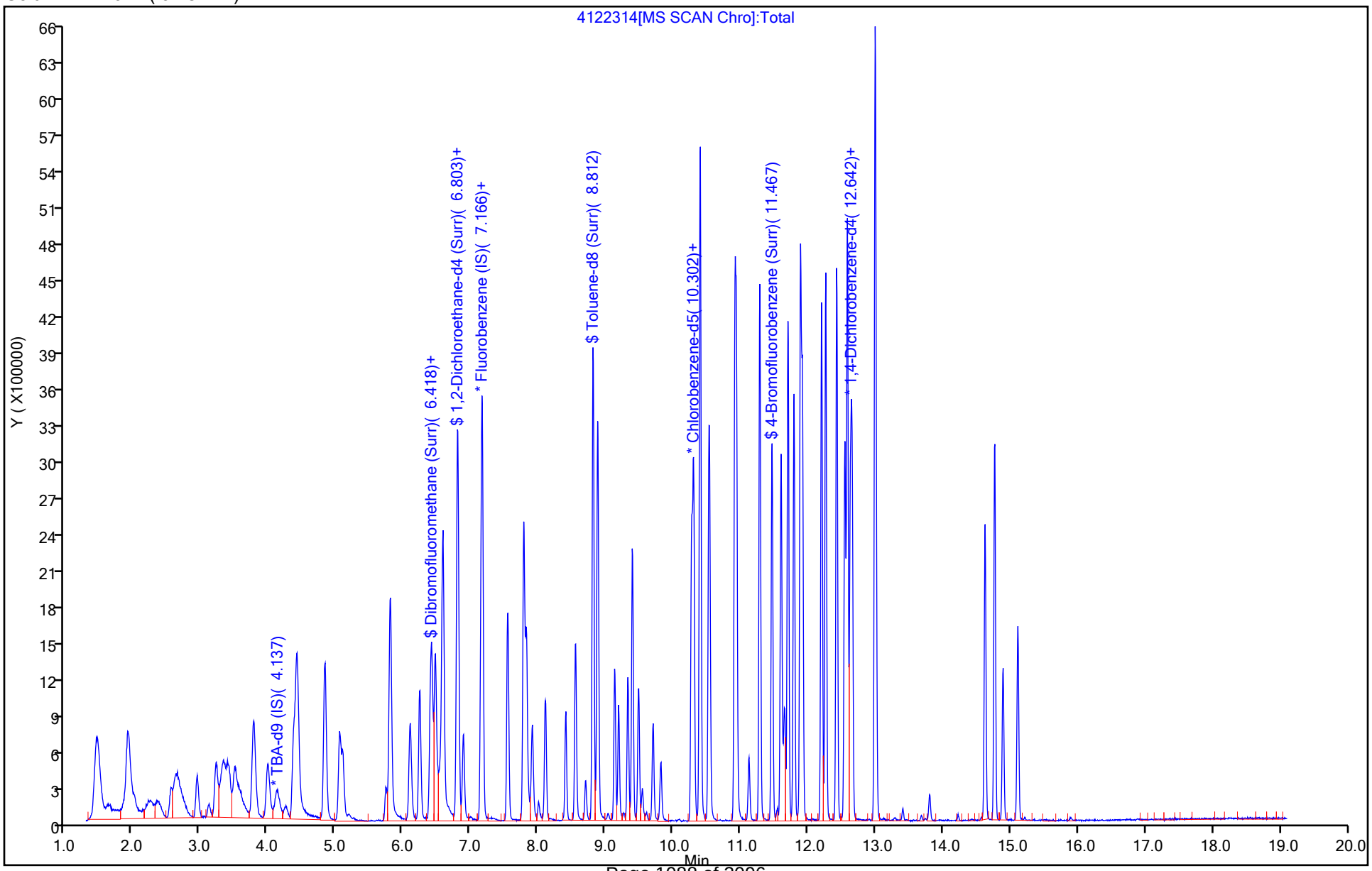

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122314.D
Lims ID: 180-100205-A-1-A MS
Client ID:
Sample Type: MS
Inject. Date: 23-Dec-2019 12:15:30 ALS Bottle#: 14 Worklist Smp#: 14
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0030118-014
Operator ID: 034635 Instrument ID: CHHP4

Method: \\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\MSVOA_CHHP4.m
Limit Group: VOA 8260C_D ICAL
Last Update: 24-Dec-2019 13:17:01 Calib Date: 14-Nov-2019 12:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114008.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0309

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	250.0	210.3	84.11
$ 6 1,2-Dichloroethane-d4 (Surr)	250.0	218.2	87.26
$ 7 Toluene-d8 (Surr)	250.0	216.4	86.57
$ 8 4-Bromofluorobenzene (Surr)	250.0	236.1	94.43

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122314.D				
Injection Date:	23-Dec-2019 12:15:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-1-A MS				
Client ID:					
Operator ID:	034635	ALS Bottle#:	14	Worklist Smp#:	14
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

50 1,1,1-Trichloroethane, CAS: 71-55-6

Signal: 1

Processing Integration Results

RT: 6.40
Area: 789833
Amount: 159.3776
Amount Units: ng

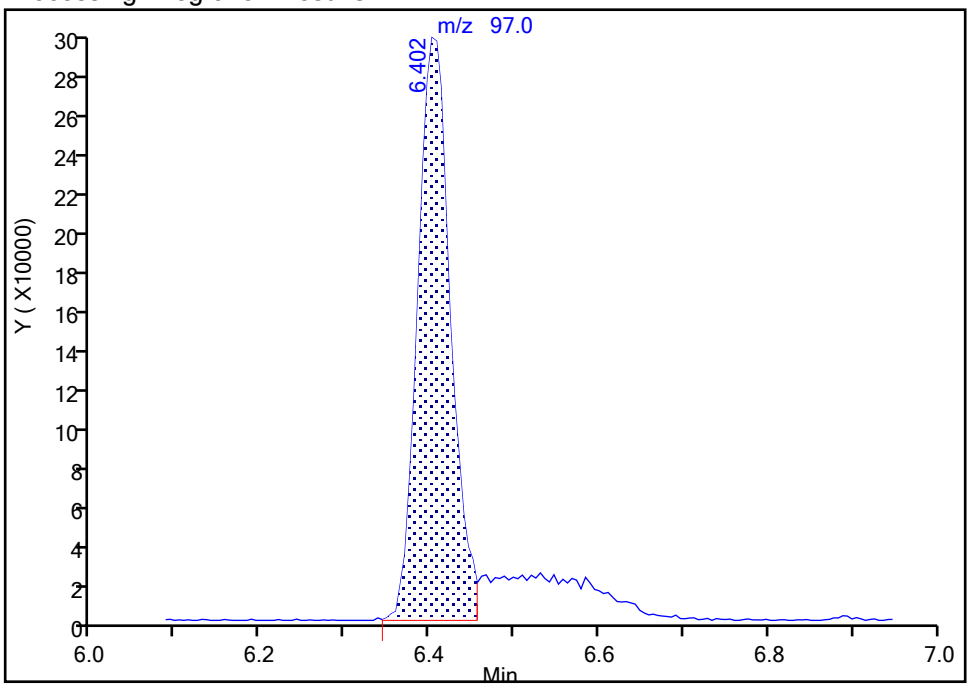

Manual Integration Results

RT: 6.40
Area: 989419
Amount: 199.6514
Amount Units: ng

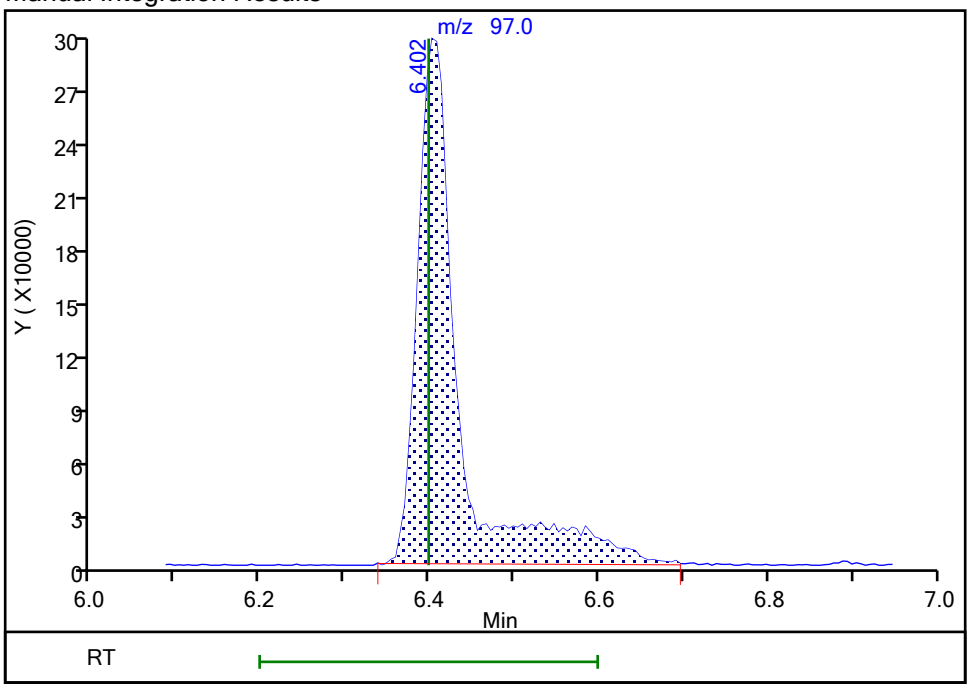

Reviewer: journetp, 24-Dec-2019 10:32:59

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122314.D				
Injection Date:	23-Dec-2019 12:15:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-1-A MS				
Client ID:					
Operator ID:	034635	ALS Bottle#:	14	Worklist Smp#:	14
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

53 Carbon tetrachloride, CAS: 56-23-5

Signal: 1

Processing Integration Results

RT: 6.57
Area: 761492
Amount: 171.7833
Amount Units: ng

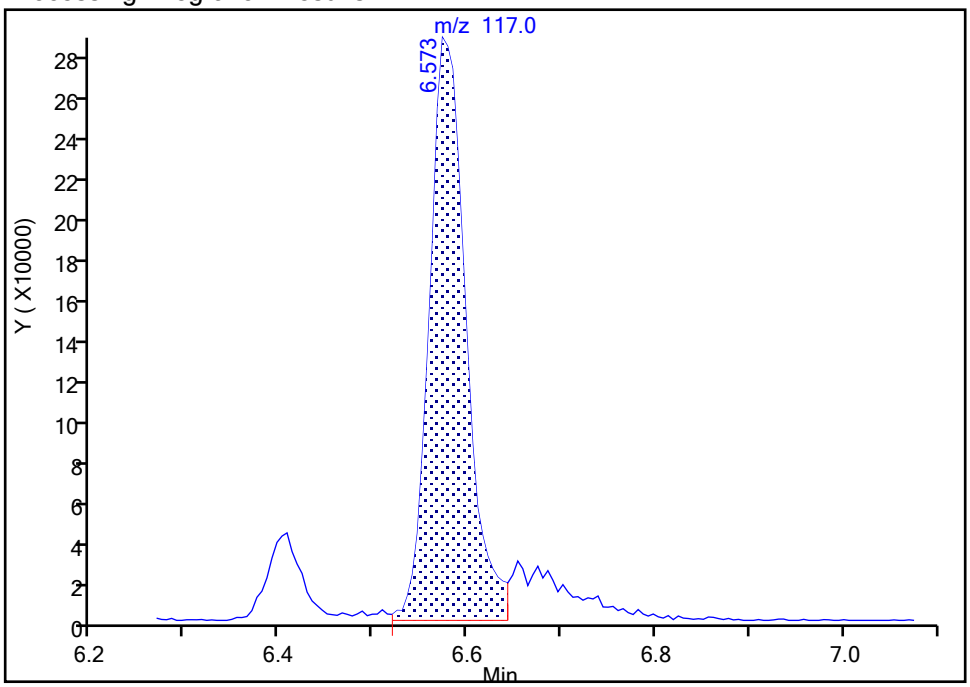

Manual Integration Results

RT: 6.57
Area: 861826
Amount: 194.4174
Amount Units: ng

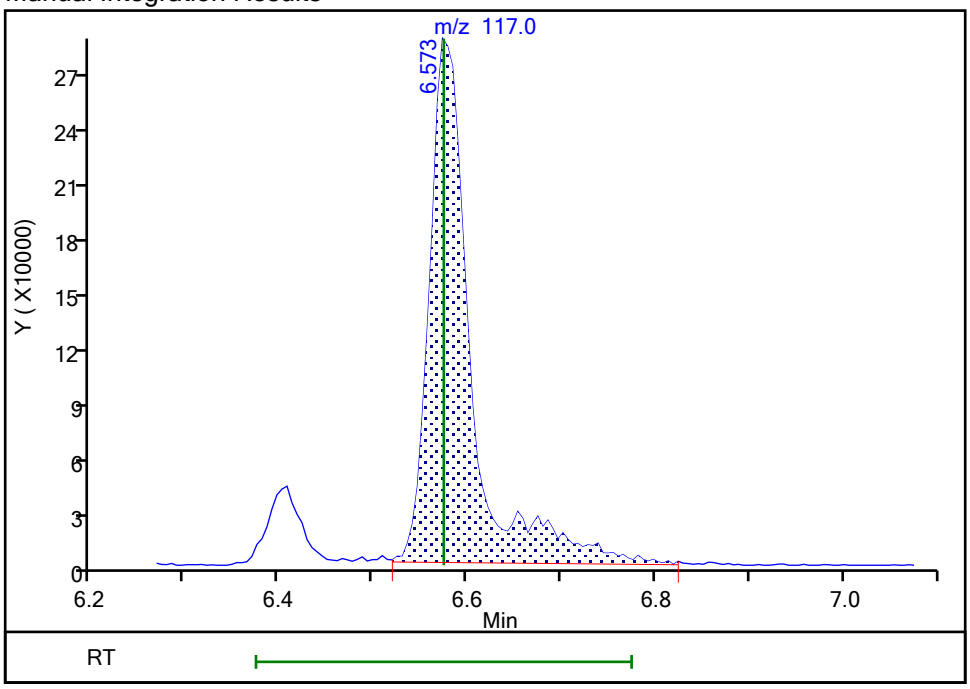

Reviewer: journetp, 24-Dec-2019 10:33:07

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122314.D				
Injection Date:	23-Dec-2019 12:15:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-1-A MS				
Client ID:					
Operator ID:	034635	ALS Bottle#:	14	Worklist Smp#:	14
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

12 Vinyl chloride, CAS: 75-01-4

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 1.94

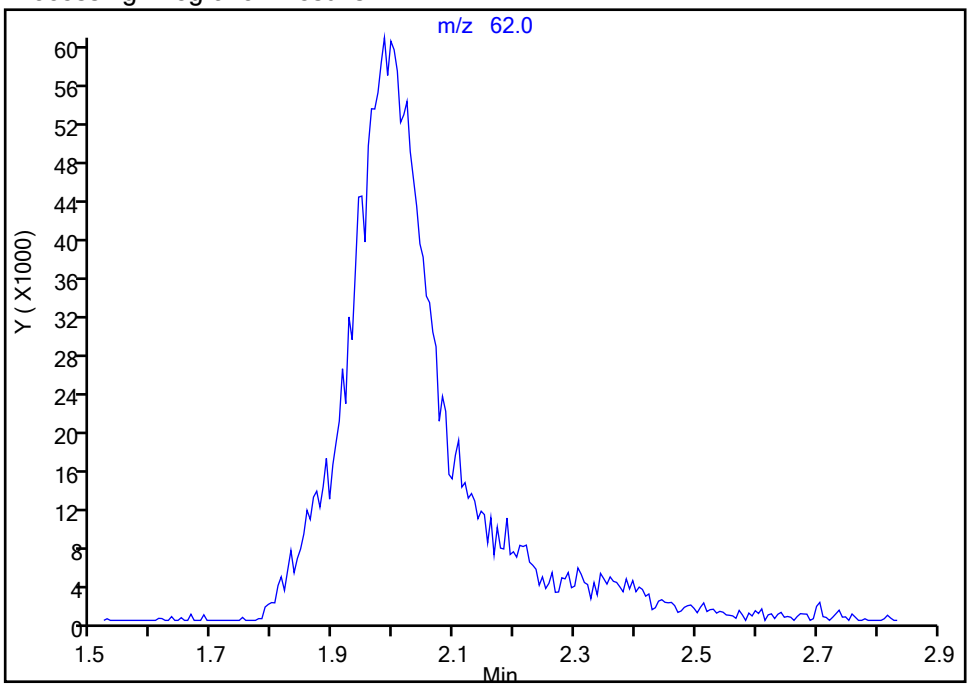

Manual Integration Results

RT: 1.98
Area: 660149
Amount: 147.5079
Amount Units: ng

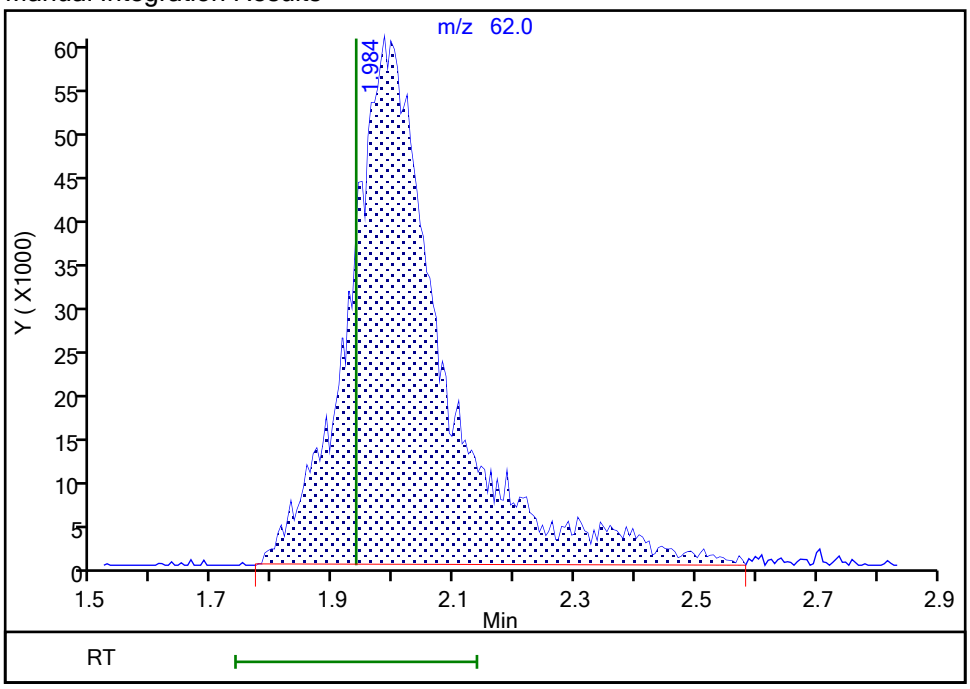

Reviewer: journetp, 24-Dec-2019 10:31:21
Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122314.D				
Injection Date:	23-Dec-2019 12:15:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-1-A MS				
Client ID:					
Operator ID:	034635	ALS Bottle#:	14	Worklist Smp#:	14
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

14 Bromomethane, CAS: 74-83-9

Signal: 1

Processing Integration Results

RT: 2.23
Area: 361545
Amount: 125.5588
Amount Units: ng

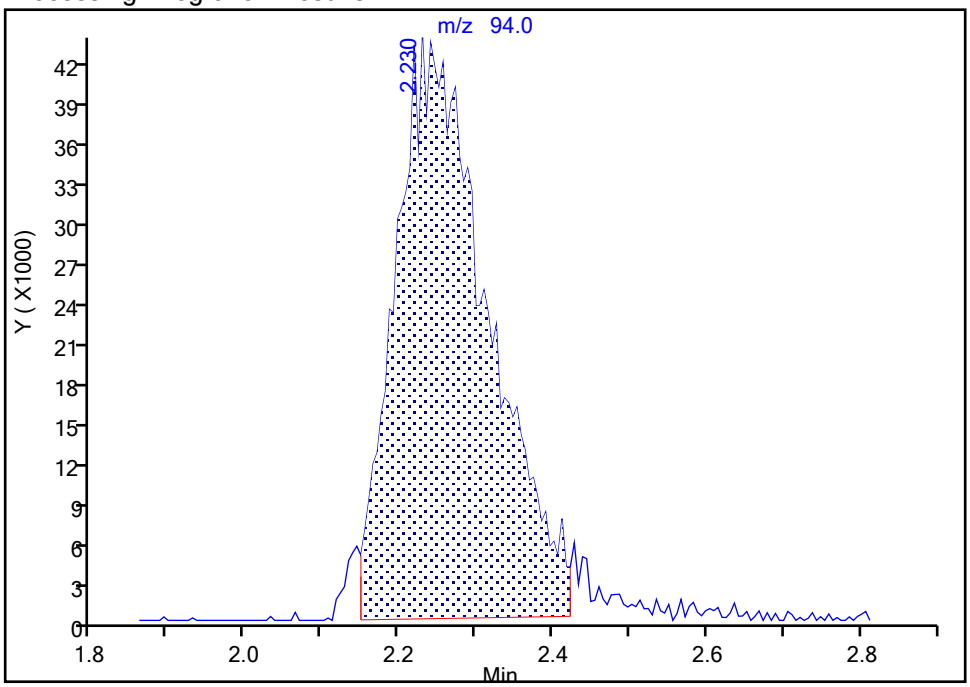

Manual Integration Results

RT: 2.23
Area: 385450
Amount: 133.8606
Amount Units: ng

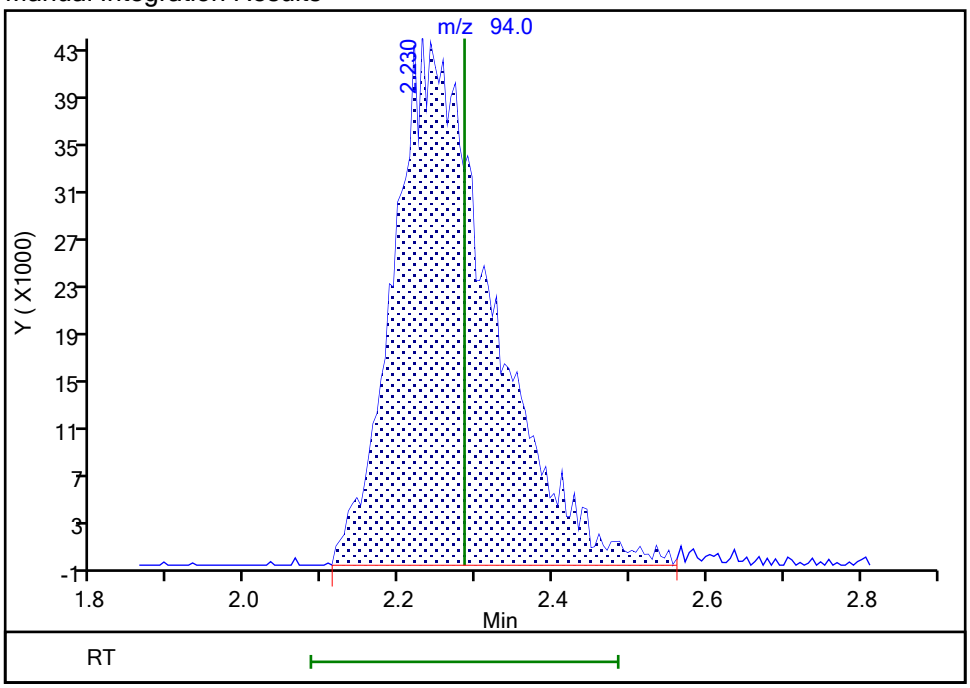

Reviewer: journetp, 24-Dec-2019 10:31:31

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122314.D				
Injection Date:	23-Dec-2019 12:15:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-1-A MS				
Client ID:					
Operator ID:	034635	ALS Bottle#:	14	Worklist Smp#:	14
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

30 Methylene Chloride, CAS: 75-09-2

Signal: 1

Processing Integration Results

RT: 4.00
Area: 507641
Amount: 138.0175
Amount Units: ng

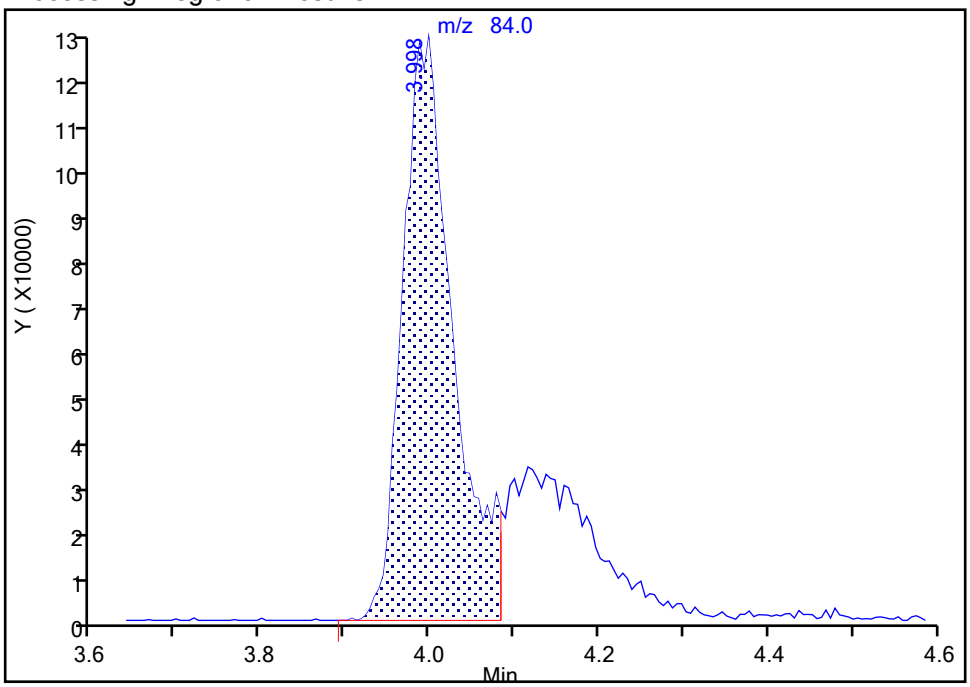

Manual Integration Results

RT: 4.00
Area: 721001
Amount: 196.0258
Amount Units: ng

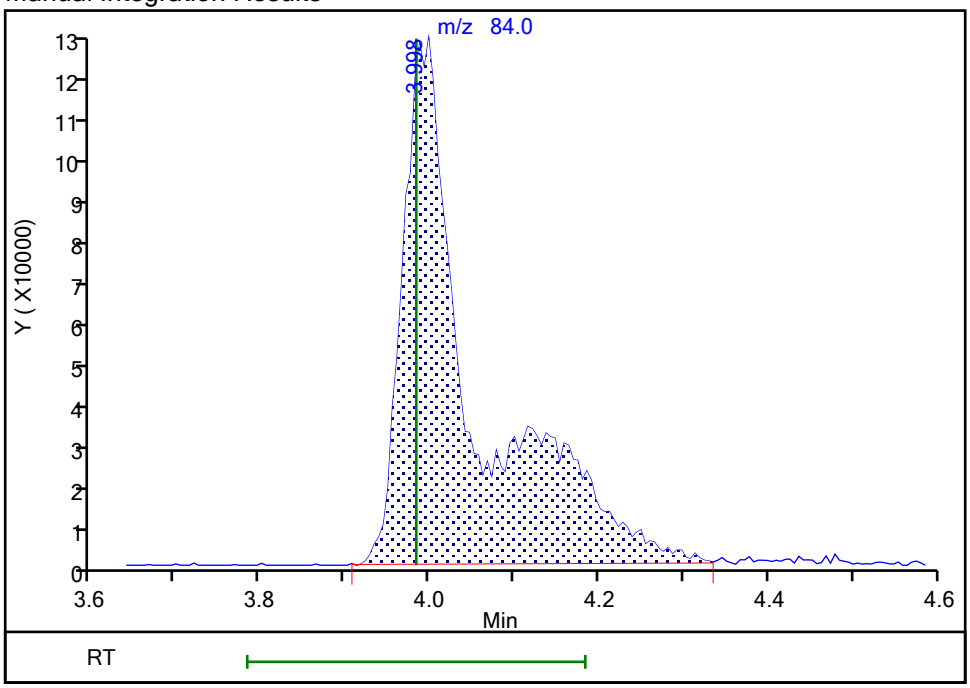

Reviewer: journetp, 24-Dec-2019 10:32:44

Audit Action: Manually Integrated Audit Reason: Poor chromatography

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Client Sample ID: 11187072-N.TREATMENT AREA #2 MSD Lab Sample ID: 180-100205-1 MSD

Matrix: Solid (TCLP) Lab File ID: 4122315.D

Analysis Method: EPA 8260C Date Collected: 12/18/2019 13:30

Sample wt/vol: 0.125(mL) Date Analyzed: 12/23/2019 12:42

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 302272 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	1.58		0.20	0.16
71-55-6	1,1,1-Trichloroethane	1.73		0.20	0.10
107-06-2	1,2-Dichloroethane	1.62		0.20	0.058
79-34-5	1,1,2,2-Tetrachloroethane	1.57		0.20	0.12
78-93-3	2-Butanone (MEK)	0.851		0.20	0.12
71-43-2	Benzene	1.62		0.20	0.079
79-00-5	1,1,2-Trichloroethane	1.63		0.20	0.096
56-23-5	Carbon tetrachloride	1.44		0.20	0.13
108-90-7	Chlorobenzene	1.70		0.20	0.063
67-66-3	Chloroform	1.45		0.20	0.085
127-18-4	Tetrachloroethene	1.61		0.20	0.080
79-01-6	Trichloroethene	1.56		0.20	0.060
96-18-4	1,2,3-Trichloropropane	1.64		0.20	0.11
75-01-4	Vinyl chloride	1.29		0.20	0.15
75-35-4	1,1-Dichloroethene	1.31		0.20	0.11
542-75-6	1,3-Dichloropropene, Total	3.23		0.40	0.13
106-46-7	1,4-Dichlorobenzene	1.58		0.20	0.041
108-10-1	4-Methyl-2-pentanone (MIBK)	1.06		0.20	0.074
67-64-1	Acetone	0.961		0.80	0.13
107-13-1	Acrylonitrile	16.0		2.0	1.3
75-25-2	Bromoform	1.36		0.20	0.10
74-83-9	Bromomethane	1.14		0.20	0.18
75-15-0	Carbon disulfide	1.17		0.20	0.12
75-27-4	Dichlorobromomethane	1.50		0.20	0.094
75-71-8	Dichlorodifluoromethane	1.24		0.20	0.12
100-41-4	Ethylbenzene	1.64		0.20	0.086
106-93-4	1,2-Dibromoethane	1.68		0.20	0.11
87-68-3	Hexachlorobutadiene	1.60		0.20	0.073
78-83-1	Isobutyl alcohol	38.3		5.0	3.6
75-09-2	Methylene Chloride	1.66		0.20	0.15
100-42-5	Styrene	1.75		0.20	0.053
108-88-3	Toluene	1.66		0.20	0.067
10061-02-6	trans-1,3-Dichloropropene	1.60		0.20	0.069
75-69-4	Trichlorofluoromethane	1.15		0.20	0.058
1330-20-7	Xylenes, Total	3.24		0.40	0.17

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Client Sample ID: 11187072-N.TREATMENT AREA #2 MSD Lab Sample ID: 180-100205-1 MSD

Matrix: Solid (TCLP) Lab File ID: 4122315.D

Analysis Method: EPA 8260C Date Collected: 12/18/2019 13:30

Sample wt/vol: 0.125(mL) Date Analyzed: 12/23/2019 12:42

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-624 ID: 0.18(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 302272 Units: mg/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	86		58-139
460-00-4	4-Bromofluorobenzene (Surr)	93		64-122
1868-53-7	Dibromofluoromethane (Surr)	86		70-127
2037-26-5	Toluene-d8 (Surr)	92		71-125

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122315.D
Lims ID: 180-100205-A-1-A MSD
Client ID:
Sample Type: MSD
Inject. Date: 23-Dec-2019 12:42:30 ALS Bottle#: 15 Worklist Smp#: 15
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0030118-015
Operator ID: 034635 Instrument ID: CHHP4

Method: \\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\MSVOA_CHHP4.m
Limit Group: VOA 8260C_D ICAL
Last Update: 24-Dec-2019 13:16:54 Calib Date: 14-Nov-2019 12:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114008.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0309

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 TBA-d9 (IS)	65	4.133	4.096	0.037	88	295653	5000.0	5000.0	
* 2 Fluorobenzene (IS)	96	7.151	7.157	-0.006	98	1952970	250.0	250.0	
* 3 Chlorobenzene-d5	119	10.277	10.271	0.006	98	488403	250.0	250.0	
* 4 1,4-Dichlorobenzene-d4	152	12.627	12.627	0.000	90	774847	250.0	250.0	
$ 5 Dibromofluoromethane (Surr	113	6.425	6.420	0.005	0	702147	250.0	215.1	
$ 6 1,2-Dichloroethane-d4 (Sur	65	6.799	6.799	0.000	0	662840	250.0	213.8	
$ 7 Toluene-d8 (Surr)	98	8.813	8.813	0.000	0	2994313	250.0	229.8	
$ 8 4-Bromofluorobenzene (Surr	95	11.463	11.468	-0.005	0	1136367	250.0	232.9	
$ 141 Total BTEX	95		0.000				ND	ND	
10 Dichlorodifluoromethane	85	1.606	1.617	-0.011	39	691549	200.0	154.8	M
11 Chloromethane	50	1.815	1.831	-0.016	86	560725	200.0	155.5	M
12 Vinyl chloride	62	1.916	1.938	-0.022	95	716436	200.0	161.4	M
13 Butadiene	39	1.980	1.970	0.010	94	788442	200.0	164.8	M
14 Bromomethane	94	2.279	2.285	-0.006	84	408084	200.0	142.8	M
15 Chloroethane	64	2.440	2.418	0.022	97	461836	200.0	140.8	M
17 Trichlorofluoromethane	101	2.557	2.552	0.005	97	911060	200.0	144.3	M
16 Dichlorofluoromethane	67	2.675	2.691	-0.016	96	1010700	200.0	145.0	M
19 Ethyl ether	59	2.942	2.942	0.000	87	363282	200.0	174.9	
20 Acrolein	56	3.118	3.108	0.010	0	180599	875.0	471.5	
21 1,1-Dichloroethene	96	3.214	3.209	0.005	98	637573	200.0	164.1	M
23 Acetone	43	3.310	3.311	-0.001	98	132118	200.0	120.2	
24 Iodomethane	142	3.412	3.407	0.005	97	1027380	200.0	250.7	M
22 1,1,2-Trichloro-1,2,2-trif	101	3.476	3.449	0.027	81	696352	200.0	174.2	M
25 Carbon disulfide	76	3.497	3.492	0.005	99	1711973	200.0	146.1	M
28 3-Chloro-1-propene	76	3.770	3.765	0.005	91	618478	200.0	218.8	
29 Methyl acetate	43	3.797	3.786	0.011	96	401474	400.0	385.9	
30 Methylene Chloride	84	3.989	3.984	0.005	88	755123	200.0	206.9	M
31 2-Methyl-2-propanol	59	4.267	4.251	0.016	99	223336	2000.0	2014.1	
32 Acrylonitrile	53	4.379	4.363	0.016	99	945111	2000.0	1996.9	
33 trans-1,2-Dichloroethene	96	4.422	4.411	0.011	98	709269	200.0	187.1	
34 Methyl tert-butyl ether	73	4.427	4.422	0.005	80	855408	200.0	156.9	
35 Hexane	57	4.833	4.833	0.000	90	1160058	200.0	180.6	
36 1,1-Dichloroethane	63	5.057	5.057	0.000	96	1125336	200.0	169.8	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
38 Vinyl acetate	43	5.100	5.100	0.000	0	898611	200.0	223.9	
42 cis-1,2-Dichloroethene	96	5.805	5.800	0.005	80	745631	200.0	187.9	
41 2,2-Dichloropropane	97	5.800	5.800	0.000	62	170336	200.0	195.5	
43 2-Butanone (MEK)	43	5.827	5.821	0.006	35	124182	200.0	106.4	
46 Chlorobromomethane	128	6.099	6.099	0.000	91	290856	200.0	197.5	
48 Tetrahydrofuran	42	6.110	6.110	0.000	67	150140	400.0	379.8	
49 Chloroform	83	6.243	6.238	0.005	93	1141460	200.0	181.9	
50 1,1,1-Trichloroethane	97	6.404	6.398	0.006	98	1060277	200.0	215.6	M
51 Cyclohexane	56	6.473	6.473	0.000	85	1218871	200.0	232.0	M
53 Carbon tetrachloride	117	6.574	6.575	-0.001	95	792023	200.0	180.1	
52 1,1-Dichloropropene	75	6.590	6.585	0.005	96	1023602	200.0	186.2	
59 Isobutyl alcohol	41	6.783	6.788	-0.005	93	187296	5000.0	4785.3	
54 Benzene	78	6.804	6.804	0.000	97	2698595	200.0	202.7	
55 1,2-Dichloroethane	62	6.890	6.890	0.000	98	651664	200.0	202.7	
58 n-Heptane	43	7.173	7.173	0.000	86	1096256	200.0	184.4	
61 Trichloroethene	130	7.547	7.547	0.000	98	789885	200.0	195.5	
63 Methylcyclohexane	83	7.787	7.787	0.000	86	1463426	200.0	200.6	
64 1,2-Dichloropropane	63	7.825	7.819	0.006	93	624176	200.0	183.7	
65 Dibromomethane	93	7.915	7.910	0.005	92	270768	200.0	203.0	
67 1,4-Dioxane	88	7.910	7.910	0.000	37	79429	4000.0	4745.2	
68 Dichlorobromomethane	83	8.108	8.108	0.000	99	751456	200.0	187.4	
70 2-Chloroethyl vinyl ether	63	8.407	8.407	0.000	0	478016	400.0	335.0	
71 cis-1,3-Dichloropropene	75	8.551	8.551	0.000	96	987259	200.0	204.1	
72 4-Methyl-2-pentanone (MIBK	43	8.701	8.701	0.000	95	224323	200.0	132.8	
73 Toluene	91	8.882	8.882	0.000	97	2847260	200.0	208.0	
74 trans-1,3-Dichloropropene	75	9.133	9.133	0.000	93	718094	200.0	200.1	
75 Ethyl methacrylate	69	9.192	9.192	0.000	86	568925	200.0	228.0	
76 1,1,2-Trichloroethane	97	9.331	9.326	0.005	89	418829	200.0	204.1	
77 Tetrachloroethene	164	9.395	9.395	0.000	98	684072	200.0	201.8	
78 1,3-Dichloropropane	76	9.486	9.486	0.000	89	770561	200.0	205.9	
79 2-Hexanone	43	9.545	9.545	0.000	93	179199	200.0	127.7	
81 Chlorodibromomethane	129	9.705	9.705	0.000	90	448415	200.0	188.6	
82 Ethylene Dibromide	107	9.817	9.817	0.000	99	382399	200.0	210.1	
84 Chlorobenzene	112	10.303	10.303	0.000	94	1859023	200.0	212.3	
85 1,1,1,2-Tetrachloroethane	131	10.394	10.394	0.000	97	628772	200.0	197.2	
86 Ethylbenzene	106	10.405	10.405	0.000	98	1142509	200.0	204.7	
87 m-Xylene & p-Xylene	106	10.538	10.533	0.005	0	1413920	200.0	198.8	
88 o-Xylene	106	10.918	10.912	0.006	94	1328404	200.0	206.4	
89 Styrene	104	10.939	10.939	0.000	94	2085186	200.0	218.8	
90 Bromoform	173	11.126	11.126	0.000	98	215688	200.0	169.5	
91 Isopropylbenzene	105	11.286	11.286	0.000	96	3289692	200.0	214.9	
93 1,1,2,2-Tetrachloroethane	83	11.601	11.602	-0.001	64	407851	200.0	196.4	
94 Bromobenzene	156	11.601	11.602	-0.001	91	795190	200.0	200.5	
96 trans-1,4-Dichloro-2-buten	53	11.639	11.639	0.000	69	51123	200.0	126.1	
95 1,2,3-Trichloropropane	110	11.660	11.655	0.005	82	145968	200.0	204.5	
97 N-Propylbenzene	120	11.703	11.703	0.000	96	1054443	200.0	187.6	
98 2-Chlorotoluene	126	11.788	11.788	0.000	97	820296	200.0	180.5	
99 1,3,5-Trimethylbenzene	105	11.890	11.890	0.000	95	2764095	200.0	190.9	
100 4-Chlorotoluene	126	11.917	11.917	0.000	97	854217	200.0	189.4	
101 tert-Butylbenzene	119	12.200	12.200	0.000	92	2445238	200.0	198.1	
103 1,2,4-Trimethylbenzene	105	12.259	12.264	-0.006	97	2773499	200.0	206.9	
104 sec-Butylbenzene	105	12.424	12.424	0.000	95	3504402	200.0	187.2	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
105 1,3-Dichlorobenzene	146	12.547	12.547	0.000	96	1491414	200.0	195.5	
106 4-Isopropyltoluene	119	12.584	12.584	0.000	95	3184032	200.0	204.2	
107 1,4-Dichlorobenzene	146	12.654	12.654	0.000	92	1465743	200.0	197.6	
110 n-Butylbenzene	91	12.990	12.990	0.000	95	2860718	200.0	202.1	
111 1,2-Dichlorobenzene	146	13.006	13.006	0.000	95	1268407	200.0	184.9	
112 1,2-Dibromo-3-Chloropropan	75	13.802	13.802	0.000	85	61058	200.0	155.9	
113 1,2,4-Trichlorobenzene	180	14.625	14.625	0.000	94	973411	200.0	181.8	
115 Hexachlorobutadiene	225	14.769	14.769	0.000	94	769995	200.0	199.6	
116 Naphthalene	128	14.887	14.892	-0.005	97	1301827	200.0	181.7	
117 1,2,3-Trichlorobenzene	180	15.111	15.111	0.000	96	778432	200.0	173.6	
S 130 Xylenes, Total	106				0		400.0	405.1	
S 129 1,2-Dichloroethene, Total	96				0		400.0	374.9	
S 131 1,3-Dichloropropene, Total	1				0		400.0	404.2	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

Reagents:

VOAVAPRI_00031	Amount Added: 8.00	Units: uL	
VOACEVEPRI_00059	Amount Added: 8.00	Units: uL	
VOAACRPRI_00023	Amount Added: 35.00	Units: uL	
VOA8260VOA2ND_00383	Amount Added: 8.00	Units: uL	
VOA8260INT_00102	Amount Added: 10.00	Units: uL	Run Reagent
VOA8260SURR_00102	Amount Added: 10.00	Units: uL	Run Reagent

Report Date: 24-Dec-2019 13:16:56 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122315.D				
Injection Date:	23-Dec-2019 12:42:30	Instrument ID:	CHHP4	Operator ID:	034635
Lims ID:	180-100205-A-1-A MSD			Worklist Smp#:	15
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	15
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		

Column: DB-624 (0.18 mm)

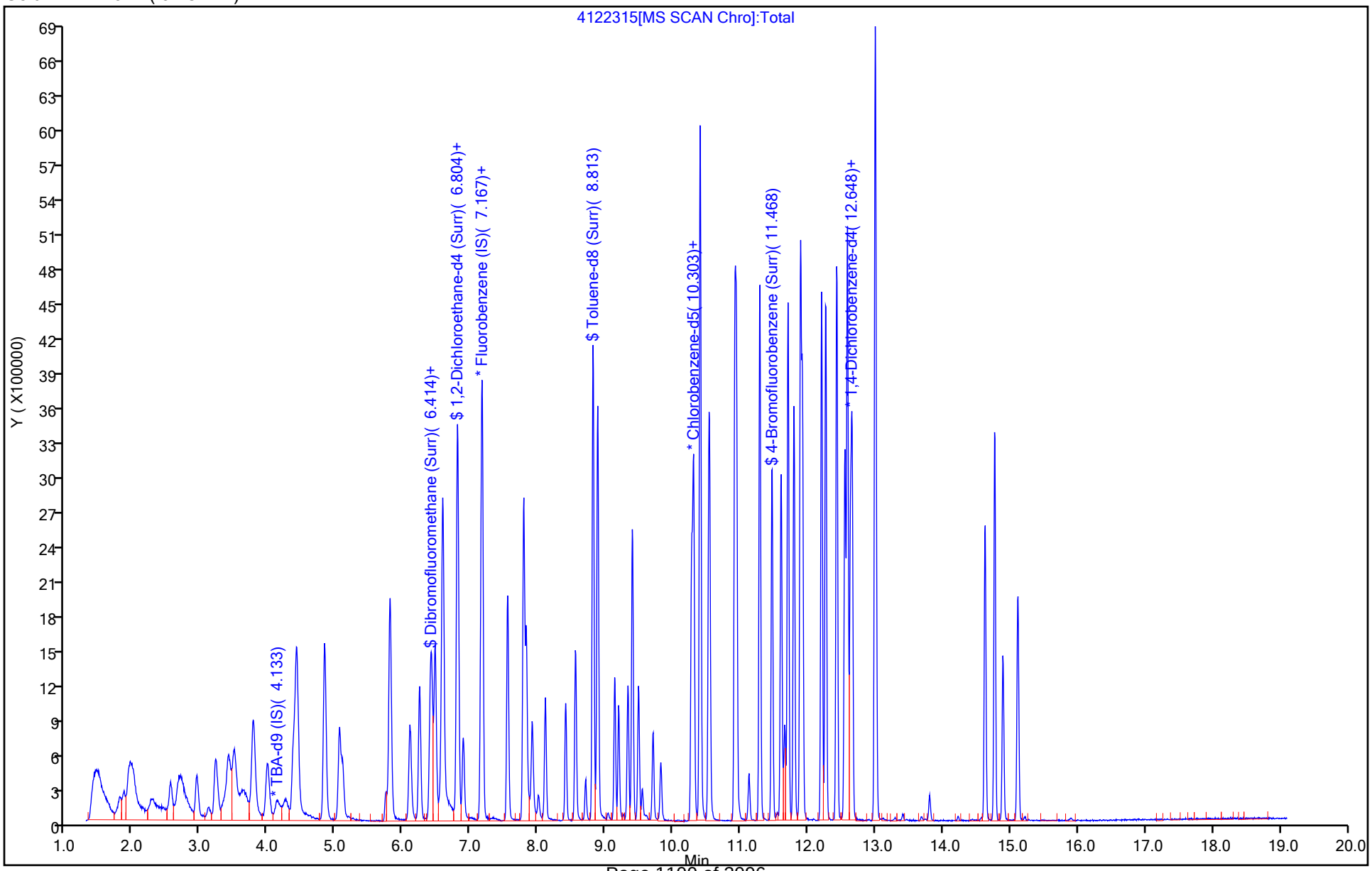

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122315.D
Lims ID: 180-100205-A-1-A MSD
Client ID:
Sample Type: MSD
Inject. Date: 23-Dec-2019 12:42:30 ALS Bottle#: 15 Worklist Smp#: 15
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 180-0030118-015
Operator ID: 034635 Instrument ID: CHHP4

Method: \\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\MSVOA_CHHP4.m
Limit Group: VOA 8260C_D ICAL
Last Update: 24-Dec-2019 13:16:54 Calib Date: 14-Nov-2019 12:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHHP4\20191114-29543.b\41114008.D

Column 1 : DB-624 (0.18 mm) Det: MS SCAN
Process Host: CTX0309

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Dibromofluoromethane (Surr)	250.0	215.1	86.02
$ 6 1,2-Dichloroethane-d4 (Surr)	250.0	213.8	85.54
$ 7 Toluene-d8 (Surr)	250.0	229.8	91.93
$ 8 4-Bromofluorobenzene (Surr)	250.0	232.9	93.15

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122315.D				
Injection Date:	23-Dec-2019 12:42:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-1-A MSD				
Client ID:					
Operator ID:	034635	ALS Bottle#:	15	Worklist Smp#:	15
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

50 1,1,1-Trichloroethane, CAS: 71-55-6

Signal: 1

Processing Integration Results

RT: 6.40
Area: 852770
Amount: 173.4445
Amount Units: ng

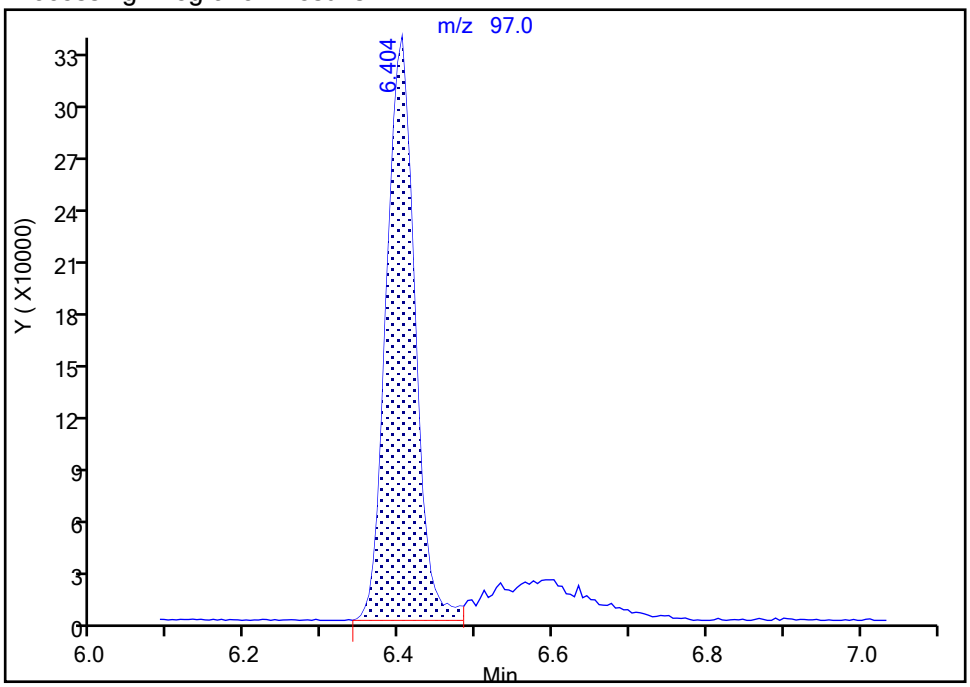

Manual Integration Results

RT: 6.40
Area: 1060277
Amount: 215.6492
Amount Units: ng

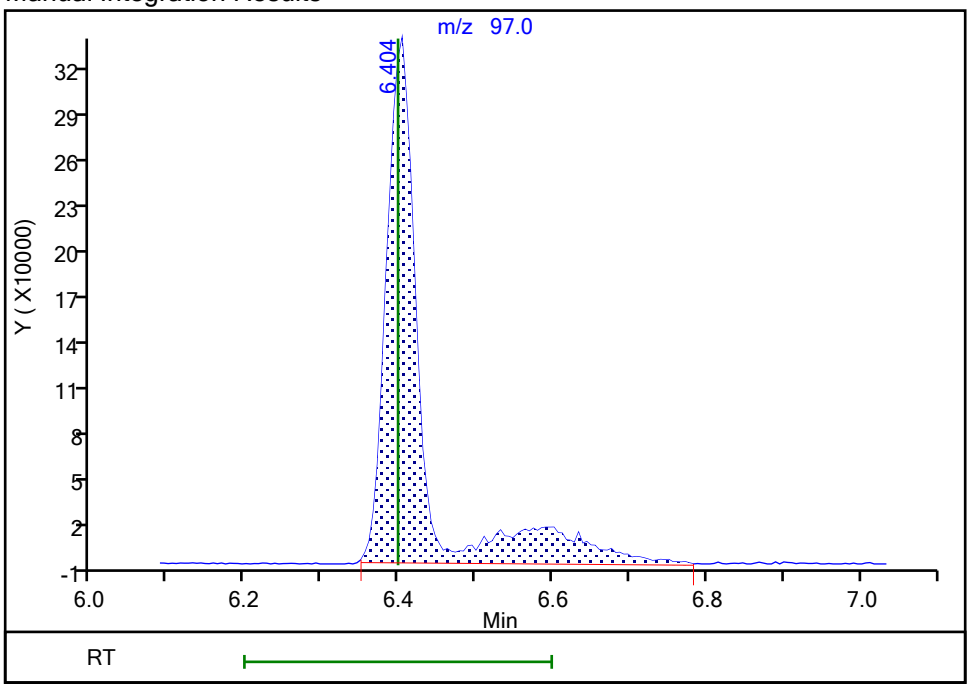

Reviewer: journetp, 24-Dec-2019 10:45:56

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122315.D				
Injection Date:	23-Dec-2019 12:42:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-1-A MSD				
Client ID:					
Operator ID:	034635	ALS Bottle#:	15	Worklist Smp#:	15
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

12 Vinyl chloride, CAS: 75-01-4

Signal: 1

Processing Integration Results

RT: 1.92
Area: 535186
Amount: 120.5354
Amount Units: ng

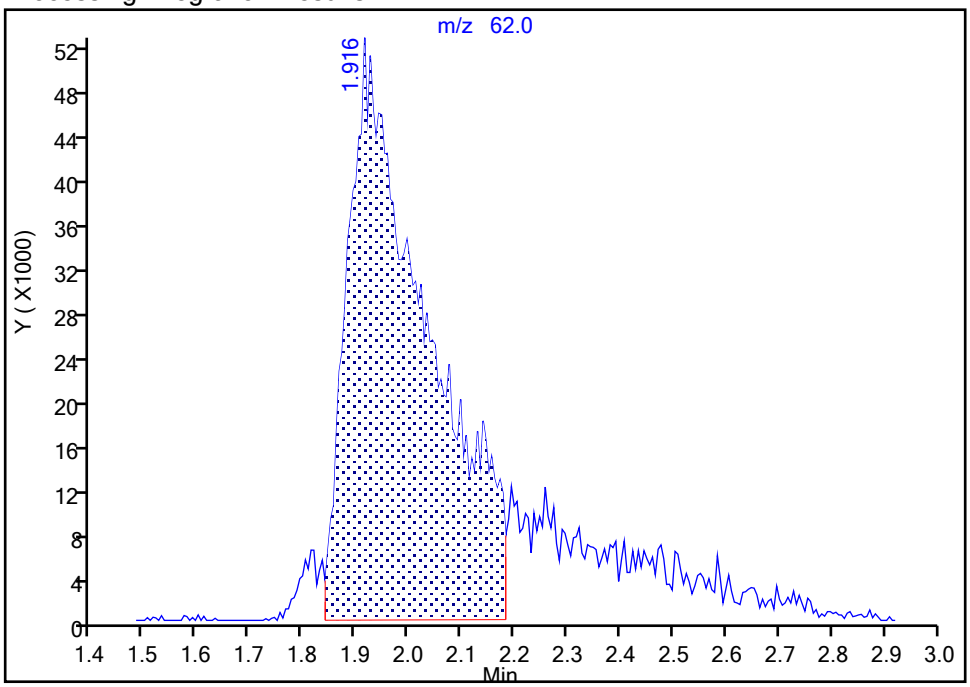

Manual Integration Results

RT: 1.92
Area: 716436
Amount: 161.3568
Amount Units: ng

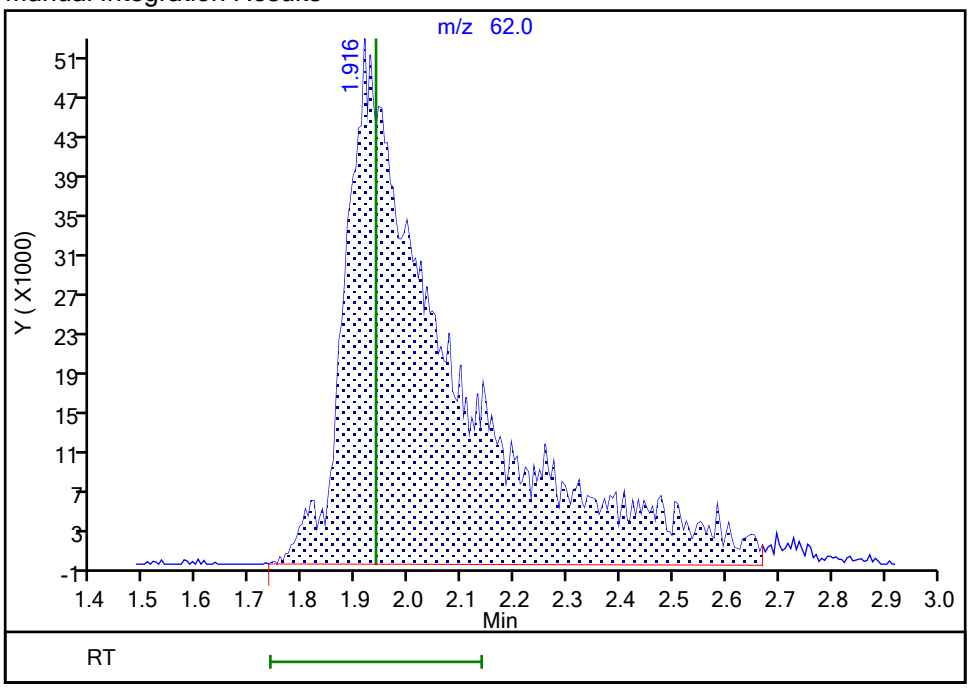

Reviewer: journetp, 24-Dec-2019 10:36:24

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122315.D				
Injection Date:	23-Dec-2019 12:42:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-1-A MSD				
Client ID:					
Operator ID:	034635	ALS Bottle#:	15	Worklist Smp#:	15
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

21 1,1-Dichloroethene, CAS: 75-35-4

Signal: 1

Processing Integration Results

RT: 3.21
Area: 368319
Amount: 100.0208
Amount Units: ng

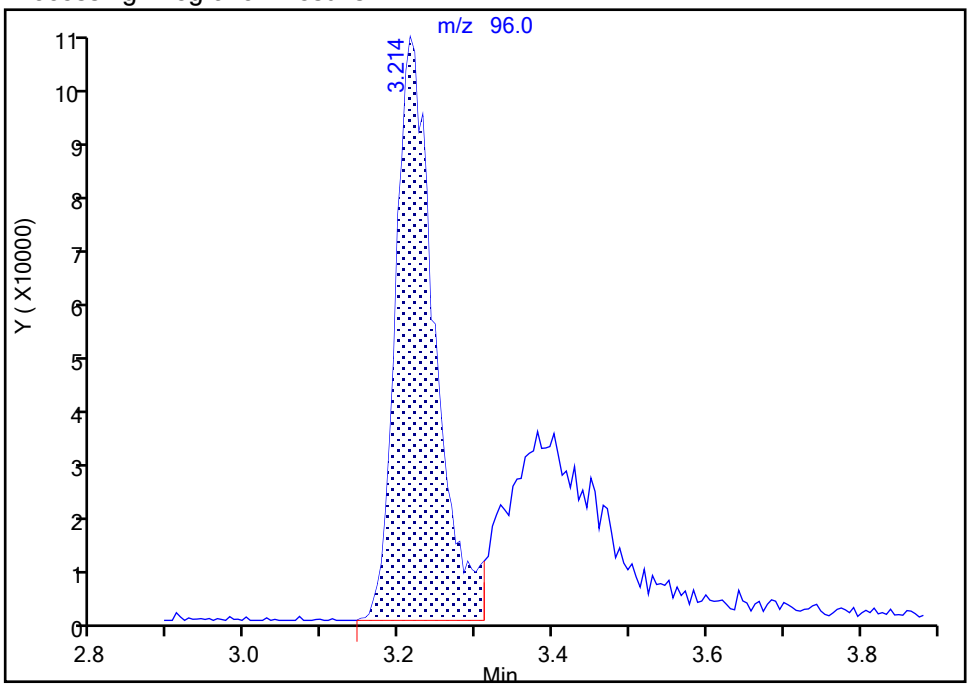

Manual Integration Results

RT: 3.21
Area: 637573
Amount: 164.0979
Amount Units: ng

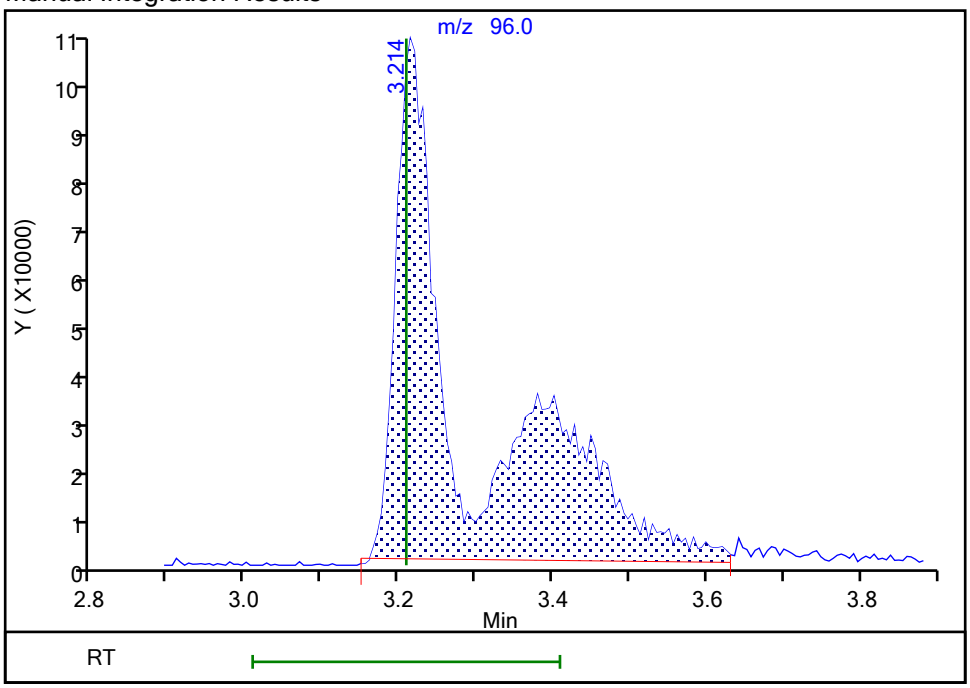

Reviewer: journetp, 24-Dec-2019 10:44:44

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122315.D				
Injection Date:	23-Dec-2019 12:42:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-1-A MSD				
Client ID:					
Operator ID:	034635	ALS Bottle#:	15	Worklist Smp#:	15
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

14 Bromomethane, CAS: 74-83-9

Signal: 1

Processing Integration Results

RT: 2.28
Area: 349377
Amount: 122.2969
Amount Units: ng

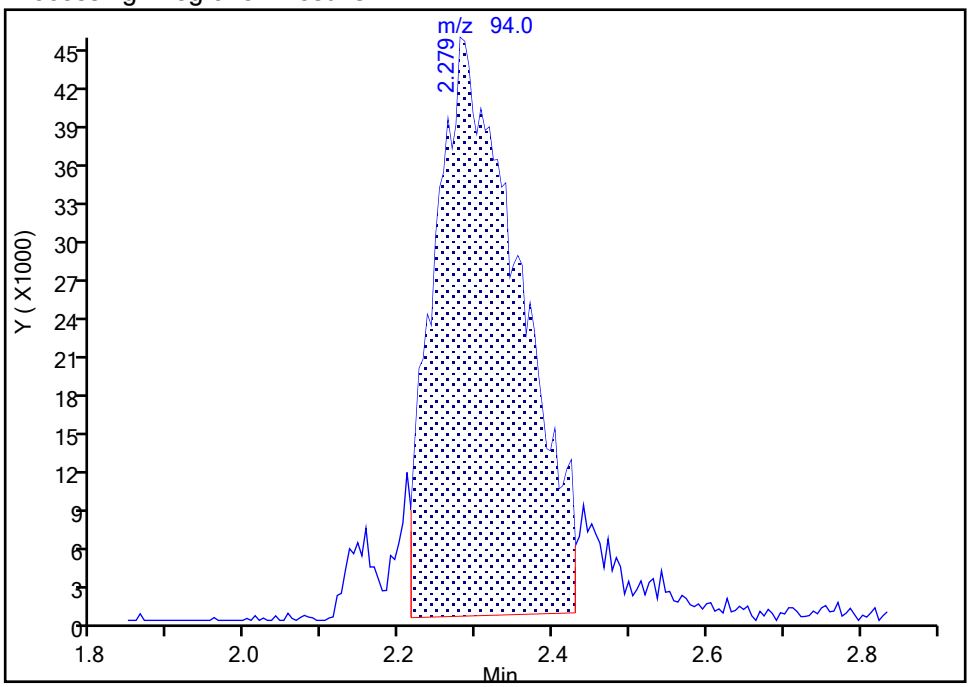

Manual Integration Results

RT: 2.28
Area: 408084
Amount: 142.8469
Amount Units: ng

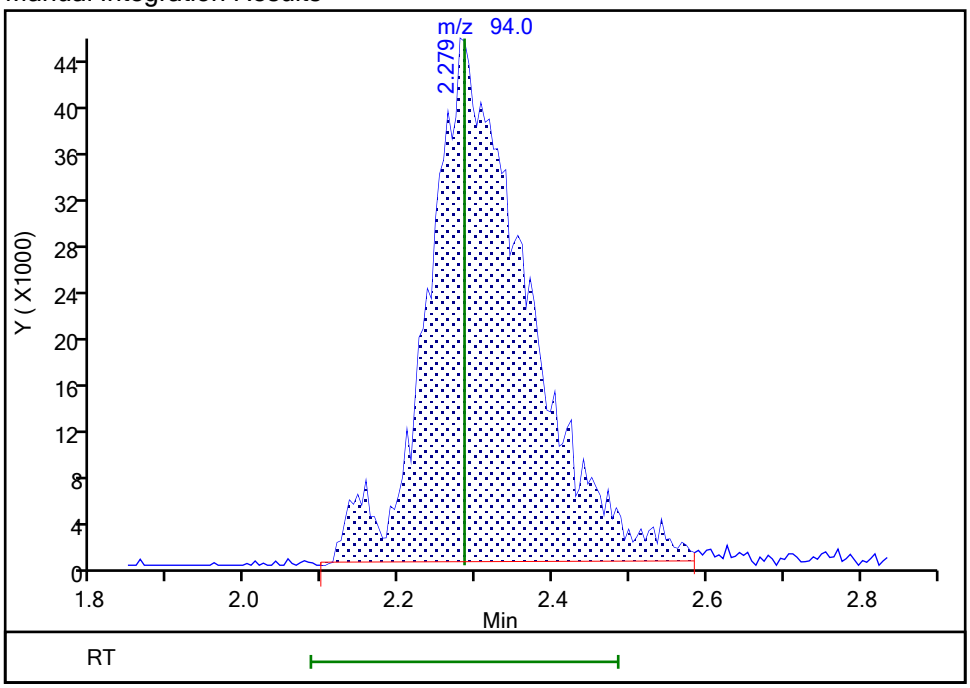

Reviewer: journetp, 24-Dec-2019 10:36:49

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122315.D				
Injection Date:	23-Dec-2019 12:42:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-1-A MSD				
Client ID:					
Operator ID:	034635	ALS Bottle#:	15	Worklist Smp#:	15
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

25 Carbon disulfide, CAS: 75-15-0

Signal: 1

Processing Integration Results

RT: 3.50
Area: 983491
Amount: 83.935867
Amount Units: ng

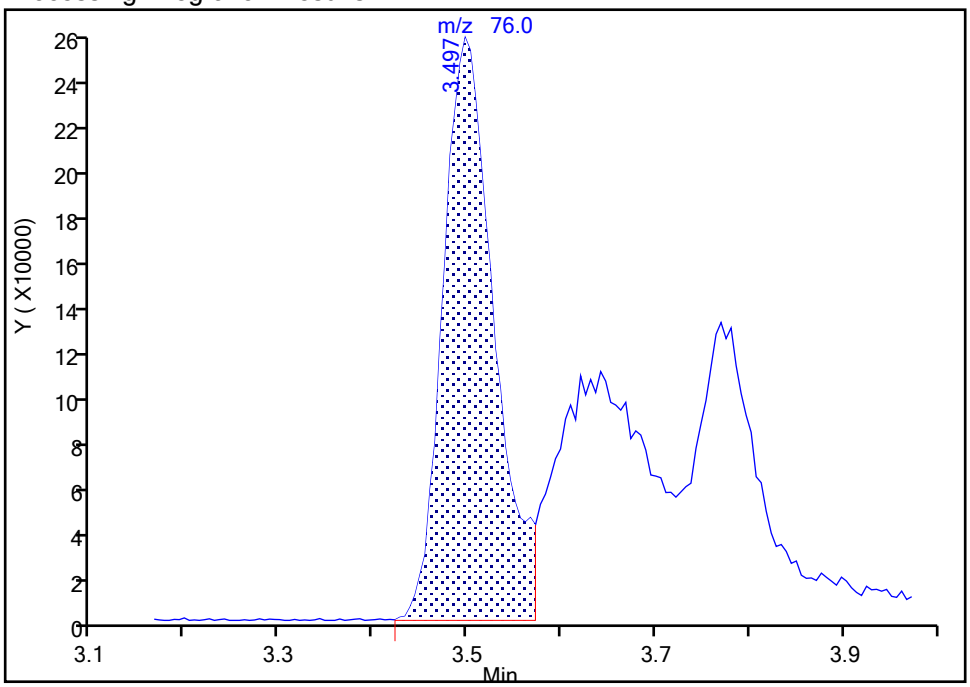

Manual Integration Results

RT: 3.50
Area: 1711973
Amount: 146.1080
Amount Units: ng

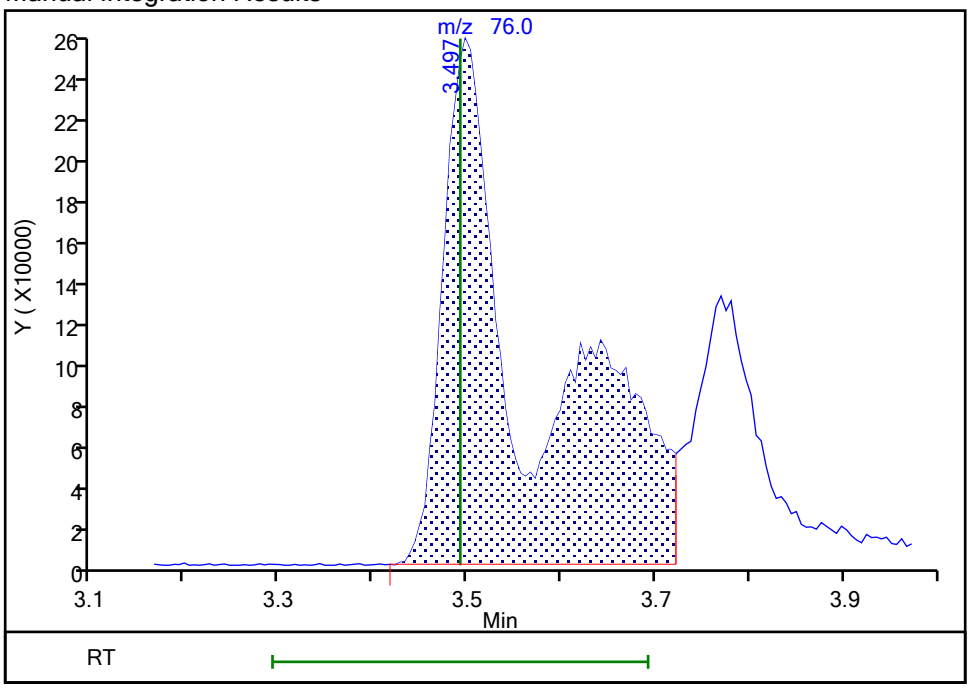

Reviewer: journetp, 24-Dec-2019 10:45:18

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122315.D				
Injection Date:	23-Dec-2019 12:42:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-1-A MSD				
Client ID:					
Operator ID:	034635	ALS Bottle#:	15	Worklist Smp#:	15
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

10 Dichlorodifluoromethane, CAS: 75-71-8

Signal: 1

Processing Integration Results

RT: 1.61
Area: 658924
Amount: 147.4956
Amount Units: ng

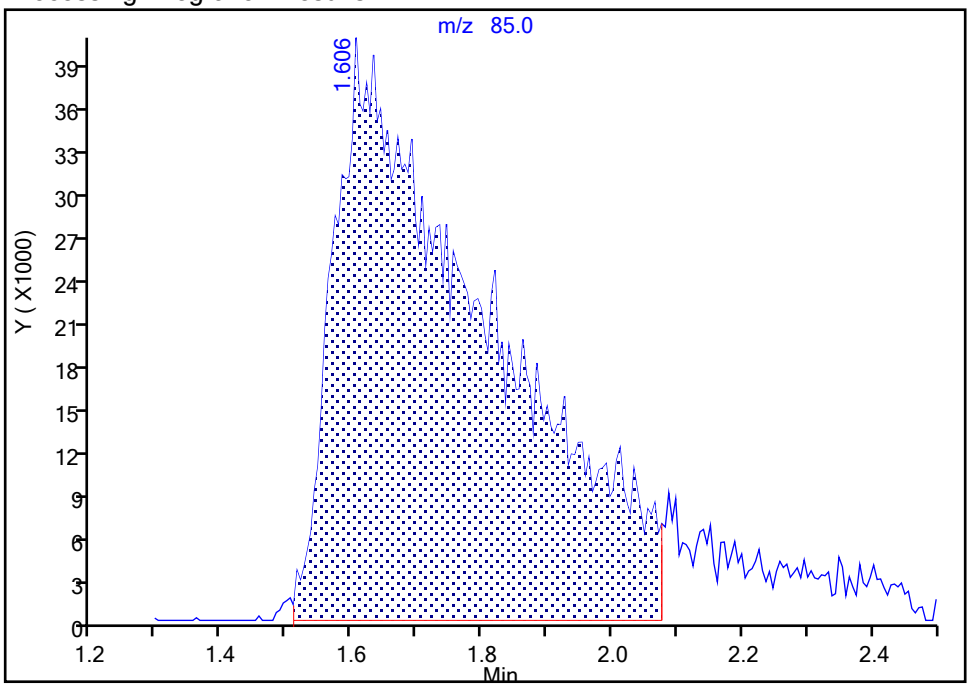

Manual Integration Results

RT: 1.61
Area: 691549
Amount: 154.7985
Amount Units: ng

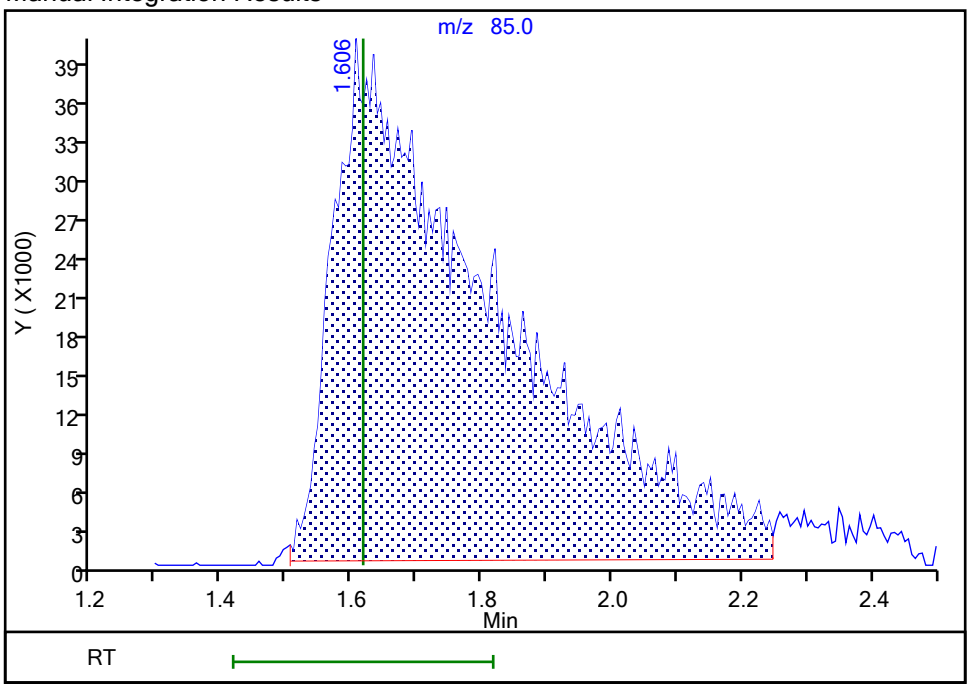

Reviewer: journetp, 24-Dec-2019 10:35:50

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122315.D				
Injection Date:	23-Dec-2019 12:42:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-1-A MSD				
Client ID:					
Operator ID:	034635	ALS Bottle#:	15	Worklist Smp#:	15
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

30 Methylene Chloride, CAS: 75-09-2

Signal: 1

Processing Integration Results

RT: 3.99
Area: 485853
Amount: 133.1432
Amount Units: ng

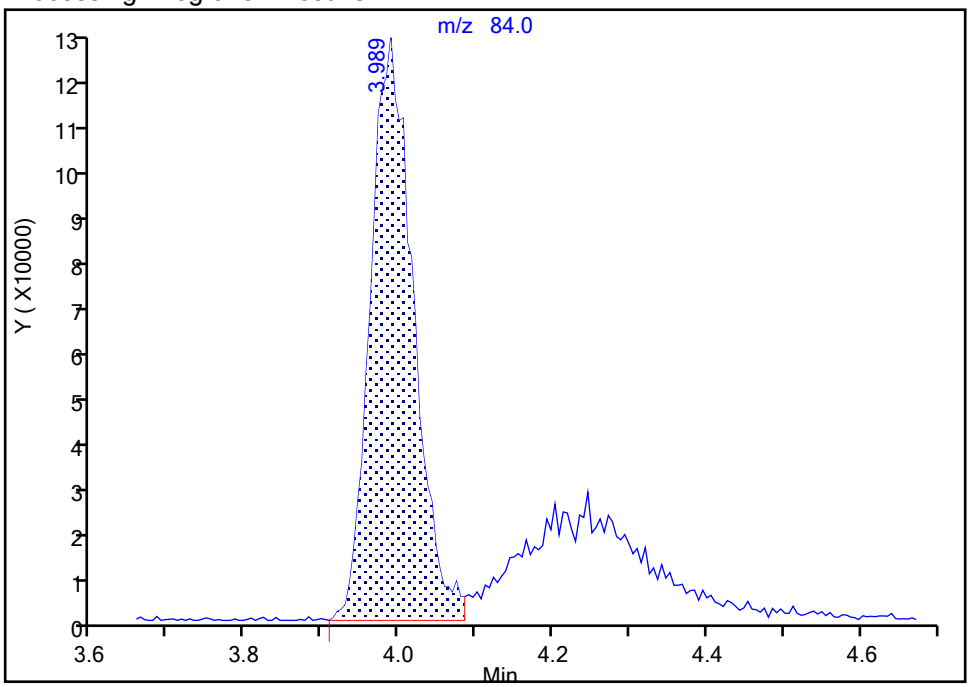

Manual Integration Results

RT: 3.99
Area: 755123
Amount: 206.9339
Amount Units: ng

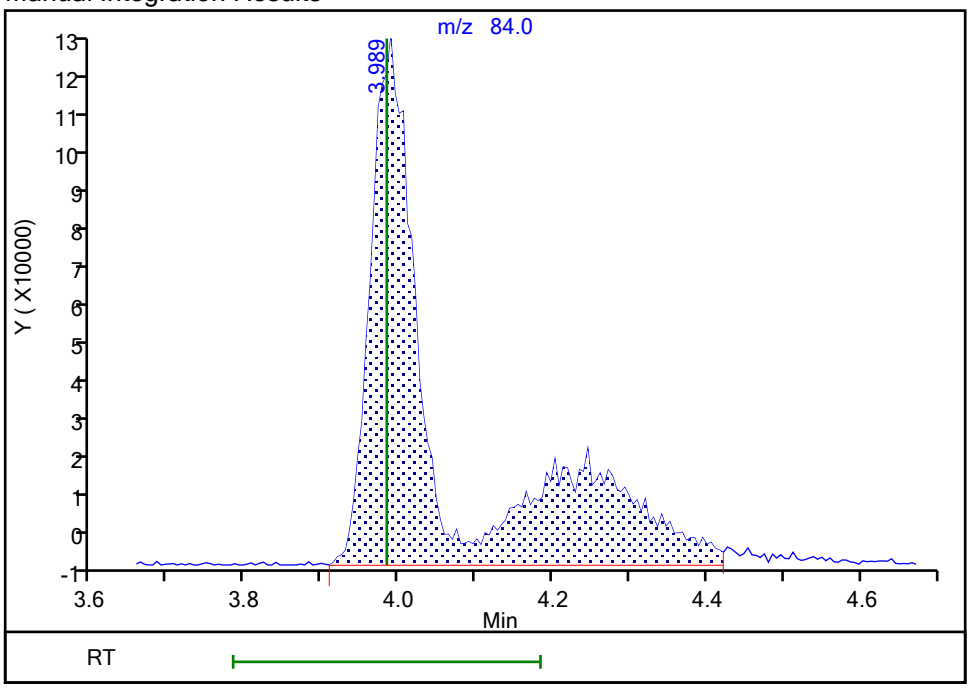

Reviewer: journetp, 24-Dec-2019 10:45:28

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHHP4\20191223-30118.b\4122315.D				
Injection Date:	23-Dec-2019 12:42:30	Instrument ID:	CHHP4		
Lims ID:	180-100205-A-1-A MSD				
Client ID:					
Operator ID:	034635	ALS Bottle#:	15	Worklist Smp#:	15
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVOA_CHHP4	Limit Group:	VOA 8260C_D ICAL		
Column:	DB-624 (0.18 mm)	Detector	MS SCAN		

17 Trichlorofluoromethane, CAS: 75-69-4

Signal: 1

Processing Integration Results

RT: 2.56
Area: 283656
Amount: 44.930471
Amount Units: ng

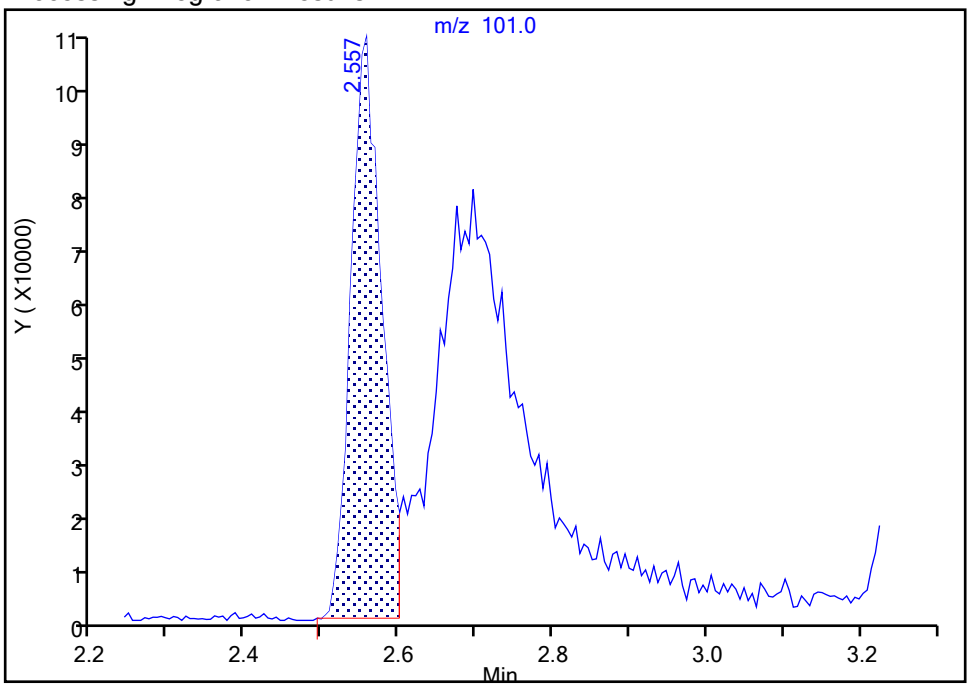

Manual Integration Results

RT: 2.56
Area: 911060
Amount: 144.3099
Amount Units: ng

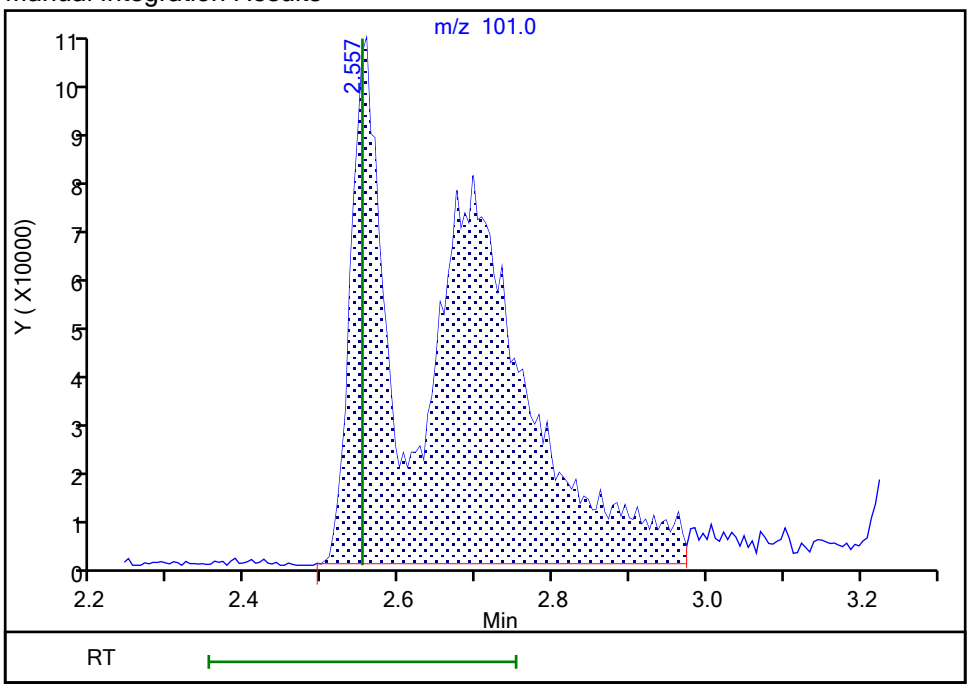

Reviewer: journetp, 24-Dec-2019 10:37:10

Audit Action: Manually Integrated Audit Reason: Poor chromatography

GC/MS VOA ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Instrument ID: CHHP4 Start Date: 02/28/2019 05:31

Analysis Batch Number: 271562 End Date: 03/12/2019 11:19

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 180-271562/1		02/28/2019 05:31	1	40222801.D	DB-624 0.18(mm)
IC 180-271562/4		02/28/2019 07:13	1	40222804.D	DB-624 0.18(mm)
IC 180-271562/5		02/28/2019 07:41	1	40222805.D	DB-624 0.18(mm)
IC 180-271562/6		02/28/2019 08:08	1	40222806.D	DB-624 0.18(mm)
IC 180-271562/7		02/28/2019 08:41	1	40222807.D	DB-624 0.18(mm)
IC 180-271562/8		02/28/2019 09:12	1	40222808.D	DB-624 0.18(mm)
IC 180-271562/9		02/28/2019 09:50	1	40222809.D	DB-624 0.18(mm)
IC 180-271562/18		02/28/2019 14:12	1	40222818.D	DB-624 0.18(mm)
ZZZZZ		02/28/2019 14:49	1		DB-624 0.18(mm)
ICV 180-271562/23		03/12/2019 10:19	1		DB-624 0.18(mm)
ZZZZZ		03/12/2019 11:19	1		DB-624 0.18(mm)

EPA 8260C

GC/MS VOA ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Instrument ID: CHHP4 Start Date: 11/14/2019 06:54

Analysis Batch Number: 298171 End Date: 11/14/2019 17:15

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 180-298171/1		11/14/2019 06:54	1	41114001.D	DB-624 0.18(mm)
ZZZZZ		11/14/2019 06:54	1		DB-624 0.18(mm)
IC 180-298171/2		11/14/2019 07:36	1	41114002.D	DB-624 0.18(mm)
IC 180-298171/3		11/14/2019 08:02	1	41114003.D	DB-624 0.18(mm)
IC 180-298171/4		11/14/2019 08:29	1	41114004.D	DB-624 0.18(mm)
ICIS 180-298171/5		11/14/2019 11:09	1	41114005.D	DB-624 0.18(mm)
IC 180-298171/6		11/14/2019 11:35	1	41114006.D	DB-624 0.18(mm)
IC 180-298171/7		11/14/2019 12:18	1	41114007.D	DB-624 0.18(mm)
IC 180-298171/8		11/14/2019 12:45	1	41114008.D	DB-624 0.18(mm)
ZZZZZ		11/14/2019 15:02	1		DB-624 0.18(mm)
ZZZZZ		11/14/2019 15:02	1		DB-624 0.18(mm)
ZZZZZ		11/14/2019 15:28	1		DB-624 0.18(mm)
ZZZZZ		11/14/2019 15:55	1		DB-624 0.18(mm)
ICV 180-298171/15		11/14/2019 16:22	1		DB-624 0.18(mm)
ICV 180-298171/17		11/14/2019 17:15	1		DB-624 0.18(mm)

EPA 8260C

GC/MS VOA ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Instrument ID: CHHP4 Start Date: 12/23/2019 06:12

Analysis Batch Number: 302272 End Date: 12/23/2019 16:12

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 180-302272/1		12/23/2019 06:12	1	4122301.D	DB-624 0.18(mm)
CCVIS 180-302272/2		12/23/2019 06:57	1	4122302.D	DB-624 0.18(mm)
CCV 180-302272/3		12/23/2019 07:23	1	4122303.D	DB-624 0.18(mm)
LCS 180-302272/4		12/23/2019 07:53	1	4122304.D	DB-624 0.18(mm)
ZZZZZ		12/23/2019 08:19	1		DB-624 0.18(mm)
ZZZZZ		12/23/2019 08:45	1		DB-624 0.18(mm)
LB 180-302046/1-A		12/23/2019 09:12	1	4122307.D	DB-624 0.18(mm)
180-100205-1		12/23/2019 09:39	1	4122308.D	DB-624 0.18(mm)
180-100205-3		12/23/2019 10:05	1	4122309.D	DB-624 0.18(mm)
180-100205-5		12/23/2019 10:32	1	4122310.D	DB-624 0.18(mm)
ZZZZZ		12/23/2019 10:58	100		DB-624 0.18(mm)
ZZZZZ		12/23/2019 11:25	100		DB-624 0.18(mm)
ZZZZZ		12/23/2019 11:50	1		DB-624 0.18(mm)
180-100205-1 MS		12/23/2019 12:15	1	4122314.D	DB-624 0.18(mm)
180-100205-1 MSD		12/23/2019 12:42	1	4122315.D	DB-624 0.18(mm)
ZZZZZ		12/23/2019 13:08	500		DB-624 0.18(mm)
ZZZZZ		12/23/2019 14:00	1		DB-624 0.18(mm)
ZZZZZ		12/23/2019 14:27	1		DB-624 0.18(mm)
ZZZZZ		12/23/2019 14:53	1		DB-624 0.18(mm)
ZZZZZ		12/23/2019 15:20	1		DB-624 0.18(mm)
ZZZZZ		12/23/2019 15:46	500		DB-624 0.18(mm)
ZZZZZ		12/23/2019 16:12	500		DB-624 0.18(mm)

EPA 8260C

GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 302046 Batch Start Date: 12/19/19 16:30 Batch Analyst: Stundon, Jeremy A

Batch Method: EPA 1311 Batch End Date: 12/20/19 09:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	VesselNumber	FiltCompDate	FiltCompTime	LeachatepH
LB 180-302046/1		EPA 1311, EPA 8260C			500 mL	SM	12/20/19	0930	4.93 S.U.
180-100205-A-1	11187072-N.TREATMENT AREA #2	EPA 1311, EPA 8260C	P	25.00 g	500 mL	E2	12/20/19	0930	6.21 S.U.
180-100205-A-3	11187072-N.TREATMENT AREA #3	EPA 1311, EPA 8260C	P	25.00 g	500 mL	B2	12/20/19	0930	5.03 S.U.
180-100205-A-5	11187072-N.TREATMENT AREA #4	EPA 1311, EPA 8260C	P	25.00 g	500 mL	DG	12/20/19	0930	5.02 S.U.

Batch Notes	
Balance ID	AND-14577823
Batch Comment	pH Buffer 13: 3418512 and pH Buffer 7 (second source): 3494553
pH Buffer 1 ID	3519611
pH Buffer 2 ID	3468003
pH Buffer 3 ID	2923701
pH Buffer 4 ID	3505862
First End time	0935
Filter Paper ID	3384581
Minumum Temperature	21 Celsius
pH Meter Calibration Slope	100.5
pH Meter ID	ACCUMET-XL-150
Probe ID	XT3-11598
Room Temperature Thermometer ID	FISHER-160719405 CF 0.0
First Start time	0920
TCLP Fluid 1 ID	3473617
TCLP Fluid pH	4.93 SU
Maximum Temperature	23 Celsius
Tumbler Rotations per Minute	Tumbler 4: 31
Uncorrected Maximum Temperature	23 Celsius
Uncorrected Minimum Temperature	21 Celsius

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 302046 Batch Start Date: 12/19/19 16:30 Batch Analyst: Stundon, Jeremy A

Batch Method: EPA 1311 Batch End Date: 12/20/19 09:00

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 302272 Batch Start Date: 12/23/19 06:12 Batch Analyst: Journet, Patrick

Batch Method: EPA 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	VOA8260INT 00102	VOA8260SURR 00102	VOA8260VOA2ND 00383
BFB 180-302272/1		EPA 8260C		5 mL	5 mL				
CCVIS 180-302272/2		EPA 8260C		5 mL	5 mL		10 uL	8 uL	8 uL
CCV 180-302272/3		EPA 8260C		5 mL	5 mL		10 uL		
LCS 180-302272/4		EPA 8260C		5 mL	5 mL		10 uL	10 uL	8 uL
LB 180-302046/1-A		EPA 8260C		0.5 mL	5 mL	splp SU	10 uL	10 uL	
180-100205-A-1-A	11187072-N.TREATMENT AREA #2	EPA 8260C	P	0.125 mL	5 mL	splp SU	10 uL	10 uL	
180-100205-A-3-A	11187072-N.TREATMENT AREA #3	EPA 8260C	P	0.125 mL	5 mL	splp SU	10 uL	10 uL	
180-100205-A-5-A	11187072-N.TREATMENT AREA #4	EPA 8260C	P	0.125 mL	5 mL	splp SU	10 uL	10 uL	
180-100205-A-1-A MS	11187072-N.TREATMENT AREA #2	EPA 8260C	P	0.125 mL	5 mL	splp SU	10 uL	10 uL	8 uL
180-100205-A-1-A MSD	11187072-N.TREATMENT AREA #2	EPA 8260C	P	0.125 mL	5 mL	splp SU	10 uL	10 uL	8 uL

Lab Sample ID	Client Sample ID	Method Chain	Basis	VOAACRPRI 00023	VOABFB50 00122	VOACEVEPRI 00059	VOALIST22ND 00009	VOAVAPRI 00031	
BFB 180-302272/1		EPA 8260C			1 uL				
CCVIS 180-302272/2		EPA 8260C		35 uL		8 uL		8 uL	
CCV 180-302272/3		EPA 8260C					8 uL		
LCS 180-302272/4		EPA 8260C		35 uL		8 uL		8 uL	
LB 180-302046/1-A		EPA 8260C							
180-100205-A-1-A	11187072-N.TREATMENT AREA #2	EPA 8260C	P						
180-100205-A-3-A	11187072-N.TREATMENT AREA #3	EPA 8260C	P						
180-100205-A-5-A	11187072-N.TREATMENT AREA #4	EPA 8260C	P						
180-100205-A-1-A MS	11187072-N.TREATMENT AREA #2	EPA 8260C	P	35 uL		8 uL		8 uL	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 302272 Batch Start Date: 12/23/19 06:12 Batch Analyst: Journet, Patrick

Batch Method: EPA 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	VOAACRPRI 00023	VOABFB50 00122	VOACEVEPRI 00059	VOALIST22ND 00009	VOAVAPRI 00031	
180-100205-A-1-A MSD	11187072-N.TREATMENT AREA #2	EPA 8260C	P	35 uL		8 uL		8 uL	

Batch Notes	
Batch Comment	3167192-MEOH
pH Indicator ID	HC987808
Vial Lot Number	0103701E

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Method 8270D

Semivolatile Organic Compounds (GC/MS) by Method 8270D

FORM II
GC/MS SEMI VOA SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Matrix: Solid (TCLP) Level: Low

GC Column (1): Rxi-5SilMS ID: 0.32(mm)

Client Sample ID	Lab Sample ID	2FP #	PHL #	NBZ #	FBP #	TBP #	TPHL #
11187072-N.TREATMENT AREA #2	180-100205-1	78	59	78	88	50	100
11187072-N.TREATMENT AREA #3	180-100205-3	79	57	80	89	51	105
11187072-N.TREATMENT AREA #4	180-100205-5	76	62	79	87	57	101
	MB 180-302206/1-A	83	81	84	91	81	106
	LB 180-301984/1-F	82	78	82	87	76	101
	LCS 180-302206/2-A	81	80	83	89	85	105

	QC LIMITS
2FP = 2-Fluorophenol (Surr)	60-108
PHL = Phenol-d5 (Surr)	52-107
NBZ = Nitrobenzene-d5 (Surr)	62-115
FBP = 2-Fluorobiphenyl	55-107
TBP = 2,4,6-Tribromophenol (Surr)	24-113
TPHL = Terphenyl-d14 (Surr)	44-116

Column to be used to flag recovery values

FORM II EPA 8270D

FORM III
GC/MS SEMI VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Matrix: Water Level: Low Lab File ID: S1223012.D

Lab ID: LCS 180-302206/2-A Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
1,4-Dichlorobenzene	0.250	0.207	83	60-100	
2,4,5-Trichlorophenol	0.250	0.193	77	54-100	
2,4,6-Trichlorophenol	0.250	0.184	74	56-100	
2,4-Dinitrotoluene	0.250	0.131	52	42-100	
2-Methylphenol	0.250	0.200	80	60-101	
Methylphenol, 3 & 4	0.500	0.423	85	62-106	
Hexachlorobenzene	0.250	0.138	55	37-100	
Hexachlorobutadiene	0.250	0.215	86	50-103	
Hexachloroethane	0.250	0.197	79	59-104	
Nitrobenzene	0.250	0.207	83	58-113	
Pentachlorophenol	0.250	0.119 J	48	18-100	
Pyridine	0.250	0.212	85	54-119	

Column to be used to flag recovery and RPD values

FORM III EPA 8270D

FORM IV
GC/MS SEMI VOA METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab File ID: S1223009.D Lab Sample ID: MB 180-302206/1-A

Matrix: Water Date Extracted: 12/21/2019 06:10

Instrument ID: CH71 Date Analyzed: 12/23/2019 13:32

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 180-302206/2-A	S1223012.D	12/23/2019 14:53
	LB 180-301984/1-F	S1223021.D	12/23/2019 18:57
11187072-N.TREATMENT AREA #2	180-100205-1	S1223026.D	12/23/2019 21:13
11187072-N.TREATMENT AREA #3	180-100205-3	S1223027.D	12/23/2019 21:40
11187072-N.TREATMENT AREA #4	180-100205-5	S1223028.D	12/23/2019 22:07

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab File ID: S1220002.D DFTPP Injection Date: 12/21/2019

Instrument ID: CH71 DFTPP Injection Time: 10:49

Analysis Batch No.: 302239

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0 - 60.0 % of mass 198	44.8	
68	Less than 2.0 % of mass 69	0.0	(0.0) 1
69	Mass 69 relative abundance	44.6	
70	Less than 2.0 % of mass 69	0.3	(0.6) 1
127	40.0 - 60.0 % of mass 198	52.3	
197	Less than 1.0 % of mass 198	0.0	
198	Base Peak, 100 % relative abundance	100.0	
199	5.0- 9.0 % of mass 198	6.8	
275	10.0 - 30.0 % of mass 198	27.5	
365	Greater than 1.0 % of mass 198	3.6	
441	Present but less than mass 443	9.5	(81.1) 3
442	Greater than 40.0 % of mass 198	65.2	
443	17.0 - 23.0 % of mass 442	11.8	(18.0) 2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	IC 180-302239/4	S1220004.D	12/21/2019	11:07
	IC 180-302239/5	S1220005.D	12/21/2019	11:34
	IC 180-302239/6	S1220006.D	12/21/2019	12:01
	ICIS 180-302239/7	S1220007.D	12/21/2019	12:28
	IC 180-302239/8	S1220008.D	12/21/2019	12:55
	IC 180-302239/9	S1220009.D	12/21/2019	13:22
	IC 180-302239/10	S1220010.D	12/21/2019	13:49
	IC 180-302239/11	S1220011.D	12/21/2019	14:16
	ICV 180-302239/12	S1220012.D	12/21/2019	14:43
	ICV 180-302239/13	S1220013.D	12/21/2019	15:11

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab File ID: S1223002.D DFTPP Injection Date: 12/23/2019

Instrument ID: CH71 DFTPP Injection Time: 11:27

Analysis Batch No.: 302307

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0 - 60.0 % of mass 198	41.3	
68	Less than 2.0 % of mass 69	0.1	(0.3) 1
69	Mass 69 relative abundance	41.4	
70	Less than 2.0 % of mass 69	0.2	(0.5) 1
127	40.0 - 60.0 % of mass 198	52.1	
197	Less than 1.0 % of mass 198	0.0	
198	Base Peak, 100 % relative abundance	100.0	
199	5.0- 9.0 % of mass 198	6.5	
275	10.0 - 30.0 % of mass 198	28.9	
365	Greater than 1.0 % of mass 198	4.6	
441	Present but less than mass 443	12.8	(77.1) 3
442	Greater than 40.0 % of mass 198	86.9	
443	17.0 - 23.0 % of mass 442	16.6	(19.1) 2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCVIS 180-302307/4	S1223004.D	12/23/2019	11:44
	CCV 180-302307/5	S1223005.D	12/23/2019	12:11
	MB 180-302206/1-A	S1223009.D	12/23/2019	13:32
	LCS 180-302206/2-A	S1223012.D	12/23/2019	14:53
	LB 180-301984/1-F	S1223021.D	12/23/2019	18:57
11187072-N.TREATMENT AREA #2	180-100205-1	S1223026.D	12/23/2019	21:13
11187072-N.TREATMENT AREA #3	180-100205-3	S1223027.D	12/23/2019	21:40
11187072-N.TREATMENT AREA #4	180-100205-5	S1223028.D	12/23/2019	22:07

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Sample No.: ICIS 180-302239/7 Date Analyzed: 12/21/2019 12:28

Instrument ID: CH71 GC Column: Rxi-5SilMS ID: 0.32(mm)

Lab File ID (Standard): S1220007.D Heated Purge: (Y/N) N

Calibration ID: 42316

		DCBd4		NPT		ANT	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		112454	6.01	506397	7.22	305267	8.85
UPPER LIMIT		224908	6.51	1012794	7.72	610534	9.35
LOWER LIMIT		56227	5.51	253199	6.72	152634	8.35
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 180-302239/12		115547	6.01	529136	7.23	316628	8.85
ICV 180-302239/13		113954	6.01	500242	7.22	292749	8.85

DCBd4 = 1,4-Dichlorobenzene-d4
NPT = Naphthalene-d8
ANT = Acenaphthene-d10

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8270D

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Sample No.: ICIS 180-302239/7 Date Analyzed: 12/21/2019 12:28

Instrument ID: CH71 GC Column: Rxi-5SilMS ID: 0.32(mm)

Lab File ID (Standard): S1220007.D Heated Purge: (Y/N) N

Calibration ID: 42316

		PHN		CRY		PRY	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		561616	10.22	559628	13.59	493944	16.43
UPPER LIMIT		1123232	10.72	1119256	14.09	987888	16.93
LOWER LIMIT		280808	9.72	279814	13.09	246972	15.93
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 180-302239/12		570977	10.23	581016	13.60	500737	16.45
ICV 180-302239/13		541306	10.23	494437	13.61	433514	16.46

PHN = Phenanthrene-d10
CRY = Chrysene-d12
PRY = Perylene-d12

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8270D

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Sample No.: CCVIS 180-302307/4 Date Analyzed: 12/23/2019 11:44

Instrument ID: CH71 GC Column: Rxi-5SilMS ID: 0.32(mm)

Lab File ID (Standard): S1223004.D Heated Purge: (Y/N) N

Calibration ID: 42316

		DCBd4		NPT		ANT	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		140941	6.00	634066	7.23	373807	8.86
UPPER LIMIT		281882	6.50	1268132	7.73	747614	9.36
LOWER LIMIT		70471	5.50	317033	6.73	186904	8.36
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCV 180-302307/5		151715	6.00	664798	7.22	361212	8.85
MB 180-302206/1-A		152573	6.00	679579	7.22	406825	8.86
LCS 180-302206/2-A		156664	6.00	694348	7.23	412284	8.87
LB 180-301984/1-F		162454	6.00	718130	7.22	444777	8.85
180-100205-1	11187072-N.TREATMENT AREA #2	151596	5.99	685559	7.21	412548	8.84
180-100205-3	11187072-N.TREATMENT AREA #3	155844	6.00	697568	7.21	416952	8.84
180-100205-5	11187072-N.TREATMENT AREA #4	155460	6.00	693177	7.21	426244	8.84

DCBd4 = 1,4-Dichlorobenzene-d4
NPT = Naphthalene-d8
ANT = Acenaphthene-d10

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8270D

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Sample No.: CCVIS 180-302307/4 Date Analyzed: 12/23/2019 11:44

Instrument ID: CH71 GC Column: Rxi-5SilMS ID: 0.32(mm)

Lab File ID (Standard): S1223004.D Heated Purge: (Y/N) N

Calibration ID: 42316

		PHN		CRY		PRY	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		685859	10.23	690590	13.61	624429	16.46
UPPER LIMIT		1371718	10.73	1381180	14.11	1248858	16.96
LOWER LIMIT		342930	9.73	345295	13.11	312215	15.96
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCV 180-302307/5		695673	10.22	667076	13.59	458784	16.43
MB 180-302206/1-A		761238	10.22	630542	13.60	551634	16.45
LCS 180-302206/2-A		762976	10.24	645052	13.62	542538	16.48
LB 180-301984/1-F		818902	10.23	698138	13.62	592511	16.47
180-100205-1	11187072-N.TREATMENT AREA #2	785416	10.21	682996	13.58	588372	16.44
180-100205-3	11187072-N.TREATMENT AREA #3	796462	10.21	665055	13.58	584474	16.43
180-100205-5	11187072-N.TREATMENT AREA #4	792143	10.20	695077	13.58	617143	16.42

PHN = Phenanthrene-d10
CRY = Chrysene-d12
PRY = Perylene-d12

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8270D

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-100205-1
SDG No.:
Client Sample ID: 11187072-N.TREATMENT AREA #2
Lab Sample ID: 180-100205-1
Matrix: Solid (TCLP)
Lab File ID: S1223026.D
Analysis Method: EPA 8270D
Date Collected: 12/18/2019 13:30
Extract. Method: 3510C
Date Extracted: 12/21/2019 06:10
Sample wt/vol: 200(mL)
Date Analyzed: 12/23/2019 21:13
Con. Extract Vol.: 10.0(mL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 302307
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
106-46-7	1,4-Dichlorobenzene	ND		0.050	0.0045
95-95-4	2,4,5-Trichlorophenol	ND		0.050	0.0079
88-06-2	2,4,6-Trichlorophenol	ND		0.050	0.0095
121-14-2	2,4-Dinitrotoluene	ND		0.050	0.0079
95-48-7	2-Methylphenol	ND		0.050	0.0040
106-44-5	Methylphenol, 3 & 4	ND		0.050	0.0079
118-74-1	Hexachlorobenzene	ND		0.050	0.0055
87-68-3	Hexachlorobutadiene	ND		0.050	0.0084
67-72-1	Hexachloroethane	ND		0.050	0.0040
98-95-3	Nitrobenzene	ND		0.050	0.012
87-86-5	Pentachlorophenol	ND		0.25	0.0075
110-86-1	Pyridine	ND		0.10	0.0082

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	88		55-107
367-12-4	2-Fluorophenol (Surr)	78		60-108
118-79-6	2,4,6-Tribromophenol (Surr)	50		24-113
4165-60-0	Nitrobenzene-d5 (Surr)	78		62-115
4165-62-2	Phenol-d5 (Surr)	59		52-107
1718-51-0	Terphenyl-d14 (Surr)	100		44-116

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\S1223026.D				
Lims ID:	180-100205-A-1-G				
Client ID:	11187072-N.TREATMENT AREA #2				
Sample Type:	Client				
Inject. Date:	23-Dec-2019 21:13:30	ALS Bottle#:	24	Worklist Smp#:	26
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0030127-026				
Misc. Info.:	180-100205-A-1-G				
Operator ID:	001562	Instrument ID:	CH71		
Method:	\\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\BNA_CH71.m				
Limit Group:	BNA 8270D ICAL				
Last Update:	24-Dec-2019 08:38:52	Calib Date:	21-Dec-2019 14:16:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220011.D				
Column 1 :	Rxi-5SilMS (0.32 mm)		Det: MS SCAN		
Process Host:	CTX0324				

First Level Reviewer: fergusond Date: 24-Dec-2019 08:42:38

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	5.994	6.006	-0.012	96	151596	8.00	
* 2 Naphthalene-d8	136	7.212	7.224	-0.012	99	685559	8.00	
* 3 Acenaphthene-d10	164	8.841	8.853	-0.012	94	412548	8.00	
* 4 Phenanthrene-d10	188	10.209	10.221	-0.012	97	785416	8.00	
* 5 Chrysene-d12	240	13.584	13.585	-0.001	99	682996	8.00	
* 6 Perylene-d12	264	16.436	16.438	-0.002	99	588372	8.00	
$ 7 2-Fluorophenol	112	4.616	4.617	0.005	93	554804	31.1	
$ 8 Phenol-d5	99	5.647	5.846	-0.006	97	628536	23.5	
$ 9 Nitrobenzene-d5	82	6.529	6.539	-0.010	89	834191	31.2	
$ 10 2-Fluorobiphenyl	172	8.211	8.227	-0.016	100	2458648	35.2	
$ 11 2,4,6-Tribromophenol	330	9.568	9.587	-0.021	94	227463	20.0	
$ 12 Terphenyl-d14	244	11.918	11.967	-0.021	99	2990064	40.1	
15 Pyridine	79		1.999				ND	
33 1,4-Dichlorobenzene	146		6.021				ND	
36 2-Methylphenol	108		6.256				ND	
42 4-Methylphenol	108		6.406				ND	
45 Hexachloroethane	117		6.502				ND	
46 Nitrobenzene	77		6.555				ND	
62 Hexachlorobutadiene	225		7.372				ND	
74 2,4,6-Trichlorophenol	196		8.152				ND	
75 2,4,5-Trichlorophenol	196		8.184				ND	
91 2,4-Dinitrotoluene	165		9.018				ND	
112 Hexachlorobenzene	284		9.883				ND	
116 Pentachlorophenol	266		10.054				ND	

Reagents:

SVTAPITINTRNi_00022 Amount Added: 1.00 Units: uL Run Reagent

Report Date: 24-Dec-2019 08:42:38 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\S1223026.D				
Injection Date:	23-Dec-2019 21:13:30	Instrument ID:	CH71	Operator ID:	001562
Lims ID:	180-100205-A-1-G	Lab Sample ID:	180-100205-1	Worklist Smp#:	26
Client ID:	11187072-N.TREATMENT AREA #2				
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	24
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

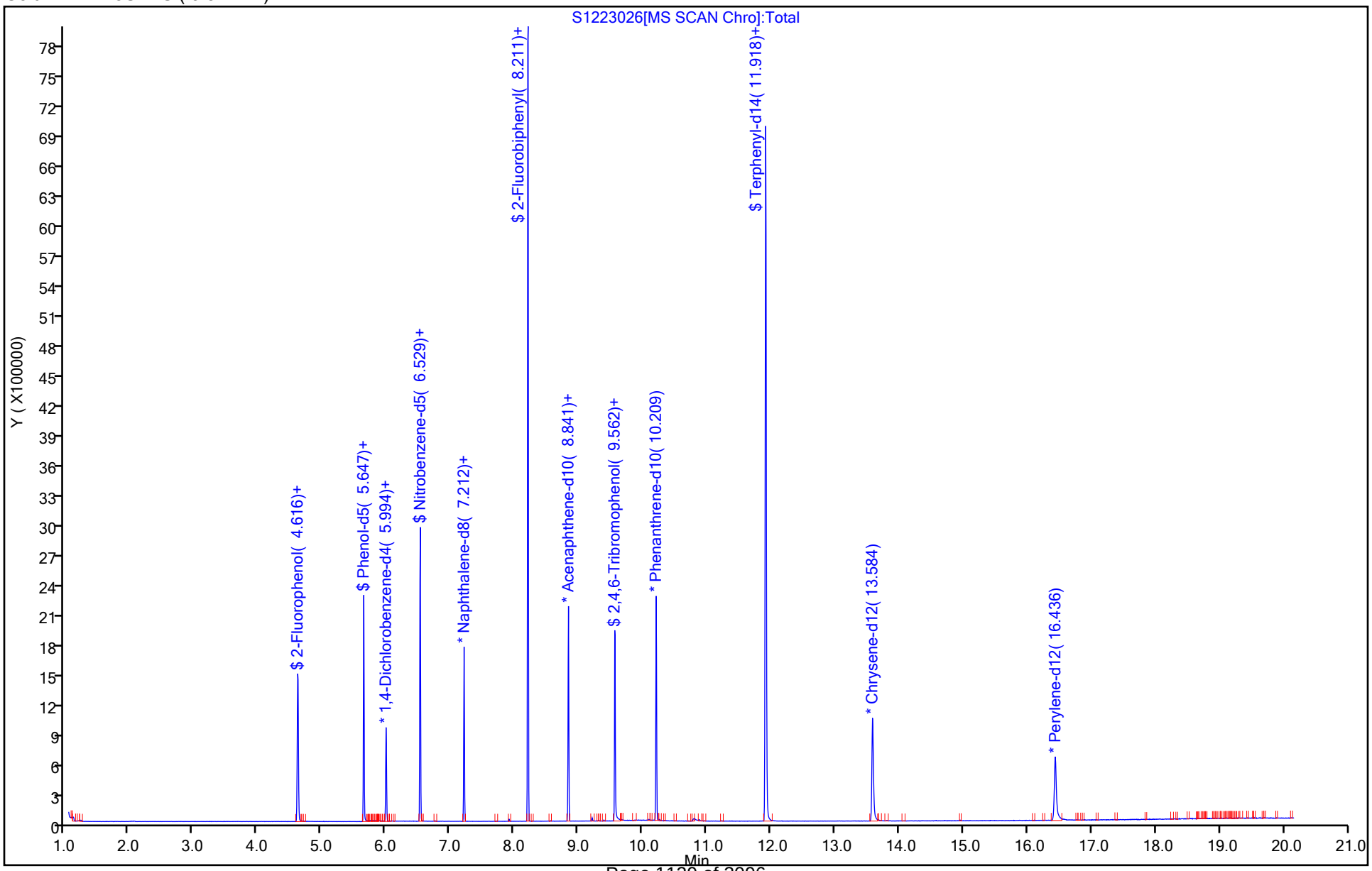

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\S1223026.D
Lims ID: 180-100205-A-1-G
Client ID: 11187072-N.TREATMENT AREA #2
Sample Type: Client
Inject. Date: 23-Dec-2019 21:13:30 ALS Bottle#: 24 Worklist Smp#: 26
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030127-026
Misc. Info.: 180-100205-A-1-G
Operator ID: 001562 Instrument ID: CH71

Method: \\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\BNA_CH71.m
Limit Group: BNA 8270D ICAL
Last Update: 24-Dec-2019 08:38:52 Calib Date: 21-Dec-2019 14:16:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220011.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0324

First Level Reviewer: fergusond Date: 24-Dec-2019 08:42:38

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	40.0	31.1	77.84
$ 8 Phenol-d5	40.0	23.5	58.81
$ 9 Nitrobenzene-d5	40.0	31.2	77.97
$ 10 2-Fluorobiphenyl	40.0	35.2	87.88
$ 11 2,4,6-Tribromophenol	40.0	20.0	50.12
$ 12 Terphenyl-d14	40.0	40.1	100.25

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-100205-1
SDG No.:
Client Sample ID: 11187072-N.TREATMENT AREA #3
Lab Sample ID: 180-100205-3
Matrix: Solid (TCLP)
Lab File ID: S1223027.D
Analysis Method: EPA 8270D
Date Collected: 12/18/2019 14:00
Extract. Method: 3510C
Date Extracted: 12/21/2019 06:10
Sample wt/vol: 200(mL)
Date Analyzed: 12/23/2019 21:40
Con. Extract Vol.: 10.0(mL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 302307
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
106-46-7	1,4-Dichlorobenzene	ND		0.050	0.0045
95-95-4	2,4,5-Trichlorophenol	ND		0.050	0.0079
88-06-2	2,4,6-Trichlorophenol	ND		0.050	0.0095
121-14-2	2,4-Dinitrotoluene	ND		0.050	0.0079
95-48-7	2-Methylphenol	ND		0.050	0.0040
106-44-5	Methylphenol, 3 & 4	ND		0.050	0.0079
118-74-1	Hexachlorobenzene	ND		0.050	0.0055
87-68-3	Hexachlorobutadiene	ND		0.050	0.0084
67-72-1	Hexachloroethane	ND		0.050	0.0040
98-95-3	Nitrobenzene	ND		0.050	0.012
87-86-5	Pentachlorophenol	ND		0.25	0.0075
110-86-1	Pyridine	ND		0.10	0.0082

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	89		55-107
367-12-4	2-Fluorophenol (Surr)	79		60-108
118-79-6	2,4,6-Tribromophenol (Surr)	51		24-113
4165-60-0	Nitrobenzene-d5 (Surr)	80		62-115
4165-62-2	Phenol-d5 (Surr)	57		52-107
1718-51-0	Terphenyl-d14 (Surr)	105		44-116

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\S1223027.D				
Lims ID:	180-100205-A-3-G				
Client ID:	11187072-N.TREATMENT AREA #3				
Sample Type:	Client				
Inject. Date:	23-Dec-2019 21:40:30	ALS Bottle#:	25	Worklist Smp#:	27
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0030127-027				
Misc. Info.:	180-100205-A-3-G				
Operator ID:	001562	Instrument ID:	CH71		
Method:	\\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\BNA_CH71.m				
Limit Group:	BNA 8270D ICAL				
Last Update:	24-Dec-2019 08:38:52	Calib Date:	21-Dec-2019 14:16:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220011.D				
Column 1 :	Rxi-5SilMS (0.32 mm)		Det: MS SCAN		
Process Host:	CTX0324				

First Level Reviewer: fergusond Date: 24-Dec-2019 08:43:09

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	5.997	6.006	-0.009	96	155844	8.00	
* 2 Naphthalene-d8	136	7.210	7.224	-0.014	99	697568	8.00	
* 3 Acenaphthene-d10	164	8.839	8.853	-0.014	94	416952	8.00	
* 4 Phenanthrene-d10	188	10.206	10.221	-0.015	97	796462	8.00	
* 5 Chrysene-d12	240	13.582	13.585	-0.003	99	665055	8.00	
* 6 Perylene-d12	264	16.429	16.438	-0.009	99	584474	8.00	
$ 7 2-Fluorophenol	112	4.614	4.617	0.003	93	576651	31.5	
$ 8 Phenol-d5	99	5.645	5.846	-0.008	97	628678	22.9	
$ 9 Nitrobenzene-d5	82	6.526	6.539	-0.013	89	871213	32.0	
$ 10 2-Fluorobiphenyl	172	8.209	8.227	-0.018	100	2507857	35.5	
$ 11 2,4,6-Tribromophenol	330	9.565	9.587	-0.024	94	235374	20.5	
$ 12 Terphenyl-d14	244	11.910	11.967	-0.029	100	3053930	42.1	
15 Pyridine	79		1.999				ND	
33 1,4-Dichlorobenzene	146		6.021				ND	
36 2-Methylphenol	108		6.256				ND	
42 4-Methylphenol	108		6.406				ND	
45 Hexachloroethane	117		6.502				ND	
46 Nitrobenzene	77		6.555				ND	
62 Hexachlorobutadiene	225		7.372				ND	
74 2,4,6-Trichlorophenol	196		8.152				ND	
75 2,4,5-Trichlorophenol	196		8.184				ND	
91 2,4-Dinitrotoluene	165		9.018				ND	
112 Hexachlorobenzene	284		9.883				ND	
116 Pentachlorophenol	266		10.054				ND	

Reagents:

SVTAPITINTRNi_00022 Amount Added: 1.00 Units: uL Run Reagent

Report Date: 24-Dec-2019 08:43:09 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\S1223027.D				
Injection Date:	23-Dec-2019 21:40:30	Instrument ID:	CH71	Operator ID:	001562
Lims ID:	180-100205-A-3-G	Lab Sample ID:	180-100205-3	Worklist Smp#:	27
Client ID:	11187072-N.TREATMENT AREA #3				
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	25
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

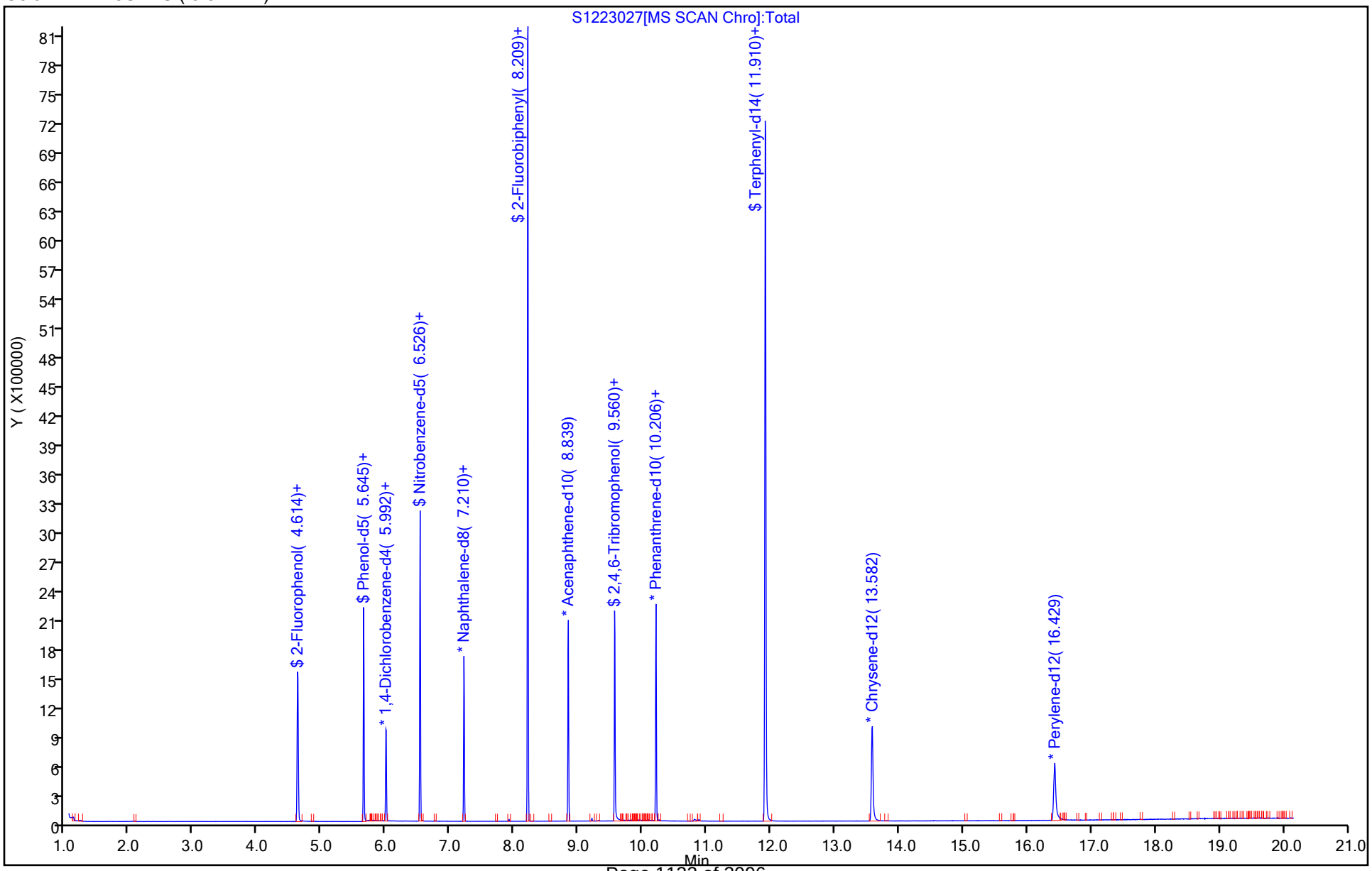

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\S1223027.D
Lims ID: 180-100205-A-3-G
Client ID: 11187072-N.TREATMENT AREA #3
Sample Type: Client
Inject. Date: 23-Dec-2019 21:40:30 ALS Bottle#: 25 Worklist Smp#: 27
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030127-027
Misc. Info.: 180-100205-A-3-G
Operator ID: 001562 Instrument ID: CH71

Method: \\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\BNA_CH71.m
Limit Group: BNA 8270D ICAL
Last Update: 24-Dec-2019 08:38:52 Calib Date: 21-Dec-2019 14:16:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220011.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0324

First Level Reviewer: fergusond Date: 24-Dec-2019 08:43:09

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	40.0	31.5	78.70
$ 8 Phenol-d5	40.0	22.9	57.22
$ 9 Nitrobenzene-d5	40.0	32.0	80.03
$ 10 2-Fluorobiphenyl	40.0	35.5	88.70
$ 11 2,4,6-Tribromophenol	40.0	20.5	51.14
$ 12 Terphenyl-d14	40.0	42.1	105.15

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-100205-1
SDG No.:
Client Sample ID: 11187072-N.TREATMENT AREA #4
Lab Sample ID: 180-100205-5
Matrix: Solid (TCLP)
Lab File ID: S1223028.D
Analysis Method: EPA 8270D
Date Collected: 12/18/2019 14:30
Extract. Method: 3510C
Date Extracted: 12/21/2019 06:10
Sample wt/vol: 200(mL)
Date Analyzed: 12/23/2019 22:07
Con. Extract Vol.: 10.0(mL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 302307
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
106-46-7	1,4-Dichlorobenzene	ND		0.050	0.0045
95-95-4	2,4,5-Trichlorophenol	ND		0.050	0.0079
88-06-2	2,4,6-Trichlorophenol	ND		0.050	0.0095
121-14-2	2,4-Dinitrotoluene	ND		0.050	0.0079
95-48-7	2-Methylphenol	ND		0.050	0.0040
106-44-5	Methylphenol, 3 & 4	ND		0.050	0.0079
118-74-1	Hexachlorobenzene	ND		0.050	0.0055
87-68-3	Hexachlorobutadiene	ND		0.050	0.0084
67-72-1	Hexachloroethane	ND		0.050	0.0040
98-95-3	Nitrobenzene	ND		0.050	0.012
87-86-5	Pentachlorophenol	ND		0.25	0.0075
110-86-1	Pyridine	ND		0.10	0.0082

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	87		55-107
367-12-4	2-Fluorophenol (Surr)	76		60-108
118-79-6	2,4,6-Tribromophenol (Surr)	57		24-113
4165-60-0	Nitrobenzene-d5 (Surr)	79		62-115
4165-62-2	Phenol-d5 (Surr)	62		52-107
1718-51-0	Terphenyl-d14 (Surr)	101		44-116

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\S1223028.D				
Lims ID:	180-100205-A-5-G				
Client ID:	11187072-N.TREATMENT AREA #4				
Sample Type:	Client				
Inject. Date:	23-Dec-2019 22:07:30	ALS Bottle#:	26	Worklist Smp#:	28
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0030127-028				
Misc. Info.:	180-100205-A-5-G				
Operator ID:	001562	Instrument ID:	CH71		

Method:	\\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\BNA_CH71.m		
Limit Group:	BNA 8270D ICAL		
Last Update:	24-Dec-2019 08:38:52	Calib Date:	21-Dec-2019 14:16:30
Integrator:	RTE	ID Type:	Deconvolution ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220011.D		

Column 1 :	Rxi-5SilMS (0.32 mm)	Det: MS SCAN
Process Host:	CTX0324	

First Level Reviewer: fergusond Date: 24-Dec-2019 08:43:43

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	5.995	6.006	-0.011	96	155460	8.00	
* 2 Naphthalene-d8	136	7.213	7.224	-0.012	99	693177	8.00	
* 3 Acenaphthene-d10	164	8.836	8.853	-0.017	94	426244	8.00	
* 4 Phenanthrene-d10	188	10.204	10.221	-0.017	97	792143	8.00	
* 5 Chrysene-d12	240	13.579	13.585	-0.006	99	695077	8.00	
* 6 Perylene-d12	264	16.421	16.438	-0.018	99	617143	8.00	
$ 7 2-Fluorophenol	112	4.622	4.617	0.011	93	553344	30.3	
$ 8 Phenol-d5	99	5.648	5.846	-0.005	97	676847	24.7	
$ 9 Nitrobenzene-d5	82	6.529	6.539	-0.010	89	851362	31.5	
$ 10 2-Fluorobiphenyl	172	8.206	8.227	-0.021	99	2520414	34.9	
$ 11 2,4,6-Tribromophenol	330	9.563	9.587	-0.026	94	260181	22.7	
$ 12 Terphenyl-d14	244	11.913	11.967	-0.026	99	3058382	40.3	
15 Pyridine	79		1.999				ND	
33 1,4-Dichlorobenzene	146		6.021				ND	
36 2-Methylphenol	108		6.256				ND	
42 4-Methylphenol	108		6.406				ND	
45 Hexachloroethane	117		6.502				ND	
46 Nitrobenzene	77		6.555				ND	
62 Hexachlorobutadiene	225		7.372				ND	
74 2,4,6-Trichlorophenol	196		8.152				ND	
75 2,4,5-Trichlorophenol	196		8.184				ND	
91 2,4-Dinitrotoluene	165		9.018				ND	
112 Hexachlorobenzene	284		9.883				ND	
116 Pentachlorophenol	266		10.054				ND	

Reagents:

SVTAPITINTRNi_00022 Amount Added: 1.00 Units: uL Run Reagent

Report Date: 24-Dec-2019 08:43:43 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\S1223028.D				
Injection Date:	23-Dec-2019 22:07:30	Instrument ID:	CH71	Operator ID:	001562
Lims ID:	180-100205-A-5-G	Lab Sample ID:	180-100205-5	Worklist Smp#:	28
Client ID:	11187072-N.TREATMENT AREA #4				
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	26
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

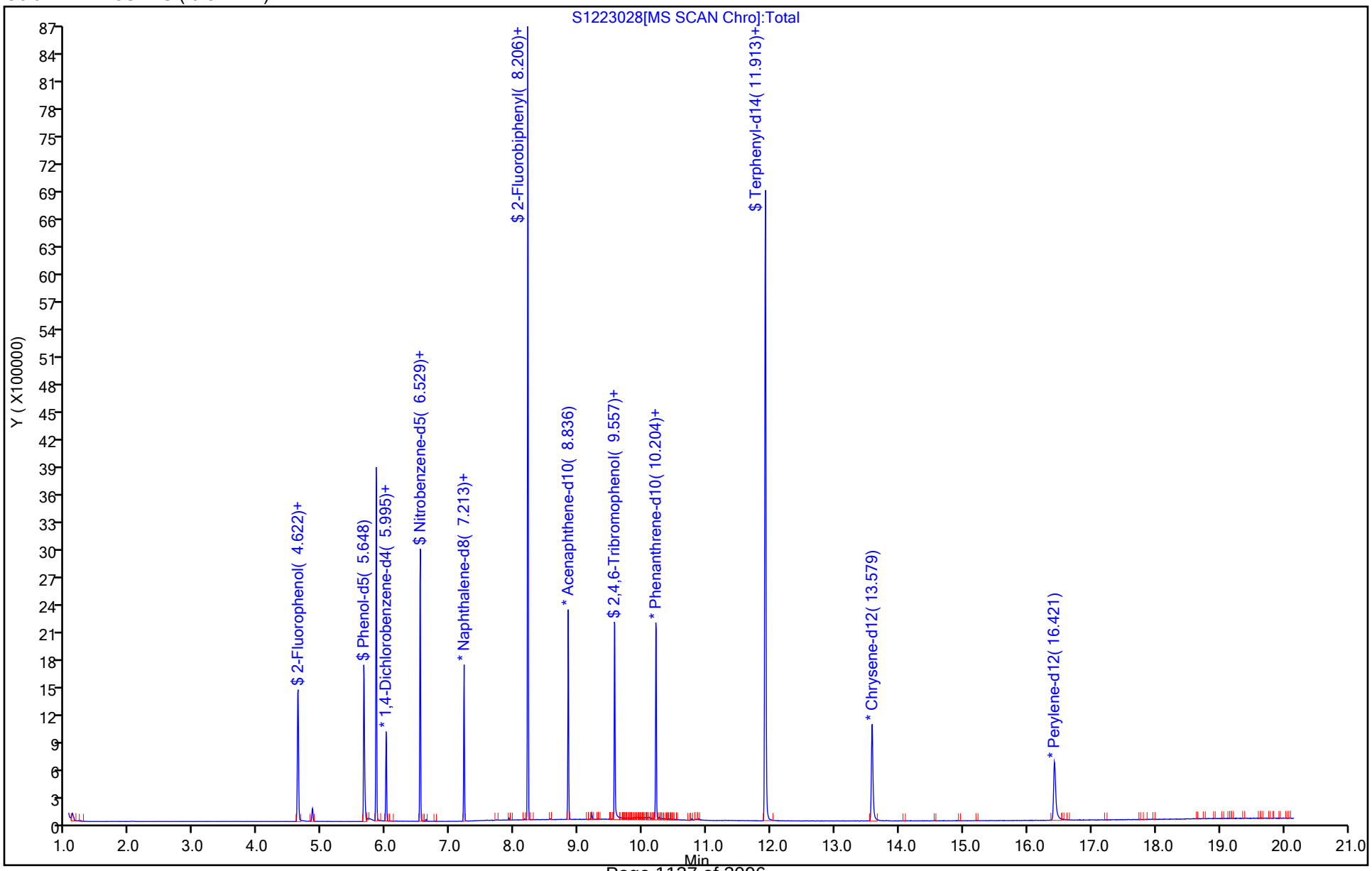

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\S1223028.D
Lims ID: 180-100205-A-5-G
Client ID: 11187072-N.TREATMENT AREA #4
Sample Type: Client
Inject. Date: 23-Dec-2019 22:07:30 ALS Bottle#: 26 Worklist Smp#: 28
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030127-028
Misc. Info.: 180-100205-A-5-G
Operator ID: 001562 Instrument ID: CH71

Method: \\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\BNA_CH71.m
Limit Group: BNA 8270D ICAL
Last Update: 24-Dec-2019 08:38:52 Calib Date: 21-Dec-2019 14:16:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220011.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0324

First Level Reviewer: fergusond Date: 24-Dec-2019 08:43:43

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	40.0	30.3	75.71
$ 8 Phenol-d5	40.0	24.7	61.76
$ 9 Nitrobenzene-d5	40.0	31.5	78.70
$ 10 2-Fluorobiphenyl	40.0	34.9	87.20
$ 11 2,4,6-Tribromophenol	40.0	22.7	56.84
$ 12 Terphenyl-d14	40.0	40.3	100.76

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302239

SDG No.:

Instrument ID: CH71 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/21/2019 11:07 Calibration End Date: 12/21/2019 14:16 Calibration ID: 42316

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-302239/4	S1220004.D
Level 2	IC 180-302239/5	S1220005.D
Level 3	IC 180-302239/6	S1220006.D
Level 4	ICIS 180-302239/7	S1220007.D
Level 5	IC 180-302239/8	S1220008.D
Level 6	IC 180-302239/9	S1220009.D
Level 7	IC 180-302239/10	S1220010.D
Level 8	IC 180-302239/11	S1220011.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
1,4-Dioxane	+++++ 0.2784	0.2887 0.2812	0.2850 0.2829	0.2689	0.2740	Ave		0.2798			0.0100	2.4		50.0			
N-Nitrosodimethylamine	0.3959 0.4430	0.4286 0.4530	0.4160 0.4472	0.4261	0.4310	Ave		0.4301			0.0100	4.3		20.0			
Pyridine	0.6656 0.7521	0.7291 0.7366	0.7507 0.7402	0.7211	0.7300	Ave		0.7282			0.0100	3.8		50.0			
Methyl methanesulfonate	0.5517 0.5491	0.5765 0.5358	0.5659 0.5248	0.5262	0.5446	Ave		0.5468			0.0100	3.3		50.0			
Benzaldehyde	1.0984 0.8902	1.0157 0.7726	1.0432 +++++	1.0149	0.9903	Ave		0.9751			0.0100	11.2		50.0			
Phenol	1.6501 1.5265	1.7288 1.4519	1.7156 1.3902	1.5966	1.5549	Ave		1.5768			0.8000	7.6		20.0			
Aniline	2.0212 1.8434	2.0194 1.7516	1.9641 1.6606	1.8883	1.8630	Ave		1.8764			0.0100	6.8		20.0			
Bis(2-chloroethyl)ether	1.1730 1.1292	1.1926 1.1082	1.2268 1.0797	1.1442	1.1352	Ave		1.1486			0.7000	4.1		20.0			
2-Chlorophenol	1.2915 1.3080	1.3708 1.3045	1.3431 1.2574	1.2914	1.3099	Ave		1.3096			0.8000	2.6		20.0			
n-Decane	1.4842 1.1983	1.3256 1.1614	1.2925 1.1172	1.1976	1.1954	Ave		1.2465				9.4		20.0			
1,3-Dichlorobenzene	1.6689 1.4709	1.6089 1.4117	1.5938 1.3790	1.5159	1.4979	Ave		1.5184			0.0100	6.6		20.0			
1,4-Dichlorobenzene	1.7512 1.5092	1.6520 1.4589	1.6573 1.4219	1.5305	1.5318	Ave		1.5641			0.0100	7.2		20.0			
Benzyl alcohol	0.8021 0.8232	0.8059 0.8103	0.8213 0.7952	0.7858	0.8090	Ave		0.8066			0.0100	1.5		50.0			
1,2-Dichlorobenzene	1.6135 1.4368	1.5763 1.3916	1.5700 1.3506	1.4866	1.4637	Ave		1.4861			0.0100	6.3		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302239

SDG No.:

Instrument ID: CH71 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/21/2019 11:07 Calibration End Date: 12/21/2019 14:16 Calibration ID: 42316

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Indene	2.4132 2.0956	2.3517 2.0539	2.3748 1.9516	2.2157	2.1383	Ave		2.1994			0.0100	7.6		20.0			
2-Methylphenol	1.2399 1.1126	1.2666 1.0875	1.2855 1.0373	1.1490	1.1324	Ave		1.1639			0.7000	7.7		20.0			
2,2'-oxybis[1-chloropropane]	1.7879 1.5442	1.7108 1.5082	1.6619 1.4590	1.5609	1.5328	Ave		1.5957			0.0100	7.1		50.0			
N-Nitrosopyrrolidine	0.4805 0.5939	0.5136 0.5965	0.5374 0.5941	0.5407	0.5676	Ave		0.5530			0.0100	7.7		50.0			
Acetophenone	1.9848 1.7525	1.9835 1.6685	1.9962 1.5669	1.8602	1.7929	Ave		1.8257			0.0100	8.7		20.0			
N-Nitrosodi-n-propylamine	0.9568 0.9047	0.9735 0.8515	1.0255 0.7891	0.9646	0.9628	Ave		0.9285			0.5000	8.2		20.0			
Methylphenol, 3 & 4	1.2423 1.1924	1.3334 1.1161	1.3476 1.0537	1.2760	1.2345	Ave		1.2245			0.6000	8.3		20.0			
Hexachloroethane	0.6646 0.6066	0.6269 0.5907	0.6287 0.5776	0.5893	0.5986	Ave		0.6104			0.3000	4.6		20.0			
Nitrobenzene	0.3384 0.3275	0.3278 0.3219	0.3340 0.3122	0.3242	0.3322	Ave		0.3273			0.2000	2.5		20.0			
Isophorone	0.5677 0.5874	0.5796 0.5852	0.6038 0.5606	0.5887	0.5984	Ave		0.5839			0.4000	2.5		20.0			
2-Nitrophenol	+++++ 0.1821	0.1377 0.1840	0.1549 0.1772	0.1657	0.1799	Ave		0.1688			0.1000	10.2		20.0			
2,4-Dimethylphenol	0.3169 0.3172	0.3379 0.3125	0.3425 0.3015	0.3283	0.3340	Ave		0.3238			0.2000	4.4		50.0			
Benzoic acid	+++++ 0.1808	+++++ 0.1919	0.1102 0.2008	0.1075	0.1537	Lin1	-0.559	0.1998			0.0100				0.9930		0.9900
Bis(2-chloroethoxy)methane	0.3884 0.3482	0.3783 0.3358	0.3820 0.3227	0.3647	0.3616	Ave		0.3602			0.3000	6.4		20.0			
2,4-Dichlorophenol	0.2766 0.2890	0.2815 0.2788	0.3001 0.2706	0.2811	0.2877	Ave		0.2832			0.2000	3.2		20.0			
1,2,4-Trichlorobenzene	0.3539 0.3263	0.3553 0.3206	0.3570 0.3087	0.3283	0.3341	Ave		0.3355			0.0100	5.4		20.0			
Naphthalene	1.1218 0.9800	1.0853 0.9567	1.0797 0.8972	1.0086	1.0080	Ave		1.0172			0.7000	7.3		20.0			
4-Chloroaniline	0.4505 0.4191	0.4492 0.4076	0.4485 0.3912	0.4307	0.4346	Ave		0.4289			0.0100	5.0		20.0			
2,6-Dichlorophenol	0.2796 0.2887	0.2957 0.2784	0.2977 0.2676	0.2906	0.2944	Ave		0.2866			0.0100	3.6		20.0			
Hexachlorobutadiene	0.2175 0.2041	0.2165 0.2016	0.2125 0.1962	0.2034	0.2102	Ave		0.2077			0.0100	3.6		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302239

SDG No.:

Instrument ID: CH71 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/21/2019 11:07 Calibration End Date: 12/21/2019 14:16 Calibration ID: 42316

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Caprolactam	+++++ 0.1061	0.0753 0.1084	0.0901 0.1096	0.0947	0.1027	Ave		0.0981			0.0100	12.6		50.0			
4-Chloro-3-methylphenol	0.2909 0.3120	0.2978 0.3055	0.3075 0.2960	0.3036	0.3139	Ave		0.3034			0.2000	2.6		20.0			
2-Methylnaphthalene	0.8151 0.7197	0.7597 0.6935	0.7811 0.6703	0.7376	0.7324	Ave		0.7387			0.4000	6.3		20.0			
1-Methylnaphthalene	0.7762 0.6729	0.7258 0.6551	0.7307 0.6298	0.6856	0.6840	Ave		0.6950			0.0100	6.7		20.0			
Hexachlorocyclopentadiene	0.3093 0.4205	0.3027 0.3919	0.3336 0.3809	0.3664	0.4110	Ave		0.3645			0.0500	12.3		50.0			
1,2,4,5-Tetrachlorobenzene	0.6728 0.5796	0.6288 0.5359	0.6107 0.5143	0.6185	0.6082	Ave		0.5961			0.0100	8.6		20.0			
2,4,6-Trichlorophenol	0.3115 0.3906	0.3589 0.3819	0.3615 0.3866	0.3734	0.3751	Ave		0.3675			0.2000	6.9		20.0			
2,4,5-Trichlorophenol	0.3568 0.4166	0.3762 0.4082	0.4032 0.4061	0.4122	0.4234	Ave		0.4003			0.2000	5.6		20.0			
1,1'-Biphenyl	1.6655 1.4728	1.5614 1.3820	1.5386 1.3590	1.4943	1.5053	Ave		1.4974			0.0100	6.5		20.0			
2-Chloronaphthalene	1.2126 1.1511	1.1863 1.1078	1.1591 1.0956	1.1687	1.1579	Ave		1.1549			0.8000	3.3		20.0			
2-Nitroaniline	+++++ 0.3748	0.2703 0.3689	0.3146 0.3720	0.3495	0.3699	Ave		0.3457			0.0100	11.4		20.0			
Dimethyl phthalate	1.3600 1.3506	1.3376 1.3083	1.3379 1.3147	1.3392	1.3595	Ave		1.3385			0.0100	1.4		20.0			
1,3-Dinitrobenzene	+++++ 0.2266	0.1280 0.2353	0.1574 0.2335	0.1849	0.2135	Ave		0.1970			0.0100	21.2		50.0			
2,6-Dinitrotoluene	+++++ 0.3239	0.2472 0.3156	0.2851 0.3175	0.2984	0.3149	Ave		0.3004			0.2000	9.0		20.0			
Acenaphthylene	1.7465 1.8184	1.7235 1.7274	1.7867 1.6649	1.7712	1.8053	Ave		1.7555			0.9000	2.9		20.0			
3-Nitroaniline	+++++ 0.3470	0.2676 0.3409	0.3057 0.3425	0.3224	0.3344	Ave		0.3229			0.0100	8.7		20.0			
Acenaphthene	1.3343 1.1628	1.2048 1.0797	1.2137 1.0398	1.1826	1.1928	Ave		1.1763			0.9000	7.6		20.0			
2,4-Dinitrophenol	+++++ 0.2077	+++++ 0.2046	0.1436 0.2107	0.1450	0.1814	Ave		0.1822			0.0100	17.1		50.0			
4-Nitrophenol	+++++ 0.2287	0.1894 0.2222	0.2181 0.2253	0.2204	0.2288	Ave		0.2190			0.0100	6.2		50.0			
2,4-Dinitrotoluene	+++++ 0.4345	0.3122 0.4293	0.3747 0.4407	0.3993	0.4195	Ave		0.4015			0.2000	11.3		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302239

SDG No.:

Instrument ID: CH71 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/21/2019 11:07 Calibration End Date: 12/21/2019 14:16 Calibration ID: 42316

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Dibenzofuran	1.9117 1.7294	1.7595 1.6653	1.7538 1.6180	1.7157	1.7179	Ave		1.7339			0.8000	4.9		20.0			
2,3,5,6-Tetrachlorophenol	0.2673 0.3894	0.2972 0.3930	0.3309 0.3984	0.3465	0.3773	Ave		0.3500			0.0100	13.9		20.0			
2,3,4,6-Tetrachlorophenol	0.3195 0.3970	0.3632 0.3891	0.3750 0.3965	0.3652	0.3849	Ave		0.3738			0.0100	6.8		20.0			
2-Naphthylamine	1.1635 1.2769	1.1956 1.1998	1.2694 1.1818	1.2708	1.2932	Ave		1.2314			0.0100	4.1		50.0			
Diethyl phthalate	1.3410 1.3734	1.3221 1.3391	1.3849 1.2692	1.3487	1.3535	Ave		1.3415			0.0100	2.6		20.0			
Hexadecane	0.5105 0.5111	0.5517 0.4764	0.5846 0.4379	0.5602	0.5621	Ave		0.5243				9.5		20.0			
4-Chlorophenyl phenyl ether	0.7130 0.7398	0.7278 0.7148	0.7190 0.7117	0.7111	0.7337	Ave		0.7213			0.4000	1.5		20.0			
4-Nitroaniline	+++++ 0.3753	0.2944 0.3612	0.3483 0.3607	0.3575	0.3833	Ave		0.3544			0.0100	8.2		20.0			
Fluorene	1.3689 1.3864	1.3670 1.2987	1.4209 1.2563	1.3925	1.4094	Ave		1.3625			0.9000	4.2		20.0			
4,6-Dinitro-2-methylphenol	+++++ 0.1594	+++++ 0.1638	0.1057 0.1675	0.1236	0.1463	Ave		0.1444			0.0100	17.2		50.0			
N-Nitrosodiphenylamine	0.5193 0.5667	0.5331 0.5654	0.5585 0.5572	0.5517	0.5575	Ave		0.5512			0.0100	3.0		20.0			
1,2-Diphenylhydrazine(as Azobenzene)	0.6772 0.8188	0.7811 0.8022	0.8156 0.7753	0.8168	0.8266	Ave		0.7892			0.0100	6.2		20.0			
Azobenzene	0.6772 0.8188	0.7811 0.8022	0.8156 0.7753	0.8168	0.8266	Ave		0.7892			0.0100	6.2		20.0			
4-Bromophenyl phenyl ether	0.2290 0.2381	0.2130 0.2364	0.2218 0.2434	0.2230	0.2294	Ave		0.2293			0.1000	4.3		20.0			
Hexachlorobenzene	0.2511 0.2611	0.2483 0.2674	0.2549 0.2685	0.2454	0.2503	Ave		0.2559			0.1000	3.4		20.0			
Atrazine	0.1527 0.2323	0.1818 0.2347	0.2135 0.2360	0.2137	0.2248	Ave		0.2112			0.0100	14.0		50.0			
Pentachlorophenol	0.1530 0.1815	0.1553 0.1818	0.1688 0.1802	0.1533	0.1698	Ave		0.1680			0.0500	7.6		50.0			
n-Octadecane	2.2973 2.6439	2.5160 2.5614	2.6749 2.4256	2.6437	2.6975	Ave		2.5575				5.4		20.0			
Phenanthrene	1.1661 1.1511	1.1250 1.1233	1.1356 1.1064	1.1099	1.1311	Ave		1.1311			0.7000	1.8		20.0			
Anthracene	0.9903 1.1655	1.0474 1.1558	1.1229 1.1262	1.1190	1.1459	Ave		1.1091			0.7000	5.4		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302239

SDG No.:

Instrument ID: CH71 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/21/2019 11:07 Calibration End Date: 12/21/2019 14:16 Calibration ID: 42316

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Carbazole	0.9125 1.0472	0.9742 1.0572	1.0239 1.0399	1.0118	1.0434	Ave		1.0137			0.0100	4.8		20.0			
Di-n-butyl phthalate	0.8931 1.3050	1.0106 1.2876	1.1209 1.2616	1.1801	1.2653	Ave		1.1655			0.0100	12.7		20.0			
Fluoranthene	1.0592 1.2731	1.0920 1.2912	1.1751 1.2786	1.1815	1.2461	Ave		1.1996			0.6000	7.3		20.0			
Benzidine	+++++ 0.6149	0.4945 0.5524	0.5356 0.5064	0.6668	0.6521	Ave		0.5747			0.0100	12.1		50.0			
Pyrene	1.1745 1.2421	1.2358 1.2128	1.2502 1.2174	1.2266	1.2277	Ave		1.2234			0.6000	1.9		20.0			
Butyl benzyl phthalate	+++++ 0.5296	0.3710 0.5394	0.4125 0.5538	0.4500	0.4996	Ave		0.4794			0.0100	14.5		20.0			
3,3'-Dichlorobenzidine	+++++ 0.4397	0.2995 0.4414	0.3418 0.4500	0.3550	0.4123	Ave		0.3914			0.0100	15.1		50.0			
Benzo[a]anthracene	1.0722 1.1892	1.0792 1.1957	1.1370 1.2109	1.1150	1.1559	Ave		1.1444			0.8000	4.6		20.0			
Bis(2-ethylhexyl) phthalate	+++++ 0.7732	0.5087 0.7822	0.5806 0.7971	0.6496	0.7211	Ave		0.6875			0.0100	16.2		20.0			
Chrysene	1.2203 1.1500	1.1837 1.1578	1.2159 1.1731	1.1525	1.1667	Ave		1.1775			0.7000	2.3		20.0			
Di-n-octyl phthalate	+++++ 1.3175	1.0691 1.4116	1.0091 1.4752	0.8646	1.1047	Ave		1.1788			0.0100	19.2		50.0			
7,12-Dimethylbenz(a)anthracene	+++++ 0.6951	0.4708 0.7188	0.5269 0.7426	0.5880	0.6327	Ave		0.6250			0.0100	16.3		20.0			
Benzo[b]fluoranthene	1.0739 1.4503	1.1352 1.5365	1.1793 1.5773	1.2904	1.3413	Ave		1.3230			0.7000	14.2		20.0			
Benzo[k]fluoranthene	1.0095 1.4655	1.2903 1.4395	1.4095 1.5004	1.3712	1.3961	Ave		1.3602			0.7000	11.4		20.0			
Benzo[e]pyrene	1.0161 1.2638	1.0546 1.2778	1.0815 1.3413	1.1267	1.1793	Ave		1.1676			0.0100	10.1		20.0			
Benzo[a]pyrene	0.7971 1.2416	0.9564 1.2439	1.0486 1.3229	1.0662	1.1488	Ave		1.1032			0.7000	15.7		20.0			
Indeno[1,2,3-cd]pyrene	0.8629 1.4942	1.0317 1.5674	1.1722 +++++	1.2466	1.3456	Ave		1.2458			0.5000	20.0		20.0			
Dibenz(a,h)anthracene	0.6977 1.2159	0.8567 1.2859	0.9595 +++++	1.0158	1.1074	Lin1	-0.396	1.2222			0.4000				0.9940		0.9900
Benzo[g,h,i]perylene	0.8195 1.2638	0.9772 1.3101	1.0551 1.3693	1.0888	1.1819	Ave		1.1332			0.5000	16.2		20.0			
2-Fluorophenol (Surr)	0.9121 0.9605	0.9422 0.9530	0.9529 0.9493	0.9177	0.9346	Ave		0.9403				1.9		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302239

SDG No.:

Instrument ID: CH71 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/21/2019 11:07 Calibration End Date: 12/21/2019 14:16 Calibration ID: 42316

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Phenol-d5 (Surr)	1.5354 1.3909	1.4483 1.3582	1.4582 1.3161	1.3861	1.3871	Ave		1.4100				4.8		20.0			
Nitrobenzene-d5 (Surr)	0.3014 0.3185	0.3060 0.3198	0.3126 0.3086	0.3057	0.3244	Ave		0.3121				2.6		20.0			
2-Fluorobiphenyl	1.4755 1.3462	1.4093 1.2567	1.4097 1.2435	1.3567	1.3523	Ave		1.3562				5.8		20.0			
2,4,6-Tribromophenol (Surr)	+++++ 0.1230	0.0916 0.1273	0.1055 0.1320	0.1131	0.1165	Ave		0.1156			0.0100	12.0		20.0			
Terphenyl-d14 (Surr)	0.8736 0.8858	0.8579 0.8860	0.8746 0.8977	0.8523	0.8593	Ave		0.8734				1.8		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302239

SDG No.:

Instrument ID: CH71 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/21/2019 11:07 Calibration End Date: 12/21/2019 14:16 Calibration ID: 42316

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-302239/4	S1220004.D
Level 2	IC 180-302239/5	S1220005.D
Level 3	IC 180-302239/6	S1220006.D
Level 4	ICIS 180-302239/7	S1220007.D
Level 5	IC 180-302239/8	S1220008.D
Level 6	IC 180-302239/9	S1220009.D
Level 7	IC 180-302239/10	S1220010.D
Level 8	IC 180-302239/11	S1220011.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
1,4-Dioxane	DCBd 4	Ave	+++++ 155385	8077 235408	16631 319093	37792	80094	+++++ 40.0	2.00 60.0	4.00 80.0	10.0	20.0
N-Nitrosodimethylamine	DCBd 4	Ave	2188 247243	11990 379272	24278 504489	59894	126001	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Pyridine	DCBd 4	Ave	7357 839550	40794 1233361	87628 1669973	202730	426793	0.760 80.0	4.00 120	8.00 160	20.0	40.0
Methyl methanesulfonate	DCBd 4	Ave	3049 306454	16129 448545	33029 592087	73967	159213	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Benzaldehyde	DCBd 4	Ave	6071 496880	28414 646834	60888 +++++	142661	289497	0.380 40.0	2.00 60.0	4.00 +++++	10.0	20.0
Phenol	DCBd 4	Ave	9120 851996	48364 1215589	100132 1568268	224431	454537	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Aniline	DCBd 4	Ave	11171 1028895	56494 1466489	114634 1873341	265429	544597	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Bis(2-chloroethyl)ether	DCBd 4	Ave	6483 630251	33365 927815	71600 1218020	160838	331859	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2-Chlorophenol	DCBd 4	Ave	7138 730040	38350 1092118	78387 1418547	181535	382922	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
n-Decane	DCBd 4	Ave	8203 668825	37084 972365	75438 1260302	168348	349446	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
1,3-Dichlorobenzene	DCBd 4	Ave	9224 821000	45009 1181881	93022 1555709	213084	437890	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
1,4-Dichlorobenzene	DCBd 4	Ave	9679 842376	46216 1221429	96725 1604018	215139	447783	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Benzyl alcohol	DCBd 4	Ave	4433 459454	22545 678434	47935 897135	110462	236500	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
1,2-Dichlorobenzene	DCBd 4	Ave	8918 801944	44098 1165076	91633 1523587	208966	427878	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Indene	DCBd 4	Ave	13338 1169665	65790 1719574	138602 2201627	311461	625093	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302239

SDG No.:

Instrument ID: CH71 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/21/2019 11:07 Calibration End Date: 12/21/2019 14:16 Calibration ID: 42316

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
2-Methylphenol	DCBd 4	Ave	6853 621002	35435 910479	75025 1170210	161516	331040	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2,2'-oxybis[1-chloropropane]	DCBd 4	Ave	9882 861900	47862 1262674	96998 1645904	219415	448085	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
N-Nitrosopyrrolidine	DCBd 4	Ave	2656 331483	14367 499359	31362 670256	76002	165927	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Acetophenone	DCBd 4	Ave	10970 978136	55490 1396915	116504 1767610	261483	524118	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
N-Nitrosodi-n-propylamine	DCBd 4	Ave	5288 504973	27234 712864	59851 890254	135586	281443	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Methylphenol, 3 & 4	DCBd 4	Ave	6866 665556	37302 934452	78649 1188695	179368	360865	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Hexachloroethane	DCBd 4	Ave	3673 338554	17539 494577	36694 651567	82835	174982	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Nitrobenzene	NPT	Ave	8214 826747	41973 1222308	88356 1606262	205241	432558	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Isophorone	NPT	Ave	13779 1482668	74207 2221810	159748 2883948	372669	779283	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2-Nitrophenol	NPT	Ave	+++++ 459536	17635 698705	40974 911629	104903	234282	+++++ 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2,4-Dimethylphenol	NPT	Ave	7691 800553	43263 1186335	90622 1550934	207825	434962	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Benzoic acid	NPT	Lin1	+++++ 456439	+++++ 728706	29156 1032782	68071	200139	+++++ 40.0	+++++ 60.0	4.00 80.0	10.0	20.0
Bis(2-chloroethoxy)methane	NPT	Ave	9427 878776	48430 1274851	101047 1660088	230869	470892	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2,4-Dichlorophenol	NPT	Ave	6714 729419	36035 1058737	79402 1392134	177909	374617	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
1,2,4-Trichlorobenzene	NPT	Ave	8590 823657	45488 1217379	94450 1588056	207808	435107	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Naphthalene	NPT	Ave	27228 2473520	138956 3632507	285640 4615369	638444	1312580	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
4-Chloroaniline	NPT	Ave	10935 1057902	57511 1547492	118644 2012270	272635	565922	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2,6-Dichlorophenol	NPT	Ave	6787 728614	37853 1057000	78760 1376354	183946	383306	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Hexachlorobutadiene	NPT	Ave	5278 515216	27716 765369	56213 1009411	128721	273702	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Caprolactam	NPT	Ave	+++++ 267836	9643 411726	23841 563976	59945	133735	+++++ 40.0	2.00 60.0	4.00 80.0	10.0	20.0
4-Chloro-3-methylphenol	NPT	Ave	7061 787562	38124 1160075	81347 1522547	192163	408782	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302239

SDG No.:

Instrument ID: CH71 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/21/2019 11:07 Calibration End Date: 12/21/2019 14:16 Calibration ID: 42316

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
2-Methylnaphthalene	NPT	Ave	19784 1816637	97261 2633265	206653 3448023	466909	953747	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
1-Methylnaphthalene	NPT	Ave	18838 1698365	92924 2487241	193301 3239603	434010	890687	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Hexachlorocyclopentadiene	ANT	Ave	4625 651187	24037 937057	55546 1197783	139820	327257	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
1,2,4,5-Tetrachlorobenzene	ANT	Ave	10060 897538	49933 1281520	101677 1617603	236025	484288	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2,4,6-Trichlorophenol	ANT	Ave	4658 604913	28503 913196	60185 1215954	142484	298708	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2,4,5-Trichlorophenol	ANT	Ave	5335 645129	29876 976180	67137 1277261	157291	337099	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
1,1'-Biphenyl	ANT	Ave	24903 2280661	123992 3304571	256169 4274125	570214	1198583	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2-Chloronaphthalene	ANT	Ave	18132 1782461	94209 2648944	192985 3445521	445945	921960	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2-Nitroaniline	ANT	Ave	+++++ 580447	21462 882072	52386 1169909	133345	294537	+++++ 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Dimethyl phthalate	ANT	Ave	20336 2091523	106224 3128440	222763 4134684	511027	1082482	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
1,3-Dinitrobenzene	ANT	Ave	+++++ 350878	10167 562751	26209 734498	70538	170011	+++++ 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2,6-Dinitrotoluene	ANT	Ave	+++++ 501568	19632 754590	47468 998456	113866	250731	+++++ 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Acenaphthylene	ANT	Ave	26114 2815798	136870 4130551	297477 5236156	675875	1437476	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
3-Nitroaniline	ANT	Ave	+++++ 537341	21254 815256	50901 1077195	123012	266269	+++++ 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Acenaphthene	ANT	Ave	19951 1800574	95674 2581715	202081 3270023	451260	949795	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2,4-Dinitrophenol	ANT	Ave	+++++ 643198	+++++ 978319	47820 1325366	110662	288873	+++++ 80.0	+++++ 120	8.00 160	20.0	40.0
4-Nitrophenol	ANT	Ave	+++++ 708208	30087 1062427	72612 1416841	168164	364308	+++++ 80.0	4.00 120	8.00 160	20.0	40.0
2,4-Dinitrotoluene	ANT	Ave	+++++ 672807	24791 1026657	62390 1385977	152361	334007	+++++ 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Dibenzofuran	ANT	Ave	28584 2677981	139724 3982196	291998 5088662	654668	1367842	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2,3,5,6-Tetrachlorophenol	ANT	Ave	3997 603065	23604 939768	55098 1252826	132201	300451	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2,3,4,6-Tetrachlorophenol	ANT	Ave	4777 614704	28843 930336	62439 1246971	139347	306478	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302239

SDG No.:

Instrument ID: CH71 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/21/2019 11:07 Calibration End Date: 12/21/2019 14:16 Calibration ID: 42316

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
2-Naphthylamine	ANT	Ave	17397 1977340	94943 2869012	211348 3716776	484900	1029738	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Diethyl phthalate	ANT	Ave	20051 2126713	104993 3202172	230577 3991504	514649	1077747	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Hexadecane	NPT	Ave	12389 1290184	70633 1808769	154658 2252635	354633	732008	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
4-Chlorophenyl phenyl ether	ANT	Ave	10661 1145557	57797 1709266	119703 2238167	271342	584181	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
4-Nitroaniline	ANT	Ave	+++++ 581104	23377 863691	57983 1134373	136411	305180	+++++ 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Fluorene	ANT	Ave	20468 2146833	108555 3105382	236574 3950931	531346	1122262	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
4,6-Dinitro-2-methylphenol	PHN	Ave	+++++ 910623	+++++ 1427596	64401 1927524	173581	429431	+++++ 80.0	+++++ 120	8.00 160	20.0	40.0
N-Nitrosodiphenylamine	PHN	Ave	14807 1618736	78573 2463356	170131 3205824	387301	818130	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
1,2-Diphenylhydrazine(as Azobenzene)	PHN	Ave	19308 2339072	115125 3494945	248473 4461212	573424	1213028	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Azobenzene	PHN	Ave	19308 2339072	115125 3494945	248473 4461212	573424	1213028	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
4-Bromophenyl phenyl ether	PHN	Ave	6530 680041	31394 1029952	67576 1400493	156536	336649	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Hexachlorobenzene	PHN	Ave	7159 745866	36596 1165058	77651 1545049	172302	367348	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Atrazine	PHN	Ave	4353 663583	26796 1022695	65043 1357623	150006	329876	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Pentachlorophenol	PHN	Ave	8723 1036922	45763 1584245	102837 2073538	215257	498457	0.760 80.0	4.00 120	8.00 160	20.0	40.0
n-Octadecane	DCBd 4	Ave	12697 1475670	70386 2144479	156118 2736340	371621	788547	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Phenanthrene	PHN	Ave	33247 3288371	165809 4894184	345944 6366150	779159	1660004	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Anthracene	PHN	Ave	28236 3329466	154368 5035811	342093 6479671	785533	1681680	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Carbazole	PHN	Ave	26017 2991521	143571 4605960	311927 5983657	710280	1531175	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Di-n-butyl phthalate	PHN	Ave	25464 3727903	148937 5609852	341482 7259115	828446	1856964	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Fluoranthene	PHN	Ave	30199 3636779	160939 5625541	357994 7356596	829454	1828708	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Benzidine	CRY	Ave	+++++ 1839188	67597 2556403	158917 3064774	466428	989251	+++++ 40.0	2.00 60.0	4.00 80.0	10.0	20.0

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302239

SDG No.:

Instrument ID: CH71 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/21/2019 11:07 Calibration End Date: 12/21/2019 14:16 Calibration ID: 42316

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Pyrene	CRY	Ave	29824 3715221	168927 5612677	370945 7367561	858070	1862481	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Butyl benzyl phthalate	CRY	Ave	+++++ 1583947	50718 2496448	122402 3351544	314784	757907	+++++ 40.0	2.00 60.0	4.00 80.0	10.0	20.0
3,3'-Dichlorobenzidine	CRY	Ave	+++++ 1315030	40939 2042880	101416 2723456	248366	625451	+++++ 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Benzo[a]anthracene	CRY	Ave	27227 3556865	147510 5533354	337356 7328010	779976	1753667	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Bis(2-ethylhexyl) phthalate	CRY	Ave	+++++ 2312606	69539 3620106	172260 4823810	454391	1093937	+++++ 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Chrysene	CRY	Ave	30986 3439810	161796 5358165	360756 7099486	806226	1769952	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Di-n-octyl phthalate	PRY	Ave	+++++ 3359500	132848 5543838	271554 7587261	533833	1469780	+++++ 40.0	2.00 60.0	4.00 80.0	10.0	20.0
7,12-Dimethylbenz(a)anthracene	PRY	Ave	+++++ 1772521	58495 2823036	141780 3819353	363054	841756	+++++ 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Benzo[b]fluoranthene	PRY	Ave	25026 3698073	141063 6034165	317357 8112412	796738	1784596	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Benzo[k]fluoranthene	PRY	Ave	23525 3736968	160330 5653457	379313 7716613	846625	1857467	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Benzo[e]pyrene	PRY	Ave	23681 3222488	131043 5018392	291046 6898753	695630	1569095	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Benzo[a]pyrene	PRY	Ave	18577 3165860	118847 4885319	282199 6803805	658312	1528523	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Indeno[1,2,3-cd]pyrene	PRY	Ave	20109 3810101	128199 6155571	315436 +++++	769682	1790300	0.380 40.0	2.00 60.0	4.00 +++++	10.0	20.0
Dibenz(a,h)anthracene	PRY	Lin1	16259 3100367	106455 5050086	258218 +++++	627162	1473390	0.380 40.0	2.00 60.0	4.00 +++++	10.0	20.0
Benzo[g,h,i]perylene	PRY	Ave	19097 3222527	121420 5144990	283944 7042356	672240	1572556	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2-Fluorophenol (Surr)	DCBd 4	Ave	5041 536112	26359 797904	55614 1070980	129005	273214	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Phenol-d5 (Surr)	DCBd 4	Ave	8486 776305	40517 1137085	85106 1484685	194842	405487	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Nitrobenzene-d5 (Surr)	NPT	Ave	7315 803914	39175 1214102	82696 1587399	193501	422373	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2-Fluorobiphenyl	ANT	Ave	22063 2084721	111914 3005147	234713 3910732	517683	1076759	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0
2,4,6-Tribromophenol (Surr)	PHN	Ave	+++++ 351459	13498 554627	32148 759670	79371	170976	+++++ 40.0	2.00 60.0	4.00 80.0	10.0	20.0
Terphenyl-d14 (Surr)	CRY	Ave	22183 2649314	117264 4100203	259486 5432629	596194	1303630	0.380 40.0	2.00 60.0	4.00 80.0	10.0	20.0

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302239

SDG No.:

Instrument ID: CH71 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/21/2019 11:07 Calibration End Date: 12/21/2019 14:16 Calibration ID: 42316

Curve Type Legend:

Ave = Average ISTD
Lin1 = Linear 1/conc ISTD

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302239

SDG No.:

Instrument ID: CH71 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/21/2019 11:07 Calibration End Date: 12/21/2019 14:16 Calibration ID: 42316

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-302239/4	S1220004.D
Level 2	IC 180-302239/5	S1220005.D
Level 3	IC 180-302239/6	S1220006.D
Level 4	ICIS 180-302239/7	S1220007.D
Level 5	IC 180-302239/8	S1220008.D
Level 6	IC 180-302239/9	S1220009.D
Level 7	IC 180-302239/10	S1220010.D
Level 8	IC 180-302239/11	S1220011.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
1,4-Dioxane	+++++	3.2	1.8	-3.9	-2.1	-0.5		50	30	30	30	30
	0.5	1.1					30	30				
N-Nitrosodimethylamine	-8.0	-0.4	-3.3	-0.9	0.2	3.0	50	30	30	30	30	30
	5.3	4.0					30	30				
Pyridine	-8.6	0.1	3.1	-1.0	0.3	3.3	50	30	30	30	30	30
	1.2	1.6					30	30				
Methyl methanesulfonate	0.9	5.4	3.5	-3.8	-0.4	0.4	50	30	30	30	30	30
	-2.0	-4.0					30	30				
Benzaldehyde	12.7	4.2	7.0	4.1	1.6	-8.7	50	30	30	30	30	30
	-20.8	+++++					30					
Phenol	4.6	9.6	8.8	1.3	-1.4	-3.2	50	30	30	30	30	30
	-7.9	-11.8					30	30				
Aniline	7.7	7.6	4.7	0.6	-0.7	-1.8	50	30	30	30	30	30
	-6.7	-11.5					30	30				
Bis(2-chloroethyl)ether	2.1	3.8	6.8	-0.4	-1.2	-1.7	50	30	30	30	30	30
	-3.5	-6.0					30	30				
2-Chlorophenol	-1.4	4.7	2.6	-1.4	0.0	-0.1	50	30	30	30	30	30
	-0.4	-4.0					30	30				
n-Decane	19.1	6.3	3.7	-3.9	-4.1	-3.9	50	30	30	30	30	30
	-6.8	-10.4					30	30				
1,3-Dichlorobenzene	9.9	6.0	5.0	-0.2	-1.3	-3.1	50	30	30	30	30	30
	-7.0	-9.2					30	30				
1,4-Dichlorobenzene	12.0	5.6	6.0	-2.1	-2.1	-3.5	50	30	30	30	30	30
	-6.7	-9.1					30	30				
Benzyl alcohol	-0.6	-0.1	1.8	-2.6	0.3	2.1	50	30	30	30	30	30
	0.5	-1.4					30	30				
1,2-Dichlorobenzene	8.6	6.1	5.6	0.0	-1.5	-3.3	50	30	30	30	30	30
	-6.4	-9.1					30	30				
Indene	9.7	6.9	8.0	0.7	-2.8	-4.7	50	30	30	30	30	30
	-6.6	-11.3					30	30				

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302239

SDG No.:

Instrument ID: CH71 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/21/2019 11:07 Calibration End Date: 12/21/2019 14:16 Calibration ID: 42316

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
2-Methylphenol	6.5 -6.6	8.8 -10.9	10.4	-1.3	-2.7	-4.4	50 30	30 30	30	30	30	30
2,2'-oxybis[1-chloropropane]	12.0 -5.5	7.2 -8.6	4.1	-2.2	-3.9	-3.2	50 30	30 30	30	30	30	30
N-Nitrosopyrrolidine	-13.1 7.9	-7.1 7.4	-2.8	-2.2	2.6	7.4	50 30	30 30	30	30	30	30
Acetophenone	8.7 -8.6	8.6 -14.2	9.3	1.9	-1.8	-4.0	50 30	30 30	30	30	30	30
N-Nitrosodi-n-propylamine	3.0 -8.3	4.8 -15.0	10.4	3.9	3.7	-2.6	50 30	30 30	30	30	30	30
Methylphenol, 3 & 4	1.5 -8.8	8.9 -13.9	10.1	4.2	0.8	-2.6	50 30	30 30	30	30	30	30
Hexachloroethane	8.9 -3.2	2.7 -5.4	3.0	-3.5	-1.9	-0.6	50 30	30 30	30	30	30	30
Nitrobenzene	3.4 -1.6	0.2 -4.6	2.0	-0.9	1.5	0.1	50 30	30 30	30	30	30	30
Isophorone	-2.8 0.2	-0.7 -4.0	3.4	0.8	2.5	0.6	50 30	30 30	30	30	30	30
2-Nitrophenol	+++++ 9.0	-18.4 5.0	-8.2	-1.8	6.6	7.9	 30	50 30	30	30	30	30
2,4-Dimethylphenol	-2.2 -3.5	4.3 -6.9	5.8	1.4	3.1	-2.1	50 30	30 30	30	30	30	30
Benzoic acid	+++++ 0.7	+++++ 4.0	25.1	-18.2	-9.1	-2.5	 30	 30	50	30	30	30
Bis(2-chloroethoxy)methane	7.8 -6.8	5.0 -10.4	6.0	1.3	0.4	-3.3	50 30	30 30	30	30	30	30
2,4-Dichlorophenol	-2.3 -1.5	-0.6 -4.4	6.0	-0.7	1.6	2.0	50 30	30 30	30	30	30	30
1,2,4-Trichlorobenzene	5.5 -4.4	5.9 -8.0	6.4	-2.2	-0.4	-2.7	50 30	30 30	30	30	30	30
Naphthalene	10.3 -5.9	6.7 -11.8	6.1	-0.8	-0.9	-3.7	50 30	30 30	30	30	30	30
4-Chloroaniline	5.0 -5.0	4.7 -8.8	4.6	0.4	1.3	-2.3	50 30	30 30	30	30	30	30
2,6-Dichlorophenol	-2.4 -2.9	3.2 -6.6	3.9	1.4	2.7	0.7	50 30	30 30	30	30	30	30
Hexachlorobutadiene	4.7 -3.0	4.2 -5.5	2.3	-2.1	1.2	-1.7	50 30	30 30	30	30	30	30
Caprolactam	+++++ 10.5	-23.3 11.7	-8.2	-3.5	4.6	8.1	 30	50 30	30	30	30	30
4-Chloro-3-methylphenol	-4.1 0.7	-1.9 -2.4	1.3	0.1	3.5	2.8	50 30	30 30	30	30	30	30

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302239

SDG No.:

Instrument ID: CH71 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/21/2019 11:07 Calibration End Date: 12/21/2019 14:16 Calibration ID: 42316

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
2-Methylnaphthalene	10.3 -6.1	2.8 -9.3	5.7	-0.1	-0.8	-2.6	50 30	30 30	30	30	30	30
1-Methylnaphthalene	11.7 -5.7	4.4 -9.4	5.1	-1.3	-1.6	-3.2	50 30	30 30	30	30	30	30
Hexachlorocyclopentadiene	-15.1 7.5	-17.0 4.5	-8.5	0.5	12.7	15.4	50 30	30 30	30	30	30	30
1,2,4,5-Tetrachlorobenzene	12.9 -10.1	5.5 -13.7	2.4	3.8	2.0	-2.8	50 30	30 30	30	30	30	30
2,4,6-Trichlorophenol	-15.2 3.9	-2.3 5.2	-1.6	1.6	2.1	6.3	50 30	30 30	30	30	30	30
2,4,5-Trichlorophenol	-10.9 2.0	-6.0 1.4	0.7	3.0	5.7	4.1	50 30	30 30	30	30	30	30
1,1'-Biphenyl	11.2 -7.7	4.3 -9.2	2.8	-0.2	0.5	-1.6	50 30	30 30	30	30	30	30
2-Chloronaphthalene	5.0 -4.1	2.7 -5.1	0.4	1.2	0.3	-0.3	50 30	30 30	30	30	30	30
2-Nitroaniline	+++++ 6.7	-21.8 7.6	-9.0	1.1	7.0	8.4	 30	50 30	30	30	30	30
Dimethyl phthalate	1.6 -2.3	-0.1 -1.8	0.0	0.1	1.6	0.9	50 30	30 30	30	30	30	30
1,3-Dinitrobenzene	+++++ 19.4	-35.0 18.5	-20.1	-6.2	8.4	15.0	 30	50 30	30	30	30	30
2,6-Dinitrotoluene	+++++ 5.1	-17.7 5.7	-5.1	-0.7	4.8	7.8	 30	50 30	30	30	30	30
Acenaphthylene	-0.5 -1.6	-1.8 -5.2	1.8	0.9	2.8	3.6	50 30	30 30	30	30	30	30
3-Nitroaniline	+++++ 5.6	-17.1 6.1	-5.3	-0.2	3.6	7.4	 30	50 30	30	30	30	30
Acenaphthene	13.4 -8.2	2.4 -11.6	3.2	0.5	1.4	-1.2	50 30	30 30	30	30	30	30
2,4-Dinitrophenol	+++++ 12.3	+++++ 15.7	-21.2	-20.4	-0.4	14.0	 30	 30	50	30	30	30
4-Nitrophenol	+++++ 1.5	-13.5 2.9	-0.4	0.6	4.5	4.4	 30	50 30	30	30	30	30
2,4-Dinitrotoluene	+++++ 6.9	-22.2 9.8	-6.7	-0.5	4.5	8.2	 30	50 30	30	30	30	30
Dibenzofuran	10.3 -4.0	1.5 -6.7	1.1	-1.1	-0.9	-0.3	50 30	30 30	30	30	30	30
2,3,5,6-Tetrachlorophenol	-23.6 12.3	-15.1 13.8	-5.5	-1.0	7.8	11.3	50 30	30 30	30	30	30	30
2,3,4,6-Tetrachlorophenol	-14.5 4.1	-2.8 6.1	0.3	-2.3	3.0	6.2	50 30	30 30	30	30	30	30

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302239

SDG No.:

Instrument ID: CH71 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/21/2019 11:07 Calibration End Date: 12/21/2019 14:16 Calibration ID: 42316

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
2-Naphthylamine	-5.5 -2.6	-2.9 -4.0	3.1	3.2	5.0	3.7	50 30	30 30	30	30	30	30
Diethyl phthalate	0.0 -0.2	-1.4 -5.4	3.2	0.5	0.9	2.4	50 30	30 30	30	30	30	30
Hexadecane	-2.6 -9.1	5.2 -16.5	11.5	6.9	7.2	-2.5	50 30	30 30	30	30	30	30
4-Chlorophenyl phenyl ether	-1.2 -0.9	0.9 -1.3	-0.3	-1.4	1.7	2.6	50 30	30 30	30	30	30	30
4-Nitroaniline	+++++ 1.9	-16.9 1.8	-1.7	0.9	8.2	5.9	 30	50 30	30	30	30	30
Fluorene	0.5 -4.7	0.3 -7.8	4.3	2.2	3.4	1.8	50 30	30 30	30	30	30	30
4,6-Dinitro-2-methylphenol	+++++ 13.5	+++++ 16.0	-26.8	-14.4	1.3	10.4	 30	 30	50	30	30	30
N-Nitrosodiphenylamine	-5.8 2.6	-3.3 1.1	1.3	0.1	1.1	2.8	50 30	30 30	30	30	30	30
1,2-Diphenylhydrazine(as Azobenzene)	-14.2 1.6	-1.0 -1.8	3.3	3.5	4.7	3.8	50 30	30 30	30	30	30	30
Azobenzene	-14.2 1.6	-1.0 -1.8	3.3	3.5	4.7	3.8	50 30	30 30	30	30	30	30
4-Bromophenyl phenyl ether	-0.1 3.1	-7.1 6.2	-3.2	-2.7	0.1	3.8	50 30	30 30	30	30	30	30
Hexachlorobenzene	-1.9 4.5	-3.0 4.9	-0.4	-4.1	-2.2	2.0	50 30	30 30	30	30	30	30
Atrazine	-27.7 11.2	-13.9 11.7	1.1	1.2	6.4	10.0	50 30	30 30	30	30	30	30
Pentachlorophenol	-8.9 8.2	-7.6 7.3	0.5	-8.7	1.1	8.1	50 30	30 30	30	30	30	30
n-Octadecane	-10.2 0.2	-1.6 -5.2	4.6	3.4	5.5	3.4	50 30	30 30	30	30	30	30
Phenanthrene	3.1 -0.7	-0.5 -2.2	0.4	-1.9	0.0	1.8	50 30	30 30	30	30	30	30
Anthracene	-10.7 4.2	-5.6 1.5	1.2	0.9	3.3	5.1	50 30	30 30	30	30	30	30
Carbazole	-10.0 4.3	-3.9 2.6	1.0	-0.2	2.9	3.3	50 30	30 30	30	30	30	30
Di-n-butyl phthalate	-23.4 10.5	-13.3 8.2	-3.8	1.2	8.6	12.0	50 30	30 30	30	30	30	30
Fluoranthene	-11.7 7.6	-9.0 6.6	-2.0	-1.5	3.9	6.1	50 30	30 30	30	30	30	30
Benzidine	+++++ -3.9	-13.9 -11.9	-6.8	16.0	13.5	7.0	 30	50 30	30	30	30	30

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302239

SDG No.:

Instrument ID: CH71 GC Column: Rxi-5SilMS ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/21/2019 11:07 Calibration End Date: 12/21/2019 14:16 Calibration ID: 42316

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
Pyrene	-4.0 -0.9	1.0 -0.5	2.2	0.3	0.3	1.5	50 30	30 30	30	30	30	30
Butyl benzyl phthalate	+++++ 12.5	-22.6 15.5	-13.9	-6.1	4.2	10.5	 30	50 30	30	30	30	30
3,3'-Dichlorobenzidine	+++++ 12.8	-23.5 15.0	-12.7	-9.3	5.3	12.3	 30	50 30	30	30	30	30
Benzo[a]anthracene	-6.3 4.5	-5.7 5.8	-0.6	-2.6	1.0	3.9	50 30	30 30	30	30	30	30
Bis(2-ethylhexyl) phthalate	+++++ 13.8	-26.0 15.9	-15.6	-5.5	4.9	12.5	 30	50 30	30	30	30	30
Chrysene	3.6 -1.7	0.5 -0.4	3.3	-2.1	-0.9	-2.3	50 30	30 30	30	30	30	30
Di-n-octyl phthalate	+++++ 19.7	-9.3 25.1	-14.4	-26.7	-6.3	11.8	 30	50 30	30	30	30	30
7,12-Dimethylbenz(a)anthracene	+++++ 15.0	-24.7 18.8	-15.7	-5.9	1.2	11.2	 30	50 30	30	30	30	30
Benzo[b]fluoranthene	-18.8 16.1	-14.2 19.2	-10.9	-2.5	1.4	9.6	50 30	30 30	30	30	30	30
Benzo[k]fluoranthene	-25.8 5.8	-5.1 10.3	3.6	0.8	2.6	7.7	50 30	30 30	30	30	30	30
Benzo[e]pyrene	-13.0 9.4	-9.7 14.9	-7.4	-3.5	1.0	8.2	50 30	30 30	30	30	30	30
Benzo[a]pyrene	-27.7 12.8	-13.3 19.9	-4.9	-3.4	4.1	12.5	50 30	30 30	30	30	30	30
Indeno[1,2,3-cd]pyrene	-30.7 25.8	-17.2 +++++	-5.9	0.1	8.0	19.9	50 30	30	30	30	30	30
Dibenz(a,h)anthracene	42.4 5.7	-13.7 +++++	-13.4	-13.6	-7.8	0.3	50 30	30	30	30	30	30
Benzo[g,h,i]perylene	-27.7 15.6	-13.8 20.8	-6.9	-3.9	4.3	11.5	50 30	30 30	30	30	30	30
2-Fluorophenol (Surr)	-3.0 1.4	0.2 1.0	1.3	-2.4	-0.6	2.2	50 30	30 30	30	30	30	30
Phenol-d5 (Surr)	8.9 -3.7	2.7 -6.7	3.4	-1.7	-1.6	-1.4	50 30	30 30	30	30	30	30
Nitrobenzene-d5 (Surr)	-3.4 2.5	-2.0 -1.1	0.2	-2.1	3.9	2.0	50 30	30 30	30	30	30	30
2-Fluorobiphenyl	8.8 -7.3	3.9 -8.3	3.9	0.0	-0.3	-0.7	50 30	30 30	30	30	30	30
2,4,6-Tribromophenol (Surr)	+++++ 10.1	-20.8 14.2	-8.7	-2.2	0.8	6.4	 30	50 30	30	30	30	30
Terphenyl-d14 (Surr)	0.0 1.4	-1.8 2.8	0.1	-2.4	-1.6	1.4	50 30	30 30	30	30	30	30

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220004.D
Lims ID: IC R0.38
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 21-Dec-2019 11:07:30 ALS Bottle#: 2 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030114-004
Misc. Info.: IC R0.38
Operator ID: 001562 Instrument ID: CH71
Sublist: chrom-BNA_CH71*sub9

Method: \\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\BNA_CH71.m
Limit Group: BNA 8270D ICAL
Last Update: 23-Dec-2019 07:55:15 Calib Date: 21-Dec-2019 14:16:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220011.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0321

First Level Reviewer: fergusond Date: 21-Dec-2019 12:43:16

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.005	6.005	0.000	97	116358	8.00	8.00	
* 2 Naphthalene-d8	136	7.228	7.228	0.000	100	510962	8.00	8.00	
* 3 Acenaphthene-d10	164	8.857	8.857	0.000	95	314790	8.00	8.00	
* 4 Phenanthrene-d10	188	10.230	10.230	0.000	97	600253	8.00	8.00	
* 5 Chrysene-d12	240	13.622	13.622	0.000	99	534580	8.00	8.00	
* 6 Perylene-d12	264	16.479	16.479	0.000	99	490624	8.00	8.00	
$ 7 2-Fluorophenol	112	4.611	4.611	0.000	92	5041	0.3800	0.3686	
$ 8 Phenol-d5	99	5.653	5.653	0.000	97	8486	0.3800	0.4138	
$ 9 Nitrobenzene-d5	82	6.539	6.539	0.000	89	7315	0.3800	0.3670	
$ 10 2-Fluorobiphenyl	172	8.222	8.222	0.000	98	22063	0.3800	0.4134	
$ 11 2,4,6-Tribromophenol	330	9.584	9.584	0.000	86	2192	0.3800	0.2528	
$ 12 Terphenyl-d14	244	11.950	11.950	0.000	98	22183	0.3800	0.3801	
13 1,4-Dioxane	88	1.407	1.407	0.000	26	842	0.3800	0.2069	Ma
14 N-Nitrosodimethylamine	74	1.957	1.957	0.000	36	2188	0.3800	0.3498	
15 Pyridine	79	2.064	2.064	0.000	88	7357	0.7600	0.6947	
21 Methyl methanesulfonate	80	4.376	4.376	0.000	82	3049	0.3800	0.3834	a
25 Benzaldehyde	77	5.557	5.557	0.000	93	6071	0.3800	0.4281	
26 Phenol	94	5.669	5.669	0.000	94	9120	0.3800	0.3977	
27 Aniline	93	5.674	5.674	0.000	94	11171	0.3800	0.4093	
29 Bis(2-chloroethyl)ether	93	5.749	5.749	0.000	92	6483	0.3800	0.3881	
30 2-Chlorophenol	128	5.797	5.797	0.000	95	7138	0.3800	0.3747	
31 n-Decane	43	5.872	5.872	0.000	86	8203	0.3800	0.4524	
32 1,3-Dichlorobenzene	146	5.952	5.952	0.000	96	9224	0.3800	0.4177	
33 1,4-Dichlorobenzene	146	6.021	6.021	0.000	93	9679	0.3800	0.4255	
34 Benzyl alcohol	108	6.144	6.144	0.000	89	4433	0.3800	0.3779	
35 1,2-Dichlorobenzene	146	6.171	6.171	0.000	94	8918	0.3800	0.4126	
36 2-Methylphenol	108	6.256	6.256	0.000	72	6853	0.3800	0.4048	
37 Indene	116	6.262	6.262	0.000	91	13338	0.3800	0.4170	
38 2,2'-oxybis[1-chloropropan	45	6.283	6.283	0.000	89	9882	0.3800	0.4258	
39 N-Nitrosopyrrolidine	100	6.368	6.368	0.000	85	2656	0.3800	0.3302	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
40 Acetophenone	105	6.395	6.395	0.000	96	10970	0.3800	0.4131	
41 N-Nitrosodi-n-propylamine	70	6.400	6.400	0.000	81	5288	0.3800	0.3915	
42 4-Methylphenol	108	6.406	6.406	0.000	84	6866	0.3800	0.3855	
45 Hexachloroethane	117	6.502	6.502	0.000	85	3673	0.3800	0.4137	
46 Nitrobenzene	77	6.561	6.561	0.000	88	8214	0.3800	0.3929	
48 Isophorone	82	6.790	6.790	0.000	98	13779	0.3800	0.3694	
49 2-Nitrophenol	139	6.865	6.865	0.000	90	2695	0.3800	0.2500	
50 2,4-Dimethylphenol	107	6.903	6.903	0.000	94	7691	0.3800	0.3718	
52 Benzoic acid	122		6.948				ND	ND	
53 Bis(2-chloroethoxy)methane	93	6.993	6.993	0.000	97	9427	0.3800	0.4098	
54 2,4-Dichlorophenol	162	7.089	7.089	0.000	94	6714	0.3800	0.3712	
56 1,2,4-Trichlorobenzene	180	7.175	7.175	0.000	94	8590	0.3800	0.4008	
58 Naphthalene	128	7.244	7.244	0.000	96	27228	0.3800	0.4191	
59 4-Chloroaniline	127	7.292	7.292	0.000	96	10935	0.3800	0.3992	
60 2,6-Dichlorophenol	162	7.303	7.303	0.000	94	6787	0.3800	0.3708	
62 Hexachlorobutadiene	225	7.373	7.373	0.000	96	5278	0.3800	0.3978	
64 Caprolactam	113	7.581	7.581	0.000	71	1425	0.3800	0.2273	
67 4-Chloro-3-methylphenol	107	7.730	7.730	0.000	94	7061	0.3800	0.3644	
69 2-Methylnaphthalene	142	7.891	7.891	0.000	93	19784	0.3800	0.4193	
71 1-Methylnaphthalene	142	7.981	7.981	0.000	93	18838	0.3800	0.4244	
72 Hexachlorocyclopentadiene	237	8.046	8.046	0.000	89	4625	0.3800	0.3224	
73 1,2,4,5-Tetrachlorobenzene	216	8.051	8.051	0.000	96	10060	0.3800	0.4289	
74 2,4,6-Trichlorophenol	196	8.147	8.147	0.000	91	4658	0.3800	0.3222	
75 2,4,5-Trichlorophenol	196	8.179	8.179	0.000	92	5335	0.3800	0.3387	
76 1,1'-Biphenyl	154	8.318	8.318	0.000	94	24903	0.3800	0.4227	
77 2-Chloronaphthalene	162	8.339	8.339	0.000	98	18132	0.3800	0.3990	
79 2-Nitroaniline	65	8.419	8.419	0.000	79	3426	0.3800	0.2519	
82 Dimethyl phthalate	163	8.580	8.580	0.000	98	20336	0.3800	0.3861	a
83 1,3-Dinitrobenzene	168	8.606	8.606	0.000	82	1499	0.3800	0.1933	
84 2,6-Dinitrotoluene	165	8.638	8.638	0.000	90	2681	0.3800	0.2268	
85 Acenaphthylene	152	8.724	8.724	0.000	98	26114	0.3800	0.3780	
86 3-Nitroaniline	138	8.793	8.793	0.000	92	2806	0.3800	0.2208	a
88 Acenaphthene	153	8.884	8.884	0.000	94	19951	0.3800	0.4310	
87 2,4-Dinitrophenol	184	8.889	8.889	0.000	56	2257	0.7600	0.3149	
89 4-Nitrophenol	109	8.932	8.932	0.000	93	4540	0.7600	0.5270	
91 2,4-Dinitrotoluene	165	9.007	9.007	0.000	85	3693	0.3800	0.2338	
93 Dibenzofuran	168	9.044	9.044	0.000	96	28584	0.3800	0.4190	
95 2,3,5,6-Tetrachlorophenol	232	9.114	9.114	0.000	87	3997	0.3800	0.2902	
96 2,3,4,6-Tetrachlorophenol	232	9.156	9.156	0.000	72	4777	0.3800	0.3248	
97 2-Naphthylamine	143	9.178	9.178	0.000	96	17397	0.3800	0.3591	
98 Diethyl phthalate	149	9.226	9.226	0.000	98	20051	0.3800	0.3799	
99 Hexadecane	57	9.242	9.242	0.000	96	12389	0.3800	0.3699	
100 4-Chlorophenyl phenyl ethe	204	9.349	9.349	0.000	94	10661	0.3800	0.3756	
101 4-Nitroaniline	138	9.354	9.354	0.000	80	3184	0.3800	0.2283	
103 Fluorene	166	9.359	9.359	0.000	95	20468	0.3800	0.3818	
104 4,6-Dinitro-2-methylphenol	198	9.386	9.386	0.000	81	1934	0.7600	0.1785	
105 N-Nitrosodiphenylamine	169	9.450	9.450	0.000	96	14807	0.3800	0.3580	
90 1,2-Diphenylhydrazine	77	9.493	9.493	0.000	99	19308	0.3800	0.3261	
57 Azobenzene	77	9.493	9.493	0.000	97	19308	0.3800	0.3261	
110 4-Bromophenyl phenyl ether	248	9.803	9.803	0.000	68	6530	0.3800	0.3796	
112 Hexachlorobenzene	284	9.878	9.878	0.000	94	7159	0.3800	0.3729	
113 Atrazine	200	9.926	9.926	0.000	85	4353	0.3800	0.2747	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
116 Pentachlorophenol	266	10.054	10.054	0.000	86	8723	0.7600	0.6922	
115 n-Octadecane	57	10.080	10.080	0.000	93	12697	0.3800	0.3413	
121 Phenanthrene	178	10.251	10.251	0.000	95	33247	0.3800	0.3918	
122 Anthracene	178	10.299	10.299	0.000	98	28236	0.3800	0.3393	
124 Carbazole	167	10.433	10.433	0.000	97	26017	0.3800	0.3420	
126 Di-n-butyl phthalate	149	10.743	10.743	0.000	99	25464	0.3800	0.2912	
131 Fluoranthene	202	11.491	11.491	0.000	97	30199	0.3800	0.3355	
132 Benzidine	184	11.619	11.619	0.000	98	10717	0.3800	0.2791	
133 Pyrene	202	11.779	11.779	0.000	96	29824	0.3800	0.3648	
138 Butyl benzyl phthalate	149	12.633	12.633	0.000	94	8104	0.3800	0.2530	
144 3,3'-Dichlorobenzidine	252	13.541	13.541	0.000	69	6055	0.3800	0.2315	a
146 Benzo[a]anthracene	228	13.611	13.611	0.000	98	27227	0.3800	0.3560	
145 Bis(2-ethylhexyl) phthalat	149	13.627	13.627	0.000	52	10214	0.3800	0.2223	a
147 Chrysene	228	13.670	13.670	0.000	96	30986	0.3800	0.3938	
150 Di-n-octyl phthalate	149	14.903	14.903	0.000	99	40353	0.3800	0.5582	
151 7,12-Dimethylbenz(a)anthra	256	15.683	15.683	0.000	90	8688	0.3800	0.2267	
152 Benzo[b]fluoranthene	252	15.699	15.699	0.000	96	25026	0.3800	0.3084	
153 Benzo[k]fluoranthene	252	15.753	15.753	0.000	98	23525	0.3800	0.2820	
219 Benzo[e]pyrene	252	16.255	16.255	0.000	96	23681	0.3800	0.3307	
154 Benzo[a]pyrene	252	16.362	16.362	0.000	75	18577	0.3800	0.2746	
157 Indeno[1,2,3-cd]pyrene	276	18.637	18.637	0.000	50	20109	0.3800	0.2632	
158 Dibenz(a,h)anthracene	278	18.674	18.674	0.000	89	16259	0.3800	0.5413	M
159 Benzo[g,h,i]perylene	276	19.192	19.192	0.000	97	19097	0.3800	0.2748	M
S 199 Total Cresols	108				0		0.7600	0.7903	
S 197 Methyl Phenols,Total	108				0		0.7600	0.7903	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

SVTAPSTD0.38i_00010 Amount Added: 1.00 Units: mL

Report Date: 23-Dec-2019 07:55:18 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220004.D				
Injection Date:	21-Dec-2019 11:07:30	Instrument ID:	CH71	Operator ID:	001562
Lims ID:	IC R0.38			Worklist Smp#:	4
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

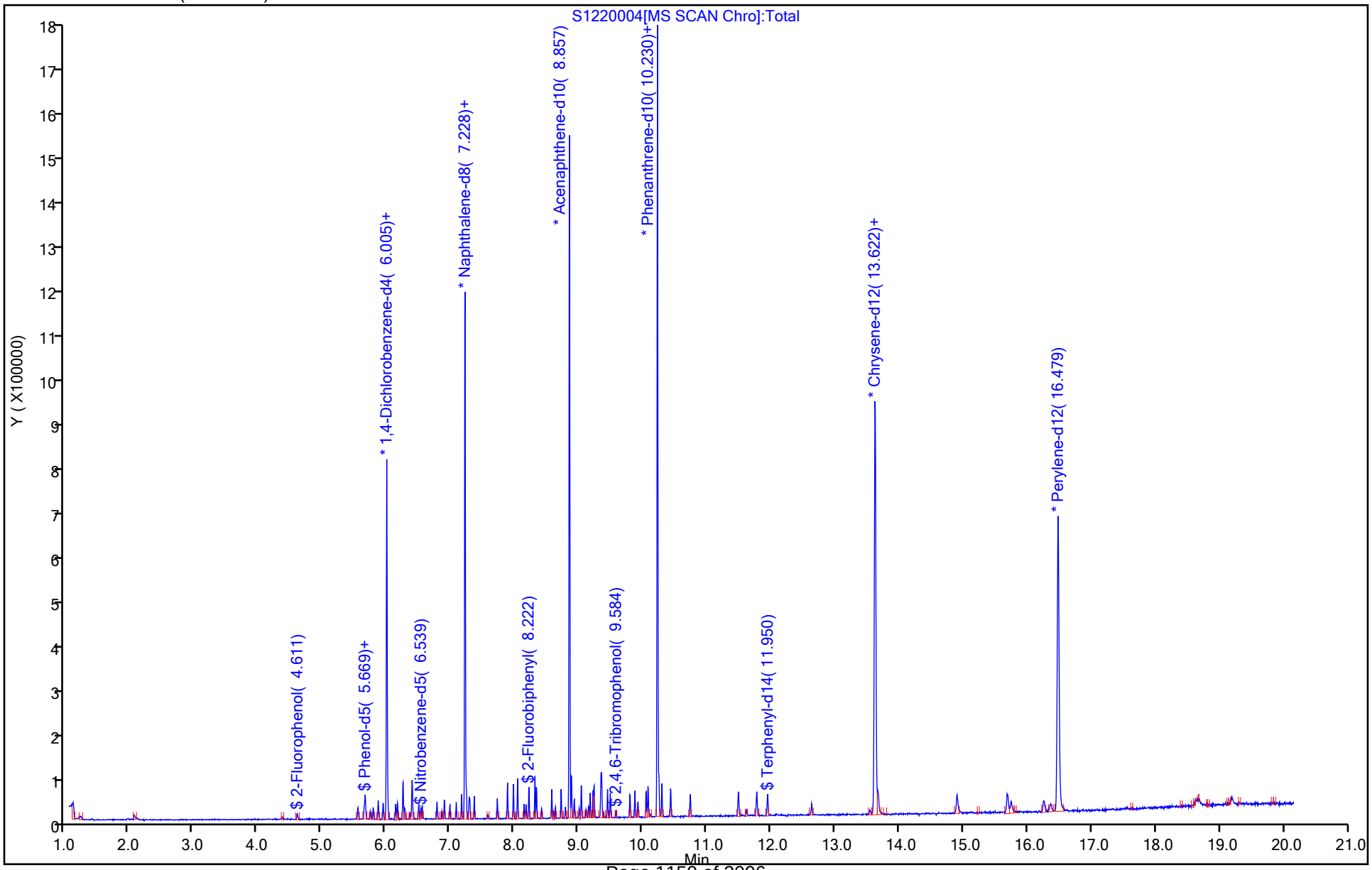

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220004.D				
Injection Date:	21-Dec-2019 11:07:30	Instrument ID:	CH71		
Lims ID:	IC R0.38				
Client ID:					
Operator ID:	001562	ALS Bottle#:	2	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

13 1,4-Dioxane, CAS: 123-91-1

Signal: 1

Not Detected
Expected RT: 1.41

Processing Integration Results

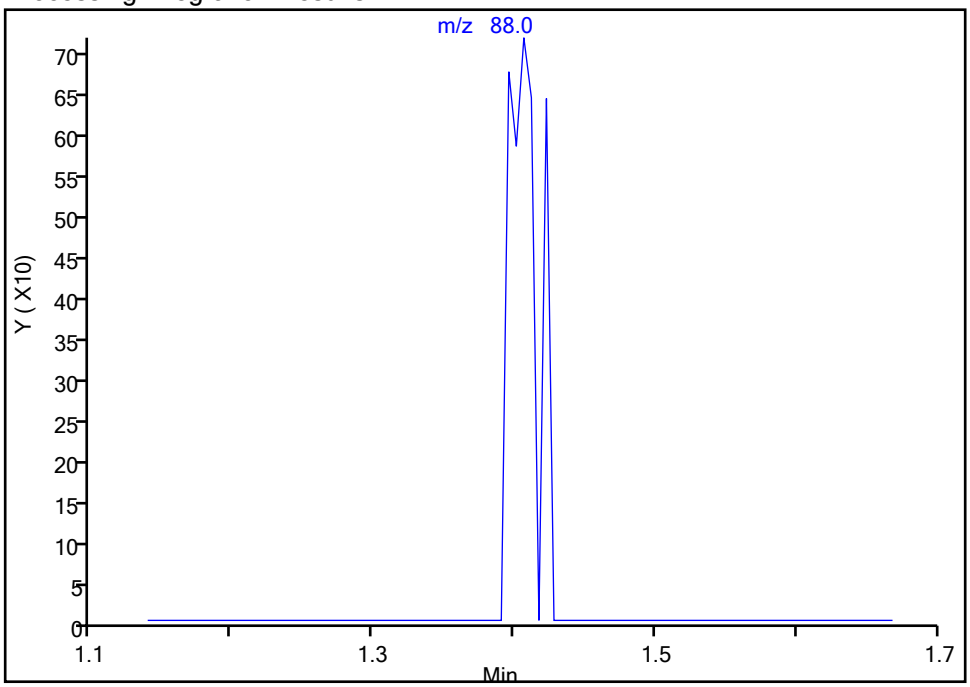

Manual Integration Results

RT: 1.41
Area: 842
Amount: 0.206863
Amount Units: ng

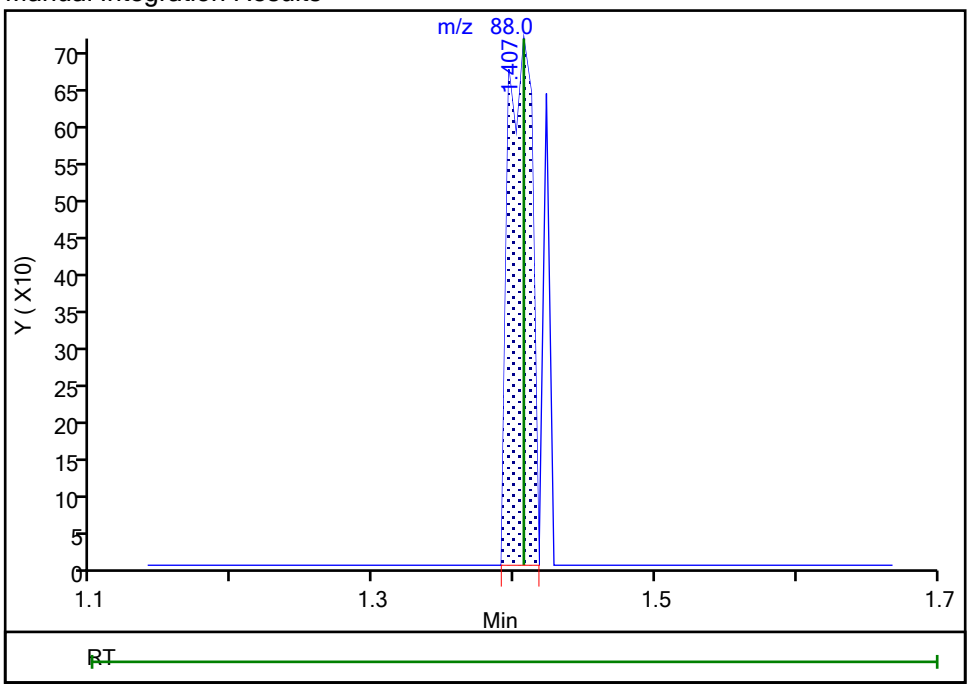

Reviewer: fergusond, 21-Dec-2019 12:37:02
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220004.D				
Injection Date:	21-Dec-2019 11:07:30	Instrument ID:	CH71		
Lims ID:	IC R0.38				
Client ID:					
Operator ID:	001562	ALS Bottle#:	2	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

21 Methyl methanesulfonate, CAS: 66-27-3

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 4.38

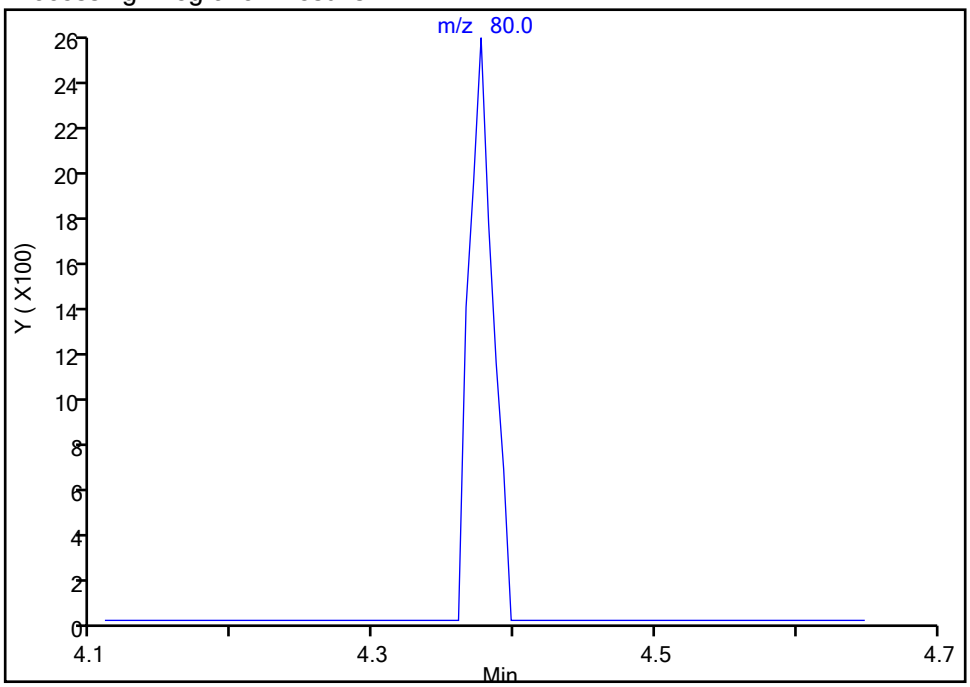

Manual Integration Results

RT: 4.38
Area: 3049
Amount: 0.383356
Amount Units: ng

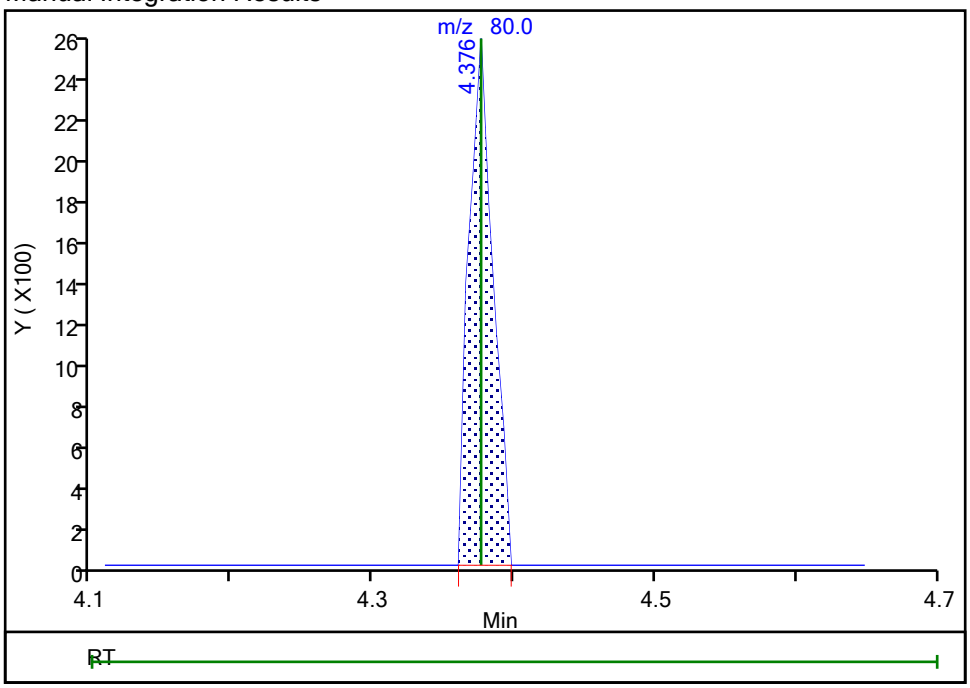

Reviewer: fergusond, 21-Dec-2019 12:37:20
Audit Action: Assigned Compound ID Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220004.D				
Injection Date:	21-Dec-2019 11:07:30	Instrument ID:	CH71		
Lims ID:	IC R0.38				
Client ID:					
Operator ID:	001562	ALS Bottle#:	2	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

82 Dimethyl phthalate, CAS: 131-11-3

Signal: 1

Not Detected
Expected RT: 8.58

Processing Integration Results

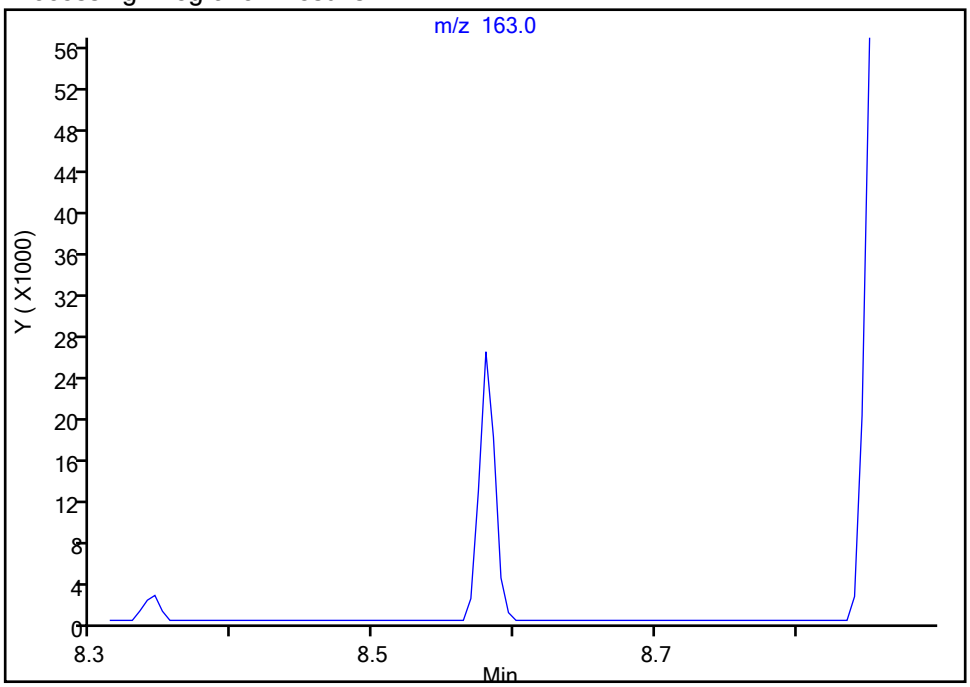

Manual Integration Results

RT: 8.58
Area: 20336
Amount: 0.386117
Amount Units: ng

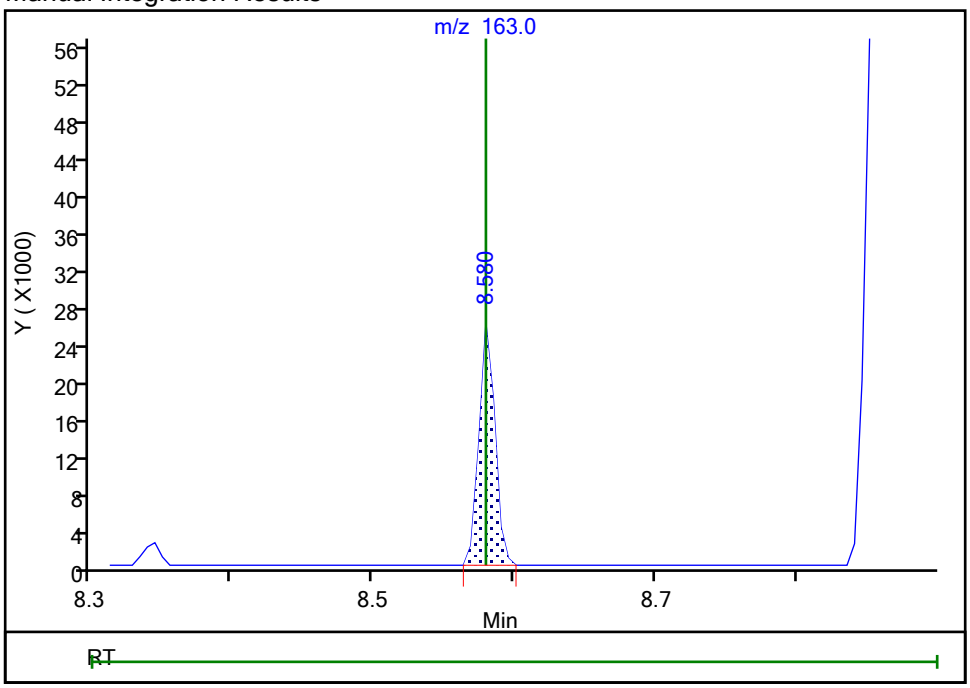

Reviewer: fergusond, 21-Dec-2019 12:37:55
Audit Action: Assigned Compound ID Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220004.D				
Injection Date:	21-Dec-2019 11:07:30	Instrument ID:	CH71		
Lims ID:	IC R0.38				
Client ID:					
Operator ID:	001562	ALS Bottle#:	2	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

86 3-Nitroaniline, CAS: 99-09-2

Signal: 1

Not Detected
Expected RT: 8.79

Processing Integration Results

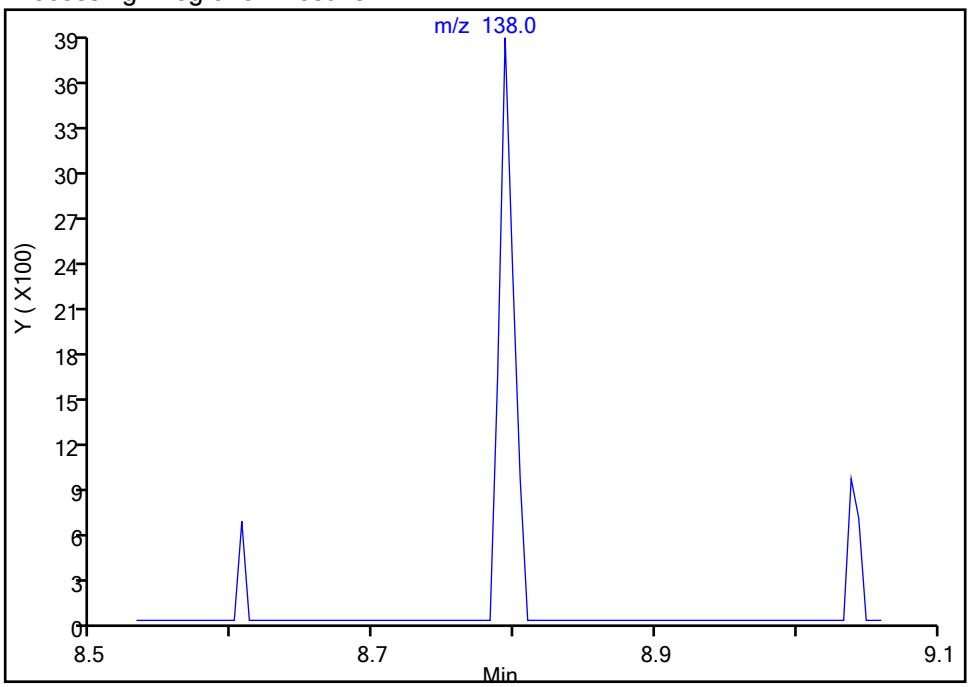

Manual Integration Results

RT: 8.79
Area: 2806
Amount: 0.220818
Amount Units: ng

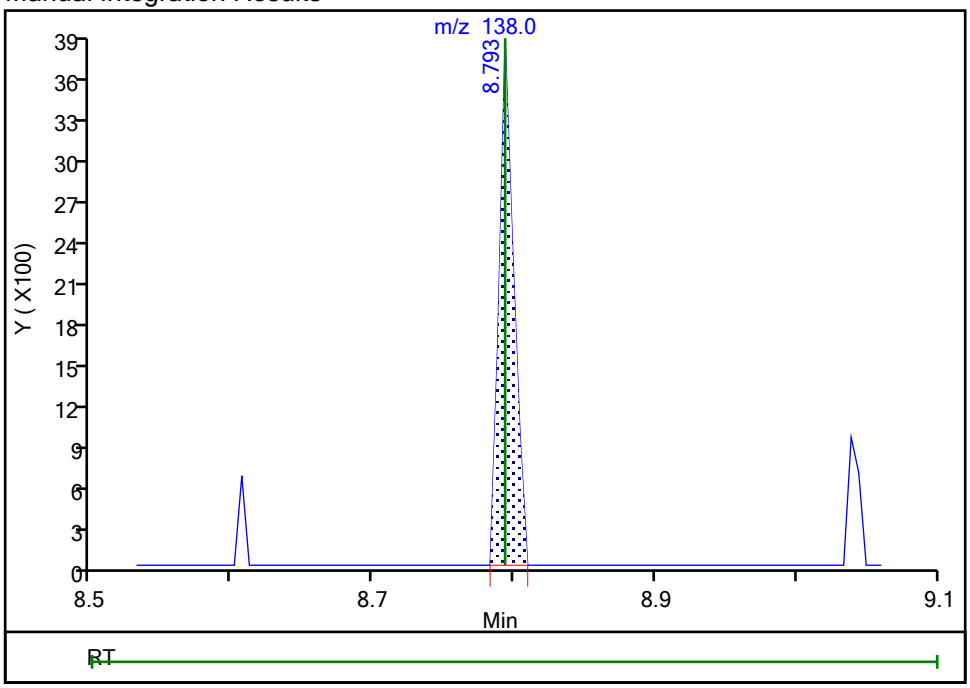

Reviewer: fergusond, 21-Dec-2019 12:38:10
Audit Action: Assigned Compound ID Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220004.D				
Injection Date:	21-Dec-2019 11:07:30	Instrument ID:	CH71		
Lims ID:	IC R0.38				
Client ID:					
Operator ID:	001562	ALS Bottle#:	2	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

144 3,3'-Dichlorobenzidine, CAS: 91-94-1

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 13.54

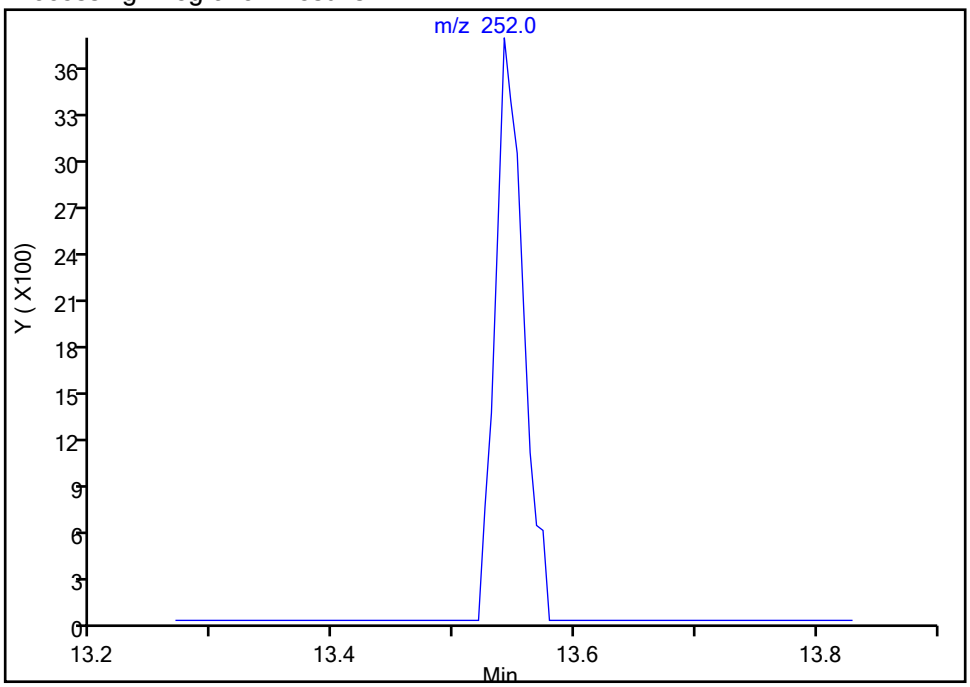

Manual Integration Results

RT: 13.54
Area: 6055
Amount: 0.231515
Amount Units: ng

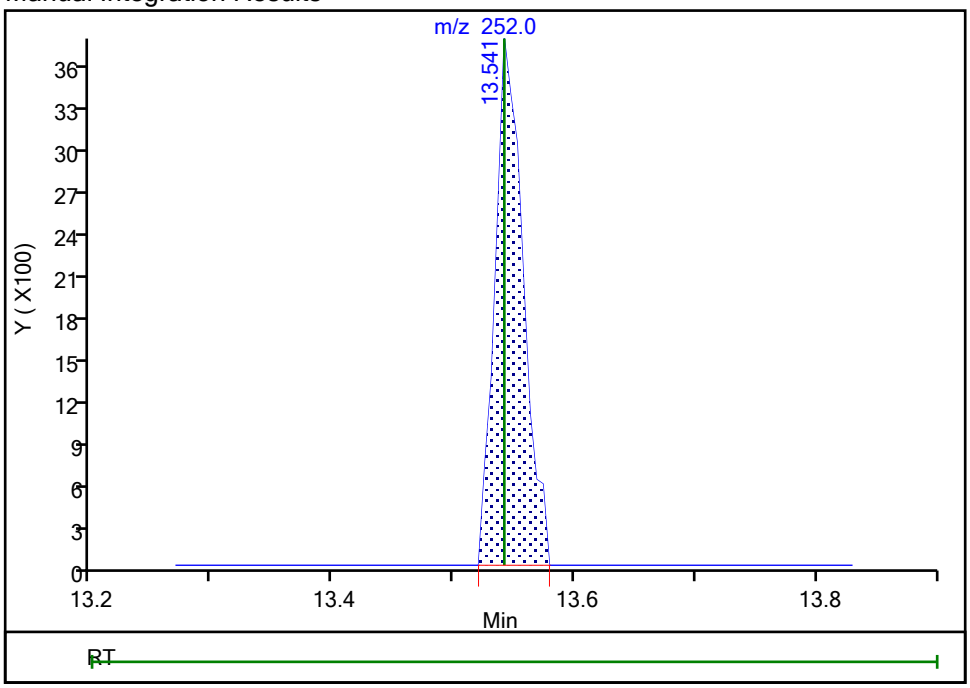

Reviewer: fergusond, 21-Dec-2019 12:38:43
Audit Action: Assigned Compound ID Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220004.D				
Injection Date:	21-Dec-2019 11:07:30	Instrument ID:	CH71		
Lims ID:	IC R0.38				
Client ID:					
Operator ID:	001562	ALS Bottle#:	2	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

145 Bis(2-ethylhexyl) phthalate, CAS: 117-81-7

Signal: 1

Not Detected
Expected RT: 13.63

Processing Integration Results

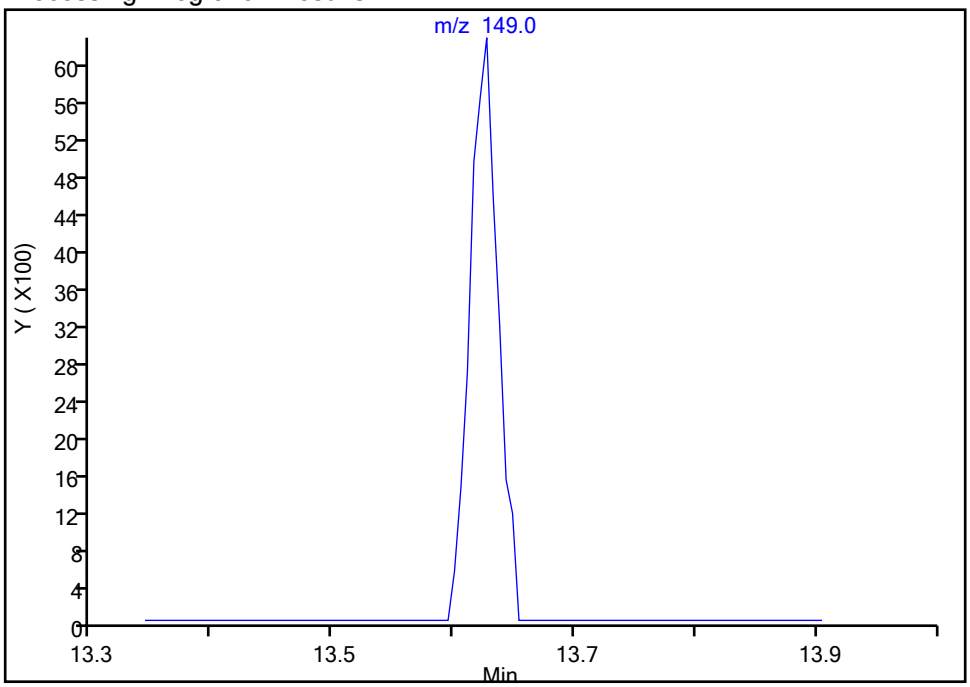

Manual Integration Results

RT: 13.63
Area: 10214
Amount: 0.222332
Amount Units: ng

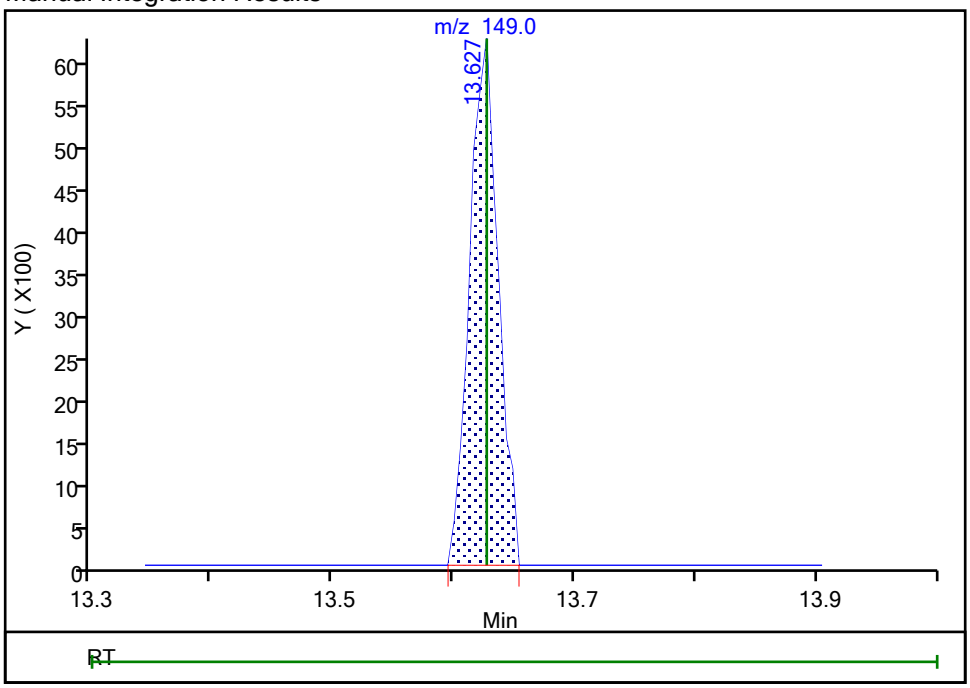

Reviewer: fergusond, 21-Dec-2019 12:38:56
Audit Action: Assigned Compound ID Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220004.D				
Injection Date:	21-Dec-2019 11:07:30	Instrument ID:	CH71		
Lims ID:	IC R0.38				
Client ID:					
Operator ID:	001562	ALS Bottle#:	2	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

158 Dibenz(a,h)anthracene, CAS: 53-70-3

Signal: 1

Processing Integration Results

RT: 18.67
Area: 15938
Amount: 0.392907
Amount Units: ng

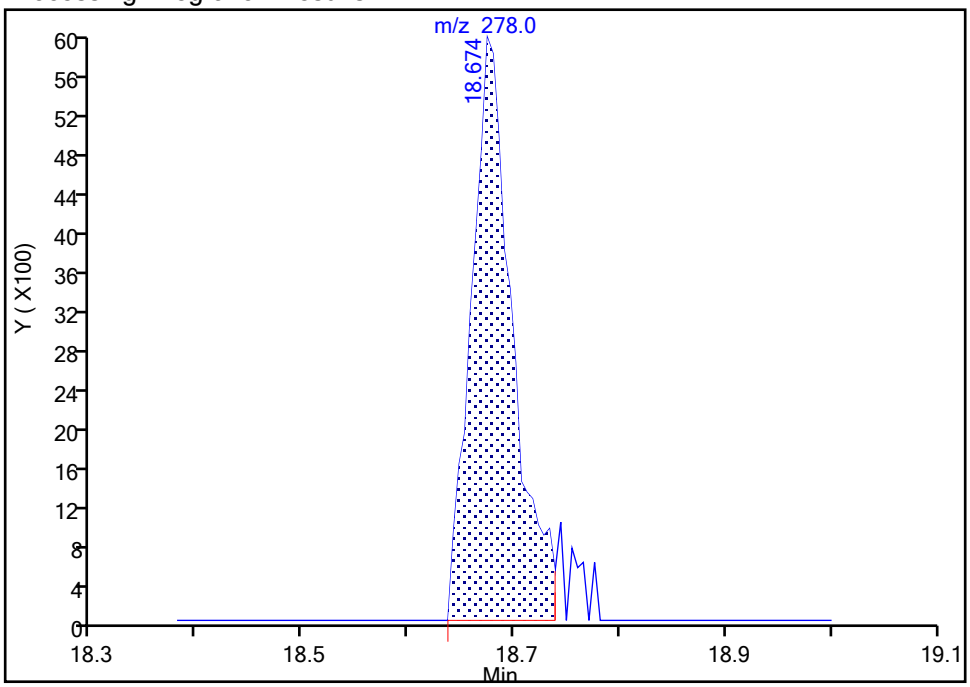

Manual Integration Results

RT: 18.67
Area: 16259
Amount: 0.541295
Amount Units: ng

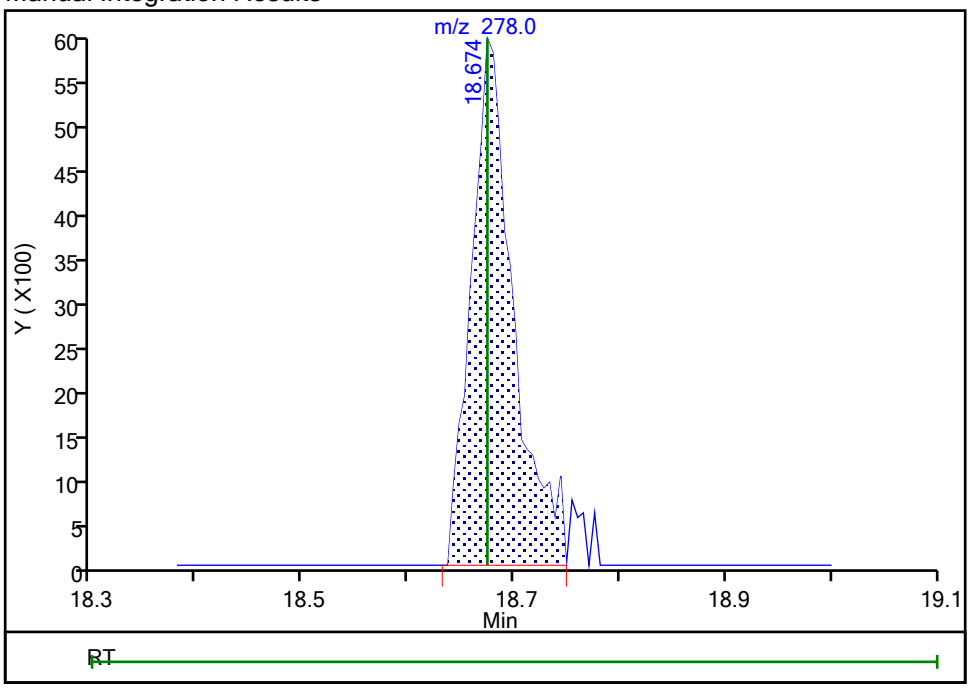

Reviewer: fergusond, 21-Dec-2019 12:43:05

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220004.D				
Injection Date:	21-Dec-2019 11:07:30	Instrument ID:	CH71		
Lims ID:	IC R0.38				
Client ID:					
Operator ID:	001562	ALS Bottle#:	2	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

159 Benzo[g,h,i]perylene, CAS: 191-24-2

Signal: 1

Processing Integration Results

RT: 19.19
Area: 17937
Amount: 0.320614
Amount Units: ng

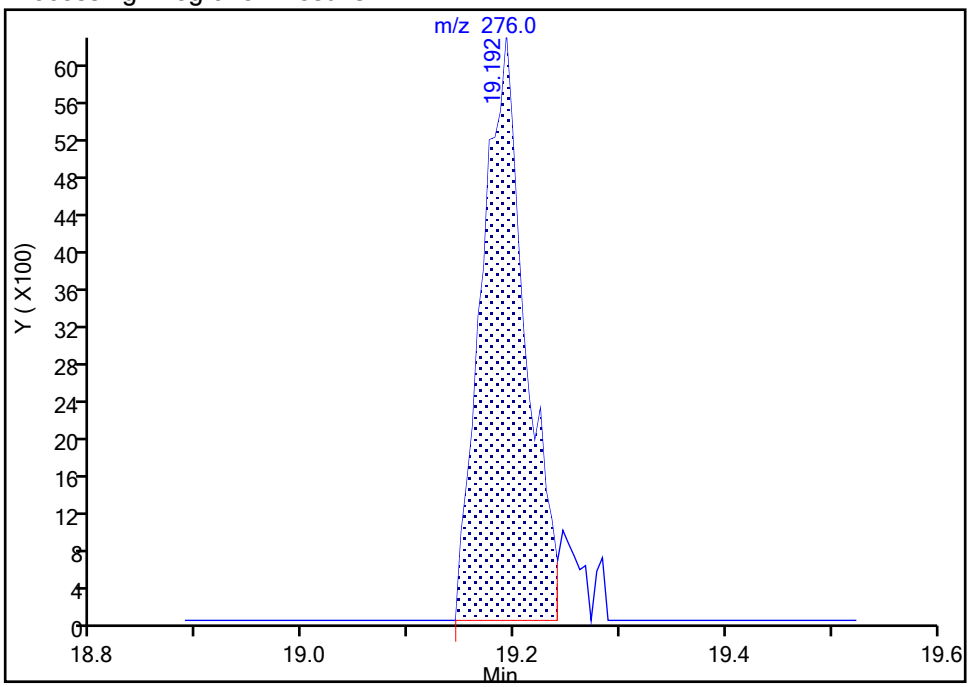

Manual Integration Results

RT: 19.19
Area: 19097
Amount: 0.274791
Amount Units: ng

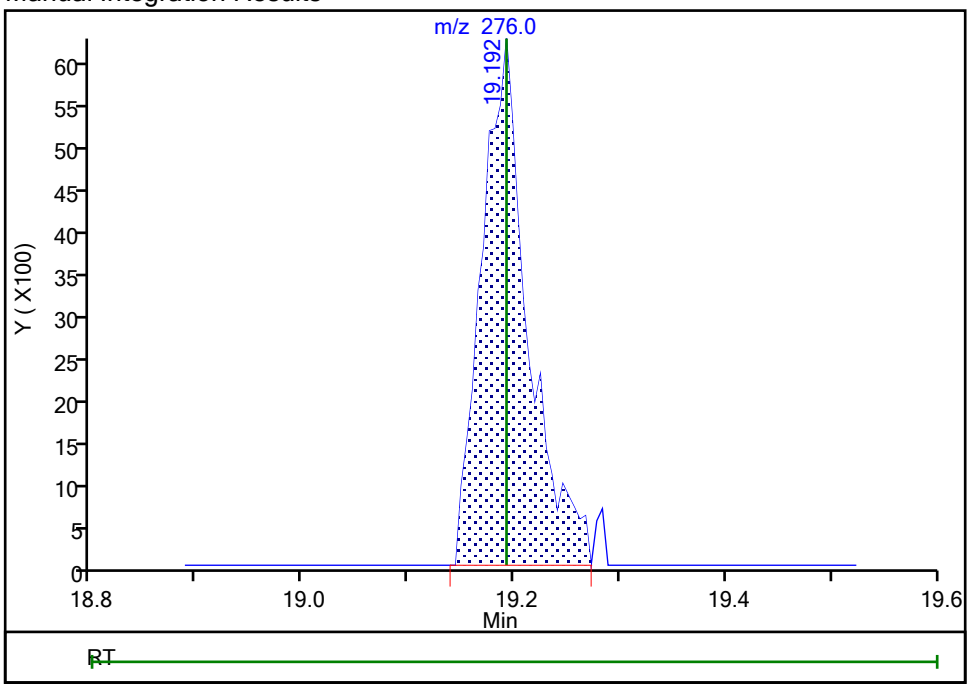

Reviewer: fergusond, 21-Dec-2019 12:40:07

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220005.D
Lims ID: IC R2.0
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 21-Dec-2019 11:34:30 ALS Bottle#: 3 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030114-005
Misc. Info.: IC R2.0
Operator ID: 001562 Instrument ID: CH71
Sublist: chrom-BNA_CH71*sub9

Method: \\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\BNA_CH71.m
Limit Group: BNA 8270D ICAL
Last Update: 23-Dec-2019 07:55:28 Calib Date: 21-Dec-2019 14:16:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220011.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0321

First Level Reviewer: fergusond Date: 21-Dec-2019 12:50:34

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.005	6.005	0.000	96	111903	8.00	8.00	
* 2 Naphthalene-d8	136	7.223	7.228	-0.005	100	512123	8.00	8.00	
* 3 Acenaphthene-d10	164	8.847	8.857	-0.010	94	317650	8.00	8.00	
* 4 Phenanthrene-d10	188	10.214	10.230	-0.016	97	589521	8.00	8.00	
* 5 Chrysene-d12	240	13.584	13.622	-0.038	99	546758	8.00	8.00	
* 6 Perylene-d12	264	16.436	16.479	-0.043	99	497035	8.00	8.00	
$ 7 2-Fluorophenol	112	4.617	4.611	0.005	93	26359	2.00	2.00	
$ 8 Phenol-d5	99	5.653	5.653	0.000	97	40517	2.00	2.05	
$ 9 Nitrobenzene-d5	82	6.534	6.539	-0.005	90	39175	2.00	1.96	
$ 10 2-Fluorobiphenyl	172	8.216	8.222	-0.006	100	111914	2.00	2.08	
$ 11 2,4,6-Tribromophenol	330	9.568	9.584	-0.016	92	13498	2.00	1.58	
$ 12 Terphenyl-d14	244	11.918	11.950	-0.032	99	117264	2.00	1.96	
13 1,4-Dioxane	88	1.407	1.407	0.000	93	8077	2.00	2.06	M
14 N-Nitrosodimethylamine	74	1.962	1.957	0.005	91	11990	2.00	1.99	M
15 Pyridine	79	2.031	2.064	-0.033	94	40794	4.00	4.01	
21 Methyl methanesulfonate	80	4.371	4.376	-0.005	87	16129	2.00	2.11	
25 Benzaldehyde	77	5.551	5.557	-0.006	93	28414	2.00	2.08	
26 Phenol	94	5.663	5.669	-0.006	98	48364	2.00	2.19	
27 Aniline	93	5.669	5.674	-0.005	97	56494	2.00	2.15	
29 Bis(2-chloroethyl)ether	93	5.749	5.749	0.000	96	33365	2.00	2.08	
30 2-Chlorophenol	128	5.792	5.797	-0.005	97	38350	2.00	2.09	
31 n-Decane	43	5.872	5.872	0.000	88	37084	2.00	2.13	
32 1,3-Dichlorobenzene	146	5.946	5.952	-0.006	97	45009	2.00	2.12	
33 1,4-Dichlorobenzene	146	6.021	6.021	0.000	95	46216	2.00	2.11	
34 Benzyl alcohol	108	6.139	6.144	-0.005	90	22545	2.00	2.00	
35 1,2-Dichlorobenzene	146	6.171	6.171	0.000	95	44098	2.00	2.12	
36 2-Methylphenol	108	6.256	6.256	0.000	72	35435	2.00	2.18	
37 Indene	116	6.256	6.262	-0.006	87	65790	2.00	2.14	
38 2,2'-oxybis[1-chloropropan	45	6.278	6.283	-0.005	91	47862	2.00	2.14	
39 N-Nitrosopyrrolidine	100	6.363	6.368	-0.005	82	14367	2.00	1.86	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
40 Acetophenone	105	6.390	6.395	-0.005	96	55490	2.00	2.17	
41 N-Nitrosodi-n-propylamine	70	6.400	6.400	0.000	89	27234	2.00	2.10	
42 4-Methylphenol	108	6.400	6.406	-0.006	93	37302	2.00	2.18	
45 Hexachloroethane	117	6.502	6.502	0.000	91	17539	2.00	2.05	
46 Nitrobenzene	77	6.555	6.561	-0.006	89	41973	2.00	2.00	
48 Isophorone	82	6.780	6.790	-0.010	99	74207	2.00	1.99	
49 2-Nitrophenol	139	6.860	6.865	-0.005	97	17635	2.00	1.63	
50 2,4-Dimethylphenol	107	6.897	6.903	-0.006	98	43263	2.00	2.09	
52 Benzoic acid	122	6.935	6.948	-0.013	86	7375	2.00	3.37	M
53 Bis(2-chloroethoxy)methane	93	6.983	6.993	-0.010	100	48430	2.00	2.10	
54 2,4-Dichlorophenol	162	7.084	7.089	-0.005	94	36035	2.00	1.99	
56 1,2,4-Trichlorobenzene	180	7.170	7.175	-0.005	94	45488	2.00	2.12	
58 Naphthalene	128	7.239	7.244	-0.005	98	138956	2.00	2.13	
59 4-Chloroaniline	127	7.282	7.292	-0.010	97	57511	2.00	2.09	
60 2,6-Dichlorophenol	162	7.298	7.303	-0.005	96	37853	2.00	2.06	
62 Hexachlorobutadiene	225	7.367	7.373	-0.006	97	27716	2.00	2.08	
64 Caprolactam	113	7.565	7.581	-0.016	79	9643	2.00	1.53	
67 4-Chloro-3-methylphenol	107	7.725	7.730	-0.005	96	38124	2.00	1.96	
69 2-Methylnaphthalene	142	7.880	7.891	-0.011	92	97261	2.00	2.06	
71 1-Methylnaphthalene	142	7.976	7.981	-0.005	93	92924	2.00	2.09	
72 Hexachlorocyclopentadiene	237	8.040	8.046	-0.006	95	24037	2.00	1.66	
73 1,2,4,5-Tetrachlorobenzene	216	8.040	8.051	-0.011	97	49933	2.00	2.11	
74 2,4,6-Trichlorophenol	196	8.142	8.147	-0.005	94	28503	2.00	1.95	
75 2,4,5-Trichlorophenol	196	8.168	8.179	-0.011	93	29876	2.00	1.88	
76 1,1'-Biphenyl	154	8.307	8.318	-0.011	95	123992	2.00	2.09	
77 2-Chloronaphthalene	162	8.334	8.339	-0.005	97	94209	2.00	2.05	
79 2-Nitroaniline	65	8.414	8.419	-0.005	79	21462	2.00	1.56	
82 Dimethyl phthalate	163	8.574	8.580	-0.006	98	106224	2.00	2.00	
83 1,3-Dinitrobenzene	168	8.601	8.606	-0.005	84	10167	2.00	1.30	
84 2,6-Dinitrotoluene	165	8.628	8.638	-0.010	94	19632	2.00	1.65	
85 Acenaphthylene	152	8.718	8.724	-0.006	98	136870	2.00	1.96	
86 3-Nitroaniline	138	8.783	8.793	-0.010	93	21254	2.00	1.66	
88 Acenaphthene	153	8.873	8.884	-0.011	94	95674	2.00	2.05	
87 2,4-Dinitrophenol	184	8.879	8.889	-0.010	84	16375	4.00	2.26	
89 4-Nitrophenol	109	8.916	8.932	-0.016	96	30087	4.00	3.46	
91 2,4-Dinitrotoluene	165	8.996	9.007	-0.011	91	24791	2.00	1.56	
93 Dibenzofuran	168	9.034	9.044	-0.010	96	139724	2.00	2.03	
95 2,3,5,6-Tetrachlorophenol	232	9.103	9.114	-0.011	93	23604	2.00	1.70	
96 2,3,4,6-Tetrachlorophenol	232	9.140	9.156	-0.016	73	28843	2.00	1.94	
97 2-Naphthylamine	143	9.167	9.178	-0.011	96	94943	2.00	1.94	
98 Diethyl phthalate	149	9.210	9.226	-0.016	97	104993	2.00	1.97	
99 Hexadecane	57	9.226	9.242	-0.016	95	70633	2.00	2.10	
100 4-Chlorophenyl phenyl ethe	204	9.333	9.349	-0.016	93	57797	2.00	2.02	
101 4-Nitroaniline	138	9.343	9.354	-0.011	81	23377	2.00	1.66	
103 Fluorene	166	9.349	9.359	-0.010	94	108555	2.00	2.01	
104 4,6-Dinitro-2-methylphenol	198	9.375	9.386	-0.011	80	21321	4.00	2.00	M
105 N-Nitrosodiphenylamine	169	9.439	9.450	-0.011	97	78573	2.00	1.93	
90 1,2-Diphenylhydrazine	77	9.477	9.493	-0.016	98	115125	2.00	1.98	
57 Azobenzene	77	9.477	9.493	-0.016	100	115125	2.00	1.98	
110 4-Bromophenyl phenyl ether	248	9.787	9.803	-0.016	68	31394	2.00	1.86	
112 Hexachlorobenzene	284	9.861	9.878	-0.017	94	36596	2.00	1.94	
113 Atrazine	200	9.910	9.926	-0.016	91	26796	2.00	1.72	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
116 Pentachlorophenol	266	10.038	10.054	-0.016	91	45763	4.00	3.70	
115 n-Octadecane	57	10.070	10.080	-0.010	95	70386	2.00	1.97	
121 Phenanthrene	178	10.235	10.251	-0.016	97	165809	2.00	1.99	
122 Anthracene	178	10.283	10.299	-0.016	98	154368	2.00	1.89	
124 Carbazole	167	10.417	10.433	-0.016	96	143571	2.00	1.92	
126 Di-n-butyl phthalate	149	10.721	10.743	-0.022	100	148937	2.00	1.73	
131 Fluoranthene	202	11.469	11.491	-0.021	98	160939	2.00	1.82	
132 Benzidine	184	11.597	11.619	-0.022	99	67597	2.00	1.72	
133 Pyrene	202	11.752	11.779	-0.027	98	168927	2.00	2.02	
138 Butyl benzyl phthalate	149	12.601	12.633	-0.032	93	50718	2.00	1.55	
144 3,3'-Dichlorobenzidine	252	13.504	13.541	-0.037	73	40939	2.00	1.53	
146 Benzo[a]anthracene	228	13.568	13.611	-0.043	99	147510	2.00	1.89	
145 Bis(2-ethylhexyl) phthalat	149	13.590	13.627	-0.037	81	69539	2.00	1.48	
147 Chrysene	228	13.632	13.670	-0.038	96	161796	2.00	2.01	
150 Di-n-octyl phthalate	149	14.861	14.903	-0.042	100	132848	2.00	1.81	
151 7,12-Dimethylbenz(a)anthra	256	15.640	15.683	-0.043	93	58495	2.00	1.51	
152 Benzo[b]fluoranthene	252	15.651	15.699	-0.048	97	141063	2.00	1.72	
153 Benzo[k]fluoranthene	252	15.705	15.753	-0.048	99	160330	2.00	1.90	M
219 Benzo[e]pyrene	252	16.217	16.255	-0.038	97	131043	2.00	1.81	
154 Benzo[a]pyrene	252	16.319	16.362	-0.043	77	118847	2.00	1.73	M
157 Indeno[1,2,3-cd]pyrene	276	18.589	18.637	-0.048	98	128199	2.00	1.66	M
158 Dibenz(a,h)anthracene	278	18.631	18.674	-0.043	89	106455	2.00	1.73	M
159 Benzo[g,h,i]perylene	276	19.139	19.192	-0.053	98	121420	2.00	1.72	M
S 199 Total Cresols	108				0		4.00	4.35	
S 197 Methyl Phenols,Total	108				0		4.00	4.35	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

SVTAPSTD2.0i_00021 Amount Added: 1.00 Units: mL

Report Date: 23-Dec-2019 07:55:31 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220005.D				
Injection Date:	21-Dec-2019 11:34:30	Instrument ID:	CH71	Operator ID:	001562
Lims ID:	IC R2.0			Worklist Smp#:	5
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		
Column: Rxi-5SilMS (0.32 mm)					

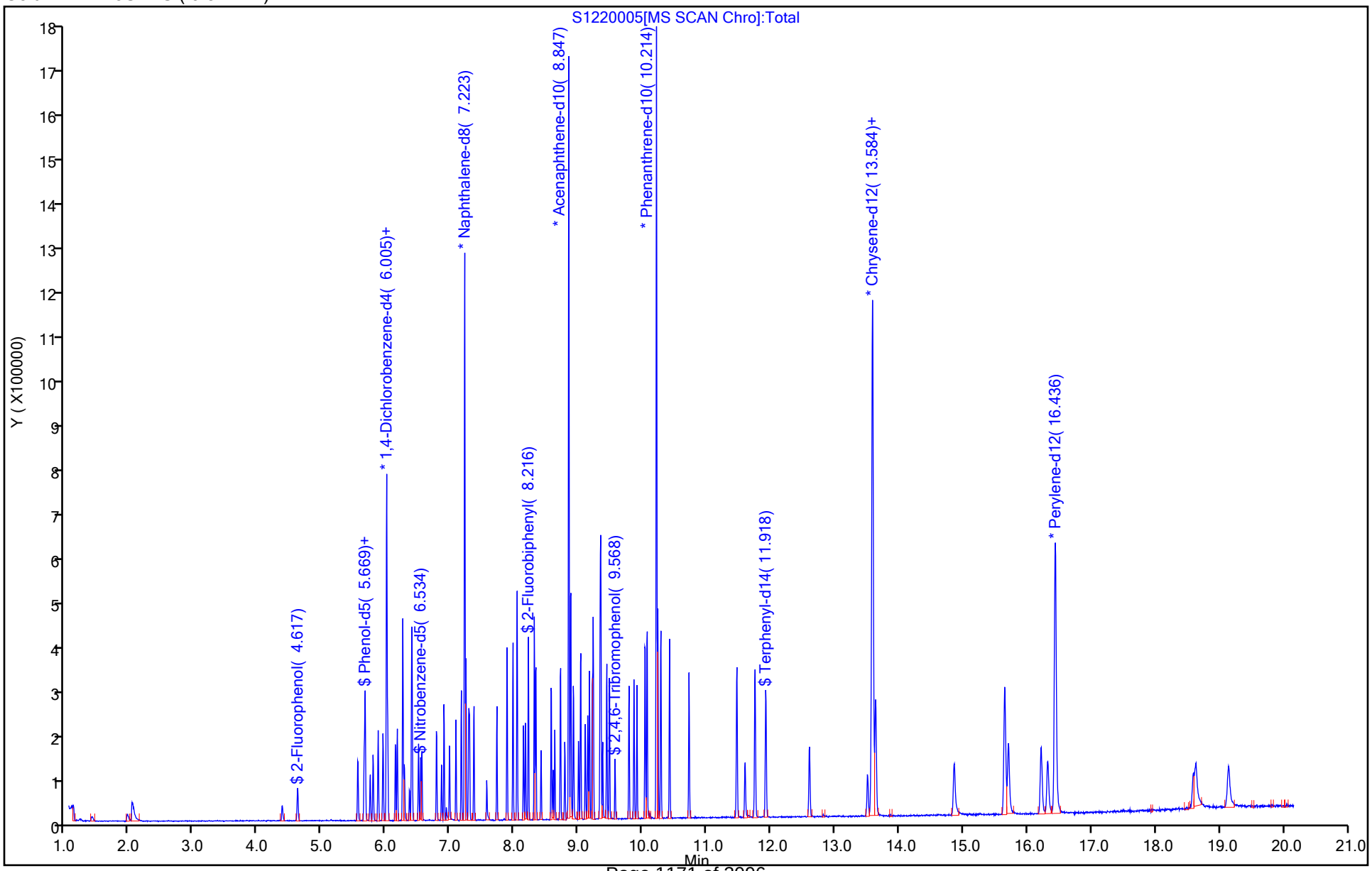

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220005.D				
Injection Date:	21-Dec-2019 11:34:30	Instrument ID:	CH71		
Lims ID:	IC R2.0				
Client ID:					
Operator ID:	001562	ALS Bottle#:	3	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

13 1,4-Dioxane, CAS: 123-91-1

Signal: 1

Processing Integration Results

RT: 1.41
Area: 5494
Amount: 1.859465
Amount Units: ng

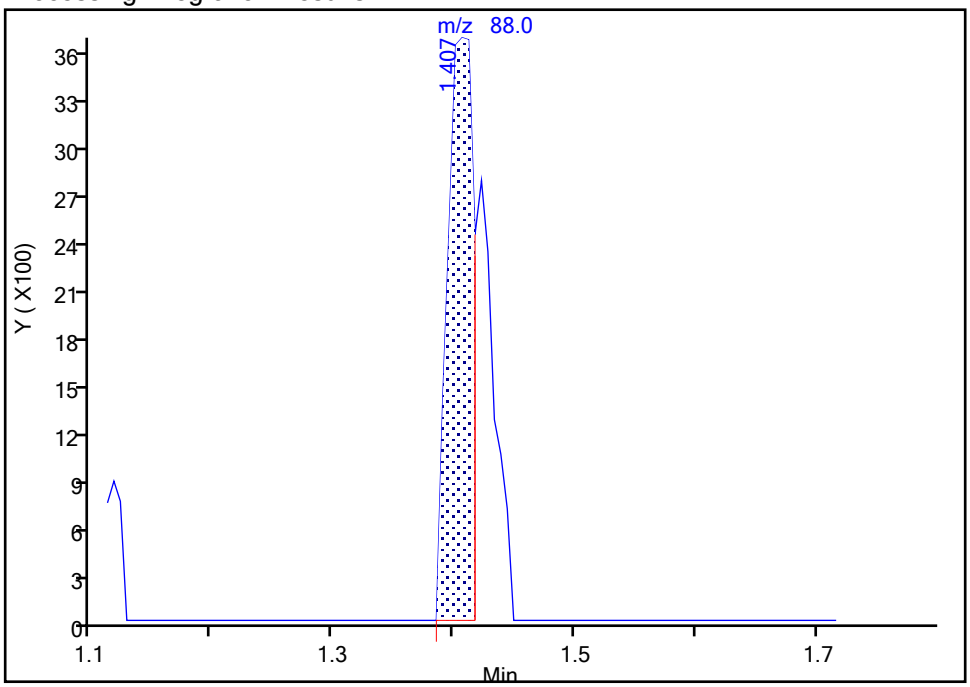

Manual Integration Results

RT: 1.41
Area: 8077
Amount: 2.063366
Amount Units: ng

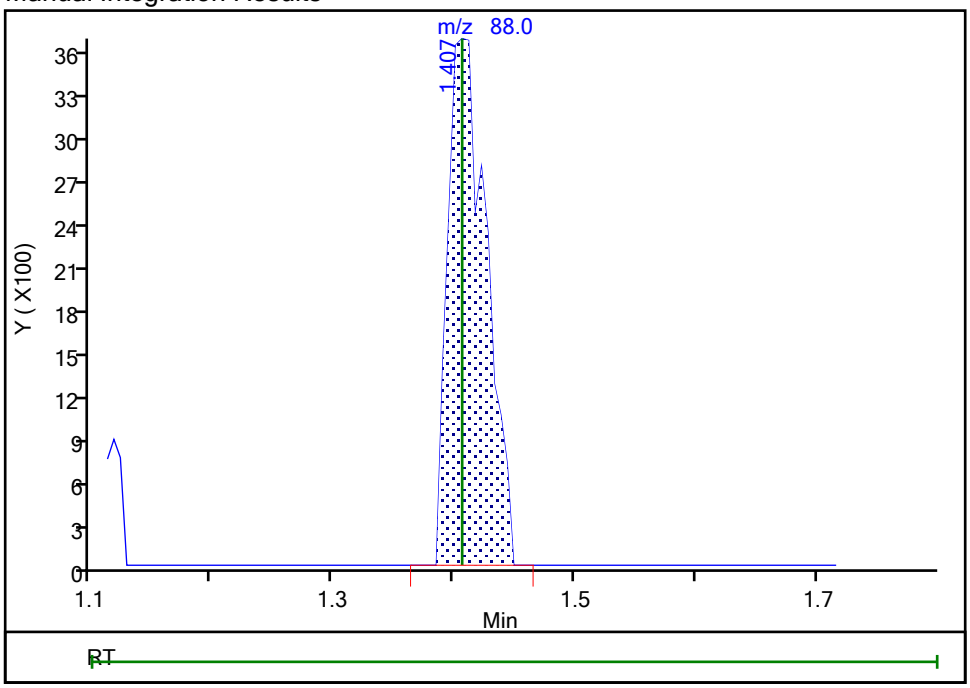

Reviewer: fergusond, 21-Dec-2019 12:43:48

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220005.D				
Injection Date:	21-Dec-2019 11:34:30	Instrument ID:	CH71		
Lims ID:	IC R2.0				
Client ID:					
Operator ID:	001562	ALS Bottle#:	3	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

14 N-Nitrosodimethylamine, CAS: 62-75-9

Signal: 1

Processing Integration Results

RT: 1.96
Area: 11232
Amount: 1.985381
Amount Units: ng

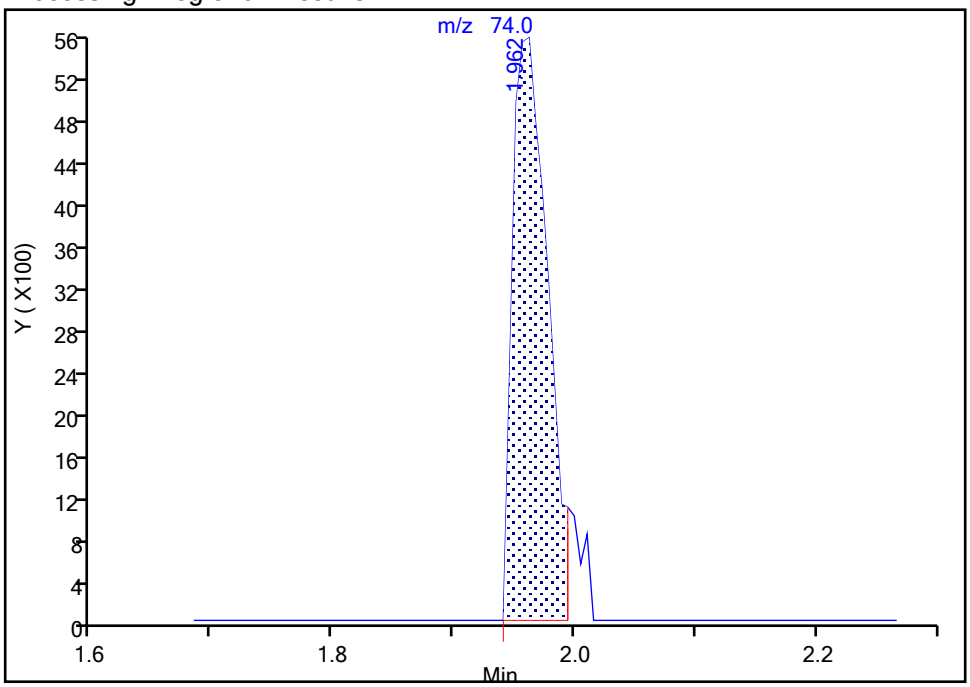

Manual Integration Results

RT: 1.96
Area: 11990
Amount: 1.992997
Amount Units: ng

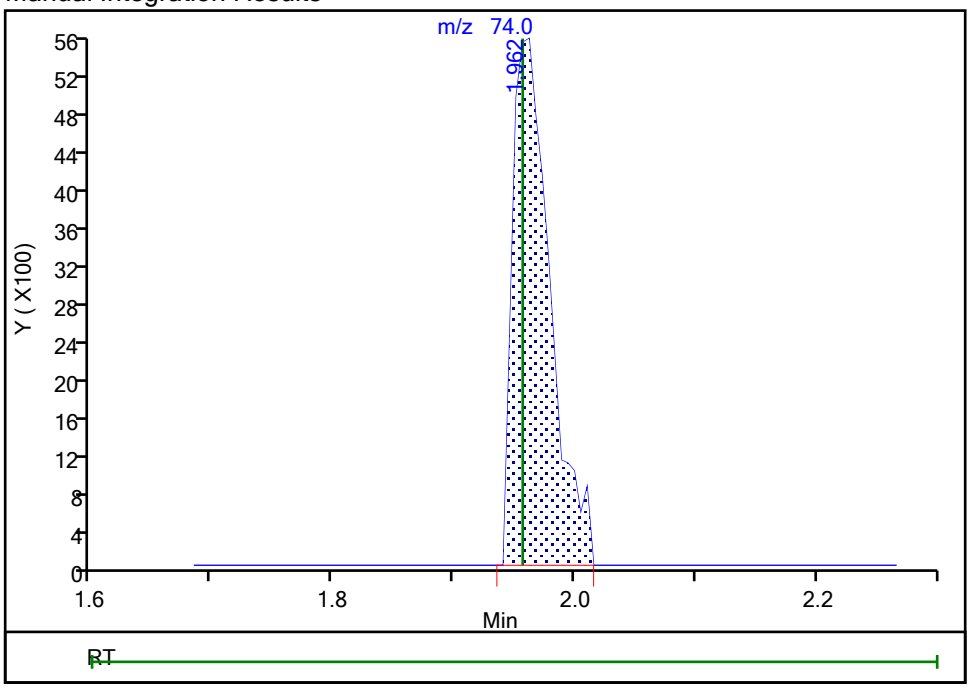

Reviewer: fergusond, 21-Dec-2019 12:43:59

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220005.D				
Injection Date:	21-Dec-2019 11:34:30	Instrument ID:	CH71		
Lims ID:	IC R2.0				
Client ID:					
Operator ID:	001562	ALS Bottle#:	3	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

52 Benzoic acid, CAS: 65-85-0

Signal: 1

Processing Integration Results

RT: 6.93
Area: 7126
Amount: 1.342247
Amount Units: ng

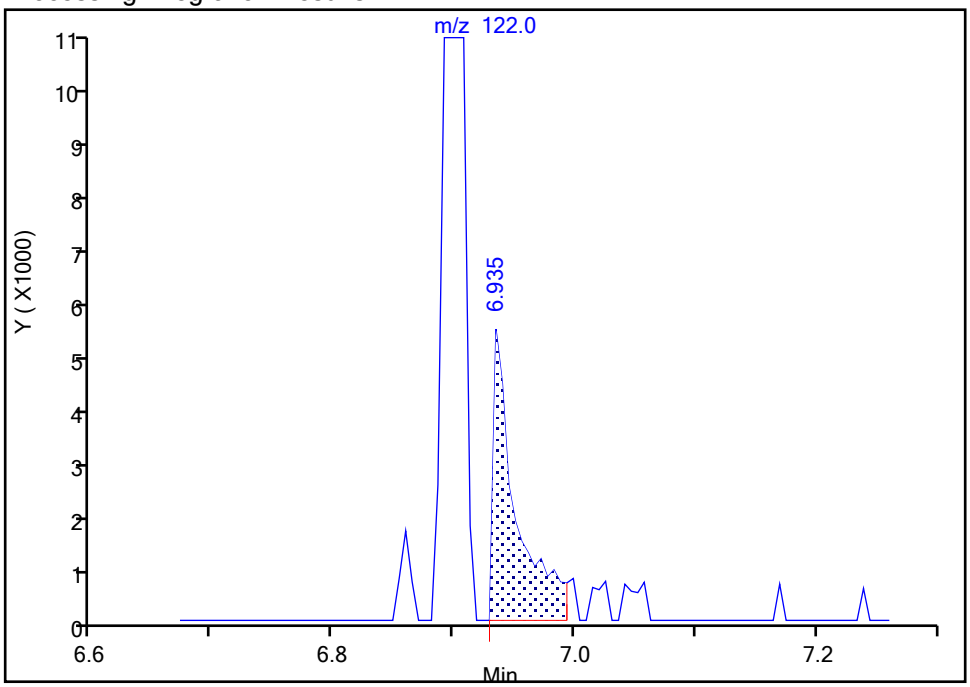

Manual Integration Results

RT: 6.93
Area: 7375
Amount: 3.372623
Amount Units: ng

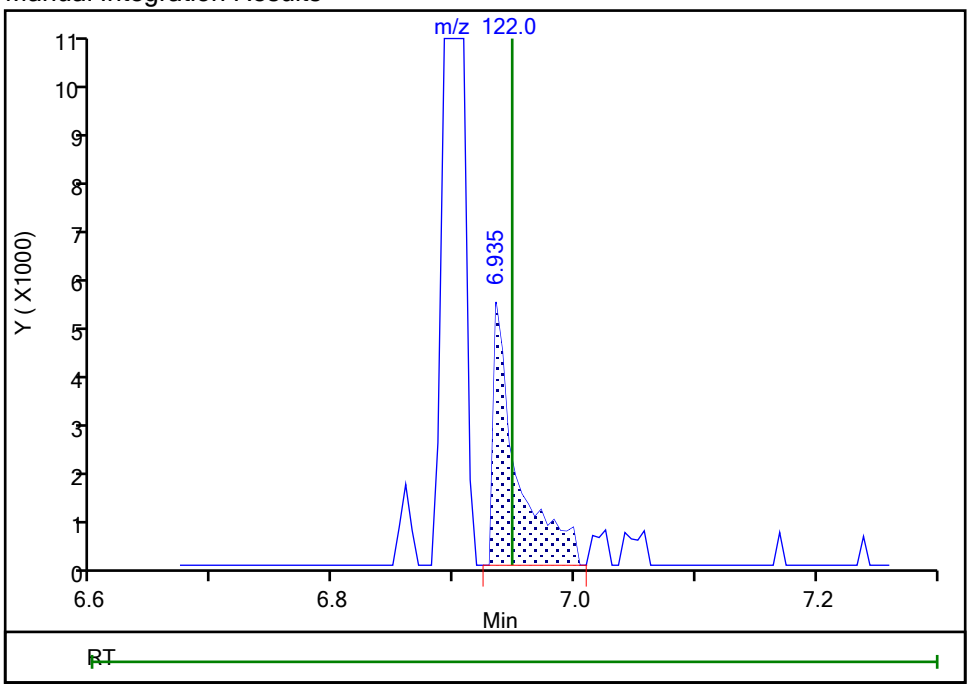

Reviewer: fergusond, 21-Dec-2019 12:44:25

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220005.D				
Injection Date:	21-Dec-2019 11:34:30	Instrument ID:	CH71		
Lims ID:	IC R2.0				
Client ID:					
Operator ID:	001562	ALS Bottle#:	3	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

104 4,6-Dinitro-2-methylphenol, CAS: 534-52-1

Signal: 1

Processing Integration Results

RT: 9.38
Area: 20875
Amount: 4.038493
Amount Units: ng

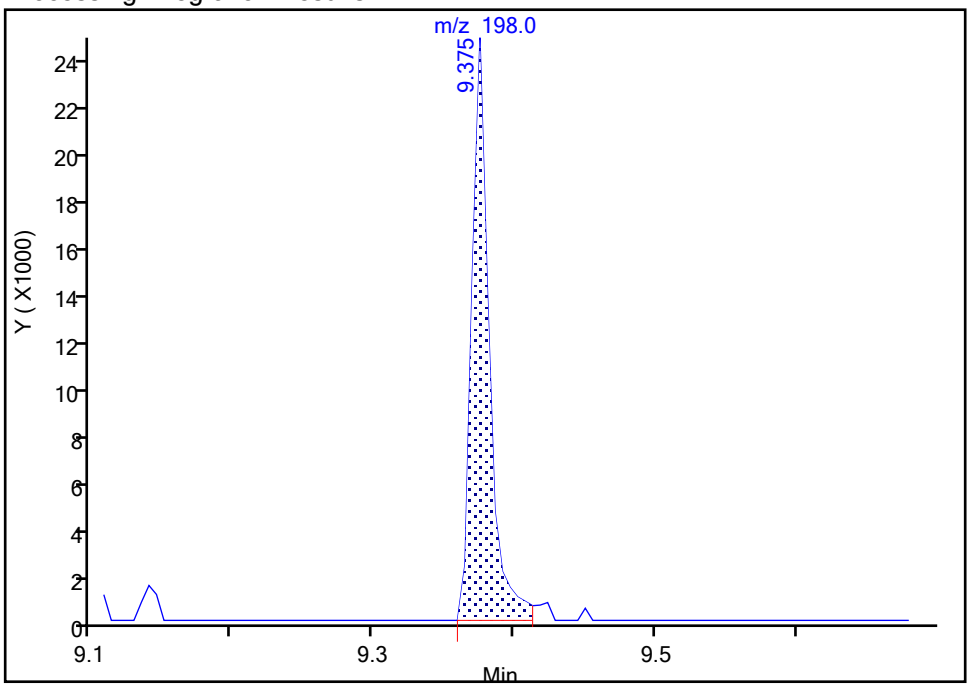

Manual Integration Results

RT: 9.38
Area: 21321
Amount: 2.003801
Amount Units: ng

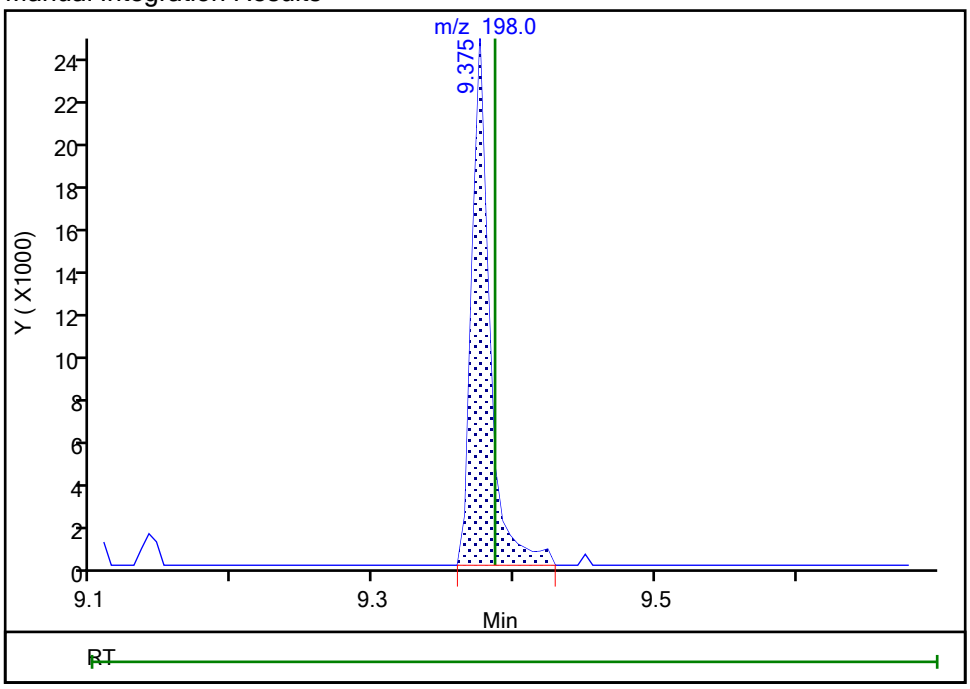

Reviewer: fergusond, 21-Dec-2019 12:45:18

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220005.D				
Injection Date:	21-Dec-2019 11:34:30	Instrument ID:	CH71		
Lims ID:	IC R2.0				
Client ID:					
Operator ID:	001562	ALS Bottle#:	3	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

153 Benzo[k]fluoranthene, CAS: 207-08-9

Signal: 1

Processing Integration Results

RT: 15.70
Area: 154429
Amount: 2.080936
Amount Units: ng

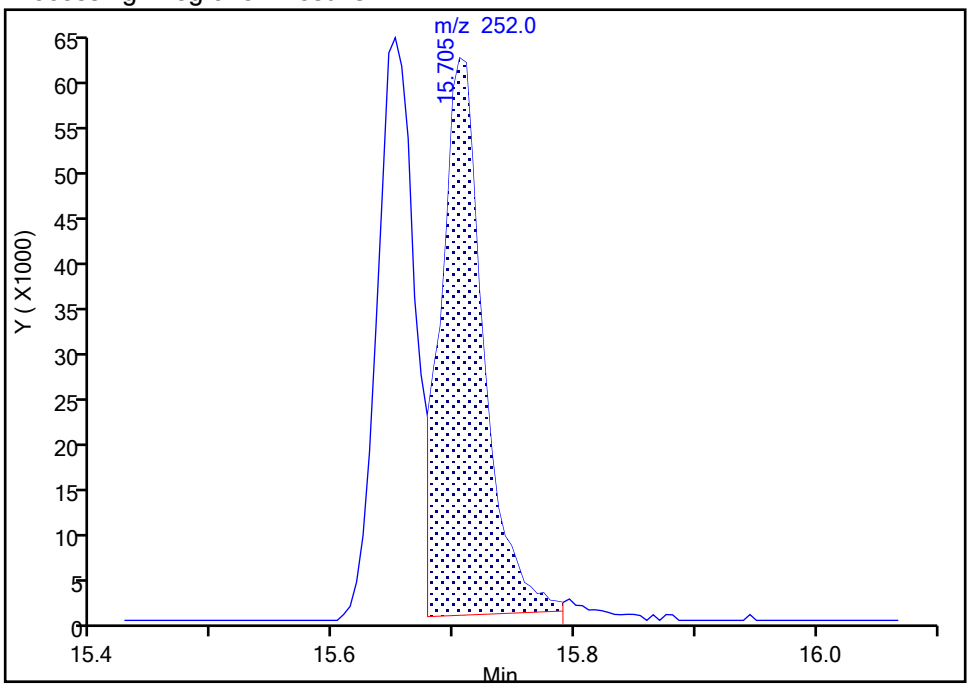

Manual Integration Results

RT: 15.70
Area: 160330
Amount: 1.897145
Amount Units: ng

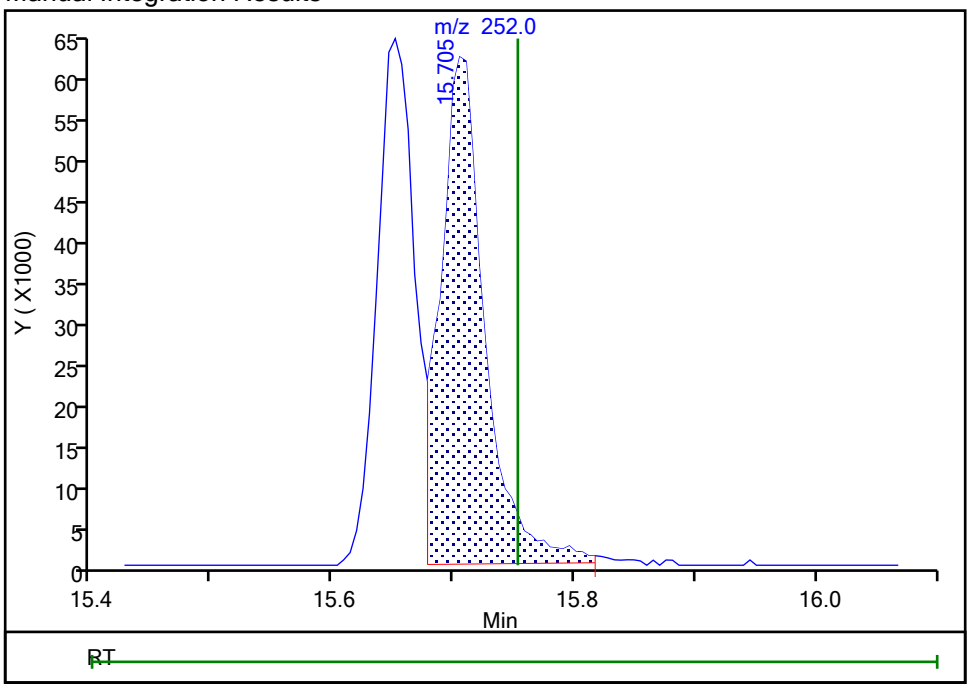

Reviewer: fergusond, 21-Dec-2019 12:46:42

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220005.D				
Injection Date:	21-Dec-2019 11:34:30	Instrument ID:	CH71		
Lims ID:	IC R2.0				
Client ID:					
Operator ID:	001562	ALS Bottle#:	3	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

154 Benzo[a]pyrene, CAS: 50-32-8

Signal: 1

Processing Integration Results

RT: 16.32
Area: 101187
Amount: 1.904865
Amount Units: ng

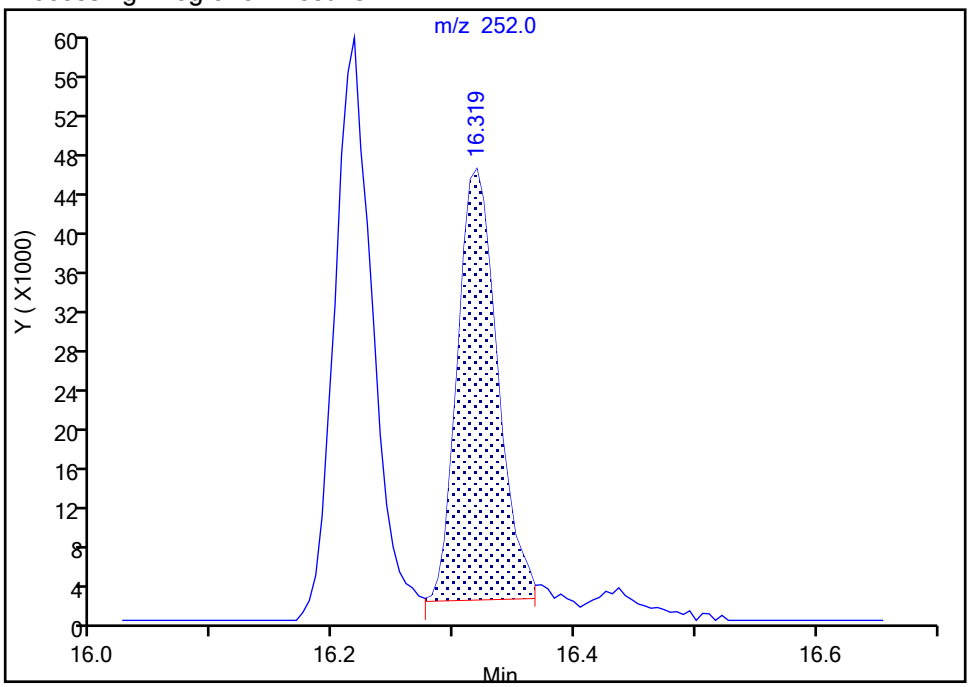

Manual Integration Results

RT: 16.32
Area: 118847
Amount: 1.733940
Amount Units: ng

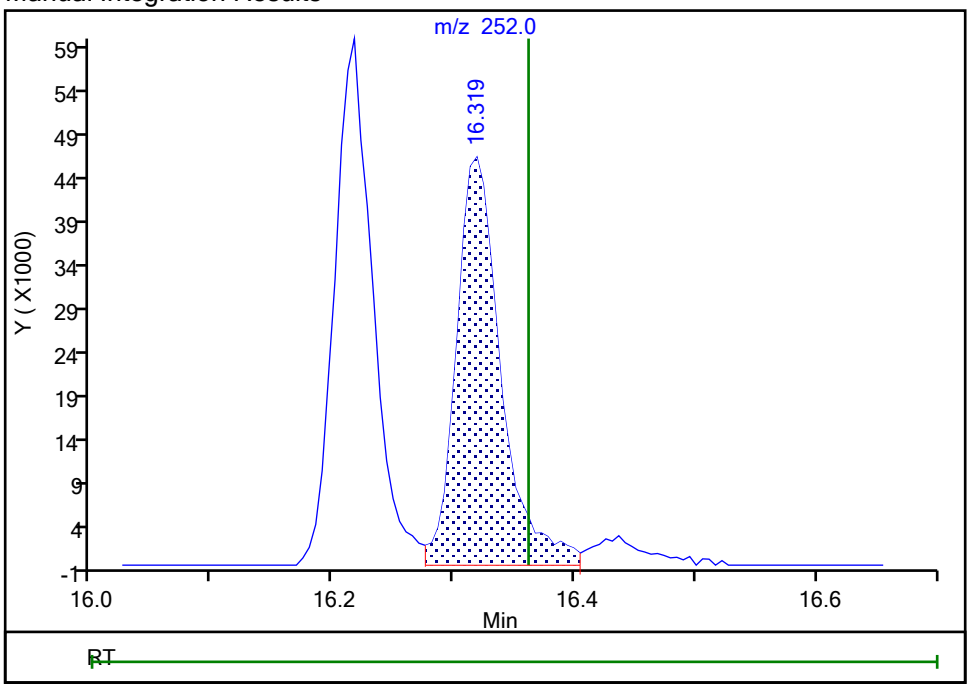

Reviewer: fergusond, 21-Dec-2019 12:48:13

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220005.D				
Injection Date:	21-Dec-2019 11:34:30	Instrument ID:	CH71		
Lims ID:	IC R2.0				
Client ID:					
Operator ID:	001562	ALS Bottle#:	3	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

157 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

Signal: 1

Processing Integration Results

RT: 18.59
Area: 123610
Amount: 1.969986
Amount Units: ng

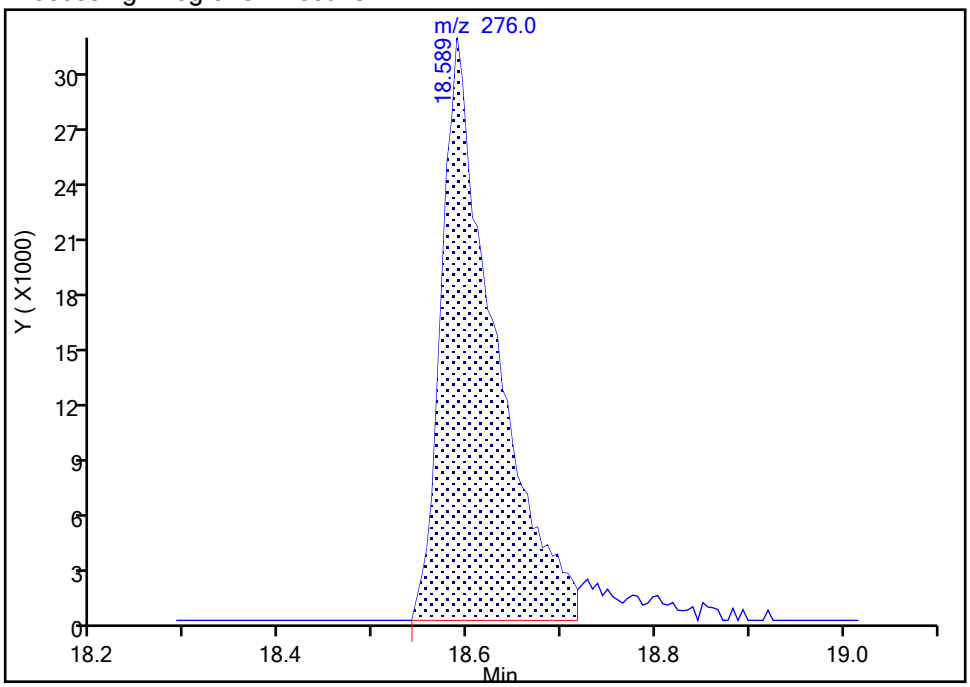

Manual Integration Results

RT: 18.59
Area: 128199
Amount: 1.656318
Amount Units: ng

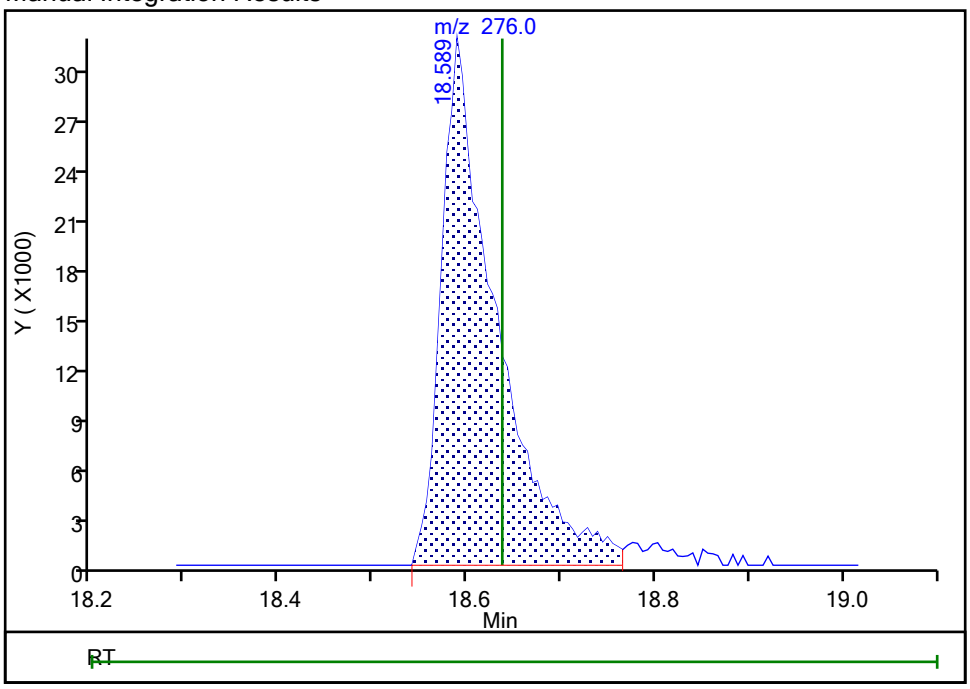

Reviewer: fergusond, 21-Dec-2019 12:48:38

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220005.D				
Injection Date:	21-Dec-2019 11:34:30	Instrument ID:	CH71		
Lims ID:	IC R2.0				
Client ID:					
Operator ID:	001562	ALS Bottle#:	3	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

158 Dibenz(a,h)anthracene, CAS: 53-70-3

Signal: 1

Processing Integration Results

RT: 18.63
Area: 100559
Amount: 1.874625
Amount Units: ng

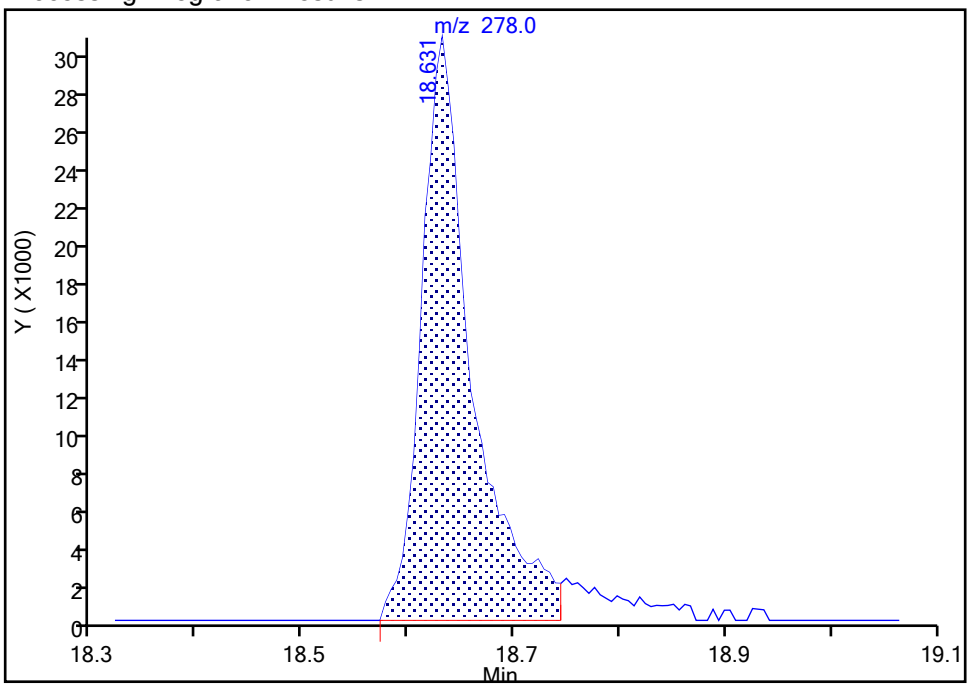

Manual Integration Results

RT: 18.63
Area: 106455
Amount: 1.726293
Amount Units: ng

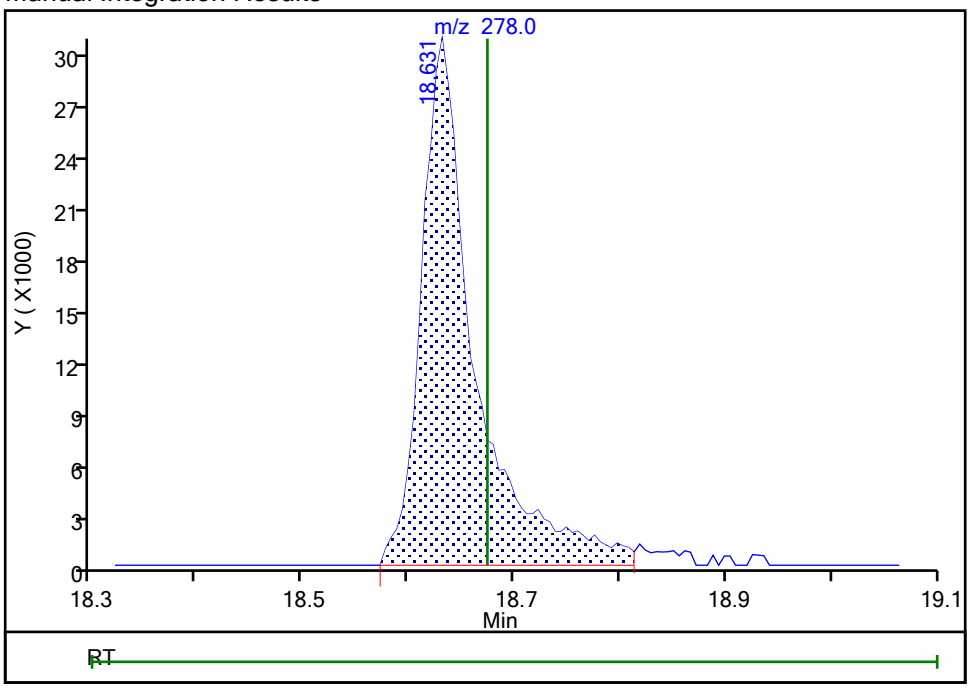

Reviewer: fergusond, 21-Dec-2019 12:49:01

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220005.D				
Injection Date:	21-Dec-2019 11:34:30	Instrument ID:	CH71		
Lims ID:	IC R2.0				
Client ID:					
Operator ID:	001562	ALS Bottle#:	3	Worklist Smp#:	5
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

159 Benzo[g,h,i]perylene, CAS: 191-24-2

Signal: 1

Processing Integration Results

RT: 19.14
Area: 117024
Amount: 2.027875
Amount Units: ng

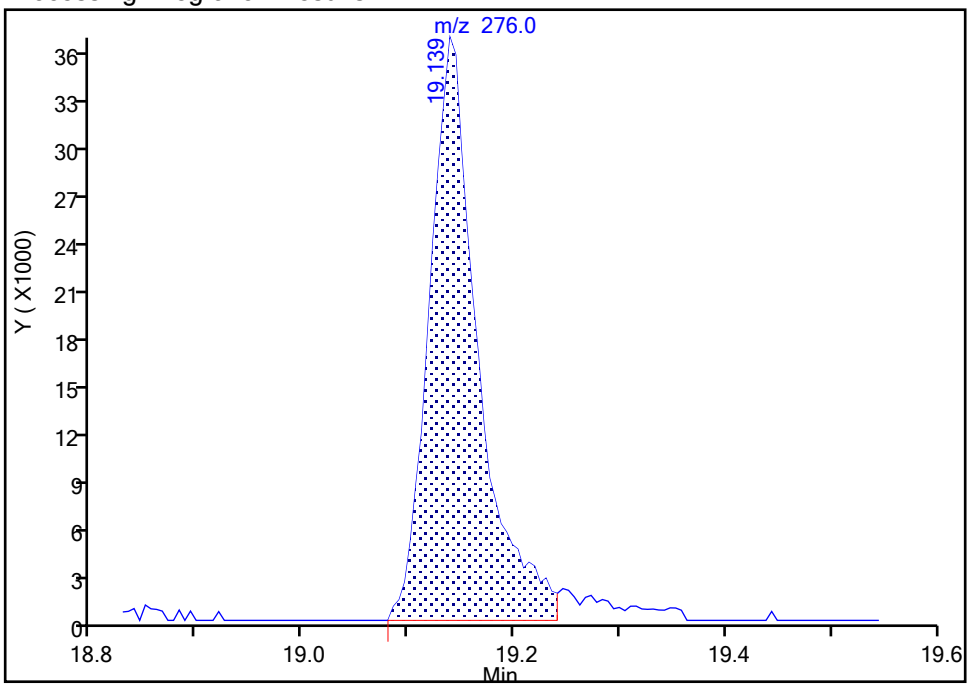

Manual Integration Results

RT: 19.14
Area: 121420
Amount: 1.724604
Amount Units: ng

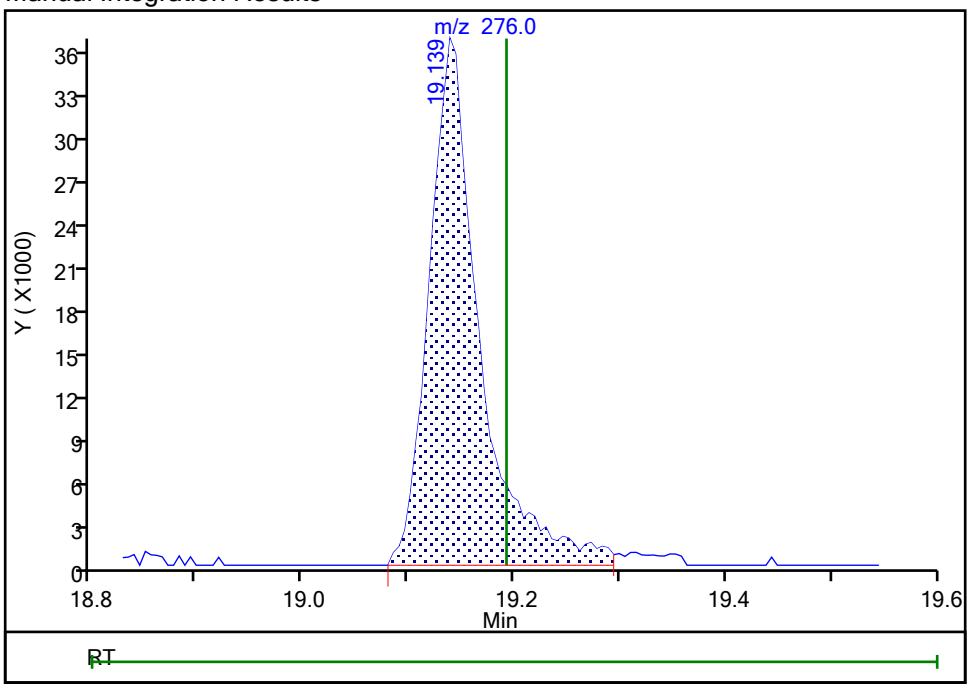

Reviewer: fergusond, 21-Dec-2019 12:49:18

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220006.D
Lims ID: IC R4.0
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 21-Dec-2019 12:01:30 ALS Bottle#: 4 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030114-006
Misc. Info.: IC R4.0
Operator ID: 001562 Instrument ID: CH71
Sublist: chrom-BNA_CH71*sub9

Method: \\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\BNA_CH71.m
Limit Group: BNA 8270D ICAL
Last Update: 23-Dec-2019 07:55:42 Calib Date: 21-Dec-2019 14:16:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220011.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0321

First Level Reviewer: fergusond Date: 21-Dec-2019 12:56:27

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.000	6.005	-0.005	96	116728	8.00	8.00	
* 2 Naphthalene-d8	136	7.213	7.228	-0.015	100	529108	8.00	8.00	
* 3 Acenaphthene-d10	164	8.836	8.857	-0.021	94	332992	8.00	8.00	
* 4 Phenanthrene-d10	188	10.204	10.230	-0.026	97	609282	8.00	8.00	
* 5 Chrysene-d12	240	13.574	13.622	-0.048	99	593397	8.00	8.00	
* 6 Perylene-d12	264	16.410	16.479	-0.069	99	538217	8.00	8.00	
$ 7 2-Fluorophenol	112	4.606	4.611	-0.005	94	55614	4.00	4.05	
$ 8 Phenol-d5	99	5.648	5.653	-0.005	97	85106	4.00	4.14	
$ 9 Nitrobenzene-d5	82	6.529	6.539	-0.010	90	82696	4.00	4.01	
$ 10 2-Fluorobiphenyl	172	8.206	8.222	-0.016	100	234713	4.00	4.16	
$ 11 2,4,6-Tribromophenol	330	9.563	9.584	-0.021	92	32148	4.00	3.65	
$ 12 Terphenyl-d14	244	11.907	11.950	-0.043	100	259486	4.00	4.01	
13 1,4-Dioxane	88	1.407	1.407	0.000	95	16631	4.00	4.07	
14 N-Nitrosodimethylamine	74	1.952	1.957	-0.005	90	24278	4.00	3.87	
15 Pyridine	79	2.010	2.064	-0.054	92	87628	8.00	8.25	
21 Methyl methanesulfonate	80	4.366	4.376	-0.010	87	33029	4.00	4.14	
25 Benzaldehyde	77	5.546	5.557	-0.011	95	60888	4.00	4.28	
26 Phenol	94	5.658	5.669	-0.011	95	100132	4.00	4.35	
27 Aniline	93	5.664	5.674	-0.010	97	114634	4.00	4.19	
29 Bis(2-chloroethyl)ether	93	5.744	5.749	-0.005	97	71600	4.00	4.27	
30 2-Chlorophenol	128	5.787	5.797	-0.010	96	78387	4.00	4.10	
31 n-Decane	43	5.867	5.872	-0.005	88	75438	4.00	4.15	
32 1,3-Dichlorobenzene	146	5.941	5.952	-0.011	97	93022	4.00	4.20	
33 1,4-Dichlorobenzene	146	6.016	6.021	-0.005	94	96725	4.00	4.24	
34 Benzyl alcohol	108	6.134	6.144	-0.010	91	47935	4.00	4.07	
35 1,2-Dichlorobenzene	146	6.166	6.171	-0.005	96	91633	4.00	4.23	
36 2-Methylphenol	108	6.251	6.256	-0.005	75	75025	4.00	4.42	
37 Indene	116	6.251	6.262	-0.011	89	138602	4.00	4.32	
38 2,2'-oxybis[1-chloropropan	45	6.273	6.283	-0.010	90	96998	4.00	4.17	
39 N-Nitrosopyrrolidine	100	6.353	6.368	-0.015	85	31362	4.00	3.89	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
40 Acetophenone	105	6.385	6.395	-0.010	98	116504	4.00	4.37	
41 N-Nitrosodi-n-propylamine	70	6.390	6.400	-0.010	93	59851	4.00	4.42	
42 4-Methylphenol	108	6.395	6.406	-0.011	93	78649	4.00	4.40	
45 Hexachloroethane	117	6.497	6.502	-0.005	91	36694	4.00	4.12	
46 Nitrobenzene	77	6.545	6.561	-0.016	90	88356	4.00	4.08	
48 Isophorone	82	6.775	6.790	-0.015	98	159748	4.00	4.14	
49 2-Nitrophenol	139	6.855	6.865	-0.010	98	40974	4.00	3.67	
50 2,4-Dimethylphenol	107	6.892	6.903	-0.011	98	90622	4.00	4.23	
52 Benzoic acid	122	6.935	6.948	-0.013	89	29156	4.00	5.00	
53 Bis(2-chloroethoxy)methane	93	6.978	6.993	-0.015	100	101047	4.00	4.24	
54 2,4-Dichlorophenol	162	7.079	7.089	-0.010	94	79402	4.00	4.24	
56 1,2,4-Trichlorobenzene	180	7.165	7.175	-0.010	94	94450	4.00	4.26	
58 Naphthalene	128	7.234	7.244	-0.010	98	285640	4.00	4.25	
59 4-Chloroaniline	127	7.277	7.292	-0.015	96	118644	4.00	4.18	
60 2,6-Dichlorophenol	162	7.293	7.303	-0.010	97	78760	4.00	4.16	
62 Hexachlorobutadiene	225	7.357	7.373	-0.016	97	56213	4.00	4.09	
64 Caprolactam	113	7.560	7.581	-0.021	78	23841	4.00	3.67	
67 4-Chloro-3-methylphenol	107	7.715	7.730	-0.015	95	81347	4.00	4.05	
69 2-Methylnaphthalene	142	7.875	7.891	-0.016	92	206653	4.00	4.23	
71 1-Methylnaphthalene	142	7.966	7.981	-0.015	93	193301	4.00	4.21	
72 Hexachlorocyclopentadiene	237	8.030	8.046	-0.016	97	55546	4.00	3.66	
73 1,2,4,5-Tetrachlorobenzene	216	8.035	8.051	-0.016	97	101677	4.00	4.10	
74 2,4,6-Trichlorophenol	196	8.131	8.147	-0.016	93	60185	4.00	3.93	
75 2,4,5-Trichlorophenol	196	8.163	8.179	-0.016	95	67137	4.00	4.03	
76 1,1'-Biphenyl	154	8.302	8.318	-0.016	95	256169	4.00	4.11	
77 2-Chloronaphthalene	162	8.324	8.339	-0.015	97	192985	4.00	4.01	
79 2-Nitroaniline	65	8.404	8.419	-0.015	81	52386	4.00	3.64	
82 Dimethyl phthalate	163	8.564	8.580	-0.016	99	222763	4.00	4.00	
83 1,3-Dinitrobenzene	168	8.591	8.606	-0.015	85	26209	4.00	3.20	
84 2,6-Dinitrotoluene	165	8.623	8.638	-0.015	94	47468	4.00	3.80	
85 Acenaphthylene	152	8.708	8.724	-0.016	98	297477	4.00	4.07	
86 3-Nitroaniline	138	8.778	8.793	-0.015	92	50901	4.00	3.79	
88 Acenaphthene	153	8.868	8.884	-0.016	94	202081	4.00	4.13	
87 2,4-Dinitrophenol	184	8.874	8.889	-0.015	83	47820	8.00	6.31	
89 4-Nitrophenol	109	8.911	8.932	-0.021	95	72612	8.00	7.97	
91 2,4-Dinitrotoluene	165	8.991	9.007	-0.016	92	62390	4.00	3.73	
93 Dibenzofuran	168	9.023	9.044	-0.021	96	291998	4.00	4.05	
95 2,3,5,6-Tetrachlorophenol	232	9.093	9.114	-0.021	93	55098	4.00	3.78	
96 2,3,4,6-Tetrachlorophenol	232	9.135	9.156	-0.021	73	62439	4.00	4.01	
97 2-Naphthylamine	143	9.162	9.178	-0.016	97	211348	4.00	4.12	
98 Diethyl phthalate	149	9.205	9.226	-0.021	97	230577	4.00	4.13	
99 Hexadecane	57	9.221	9.242	-0.021	94	154658	4.00	4.46	
100 4-Chlorophenyl phenyl ethe	204	9.328	9.349	-0.021	93	119703	4.00	3.99	
101 4-Nitroaniline	138	9.333	9.354	-0.021	83	57983	4.00	3.93	
103 Fluorene	166	9.338	9.359	-0.021	94	236574	4.00	4.17	
104 4,6-Dinitro-2-methylphenol	198	9.365	9.386	-0.021	84	64401	8.00	5.86	
105 N-Nitrosodiphenylamine	169	9.429	9.450	-0.021	97	170131	4.00	4.05	
90 1,2-Diphenylhydrazine	77	9.472	9.493	-0.021	99	248473	4.00	4.13	
57 Azobenzene	77	9.472	9.493	-0.021	100	248473	4.00	4.13	
110 4-Bromophenyl phenyl ether	248	9.782	9.803	-0.021	68	67576	4.00	3.87	
112 Hexachlorobenzene	284	9.856	9.878	-0.022	94	77651	4.00	3.98	
113 Atrazine	200	9.905	9.926	-0.021	92	65043	4.00	4.04	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
116 Pentachlorophenol	266	10.027	10.054	-0.027	92	102837	8.00	8.04	
115 n-Octadecane	57	10.059	10.080	-0.021	95	156118	4.00	4.18	
121 Phenanthrene	178	10.225	10.251	-0.026	98	345944	4.00	4.02	
122 Anthracene	178	10.273	10.299	-0.026	98	342093	4.00	4.05	
124 Carbazole	167	10.412	10.433	-0.021	96	311927	4.00	4.04	
126 Di-n-butyl phthalate	149	10.716	10.743	-0.027	100	341482	4.00	3.85	
131 Fluoranthene	202	11.459	11.491	-0.031	98	357994	4.00	3.92	
132 Benzidine	184	11.587	11.619	-0.032	99	158917	4.00	3.73	
133 Pyrene	202	11.742	11.779	-0.037	97	370945	4.00	4.09	
138 Butyl benzyl phthalate	149	12.591	12.633	-0.042	98	122402	4.00	3.44	
144 3,3'-Dichlorobenzidine	252	13.488	13.541	-0.053	74	101416	4.00	3.49	
146 Benzo[a]anthracene	228	13.553	13.611	-0.059	99	337356	4.00	3.97	
145 Bis(2-ethylhexyl) phthalat	149	13.574	13.627	-0.053	62	172260	4.00	3.38	
147 Chrysene	228	13.617	13.670	-0.053	97	360756	4.00	4.13	
150 Di-n-octyl phthalate	149	14.840	14.903	-0.063	100	271554	4.00	3.42	M
151 7,12-Dimethylbenz(a)anthra	256	15.625	15.683	-0.058	90	141780	4.00	3.37	
152 Benzo[b]fluoranthene	252	15.630	15.699	-0.069	97	317357	4.00	3.57	
153 Benzo[k]fluoranthene	252	15.684	15.753	-0.069	99	379313	4.00	4.14	M
219 Benzo[e]pyrene	252	16.191	16.255	-0.064	97	291046	4.00	3.70	
154 Benzo[a]pyrene	252	16.292	16.362	-0.070	76	282199	4.00	3.80	M
157 Indeno[1,2,3-cd]pyrene	276	18.557	18.637	-0.080	99	315436	4.00	3.76	
158 Dibenz(a,h)anthracene	278	18.600	18.674	-0.074	93	258218	4.00	3.46	Ma
159 Benzo[g,h,i]perylene	276	19.107	19.192	-0.085	98	283944	4.00	3.72	M
S 199 Total Cresols	108				0		8.00	8.82	
S 197 Methyl Phenols,Total	108				0		8.00	8.82	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

SVTAPSTD4.0i_00020 Amount Added: 1.00 Units: mL

Report Date: 23-Dec-2019 07:55:45 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220006.D				
Injection Date:	21-Dec-2019 12:01:30	Instrument ID:	CH71	Operator ID:	001562
Lims ID:	IC R4.0			Worklist Smp#:	6
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

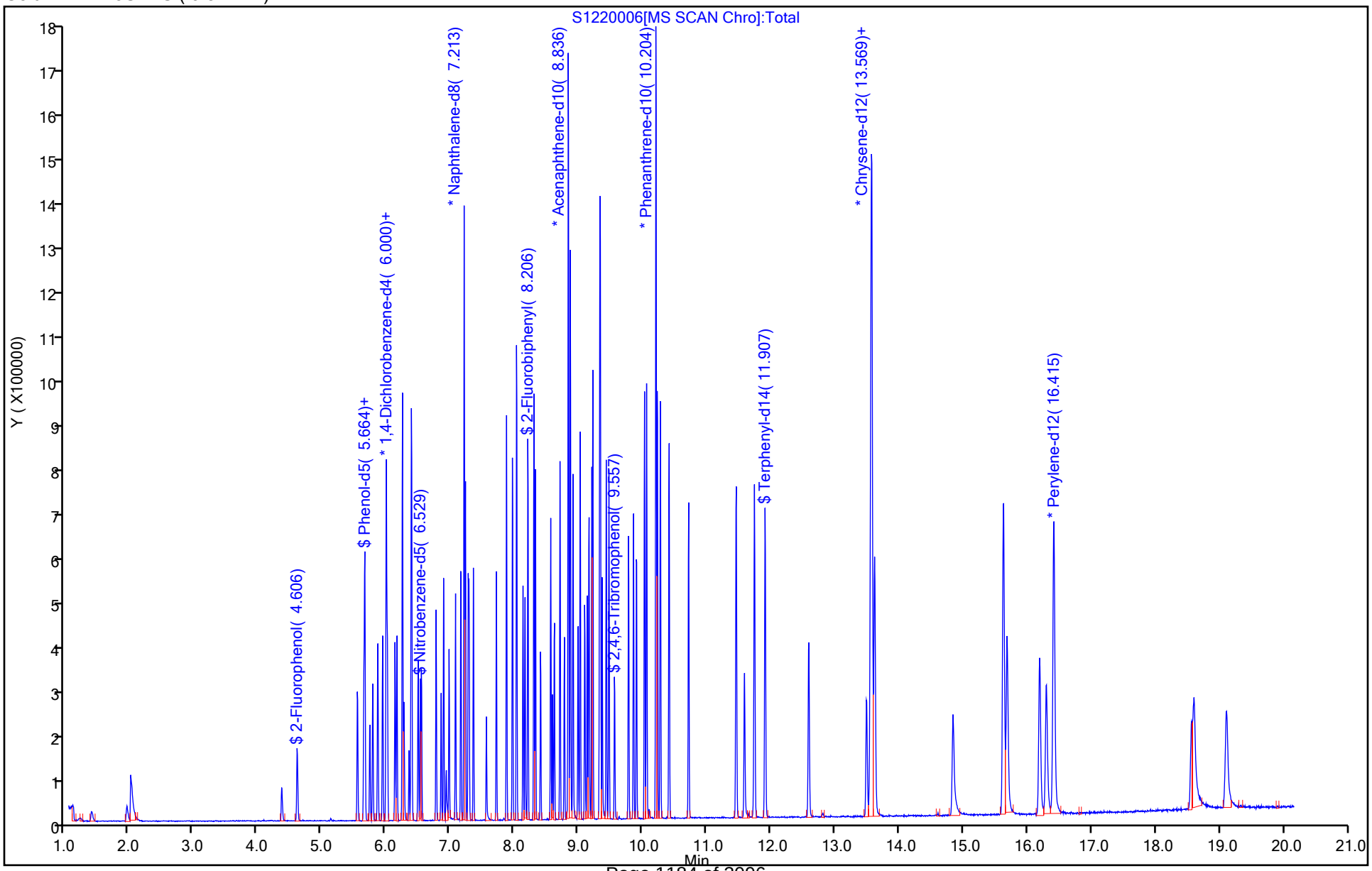

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220006.D				
Injection Date:	21-Dec-2019 12:01:30	Instrument ID:	CH71		
Lims ID:	IC R4.0				
Client ID:					
Operator ID:	001562	ALS Bottle#:	4	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

150 Di-n-octyl phthalate, CAS: 117-84-0

Signal: 1

Processing Integration Results

RT: 14.84
Area: 261156
Amount: 3.088047
Amount Units: ng

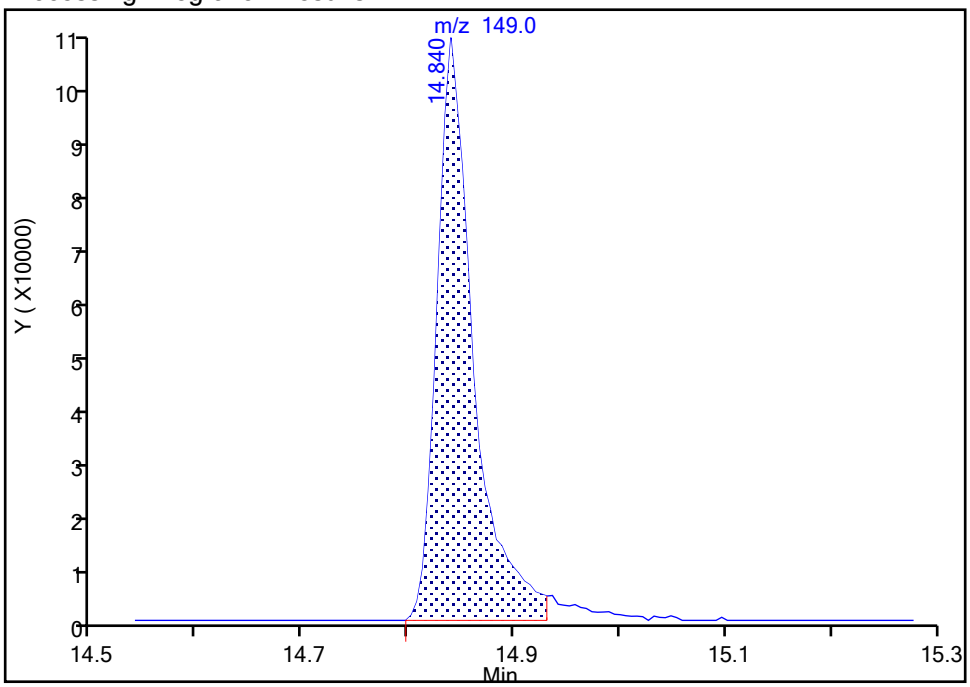

Manual Integration Results

RT: 14.84
Area: 271554
Amount: 3.424023
Amount Units: ng

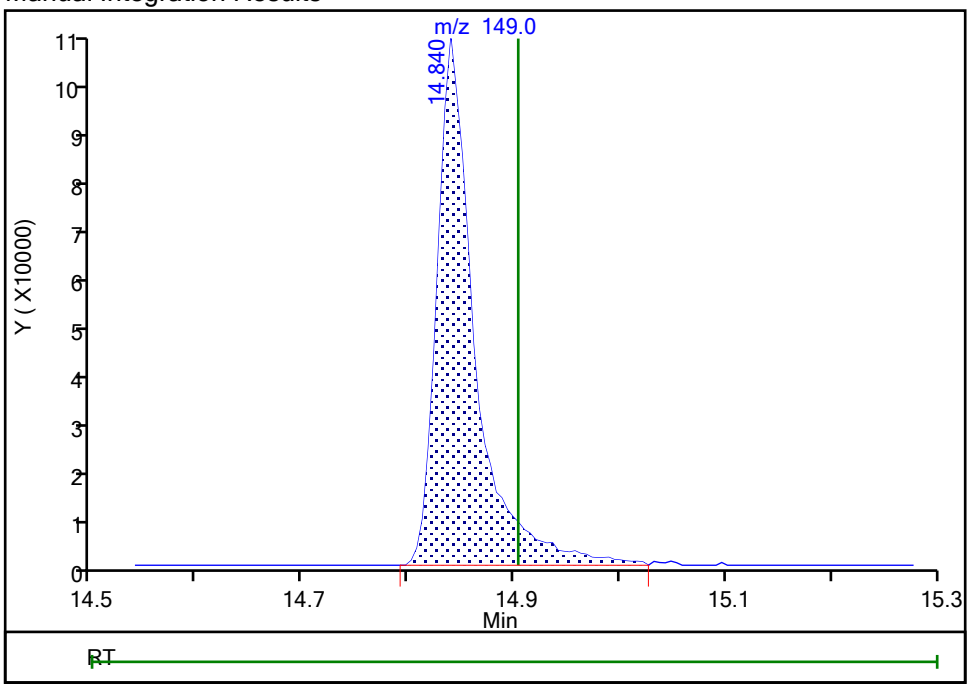

Reviewer: fergusond, 21-Dec-2019 12:52:04

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220006.D				
Injection Date:	21-Dec-2019 12:01:30	Instrument ID:	CH71		
Lims ID:	IC R4.0				
Client ID:					
Operator ID:	001562	ALS Bottle#:	4	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

153 Benzo[k]fluoranthene, CAS: 207-08-9

Signal: 1

Processing Integration Results

RT: 15.68
Area: 358220
Amount: 4.399379
Amount Units: ng

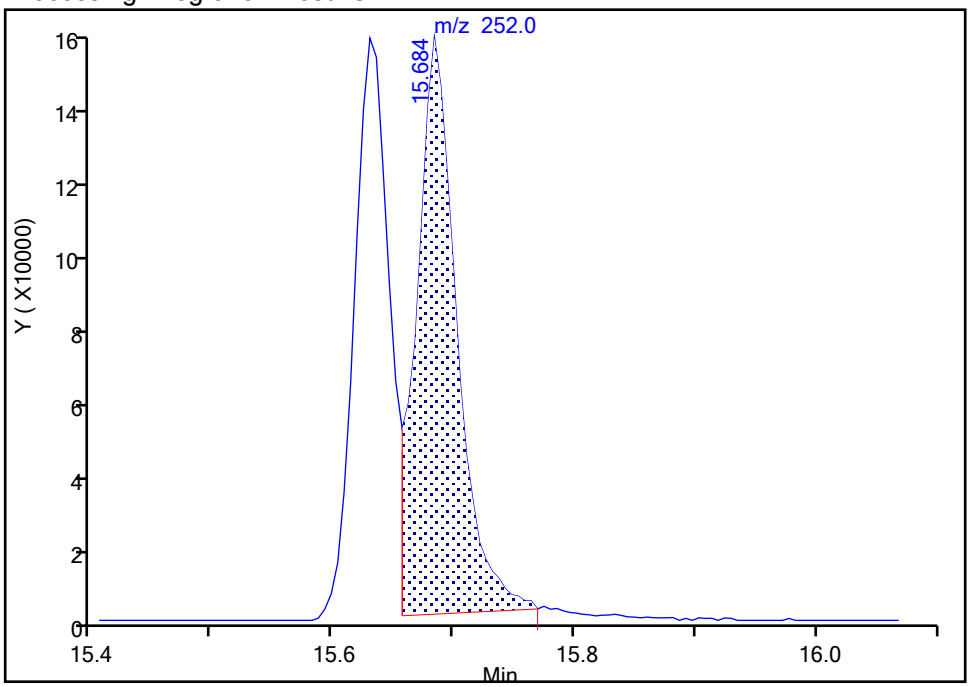

Manual Integration Results

RT: 15.68
Area: 379313
Amount: 4.144890
Amount Units: ng

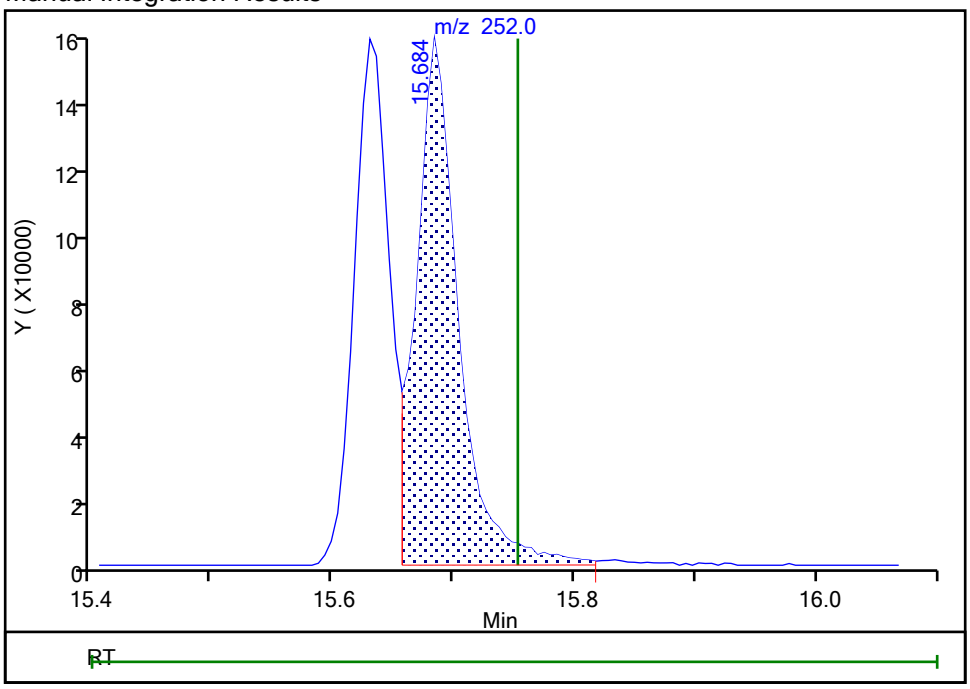

Reviewer: fergusond, 21-Dec-2019 12:52:40

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220006.D				
Injection Date:	21-Dec-2019 12:01:30	Instrument ID:	CH71		
Lims ID:	IC R4.0				
Client ID:					
Operator ID:	001562	ALS Bottle#:	4	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

154 Benzo[a]pyrene, CAS: 50-32-8

Signal: 1

Processing Integration Results

RT: 16.29
Area: 256601
Amount: 4.226751
Amount Units: ng

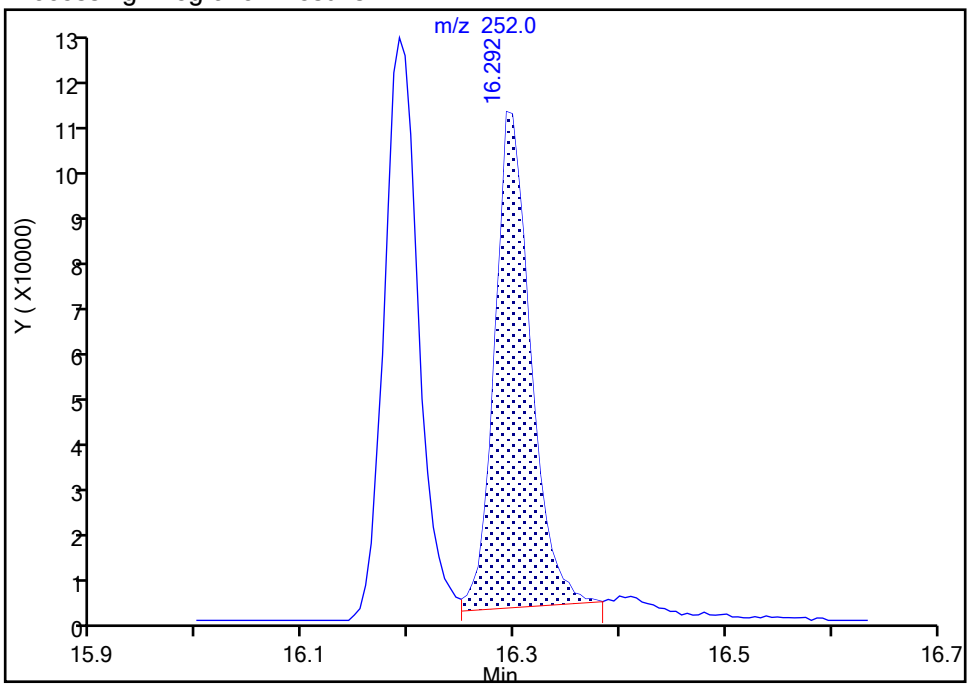

Manual Integration Results

RT: 16.29
Area: 282199
Amount: 3.802164
Amount Units: ng

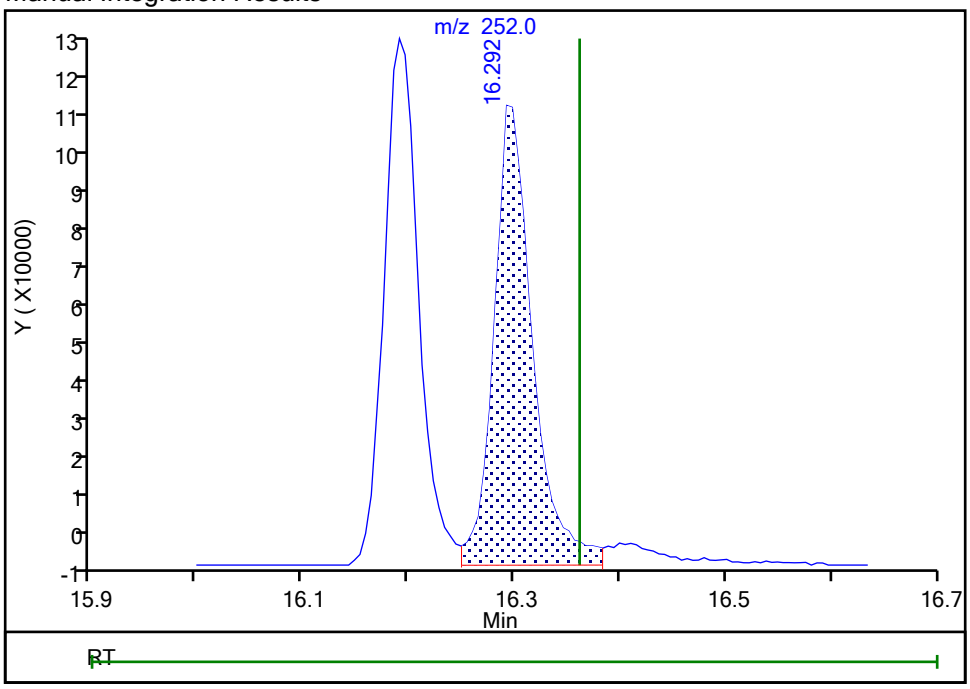

Reviewer: fergusond, 21-Dec-2019 12:53:29

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220006.D				
Injection Date:	21-Dec-2019 12:01:30	Instrument ID:	CH71		
Lims ID:	IC R4.0				
Client ID:					
Operator ID:	001562	ALS Bottle#:	4	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

158 Dibenz(a,h)anthracene, CAS: 53-70-3

Signal: 1

Processing Integration Results

RT: 18.60
Area: 246419
Amount: 4.448537
Amount Units: ng

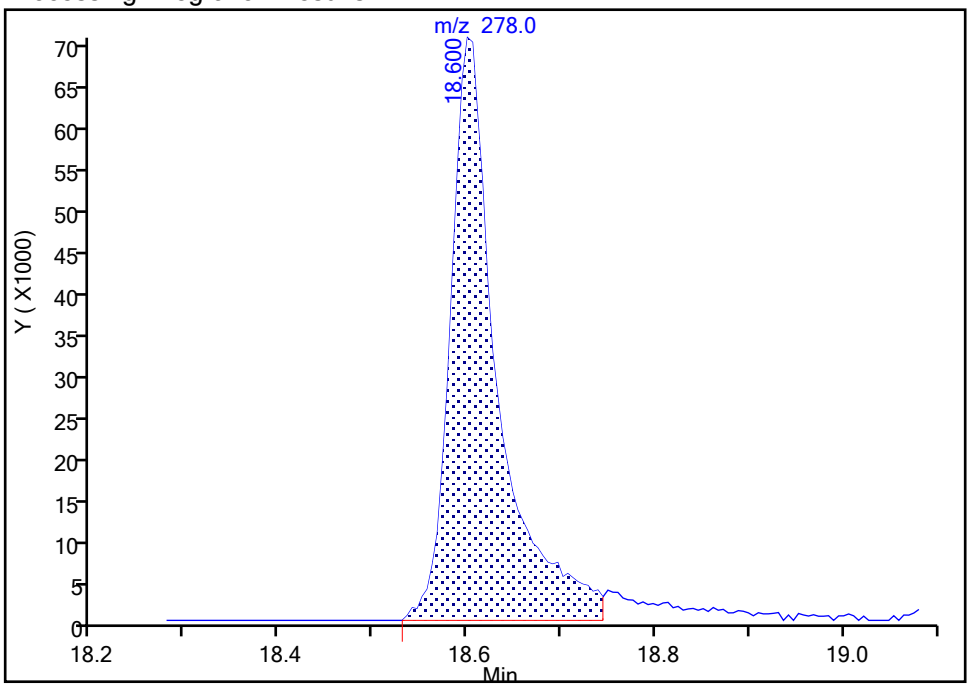

Manual Integration Results

RT: 18.60
Area: 258218
Amount: 3.464677
Amount Units: ng

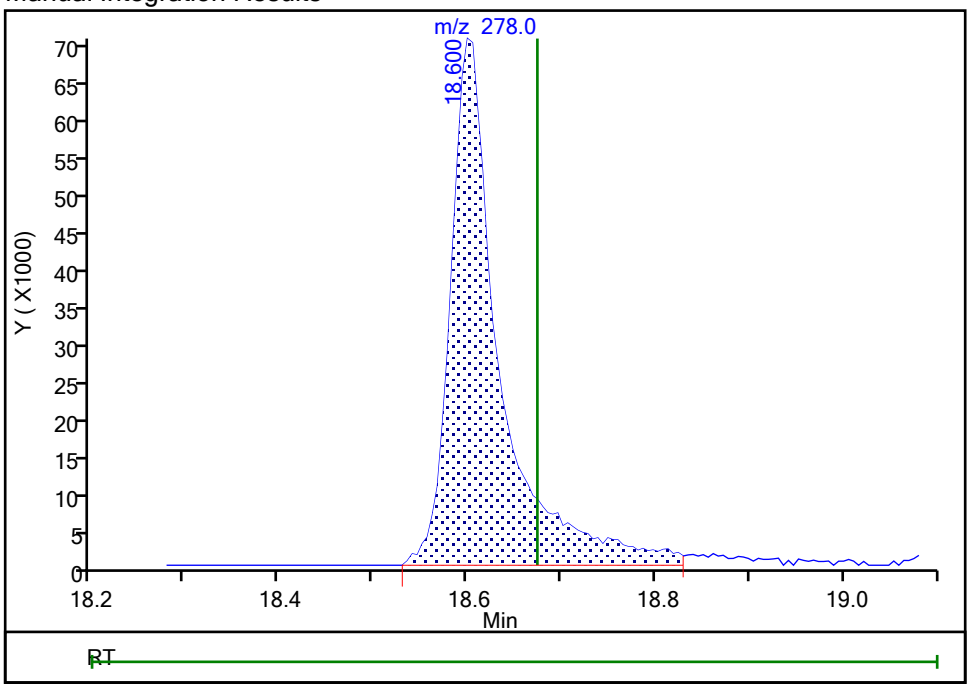

Reviewer: fergusond, 21-Dec-2019 12:54:42

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220006.D				
Injection Date:	21-Dec-2019 12:01:30	Instrument ID:	CH71		
Lims ID:	IC R4.0				
Client ID:					
Operator ID:	001562	ALS Bottle#:	4	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

159 Benzo[g,h,i]perylene, CAS: 191-24-2

Signal: 1

Processing Integration Results

RT: 19.11
Area: 275908
Amount: 4.359943
Amount Units: ng

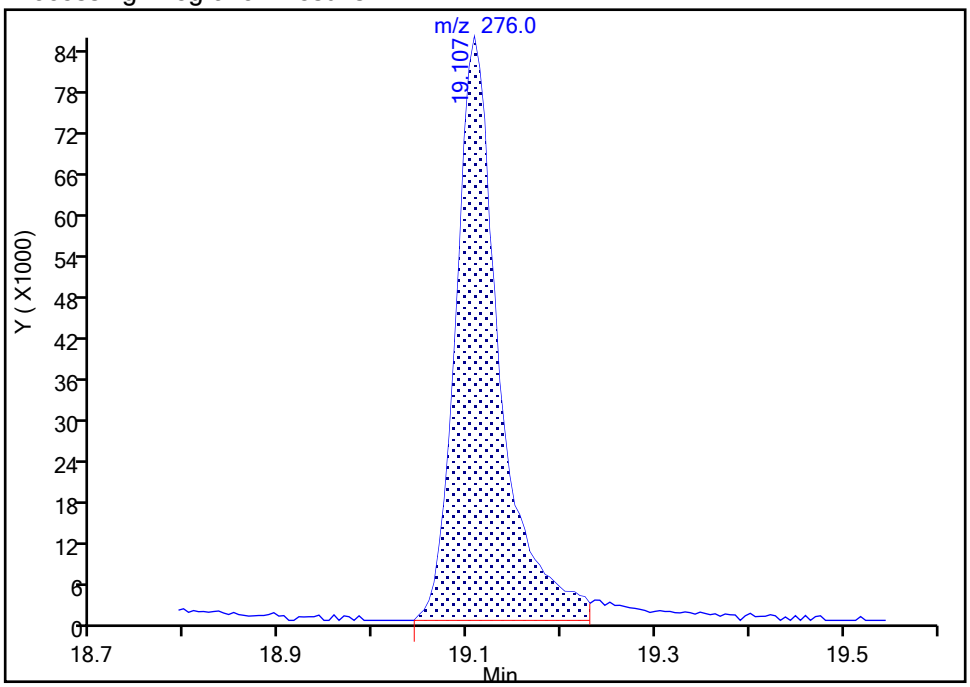

Manual Integration Results

RT: 19.11
Area: 283944
Amount: 3.724445
Amount Units: ng

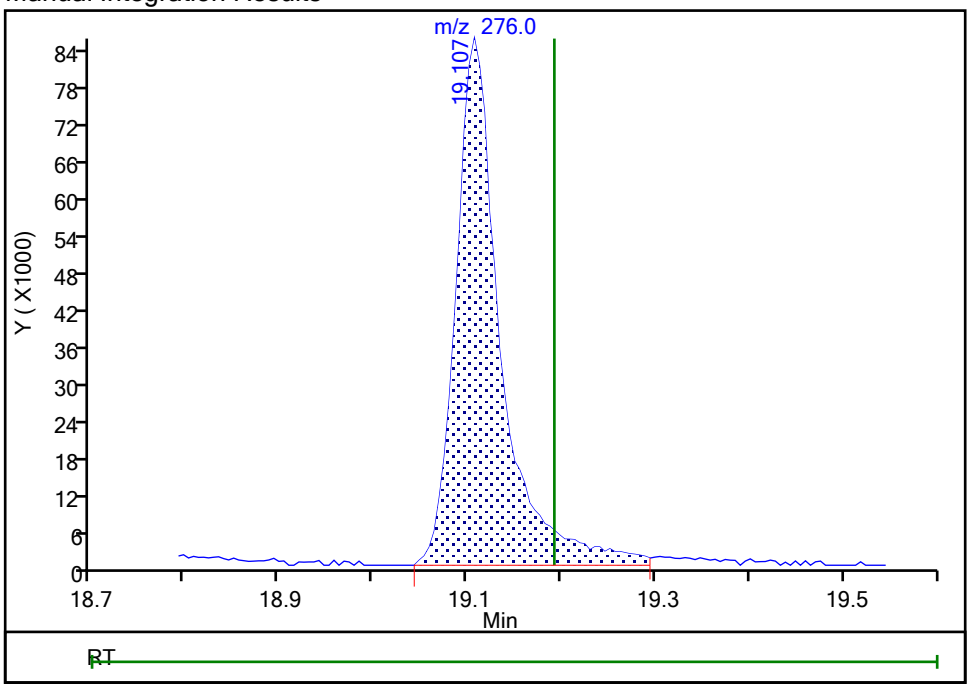

Reviewer: fergusond, 21-Dec-2019 12:55:46

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220007.D
Lims ID: ICIS R10.0
Client ID:
Sample Type: ICIS Calib Level: 4
Inject. Date: 21-Dec-2019 12:28:30 ALS Bottle#: 5 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030114-007
Misc. Info.: ICIS R10.0
Operator ID: 001562 Instrument ID: CH71
Sublist: chrom-BNA_CH71*sub9

Method: \\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\BNA_CH71.m
Limit Group: BNA 8270D ICAL
Last Update: 23-Dec-2019 07:55:53 Calib Date: 21-Dec-2019 14:16:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220011.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0321

First Level Reviewer: fergusond Date: 23-Dec-2019 07:54:42

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.008	6.008	0.000	96	112454	8.00	8.00	
* 2 Naphthalene-d8	136	7.220	7.220	0.000	100	506397	8.00	8.00	
* 3 Acenaphthene-d10	164	8.849	8.849	0.000	94	305267	8.00	8.00	
* 4 Phenanthrene-d10	188	10.217	10.217	0.000	97	561616	8.00	8.00	
* 5 Chrysene-d12	240	13.587	13.587	0.000	99	559628	8.00	8.00	
* 6 Perylene-d12	264	16.434	16.434	0.000	99	493944	8.00	8.00	
$ 7 2-Fluorophenol	112	4.619	4.619	0.000	94	129005	10.0	9.76	
$ 8 Phenol-d5	99	5.655	5.655	0.000	97	194842	10.0	9.83	
$ 9 Nitrobenzene-d5	82	6.537	6.537	0.000	90	193501	10.0	9.79	
$ 10 2-Fluorobiphenyl	172	8.219	8.219	0.000	100	517683	10.0	10.0	
$ 11 2,4,6-Tribromophenol	330	9.570	9.570	0.000	94	79371	10.0	9.78	
$ 12 Terphenyl-d14	244	11.921	11.921	0.000	99	596194	10.0	9.76	
13 1,4-Dioxane	88	1.404	1.404	0.000	97	37792	10.0	9.61	
14 N-Nitrosodimethylamine	74	1.949	1.949	0.000	91	59894	10.0	9.91	
15 Pyridine	79	2.008	2.008	0.000	91	202730	20.0	19.8	
21 Methyl methanesulfonate	80	4.374	4.374	0.000	88	73967	10.0	9.62	
25 Benzaldehyde	77	5.554	5.554	0.000	94	142661	10.0	10.4	
26 Phenol	94	5.666	5.666	0.000	98	224431	10.0	10.1	
27 Aniline	93	5.672	5.672	0.000	97	265429	10.0	10.1	
29 Bis(2-chloroethyl)ether	93	5.746	5.746	0.000	97	160838	10.0	9.96	
30 2-Chlorophenol	128	5.794	5.794	0.000	97	181535	10.0	9.86	
31 n-Decane	43	5.874	5.874	0.000	88	168348	10.0	9.61	
32 1,3-Dichlorobenzene	146	5.949	5.949	0.000	97	213084	10.0	9.98	
33 1,4-Dichlorobenzene	146	6.024	6.024	0.000	93	215139	10.0	9.79	
34 Benzyl alcohol	108	6.142	6.142	0.000	90	110462	10.0	9.74	
35 1,2-Dichlorobenzene	146	6.174	6.174	0.000	96	208966	10.0	10.0	
36 2-Methylphenol	108	6.259	6.259	0.000	75	161516	10.0	9.87	
37 Indene	116	6.259	6.259	0.000	89	311461	10.0	10.1	
38 2,2'-oxybis[1-chloropropan	45	6.280	6.280	0.000	90	219415	10.0	9.78	
39 N-Nitrosopyrrolidine	100	6.360	6.360	0.000	87	76002	10.0	9.78	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
40 Acetophenone	105	6.393	6.393	0.000	97	261483	10.0	10.2	
41 N-Nitrosodi-n-propylamine	70	6.398	6.398	0.000	90	135586	10.0	10.4	
42 4-Methylphenol	108	6.403	6.403	0.000	94	179368	10.0	10.4	
45 Hexachloroethane	117	6.505	6.505	0.000	92	82835	10.0	9.65	
46 Nitrobenzene	77	6.553	6.553	0.000	89	205241	10.0	9.91	
48 Isophorone	82	6.782	6.782	0.000	98	372669	10.0	10.1	
49 2-Nitrophenol	139	6.863	6.863	0.000	97	104903	10.0	9.82	
50 2,4-Dimethylphenol	107	6.900	6.900	0.000	97	207825	10.0	10.1	
52 Benzoic acid	122	6.948	6.948	0.000	91	68071	10.0	8.18	
53 Bis(2-chloroethoxy)methane	93	6.985	6.985	0.000	99	230869	10.0	10.1	
54 2,4-Dichlorophenol	162	7.087	7.087	0.000	95	177909	10.0	9.93	
56 1,2,4-Trichlorobenzene	180	7.172	7.172	0.000	94	207808	10.0	9.78	
58 Naphthalene	128	7.242	7.242	0.000	97	638444	10.0	9.92	
59 4-Chloroaniline	127	7.285	7.285	0.000	96	272635	10.0	10.0	
60 2,6-Dichlorophenol	162	7.301	7.301	0.000	97	183946	10.0	10.1	
62 Hexachlorobutadiene	225	7.370	7.370	0.000	96	128721	10.0	9.79	
64 Caprolactam	113	7.573	7.573	0.000	81	59945	10.0	9.65	
67 4-Chloro-3-methylphenol	107	7.728	7.728	0.000	95	192163	10.0	10.0	
69 2-Methylnaphthalene	142	7.883	7.883	0.000	92	466909	10.0	9.99	
71 1-Methylnaphthalene	142	7.979	7.979	0.000	93	434010	10.0	9.87	
72 Hexachlorocyclopentadiene	237	8.038	8.038	0.000	97	139820	10.0	10.1	
73 1,2,4,5-Tetrachlorobenzene	216	8.043	8.043	0.000	97	236025	10.0	10.4	
74 2,4,6-Trichlorophenol	196	8.139	8.139	0.000	93	142484	10.0	10.2	
75 2,4,5-Trichlorophenol	196	8.171	8.171	0.000	94	157291	10.0	10.3	
76 1,1'-Biphenyl	154	8.310	8.310	0.000	95	570214	10.0	9.98	
77 2-Chloronaphthalene	162	8.331	8.331	0.000	97	445945	10.0	10.1	
79 2-Nitroaniline	65	8.411	8.411	0.000	82	133345	10.0	10.1	
82 Dimethyl phthalate	163	8.572	8.572	0.000	98	511027	10.0	10.0	
83 1,3-Dinitrobenzene	168	8.604	8.604	0.000	86	70538	10.0	9.38	
84 2,6-Dinitrotoluene	165	8.630	8.630	0.000	94	113866	10.0	9.93	
85 Acenaphthylene	152	8.716	8.716	0.000	98	675875	10.0	10.1	
86 3-Nitroaniline	138	8.785	8.785	0.000	92	123012	10.0	9.98	
88 Acenaphthene	153	8.876	8.876	0.000	93	451260	10.0	10.1	
87 2,4-Dinitrophenol	184	8.881	8.881	0.000	82	110662	20.0	15.9	
89 4-Nitrophenol	109	8.919	8.919	0.000	95	168164	20.0	20.1	
91 2,4-Dinitrotoluene	165	8.999	8.999	0.000	92	152361	10.0	9.95	
93 Dibenzofuran	168	9.036	9.036	0.000	96	654668	10.0	9.89	
95 2,3,5,6-Tetrachlorophenol	232	9.106	9.106	0.000	93	132201	10.0	9.90	
96 2,3,4,6-Tetrachlorophenol	232	9.143	9.143	0.000	73	139347	10.0	9.77	
97 2-Naphthylamine	143	9.170	9.170	0.000	97	484900	10.0	10.3	
98 Diethyl phthalate	149	9.213	9.213	0.000	98	514649	10.0	10.1	
99 Hexadecane	57	9.229	9.229	0.000	94	354633	10.0	10.7	
100 4-Chlorophenyl phenyl ethe	204	9.335	9.335	0.000	94	271342	10.0	9.86	
101 4-Nitroaniline	138	9.346	9.346	0.000	84	136411	10.0	10.1	
103 Fluorene	166	9.351	9.351	0.000	94	531346	10.0	10.2	
104 4,6-Dinitro-2-methylphenol	198	9.378	9.378	0.000	84	173581	20.0	17.1	
105 N-Nitrosodiphenylamine	169	9.442	9.442	0.000	97	387301	10.0	10.0	
90 1,2-Diphenylhydrazine	77	9.480	9.480	0.000	99	573424	10.0	10.3	
57 Azobenzene	77	9.480	9.480	0.000	100	573424	10.0	10.3	
110 4-Bromophenyl phenyl ether	248	9.789	9.789	0.000	68	156536	10.0	9.73	
112 Hexachlorobenzene	284	9.864	9.864	0.000	95	172302	10.0	9.59	
113 Atrazine	200	9.912	9.912	0.000	92	150006	10.0	10.1	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
116 Pentachlorophenol	266	10.035	10.035	0.000	92	215257	20.0	18.3	
115 n-Octadecane	57	10.067	10.067	0.000	95	371621	10.0	10.3	
121 Phenanthrene	178	10.238	10.238	0.000	98	779159	10.0	9.81	
122 Anthracene	178	10.286	10.286	0.000	98	785533	10.0	10.1	
124 Carbazole	167	10.420	10.420	0.000	96	710280	10.0	9.98	
126 Di-n-butyl phthalate	149	10.724	10.724	0.000	100	828446	10.0	10.1	
131 Fluoranthene	202	11.472	11.472	0.000	98	829454	10.0	9.85	
132 Benzidine	184	11.600	11.600	0.000	99	466428	10.0	11.6	
133 Pyrene	202	11.755	11.755	0.000	97	858070	10.0	10.0	
138 Butyl benzyl phthalate	149	12.604	12.604	0.000	98	314784	10.0	9.39	
144 3,3'-Dichlorobenzidine	252	13.507	13.507	0.000	74	248366	10.0	9.07	
146 Benzo[a]anthracene	228	13.571	13.571	0.000	99	779976	10.0	9.74	
145 Bis(2-ethylhexyl) phthalat	149	13.587	13.587	0.000	89	454391	10.0	9.45	
147 Chrysene	228	13.635	13.635	0.000	97	806226	10.0	9.79	
150 Di-n-octyl phthalate	149	14.858	14.858	0.000	100	533833	10.0	7.33	
151 7,12-Dimethylbenz(a)anthra	256	15.643	15.643	0.000	92	363054	10.0	9.41	
152 Benzo[b]fluoranthene	252	15.649	15.649	0.000	97	796738	10.0	9.75	
153 Benzo[k]fluoranthene	252	15.707	15.707	0.000	99	846625	10.0	10.1	
219 Benzo[e]pyrene	252	16.209	16.209	0.000	96	695630	10.0	9.65	
154 Benzo[a]pyrene	252	16.316	16.316	0.000	77	658312	10.0	9.66	
157 Indeno[1,2,3-cd]pyrene	276	18.586	18.586	0.000	99	769682	10.0	10.0	
158 Dibenz(a,h)anthracene	278	18.629	18.629	0.000	89	627162	10.0	8.64	
159 Benzo[g,h,i]perylene	276	19.136	19.136	0.000	98	672240	10.0	9.61	
S 199 Total Cresols	108				0		20.0	20.3	
S 197 Methyl Phenols,Total	108				0		20.0	20.3	

Reagents:

SVTAPSTD10i_00354 Amount Added: 1.00 Units: mL

Report Date: 23-Dec-2019 07:55:54 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220007.D				
Injection Date:	21-Dec-2019 12:28:30	Instrument ID:	CH71	Operator ID:	001562
Lims ID:	ICIS R10.0			Worklist Smp#:	7
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

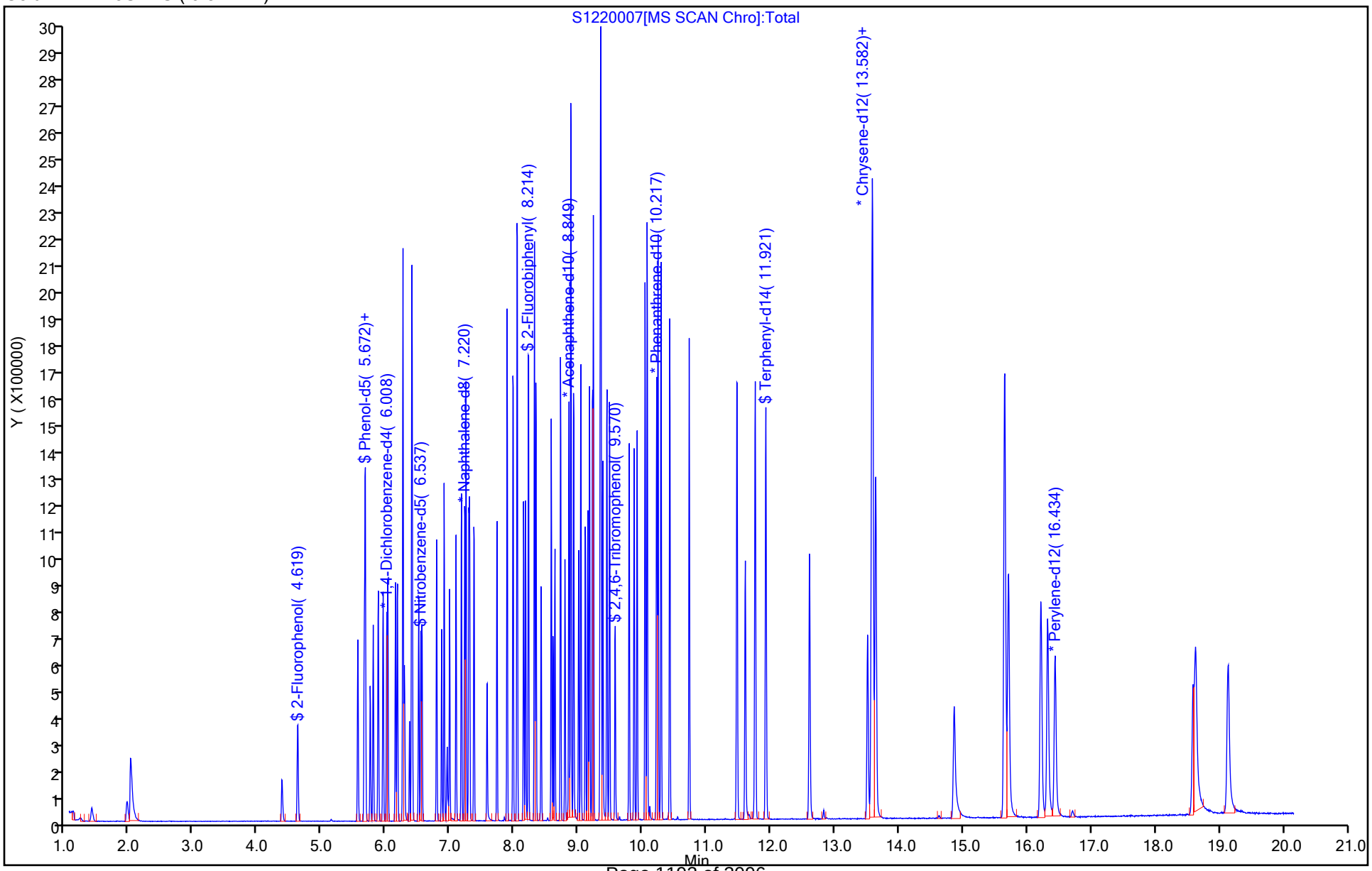

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220008.D
Lims ID: IC R20.0
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 21-Dec-2019 12:55:30 ALS Bottle#: 6 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030114-008
Misc. Info.: IC R20.0
Operator ID: 001562 Instrument ID: CH71
Sublist: chrom-BNA_CH71*sub9

Method: \\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\BNA_CH71.m
Limit Group: BNA 8270D ICAL
Last Update: 23-Dec-2019 07:56:07 Calib Date: 21-Dec-2019 14:16:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220011.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0321

First Level Reviewer: fergusond Date: 21-Dec-2019 14:04:28

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	5.999	6.008	-0.009	97	116931	8.00	8.00	
* 2 Naphthalene-d8	136	7.222	7.220	0.002	100	520874	8.00	8.00	
* 3 Acenaphthene-d10	164	8.846	8.849	-0.003	94	318499	8.00	8.00	
* 4 Phenanthrene-d10	188	10.213	10.217	-0.004	97	587021	8.00	8.00	
* 5 Chrysene-d12	240	13.584	13.587	-0.003	79	606832	8.00	8.00	
* 6 Perylene-d12	264	16.430	16.434	-0.004	99	532196	8.00	8.00	
$ 7 2-Fluorophenol	112	4.611	4.619	-0.008	94	273214	20.0	19.9	
$ 8 Phenol-d5	99	5.652	5.655	-0.003	97	405487	20.0	19.7	
$ 9 Nitrobenzene-d5	82	6.533	6.537	-0.004	89	422373	20.0	20.8	
$ 10 2-Fluorobiphenyl	172	8.216	8.219	-0.003	100	1076759	20.0	19.9	
$ 11 2,4,6-Tribromophenol	330	9.573	9.570	0.003	93	170976	20.0	20.2	
$ 12 Terphenyl-d14	244	11.917	11.921	-0.004	99	1303630	20.0	19.7	
13 1,4-Dioxane	88	1.401	1.404	-0.003	96	80094	20.0	19.6	
14 N-Nitrosodimethylamine	74	1.951	1.949	0.002	91	126001	20.0	20.0	
15 Pyridine	79	1.999	2.008	-0.009	92	426793	40.0	40.1	
21 Methyl methanesulfonate	80	4.365	4.374	-0.009	88	159213	20.0	19.9	
25 Benzaldehyde	77	5.551	5.554	-0.003	94	289497	20.0	20.3	
26 Phenol	94	5.663	5.666	-0.003	98	454537	20.0	19.7	
27 Aniline	93	5.668	5.672	-0.004	98	544597	20.0	19.9	
29 Bis(2-chloroethyl)ether	93	5.743	5.746	-0.003	97	331859	20.0	19.8	
30 2-Chlorophenol	128	5.791	5.794	-0.003	97	382922	20.0	20.0	
31 n-Decane	43	5.866	5.874	-0.008	88	349446	20.0	19.2	
32 1,3-Dichlorobenzene	146	5.946	5.949	-0.003	97	437890	20.0	19.7	
33 1,4-Dichlorobenzene	146	6.021	6.024	-0.003	92	447783	20.0	19.6	
34 Benzyl alcohol	108	6.138	6.142	-0.004	90	236500	20.0	20.1	
35 1,2-Dichlorobenzene	146	6.165	6.174	-0.009	96	427878	20.0	19.7	
36 2-Methylphenol	108	6.256	6.259	-0.003	75	331040	20.0	19.5	
37 Indene	116	6.256	6.259	-0.003	88	625093	20.0	19.4	
38 2,2'-oxybis[1-chloropropan	45	6.277	6.280	-0.003	91	448085	20.0	19.2	
39 N-Nitrosopyrrolidine	100	6.357	6.360	-0.003	86	165927	20.0	20.5	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
40 Acetophenone	105	6.389	6.393	-0.004	93	524118	20.0	19.6	
41 N-Nitrosodi-n-propylamine	70	6.395	6.398	-0.003	87	281443	20.0	20.7	
42 4-Methylphenol	108	6.400	6.403	-0.003	94	360865	20.0	20.2	
45 Hexachloroethane	117	6.501	6.505	-0.004	92	174982	20.0	19.6	
46 Nitrobenzene	77	6.549	6.553	-0.004	89	432558	20.0	20.3	
48 Isophorone	82	6.779	6.782	-0.003	98	779283	20.0	20.5	
49 2-Nitrophenol	139	6.859	6.863	-0.004	96	234282	20.0	21.3	
50 2,4-Dimethylphenol	107	6.897	6.900	-0.003	96	434962	20.0	20.6	
52 Benzoic acid	122	6.961	6.948	0.013	90	200139	20.0	18.2	
53 Bis(2-chloroethoxy)methane	93	6.982	6.985	-0.003	99	470892	20.0	20.1	
54 2,4-Dichlorophenol	162	7.084	7.087	-0.003	95	374617	20.0	20.3	
56 1,2,4-Trichlorobenzene	180	7.169	7.172	-0.003	94	435107	20.0	19.9	
58 Naphthalene	128	7.238	7.242	-0.004	97	1312580	20.0	19.8	
59 4-Chloroaniline	127	7.281	7.285	-0.003	96	565922	20.0	20.3	
60 2,6-Dichlorophenol	162	7.297	7.301	-0.004	97	383306	20.0	20.5	
62 Hexachlorobutadiene	225	7.361	7.370	-0.009	96	273702	20.0	20.2	
64 Caprolactam	113	7.575	7.573	0.002	80	133735	20.0	20.9	
67 4-Chloro-3-methylphenol	107	7.725	7.728	-0.004	95	408782	20.0	20.7	
69 2-Methylnaphthalene	142	7.879	7.883	-0.004	92	953747	20.0	19.8	
71 1-Methylnaphthalene	142	7.976	7.979	-0.003	93	890687	20.0	19.7	
72 Hexachlorocyclopentadiene	237	8.034	8.038	-0.004	96	327257	20.0	22.5	
73 1,2,4,5-Tetrachlorobenzene	216	8.040	8.043	-0.003	97	484288	20.0	20.4	
74 2,4,6-Trichlorophenol	196	8.136	8.139	-0.003	93	298708	20.0	20.4	
75 2,4,5-Trichlorophenol	196	8.168	8.171	-0.003	94	337099	20.0	21.1	
76 1,1'-Biphenyl	154	8.307	8.310	-0.003	96	1198583	20.0	20.1	
77 2-Chloronaphthalene	162	8.333	8.331	0.002	97	921960	20.0	20.1	
79 2-Nitroaniline	65	8.414	8.411	0.003	83	294537	20.0	21.4	
82 Dimethyl phthalate	163	8.574	8.572	0.002	99	1082482	20.0	20.3	
83 1,3-Dinitrobenzene	168	8.600	8.604	-0.004	85	170011	20.0	21.7	
84 2,6-Dinitrotoluene	165	8.627	8.630	-0.003	95	250731	20.0	21.0	
85 Acenaphthylene	152	8.718	8.716	0.002	98	1437476	20.0	20.6	
86 3-Nitroaniline	138	8.787	8.785	0.002	92	266269	20.0	20.7	
88 Acenaphthene	153	8.873	8.876	-0.003	93	949795	20.0	20.3	
87 2,4-Dinitrophenol	184	8.878	8.881	-0.003	76	288873	40.0	39.8	
89 4-Nitrophenol	109	8.921	8.919	0.002	95	364308	40.0	41.8	
91 2,4-Dinitrotoluene	165	9.001	8.999	0.002	92	334007	20.0	20.9	
93 Dibenzofuran	168	9.033	9.036	-0.003	96	1367842	20.0	19.8	
95 2,3,5,6-Tetrachlorophenol	232	9.103	9.106	-0.004	93	300451	20.0	21.6	
96 2,3,4,6-Tetrachlorophenol	232	9.140	9.143	-0.003	74	306478	20.0	20.6	
97 2-Naphthylamine	143	9.172	9.170	0.002	96	1029738	20.0	21.0	
98 Diethyl phthalate	149	9.215	9.213	0.002	98	1077747	20.0	20.2	
99 Hexadecane	57	9.231	9.229	0.002	95	732008	20.0	21.4	
100 4-Chlorophenyl phenyl ethe	204	9.338	9.335	0.003	93	584181	20.0	20.3	
101 4-Nitroaniline	138	9.348	9.346	0.002	82	305180	20.0	21.6	
103 Fluorene	166	9.348	9.351	-0.003	93	1122262	20.0	20.7	
104 4,6-Dinitro-2-methylphenol	198	9.375	9.378	-0.003	85	429431	40.0	40.5	
105 N-Nitrosodiphenylamine	169	9.439	9.442	-0.003	97	818130	20.0	20.2	
90 1,2-Diphenylhydrazine	77	9.482	9.480	0.002	99	1213028	20.0	20.9	
57 Azobenzene	77	9.482	9.480	0.002	100	1213028	20.0	20.9	
110 4-Bromophenyl phenyl ether	248	9.786	9.789	-0.003	67	336649	20.0	20.0	
112 Hexachlorobenzene	284	9.866	9.864	0.002	95	367348	20.0	19.6	
113 Atrazine	200	9.914	9.912	0.002	93	329876	20.0	21.3	

Report Date: 23-Dec-2019 07:56:10 Chrom Revision: 2.3 15-Dec-2019 06:20:02
Data File: \\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220008.D

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
116 Pentachlorophenol	266	10.037	10.035	0.002	93	498457	40.0	40.4	
115 n-Octadecane	57	10.069	10.067	0.002	95	788547	20.0	21.1	
121 Phenanthrene	178	10.235	10.238	-0.003	98	1660004	20.0	20.0	
122 Anthracene	178	10.283	10.286	-0.003	98	1681680	20.0	20.7	
124 Carbazole	167	10.422	10.420	0.002	96	1531175	20.0	20.6	
126 Di-n-butyl phthalate	149	10.726	10.724	0.002	100	1856964	20.0	21.7	
131 Fluoranthene	202	11.469	11.472	-0.003	98	1828708	20.0	20.8	
132 Benzidine	184	11.597	11.600	-0.003	99	989251	20.0	22.7	
133 Pyrene	202	11.752	11.755	-0.003	97	1862481	20.0	20.1	
138 Butyl benzyl phthalate	149	12.601	12.604	-0.003	98	757907	20.0	20.8	
144 3,3'-Dichlorobenzidine	252	13.504	13.507	-0.003	74	625451	20.0	21.1	
146 Benzo[a]anthracene	228	13.568	13.571	-0.003	99	1753667	20.0	20.2	
145 Bis(2-ethylhexyl) phthalat	149	13.584	13.587	-0.003	98	1093937	20.0	21.0	
147 Chrysene	228	13.632	13.635	-0.003	96	1769952	20.0	19.8	
150 Di-n-octyl phthalate	149	14.860	14.858	0.002	100	1469780	20.0	18.7	
151 7,12-Dimethylbenz(a)anthra	256	15.640	15.643	-0.003	92	841756	20.0	20.2	
152 Benzo[b]fluoranthene	252	15.651	15.649	0.002	97	1784596	20.0	20.3	
153 Benzo[k]fluoranthene	252	15.704	15.707	-0.003	99	1857467	20.0	20.5	
219 Benzo[e]pyrene	252	16.211	16.209	0.002	96	1569095	20.0	20.2	
154 Benzo[a]pyrene	252	16.313	16.316	-0.003	77	1528523	20.0	20.8	
157 Indeno[1,2,3-cd]pyrene	276	18.588	18.586	0.002	99	1790300	20.0	21.6	
158 Dibenz(a,h)anthracene	278	18.626	18.629	-0.003	91	1473390	20.0	18.4	
159 Benzo[g,h,i]perylene	276	19.138	19.136	0.002	99	1572556	20.0	20.9	
S 199 Total Cresols	108				0		40.0	39.6	
S 197 Methyl Phenols,Total	108				0		40.0	39.6	

Reagents:

SVTAPSTD20i_00018 Amount Added: 1.00 Units: mL

Report Date: 23-Dec-2019 07:56:10 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220008.D				
Injection Date:	21-Dec-2019 12:55:30	Instrument ID:	CH71	Operator ID:	001562
Lims ID:	IC R20.0			Worklist Smp#:	8
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		
Column: Rxi-5SilMS (0.32 mm)					

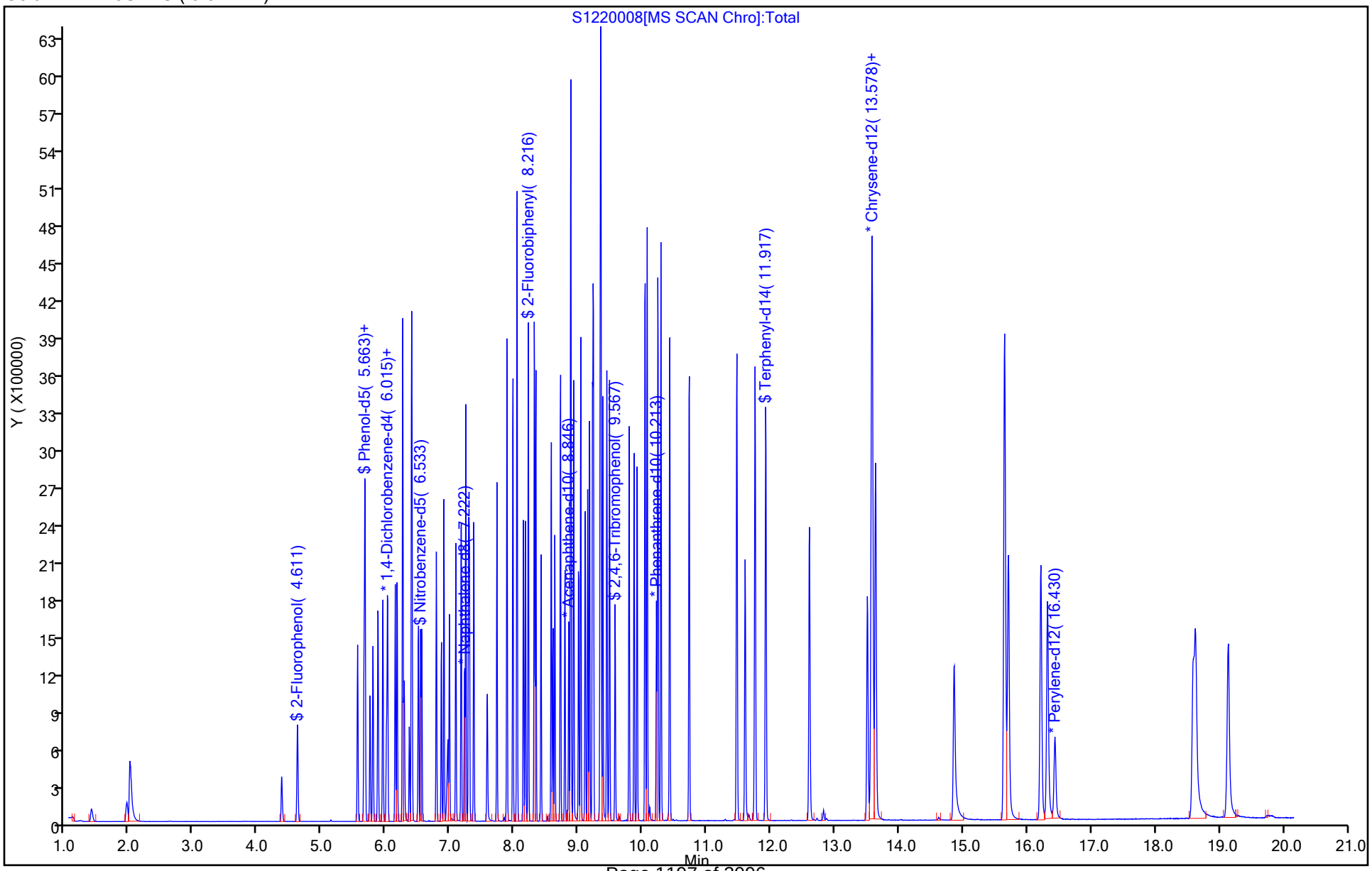

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220009.D
Lims ID: IC R40.0
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 21-Dec-2019 13:22:30 ALS Bottle#: 7 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030114-009
Misc. Info.: IC R40.0
Operator ID: 001562 Instrument ID: CH71
Sublist: chrom-BNA_CH71*sub9

Method: \\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\BNA_CH71.m
Limit Group: BNA 8270D ICAL
Last Update: 23-Dec-2019 07:56:18 Calib Date: 21-Dec-2019 14:16:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220011.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0321

First Level Reviewer: fergusond Date: 21-Dec-2019 14:31:02

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	5.998	6.008	-0.010	96	111629	8.00	8.00	
* 2 Naphthalene-d8	136	7.215	7.220	-0.005	100	504822	8.00	8.00	
* 3 Acenaphthene-d10	164	8.844	8.849	-0.005	95	309708	8.00	8.00	
* 4 Phenanthrene-d10	188	10.212	10.217	-0.005	98	571334	8.00	8.00	
* 5 Chrysene-d12	240	13.587	13.587	0.000	99	598204	8.00	8.00	
* 6 Perylene-d12	264	16.429	16.434	-0.005	99	509978	8.00	8.00	
$ 7 2-Fluorophenol	112	4.609	4.619	-0.010	94	536112	40.0	40.9	
$ 8 Phenol-d5	99	5.651	5.655	-0.004	98	776305	40.0	39.5	
$ 9 Nitrobenzene-d5	82	6.532	6.537	-0.005	90	803914	40.0	40.8	
$ 10 2-Fluorobiphenyl	172	8.214	8.219	-0.005	100	2084721	40.0	39.7	
$ 11 2,4,6-Tribromophenol	330	9.566	9.570	-0.004	94	351459	40.0	42.6	
$ 12 Terphenyl-d14	244	11.921	11.921	0.000	100	2649314	40.0	40.6	
13 1,4-Dioxane	88	1.399	1.404	-0.005	96	155385	40.0	39.8	
14 N-Nitrosodimethylamine	74	1.949	1.949	0.000	90	247243	40.0	41.2	
15 Pyridine	79	2.003	2.008	-0.005	92	839550	80.0	82.6	
21 Methyl methanesulfonate	80	4.363	4.374	-0.011	88	306454	40.0	40.2	
25 Benzaldehyde	77	5.549	5.554	-0.005	94	496880	40.0	36.5	
26 Phenol	94	5.667	5.666	0.001	90	851996	40.0	38.7	
27 Aniline	93	5.667	5.672	-0.005	92	1028895	40.0	39.3	
29 Bis(2-chloroethyl)ether	93	5.741	5.746	-0.005	97	630251	40.0	39.3	
30 2-Chlorophenol	128	5.789	5.794	-0.005	97	730040	40.0	40.0	
31 n-Decane	43	5.870	5.874	-0.004	88	668825	40.0	38.5	
32 1,3-Dichlorobenzene	146	5.944	5.949	-0.005	98	821000	40.0	38.8	
33 1,4-Dichlorobenzene	146	6.014	6.024	-0.010	92	842376	40.0	38.6	
34 Benzyl alcohol	108	6.137	6.142	-0.005	90	459454	40.0	40.8	
35 1,2-Dichlorobenzene	146	6.163	6.174	-0.011	96	801944	40.0	38.7	
36 2-Methylphenol	108	6.259	6.259	0.000	96	621002	40.0	38.2	
37 Indene	116	6.254	6.259	-0.005	89	1169665	40.0	38.1	
38 2,2'-oxybis[1-chloropropan	45	6.275	6.280	-0.005	91	861900	40.0	38.7	
39 N-Nitrosopyrrolidine	100	6.361	6.360	0.001	86	331483	40.0	43.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
40 Acetophenone	105	6.388	6.393	-0.005	96	978136	40.0	38.4	
41 N-Nitrosodi-n-propylamine	70	6.393	6.398	-0.005	88	504973	40.0	39.0	
42 4-Methylphenol	108	6.398	6.403	-0.005	91	665556	40.0	39.0	
45 Hexachloroethane	117	6.494	6.505	-0.011	94	338554	40.0	39.8	
46 Nitrobenzene	77	6.553	6.553	0.000	89	826747	40.0	40.0	
48 Isophorone	82	6.777	6.782	-0.005	98	1482668	40.0	40.2	
49 2-Nitrophenol	139	6.858	6.863	-0.005	96	459536	40.0	43.1	
50 2,4-Dimethylphenol	107	6.895	6.900	-0.005	97	800553	40.0	39.2	
52 Benzoic acid	122	6.975	6.948	0.027	91	456439	40.0	39.0	a
53 Bis(2-chloroethoxy)methane	93	6.980	6.985	-0.005	99	878776	40.0	38.7	
54 2,4-Dichlorophenol	162	7.082	7.087	-0.005	94	729419	40.0	40.8	
56 1,2,4-Trichlorobenzene	180	7.167	7.172	-0.005	94	823657	40.0	38.9	
58 Naphthalene	128	7.237	7.242	-0.005	98	2473520	40.0	38.5	
59 4-Chloroaniline	127	7.280	7.285	-0.004	96	1057902	40.0	39.1	
60 2,6-Dichlorophenol	162	7.296	7.301	-0.005	98	728614	40.0	40.3	
62 Hexachlorobutadiene	225	7.360	7.370	-0.010	96	515216	40.0	39.3	
64 Caprolactam	113	7.584	7.573	0.011	80	267836	40.0	43.2	
67 4-Chloro-3-methylphenol	107	7.723	7.728	-0.005	96	787562	40.0	41.1	
69 2-Methylnaphthalene	142	7.878	7.883	-0.005	92	1816637	40.0	39.0	
71 1-Methylnaphthalene	142	7.974	7.979	-0.005	92	1698365	40.0	38.7	
72 Hexachlorocyclopentadiene	237	8.033	8.038	-0.005	96	651187	40.0	46.1	
73 1,2,4,5-Tetrachlorobenzene	216	8.038	8.043	-0.005	98	897538	40.0	38.9	
74 2,4,6-Trichlorophenol	196	8.139	8.139	0.000	93	604913	40.0	42.5	
75 2,4,5-Trichlorophenol	196	8.172	8.171	0.001	94	645129	40.0	41.6	
76 1,1'-Biphenyl	154	8.305	8.310	-0.005	96	2280661	40.0	39.3	
77 2-Chloronaphthalene	162	8.332	8.331	0.001	96	1782461	40.0	39.9	
79 2-Nitroaniline	65	8.412	8.411	0.001	83	580447	40.0	43.4	
82 Dimethyl phthalate	163	8.572	8.572	0.000	98	2091523	40.0	40.4	
83 1,3-Dinitrobenzene	168	8.599	8.604	-0.005	87	350878	40.0	46.0	
84 2,6-Dinitrotoluene	165	8.626	8.630	-0.004	95	501568	40.0	43.1	
85 Acenaphthylene	152	8.716	8.716	0.000	98	2815798	40.0	41.4	
86 3-Nitroaniline	138	8.786	8.785	0.001	93	537341	40.0	43.0	
88 Acenaphthene	153	8.871	8.876	-0.005	92	1800574	40.0	39.5	
87 2,4-Dinitrophenol	184	8.882	8.881	0.001	85	643198	80.0	91.2	
89 4-Nitrophenol	109	8.925	8.919	0.006	94	708208	80.0	83.5	
91 2,4-Dinitrotoluene	165	8.999	8.999	0.000	93	672807	40.0	43.3	
93 Dibenzofuran	168	9.031	9.036	-0.005	96	2677981	40.0	39.9	
95 2,3,5,6-Tetrachlorophenol	232	9.101	9.106	-0.005	93	603065	40.0	44.5	
96 2,3,4,6-Tetrachlorophenol	232	9.138	9.143	-0.005	73	614704	40.0	42.5	
97 2-Naphthylamine	143	9.170	9.170	0.000	96	1977340	40.0	41.5	
98 Diethyl phthalate	149	9.213	9.213	0.000	98	2126713	40.0	41.0	
99 Hexadecane	57	9.229	9.229	0.000	96	1290184	40.0	39.0	
100 4-Chlorophenyl phenyl ethe	204	9.336	9.335	0.001	94	1145557	40.0	41.0	
101 4-Nitroaniline	138	9.347	9.346	0.001	68	581104	40.0	42.4	
103 Fluorene	166	9.347	9.351	-0.004	94	2146833	40.0	40.7	
104 4,6-Dinitro-2-methylphenol	198	9.379	9.378	0.001	86	910623	80.0	88.3	
105 N-Nitrosodiphenylamine	169	9.437	9.442	-0.005	97	1618736	40.0	41.1	
90 1,2-Diphenylhydrazine	77	9.480	9.480	0.000	99	2339072	40.0	41.5	
57 Azobenzene	77	9.480	9.480	0.000	99	2339072	40.0	41.5	
110 4-Bromophenyl phenyl ether	248	9.785	9.789	-0.005	66	680041	40.0	41.5	
112 Hexachlorobenzene	284	9.865	9.864	0.001	95	745866	40.0	40.8	
113 Atrazine	200	9.913	9.912	0.001	94	663583	40.0	44.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
116 Pentachlorophenol	266	10.036	10.035	0.001	93	1036922	80.0	86.4	
115 n-Octadecane	57	10.068	10.067	0.001	96	1475670	40.0	41.4	
121 Phenanthrene	178	10.239	10.238	0.000	98	3288371	40.0	40.7	
122 Anthracene	178	10.281	10.286	-0.005	98	3329466	40.0	42.0	
124 Carbazole	167	10.420	10.420	0.000	96	2991521	40.0	41.3	
126 Di-n-butyl phthalate	149	10.725	10.724	0.001	100	3727903	40.0	44.8	
131 Fluoranthene	202	11.467	11.472	-0.005	98	3636779	40.0	42.5	
132 Benzidine	184	11.600	11.600	0.000	99	1839188	40.0	42.8	
133 Pyrene	202	11.755	11.755	0.000	97	3715221	40.0	40.6	
138 Butyl benzyl phthalate	149	12.599	12.604	-0.005	98	1583947	40.0	44.2	
144 3,3'-Dichlorobenzidine	252	13.507	13.507	0.000	74	1315030	40.0	44.9	
146 Benzo[a]anthracene	228	13.571	13.571	0.000	99	3556865	40.0	41.6	
145 Bis(2-ethylhexyl) phthalat	149	13.582	13.587	-0.005	97	2312606	40.0	45.0	
147 Chrysene	228	13.635	13.635	0.000	96	3439810	40.0	39.1	
150 Di-n-octyl phthalate	149	14.859	14.858	0.001	100	3359500	40.0	44.7	
151 7,12-Dimethylbenz(a)anthra	256	15.649	15.643	0.006	92	1772521	40.0	44.5	
152 Benzo[b]fluoranthene	252	15.654	15.649	0.005	97	3698073	40.0	43.8	
153 Benzo[k]fluoranthene	252	15.708	15.707	0.001	99	3736968	40.0	43.1	
219 Benzo[e]pyrene	252	16.215	16.209	0.006	96	3222488	40.0	43.3	
154 Benzo[a]pyrene	252	16.322	16.316	0.006	77	3165860	40.0	45.0	
157 Indeno[1,2,3-cd]pyrene	276	18.587	18.586	0.001	99	3810101	40.0	48.0	
158 Dibenz(a,h)anthracene	278	18.629	18.629	0.000	91	3100367	40.0	40.1	
159 Benzo[g,h,i]perylene	276	19.137	19.136	0.001	98	3222527	40.0	44.6	
S 199 Total Cresols	108				0		80.0	77.2	
S 197 Methyl Phenols,Total	108				0		80.0	77.2	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

SVTAPSTD40i_00018 Amount Added: 1.00 Units: mL

Report Date: 23-Dec-2019 07:56:21 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220009.D				
Injection Date:	21-Dec-2019 13:22:30	Instrument ID:	CH71	Operator ID:	001562
Lims ID:	IC R40.0			Worklist Smp#:	9
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

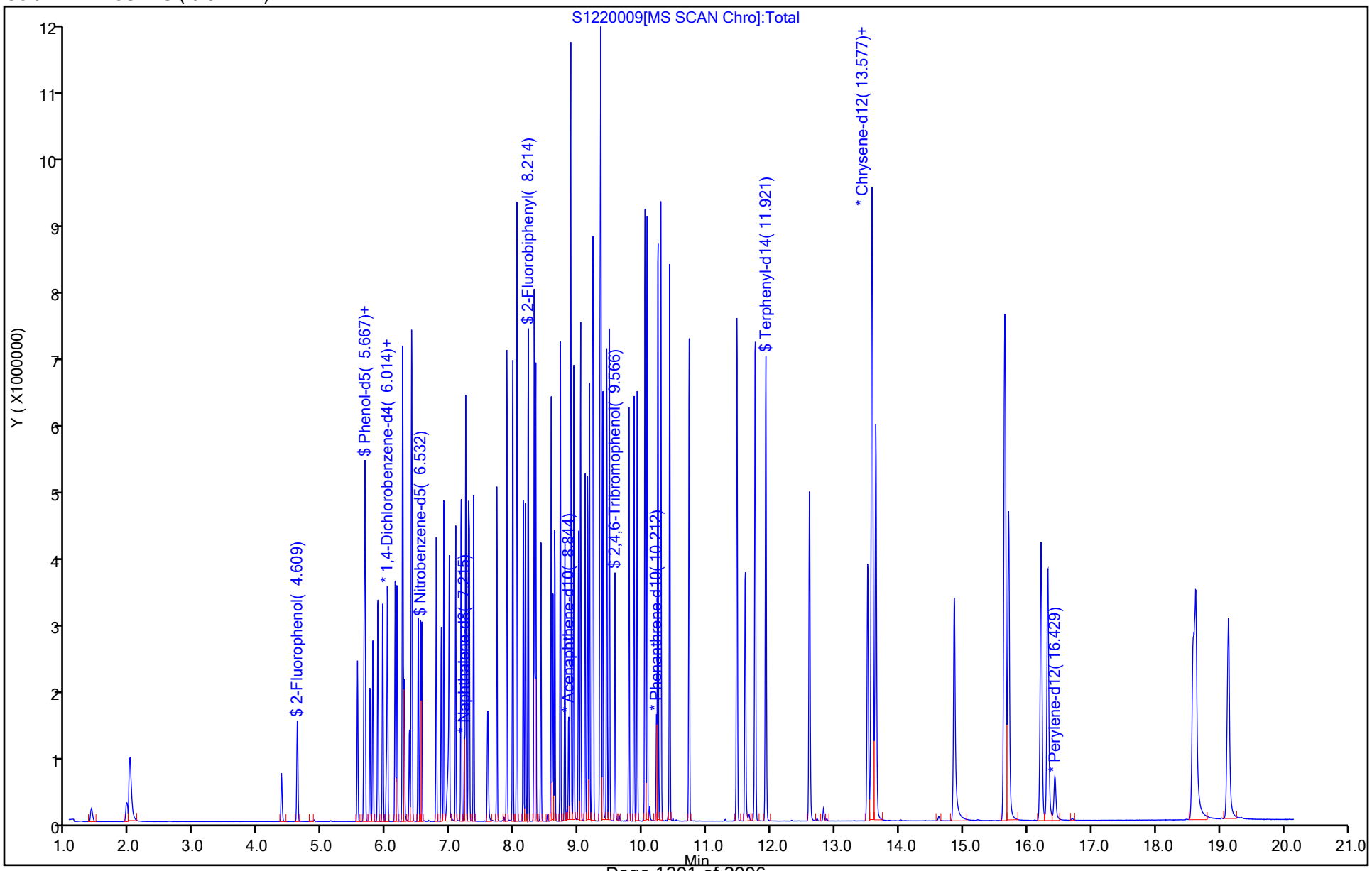

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220009.D				
Injection Date:	21-Dec-2019 13:22:30	Instrument ID:	CH71		
Lims ID:	IC R40.0				
Client ID:					
Operator ID:	001562	ALS Bottle#:	7	Worklist Smp#:	9
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

52 Benzoic acid, CAS: 65-85-0

Signal: 1

Not Detected
Expected RT: 6.95

Processing Integration Results

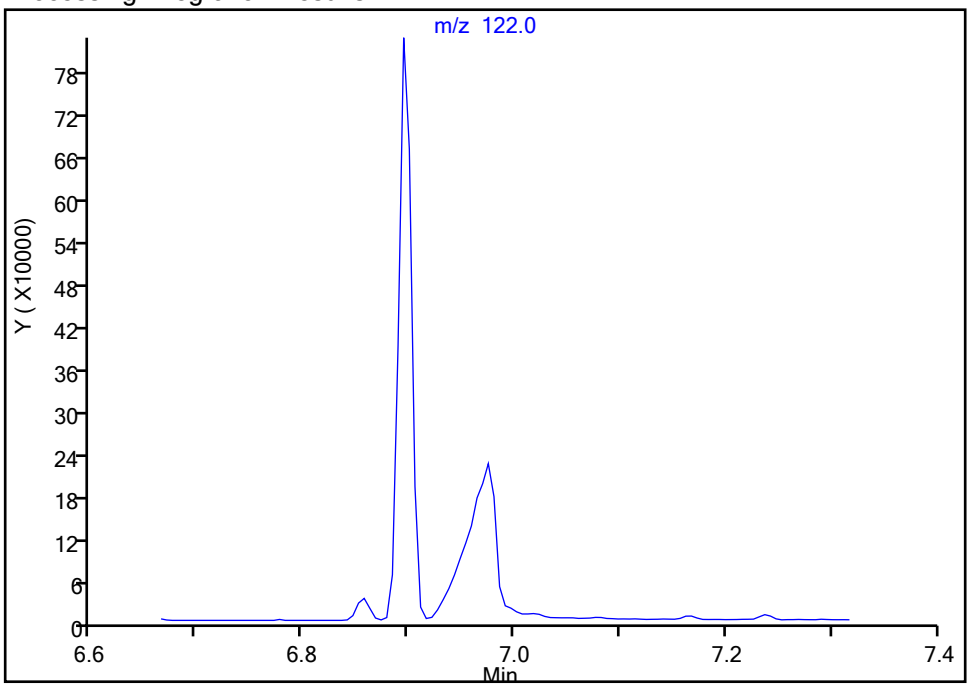

Manual Integration Results

RT: 6.98
Area: 456439
Amount: 39.003296
Amount Units: ng

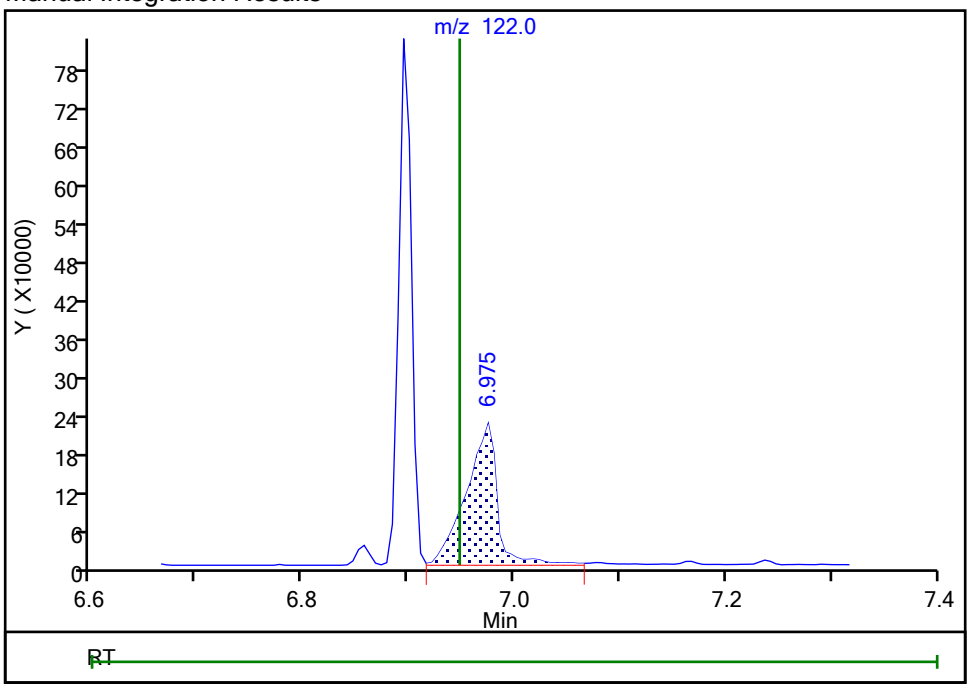

Reviewer: fergusond, 21-Dec-2019 14:07:20
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220010.D
Lims ID: IC R60.0
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 21-Dec-2019 13:49:30 ALS Bottle#: 8 Worklist Smp#: 10
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030114-010
Misc. Info.: IC R60.0
Operator ID: 001562 Instrument ID: CH71
Sublist: chrom-BNA_CH71*sub9

Method: \\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\BNA_CH71.m
Limit Group: BNA 8270D ICAL
Last Update: 23-Dec-2019 07:56:29 Calib Date: 21-Dec-2019 14:16:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220011.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0321

First Level Reviewer: fergusond Date: 21-Dec-2019 14:59:31

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.001	6.008	-0.007	96	111629	8.00	8.00	
* 2 Naphthalene-d8	136	7.218	7.220	-0.002	100	506242	8.00	8.00	
* 3 Acenaphthene-d10	164	8.842	8.849	-0.007	94	318831	8.00	8.00	
* 4 Phenanthrene-d10	188	10.209	10.217	-0.008	98	580927	8.00	8.00	
* 5 Chrysene-d12	240	13.585	13.587	-0.002	100	617051	8.00	8.00	
* 6 Perylene-d12	264	16.426	16.434	-0.008	99	523643	8.00	8.00	
$ 7 2-Fluorophenol	112	4.612	4.619	-0.007	94	797904	60.0	60.8	
$ 8 Phenol-d5	99	5.653	5.655	-0.002	98	1137085	60.0	57.8	
$ 9 Nitrobenzene-d5	82	6.535	6.537	-0.002	90	1214102	60.0	61.5	
$ 10 2-Fluorobiphenyl	172	8.212	8.219	-0.007	100	3005147	60.0	55.6	
$ 11 2,4,6-Tribromophenol	330	9.568	9.570	-0.002	94	554627	60.0	66.1	
$ 12 Terphenyl-d14	244	11.919	11.921	-0.002	100	4100203	60.0	60.9	
13 1,4-Dioxane	88	1.397	1.404	-0.007	97	235408	60.0	60.3	
14 N-Nitrosodimethylamine	74	1.947	1.949	-0.002	89	379272	60.0	63.2	
15 Pyridine	79	2.000	2.008	-0.008	93	1233361	120.0	121.4	
21 Methyl methanesulfonate	80	4.366	4.374	-0.008	88	448545	60.0	58.8	
25 Benzaldehyde	77	5.547	5.554	-0.007	94	646834	60.0	47.5	
26 Phenol	94	5.664	5.666	-0.002	91	1215589	60.0	55.2	
27 Aniline	93	5.670	5.672	-0.002	97	1466489	60.0	56.0	
29 Bis(2-chloroethyl)ether	93	5.744	5.746	-0.002	96	927815	60.0	57.9	
30 2-Chlorophenol	128	5.787	5.794	-0.007	97	1092118	60.0	59.8	
31 n-Decane	43	5.867	5.874	-0.007	88	972365	60.0	55.9	
32 1,3-Dichlorobenzene	146	5.942	5.949	-0.007	97	1181881	60.0	55.8	
33 1,4-Dichlorobenzene	146	6.017	6.024	-0.007	92	1221429	60.0	56.0	
34 Benzyl alcohol	108	6.140	6.142	-0.002	90	678434	60.0	60.3	
35 1,2-Dichlorobenzene	146	6.166	6.174	-0.008	96	1165076	60.0	56.2	
36 2-Methylphenol	108	6.257	6.259	-0.002	97	910479	60.0	56.1	
37 Indene	116	6.252	6.259	-0.007	90	1719574	60.0	56.0	
38 2,2'-oxybis[1-chloropropan	45	6.278	6.280	-0.002	91	1262674	60.0	56.7	
39 N-Nitrosopyrrolidine	100	6.364	6.360	0.004	87	499359	60.0	64.7	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
40 Acetophenone	105	6.391	6.393	-0.002	96	1396915	60.0	54.8	
41 N-Nitrosodi-n-propylamine	70	6.396	6.398	-0.002	85	712864	60.0	55.0	
42 4-Methylphenol	108	6.401	6.403	-0.002	91	934452	60.0	54.7	
45 Hexachloroethane	117	6.497	6.505	-0.008	93	494577	60.0	58.1	
46 Nitrobenzene	77	6.551	6.553	-0.002	89	1222308	60.0	59.0	
48 Isophorone	82	6.780	6.782	-0.002	99	2221810	60.0	60.1	
49 2-Nitrophenol	139	6.855	6.863	-0.008	98	698705	60.0	65.4	
50 2,4-Dimethylphenol	107	6.898	6.900	-0.002	97	1186335	60.0	57.9	
52 Benzoic acid	122	6.989	6.948	0.041	90	728706	60.0	60.4	
53 Bis(2-chloroethoxy)methane	93	6.983	6.985	-0.002	100	1274851	60.0	55.9	
54 2,4-Dichlorophenol	162	7.085	7.087	-0.002	95	1058737	60.0	59.1	
56 1,2,4-Trichlorobenzene	180	7.165	7.172	-0.007	94	1217379	60.0	57.3	
58 Naphthalene	128	7.240	7.242	-0.002	98	3632507	60.0	56.4	
59 4-Chloroaniline	127	7.283	7.285	-0.002	96	1547492	60.0	57.0	
60 2,6-Dichlorophenol	162	7.293	7.301	-0.008	98	1057000	60.0	58.3	
62 Hexachlorobutadiene	225	7.363	7.370	-0.007	96	765369	60.0	58.2	
64 Caprolactam	113	7.592	7.573	0.019	80	411726	60.0	66.3	
67 4-Chloro-3-methylphenol	107	7.726	7.728	-0.002	95	1160075	60.0	60.4	
69 2-Methylnaphthalene	142	7.881	7.883	-0.002	92	2633265	60.0	56.3	
71 1-Methylnaphthalene	142	7.972	7.979	-0.007	92	2487241	60.0	56.6	
72 Hexachlorocyclopentadiene	237	8.030	8.038	-0.008	96	937057	60.0	64.5	
73 1,2,4,5-Tetrachlorobenzene	216	8.036	8.043	-0.007	97	1281520	60.0	53.9	
74 2,4,6-Trichlorophenol	196	8.137	8.139	-0.002	92	913196	60.0	62.4	
75 2,4,5-Trichlorophenol	196	8.169	8.171	-0.002	95	976180	60.0	61.2	
76 1,1'-Biphenyl	154	8.303	8.310	-0.007	95	3304571	60.0	55.4	
77 2-Chloronaphthalene	162	8.329	8.331	-0.002	96	2648944	60.0	57.6	
79 2-Nitroaniline	65	8.409	8.411	-0.002	83	882072	60.0	64.0	
82 Dimethyl phthalate	163	8.570	8.572	-0.002	99	3128440	60.0	58.6	
83 1,3-Dinitrobenzene	168	8.602	8.604	-0.002	88	562751	60.0	71.7	
84 2,6-Dinitrotoluene	165	8.628	8.630	-0.002	95	754590	60.0	63.0	
85 Acenaphthylene	152	8.714	8.716	-0.002	98	4130551	60.0	59.0	
86 3-Nitroaniline	138	8.783	8.785	-0.002	92	815256	60.0	63.3	
88 Acenaphthene	153	8.874	8.876	-0.002	92	2581715	60.0	55.1	
87 2,4-Dinitrophenol	184	8.879	8.881	-0.002	85	978319	120.0	134.8	
89 4-Nitrophenol	109	8.928	8.919	0.009	94	1062427	120.0	121.8	
91 2,4-Dinitrotoluene	165	9.002	8.999	0.003	93	1026657	60.0	64.2	
93 Dibenzofuran	168	9.029	9.036	-0.007	96	3982196	60.0	57.6	
95 2,3,5,6-Tetrachlorophenol	232	9.098	9.106	-0.008	93	939768	60.0	67.4	
96 2,3,4,6-Tetrachlorophenol	232	9.141	9.143	-0.002	73	930336	60.0	62.5	
97 2-Naphthylamine	143	9.168	9.170	-0.002	96	2869012	60.0	58.5	
98 Diethyl phthalate	149	9.216	9.213	0.003	98	3202172	60.0	59.9	
99 Hexadecane	57	9.227	9.229	-0.002	96	1808769	60.0	54.5	
100 4-Chlorophenyl phenyl ethe	204	9.333	9.335	-0.002	91	1709266	60.0	59.5	
101 4-Nitroaniline	138	9.350	9.346	0.004	82	863691	60.0	61.2	
103 Fluorene	166	9.344	9.351	-0.007	94	3105382	60.0	57.2	
104 4,6-Dinitro-2-methylphenol	198	9.382	9.378	0.004	88	1427596	120.0	136.2	
105 N-Nitrosodiphenylamine	169	9.440	9.442	-0.002	97	2463356	60.0	61.5	
90 1,2-Diphenylhydrazine	77	9.478	9.480	-0.002	99	3494945	60.0	61.0	
57 Azobenzene	77	9.478	9.480	-0.002	100	3494945	60.0	61.0	
110 4-Bromophenyl phenyl ether	248	9.787	9.789	-0.002	70	1029952	60.0	61.9	
112 Hexachlorobenzene	284	9.862	9.864	-0.002	95	1165058	60.0	62.7	
113 Atrazine	200	9.916	9.912	0.004	95	1022695	60.0	66.7	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
116 Pentachlorophenol	266	10.033	10.035	-0.002	93	1584245	120.0	129.9	
115 n-Octadecane	57	10.065	10.067	-0.002	96	2144479	60.0	60.1	
121 Phenanthrene	178	10.236	10.238	-0.002	98	4894184	60.0	59.6	
122 Anthracene	178	10.284	10.286	-0.002	98	5035811	60.0	62.5	
124 Carbazole	167	10.418	10.420	-0.002	96	4605960	60.0	62.6	
126 Di-n-butyl phthalate	149	10.722	10.724	-0.002	100	5609852	60.0	66.3	
131 Fluoranthene	202	11.465	11.472	-0.007	98	5625541	60.0	64.6	
132 Benzidine	184	11.598	11.600	-0.002	99	2556403	60.0	57.7	
133 Pyrene	202	11.753	11.755	-0.002	98	5612677	60.0	59.5	
138 Butyl benzyl phthalate	149	12.597	12.604	-0.007	98	2496448	60.0	67.5	
144 3,3'-Dichlorobenzidine	252	13.505	13.507	-0.002	74	2042880	60.0	67.7	
146 Benzo[a]anthracene	228	13.569	13.571	-0.002	99	5533354	60.0	62.7	
145 Bis(2-ethylhexyl) phthalat	149	13.580	13.587	-0.007	98	3620106	60.0	68.3	
147 Chrysene	228	13.633	13.635	-0.002	96	5358165	60.0	59.0	
150 Di-n-octyl phthalate	149	14.856	14.858	-0.002	100	5543838	60.0	71.8	
151 7,12-Dimethylbenz(a)anthra	256	15.647	15.643	0.004	91	2823036	60.0	69.0	
152 Benzo[b]fluoranthene	252	15.657	15.649	0.008	96	6034165	60.0	69.7	
153 Benzo[k]fluoranthene	252	15.711	15.707	0.004	98	5653457	60.0	63.5	
219 Benzo[e]pyrene	252	16.213	16.209	0.004	96	5018392	60.0	65.7	
154 Benzo[a]pyrene	252	16.320	16.316	0.004	79	4885319	60.0	67.7	
157 Indeno[1,2,3-cd]pyrene	276	18.590	18.586	0.004	99	6155571	60.0	75.5	
158 Dibenz(a,h)anthracene	278	18.627	18.629	-0.002	89	5050086	60.0	63.4	
159 Benzo[g,h,i]perylene	276	19.140	19.136	0.004	98	5144990	60.0	69.4	
S 199 Total Cresols	108				0		120.0	110.8	
S 197 Methyl Phenols,Total	108				0		120.0	110.8	

Reagents:

SVTAPSTD60i_00018 Amount Added: 1.00 Units: mL

Report Date: 23-Dec-2019 07:56:32 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220010.D				
Injection Date:	21-Dec-2019 13:49:30	Instrument ID:	CH71	Operator ID:	001562
Lims ID:	IC R60.0			Worklist Smp#:	10
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		
Column: Rxi-5SilMS (0.32 mm)					

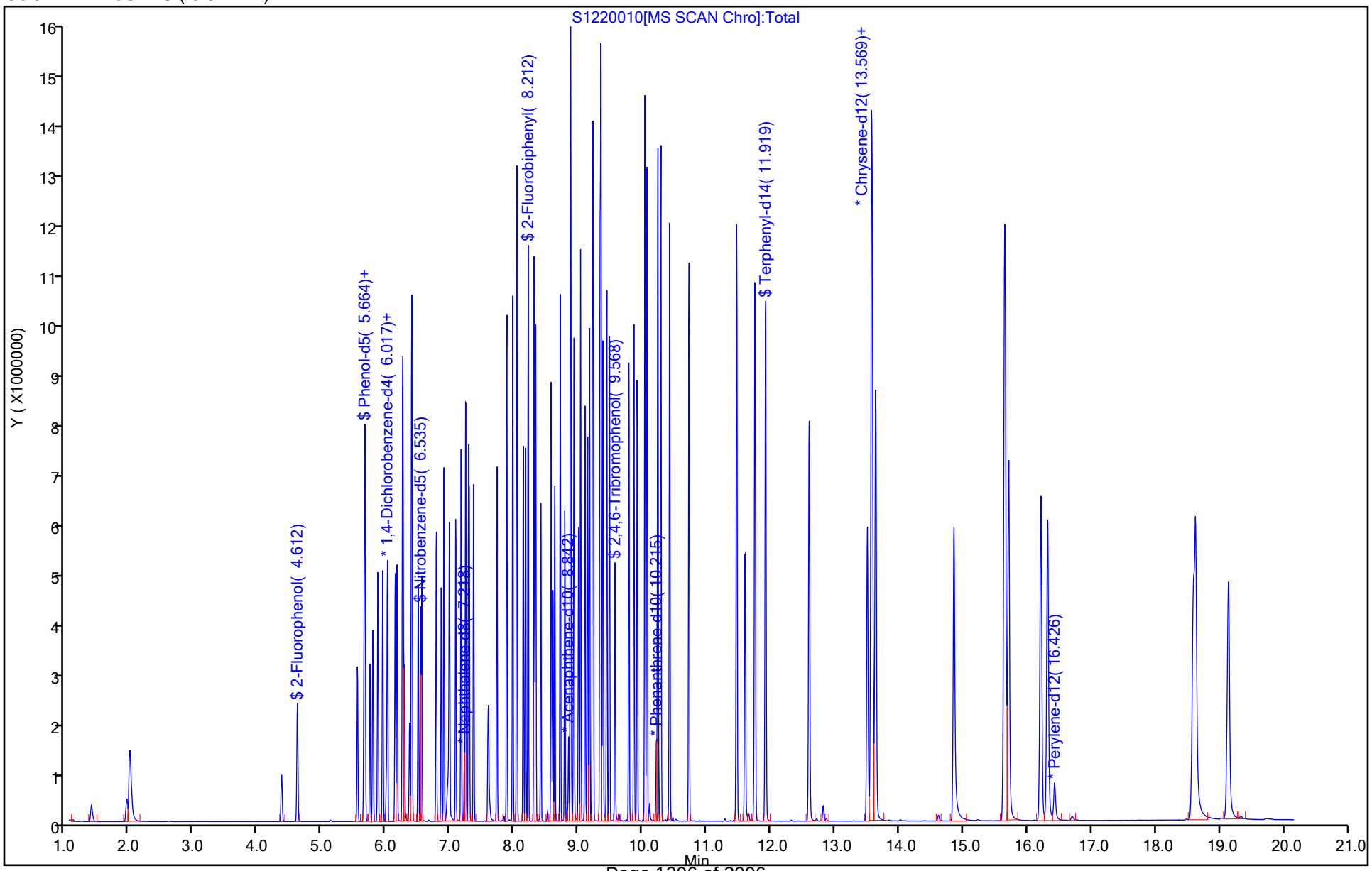

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220011.D
Lims ID: IC R80.0
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 21-Dec-2019 14:16:30 ALS Bottle#: 9 Worklist Smp#: 11
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030114-011
Misc. Info.: IC R80.0
Operator ID: 001562 Instrument ID: CH71
Sublist: chrom-BNA_CH71*sub9

Method: \\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\BNA_CH71.m
Limit Group: BNA 8270D ICAL
Last Update: 23-Dec-2019 07:56:39 Calib Date: 21-Dec-2019 14:16:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220011.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0321

First Level Reviewer: fergusond Date: 21-Dec-2019 15:50:05

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.005	6.008	-0.003	96	112812	8.00	8.00	
* 2 Naphthalene-d8	136	7.223	7.220	0.003	100	514421	8.00	8.00	
* 3 Acenaphthene-d10	164	8.852	8.849	0.003	94	314500	8.00	8.00	
* 4 Phenanthrene-d10	188	10.224	10.217	0.007	97	575381	8.00	8.00	
* 5 Chrysene-d12	240	13.611	13.587	0.024	99	605180	8.00	8.00	
* 6 Perylene-d12	264	16.457	16.434	0.023	99	514319	8.00	8.00	
$ 7 2-Fluorophenol	112	4.622	4.619	0.003	94	1070980	80.0	80.8	
$ 8 Phenol-d5	99	5.663	5.655	0.008	99	1484685	80.0	74.7	
$ 9 Nitrobenzene-d5	82	6.544	6.537	0.007	90	1587399	80.0	79.1	
$ 10 2-Fluorobiphenyl	172	8.222	8.219	0.003	100	3910732	80.0	73.3	
$ 11 2,4,6-Tribromophenol	330	9.578	9.570	0.008	94	759670	80.0	91.4	
$ 12 Terphenyl-d14	244	11.939	11.921	0.018	100	5432629	80.0	82.2	
13 1,4-Dioxane	88	1.406	1.404	0.002	96	319093	80.0	80.9	
14 N-Nitrosodimethylamine	74	1.962	1.949	0.013	90	504489	80.0	83.2	
15 Pyridine	79	2.010	2.008	0.002	93	1669973	160.0	162.6	
21 Methyl methanesulfonate	80	4.376	4.374	0.002	87	592087	80.0	76.8	
25 Benzaldehyde	77	5.556	5.554	0.002	94	739002	80.0	53.7	
26 Phenol	94	5.674	5.666	0.008	86	1568268	80.0	70.5	
27 Aniline	93	5.674	5.672	0.002	82	1873341	80.0	70.8	
29 Bis(2-chloroethyl)ether	93	5.754	5.746	0.008	97	1218020	80.0	75.2	
30 2-Chlorophenol	128	5.797	5.794	0.003	97	1418547	80.0	76.8	
31 n-Decane	43	5.877	5.874	0.003	88	1260302	80.0	71.7	
32 1,3-Dichlorobenzene	146	5.952	5.949	0.003	97	1555709	80.0	72.7	
33 1,4-Dichlorobenzene	146	6.026	6.024	0.002	93	1604018	80.0	72.7	
34 Benzyl alcohol	108	6.144	6.142	0.002	90	897135	80.0	78.9	
35 1,2-Dichlorobenzene	146	6.176	6.174	0.002	96	1523587	80.0	72.7	
36 2-Methylphenol	108	6.272	6.259	0.013	97	1170210	80.0	71.3	
37 Indene	116	6.261	6.259	0.002	90	2201627	80.0	71.0	
38 2,2'-oxybis[1-chloropropan	45	6.283	6.280	0.003	91	1645904	80.0	73.1	
39 N-Nitrosopyrrolidine	100	6.374	6.360	0.014	87	670256	80.0	85.9	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
40 Acetophenone	105	6.400	6.393	0.007	94	1767610	80.0	68.7	
41 N-Nitrosodi-n-propylamine	70	6.406	6.398	0.008	89	890254	80.0	68.0	
42 4-Methylphenol	108	6.411	6.403	0.008	94	1188695	80.0	68.8	
45 Hexachloroethane	117	6.507	6.505	0.002	93	651567	80.0	75.7	
46 Nitrobenzene	77	6.560	6.553	0.007	88	1606262	80.0	76.3	
48 Isophorone	82	6.790	6.782	0.008	98	2883948	80.0	76.8	
49 2-Nitrophenol	139	6.865	6.863	0.002	96	911629	80.0	84.0	
50 2,4-Dimethylphenol	107	6.908	6.900	0.008	97	1550934	80.0	74.5	
52 Benzoic acid	122	7.009	6.948	0.061	90	1032782	80.0	83.2	a
53 Bis(2-chloroethoxy)methane	93	6.988	6.985	0.003	100	1660088	80.0	71.7	
54 2,4-Dichlorophenol	162	7.089	7.087	0.002	95	1392134	80.0	76.5	
56 1,2,4-Trichlorobenzene	180	7.175	7.172	0.003	94	1588056	80.0	73.6	
58 Naphthalene	128	7.244	7.242	0.002	98	4615369	80.0	70.6	
59 4-Chloroaniline	127	7.292	7.285	0.008	96	2012270	80.0	73.0	
60 2,6-Dichlorophenol	162	7.303	7.301	0.002	98	1376354	80.0	74.7	
62 Hexachlorobutadiene	225	7.372	7.370	0.002	96	1009411	80.0	75.6	
64 Caprolactam	113	7.607	7.573	0.034	81	563976	80.0	89.4	
67 4-Chloro-3-methylphenol	107	7.736	7.728	0.008	95	1522547	80.0	78.0	
69 2-Methylnaphthalene	142	7.890	7.883	0.007	92	3448023	80.0	72.6	
71 1-Methylnaphthalene	142	7.981	7.979	0.002	92	3239603	80.0	72.5	
72 Hexachlorocyclopentadiene	237	8.040	8.038	0.002	96	1197783	80.0	83.6	
73 1,2,4,5-Tetrachlorobenzene	216	8.051	8.043	0.008	97	1617603	80.0	69.0	
74 2,4,6-Trichlorophenol	196	8.147	8.139	0.008	92	1215954	80.0	84.2	
75 2,4,5-Trichlorophenol	196	8.179	8.171	0.008	94	1277261	80.0	81.2	
76 1,1'-Biphenyl	154	8.318	8.310	0.008	95	4274125	80.0	72.6	
77 2-Chloronaphthalene	162	8.339	8.331	0.008	96	3445521	80.0	75.9	
79 2-Nitroaniline	65	8.419	8.411	0.008	83	1169909	80.0	86.1	
82 Dimethyl phthalate	163	8.585	8.572	0.013	99	4134684	80.0	78.6	
83 1,3-Dinitrobenzene	168	8.611	8.604	0.007	87	734498	80.0	94.8	
84 2,6-Dinitrotoluene	165	8.638	8.630	0.008	95	998456	80.0	84.6	
85 Acenaphthylene	152	8.724	8.716	0.008	98	5236156	80.0	75.9	
86 3-Nitroaniline	138	8.798	8.785	0.013	93	1077195	80.0	84.8	
88 Acenaphthene	153	8.884	8.876	0.008	95	3270023	80.0	70.7	
87 2,4-Dinitrophenol	184	8.895	8.881	0.013	90	1325366	160.0	185.1	
89 4-Nitrophenol	109	8.943	8.919	0.024	93	1416841	160.0	164.6	
91 2,4-Dinitrotoluene	165	9.012	8.999	0.013	94	1385977	80.0	87.8	
93 Dibenzofuran	168	9.039	9.036	0.003	96	5088662	80.0	74.7	
95 2,3,5,6-Tetrachlorophenol	232	9.108	9.106	0.002	93	1252826	80.0	91.1	
96 2,3,4,6-Tetrachlorophenol	232	9.151	9.143	0.008	72	1246971	80.0	84.9	
97 2-Naphthylamine	143	9.183	9.170	0.013	96	3716776	80.0	76.8	
98 Diethyl phthalate	149	9.226	9.213	0.013	98	3991504	80.0	75.7	
99 Hexadecane	57	9.236	9.229	0.007	96	2252635	80.0	66.8	
100 4-Chlorophenyl phenyl ethe	204	9.343	9.335	0.008	91	2238167	80.0	78.9	
101 4-Nitroaniline	138	9.365	9.346	0.019	84	1134373	80.0	81.4	
103 Fluorene	166	9.359	9.351	0.008	93	3950931	80.0	73.8	
104 4,6-Dinitro-2-methylphenol	198	9.391	9.378	0.013	89	1927524	160.0	185.6	
105 N-Nitrosodiphenylamine	169	9.450	9.442	0.008	97	3205824	80.0	80.9	
90 1,2-Diphenylhydrazine	77	9.493	9.480	0.013	99	4461212	80.0	78.6	
57 Azobenzene	77	9.493	9.480	0.013	99	4461212	80.0	78.6	
110 4-Bromophenyl phenyl ether	248	9.797	9.789	0.008	68	1400493	80.0	84.9	
112 Hexachlorobenzene	284	9.877	9.864	0.013	95	1545049	80.0	84.0	
113 Atrazine	200	9.925	9.912	0.013	95	1357623	80.0	89.4	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
116 Pentachlorophenol	266	10.048	10.035	0.013	93	2073538	160.0	171.7	
115 n-Octadecane	57	10.075	10.067	0.008	96	2736340	80.0	75.9	
121 Phenanthrene	178	10.246	10.238	0.008	98	6366150	80.0	78.3	
122 Anthracene	178	10.294	10.286	0.008	98	6479671	80.0	81.2	
124 Carbazole	167	10.433	10.420	0.013	96	5983657	80.0	82.1	
126 Di-n-butyl phthalate	149	10.737	10.724	0.013	100	7259115	80.0	86.6	
131 Fluoranthene	202	11.485	11.472	0.013	98	7356596	80.0	85.3	
132 Benzidine	184	11.613	11.600	0.013	99	3064774	80.0	70.5	
133 Pyrene	202	11.773	11.755	0.018	98	7367561	80.0	79.6	
138 Butyl benzyl phthalate	149	12.617	12.604	0.013	99	3351544	80.0	92.4	
144 3,3'-Dichlorobenzidine	252	13.531	13.507	0.024	74	2723456	80.0	92.0	
146 Benzo[a]anthracene	228	13.595	13.571	0.024	99	7328010	80.0	84.6	
145 Bis(2-ethylhexyl) phthalat	149	13.605	13.587	0.018	97	4823810	80.0	92.8	
147 Chrysene	228	13.664	13.635	0.029	96	7099486	80.0	79.7	
150 Di-n-octyl phthalate	149	14.887	14.858	0.029	100	7587261	80.0	100.1	
151 7,12-Dimethylbenz(a)anthra	256	15.683	15.643	0.040	92	3819353	80.0	95.1	
152 Benzo[b]fluoranthene	252	15.688	15.649	0.039	97	8112412	80.0	95.4	
153 Benzo[k]fluoranthene	252	15.747	15.707	0.040	98	7716613	80.0	88.2	
219 Benzo[e]pyrene	252	16.249	16.209	0.040	96	6898753	80.0	91.9	
154 Benzo[a]pyrene	252	16.356	16.316	0.040	77	6803805	80.0	95.9	
157 Indeno[1,2,3-cd]pyrene	276	18.631	18.586	0.045	98	8429149	80.0	105.2	
158 Dibenz(a,h)anthracene	278	18.669	18.629	0.040	93	6991832	80.0	89.3	
159 Benzo[g,h,i]perylene	276	19.187	19.136	0.051	98	7042356	80.0	96.7	
S 199 Total Cresols	108				0		160.0	140.1	
S 197 Methyl Phenols,Total	108				0		160.0	140.1	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

SVTAPSTD80i_00018 Amount Added: 1.00 Units: mL

Report Date: 23-Dec-2019 07:56:42 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220011.D				
Injection Date:	21-Dec-2019 14:16:30	Instrument ID:	CH71	Operator ID:	001562
Lims ID:	IC R80.0			Worklist Smp#:	11
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

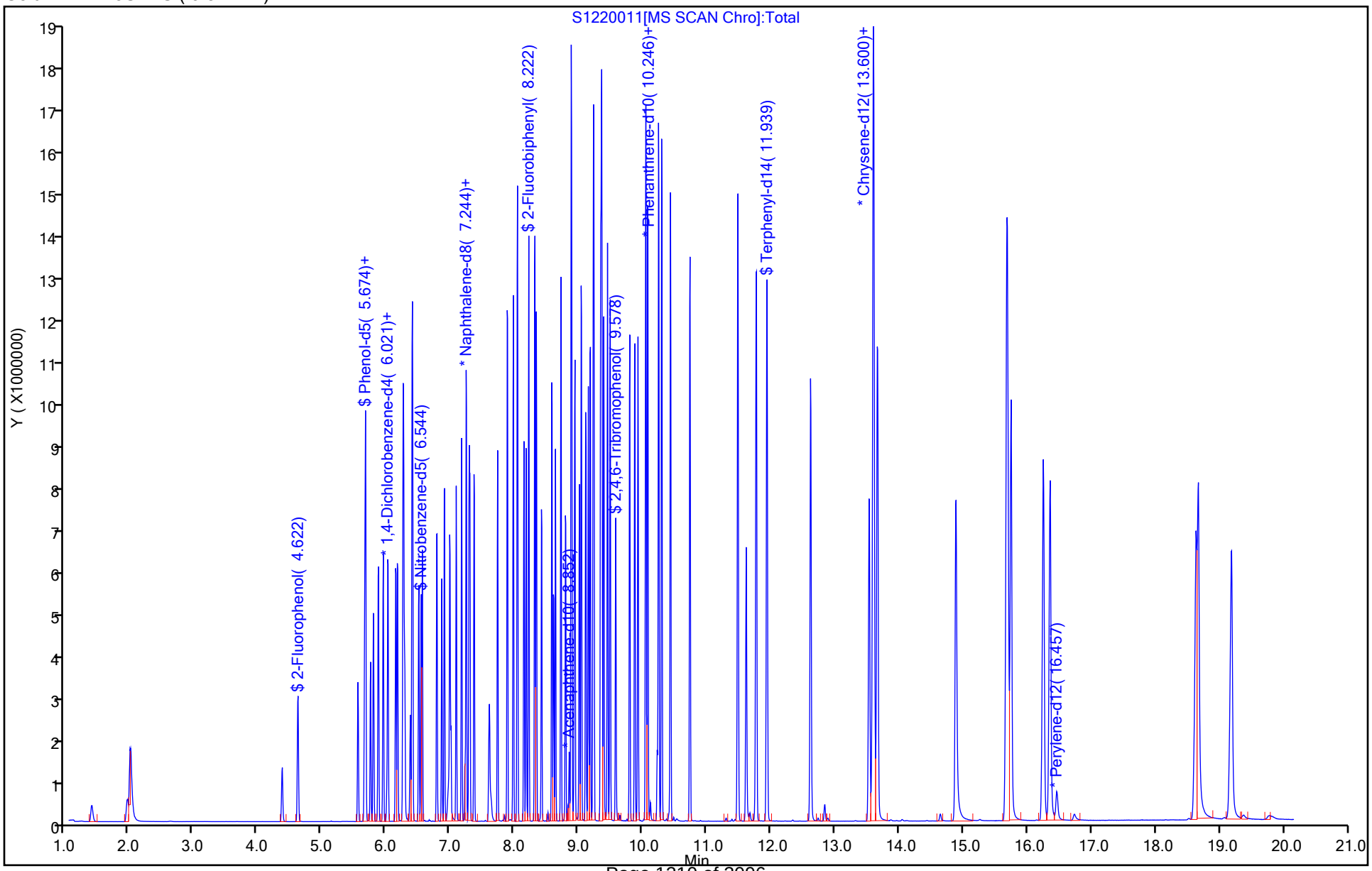

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220011.D				
Injection Date:	21-Dec-2019 14:16:30	Instrument ID:	CH71		
Lims ID:	IC R80.0				
Client ID:					
Operator ID:	001562	ALS Bottle#:	9	Worklist Smp#:	11
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

52 Benzoic acid, CAS: 65-85-0

Signal: 1

Not Detected
Expected RT: 6.95

Processing Integration Results

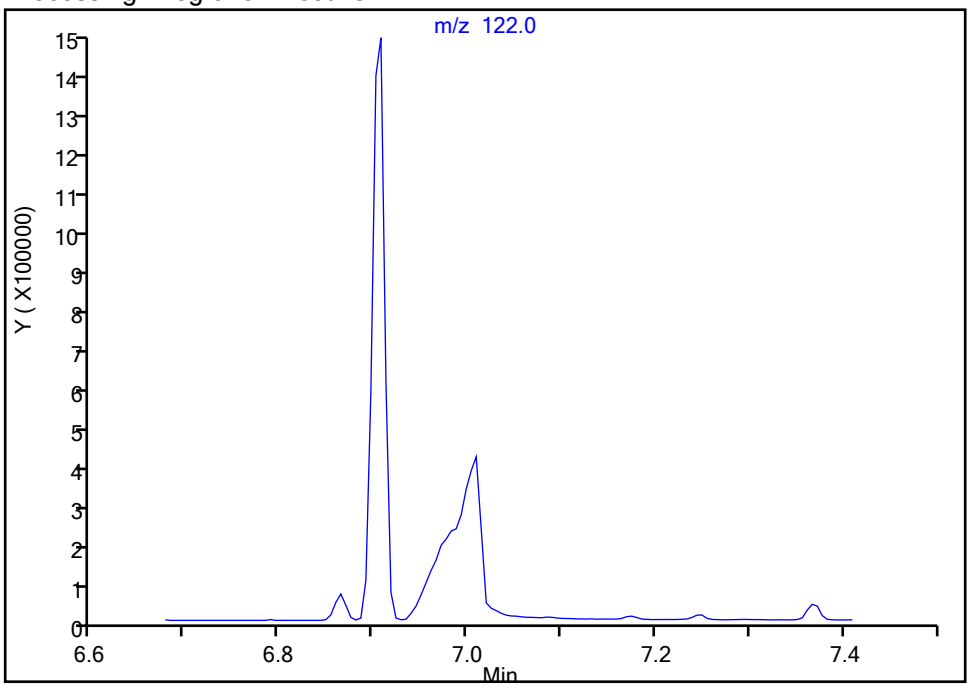

Manual Integration Results

RT: 7.01
Area: 1032782
Amount: 83.193401
Amount Units: ng

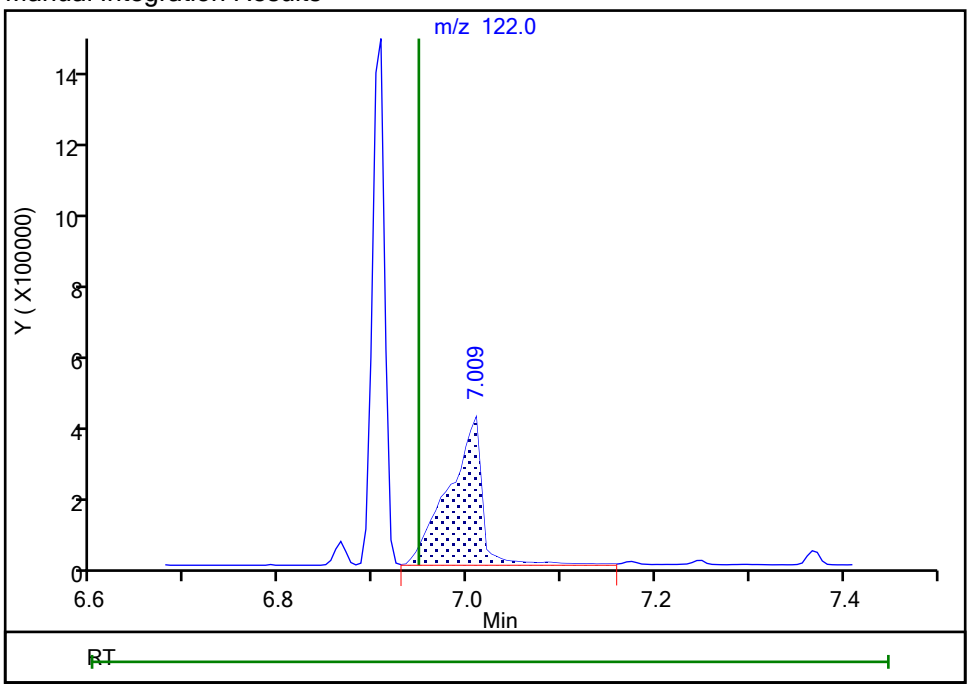

Reviewer: fergusond, 21-Dec-2019 15:14:07
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 180-302239/12 Calibration Date: 12/21/2019 14:43

Instrument ID: CH71 Calib Start Date: 12/21/2019 11:07

GC Column: Rxi-5SilMS ID: 0.32(mm) Calib End Date: 12/21/2019 14:16

Lab File ID: S1220012.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Pyridine	Ave	0.7282	0.7418	0.0100	20.4	20.0	1.9	50.0
Phenol	Ave	1.577	1.591	0.8000	10.1	10.0	0.9	30.0
1,4-Dichlorobenzene	Ave	1.564	1.540	0.0100	9.85	10.0	-1.5	30.0
2-Methylphenol	Ave	1.164	1.175	0.7000	10.1	10.0	1.0	30.0
Methylphenol, 3 & 4	Ave	1.224	1.257	0.6000	10.3	10.0	2.7	30.0
Hexachloroethane	Ave	0.6104	0.6061	0.3000	9.93	10.0	-0.7	30.0
Nitrobenzene	Ave	0.3273	0.3278	0.2000	10.0	10.0	0.2	30.0
Naphthalene	Ave	1.017	0.9926	0.7000	9.76	10.0	-2.4	30.0
Hexachlorobutadiene	Ave	0.2077	0.2037	0.0100	9.80	10.0	-2.0	30.0
2-Methylnaphthalene	Ave	0.7387	0.7206	0.4000	9.75	10.0	-2.5	30.0
1-Methylnaphthalene	Ave	0.6950	0.6788	0.0100	9.77	10.0	-2.3	30.0
2,4,6-Trichlorophenol	Ave	0.3675	0.3891	0.2000	10.6	10.0	5.9	30.0
2,4,5-Trichlorophenol	Ave	0.4003	0.4254	0.2000	10.6	10.0	6.3	30.0
Acenaphthylene	Ave	1.755	1.793	0.9000	10.2	10.0	2.2	30.0
Acenaphthene	Ave	1.176	1.164	0.9000	9.90	10.0	-1.0	30.0
2,4-Dinitrotoluene	Ave	0.4015	0.4182	0.2000	10.4	10.0	4.2	30.0
Fluorene	Ave	1.362	1.370	0.9000	10.1	10.0	0.5	30.0
Hexachlorobenzene	Ave	0.2559	0.2457	0.1000	9.60	10.0	-4.0	30.0
Pentachlorophenol	Ave	0.1680	0.1685	0.0500	20.1	20.0	0.3	50.0
Phenanthrene	Ave	1.131	1.116	0.7000	9.87	10.0	-1.3	30.0
Fluoranthene	Ave	1.200	1.230	0.6000	10.3	10.0	2.5	30.0
Benzidine	Ave	0.5747	0.6538	0.0100	11.4	10.0	13.8	50.0
Pyrene	Ave	1.223	1.220	0.6000	9.97	10.0	-0.3	30.0
Benzo[a]anthracene	Ave	1.144	1.133	0.8000	9.90	10.0	-1.0	30.0
Chrysene	Ave	1.178	1.144	0.7000	9.71	10.0	-2.9	30.0
Benzo[b]fluoranthene	Ave	1.323	1.344	0.7000	10.2	10.0	1.6	30.0
Benzo[k]fluoranthene	Ave	1.360	1.359	0.7000	9.99	10.0	-0.0	30.0
Benzo[a]pyrene	Ave	1.103	1.124	0.7000	10.2	10.0	1.9	30.0
Indeno[1,2,3-cd]pyrene	Ave	1.246	1.346	0.5000	10.8	10.0	8.0	30.0
Dibenz(a,h)anthracene	Lin1		1.092	0.4000	9.10	10.0	-9.0	30.0
Benzo[g,h,i]perylene	Ave	1.133	1.178	0.5000	10.4	10.0	4.0	30.0
2-Fluorophenol (Surr)	Ave	0.9403	0.9714		10.3	10.0	3.3	30.0
Phenol-d5 (Surr)	Ave	1.410	1.427		10.1	10.0	1.2	30.0
Nitrobenzene-d5 (Surr)	Ave	0.3121	0.3219		10.3	10.0	3.2	30.0
2-Fluorobiphenyl	Ave	1.356	1.352		9.97	10.0	-0.3	30.0
2,4,6-Tribromophenol (Surr)	Ave	0.1156	0.1172	0.0100	10.1	10.0	1.4	30.0
Terphenyl-d14 (Surr)	Ave	0.8734	0.8602		9.85	10.0	-1.5	30.0

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220012.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 21-Dec-2019 14:43:30 ALS Bottle#: 10 Worklist Smp#: 12
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030114-012
Misc. Info.: ICV
Operator ID: 001562 Instrument ID: CH71
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\BNA_CH71.m
Limit Group: BNA 8270D ICAL
Last Update: 23-Dec-2019 07:56:39 Calib Date: 21-Dec-2019 14:16:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220011.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0321

First Level Reviewer: fergusond Date: 21-Dec-2019 16:17:25

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.007	6.008	-0.001	97	115547	8.00	8.00	
* 2 Naphthalene-d8	136	7.225	7.220	0.005	100	529136	8.00	8.00	
* 3 Acenaphthene-d10	164	8.854	8.849	0.005	95	316628	8.00	8.00	
* 4 Phenanthrene-d10	188	10.227	10.217	0.009	97	570977	8.00	8.00	
* 5 Chrysene-d12	240	13.602	13.587	0.015	93	581016	8.00	8.00	
* 6 Perylene-d12	264	16.449	16.434	0.015	99	500737	8.00	8.00	
$ 7 2-Fluorophenol	112	4.618	4.619	-0.001	94	280600	20.0	20.7	
$ 8 Phenol-d5	99	5.655	5.655	0.000	98	412107	20.0	20.2	
$ 9 Nitrobenzene-d5	82	6.536	6.537	-0.001	90	425878	20.0	20.6	
$ 10 2-Fluorobiphenyl	172	8.218	8.219	-0.001	100	1069983	20.0	19.9	
$ 11 2,4,6-Tribromophenol	330	9.575	9.570	0.005	94	167285	20.0	20.3	
$ 12 Terphenyl-d14	244	11.936	11.921	0.015	100	1249508	20.0	19.7	
13 1,4-Dioxane	88	1.398	1.404	-0.006	96	81334	20.0	20.1	
14 N-Nitrosodimethylamine	74	1.953	1.949	0.004	89	127572	20.0	20.5	
15 Pyridine	79	2.012	2.008	0.004	93	428554	40.0	40.7	
106 Diphenylamine	169		5.424				ND	ND	
25 Benzaldehyde	77	5.553	5.554	-0.001	94	291203	20.0	20.7	
26 Phenol	94	5.671	5.666	0.005	90	459597	20.0	20.2	
27 Aniline	93	5.676	5.672	0.004	98	554349	20.0	20.5	
29 Bis(2-chloroethyl)ether	93	5.751	5.746	0.005	97	333143	20.0	20.1	
30 2-Chlorophenol	128	5.793	5.794	-0.001	96	388044	20.0	20.5	
31 n-Decane	43	5.874	5.874	0.000	88	345669	20.0	19.2	
32 1,3-Dichlorobenzene	146	5.948	5.949	-0.001	97	440748	20.0	20.1	
33 1,4-Dichlorobenzene	146	6.023	6.024	-0.001	92	444934	20.0	19.7	
34 Benzyl alcohol	108	6.141	6.142	-0.001	90	240255	20.0	20.6	
35 1,2-Dichlorobenzene	146	6.173	6.174	-0.001	95	428260	20.0	20.0	
36 2-Methylphenol	108	6.258	6.259	-0.001	71	339538	20.0	20.2	
37 Indene	116	6.258	6.259	-0.001	89	633405	20.0	19.9	
38 2,2'-oxybis[1-chloropropan	45	6.279	6.280	-0.001	91	459751	20.0	19.9	
40 Acetophenone	105	6.397	6.393	0.004	94	536558	20.0	20.3	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
41 N-Nitrosodi-n-propylamine	70	6.402	6.398	0.004	87	274763	20.0	20.5	
42 4-Methylphenol	108	6.402	6.403	-0.001	94	363094	20.0	20.5	
45 Hexachloroethane	117	6.504	6.505	-0.001	92	175094	20.0	19.9	
46 Nitrobenzene	77	6.557	6.553	0.004	89	433663	20.0	20.0	
48 Isophorone	82	6.787	6.782	0.005	99	785687	20.0	20.3	
49 2-Nitrophenol	139	6.862	6.863	-0.001	98	232506	20.0	20.8	
50 2,4-Dimethylphenol	107	6.904	6.900	0.004	97	432907	20.0	20.2	
52 Benzoic acid	122	6.963	6.948	0.015	89	212818	20.0	18.9	
53 Bis(2-chloroethoxy)methane	93	6.990	6.985	0.005	100	472182	20.0	19.8	
54 2,4-Dichlorophenol	162	7.091	7.087	0.004	95	379251	20.0	20.2	
56 1,2,4-Trichlorobenzene	180	7.171	7.172	-0.001	94	443533	20.0	20.0	
58 Naphthalene	128	7.246	7.242	0.004	97	1312995	20.0	19.5	
59 4-Chloroaniline	127	7.289	7.285	0.005	96	562998	20.0	19.8	
60 2,6-Dichlorophenol	162	7.300	7.301	-0.001	97	384313	20.0	20.3	
62 Hexachlorobutadiene	225	7.369	7.370	-0.001	96	269407	20.0	19.6	
64 Caprolactam	113	7.577	7.573	0.004	80	140061	20.0	21.6	
67 4-Chloro-3-methylphenol	107	7.732	7.728	0.004	96	404743	20.0	20.2	
69 2-Methylnaphthalene	142	7.887	7.883	0.004	92	953218	20.0	19.5	
71 1-Methylnaphthalene	142	7.978	7.979	-0.001	93	897874	20.0	19.5	
72 Hexachlorocyclopentadiene	237	8.042	8.038	0.004	96	326170	20.0	22.6	
73 1,2,4,5-Tetrachlorobenzene	216	8.047	8.043	0.004	97	482447	20.0	20.4	
74 2,4,6-Trichlorophenol	196	8.143	8.139	0.004	93	308011	20.0	21.2	
75 2,4,5-Trichlorophenol	196	8.176	8.171	0.005	94	336724	20.0	21.3	
76 1,1'-Biphenyl	154	8.314	8.310	0.004	95	1162734	20.0	19.6	
77 2-Chloronaphthalene	162	8.336	8.331	0.005	96	924167	20.0	20.2	
79 2-Nitroaniline	65	8.421	8.411	0.010	82	294270	20.0	21.5	
82 Dimethyl phthalate	163	8.581	8.572	0.009	99	1058671	20.0	20.0	
83 1,3-Dinitrobenzene	168	8.608	8.604	0.004	86	171365	20.0	22.0	
84 2,6-Dinitrotoluene	165	8.635	8.630	0.005	95	246052	20.0	20.7	
85 Acenaphthylene	152	8.720	8.716	0.004	98	1419533	20.0	20.4	
86 3-Nitroaniline	138	8.790	8.785	0.005	92	265236	20.0	20.8	
88 Acenaphthene	153	8.881	8.876	0.005	92	921462	20.0	19.8	
87 2,4-Dinitrophenol	184	8.886	8.881	0.005	83	281063	40.0	39.0	
89 4-Nitrophenol	109	8.929	8.919	0.010	95	362747	40.0	41.9	
91 2,4-Dinitrotoluene	165	9.009	8.999	0.010	93	331040	20.0	20.8	
93 Dibenzofuran	168	9.041	9.036	0.005	96	1337800	20.0	19.5	
96 2,3,4,6-Tetrachlorophenol	232	9.148	9.143	0.005	74	300128	20.0	20.3	
98 Diethyl phthalate	149	9.222	9.213	0.009	98	1092848	20.0	20.6	
99 Hexadecane	57	9.238	9.229	0.009	95	710104	20.0	20.5	
100 4-Chlorophenyl phenyl ethe	204	9.345	9.335	0.010	93	562877	20.0	19.7	
101 4-Nitroaniline	138	9.351	9.346	0.005	84	293723	20.0	20.9	
103 Fluorene	166	9.356	9.351	0.005	93	1084360	20.0	20.1	
104 4,6-Dinitro-2-methylphenol	198	9.383	9.378	0.005	85	414029	40.0	40.2	
105 N-Nitrosodiphenylamine	169	9.447	9.442	0.005	97	782103	20.0	19.9	
90 1,2-Diphenylhydrazine	77	9.489	9.480	0.009	99	1183464	20.0	21.0	
57 Azobenzene	77	9.489	9.480	0.009	99	1183464	20.0	21.0	
110 4-Bromophenyl phenyl ether	248	9.794	9.789	0.005	68	325910	20.0	19.9	
112 Hexachlorobenzene	284	9.874	9.864	0.010	94	350676	20.0	19.2	
113 Atrazine	200	9.922	9.912	0.010	93	323260	20.0	21.4	
116 Pentachlorophenol	266	10.045	10.035	0.010	92	481069	40.0	40.1	
115 n-Octadecane	57	10.077	10.067	0.010	95	770011	20.0	20.8	
121 Phenanthrene	178	10.248	10.238	0.010	98	1593007	20.0	19.7	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
122 Anthracene	178	10.291	10.286	0.005	98	1635408	20.0	20.7	
124 Carbazole	167	10.429	10.420	0.009	96	1443846	20.0	20.0	
126 Di-n-butyl phthalate	149	10.734	10.724	0.010	100	1784778	20.0	21.5	
131 Fluoranthene	202	11.482	11.472	0.010	98	1755315	20.0	20.5	
132 Benzidine	184	11.610	11.600	0.010	99	949694	20.0	22.8	
133 Pyrene	202	11.770	11.755	0.015	97	1772080	20.0	19.9	
138 Butyl benzyl phthalate	149	12.614	12.604	0.010	99	737047	20.0	21.2	
144 3,3'-Dichlorobenzidine	252	13.527	13.507	0.020	74	596624	20.0	21.0	
146 Benzo[a]anthracene	228	13.586	13.571	0.015	99	1645560	20.0	19.8	
145 Bis(2-ethylhexyl) phthalat	149	13.602	13.587	0.015	98	1047667	20.0	21.0	
147 Chrysene	228	13.650	13.635	0.015	97	1661091	20.0	19.4	
150 Di-n-octyl phthalate	149	14.879	14.858	0.021	100	1358483	20.0	18.4	
152 Benzo[b]fluoranthene	252	15.674	15.649	0.025	97	1682758	20.0	20.3	
153 Benzo[k]fluoranthene	252	15.728	15.707	0.021	99	1701606	20.0	20.0	
154 Benzo[a]pyrene	252	16.337	16.316	0.021	77	1407178	20.0	20.4	
157 Indeno[1,2,3-cd]pyrene	276	18.612	18.586	0.026	99	1684493	20.0	21.6	
158 Dibenz(a,h)anthracene	278	18.649	18.629	0.020	88	1367579	20.0	18.2	
159 Benzo[g,h,i]perylene	276	19.157	19.136	0.021	99	1474661	20.0	20.8	
S 199 Total Cresols	108				0		40.0	40.7	
S 197 Methyl Phenols,Total	108				0		40.0	40.7	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

SVTAP2NDSRCEi_00028 Amount Added: 1.00 Units: mL

Report Date: 23-Dec-2019 07:56:54 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220012.D				
Injection Date:	21-Dec-2019 14:43:30	Instrument ID:	CH71	Operator ID:	001562
Lims ID:	ICV			Worklist Smp#:	12
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

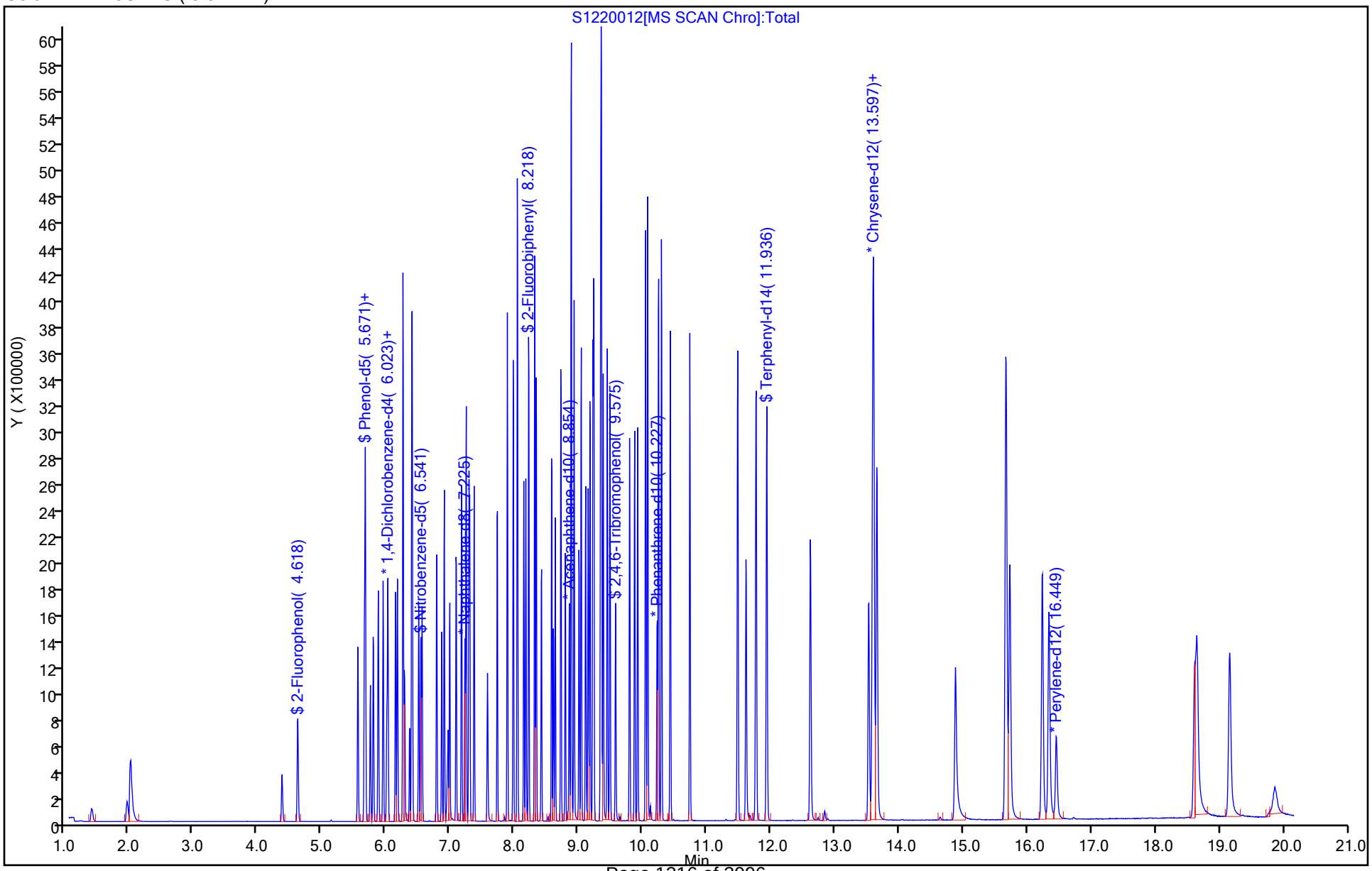

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCVIS 180-302307/4 Calibration Date: 12/23/2019 11:44

Instrument ID: CH71 Calib Start Date: 12/21/2019 11:07

GC Column: Rxi-5SilMS ID: 0.32(mm) Calib End Date: 12/21/2019 14:16

Lab File ID: S1223004.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Pyridine	Ave	0.7282	0.7019	0.0100	9.64	10.0	-3.6	20.0
Phenol	Ave	1.577	1.575	0.8000	5.00	5.00	-0.1	20.0
1,4-Dichlorobenzene	Ave	1.564	1.588	0.0100	5.08	5.00	1.5	20.0
2-Methylphenol	Ave	1.164	1.170	0.7000	5.03	5.00	0.5	20.0
Methylphenol, 3 & 4	Ave	1.224	1.267	0.6000	5.17	5.00	3.5	20.0
Hexachloroethane	Ave	0.6104	0.5979	0.3000	4.90	5.00	-2.0	20.0
Nitrobenzene	Ave	0.3273	0.3150	0.2000	4.81	5.00	-3.8	20.0
Naphthalene	Ave	1.017	1.038	0.7000	5.10	5.00	2.0	20.0
Hexachlorobutadiene	Ave	0.2077	0.2150	0.0100	5.18	5.00	3.5	20.0
2-Methylnaphthalene	Ave	0.7387	0.7513	0.4000	5.09	5.00	1.7	20.0
1-Methylnaphthalene	Ave	0.6950	0.7045	0.0100	5.07	5.00	1.4	20.0
2,4,6-Trichlorophenol	Ave	0.3675	0.3864	0.2000	5.26	5.00	5.2	20.0
2,4,5-Trichlorophenol	Ave	0.4003	0.3977	0.2000	4.97	5.00	-0.7	20.0
Acenaphthylene	Ave	1.755	1.828	0.9000	5.21	5.00	4.2	20.0
Acenaphthene	Ave	1.176	1.211	0.9000	5.15	5.00	3.0	20.0
2,4-Dinitrotoluene	Ave	0.4015	0.4077	0.2000	5.08	5.00	1.6	20.0
Fluorene	Ave	1.362	1.421	0.9000	5.21	5.00	4.3	20.0
Hexachlorobenzene	Ave	0.2559	0.2544	0.1000	4.97	5.00	-0.6	20.0
Pentachlorophenol	Ave	0.1680	0.1455	0.0500	8.67	10.0	-13.3	20.0
Phenanthrene	Ave	1.131	1.104	0.7000	4.88	5.00	-2.4	20.0
Fluoranthene	Ave	1.200	1.195	0.6000	4.98	5.00	-0.4	20.0
Benzidine	Ave	0.5747	0.6016	0.0100	5.23	5.00	4.7	40.0
Pyrene	Ave	1.223	1.236	0.6000	5.05	5.00	1.0	20.0
Benzo[a]anthracene	Ave	1.144	1.124	0.8000	4.91	5.00	-1.8	20.0
Chrysene	Ave	1.178	1.180	0.7000	5.01	5.00	0.2	20.0
Benzo[b]fluoranthene	Ave	1.323	1.188	0.7000	4.49	5.00	-10.2	20.0
Benzo[k]fluoranthene	Ave	1.360	1.436	0.7000	5.28	5.00	5.6	20.0
Benzo[a]pyrene	Ave	1.103	1.056	0.7000	4.78	5.00	-4.3	20.0
Indeno[1,2,3-cd]pyrene	Ave	1.246	1.240	0.5000	4.98	5.00	-0.4	20.0
Dibenz(a,h)anthracene	Lin1		0.9876	0.4000	4.20	5.00	-16.0	20.0
Benzo[g,h,i]perylene	Ave	1.133	1.135	0.5000	5.01	5.00	0.2	20.0
2-Fluorophenol (Surr)	Ave	0.9403	0.8898		4.73	5.00	-5.4	20.0
Phenol-d5 (Surr)	Ave	1.410	1.342		4.76	5.00	-4.8	20.0
Nitrobenzene-d5 (Surr)	Ave	0.3121	0.3053		4.89	5.00	-2.2	20.0
2-Fluorobiphenyl	Ave	1.356	1.444		5.32	5.00	6.5	20.0
2,4,6-Tribromophenol (Surr)	Ave	0.1156	0.1173	0.0100	5.07	5.00	1.5	20.0
Terphenyl-d14 (Surr)	Ave	0.8734	0.8689		4.97	5.00	-0.5	20.0

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\S1223004.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 23-Dec-2019 11:44:30 ALS Bottle#: 2 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030127-004
Misc. Info.: CCVIS
Operator ID: 001562 Instrument ID: CH71
Sublist: chrom-BNA_CH71*sub9

Method: \\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\BNA_CH71.m
Limit Group: BNA 8270D ICAL
Last Update: 23-Dec-2019 13:01:27 Calib Date: 21-Dec-2019 14:16:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220011.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0321

First Level Reviewer: fergusond Date: 23-Dec-2019 12:33:24

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.000	6.000	0.000	96	140941	8.00	8.00	
* 2 Naphthalene-d8	136	7.228	7.228	0.000	99	634066	8.00	8.00	
* 3 Acenaphthene-d10	164	8.863	8.863	0.000	94	373807	8.00	8.00	
* 4 Phenanthrene-d10	188	10.230	10.230	0.000	97	685859	8.00	8.00	
* 5 Chrysene-d12	240	13.611	13.611	0.000	99	690590	8.00	8.00	
* 6 Perylene-d12	264	16.463	16.463	0.000	99	624429	8.00	8.00	
$ 7 2-Fluorophenol	112	4.611	4.611	0.000	94	156760	10.0	9.46	
$ 8 Phenol-d5	99	5.653	5.653	0.000	97	236431	10.0	9.52	
$ 9 Nitrobenzene-d5	82	6.539	6.539	0.000	90	241978	10.0	9.78	
$ 10 2-Fluorobiphenyl	172	8.227	8.227	0.000	100	674629	10.0	10.6	
$ 11 2,4,6-Tribromophenol	330	9.589	9.589	0.000	94	100541	10.0	10.1	
$ 12 Terphenyl-d14	244	11.939	11.939	0.000	99	750037	10.0	9.95	
13 1,4-Dioxane	88	1.396	1.396	0.000	96	46740	10.0	9.48	
14 N-Nitrosodimethylamine	74	1.951	1.951	0.000	90	69735	10.0	9.20	
15 Pyridine	79	1.999	1.999	0.000	92	247311	20.0	19.3	
21 Methyl methanesulfonate	80	4.360	4.360	0.000	87	90627	10.0	9.41	
25 Benzaldehyde	77	5.551	5.551	0.000	95	173130	10.0	10.1	
26 Phenol	94	5.663	5.663	0.000	99	277524	10.0	10.0	
27 Aniline	93	5.669	5.669	0.000	98	330040	10.0	9.98	
29 Bis(2-chloroethyl)ether	93	5.743	5.743	0.000	97	199094	10.0	9.84	
30 2-Chlorophenol	128	5.792	5.792	0.000	96	227304	10.0	9.85	
31 n-Decane	43	5.866	5.866	0.000	87	203356	10.0	9.26	
32 1,3-Dichlorobenzene	146	5.946	5.946	0.000	98	269454	10.0	10.1	
33 1,4-Dichlorobenzene	146	6.021	6.021	0.000	94	279791	10.0	10.2	
34 Benzyl alcohol	108	6.139	6.139	0.000	91	135511	10.0	9.54	
35 1,2-Dichlorobenzene	146	6.171	6.171	0.000	97	268426	10.0	10.3	
37 Indene	116	6.256	6.256	0.000	89	389024	10.0	10.0	
36 2-Methylphenol	108	6.256	6.256	0.000	73	206114	10.0	10.1	
38 2,2'-oxybis[1-chloropropan	45	6.278	6.278	0.000	90	260314	10.0	9.26	
39 N-Nitrosopyrrolidine	100	6.363	6.363	0.000	89	93347	10.0	9.58	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
40 Acetophenone	105	6.395	6.395	0.000	94	335012	10.0	10.4	
41 N-Nitrosodi-n-propylamine	70	6.400	6.400	0.000	88	165562	10.0	10.1	
42 4-Methylphenol	108	6.406	6.406	0.000	94	223266	10.0	10.3	
45 Hexachloroethane	117	6.502	6.502	0.000	91	105337	10.0	9.80	
46 Nitrobenzene	77	6.555	6.555	0.000	88	249671	10.0	9.62	
48 Isophorone	82	6.785	6.785	0.000	98	449946	10.0	9.72	
49 2-Nitrophenol	139	6.865	6.865	0.000	96	129648	10.0	9.69	
50 2,4-Dimethylphenol	107	6.902	6.902	0.000	96	259821	10.0	10.1	
52 Benzoic acid	122	6.951	6.951	0.000	89	88351	10.0	8.38	
53 Bis(2-chloroethoxy)methane	93	6.988	6.988	0.000	99	284479	10.0	9.96	
54 2,4-Dichlorophenol	162	7.089	7.089	0.000	94	235386	10.0	10.5	
56 1,2,4-Trichlorobenzene	180	7.175	7.175	0.000	94	273518	10.0	10.3	
58 Naphthalene	128	7.244	7.244	0.000	97	822622	10.0	10.2	
59 4-Chloroaniline	127	7.292	7.292	0.000	96	339234	10.0	9.98	
60 2,6-Dichlorophenol	162	7.303	7.303	0.000	97	234477	10.0	10.3	
62 Hexachlorobutadiene	225	7.372	7.372	0.000	96	170424	10.0	10.4	
64 Caprolactam	113	7.575	7.575	0.000	81	75651	10.0	9.73	
67 4-Chloro-3-methylphenol	107	7.736	7.736	0.000	96	236806	10.0	9.85	
69 2-Methylnaphthalene	142	7.891	7.891	0.000	92	595500	10.0	10.2	
71 1-Methylnaphthalene	142	7.987	7.987	0.000	93	558339	10.0	10.1	
73 1,2,4,5-Tetrachlorobenzene	216	8.051	8.051	0.000	97	307785	10.0	11.1	
72 Hexachlorocyclopentadiene	237	8.051	8.051	0.000	97	182632	10.0	10.7	
74 2,4,6-Trichlorophenol	196	8.152	8.152	0.000	93	180567	10.0	10.5	
75 2,4,5-Trichlorophenol	196	8.184	8.184	0.000	95	185823	10.0	9.93	
76 1,1'-Biphenyl	154	8.323	8.323	0.000	95	732875	10.0	10.5	
77 2-Chloronaphthalene	162	8.345	8.345	0.000	96	560772	10.0	10.4	
79 2-Nitroaniline	65	8.425	8.425	0.000	82	160291	10.0	9.92	
82 Dimethyl phthalate	163	8.585	8.585	0.000	99	633511	10.0	10.1	
83 1,3-Dinitrobenzene	168	8.612	8.612	0.000	86	88931	10.0	9.66	
84 2,6-Dinitrotoluene	165	8.644	8.644	0.000	95	141153	10.0	10.1	
85 Acenaphthylene	152	8.729	8.729	0.000	98	854322	10.0	10.4	
86 3-Nitroaniline	138	8.799	8.799	0.000	93	149227	10.0	9.89	
88 Acenaphthene	153	8.889	8.889	0.000	93	565943	10.0	10.3	
87 2,4-Dinitrophenol	184	8.895	8.895	0.000	82	130133	20.0	15.3	M
89 4-Nitrophenol	109	8.937	8.937	0.000	95	195834	20.0	19.1	
91 2,4-Dinitrotoluene	165	9.018	9.018	0.000	93	190495	10.0	10.2	
93 Dibenzofuran	168	9.050	9.050	0.000	96	811762	10.0	10.0	
95 2,3,5,6-Tetrachlorophenol	232	9.119	9.119	0.000	93	164347	10.0	10.0	
96 2,3,4,6-Tetrachlorophenol	232	9.156	9.156	0.000	73	171285	10.0	9.81	
97 2-Naphthylamine	143	9.183	9.183	0.000	97	585882	10.0	10.2	
98 Diethyl phthalate	149	9.231	9.231	0.000	98	623594	10.0	9.95	
99 Hexadecane	57	9.247	9.247	0.000	95	426236	10.0	10.3	
100 4-Chlorophenyl phenyl ethe	204	9.354	9.354	0.000	93	338883	10.0	10.1	
101 4-Nitroaniline	138	9.359	9.359	0.000	82	165771	10.0	10.0	
103 Fluorene	166	9.365	9.365	0.000	93	663892	10.0	10.4	
104 4,6-Dinitro-2-methylphenol	198	9.391	9.391	0.000	85	204454	20.0	16.5	
105 N-Nitrosodiphenylamine	169	9.456	9.456	0.000	96	475361	10.0	10.1	
57 Azobenzene	77	9.498	9.498	0.000	99	717688	10.0	10.6	
90 1,2-Diphenylhydrazine	77	9.498	9.498	0.000	98	717688	10.0	10.6	
110 4-Bromophenyl phenyl ether	248	9.808	9.808	0.000	66	202869	10.0	10.3	
112 Hexachlorobenzene	284	9.883	9.883	0.000	94	218126	10.0	9.94	
113 Atrazine	200	9.931	9.931	0.000	94	182770	10.0	10.1	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
116 Pentachlorophenol	266	10.054	10.054	0.000	93	249555	20.0	17.3	
115 n-Octadecane	57	10.086	10.086	0.000	95	446632	10.0	9.91	
121 Phenanthrene	178	10.257	10.257	0.000	98	946423	10.0	9.76	
122 Anthracene	178	10.299	10.299	0.000	98	972403	10.0	10.2	
124 Carbazole	167	10.438	10.438	0.000	96	870639	10.0	10.0	
126 Di-n-butyl phthalate	149	10.743	10.743	0.000	100	981315	10.0	9.82	
131 Fluoranthene	202	11.485	11.485	0.000	97	1024107	10.0	9.96	
132 Benzidine	184	11.619	11.619	0.000	99	519352	10.0	10.5	
133 Pyrene	202	11.774	11.774	0.000	97	1066638	10.0	10.1	
138 Butyl benzyl phthalate	149	12.623	12.623	0.000	98	373596	10.0	9.03	
144 3,3'-Dichlorobenzidine	252	13.536	13.536	0.000	74	293828	10.0	8.70	
146 Benzo[a]anthracene	228	13.595	13.595	0.000	98	970589	10.0	9.82	
145 Bis(2-ethylhexyl) phthalat	149	13.611	13.611	0.000	87	525650	10.0	8.86	
147 Chrysene	228	13.659	13.659	0.000	96	1018311	10.0	10.0	
150 Di-n-octyl phthalate	149	14.882	14.882	0.000	99	593749	10.0	6.45	M
151 7,12-Dimethylbenz(a)anthra	256	15.667	15.667	0.000	92	457380	10.0	9.38	
152 Benzo[b]fluoranthene	252	15.678	15.678	0.000	96	927475	10.0	8.98	
153 Benzo[k]fluoranthene	252	15.731	15.731	0.000	98	1121094	10.0	10.6	M
219 Benzo[e]pyrene	252	16.239	16.239	0.000	96	880672	10.0	9.66	
154 Benzo[a]pyrene	252	16.340	16.340	0.000	76	823870	10.0	9.57	
157 Indeno[1,2,3-cd]pyrene	276	18.610	18.610	0.000	98	968234	10.0	9.96	
158 Dibenz(a,h)anthracene	278	18.653	18.653	0.000	88	770873	10.0	8.40	
159 Benzo[g,h,i]perylene	276	19.160	19.160	0.000	98	885956	10.0	10.0	
S 197 Methyl Phenols,Total	108				0		20.0	20.4	
S 199 Total Cresols	108				0		20.0	20.4	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

SVTAPSTD10i_00354 Amount Added: 1.00 Units: mL

Report Date: 23-Dec-2019 13:01:30 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\S1223004.D				
Injection Date:	23-Dec-2019 11:44:30	Instrument ID:	CH71	Operator ID:	001562
Lims ID:	CCVIS			Worklist Smp#:	4
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

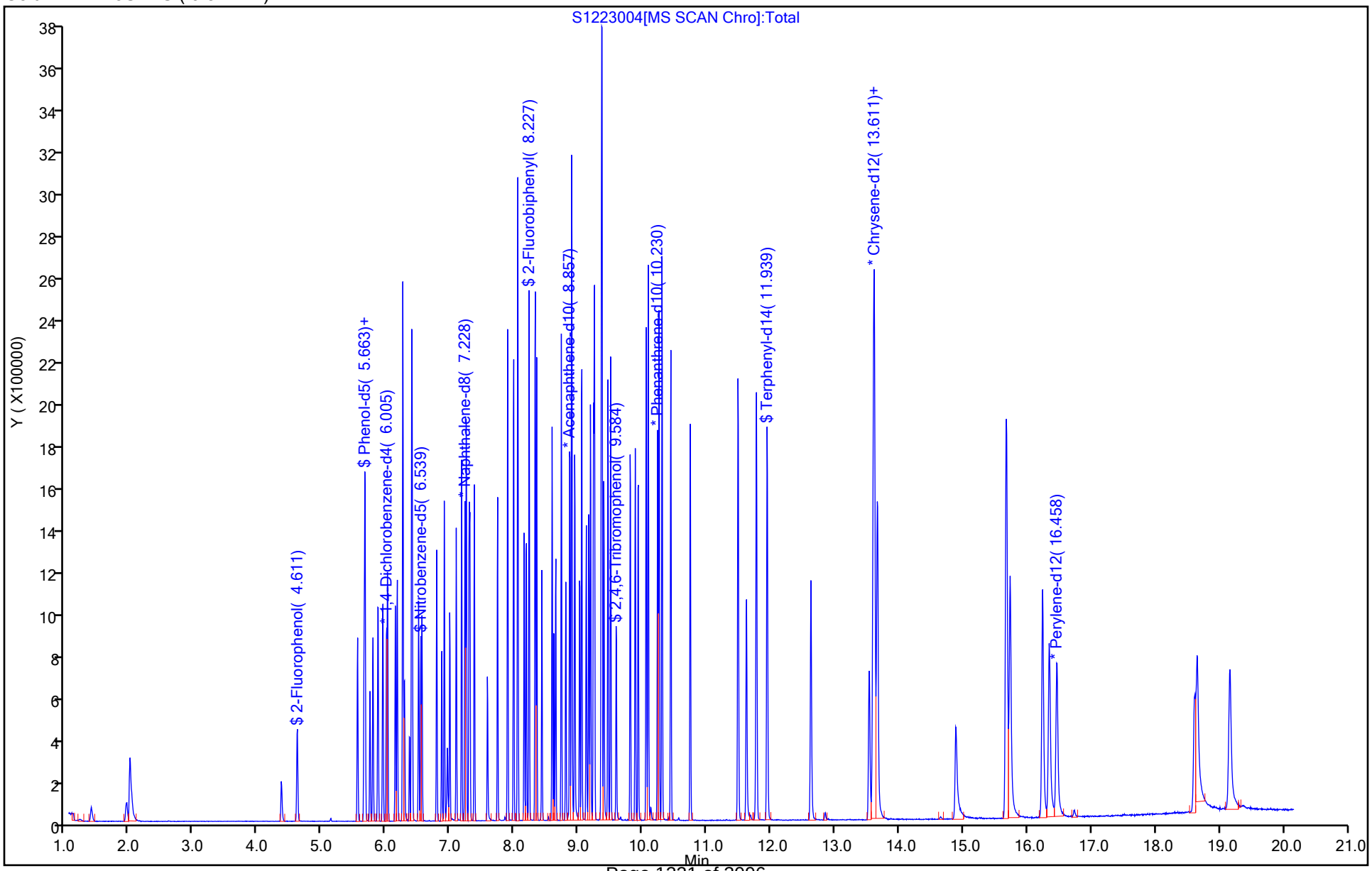

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\S1223004.D				
Injection Date:	23-Dec-2019 11:44:30	Instrument ID:	CH71		
Lims ID:	CCVIS				
Client ID:					
Operator ID:	001562	ALS Bottle#:	2	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

153 Benzo[k]fluoranthene, CAS: 207-08-9

Signal: 1

Processing Integration Results

RT: 15.73
Area: 1060900
Amount: 9.992267
Amount Units: ng

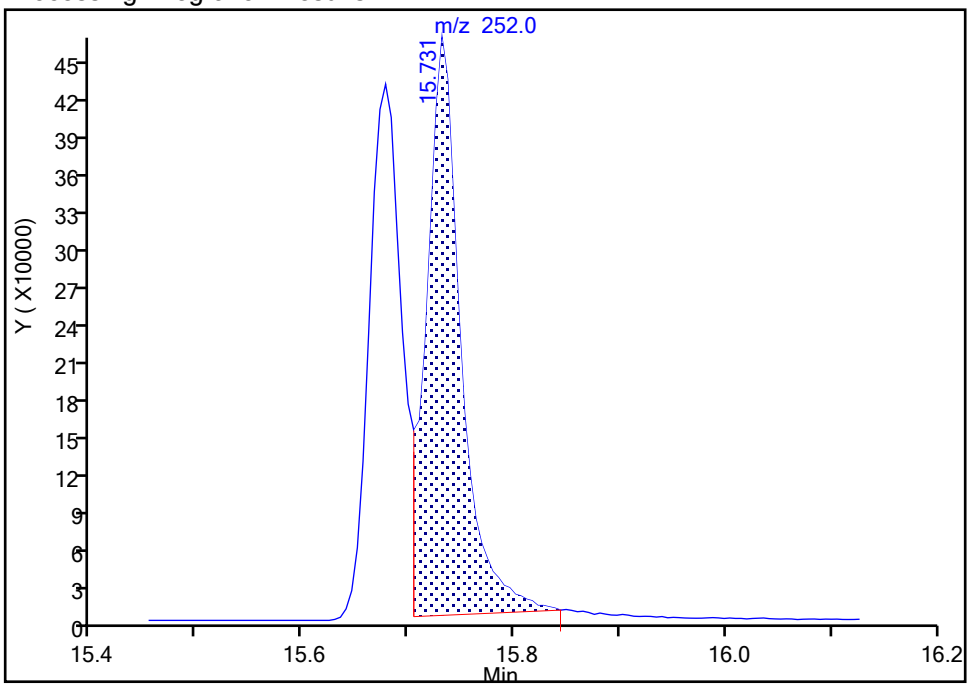

Manual Integration Results

RT: 15.73
Area: 1121094
Amount: 10.559214
Amount Units: ng

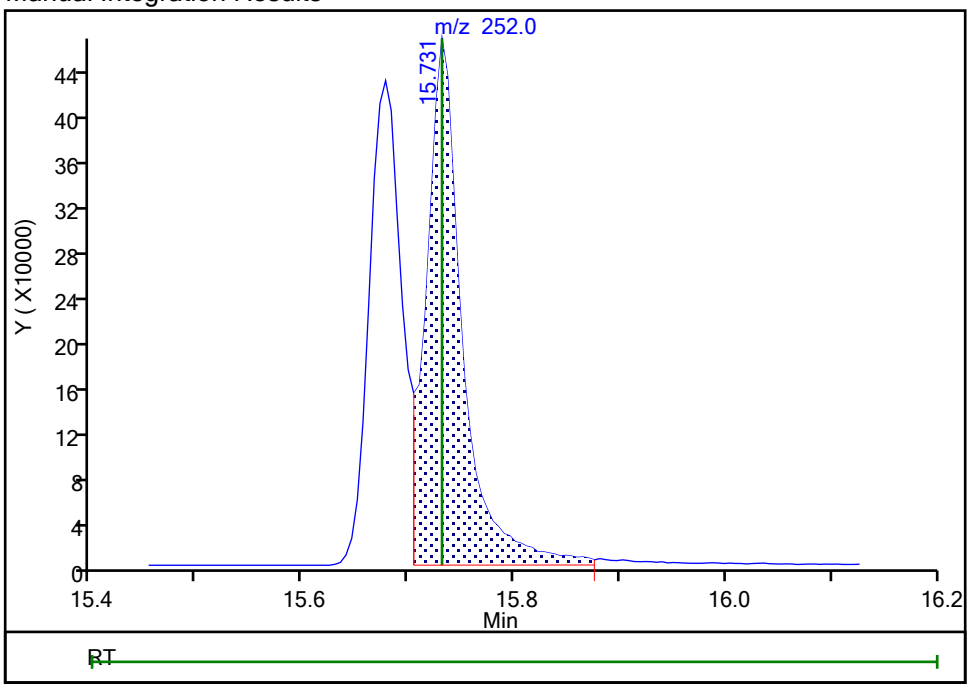

Reviewer: fergusond, 23-Dec-2019 12:26:36

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220002.D				
Lims ID:	DFTPP				
Client ID:					
Sample Type:	DFTPP				
Inject. Date:	21-Dec-2019 10:49:30	ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0030114-002				
Misc. Info.:	DFTPP				
Operator ID:	001562	Instrument ID:	CH71		
Method:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\BNA_CH71.m				
Limit Group:	BNA 8270D ICAL				
Last Update:	23-Dec-2019 07:57:25	Calib Date:	21-Dec-2019 14:16:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220011.D				
Column 1 :	Rxi-5SilMS (0.32 mm)		Det: MS SCAN		
Process Host:	CTX0321				

First Level Reviewer: fergusond Date: 21-Dec-2019 11:04:35

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
189 Pentachlorophenol_T	266	5.444	5.444	0.000	92	924244	NR	NR	
190 DFTPP									
191 Benzidine_T	184	8.072	8.072	0.000	99	5323853	NR	NR	
193 4,4'-DDD	235	9.092	9.092	0.000	88	3209		NR	
192 4,4'-DDE	246	9.426	9.426	0.000	1	0		NR	a
194 4,4'-DDT	235	9.637	9.637	0.000	98	2497160	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard
Review Flags
a - User Assigned ID

Reagents:

SVDFTPP50i_00036 Amount Added: 1.00 Units: mL

Report Date: 23-Dec-2019 07:57:27 Chrom Revision: 2.3 15-Dec-2019 06:20:02

MS Tune Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220002.D				
Injection Date:	21-Dec-2019 10:49:30	Instrument ID:	CH71		
Lims ID:	DFTPP				
Client ID:					
Operator ID:	001562	ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		
Tune Method:	DFTPP Method 8270				

190 DFTPP

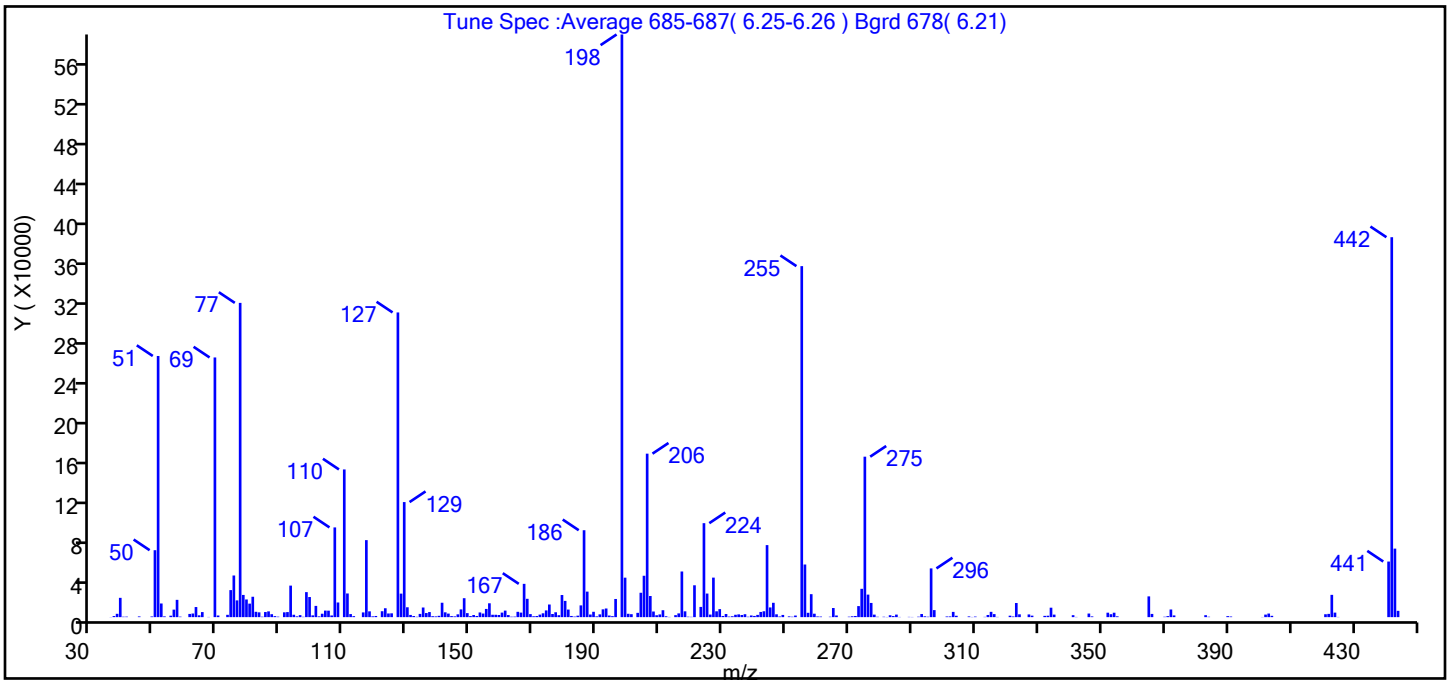

m/z	Ion Abundance Criteria	% Relative Abundance
198	Base peak, 100% relative abundance	100.0
51	30-60% of mass 198	44.8
68	<2% of mass 69	0.0 (0.0)
69	Present	44.6
70	<2% of mass 69	0.3 (0.6)
127	40-60% of mass 198	52.3
197	<1% of mass 198	0.0
199	5-9% of mass 198	6.8
275	10-30% of mass 198	27.5
365	>1% of mass 198	3.6
441	Present but less than mass 443	9.5 (81.1)
442	>40% of mass 198	65.2
443	17-23% of mass 442	11.8 (18.0)

Report Date: 23-Dec-2019 07:57:27 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Data File: \\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220002.D\BNA_CH71.rslt\spectra.d
Injection Date: 21-Dec-2019 10:49:30
Spectrum: Tune Spec :Average 685-687(6.25-6.26) Bgrd 678(6.21)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 281

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	137	125.00	3810	198.00	581440	279.00	380
37.00	1095	127.00	304064	199.00	39392	281.00	389
38.00	3327	128.00	23472	200.00	3349	282.00	167
39.00	19264	129.00	114824	201.00	2948	283.00	1890
40.00	437	130.00	9850	203.00	4290	284.00	1079
41.00	503	131.00	2206	204.00	24328	285.00	2542
45.00	720	132.00	1119	205.00	41296	286.00	200
49.00	676	133.00	357	206.00	163136	289.00	262
50.00	66800	134.00	3229	207.00	21088	290.00	188
51.00	260608	135.00	9616	208.00	5624	292.00	459
52.00	13627	136.00	4096	209.00	1896	293.00	3117
53.00	754	137.00	5072	210.00	2704	294.00	826
55.00	1444	138.00	932	211.00	6907	295.00	426
56.00	7497	139.00	739	212.00	863	296.00	48640
57.00	17256	140.00	1326	213.00	214	297.00	7015
58.00	491	141.00	14376	215.00	1987	301.00	663
61.00	3208	142.00	4817	216.00	3745	302.00	716
62.00	3626	143.00	3528	217.00	45552	303.00	5240
63.00	10082	144.00	1047	218.00	5807	304.00	1376
64.00	1807	145.00	756	219.00	456	308.00	734
65.00	5051	146.00	2791	220.00	305	309.00	182
67.00	193	147.00	7725	221.00	31792	310.00	566
69.00	259136	148.00	18912	223.00	10197	313.00	273
70.00	1638	149.00	4005	224.00	93768	314.00	2162
73.00	2327	150.00	1074	225.00	23544	315.00	5298
74.00	26976	151.00	2127	226.00	2574	316.00	3028
75.00	41560	152.00	1168	227.00	39448	317.00	218
76.00	16728	153.00	4661	228.00	5827	321.00	1429
77.00	313600	154.00	3592	229.00	8008	322.00	645
78.00	22168	155.00	8192	230.00	1165	323.00	14100
79.00	17640	156.00	13830	231.00	3114	324.00	2812
80.00	13490	157.00	2379	232.00	573	327.00	2708
81.00	20344	158.00	2370	233.00	889	328.00	1480

Report Date: 23-Dec-2019 07:57:27 Chrom Revision: 2.3 15-Dec-2019 06:20:02
Data File: \\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220002.D\BNA_CH71.rslt\spectra.d
Injection Date: 21-Dec-2019 10:49:30
Spectrum: Tune Spec :Average 685-687(6.25-6.26) Bgrd 678(6.21)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 281

m/z	Y	m/z	Y	m/z	Y	m/z	Y
82.00	5331	159.00	2144	234.00	2377	332.00	1278
83.00	4775	160.00	4520	235.00	2755	333.00	1415
84.00	441	161.00	6517	236.00	2131	334.00	9431
85.00	5090	162.00	2076	237.00	2930	335.00	2522
86.00	5773	163.00	462	238.00	414	341.00	1954
87.00	2935	164.00	530	239.00	1666	342.00	205
88.00	1013	165.00	5315	240.00	1207	346.00	3594
89.00	482	166.00	4521	241.00	2245	347.00	742
91.00	4802	167.00	33224	242.00	5179	352.00	4438
92.00	5043	168.00	18296	243.00	5885	353.00	2927
93.00	31464	169.00	3030	244.00	71880	354.00	4420
94.00	2386	170.00	872	245.00	9690	355.00	801
95.00	797	171.00	1109	246.00	14320	365.00	20720
96.00	1994	172.00	2528	247.00	2827	366.00	3213
97.00	328	173.00	3838	248.00	637	370.00	389
98.00	24968	174.00	6715	249.00	2198	371.00	1030
99.00	20072	175.00	12609	251.00	755	372.00	7640
100.00	1759	176.00	3127	252.00	419	373.00	1703
101.00	11221	177.00	4871	253.00	1589	383.00	1948
102.00	751	178.00	1933	255.00	350272	384.00	414
103.00	3409	179.00	22072	256.00	52528	390.00	1005
104.00	6527	180.00	16212	257.00	4331	391.00	623
105.00	6457	181.00	7569	258.00	22928	401.00	167
106.00	1659	182.00	1179	259.00	3422	402.00	2541
107.00	89536	183.00	553	260.00	686	403.00	3589
108.00	14632	184.00	1467	261.00	574	404.00	1319
110.00	147392	185.00	11727	264.00	427	421.00	2902
111.00	23624	186.00	86736	265.00	9103	422.00	3257
112.00	3055	187.00	25472	266.00	1645	423.00	22240
113.00	982	188.00	2623	270.00	446	424.00	4516
116.00	4715	189.00	5346	271.00	855	425.00	195
117.00	76848	190.00	756	272.00	1153	441.00	55480
118.00	5787	191.00	2771	273.00	11026	442.00	379136
119.00	790	192.00	7778	274.00	28272	443.00	68384

Report Date: 23-Dec-2019 07:57:27 Chrom Revision: 2.3 15-Dec-2019 06:20:02
Data File: \\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220002.D\BNA_CH71.rslt\spectra.d
Injection Date: 21-Dec-2019 10:49:30
Spectrum: Tune Spec :Average 685-687(6.25-6.26) Bgrd 678(6.21)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 281

m/z	Y	m/z	Y	m/z	Y	m/z	Y
120.00	1157	193.00	8624	275.00	160128	444.00	6303
122.00	5906	194.00	1595	276.00	22480		
123.00	8874	195.00	997	277.00	14170		
124.00	3650	196.00	18128	278.00	2509		

Report Date: 23-Dec-2019 07:57:27 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220002.D				
Injection Date:	21-Dec-2019 10:49:30	Instrument ID:	CH71	Operator ID:	001562
Lims ID:	DFTPP			Worklist Smp#:	2
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

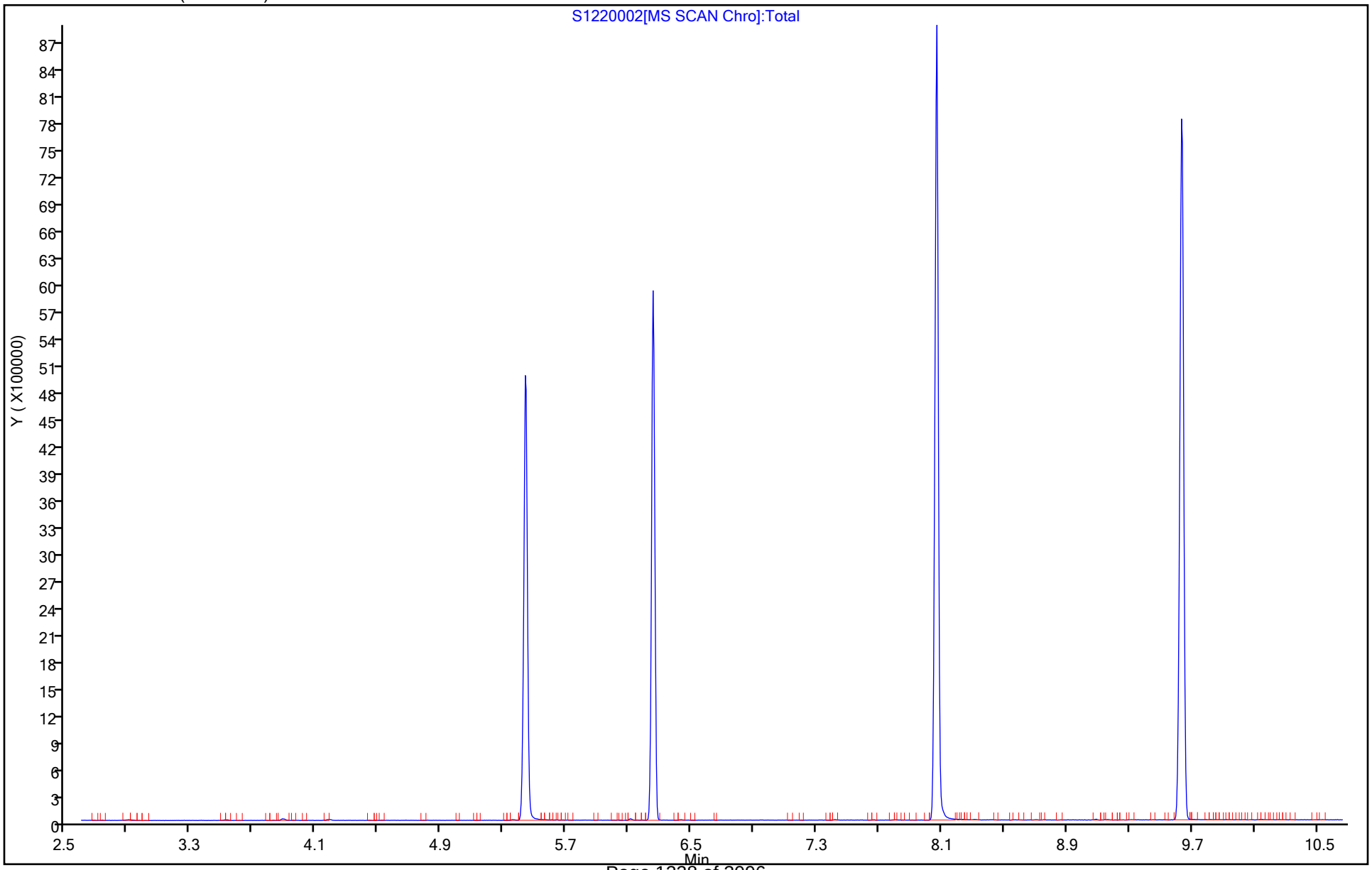

Breakdown Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220002.D				
Injection Date:	21-Dec-2019 10:49:30	Instrument ID:	CH71		
Lims ID:	DFTPP				
Client ID:					
Operator ID:	001562	ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		

194 4,4'-DDT, Detector: MS SCAN

SW-846 Method

%Breakdown =
(Area Breakdown Cpnds/
Total Area Breakdown Cpnds) * 100

194 4,4'-DDT, Area = 2497160
192 4,4'-DDE, Area = 0
193 4,4'-DDD, Area = 3209

%Breakdown: 0.13%, <= 20.00%
Passed

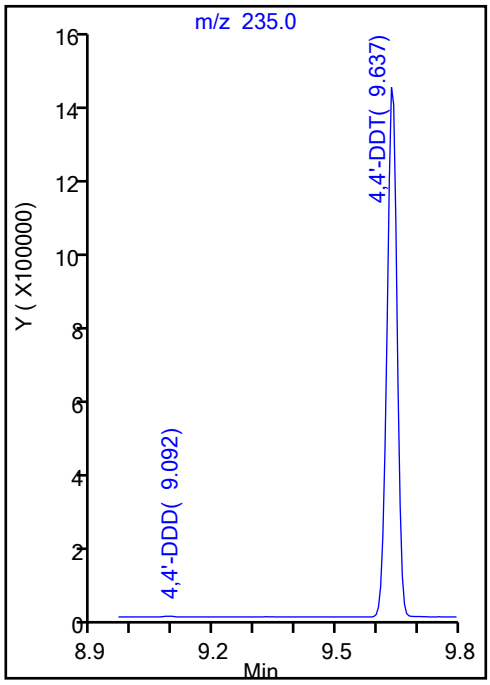

Report Date: 23-Dec-2019 07:57:27 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Peak Tailing Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220002.D				
Injection Date:	21-Dec-2019 10:49:30	Instrument ID:	CH71		
Lims ID:	DFTPP				
Client ID:					
Operator ID:	001562	ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		

191 Benzidine_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.020 (min.)
Front Width = 0.025 (min.)

Tailing Factor = 0.8, Max. Tailing < 2.00
Passed

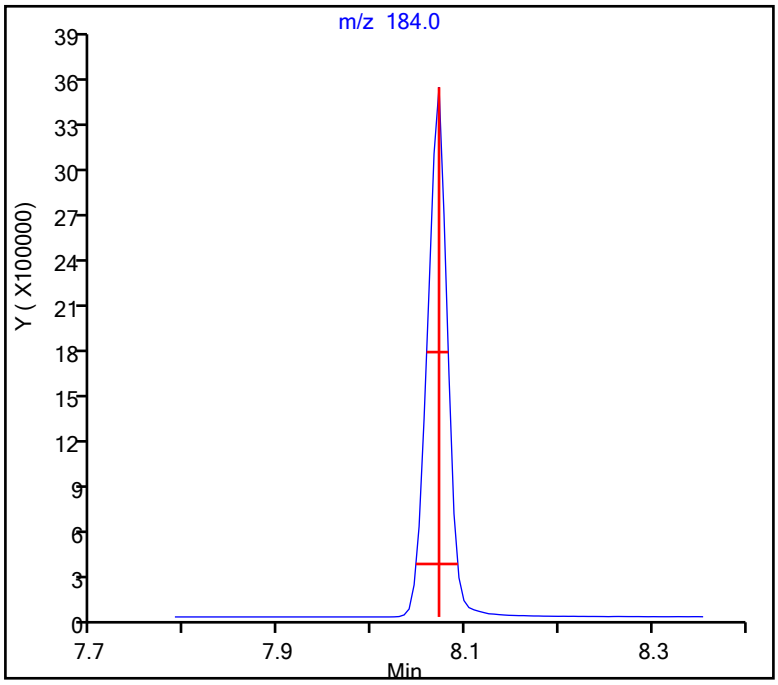

Report Date: 23-Dec-2019 07:57:27 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Peak Tailing Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220002.D				
Injection Date:	21-Dec-2019 10:49:30	Instrument ID:	CH71		
Lims ID:	DFTPP				
Client ID:					
Operator ID:	001562	ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		

189 Pentachlorophenol_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.021 (min.)
Front Width = 0.026 (min.)

Tailing Factor = 0.8, Max. Tailing < 2.00
Passed

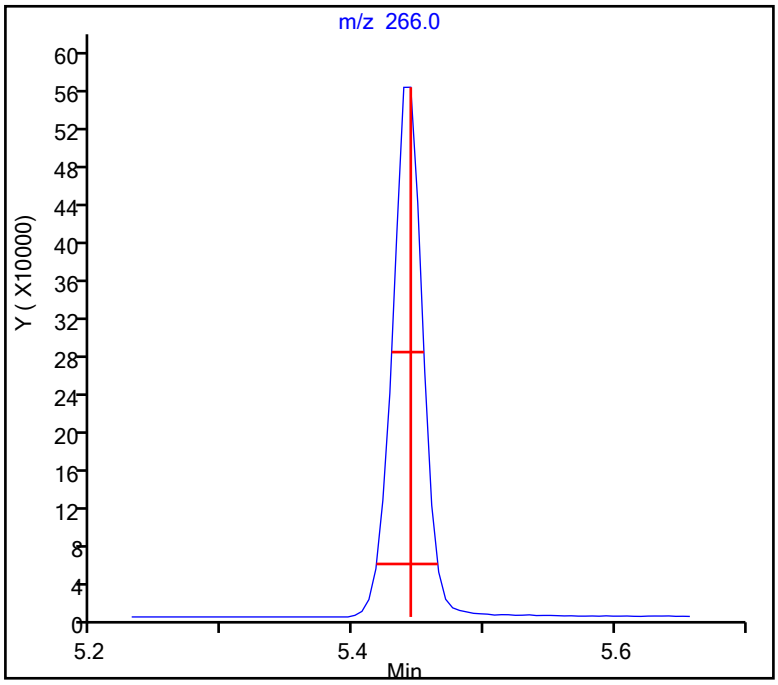

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\S1223002.D				
Lims ID:	DFTPP				
Client ID:					
Sample Type:	DFTPP				
Inject. Date:	23-Dec-2019 11:27:30	ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0030127-002				
Misc. Info.:	DFTPP				
Operator ID:	001562	Instrument ID:	CH71		
Method:	\\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\BNA_CH71.m				
Limit Group:	BNA 8270D ICAL				
Last Update:	23-Dec-2019 13:01:19	Calib Date:	21-Dec-2019 14:16:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220011.D				
Column 1 :	Rxi-5SilMS (0.32 mm)		Det: MS SCAN		
Process Host:	CTX0321				

First Level Reviewer: fergusond Date: 23-Dec-2019 12:06:56

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
189 Pentachlorophenol_T	266	5.456	5.456	0.000	93	914166	NR	NR	
190 DFTPP									
191 Benzidine_T	184	8.094	8.094	0.000	99	5548157	NR	NR	
193 4,4'-DDD	235	9.120	9.120	0.000	75	2896		NR	
192 4,4'-DDE	246	9.408	9.408	0.000	1	0		NR	a
194 4,4'-DDT	235	9.670	9.670	0.000	97	2648057	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard
Review Flags
a - User Assigned ID

Reagents:

SVDFTPP50i_00036 Amount Added: 1.00 Units: mL

Report Date: 23-Dec-2019 13:01:23 Chrom Revision: 2.3 15-Dec-2019 06:20:02

MS Tune Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\S1223002.D				
Injection Date:	23-Dec-2019 11:27:30	Instrument ID:	CH71		
Lims ID:	DFTPP				
Client ID:					
Operator ID:	001562	ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		
Tune Method:	DFTPP Method 8270				

190 DFTPP

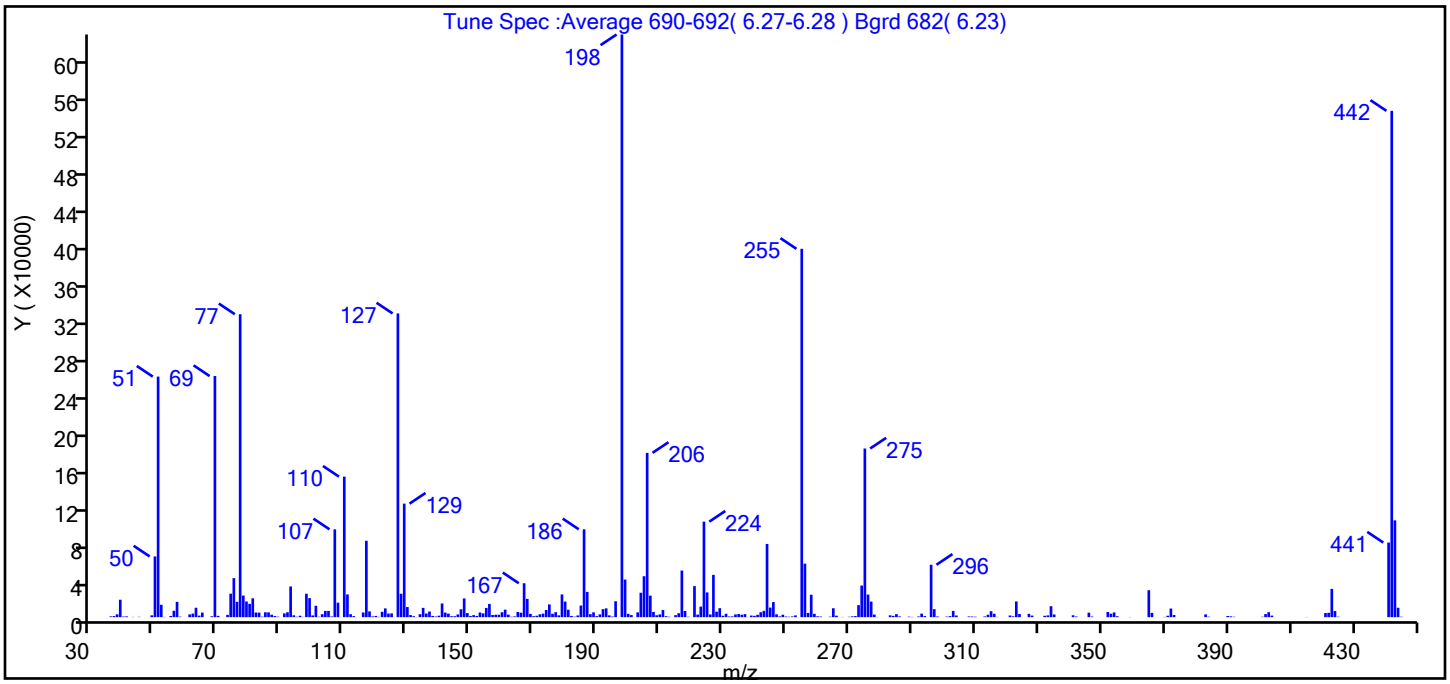

m/z	Ion Abundance Criteria	% Relative Abundance
198	Base peak, 100% relative abundance	100.0
51	30-60% of mass 198	41.3
68	<2% of mass 69	0.1 (0.3)
69	Present	41.4
70	<2% of mass 69	0.2 (0.5)
127	40-60% of mass 198	52.1
197	<1% of mass 198	0.0
199	5-9% of mass 198	6.5
275	10-30% of mass 198	28.9
365	>1% of mass 198	4.6
441	Present but less than mass 443	12.8 (77.1)
442	>40% of mass 198	86.9
443	17-23% of mass 442	16.6 (19.1)

Report Date: 23-Dec-2019 13:01:23 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Data File: \\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\S1223002.D\BNA_CH71.rslt\spectra.d
Injection Date: 23-Dec-2019 11:27:30
Spectrum: Tune Spec :Average 690-692(6.27-6.28) Bgrd 682(6.23)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 287

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	817	124.00	3829	198.00	622656	278.00	2735
37.00	1156	125.00	3975	199.00	40192	279.00	222
38.00	2995	127.00	324544	200.00	3526	283.00	1961
39.00	18592	128.00	24992	201.00	2192	284.00	1349
40.00	669	129.00	121296	203.00	5119	285.00	3233
41.00	857	130.00	10794	204.00	26056	286.00	810
43.00	232	131.00	2232	205.00	43752	289.00	513
45.00	357	132.00	1001	206.00	175552	290.00	240
49.00	1928	133.00	169	207.00	22960	292.00	725
50.00	64872	134.00	3182	208.00	5551	293.00	3749
51.00	257024	135.00	9908	209.00	2028	294.00	1133
52.00	13197	136.00	3884	210.00	2940	296.00	55984
53.00	241	137.00	6042	211.00	7596	297.00	8516
55.00	1269	138.00	1303	212.00	1007	298.00	739
56.00	6831	139.00	675	213.00	435	301.00	572
57.00	16365	140.00	1556	215.00	2133	302.00	1081
58.00	529	141.00	14624	216.00	4187	303.00	6665
61.00	2884	142.00	4889	217.00	49808	304.00	1757
62.00	3841	143.00	3796	218.00	6576	308.00	738
63.00	10050	144.00	1010	219.00	422	309.00	662
64.00	1640	145.00	991	221.00	33136	310.00	469
65.00	4851	146.00	2921	222.00	2745	313.00	720
68.00	891	147.00	8436	223.00	11274	314.00	2558
69.00	257664	148.00	19992	224.00	102048	315.00	6357
70.00	1370	149.00	4371	225.00	26448	316.00	3605
73.00	2419	150.00	1186	226.00	2885	317.00	241
74.00	25064	151.00	2143	227.00	45168	321.00	1758
75.00	41680	152.00	1298	228.00	5838	322.00	862
76.00	16379	153.00	4941	229.00	9591	323.00	16776
77.00	323712	154.00	4046	230.00	1497	324.00	3327
78.00	23080	155.00	9851	231.00	3578	327.00	3527
79.00	16712	156.00	14122	232.00	732	328.00	1657
80.00	14205	157.00	2319	233.00	808	332.00	1451

Report Date: 23-Dec-2019 13:01:23 Chrom Revision: 2.3 15-Dec-2019 06:20:02
Data File: \\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\S1223002.D\BNA_CH71.rslt\spectra.d
Injection Date: 23-Dec-2019 11:27:30
Spectrum: Tune Spec :Average 690-692(6.27-6.28) Bgrd 682(6.23)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 287

m/z	Y	m/z	Y	m/z	Y	m/z	Y
81.00	20112	158.00	2619	234.00	2886	333.00	1876
82.00	4937	159.00	2532	235.00	3296	334.00	11664
83.00	4827	160.00	5224	236.00	2612	335.00	2830
84.00	526	161.00	7975	237.00	3243	341.00	1997
85.00	5215	162.00	2673	238.00	187	342.00	670
86.00	5096	163.00	452	239.00	1690	346.00	4785
87.00	2574	164.00	763	240.00	1402	347.00	672
88.00	1163	165.00	5523	241.00	2514	352.00	5465
89.00	514	166.00	4736	242.00	5247	353.00	3649
91.00	4015	167.00	36240	243.00	6722	354.00	5021
92.00	5209	168.00	19480	244.00	78224	355.00	978
93.00	32792	169.00	3511	245.00	10217	359.00	202
94.00	1970	170.00	1038	246.00	16106	365.00	28744
95.00	437	171.00	1522	247.00	3051	366.00	4561
96.00	1496	172.00	3055	248.00	850	370.00	256
97.00	276	173.00	3747	249.00	2597	371.00	1488
98.00	25040	174.00	7653	250.00	657	372.00	9187
99.00	20328	175.00	13601	251.00	429	373.00	2259
100.00	1818	176.00	3595	252.00	734	383.00	2947
101.00	12166	177.00	5316	253.00	1865	384.00	499
102.00	414	178.00	1923	255.00	393600	390.00	1202
103.00	3154	179.00	24272	256.00	57184	391.00	864
104.00	6650	180.00	16632	257.00	4504	392.00	393
105.00	6633	181.00	7950	258.00	23968	401.00	415
106.00	706	182.00	1269	259.00	3482	402.00	3264
107.00	93848	183.00	496	260.00	886	403.00	5304
108.00	15461	184.00	1816	261.00	662	404.00	1637
110.00	150144	185.00	12414	264.00	530	415.00	189
111.00	24288	186.00	93880	265.00	9517	421.00	4405
112.00	3130	187.00	26968	266.00	1550	422.00	4622
113.00	1070	188.00	3155	268.00	202	423.00	30176
116.00	4997	189.00	5137	270.00	373	424.00	6528
117.00	81616	190.00	1071	271.00	848	425.00	483
118.00	6200	191.00	2932	272.00	1126	441.00	79712

Report Date: 23-Dec-2019 13:01:23 Chrom Revision: 2.3 15-Dec-2019 06:20:02
Data File: \\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\S1223002.D\BNA_CH71.rslt\spectra.d
Injection Date: 23-Dec-2019 11:27:30
Spectrum: Tune Spec :Average 690-692(6.27-6.28) Bgrd 682(6.23)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 287

m/z	Y	m/z	Y	m/z	Y	m/z	Y
119.00	785	192.00	8537	273.00	12863	442.00	541056
120.00	1284	193.00	9377	274.00	33784	443.00	103440
121.00	272	194.00	1907	275.00	180224	444.00	10029
122.00	5712	195.00	666	276.00	24144	445.00	452
123.00	9340	196.00	16984	277.00	16616		

Report Date: 23-Dec-2019 13:01:23 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\S1223002.D				
Injection Date:	23-Dec-2019 11:27:30	Instrument ID:	CH71	Operator ID:	001562
Lims ID:	DFTPP			Worklist Smp#:	2
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		

Column: Rxi-5SilMS (0.32 mm)

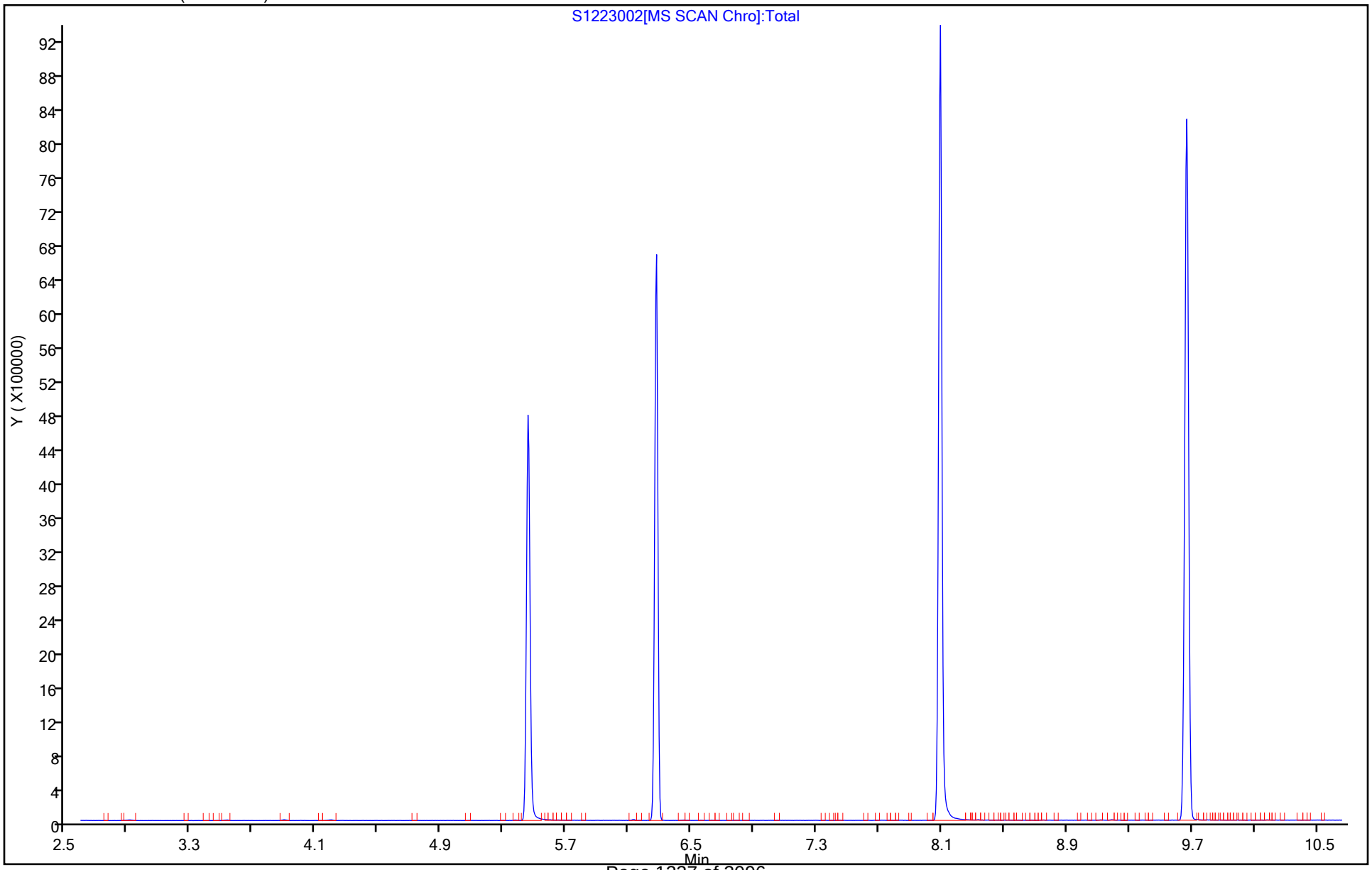

Breakdown Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\S1223002.D				
Injection Date:	23-Dec-2019 11:27:30	Instrument ID:	CH71		
Lims ID:	DFTPP				
Client ID:					
Operator ID:	001562	ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		

194 4,4'-DDT, Detector: MS SCAN

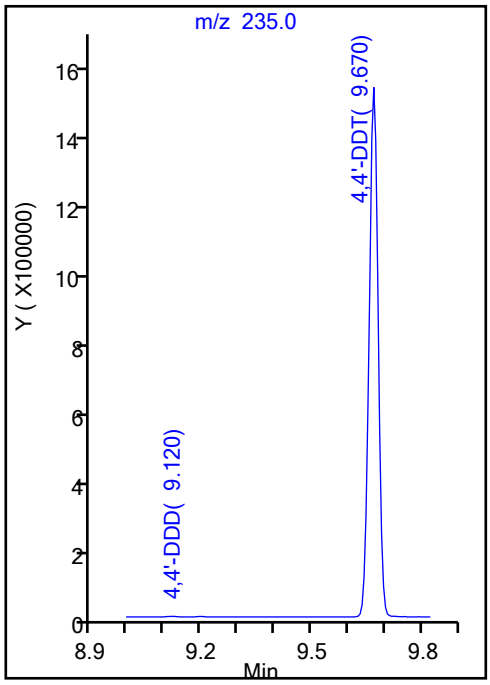

SW-846 Method

%Breakdown =
(Area Breakdown Cpnds/
Total Area Breakdown Cpnds) * 100

194 4,4'-DDT, Area = 2648057
192 4,4'-DDE, Area = 0
193 4,4'-DDD, Area = 2896

%Breakdown: 0.11%, <= 20.00%
Passed

Report Date: 23-Dec-2019 13:01:23 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Peak Tailing Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\S1223002.D				
Injection Date:	23-Dec-2019 11:27:30	Instrument ID:	CH71		
Lims ID:	DFTPP				
Client ID:					
Operator ID:	001562	ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		

191 Benzidine_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.021 (min.)
Front Width = 0.023 (min.)

Tailing Factor = 0.9, Max. Tailing < 2.00
Passed

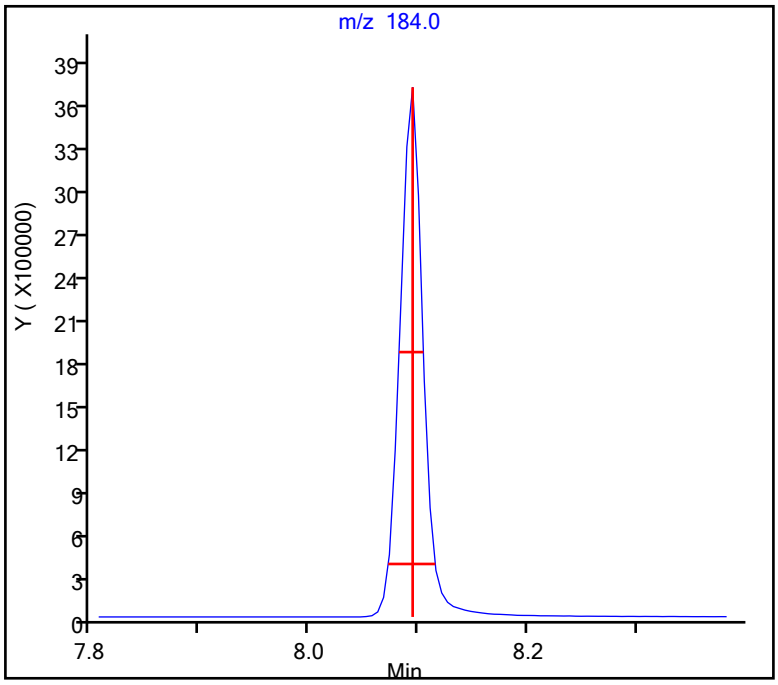

Report Date: 23-Dec-2019 13:01:23 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Peak Tailing Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\S1223002.D				
Injection Date:	23-Dec-2019 11:27:30	Instrument ID:	CH71		
Lims ID:	DFTPP				
Client ID:					
Operator ID:	001562	ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		

189 Pentachlorophenol_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.026 (min.)
Front Width = 0.020 (min.)

Tailing Factor = 1.3, Max. Tailing < 2.00
Passed

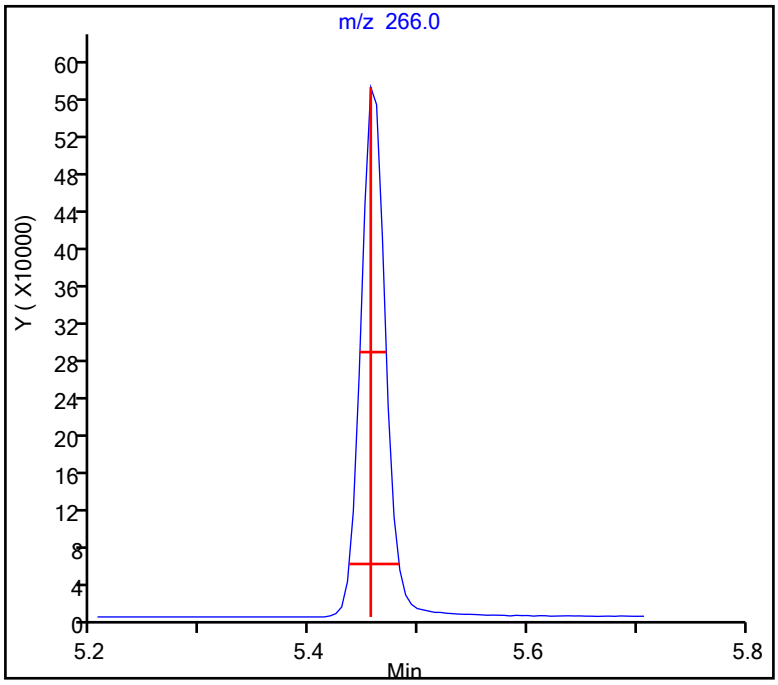

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-100205-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 180-302206/1-A
Matrix: Solid
Lab File ID: S1223009.D
Analysis Method: EPA 8270D
Date Collected:
Extract. Method: 3510C
Date Extracted: 12/21/2019 06:10
Sample wt/vol: 200(mL)
Date Analyzed: 12/23/2019 13:32
Con. Extract Vol.: 10.0(mL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 302307
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
106-46-7	1,4-Dichlorobenzene	ND		0.050	0.0045
95-95-4	2,4,5-Trichlorophenol	ND		0.050	0.0079
88-06-2	2,4,6-Trichlorophenol	ND		0.050	0.0095
121-14-2	2,4-Dinitrotoluene	ND		0.050	0.0079
95-48-7	2-Methylphenol	ND		0.050	0.0040
106-44-5	Methylphenol, 3 & 4	ND		0.050	0.0079
118-74-1	Hexachlorobenzene	ND		0.050	0.0055
87-68-3	Hexachlorobutadiene	ND		0.050	0.0084
67-72-1	Hexachloroethane	ND		0.050	0.0040
98-95-3	Nitrobenzene	ND		0.050	0.012
87-86-5	Pentachlorophenol	ND		0.25	0.0075
110-86-1	Pyridine	ND		0.10	0.0082

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	91		55-107
367-12-4	2-Fluorophenol (Surr)	83		60-108
118-79-6	2,4,6-Tribromophenol (Surr)	81		24-113
4165-60-0	Nitrobenzene-d5 (Surr)	84		62-115
4165-62-2	Phenol-d5 (Surr)	81		52-107
1718-51-0	Terphenyl-d14 (Surr)	106		44-116

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\S1223009.D
Lims ID: MB 180-302206/1-A
Client ID:
Sample Type: MB
Inject. Date: 23-Dec-2019 13:32:30 ALS Bottle#: 7 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030127-009
Misc. Info.: MB 180-302206/1-A
Operator ID: 001562 Instrument ID: CH71

Method: \\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\BNA_CH71.m
Limit Group: BNA 8270D ICAL
Last Update: 23-Dec-2019 14:06:13 Calib Date: 21-Dec-2019 14:16:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220011.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0321

First Level Reviewer: fergusond Date: 23-Dec-2019 14:06:13

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	5.998	6.006	-0.008	96	152573	8.00	8.00	
* 2 Naphthalene-d8	136	7.221	7.224	-0.003	100	679579	8.00	8.00	
* 3 Acenaphthene-d10	164	8.855	8.853	0.002	95	406825	8.00	8.00	
* 4 Phenanthrene-d10	188	10.223	10.221	0.002	97	761238	8.00	8.00	
* 5 Chrysene-d12	240	13.598	13.585	0.013	100	630542	8.00	8.00	
* 6 Perylene-d12	264	16.450	16.438	0.012	99	551634	8.00	8.00	
$ 7 2-Fluorophenol	112	4.609	4.605	-0.002	93	597900	40.0	33.3	
$ 8 Phenol-d5	99	5.651	5.645	-0.002	98	876091	40.0	32.6	
$ 9 Nitrobenzene-d5	82	6.532	6.536	-0.007	90	891133	40.0	33.6	
$ 10 2-Fluorobiphenyl	172	8.220	8.229	-0.007	100	2513097	40.0	36.4	
$ 11 2,4,6-Tribromophenol	330	9.582	9.591	-0.007	94	356444	40.0	32.4	
$ 12 Terphenyl-d14	244	11.932	11.950	-0.007	99	2925501	40.0	42.5	
13 1,4-Dioxane	88		1.396					ND	
14 N-Nitrosodimethylamine	74		1.951					ND	
15 Pyridine	79		1.999					ND	
18 2-Picoline	93		3.715					ND	
19 N-Nitrosomethylethylamine	88		3.939					ND	
20 Acrylamide	71		4.340					ND	U
21 Methyl methanesulfonate	80		4.360					ND	U
23 N-Nitrosodiethylamine	102		4.863					ND	
24 Ethyl methanesulfonate	79		5.216					ND	
106 Diphenylamine	169		5.424					ND	
25 Benzaldehyde	77		5.551					ND	
26 Phenol	94		5.663					ND	
27 Aniline	93		5.669					ND	
28 Pentachloroethane	167		5.723					ND	
29 Bis(2-chloroethyl)ether	93		5.743					ND	
30 2-Chlorophenol	128		5.792					ND	
31 n-Decane	43		5.866					ND	
32 1,3-Dichlorobenzene	146		5.946					ND	
33 1,4-Dichlorobenzene	146		6.021					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
34 Benzyl alcohol	108		6.139					ND	
35 1,2-Dichlorobenzene	146		6.171					ND	
37 Indene	116		6.256					ND	
36 2-Methylphenol	108		6.256					ND	
38 2,2'-oxybis[1-chloropropan	45		6.278					ND	
39 N-Nitrosopyrrolidine	100		6.363					ND	
40 Acetophenone	105		6.395					ND	
41 N-Nitrosodi-n-propylamine	70		6.400					ND	
43 N-Nitrosomorpholine	116		6.402					ND	
42 4-Methylphenol	108		6.406					ND	
44 2-Toluidine	106		6.428					ND	
45 Hexachloroethane	117		6.502					ND	
46 Nitrobenzene	77		6.555					ND	
47 N-Nitrosopiperidine	114		6.695					ND	
48 Isophorone	82		6.785					ND	
49 2-Nitrophenol	139		6.865					ND	
50 2,4-Dimethylphenol	107		6.902					ND	
52 Benzoic acid	122		6.951					ND	
51 o,o',o''-Triethylphosphoro	198		6.963					ND	
53 Bis(2-chloroethoxy)methane	93		6.988					ND	
54 2,4-Dichlorophenol	162		7.089					ND	
56 1,2,4-Trichlorobenzene	180		7.175					ND	
55 alpha,alpha-Dimethyl phene	58		7.203					ND	
58 Naphthalene	128		7.244					ND	
59 4-Chloroaniline	127		7.292					ND	
60 2,6-Dichlorophenol	162		7.303					ND	
61 Hexachloropropene	213		7.331					ND	
62 Hexachlorobutadiene	225		7.372					ND	
63 Quinoline	129		7.550					ND	
64 Caprolactam	113		7.575					ND	
65 N-Nitrosodi-n-butylamine	84		7.593					ND	
66 p-Phenylene diamine	108		7.603					ND	
67 4-Chloro-3-methylphenol	107		7.736					ND	U
68 Safrole, Total	162		7.796					ND	
69 2-Methylnaphthalene	142		7.891					ND	
71 1-Methylnaphthalene	142		7.987					ND	U
73 1,2,4,5-Tetrachlorobenzene	216		8.051					ND	
72 Hexachlorocyclopentadiene	237		8.051					ND	
74 2,4,6-Trichlorophenol	196		8.152					ND	
75 2,4,5-Trichlorophenol	196		8.184					ND	
70 Diphenamid	168		8.200					ND	
180 Isosafrole	162		8.271					ND	
76 1,1'-Biphenyl	154		8.323					ND	U
77 2-Chloronaphthalene	162		8.345					ND	
78 1-Chloronaphthalene	162		8.357					ND	
79 2-Nitroaniline	65		8.425					ND	U
80 1,4-Naphthoquinone	158		8.490					ND	U
81 1,4-Dinitrobenzene	168		8.533					ND	U
82 Dimethyl phthalate	163		8.585					ND	
83 1,3-Dinitrobenzene	168		8.612					ND	
84 2,6-Dinitrotoluene	165		8.644					ND	
85 Acenaphthylene	152		8.729					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
86 3-Nitroaniline	138		8.799					ND	
88 Acenaphthene	153		8.889					ND	
87 2,4-Dinitrophenol	184		8.895					ND	
89 4-Nitrophenol	109		8.937					ND	
92 Pentachlorobenzene	250		9.008					ND	
91 2,4-Dinitrotoluene	165		9.018					ND	
93 Dibenzofuran	168		9.050					ND	
95 2,3,5,6-Tetrachlorophenol	232		9.119					ND	
96 2,3,4,6-Tetrachlorophenol	232		9.156					ND	
94 1-Naphthylamine	143		9.174					ND	U
97 2-Naphthylamine	143		9.183					ND	U
98 Diethyl phthalate	149		9.231					ND	U
99 Hexadecane	57		9.247					ND	
142 Thionazin	97		9.297					ND	
102 N-Nitro-o-toluidine	152		9.345					ND	U
100 4-Chlorophenyl phenyl ethe	204		9.354					ND	
101 4-Nitroaniline	138		9.359					ND	
103 Fluorene	166		9.365					ND	U
104 4,6-Dinitro-2-methylphenol	198		9.391					ND	U
105 N-Nitrosodiphenylamine	169		9.456					ND	U
57 Azobenzene	77		9.498					ND	
90 1,2-Diphenylhydrazine	77		9.498					ND	
148 Sulfotepp	97		9.574					ND	
107 1,3,5-Trinitrobenzene	213		9.660					ND	
108 Phenacetin	108		9.708					ND	
184 Diallate Peak 1	86		9.708					ND	
109 Phorate	121		9.713					ND	
163 Diallate Peak 2	86		9.788					ND	
110 4-Bromophenyl phenyl ether	248		9.808					ND	
111 Dimethoate	87		9.863					ND	
112 Hexachlorobenzene	284		9.883					ND	
113 Atrazine	200		9.931					ND	
114 4-Aminobiphenyl	169		10.028					ND	
116 Pentachlorophenol	266		10.054					ND	
118 Pentachloronitrobenzene	237		10.055					ND	
117 Pronamide	173		10.066					ND	U
115 n-Octadecane	57		10.086					ND	
119 Disulfoton	88		10.189					ND	
120 Dinoseb	211		10.194					ND	
121 Phenanthrene	178		10.257					ND	
122 Anthracene	178		10.299					ND	
124 Carbazole	167		10.438					ND	
125 Methyl parathion	109		10.541					ND	
126 Di-n-butyl phthalate	149		10.743					ND	
127 Ethyl Parathion	109		10.926					ND	
128 4-Nitroquinoline-1-oxide	190		10.979					ND	
129 Methapyrilene	58		11.048					ND	
130 Isodrin	193		11.305					ND	
131 Fluoranthene	202		11.485					ND	U
132 Benzidine	184		11.619					ND	U
133 Pyrene	202		11.774					ND	U
168 Aramite Peak 1	185		11.866					ND	U

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
164 Aramite Peak 2	185		11.967					ND	U
135 p-Dimethylamino azobenzene	225		12.111					ND	U
136 Chlorobenzilate	139		12.165					ND	
134 1,2,3,4 -Tetrachlorobenzen	216	11.932	12.218	-0.283	49	6056		NC	
137 Famphur	218		12.522					ND	
139 3,3'-Dimethylbenzidine	212		12.597					ND	
138 Butyl benzyl phthalate	149		12.623					ND	
140 Kepone	272		12.719					ND	
141 2-Acetylaminofluorene	181		12.998					ND	
143 4,4'-Methylene bis(2-chlor	231		13.511					ND	
144 3,3'-Dichlorobenzidine	252		13.536					ND	
146 Benzo[a]anthracene	228		13.595					ND	
145 Bis(2-ethylhexyl) phthalat	149		13.611					ND	
147 Chrysene	228		13.659					ND	
149 6-Methylchrysene	242		14.488					ND	
150 Di-n-octyl phthalate	149		14.882					ND	
151 7,12-Dimethylbenz(a)anthra	256		15.667					ND	
152 Benzo[b]fluoranthene	252		15.678					ND	
153 Benzo[k]fluoranthene	252		15.731					ND	
219 Benzo[e]pyrene	252		16.239					ND	
154 Benzo[a]pyrene	252		16.340					ND	
155 3-Methylcholanthrene	268		17.041					ND	
156 Dibenz[a,h]acridine	279		18.136					ND	
220 Dibenz[a,j]acridine	279		18.227					ND	
157 Indeno[1,2,3-cd]pyrene	276		18.610					ND	
158 Dibenz(a,h)anthracene	278		18.653					ND	
159 Benzo[g,h,i]perylene	276		19.160					ND	
181 4-Chlorobenzoic Acid	139		0.000					ND	
166 4-Chloro-3-nitro-alpha,alp	179		0.000					ND	
177 1,2,3,4-Tetrahydronaphthal	104		0.000					ND	
183 2,3-Dichlorophenol	162		0.000					ND	
222 Tributylamine	1		0.000					ND	
176 Dimethylformamide	73		0.000					ND	
221 2,6-Dichlorotoluene	1		0.000					ND	
174 2-Chlorobenzoic Acid	139		0.000					ND	
185 4-Nitrobiphenyl	199		0.000					ND	
169 Octachlorostyrene	308		0.000					ND	
182 4-Chlorophenol	128		0.000					ND	
175 1,2,3-Trimethylbenzene	105		0.000					ND	
213 3-Methylphenol	1		0.000					ND	
173 Octachlorocyclopentene	307		0.000					ND	
170 4-tert-Octylphenol	135		0.000					ND	
167 Phthalic anhydride	104		0.000					ND	
162 3-Chlorobenzoic Acid	139		0.000					ND	
160 n,n'-Dimethylaniline	120		0.000					ND	
187 1,2-Dibromo-3-Chloropropan	157		0.000					ND	
179 2,5-Dichlorophenol	162		0.000					ND	
189 Pentachlorophenol_T	266		5.456					ND	
191 Benzidine_T	184		8.094					ND	
193 4,4'-DDD	235		9.120					ND	
192 4,4'-DDE	246		9.408					ND	
194 4,4'-DDT	235		9.670					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
S 195 Aramite, Total	185		1.000					ND	
S 223 Phthalates, Total	1		0.000					ND	
S 197 Methyl Phenols,Total	108		0.000					ND	
S 199 Total Cresols	108		0.000					ND	
S 198 Diallate	86		0.000					ND	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Review Flags

U - Marked Undetected

Reagents:

SVTAPITINTRNi_00022 Amount Added: 1.00 Units: uL Run Reagent

Report Date: 23-Dec-2019 14:06:14 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\S1223009.D				
Injection Date:	23-Dec-2019 13:32:30	Instrument ID:	CH71	Operator ID:	001562
Lims ID:	MB 180-302206/1-A			Worklist Smp#:	9
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		
Column: Rxi-5SilMS (0.32 mm)					

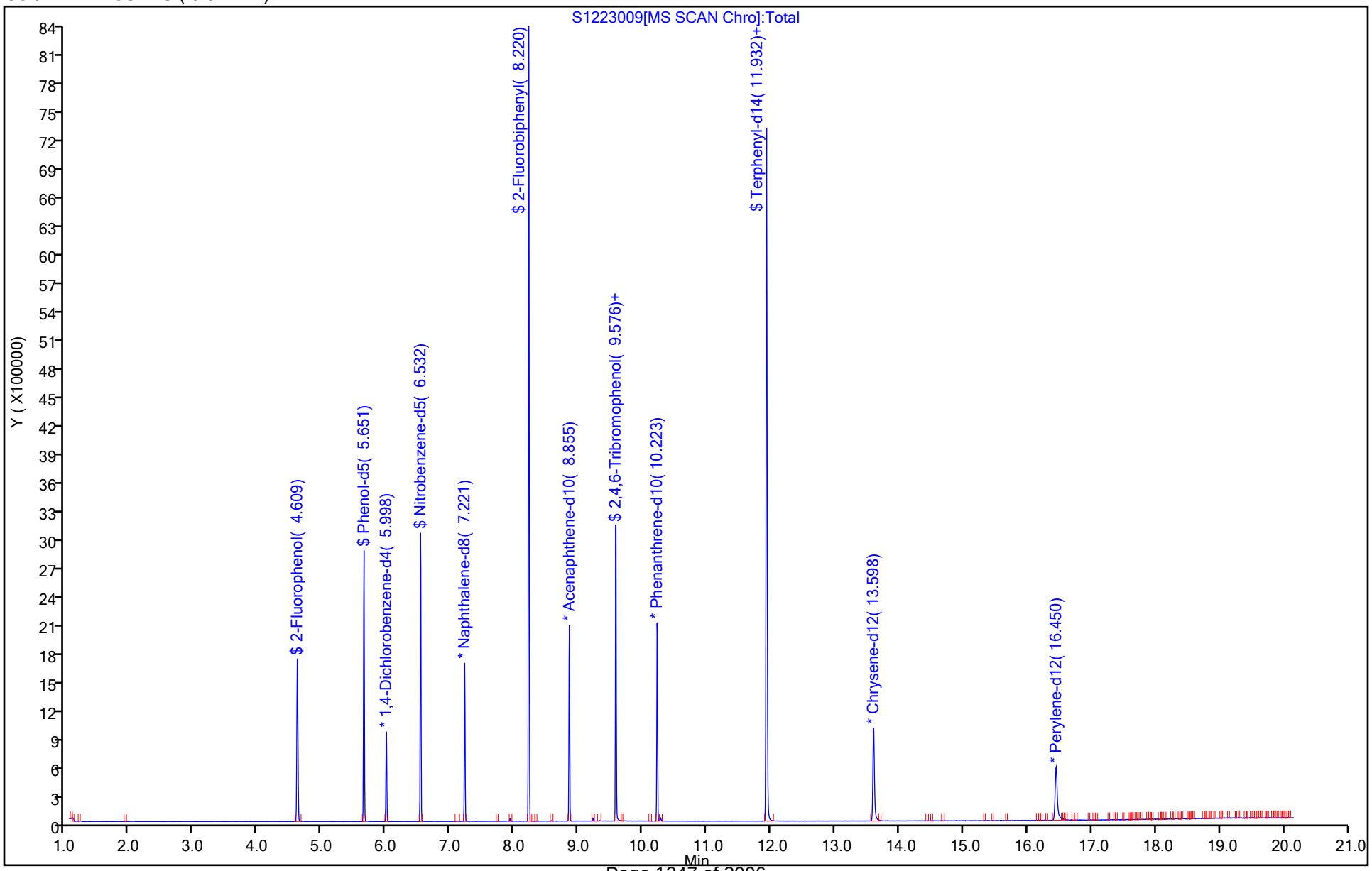

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\S1223009.D
Lims ID: MB 180-302206/1-A
Client ID:
Sample Type: MB
Inject. Date: 23-Dec-2019 13:32:30 ALS Bottle#: 7 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030127-009
Misc. Info.: MB 180-302206/1-A
Operator ID: 001562 Instrument ID: CH71

Method: \\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\BNA_CH71.m
Limit Group: BNA 8270D ICAL
Last Update: 23-Dec-2019 14:06:13 Calib Date: 21-Dec-2019 14:16:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220011.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0321

First Level Reviewer: fergusond Date: 23-Dec-2019 14:06:13

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	40.0	33.3	83.35
$ 8 Phenol-d5	40.0	32.6	81.45
$ 9 Nitrobenzene-d5	40.0	33.6	84.03
$ 10 2-Fluorobiphenyl	40.0	36.4	91.09
$ 11 2,4,6-Tribromophenol	40.0	32.4	81.03
$ 12 Terphenyl-d14	40.0	42.5	106.25

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Client Sample ID: Lab Sample ID: LB 180-301984/1-F

Matrix: Solid (TCLP) Lab File ID: S1223021.D

Analysis Method: EPA 8270D Date Collected:

Extract. Method: 3510C Date Extracted: 12/21/2019 06:10

Sample wt/vol: 200(mL) Date Analyzed: 12/23/2019 18:57

Con. Extract Vol.: 10.0(mL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 302307 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
106-46-7	1,4-Dichlorobenzene	ND		0.050	0.0045
95-95-4	2,4,5-Trichlorophenol	ND		0.050	0.0079
88-06-2	2,4,6-Trichlorophenol	ND		0.050	0.0095
121-14-2	2,4-Dinitrotoluene	ND		0.050	0.0079
95-48-7	2-Methylphenol	ND		0.050	0.0040
106-44-5	Methylphenol, 3 & 4	ND		0.050	0.0079
118-74-1	Hexachlorobenzene	ND		0.050	0.0055
87-68-3	Hexachlorobutadiene	ND		0.050	0.0084
67-72-1	Hexachloroethane	ND		0.050	0.0040
98-95-3	Nitrobenzene	ND		0.050	0.012
87-86-5	Pentachlorophenol	ND		0.25	0.0075
110-86-1	Pyridine	ND		0.10	0.0082

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	87		55-107
367-12-4	2-Fluorophenol (Surr)	82		60-108
118-79-6	2,4,6-Tribromophenol (Surr)	76		24-113
4165-60-0	Nitrobenzene-d5 (Surr)	82		62-115
4165-62-2	Phenol-d5 (Surr)	78		52-107
1718-51-0	Terphenyl-d14 (Surr)	101		44-116

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\S1223021.D
Lims ID: LB 180-301984/1-F
Client ID:
Sample Type: LB
Inject. Date: 23-Dec-2019 18:57:30 ALS Bottle#: 19 Worklist Smp#: 21
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030127-021
Misc. Info.: LB 180-301984/1-F
Operator ID: 001562 Instrument ID: CH71

Method: \\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\BNA_CH71.m
Limit Group: BNA 8270D ICAL
Last Update: 24-Dec-2019 08:13:04 Calib Date: 21-Dec-2019 14:16:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220011.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0324

First Level Reviewer: fergusond Date: 24-Dec-2019 08:13:04

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.002	6.006	-0.004	96	162454	8.00	8.00	
* 2 Naphthalene-d8	136	7.220	7.224	-0.004	100	718130	8.00	8.00	
* 3 Acenaphthene-d10	164	8.854	8.853	0.001	94	444777	8.00	8.00	
* 4 Phenanthrene-d10	188	10.227	10.221	0.006	97	818902	8.00	8.00	
* 5 Chrysene-d12	240	13.619	13.585	0.034	99	698138	8.00	8.00	
* 6 Perylene-d12	264	16.471	16.438	0.033	99	592511	8.00	8.00	
$ 7 2-Fluorophenol	112	4.613	4.617	0.002	93	624667	40.0	32.7	
$ 8 Phenol-d5	99	5.650	5.846	-0.003	97	891790	40.0	31.1	
$ 9 Nitrobenzene-d5	82	6.536	6.539	-0.003	89	917510	40.0	32.7	
$ 10 2-Fluorobiphenyl	172	8.224	8.227	-0.003	100	2631103	40.0	34.9	
$ 11 2,4,6-Tribromophenol	330	9.581	9.585	-0.008	94	357298	40.0	30.2	
$ 12 Terphenyl-d14	244	11.941	11.967	0.002	99	3072818	40.0	40.3	
13 1,4-Dioxane	88		1.396					ND	
14 N-Nitrosodimethylamine	74		1.951					ND	
15 Pyridine	79		1.999					ND	
18 2-Picoline	93		3.715					ND	
19 N-Nitrosomethylethylamine	88		3.939					ND	
20 Acrylamide	71		4.340					ND	U
21 Methyl methanesulfonate	80		4.360					ND	U
23 N-Nitrosodiethylamine	102		4.863					ND	
24 Ethyl methanesulfonate	79		5.216					ND	
106 Diphenylamine	169		5.424					ND	
25 Benzaldehyde	77		5.551					ND	
26 Phenol	94		5.663					ND	
27 Aniline	93		5.669					ND	
28 Pentachloroethane	167		5.723					ND	
29 Bis(2-chloroethyl)ether	93		5.743					ND	
30 2-Chlorophenol	128		5.792					ND	
31 n-Decane	43		5.866					ND	
32 1,3-Dichlorobenzene	146		5.946					ND	
33 1,4-Dichlorobenzene	146		6.021					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
34 Benzyl alcohol	108		6.139					ND	
35 1,2-Dichlorobenzene	146		6.171					ND	
37 Indene	116		6.256					ND	
36 2-Methylphenol	108		6.256					ND	
38 2,2'-oxybis[1-chloropropan	45		6.278					ND	
39 N-Nitrosopyrrolidine	100		6.363					ND	
40 Acetophenone	105		6.395					ND	
41 N-Nitrosodi-n-propylamine	70		6.400					ND	
43 N-Nitrosomorpholine	116		6.402					ND	
42 4-Methylphenol	108		6.406					ND	
44 2-Toluidine	106		6.428					ND	
45 Hexachloroethane	117		6.502					ND	
46 Nitrobenzene	77		6.555					ND	
47 N-Nitrosopiperidine	114		6.695					ND	
48 Isophorone	82		6.785					ND	
49 2-Nitrophenol	139		6.865					ND	
50 2,4-Dimethylphenol	107		6.902					ND	
52 Benzoic acid	122		6.951					ND	
51 o,o',o''-Triethylphosphoro	198		6.963					ND	
53 Bis(2-chloroethoxy)methane	93		6.988					ND	
54 2,4-Dichlorophenol	162		7.089					ND	
56 1,2,4-Trichlorobenzene	180		7.175					ND	
55 alpha,alpha-Dimethyl phene	58		7.203					ND	
58 Naphthalene	128		7.244					ND	
59 4-Chloroaniline	127		7.292					ND	
60 2,6-Dichlorophenol	162		7.303					ND	
61 Hexachloropropene	213		7.331					ND	
62 Hexachlorobutadiene	225		7.372					ND	
63 Quinoline	129		7.550					ND	
64 Caprolactam	113		7.575					ND	
65 N-Nitrosodi-n-butylamine	84		7.593					ND	
66 p-Phenylene diamine	108		7.603					ND	
67 4-Chloro-3-methylphenol	107		7.736					ND	U
68 Safrole, Total	162		7.796					ND	
69 2-Methylnaphthalene	142		7.891					ND	
71 1-Methylnaphthalene	142		7.987					ND	U
72 Hexachlorocyclopentadiene	237		8.051					ND	
73 1,2,4,5-Tetrachlorobenzene	216		8.051					ND	
74 2,4,6-Trichlorophenol	196		8.152					ND	
75 2,4,5-Trichlorophenol	196		8.184					ND	
70 Diphenamid	168		8.200					ND	
180 Isosafrole	162		8.271					ND	
76 1,1'-Biphenyl	154		8.323					ND	U
77 2-Chloronaphthalene	162		8.345					ND	
78 1-Chloronaphthalene	162		8.357					ND	
79 2-Nitroaniline	65		8.425					ND	U
80 1,4-Naphthoquinone	158		8.490					ND	U
81 1,4-Dinitrobenzene	168		8.533					ND	
82 Dimethyl phthalate	163		8.585					ND	
83 1,3-Dinitrobenzene	168		8.612					ND	
84 2,6-Dinitrotoluene	165		8.644					ND	
85 Acenaphthylene	152		8.729					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
86 3-Nitroaniline	138		8.799					ND	
88 Acenaphthene	153		8.889					ND	
87 2,4-Dinitrophenol	184		8.895					ND	
89 4-Nitrophenol	109		8.937					ND	
92 Pentachlorobenzene	250		9.008					ND	
91 2,4-Dinitrotoluene	165		9.018					ND	
93 Dibenzofuran	168		9.050					ND	
95 2,3,5,6-Tetrachlorophenol	232		9.119					ND	
96 2,3,4,6-Tetrachlorophenol	232		9.156					ND	
94 1-Naphthylamine	143		9.174					ND	
97 2-Naphthylamine	143		9.183					ND	
98 Diethyl phthalate	149	9.228	9.231	-0.003	97	6543		0.0877	
99 Hexadecane	57		9.247					ND	
142 Thionazin	97		9.297					ND	
102 N-Nitro-o-toluidine	152		9.345					ND	U
100 4-Chlorophenyl phenyl ethe	204		9.354					ND	
101 4-Nitroaniline	138		9.359					ND	
103 Fluorene	166		9.365					ND	
104 4,6-Dinitro-2-methylphenol	198		9.391					ND	U
105 N-Nitrosodiphenylamine	169		9.456					ND	
90 1,2-Diphenylhydrazine	77		9.498					ND	
57 Azobenzene	77		9.498					ND	
148 Sulfotepp	97		9.574					ND	
107 1,3,5-Trinitrobenzene	213		9.660					ND	
108 Phenacetin	108		9.708					ND	
184 Diallate Peak 1	86		9.708					ND	
109 Phorate	121		9.713					ND	
163 Diallate Peak 2	86		9.788					ND	
110 4-Bromophenyl phenyl ether	248		9.808					ND	
111 Dimethoate	87		9.863					ND	
112 Hexachlorobenzene	284		9.883					ND	
113 Atrazine	200		9.931					ND	
114 4-Aminobiphenyl	169		10.028					ND	
116 Pentachlorophenol	266		10.054					ND	
118 Pentachloronitrobenzene	237		10.055					ND	
117 Pronamide	173		10.066					ND	U
115 n-Octadecane	57		10.086					ND	
119 Disulfoton	88		10.189					ND	
120 Dinoseb	211		10.194					ND	
121 Phenanthrene	178		10.257					ND	
122 Anthracene	178		10.299					ND	
124 Carbazole	167		10.438					ND	
125 Methyl parathion	109		10.541					ND	
126 Di-n-butyl phthalate	149		10.743					ND	
127 Ethyl Parathion	109		10.926					ND	
128 4-Nitroquinoline-1-oxide	190		10.979					ND	
129 Methapyrilene	58		11.048					ND	
130 Isodrin	193		11.305					ND	
131 Fluoranthene	202		11.485					ND	U
132 Benzidine	184		11.619					ND	
133 Pyrene	202		11.774					ND	U
168 Aramite Peak 1	185		11.866					ND	U

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
164 Aramite Peak 2	185		11.967					ND	U
135 p-Dimethylamino azobenzene	225		12.111					ND	U
136 Chlorobenzilate	139		12.165					ND	
134 1,2,3,4 -Tetrachlorobenzen	216	11.941	12.215	-0.274	49	6482		NC	
137 Famphur	218		12.522					ND	
139 3,3'-Dimethylbenzidine	212		12.597					ND	
138 Butyl benzyl phthalate	149		12.623					ND	
140 Kepone	272		12.719					ND	
141 2-Acetylaminofluorene	181		12.998					ND	
143 4,4'-Methylene bis(2-chlor	231		13.511					ND	
144 3,3'-Dichlorobenzidine	252		13.536					ND	
146 Benzo[a]anthracene	228		13.595					ND	
145 Bis(2-ethylhexyl) phthalat	149		13.611					ND	
147 Chrysene	228		13.659					ND	
149 6-Methylchrysene	242		14.488					ND	
150 Di-n-octyl phthalate	149		14.882					ND	
151 7,12-Dimethylbenz(a)anthra	256		15.667					ND	
152 Benzo[b]fluoranthene	252		15.678					ND	
153 Benzo[k]fluoranthene	252		15.731					ND	
219 Benzo[e]pyrene	252		16.239					ND	
154 Benzo[a]pyrene	252		16.340					ND	
155 3-Methylcholanthrene	268		17.041					ND	
156 Dibenz[a,h]acridine	279		18.136					ND	
220 Dibenz[a,j]acridine	279		18.227					ND	
157 Indeno[1,2,3-cd]pyrene	276		18.610					ND	
158 Dibenz(a,h)anthracene	278		18.653					ND	
159 Benzo[g,h,i]perylene	276		19.160					ND	
160 n,n'-Dimethylaniline	120		0.000					ND	
174 2-Chlorobenzoic Acid	139		0.000					ND	
187 1,2-Dibromo-3-Chloropropan	157		0.000					ND	
183 2,3-Dichlorophenol	162		0.000					ND	
177 1,2,3,4-Tetrahydronaphthal	104		0.000					ND	
222 Tributylamine	1		0.000					ND	
213 3-Methylphenol	1		0.000					ND	
166 4-Chloro-3-nitro-alpha,alp	179		0.000					ND	
176 Dimethylformamide	73		0.000					ND	
173 Octachlorocyclopentene	307		0.000					ND	
162 3-Chlorobenzoic Acid	139		0.000					ND	
185 4-Nitrobiphenyl	199		0.000					ND	
169 Octachlorostyrene	308		0.000					ND	
179 2,5-Dichlorophenol	162		0.000					ND	
167 Phthalic anhydride	104		0.000					ND	
175 1,2,3-Trimethylbenzene	105		0.000					ND	
182 4-Chlorophenol	128		0.000					ND	
221 2,6-Dichlorotoluene	1		0.000					ND	
181 4-Chlorobenzoic Acid	139		0.000					ND	
170 4-tert-Octylphenol	135		0.000					ND	
189 Pentachlorophenol_T	266		5.456					ND	
191 Benzidine_T	184		8.094					ND	
193 4,4'-DDD	235		9.120					ND	
192 4,4'-DDE	246		9.408					ND	
194 4,4'-DDT	235		9.670					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
S 195 Aramite, Total	185		1.000					ND	
S 223 Phthalates, Total	1		0.000					ND	
S 197 Methyl Phenols,Total	108		0.000					ND	
S 199 Total Cresols	108		0.000					ND	
S 198 Diallate	86		0.000					ND	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Review Flags

U - Marked Undetected

Reagents:

SVTAPITINTRNi_00022 Amount Added: 1.00 Units: uL Run Reagent

Report Date: 24-Dec-2019 08:13:05 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\S1223021.D				
Injection Date:	23-Dec-2019 18:57:30	Instrument ID:	CH71	Operator ID:	001562
Lims ID:	LB 180-301984/1-F			Worklist Smp#:	21
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	19
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		
Column: Rxi-5SilMS (0.32 mm)					

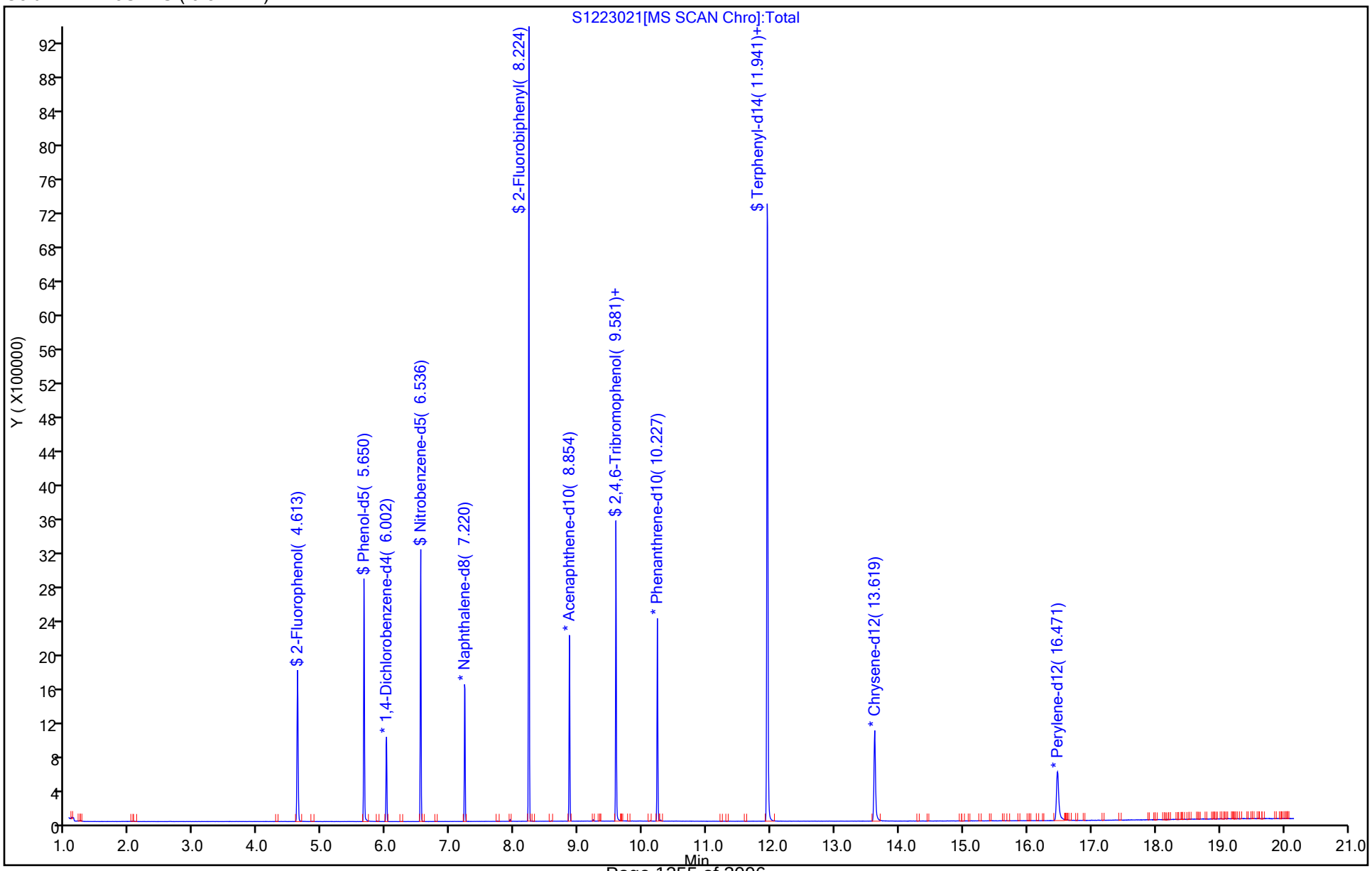

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\S1223021.D
Lims ID: LB 180-301984/1-F
Client ID:
Sample Type: LB
Inject. Date: 23-Dec-2019 18:57:30 ALS Bottle#: 19 Worklist Smp#: 21
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030127-021
Misc. Info.: LB 180-301984/1-F
Operator ID: 001562 Instrument ID: CH71

Method: \\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\BNA_CH71.m
Limit Group: BNA 8270D ICAL
Last Update: 24-Dec-2019 08:13:04 Calib Date: 21-Dec-2019 14:16:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220011.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0324

First Level Reviewer: fergusond Date: 24-Dec-2019 08:13:04

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	40.0	32.7	81.79
$ 8 Phenol-d5	40.0	31.1	77.86
$ 9 Nitrobenzene-d5	40.0	32.7	81.87
$ 10 2-Fluorobiphenyl	40.0	34.9	87.23
$ 11 2,4,6-Tribromophenol	40.0	30.2	75.50
$ 12 Terphenyl-d14	40.0	40.3	100.79

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-100205-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 180-302206/2-A
Matrix: Solid
Lab File ID: S1223012.D
Analysis Method: EPA 8270D
Date Collected:
Extract. Method: 3510C
Date Extracted: 12/21/2019 06:10
Sample wt/vol: 200(mL)
Date Analyzed: 12/23/2019 14:53
Con. Extract Vol.: 10.0(mL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 302307
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
106-46-7	1,4-Dichlorobenzene	0.207		0.050	0.0045
95-95-4	2,4,5-Trichlorophenol	0.193		0.050	0.0079
88-06-2	2,4,6-Trichlorophenol	0.184		0.050	0.0095
121-14-2	2,4-Dinitrotoluene	0.131		0.050	0.0079
95-48-7	2-Methylphenol	0.200		0.050	0.0040
106-44-5	Methylphenol, 3 & 4	0.423		0.050	0.0079
118-74-1	Hexachlorobenzene	0.138		0.050	0.0055
87-68-3	Hexachlorobutadiene	0.215		0.050	0.0084
67-72-1	Hexachloroethane	0.197		0.050	0.0040
98-95-3	Nitrobenzene	0.207		0.050	0.012
87-86-5	Pentachlorophenol	0.119	J	0.25	0.0075
110-86-1	Pyridine	0.212		0.10	0.0082

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	89		55-107
367-12-4	2-Fluorophenol (Surr)	81		60-108
118-79-6	2,4,6-Tribromophenol (Surr)	85		24-113
4165-60-0	Nitrobenzene-d5 (Surr)	83		62-115
4165-62-2	Phenol-d5 (Surr)	80		52-107
1718-51-0	Terphenyl-d14 (Surr)	105		44-116

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\S1223012.D
Lims ID: LCS 180-302206/2-A
Client ID:
Sample Type: LCS
Inject. Date: 23-Dec-2019 14:53:30 ALS Bottle#: 10 Worklist Smp#: 12
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030127-012
Misc. Info.: LCS 180-302206/2-A
Operator ID: 001562 Instrument ID: CH71

Method: \\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\BNA_CH71.m
Limit Group: BNA 8270D ICAL
Last Update: 24-Dec-2019 07:50:36 Calib Date: 21-Dec-2019 14:16:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220011.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0324

First Level Reviewer: fergusond Date: 24-Dec-2019 07:50:36

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.003	6.006	-0.003	96	156664	8.00	8.00	
* 2 Naphthalene-d8	136	7.226	7.224	0.002	100	694348	8.00	8.00	
* 3 Acenaphthene-d10	164	8.865	8.853	0.012	95	412284	8.00	8.00	
* 4 Phenanthrene-d10	188	10.238	10.221	0.017	97	762976	8.00	8.00	
* 5 Chrysene-d12	240	13.624	13.585	0.039	99	645052	8.00	8.00	
* 6 Perylene-d12	264	16.476	16.438	0.038	99	542538	8.00	8.00	
$ 7 2-Fluorophenol	112	4.614	4.602	0.003	94	599406	40.0	32.6	
$ 8 Phenol-d5	99	5.655	5.641	0.002	98	882968	40.0	32.0	
$ 9 Nitrobenzene-d5	82	6.537	6.524	-0.002	90	894296	40.0	33.0	
$ 10 2-Fluorobiphenyl	172	8.230	8.206	0.003	100	2500570	40.0	35.8	
$ 11 2,4,6-Tribromophenol	330	9.592	9.568	0.003	94	376824	40.0	34.2	
$ 12 Terphenyl-d14	244	11.947	11.919	0.008	99	2955400	40.0	42.0	
15 Pyridine	79	2.024	2.024	0.025	94	120861	10.0	8.48	M
33 1,4-Dichlorobenzene	146	6.024	6.009	0.003	93	254007	10.0	8.29	
36 2-Methylphenol	108	6.259	6.244	0.003	97	182176	10.0	7.99	
42 4-Methylphenol	108	6.403	6.393	-0.003	93	405325	20.0	16.9	
45 Hexachloroethane	117	6.505	6.489	0.003	91	94044	10.0	7.87	
46 Nitrobenzene	77	6.558	6.540	0.003	88	235724	10.0	8.30	
62 Hexachlorobutadiene	225	7.375	7.355	0.003	95	155319	10.0	8.61	
74 2,4,6-Trichlorophenol	196	8.155	8.131	0.003	93	139235	10.0	7.35	
75 2,4,5-Trichlorophenol	196	8.182	8.163	-0.002	94	159583	10.0	7.73	
91 2,4-Dinitrotoluene	165	9.020	8.994	0.002	92	108138	10.0	5.23	
112 Hexachlorobenzene	284	9.886	9.861	0.003	94	134269	10.0	5.50	
116 Pentachlorophenol	266	10.056	10.031	0.002	92	76502	10.0	4.78	
213 3-Methylphenol	1		0.000				ND	ND	
S 197 Methyl Phenols,Total	108				0		30.0	24.9	
S 199 Total Cresols	108				0		30.0	24.9	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

Reagents:

SVTAPITINTRNi_00022	Amount Added:	1.00	Units: uL	Run Reagent

Report Date: 24-Dec-2019 07:50:37 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\S1223012.D				
Injection Date:	23-Dec-2019 14:53:30	Instrument ID:	CH71	Operator ID:	001562
Lims ID:	LCS 180-302206/2-A			Worklist Smp#:	12
Client ID:					
Injection Vol:	2.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		
Column: Rxi-5SilMS (0.32 mm)					

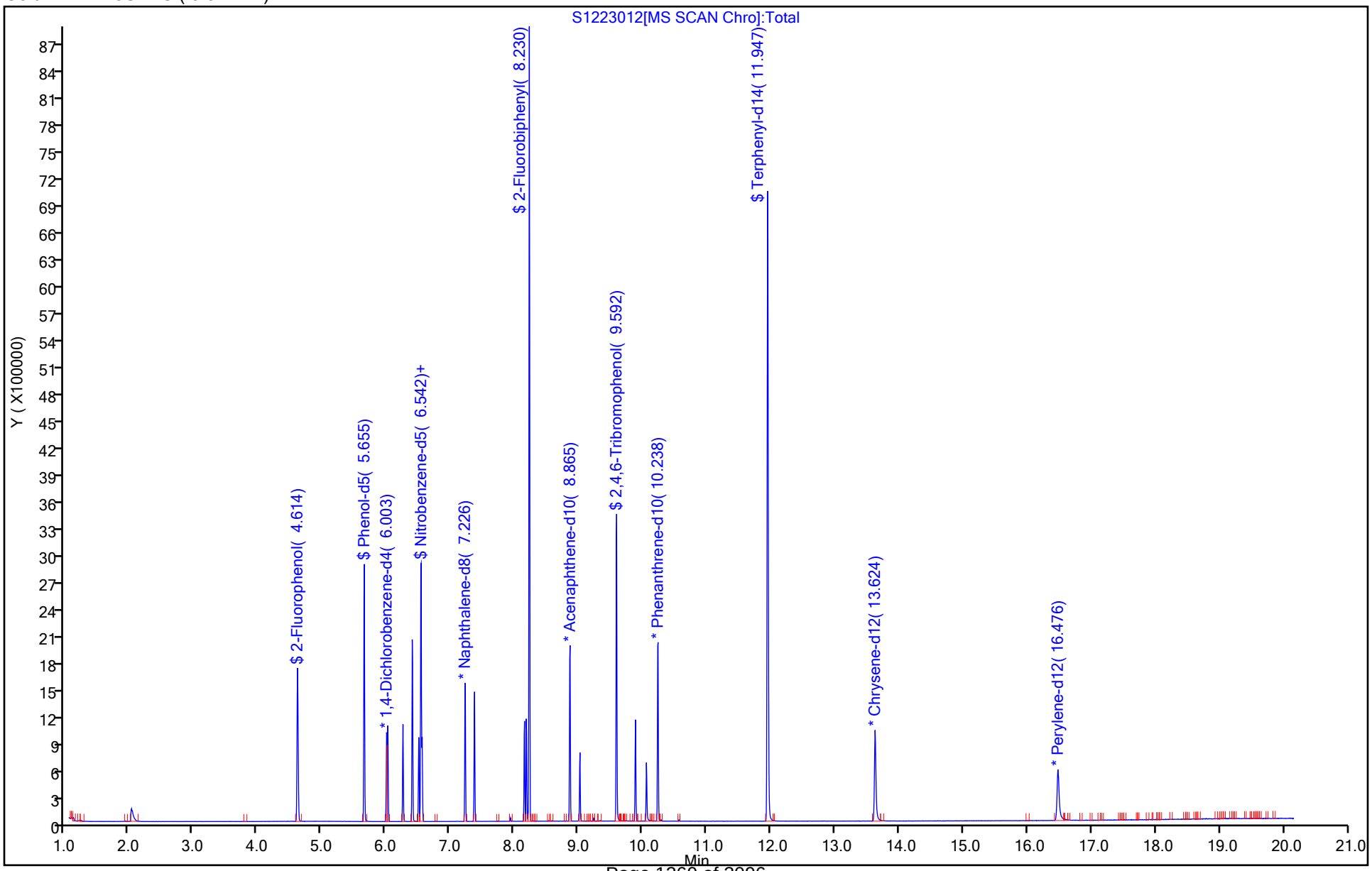

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File: \\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\S1223012.D
Lims ID: LCS 180-302206/2-A
Client ID:
Sample Type: LCS
Inject. Date: 23-Dec-2019 14:53:30 ALS Bottle#: 10 Worklist Smp#: 12
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030127-012
Misc. Info.: LCS 180-302206/2-A
Operator ID: 001562 Instrument ID: CH71

Method: \\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\BNA_CH71.m
Limit Group: BNA 8270D ICAL
Last Update: 24-Dec-2019 07:50:36 Calib Date: 21-Dec-2019 14:16:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CH71\20191221-30114.b\S1220011.D

Column 1 : Rxi-5SilMS (0.32 mm) Det: MS SCAN
Process Host: CTX0324

First Level Reviewer: fergusond Date: 24-Dec-2019 07:50:36

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	40.0	32.6	81.38
$ 8 Phenol-d5	40.0	32.0	79.94
$ 9 Nitrobenzene-d5	40.0	33.0	82.53
$ 10 2-Fluorobiphenyl	40.0	35.8	89.44
$ 11 2,4,6-Tribromophenol	40.0	34.2	85.46
$ 12 Terphenyl-d14	40.0	42.0	104.92

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CH71\20191223-30127.b\S1223012.D				
Injection Date:	23-Dec-2019 14:53:30	Instrument ID:	CH71		
Lims ID:	LCS 180-302206/2-A				
Client ID:					
Operator ID:	001562	ALS Bottle#:	10	Worklist Smp#:	12
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	BNA_CH71	Limit Group:	BNA 8270D ICAL		
Column:	Rxi-5SilMS (0.32 mm)	Detector	MS SCAN		

15 Pyridine, CAS: 110-86-1

Signal: 1

Processing Integration Results

RT: 2.02
Area: 118106
Amount: 8.282581
Amount Units: ng

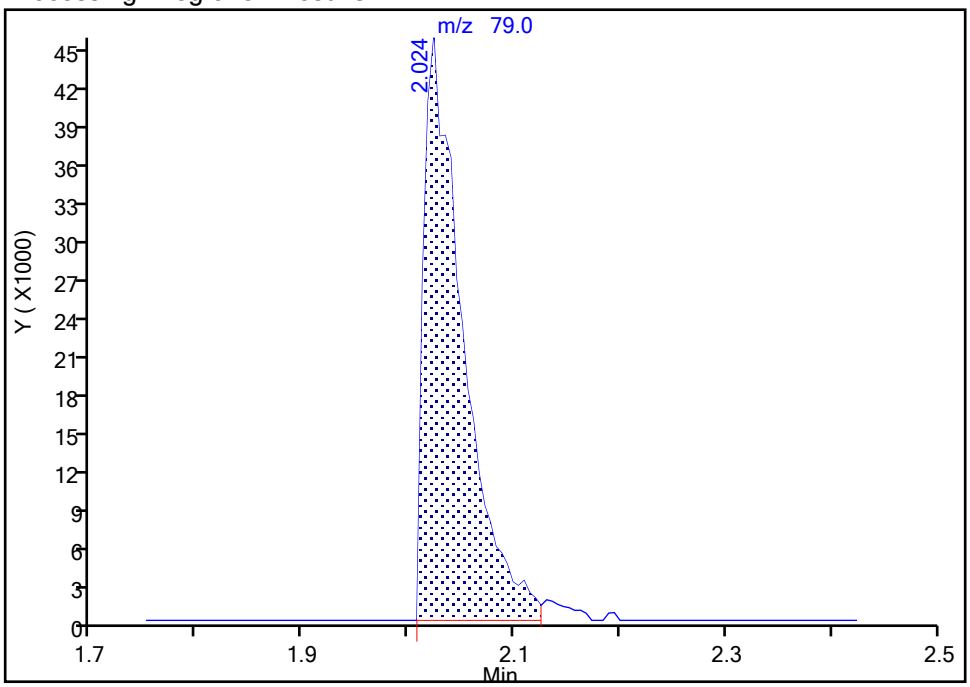

Manual Integration Results

RT: 2.02
Area: 120861
Amount: 8.475785
Amount Units: ng

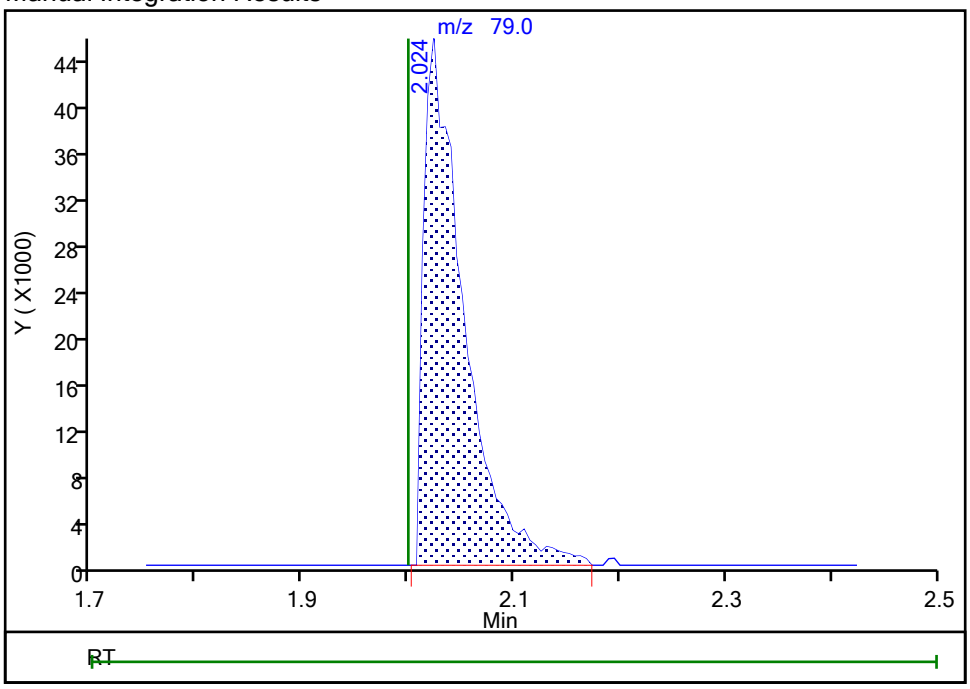

Reviewer: fergusond, 24-Dec-2019 07:49:20

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Instrument ID: CH71 Start Date: 12/21/2019 10:49

Analysis Batch Number: 302239 End Date: 12/21/2019 21:57

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 180-302239/2		12/21/2019 10:49	1	S1220002.D	Rxi-5SilMS 0.32(mm)
IC 180-302239/4		12/21/2019 11:07	1	S1220004.D	Rxi-5SilMS 0.32(mm)
IC 180-302239/5		12/21/2019 11:34	1	S1220005.D	Rxi-5SilMS 0.32(mm)
IC 180-302239/6		12/21/2019 12:01	1	S1220006.D	Rxi-5SilMS 0.32(mm)
ICIS 180-302239/7		12/21/2019 12:28	1	S1220007.D	Rxi-5SilMS 0.32(mm)
IC 180-302239/8		12/21/2019 12:55	1	S1220008.D	Rxi-5SilMS 0.32(mm)
IC 180-302239/9		12/21/2019 13:22	1	S1220009.D	Rxi-5SilMS 0.32(mm)
IC 180-302239/10		12/21/2019 13:49	1	S1220010.D	Rxi-5SilMS 0.32(mm)
IC 180-302239/11		12/21/2019 14:16	1	S1220011.D	Rxi-5SilMS 0.32(mm)
ICV 180-302239/12		12/21/2019 14:43	1	S1220012.D	Rxi-5SilMS 0.32(mm)
ICV 180-302239/13		12/21/2019 15:11	1	S1220013.D	Rxi-5SilMS 0.32(mm)
ZZZZZ		12/21/2019 15:38	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		12/21/2019 16:05	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		12/21/2019 16:33	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		12/21/2019 17:00	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		12/21/2019 17:27	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		12/21/2019 17:54	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		12/21/2019 18:21	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		12/21/2019 18:48	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		12/21/2019 19:15	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		12/21/2019 19:42	2		Rxi-5SilMS 0.32(mm)
ZZZZZ		12/21/2019 20:09	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		12/21/2019 20:36	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		12/21/2019 21:03	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		12/21/2019 21:30	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		12/21/2019 21:57	1		Rxi-5SilMS 0.32(mm)

EPA 8270D

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Instrument ID: CH71 Start Date: 12/23/2019 11:27

Analysis Batch Number: 302307 End Date: 12/23/2019 22:34

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 180-302307/2		12/23/2019 11:27	1	S1223002.D	Rxi-5SilMS 0.32(mm)
CCVIS 180-302307/4		12/23/2019 11:44	1	S1223004.D	Rxi-5SilMS 0.32(mm)
CCV 180-302307/5		12/23/2019 12:11	1	S1223005.D	Rxi-5SilMS 0.32(mm)
ZZZZZ		12/23/2019 13:05	1		Rxi-5SilMS 0.32(mm)
MB 180-302206/1-A		12/23/2019 13:32	1	S1223009.D	Rxi-5SilMS 0.32(mm)
ZZZZZ		12/23/2019 13:59	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		12/23/2019 14:26	1		Rxi-5SilMS 0.32(mm)
LCS 180-302206/2-A		12/23/2019 14:53	1	S1223012.D	Rxi-5SilMS 0.32(mm)
ZZZZZ		12/23/2019 15:20	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		12/23/2019 15:47	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		12/23/2019 16:14	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		12/23/2019 16:41	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		12/23/2019 17:08	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		12/23/2019 17:36	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		12/23/2019 18:03	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		12/23/2019 18:30	1		Rxi-5SilMS 0.32(mm)
LB 180-301984/1-F		12/23/2019 18:57	1	S1223021.D	Rxi-5SilMS 0.32(mm)
ZZZZZ		12/23/2019 19:24	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		12/23/2019 19:51	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		12/23/2019 20:18	1		Rxi-5SilMS 0.32(mm)
ZZZZZ		12/23/2019 20:46	1		Rxi-5SilMS 0.32(mm)
180-100205-1		12/23/2019 21:13	1	S1223026.D	Rxi-5SilMS 0.32(mm)
180-100205-3		12/23/2019 21:40	1	S1223027.D	Rxi-5SilMS 0.32(mm)
180-100205-5		12/23/2019 22:07	1	S1223028.D	Rxi-5SilMS 0.32(mm)
ZZZZZ		12/23/2019 22:34	20		Rxi-5SilMS 0.32(mm)

EPA 8270D

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 301984 Batch Start Date: 12/19/19 16:30 Batch Analyst: Stundon, Jeremy A

Batch Method: 1311 Batch End Date: 12/20/19 09:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	FiltCompDate	FiltCompTime	LeachatepH		
LB 180-301984/1		1311, 3510C, EPA 8270D		2000 mL	12/20/19	1200	4.93 SU		

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 301984 Batch Start Date: 12/19/19 16:30 Batch Analyst: Stundon, Jeremy A

Batch Method: 1311 Batch End Date: 12/20/19 09:30

Batch Notes	
Balance ID	AND-14577823
Batch Comment	pH Buffer 13: 3418512 and pH Buffer 7 (second source): 3494553
pH Buffer 1 ID	3519611
pH Buffer 2 ID	3468003
pH Buffer 3 ID	2923701
pH Buffer 4 ID	3505862
First End time	1200
Filter ID	3468050
Hot Plate ID	TCLP-2
pH Meter Calibration Slope	99.4/100.5
pH Meter ID	ACCUMET-XL-150
Probe ID	XT3-11598
Room Temperature Thermometer ID	FISHER-160719405 CF 0.0
Analyst ID - Spike Analyst	EPS
Analyst ID - Spike Witness Analyst	JAS
First Start time	1000
TCLP Fluid 1 ID	3473617
TCLP Fluid 1 pH	4.93
TCLP Fluid 2 ID	3509299
TCLP Fluid 2 pH	2.88
Maximum Temperature	23 Degrees C
Minimum Temperature	21 Degrees C
Thermometer ID	TCLP-2 CF 0.0
Tumbler Rotations per Minute	Tumbler 1: 31; Tumbler 4:30
Uncorrected Maximum Temperature	23 Degrees C
Uncorrected Minimum Temperature	21 Degrees C
Uncorrected Water Bath Temperature	50.0 Celsius
Water Bath ID	TCLP-2
Water Bath Temperature	50.0 Degrees C
Water Bath Thermometer ID	TCLP-2 CF 0.0

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 301984 Batch Start Date: 12/19/19 16:30 Batch Analyst: Stundon, Jeremy A

Batch Method: 1311 Batch End Date: 12/20/19 09:30

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 301984 Batch Start Date: 12/19/19 16:30 Batch Analyst: Stundon, Jeremy A

Batch Method: EPA 1311 Batch End Date: 12/20/19 09:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	EFD_SampleWeight	EFD_VolumeWaterAdd	EFD_InitialpH	EFD_AddHClpH>5
180-100205-A-1	11187072-N.TREATMENT AREA #2	EPA 1311, 3510C, EPA 8270D	P	100.00 g	2000 mL	5.00 g	96.5 mL	9.29 SU	3.50 mL
180-100205-A-3	11187072-N.TREATMENT AREA #3	EPA 1311, 3510C, EPA 8270D	P	100.00 g	2000 mL	5.00 g	96.5 mL	9.45 SU	3.50 mL
180-100205-A-5	11187072-N.TREATMENT AREA #4	EPA 1311, 3510C, EPA 8270D	P	100.00 g	2000 mL	5.00 g	96.5 mL	8.47 SU	3.50 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	EFD_HeatHeld	EFD_SecondpHCheck	FiltCompDate	FiltCompTime	LeachatepH	
180-100205-A-1	11187072-N.TREATMENT AREA #2	EPA 1311, 3510C, EPA 8270D	P	50.0 Deg. C	2.10 SU	12/20/19	1200	6.21 SU	
180-100205-A-3	11187072-N.TREATMENT AREA #3	EPA 1311, 3510C, EPA 8270D	P	50.0 Deg. C	1.80 SU	12/20/19	1200	5.03 SU	
180-100205-A-5	11187072-N.TREATMENT AREA #4	EPA 1311, 3510C, EPA 8270D	P	50.0 Deg. C	1.84 SU	12/20/19	1200	5.02 SU	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 301984 Batch Start Date: 12/19/19 16:30 Batch Analyst: Stundon, Jeremy A

Batch Method: EPA 1311 Batch End Date: 12/20/19 09:30

Batch Notes	
Balance ID	AND-14577823
Batch Comment	pH Buffer 13: 3418512 and pH Buffer 7 (second source): 3494553
pH Buffer 1 ID	3519611
pH Buffer 2 ID	3468003
pH Buffer 3 ID	2923701
pH Buffer 4 ID	3505862
First End time	1200
Filter ID	3468050
Hot Plate ID	TCLP-2
pH Meter Calibration Slope	99.4/100.5
pH Meter ID	ACCUMET-XL-150
Probe ID	XT3-11598
Room Temperature Thermometer ID	FISHER-160719405 CF 0.0
Analyst ID - Spike Analyst	EPS
Analyst ID - Spike Witness Analyst	JAS
First Start time	1000
TCLP Fluid 1 ID	3473617
TCLP Fluid 1 pH	4.93
TCLP Fluid 2 ID	3509299
TCLP Fluid 2 pH	2.88
Maximum Temperature	23 Degrees C
Minimum Temperature	21 Degrees C
Thermometer ID	TCLP-2 CF 0.0
Tumbler Rotations per Minute	Tumbler 1: 31; Tumbler 4:30
Uncorrected Maximum Temperature	23 Degrees C
Uncorrected Minimum Temperature	21 Degrees C
Uncorrected Water Bath Temperature	50.0 Celsius
Water Bath ID	TCLP-2
Water Bath Temperature	50.0 Degrees C
Water Bath Thermometer ID	TCLP-2 CF 0.0

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 301984 Batch Start Date: 12/19/19 16:30 Batch Analyst: Stundon, Jeremy A

Batch Method: EPA 1311 Batch End Date: 12/20/19 09:30

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 302206 Batch Start Date: 12/21/19 06:10 Batch Analyst: Yushinski, Charles

Batch Method: 3510C Batch End Date: 12/21/19 11:10

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ReceivedpH	FirstAdjustpH	SecondAdjustpH	OP8270TCLPSPi 00038
MB 180-302206/1		3510C, EPA 8270D		200 mL	10.0 mL	6 SU	2 SU	11 SU	
LCS 180-302206/2		3510C, EPA 8270D		200 mL	10.0 mL	6 SU	2 SU	11 SU	0.5 mL
LB 180-301984/1-A		3510C, EPA 8270D		200 mL	10.0 mL	5 SU	2 SU	11 SU	
180-100205-A-1-B	11187072-N.TREATMENT AREA #2	3510C, EPA 8270D	P	200 mL	10.0 mL	7 SU	2 SU	11 SU	
180-100205-A-3-B	11187072-N.TREATMENT AREA #3	3510C, EPA 8270D	P	200 mL	10.0 mL	5 SU	2 SU	11 SU	
180-100205-A-5-B	11187072-N.TREATMENT AREA #4	3510C, EPA 8270D	P	200 mL	10.0 mL	5 SU	2 SU	11 SU	

Lab Sample ID	Client Sample ID	Method Chain	Basis	OPQL8270SURi 00088	AnalysisComment				
MB 180-302206/1		3510C, EPA 8270D		1 mL	Funnel 1				
LCS 180-302206/2		3510C, EPA 8270D		1 mL	Funnel 2				
LB 180-301984/1-A		3510C, EPA 8270D		1 mL	Funnel 4				
180-100205-A-1-B	11187072-N.TREATMENT AREA #2	3510C, EPA 8270D	P	1 mL	Funnel 14				
180-100205-A-3-B	11187072-N.TREATMENT AREA #3	3510C, EPA 8270D	P	1 mL	Funnel 15				
180-100205-A-5-B	11187072-N.TREATMENT AREA #4	3510C, EPA 8270D	P	1 mL	Funnel 16				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 302206 Batch Start Date: 12/21/19 06:10 Batch Analyst: Yushinski, Charles

Batch Method: 3510C Batch End Date: 12/21/19 11:10

Batch Notes	
Acid Used for pH Adjustment ID	1:1 Sulfuric acid 3363493
Base Used to Adjust pH ID	10N sodium hydroxide 2994221
Analyst ID - Concentration	CBY
Concentration 1 Corrected Temperature	65 Degrees C
Concentration 2 Corrected Temperature	20 Degrees C
Equipment ID - Concentration 1	water bath 1
Equipment ID - Concentration 2	1
Analyst ID - Extraction	CBY
Filter ID	16939085
Na2SO4 ID	3327433
pH Indicator ID	Ph paper HC987808
Prep Solvent ID	Methylene chloride 3514307
Prep Solvent Volume Used	360 mL
Analyst ID - Spike Analyst	CBY
Sufficient Volume for Batch QC	yes
Thermometer ID - Concentration 1	water bath 1
Thermometer ID - Concentration 2	1
Concentration 1 Uncorrected Temperature	65 CF 0.0 Degrees C
Concentration 2 Uncorrected Temperature	21 CF 1.0 Degrees C

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Method 8015D DAI Glycols

Glycols -Direct Injection (GC/FID) - Method 8015D

FORM II
GC VOA SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 180-100205-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): ZB-5 ID: 0.25(mm)

Client Sample ID	Lab Sample ID	14BD #
11187072-N.TREATMENT AREA #2	180-100205-2	98
11187072-N.TREATMENT AREA #3	180-100205-4	95
11187072-N.TREATMENT AREA #4	180-100205-6	97
	MB 480-512921/1-A	91
	LCS 480-512921/2-A	94
11187072-N.TREATMENT AREA #2 MS	180-100205-2 MS	100
11187072-N.TREATMENT AREA #2 MSD	180-100205-2 MSD	92

	QC LIMITS
14BD = 1,4-Butanediol	66-130

Column to be used to flag recovery values

FORM II 8015D

FORM III
GC VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 180-100205-1

SDG No.:

Matrix: Water Level: Low Lab File ID: pe01-seq12_299.d

Lab ID: LCS 480-512921/2-A Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
Ethylene glycol	20.0	14.9	74	46-129	
2-Ethoxyethanol	20.0	16.7 J	84	44-144	
2-Methoxyethanol	20.0	16.1	81	48-138	

Column to be used to flag recovery and RPD values

FORM III 8015D

FORM III
GC VOA MATRIX SPIKE RECOVERY

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 180-100205-1

SDG No.:

Matrix: Water Level: Low Lab File ID: pe01-seq12_301.d

Lab ID: 180-100205-2 MS Client ID: 11187072-N.TREATMENT AREA #2 MS

COMPOUND	SPIKE ADDED (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS CONCENTRATION (mg/L)	MS % REC	QC LIMITS REC	#
Ethylene glycol	20.0	ND	16.5	83	46-143	
2-Ethoxyethanol	20.0	ND	18.1 J	91	55-159	
2-Methoxyethanol	20.0	ND	17.2	86	66-147	

Column to be used to flag recovery and RPD values

FORM III 8015D

FORM III
GC VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 180-100205-1

SDG No.:

Matrix: Water Level: Low Lab File ID: pe01-seq12_302.d

Lab ID: 180-100205-2 MSD Client ID: 11187072-N.TREATMENT AREA #2 MS

COMPOUND	SPIKE ADDED (mg/L)	MSD CONCENTRATION (mg/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Ethylene glycol	20.0	16.2	81	2	50	46-143	
2-Ethoxyethanol	20.0	17.6 J	88	3	50	55-159	
2-Methoxyethanol	20.0	16.2	81	6	50	66-147	

Column to be used to flag recovery and RPD values

FORM III 8015D

FORM IV
GC VOA METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 180-100205-1

SDG No.:

Lab File ID: pe01-seq12_298.d Lab Sample ID: MB 480-512921/1-A

Matrix: Water Heated Purge:(Y/N) N

Instrument ID: PE-01 Date Analyzed: 01/09/2020 09:02

GC Column: ZB-5 ID: 0.25(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 480-512921/2-A	pe01-seq12_299.d	01/09/2020 09:20
11187072-N.TREATMENT AREA #2	180-100205-2	pe01-seq12_300.d	01/09/2020 09:38
11187072-N.TREATMENT AREA #2 MS	180-100205-2 MS	pe01-seq12_301.d	01/09/2020 09:57
11187072-N.TREATMENT AREA #2 MSD	180-100205-2 MSD	pe01-seq12_302.d	01/09/2020 10:15
11187072-N.TREATMENT AREA #3	180-100205-4	pe01-seq12_303.d	01/09/2020 10:34
11187072-N.TREATMENT AREA #4	180-100205-6	pe01-seq12_304.d	01/09/2020 10:52

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo
Job No.: 180-100205-1
SDG No.:
Client Sample ID: 11187072-N.TREATMENT AREA #2
Lab Sample ID: 180-100205-2
Matrix: Water
Lab File ID: pe01-seq12_300.d
Analysis Method: 8015D
Date Collected: 01/07/2020 09:00
Sample wt/vol: .5(mL)
Date Analyzed: 01/09/2020 09:38
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: ZB-5 ID: 0.25(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 512922
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
107-21-1	Ethylene glycol	ND		10	1.9
110-80-5	2-Ethoxyethanol	ND		20	2.5
109-86-4	2-Methoxyethanol	ND		10	2.4

CAS NO.	SURROGATE	%REC	Q	LIMITS
110-63-4	1,4-Butanediol	98		66-130

Eurofins TestAmerica, Buffalo
Target Compound Quantitation Report

Data File: \\chromna\Buffalo\ChromData\PE-01\20200109-87401.b\pe01-seq12_300.d
Lims ID: 180-100205-C-2-A
Client ID: 11187072-N.TREATMENT AREA #2
Sample Type: Client
Inject. Date: 09-Jan-2020 09:38:56 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #:
Operator ID: BufTCHROM Instrument ID: PE-01

Method: \\chromna\Buffalo\ChromData\PE-01\20200109-87401.b\8015-Gly-PE01.m
Limit Group: GC - 8015D DAI GLY ICAL
Last Update: 09-Jan-2020 11:28:22 Calib Date: 12-Jun-2019 19:25:05
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d

Column 1 : Det: Ch-B-9b36290
Process Host: CTX0305

First Level Reviewer: NearyM Date: 09-Jan-2020 09:58:05

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ul	Flags
8 Ethylene glycol					
5.168	5.164	0.004	143679	0.3470	
$ 7 1,4-Butanediol					
6.759	6.756	0.003	41670764	49.3	
1 2,2'-Oxybisethanol					
6.997	6.996	0.001	1647870	3.71	
4 Triethylene Glycol					
8.533	8.532	0.001	2431451	5.75	

Report Date: 09-Jan-2020 11:28:32 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Buffalo

Data File:	\\chromna\Buffalo\ChromData\PE-01\20200109-87401.b\pe01-seq12_300.d				
Injection Date:	09-Jan-2020 09:38:56	Instrument ID:	PE-01	Operator ID:	BufTCHROM
Lims ID:	180-100205-C-2-A	Lab Sample ID:	480-100205-2	Worklist Smp#:	7
Client ID:	11187072-N.TREATMENT AREA #2				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015-Gly-PE01	Limit Group:	GC - 8015D DAI GLY ICAL		

Y Scaling: Method Defined: Set to Absolute Y Value

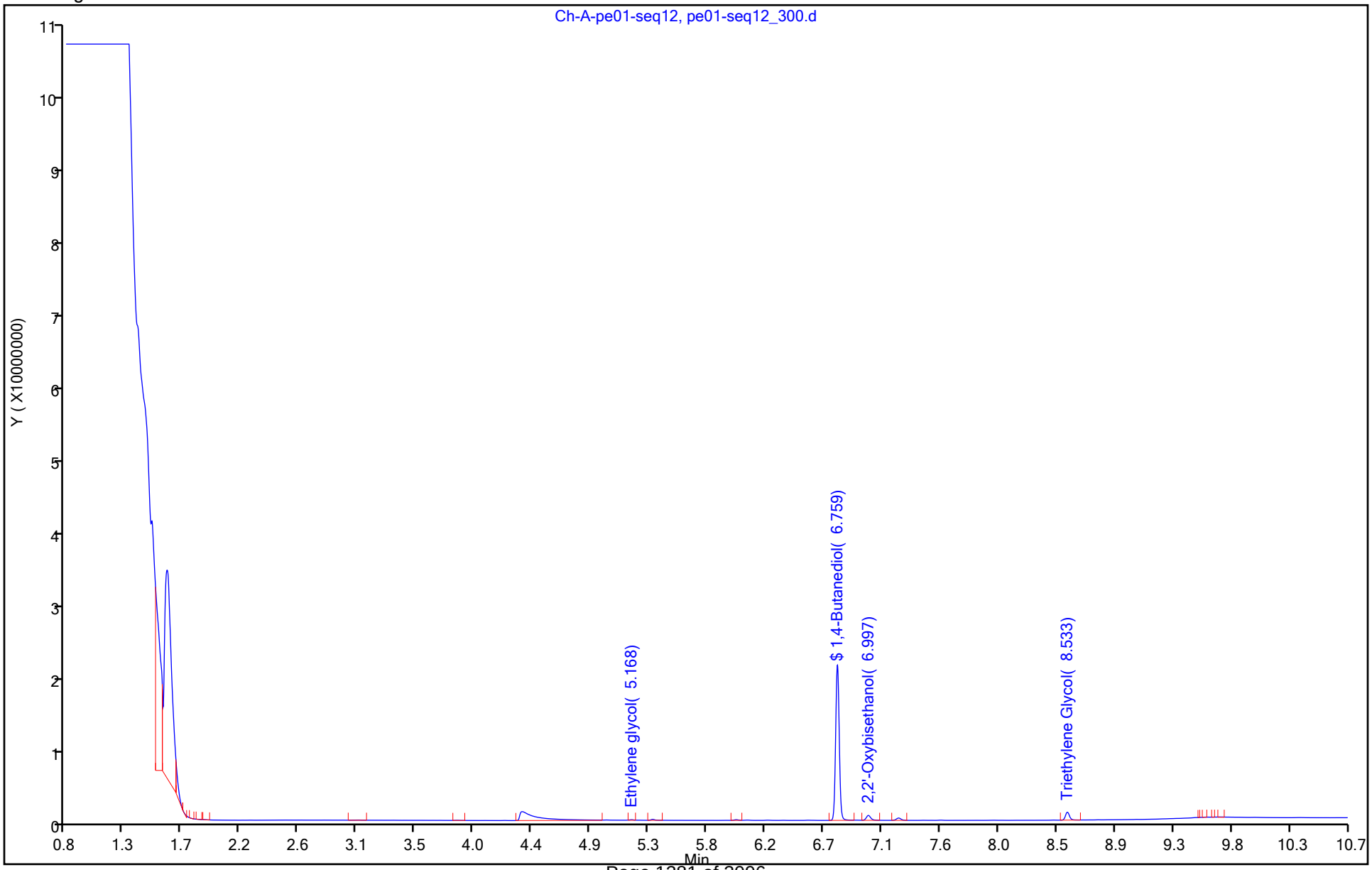

Eurofins TestAmerica, Buffalo
Recovery Report

Data File: \\chromna\Buffalo\ChromData\PE-01\20200109-87401.b\pe01-seq12_300.d
Lims ID: 180-100205-C-2-A
Client ID: 11187072-N.TREATMENT AREA #2
Sample Type: Client
Inject. Date: 09-Jan-2020 09:38:56 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #:
Operator ID: BufTCHROM Instrument ID: PE-01

Method: \\chromna\Buffalo\ChromData\PE-01\20200109-87401.b\8015-Gly-PE01.m
Limit Group: GC - 8015D DAI GLY ICAL
Last Update: 09-Jan-2020 11:28:22 Calib Date: 12-Jun-2019 19:25:05
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d

Column 1 : Det: Ch-B-9b36290
Process Host: CTX0305

First Level Reviewer: NearyM Date: 09-Jan-2020 09:58:05

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,4-Butanediol	50.5	49.3	97.58

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo
Job No.: 180-100205-1
SDG No.:
Client Sample ID: 11187072-N.TREATMENT AREA #3
Lab Sample ID: 180-100205-4
Matrix: Water
Lab File ID: pe01-seq12_303.d
Analysis Method: 8015D
Date Collected: 01/07/2020 09:00
Sample wt/vol: .5(mL)
Date Analyzed: 01/09/2020 10:34
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: ZB-5 ID: 0.25(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 512922
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
107-21-1	Ethylene glycol	ND		10	1.9
110-80-5	2-Ethoxyethanol	ND		20	2.5
109-86-4	2-Methoxyethanol	ND		10	2.4

CAS NO.	SURROGATE	%REC	Q	LIMITS
110-63-4	1,4-Butanediol	95		66-130

Eurofins TestAmerica, Buffalo
Target Compound Quantitation Report

Data File: \\chromna\Buffalo\ChromData\PE-01\20200109-87401.b\pe01-seq12_303.d
Lims ID: 180-100205-C-4-A
Client ID: 11187072-N.TREATMENT AREA #3
Sample Type: Client
Inject. Date: 09-Jan-2020 10:34:05 ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #:
Operator ID: BufTCHROM Instrument ID: PE-01

Method: \\chromna\Buffalo\ChromData\PE-01\20200109-87401.b\8015-Gly-PE01.m
Limit Group: GC - 8015D DAI GLY ICAL
Last Update: 09-Jan-2020 11:28:22 Calib Date: 12-Jun-2019 19:25:05
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d

Column 1 : Det: Ch-B-9b36290
Process Host: CTX0305

First Level Reviewer: NearyM Date: 09-Jan-2020 11:01:53

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ul	Flags
8 Ethylene glycol					
5.163	5.164	-0.001	259690	0.6271	
$ 7 1,4-Butanediol					
6.752	6.756	-0.004	40616505	48.0	

Report Date: 09-Jan-2020 11:28:39 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Buffalo

Data File:	\\chromna\Buffalo\ChromData\PE-01\20200109-87401.b\pe01-seq12_303.d				
Injection Date:	09-Jan-2020 10:34:05	Instrument ID:	PE-01	Operator ID:	BufTCHROM
Lims ID:	180-100205-C-4-A	Lab Sample ID:	480-100205-4	Worklist Smp#:	10
Client ID:	11187072-N.TREATMENT AREA #3				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015-Gly-PE01	Limit Group:	GC - 8015D DAI GLY ICAL		

Y Scaling: Method Defined: Set to Absolute Y Value

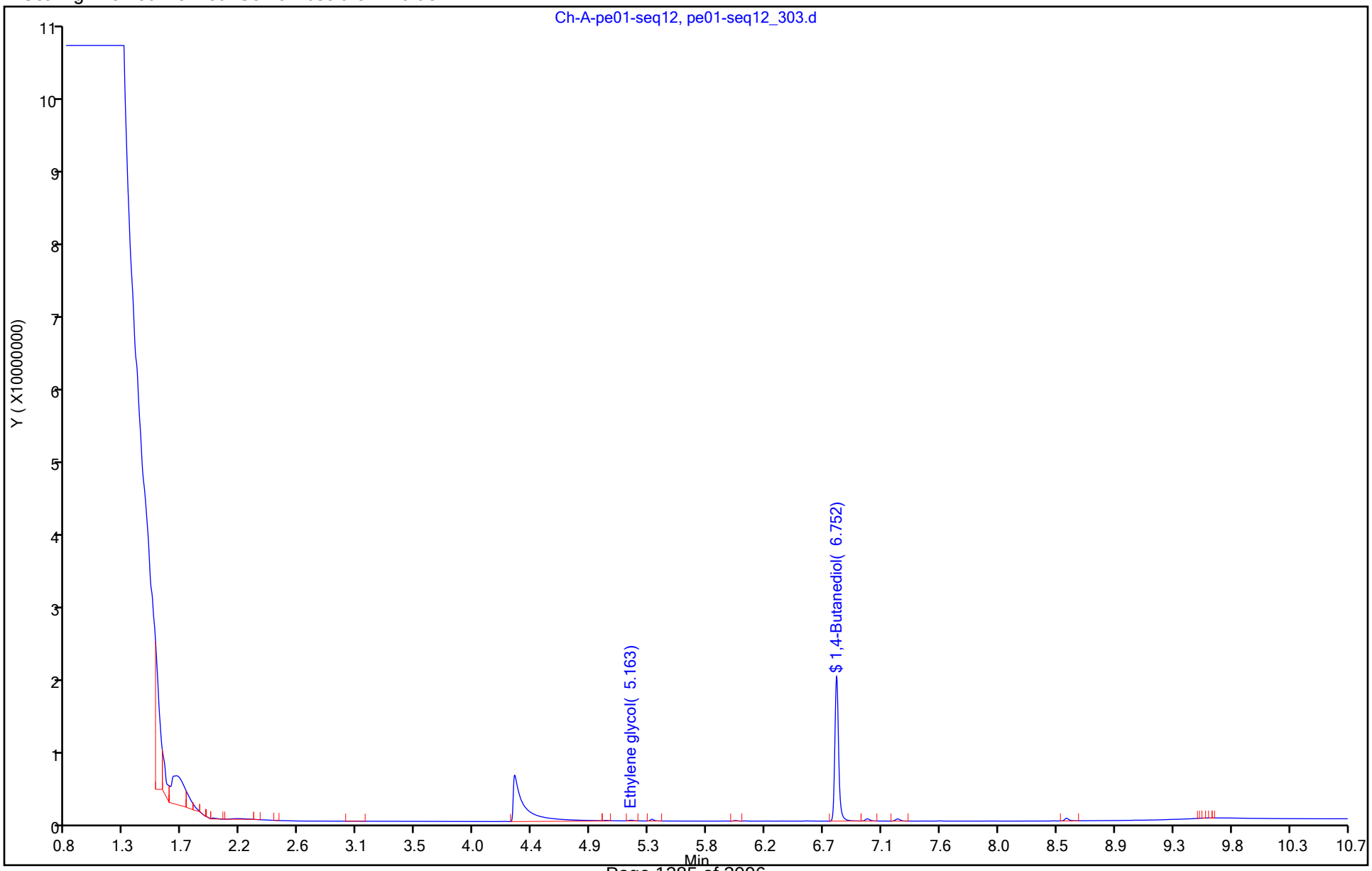

Eurofins TestAmerica, Buffalo
Recovery Report

Data File: \\chromna\Buffalo\ChromData\PE-01\20200109-87401.b\pe01-seq12_303.d
Lims ID: 180-100205-C-4-A
Client ID: 11187072-N.TREATMENT AREA #3
Sample Type: Client
Inject. Date: 09-Jan-2020 10:34:05 ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #:
Operator ID: BufTCHROM Instrument ID: PE-01

Method: \\chromna\Buffalo\ChromData\PE-01\20200109-87401.b\8015-Gly-PE01.m
Limit Group: GC - 8015D DAI GLY ICAL
Last Update: 09-Jan-2020 11:28:22 Calib Date: 12-Jun-2019 19:25:05
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d

Column 1 : Det: Ch-B-9b36290
Process Host: CTX0305

First Level Reviewer: NearyM Date: 09-Jan-2020 11:01:53

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,4-Butanediol	50.5	48.0	95.11

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo
Job No.: 180-100205-1
SDG No.:
Client Sample ID: 11187072-N.TREATMENT AREA #4
Lab Sample ID: 180-100205-6
Matrix: Water
Lab File ID: pe01-seq12_304.d
Analysis Method: 8015D
Date Collected: 01/07/2020 09:00
Sample wt/vol: .5(mL)
Date Analyzed: 01/09/2020 10:52
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: ZB-5 ID: 0.25(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 512922
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
107-21-1	Ethylene glycol	ND		10	1.9
110-80-5	2-Ethoxyethanol	ND		20	2.5
109-86-4	2-Methoxyethanol	ND		10	2.4

CAS NO.	SURROGATE	%REC	Q	LIMITS
110-63-4	1,4-Butanediol	97		66-130

Eurofins TestAmerica, Buffalo
Target Compound Quantitation Report

Data File:	\\chromna\Buffalo\ChromData\PE-01\20200109-87401.b\pe01-seq12_304.d				
Lims ID:	180-100205-C-6-A				
Client ID:	11187072-N.TREATMENT AREA #4				
Sample Type:	Client				
Inject. Date:	09-Jan-2020 10:52:30	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#:				
Operator ID:	BufTCHROM	Instrument ID:	PE-01		
Method:	\\chromna\Buffalo\ChromData\PE-01\20200109-87401.b\8015-Gly-PE01.m				
Limit Group:	GC - 8015D DAI GLY ICAL				
Last Update:	09-Jan-2020 11:28:22	Calib Date:	12-Jun-2019 19:25:05		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d				
Column 1 :			Det: Ch-B-9b36290		
Process Host:	CTX0305				

First Level Reviewer: NearyM Date: 09-Jan-2020 11:16:48

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng/ul	Flags
$ 7 1,4-Butanediol					
6.756	6.756	0.000	41576227	49.2	

Report Date: 09-Jan-2020 11:28:42 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Buffalo

Data File:	\\chromna\Buffalo\ChromData\PE-01\20200109-87401.b\pe01-seq12_304.d				
Injection Date:	09-Jan-2020 10:52:30	Instrument ID:	PE-01	Operator ID:	BufTCHROM
Lims ID:	180-100205-C-6-A	Lab Sample ID:	480-100205-6	Worklist Smp#:	11
Client ID:	11187072-N.TREATMENT AREA #4				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015-Gly-PE01	Limit Group:	GC - 8015D DAI GLY ICAL		

Y Scaling: Method Defined: Set to Absolute Y Value

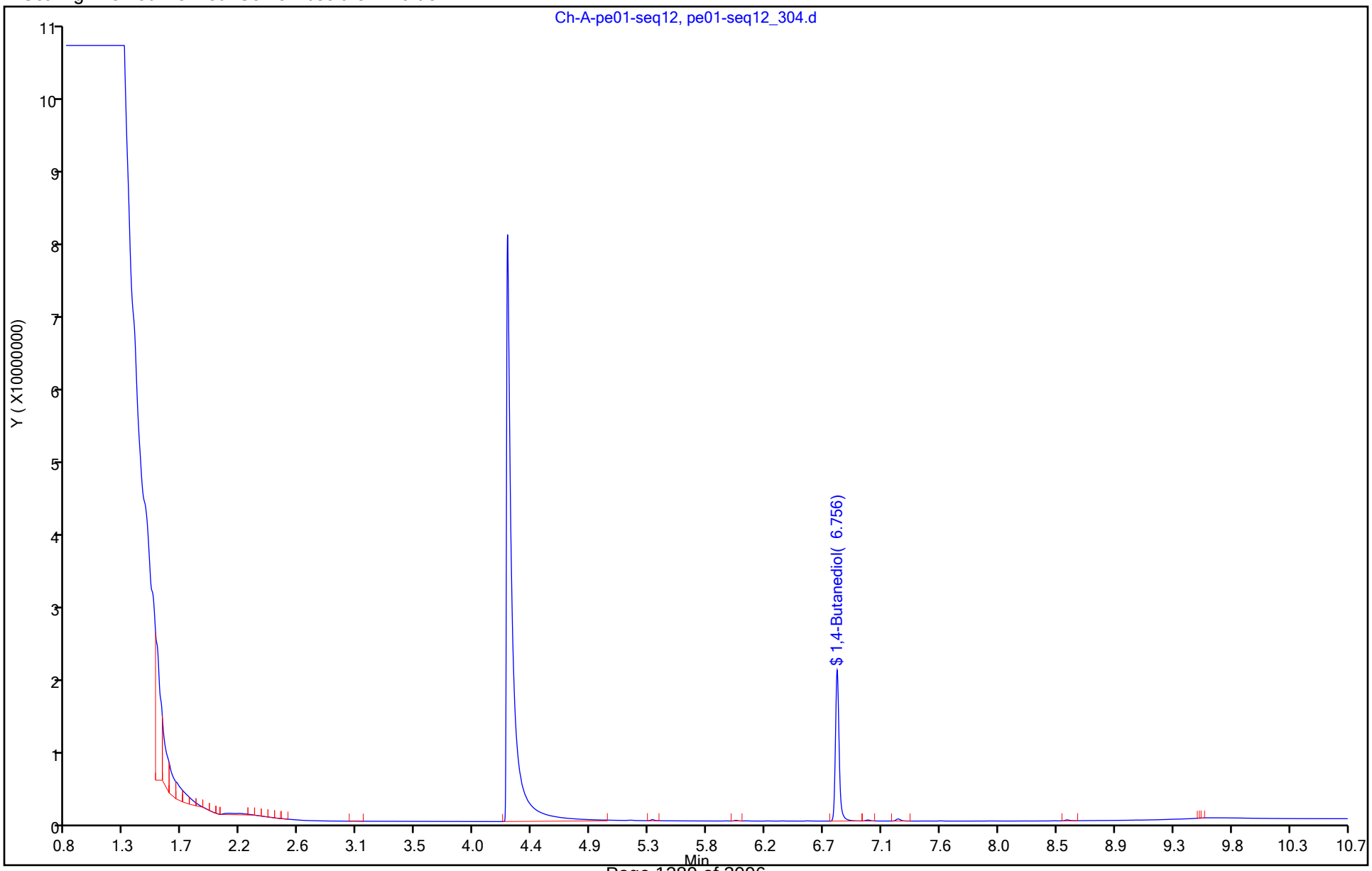

Eurofins TestAmerica, Buffalo
Recovery Report

Data File: \\chromna\Buffalo\ChromData\PE-01\20200109-87401.b\pe01-seq12_304.d
Lims ID: 180-100205-C-6-A
Client ID: 11187072-N.TREATMENT AREA #4
Sample Type: Client
Inject. Date: 09-Jan-2020 10:52:30 ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #:
Operator ID: BufTCHROM Instrument ID: PE-01

Method: \\chromna\Buffalo\ChromData\PE-01\20200109-87401.b\8015-Gly-PE01.m
Limit Group: GC - 8015D DAI GLY ICAL
Last Update: 09-Jan-2020 11:28:22 Calib Date: 12-Jun-2019 19:25:05
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d

Column 1 : Det: Ch-B-9b36290
Process Host: CTX0305

First Level Reviewer: NearyM Date: 09-Jan-2020 11:16:48

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,4-Butanediol	50.5	49.2	97.36

FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 180-100205-1 Analy Batch No.: 477460

SDG No.:

Instrument ID: PE-01 GC Column: ZB-5 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/12/2019 17:33 Calibration End Date: 06/12/2019 19:25 Calibration ID: 37129

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 480-477460/11	pe01-seq10_053-20190612-173401.d
Level 2	STD2 480-477460/12	pe01-seq10_054-20190612-175231.d
Level 3	STD3 480-477460/13	pe01-seq10_055-20190612-181107.d
Level 4	STD4 480-477460/14	pe01-seq10_056-20190612-182937.d
Level 5	STD5 480-477460/15	pe01-seq10_057-20190612-184822.d
Level 6	STD6 480-477460/16	pe01-seq10_058-20190612-190647.d
Level 7	STD7 480-477460/17	pe01-seq10_059-20190612-192533.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7				RT WINDOW	AVG RT
2-Methoxyethanol	2.872	2.863	2.852	2.849	2.841	2.828	+++++				2.802 - 2.902	2.851
2-Ethoxyethanol	3.031	3.024	3.015	3.013	3.007	2.995	+++++				2.965 - 3.065	3.014
Propylene glycol	5.067	5.067	5.060	5.064	5.061	5.055	5.063				5.010 - 5.110	5.062
Ethylene glycol	5.257	5.257	5.249	5.253	5.252	5.245	+++++				5.199 - 5.299	5.252
Diethylene glycol	7.063	7.063	7.057	7.061	7.061	7.053	+++++				7.007 - 7.107	7.060
Triethylene Glycol	8.569	8.571	8.564	8.568	8.568	8.564	+++++				8.514 - 8.614	8.567
1,4-Butanediol	6.821	6.821	6.816	6.821	6.820	6.812	6.823				6.766 - 6.866	6.819

FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 180-100205-1 Analy Batch No.: 477460

SDG No.:

Instrument ID: PE-01 GC Column: ZB-5 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/12/2019 17:33 Calibration End Date: 06/12/2019 19:25 Calibration ID: 37129

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 480-477460/11	pe01-seq10_053-20190612-173401.d
Level 2	STD2 480-477460/12	pe01-seq10_054-20190612-175231.d
Level 3	STD3 480-477460/13	pe01-seq10_055-20190612-181107.d
Level 4	STD4 480-477460/14	pe01-seq10_056-20190612-182937.d
Level 5	STD5 480-477460/15	pe01-seq10_057-20190612-184822.d
Level 6	STD6 480-477460/16	pe01-seq10_058-20190612-190647.d
Level 7	STD7 480-477460/17	pe01-seq10_059-20190612-192533.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4		B	M1	M2								
2-Methoxyethanol	327938 516296	392948 536383	432525 +++++	485808	Ave		448649.728				17.7		20.0			
2-Ethoxyethanol	462087 679391	523845 714831	552642 +++++	621654	Ave		592408.199				16.3		20.0			
Propylene glycol	434167 695982	522256 717481	575123 744944	647955	Ave		619701.093				18.4		20.0			
Ethylene glycol	292567 483549	360789 508262	393740 +++++	445776	Ave		414113.864				19.5		20.0			
Diethylene glycol	355339 483510	399517 527510	428813 +++++	472848	Ave		444589.533				14.0		20.0			
Triethylene Glycol	298836 397374	389886 512021	448706 +++++	491524	Ave		423057.719				18.4		20.0			
1,4-Butanediol	659696 896198	789307 902140	843047 937867	891303	Ave		845651.025				11.2		20.0			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 180-100205-1 Analy Batch No.: 477460

SDG No.:

Instrument ID: PE-01 GC Column: ZB-5 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/12/2019 17:33 Calibration End Date: 06/12/2019 19:25 Calibration ID: 37129

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 480-477460/11	pe01-seq10_053-20190612-173401.d
Level 2	STD2 480-477460/12	pe01-seq10_054-20190612-175231.d
Level 3	STD3 480-477460/13	pe01-seq10_055-20190612-181107.d
Level 4	STD4 480-477460/14	pe01-seq10_056-20190612-182937.d
Level 5	STD5 480-477460/15	pe01-seq10_057-20190612-184822.d
Level 6	STD6 480-477460/16	pe01-seq10_058-20190612-190647.d
Level 7	STD7 480-477460/17	pe01-seq10_059-20190612-192533.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (NG/UL)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
2-Methoxyethanol	Ave	1639692 26819160	3929477 +++++	8650505	14574248	20651822	5.00 50.0	10.0 +++++	20.0	30.0	40.0
2-Ethoxyethanol	Ave	2310435 35741533	5238450 +++++	11052838	18649618	27175628	5.00 50.0	10.0 +++++	20.0	30.0	40.0
Propylene glycol	Ave	2170833 35874057	5222560 44696661	11502451	19438648	27839283	5.00 50.0	10.0 60.0	20.0	30.0	40.0
Ethylene glycol	Ave	1462835 25413101	3607886 +++++	7874802	13373294	19341960	5.00 50.0	10.0 +++++	20.0	30.0	40.0
Diethylene glycol	Ave	1776697 26375475	3995171 +++++	8576259	14185446	19340402	5.00 50.0	10.0 +++++	20.0	30.0	40.0
Triethylene Glycol	Ave	1494179 25601050	3898855 +++++	8974116	14745722	15894966	5.00 50.0	10.0 +++++	20.0	30.0	40.0
1,4-Butanediol	Ave	3331463 54669665	15943992 66307184	25544331	36008655	45257995	5.05 60.6	20.2 70.7	30.3	40.4	50.5

Curve Type Legend:

Ave = Average

Eurofins TestAmerica, Buffalo
Target Compound Quantitation Report

Data File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_053-20190612-173401.d
Lims ID: std1
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 12-Jun-2019 17:33:39 ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #:
Operator ID: BufTCHROM Instrument ID: PE-01
Sublist: chrom-8015-Gly-PE01*sub1

Method: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\8015-Gly-PE01.m
Limit Group: GC - 8015D DAI GLY ICAL
Last Update: 13-Jun-2019 06:49:19 Calib Date: 12-Jun-2019 19:25:05
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d

Column 1 : Det: Ch-B-9b36290
Process Host: CTX0301

First Level Reviewer: NearyM Date: 13-Jun-2019 06:14:34

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ul	OnCol Amt ng/ul	Flags
6 2-Methoxyethanol							
	2.872	2.852	0.020	1639692	5.00	3.65	
2 2-Ethoxyethanol							
	3.031	3.015	0.016	2310435	5.00	3.90	
5 Propylene glycol							
	5.067	5.060	0.007	2170833	5.00	3.50	
8 Ethylene glycol							
	5.257	5.249	0.008	1462835	5.00	3.53	
$ 7 1,4-Butanediol							
	6.821	6.816	0.005	3331463	5.05	3.94	
1 2,2'-Oxybisethanol							
	7.063	7.057	0.006	1776697	5.00	4.00	
4 Triethylene Glycol							
	8.569	8.564	0.005	1494179	5.00	3.53	

Reagents:

GLY_CCV_1000_00109 Amount Added: 5.00 Units: uL
GLY_SURR1000_00103 Amount Added: 5.00 Units: uL

Report Date: 13-Jun-2019 06:49:20 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Buffalo

Data File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_053-20190612-173401.d

Injection Date:	12-Jun-2019 17:33:39	Instrument ID:	PE-01	Operator ID:	BufTCHROM
Lims ID:	std1			Worklist Smp#:	11
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015-Gly-PE01	Limit Group:	GC - 8015D DAI GLY ICAL		

Y Scaling: Method Defined: Set to Absolute Y Value

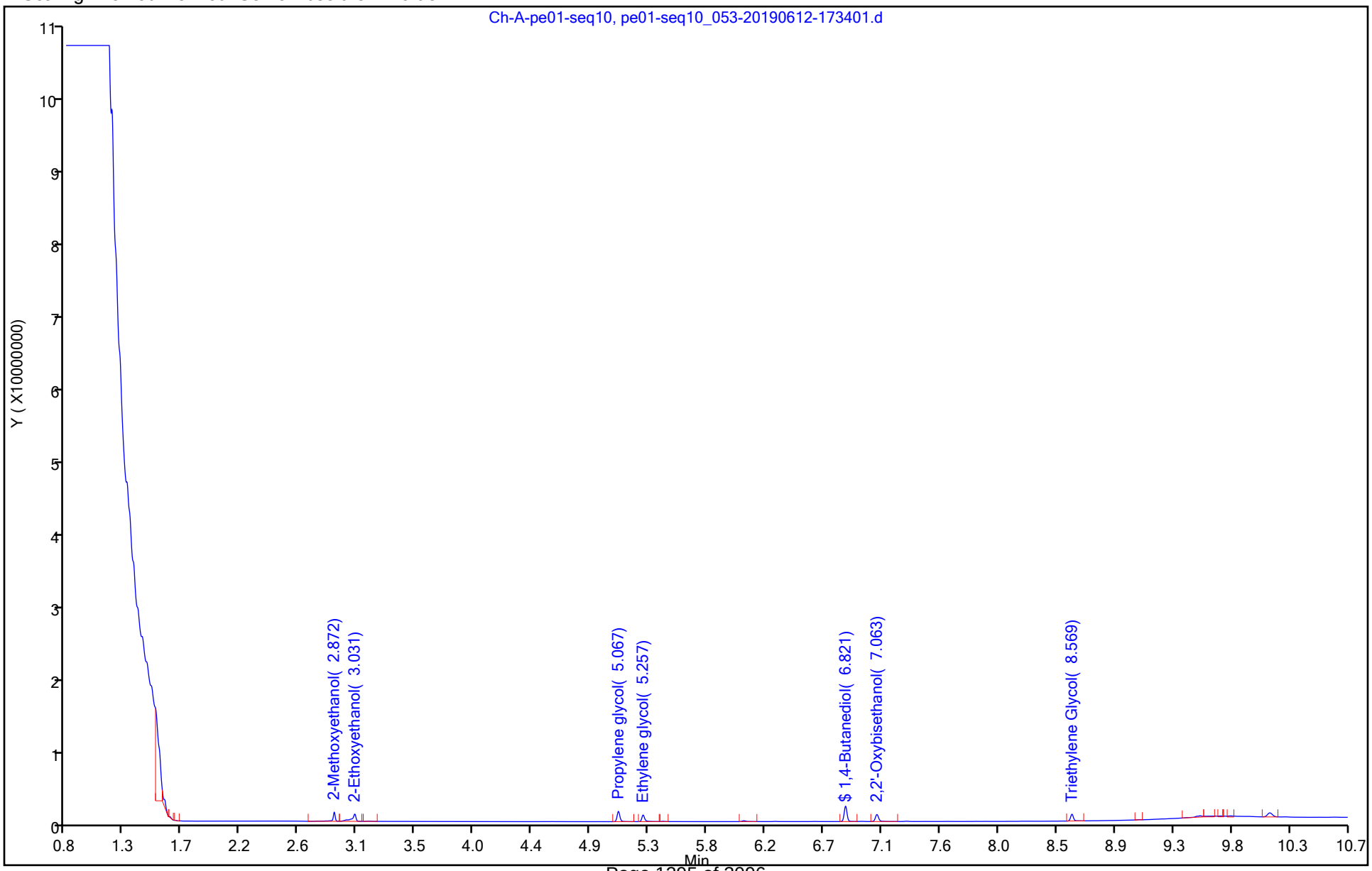

Eurofins TestAmerica, Buffalo
Target Compound Quantitation Report

Data File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_054-20190612-175231.d
Lims ID: std2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 12-Jun-2019 17:52:10 ALS Bottle#: 0 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #:
Operator ID: BufTCHROM Instrument ID: PE-01
Sublist: chrom-8015-Gly-PE01*sub1

Method: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\8015-Gly-PE01.m
Limit Group: GC - 8015D DAI GLY ICAL
Last Update: 13-Jun-2019 06:49:21 Calib Date: 12-Jun-2019 19:25:05
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d

Column 1 : Det: Ch-B-9b36290
Process Host: CTX0301

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ul	OnCol Amt ng/ul	Flags
6 2-Methoxyethanol						
2.863	2.852	0.011	3929477	10.0	8.76	
2 2-Ethoxyethanol						
3.024	3.015	0.009	5238450	10.0	8.84	
5 Propylene glycol						
5.067	5.060	0.007	5222560	10.0	8.43	
8 Ethylene glycol						
5.257	5.249	0.008	3607886	10.0	8.71	
$ 7 1,4-Butanediol						
6.821	6.816	0.005	15943992	20.2	18.9	
1 2,2'-Oxybisethanol						
7.063	7.057	0.006	3995171	10.0	8.99	
4 Triethylene Glycol						
8.571	8.564	0.007	3898855	10.0	9.22	

Reagents:

GLY_SURR1000_00103 Amount Added: 20.00 Units: uL
GLY_CCV_1000_00109 Amount Added: 10.00 Units: uL

Report Date: 13-Jun-2019 06:49:21 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Buffalo

Data File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_054-20190612-175231.d

Injection Date:	12-Jun-2019 17:52:10	Instrument ID:	PE-01	Operator ID:	BufTCHROM
Lims ID:	std2			Worklist Smp#:	12
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015-Gly-PE01	Limit Group:	GC - 8015D DAI GLY ICAL		

Y Scaling: Method Defined: Set to Absolute Y Value

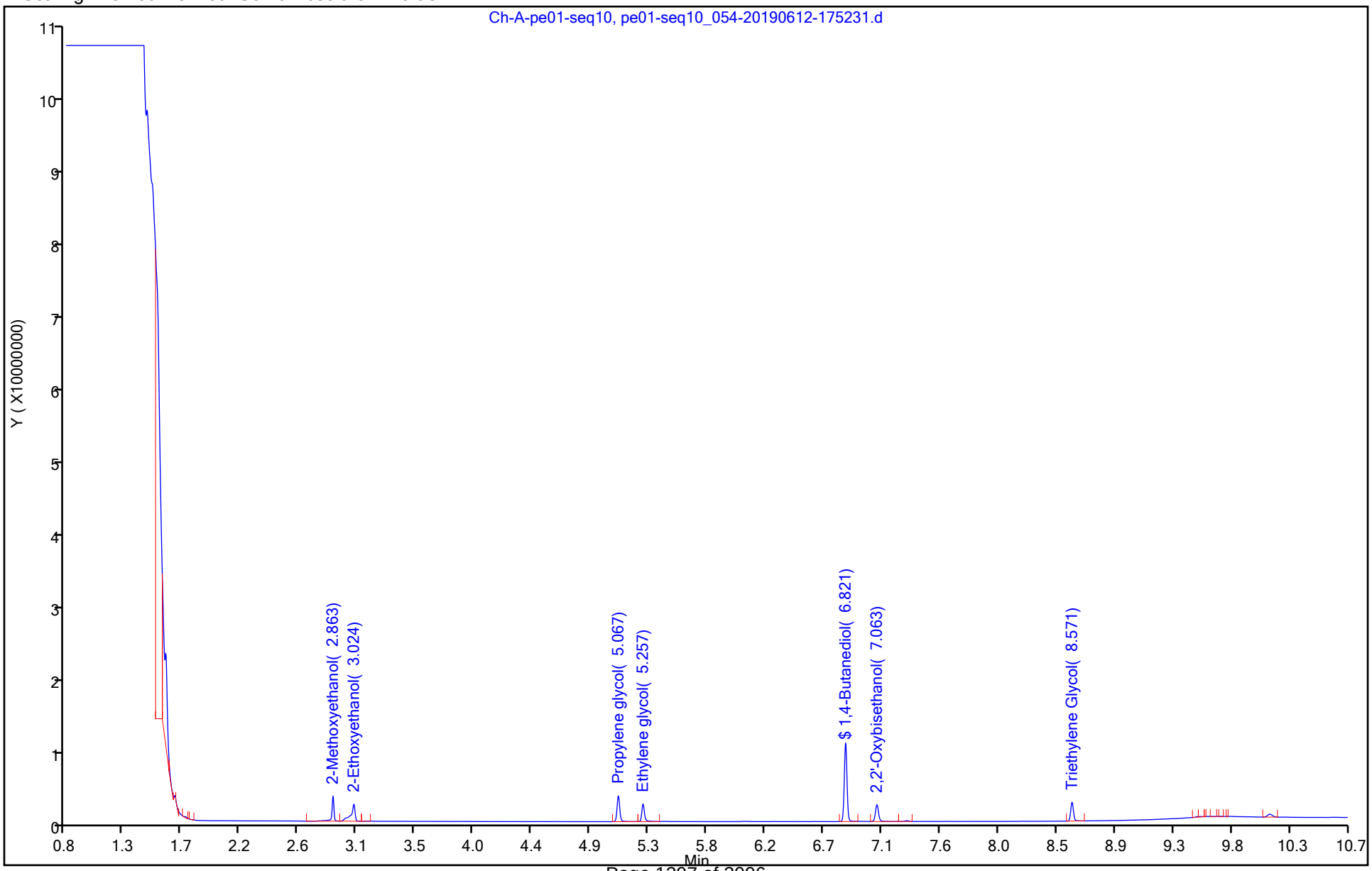

Eurofins TestAmerica, Buffalo
Target Compound Quantitation Report

Data File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_055-20190612-181107.d
Lims ID: std3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 12-Jun-2019 18:10:45 ALS Bottle#: 0 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #:
Operator ID: BufTCHROM Instrument ID: PE-01
Sublist: chrom-8015-Gly-PE01*sub1

Method: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\8015-Gly-PE01.m
Limit Group: GC - 8015D DAI GLY ICAL
Last Update: 13-Jun-2019 06:49:22 Calib Date: 12-Jun-2019 19:25:05
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d

Column 1 : Det: Ch-B-9b36290
Process Host: CTX0301

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ul	OnCol Amt ng/ul	Flags
6 2-Methoxyethanol						
2.852	2.852	0.000	8650505	20.0	19.3	
2 2-Ethoxyethanol						
3.015	3.015	0.000	11052838	20.0	18.7	
5 Propylene glycol						
5.060	5.060	0.000	11502451	20.0	18.6	
8 Ethylene glycol						
5.249	5.249	0.000	7874802	20.0	19.0	
$ 7 1,4-Butanediol						
6.816	6.816	0.000	25544331	30.3	30.2	
1 2,2'-Oxybisethanol						
7.057	7.057	0.000	8576259	20.0	19.3	
4 Triethylene Glycol						
8.564	8.564	0.000	8974116	20.0	21.2	

Reagents:

GLY_CCV_1000_00109 Amount Added: 20.00 Units: uL
GLY_SURR1000_00103 Amount Added: 30.00 Units: uL

Report Date: 13-Jun-2019 06:49:22 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Buffalo

Data File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_055-20190612-181107.d

Injection Date:	12-Jun-2019 18:10:45	Instrument ID:	PE-01	Operator ID:	BufTCHROM
Lims ID:	std3			Worklist Smp#:	13
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015-Gly-PE01	Limit Group:	GC - 8015D DAI GLY ICAL		

Y Scaling: Method Defined: Set to Absolute Y Value

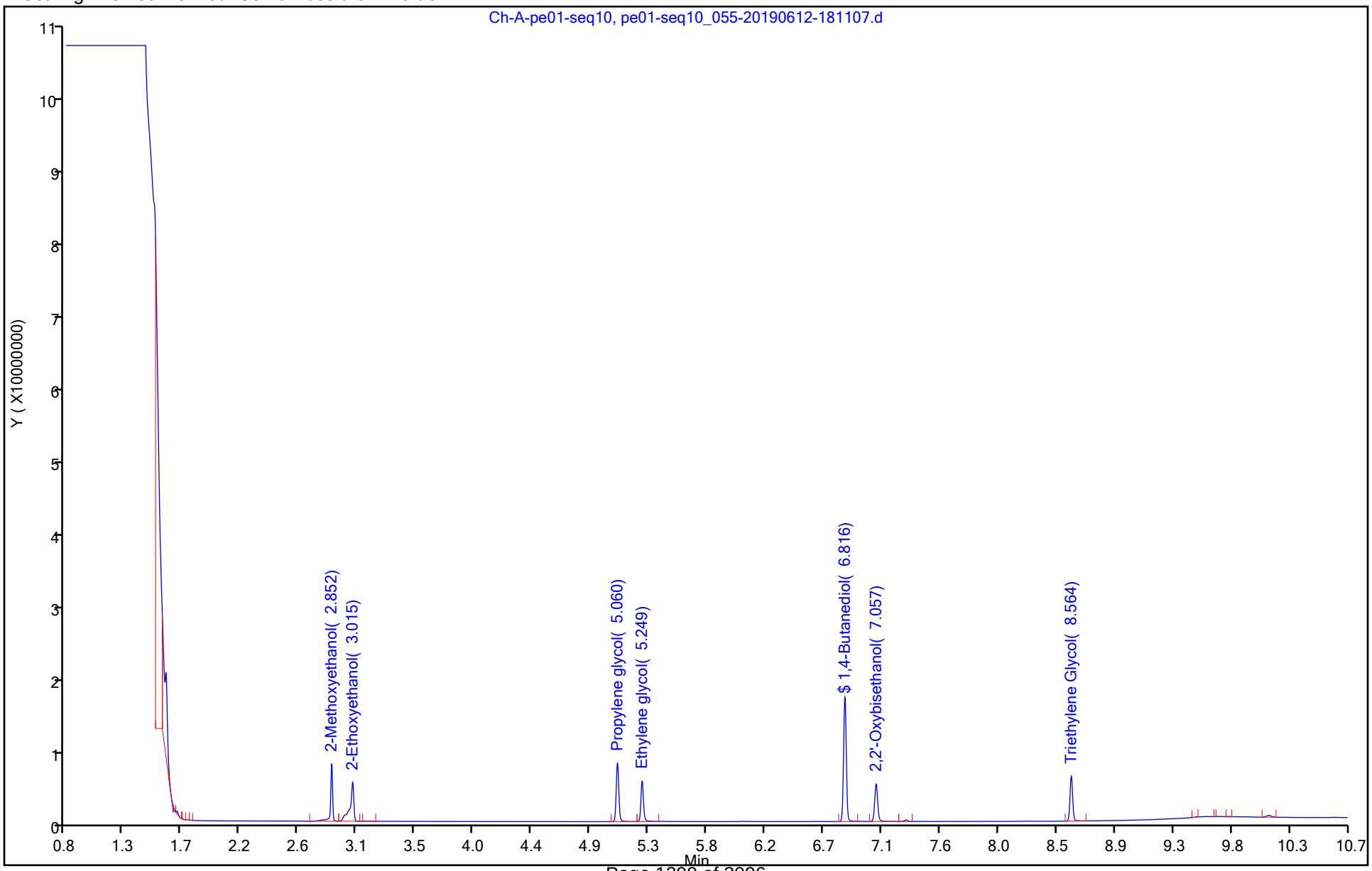

Eurofins TestAmerica, Buffalo
Target Compound Quantitation Report

Data File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_056-20190612-182937.d
Lims ID: std4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 12-Jun-2019 18:29:19 ALS Bottle#: 0 Worklist Smp#: 14
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #:
Operator ID: BufTCHROM Instrument ID: PE-01
Sublist: chrom-8015-Gly-PE01*sub1

Method: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\8015-Gly-PE01.m
Limit Group: GC - 8015D DAI GLY ICAL
Last Update: 13-Jun-2019 06:49:22 Calib Date: 12-Jun-2019 19:25:05
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d

Column 1 : Det: Ch-B-9b36290
Process Host: CTX0301

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ul	OnCol Amt ng/ul	Flags
	6 2-Methoxyethanol						
	2.849	2.852	-0.003	14574248	30.0	32.5	
	2 2-Ethoxyethanol						
	3.013	3.015	-0.002	18649618	30.0	31.5	
	5 Propylene glycol						
	5.064	5.060	0.004	19438648	30.0	31.4	
	8 Ethylene glycol						
	5.253	5.249	0.004	13373294	30.0	32.3	
$	7 1,4-Butanediol						
	6.821	6.816	0.005	36008655	40.4	42.6	
	1 2,2'-Oxybisethanol						
	7.061	7.057	0.004	14185446	30.0	31.9	
	4 Triethylene Glycol						
	8.568	8.564	0.004	14745722	30.0	34.9	

Reagents:

GLY_SURR1000_00103 Amount Added: 40.00 Units: uL
GLY_CCV_1000_00109 Amount Added: 30.00 Units: uL

Report Date: 13-Jun-2019 06:49:22 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Buffalo

Data File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_056-20190612-182937.d

Injection Date:	12-Jun-2019 18:29:19	Instrument ID:	PE-01	Operator ID:	BufTCHROM
Lims ID:	std4			Worklist Smp#:	14
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015-Gly-PE01	Limit Group:	GC - 8015D DAI GLY ICAL		

Y Scaling: Method Defined: Set to Absolute Y Value

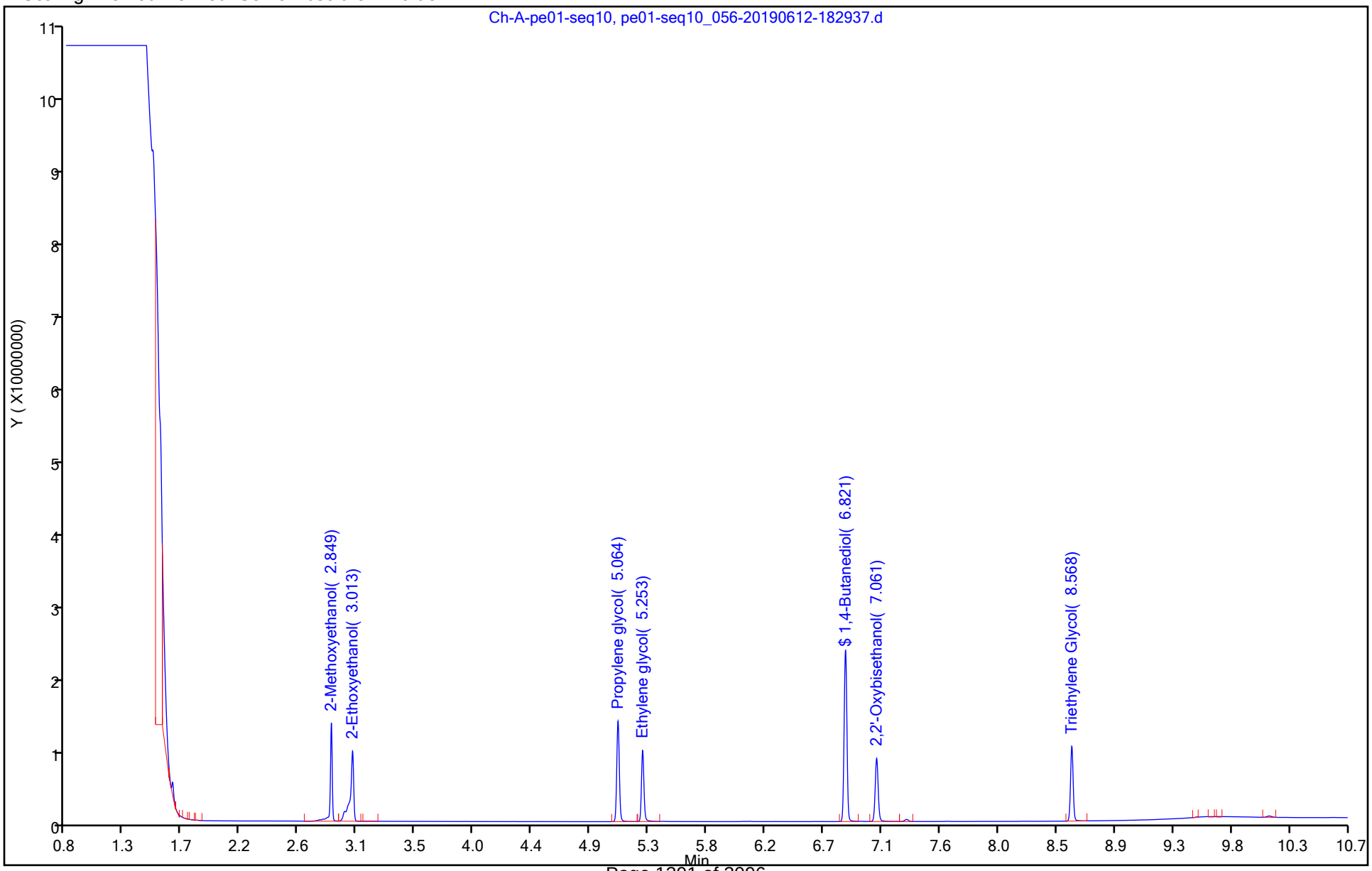

Eurofins TestAmerica, Buffalo
Target Compound Quantitation Report

Data File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_057-20190612-184822.d
Lims ID: std5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 12-Jun-2019 18:47:55 ALS Bottle#: 0 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #:
Operator ID: BufTCHROM Instrument ID: PE-01
Sublist: chrom-8015-Gly-PE01*sub1

Method: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\8015-Gly-PE01.m
Limit Group: GC - 8015D DAI GLY ICAL
Last Update: 13-Jun-2019 06:49:23 Calib Date: 12-Jun-2019 19:25:05
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d

Column 1 : Det: Ch-B-9b36290
Process Host: CTX0301

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ul	OnCol Amt ng/ul	Flags
6 2-Methoxyethanol							
	2.841	2.852	-0.011	20651822	40.0	46.0	
2 2-Ethoxyethanol							
	3.007	3.015	-0.008	27175628	40.0	45.9	
5 Propylene glycol							
	5.061	5.060	0.001	27839283	40.0	44.9	
8 Ethylene glycol							
	5.252	5.249	0.003	19341960	40.0	46.7	
$ 7 1,4-Butanediol							
	6.820	6.816	0.004	45257995	50.5	53.5	
1 2,2'-Oxybisethanol							
	7.061	7.057	0.004	19340402	40.0	43.5	
4 Triethylene Glycol							
	8.568	8.564	0.004	15894966	40.0	37.6	

Reagents:

GLY_CCV_1000_00109 Amount Added: 40.00 Units: uL
GLY_SURR1000_00103 Amount Added: 50.00 Units: uL

Report Date: 13-Jun-2019 06:49:23 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Buffalo

Data File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_057-20190612-184822.d

Injection Date:	12-Jun-2019 18:47:55	Instrument ID:	PE-01	Operator ID:	BufTCHROM
Lims ID:	std5			Worklist Smp#:	15
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015-Gly-PE01	Limit Group:	GC - 8015D DAI GLY ICAL		

Y Scaling: Method Defined: Set to Absolute Y Value

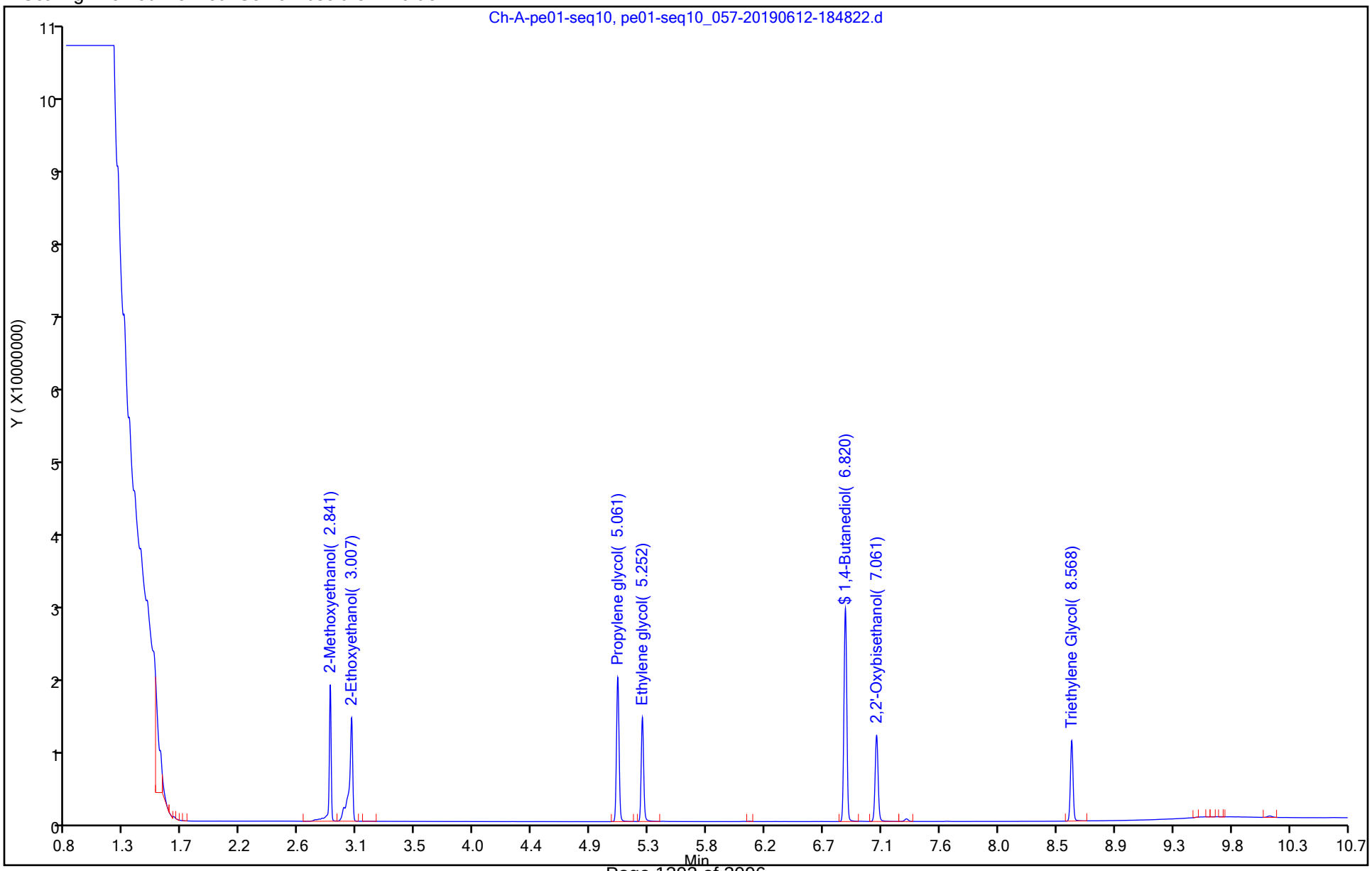

Eurofins TestAmerica, Buffalo
Target Compound Quantitation Report

Data File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_058-20190612-190647.d
Lims ID: std6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 12-Jun-2019 19:06:30 ALS Bottle#: 0 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #:
Operator ID: BufTCHROM Instrument ID: PE-01
Sublist: chrom-8015-Gly-PE01*sub1

Method: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\8015-Gly-PE01.m
Limit Group: GC - 8015D DAI GLY ICAL
Last Update: 13-Jun-2019 06:49:23 Calib Date: 12-Jun-2019 19:25:05
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d

Column 1 : Det: Ch-B-9b36290
Process Host: CTX0301

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ul	OnCol Amt ng/ul	Flags
6 2-Methoxyethanol							
	2.828	2.852	-0.024	26819160	50.0	59.8	
2 2-Ethoxyethanol							
	2.995	3.015	-0.020	35741533	50.0	60.3	
5 Propylene glycol							
	5.055	5.060	-0.005	35874057	50.0	57.9	
8 Ethylene glycol							
	5.245	5.249	-0.004	25413101	50.0	61.4	
$ 7 1,4-Butanediol							
	6.812	6.816	-0.004	54669665	60.6	64.6	
1 2,2'-Oxybisethanol							
	7.053	7.057	-0.004	26375475	50.0	59.3	
4 Triethylene Glycol							
	8.564	8.564	0.000	25601050	50.0	60.5	

Reagents:

GLY_SURR1000_00103 Amount Added: 60.00 Units: uL
GLY_CCV_1000_00109 Amount Added: 50.00 Units: uL

Report Date: 13-Jun-2019 06:49:23 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Buffalo

Data File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_058-20190612-190647.d

Injection Date:	12-Jun-2019 19:06:30	Instrument ID:	PE-01	Operator ID:	BufTCHROM
Lims ID:	std6			Worklist Smp#:	16
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015-Gly-PE01	Limit Group:	GC - 8015D DAI GLY ICAL		

Y Scaling: Method Defined: Set to Absolute Y Value

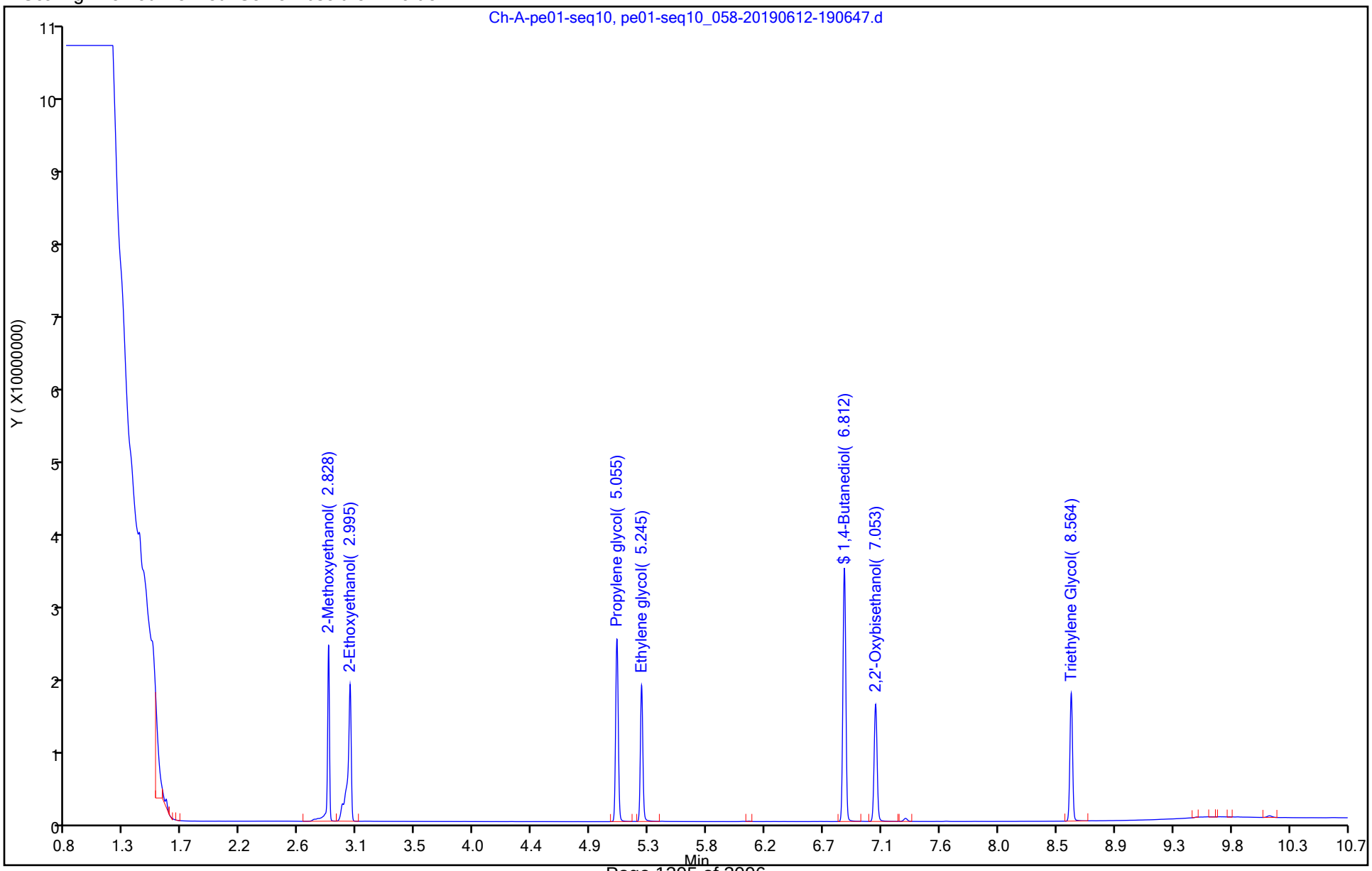

Eurofins TestAmerica, Buffalo
Target Compound Quantitation Report

Data File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d
Lims ID: std7
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 12-Jun-2019 19:25:05 ALS Bottle#: 0 Worklist Smp#: 17
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #:
Operator ID: BufTCHROM Instrument ID: PE-01
Sublist: chrom-8015-Gly-PE01*sub1

Method: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\8015-Gly-PE01.m
Limit Group: GC - 8015D DAI GLY ICAL
Last Update: 13-Jun-2019 06:49:24 Calib Date: 12-Jun-2019 19:25:05
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d

Column 1 : Det: Ch-B-9b36290
Process Host: CTX0301

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ul	OnCol Amt ng/ul	Flags
6 2-Methoxyethanol						
2.828	2.852	-0.024	34483132	60.0	76.9	
2 2-Ethoxyethanol						
2.996	3.015	-0.019	45947157	60.0	77.6	
5 Propylene glycol						
5.063	5.060	0.003	44696661	60.0	72.1	
8 Ethylene glycol						
5.253	5.249	0.004	32251536	60.0	77.9	
$ 7 1,4-Butanediol						
6.823	6.816	0.007	66307184	70.7	78.4	
1 2,2'-Oxybisethanol						
7.063	7.057	0.006	33615688	60.0	75.6	
4 Triethylene Glycol						
8.572	8.564	0.008	35257972	60.0	83.3	

Reagents:

GLY_CCV_1000_00109 Amount Added: 60.00 Units: uL
GLY_SURR1000_00103 Amount Added: 70.00 Units: uL

Report Date: 13-Jun-2019 06:49:24 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Buffalo

Data File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d

Injection Date:	12-Jun-2019 19:25:05	Instrument ID:	PE-01	Operator ID:	BufTCHROM
Lims ID:	std7			Worklist Smp#:	17
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015-Gly-PE01	Limit Group:	GC - 8015D DAI GLY ICAL		

Y Scaling: Method Defined: Set to Absolute Y Value

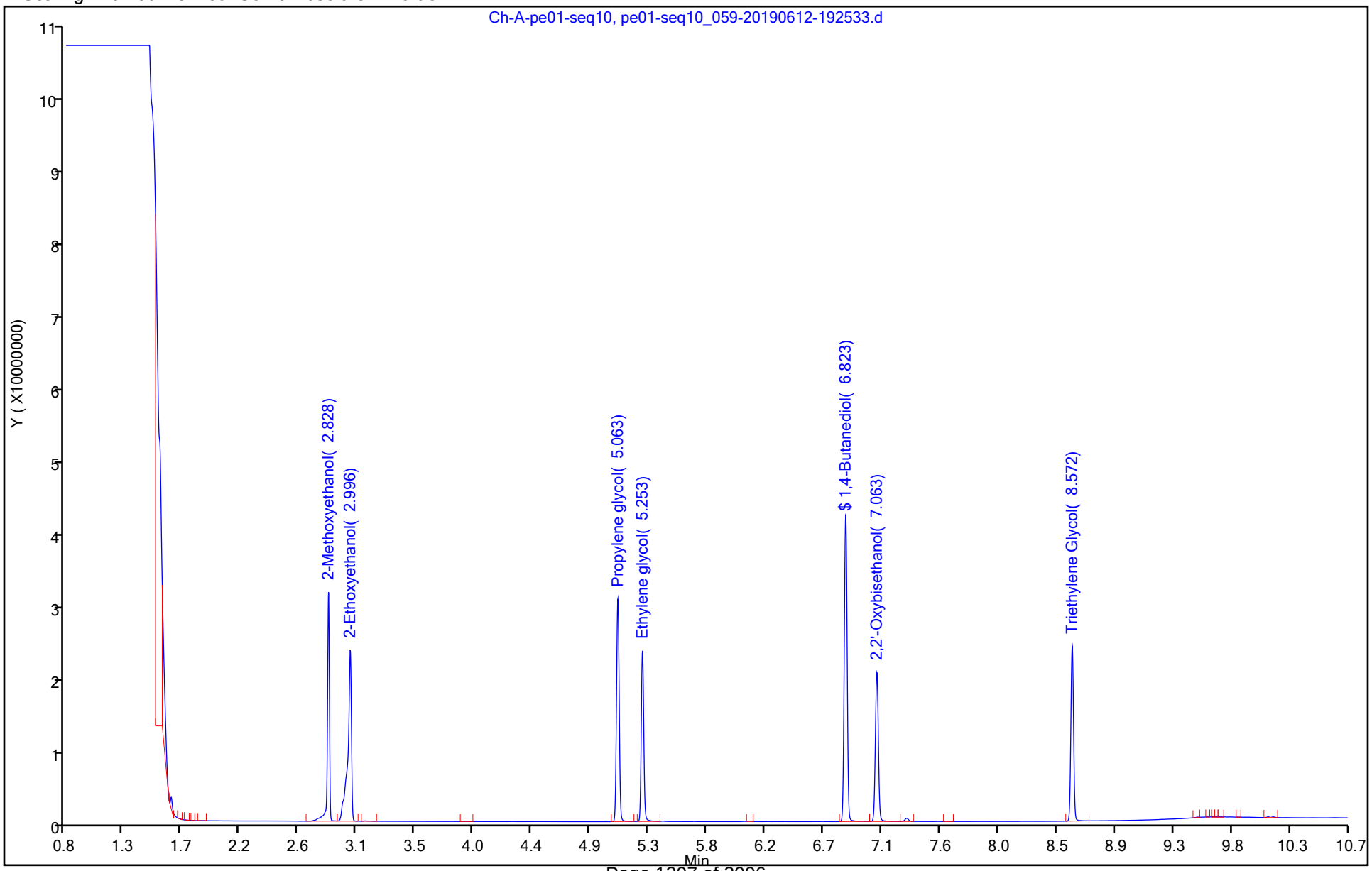

FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 480-477460/18 Calibration Date: 06/12/2019 19:43

Instrument ID: PE-01 Calib Start Date: 06/12/2019 17:33

GC Column: ZB-5 ID: 0.25(mm) Calib End Date: 06/12/2019 19:25

Lab File ID: pe01-seq10_060-20190612-194408.d Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Methoxyethanol	Ave	448650	465538		20.8	20.0	3.8	20.0
2-Ethoxyethanol	Ave	592408	599375		20.2	20.0	1.2	20.0
Propylene glycol	Ave	619701	623097		20.1	20.0	0.5	20.0
Ethylene glycol	Ave	414114	398927		19.3	20.0	-3.7	20.0
Diethylene glycol	Ave	444590	481906		21.7	20.0	8.4	20.0
Triethylene Glycol	Ave	423058	491067		23.2	20.0	16.1	20.0
1,4-Butanediol	Ave	845651	897263		53.6	50.5	6.1	38.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 480-477460/18 Calibration Date: 06/12/2019 19:43

Instrument ID: PE-01 Calib Start Date: 06/12/2019 17:33

GC Column: ZB-5 ID: 0.25(mm) Calib End Date: 06/12/2019 19:25

Lab File ID: pe01-seq10_060-20190612-194408.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
2-Methoxyethanol	2.84	2.80	2.90
2-Ethoxyethanol	3.01	2.97	3.07
Propylene glycol	5.06	5.01	5.11
Ethylene glycol	5.25	5.20	5.30
Diethylene glycol	7.06	7.01	7.11
Triethylene Glycol	8.57	8.51	8.61
1,4-Butanediol	6.82	6.77	6.87

Eurofins TestAmerica, Buffalo
Target Compound Quantitation Report

Data File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_060-20190612-194408.d
Lims ID: icv
Client ID:
Sample Type: ICV
Inject. Date: 12-Jun-2019 19:43:39 ALS Bottle#: 0 Worklist Smp#: 18
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #:
Operator ID: BufTCHROM Instrument ID: PE-01
Sublist:

Method: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\8015-Gly-PE01.m
Limit Group: GC - 8015D DAI GLY ICAL
Last Update: 13-Jun-2019 06:49:24 Calib Date: 12-Jun-2019 19:25:05
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d

Column 1 : Det: Ch-B-9b36290
Process Host: CTX0301

First Level Reviewer: NearyM Date: 13-Jun-2019 06:29:12

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ul	OnCol Amt ng/ul	Flags
6 2-Methoxyethanol							
	2.844	2.852	-0.008	9310769	20.0	20.8	
2 2-Ethoxyethanol							
	3.007	3.015	-0.008	11987499	20.0	20.2	
5 Propylene glycol							
	5.059	5.060	-0.001	12461937	20.0	20.1	
8 Ethylene glycol							
	5.249	5.249	0.000	7978545	20.0	19.3	
$ 7 1,4-Butanediol							
	6.816	6.816	0.000	45311787	50.5	53.6	
1 2,2'-Oxybisethanol							
	7.057	7.057	0.000	9638115	20.0	21.7	
4 Triethylene Glycol							
	8.567	8.564	0.003	9821343	20.0	23.2	

Reagents:

GLY_SURR1000_00103 Amount Added: 50.00 Units: uL
GLY_ALT_CCV_00023 Amount Added: 20.00 Units: uL

Report Date: 13-Jun-2019 06:49:25 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Buffalo

Data File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_060-20190612-194408.d

Injection Date:	12-Jun-2019 19:43:39	Instrument ID:	PE-01	Operator ID:	BufTCHROM
Lims ID:	icv			Worklist Smp#:	18
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015-Gly-PE01	Limit Group:	GC - 8015D DAI GLY ICAL		

Y Scaling: Method Defined: Set to Absolute Y Value

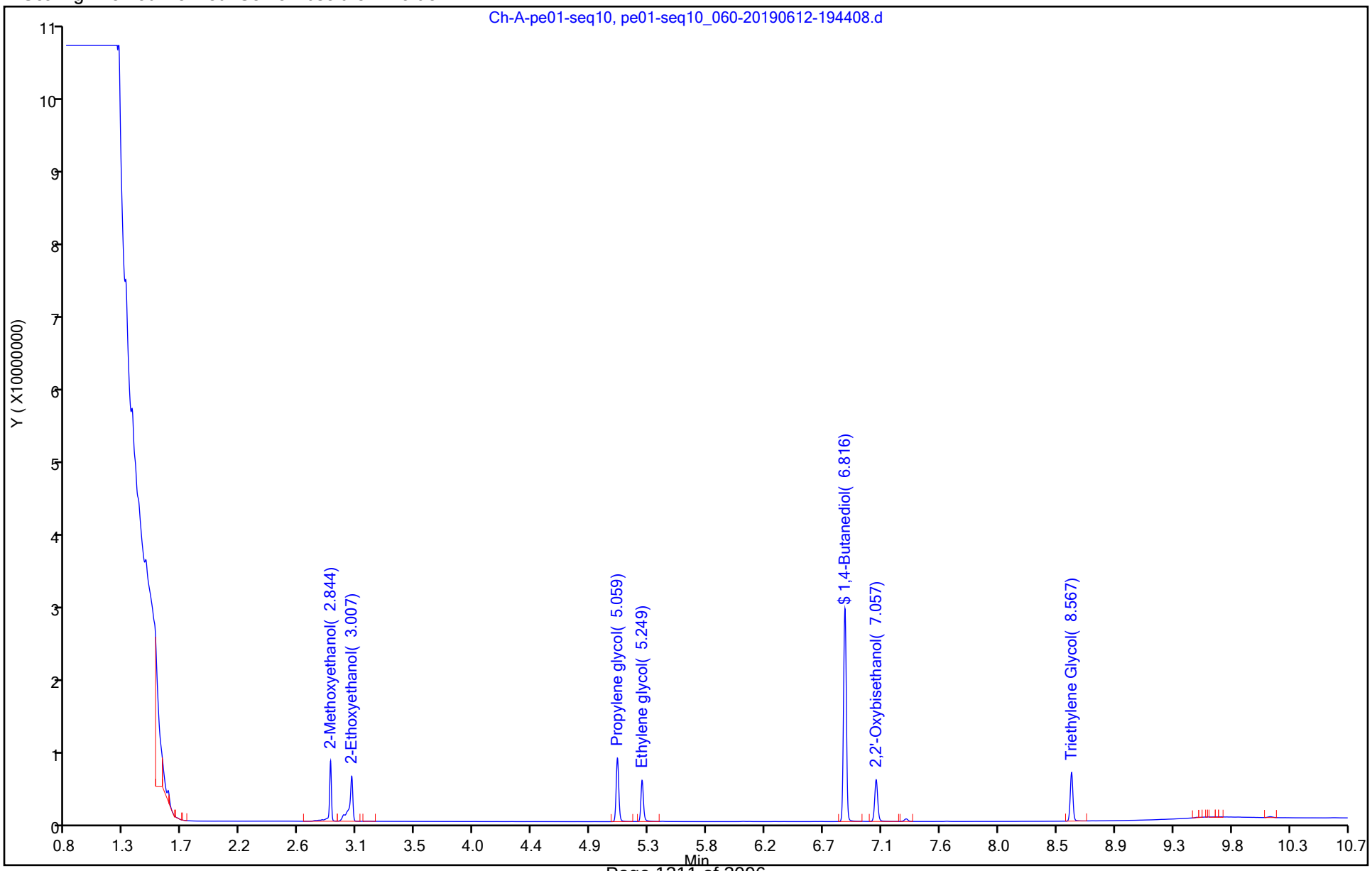

FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCV 480-512922/4 Calibration Date: 01/09/2020 08:32

Instrument ID: PE-01 Calib Start Date: 06/12/2019 17:33

GC Column: ZB-5 ID: 0.25(mm) Calib End Date: 06/12/2019 19:25

Lab File ID: pe01-seq12_297.d Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Methoxyethanol	Ave	448650	479514		21.4	20.0	6.9	20.0
2-Ethoxyethanol	Ave	592408	597761		20.2	20.0	0.9	20.0
Propylene glycol	Ave	619701	581316		18.8	20.0	-6.2	20.0
Ethylene glycol	Ave	414114	392166		18.9	20.0	-5.3	20.0
Diethylene glycol	Ave	444590	438049		19.7	20.0	-1.5	20.0
Triethylene Glycol	Ave	423058	295492		14.0	20.0	-30.2*	20.0
1,4-Butanediol	Ave	845651	800621		47.8	50.5	-5.3	38.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCV 480-512922/4 Calibration Date: 01/09/2020 08:32

Instrument ID: PE-01 Calib Start Date: 06/12/2019 17:33

GC Column: ZB-5 ID: 0.25(mm) Calib End Date: 06/12/2019 19:25

Lab File ID: pe01-seq12_297.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
2-Methoxyethanol	2.75	2.69	2.81
2-Ethoxyethanol	2.91	2.86	2.96
Propylene glycol	4.97	4.92	5.02
Ethylene glycol	5.16	5.10	5.22
Diethylene glycol	7.00	6.95	7.05
Triethylene Glycol	8.53	8.48	8.58
1,4-Butanediol	6.76	6.70	6.82

Eurofins TestAmerica, Buffalo
Target Compound Quantitation Report

Data File: \\chromna\Buffalo\ChromData\PE-01\20200109-87401.b\pe01-seq12_297.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 09-Jan-2020 08:32:05 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #:
Operator ID: BufTCHROM Instrument ID: PE-01
Sublist: chrom-8015-Gly-PE01*sub1

Method: \\chromna\Buffalo\ChromData\PE-01\20200109-87401.b\8015-Gly-PE01.m
Limit Group: GC - 8015D DAI GLY ICAL
Last Update: 09-Jan-2020 11:28:22 Calib Date: 12-Jun-2019 19:25:05
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d

Column 1 : Det: Ch-B-9b36290
Process Host: CTX0305

First Level Reviewer: NearyM Date: 09-Jan-2020 09:26:08

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ul	OnCol Amt ng/ul	Flags
6 2-Methoxyethanol							
	2.751	2.751	0.000	9590279	20.0	21.4	
2 2-Ethoxyethanol							
	2.908	2.908	0.000	11955226	20.0	20.2	
5 Propylene glycol							
	4.973	4.973	0.000	11626317	20.0	18.8	
8 Ethylene glycol							
	5.164	5.164	0.000	7843311	20.0	18.9	
$ 7 1,4-Butanediol							
	6.756	6.756	0.000	40431360	50.5	47.8	
1 2,2'-Oxybisethanol							
	6.996	6.996	0.000	8760989	20.0	19.7	
4 Triethylene Glycol							
	8.532	8.532	0.000	5909837	20.0	14.0	

Reagents:

GLY_CCV_1000_00114 Amount Added: 20.00 Units: uL
GLY_SURR1000_00108 Amount Added: 50.00 Units: uL

Report Date: 09-Jan-2020 11:28:23 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Buffalo

Data File:	\\chromna\Buffalo\ChromData\PE-01\20200109-87401.b\pe01-seq12_297.d				
Injection Date:	09-Jan-2020 08:32:05	Instrument ID:	PE-01	Operator ID:	BufTCHROM
Lims ID:	ccv			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015-Gly-PE01	Limit Group:	GC - 8015D DAI GLY ICAL		

Y Scaling: Method Defined: Set to Absolute Y Value

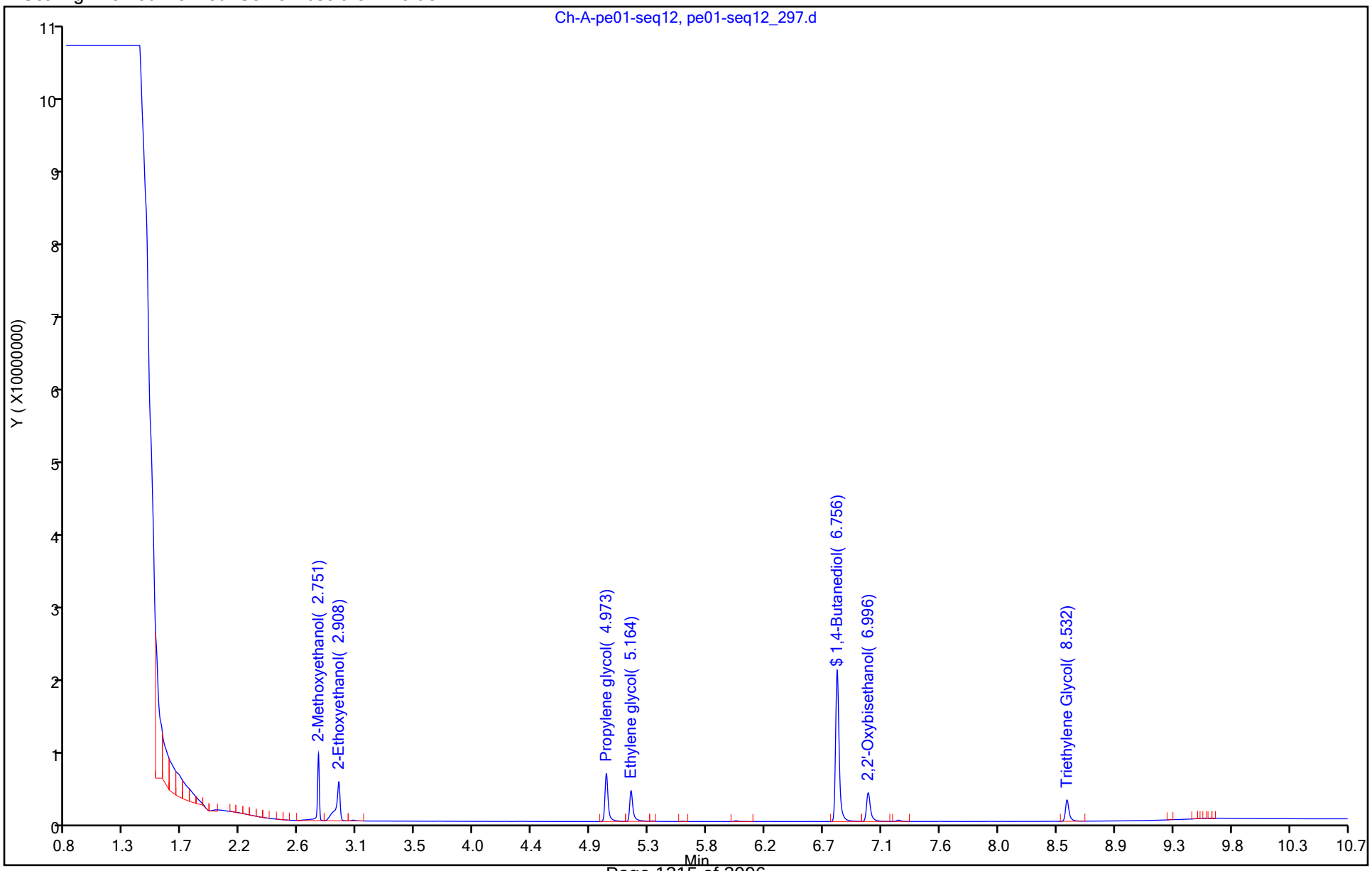

FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCV 480-512922/12 Calibration Date: 01/09/2020 11:10

Instrument ID: PE-01 Calib Start Date: 06/12/2019 17:33

GC Column: ZB-5 ID: 0.25(mm) Calib End Date: 06/12/2019 19:25

Lab File ID: pe01-seq12_305.d Conc. Units: ng/uL Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Methoxyethanol	Ave	448650	437443		19.5	20.0	-2.5	20.0
2-Ethoxyethanol	Ave	592408	575321		19.4	20.0	-2.9	20.0
Propylene glycol	Ave	619701	581773		18.8	20.0	-6.1	20.0
Ethylene glycol	Ave	414114	381531		18.4	20.0	-7.9	20.0
Diethylene glycol	Ave	444590	411333		18.5	20.0	-7.5	20.0
Triethylene Glycol	Ave	423058	398416		18.8	20.0	-5.8	20.0
1,4-Butanediol	Ave	845651	804979		48.1	50.5	-4.8	38.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCV 480-512922/12 Calibration Date: 01/09/2020 11:10

Instrument ID: PE-01 Calib Start Date: 06/12/2019 17:33

GC Column: ZB-5 ID: 0.25(mm) Calib End Date: 06/12/2019 19:25

Lab File ID: pe01-seq12_305.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
2-Methoxyethanol	2.76	2.69	2.81
2-Ethoxyethanol	2.91	2.86	2.96
Propylene glycol	4.98	4.92	5.02
Ethylene glycol	5.17	5.10	5.22
Diethylene glycol	7.00	6.95	7.05
Triethylene Glycol	8.54	8.48	8.58
1,4-Butanediol	6.76	6.70	6.82

Eurofins TestAmerica, Buffalo
Target Compound Quantitation Report

Data File: \\chromna\Buffalo\ChromData\PE-01\20200109-87401.b\pe01-seq12_305.d
Lims ID: ccv
Client ID:
Sample Type: CCV
Inject. Date: 09-Jan-2020 11:10:54 ALS Bottle#: 0 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #:
Operator ID: BufTCHROM Instrument ID: PE-01
Sublist: chrom-8015-Gly-PE01*sub1

Method: \\chromna\Buffalo\ChromData\PE-01\20200109-87401.b\8015-Gly-PE01.m
Limit Group: GC - 8015D DAI GLY ICAL
Last Update: 09-Jan-2020 11:28:43 Calib Date: 12-Jun-2019 19:25:05
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d

Column 1 : Det: Ch-B-9b36290
Process Host: CTX0305

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ul	OnCol Amt ng/ul	Flags
6 2-Methoxyethanol						
2.755	2.751	0.004	8748864	20.0	19.5	
2 2-Ethoxyethanol						
2.913	2.908	0.005	11506424	20.0	19.4	
5 Propylene glycol						
4.976	4.973	0.003	11635457	20.0	18.8	
8 Ethylene glycol						
5.167	5.164	0.003	7630628	20.0	18.4	
$ 7 1,4-Butanediol						
6.759	6.756	0.003	40651452	50.5	48.1	
1 2,2'-Oxybisethanol						
6.997	6.996	0.001	8226655	20.0	18.5	
4 Triethylene Glycol						
8.535	8.532	0.003	7968311	20.0	18.8	

Reagents:

GLY_CCV_1000_00114 Amount Added: 20.00 Units: uL
GLY_SURR1000_00108 Amount Added: 50.00 Units: uL

Report Date: 09-Jan-2020 11:28:43 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Buffalo

Data File:	\\chromna\Buffalo\ChromData\PE-01\20200109-87401.b\pe01-seq12_305.d				
Injection Date:	09-Jan-2020 11:10:54	Instrument ID:	PE-01	Operator ID:	BufTCHROM
Lims ID:	ccv			Worklist Smp#:	12
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015-Gly-PE01	Limit Group:	GC - 8015D DAI GLY ICAL		

Y Scaling: Method Defined: Set to Absolute Y Value

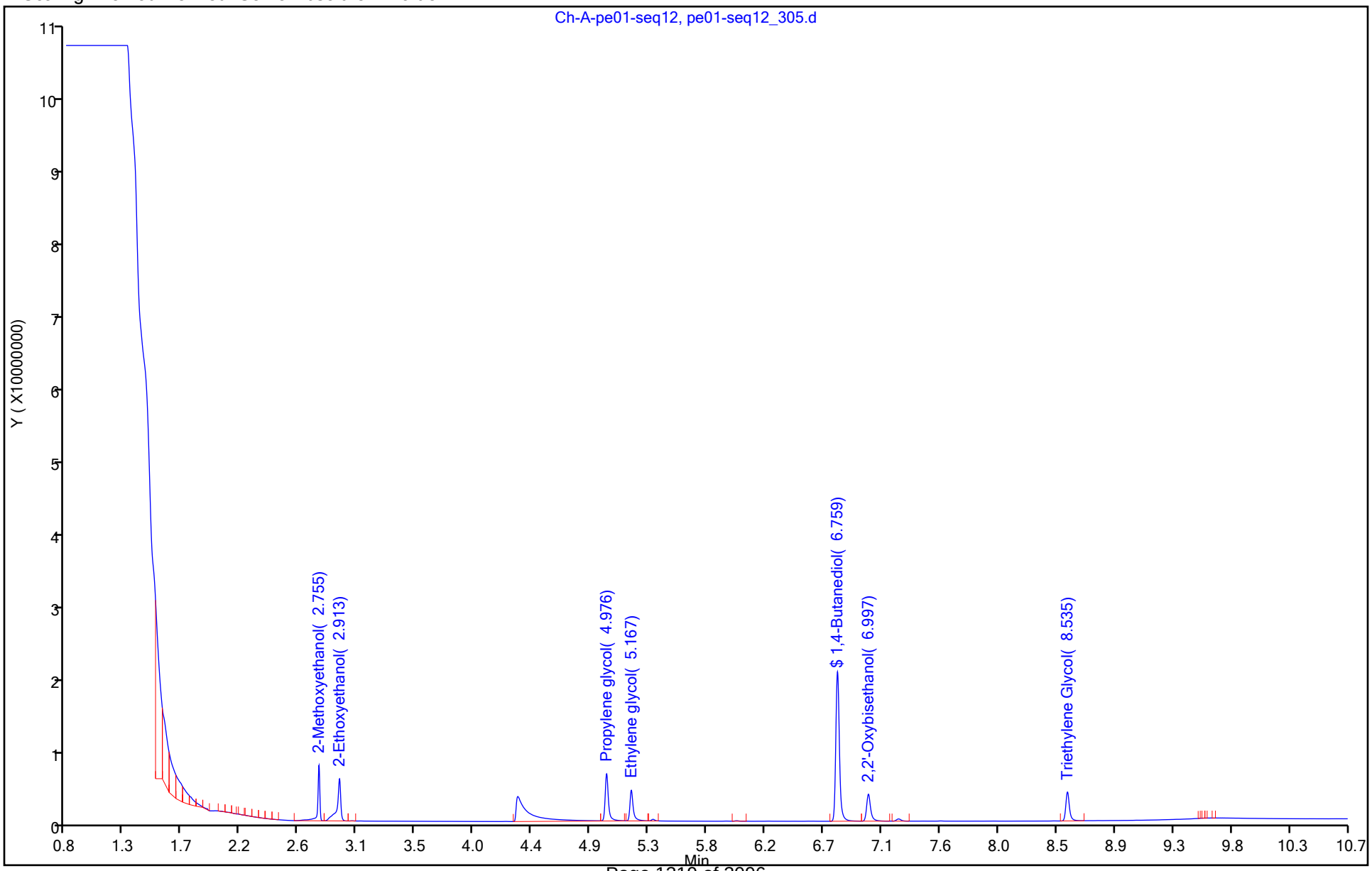

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 180-100205-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 480-512921/1-A

Matrix: Water Lab File ID: pe01-seq12_298.d

Analysis Method: 8015D Date Collected:

Sample wt/vol: .5(mL) Date Analyzed: 01/09/2020 09:02

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-5 ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 512922 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
107-21-1	Ethylene glycol	ND		10	1.9
110-80-5	2-Ethoxyethanol	ND		20	2.5
109-86-4	2-Methoxyethanol	ND		10	2.4

CAS NO.	SURROGATE	%REC	Q	LIMITS
110-63-4	1,4-Butanediol	91		66-130

Eurofins TestAmerica, Buffalo
Target Compound Quantitation Report

Data File: \\chromna\Buffalo\ChromData\PE-01\20200109-87401.b\pe01-seq12_298.d
Lims ID: MB 480-512921/1-A
Client ID:
Sample Type: MB
Inject. Date: 09-Jan-2020 09:02:18 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #:
Operator ID: BufTCHROM Instrument ID: PE-01

Method: \\chromna\Buffalo\ChromData\PE-01\20200109-87401.b\8015-Gly-PE01.m
Limit Group: GC - 8015D DAI GLY ICAL
Last Update: 09-Jan-2020 11:28:22 Calib Date: 12-Jun-2019 19:25:05
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d

Column 1 : Det: Ch-B-9b36290
Process Host: CTX0305

First Level Reviewer: NearyM Date: 09-Jan-2020 09:25:58

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ul	OnCol Amt ng/ul	Flags
$ 7 1,4-Butanediol						
6.767	6.756	0.011	39071699	50.5	46.2	
1 2,2'-Oxybisethanol						
7.007	6.996	0.011	1022933		2.30	
4 Triethylene Glycol						
8.540	8.532	0.008	1615241		3.82	

Report Date: 09-Jan-2020 11:28:27 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Buffalo

Data File:	\\chromna\Buffalo\ChromData\PE-01\20200109-87401.b\pe01-seq12_298.d				
Injection Date:	09-Jan-2020 09:02:18	Instrument ID:	PE-01	Operator ID:	BufTCHROM
Lims ID:	MB 480-512921/1-A			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015-Gly-PE01	Limit Group:	GC - 8015D DAI GLY ICAL		

Y Scaling: Method Defined: Set to Absolute Y Value

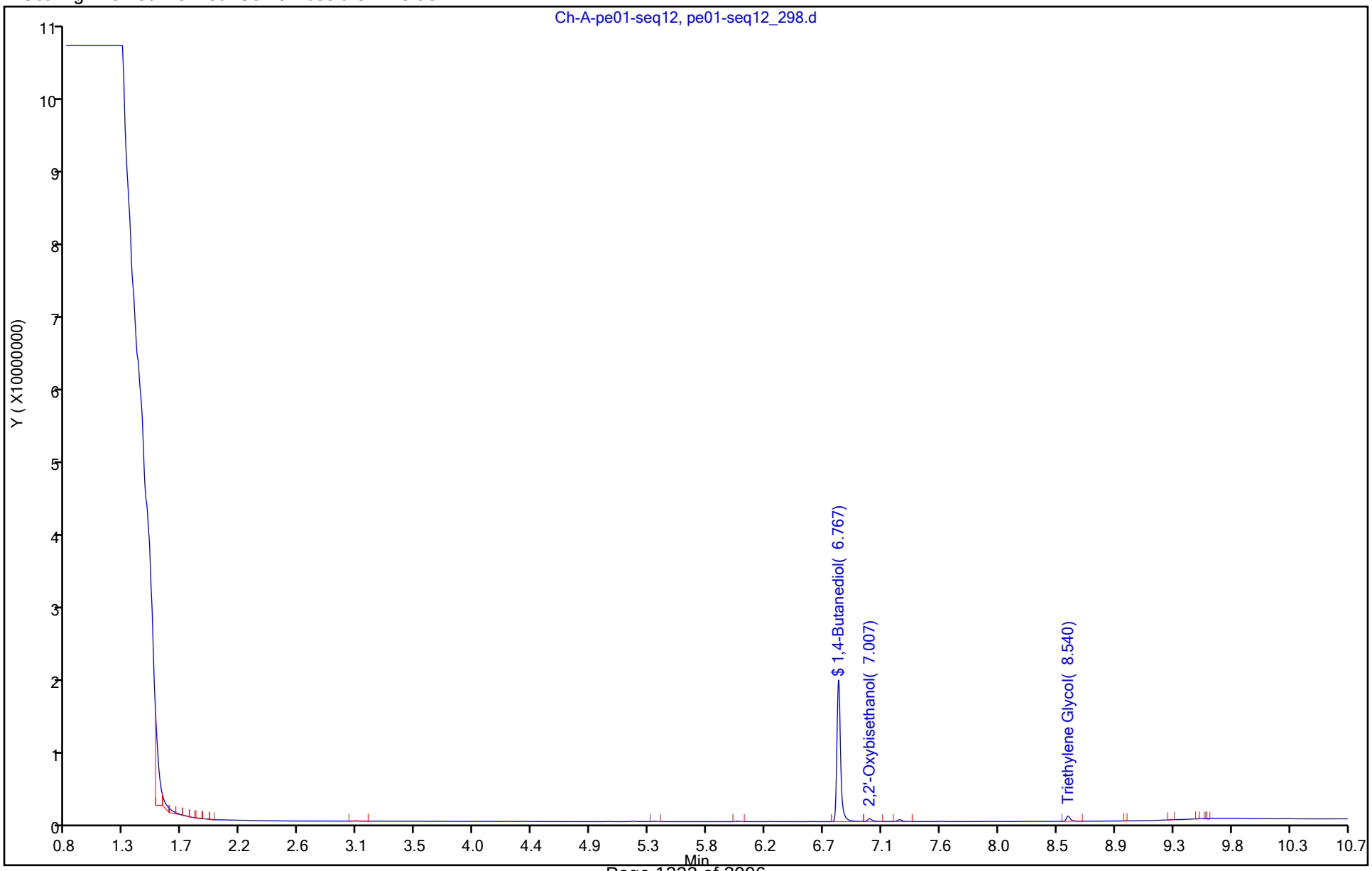

Eurofins TestAmerica, Buffalo
Recovery Report

Data File: \\chromna\Buffalo\ChromData\PE-01\20200109-87401.b\pe01-seq12_298.d
Lims ID: MB 480-512921/1-A
Client ID:
Sample Type: MB
Inject. Date: 09-Jan-2020 09:02:18 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #:
Operator ID: BufTCHROM Instrument ID: PE-01

Method: \\chromna\Buffalo\ChromData\PE-01\20200109-87401.b\8015-Gly-PE01.m
Limit Group: GC - 8015D DAI GLY ICAL
Last Update: 09-Jan-2020 11:28:22 Calib Date: 12-Jun-2019 19:25:05
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d

Column 1 : Det: Ch-B-9b36290
Process Host: CTX0305

First Level Reviewer: NearyM Date: 09-Jan-2020 09:25:58

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,4-Butanediol	50.5	46.2	91.49

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 180-100205-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 480-512921/2-A

Matrix: Water Lab File ID: pe01-seq12_299.d

Analysis Method: 8015D Date Collected:

Sample wt/vol: .5(mL) Date Analyzed: 01/09/2020 09:20

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: ZB-5 ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 512922 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
107-21-1	Ethylene glycol	14.9		10	1.9
110-80-5	2-Ethoxyethanol	16.7	J	20	2.5
109-86-4	2-Methoxyethanol	16.1		10	2.4

CAS NO.	SURROGATE	%REC	Q	LIMITS
110-63-4	1,4-Butanediol	94		66-130

Eurofins TestAmerica, Buffalo
Target Compound Quantitation Report

Data File: \\chromna\Buffalo\ChromData\PE-01\20200109-87401.b\pe01-seq12_299.d
Lims ID: LCS 480-512921/2-A
Client ID:
Sample Type: LCS
Inject. Date: 09-Jan-2020 09:20:35 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #:
Operator ID: BufTCHROM Instrument ID: PE-01

Method: \\chromna\Buffalo\ChromData\PE-01\20200109-87401.b\8015-Gly-PE01.m
Limit Group: GC - 8015D DAI GLY ICAL
Last Update: 09-Jan-2020 11:28:22 Calib Date: 12-Jun-2019 19:25:05
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d

Column 1 : Det: Ch-B-9b36290
Process Host: CTX0305

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ul	OnCol Amt ng/ul	Flags
6 2-Methoxyethanol							
	2.761	2.751	0.010	3615597	10.0	8.06	
2 2-Ethoxyethanol							
	2.917	2.908	0.009	4955941	10.0	8.37	
5 Propylene glycol							
	4.975	4.973	0.002	4635671	10.0	7.48	
8 Ethylene glycol							
	5.167	5.164	0.003	3082329	10.0	7.44	
$ 7 1,4-Butanediol							
	6.761	6.756	0.005	40159351	50.5	47.5	
1 2,2'-Oxybisethanol							
	7.001	6.996	0.005	3391853	10.0	7.63	
4 Triethylene Glycol							
	8.539	8.532	0.007	2221952	10.0	5.25	

Report Date: 09-Jan-2020 11:28:30 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Buffalo

Data File:	\\chromna\Buffalo\ChromData\PE-01\20200109-87401.b\pe01-seq12_299.d				
Injection Date:	09-Jan-2020 09:20:35	Instrument ID:	PE-01	Operator ID:	BufTCHROM
Lims ID:	LCS 480-512921/2-A			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015-Gly-PE01	Limit Group:	GC - 8015D DAI GLY ICAL		

Y Scaling: Method Defined: Set to Absolute Y Value

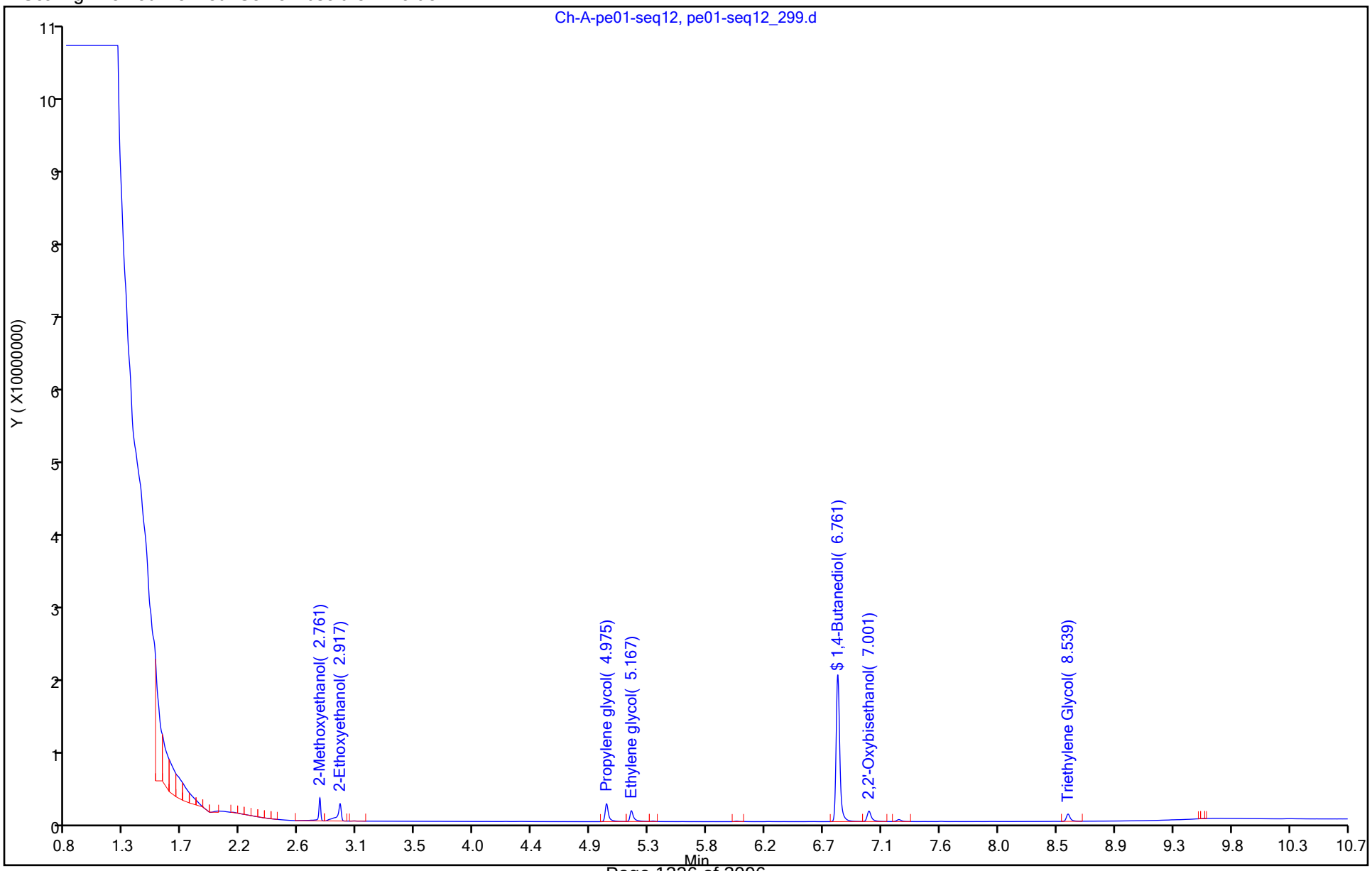

Eurofins TestAmerica, Buffalo
Recovery Report

Data File: \\chromna\Buffalo\ChromData\PE-01\20200109-87401.b\pe01-seq12_299.d
Lims ID: LCS 480-512921/2-A
Client ID:
Sample Type: LCS
Inject. Date: 09-Jan-2020 09:20:35 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #:
Operator ID: BufTCHROM Instrument ID: PE-01

Method: \\chromna\Buffalo\ChromData\PE-01\20200109-87401.b\8015-Gly-PE01.m
Limit Group: GC - 8015D DAI GLY ICAL
Last Update: 09-Jan-2020 11:28:22 Calib Date: 12-Jun-2019 19:25:05
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d

Column 1 : Det: Ch-B-9b36290
Process Host: CTX0305

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,4-Butanediol	50.5	47.5	94.04

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo
Job No.: 180-100205-1
SDG No.:
Client Sample ID: 11187072-N.TREATMENT AREA #2 MS
Lab Sample ID: 180-100205-2 MS
Matrix: Water
Lab File ID: pe01-seq12_301.d
Analysis Method: 8015D
Date Collected: 01/07/2020 09:00
Sample wt/vol: .5(mL)
Date Analyzed: 01/09/2020 09:57
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: ZB-5 ID: 0.25(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 512922
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
107-21-1	Ethylene glycol	16.5		10	1.9
110-80-5	2-Ethoxyethanol	18.1	J	20	2.5
109-86-4	2-Methoxyethanol	17.2		10	2.4

CAS NO.	SURROGATE	%REC	Q	LIMITS
110-63-4	1,4-Butanediol	100		66-130

Eurofins TestAmerica, Buffalo
Target Compound Quantitation Report

Data File: \\chromna\Buffalo\ChromData\PE-01\20200109-87401.b\pe01-seq12_301.d
Lims ID: 180-100205-C-2-B MS
Client ID:
Sample Type: MS
Inject. Date: 09-Jan-2020 09:57:17 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #:
Operator ID: BufTCHROM Instrument ID: PE-01

Method: \\chromna\Buffalo\ChromData\PE-01\20200109-87401.b\8015-Gly-PE01.m
Limit Group: GC - 8015D DAI GLY ICAL
Last Update: 09-Jan-2020 11:28:22 Calib Date: 12-Jun-2019 19:25:05
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d

Column 1 : Det: Ch-B-9b36290
Process Host: CTX0305

First Level Reviewer: NearyM Date: 09-Jan-2020 10:46:07

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ul	OnCol Amt ng/ul	Flags
6 2-Methoxyethanol						
2.804	2.751	0.053	3862061	10.0	8.61	
2 2-Ethoxyethanol						
2.953	2.908	0.045	5364455	10.0	9.06	
5 Propylene glycol						
4.980	4.973	0.007	4479570	10.0	7.23	
8 Ethylene glycol						
5.171	5.164	0.007	3417334	10.0	8.25	
$ 7 1,4-Butanediol						
6.761	6.756	0.005	42777419	50.5	50.6	
1 2,2'-Oxybisethanol						
7.001	6.996	0.005	4722678	10.0	10.6	
4 Triethylene Glycol						
8.537	8.532	0.005	4071570	10.0	9.62	

Report Date: 09-Jan-2020 11:28:34 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Buffalo

Data File: \\chromna\Buffalo\ChromData\PE-01\20200109-87401.b\pe01-seq12_301.d

Injection Date:	09-Jan-2020 09:57:17	Instrument ID:	PE-01	Operator ID:	BufTCHROM
Lims ID:	180-100205-C-2-B MS			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015-Gly-PE01	Limit Group:	GC - 8015D DAI GLY ICAL		

Y Scaling: Method Defined: Set to Absolute Y Value

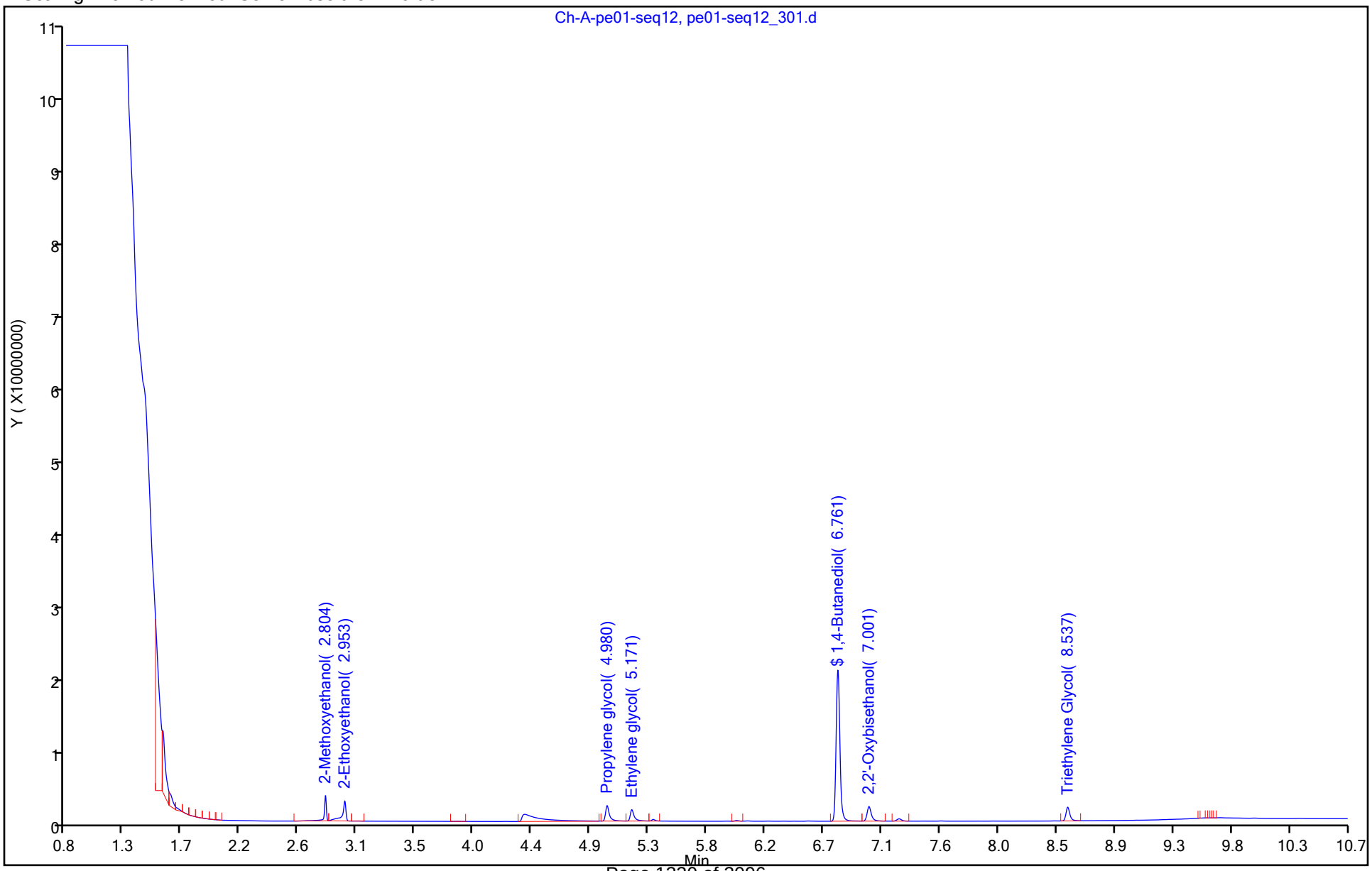

Eurofins TestAmerica, Buffalo
Recovery Report

Data File: \\chromna\Buffalo\ChromData\PE-01\20200109-87401.b\pe01-seq12_301.d
Lims ID: 180-100205-C-2-B MS
Client ID:
Sample Type: MS
Inject. Date: 09-Jan-2020 09:57:17 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #:
Operator ID: BufTCHROM Instrument ID: PE-01

Method: \\chromna\Buffalo\ChromData\PE-01\20200109-87401.b\8015-Gly-PE01.m
Limit Group: GC - 8015D DAI GLY ICAL
Last Update: 09-Jan-2020 11:28:22 Calib Date: 12-Jun-2019 19:25:05
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d

Column 1 : Det: Ch-B-9b36290
Process Host: CTX0305

First Level Reviewer: NearyM Date: 09-Jan-2020 10:46:07

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,4-Butanediol	50.5	50.6	100.17

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Buffalo
Job No.: 180-100205-1
SDG No.:
Client Sample ID: 11187072-N.TREATMENT AREA #2 MSD
Lab Sample ID: 180-100205-2 MSD
Matrix: Water
Lab File ID: pe01-seq12_302.d
Analysis Method: 8015D
Date Collected: 01/07/2020 09:00
Sample wt/vol: .5(mL)
Date Analyzed: 01/09/2020 10:15
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: ZB-5 ID: 0.25(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 512922
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
107-21-1	Ethylene glycol	16.2		10	1.9
110-80-5	2-Ethoxyethanol	17.6	J	20	2.5
109-86-4	2-Methoxyethanol	16.2		10	2.4

CAS NO.	SURROGATE	%REC	Q	LIMITS
110-63-4	1,4-Butanediol	92		66-130

Eurofins TestAmerica, Buffalo
Target Compound Quantitation Report

Data File: \\chromna\Buffalo\ChromData\PE-01\20200109-87401.b\pe01-seq12_302.d
Lims ID: 180-100205-C-2-C MSD
Client ID:
Sample Type: MSD
Inject. Date: 09-Jan-2020 10:15:40 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #:
Operator ID: BufTCHROM Instrument ID: PE-01

Method: \\chromna\Buffalo\ChromData\PE-01\20200109-87401.b\8015-Gly-PE01.m
Limit Group: GC - 8015D DAI GLY ICAL
Last Update: 09-Jan-2020 11:28:22 Calib Date: 12-Jun-2019 19:25:05
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d

Column 1 : Det: Ch-B-9b36290
Process Host: CTX0305

First Level Reviewer: NearyM Date: 09-Jan-2020 10:46:19

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng/ul	OnCol Amt ng/ul	Flags
6 2-Methoxyethanol						
2.796	2.751	0.045	3629432	10.0	8.09	
2 2-Ethoxyethanol						
2.945	2.908	0.037	5221001	10.0	8.81	
5 Propylene glycol						
4.972	4.973	-0.001	5074760	10.0	8.19	
8 Ethylene glycol						
5.163	5.164	-0.001	3346673	10.0	8.08	
$ 7 1,4-Butanediol						
6.756	6.756	0.000	39322403	50.5	46.5	
1 2,2'-Oxybisethanol						
6.995	6.996	-0.001	4559089	10.0	10.3	
4 Triethylene Glycol						
8.533	8.532	0.001	3842164	10.0	9.08	

Report Date: 09-Jan-2020 11:28:37 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Buffalo

Data File:	\\chromna\Buffalo\ChromData\PE-01\20200109-87401.b\pe01-seq12_302.d				
Injection Date:	09-Jan-2020 10:15:40	Instrument ID:	PE-01	Operator ID:	BufTCHROM
Lims ID:	180-100205-C-2-C MSD			Worklist Smp#:	9
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015-Gly-PE01	Limit Group:	GC - 8015D DAI GLY ICAL		

Y Scaling: Method Defined: Set to Absolute Y Value

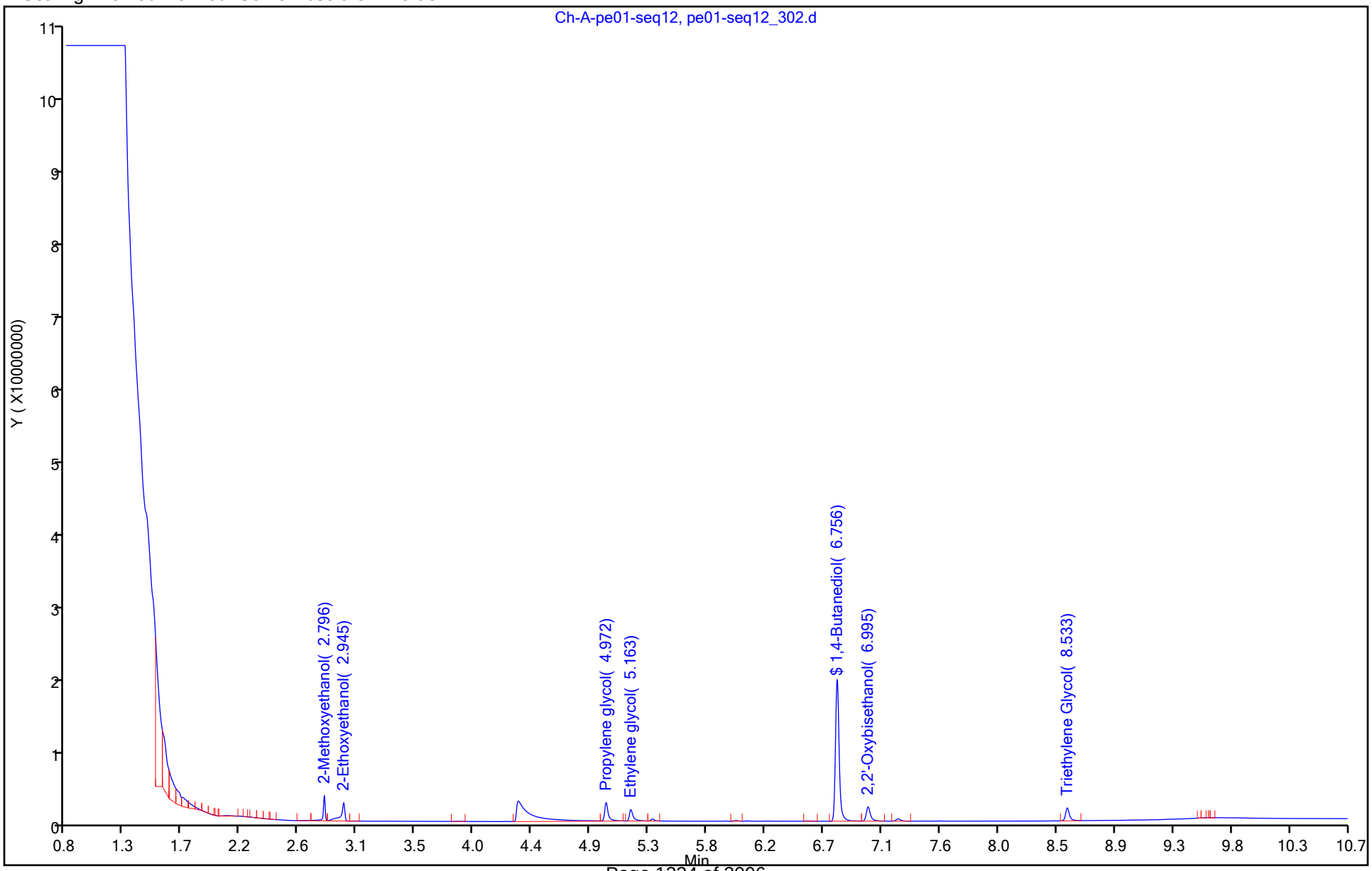

Eurofins TestAmerica, Buffalo
Recovery Report

Data File: \\chromna\Buffalo\ChromData\PE-01\20200109-87401.b\pe01-seq12_302.d
Lims ID: 180-100205-C-2-C MSD
Client ID:
Sample Type: MSD
Inject. Date: 09-Jan-2020 10:15:40 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #:
Operator ID: BufTCHROM Instrument ID: PE-01

Method: \\chromna\Buffalo\ChromData\PE-01\20200109-87401.b\8015-Gly-PE01.m
Limit Group: GC - 8015D DAI GLY ICAL
Last Update: 09-Jan-2020 11:28:22 Calib Date: 12-Jun-2019 19:25:05
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Buffalo\ChromData\PE-01\20190612-81887.b\pe01-seq10_059-20190612-192533.d

Column 1 : Det: Ch-B-9b36290
Process Host: CTX0305

First Level Reviewer: NearyM Date: 09-Jan-2020 10:46:19

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 1,4-Butanediol	50.5	46.5	92.08

GC VOA ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 180-100205-1

SDG No.:

Instrument ID: PE-01 Start Date: 06/12/2019 17:33

Analysis Batch Number: 477460 End Date: 06/12/2019 19:43

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
STD1 480-477460/11 IC		06/12/2019 17:33	1	pe01-seq10_053-20190612-173401.d	ZB-5 0.25(mm)
STD2 480-477460/12 IC		06/12/2019 17:52	1	pe01-seq10_054-20190612-175231.d	ZB-5 0.25(mm)
STD3 480-477460/13 IC		06/12/2019 18:10	1	pe01-seq10_055-20190612-181107.d	ZB-5 0.25(mm)
STD4 480-477460/14 IC		06/12/2019 18:29	1	pe01-seq10_056-20190612-182937.d	ZB-5 0.25(mm)
STD5 480-477460/15 IC		06/12/2019 18:47	1	pe01-seq10_057-20190612-184822.d	ZB-5 0.25(mm)
STD6 480-477460/16 IC		06/12/2019 19:06	1	pe01-seq10_058-20190612-190647.d	ZB-5 0.25(mm)
STD7 480-477460/17 IC		06/12/2019 19:25	1	pe01-seq10_059-20190612-192533.d	ZB-5 0.25(mm)
ICV 480-477460/18		06/12/2019 19:43	1	pe01-seq10_060-20190612-194408.d	ZB-5 0.25(mm)

8015D

GC VOA ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 180-100205-1

SDG No.:

Instrument ID: PE-01 Start Date: 01/09/2020 08:32

Analysis Batch Number: 512922 End Date: 01/09/2020 11:10

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 480-512922/4		01/09/2020 08:32	1	pe01-seq12_297.d	ZB-5 0.25(mm)
MB 480-512921/1-A		01/09/2020 09:02	1	pe01-seq12_298.d	ZB-5 0.25(mm)
LCS 480-512921/2-A		01/09/2020 09:20	1	pe01-seq12_299.d	ZB-5 0.25(mm)
180-100205-2		01/09/2020 09:38	1	pe01-seq12_300.d	ZB-5 0.25(mm)
180-100205-2 MS		01/09/2020 09:57	1	pe01-seq12_301.d	ZB-5 0.25(mm)
180-100205-2 MSD		01/09/2020 10:15	1	pe01-seq12_302.d	ZB-5 0.25(mm)
180-100205-4		01/09/2020 10:34	1	pe01-seq12_303.d	ZB-5 0.25(mm)
180-100205-6		01/09/2020 10:52	1	pe01-seq12_304.d	ZB-5 0.25(mm)
CCV 480-512922/12		01/09/2020 11:10	1	pe01-seq12_305.d	ZB-5 0.25(mm)

8015D

GC VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Buffalo Job No.: 180-100205-1

SDG No.:

Batch Number: 512921 Batch Start Date: 01/09/20 07:37 Batch Analyst: Neary, Mary A

Batch Method: 8015 Prep Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	GLY_CCV_1000 00114	GLY_SURR1000 00108	AnalysisComment	
MB 480-512921/1		8015 Prep, 8015D		.5 mL	1 mL		50 uL		
LCS 480-512921/2		8015 Prep, 8015D		.5 mL	1 mL	10 uL	50 uL		
180-100205-C-2	11187072-N.TREATMENT AREA #2	8015 Prep, 8015D	T	.5 mL	1 mL		50 uL	unpreserved	
180-100205-C-2 MS	11187072-N.TREATMENT AREA #2	8015 Prep, 8015D	T	.5 mL	1 mL	10 uL	50 uL	unpreserved	
180-100205-C-2 MSD	11187072-N.TREATMENT AREA #2	8015 Prep, 8015D	T	.5 mL	1 mL	10 uL	50 uL	unpreserved	
180-100205-C-4	11187072-N.TREATMENT AREA #3	8015 Prep, 8015D	T	.5 mL	1 mL		50 uL	unpreserved	
180-100205-C-6	11187072-N.TREATMENT AREA #4	8015 Prep, 8015D	T	.5 mL	1 mL		50 uL	unpreserved	

Batch Notes	

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Method 8081B

Organochlorine Pesticides (GC) by Method 8081B

FORM II
PESTICIDES SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Matrix: Solid (TCLP) Level: Low

GC Column (1): MR-1 ID: 0.53(mm) GC Column (2): MR-2 ID: 0.53(mm)

Client Sample ID	Lab Sample ID	TCX1 #	TCX2 #	DCB1 #	DCB2 #
11187072-N.TREATMENT AREA #2	180-100205-1	70	88	76	94
11187072-N.TREATMENT AREA #3	180-100205-3	68	89	73	93
11187072-N.TREATMENT AREA #4	180-100205-5	69	89	78	94
	MB 180-302205/1-A	65	83	76	96
	LB 180-301984/1-E	67	87	76	93
	LCS 180-302205/2-A	67	85	73	97

	QC LIMITS
TCX = Tetrachloro-m-xylene	54-138
DCB = DCB Decachlorobiphenyl (Surr)	62-150

Column to be used to flag recovery values

FORM II EPA 8081B

FORM III
PESTICIDES LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Matrix: Water Level: Low Lab File ID: Q1223190000057.D

Lab ID: LCS 180-302205/2-A Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
Endrin	0.0100	0.00828	83	71-134	
gamma-BHC (Lindane)	0.0100	0.00927	93	66-127	
Heptachlor	0.0100	0.00775	78	66-134	
Heptachlor epoxide	0.0100	0.00847	85	65-141	
cis-Chlordane	0.0100	0.00834	83	60-142	
Methoxychlor	0.0100	0.00814	81	59-131	
trans-Chlordane	0.0100	0.00845	84	61-143	
4,4'-DDD	0.0100	0.00895	90	71-136	
4,4'-DDE	0.0100	0.00908	91	75-133	
4,4'-DDT	0.0100	0.00802	80	56-132	
Dieldrin	0.0100	0.00852	85	75-131	
Endosulfan I	0.0100	0.00877	88	63-144	
Endosulfan II	0.0100	0.00849	85	76-136	
Endosulfan sulfate	0.0100	0.00874	87	48-131	

Column to be used to flag recovery and RPD values

FORM III EPA 8081B

FORM IV
PESTICIDES METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: MB 180-302205/1-A

Matrix: Water Date Extracted: 12/21/2019 05:15

Lab File ID:(1) Q1223190000052.D Lab File ID:(2) Q1223190000052.D

Date Analyzed:(1) 12/23/2019 23:47 Date Analyzed:(2) 12/23/2019 23:47

Instrument ID:(1) CHGC15 Instrument ID:(2) CHGC15

GC Column:(1) MR-1 ID: 0.53(mm) GC Column:(2) MR-2 ID: 0.53(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
	LCS 180-302205/2-A	12/24/2019 01:04	12/24/2019 01:04
	LB 180-301984/1-E	12/24/2019 01:35	12/24/2019 01:35
11187072-N.TREATMENT AREA #2	180-100205-1	12/24/2019 03:07	12/24/2019 03:07
11187072-N.TREATMENT AREA #3	180-100205-3	12/24/2019 03:23	12/24/2019 03:23
11187072-N.TREATMENT AREA #4	180-100205-5	12/24/2019 03:38	12/24/2019 03:38

FORM VIII
PESTICIDES INTERNAL STANDARD HEIGHT AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Sample No.: CCVIS 180-302301/32 Date Analyzed: 12/23/2019 18:38

Instrument ID: CHGC15 GC Column: MR-1 ID: 0.53(mm)

Lab File ID (Standard): Q1223190000032.D Heated Purge: (Y/N) N

Calibration ID: 41543

		BNB		DBC			
		HEIGHT #	RT #	HEIGHT #	RT #	HEIGHT #	RT #
12/24 HOUR STD		149592674	3.77	82803313	8.18		
UPPER LIMIT		224389011	3.78	124204970	8.19		
LOWER LIMIT		74796337	3.76	41401657	8.17		
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 180-302205/1-A		166646531	3.77	97942963	8.18		
CCV 180-302301/54		139670427	3.77	95650946	8.17		
CCV 180-302301/55		150690947	3.77	87063560	8.18		

BNB = 1-Bromo-2-nitrobenzene
DBC = Dibutylchlorendate ISTD

Area Limit = 50%-150% of internal standard area
RT Limit = ± 0.01 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8081B

FORM VIII
PESTICIDES INTERNAL STANDARD HEIGHT AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Sample No.: CCVIS 180-302301/32 Date Analyzed: 12/23/2019 18:38

Instrument ID: CHGC15 GC Column: MR-2 ID: 0.53(mm)

Lab File ID (Standard): Q1223190000032.D Heated Purge: (Y/N) N

Calibration ID: 41544

		BNB		DBC			
		HEIGHT #	RT #	HEIGHT #	RT #	HEIGHT #	RT #
12/24 HOUR STD		143021102	4.03	79919870	8.29		
UPPER LIMIT		214531653	4.04	119879805	8.30		
LOWER LIMIT		71510551	4.02	39959935	8.28		
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 180-302205/1-A		160848413	4.03	89804867	8.29		
CCV 180-302301/54		137474626	4.02	91730978	8.29		
CCV 180-302301/55		142990962	4.03	81171261	8.29		

BNB = 1-Bromo-2-nitrobenzene
DBC = Dibutylchlorendate ISTD

Area Limit = 50%-150% of internal standard area
RT Limit = ± 0.01 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8081B

FORM VIII
PESTICIDES INTERNAL STANDARD HEIGHT AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Sample No.: CCVIS 180-302301/56 Date Analyzed: 12/24/2019 00:48

Instrument ID: CHGC15 GC Column: MR-1 ID: 0.53(mm)

Lab File ID (Standard): Q1223190000056.D Heated Purge: (Y/N) N

Calibration ID: 41543

		BNB		DBC			
		HEIGHT #	RT #	HEIGHT #	RT #	HEIGHT #	RT #
12/24 HOUR STD		145499484	3.77	89640488	8.17		
UPPER LIMIT		218249226	3.78	134460732	8.18		
LOWER LIMIT		72749742	3.76	44820244	8.16		
LAB SAMPLE ID	CLIENT SAMPLE ID						
LCS 180-302205/2-A		167570525	3.77	99837447	8.17		
LB 180-301984/1-E		163327507	3.77	99058499	8.18		
180-100205-1	11187072-N.TREATMENT AREA #2	162957973	3.77	99486233	8.18		
180-100205-3	11187072-N.TREATMENT AREA #3	167387041	3.77	101063896	8.17		
180-100205-5	11187072-N.TREATMENT AREA #4	163987043	3.77	98792651	8.17		

BNB = 1-Bromo-2-nitrobenzene
DBC = Dibutylchlorendate ISTD

Area Limit = 50%-150% of internal standard area
RT Limit = ± 0.01 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8081B

FORM VIII
PESTICIDES INTERNAL STANDARD HEIGHT AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Sample No.: CCVIS 180-302301/56 Date Analyzed: 12/24/2019 00:48

Instrument ID: CHGC15 GC Column: MR-2 ID: 0.53(mm)

Lab File ID (Standard): Q1223190000056.D Heated Purge: (Y/N) N

Calibration ID: 41544

		BNB		DBC			
		HEIGHT #	RT #	HEIGHT #	RT #	HEIGHT #	RT #
12/24 HOUR STD		143284067	4.03	80933686	8.29		
UPPER LIMIT		214926101	4.04	121400529	8.30		
LOWER LIMIT		71642034	4.02	40466843	8.28		
LAB SAMPLE ID	CLIENT SAMPLE ID						
LCS 180-302205/2-A		162982280	4.02	91605934	8.29		
LB 180-301984/1-E		156460790	4.03	90920196	8.29		
180-100205-1	11187072-N.TREATMENT AREA #2	159387846	4.02	94622498	8.28		
180-100205-3	11187072-N.TREATMENT AREA #3	160216936	4.03	95372361	8.28		
180-100205-5	11187072-N.TREATMENT AREA #4	160900103	4.03	94920327	8.29		

BNB = 1-Bromo-2-nitrobenzene
DBC = Dibutylchlorendate ISTD

Area Limit = 50%-150% of internal standard area
RT Limit = ± 0.01 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8081B

FORM X
IDENTIFICATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 180-302205/2-A

Instrument ID (1): CHGC15 Instrument ID (2): CHGC15

Date Analyzed (1): 12/24/2019 01:04 Date Analyzed (2): 12/24/2019 01:04

GC Column (1): MR-1 ID: 0.53(mm) GC Column (2): MR-2 ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
gamma-BHC (Lindane)	1		5.38	5.37	5.39	0.00769		18.7
	2		5.67	5.66	5.68	0.00927		
Heptachlor	1		5.85	5.84	5.86	0.00748		3.5
	2		5.99	5.98	6.00	0.00775		
Heptachlor epoxide	1		6.49	6.48	6.50	0.00702		18.8
	2		6.72	6.71	6.73	0.00847		
trans-Chlordane	1		6.70	6.69	6.71	0.00645		26.7
	2		6.94	6.93	6.95	0.00845		
cis-Chlordane	1		6.77	6.76	6.78	0.00635		27.1
	2		7.00	6.99	7.01	0.00834		
Endosulfan I	1		6.82	6.80	6.82	0.00662		28.0
	2		7.07	7.06	7.08	0.00877		
4,4'-DDE	1		6.92	6.91	6.93	0.00873		3.9
	2		7.14	7.13	7.15	0.00908		
Dieldrin	1		7.05	7.04	7.06	0.00858		0.7
	2		7.32	7.31	7.33	0.00852		
Endrin	1		7.25	7.24	7.26	0.00923		10.8
	2		7.59	7.58	7.60	0.00828		
4,4'-DDD	1		7.38	7.37	7.39	0.00901		0.7
	2		7.66	7.65	7.67	0.00895		
Endosulfan II	1		7.45	7.44	7.46	0.00847		0.3
	2		7.85	7.84	7.86	0.00849		
4,4'-DDT	1		7.66	7.65	7.67	0.00802		5.2
	2		7.91	7.90	7.92	0.00761		
Endosulfan sulfate	1		7.78	7.77	7.79	0.00826		5.7
	2		8.24	8.23	8.25	0.00874		
Methoxychlor	1		8.10	8.09	8.11	0.00949		15.3
	2		8.47	8.46	8.48	0.00814		

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-100205-1
SDG No.:
Client Sample ID: 11187072-N.TREATMENT AREA #2
Lab Sample ID: 180-100205-1
Matrix: Solid (TCLP)
Lab File ID: Q1223190000065.D
Analysis Method: EPA 8081B
Date Collected: 12/18/2019 13:30
Extraction Method: 3510C
Date Extracted: 12/21/2019 05:15
Sample wt/vol: 100(mL)
Date Analyzed: 12/24/2019 03:07
Con. Extract Vol.: 40.0(mL)
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: MR-1 ID: 0.53(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 302301
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
50-29-3	4,4'-DDT	ND		0.00050	0.00012

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	76		62-150
877-09-8	Tetrachloro-m-xylene	70		54-138

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000065.D
Lims ID: 180-100205-A-1-F
Client ID: 11187072-N.TREATMENT AREA #2
Sample Type: Client
Inject. Date: 24-Dec-2019 03:07:48 ALS Bottle#: 65 Worklist Smp#: 65
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030125-065
Operator ID: 402331 Instrument ID: CHGC15

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Dec-2019 02:39:30 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0301

First Level Reviewer: eppinged Date: 24-Dec-2019 04:49:12

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene						
1	3.769	3.769	0.000	162957973	H 0.1000	
2	4.024	4.025	-0.001	159387846	H 0.1000	
$ 3 Tetrachloro-m-xylene						
1	4.756	4.757	-0.001	31524676	H 0.0140	
2	4.898	4.897	0.001	38005464	H 0.0177	
					RPD = 22.96	
7 gamma-BHC (Lindane)						
1		5.383			ND	
2		5.669				
9 Chlordane (technical)						
1		5.673			ND	
1		5.846				
1		6.700				
1		6.770				
2		5.989				
2		6.348				
2		6.953				
2		7.001				
11 Heptachlor						
1		5.850			ND	
2		5.993				
16 Heptachlor epoxide						
1		6.485			ND	
2		6.715				
18 trans-Chlordane						
1		6.703			ND	
2		6.943				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
20 cis-Chlordane						
1		6.771			ND	
2		7.003				
21 Endosulfan I						
1		6.814			ND	
2		7.073				
23 4,4'-DDE						
1		6.923			ND	
2		7.140				
34 Toxaphene						
1		6.961			ND	
1		7.227				
1		7.607				
1		7.847				
2		7.172				
2		7.304				
2		7.806				
2		8.524				
24 Dieldrin						
1		7.053			ND	
2		7.319				
27 Endrin						
1		7.254			ND	
2		7.586				
29 4,4'-DDD						
1		7.381			ND	
2		7.662				
31 Endosulfan II						
1		7.451			ND	
2		7.853				
33 4,4'-DDT						
1		7.658			ND	
2		7.906				
35 Endosulfan sulfate						
1		7.776			ND	
2		8.242				
36 Methoxychlor						
1		8.100			ND	
2		8.473				
* 44 Dibutylchlorendate ISTD						
1	8.175	8.174	0.001	99486233H	0.1000	
2	8.284	8.285	-0.001	94622498H	0.1000	
38 Mirex						
1		8.726			ND	
2		9.132				
$ 39 DCB Decachlorobiphenyl (Surr)						
1	9.939	9.939	0.000	10435565H	0.0152	
2	10.544	10.545	-0.001	12487047H	0.0187	
					RPD = 20.92	

Reagents:

GCPESTISSPK2_00017 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 24-Dec-2019 04:49:44 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000065.D				
Injection Date:	24-Dec-2019 03:07:48	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	180-100205-A-1-F	Lab Sample ID:	180-100205-1	Worklist Smp#:	65
Client ID:	11187072-N.TREATMENT AREA #2				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	65
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

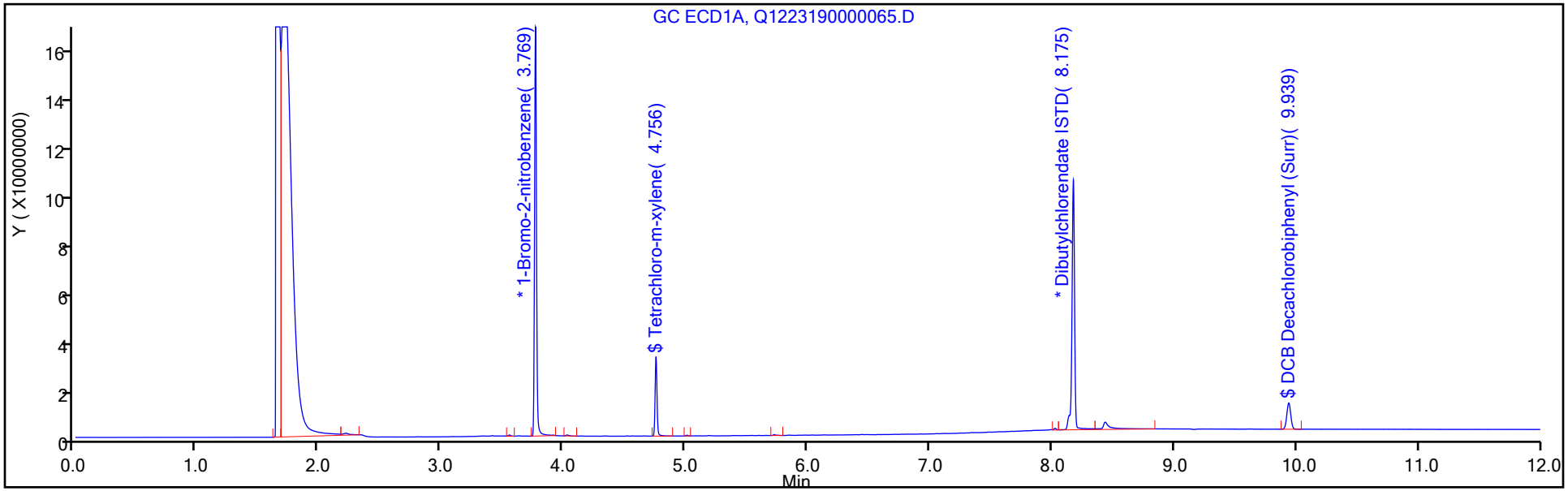

Column: MR-2 (0.53 mm)

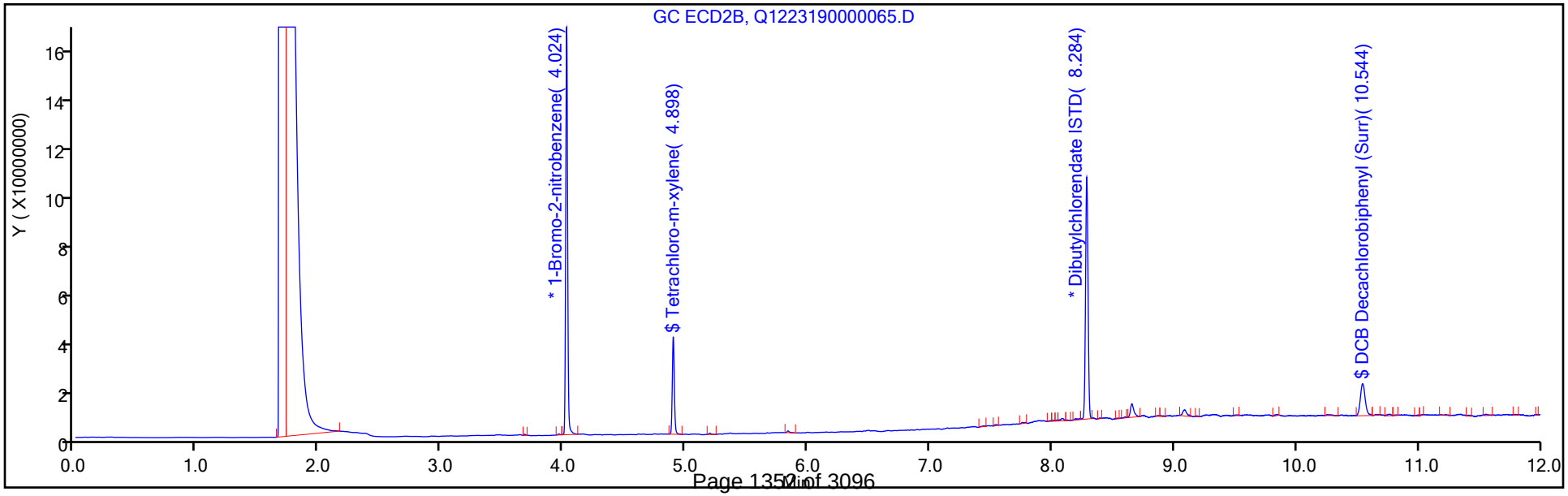

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000065.D				
Lims ID:	180-100205-A-1-F				
Client ID:	11187072-N.TREATMENT AREA #2				
Sample Type:	Client				
Inject. Date:	24-Dec-2019 03:07:48	ALS Bottle#:	65	Worklist Smp#:	65
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0030125-065				
Operator ID:	402331	Instrument ID:	CHGC15		

Method:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\IS PEST_CHGC15.m		
Limit Group:	GCS 8081B ICAL with IS		
Last Update:	24-Dec-2019 02:39:30	Calib Date:	17-Sep-2019 16:34:44
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D		

Column 1 :	MR-1 (0.53 mm)	Det: GC ECD1A
Column 2 :	MR-2 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0301	

First Level Reviewer: eppinged Date: 24-Dec-2019 04:49:12

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0140	70.11
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0152	75.82

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0177	88.29
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0187	93.53

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Client Sample ID: 11187072-N.TREATMENT AREA #2 Lab Sample ID: 180-100205-1

Matrix: Solid (TCLP) Lab File ID: Q1223190000065.D

Analysis Method: EPA 8081B Date Collected: 12/18/2019 13:30

Extraction Method: 3510C Date Extracted: 12/21/2019 05:15

Sample wt/vol: 100(mL) Date Analyzed: 12/24/2019 03:07

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: MR-2 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 302301 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
12789-03-6	Chlordane (technical)	ND		0.0050	0.0029
72-20-8	Endrin	ND		0.00050	0.000091
58-89-9	gamma-BHC (Lindane)	ND		0.00050	0.00012
76-44-8	Heptachlor	ND		0.00050	0.00018
1024-57-3	Heptachlor epoxide	ND		0.00050	0.00014
5103-71-9	cis-Chlordane	ND		0.00050	0.00015
72-43-5	Methoxychlor	ND		0.00050	0.00031
8001-35-2	Toxaphene	ND		0.040	0.020
5103-74-2	trans-Chlordane	ND		0.00050	0.00016
72-54-8	4,4'-DDD	ND		0.00050	0.00021
72-55-9	4,4'-DDE	ND		0.00050	0.00012
60-57-1	Dieldrin	ND		0.00050	0.00011
959-98-8	Endosulfan I	ND		0.00050	0.00027
33213-65-9	Endosulfan II	ND		0.00050	0.00013
1031-07-8	Endosulfan sulfate	ND		0.00050	0.00026
2385-85-5	Mirex	ND		0.00050	0.000084

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	94		62-150
877-09-8	Tetrachloro-m-xylene	88		54-138

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000065.D
Lims ID: 180-100205-A-1-F
Client ID: 11187072-N.TREATMENT AREA #2
Sample Type: Client
Inject. Date: 24-Dec-2019 03:07:48 ALS Bottle#: 65 Worklist Smp#: 65
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030125-065
Operator ID: 402331 Instrument ID: CHGC15

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Dec-2019 02:39:30 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0301

First Level Reviewer: eppinged Date: 24-Dec-2019 04:49:12

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene						
1	3.769	3.769	0.000	162957973	H 0.1000	
2	4.024	4.025	-0.001	159387846	H 0.1000	
$ 3 Tetrachloro-m-xylene						
1	4.756	4.757	-0.001	31524676	H 0.0140	
2	4.898	4.897	0.001	38005464	H 0.0177	
					RPD = 22.96	
7 gamma-BHC (Lindane)						
1		5.383			ND	
2		5.669				
9 Chlordane (technical)						
1		5.673			ND	
1		5.846				
1		6.700				
1		6.770				
2		5.989				
2		6.348				
2		6.953				
2		7.001				
11 Heptachlor						
1		5.850			ND	
2		5.993				
16 Heptachlor epoxide						
1		6.485			ND	
2		6.715				
18 trans-Chlordane						
1		6.703			ND	
2		6.943				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
20 cis-Chlordane						
1		6.771			ND	
2		7.003				
21 Endosulfan I						
1		6.814			ND	
2		7.073				
23 4,4'-DDE						
1		6.923			ND	
2		7.140				
34 Toxaphene						
1		6.961			ND	
1		7.227				
1		7.607				
1		7.847				
2		7.172				
2		7.304				
2		7.806				
2		8.524				
24 Dieldrin						
1		7.053			ND	
2		7.319				
27 Endrin						
1		7.254			ND	
2		7.586				
29 4,4'-DDD						
1		7.381			ND	
2		7.662				
31 Endosulfan II						
1		7.451			ND	
2		7.853				
33 4,4'-DDT						
1		7.658			ND	
2		7.906				
35 Endosulfan sulfate						
1		7.776			ND	
2		8.242				
36 Methoxychlor						
1		8.100			ND	
2		8.473				
* 44 Dibutylchlorendate ISTD						
1	8.175	8.174	0.001	99486233H	0.1000	
2	8.284	8.285	-0.001	94622498H	0.1000	
38 Mirex						
1		8.726			ND	
2		9.132				
$ 39 DCB Decachlorobiphenyl (Surr)						
1	9.939	9.939	0.000	10435565H	0.0152	
2	10.544	10.545	-0.001	12487047H	0.0187	
					RPD = 20.92	

Reagents:

GCPESTISSPK2_00017 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 24-Dec-2019 04:49:44 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000065.D				
Injection Date:	24-Dec-2019 03:07:48	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	180-100205-A-1-F	Lab Sample ID:	180-100205-1	Worklist Smp#:	65
Client ID:	11187072-N.TREATMENT AREA #2				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	65
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

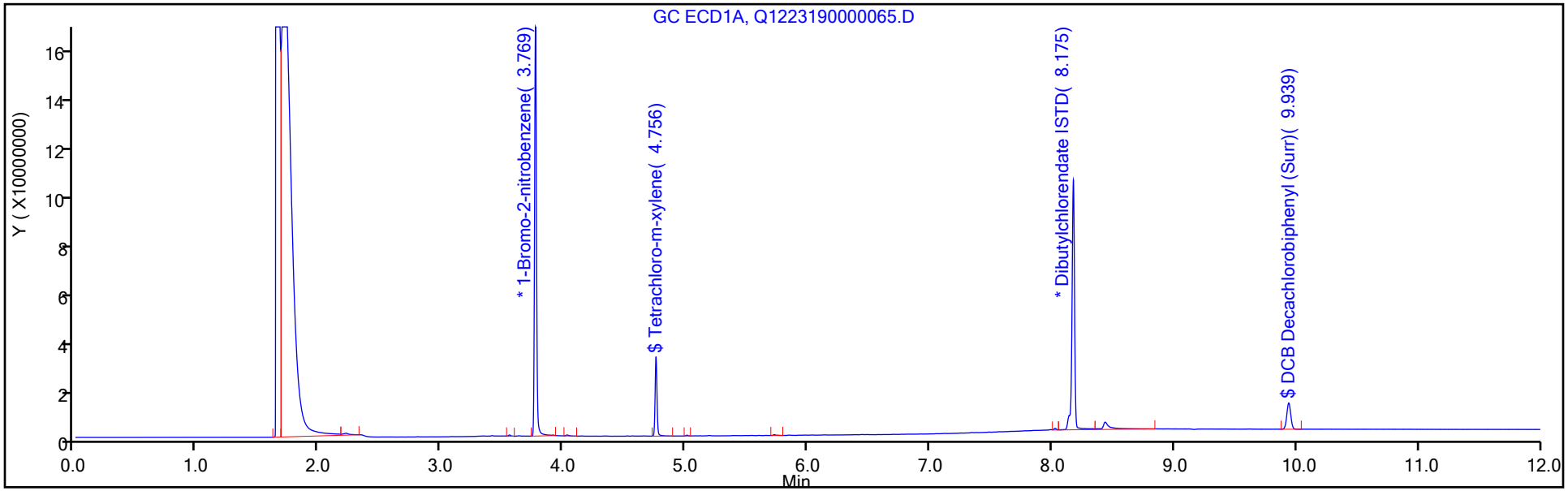

Column: MR-2 (0.53 mm)

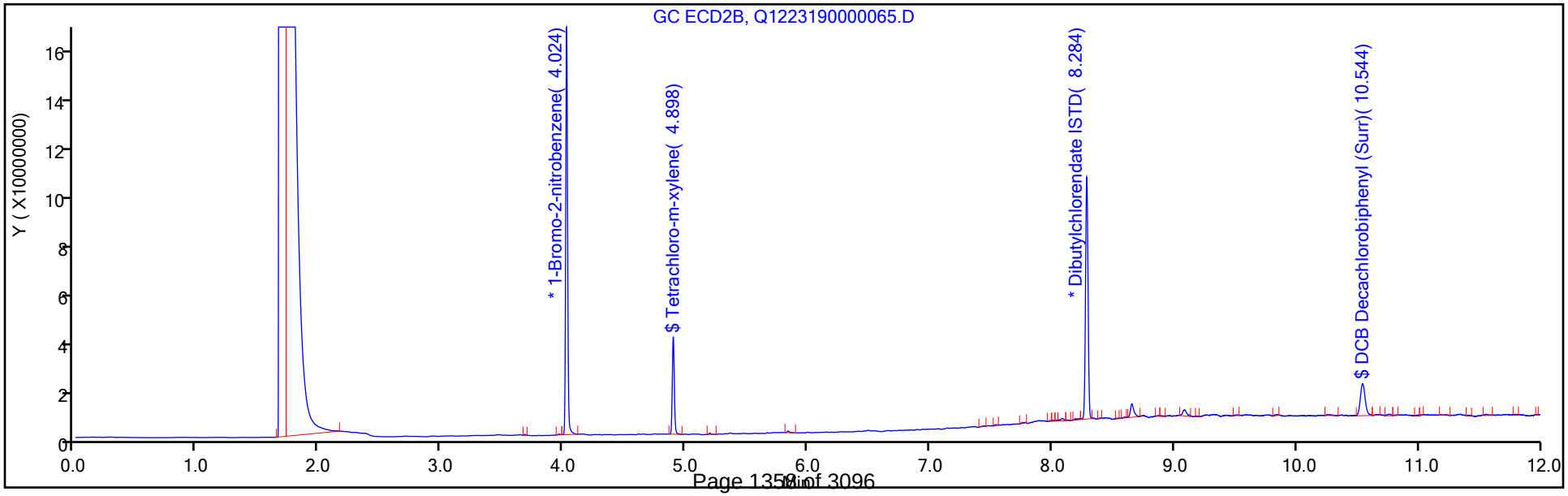

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000065.D				
Lims ID:	180-100205-A-1-F				
Client ID:	11187072-N.TREATMENT AREA #2				
Sample Type:	Client				
Inject. Date:	24-Dec-2019 03:07:48	ALS Bottle#:	65	Worklist Smp#:	65
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0030125-065				
Operator ID:	402331	Instrument ID:	CHGC15		

Method:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\IS PEST_CHGC15.m		
Limit Group:	GCS 8081B ICAL with IS		
Last Update:	24-Dec-2019 02:39:30	Calib Date:	17-Sep-2019 16:34:44
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D		

Column 1 :	MR-1 (0.53 mm)	Det: GC ECD1A
Column 2 :	MR-2 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0301	

First Level Reviewer: eppinged Date: 24-Dec-2019 04:49:12

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0140	70.11
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0152	75.82

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0177	88.29
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0187	93.53

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-100205-1
SDG No.:
Client Sample ID: 11187072-N.TREATMENT AREA #3
Lab Sample ID: 180-100205-3
Matrix: Solid (TCLP)
Lab File ID: Q1223190000066.D
Analysis Method: EPA 8081B
Date Collected: 12/18/2019 14:00
Extraction Method: 3510C
Date Extracted: 12/21/2019 05:15
Sample wt/vol: 100(mL)
Date Analyzed: 12/24/2019 03:23
Con. Extract Vol.: 40.0(mL)
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: MR-1 ID: 0.53(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 302301
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
50-29-3	4,4'-DDT	ND		0.00050	0.00012

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	73		62-150
877-09-8	Tetrachloro-m-xylene	68		54-138

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000066.D
Lims ID: 180-100205-A-3-F
Client ID: 11187072-N.TREATMENT AREA #3
Sample Type: Client
Inject. Date: 24-Dec-2019 03:23:19 ALS Bottle#: 66 Worklist Smp#: 66
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030125-066
Operator ID: 402331 Instrument ID: CHGC15

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Dec-2019 02:39:30 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0301

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene						
1	3.769	3.769	0.000	167387041	H 0.1000	
2	4.025	4.025	0.000	160216936	H 0.1000	
$ 3 Tetrachloro-m-xylene						
1	4.757	4.757	0.000	31513222	H 0.0136	
2	4.897	4.897	0.000	38426768	H 0.0178	
					RPD = 26.21	
7 gamma-BHC (Lindane)						
1		5.383			ND	
2		5.669				
9 Chlordane (technical)						
1		5.673			ND	
1		5.846				
1		6.700				
1		6.770				
2		5.989				
2		6.348				
2		6.953				
2		7.001				
11 Heptachlor						
1		5.850			ND	
2		5.993				
16 Heptachlor epoxide						
1		6.485			ND	
2		6.715				
18 trans-Chlordane						
1		6.703			ND	
2		6.943				
20 cis-Chlordane						
1		6.771			ND	
2		7.003				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
21 Endosulfan I						
1		6.814			ND	
2		7.073				
23 4,4'-DDE						
1		6.923			ND	
2		7.140				
34 Toxaphene						
1		6.961			ND	
1		7.227				
1		7.607				
1		7.847				
2		7.172				
2		7.304				
2		7.806				
2		8.524				
24 Dieldrin						
1		7.053			ND	
2		7.319				
27 Endrin						
1		7.254			ND	
2		7.586				
29 4,4'-DDD						
1		7.381			ND	
2		7.662				
31 Endosulfan II						
1		7.451			ND	
2		7.853				
33 4,4'-DDT						
1		7.658			ND	
2		7.906				
35 Endosulfan sulfate						
1		7.776			ND	
2		8.242				
36 Methoxychlor						
1		8.100			ND	
2		8.473				
* 44 Dibutylchlorendate ISTD						
1	8.174	8.174	0.000	101063896H	0.1000	
2	8.284	8.285	-0.001	95372361H	0.1000	
38 Mirex						
1		8.726			ND	
2		9.132				
$ 39 DCB Decachlorobiphenyl (Surr)						
1	9.939	9.939	0.000	10203749H	0.0146	
2	10.544	10.545	-0.001	12456877H	0.0185	
					RPD = 23.67	

Reagents:

GCPESTISSPK2_00017 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 24-Dec-2019 04:49:45 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000066.D				
Injection Date:	24-Dec-2019 03:23:19	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	180-100205-A-3-F	Lab Sample ID:	180-100205-3	Worklist Smp#:	66
Client ID:	11187072-N.TREATMENT AREA #3				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	66
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

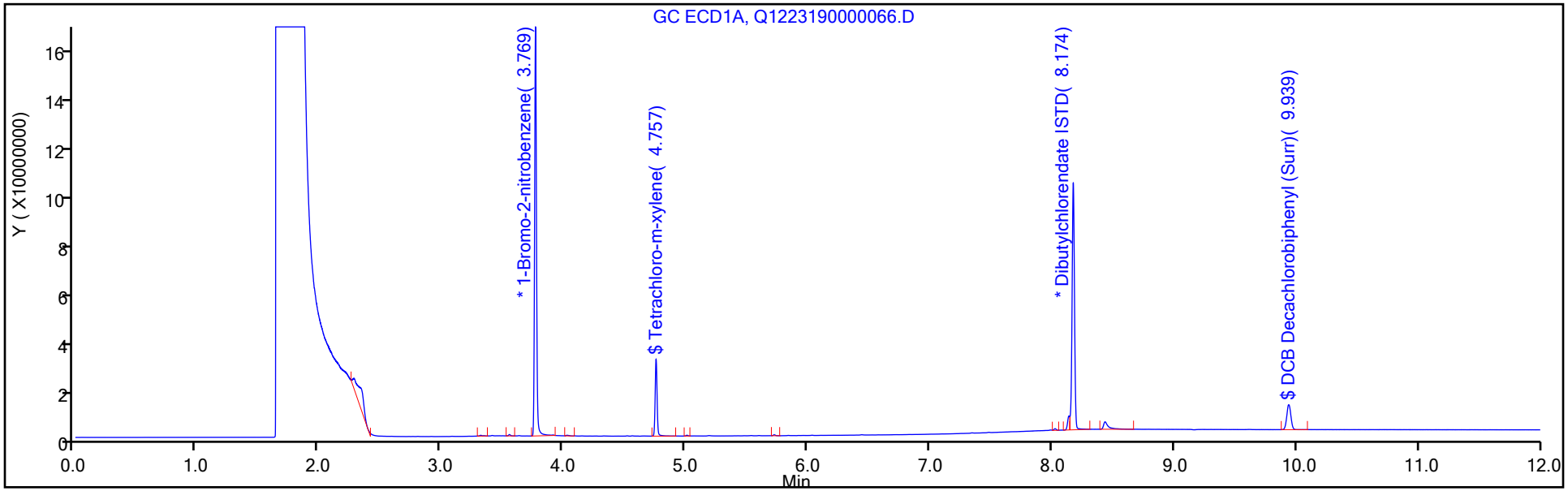

Column: MR-2 (0.53 mm)

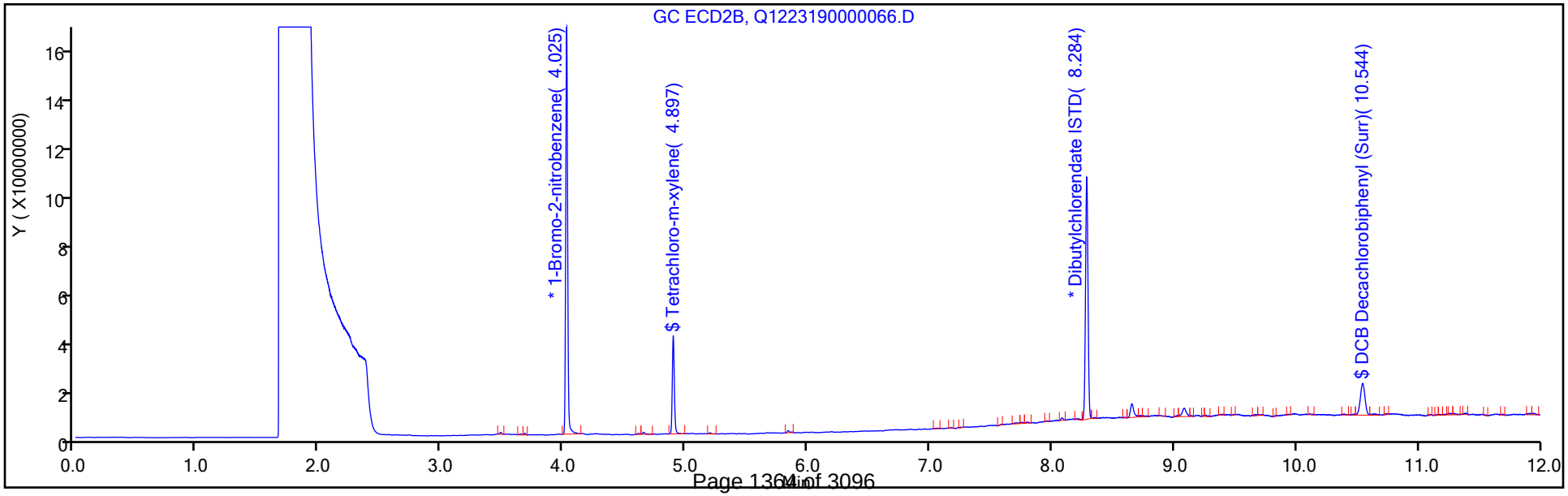

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000066.D				
Lims ID:	180-100205-A-3-F				
Client ID:	11187072-N.TREATMENT AREA #3				
Sample Type:	Client				
Inject. Date:	24-Dec-2019 03:23:19	ALS Bottle#:	66	Worklist Smp#:	66
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0030125-066				
Operator ID:	402331	Instrument ID:	CHGC15		
Method:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\IS PEST_CHGC15.m				
Limit Group:	GCS 8081B ICAL with IS				
Last Update:	24-Dec-2019 02:39:30	Calib Date:	17-Sep-2019 16:34:44		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D				
Column 1 :	MR-1 (0.53 mm)		Det: GC ECD1A		
Column 2 :	MR-2 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0301				

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0136	68.23
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0146	72.98

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0178	88.80
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0185	92.57

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-100205-1
SDG No.:
Client Sample ID: 11187072-N.TREATMENT AREA #3
Lab Sample ID: 180-100205-3
Matrix: Solid (TCLP)
Lab File ID: Q1223190000066.D
Analysis Method: EPA 8081B
Date Collected: 12/18/2019 14:00
Extraction Method: 3510C
Date Extracted: 12/21/2019 05:15
Sample wt/vol: 100(mL)
Date Analyzed: 12/24/2019 03:23
Con. Extract Vol.: 40.0(mL)
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: MR-2 ID: 0.53(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 302301
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
12789-03-6	Chlordane (technical)	ND		0.0050	0.0029
72-20-8	Endrin	ND		0.00050	0.000091
58-89-9	gamma-BHC (Lindane)	ND		0.00050	0.00012
76-44-8	Heptachlor	ND		0.00050	0.00018
1024-57-3	Heptachlor epoxide	ND		0.00050	0.00014
5103-71-9	cis-Chlordane	ND		0.00050	0.00015
72-43-5	Methoxychlor	ND		0.00050	0.00031
8001-35-2	Toxaphene	ND		0.040	0.020
5103-74-2	trans-Chlordane	ND		0.00050	0.00016
72-54-8	4,4'-DDD	ND		0.00050	0.00021
72-55-9	4,4'-DDE	ND		0.00050	0.00012
60-57-1	Dieldrin	ND		0.00050	0.00011
959-98-8	Endosulfan I	ND		0.00050	0.00027
33213-65-9	Endosulfan II	ND		0.00050	0.00013
1031-07-8	Endosulfan sulfate	ND		0.00050	0.00026
2385-85-5	Mirex	ND		0.00050	0.000084

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	93		62-150
877-09-8	Tetrachloro-m-xylene	89		54-138

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000066.D
Lims ID: 180-100205-A-3-F
Client ID: 11187072-N.TREATMENT AREA #3
Sample Type: Client
Inject. Date: 24-Dec-2019 03:23:19 ALS Bottle#: 66 Worklist Smp#: 66
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030125-066
Operator ID: 402331 Instrument ID: CHGC15

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Dec-2019 02:39:30 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0301

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene						
1	3.769	3.769	0.000	167387041	H 0.1000	
2	4.025	4.025	0.000	160216936	H 0.1000	
$ 3 Tetrachloro-m-xylene						
1	4.757	4.757	0.000	31513222	H 0.0136	
2	4.897	4.897	0.000	38426768	H 0.0178	
					RPD = 26.21	
7 gamma-BHC (Lindane)						
1		5.383			ND	
2		5.669				
9 Chlordane (technical)						
1		5.673			ND	
1		5.846				
1		6.700				
1		6.770				
2		5.989				
2		6.348				
2		6.953				
2		7.001				
11 Heptachlor						
1		5.850			ND	
2		5.993				
16 Heptachlor epoxide						
1		6.485			ND	
2		6.715				
18 trans-Chlordane						
1		6.703			ND	
2		6.943				
20 cis-Chlordane						
1		6.771			ND	
2		7.003				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
21 Endosulfan I						
1		6.814			ND	
2		7.073				
23 4,4'-DDE						
1		6.923			ND	
2		7.140				
34 Toxaphene						
1		6.961			ND	
1		7.227				
1		7.607				
1		7.847				
2		7.172				
2		7.304				
2		7.806				
2		8.524				
24 Dieldrin						
1		7.053			ND	
2		7.319				
27 Endrin						
1		7.254			ND	
2		7.586				
29 4,4'-DDD						
1		7.381			ND	
2		7.662				
31 Endosulfan II						
1		7.451			ND	
2		7.853				
33 4,4'-DDT						
1		7.658			ND	
2		7.906				
35 Endosulfan sulfate						
1		7.776			ND	
2		8.242				
36 Methoxychlor						
1		8.100			ND	
2		8.473				
* 44 Dibutylchlorendate ISTD						
1	8.174	8.174	0.000	101063896H	0.1000	
2	8.284	8.285	-0.001	95372361H	0.1000	
38 Mirex						
1		8.726			ND	
2		9.132				
$ 39 DCB Decachlorobiphenyl (Surr)						
1	9.939	9.939	0.000	10203749H	0.0146	
2	10.544	10.545	-0.001	12456877H	0.0185	
					RPD = 23.67	

Reagents:

GCPESTISSPK2_00017 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 24-Dec-2019 04:49:45 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000066.D				
Injection Date:	24-Dec-2019 03:23:19	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	180-100205-A-3-F	Lab Sample ID:	180-100205-3	Worklist Smp#:	66
Client ID:	11187072-N.TREATMENT AREA #3				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	66
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

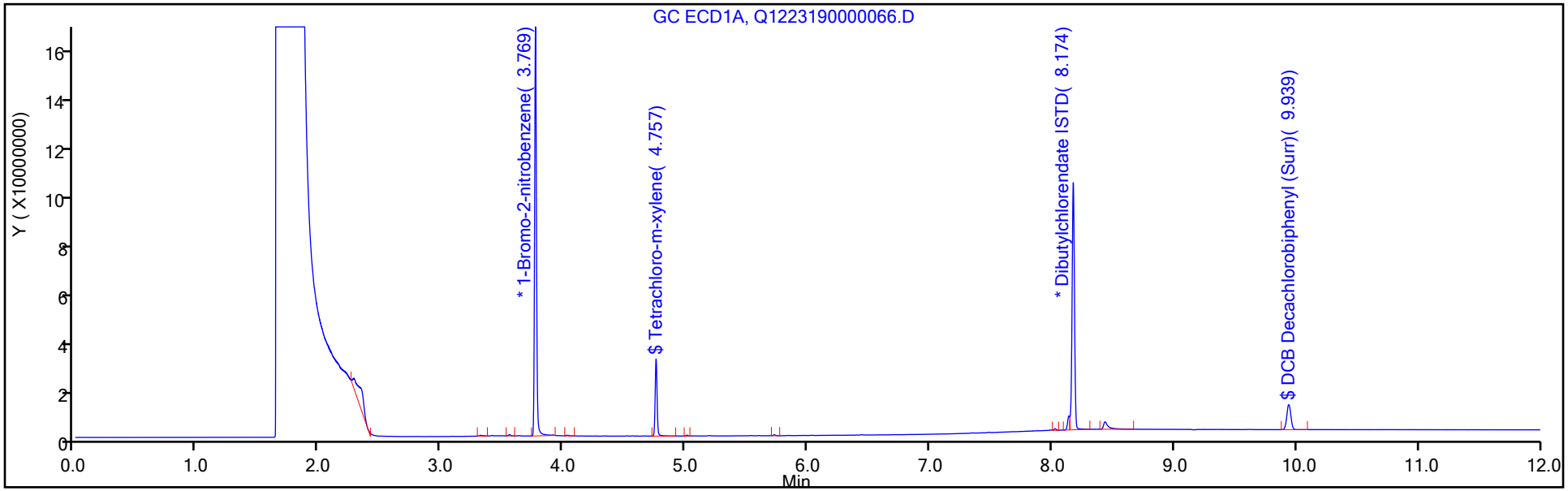

Column: MR-2 (0.53 mm)

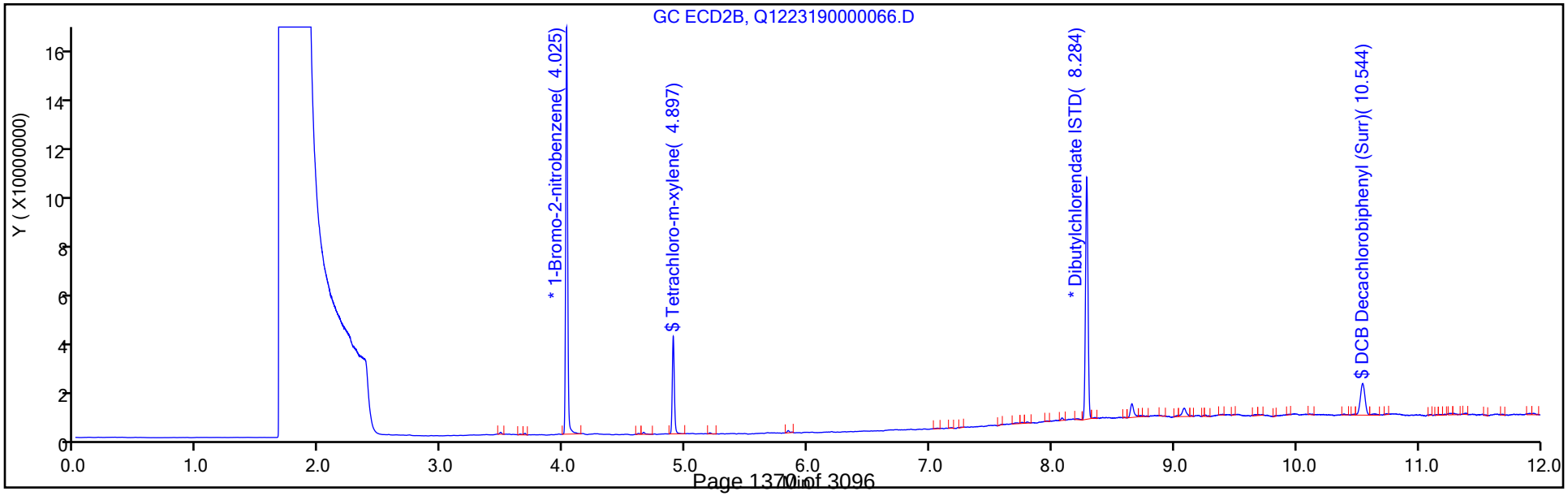

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000066.D				
Lims ID:	180-100205-A-3-F				
Client ID:	11187072-N.TREATMENT AREA #3				
Sample Type:	Client				
Inject. Date:	24-Dec-2019 03:23:19	ALS Bottle#:	66	Worklist Smp#:	66
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0030125-066				
Operator ID:	402331	Instrument ID:	CHGC15		
Method:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\IS PEST_CHGC15.m				
Limit Group:	GCS 8081B ICAL with IS				
Last Update:	24-Dec-2019 02:39:30	Calib Date:	17-Sep-2019 16:34:44		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D				
Column 1 :	MR-1 (0.53 mm)		Det: GC ECD1A		
Column 2 :	MR-2 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0301				

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0136	68.23
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0146	72.98

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0178	88.80
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0185	92.57

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-100205-1
SDG No.:
Client Sample ID: 11187072-N.TREATMENT AREA #4
Lab Sample ID: 180-100205-5
Matrix: Solid (TCLP)
Lab File ID: Q1223190000067.D
Analysis Method: EPA 8081B
Date Collected: 12/18/2019 14:30
Extraction Method: 3510C
Date Extracted: 12/21/2019 05:15
Sample wt/vol: 100(mL)
Date Analyzed: 12/24/2019 03:38
Con. Extract Vol.: 40.0(mL)
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: MR-1 ID: 0.53(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 302301
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
50-29-3	4,4'-DDT	ND		0.00050	0.00012

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	78		62-150
877-09-8	Tetrachloro-m-xylene	69		54-138

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000067.D
Lims ID: 180-100205-A-5-F
Client ID: 11187072-N.TREATMENT AREA #4
Sample Type: Client
Inject. Date: 24-Dec-2019 03:38:42 ALS Bottle#: 67 Worklist Smp#: 67
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030125-067
Operator ID: 402331 Instrument ID: CHGC15

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Dec-2019 02:39:30 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0301

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene						
1	3.769	3.769	0.000	163987043	H 0.1000	
2	4.025	4.025	0.000	160900103	H 0.1000	
$ 3 Tetrachloro-m-xylene						
1	4.757	4.757	0.000	31419891	H 0.0139	
2	4.898	4.897	0.001	38852598	H 0.0179	
					RPD = 25.15	
7 gamma-BHC (Lindane)						
1		5.383			ND	
2		5.669				
9 Chlordane (technical)						
1		5.673			ND	
1		5.846				
1		6.700				
1		6.770				
2		5.989				
2		6.348				
2		6.953				
2		7.001				
11 Heptachlor						
1		5.850			ND	
2		5.993				
16 Heptachlor epoxide						
1		6.485			ND	
2		6.715				
18 trans-Chlordane						
1		6.703			ND	
2		6.943				
20 cis-Chlordane						
1		6.771			ND	
2		7.003				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
21 Endosulfan I						
1		6.814			ND	
2		7.073				
23 4,4'-DDE						
1		6.923			ND	
2		7.140				
34 Toxaphene						
1		6.961			ND	
1		7.227				
1		7.607				
1		7.847				
2		7.172				
2		7.304				
2		7.806				
2		8.524				
24 Dieldrin						
1		7.053			ND	
2		7.319				
27 Endrin						
1		7.254			ND	
2		7.586				
29 4,4'-DDD						
1		7.381			ND	
2		7.662				
31 Endosulfan II						
1		7.451			ND	
2		7.853				
33 4,4'-DDT						
1		7.658			ND	
2		7.906				
35 Endosulfan sulfate						
1		7.776			ND	
2		8.242				
36 Methoxychlor						
1		8.100			ND	
2		8.473				
* 44 Dibutylchlorendate ISTD						
1	8.174	8.174	0.000	98792651H	0.1000	
2	8.285	8.285	0.000	94920327H	0.1000	
38 Mirex						
1		8.726			ND	
2		9.132				
$ 39 DCB Decachlorobiphenyl (Surr)						
1	9.939	9.939	0.000	10662762H	0.0156	
2	10.543	10.545	-0.002	12618272H	0.0188	
					RPD = 18.82	

Reagents:

GCPESTISSPK2_00017 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 24-Dec-2019 04:49:46 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000067.D				
Injection Date:	24-Dec-2019 03:38:42	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	180-100205-A-5-F	Lab Sample ID:	180-100205-5	Worklist Smp#:	67
Client ID:	11187072-N.TREATMENT AREA #4				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	67
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

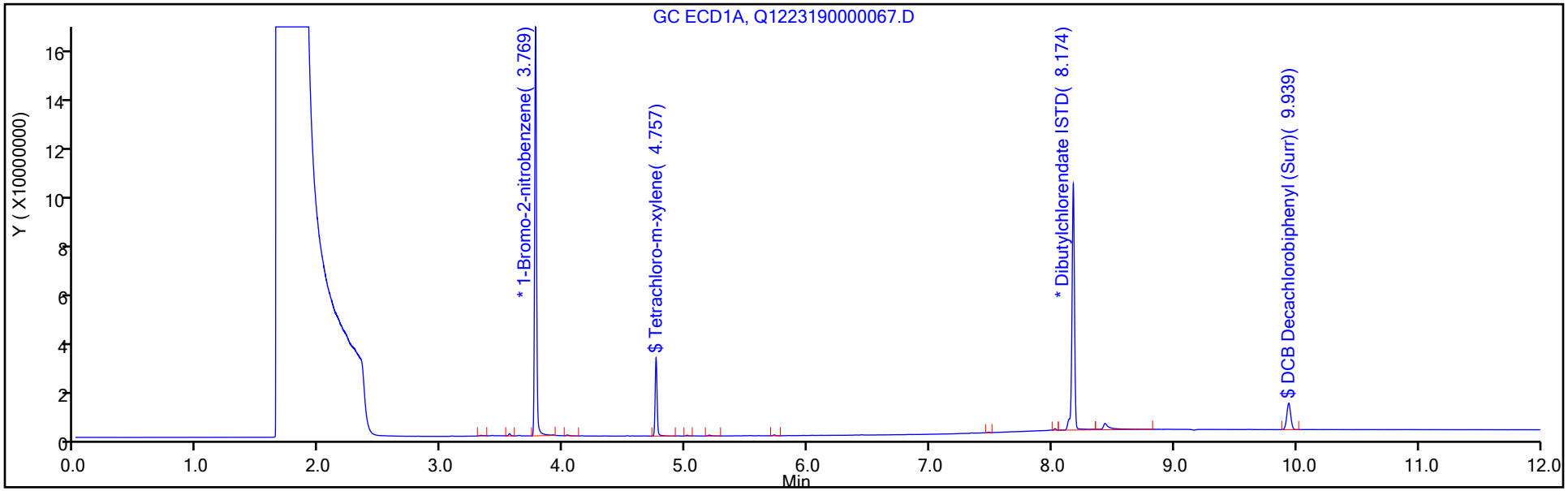

Column: MR-2 (0.53 mm)

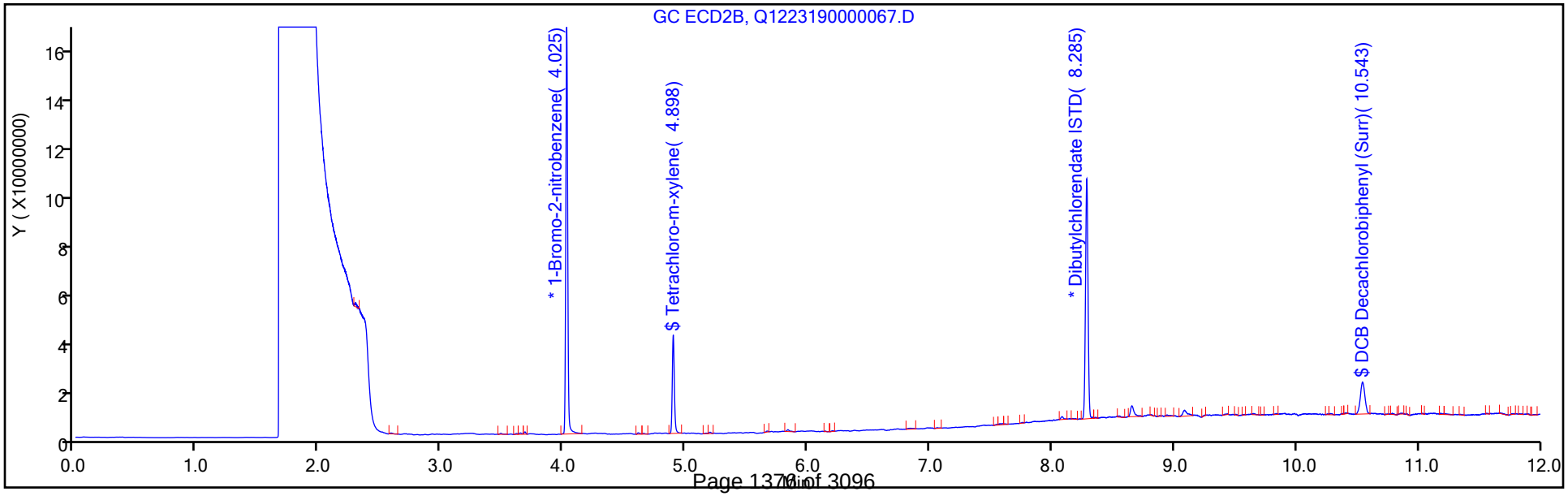

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000067.D				
Lims ID:	180-100205-A-5-F				
Client ID:	11187072-N.TREATMENT AREA #4				
Sample Type:	Client				
Inject. Date:	24-Dec-2019 03:38:42	ALS Bottle#:	67	Worklist Smp#:	67
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0030125-067				
Operator ID:	402331	Instrument ID:	CHGC15		
Method:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\IS PEST_CHGC15.m				
Limit Group:	GCS 8081B ICAL with IS				
Last Update:	24-Dec-2019 02:39:30	Calib Date:	17-Sep-2019 16:34:44		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D				
Column 1 :	MR-1 (0.53 mm)		Det: GC ECD1A		
Column 2 :	MR-2 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0301				

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0139	69.44
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0156	78.01

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0179	89.41
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0188	94.22

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Client Sample ID: 11187072-N.TREATMENT AREA #4 Lab Sample ID: 180-100205-5

Matrix: Solid (TCLP) Lab File ID: Q1223190000067.D

Analysis Method: EPA 8081B Date Collected: 12/18/2019 14:30

Extraction Method: 3510C Date Extracted: 12/21/2019 05:15

Sample wt/vol: 100(mL) Date Analyzed: 12/24/2019 03:38

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: MR-2 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 302301 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
12789-03-6	Chlordane (technical)	ND		0.0050	0.0029
72-20-8	Endrin	ND		0.00050	0.000091
58-89-9	gamma-BHC (Lindane)	ND		0.00050	0.00012
76-44-8	Heptachlor	ND		0.00050	0.00018
1024-57-3	Heptachlor epoxide	ND		0.00050	0.00014
5103-71-9	cis-Chlordane	ND		0.00050	0.00015
72-43-5	Methoxychlor	ND		0.00050	0.00031
8001-35-2	Toxaphene	ND		0.040	0.020
5103-74-2	trans-Chlordane	ND		0.00050	0.00016
72-54-8	4,4'-DDD	ND		0.00050	0.00021
72-55-9	4,4'-DDE	ND		0.00050	0.00012
60-57-1	Dieldrin	ND		0.00050	0.00011
959-98-8	Endosulfan I	ND		0.00050	0.00027
33213-65-9	Endosulfan II	ND		0.00050	0.00013
1031-07-8	Endosulfan sulfate	ND		0.00050	0.00026
2385-85-5	Mirex	ND		0.00050	0.000084

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	94		62-150
877-09-8	Tetrachloro-m-xylene	89		54-138

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000067.D
Lims ID: 180-100205-A-5-F
Client ID: 11187072-N.TREATMENT AREA #4
Sample Type: Client
Inject. Date: 24-Dec-2019 03:38:42 ALS Bottle#: 67 Worklist Smp#: 67
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030125-067
Operator ID: 402331 Instrument ID: CHGC15

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Dec-2019 02:39:30 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0301

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene						
1	3.769	3.769	0.000	163987043	H 0.1000	
2	4.025	4.025	0.000	160900103	H 0.1000	
$ 3 Tetrachloro-m-xylene						
1	4.757	4.757	0.000	31419891	H 0.0139	
2	4.898	4.897	0.001	38852598	H 0.0179	
					RPD = 25.15	
7 gamma-BHC (Lindane)						
1		5.383			ND	
2		5.669				
9 Chlordane (technical)						
1		5.673			ND	
1		5.846				
1		6.700				
1		6.770				
2		5.989				
2		6.348				
2		6.953				
2		7.001				
11 Heptachlor						
1		5.850			ND	
2		5.993				
16 Heptachlor epoxide						
1		6.485			ND	
2		6.715				
18 trans-Chlordane						
1		6.703			ND	
2		6.943				
20 cis-Chlordane						
1		6.771			ND	
2		7.003				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
21 Endosulfan I						
1		6.814			ND	
2		7.073				
23 4,4'-DDE						
1		6.923			ND	
2		7.140				
34 Toxaphene						
1		6.961			ND	
1		7.227				
1		7.607				
1		7.847				
2		7.172				
2		7.304				
2		7.806				
2		8.524				
24 Dieldrin						
1		7.053			ND	
2		7.319				
27 Endrin						
1		7.254			ND	
2		7.586				
29 4,4'-DDD						
1		7.381			ND	
2		7.662				
31 Endosulfan II						
1		7.451			ND	
2		7.853				
33 4,4'-DDT						
1		7.658			ND	
2		7.906				
35 Endosulfan sulfate						
1		7.776			ND	
2		8.242				
36 Methoxychlor						
1		8.100			ND	
2		8.473				
* 44 Dibutylchlorendate ISTD						
1	8.174	8.174	0.000	98792651H	0.1000	
2	8.285	8.285	0.000	94920327H	0.1000	
38 Mirex						
1		8.726			ND	
2		9.132				
$ 39 DCB Decachlorobiphenyl (Surr)						
1	9.939	9.939	0.000	10662762H	0.0156	
2	10.543	10.545	-0.002	12618272H	0.0188	
					RPD = 18.82	

Reagents:

GCPESTISSPK2_00017 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 24-Dec-2019 04:49:47 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000067.D				
Injection Date:	24-Dec-2019 03:38:42	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	180-100205-A-5-F	Lab Sample ID:	180-100205-5	Worklist Smp#:	67
Client ID:	11187072-N.TREATMENT AREA #4				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	67
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

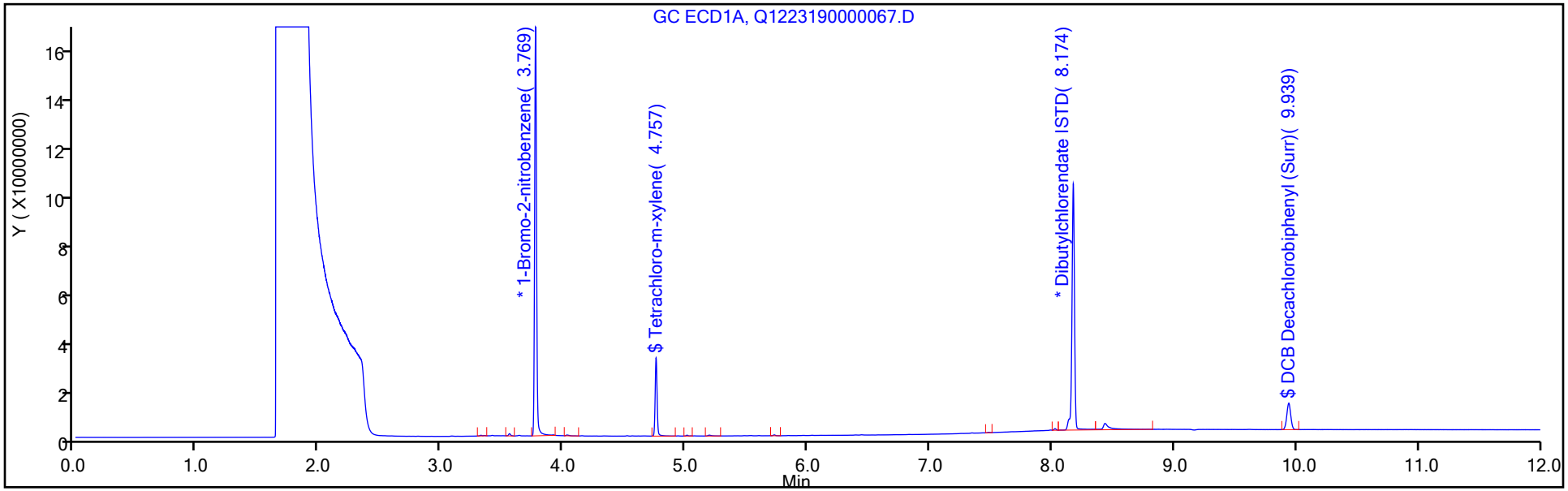

Column: MR-2 (0.53 mm)

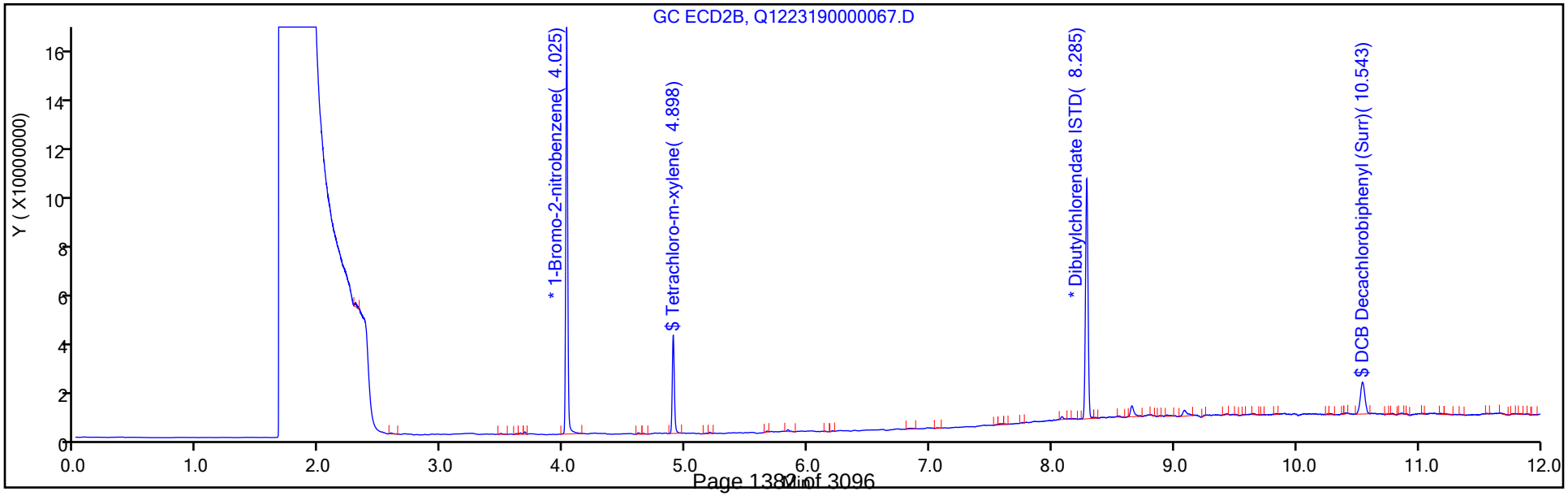

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000067.D				
Lims ID:	180-100205-A-5-F				
Client ID:	11187072-N.TREATMENT AREA #4				
Sample Type:	Client				
Inject. Date:	24-Dec-2019 03:38:42	ALS Bottle#:	67	Worklist Smp#:	67
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0030125-067				
Operator ID:	402331	Instrument ID:	CHGC15		
Method:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\IS PEST_CHGC15.m				
Limit Group:	GCS 8081B ICAL with IS				
Last Update:	24-Dec-2019 02:39:30	Calib Date:	17-Sep-2019 16:34:44		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D				
Column 1 :	MR-1 (0.53 mm)		Det: GC ECD1A		
Column 2 :	MR-2 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0301				

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0139	69.44
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0156	78.01

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0179	89.41
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0188	94.22

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 279115

SDG No.:

Instrument ID: CHGC15 GC Column: MR-1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/18/2019 12:14 Calibration End Date: 05/18/2019 13:16 Calibration ID: 40515

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-279115/2	Q0518190000002.D
Level 2	IC 180-279115/3	Q0518190000003.D
Level 3	IC 180-279115/4	Q0518190000004.D
Level 4	IC 180-279115/5	Q0518190000005.D
Level 5	IC 180-279115/6	Q0518190000006.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Toxaphene Peak 1	0.0132	0.0142	0.0140	0.0130	0.0130	Ave		0.0135				4.2		20.0			
Toxaphene Peak 2	0.0163	0.0186	0.0190	0.0174	0.0176	Ave		0.0178				5.9		20.0			
Toxaphene Peak 3	0.0166	0.0169	0.0169	0.0157	0.0161	Ave		0.0164				3.1		20.0			
Toxaphene Peak 4	0.0165	0.0147	0.0149	0.0146	0.0150	Ave		0.0151				5.2		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 279115

SDG No.:

Instrument ID: CHGC15 GC Column: MR-1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/18/2019 12:14 Calibration End Date: 05/18/2019 13:16 Calibration ID: 40515

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-279115/2	Q0518190000002.D
Level 2	IC 180-279115/3	Q0518190000003.D
Level 3	IC 180-279115/4	Q0518190000004.D
Level 4	IC 180-279115/5	Q0518190000005.D
Level 5	IC 180-279115/6	Q0518190000006.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
Toxaphene Peak 1	BNB	Ave	305996	3258755	16795207	39325339	77201237	0.0200	0.200	1.00	2.50	5.00
Toxaphene Peak 2	BNB	Ave	379428	4256976	22844326	52546473	104554704	0.0200	0.200	1.00	2.50	5.00
Toxaphene Peak 3	BNB	Ave	385270	3870755	20300252	47529889	95111512	0.0200	0.200	1.00	2.50	5.00
Toxaphene Peak 4	BNB	Ave	383809	3360759	17884063	44103923	88645940	0.0200	0.200	1.00	2.50	5.00

Curve Type Legend:
Ave = Average ISTD by Height

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 279115

SDG No.:

Instrument ID: CHGC15 GC Column: MR-1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/18/2019 12:14 Calibration End Date: 05/18/2019 13:16 Calibration ID: 40515

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-279115/2	Q0518190000002.D
Level 2	IC 180-279115/3	Q0518190000003.D
Level 3	IC 180-279115/4	Q0518190000004.D
Level 4	IC 180-279115/5	Q0518190000005.D
Level 5	IC 180-279115/6	Q0518190000006.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #		LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	
Toxaphene Peak 1	-2.4	5.5	3.6	-3.4	-3.3		50	30	30	30	30	
Toxaphene Peak 2	-8.3	4.5	6.8	-2.2	-0.8		50	30	30	30	30	
Toxaphene Peak 3	0.9	2.8	2.7	-4.2	-2.2		50	30	30	30	30	
Toxaphene Peak 4	9.1	-3.0	-1.7	-3.4	-1.0		50	30	30	30	30	

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000002.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 18-May-2019 12:14:12 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026894-002
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub4

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 20-May-2019 05:51:30 Calib Date: 18-May-2019 20:36:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0306

First Level Reviewer: eppinged Date: 18-May-2019 12:37:38

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.823	3.791	0.032	116332630H	0.1000	0.1000	
2	4.081	4.066	0.015	144557317H	0.1000	0.1000	
34 Toxaphene							Ma
1	7.050	7.010	0.040	305996H	0.0200	0.0195	M
1	7.317	7.276	0.041	379428H	0.0200	0.0183	M
1	7.698	7.658	0.040	385270H	0.0200	0.0202	M
1	7.947	7.900	0.047	383809H	0.0200	0.0218	M
		Average of Peak Amounts =				0.0200	
2	7.260	7.241	0.019	200846H	0.0200	0.0186	M
2	7.393	7.372	0.021	400640H	0.0200	0.0229	M
2	7.896	7.875	0.021	1005486H	0.0200	0.0198	M
2	8.630	8.607	0.023	472965H	0.0200	0.0235	M
		Average of Peak Amounts =				0.0212	
						RPD = 5.99	
* 44 Dibutylchlorendate ISTD							M
1	8.280	8.235	0.045	86996897H	0.1000	0.1000	M
2	8.391	8.368	0.023	87130595H	0.1000	0.1000	M

QC Flag Legend

Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

GCTOXLEVEL1_00011 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 20-May-2019 05:51:32 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000002.D				
Injection Date:	18-May-2019 12:14:12	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

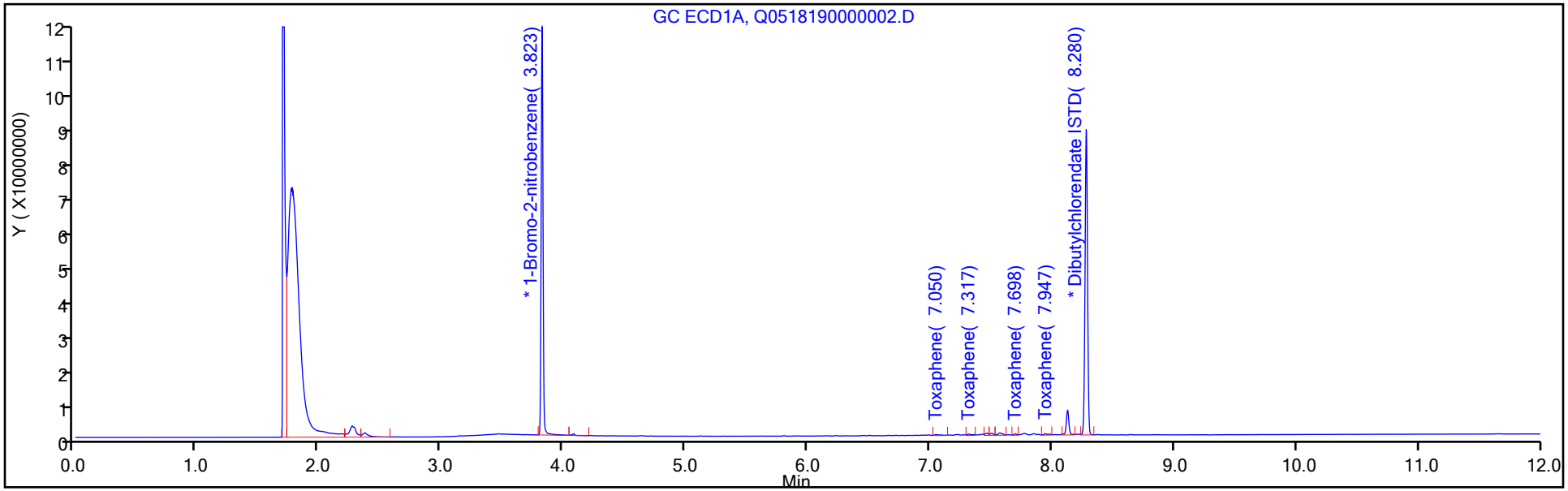

Column: MR-2 (0.53 mm)

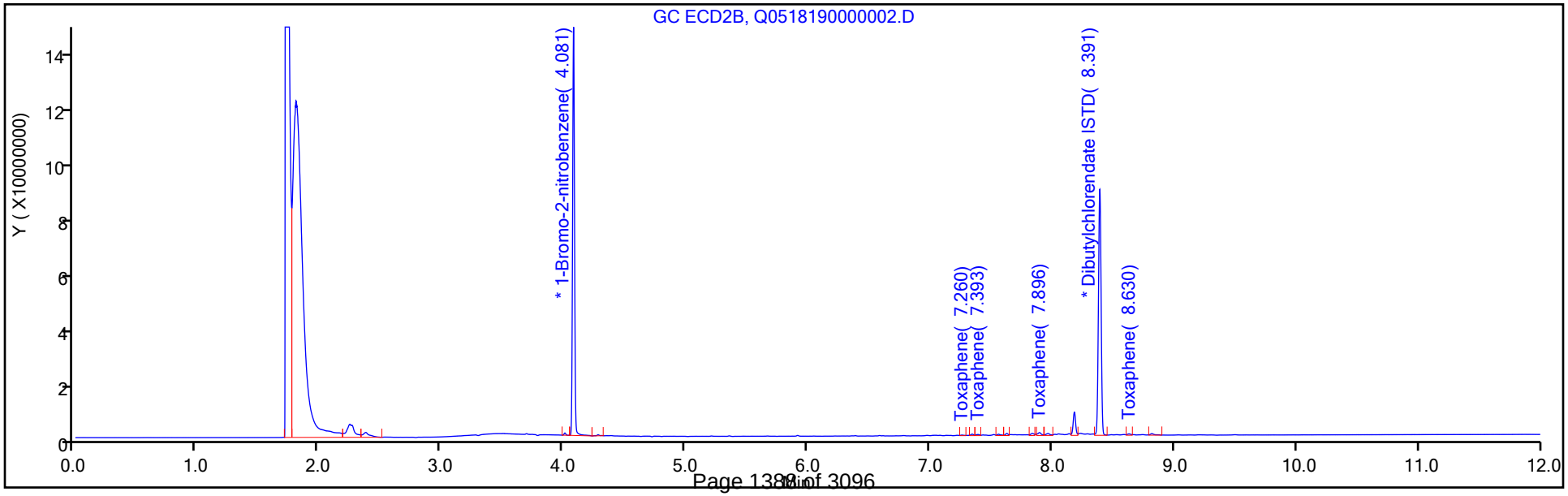

Report Date: 20-May-2019 05:51:32 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000002.D				
Injection Date:	18-May-2019 12:14:12	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

34 Toxaphene, CAS: 8001-35-2

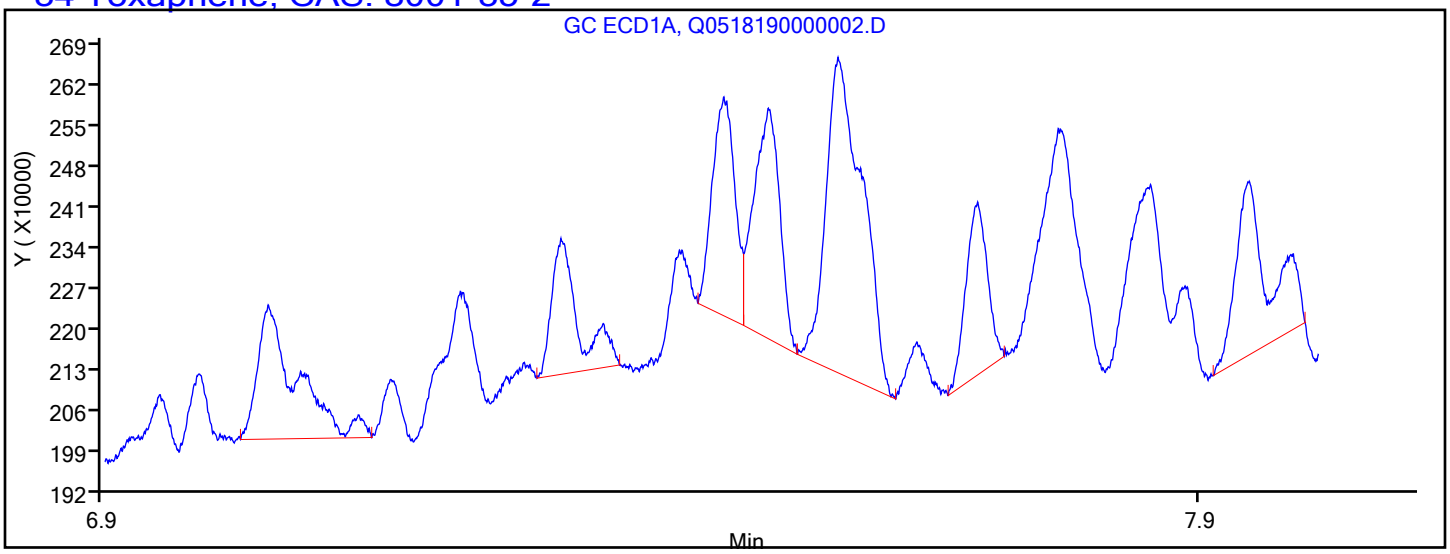

Processing Integration Results

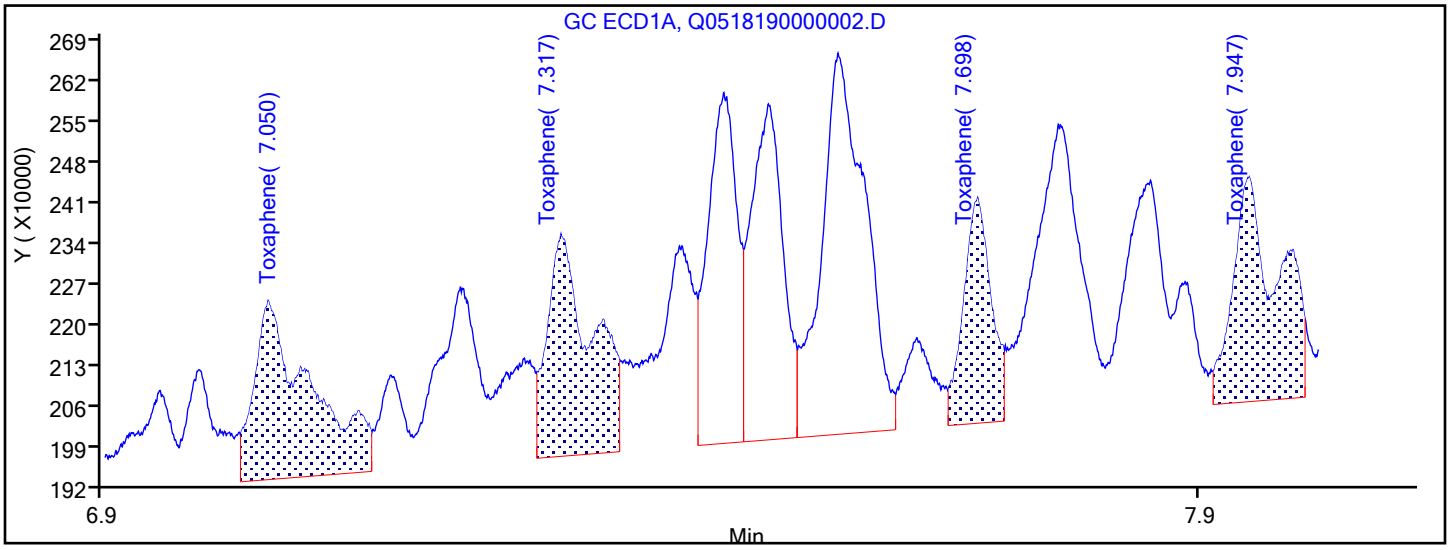

Manual Integration Results

7.050	Response = 305996	M
7.317	Response = 379428	M
7.698	Response = 385270	M
7.947	Response = 383809	M

Reviewer: eppinged, 18-May-2019 12:35:16

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000002.D				
Injection Date:	18-May-2019 12:14:12	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

* 44 Dibutylchlorendate ISTD, CAS: 1770-80-5

Signal: 1

Processing Integration Results

RT: 8.28
Height: 86924572
Amount: 0.100000
Amount Units: ng

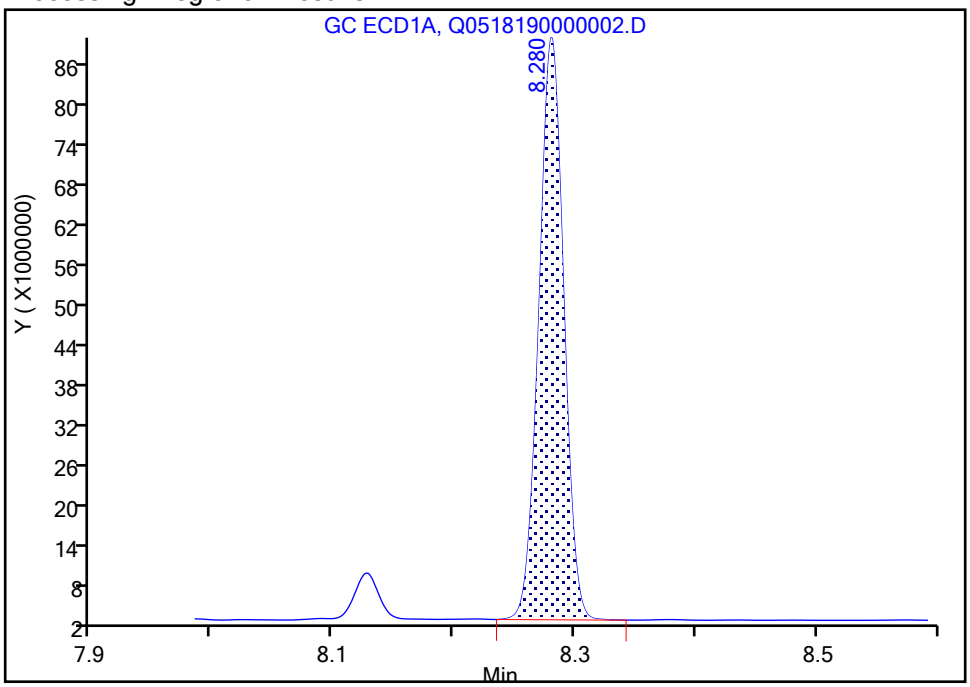

Manual Integration Results

RT: 8.28
Height: 86996897
Amount: 0.100000
Amount Units: ng

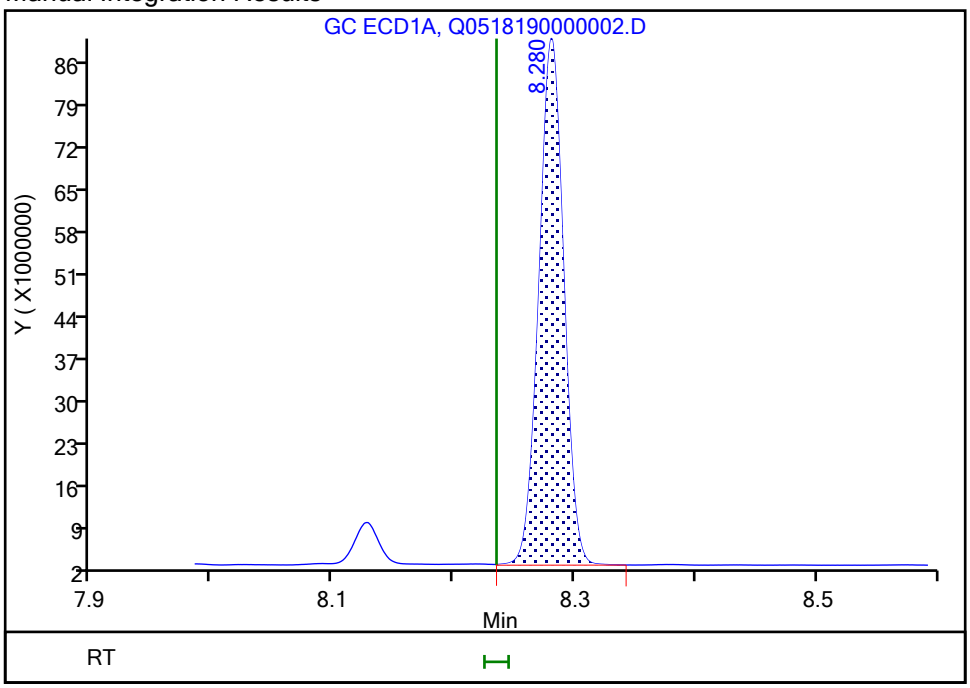

Reviewer: eppinged, 18-May-2019 12:35:06

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000003.D				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	2		
Inject. Date:	18-May-2019 12:29:45	ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0026894-003				
Operator ID:	402331	Instrument ID:	CHGC15		
Sublist:	chrom-IS PEST_CHGC15*sub4				
Method:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m				
Limit Group:	GCS 8081B ICAL with IS				
Last Update:	20-May-2019 05:51:34	Calib Date:	18-May-2019 20:36:24		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D				
Column 1 :	MR-1 (0.53 mm)		Det: GC ECD1A		
Column 2 :	MR-2 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0306				

First Level Reviewer: eppinged Date: 18-May-2019 12:47:10

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.823	3.791	0.032	114616114H	0.1000	0.1000	
2	4.080	4.066	0.014	143078455H	0.1000	0.1000	
34 Toxaphene							M
1	7.051	7.010	0.041	3258755H	0.2000	0.2110	M
1	7.318	7.276	0.042	4256976H	0.2000	0.2089	M
1	7.700	7.658	0.042	3870755H	0.2000	0.2057	M
1	7.942	7.900	0.042	3360759H	0.2000	0.1940	M
		Average of Peak Amounts =				0.2049	
2	7.263	7.241	0.022	2387621H	0.2000	0.2237	M
2	7.393	7.372	0.021	3771195H	0.2000	0.2178	M
2	7.896	7.875	0.021	6651398H	0.2000	0.2229	M
2	8.633	8.607	0.026	3880183H	0.2000	0.1949	M
		Average of Peak Amounts =				0.2148	
						RPD = 4.72	
* 44 Dibutylchlorendate ISTD							M
1	8.280	8.235	0.045	85146236H	0.1000	0.1000	M
2	8.391	8.368	0.023	89193881H	0.1000	0.1000	M

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCTOXLEVEL2_00009	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 20-May-2019 05:51:36 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000003.D				
Injection Date:	18-May-2019 12:29:45	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

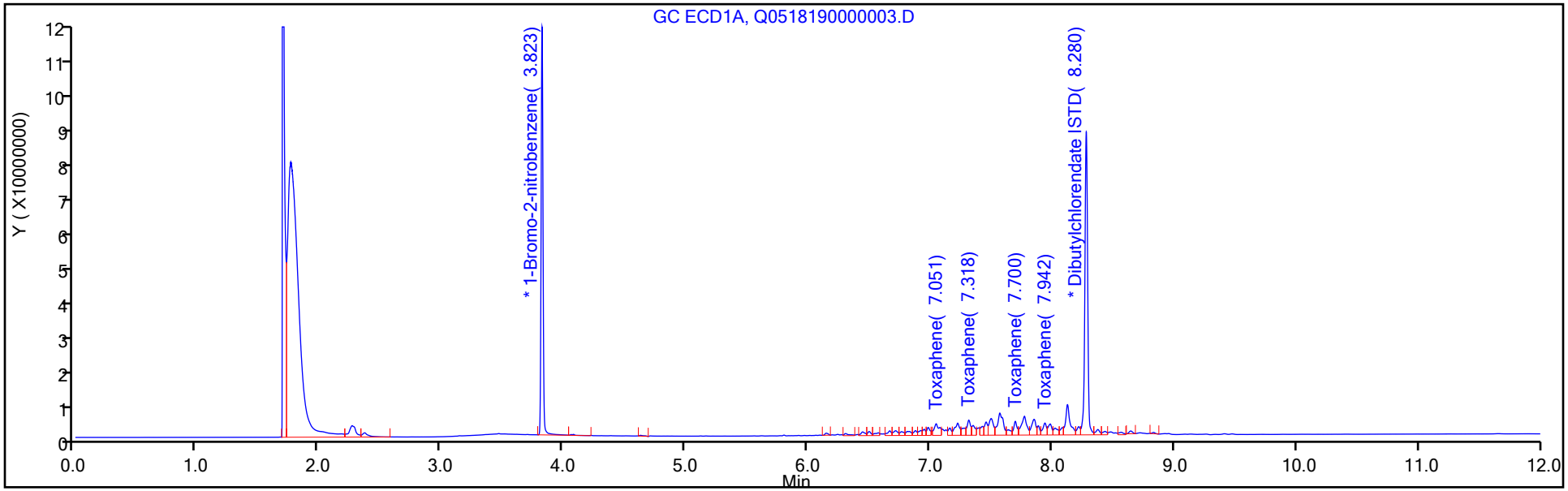

Column: MR-2 (0.53 mm)

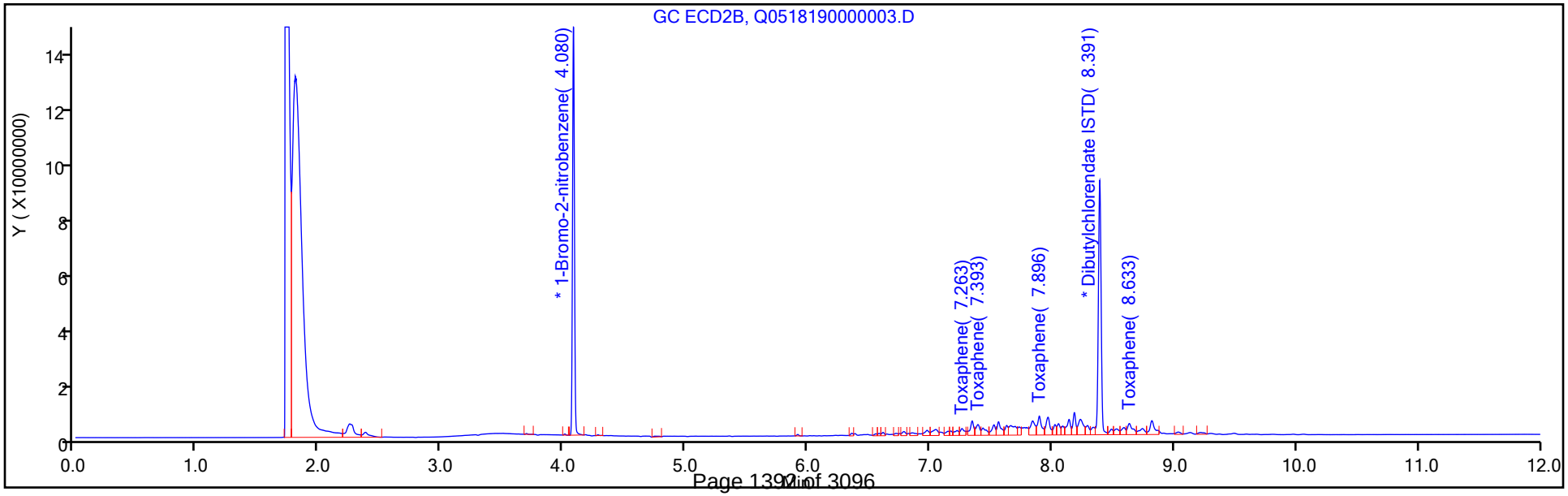

Report Date: 20-May-2019 05:51:36 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000003.D				
Injection Date:	18-May-2019 12:29:45	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

34 Toxaphene, CAS: 8001-35-2

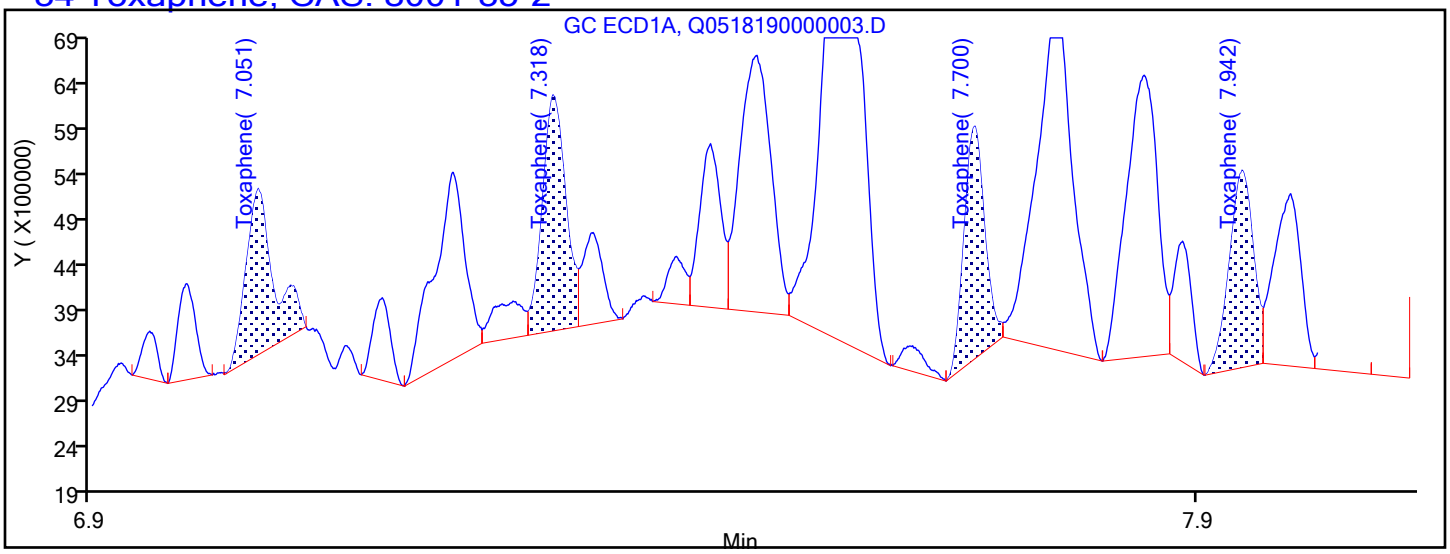

Processing Integration Results

7.051	Response = 1821330
7.318	Response = 2588058
7.700	Response = 2549584
7.942	Response = 2164152

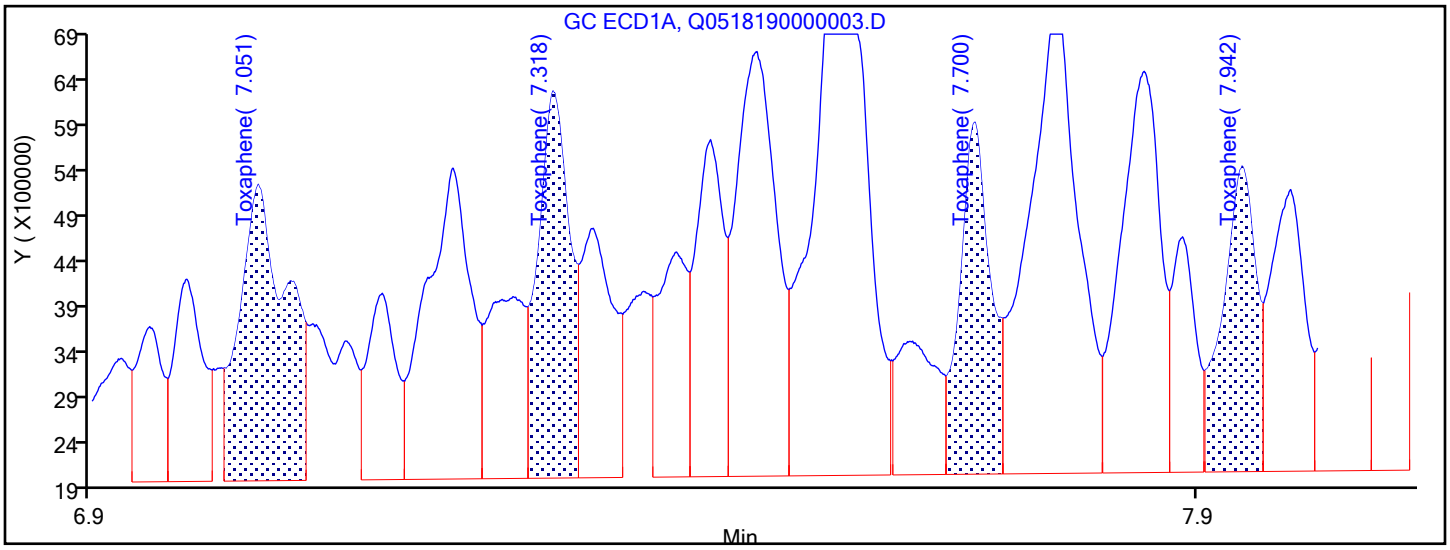

Manual Integration Results

7.051	Response = 3258755	M
7.318	Response = 4256976	M
7.700	Response = 3870755	M
7.942	Response = 3360759	M

Reviewer: eppinged, 18-May-2019 12:49:22

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000003.D				
Injection Date:	18-May-2019 12:29:45	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

* 44 Dibutylchlorendate ISTD, CAS: 1770-80-5

Signal: 1

Processing Integration Results

RT: 8.28
Height: 84370446
Amount: 0.100000
Amount Units: ng

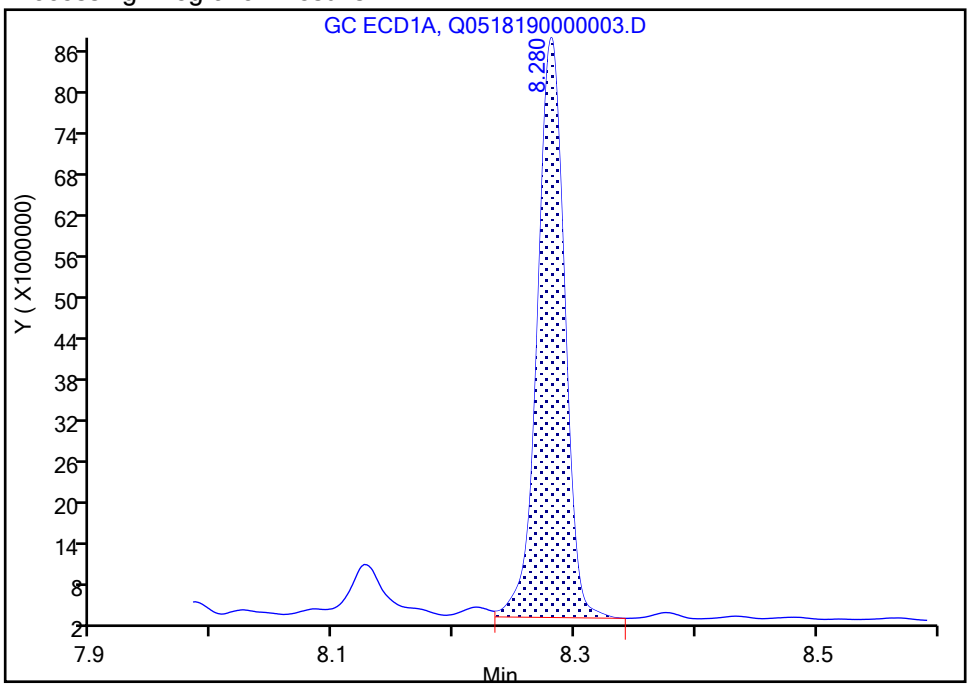

Manual Integration Results

RT: 8.28
Height: 85146236
Amount: 0.100000
Amount Units: ng

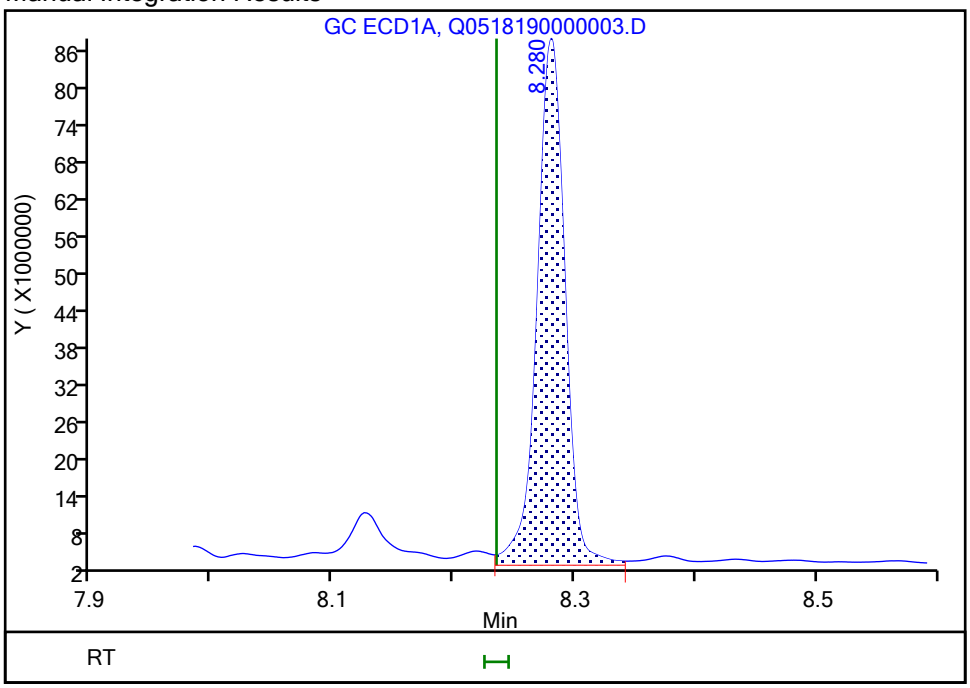

Reviewer: eppinged, 18-May-2019 12:49:22

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000004.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 18-May-2019 12:45:09 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026894-004
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub4

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 20-May-2019 05:51:37 Calib Date: 18-May-2019 20:36:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0306

First Level Reviewer: eppinged Date: 18-May-2019 13:04:41

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.823	3.823	0.000	120360084H	0.1000	0.1000	
2	4.081	4.081	0.000	147486512H	0.1000	0.1000	
34 Toxaphene							M
1	7.049	7.049	0.000	16795207H	1.00	1.04	M
1	7.316	7.316	0.000	22844326H	1.00	1.07	M
1	7.699	7.699	0.000	20300252H	1.00	1.03	M
1	7.941	7.941	0.000	17884063H	1.00	0.9831	M
		Average of Peak Amounts =				1.03	
2	7.262	7.262	0.000	11773898H	1.00	1.07	M
2	7.392	7.392	0.000	18027554H	1.00	1.01	M
2	7.895	7.895	0.000	30951600H	1.00	1.06	M
2	8.632	8.632	0.000	20988358H	1.00	1.02	M
		Average of Peak Amounts =				1.04	
						RPD = 1.25	
* 44 Dibutylchlorendate ISTD							M
1	8.280	8.280	0.000	100476513H	0.1000	0.1000	M
2	8.390	8.390	0.000	105293773H	0.1000	0.1000	M

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

GCTOXLEVEL3_00018 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 20-May-2019 05:51:39 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000004.D				
Injection Date:	18-May-2019 12:45:09	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

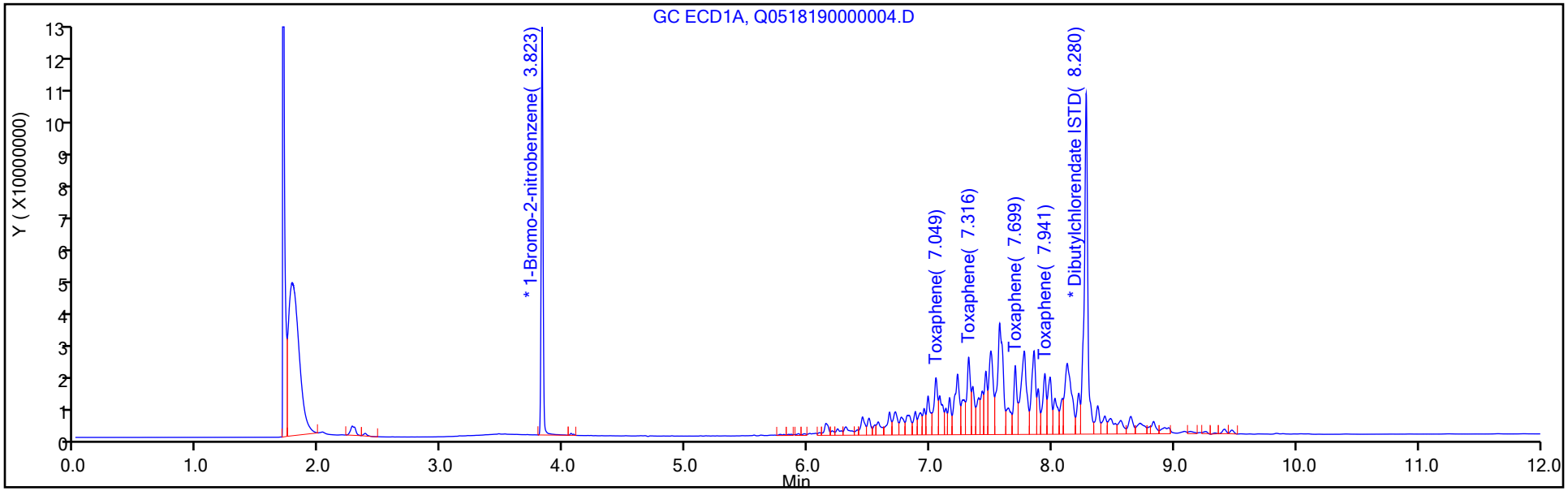

Column: MR-2 (0.53 mm)

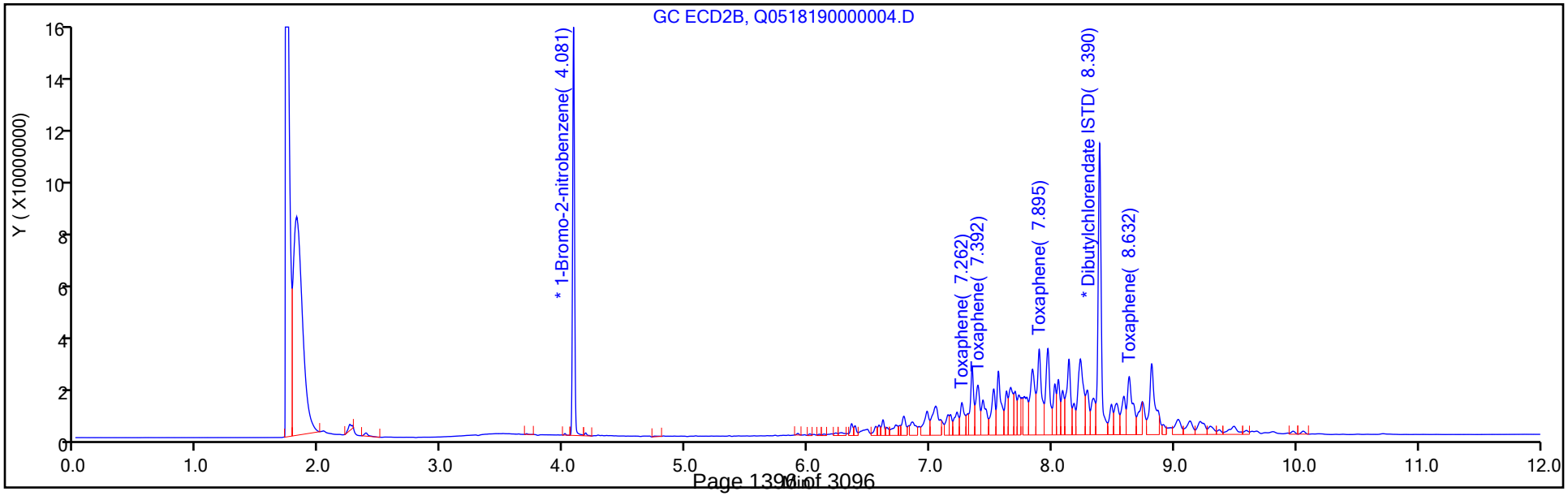

Report Date: 20-May-2019 05:51:40 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000004.D				
Injection Date:	18-May-2019 12:45:09	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

34 Toxaphene, CAS: 8001-35-2

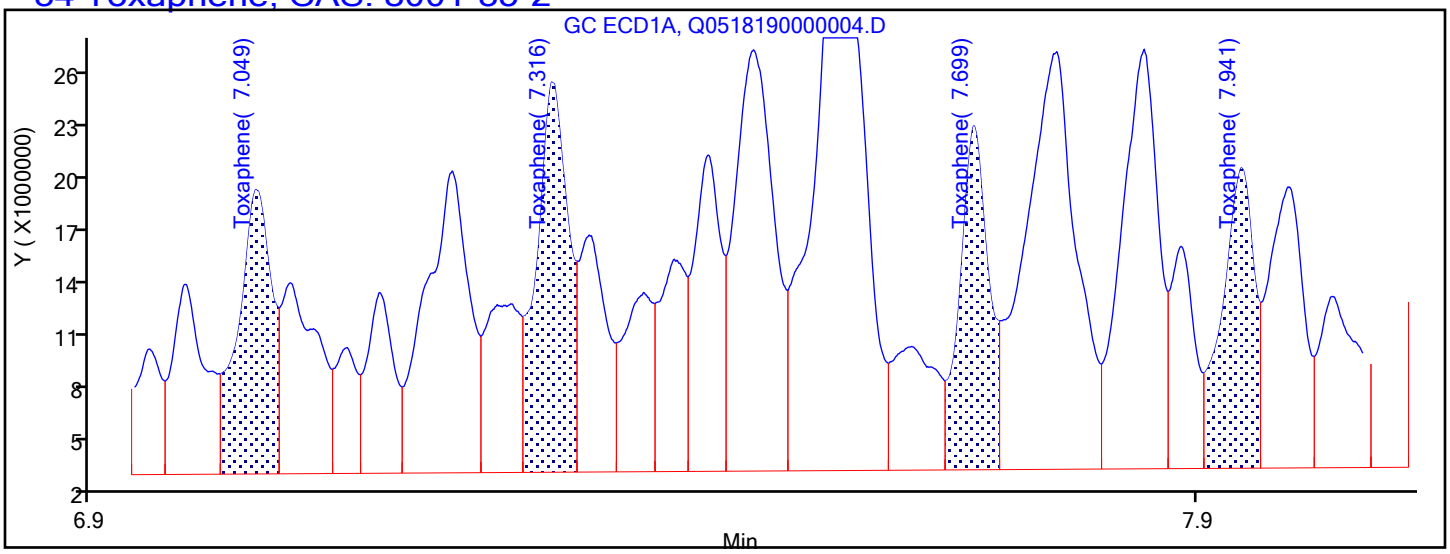

Processing Integration Results

7.049	Response = 16110027
7.316	Response = 22104865
7.699	Response = 19483187
7.941	Response = 17017922

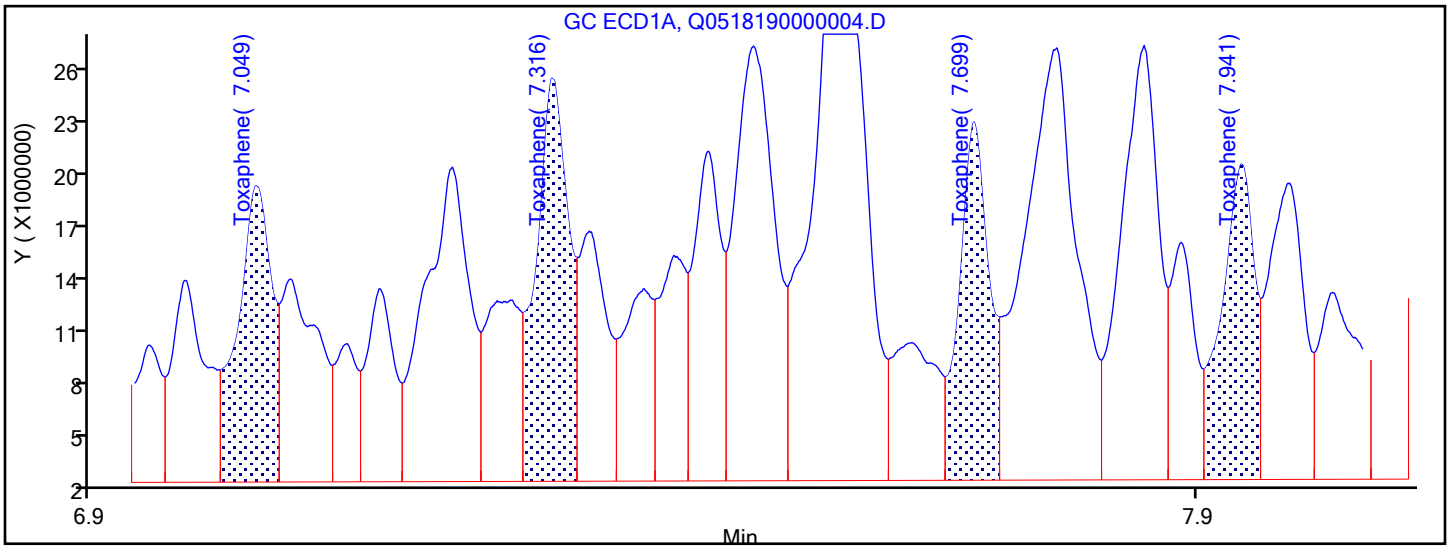

Manual Integration Results

7.049	Response = 16795207	M
7.316	Response = 22844326	M
7.699	Response = 20300252	M
7.941	Response = 17884063	M

Reviewer: eppinged, 18-May-2019 13:04:25

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000004.D				
Injection Date:	18-May-2019 12:45:09	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

* 44 Dibutylchlorendate ISTD, CAS: 1770-80-5

Signal: 1

Processing Integration Results

RT: 8.28
Height: 99541693
Amount: 0.100000
Amount Units: ng

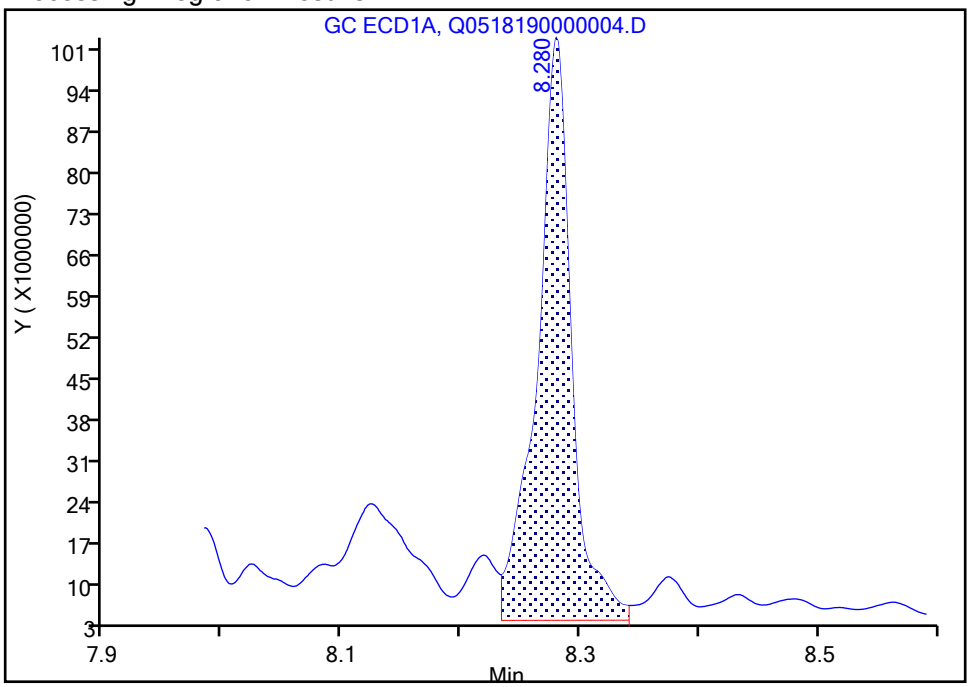

Manual Integration Results

RT: 8.28
Height: 100476513
Amount: 0.100000
Amount Units: ng

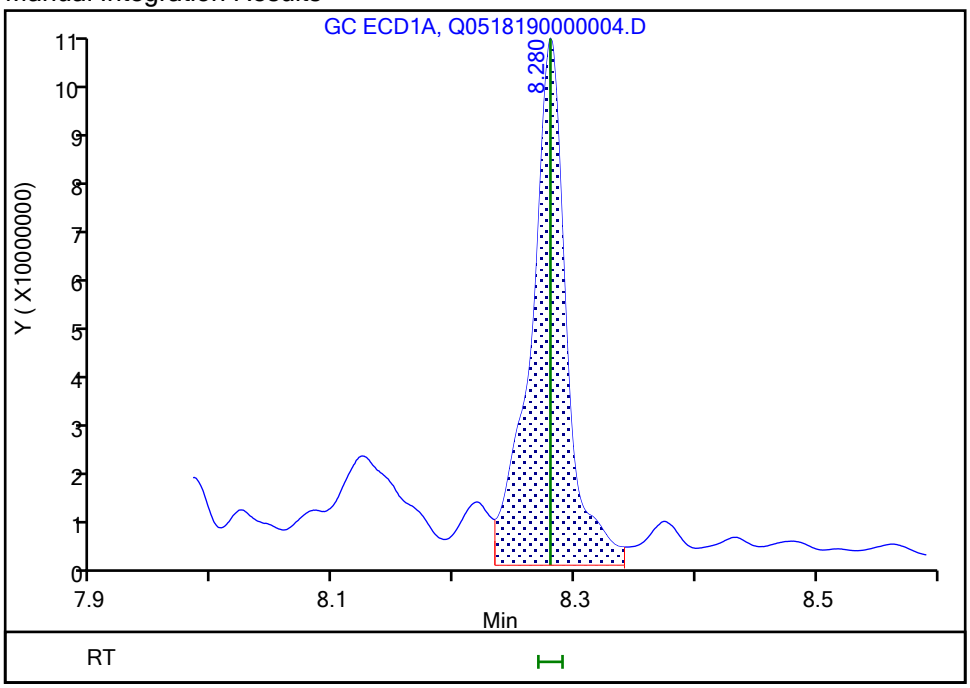

Reviewer: eppinged, 18-May-2019 13:04:25

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000005.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 18-May-2019 13:00:35 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026894-005
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub4

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 20-May-2019 05:51:42 Calib Date: 18-May-2019 20:36:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0306

First Level Reviewer: eppinged Date: 18-May-2019 13:17:58

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.823	3.791	0.032	120855539H	0.1000	0.1000	
2	4.080	4.066	0.015	145043241H	0.1000	0.1000	
34 Toxaphene							M
1	7.051	7.049	0.002	39325339H	2.50	2.42	
1	7.318	7.316	0.002	52546473H	2.50	2.45	
1	7.700	7.699	0.001	47529889H	2.50	2.40	
1	7.943	7.941	0.002	44103923H	2.50	2.41	
		Average of Peak Amounts =				2.42	
2	7.262	7.262	0.000	26101945H	2.50	2.41	M
2	7.392	7.392	0.000	40032664H	2.50	2.28	M
2	7.894	7.895	-0.001	67246914H	2.50	2.37	M
2	8.633	8.632	0.001	47277820H	2.50	2.34	M
		Average of Peak Amounts =				2.35	
					RPD =	2.82	
* 44 Dibutylchlorendate ISTD							M
1	8.280	8.235	0.045	112746425H	0.1000	0.1000	
2	8.390	8.368	0.023	124795391H	0.1000	0.1000	M

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

GCTOXLEVEL4_00010 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 20-May-2019 05:51:43 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000005.D				
Injection Date:	18-May-2019 13:00:35	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

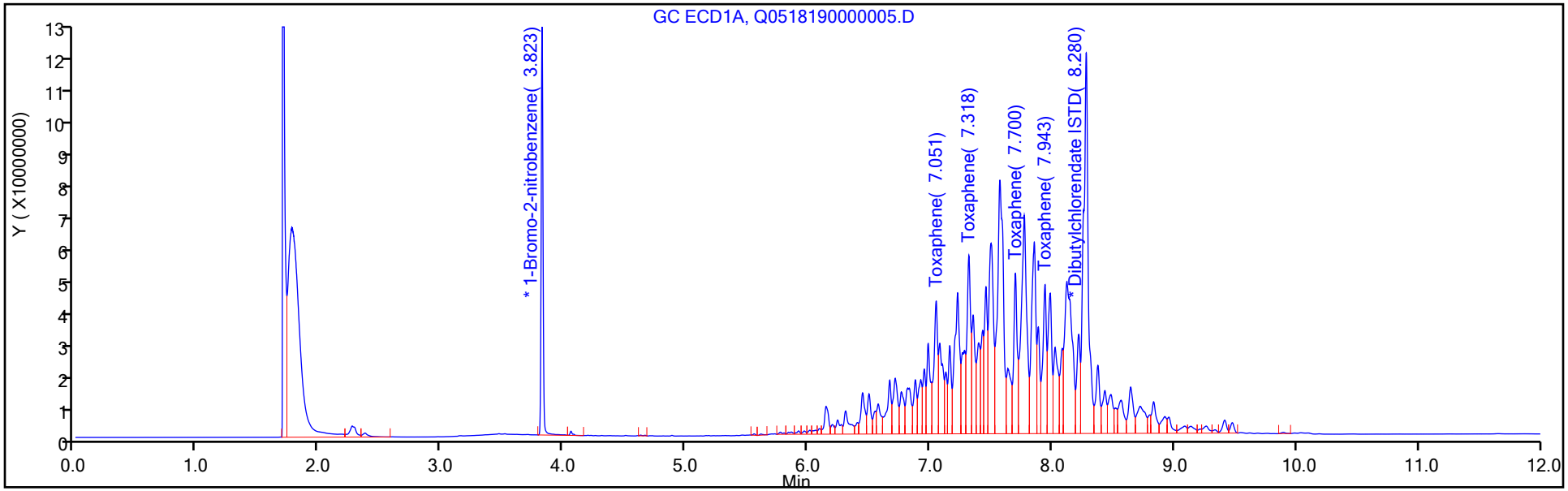

Column: MR-2 (0.53 mm)

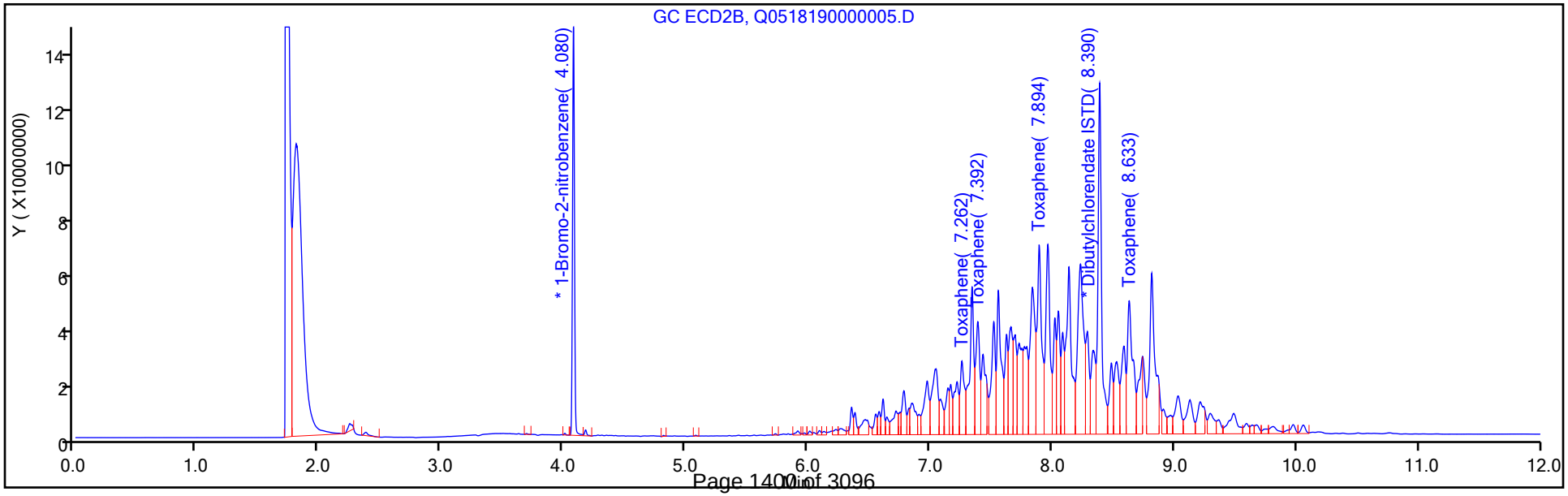

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000006.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 18-May-2019 13:16:01 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026894-006
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub4

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 20-May-2019 05:51:45 Calib Date: 18-May-2019 20:36:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0306

First Level Reviewer: eppinged Date: 18-May-2019 13:34:02

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.823	3.791	0.032	118506327H	0.1000	0.1000	
2	4.080	4.066	0.015	145705985H	0.1000	0.1000	
34 Toxaphene							M
1	7.050	7.049	0.001	77201237H	5.00	4.84	M
1	7.317	7.316	0.001	104554704H	5.00	4.96	M
1	7.699	7.699	0.000	95111512H	5.00	4.89	M
1	7.942	7.941	0.001	88645940H	5.00	4.95	M
		Average of Peak Amounts =				4.91	
2	7.262	7.262	0.000	49745021H	5.00	4.58	M
2	7.392	7.392	0.000	74343297H	5.00	4.22	M
2	7.895	7.895	0.000	126427332H	5.00	4.44	M
2	8.632	8.632	0.000	90314019H	5.00	4.45	M
		Average of Peak Amounts =				4.42	
						RPD = 10.42	
* 44 Dibutylchlorendate ISTD							M
1	8.280	8.235	0.045	141562567H	0.1000	0.1000	M
2	8.392	8.368	0.024	158730464H	0.1000	0.1000	M

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

GCTOXLEVEL5_00013 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 20-May-2019 05:51:47 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000006.D				
Injection Date:	18-May-2019 13:16:01	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

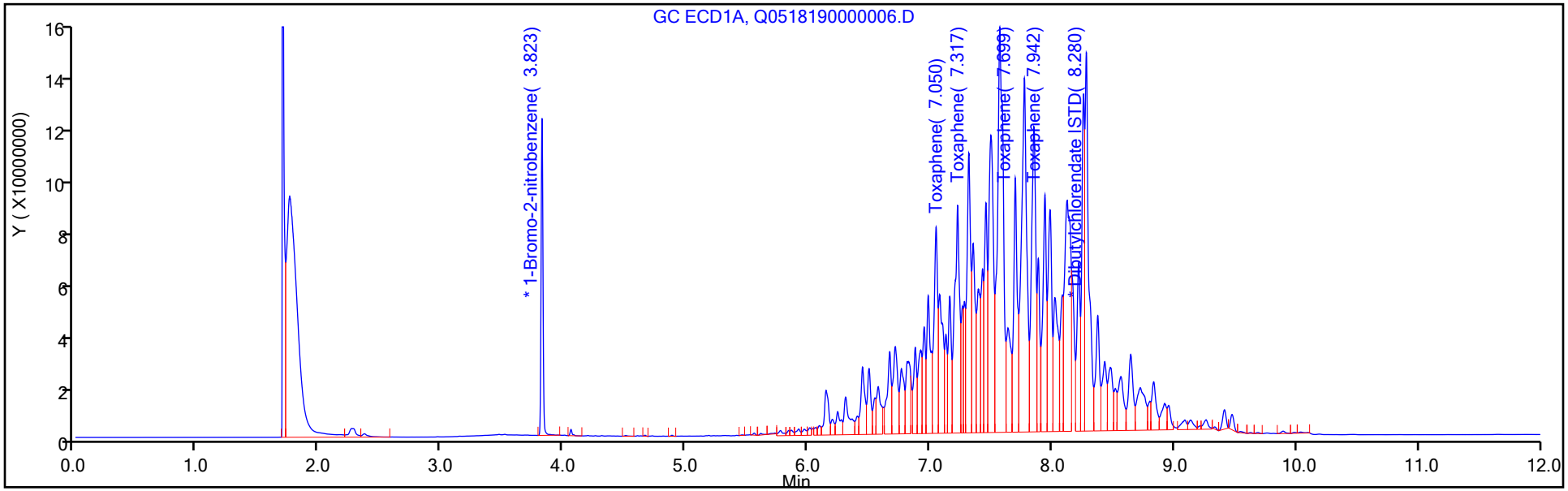

Column: MR-2 (0.53 mm)

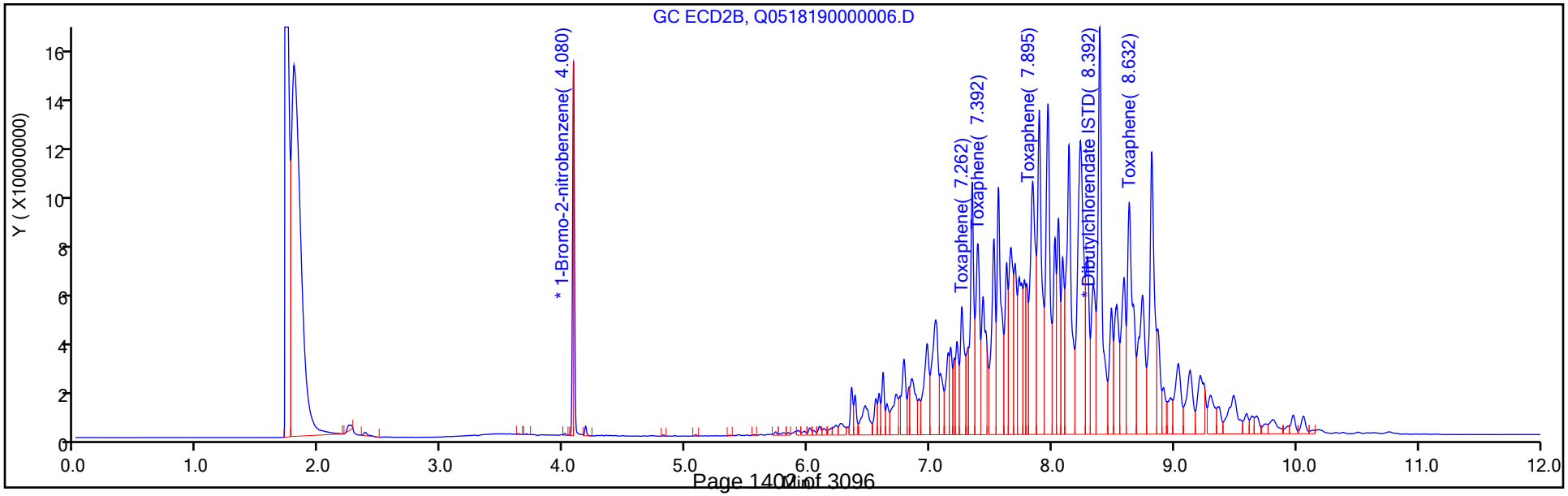

Report Date: 20-May-2019 05:51:47 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000006.D				
Injection Date:	18-May-2019 13:16:01	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

34 Toxaphene, CAS: 8001-35-2

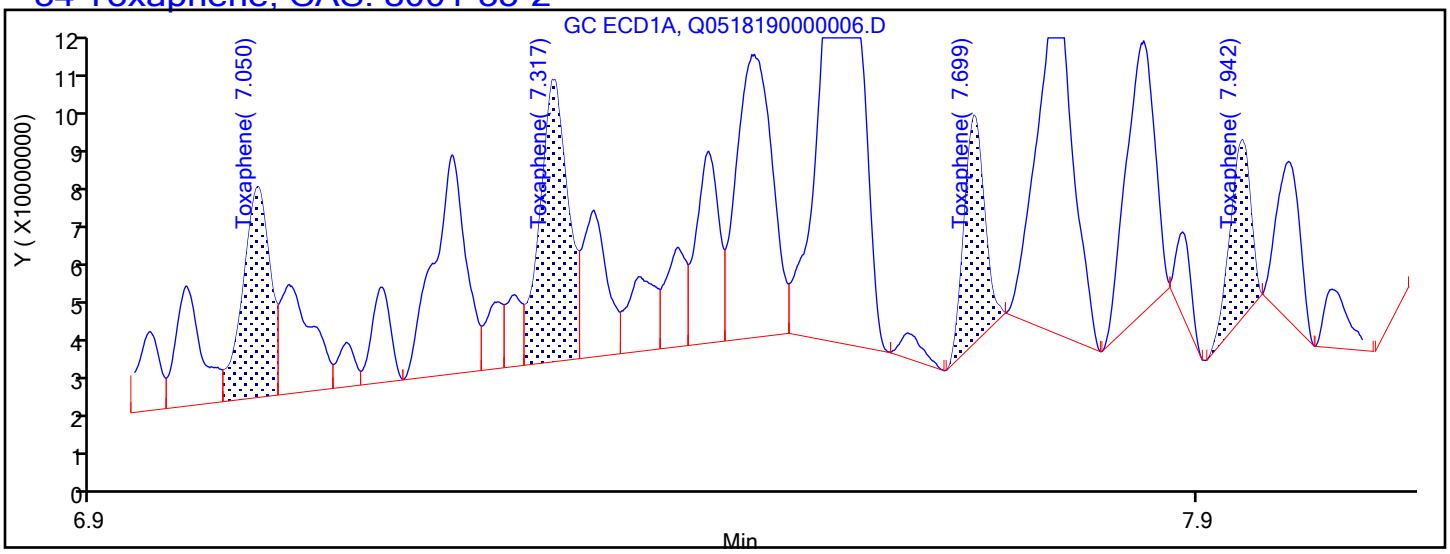

Processing Integration Results

7.050	Response = 54374086
7.317	Response = 72732875
7.699	Response = 58794451
7.942	Response = 45888288

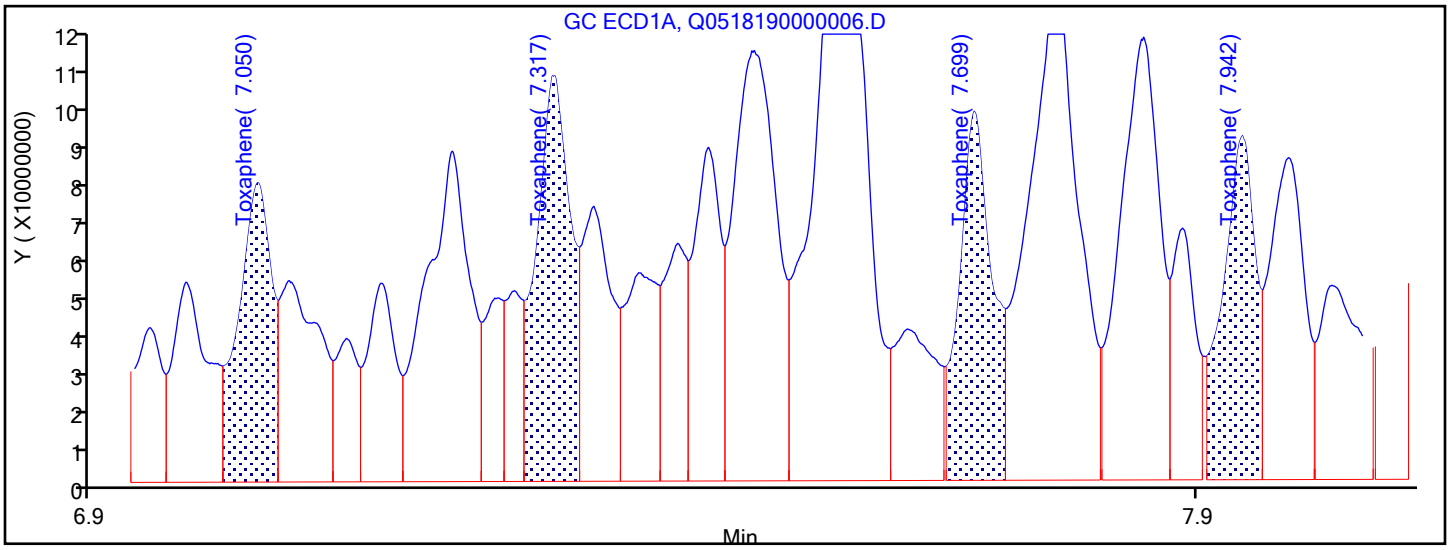

Manual Integration Results

7.050	Response = 77201237	M
7.317	Response = 104554704	M
7.699	Response = 95111512	M
7.942	Response = 88645940	M

Reviewer: eppinged, 18-May-2019 13:32:02

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000006.D				
Injection Date:	18-May-2019 13:16:01	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

* 44 Dibutylchlorendate ISTD, CAS: 1770-80-5

Signal: 1

Processing Integration Results

RT: 8.28
Height: 118018036
Amount: 0.100000
Amount Units: ng

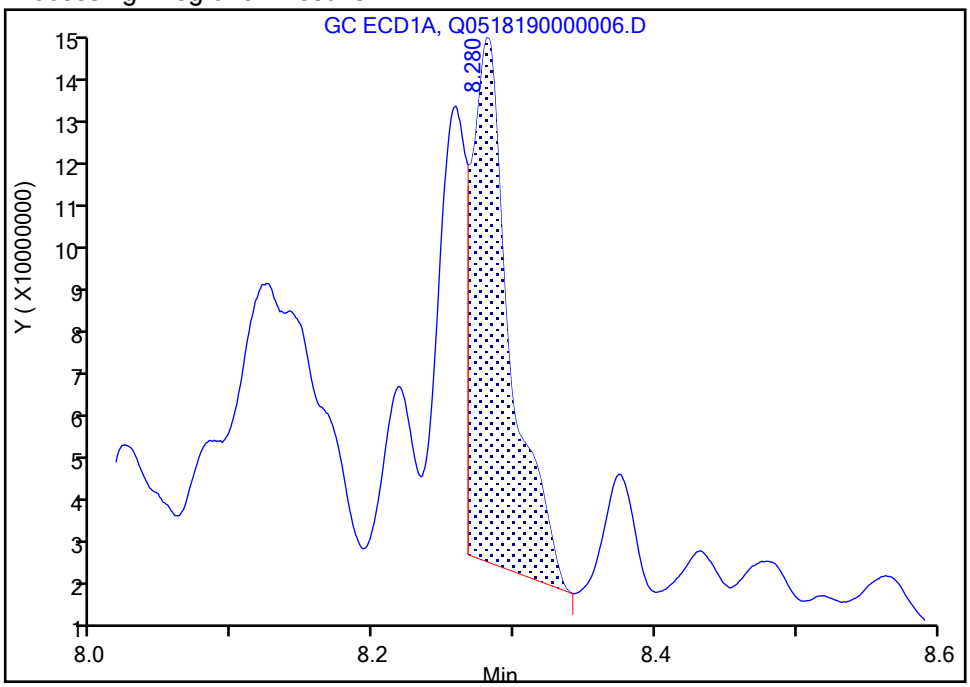

Manual Integration Results

RT: 8.28
Height: 141562567
Amount: 0.100000
Amount Units: ng

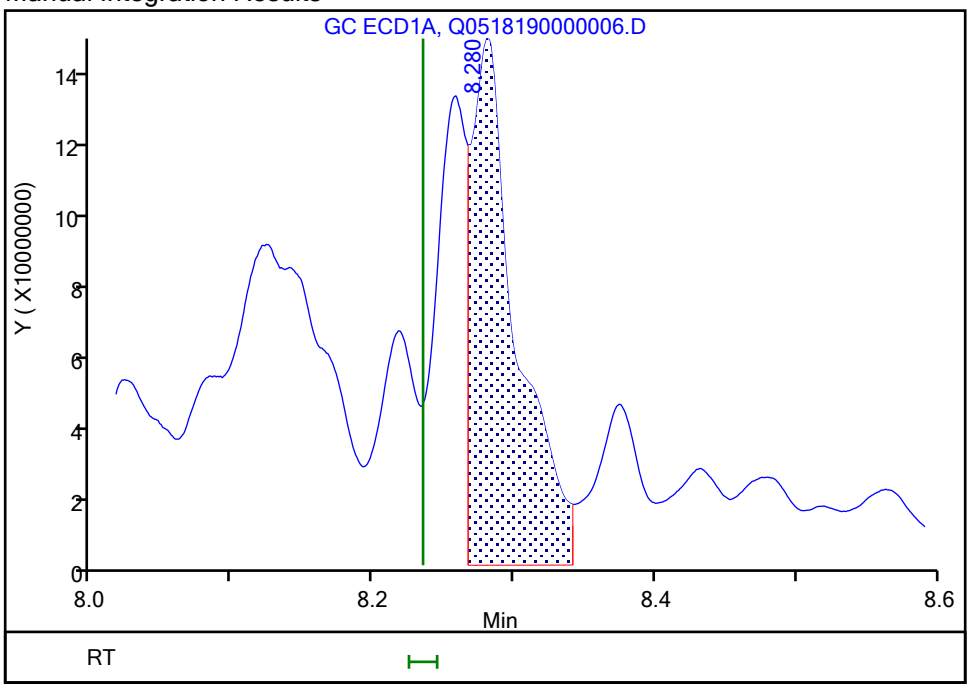

Reviewer: eppinged, 18-May-2019 13:32:02

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 279115

SDG No.:

Instrument ID: CHGC15 GC Column: MR-2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/18/2019 12:14 Calibration End Date: 05/18/2019 13:16 Calibration ID: 40516

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-279115/2	Q0518190000002.D
Level 2	IC 180-279115/3	Q0518190000003.D
Level 3	IC 180-279115/4	Q0518190000004.D
Level 4	IC 180-279115/5	Q0518190000005.D
Level 5	IC 180-279115/6	Q0518190000006.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Toxaphene Peak 1	0.0069	0.0083	0.0080	0.0072	0.0068	Ave		0.0075				9.0		20.0			
Toxaphene Peak 2	0.0139	0.0132	0.0122	0.0110	0.0102	Ave		0.0121				12.4		20.0			
Toxaphene Peak 3	0.0348	0.0232	0.0210	0.0185	0.0174	Lin1	0.0003	0.0195							0.9910		0.9900
Toxaphene Peak 4	0.0164	0.0136	0.0142	0.0130	0.0124	Ave		0.0139				10.9		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 279115

SDG No.:

Instrument ID: CHGC15 GC Column: MR-2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/18/2019 12:14 Calibration End Date: 05/18/2019 13:16 Calibration ID: 40516

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-279115/2	Q0518190000002.D
Level 2	IC 180-279115/3	Q0518190000003.D
Level 3	IC 180-279115/4	Q0518190000004.D
Level 4	IC 180-279115/5	Q0518190000005.D
Level 5	IC 180-279115/6	Q0518190000006.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
Toxaphene Peak 1	BNB	Ave	200846	2387621	11773898	26101945	49745021	0.0200	0.200	1.00	2.50	5.00
Toxaphene Peak 2	BNB	Ave	400640	3771195	18027554	40032664	74343297	0.0200	0.200	1.00	2.50	5.00
Toxaphene Peak 3	BNB	Lin1	1005486	6651398	30951600	67246914	126427332	0.0200	0.200	1.00	2.50	5.00
Toxaphene Peak 4	BNB	Ave	472965	3880183	20988358	47277820	90314019	0.0200	0.200	1.00	2.50	5.00

Curve Type Legend:

Ave = Average ISTD by Height
Lin1 = Linear 1/Conc^2 ISTD by Height

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 279115

SDG No.:

Instrument ID: CHGC15 GC Column: MR-2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/18/2019 12:14 Calibration End Date: 05/18/2019 13:16 Calibration ID: 40516

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-279115/2	Q0518190000002.D
Level 2	IC 180-279115/3	Q0518190000003.D
Level 3	IC 180-279115/4	Q0518190000004.D
Level 4	IC 180-279115/5	Q0518190000005.D
Level 5	IC 180-279115/6	Q0518190000006.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #		LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	
Toxaphene Peak 1	-6.9	11.8	7.0	-3.5	-8.5		50	30	30	30	30	
Toxaphene Peak 2	14.5	8.9	1.0	-8.8	-15.7		50	30	30	30	30	
Toxaphene Peak 3	-1.2	11.4	6.2	-5.3	-11.2		50	30	30	30	30	
Toxaphene Peak 4	17.5	-2.6	2.3	-6.3	-10.9		50	30	30	30	30	

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000002.D				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	1		
Inject. Date:	18-May-2019 12:14:12	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0026894-002				
Operator ID:	402331	Instrument ID:	CHGC15		
Sublist:	chrom-IS PEST_CHGC15*sub4				
Method:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m				
Limit Group:	GCS 8081B ICAL with IS				
Last Update:	20-May-2019 05:51:30	Calib Date:	18-May-2019 20:36:24		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D				
Column 1 :	MR-1 (0.53 mm)		Det: GC ECD1A		
Column 2 :	MR-2 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0306				

First Level Reviewer: eppinged Date: 18-May-2019 12:37:38

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.823	3.791	0.032	116332630H	0.1000	0.1000	
2	4.081	4.066	0.015	144557317H	0.1000	0.1000	
34 Toxaphene							Ma
1	7.050	7.010	0.040	305996H	0.0200	0.0195	M
1	7.317	7.276	0.041	379428H	0.0200	0.0183	M
1	7.698	7.658	0.040	385270H	0.0200	0.0202	M
1	7.947	7.900	0.047	383809H	0.0200	0.0218	M
		Average of Peak Amounts =				0.0200	
2	7.260	7.241	0.019	200846H	0.0200	0.0186	M
2	7.393	7.372	0.021	400640H	0.0200	0.0229	M
2	7.896	7.875	0.021	1005486H	0.0200	0.0198	M
2	8.630	8.607	0.023	472965H	0.0200	0.0235	M
		Average of Peak Amounts =				0.0212	
						RPD = 5.99	
* 44 Dibutylchlorendate ISTD							M
1	8.280	8.235	0.045	86996897H	0.1000	0.1000	M
2	8.391	8.368	0.023	87130595H	0.1000	0.1000	M

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

GCTOXLEVEL1_00011	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 20-May-2019 05:51:32 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000002.D				
Injection Date:	18-May-2019 12:14:12	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

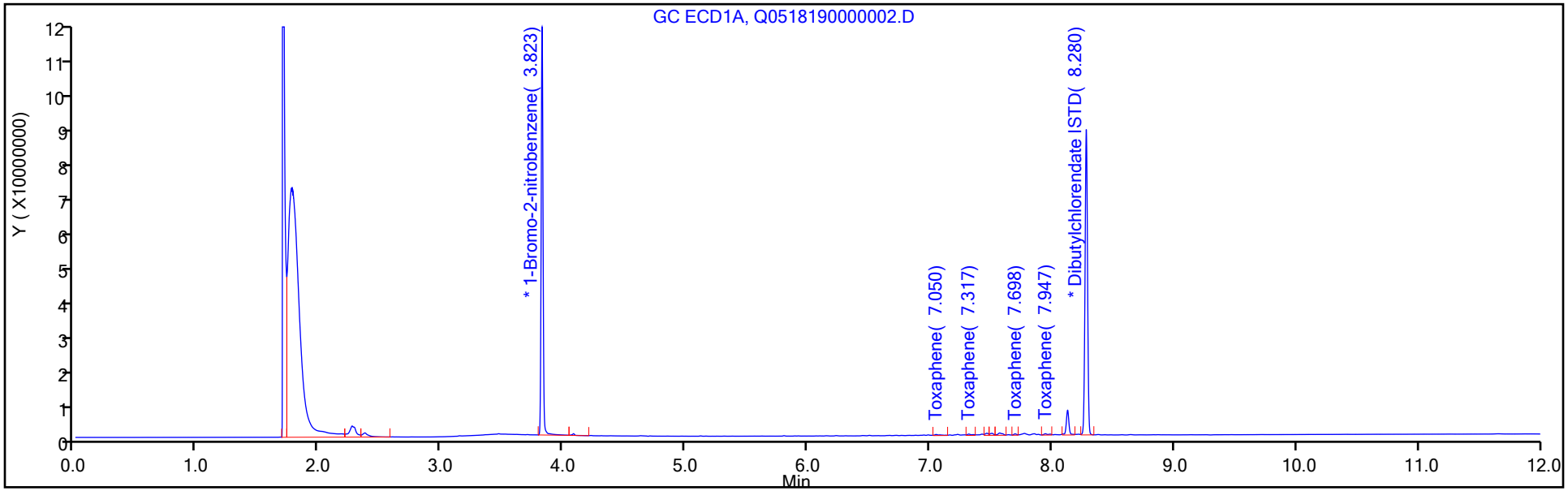

Column: MR-2 (0.53 mm)

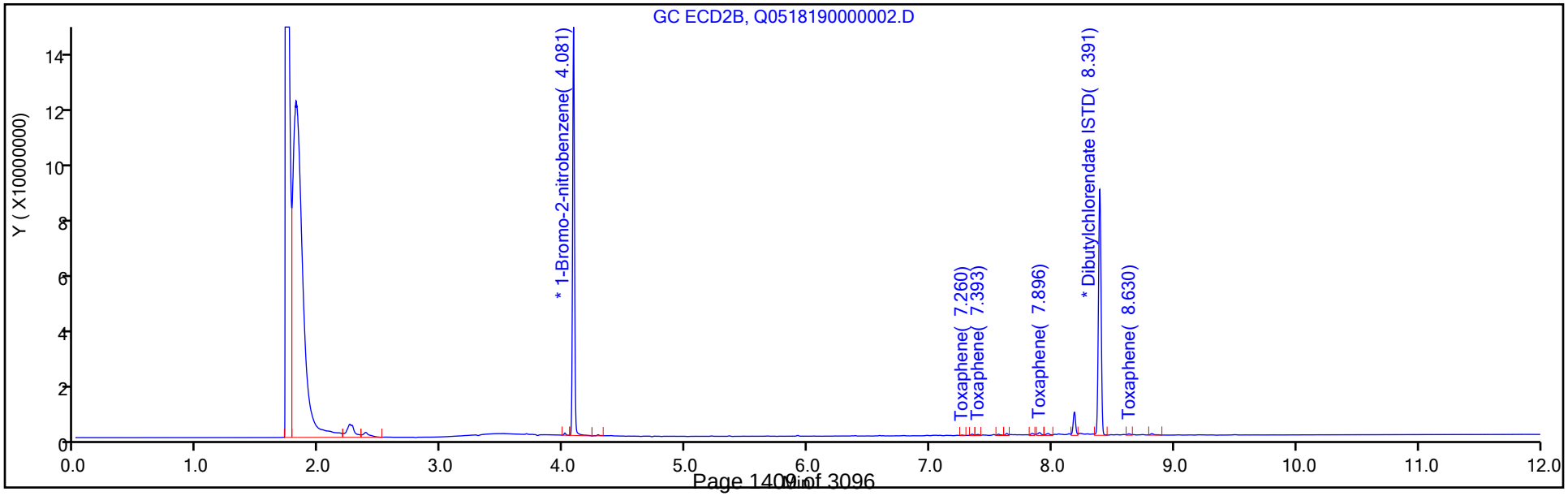

Report Date: 20-May-2019 05:51:32 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000002.D				
Injection Date:	18-May-2019 12:14:12	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

34 Toxaphene, CAS: 8001-35-2

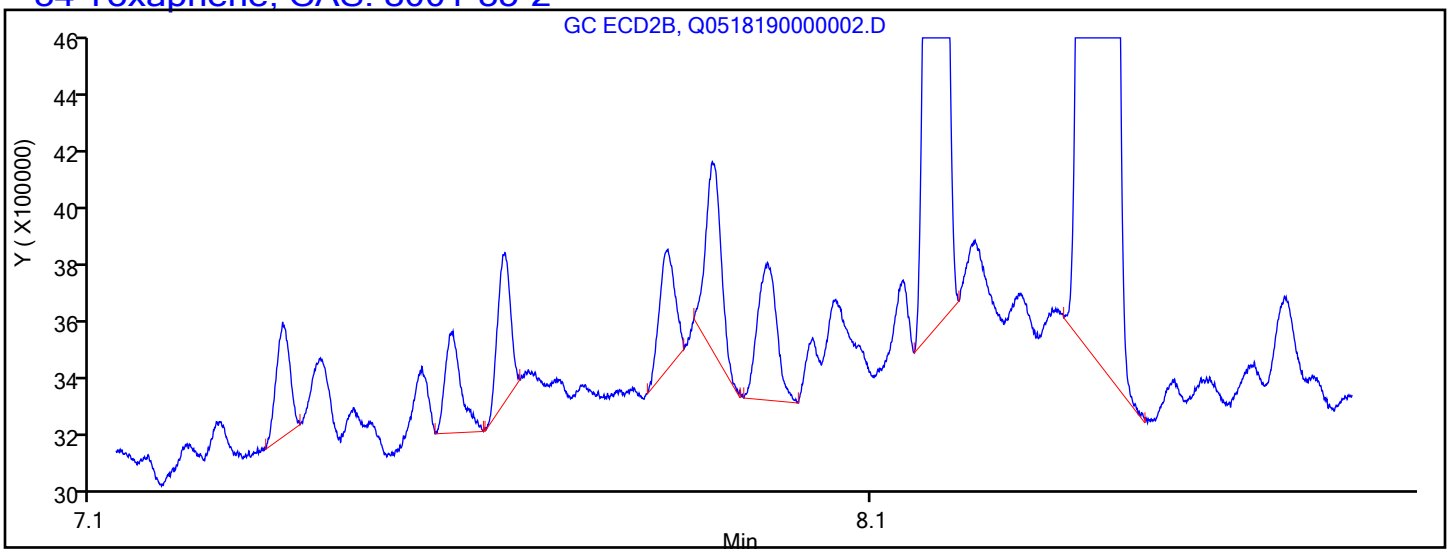

Processing Integration Results

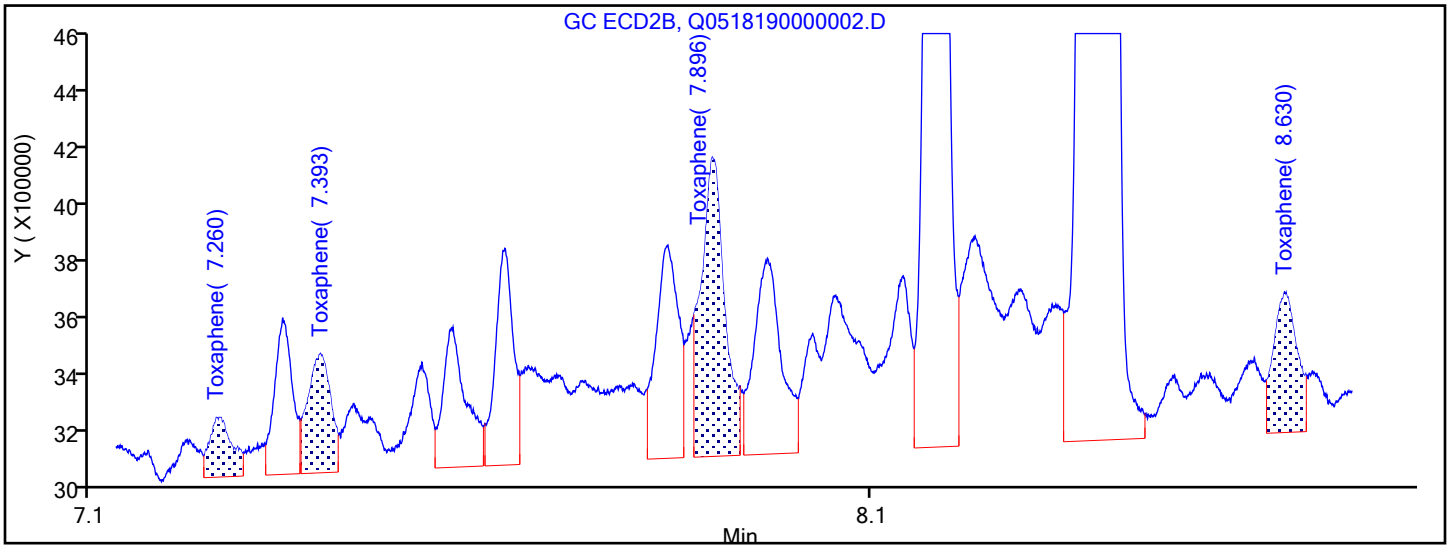

Manual Integration Results

7.260	Response = 200846	M
7.393	Response = 400640	M
7.896	Response = 1005486	M
8.630	Response = 472965	M

Reviewer: eppinged, 18-May-2019 12:35:47

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000002.D				
Injection Date:	18-May-2019 12:14:12	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

* 44 Dibutylchlorendate ISTD, CAS: 1770-80-5

Signal: 2

Processing Integration Results

RT: 8.39
Height: 86854182
Amount: 0.100000
Amount Units: ng

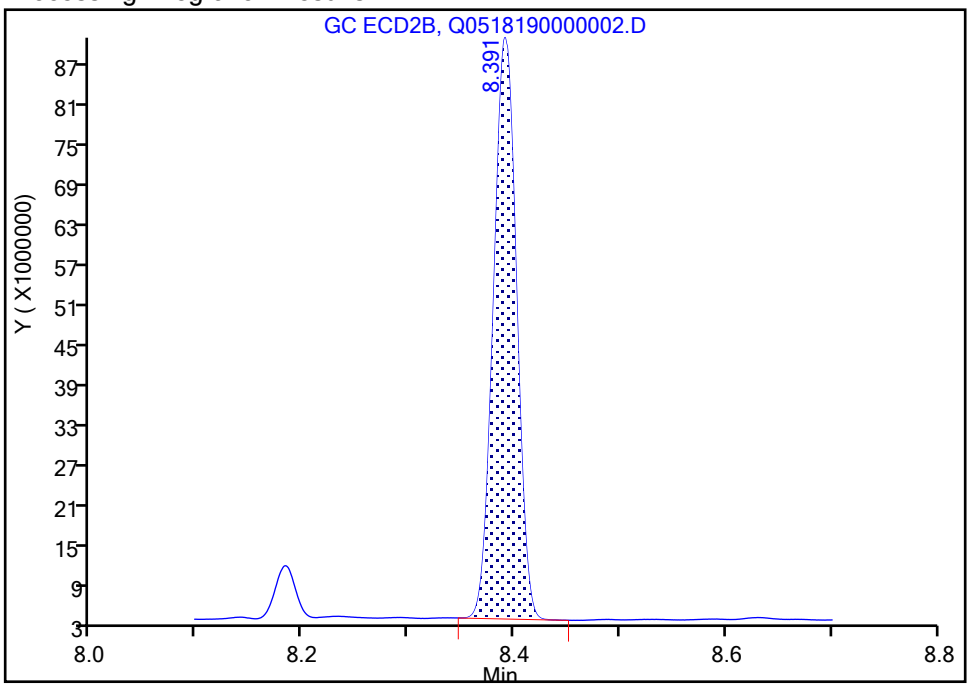

Manual Integration Results

RT: 8.39
Height: 87130595
Amount: 0.100000
Amount Units: ng

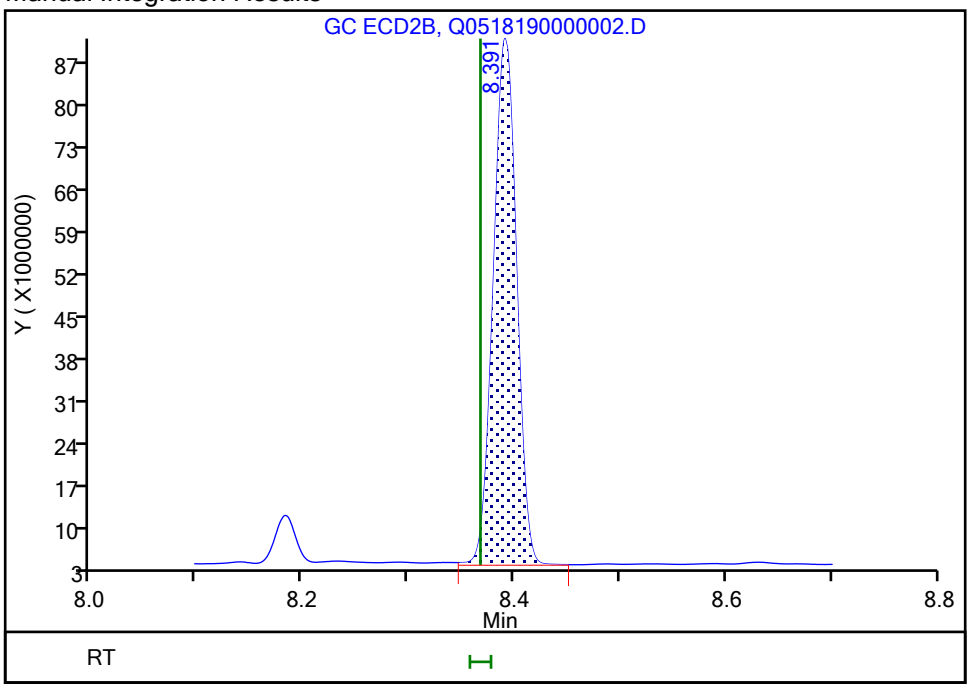

Reviewer: eppinged, 18-May-2019 12:34:57

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000003.D				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	2		
Inject. Date:	18-May-2019 12:29:45	ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0026894-003				
Operator ID:	402331	Instrument ID:	CHGC15		
Sublist:	chrom-IS PEST_CHGC15*sub4				
Method:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m				
Limit Group:	GCS 8081B ICAL with IS				
Last Update:	20-May-2019 05:51:34	Calib Date:	18-May-2019 20:36:24		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D				
Column 1 :	MR-1 (0.53 mm)		Det: GC ECD1A		
Column 2 :	MR-2 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0306				

First Level Reviewer: eppinged Date: 18-May-2019 12:47:10

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.823	3.791	0.032	114616114H	0.1000	0.1000	
2	4.080	4.066	0.014	143078455H	0.1000	0.1000	
34 Toxaphene							M
1	7.051	7.010	0.041	3258755H	0.2000	0.2110	M
1	7.318	7.276	0.042	4256976H	0.2000	0.2089	M
1	7.700	7.658	0.042	3870755H	0.2000	0.2057	M
1	7.942	7.900	0.042	3360759H	0.2000	0.1940	M
		Average of Peak Amounts =				0.2049	
2	7.263	7.241	0.022	2387621H	0.2000	0.2237	M
2	7.393	7.372	0.021	3771195H	0.2000	0.2178	M
2	7.896	7.875	0.021	6651398H	0.2000	0.2229	M
2	8.633	8.607	0.026	3880183H	0.2000	0.1949	M
		Average of Peak Amounts =				0.2148	
						RPD = 4.72	
* 44 Dibutylchlorendate ISTD							M
1	8.280	8.235	0.045	85146236H	0.1000	0.1000	M
2	8.391	8.368	0.023	89193881H	0.1000	0.1000	M

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCTOXLEVEL2_00009	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 20-May-2019 05:51:36 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000003.D				
Injection Date:	18-May-2019 12:29:45	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

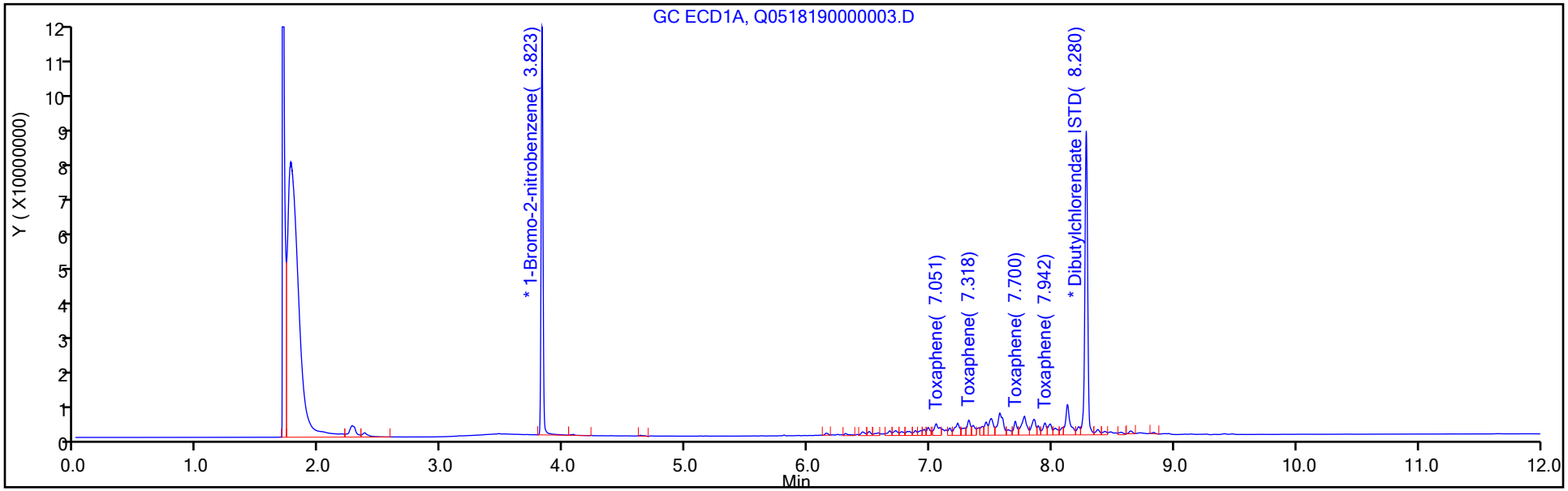

Column: MR-2 (0.53 mm)

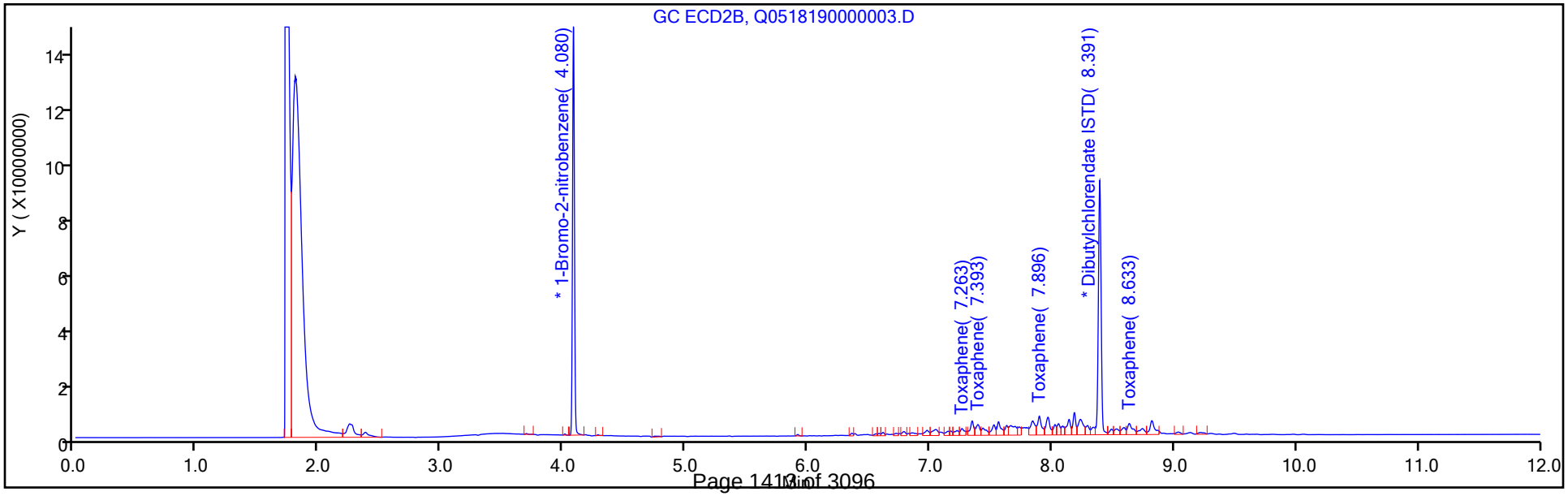

Report Date: 20-May-2019 05:51:36 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000003.D				
Injection Date:	18-May-2019 12:29:45	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

34 Toxaphene, CAS: 8001-35-2

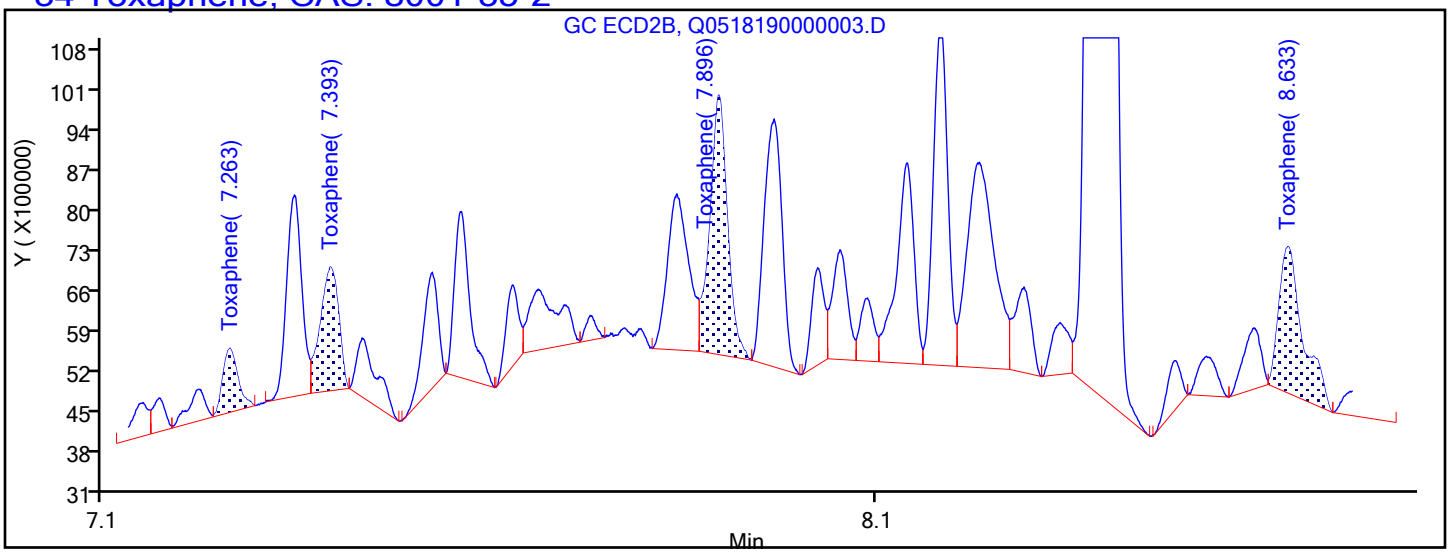

Processing Integration Results

7.263	Response = 1111709
7.393	Response = 2146743
7.896	Response = 4498235
8.633	Response = 2537885

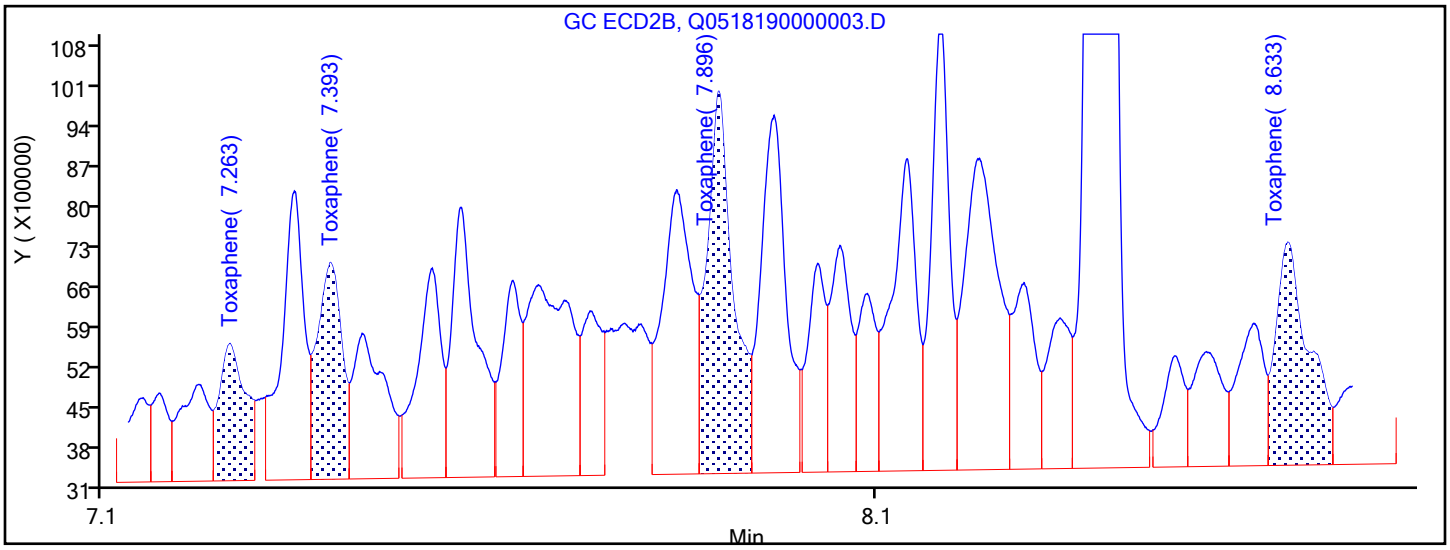

Manual Integration Results

7.263	Response = 2387621	M
7.393	Response = 3771195	M
7.896	Response = 6651398	M
8.633	Response = 3880183	M

Reviewer: eppinged, 18-May-2019 12:49:15

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000003.D				
Injection Date:	18-May-2019 12:29:45	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

* 44 Dibutylchlorendate ISTD, CAS: 1770-80-5

Signal: 2

Processing Integration Results

RT: 8.39
Height: 87864628
Amount: 0.100000
Amount Units: ng

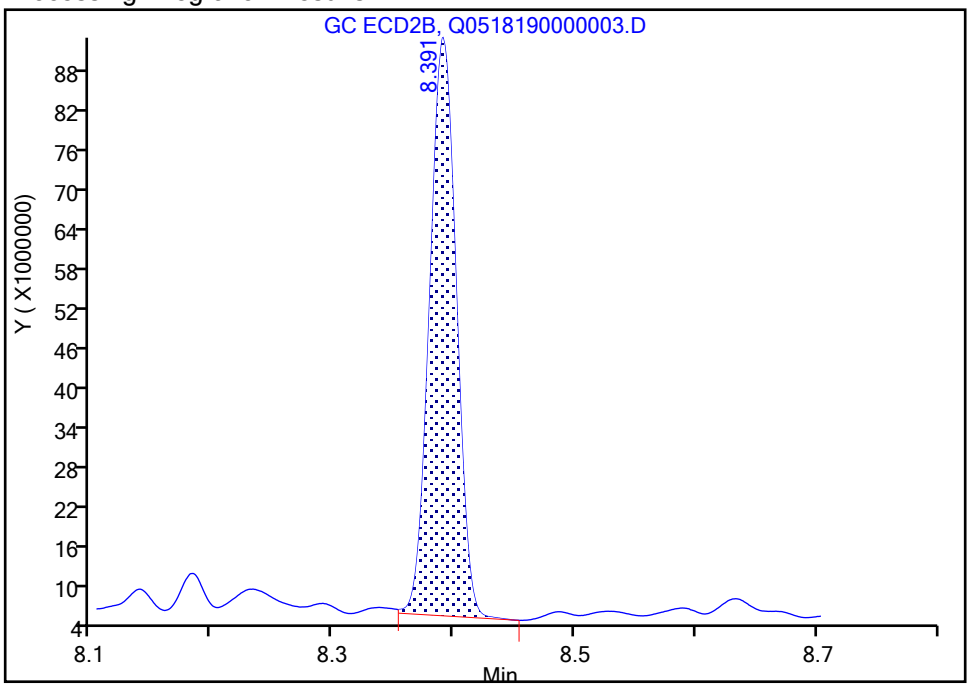

Manual Integration Results

RT: 8.39
Height: 89193881
Amount: 0.100000
Amount Units: ng

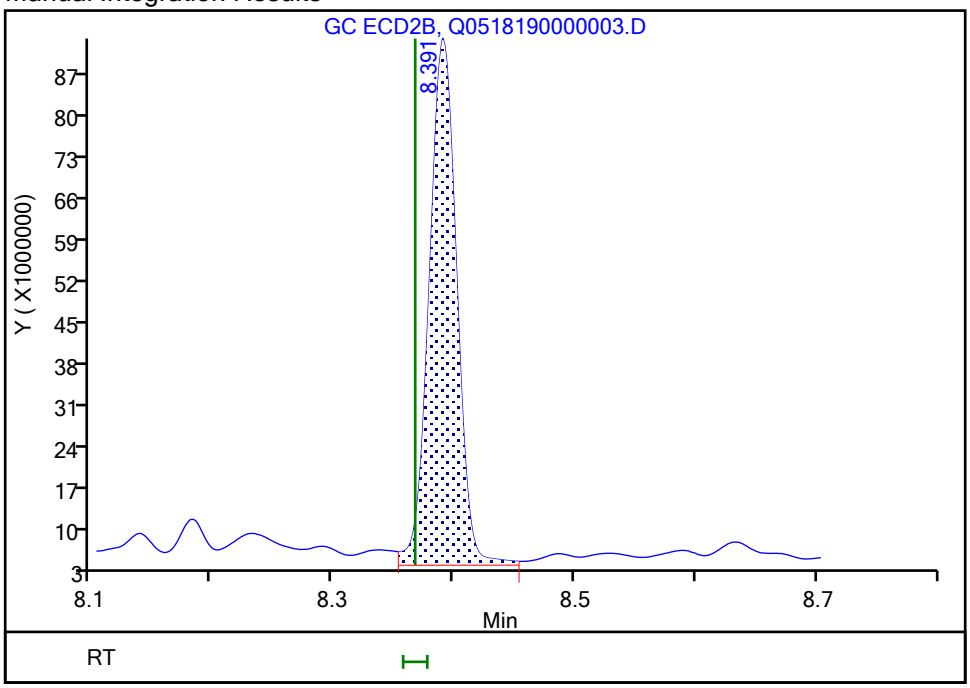

Reviewer: eppinged, 18-May-2019 12:49:15

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000004.D				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	3		
Inject. Date:	18-May-2019 12:45:09	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0026894-004				
Operator ID:	402331	Instrument ID:	CHGC15		
Sublist:	chrom-IS PEST_CHGC15*sub4				
Method:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m				
Limit Group:	GCS 8081B ICAL with IS				
Last Update:	20-May-2019 05:51:37	Calib Date:	18-May-2019 20:36:24		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D				
Column 1 :	MR-1 (0.53 mm)		Det: GC ECD1A		
Column 2 :	MR-2 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0306				

First Level Reviewer: eppinged Date: 18-May-2019 13:04:41

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.823	3.823	0.000	120360084H	0.1000	0.1000	
2	4.081	4.081	0.000	147486512H	0.1000	0.1000	
34 Toxaphene							M
1	7.049	7.049	0.000	16795207H	1.00	1.04	M
1	7.316	7.316	0.000	22844326H	1.00	1.07	M
1	7.699	7.699	0.000	20300252H	1.00	1.03	M
1	7.941	7.941	0.000	17884063H	1.00	0.9831	M
		Average of Peak Amounts =				1.03	
2	7.262	7.262	0.000	11773898H	1.00	1.07	M
2	7.392	7.392	0.000	18027554H	1.00	1.01	M
2	7.895	7.895	0.000	30951600H	1.00	1.06	M
2	8.632	8.632	0.000	20988358H	1.00	1.02	M
		Average of Peak Amounts =				1.04	
						RPD = 1.25	
* 44 Dibutylchlorendate ISTD							M
1	8.280	8.280	0.000	100476513H	0.1000	0.1000	M
2	8.390	8.390	0.000	105293773H	0.1000	0.1000	M

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCTOXLEVEL3_00018	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 20-May-2019 05:51:40 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000004.D

Injection Date:	18-May-2019 12:45:09	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

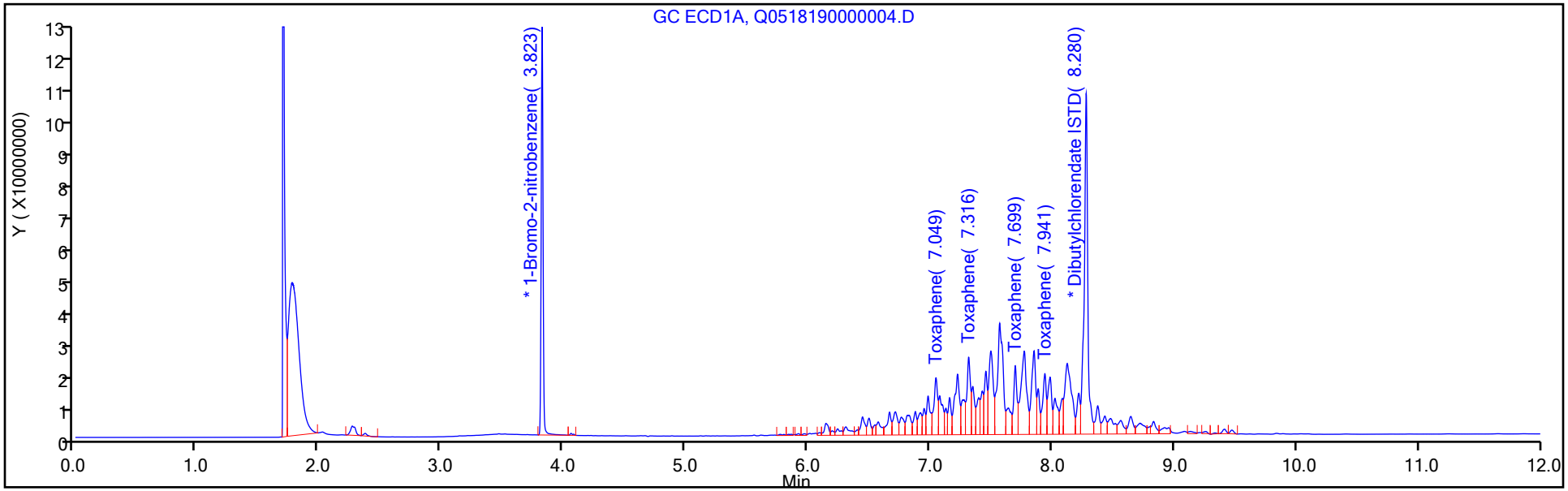

Column: MR-2 (0.53 mm)

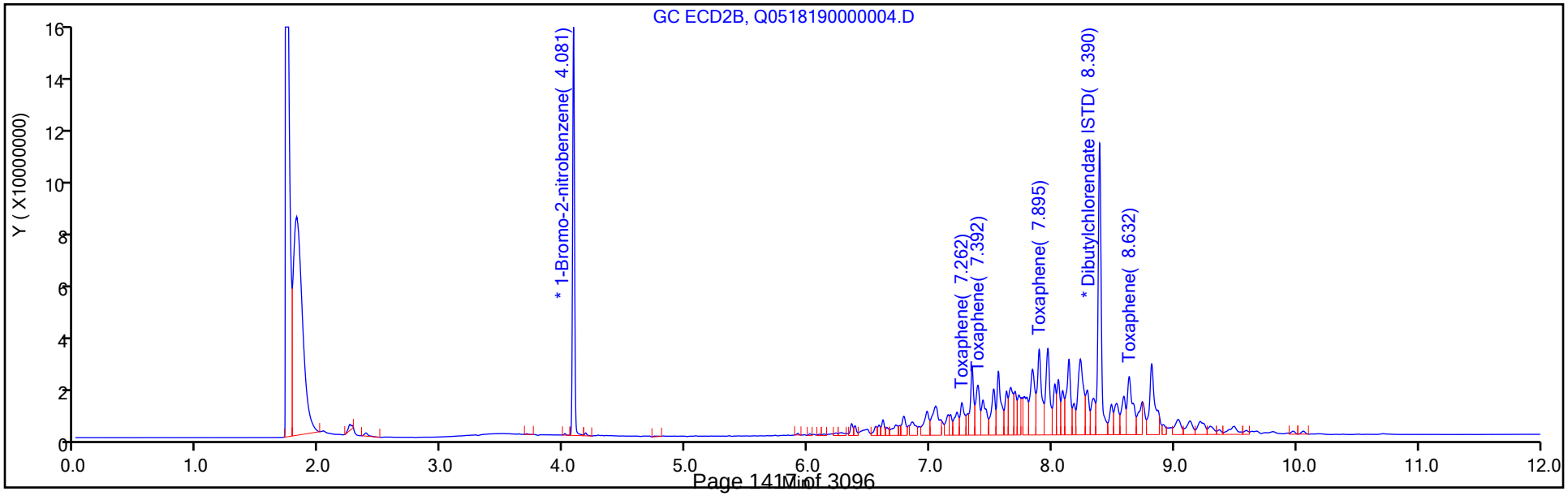

Report Date: 20-May-2019 05:51:40 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000004.D

Injection Date: 18-May-2019 12:45:09 Instrument ID: CHGC15

Lims ID: IC

Client ID:

Operator ID: 402331 ALS Bottle#: 4 Worklist Smp#: 4

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PEST_CHGC15 Limit Group: GCS 8081B ICAL with IS

Column: MR-2 (0.53 mm) Detector GC ECD2B

34 Toxaphene, CAS: 8001-35-2

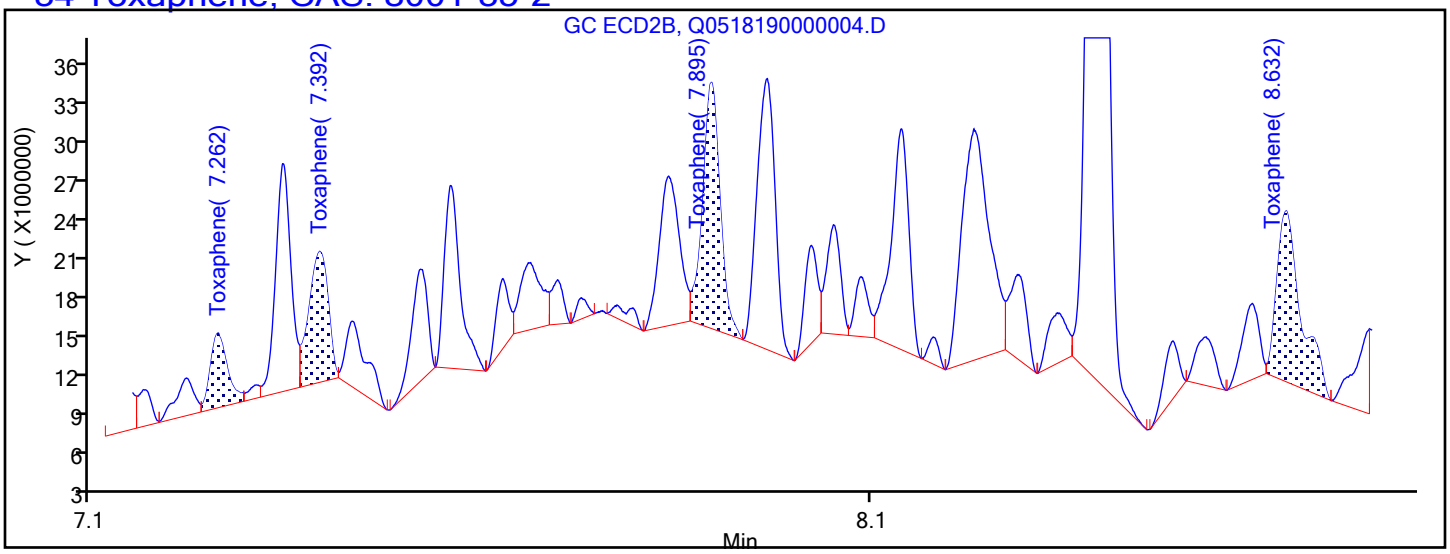

Processing Integration Results

7.262	Response = 5746590
7.392	Response = 10068929
7.895	Response = 18912421
8.632	Response = 13143150

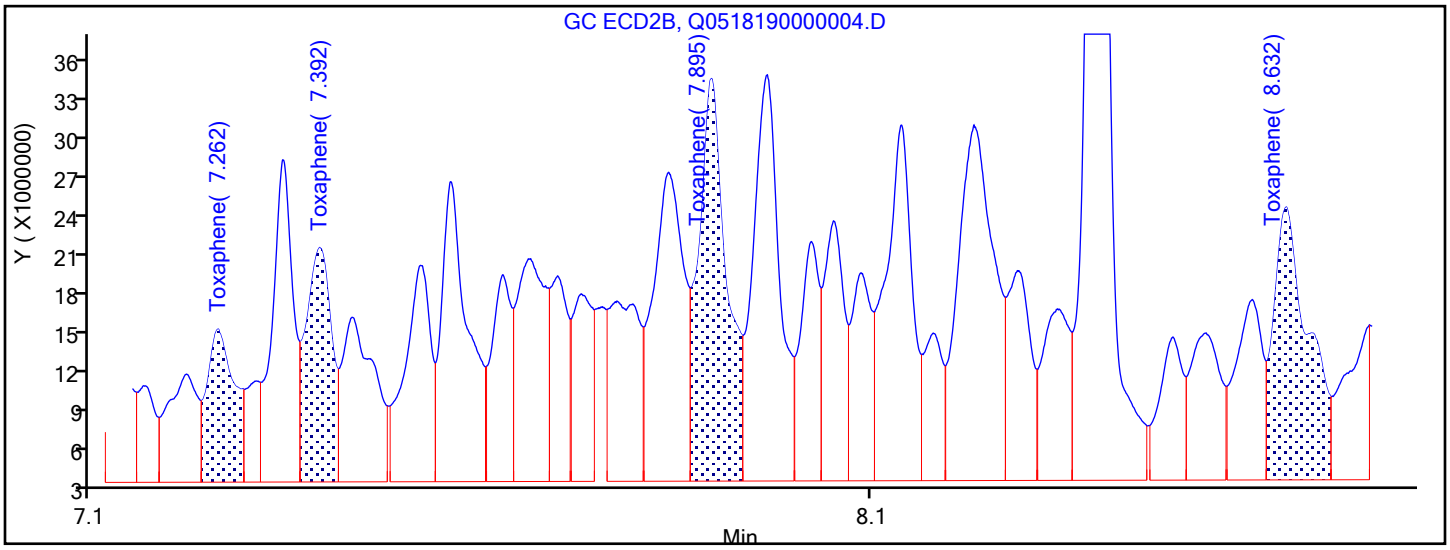

Manual Integration Results

7.262	Response = 11773898	M
7.392	Response = 18027554	M
7.895	Response = 30951600	M
8.632	Response = 20988358	M

Reviewer: eppinged, 18-May-2019 13:04:19

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000004.D				
Injection Date:	18-May-2019 12:45:09	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

* 44 Dibutylchlorendate ISTD, CAS: 1770-80-5

Signal: 2

Processing Integration Results

RT: 8.39
Height: 97319294
Amount: 0.100000
Amount Units: ng

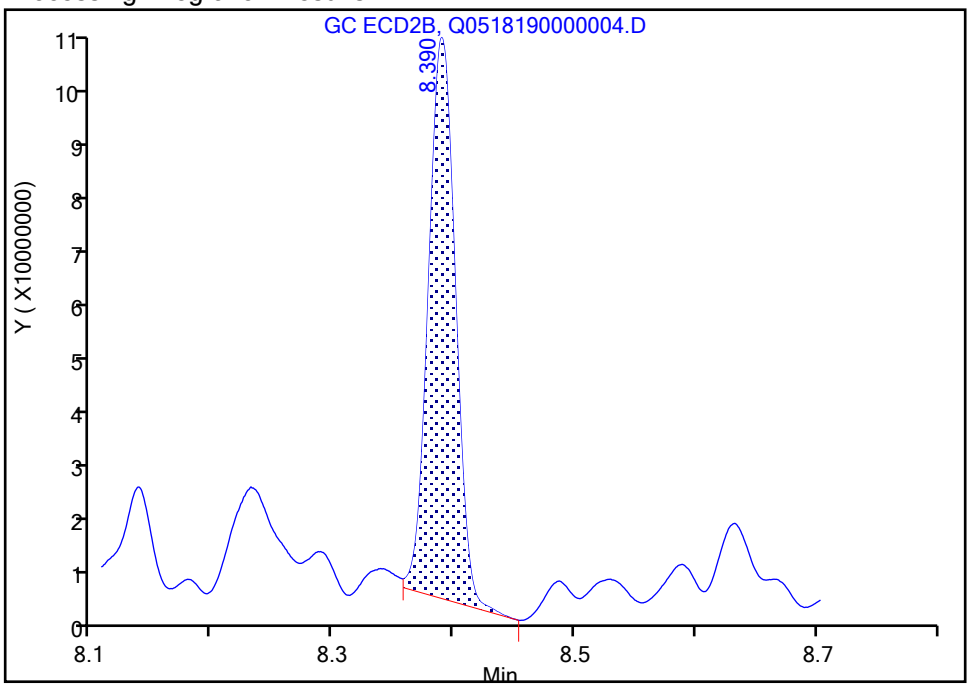

Manual Integration Results

RT: 8.39
Height: 105293773
Amount: 0.100000
Amount Units: ng

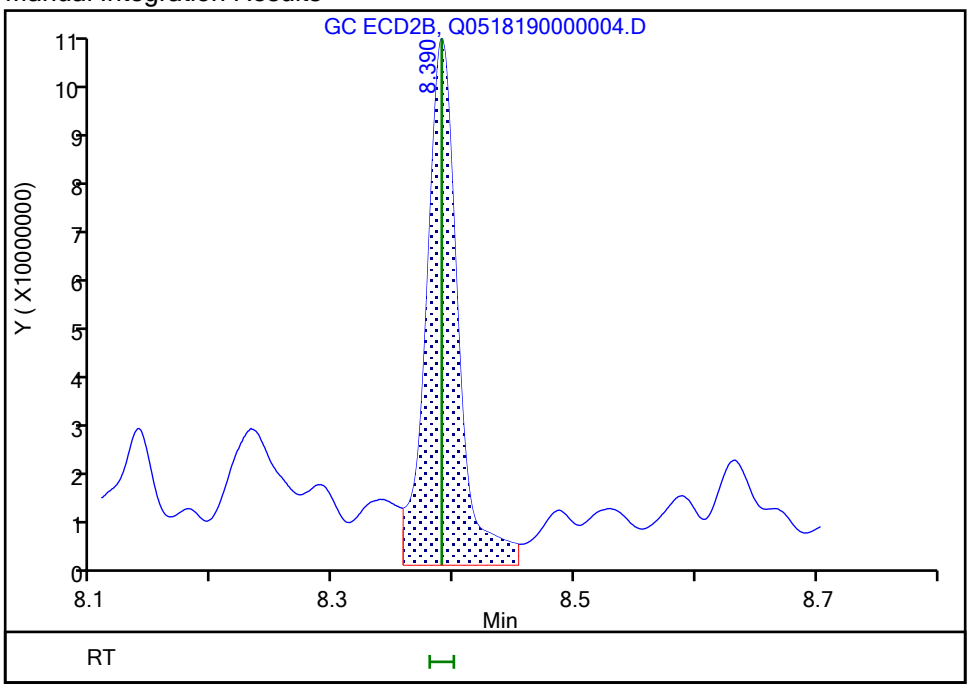

Reviewer: eppinged, 18-May-2019 13:04:19

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000005.D				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	4		
Inject. Date:	18-May-2019 13:00:35	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0026894-005				
Operator ID:	402331	Instrument ID:	CHGC15		
Sublist:	chrom-IS PEST_CHGC15*sub4				
Method:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m				
Limit Group:	GCS 8081B ICAL with IS				
Last Update:	20-May-2019 05:51:42	Calib Date:	18-May-2019 20:36:24		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D				
Column 1 :	MR-1 (0.53 mm)		Det: GC ECD1A		
Column 2 :	MR-2 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0306				

First Level Reviewer: eppinged Date: 18-May-2019 13:17:58

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.823	3.791	0.032	120855539H	0.1000	0.1000	
2	4.080	4.066	0.015	145043241H	0.1000	0.1000	
34 Toxaphene							M
1	7.051	7.049	0.002	39325339H	2.50	2.42	
1	7.318	7.316	0.002	52546473H	2.50	2.45	
1	7.700	7.699	0.001	47529889H	2.50	2.40	
1	7.943	7.941	0.002	44103923H	2.50	2.41	
		Average of Peak Amounts =				2.42	
2	7.262	7.262	0.000	26101945H	2.50	2.41	M
2	7.392	7.392	0.000	40032664H	2.50	2.28	M
2	7.894	7.895	-0.001	67246914H	2.50	2.37	M
2	8.633	8.632	0.001	47277820H	2.50	2.34	M
		Average of Peak Amounts =				2.35	
						RPD = 2.82	
* 44 Dibutylchlorendate ISTD							M
1	8.280	8.235	0.045	112746425H	0.1000	0.1000	
2	8.390	8.368	0.023	124795391H	0.1000	0.1000	M

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCTOXLEVEL4_00010	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 20-May-2019 05:51:44 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000005.D				
Injection Date:	18-May-2019 13:00:35	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

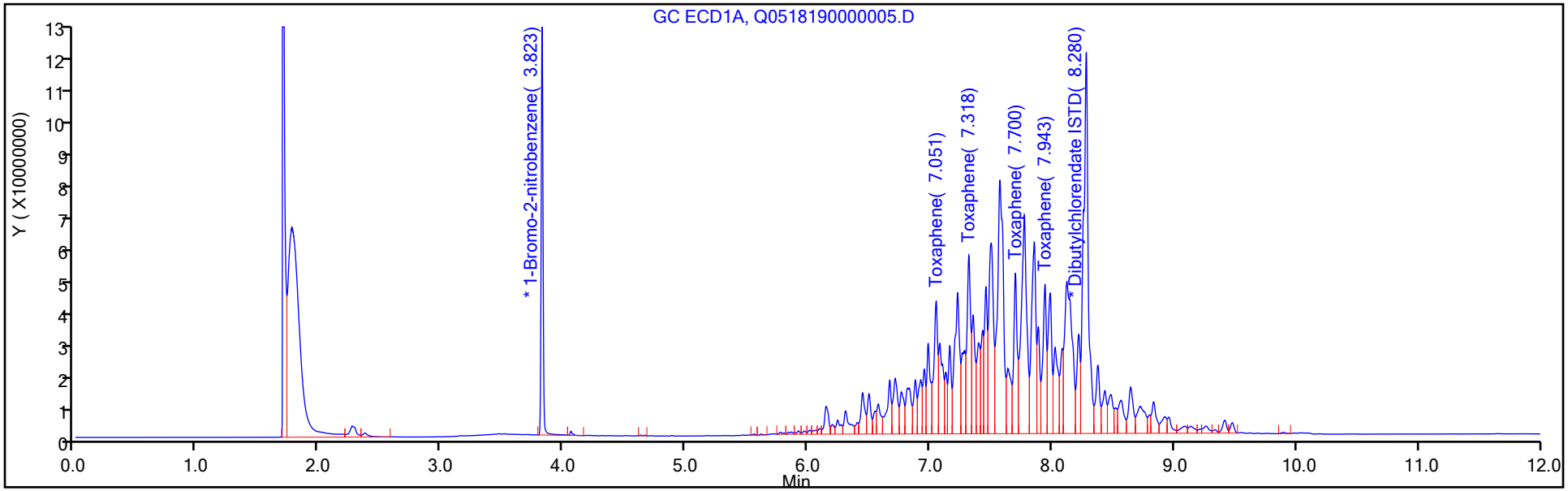

Column: MR-2 (0.53 mm)

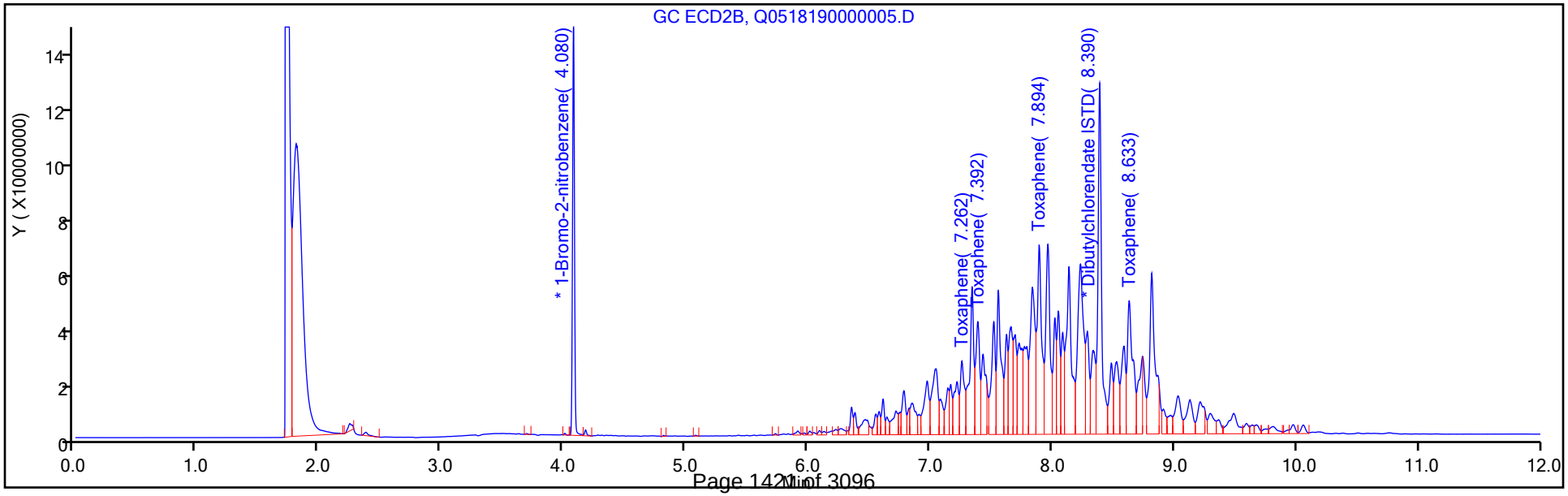

Report Date: 20-May-2019 05:51:44 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000005.D				
Injection Date:	18-May-2019 13:00:35	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

34 Toxaphene, CAS: 8001-35-2

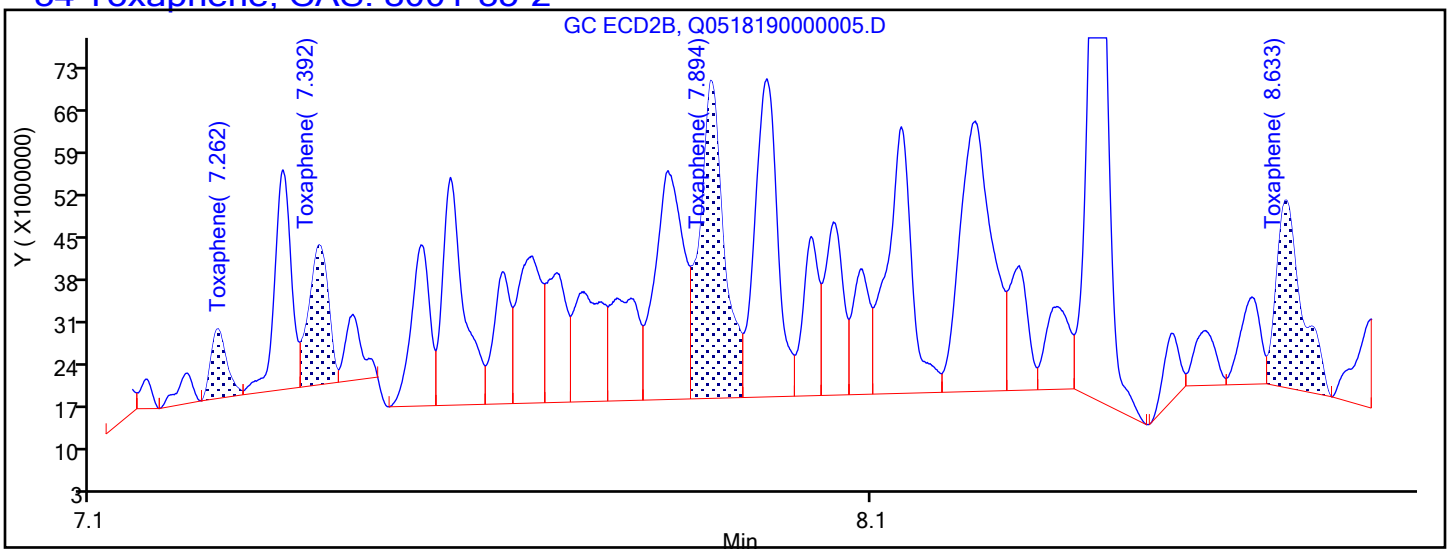

Processing Integration Results

7.262	Response = 11541227
7.392	Response = 23222912
7.894	Response = 52759341
8.633	Response = 31122256

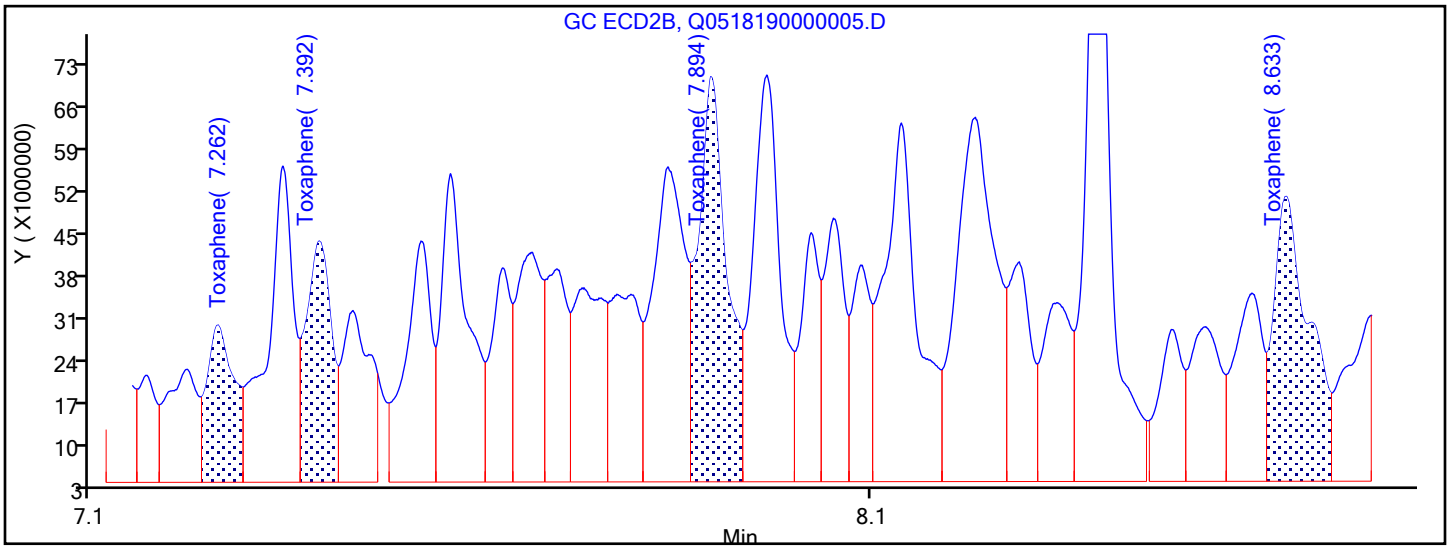

Manual Integration Results

7.262	Response = 26101945	M
7.392	Response = 40032664	M
7.894	Response = 67246914	M
8.633	Response = 47277820	M

Reviewer: eppinged, 18-May-2019 13:18:37

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000005.D				
Injection Date:	18-May-2019 13:00:35	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

* 44 Dibutylchlorendate ISTD, CAS: 1770-80-5

Signal: 2

Processing Integration Results

RT: 8.39
Height: 110716080
Amount: 0.100000
Amount Units: ng

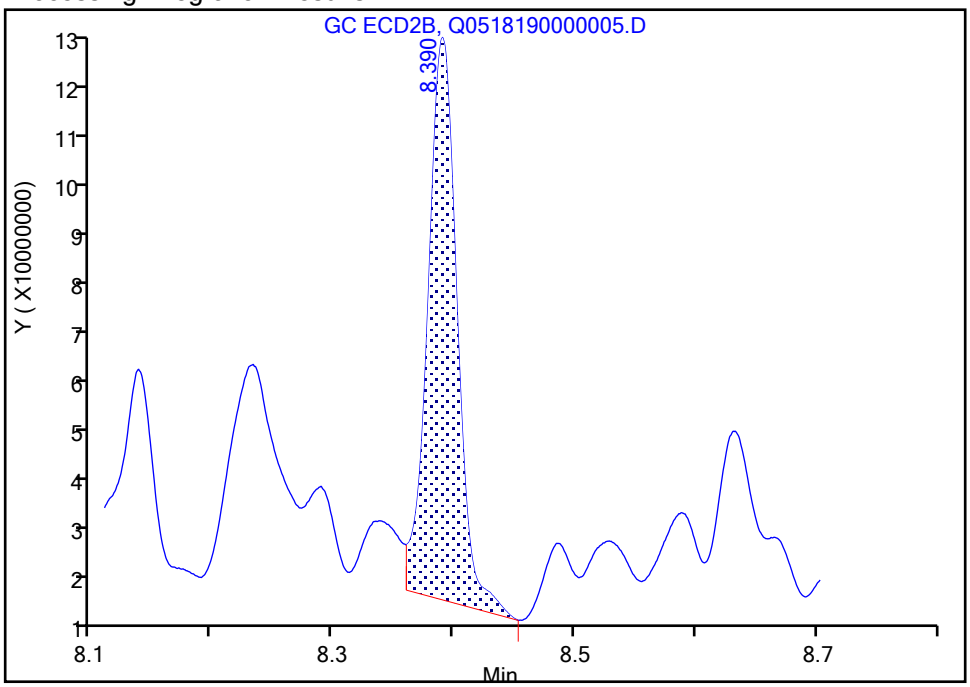

Manual Integration Results

RT: 8.39
Height: 124795391
Amount: 0.100000
Amount Units: ng

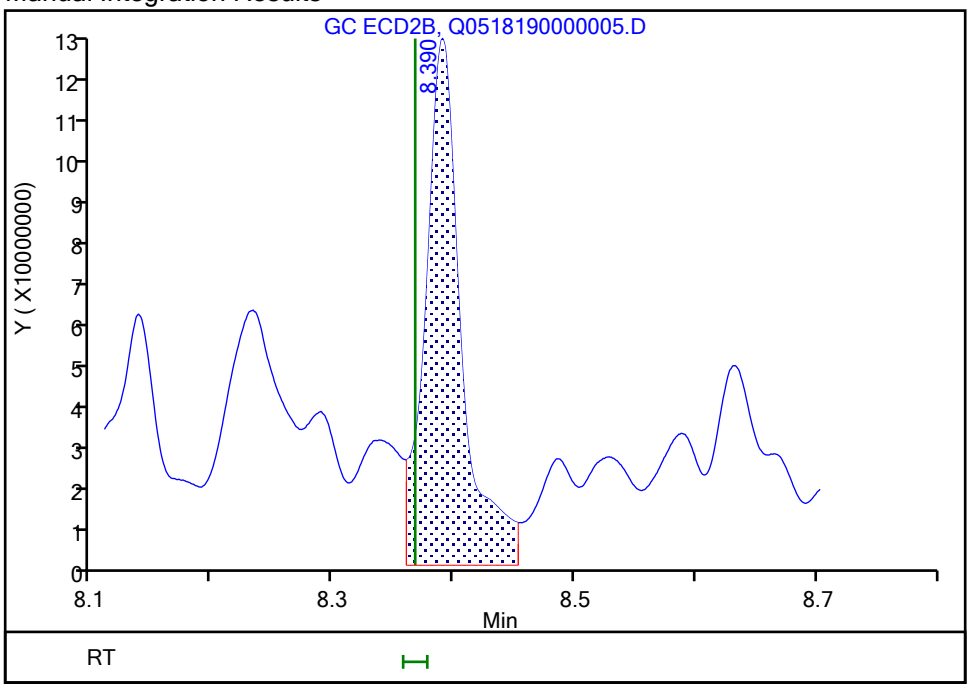

Reviewer: eppinged, 18-May-2019 13:18:37

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000006.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 18-May-2019 13:16:01 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026894-006
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub4

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 20-May-2019 05:51:45 Calib Date: 18-May-2019 20:36:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0306

First Level Reviewer: eppinged Date: 18-May-2019 13:34:02

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.823	3.791	0.032	118506327H	0.1000	0.1000	
2	4.080	4.066	0.015	145705985H	0.1000	0.1000	
34 Toxaphene							M
1	7.050	7.049	0.001	77201237H	5.00	4.84	M
1	7.317	7.316	0.001	104554704H	5.00	4.96	M
1	7.699	7.699	0.000	95111512H	5.00	4.89	M
1	7.942	7.941	0.001	88645940H	5.00	4.95	M
		Average of Peak Amounts =				4.91	
2	7.262	7.262	0.000	49745021H	5.00	4.58	M
2	7.392	7.392	0.000	74343297H	5.00	4.22	M
2	7.895	7.895	0.000	126427332H	5.00	4.44	M
2	8.632	8.632	0.000	90314019H	5.00	4.45	M
		Average of Peak Amounts =				4.42	
						RPD = 10.42	
* 44 Dibutylchlorendate ISTD							M
1	8.280	8.235	0.045	141562567H	0.1000	0.1000	M
2	8.392	8.368	0.024	158730464H	0.1000	0.1000	M

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

GCTOXLEVEL5_00013 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 20-May-2019 05:51:47 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000006.D				
Injection Date:	18-May-2019 13:16:01	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

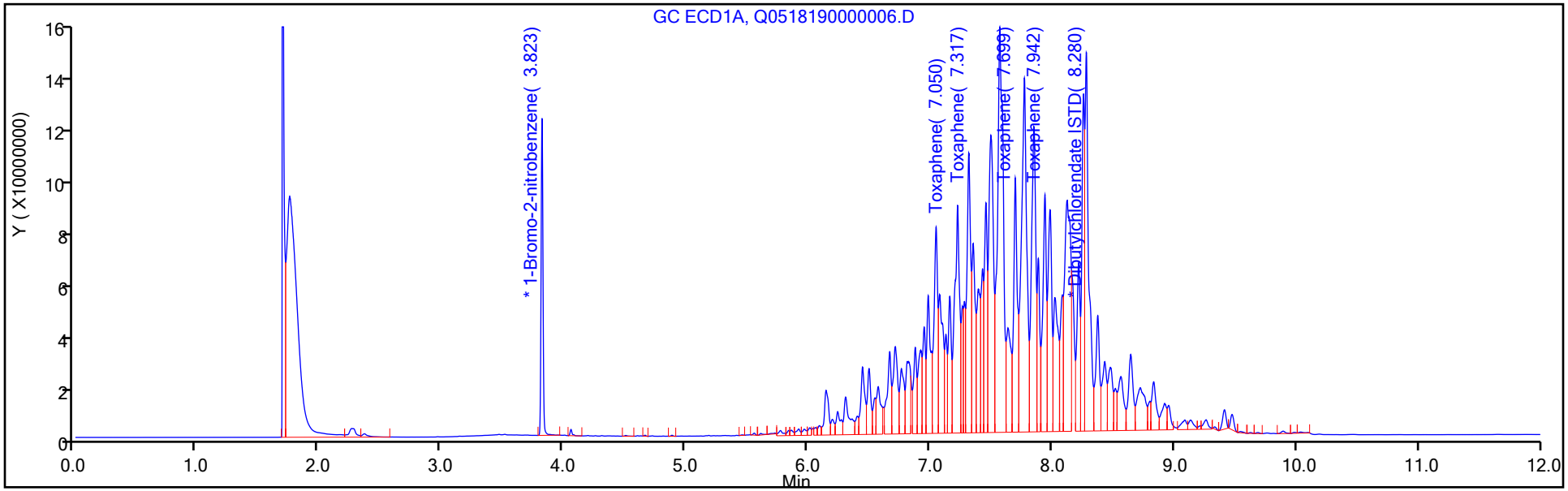

Column: MR-2 (0.53 mm)

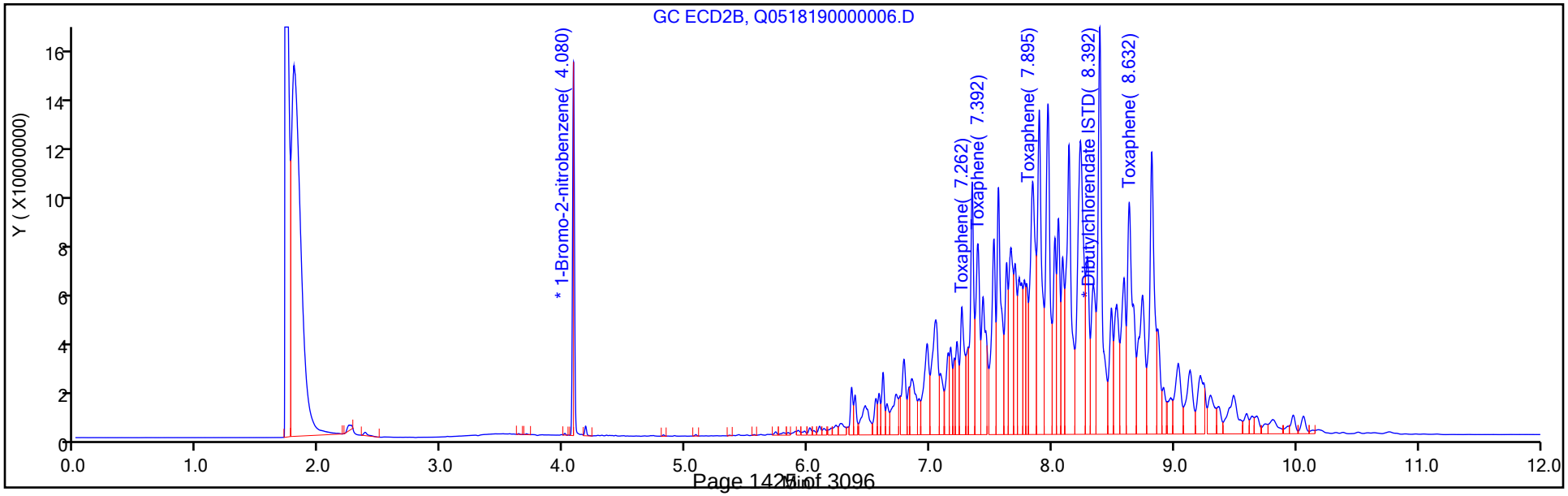

Report Date: 20-May-2019 05:51:48 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000006.D

Injection Date: 18-May-2019 13:16:01 Instrument ID: CHGC15

Lims ID: IC

Client ID:

Operator ID: 402331 ALS Bottle#: 6 Worklist Smp#: 6

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: IS PEST_CHGC15 Limit Group: GCS 8081B ICAL with IS

Column: MR-2 (0.53 mm) Detector GC ECD2B

34 Toxaphene, CAS: 8001-35-2

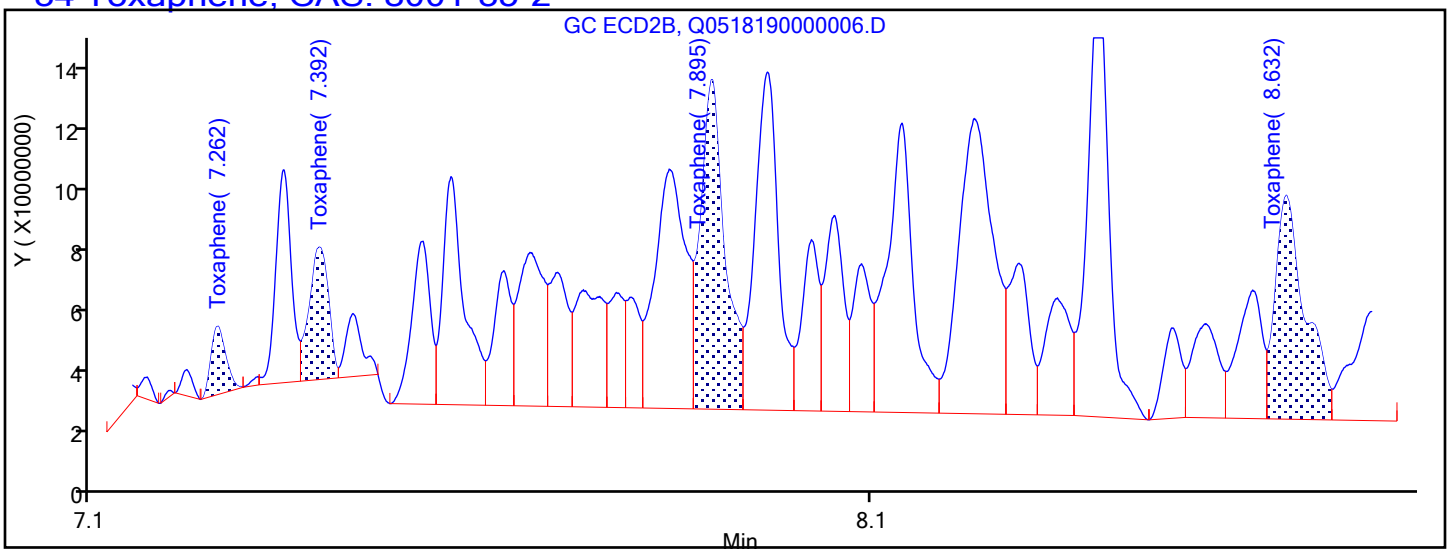

Processing Integration Results

7.262	Response = 21212512
7.392	Response = 41177730
7.895	Response = 102561433
8.632	Response = 69652306

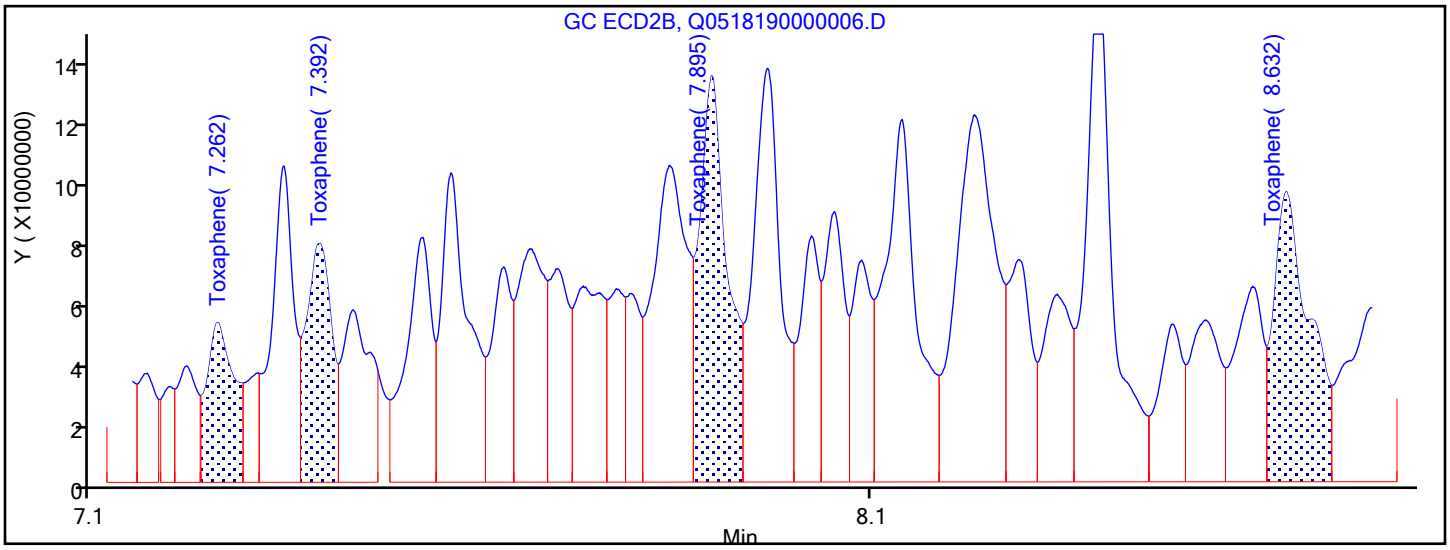

Manual Integration Results

7.262	Response = 49745021	M
7.392	Response = 74343297	M
7.895	Response = 126427332	M
8.632	Response = 90314019	M

Reviewer: eppinged, 18-May-2019 13:32:07

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000006.D				
Injection Date:	18-May-2019 13:16:01	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

* 44 Dibutylchlorendate ISTD, CAS: 1770-80-5

Signal: 2

Processing Integration Results

RT: 8.39
Height: 137341623
Amount: 0.100000
Amount Units: ng

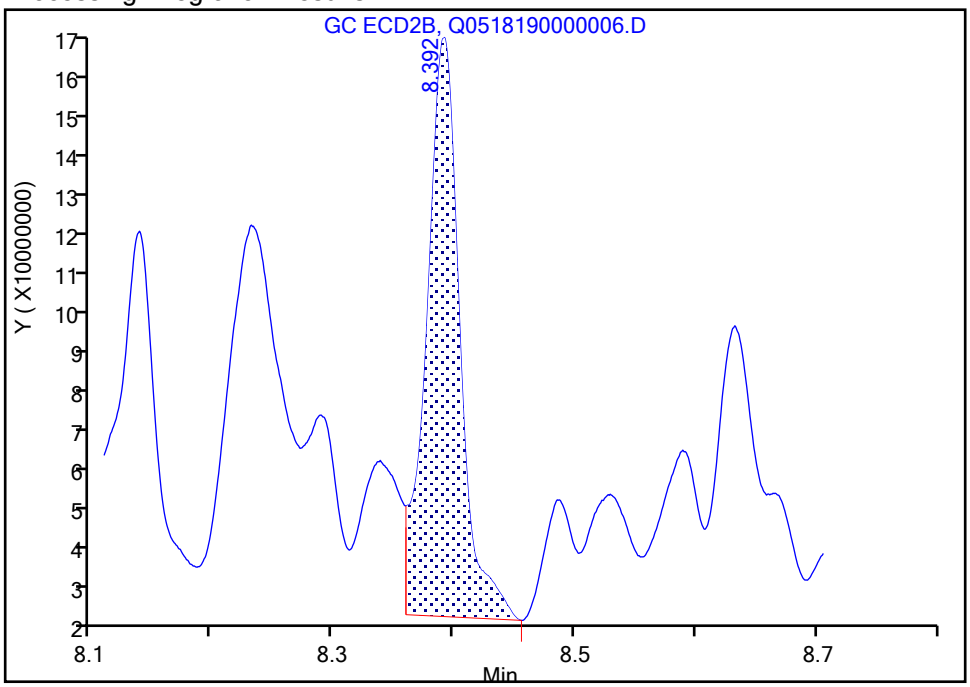

Manual Integration Results

RT: 8.39
Height: 158730464
Amount: 0.100000
Amount Units: ng

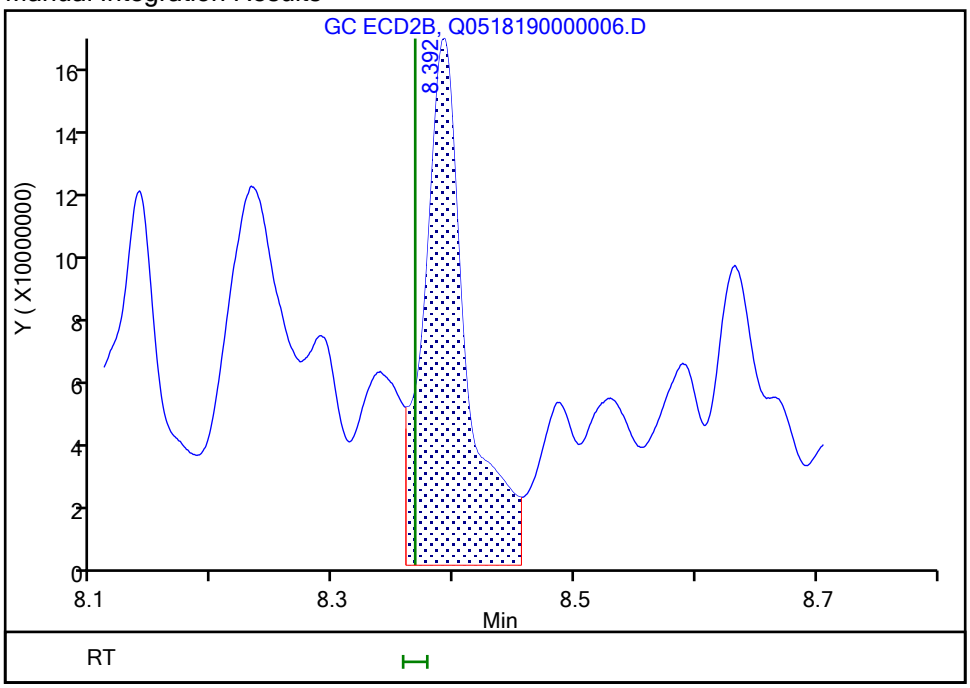

Reviewer: eppinged, 18-May-2019 13:32:07
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 279115

SDG No.:

Instrument ID: CHGC15 GC Column: MR-1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/18/2019 14:56 Calibration End Date: 05/18/2019 15:57 Calibration ID: 40521

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-279115/7	Q0518190000007.D
Level 2	IC 180-279115/8	Q0518190000008.D
Level 3	IC 180-279115/9	Q0518190000009.D
Level 4	IC 180-279115/10	Q0518190000010.D
Level 5	IC 180-279115/11	Q0518190000011.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Chlordane (technical) Peak 1	0.0515	0.0493	0.0460	0.0431	0.0412	Ave		0.0462				9.2		20.0			
Chlordane (technical) Peak 2	0.0685	0.0617	0.0558	0.0507	0.0487	Ave		0.0571				14.2		20.0			
Chlordane (technical) Peak 3	0.1748	0.1807	0.1750	0.1592	0.1567	Ave		0.1693				6.3		20.0			
Chlordane (technical) Peak 4	0.2053	0.1961	0.1864	0.1718	0.1709	Ave		0.1861				8.1		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 279115

SDG No.:

Instrument ID: CHGC15 GC Column: MR-1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/18/2019 14:56 Calibration End Date: 05/18/2019 15:57 Calibration ID: 40521

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-279115/7	Q0518190000007.D
Level 2	IC 180-279115/8	Q0518190000008.D
Level 3	IC 180-279115/9	Q0518190000009.D
Level 4	IC 180-279115/10	Q0518190000010.D
Level 5	IC 180-279115/11	Q0518190000011.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
Chlordane (technical) Peak 1	BNB	Ave	257179	1280004	12238890	61575745	118174922	0.00500	0.0250	0.250	1.25	2.50
Chlordane (technical) Peak 2	BNB	Ave	342238	1602208	14836153	72392675	139727431	0.00500	0.0250	0.250	1.25	2.50
Chlordane (technical) Peak 3	BNB	Ave	872640	4694721	46506909	227251290	449773131	0.00500	0.0250	0.250	1.25	2.50
Chlordane (technical) Peak 4	BNB	Ave	1025275	5095451	49530488	245255972	490451777	0.00500	0.0250	0.250	1.25	2.50

Curve Type Legend:

Ave = Average ISTD by Height

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 279115

SDG No.:

Instrument ID: CHGC15 GC Column: MR-1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/18/2019 14:56 Calibration End Date: 05/18/2019 15:57 Calibration ID: 40521

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-279115/7	Q0518190000007.D
Level 2	IC 180-279115/8	Q0518190000008.D
Level 3	IC 180-279115/9	Q0518190000009.D
Level 4	IC 180-279115/10	Q0518190000010.D
Level 5	IC 180-279115/11	Q0518190000011.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #		LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	
Chlordane (technical) Peak 1	11.4	6.6	-0.4	-6.7	-10.9		50	30	30	30	30	
Chlordane (technical) Peak 2	20.1	8.0	-2.2	-11.1	-14.7		50	30	30	30	30	
Chlordane (technical) Peak 3	3.2	6.8	3.4	-5.9	-7.4		50	30	30	30	30	
Chlordane (technical) Peak 4	10.3	5.4	0.1	-7.7	-8.2		50	30	30	30	30	

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000007.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 18-May-2019 14:56:07 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026894-007
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub5

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 20-May-2019 05:51:49 Calib Date: 18-May-2019 20:36:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0306

First Level Reviewer: eppinged Date: 18-May-2019 15:14:14

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							M
1	3.797	3.791	0.006	99872177H	0.1000	0.1000	
2	4.063	4.066	-0.003	130615691H	0.1000	0.1000	M
9 Chlordane (technical)							Ma
1	5.730	5.721	0.009	257179H	0.005000	0.005570	
1	5.905	5.895	0.010	342238H	0.005000	0.006003	
1	6.762	6.754	0.008	872640H	0.005000	0.005162	
1	6.835	6.824	0.011	1025275H	0.005000	0.005516	
		Average of Peak Amounts =				0.005563	
2	6.053	6.054	-0.001	643580H	0.005000	0.002863	M
2	6.413	6.413	0.000	466004H	0.005000	0.003044	M
2	7.023	7.023	0.000	1453339H	0.005000	0.002512	M
2	7.071	7.070	0.001	985324H	0.005000	0.002692	M
		Average of Peak Amounts =				0.002778	
						RPD = 66.78	
* 44 Dibutylchlorendate ISTD							Ma
1	8.252	8.235	0.017	74808620H	0.1000	0.1000	a
2	8.372	8.368	0.004	84034964H	0.1000	0.1000	M

QC Flag Legend

Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

GCCHLORLEVEL1_00011 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 20-May-2019 05:51:51 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000007.D				
Injection Date:	18-May-2019 14:56:07	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

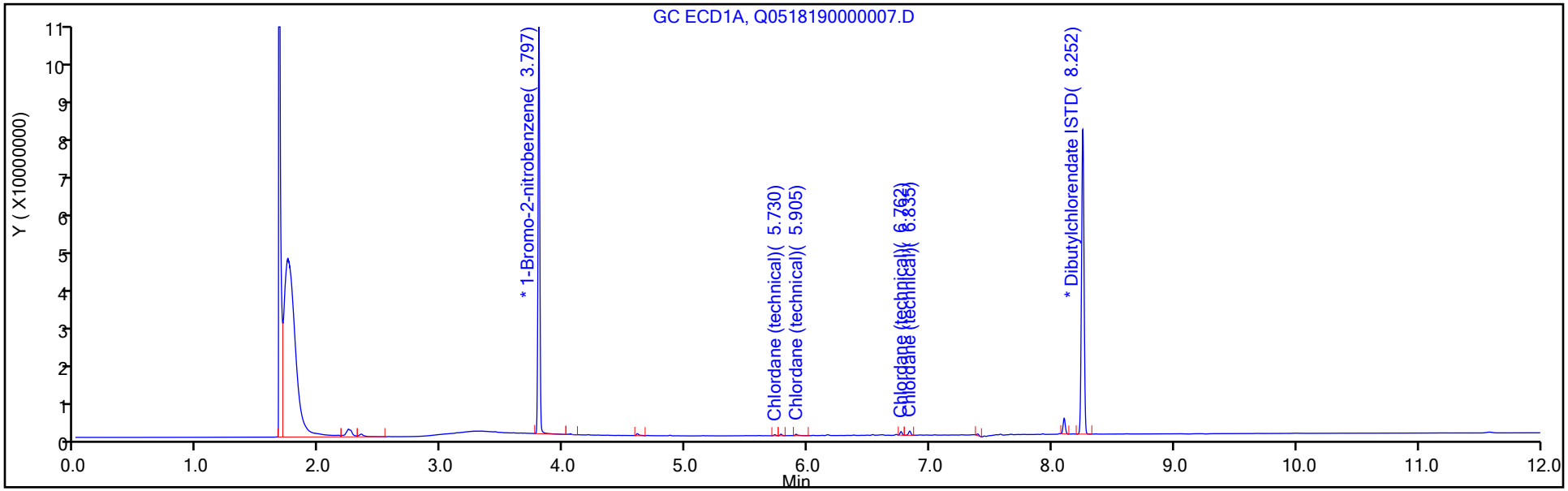

Column: MR-2 (0.53 mm)

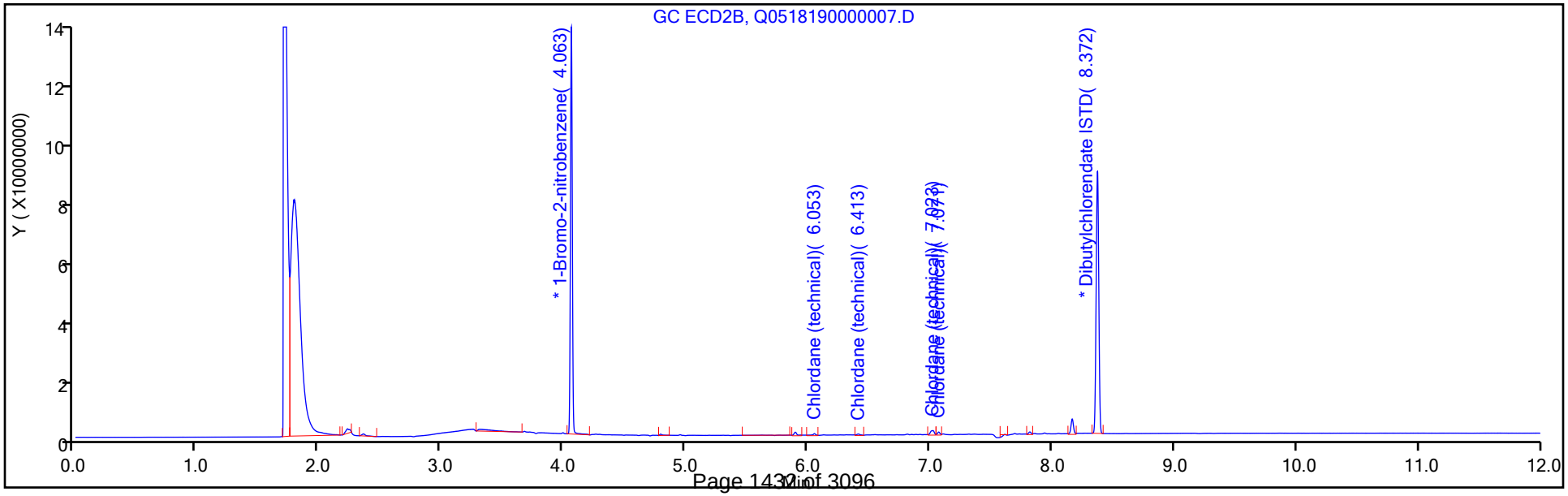

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000007.D				
Injection Date:	18-May-2019 14:56:07	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

* 44 Dibutylchlorendate ISTD, CAS: 1770-80-5

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 8.24

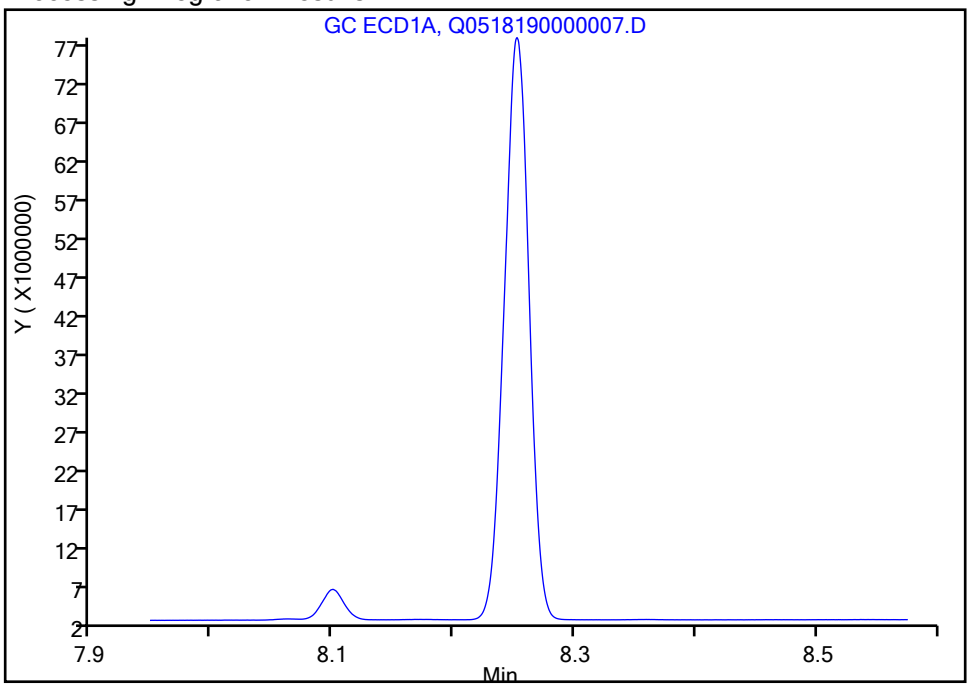

Manual Integration Results

RT: 8.25
Height: 74808620
Amount: 0.100000
Amount Units: ng

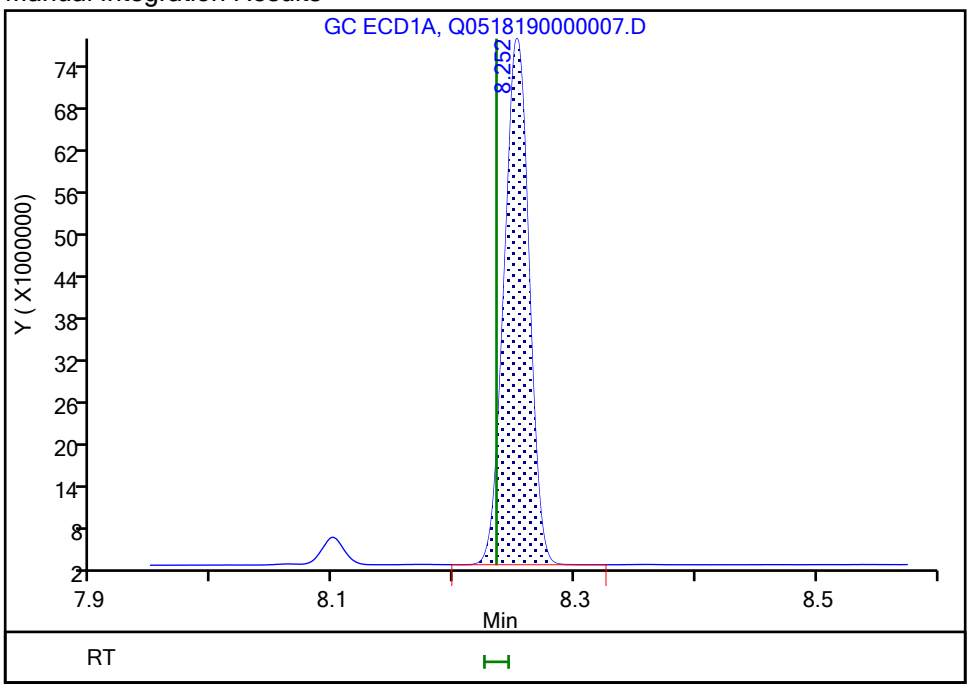

Reviewer: eppinged, 18-May-2019 15:35:45
Audit Action: Assigned Compound ID Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000008.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 18-May-2019 15:11:31 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026894-008
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub5

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 20-May-2019 05:51:52 Calib Date: 18-May-2019 20:36:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0306

First Level Reviewer: eppinged Date: 18-May-2019 15:32:40

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.794	3.791	0.003	103917836H	0.1000	0.1000	
2	4.067	4.066	0.001	135344109H	0.1000	0.1000	
9 Chlordane (technical)							
1	5.722	5.721	0.001	1280004H	0.0250	0.0266	
1	5.897	5.895	0.002	1602208H	0.0250	0.0270	
1	6.755	6.754	0.001	4694721H	0.0250	0.0267	
1	6.826	6.824	0.002	5095451H	0.0250	0.0263	
		Average of Peak Amounts =				0.0267	
2	6.054	6.054	0.000	2250016H	0.0250	0.0295	
2	6.412	6.413	-0.001	1404647H	0.0250	0.0282	
2	7.024	7.023	0.001	6142658H	0.0250	0.0310	
2	7.071	7.070	0.001	3836732H	0.0250	0.0303	
		Average of Peak Amounts =				0.0297	
						RPD = 10.90	
* 44 Dibutylchlorendate ISTD							
1	8.242	8.235	0.007	75079993H	0.1000	0.1000	
2	8.370	8.368	0.002	85252851H	0.1000	0.1000	

Reagents:

GCCHLORLEVEL2_00009 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 20-May-2019 05:51:54 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000008.D				
Injection Date:	18-May-2019 15:11:31	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

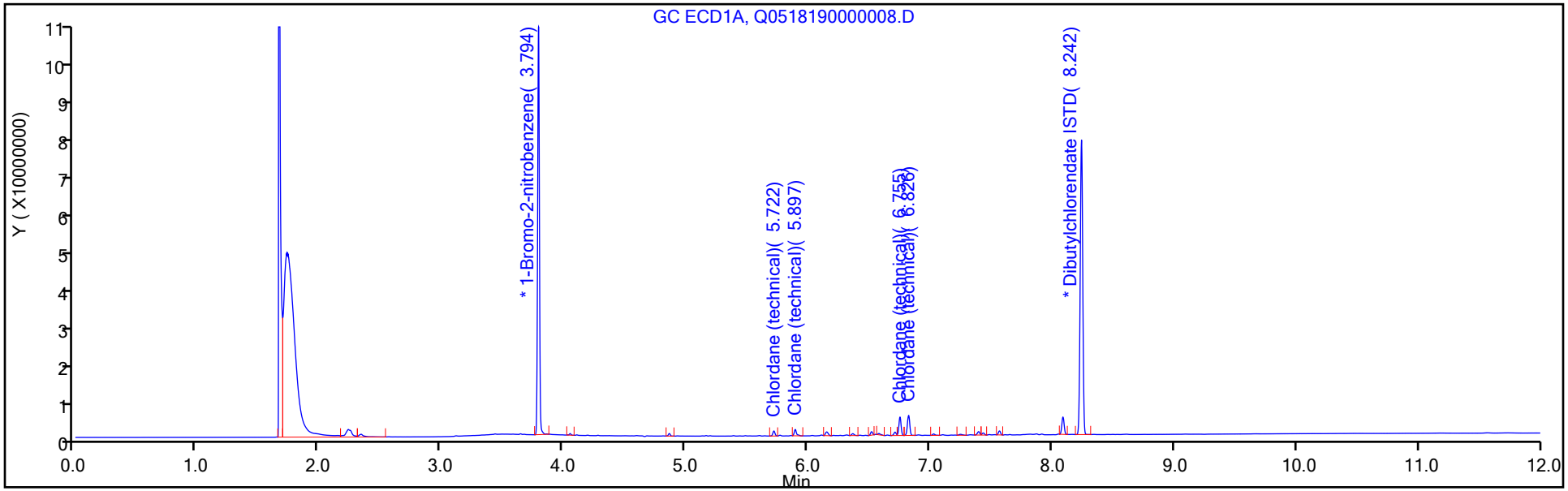

Column: MR-2 (0.53 mm)

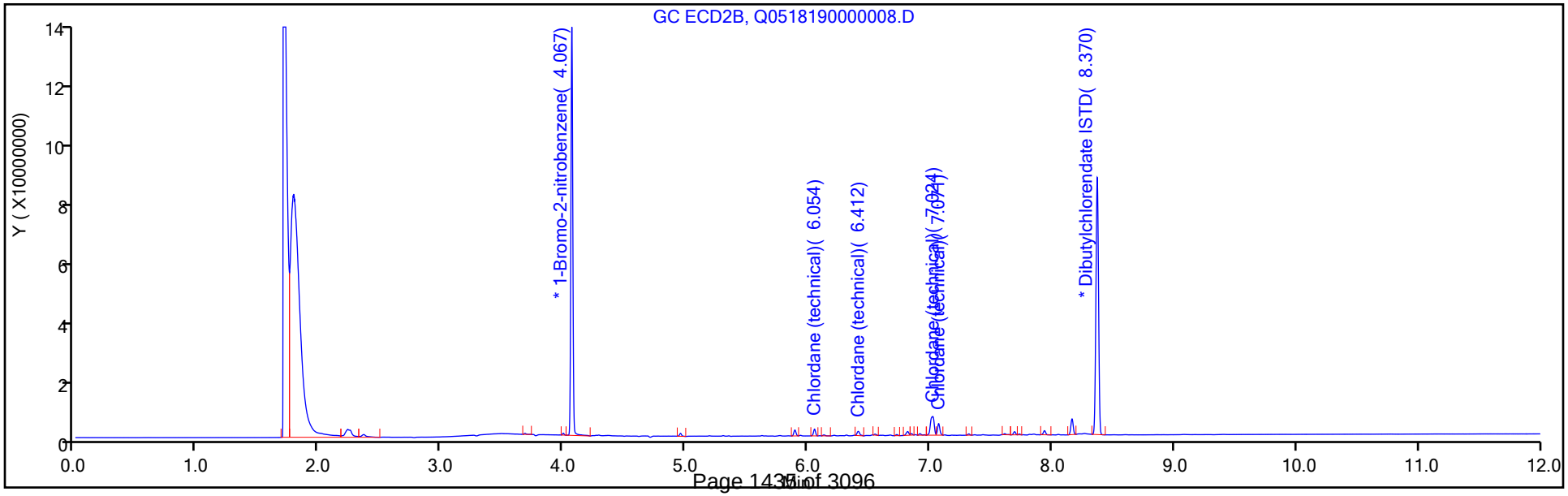

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000009.D				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	3		
Inject. Date:	18-May-2019 15:26:57	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0026894-009				
Operator ID:	402331	Instrument ID:	CHGC15		
Sublist:	chrom-IS PEST_CHGC15*sub5				
Method:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m				
Limit Group:	GCS 8081B ICAL with IS				
Last Update:	20-May-2019 05:51:55	Calib Date:	18-May-2019 20:36:24		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D				
Column 1 :	MR-1 (0.53 mm)			Det: GC ECD1A	
Column 2 :	MR-2 (0.53 mm)			Det: GC ECD2B	
Process Host:	CTX0306				

First Level Reviewer: eppinged Date: 18-May-2019 15:46:57

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.793	3.793	0.000	106316237H	0.1000	0.1000	
2	4.067	4.067	0.000	137321753H	0.1000	0.1000	
9 Chlordane (technical)							M
1	5.721	5.721	0.000	12238890H	0.2500	0.2490	
1	5.895	5.895	0.000	14836153H	0.2500	0.2444	
1	6.754	6.754	0.000	46506909H	0.2500	0.2584	
1	6.824	6.824	0.000	49530488H	0.2500	0.2503	
		Average of Peak Amounts =				0.2505	
2	6.054	6.054	0.000	19472528H	0.2500	0.3149	
2	6.413	6.413	0.000	12265744H	0.2500	0.3198	M
2	7.023	7.023	0.000	54091135H	0.2500	0.3207	M
2	7.070	7.070	0.000	33648586H	0.2500	0.3175	M
		Average of Peak Amounts =				0.3182	
						RPD = 23.79	
* 44 Dibutylchlorendate ISTD							
1	8.240	8.240	0.000	78811573H	0.1000	0.1000	
2	8.369	8.369	0.000	88037501H	0.1000	0.1000	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCCHLORLEVEL3_00015	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 20-May-2019 05:51:57 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000009.D

Injection Date: 18-May-2019 15:26:57 Instrument ID: CHGC15 Operator ID: 402331

Lims ID: IC Worklist Smp#: 9

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 9

Method: IS PEST_CHGC15 Limit Group: GCS 8081B ICAL with IS

Column: MR-1 (0.53 mm)

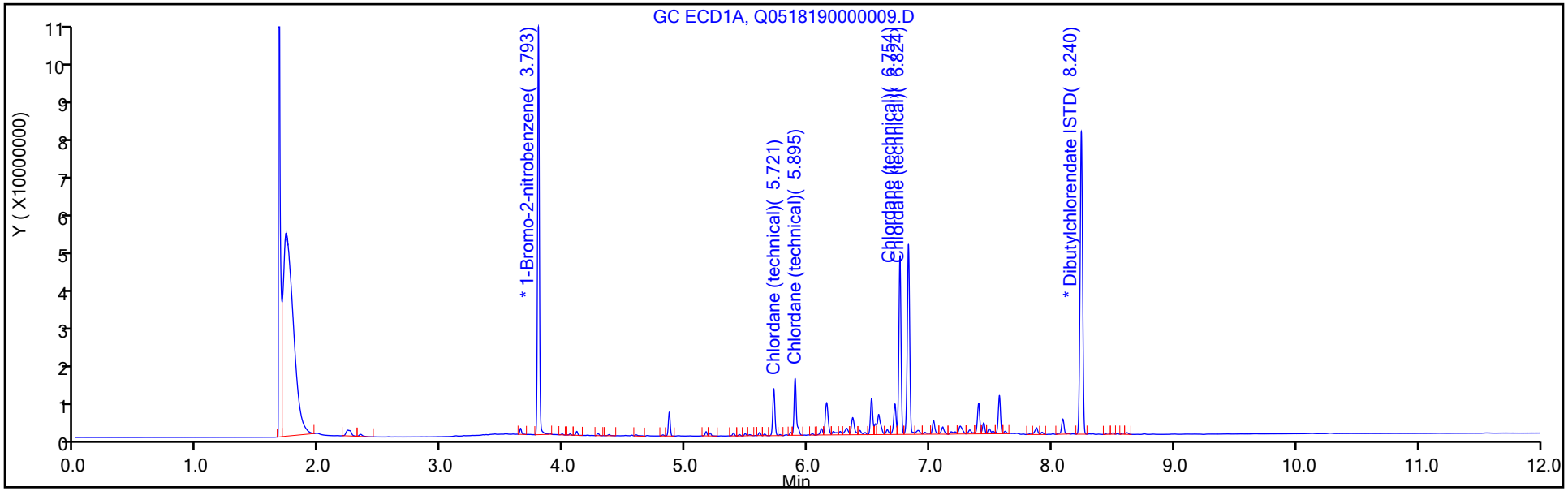

Column: MR-2 (0.53 mm)

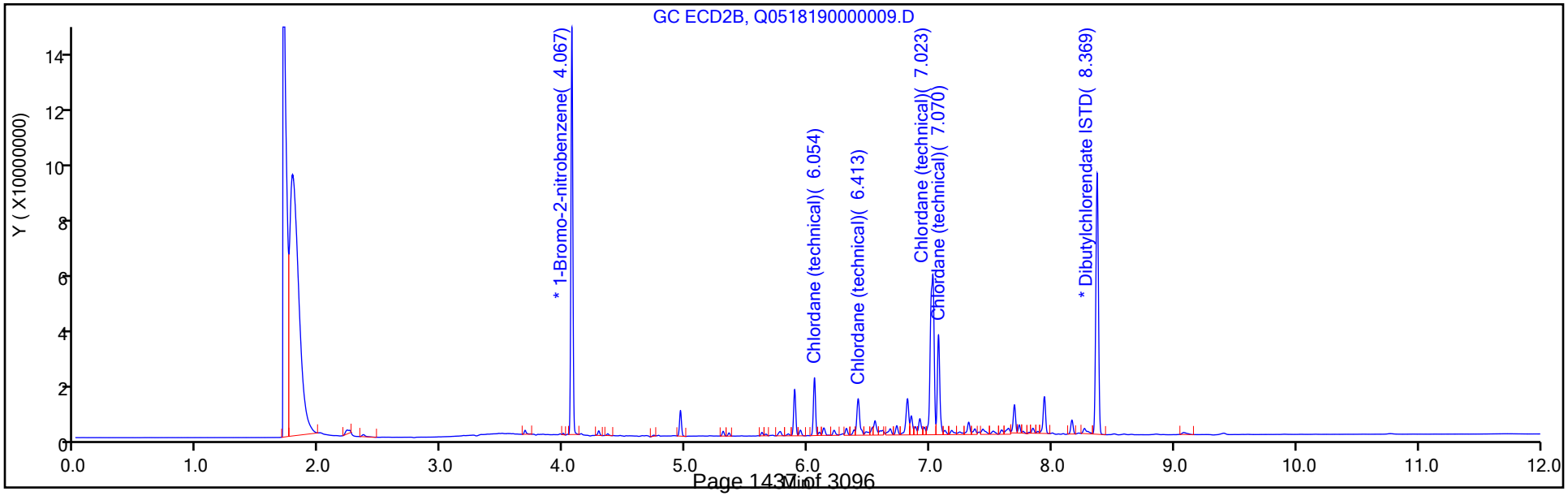

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000010.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 18-May-2019 15:42:22 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026894-010
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub5

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 20-May-2019 05:51:59 Calib Date: 18-May-2019 20:36:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0306

First Level Reviewer: eppinged Date: 18-May-2019 16:06:00

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.793	3.791	0.002	114173283H	0.1000	0.1000	
2	4.067	4.066	0.002	145725620H	0.1000	0.1000	
9 Chlordane (technical)							
1	5.720	5.721	-0.001	61575745H	1.25	1.17	
1	5.894	5.895	-0.001	72392675H	1.25	1.11	
1	6.753	6.754	-0.001	227251290H	1.25	1.18	
1	6.824	6.824	0.000	245255972H	1.25	1.15	
		Average of Peak Amounts =				1.15	
2	6.054	6.054	0.000	82665061H	1.25	1.28	
2	6.412	6.413	-0.001	50952790H	1.25	1.28	
2	7.023	7.023	0.000	222563535H	1.25	1.26	
2	7.071	7.070	0.001	140693315H	1.25	1.27	
		Average of Peak Amounts =				1.28	
						RPD = 10.17	
* 44 Dibutylchlorendate ISTD							
1	8.239	8.235	0.004	86714159H	0.1000	0.1000	
2	8.369	8.368	0.001	93081367H	0.1000	0.1000	

Reagents:

GCCHLORLEVEL4_00009 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 20-May-2019 05:52:01 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000010.D				
Injection Date:	18-May-2019 15:42:22	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	10
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

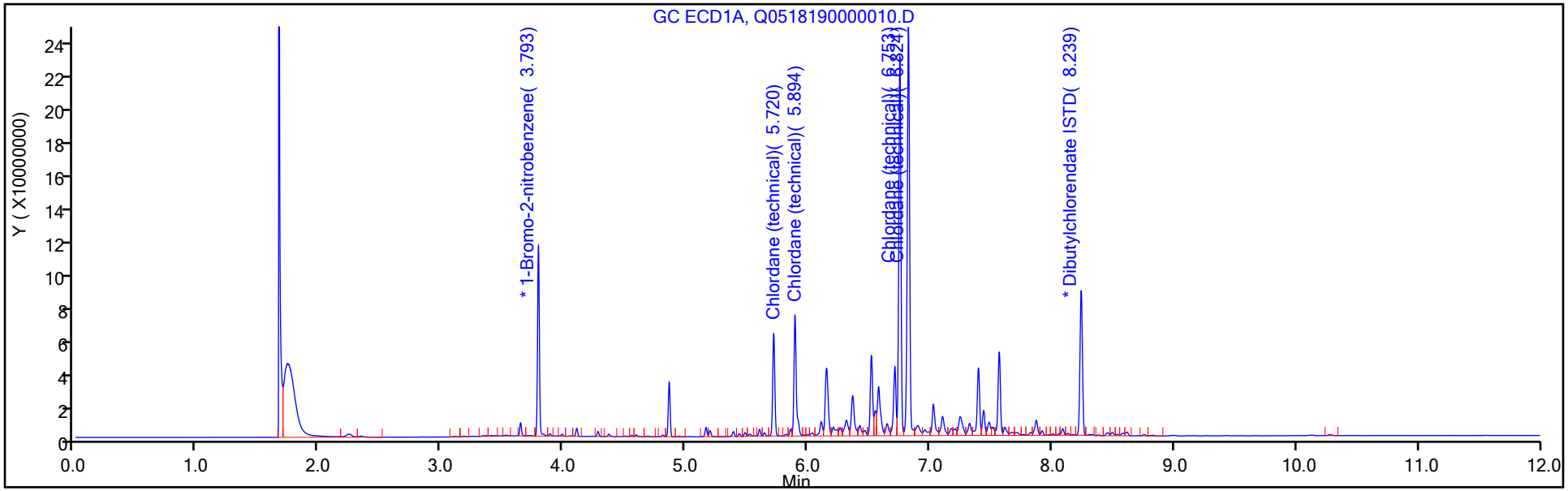

Column: MR-2 (0.53 mm)

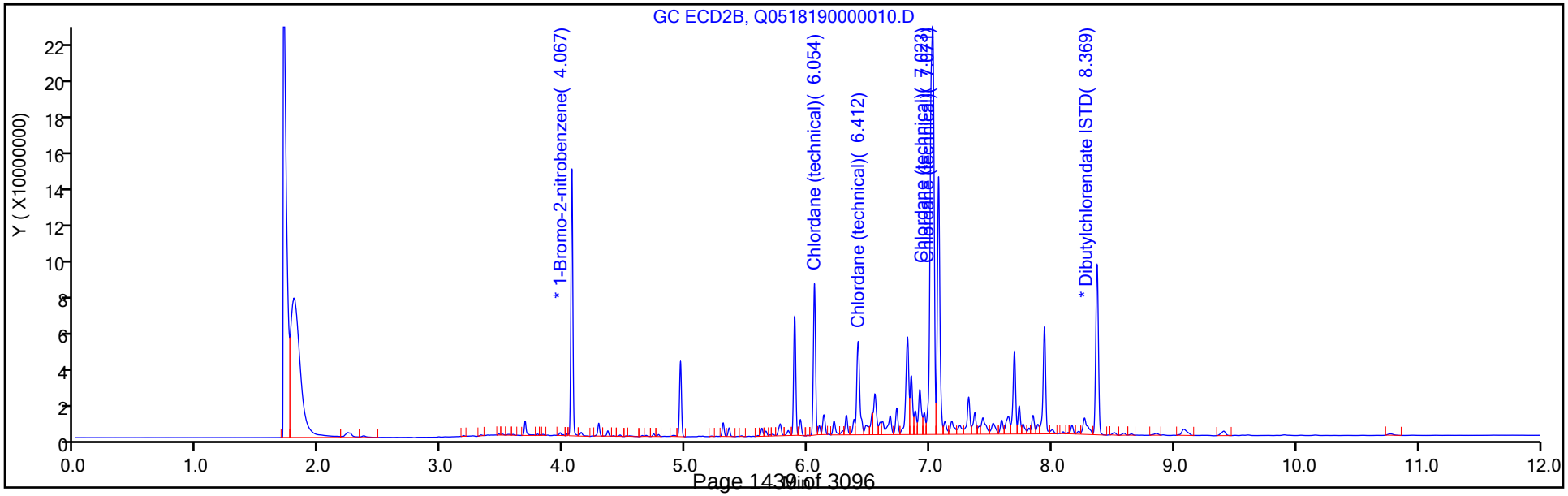

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000011.D				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	5		
Inject. Date:	18-May-2019 15:57:59	ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0026894-011				
Operator ID:	402331	Instrument ID:	CHGC15		
Sublist:	chrom-IS PEST_CHGC15*sub5				
Method:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m				
Limit Group:	GCS 8081B ICAL with IS				
Last Update:	20-May-2019 05:52:05	Calib Date:	18-May-2019 20:36:24		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D				
Column 1 :	MR-1 (0.53 mm)		Det: GC ECD1A		
Column 2 :	MR-2 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0306				

First Level Reviewer: eppinged Date: 18-May-2019 16:17:48

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.792	3.791	0.001	114789869H	0.1000	0.1000	
2	4.067	4.066	0.001	144116736H	0.1000	0.1000	
9 Chlordane (technical)							M
1	5.720	5.721	-0.001	118174922H	2.50	2.23	
1	5.895	5.895	0.000	139727431H	2.50	2.13	
1	6.754	6.754	0.000	449773131H	2.50	2.31	
1	6.825	6.824	0.001	490451777H	2.50	2.30	
		Average of Peak Amounts =				2.24	
2	6.054	6.054	0.000	152143795H	2.50	2.40	M
2	6.412	6.413	-0.001	93953313H	2.50	2.40	M
2	7.024	7.023	0.001	419591000H	2.50	2.41	M
2	7.071	7.070	0.001	262476328H	2.50	2.41	M
		Average of Peak Amounts =				2.40	
						RPD = 6.96	
* 44 Dibutylchlorendate ISTD							M
1	8.239	8.235	0.004	89487474H	0.1000	0.1000	
2	8.369	8.368	0.002	92635058H	0.1000	0.1000	M

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCCHLORLEVEL5_00011	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 20-May-2019 05:52:06 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000011.D				
Injection Date:	18-May-2019 15:57:59	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	11
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

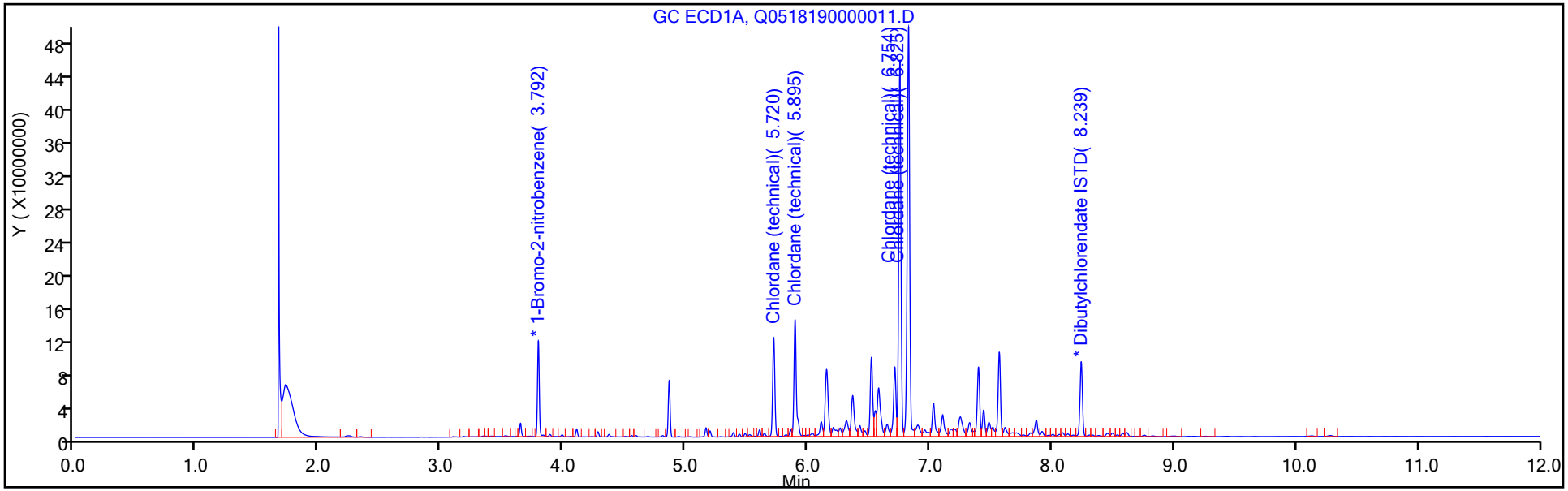

Column: MR-2 (0.53 mm)

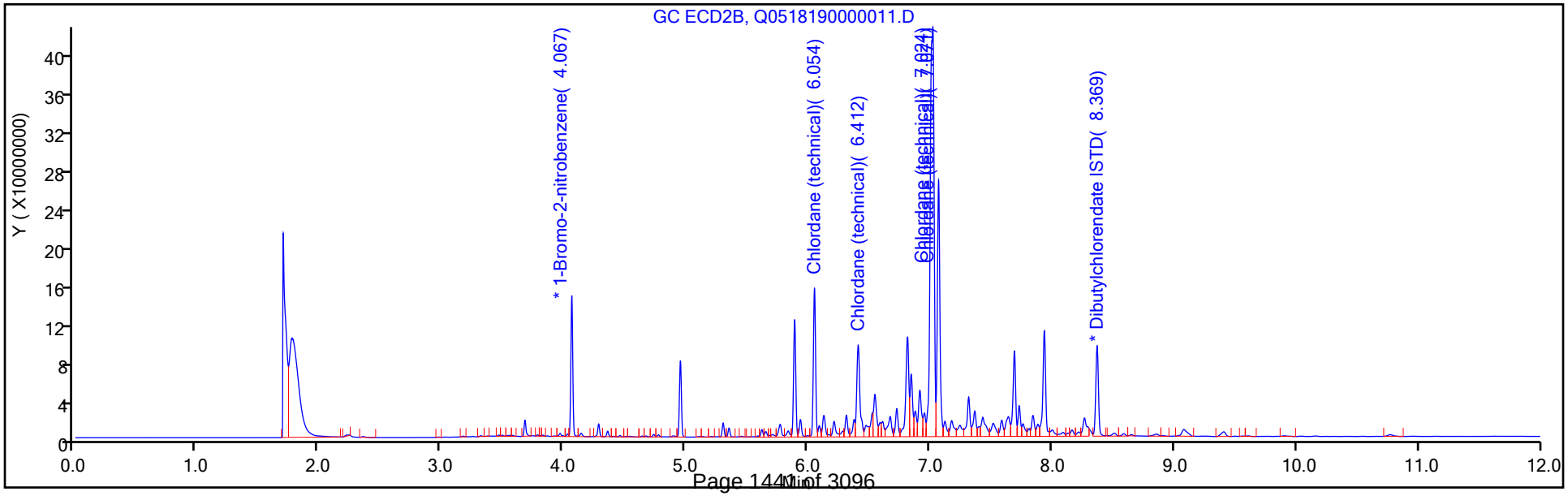

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 279115

SDG No.:

Instrument ID: CHGC15 GC Column: MR-2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/18/2019 14:56 Calibration End Date: 05/18/2019 15:57 Calibration ID: 40522

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-279115/7	Q0518190000007.D
Level 2	IC 180-279115/8	Q0518190000008.D
Level 3	IC 180-279115/9	Q0518190000009.D
Level 4	IC 180-279115/10	Q0518190000010.D
Level 5	IC 180-279115/11	Q0518190000011.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Chlordane (technical) Peak 1	0.0985	0.0665	0.0567	0.0454	0.0422	Lin1	0.0004	0.0439							0.9940		0.9900
Chlordane (technical) Peak 2	0.0714	0.0415	0.0357	0.0280	0.0261	Lin1	0.0003	0.0271							0.9940		0.9900
Chlordane (technical) Peak 3	0.2225	0.1815	0.1576	0.1222	0.1165	Lin1	0.0008	0.1203							0.9930		0.9900
Chlordane (technical) Peak 4	0.1509	0.1134	0.0980	0.0772	0.0729	Lin1	0.0006	0.0754							0.9940		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 279115

SDG No.:

Instrument ID: CHGC15 GC Column: MR-2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/18/2019 14:56 Calibration End Date: 05/18/2019 15:57 Calibration ID: 40522

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-279115/7	Q0518190000007.D
Level 2	IC 180-279115/8	Q0518190000008.D
Level 3	IC 180-279115/9	Q0518190000009.D
Level 4	IC 180-279115/10	Q0518190000010.D
Level 5	IC 180-279115/11	Q0518190000011.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
Chlordane (technical) Peak 1	BNB	Lin1	643580	2250016	19472528	82665061	152143795	0.00500	0.0250	0.250	1.25	2.50
Chlordane (technical) Peak 2	BNB	Lin1	466004	1404647	12265744	50952790	93953313	0.00500	0.0250	0.250	1.25	2.50
Chlordane (technical) Peak 3	BNB	Lin1	1453339	6142658	54091135	222563535	419591000	0.00500	0.0250	0.250	1.25	2.50
Chlordane (technical) Peak 4	BNB	Lin1	985324	3836732	33648586	140693315	262476328	0.00500	0.0250	0.250	1.25	2.50

Curve Type Legend:
Lin1 = Linear 1/Conc ISTD by Height

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 279115

SDG No.:

Instrument ID: CHGC15 GC Column: MR-2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/18/2019 14:56 Calibration End Date: 05/18/2019 15:57 Calibration ID: 40522

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-279115/7	Q0518190000007.D
Level 2	IC 180-279115/8	Q0518190000008.D
Level 3	IC 180-279115/9	Q0518190000009.D
Level 4	IC 180-279115/10	Q0518190000010.D
Level 5	IC 180-279115/11	Q0518190000011.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #		LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	
Chlordane (technical) Peak 1	-42.7	18.1	25.9	2.8	-4.1		50	30	30	30	30	
Chlordane (technical) Peak 2	-39.1	12.8	27.9	2.5	-4.1		50	30	30	30	30	
Chlordane (technical) Peak 3	-49.8	23.9	28.3	1.0	-3.5		50	30	30	30	30	
Chlordane (technical) Peak 4	-46.2	21.1	27.0	1.8	-3.7		50	30	30	30	30	

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000007.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 18-May-2019 14:56:07 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026894-007
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub5

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 20-May-2019 05:51:49 Calib Date: 18-May-2019 20:36:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0306

First Level Reviewer: eppinged Date: 18-May-2019 15:14:14

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							M
1	3.797	3.791	0.006	99872177H	0.1000	0.1000	
2	4.063	4.066	-0.003	130615691H	0.1000	0.1000	M
9 Chlordane (technical)							Ma
1	5.730	5.721	0.009	257179H	0.005000	0.005570	
1	5.905	5.895	0.010	342238H	0.005000	0.006003	
1	6.762	6.754	0.008	872640H	0.005000	0.005162	
1	6.835	6.824	0.011	1025275H	0.005000	0.005516	
		Average of Peak Amounts =				0.005563	
2	6.053	6.054	-0.001	643580H	0.005000	0.002863	M
2	6.413	6.413	0.000	466004H	0.005000	0.003044	M
2	7.023	7.023	0.000	1453339H	0.005000	0.002512	M
2	7.071	7.070	0.001	985324H	0.005000	0.002692	M
		Average of Peak Amounts =				0.002778	
						RPD = 66.78	
* 44 Dibutylchlorendate ISTD							Ma
1	8.252	8.235	0.017	74808620H	0.1000	0.1000	a
2	8.372	8.368	0.004	84034964H	0.1000	0.1000	M

QC Flag Legend

Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

GCCHLORLEVEL1_00011 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 20-May-2019 05:51:51 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000007.D				
Injection Date:	18-May-2019 14:56:07	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

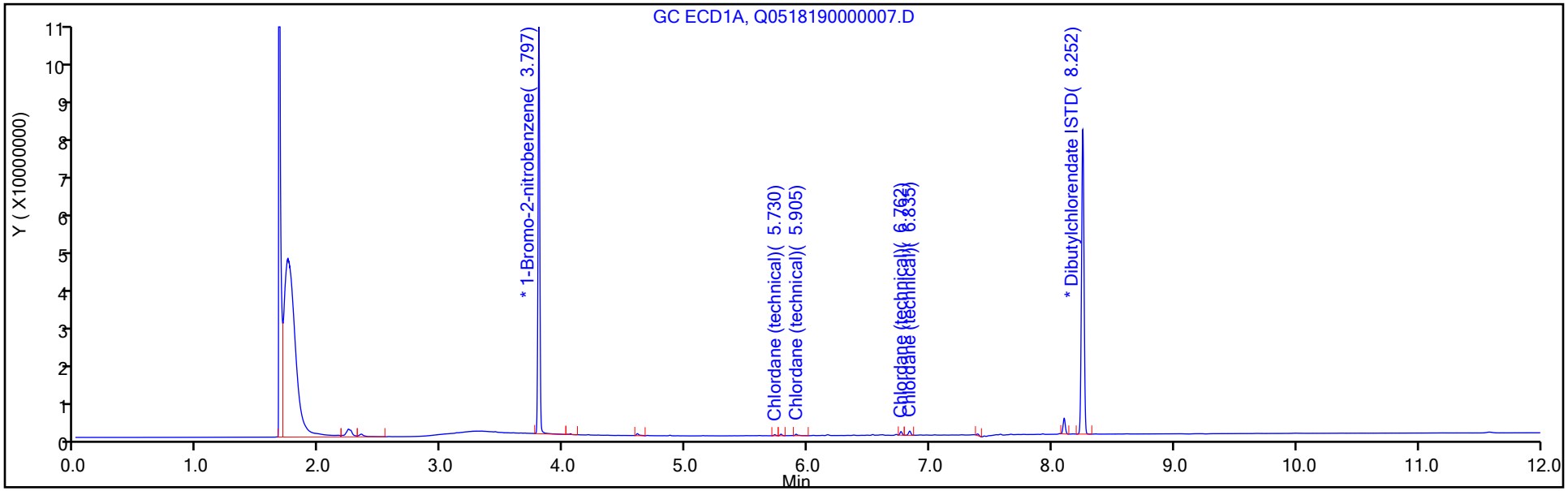

Column: MR-2 (0.53 mm)

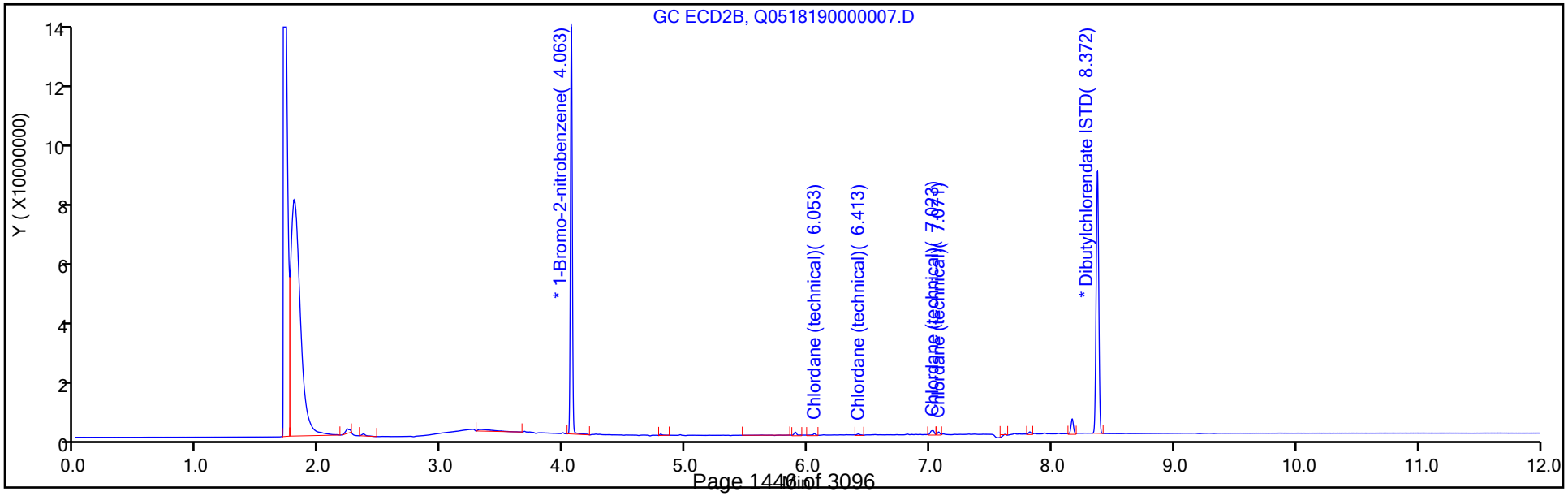

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000007.D				
Injection Date:	18-May-2019 14:56:07	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

* 43 1-Bromo-2-nitrobenzene, CAS: 577-19-5

Signal: 2

Processing Integration Results

RT: 4.06
Height: 130639600
Amount: 0.100000
Amount Units: ng

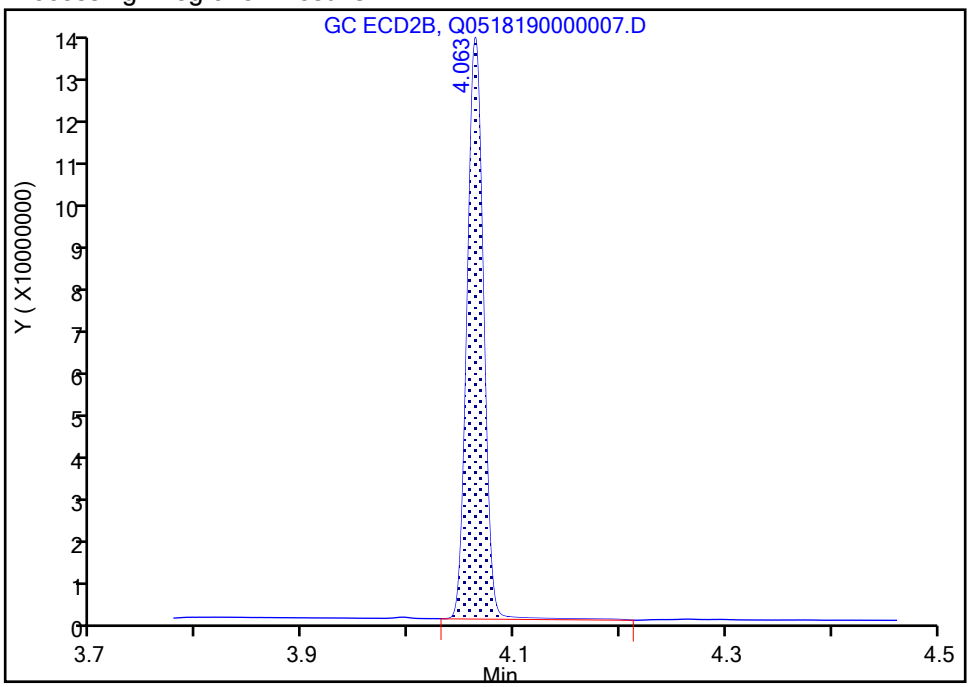

Manual Integration Results

RT: 4.06
Height: 130615691
Amount: 0.100000
Amount Units: ng

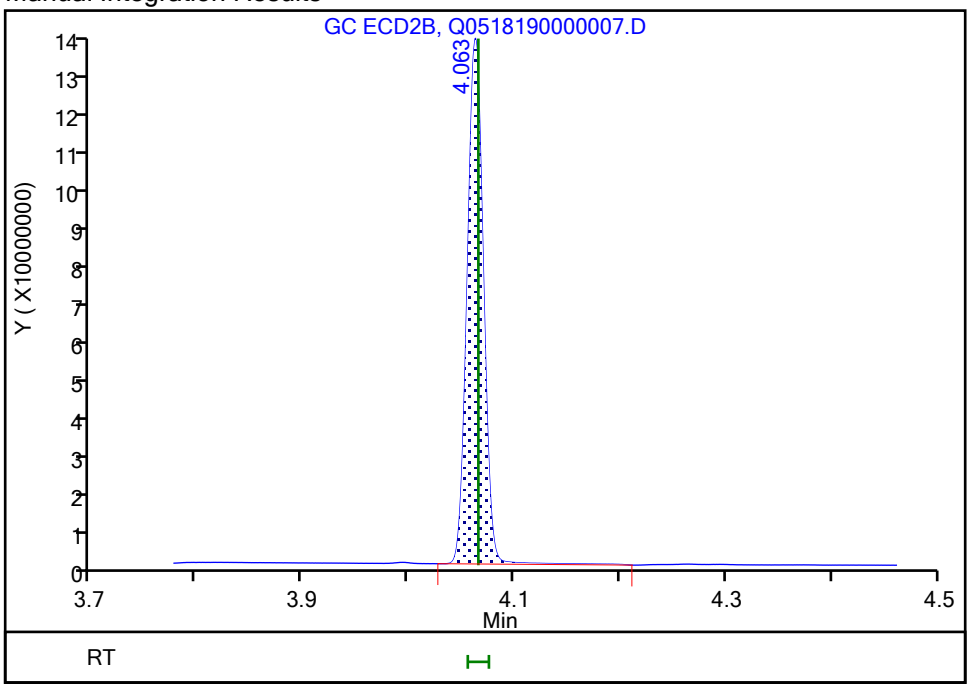

Reviewer: eppinged, 18-May-2019 16:26:55

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Report Date: 20-May-2019 05:51:51 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000007.D				
Injection Date:	18-May-2019 14:56:07	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

9 Chlordane (technical), CAS: 12789-03-6

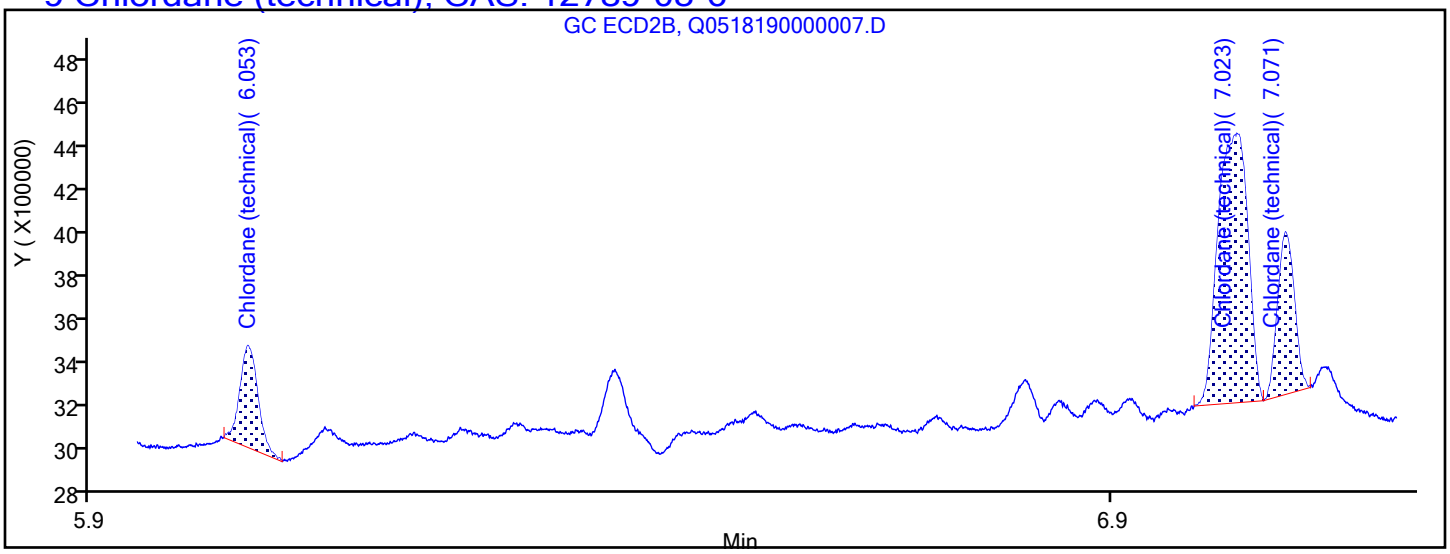

Processing Integration Results

6.053	Response = 474854
6.413	Response = 0
7.023	Response = 1254596
7.071	Response = 756802

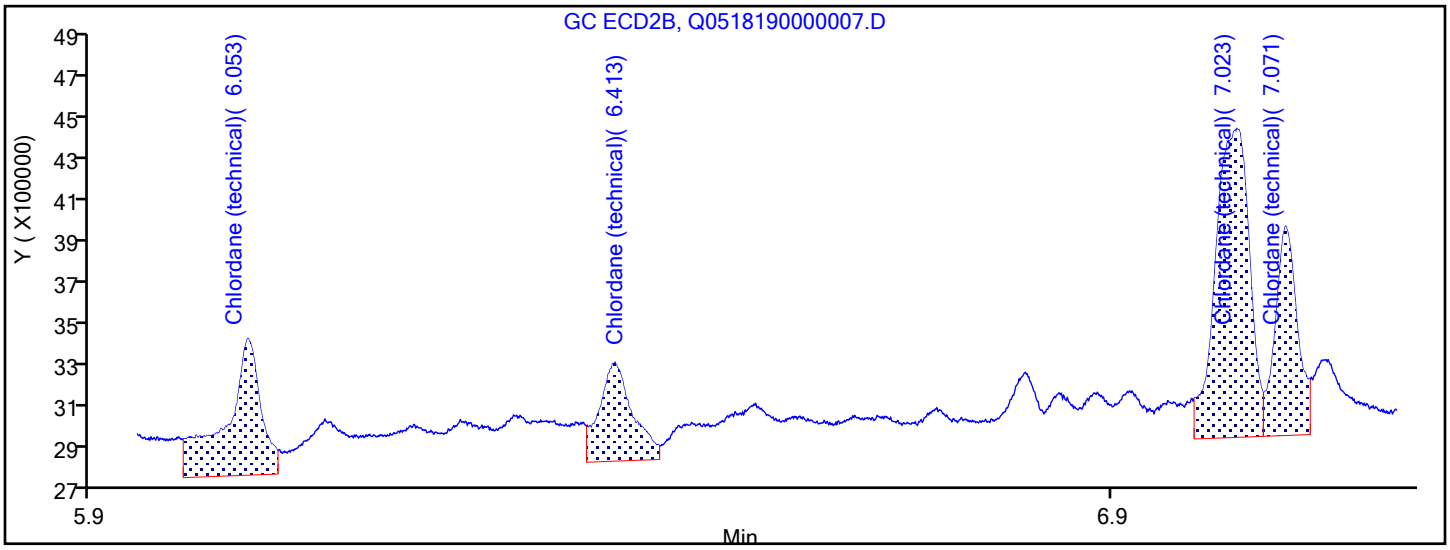

Manual Integration Results

6.053	Response = 643580	M
6.413	Response = 466004	M
7.023	Response = 1453339	M
7.071	Response = 985324	M

Reviewer: eppinged, 18-May-2019 16:31:43

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000007.D				
Injection Date:	18-May-2019 14:56:07	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

* 44 Dibutylchlorendate ISTD, CAS: 1770-80-5

Signal: 2

Not Detected
Expected RT: 8.37

Processing Integration Results

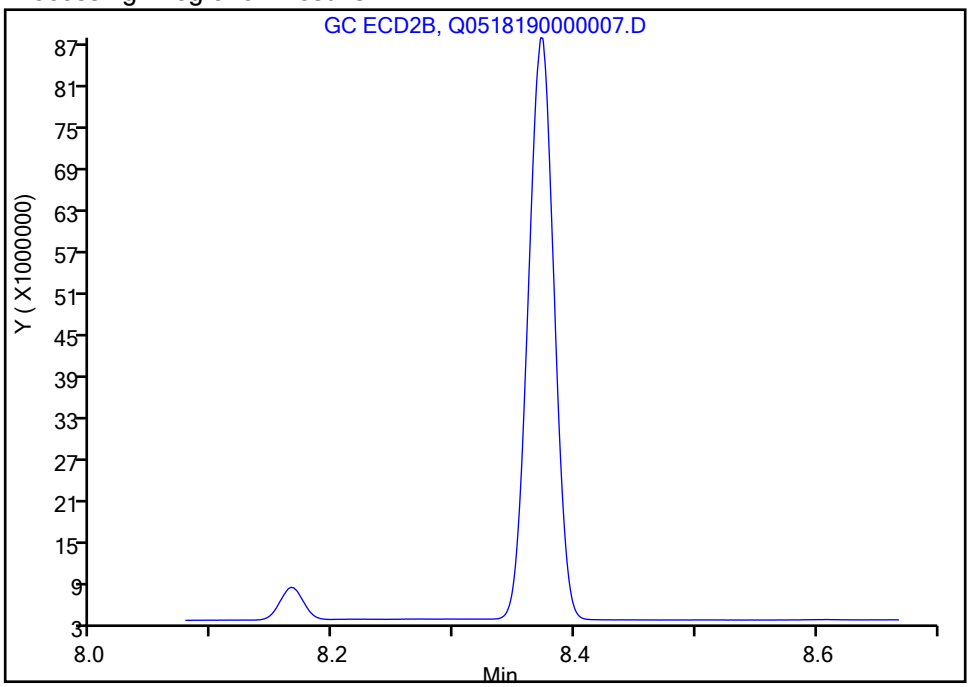

RT: 8.37
Height: 84034964
Amount: 0.100000
Amount Units: ng

Manual Integration Results

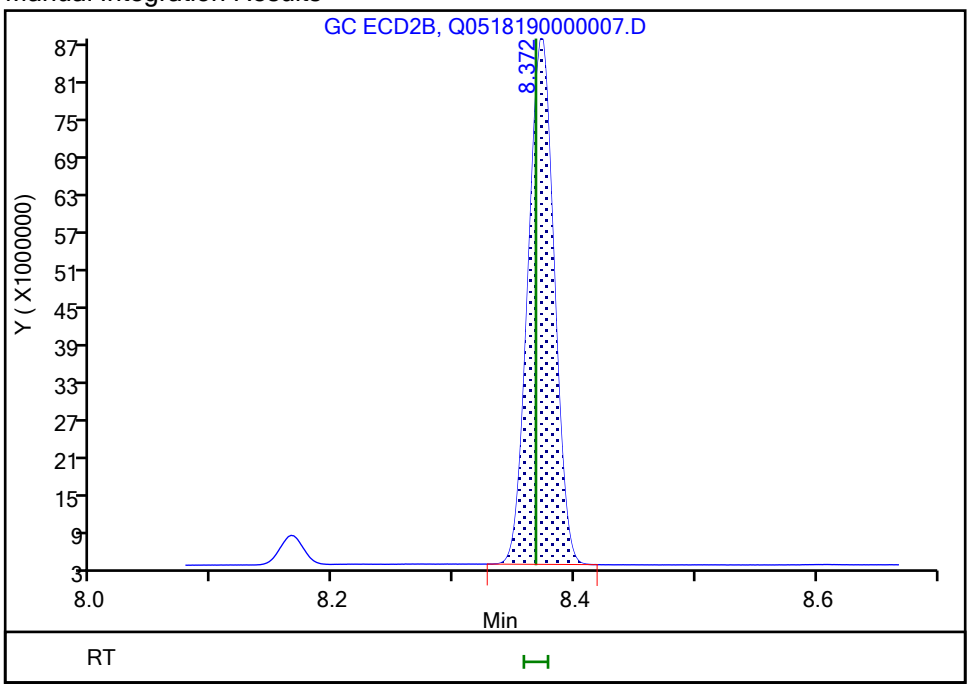

Reviewer: eppinged, 18-May-2019 16:30:23
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000008.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 18-May-2019 15:11:31 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026894-008
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub5

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 20-May-2019 05:51:52 Calib Date: 18-May-2019 20:36:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0306

First Level Reviewer: eppinged Date: 18-May-2019 15:32:40

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.794	3.791	0.003	103917836H	0.1000	0.1000	
2	4.067	4.066	0.001	135344109H	0.1000	0.1000	
9 Chlordane (technical)							
1	5.722	5.721	0.001	1280004H	0.0250	0.0266	
1	5.897	5.895	0.002	1602208H	0.0250	0.0270	
1	6.755	6.754	0.001	4694721H	0.0250	0.0267	
1	6.826	6.824	0.002	5095451H	0.0250	0.0263	
		Average of Peak Amounts =				0.0267	
2	6.054	6.054	0.000	2250016H	0.0250	0.0295	
2	6.412	6.413	-0.001	1404647H	0.0250	0.0282	
2	7.024	7.023	0.001	6142658H	0.0250	0.0310	
2	7.071	7.070	0.001	3836732H	0.0250	0.0303	
		Average of Peak Amounts =				0.0297	
						RPD = 10.90	
* 44 Dibutylchlorendate ISTD							
1	8.242	8.235	0.007	75079993H	0.1000	0.1000	
2	8.370	8.368	0.002	85252851H	0.1000	0.1000	

Reagents:

GCCHLORLEVEL2_00009 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 20-May-2019 05:51:54 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000008.D				
Injection Date:	18-May-2019 15:11:31	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

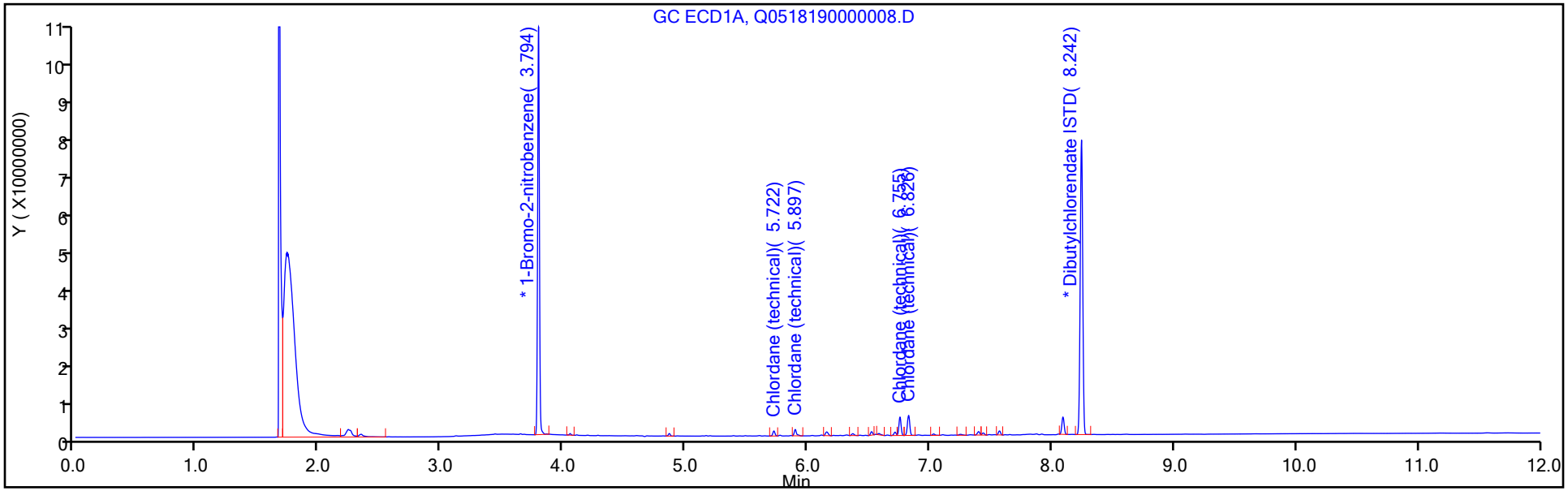

Column: MR-2 (0.53 mm)

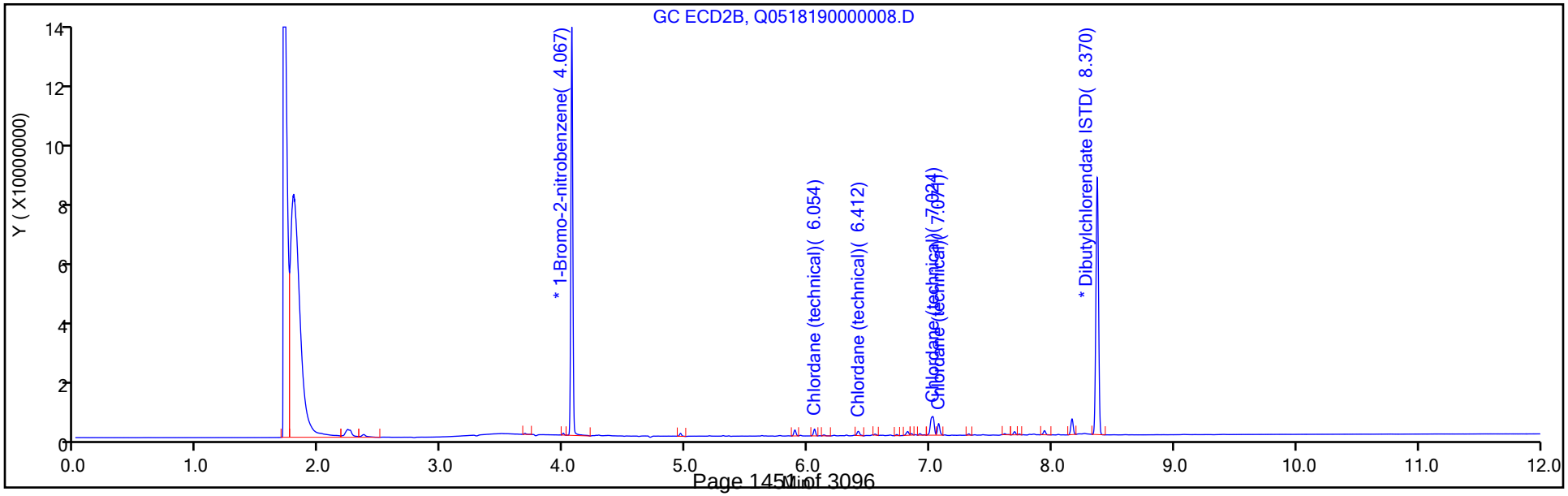

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000009.D				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	3		
Inject. Date:	18-May-2019 15:26:57	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0026894-009				
Operator ID:	402331	Instrument ID:	CHGC15		
Sublist:	chrom-IS PEST_CHGC15*sub5				
Method:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m				
Limit Group:	GCS 8081B ICAL with IS				
Last Update:	20-May-2019 05:51:55	Calib Date:	18-May-2019 20:36:24		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D				
Column 1 :	MR-1 (0.53 mm)			Det: GC ECD1A	
Column 2 :	MR-2 (0.53 mm)			Det: GC ECD2B	
Process Host:	CTX0306				

First Level Reviewer: eppinged Date: 18-May-2019 15:46:57

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.793	3.793	0.000	106316237H	0.1000	0.1000	
2	4.067	4.067	0.000	137321753H	0.1000	0.1000	
9 Chlordane (technical)							M
1	5.721	5.721	0.000	12238890H	0.2500	0.2490	
1	5.895	5.895	0.000	14836153H	0.2500	0.2444	
1	6.754	6.754	0.000	46506909H	0.2500	0.2584	
1	6.824	6.824	0.000	49530488H	0.2500	0.2503	
		Average of Peak Amounts =				0.2505	
2	6.054	6.054	0.000	19472528H	0.2500	0.3149	
2	6.413	6.413	0.000	12265744H	0.2500	0.3198	M
2	7.023	7.023	0.000	54091135H	0.2500	0.3207	M
2	7.070	7.070	0.000	33648586H	0.2500	0.3175	M
		Average of Peak Amounts =				0.3182	
						RPD = 23.79	
* 44 Dibutylchlorendate ISTD							
1	8.240	8.240	0.000	78811573H	0.1000	0.1000	
2	8.369	8.369	0.000	88037501H	0.1000	0.1000	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCCHLORLEVEL3_00015	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 20-May-2019 05:51:58 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000009.D				
Injection Date:	18-May-2019 15:26:57	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	9
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

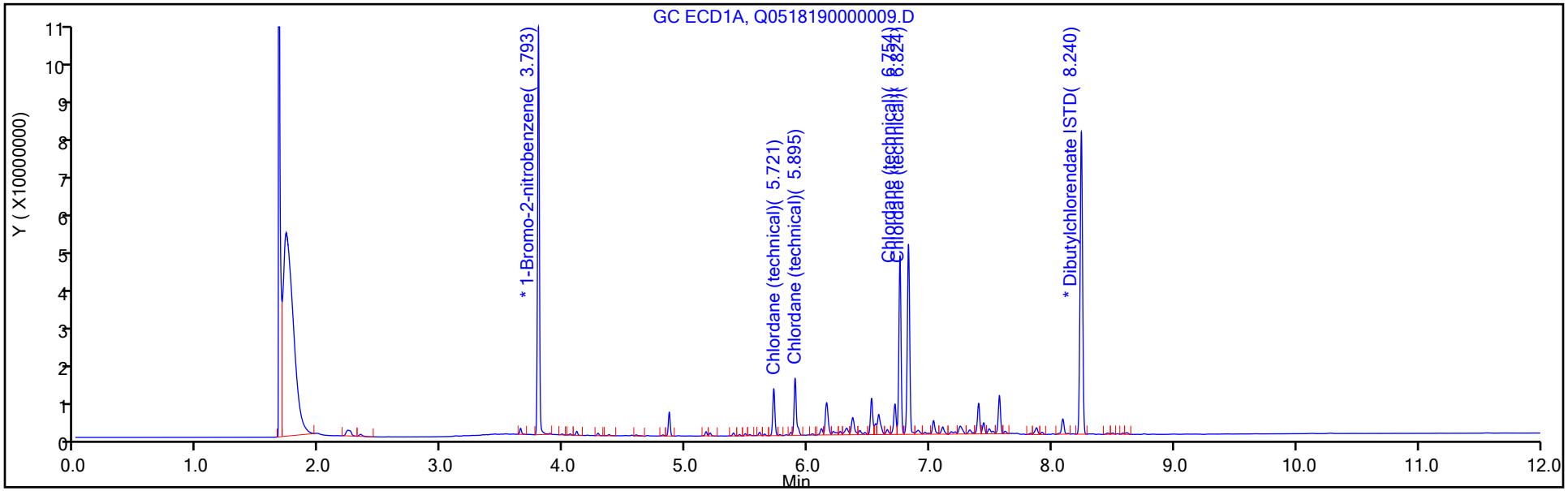

Column: MR-2 (0.53 mm)

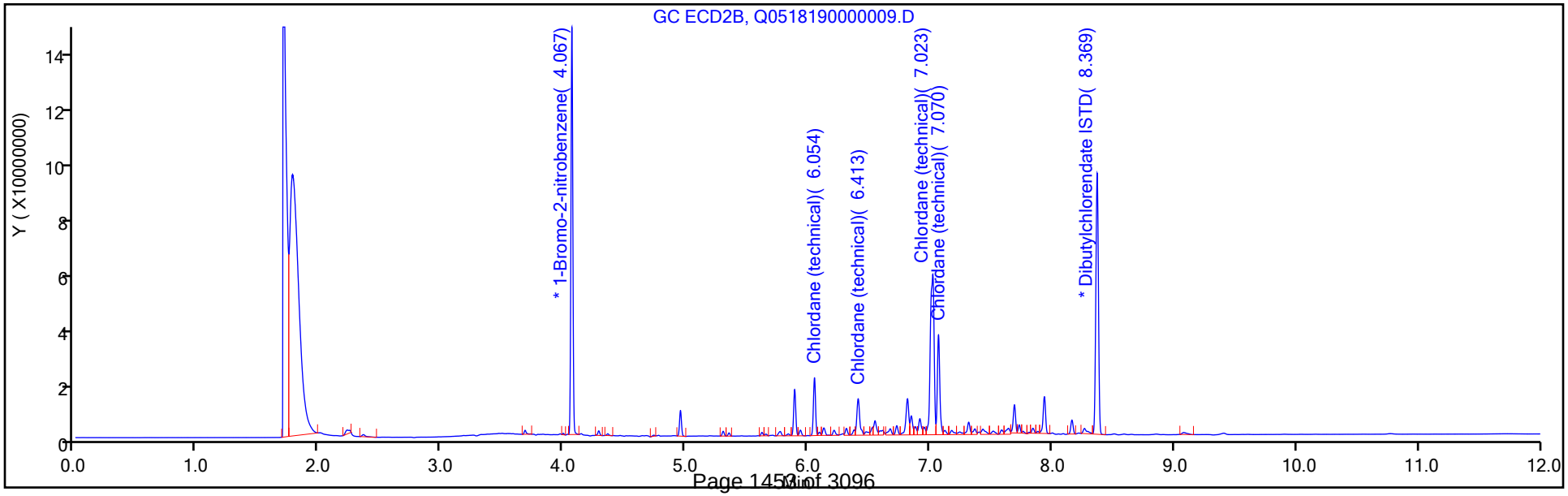

Report Date: 20-May-2019 05:51:58 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000009.D				
Injection Date:	18-May-2019 15:26:57	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

9 Chlordane (technical), CAS: 12789-03-6

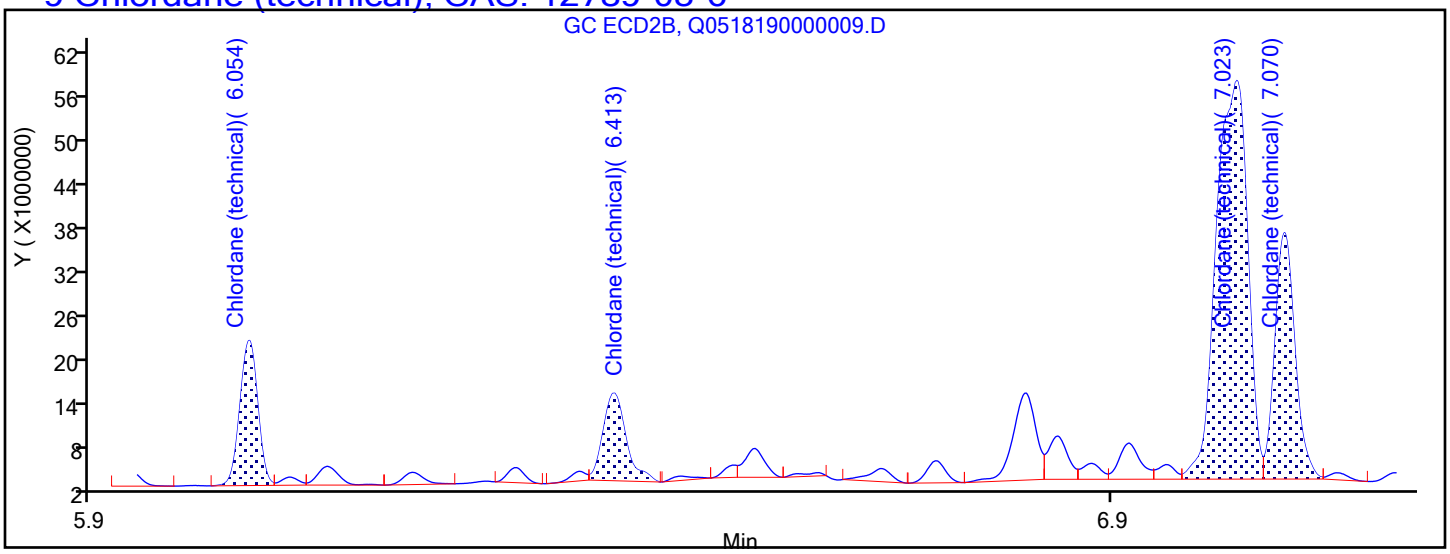

Processing Integration Results

6.054	Response = 19472528
6.413	Response = 11744085
7.023	Response = 53510907
7.070	Response = 33074121

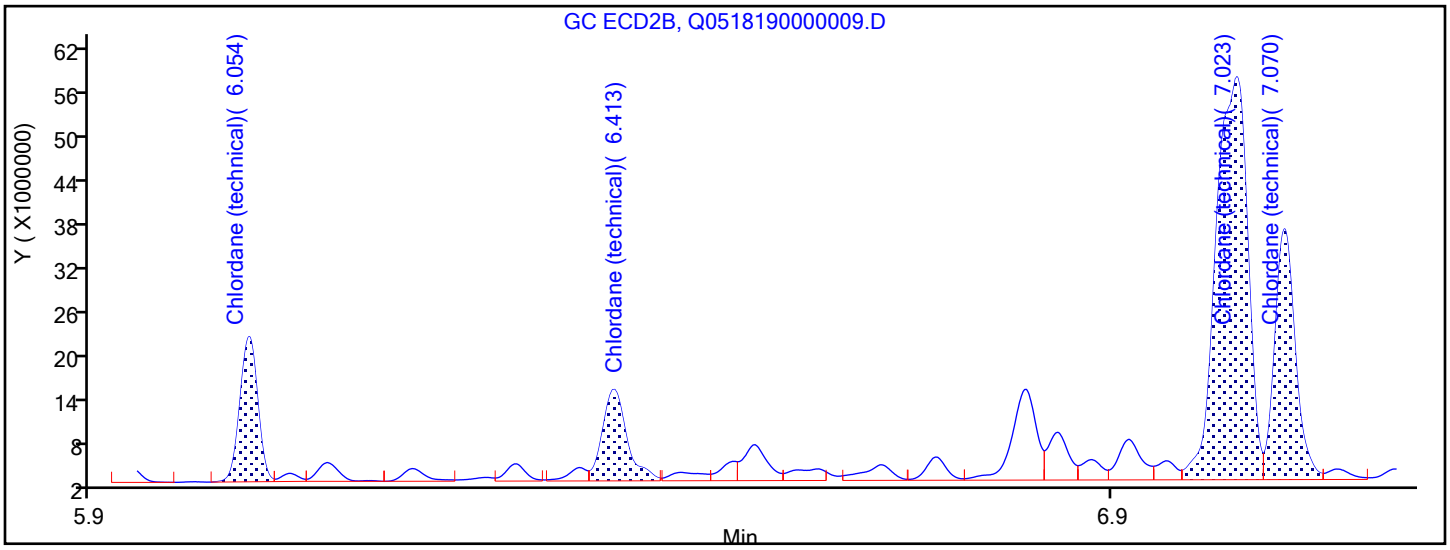

Manual Integration Results

6.054	Response = 19472528	
6.413	Response = 12265744	M
7.023	Response = 54091135	M
7.070	Response = 33648586	M

Reviewer: eppinged, 18-May-2019 15:46:18

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000010.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 18-May-2019 15:42:22 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026894-010
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub5

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 20-May-2019 05:51:59 Calib Date: 18-May-2019 20:36:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0306

First Level Reviewer: eppinged Date: 18-May-2019 16:06:00

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.793	3.791	0.002	114173283H	0.1000	0.1000	
2	4.067	4.066	0.002	145725620H	0.1000	0.1000	
9 Chlordane (technical)							
1	5.720	5.721	-0.001	61575745H	1.25	1.17	
1	5.894	5.895	-0.001	72392675H	1.25	1.11	
1	6.753	6.754	-0.001	227251290H	1.25	1.18	
1	6.824	6.824	0.000	245255972H	1.25	1.15	
		Average of Peak Amounts =				1.15	
2	6.054	6.054	0.000	82665061H	1.25	1.28	
2	6.412	6.413	-0.001	50952790H	1.25	1.28	
2	7.023	7.023	0.000	222563535H	1.25	1.26	
2	7.071	7.070	0.001	140693315H	1.25	1.27	
		Average of Peak Amounts =				1.28	
						RPD = 10.17	
* 44 Dibutylchlorendate ISTD							
1	8.239	8.235	0.004	86714159H	0.1000	0.1000	
2	8.369	8.368	0.001	93081367H	0.1000	0.1000	

Reagents:

GCCHLORLEVEL4_00009 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 20-May-2019 05:52:01 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000010.D				
Injection Date:	18-May-2019 15:42:22	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	10
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

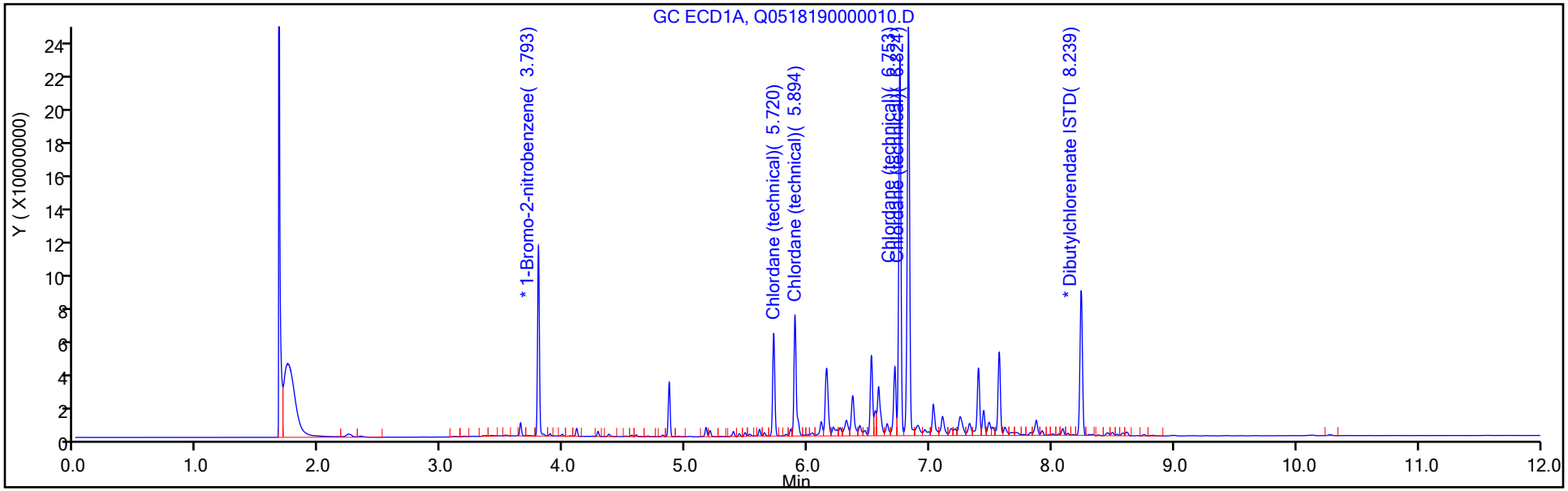

Column: MR-2 (0.53 mm)

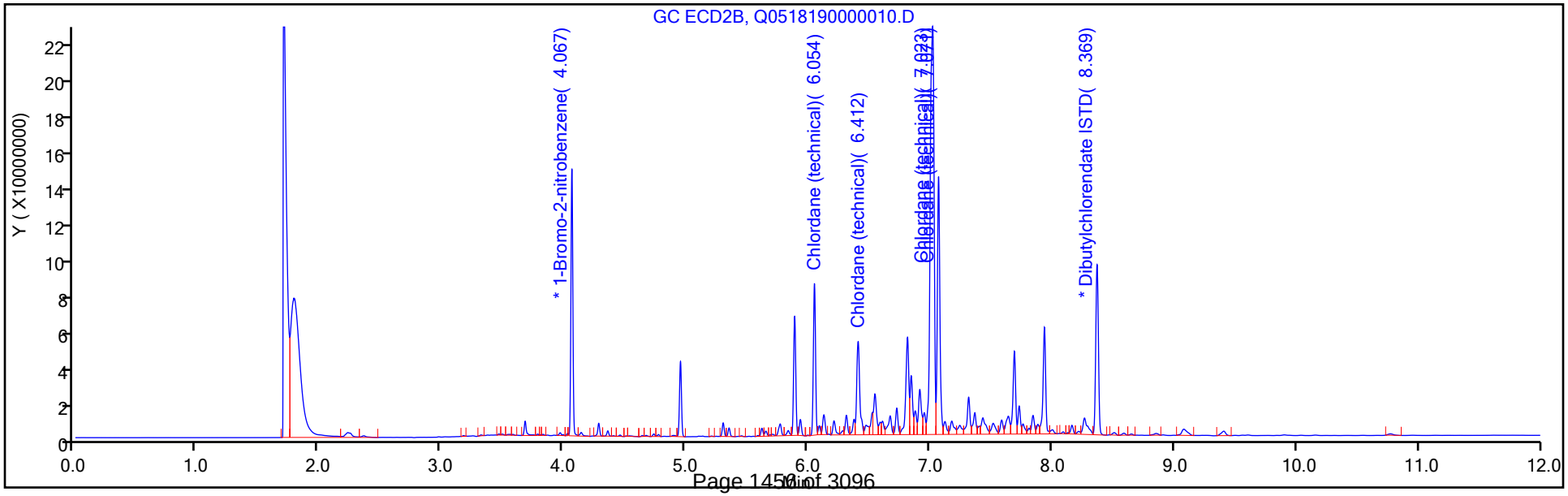

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000011.D				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	5		
Inject. Date:	18-May-2019 15:57:59	ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0026894-011				
Operator ID:	402331	Instrument ID:	CHGC15		
Sublist:	chrom-IS PEST_CHGC15*sub5				
Method:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m				
Limit Group:	GCS 8081B ICAL with IS				
Last Update:	20-May-2019 05:52:05	Calib Date:	18-May-2019 20:36:24		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D				
Column 1 :	MR-1 (0.53 mm)		Det: GC ECD1A		
Column 2 :	MR-2 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0306				

First Level Reviewer: eppinged Date: 18-May-2019 16:17:48

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.792	3.791	0.001	114789869H	0.1000	0.1000	
2	4.067	4.066	0.001	144116736H	0.1000	0.1000	
9 Chlordane (technical)							M
1	5.720	5.721	-0.001	118174922H	2.50	2.23	
1	5.895	5.895	0.000	139727431H	2.50	2.13	
1	6.754	6.754	0.000	449773131H	2.50	2.31	
1	6.825	6.824	0.001	490451777H	2.50	2.30	
		Average of Peak Amounts =				2.24	
2	6.054	6.054	0.000	152143795H	2.50	2.40	M
2	6.412	6.413	-0.001	93953313H	2.50	2.40	M
2	7.024	7.023	0.001	419591000H	2.50	2.41	M
2	7.071	7.070	0.001	262476328H	2.50	2.41	M
		Average of Peak Amounts =				2.40	
						RPD = 6.96	
* 44 Dibutylchlorendate ISTD							M
1	8.239	8.235	0.004	89487474H	0.1000	0.1000	
2	8.369	8.368	0.002	92635058H	0.1000	0.1000	M

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCCHLORLEVEL5_00011	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 20-May-2019 05:52:07 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000011.D				
Injection Date:	18-May-2019 15:57:59	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	11
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

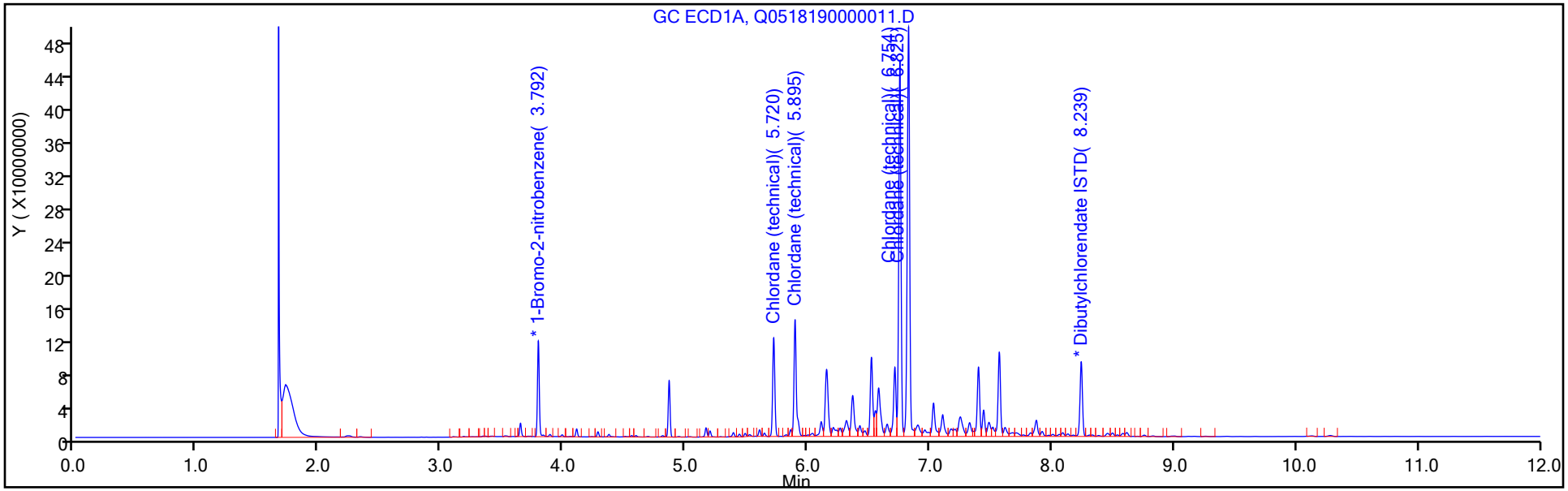

Column: MR-2 (0.53 mm)

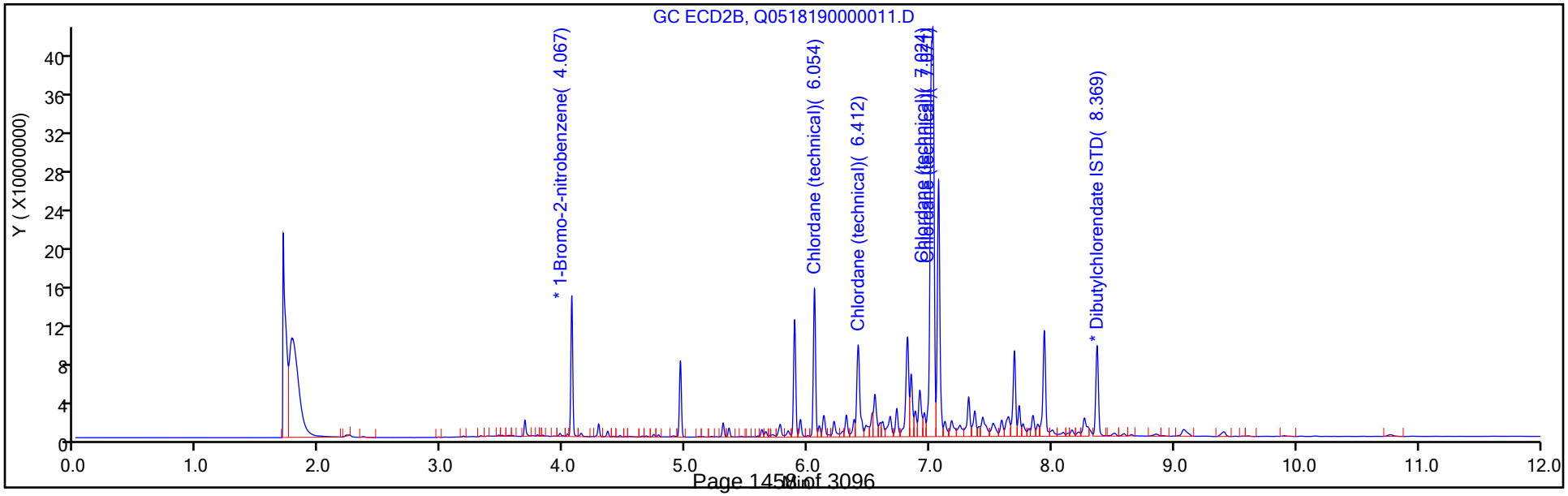

Report Date: 20-May-2019 05:52:07 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000011.D				
Injection Date:	18-May-2019 15:57:59	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

9 Chlordane (technical), CAS: 12789-03-6

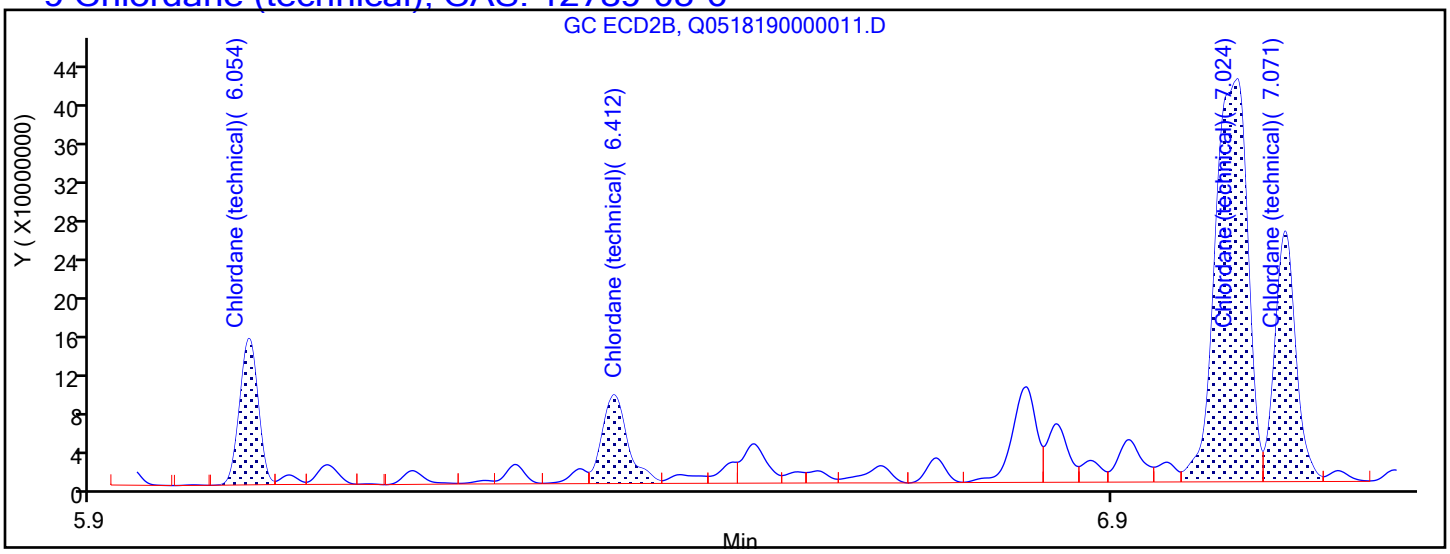

Processing Integration Results

6.054	Response = 150821096
6.412	Response = 91410723
7.024	Response = 415412570
7.071	Response = 258173160

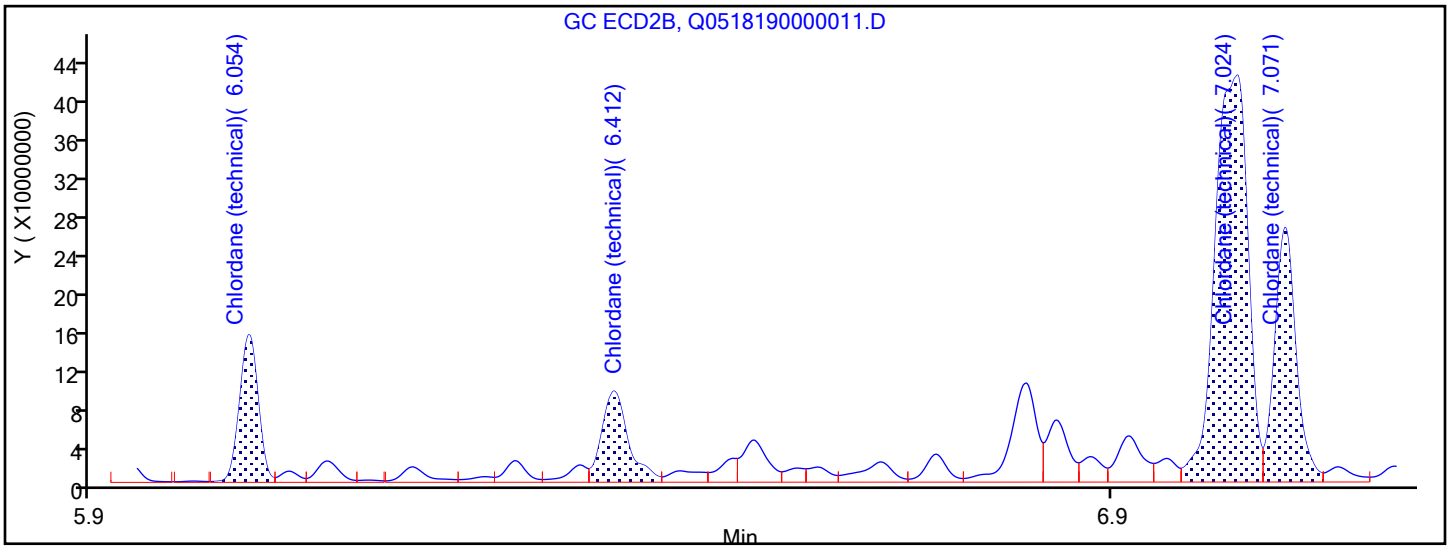

Manual Integration Results

6.054	Response = 152143795	M
6.412	Response = 93953313	M
7.024	Response = 419591000	M
7.071	Response = 262476328	M

Reviewer: eppinged, 18-May-2019 16:15:18

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000011.D				
Injection Date:	18-May-2019 15:57:59	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

* 44 Dibutylchlorendate ISTD, CAS: 1770-80-5

Signal: 2

Processing Integration Results

RT: 8.37
Height: 91235587
Amount: 0.100000
Amount Units: ng

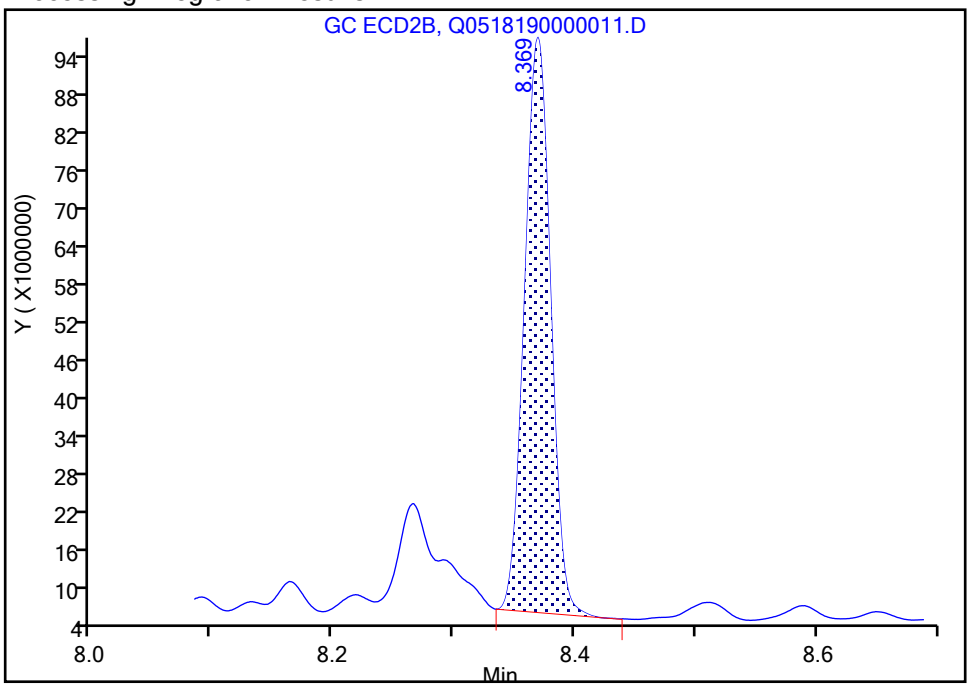

Manual Integration Results

RT: 8.37
Height: 92635058
Amount: 0.100000
Amount Units: ng

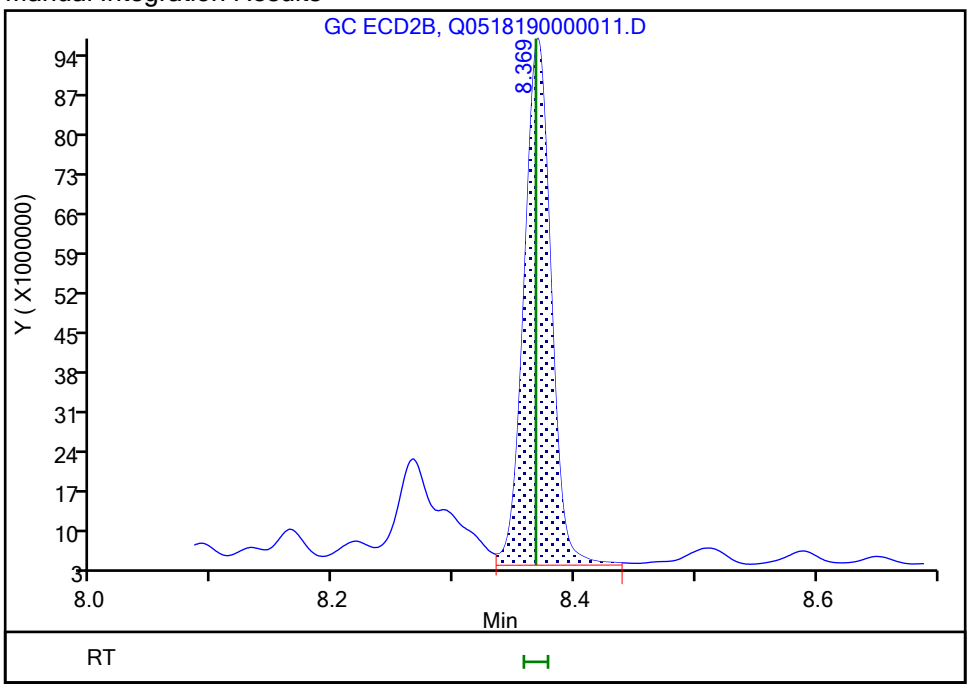

Reviewer: eppinged, 18-May-2019 16:15:18

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 283759

SDG No.:

Instrument ID: CHGC15 GC Column: MR-1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/02/2019 15:33 Calibration End Date: 07/02/2019 16:50 Calibration ID: 40697

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-283759/2	Q070219A0000002.D
Level 2	IC 180-283759/3	Q070219A0000003.D
Level 3	ICIS 180-283759/4	Q070219A0000004.D
Level 4	IC 180-283759/5	Q070219A0000005.D
Level 5	IC 180-283759/6	Q070219A0000006.D
Level 6	IC 180-283759/7	Q070219A0000007.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
alpha-BHC	1.4544 1.5142	1.6888	1.6812	1.5879	1.5778	Ave		1.5841				5.8		20.0			
gamma-BHC (Lindane)	1.3190 1.2979	1.4907	1.4774	1.4044	1.3879	Ave		1.3962				5.7		20.0			
beta-BHC	0.6179 0.5298	0.6243	0.5501	0.5600	0.5376	Ave		0.5699				7.2		20.0			
delta-BHC	1.1600 1.2200	1.3454	1.3835	1.3074	1.3105	Ave		1.2878				6.4		20.0			
Heptachlor	1.2520 1.0973	1.3285	1.3053	1.2665	1.1610	Ave		1.2351				7.2		20.0			
Aldrin	1.2078 1.1704	1.3630	1.3807	1.3088	1.2312	Ave		1.2770				6.8		20.0			
Heptachlor epoxide	1.1218 0.9710	1.2222	1.1778	1.1256	1.0466	Ave		1.1108				8.1		20.0			
trans-Chlordane	1.1322 1.0610	1.2345	1.2162	1.1592	1.1079	Ave		1.1518				5.7		20.0			
cis-Chlordane	1.1210 1.0304	1.2015	1.1947	1.1548	1.0634	Ave		1.1276				6.2		20.0			
Endosulfan I	1.0038 0.9084	1.1022	1.0944	1.0291	0.9574	Ave		1.0159				7.5		20.0			
4,4'-DDE	1.4051 1.3107	1.5294	1.5007	1.4758	1.3276	Ave		1.4249				6.4		20.0			
Dieldrin	1.4907 1.3095	1.6427	1.4869	1.5012	1.3802	Ave		1.4685				7.8		20.0			
Endrin	1.2227 1.0426	1.3506	1.1364	1.1788	1.1165	Ave		1.1746				9.0		20.0			
4,4'-DDD	1.4190 0.9986	1.2767	1.1332	1.1134	1.0631	Ave		1.1673				13.2		20.0			
Endosulfan II	1.0823 0.9444	1.2151	1.0805	1.1009	1.0033	Ave		1.0711				8.6		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 283759

SDG No.:

Instrument ID: CHGC15 GC Column: MR-1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/02/2019 15:33 Calibration End Date: 07/02/2019 16:50 Calibration ID: 40697

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Endrin aldehyde	0.8730 0.8056	1.0299	0.9389	0.9412	0.8619	Ave		0.9084				8.6		20.0			
4,4'-DDT	0.8531 0.9374	0.9066	0.9497	0.9417	0.9519	Ave		0.9234				4.1		20.0			
Endosulfan sulfate	1.2182 1.0362	1.2997	1.1673	1.1279	1.0733	Ave		1.1538				8.4		20.0			
Methoxychlor	0.4276 0.3930	0.3966	0.4016	0.4013	0.4010	Ave		0.4035				3.0		20.0			
Endrin ketone	1.0993 0.9203	1.1686	1.0712	1.0513	0.9314	Ave		1.0404				9.3		20.0			
Tetrachloro-m-xylene	1.3795 1.2601	1.4945	1.4717	1.3535	1.3190	Ave		1.3797				6.5		20.0			
DCB Decachlorobiphenyl (Surr)	0.7747 0.5947	0.7772	0.7009	0.6883	0.6147	Ave		0.6918				11.1		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 283759

SDG No.:

Instrument ID: CHGC15 GC Column: MR-1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/02/2019 15:33 Calibration End Date: 07/02/2019 16:50 Calibration ID: 40697

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-283759/2	Q070219A0000002.D
Level 2	IC 180-283759/3	Q070219A0000003.D
Level 3	ICIS 180-283759/4	Q070219A0000004.D
Level 4	IC 180-283759/5	Q070219A0000005.D
Level 5	IC 180-283759/6	Q070219A0000006.D
Level 6	IC 180-283759/7	Q070219A0000007.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
alpha-BHC	BNB	Ave	1971348 451879422	11590791	56627140	110931113	231686599	0.00100 0.200	0.00500	0.0250	0.0500	0.100
gamma-BHC (Lindane)	BNB	Ave	1787885 387323512	10231399	49762728	98106565	203801432	0.00100 0.200	0.00500	0.0250	0.0500	0.100
beta-BHC	BNB	Ave	837544 158096293	4284585	18529847	39121214	78943016	0.00100 0.200	0.00500	0.0250	0.0500	0.100
delta-BHC	BNB	Ave	1572288 364096452	9233916	46599582	91334892	192429442	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Heptachlor	BNB	Ave	1697008 327482449	9117922	43964489	88477634	170485322	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Aldrin	BNB	Ave	1637155 349274141	9354962	46503340	91430283	180787104	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Heptachlor epoxide	BNB	Ave	1520528 289780219	8388728	39669842	78634029	153673569	0.00100 0.200	0.00500	0.0250	0.0500	0.100
trans-Chlordane	BNB	Ave	1534595 316624517	8472873	40965161	80980332	162688244	0.00100 0.200	0.00500	0.0250	0.0500	0.100
cis-Chlordane	BNB	Ave	1519415 307507543	8246101	40240274	80670687	156147417	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Endosulfan I	BNB	Ave	1360572 271099075	7565053	36860436	71888745	140588433	0.00100 0.200	0.00500	0.0250	0.0500	0.100
4,4'-DDE	DBC	Ave	1439631 307301442	7934988	39905011	81234371	157013228	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Dieldrin	DBC	Ave	1527340 307016408	8523069	39539616	82630996	163230347	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Endrin	DBC	Ave	1252819 244436882	7007470	30217332	64884205	132039614	0.00100 0.200	0.00500	0.0250	0.0500	0.100
4,4'-DDD	DBC	Ave	1453893 234129054	6624073	30133979	61288773	125725826	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Endosulfan II	DBC	Ave	1108947 221420031	6304396	28732230	60598209	118662807	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Endrin aldehyde	DBC	Ave	894491 188877077	5343520	24965258	51807698	101938655	0.00100 0.200	0.00500	0.0250	0.0500	0.100

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 283759

SDG No.:

Instrument ID: CHGC15 GC Column: MR-1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/02/2019 15:33 Calibration End Date: 07/02/2019 16:50 Calibration ID: 40697

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
4,4'-DDT	DBC	Ave	874045 219776259	4703883	25253961	51832991	112573721	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Endosulfan sulfate	DBC	Ave	1248139 242935995	6743296	31039318	62085211	126937392	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Methoxychlor	DBC	Ave	438089 92138892	2057810	10678849	22088404	47421187	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Endrin ketone	DBC	Ave	1126327 215771725	6063372	28484045	57868536	110158978	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Tetrachloro-m-xylene	BNB	Ave	1869808 376043302	10257000	49570340	94555396	193673600	0.00100 0.200	0.00500	0.0250	0.0500	0.100
DCB Decachlorobiphenyl (Surr)	DBC	Ave	793737 139438691	4032706	18636943	37887621	72700543	0.00100 0.200	0.00500	0.0250	0.0500	0.100

Curve Type Legend:
Ave = Average ISTD by Height

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 283759

SDG No.:

Instrument ID: CHGC15 GC Column: MR-1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/02/2019 15:33 Calibration End Date: 07/02/2019 16:50 Calibration ID: 40697

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-283759/2	Q070219A0000002.D
Level 2	IC 180-283759/3	Q070219A0000003.D
Level 3	ICIS 180-283759/4	Q070219A0000004.D
Level 4	IC 180-283759/5	Q070219A0000005.D
Level 5	IC 180-283759/6	Q070219A0000006.D
Level 6	IC 180-283759/7	Q070219A0000007.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
alpha-BHC	-8.2	6.6	6.1	0.2	-0.4	-4.4	50	30	30	30	30	30
gamma-BHC (Lindane)	-5.5	6.8	5.8	0.6	-0.6	-7.0	50	30	30	30	30	30
beta-BHC	8.4	9.5	-3.5	-1.7	-5.7	-7.1	50	30	30	30	30	30
delta-BHC	-9.9	4.5	7.4	1.5	1.8	-5.3	50	30	30	30	30	30
Heptachlor	1.4	7.6	5.7	2.5	-6.0	-11.2	50	30	30	30	30	30
Aldrin	-5.4	6.7	8.1	2.5	-3.6	-8.3	50	30	30	30	30	30
Heptachlor epoxide	1.0	10.0	6.0	1.3	-5.8	-12.6	50	30	30	30	30	30
trans-Chlordane	-1.7	7.2	5.6	0.6	-3.8	-7.9	50	30	30	30	30	30
cis-Chlordane	-0.6	6.5	5.9	2.4	-5.7	-8.6	50	30	30	30	30	30
Endosulfan I	-1.2	8.5	7.7	1.3	-5.8	-10.6	50	30	30	30	30	30
4,4'-DDE	-1.4	7.3	5.3	3.6	-6.8	-8.0	50	30	30	30	30	30
Dieldrin	1.5	11.9	1.3	2.2	-6.0	-10.8	50	30	30	30	30	30
Endrin	4.1	15.0	-3.3	0.4	-4.9	-11.2	50	30	30	30	30	30
4,4'-DDD	21.6	9.4	-2.9	-4.6	-8.9	-14.5	50	30	30	30	30	30
Endosulfan II	1.0	13.4	0.9	2.8	-6.3	-11.8	50	30	30	30	30	30
Endrin aldehyde	-3.9	13.4	3.4	3.6	-5.1	-11.3	50	30	30	30	30	30
4,4'-DDT	-7.6	-1.8	2.9	2.0	3.1	1.5	50	30	30	30	30	30
Endosulfan sulfate	5.6	12.6	1.2	-2.2	-7.0	-10.2	50	30	30	30	30	30
Methoxychlor	6.0	-1.7	-0.5	-0.5	-0.6	-2.6	50	30	30	30	30	30
Endrin ketone	5.7	12.3	3.0	1.1	-10.5	-11.5	50	30	30	30	30	30
Tetrachloro-m-xylene	0.0	8.3	6.7	-1.9	-4.4	-8.7	50	30	30	30	30	30
DCB Decachlorobiphenyl (Surr)	12.0	12.4	1.3	-0.5	-11.1	-14.0	50	30	30	30	30	30

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000002.D				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	1		
Inject. Date:	02-Jul-2019 15:33:05	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0027593-002				
Operator ID:	402331	Instrument ID:	CHGC15		
Sublist:	chrom-IS PEST_CHGC15*sub6				
Method:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\IS PEST_CHGC15.m				
Limit Group:	GCS 8081B ICAL with IS				
Last Update:	03-Jul-2019 07:33:17	Calib Date:	02-Jul-2019 16:50:46		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000007.D				
Column 1 :	MR-1 (0.53 mm)		Det: GC ECD1A		
Column 2 :	MR-2 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0303				

First Level Reviewer: eppinged Date: 03-Jul-2019 07:17:10

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.790	3.790	0.000	135545010H	0.1000	0.1000	
2	4.050	4.050	0.000	142661991H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.786	4.786	0.000	1869808H	0.001000	0.001000	
2	4.927	4.926	0.001	2117545H	0.001000	0.001099	
						RPD = 9.46	
5 alpha-BHC							
1	5.152	5.152	0.000	1971348H	0.001000	0.000918	
2	5.397	5.397	0.000	2226800H	0.001000	0.001030	
						RPD = 11.47	
7 gamma-BHC (Lindane)							
1	5.416	5.416	0.000	1787885H	0.001000	0.000945	
2	5.702	5.702	0.000	1771748H	0.001000	0.001025	
						RPD = 8.19	
8 beta-BHC							
1	5.575	5.574	0.001	837544H	0.001000	0.001084	
2	5.941	5.941	0.000	965127H	0.001000	0.001129	
						RPD = 4.09	
10 delta-BHC							
1	5.774	5.775	-0.001	1572288H	0.001000	0.000901	
2	6.176	6.175	0.001	1683579H	0.001000	0.000982	
						RPD = 8.67	
11 Heptachlor							
1	5.891	5.891	0.000	1697008H	0.001000	0.001014	
2	6.032	6.031	0.001	1784911H	0.001000	0.001110	
						RPD = 9.05	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
13 Aldrin							
1	6.173	6.173	0.000	1637155H	0.001000	0.000946	
2	6.304	6.303	0.001	1661360H	0.001000	0.001044	
						RPD = 9.87	
16 Heptachlor epoxide							
1	6.530	6.531	-0.001	1520528H	0.001000	0.001010	
2	6.754	6.753	0.001	1556051H	0.001000	0.001115	
						RPD = 9.88	
18 trans-Chlordane							
1	6.748	6.748	0.000	1534595H	0.001000	0.000983	
2	6.982	6.982	0.000	1550054H	0.001000	0.001061	
						RPD = 7.68	
20 cis-Chlordane							
1	6.815	6.816	-0.001	1519415H	0.001000	0.000994	
2	7.043	7.043	0.000	1557095H	0.001000	0.001100	
						RPD = 10.13	
21 Endosulfan I							
1	6.860	6.860	0.000	1360572H	0.001000	0.000988	
2	7.112	7.112	0.000	1345894H	0.001000	0.001105	
						RPD = 11.18	
23 4,4'-DDE							
1	6.967	6.966	0.001	1439631H	0.001000	0.000986	
2	7.177	7.177	0.000	1505911H	0.001000	0.001093	
						RPD = 10.31	
24 Dieldrin							
1	7.098	7.098	0.000	1527340H	0.001000	0.001015	
2	7.359	7.359	0.000	1549024H	0.001000	0.001106	
						RPD = 8.60	
27 Endrin							
1	7.300	7.299	0.001	1252819H	0.001000	0.001041	
2	7.627	7.628	-0.001	1223436H	0.001000	0.001117	
						RPD = 7.01	
29 4,4'-DDD							
1	7.422	7.423	-0.001	1453893H	0.001000	0.001216	
2	7.698	7.698	0.000	1195472H	0.001000	0.001086	
						RPD = 11.27	
31 Endosulfan II							
1	7.495	7.496	-0.001	1108947H	0.001000	0.001010	
2	7.890	7.890	0.000	1149760H	0.001000	0.001119	
						RPD = 10.21	
32 Endrin aldehyde							
1	7.611	7.613	-0.002	894491H	0.001000	0.000961	
2	8.057	8.058	-0.001	878371H	0.001000	0.001065	
						RPD = 10.28	
33 4,4'-DDT							
1	7.702	7.702	0.000	874045H	0.001000	0.000924	
2	7.945	7.944	0.001	695826H	0.001000	0.000798	
						RPD = 14.62	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
35 Endosulfan sulfate							
1	7.821	7.822	-0.001	1248139H	0.001000	0.001056	
2	8.284	8.284	0.000	1087540H	0.001000	0.001114	
						RPD = 5.35	
36 Methoxychlor							
1	8.146	8.148	-0.002	438089H	0.001000	0.001060	
2	8.518	8.518	0.000	351440H	0.001000	0.000974	
						RPD = 8.44	
* 44 Dibutylchlorendate ISTD							M
1	8.231	8.231	0.000	102459947H	0.1000	0.1000	M
2	8.334	8.333	0.000	83395254H	0.1000	0.1000	
37 Endrin ketone							Ma
1	8.276	8.278	-0.002	1126327H	0.001000	0.001057	M
2	8.910	8.911	-0.001	942829H	0.001000	0.001076	a
						RPD = 1.78	
$ 39 DCB Decachlorobiphenyl (Surr)							M
1	10.024	10.022	0.002	793737H	0.001000	0.001120	
2	10.623	10.624	-0.001	727105H	0.001000	0.001236	M
						RPD = 9.85	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

GCPest L1_00026	Amount Added: 1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added: 0.02	Units: mL	Run Reagent

Report Date: 03-Jul-2019 07:33:17 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000002.D				
Injection Date:	02-Jul-2019 15:33:05	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

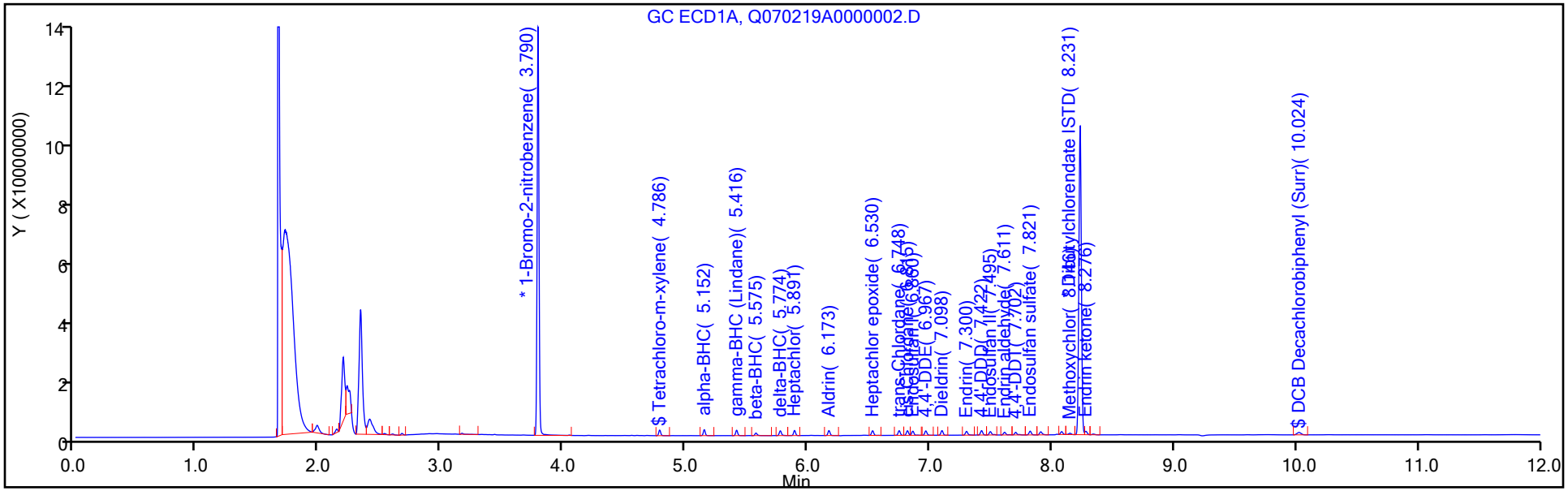

Column: MR-2 (0.53 mm)

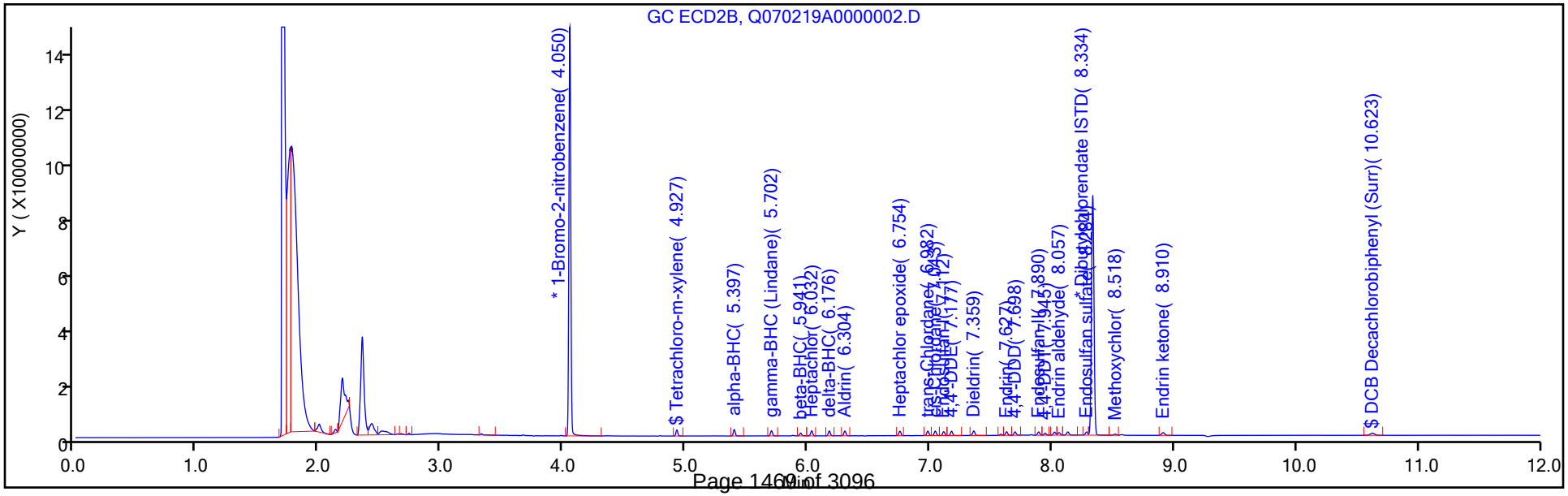

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000002.D				
Injection Date:	02-Jul-2019 15:33:05	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

* 44 Dibutylchlorendate ISTD, CAS: 1770-80-5

Signal: 1

Processing Integration Results

RT: 8.23
Height: 102459929
Amount: 0.100000
Amount Units: ng

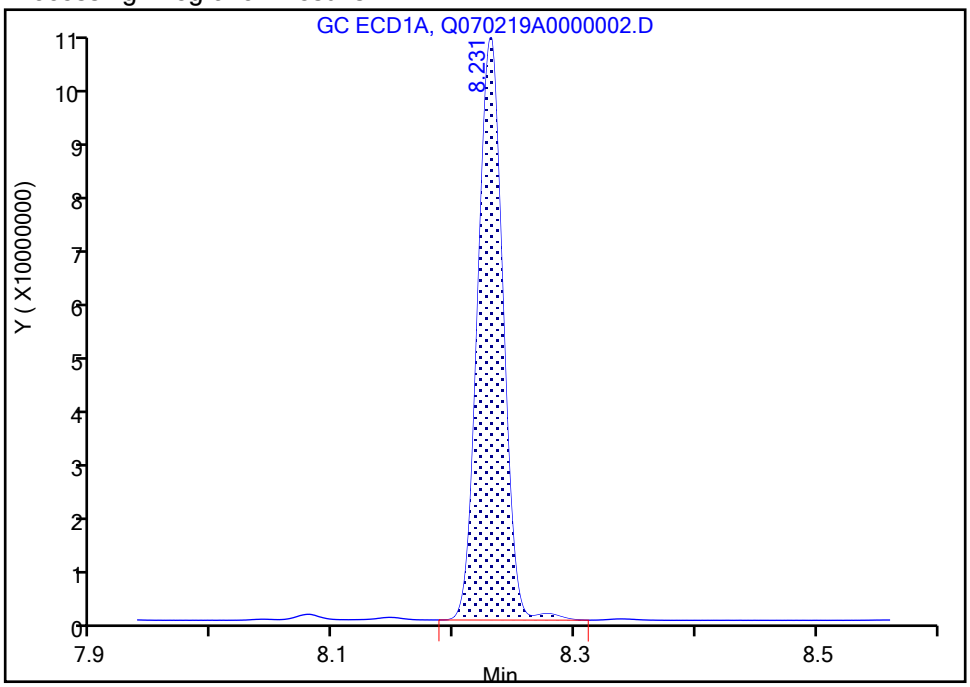

Manual Integration Results

RT: 8.23
Height: 102459947
Amount: 0.100000
Amount Units: ng

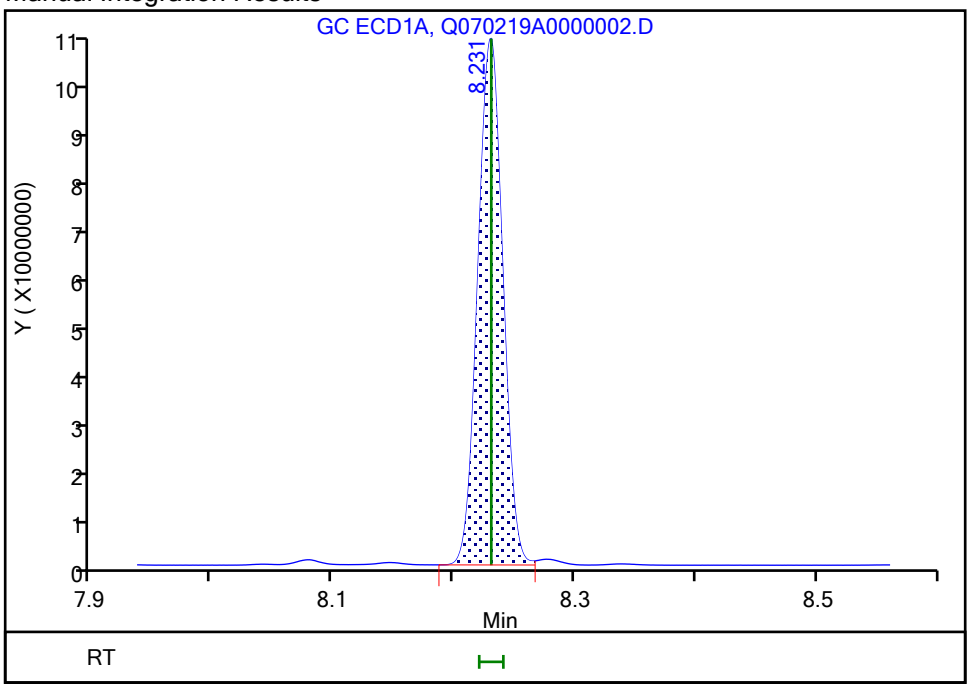

Reviewer: eppinged, 03-Jul-2019 07:17:59

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000002.D				
Injection Date:	02-Jul-2019 15:33:05	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

37 Endrin ketone, CAS: 53494-70-5

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 8.28

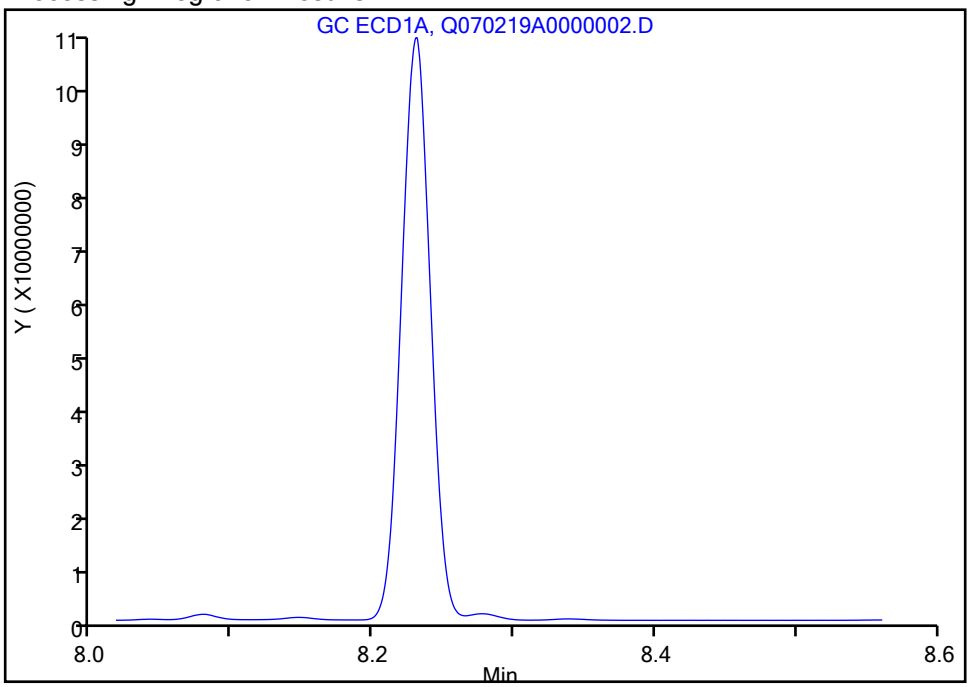

Manual Integration Results

RT: 8.28
Height: 1126327
Amount: 0.001057
Amount Units: ng

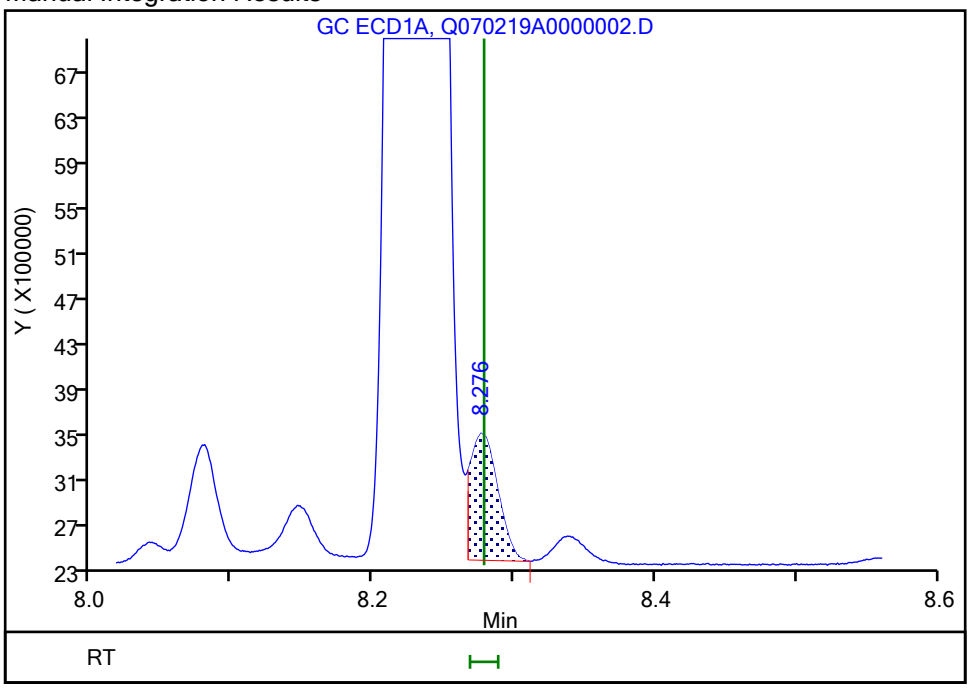

Reviewer: eppinged, 03-Jul-2019 07:18:05
Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000003.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 02-Jul-2019 15:48:40 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0027593-003
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub6

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Jul-2019 07:33:25 Calib Date: 02-Jul-2019 16:50:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000007.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0303

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.790	3.790	0.000	137267512H	0.1000	0.1000	
2	4.050	4.050	0.000	145178058H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.786	4.786	0.000	10257000H	0.005000	0.005416	
2	4.926	4.926	0.000	11304521H	0.005000	0.005766	
						RPD = 6.27	
5 alpha-BHC							
1	5.152	5.152	0.000	11590791H	0.005000	0.005331	
2	5.397	5.397	0.000	12354599H	0.005000	0.005615	
						RPD = 5.19	
7 gamma-BHC (Lindane)							
1	5.416	5.416	0.000	10231399H	0.005000	0.005338	
2	5.702	5.702	0.000	10249223H	0.005000	0.005829	
						RPD = 8.78	
8 beta-BHC							
1	5.574	5.574	0.000	4284585H	0.005000	0.005477	
2	5.941	5.941	0.000	4856079H	0.005000	0.005584	
						RPD = 1.95	
10 delta-BHC							
1	5.775	5.775	0.000	9233916H	0.005000	0.005224	
2	6.175	6.175	0.000	9736023H	0.005000	0.005582	
						RPD = 6.64	
11 Heptachlor							
1	5.891	5.891	0.000	9117922H	0.005000	0.005378	
2	6.031	6.031	0.000	9219606H	0.005000	0.005633	
						RPD = 4.63	
13 Aldrin							
1	6.173	6.173	0.000	9354962H	0.005000	0.005337	
2	6.303	6.303	0.000	9117793H	0.005000	0.005631	
						RPD = 5.35	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
16 Heptachlor epoxide							
1	6.530	6.531	-0.001	8388728H	0.005000	0.005501	
2	6.754	6.753	0.001	8239575H	0.005000	0.005801	
						RPD = 5.30	
18 trans-Chlordane							
1	6.749	6.748	0.001	8472873H	0.005000	0.005359	
2	6.983	6.982	0.001	8267839H	0.005000	0.005564	
						RPD = 3.75	
20 cis-Chlordane							
1	6.815	6.816	-0.001	8246101H	0.005000	0.005327	
2	7.043	7.043	0.000	8196263H	0.005000	0.005691	
						RPD = 6.60	
21 Endosulfan I							
1	6.860	6.860	0.000	7565053H	0.005000	0.005425	
2	7.113	7.112	0.001	7309694H	0.005000	0.005898	
						RPD = 8.35	
23 4,4'-DDE							
1	6.966	6.966	0.000	7934988H	0.005000	0.005367	
2	7.178	7.177	0.001	8029732H	0.005000	0.005572	
						RPD = 3.75	
24 Dieldrin							
1	7.098	7.098	0.000	8523069H	0.005000	0.005593	
2	7.358	7.359	-0.001	8231358H	0.005000	0.005619	
						RPD = 0.46	
27 Endrin							
1	7.300	7.299	0.001	7007470H	0.005000	0.005749	
2	7.628	7.628	0.000	6570065H	0.005000	0.005731	
						RPD = 0.31	
29 4,4'-DDD							
1	7.423	7.423	0.000	6624073H	0.005000	0.005468	
2	7.698	7.698	0.000	6365986H	0.005000	0.005527	
						RPD = 1.06	
31 Endosulfan II							
1	7.495	7.496	-0.001	6304396H	0.005000	0.005672	
2	7.891	7.890	0.001	6144588H	0.005000	0.005717	
						RPD = 0.78	
32 Endrin aldehyde							
1	7.612	7.613	-0.001	5343520H	0.005000	0.005669	
2	8.058	8.058	0.000	4900727H	0.005000	0.005680	
						RPD = 0.20	
33 4,4'-DDT							
1	7.703	7.702	0.001	4703883H	0.005000	0.004909	
2	7.944	7.944	0.000	4406262H	0.005000	0.004829	
						RPD = 1.64	
35 Endosulfan sulfate							
1	7.821	7.822	-0.001	6743296H	0.005000	0.005632	
2	8.284	8.284	0.000	5812772H	0.005000	0.005690	
						RPD = 1.02	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Methoxychlor							
1	8.147	8.148	-0.001	2057810H	0.005000	0.004915	
2	8.518	8.518	0.000	1818014H	0.005000	0.004815	
						RPD = 2.05	
* 44 Dibutylchlorendate ISTD							
1	8.230	8.231	0.000	103768708H	0.1000	0.1000	
2	8.333	8.333	0.000	87256197H	0.1000	0.1000	
37 Endrin ketone							
1	8.277	8.278	-0.001	6063372H	0.005000	0.005616	
2	8.911	8.911	0.000	5207977H	0.005000	0.005679	
						RPD = 1.10	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.025	10.022	0.003	4032706H	0.005000	0.005618	
2	10.625	10.624	0.001	3449354H	0.005000	0.005604	
						RPD = 0.26	

Reagents:

GCPestL2_00022 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 03-Jul-2019 07:33:26 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000003.D				
Injection Date:	02-Jul-2019 15:48:40	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

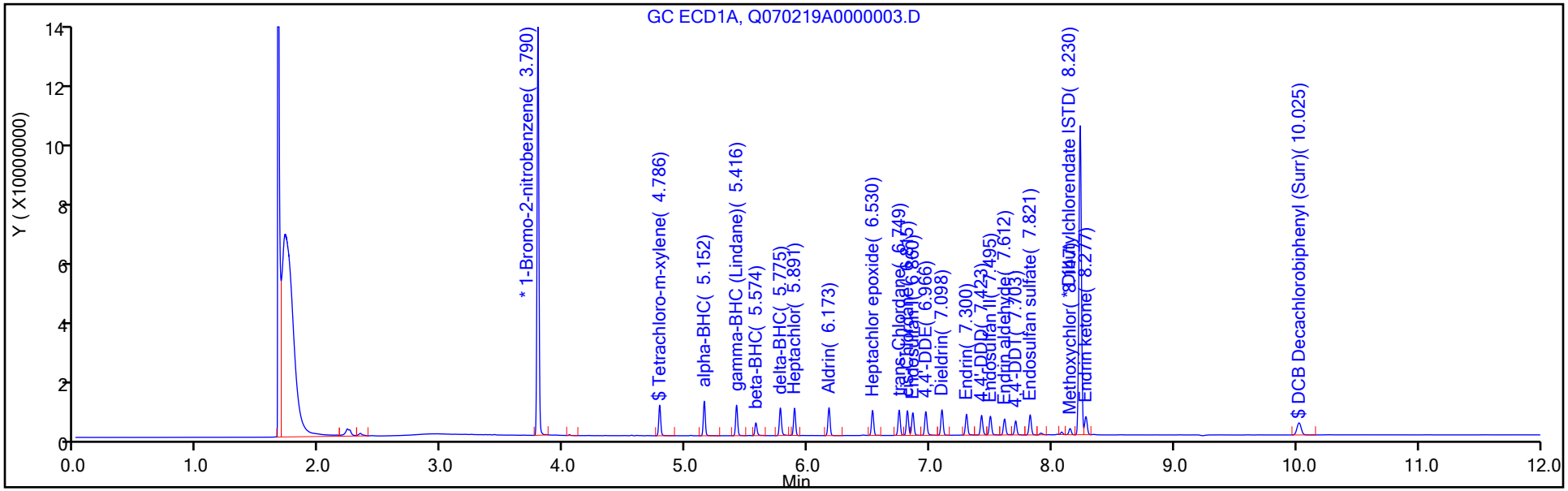

Column: MR-2 (0.53 mm)

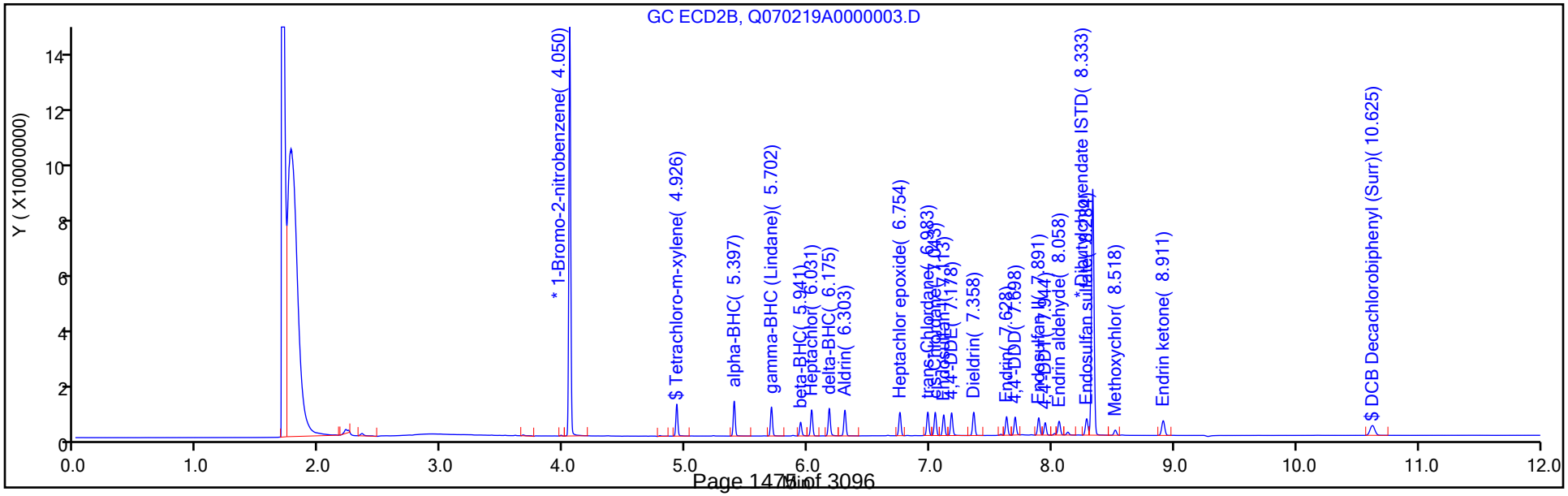

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000004.D
Lims ID: ICIS
Client ID:
Sample Type: ICIS Calib Level: 3
Inject. Date: 02-Jul-2019 16:04:11 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0027593-004
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub6

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Jul-2019 07:33:30 Calib Date: 02-Jul-2019 16:50:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000007.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0303

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.790	3.790	0.000	134728476H	0.1000	0.1000	
2	4.050	4.050	0.000	139364553H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.786	4.786	0.000	49570340H	0.0250	0.0267	
2	4.926	4.926	0.000	50834390H	0.0250	0.0270	
						RPD = 1.28	
5 alpha-BHC							
1	5.152	5.152	0.000	56627140H	0.0250	0.0265	
2	5.397	5.397	0.000	56543319H	0.0250	0.0268	
						RPD = 0.88	
7 gamma-BHC (Lindane)							
1	5.416	5.416	0.000	49762728H	0.0250	0.0265	
2	5.702	5.702	0.000	41615868H	0.0250	0.0247	
						RPD = 7.04	
8 beta-BHC							
1	5.574	5.574	0.000	18529847H	0.0250	0.0241	
2	5.941	5.941	0.000	21846719H	0.0250	0.0262	
						RPD = 8.11	
10 delta-BHC							
1	5.775	5.775	0.000	46599582H	0.0250	0.0269	
2	6.175	6.175	0.000	45487250H	0.0250	0.0272	
						RPD = 1.15	
11 Heptachlor							
1	5.891	5.891	0.000	43964489H	0.0250	0.0264	
2	6.031	6.031	0.000	42216816H	0.0250	0.0269	
						RPD = 1.69	
13 Aldrin							
1	6.173	6.173	0.000	46503340H	0.0250	0.0270	
2	6.303	6.303	0.000	42736382H	0.0250	0.0275	
						RPD = 1.70	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
16 Heptachlor epoxide							
1	6.531	6.531	0.000	39669842H	0.0250	0.0265	
2	6.753	6.753	0.000	35311704H	0.0250	0.0259	
						RPD = 2.32	
18 trans-Chlordane							
1	6.748	6.748	0.000	40965161H	0.0250	0.0264	
2	6.982	6.982	0.000	38686957H	0.0250	0.0271	
						RPD = 2.70	
20 cis-Chlordane							
1	6.816	6.816	0.000	40240274H	0.0250	0.0265	
2	7.043	7.043	0.000	36497959H	0.0250	0.0264	
						RPD = 0.34	
21 Endosulfan I							
1	6.860	6.860	0.000	36860436H	0.0250	0.0269	
2	7.112	7.112	0.000	29095955H	0.0250	0.0245	
						RPD = 9.64	
23 4,4'-DDE							
1	6.966	6.966	0.000	39905011H	0.0250	0.0263	
2	7.177	7.177	0.000	37479016H	0.0250	0.0263	
						RPD = 0.07	
24 Dieldrin							
1	7.098	7.098	0.000	39539616H	0.0250	0.0253	
2	7.359	7.359	0.000	38734829H	0.0250	0.0268	
						RPD = 5.66	
27 Endrin							
1	7.299	7.299	0.000	30217332H	0.0250	0.0242	
2	7.628	7.628	0.000	30042801H	0.0250	0.0266	
						RPD = 9.33	
29 4,4'-DDD							
1	7.423	7.423	0.000	30133979H	0.0250	0.0243	
2	7.698	7.698	0.000	29747857H	0.0250	0.0262	
						RPD = 7.52	
31 Endosulfan II							
1	7.496	7.496	0.000	28732230H	0.0250	0.0252	
2	7.890	7.890	0.000	28196744H	0.0250	0.0266	
						RPD = 5.25	
32 Endrin aldehyde							
1	7.613	7.613	0.000	24965258H	0.0250	0.0258	
2	8.058	8.058	0.000	22594648H	0.0250	0.0265	
						RPD = 2.65	
33 4,4'-DDT							
1	7.702	7.702	0.000	25253961H	0.0250	0.0257	
2	7.944	7.944	0.000	24882266H	0.0250	0.0276	
						RPD = 7.19	
35 Endosulfan sulfate							
1	7.822	7.822	0.000	31039318H	0.0250	0.0253	
2	8.284	8.284	0.000	26494128H	0.0250	0.0263	
						RPD = 3.81	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Methoxychlor							
1	8.148	8.148	0.000	10678849H	0.0250	0.0249	
2	8.518	8.518	0.000	10044910H	0.0250	0.0270	
						RPD = 8.00	
* 44 Dibutylchlorendate ISTD							
1	8.231	8.231	0.000	106364717H	0.1000	0.1000	
2	8.333	8.333	0.000	86123216H	0.1000	0.1000	
37 Endrin ketone							
1	8.278	8.278	0.000	28484045H	0.0250	0.0257	
2	8.911	8.911	0.000	24054751H	0.0250	0.0266	
						RPD = 3.19	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.022	10.022	0.000	18636943H	0.0250	0.0253	
2	10.624	10.624	0.000	15394847H	0.0250	0.0253	
						RPD = 0.04	

Reagents:

GCPestL3_00028 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 03-Jul-2019 07:33:31 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000004.D				
Injection Date:	02-Jul-2019 16:04:11	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	ICIS			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

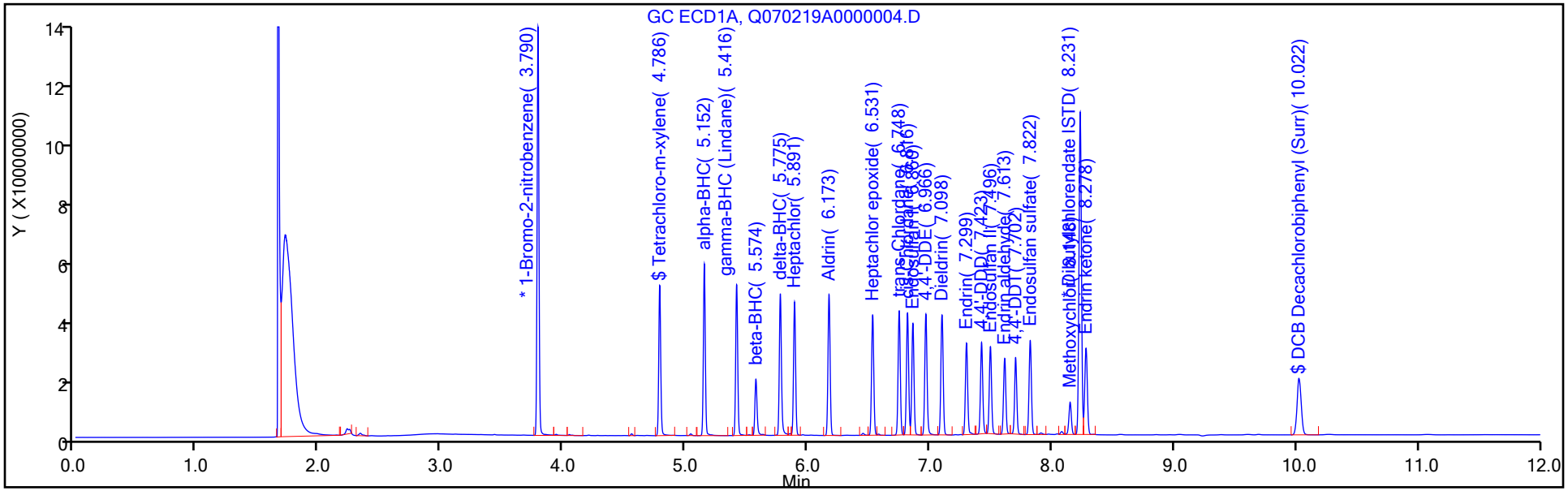

Column: MR-2 (0.53 mm)

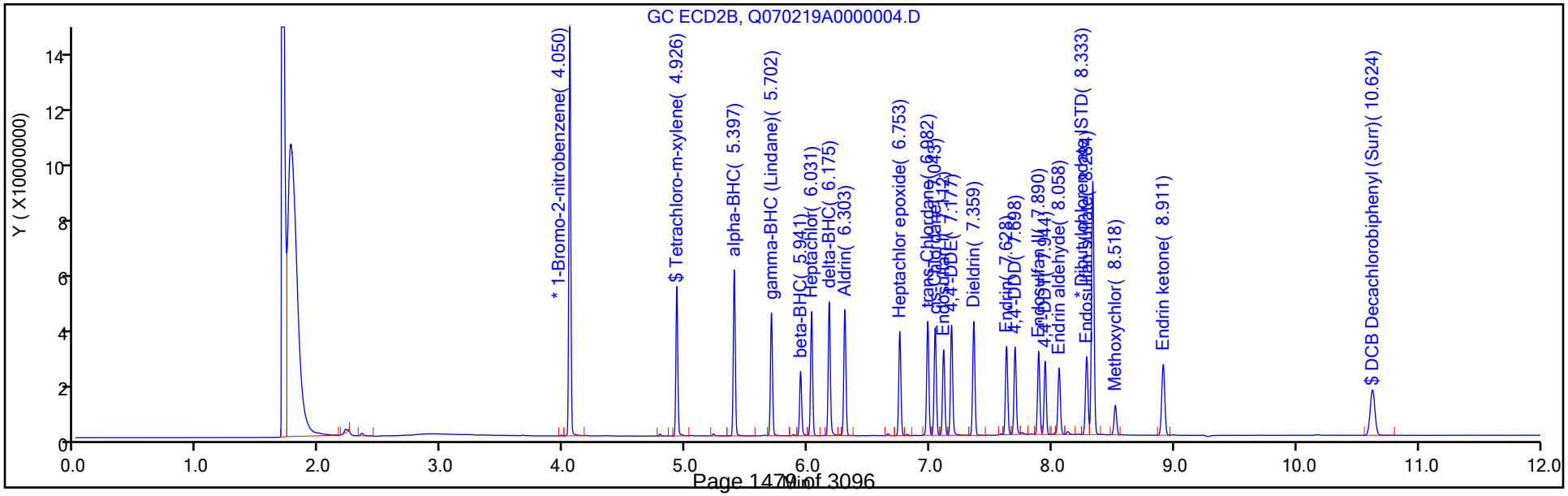

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000005.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 02-Jul-2019 16:19:38 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0027593-005
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub6

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Jul-2019 07:33:39 Calib Date: 02-Jul-2019 16:50:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000007.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0303

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.789	3.790	-0.001	139717397H	0.1000	0.1000	
2	4.050	4.050	0.000	146939526H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.786	4.786	0.000	94555396H	0.0500	0.0491	
2	4.927	4.926	0.001	95267385H	0.0500	0.0480	
						RPD = 2.14	
5 alpha-BHC							
1	5.152	5.152	0.000	110931113H	0.0500	0.0501	
2	5.397	5.397	0.000	109891836H	0.0500	0.0493	
						RPD = 1.57	
7 gamma-BHC (Lindane)							
1	5.417	5.416	0.001	98106565H	0.0500	0.0503	
2	5.702	5.702	0.000	90339526H	0.0500	0.0508	
						RPD = 0.93	
8 beta-BHC							
1	5.574	5.574	0.000	39121214H	0.0500	0.0491	
2	5.941	5.941	0.000	42549910H	0.0500	0.0483	
						RPD = 1.61	
10 delta-BHC							
1	5.774	5.775	-0.001	91334892H	0.0500	0.0508	
2	6.175	6.175	0.000	88817927H	0.0500	0.0503	
						RPD = 0.88	
11 Heptachlor							
1	5.891	5.891	0.000	88477634H	0.0500	0.0513	
2	6.031	6.031	0.000	81076882H	0.0500	0.0489	
						RPD = 4.65	
13 Aldrin							
1	6.173	6.173	0.000	91430283H	0.0500	0.0512	
2	6.304	6.303	0.001	80259739H	0.0500	0.0490	
						RPD = 4.54	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
16 Heptachlor epoxide							
1	6.530	6.531	-0.001	78634029H	0.0500	0.0507	
2	6.754	6.753	0.001	71180275H	0.0500	0.0495	
						RPD = 2.30	
18 trans-Chlordane							
1	6.746	6.748	-0.002	80980332H	0.0500	0.0503	
2	6.982	6.982	0.000	73708352H	0.0500	0.0490	
						RPD = 2.65	
20 cis-Chlordane							
1	6.815	6.816	-0.001	80670687H	0.0500	0.0512	
2	7.044	7.043	0.001	71643263H	0.0500	0.0491	
						RPD = 4.10	
21 Endosulfan I							
1	6.859	6.860	-0.001	71888745H	0.0500	0.0506	
2	7.113	7.112	0.001	64345269H	0.0500	0.0513	
						RPD = 1.27	
23 4,4'-DDE							
1	6.966	6.966	0.000	81234371H	0.0500	0.0518	
2	7.177	7.177	0.000	73455869H	0.0500	0.0499	
						RPD = 3.67	
24 Dieldrin							
1	7.099	7.098	0.001	82630996H	0.0500	0.0511	
2	7.359	7.359	0.000	74140784H	0.0500	0.0496	
						RPD = 3.07	
27 Endrin							
1	7.299	7.299	0.000	64884205H	0.0500	0.0502	
2	7.628	7.628	0.000	57556749H	0.0500	0.0492	
						RPD = 2.02	
29 4,4'-DDD							
1	7.423	7.423	0.000	61288773H	0.0500	0.0477	
2	7.697	7.698	-0.001	58278174H	0.0500	0.0496	
						RPD = 3.83	
31 Endosulfan II							
1	7.495	7.496	-0.001	60598209H	0.0500	0.0514	
2	7.891	7.890	0.001	53475969H	0.0500	0.0487	
						RPD = 5.32	
32 Endrin aldehyde							
1	7.611	7.613	-0.002	51807698H	0.0500	0.0518	
2	8.058	8.058	0.000	44764508H	0.0500	0.0508	
						RPD = 1.93	
33 4,4'-DDT							
1	7.701	7.702	-0.001	51832991H	0.0500	0.0510	
2	7.944	7.944	0.000	51006738H	0.0500	0.0548	
						RPD = 7.12	
35 Endosulfan sulfate							
1	7.821	7.822	-0.001	62085211H	0.0500	0.0489	
2	8.283	8.284	-0.001	51546603H	0.0500	0.0494	
						RPD = 1.10	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Methoxychlor							
1	8.148	8.148	0.000	22088404H	0.0500	0.0497	
2	8.519	8.518	0.001	19977262H	0.0500	0.0518	
						RPD = 4.12	
* 44 Dibutylchlorendate ISTD							
1	8.230	8.231	0.000	110088335H	0.1000	0.1000	
2	8.334	8.333	0.000	89092403H	0.1000	0.1000	
37 Endrin ketone							
1	8.278	8.278	0.000	57868536H	0.0500	0.0505	
2	8.911	8.911	0.000	46810022H	0.0500	0.0500	
						RPD = 1.07	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.023	10.022	0.001	37887621H	0.0500	0.0498	
2	10.626	10.624	0.002	30341087H	0.0500	0.0483	
						RPD = 3.01	

Reagents:

GCPestL4_00021 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 03-Jul-2019 07:33:40 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000005.D				
Injection Date:	02-Jul-2019 16:19:38	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

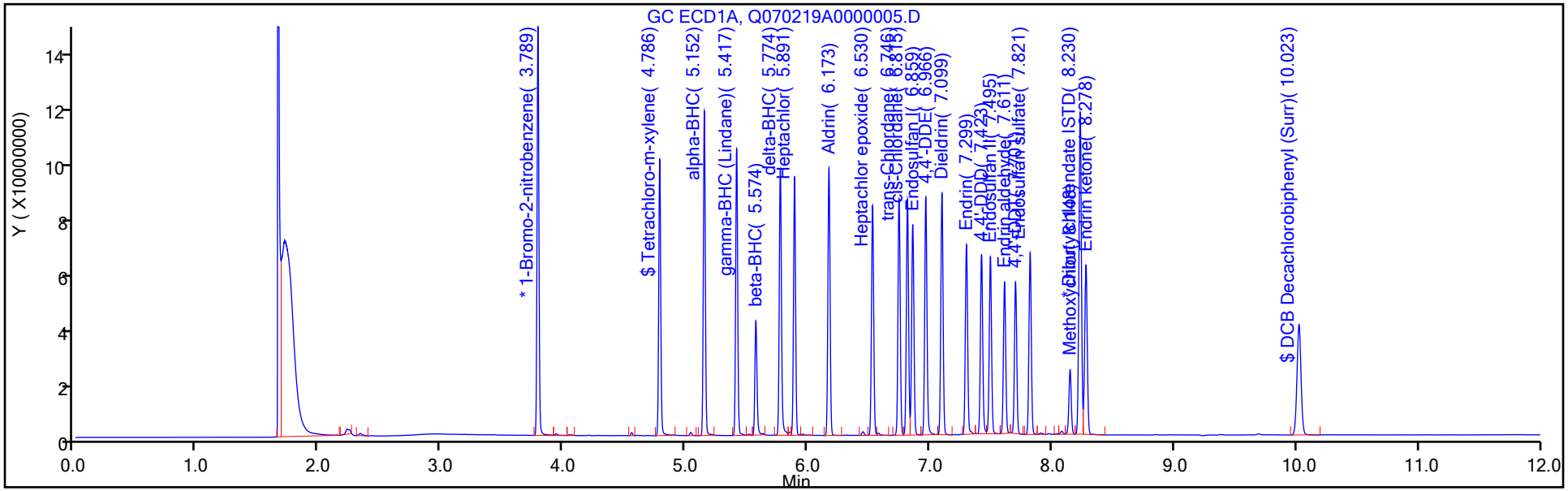

Column: MR-2 (0.53 mm)

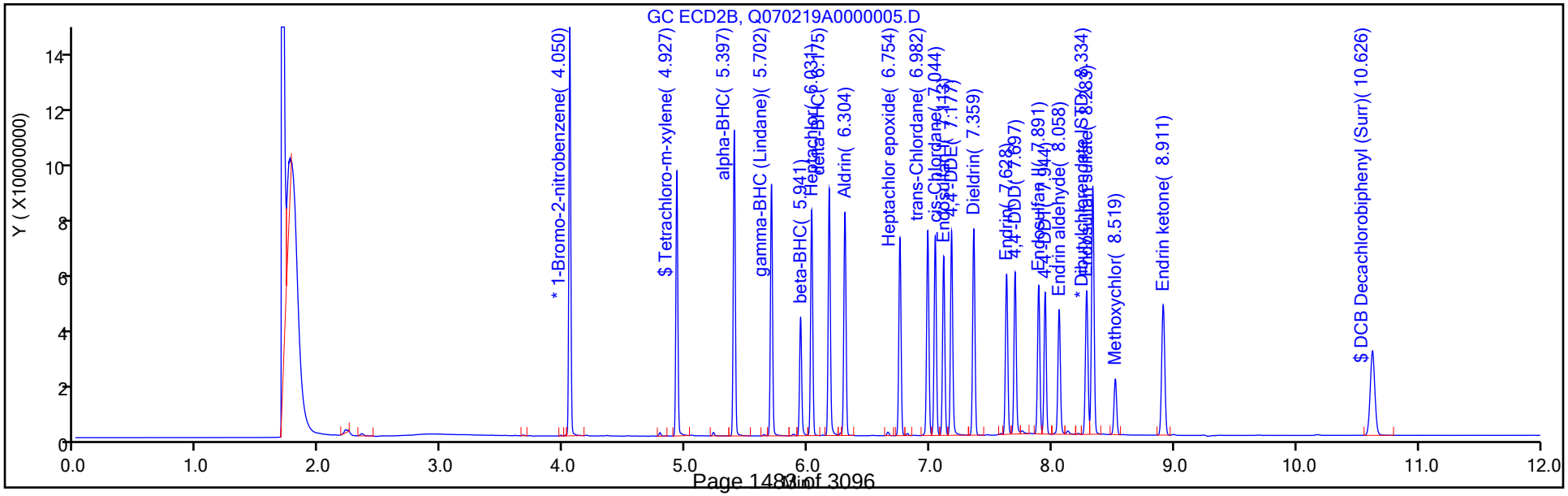

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000006.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 02-Jul-2019 16:35:11 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0027593-006
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub6

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Jul-2019 07:33:45 Calib Date: 02-Jul-2019 16:50:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000007.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0303

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.789	3.790	-0.001	146837425H	0.1000	0.1000	
2	4.051	4.050	0.000	154945898H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.786	4.786	0.000	193673600H	0.1000	0.0956	
2	4.927	4.926	0.001	183461136H	0.1000	0.0877	
						RPD = 8.64	
5 alpha-BHC							
1	5.152	5.152	0.000	231686599H	0.1000	0.0996	
2	5.397	5.397	0.000	214465513H	0.1000	0.0913	
						RPD = 8.68	
7 gamma-BHC (Lindane)							
1	5.416	5.416	0.000	203801432H	0.1000	0.0994	
2	5.702	5.702	0.000	171559392H	0.1000	0.0914	
						RPD = 8.38	
8 beta-BHC							
1	5.574	5.574	0.000	78943016H	0.1000	0.0943	
2	5.940	5.941	-0.001	82900267H	0.1000	0.0893	
						RPD = 5.45	
10 delta-BHC							
1	5.774	5.775	-0.001	192429442H	0.1000	0.1018	
2	6.175	6.175	0.000	171513755H	0.1000	0.0921	
						RPD = 9.92	
11 Heptachlor							
1	5.891	5.891	0.000	170485322H	0.1000	0.0940	
2	6.031	6.031	0.000	153023660H	0.1000	0.0876	
						RPD = 7.05	
13 Aldrin							
1	6.173	6.173	0.000	180787104H	0.1000	0.0964	
2	6.304	6.303	0.001	157021197H	0.1000	0.0909	
						RPD = 5.94	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
16 Heptachlor epoxide							
1	6.530	6.531	-0.001	153673569H	0.1000	0.0942	
2	6.754	6.753	0.001	133369120H	0.1000	0.0880	
						RPD = 6.84	
18 trans-Chlordane							
1	6.747	6.748	-0.001	162688244H	0.1000	0.0962	
2	6.982	6.982	0.000	144028880H	0.1000	0.0908	
						RPD = 5.75	
20 cis-Chlordane							
1	6.816	6.816	0.000	156147417H	0.1000	0.0943	
2	7.043	7.043	0.000	135814370H	0.1000	0.0884	
						RPD = 6.51	
21 Endosulfan I							
1	6.860	6.860	0.000	140588433H	0.1000	0.0942	
2	7.112	7.112	0.000	116783952H	0.1000	0.0883	
						RPD = 6.53	
23 4,4'-DDE							
1	6.965	6.966	-0.001	157013228H	0.1000	0.0932	
2	7.177	7.177	0.000	142540987H	0.1000	0.0895	
						RPD = 4.02	
24 Dieldrin							
1	7.099	7.098	0.001	163230347H	0.1000	0.0940	
2	7.360	7.359	0.001	140182828H	0.1000	0.0866	
						RPD = 8.19	
27 Endrin							
1	7.299	7.299	0.000	132039614H	0.1000	0.0951	
2	7.628	7.628	0.000	109731944H	0.1000	0.0866	
						RPD = 9.28	
29 4,4'-DDD							
1	7.422	7.423	-0.001	125725826H	0.1000	0.0911	
2	7.697	7.698	-0.001	115836094H	0.1000	0.0910	
						RPD = 0.07	
31 Endosulfan II							
1	7.494	7.496	-0.002	118662807H	0.1000	0.0937	
2	7.891	7.890	0.001	103885415H	0.1000	0.0875	
						RPD = 6.86	
32 Endrin aldehyde							
1	7.611	7.613	-0.002	101938655H	0.1000	0.0949	
2	8.058	8.058	0.000	85599428H	0.1000	0.0898	
						RPD = 5.53	
33 4,4'-DDT							
1	7.701	7.702	-0.001	112573721H	0.1000	0.1031	
2	7.944	7.944	0.000	104673667H	0.1000	0.1038	
						RPD = 0.70	
35 Endosulfan sulfate							
1	7.820	7.822	-0.002	126937392H	0.1000	0.0930	
2	8.285	8.284	0.001	98756309H	0.1000	0.0875	
						RPD = 6.15	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Methoxychlor							
1	8.146	8.148	-0.002	47421187H	0.1000	0.0994	
2	8.518	8.518	0.000	41235733H	0.1000	0.0988	
						RPD = 0.55	
* 44 Dibutylchlorendate ISTD							
1	8.230	8.231	0.000	118266735H	0.1000	0.1000	
2	8.334	8.333	0.001	96426742H	0.1000	0.1000	
37 Endrin ketone							
1	8.277	8.278	-0.001	110158978H	0.1000	0.0895	
2	8.911	8.911	0.000	89834162H	0.1000	0.0886	
						RPD = 1.00	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.022	10.022	0.000	72700543H	0.1000	0.0889	
2	10.625	10.624	0.001	57649966H	0.1000	0.0847	
						RPD = 4.74	

Reagents:

GCPestL5_00021	Amount Added: 1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added: 0.02	Units: mL	Run Reagent

Report Date: 03-Jul-2019 07:33:46 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000006.D				
Injection Date:	02-Jul-2019 16:35:11	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

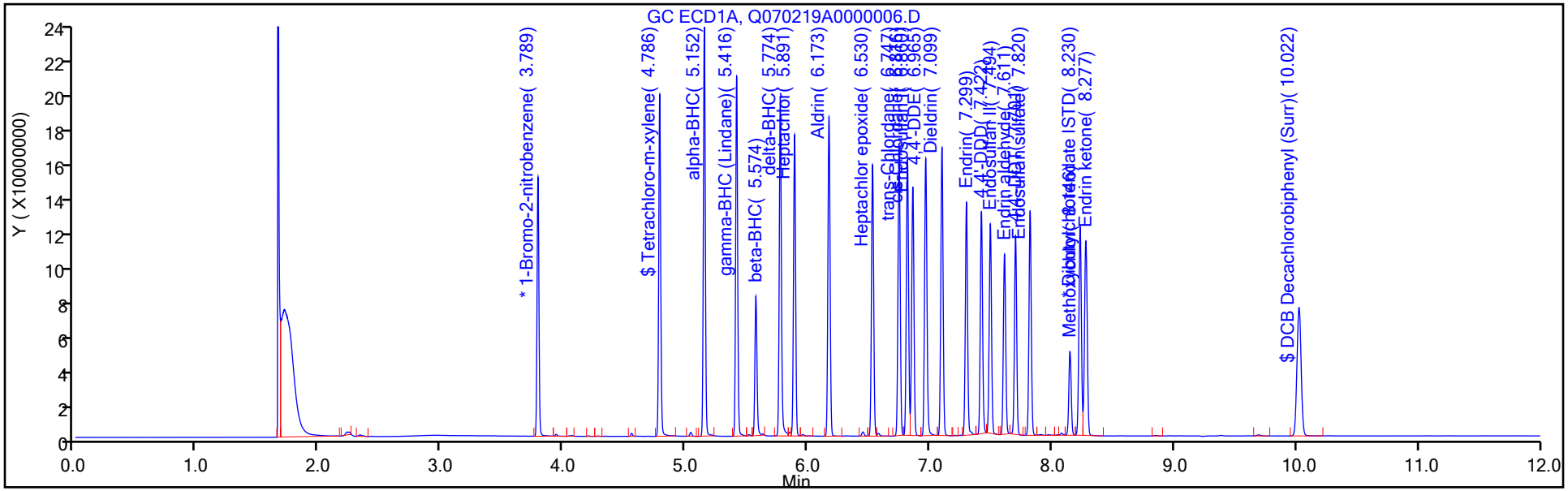

Column: MR-2 (0.53 mm)

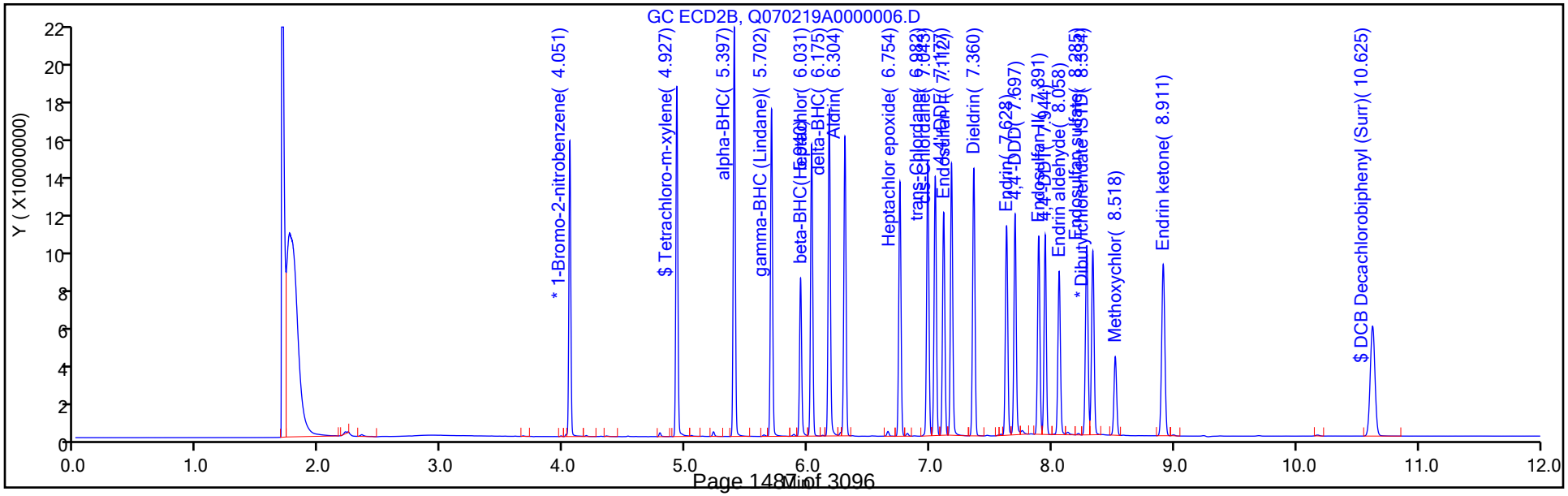

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000007.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 02-Jul-2019 16:50:46 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0027593-007
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub6

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Jul-2019 07:33:52 Calib Date: 02-Jul-2019 16:50:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000007.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0303

First Level Reviewer: eppinged Date: 03-Jul-2019 07:29:30

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.789	3.790	0.000	149217071H	0.1000	0.1000	
2	4.050	4.050	0.000	153864406H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.787	4.786	0.001	376043302H	0.2000	0.1827	
2	4.927	4.926	0.001	344970277H	0.2000	0.1660	
						RPD = 9.54	
5 alpha-BHC							
1	5.152	5.152	0.000	451879422H	0.2000	0.1912	
2	5.398	5.397	0.001	408778231H	0.2000	0.1753	
						RPD = 8.67	
7 gamma-BHC (Lindane)							
1	5.416	5.416	0.000	387323512H	0.2000	0.1859	
2	5.702	5.702	0.000	333010934H	0.2000	0.1787	
						RPD = 3.96	
8 beta-BHC							
1	5.574	5.574	0.000	158096293H	0.2000	0.1859	
2	5.941	5.941	0.000	156069095H	0.2000	0.1693	
						RPD = 9.32	
10 delta-BHC							
1	5.775	5.775	0.000	364096452H	0.2000	0.1895	
2	6.175	6.175	0.000	327786953H	0.2000	0.1773	
						RPD = 6.62	
11 Heptachlor							
1	5.890	5.891	-0.001	327482449H	0.2000	0.1777	
2	6.031	6.031	0.000	289335081H	0.2000	0.1668	
						RPD = 6.32	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
13 Aldrin							
1	6.173	6.173	0.000	349274141H	0.2000	0.1833	
2	6.304	6.303	0.001	289103662H	0.2000	0.1685	
						RPD = 8.44	
16 Heptachlor epoxide							
1	6.530	6.531	-0.001	289780219H	0.2000	0.1748	
2	6.755	6.753	0.002	246550496H	0.2000	0.1638	
						RPD = 6.52	
18 trans-Chlordane							
1	6.747	6.748	-0.001	316624517H	0.2000	0.1842	
2	6.982	6.982	0.000	268655136H	0.2000	0.1706	
						RPD = 7.69	
20 cis-Chlordane							
1	6.816	6.816	0.000	307507543H	0.2000	0.1828	
2	7.044	7.043	0.001	256179531H	0.2000	0.1678	
						RPD = 8.51	
21 Endosulfan I							
1	6.860	6.860	0.000	271099075H	0.2000	0.1788	
2	7.113	7.112	0.001	217597309H	0.2000	0.1657	
						RPD = 7.65	
23 4,4'-DDE							
1	6.966	6.966	0.000	307301442H	0.2000	0.1840	
2	7.177	7.177	0.000	262418619H	0.2000	0.1690	
						RPD = 8.50	
24 Dieldrin							
1	7.099	7.098	0.001	307016408H	0.2000	0.1783	
2	7.359	7.359	0.000	265657589H	0.2000	0.1683	
						RPD = 5.81	
27 Endrin							
1	7.300	7.299	0.001	244436882H	0.2000	0.1775	
2	7.628	7.628	0.000	203905580H	0.2000	0.1651	
						RPD = 7.28	
29 4,4'-DDD							
1	7.422	7.423	-0.001	234129054H	0.2000	0.1711	
2	7.697	7.698	-0.001	213777836H	0.2000	0.1722	
						RPD = 0.66	
31 Endosulfan II							
1	7.495	7.496	-0.001	221420031H	0.2000	0.1763	
2	7.890	7.890	0.000	191152311H	0.2000	0.1650	
						RPD = 6.63	
32 Endrin aldehyde							
1	7.611	7.613	-0.002	188877077H	0.2000	0.1774	
2	8.058	8.058	0.000	153130569H	0.2000	0.1647	
						RPD = 7.41	
33 4,4'-DDT							
1	7.702	7.702	0.000	219776259H	0.2000	0.2030	
2	7.944	7.944	0.000	196219157H	0.2000	0.1996	
						RPD = 1.73	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
35 Endosulfan sulfate							
1	7.821	7.822	-0.001	242935995H	0.2000	0.1796	
2	8.284	8.284	0.000	183597930H	0.2000	0.1668	
						RPD = 7.42	
36 Methoxychlor							
1	8.147	8.148	-0.001	92138892H	0.2000	0.1948	
2	8.519	8.518	0.001	78151929H	0.2000	0.1921	
						RPD = 1.41	
* 44 Dibutylchlorendate ISTD							
1	8.230	8.231	-0.001	117230090H	0.1000	0.1000	
2	8.334	8.333	0.001	94035760H	0.1000	0.1000	
37 Endrin ketone							
1	8.277	8.278	-0.001	215771725H	0.2000	0.1769	
2	8.910	8.911	-0.001	165941269H	0.2000	0.1679	
						RPD = 5.23	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.022	10.022	0.000	139438691H	0.2000	0.1719	
2	10.625	10.624	0.001	108385207H	0.2000	0.1634	
						RPD = 5.11	

Reagents:

GCPestL6_00021	Amount Added: 1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added: 0.02	Units: mL	Run Reagent

Report Date: 03-Jul-2019 07:33:52 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000007.D				
Injection Date:	02-Jul-2019 16:50:46	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

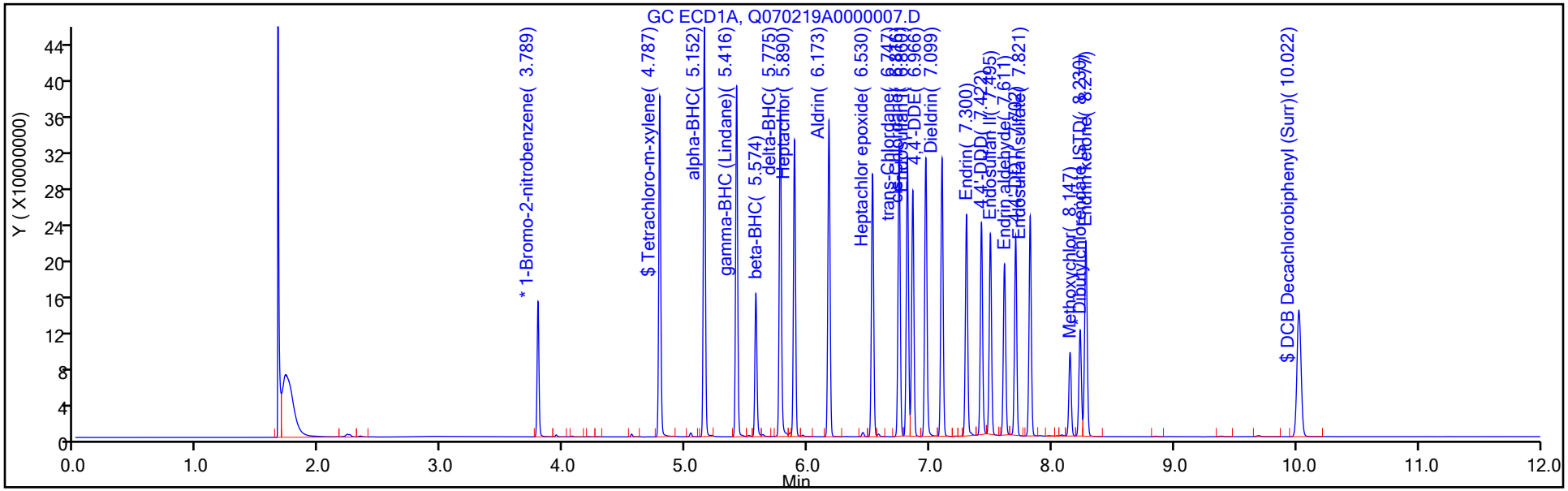

Column: MR-2 (0.53 mm)

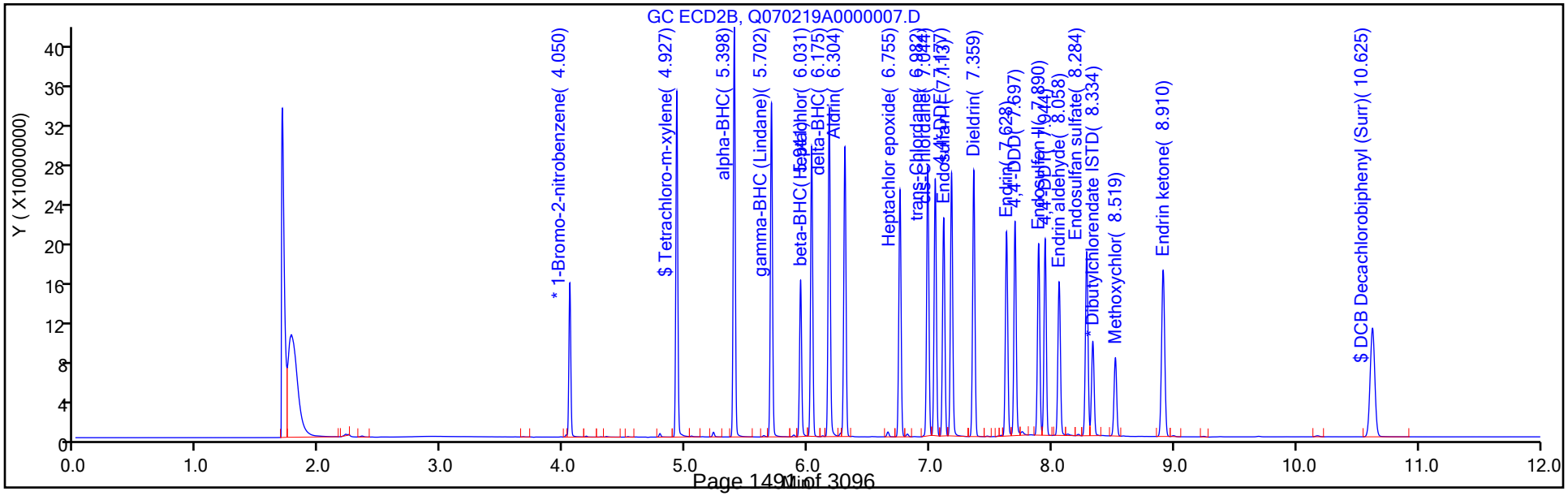

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 283759

SDG No.:

Instrument ID: CHGC15 GC Column: MR-2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/02/2019 15:33 Calibration End Date: 07/02/2019 16:50 Calibration ID: 40698

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-283759/2	Q070219A0000002.D
Level 2	IC 180-283759/3	Q070219A0000003.D
Level 3	ICIS 180-283759/4	Q070219A0000004.D
Level 4	IC 180-283759/5	Q070219A0000005.D
Level 5	IC 180-283759/6	Q070219A0000006.D
Level 6	IC 180-283759/7	Q070219A0000007.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
alpha-BHC	1.5609 1.3284	1.7020	1.6229	1.4957	1.3841	Ave		1.5157				9.4		20.0			
gamma-BHC (Lindane)	1.2419 1.0822	1.4120	1.1944	1.2296	1.1072	Ave		1.2112				9.7		20.0			
beta-BHC	0.6765 0.5072	0.6690	0.6270	0.5791	0.5350	Ave		0.5990				11.7		20.0			
Heptachlor	1.2511 0.9402	1.2701	1.2117	1.1035	0.9876	Ave		1.1274				12.4		20.0			
delta-BHC	1.1801 1.0652	1.3413	1.3056	1.2089	1.1069	Ave		1.2013				9.0		20.0			
Aldrin	1.1645 0.9395	1.2561	1.2266	1.0924	1.0134	Ave		1.1154				11.1		20.0			
Heptachlor epoxide	1.0907 0.8012	1.1351	1.0135	0.9688	0.8607	Ave		0.9784				13.2		20.0			
trans-Chlordane	1.0865 0.8730	1.1390	1.1104	1.0032	0.9295	Ave		1.0236				10.4		20.0			
cis-Chlordane	1.0915 0.8325	1.1291	1.0476	0.9751	0.8765	Ave		0.9920				12.0		20.0			
Endosulfan I	0.9434 0.7071	1.0070	0.8351	0.8758	0.7537	Ave		0.8537				13.2		20.0			
4,4'-DDE	1.8058 1.3953	1.8405	1.7407	1.6490	1.4782	Ave		1.6516				10.9		20.0			
Dieldrin	1.8574 1.4125	1.8867	1.7990	1.6644	1.4538	Ave		1.6790				12.2		20.0			
Endrin	1.4670 1.0842	1.5059	1.3953	1.2921	1.1380	Ave		1.3138				13.2		20.0			
4,4'-DDD	1.4335 1.1367	1.4591	1.3816	1.3083	1.2013	Ave		1.3201				9.8		20.0			
Endosulfan II	1.3787 1.0164	1.4084	1.3096	1.2005	1.0774	Ave		1.2318				13.1		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 283759

SDG No.:

Instrument ID: CHGC15 GC Column: MR-2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/02/2019 15:33 Calibration End Date: 07/02/2019 16:50 Calibration ID: 40698

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
4,4'-DDT	0.8344 1.0433	1.0100	1.1557	1.1450	1.0855	Ave		1.0456				11.3		20.0			
Endrin aldehyde	1.0533 0.8142	1.1233	1.0494	1.0049	0.8877	Ave		0.9888				11.7		20.0			
Endosulfan sulfate	1.3041 0.9762	1.3323	1.2305	1.1571	1.0242	Ave		1.1707				12.5		20.0			
Methoxychlor	0.4214 0.4155	0.4167	0.4665	0.4485	0.4276	Ave		0.4327				4.7		20.0			
Endrin ketone	1.1306 0.8823	1.1937	1.1172	1.0508	0.9316	Ave		1.0510				11.6		20.0			
Tetrachloro-m-xylene	1.4843 1.1210	1.5573	1.4590	1.2967	1.1840	Ave		1.3504				13.1		20.0			
DCB Decachlorobiphenyl (Surr)	0.8719 0.5763	0.7906	0.7150	0.6811	0.5979	Ave		0.7055				16.0		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 283759

SDG No.:

Instrument ID: CHGC15 GC Column: MR-2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/02/2019 15:33 Calibration End Date: 07/02/2019 16:50 Calibration ID: 40698

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-283759/2	Q070219A0000002.D
Level 2	IC 180-283759/3	Q070219A0000003.D
Level 3	ICIS 180-283759/4	Q070219A0000004.D
Level 4	IC 180-283759/5	Q070219A0000005.D
Level 5	IC 180-283759/6	Q070219A0000006.D
Level 6	IC 180-283759/7	Q070219A0000007.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
alpha-BHC	BNB	Ave	2226800 408778231	12354599	56543319	109891836	214465513	0.00100 0.200	0.00500	0.0250	0.0500	0.100
gamma-BHC (Lindane)	BNB	Ave	1771748 333010934	10249223	41615868	90339526	171559392	0.00100 0.200	0.00500	0.0250	0.0500	0.100
beta-BHC	BNB	Ave	965127 156069095	4856079	21846719	42549910	82900267	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Heptachlor	BNB	Ave	1784911 289335081	9219606	42216816	81076882	153023660	0.00100 0.200	0.00500	0.0250	0.0500	0.100
delta-BHC	BNB	Ave	1683579 327786953	9736023	45487250	88817927	171513755	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Aldrin	BNB	Ave	1661360 289103662	9117793	42736382	80259739	157021197	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Heptachlor epoxide	BNB	Ave	1556051 246550496	8239575	35311704	71180275	133369120	0.00100 0.200	0.00500	0.0250	0.0500	0.100
trans-Chlordane	BNB	Ave	1550054 268655136	8267839	38686957	73708352	144028880	0.00100 0.200	0.00500	0.0250	0.0500	0.100
cis-Chlordane	BNB	Ave	1557095 256179531	8196263	36497959	71643263	135814370	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Endosulfan I	BNB	Ave	1345894 217597309	7309694	29095955	64345269	116783952	0.00100 0.200	0.00500	0.0250	0.0500	0.100
4,4'-DDE	DBC	Ave	1505911 262418619	8029732	37479016	73455869	142540987	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Dieldrin	DBC	Ave	1549024 265657589	8231358	38734829	74140784	140182828	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Endrin	DBC	Ave	1223436 203905580	6570065	30042801	57556749	109731944	0.00100 0.200	0.00500	0.0250	0.0500	0.100
4,4'-DDD	DBC	Ave	1195472 213777836	6365986	29747857	58278174	115836094	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Endosulfan II	DBC	Ave	1149760 191152311	6144588	28196744	53475969	103885415	0.00100 0.200	0.00500	0.0250	0.0500	0.100
4,4'-DDT	DBC	Ave	695826 196219157	4406262	24882266	51006738	104673667	0.00100 0.200	0.00500	0.0250	0.0500	0.100

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 283759

SDG No.:

Instrument ID: CHGC15 GC Column: MR-2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/02/2019 15:33 Calibration End Date: 07/02/2019 16:50 Calibration ID: 40698

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Endrin aldehyde	DBC	Ave	878371 153130569	4900727	22594648	44764508	85599428	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Endosulfan sulfate	DBC	Ave	1087540 183597930	5812772	26494128	51546603	98756309	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Methoxychlor	DBC	Ave	351440 78151929	1818014	10044910	19977262	41235733	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Endrin ketone	DBC	Ave	942829 165941269	5207977	24054751	46810022	89834162	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Tetrachloro-m-xylene	BNB	Ave	2117545 344970277	11304521	50834390	95267385	183461136	0.00100 0.200	0.00500	0.0250	0.0500	0.100
DCB Decachlorobiphenyl (Surr)	DBC	Ave	727105 108385207	3449354	15394847	30341087	57649966	0.00100 0.200	0.00500	0.0250	0.0500	0.100

Curve Type Legend:
Ave = Average ISTD by Height

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 283759

SDG No.:

Instrument ID: CHGC15 GC Column: MR-2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/02/2019 15:33 Calibration End Date: 07/02/2019 16:50 Calibration ID: 40698

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-283759/2	Q070219A0000002.D
Level 2	IC 180-283759/3	Q070219A0000003.D
Level 3	ICIS 180-283759/4	Q070219A0000004.D
Level 4	IC 180-283759/5	Q070219A0000005.D
Level 5	IC 180-283759/6	Q070219A0000006.D
Level 6	IC 180-283759/7	Q070219A0000007.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
alpha-BHC	3.0	12.3	7.1	-1.3	-8.7	-12.4	50	30	30	30	30	30
gamma-BHC (Lindane)	2.5	16.6	-1.4	1.5	-8.6	-10.7	50	30	30	30	30	30
beta-BHC	12.9	11.7	4.7	-3.3	-10.7	-15.3	50	30	30	30	30	30
Heptachlor	11.0	12.7	7.5	-2.1	-12.4	-16.6	50	30	30	30	30	30
delta-BHC	-1.8	11.6	8.7	0.6	-7.9	-11.3	50	30	30	30	30	30
Aldrin	4.4	12.6	10.0	-2.1	-9.1	-15.8	50	30	30	30	30	30
Heptachlor epoxide	11.5	16.0	3.6	-1.0	-12.0	-18.1	50	30	30	30	30	30
trans-Chlordane	6.1	11.3	8.5	-2.0	-9.2	-14.7	50	30	30	30	30	30
cis-Chlordane	10.0	13.8	5.6	-1.7	-11.6	-16.1	50	30	30	30	30	30
Endosulfan I	10.5	18.0	-2.2	2.6	-11.7	-17.2	50	30	30	30	30	30
4,4'-DDE	9.3	11.4	5.4	-0.2	-10.5	-15.5	50	30	30	30	30	30
Dieldrin	10.6	12.4	7.2	-0.9	-13.4	-15.9	50	30	30	30	30	30
Endrin	11.7	14.6	6.2	-1.7	-13.4	-17.5	50	30	30	30	30	30
4,4'-DDD	8.6	10.5	4.7	-0.9	-9.0	-13.9	50	30	30	30	30	30
Endosulfan II	11.9	14.3	6.3	-2.5	-12.5	-17.5	50	30	30	30	30	30
4,4'-DDT	-20.2	-3.4	10.5	9.5	3.8	-0.2	50	30	30	30	30	30
Endrin aldehyde	6.5	13.6	6.1	1.6	-10.2	-17.7	50	30	30	30	30	30
Endosulfan sulfate	11.4	13.8	5.1	-1.2	-12.5	-16.6	50	30	30	30	30	30
Methoxychlor	-2.6	-3.7	7.8	3.6	-1.2	-4.0	50	30	30	30	30	30
Endrin ketone	7.6	13.6	6.3	0.0	-11.4	-16.1	50	30	30	30	30	30
Tetrachloro-m-xylene	9.9	15.3	8.0	-4.0	-12.3	-17.0	50	30	30	30	30	30
DCB Decachlorobiphenyl (Surr)	23.6	12.1	1.4	-3.5	-15.3	-18.3	50	30	30	30	30	30

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000002.D				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	1		
Inject. Date:	02-Jul-2019 15:33:05	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0027593-002				
Operator ID:	402331	Instrument ID:	CHGC15		
Sublist:	chrom-IS PEST_CHGC15*sub6				
Method:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\IS PEST_CHGC15.m				
Limit Group:	GCS 8081B ICAL with IS				
Last Update:	03-Jul-2019 07:33:17	Calib Date:	02-Jul-2019 16:50:46		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000007.D				
Column 1 :	MR-1 (0.53 mm)		Det: GC ECD1A		
Column 2 :	MR-2 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0303				

First Level Reviewer: eppinged Date: 03-Jul-2019 07:17:10

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.790	3.790	0.000	135545010H	0.1000	0.1000	
2	4.050	4.050	0.000	142661991H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.786	4.786	0.000	1869808H	0.001000	0.001000	
2	4.927	4.926	0.001	2117545H	0.001000	0.001099	
						RPD = 9.46	
5 alpha-BHC							
1	5.152	5.152	0.000	1971348H	0.001000	0.000918	
2	5.397	5.397	0.000	2226800H	0.001000	0.001030	
						RPD = 11.47	
7 gamma-BHC (Lindane)							
1	5.416	5.416	0.000	1787885H	0.001000	0.000945	
2	5.702	5.702	0.000	1771748H	0.001000	0.001025	
						RPD = 8.19	
8 beta-BHC							
1	5.575	5.574	0.001	837544H	0.001000	0.001084	
2	5.941	5.941	0.000	965127H	0.001000	0.001129	
						RPD = 4.09	
10 delta-BHC							
1	5.774	5.775	-0.001	1572288H	0.001000	0.000901	
2	6.176	6.175	0.001	1683579H	0.001000	0.000982	
						RPD = 8.67	
11 Heptachlor							
1	5.891	5.891	0.000	1697008H	0.001000	0.001014	
2	6.032	6.031	0.001	1784911H	0.001000	0.001110	
						RPD = 9.05	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
13 Aldrin							
1	6.173	6.173	0.000	1637155H	0.001000	0.000946	
2	6.304	6.303	0.001	1661360H	0.001000	0.001044	
						RPD = 9.87	
16 Heptachlor epoxide							
1	6.530	6.531	-0.001	1520528H	0.001000	0.001010	
2	6.754	6.753	0.001	1556051H	0.001000	0.001115	
						RPD = 9.88	
18 trans-Chlordane							
1	6.748	6.748	0.000	1534595H	0.001000	0.000983	
2	6.982	6.982	0.000	1550054H	0.001000	0.001061	
						RPD = 7.68	
20 cis-Chlordane							
1	6.815	6.816	-0.001	1519415H	0.001000	0.000994	
2	7.043	7.043	0.000	1557095H	0.001000	0.001100	
						RPD = 10.13	
21 Endosulfan I							
1	6.860	6.860	0.000	1360572H	0.001000	0.000988	
2	7.112	7.112	0.000	1345894H	0.001000	0.001105	
						RPD = 11.18	
23 4,4'-DDE							
1	6.967	6.966	0.001	1439631H	0.001000	0.000986	
2	7.177	7.177	0.000	1505911H	0.001000	0.001093	
						RPD = 10.31	
24 Dieldrin							
1	7.098	7.098	0.000	1527340H	0.001000	0.001015	
2	7.359	7.359	0.000	1549024H	0.001000	0.001106	
						RPD = 8.60	
27 Endrin							
1	7.300	7.299	0.001	1252819H	0.001000	0.001041	
2	7.627	7.628	-0.001	1223436H	0.001000	0.001117	
						RPD = 7.01	
29 4,4'-DDD							
1	7.422	7.423	-0.001	1453893H	0.001000	0.001216	
2	7.698	7.698	0.000	1195472H	0.001000	0.001086	
						RPD = 11.27	
31 Endosulfan II							
1	7.495	7.496	-0.001	1108947H	0.001000	0.001010	
2	7.890	7.890	0.000	1149760H	0.001000	0.001119	
						RPD = 10.21	
32 Endrin aldehyde							
1	7.611	7.613	-0.002	894491H	0.001000	0.000961	
2	8.057	8.058	-0.001	878371H	0.001000	0.001065	
						RPD = 10.28	
33 4,4'-DDT							
1	7.702	7.702	0.000	874045H	0.001000	0.000924	
2	7.945	7.944	0.001	695826H	0.001000	0.000798	
						RPD = 14.62	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
35 Endosulfan sulfate							
1	7.821	7.822	-0.001	1248139H	0.001000	0.001056	
2	8.284	8.284	0.000	1087540H	0.001000	0.001114	
						RPD = 5.35	
36 Methoxychlor							
1	8.146	8.148	-0.002	438089H	0.001000	0.001060	
2	8.518	8.518	0.000	351440H	0.001000	0.000974	
						RPD = 8.44	
* 44 Dibutylchlorendate ISTD							M
1	8.231	8.231	0.000	102459947H	0.1000	0.1000	M
2	8.334	8.333	0.000	83395254H	0.1000	0.1000	
37 Endrin ketone							Ma
1	8.276	8.278	-0.002	1126327H	0.001000	0.001057	M
2	8.910	8.911	-0.001	942829H	0.001000	0.001076	a
						RPD = 1.78	
$ 39 DCB Decachlorobiphenyl (Surr)							M
1	10.024	10.022	0.002	793737H	0.001000	0.001120	
2	10.623	10.624	-0.001	727105H	0.001000	0.001236	M
						RPD = 9.85	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

GCPest L1_00026	Amount Added: 1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added: 0.02	Units: mL	Run Reagent

Report Date: 03-Jul-2019 07:33:18 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000002.D				
Injection Date:	02-Jul-2019 15:33:05	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

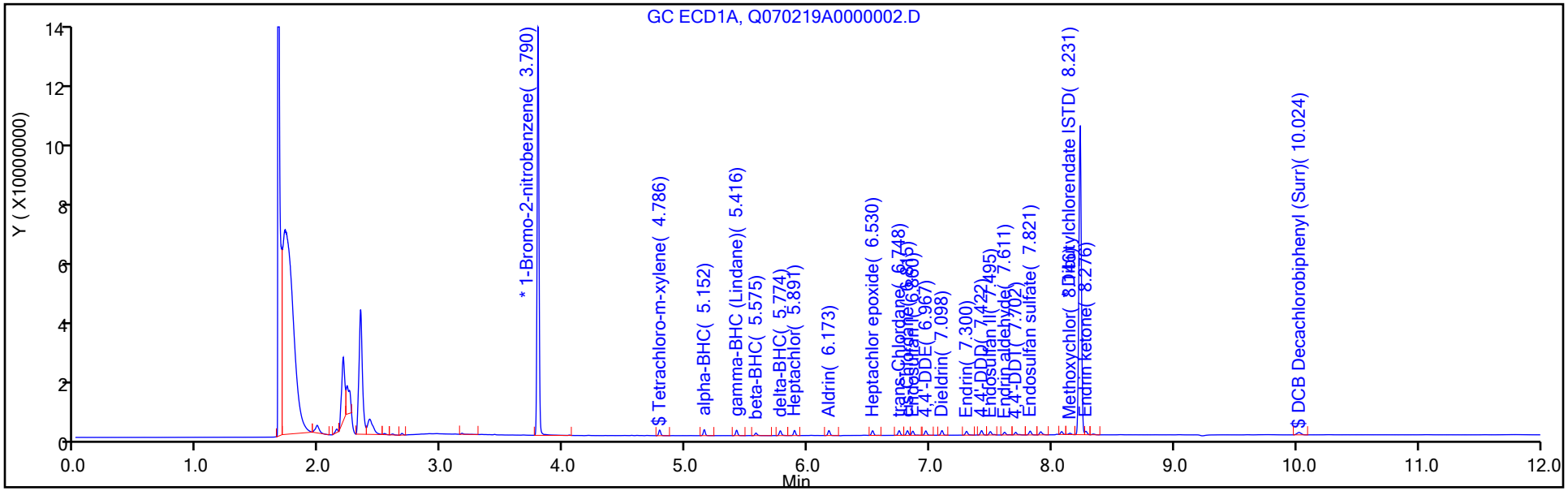

Column: MR-2 (0.53 mm)

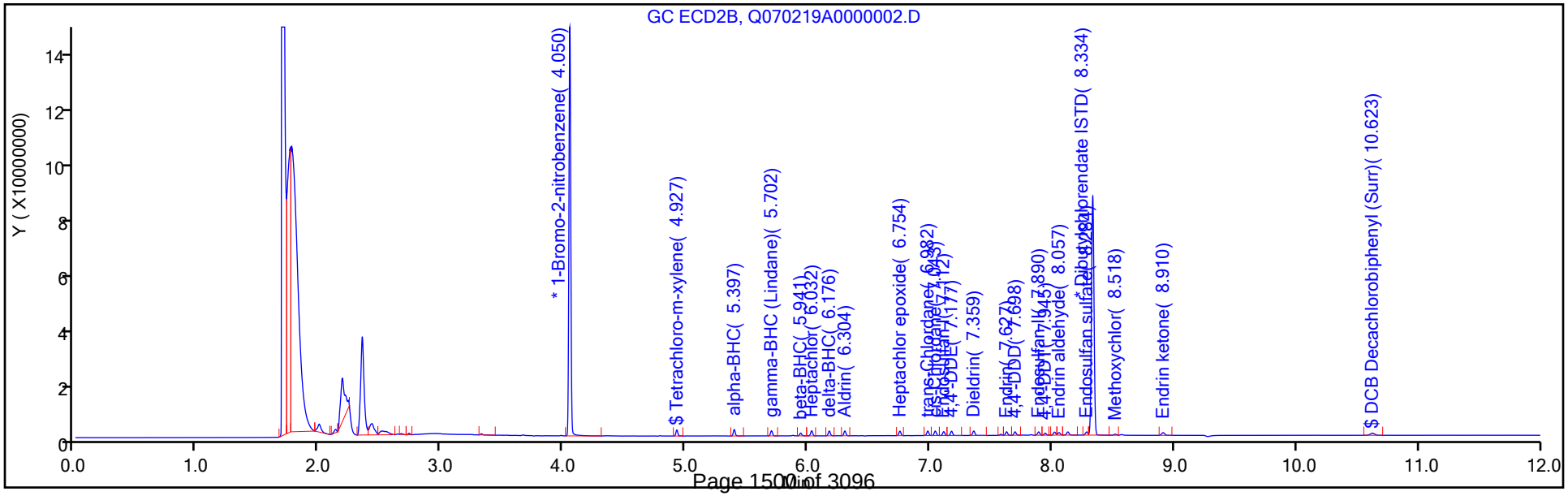

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000002.D				
Injection Date:	02-Jul-2019 15:33:05	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

37 Endrin ketone, CAS: 53494-70-5

Signal: 2

Processing Integration Results

Not Detected
Expected RT: 8.91

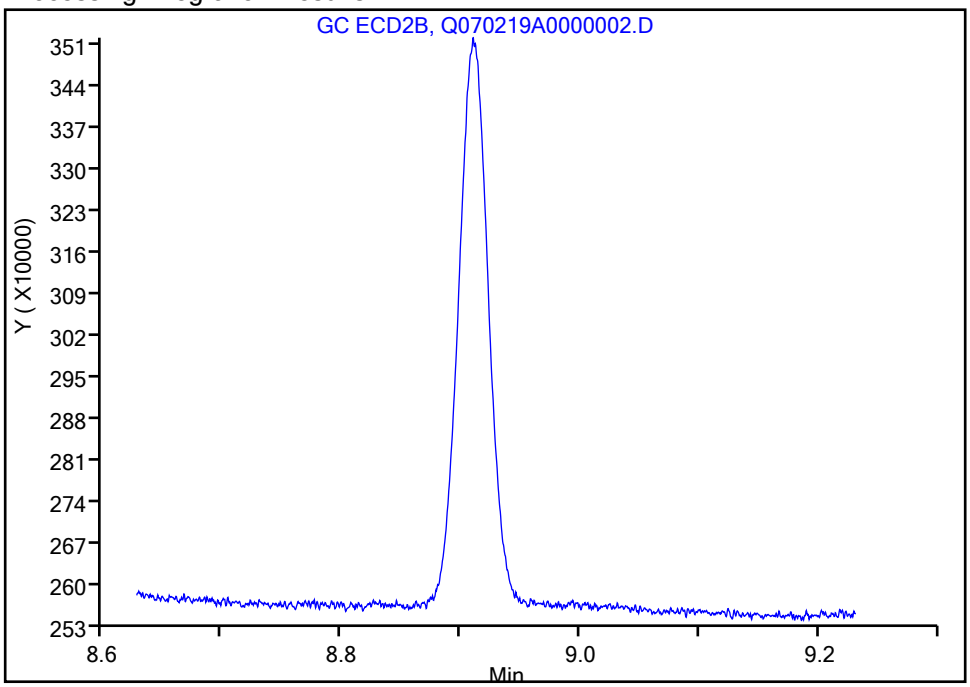

Manual Integration Results

RT: 8.91
Height: 942829
Amount: 0.001076
Amount Units: ng

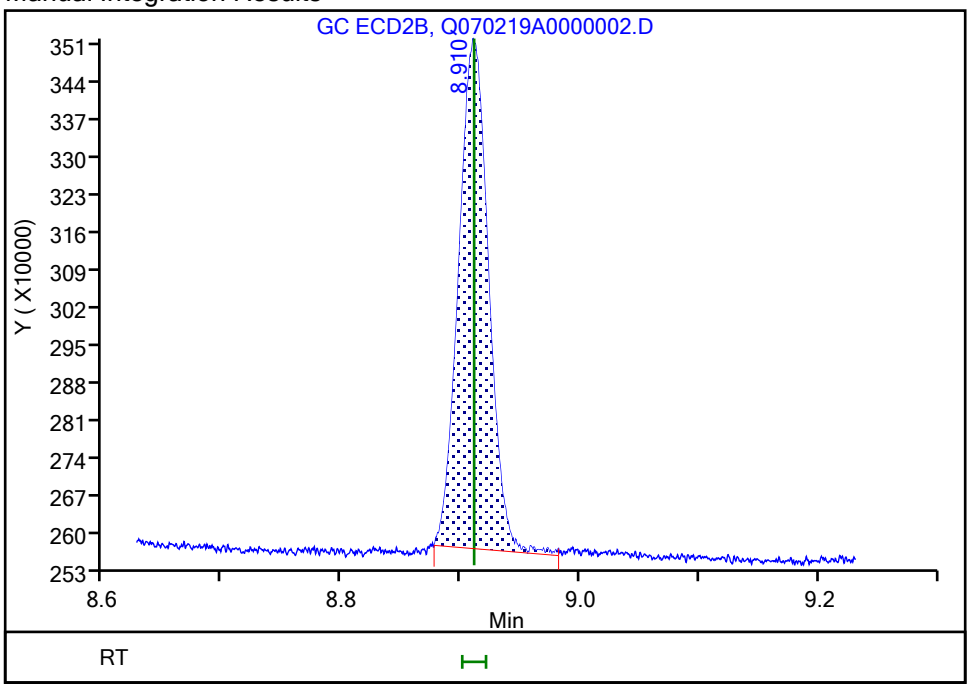

Reviewer: eppinged, 03-Jul-2019 07:18:13
Audit Action: Assigned Compound ID Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000002.D				
Injection Date:	02-Jul-2019 15:33:05	Instrument ID:	CHGC15		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

$ 39 DCB Decachlorobiphenyl (Surr), CAS: 2051-24-3

Signal: 2

Processing Integration Results

RT: 10.62
Height: 668950
Amount: 0.001156
Amount Units: ng

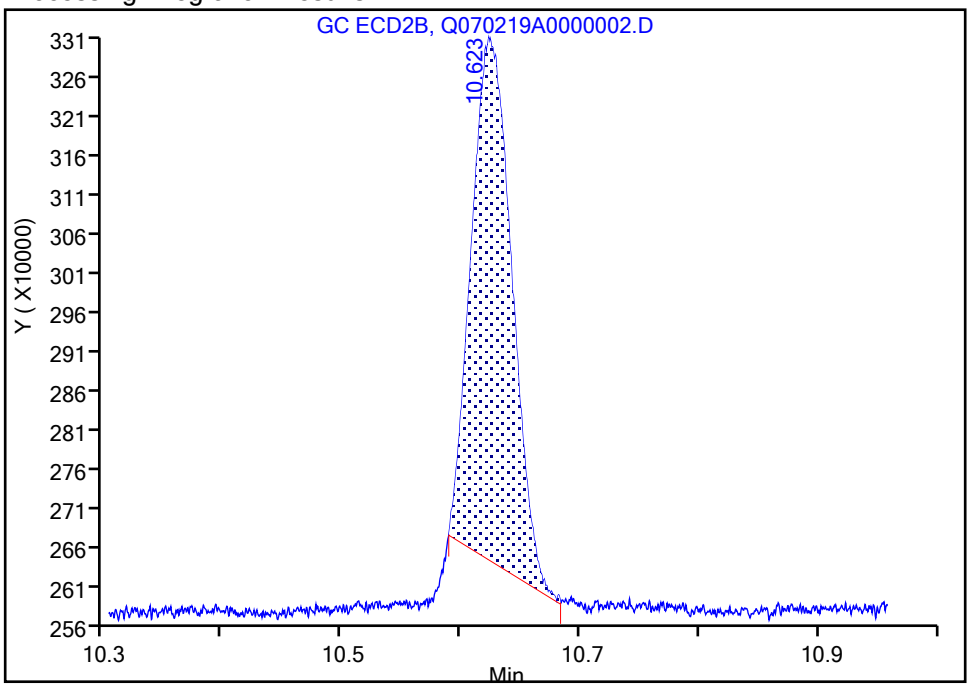

Manual Integration Results

RT: 10.62
Height: 727105
Amount: 0.001236
Amount Units: ng

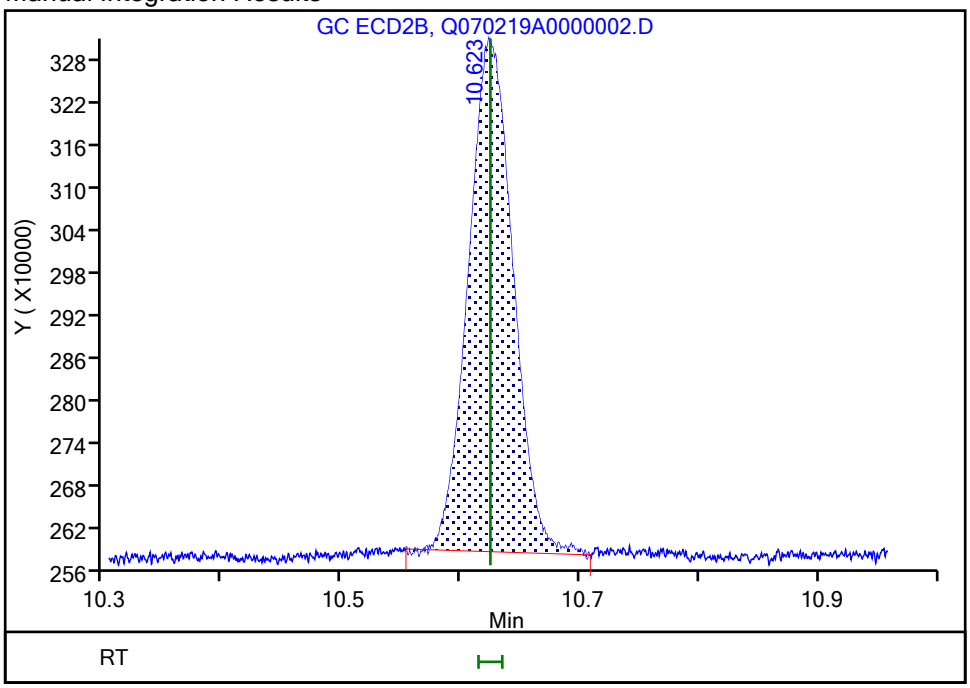

Reviewer: eppinged, 03-Jul-2019 07:18:26

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000003.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 02-Jul-2019 15:48:40 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0027593-003
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub6

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Jul-2019 07:33:25 Calib Date: 02-Jul-2019 16:50:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000007.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0303

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.790	3.790	0.000	137267512H	0.1000	0.1000	
2	4.050	4.050	0.000	145178058H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.786	4.786	0.000	10257000H	0.005000	0.005416	
2	4.926	4.926	0.000	11304521H	0.005000	0.005766	
						RPD = 6.27	
5 alpha-BHC							
1	5.152	5.152	0.000	11590791H	0.005000	0.005331	
2	5.397	5.397	0.000	12354599H	0.005000	0.005615	
						RPD = 5.19	
7 gamma-BHC (Lindane)							
1	5.416	5.416	0.000	10231399H	0.005000	0.005338	
2	5.702	5.702	0.000	10249223H	0.005000	0.005829	
						RPD = 8.78	
8 beta-BHC							
1	5.574	5.574	0.000	4284585H	0.005000	0.005477	
2	5.941	5.941	0.000	4856079H	0.005000	0.005584	
						RPD = 1.95	
10 delta-BHC							
1	5.775	5.775	0.000	9233916H	0.005000	0.005224	
2	6.175	6.175	0.000	9736023H	0.005000	0.005582	
						RPD = 6.64	
11 Heptachlor							
1	5.891	5.891	0.000	9117922H	0.005000	0.005378	
2	6.031	6.031	0.000	9219606H	0.005000	0.005633	
						RPD = 4.63	
13 Aldrin							
1	6.173	6.173	0.000	9354962H	0.005000	0.005337	
2	6.303	6.303	0.000	9117793H	0.005000	0.005631	
						RPD = 5.35	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
16 Heptachlor epoxide							
1	6.530	6.531	-0.001	8388728H	0.005000	0.005501	
2	6.754	6.753	0.001	8239575H	0.005000	0.005801	
						RPD = 5.30	
18 trans-Chlordane							
1	6.749	6.748	0.001	8472873H	0.005000	0.005359	
2	6.983	6.982	0.001	8267839H	0.005000	0.005564	
						RPD = 3.75	
20 cis-Chlordane							
1	6.815	6.816	-0.001	8246101H	0.005000	0.005327	
2	7.043	7.043	0.000	8196263H	0.005000	0.005691	
						RPD = 6.60	
21 Endosulfan I							
1	6.860	6.860	0.000	7565053H	0.005000	0.005425	
2	7.113	7.112	0.001	7309694H	0.005000	0.005898	
						RPD = 8.35	
23 4,4'-DDE							
1	6.966	6.966	0.000	7934988H	0.005000	0.005367	
2	7.178	7.177	0.001	8029732H	0.005000	0.005572	
						RPD = 3.75	
24 Dieldrin							
1	7.098	7.098	0.000	8523069H	0.005000	0.005593	
2	7.358	7.359	-0.001	8231358H	0.005000	0.005619	
						RPD = 0.46	
27 Endrin							
1	7.300	7.299	0.001	7007470H	0.005000	0.005749	
2	7.628	7.628	0.000	6570065H	0.005000	0.005731	
						RPD = 0.31	
29 4,4'-DDD							
1	7.423	7.423	0.000	6624073H	0.005000	0.005468	
2	7.698	7.698	0.000	6365986H	0.005000	0.005527	
						RPD = 1.06	
31 Endosulfan II							
1	7.495	7.496	-0.001	6304396H	0.005000	0.005672	
2	7.891	7.890	0.001	6144588H	0.005000	0.005717	
						RPD = 0.78	
32 Endrin aldehyde							
1	7.612	7.613	-0.001	5343520H	0.005000	0.005669	
2	8.058	8.058	0.000	4900727H	0.005000	0.005680	
						RPD = 0.20	
33 4,4'-DDT							
1	7.703	7.702	0.001	4703883H	0.005000	0.004909	
2	7.944	7.944	0.000	4406262H	0.005000	0.004829	
						RPD = 1.64	
35 Endosulfan sulfate							
1	7.821	7.822	-0.001	6743296H	0.005000	0.005632	
2	8.284	8.284	0.000	5812772H	0.005000	0.005690	
						RPD = 1.02	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Methoxychlor							
1	8.147	8.148	-0.001	2057810H	0.005000	0.004915	
2	8.518	8.518	0.000	1818014H	0.005000	0.004815	
						RPD = 2.05	
* 44 Dibutylchlorendate ISTD							
1	8.230	8.231	0.000	103768708H	0.1000	0.1000	
2	8.333	8.333	0.000	87256197H	0.1000	0.1000	
37 Endrin ketone							
1	8.277	8.278	-0.001	6063372H	0.005000	0.005616	
2	8.911	8.911	0.000	5207977H	0.005000	0.005679	
						RPD = 1.10	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.025	10.022	0.003	4032706H	0.005000	0.005618	
2	10.625	10.624	0.001	3449354H	0.005000	0.005604	
						RPD = 0.26	

Reagents:

GCPestL2_00022 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 03-Jul-2019 07:33:26 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000003.D				
Injection Date:	02-Jul-2019 15:48:40	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

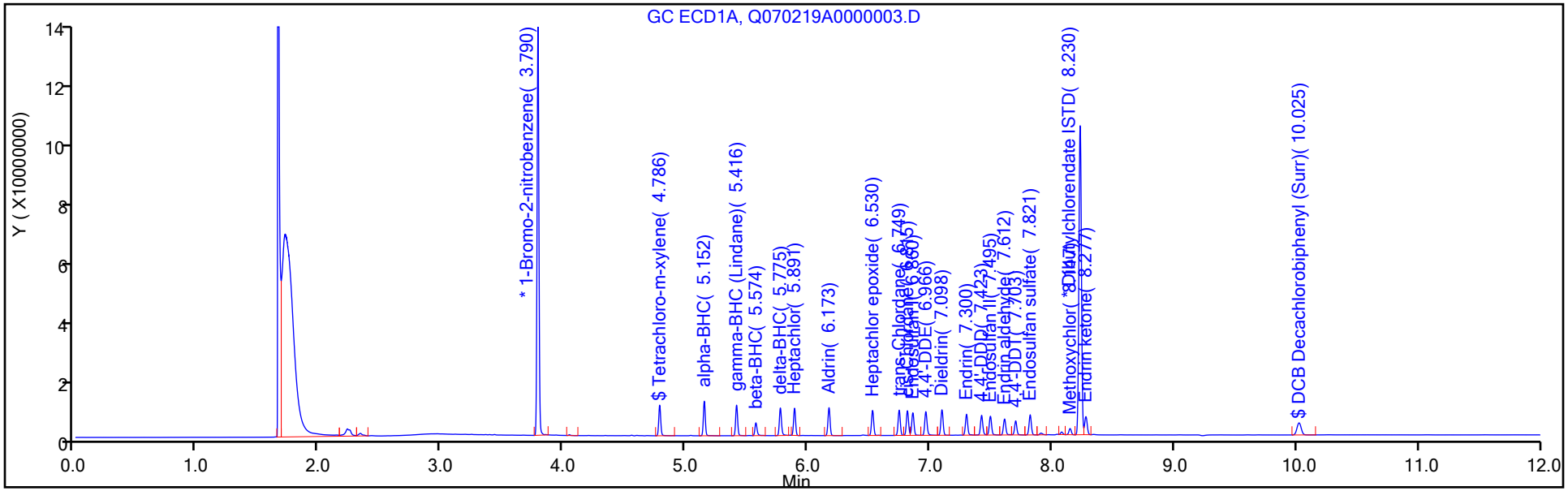

Column: MR-2 (0.53 mm)

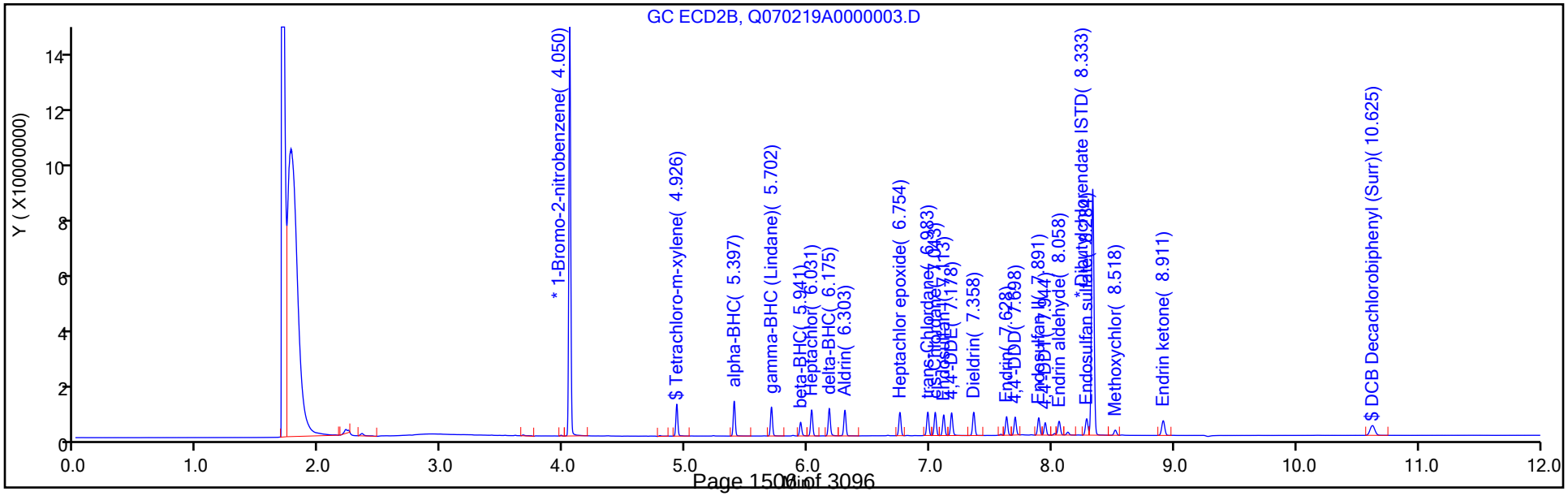

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000004.D
Lims ID: ICIS
Client ID:
Sample Type: ICIS Calib Level: 3
Inject. Date: 02-Jul-2019 16:04:11 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0027593-004
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub6

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Jul-2019 07:33:30 Calib Date: 02-Jul-2019 16:50:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000007.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0303

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.790	3.790	0.000	134728476H	0.1000	0.1000	
2	4.050	4.050	0.000	139364553H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.786	4.786	0.000	49570340H	0.0250	0.0267	
2	4.926	4.926	0.000	50834390H	0.0250	0.0270	
						RPD = 1.28	
5 alpha-BHC							
1	5.152	5.152	0.000	56627140H	0.0250	0.0265	
2	5.397	5.397	0.000	56543319H	0.0250	0.0268	
						RPD = 0.88	
7 gamma-BHC (Lindane)							
1	5.416	5.416	0.000	49762728H	0.0250	0.0265	
2	5.702	5.702	0.000	41615868H	0.0250	0.0247	
						RPD = 7.04	
8 beta-BHC							
1	5.574	5.574	0.000	18529847H	0.0250	0.0241	
2	5.941	5.941	0.000	21846719H	0.0250	0.0262	
						RPD = 8.11	
10 delta-BHC							
1	5.775	5.775	0.000	46599582H	0.0250	0.0269	
2	6.175	6.175	0.000	45487250H	0.0250	0.0272	
						RPD = 1.15	
11 Heptachlor							
1	5.891	5.891	0.000	43964489H	0.0250	0.0264	
2	6.031	6.031	0.000	42216816H	0.0250	0.0269	
						RPD = 1.69	
13 Aldrin							
1	6.173	6.173	0.000	46503340H	0.0250	0.0270	
2	6.303	6.303	0.000	42736382H	0.0250	0.0275	
						RPD = 1.70	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
16 Heptachlor epoxide							
1	6.531	6.531	0.000	39669842H	0.0250	0.0265	
2	6.753	6.753	0.000	35311704H	0.0250	0.0259	
						RPD = 2.32	
18 trans-Chlordane							
1	6.748	6.748	0.000	40965161H	0.0250	0.0264	
2	6.982	6.982	0.000	38686957H	0.0250	0.0271	
						RPD = 2.70	
20 cis-Chlordane							
1	6.816	6.816	0.000	40240274H	0.0250	0.0265	
2	7.043	7.043	0.000	36497959H	0.0250	0.0264	
						RPD = 0.34	
21 Endosulfan I							
1	6.860	6.860	0.000	36860436H	0.0250	0.0269	
2	7.112	7.112	0.000	29095955H	0.0250	0.0245	
						RPD = 9.64	
23 4,4'-DDE							
1	6.966	6.966	0.000	39905011H	0.0250	0.0263	
2	7.177	7.177	0.000	37479016H	0.0250	0.0263	
						RPD = 0.07	
24 Dieldrin							
1	7.098	7.098	0.000	39539616H	0.0250	0.0253	
2	7.359	7.359	0.000	38734829H	0.0250	0.0268	
						RPD = 5.66	
27 Endrin							
1	7.299	7.299	0.000	30217332H	0.0250	0.0242	
2	7.628	7.628	0.000	30042801H	0.0250	0.0266	
						RPD = 9.33	
29 4,4'-DDD							
1	7.423	7.423	0.000	30133979H	0.0250	0.0243	
2	7.698	7.698	0.000	29747857H	0.0250	0.0262	
						RPD = 7.52	
31 Endosulfan II							
1	7.496	7.496	0.000	28732230H	0.0250	0.0252	
2	7.890	7.890	0.000	28196744H	0.0250	0.0266	
						RPD = 5.25	
32 Endrin aldehyde							
1	7.613	7.613	0.000	24965258H	0.0250	0.0258	
2	8.058	8.058	0.000	22594648H	0.0250	0.0265	
						RPD = 2.65	
33 4,4'-DDT							
1	7.702	7.702	0.000	25253961H	0.0250	0.0257	
2	7.944	7.944	0.000	24882266H	0.0250	0.0276	
						RPD = 7.19	
35 Endosulfan sulfate							
1	7.822	7.822	0.000	31039318H	0.0250	0.0253	
2	8.284	8.284	0.000	26494128H	0.0250	0.0263	
						RPD = 3.81	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Methoxychlor							
1	8.148	8.148	0.000	10678849H	0.0250	0.0249	
2	8.518	8.518	0.000	10044910H	0.0250	0.0270	
						RPD = 8.00	
* 44 Dibutylchlorendate ISTD							
1	8.231	8.231	0.000	106364717H	0.1000	0.1000	
2	8.333	8.333	0.000	86123216H	0.1000	0.1000	
37 Endrin ketone							
1	8.278	8.278	0.000	28484045H	0.0250	0.0257	
2	8.911	8.911	0.000	24054751H	0.0250	0.0266	
						RPD = 3.19	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.022	10.022	0.000	18636943H	0.0250	0.0253	
2	10.624	10.624	0.000	15394847H	0.0250	0.0253	
						RPD = 0.04	

Reagents:

GCPestL3_00028 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 03-Jul-2019 07:33:31 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000004.D				
Injection Date:	02-Jul-2019 16:04:11	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	ICIS			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

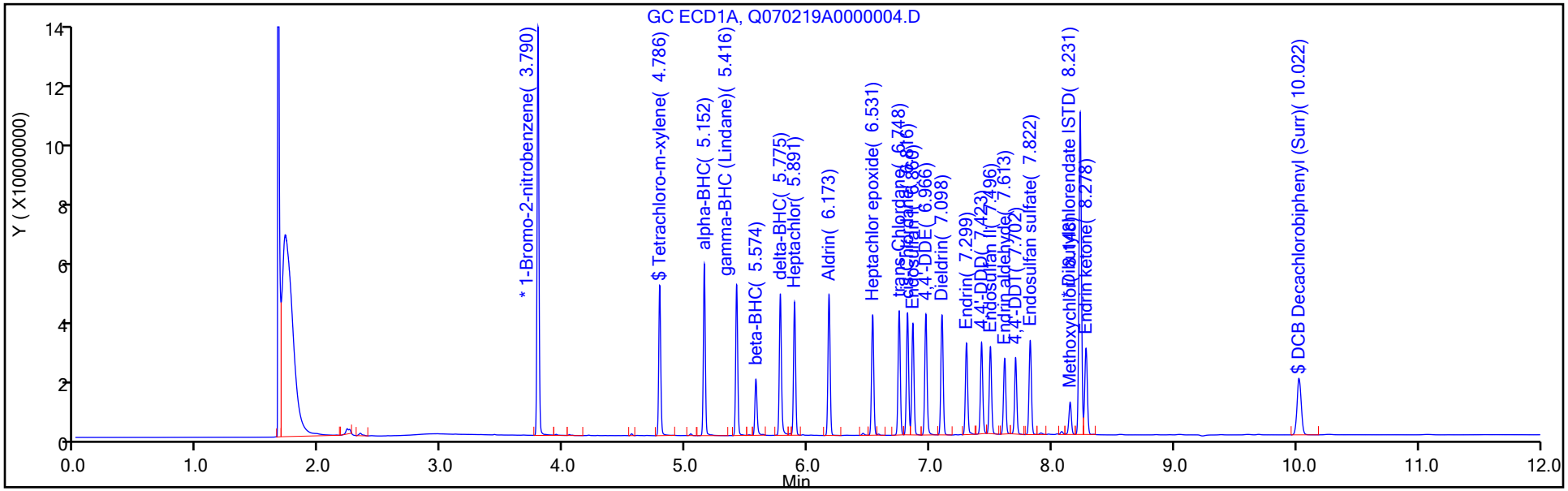

Column: MR-2 (0.53 mm)

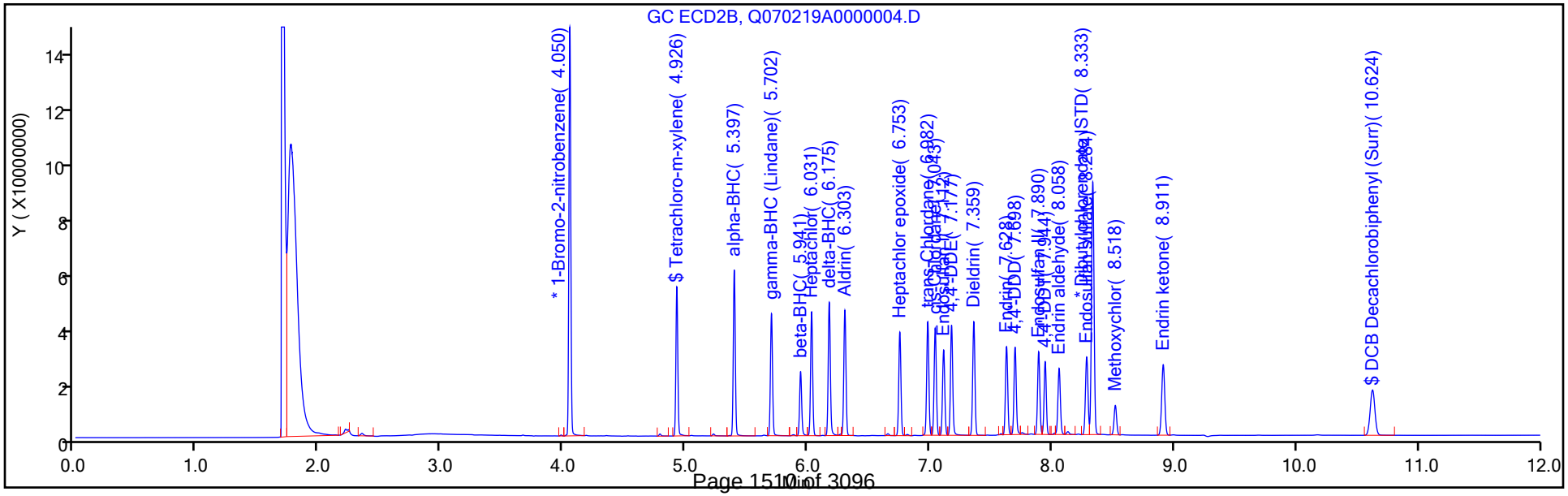

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000005.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 02-Jul-2019 16:19:38 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0027593-005
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub6

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Jul-2019 07:33:39 Calib Date: 02-Jul-2019 16:50:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000007.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0303

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.789	3.790	-0.001	139717397H	0.1000	0.1000	
2	4.050	4.050	0.000	146939526H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.786	4.786	0.000	94555396H	0.0500	0.0491	
2	4.927	4.926	0.001	95267385H	0.0500	0.0480	
						RPD = 2.14	
5 alpha-BHC							
1	5.152	5.152	0.000	110931113H	0.0500	0.0501	
2	5.397	5.397	0.000	109891836H	0.0500	0.0493	
						RPD = 1.57	
7 gamma-BHC (Lindane)							
1	5.417	5.416	0.001	98106565H	0.0500	0.0503	
2	5.702	5.702	0.000	90339526H	0.0500	0.0508	
						RPD = 0.93	
8 beta-BHC							
1	5.574	5.574	0.000	39121214H	0.0500	0.0491	
2	5.941	5.941	0.000	42549910H	0.0500	0.0483	
						RPD = 1.61	
10 delta-BHC							
1	5.774	5.775	-0.001	91334892H	0.0500	0.0508	
2	6.175	6.175	0.000	88817927H	0.0500	0.0503	
						RPD = 0.88	
11 Heptachlor							
1	5.891	5.891	0.000	88477634H	0.0500	0.0513	
2	6.031	6.031	0.000	81076882H	0.0500	0.0489	
						RPD = 4.65	
13 Aldrin							
1	6.173	6.173	0.000	91430283H	0.0500	0.0512	
2	6.304	6.303	0.001	80259739H	0.0500	0.0490	
						RPD = 4.54	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
16 Heptachlor epoxide							
1	6.530	6.531	-0.001	78634029H	0.0500	0.0507	
2	6.754	6.753	0.001	71180275H	0.0500	0.0495	
						RPD = 2.30	
18 trans-Chlordane							
1	6.746	6.748	-0.002	80980332H	0.0500	0.0503	
2	6.982	6.982	0.000	73708352H	0.0500	0.0490	
						RPD = 2.65	
20 cis-Chlordane							
1	6.815	6.816	-0.001	80670687H	0.0500	0.0512	
2	7.044	7.043	0.001	71643263H	0.0500	0.0491	
						RPD = 4.10	
21 Endosulfan I							
1	6.859	6.860	-0.001	71888745H	0.0500	0.0506	
2	7.113	7.112	0.001	64345269H	0.0500	0.0513	
						RPD = 1.27	
23 4,4'-DDE							
1	6.966	6.966	0.000	81234371H	0.0500	0.0518	
2	7.177	7.177	0.000	73455869H	0.0500	0.0499	
						RPD = 3.67	
24 Dieldrin							
1	7.099	7.098	0.001	82630996H	0.0500	0.0511	
2	7.359	7.359	0.000	74140784H	0.0500	0.0496	
						RPD = 3.07	
27 Endrin							
1	7.299	7.299	0.000	64884205H	0.0500	0.0502	
2	7.628	7.628	0.000	57556749H	0.0500	0.0492	
						RPD = 2.02	
29 4,4'-DDD							
1	7.423	7.423	0.000	61288773H	0.0500	0.0477	
2	7.697	7.698	-0.001	58278174H	0.0500	0.0496	
						RPD = 3.83	
31 Endosulfan II							
1	7.495	7.496	-0.001	60598209H	0.0500	0.0514	
2	7.891	7.890	0.001	53475969H	0.0500	0.0487	
						RPD = 5.32	
32 Endrin aldehyde							
1	7.611	7.613	-0.002	51807698H	0.0500	0.0518	
2	8.058	8.058	0.000	44764508H	0.0500	0.0508	
						RPD = 1.93	
33 4,4'-DDT							
1	7.701	7.702	-0.001	51832991H	0.0500	0.0510	
2	7.944	7.944	0.000	51006738H	0.0500	0.0548	
						RPD = 7.12	
35 Endosulfan sulfate							
1	7.821	7.822	-0.001	62085211H	0.0500	0.0489	
2	8.283	8.284	-0.001	51546603H	0.0500	0.0494	
						RPD = 1.10	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Methoxychlor							
1	8.148	8.148	0.000	22088404H	0.0500	0.0497	
2	8.519	8.518	0.001	19977262H	0.0500	0.0518	
						RPD = 4.12	
* 44 Dibutylchlorendate ISTD							
1	8.230	8.231	0.000	110088335H	0.1000	0.1000	
2	8.334	8.333	0.000	89092403H	0.1000	0.1000	
37 Endrin ketone							
1	8.278	8.278	0.000	57868536H	0.0500	0.0505	
2	8.911	8.911	0.000	46810022H	0.0500	0.0500	
						RPD = 1.07	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.023	10.022	0.001	37887621H	0.0500	0.0498	
2	10.626	10.624	0.002	30341087H	0.0500	0.0483	
						RPD = 3.01	

Reagents:

GCPestL4_00021 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 03-Jul-2019 07:33:40 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000005.D				
Injection Date:	02-Jul-2019 16:19:38	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

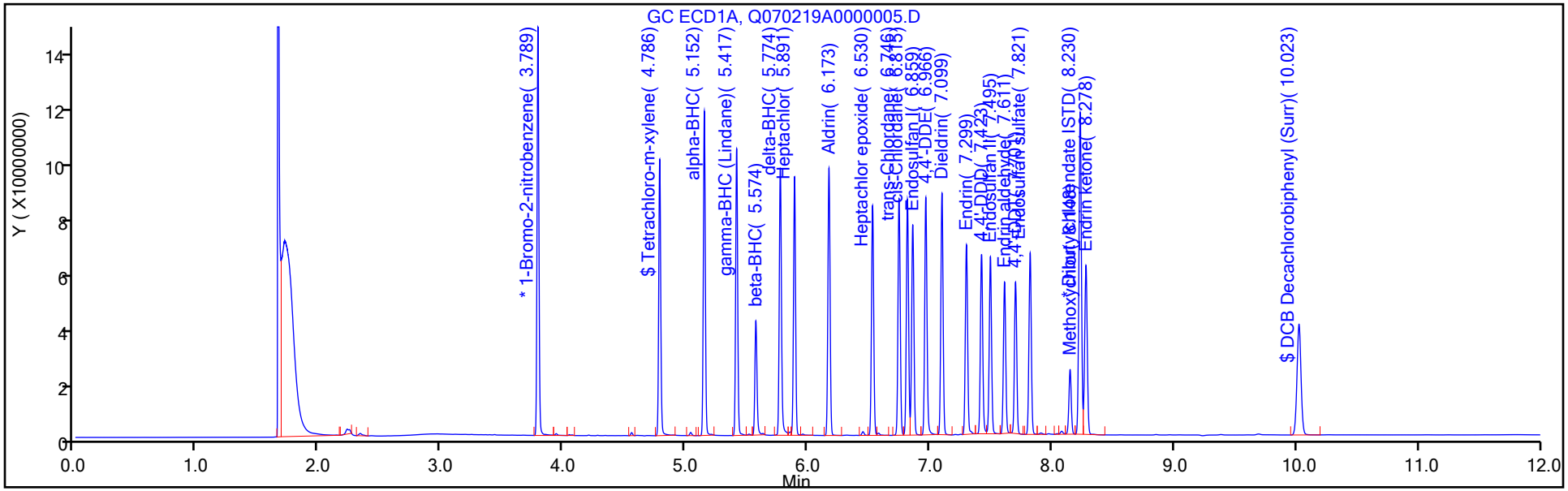

Column: MR-2 (0.53 mm)

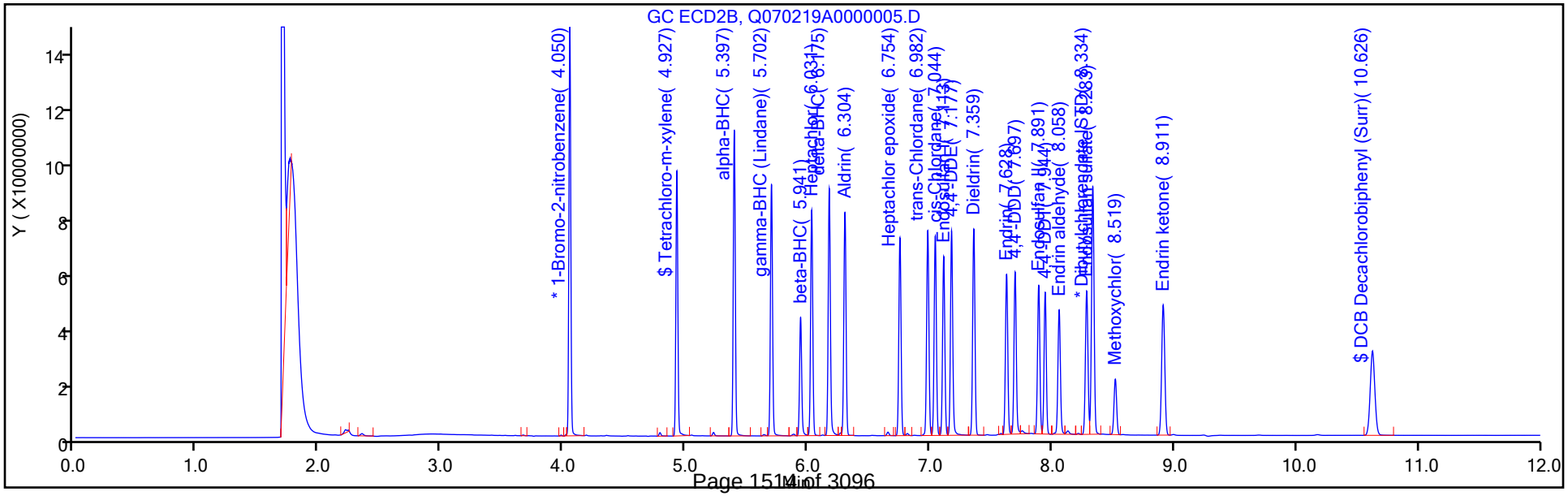

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000006.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 02-Jul-2019 16:35:11 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0027593-006
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub6

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Jul-2019 07:33:45 Calib Date: 02-Jul-2019 16:50:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000007.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0303

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.789	3.790	-0.001	146837425H	0.1000	0.1000	
2	4.051	4.050	0.000	154945898H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.786	4.786	0.000	193673600H	0.1000	0.0956	
2	4.927	4.926	0.001	183461136H	0.1000	0.0877	
						RPD = 8.64	
5 alpha-BHC							
1	5.152	5.152	0.000	231686599H	0.1000	0.0996	
2	5.397	5.397	0.000	214465513H	0.1000	0.0913	
						RPD = 8.68	
7 gamma-BHC (Lindane)							
1	5.416	5.416	0.000	203801432H	0.1000	0.0994	
2	5.702	5.702	0.000	171559392H	0.1000	0.0914	
						RPD = 8.38	
8 beta-BHC							
1	5.574	5.574	0.000	78943016H	0.1000	0.0943	
2	5.940	5.941	-0.001	82900267H	0.1000	0.0893	
						RPD = 5.45	
10 delta-BHC							
1	5.774	5.775	-0.001	192429442H	0.1000	0.1018	
2	6.175	6.175	0.000	171513755H	0.1000	0.0921	
						RPD = 9.92	
11 Heptachlor							
1	5.891	5.891	0.000	170485322H	0.1000	0.0940	
2	6.031	6.031	0.000	153023660H	0.1000	0.0876	
						RPD = 7.05	
13 Aldrin							
1	6.173	6.173	0.000	180787104H	0.1000	0.0964	
2	6.304	6.303	0.001	157021197H	0.1000	0.0909	
						RPD = 5.94	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
16 Heptachlor epoxide							
1	6.530	6.531	-0.001	153673569H	0.1000	0.0942	
2	6.754	6.753	0.001	133369120H	0.1000	0.0880	
						RPD = 6.84	
18 trans-Chlordane							
1	6.747	6.748	-0.001	162688244H	0.1000	0.0962	
2	6.982	6.982	0.000	144028880H	0.1000	0.0908	
						RPD = 5.75	
20 cis-Chlordane							
1	6.816	6.816	0.000	156147417H	0.1000	0.0943	
2	7.043	7.043	0.000	135814370H	0.1000	0.0884	
						RPD = 6.51	
21 Endosulfan I							
1	6.860	6.860	0.000	140588433H	0.1000	0.0942	
2	7.112	7.112	0.000	116783952H	0.1000	0.0883	
						RPD = 6.53	
23 4,4'-DDE							
1	6.965	6.966	-0.001	157013228H	0.1000	0.0932	
2	7.177	7.177	0.000	142540987H	0.1000	0.0895	
						RPD = 4.02	
24 Dieldrin							
1	7.099	7.098	0.001	163230347H	0.1000	0.0940	
2	7.360	7.359	0.001	140182828H	0.1000	0.0866	
						RPD = 8.19	
27 Endrin							
1	7.299	7.299	0.000	132039614H	0.1000	0.0951	
2	7.628	7.628	0.000	109731944H	0.1000	0.0866	
						RPD = 9.28	
29 4,4'-DDD							
1	7.422	7.423	-0.001	125725826H	0.1000	0.0911	
2	7.697	7.698	-0.001	115836094H	0.1000	0.0910	
						RPD = 0.07	
31 Endosulfan II							
1	7.494	7.496	-0.002	118662807H	0.1000	0.0937	
2	7.891	7.890	0.001	103885415H	0.1000	0.0875	
						RPD = 6.86	
32 Endrin aldehyde							
1	7.611	7.613	-0.002	101938655H	0.1000	0.0949	
2	8.058	8.058	0.000	85599428H	0.1000	0.0898	
						RPD = 5.53	
33 4,4'-DDT							
1	7.701	7.702	-0.001	112573721H	0.1000	0.1031	
2	7.944	7.944	0.000	104673667H	0.1000	0.1038	
						RPD = 0.70	
35 Endosulfan sulfate							
1	7.820	7.822	-0.002	126937392H	0.1000	0.0930	
2	8.285	8.284	0.001	98756309H	0.1000	0.0875	
						RPD = 6.15	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Methoxychlor							
1	8.146	8.148	-0.002	47421187H	0.1000	0.0994	
2	8.518	8.518	0.000	41235733H	0.1000	0.0988	
						RPD = 0.55	
* 44 Dibutylchlorendate ISTD							
1	8.230	8.231	0.000	118266735H	0.1000	0.1000	
2	8.334	8.333	0.001	96426742H	0.1000	0.1000	
37 Endrin ketone							
1	8.277	8.278	-0.001	110158978H	0.1000	0.0895	
2	8.911	8.911	0.000	89834162H	0.1000	0.0886	
						RPD = 1.00	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.022	10.022	0.000	72700543H	0.1000	0.0889	
2	10.625	10.624	0.001	57649966H	0.1000	0.0847	
						RPD = 4.74	

Reagents:

GCPestL5_00021	Amount Added: 1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added: 0.02	Units: mL	Run Reagent

Report Date: 03-Jul-2019 07:33:46 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000006.D				
Injection Date:	02-Jul-2019 16:35:11	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

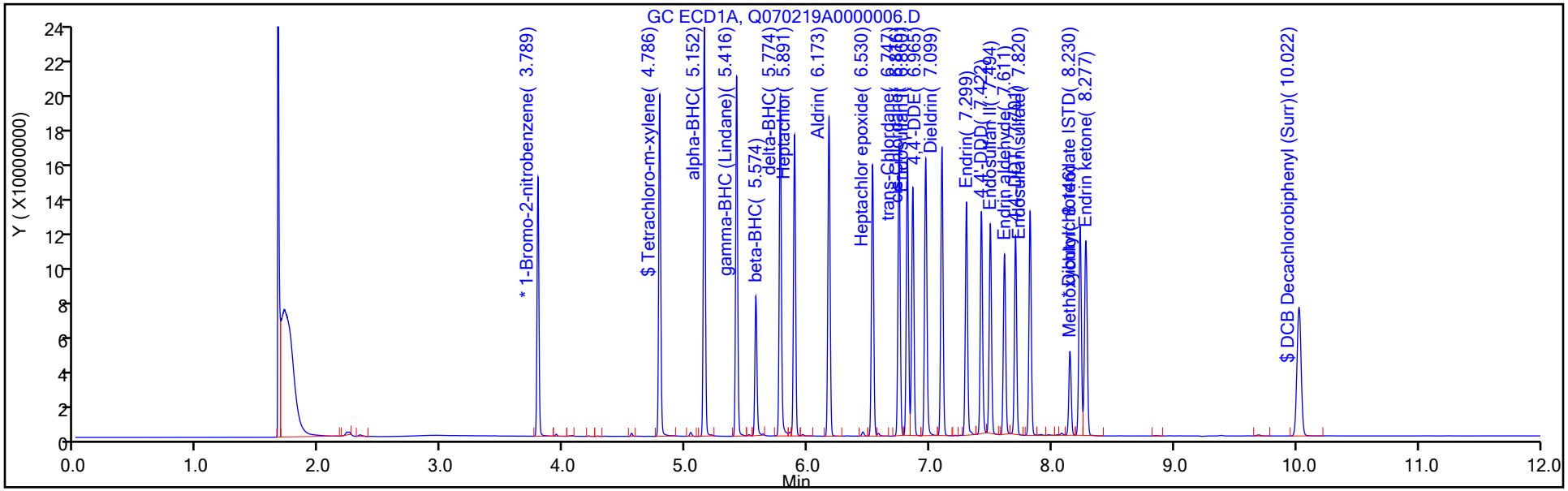

Column: MR-2 (0.53 mm)

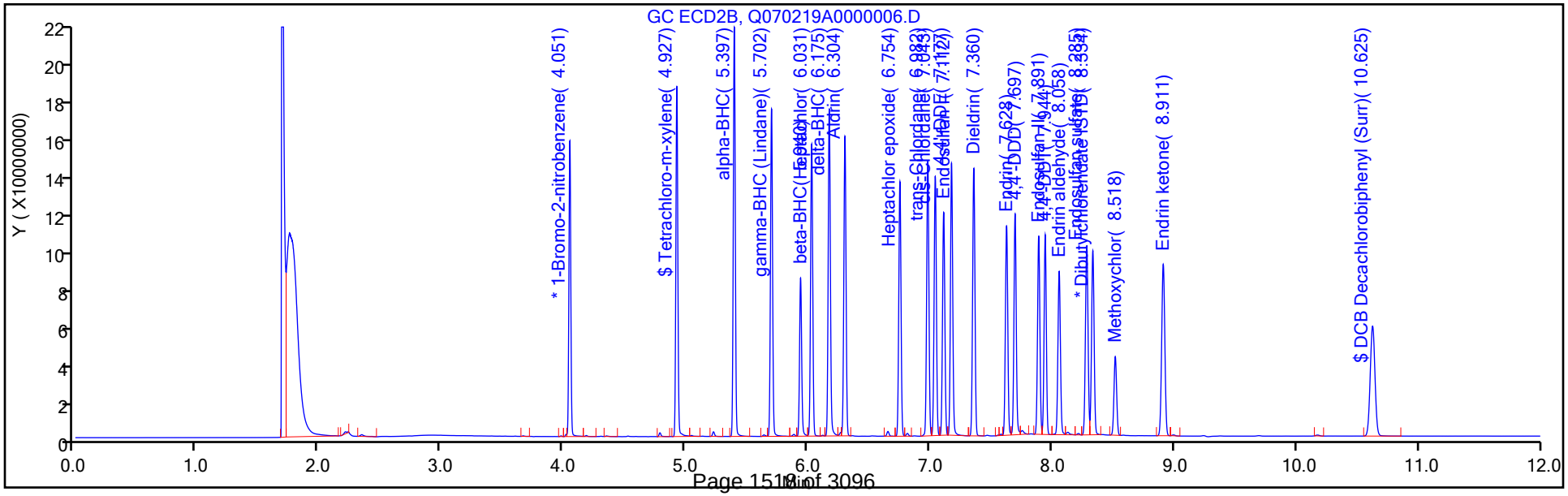

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000007.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 02-Jul-2019 16:50:46 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0027593-007
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub6

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Jul-2019 07:33:52 Calib Date: 02-Jul-2019 16:50:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000007.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0303

First Level Reviewer: eppinged Date: 03-Jul-2019 07:29:30

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.789	3.790	0.000	149217071H	0.1000	0.1000	
2	4.050	4.050	0.000	153864406H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.787	4.786	0.001	376043302H	0.2000	0.1827	
2	4.927	4.926	0.001	344970277H	0.2000	0.1660	
						RPD = 9.54	
5 alpha-BHC							
1	5.152	5.152	0.000	451879422H	0.2000	0.1912	
2	5.398	5.397	0.001	408778231H	0.2000	0.1753	
						RPD = 8.67	
7 gamma-BHC (Lindane)							
1	5.416	5.416	0.000	387323512H	0.2000	0.1859	
2	5.702	5.702	0.000	333010934H	0.2000	0.1787	
						RPD = 3.96	
8 beta-BHC							
1	5.574	5.574	0.000	158096293H	0.2000	0.1859	
2	5.941	5.941	0.000	156069095H	0.2000	0.1693	
						RPD = 9.32	
10 delta-BHC							
1	5.775	5.775	0.000	364096452H	0.2000	0.1895	
2	6.175	6.175	0.000	327786953H	0.2000	0.1773	
						RPD = 6.62	
11 Heptachlor							
1	5.890	5.891	-0.001	327482449H	0.2000	0.1777	
2	6.031	6.031	0.000	289335081H	0.2000	0.1668	
						RPD = 6.32	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
13 Aldrin							
1	6.173	6.173	0.000	349274141H	0.2000	0.1833	
2	6.304	6.303	0.001	289103662H	0.2000	0.1685	
						RPD = 8.44	
16 Heptachlor epoxide							
1	6.530	6.531	-0.001	289780219H	0.2000	0.1748	
2	6.755	6.753	0.002	246550496H	0.2000	0.1638	
						RPD = 6.52	
18 trans-Chlordane							
1	6.747	6.748	-0.001	316624517H	0.2000	0.1842	
2	6.982	6.982	0.000	268655136H	0.2000	0.1706	
						RPD = 7.69	
20 cis-Chlordane							
1	6.816	6.816	0.000	307507543H	0.2000	0.1828	
2	7.044	7.043	0.001	256179531H	0.2000	0.1678	
						RPD = 8.51	
21 Endosulfan I							
1	6.860	6.860	0.000	271099075H	0.2000	0.1788	
2	7.113	7.112	0.001	217597309H	0.2000	0.1657	
						RPD = 7.65	
23 4,4'-DDE							
1	6.966	6.966	0.000	307301442H	0.2000	0.1840	
2	7.177	7.177	0.000	262418619H	0.2000	0.1690	
						RPD = 8.50	
24 Dieldrin							
1	7.099	7.098	0.001	307016408H	0.2000	0.1783	
2	7.359	7.359	0.000	265657589H	0.2000	0.1683	
						RPD = 5.81	
27 Endrin							
1	7.300	7.299	0.001	244436882H	0.2000	0.1775	
2	7.628	7.628	0.000	203905580H	0.2000	0.1651	
						RPD = 7.28	
29 4,4'-DDD							
1	7.422	7.423	-0.001	234129054H	0.2000	0.1711	
2	7.697	7.698	-0.001	213777836H	0.2000	0.1722	
						RPD = 0.66	
31 Endosulfan II							
1	7.495	7.496	-0.001	221420031H	0.2000	0.1763	
2	7.890	7.890	0.000	191152311H	0.2000	0.1650	
						RPD = 6.63	
32 Endrin aldehyde							
1	7.611	7.613	-0.002	188877077H	0.2000	0.1774	
2	8.058	8.058	0.000	153130569H	0.2000	0.1647	
						RPD = 7.41	
33 4,4'-DDT							
1	7.702	7.702	0.000	219776259H	0.2000	0.2030	
2	7.944	7.944	0.000	196219157H	0.2000	0.1996	
						RPD = 1.73	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
35 Endosulfan sulfate							
1	7.821	7.822	-0.001	242935995H	0.2000	0.1796	
2	8.284	8.284	0.000	183597930H	0.2000	0.1668	
						RPD = 7.42	
36 Methoxychlor							
1	8.147	8.148	-0.001	92138892H	0.2000	0.1948	
2	8.519	8.518	0.001	78151929H	0.2000	0.1921	
						RPD = 1.41	
* 44 Dibutylchlorendate ISTD							
1	8.230	8.231	-0.001	117230090H	0.1000	0.1000	
2	8.334	8.333	0.001	94035760H	0.1000	0.1000	
37 Endrin ketone							
1	8.277	8.278	-0.001	215771725H	0.2000	0.1769	
2	8.910	8.911	-0.001	165941269H	0.2000	0.1679	
						RPD = 5.23	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	10.022	10.022	0.000	139438691H	0.2000	0.1719	
2	10.625	10.624	0.001	108385207H	0.2000	0.1634	
						RPD = 5.11	

Reagents:

GCPestL6_00021	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 03-Jul-2019 07:33:52 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000007.D				
Injection Date:	02-Jul-2019 16:50:46	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

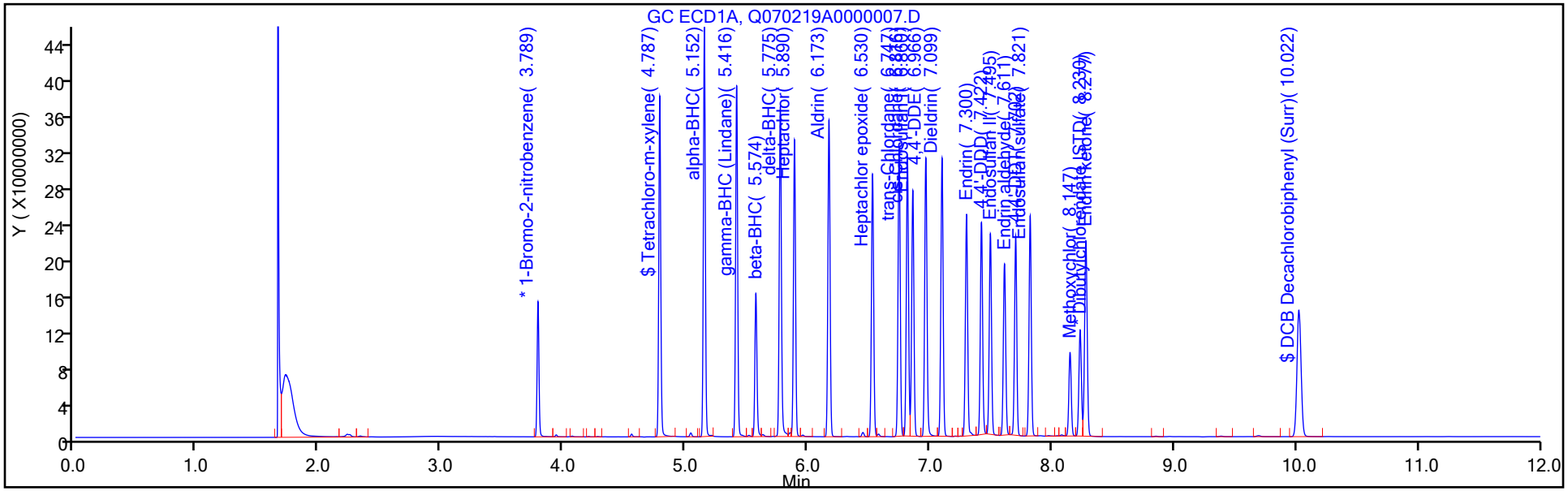

Column: MR-2 (0.53 mm)

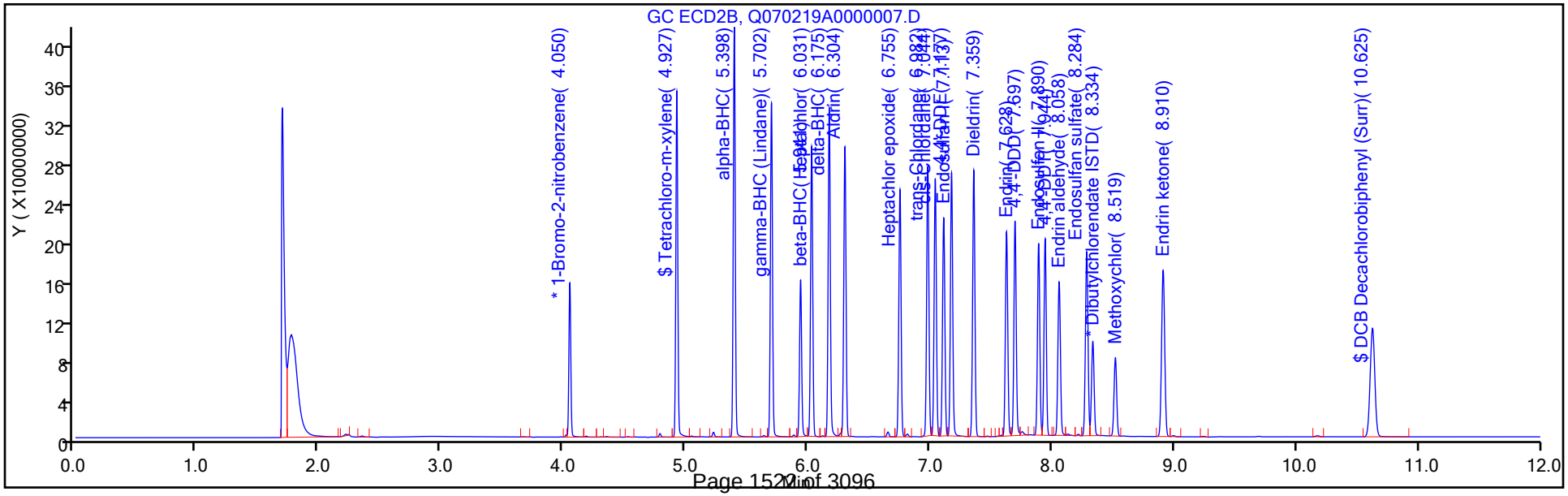

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 291631

SDG No.:

Instrument ID: CHGC15 GC Column: MR-1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 13:44 Calibration End Date: 09/17/2019 15:01 Calibration ID: 41537

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-291631/2	Q0917190000002.D
Level 2	IC 180-291631/3	Q0917190000003.D
Level 3	IC 180-291631/4	Q0917190000004.D
Level 4	IC 180-291631/5	Q0917190000005.D
Level 5	IC 180-291631/6	Q0917190000006.D
Level 6	IC 180-291631/7	Q0917190000007.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Hexachlorobenzene	1.2945 1.1901	1.2837	1.1647	1.1536	1.2183	Ave		1.2175				4.9		20.0			
DCPA	0.9506 0.7898	0.9416	0.8452	0.8339	0.8240	Ave		0.8642				7.7		20.0			
Isodrin	1.0358 0.9625	1.0515	0.9917	0.9140	0.9913	Ave		0.9911				5.0		20.0			
oxy-Chlordane	1.0206 0.9369	1.0464	0.9352	0.9157	0.9457	Ave		0.9667				5.5		20.0			
Chlorobenside	0.3818 +++++	0.4350	0.4984	0.5264	0.6215	Ave		0.4926				18.5		20.0			
Mirex	0.7639 0.6555	0.7687	0.6665	0.6729	0.6827	Ave		0.7017				7.2		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 291631

SDG No.:

Instrument ID: CHGC15 GC Column: MR-1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 13:44 Calibration End Date: 09/17/2019 15:01 Calibration ID: 41537

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-291631/2	Q0917190000002.D
Level 2	IC 180-291631/3	Q0917190000003.D
Level 3	IC 180-291631/4	Q0917190000004.D
Level 4	IC 180-291631/5	Q0917190000005.D
Level 5	IC 180-291631/6	Q0917190000006.D
Level 6	IC 180-291631/7	Q0917190000007.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Hexachlorobenzene	BNB	Ave	1893284 353600804	8919199	43560184	86332638	176640162	0.00100 0.200	0.00500	0.0250	0.0500	0.100
DCPA	BNB	Ave	1390298 234653439	6541923	31610319	62404864	119471511	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Isodrin	BNB	Ave	1514965 285973399	7305724	37088664	68399520	143734615	0.00100 0.200	0.00500	0.0250	0.0500	0.100
oxy-Chlordane	BNB	Ave	1492653 278354836	7270122	34976254	68526717	137118110	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Chlorobenside	BNB	Ave	1116733 +++++	6044219	37279336	78784273	180229792	0.00200 +++++	0.0100	0.0500	0.100	0.200
Mirex	DBC	Ave	788720 141350066	3762593	17763770	35949369	71601401	0.00100 0.200	0.00500	0.0250	0.0500	0.100

Curve Type Legend:
Ave = Average ISTD by Height

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 291631

SDG No.:

Instrument ID: CHGC15 GC Column: MR-1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 13:44 Calibration End Date: 09/17/2019 15:01 Calibration ID: 41537

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-291631/2	Q0917190000002.D
Level 2	IC 180-291631/3	Q0917190000003.D
Level 3	IC 180-291631/4	Q0917190000004.D
Level 4	IC 180-291631/5	Q0917190000005.D
Level 5	IC 180-291631/6	Q0917190000006.D
Level 6	IC 180-291631/7	Q0917190000007.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
Hexachlorobenzene	6.3	5.4	-4.3	-5.2	0.1	-2.2	50	30	30	30	30	30
DCPA	10.0	9.0	-2.2	-3.5	-4.6	-8.6	50	30	30	30	30	30
Isodrin	4.5	6.1	0.1	-7.8	0.0	-2.9	50	30	30	30	30	30
oxy-Chlordane	5.6	8.2	-3.3	-5.3	-2.2	-3.1	50	30	30	30	30	30
Chlorobenside	-22.5	-11.7	1.2	6.9	26.2	+++++	50	30	30	30	30	
Mirex	8.9	9.6	-5.0	-4.1	-2.7	-6.6	50	30	30	30	30	30

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000002.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 17-Sep-2019 13:44:18 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028689-002
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub8

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 18-Sep-2019 08:30:18 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0308

First Level Reviewer: eppinged Date: 18-Sep-2019 07:51:00

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.784	3.783	0.000	146253926H	0.1000	0.1000	
2	4.043	4.043	0.000	145599203H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.170	5.171	-0.001	1893284H	0.001000	0.001063	
2	5.348	5.349	-0.001	2176010H	0.001000	0.001109	
						RPD = 4.23	
12 DCPA							
1	6.081	6.082	-0.001	1390298H	0.001000	0.001100	
2	6.285	6.285	0.000	1419139H	0.001000	0.001093	
						RPD = 0.62	
14 Isodrin							
1	6.425	6.426	-0.001	1514965H	0.001000	0.001045	
2	6.646	6.646	0.000	2574212H	0.001000	0.001060	
						RPD = 1.39	
15 oxy-Chlordane							
1	6.462	6.462	0.000	1492653H	0.001000	0.001056	
2	6.646	6.646	0.000	2574212H	0.001000	0.001060	
						RPD = 0.38	
19 Chlorobenside							
1	6.751	6.747	0.004	1116733H	0.002000	0.001550	
2	7.057	7.054	0.003	1195832H	0.002000	0.001635	
						RPD = 5.36	
* 44 Dibutylchlorendate ISTD							
1	8.194	8.192	0.001	103242793H	0.1000	0.1000	
2	8.319	8.317	0.001	84261755H	0.1000	0.1000	
38 Mirex							
1	8.753	8.751	0.002	788720H	0.001000	0.001089	
2	9.176	9.179	-0.003	650754H	0.001000	0.001063	
						RPD = 2.35	

Reagents:

GCAPPIX1L1_00025	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 18-Sep-2019 08:30:18 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000002.D

Injection Date: 17-Sep-2019 13:44:18 Instrument ID: CHGC15 Operator ID: 402331

Lims ID: IC Worklist Smp#: 2

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 2

Method: IS PEST_CHGC15 Limit Group: GCS 8081B ICAL with IS

Column: MR-1 (0.53 mm)

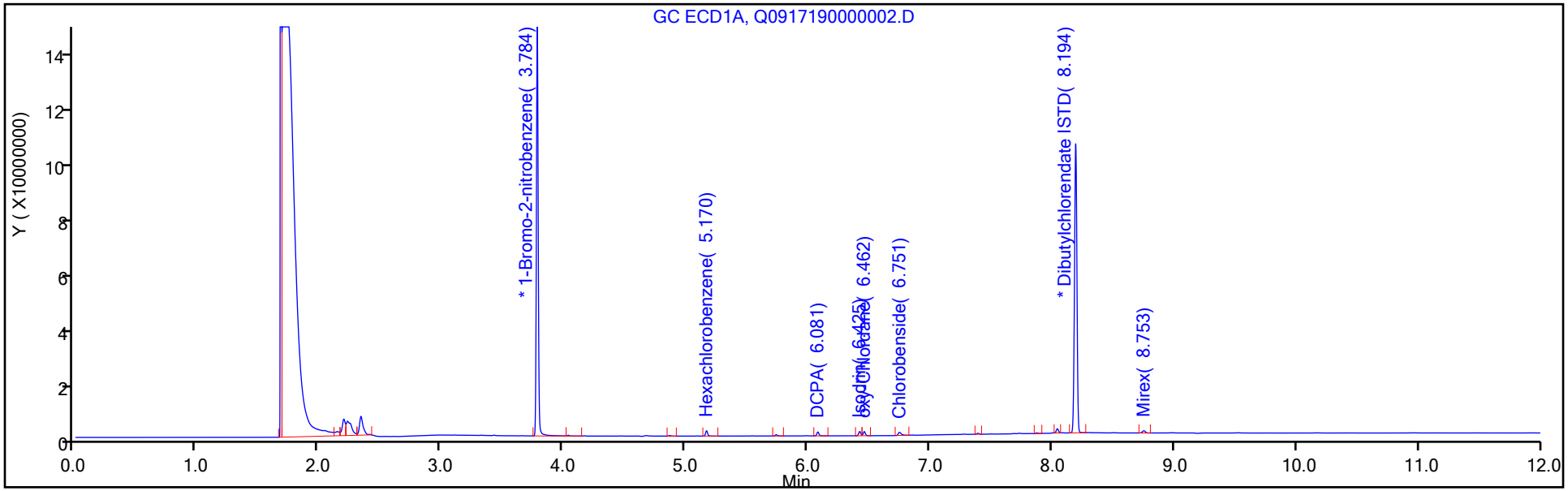

Column: MR-2 (0.53 mm)

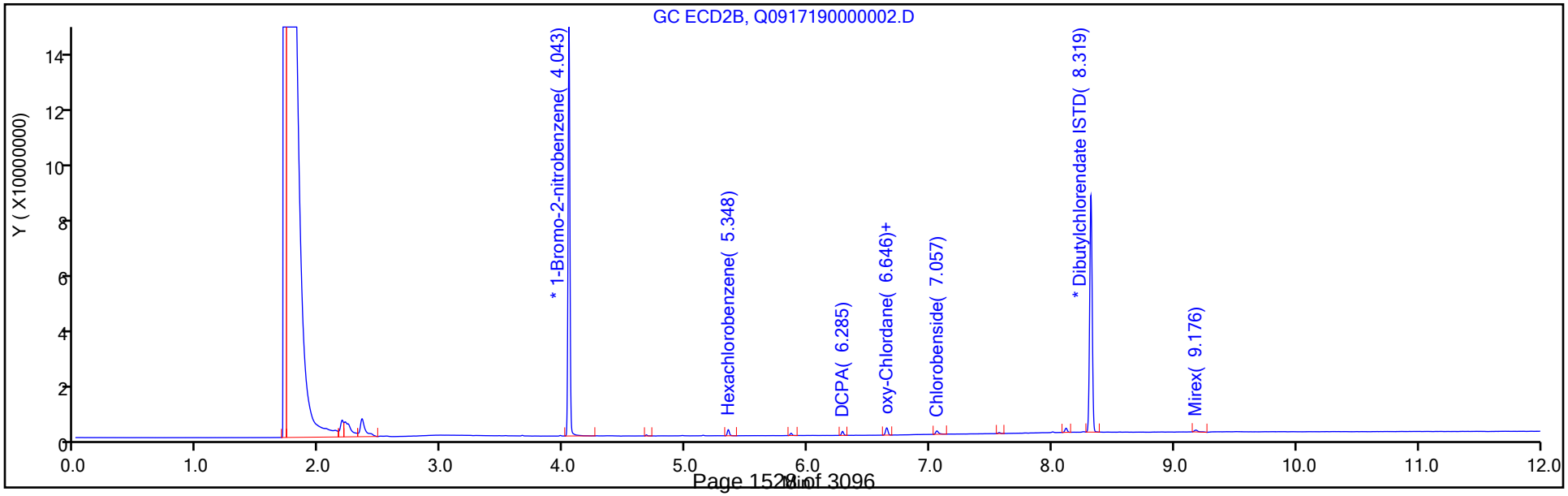

Report Date: 18-Sep-2019 08:30:25 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000003.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 17-Sep-2019 13:59:53 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028689-003
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub8

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 18-Sep-2019 08:30:24 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0308

First Level Reviewer: eppinged Date: 18-Sep-2019 07:51:10

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.783	3.783	0.000	138958289H	0.1000	0.1000	
2	4.043	4.043	0.000	136632422H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.169	5.171	-0.002	8919199H	0.005000	0.005272	
2	5.348	5.349	-0.001	10425335H	0.005000	0.005663	
						RPD = 7.16	
12 DCPA							
1	6.082	6.082	0.000	6541923H	0.005000	0.005448	
2	6.284	6.285	-0.001	6848756H	0.005000	0.005622	
						RPD = 3.15	
14 Isodrin							
1	6.425	6.426	-0.001	7305724H	0.005000	0.005304	
2	6.647	6.646	0.001	13066309H	0.005000	0.005732	
						RPD = 7.74	
15 oxy-Chlordane							
1	6.462	6.462	0.000	7270122H	0.005000	0.005412	
2	6.647	6.646	0.001	13066309H	0.005000	0.005732	
						RPD = 5.74	
19 Chlorobenside							
1	6.751	6.747	0.004	6044219H	0.0100	0.008830	
2	7.056	7.054	0.002	6539481H	0.0100	0.009531	
						RPD = 7.63	
* 44 Dibutylchlorendate ISTD							
1	8.193	8.192	0.001	97889586H	0.1000	0.1000	
2	8.318	8.317	0.001	78733932H	0.1000	0.1000	
38 Mirex							
1	8.751	8.751	0.000	3762593H	0.005000	0.005478	
2	9.176	9.179	-0.003	3206004H	0.005000	0.005607	
						RPD = 2.33	

Reagents:

GCAPPIX1L2_00024	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 18-Sep-2019 08:30:25 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000003.D

Injection Date: 17-Sep-2019 13:59:53 Instrument ID: CHGC15 Operator ID: 402331

Lims ID: IC Worklist Smp#: 3

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 3

Method: IS PEST_CHGC15 Limit Group: GCS 8081B ICAL with IS

Column: MR-1 (0.53 mm)

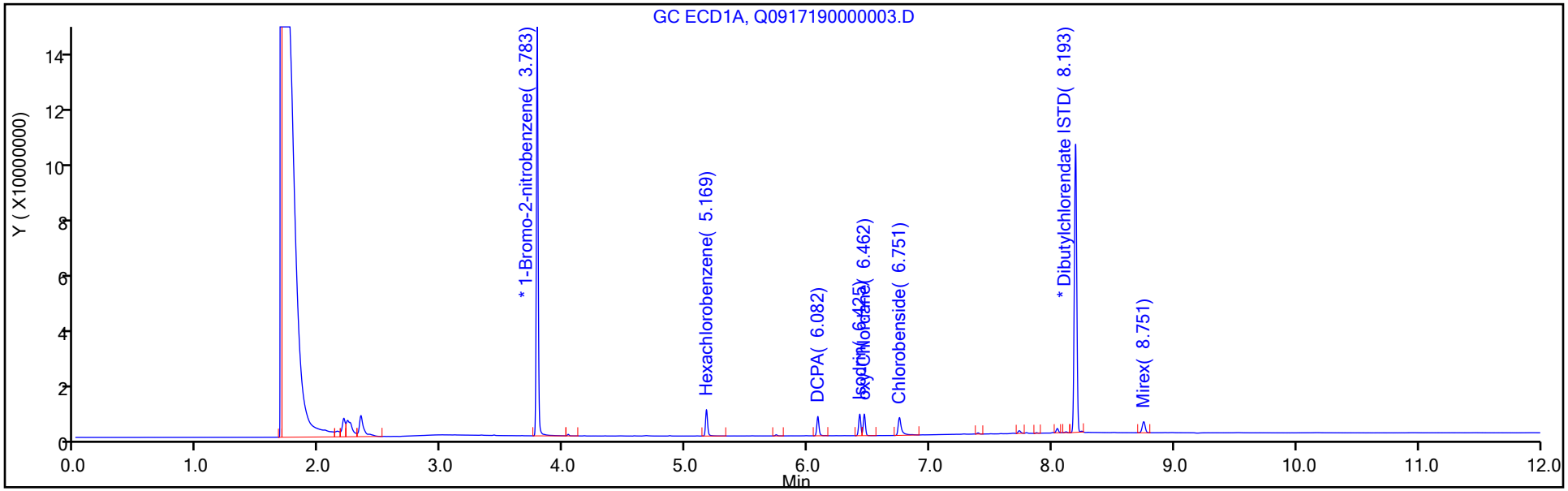

Column: MR-2 (0.53 mm)

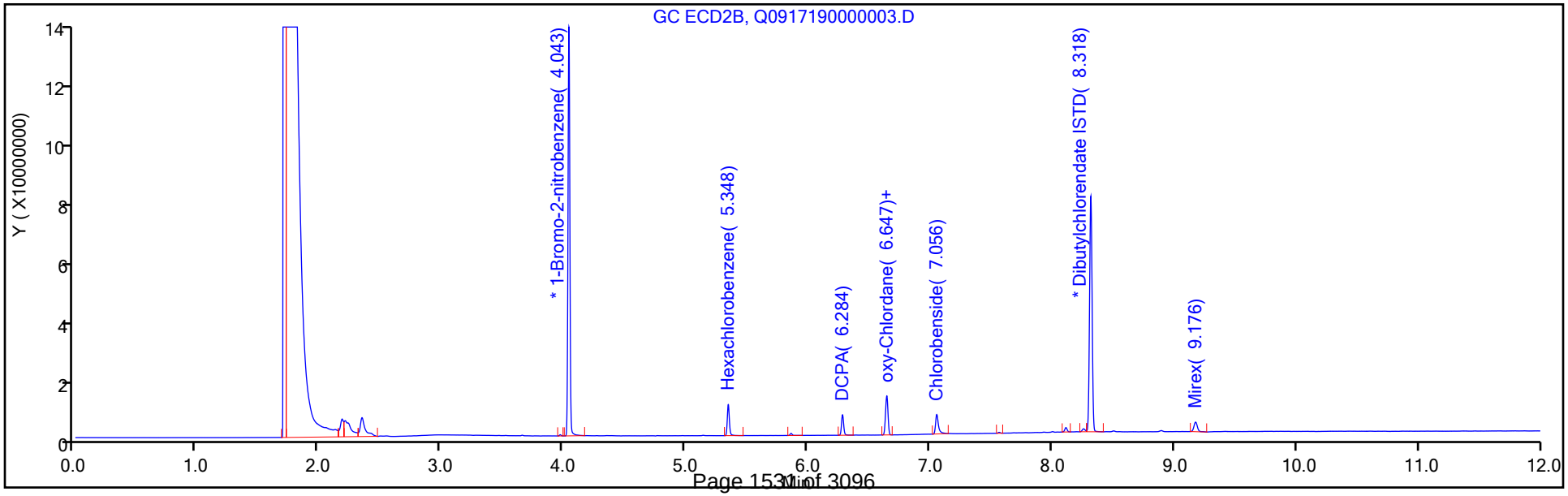

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000004.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 17-Sep-2019 14:15:20 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028689-004
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub8

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 18-Sep-2019 08:30:29 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0308

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.784	3.783	0.001	149595105H	0.1000	0.1000	
2	4.044	4.043	0.001	147381401H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.171	5.171	0.000	43560184H	0.0250	0.0239	
2	5.349	5.349	0.000	48002641H	0.0250	0.0242	
						RPD = 1.07	
12 DCPA							
1	6.082	6.082	0.000	31610319H	0.0250	0.0245	
2	6.285	6.285	0.000	32821799H	0.0250	0.0250	
						RPD = 2.13	
14 Isodrin							
1	6.426	6.426	0.000	37088664H	0.0250	0.0250	
2	6.646	6.646	0.000	61920442H	0.0250	0.0252	
						RPD = 0.67	
15 oxy-Chlordane							
1	6.462	6.462	0.000	34976254H	0.0250	0.0242	
2	6.646	6.646	0.000	61920442H	0.0250	0.0252	
						RPD = 4.04	
19 Chlorobenside							
1	6.747	6.747	0.000	37279336H	0.0500	0.0506	
2	7.054	7.054	0.000	36984636H	0.0500	0.0500	
						RPD = 1.23	
* 44 Dibutylchlorendate ISTD							
1	8.194	8.192	0.001	106615768H	0.1000	0.1000	
2	8.319	8.317	0.002	85748701H	0.1000	0.1000	
38 Mirex							
1	8.751	8.751	0.000	17763770H	0.0250	0.0237	
2	9.179	9.179	0.000	15175284H	0.0250	0.0244	
						RPD = 2.59	

Reagents:

GCAPPIX1L3_00032	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 18-Sep-2019 08:30:30 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000004.D

Injection Date: 17-Sep-2019 14:15:20 Instrument ID: CHGC15 Operator ID: 402331

Lims ID: IC Worklist Smp#: 4

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 4

Method: IS PEST_CHGC15 Limit Group: GCS 8081B ICAL with IS

Column: MR-1 (0.53 mm)

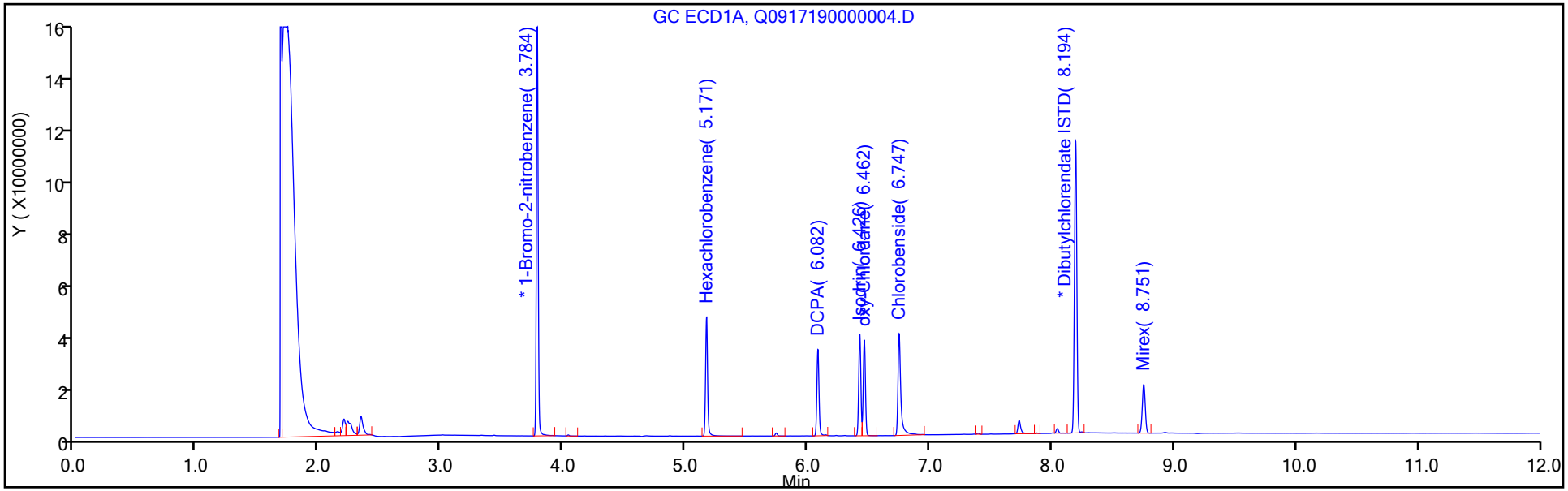

Column: MR-2 (0.53 mm)

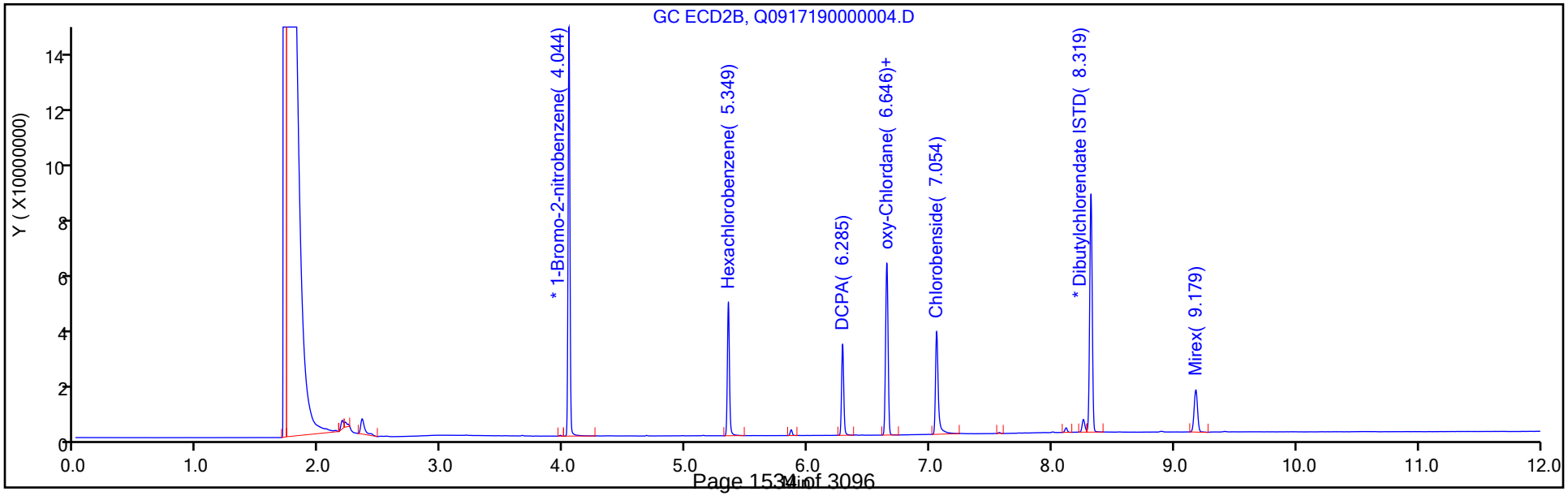

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000005.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 17-Sep-2019 14:30:47 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028689-005
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub8

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 18-Sep-2019 08:30:37 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0308

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.784	3.783	0.000	149672261H	0.1000	0.1000	
2	4.043	4.043	0.000	147106349H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.170	5.171	-0.001	86332638H	0.0500	0.0474	
2	5.349	5.349	0.000	94228667H	0.0500	0.0475	
						RPD = 0.35	
12 DCPA							
1	6.082	6.082	0.000	62404864H	0.0500	0.0482	
2	6.284	6.285	-0.001	62680844H	0.0500	0.0478	
						RPD = 0.95	
14 Isodrin							
1	6.426	6.426	0.000	68399520H	0.0500	0.0461	
2	6.647	6.646	0.001	116452067H	0.0500	0.0474	
						RPD = 2.86	
15 oxy-Chlordane							
1	6.464	6.462	0.002	68526717H	0.0500	0.0474	
2	6.647	6.646	0.001	116452067H	0.0500	0.0474	
						RPD = 0.18	
19 Chlorobenside							
1	6.747	6.747	0.000	78784273H	0.1000	0.1069	
2	7.054	7.054	0.000	80166424H	0.1000	0.1085	
						RPD = 1.54	
* 44 Dibutylchlorendate ISTD							
1	8.193	8.192	0.001	106847896H	0.1000	0.1000	
2	8.319	8.317	0.002	85277850H	0.1000	0.1000	
38 Mirex							
1	8.752	8.751	0.001	35949369H	0.0500	0.0479	
2	9.178	9.179	-0.001	29491101H	0.0500	0.0476	
						RPD = 0.69	

Reagents:

GCAPPIX1L4_00024	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 18-Sep-2019 08:30:37 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000005.D

Injection Date: 17-Sep-2019 14:30:47 Instrument ID: CHGC15 Operator ID: 402331

Lims ID: IC Worklist Smp#: 5

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 5

Method: IS PEST_CHGC15 Limit Group: GCS 8081B ICAL with IS

Column: MR-1 (0.53 mm)

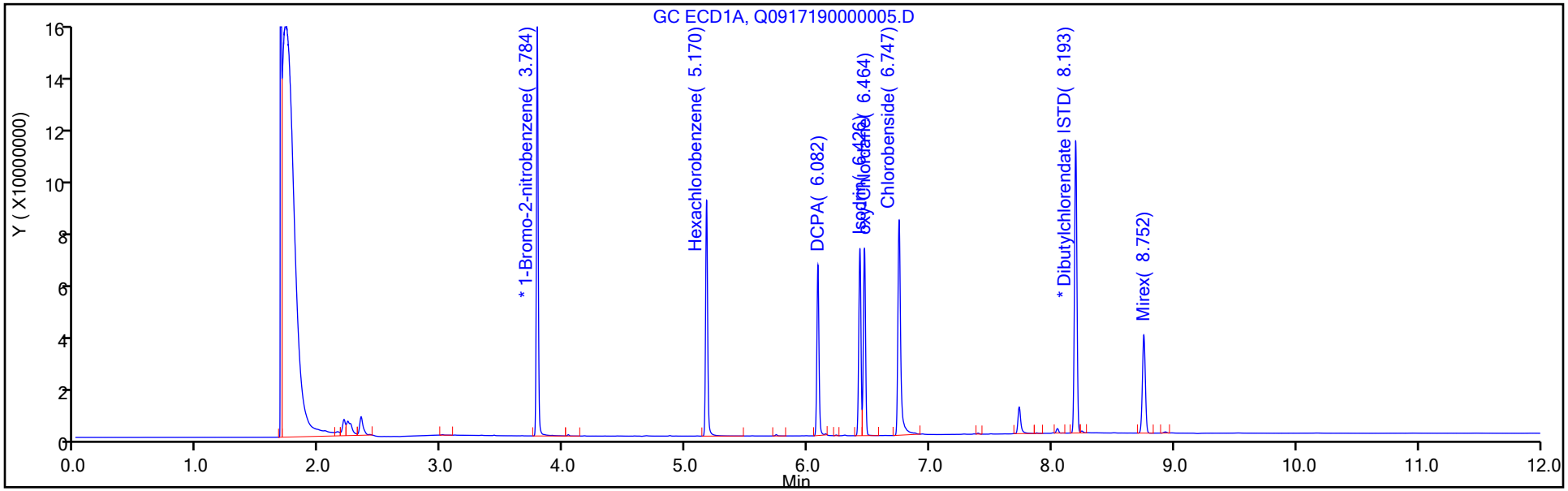

Column: MR-2 (0.53 mm)

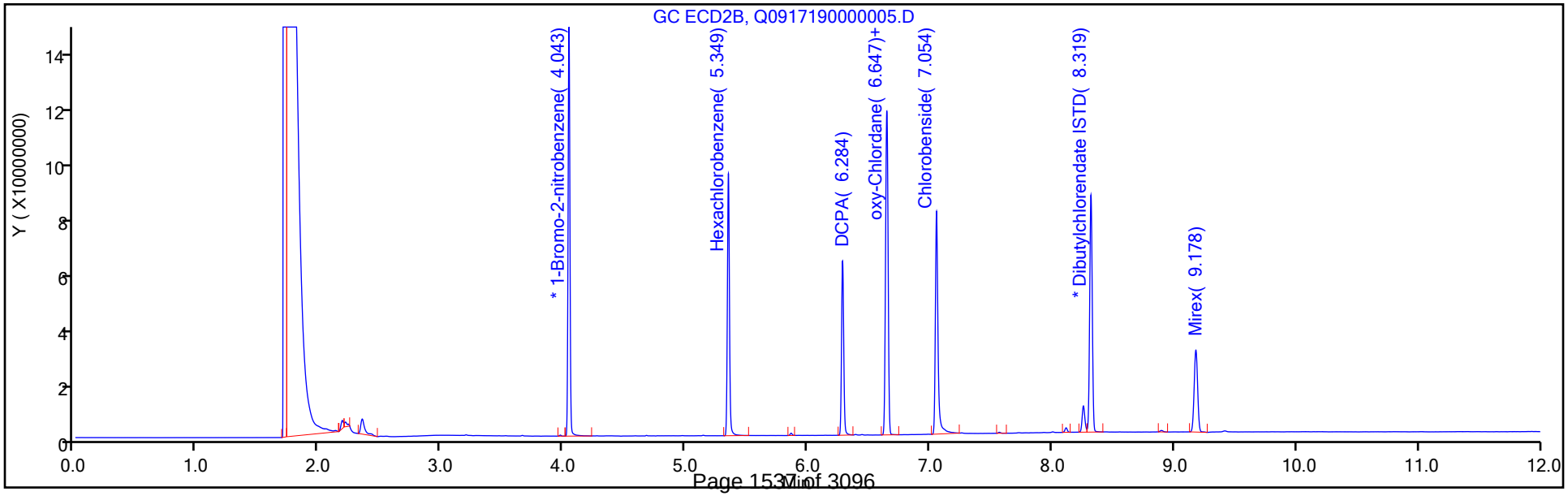

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000006.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 17-Sep-2019 14:46:12 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028689-006
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub8

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 18-Sep-2019 08:30:42 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0308

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.784	3.783	0.000	144990725H	0.1000	0.1000	
2	4.043	4.043	0.000	143352106H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.170	5.171	-0.001	176640162H	0.1000	0.1001	
2	5.349	5.349	0.000	183182493H	0.1000	0.0948	
						RPD = 5.36	
12 DCPA							
1	6.082	6.082	0.000	119471511H	0.1000	0.0954	
2	6.284	6.285	-0.001	122178408H	0.1000	0.0956	
						RPD = 0.26	
14 Isodrin							
1	6.425	6.426	-0.001	143734615H	0.1000	0.1000	
2	6.646	6.646	0.000	229075786H	0.1000	0.0958	
						RPD = 4.33	
15 oxy-Chlordane							
1	6.463	6.462	0.001	137118110H	0.1000	0.0978	
2	6.646	6.646	0.000	229075786H	0.1000	0.0958	
						RPD = 2.11	
19 Chlorobenside							
1	6.745	6.747	-0.002	180229792H	0.2000	0.2523	
2	7.052	7.054	-0.002	164807303H	0.2000	0.2289	
						RPD = 9.73	
* 44 Dibutylchlorendate ISTD							
1	8.194	8.192	0.002	104883951H	0.1000	0.1000	
2	8.318	8.317	0.000	82730287H	0.1000	0.1000	
38 Mirex							
1	8.750	8.751	-0.001	71601401H	0.1000	0.0973	
2	9.177	9.179	-0.002	59000075H	0.1000	0.0982	
						RPD = 0.93	

Reagents:

GCAPPIX1L5_00022	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 18-Sep-2019 08:30:43 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000006.D				
Injection Date:	17-Sep-2019 14:46:12	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

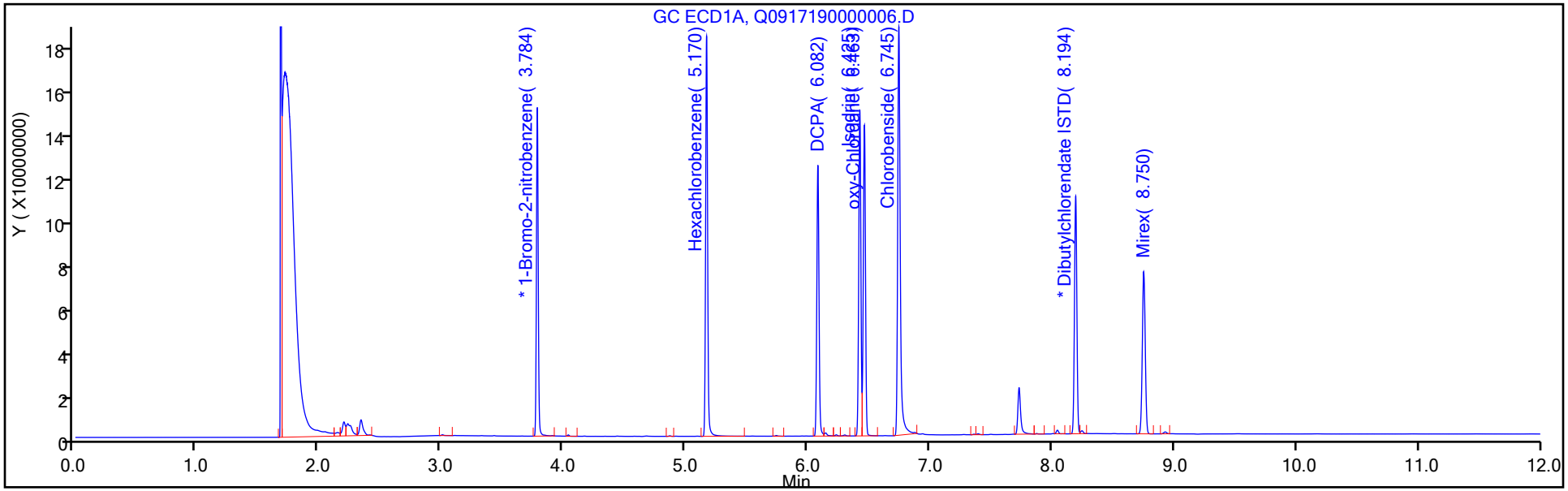

Column: MR-2 (0.53 mm)

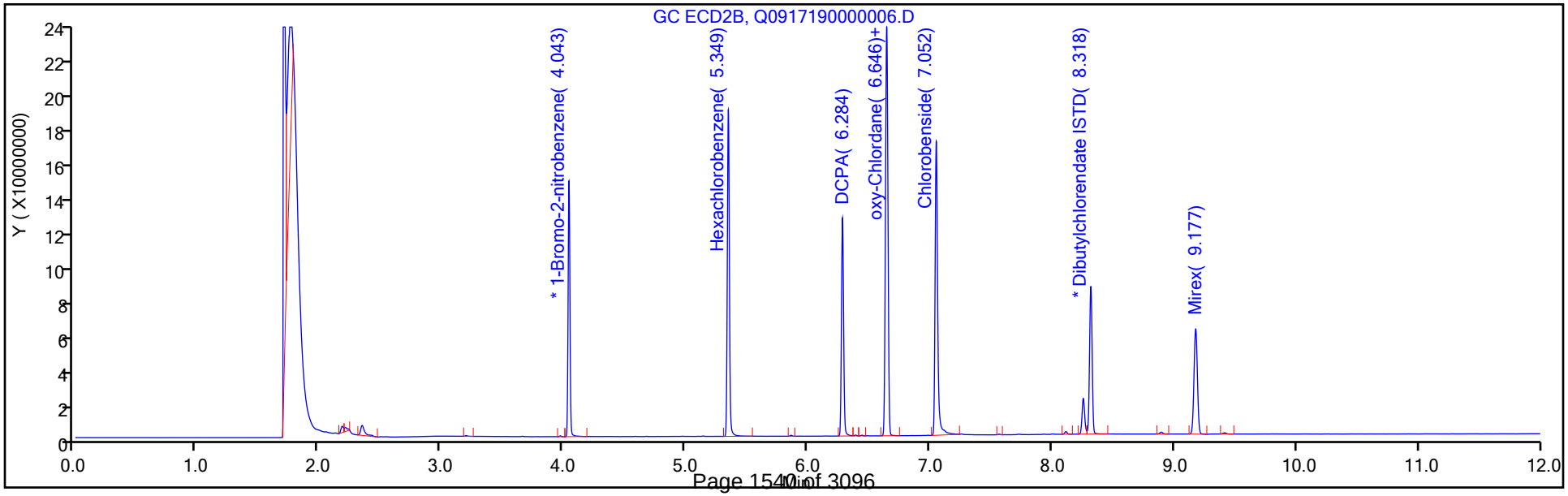

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000007.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 17-Sep-2019 15:01:51 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028689-007
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub8

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 18-Sep-2019 08:30:49 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0308

First Level Reviewer: eppinged Date: 18-Sep-2019 07:53:57

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.784	3.783	0.000	148557666H	0.1000	0.1000	
2	4.043	4.043	0.000	147283303H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.170	5.171	-0.001	353600804H	0.2000	0.1955	
2	5.349	5.349	0.000	353962215H	0.2000	0.1784	
						RPD = 9.16	
12 DCPA							
1	6.083	6.082	0.001	234653439H	0.2000	0.1828	
2	6.284	6.285	-0.001	228859270H	0.2000	0.1743	
						RPD = 4.76	
14 Isodrin							
1	6.426	6.426	0.000	285973399H	0.2000	0.1942	
2	6.646	6.646	0.000	432486278H	0.2000	0.1760	
						RPD = 9.84	
15 oxy-Chlordane							
1	6.463	6.462	0.001	278354836H	0.2000	0.1938	
2	6.646	6.646	0.000	432486278H	0.2000	0.1760	
						RPD = 9.64	
19 Chlorobenside							
1	6.744	6.747	-0.003	393988766H	0.4000	0.5384	
2	7.051	7.054	-0.003	341152280H	0.4000	0.4612	
						RPD = 15.43	
* 44 Dibutylchlorendate ISTD							
1	8.192	8.192	0.000	107819479H	0.1000	0.1000	
2	8.318	8.317	0.001	87462009H	0.1000	0.1000	
38 Mirex							
1	8.750	8.751	-0.001	141350066H	0.2000	0.1868	
2	9.176	9.179	-0.003	115107211H	0.2000	0.1812	
						RPD = 3.05	

Reagents:

GCAPPIX1L6_00022	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 18-Sep-2019 08:30:49 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000007.D				
Injection Date:	17-Sep-2019 15:01:51	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

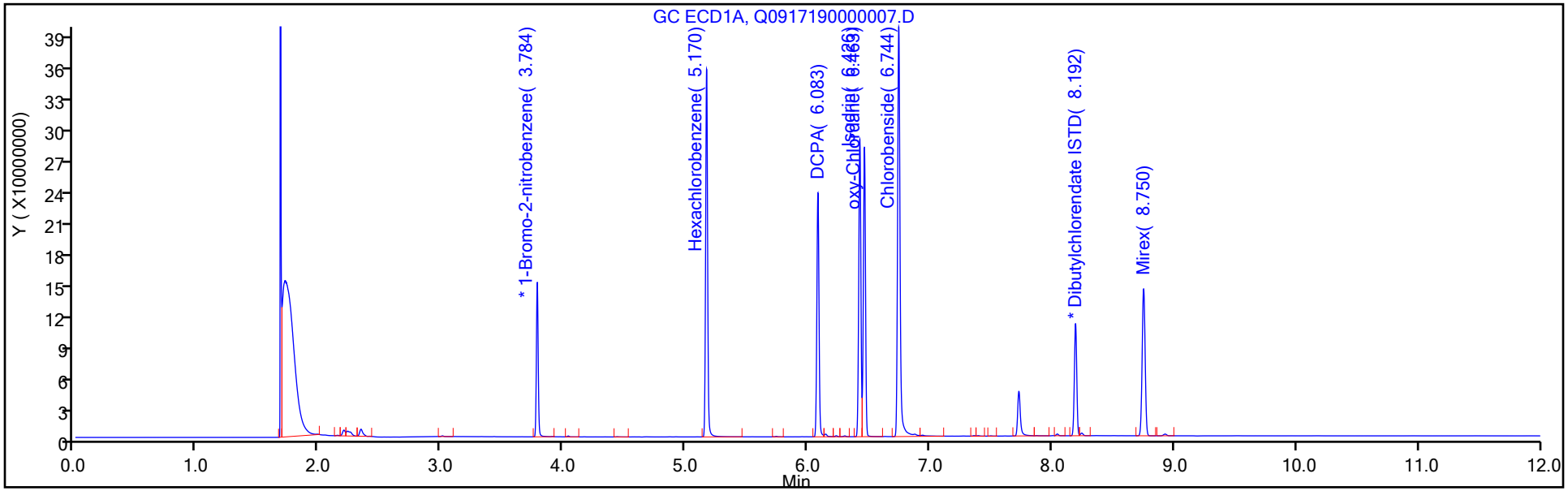

Column: MR-2 (0.53 mm)

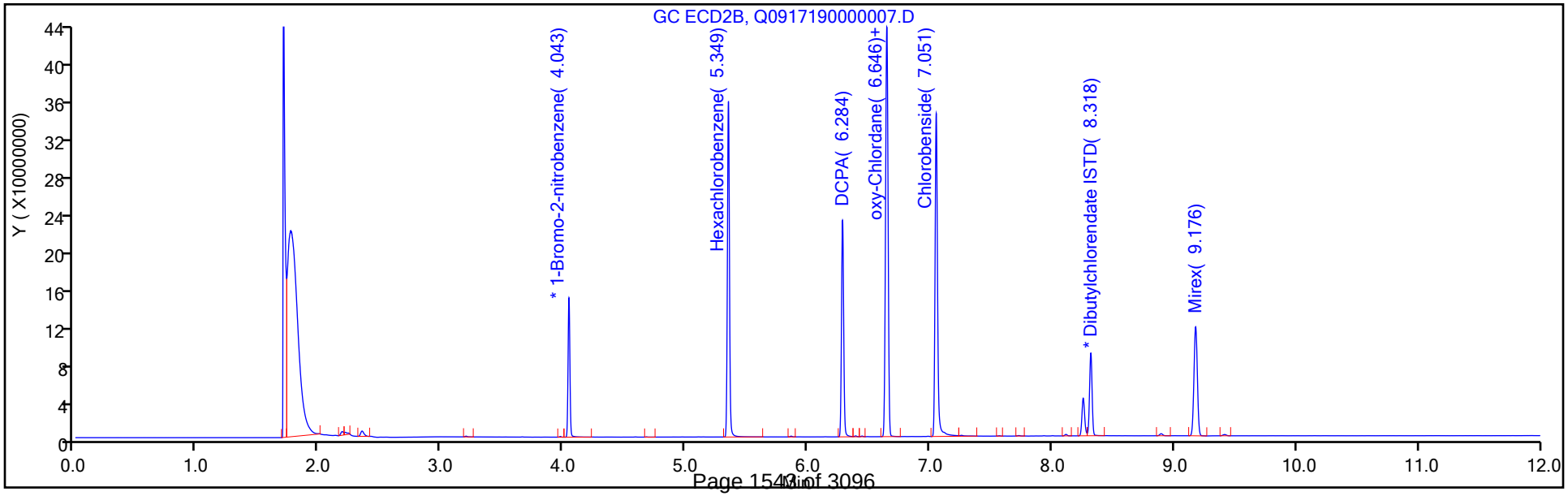

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 291631

SDG No.:

Instrument ID: CHGC15 GC Column: MR-2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 13:44 Calibration End Date: 09/17/2019 15:01 Calibration ID: 41538

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-291631/2	Q0917190000002.D
Level 2	IC 180-291631/3	Q0917190000003.D
Level 3	IC 180-291631/4	Q0917190000004.D
Level 4	IC 180-291631/5	Q0917190000005.D
Level 5	IC 180-291631/6	Q0917190000006.D
Level 6	IC 180-291631/7	Q0917190000007.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Hexachlorobenzene	1.4945 1.2016	1.5260	1.3028	1.2811	1.2779	Ave		1.3473				9.7		20.0			
DCPA	0.9747 0.7769	1.0025	0.8908	0.8522	0.8523	Ave		0.8916				9.4		20.0			
Isodrin	1.7680 1.4682	1.9126	1.6805	1.5832	1.5980	Ave		1.6684				9.4		20.0			
oxy-Chlordane	1.7680 1.4682	1.9126	1.6805	1.5832	1.5980	Ave		1.6684				9.4		20.0			
Chlorobenside	0.4107 +++++	0.4786	0.5019	0.5450	0.5748	Ave		0.5022				12.6		20.0			
Mirex	0.7723 0.6580	0.8144	0.7079	0.6916	0.7132	Ave		0.7262				7.8		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 291631

SDG No.:

Instrument ID: CHGC15 GC Column: MR-2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 13:44 Calibration End Date: 09/17/2019 15:01 Calibration ID: 41538

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-291631/2	Q0917190000002.D
Level 2	IC 180-291631/3	Q0917190000003.D
Level 3	IC 180-291631/4	Q0917190000004.D
Level 4	IC 180-291631/5	Q0917190000005.D
Level 5	IC 180-291631/6	Q0917190000006.D
Level 6	IC 180-291631/7	Q0917190000007.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Hexachlorobenzene	BNB	Ave	2176010 353962215	10425335	48002641	94228667	183182493	0.00100 0.200	0.00500	0.0250	0.0500	0.100
DCPA	BNB	Ave	1419139 228859270	6848756	32821799	62680844	122178408	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Isodrin	BNB	Ave	2574212 432486278	13066309	61920442	116452067	229075786	0.00100 0.200	0.00500	0.0250	0.0500	0.100
oxy-Chlordane	BNB	Ave	2574212 432486278	13066309	61920442	116452067	229075786	0.00100 0.200	0.00500	0.0250	0.0500	0.100
Chlorobenside	BNB	Ave	1195832 +++++	6539481	36984636	80166424	164807303	0.00200 +++++	0.0100	0.0500	0.100	0.200
Mirex	DBC	Ave	650754 115107211	3206004	15175284	29491101	59000075	0.00100 0.200	0.00500	0.0250	0.0500	0.100

Curve Type Legend:
Ave = Average ISTD by Height

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 291631

SDG No.:

Instrument ID: CHGC15 GC Column: MR-2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 13:44 Calibration End Date: 09/17/2019 15:01 Calibration ID: 41538

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-291631/2	Q0917190000002.D
Level 2	IC 180-291631/3	Q0917190000003.D
Level 3	IC 180-291631/4	Q0917190000004.D
Level 4	IC 180-291631/5	Q0917190000005.D
Level 5	IC 180-291631/6	Q0917190000006.D
Level 6	IC 180-291631/7	Q0917190000007.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
Hexachlorobenzene	10.9	13.3	-3.3	-4.9	-5.2	-10.8	50	30	30	30	30	30
DCPA	9.3	12.4	-0.1	-4.4	-4.4	-12.9	50	30	30	30	30	30
Isodrin	6.0	14.6	0.7	-5.1	-4.2	-12.0	50	30	30	30	30	30
oxy-Chlordane	6.0	14.6	0.7	-5.1	-4.2	-12.0	50	30	30	30	30	30
Chlorobenside	-18.2	-4.7	-0.1	8.5	14.5	+++++	50	30	30	30	30	
Mirex	6.3	12.1	-2.5	-4.8	-1.8	-9.4	50	30	30	30	30	30

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000002.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 17-Sep-2019 13:44:18 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028689-002
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub8

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 18-Sep-2019 08:30:18 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0308

First Level Reviewer: eppinged Date: 18-Sep-2019 07:51:00

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.784	3.783	0.000	146253926H	0.1000	0.1000	
2	4.043	4.043	0.000	145599203H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.170	5.171	-0.001	1893284H	0.001000	0.001063	
2	5.348	5.349	-0.001	2176010H	0.001000	0.001109	
						RPD = 4.23	
12 DCPA							
1	6.081	6.082	-0.001	1390298H	0.001000	0.001100	
2	6.285	6.285	0.000	1419139H	0.001000	0.001093	
						RPD = 0.62	
14 Isodrin							
1	6.425	6.426	-0.001	1514965H	0.001000	0.001045	
2	6.646	6.646	0.000	2574212H	0.001000	0.001060	
						RPD = 1.39	
15 oxy-Chlordane							
1	6.462	6.462	0.000	1492653H	0.001000	0.001056	
2	6.646	6.646	0.000	2574212H	0.001000	0.001060	
						RPD = 0.38	
19 Chlorobenside							
1	6.751	6.747	0.004	1116733H	0.002000	0.001550	
2	7.057	7.054	0.003	1195832H	0.002000	0.001635	
						RPD = 5.36	
* 44 Dibutylchlorendate ISTD							
1	8.194	8.192	0.001	103242793H	0.1000	0.1000	
2	8.319	8.317	0.001	84261755H	0.1000	0.1000	
38 Mirex							
1	8.753	8.751	0.002	788720H	0.001000	0.001089	
2	9.176	9.179	-0.003	650754H	0.001000	0.001063	
						RPD = 2.35	

Reagents:

GCAPPIX1L1_00025	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 18-Sep-2019 08:30:18 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000002.D

Injection Date: 17-Sep-2019 13:44:18 Instrument ID: CHGC15 Operator ID: 402331

Lims ID: IC Worklist Smp#: 2

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 2

Method: IS PEST_CHGC15 Limit Group: GCS 8081B ICAL with IS

Column: MR-1 (0.53 mm)

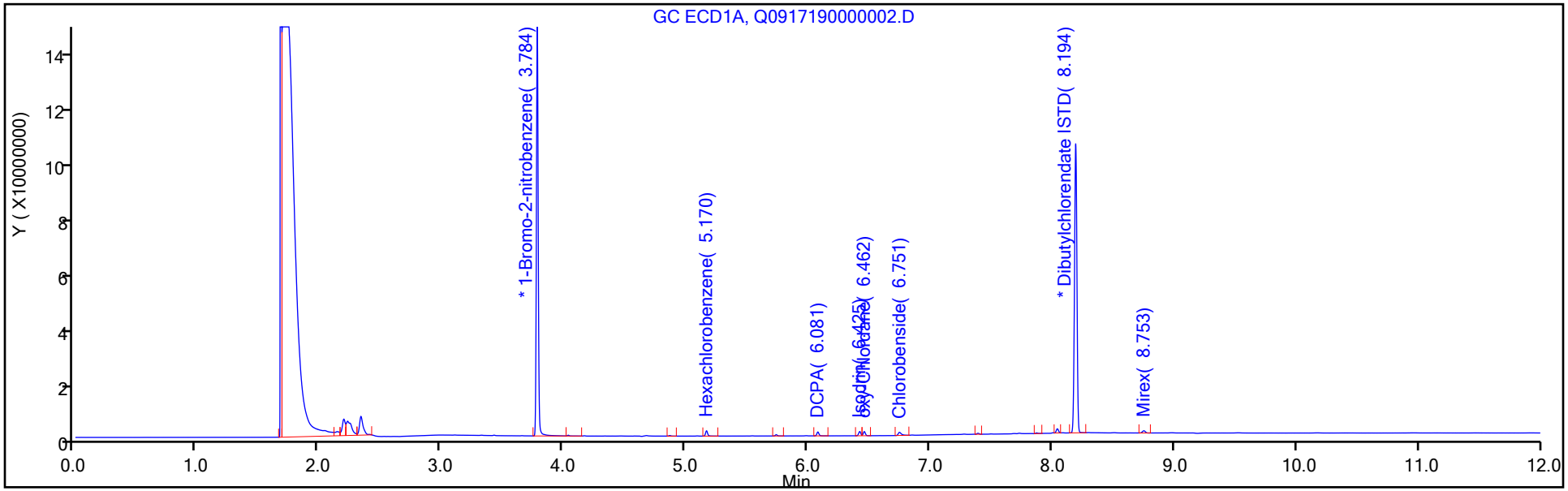

Column: MR-2 (0.53 mm)

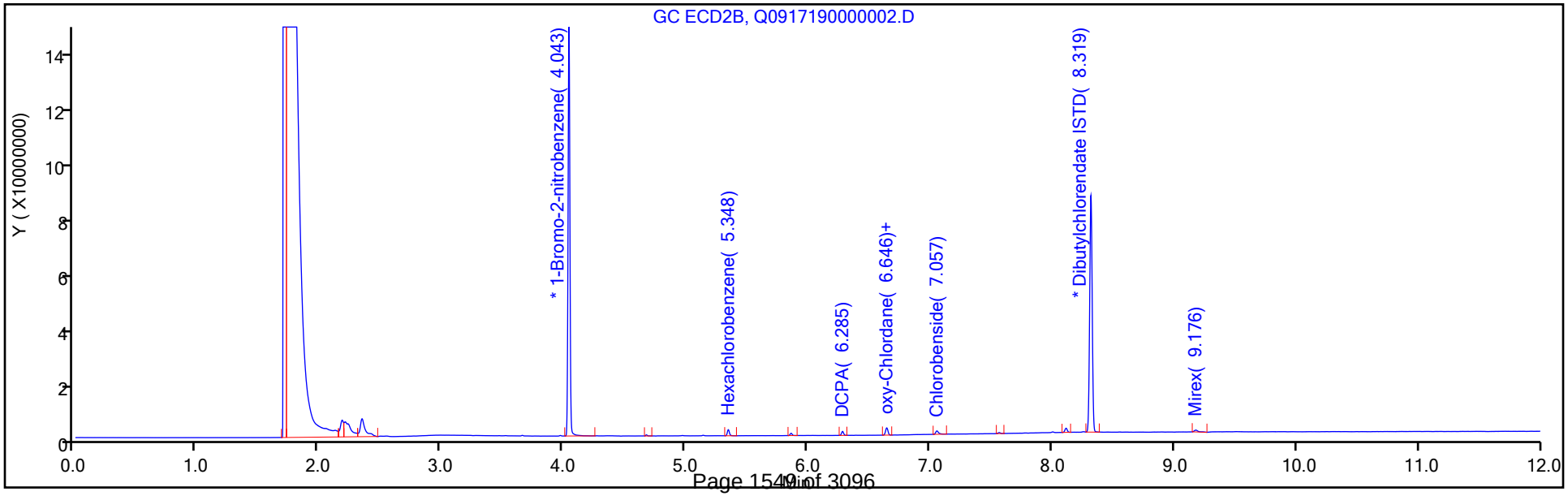

Report Date: 18-Sep-2019 08:30:25 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000003.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 17-Sep-2019 13:59:53 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028689-003
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub8

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 18-Sep-2019 08:30:24 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0308

First Level Reviewer: eppinged Date: 18-Sep-2019 07:51:10

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.783	3.783	0.000	138958289H	0.1000	0.1000	
2	4.043	4.043	0.000	136632422H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.169	5.171	-0.002	8919199H	0.005000	0.005272	
2	5.348	5.349	-0.001	10425335H	0.005000	0.005663	
						RPD = 7.16	
12 DCPA							
1	6.082	6.082	0.000	6541923H	0.005000	0.005448	
2	6.284	6.285	-0.001	6848756H	0.005000	0.005622	
						RPD = 3.15	
14 Isodrin							
1	6.425	6.426	-0.001	7305724H	0.005000	0.005304	
2	6.647	6.646	0.001	13066309H	0.005000	0.005732	
						RPD = 7.74	
15 oxy-Chlordane							
1	6.462	6.462	0.000	7270122H	0.005000	0.005412	
2	6.647	6.646	0.001	13066309H	0.005000	0.005732	
						RPD = 5.74	
19 Chlorobenside							
1	6.751	6.747	0.004	6044219H	0.0100	0.008830	
2	7.056	7.054	0.002	6539481H	0.0100	0.009531	
						RPD = 7.63	
* 44 Dibutylchlorendate ISTD							
1	8.193	8.192	0.001	97889586H	0.1000	0.1000	
2	8.318	8.317	0.001	78733932H	0.1000	0.1000	
38 Mirex							
1	8.751	8.751	0.000	3762593H	0.005000	0.005478	
2	9.176	9.179	-0.003	3206004H	0.005000	0.005607	
						RPD = 2.33	

Reagents:

GCAPPIX1L2_00024	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 18-Sep-2019 08:30:25 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000003.D

Injection Date: 17-Sep-2019 13:59:53 Instrument ID: CHGC15 Operator ID: 402331

Lims ID: IC Worklist Smp#: 3

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 3

Method: IS PEST_CHGC15 Limit Group: GCS 8081B ICAL with IS

Column: MR-1 (0.53 mm)

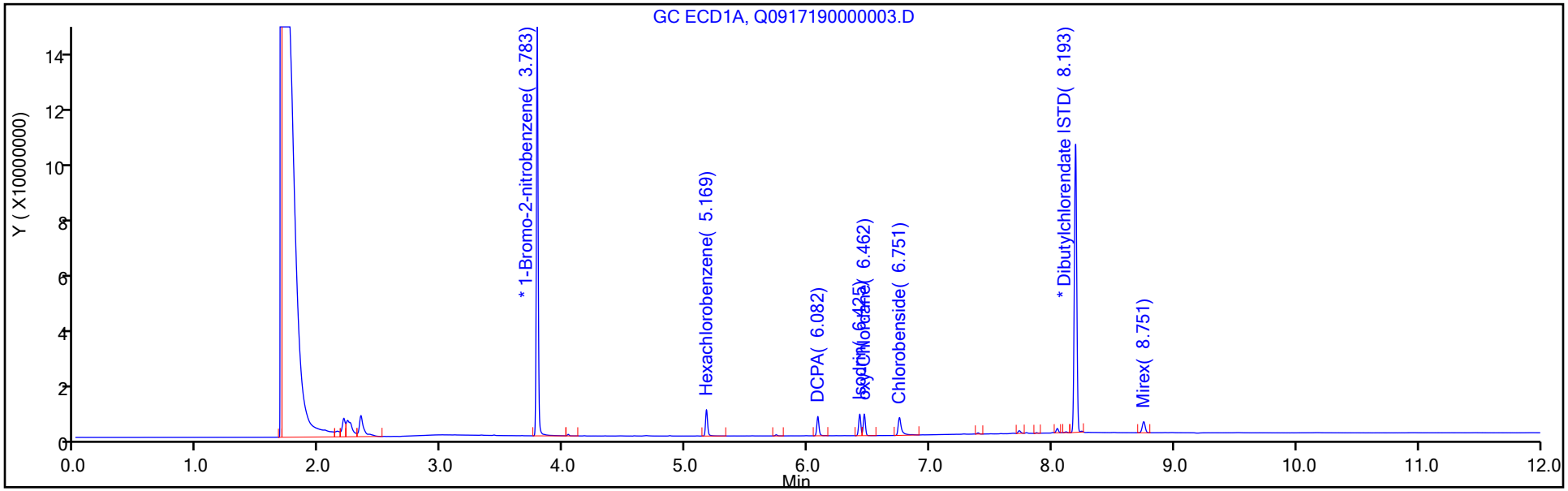

Column: MR-2 (0.53 mm)

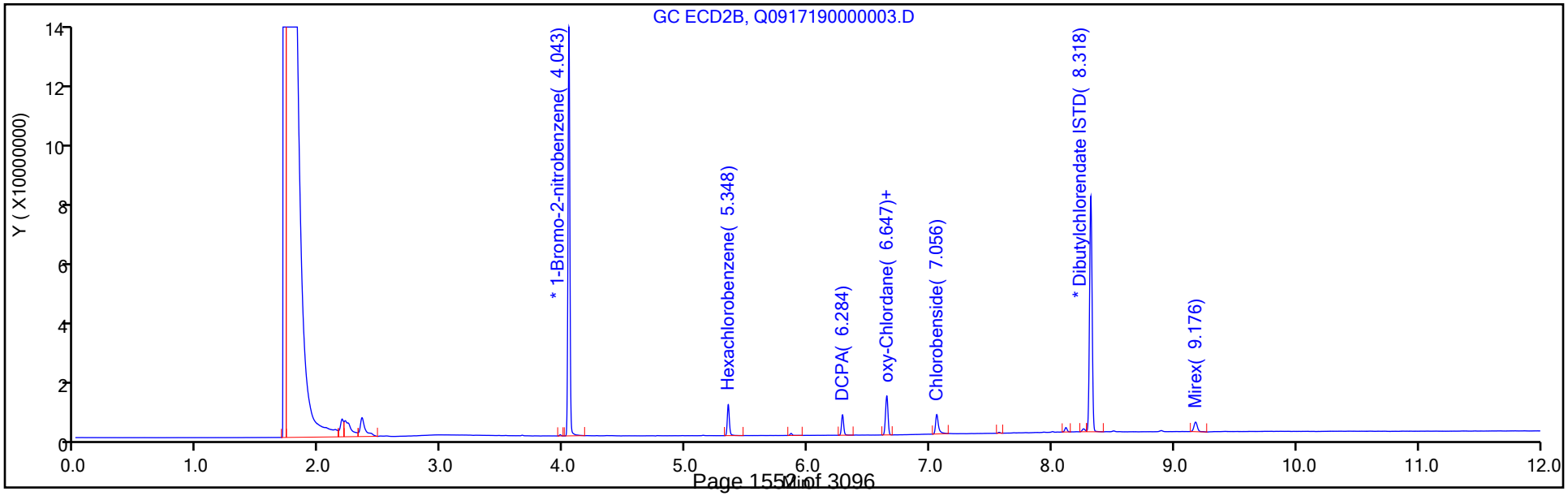

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000004.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 17-Sep-2019 14:15:20 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028689-004
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub8

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 18-Sep-2019 08:30:29 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0308

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.784	3.783	0.001	149595105H	0.1000	0.1000	
2	4.044	4.043	0.001	147381401H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.171	5.171	0.000	43560184H	0.0250	0.0239	
2	5.349	5.349	0.000	48002641H	0.0250	0.0242	
						RPD = 1.07	
12 DCPA							
1	6.082	6.082	0.000	31610319H	0.0250	0.0245	
2	6.285	6.285	0.000	32821799H	0.0250	0.0250	
						RPD = 2.13	
14 Isodrin							
1	6.426	6.426	0.000	37088664H	0.0250	0.0250	
2	6.646	6.646	0.000	61920442H	0.0250	0.0252	
						RPD = 0.67	
15 oxy-Chlordane							
1	6.462	6.462	0.000	34976254H	0.0250	0.0242	
2	6.646	6.646	0.000	61920442H	0.0250	0.0252	
						RPD = 4.04	
19 Chlorobenside							
1	6.747	6.747	0.000	37279336H	0.0500	0.0506	
2	7.054	7.054	0.000	36984636H	0.0500	0.0500	
						RPD = 1.23	
* 44 Dibutylchlorendate ISTD							
1	8.194	8.192	0.001	106615768H	0.1000	0.1000	
2	8.319	8.317	0.002	85748701H	0.1000	0.1000	
38 Mirex							
1	8.751	8.751	0.000	17763770H	0.0250	0.0237	
2	9.179	9.179	0.000	15175284H	0.0250	0.0244	
						RPD = 2.59	

Reagents:

GCAPPIX1L3_00032	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 18-Sep-2019 08:30:30 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000004.D

Injection Date: 17-Sep-2019 14:15:20 Instrument ID: CHGC15 Operator ID: 402331

Lims ID: IC Worklist Smp#: 4

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 4

Method: IS PEST_CHGC15 Limit Group: GCS 8081B ICAL with IS

Column: MR-1 (0.53 mm)

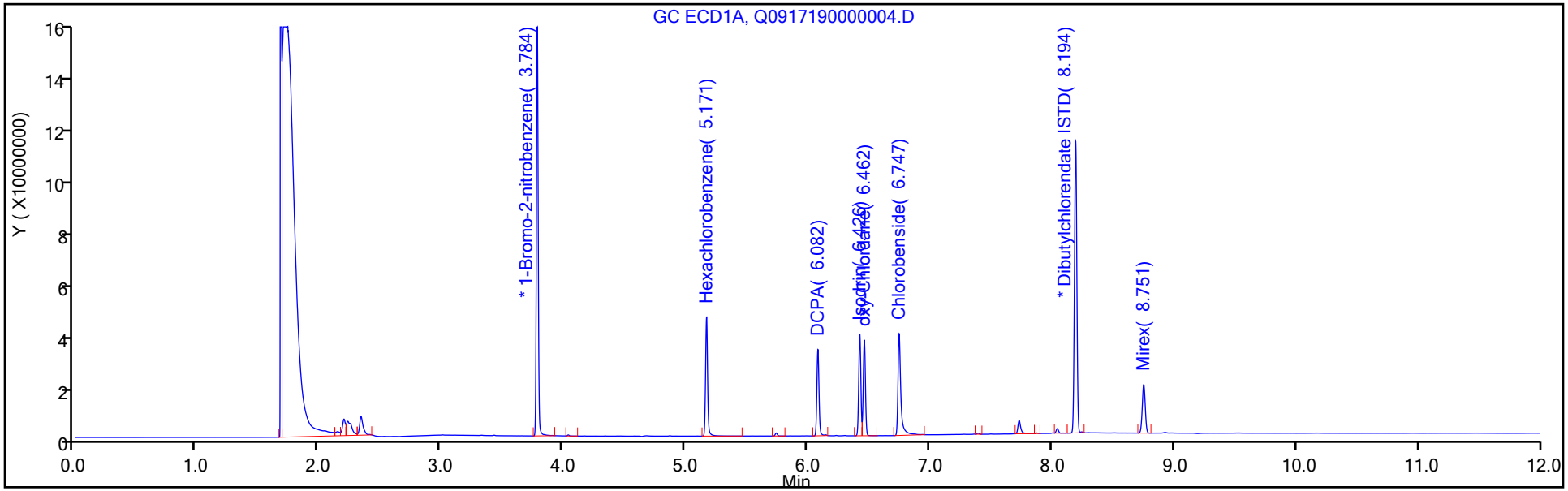

Column: MR-2 (0.53 mm)

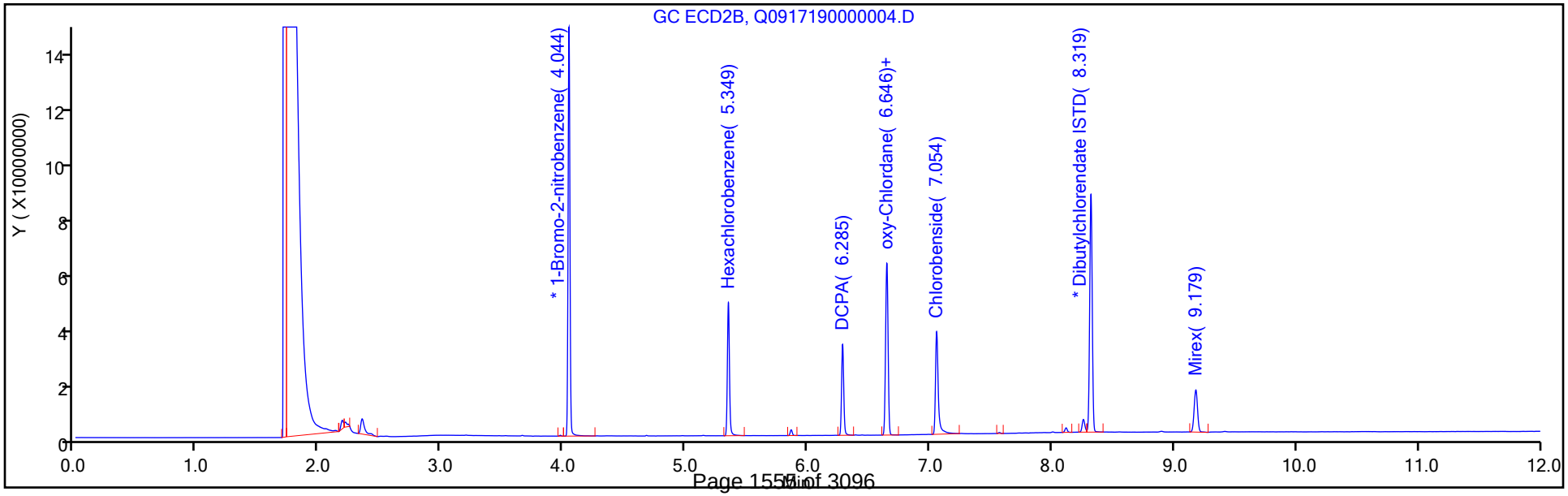

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000005.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 17-Sep-2019 14:30:47 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028689-005
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub8

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 18-Sep-2019 08:30:37 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0308

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.784	3.783	0.000	149672261H	0.1000	0.1000	
2	4.043	4.043	0.000	147106349H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.170	5.171	-0.001	86332638H	0.0500	0.0474	
2	5.349	5.349	0.000	94228667H	0.0500	0.0475	
						RPD = 0.35	
12 DCPA							
1	6.082	6.082	0.000	62404864H	0.0500	0.0482	
2	6.284	6.285	-0.001	62680844H	0.0500	0.0478	
						RPD = 0.95	
14 Isodrin							
1	6.426	6.426	0.000	68399520H	0.0500	0.0461	
2	6.647	6.646	0.001	116452067H	0.0500	0.0474	
						RPD = 2.86	
15 oxy-Chlordane							
1	6.464	6.462	0.002	68526717H	0.0500	0.0474	
2	6.647	6.646	0.001	116452067H	0.0500	0.0474	
						RPD = 0.18	
19 Chlorobenside							
1	6.747	6.747	0.000	78784273H	0.1000	0.1069	
2	7.054	7.054	0.000	80166424H	0.1000	0.1085	
						RPD = 1.54	
* 44 Dibutylchlorendate ISTD							
1	8.193	8.192	0.001	106847896H	0.1000	0.1000	
2	8.319	8.317	0.002	85277850H	0.1000	0.1000	
38 Mirex							
1	8.752	8.751	0.001	35949369H	0.0500	0.0479	
2	9.178	9.179	-0.001	29491101H	0.0500	0.0476	
						RPD = 0.69	

Reagents:

GCAPPIX1L4_00024	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 18-Sep-2019 08:30:37 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000005.D				
Injection Date:	17-Sep-2019 14:30:47	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

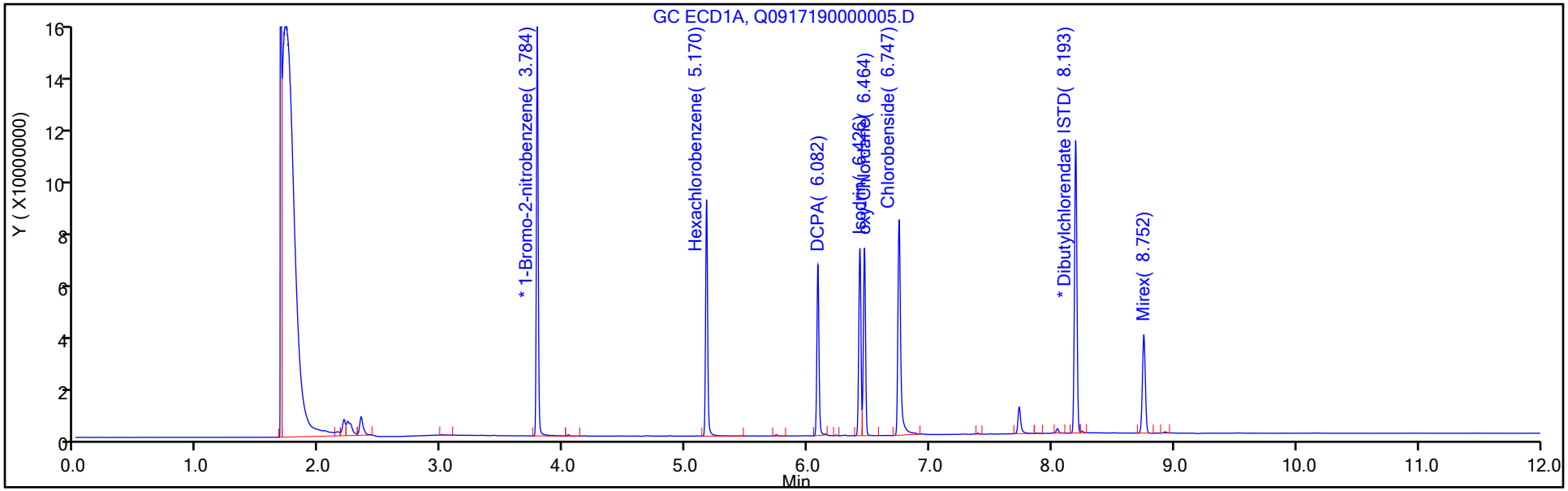

Column: MR-2 (0.53 mm)

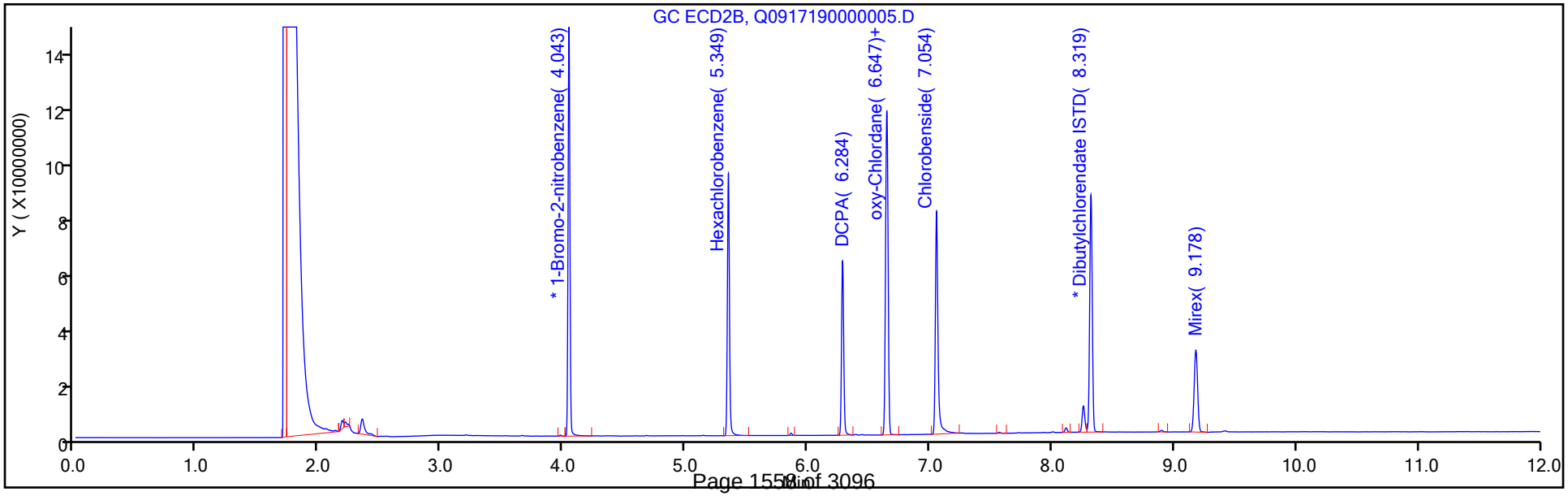

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000006.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 17-Sep-2019 14:46:12 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028689-006
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub8

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 18-Sep-2019 08:30:42 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0308

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.784	3.783	0.000	144990725H	0.1000	0.1000	
2	4.043	4.043	0.000	143352106H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.170	5.171	-0.001	176640162H	0.1000	0.1001	
2	5.349	5.349	0.000	183182493H	0.1000	0.0948	
						RPD = 5.36	
12 DCPA							
1	6.082	6.082	0.000	119471511H	0.1000	0.0954	
2	6.284	6.285	-0.001	122178408H	0.1000	0.0956	
						RPD = 0.26	
14 Isodrin							
1	6.425	6.426	-0.001	143734615H	0.1000	0.1000	
2	6.646	6.646	0.000	229075786H	0.1000	0.0958	
						RPD = 4.33	
15 oxy-Chlordane							
1	6.463	6.462	0.001	137118110H	0.1000	0.0978	
2	6.646	6.646	0.000	229075786H	0.1000	0.0958	
						RPD = 2.11	
19 Chlorobenside							
1	6.745	6.747	-0.002	180229792H	0.2000	0.2523	
2	7.052	7.054	-0.002	164807303H	0.2000	0.2289	
						RPD = 9.73	
* 44 Dibutylchlorendate ISTD							
1	8.194	8.192	0.002	104883951H	0.1000	0.1000	
2	8.318	8.317	0.000	82730287H	0.1000	0.1000	
38 Mirex							
1	8.750	8.751	-0.001	71601401H	0.1000	0.0973	
2	9.177	9.179	-0.002	59000075H	0.1000	0.0982	
						RPD = 0.93	

Reagents:

GCAPPIX1L5_00022	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 18-Sep-2019 08:30:43 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000006.D				
Injection Date:	17-Sep-2019 14:46:12	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

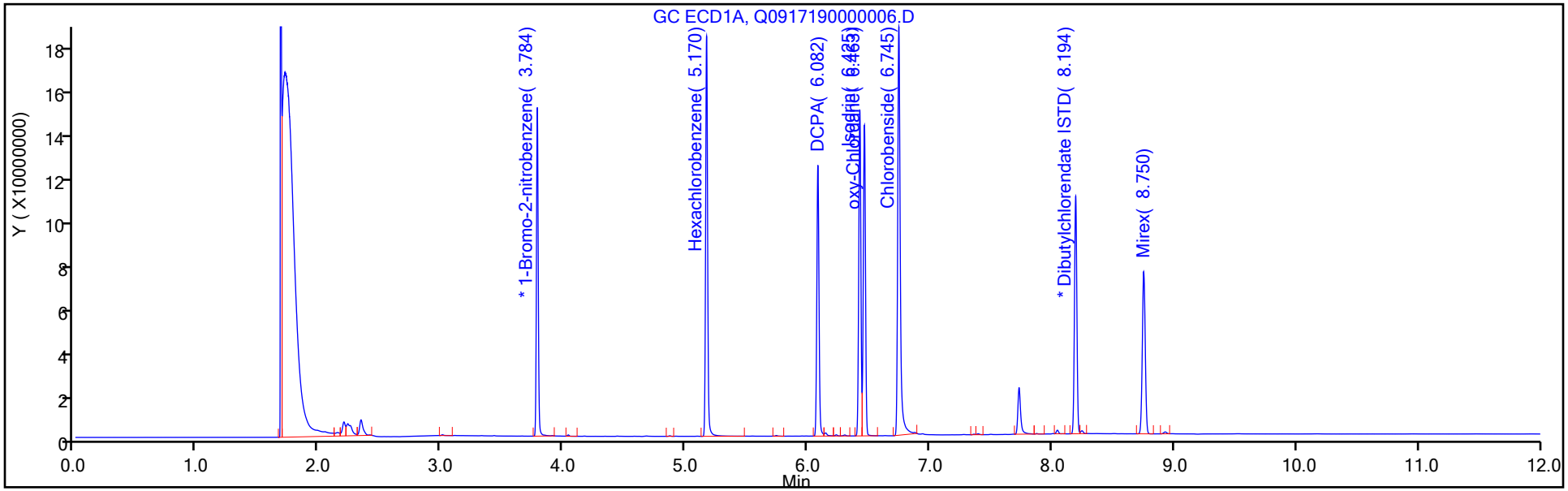

Column: MR-2 (0.53 mm)

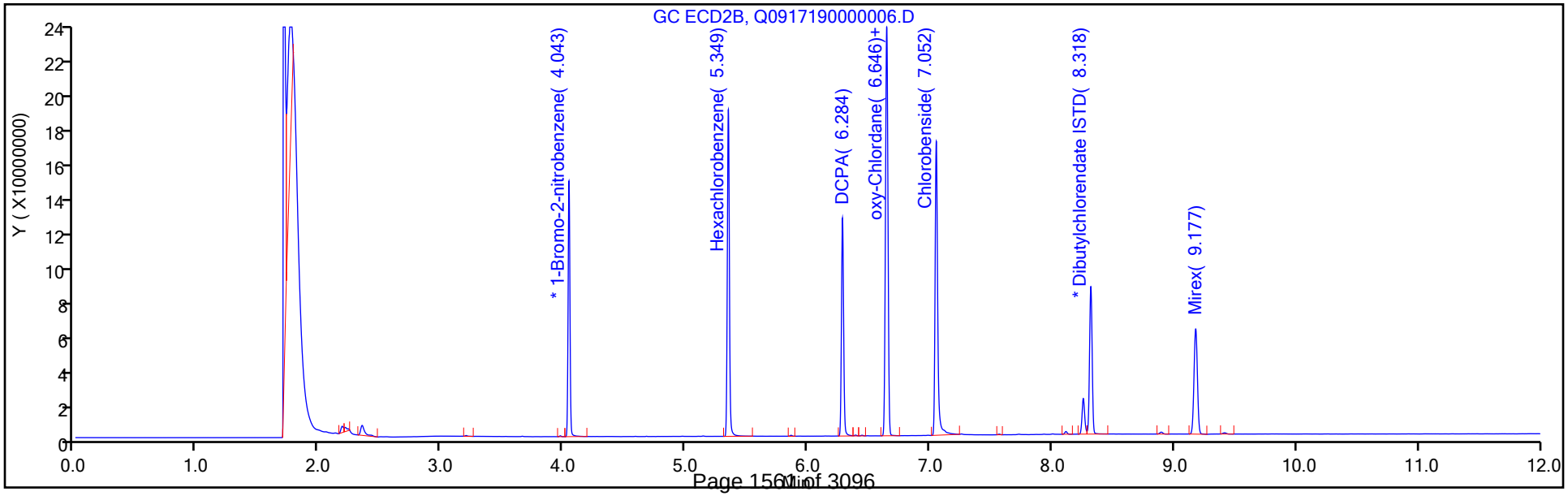

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000007.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 17-Sep-2019 15:01:51 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028689-007
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub8

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 18-Sep-2019 08:30:49 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0308

First Level Reviewer: eppinged Date: 18-Sep-2019 07:53:57

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.784	3.783	0.000	148557666H	0.1000	0.1000	
2	4.043	4.043	0.000	147283303H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.170	5.171	-0.001	353600804H	0.2000	0.1955	
2	5.349	5.349	0.000	353962215H	0.2000	0.1784	
						RPD = 9.16	
12 DCPA							
1	6.083	6.082	0.001	234653439H	0.2000	0.1828	
2	6.284	6.285	-0.001	228859270H	0.2000	0.1743	
						RPD = 4.76	
14 Isodrin							
1	6.426	6.426	0.000	285973399H	0.2000	0.1942	
2	6.646	6.646	0.000	432486278H	0.2000	0.1760	
						RPD = 9.84	
15 oxy-Chlordane							
1	6.463	6.462	0.001	278354836H	0.2000	0.1938	
2	6.646	6.646	0.000	432486278H	0.2000	0.1760	
						RPD = 9.64	
19 Chlorobenside							
1	6.744	6.747	-0.003	393988766H	0.4000	0.5384	
2	7.051	7.054	-0.003	341152280H	0.4000	0.4612	
						RPD = 15.43	
* 44 Dibutylchlorendate ISTD							
1	8.192	8.192	0.000	107819479H	0.1000	0.1000	
2	8.318	8.317	0.001	87462009H	0.1000	0.1000	
38 Mirex							
1	8.750	8.751	-0.001	141350066H	0.2000	0.1868	
2	9.176	9.179	-0.003	115107211H	0.2000	0.1812	
						RPD = 3.05	

Reagents:

GCAPPIX1L6_00022	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 18-Sep-2019 08:30:49 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000007.D				
Injection Date:	17-Sep-2019 15:01:51	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	IC			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

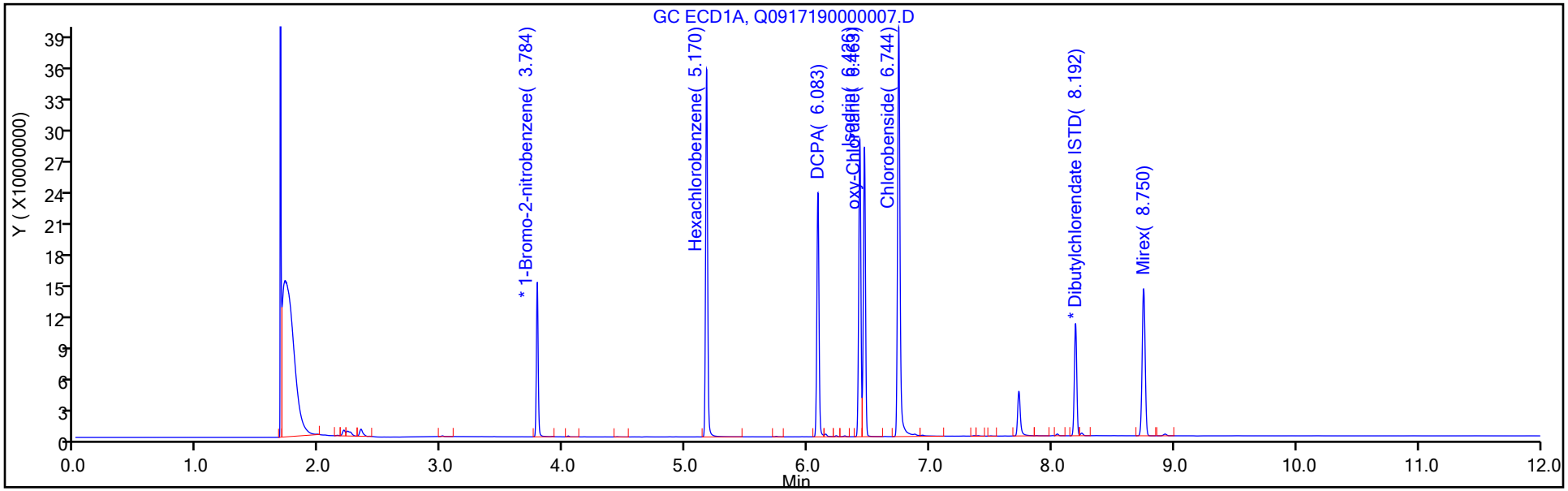

Column: MR-2 (0.53 mm)

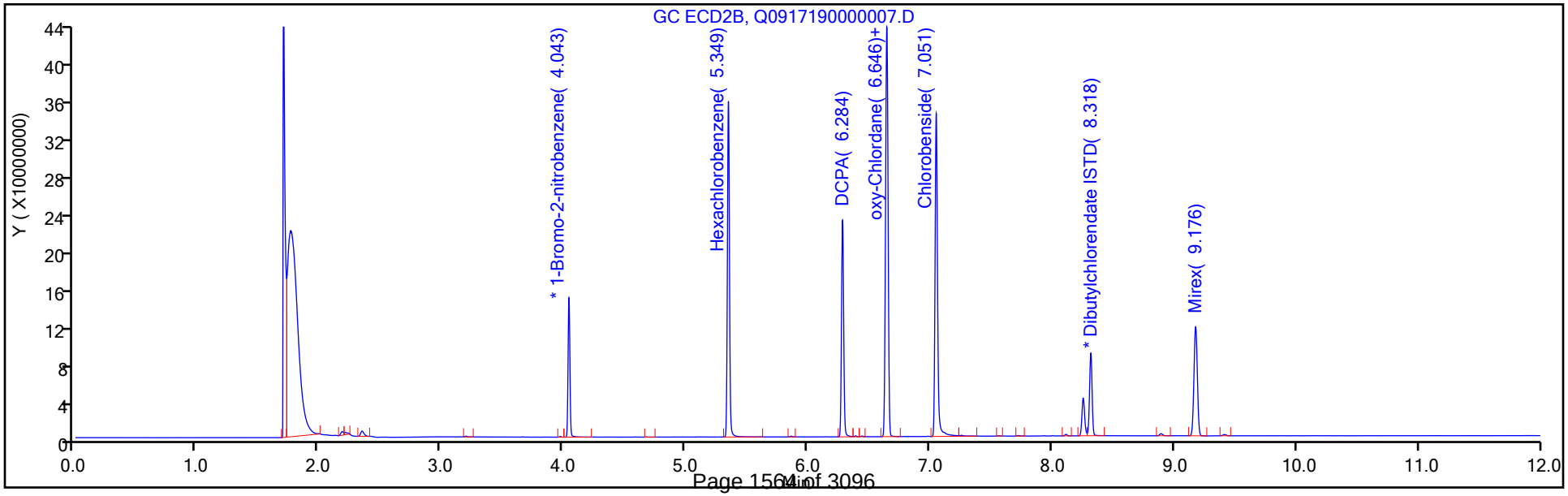

FORM VII
PESTICIDES PERFORMANCE EVALUATION MIXTURE (PEM)

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: PEM 180-302301/27 Calibration Date: 12/23/2019 17:21

Instrument ID: CHGC15 Calib Start Date: 07/02/2019 15:33

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 07/02/2019 16:50

Lab File ID: Q1223190000027.D Conc. Units: ng/uL

ANALYTE	RT	RESPONSE	BREAKDOWN (%)	LIMIT	#
Endrin	7.26	35406174	2.98	15	
Endrin aldehyde		0			
Endrin ketone	8.23	1086388			

ANALYTE	RT	RESPONSE	BREAKDOWN (%)	LIMIT	#
4,4'-DDT	7.66	51022197	13.90	15	
4,4'-DDD	7.39	7887184			
4,4'-DDE	6.93	349601			

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000027.D
Lims ID: PEM
Client ID:
Sample Type: PEM
Inject. Date: 23-Dec-2019 17:21:08 ALS Bottle#: 27 Worklist Smp#: 27
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030125-027
Operator ID: 402331 Instrument ID: CHGC15
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Dec-2019 05:21:57 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0301

First Level Reviewer: eppinged Date: 24-Dec-2019 04:14:51

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.770	3.765	0.005	148017747H	0.1000	0.1000	
2	4.026	4.021	0.005	144321938H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.758	4.754	0.004	34256411H	0.0250	0.0168	
2	4.899	4.895	0.004	40270270H	0.0250	0.0207	
						RPD = 20.77	
23 4,4'-DDE							
1	6.928	6.920	0.008	279807H		0.000249	
2	7.145	7.137	0.008	501438H		0.000375	
						RPD = 40.44	
27 Endrin							
1	7.257	7.251	0.006	27486083H	0.0250	0.0296	
2	7.589	7.584	0.005	27691806H	0.0250	0.0260	
						RPD = 13.01	
29 4,4'-DDD							
1	7.385	7.378	0.007	5653704H		0.006130	
2	7.666	7.659	0.007	7006478H		0.006547	
						RPD = 6.58	
32 Endrin aldehyde							
1		7.564				ND	
2		8.015					
33 4,4'-DDT							
1	7.662	7.655	0.007	40715104H	0.0500	0.0558	
2	7.910	7.904	0.006	42444968H	0.0500	0.0501	
						RPD = 10.83	
* 44 Dibutylchlorendate ISTD							
1	8.177	8.172	0.006	79009778H	0.1000	0.1000	
2	8.289	8.282	0.007	81067994H	0.1000	0.1000	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
37 Endrin ketone							
1	8.230	8.225	0.005	664581H		0.000809	
2	8.863	8.857	0.006	1490346H		0.001749	
						RPD = 73.55	
$ 39 DCB Decachlorobiphenyl (Surr)							a
1	9.947	9.935	0.012	12365973H	0.0250	0.0226	a
2	10.551	10.539	0.012	14925775H	0.0250	0.0261	a
						RPD = 14.26	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

GCPESTPEMSTD_00040	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00017	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 24-Dec-2019 05:23:13 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000027.D				
Injection Date:	23-Dec-2019 17:21:08	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	PEM			Worklist Smp#:	27
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	27
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

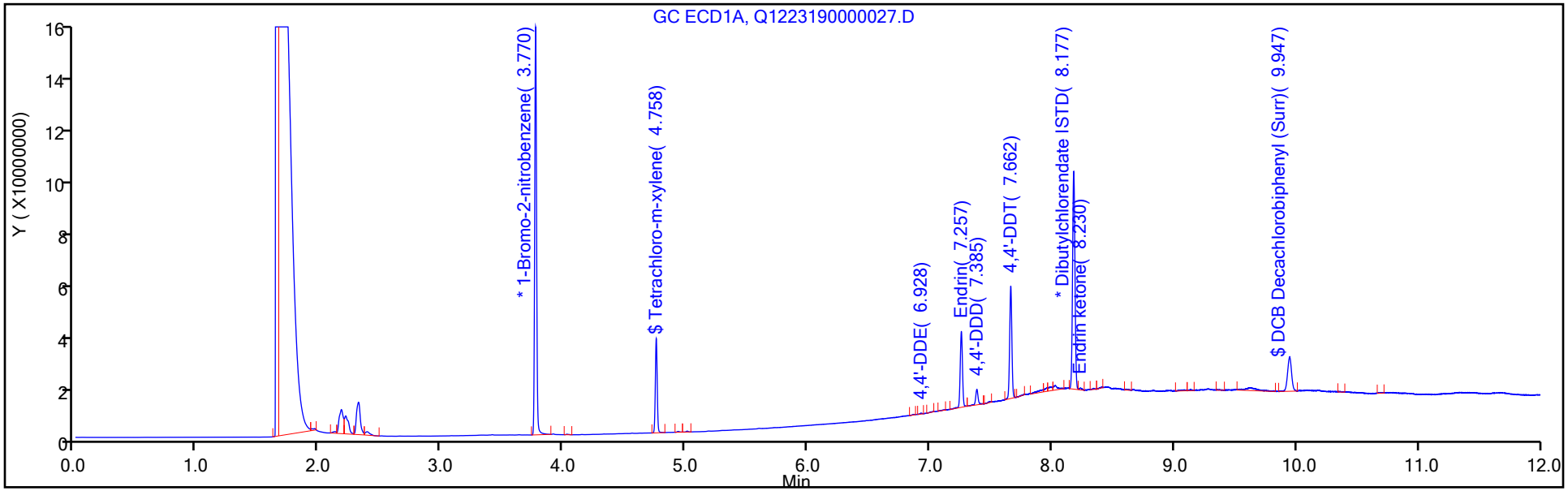

Column: MR-2 (0.53 mm)

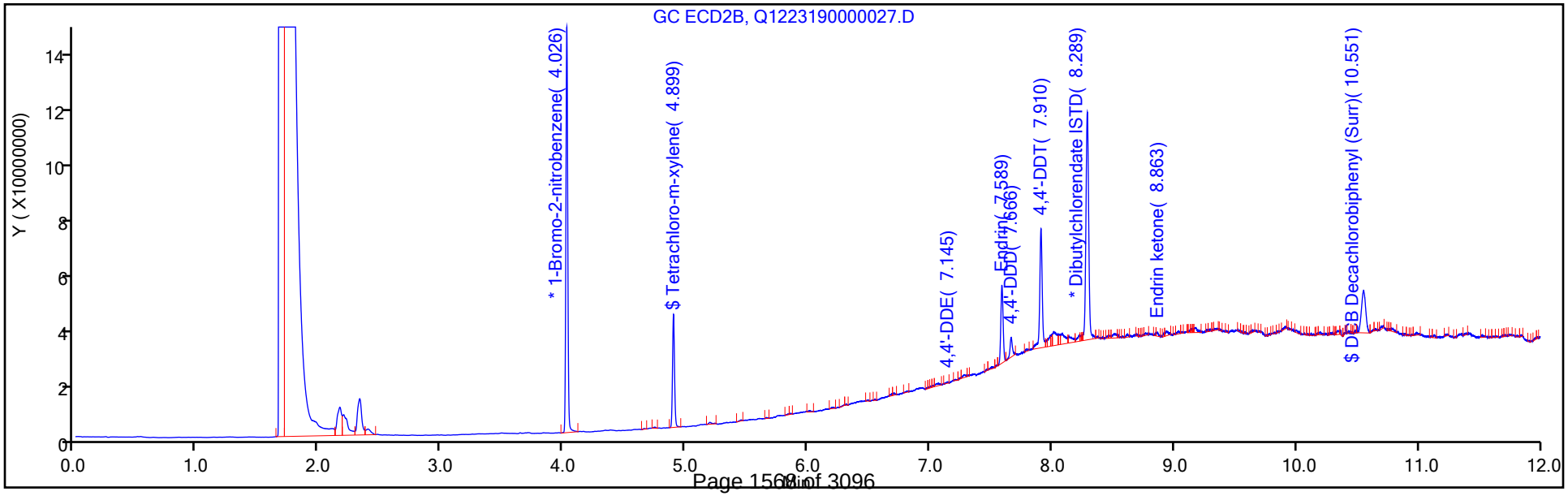

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000027.D				
Injection Date:	23-Dec-2019 17:21:08	Instrument ID:	CHGC15		
Lims ID:	PEM				
Client ID:					
Operator ID:	402331	ALS Bottle#:	27	Worklist Smp#:	27
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

$ 39 DCB Decachlorobiphenyl (Surr), CAS: 2051-24-3

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 9.93

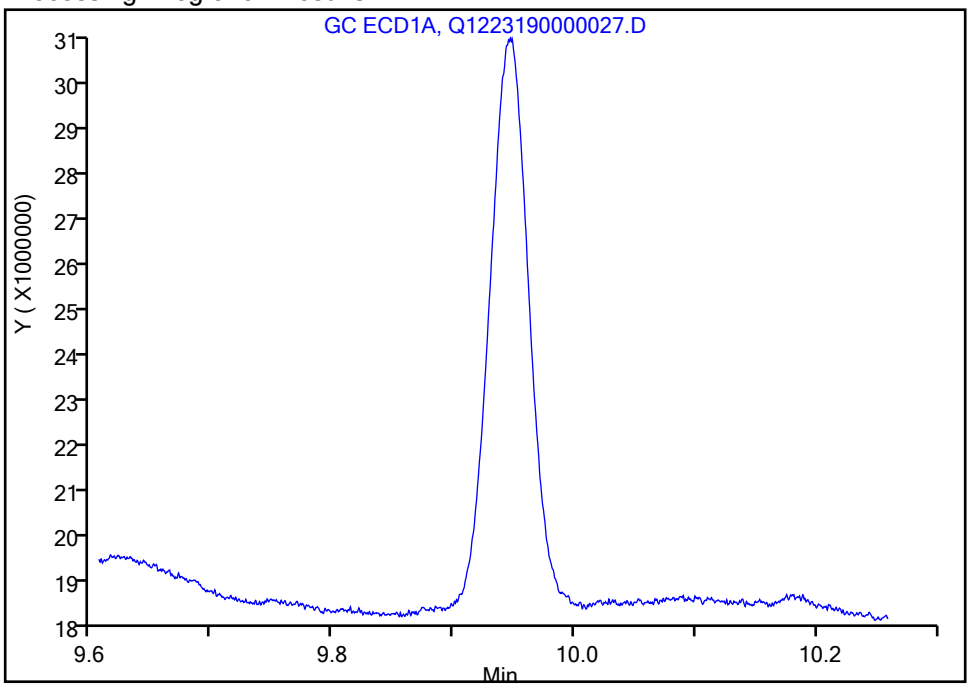

Manual Integration Results

RT: 9.95
Height: 12365973
Amount: 0.022625
Amount Units: ng

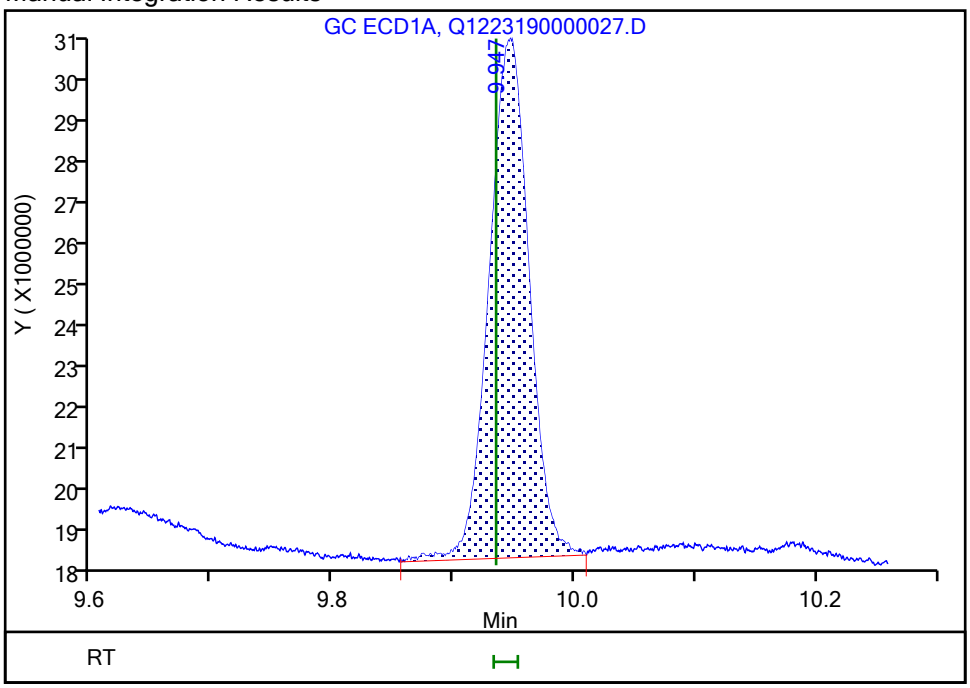

Reviewer: eppinged, 24-Dec-2019 04:14:26
Audit Action: Assigned Compound ID Audit Reason:

FORM VII
PESTICIDES PERFORMANCE EVALUATION MIXTURE (PEM)

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: PEM 180-302301/27 Calibration Date: 12/23/2019 17:21

Instrument ID: CHGC15 Calib Start Date: 07/02/2019 15:33

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 07/02/2019 16:50

Lab File ID: Q1223190000027.D Conc. Units: ng/uL

ANALYTE	RT	RESPONSE	BREAKDOWN (%)	LIMIT	#
Endrin	7.59	35957776	4.27	15	
Endrin aldehyde		0			
Endrin ketone	8.86	1601951			

ANALYTE	RT	RESPONSE	BREAKDOWN (%)	LIMIT	#
4,4'-DDT	7.91	61186236	14.25	15	
4,4'-DDD	7.67	9554783			
4,4'-DDE	7.15	611029			

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000027.D
Lims ID: PEM
Client ID:
Sample Type: PEM
Inject. Date: 23-Dec-2019 17:21:08 ALS Bottle#: 27 Worklist Smp#: 27
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030125-027
Operator ID: 402331 Instrument ID: CHGC15
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Dec-2019 05:21:57 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0301

First Level Reviewer: eppinged Date: 24-Dec-2019 04:14:51

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.770	3.765	0.005	148017747H	0.1000	0.1000	
2	4.026	4.021	0.005	144321938H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.758	4.754	0.004	34256411H	0.0250	0.0168	
2	4.899	4.895	0.004	40270270H	0.0250	0.0207	
						RPD = 20.77	
23 4,4'-DDE							
1	6.928	6.920	0.008	279807H		0.000249	
2	7.145	7.137	0.008	501438H		0.000375	
						RPD = 40.44	
27 Endrin							
1	7.257	7.251	0.006	27486083H	0.0250	0.0296	
2	7.589	7.584	0.005	27691806H	0.0250	0.0260	
						RPD = 13.01	
29 4,4'-DDD							
1	7.385	7.378	0.007	5653704H		0.006130	
2	7.666	7.659	0.007	7006478H		0.006547	
						RPD = 6.58	
32 Endrin aldehyde							
1		7.564				ND	
2		8.015					
33 4,4'-DDT							
1	7.662	7.655	0.007	40715104H	0.0500	0.0558	
2	7.910	7.904	0.006	42444968H	0.0500	0.0501	
						RPD = 10.83	
* 44 Dibutylchlorendate ISTD							
1	8.177	8.172	0.006	79009778H	0.1000	0.1000	
2	8.289	8.282	0.007	81067994H	0.1000	0.1000	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
37 Endrin ketone							
1	8.230	8.225	0.005	664581H		0.000809	
2	8.863	8.857	0.006	1490346H		0.001749	
						RPD = 73.55	
$ 39 DCB Decachlorobiphenyl (Surr)							a
1	9.947	9.935	0.012	12365973H	0.0250	0.0226	a
2	10.551	10.539	0.012	14925775H	0.0250	0.0261	a
						RPD = 14.26	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

GCPESTPEMSTD_00040	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00017	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 24-Dec-2019 05:23:14 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000027.D				
Injection Date:	23-Dec-2019 17:21:08	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	PEM			Worklist Smp#:	27
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	27
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

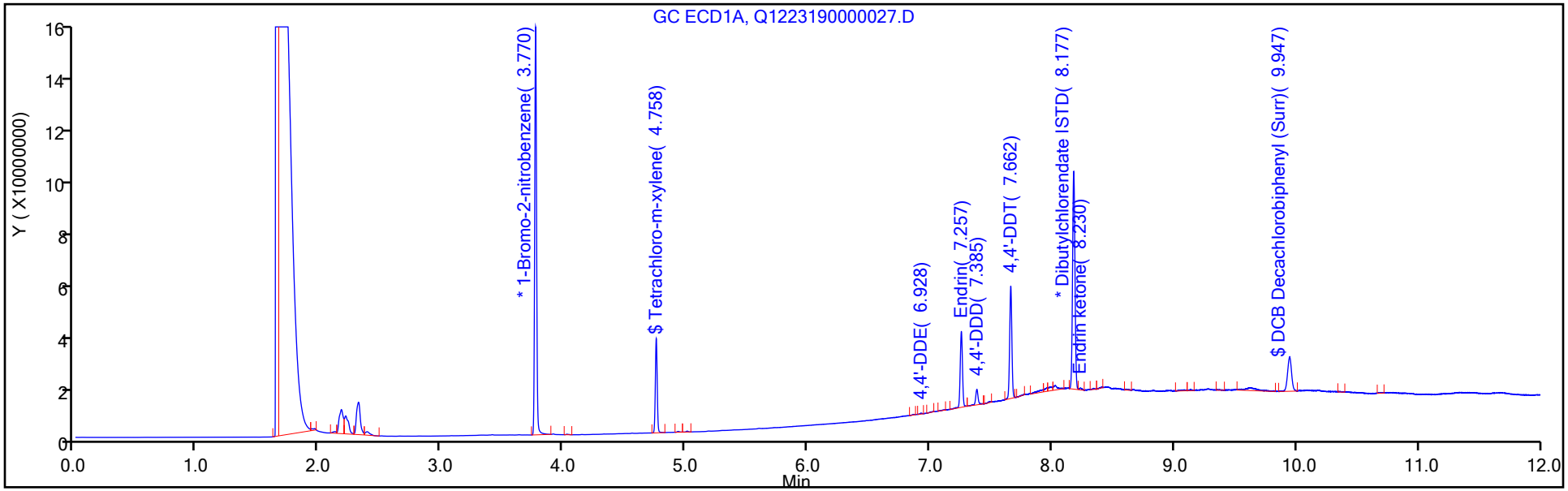

Column: MR-2 (0.53 mm)

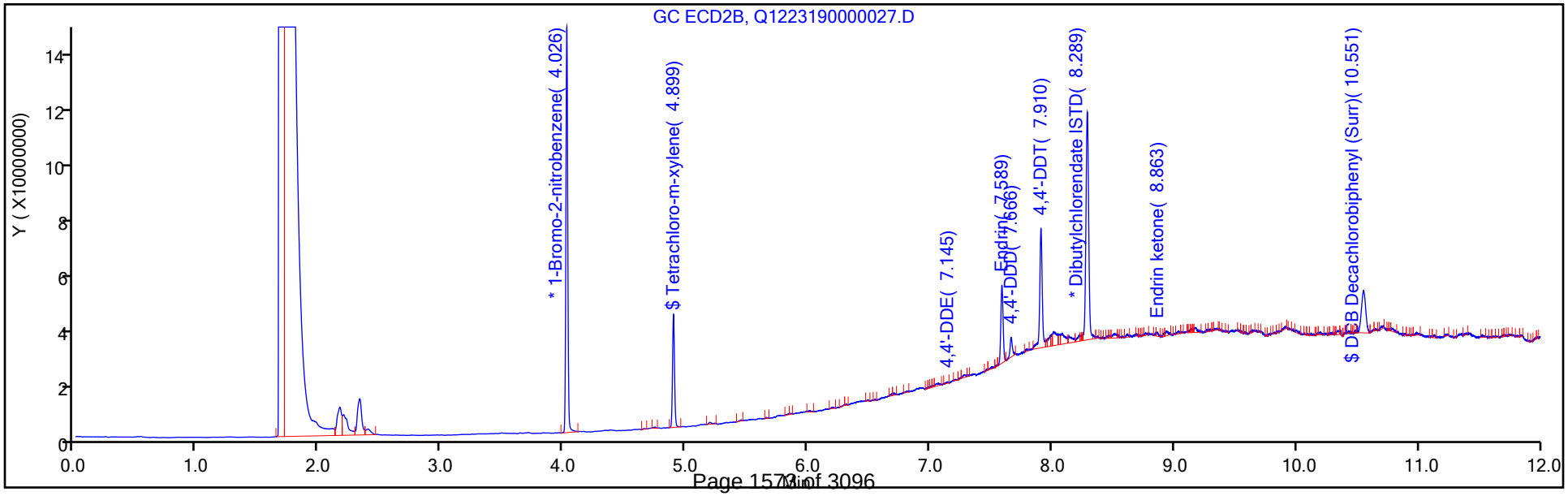

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000027.D				
Injection Date:	23-Dec-2019 17:21:08	Instrument ID:	CHGC15		
Lims ID:	PEM				
Client ID:					
Operator ID:	402331	ALS Bottle#:	27	Worklist Smp#:	27
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

$ 39 DCB Decachlorobiphenyl (Surr), CAS: 2051-24-3

Signal: 2

Not Detected
Expected RT: 10.54

Processing Integration Results

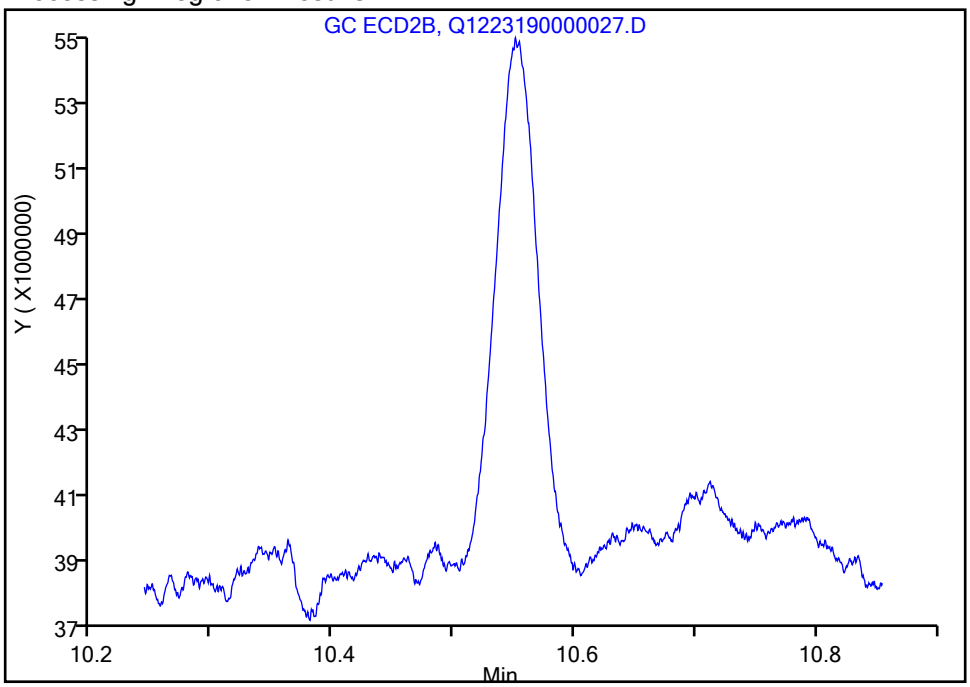

Manual Integration Results

RT: 10.55
Height: 14925775
Amount: 0.026098
Amount Units: ng

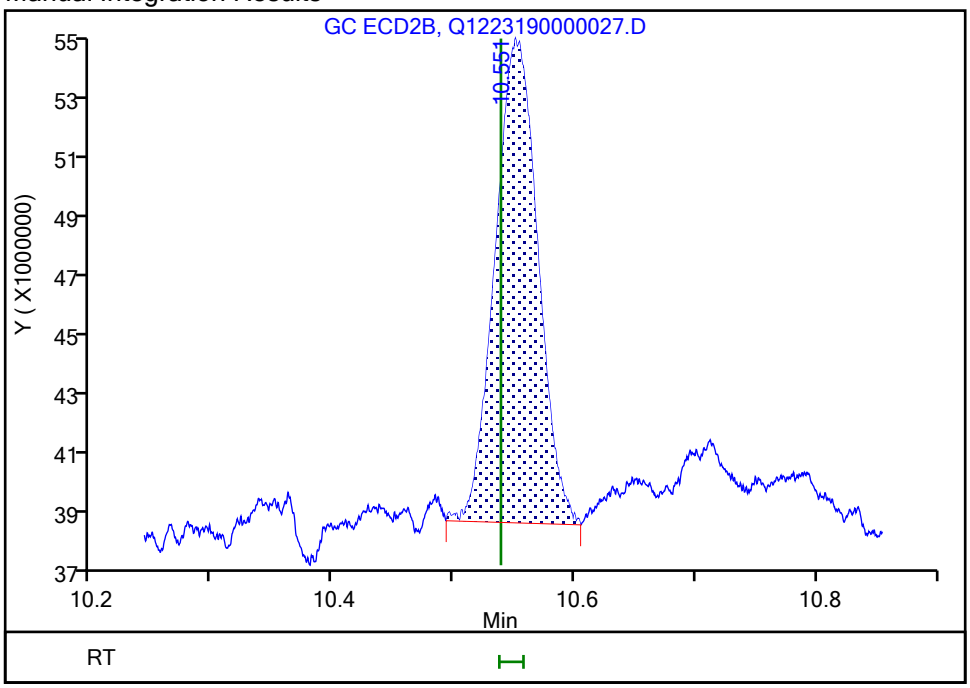

Reviewer: eppinged, 24-Dec-2019 04:14:32
Audit Action: Assigned Compound ID Audit Reason:

FORM VII
PESTICIDES PERFORMANCE EVALUATION MIXTURE (PEM)

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: PEM 180-302301/53 Calibration Date: 12/24/2019 00:02

Instrument ID: CHGC15 Calib Start Date: 07/02/2019 15:33

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 07/02/2019 16:50

Lab File ID: Q1223190000053.D Conc. Units: ng/uL

ANALYTE	RT	RESPONSE	BREAKDOWN (%)	LIMIT	#
Endrin	7.25	37734238	7.03	15	
Endrin aldehyde		0			
Endrin ketone	8.21	2854685			

ANALYTE	RT	RESPONSE	BREAKDOWN (%)	LIMIT	#
4,4'-DDT	7.66	60928916	4.02	15	
4,4'-DDD	7.38	2228913			
4,4'-DDE	6.93	320441			

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000053.D
Lims ID: PEM
Client ID:
Sample Type: PEM
Inject. Date: 24-Dec-2019 00:02:40 ALS Bottle#: 53 Worklist Smp#: 53
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030125-053
Operator ID: 402331 Instrument ID: CHGC15
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Dec-2019 04:35:05 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0301

First Level Reviewer: eppinged Date: 24-Dec-2019 04:18:00

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.769	3.771	-0.002	148975329H	0.1000	0.1000	
2	4.024	4.025	-0.001	144475620H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.757	4.758	-0.001	39471238H	0.0250	0.0192	
2	4.898	4.898	0.000	45991174H	0.0250	0.0236	
						RPD = 20.43	
23 4,4'-DDE							
1	6.925	6.925	0.000	239659H		0.000194	
2	7.137	7.140	-0.003	433581H		0.000328	
						RPD = 51.42	
27 Endrin							
1	7.254	7.255	-0.001	30553502H	0.0250	0.0300	
2	7.587	7.589	-0.002	27955258H	0.0250	0.0266	
						RPD = 11.99	
29 4,4'-DDD							
1	7.381	7.382	-0.001	1738246H		0.001715	
2	7.662	7.664	-0.002	2018845H		0.001909	
						RPD = 10.73	
32 Endrin aldehyde							
1		7.569				ND	
2		8.020					
33 4,4'-DDT							
1	7.659	7.660	-0.001	50041227H	0.0500	0.0624	
2	7.907	7.907	0.000	47120718H	0.0500	0.0563	
						RPD = 10.36	
* 44 Dibutylchlorendate ISTD							M
1	8.175	8.176	-0.001	86832600H	0.1000	0.1000	M
2	8.286	8.287	-0.001	80094353H	0.1000	0.1000	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
37 Endrin ketone							Ma
1	8.212	8.231	-0.019	1489898H		0.001649	M
2	8.865	8.863	0.002	396793H		0.000471	M
						RPD = 111.09	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	9.939	9.943	-0.004	12606558H	0.0250	0.0210	
2	10.547	10.547	0.000	15408119H	0.0250	0.0273	
						RPD = 26.03	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

GCPESTPEMSTD_00040	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00017	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 24-Dec-2019 04:36:08 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000053.D				
Injection Date:	24-Dec-2019 00:02:40	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	PEM			Worklist Smp#:	53
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	53
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

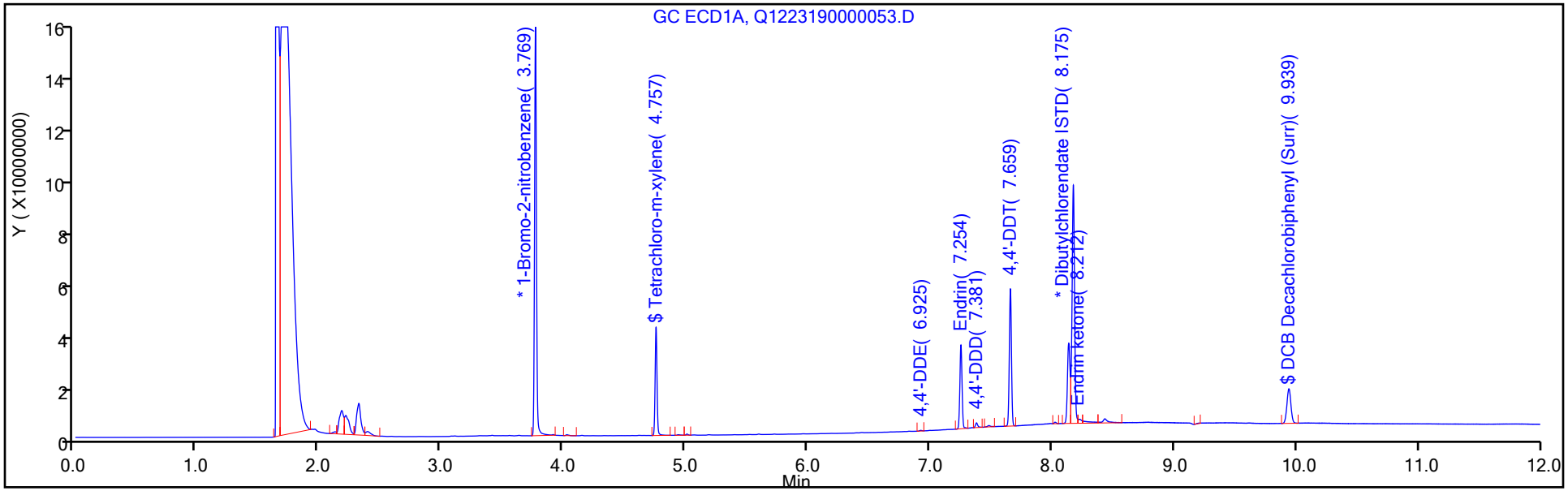

Column: MR-2 (0.53 mm)

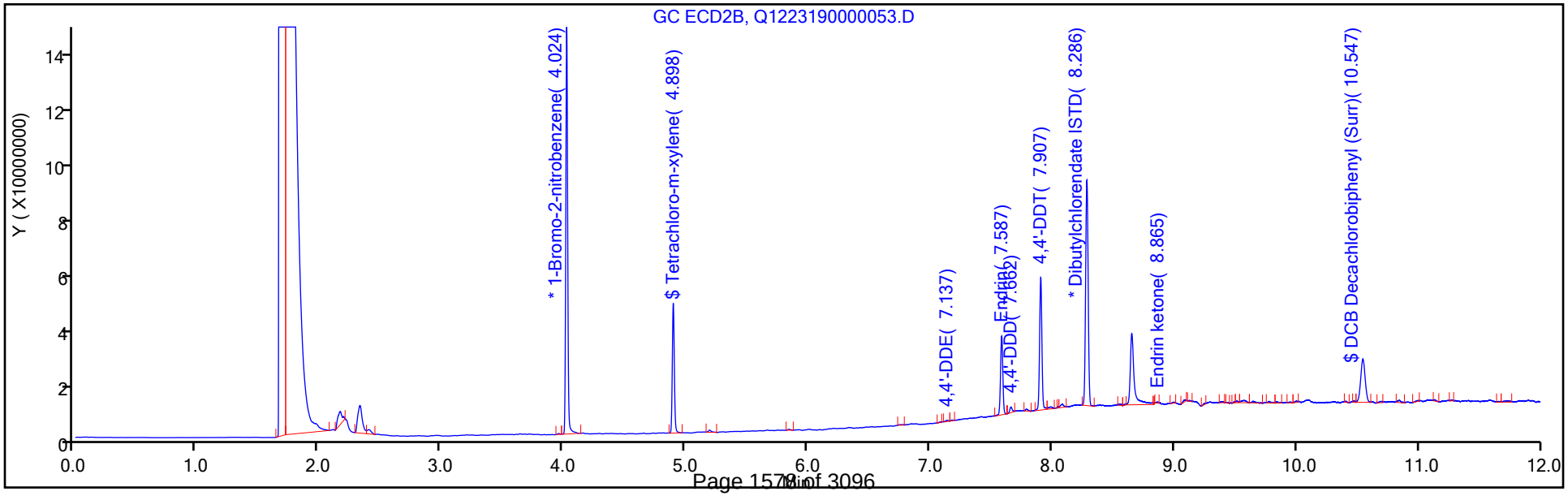

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000053.D				
Injection Date:	24-Dec-2019 00:02:40	Instrument ID:	CHGC15		
Lims ID:	PEM				
Client ID:					
Operator ID:	402331	ALS Bottle#:	53	Worklist Smp#:	53
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

37 Endrin ketone, CAS: 53494-70-5

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 8.23

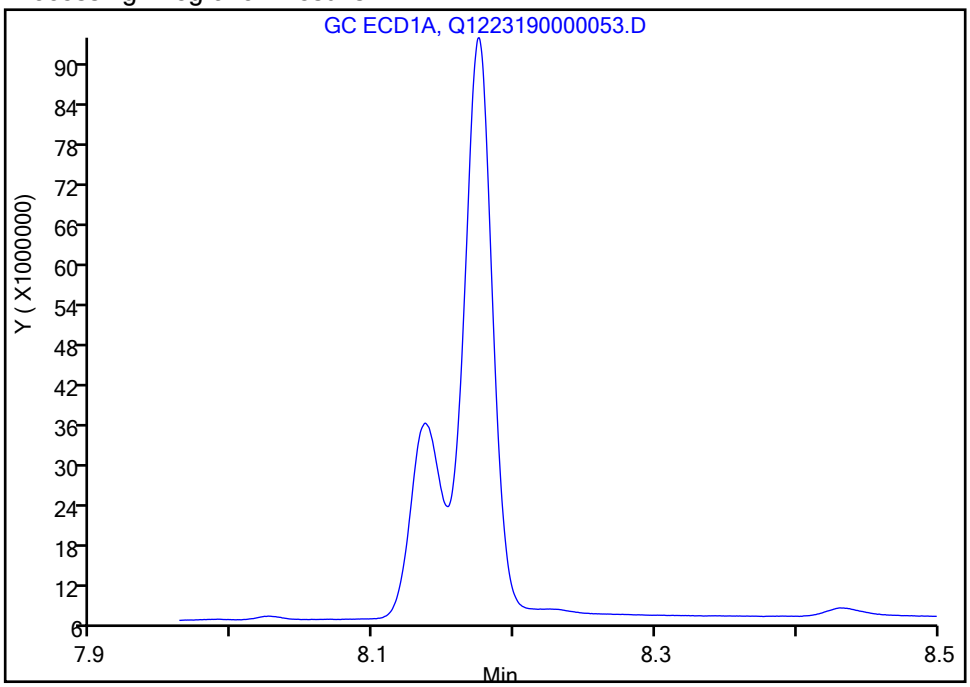

Manual Integration Results

RT: 8.21
Height: 1489898
Amount: 0.001649
Amount Units: ng

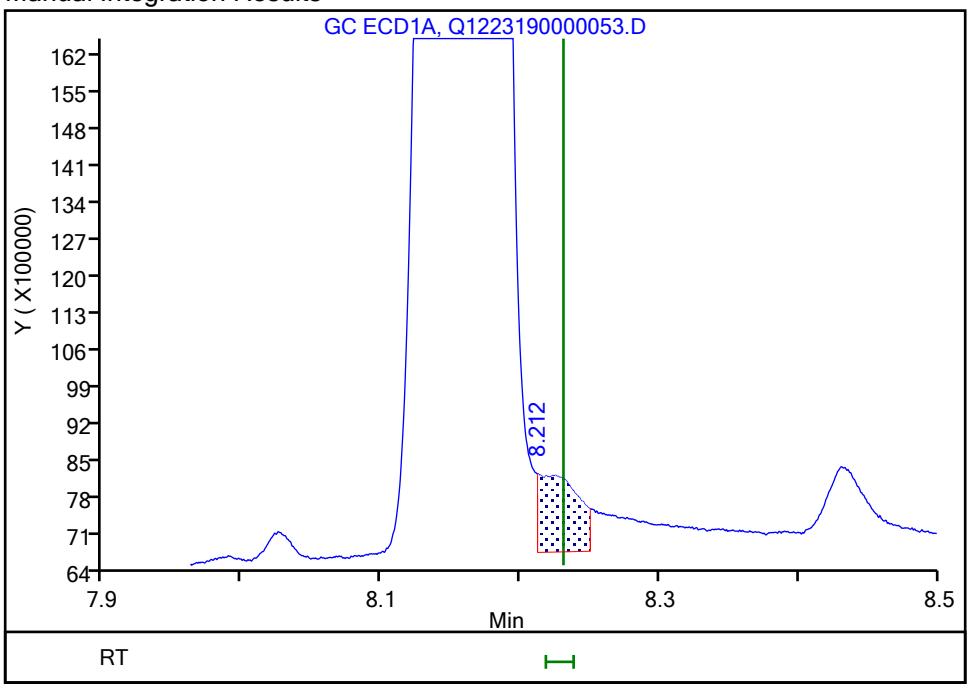

Reviewer: eppinged, 24-Dec-2019 04:17:34
Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Split Peak

FORM VII
PESTICIDES PERFORMANCE EVALUATION MIXTURE (PEM)

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: PEM 180-302301/53 Calibration Date: 12/24/2019 00:02

Instrument ID: CHGC15 Calib Start Date: 07/02/2019 15:33

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 07/02/2019 16:50

Lab File ID: Q1223190000053.D Conc. Units: ng/uL

ANALYTE	RT	RESPONSE	BREAKDOWN (%)	LIMIT	#
Endrin	7.59	36598074	1.09	15	
Endrin aldehyde		0			
Endrin ketone	8.87	402729			

ANALYTE	RT	RESPONSE	BREAKDOWN (%)	LIMIT	#
4,4'-DDT	7.91	61606978	5.44	15	
4,4'-DDD	7.66	2745595			
4,4'-DDE	7.14	796035			

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000053.D
Lims ID: PEM
Client ID:
Sample Type: PEM
Inject. Date: 24-Dec-2019 00:02:40 ALS Bottle#: 53 Worklist Smp#: 53
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030125-053
Operator ID: 402331 Instrument ID: CHGC15
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Dec-2019 04:35:05 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0301

First Level Reviewer: eppinged Date: 24-Dec-2019 04:18:00

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.769	3.771	-0.002	148975329H	0.1000	0.1000	
2	4.024	4.025	-0.001	144475620H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.757	4.758	-0.001	39471238H	0.0250	0.0192	
2	4.898	4.898	0.000	45991174H	0.0250	0.0236	
						RPD = 20.43	
23 4,4'-DDE							
1	6.925	6.925	0.000	239659H		0.000194	
2	7.137	7.140	-0.003	433581H		0.000328	
						RPD = 51.42	
27 Endrin							
1	7.254	7.255	-0.001	30553502H	0.0250	0.0300	
2	7.587	7.589	-0.002	27955258H	0.0250	0.0266	
						RPD = 11.99	
29 4,4'-DDD							
1	7.381	7.382	-0.001	1738246H		0.001715	
2	7.662	7.664	-0.002	2018845H		0.001909	
						RPD = 10.73	
32 Endrin aldehyde							
1		7.569				ND	
2		8.020					
33 4,4'-DDT							
1	7.659	7.660	-0.001	50041227H	0.0500	0.0624	
2	7.907	7.907	0.000	47120718H	0.0500	0.0563	
						RPD = 10.36	
* 44 Dibutylchlorendate ISTD							M
1	8.175	8.176	-0.001	86832600H	0.1000	0.1000	M
2	8.286	8.287	-0.001	80094353H	0.1000	0.1000	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
37 Endrin ketone							Ma
1	8.212	8.231	-0.019	1489898H		0.001649	M
2	8.865	8.863	0.002	396793H		0.000471	M
						RPD = 111.09	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	9.939	9.943	-0.004	12606558H	0.0250	0.0210	
2	10.547	10.547	0.000	15408119H	0.0250	0.0273	
						RPD = 26.03	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

GCPESTPEMSTD_00040	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00017	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 24-Dec-2019 04:36:08 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000053.D				
Injection Date:	24-Dec-2019 00:02:40	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	PEM			Worklist Smp#:	53
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	53
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

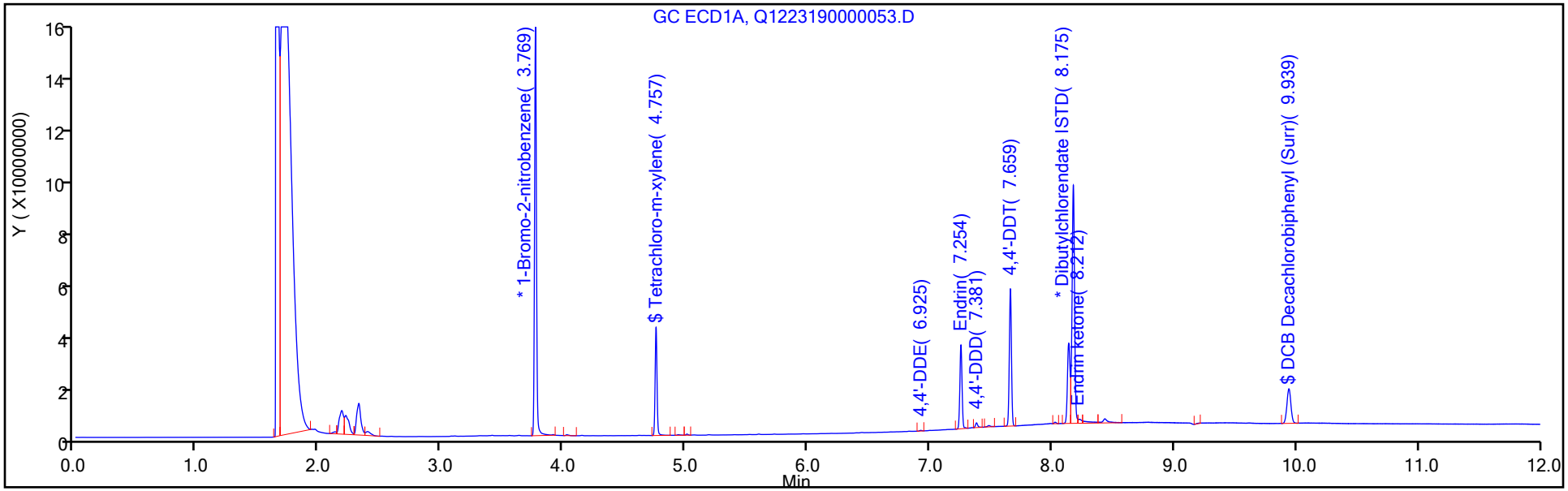

Column: MR-2 (0.53 mm)

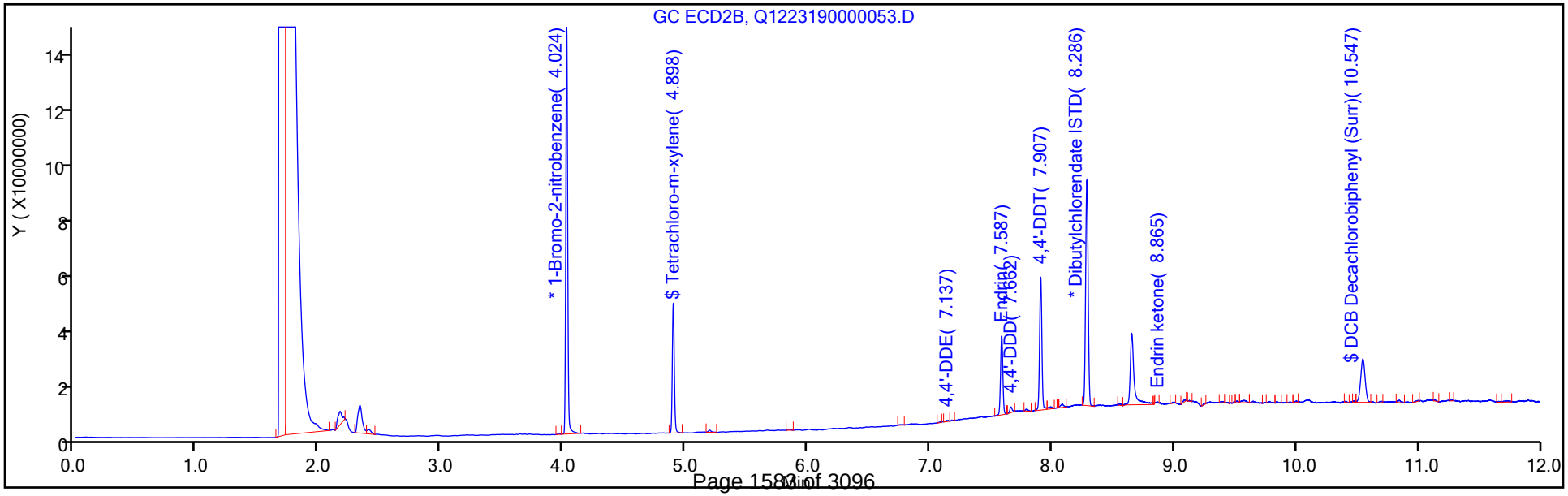

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000053.D				
Injection Date:	24-Dec-2019 00:02:40	Instrument ID:	CHGC15		
Lims ID:	PEM				
Client ID:					
Operator ID:	402331	ALS Bottle#:	53	Worklist Smp#:	53
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

37 Endrin ketone, CAS: 53494-70-5

Signal: 2

Not Detected
Expected RT: 8.86

Processing Integration Results

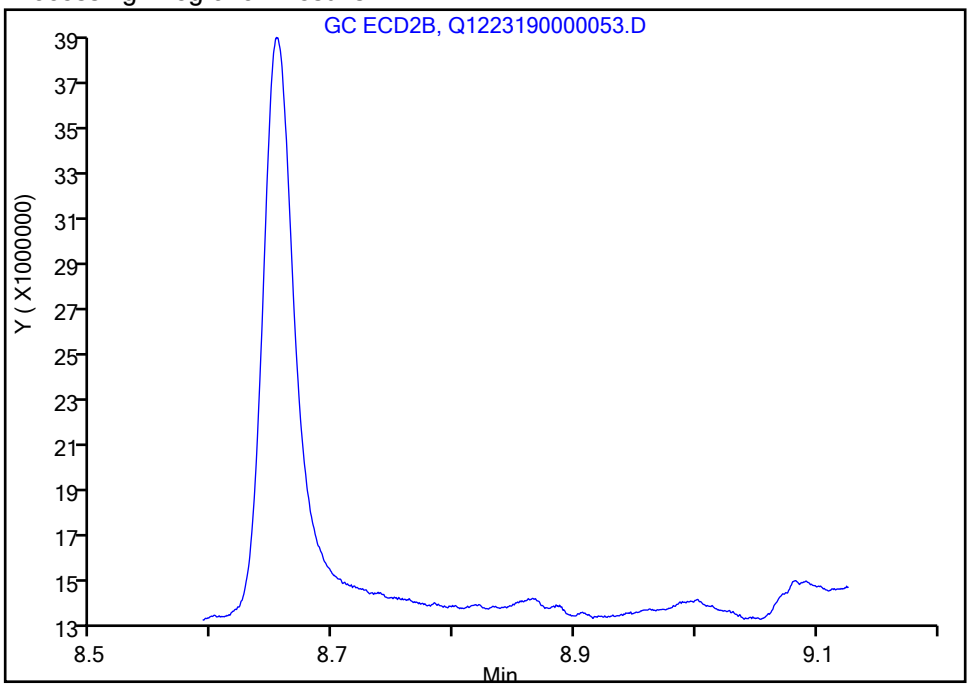

Manual Integration Results

RT: 8.87
Height: 396793
Amount: 0.000471
Amount Units: ng

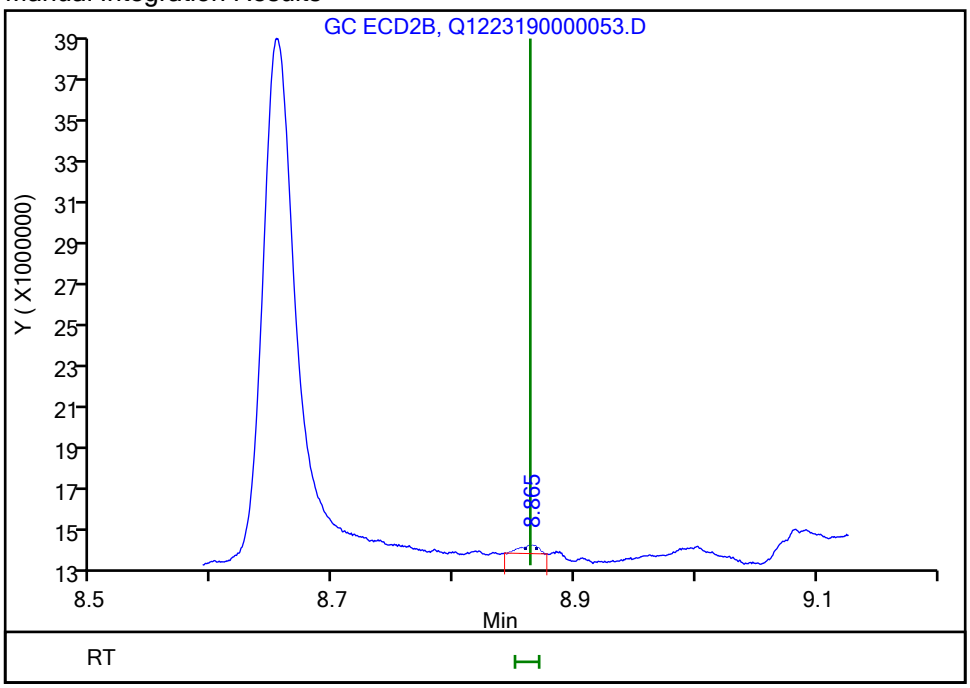

Reviewer: eppinged, 24-Dec-2019 04:17:51
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 180-279115/30 Calibration Date: 05/18/2019 20:51

Instrument ID: CHGC15 Calib Start Date: 05/18/2019 12:14

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 05/18/2019 13:16

Lab File ID: Q0518190000030.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Toxaphene Peak 1	Ave	0.0135	0.0130		0.965	1.00	-3.5	20.0
Toxaphene Peak 2	Ave	0.0178	0.0180		1.01	1.00	1.2	20.0
Toxaphene Peak 3	Ave	0.0164	0.0160		0.973	1.00	-2.7	20.0
Toxaphene Peak 4	Ave	0.0151	0.0137		0.909	1.00	-9.1	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 180-279115/30 Calibration Date: 05/18/2019 20:51

Instrument ID: CHGC15 Calib Start Date: 05/18/2019 12:14

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 05/18/2019 13:16

Lab File ID: Q0518190000030.D

Analyte	RT	RT WINDOW	
		FROM	TO
Toxaphene Peak 1	7.01	7.04	7.06
Toxaphene Peak 2	7.28	7.31	7.33
Toxaphene Peak 3	7.66	7.69	7.71
Toxaphene Peak 4	7.90	7.93	7.95

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000030.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 18-May-2019 20:51:51 ALS Bottle#: 30 Worklist Smp#: 30
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026894-030
Operator ID: 402331 Instrument ID: CHGC15
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 20-May-2019 05:53:15 Calib Date: 18-May-2019 20:36:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0306

First Level Reviewer: eppinged Date: 20-May-2019 04:52:07

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.792	3.791	0.001	130953712H	0.1000	0.1000	
2	4.066	4.066	0.001	151667759H	0.1000	0.1000	
34 Toxaphene							Ma
1	7.010	7.049	-0.039	17029230H	1.00	0.9652	a
1	7.276	7.316	-0.040	23551723H	1.00	1.01	a
1	7.658	7.699	-0.041	20913607H	1.00	0.9727	a
1	7.900	7.941	-0.041	17996307H	1.00	0.9092	a
		Average of Peak Amounts =				0.9647	
2	7.241	7.262	-0.021	11556055H	1.00	1.02	M
2	7.372	7.392	-0.020	18500188H	1.00	1.01	M
2	7.875	7.895	-0.020	31142140H	1.00	1.04	M
2	8.607	8.632	-0.025	21490073H	1.00	1.02	M
		Average of Peak Amounts =				1.02	
					RPD =	5.74	
* 44 Dibutylchlorendate ISTD							sM
1	8.236	8.235	0.001	110821286H	0.1000	0.1000	
2	8.366	8.368	-0.001	110850739H	0.1000	0.1000	M

QC Flag Legend

Processing Flags
- s - Failed ISTD Recovery Test
- H - Response Measured by Height

Review Flags
- M - Manually Integrated
- a - User Assigned ID

Reagents:

GCTOXICV_00010	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 20-May-2019 05:53:22 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000030.D				
Injection Date:	18-May-2019 20:51:51	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	ICV			Worklist Smp#:	30
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	30
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

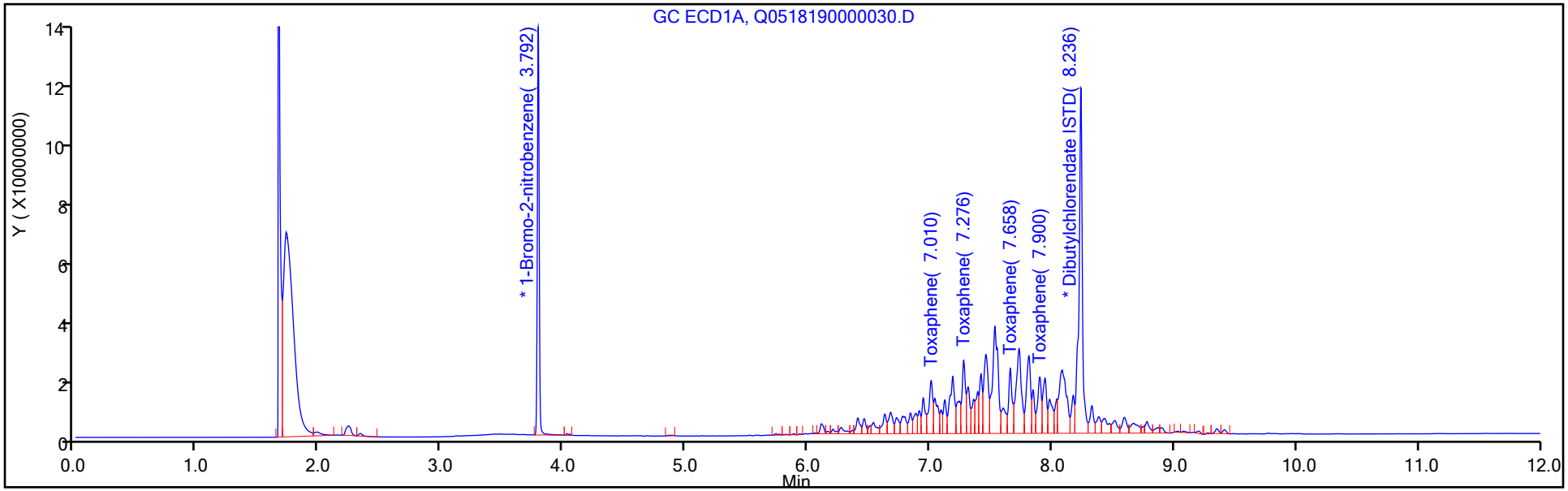

Column: MR-2 (0.53 mm)

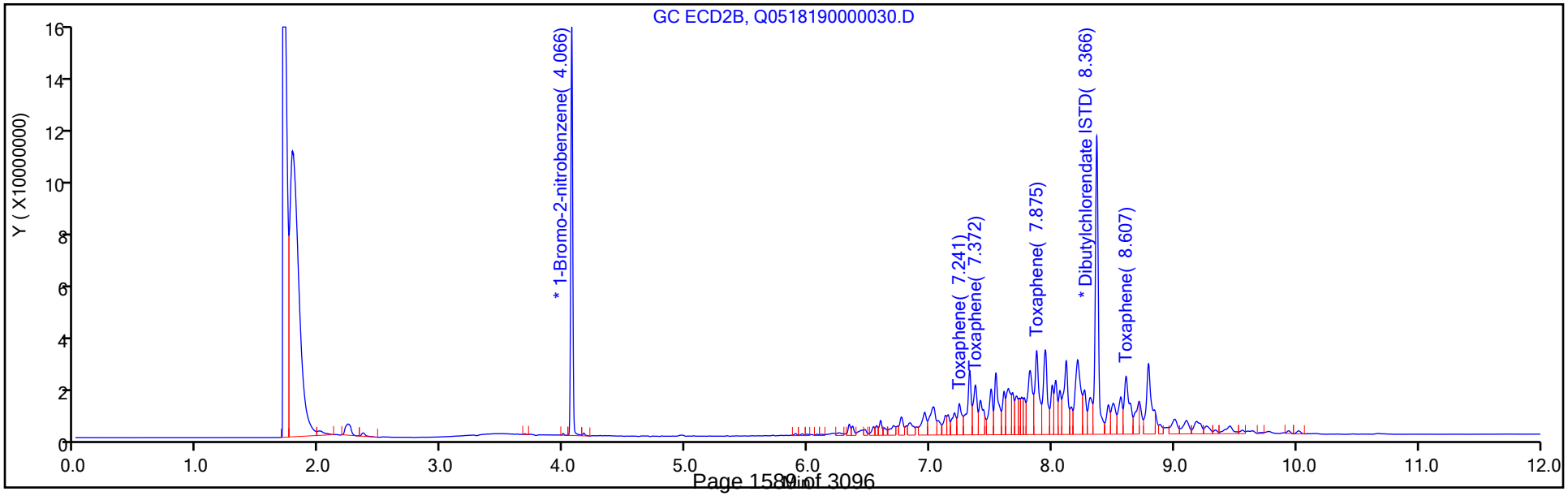

Report Date: 20-May-2019 05:53:22 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000030.D				
Injection Date:	18-May-2019 20:51:51	Instrument ID:	CHGC15		
Lims ID:	ICV				
Client ID:					
Operator ID:	402331	ALS Bottle#:	30	Worklist Smp#:	30
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

34 Toxaphene, CAS: 8001-35-2

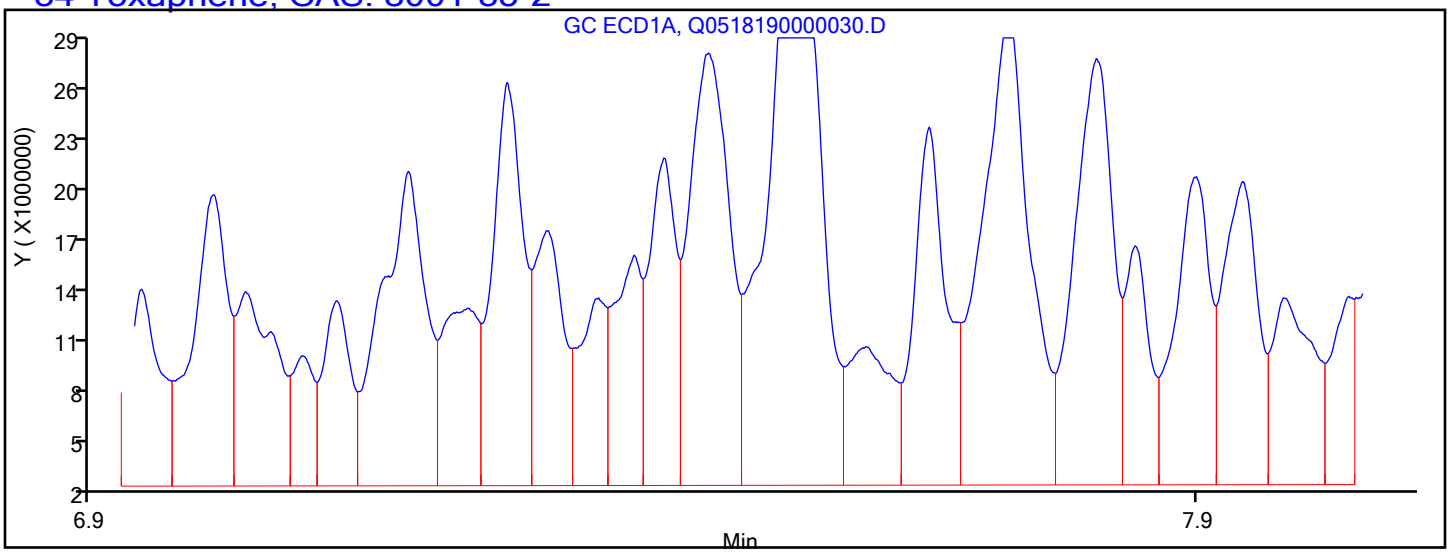

Processing Integration Results

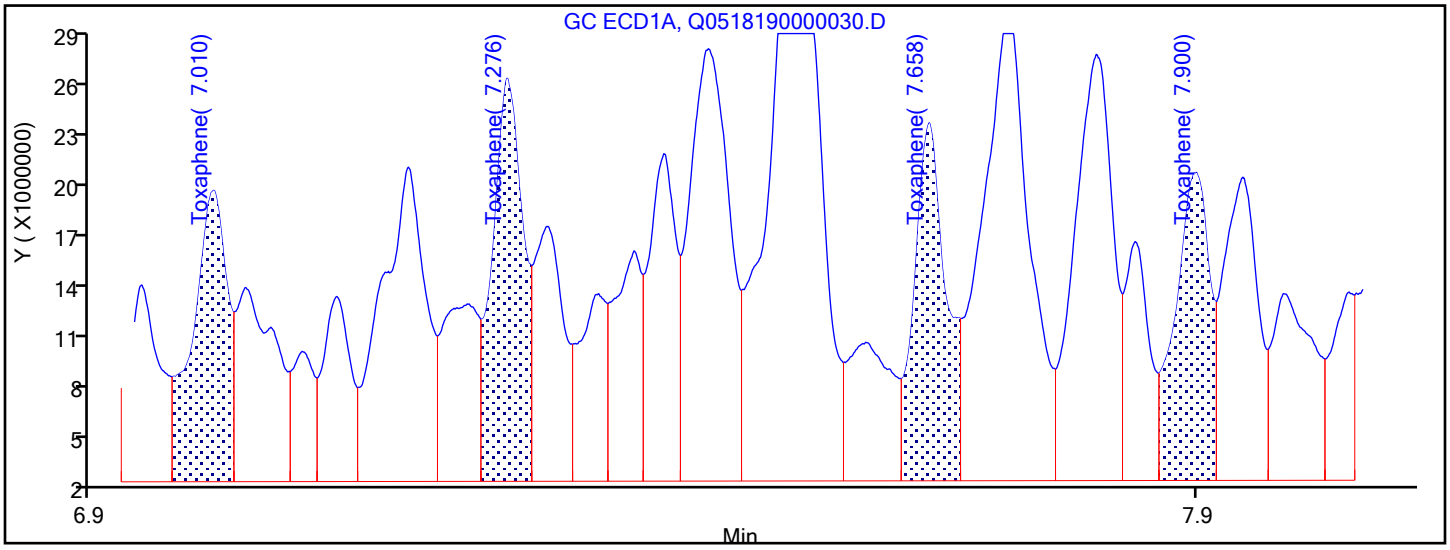

Manual Integration Results

7.010	Response = 17029230	M
7.276	Response = 23551723	M
7.658	Response = 20913607	M
7.900	Response = 17996307	M

Reviewer: eppinged, 20-May-2019 04:50:27

Audit Action: Assigned Compound ID Audit Reason: Baseline Smoothing

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 180-279115/30 Calibration Date: 05/18/2019 20:51

Instrument ID: CHGC15 Calib Start Date: 05/18/2019 12:14

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 05/18/2019 13:16

Lab File ID: Q0518190000030.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Toxaphene Peak 1	Ave	0.0075	0.0076		1.02	1.00	2.1	20.0
Toxaphene Peak 2	Ave	0.0121	0.0122		1.01	1.00	0.8	20.0
Toxaphene Peak 3	Lin1		0.0205		1.04	1.00	3.9	20.0
Toxaphene Peak 4	Ave	0.0139	0.0142		1.02	1.00	1.8	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 180-279115/30 Calibration Date: 05/18/2019 20:51

Instrument ID: CHGC15 Calib Start Date: 05/18/2019 12:14

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 05/18/2019 13:16

Lab File ID: Q0518190000030.D

Analyte	RT	RT WINDOW	
		FROM	TO
Toxaphene Peak 1	7.24	7.25	7.27
Toxaphene Peak 2	7.37	7.38	7.40
Toxaphene Peak 3	7.88	7.89	7.91
Toxaphene Peak 4	8.61	8.62	8.64

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000030.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 18-May-2019 20:51:51 ALS Bottle#: 30 Worklist Smp#: 30
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026894-030
Operator ID: 402331 Instrument ID: CHGC15
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 20-May-2019 05:53:15 Calib Date: 18-May-2019 20:36:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0306

First Level Reviewer: eppinged Date: 20-May-2019 04:52:07

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.792	3.791	0.001	130953712H	0.1000	0.1000	
2	4.066	4.066	0.001	151667759H	0.1000	0.1000	
34 Toxaphene							Ma
1	7.010	7.049	-0.039	17029230H	1.00	0.9652	a
1	7.276	7.316	-0.040	23551723H	1.00	1.01	a
1	7.658	7.699	-0.041	20913607H	1.00	0.9727	a
1	7.900	7.941	-0.041	17996307H	1.00	0.9092	a
		Average of Peak Amounts =				0.9647	
2	7.241	7.262	-0.021	11556055H	1.00	1.02	M
2	7.372	7.392	-0.020	18500188H	1.00	1.01	M
2	7.875	7.895	-0.020	31142140H	1.00	1.04	M
2	8.607	8.632	-0.025	21490073H	1.00	1.02	M
		Average of Peak Amounts =				1.02	
					RPD =	5.74	
* 44 Dibutylchlorendate ISTD							sM
1	8.236	8.235	0.001	110821286H	0.1000	0.1000	
2	8.366	8.368	-0.001	110850739H	0.1000	0.1000	M

QC Flag Legend

Processing Flags
- s - Failed ISTD Recovery Test
- H - Response Measured by Height

Review Flags
- M - Manually Integrated
- a - User Assigned ID

Reagents:

GCTOXICV_00010	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 20-May-2019 05:53:22 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000030.D				
Injection Date:	18-May-2019 20:51:51	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	ICV			Worklist Smp#:	30
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	30
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

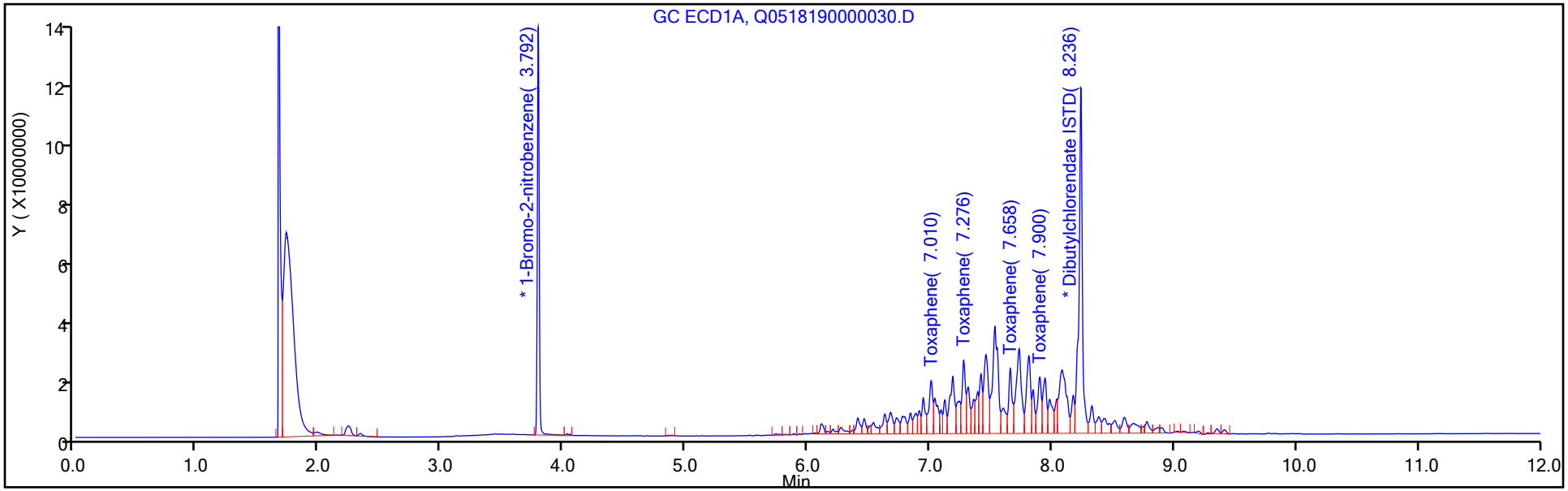

Column: MR-2 (0.53 mm)

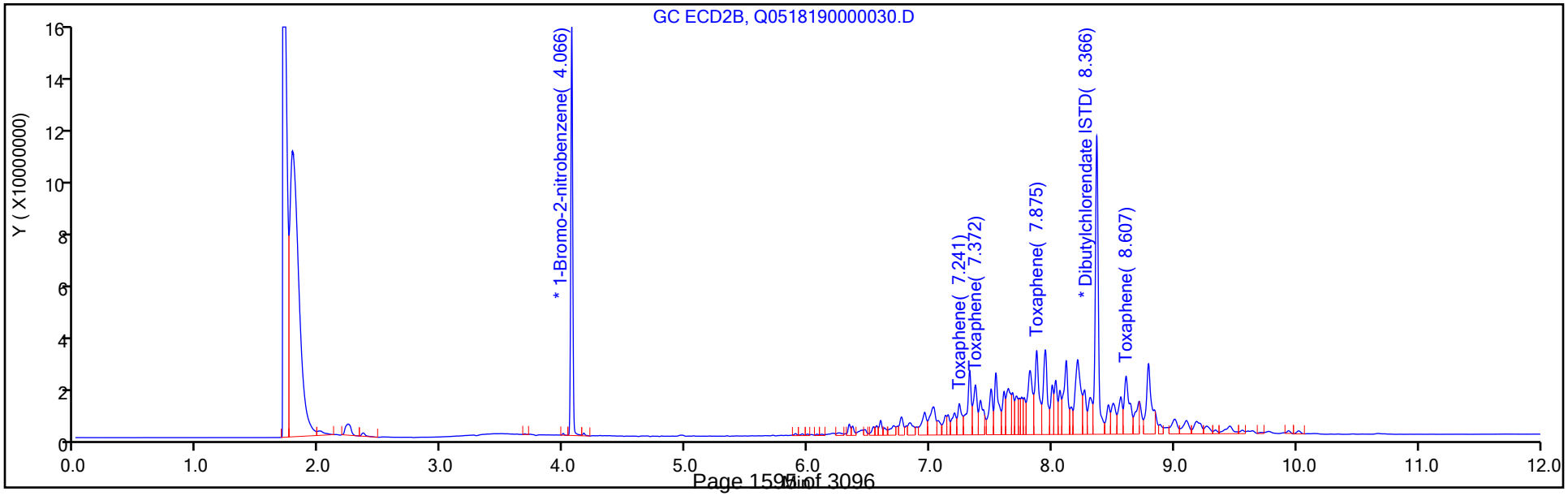

Report Date: 20-May-2019 05:53:23 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000030.D				
Injection Date:	18-May-2019 20:51:51	Instrument ID:	CHGC15		
Lims ID:	ICV				
Client ID:					
Operator ID:	402331	ALS Bottle#:	30	Worklist Smp#:	30
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

34 Toxaphene, CAS: 8001-35-2

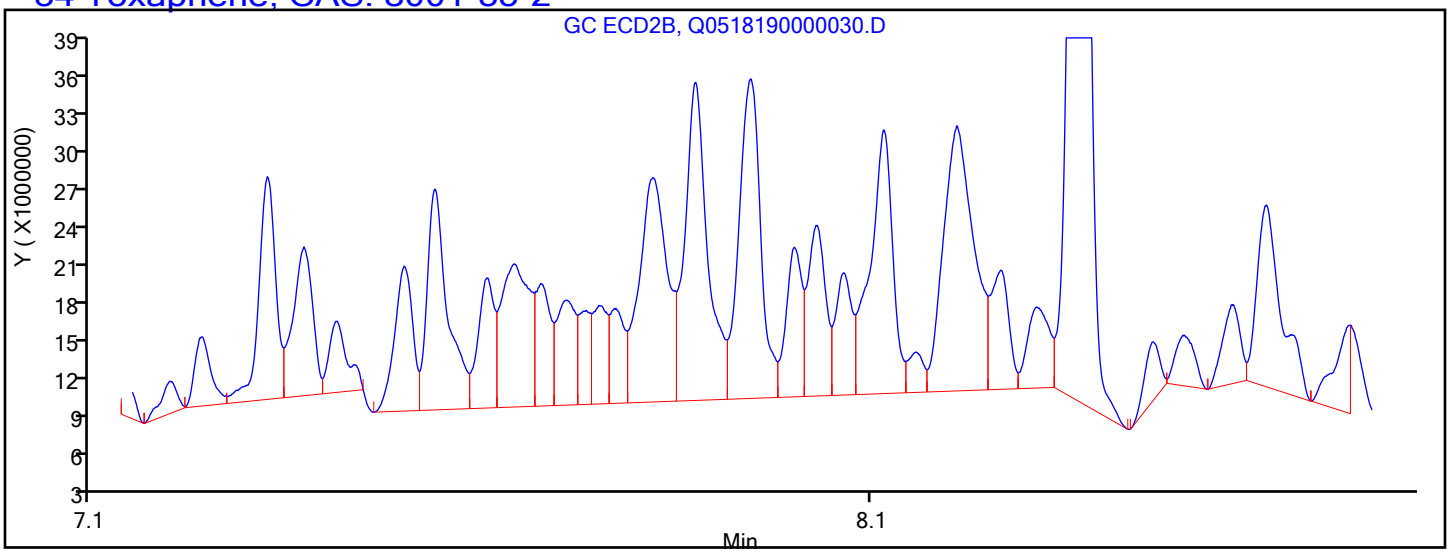

Processing Integration Results

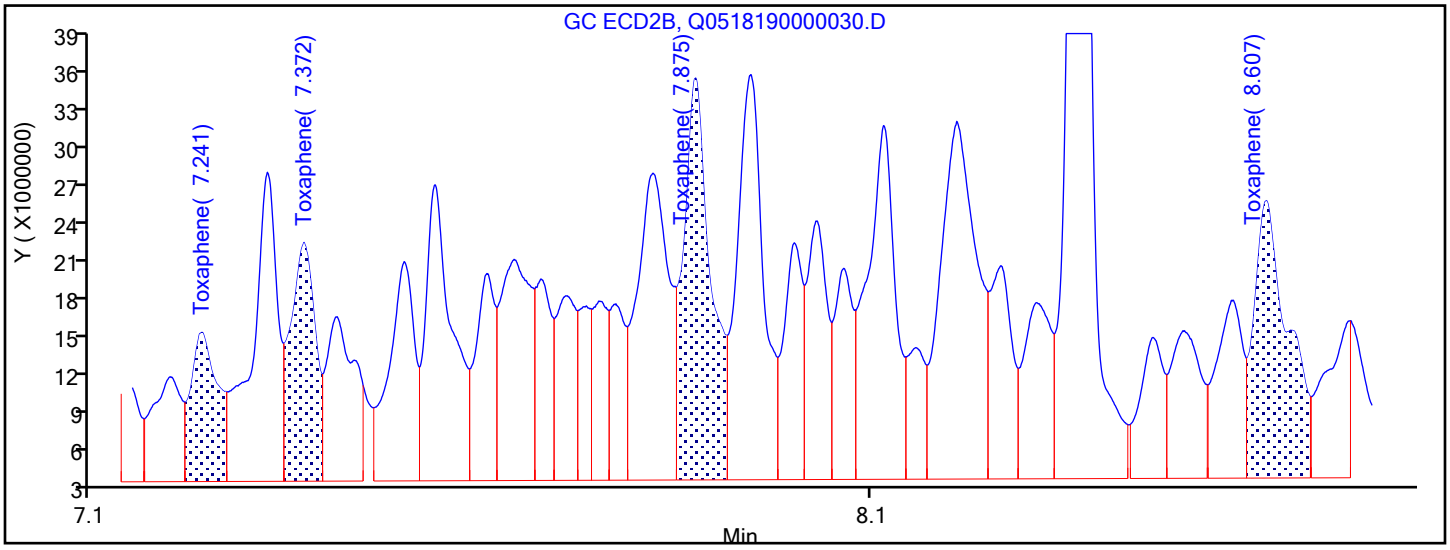

Manual Integration Results

7.241	Response = 11556055	M
7.372	Response = 18500188	M
7.875	Response = 31142140	M
8.607	Response = 21490073	M

Reviewer: eppinged, 20-May-2019 04:51:19

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 180-279115/31 Calibration Date: 05/18/2019 21:07

Instrument ID: CHGC15 Calib Start Date: 05/18/2019 14:56

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 05/18/2019 15:57

Lab File ID: Q0518190000031.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Chlordane (technical) Peak 1	Ave	0.0462	0.0406		0.220	0.250	-12.2	20.0
Chlordane (technical) Peak 2	Ave	0.0571	0.0477		0.209	0.250	-16.5	20.0
Chlordane (technical) Peak 3	Ave	0.1693	0.1563		0.231	0.250	-7.7	20.0
Chlordane (technical) Peak 4	Ave	0.1861	0.1681		0.226	0.250	-9.7	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 180-279115/31 Calibration Date: 05/18/2019 21:07

Instrument ID: CHGC15 Calib Start Date: 05/18/2019 14:56

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 05/18/2019 15:57

Lab File ID: Q0518190000031.D

Analyte	RT	RT WINDOW	
		FROM	TO
Chlordane (technical) Peak 1	5.72	5.71	5.73
Chlordane (technical) Peak 2	5.89	5.89	5.91
Chlordane (technical) Peak 3	6.75	6.74	6.76
Chlordane (technical) Peak 4	6.82	6.81	6.83

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000031.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 18-May-2019 21:07:25 ALS Bottle#: 31 Worklist Smp#: 31
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026894-031
Operator ID: 402331 Instrument ID: CHGC15
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 20-May-2019 05:53:15 Calib Date: 18-May-2019 20:36:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0306

First Level Reviewer: eppinged Date: 20-May-2019 04:52:22

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.791	3.791	0.000	139748475H	0.1000	0.1000	
2	4.065	4.066	0.000	158559934H	0.1000	0.1000	
9 Chlordane (technical)							
1	5.718	5.721	-0.003	14187123H	0.2500	0.2196	
1	5.892	5.895	-0.003	16661564H	0.2500	0.2088	
1	6.751	6.754	-0.003	54593931H	0.2500	0.2308	
1	6.821	6.824	-0.003	58738250H	0.2500	0.2258	
		Average of Peak Amounts =				0.2213	
2	6.053	6.054	-0.001	20802213H	0.2500	0.2907	
2	6.410	6.413	-0.003	12050812H	0.2500	0.2706	
2	7.021	7.023	-0.002	53081549H	0.2500	0.2715	
2	7.069	7.070	-0.001	33215856H	0.2500	0.2704	
		Average of Peak Amounts =				0.2758	
						RPD = 21.94	
* 44 Dibutylchlorendate ISTD							
1	8.236	8.235	0.001	101086870H	0.1000	0.1000	
2	8.368	8.368	0.000	100817785H	0.1000	0.1000	

Reagents:

GCCHLORICV_00011 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 20-May-2019 05:53:26 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000031.D				
Injection Date:	18-May-2019 21:07:25	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	ICV			Worklist Smp#:	31
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	31
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

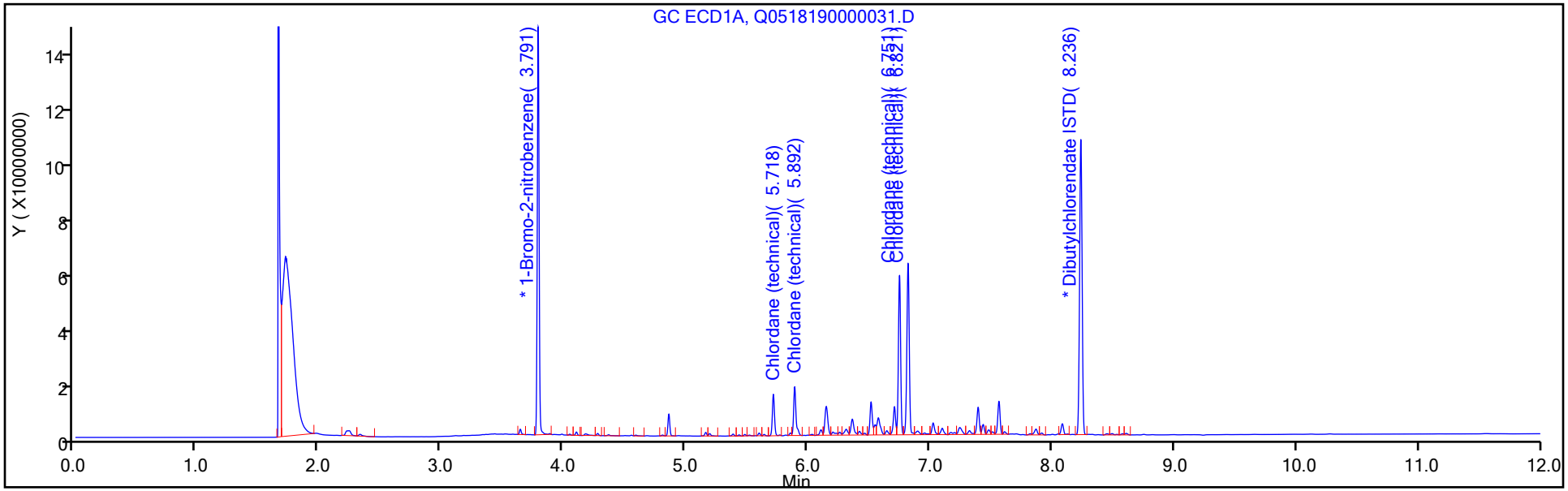

Column: MR-2 (0.53 mm)

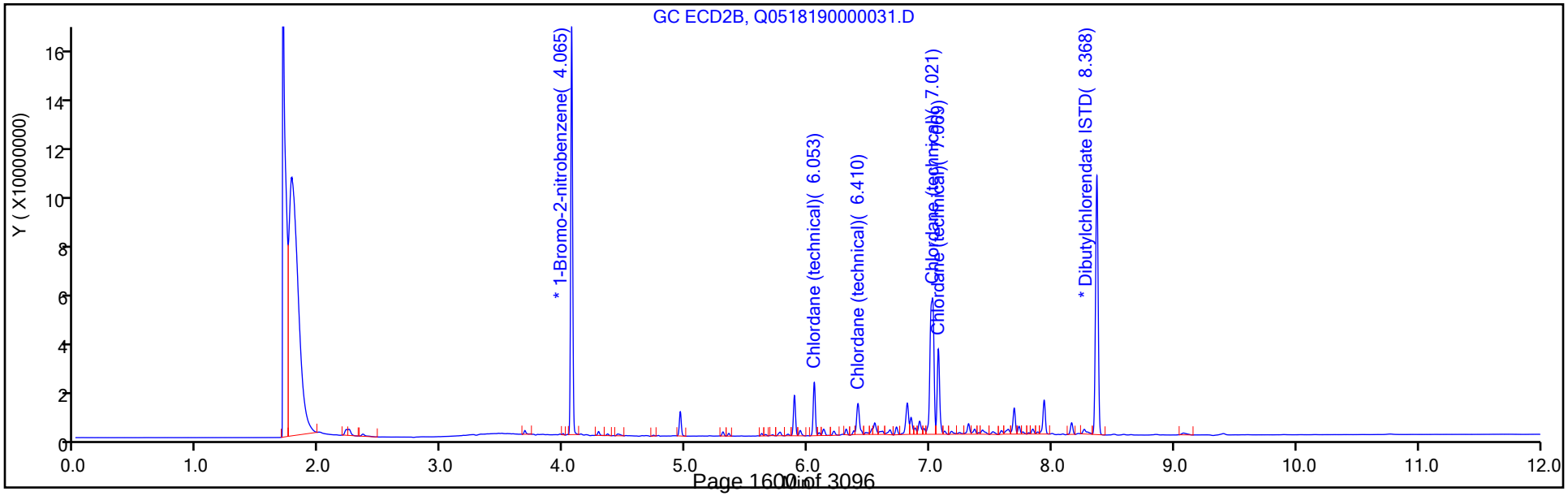

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 180-279115/31 Calibration Date: 05/18/2019 21:07

Instrument ID: CHGC15 Calib Start Date: 05/18/2019 14:56

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 05/18/2019 15:57

Lab File ID: Q0518190000031.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Chlordane (technical) Peak 1	Lin1		0.0525		0.291	0.250	16.3	20.0
Chlordane (technical) Peak 2	Lin1		0.0304		0.271	0.250	8.2	20.0
Chlordane (technical) Peak 3	Lin1		0.1339		0.272	0.250	8.6	20.0
Chlordane (technical) Peak 4	Lin1		0.0838		0.270	0.250	8.2	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 180-279115/31 Calibration Date: 05/18/2019 21:07

Instrument ID: CHGC15 Calib Start Date: 05/18/2019 14:56

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 05/18/2019 15:57

Lab File ID: Q0518190000031.D

Analyte	RT	RT WINDOW	
		FROM	TO
Chlordane (technical) Peak 1	6.05	6.04	6.06
Chlordane (technical) Peak 2	6.41	6.40	6.42
Chlordane (technical) Peak 3	7.02	7.01	7.03
Chlordane (technical) Peak 4	7.07	7.06	7.08

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000031.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 18-May-2019 21:07:25 ALS Bottle#: 31 Worklist Smp#: 31
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0026894-031
Operator ID: 402331 Instrument ID: CHGC15
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 20-May-2019 05:53:15 Calib Date: 18-May-2019 20:36:24
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000029.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0306

First Level Reviewer: eppinged Date: 20-May-2019 04:52:22

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.791	3.791	0.000	139748475H	0.1000	0.1000	
2	4.065	4.066	0.000	158559934H	0.1000	0.1000	
9 Chlordane (technical)							
1	5.718	5.721	-0.003	14187123H	0.2500	0.2196	
1	5.892	5.895	-0.003	16661564H	0.2500	0.2088	
1	6.751	6.754	-0.003	54593931H	0.2500	0.2308	
1	6.821	6.824	-0.003	58738250H	0.2500	0.2258	
		Average of Peak Amounts =				0.2213	
2	6.053	6.054	-0.001	20802213H	0.2500	0.2907	
2	6.410	6.413	-0.003	12050812H	0.2500	0.2706	
2	7.021	7.023	-0.002	53081549H	0.2500	0.2715	
2	7.069	7.070	-0.001	33215856H	0.2500	0.2704	
		Average of Peak Amounts =				0.2758	
						RPD = 21.94	
* 44 Dibutylchlorendate ISTD							
1	8.236	8.235	0.001	101086870H	0.1000	0.1000	
2	8.368	8.368	0.000	100817785H	0.1000	0.1000	

Reagents:

GCCHLORICV_00011 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00016 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 20-May-2019 05:53:26 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190518-26894.b\Q0518190000031.D				
Injection Date:	18-May-2019 21:07:25	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	ICV			Worklist Smp#:	31
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	31
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

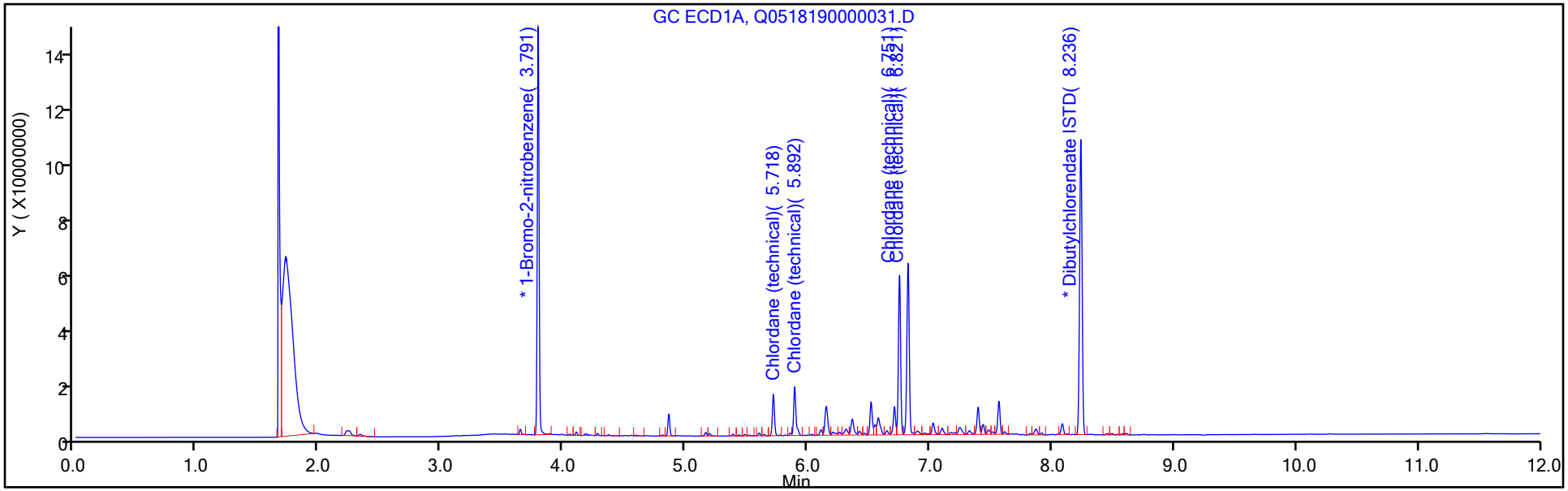

Column: MR-2 (0.53 mm)

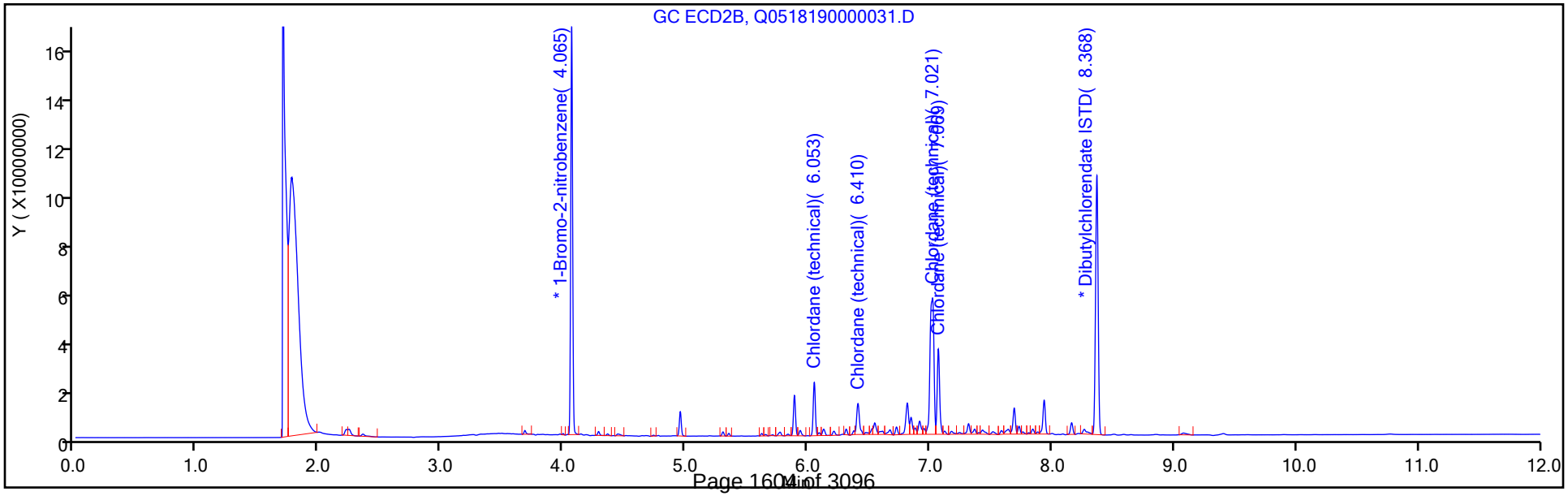

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 180-283820/2 Calibration Date: 07/03/2019 09:56

Instrument ID: CHGC15 Calib Start Date: 07/02/2019 15:33

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 07/02/2019 16:50

Lab File ID: Q0703190000002.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
alpha-BHC	Ave	1.584	1.712		0.0540	0.0500	8.1	20.0
gamma-BHC (Lindane)	Ave	1.396	1.488		0.0533	0.0500	6.6	20.0
beta-BHC	Ave	0.5699	0.6200		0.0544	0.0500	8.8	20.0
delta-BHC	Ave	1.288	1.462		0.0568	0.0500	13.5	20.0
Heptachlor	Ave	1.235	1.293		0.0524	0.0500	4.7	20.0
Aldrin	Ave	1.277	1.361		0.0533	0.0500	6.5	20.0
Heptachlor epoxide	Ave	1.111	1.150		0.0518	0.0500	3.6	20.0
trans-Chlordane	Ave	1.152	1.216		0.0528	0.0500	5.6	20.0
cis-Chlordane	Ave	1.128	1.195		0.0530	0.0500	6.0	20.0
Endosulfan I	Ave	1.016	1.100		0.0542	0.0500	8.3	20.0
4,4'-DDE	Ave	1.425	1.529		0.0537	0.0500	7.3	20.0
Dieldrin	Ave	1.469	1.556		0.0530	0.0500	6.0	20.0
Endrin	Ave	1.175	1.206		0.0513	0.0500	2.7	20.0
4,4'-DDD	Ave	1.167	1.161		0.0497	0.0500	-0.5	20.0
Endosulfan II	Ave	1.071	1.212		0.0566	0.0500	13.1	20.0
Endrin aldehyde	Ave	0.9084	0.9220		0.0507	0.0500	1.5	20.0
4,4'-DDT	Ave	0.9234	0.9629		0.0521	0.0500	4.3	20.0
Endosulfan sulfate	Ave	1.154	1.080		0.0468	0.0500	-6.4	20.0
Methoxychlor	Ave	0.4035	0.4052		0.0502	0.0500	0.4	20.0
Endrin ketone	Ave	1.040	1.051		0.0505	0.0500	1.0	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 180-283820/2 Calibration Date: 07/03/2019 09:56

Instrument ID: CHGC15 Calib Start Date: 07/02/2019 15:33

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 07/02/2019 16:50

Lab File ID: Q0703190000002.D

Analyte	RT	RT WINDOW	
		FROM	TO
alpha-BHC	5.15	5.14	5.16
gamma-BHC (Lindane)	5.42	5.41	5.43
beta-BHC	5.58	5.56	5.58
delta-BHC	5.78	5.77	5.79
Heptachlor	5.89	5.88	5.90
Aldrin	6.17	6.16	6.18
Heptachlor epoxide	6.53	6.52	6.54
trans-Chlordane	6.75	6.74	6.76
cis-Chlordane	6.82	6.81	6.83
Endosulfan I	6.86	6.85	6.87
4,4'-DDE	6.97	6.96	6.98
Dieldrin	7.10	7.09	7.11
Endrin	7.30	7.29	7.31
4,4'-DDD	7.42	7.41	7.43
Endosulfan II	7.50	7.49	7.51
Endrin aldehyde	7.61	7.60	7.62
4,4'-DDT	7.70	7.69	7.71
Endosulfan sulfate	7.82	7.81	7.83
Methoxychlor	8.15	8.14	8.16
Endrin ketone	8.28	8.27	8.29

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190703-27606.b\Q0703190000002.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 03-Jul-2019 09:56:33 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0027606-002
Operator ID: 402331 Instrument ID: CHGC15
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190703-27606.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Jul-2019 10:09:58 Calib Date: 02-Jul-2019 16:50:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000007.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0303

First Level Reviewer: eppinged Date: 03-Jul-2019 10:14:01

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.790	3.790	0.001	145807249H	0.1000	0.1000	
2	4.051	4.050	0.001	156208447H	0.1000	0.1000	
5 alpha-BHC							
1	5.153	5.152	0.001	124834887H	0.0500	0.0540	
2	5.398	5.397	0.001	126575615H	0.0500	0.0535	
						RPD = 1.09	
7 gamma-BHC (Lindane)							
1	5.417	5.416	0.001	108483915H	0.0500	0.0533	
2	5.702	5.702	0.000	99275460H	0.0500	0.0525	
						RPD = 1.55	
8 beta-BHC							
1	5.575	5.574	0.001	45200016H	0.0500	0.0544	
2	5.941	5.941	0.000	49423906H	0.0500	0.0528	
						RPD = 2.92	
10 delta-BHC							
1	5.775	5.775	0.000	106582934H	0.0500	0.0568	
2	6.176	6.175	0.001	103994937H	0.0500	0.0554	
						RPD = 2.40	
11 Heptachlor							
1	5.891	5.891	0.000	94296064H	0.0500	0.0524	
2	6.032	6.031	0.001	90536986H	0.0500	0.0514	
						RPD = 1.83	
13 Aldrin							
1	6.173	6.173	0.000	99189851H	0.0500	0.0533	
2	6.304	6.303	0.001	91447513H	0.0500	0.0525	
						RPD = 1.49	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
16 Heptachlor epoxide							
1	6.530	6.531	-0.001	83872474H	0.0500	0.0518	
2	6.755	6.753	0.002	78391989H	0.0500	0.0513	
						RPD = 0.95	
18 trans-Chlordane							
1	6.748	6.748	0.000	88683329H	0.0500	0.0528	
2	6.983	6.982	0.001	82568102H	0.0500	0.0516	
						RPD = 2.23	
20 cis-Chlordane							
1	6.815	6.816	-0.001	87129041H	0.0500	0.0530	
2	7.044	7.043	0.001	79910050H	0.0500	0.0516	
						RPD = 2.73	
21 Endosulfan I							
1	6.860	6.860	0.000	80219958H	0.0500	0.0542	
2	7.113	7.112	0.001	69378493H	0.0500	0.0520	
						RPD = 4.02	
23 4,4'-DDE							
1	6.966	6.966	0.000	89452263H	0.0500	0.0537	
2	7.178	7.177	0.001	80237962H	0.0500	0.0499	
						RPD = 7.21	
24 Dieldrin							
1	7.099	7.098	0.001	91037311H	0.0500	0.0530	
2	7.359	7.359	0.000	80977276H	0.0500	0.0496	
						RPD = 6.67	
27 Endrin							
1	7.299	7.299	0.000	70532944H	0.0500	0.0513	
2	7.628	7.628	0.000	64032611H	0.0500	0.0501	
						RPD = 2.44	
29 4,4'-DDD							
1	7.422	7.423	-0.001	67939250H	0.0500	0.0497	
2	7.698	7.698	0.000	65916217H	0.0500	0.0513	
						RPD = 3.11	
31 Endosulfan II							
1	7.495	7.496	-0.001	70871637H	0.0500	0.0566	
2	7.892	7.890	0.002	67181692H	0.0500	0.0560	
						RPD = 0.90	
32 Endrin aldehyde							
1	7.610	7.613	-0.003	53935252H	0.0500	0.0507	
2	8.059	8.058	0.001	47618988H	0.0500	0.0495	
						RPD = 2.51	
33 4,4'-DDT							
1	7.702	7.702	0.000	56328912H	0.0500	0.0521	
2	7.945	7.944	0.001	57569864H	0.0500	0.0566	
						RPD = 8.17	
35 Endosulfan sulfate							
1	7.821	7.822	-0.001	63182945H	0.0500	0.0468	
2	8.285	8.284	0.001	54734482H	0.0500	0.0480	
						RPD = 2.61	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Methoxychlor							
1	8.147	8.148	-0.001	23700673H	0.0500	0.0502	
2	8.519	8.518	0.001	23243765H	0.0500	0.0552	
						RPD = 9.48	
* 44 Dibutylchlorendate ISTD							
1	8.230	8.231	-0.001	116998207H	0.1000	0.1000	
2	8.334	8.333	0.001	97309645H	0.1000	0.1000	
37 Endrin ketone							
1	8.278	8.278	0.000	61493731H	0.0500	0.0505	
2	8.912	8.911	0.001	50975139H	0.0500	0.0498	
						RPD = 1.36	

Reagents:

GCPESTICVSTD_00022	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 03-Jul-2019 10:14:09 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190703-27606.b\Q0703190000002.D				
Injection Date:	03-Jul-2019 09:56:33	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	ICV			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

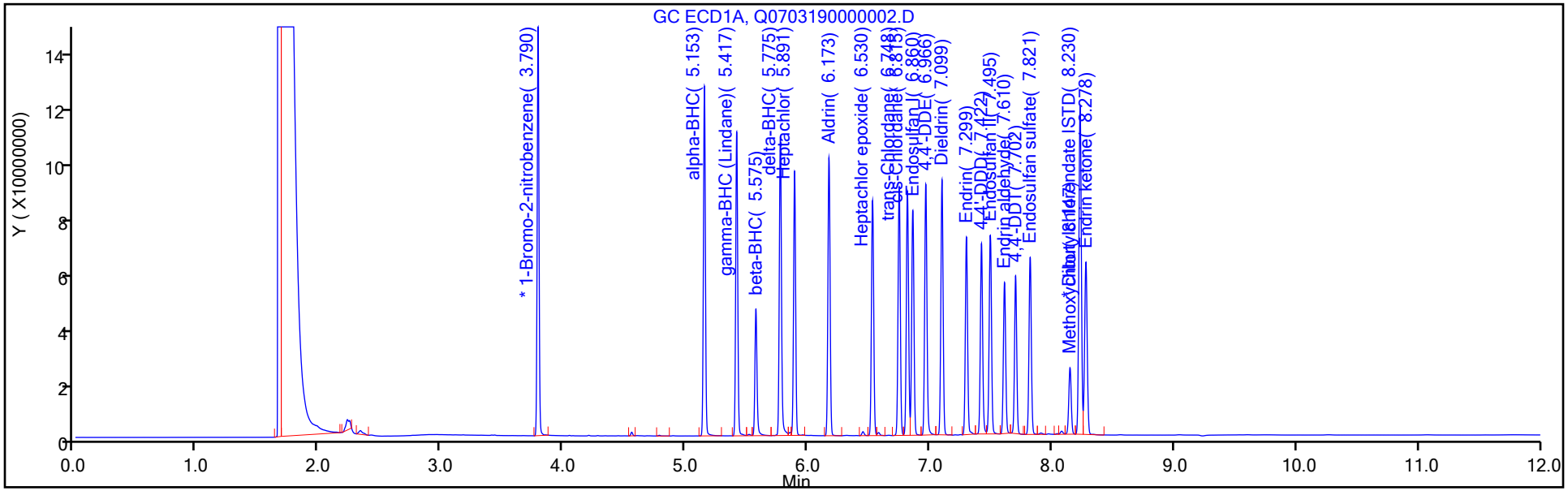

Column: MR-2 (0.53 mm)

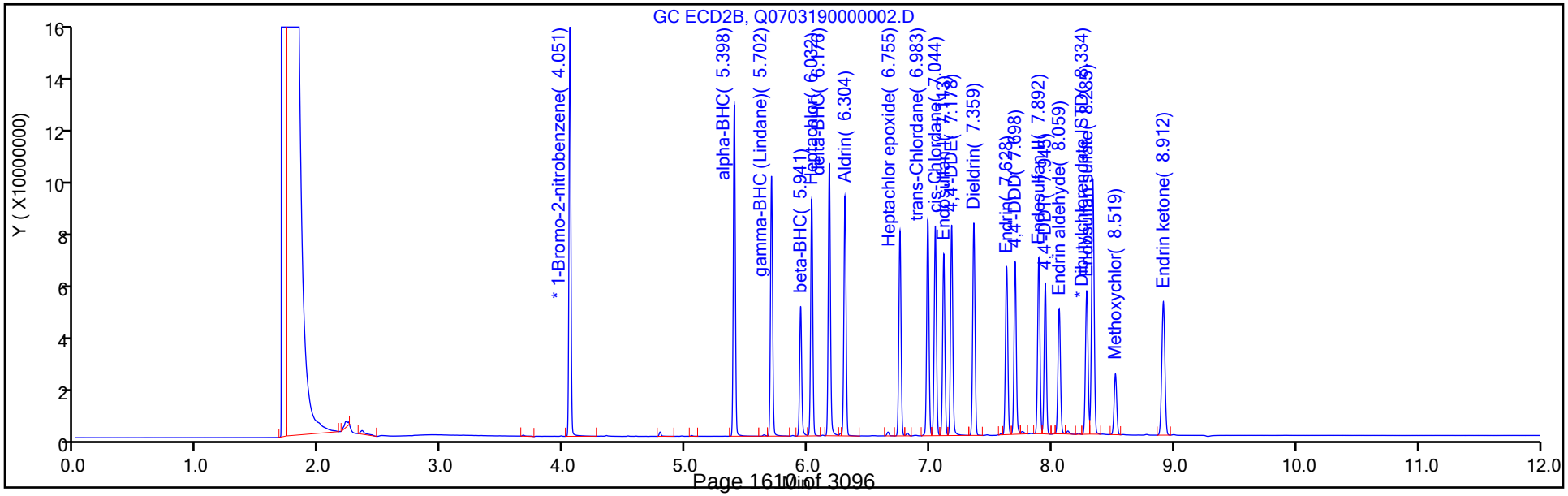

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 180-283820/2 Calibration Date: 07/03/2019 09:56

Instrument ID: CHGC15 Calib Start Date: 07/02/2019 15:33

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 07/02/2019 16:50

Lab File ID: Q0703190000002.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
alpha-BHC	Ave	1.516	1.621		0.0535	0.0500	6.9	20.0
gamma-BHC (Lindane)	Ave	1.211	1.271		0.0525	0.0500	4.9	20.0
beta-BHC	Ave	0.5990	0.6328		0.0528	0.0500	5.6	20.0
Heptachlor	Ave	1.127	1.159		0.0514	0.0500	2.8	20.0
delta-BHC	Ave	1.201	1.331		0.0554	0.0500	10.8	20.0
Aldrin	Ave	1.115	1.171		0.0525	0.0500	5.0	20.0
Heptachlor epoxide	Ave	0.9784	1.004		0.0513	0.0500	2.6	20.0
trans-Chlordane	Ave	1.024	1.057		0.0516	0.0500	3.3	20.0
cis-Chlordane	Ave	0.9920	1.023		0.0516	0.0500	3.1	20.0
Endosulfan I	Ave	0.8537	0.8883		0.0520	0.0500	4.1	20.0
4,4'-DDE	Ave	1.652	1.649		0.0499	0.0500	-0.1	20.0
Dieldrin	Ave	1.679	1.664		0.0496	0.0500	-0.9	20.0
Endrin	Ave	1.314	1.316		0.0501	0.0500	0.2	20.0
4,4'-DDD	Ave	1.320	1.355		0.0513	0.0500	2.6	20.0
Endosulfan II	Ave	1.232	1.381		0.0560	0.0500	12.1	20.0
4,4'-DDT	Ave	1.046	1.183		0.0566	0.0500	13.2	20.0
Endrin aldehyde	Ave	0.9888	0.9787		0.0495	0.0500	-1.0	20.0
Endosulfan sulfate	Ave	1.171	1.125		0.0480	0.0500	-3.9	20.0
Methoxychlor	Ave	0.4327	0.4777		0.0552	0.0500	10.4	20.0
Endrin ketone	Ave	1.051	1.048		0.0498	0.0500	-0.3	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 180-283820/2 Calibration Date: 07/03/2019 09:56

Instrument ID: CHGC15 Calib Start Date: 07/02/2019 15:33

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 07/02/2019 16:50

Lab File ID: Q0703190000002.D

Analyte	RT	RT WINDOW	
		FROM	TO
alpha-BHC	5.40	5.39	5.41
gamma-BHC (Lindane)	5.70	5.69	5.71
beta-BHC	5.94	5.93	5.95
Heptachlor	6.03	6.02	6.04
delta-BHC	6.18	6.17	6.19
Aldrin	6.30	6.29	6.31
Heptachlor epoxide	6.76	6.74	6.76
trans-Chlordane	6.98	6.97	6.99
cis-Chlordane	7.04	7.03	7.05
Endosulfan I	7.11	7.10	7.12
4,4'-DDE	7.18	7.17	7.19
Dieldrin	7.36	7.35	7.37
Endrin	7.63	7.62	7.64
4,4'-DDD	7.70	7.69	7.71
Endosulfan II	7.89	7.88	7.90
4,4'-DDT	7.95	7.93	7.95
Endrin aldehyde	8.06	8.05	8.07
Endosulfan sulfate	8.29	8.27	8.29
Methoxychlor	8.52	8.51	8.53
Endrin ketone	8.91	8.90	8.92

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190703-27606.b\Q0703190000002.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 03-Jul-2019 09:56:33 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0027606-002
Operator ID: 402331 Instrument ID: CHGC15
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190703-27606.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 03-Jul-2019 10:09:58 Calib Date: 02-Jul-2019 16:50:46
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190702-27593.b\Q070219A0000007.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0303

First Level Reviewer: eppinged Date: 03-Jul-2019 10:14:01

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.790	3.790	0.001	145807249H	0.1000	0.1000	
2	4.051	4.050	0.001	156208447H	0.1000	0.1000	
5 alpha-BHC							
1	5.153	5.152	0.001	124834887H	0.0500	0.0540	
2	5.398	5.397	0.001	126575615H	0.0500	0.0535	
						RPD = 1.09	
7 gamma-BHC (Lindane)							
1	5.417	5.416	0.001	108483915H	0.0500	0.0533	
2	5.702	5.702	0.000	99275460H	0.0500	0.0525	
						RPD = 1.55	
8 beta-BHC							
1	5.575	5.574	0.001	45200016H	0.0500	0.0544	
2	5.941	5.941	0.000	49423906H	0.0500	0.0528	
						RPD = 2.92	
10 delta-BHC							
1	5.775	5.775	0.000	106582934H	0.0500	0.0568	
2	6.176	6.175	0.001	103994937H	0.0500	0.0554	
						RPD = 2.40	
11 Heptachlor							
1	5.891	5.891	0.000	94296064H	0.0500	0.0524	
2	6.032	6.031	0.001	90536986H	0.0500	0.0514	
						RPD = 1.83	
13 Aldrin							
1	6.173	6.173	0.000	99189851H	0.0500	0.0533	
2	6.304	6.303	0.001	91447513H	0.0500	0.0525	
						RPD = 1.49	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
16 Heptachlor epoxide							
1	6.530	6.531	-0.001	83872474H	0.0500	0.0518	
2	6.755	6.753	0.002	78391989H	0.0500	0.0513	
						RPD = 0.95	
18 trans-Chlordane							
1	6.748	6.748	0.000	88683329H	0.0500	0.0528	
2	6.983	6.982	0.001	82568102H	0.0500	0.0516	
						RPD = 2.23	
20 cis-Chlordane							
1	6.815	6.816	-0.001	87129041H	0.0500	0.0530	
2	7.044	7.043	0.001	79910050H	0.0500	0.0516	
						RPD = 2.73	
21 Endosulfan I							
1	6.860	6.860	0.000	80219958H	0.0500	0.0542	
2	7.113	7.112	0.001	69378493H	0.0500	0.0520	
						RPD = 4.02	
23 4,4'-DDE							
1	6.966	6.966	0.000	89452263H	0.0500	0.0537	
2	7.178	7.177	0.001	80237962H	0.0500	0.0499	
						RPD = 7.21	
24 Dieldrin							
1	7.099	7.098	0.001	91037311H	0.0500	0.0530	
2	7.359	7.359	0.000	80977276H	0.0500	0.0496	
						RPD = 6.67	
27 Endrin							
1	7.299	7.299	0.000	70532944H	0.0500	0.0513	
2	7.628	7.628	0.000	64032611H	0.0500	0.0501	
						RPD = 2.44	
29 4,4'-DDD							
1	7.422	7.423	-0.001	67939250H	0.0500	0.0497	
2	7.698	7.698	0.000	65916217H	0.0500	0.0513	
						RPD = 3.11	
31 Endosulfan II							
1	7.495	7.496	-0.001	70871637H	0.0500	0.0566	
2	7.892	7.890	0.002	67181692H	0.0500	0.0560	
						RPD = 0.90	
32 Endrin aldehyde							
1	7.610	7.613	-0.003	53935252H	0.0500	0.0507	
2	8.059	8.058	0.001	47618988H	0.0500	0.0495	
						RPD = 2.51	
33 4,4'-DDT							
1	7.702	7.702	0.000	56328912H	0.0500	0.0521	
2	7.945	7.944	0.001	57569864H	0.0500	0.0566	
						RPD = 8.17	
35 Endosulfan sulfate							
1	7.821	7.822	-0.001	63182945H	0.0500	0.0468	
2	8.285	8.284	0.001	54734482H	0.0500	0.0480	
						RPD = 2.61	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Methoxychlor							
1	8.147	8.148	-0.001	23700673H	0.0500	0.0502	
2	8.519	8.518	0.001	23243765H	0.0500	0.0552	
						RPD = 9.48	
* 44 Dibutylchlorendate ISTD							
1	8.230	8.231	-0.001	116998207H	0.1000	0.1000	
2	8.334	8.333	0.001	97309645H	0.1000	0.1000	
37 Endrin ketone							
1	8.278	8.278	0.000	61493731H	0.0500	0.0505	
2	8.912	8.911	0.001	50975139H	0.0500	0.0498	
						RPD = 1.36	

Reagents:

GCPESTICVSTD_00022	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 03-Jul-2019 10:14:09 Chrom Revision: 2.3 20-Jun-2019 20:50:56

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190703-27606.b\Q0703190000002.D				
Injection Date:	03-Jul-2019 09:56:33	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	ICV			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

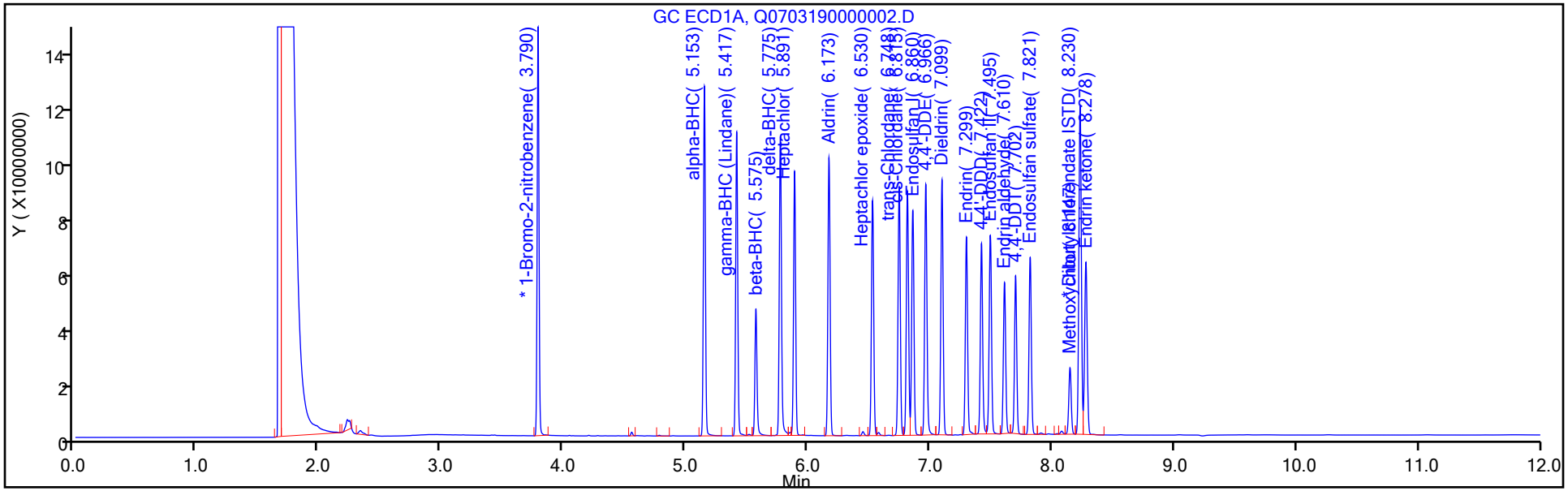

Column: MR-2 (0.53 mm)

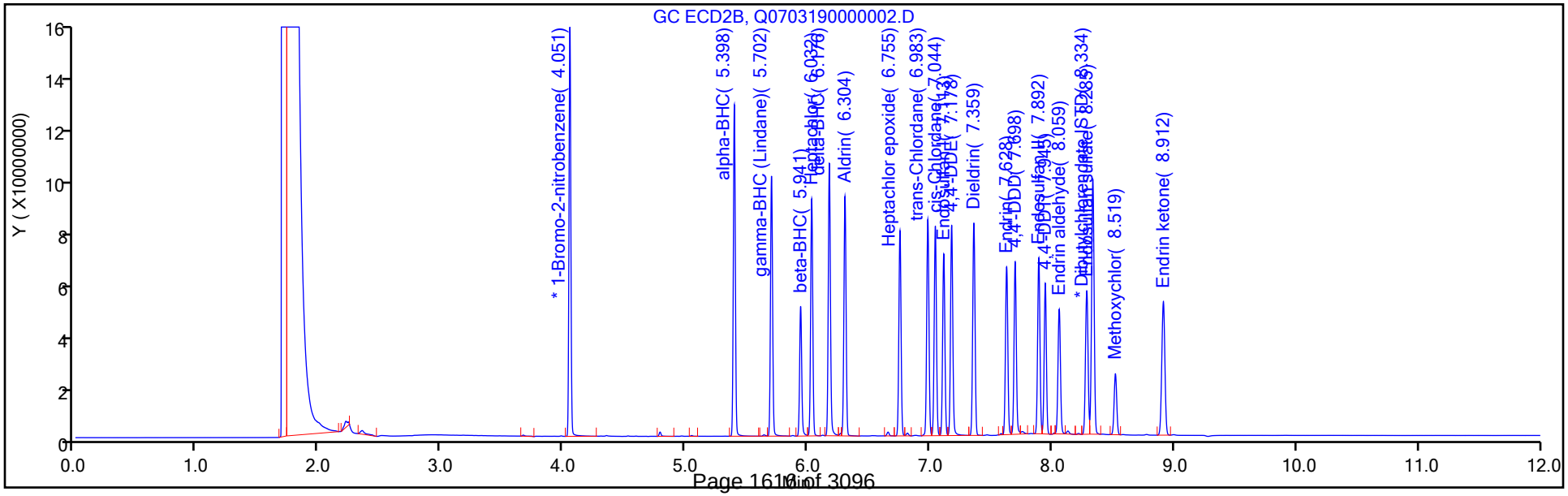

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 180-291631/14 Calibration Date: 09/17/2019 16:50

Instrument ID: CHGC15 Calib Start Date: 09/17/2019 13:44

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 09/17/2019 15:01

Lab File ID: Q0917190000014.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Mirex	Ave	0.7017	0.6553		0.0280	0.0300	-6.6	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 180-291631/14 Calibration Date: 09/17/2019 16:50

Instrument ID: CHGC15 Calib Start Date: 09/17/2019 13:44

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 09/17/2019 15:01

Lab File ID: Q0917190000014.D

Analyte	RT	RT WINDOW	
		FROM	TO
Mirex	8.75	8.74	8.76

Form VII EPA 8081B

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000014.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 17-Sep-2019 16:50:11 ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028689-014
Operator ID: 402331 Instrument ID: CHGC15
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 18-Sep-2019 08:31:27 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0308

First Level Reviewer: eppinged Date: 18-Sep-2019 08:02:19

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.784	3.783	0.000	157266544H	0.1000	0.1000	
2	4.043	4.043	0.000	152950601H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.170	5.171	-0.001	61863377H	0.0375	0.0323	
2	5.348	5.349	-0.001	65709002H	0.0375	0.0319	
						RPD = 1.32	
12 DCPA							
1	6.081	6.082	-0.001	93910334H	0.0750	0.0691	
2	6.283	6.285	-0.002	94480110H	0.0750	0.0693	
						RPD = 0.27	
14 Isodrin							
1	6.425	6.426	-0.001	22427981H	0.0150	0.0144	
2	6.645	6.646	-0.001	37828360H	0.0150	0.0148	
						RPD = 2.98	
15 oxy-Chlordane							
1	6.463	6.462	0.001	21076624H	0.0150	0.0139	
2	6.645	6.646	-0.001	37828360H	0.0150	0.0148	
						RPD = 6.70	
19 Chlorobenside							
1	6.747	6.747	0.000	62062614H	0.0750	0.0801	
2	7.052	7.054	-0.002	63836921H	0.0750	0.0831	
						RPD = 3.67	
* 44 Dibutylchlorendate ISTD							
1	8.192	8.192	-0.001	111392570H	0.1000	0.1000	
2	8.317	8.317	0.000	90491487H	0.1000	0.1000	
38 Mirex							
1	8.750	8.751	-0.001	21899575H	0.0300	0.0280	
2	9.176	9.179	-0.003	19241666H	0.0300	0.0293	
						RPD = 4.40	

Reagents:

GCAPPX1ICV_00023	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 18-Sep-2019 08:31:34 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000014.D				
Injection Date:	17-Sep-2019 16:50:11	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	ICV			Worklist Smp#:	14
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

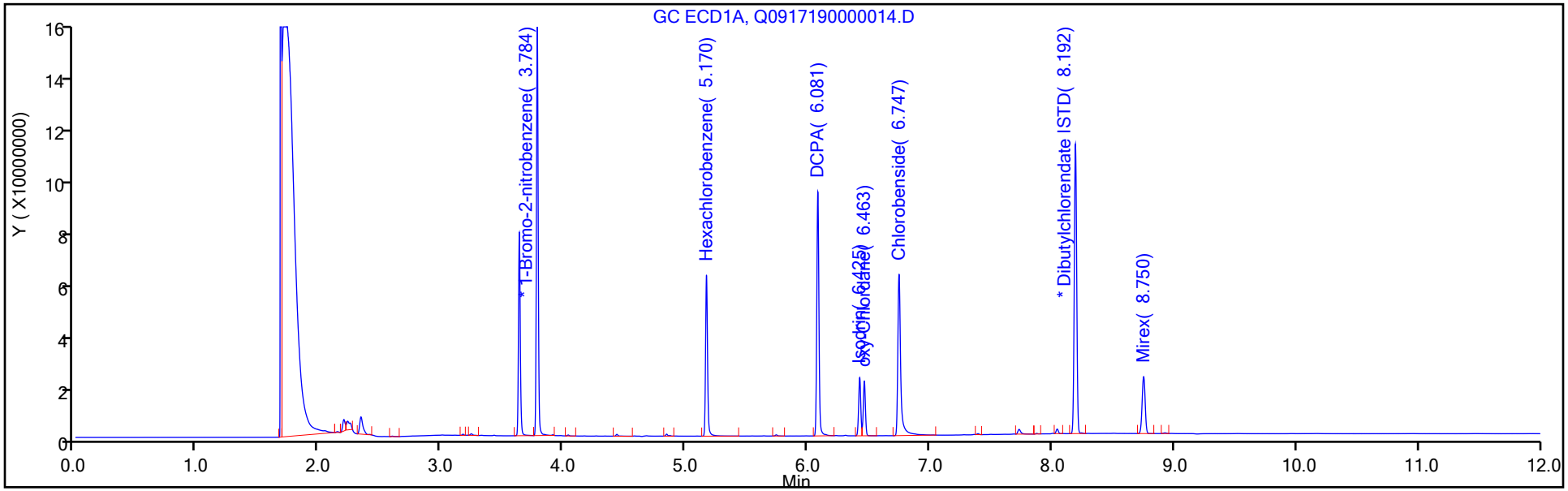

Column: MR-2 (0.53 mm)

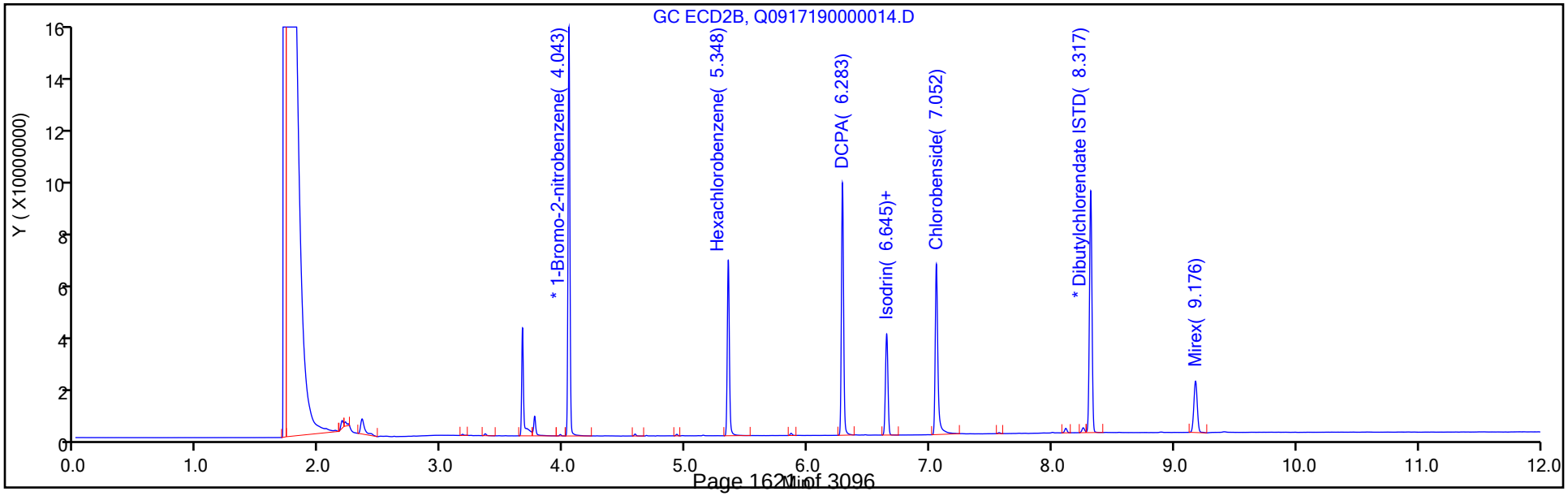

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 180-291631/14 Calibration Date: 09/17/2019 16:50

Instrument ID: CHGC15 Calib Start Date: 09/17/2019 13:44

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 09/17/2019 15:01

Lab File ID: Q0917190000014.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Mirex	Ave	0.7262	0.7088		0.0293	0.0300	-2.4	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 180-291631/14 Calibration Date: 09/17/2019 16:50

Instrument ID: CHGC15 Calib Start Date: 09/17/2019 13:44

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 09/17/2019 15:01

Lab File ID: Q0917190000014.D

Analyte	RT	RT WINDOW	
		FROM	TO
Mirex	9.18	9.17	9.19

Form VII EPA 8081B

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000014.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 17-Sep-2019 16:50:11 ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028689-014
Operator ID: 402331 Instrument ID: CHGC15
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 18-Sep-2019 08:31:27 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0308

First Level Reviewer: eppinged Date: 18-Sep-2019 08:02:19

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.784	3.783	0.000	157266544H	0.1000	0.1000	
2	4.043	4.043	0.000	152950601H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.170	5.171	-0.001	61863377H	0.0375	0.0323	
2	5.348	5.349	-0.001	65709002H	0.0375	0.0319	
						RPD = 1.32	
12 DCPA							
1	6.081	6.082	-0.001	93910334H	0.0750	0.0691	
2	6.283	6.285	-0.002	94480110H	0.0750	0.0693	
						RPD = 0.27	
14 Isodrin							
1	6.425	6.426	-0.001	22427981H	0.0150	0.0144	
2	6.645	6.646	-0.001	37828360H	0.0150	0.0148	
						RPD = 2.98	
15 oxy-Chlordane							
1	6.463	6.462	0.001	21076624H	0.0150	0.0139	
2	6.645	6.646	-0.001	37828360H	0.0150	0.0148	
						RPD = 6.70	
19 Chlorobenside							
1	6.747	6.747	0.000	62062614H	0.0750	0.0801	
2	7.052	7.054	-0.002	63836921H	0.0750	0.0831	
						RPD = 3.67	
* 44 Dibutylchlorendate ISTD							
1	8.192	8.192	-0.001	111392570H	0.1000	0.1000	
2	8.317	8.317	0.000	90491487H	0.1000	0.1000	
38 Mirex							
1	8.750	8.751	-0.001	21899575H	0.0300	0.0280	
2	9.176	9.179	-0.003	19241666H	0.0300	0.0293	
						RPD = 4.40	

Reagents:

GCAPPX1ICV_00023	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00016	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 18-Sep-2019 08:31:34 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000014.D

Injection Date: 17-Sep-2019 16:50:11 Instrument ID: CHGC15 Operator ID: 402331

Lims ID: ICV Worklist Smp#: 14

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 14

Method: IS PEST_CHGC15 Limit Group: GCS 8081B ICAL with IS

Column: MR-1 (0.53 mm)

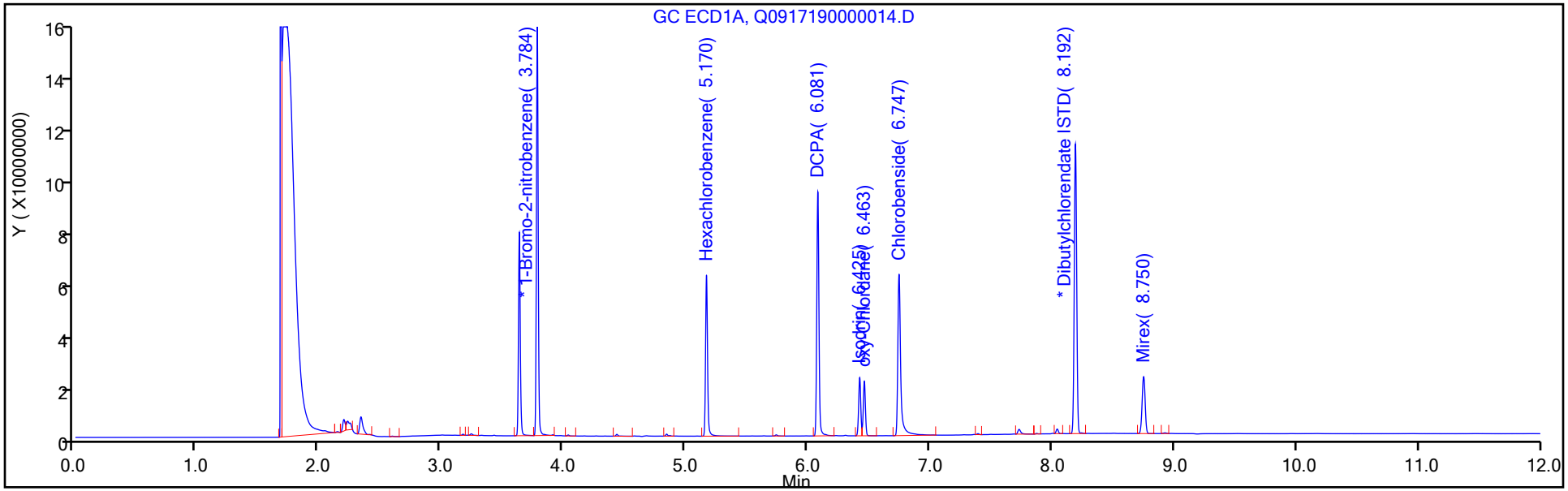

Column: MR-2 (0.53 mm)

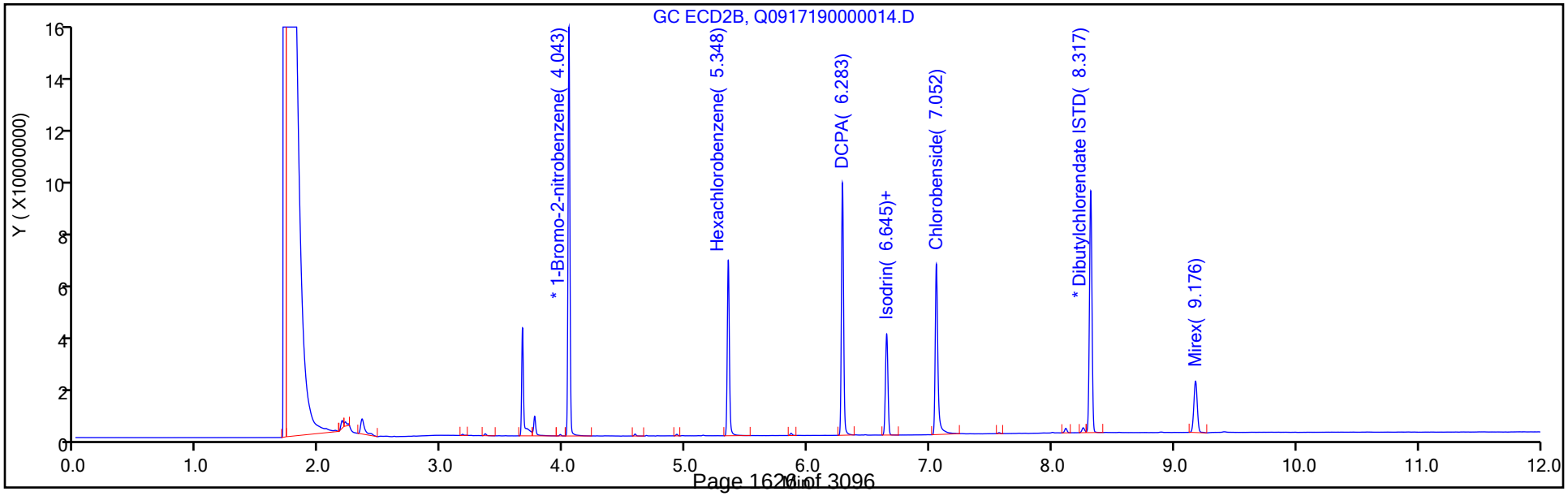

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCV 180-302301/28 Calibration Date: 12/23/2019 17:36

Instrument ID: CHGC15 Calib Start Date: 05/18/2019 12:14

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 05/18/2019 13:16

Lab File ID: Q1223190000028.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Toxaphene Peak 1	Ave	0.0135	0.0116		0.860	1.00	-14.0	20.0
Toxaphene Peak 2	Ave	0.0178	0.0144		0.809	1.00	-19.1	20.0
Toxaphene Peak 3	Ave	0.0164	0.0131		0.797	1.00	-20.3*	20.0
Toxaphene Peak 4	Ave	0.0151	0.0104		0.686	1.00	-31.4*	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCV 180-302301/28 Calibration Date: 12/23/2019 17:36

Instrument ID: CHGC15 Calib Start Date: 05/18/2019 12:14

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 05/18/2019 13:16

Lab File ID: Q1223190000028.D

Analyte	RT	RT WINDOW	
		FROM	TO
Toxaphene Peak 1	6.97	6.95	6.97
Toxaphene Peak 2	7.24	7.22	7.24
Toxaphene Peak 3	7.61	7.60	7.62
Toxaphene Peak 4	7.85	7.84	7.86

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000028.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 23-Dec-2019 17:36:32 ALS Bottle#: 28 Worklist Smp#: 28
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030125-028
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub4

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Dec-2019 05:23:19 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0301

First Level Reviewer: eppinged Date: 24-Dec-2019 04:15:36

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.770	3.765	0.005	149424250H	0.1000	0.1000	
2	4.025	4.021	0.004	144080337H	0.1000	0.1000	
34 Toxaphene							M
1	6.968	6.961	0.007	17319357H	1.00	0.8603	M
1	7.235	7.227	0.008	21482755H	1.00	0.8086	M
1	7.613	7.607	0.006	19558358H	1.00	0.7972	M
1	7.854	7.847	0.007	15498794H	1.00	0.6862	M
		Average of Peak Amounts =				0.7881	
2	7.177	7.172	0.005	13159712H	1.00	1.22	M
2	7.310	7.304	0.006	18140984H	1.00	1.04	M
2	7.812	7.806	0.006	30779022H	1.00	1.08	M
2	8.529	8.524	0.005	15594520H	1.00	0.7777	M
		Average of Peak Amounts =				1.03	
						RPD = 26.71	
* 44 Dibutylchlorendate ISTD							M
1	8.178	8.172	0.006	91116754H	0.1000	0.1000	M
2	8.289	8.282	0.007	95789127H	0.1000	0.1000	M

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

GCTOXLEVEL3_00021 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00017 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 24-Dec-2019 05:23:19 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000028.D				
Injection Date:	23-Dec-2019 17:36:32	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	CCV			Worklist Smp#:	28
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	28
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

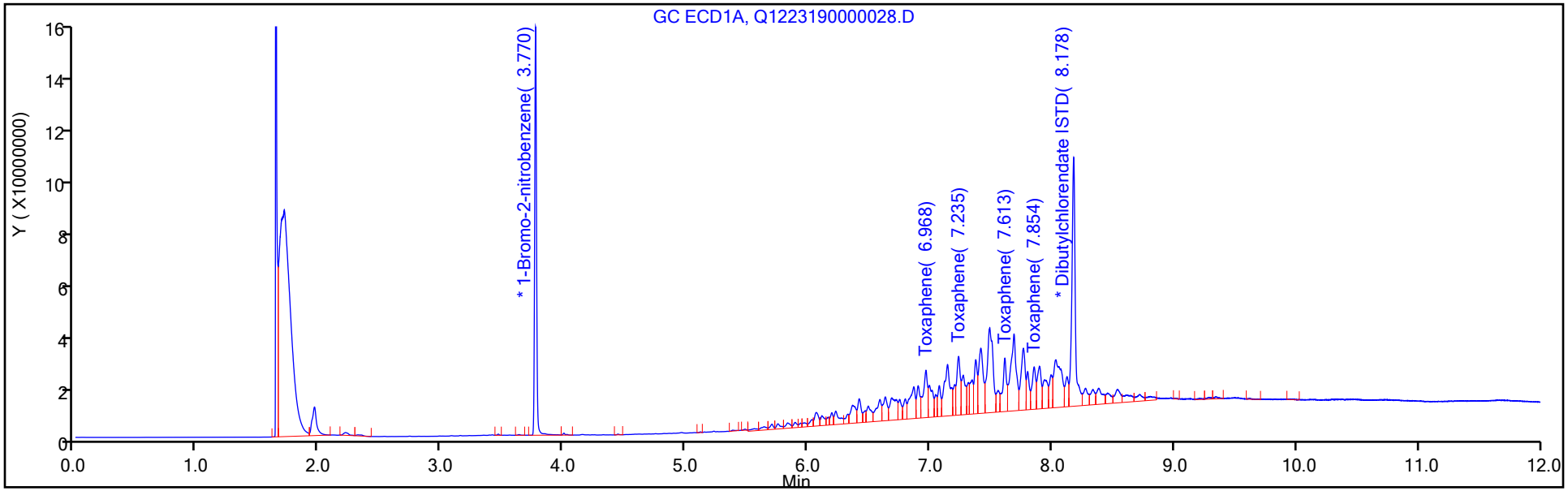

Column: MR-2 (0.53 mm)

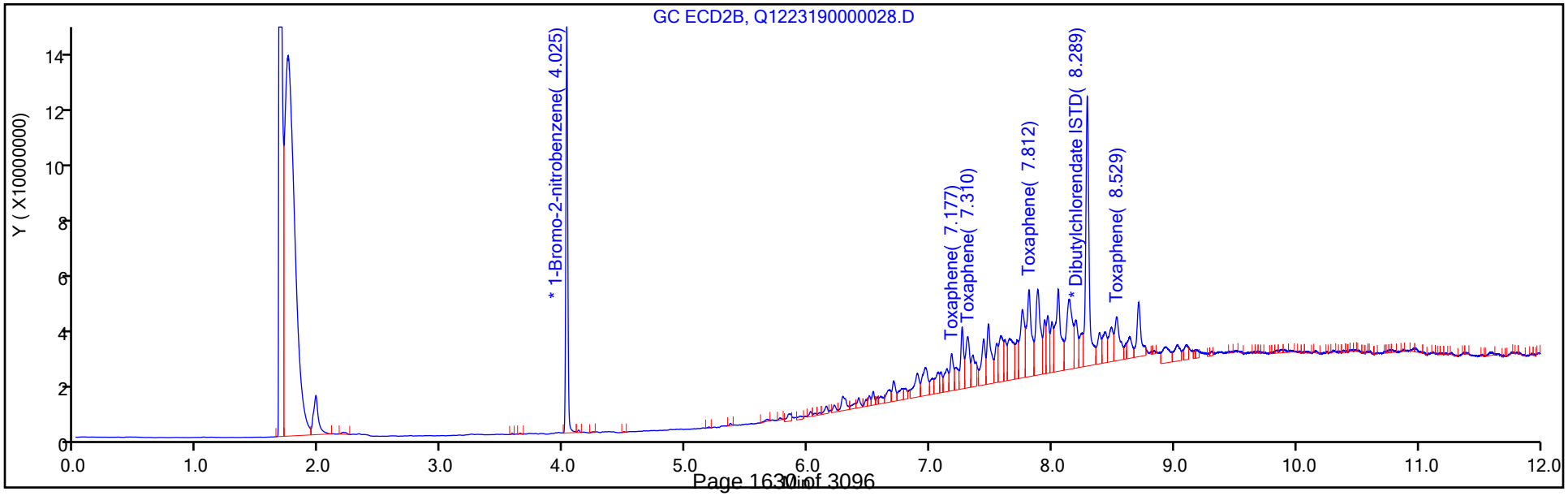

Report Date: 24-Dec-2019 05:23:26 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000028.D				
Injection Date:	23-Dec-2019 17:36:32	Instrument ID:	CHGC15		
Lims ID:	CCV				
Client ID:					
Operator ID:	402331	ALS Bottle#:	28	Worklist Smp#:	28
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-1 (0.53 mm)	Detector	GC ECD1A		

34 Toxaphene, CAS: 8001-35-2

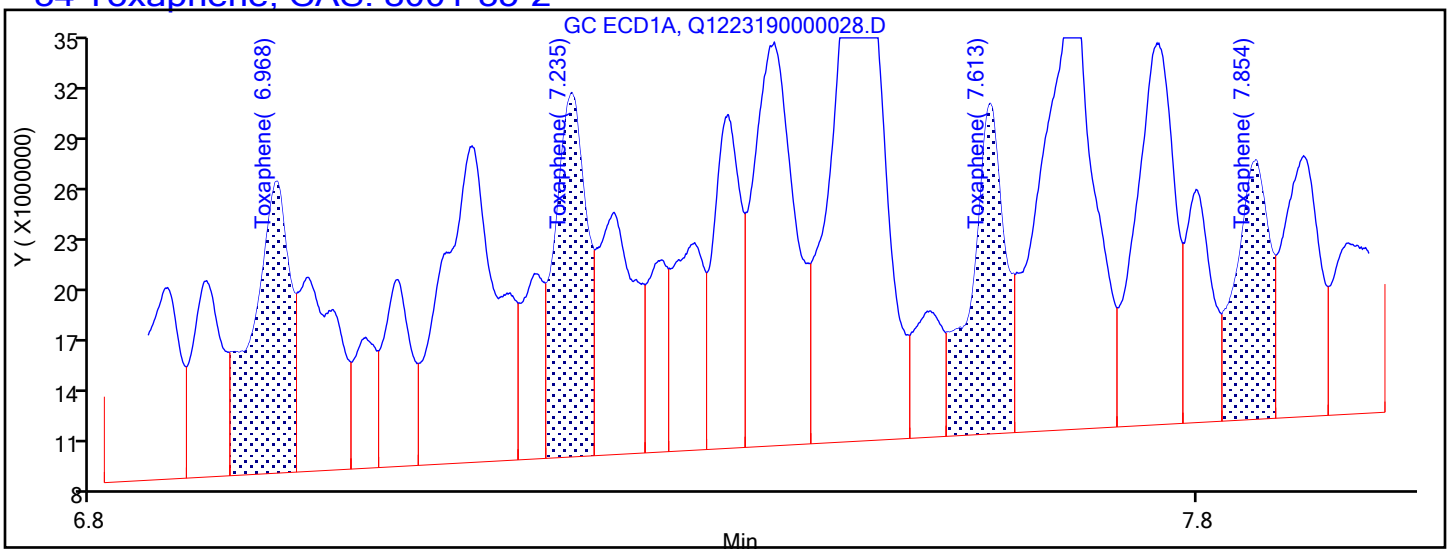

Processing Integration Results

6.968	Response = 16722002
7.235	Response = 20873948
7.613	Response = 18933308
7.854	Response = 14863421

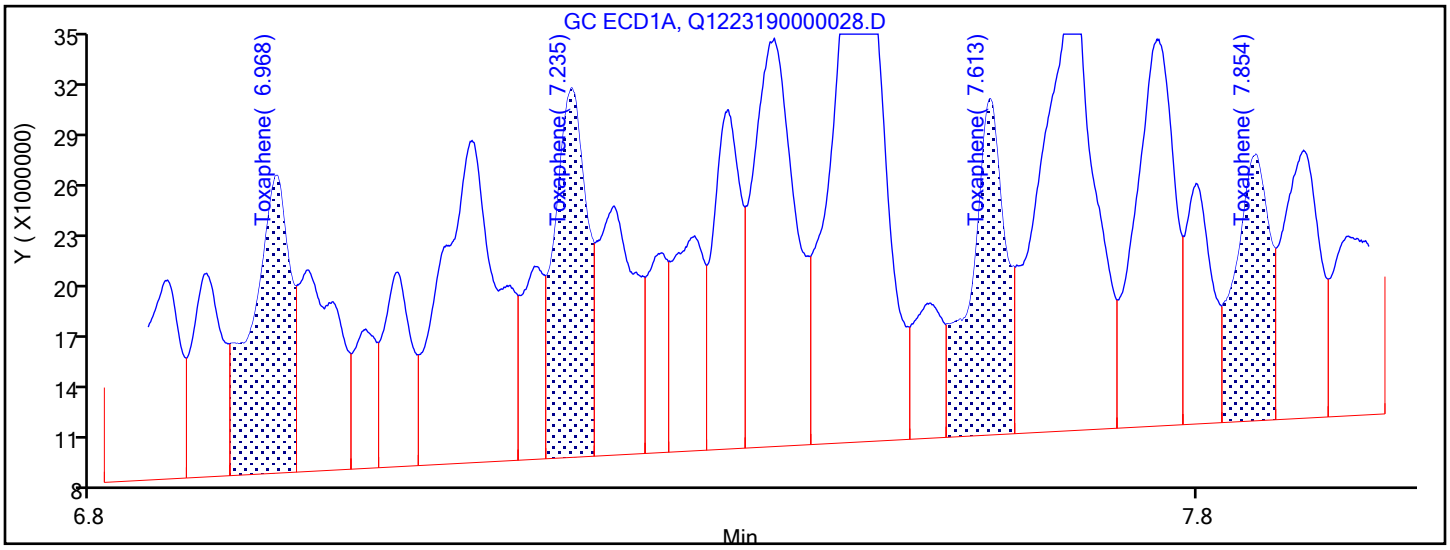

Manual Integration Results

6.968	Response = 17319357	M
7.235	Response = 21482755	M
7.613	Response = 19558358	M
7.854	Response = 15498794	M

Reviewer: eppinged, 24-Dec-2019 04:15:27

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCV 180-302301/28 Calibration Date: 12/23/2019 17:36

Instrument ID: CHGC15 Calib Start Date: 05/18/2019 12:14

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 05/18/2019 13:16

Lab File ID: Q1223190000028.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Toxaphene Peak 1	Ave	0.0075	0.0091		1.22	1.00	22.4*	20.0
Toxaphene Peak 2	Ave	0.0121	0.0126		1.04	1.00	4.0	20.0
Toxaphene Peak 3	Lin1		0.0214		1.08	1.00	8.2	20.0
Toxaphene Peak 4	Ave	0.0139	0.0108		0.778	1.00	-22.2*	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCV 180-302301/28 Calibration Date: 12/23/2019 17:36

Instrument ID: CHGC15 Calib Start Date: 05/18/2019 12:14

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 05/18/2019 13:16

Lab File ID: Q1223190000028.D

Analyte	RT	RT WINDOW	
		FROM	TO
Toxaphene Peak 1	7.18	7.16	7.18
Toxaphene Peak 2	7.31	7.29	7.31
Toxaphene Peak 3	7.81	7.80	7.82
Toxaphene Peak 4	8.53	8.51	8.53

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000028.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 23-Dec-2019 17:36:32 ALS Bottle#: 28 Worklist Smp#: 28
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030125-028
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub4

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Dec-2019 05:23:19 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0301

First Level Reviewer: eppinged Date: 24-Dec-2019 04:15:36

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.770	3.765	0.005	149424250H	0.1000	0.1000	
2	4.025	4.021	0.004	144080337H	0.1000	0.1000	
34 Toxaphene							M
1	6.968	6.961	0.007	17319357H	1.00	0.8603	M
1	7.235	7.227	0.008	21482755H	1.00	0.8086	M
1	7.613	7.607	0.006	19558358H	1.00	0.7972	M
1	7.854	7.847	0.007	15498794H	1.00	0.6862	M
		Average of Peak Amounts =				0.7881	
2	7.177	7.172	0.005	13159712H	1.00	1.22	M
2	7.310	7.304	0.006	18140984H	1.00	1.04	M
2	7.812	7.806	0.006	30779022H	1.00	1.08	M
2	8.529	8.524	0.005	15594520H	1.00	0.7777	M
		Average of Peak Amounts =				1.03	
						RPD = 26.71	
* 44 Dibutylchlorendate ISTD							M
1	8.178	8.172	0.006	91116754H	0.1000	0.1000	M
2	8.289	8.282	0.007	95789127H	0.1000	0.1000	M

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

GCTOXLEVEL3_00021 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00017 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 24-Dec-2019 05:23:27 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000028.D				
Injection Date:	23-Dec-2019 17:36:32	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	CCV			Worklist Smp#:	28
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	28
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

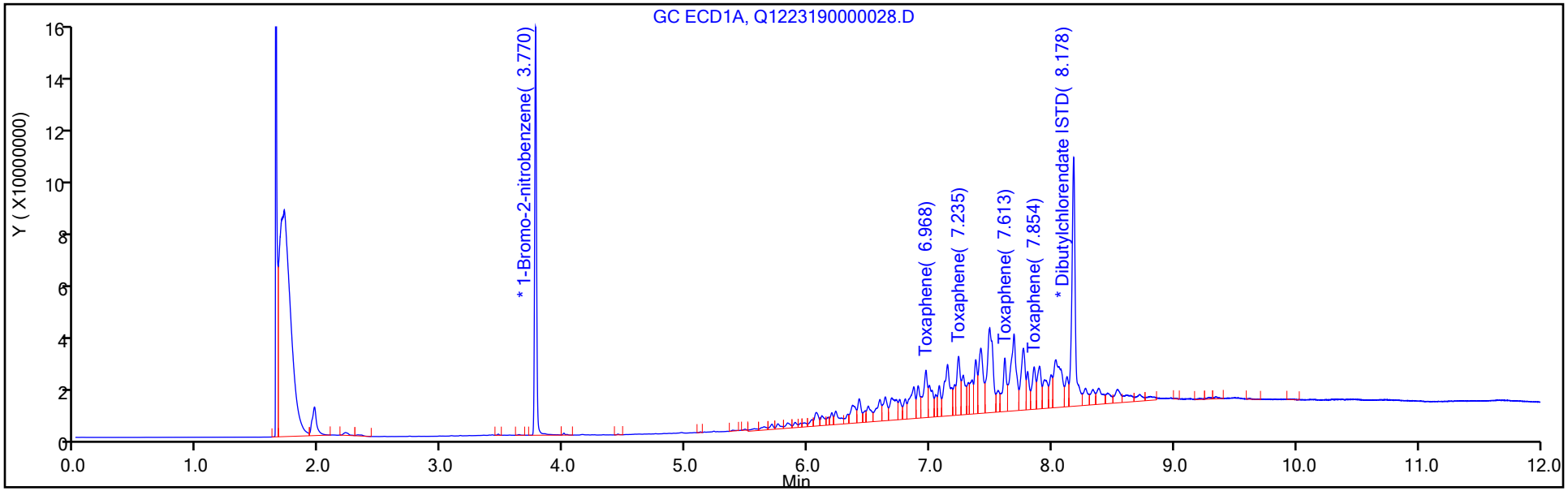

Column: MR-2 (0.53 mm)

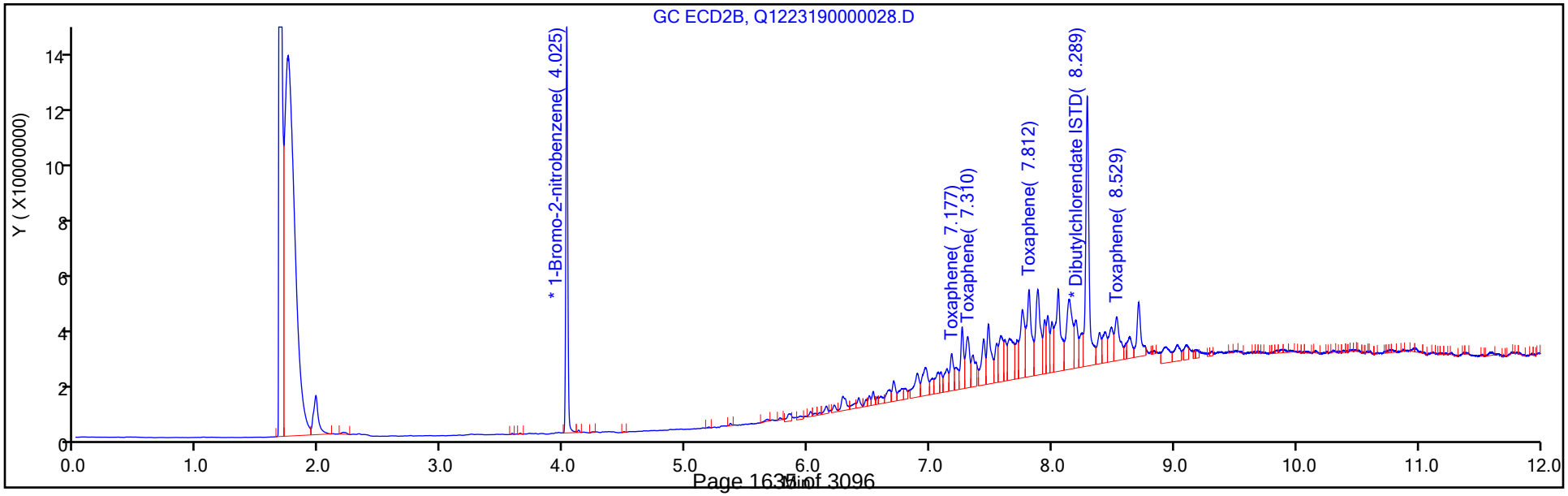

Report Date: 24-Dec-2019 05:23:27 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000028.D				
Injection Date:	23-Dec-2019 17:36:32	Instrument ID:	CHGC15		
Lims ID:	CCV				
Client ID:					
Operator ID:	402331	ALS Bottle#:	28	Worklist Smp#:	28
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

34 Toxaphene, CAS: 8001-35-2

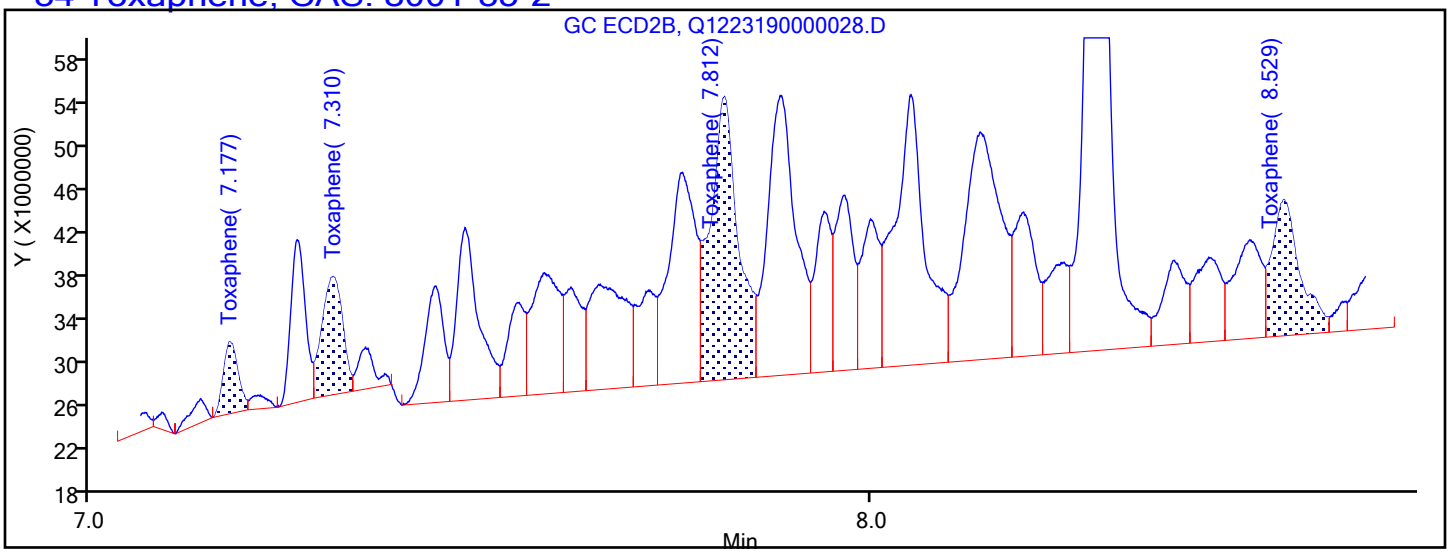

Processing Integration Results

7.177	Response = 6648680
7.310	Response = 10920487
7.812	Response = 26151051
8.529	Response = 12579134

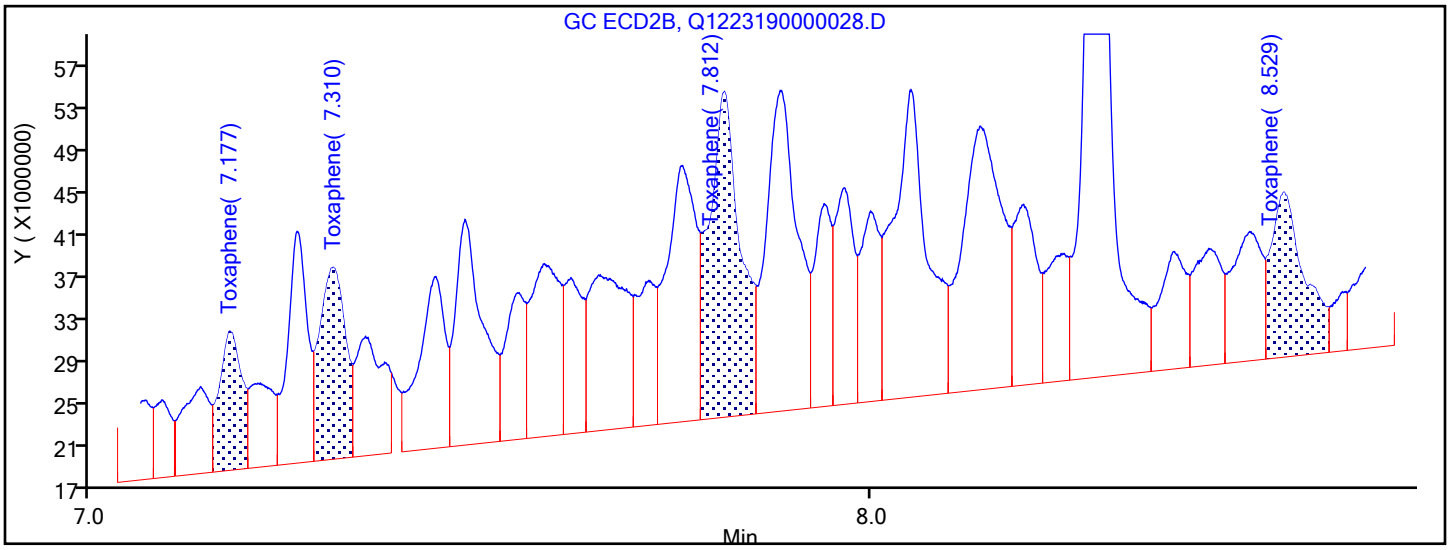

Manual Integration Results

7.177	Response = 13159712	M
7.310	Response = 18140984	M
7.812	Response = 30779022	M
8.529	Response = 15594520	M

Reviewer: eppinged, 24-Dec-2019 04:15:18

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCV 180-302301/29 Calibration Date: 12/23/2019 17:51

Instrument ID: CHGC15 Calib Start Date: 05/18/2019 14:56

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 05/18/2019 15:57

Lab File ID: Q1223190000029.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Chlordane (technical) Peak 1	Ave	0.0462	0.0295		0.160	0.250	-36.1*	20.0
Chlordane (technical) Peak 2	Ave	0.0571	0.0430		0.188	0.250	-24.6*	20.0
Chlordane (technical) Peak 3	Ave	0.1693	0.1166		0.172	0.250	-31.1*	20.0
Chlordane (technical) Peak 4	Ave	0.1861	0.1331		0.179	0.250	-28.5*	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCV 180-302301/29 Calibration Date: 12/23/2019 17:51

Instrument ID: CHGC15 Calib Start Date: 05/18/2019 14:56

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 05/18/2019 15:57

Lab File ID: Q1223190000029.D

Analyte	RT	RT WINDOW	
		FROM	TO
Chlordane (technical) Peak 1	5.68	5.66	5.68
Chlordane (technical) Peak 2	5.85	5.84	5.86
Chlordane (technical) Peak 3	6.71	6.69	6.71
Chlordane (technical) Peak 4	6.78	6.76	6.78

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000029.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 23-Dec-2019 17:51:56 ALS Bottle#: 29 Worklist Smp#: 29
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030125-029
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub5

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Dec-2019 05:23:32 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0301

First Level Reviewer: eppinged Date: 24-Dec-2019 04:15:46

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.770	3.765	0.005	148349876H	0.1000	0.1000	
2	4.025	4.021	0.004	145430494H	0.1000	0.1000	
9 Chlordane (technical)							
1	5.678	5.673	0.005	10948192H	0.2500	0.1596	
1	5.852	5.846	0.006	15959493H	0.2500	0.1884	
1	6.707	6.700	0.007	43239487H	0.2500	0.1722	
1	6.776	6.770	0.006	49359323H	0.2500	0.1788	
		Average of Peak Amounts =				0.1748	
2	5.994	5.989	0.005	15325619H	0.2500	0.2318	
2	6.352	6.348	0.004	9296809H	0.2500	0.2260	
2	6.956	6.953	0.003	45589125H	0.2500	0.2538	
2	7.006	7.001	0.005	27207732H	0.2500	0.2407	
		Average of Peak Amounts =				0.2381	
						RPD = 30.68	
* 44 Dibutylchlorendate ISTD							
1	8.178	8.172	0.006	76112009H	0.1000	0.1000	
2	8.287	8.282	0.006	83533835H	0.1000	0.1000	

Reagents:

GCCHLORLEVEL3_00017 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00017 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 24-Dec-2019 05:23:33 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000029.D				
Injection Date:	23-Dec-2019 17:51:56	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	CCV			Worklist Smp#:	29
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	29
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

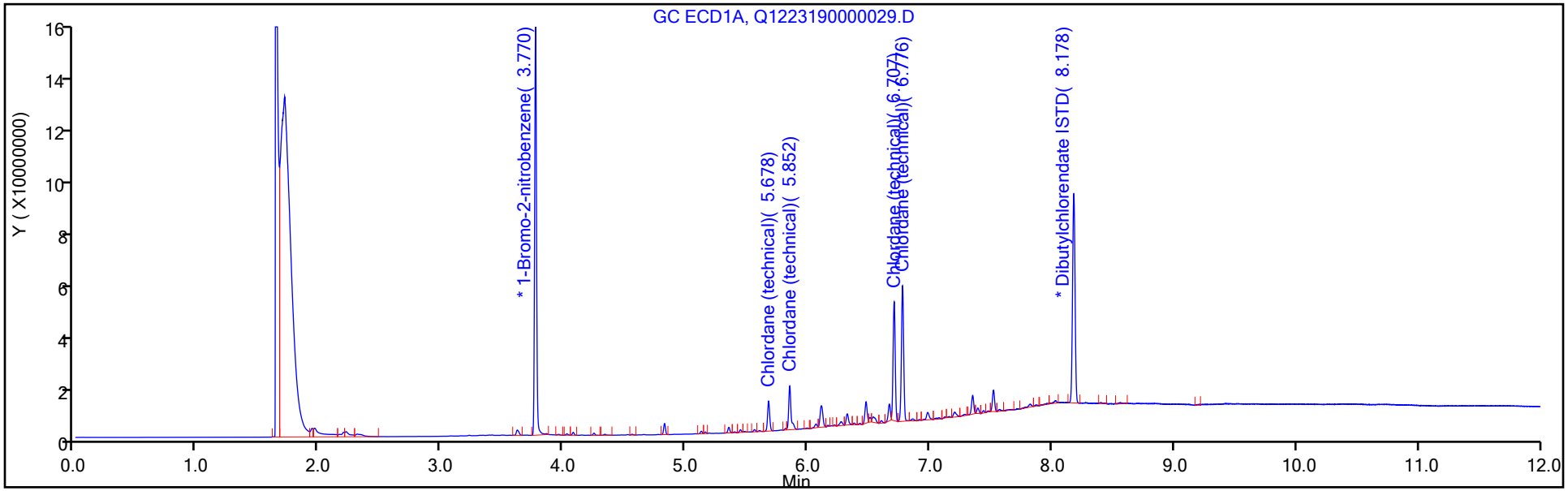

Column: MR-2 (0.53 mm)

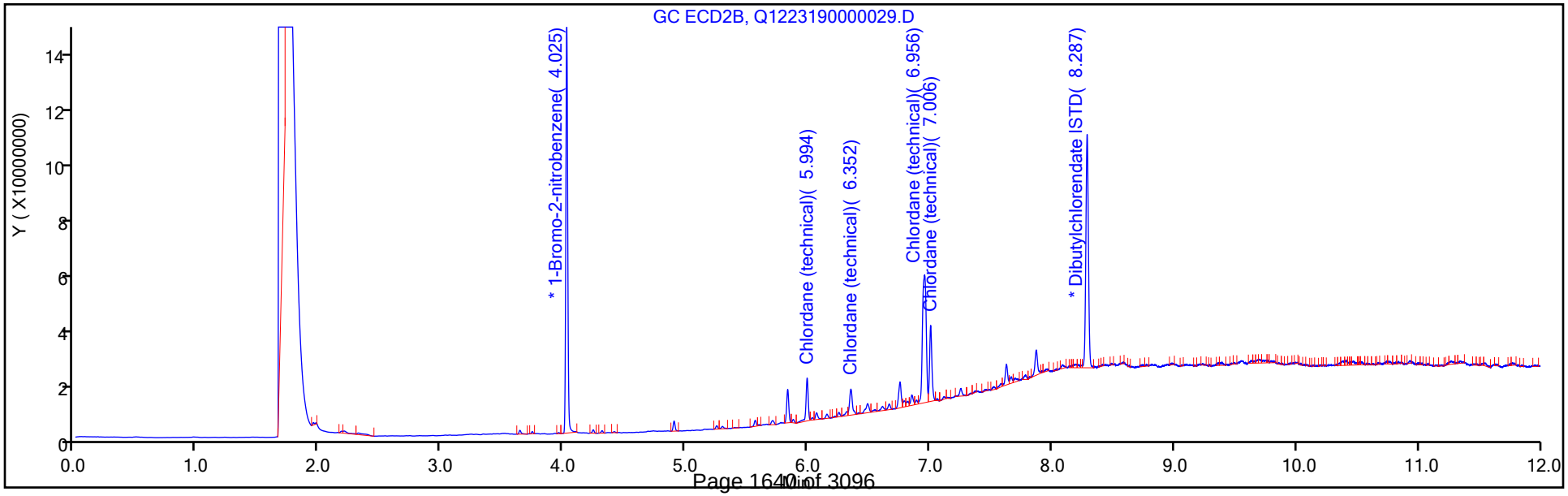

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCV 180-302301/29 Calibration Date: 12/23/2019 17:51

Instrument ID: CHGC15 Calib Start Date: 05/18/2019 14:56

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 05/18/2019 15:57

Lab File ID: Q1223190000029.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Chlordane (technical) Peak 1	Lin1		0.0422		0.232	0.250	-7.3	20.0
Chlordane (technical) Peak 2	Lin1		0.0256		0.226	0.250	-9.6	20.0
Chlordane (technical) Peak 3	Lin1		0.1254		0.254	0.250	1.5	20.0
Chlordane (technical) Peak 4	Lin1		0.0748		0.241	0.250	-3.7	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCV 180-302301/29 Calibration Date: 12/23/2019 17:51

Instrument ID: CHGC15 Calib Start Date: 05/18/2019 14:56

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 05/18/2019 15:57

Lab File ID: Q1223190000029.D

Analyte	RT	RT WINDOW	
		FROM	TO
Chlordane (technical) Peak 1	5.99	5.98	6.00
Chlordane (technical) Peak 2	6.35	6.34	6.36
Chlordane (technical) Peak 3	6.96	6.94	6.96
Chlordane (technical) Peak 4	7.01	6.99	7.01

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000029.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 23-Dec-2019 17:51:56 ALS Bottle#: 29 Worklist Smp#: 29
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030125-029
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub5

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Dec-2019 05:23:32 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0301

First Level Reviewer: eppinged Date: 24-Dec-2019 04:15:46

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.770	3.765	0.005	148349876H	0.1000	0.1000	
2	4.025	4.021	0.004	145430494H	0.1000	0.1000	
9 Chlordane (technical)							
1	5.678	5.673	0.005	10948192H	0.2500	0.1596	
1	5.852	5.846	0.006	15959493H	0.2500	0.1884	
1	6.707	6.700	0.007	43239487H	0.2500	0.1722	
1	6.776	6.770	0.006	49359323H	0.2500	0.1788	
		Average of Peak Amounts =				0.1748	
2	5.994	5.989	0.005	15325619H	0.2500	0.2318	
2	6.352	6.348	0.004	9296809H	0.2500	0.2260	
2	6.956	6.953	0.003	45589125H	0.2500	0.2538	
2	7.006	7.001	0.005	27207732H	0.2500	0.2407	
		Average of Peak Amounts =				0.2381	
						RPD = 30.68	
* 44 Dibutylchlorendate ISTD							
1	8.178	8.172	0.006	76112009H	0.1000	0.1000	
2	8.287	8.282	0.006	83533835H	0.1000	0.1000	

Reagents:

GCCHLORLEVEL3_00017 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00017 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 24-Dec-2019 05:23:38 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000029.D				
Injection Date:	23-Dec-2019 17:51:56	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	CCV			Worklist Smp#:	29
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	29
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

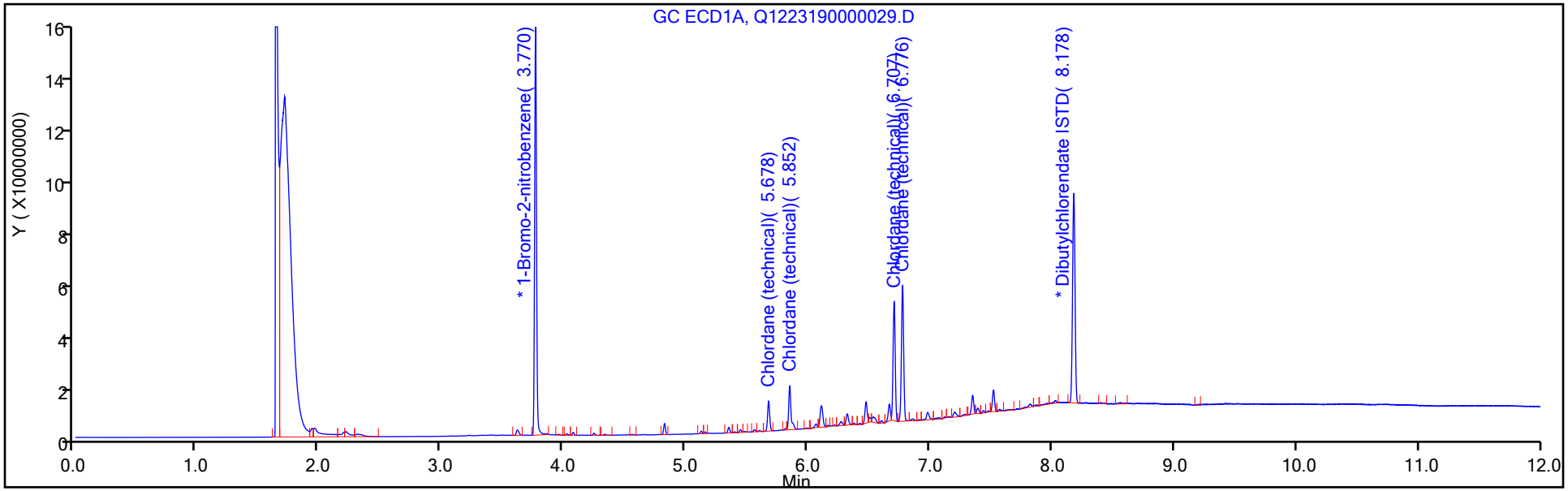

Column: MR-2 (0.53 mm)

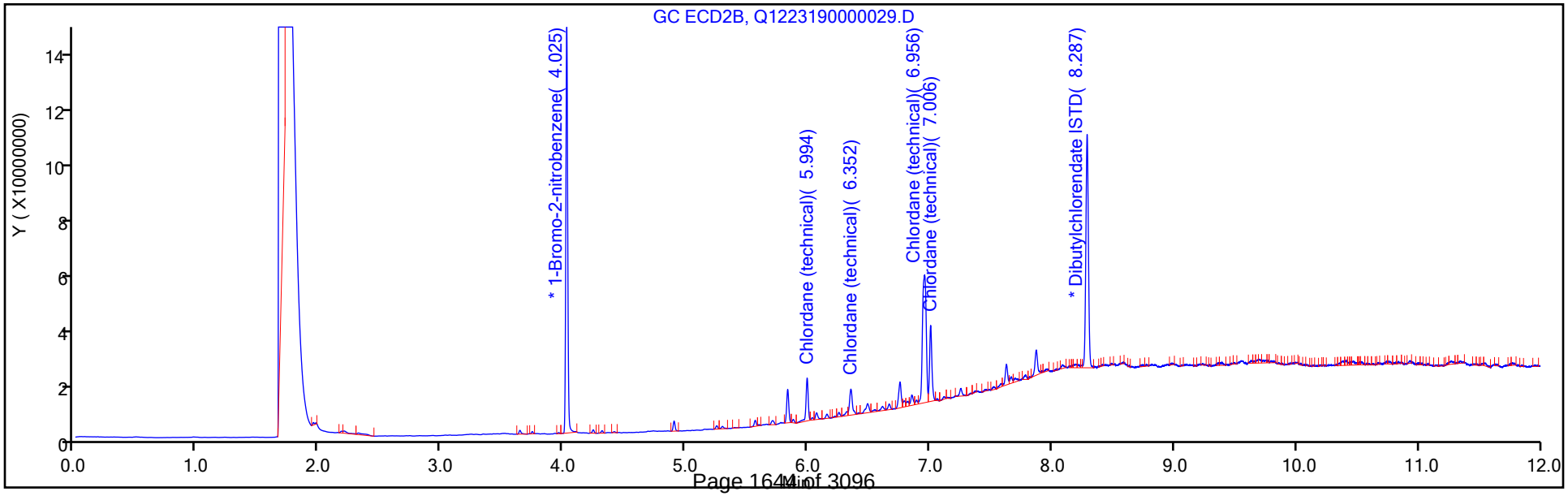

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCV 180-302301/30 Calibration Date: 12/23/2019 18:07

Instrument ID: CHGC15 Calib Start Date: 09/17/2019 13:44

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 09/17/2019 15:01

Lab File ID: Q1223190000030.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Mirex	Ave	0.7017	0.6501		0.0232	0.0250	-7.4	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCV 180-302301/30 Calibration Date: 12/23/2019 18:07

Instrument ID: CHGC15 Calib Start Date: 09/17/2019 13:44

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 09/17/2019 15:01

Lab File ID: Q1223190000030.D

Analyte	RT	RT WINDOW	
		FROM	TO
Mirex	8.73	8.72	8.74

Form VII EPA 8081B

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000030.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 23-Dec-2019 18:07:30 ALS Bottle#: 30 Worklist Smp#: 30
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030125-030
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub8

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Dec-2019 05:23:45 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0301

First Level Reviewer: eppinged Date: 24-Dec-2019 04:16:04

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.769	3.765	0.004	148822691H	0.1000	0.1000	
2	4.025	4.021	0.004	143459766H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.156	5.153	0.003	37063554H	0.0250	0.0205	
2	5.329	5.326	0.003	47123886H	0.0250	0.0244	
						RPD = 17.51	
12 DCPA							
1	6.068	6.063	0.005	25847768H	0.0250	0.0201	
2	6.262	6.258	0.004	29251641H	0.0250	0.0229	
						RPD = 12.90	
14 Isodrin							
1	6.408	6.404	0.004	28790409H	0.0250	0.0195	
2	6.621	6.617	0.004	51690011H	0.0250	0.0216	
						RPD = 10.11	
15 oxy-Chlordane							
1	6.446	6.442	0.004	25682835H	0.0250	0.0179	
2	6.621	6.617	0.004	51690011H	0.0250	0.0216	
						RPD = 18.99	
19 Chlorobenside							
1	6.731	6.728	0.003	36213249H	0.0500	0.0494	
2	7.027	7.025	0.002	39464498H	0.0500	0.0548	
						RPD = 10.33	
* 44 Dibutylchlorendate ISTD							
1	8.177	8.172	0.005	80712995H	0.1000	0.1000	
2	8.288	8.282	0.006	82714187H	0.1000	0.1000	
38 Mirex							
1	8.733	8.726	0.007	13117383H	0.0250	0.0232	
2	9.139	9.132	0.007	13378334H	0.0250	0.0223	
						RPD = 3.92	

Reagents:

GCAPPIX1L3_00032	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00017	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 24-Dec-2019 05:23:46 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000030.D				
Injection Date:	23-Dec-2019 18:07:30	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	CCV			Worklist Smp#:	30
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	30
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

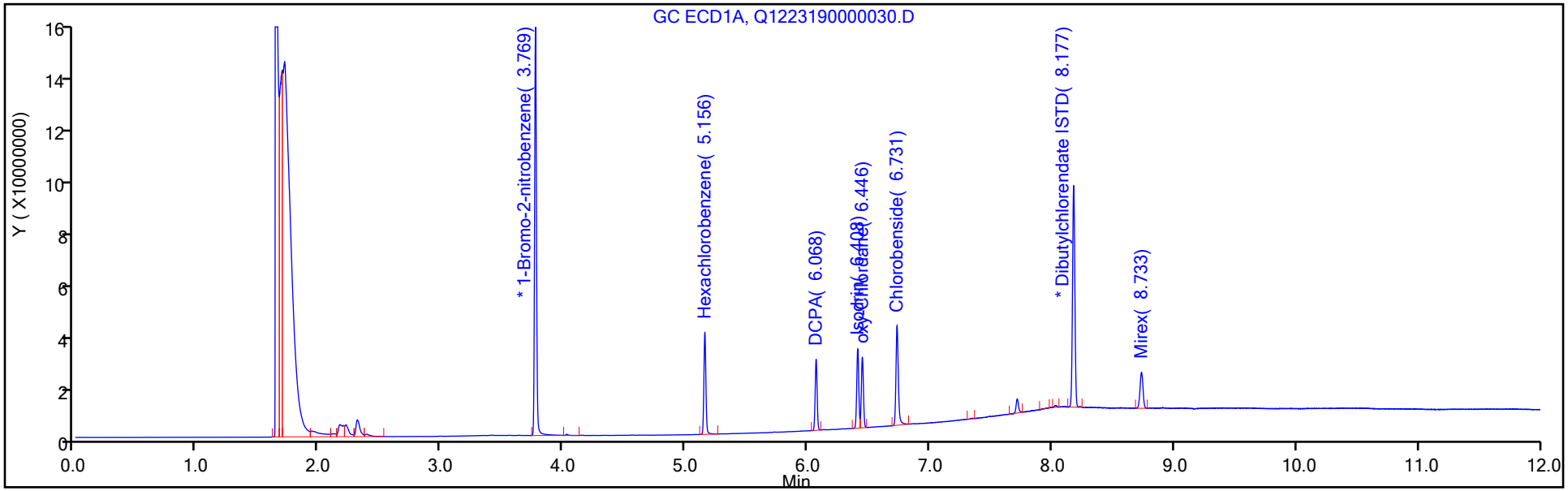

Column: MR-2 (0.53 mm)

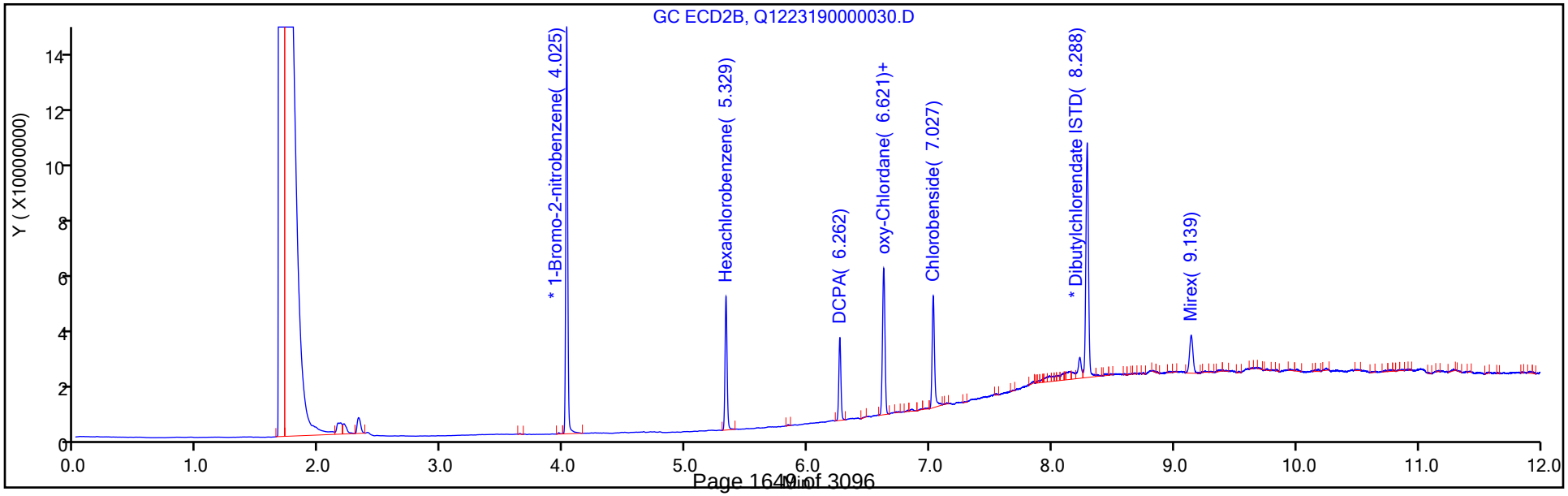

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCV 180-302301/30 Calibration Date: 12/23/2019 18:07

Instrument ID: CHGC15 Calib Start Date: 09/17/2019 13:44

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 09/17/2019 15:01

Lab File ID: Q1223190000030.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Mirex	Ave	0.7262	0.6470		0.0223	0.0250	-10.9	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCV 180-302301/30 Calibration Date: 12/23/2019 18:07

Instrument ID: CHGC15 Calib Start Date: 09/17/2019 13:44

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 09/17/2019 15:01

Lab File ID: Q1223190000030.D

Analyte	RT	RT WINDOW	
		FROM	TO
Mirex	9.14	9.12	9.14

Form VII EPA 8081B

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000030.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 23-Dec-2019 18:07:30 ALS Bottle#: 30 Worklist Smp#: 30
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030125-030
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub8

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Dec-2019 05:23:45 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0301

First Level Reviewer: eppinged Date: 24-Dec-2019 04:16:04

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.769	3.765	0.004	148822691H	0.1000	0.1000	
2	4.025	4.021	0.004	143459766H	0.1000	0.1000	
6 Hexachlorobenzene							
1	5.156	5.153	0.003	37063554H	0.0250	0.0205	
2	5.329	5.326	0.003	47123886H	0.0250	0.0244	
						RPD = 17.51	
12 DCPA							
1	6.068	6.063	0.005	25847768H	0.0250	0.0201	
2	6.262	6.258	0.004	29251641H	0.0250	0.0229	
						RPD = 12.90	
14 Isodrin							
1	6.408	6.404	0.004	28790409H	0.0250	0.0195	
2	6.621	6.617	0.004	51690011H	0.0250	0.0216	
						RPD = 10.11	
15 oxy-Chlordane							
1	6.446	6.442	0.004	25682835H	0.0250	0.0179	
2	6.621	6.617	0.004	51690011H	0.0250	0.0216	
						RPD = 18.99	
19 Chlorobenside							
1	6.731	6.728	0.003	36213249H	0.0500	0.0494	
2	7.027	7.025	0.002	39464498H	0.0500	0.0548	
						RPD = 10.33	
* 44 Dibutylchlorendate ISTD							
1	8.177	8.172	0.005	80712995H	0.1000	0.1000	
2	8.288	8.282	0.006	82714187H	0.1000	0.1000	
38 Mirex							
1	8.733	8.726	0.007	13117383H	0.0250	0.0232	
2	9.139	9.132	0.007	13378334H	0.0250	0.0223	
						RPD = 3.92	

Reagents:

GCAPPIX1L3_00032	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00017	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 24-Dec-2019 05:23:47 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000030.D				
Injection Date:	23-Dec-2019 18:07:30	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	CCV			Worklist Smp#:	30
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	30
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

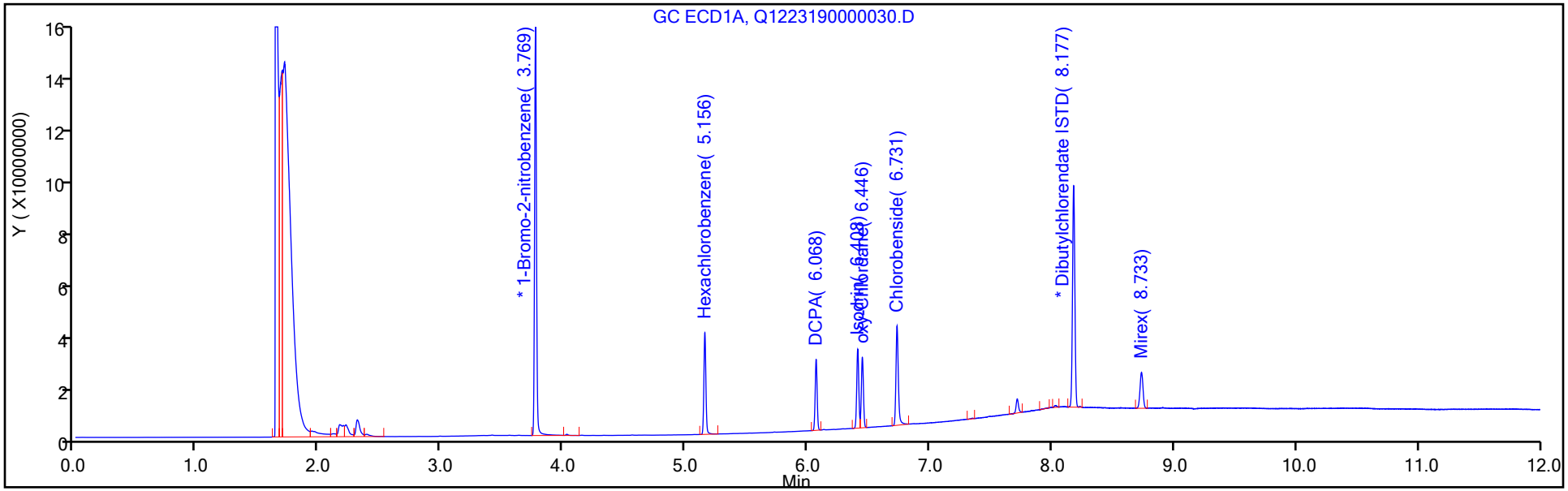

Column: MR-2 (0.53 mm)

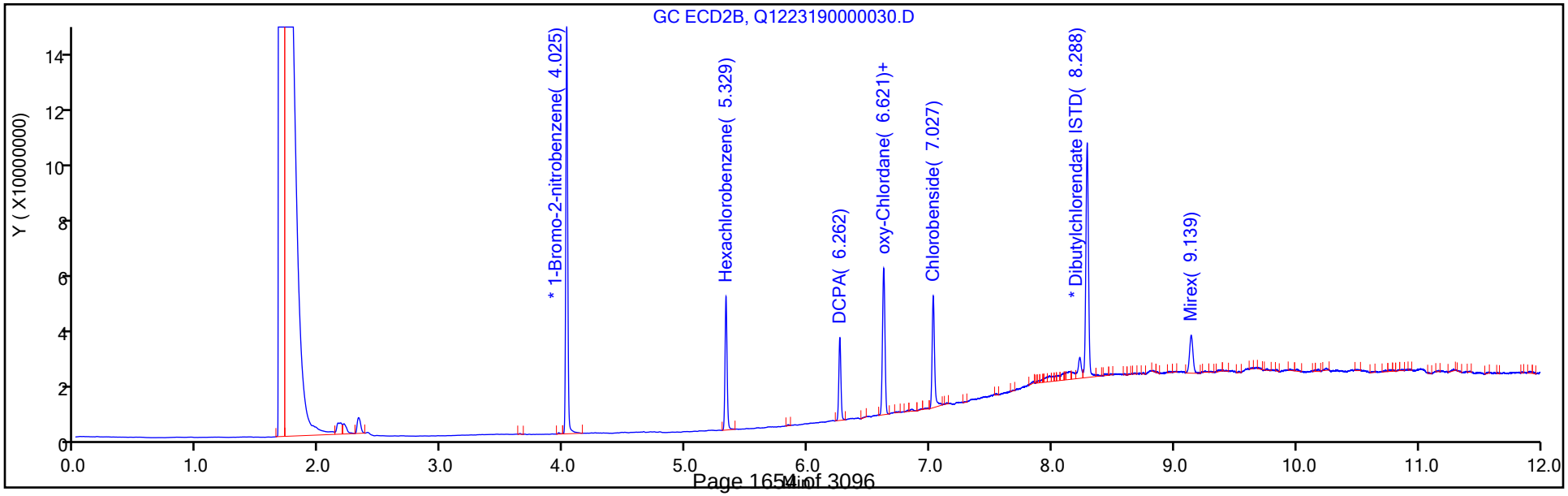

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCVIS 180-302301/32 Calibration Date: 12/23/2019 18:38

Instrument ID: CHGC15 Calib Start Date: 07/02/2019 15:33

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 07/02/2019 16:50

Lab File ID: Q1223190000032.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
alpha-BHC	Ave	1.584	1.427		0.0225	0.0250	-9.9	20.0
gamma-BHC (Lindane)	Ave	1.396	1.202		0.0215	0.0250	-13.9	20.0
beta-BHC	Ave	0.5699	0.4728		0.0207	0.0250	-17.0	20.0
delta-BHC	Ave	1.288	1.055		0.0205	0.0250	-18.1	20.0
Heptachlor	Ave	1.235	0.9934		0.0201	0.0250	-19.6	20.0
Aldrin	Ave	1.277	0.9202		0.0180	0.0250	-27.9*	20.0
Heptachlor epoxide	Ave	1.111	0.8146		0.0183	0.0250	-26.7*	20.0
trans-Chlordane	Ave	1.152	0.7942		0.0172	0.0250	-31.1*	20.0
cis-Chlordane	Ave	1.128	0.7618		0.0169	0.0250	-32.4*	20.0
Endosulfan I	Ave	1.016	0.6947		0.0171	0.0250	-31.6*	20.0
4,4'-DDE	Ave	1.425	1.395		0.0245	0.0250	-2.1	20.0
Dieldrin	Ave	1.469	1.458		0.0248	0.0250	-0.7	20.0
Endrin	Ave	1.175	1.230		0.0262	0.0250	4.7	20.0
4,4'-DDD	Ave	1.167	1.305		0.0279	0.0250	11.8	20.0
Endosulfan II	Ave	1.071	1.060		0.0247	0.0250	-1.1	20.0
Endrin aldehyde	Ave	0.9084	0.9071		0.0250	0.0250	-0.1	20.0
4,4'-DDT	Ave	0.9234	0.8259		0.0224	0.0250	-10.6	20.0
Endosulfan sulfate	Ave	1.154	1.096		0.0238	0.0250	-5.0	20.0
Methoxychlor	Ave	0.4035	0.4471		0.0277	0.0250	10.8	20.0
Endrin ketone	Ave	1.040	1.117		0.0268	0.0250	7.4	20.0
Tetrachloro-m-xylene	Ave	1.380	0.9934		0.0180	0.0250	-28.0*	20.0
DCB Decachlorobiphenyl (Surr)	Ave	0.6918	0.5474		0.0198	0.0250	-20.9*	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCVIS 180-302301/32 Calibration Date: 12/23/2019 18:38

Instrument ID: CHGC15 Calib Start Date: 07/02/2019 15:33

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 07/02/2019 16:50

Lab File ID: Q1223190000032.D

Analyte	RT	RT WINDOW	
		FROM	TO
alpha-BHC	5.12	5.11	5.13
gamma-BHC (Lindane)	5.38	5.37	5.39
beta-BHC	5.55	5.54	5.56
delta-BHC	5.75	5.74	5.76
Heptachlor	5.85	5.84	5.86
Aldrin	6.13	6.12	6.14
Heptachlor epoxide	6.49	6.48	6.50
trans-Chlordane	6.71	6.70	6.72
cis-Chlordane	6.77	6.76	6.78
Endosulfan I	6.82	6.81	6.83
4,4'-DDE	6.93	6.92	6.94
Dieldrin	7.05	7.04	7.06
Endrin	7.26	7.25	7.27
4,4'-DDD	7.38	7.37	7.39
Endosulfan II	7.45	7.44	7.46
Endrin aldehyde	7.57	7.56	7.58
4,4'-DDT	7.66	7.65	7.67
Endosulfan sulfate	7.78	7.77	7.79
Methoxychlor	8.10	8.09	8.11
Endrin ketone	8.23	8.22	8.24
Tetrachloro-m-xylene	4.76	4.75	4.77
DCB Decachlorobiphenyl (Surr)	9.94	9.93	9.95

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000032.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 23-Dec-2019 18:38:21 ALS Bottle#: 32 Worklist Smp#: 32
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030125-032
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub6

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Dec-2019 05:24:07 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0301

First Level Reviewer: eppinged Date: 24-Dec-2019 04:17:06

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.771	3.771	0.000	149592674H	0.1000	0.1000	
2	4.025	4.025	0.000	143021102H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.758	4.758	0.000	37149954H	0.0250	0.0180	
2	4.898	4.898	0.000	42761045H	0.0250	0.0221	
						RPD = 20.63	
5 alpha-BHC							
1	5.120	5.120	0.000	53372378H	0.0250	0.0225	
2	5.365	5.365	0.000	55155739H	0.0250	0.0254	
						RPD = 12.18	
7 gamma-BHC (Lindane)							
1	5.384	5.384	0.000	44954927H	0.0250	0.0215	
2	5.670	5.670	0.000	44760540H	0.0250	0.0258	
						RPD = 18.22	
8 beta-BHC							
1	5.548	5.548	0.000	17681220H	0.0250	0.0207	
2	5.915	5.915	0.000	18771117H	0.0250	0.0219	
						RPD = 5.50	
10 delta-BHC							
1	5.748	5.748	0.000	39457736H	0.0250	0.0205	
2	6.148	6.148	0.000	40662436H	0.0250	0.0237	
						RPD = 14.43	
11 Heptachlor							
1	5.850	5.850	0.000	37151370H	0.0250	0.0201	
2	5.993	5.993	0.000	35187020H	0.0250	0.0218	
						RPD = 8.18	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
13 Aldrin							
1	6.130	6.130	0.000	34413173H	0.0250	0.0180	
2	6.264	6.264	0.000	37157536H	0.0250	0.0233	
						RPD = 25.55	
16 Heptachlor epoxide							
1	6.487	6.487	0.000	30464160H	0.0250	0.0183	
2	6.715	6.715	0.000	31328845H	0.0250	0.0224	
						RPD = 19.92	
18 trans-Chlordane							
1	6.705	6.705	0.000	29699706H	0.0250	0.0172	
2	6.944	6.944	0.000	31652655H	0.0250	0.0216	
						RPD = 22.57	
20 cis-Chlordane							
1	6.772	6.772	0.000	28491241H	0.0250	0.0169	
2	7.005	7.005	0.000	30656519H	0.0250	0.0216	
						RPD = 24.50	
21 Endosulfan I							
1	6.816	6.816	0.000	25978865H	0.0250	0.0171	
2	7.074	7.074	0.000	28597744H	0.0250	0.0234	
						RPD = 31.23	
23 4,4'-DDE							
1	6.925	6.925	0.000	28880188H	0.0250	0.0245	
2	7.140	7.140	0.000	32033221H	0.0250	0.0243	
						RPD = 0.86	
24 Dieldrin							
1	7.054	7.054	0.000	30190847H	0.0250	0.0248	
2	7.320	7.320	0.000	31823784H	0.0250	0.0237	
						RPD = 4.58	
27 Endrin							
1	7.255	7.255	0.000	25460947H	0.0250	0.0262	
2	7.589	7.589	0.000	25227328H	0.0250	0.0240	
						RPD = 8.57	
29 4,4'-DDD							
1	7.382	7.382	0.000	27008467H	0.0250	0.0279	
2	7.664	7.664	0.000	28440322H	0.0250	0.0270	
						RPD = 3.59	
31 Endosulfan II							
1	7.453	7.453	0.000	21935560H	0.0250	0.0247	
2	7.854	7.854	0.000	23719501H	0.0250	0.0241	
						RPD = 2.62	
32 Endrin aldehyde							
1	7.569	7.569	0.000	18778374H	0.0250	0.0250	
2	8.020	8.020	0.000	20351255H	0.0250	0.0258	
						RPD = 3.11	
33 4,4'-DDT							
1	7.660	7.660	0.000	17097501H	0.0250	0.0224	
2	7.907	7.907	0.000	16275569H	0.0250	0.0195	
						RPD = 13.80	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
35 Endosulfan sulfate							
1	7.778	7.778	0.000	22689717H	0.0250	0.0238	
2	8.244	8.244	0.000	24085189H	0.0250	0.0257	
						RPD = 8.05	
36 Methoxychlor							
1	8.101	8.101	0.000	9254593H	0.0250	0.0277	
2	8.476	8.476	0.000	7809854H	0.0250	0.0226	
						RPD = 20.35	
* 44 Dibutylchlorendate ISTD							
1	8.176	8.176	0.000	82803313H	0.1000	0.1000	
2	8.287	8.287	0.000	79919870H	0.1000	0.1000	
37 Endrin ketone							
1	8.231	8.231	0.000	23122850H	0.0250	0.0268	
2	8.863	8.863	0.000	20081043H	0.0250	0.0239	
						RPD = 11.57	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	9.943	9.943	0.000	11331845H	0.0250	0.0198	
2	10.547	10.547	0.000	14317825H	0.0250	0.0254	
						RPD = 24.84	

Reagents:

GCPestL3_00032	Amount Added: 1.00	Units: mL	
GCPESTISSPK2_00017	Amount Added: 0.02	Units: mL	Run Reagent

Report Date: 24-Dec-2019 05:24:07 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000032.D				
Injection Date:	23-Dec-2019 18:38:21	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	CCVIS			Worklist Smp#:	32
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	32
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

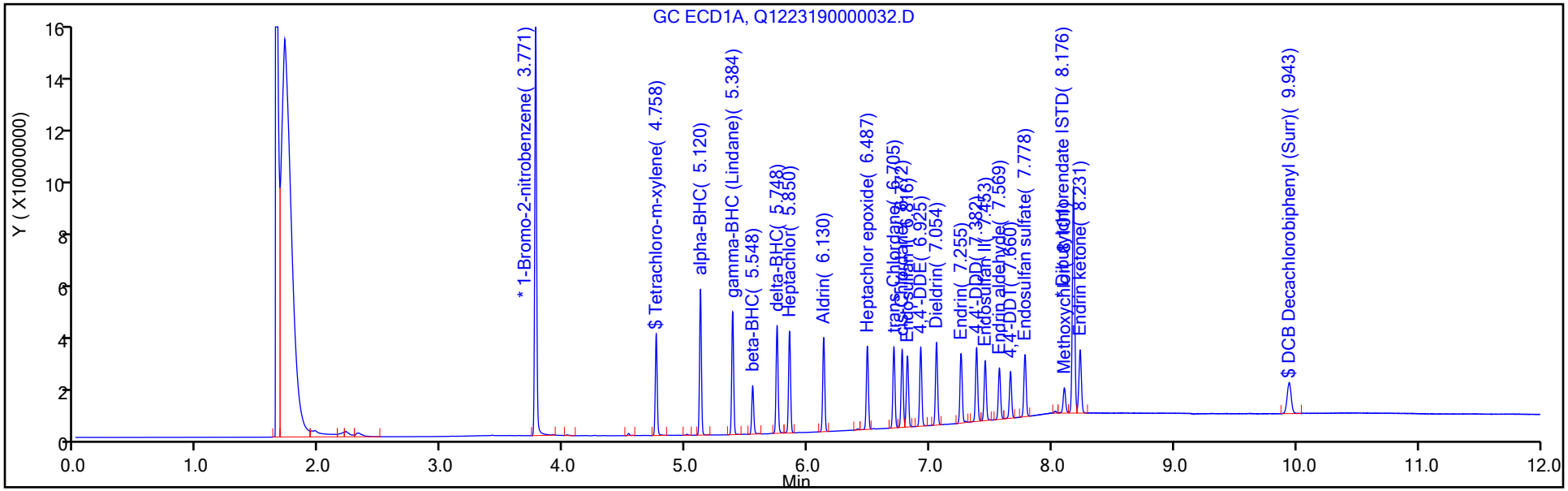

Column: MR-2 (0.53 mm)

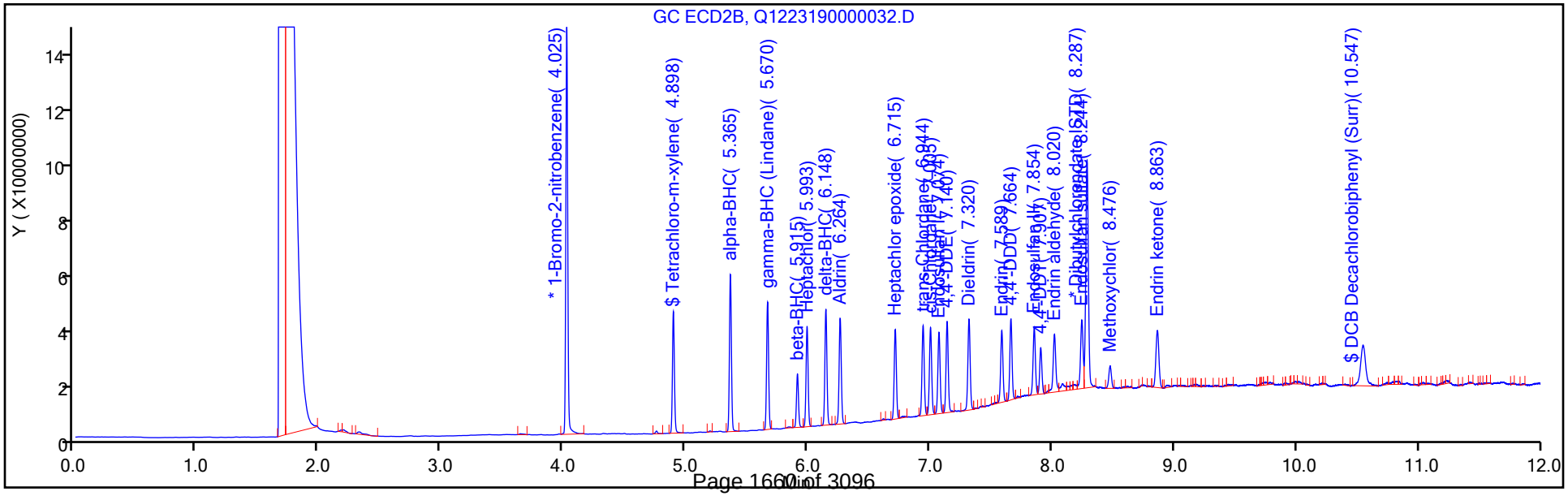

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCVIS 180-302301/32 Calibration Date: 12/23/2019 18:38

Instrument ID: CHGC15 Calib Start Date: 07/02/2019 15:33

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 07/02/2019 16:50

Lab File ID: Q1223190000032.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
alpha-BHC	Ave	1.516	1.543		0.0254	0.0250	1.8	20.0
gamma-BHC (Lindane)	Ave	1.211	1.252		0.0258	0.0250	3.4	20.0
beta-BHC	Ave	0.5990	0.5250		0.0219	0.0250	-12.4	20.0
Heptachlor	Ave	1.127	0.9841		0.0218	0.0250	-12.7	20.0
delta-BHC	Ave	1.201	1.137		0.0237	0.0250	-5.3	20.0
Aldrin	Ave	1.115	1.039		0.0233	0.0250	-6.8	20.0
Heptachlor epoxide	Ave	0.9784	0.8762		0.0224	0.0250	-10.4	20.0
trans-Chlordane	Ave	1.024	0.8853		0.0216	0.0250	-13.5	20.0
cis-Chlordane	Ave	0.9920	0.8574		0.0216	0.0250	-13.6	20.0
Endosulfan I	Ave	0.8537	0.7998		0.0234	0.0250	-6.3	20.0
4,4'-DDE	Ave	1.652	1.603		0.0243	0.0250	-2.9	20.0
Dieldrin	Ave	1.679	1.593		0.0237	0.0250	-5.1	20.0
Endrin	Ave	1.314	1.263		0.0240	0.0250	-3.9	20.0
4,4'-DDD	Ave	1.320	1.423		0.0270	0.0250	7.8	20.0
Endosulfan II	Ave	1.232	1.187		0.0241	0.0250	-3.6	20.0
4,4'-DDT	Ave	1.046	0.8146		0.0195	0.0250	-22.1*	20.0
Endrin aldehyde	Ave	0.9888	1.019		0.0258	0.0250	3.0	20.0
Endosulfan sulfate	Ave	1.171	1.205		0.0257	0.0250	3.0	20.0
Methoxychlor	Ave	0.4327	0.3909		0.0226	0.0250	-9.7	20.0
Endrin ketone	Ave	1.051	1.005		0.0239	0.0250	-4.4	20.0
Tetrachloro-m-xylene	Ave	1.350	1.196		0.0221	0.0250	-11.4	20.0
DCB Decachlorobiphenyl (Surr)	Ave	0.7055	0.7166		0.0254	0.0250	1.6	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCVIS 180-302301/32 Calibration Date: 12/23/2019 18:38

Instrument ID: CHGC15 Calib Start Date: 07/02/2019 15:33

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 07/02/2019 16:50

Lab File ID: Q1223190000032.D

Analyte	RT	RT WINDOW	
		FROM	TO
alpha-BHC	5.37	5.36	5.38
gamma-BHC (Lindane)	5.67	5.66	5.68
beta-BHC	5.92	5.91	5.93
Heptachlor	5.99	5.98	6.00
delta-BHC	6.15	6.14	6.16
Aldrin	6.26	6.25	6.27
Heptachlor epoxide	6.72	6.71	6.73
trans-Chlordane	6.94	6.93	6.95
cis-Chlordane	7.01	7.00	7.02
Endosulfan I	7.07	7.06	7.08
4,4'-DDE	7.14	7.13	7.15
Dieldrin	7.32	7.31	7.33
Endrin	7.59	7.58	7.60
4,4'-DDD	7.66	7.65	7.67
Endosulfan II	7.85	7.84	7.86
4,4'-DDT	7.91	7.90	7.92
Endrin aldehyde	8.02	8.01	8.03
Endosulfan sulfate	8.24	8.23	8.25
Methoxychlor	8.48	8.47	8.49
Endrin ketone	8.86	8.85	8.87
Tetrachloro-m-xylene	4.90	4.89	4.91
DCB Decachlorobiphenyl (Surr)	10.55	10.54	10.56

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000032.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 23-Dec-2019 18:38:21 ALS Bottle#: 32 Worklist Smp#: 32
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030125-032
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub6

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Dec-2019 05:24:07 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0301

First Level Reviewer: eppinged Date: 24-Dec-2019 04:17:06

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.771	3.771	0.000	149592674H	0.1000	0.1000	
2	4.025	4.025	0.000	143021102H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.758	4.758	0.000	37149954H	0.0250	0.0180	
2	4.898	4.898	0.000	42761045H	0.0250	0.0221	
						RPD = 20.63	
5 alpha-BHC							
1	5.120	5.120	0.000	53372378H	0.0250	0.0225	
2	5.365	5.365	0.000	55155739H	0.0250	0.0254	
						RPD = 12.18	
7 gamma-BHC (Lindane)							
1	5.384	5.384	0.000	44954927H	0.0250	0.0215	
2	5.670	5.670	0.000	44760540H	0.0250	0.0258	
						RPD = 18.22	
8 beta-BHC							
1	5.548	5.548	0.000	17681220H	0.0250	0.0207	
2	5.915	5.915	0.000	18771117H	0.0250	0.0219	
						RPD = 5.50	
10 delta-BHC							
1	5.748	5.748	0.000	39457736H	0.0250	0.0205	
2	6.148	6.148	0.000	40662436H	0.0250	0.0237	
						RPD = 14.43	
11 Heptachlor							
1	5.850	5.850	0.000	37151370H	0.0250	0.0201	
2	5.993	5.993	0.000	35187020H	0.0250	0.0218	
						RPD = 8.18	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
13 Aldrin							
1	6.130	6.130	0.000	34413173H	0.0250	0.0180	
2	6.264	6.264	0.000	37157536H	0.0250	0.0233	
						RPD = 25.55	
16 Heptachlor epoxide							
1	6.487	6.487	0.000	30464160H	0.0250	0.0183	
2	6.715	6.715	0.000	31328845H	0.0250	0.0224	
						RPD = 19.92	
18 trans-Chlordane							
1	6.705	6.705	0.000	29699706H	0.0250	0.0172	
2	6.944	6.944	0.000	31652655H	0.0250	0.0216	
						RPD = 22.57	
20 cis-Chlordane							
1	6.772	6.772	0.000	28491241H	0.0250	0.0169	
2	7.005	7.005	0.000	30656519H	0.0250	0.0216	
						RPD = 24.50	
21 Endosulfan I							
1	6.816	6.816	0.000	25978865H	0.0250	0.0171	
2	7.074	7.074	0.000	28597744H	0.0250	0.0234	
						RPD = 31.23	
23 4,4'-DDE							
1	6.925	6.925	0.000	28880188H	0.0250	0.0245	
2	7.140	7.140	0.000	32033221H	0.0250	0.0243	
						RPD = 0.86	
24 Dieldrin							
1	7.054	7.054	0.000	30190847H	0.0250	0.0248	
2	7.320	7.320	0.000	31823784H	0.0250	0.0237	
						RPD = 4.58	
27 Endrin							
1	7.255	7.255	0.000	25460947H	0.0250	0.0262	
2	7.589	7.589	0.000	25227328H	0.0250	0.0240	
						RPD = 8.57	
29 4,4'-DDD							
1	7.382	7.382	0.000	27008467H	0.0250	0.0279	
2	7.664	7.664	0.000	28440322H	0.0250	0.0270	
						RPD = 3.59	
31 Endosulfan II							
1	7.453	7.453	0.000	21935560H	0.0250	0.0247	
2	7.854	7.854	0.000	23719501H	0.0250	0.0241	
						RPD = 2.62	
32 Endrin aldehyde							
1	7.569	7.569	0.000	18778374H	0.0250	0.0250	
2	8.020	8.020	0.000	20351255H	0.0250	0.0258	
						RPD = 3.11	
33 4,4'-DDT							
1	7.660	7.660	0.000	17097501H	0.0250	0.0224	
2	7.907	7.907	0.000	16275569H	0.0250	0.0195	
						RPD = 13.80	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
35 Endosulfan sulfate							
1	7.778	7.778	0.000	22689717H	0.0250	0.0238	
2	8.244	8.244	0.000	24085189H	0.0250	0.0257	
						RPD = 8.05	
36 Methoxychlor							
1	8.101	8.101	0.000	9254593H	0.0250	0.0277	
2	8.476	8.476	0.000	7809854H	0.0250	0.0226	
						RPD = 20.35	
* 44 Dibutylchlorendate ISTD							
1	8.176	8.176	0.000	82803313H	0.1000	0.1000	
2	8.287	8.287	0.000	79919870H	0.1000	0.1000	
37 Endrin ketone							
1	8.231	8.231	0.000	23122850H	0.0250	0.0268	
2	8.863	8.863	0.000	20081043H	0.0250	0.0239	
						RPD = 11.57	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	9.943	9.943	0.000	11331845H	0.0250	0.0198	
2	10.547	10.547	0.000	14317825H	0.0250	0.0254	
						RPD = 24.84	

Reagents:

GCPestL3_00032	Amount Added: 1.00	Units: mL	
GCPESTISSPK2_00017	Amount Added: 0.02	Units: mL	Run Reagent

Report Date: 24-Dec-2019 05:24:09 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000032.D				
Injection Date:	23-Dec-2019 18:38:21	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	CCVIS			Worklist Smp#:	32
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	32
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

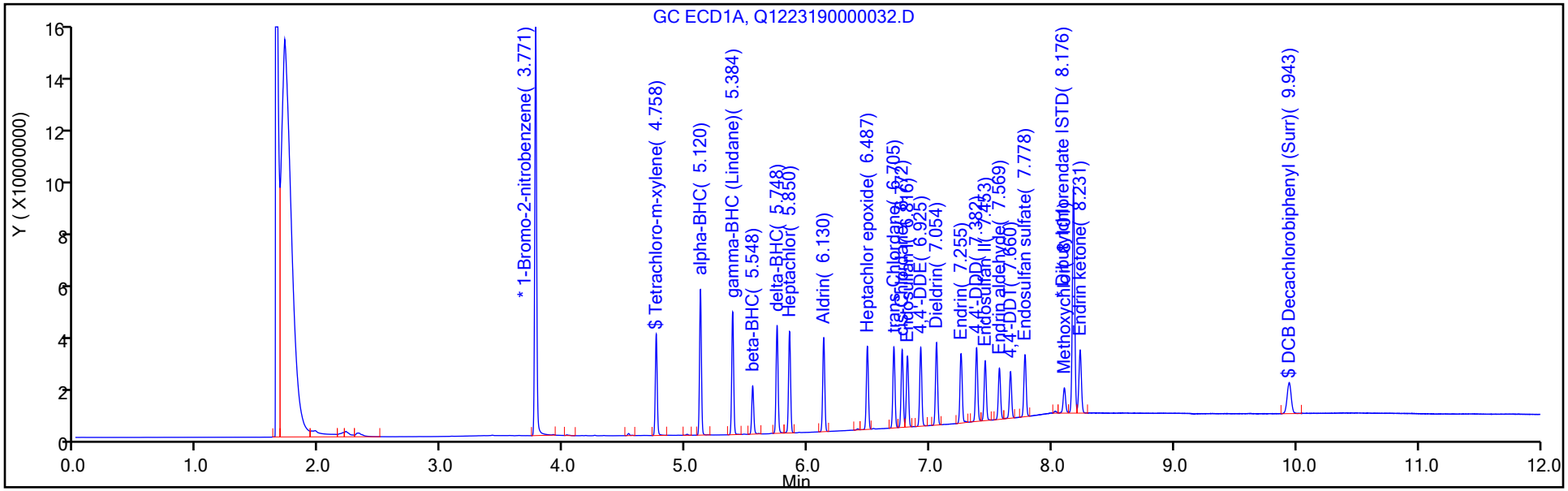

Column: MR-2 (0.53 mm)

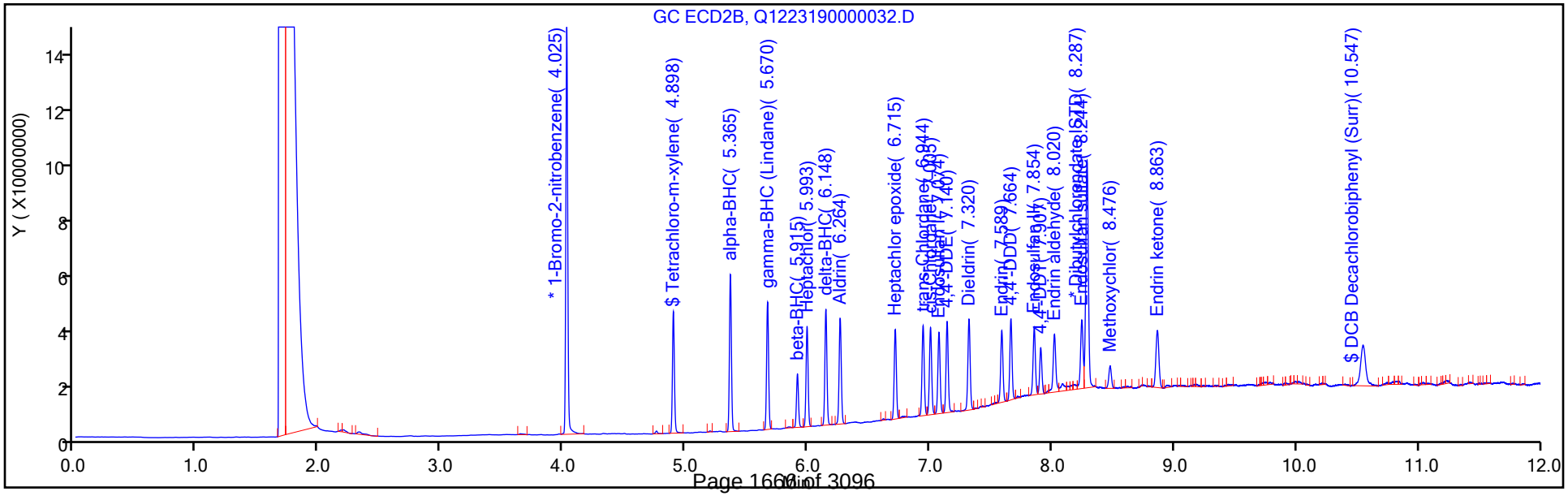

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCV 180-302301/54 Calibration Date: 12/24/2019 00:18

Instrument ID: CHGC15 Calib Start Date: 05/18/2019 12:14

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 05/18/2019 13:16

Lab File ID: Q1223190000054.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Toxaphene Peak 1	Ave	0.0135	0.0134		0.991	1.00	-0.9	20.0
Toxaphene Peak 2	Ave	0.0178	0.0176		0.991	1.00	-0.9	20.0
Toxaphene Peak 3	Ave	0.0164	0.0155		0.942	1.00	-5.8	20.0
Toxaphene Peak 4	Ave	0.0151	0.0127		0.838	1.00	-16.2	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCV 180-302301/54 Calibration Date: 12/24/2019 00:18

Instrument ID: CHGC15 Calib Start Date: 05/18/2019 12:14

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 05/18/2019 13:16

Lab File ID: Q1223190000054.D

Analyte	RT	RT WINDOW	
		FROM	TO
Toxaphene Peak 1	6.97	6.95	6.97
Toxaphene Peak 2	7.23	7.22	7.24
Toxaphene Peak 3	7.61	7.60	7.62
Toxaphene Peak 4	7.85	7.84	7.86

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000054.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 24-Dec-2019 00:18:12 ALS Bottle#: 54 Worklist Smp#: 54
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030125-054
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub4

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Dec-2019 04:36:09 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0301

First Level Reviewer: eppinged Date: 24-Dec-2019 04:18:32

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.769	3.771	-0.002	139670427H	0.1000	0.1000	
2	4.024	4.025	-0.001	137474626H	0.1000	0.1000	
34 Toxaphene							M
1	6.965	6.961	0.004	18651502H	1.00	0.99	
1	7.231	7.227	0.004	24603231H	1.00	0.99	
1	7.612	7.607	0.005	21612015H	1.00	0.9424	
1	7.852	7.847	0.005	17692062H	1.00	0.8381	
		Average of Peak Amounts =				0.9406	
2	7.176	7.172	0.004	11401647H	1.00	1.11	M
2	7.307	7.304	0.003	17332915H	1.00	1.04	M
2	7.809	7.806	0.003	30125478H	1.00	1.11	M
2	8.528	8.524	0.004	17912802H	1.00	0.9363	M
		Average of Peak Amounts =				1.05	
						RPD = 10.99	
* 44 Dibutylchlorendate ISTD							sM
1	8.174	8.176	-0.002	95650946H	0.1000	0.1000	
2	8.286	8.287	-0.001	91730978H	0.1000	0.1000	M

QC Flag Legend

Processing Flags
s - Failed ISTD Recovery Test
H - Response Measured by Height
Review Flags
M - Manually Integrated

Reagents:

GCTOXLEVEL3_00021	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00017	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 24-Dec-2019 04:36:09 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000054.D				
Injection Date:	24-Dec-2019 00:18:12	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	CCV			Worklist Smp#:	54
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	54
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

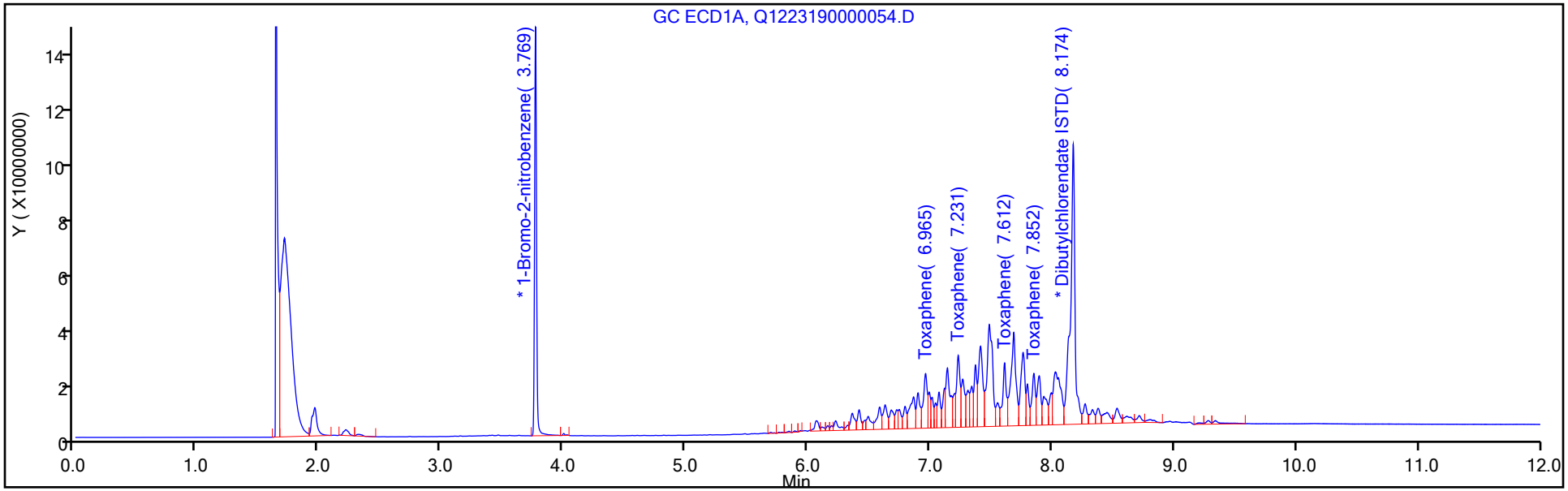

Column: MR-2 (0.53 mm)

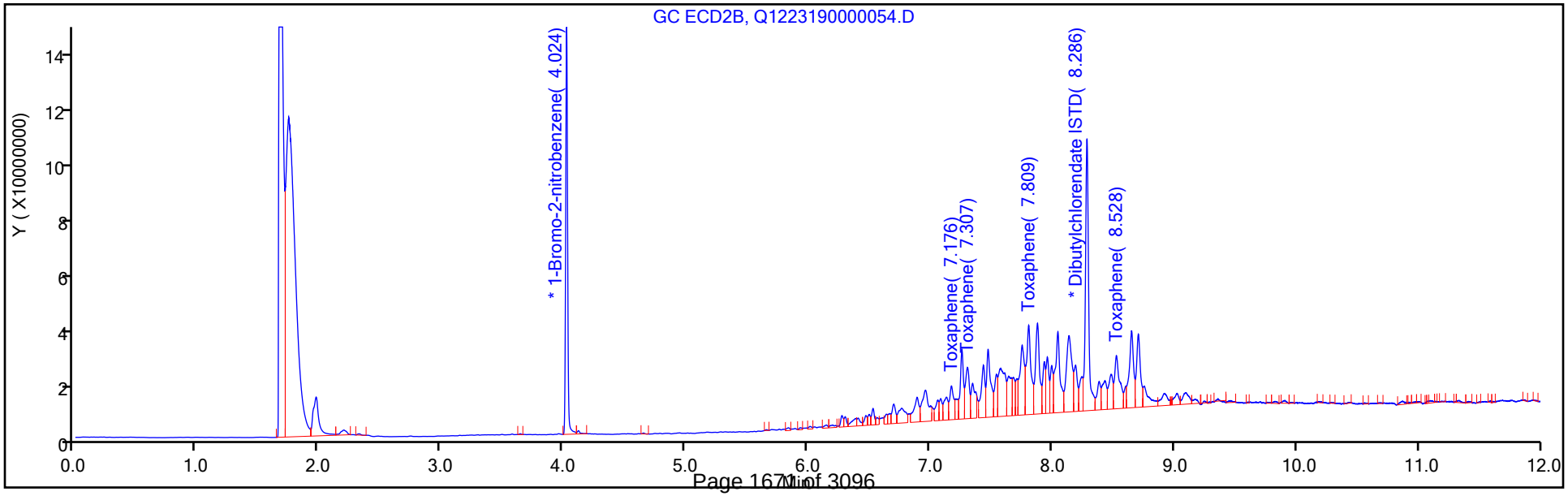

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCV 180-302301/54 Calibration Date: 12/24/2019 00:18

Instrument ID: CHGC15 Calib Start Date: 05/18/2019 12:14

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 05/18/2019 13:16

Lab File ID: Q1223190000054.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Toxaphene Peak 1	Ave	0.0075	0.0083		1.11	1.00	11.2	20.0
Toxaphene Peak 2	Ave	0.0121	0.0126		1.04	1.00	4.2	20.0
Toxaphene Peak 3	Lin1		0.0219		1.11	1.00	11.0	20.0
Toxaphene Peak 4	Ave	0.0139	0.0130		0.936	1.00	-6.4	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCV 180-302301/54 Calibration Date: 12/24/2019 00:18

Instrument ID: CHGC15 Calib Start Date: 05/18/2019 12:14

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 05/18/2019 13:16

Lab File ID: Q1223190000054.D

Analyte	RT	RT WINDOW	
		FROM	TO
Toxaphene Peak 1	7.18	7.16	7.18
Toxaphene Peak 2	7.31	7.29	7.31
Toxaphene Peak 3	7.81	7.80	7.82
Toxaphene Peak 4	8.53	8.51	8.53

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000054.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 24-Dec-2019 00:18:12 ALS Bottle#: 54 Worklist Smp#: 54
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030125-054
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub4

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Dec-2019 04:36:09 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0301

First Level Reviewer: eppinged Date: 24-Dec-2019 04:18:32

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.769	3.771	-0.002	139670427H	0.1000	0.1000	
2	4.024	4.025	-0.001	137474626H	0.1000	0.1000	
34 Toxaphene							M
1	6.965	6.961	0.004	18651502H	1.00	0.99	
1	7.231	7.227	0.004	24603231H	1.00	0.99	
1	7.612	7.607	0.005	21612015H	1.00	0.9424	
1	7.852	7.847	0.005	17692062H	1.00	0.8381	
		Average of Peak Amounts =				0.9406	
2	7.176	7.172	0.004	11401647H	1.00	1.11	M
2	7.307	7.304	0.003	17332915H	1.00	1.04	M
2	7.809	7.806	0.003	30125478H	1.00	1.11	M
2	8.528	8.524	0.004	17912802H	1.00	0.9363	M
		Average of Peak Amounts =				1.05	
						RPD = 10.99	
* 44 Dibutylchlorendate ISTD							sM
1	8.174	8.176	-0.002	95650946H	0.1000	0.1000	
2	8.286	8.287	-0.001	91730978H	0.1000	0.1000	M

QC Flag Legend

Processing Flags
s - Failed ISTD Recovery Test
H - Response Measured by Height
Review Flags
M - Manually Integrated

Reagents:

GCTOXLEVEL3_00021	Amount Added:	1.00	Units: mL	
GCPESTISSPK2_00017	Amount Added:	0.02	Units: mL	Run Reagent

Report Date: 24-Dec-2019 04:36:12 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000054.D				
Injection Date:	24-Dec-2019 00:18:12	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	CCV			Worklist Smp#:	54
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	54
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

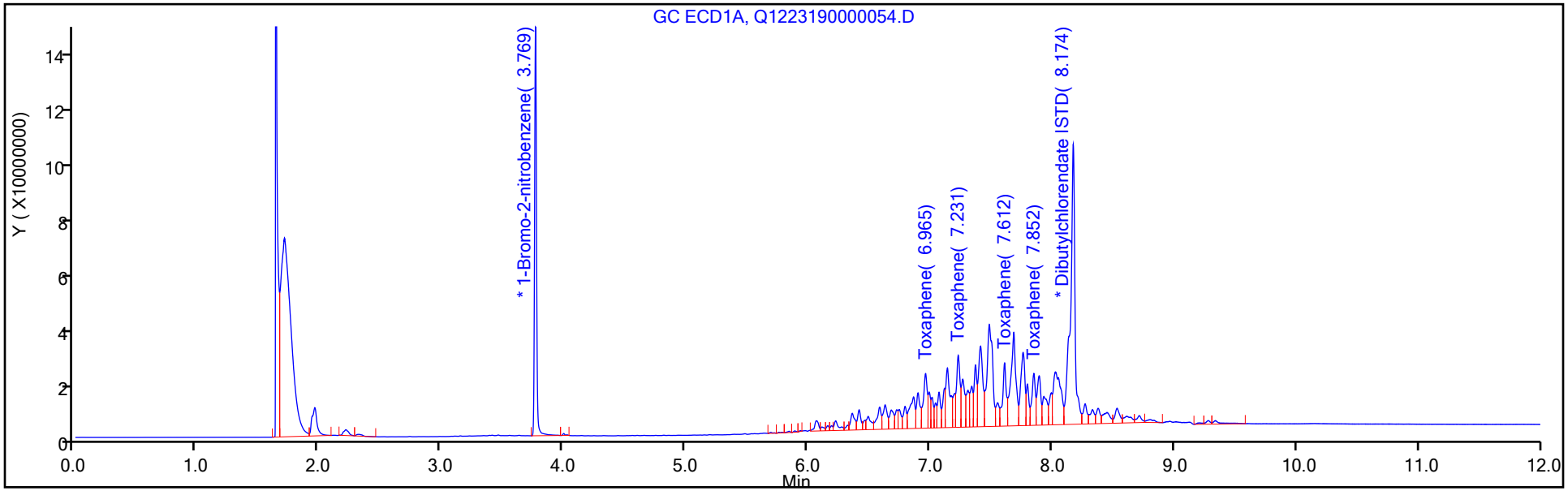

Column: MR-2 (0.53 mm)

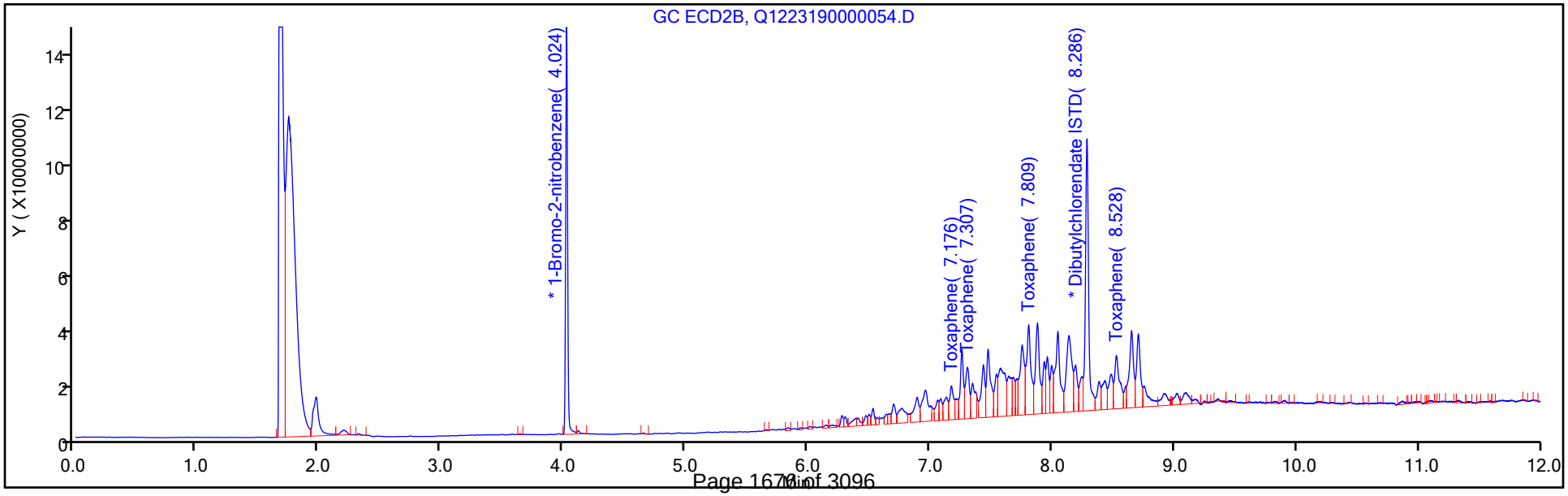

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000054.D				
Injection Date:	24-Dec-2019 00:18:12	Instrument ID:	CHGC15		
Lims ID:	CCV				
Client ID:					
Operator ID:	402331	ALS Bottle#:	54	Worklist Smp#:	54
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

* 44 Dibutylchlorendate ISTD, CAS: 1770-80-5

Signal: 2

Processing Integration Results

RT: 8.29
Height: 88768470
Amount: 0.100000
Amount Units: ng

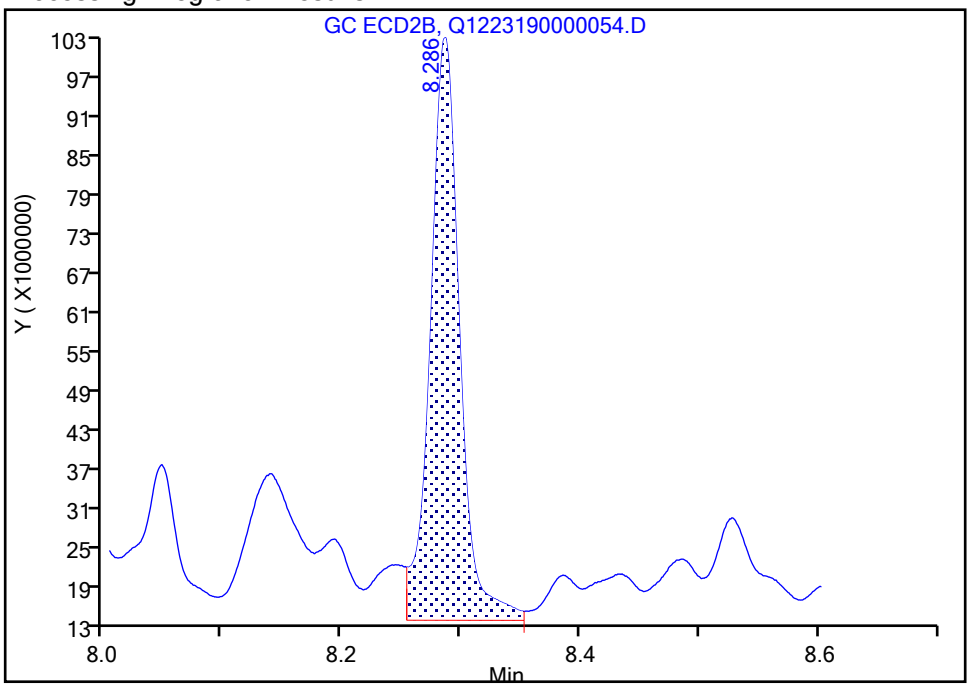

Manual Integration Results

RT: 8.29
Height: 91730978
Amount: 0.100000
Amount Units: ng

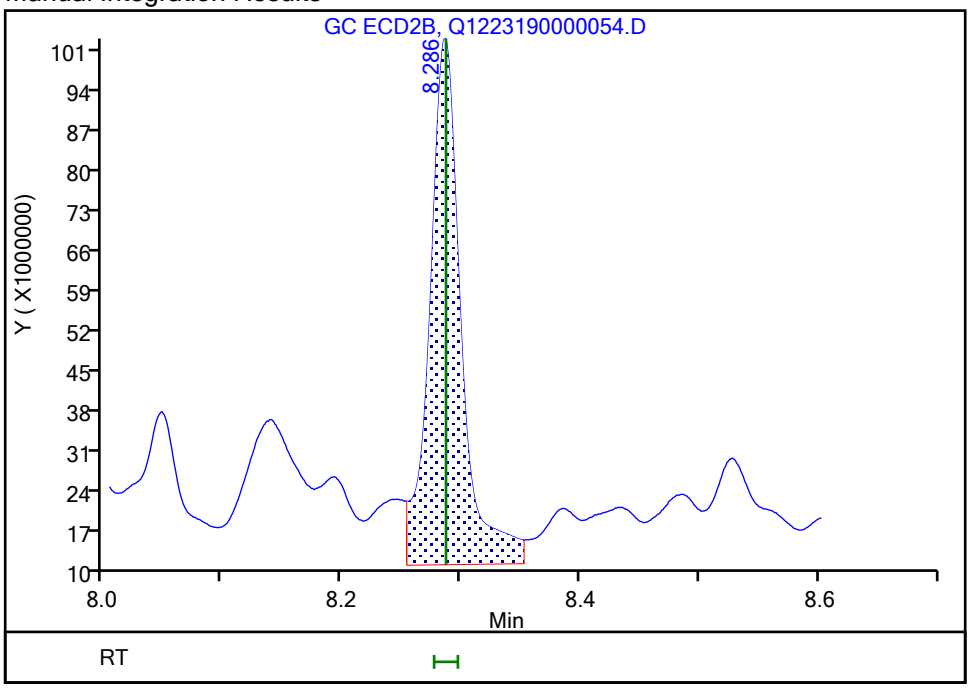

Reviewer: eppinged, 24-Dec-2019 04:18:24

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Report Date: 24-Dec-2019 04:36:13 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000054.D				
Injection Date:	24-Dec-2019 00:18:12	Instrument ID:	CHGC15		
Lims ID:	CCV				
Client ID:					
Operator ID:	402331	ALS Bottle#:	54	Worklist Smp#:	54
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		
Column:	MR-2 (0.53 mm)	Detector	GC ECD2B		

34 Toxaphene, CAS: 8001-35-2

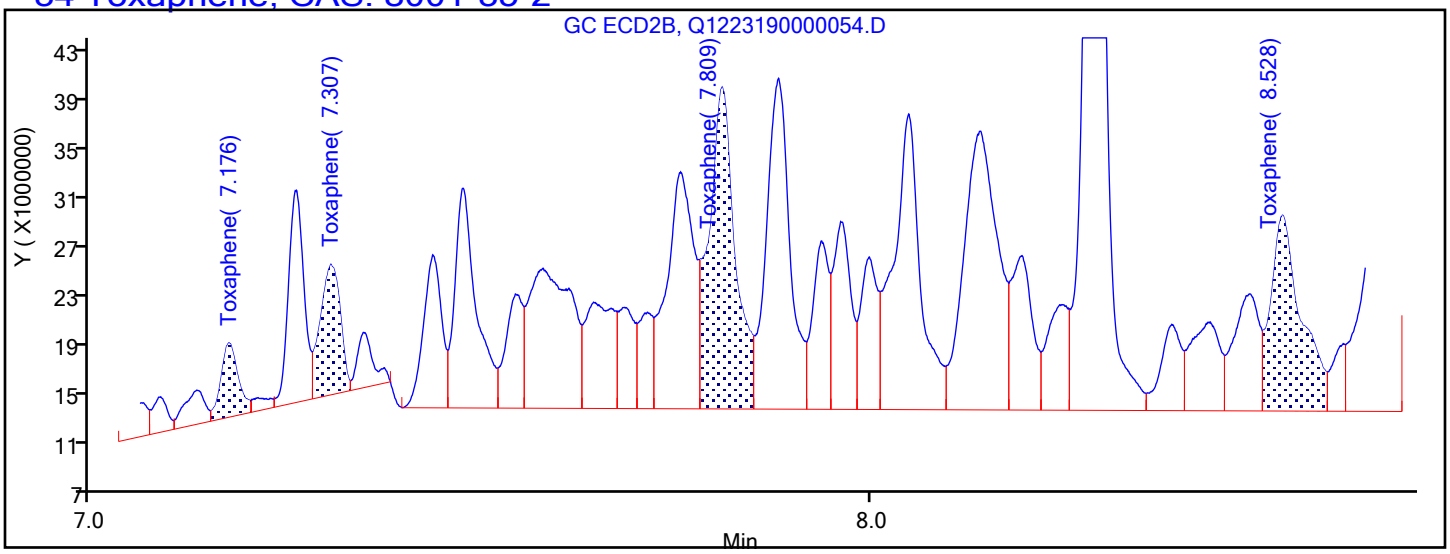

Processing Integration Results

7.176	Response = 5949322
7.307	Response = 10450223
7.809	Response = 25743202
8.528	Response = 15667609

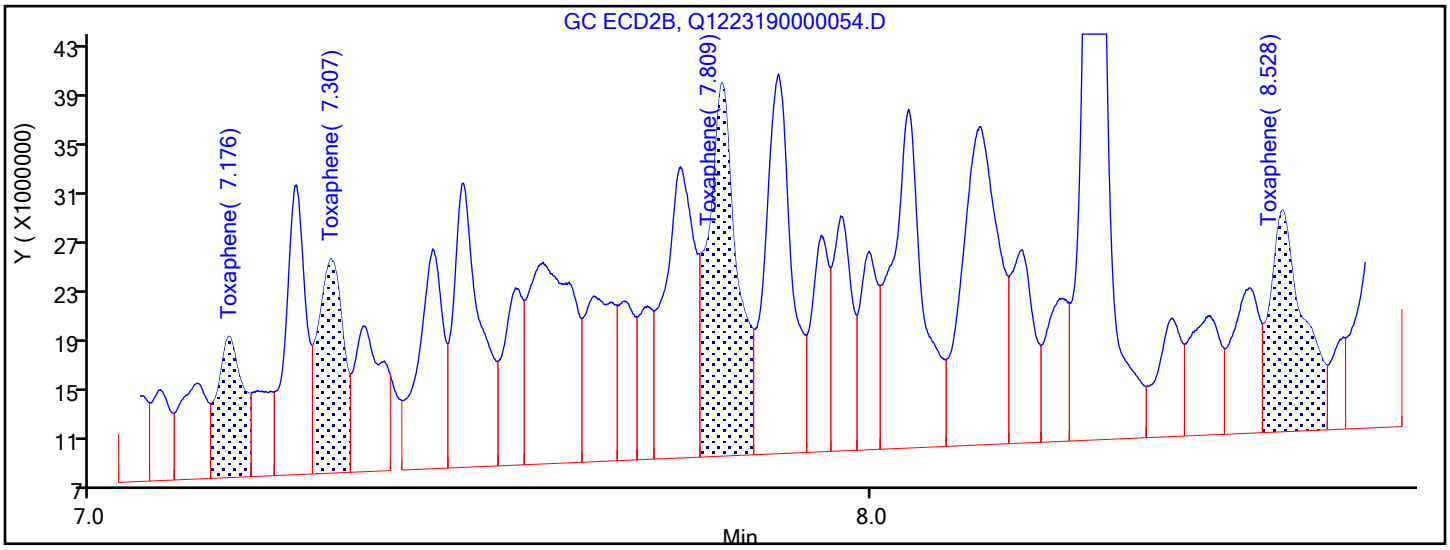

Manual Integration Results

7.176	Response = 11401647	M
7.307	Response = 17332915	M
7.809	Response = 30125478	M
8.528	Response = 17912802	M

Reviewer: eppinged, 24-Dec-2019 04:18:24

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCV 180-302301/55 Calibration Date: 12/24/2019 00:33

Instrument ID: CHGC15 Calib Start Date: 05/18/2019 14:56

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 05/18/2019 15:57

Lab File ID: Q1223190000055.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Chlordane (technical) Peak 1	Ave	0.0462	0.0341		0.184	0.250	-26.3*	20.0
Chlordane (technical) Peak 2	Ave	0.0571	0.0495		0.217	0.250	-13.2	20.0
Chlordane (technical) Peak 3	Ave	0.1693	0.1385		0.205	0.250	-18.2	20.0
Chlordane (technical) Peak 4	Ave	0.1861	0.1512		0.203	0.250	-18.8	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCV 180-302301/55 Calibration Date: 12/24/2019 00:33

Instrument ID: CHGC15 Calib Start Date: 05/18/2019 14:56

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 05/18/2019 15:57

Lab File ID: Q1223190000055.D

Analyte	RT	RT WINDOW	
		FROM	TO
Chlordane (technical) Peak 1	5.68	5.66	5.68
Chlordane (technical) Peak 2	5.85	5.84	5.86
Chlordane (technical) Peak 3	6.71	6.69	6.71
Chlordane (technical) Peak 4	6.77	6.76	6.78

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000055.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 24-Dec-2019 00:33:35 ALS Bottle#: 55 Worklist Smp#: 55
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030125-055
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub5

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Dec-2019 04:36:13 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0301

First Level Reviewer: eppinged Date: 24-Dec-2019 04:18:39

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.769	3.771	-0.002	150690947H	0.1000	0.1000	
2	4.025	4.025	0.000	142990962H	0.1000	0.1000	
9 Chlordane (technical)							
1	5.677	5.673	0.004	12843892H	0.2500	0.1844	
1	5.849	5.846	0.003	18657736H	0.2500	0.2169	
1	6.705	6.700	0.005	52182726H	0.2500	0.2046	
1	6.774	6.770	0.004	56949655H	0.2500	0.2031	
		Average of Peak Amounts =				0.2022	
2	5.992	5.989	0.003	17256601H	0.2500	0.2667	
2	6.351	6.348	0.003	10554341H	0.2500	0.2625	
2	6.955	6.953	0.002	51986193H	0.2500	0.2954	
2	7.004	7.001	0.003	30830284H	0.2500	0.2785	
		Average of Peak Amounts =				0.2758	
						RPD = 30.78	
* 44 Dibutylchlorendate ISTD							
1	8.175	8.176	-0.001	87063560H	0.1000	0.1000	
2	8.285	8.287	-0.002	81171261H	0.1000	0.1000	

Reagents:

GCCHLORLEVEL3_00017 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00017 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 24-Dec-2019 04:36:14 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000055.D				
Injection Date:	24-Dec-2019 00:33:35	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	CCV			Worklist Smp#:	55
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	55
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

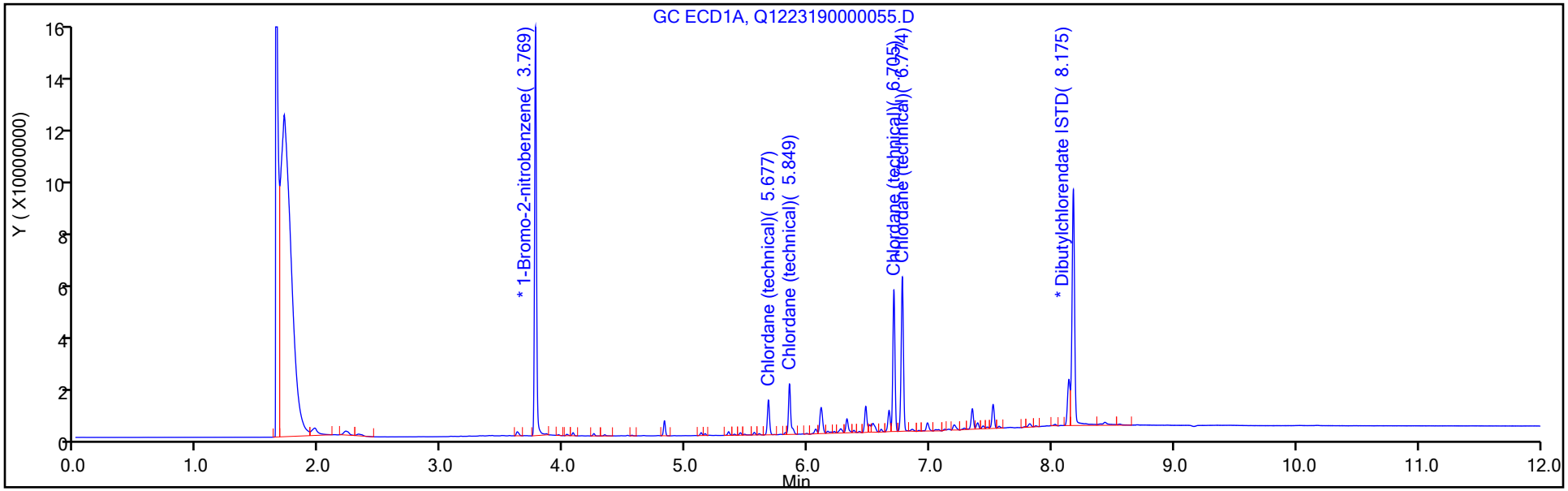

Column: MR-2 (0.53 mm)

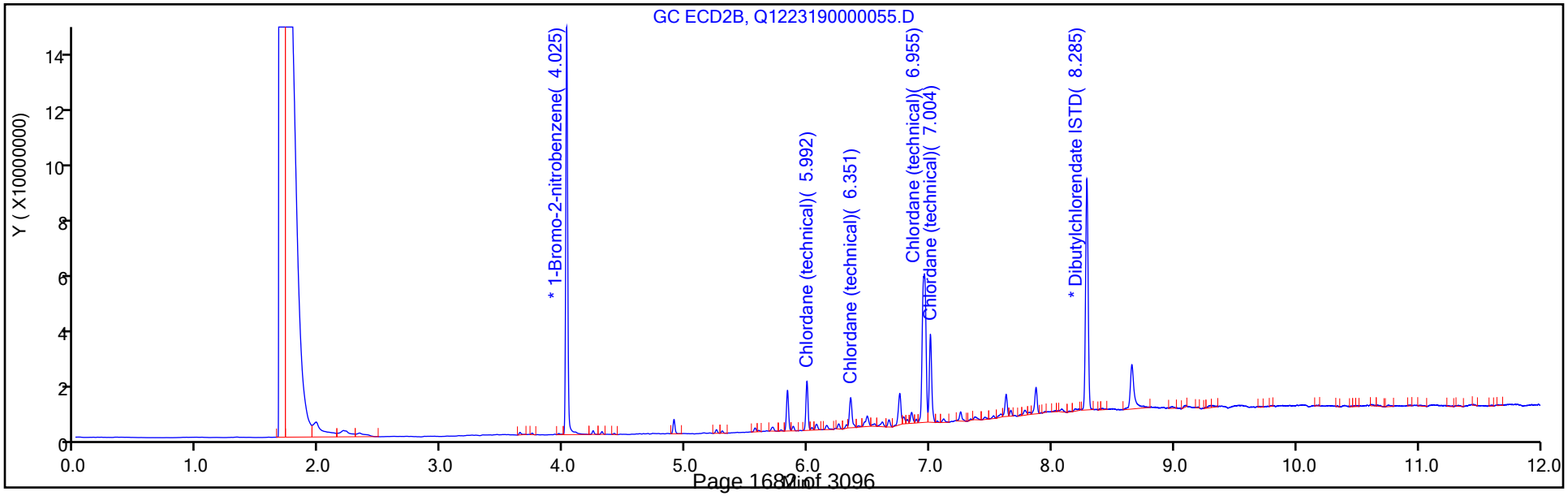

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCV 180-302301/55 Calibration Date: 12/24/2019 00:33

Instrument ID: CHGC15 Calib Start Date: 05/18/2019 14:56

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 05/18/2019 15:57

Lab File ID: Q1223190000055.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Chlordane (technical) Peak 1	Lin1		0.0483		0.267	0.250	6.7	20.0
Chlordane (technical) Peak 2	Lin1		0.0295		0.262	0.250	5.0	20.0
Chlordane (technical) Peak 3	Lin1		0.1454		0.295	0.250	18.2	20.0
Chlordane (technical) Peak 4	Lin1		0.0862		0.279	0.250	11.4	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCV 180-302301/55 Calibration Date: 12/24/2019 00:33

Instrument ID: CHGC15 Calib Start Date: 05/18/2019 14:56

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 05/18/2019 15:57

Lab File ID: Q1223190000055.D

Analyte	RT	RT WINDOW	
		FROM	TO
Chlordane (technical) Peak 1	5.99	5.98	6.00
Chlordane (technical) Peak 2	6.35	6.34	6.36
Chlordane (technical) Peak 3	6.96	6.94	6.96
Chlordane (technical) Peak 4	7.00	6.99	7.01

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000055.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 24-Dec-2019 00:33:35 ALS Bottle#: 55 Worklist Smp#: 55
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030125-055
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub5

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Dec-2019 04:36:13 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0301

First Level Reviewer: eppinged Date: 24-Dec-2019 04:18:39

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.769	3.771	-0.002	150690947H	0.1000	0.1000	
2	4.025	4.025	0.000	142990962H	0.1000	0.1000	
9 Chlordane (technical)							
1	5.677	5.673	0.004	12843892H	0.2500	0.1844	
1	5.849	5.846	0.003	18657736H	0.2500	0.2169	
1	6.705	6.700	0.005	52182726H	0.2500	0.2046	
1	6.774	6.770	0.004	56949655H	0.2500	0.2031	
		Average of Peak Amounts =				0.2022	
2	5.992	5.989	0.003	17256601H	0.2500	0.2667	
2	6.351	6.348	0.003	10554341H	0.2500	0.2625	
2	6.955	6.953	0.002	51986193H	0.2500	0.2954	
2	7.004	7.001	0.003	30830284H	0.2500	0.2785	
		Average of Peak Amounts =				0.2758	
						RPD = 30.78	
* 44 Dibutylchlorendate ISTD							
1	8.175	8.176	-0.001	87063560H	0.1000	0.1000	
2	8.285	8.287	-0.002	81171261H	0.1000	0.1000	

Reagents:

GCCHLORLEVEL3_00017 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00017 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 24-Dec-2019 04:36:15 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000055.D				
Injection Date:	24-Dec-2019 00:33:35	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	CCV			Worklist Smp#:	55
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	55
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

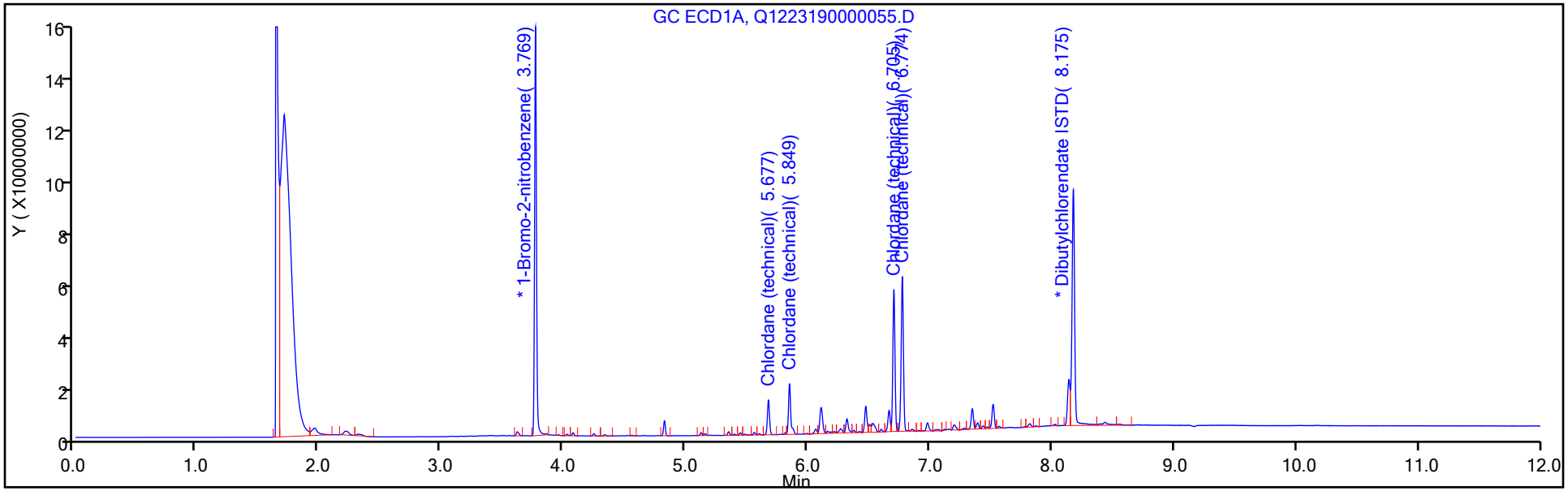

Column: MR-2 (0.53 mm)

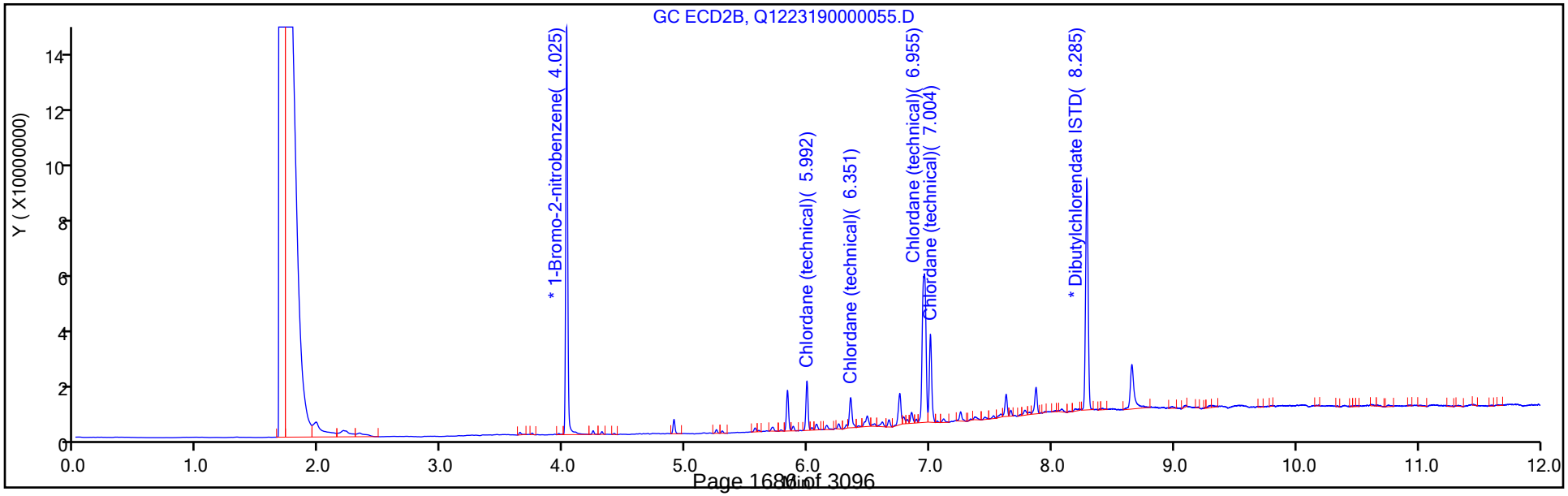

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCVIS 180-302301/56 Calibration Date: 12/24/2019 00:48

Instrument ID: CHGC15 Calib Start Date: 07/02/2019 15:33

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 07/02/2019 16:50

Lab File ID: Q1223190000056.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
alpha-BHC	Ave	1.584	1.496		0.0236	0.0250	-5.6	20.0
gamma-BHC (Lindane)	Ave	1.396	1.289		0.0231	0.0250	-7.7	20.0
beta-BHC	Ave	0.5699	0.5125		0.0225	0.0250	-10.1	20.0
delta-BHC	Ave	1.288	1.173		0.0228	0.0250	-8.9	20.0
Heptachlor	Ave	1.235	1.141		0.0231	0.0250	-7.6	20.0
Aldrin	Ave	1.277	1.046		0.0205	0.0250	-18.0	20.0
Heptachlor epoxide	Ave	1.111	0.9227		0.0208	0.0250	-16.9	20.0
trans-Chlordane	Ave	1.152	0.9229		0.0200	0.0250	-19.9	20.0
cis-Chlordane	Ave	1.128	0.8809		0.0195	0.0250	-21.9*	20.0
Endosulfan I	Ave	1.016	0.8064		0.0198	0.0250	-20.6*	20.0
4,4'-DDE	Ave	1.425	1.441		0.0253	0.0250	1.1	20.0
Dieldrin	Ave	1.469	1.464		0.0249	0.0250	-0.3	20.0
Endrin	Ave	1.175	1.249		0.0266	0.0250	6.3	20.0
4,4'-DDD	Ave	1.167	1.197		0.0256	0.0250	2.5	20.0
Endosulfan II	Ave	1.071	1.073		0.0250	0.0250	0.1	20.0
Endrin aldehyde	Ave	0.9084	0.8904		0.0245	0.0250	-2.0	20.0
4,4'-DDT	Ave	0.9234	0.9225		0.0250	0.0250	-0.0	20.0
Endosulfan sulfate	Ave	1.154	1.115		0.0242	0.0250	-3.4	20.0
Methoxychlor	Ave	0.4035	0.4694		0.0291	0.0250	16.3	20.0
Endrin ketone	Ave	1.040	1.078		0.0259	0.0250	3.6	20.0
Tetrachloro-m-xylene	Ave	1.380	1.036		0.0188	0.0250	-24.9*	20.0
DCB Decachlorobiphenyl (Surr)	Ave	0.6918	0.5343		0.0193	0.0250	-22.8*	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCVIS 180-302301/56 Calibration Date: 12/24/2019 00:48

Instrument ID: CHGC15 Calib Start Date: 07/02/2019 15:33

GC Column: MR-1 ID: 0.53(mm) Calib End Date: 07/02/2019 16:50

Lab File ID: Q1223190000056.D

Analyte	RT	RT WINDOW	
		FROM	TO
alpha-BHC	5.12	5.11	5.13
gamma-BHC (Lindane)	5.38	5.37	5.39
beta-BHC	5.55	5.54	5.56
delta-BHC	5.75	5.74	5.76
Heptachlor	5.85	5.84	5.86
Aldrin	6.13	6.12	6.14
Heptachlor epoxide	6.49	6.48	6.50
trans-Chlordane	6.70	6.69	6.71
cis-Chlordane	6.77	6.76	6.78
Endosulfan I	6.81	6.80	6.82
4,4'-DDE	6.92	6.91	6.93
Dieldrin	7.05	7.04	7.06
Endrin	7.25	7.24	7.26
4,4'-DDD	7.38	7.37	7.39
Endosulfan II	7.45	7.44	7.46
Endrin aldehyde	7.57	7.56	7.58
4,4'-DDT	7.66	7.65	7.67
Endosulfan sulfate	7.78	7.77	7.79
Methoxychlor	8.10	8.09	8.11
Endrin ketone	8.23	8.22	8.24
Tetrachloro-m-xylene	4.76	4.75	4.77
DCB Decachlorobiphenyl (Surr)	9.94	9.93	9.95

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000056.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 24-Dec-2019 00:48:58 ALS Bottle#: 56 Worklist Smp#: 56
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030125-056
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub6

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Dec-2019 04:36:16 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0301

First Level Reviewer: eppinged Date: 24-Dec-2019 04:19:13

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.769	3.769	0.000	145499484H	0.1000	0.1000	
2	4.025	4.025	0.000	143284067H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.757	4.757	0.000	37680582H	0.0250	0.0188	
2	4.897	4.897	0.000	44564279H	0.0250	0.0230	
						RPD = 20.39	
5 alpha-BHC							
1	5.119	5.119	0.000	54407355H	0.0250	0.0236	
2	5.364	5.364	0.000	57589015H	0.0250	0.0265	
						RPD = 11.62	
7 gamma-BHC (Lindane)							
1	5.383	5.383	0.000	46870887H	0.0250	0.0231	
2	5.669	5.669	0.000	48595506H	0.0250	0.0280	
						RPD = 19.30	
8 beta-BHC							
1	5.547	5.547	0.000	18643067H	0.0250	0.0225	
2	5.913	5.913	0.000	21022065H	0.0250	0.0245	
						RPD = 8.57	
10 delta-BHC							
1	5.746	5.746	0.000	42676611H	0.0250	0.0228	
2	6.146	6.146	0.000	45815268H	0.0250	0.0266	
						RPD = 15.55	
11 Heptachlor							
1	5.850	5.850	0.000	41506460H	0.0250	0.0231	
2	5.993	5.993	0.000	38503464H	0.0250	0.0238	
						RPD = 3.15	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
13 Aldrin							
1	6.129	6.129	0.000	38065785H	0.0250	0.0205	
2	6.264	6.264	0.000	42526197H	0.0250	0.0266	
						RPD = 25.99	
16 Heptachlor epoxide							
1	6.485	6.485	0.000	33564248H	0.0250	0.0208	
2	6.715	6.715	0.000	35786674H	0.0250	0.0255	
						RPD = 20.57	
18 trans-Chlordane							
1	6.703	6.703	0.000	33569441H	0.0250	0.0200	
2	6.943	6.943	0.000	36313938H	0.0250	0.0248	
						RPD = 21.12	
20 cis-Chlordane							
1	6.771	6.771	0.000	32042359H	0.0250	0.0195	
2	7.003	7.003	0.000	34843634H	0.0250	0.0245	
						RPD = 22.63	
21 Endosulfan I							
1	6.814	6.814	0.000	29330948H	0.0250	0.0198	
2	7.073	7.073	0.000	32099524H	0.0250	0.0262	
						RPD = 27.77	
23 4,4'-DDE							
1	6.923	6.923	0.000	32294937H	0.0250	0.0253	
2	7.140	7.140	0.000	35974382H	0.0250	0.0269	
						RPD = 6.24	
24 Dieldrin							
1	7.053	7.053	0.000	32814039H	0.0250	0.0249	
2	7.319	7.319	0.000	34489200H	0.0250	0.0254	
						RPD = 1.80	
27 Endrin							
1	7.254	7.254	0.000	27984810H	0.0250	0.0266	
2	7.586	7.586	0.000	25867875H	0.0250	0.0243	
						RPD = 8.84	
29 4,4'-DDD							
1	7.381	7.381	0.000	26817300H	0.0250	0.0256	
2	7.662	7.662	0.000	27069795H	0.0250	0.0253	
						RPD = 1.14	
31 Endosulfan II							
1	7.451	7.451	0.000	24035505H	0.0250	0.0250	
2	7.853	7.853	0.000	24532587H	0.0250	0.0246	
						RPD = 1.72	
32 Endrin aldehyde							
1	7.568	7.568	0.000	19953534H	0.0250	0.0245	
2	8.018	8.018	0.000	19749154H	0.0250	0.0247	
						RPD = 0.71	
33 4,4'-DDT							
1	7.658	7.658	0.000	20673690H	0.0250	0.0250	
2	7.906	7.906	0.000	19676327H	0.0250	0.0233	
						RPD = 7.16	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
35 Endosulfan sulfate							
1	7.776	7.776	0.000	24977585H	0.0250	0.0242	
2	8.242	8.242	0.000	23810789H	0.0250	0.0251	
						RPD = 3.97	
36 Methoxychlor							
1	8.100	8.100	0.000	10519225H	0.0250	0.0291	
2	8.473	8.473	0.000	9032794H	0.0250	0.0258	
						RPD = 11.99	
* 44 Dibutylchlorendate ISTD							
1	8.174	8.174	0.000	89640488H	0.1000	0.1000	
2	8.285	8.285	0.000	80933686H	0.1000	0.1000	
37 Endrin ketone							
1	8.228	8.228	0.000	24155652H	0.0250	0.0259	
2	8.860	8.860	0.000	21723262H	0.0250	0.0255	
						RPD = 1.42	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	9.939	9.939	0.000	11973066H	0.0250	0.0193	
2	10.545	10.545	0.000	15044069H	0.0250	0.0263	
						RPD = 30.84	

Reagents:

GCPestL3_00032 Amount Added: 1.00 Units: mL
GCPESTISSPK2_00017 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 24-Dec-2019 04:36:17 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000056.D				
Injection Date:	24-Dec-2019 00:48:58	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	CCVIS			Worklist Smp#:	56
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	56
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

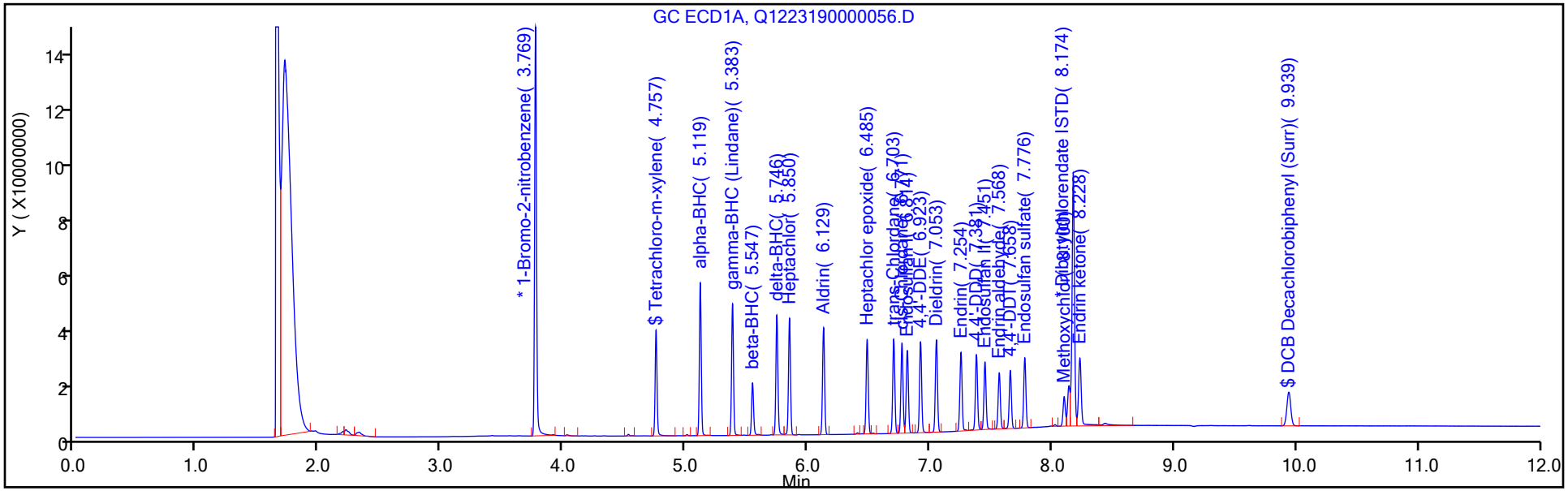

Column: MR-2 (0.53 mm)

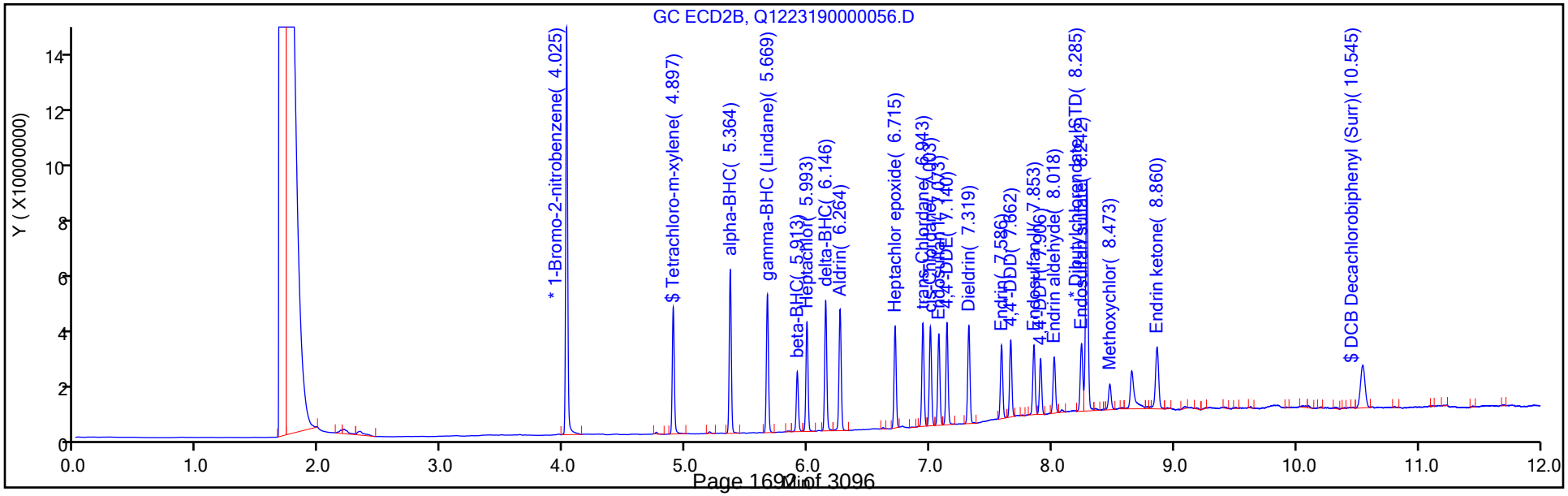

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCVIS 180-302301/56 Calibration Date: 12/24/2019 00:48

Instrument ID: CHGC15 Calib Start Date: 07/02/2019 15:33

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 07/02/2019 16:50

Lab File ID: Q1223190000056.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
alpha-BHC	Ave	1.516	1.608		0.0265	0.0250	6.1	20.0
gamma-BHC (Lindane)	Ave	1.211	1.357		0.0280	0.0250	12.0	20.0
beta-BHC	Ave	0.5990	0.5869		0.0245	0.0250	-2.0	20.0
Heptachlor	Ave	1.127	1.075		0.0238	0.0250	-4.7	20.0
delta-BHC	Ave	1.201	1.279		0.0266	0.0250	6.5	20.0
Aldrin	Ave	1.115	1.187		0.0266	0.0250	6.4	20.0
Heptachlor epoxide	Ave	0.9784	0.999		0.0255	0.0250	2.1	20.0
trans-Chlordane	Ave	1.024	1.014		0.0248	0.0250	-1.0	20.0
cis-Chlordane	Ave	0.9920	0.9727		0.0245	0.0250	-1.9	20.0
Endosulfan I	Ave	0.8537	0.8961		0.0262	0.0250	5.0	20.0
4,4'-DDE	Ave	1.652	1.778		0.0269	0.0250	7.7	20.0
Dieldrin	Ave	1.679	1.705		0.0254	0.0250	1.5	20.0
Endrin	Ave	1.314	1.278		0.0243	0.0250	-2.7	20.0
4,4'-DDD	Ave	1.320	1.338		0.0253	0.0250	1.3	20.0
Endosulfan II	Ave	1.232	1.212		0.0246	0.0250	-1.6	20.0
4,4'-DDT	Ave	1.046	0.9725		0.0233	0.0250	-7.0	20.0
Endrin aldehyde	Ave	0.9888	0.9761		0.0247	0.0250	-1.3	20.0
Endosulfan sulfate	Ave	1.171	1.177		0.0251	0.0250	0.5	20.0
Methoxychlor	Ave	0.4327	0.4464		0.0258	0.0250	3.2	20.0
Endrin ketone	Ave	1.051	1.074		0.0255	0.0250	2.1	20.0
Tetrachloro-m-xylene	Ave	1.350	1.244		0.0230	0.0250	-7.9	20.0
DCB Decachlorobiphenyl (Surr)	Ave	0.7055	0.7435		0.0263	0.0250	5.4	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCVIS 180-302301/56 Calibration Date: 12/24/2019 00:48

Instrument ID: CHGC15 Calib Start Date: 07/02/2019 15:33

GC Column: MR-2 ID: 0.53(mm) Calib End Date: 07/02/2019 16:50

Lab File ID: Q1223190000056.D

Analyte	RT	RT WINDOW	
		FROM	TO
alpha-BHC	5.36	5.35	5.37
gamma-BHC (Lindane)	5.67	5.66	5.68
beta-BHC	5.91	5.90	5.92
Heptachlor	5.99	5.98	6.00
delta-BHC	6.15	6.14	6.16
Aldrin	6.26	6.25	6.27
Heptachlor epoxide	6.72	6.71	6.73
trans-Chlordane	6.94	6.93	6.95
cis-Chlordane	7.00	6.99	7.01
Endosulfan I	7.07	7.06	7.08
4,4'-DDE	7.14	7.13	7.15
Dieldrin	7.32	7.31	7.33
Endrin	7.59	7.58	7.60
4,4'-DDD	7.66	7.65	7.67
Endosulfan II	7.85	7.84	7.86
4,4'-DDT	7.91	7.90	7.92
Endrin aldehyde	8.02	8.01	8.03
Endosulfan sulfate	8.24	8.23	8.25
Methoxychlor	8.47	8.46	8.48
Endrin ketone	8.86	8.85	8.87
Tetrachloro-m-xylene	4.90	4.89	4.91
DCB Decachlorobiphenyl (Surr)	10.55	10.54	10.56

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000056.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 24-Dec-2019 00:48:58 ALS Bottle#: 56 Worklist Smp#: 56
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030125-056
Operator ID: 402331 Instrument ID: CHGC15
Sublist: chrom-IS PEST_CHGC15*sub6

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Dec-2019 04:36:16 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0301

First Level Reviewer: eppinged Date: 24-Dec-2019 04:19:13

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.769	3.769	0.000	145499484H	0.1000	0.1000	
2	4.025	4.025	0.000	143284067H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.757	4.757	0.000	37680582H	0.0250	0.0188	
2	4.897	4.897	0.000	44564279H	0.0250	0.0230	
						RPD = 20.39	
5 alpha-BHC							
1	5.119	5.119	0.000	54407355H	0.0250	0.0236	
2	5.364	5.364	0.000	57589015H	0.0250	0.0265	
						RPD = 11.62	
7 gamma-BHC (Lindane)							
1	5.383	5.383	0.000	46870887H	0.0250	0.0231	
2	5.669	5.669	0.000	48595506H	0.0250	0.0280	
						RPD = 19.30	
8 beta-BHC							
1	5.547	5.547	0.000	18643067H	0.0250	0.0225	
2	5.913	5.913	0.000	21022065H	0.0250	0.0245	
						RPD = 8.57	
10 delta-BHC							
1	5.746	5.746	0.000	42676611H	0.0250	0.0228	
2	6.146	6.146	0.000	45815268H	0.0250	0.0266	
						RPD = 15.55	
11 Heptachlor							
1	5.850	5.850	0.000	41506460H	0.0250	0.0231	
2	5.993	5.993	0.000	38503464H	0.0250	0.0238	
						RPD = 3.15	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
13 Aldrin							
1	6.129	6.129	0.000	38065785H	0.0250	0.0205	
2	6.264	6.264	0.000	42526197H	0.0250	0.0266	
						RPD = 25.99	
16 Heptachlor epoxide							
1	6.485	6.485	0.000	33564248H	0.0250	0.0208	
2	6.715	6.715	0.000	35786674H	0.0250	0.0255	
						RPD = 20.57	
18 trans-Chlordane							
1	6.703	6.703	0.000	33569441H	0.0250	0.0200	
2	6.943	6.943	0.000	36313938H	0.0250	0.0248	
						RPD = 21.12	
20 cis-Chlordane							
1	6.771	6.771	0.000	32042359H	0.0250	0.0195	
2	7.003	7.003	0.000	34843634H	0.0250	0.0245	
						RPD = 22.63	
21 Endosulfan I							
1	6.814	6.814	0.000	29330948H	0.0250	0.0198	
2	7.073	7.073	0.000	32099524H	0.0250	0.0262	
						RPD = 27.77	
23 4,4'-DDE							
1	6.923	6.923	0.000	32294937H	0.0250	0.0253	
2	7.140	7.140	0.000	35974382H	0.0250	0.0269	
						RPD = 6.24	
24 Dieldrin							
1	7.053	7.053	0.000	32814039H	0.0250	0.0249	
2	7.319	7.319	0.000	34489200H	0.0250	0.0254	
						RPD = 1.80	
27 Endrin							
1	7.254	7.254	0.000	27984810H	0.0250	0.0266	
2	7.586	7.586	0.000	25867875H	0.0250	0.0243	
						RPD = 8.84	
29 4,4'-DDD							
1	7.381	7.381	0.000	26817300H	0.0250	0.0256	
2	7.662	7.662	0.000	27069795H	0.0250	0.0253	
						RPD = 1.14	
31 Endosulfan II							
1	7.451	7.451	0.000	24035505H	0.0250	0.0250	
2	7.853	7.853	0.000	24532587H	0.0250	0.0246	
						RPD = 1.72	
32 Endrin aldehyde							
1	7.568	7.568	0.000	19953534H	0.0250	0.0245	
2	8.018	8.018	0.000	19749154H	0.0250	0.0247	
						RPD = 0.71	
33 4,4'-DDT							
1	7.658	7.658	0.000	20673690H	0.0250	0.0250	
2	7.906	7.906	0.000	19676327H	0.0250	0.0233	
						RPD = 7.16	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
35 Endosulfan sulfate							
1	7.776	7.776	0.000	24977585H	0.0250	0.0242	
2	8.242	8.242	0.000	23810789H	0.0250	0.0251	
						RPD = 3.97	
36 Methoxychlor							
1	8.100	8.100	0.000	10519225H	0.0250	0.0291	
2	8.473	8.473	0.000	9032794H	0.0250	0.0258	
						RPD = 11.99	
* 44 Dibutylchlorendate ISTD							
1	8.174	8.174	0.000	89640488H	0.1000	0.1000	
2	8.285	8.285	0.000	80933686H	0.1000	0.1000	
37 Endrin ketone							
1	8.228	8.228	0.000	24155652H	0.0250	0.0259	
2	8.860	8.860	0.000	21723262H	0.0250	0.0255	
						RPD = 1.42	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	9.939	9.939	0.000	11973066H	0.0250	0.0193	
2	10.545	10.545	0.000	15044069H	0.0250	0.0263	
						RPD = 30.84	

Reagents:

GCPestL3_00032	Amount Added: 1.00	Units: mL	
GCPESTISSPK2_00017	Amount Added: 0.02	Units: mL	Run Reagent

Report Date: 24-Dec-2019 04:36:17 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000056.D				
Injection Date:	24-Dec-2019 00:48:58	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	CCVIS			Worklist Smp#:	56
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	56
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

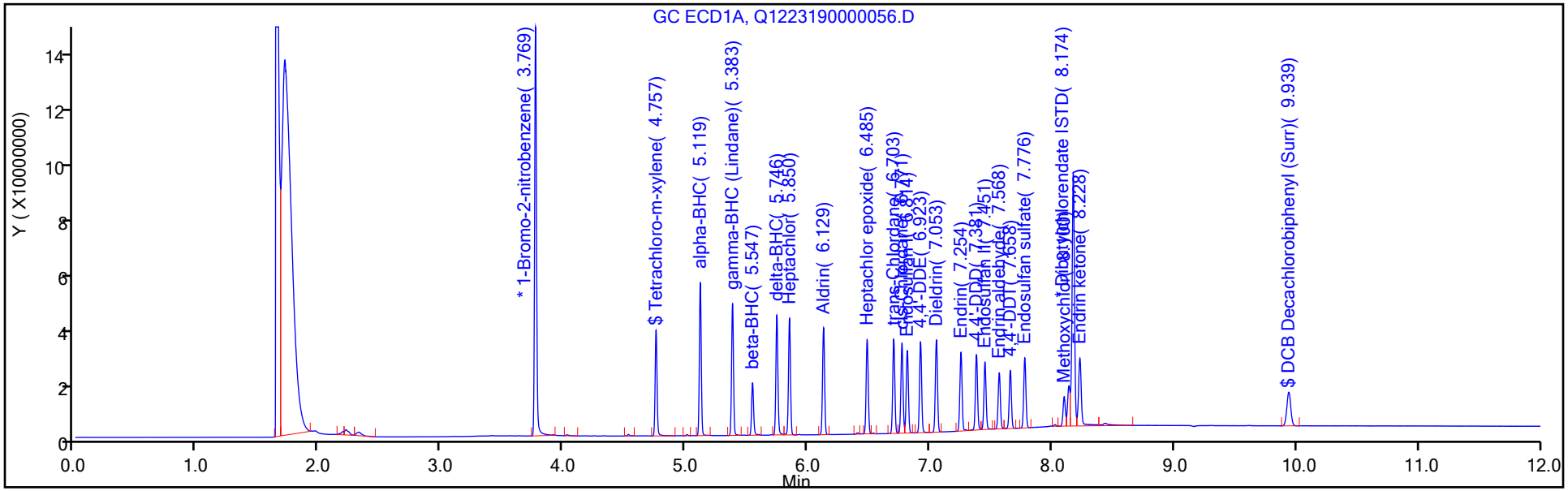

Column: MR-2 (0.53 mm)

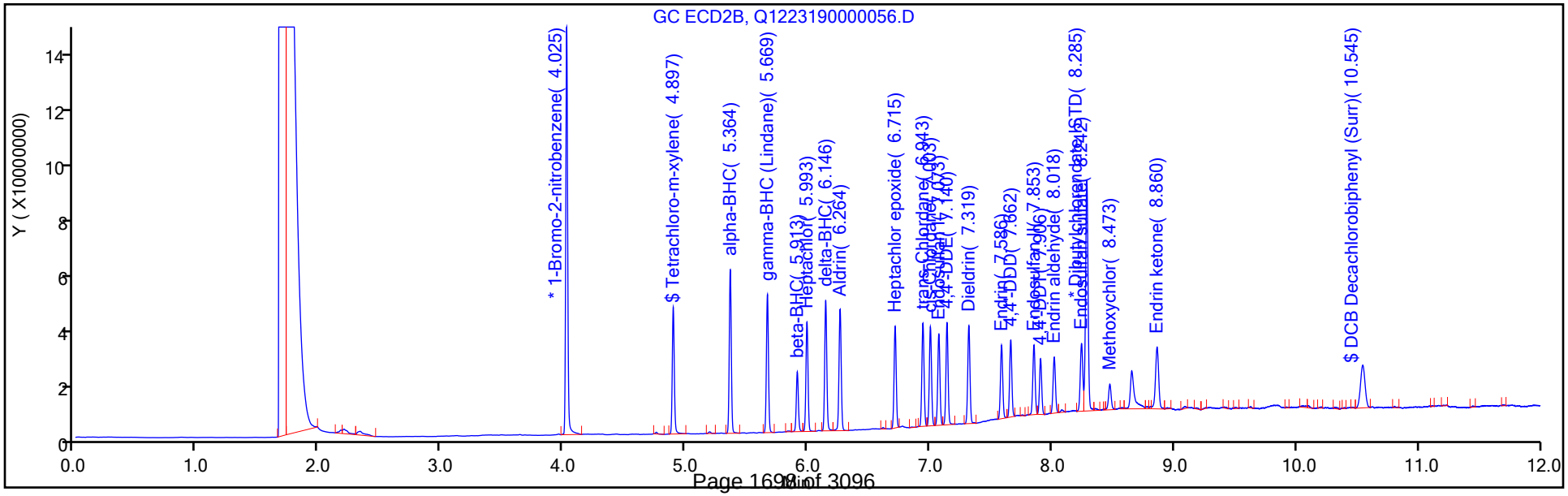

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 180-302205/1-A

Matrix: Solid Lab File ID: Q1223190000052.D

Analysis Method: EPA 8081B Date Collected:

Extraction Method: 3510C Date Extracted: 12/21/2019 05:15

Sample wt/vol: 100(mL) Date Analyzed: 12/23/2019 23:47

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: MR-1 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 302301 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
50-29-3	4,4'-DDT	ND		0.00050	0.00012

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	76		62-150
877-09-8	Tetrachloro-m-xylene	65		54-138

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000052.D
Lims ID: MB 180-302205/1-A
Client ID:
Sample Type: MB
Inject. Date: 23-Dec-2019 23:47:18 ALS Bottle#: 52 Worklist Smp#: 52
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030125-052
Operator ID: 402331 Instrument ID: CHGC15

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Dec-2019 05:34:56 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0301

First Level Reviewer: eppinged Date: 24-Dec-2019 05:35:41

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.770	3.771	0.000	166646531H	0.1000	0.1000	
2	4.025	4.025	0.000	160848413H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.758	4.758	0.000	30090400H	0.0200	0.0131	
2	4.897	4.898	-0.001	36160502H	0.0200	0.0166	
						RPD = 23.95	
4 Diallate							
1		4.904				ND	
1		4.992					
2		5.010					
2		5.095					
5 alpha-BHC							
1		5.120				ND	
2		5.365					
6 Hexachlorobenzene							
1		5.153				ND	
2		5.326					
7 gamma-BHC (Lindane)							
1		5.384				ND	
2		5.670					
8 beta-BHC							
1		5.548				ND	
2		5.915					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 Chlordane (technical)							
1		5.673				ND	
1		5.846					
1		6.700					
1		6.770					
2		5.989					
2		6.348					
2		6.953					
2		7.001					
10 delta-BHC							
1		5.748				ND	
2		6.148					
11 Heptachlor							
1		5.850				ND	
2		5.993					
12 DCPA							
1		6.063				ND	
2		6.258					
13 Aldrin							
1		6.130				ND	
2		6.264					
14 Isodrin							
1		6.404				ND	
2		6.617					
15 oxy-Chlordane							
1		6.442				ND	
2		6.617					
16 Heptachlor epoxide							
1		6.487				ND	
2		6.715					
17 2,4'-DDE							
1		6.622				ND	
2		6.852					
18 trans-Chlordane							
1		6.705				ND	
2		6.944					
19 Chlorobenside							
1		6.728				ND	
2		7.025					
20 cis-Chlordane							
1		6.772				ND	
2		7.005					
22 trans-Nonachlor							
1		6.773				ND	
2		6.954					
21 Endosulfan I							
1		6.816				ND	
2		7.074					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
23 4,4'-DDE							
1		6.925				ND	
2		7.140					
34 Toxaphene							
1		6.961				ND	
1		7.227					
1		7.607					
1		7.847					
2		7.172					
2		7.304					
2		7.806					
2		8.524					
25 2,4'-DDD							
1		7.011				ND	
2		7.296					
24 Dieldrin							
1		7.054				ND	
2		7.320					
27 Endrin							
1		7.255				ND	
2		7.589					
28 2,4'-DDT							
1		7.285				ND	
2		7.544					
30 cis-Nonachlor							
1		7.343				ND	
2		7.621					
29 4,4'-DDD							
1		7.382				ND	
2		7.664					
31 Endosulfan II							
1		7.453				ND	
2		7.854					
32 Endrin aldehyde							
1		7.569				ND	
2		8.020					
33 4,4'-DDT							
1		7.660				ND	
2		7.907					
35 Endosulfan sulfate							
1		7.778				ND	
2		8.244					
36 Methoxychlor							
1		8.101				ND	
2		8.476					
* 44 Dibutylchlorendate ISTD							
1	8.175	8.176	-0.001	97942963H	0.1000	0.1000	
2	8.285	8.287	-0.002	89804867H	0.1000	0.1000	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
37 Endrin ketone							
1		8.231				ND	
2		8.863					
38 Mirex							
1		8.726				ND	
2		9.132					
$ 39 DCB Decachlorobiphenyl (Surr)							
1	9.941	9.943	-0.002	10357916H	0.0200	0.0153	
2	10.545	10.547	-0.002	12185447H	0.0200	0.0192	
						RPD = 22.86	

Reagents:

GCPESTISSPK2_00017 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 24-Dec-2019 05:35:42 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000052.D				
Injection Date:	23-Dec-2019 23:47:18	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	MB 180-302205/1-A			Worklist Smp#:	52
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	52
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

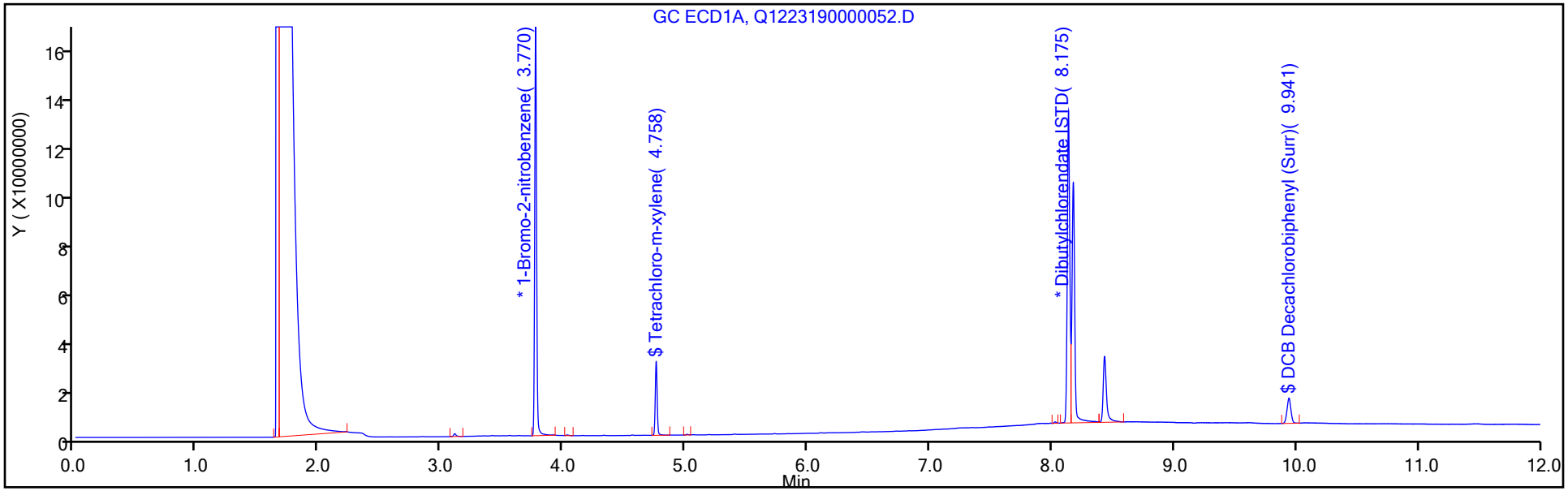

Column: MR-2 (0.53 mm)

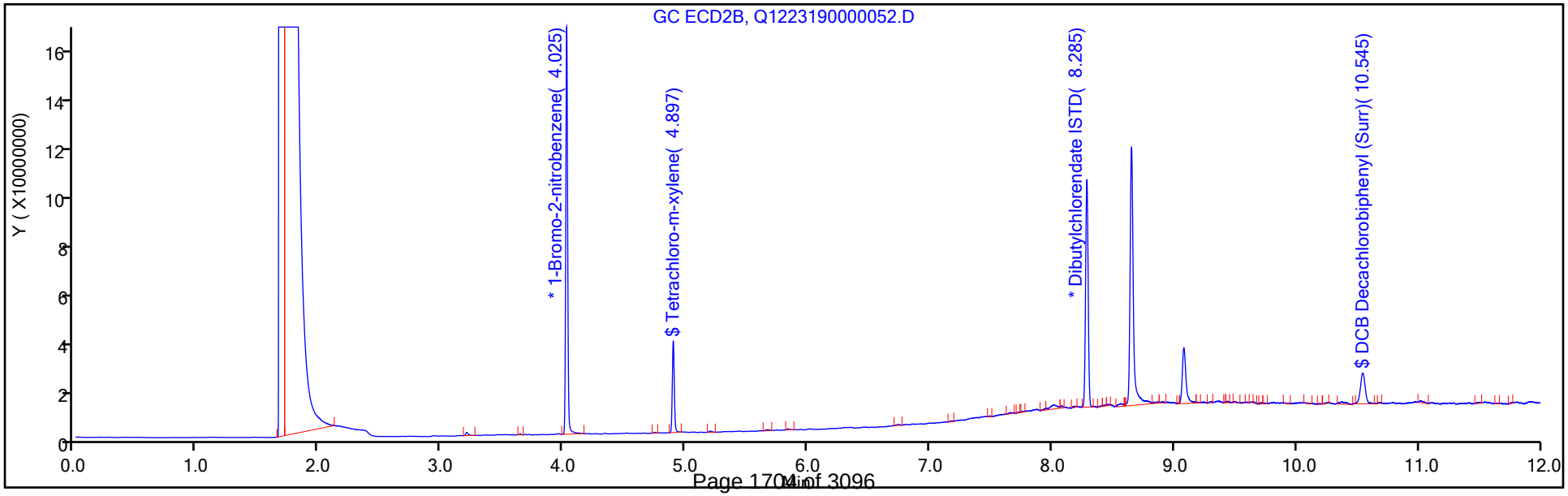

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000052.D				
Lims ID:	MB 180-302205/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	23-Dec-2019 23:47:18	ALS Bottle#:	52	Worklist Smp#:	52
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0030125-052				
Operator ID:	402331	Instrument ID:	CHGC15		

Method:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\IS PEST_CHGC15.m		
Limit Group:	GCS 8081B ICAL with IS		
Last Update:	24-Dec-2019 05:34:56	Calib Date:	17-Sep-2019 16:34:44
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D		

Column 1 :	MR-1 (0.53 mm)	Det: GC ECD1A
Column 2 :	MR-2 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0301	

First Level Reviewer: eppinged Date: 24-Dec-2019 05:35:41

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0131	65.44
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0153	76.44

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0166	83.24
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0192	96.17

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 180-302205/1-A

Matrix: Solid Lab File ID: Q1223190000052.D

Analysis Method: EPA 8081B Date Collected:

Extraction Method: 3510C Date Extracted: 12/21/2019 05:15

Sample wt/vol: 100(mL) Date Analyzed: 12/23/2019 23:47

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: MR-2 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 302301 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
12789-03-6	Chlordane (technical)	ND		0.0050	0.0029
72-20-8	Endrin	ND		0.00050	0.000091
58-89-9	gamma-BHC (Lindane)	ND		0.00050	0.00012
76-44-8	Heptachlor	ND		0.00050	0.00018
1024-57-3	Heptachlor epoxide	ND		0.00050	0.00014
5103-71-9	cis-Chlordane	ND		0.00050	0.00015
72-43-5	Methoxychlor	ND		0.00050	0.00031
8001-35-2	Toxaphene	ND		0.040	0.020
5103-74-2	trans-Chlordane	ND		0.00050	0.00016
72-54-8	4,4'-DDD	ND		0.00050	0.00021
72-55-9	4,4'-DDE	ND		0.00050	0.00012
60-57-1	Dieldrin	ND		0.00050	0.00011
959-98-8	Endosulfan I	ND		0.00050	0.00027
33213-65-9	Endosulfan II	ND		0.00050	0.00013
1031-07-8	Endosulfan sulfate	ND		0.00050	0.00026
2385-85-5	Mirex	ND		0.00050	0.000084

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	96		62-150
877-09-8	Tetrachloro-m-xylene	83		54-138

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000052.D
Lims ID: MB 180-302205/1-A
Client ID:
Sample Type: MB
Inject. Date: 23-Dec-2019 23:47:18 ALS Bottle#: 52 Worklist Smp#: 52
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030125-052
Operator ID: 402331 Instrument ID: CHGC15

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Dec-2019 05:34:56 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0301

First Level Reviewer: eppinged Date: 24-Dec-2019 05:35:41

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.770	3.771	0.000	166646531H	0.1000	0.1000	
2	4.025	4.025	0.000	160848413H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.758	4.758	0.000	30090400H	0.0200	0.0131	
2	4.897	4.898	-0.001	36160502H	0.0200	0.0166	
						RPD = 23.95	
4 Diallate							
1		4.904				ND	
1		4.992					
2		5.010					
2		5.095					
5 alpha-BHC							
1		5.120				ND	
2		5.365					
6 Hexachlorobenzene							
1		5.153				ND	
2		5.326					
7 gamma-BHC (Lindane)							
1		5.384				ND	
2		5.670					
8 beta-BHC							
1		5.548				ND	
2		5.915					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 Chlordane (technical)							
1		5.673				ND	
1		5.846					
1		6.700					
1		6.770					
2		5.989					
2		6.348					
2		6.953					
2		7.001					
10 delta-BHC							
1		5.748				ND	
2		6.148					
11 Heptachlor							
1		5.850				ND	
2		5.993					
12 DCPA							
1		6.063				ND	
2		6.258					
13 Aldrin							
1		6.130				ND	
2		6.264					
14 Isodrin							
1		6.404				ND	
2		6.617					
15 oxy-Chlordane							
1		6.442				ND	
2		6.617					
16 Heptachlor epoxide							
1		6.487				ND	
2		6.715					
17 2,4'-DDE							
1		6.622				ND	
2		6.852					
18 trans-Chlordane							
1		6.705				ND	
2		6.944					
19 Chlorobenside							
1		6.728				ND	
2		7.025					
20 cis-Chlordane							
1		6.772				ND	
2		7.005					
22 trans-Nonachlor							
1		6.773				ND	
2		6.954					
21 Endosulfan I							
1		6.816				ND	
2		7.074					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
23 4,4'-DDE							
1		6.925				ND	
2		7.140					
34 Toxaphene							
1		6.961				ND	
1		7.227					
1		7.607					
1		7.847					
2		7.172					
2		7.304					
2		7.806					
2		8.524					
25 2,4'-DDD							
1		7.011				ND	
2		7.296					
24 Dieldrin							
1		7.054				ND	
2		7.320					
27 Endrin							
1		7.255				ND	
2		7.589					
28 2,4'-DDT							
1		7.285				ND	
2		7.544					
30 cis-Nonachlor							
1		7.343				ND	
2		7.621					
29 4,4'-DDD							
1		7.382				ND	
2		7.664					
31 Endosulfan II							
1		7.453				ND	
2		7.854					
32 Endrin aldehyde							
1		7.569				ND	
2		8.020					
33 4,4'-DDT							
1		7.660				ND	
2		7.907					
35 Endosulfan sulfate							
1		7.778				ND	
2		8.244					
36 Methoxychlor							
1		8.101				ND	
2		8.476					
* 44 Dibutylchlorendate ISTD							
1	8.175	8.176	-0.001	97942963H	0.1000	0.1000	
2	8.285	8.287	-0.002	89804867H	0.1000	0.1000	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
37 Endrin ketone							
1		8.231				ND	
2		8.863					
38 Mirex							
1		8.726				ND	
2		9.132					
$ 39 DCB Decachlorobiphenyl (Surr)							
1	9.941	9.943	-0.002	10357916H	0.0200	0.0153	
2	10.545	10.547	-0.002	12185447H	0.0200	0.0192	
						RPD = 22.86	

Reagents:

GCPESTISSPK2_00017 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 24-Dec-2019 05:35:42 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000052.D				
Injection Date:	23-Dec-2019 23:47:18	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	MB 180-302205/1-A			Worklist Smp#:	52
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	52
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

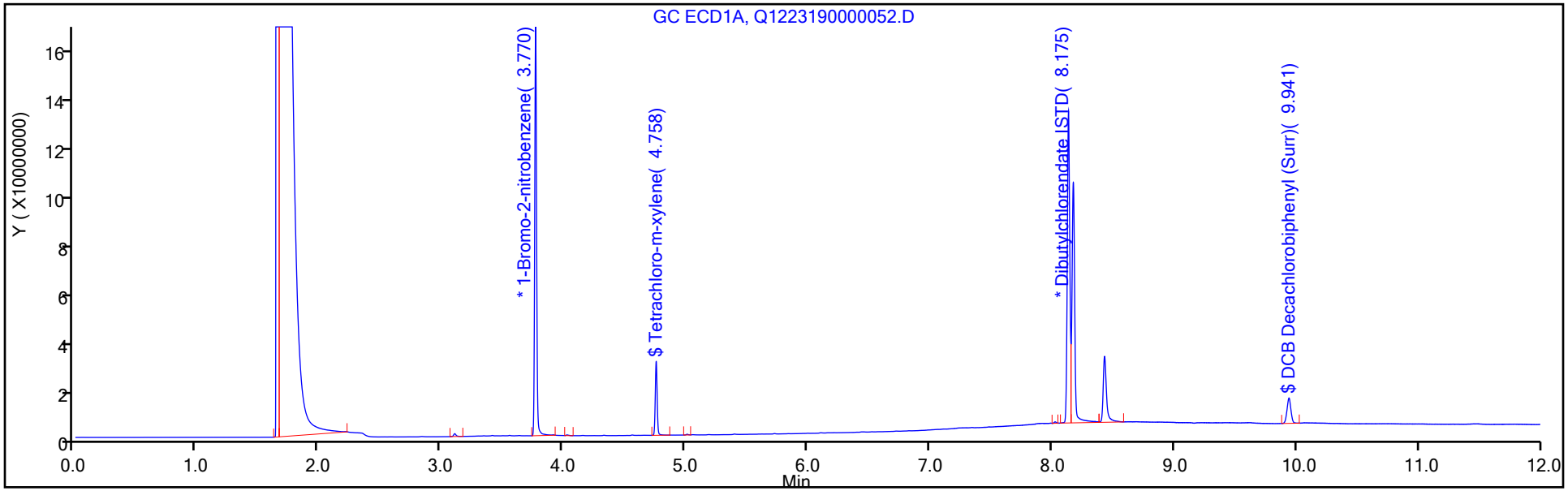

Column: MR-2 (0.53 mm)

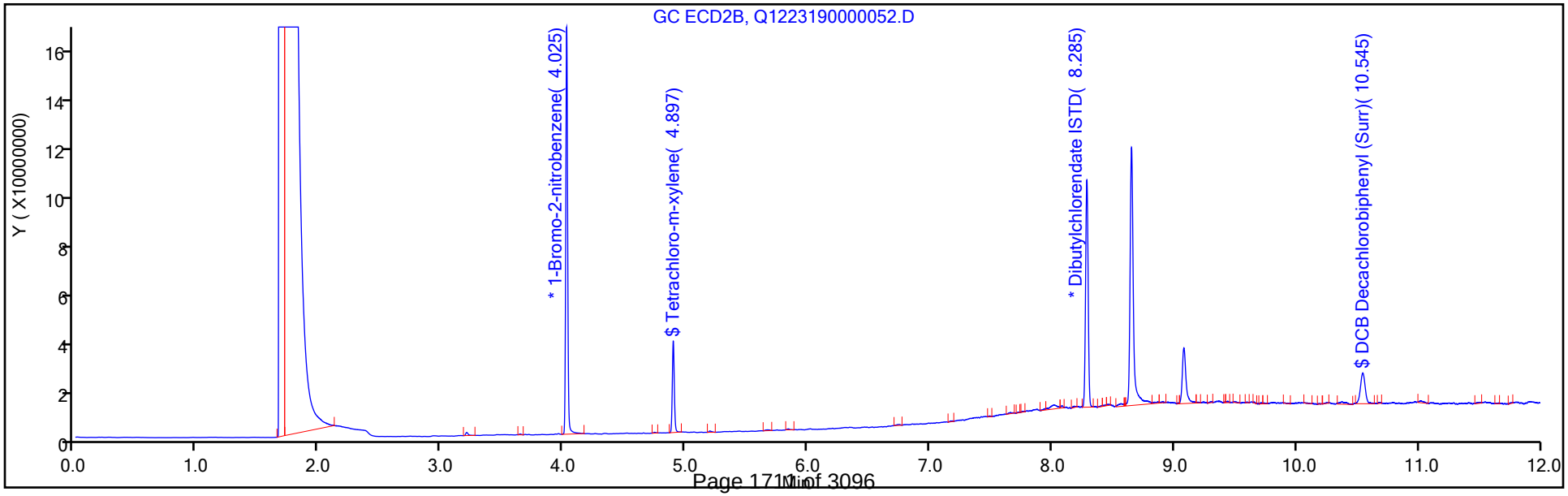

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000052.D				
Lims ID:	MB 180-302205/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	23-Dec-2019 23:47:18	ALS Bottle#:	52	Worklist Smp#:	52
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0030125-052				
Operator ID:	402331	Instrument ID:	CHGC15		

Method:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\IS PEST_CHGC15.m		
Limit Group:	GCS 8081B ICAL with IS		
Last Update:	24-Dec-2019 05:34:56	Calib Date:	17-Sep-2019 16:34:44
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D		

Column 1 :	MR-1 (0.53 mm)	Det: GC ECD1A
Column 2 :	MR-2 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0301	

First Level Reviewer: eppinged Date: 24-Dec-2019 05:35:41

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0131	65.44
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0153	76.44

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0166	83.24
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0192	96.17

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Client Sample ID: Lab Sample ID: LB 180-301984/1-E

Matrix: Solid (TCLP) Lab File ID: Q1223190000059.D

Analysis Method: EPA 8081B Date Collected:

Extraction Method: 3510C Date Extracted: 12/21/2019 05:15

Sample wt/vol: 100(mL) Date Analyzed: 12/24/2019 01:35

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: MR-1 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 302301 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
50-29-3	4,4'-DDT	ND		0.00050	0.00012

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	76		62-150
877-09-8	Tetrachloro-m-xylene	67		54-138

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000059.D
Lims ID: LB 180-301984/1-E
Client ID:
Sample Type: LB
Inject. Date: 24-Dec-2019 01:35:17 ALS Bottle#: 59 Worklist Smp#: 59
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030125-059
Operator ID: 402331 Instrument ID: CHGC15

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Dec-2019 04:36:16 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0301

First Level Reviewer: eppinged Date: 24-Dec-2019 04:35:24

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.770	3.769	0.001	163327507H	0.1000	0.1000	
2	4.025	4.025	0.000	156460790H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.758	4.757	0.001	30346423H	0.0200	0.0135	
2	4.898	4.897	0.001	36711656H	0.0200	0.0174	
						RPD = 25.35	
4 Diallate							
1		4.904				ND	
1		4.992					
2		5.010					
2		5.095					
5 alpha-BHC							
1		5.119				ND	
2		5.364					
6 Hexachlorobenzene							
1		5.153				ND	
2		5.326					
7 gamma-BHC (Lindane)							
1		5.383				ND	
2		5.669					
8 beta-BHC							
1		5.547				ND	
2		5.913					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 Chlordane (technical)							
1		5.673				ND	
1		5.846					
1		6.700					
1		6.770					
2		5.989					
2		6.348					
2		6.953					
2		7.001					
10 delta-BHC							
1		5.746				ND	
2		6.146					
11 Heptachlor							
1		5.850				ND	
2		5.993					
12 DCPA							
1		6.063				ND	
2		6.258					
13 Aldrin							
1		6.129				ND	
2		6.264					
14 Isodrin							
1		6.404				ND	
2		6.617					
15 oxy-Chlordane							
1		6.442				ND	
2		6.617					
16 Heptachlor epoxide							
1		6.485				ND	
2		6.715					
17 2,4'-DDE							
1		6.622				ND	
2		6.852					
18 trans-Chlordane							
1		6.703				ND	
2		6.943					
19 Chlorobenside							
1		6.728				ND	
2		7.025					
20 cis-Chlordane							
1		6.771				ND	
2		7.003					
22 trans-Nonachlor							
1		6.773				ND	
2		6.954					
21 Endosulfan I							
1		6.814				ND	
2		7.073					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
23 4,4'-DDE							
1		6.923				ND	
2		7.140					
34 Toxaphene							
1		6.961				ND	
1		7.227					
1		7.607					
1		7.847					
2		7.172					
2		7.304					
2		7.806					
2		8.524					
25 2,4'-DDD							
1		7.011				ND	
2		7.296					
24 Dieldrin							
1		7.053				ND	
2		7.319					
27 Endrin							
1		7.254				ND	
2		7.586					
28 2,4'-DDT							
1		7.285				ND	
2		7.544					
30 cis-Nonachlor							
1		7.343				ND	
2		7.621					
29 4,4'-DDD							
1		7.381				ND	
2		7.662					
31 Endosulfan II							
1		7.451				ND	
2		7.853					
32 Endrin aldehyde							
1		7.568				ND	
2		8.018					
33 4,4'-DDT							
1		7.658				ND	
2		7.906					
35 Endosulfan sulfate							
1		7.776				ND	
2		8.242					
36 Methoxychlor							
1		8.100				ND	
2		8.473					
* 44 Dibutylchlorendate ISTD							
1	8.175	8.174	0.001	99058499H	0.1000	0.1000	
2	8.285	8.285	0.000	90920196H	0.1000	0.1000	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
37 Endrin ketone							
1		8.228				ND	
2		8.860					
38 Mirex							
1		8.726				ND	
2		9.132					
$ 39 DCB Decachlorobiphenyl (Surr)							
1	9.940	9.939	0.001	10384141H	0.0200	0.0152	
2	10.544	10.545	-0.001	11952713H	0.0200	0.0186	
						RPD = 20.61	

Reagents:

GCPESTISSPK2_00017 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 24-Dec-2019 04:36:22 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000059.D				
Injection Date:	24-Dec-2019 01:35:17	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	LB 180-301984/1-E			Worklist Smp#:	59
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	59
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

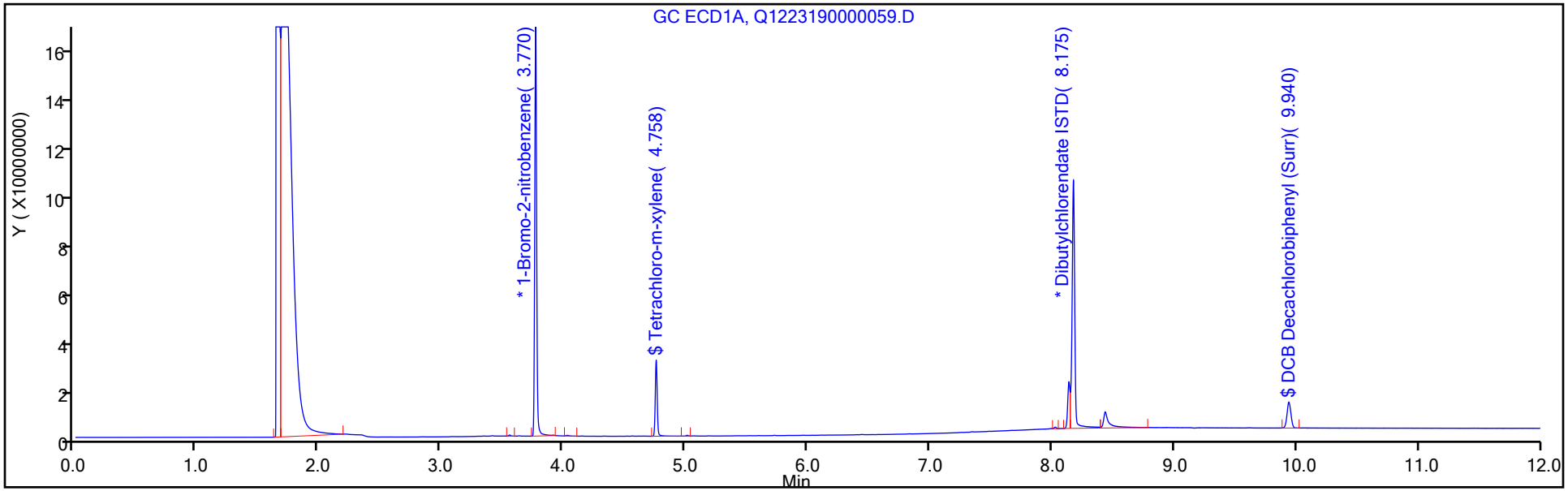

Column: MR-2 (0.53 mm)

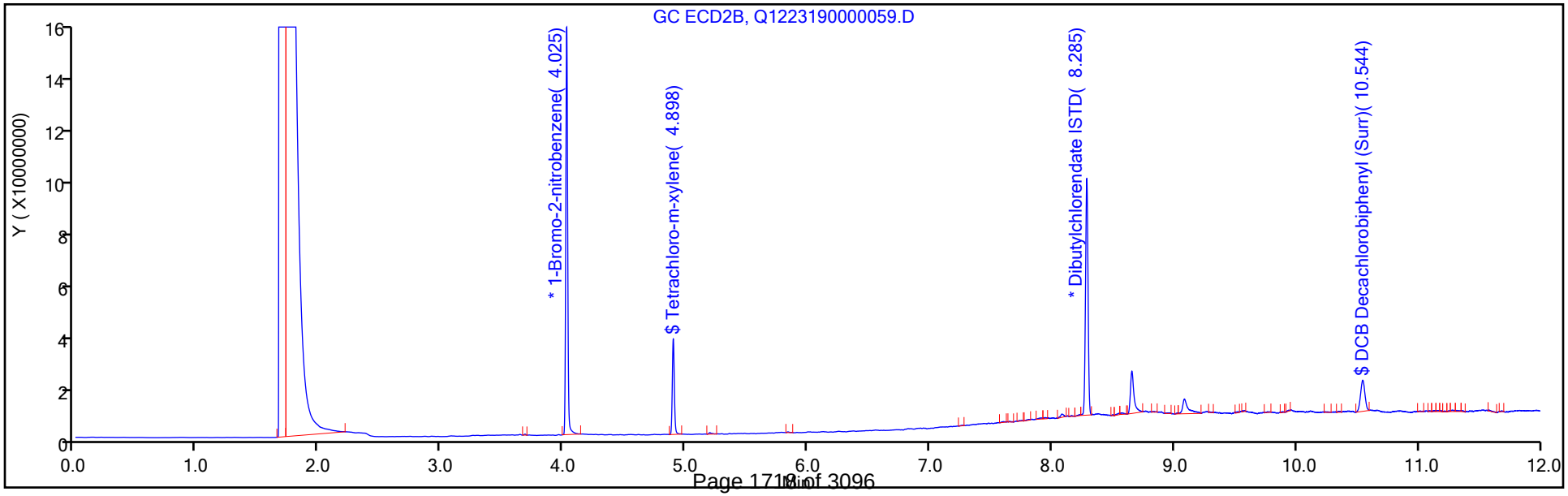

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000059.D				
Lims ID:	LB 180-301984/1-E				
Client ID:					
Sample Type:	LB				
Inject. Date:	24-Dec-2019 01:35:17	ALS Bottle#:	59	Worklist Smp#:	59
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0030125-059				
Operator ID:	402331	Instrument ID:	CHGC15		

Method:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\IS PEST_CHGC15.m		
Limit Group:	GCS 8081B ICAL with IS		
Last Update:	24-Dec-2019 04:36:16	Calib Date:	17-Sep-2019 16:34:44
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D		

Column 1 :	MR-1 (0.53 mm)	Det: GC ECD1A
Column 2 :	MR-2 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0301	

First Level Reviewer: eppinged Date: 24-Dec-2019 04:35:24

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0135	67.33
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0152	75.77

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0174	86.88
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0186	93.18

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Client Sample ID: Lab Sample ID: LB 180-301984/1-E

Matrix: Solid (TCLP) Lab File ID: Q1223190000059.D

Analysis Method: EPA 8081B Date Collected:

Extraction Method: 3510C Date Extracted: 12/21/2019 05:15

Sample wt/vol: 100(mL) Date Analyzed: 12/24/2019 01:35

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: MR-2 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 302301 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
12789-03-6	Chlordane (technical)	ND		0.0050	0.0029
72-20-8	Endrin	ND		0.00050	0.000091
58-89-9	gamma-BHC (Lindane)	ND		0.00050	0.00012
76-44-8	Heptachlor	ND		0.00050	0.00018
1024-57-3	Heptachlor epoxide	ND		0.00050	0.00014
5103-71-9	cis-Chlordane	ND		0.00050	0.00015
72-43-5	Methoxychlor	ND		0.00050	0.00031
8001-35-2	Toxaphene	ND		0.040	0.020
5103-74-2	trans-Chlordane	ND		0.00050	0.00016
72-54-8	4,4'-DDD	ND		0.00050	0.00021
72-55-9	4,4'-DDE	ND		0.00050	0.00012
60-57-1	Dieldrin	ND		0.00050	0.00011
959-98-8	Endosulfan I	ND		0.00050	0.00027
33213-65-9	Endosulfan II	ND		0.00050	0.00013
1031-07-8	Endosulfan sulfate	ND		0.00050	0.00026
2385-85-5	Mirex	ND		0.00050	0.000084

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	93		62-150
877-09-8	Tetrachloro-m-xylene	87		54-138

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000059.D
Lims ID: LB 180-301984/1-E
Client ID:
Sample Type: LB
Inject. Date: 24-Dec-2019 01:35:17 ALS Bottle#: 59 Worklist Smp#: 59
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030125-059
Operator ID: 402331 Instrument ID: CHGC15

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Dec-2019 04:36:16 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0301

First Level Reviewer: eppinged Date: 24-Dec-2019 04:35:24

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.770	3.769	0.001	163327507H	0.1000	0.1000	
2	4.025	4.025	0.000	156460790H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.758	4.757	0.001	30346423H	0.0200	0.0135	
2	4.898	4.897	0.001	36711656H	0.0200	0.0174	
						RPD = 25.35	
4 Diallate							
1		4.904				ND	
1		4.992					
2		5.010					
2		5.095					
5 alpha-BHC							
1		5.119				ND	
2		5.364					
6 Hexachlorobenzene							
1		5.153				ND	
2		5.326					
7 gamma-BHC (Lindane)							
1		5.383				ND	
2		5.669					
8 beta-BHC							
1		5.547				ND	
2		5.913					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 Chlordane (technical)							
1		5.673				ND	
1		5.846					
1		6.700					
1		6.770					
2		5.989					
2		6.348					
2		6.953					
2		7.001					
10 delta-BHC							
1		5.746				ND	
2		6.146					
11 Heptachlor							
1		5.850				ND	
2		5.993					
12 DCPA							
1		6.063				ND	
2		6.258					
13 Aldrin							
1		6.129				ND	
2		6.264					
14 Isodrin							
1		6.404				ND	
2		6.617					
15 oxy-Chlordane							
1		6.442				ND	
2		6.617					
16 Heptachlor epoxide							
1		6.485				ND	
2		6.715					
17 2,4'-DDE							
1		6.622				ND	
2		6.852					
18 trans-Chlordane							
1		6.703				ND	
2		6.943					
19 Chlorobenside							
1		6.728				ND	
2		7.025					
20 cis-Chlordane							
1		6.771				ND	
2		7.003					
22 trans-Nonachlor							
1		6.773				ND	
2		6.954					
21 Endosulfan I							
1		6.814				ND	
2		7.073					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
23 4,4'-DDE							
1		6.923				ND	
2		7.140					
34 Toxaphene							
1		6.961				ND	
1		7.227					
1		7.607					
1		7.847					
2		7.172					
2		7.304					
2		7.806					
2		8.524					
25 2,4'-DDD							
1		7.011				ND	
2		7.296					
24 Dieldrin							
1		7.053				ND	
2		7.319					
27 Endrin							
1		7.254				ND	
2		7.586					
28 2,4'-DDT							
1		7.285				ND	
2		7.544					
30 cis-Nonachlor							
1		7.343				ND	
2		7.621					
29 4,4'-DDD							
1		7.381				ND	
2		7.662					
31 Endosulfan II							
1		7.451				ND	
2		7.853					
32 Endrin aldehyde							
1		7.568				ND	
2		8.018					
33 4,4'-DDT							
1		7.658				ND	
2		7.906					
35 Endosulfan sulfate							
1		7.776				ND	
2		8.242					
36 Methoxychlor							
1		8.100				ND	
2		8.473					
* 44 Dibutylchlorendate ISTD							
1	8.175	8.174	0.001	99058499H	0.1000	0.1000	
2	8.285	8.285	0.000	90920196H	0.1000	0.1000	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
37 Endrin ketone							
1		8.228				ND	
2		8.860					
38 Mirex							
1		8.726				ND	
2		9.132					
$ 39 DCB Decachlorobiphenyl (Surr)							
1	9.940	9.939	0.001	10384141H	0.0200	0.0152	
2	10.544	10.545	-0.001	11952713H	0.0200	0.0186	
						RPD = 20.61	

Reagents:

GCPESTISSPK2_00017 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 24-Dec-2019 04:36:22 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000059.D				
Injection Date:	24-Dec-2019 01:35:17	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	LB 180-301984/1-E			Worklist Smp#:	59
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	59
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

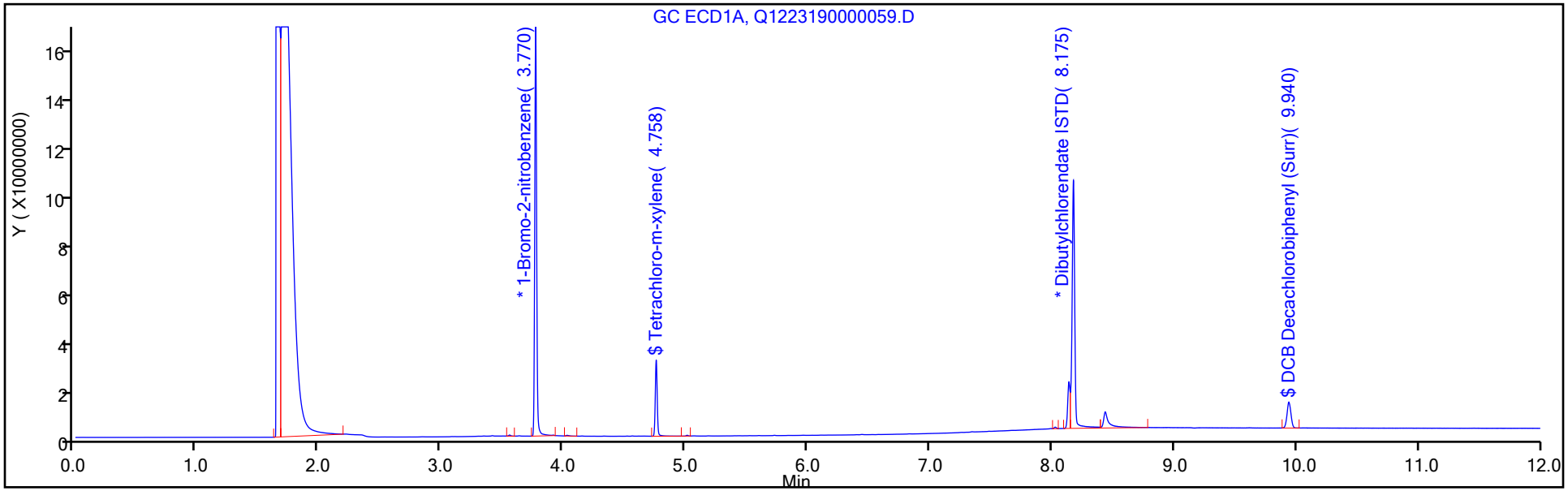

Column: MR-2 (0.53 mm)

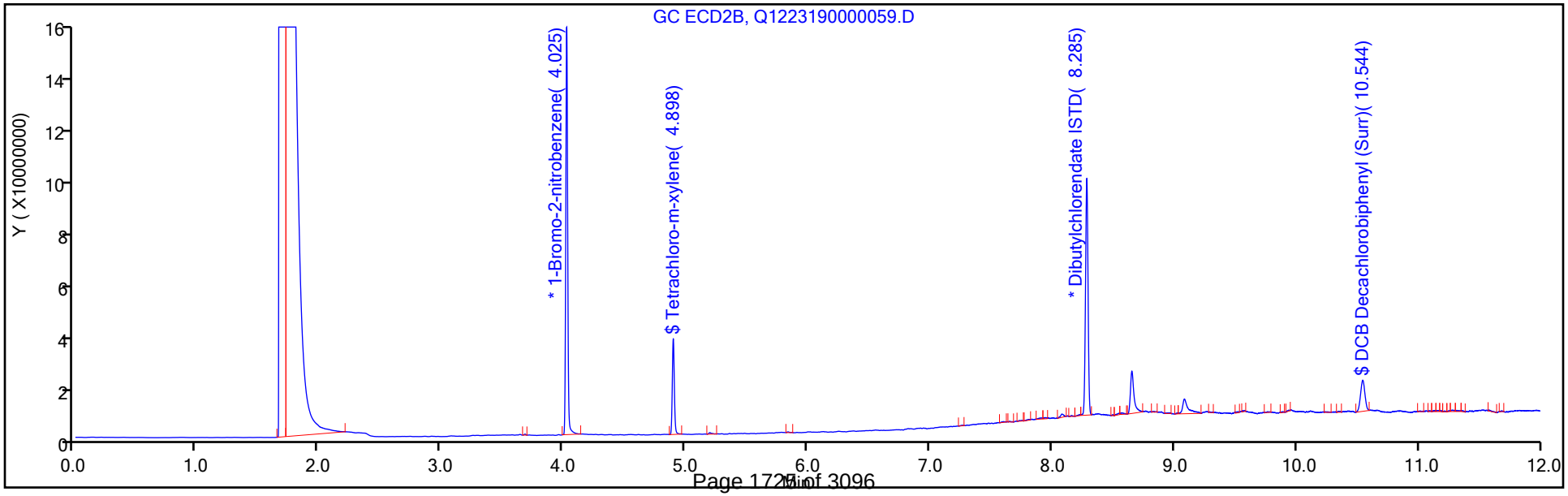

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000059.D				
Lims ID:	LB 180-301984/1-E				
Client ID:					
Sample Type:	LB				
Inject. Date:	24-Dec-2019 01:35:17	ALS Bottle#:	59	Worklist Smp#:	59
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0030125-059				
Operator ID:	402331	Instrument ID:	CHGC15		

Method:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\IS PEST_CHGC15.m		
Limit Group:	GCS 8081B ICAL with IS		
Last Update:	24-Dec-2019 04:36:16	Calib Date:	17-Sep-2019 16:34:44
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D		

Column 1 :	MR-1 (0.53 mm)	Det: GC ECD1A
Column 2 :	MR-2 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0301	

First Level Reviewer: eppinged Date: 24-Dec-2019 04:35:24

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0135	67.33
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0152	75.77

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0174	86.88
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0186	93.18

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-100205-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 180-302205/2-A
Matrix: Solid
Lab File ID: Q1223190000057.D
Analysis Method: EPA 8081B
Date Collected:
Extraction Method: 3510C
Date Extracted: 12/21/2019 05:15
Sample wt/vol: 100(mL)
Date Analyzed: 12/24/2019 01:04
Con. Extract Vol.: 40.0(mL)
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: MR-1 ID: 0.53(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 302301
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
50-29-3	4,4'-DDT	0.00802		0.00050	0.00012

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	73		62-150
877-09-8	Tetrachloro-m-xylene	67		54-138

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000057.D
Lims ID: LCS 180-302205/2-A
Client ID:
Sample Type: LCS
Inject. Date: 24-Dec-2019 01:04:21 ALS Bottle#: 57 Worklist Smp#: 57
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030125-057
Operator ID: 402331 Instrument ID: CHGC15

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Dec-2019 04:36:16 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0301

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.769	3.769	0.000	167570525H	0.1000	0.1000	
2	4.024	4.025	0.000	162982280H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.757	4.757	0.000	31001175H	0.0200	0.0134	
2	4.898	4.897	0.001	37576505H	0.0200	0.0171	
						RPD = 24.04	
5 alpha-BHC							
1	5.120	5.119	0.001	51914895H	0.0250	0.0196	
2	5.365	5.364	0.001	54770731H	0.0250	0.0222	
						RPD = 12.53	
7 gamma-BHC (Lindane)							
1	5.383	5.383	0.000	44957772H	0.0250	0.0192	
2	5.670	5.669	0.001	45765867H	0.0250	0.0232	
						RPD = 18.72	
8 beta-BHC							
1	5.547	5.547	0.000	17628592H	0.0250	0.0185	
2	5.914	5.913	0.001	20260976H	0.0250	0.0208	
						RPD = 11.71	
10 delta-BHC							
1	5.746	5.746	0.000	41578840H	0.0250	0.0193	
2	6.146	6.146	0.000	43540467H	0.0250	0.0222	
						RPD = 14.31	
11 Heptachlor							
1	5.849	5.850	-0.001	38711439H	0.0250	0.0187	
2	5.993	5.993	0.000	35606310H	0.0250	0.0194	
						RPD = 3.54	
13 Aldrin							
1	6.129	6.129	0.000	37144778H	0.0250	0.0174	
2	6.264	6.264	0.000	40853402H	0.0250	0.0225	
						RPD = 25.68	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
16 Heptachlor epoxide							
1	6.486	6.485	0.001	32647065H	0.0250	0.0175	
2	6.715	6.715	0.000	33770481H	0.0250	0.0212	
						RPD = 18.80	
18 trans-Chlordane							
1	6.704	6.703	0.001	31146117H	0.0250	0.0161	
2	6.943	6.943	0.000	35224386H	0.0250	0.0211	
						RPD = 26.72	
20 cis-Chlordane							
1	6.770	6.771	-0.001	29986147H	0.0250	0.0159	
2	7.004	7.003	0.001	33705006H	0.0250	0.0208	
						RPD = 27.11	
21 Endosulfan I							
1	6.815	6.814	0.001	28157370H	0.0250	0.0165	
2	7.073	7.073	0.000	30496751H	0.0250	0.0219	
						RPD = 27.97	
23 4,4'-DDE							
1	6.923	6.923	0.000	31050583H	0.0250	0.0218	
2	7.139	7.140	-0.001	34344773H	0.0250	0.0227	
						RPD = 3.92	
24 Dieldrin							
1	7.052	7.053	-0.001	31453333H	0.0250	0.0215	
2	7.318	7.319	-0.001	32762763H	0.0250	0.0213	
						RPD = 0.71	
27 Endrin							
1	7.254	7.254	0.000	27059395H	0.0250	0.0231	
2	7.587	7.586	0.001	24917079H	0.0250	0.0207	
						RPD = 10.83	
29 4,4'-DDD							
1	7.380	7.381	-0.001	26264082H	0.0250	0.0225	
2	7.661	7.662	-0.001	27071236H	0.0250	0.0224	
						RPD = 0.67	
31 Endosulfan II							
1	7.451	7.451	0.000	22635659H	0.0250	0.0212	
2	7.853	7.853	0.000	23952892H	0.0250	0.0212	
						RPD = 0.28	
32 Endrin aldehyde							
1	7.567	7.568	-0.001	19974672H	0.0250	0.0220	
2	8.019	8.018	0.001	20180645H	0.0250	0.0223	
						RPD = 1.15	
33 4,4'-DDT							
1	7.658	7.658	0.000	18479343H	0.0250	0.0200	
2	7.906	7.906	0.000	18230767H	0.0250	0.0190	
						RPD = 5.18	
35 Endosulfan sulfate							
1	7.778	7.776	0.002	23781533H	0.0250	0.0206	
2	8.242	8.242	0.000	23442098H	0.0250	0.0219	
						RPD = 5.70	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Methoxychlor							
1	8.099	8.100	-0.001	9562425H	0.0250	0.0237	
2	8.473	8.473	0.000	8070416H	0.0250	0.0204	
						RPD = 15.32	
* 44 Dibutylchlorendate ISTD							
1	8.174	8.174	0.000	99837447H	0.1000	0.1000	
2	8.285	8.285	0.000	91605934H	0.1000	0.1000	
37 Endrin ketone							
1	8.229	8.228	0.001	24581922H	0.0250	0.0237	
2	8.860	8.860	0.000	20220050H	0.0250	0.0210	
						RPD = 11.94	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	9.941	9.939	0.002	10110894H	0.0200	0.0146	
2	10.544	10.545	-0.001	12493172H	0.0200	0.0193	
						RPD = 27.62	

Reagents:

GCPESTISSPK2_00017 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 24-Dec-2019 04:36:19 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000057.D				
Injection Date:	24-Dec-2019 01:04:21	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	LCS 180-302205/2-A			Worklist Smp#:	57
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	57
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

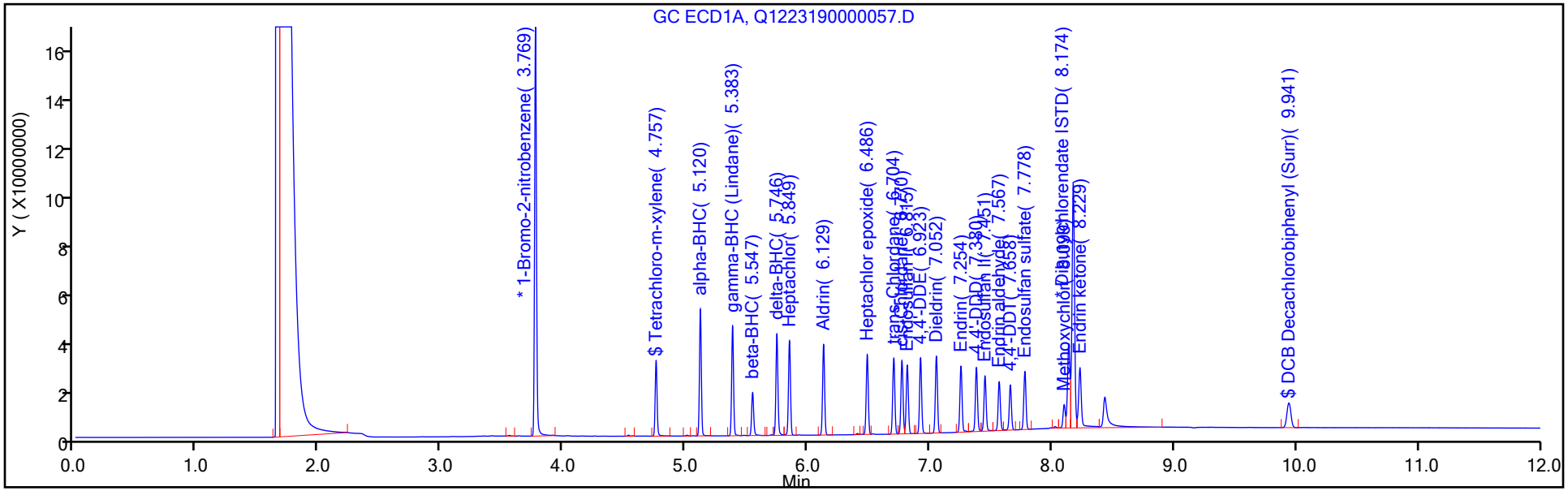

Column: MR-2 (0.53 mm)

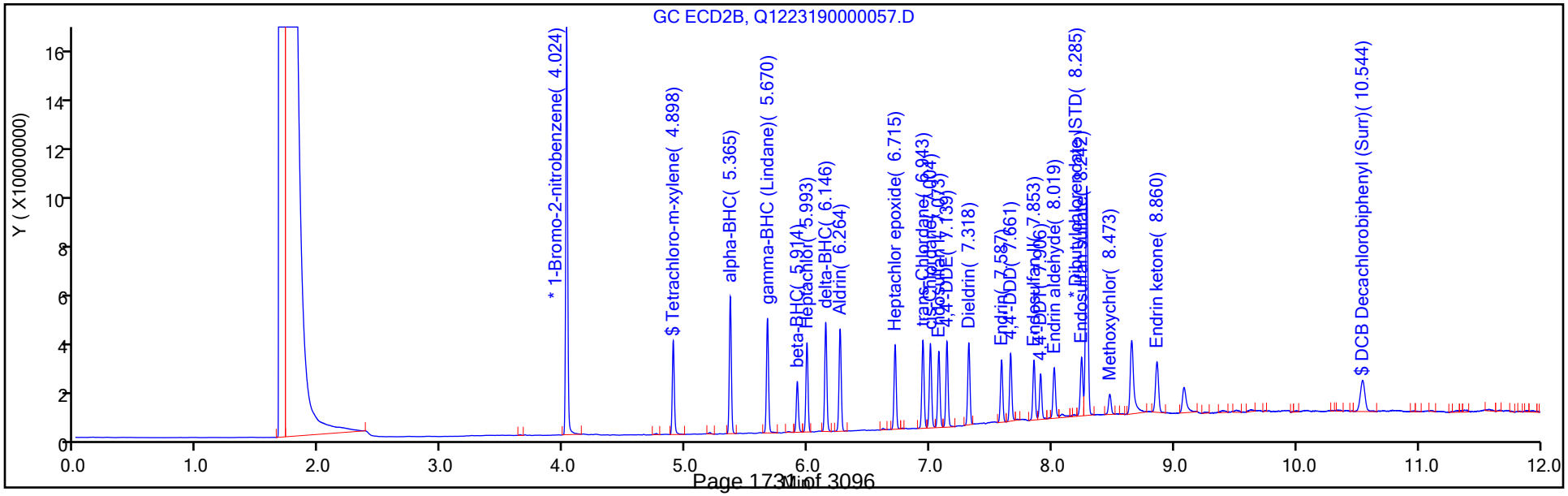

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000057.D				
Lims ID:	LCS 180-302205/2-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	24-Dec-2019 01:04:21	ALS Bottle#:	57	Worklist Smp#:	57
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0030125-057				
Operator ID:	402331	Instrument ID:	CHGC15		
Method:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\IS PEST_CHGC15.m				
Limit Group:	GCS 8081B ICAL with IS				
Last Update:	24-Dec-2019 04:36:16	Calib Date:	17-Sep-2019 16:34:44		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D				
Column 1 :	MR-1 (0.53 mm)		Det: GC ECD1A		
Column 2 :	MR-2 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0301				

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0134	67.05
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0146	73.20

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0171	85.37
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0193	96.66

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 180-302205/2-A

Matrix: Solid Lab File ID: Q1223190000057.D

Analysis Method: EPA 8081B Date Collected:

Extraction Method: 3510C Date Extracted: 12/21/2019 05:15

Sample wt/vol: 100(mL) Date Analyzed: 12/24/2019 01:04

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: MR-2 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 302301 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
72-20-8	Endrin	0.00828		0.00050	0.000091
58-89-9	gamma-BHC (Lindane)	0.00927		0.00050	0.00012
76-44-8	Heptachlor	0.00775		0.00050	0.00018
1024-57-3	Heptachlor epoxide	0.00847		0.00050	0.00014
5103-71-9	cis-Chlordane	0.00834		0.00050	0.00015
72-43-5	Methoxychlor	0.00814		0.00050	0.00031
5103-74-2	trans-Chlordane	0.00845		0.00050	0.00016
72-54-8	4,4'-DDD	0.00895		0.00050	0.00021
72-55-9	4,4'-DDE	0.00908		0.00050	0.00012
60-57-1	Dieldrin	0.00852		0.00050	0.00011
959-98-8	Endosulfan I	0.00877		0.00050	0.00027
33213-65-9	Endosulfan II	0.00849		0.00050	0.00013
1031-07-8	Endosulfan sulfate	0.00874		0.00050	0.00026

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl (Surr)	97		62-150
877-09-8	Tetrachloro-m-xylene	85		54-138

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000057.D
Lims ID: LCS 180-302205/2-A
Client ID:
Sample Type: LCS
Inject. Date: 24-Dec-2019 01:04:21 ALS Bottle#: 57 Worklist Smp#: 57
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030125-057
Operator ID: 402331 Instrument ID: CHGC15

Method: \\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\IS PEST_CHGC15.m
Limit Group: GCS 8081B ICAL with IS
Last Update: 24-Dec-2019 04:36:16 Calib Date: 17-Sep-2019 16:34:44
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D

Column 1 : MR-1 (0.53 mm) Det: GC ECD1A
Column 2 : MR-2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0301

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 43 1-Bromo-2-nitrobenzene							
1	3.769	3.769	0.000	167570525H	0.1000	0.1000	
2	4.024	4.025	0.000	162982280H	0.1000	0.1000	
$ 3 Tetrachloro-m-xylene							
1	4.757	4.757	0.000	31001175H	0.0200	0.0134	
2	4.898	4.897	0.001	37576505H	0.0200	0.0171	
						RPD = 24.04	
5 alpha-BHC							
1	5.120	5.119	0.001	51914895H	0.0250	0.0196	
2	5.365	5.364	0.001	54770731H	0.0250	0.0222	
						RPD = 12.53	
7 gamma-BHC (Lindane)							
1	5.383	5.383	0.000	44957772H	0.0250	0.0192	
2	5.670	5.669	0.001	45765867H	0.0250	0.0232	
						RPD = 18.72	
8 beta-BHC							
1	5.547	5.547	0.000	17628592H	0.0250	0.0185	
2	5.914	5.913	0.001	20260976H	0.0250	0.0208	
						RPD = 11.71	
10 delta-BHC							
1	5.746	5.746	0.000	41578840H	0.0250	0.0193	
2	6.146	6.146	0.000	43540467H	0.0250	0.0222	
						RPD = 14.31	
11 Heptachlor							
1	5.849	5.850	-0.001	38711439H	0.0250	0.0187	
2	5.993	5.993	0.000	35606310H	0.0250	0.0194	
						RPD = 3.54	
13 Aldrin							
1	6.129	6.129	0.000	37144778H	0.0250	0.0174	
2	6.264	6.264	0.000	40853402H	0.0250	0.0225	
						RPD = 25.68	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
16 Heptachlor epoxide							
1	6.486	6.485	0.001	32647065H	0.0250	0.0175	
2	6.715	6.715	0.000	33770481H	0.0250	0.0212	
						RPD = 18.80	
18 trans-Chlordane							
1	6.704	6.703	0.001	31146117H	0.0250	0.0161	
2	6.943	6.943	0.000	35224386H	0.0250	0.0211	
						RPD = 26.72	
20 cis-Chlordane							
1	6.770	6.771	-0.001	29986147H	0.0250	0.0159	
2	7.004	7.003	0.001	33705006H	0.0250	0.0208	
						RPD = 27.11	
21 Endosulfan I							
1	6.815	6.814	0.001	28157370H	0.0250	0.0165	
2	7.073	7.073	0.000	30496751H	0.0250	0.0219	
						RPD = 27.97	
23 4,4'-DDE							
1	6.923	6.923	0.000	31050583H	0.0250	0.0218	
2	7.139	7.140	-0.001	34344773H	0.0250	0.0227	
						RPD = 3.92	
24 Dieldrin							
1	7.052	7.053	-0.001	31453333H	0.0250	0.0215	
2	7.318	7.319	-0.001	32762763H	0.0250	0.0213	
						RPD = 0.71	
27 Endrin							
1	7.254	7.254	0.000	27059395H	0.0250	0.0231	
2	7.587	7.586	0.001	24917079H	0.0250	0.0207	
						RPD = 10.83	
29 4,4'-DDD							
1	7.380	7.381	-0.001	26264082H	0.0250	0.0225	
2	7.661	7.662	-0.001	27071236H	0.0250	0.0224	
						RPD = 0.67	
31 Endosulfan II							
1	7.451	7.451	0.000	22635659H	0.0250	0.0212	
2	7.853	7.853	0.000	23952892H	0.0250	0.0212	
						RPD = 0.28	
32 Endrin aldehyde							
1	7.567	7.568	-0.001	19974672H	0.0250	0.0220	
2	8.019	8.018	0.001	20180645H	0.0250	0.0223	
						RPD = 1.15	
33 4,4'-DDT							
1	7.658	7.658	0.000	18479343H	0.0250	0.0200	
2	7.906	7.906	0.000	18230767H	0.0250	0.0190	
						RPD = 5.18	
35 Endosulfan sulfate							
1	7.778	7.776	0.002	23781533H	0.0250	0.0206	
2	8.242	8.242	0.000	23442098H	0.0250	0.0219	
						RPD = 5.70	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
36 Methoxychlor							
1	8.099	8.100	-0.001	9562425H	0.0250	0.0237	
2	8.473	8.473	0.000	8070416H	0.0250	0.0204	
						RPD = 15.32	
* 44 Dibutylchlorendate ISTD							
1	8.174	8.174	0.000	99837447H	0.1000	0.1000	
2	8.285	8.285	0.000	91605934H	0.1000	0.1000	
37 Endrin ketone							
1	8.229	8.228	0.001	24581922H	0.0250	0.0237	
2	8.860	8.860	0.000	20220050H	0.0250	0.0210	
						RPD = 11.94	
$ 39 DCB Decachlorobiphenyl (Surr)							
1	9.941	9.939	0.002	10110894H	0.0200	0.0146	
2	10.544	10.545	-0.001	12493172H	0.0200	0.0193	
						RPD = 27.62	

Reagents:

GCPESTISSPK2_00017 Amount Added: 0.02 Units: mL Run Reagent

Report Date: 24-Dec-2019 04:36:19 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000057.D				
Injection Date:	24-Dec-2019 01:04:21	Instrument ID:	CHGC15	Operator ID:	402331
Lims ID:	LCS 180-302205/2-A			Worklist Smp#:	57
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	57
Method:	IS PEST_CHGC15	Limit Group:	GCS 8081B ICAL with IS		

Column: MR-1 (0.53 mm)

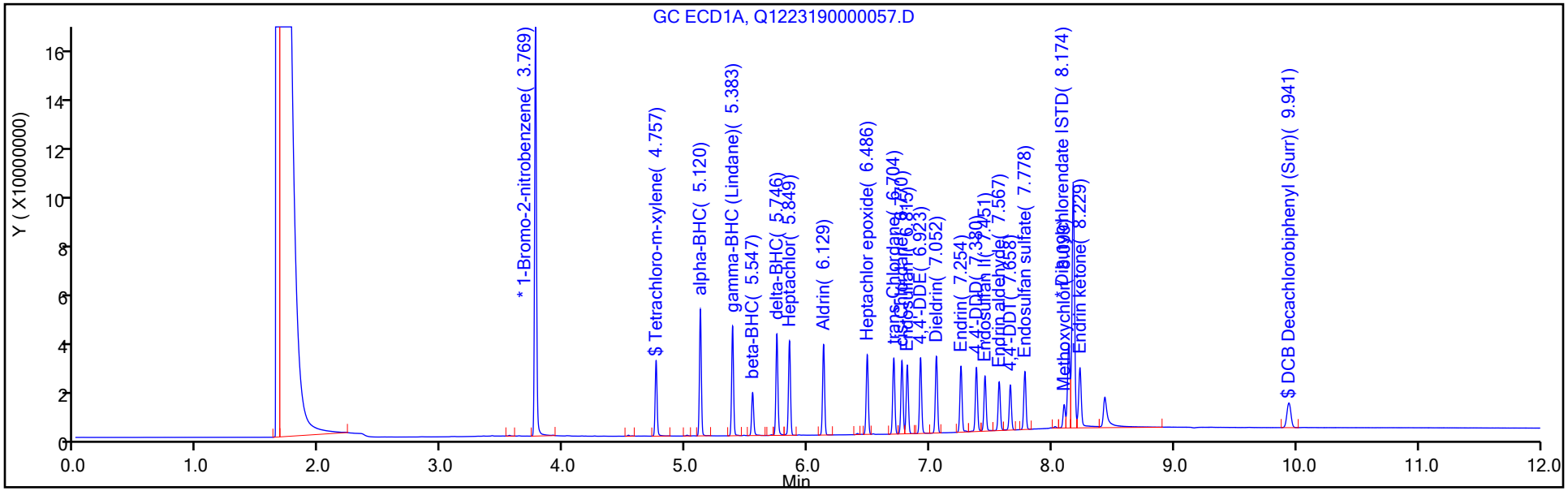

Column: MR-2 (0.53 mm)

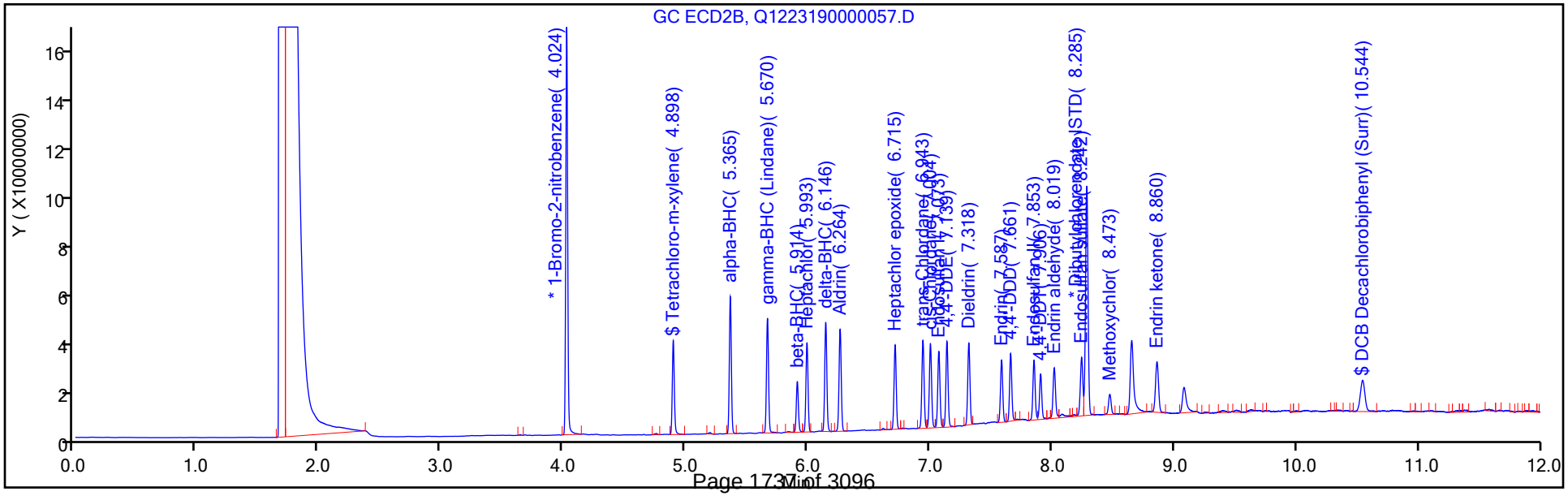

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\Q1223190000057.D				
Lims ID:	LCS 180-302205/2-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	24-Dec-2019 01:04:21	ALS Bottle#:	57	Worklist Smp#:	57
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0030125-057				
Operator ID:	402331	Instrument ID:	CHGC15		
Method:	\\chromna\Pittsburgh\ChromData\CHGC15\20191223-30125.b\IS PEST_CHGC15.m				
Limit Group:	GCS 8081B ICAL with IS				
Last Update:	24-Dec-2019 04:36:16	Calib Date:	17-Sep-2019 16:34:44		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC15\20190917-28689.b\Q0917190000013.D				
Column 1 :	MR-1 (0.53 mm)		Det: GC ECD1A		
Column 2 :	MR-2 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0301				

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0134	67.05
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0146	73.20

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 3 Tetrachloro-m-xylene	0.0200	0.0171	85.37
$ 39 DCB Decachlorobiphenyl (Surr)	0.0200	0.0193	96.66

PESTICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Instrument ID: CHGC15 Start Date: 05/18/2019 11:58

Analysis Batch Number: 279115 End Date: 05/18/2019 23:57

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
PEM 180-279115/1		05/18/2019 11:58	1		MR-1 0.53(mm)
PEM 180-279115/1		05/18/2019 11:58	1		MR-2 0.53(mm)
IC 180-279115/2		05/18/2019 12:14	1	Q0518190000002.D	MR-1 0.53(mm)
IC 180-279115/2		05/18/2019 12:14	1	Q0518190000002.D	MR-2 0.53(mm)
IC 180-279115/3		05/18/2019 12:29	1	Q0518190000003.D	MR-1 0.53(mm)
IC 180-279115/3		05/18/2019 12:29	1	Q0518190000003.D	MR-2 0.53(mm)
IC 180-279115/4		05/18/2019 12:45	1	Q0518190000004.D	MR-1 0.53(mm)
IC 180-279115/4		05/18/2019 12:45	1	Q0518190000004.D	MR-2 0.53(mm)
IC 180-279115/5		05/18/2019 13:00	1	Q0518190000005.D	MR-1 0.53(mm)
IC 180-279115/5		05/18/2019 13:00	1	Q0518190000005.D	MR-2 0.53(mm)
IC 180-279115/6		05/18/2019 13:16	1	Q0518190000006.D	MR-1 0.53(mm)
IC 180-279115/6		05/18/2019 13:16	1	Q0518190000006.D	MR-2 0.53(mm)
IC 180-279115/7		05/18/2019 14:56	1	Q0518190000007.D	MR-1 0.53(mm)
IC 180-279115/7		05/18/2019 14:56	1	Q0518190000007.D	MR-2 0.53(mm)
IC 180-279115/8		05/18/2019 15:11	1	Q0518190000008.D	MR-1 0.53(mm)
IC 180-279115/8		05/18/2019 15:11	1	Q0518190000008.D	MR-2 0.53(mm)
IC 180-279115/9		05/18/2019 15:26	1	Q0518190000009.D	MR-1 0.53(mm)
IC 180-279115/9		05/18/2019 15:26	1	Q0518190000009.D	MR-2 0.53(mm)
IC 180-279115/10		05/18/2019 15:42	1	Q0518190000010.D	MR-1 0.53(mm)
IC 180-279115/10		05/18/2019 15:42	1	Q0518190000010.D	MR-2 0.53(mm)
IC 180-279115/11		05/18/2019 15:57	1	Q0518190000011.D	MR-1 0.53(mm)
IC 180-279115/11		05/18/2019 15:57	1	Q0518190000011.D	MR-2 0.53(mm)
IC 180-279115/12		05/18/2019 16:13	1		MR-1 0.53(mm)
IC 180-279115/12		05/18/2019 16:13	1		MR-2 0.53(mm)
IC 180-279115/13		05/18/2019 16:28	1		MR-1 0.53(mm)
IC 180-279115/13		05/18/2019 16:28	1		MR-2 0.53(mm)
IC 180-279115/14		05/18/2019 16:44	1		MR-1 0.53(mm)
IC 180-279115/14		05/18/2019 16:44	1		MR-2 0.53(mm)
IC 180-279115/15		05/18/2019 16:59	1		MR-1 0.53(mm)
IC 180-279115/15		05/18/2019 16:59	1		MR-2 0.53(mm)
IC 180-279115/16		05/18/2019 17:15	1		MR-1 0.53(mm)
IC 180-279115/16		05/18/2019 17:15	1		MR-2 0.53(mm)
IC 180-279115/17		05/18/2019 17:30	1		MR-1 0.53(mm)
IC 180-279115/17		05/18/2019 17:30	1		MR-2 0.53(mm)
IC 180-279115/18		05/18/2019 17:46	1		MR-1 0.53(mm)
IC 180-279115/18		05/18/2019 17:46	1		MR-2 0.53(mm)

EPA 8081B

PESTICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Instrument ID: CHGC15 Start Date: 05/18/2019 11:58

Analysis Batch Number: 279115 End Date: 05/18/2019 23:57

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 180-279115/19		05/18/2019 18:01	1		MR-1 0.53(mm)
IC 180-279115/19		05/18/2019 18:01	1		MR-2 0.53(mm)
IC 180-279115/20		05/18/2019 18:17	1		MR-1 0.53(mm)
IC 180-279115/20		05/18/2019 18:17	1		MR-2 0.53(mm)
IC 180-279115/21		05/18/2019 18:32	1		MR-1 0.53(mm)
IC 180-279115/21		05/18/2019 18:32	1		MR-2 0.53(mm)
IC 180-279115/22		05/18/2019 18:48	1		MR-1 0.53(mm)
IC 180-279115/22		05/18/2019 18:48	1		MR-2 0.53(mm)
IC 180-279115/23		05/18/2019 19:03	1		MR-1 0.53(mm)
IC 180-279115/23		05/18/2019 19:03	1		MR-2 0.53(mm)
IC 180-279115/24		05/18/2019 19:19	1		MR-1 0.53(mm)
IC 180-279115/24		05/18/2019 19:19	1		MR-2 0.53(mm)
IC 180-279115/25		05/18/2019 19:34	1		MR-1 0.53(mm)
IC 180-279115/25		05/18/2019 19:34	1		MR-2 0.53(mm)
ICIS 180-279115/26		05/18/2019 19:49	1		MR-1 0.53(mm)
ICIS 180-279115/26		05/18/2019 19:49	1		MR-2 0.53(mm)
IC 180-279115/27		05/18/2019 20:05	1		MR-1 0.53(mm)
IC 180-279115/27		05/18/2019 20:05	1		MR-2 0.53(mm)
IC 180-279115/28		05/18/2019 20:21	1		MR-1 0.53(mm)
IC 180-279115/28		05/18/2019 20:21	1		MR-2 0.53(mm)
IC 180-279115/29		05/18/2019 20:36	1		MR-1 0.53(mm)
IC 180-279115/29		05/18/2019 20:36	1		MR-2 0.53(mm)
ICV 180-279115/30		05/18/2019 20:51	1	Q0518190000030.D	MR-1 0.53(mm)
ICV 180-279115/30		05/18/2019 20:51	1	Q0518190000030.D	MR-2 0.53(mm)
ICV 180-279115/31		05/18/2019 21:07	1	Q0518190000031.D	MR-1 0.53(mm)
ICV 180-279115/31		05/18/2019 21:07	1	Q0518190000031.D	MR-2 0.53(mm)
ICV 180-279115/32		05/18/2019 21:22	1		MR-1 0.53(mm)
ICV 180-279115/32		05/18/2019 21:22	1		MR-2 0.53(mm)
ICV 180-279115/33		05/18/2019 21:38	1		MR-1 0.53(mm)
ICV 180-279115/33		05/18/2019 21:38	1		MR-2 0.53(mm)
ICV 180-279115/34		05/18/2019 21:53	1		MR-1 0.53(mm)
ICV 180-279115/34		05/18/2019 21:53	1		MR-2 0.53(mm)
ICV 180-279115/35		05/18/2019 22:09	1		MR-1 0.53(mm)
ICV 180-279115/35		05/18/2019 22:09	1		MR-2 0.53(mm)
PEM 180-279115/36		05/18/2019 22:24	1		MR-1 0.53(mm)
PEM 180-279115/36		05/18/2019 22:24	1		MR-2 0.53(mm)
ZZZZZ		05/18/2019 22:40	1		MR-1 0.53(mm)
ZZZZZ		05/18/2019 22:40	1		MR-2 0.53(mm)
ZZZZZ		05/18/2019 22:55	1		MR-1 0.53(mm)
ZZZZZ		05/18/2019 22:55	1		MR-2 0.53(mm)
ZZZZZ		05/18/2019 23:11	1		MR-1 0.53(mm)
ZZZZZ		05/18/2019 23:11	1		MR-2 0.53(mm)
ZZZZZ		05/18/2019 23:26	1		MR-1 0.53(mm)

EPA 8081B

PESTICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Instrument ID: CHGC15 Start Date: 05/18/2019 11:58

Analysis Batch Number: 279115 End Date: 05/18/2019 23:57

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		05/18/2019 23:26	1		MR-2 0.53(mm)
ZZZZZ		05/18/2019 23:42	1		MR-1 0.53(mm)
ZZZZZ		05/18/2019 23:42	1		MR-2 0.53(mm)
ZZZZZ		05/18/2019 23:57	1		MR-1 0.53(mm)
ZZZZZ		05/18/2019 23:57	1		MR-2 0.53(mm)

EPA 8081B

PESTICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Instrument ID: CHGC15 Start Date: 07/02/2019 15:17

Analysis Batch Number: 283759 End Date: 07/02/2019 17:21

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
PEM 180-283759/1		07/02/2019 15:17	1		MR-1 0.53(mm)
PEM 180-283759/1		07/02/2019 15:17	1		MR-2 0.53(mm)
IC 180-283759/2		07/02/2019 15:33	1	Q070219A0000002.D	MR-1 0.53(mm)
IC 180-283759/2		07/02/2019 15:33	1	Q070219A0000002.D	MR-2 0.53(mm)
IC 180-283759/3		07/02/2019 15:48	1	Q070219A0000003.D	MR-1 0.53(mm)
IC 180-283759/3		07/02/2019 15:48	1	Q070219A0000003.D	MR-2 0.53(mm)
ICIS 180-283759/4		07/02/2019 16:04	1	Q070219A0000004.D	MR-1 0.53(mm)
ICIS 180-283759/4		07/02/2019 16:04	1	Q070219A0000004.D	MR-2 0.53(mm)
IC 180-283759/5		07/02/2019 16:19	1	Q070219A0000005.D	MR-1 0.53(mm)
IC 180-283759/5		07/02/2019 16:19	1	Q070219A0000005.D	MR-2 0.53(mm)
IC 180-283759/6		07/02/2019 16:35	1	Q070219A0000006.D	MR-1 0.53(mm)
IC 180-283759/6		07/02/2019 16:35	1	Q070219A0000006.D	MR-2 0.53(mm)
IC 180-283759/7		07/02/2019 16:50	1	Q070219A0000007.D	MR-1 0.53(mm)
IC 180-283759/7		07/02/2019 16:50	1	Q070219A0000007.D	MR-2 0.53(mm)
PEM 180-283759/9		07/02/2019 17:21	1		MR-1 0.53(mm)
PEM 180-283759/9		07/02/2019 17:21	1		MR-2 0.53(mm)

EPA 8081B

PESTICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Instrument ID: CHGC15 Start Date: 07/03/2019 09:41

Analysis Batch Number: 283820 End Date: 07/03/2019 17:26

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
PEM 180-283820/1		07/03/2019 09:41	1		MR-1 0.53(mm)
PEM 180-283820/1		07/03/2019 09:41	1		MR-2 0.53(mm)
ICV 180-283820/2		07/03/2019 09:56	1	Q0703190000002.D	MR-1 0.53(mm)
ICV 180-283820/2		07/03/2019 09:56	1	Q0703190000002.D	MR-2 0.53(mm)
CCV 180-283820/20		07/03/2019 14:35	1		MR-1 0.53(mm)
CCV 180-283820/20		07/03/2019 14:35	1		MR-2 0.53(mm)
CCV 180-283820/21		07/03/2019 14:51	1		MR-1 0.53(mm)
CCV 180-283820/21		07/03/2019 14:51	1		MR-2 0.53(mm)
CCVIS 180-283820/22		07/03/2019 15:06	1		MR-1 0.53(mm)
CCVIS 180-283820/22		07/03/2019 15:06	1		MR-2 0.53(mm)
ZZZZZ		07/03/2019 15:22	1		MR-1 0.53(mm)
ZZZZZ		07/03/2019 15:22	1		MR-2 0.53(mm)
ZZZZZ		07/03/2019 15:37	1		MR-1 0.53(mm)
ZZZZZ		07/03/2019 15:37	1		MR-2 0.53(mm)
ZZZZZ		07/03/2019 15:53	1		MR-1 0.53(mm)
ZZZZZ		07/03/2019 15:53	1		MR-2 0.53(mm)
ZZZZZ		07/03/2019 16:08	1		MR-1 0.53(mm)
ZZZZZ		07/03/2019 16:08	1		MR-2 0.53(mm)
ZZZZZ		07/03/2019 16:24	1		MR-1 0.53(mm)
ZZZZZ		07/03/2019 16:24	1		MR-2 0.53(mm)
ZZZZZ		07/03/2019 16:39	1		MR-1 0.53(mm)
ZZZZZ		07/03/2019 16:39	1		MR-2 0.53(mm)
ZZZZZ		07/03/2019 16:55	1		MR-1 0.53(mm)
ZZZZZ		07/03/2019 16:55	1		MR-2 0.53(mm)
ZZZZZ		07/03/2019 17:10	1		MR-1 0.53(mm)
ZZZZZ		07/03/2019 17:10	1		MR-2 0.53(mm)
CCVL 180-283820/31		07/03/2019 17:26	1		MR-1 0.53(mm)
CCVL 180-283820/31		07/03/2019 17:26	1		MR-2 0.53(mm)

EPA 8081B

PESTICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Instrument ID: CHGC15 Start Date: 09/17/2019 13:28

Analysis Batch Number: 291631 End Date: 09/17/2019 20:57

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
PEM 180-291631/1		09/17/2019 13:28	1		MR-1 0.53(mm)
PEM 180-291631/1		09/17/2019 13:28	1		MR-2 0.53(mm)
IC 180-291631/2		09/17/2019 13:44	1	Q0917190000002.D	MR-1 0.53(mm)
IC 180-291631/2		09/17/2019 13:44	1	Q0917190000002.D	MR-2 0.53(mm)
IC 180-291631/3		09/17/2019 13:59	1	Q0917190000003.D	MR-1 0.53(mm)
IC 180-291631/3		09/17/2019 13:59	1	Q0917190000003.D	MR-2 0.53(mm)
IC 180-291631/4		09/17/2019 14:15	1	Q0917190000004.D	MR-1 0.53(mm)
IC 180-291631/4		09/17/2019 14:15	1	Q0917190000004.D	MR-2 0.53(mm)
IC 180-291631/5		09/17/2019 14:30	1	Q0917190000005.D	MR-1 0.53(mm)
IC 180-291631/5		09/17/2019 14:30	1	Q0917190000005.D	MR-2 0.53(mm)
IC 180-291631/6		09/17/2019 14:46	1	Q0917190000006.D	MR-1 0.53(mm)
IC 180-291631/6		09/17/2019 14:46	1	Q0917190000006.D	MR-2 0.53(mm)
IC 180-291631/7		09/17/2019 15:01	1	Q0917190000007.D	MR-1 0.53(mm)
IC 180-291631/7		09/17/2019 15:01	1	Q0917190000007.D	MR-2 0.53(mm)
IC 180-291631/8		09/17/2019 15:17	1		MR-1 0.53(mm)
IC 180-291631/8		09/17/2019 15:17	1		MR-2 0.53(mm)
IC 180-291631/9		09/17/2019 15:32	1		MR-1 0.53(mm)
IC 180-291631/9		09/17/2019 15:32	1		MR-2 0.53(mm)
IC 180-291631/10		09/17/2019 15:48	1		MR-1 0.53(mm)
IC 180-291631/10		09/17/2019 15:48	1		MR-2 0.53(mm)
IC 180-291631/11		09/17/2019 16:03	1		MR-1 0.53(mm)
IC 180-291631/11		09/17/2019 16:03	1		MR-2 0.53(mm)
IC 180-291631/12		09/17/2019 16:19	1		MR-1 0.53(mm)
IC 180-291631/12		09/17/2019 16:19	1		MR-2 0.53(mm)
IC 180-291631/13		09/17/2019 16:34	1		MR-1 0.53(mm)
IC 180-291631/13		09/17/2019 16:34	1		MR-2 0.53(mm)
ICV 180-291631/14		09/17/2019 16:50	1	Q0917190000014.D	MR-1 0.53(mm)
ICV 180-291631/14		09/17/2019 16:50	1	Q0917190000014.D	MR-2 0.53(mm)
ICV 180-291631/15		09/17/2019 17:05	1		MR-1 0.53(mm)
ICV 180-291631/15		09/17/2019 17:05	1		MR-2 0.53(mm)
ICV 180-291631/16		09/17/2019 17:21	1		MR-1 0.53(mm)
ICV 180-291631/16		09/17/2019 17:21	1		MR-2 0.53(mm)
CCVIS 180-291631/17		09/17/2019 17:36	1		MR-1 0.53(mm)
CCVIS 180-291631/17		09/17/2019 17:36	1		MR-2 0.53(mm)
PEM 180-291631/18		09/17/2019 17:52	1		MR-1 0.53(mm)
PEM 180-291631/18		09/17/2019 17:52	1		MR-2 0.53(mm)
ZZZZZ		09/17/2019 18:07	1		MR-1 0.53(mm)
ZZZZZ		09/17/2019 18:07	1		MR-2 0.53(mm)
ZZZZZ		09/17/2019 18:23	1		MR-1 0.53(mm)

EPA 8081B

PESTICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Instrument ID: CHGC15 Start Date: 09/17/2019 13:28

Analysis Batch Number: 291631 End Date: 09/17/2019 20:57

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		09/17/2019 18:23	1		MR-2 0.53(mm)
ZZZZZ		09/17/2019 18:38	1		MR-1 0.53(mm)
ZZZZZ		09/17/2019 18:38	1		MR-2 0.53(mm)
ZZZZZ		09/17/2019 18:54	1		MR-1 0.53(mm)
ZZZZZ		09/17/2019 18:54	1		MR-2 0.53(mm)
ZZZZZ		09/17/2019 19:09	1		MR-1 0.53(mm)
ZZZZZ		09/17/2019 19:09	1		MR-2 0.53(mm)
ZZZZZ		09/17/2019 19:25	1		MR-1 0.53(mm)
ZZZZZ		09/17/2019 19:25	1		MR-2 0.53(mm)
ZZZZZ		09/17/2019 19:40	1		MR-1 0.53(mm)
ZZZZZ		09/17/2019 19:40	1		MR-2 0.53(mm)
ZZZZZ		09/17/2019 19:55	1		MR-1 0.53(mm)
ZZZZZ		09/17/2019 19:55	1		MR-2 0.53(mm)
ZZZZZ		09/17/2019 20:11	1		MR-1 0.53(mm)
ZZZZZ		09/17/2019 20:11	1		MR-2 0.53(mm)
ZZZZZ		09/17/2019 20:26	1		MR-1 0.53(mm)
ZZZZZ		09/17/2019 20:26	1		MR-2 0.53(mm)
ZZZZZ		09/17/2019 20:42	1		MR-1 0.53(mm)
ZZZZZ		09/17/2019 20:42	1		MR-2 0.53(mm)
ZZZZZ		09/17/2019 20:57	1		MR-1 0.53(mm)
ZZZZZ		09/17/2019 20:57	1		MR-2 0.53(mm)

EPA 8081B

PESTICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Instrument ID: CHGC15 Start Date: 12/23/2019 10:39

Analysis Batch Number: 302301 End Date: 12/24/2019 06:28

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
PEM 180-302301/1		12/23/2019 10:39	1		MR-1 0.53(mm)
PEM 180-302301/1		12/23/2019 10:39	1		MR-2 0.53(mm)
CCV 180-302301/2		12/23/2019 10:55	1		MR-1 0.53(mm)
CCV 180-302301/2		12/23/2019 10:55	1		MR-2 0.53(mm)
CCV 180-302301/3		12/23/2019 11:10	1		MR-1 0.53(mm)
CCV 180-302301/3		12/23/2019 11:10	1		MR-2 0.53(mm)
CCV 180-302301/4		12/23/2019 11:25	1		MR-1 0.53(mm)
CCV 180-302301/4		12/23/2019 11:25	1		MR-2 0.53(mm)
CCV 180-302301/5		12/23/2019 11:41	1		MR-1 0.53(mm)
CCV 180-302301/5		12/23/2019 11:41	1		MR-2 0.53(mm)
CCVIS 180-302301/6		12/23/2019 11:56	1		MR-1 0.53(mm)
CCVIS 180-302301/6		12/23/2019 11:56	1		MR-2 0.53(mm)
ZZZZZ		12/23/2019 12:12	1		MR-1 0.53(mm)
ZZZZZ		12/23/2019 12:12	1		MR-2 0.53(mm)
ZZZZZ		12/23/2019 12:27	1		MR-1 0.53(mm)
ZZZZZ		12/23/2019 12:27	1		MR-2 0.53(mm)
ZZZZZ		12/23/2019 12:43	1		MR-1 0.53(mm)
ZZZZZ		12/23/2019 12:43	1		MR-2 0.53(mm)
ZZZZZ		12/23/2019 12:58	1		MR-1 0.53(mm)
ZZZZZ		12/23/2019 12:58	1		MR-2 0.53(mm)
ZZZZZ		12/23/2019 13:14	1		MR-1 0.53(mm)
ZZZZZ		12/23/2019 13:14	1		MR-2 0.53(mm)
ZZZZZ		12/23/2019 13:29	1		MR-1 0.53(mm)
ZZZZZ		12/23/2019 13:29	1		MR-2 0.53(mm)
ZZZZZ		12/23/2019 13:44	1		MR-1 0.53(mm)
ZZZZZ		12/23/2019 13:44	1		MR-2 0.53(mm)
ZZZZZ		12/23/2019 14:00	1		MR-1 0.53(mm)
ZZZZZ		12/23/2019 14:00	1		MR-2 0.53(mm)
ZZZZZ		12/23/2019 14:15	1		MR-1 0.53(mm)
ZZZZZ		12/23/2019 14:15	1		MR-2 0.53(mm)
ZZZZZ		12/23/2019 14:31	1		MR-1 0.53(mm)
ZZZZZ		12/23/2019 14:31	1		MR-2 0.53(mm)
ZZZZZ		12/23/2019 14:46	1		MR-1 0.53(mm)
ZZZZZ		12/23/2019 14:46	1		MR-2 0.53(mm)
ZZZZZ		12/23/2019 15:02	1		MR-1 0.53(mm)
ZZZZZ		12/23/2019 15:02	1		MR-2 0.53(mm)
ZZZZZ		12/23/2019 15:17	1		MR-1 0.53(mm)
ZZZZZ		12/23/2019 15:17	1		MR-2 0.53(mm)
ZZZZZ		12/23/2019 15:32	1		MR-1 0.53(mm)
ZZZZZ		12/23/2019 15:32	1		MR-2 0.53(mm)
ZZZZZ		12/23/2019 15:48	1		MR-1 0.53(mm)
ZZZZZ		12/23/2019 15:48	1		MR-2 0.53(mm)
ZZZZZ		12/23/2019 16:03	1		MR-1 0.53(mm)
ZZZZZ		12/23/2019 16:03	1		MR-2 0.53(mm)
ZZZZZ		12/23/2019 16:19	1		MR-1 0.53(mm)

EPA 8081B

PESTICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Instrument ID: CHGC15 Start Date: 12/23/2019 10:39

Analysis Batch Number: 302301 End Date: 12/24/2019 06:28

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		12/23/2019 16:19	1		MR-2 0.53(mm)
ZZZZZ		12/23/2019 16:34	1		MR-1 0.53(mm)
ZZZZZ		12/23/2019 16:34	1		MR-2 0.53(mm)
ZZZZZ		12/23/2019 16:50	1		MR-1 0.53(mm)
ZZZZZ		12/23/2019 16:50	1		MR-2 0.53(mm)
ZZZZZ		12/23/2019 17:05	1		MR-1 0.53(mm)
ZZZZZ		12/23/2019 17:05	1		MR-2 0.53(mm)
PEM 180-302301/27		12/23/2019 17:21	1	Q1223190000027.D	MR-1 0.53(mm)
PEM 180-302301/27		12/23/2019 17:21	1	Q1223190000027.D	MR-2 0.53(mm)
CCV 180-302301/28		12/23/2019 17:36	1	Q1223190000028.D	MR-1 0.53(mm)
CCV 180-302301/28		12/23/2019 17:36	1	Q1223190000028.D	MR-2 0.53(mm)
CCV 180-302301/29		12/23/2019 17:51	1	Q1223190000029.D	MR-1 0.53(mm)
CCV 180-302301/29		12/23/2019 17:51	1	Q1223190000029.D	MR-2 0.53(mm)
CCV 180-302301/30		12/23/2019 18:07	1	Q1223190000030.D	MR-1 0.53(mm)
CCV 180-302301/30		12/23/2019 18:07	1	Q1223190000030.D	MR-2 0.53(mm)
CCV 180-302301/31		12/23/2019 18:22	1	Q1223190000031.D	MR-1 0.53(mm)
CCV 180-302301/31		12/23/2019 18:22	1	Q1223190000031.D	MR-2 0.53(mm)
CCVIS 180-302301/32		12/23/2019 18:38	1	Q1223190000032.D	MR-1 0.53(mm)
CCVIS 180-302301/32		12/23/2019 18:38	1	Q1223190000032.D	MR-2 0.53(mm)
ZZZZZ		12/23/2019 18:53	1		MR-1 0.53(mm)
ZZZZZ		12/23/2019 18:53	1		MR-2 0.53(mm)
ZZZZZ		12/23/2019 19:09	1		MR-1 0.53(mm)
ZZZZZ		12/23/2019 19:09	1		MR-2 0.53(mm)
ZZZZZ		12/23/2019 19:24	1		MR-1 0.53(mm)
ZZZZZ		12/23/2019 19:24	1		MR-2 0.53(mm)
ZZZZZ		12/23/2019 19:40	1		MR-1 0.53(mm)
ZZZZZ		12/23/2019 19:40	1		MR-2 0.53(mm)
ZZZZZ		12/23/2019 19:55	1		MR-1 0.53(mm)
ZZZZZ		12/23/2019 19:55	1		MR-2 0.53(mm)
ZZZZZ		12/23/2019 20:11	1		MR-1 0.53(mm)
ZZZZZ		12/23/2019 20:11	1		MR-2 0.53(mm)
ZZZZZ		12/23/2019 20:26	1		MR-1 0.53(mm)
ZZZZZ		12/23/2019 20:26	1		MR-2 0.53(mm)
ZZZZZ		12/23/2019 21:59	1		MR-1 0.53(mm)
ZZZZZ		12/23/2019 21:59	1		MR-2 0.53(mm)
ZZZZZ		12/23/2019 22:14	1		MR-1 0.53(mm)
ZZZZZ		12/23/2019 22:14	1		MR-2 0.53(mm)
ZZZZZ		12/23/2019 22:30	1		MR-1 0.53(mm)
ZZZZZ		12/23/2019 22:30	1		MR-2 0.53(mm)
ZZZZZ		12/23/2019 22:45	1		MR-1 0.53(mm)

EPA 8081B

PESTICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Instrument ID: CHGC15 Start Date: 12/23/2019 10:39

Analysis Batch Number: 302301 End Date: 12/24/2019 06:28

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		12/23/2019 22:45	1		MR-2 0.53(mm)
ZZZZZ		12/23/2019 23:00	1		MR-1 0.53(mm)
ZZZZZ		12/23/2019 23:00	1		MR-2 0.53(mm)
ZZZZZ		12/23/2019 23:16	1		MR-1 0.53(mm)
ZZZZZ		12/23/2019 23:16	1		MR-2 0.53(mm)
MB 180-302205/1-A		12/23/2019 23:47	1	Q1223190000052.D	MR-1 0.53(mm)
MB 180-302205/1-A		12/23/2019 23:47	1	Q1223190000052.D	MR-2 0.53(mm)
PEM 180-302301/53		12/24/2019 00:02	1	Q1223190000053.D	MR-1 0.53(mm)
PEM 180-302301/53		12/24/2019 00:02	1	Q1223190000053.D	MR-2 0.53(mm)
CCV 180-302301/54		12/24/2019 00:18	1	Q1223190000054.D	MR-1 0.53(mm)
CCV 180-302301/54		12/24/2019 00:18	1	Q1223190000054.D	MR-2 0.53(mm)
CCV 180-302301/55		12/24/2019 00:33	1	Q1223190000055.D	MR-1 0.53(mm)
CCV 180-302301/55		12/24/2019 00:33	1	Q1223190000055.D	MR-2 0.53(mm)
CCVIS 180-302301/56		12/24/2019 00:48	1	Q1223190000056.D	MR-1 0.53(mm)
CCVIS 180-302301/56		12/24/2019 00:48	1	Q1223190000056.D	MR-2 0.53(mm)
LCS 180-302205/2-A		12/24/2019 01:04	1	Q1223190000057.D	MR-1 0.53(mm)
LCS 180-302205/2-A		12/24/2019 01:04	1	Q1223190000057.D	MR-2 0.53(mm)
ZZZZZ		12/24/2019 01:19	1		MR-1 0.53(mm)
ZZZZZ		12/24/2019 01:19	1		MR-2 0.53(mm)
LB 180-301984/1-E		12/24/2019 01:35	1	Q1223190000059.D	MR-1 0.53(mm)
LB 180-301984/1-E		12/24/2019 01:35	1	Q1223190000059.D	MR-2 0.53(mm)
ZZZZZ		12/24/2019 01:50	1		MR-1 0.53(mm)
ZZZZZ		12/24/2019 01:50	1		MR-2 0.53(mm)
ZZZZZ		12/24/2019 02:06	1		MR-1 0.53(mm)
ZZZZZ		12/24/2019 02:06	1		MR-2 0.53(mm)
ZZZZZ		12/24/2019 02:21	1		MR-1 0.53(mm)
ZZZZZ		12/24/2019 02:21	1		MR-2 0.53(mm)
ZZZZZ		12/24/2019 02:37	1		MR-1 0.53(mm)
ZZZZZ		12/24/2019 02:37	1		MR-2 0.53(mm)
ZZZZZ		12/24/2019 02:52	1		MR-1 0.53(mm)
ZZZZZ		12/24/2019 02:52	1		MR-2 0.53(mm)
180-100205-1		12/24/2019 03:07	1	Q1223190000065.D	MR-1 0.53(mm)
180-100205-1		12/24/2019 03:07	1	Q1223190000065.D	MR-2 0.53(mm)
180-100205-3		12/24/2019 03:23	1	Q1223190000066.D	MR-1 0.53(mm)
180-100205-3		12/24/2019 03:23	1	Q1223190000066.D	MR-2 0.53(mm)
180-100205-5		12/24/2019 03:38	1	Q1223190000067.D	MR-1 0.53(mm)

EPA 8081B

PESTICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Instrument ID: CHGC15 Start Date: 12/23/2019 10:39

Analysis Batch Number: 302301 End Date: 12/24/2019 06:28

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
180-100205-5		12/24/2019 03:38	1	Q1223190000067.D	MR-2 0.53(mm)
ZZZZZ		12/24/2019 03:54	1		MR-1 0.53(mm)
ZZZZZ		12/24/2019 03:54	1		MR-2 0.53(mm)
ZZZZZ		12/24/2019 04:09	1		MR-1 0.53(mm)
ZZZZZ		12/24/2019 04:09	1		MR-2 0.53(mm)
ZZZZZ		12/24/2019 04:25	1		MR-1 0.53(mm)
ZZZZZ		12/24/2019 04:25	1		MR-2 0.53(mm)
ZZZZZ		12/24/2019 04:40	1		MR-1 0.53(mm)
ZZZZZ		12/24/2019 04:40	1		MR-2 0.53(mm)
ZZZZZ		12/24/2019 04:55	1		MR-1 0.53(mm)
ZZZZZ		12/24/2019 04:55	1		MR-2 0.53(mm)
ZZZZZ		12/24/2019 05:11	1		MR-1 0.53(mm)
ZZZZZ		12/24/2019 05:11	1		MR-2 0.53(mm)
ZZZZZ		12/24/2019 05:26	1		MR-1 0.53(mm)
ZZZZZ		12/24/2019 05:26	1		MR-2 0.53(mm)
ZZZZZ		12/24/2019 05:42	1		MR-1 0.53(mm)
ZZZZZ		12/24/2019 05:42	1		MR-2 0.53(mm)
ZZZZZ		12/24/2019 05:57	1		MR-1 0.53(mm)
ZZZZZ		12/24/2019 05:57	1		MR-2 0.53(mm)
ZZZZZ		12/24/2019 06:13	1		MR-1 0.53(mm)
ZZZZZ		12/24/2019 06:13	1		MR-2 0.53(mm)
CCVL 180-302301/78		12/24/2019 06:28	1		MR-1 0.53(mm)
CCVL 180-302301/78		12/24/2019 06:28	1		MR-2 0.53(mm)

EPA 8081B

PESTICIDES BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 301984 Batch Start Date: 12/19/19 16:30 Batch Analyst: Stundon, Jeremy A

Batch Method: 1311 Batch End Date: 12/20/19 09:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	FiltCompDate	FiltCompTime	LeachatepH		
LB 180-301984/1		1311, 3510C, EPA 8081B		2000 mL	12/20/19	1200	4.93 SU		

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

PESTICIDES BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 301984 Batch Start Date: 12/19/19 16:30 Batch Analyst: Stundon, Jeremy A

Batch Method: 1311 Batch End Date: 12/20/19 09:30

Batch Notes	
Balance ID	AND-14577823
Batch Comment	pH Buffer 13: 3418512 and pH Buffer 7 (second source): 3494553
pH Buffer 1 ID	3519611
pH Buffer 2 ID	3468003
pH Buffer 3 ID	2923701
pH Buffer 4 ID	3505862
First End time	1200
Filter ID	3468050
Hot Plate ID	TCLP-2
pH Meter Calibration Slope	99.4/100.5
pH Meter ID	ACCUMET-XL-150
Probe ID	XT3-11598
Room Temperature Thermometer ID	FISHER-160719405 CF 0.0
Analyst ID - Spike Analyst	EPS
Analyst ID - Spike Witness Analyst	JAS
First Start time	1000
TCLP Fluid 1 ID	3473617
TCLP Fluid 1 pH	4.93
TCLP Fluid 2 ID	3509299
TCLP Fluid 2 pH	2.88
Maximum Temperature	23 Degrees C
Minimum Temperature	21 Degrees C
Thermometer ID	TCLP-2 CF 0.0
Tumbler Rotations per Minute	Tumbler 1: 31; Tumbler 4:30
Uncorrected Maximum Temperature	23 Degrees C
Uncorrected Minimum Temperature	21 Degrees C
Uncorrected Water Bath Temperature	50.0 Celsius
Water Bath ID	TCLP-2
Water Bath Temperature	50.0 Degrees C
Water Bath Thermometer ID	TCLP-2 CF 0.0

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

PESTICIDES BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 301984 Batch Start Date: 12/19/19 16:30 Batch Analyst: Stundon, Jeremy A

Batch Method: 1311 Batch End Date: 12/20/19 09:30

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

PESTICIDES BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 301984 Batch Start Date: 12/19/19 16:30 Batch Analyst: Stundon, Jeremy A

Batch Method: EPA 1311 Batch End Date: 12/20/19 09:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	EFD_SampleWeight	EFD_VolumeWaterAdd	EFD_InitialpH	EFD_AddHClpH>5
180-100205-A-1	11187072-N.TREATMENT AREA #2	EPA 1311, 3510C, EPA 8081B	P	100.00 g	2000 mL	5.00 g	96.5 mL	9.29 SU	3.50 mL
180-100205-A-3	11187072-N.TREATMENT AREA #3	EPA 1311, 3510C, EPA 8081B	P	100.00 g	2000 mL	5.00 g	96.5 mL	9.45 SU	3.50 mL
180-100205-A-5	11187072-N.TREATMENT AREA #4	EPA 1311, 3510C, EPA 8081B	P	100.00 g	2000 mL	5.00 g	96.5 mL	8.47 SU	3.50 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	EFD_HeatHeld	EFD_SecondpHCheck	FiltCompDate	FiltCompTime	LeachatepH	
180-100205-A-1	11187072-N.TREATMENT AREA #2	EPA 1311, 3510C, EPA 8081B	P	50.0 Deg. C	2.10 SU	12/20/19	1200	6.21 SU	
180-100205-A-3	11187072-N.TREATMENT AREA #3	EPA 1311, 3510C, EPA 8081B	P	50.0 Deg. C	1.80 SU	12/20/19	1200	5.03 SU	
180-100205-A-5	11187072-N.TREATMENT AREA #4	EPA 1311, 3510C, EPA 8081B	P	50.0 Deg. C	1.84 SU	12/20/19	1200	5.02 SU	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

PESTICIDES BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 301984 Batch Start Date: 12/19/19 16:30 Batch Analyst: Stundon, Jeremy A

Batch Method: EPA 1311 Batch End Date: 12/20/19 09:30

Batch Notes	
Balance ID	AND-14577823
Batch Comment	pH Buffer 13: 3418512 and pH Buffer 7 (second source): 3494553
pH Buffer 1 ID	3519611
pH Buffer 2 ID	3468003
pH Buffer 3 ID	2923701
pH Buffer 4 ID	3505862
First End time	1200
Filter ID	3468050
Hot Plate ID	TCLP-2
pH Meter Calibration Slope	99.4/100.5
pH Meter ID	ACCUMET-XL-150
Probe ID	XT3-11598
Room Temperature Thermometer ID	FISHER-160719405 CF 0.0
Analyst ID - Spike Analyst	EPS
Analyst ID - Spike Witness Analyst	JAS
First Start time	1000
TCLP Fluid 1 ID	3473617
TCLP Fluid 1 pH	4.93
TCLP Fluid 2 ID	3509299
TCLP Fluid 2 pH	2.88
Maximum Temperature	23 Degrees C
Minimum Temperature	21 Degrees C
Thermometer ID	TCLP-2 CF 0.0
Tumbler Rotations per Minute	Tumbler 1: 31; Tumbler 4:30
Uncorrected Maximum Temperature	23 Degrees C
Uncorrected Minimum Temperature	21 Degrees C
Uncorrected Water Bath Temperature	50.0 Celsius
Water Bath ID	TCLP-2
Water Bath Temperature	50.0 Degrees C
Water Bath Thermometer ID	TCLP-2 CF 0.0

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

PESTICIDES BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 301984 Batch Start Date: 12/19/19 16:30 Batch Analyst: Stundon, Jeremy A

Batch Method: EPA 1311 Batch End Date: 12/20/19 09:30

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

PESTICIDES BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 302205 Batch Start Date: 12/21/19 05:15 Batch Analyst: Yushinski, Charles

Batch Method: 3510C Batch End Date: 12/21/19 11:10

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ReceivedpH	op-p/pcb sur 00024	OPPESTMATRIX 00037	AnalysisComment
MB 180-302205/1		3510C, EPA 8081B		100 mL	40.0 mL	6 SU	1 mL		Funnel 1
LCS 180-302205/2		3510C, EPA 8081B		100 mL	40.0 mL	6 SU	1 mL	1 mL	Funnel 2
LB 180-301984/1-A		3510C, EPA 8081B		100 mL	40.0 mL	5 SU	1 mL		Funnel 4
180-100205-A-1-B	11187072-N.TREATMENT AREA #2	3510C, EPA 8081B	P	100 mL	40.0 mL	7 SU	1 mL		Funnel 10
180-100205-A-3-B	11187072-N.TREATMENT AREA #3	3510C, EPA 8081B	P	100 mL	40.0 mL	5 SU	1 mL		Funnel 11
180-100205-A-5-B	11187072-N.TREATMENT AREA #4	3510C, EPA 8081B	P	100 mL	40.0 mL	5 SU	1 mL		Funnel 12

Batch Notes	
Analyst ID - Concentration	CBY
Concentration 1 Corrected Temperature	65 Degrees C
Concentration 2 Corrected Temperature	20 Degrees C
Equipment ID - Concentration 1	water bath 1
Equipment ID - Concentration 2	1
Exchange Solvent ID	Hexane 3482469
Analyst ID - Extraction	CBY
Filter ID	16939085
Na2SO4 ID	3327433
pH Indicator ID	Ph paper HC987808
Prep Solvent ID	Methylene chloride 3514307
Prep Solvent Volume Used	180 mL
Analyst ID - Spike Analyst	CBY
Sufficient Volume for Batch QC	yes
Thermometer ID - Concentration 1	water bath 1
Thermometer ID - Concentration 2	1
Concentration 1 Uncorrected Temperature	65 CF 0.0 Degrees C
Concentration 2 Uncorrected Temperature	21 CF 1.0 Degrees C

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

PESTICIDES BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 302205 Batch Start Date: 12/21/19 05:15 Batch Analyst: Yushinski, Charles

Batch Method: 3510C Batch End Date: 12/21/19 11:10

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Method 8082A

Polychlorinated Biphenyls (PCBs) (GC) by Method 8082A

FORM II
PCBS SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Matrix: Solid (TCLP) Level: Low

GC Column (1): RTX-CLP1 ID: 0.53(mm) GC Column (2): RTX-CLP2 ID: 0.53(mm)

Client Sample ID	Lab Sample ID	TCX1 #	TCX2 #	DCB1 #	DCB2 #
11187072-N.TREATMENT AREA #2	180-100205-1	94	90	100	93
11187072-N.TREATMENT AREA #3	180-100205-3	95	89	100	94
11187072-N.TREATMENT AREA #4	180-100205-5	94	89	98	92
	MB 180-302202/1-A	98	93	96	101
	LB 180-301984/1-D	97	94	100	96
	LCS 180-302202/2-A	104	99	109	108

	QC LIMITS
TCX = Tetrachloro-m-xylene (Surr)	45-133
DCB = DCB Decachlorobiphenyl (Surr)	59-144

Column to be used to flag recovery values

FORM II EPA 8082A

FORM III
PCBS LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 12309056.D

Lab ID: LCS 180-302202/2-A Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
PCB-1016	0.0400	0.0446	112	55-124	
PCB-1260	0.0400	0.0462	115	56-122	

Column to be used to flag recovery and RPD values

FORM III EPA 8082A

FORM IV
PCBS METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: MB 180-302202/1-A

Matrix: Water Date Extracted: 12/21/2019 02:15

Lab File ID:(1) 12309048.D Lab File ID:(2) 12309048.D

Date Analyzed:(1) 12/30/2019 23:37 Date Analyzed:(2) 12/30/2019 23:37

Instrument ID:(1) CHGC16 Instrument ID:(2) CHGC16

GC Column:(1) RTX-CLP1 ID: 0.53(mm) GC Column:(2) RTX-CLP2 ID: 0.53(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
11187072-N.TREATMENT AREA #2	180-100205-1	12/31/2019 01:11	12/31/2019 01:11
11187072-N.TREATMENT AREA #3	180-100205-3	12/31/2019 01:29	12/31/2019 01:29
11187072-N.TREATMENT AREA #4	180-100205-5	12/31/2019 01:48	12/31/2019 01:48
	LCS 180-302202/2-A	12/31/2019 02:07	12/31/2019 02:07
	LB 180-301984/1-D	12/31/2019 02:26	12/31/2019 02:26

FORM VIII
PCBS INTERNAL STANDARD HEIGHT AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Sample No.: ICIS 180-302855/8 Date Analyzed: 12/30/2019 11:27

Instrument ID: CHGC16 GC Column: RTX-CLP1 ID: 0.53(mm)

Lab File ID (Standard): 12309009.D Heated Purge: (Y/N) N

Calibration ID: 42395

		BNB		PCB205			
		HEIGHT #	RT #	HEIGHT #	RT #	HEIGHT #	RT #
INITIAL CALIBRATION MID-POINT		997865861	2.61	873361020	10.71		
UPPER LIMIT		1496798792	2.64	1310041530	10.74		
LOWER LIMIT		498932931	2.58	436680510	10.68		
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 180-302855/12		1013641264	2.61	876112887	10.71		
ICV 180-302855/13		1010397974	2.61	900579476	10.71		
ICV 180-302855/14		1139642145	2.61	1106562688	10.71		
ICV 180-302855/15		991515268	2.61	798826202	10.71		
ICV 180-302855/16		1287883379	2.61	1258367042	10.71		
CCVIS 180-302855/37		1006260066	2.61	720783452	10.71		

BNB = 1-Bromo-2-nitrobenzene
PCB205 = PCB-205 (IS)

Area Limit = 50%-150% of internal standard area
RT Limit = ± 0.03 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8082A

FORM VIII
PCBS INTERNAL STANDARD HEIGHT AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Sample No.: ICIS 180-302855/8 Date Analyzed: 12/30/2019 11:27

Instrument ID: CHGC16 GC Column: RTX-CLP2 ID: 0.53(mm)

Lab File ID (Standard): 12309009.D Heated Purge: (Y/N) N

Calibration ID: 42396

		BNB		PCB205			
		HEIGHT #	RT #	HEIGHT #	RT #	HEIGHT #	RT #
INITIAL CALIBRATION MID-POINT		1076581080	2.81	559006763	12.08		
UPPER LIMIT		1614871620	2.84	838510145	12.11		
LOWER LIMIT		538290540	2.78	279503382	12.05		
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 180-302855/12		1089057429	2.81	578882360	12.08		
ICV 180-302855/13		1078787714	2.81	586607155	12.08		
ICV 180-302855/14		1194697654	2.81	737927517	12.08		
ICV 180-302855/15		1090810050	2.81	518790426	12.08		
ICV 180-302855/16		1386488107	2.81	803868263	12.08		
CCVIS 180-302855/37		1100907053	2.81	453850575	12.08		

BNB = 1-Bromo-2-nitrobenzene
PCB205 = PCB-205 (IS)

Area Limit = 50%-150% of internal standard area
RT Limit = ± 0.03 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8082A

FORM VIII
PCBS INTERNAL STANDARD HEIGHT AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Sample No.: CCVIS 180-302855/37 Date Analyzed: 12/30/2019 20:30

Instrument ID: CHGC16 GC Column: RTX-CLP1 ID: 0.53(mm)

Lab File ID (Standard): 12309038.D Heated Purge: (Y/N) N

Calibration ID: 42395

		BNB		PCB205			
		HEIGHT #	RT #	HEIGHT #	RT #	HEIGHT #	RT #
12/24 HOUR STD		1006260066	2.61	720783452	10.71		
UPPER LIMIT		1509390099	2.64	1081175178	10.74		
LOWER LIMIT		503130033	2.58	360391726	10.68		
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 180-302202/1-A		1043431104	2.61	649636515	10.71		
180-100205-1	11187072-N.TREATMENT AREA #2	1067732972	2.61	691117135	10.71		
180-100205-3	11187072-N.TREATMENT AREA #3	1087459503	2.61	723463346	10.71		
180-100205-5	11187072-N.TREATMENT AREA #4	1099223891	2.61	706698819	10.71		
LCS 180-302202/2-A		1017706456	2.61	645124376	10.71		
LB 180-301984/1-D		1067182742	2.61	718786417	10.71		

BNB = 1-Bromo-2-nitrobenzene
PCB205 = PCB-205 (IS)

Area Limit = 50%-150% of internal standard area
RT Limit = ± 0.03 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8082A

FORM VIII
PCBS INTERNAL STANDARD HEIGHT AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Sample No.: CCVIS 180-302855/37 Date Analyzed: 12/30/2019 20:30

Instrument ID: CHGC16 GC Column: RTX-CLP2 ID: 0.53(mm)

Lab File ID (Standard): 12309038.D Heated Purge: (Y/N) N

Calibration ID: 42396

		BNB		PCB205			
		HEIGHT #	RT #	HEIGHT #	RT #	HEIGHT #	RT #
12/24 HOUR STD		1100907053	2.81	453850575	12.08		
UPPER LIMIT		1651360580	2.84	680775863	12.11		
LOWER LIMIT		550453527	2.78	226925288	12.05		
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 180-302202/1-A		1105272008	2.81	386714654	12.08		
180-100205-1	11187072-N.TREATMENT AREA #2	1113272152	2.81	417230954	12.08		
180-100205-3	11187072-N.TREATMENT AREA #3	1174970399	2.81	438008295	12.08		
180-100205-5	11187072-N.TREATMENT AREA #4	1167084196	2.81	430396772	12.08		
LCS 180-302202/2-A		1066890162	2.81	382173322	12.08		
LB 180-301984/1-D		1143126267	2.81	432883861	12.08		

BNB = 1-Bromo-2-nitrobenzene
PCB205 = PCB-205 (IS)

Area Limit = 50%-150% of internal standard area
RT Limit = ± 0.03 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII EPA 8082A

FORM X
IDENTIFICATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 180-302202/2-A

Instrument ID (1): CHGC16 Instrument ID (2): CHGC16

Date Analyzed (1): 12/31/2019 02:07 Date Analyzed (2): 12/31/2019 02:07

GC Column (1): RTX-CLP1 ID: 0.53(mm) GC Column (2): RTX-CLP2 ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
PCB-1016	1	1	3.52	3.50	3.54	0.0394	0.0446	6.8
		2	3.85	3.83	3.87	0.0487		
		3	4.07	4.04	4.08	0.0463		
		4	4.26	4.24	4.28	0.0435		
		5	4.57	4.55	4.59	0.0454		
	2	1	4.67	4.64	4.68	0.0419	0.0417	
		2	5.30	5.28	5.32	0.0438		
		3	5.50	5.48	5.52	0.0413		
		4	6.25	6.23	6.27	0.0422		
		5	6.46	6.44	6.48	0.0393		
PCB-1260	1	2	7.91	7.89	7.93	0.0470	0.0462	1.2
		3	8.61	8.59	8.63	0.0480		
		4	9.17	9.15	9.19	0.0457		
		5	9.65	9.63	9.67	0.0440		
	2	2	9.35	9.33	9.37	0.0485	0.0467	
		3	9.69	9.67	9.71	0.0452		
		4	10.70	10.68	10.72	0.0481		
		5	11.23	11.21	11.25	0.0450		

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-100205-1
SDG No.:
Client Sample ID: 11187072-N.TREATMENT AREA #2
Lab Sample ID: 180-100205-1
Matrix: Solid (TCLP)
Lab File ID: 12309053.D
Analysis Method: EPA 8082A
Date Collected: 12/18/2019 13:30
Extraction Method: 3510C
Date Extracted: 12/21/2019 02:15
Sample wt/vol: 1020(mL)
Date Analyzed: 12/31/2019 01:11
Con. Extract Vol.: 40.0(mL)
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: RTX-CLP1 ID: 0.53(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 302855
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
12674-11-2	PCB-1016	ND		0.00039	0.00019
11104-28-2	PCB-1221	ND		0.00039	0.00022
11141-16-5	PCB-1232	ND		0.00039	0.00020
53469-21-9	PCB-1242	ND		0.00039	0.00036
12672-29-6	PCB-1248	ND		0.00039	0.00012
11097-69-1	PCB-1254	ND		0.00039	0.00037
11096-82-5	PCB-1260	ND		0.00039	0.00015

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene (Surr)	94		45-133
2051-24-3	DCB Decachlorobiphenyl (Surr)	100		59-144

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309053.D
Lims ID: 180-100205-A-1-E
Client ID: 11187072-N.TREATMENT AREA #2
Sample Type: Client
Inject. Date: 31-Dec-2019 01:11:19 ALS Bottle#: 52 Worklist Smp#: 52
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-052
Operator ID: 402331 Instrument ID: CHGC16

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:38:21 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 31-Dec-2019 06:31:43

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene						
1	2.610	2.607	0.003	1067732972H	0.1000	
2	2.813	2.813	0.001	1113272152H	0.1000	
4 PCB-1221						U
1		2.772			ND	
1		3.346				
1		3.517				
2		3.187				
2		3.940				
2		4.171				
$ 2 Tetrachloro-m-xylene						
1	3.209	3.208	0.001	163422815H	0.0188	
2	3.647	3.646	0.001	126163231H	0.0180	
					RPD = 4.01	
3 PCB-1232						
1		3.347			ND	
1		3.516				
1		3.848				
1		4.494				
1		4.993				
2		3.939				
2		4.170				
2		4.663				
2		5.498				
2		6.994				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
5 PCB-1242						
1		3.517			ND	
1		3.848				
1		4.494				
1		4.993				
1		5.573				
2		4.170				
2		4.663				
2		6.245				
2		6.998				
2		7.432				
6 PCB-1016						
1		3.517			ND	
1		3.849				
1		4.064				
1		4.261				
1		4.569				
2		4.663				
2		5.300				
2		5.499				
2		6.246				
2		6.458				
7 PCB-1248						
1		3.847			ND	
1		4.713				
1		4.994				
1		5.574				
1		6.535				
2		4.664				
2		5.799				
2		6.245				
2		6.998				
2		7.434				
8 PCB-1254						
1		5.510			ND	
1		6.534				
1		7.018				
1		7.353				
1		7.908				
2		6.988				
2		7.343				
2		8.295				
2		8.735				
2		9.688				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
9 PCB-1260						
1		6.848			ND	
1		7.907				
1		8.611				
1		9.173				
1		9.648				
2		8.674				
2		9.352				
2		9.687				
2		10.696				
2		11.234				
* 16 PCB-205 (IS)						
1	10.709	10.709	0.000	691117135	H 0.1000	
2	12.076	12.076	0.000	417230954	H 0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)						
1	11.313	11.313	0.000	67842108	H 0.0199	
2	12.795	12.795	0.000	32716699	H 0.0185	
					RPD = 7.24	

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 31-Dec-2019 06:38:52 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309053.D				
Injection Date:	31-Dec-2019 01:11:19	Instrument ID:	CHGC16		
Lims ID:	180-100205-A-1-E	Lab Sample ID:	180-100205-1		
Client ID:	11187072-N.TREATMENT AREA #2				
Operator ID:	402331	ALS Bottle#:	52	Worklist Smp#:	52
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	PCB_CHGC16	Limit Group:	GCS 8082A ICAL with IS		

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

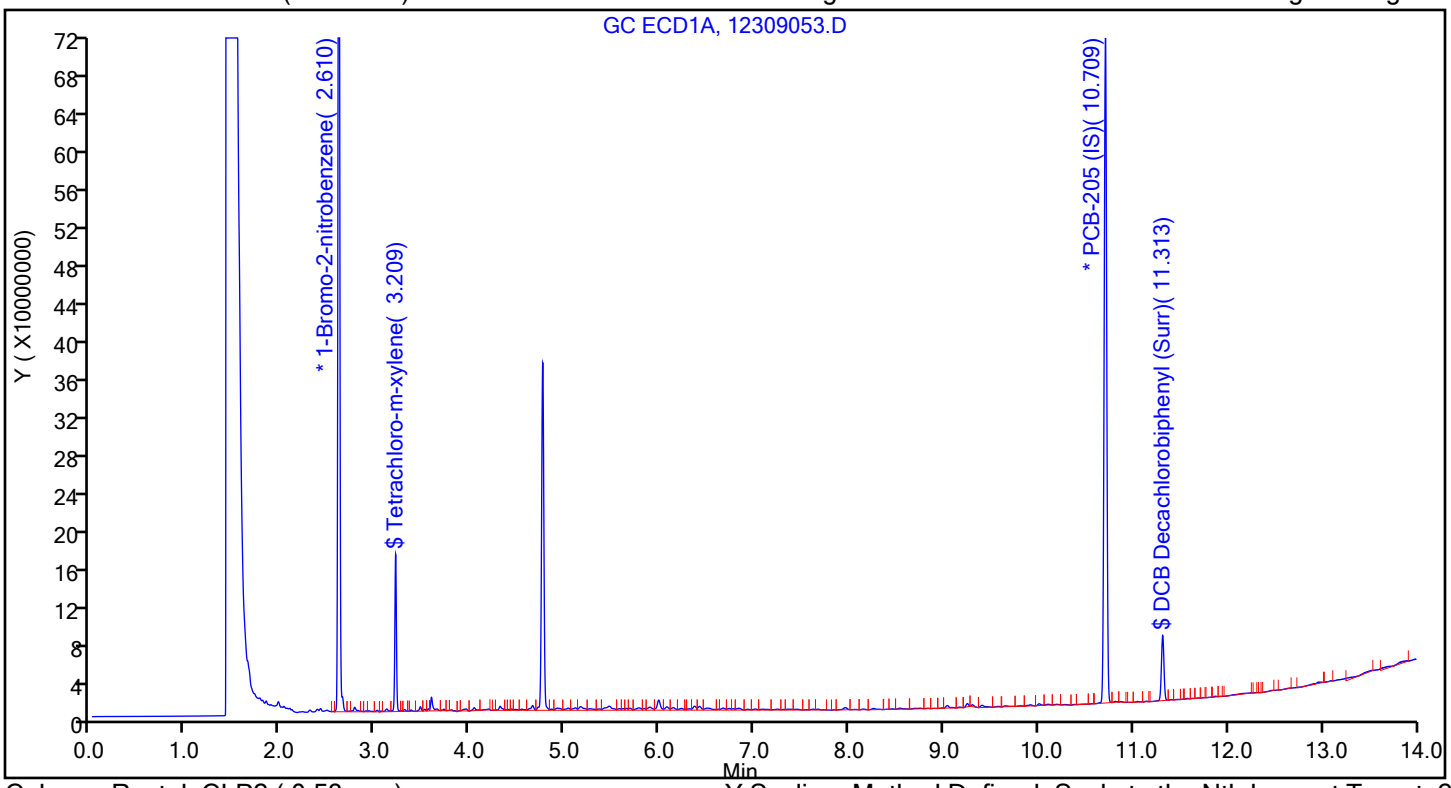

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

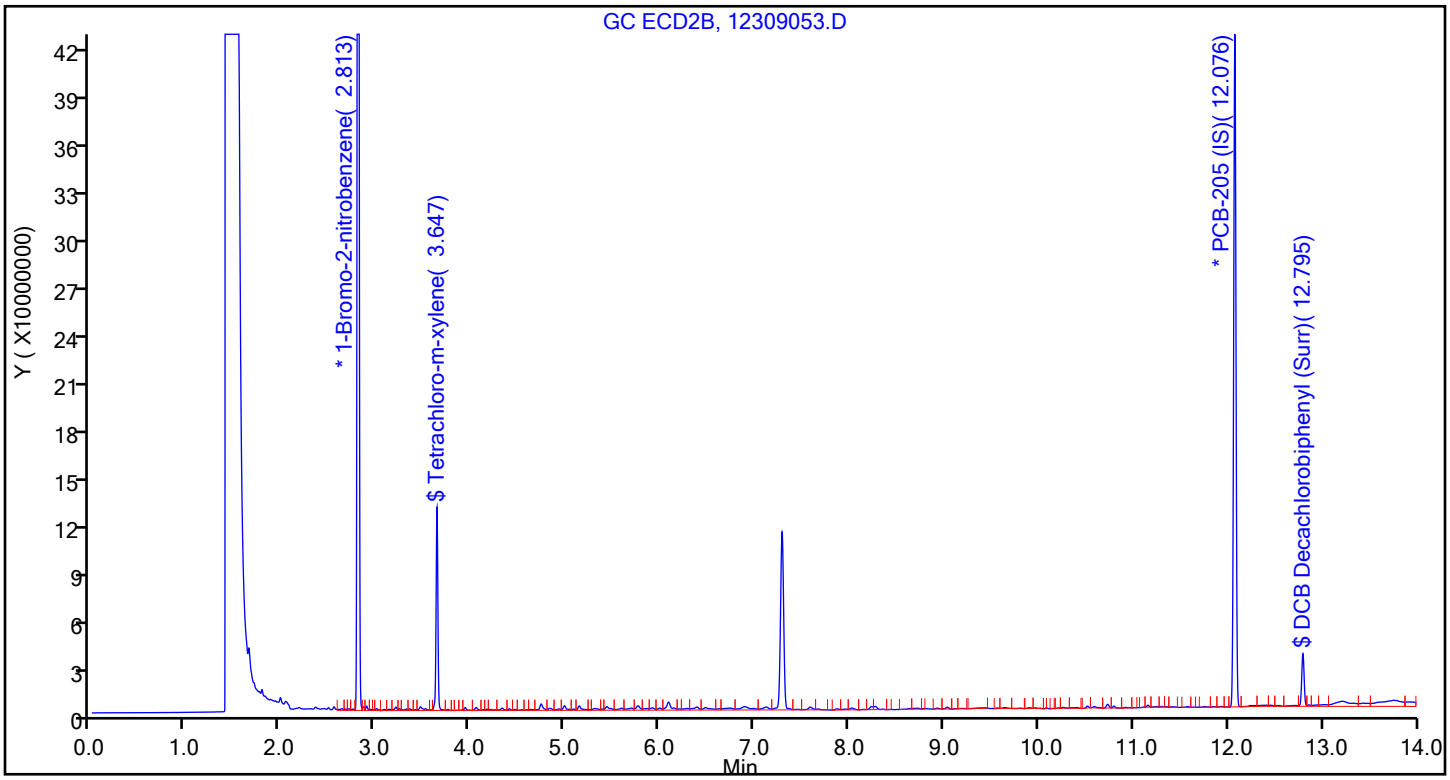

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309053.D				
Lims ID:	180-100205-A-1-E				
Client ID:	11187072-N.TREATMENT AREA #2				
Sample Type:	Client				
Inject. Date:	31-Dec-2019 01:11:19	ALS Bottle#:	52	Worklist Smp#:	52
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0030215-052				
Operator ID:	402331	Instrument ID:	CHGC16		

Method:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m		
Limit Group:	GCS 8082A ICAL with IS		
Last Update:	31-Dec-2019 06:38:21	Calib Date:	30-Dec-2019 12:24:02
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D		

Column 1 :	Restek CLP 1 (0.53 mm)	Det: GC ECD1A
Column 2 :	Restek CLP2 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0304	

First Level Reviewer: oravecj Date: 31-Dec-2019 06:31:43

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0188	93.80
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0199	99.70

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0180	90.11
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0185	92.74

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-100205-1
SDG No.:
Client Sample ID: 11187072-N.TREATMENT AREA #2
Lab Sample ID: 180-100205-1
Matrix: Solid (TCLP)
Lab File ID: 12309053.D
Analysis Method: EPA 8082A
Date Collected: 12/18/2019 13:30
Extraction Method: 3510C
Date Extracted: 12/21/2019 02:15
Sample wt/vol: 1020(mL)
Date Analyzed: 12/31/2019 01:11
Con. Extract Vol.: 40.0(mL)
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: RTX-CLP2 ID: 0.53(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 302855
Units: mg/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene (Surr)	90		45-133
2051-24-3	DCB Decachlorobiphenyl (Surr)	93		59-144

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309053.D
Lims ID: 180-100205-A-1-E
Client ID: 11187072-N.TREATMENT AREA #2
Sample Type: Client
Inject. Date: 31-Dec-2019 01:11:19 ALS Bottle#: 52 Worklist Smp#: 52
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-052
Operator ID: 402331 Instrument ID: CHGC16

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:38:21 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 31-Dec-2019 06:31:43

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene						
1	2.610	2.607	0.003	1067732972	H 0.1000	
2	2.813	2.813	0.001	1113272152	H 0.1000	
4 PCB-1221						U
1		2.772			ND	
1		3.346				
1		3.517				
2		3.187				
2		3.940				
2		4.171				
$ 2 Tetrachloro-m-xylene						
1	3.209	3.208	0.001	163422815	H 0.0188	
2	3.647	3.646	0.001	126163231	H 0.0180	
					RPD = 4.01	
3 PCB-1232						
1		3.347			ND	
1		3.516				
1		3.848				
1		4.494				
1		4.993				
2		3.939				
2		4.170				
2		4.663				
2		5.498				
2		6.994				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
5 PCB-1242						
1		3.517			ND	
1		3.848				
1		4.494				
1		4.993				
1		5.573				
2		4.170				
2		4.663				
2		6.245				
2		6.998				
2		7.432				
6 PCB-1016						
1		3.517			ND	
1		3.849				
1		4.064				
1		4.261				
1		4.569				
2		4.663				
2		5.300				
2		5.499				
2		6.246				
2		6.458				
7 PCB-1248						
1		3.847			ND	
1		4.713				
1		4.994				
1		5.574				
1		6.535				
2		4.664				
2		5.799				
2		6.245				
2		6.998				
2		7.434				
8 PCB-1254						
1		5.510			ND	
1		6.534				
1		7.018				
1		7.353				
1		7.908				
2		6.988				
2		7.343				
2		8.295				
2		8.735				
2		9.688				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
9 PCB-1260						
1		6.848			ND	
1		7.907				
1		8.611				
1		9.173				
1		9.648				
2		8.674				
2		9.352				
2		9.687				
2		10.696				
2		11.234				
* 16 PCB-205 (IS)						
1	10.709	10.709	0.000	691117135	H 0.1000	
2	12.076	12.076	0.000	417230954	H 0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)						
1	11.313	11.313	0.000	67842108	H 0.0199	
2	12.795	12.795	0.000	32716699	H 0.0185	
					RPD = 7.24	

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 31-Dec-2019 06:38:53 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309053.D				
Injection Date:	31-Dec-2019 01:11:19	Instrument ID:	CHGC16		
Lims ID:	180-100205-A-1-E	Lab Sample ID:	180-100205-1		
Client ID:	11187072-N.TREATMENT AREA #2				
Operator ID:	402331	ALS Bottle#:	52	Worklist Smp#:	52
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	PCB_CHGC16	Limit Group:	GCS 8082A ICAL with IS		

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

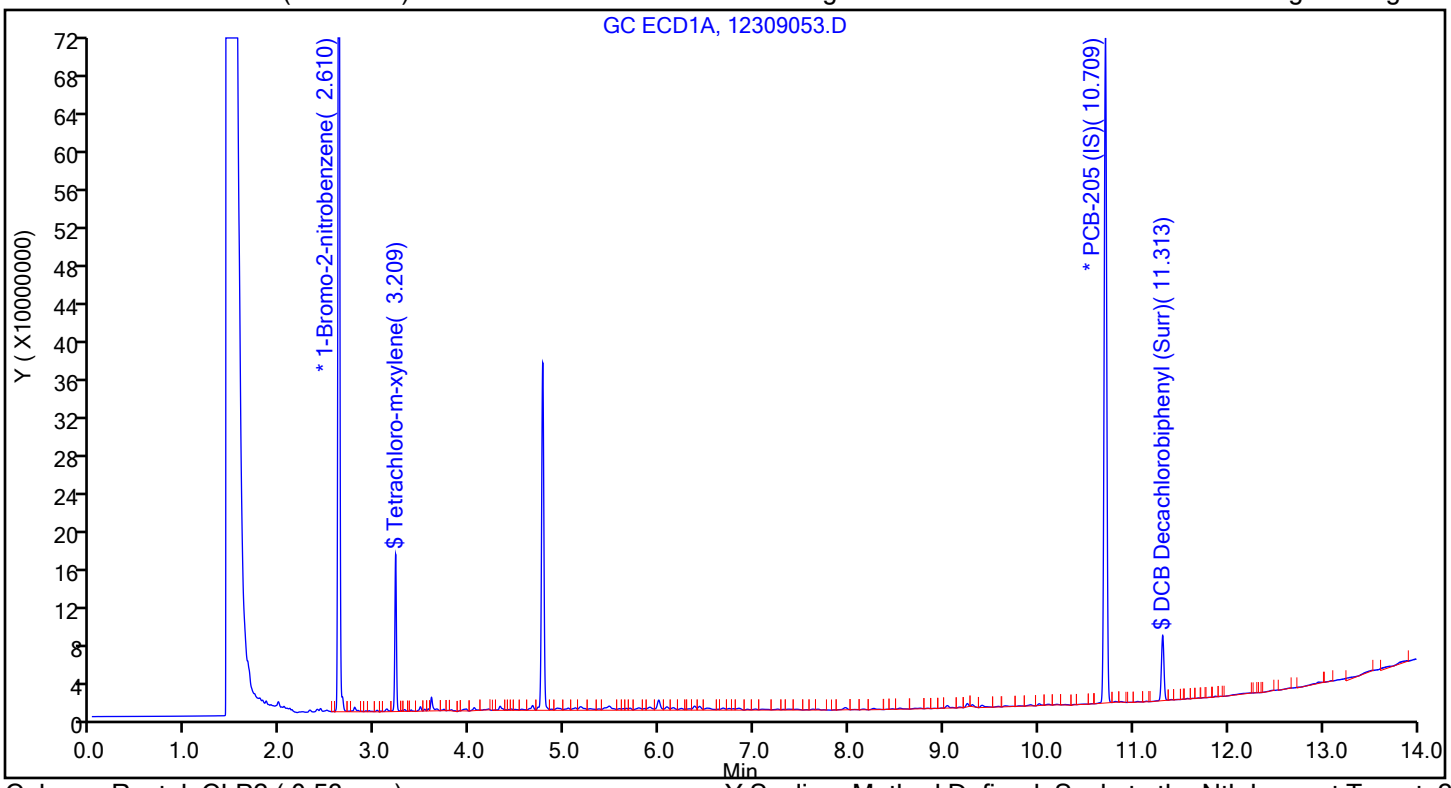

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

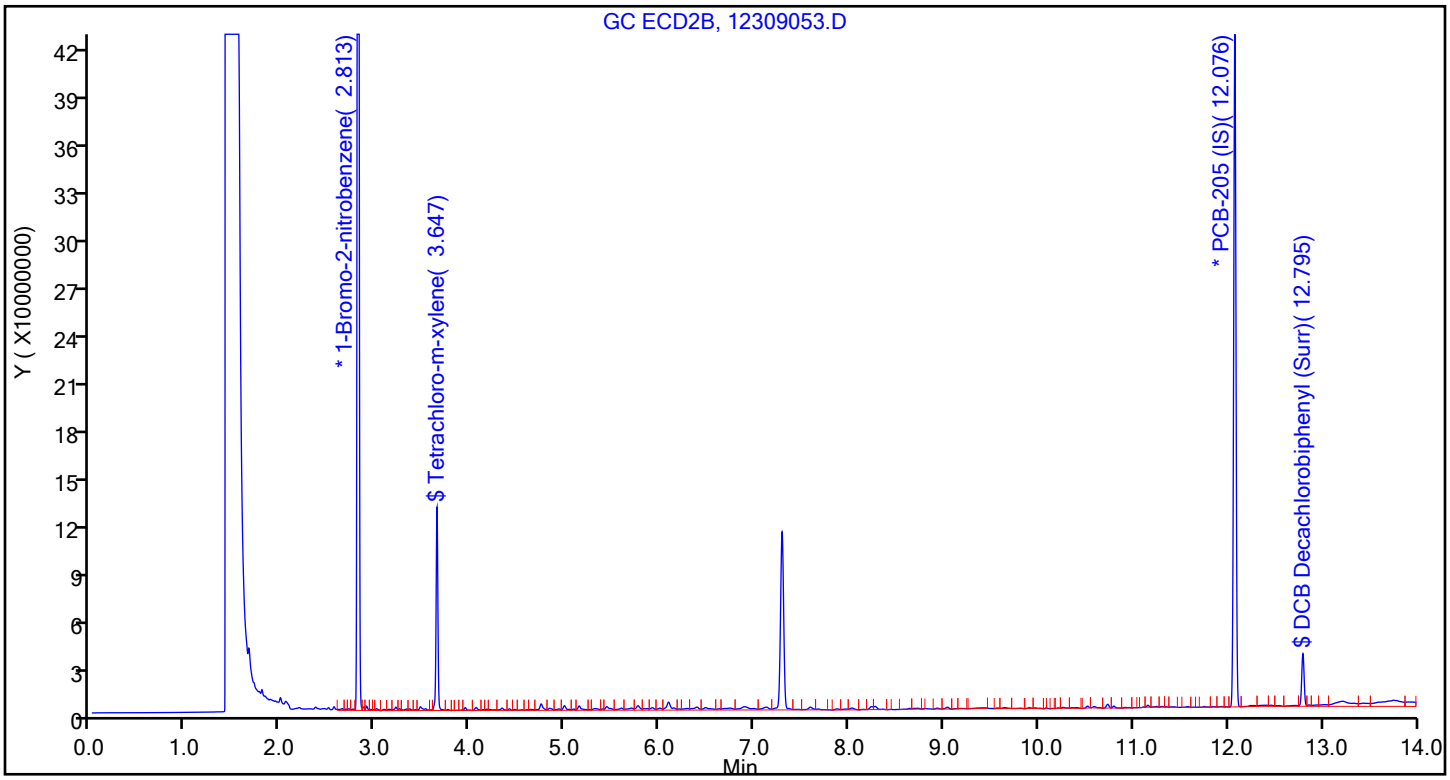

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309053.D				
Lims ID:	180-100205-A-1-E				
Client ID:	11187072-N.TREATMENT AREA #2				
Sample Type:	Client				
Inject. Date:	31-Dec-2019 01:11:19	ALS Bottle#:	52	Worklist Smp#:	52
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0030215-052				
Operator ID:	402331	Instrument ID:	CHGC16		

Method:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m		
Limit Group:	GCS 8082A ICAL with IS		
Last Update:	31-Dec-2019 06:38:21	Calib Date:	30-Dec-2019 12:24:02
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D		

Column 1 :	Restek CLP 1 (0.53 mm)	Det: GC ECD1A
Column 2 :	Restek CLP2 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0304	

First Level Reviewer: oravecj Date: 31-Dec-2019 06:31:43

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0188	93.80
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0199	99.70

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0180	90.11
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0185	92.74

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-100205-1
SDG No.:
Client Sample ID: 11187072-N.TREATMENT AREA #3
Lab Sample ID: 180-100205-3
Matrix: Solid (TCLP)
Lab File ID: 12309054.D
Analysis Method: EPA 8082A
Date Collected: 12/18/2019 14:00
Extraction Method: 3510C
Date Extracted: 12/21/2019 02:15
Sample wt/vol: 1010(mL)
Date Analyzed: 12/31/2019 01:29
Con. Extract Vol.: 40.0(mL)
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: RTX-CLP1 ID: 0.53(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 302855
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
12674-11-2	PCB-1016	ND		0.00040	0.00019
11104-28-2	PCB-1221	ND		0.00040	0.00023
11141-16-5	PCB-1232	ND		0.00040	0.00021
53469-21-9	PCB-1242	ND		0.00040	0.00036
12672-29-6	PCB-1248	ND		0.00040	0.00012
11097-69-1	PCB-1254	ND		0.00040	0.00038
11096-82-5	PCB-1260	ND		0.00040	0.00016

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene (Surr)	95		45-133
2051-24-3	DCB Decachlorobiphenyl (Surr)	100		59-144

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309054.D
Lims ID: 180-100205-A-3-E
Client ID: 11187072-N.TREATMENT AREA #3
Sample Type: Client
Inject. Date: 31-Dec-2019 01:29:58 ALS Bottle#: 53 Worklist Smp#: 53
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-053
Operator ID: 402331 Instrument ID: CHGC16

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:38:21 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 31-Dec-2019 06:31:53

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene						
1	2.610	2.607	0.003	1087459503	H 0.1000	
2	2.814	2.813	0.001	1174970399	H 0.1000	
4 PCB-1221						
1		2.772			ND	
1		3.346				
1		3.517				
2		3.187				
2		3.940				
2		4.171				
$ 2 Tetrachloro-m-xylene						
1	3.209	3.208	0.001	168848554	H 0.0190	
2	3.646	3.646	0.000	131600623	H 0.0178	
					RPD = 6.62	
3 PCB-1232						
1		3.347			ND	
1		3.516				
1		3.848				
1		4.494				
1		4.993				
2		3.939				
2		4.170				
2		4.663				
2		5.498				
2		6.994				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
5 PCB-1242						U
1		3.517			ND	
1		3.848				
1		4.494				
1		4.993				
1		5.573				
2		4.170				
2		4.663				
2		6.245				
2		6.998				
2		7.432				
6 PCB-1016						
1		3.517			ND	
1		3.849				
1		4.064				
1		4.261				
1		4.569				
2		4.663				
2		5.300				
2		5.499				
2		6.246				
2		6.458				
7 PCB-1248						U
1		3.847			ND	
1		4.713				
1		4.994				
1		5.574				
1		6.535				
2		4.664				
2		5.799				
2		6.245				
2		6.998				
2		7.434				
8 PCB-1254						
1		5.510			ND	
1		6.534				
1		7.018				
1		7.353				
1		7.908				
2		6.988				
2		7.343				
2		8.295				
2		8.735				
2		9.688				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
9 PCB-1260						
1		6.848			ND	
1		7.907				
1		8.611				
1		9.173				
1		9.648				
2		8.674				
2		9.352				
2		9.687				
2		10.696				
2		11.234				
* 16 PCB-205 (IS)						
1	10.709	10.709	-0.001	723463346	H	0.1000
2	12.075	12.076	-0.001	438008295	H	0.1000
$ 12 DCB Decachlorobiphenyl (Surr)						
1	11.314	11.313	0.001	71088755	H	0.0200
2	12.794	12.795	-0.001	34863653	H	0.0188
					RPD =	5.85

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 31-Dec-2019 06:38:49 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309054.D				
Injection Date:	31-Dec-2019 01:29:58	Instrument ID:	CHGC16		
Lims ID:	180-100205-A-3-E	Lab Sample ID:	180-100205-3		
Client ID:	11187072-N.TREATMENT AREA #3				
Operator ID:	402331	ALS Bottle#:	53	Worklist Smp#:	53
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	PCB_CHGC16	Limit Group:	GCS 8082A ICAL with IS		

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

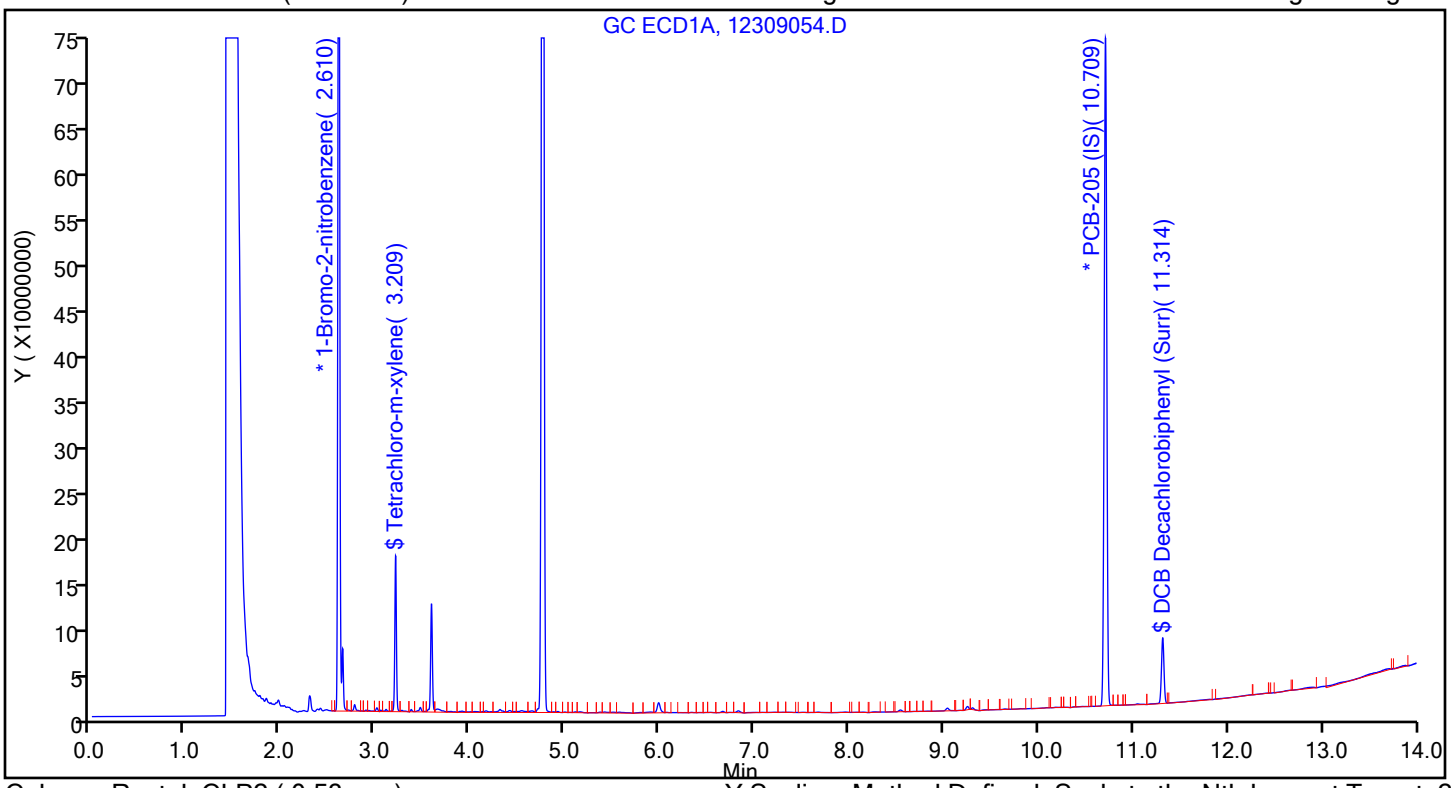

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

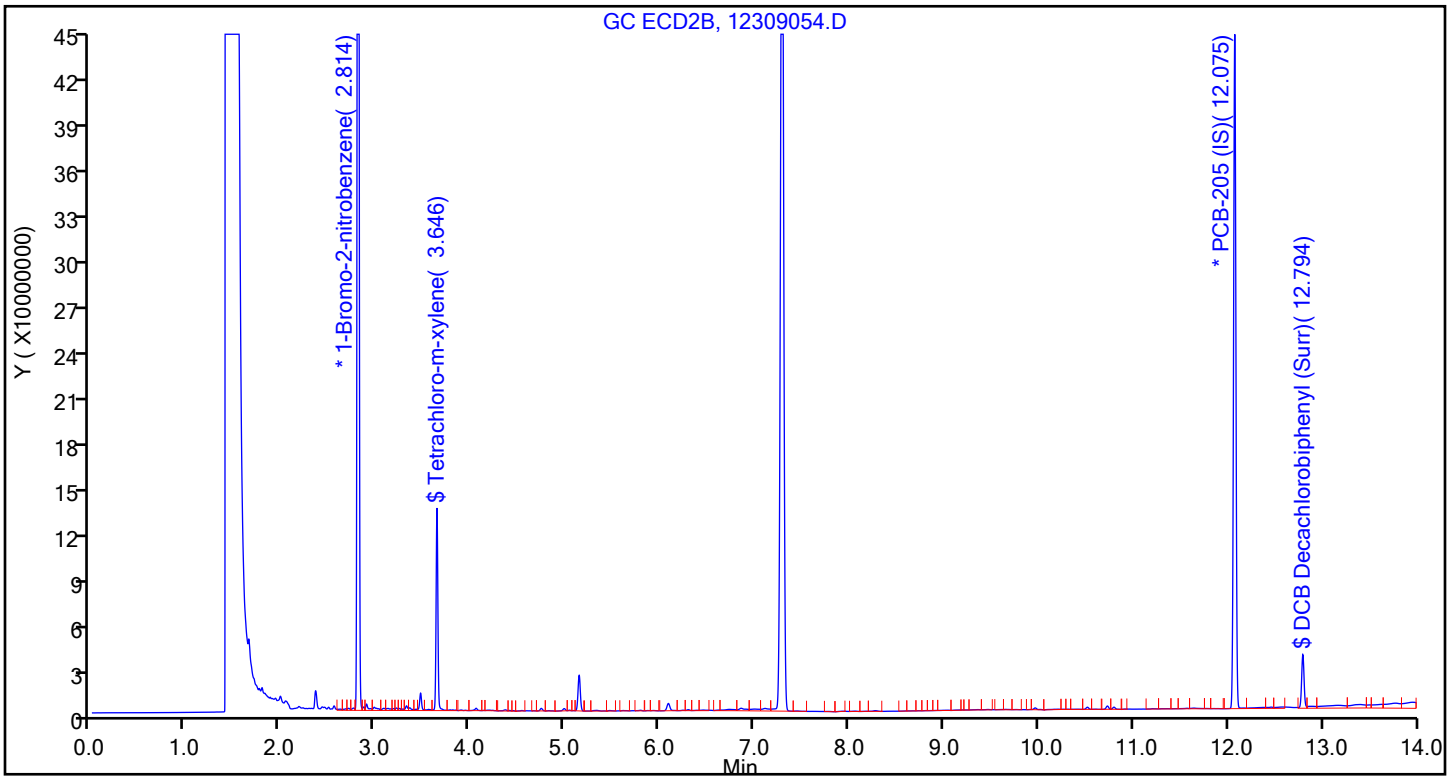

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309054.D				
Lims ID:	180-100205-A-3-E				
Client ID:	11187072-N.TREATMENT AREA #3				
Sample Type:	Client				
Inject. Date:	31-Dec-2019 01:29:58	ALS Bottle#:	53	Worklist Smp#:	53
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0030215-053				
Operator ID:	402331	Instrument ID:	CHGC16		

Method:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m		
Limit Group:	GCS 8082A ICAL with IS		
Last Update:	31-Dec-2019 06:38:21	Calib Date:	30-Dec-2019 12:24:02
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D		

Column 1 :	Restek CLP 1 (0.53 mm)	Det: GC ECD1A
Column 2 :	Restek CLP2 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0304	

First Level Reviewer: oravecj Date: 31-Dec-2019 06:31:53

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0190	95.15
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0200	99.80

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0178	89.06
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0188	94.13

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-100205-1
SDG No.:
Client Sample ID: 11187072-N.TREATMENT AREA #3
Lab Sample ID: 180-100205-3
Matrix: Solid (TCLP)
Lab File ID: 12309054.D
Analysis Method: EPA 8082A
Date Collected: 12/18/2019 14:00
Extraction Method: 3510C
Date Extracted: 12/21/2019 02:15
Sample wt/vol: 1010(mL)
Date Analyzed: 12/31/2019 01:29
Con. Extract Vol.: 40.0(mL)
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: RTX-CLP2 ID: 0.53(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 302855
Units: mg/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene (Surr)	89		45-133
2051-24-3	DCB Decachlorobiphenyl (Surr)	94		59-144

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309054.D				
Lims ID:	180-100205-A-3-E				
Client ID:	11187072-N.TREATMENT AREA #3				
Sample Type:	Client				
Inject. Date:	31-Dec-2019 01:29:58	ALS Bottle#:	53	Worklist Smp#:	53
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0030215-053				
Operator ID:	402331	Instrument ID:	CHGC16		

Method:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m		
Limit Group:	GCS 8082A ICAL with IS		
Last Update:	31-Dec-2019 06:38:21	Calib Date:	30-Dec-2019 12:24:02
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D		

Column 1 :	Restek CLP 1 (0.53 mm)	Det: GC ECD1A
Column 2 :	Restek CLP2 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0304	

First Level Reviewer: oravecj Date: 31-Dec-2019 06:31:53

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene						
1	2.610	2.607	0.003	1087459503	H 0.1000	
2	2.814	2.813	0.001	1174970399	H 0.1000	
4 PCB-1221						
1		2.772			ND	
1		3.346				
1		3.517				
2		3.187				
2		3.940				
2		4.171				
$ 2 Tetrachloro-m-xylene						
1	3.209	3.208	0.001	168848554	H 0.0190	
2	3.646	3.646	0.000	131600623	H 0.0178	
					RPD = 6.62	
3 PCB-1232						
1		3.347			ND	
1		3.516				
1		3.848				
1		4.494				
1		4.993				
2		3.939				
2		4.170				
2		4.663				
2		5.498				
2		6.994				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
5 PCB-1242						U
1		3.517			ND	
1		3.848				
1		4.494				
1		4.993				
1		5.573				
2		4.170				
2		4.663				
2		6.245				
2		6.998				
2		7.432				
6 PCB-1016						
1		3.517			ND	
1		3.849				
1		4.064				
1		4.261				
1		4.569				
2		4.663				
2		5.300				
2		5.499				
2		6.246				
2		6.458				
7 PCB-1248						U
1		3.847			ND	
1		4.713				
1		4.994				
1		5.574				
1		6.535				
2		4.664				
2		5.799				
2		6.245				
2		6.998				
2		7.434				
8 PCB-1254						
1		5.510			ND	
1		6.534				
1		7.018				
1		7.353				
1		7.908				
2		6.988				
2		7.343				
2		8.295				
2		8.735				
2		9.688				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
9 PCB-1260						
1		6.848			ND	
1		7.907				
1		8.611				
1		9.173				
1		9.648				
2		8.674				
2		9.352				
2		9.687				
2		10.696				
2		11.234				
* 16 PCB-205 (IS)						
1	10.709	10.709	-0.001	723463346	H 0.1000	
2	12.075	12.076	-0.001	438008295	H 0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)						
1	11.314	11.313	0.001	71088755	H 0.0200	
2	12.794	12.795	-0.001	34863653	H 0.0188	
					RPD = 5.85	

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 31-Dec-2019 06:38:50 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309054.D				
Injection Date:	31-Dec-2019 01:29:58	Instrument ID:	CHGC16		
Lims ID:	180-100205-A-3-E	Lab Sample ID:	180-100205-3		
Client ID:	11187072-N.TREATMENT AREA #3				
Operator ID:	402331	ALS Bottle#:	53	Worklist Smp#:	53
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	PCB_CHGC16	Limit Group:	GCS 8082A ICAL with IS		

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

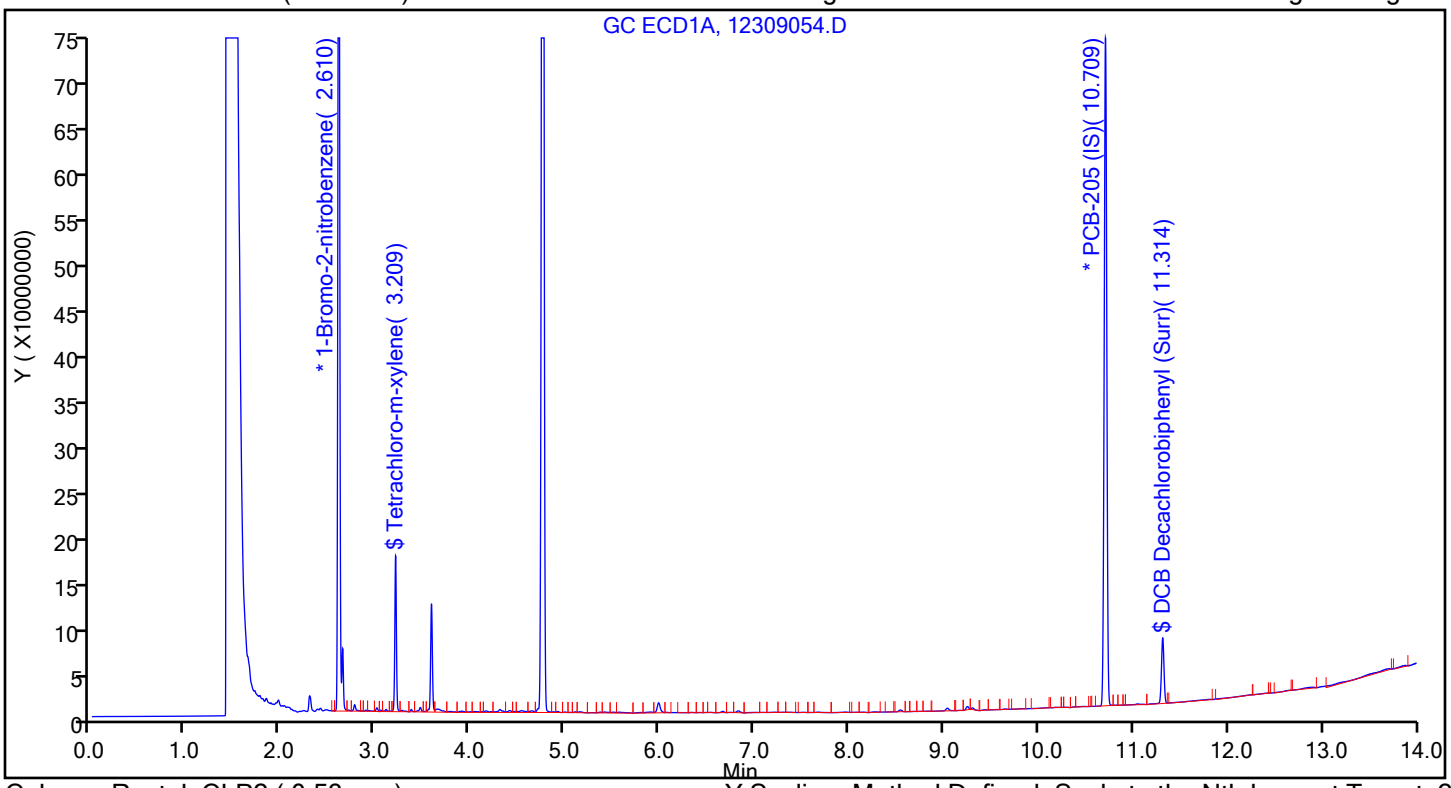

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

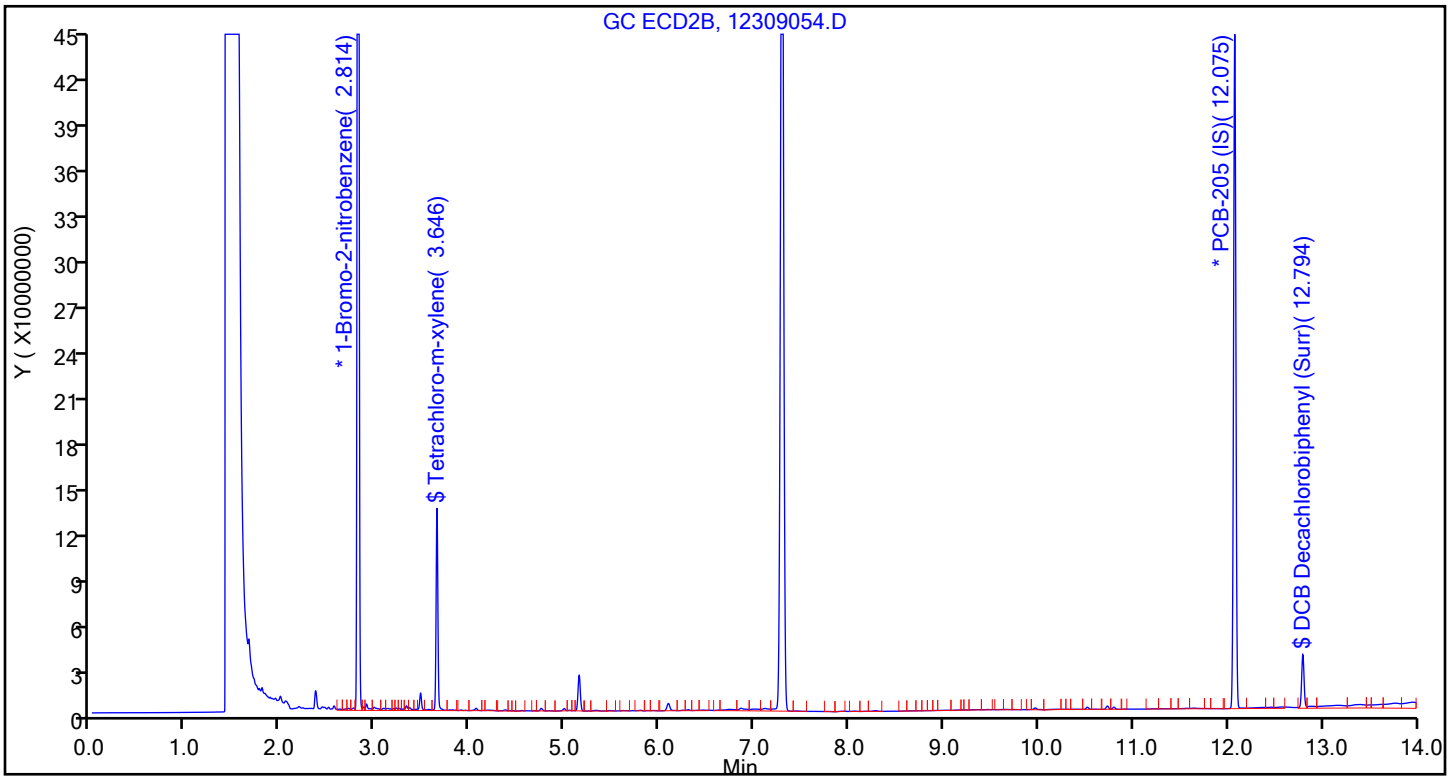

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309054.D				
Lims ID:	180-100205-A-3-E				
Client ID:	11187072-N.TREATMENT AREA #3				
Sample Type:	Client				
Inject. Date:	31-Dec-2019 01:29:58	ALS Bottle#:	53	Worklist Smp#:	53
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0030215-053				
Operator ID:	402331	Instrument ID:	CHGC16		

Method:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m		
Limit Group:	GCS 8082A ICAL with IS		
Last Update:	31-Dec-2019 06:38:21	Calib Date:	30-Dec-2019 12:24:02
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D		

Column 1 :	Restek CLP 1 (0.53 mm)	Det: GC ECD1A
Column 2 :	Restek CLP2 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0304	

First Level Reviewer: oravecj Date: 31-Dec-2019 06:31:53

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0190	95.15
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0200	99.80

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0178	89.06
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0188	94.13

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-100205-1
SDG No.:
Client Sample ID: 11187072-N.TREATMENT AREA #4
Lab Sample ID: 180-100205-5
Matrix: Solid (TCLP)
Lab File ID: 12309055.D
Analysis Method: EPA 8082A
Date Collected: 12/18/2019 14:30
Extraction Method: 3510C
Date Extracted: 12/21/2019 02:15
Sample wt/vol: 1010(mL)
Date Analyzed: 12/31/2019 01:48
Con. Extract Vol.: 40.0(mL)
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: RTX-CLP1 ID: 0.53(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 302855
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
12674-11-2	PCB-1016	ND		0.00040	0.00019
11104-28-2	PCB-1221	ND		0.00040	0.00023
11141-16-5	PCB-1232	ND		0.00040	0.00021
53469-21-9	PCB-1242	ND		0.00040	0.00036
12672-29-6	PCB-1248	ND		0.00040	0.00012
11097-69-1	PCB-1254	ND		0.00040	0.00038
11096-82-5	PCB-1260	ND		0.00040	0.00016

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene (Surr)	94		45-133
2051-24-3	DCB Decachlorobiphenyl (Surr)	98		59-144

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309055.D
Lims ID: 180-100205-A-5-E
Client ID: 11187072-N.TREATMENT AREA #4
Sample Type: Client
Inject. Date: 31-Dec-2019 01:48:43 ALS Bottle#: 54 Worklist Smp#: 54
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-054
Operator ID: 402331 Instrument ID: CHGC16

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:38:21 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 31-Dec-2019 06:32:14

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene						
1	2.609	2.607	0.003	1099223891	H 0.1000	
2	2.814	2.813	0.001	1167084196	H 0.1000	
4 PCB-1221						
1		2.772			ND	
1		3.346				
1		3.517				
2		3.187				
2		3.940				
2		4.171				
$ 2 Tetrachloro-m-xylene						
1	3.209	3.208	0.001	168527555	H 0.0188	
2	3.647	3.646	0.001	131324875	H 0.0179	
					RPD = 4.89	
3 PCB-1232						
1		3.347			ND	
1		3.516				
1		3.848				
1		4.494				
1		4.993				
2		3.939				
2		4.170				
2		4.663				
2		5.498				
2		6.994				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
5 PCB-1242						
1		3.517			ND	
1		3.848				
1		4.494				
1		4.993				
1		5.573				
2		4.170				
2		4.663				
2		6.245				
2		6.998				
2		7.432				
6 PCB-1016						
1		3.517			ND	
1		3.849				
1		4.064				
1		4.261				
1		4.569				
2		4.663				
2		5.300				
2		5.499				
2		6.246				
2		6.458				
7 PCB-1248						U
1		3.847			ND	
1		4.713				
1		4.994				
1		5.574				
1		6.535				
2		4.664				
2		5.799				
2		6.245				
2		6.998				
2		7.434				
8 PCB-1254						U
1		5.510			ND	
1		6.534				
1		7.018				
1		7.353				
1		7.908				
2		6.988				
2		7.343				
2		8.295				
2		8.735				
2		9.688				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
9 PCB-1260						
1		6.848			ND	
1		7.907				
1		8.611				
1		9.173				
1		9.648				
2		8.674				
2		9.352				
2		9.687				
2		10.696				
2		11.234				
* 16 PCB-205 (IS)						
1	10.710	10.709	0.001	706698819	H 0.1000	
2	12.076	12.076	0.000	430396772	H 0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)						
1	11.314	11.313	0.001	68565506	H 0.0197	
2	12.795	12.795	0.000	33649256	H 0.0185	
					RPD = 6.32	

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 31-Dec-2019 06:38:46 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309055.D				
Injection Date:	31-Dec-2019 01:48:43	Instrument ID:	CHGC16		
Lims ID:	180-100205-A-5-E	Lab Sample ID:	180-100205-5		
Client ID:	11187072-N.TREATMENT AREA #4				
Operator ID:	402331	ALS Bottle#:	54	Worklist Smp#:	54
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	PCB_CHGC16	Limit Group:	GCS 8082A ICAL with IS		

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

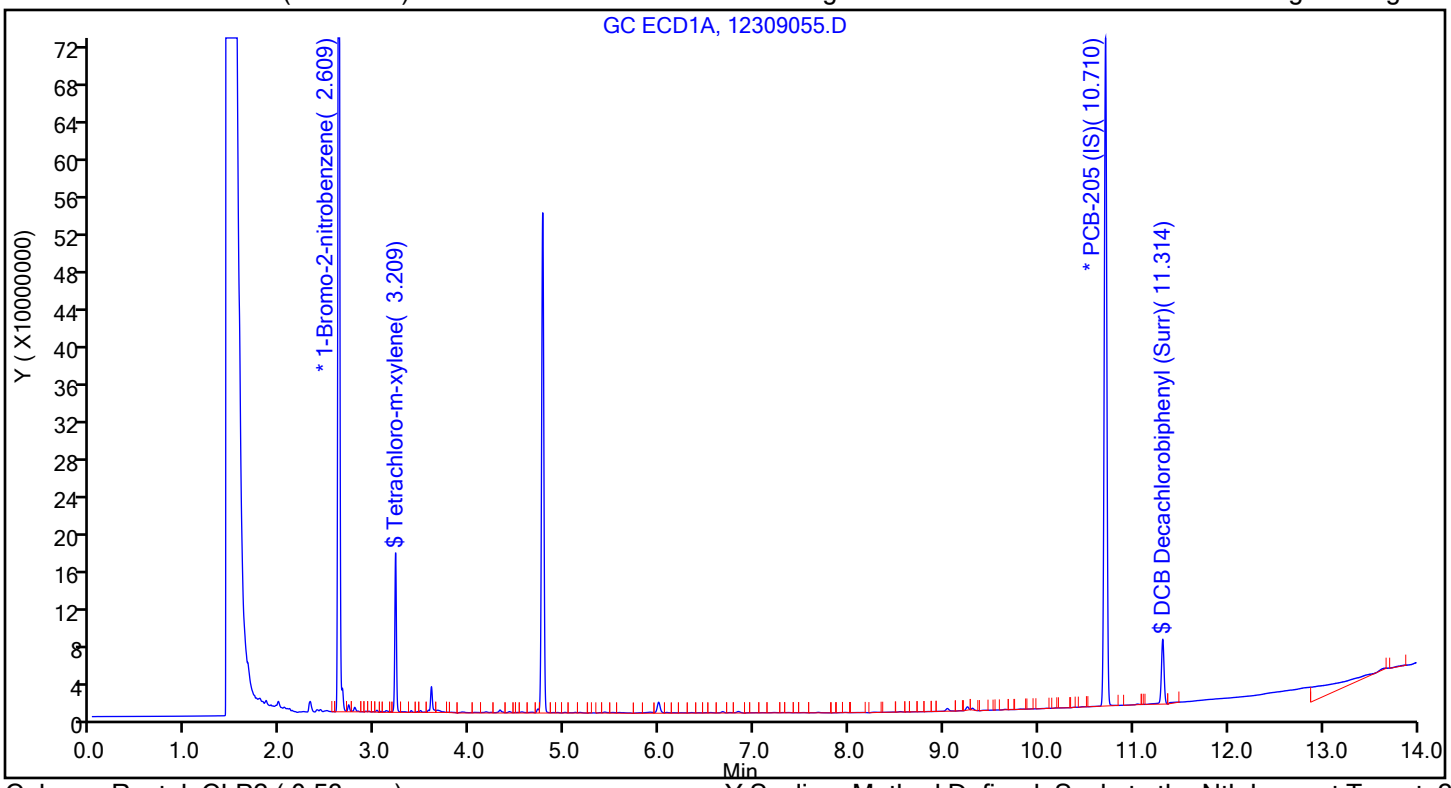

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

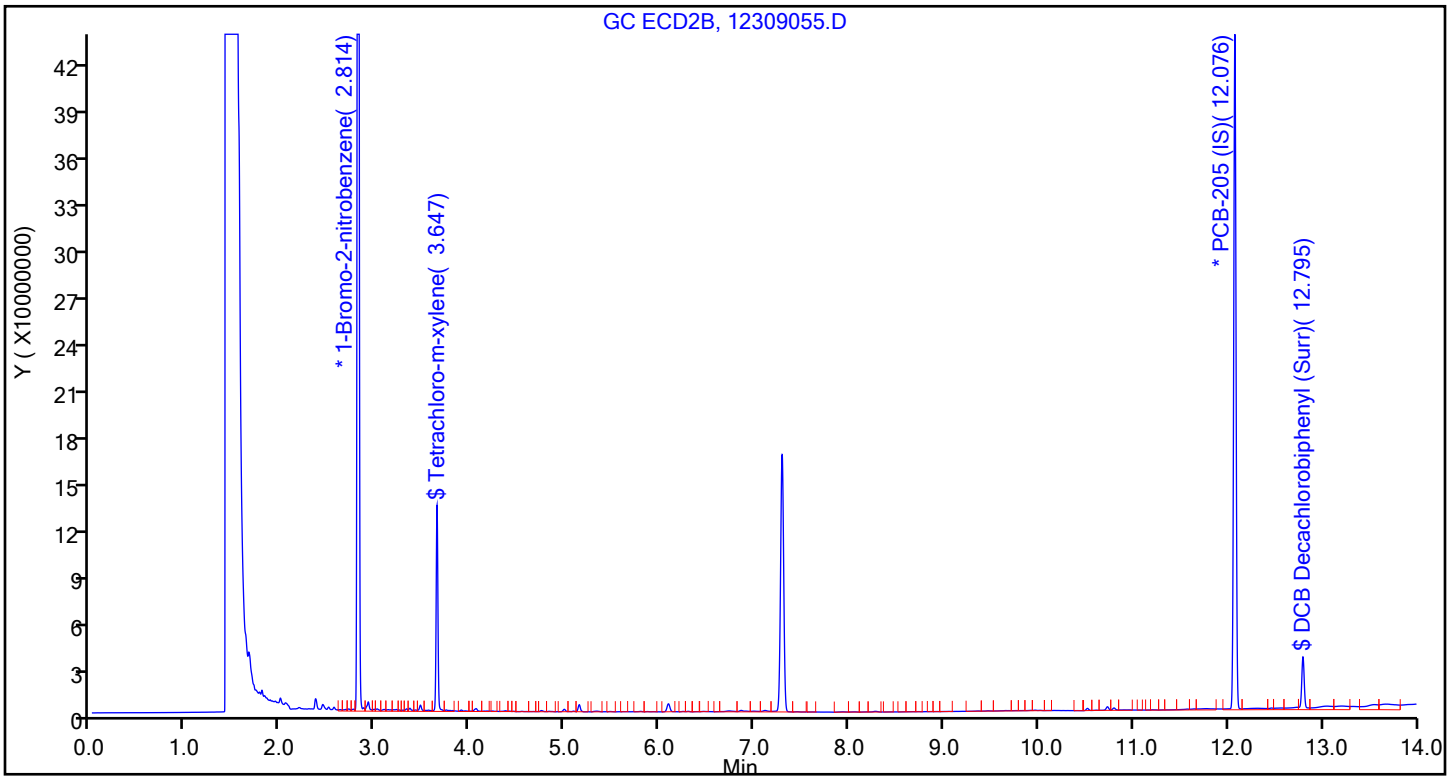

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309055.D				
Lims ID:	180-100205-A-5-E				
Client ID:	11187072-N.TREATMENT AREA #4				
Sample Type:	Client				
Inject. Date:	31-Dec-2019 01:48:43	ALS Bottle#:	54	Worklist Smp#:	54
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0030215-054				
Operator ID:	402331	Instrument ID:	CHGC16		

Method:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m		
Limit Group:	GCS 8082A ICAL with IS		
Last Update:	31-Dec-2019 06:38:21	Calib Date:	30-Dec-2019 12:24:02
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D		

Column 1 :	Restek CLP 1 (0.53 mm)	Det: GC ECD1A
Column 2 :	Restek CLP2 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0304	

First Level Reviewer: oravecj Date: 31-Dec-2019 06:32:14

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0188	93.96
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0197	98.50

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0179	89.47
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0185	92.46

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-100205-1
SDG No.:
Client Sample ID: 11187072-N.TREATMENT AREA #4
Lab Sample ID: 180-100205-5
Matrix: Solid (TCLP)
Lab File ID: 12309055.D
Analysis Method: EPA 8082A
Date Collected: 12/18/2019 14:30
Extraction Method: 3510C
Date Extracted: 12/21/2019 02:15
Sample wt/vol: 1010(mL)
Date Analyzed: 12/31/2019 01:48
Con. Extract Vol.: 40.0(mL)
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: RTX-CLP2 ID: 0.53(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 302855
Units: mg/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene (Surr)	89		45-133
2051-24-3	DCB Decachlorobiphenyl (Surr)	92		59-144

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309055.D
Lims ID: 180-100205-A-5-E
Client ID: 11187072-N.TREATMENT AREA #4
Sample Type: Client
Inject. Date: 31-Dec-2019 01:48:43 ALS Bottle#: 54 Worklist Smp#: 54
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-054
Operator ID: 402331 Instrument ID: CHGC16

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:38:21 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 31-Dec-2019 06:32:14

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene						
1	2.609	2.607	0.003	1099223891	H 0.1000	
2	2.814	2.813	0.001	1167084196	H 0.1000	
4 PCB-1221						
1		2.772			ND	
1		3.346				
1		3.517				
2		3.187				
2		3.940				
2		4.171				
$ 2 Tetrachloro-m-xylene						
1	3.209	3.208	0.001	168527555	H 0.0188	
2	3.647	3.646	0.001	131324875	H 0.0179	
					RPD = 4.89	
3 PCB-1232						
1		3.347			ND	
1		3.516				
1		3.848				
1		4.494				
1		4.993				
2		3.939				
2		4.170				
2		4.663				
2		5.498				
2		6.994				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
5 PCB-1242						
1		3.517			ND	
1		3.848				
1		4.494				
1		4.993				
1		5.573				
2		4.170				
2		4.663				
2		6.245				
2		6.998				
2		7.432				
6 PCB-1016						
1		3.517			ND	
1		3.849				
1		4.064				
1		4.261				
1		4.569				
2		4.663				
2		5.300				
2		5.499				
2		6.246				
2		6.458				
7 PCB-1248						U
1		3.847			ND	
1		4.713				
1		4.994				
1		5.574				
1		6.535				
2		4.664				
2		5.799				
2		6.245				
2		6.998				
2		7.434				
8 PCB-1254						U
1		5.510			ND	
1		6.534				
1		7.018				
1		7.353				
1		7.908				
2		6.988				
2		7.343				
2		8.295				
2		8.735				
2		9.688				

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
9 PCB-1260						
1		6.848			ND	
1		7.907				
1		8.611				
1		9.173				
1		9.648				
2		8.674				
2		9.352				
2		9.687				
2		10.696				
2		11.234				
* 16 PCB-205 (IS)						
1	10.710	10.709	0.001	706698819	H 0.1000	
2	12.076	12.076	0.000	430396772	H 0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)						
1	11.314	11.313	0.001	68565506	H 0.0197	
2	12.795	12.795	0.000	33649256	H 0.0185	
					RPD = 6.32	

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 31-Dec-2019 06:38:46 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309055.D				
Injection Date:	31-Dec-2019 01:48:43	Instrument ID:	CHGC16		
Lims ID:	180-100205-A-5-E	Lab Sample ID:	180-100205-5		
Client ID:	11187072-N.TREATMENT AREA #4				
Operator ID:	402331	ALS Bottle#:	54	Worklist Smp#:	54
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	PCB_CHGC16	Limit Group:	GCS 8082A ICAL with IS		

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

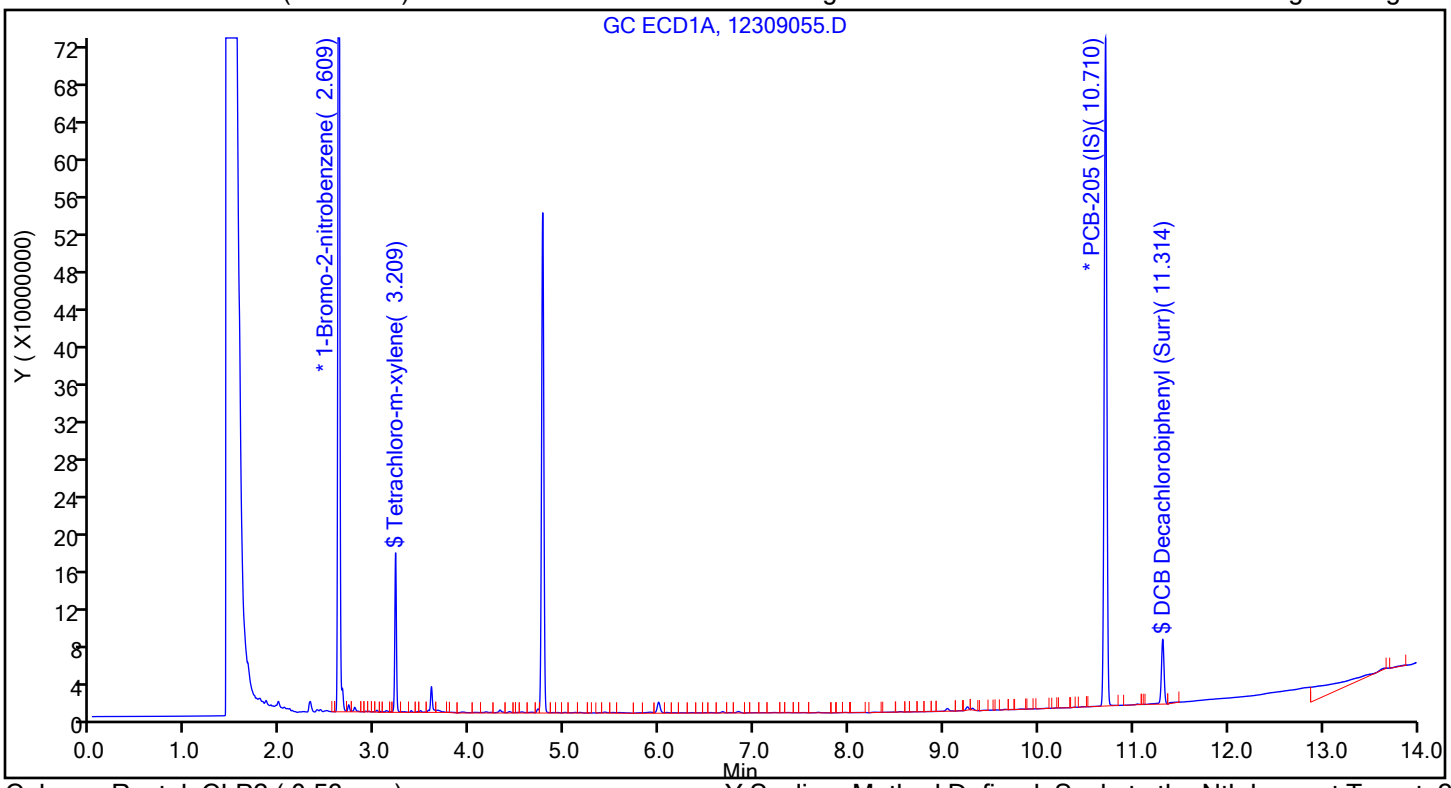

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

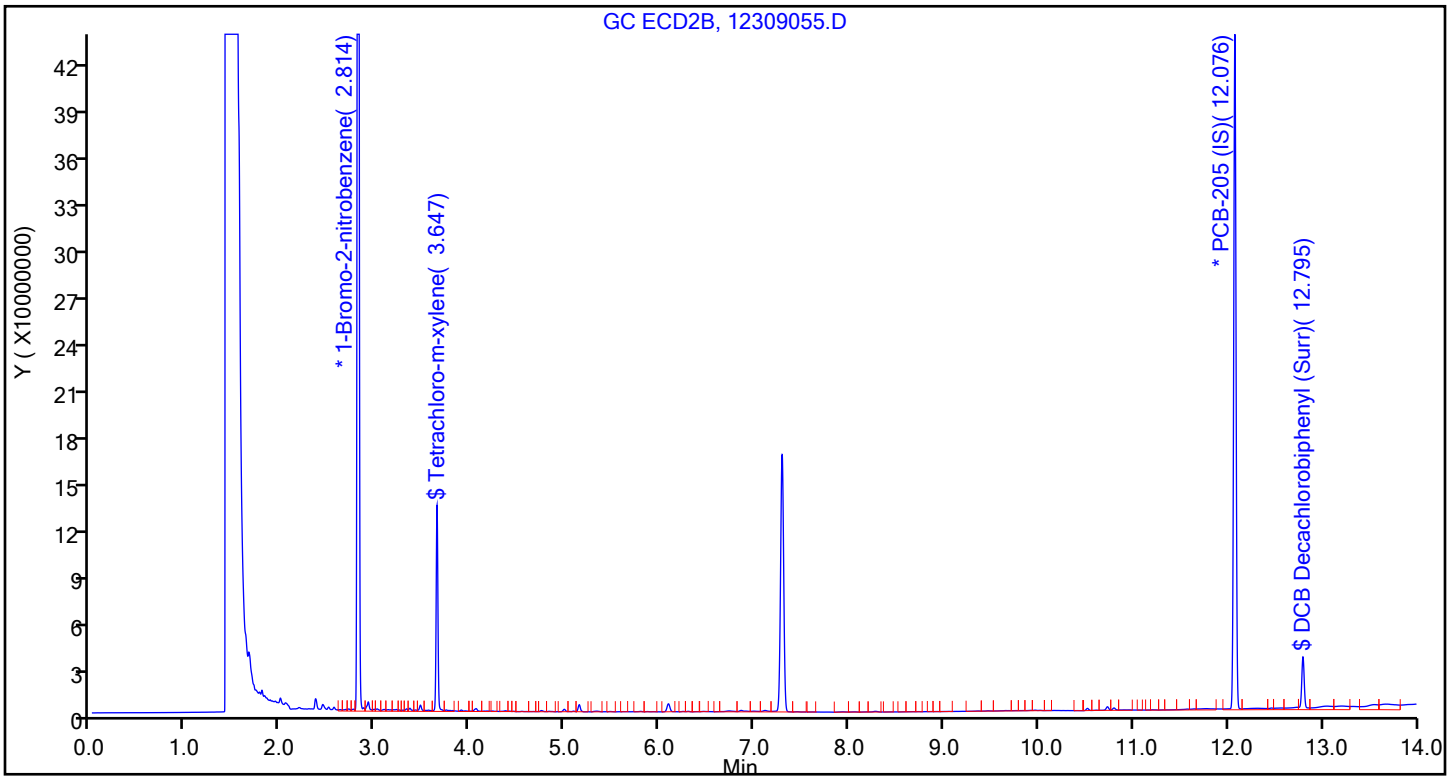

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309055.D				
Lims ID:	180-100205-A-5-E				
Client ID:	11187072-N.TREATMENT AREA #4				
Sample Type:	Client				
Inject. Date:	31-Dec-2019 01:48:43	ALS Bottle#:	54	Worklist Smp#:	54
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0030215-054				
Operator ID:	402331	Instrument ID:	CHGC16		
Method:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m				
Limit Group:	GCS 8082A ICAL with IS				
Last Update:	31-Dec-2019 06:38:21	Calib Date:	30-Dec-2019 12:24:02		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D				
Column 1 :	Restek CLP 1 (0.53 mm)		Det: GC ECD1A		
Column 2 :	Restek CLP2 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0304				
First Level Reviewer: oravecj		Date:	31-Dec-2019 06:32:14		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0188	93.96
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0197	98.50

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0179	89.47
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0185	92.46

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302855

SDG No.:

Instrument ID: CHGC16 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/30/2019 09:17 Calibration End Date: 12/30/2019 09:17 Calibration ID: 42411

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-302855/1	12309002.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1221 Peak 1	0.0058					Ave		0.0058						20.0			
PCB-1221 Peak 2	0.0098					Ave		0.0098						20.0			
PCB-1221 Peak 3	0.0208					Ave		0.0208						20.0			
PCB-1254 Peak 1	0.0225					Ave		0.0225						20.0			
PCB-1254 Peak 2	0.0357					Ave		0.0357						20.0			
PCB-1254 Peak 3	0.0260					Ave		0.0260						20.0			
PCB-1254 Peak 4	0.0218					Ave		0.0218						20.0			
PCB-1254 Peak 5	0.0249					Ave		0.0249						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302855

SDG No.:

Instrument ID: CHGC16 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/30/2019 09:17 Calibration End Date: 12/30/2019 09:17 Calibration ID: 42411

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-302855/1	12309002.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1					LVL 1				
PCB-1221 Peak 1	BNB	Ave	29289955					0.500				
PCB-1221 Peak 2	BNB	Ave	49190641					0.500				
PCB-1221 Peak 3	BNB	Ave	104442174					0.500				
PCB-1254 Peak 1	PCB20	Ave	100702794					0.500				
PCB-1254 Peak 2	PCB20	Ave	159718412					0.500				
PCB-1254 Peak 3	PCB20	Ave	116305505					0.500				
PCB-1254 Peak 4	PCB20	Ave	97450870					0.500				
PCB-1254 Peak 5	PCB20	Ave	111517684					0.500				

Curve Type Legend:

Ave = Average ISTD by Height

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302855

SDG No.:

Instrument ID: CHGC16 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/30/2019 09:17 Calibration End Date: 12/30/2019 09:17 Calibration ID: 42411

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-302855/1	12309002.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #						LVL 1					
PCB-1221 Peak 1	0.0						50					
PCB-1221 Peak 2	0.0						50					
PCB-1221 Peak 3	0.0						50					
PCB-1254 Peak 1	0.0						50					
PCB-1254 Peak 2	0.0						50					
PCB-1254 Peak 3	0.0						50					
PCB-1254 Peak 4	0.0						50					
PCB-1254 Peak 5	0.0						50					

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309002.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 30-Dec-2019 09:17:12 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-001
Operator ID: 402331 Instrument ID: CHGC16
Sublist: chrom-PCB_CHGC16*sub26

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:19:38 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 30-Dec-2019 11:10:25

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.608	2.607	0.001	1004170488H	0.1000	0.1000	
2	2.813	2.813	0.001	1086777806H	0.1000	0.1000	
4 PCB-1221							
1	2.772	2.772	0.000	29289955H	0.5000	0.5000	
1	3.346	3.346	0.000	49190641H	0.5000	0.5000	
1	3.517	3.517	0.000	104442174H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	3.187	3.187	0.000	24057326H	0.5000	0.5000	
2	3.940	3.940	0.000	32582427H	0.5000	0.5000	
2	4.171	4.171	0.000	66481954H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	
8 PCB-1254							
1	5.510	5.510	0.000	100702794H	0.5000	0.5000	
1	6.534	6.534	0.000	159718412H	0.5000	0.5000	
1	7.018	7.018	0.000	116305505H	0.5000	0.5000	
1	7.353	7.353	0.000	97450870H	0.5000	0.5000	
1	7.908	7.908	0.000	111517684H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	6.988	6.988	0.000	66261764H	0.5000	0.5000	
2	7.343	7.343	0.000	73359830H	0.5000	0.5000	
2	8.295	8.295	0.000	102319460H	0.5000	0.5000	
2	8.735	8.735	0.000	73948746H	0.5000	0.5000	
2	9.688	9.688	0.000	84812093H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	
* 16 PCB-205 (IS)							
1	10.709	10.709	0.001	894160284H	0.1000	0.1000	
2	12.077	12.076	0.001	576941606H	0.1000	0.1000	

Reagents:

GCAR2154CALL4_00021	Amount Added:	1.00	Units: mL	
PCBINT_00010	Amount Added:	0.01	Units: mL	Run Reagent

Report Date: 31-Dec-2019 06:19:40 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309002.D

Injection Date: 30-Dec-2019 09:17:12 Instrument ID: CHGC16

Lims ID: IC

Client ID:

Operator ID: 402331 ALS Bottle#: 1 Worklist Smp#: 1

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_CHGC16 Limit Group: GCS 8082A ICAL with IS

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

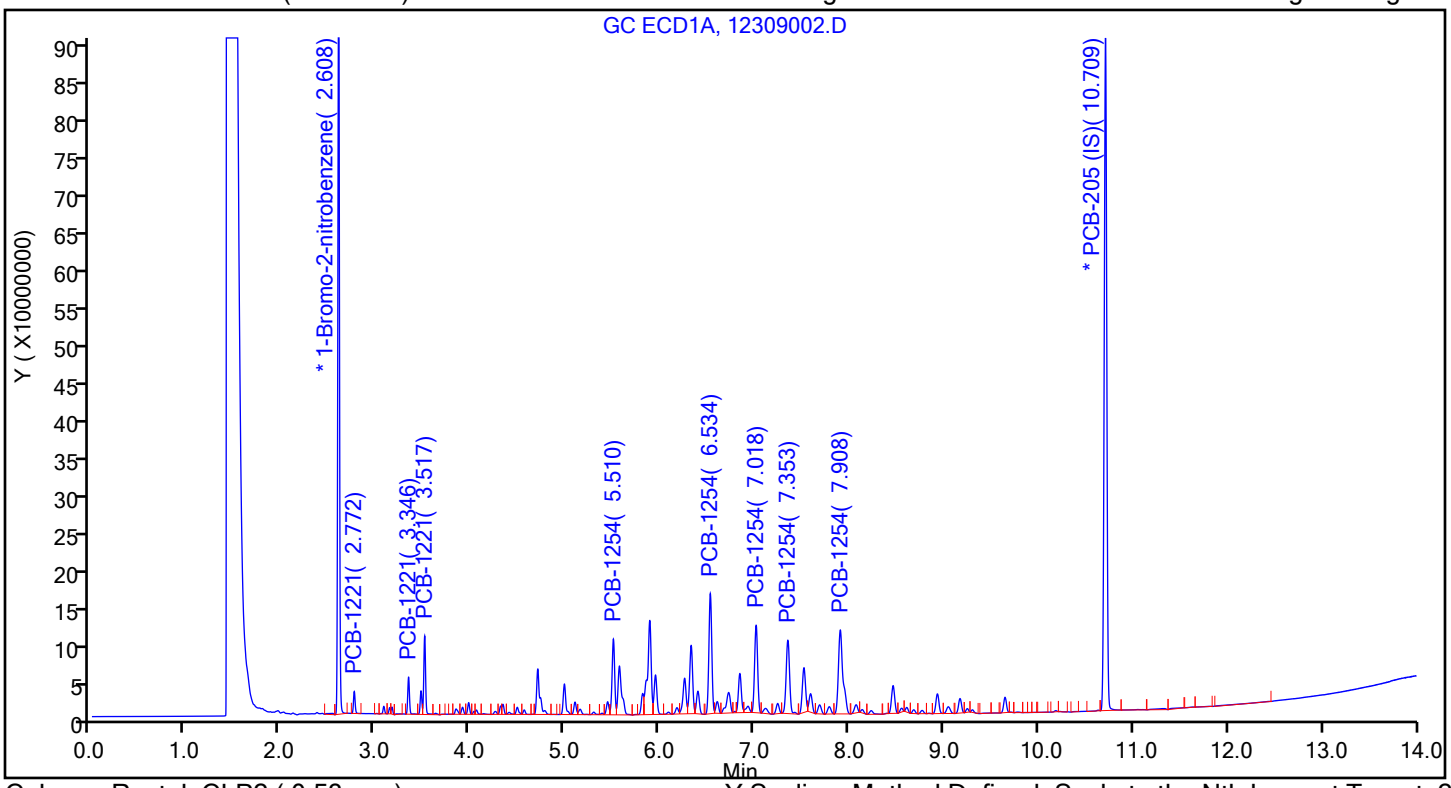

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

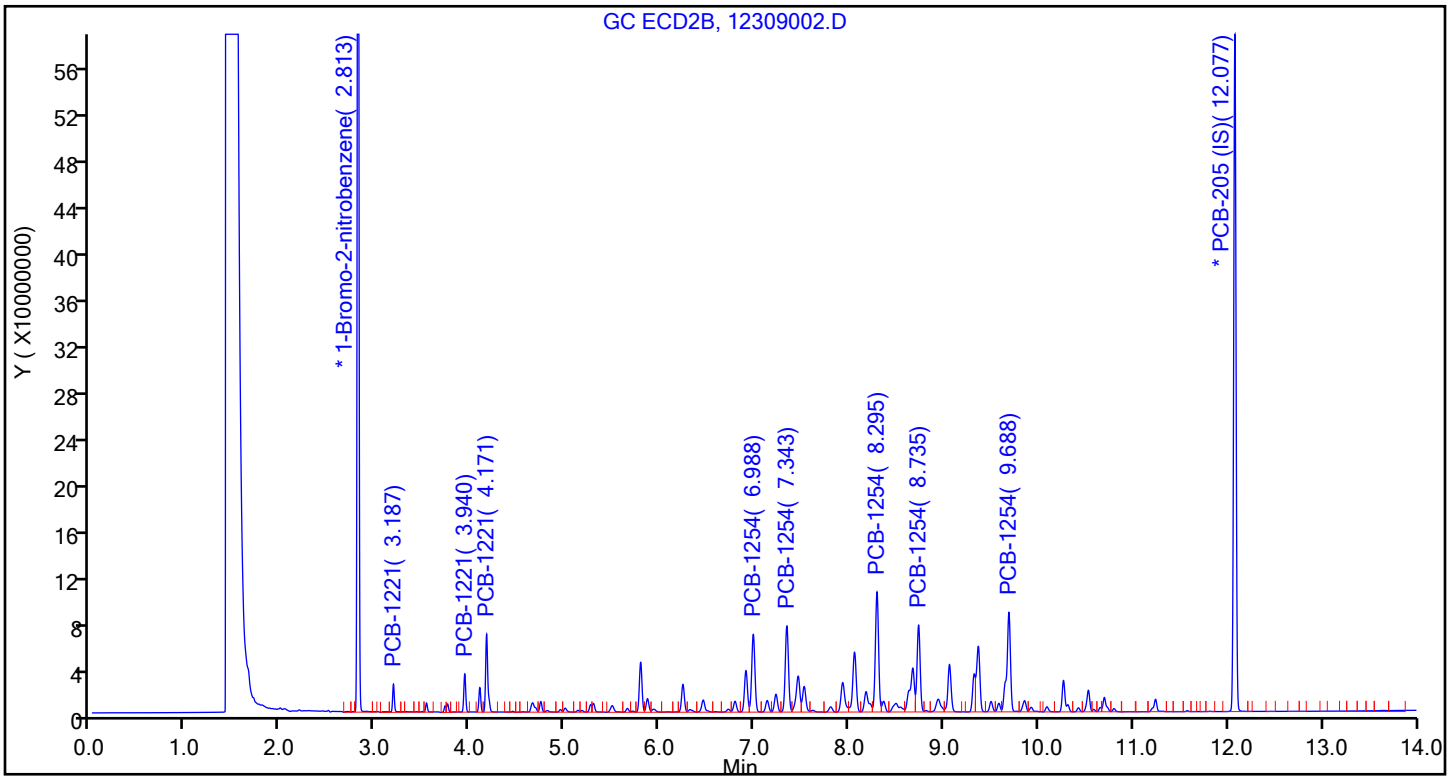

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302855

SDG No.:

Instrument ID: CHGC16 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/30/2019 09:17 Calibration End Date: 12/30/2019 09:17 Calibration ID: 42412

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-302855/1	12309002.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1221 Peak 1	0.0044					Ave		0.0044						20.0			
PCB-1221 Peak 2	0.0060					Ave		0.0060						20.0			
PCB-1221 Peak 3	0.0122					Ave		0.0122						20.0			
PCB-1254 Peak 1	0.0230					Ave		0.0230						20.0			
PCB-1254 Peak 2	0.0254					Ave		0.0254						20.0			
PCB-1254 Peak 3	0.0355					Ave		0.0355						20.0			
PCB-1254 Peak 4	0.0256					Ave		0.0256						20.0			
PCB-1254 Peak 5	0.0294					Ave		0.0294						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302855

SDG No.:

Instrument ID: CHGC16 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/30/2019 09:17 Calibration End Date: 12/30/2019 09:17 Calibration ID: 42412

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-302855/1	12309002.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1					LVL 1				
PCB-1221 Peak 1	BNB	Ave	24057326					0.500				
PCB-1221 Peak 2	BNB	Ave	32582427					0.500				
PCB-1221 Peak 3	BNB	Ave	66481954					0.500				
PCB-1254 Peak 1	PCB20	Ave	66261764					0.500				
PCB-1254 Peak 2	PCB20	Ave	73359830					0.500				
PCB-1254 Peak 3	PCB20	Ave	102319460					0.500				
PCB-1254 Peak 4	PCB20	Ave	73948746					0.500				
PCB-1254 Peak 5	PCB20	Ave	84812093					0.500				

Curve Type Legend:

Ave = Average ISTD by Height

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302855

SDG No.:

Instrument ID: CHGC16 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/30/2019 09:17 Calibration End Date: 12/30/2019 09:17 Calibration ID: 42412

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-302855/1	12309002.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #						LVL 1					
PCB-1221 Peak 1	0.0						50					
PCB-1221 Peak 2	0.0						50					
PCB-1221 Peak 3	0.0						50					
PCB-1254 Peak 1	0.0						50					
PCB-1254 Peak 2	0.0						50					
PCB-1254 Peak 3	0.0						50					
PCB-1254 Peak 4	0.0						50					
PCB-1254 Peak 5	0.0						50					

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309002.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 30-Dec-2019 09:17:12 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-001
Operator ID: 402331 Instrument ID: CHGC16
Sublist: chrom-PCB_CHGC16*sub26

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:19:38 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 30-Dec-2019 11:10:25

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.608	2.607	0.001	1004170488H	0.1000	0.1000	
2	2.813	2.813	0.001	1086777806H	0.1000	0.1000	
4 PCB-1221							
1	2.772	2.772	0.000	29289955H	0.5000	0.5000	
1	3.346	3.346	0.000	49190641H	0.5000	0.5000	
1	3.517	3.517	0.000	104442174H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	3.187	3.187	0.000	24057326H	0.5000	0.5000	
2	3.940	3.940	0.000	32582427H	0.5000	0.5000	
2	4.171	4.171	0.000	66481954H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	
8 PCB-1254							
1	5.510	5.510	0.000	100702794H	0.5000	0.5000	
1	6.534	6.534	0.000	159718412H	0.5000	0.5000	
1	7.018	7.018	0.000	116305505H	0.5000	0.5000	
1	7.353	7.353	0.000	97450870H	0.5000	0.5000	
1	7.908	7.908	0.000	111517684H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	6.988	6.988	0.000	66261764H	0.5000	0.5000	
2	7.343	7.343	0.000	73359830H	0.5000	0.5000	
2	8.295	8.295	0.000	102319460H	0.5000	0.5000	
2	8.735	8.735	0.000	73948746H	0.5000	0.5000	
2	9.688	9.688	0.000	84812093H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	
* 16 PCB-205 (IS)							
1	10.709	10.709	0.001	894160284H	0.1000	0.1000	
2	12.077	12.076	0.001	576941606H	0.1000	0.1000	

Reagents:

GCAR2154CALL4_00021	Amount Added:	1.00	Units: mL	
PCBINT_00010	Amount Added:	0.01	Units: mL	Run Reagent

Report Date: 31-Dec-2019 06:19:40 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309002.D

Injection Date: 30-Dec-2019 09:17:12 Instrument ID: CHGC16

Lims ID: IC

Client ID:

Operator ID: 402331 ALS Bottle#: 1 Worklist Smp#: 1

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_CHGC16 Limit Group: GCS 8082A ICAL with IS

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

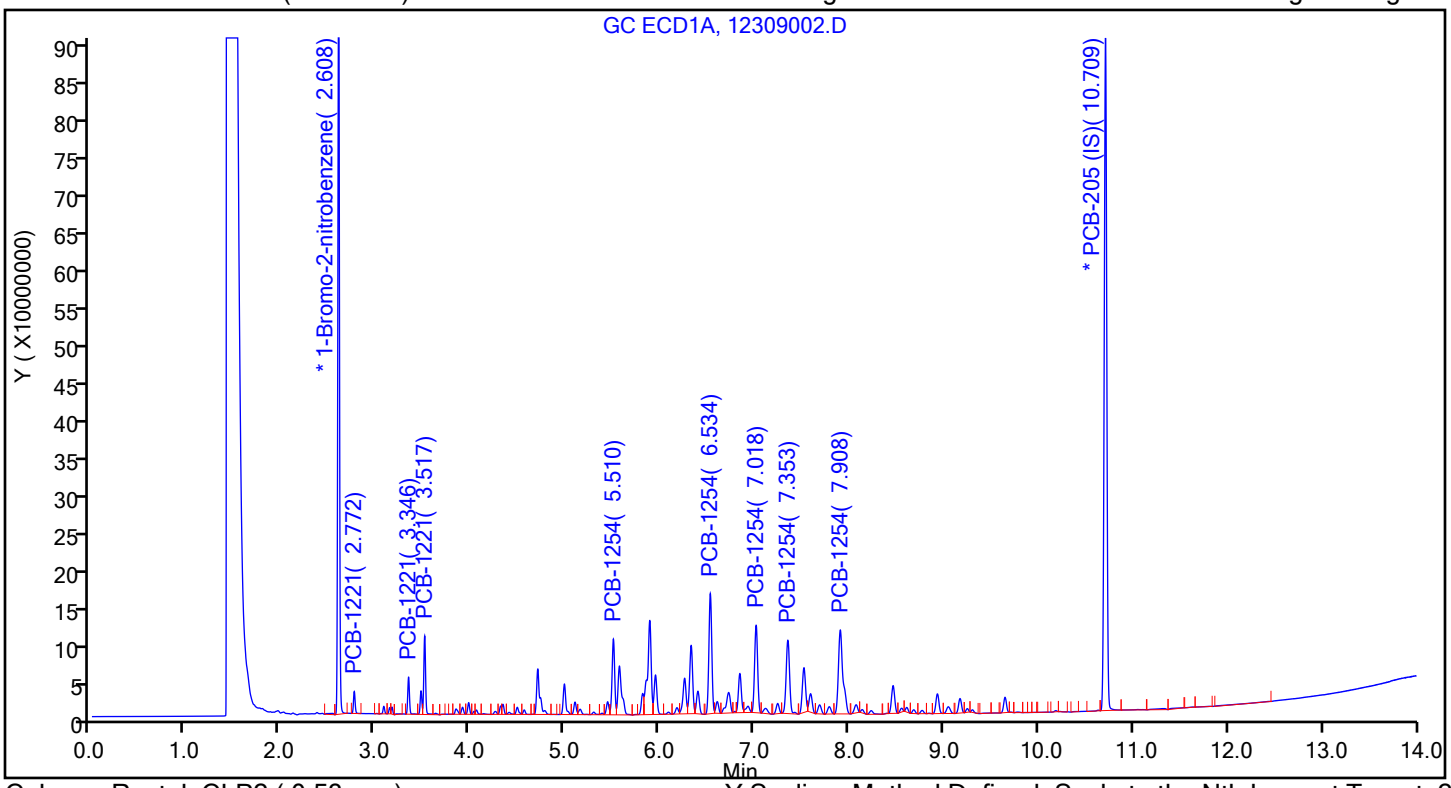

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

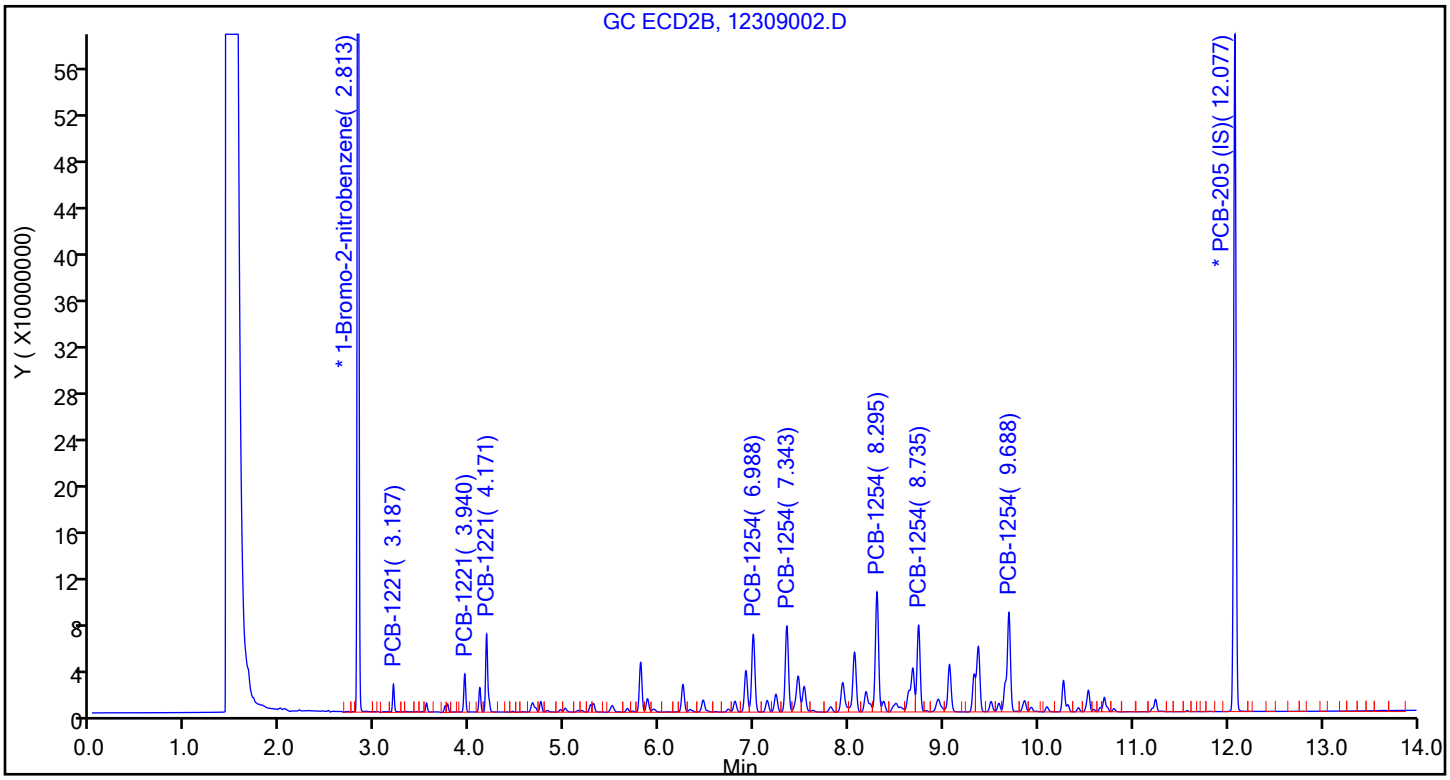

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302855

SDG No.:

Instrument ID: CHGC16 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/30/2019 09:35 Calibration End Date: 12/30/2019 09:35 Calibration ID: 42419

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-302855/2	12309003.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1232 Peak 1	0.0066					Ave		0.0066						20.0			
PCB-1232 Peak 2	0.0170					Ave		0.0170						20.0			
PCB-1232 Peak 3	0.0078					Ave		0.0078						20.0			
PCB-1232 Peak 4	0.0102					Ave		0.0102						20.0			
PCB-1232 Peak 5	0.0078					Ave		0.0078						20.0			
PCB-1262 Peak 1	0.0327					Ave		0.0327						20.0			
PCB-1262 Peak 2	0.0292					Ave		0.0292						20.0			
PCB-1262 Peak 3	0.0684					Ave		0.0684						20.0			
PCB-1262 Peak 4	0.0249					Ave		0.0249						20.0			
PCB-1262 Peak 5	0.0228					Ave		0.0228						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302855

SDG No.:

Instrument ID: CHGC16 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/30/2019 09:35 Calibration End Date: 12/30/2019 09:35 Calibration ID: 42419

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-302855/2	12309003.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1					LVL 1				
PCB-1232 Peak 1	BNB	Ave	34586079					0.500				
PCB-1232 Peak 2	BNB	Ave	89331562					0.500				
PCB-1232 Peak 3	BNB	Ave	40924520					0.500				
PCB-1232 Peak 4	BNB	Ave	53902326					0.500				
PCB-1232 Peak 5	BNB	Ave	40995737					0.500				
PCB-1262 Peak 1	PCB20	Ave	165529926					0.500				
PCB-1262 Peak 2	PCB20	Ave	147778434					0.500				
PCB-1262 Peak 3	PCB20	Ave	346428498					0.500				
PCB-1262 Peak 4	PCB20	Ave	126237374					0.500				
PCB-1262 Peak 5	PCB20	Ave	115408311					0.500				

Curve Type Legend:

Ave = Average ISTD by Height

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302855

SDG No.:

Instrument ID: CHGC16 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/30/2019 09:35 Calibration End Date: 12/30/2019 09:35 Calibration ID: 42419

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-302855/2	12309003.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #						LVL 1					
PCB-1232 Peak 1	0.0						50					
PCB-1232 Peak 2	0.0						50					
PCB-1232 Peak 3	0.0						50					
PCB-1232 Peak 4	0.0						50					
PCB-1232 Peak 5	0.0						50					
PCB-1262 Peak 1	0.0						50					
PCB-1262 Peak 2	0.0						50					
PCB-1262 Peak 3	0.0						50					
PCB-1262 Peak 4	0.0						50					
PCB-1262 Peak 5	0.0						50					

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309003.D				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	4		
Inject. Date:	30-Dec-2019 09:35:51	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0030215-002				
Operator ID:	402331	Instrument ID:	CHGC16		
Sublist:	chrom-PCB_CHGC16*sub29				
Method:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m				
Limit Group:	GCS 8082A ICAL with IS				
Last Update:	31-Dec-2019 06:19:21	Calib Date:	30-Dec-2019 12:24:02		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D				
Column 1 :	Restek CLP 1 (0.53 mm)		Det: GC ECD1A		
Column 2 :	Restek CLP2 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0304				

First Level Reviewer: oravecj Date: 30-Dec-2019 11:11:14

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.609	2.607	0.002	1052758558H	0.1000	0.1000	
2	2.813	2.813	0.000	1111222009H	0.1000	0.1000	
3 PCB-1232							
1	3.347	3.347	0.000	34586079H	0.5000	0.5000	
1	3.516	3.516	0.000	89331562H	0.5000	0.5000	
1	3.848	3.848	0.000	40924520H	0.5000	0.5000	
1	4.494	4.494	0.000	53902326H	0.5000	0.5000	
1	4.993	4.993	0.000	40995737H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	3.939	3.939	0.000	22626447H	0.5000	0.5000	
2	4.170	4.170	0.000	58819619H	0.5000	0.5000	
2	4.663	4.663	0.000	34192785H	0.5000	0.5000	
2	5.498	5.498	0.000	31934621H	0.5000	0.5000	
2	6.994	6.994	0.000	33556738H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
10 PCB-1262							M
1	8.141	8.141	0.000	165529926H	0.5000	0.5000	M
1	8.609	8.609	0.000	147778434H	0.5000	0.5000	M
1	9.173	9.173	0.000	346428498H	0.5000	0.5000	M
1	9.648	9.648	0.000	126237374H	0.5000	0.5000	M
1	9.778	9.778	0.000	115408311H	0.5000	0.5000	M
		Average of Peak Amounts =				0.5000	
2	9.059	9.059	0.000	61238880H	0.5000	0.5000	
2	9.837	9.837	0.000	123482257H	0.5000	0.5000	
2	10.312	10.312	0.000	114126713H	0.5000	0.5000	
2	10.696	10.696	0.000	233956540H	0.5000	0.5000	
2	11.228	11.228	0.000	126935683H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	
* 16 PCB-205 (IS)							M
1	10.709	10.709	0.000	1012950195H	0.1000	0.1000	M
2	12.076	12.076	0.000	652357630H	0.1000	0.1000	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCAR3262CALL4_00014	Amount Added: 1.00	Units: mL	
PCBINT_00010	Amount Added: 0.01	Units: mL	Run Reagent

Report Date: 31-Dec-2019 06:19:23 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309003.D

Injection Date: 30-Dec-2019 09:35:51 Instrument ID: CHGC16

Lims ID: IC

Client ID:

Operator ID: 402331 ALS Bottle#: 2 Worklist Smp#: 2

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_CHGC16 Limit Group: GCS 8082A ICAL with IS

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

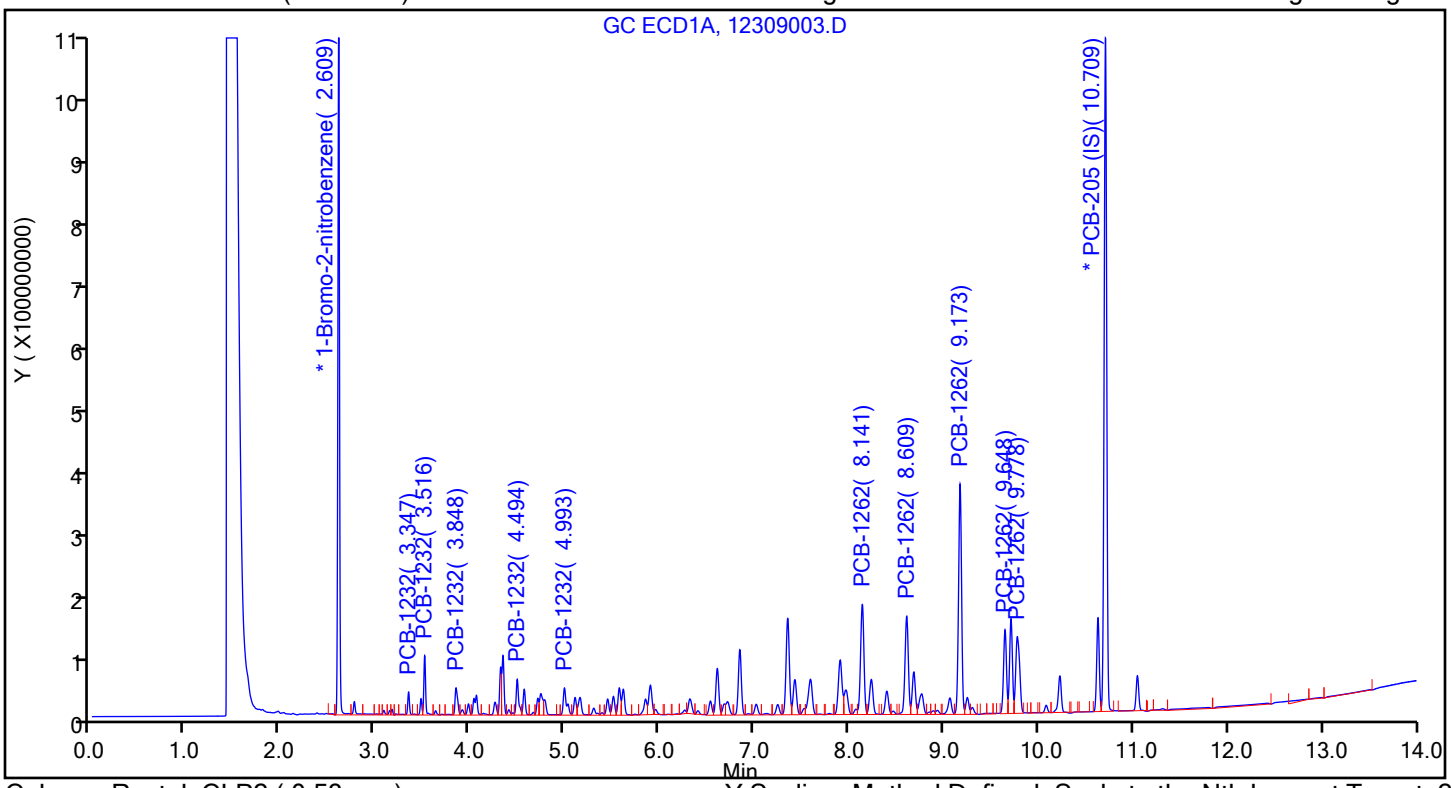

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

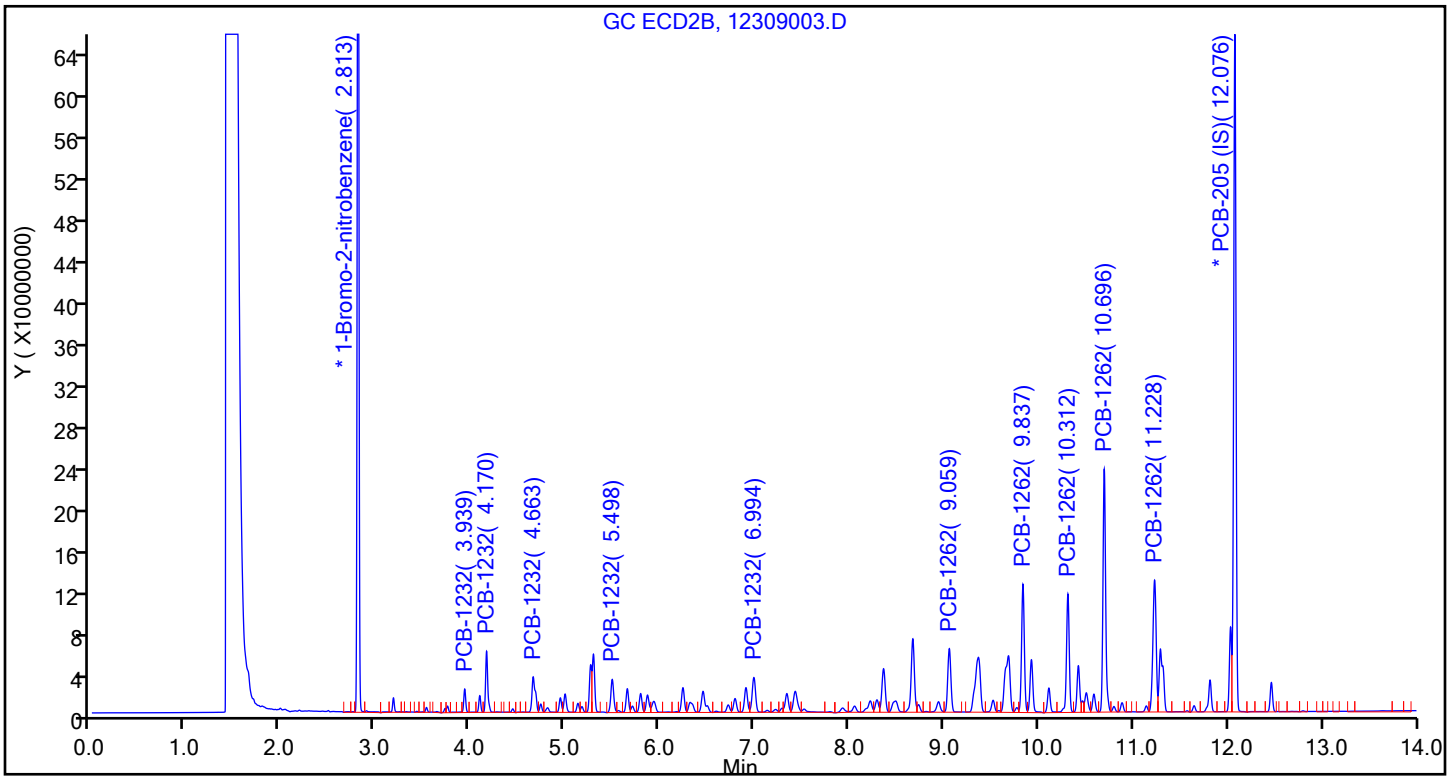

Report Date: 31-Dec-2019 06:19:23 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309003.D				
Injection Date:	30-Dec-2019 09:35:51	Instrument ID:	CHGC16		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	PCB_CHGC16	Limit Group:	GCS 8082A ICAL with IS		
Column:	Restek CLP 1 (0.53 mm)	Detector	GC ECD1A		

10 PCB-1262, CAS: 37324-23-5

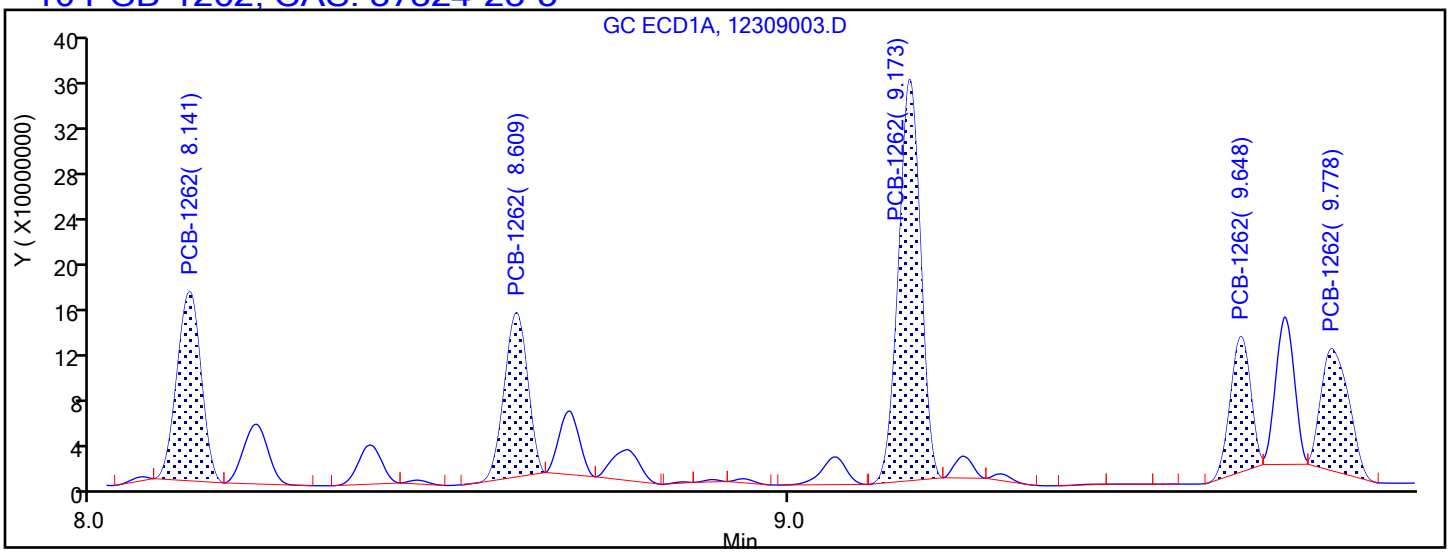

Processing Integration Results

8.141	Response = 161012909
8.609	Response = 139940648
9.173	Response = 341960779
9.648	Response = 115492400
9.778	Response = 103927716

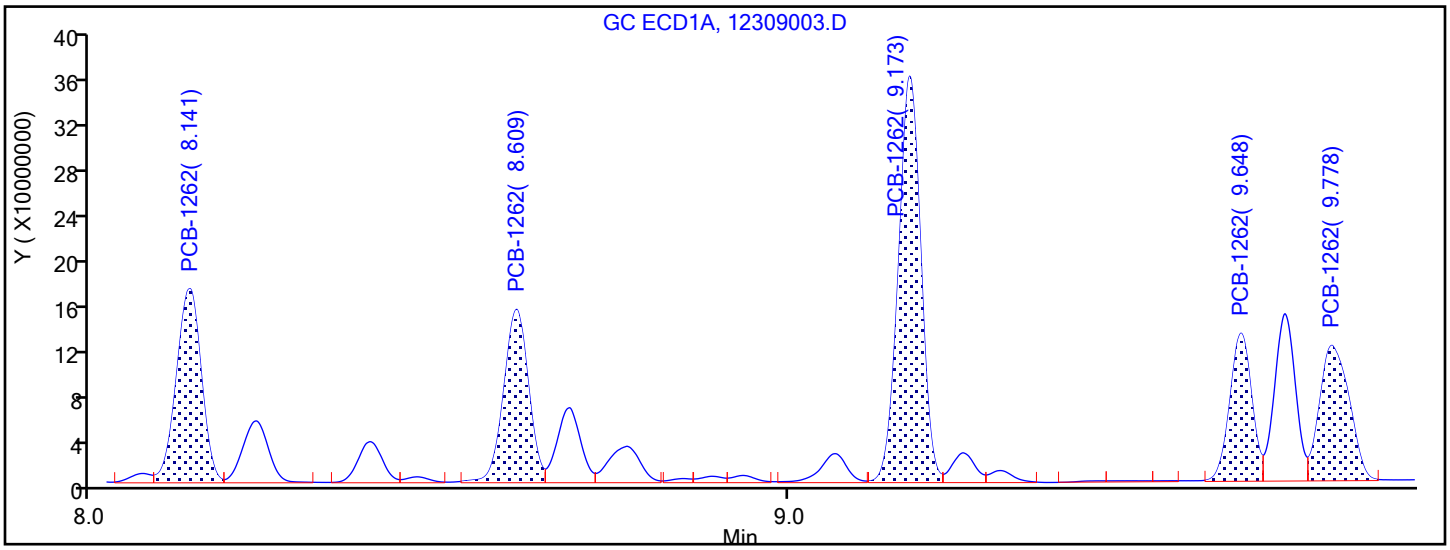

Manual Integration Results

8.141	Response = 165529926	M
8.609	Response = 147778434	M
9.173	Response = 346428498	M
9.648	Response = 126237374	M
9.778	Response = 115408311	M

Reviewer: oravecj, 30-Dec-2019 11:10:50

Audit Action: Assigned New Baseline Audit Reason: Instrument noise

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309003.D				
Injection Date:	30-Dec-2019 09:35:51	Instrument ID:	CHGC16		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	PCB_CHGC16	Limit Group:	GCS 8082A ICAL with IS		
Column:	Restek CLP 1 (0.53 mm)	Detector	GC ECD1A		

* 16 PCB-205 (IS), CAS: 74472-53-0

Signal: 1

Processing Integration Results

RT: 10.71
Height: 1008060284
Amount: 0.100000
Amount Units: ng

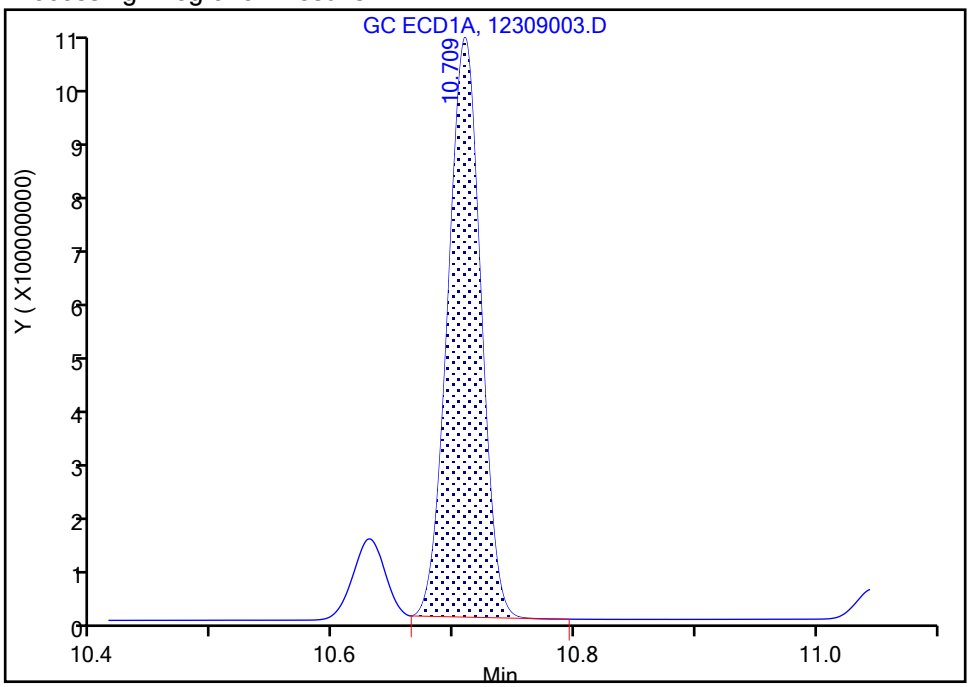

Manual Integration Results

RT: 10.71
Height: 1012950195
Amount: 0.100000
Amount Units: ng

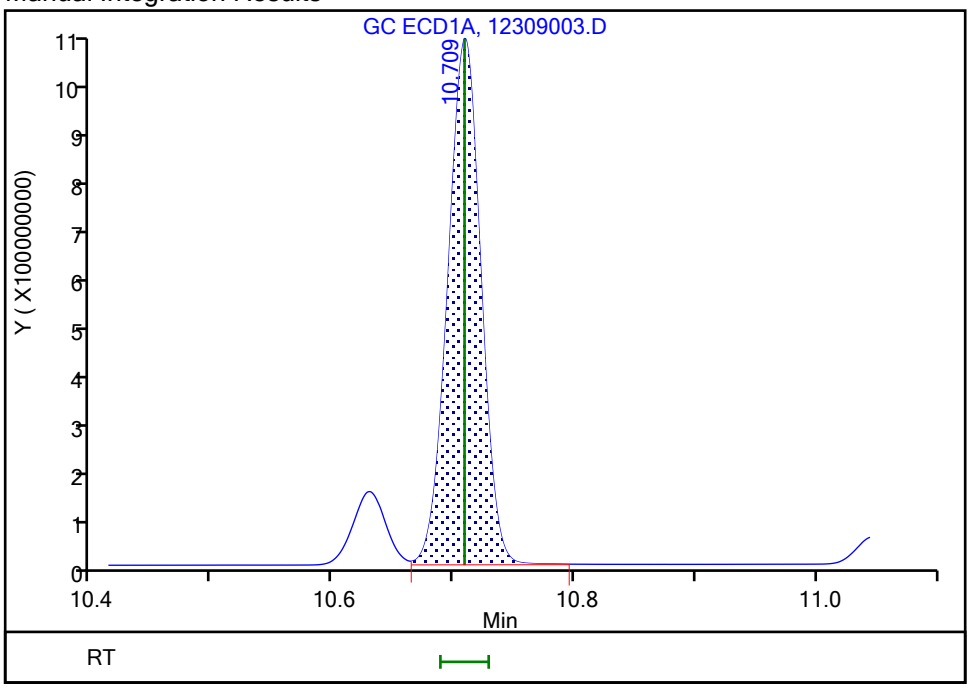

Reviewer: oravecj, 30-Dec-2019 11:10:52

Audit Action: Assigned New Baseline Audit Reason: Instrument noise

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302855

SDG No.:

Instrument ID: CHGC16 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/30/2019 09:35 Calibration End Date: 12/30/2019 09:35 Calibration ID: 42420

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-302855/2	12309003.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1232 Peak 1	0.0041					Ave		0.0041						20.0			
PCB-1232 Peak 2	0.0106					Ave		0.0106						20.0			
PCB-1232 Peak 3	0.0062					Ave		0.0062						20.0			
PCB-1232 Peak 4	0.0057					Ave		0.0057						20.0			
PCB-1232 Peak 5	0.0060					Ave		0.0060						20.0			
PCB-1262 Peak 1	0.0188					Ave		0.0188						20.0			
PCB-1262 Peak 2	0.0379					Ave		0.0379						20.0			
PCB-1262 Peak 3	0.0350					Ave		0.0350						20.0			
PCB-1262 Peak 4	0.0717					Ave		0.0717						20.0			
PCB-1262 Peak 5	0.0389					Ave		0.0389						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302855

SDG No.:

Instrument ID: CHGC16 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/30/2019 09:35 Calibration End Date: 12/30/2019 09:35 Calibration ID: 42420

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-302855/2	12309003.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1					LVL 1				
PCB-1232 Peak 1	BNB	Ave	22626447					0.500				
PCB-1232 Peak 2	BNB	Ave	58819619					0.500				
PCB-1232 Peak 3	BNB	Ave	34192785					0.500				
PCB-1232 Peak 4	BNB	Ave	31934621					0.500				
PCB-1232 Peak 5	BNB	Ave	33556738					0.500				
PCB-1262 Peak 1	PCB20	Ave	61238880					0.500				
PCB-1262 Peak 2	PCB20	Ave	123482257					0.500				
PCB-1262 Peak 3	PCB20	Ave	114126713					0.500				
PCB-1262 Peak 4	PCB20	Ave	233956540					0.500				
PCB-1262 Peak 5	PCB20	Ave	126935683					0.500				

Curve Type Legend:

Ave = Average ISTD by Height

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302855

SDG No.:

Instrument ID: CHGC16 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/30/2019 09:35 Calibration End Date: 12/30/2019 09:35 Calibration ID: 42420

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-302855/2	12309003.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #						LVL 1					
PCB-1232 Peak 1	0.0						50					
PCB-1232 Peak 2	0.0						50					
PCB-1232 Peak 3	0.0						50					
PCB-1232 Peak 4	0.0						50					
PCB-1232 Peak 5	0.0						50					
PCB-1262 Peak 1	0.0						50					
PCB-1262 Peak 2	0.0						50					
PCB-1262 Peak 3	0.0						50					
PCB-1262 Peak 4	0.0						50					
PCB-1262 Peak 5	0.0						50					

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309003.D				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	4		
Inject. Date:	30-Dec-2019 09:35:51	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0030215-002				
Operator ID:	402331	Instrument ID:	CHGC16		
Sublist:	chrom-PCB_CHGC16*sub29				
Method:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m				
Limit Group:	GCS 8082A ICAL with IS				
Last Update:	31-Dec-2019 06:19:21	Calib Date:	30-Dec-2019 12:24:02		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D				
Column 1 :	Restek CLP 1 (0.53 mm)		Det: GC ECD1A		
Column 2 :	Restek CLP2 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0304				

First Level Reviewer: oravecj Date: 30-Dec-2019 11:11:14

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.609	2.607	0.002	1052758558H	0.1000	0.1000	
2	2.813	2.813	0.000	1111222009H	0.1000	0.1000	
3 PCB-1232							
1	3.347	3.347	0.000	34586079H	0.5000	0.5000	
1	3.516	3.516	0.000	89331562H	0.5000	0.5000	
1	3.848	3.848	0.000	40924520H	0.5000	0.5000	
1	4.494	4.494	0.000	53902326H	0.5000	0.5000	
1	4.993	4.993	0.000	40995737H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	3.939	3.939	0.000	22626447H	0.5000	0.5000	
2	4.170	4.170	0.000	58819619H	0.5000	0.5000	
2	4.663	4.663	0.000	34192785H	0.5000	0.5000	
2	5.498	5.498	0.000	31934621H	0.5000	0.5000	
2	6.994	6.994	0.000	33556738H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
10 PCB-1262							M
1	8.141	8.141	0.000	165529926H	0.5000	0.5000	M
1	8.609	8.609	0.000	147778434H	0.5000	0.5000	M
1	9.173	9.173	0.000	346428498H	0.5000	0.5000	M
1	9.648	9.648	0.000	126237374H	0.5000	0.5000	M
1	9.778	9.778	0.000	115408311H	0.5000	0.5000	M
		Average of Peak Amounts =				0.5000	
2	9.059	9.059	0.000	61238880H	0.5000	0.5000	
2	9.837	9.837	0.000	123482257H	0.5000	0.5000	
2	10.312	10.312	0.000	114126713H	0.5000	0.5000	
2	10.696	10.696	0.000	233956540H	0.5000	0.5000	
2	11.228	11.228	0.000	126935683H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	
* 16 PCB-205 (IS)							M
1	10.709	10.709	0.000	1012950195H	0.1000	0.1000	M
2	12.076	12.076	0.000	652357630H	0.1000	0.1000	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCAR3262CALL4_00014	Amount Added:	1.00	Units: mL	
PCBINT_00010	Amount Added:	0.01	Units: mL	Run Reagent

Report Date: 31-Dec-2019 06:19:24 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309003.D

Injection Date: 30-Dec-2019 09:35:51 Instrument ID: CHGC16

Lims ID: IC

Client ID:

Operator ID: 402331 ALS Bottle#: 2 Worklist Smp#: 2

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_CHGC16 Limit Group: GCS 8082A ICAL with IS

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

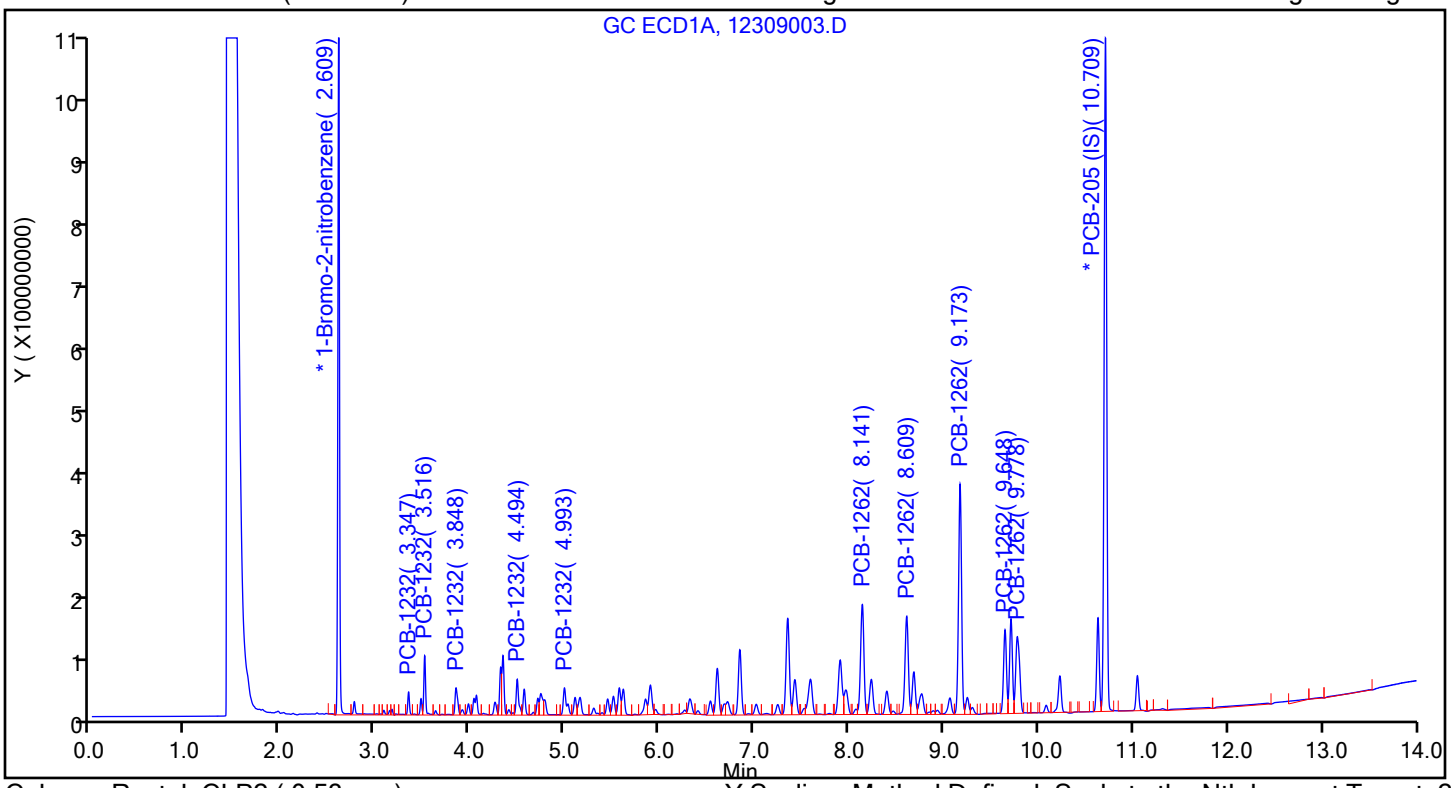

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

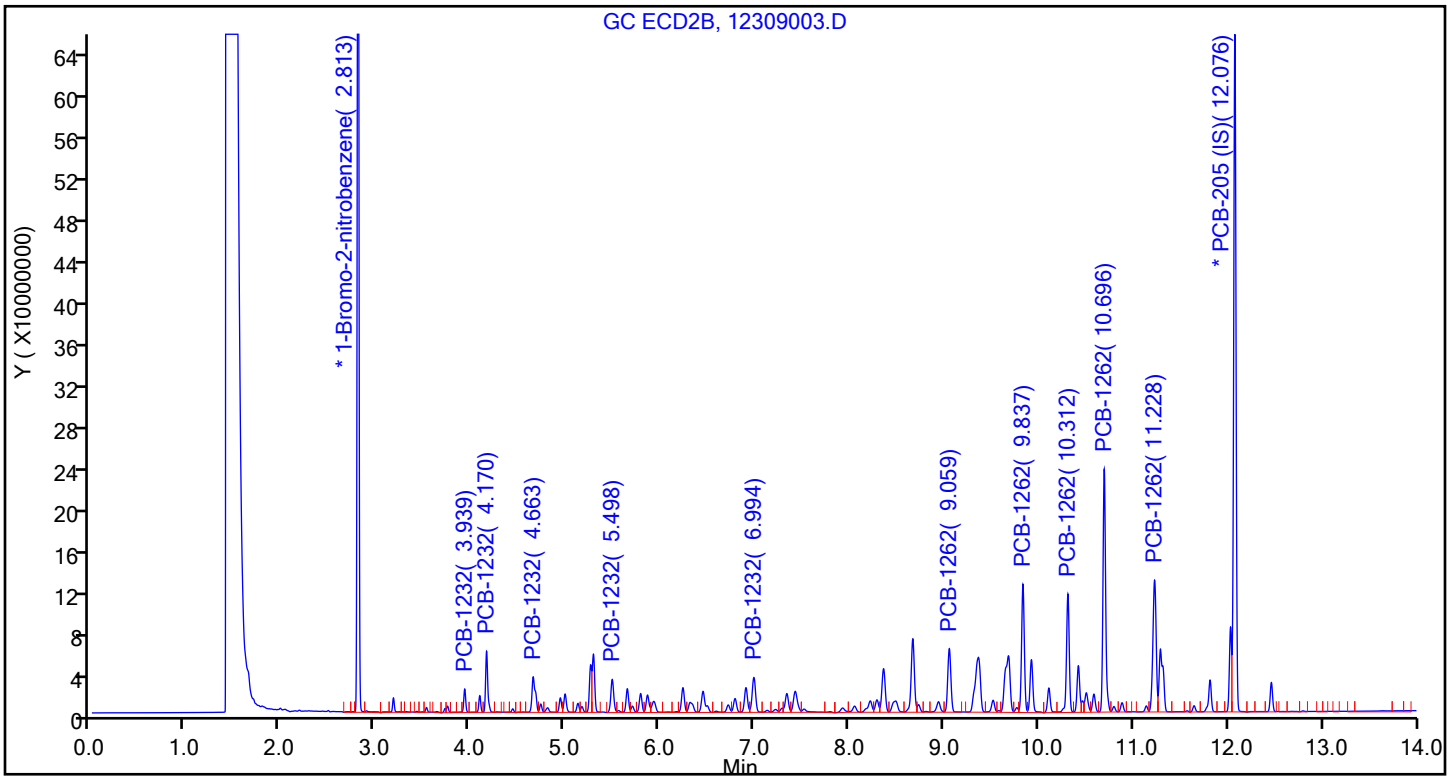

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302855

SDG No.:

Instrument ID: CHGC16 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/30/2019 09:54 Calibration End Date: 12/30/2019 09:54 Calibration ID: 42427

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-302855/3	12309004.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1242 Peak 1	0.0124					Ave		0.0124						20.0			
PCB-1242 Peak 2	0.0150					Ave		0.0150						20.0			
PCB-1242 Peak 3	0.0156					Ave		0.0156						20.0			
PCB-1242 Peak 4	0.0128					Ave		0.0128						20.0			
PCB-1242 Peak 5	0.0120					Ave		0.0120						20.0			
PCB-1268 Peak 1	0.0797					Ave		0.0797						20.0			
PCB-1268 Peak 2	0.0686					Ave		0.0686						20.0			
PCB-1268 Peak 3	0.0692					Ave		0.0692						20.0			
PCB-1268 Peak 4	0.1853					Ave		0.1853						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302855

SDG No.:

Instrument ID: CHGC16 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/30/2019 09:54 Calibration End Date: 12/30/2019 09:54 Calibration ID: 42427

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-302855/3	12309004.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1					LVL 1				
PCB-1242 Peak 1	BNB	Ave	62284609					0.500				
PCB-1242 Peak 2	BNB	Ave	75713365					0.500				
PCB-1242 Peak 3	BNB	Ave	78735599					0.500				
PCB-1242 Peak 4	BNB	Ave	64654249					0.500				
PCB-1242 Peak 5	BNB	Ave	60393981					0.500				
PCB-1268 Peak 1	PCB20	Ave	345578358					0.500				
PCB-1268 Peak 2	PCB20	Ave	297465796					0.500				
PCB-1268 Peak 3	PCB20	Ave	299932171					0.500				
PCB-1268 Peak 4	PCB20	Ave	803094794					0.500				

Curve Type Legend:
Ave = Average ISTD by Height

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302855

SDG No.:

Instrument ID: CHGC16 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/30/2019 09:54 Calibration End Date: 12/30/2019 09:54 Calibration ID: 42427

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-302855/3	12309004.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #						LVL 1					
PCB-1242 Peak 1	0.0						50					
PCB-1242 Peak 2	0.0						50					
PCB-1242 Peak 3	0.0						50					
PCB-1242 Peak 4	0.0						50					
PCB-1242 Peak 5	0.0						50					
PCB-1268 Peak 1	0.0						50					
PCB-1268 Peak 2	0.0						50					
PCB-1268 Peak 3	0.0						50					
PCB-1268 Peak 4	0.0						50					

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309004.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 30-Dec-2019 09:54:34 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-003
Operator ID: 402331 Instrument ID: CHGC16
Sublist: chrom-PCB_CHGC16*sub28

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:19:03 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 30-Dec-2019 11:11:41

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.608	2.607	0.002	1006529903H	0.1000	0.1000	
2	2.813	2.813	0.000	1071893513H	0.1000	0.1000	
5 PCB-1242							
1	3.517	3.517	0.000	62284609H	0.5000	0.5000	
1	3.848	3.848	0.000	75713365H	0.5000	0.5000	
1	4.494	4.494	0.000	78735599H	0.5000	0.5000	
1	4.993	4.993	0.000	64654249H	0.5000	0.5000	
1	5.573	5.573	0.000	60393981H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	4.170	4.170	0.000	39998774H	0.5000	0.5000	
2	4.663	4.663	0.000	53073747H	0.5000	0.5000	
2	6.245	6.245	0.000	38610306H	0.5000	0.5000	
2	6.998	6.998	0.000	39382580H	0.5000	0.5000	
2	7.432	7.432	0.000	30722078H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	
11 PCB-1268							
1	9.712	9.712	0.000	345578358H	0.5000	0.5000	
1	9.776	9.776	0.000	297465796H	0.5000	0.5000	
1	10.084	10.084	0.000	299932171H	0.5000	0.5000	
1	11.048	11.048	0.000	803094794H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	11.223	11.223	0.000	219026936H	0.5000	0.5000	
2	11.288	11.288	0.000	180342175H	0.5000	0.5000	
2	11.645	11.645	0.000	174229289H	0.5000	0.5000	
2	12.462	12.462	0.000	495445612H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 16 PCB-205 (IS)							
1	10.709	10.709	0.001	867022651H	0.1000	0.1000	
2	12.076	12.076	0.000	550083141H	0.1000	0.1000	

Reagents:

GCAR4268CALL4_00014 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 31-Dec-2019 06:19:06 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309004.D

Injection Date: 30-Dec-2019 09:54:34 Instrument ID: CHGC16

Lims ID: IC

Client ID:

Operator ID: 402331 ALS Bottle#: 3 Worklist Smp#: 3

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_CHGC16 Limit Group: GCS 8082A ICAL with IS

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

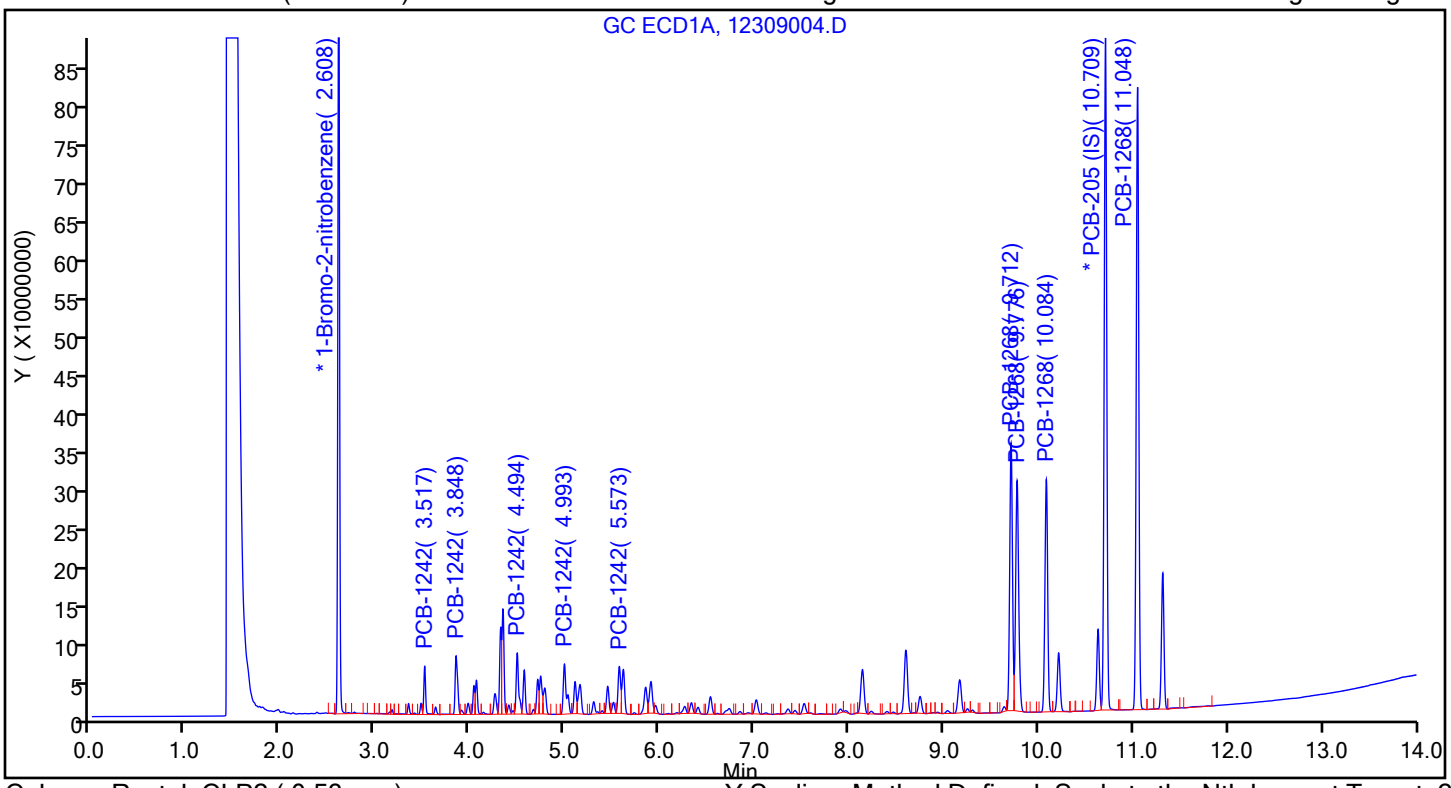

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

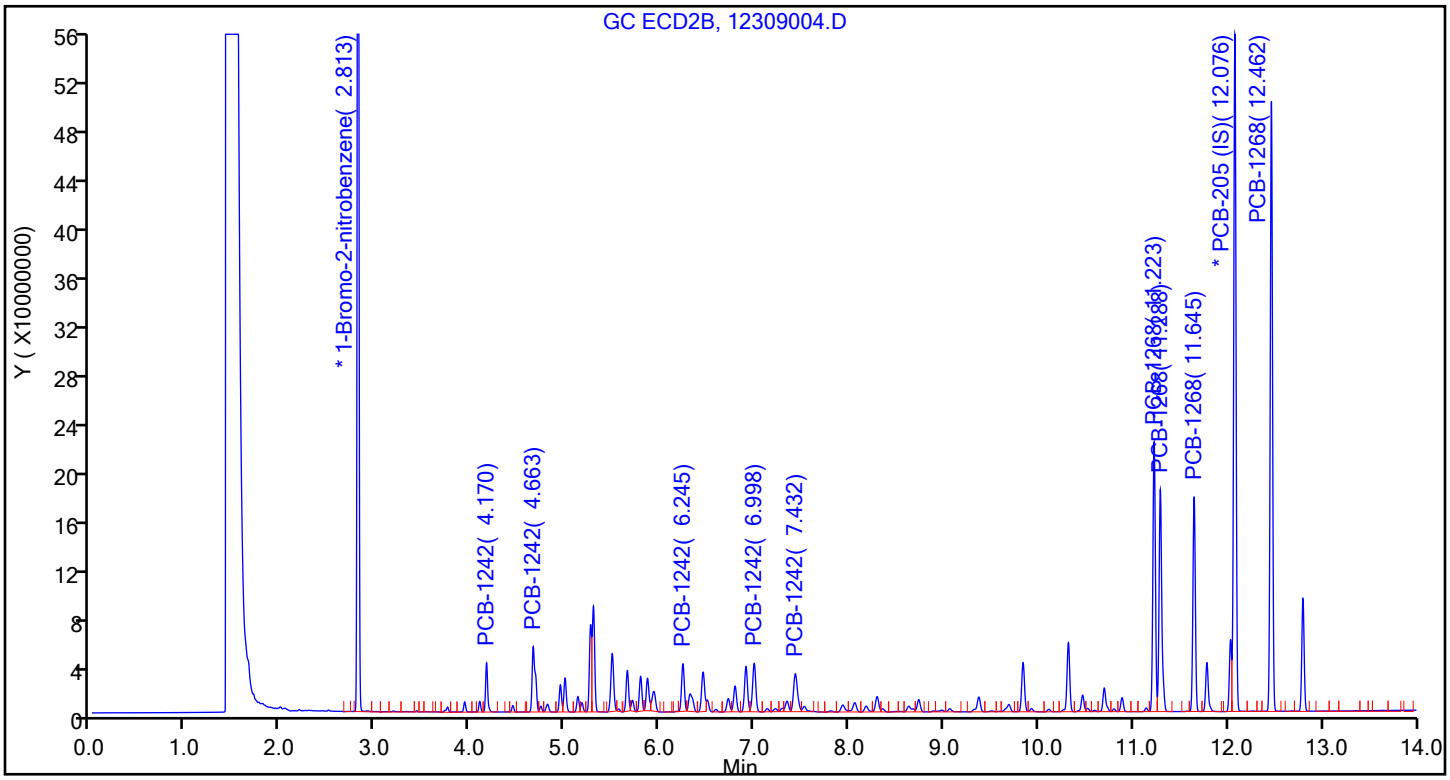

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302855

SDG No.:

Instrument ID: CHGC16 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/30/2019 09:54 Calibration End Date: 12/30/2019 09:54 Calibration ID: 42428

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-302855/3	12309004.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1242 Peak 1	0.0075					Ave		0.0075						20.0			
PCB-1242 Peak 2	0.0099					Ave		0.0099						20.0			
PCB-1242 Peak 3	0.0072					Ave		0.0072						20.0			
PCB-1242 Peak 4	0.0073					Ave		0.0073						20.0			
PCB-1242 Peak 5	0.0057					Ave		0.0057						20.0			
PCB-1268 Peak 1	0.0796					Ave		0.0796						20.0			
PCB-1268 Peak 2	0.0656					Ave		0.0656						20.0			
PCB-1268 Peak 3	0.0633					Ave		0.0633						20.0			
PCB-1268 Peak 4	0.1801					Ave		0.1801						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302855

SDG No.:

Instrument ID: CHGC16 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/30/2019 09:54 Calibration End Date: 12/30/2019 09:54 Calibration ID: 42428

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-302855/3	12309004.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1					LVL 1				
PCB-1242 Peak 1	BNB	Ave	39998774					0.500				
PCB-1242 Peak 2	BNB	Ave	53073747					0.500				
PCB-1242 Peak 3	BNB	Ave	38610306					0.500				
PCB-1242 Peak 4	BNB	Ave	39382580					0.500				
PCB-1242 Peak 5	BNB	Ave	30722078					0.500				
PCB-1268 Peak 1	PCB20	Ave	219026936					0.500				
PCB-1268 Peak 2	PCB20	Ave	180342175					0.500				
PCB-1268 Peak 3	PCB20	Ave	174229289					0.500				
PCB-1268 Peak 4	PCB20	Ave	495445612					0.500				

Curve Type Legend:
Ave = Average ISTD by Height

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302855

SDG No.:

Instrument ID: CHGC16 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/30/2019 09:54 Calibration End Date: 12/30/2019 09:54 Calibration ID: 42428

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-302855/3	12309004.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #						LVL 1					
PCB-1242 Peak 1	0.0						50					
PCB-1242 Peak 2	0.0						50					
PCB-1242 Peak 3	0.0						50					
PCB-1242 Peak 4	0.0						50					
PCB-1242 Peak 5	0.0						50					
PCB-1268 Peak 1	0.0						50					
PCB-1268 Peak 2	0.0						50					
PCB-1268 Peak 3	0.0						50					
PCB-1268 Peak 4	0.0						50					

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309004.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 30-Dec-2019 09:54:34 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-003
Operator ID: 402331 Instrument ID: CHGC16
Sublist: chrom-PCB_CHGC16*sub28

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:19:03 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 30-Dec-2019 11:11:41

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.608	2.607	0.002	1006529903H	0.1000	0.1000	
2	2.813	2.813	0.000	1071893513H	0.1000	0.1000	
5 PCB-1242							
1	3.517	3.517	0.000	62284609H	0.5000	0.5000	
1	3.848	3.848	0.000	75713365H	0.5000	0.5000	
1	4.494	4.494	0.000	78735599H	0.5000	0.5000	
1	4.993	4.993	0.000	64654249H	0.5000	0.5000	
1	5.573	5.573	0.000	60393981H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	4.170	4.170	0.000	39998774H	0.5000	0.5000	
2	4.663	4.663	0.000	53073747H	0.5000	0.5000	
2	6.245	6.245	0.000	38610306H	0.5000	0.5000	
2	6.998	6.998	0.000	39382580H	0.5000	0.5000	
2	7.432	7.432	0.000	30722078H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	
11 PCB-1268							
1	9.712	9.712	0.000	345578358H	0.5000	0.5000	
1	9.776	9.776	0.000	297465796H	0.5000	0.5000	
1	10.084	10.084	0.000	299932171H	0.5000	0.5000	
1	11.048	11.048	0.000	803094794H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	11.223	11.223	0.000	219026936H	0.5000	0.5000	
2	11.288	11.288	0.000	180342175H	0.5000	0.5000	
2	11.645	11.645	0.000	174229289H	0.5000	0.5000	
2	12.462	12.462	0.000	495445612H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 16 PCB-205 (IS)							
1	10.709	10.709	0.001	867022651H	0.1000	0.1000	
2	12.076	12.076	0.000	550083141H	0.1000	0.1000	

Reagents:

GCAR4268CALL4_00014 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 31-Dec-2019 06:19:10 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309004.D

Injection Date: 30-Dec-2019 09:54:34 Instrument ID: CHGC16

Lims ID: IC

Client ID:

Operator ID: 402331 ALS Bottle#: 3 Worklist Smp#: 3

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_CHGC16 Limit Group: GCS 8082A ICAL with IS

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

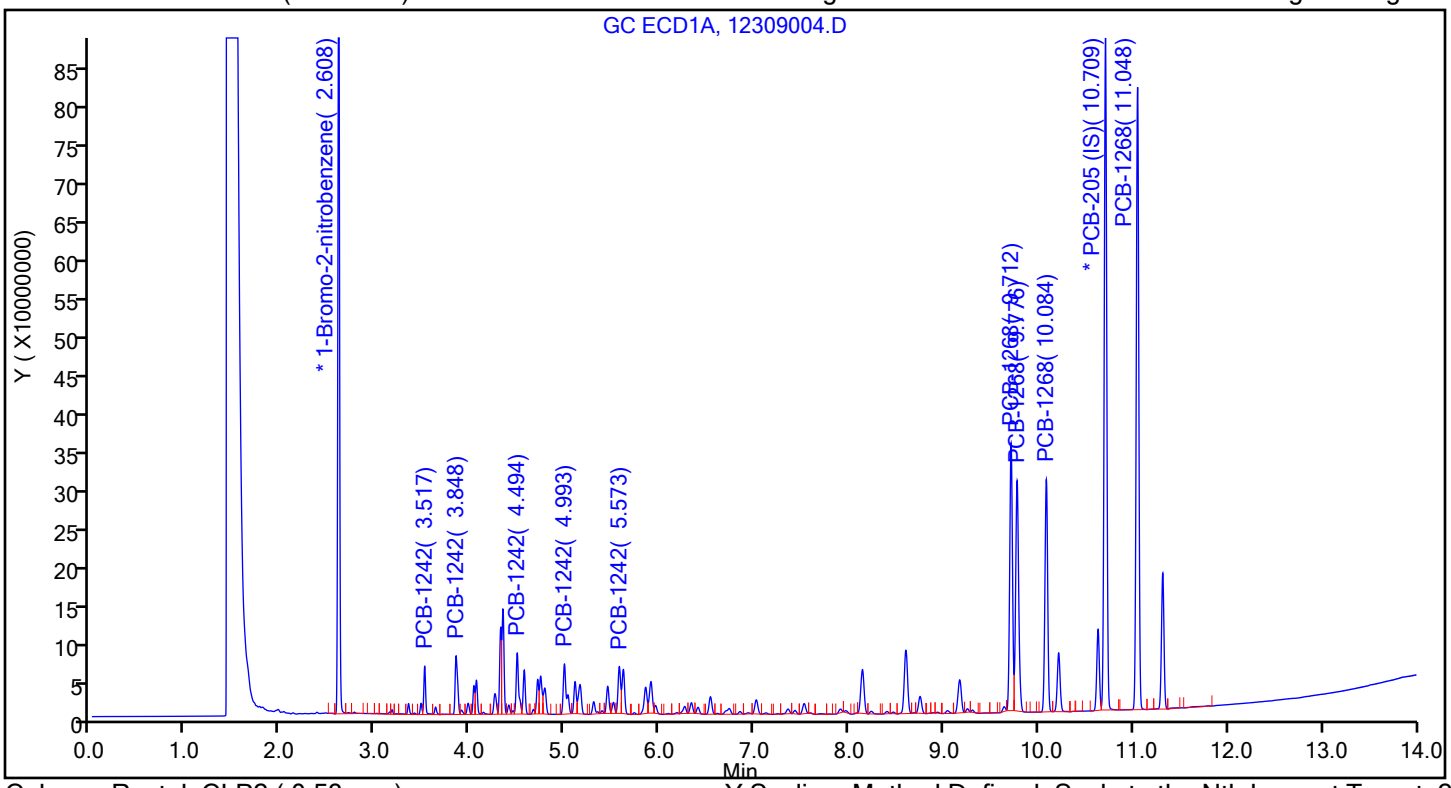

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

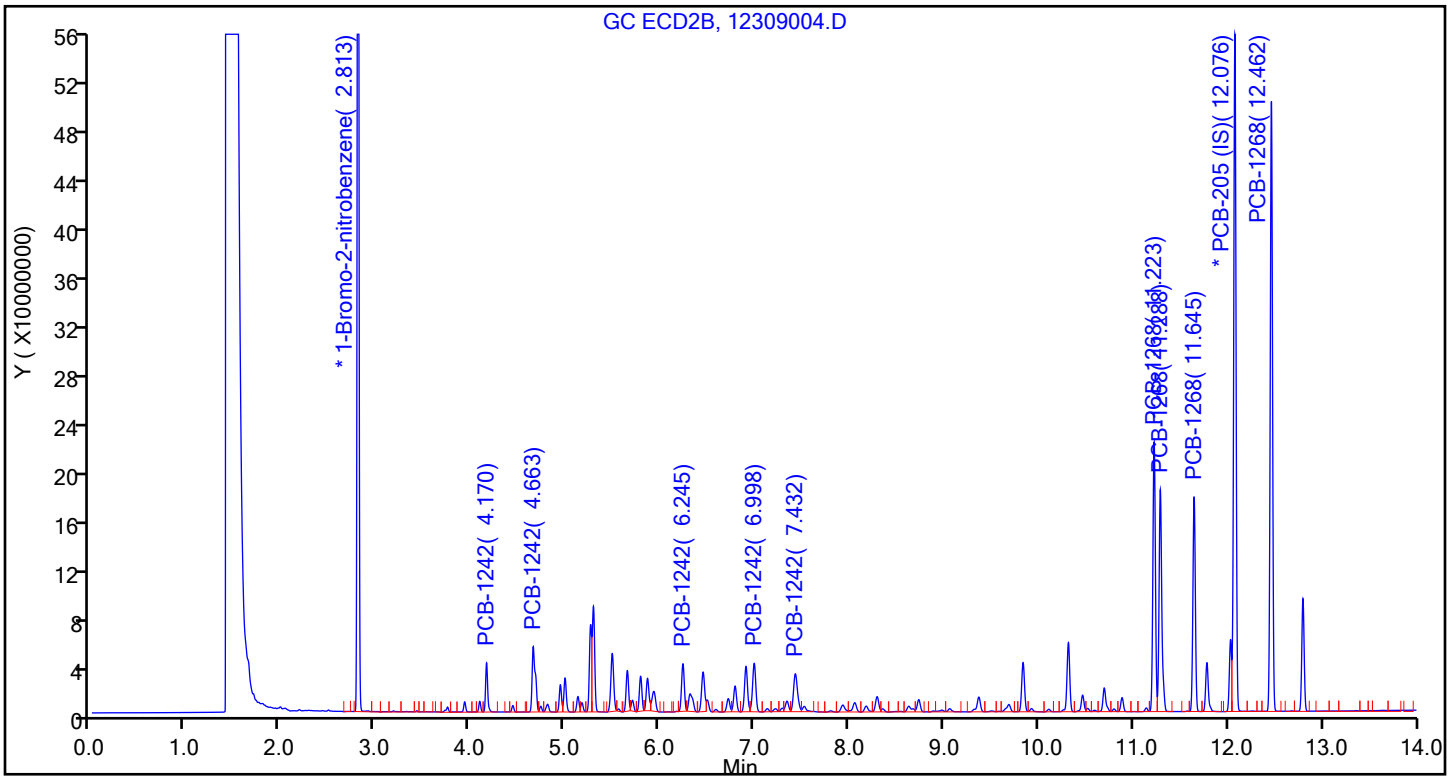

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302855

SDG No.:

Instrument ID: CHGC16 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/30/2019 10:13 Calibration End Date: 12/30/2019 10:13 Calibration ID: 42403

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-302855/4	12309005.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1248 Peak 1	0.0068					Ave		0.0068						20.0			
PCB-1248 Peak 2	0.0133					Ave		0.0133						20.0			
PCB-1248 Peak 3	0.0221					Ave		0.0221						20.0			
PCB-1248 Peak 4	0.0249					Ave		0.0249						20.0			
PCB-1248 Peak 5	0.0111					Ave		0.0111						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302855

SDG No.:

Instrument ID: CHGC16 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/30/2019 10:13 Calibration End Date: 12/30/2019 10:13 Calibration ID: 42403

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-302855/4	12309005.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1					LVL 1				
PCB-1248 Peak 1	BNB	Ave	32934569					0.500				
PCB-1248 Peak 2	BNB	Ave	64591278					0.500				
PCB-1248 Peak 3	BNB	Ave	107280326					0.500				
PCB-1248 Peak 4	BNB	Ave	120871965					0.500				
PCB-1248 Peak 5	BNB	Ave	54035512					0.500				

Curve Type Legend:
Ave = Average ISTD by Height

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302855

SDG No.:

Instrument ID: CHGC16 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/30/2019 10:13 Calibration End Date: 12/30/2019 10:13 Calibration ID: 42403

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-302855/4	12309005.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #						LVL 1					
PCB-1248 Peak 1	0.0						50					
PCB-1248 Peak 2	0.0						50					
PCB-1248 Peak 3	0.0						50					
PCB-1248 Peak 4	0.0						50					
PCB-1248 Peak 5	0.0						50					

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309005.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 30-Dec-2019 10:13:15 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-004
Operator ID: 402331 Instrument ID: CHGC16
Sublist: chrom-PCB_CHGC16*sub27

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:18:48 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 30-Dec-2019 11:11:56

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.607	2.607	0.000	970166629H	0.1000	0.1000	
2	2.813	2.813	0.000	1033897936H	0.1000	0.1000	
7 PCB-1248							
1	3.847	3.847	0.000	32934569H	0.5000	0.5000	
1	4.713	4.713	0.000	64591278H	0.5000	0.5000	
1	4.994	4.994	0.000	107280326H	0.5000	0.5000	
1	5.574	5.574	0.000	120871965H	0.5000	0.5000	
1	6.535	6.535	0.000	54035512H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	4.664	4.664	0.000	30956453H	0.5000	0.5000	
2	5.799	5.799	0.000	56423437H	0.5000	0.5000	
2	6.245	6.245	0.000	63935786H	0.5000	0.5000	
2	6.998	6.998	0.000	76893693H	0.5000	0.5000	
2	7.434	7.434	0.000	55033893H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	
* 16 PCB-205 (IS)							
1	10.709	10.709	0.000	833358931H	0.1000	0.1000	
2	12.076	12.076	0.000	543533209H	0.1000	0.1000	

Reagents:

GCAR1248CALL4_00022 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 31-Dec-2019 06:18:50 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309005.D

Injection Date: 30-Dec-2019 10:13:15 Instrument ID: CHGC16

Lims ID: IC

Client ID:

Operator ID: 402331 ALS Bottle#: 4 Worklist Smp#: 4

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_CHGC16 Limit Group: GCS 8082A ICAL with IS

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

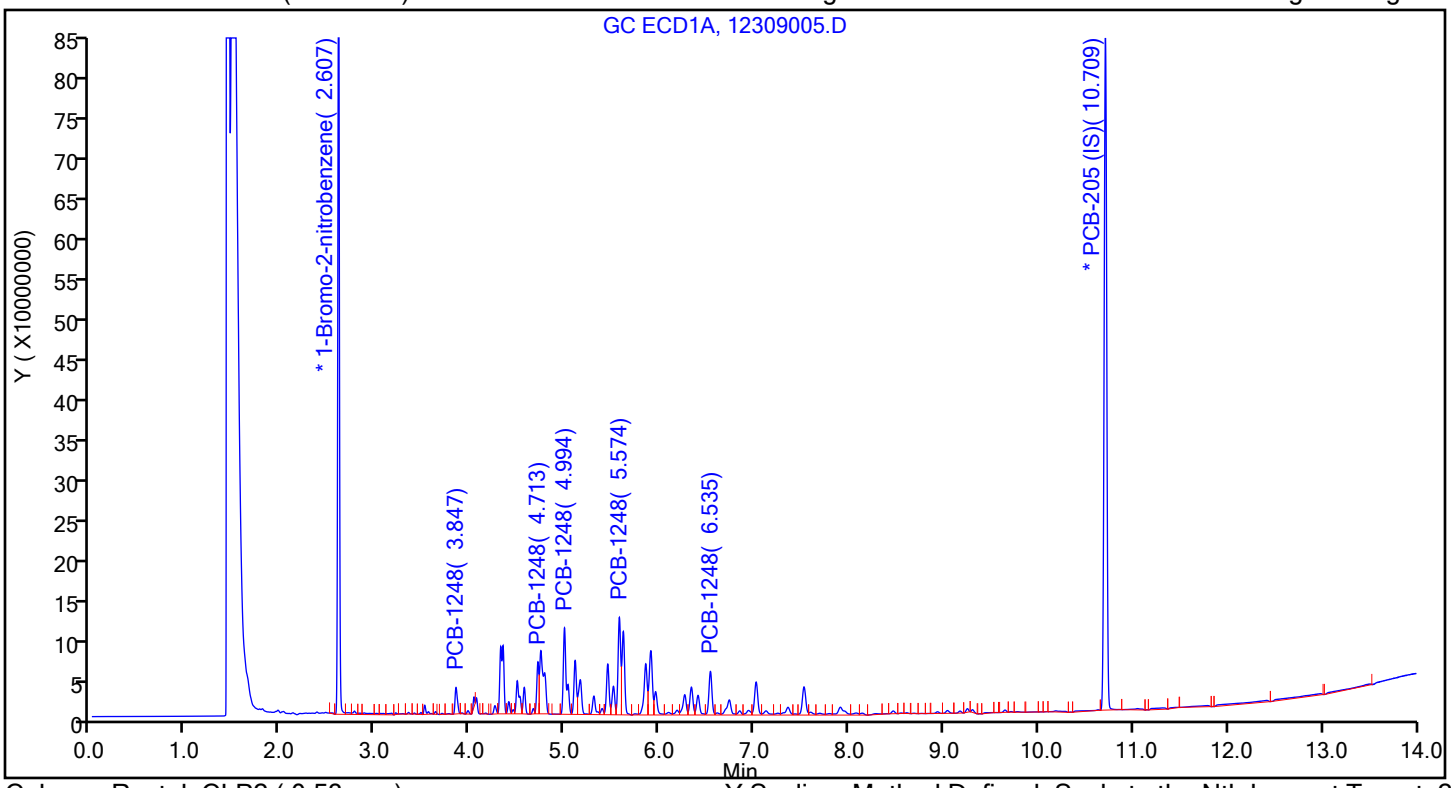

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

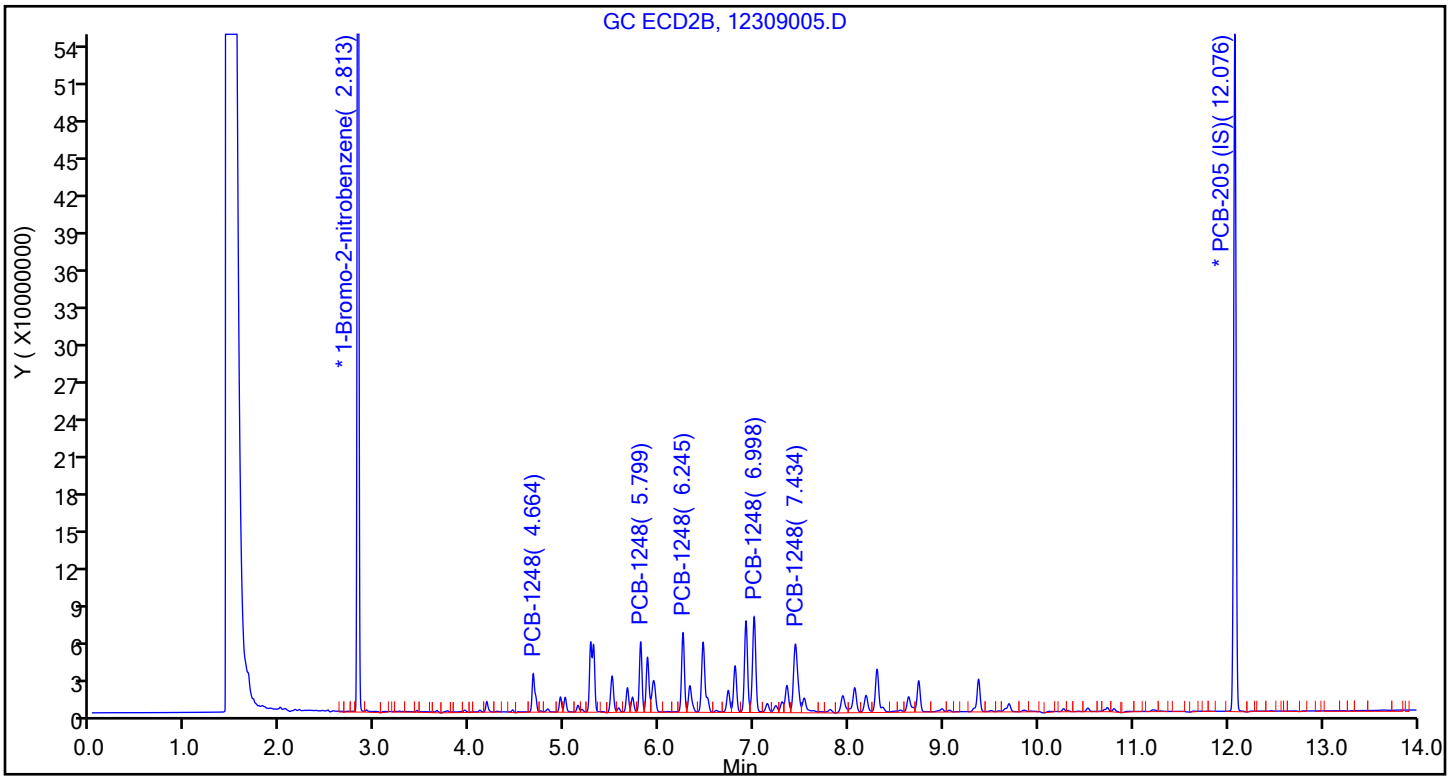

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302855

SDG No.:

Instrument ID: CHGC16 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/30/2019 10:13 Calibration End Date: 12/30/2019 10:13 Calibration ID: 42404

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-302855/4	12309005.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1248 Peak 1	0.0060					Ave		0.0060						20.0			
PCB-1248 Peak 2	0.0109					Ave		0.0109						20.0			
PCB-1248 Peak 3	0.0124					Ave		0.0124						20.0			
PCB-1248 Peak 4	0.0149					Ave		0.0149						20.0			
PCB-1248 Peak 5	0.0106					Ave		0.0106						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302855

SDG No.:

Instrument ID: CHGC16 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/30/2019 10:13 Calibration End Date: 12/30/2019 10:13 Calibration ID: 42404

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-302855/4	12309005.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1					LVL 1				
PCB-1248 Peak 1	BNB	Ave	30956453					0.500				
PCB-1248 Peak 2	BNB	Ave	56423437					0.500				
PCB-1248 Peak 3	BNB	Ave	63935786					0.500				
PCB-1248 Peak 4	BNB	Ave	76893693					0.500				
PCB-1248 Peak 5	BNB	Ave	55033893					0.500				

Curve Type Legend:
Ave = Average ISTD by Height

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302855

SDG No.:

Instrument ID: CHGC16 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/30/2019 10:13 Calibration End Date: 12/30/2019 10:13 Calibration ID: 42404

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-302855/4	12309005.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #						LVL 1					
PCB-1248 Peak 1	0.0						50					
PCB-1248 Peak 2	0.0						50					
PCB-1248 Peak 3	0.0						50					
PCB-1248 Peak 4	0.0						50					
PCB-1248 Peak 5	0.0						50					

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309005.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 30-Dec-2019 10:13:15 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-004
Operator ID: 402331 Instrument ID: CHGC16
Sublist: chrom-PCB_CHGC16*sub27

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:18:48 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 30-Dec-2019 11:11:56

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.607	2.607	0.000	970166629H	0.1000	0.1000	
2	2.813	2.813	0.000	1033897936H	0.1000	0.1000	
7 PCB-1248							
1	3.847	3.847	0.000	32934569H	0.5000	0.5000	
1	4.713	4.713	0.000	64591278H	0.5000	0.5000	
1	4.994	4.994	0.000	107280326H	0.5000	0.5000	
1	5.574	5.574	0.000	120871965H	0.5000	0.5000	
1	6.535	6.535	0.000	54035512H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	4.664	4.664	0.000	30956453H	0.5000	0.5000	
2	5.799	5.799	0.000	56423437H	0.5000	0.5000	
2	6.245	6.245	0.000	63935786H	0.5000	0.5000	
2	6.998	6.998	0.000	76893693H	0.5000	0.5000	
2	7.434	7.434	0.000	55033893H	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	
* 16 PCB-205 (IS)							
1	10.709	10.709	0.000	833358931H	0.1000	0.1000	
2	12.076	12.076	0.000	543533209H	0.1000	0.1000	

Reagents:

GCAR1248CALL4_00022 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 31-Dec-2019 06:18:50 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309005.D

Injection Date: 30-Dec-2019 10:13:15 Instrument ID: CHGC16

Lims ID: IC

Client ID:

Operator ID: 402331 ALS Bottle#: 4 Worklist Smp#: 4

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_CHGC16 Limit Group: GCS 8082A ICAL with IS

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

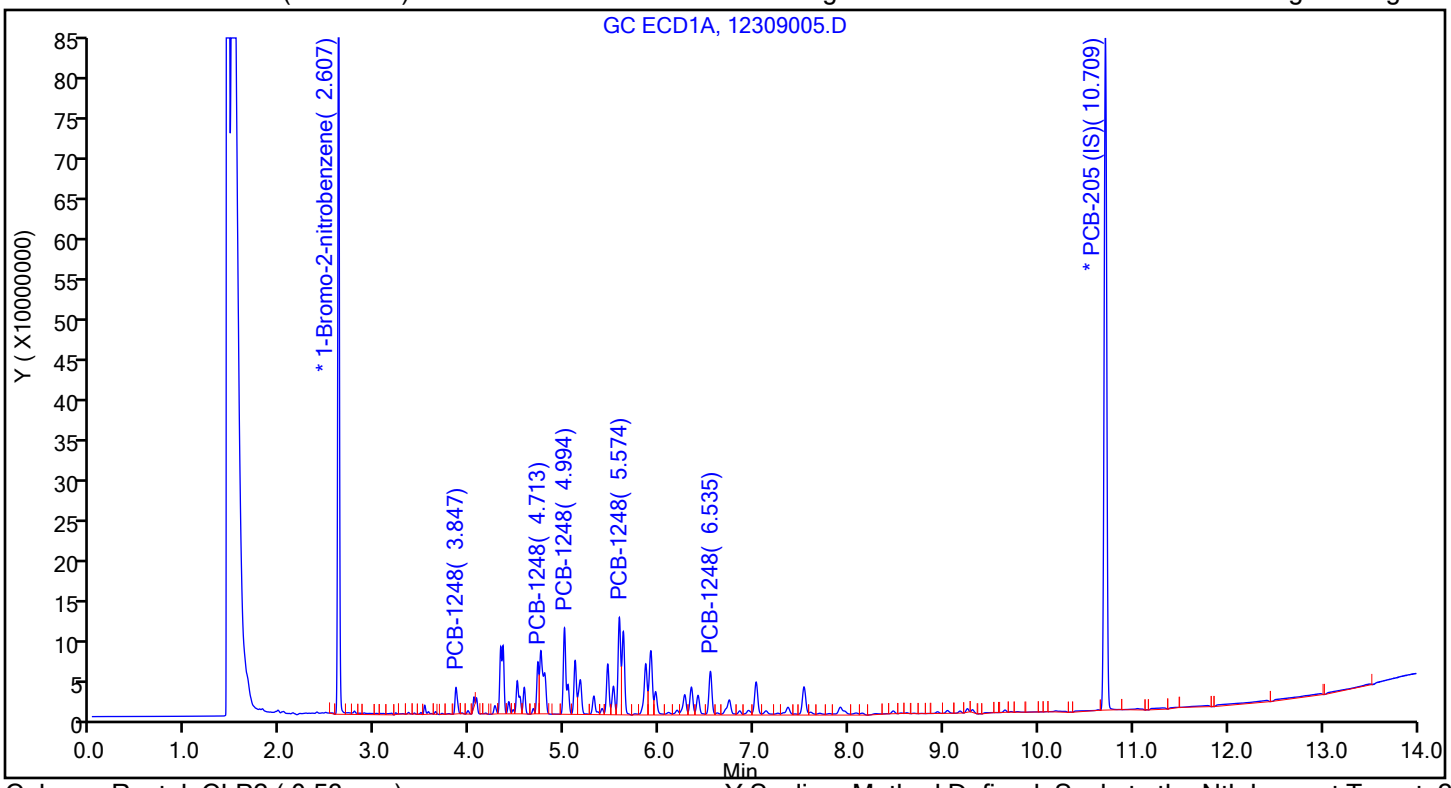

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

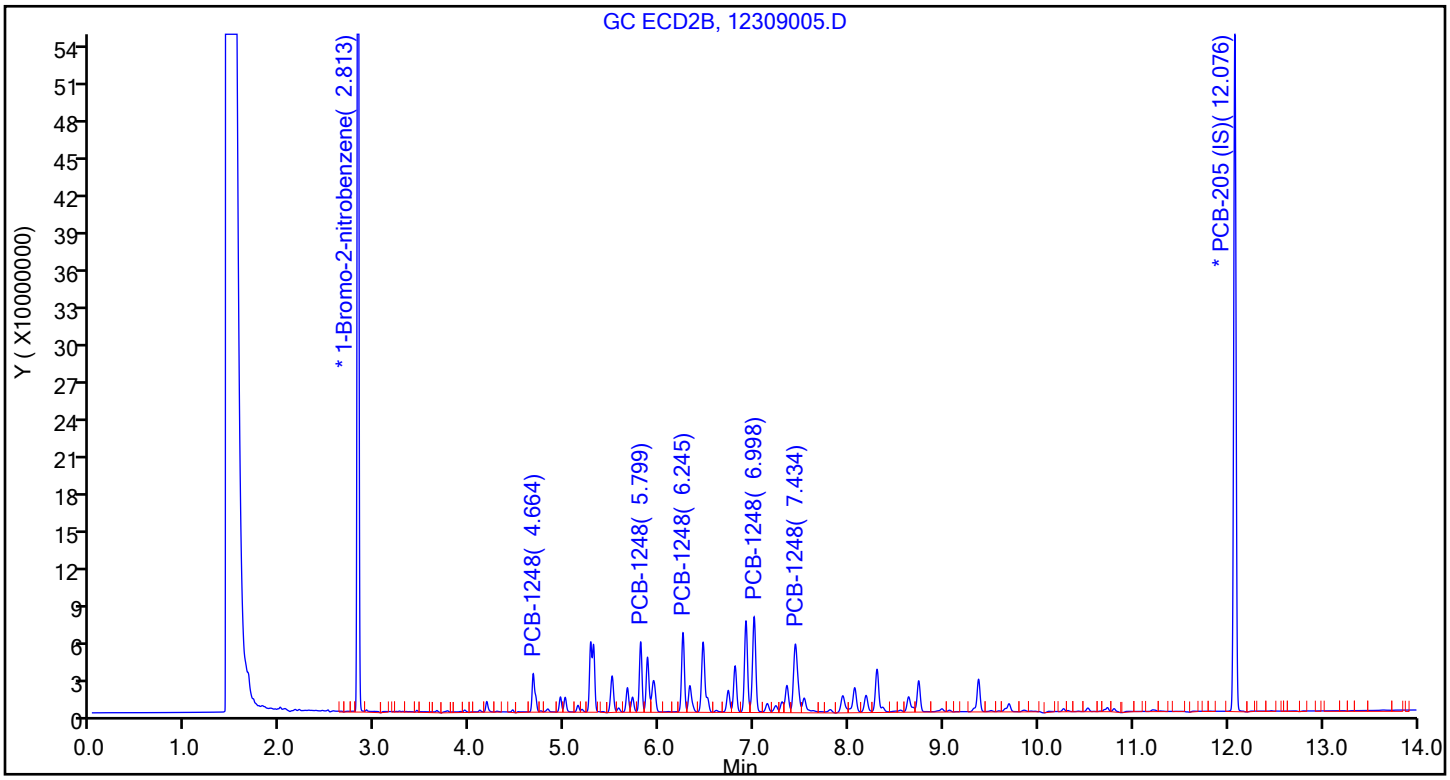

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302855

SDG No.:

Instrument ID: CHGC16 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/30/2019 10:31 Calibration End Date: 12/30/2019 12:24 Calibration ID: 42395

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-302855/5	12309006.D
Level 2	IC 180-302855/6	12309007.D
Level 3	IC 180-302855/7	12309008.D
Level 4	ICIS 180-302855/8	12309009.D
Level 5	IC 180-302855/9	12309010.D
Level 6	IC 180-302855/10	12309011.D
Level 7	IC 180-302855/11	12309012.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
PCB-1016 Peak 1	0.0179 0.0112	0.0150 0.0109	0.0127	0.0134	0.0112	Ave		0.0132				19.4		20.0			
PCB-1016 Peak 2	0.0111 0.0137	0.0173 0.0130	0.0150	0.0161	0.0135	Ave		0.0142				14.6		20.0			
PCB-1016 Peak 3	0.0081 0.0074	0.0103 0.0067	0.0083	0.0090	0.0073	Ave		0.0081				14.6		20.0			
PCB-1016 Peak 4	0.0070 0.0047	0.0058 0.0042	0.0051	0.0054	0.0045	Ave		0.0052				18.2		20.0			
PCB-1016 Peak 5	0.0139 0.0098	0.0127 0.0088	0.0104	0.0118	0.0093	Ave		0.0110				17.1		20.0			
PCB-1260 Peak 1	0.0347 0.0221	0.0246 0.0198	0.0196	0.0228	0.0195	Lin1	0.0001	0.0210							0.9940		0.9900
PCB-1260 Peak 2	0.0290 0.0262	0.0282 0.0241	0.0235	0.0268	0.0234	Ave		0.0259				8.8		20.0			
PCB-1260 Peak 3	0.0238 0.0180	0.0197 0.0169	0.0165	0.0186	0.0160	Ave		0.0185				14.5		20.0			
PCB-1260 Peak 4	0.0614 0.0468	0.0488 0.0477	0.0454	0.0485	0.0431	Ave		0.0488				12.0		20.0			
PCB-1260 Peak 5	0.0483 0.0245	0.0258 0.0253	0.0238	0.0243	0.0223	Lin1	0.0002	0.0236							0.9980		0.9900
Tetrachloro-m-xylene (Surr)	0.9553 0.7939	0.8364 0.7575	0.7739	0.8414	0.7528	Ave		0.8159				8.7		20.0			
DCB Decachlorobiphenyl (Surr)	1.1883 0.4620	0.5529 0.5363	0.4484	0.4975	0.4747	Lin1	0.0004	0.4744							0.9940		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302855

SDG No.:

Instrument ID: CHGC16 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/30/2019 10:31 Calibration End Date: 12/30/2019 12:24 Calibration ID: 42395

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-302855/5	12309006.D
Level 2	IC 180-302855/6	12309007.D
Level 3	IC 180-302855/7	12309008.D
Level 4	ICIS 180-302855/8	12309009.D
Level 5	IC 180-302855/9	12309010.D
Level 6	IC 180-302855/10	12309011.D
Level 7	IC 180-302855/11	12309012.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
PCB-1016 Peak 1	BNB	Ave	2213447 213998956	16405096 413184298	34058337	66760748	109602298	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1016 Peak 2	BNB	Ave	1363408 262881624	18865933 489247689	40281660	80563129	131796389	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1016 Peak 3	BNB	Ave	998470 141266390	11217722 254805379	22122162	44692067	71097501	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1016 Peak 4	BNB	Ave	860619 89913487	6384372 156895309	13749245	26876006	43720961	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1016 Peak 5	BNB	Ave	1713196 188658122	13845269 331008767	27881416	58729204	91224886	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1260 Peak 1	PCB2 05	Lin1	3519980 289790018	24711147 530432621	48009383	99585226	146511845	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1260 Peak 2	PCB2 05	Ave	2935380 342845041	28423440 645871514	57542229	117084201	175089430	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1260 Peak 3	PCB2 05	Ave	2417492 235990512	19787413 452237623	40292032	81262053	120256898	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1260 Peak 4	PCB2 05	Ave	6226304 612982236	49085625 1275804121	111214602	211882265	323411726	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1260 Peak 5	PCB2 05	Lin1	4894855 320968958	25930967 676158067	58336236	106327641	167456700	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
Tetrachloro-m-xylene (Surr)	BNB	Ave	5890185 760260005	45671283 1430263508	103588867	209904721	367576089	0.000500 0.100	0.00500 0.200	0.0125	0.0250	0.0500
DCB Decachlorobiphenyl (Surr)	PCB2 05	Lin1	6023216 302217941	27818979 717316087	54880691	108631194	177945804	0.000500 0.100	0.00500 0.200	0.0125	0.0250	0.0500

Curve Type Legend:

Ave = Average ISTD by Height
Lin1 = Linear 1/Conc^2 ISTD by Height

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302855

SDG No.:

Instrument ID: CHGC16 GC Column: RTX-CLP1 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/30/2019 10:31 Calibration End Date: 12/30/2019 12:24 Calibration ID: 42395

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-302855/5	12309006.D
Level 2	IC 180-302855/6	12309007.D
Level 3	IC 180-302855/7	12309008.D
Level 4	ICIS 180-302855/8	12309009.D
Level 5	IC 180-302855/9	12309010.D
Level 6	IC 180-302855/10	12309011.D
Level 7	IC 180-302855/11	12309012.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
PCB-1016 Peak 1	36.0 -17.1	13.8	-3.6	1.4	-15.0	-15.4	50 30	30	30	30	30	30
PCB-1016 Peak 2	-22.4 -9.0	21.3	5.6	13.4	-5.2	-3.6	50 30	30	30	30	30	30
PCB-1016 Peak 3	-0.6 -17.1	26.2	1.5	10.0	-10.6	-9.4	50 30	30	30	30	30	30
PCB-1016 Peak 4	33.2 -20.7	11.6	-2.0	2.8	-14.5	-10.4	50 30	30	30	30	30	30
PCB-1016 Peak 5	26.8 -20.0	15.7	-5.0	7.4	-14.8	-10.1	50 30	30	30	30	30	30
PCB-1260 Peak 1	-0.8 -5.6	10.4	-9.2	7.4	-7.5	5.2	50 30	30	30	30	30	30
PCB-1260 Peak 2	11.8 -6.7	9.1	-9.2	3.6	-9.8	1.2	50 30	30	30	30	30	30
PCB-1260 Peak 3	28.8 -8.7	6.2	-11.1	0.5	-13.3	-2.6	50 30	30	30	30	30	30
PCB-1260 Peak 4	25.8 -2.3	-0.1	-7.0	-0.6	-11.7	-4.1	50 30	30	30	30	30	30
PCB-1260 Peak 5	0.3 6.7	-1.4	-3.3	1.0	-6.5	3.3	50 30	30	30	30	30	30
Tetrachloro-m-xylene (Surr)	17.1 -7.2	2.5	-5.1	3.1	-7.7	-2.7	50 30	30	30	30	30	30
DCB Decachlorobiphenyl (Surr)	0.3 12.7	1.5	-11.5	1.9	-1.5	-3.4	50 30	30	30	30	30	30

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309006.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 30-Dec-2019 10:31:55 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-005
Operator ID: 402331 Instrument ID: CHGC16
Sublist: chrom-PCB_CHGC16*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:18:04 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 30-Dec-2019 11:12:23

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.609	2.608	0.001	1233160460H	0.1000	0.1000	
2	2.813	2.813	0.001	1333962060H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							M
1	3.210	3.208	0.002	5890185H	0.000500	0.000585	M
2	3.647	3.646	0.001	4522364H	0.000500	0.000539	M
						RPD = 8.24	
6 PCB-1016							Ma
1	3.518	3.517	0.001	2213447H	0.0100	0.0136	M
1	3.846	3.849	-0.003	1363408H	0.0100	0.007763	M
1	4.065	4.064	0.001	998470H	0.0100	0.0099	M
1	4.261	4.260	0.001	860619H	0.0100	0.0133	M
1	4.569	4.569	0.000	1713196H	0.0100	0.0127	M
		Average of Peak Amounts =				0.0115	
2	4.664	4.665	-0.001	1832415H	0.0100	0.0131	M
2	5.302	5.301	0.001	2691408H	0.0100	0.0120	M
2	5.501	5.499	0.002	1768510H	0.0100	0.0137	M
2	6.248	6.248	0.000	1255472H	0.0100	0.0126	M
2	6.459	6.460	-0.001	1289568H	0.0100	0.009878	M
		Average of Peak Amounts =				0.0123	
						RPD = 6.78	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	6.844	6.849	-0.005	3519980H	0.0100	0.0099	
1	7.908	7.907	0.001	2935380H	0.0100	0.0112	
1	8.610	8.611	-0.001	2417492H	0.0100	0.0129	
1	9.174	9.173	0.001	6226304H	0.0100	0.0126	
1	9.649	9.650	-0.001	4894855H	0.0100	0.0100	
		Average of Peak Amounts =				0.0113	
2	8.677	8.676	0.001	1925228H	0.0100	0.0120	
2	9.352	9.353	-0.001	1320390H	0.0100	0.0124	
2	9.690	9.689	0.001	2463428H	0.0100	0.0127	
2	10.699	10.697	0.002	3780209H	0.0100	0.0112	
2	11.233	11.235	-0.002	2228910H	0.0100	0.0118	
		Average of Peak Amounts =				0.0120	
						RPD = 6.02	
* 16 PCB-205 (IS)							
1	10.710	10.710	0.000	1013791112H	0.1000	0.1000	
2	12.076	12.078	-0.002	682562467H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.314	11.315	-0.001	6023216H	0.000500	0.000501	
2	12.796	12.796	0.000	1871982H	0.000500	0.000649	
						RPD = 25.62	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

GCAR1660CALL1_00025	Amount Added:	1.00	Units: mL	
PCBINT_00010	Amount Added:	0.01	Units: mL	Run Reagent

Report Date: 31-Dec-2019 06:18:06 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309006.D

Injection Date: 30-Dec-2019 10:31:55 Instrument ID: CHGC16

Lims ID: IC

Client ID:

Operator ID: 402331 ALS Bottle#: 5 Worklist Smp#: 5

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_CHGC16 Limit Group: GCS 8082A ICAL with IS

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

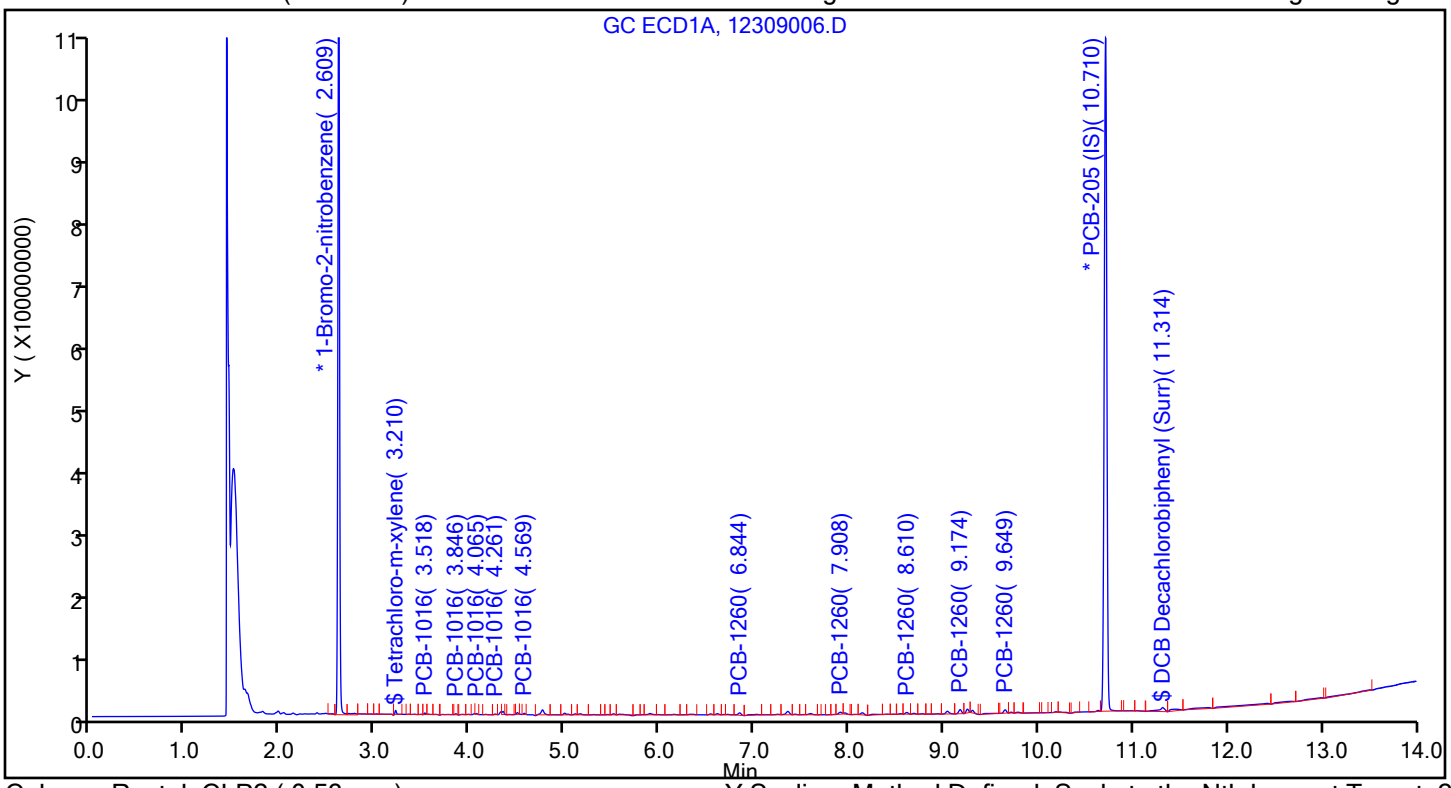

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

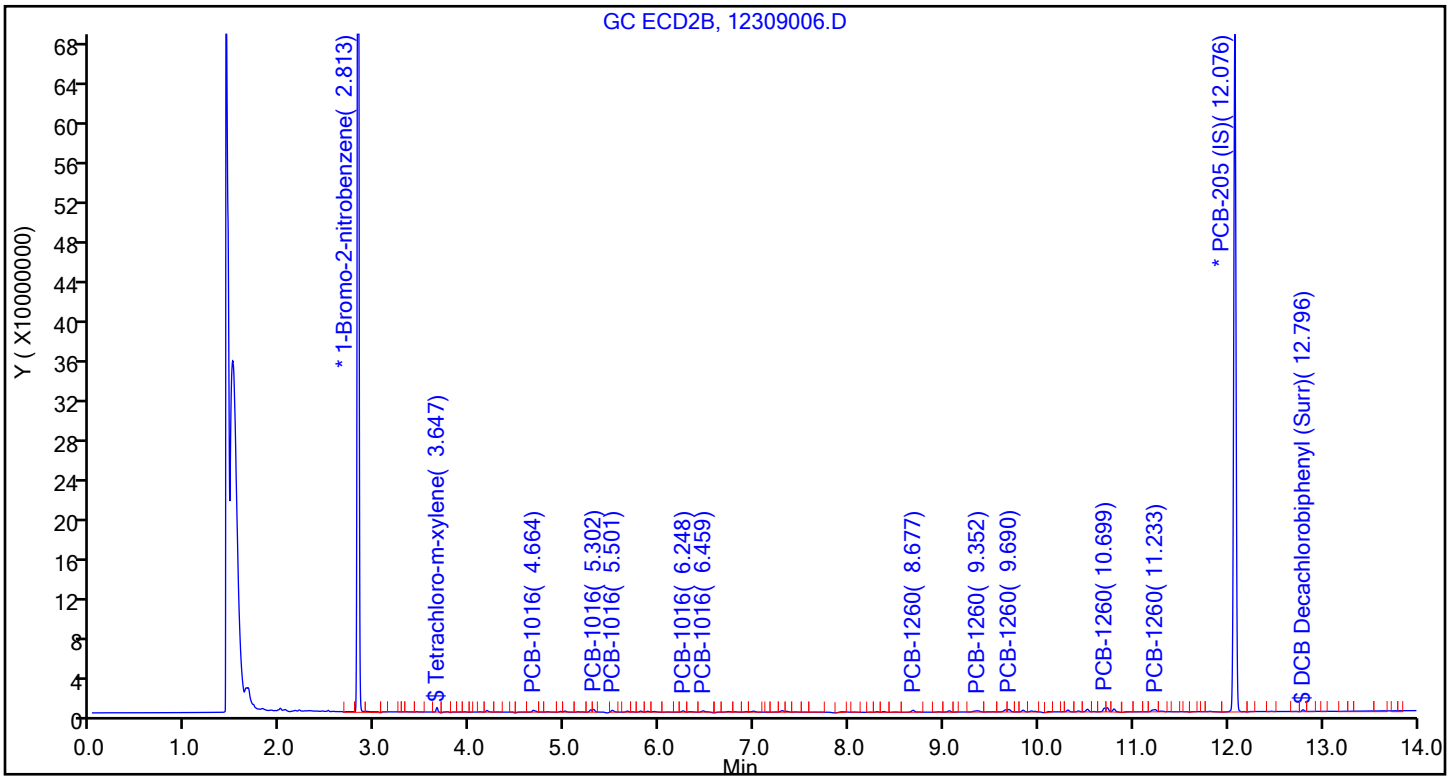

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309006.D				
Injection Date:	30-Dec-2019 10:31:55	Instrument ID:	CHGC16		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	PCB_CHGC16	Limit Group:	GCS 8082A ICAL with IS		
Column:	Restek CLP 1 (0.53 mm)	Detector	GC ECD1A		

$ 2 Tetrachloro-m-xylene, CAS: 877-09-8

Signal: 1

Processing Integration Results

RT: 3.21
Height: 6884285
Amount: 0.000665
Amount Units: ng

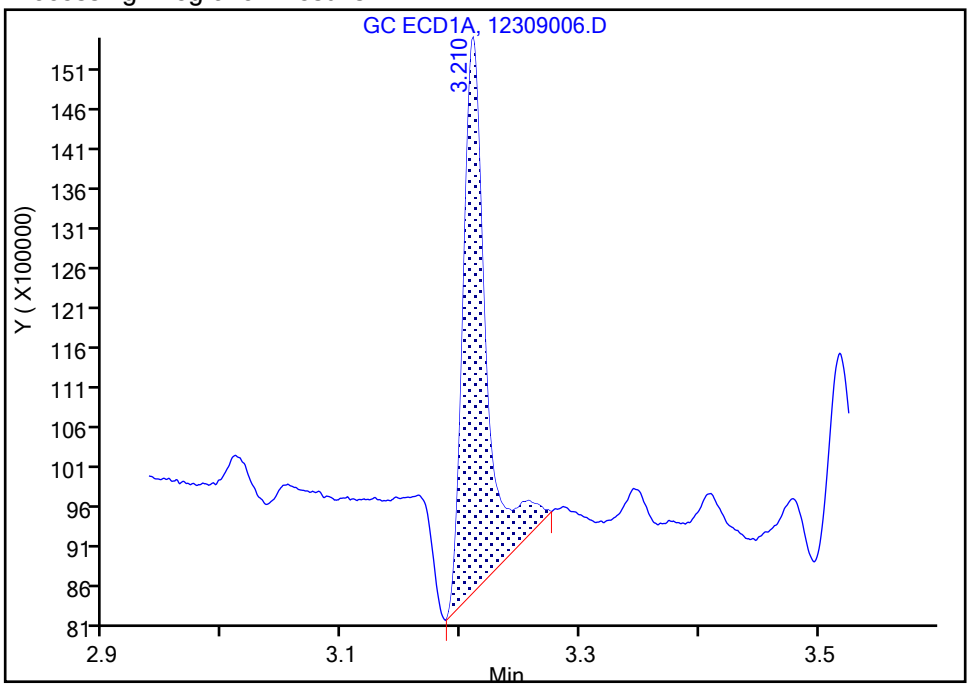

Manual Integration Results

RT: 3.21
Height: 5890185
Amount: 0.000585
Amount Units: ng

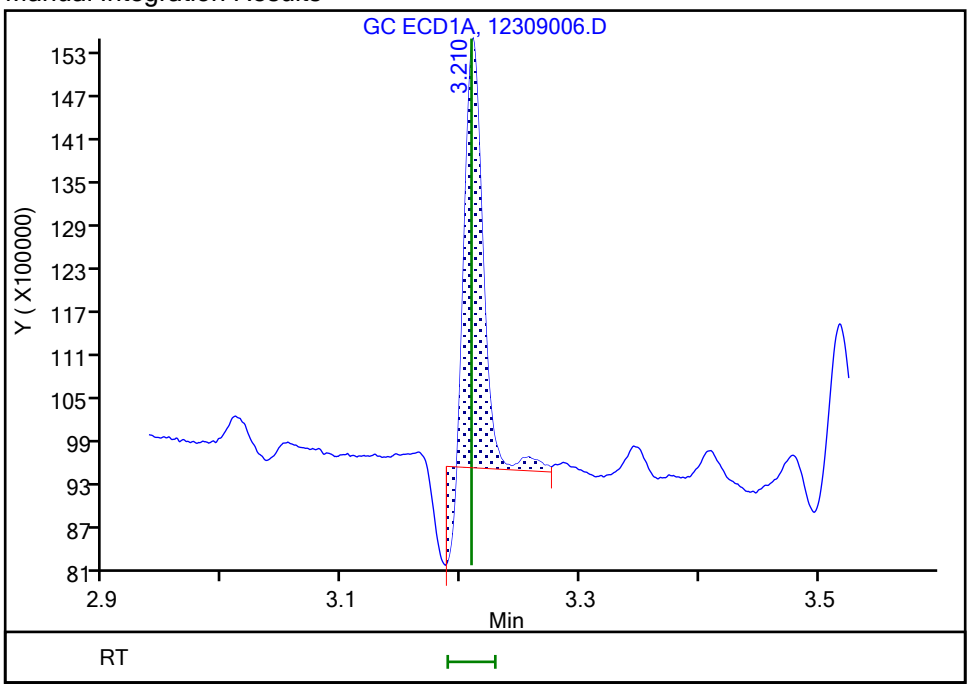

Reviewer: oravecj, 31-Dec-2019 05:15:37

Audit Action: Assigned New Baseline Audit Reason: Instrument noise

Report Date: 31-Dec-2019 06:18:06 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309006.D				
Injection Date:	30-Dec-2019 10:31:55	Instrument ID:	CHGC16		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	PCB_CHGC16	Limit Group:	GCS 8082A ICAL with IS		
Column:	Restek CLP 1 (0.53 mm)	Detector	GC ECD1A		

6 PCB-1016, CAS: 12674-11-2

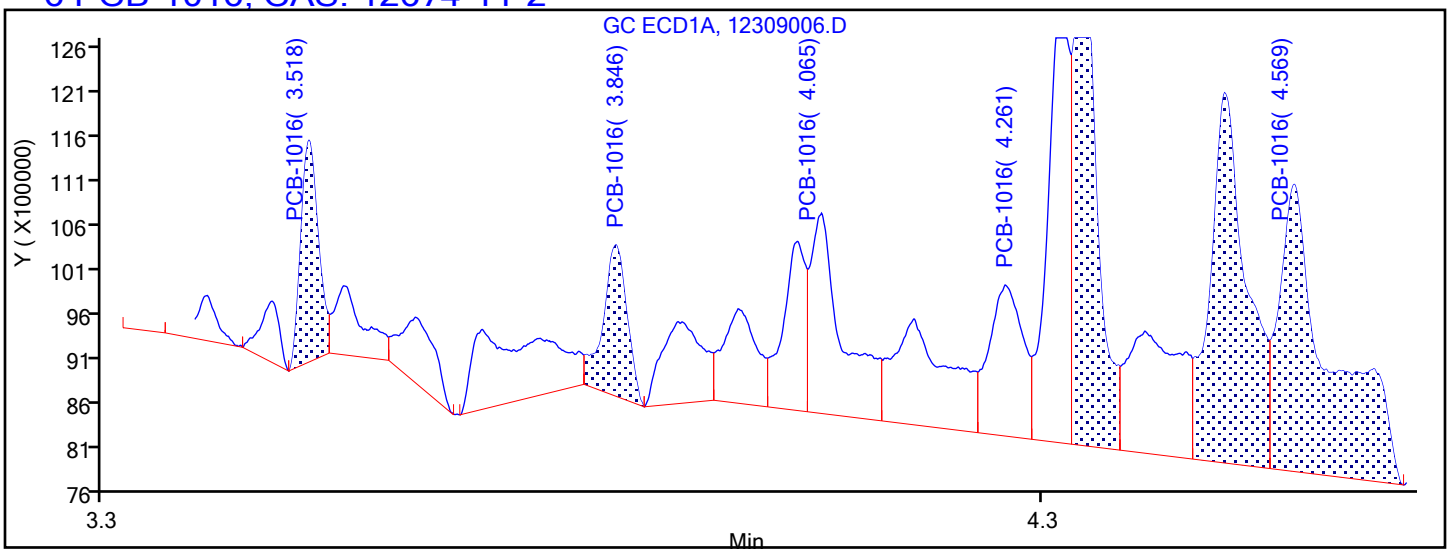

Processing Integration Results

3.518	Response = 2485462
3.846	Response = 1698701
4.345	Response = 5785544
4.495	Response = 4151777
4.569	Response = 3219961

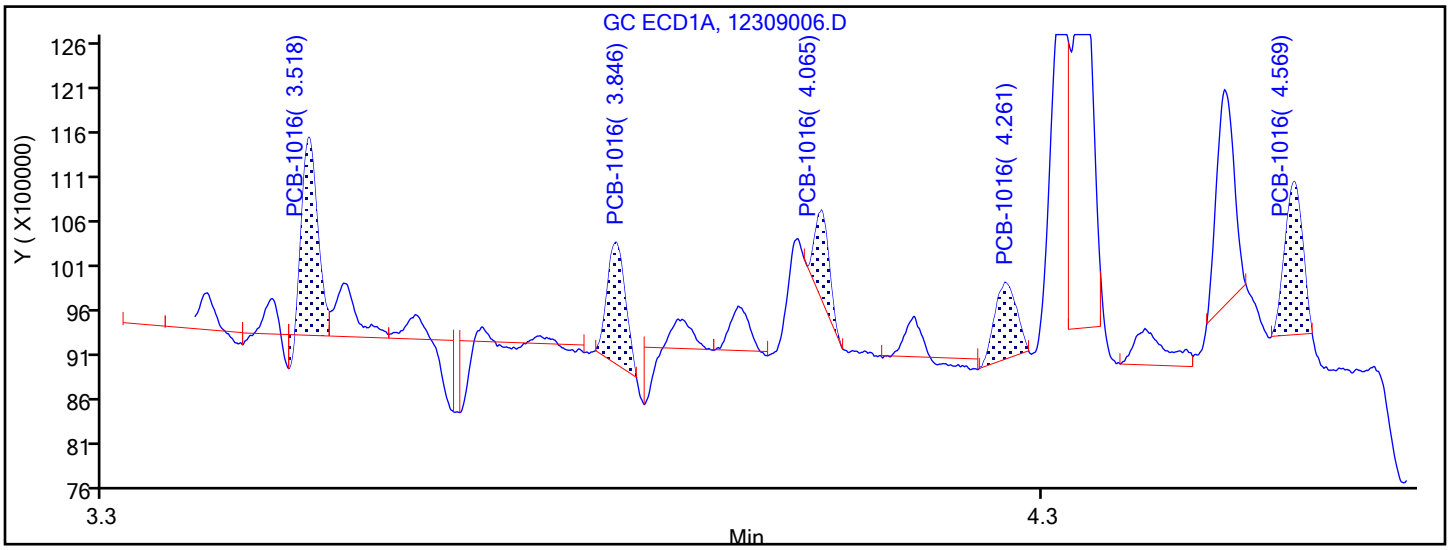

Manual Integration Results

3.518	Response = 2213447	M
3.846	Response = 1363408	M
4.065	Response = 998470	M
4.261	Response = 860619	M
4.569	Response = 1713196	M

Reviewer: oravecj, 31-Dec-2019 05:15:10

Audit Action: Assigned New Baseline Audit Reason: Instrument noise

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309007.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 30-Dec-2019 10:50:38 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-006
Operator ID: 402331 Instrument ID: CHGC16
Sublist: chrom-PCB_CHGC16*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:17:51 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 30-Dec-2019 11:44:45

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.609	2.608	0.001	1092125642H	0.1000	0.1000	
2	2.813	2.813	0.001	1178114002H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.208	3.208	0.000	45671283H	0.005000	0.005126	
2	3.646	3.646	0.000	34655811H	0.005000	0.004678	
						RPD = 9.13	
6 PCB-1016							
1	3.518	3.517	0.001	16405096H	0.1000	0.1138	
1	3.849	3.849	0.000	18865933H	0.1000	0.1213	
1	4.064	4.064	0.000	11217722H	0.1000	0.1262	
1	4.260	4.260	0.000	6384372H	0.1000	0.1116	
1	4.569	4.569	0.000	13845269H	0.1000	0.1157	
		Average of Peak Amounts =				0.1177	
2	4.664	4.665	-0.001	12981134H	0.1000	0.1052	
2	5.301	5.301	0.000	20478065H	0.1000	0.1034	
2	5.500	5.499	0.001	11764498H	0.1000	0.1034	
2	6.246	6.248	-0.002	9526507H	0.1000	0.1084	
2	6.459	6.460	-0.001	7952232H	0.1000	0.1101	
		Average of Peak Amounts =				0.1061	
						RPD = 10.40	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	6.848	6.849	-0.001	24711147H	0.1000	0.1104	
1	7.908	7.907	0.001	28423440H	0.1000	0.1091	
1	8.611	8.611	0.000	19787413H	0.1000	0.1062	
1	9.173	9.173	0.000	49085625H	0.1000	0.0999	
1	9.649	9.650	-0.001	25930967H	0.1000	0.0986	
		Average of Peak Amounts =				0.1049	
2	8.676	8.676	0.000	15060940H	0.1000	0.0966	
2	9.351	9.353	-0.002	10064243H	0.1000	0.0968	
2	9.688	9.689	-0.001	18330215H	0.1000	0.0970	
2	10.698	10.697	0.001	31470266H	0.1000	0.0962	
2	11.233	11.235	-0.002	17932233H	0.1000	0.0979	
		Average of Peak Amounts =				0.0969	
						RPD = 7.89	
* 16 PCB-205 (IS)							
1	10.709	10.710	-0.001	1006273850H	0.1000	0.1000	
2	12.076	12.078	-0.002	663754400H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.313	11.315	-0.002	27818979H	0.005000	0.005076	
2	12.795	12.796	-0.001	13402963H	0.005000	0.004776	
						RPD = 6.09	

Reagents:

GCAR1660CALL2_00019 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 31-Dec-2019 06:17:52 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309007.D

Injection Date: 30-Dec-2019 10:50:38 Instrument ID: CHGC16

Lims ID: IC

Client ID:

Operator ID: 402331 ALS Bottle#: 6 Worklist Smp#: 6

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_CHGC16 Limit Group: GCS 8082A ICAL with IS

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

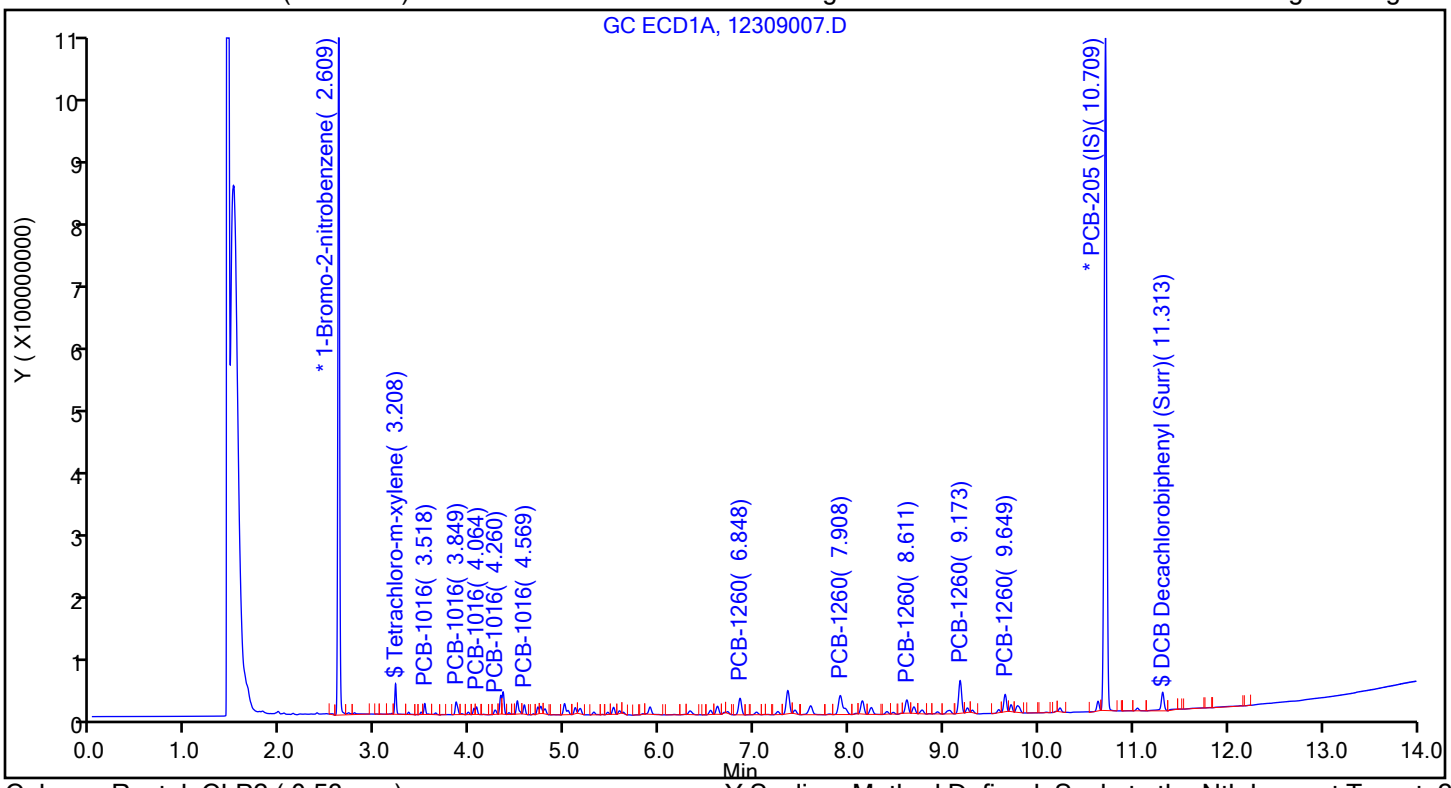

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

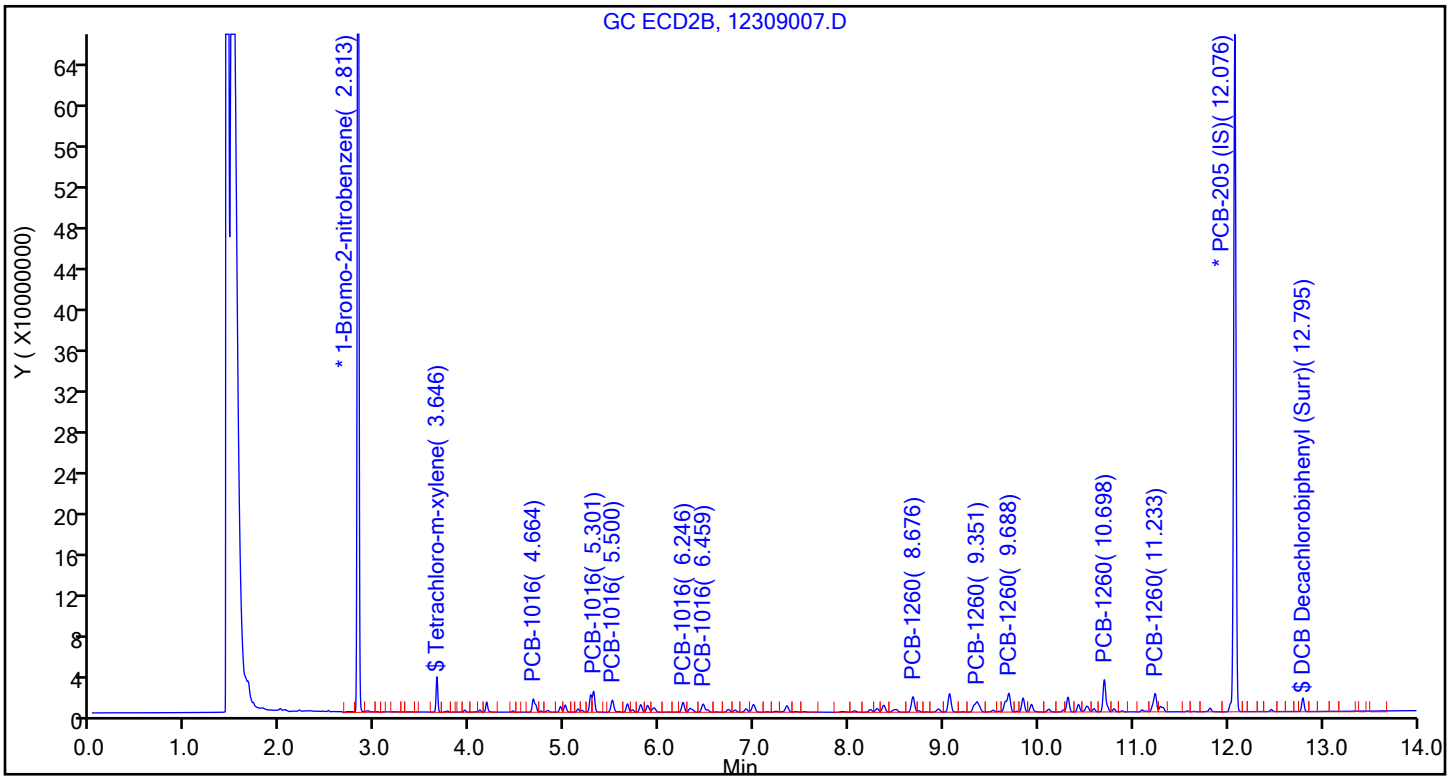

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309008.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 30-Dec-2019 11:09:21 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-007
Operator ID: 402331 Instrument ID: CHGC16
Sublist: chrom-PCB_CHGC16*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:17:34 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 30-Dec-2019 12:37:47

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.608	2.608	0.000	1070779721H	0.1000	0.1000	
2	2.812	2.813	0.000	1137599580H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.207	3.208	-0.001	103588867H	0.0125	0.0119	
2	3.645	3.646	-0.001	85612646H	0.0125	0.0120	
						RPD = 0.93	
6 PCB-1016							
1	3.516	3.517	-0.001	34058337H	0.2500	0.2409	
1	3.848	3.849	-0.001	40281660H	0.2500	0.2641	
1	4.063	4.064	-0.001	22122162H	0.2500	0.2538	
1	4.260	4.260	0.000	13749245H	0.2500	0.2451	
1	4.568	4.569	-0.001	27881416H	0.2500	0.2376	
		Average of Peak Amounts =				0.2483	
2	4.663	4.665	-0.002	29375812H	0.2500	0.2465	
2	5.300	5.301	-0.001	45789067H	0.2500	0.2394	
2	5.498	5.499	-0.001	26550933H	0.2500	0.2416	
2	6.246	6.248	-0.002	21191944H	0.2500	0.2496	
2	6.458	6.460	-0.002	17432170H	0.2500	0.2586	
		Average of Peak Amounts =				0.2471	
						RPD = 0.47	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	6.849	6.849	0.000	48009383H	0.2500	0.2271	
1	7.906	7.907	-0.001	57542229H	0.2500	0.2270	
1	8.611	8.611	0.000	40292032H	0.2500	0.2223	
1	9.173	9.173	0.000	111214602H	0.2500	0.2326	
1	9.647	9.650	-0.003	58336236H	0.2500	0.2417	
		Average of Peak Amounts =				0.2301	
2	8.675	8.676	-0.001	34534792H	0.2500	0.2231	
2	9.352	9.353	-0.001	23011812H	0.2500	0.2230	
2	9.688	9.689	-0.001	42780684H	0.2500	0.2281	
2	10.696	10.697	-0.001	73972474H	0.2500	0.2278	
2	11.235	11.235	0.000	43127567H	0.2500	0.2372	
		Average of Peak Amounts =				0.2278	
						RPD = 1.00	
* 16 PCB-205 (IS)							
1	10.709	10.710	-0.001	979208687H	0.1000	0.1000	
2	12.076	12.078	-0.001	658905899H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.314	11.315	-0.001	54880691H	0.0125	0.0111	
2	12.795	12.796	-0.001	32792670H	0.0125	0.0118	
						RPD = 6.21	

Reagents:

GCAR1660CALL3_00018 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 31-Dec-2019 06:17:36 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309008.D

Injection Date: 30-Dec-2019 11:09:21 Instrument ID: CHGC16

Lims ID: IC

Client ID:

Operator ID: 402331 ALS Bottle#: 7 Worklist Smp#: 7

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_CHGC16 Limit Group: GCS 8082A ICAL with IS

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

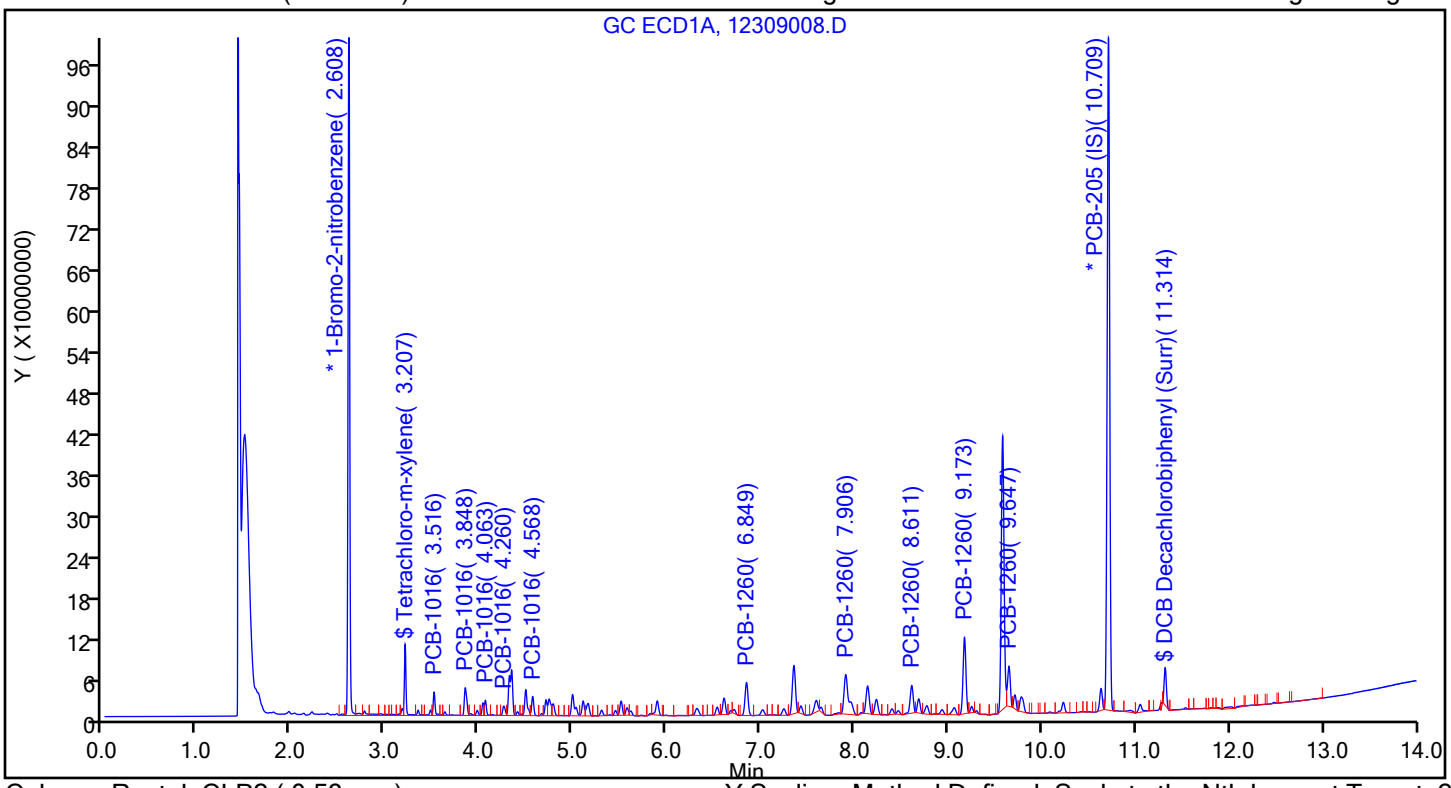

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

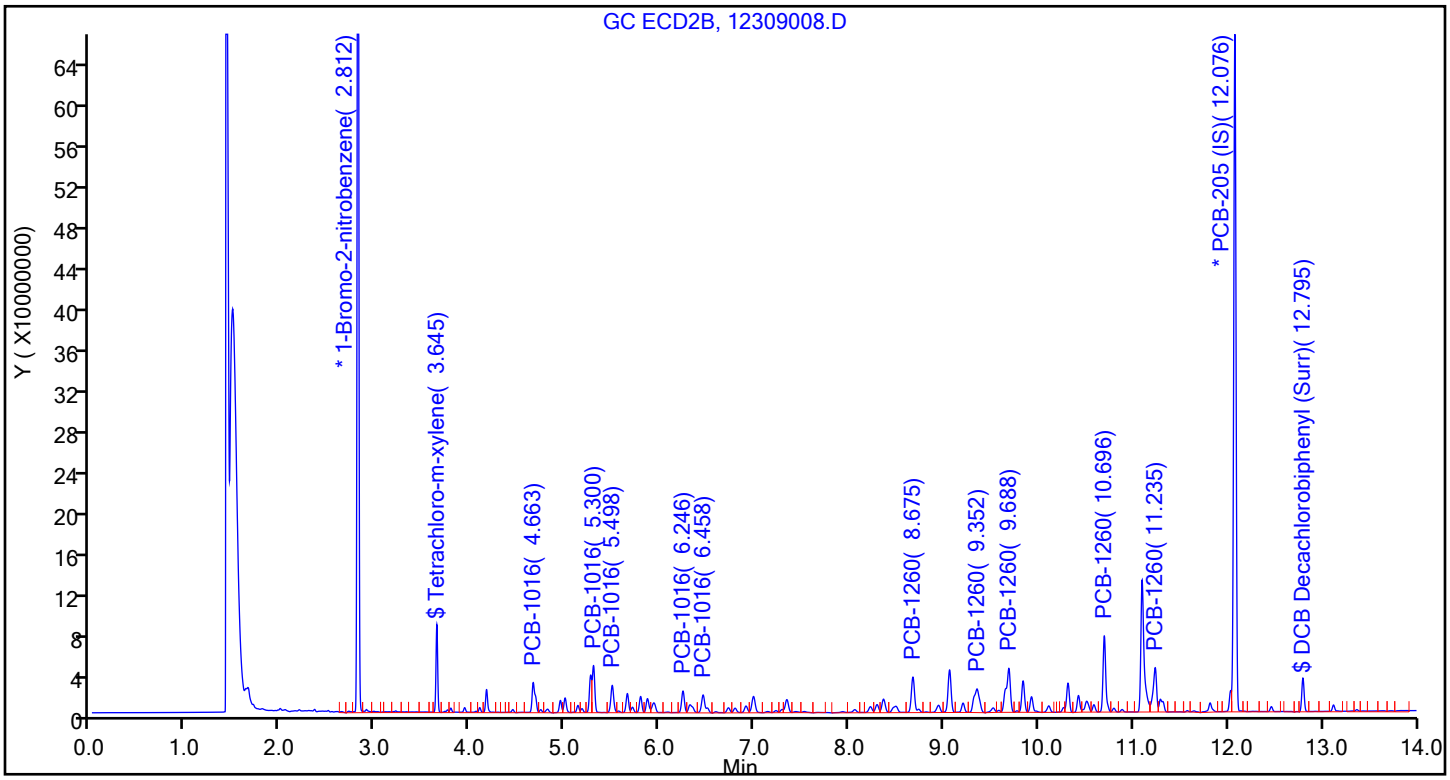

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309009.D
Lims ID: ICIS
Client ID:
Sample Type: ICIS Calib Level: 4
Inject. Date: 30-Dec-2019 11:27:54 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-008
Operator ID: 402331 Instrument ID: CHGC16
Sublist: chrom-PCB_CHGC16*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:17:00 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 31-Dec-2019 05:14:47

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.608	2.608	0.000	997865861H	0.1000	0.1000	
2	2.813	2.813	0.000	1076581080H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.208	3.208	0.000	209904721H	0.0250	0.0258	
2	3.646	3.646	0.000	170915797H	0.0250	0.0252	
						RPD = 2.10	
6 PCB-1016							
1	3.517	3.517	0.000	66760748H	0.5000	0.5068	
1	3.849	3.849	0.000	80563129H	0.5000	0.5668	
1	4.064	4.064	0.000	44692067H	0.5000	0.5501	
1	4.260	4.260	0.000	26876006H	0.5000	0.5141	
1	4.569	4.569	0.000	58729204H	0.5000	0.5370	
		Average of Peak Amounts =				0.5350	
2	4.665	4.665	0.000	58092455H	0.5000	0.5150	
2	5.301	5.301	0.000	95966191H	0.5000	0.5301	
2	5.499	5.499	0.000	52767762H	0.5000	0.5073	
2	6.248	6.248	0.000	41611059H	0.5000	0.5179	
2	6.460	6.460	0.000	34716018H	0.5000	0.5518	
		Average of Peak Amounts =				0.5244	
						RPD = 1.99	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	6.849	6.849	0.000	99585226H	0.5000	0.5369	
1	7.907	7.907	0.000	117084201H	0.5000	0.5178	
1	8.611	8.611	0.000	81262053H	0.5000	0.5027	
1	9.173	9.173	0.000	211882265H	0.5000	0.4968	
1	9.650	9.650	0.000	106327641H	0.5000	0.5048	
		Average of Peak Amounts =				0.5118	
2	8.676	8.676	0.000	66344403H	0.5000	0.5052	
2	9.353	9.353	0.000	42945750H	0.5000	0.4906	
2	9.689	9.689	0.000	78000583H	0.5000	0.4903	
2	10.697	10.697	0.000	137003756H	0.5000	0.4973	
2	11.235	11.235	0.000	74102723H	0.5000	0.4803	
		Average of Peak Amounts =				0.4927	
						RPD = 3.80	
* 16 PCB-205 (IS)							
1	10.710	10.710	0.000	873361020H	0.1000	0.1000	
2	12.078	12.078	0.000	559006763H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.315	11.315	0.000	108631194H	0.0250	0.0255	
2	12.796	12.796	0.000	56338326H	0.0250	0.0238	
						RPD = 6.61	

Reagents:

GCAR1660CALL4_00019 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 31-Dec-2019 06:17:01 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309009.D

Injection Date: 30-Dec-2019 11:27:54 Instrument ID: CHGC16

Lims ID: ICIS

Client ID:

Operator ID: 402331 ALS Bottle#: 8 Worklist Smp#: 8

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_CHGC16 Limit Group: GCS 8082A ICAL with IS

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

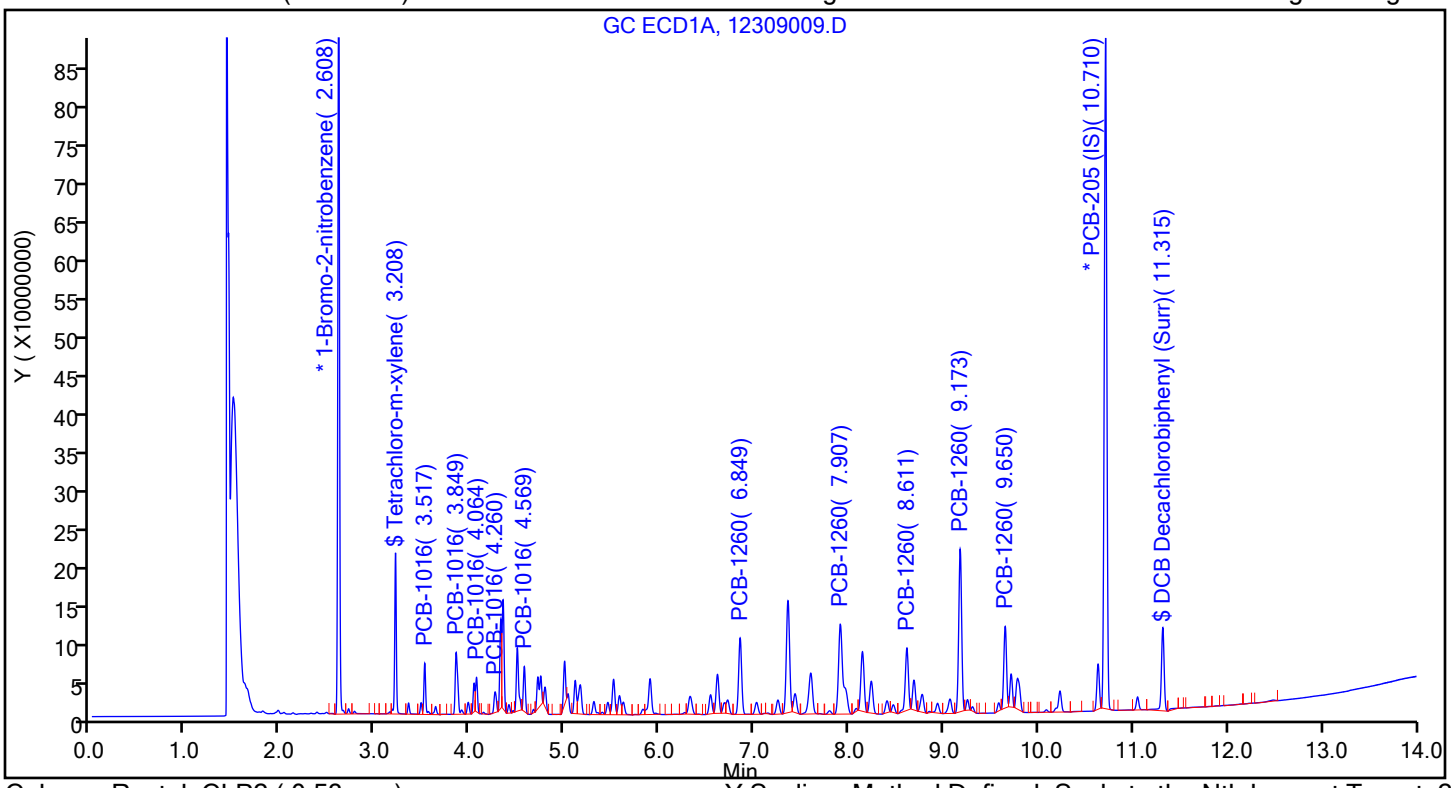

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

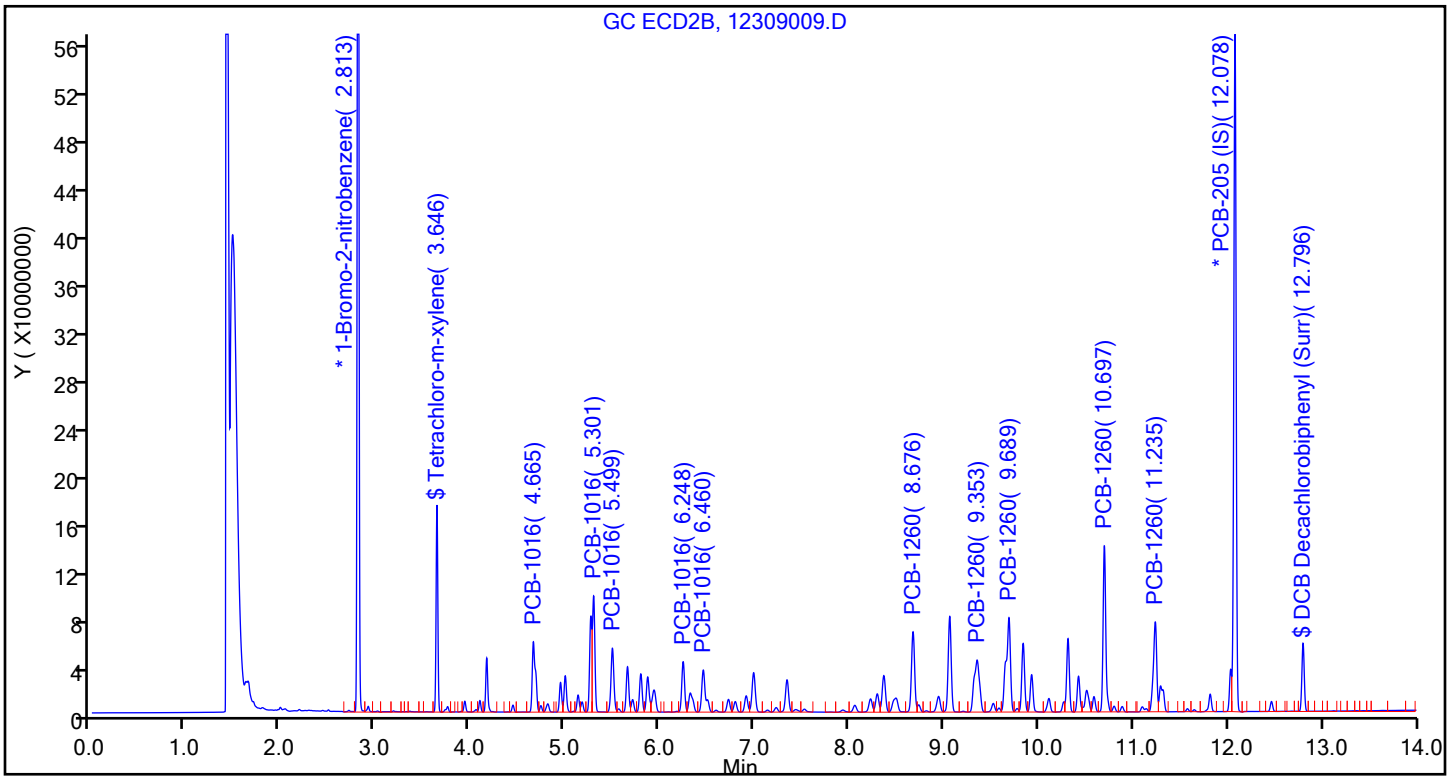

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309010.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 30-Dec-2019 11:46:34 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-009
Operator ID: 402331 Instrument ID: CHGC16
Sublist: chrom-PCB_CHGC16*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:16:30 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 31-Dec-2019 05:19:21

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.609	2.608	0.000	976603702H	0.1000	0.1000	
2	2.813	2.813	0.000	1045862040H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.209	3.208	0.001	367576089H	0.0500	0.0461	
2	3.646	3.646	0.000	313183305H	0.0500	0.0476	
						RPD = 3.17	
6 PCB-1016							
1	3.518	3.517	0.001	109602298H	1.00	0.8501	
1	3.850	3.849	0.001	131796389H	1.00	0.9475	
1	4.065	4.064	0.001	71097501H	1.00	0.8942	
1	4.261	4.260	0.001	43720961H	1.00	0.8545	
1	4.570	4.569	0.001	91224886H	1.00	0.8524	
		Average of Peak Amounts =				0.8797	
2	4.665	4.665	0.000	96560862H	1.00	0.8812	
2	5.302	5.301	0.001	157747081H	1.00	0.8970	
2	5.500	5.499	0.001	86105450H	1.00	0.8521	
2	6.246	6.248	-0.002	67480464H	1.00	0.8646	
2	6.459	6.460	-0.001	55125930H	1.00	0.9062	
		Average of Peak Amounts =				0.8802	
						RPD = 0.06	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	6.850	6.849	0.001	146511845H	1.00	0.9249	
1	7.907	7.907	0.000	175089430H	1.00	0.9020	
1	8.613	8.611	0.002	120256898H	1.00	0.8666	
1	9.175	9.173	0.002	323411726H	1.00	0.8833	
1	9.649	9.650	-0.001	167456700H	1.00	0.9347	
		Average of Peak Amounts =				0.9023	
2	8.676	8.676	0.000	105140972H	1.00	0.8987	
2	9.353	9.353	0.000	69698158H	1.00	0.8938	
2	9.689	9.689	0.000	125765562H	1.00	0.8874	
2	10.698	10.697	0.001	229097558H	1.00	0.9334	
2	11.235	11.235	0.000	124621061H	1.00	0.9068	
		Average of Peak Amounts =				0.9040	
						RPD = 0.19	
* 16 PCB-205 (IS)							
1	10.712	10.710	0.002	749770019H	0.1000	0.1000	
2	12.077	12.078	-0.001	497979219H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.315	11.315	0.000	177945804H	0.0500	0.0493	
2	12.796	12.796	0.000	91621988H	0.0500	0.0435	
						RPD = 12.41	

Reagents:

GCAR1660CALL5_00019 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 31-Dec-2019 06:16:33 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309010.D

Injection Date: 30-Dec-2019 11:46:34 Instrument ID: CHGC16

Lims ID: IC

Client ID:

Operator ID: 402331 ALS Bottle#: 9 Worklist Smp#: 9

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_CHGC16 Limit Group: GCS 8082A ICAL with IS

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

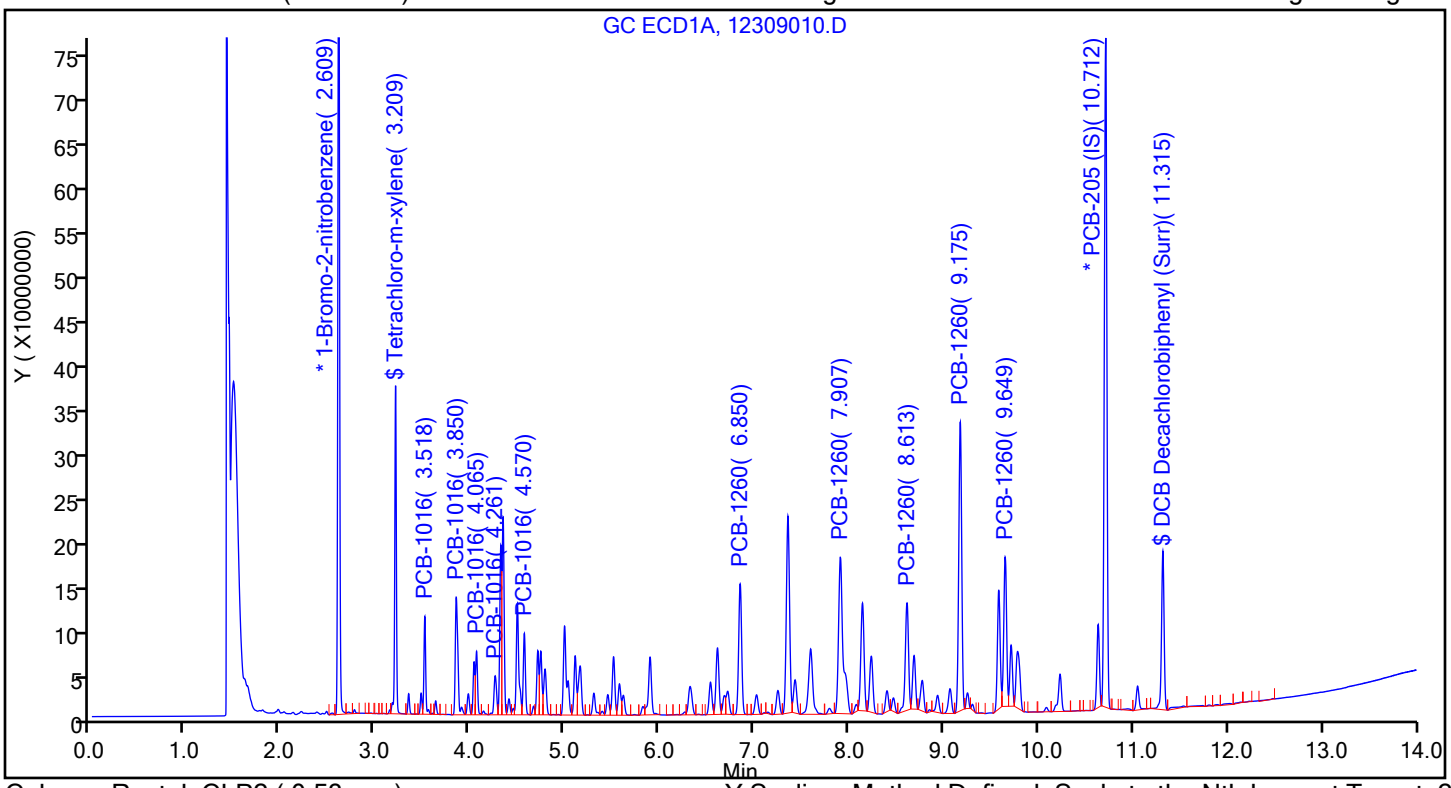

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

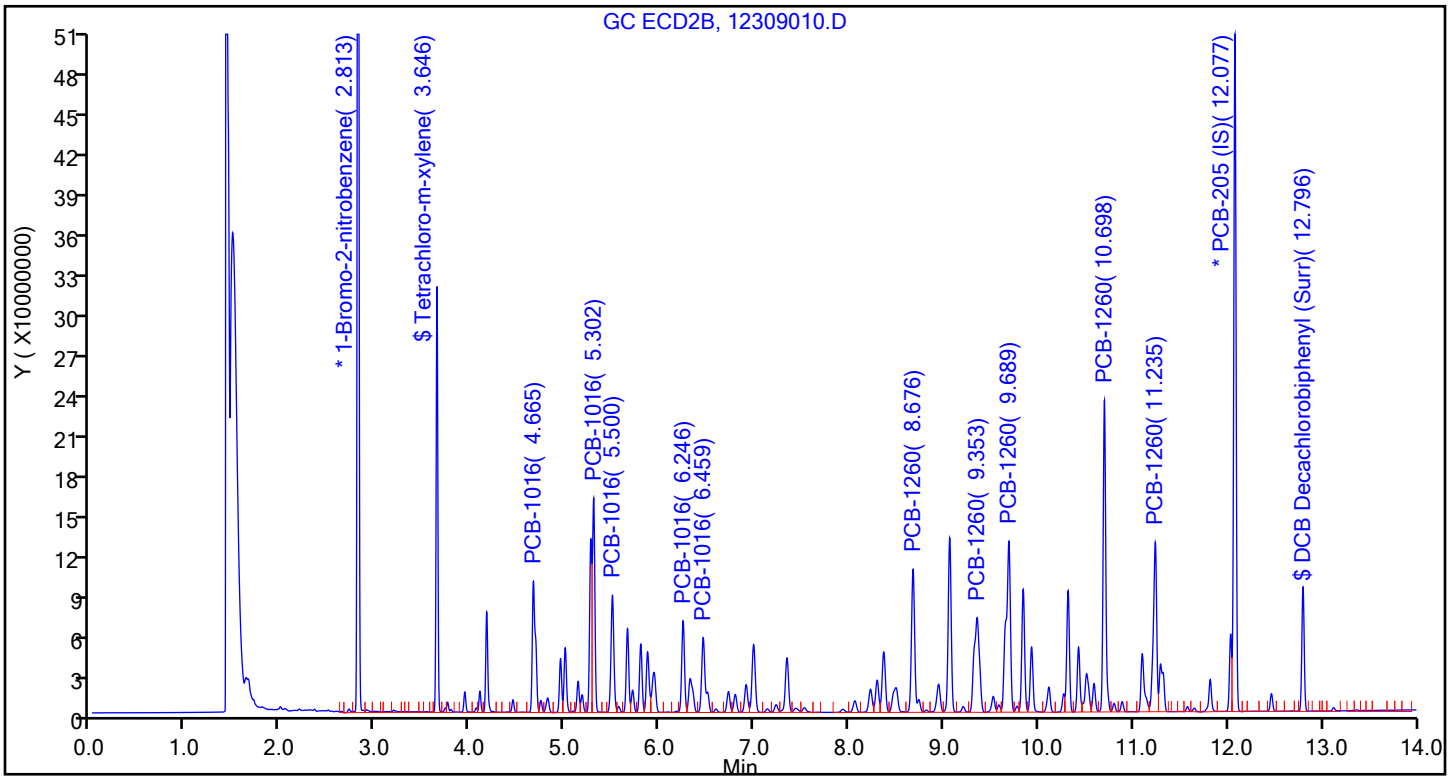

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309011.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 30-Dec-2019 12:05:18 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-010
Operator ID: 402331 Instrument ID: CHGC16
Sublist: chrom-PCB_CHGC16*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:16:14 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 30-Dec-2019 12:32:43

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.608	2.608	0.000	957677132H	0.1000	0.1000	
2	2.813	2.813	0.001	1022796083H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.209	3.208	0.001	760260005H	0.1000	0.0973	
2	3.646	3.646	0.000	659017631H	0.1000	0.1025	
						RPD = 5.17	
6 PCB-1016							
1	3.518	3.517	0.001	213998956H	2.00	1.69	
1	3.851	3.849	0.002	262881624H	2.00	1.93	
1	4.065	4.064	0.001	141266390H	2.00	1.81	
1	4.261	4.260	0.001	89913487H	2.00	1.79	
1	4.570	4.569	0.001	188658122H	2.00	1.80	
		Average of Peak Amounts =				1.80	
2	4.665	4.665	0.000	192336605H	2.00	1.79	
2	5.301	5.301	0.000	329778795H	2.00	1.92	
2	5.500	5.499	0.001	180590564H	2.00	1.83	
2	6.247	6.248	-0.001	138865654H	2.00	1.82	
2	6.460	6.460	0.000	114866575H	2.00	1.94	
		Average of Peak Amounts =				1.86	
						RPD = 3.02	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	6.851	6.849	0.002	289790018H	2.00	2.10	
1	7.910	7.907	0.003	342845041H	2.00	2.02	
1	8.613	8.611	0.002	235990512H	2.00	1.95	
1	9.175	9.173	0.002	612982236H	2.00	1.92	
1	9.650	9.650	0.000	320968958H	2.00	2.07	
		Average of Peak Amounts =				2.01	
2	8.676	8.676	0.000	211612216H	2.00	2.15	
2	9.352	9.353	-0.001	138377100H	2.00	2.11	
2	9.690	9.689	0.001	245059338H	2.00	2.05	
2	10.698	10.697	0.001	423798574H	2.00	2.05	
2	11.235	11.235	0.000	232204501H	2.00	2.01	
		Average of Peak Amounts =				2.07	
						RPD = 2.97	
* 16 PCB-205 (IS)							
1	10.711	10.710	0.001	654208913H	0.1000	0.1000	
2	12.076	12.078	-0.001	419302820H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.315	11.315	0.000	302217941H	0.1000	0.0966	
2	12.796	12.796	0.000	161624036H	0.1000	0.0912	
						RPD = 5.80	

Reagents:

GCAR1660CALL6_00017 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 31-Dec-2019 06:16:17 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309011.D

Injection Date: 30-Dec-2019 12:05:18 Instrument ID: CHGC16

Lims ID: IC

Client ID:

Operator ID: 402331 ALS Bottle#: 10 Worklist Smp#: 10

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_CHGC16 Limit Group: GCS 8082A ICAL with IS

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

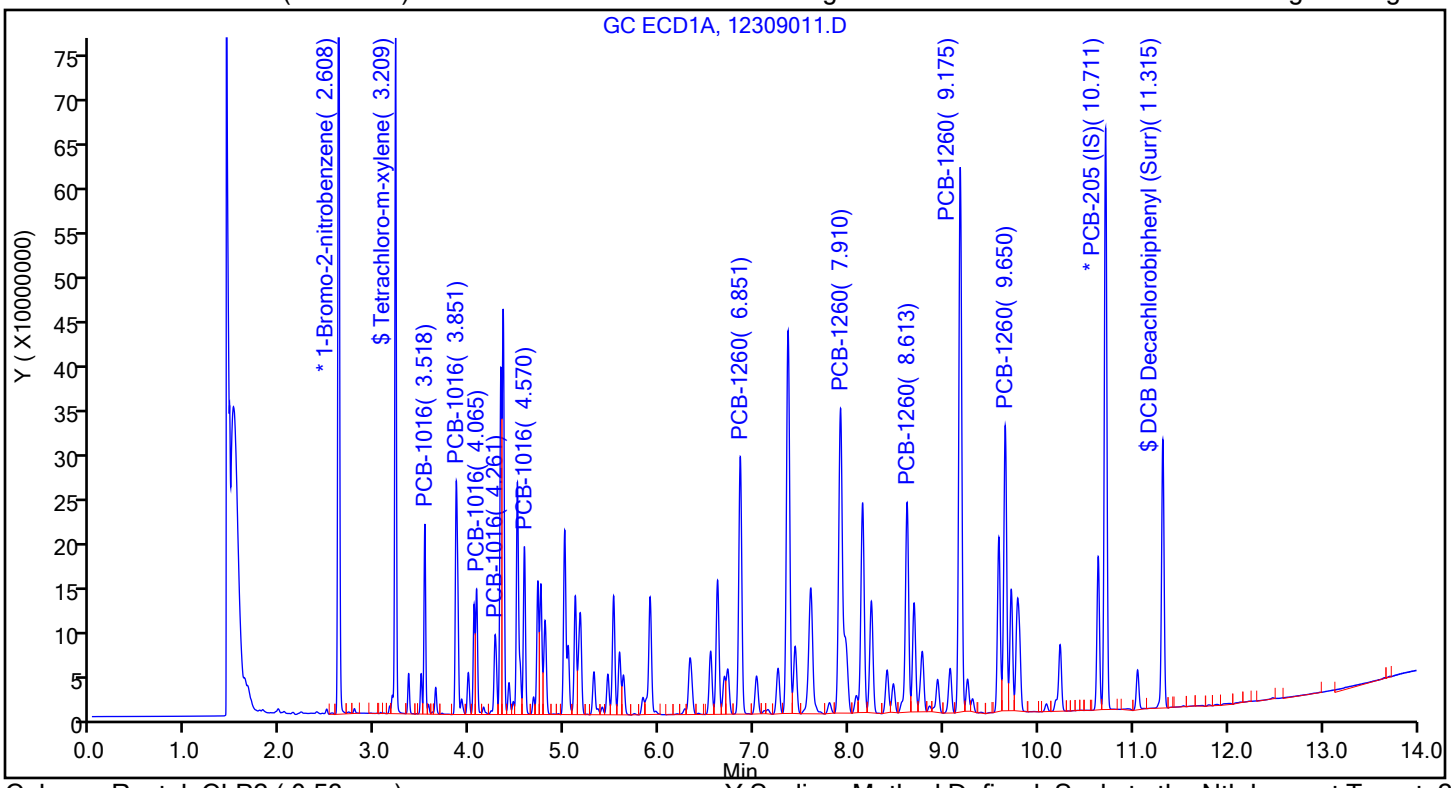

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

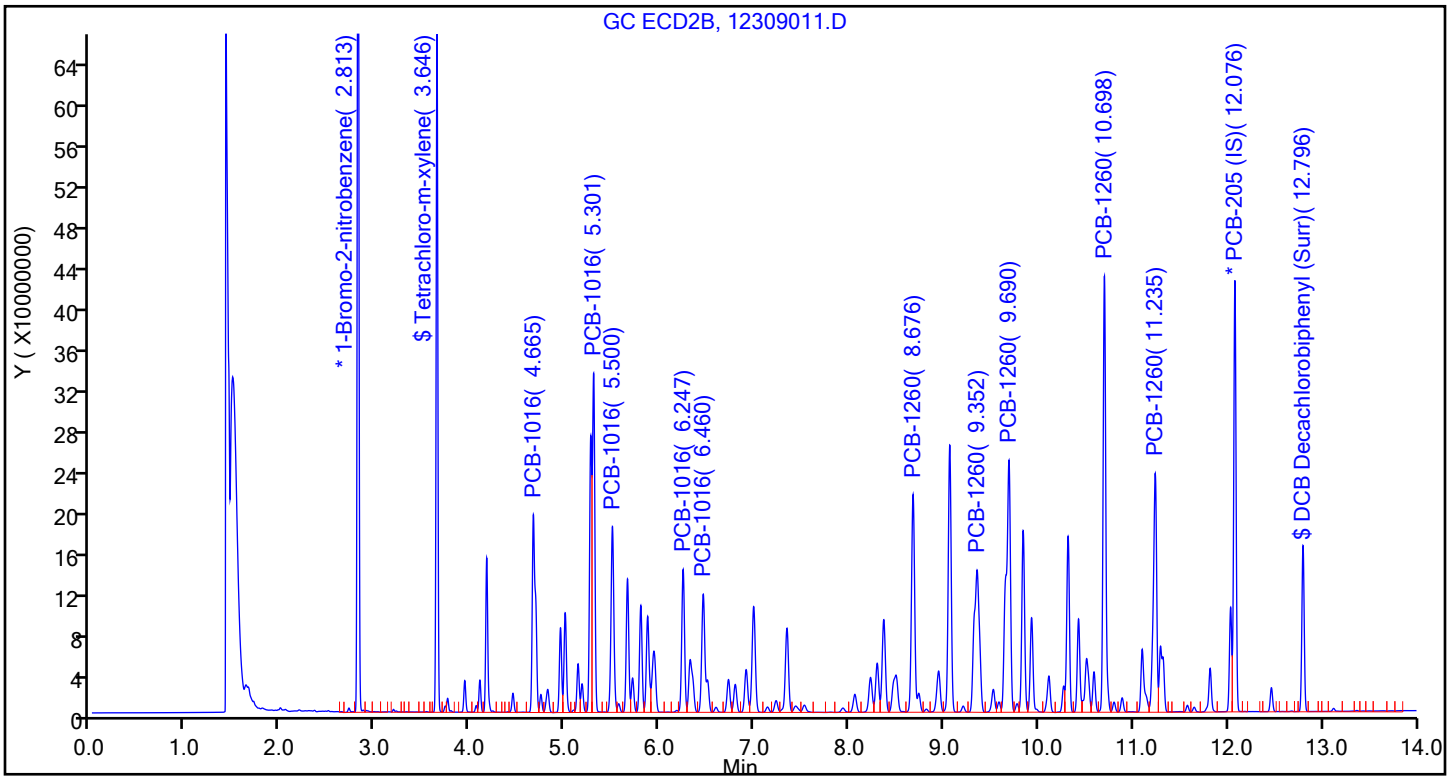

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 30-Dec-2019 12:24:02 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-011
Operator ID: 402331 Instrument ID: CHGC16
Sublist: chrom-PCB_CHGC16*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:15:46 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 30-Dec-2019 13:00:29

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.609	2.608	0.000	944096756H	0.1000	0.1000	
2	2.813	2.813	0.000	1009273406H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.210	3.208	0.002	1430263508H	0.2000	0.1857	
2	3.647	3.646	0.001	1322463742H	0.2000	0.2084	
						RPD = 11.51	
6 PCB-1016							
1	3.519	3.517	0.002	413184298H	4.00	3.32	
1	3.851	3.849	0.002	489247689H	4.00	3.64	
1	4.065	4.064	0.001	254805379H	4.00	3.31	
1	4.262	4.260	0.002	156895309H	4.00	3.17	
1	4.570	4.569	0.001	331008767H	4.00	3.20	
		Average of Peak Amounts =				3.33	
2	4.665	4.665	0.000	356421768H	4.00	3.37	
2	5.301	5.301	0.000	605913758H	4.00	3.57	
2	5.500	5.499	0.001	330605352H	4.00	3.39	
2	6.246	6.248	-0.002	255047399H	4.00	3.39	
2	6.459	6.460	-0.001	209669664H	4.00	3.59	
		Average of Peak Amounts =				3.46	
						RPD = 3.95	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	6.851	6.849	0.002	530432621H	4.00	3.77	
1	7.909	7.907	0.002	645871514H	4.00	3.73	
1	8.613	8.611	0.002	452237623H	4.00	3.65	
1	9.176	9.173	0.003	1275804121H	4.00	3.91	
1	9.650	9.650	0.000	676158067H	4.00	4.27	
		Average of Peak Amounts =				3.87	
2	8.675	8.676	-0.001	400523648H	4.00	3.83	
2	9.354	9.353	0.001	271741132H	4.00	3.90	
2	9.689	9.689	0.000	483038881H	4.00	3.82	
2	10.698	10.697	0.001	920369457H	4.00	4.20	
2	11.235	11.235	0.000	499939839H	4.00	4.07	
		Average of Peak Amounts =				3.96	
						RPD = 2.51	
* 16 PCB-205 (IS)							
1	10.710	10.710	-0.001	668742047H	0.1000	0.1000	
2	12.076	12.078	-0.001	444713893H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.316	11.315	0.001	717316087H	0.2000	0.2253	
2	12.795	12.796	-0.001	402365138H	0.2000	0.2140	
						RPD = 5.16	

Reagents:

GCAR1660CALL7_00018 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 31-Dec-2019 06:15:47 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Injection Date: 30-Dec-2019 12:24:02 Instrument ID: CHGC16

Lims ID: IC

Client ID:

Operator ID: 402331 ALS Bottle#: 11 Worklist Smp#: 11

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_CHGC16 Limit Group: GCS 8082A ICAL with IS

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

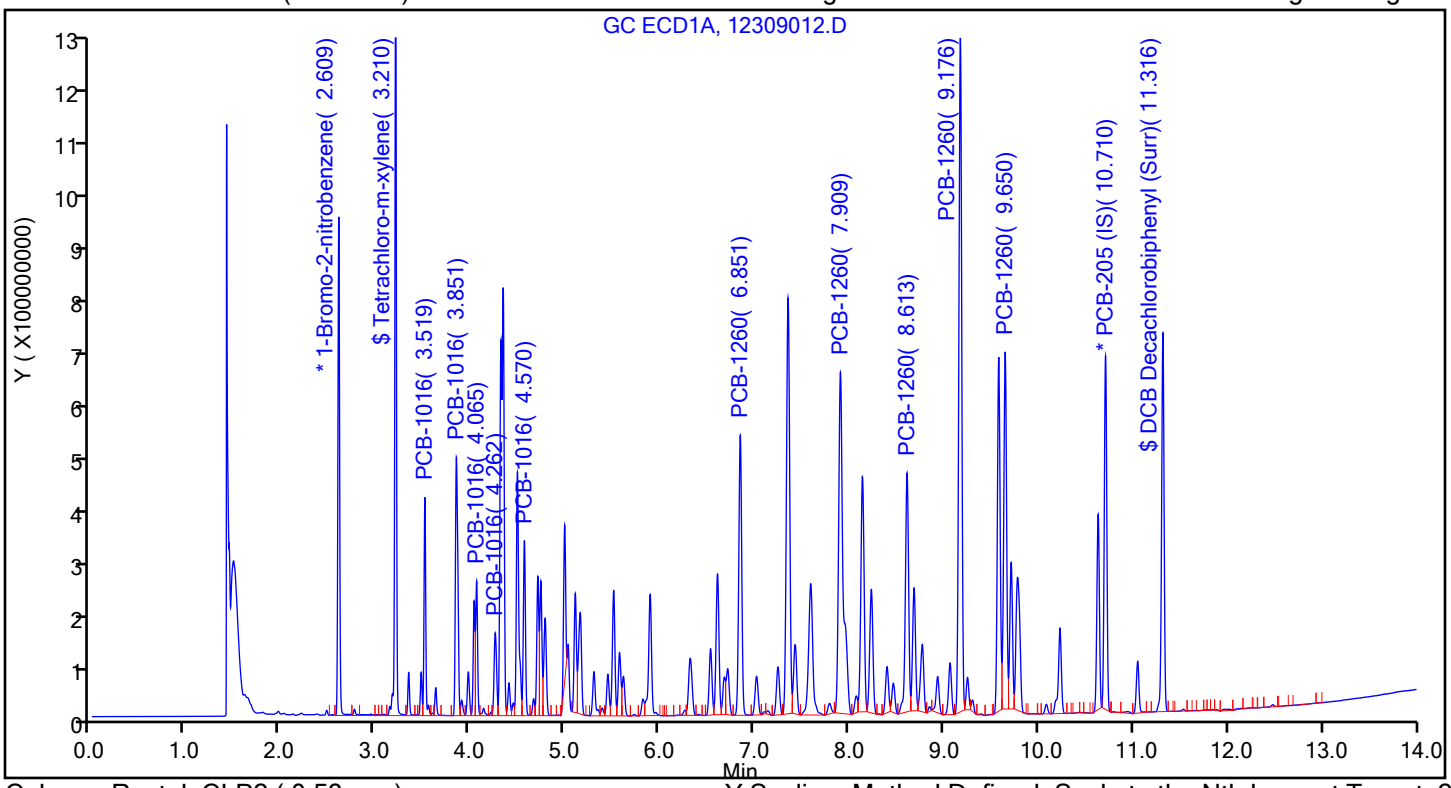

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

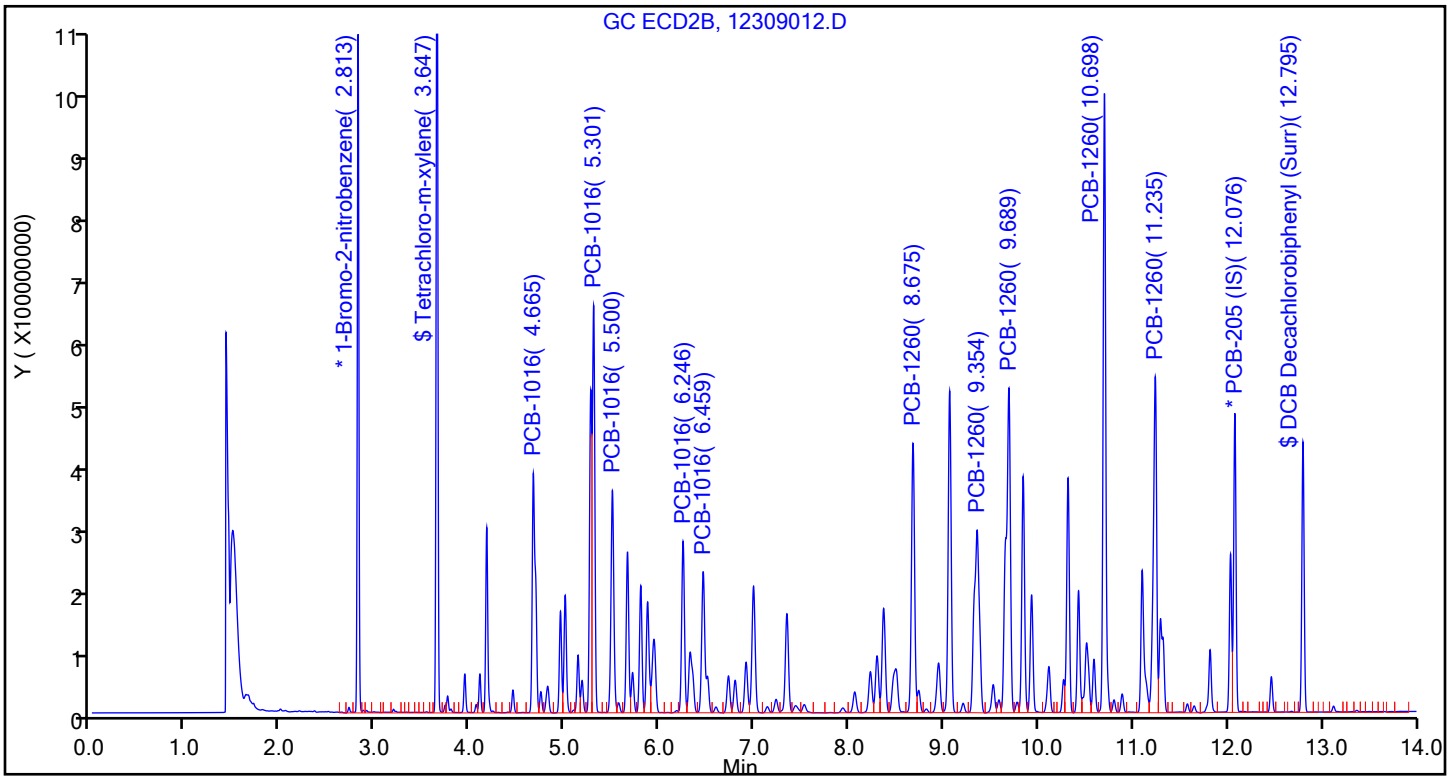

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302855

SDG No.:

Instrument ID: CHGC16 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/30/2019 10:31 Calibration End Date: 12/30/2019 12:24 Calibration ID: 42396

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-302855/5	12309006.D
Level 2	IC 180-302855/6	12309007.D
Level 3	IC 180-302855/7	12309008.D
Level 4	ICIS 180-302855/8	12309009.D
Level 5	IC 180-302855/9	12309010.D
Level 6	IC 180-302855/10	12309011.D
Level 7	IC 180-302855/11	12309012.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
PCB-1016 Peak 1	0.0137 0.0094	0.0110 0.0088	0.0103	0.0108	0.0092	Ave		0.0105				15.8		20.0			
PCB-1016 Peak 2	0.0202 0.0161	0.0174 0.0150	0.0161	0.0178	0.0151	Ave		0.0168				10.8		20.0			
PCB-1016 Peak 3	0.0133 0.0088	0.0100 0.0082	0.0093	0.0098	0.0082	Ave		0.0097				18.0		20.0			
PCB-1016 Peak 4	0.0094 0.0068	0.0081 0.0063	0.0075	0.0077	0.0065	Ave		0.0075				14.5		20.0			
PCB-1016 Peak 5	0.0097 0.0056	0.0067 0.0052	0.0061	0.0064	0.0053	Lin1	0	0.0058							0.9930		0.9900
PCB-1260 Peak 1	0.0282 0.0252	0.0227 0.0225	0.0210	0.0237	0.0211	Ave		0.0235				10.8		20.0			
PCB-1260 Peak 2	0.0193 0.0165	0.0152 0.0153	0.0140	0.0154	0.0140	Ave		0.0157				11.8		20.0			
PCB-1260 Peak 3	0.0361 0.0292	0.0276 0.0272	0.0260	0.0279	0.0253	Ave		0.0285				12.7		20.0			
PCB-1260 Peak 4	0.0554 0.0505	0.0474 0.0517	0.0449	0.0490	0.0460	Ave		0.0493				7.3		20.0			
PCB-1260 Peak 5	0.0327 0.0277	0.0270 0.0281	0.0262	0.0265	0.0250	Ave		0.0276				8.9		20.0			
Tetrachloro-m-xylene (Surr)	0.6780 0.6443	0.5883 0.6552	0.6021	0.6350	0.5989	Ave		0.6288				5.3		20.0			
DCB Decachlorobiphenyl (Surr)	0.5485 0.3855	0.4039 0.4524	0.3981	0.4031	0.3680	Ave		0.4228				14.5		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302855

SDG No.:

Instrument ID: CHGC16 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/30/2019 10:31 Calibration End Date: 12/30/2019 12:24 Calibration ID: 42396

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-302855/5	12309006.D
Level 2	IC 180-302855/6	12309007.D
Level 3	IC 180-302855/7	12309008.D
Level 4	ICIS 180-302855/8	12309009.D
Level 5	IC 180-302855/9	12309010.D
Level 6	IC 180-302855/10	12309011.D
Level 7	IC 180-302855/11	12309012.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
PCB-1016 Peak 1	BNB	Ave	1832415 192336605	12981134 356421768	29375812	58092455	96560862	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1016 Peak 2	BNB	Ave	2691408 329778795	20478065 605913758	45789067	95966191	157747081	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1016 Peak 3	BNB	Ave	1768510 180590564	11764498 330605352	26550933	52767762	86105450	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1016 Peak 4	BNB	Ave	1255472 138865654	9526507 255047399	21191944	41611059	67480464	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1016 Peak 5	BNB	Lin1	1289568 114866575	7952232 209669664	17432170	34716018	55125930	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1260 Peak 1	PCB2 05	Ave	1925228 211612216	15060940 400523648	34534792	66344403	105140972	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1260 Peak 2	PCB2 05	Ave	1320390 138377100	10064243 271741132	23011812	42945750	69698158	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1260 Peak 3	PCB2 05	Ave	2463428 245059338	18330215 483038881	42780684	78000583	125765562	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1260 Peak 4	PCB2 05	Ave	3780209 423798574	31470266 920369457	73972474	137003756	229097558	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
PCB-1260 Peak 5	PCB2 05	Ave	2228910 232204501	17932233 499939839	43127567	74102723	124621061	0.0100 2.00	0.100 4.00	0.250	0.500	1.00
Tetrachloro-m-xylene (Surr)	BNB	Ave	4522364 659017631	34655811 1322463742	85612646	170915797	313183305	0.000500 0.100	0.00500 0.200	0.0125	0.0250	0.0500
DCB Decachlorobiphenyl (Surr)	PCB2 05	Ave	1871982 161624036	13402963 402365138	32792670	56338326	91621988	0.000500 0.100	0.00500 0.200	0.0125	0.0250	0.0500

Curve Type Legend:

Ave = Average ISTD by Height
Lin1 = Linear 1/Conc^2 ISTD by Height

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 302855

SDG No.:

Instrument ID: CHGC16 GC Column: RTX-CLP2 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/30/2019 10:31 Calibration End Date: 12/30/2019 12:24 Calibration ID: 42396

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-302855/5	12309006.D
Level 2	IC 180-302855/6	12309007.D
Level 3	IC 180-302855/7	12309008.D
Level 4	ICIS 180-302855/8	12309009.D
Level 5	IC 180-302855/9	12309010.D
Level 6	IC 180-302855/10	12309011.D
Level 7	IC 180-302855/11	12309012.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
PCB-1016 Peak 1	31.1 -15.7	5.2	-1.4	3.0	-11.9	-10.3	50 30	30	30	30	30	30
PCB-1016 Peak 2	20.0 -10.7	3.4	-4.2	6.0	-10.3	-4.1	50 30	30	30	30	30	30
PCB-1016 Peak 3	37.2 -15.2	3.4	-3.4	1.5	-14.8	-8.6	50 30	30	30	30	30	30
PCB-1016 Peak 4	26.1 -15.3	8.4	-0.1	3.6	-13.5	-9.0	50 30	30	30	30	30	30
PCB-1016 Peak 5	-1.2 -10.2	10.1	3.4	10.4	-9.4	-3.1	50 30	30	30	30	30	30
PCB-1260 Peak 1	20.1 -4.2	-3.4	-10.8	1.0	-10.1	7.4	50 30	30	30	30	30	30
PCB-1260 Peak 2	23.5 -2.4	-3.2	-10.8	-1.9	-10.6	5.4	50 30	30	30	30	30	30
PCB-1260 Peak 3	26.8 -4.6	-3.0	-8.7	-1.9	-11.3	2.7	50 30	30	30	30	30	30
PCB-1260 Peak 4	12.4 5.0	-3.8	-8.9	-0.5	-6.7	2.5	50 30	30	30	30	30	30
PCB-1260 Peak 5	18.3 1.8	-2.1	-5.1	-3.9	-9.3	0.3	50 30	30	30	30	30	30
Tetrachloro-m-xylene (Surr)	7.8 4.2	-6.4	-4.3	1.0	-4.8	2.5	50 30	30	30	30	30	30
DCB Decachlorobiphenyl (Surr)	29.7 7.0	-4.5	-5.8	-4.6	-13.0	-8.8	50 30	30	30	30	30	30

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309006.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 30-Dec-2019 10:31:55 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-005
Operator ID: 402331 Instrument ID: CHGC16
Sublist: chrom-PCB_CHGC16*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:18:04 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 30-Dec-2019 11:12:23

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.609	2.608	0.001	1233160460H	0.1000	0.1000	
2	2.813	2.813	0.001	1333962060H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							M
1	3.210	3.208	0.002	5890185H	0.000500	0.000585	M
2	3.647	3.646	0.001	4522364H	0.000500	0.000539	M
						RPD = 8.24	
6 PCB-1016							Ma
1	3.518	3.517	0.001	2213447H	0.0100	0.0136	M
1	3.846	3.849	-0.003	1363408H	0.0100	0.007763	M
1	4.065	4.064	0.001	998470H	0.0100	0.0099	M
1	4.261	4.260	0.001	860619H	0.0100	0.0133	M
1	4.569	4.569	0.000	1713196H	0.0100	0.0127	M
		Average of Peak Amounts =				0.0115	
2	4.664	4.665	-0.001	1832415H	0.0100	0.0131	M
2	5.302	5.301	0.001	2691408H	0.0100	0.0120	M
2	5.501	5.499	0.002	1768510H	0.0100	0.0137	M
2	6.248	6.248	0.000	1255472H	0.0100	0.0126	M
2	6.459	6.460	-0.001	1289568H	0.0100	0.009878	M
		Average of Peak Amounts =				0.0123	
						RPD = 6.78	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	6.844	6.849	-0.005	3519980H	0.0100	0.0099	
1	7.908	7.907	0.001	2935380H	0.0100	0.0112	
1	8.610	8.611	-0.001	2417492H	0.0100	0.0129	
1	9.174	9.173	0.001	6226304H	0.0100	0.0126	
1	9.649	9.650	-0.001	4894855H	0.0100	0.0100	
		Average of Peak Amounts =				0.0113	
2	8.677	8.676	0.001	1925228H	0.0100	0.0120	
2	9.352	9.353	-0.001	1320390H	0.0100	0.0124	
2	9.690	9.689	0.001	2463428H	0.0100	0.0127	
2	10.699	10.697	0.002	3780209H	0.0100	0.0112	
2	11.233	11.235	-0.002	2228910H	0.0100	0.0118	
		Average of Peak Amounts =				0.0120	
						RPD = 6.02	
* 16 PCB-205 (IS)							
1	10.710	10.710	0.000	1013791112H	0.1000	0.1000	
2	12.076	12.078	-0.002	682562467H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.314	11.315	-0.001	6023216H	0.000500	0.000501	
2	12.796	12.796	0.000	1871982H	0.000500	0.000649	
						RPD = 25.62	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

GCAR1660CALL1_00025	Amount Added:	1.00	Units: mL	
PCBINT_00010	Amount Added:	0.01	Units: mL	Run Reagent

Report Date: 31-Dec-2019 06:18:08 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309006.D

Injection Date: 30-Dec-2019 10:31:55 Instrument ID: CHGC16

Lims ID: IC

Client ID:

Operator ID: 402331 ALS Bottle#: 5 Worklist Smp#: 5

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_CHGC16 Limit Group: GCS 8082A ICAL with IS

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

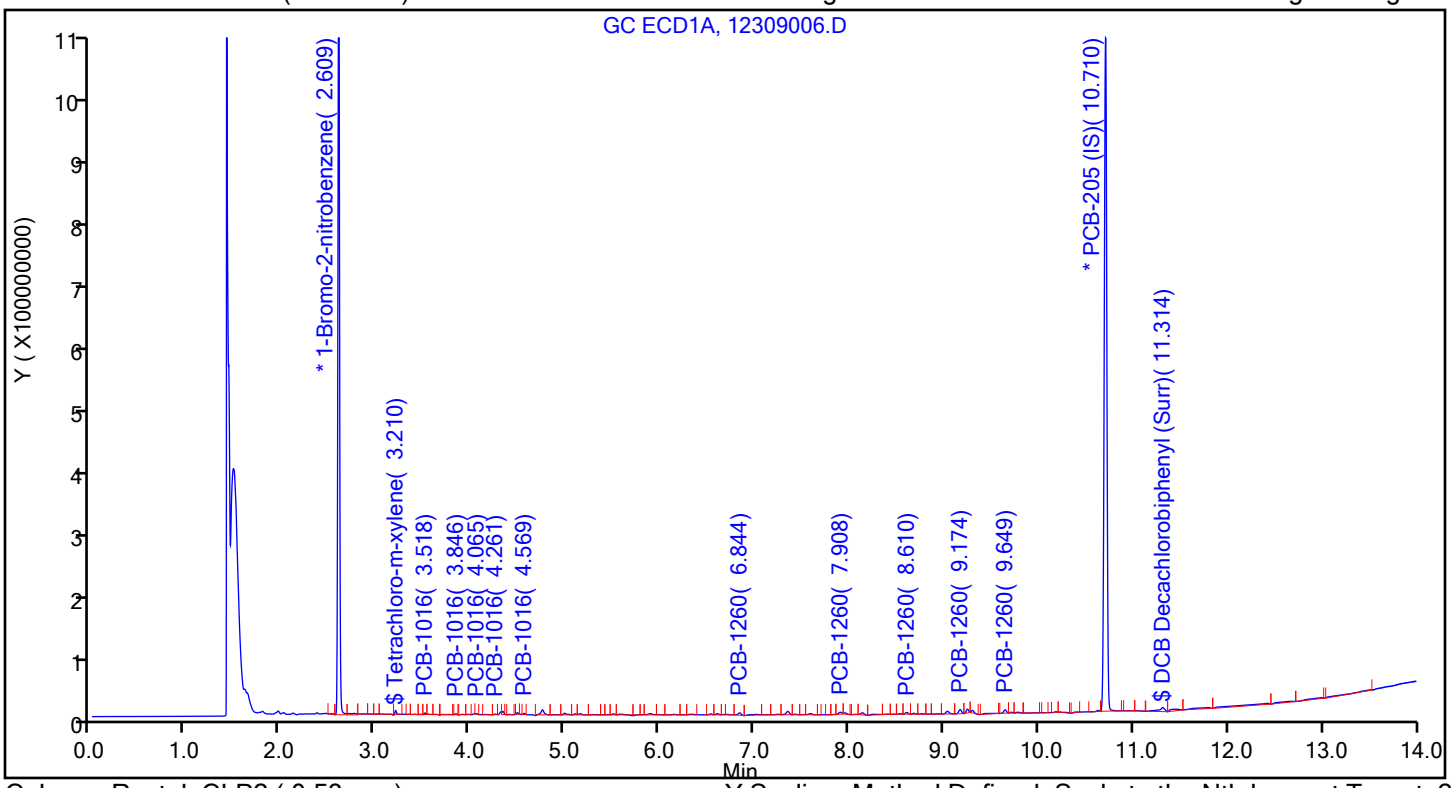

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

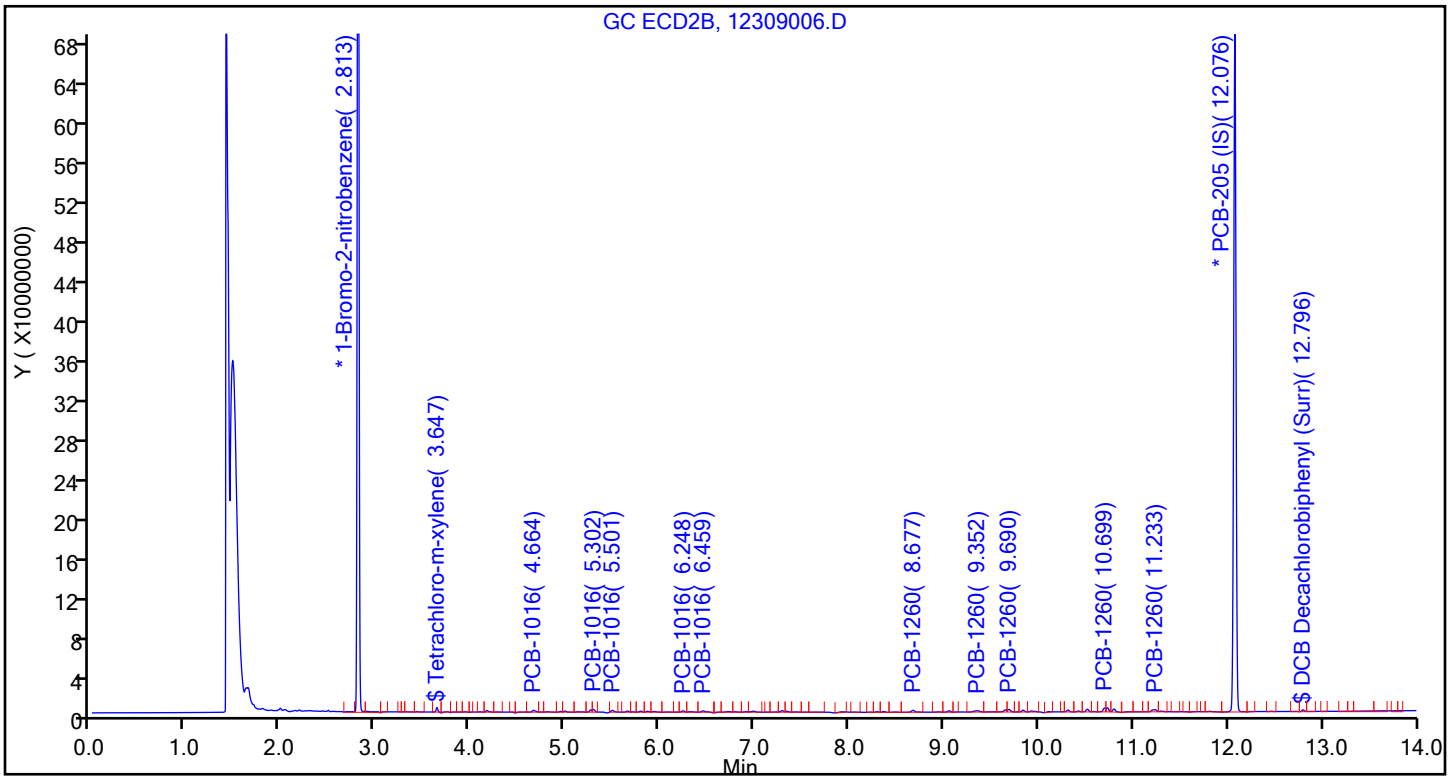

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309006.D				
Injection Date:	30-Dec-2019 10:31:55	Instrument ID:	CHGC16		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	PCB_CHGC16	Limit Group:	GCS 8082A ICAL with IS		
Column:	Restek CLP2 (0.53 mm)	Detector	GC ECD2B		

$ 2 Tetrachloro-m-xylene, CAS: 877-09-8

Signal: 2

Processing Integration Results

RT: 3.65
Height: 5143307
Amount: 0.000600
Amount Units: ng

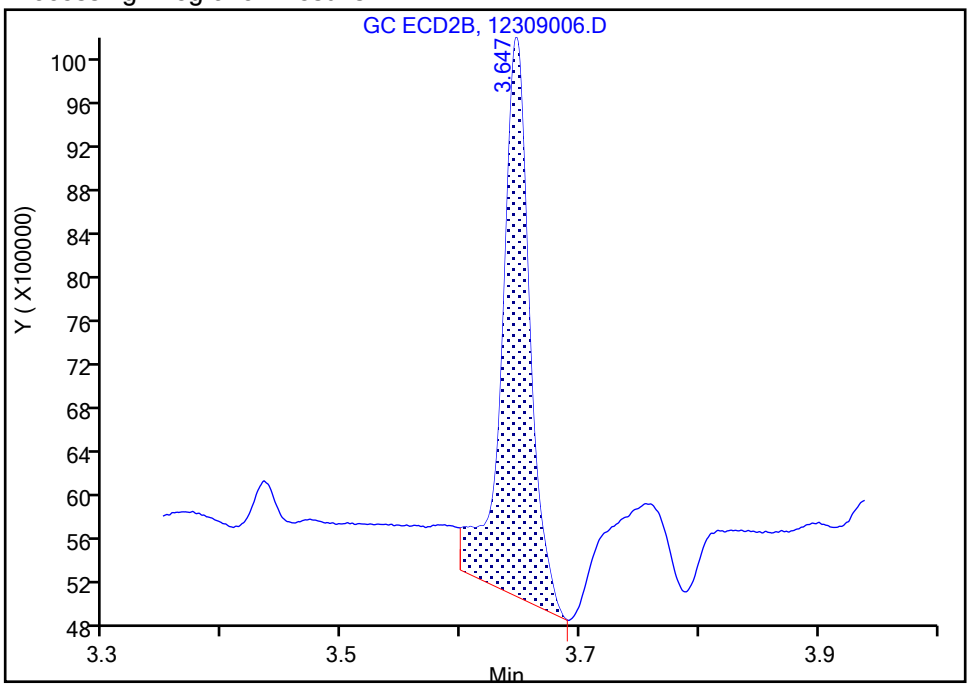

Manual Integration Results

RT: 3.65
Height: 4522364
Amount: 0.000539
Amount Units: ng

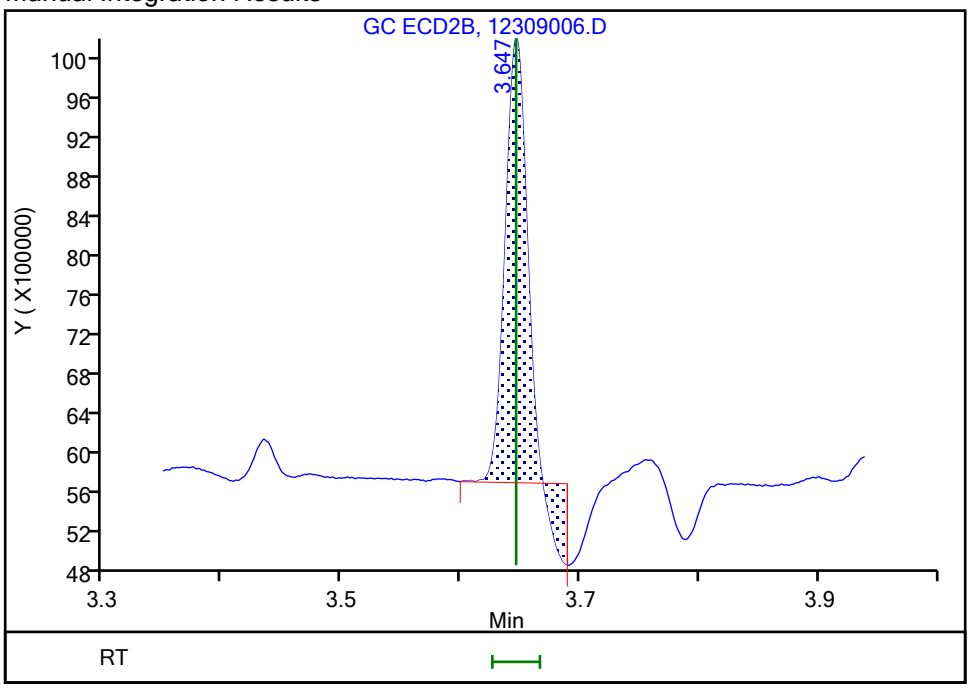

Reviewer: oravecj, 31-Dec-2019 05:15:40

Audit Action: Assigned New Baseline Audit Reason: Instrument noise

Report Date: 31-Dec-2019 06:18:08 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309006.D				
Injection Date:	30-Dec-2019 10:31:55	Instrument ID:	CHGC16		
Lims ID:	IC				
Client ID:					
Operator ID:	402331	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	PCB_CHGC16	Limit Group:	GCS 8082A ICAL with IS		
Column:	Restek CLP2 (0.53 mm)	Detector	GC ECD2B		

6 PCB-1016, CAS: 12674-11-2

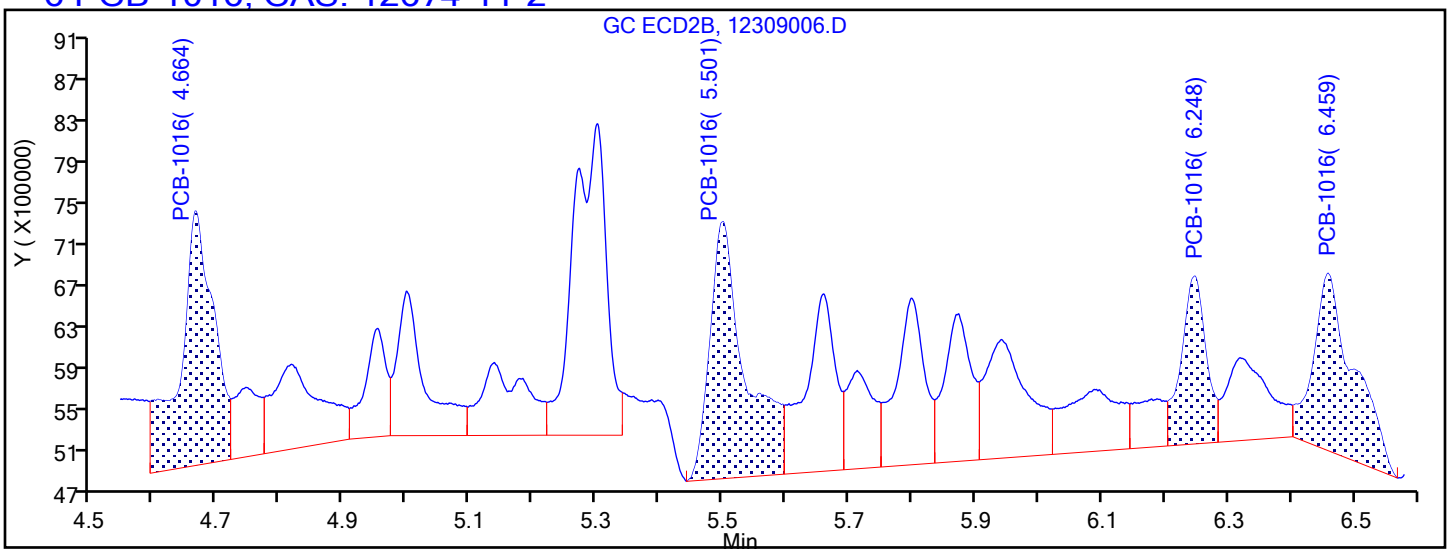

Processing Integration Results

4.664	Response = 2444332
5.301	Response = 0
5.501	Response = 2467546
6.248	Response = 1611647
6.459	Response = 1703689

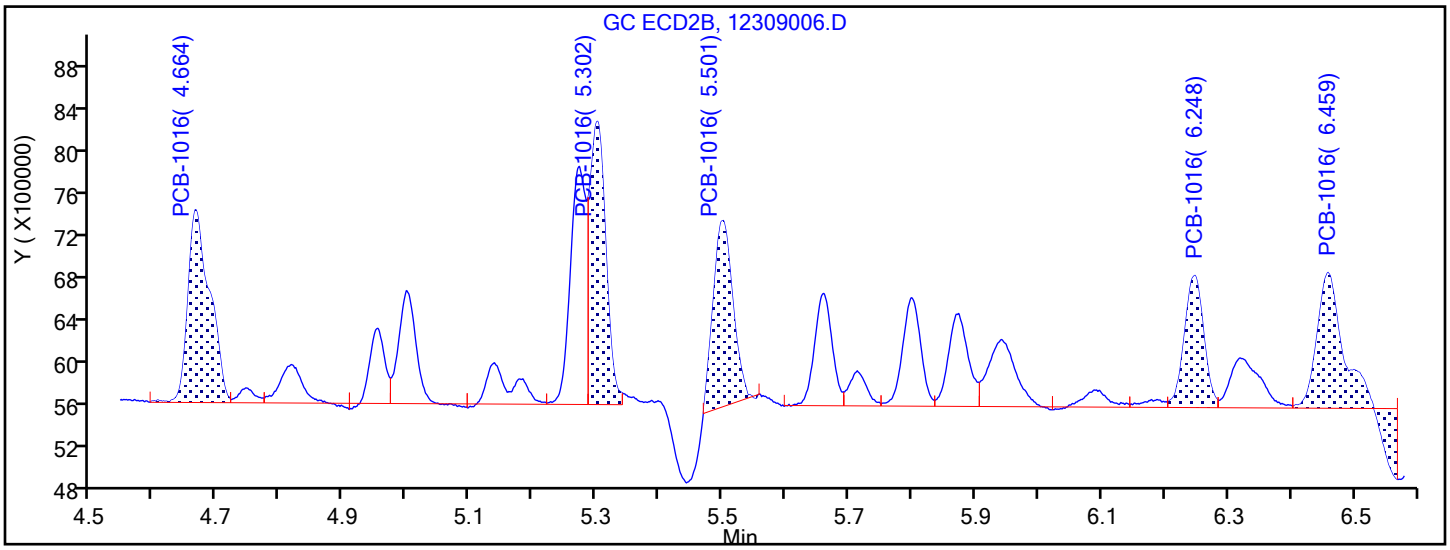

Manual Integration Results

4.664	Response = 1832415	M
5.302	Response = 2691408	M
5.501	Response = 1768510	M
6.248	Response = 1255472	M
6.459	Response = 1289568	M

Reviewer: oravecj, 31-Dec-2019 05:15:24

Audit Action: Assigned New Baseline Audit Reason: Instrument noise

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309007.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 30-Dec-2019 10:50:38 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-006
Operator ID: 402331 Instrument ID: CHGC16
Sublist: chrom-PCB_CHGC16*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:17:51 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 30-Dec-2019 11:44:45

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.609	2.608	0.001	1092125642H	0.1000	0.1000	
2	2.813	2.813	0.001	1178114002H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.208	3.208	0.000	45671283H	0.005000	0.005126	
2	3.646	3.646	0.000	34655811H	0.005000	0.004678	
						RPD = 9.13	
6 PCB-1016							
1	3.518	3.517	0.001	16405096H	0.1000	0.1138	
1	3.849	3.849	0.000	18865933H	0.1000	0.1213	
1	4.064	4.064	0.000	11217722H	0.1000	0.1262	
1	4.260	4.260	0.000	6384372H	0.1000	0.1116	
1	4.569	4.569	0.000	13845269H	0.1000	0.1157	
		Average of Peak Amounts =				0.1177	
2	4.664	4.665	-0.001	12981134H	0.1000	0.1052	
2	5.301	5.301	0.000	20478065H	0.1000	0.1034	
2	5.500	5.499	0.001	11764498H	0.1000	0.1034	
2	6.246	6.248	-0.002	9526507H	0.1000	0.1084	
2	6.459	6.460	-0.001	7952232H	0.1000	0.1101	
		Average of Peak Amounts =				0.1061	
						RPD = 10.40	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	6.848	6.849	-0.001	24711147H	0.1000	0.1104	
1	7.908	7.907	0.001	28423440H	0.1000	0.1091	
1	8.611	8.611	0.000	19787413H	0.1000	0.1062	
1	9.173	9.173	0.000	49085625H	0.1000	0.0999	
1	9.649	9.650	-0.001	25930967H	0.1000	0.0986	
		Average of Peak Amounts =				0.1049	
2	8.676	8.676	0.000	15060940H	0.1000	0.0966	
2	9.351	9.353	-0.002	10064243H	0.1000	0.0968	
2	9.688	9.689	-0.001	18330215H	0.1000	0.0970	
2	10.698	10.697	0.001	31470266H	0.1000	0.0962	
2	11.233	11.235	-0.002	17932233H	0.1000	0.0979	
		Average of Peak Amounts =				0.0969	
						RPD = 7.89	
* 16 PCB-205 (IS)							
1	10.709	10.710	-0.001	1006273850H	0.1000	0.1000	
2	12.076	12.078	-0.002	663754400H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.313	11.315	-0.002	27818979H	0.005000	0.005076	
2	12.795	12.796	-0.001	13402963H	0.005000	0.004776	
						RPD = 6.09	

Reagents:

GCAR1660CALL2_00019 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 31-Dec-2019 06:17:53 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309007.D

Injection Date: 30-Dec-2019 10:50:38 Instrument ID: CHGC16

Lims ID: IC

Client ID:

Operator ID: 402331 ALS Bottle#: 6 Worklist Smp#: 6

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_CHGC16 Limit Group: GCS 8082A ICAL with IS

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

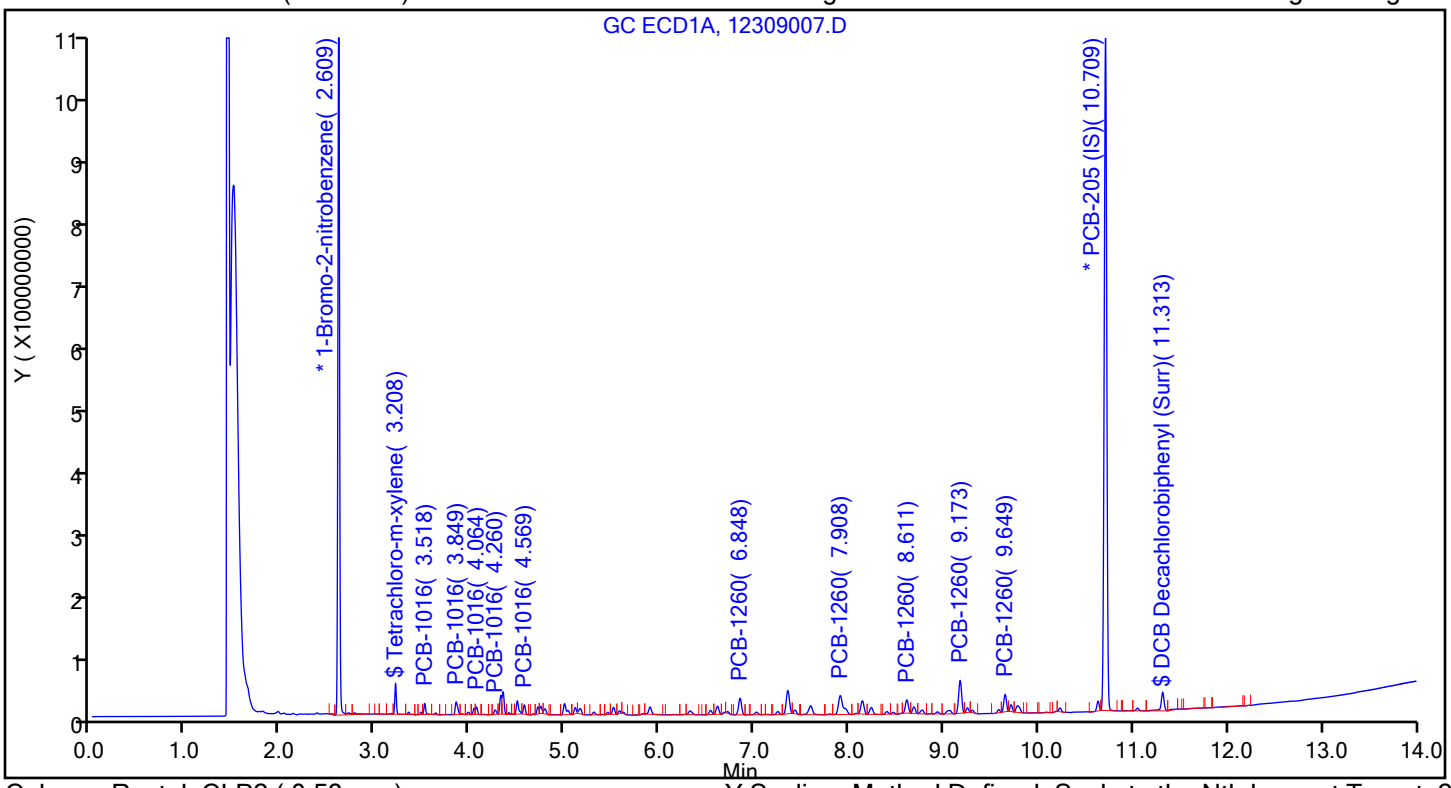

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

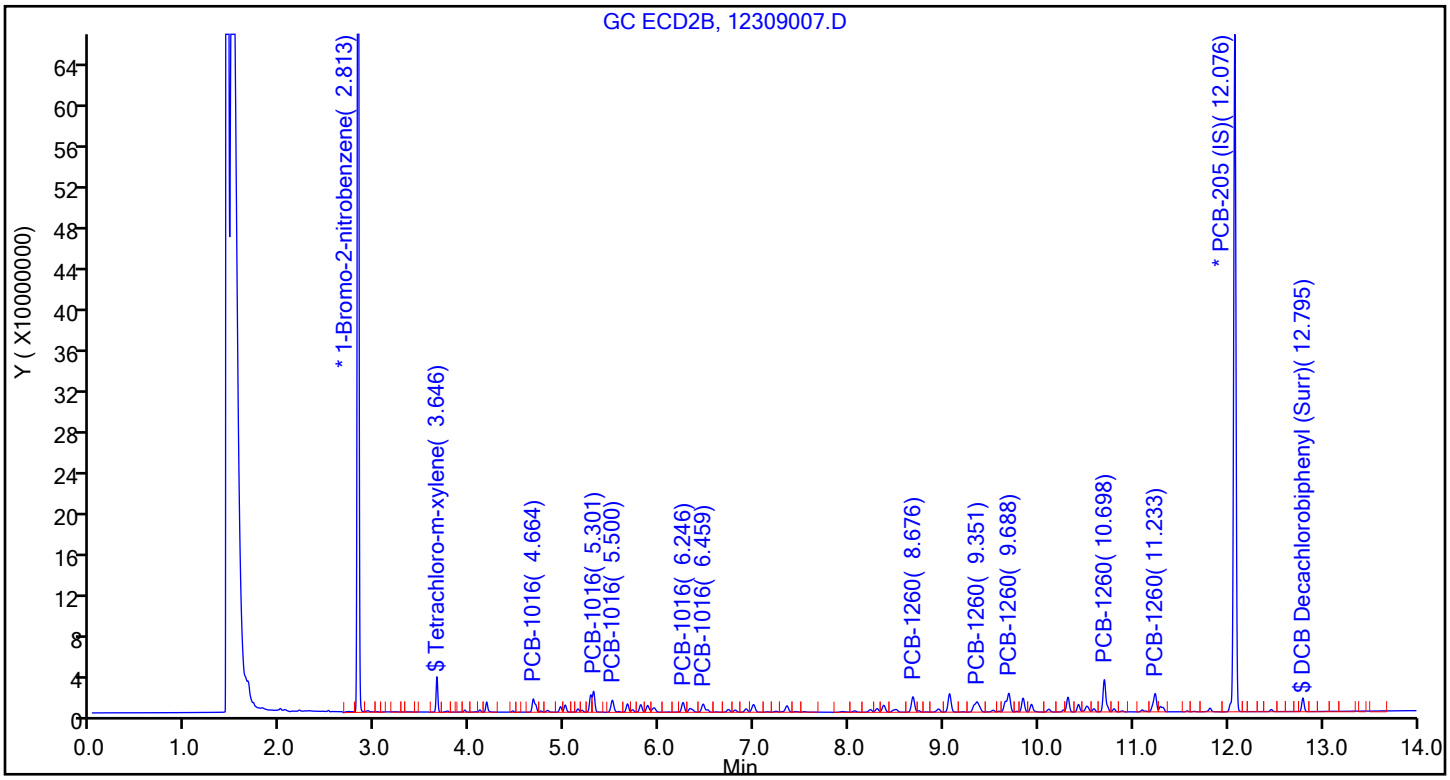

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309008.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 30-Dec-2019 11:09:21 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-007
Operator ID: 402331 Instrument ID: CHGC16
Sublist: chrom-PCB_CHGC16*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:17:34 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 30-Dec-2019 12:37:47

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.608	2.608	0.000	1070779721H	0.1000	0.1000	
2	2.812	2.813	0.000	1137599580H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.207	3.208	-0.001	103588867H	0.0125	0.0119	
2	3.645	3.646	-0.001	85612646H	0.0125	0.0120	
						RPD = 0.93	
6 PCB-1016							
1	3.516	3.517	-0.001	34058337H	0.2500	0.2409	
1	3.848	3.849	-0.001	40281660H	0.2500	0.2641	
1	4.063	4.064	-0.001	22122162H	0.2500	0.2538	
1	4.260	4.260	0.000	13749245H	0.2500	0.2451	
1	4.568	4.569	-0.001	27881416H	0.2500	0.2376	
		Average of Peak Amounts =				0.2483	
2	4.663	4.665	-0.002	29375812H	0.2500	0.2465	
2	5.300	5.301	-0.001	45789067H	0.2500	0.2394	
2	5.498	5.499	-0.001	26550933H	0.2500	0.2416	
2	6.246	6.248	-0.002	21191944H	0.2500	0.2496	
2	6.458	6.460	-0.002	17432170H	0.2500	0.2586	
		Average of Peak Amounts =				0.2471	
						RPD = 0.47	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	6.849	6.849	0.000	48009383H	0.2500	0.2271	
1	7.906	7.907	-0.001	57542229H	0.2500	0.2270	
1	8.611	8.611	0.000	40292032H	0.2500	0.2223	
1	9.173	9.173	0.000	111214602H	0.2500	0.2326	
1	9.647	9.650	-0.003	58336236H	0.2500	0.2417	
		Average of Peak Amounts =				0.2301	
2	8.675	8.676	-0.001	34534792H	0.2500	0.2231	
2	9.352	9.353	-0.001	23011812H	0.2500	0.2230	
2	9.688	9.689	-0.001	42780684H	0.2500	0.2281	
2	10.696	10.697	-0.001	73972474H	0.2500	0.2278	
2	11.235	11.235	0.000	43127567H	0.2500	0.2372	
		Average of Peak Amounts =				0.2278	
						RPD = 1.00	
* 16 PCB-205 (IS)							
1	10.709	10.710	-0.001	979208687H	0.1000	0.1000	
2	12.076	12.078	-0.001	658905899H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.314	11.315	-0.001	54880691H	0.0125	0.0111	
2	12.795	12.796	-0.001	32792670H	0.0125	0.0118	
						RPD = 6.21	

Reagents:

GCAR1660CALL3_00018 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 31-Dec-2019 06:17:36 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309008.D

Injection Date: 30-Dec-2019 11:09:21 Instrument ID: CHGC16

Lims ID: IC

Client ID:

Operator ID: 402331 ALS Bottle#: 7 Worklist Smp#: 7

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_CHGC16 Limit Group: GCS 8082A ICAL with IS

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

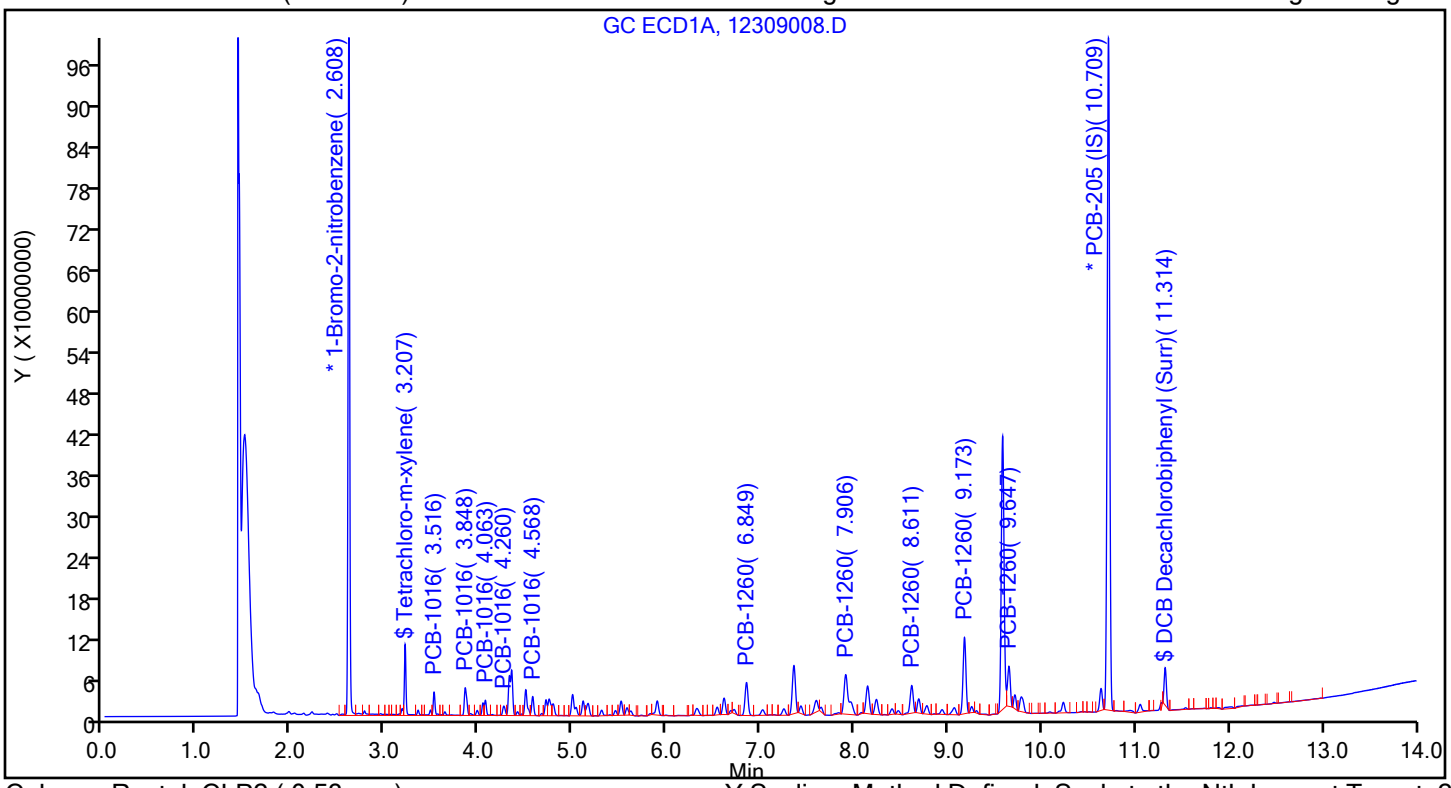

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

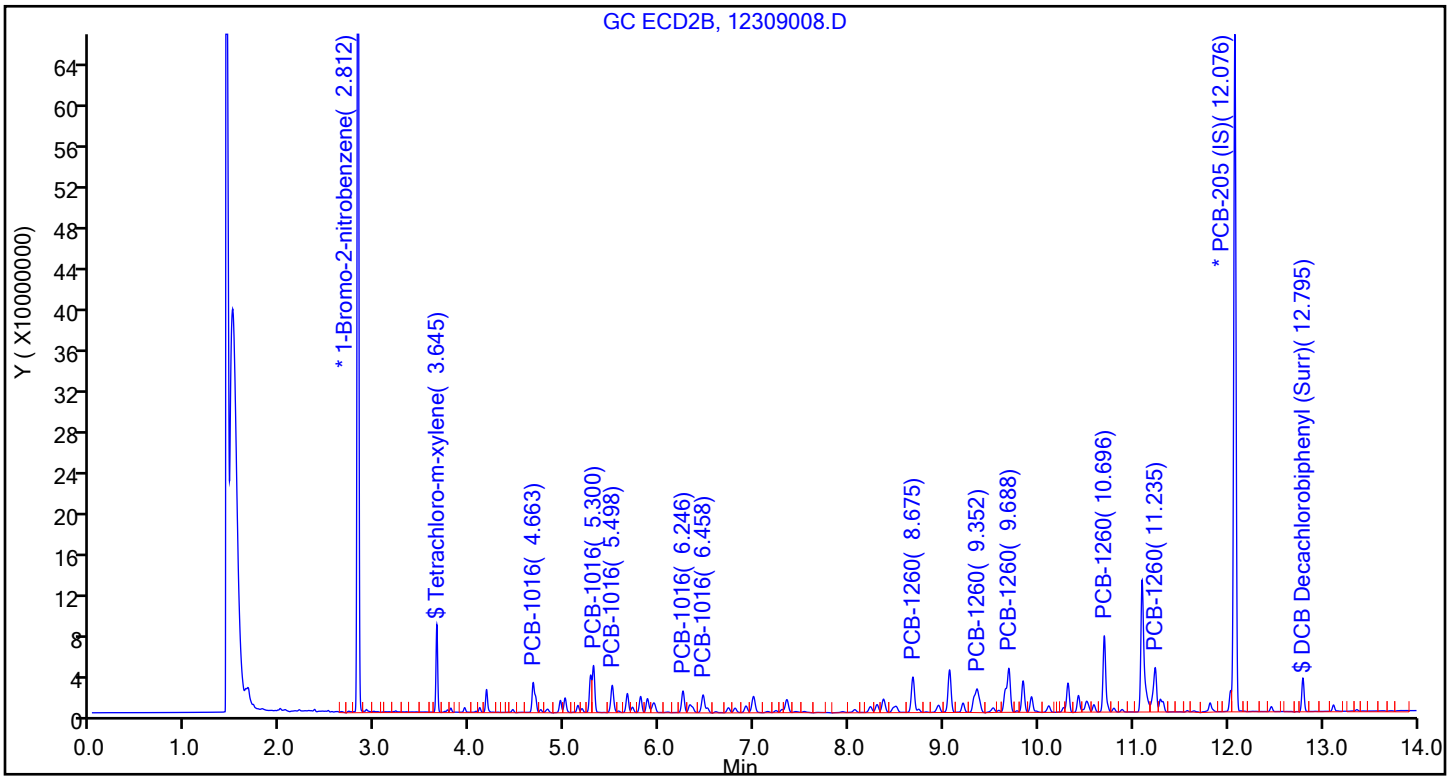

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309009.D
Lims ID: ICIS
Client ID:
Sample Type: ICIS Calib Level: 4
Inject. Date: 30-Dec-2019 11:27:54 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-008
Operator ID: 402331 Instrument ID: CHGC16
Sublist: chrom-PCB_CHGC16*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:17:00 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 31-Dec-2019 05:14:47

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.608	2.608	0.000	997865861H	0.1000	0.1000	
2	2.813	2.813	0.000	1076581080H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.208	3.208	0.000	209904721H	0.0250	0.0258	
2	3.646	3.646	0.000	170915797H	0.0250	0.0252	
						RPD = 2.10	
6 PCB-1016							
1	3.517	3.517	0.000	66760748H	0.5000	0.5068	
1	3.849	3.849	0.000	80563129H	0.5000	0.5668	
1	4.064	4.064	0.000	44692067H	0.5000	0.5501	
1	4.260	4.260	0.000	26876006H	0.5000	0.5141	
1	4.569	4.569	0.000	58729204H	0.5000	0.5370	
		Average of Peak Amounts =				0.5350	
2	4.665	4.665	0.000	58092455H	0.5000	0.5150	
2	5.301	5.301	0.000	95966191H	0.5000	0.5301	
2	5.499	5.499	0.000	52767762H	0.5000	0.5073	
2	6.248	6.248	0.000	41611059H	0.5000	0.5179	
2	6.460	6.460	0.000	34716018H	0.5000	0.5518	
		Average of Peak Amounts =				0.5244	
						RPD = 1.99	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	6.849	6.849	0.000	99585226H	0.5000	0.5369	
1	7.907	7.907	0.000	117084201H	0.5000	0.5178	
1	8.611	8.611	0.000	81262053H	0.5000	0.5027	
1	9.173	9.173	0.000	211882265H	0.5000	0.4968	
1	9.650	9.650	0.000	106327641H	0.5000	0.5048	
		Average of Peak Amounts =				0.5118	
2	8.676	8.676	0.000	66344403H	0.5000	0.5052	
2	9.353	9.353	0.000	42945750H	0.5000	0.4906	
2	9.689	9.689	0.000	78000583H	0.5000	0.4903	
2	10.697	10.697	0.000	137003756H	0.5000	0.4973	
2	11.235	11.235	0.000	74102723H	0.5000	0.4803	
		Average of Peak Amounts =				0.4927	
						RPD = 3.80	
* 16 PCB-205 (IS)							
1	10.710	10.710	0.000	873361020H	0.1000	0.1000	
2	12.078	12.078	0.000	559006763H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.315	11.315	0.000	108631194H	0.0250	0.0255	
2	12.796	12.796	0.000	56338326H	0.0250	0.0238	
						RPD = 6.61	

Reagents:

GCAR1660CALL4_00019 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 31-Dec-2019 06:17:02 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309009.D

Injection Date: 30-Dec-2019 11:27:54 Instrument ID: CHGC16

Lims ID: ICIS

Client ID:

Operator ID: 402331 ALS Bottle#: 8 Worklist Smp#: 8

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_CHGC16 Limit Group: GCS 8082A ICAL with IS

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

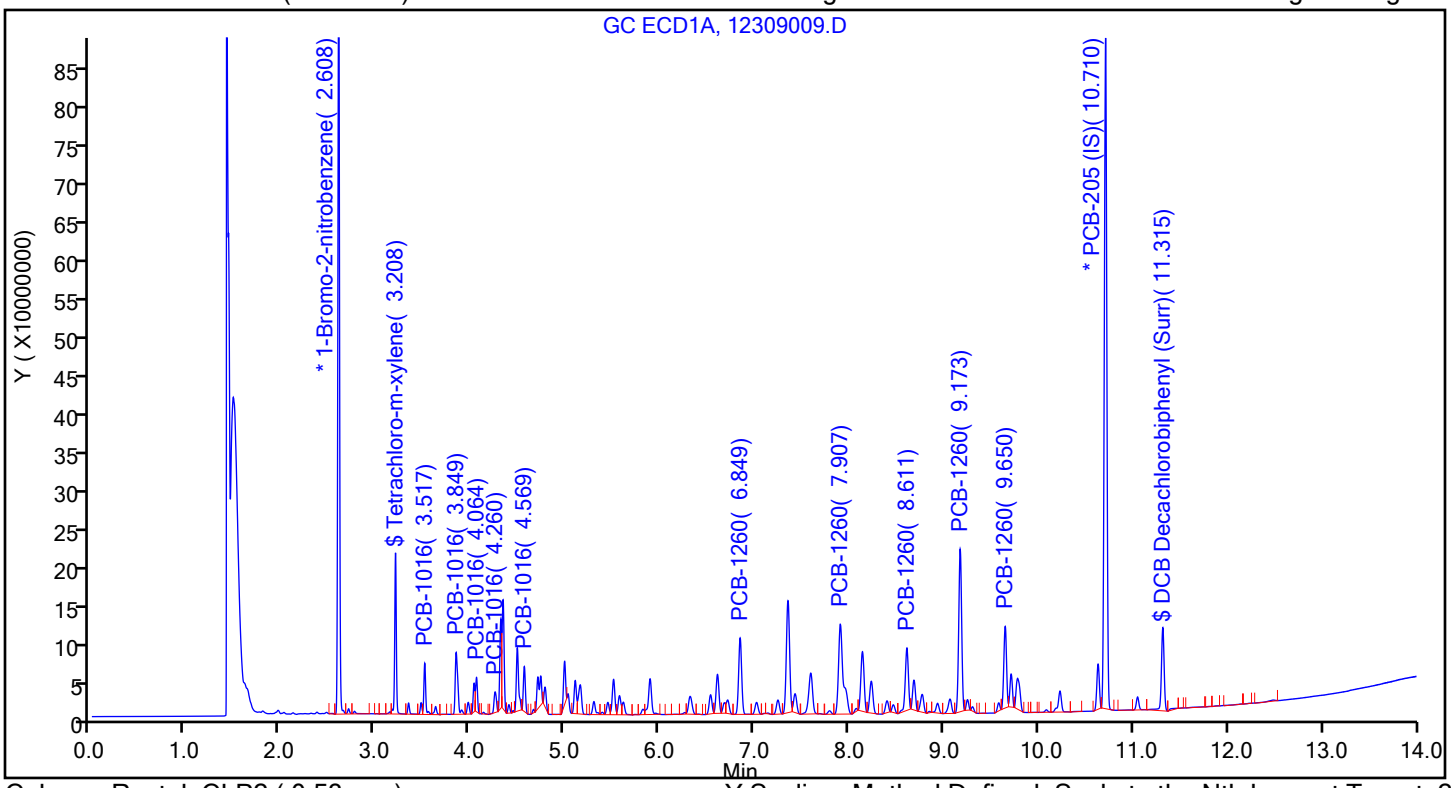

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

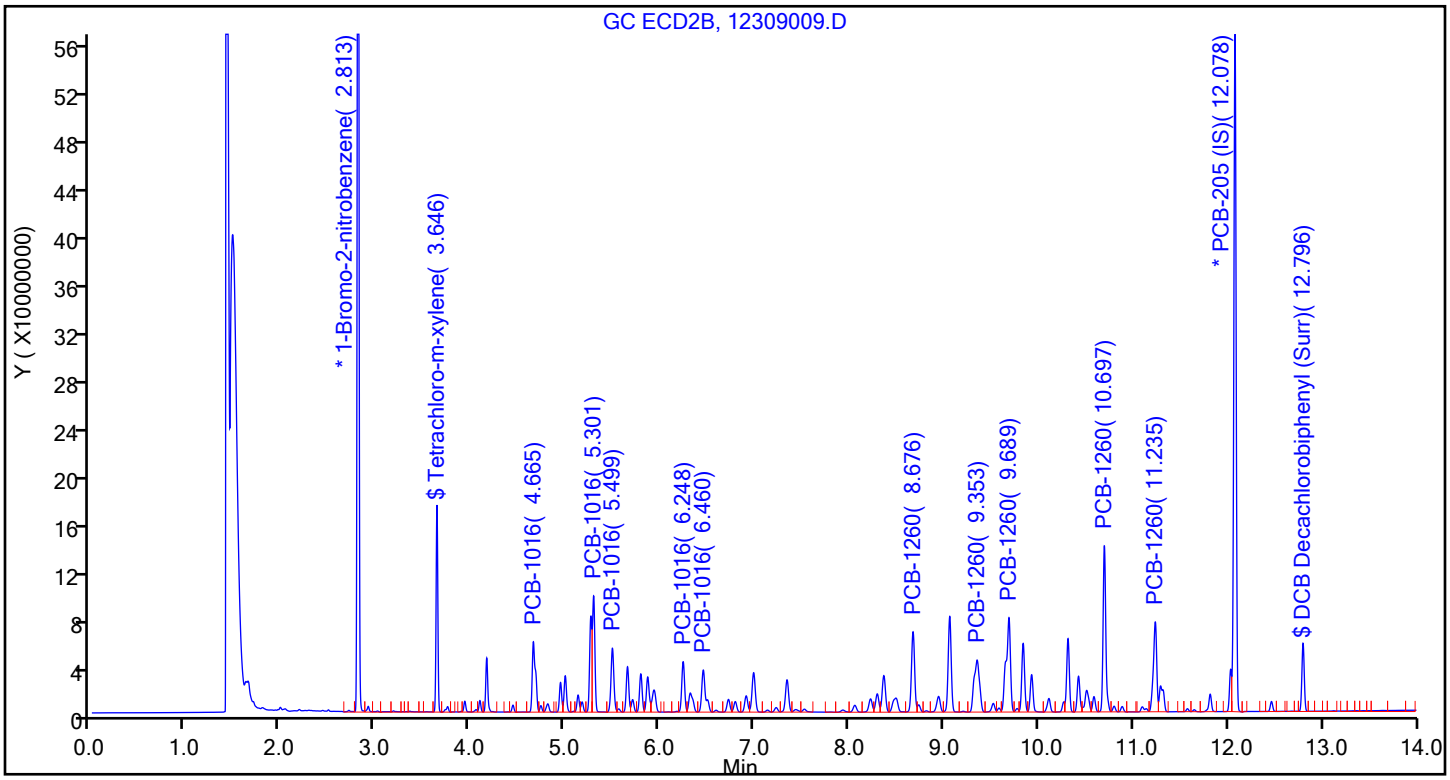

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309010.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 30-Dec-2019 11:46:34 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-009
Operator ID: 402331 Instrument ID: CHGC16
Sublist: chrom-PCB_CHGC16*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:16:30 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 31-Dec-2019 05:19:21

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.609	2.608	0.000	976603702H	0.1000	0.1000	
2	2.813	2.813	0.000	1045862040H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.209	3.208	0.001	367576089H	0.0500	0.0461	
2	3.646	3.646	0.000	313183305H	0.0500	0.0476	
						RPD = 3.17	
6 PCB-1016							
1	3.518	3.517	0.001	109602298H	1.00	0.8501	
1	3.850	3.849	0.001	131796389H	1.00	0.9475	
1	4.065	4.064	0.001	71097501H	1.00	0.8942	
1	4.261	4.260	0.001	43720961H	1.00	0.8545	
1	4.570	4.569	0.001	91224886H	1.00	0.8524	
		Average of Peak Amounts =				0.8797	
2	4.665	4.665	0.000	96560862H	1.00	0.8812	
2	5.302	5.301	0.001	157747081H	1.00	0.8970	
2	5.500	5.499	0.001	86105450H	1.00	0.8521	
2	6.246	6.248	-0.002	67480464H	1.00	0.8646	
2	6.459	6.460	-0.001	55125930H	1.00	0.9062	
		Average of Peak Amounts =				0.8802	
						RPD = 0.06	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	6.850	6.849	0.001	146511845H	1.00	0.9249	
1	7.907	7.907	0.000	175089430H	1.00	0.9020	
1	8.613	8.611	0.002	120256898H	1.00	0.8666	
1	9.175	9.173	0.002	323411726H	1.00	0.8833	
1	9.649	9.650	-0.001	167456700H	1.00	0.9347	
		Average of Peak Amounts =				0.9023	
2	8.676	8.676	0.000	105140972H	1.00	0.8987	
2	9.353	9.353	0.000	69698158H	1.00	0.8938	
2	9.689	9.689	0.000	125765562H	1.00	0.8874	
2	10.698	10.697	0.001	229097558H	1.00	0.9334	
2	11.235	11.235	0.000	124621061H	1.00	0.9068	
		Average of Peak Amounts =				0.9040	
						RPD = 0.19	
* 16 PCB-205 (IS)							
1	10.712	10.710	0.002	749770019H	0.1000	0.1000	
2	12.077	12.078	-0.001	497979219H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.315	11.315	0.000	177945804H	0.0500	0.0493	
2	12.796	12.796	0.000	91621988H	0.0500	0.0435	
						RPD = 12.41	

Reagents:

GCAR1660CALL5_00019 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 31-Dec-2019 06:16:33 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309010.D

Injection Date: 30-Dec-2019 11:46:34 Instrument ID: CHGC16

Lims ID: IC

Client ID:

Operator ID: 402331 ALS Bottle#: 9 Worklist Smp#: 9

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_CHGC16 Limit Group: GCS 8082A ICAL with IS

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

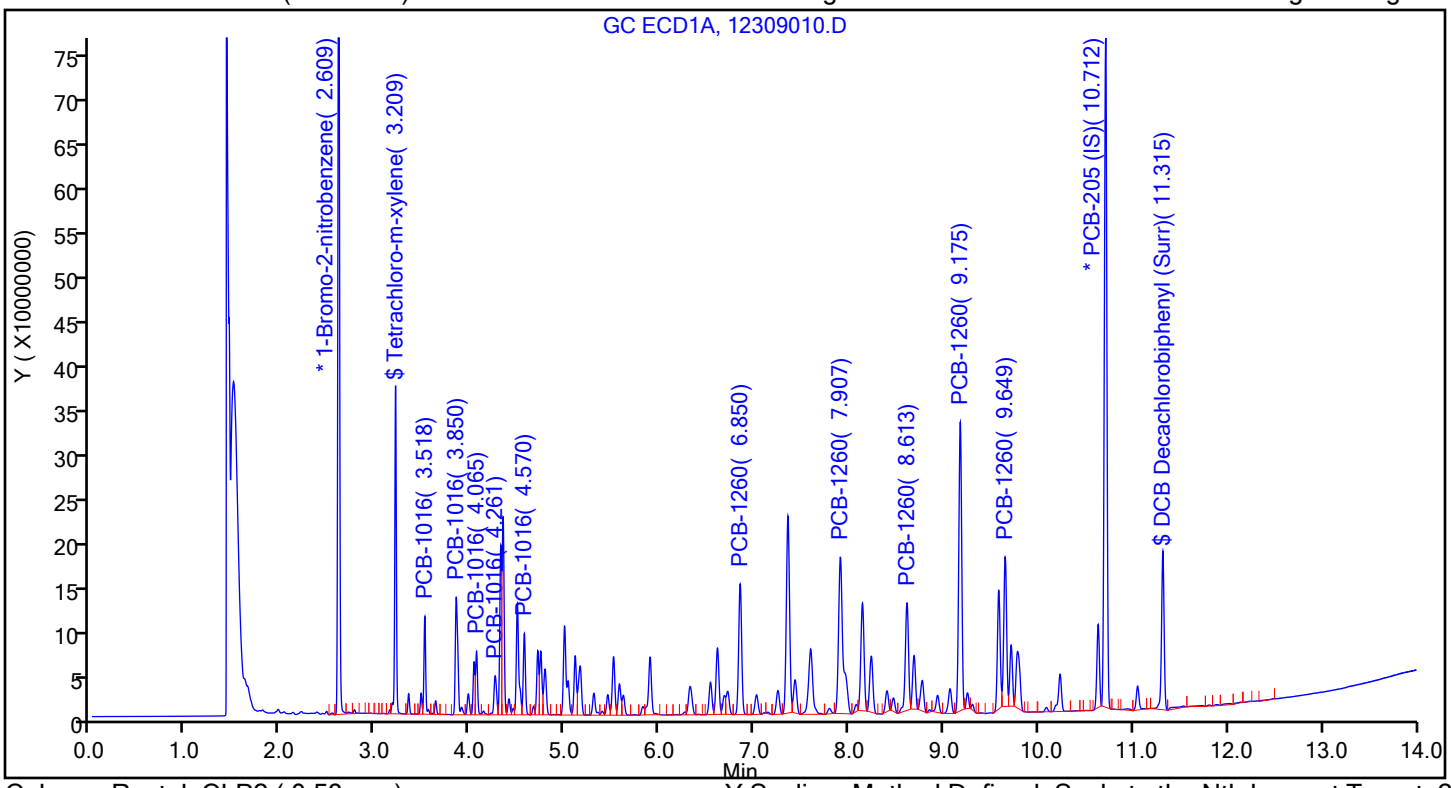

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

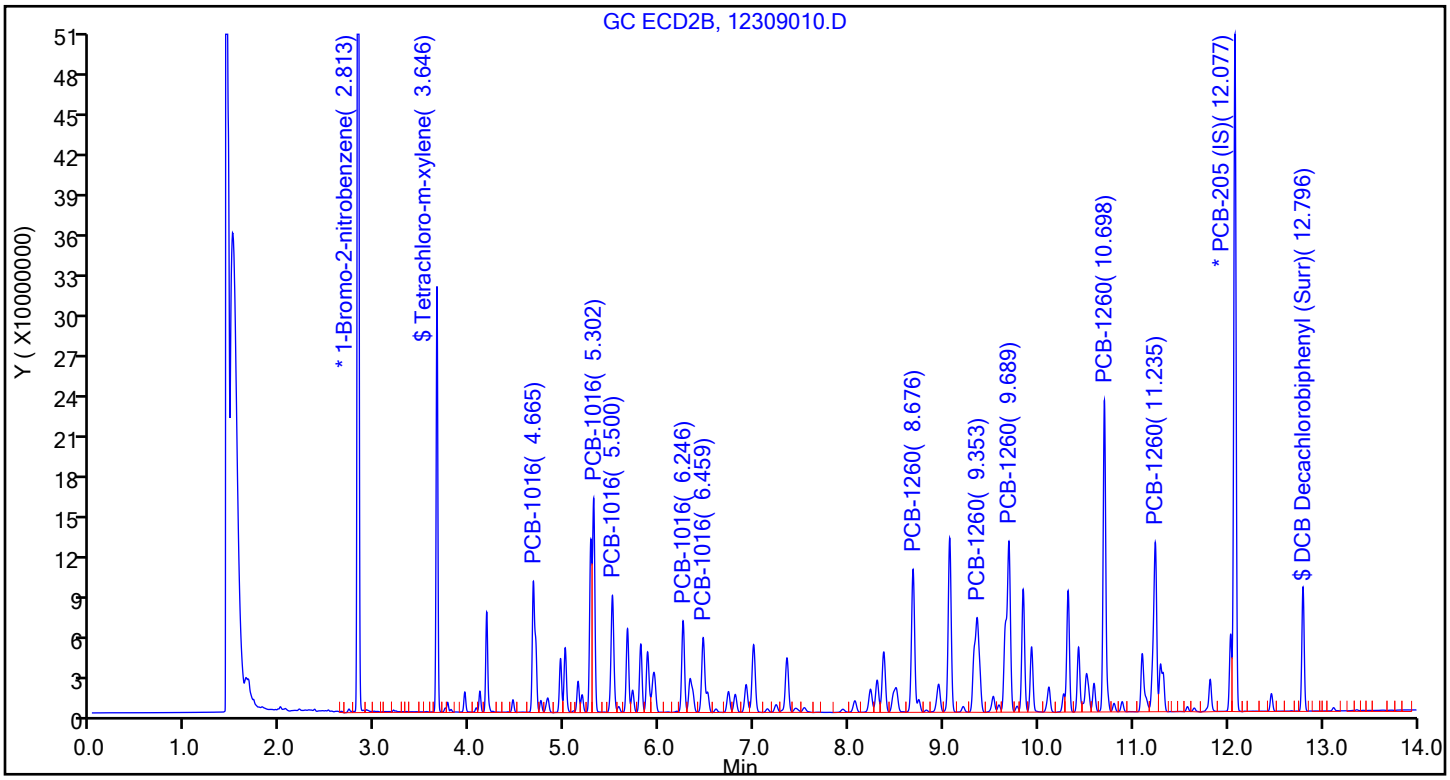

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309011.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 30-Dec-2019 12:05:18 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-010
Operator ID: 402331 Instrument ID: CHGC16
Sublist: chrom-PCB_CHGC16*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:16:14 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 30-Dec-2019 12:32:43

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.608	2.608	0.000	957677132H	0.1000	0.1000	
2	2.813	2.813	0.001	1022796083H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.209	3.208	0.001	760260005H	0.1000	0.0973	
2	3.646	3.646	0.000	659017631H	0.1000	0.1025	
						RPD = 5.17	
6 PCB-1016							
1	3.518	3.517	0.001	213998956H	2.00	1.69	
1	3.851	3.849	0.002	262881624H	2.00	1.93	
1	4.065	4.064	0.001	141266390H	2.00	1.81	
1	4.261	4.260	0.001	89913487H	2.00	1.79	
1	4.570	4.569	0.001	188658122H	2.00	1.80	
		Average of Peak Amounts =				1.80	
2	4.665	4.665	0.000	192336605H	2.00	1.79	
2	5.301	5.301	0.000	329778795H	2.00	1.92	
2	5.500	5.499	0.001	180590564H	2.00	1.83	
2	6.247	6.248	-0.001	138865654H	2.00	1.82	
2	6.460	6.460	0.000	114866575H	2.00	1.94	
		Average of Peak Amounts =				1.86	
						RPD = 3.02	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	6.851	6.849	0.002	289790018H	2.00	2.10	
1	7.910	7.907	0.003	342845041H	2.00	2.02	
1	8.613	8.611	0.002	235990512H	2.00	1.95	
1	9.175	9.173	0.002	612982236H	2.00	1.92	
1	9.650	9.650	0.000	320968958H	2.00	2.07	
		Average of Peak Amounts =				2.01	
2	8.676	8.676	0.000	211612216H	2.00	2.15	
2	9.352	9.353	-0.001	138377100H	2.00	2.11	
2	9.690	9.689	0.001	245059338H	2.00	2.05	
2	10.698	10.697	0.001	423798574H	2.00	2.05	
2	11.235	11.235	0.000	232204501H	2.00	2.01	
		Average of Peak Amounts =				2.07	
						RPD = 2.97	
* 16 PCB-205 (IS)							
1	10.711	10.710	0.001	654208913H	0.1000	0.1000	
2	12.076	12.078	-0.001	419302820H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.315	11.315	0.000	302217941H	0.1000	0.0966	
2	12.796	12.796	0.000	161624036H	0.1000	0.0912	
						RPD = 5.80	

Reagents:

GCAR1660CALL6_00017 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 31-Dec-2019 06:16:17 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309011.D

Injection Date: 30-Dec-2019 12:05:18 Instrument ID: CHGC16

Lims ID: IC

Client ID:

Operator ID: 402331 ALS Bottle#: 10 Worklist Smp#: 10

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_CHGC16 Limit Group: GCS 8082A ICAL with IS

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

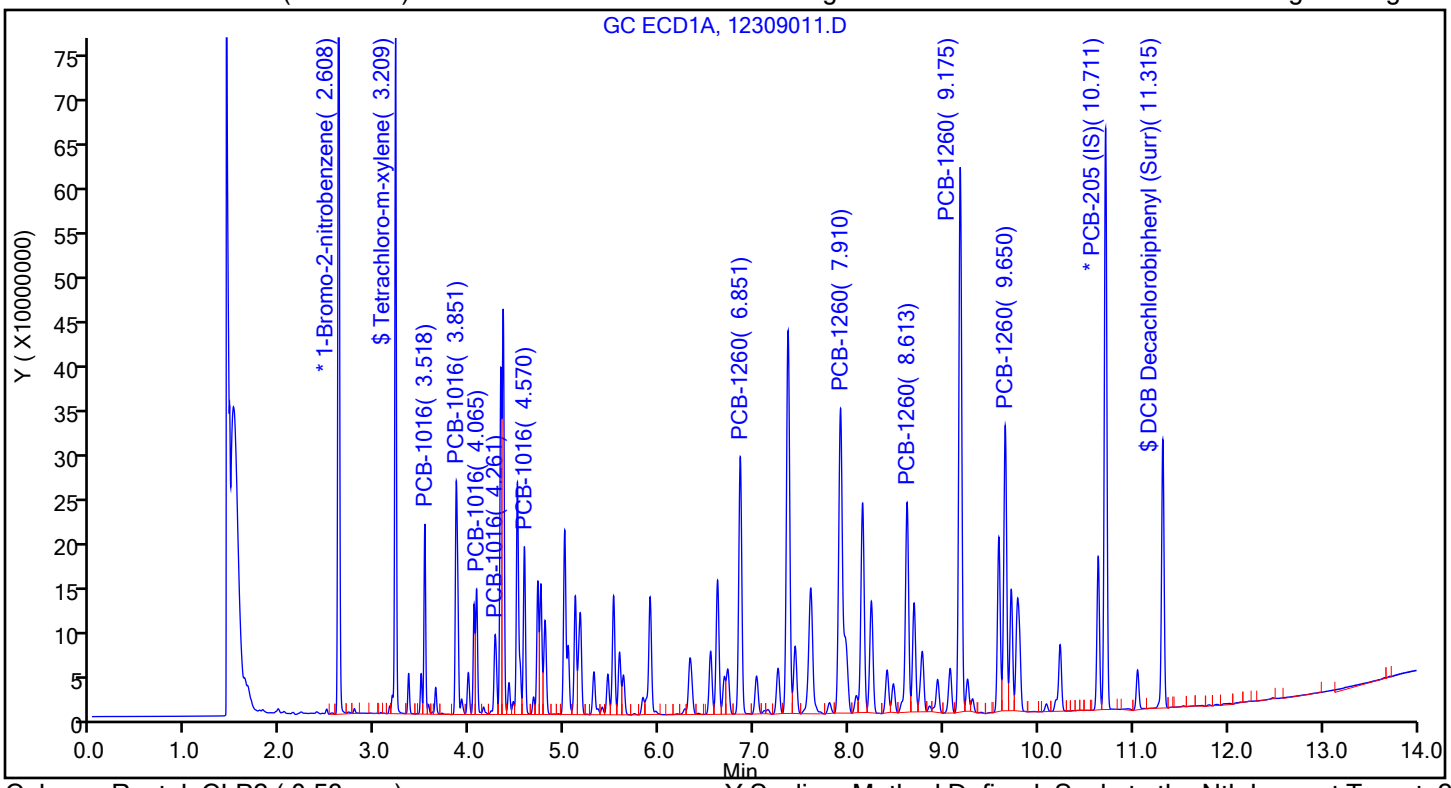

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

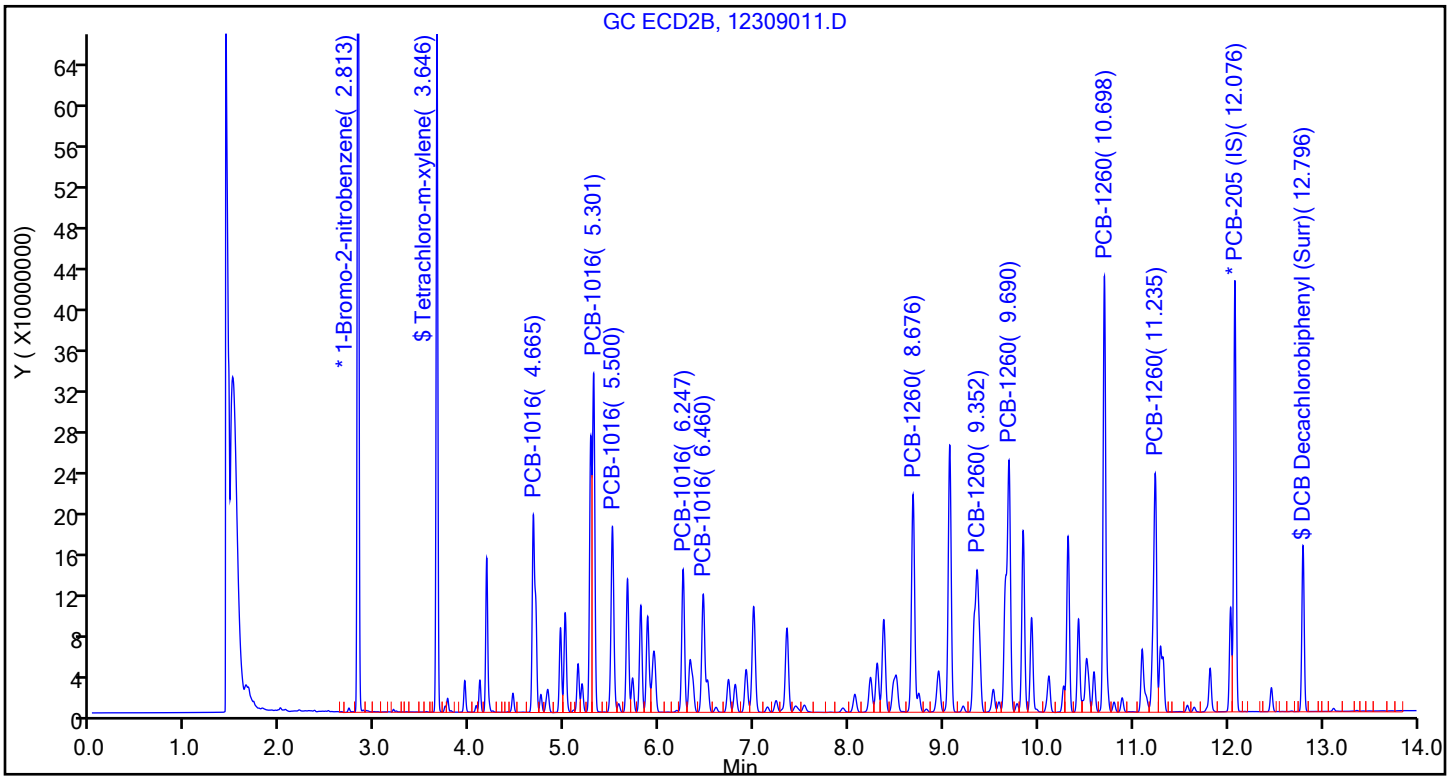

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 30-Dec-2019 12:24:02 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-011
Operator ID: 402331 Instrument ID: CHGC16
Sublist: chrom-PCB_CHGC16*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:15:46 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 30-Dec-2019 13:00:29

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.609	2.608	0.000	944096756H	0.1000	0.1000	
2	2.813	2.813	0.000	1009273406H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.210	3.208	0.002	1430263508H	0.2000	0.1857	
2	3.647	3.646	0.001	1322463742H	0.2000	0.2084	
						RPD = 11.51	
6 PCB-1016							
1	3.519	3.517	0.002	413184298H	4.00	3.32	
1	3.851	3.849	0.002	489247689H	4.00	3.64	
1	4.065	4.064	0.001	254805379H	4.00	3.31	
1	4.262	4.260	0.002	156895309H	4.00	3.17	
1	4.570	4.569	0.001	331008767H	4.00	3.20	
		Average of Peak Amounts =				3.33	
2	4.665	4.665	0.000	356421768H	4.00	3.37	
2	5.301	5.301	0.000	605913758H	4.00	3.57	
2	5.500	5.499	0.001	330605352H	4.00	3.39	
2	6.246	6.248	-0.002	255047399H	4.00	3.39	
2	6.459	6.460	-0.001	209669664H	4.00	3.59	
		Average of Peak Amounts =				3.46	
						RPD = 3.95	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	6.851	6.849	0.002	530432621	H	4.00	3.77
1	7.909	7.907	0.002	645871514	H	4.00	3.73
1	8.613	8.611	0.002	452237623	H	4.00	3.65
1	9.176	9.173	0.003	1275804121	H	4.00	3.91
1	9.650	9.650	0.000	676158067	H	4.00	4.27
		Average of Peak Amounts =					3.87
2	8.675	8.676	-0.001	400523648	H	4.00	3.83
2	9.354	9.353	0.001	271741132	H	4.00	3.90
2	9.689	9.689	0.000	483038881	H	4.00	3.82
2	10.698	10.697	0.001	920369457	H	4.00	4.20
2	11.235	11.235	0.000	499939839	H	4.00	4.07
		Average of Peak Amounts =					3.96
						RPD =	2.51
* 16 PCB-205 (IS)							
1	10.710	10.710	-0.001	668742047	H	0.1000	0.1000
2	12.076	12.078	-0.001	444713893	H	0.1000	0.1000
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.316	11.315	0.001	717316087	H	0.2000	0.2253
2	12.795	12.796	-0.001	402365138	H	0.2000	0.2140
						RPD =	5.16

Reagents:

GCAR1660CALL7_00018	Amount Added: 1.00	Units: mL	
PCBINT_00010	Amount Added: 0.01	Units: mL	Run Reagent

Report Date: 31-Dec-2019 06:15:47 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Injection Date: 30-Dec-2019 12:24:02 Instrument ID: CHGC16

Lims ID: IC

Client ID:

Operator ID: 402331 ALS Bottle#: 11 Worklist Smp#: 11

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_CHGC16 Limit Group: GCS 8082A ICAL with IS

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

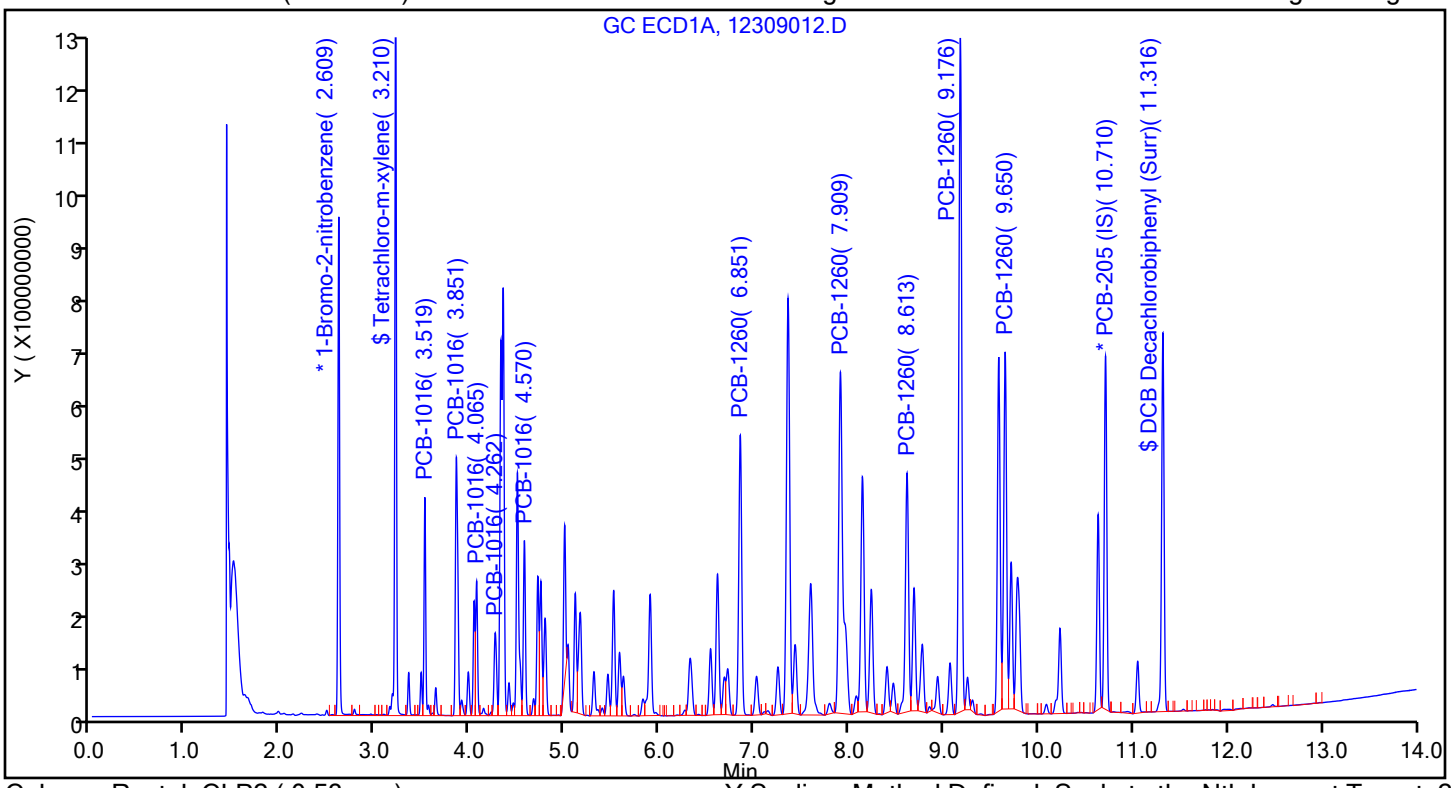

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

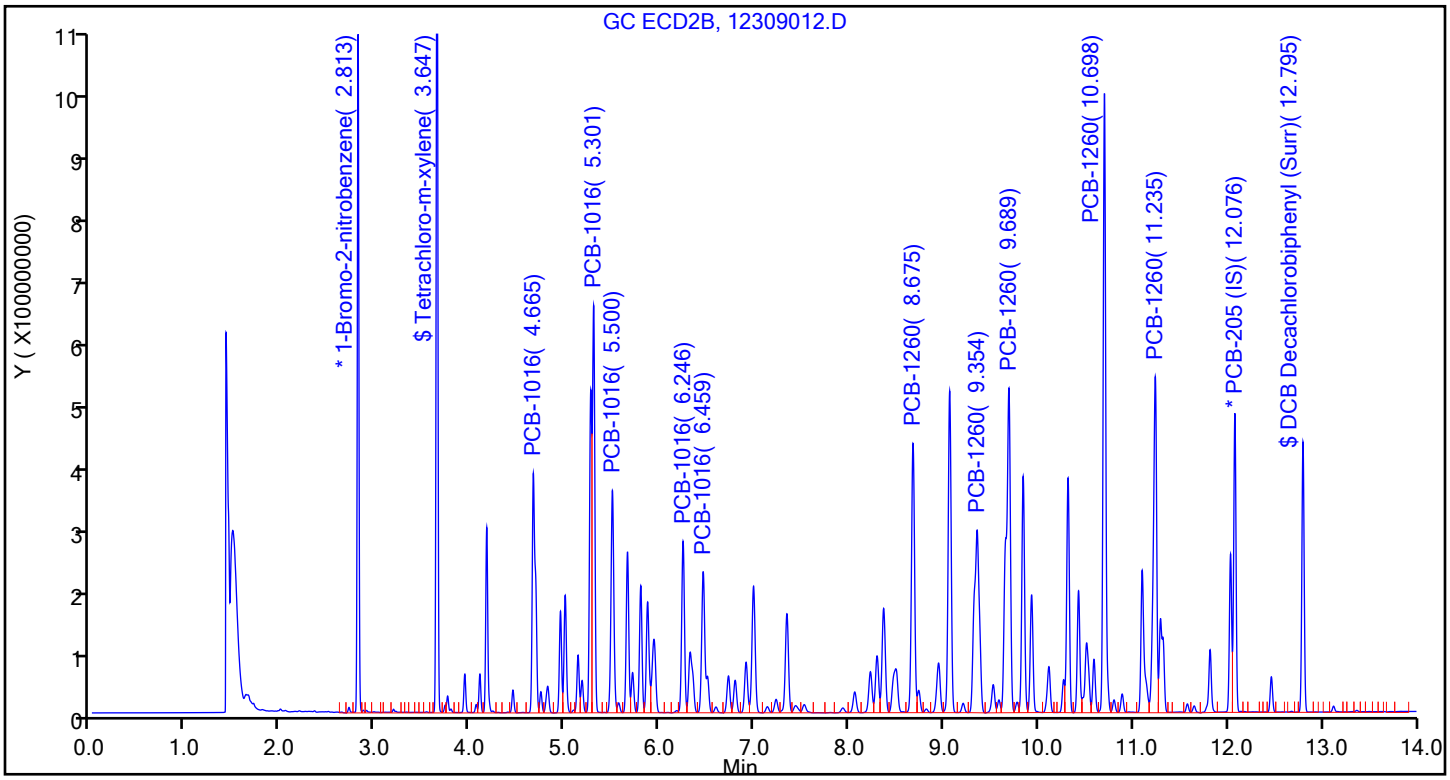

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 180-302855/12 Calibration Date: 12/30/2019 12:42

Instrument ID: CHGC16 Calib Start Date: 12/30/2019 09:17

GC Column: RTX-CLP1 ID: 0.53(mm) Calib End Date: 12/30/2019 09:17

Lab File ID: 12309013.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1221 Peak 1	Ave	0.0058	0.0061		0.524	0.500	4.9	20.0
PCB-1221 Peak 2	Ave	0.0098	0.0095		0.485	0.500	-3.0	20.0
PCB-1221 Peak 3	Ave	0.0208	0.0199		0.479	0.500	-4.2	20.0
PCB-1254 Peak 1	Ave	0.0225	0.0220		0.487	0.500	-2.5	20.0
PCB-1254 Peak 2	Ave	0.0357	0.0352		0.493	0.500	-1.4	20.0
PCB-1254 Peak 3	Ave	0.0260	0.0261		0.501	0.500	0.2	20.0
PCB-1254 Peak 4	Ave	0.0218	0.0219		0.503	0.500	0.6	20.0
PCB-1254 Peak 5	Ave	0.0249	0.0255		0.511	0.500	2.2	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 180-302855/12 Calibration Date: 12/30/2019 12:42

Instrument ID: CHGC16 Calib Start Date: 12/30/2019 09:17

GC Column: RTX-CLP1 ID: 0.53(mm) Calib End Date: 12/30/2019 09:17

Lab File ID: 12309013.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1221 Peak 1	2.77	2.75	2.79
PCB-1221 Peak 2	3.35	3.33	3.37
PCB-1221 Peak 3	3.52	3.50	3.54
PCB-1254 Peak 1	5.51	5.49	5.53
PCB-1254 Peak 2	6.54	6.51	6.55
PCB-1254 Peak 3	7.02	7.00	7.04
PCB-1254 Peak 4	7.35	7.33	7.37
PCB-1254 Peak 5	7.91	7.89	7.93

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309013.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 30-Dec-2019 12:42:39 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-012
Operator ID: 402331 Instrument ID: CHGC16
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:24:52 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 31-Dec-2019 04:49:22

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.608	2.608	-0.001	1013641264H	0.1000	0.1000	
2	2.812	2.813	-0.001	1089057429H	0.1000	0.1000	
4 PCB-1221							
1	2.773	2.772	0.001	31008912H	0.5000	0.5244	
1	3.346	3.346	0.000	48187490H	0.5000	0.4852	
1	3.516	3.517	-0.001	101003156H	0.5000	0.4790	
		Average of Peak Amounts =				0.4962	
2	3.186	3.187	-0.001	23507332H	0.5000	0.4875	
2	3.939	3.940	-0.001	31447645H	0.5000	0.4816	
2	4.170	4.171	-0.001	64047458H	0.5000	0.4807	
		Average of Peak Amounts =				0.4833	
						RPD = 2.64	
8 PCB-1254							
1	5.511	5.510	0.001	96197940H	0.5000	0.4875	
1	6.537	6.534	0.003	154273101H	0.5000	0.4929	
1	7.018	7.018	0.000	114242115H	0.5000	0.5012	
1	7.354	7.353	0.001	96086411H	0.5000	0.5032	
1	7.908	7.908	0.000	111621903H	0.5000	0.5108	
		Average of Peak Amounts =				0.4991	
2	6.989	6.988	0.001	63210704H	0.5000	0.4754	
2	7.344	7.343	0.001	70572344H	0.5000	0.4794	
2	8.295	8.295	0.000	98438341H	0.5000	0.4794	
2	8.736	8.735	0.001	72048544H	0.5000	0.4855	
2	9.690	9.688	0.002	85060483H	0.5000	0.4998	
		Average of Peak Amounts =				0.4839	
						RPD = 3.10	
* 16 PCB-205 (IS)							
1	10.710	10.710	0.000	876112887H	0.1000	0.1000	
2	12.077	12.078	-0.001	578882360H	0.1000	0.1000	

Reagents:

GCAR2154ICV_00021	Amount Added:	1.00	Units: mL	
PCBINT_00010	Amount Added:	0.01	Units: mL	Run Reagent

Report Date: 31-Dec-2019 06:27:44 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309013.D

Injection Date: 30-Dec-2019 12:42:39 Instrument ID: CHGC16

Lims ID: ICV

Client ID:

Operator ID: 402331 ALS Bottle#: 12 Worklist Smp#: 12

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_CHGC16 Limit Group: GCS 8082A ICAL with IS

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

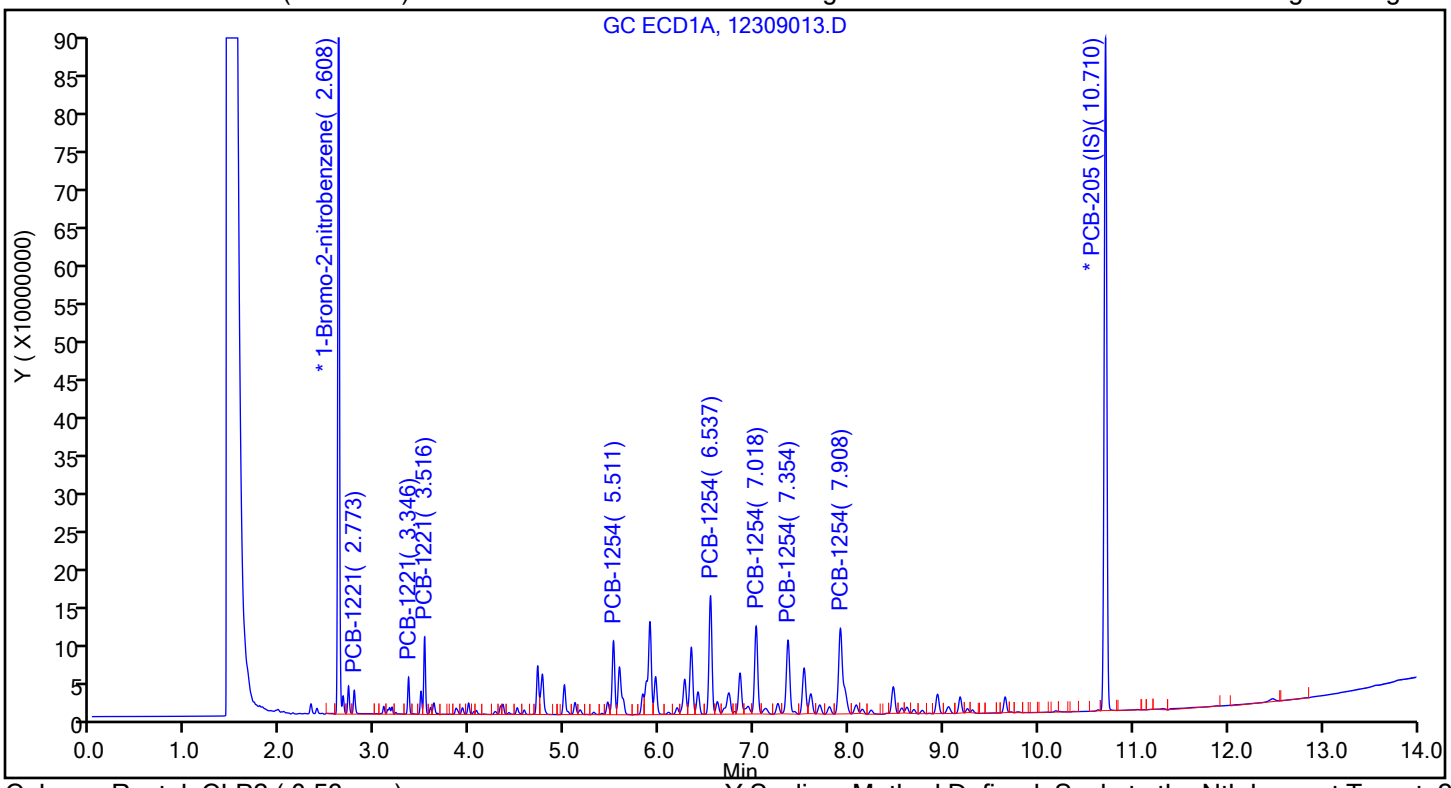

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

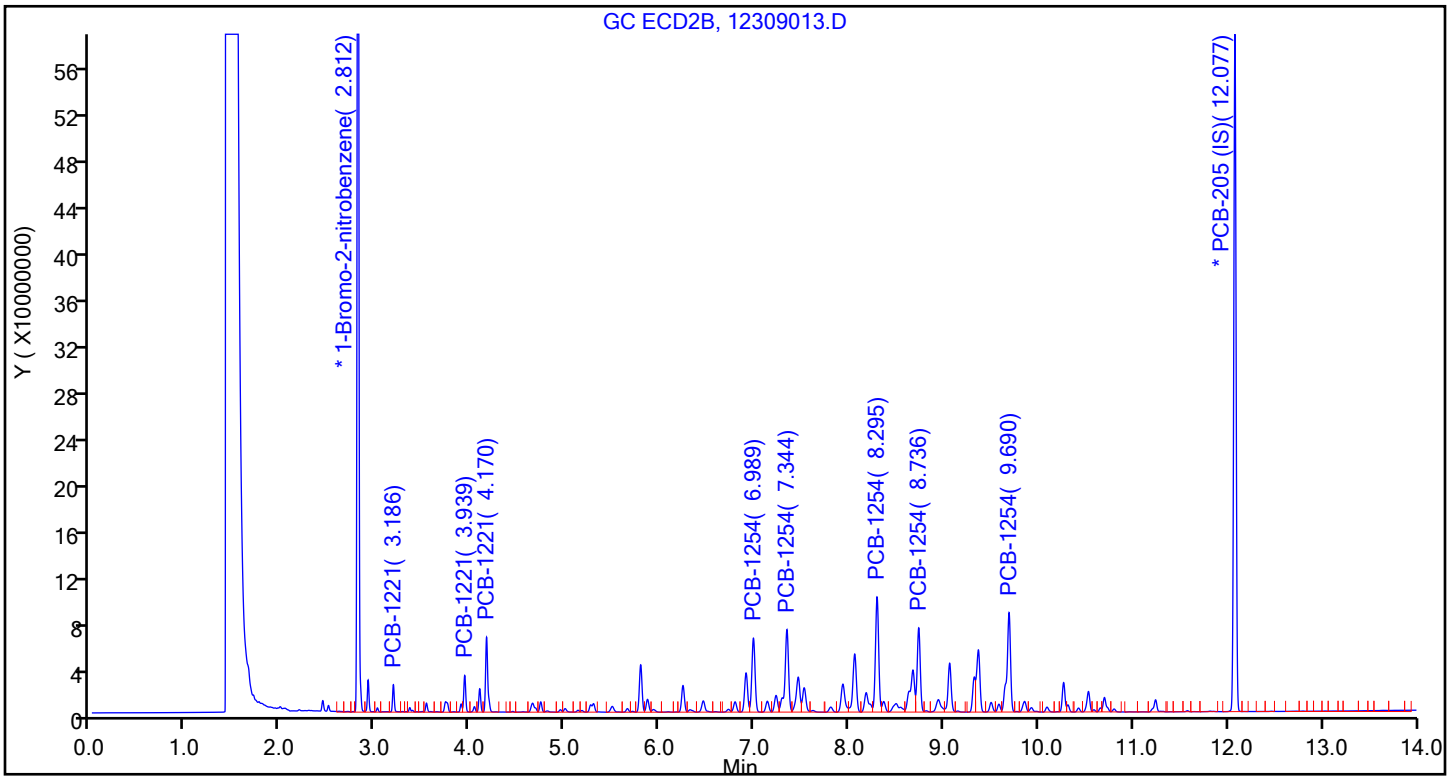

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 180-302855/12 Calibration Date: 12/30/2019 12:42

Instrument ID: CHGC16 Calib Start Date: 12/30/2019 09:17

GC Column: RTX-CLP2 ID: 0.53(mm) Calib End Date: 12/30/2019 09:17

Lab File ID: 12309013.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1221 Peak 1	Ave	0.0044	0.0043		0.488	0.500	-2.5	20.0
PCB-1221 Peak 2	Ave	0.0060	0.0058		0.482	0.500	-3.7	20.0
PCB-1221 Peak 3	Ave	0.0122	0.0118		0.481	0.500	-3.9	20.0
PCB-1254 Peak 1	Ave	0.0230	0.0218		0.475	0.500	-4.9	20.0
PCB-1254 Peak 2	Ave	0.0254	0.0244		0.479	0.500	-4.1	20.0
PCB-1254 Peak 3	Ave	0.0355	0.0340		0.479	0.500	-4.1	20.0
PCB-1254 Peak 4	Ave	0.0256	0.0249		0.486	0.500	-2.9	20.0
PCB-1254 Peak 5	Ave	0.0294	0.0294		0.500	0.500	-0.0	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 180-302855/12 Calibration Date: 12/30/2019 12:42

Instrument ID: CHGC16 Calib Start Date: 12/30/2019 09:17

GC Column: RTX-CLP2 ID: 0.53(mm) Calib End Date: 12/30/2019 09:17

Lab File ID: 12309013.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1221 Peak 1	3.19	3.17	3.21
PCB-1221 Peak 2	3.94	3.92	3.96
PCB-1221 Peak 3	4.17	4.15	4.19
PCB-1254 Peak 1	6.99	6.97	7.01
PCB-1254 Peak 2	7.34	7.32	7.36
PCB-1254 Peak 3	8.30	8.28	8.32
PCB-1254 Peak 4	8.74	8.72	8.76
PCB-1254 Peak 5	9.69	9.67	9.71

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309013.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 30-Dec-2019 12:42:39 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-012
Operator ID: 402331 Instrument ID: CHGC16
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:24:52 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 31-Dec-2019 04:49:22

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.608	2.608	-0.001	1013641264H	0.1000	0.1000	
2	2.812	2.813	-0.001	1089057429H	0.1000	0.1000	
4 PCB-1221							
1	2.773	2.772	0.001	31008912H	0.5000	0.5244	
1	3.346	3.346	0.000	48187490H	0.5000	0.4852	
1	3.516	3.517	-0.001	101003156H	0.5000	0.4790	
		Average of Peak Amounts =				0.4962	
2	3.186	3.187	-0.001	23507332H	0.5000	0.4875	
2	3.939	3.940	-0.001	31447645H	0.5000	0.4816	
2	4.170	4.171	-0.001	64047458H	0.5000	0.4807	
		Average of Peak Amounts =				0.4833	
						RPD = 2.64	
8 PCB-1254							
1	5.511	5.510	0.001	96197940H	0.5000	0.4875	
1	6.537	6.534	0.003	154273101H	0.5000	0.4929	
1	7.018	7.018	0.000	114242115H	0.5000	0.5012	
1	7.354	7.353	0.001	96086411H	0.5000	0.5032	
1	7.908	7.908	0.000	111621903H	0.5000	0.5108	
		Average of Peak Amounts =				0.4991	
2	6.989	6.988	0.001	63210704H	0.5000	0.4754	
2	7.344	7.343	0.001	70572344H	0.5000	0.4794	
2	8.295	8.295	0.000	98438341H	0.5000	0.4794	
2	8.736	8.735	0.001	72048544H	0.5000	0.4855	
2	9.690	9.688	0.002	85060483H	0.5000	0.4998	
		Average of Peak Amounts =				0.4839	
						RPD = 3.10	
* 16 PCB-205 (IS)							
1	10.710	10.710	0.000	876112887H	0.1000	0.1000	
2	12.077	12.078	-0.001	578882360H	0.1000	0.1000	

Reagents:

GCAR2154ICV_00021	Amount Added:	1.00	Units: mL	
PCBINT_00010	Amount Added:	0.01	Units: mL	Run Reagent

Report Date: 31-Dec-2019 06:27:45 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309013.D

Injection Date: 30-Dec-2019 12:42:39 Instrument ID: CHGC16

Lims ID: ICV

Client ID:

Operator ID: 402331 ALS Bottle#: 12 Worklist Smp#: 12

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_CHGC16 Limit Group: GCS 8082A ICAL with IS

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

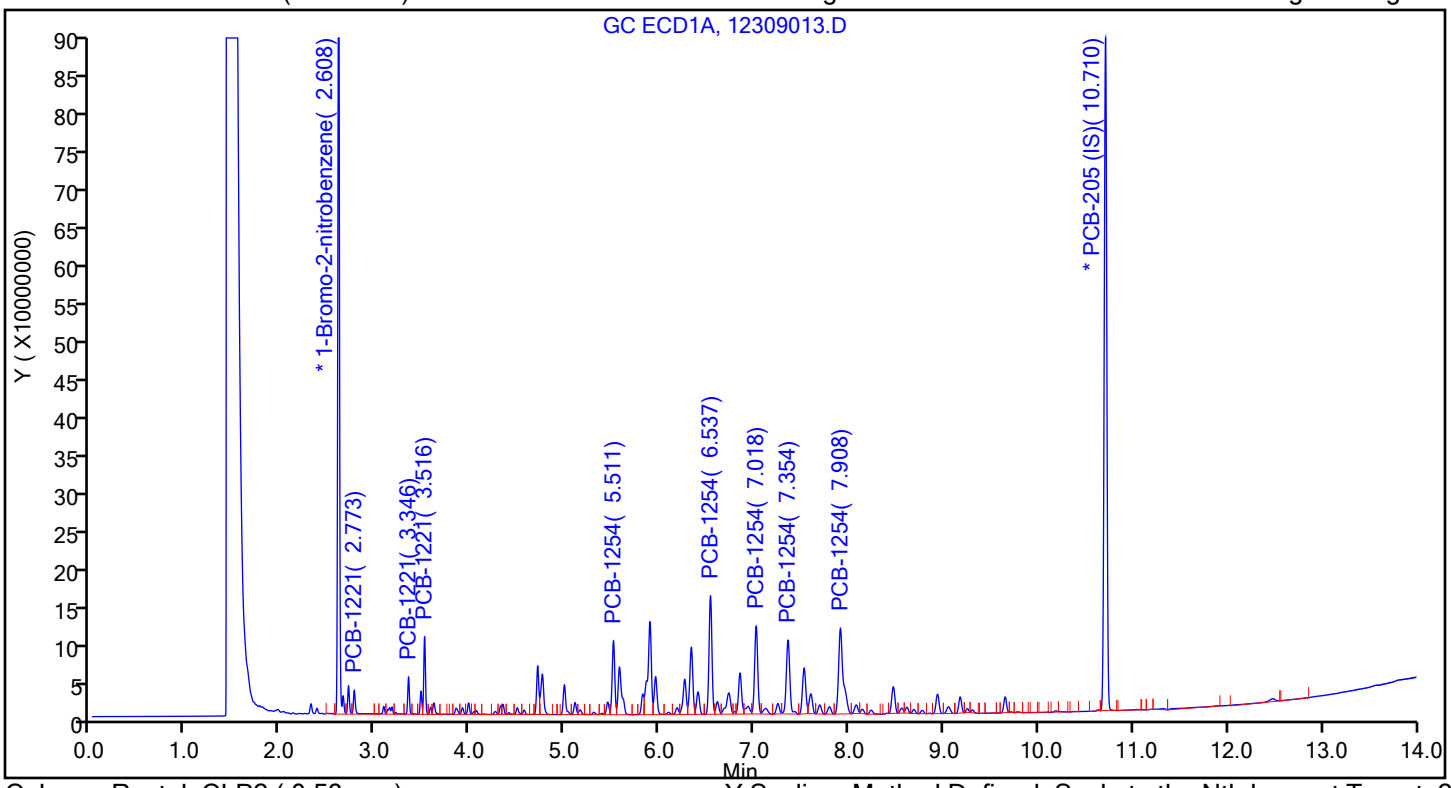

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

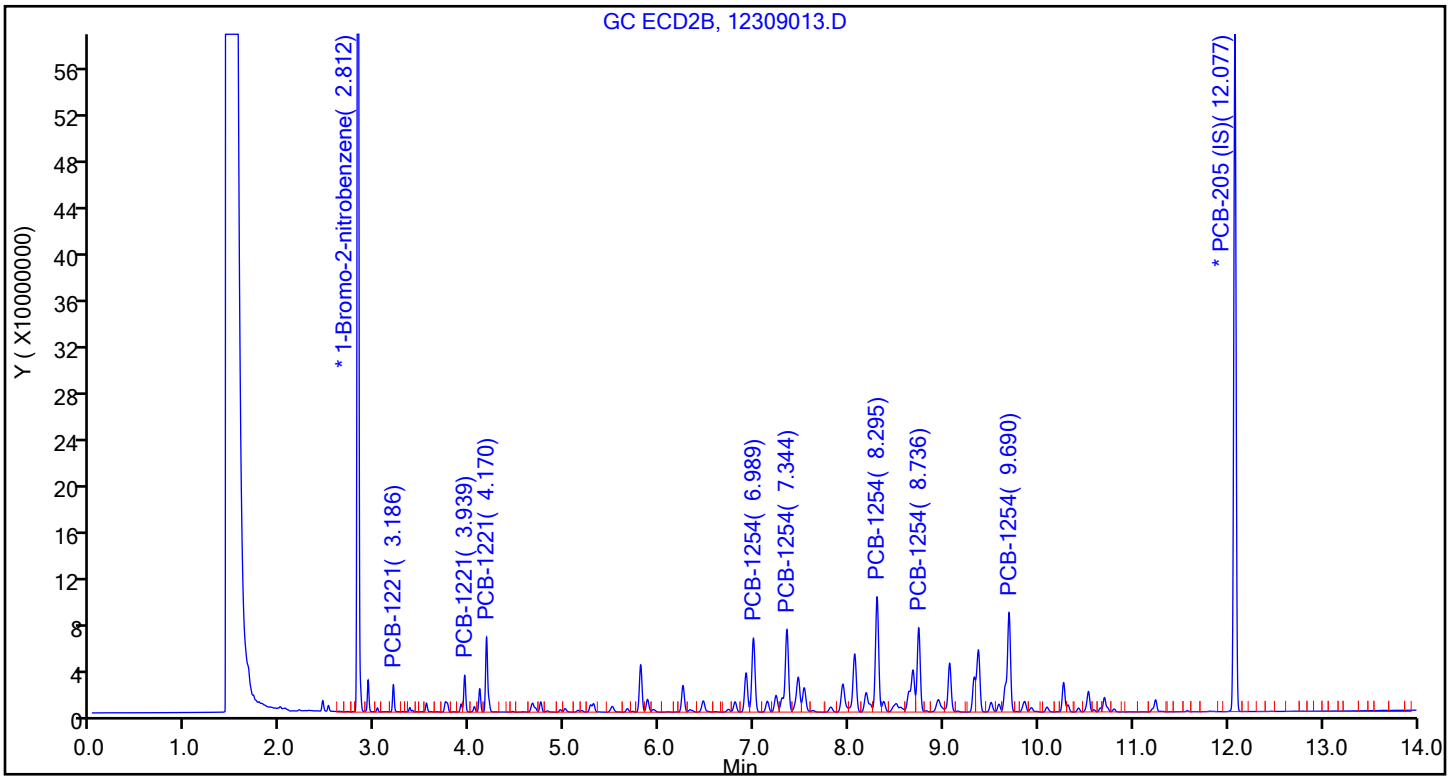

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 180-302855/13 Calibration Date: 12/30/2019 13:01

Instrument ID: CHGC16 Calib Start Date: 12/30/2019 09:35

GC Column: RTX-CLP1 ID: 0.53(mm) Calib End Date: 12/30/2019 09:35

Lab File ID: 12309014.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1232 Peak 1	Ave	0.0066	0.0062		0.469	0.500	-6.1	20.0
PCB-1232 Peak 2	Ave	0.0170	0.0157		0.463	0.500	-7.4	20.0
PCB-1232 Peak 3	Ave	0.0078	0.0071		0.458	0.500	-8.5	20.0
PCB-1232 Peak 4	Ave	0.0102	0.0090		0.438	0.500	-12.4	20.0
PCB-1262 Peak 1	Ave	0.0327	0.0299		0.457	0.500	-8.6	20.0
PCB-1262 Peak 2	Ave	0.0292	0.0260		0.445	0.500	-10.9	20.0
PCB-1262 Peak 3	Ave	0.0684	0.0621		0.454	0.500	-9.2	20.0
PCB-1262 Peak 4	Ave	0.0249	0.0210		0.420	0.500	-15.9	20.0
PCB-1262 Peak 5	Ave	0.0228	0.0187		0.411	0.500	-17.9	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 180-302855/13 Calibration Date: 12/30/2019 13:01

Instrument ID: CHGC16 Calib Start Date: 12/30/2019 09:35

GC Column: RTX-CLP1 ID: 0.53(mm) Calib End Date: 12/30/2019 09:35

Lab File ID: 12309014.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1232 Peak 1	3.35	3.33	3.37
PCB-1232 Peak 2	3.52	3.50	3.54
PCB-1232 Peak 3	3.85	3.83	3.87
PCB-1232 Peak 4	4.50	4.47	4.51
PCB-1262 Peak 1	8.14	8.12	8.16
PCB-1262 Peak 2	8.61	8.59	8.63
PCB-1262 Peak 3	9.17	9.15	9.19
PCB-1262 Peak 4	9.65	9.63	9.67
PCB-1262 Peak 5	9.78	9.76	9.80

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309014.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 30-Dec-2019 13:01:21 ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-013
Operator ID: 402331 Instrument ID: CHGC16
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:24:52 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 31-Dec-2019 04:51:25

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.607	2.608	-0.001	1010397974H	0.1000	0.1000	
2	2.812	2.813	0.000	1078787714H	0.1000	0.1000	
3 PCB-1232							
1	3.346	3.347	-0.001	31160244H	0.5000	0.4694	
1	3.517	3.516	0.001	79379832H	0.5000	0.4629	
1	3.847	3.848	-0.001	35951558H	0.5000	0.4577	
1	4.495	4.494	0.001	45334846H	0.5000	0.4382	
1	4.993	4.993	0.000	34858794H	0.5000	0.4430	
		Average of Peak Amounts =				0.4542	
2	3.940	3.939	0.001	20293545H	0.5000	0.4619	
2	4.171	4.170	0.001	52964429H	0.5000	0.4638	
2	4.663	4.663	0.000	30846625H	0.5000	0.4646	
2	5.498	5.498	0.000	27590740H	0.5000	0.4450	
2	6.996	6.994	0.002	29052344H	0.5000	0.4459	
		Average of Peak Amounts =				0.4562	
						RPD = 0.44	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
10 PCB-1262							
1	8.141	8.141	0.000	134538649H	0.5000	0.4571	
1	8.610	8.609	0.001	117017078H	0.5000	0.4453	
1	9.173	9.173	0.000	279582271H	0.5000	0.4539	
1	9.648	9.648	0.000	94333698H	0.5000	0.4203	
1	9.778	9.778	0.000	84274476H	0.5000	0.4107	
		Average of Peak Amounts =				0.4374	
2	9.060	9.059	0.001	52331666H	0.5000	0.4752	
2	9.838	9.837	0.001	98051023H	0.5000	0.4415	
2	10.312	10.312	0.000	91926329H	0.5000	0.4479	
2	10.697	10.696	0.001	187883270H	0.5000	0.4465	
2	11.228	11.228	0.000	103246766H	0.5000	0.4523	
		Average of Peak Amounts =				0.4527	
						RPD = 3.42	
* 16 PCB-205 (IS)							
1	10.710	10.710	0.000	900579476H	0.1000	0.1000	
2	12.076	12.078	-0.002	586607155H	0.1000	0.1000	

Reagents:

GCAR3262ICV_00012 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 31-Dec-2019 06:27:36 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309014.D

Injection Date: 30-Dec-2019 13:01:21 Instrument ID: CHGC16

Lims ID: ICV

Client ID:

Operator ID: 402331 ALS Bottle#: 13 Worklist Smp#: 13

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_CHGC16 Limit Group: GCS 8082A ICAL with IS

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

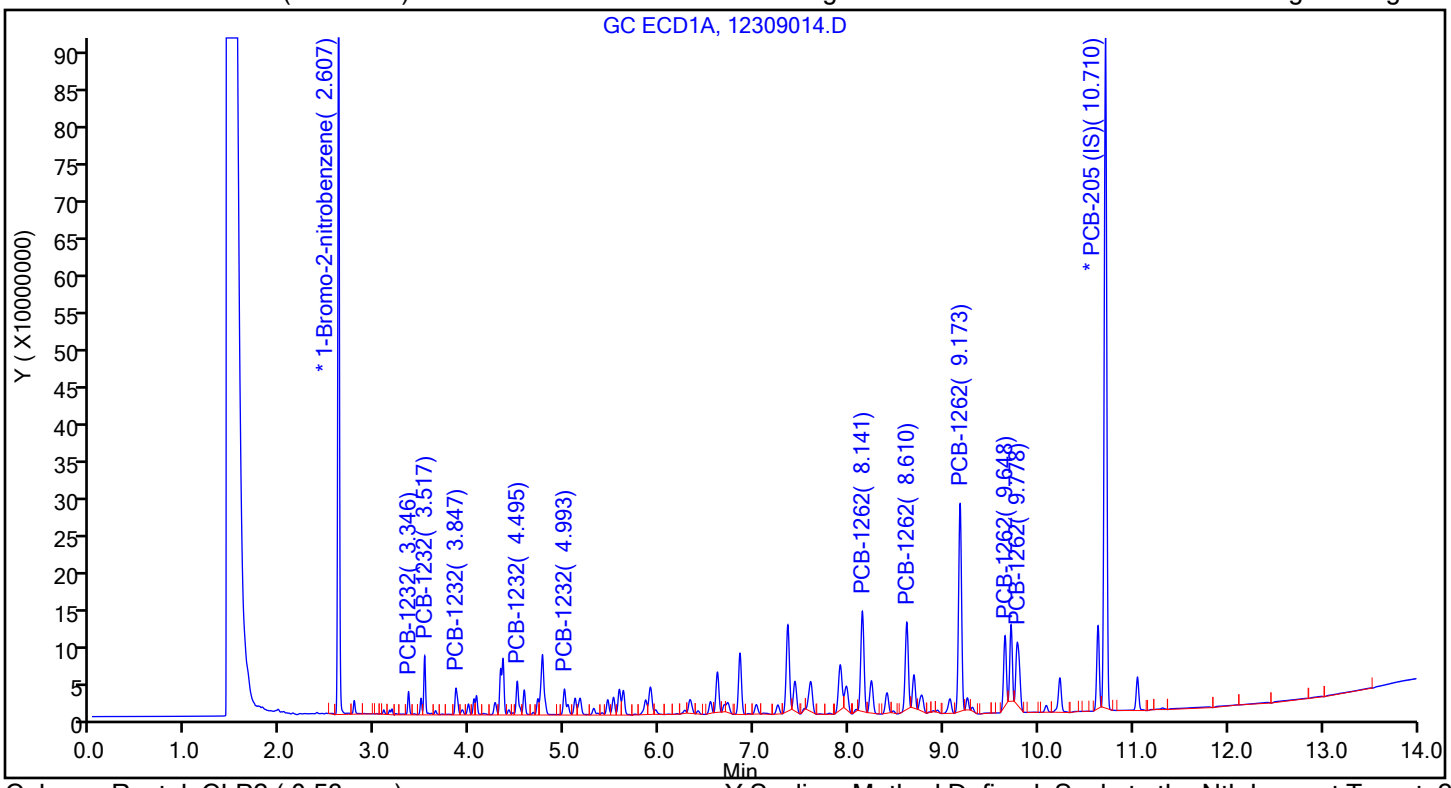

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

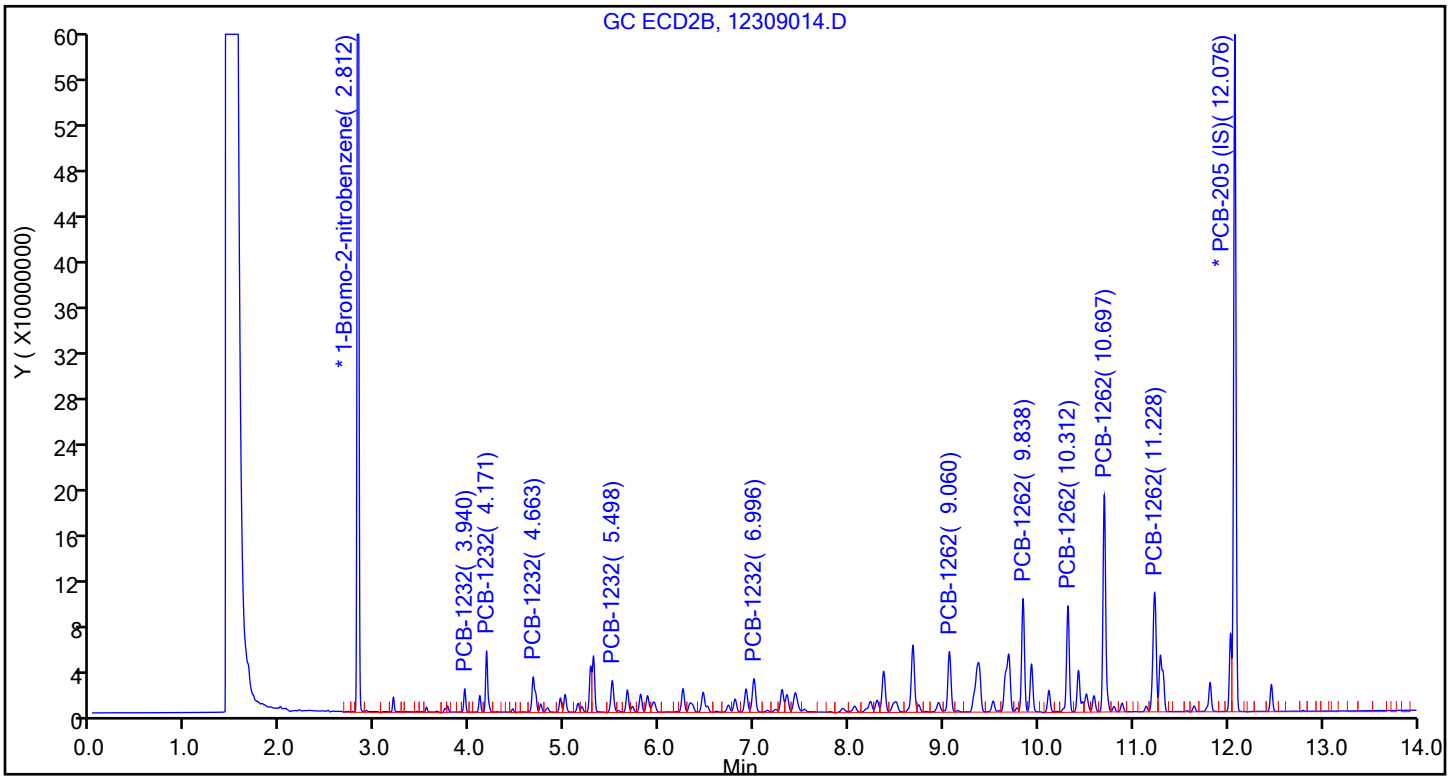

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 180-302855/13 Calibration Date: 12/30/2019 13:01

Instrument ID: CHGC16 Calib Start Date: 12/30/2019 09:35

GC Column: RTX-CLP2 ID: 0.53(mm) Calib End Date: 12/30/2019 09:35

Lab File ID: 12309014.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1232 Peak 1	Ave	0.0041	0.0038		0.462	0.500	-7.6	20.0
PCB-1232 Peak 2	Ave	0.0106	0.0098		0.464	0.500	-7.2	20.0
PCB-1232 Peak 3	Ave	0.0062	0.0057		0.465	0.500	-7.1	20.0
PCB-1232 Peak 4	Ave	0.0057	0.0051		0.445	0.500	-11.0	20.0
PCB-1262 Peak 1	Ave	0.0188	0.0178		0.475	0.500	-5.0	20.0
PCB-1262 Peak 2	Ave	0.0379	0.0334		0.442	0.500	-11.7	20.0
PCB-1262 Peak 3	Ave	0.0350	0.0313		0.448	0.500	-10.4	20.0
PCB-1262 Peak 4	Ave	0.0717	0.0641		0.447	0.500	-10.7	20.0
PCB-1262 Peak 5	Ave	0.0389	0.0352		0.452	0.500	-9.5	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 180-302855/13 Calibration Date: 12/30/2019 13:01

Instrument ID: CHGC16 Calib Start Date: 12/30/2019 09:35

GC Column: RTX-CLP2 ID: 0.53(mm) Calib End Date: 12/30/2019 09:35

Lab File ID: 12309014.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1232 Peak 1	3.94	3.92	3.96
PCB-1232 Peak 2	4.17	4.15	4.19
PCB-1232 Peak 3	4.66	4.64	4.68
PCB-1232 Peak 4	5.50	5.48	5.52
PCB-1262 Peak 1	9.06	9.04	9.08
PCB-1262 Peak 2	9.84	9.82	9.86
PCB-1262 Peak 3	10.31	10.29	10.33
PCB-1262 Peak 4	10.70	10.68	10.72
PCB-1262 Peak 5	11.23	11.21	11.25

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309014.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 30-Dec-2019 13:01:21 ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-013
Operator ID: 402331 Instrument ID: CHGC16
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:24:52 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 31-Dec-2019 04:51:25

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.607	2.608	-0.001	1010397974H	0.1000	0.1000	
2	2.812	2.813	0.000	1078787714H	0.1000	0.1000	
3 PCB-1232							
1	3.346	3.347	-0.001	31160244H	0.5000	0.4694	
1	3.517	3.516	0.001	79379832H	0.5000	0.4629	
1	3.847	3.848	-0.001	35951558H	0.5000	0.4577	
1	4.495	4.494	0.001	45334846H	0.5000	0.4382	
1	4.993	4.993	0.000	34858794H	0.5000	0.4430	
		Average of Peak Amounts =				0.4542	
2	3.940	3.939	0.001	20293545H	0.5000	0.4619	
2	4.171	4.170	0.001	52964429H	0.5000	0.4638	
2	4.663	4.663	0.000	30846625H	0.5000	0.4646	
2	5.498	5.498	0.000	27590740H	0.5000	0.4450	
2	6.996	6.994	0.002	29052344H	0.5000	0.4459	
		Average of Peak Amounts =				0.4562	
						RPD = 0.44	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
10 PCB-1262							
1	8.141	8.141	0.000	134538649H	0.5000	0.4571	
1	8.610	8.609	0.001	117017078H	0.5000	0.4453	
1	9.173	9.173	0.000	279582271H	0.5000	0.4539	
1	9.648	9.648	0.000	94333698H	0.5000	0.4203	
1	9.778	9.778	0.000	84274476H	0.5000	0.4107	
		Average of Peak Amounts =				0.4374	
2	9.060	9.059	0.001	52331666H	0.5000	0.4752	
2	9.838	9.837	0.001	98051023H	0.5000	0.4415	
2	10.312	10.312	0.000	91926329H	0.5000	0.4479	
2	10.697	10.696	0.001	187883270H	0.5000	0.4465	
2	11.228	11.228	0.000	103246766H	0.5000	0.4523	
		Average of Peak Amounts =				0.4527	
						RPD = 3.42	
* 16 PCB-205 (IS)							
1	10.710	10.710	0.000	900579476H	0.1000	0.1000	
2	12.076	12.078	-0.002	586607155H	0.1000	0.1000	

Reagents:

GCAR3262ICV_00012 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 31-Dec-2019 06:27:38 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309014.D

Injection Date: 30-Dec-2019 13:01:21 Instrument ID: CHGC16

Lims ID: ICV

Client ID:

Operator ID: 402331 ALS Bottle#: 13 Worklist Smp#: 13

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_CHGC16 Limit Group: GCS 8082A ICAL with IS

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

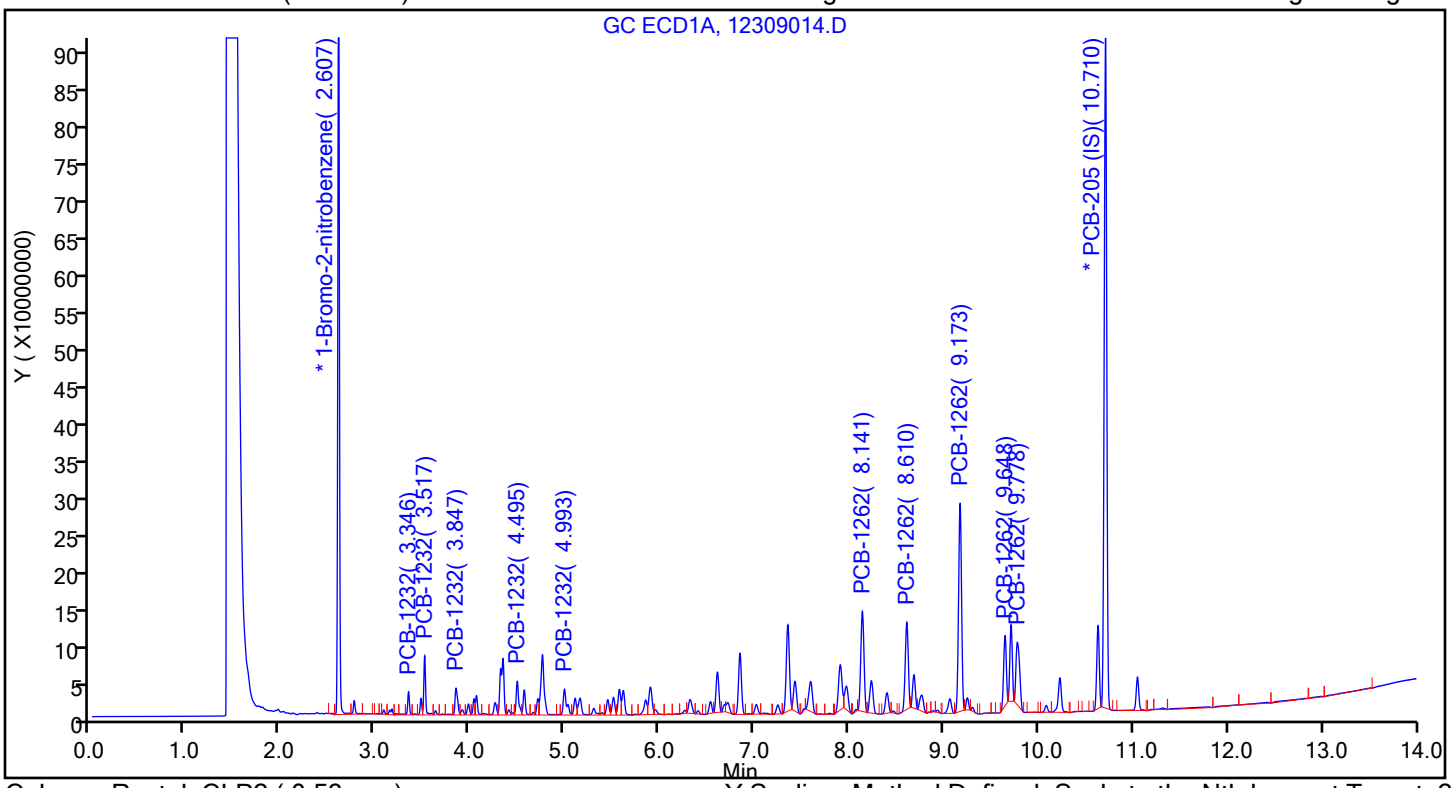

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

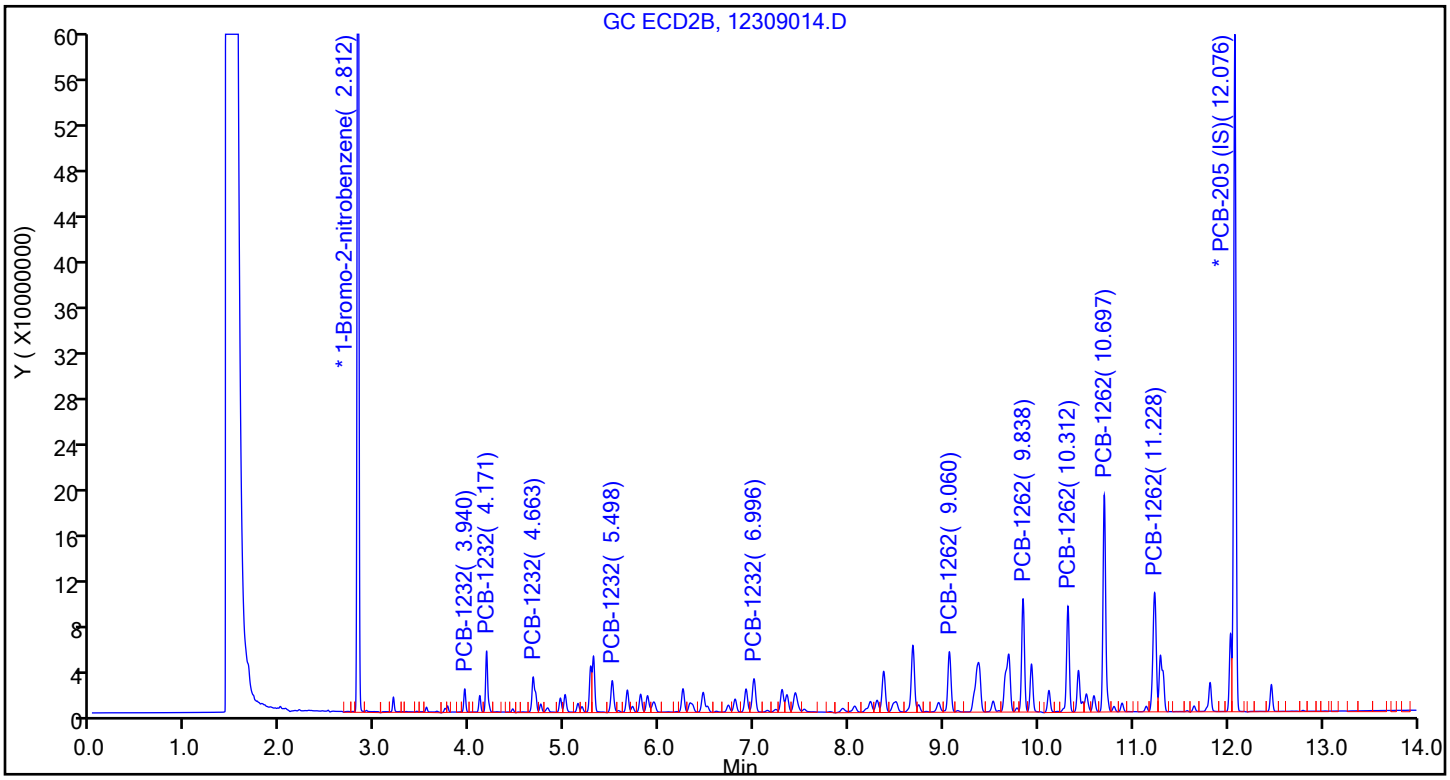

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 180-302855/14 Calibration Date: 12/30/2019 13:19

Instrument ID: CHGC16 Calib Start Date: 12/30/2019 09:54

GC Column: RTX-CLP1 ID: 0.53(mm) Calib End Date: 12/30/2019 09:54

Lab File ID: 12309015.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1242 Peak 1	Ave	0.0124	0.0118		0.476	0.500	-4.7	20.0
PCB-1242 Peak 2	Ave	0.0150	0.0135		0.450	0.500	-10.1	20.0
PCB-1242 Peak 3	Ave	0.0156	0.0159		0.509	0.500	1.9	20.0
PCB-1242 Peak 4	Ave	0.0128	0.0133		0.518	0.500	3.7	20.0
PCB-1242 Peak 5	Ave	0.0120	0.0130		0.542	0.500	8.4	20.0
PCB-1268 Peak 1	Ave	0.0797	0.0789		0.495	0.500	-1.0	20.0
PCB-1268 Peak 2	Ave	0.0686	0.0669		0.487	0.500	-2.6	20.0
PCB-1268 Peak 3	Ave	0.0692	0.0695		0.502	0.500	0.5	20.0
PCB-1268 Peak 4	Ave	0.1853	0.1876		0.506	0.500	1.3	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 180-302855/14 Calibration Date: 12/30/2019 13:19

Instrument ID: CHGC16 Calib Start Date: 12/30/2019 09:54

GC Column: RTX-CLP1 ID: 0.53(mm) Calib End Date: 12/30/2019 09:54

Lab File ID: 12309015.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1242 Peak 1	3.52	3.50	3.54
PCB-1242 Peak 2	3.85	3.83	3.87
PCB-1242 Peak 3	4.50	4.47	4.51
PCB-1242 Peak 4	5.00	4.97	5.01
PCB-1242 Peak 5	5.58	5.55	5.59
PCB-1268 Peak 1	9.71	9.69	9.73
PCB-1268 Peak 2	9.78	9.76	9.80
PCB-1268 Peak 3	10.09	10.06	10.10
PCB-1268 Peak 4	11.05	11.03	11.07

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309015.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 30-Dec-2019 13:19:59 ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-014
Operator ID: 402331 Instrument ID: CHGC16
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:24:52 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 31-Dec-2019 04:51:40

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.609	2.608	0.000	1139642145H	0.1000	0.1000	
2	2.813	2.813	0.000	1194697654H	0.1000	0.1000	
5 PCB-1242							
1	3.517	3.517	0.000	67192665H	0.5000	0.4764	
1	3.849	3.848	0.001	77070360H	0.5000	0.4495	
1	4.496	4.494	0.002	90814093H	0.5000	0.5093	
1	4.995	4.993	0.002	75900225H	0.5000	0.5184	
1	5.575	5.573	0.002	74132578H	0.5000	0.5421	
		Average of Peak Amounts =				0.4991	
2	4.171	4.170	0.001	44766978H	0.5000	0.5021	
2	4.664	4.663	0.001	59930947H	0.5000	0.5066	
2	6.246	6.245	0.001	46236879H	0.5000	0.5372	
2	6.998	6.998	0.000	48231686H	0.5000	0.5494	
2	7.431	7.432	-0.001	37921624H	0.5000	0.5537	
		Average of Peak Amounts =				0.5298	
						RPD = 5.96	
11 PCB-1268							
1	9.714	9.712	0.002	436746432H	0.5000	0.4951	
1	9.777	9.776	0.001	369884783H	0.5000	0.4871	
1	10.085	10.084	0.001	384706863H	0.5000	0.5025	
1	11.050	11.048	0.002	1038151156H	0.5000	0.5064	
		Average of Peak Amounts =				0.4978	
2	11.224	11.223	0.001	286715917H	0.5000	0.4879	
2	11.289	11.288	0.001	232018883H	0.5000	0.4795	
2	11.646	11.645	0.001	223892471H	0.5000	0.4790	
2	12.463	12.462	0.001	628121685H	0.5000	0.4725	
		Average of Peak Amounts =				0.4797	
						RPD = 3.70	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 16 PCB-205 (IS)							
1	10.712	10.710	0.002	1106562688H	0.1000	0.1000	
2	12.077	12.078	0.000	737927517H	0.1000	0.1000	

Reagents:

GCAR4268ICV_00012 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 31-Dec-2019 06:27:28 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309015.D

Injection Date: 30-Dec-2019 13:19:59 Instrument ID: CHGC16

Lims ID: ICV

Client ID:

Operator ID: 402331 ALS Bottle#: 14 Worklist Smp#: 14

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_CHGC16 Limit Group: GCS 8082A ICAL with IS

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

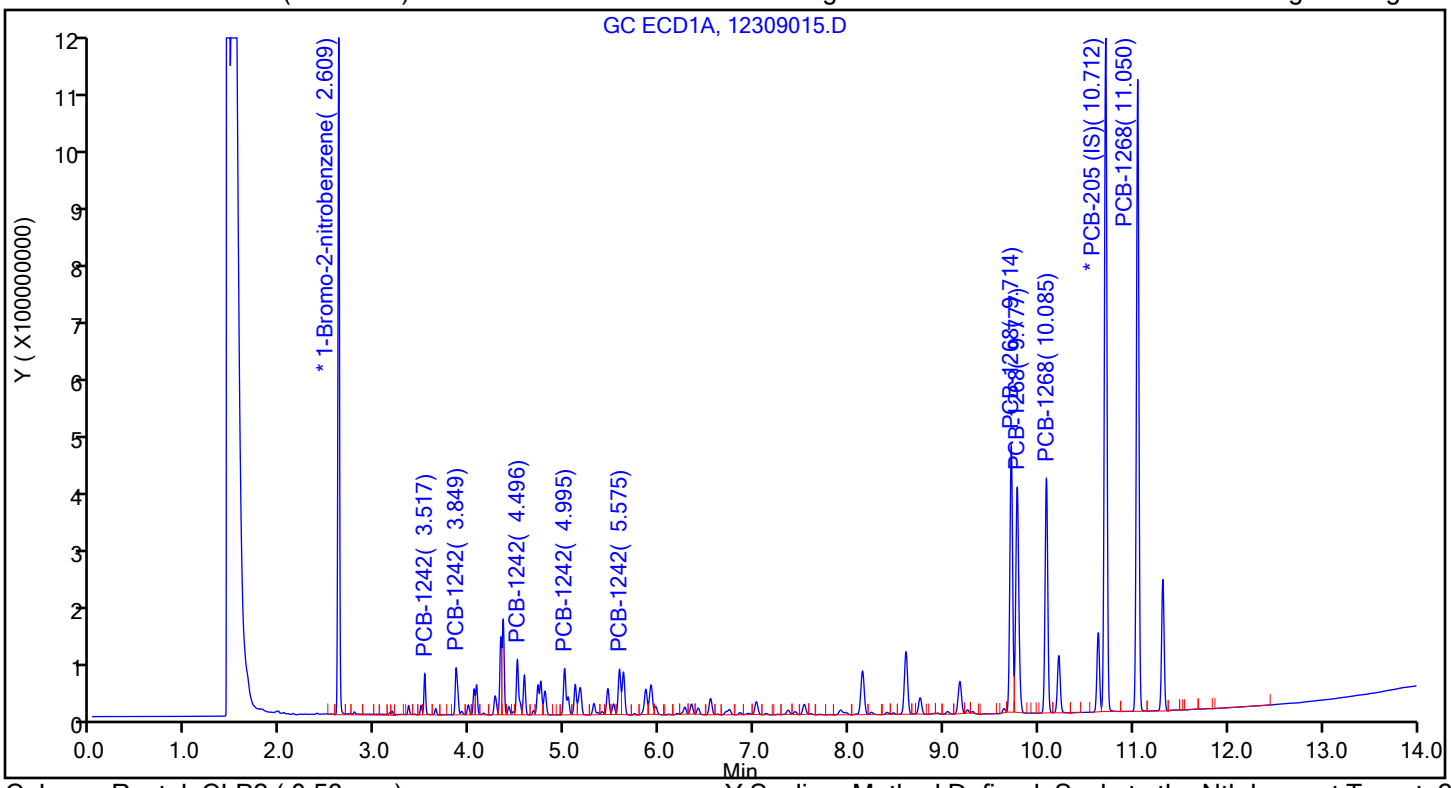

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

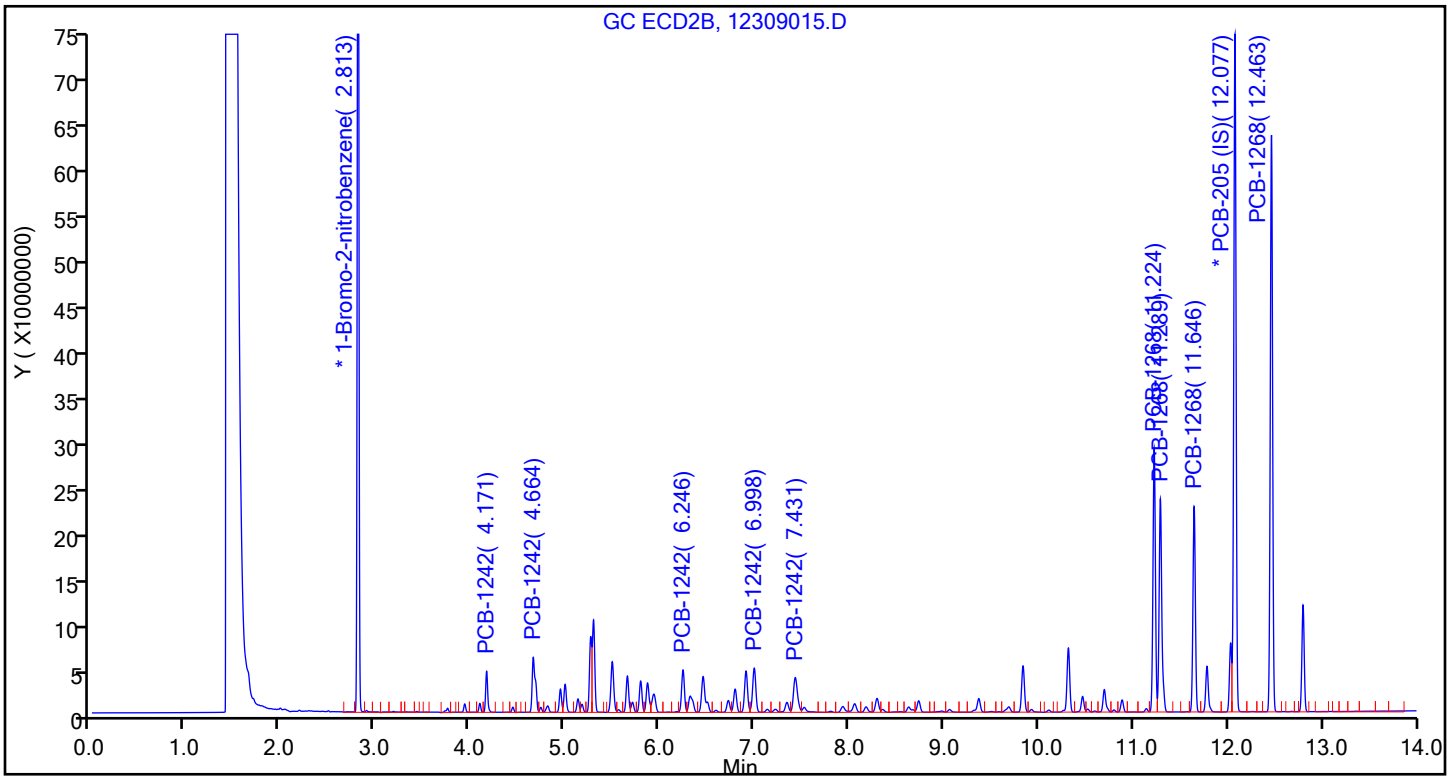

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 180-302855/14 Calibration Date: 12/30/2019 13:19

Instrument ID: CHGC16 Calib Start Date: 12/30/2019 09:54

GC Column: RTX-CLP2 ID: 0.53(mm) Calib End Date: 12/30/2019 09:54

Lab File ID: 12309015.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1242 Peak 1	Ave	0.0075	0.0075		0.502	0.500	0.4	20.0
PCB-1242 Peak 2	Ave	0.0099	0.0100		0.507	0.500	1.3	20.0
PCB-1242 Peak 3	Ave	0.0072	0.0077		0.537	0.500	7.4	20.0
PCB-1242 Peak 4	Ave	0.0073	0.0081		0.549	0.500	9.9	20.0
PCB-1242 Peak 5	Ave	0.0057	0.0064		0.554	0.500	10.7	20.0
PCB-1268 Peak 1	Ave	0.0796	0.0777		0.488	0.500	-2.4	20.0
PCB-1268 Peak 2	Ave	0.0656	0.0629		0.480	0.500	-4.1	20.0
PCB-1268 Peak 3	Ave	0.0633	0.0607		0.479	0.500	-4.2	20.0
PCB-1268 Peak 4	Ave	0.1801	0.1702		0.473	0.500	-5.5	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 180-302855/14 Calibration Date: 12/30/2019 13:19

Instrument ID: CHGC16 Calib Start Date: 12/30/2019 09:54

GC Column: RTX-CLP2 ID: 0.53(mm) Calib End Date: 12/30/2019 09:54

Lab File ID: 12309015.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1242 Peak 1	4.17	4.15	4.19
PCB-1242 Peak 2	4.66	4.64	4.68
PCB-1242 Peak 3	6.25	6.23	6.27
PCB-1242 Peak 4	7.00	6.98	7.02
PCB-1242 Peak 5	7.43	7.41	7.45
PCB-1268 Peak 1	11.22	11.20	11.24
PCB-1268 Peak 2	11.29	11.27	11.31
PCB-1268 Peak 3	11.65	11.63	11.67
PCB-1268 Peak 4	12.46	12.44	12.48

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309015.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 30-Dec-2019 13:19:59 ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-014
Operator ID: 402331 Instrument ID: CHGC16
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:24:52 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 31-Dec-2019 04:51:40

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.609	2.608	0.000	1139642145H	0.1000	0.1000	
2	2.813	2.813	0.000	1194697654H	0.1000	0.1000	
5 PCB-1242							
1	3.517	3.517	0.000	67192665H	0.5000	0.4764	
1	3.849	3.848	0.001	77070360H	0.5000	0.4495	
1	4.496	4.494	0.002	90814093H	0.5000	0.5093	
1	4.995	4.993	0.002	75900225H	0.5000	0.5184	
1	5.575	5.573	0.002	74132578H	0.5000	0.5421	
		Average of Peak Amounts =				0.4991	
2	4.171	4.170	0.001	44766978H	0.5000	0.5021	
2	4.664	4.663	0.001	59930947H	0.5000	0.5066	
2	6.246	6.245	0.001	46236879H	0.5000	0.5372	
2	6.998	6.998	0.000	48231686H	0.5000	0.5494	
2	7.431	7.432	-0.001	37921624H	0.5000	0.5537	
		Average of Peak Amounts =				0.5298	
						RPD = 5.96	
11 PCB-1268							
1	9.714	9.712	0.002	436746432H	0.5000	0.4951	
1	9.777	9.776	0.001	369884783H	0.5000	0.4871	
1	10.085	10.084	0.001	384706863H	0.5000	0.5025	
1	11.050	11.048	0.002	1038151156H	0.5000	0.5064	
		Average of Peak Amounts =				0.4978	
2	11.224	11.223	0.001	286715917H	0.5000	0.4879	
2	11.289	11.288	0.001	232018883H	0.5000	0.4795	
2	11.646	11.645	0.001	223892471H	0.5000	0.4790	
2	12.463	12.462	0.001	628121685H	0.5000	0.4725	
		Average of Peak Amounts =				0.4797	
						RPD = 3.70	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 16 PCB-205 (IS)							
1	10.712	10.710	0.002	1106562688H	0.1000	0.1000	
2	12.077	12.078	0.000	737927517H	0.1000	0.1000	

Reagents:

GCAR4268ICV_00012 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 31-Dec-2019 06:27:29 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309015.D

Injection Date: 30-Dec-2019 13:19:59 Instrument ID: CHGC16

Lims ID: ICV

Client ID:

Operator ID: 402331 ALS Bottle#: 14 Worklist Smp#: 14

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_CHGC16 Limit Group: GCS 8082A ICAL with IS

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

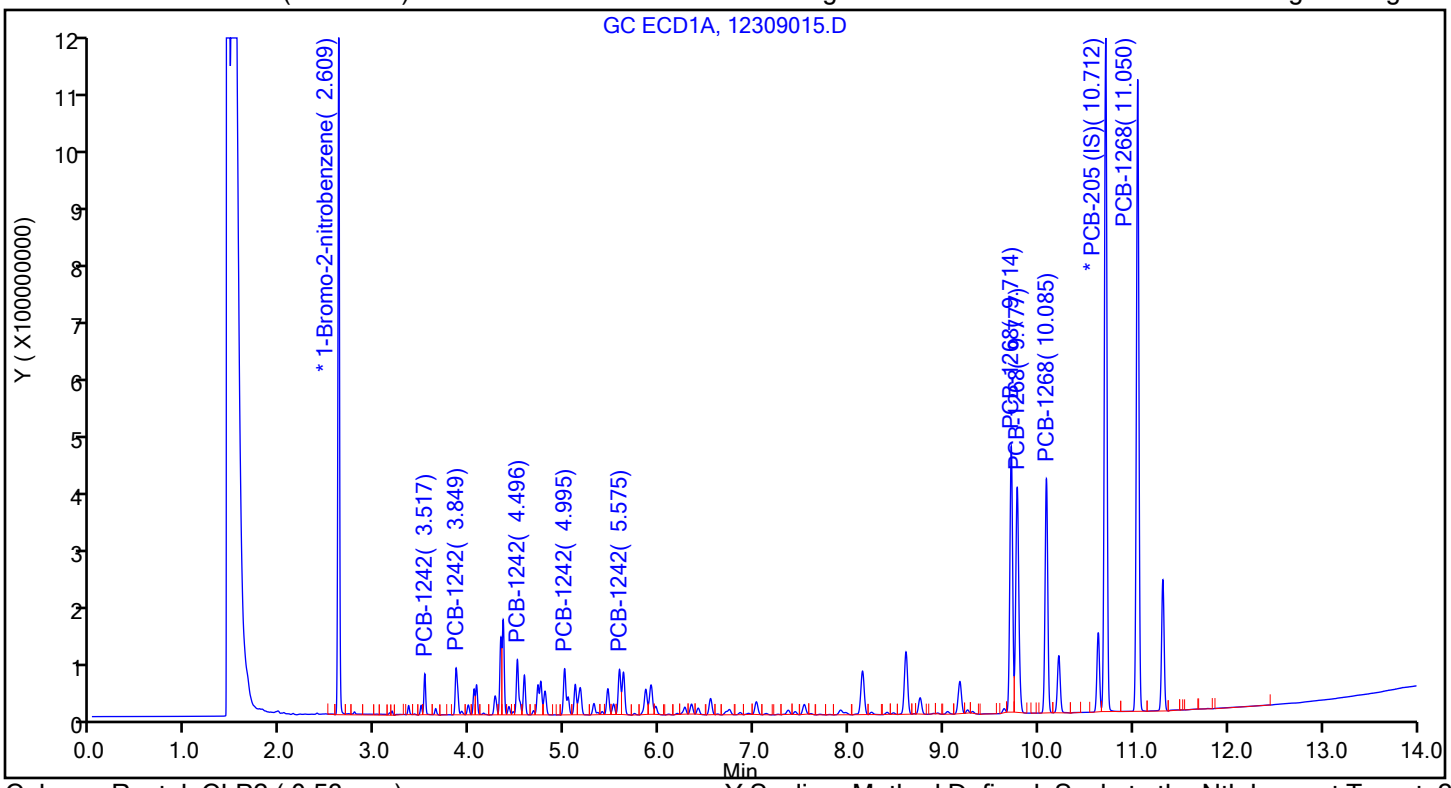

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

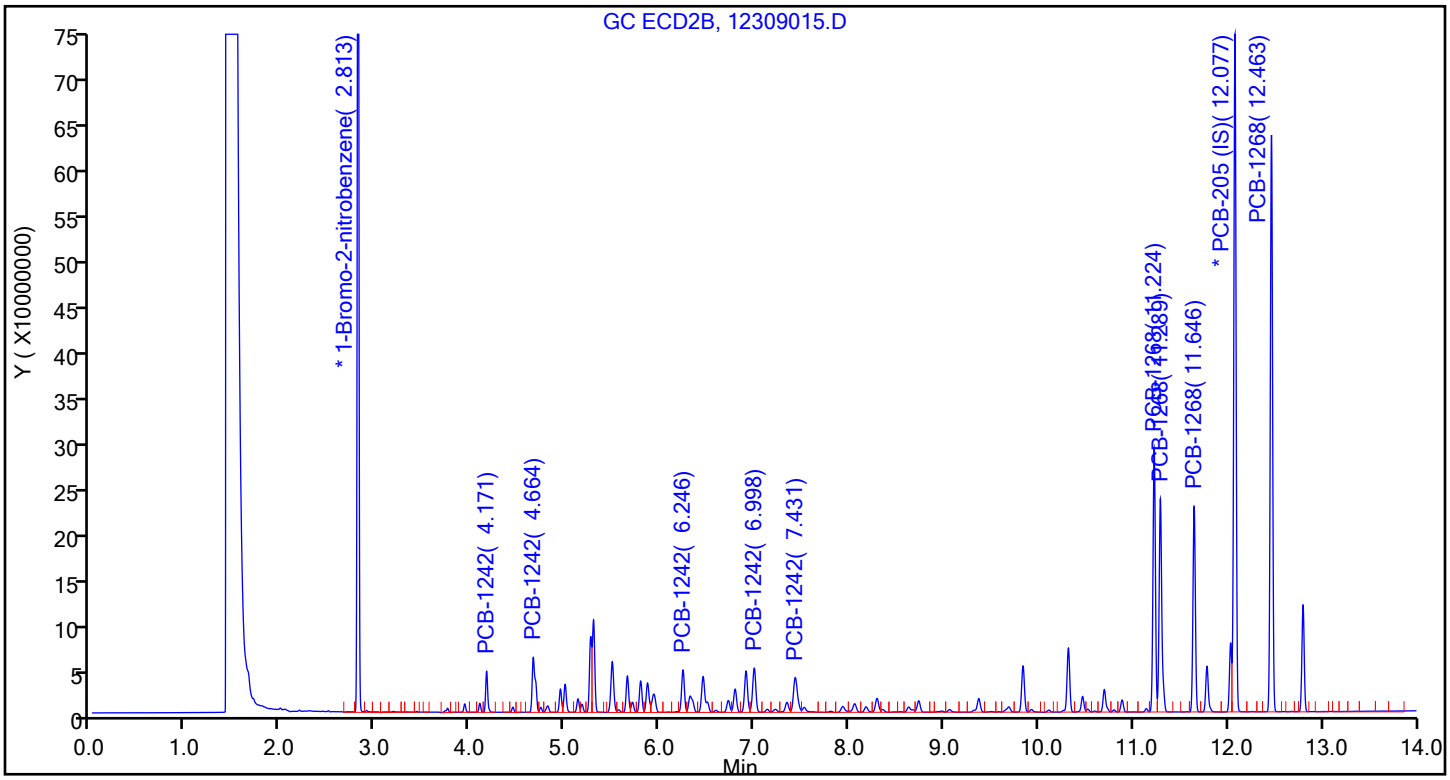

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 180-302855/15 Calibration Date: 12/30/2019 13:38

Instrument ID: CHGC16 Calib Start Date: 12/30/2019 10:13

GC Column: RTX-CLP1 ID: 0.53(mm) Calib End Date: 12/30/2019 10:13

Lab File ID: 12309016.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1248 Peak 1	Ave	0.0068	0.0066		0.485	0.500	-3.1	20.0
PCB-1248 Peak 2	Ave	0.0133	0.0127		0.476	0.500	-4.8	20.0
PCB-1248 Peak 3	Ave	0.0221	0.0208		0.470	0.500	-5.9	20.0
PCB-1248 Peak 4	Ave	0.0249	0.0236		0.473	0.500	-5.5	20.0
PCB-1248 Peak 5	Ave	0.0111	0.0105		0.471	0.500	-5.8	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 180-302855/15 Calibration Date: 12/30/2019 13:38

Instrument ID: CHGC16 Calib Start Date: 12/30/2019 10:13

GC Column: RTX-CLP1 ID: 0.53(mm) Calib End Date: 12/30/2019 10:13

Lab File ID: 12309016.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1248 Peak 1	3.85	3.83	3.87
PCB-1248 Peak 2	4.72	4.69	4.73
PCB-1248 Peak 3	5.00	4.97	5.01
PCB-1248 Peak 4	5.58	5.55	5.59
PCB-1248 Peak 5	6.54	6.52	6.56

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309016.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 30-Dec-2019 13:38:50 ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-015
Operator ID: 402331 Instrument ID: CHGC16
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:24:52 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 31-Dec-2019 04:51:52

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.608	2.608	-0.001	991515268H	0.1000	0.1000	
2	2.812	2.813	-0.001	1090810050H	0.1000	0.1000	
7 PCB-1248							
1	3.849	3.847	0.002	32620820H	0.5000	0.4846	
1	4.715	4.713	0.002	62871752H	0.5000	0.4762	
1	4.995	4.994	0.001	103139061H	0.5000	0.4703	
1	5.575	5.574	0.001	116792186H	0.5000	0.4727	
1	6.538	6.535	0.003	52023257H	0.5000	0.4710	
		Average of Peak Amounts =				0.4750	
2	4.663	4.664	-0.001	31052477H	0.5000	0.4754	
2	5.798	5.799	-0.001	54765158H	0.5000	0.4600	
2	6.245	6.245	0.000	60640805H	0.5000	0.4495	
2	6.997	6.998	-0.001	75240489H	0.5000	0.4637	
2	7.432	7.434	-0.002	52622966H	0.5000	0.4532	
		Average of Peak Amounts =				0.4603	
						RPD = 3.13	
* 16 PCB-205 (IS)							
1	10.710	10.710	0.000	798826202H	0.1000	0.1000	
2	12.077	12.078	0.000	518790426H	0.1000	0.1000	

Reagents:

GCAR1248ICV_00020 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 31-Dec-2019 06:27:21 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309016.D

Injection Date: 30-Dec-2019 13:38:50 Instrument ID: CHGC16

Lims ID: ICV

Client ID:

Operator ID: 402331 ALS Bottle#: 15 Worklist Smp#: 15

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_CHGC16 Limit Group: GCS 8082A ICAL with IS

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

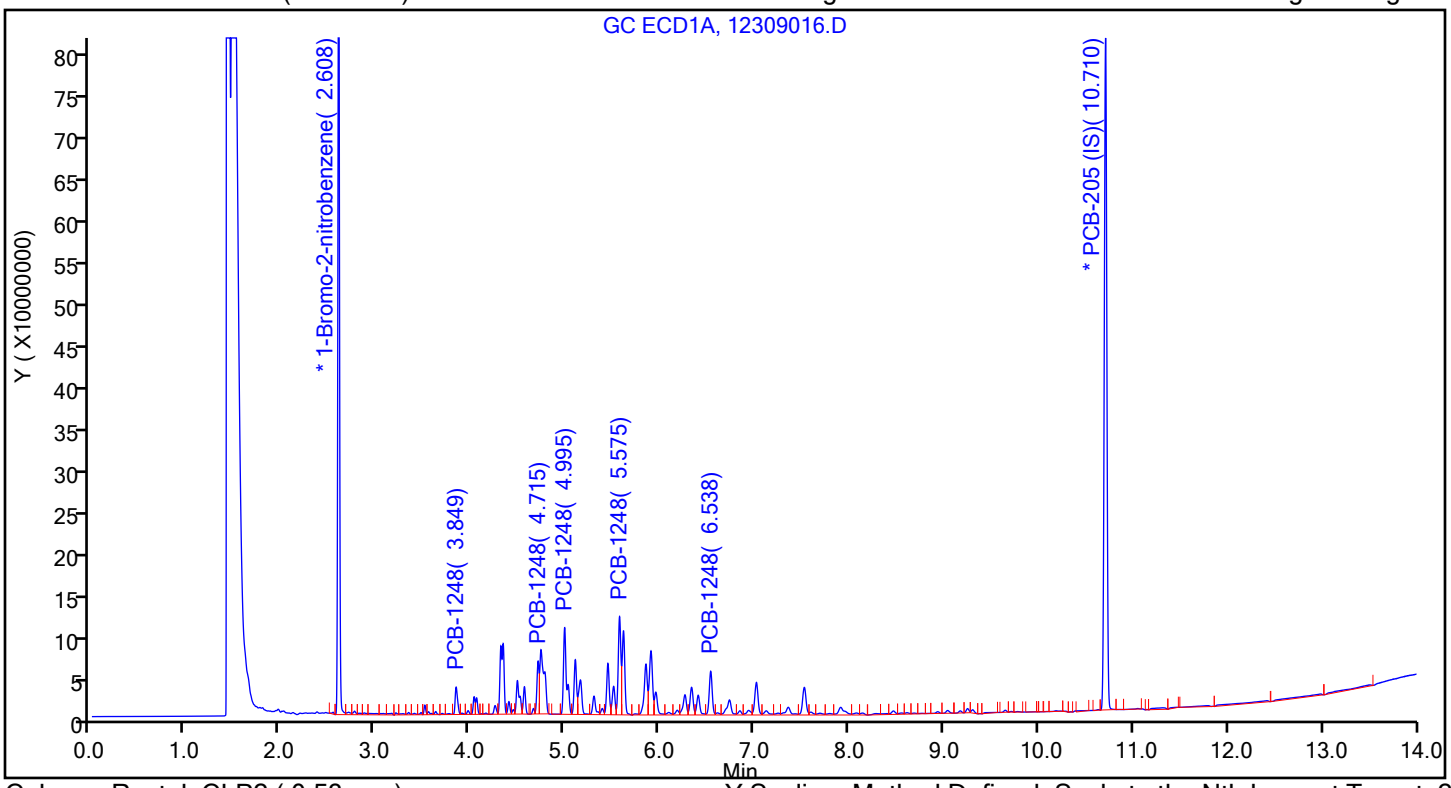

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

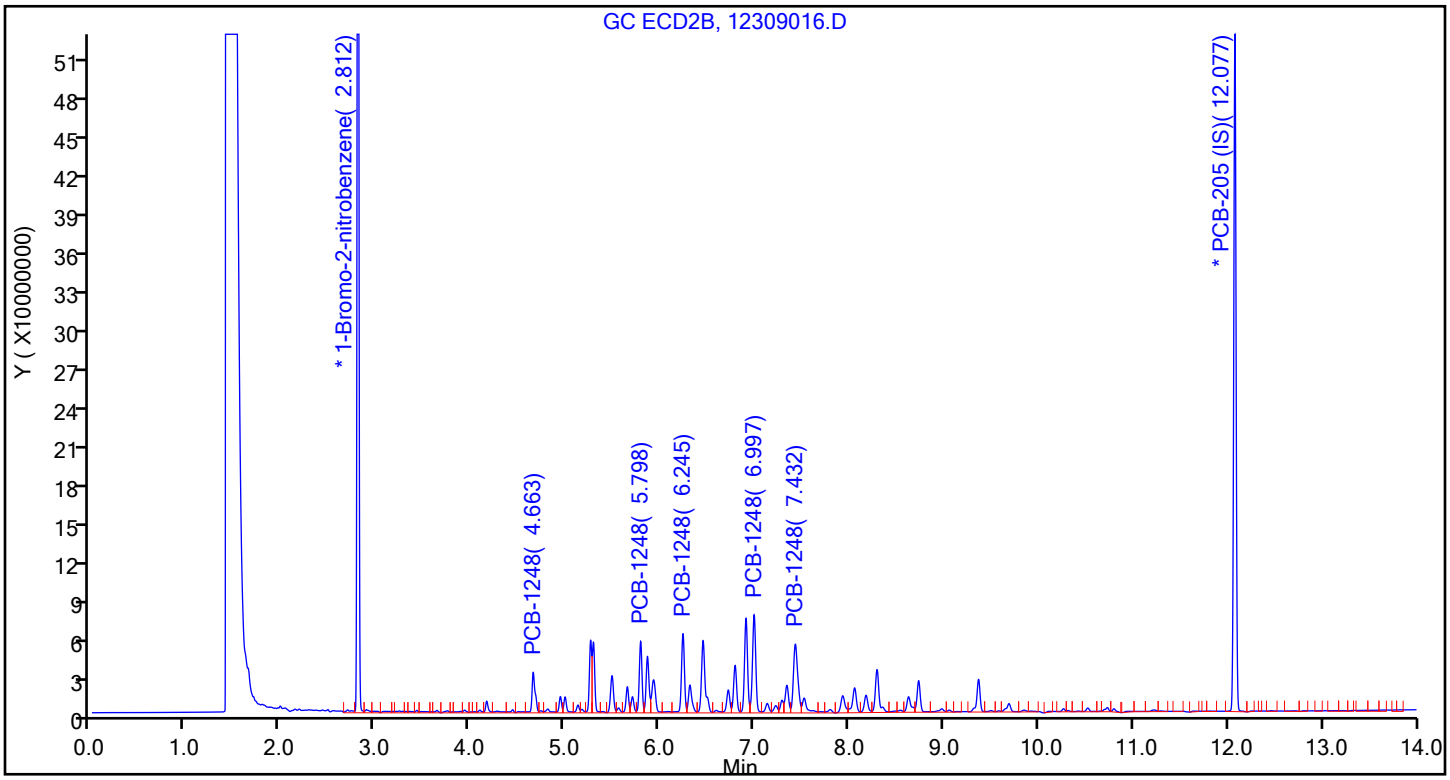

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 180-302855/15 Calibration Date: 12/30/2019 13:38

Instrument ID: CHGC16 Calib Start Date: 12/30/2019 10:13

GC Column: RTX-CLP2 ID: 0.53(mm) Calib End Date: 12/30/2019 10:13

Lab File ID: 12309016.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1248 Peak 1	Ave	0.0060	0.0057		0.475	0.500	-4.9	20.0
PCB-1248 Peak 2	Ave	0.0109	0.0100		0.460	0.500	-8.0	20.0
PCB-1248 Peak 3	Ave	0.0124	0.0111		0.449	0.500	-10.1	20.0
PCB-1248 Peak 4	Ave	0.0149	0.0138		0.464	0.500	-7.3	20.0
PCB-1248 Peak 5	Ave	0.0106	0.0097		0.453	0.500	-9.4	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 180-302855/15 Calibration Date: 12/30/2019 13:38

Instrument ID: CHGC16 Calib Start Date: 12/30/2019 10:13

GC Column: RTX-CLP2 ID: 0.53(mm) Calib End Date: 12/30/2019 10:13

Lab File ID: 12309016.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1248 Peak 1	4.66	4.64	4.68
PCB-1248 Peak 2	5.80	5.78	5.82
PCB-1248 Peak 3	6.25	6.23	6.27
PCB-1248 Peak 4	7.00	6.98	7.02
PCB-1248 Peak 5	7.43	7.41	7.45

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309016.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 30-Dec-2019 13:38:50 ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-015
Operator ID: 402331 Instrument ID: CHGC16
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:24:52 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 31-Dec-2019 04:51:52

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.608	2.608	-0.001	991515268H	0.1000	0.1000	
2	2.812	2.813	-0.001	1090810050H	0.1000	0.1000	
7 PCB-1248							
1	3.849	3.847	0.002	32620820H	0.5000	0.4846	
1	4.715	4.713	0.002	62871752H	0.5000	0.4762	
1	4.995	4.994	0.001	103139061H	0.5000	0.4703	
1	5.575	5.574	0.001	116792186H	0.5000	0.4727	
1	6.538	6.535	0.003	52023257H	0.5000	0.4710	
		Average of Peak Amounts =				0.4750	
2	4.663	4.664	-0.001	31052477H	0.5000	0.4754	
2	5.798	5.799	-0.001	54765158H	0.5000	0.4600	
2	6.245	6.245	0.000	60640805H	0.5000	0.4495	
2	6.997	6.998	-0.001	75240489H	0.5000	0.4637	
2	7.432	7.434	-0.002	52622966H	0.5000	0.4532	
		Average of Peak Amounts =				0.4603	
						RPD = 3.13	
* 16 PCB-205 (IS)							
1	10.710	10.710	0.000	798826202H	0.1000	0.1000	
2	12.077	12.078	0.000	518790426H	0.1000	0.1000	

Reagents:

GCAR1248ICV_00020 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 31-Dec-2019 06:27:22 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309016.D

Injection Date: 30-Dec-2019 13:38:50 Instrument ID: CHGC16

Lims ID: ICV

Client ID:

Operator ID: 402331 ALS Bottle#: 15 Worklist Smp#: 15

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_CHGC16 Limit Group: GCS 8082A ICAL with IS

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

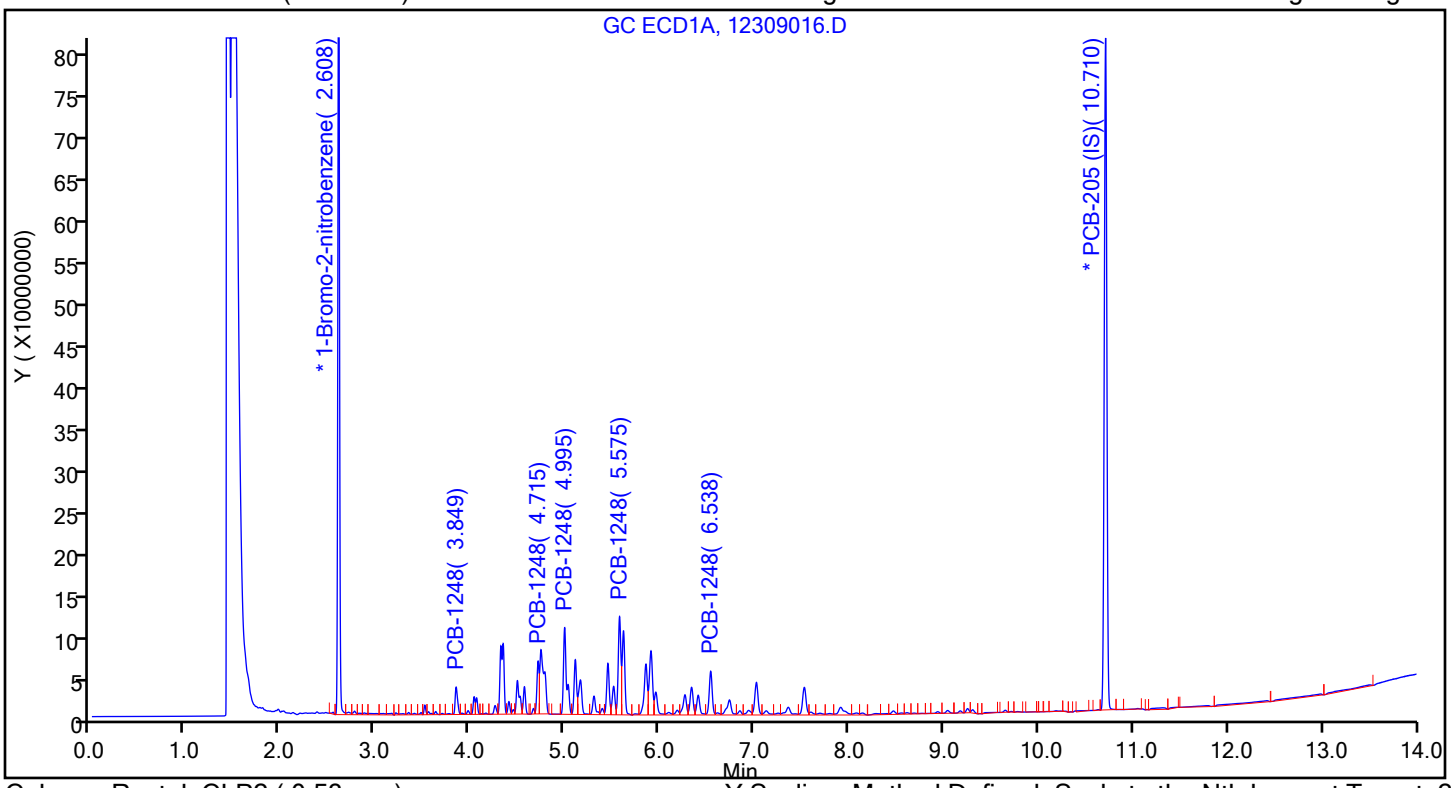

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

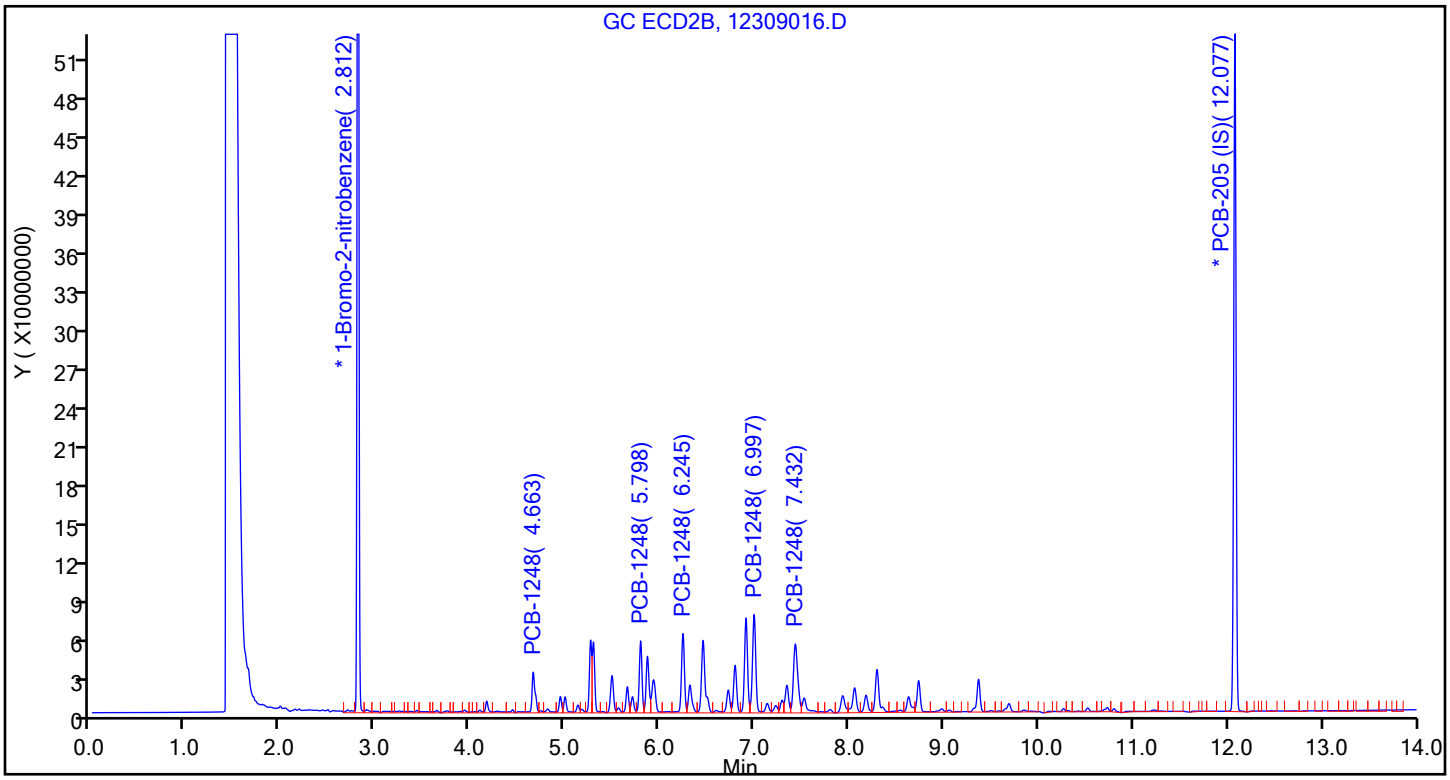

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 180-302855/16 Calibration Date: 12/30/2019 13:57

Instrument ID: CHGC16 Calib Start Date: 12/30/2019 10:31

GC Column: RTX-CLP1 ID: 0.53(mm) Calib End Date: 12/30/2019 12:24

Lab File ID: 12309017.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Ave	0.0132	0.0113		0.429	0.500	-14.3	20.0
PCB-1016 Peak 2	Ave	0.0142	0.0128		0.448	0.500	-10.4	20.0
PCB-1016 Peak 3	Ave	0.0081	0.0090		0.555	0.500	11.0	20.0
PCB-1016 Peak 4	Ave	0.0052	0.0059		0.562	0.500	12.3	20.0
PCB-1016 Peak 5	Ave	0.0110	0.0127		0.581	0.500	16.1	20.0
PCB-1260 Peak 1	Lin1		0.0195		0.458	0.500	-8.4	20.0
PCB-1260 Peak 2	Ave	0.0259	0.0231		0.447	0.500	-10.6	20.0
PCB-1260 Peak 3	Ave	0.0185	0.0155		0.419	0.500	-16.1	20.0
PCB-1260 Peak 4	Ave	0.0488	0.0393		0.402	0.500	-19.6	20.0
PCB-1260 Peak 5	Lin1		0.0225		0.465	0.500	-6.9	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 180-302855/16 Calibration Date: 12/30/2019 13:57

Instrument ID: CHGC16 Calib Start Date: 12/30/2019 10:31

GC Column: RTX-CLP1 ID: 0.53(mm) Calib End Date: 12/30/2019 12:24

Lab File ID: 12309017.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	3.52	3.50	3.54
PCB-1016 Peak 2	3.85	3.83	3.87
PCB-1016 Peak 3	4.07	4.04	4.08
PCB-1016 Peak 4	4.26	4.24	4.28
PCB-1016 Peak 5	4.57	4.55	4.59
PCB-1260 Peak 1	6.85	6.83	6.87
PCB-1260 Peak 2	7.91	7.89	7.93
PCB-1260 Peak 3	8.61	8.59	8.63
PCB-1260 Peak 4	9.18	9.15	9.19
PCB-1260 Peak 5	9.65	9.63	9.67

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309017.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 30-Dec-2019 13:57:34 ALS Bottle#: 16 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-016
Operator ID: 402331 Instrument ID: CHGC16
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:24:52 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 31-Dec-2019 04:52:36

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.610	2.608	0.001	1287883379H	0.1000	0.1000	
2	2.813	2.813	0.000	1386488107H	0.1000	0.1000	
6 PCB-1016							
1	3.519	3.517	0.002	72854762H	0.5000	0.4285	
1	3.850	3.849	0.001	82192605H	0.5000	0.4481	
1	4.065	4.064	0.001	58221046H	0.5000	0.5552	
1	4.262	4.260	0.002	37900536H	0.5000	0.5617	
1	4.571	4.569	0.002	81941357H	0.5000	0.5806	
		Average of Peak Amounts =				0.5148	
2	4.665	4.665	0.000	72079601H	0.5000	0.4962	
2	5.300	5.301	-0.001	131360246H	0.5000	0.5635	
2	5.500	5.499	0.001	70247911H	0.5000	0.5244	
2	6.246	6.248	-0.002	50877284H	0.5000	0.4917	
2	6.459	6.460	-0.001	46800123H	0.5000	0.5779	
		Average of Peak Amounts =				0.5307	
						RPD = 3.04	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	6.848	6.849	-0.001	122628629H	0.5000	0.4579	
1	7.912	7.907	0.005	145579087H	0.5000	0.4469	
1	8.611	8.611	0.000	97664336H	0.5000	0.4193	
1	9.175	9.173	0.002	247121448H	0.5000	0.4022	
1	9.650	9.650	0.000	141510545H	0.5000	0.4655	
		Average of Peak Amounts =				0.4383	
2	8.675	8.676	-0.001	85894420H	0.5000	0.4548	
2	9.352	9.353	-0.001	65806582H	0.5000	0.5228	
2	9.690	9.689	0.001	119813592H	0.5000	0.5237	
2	10.697	10.697	0.000	180551918H	0.5000	0.4557	
2	11.235	11.235	0.000	101439169H	0.5000	0.4572	
		Average of Peak Amounts =				0.4828	
						RPD = 9.66	
* 16 PCB-205 (IS)							
1	10.711	10.710	0.001	1258367042H	0.1000	0.1000	
2	12.077	12.078	-0.001	803868263H	0.1000	0.1000	

Reagents:

GCAR1660ICV_00015 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 31-Dec-2019 06:27:11 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309017.D

Injection Date: 30-Dec-2019 13:57:34 Instrument ID: CHGC16

Lims ID: ICV

Client ID:

Operator ID: 402331 ALS Bottle#: 16 Worklist Smp#: 16

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_CHGC16 Limit Group: GCS 8082A ICAL with IS

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

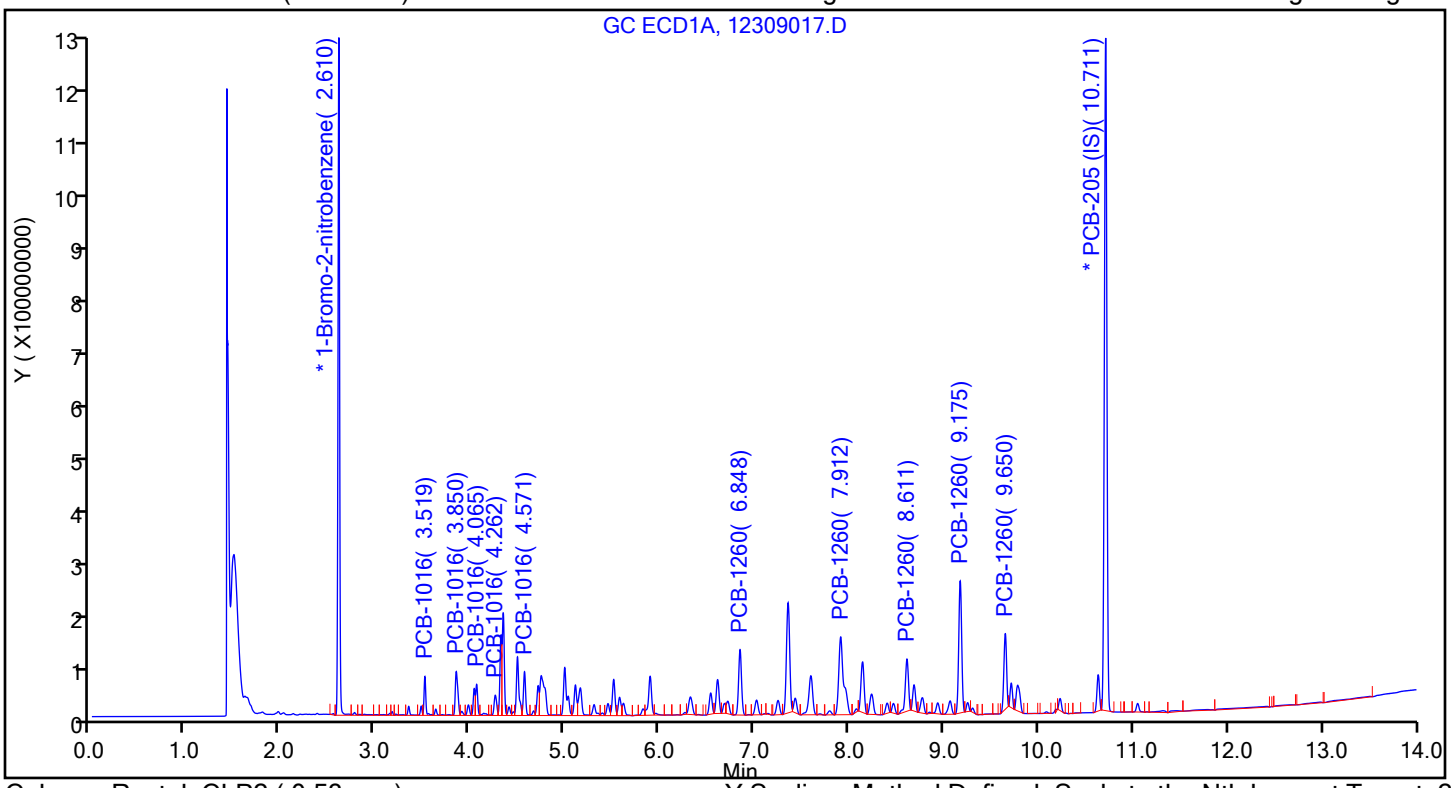

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

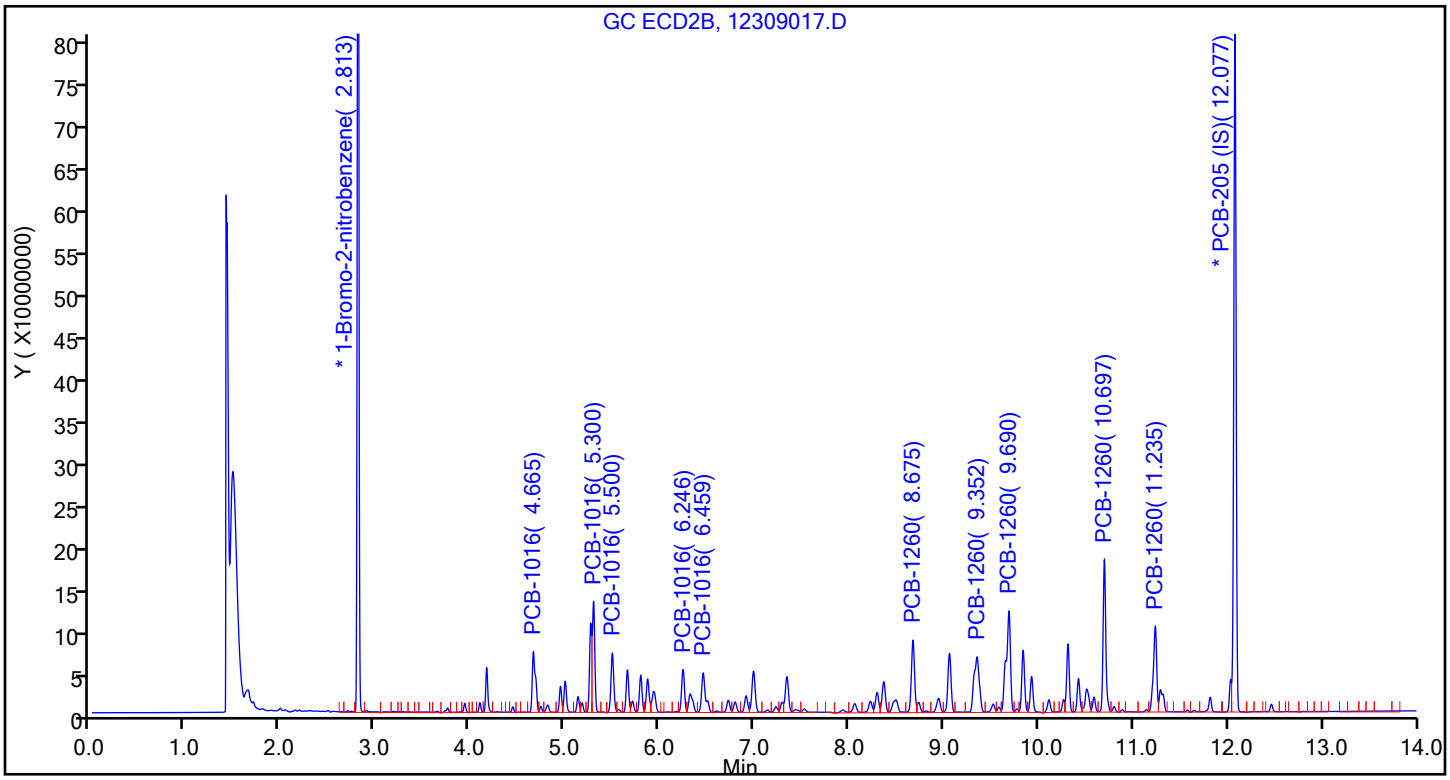

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 180-302855/16 Calibration Date: 12/30/2019 13:57

Instrument ID: CHGC16 Calib Start Date: 12/30/2019 10:31

GC Column: RTX-CLP2 ID: 0.53(mm) Calib End Date: 12/30/2019 12:24

Lab File ID: 12309017.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Ave	0.0105	0.0104		0.496	0.500	-0.8	20.0
PCB-1016 Peak 2	Ave	0.0168	0.0190		0.563	0.500	12.7	20.0
PCB-1016 Peak 3	Ave	0.0097	0.0101		0.524	0.500	4.9	20.0
PCB-1016 Peak 4	Ave	0.0075	0.0073		0.492	0.500	-1.7	20.0
PCB-1016 Peak 5	Lin1		0.0068		0.578	0.500	15.6	20.0
PCB-1260 Peak 1	Ave	0.0235	0.0214		0.455	0.500	-9.0	20.0
PCB-1260 Peak 2	Ave	0.0157	0.0164		0.523	0.500	4.6	20.0
PCB-1260 Peak 3	Ave	0.0285	0.0298		0.524	0.500	4.7	20.0
PCB-1260 Peak 4	Ave	0.0493	0.0449		0.456	0.500	-8.9	20.0
PCB-1260 Peak 5	Ave	0.0276	0.0252		0.457	0.500	-8.6	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 180-302855/16 Calibration Date: 12/30/2019 13:57

Instrument ID: CHGC16 Calib Start Date: 12/30/2019 10:31

GC Column: RTX-CLP2 ID: 0.53(mm) Calib End Date: 12/30/2019 12:24

Lab File ID: 12309017.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	4.67	4.65	4.69
PCB-1016 Peak 2	5.30	5.28	5.32
PCB-1016 Peak 3	5.50	5.48	5.52
PCB-1016 Peak 4	6.25	6.23	6.27
PCB-1016 Peak 5	6.46	6.44	6.48
PCB-1260 Peak 1	8.68	8.66	8.70
PCB-1260 Peak 2	9.35	9.33	9.37
PCB-1260 Peak 3	9.69	9.67	9.71
PCB-1260 Peak 4	10.70	10.68	10.72
PCB-1260 Peak 5	11.24	11.22	11.26

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309017.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 30-Dec-2019 13:57:34 ALS Bottle#: 16 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-016
Operator ID: 402331 Instrument ID: CHGC16
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:24:52 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 31-Dec-2019 04:52:36

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.610	2.608	0.001	1287883379H	0.1000	0.1000	
2	2.813	2.813	0.000	1386488107H	0.1000	0.1000	
6 PCB-1016							
1	3.519	3.517	0.002	72854762H	0.5000	0.4285	
1	3.850	3.849	0.001	82192605H	0.5000	0.4481	
1	4.065	4.064	0.001	58221046H	0.5000	0.5552	
1	4.262	4.260	0.002	37900536H	0.5000	0.5617	
1	4.571	4.569	0.002	81941357H	0.5000	0.5806	
		Average of Peak Amounts =				0.5148	
2	4.665	4.665	0.000	72079601H	0.5000	0.4962	
2	5.300	5.301	-0.001	131360246H	0.5000	0.5635	
2	5.500	5.499	0.001	70247911H	0.5000	0.5244	
2	6.246	6.248	-0.002	50877284H	0.5000	0.4917	
2	6.459	6.460	-0.001	46800123H	0.5000	0.5779	
		Average of Peak Amounts =				0.5307	
						RPD = 3.04	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	6.848	6.849	-0.001	122628629H	0.5000	0.4579	
1	7.912	7.907	0.005	145579087H	0.5000	0.4469	
1	8.611	8.611	0.000	97664336H	0.5000	0.4193	
1	9.175	9.173	0.002	247121448H	0.5000	0.4022	
1	9.650	9.650	0.000	141510545H	0.5000	0.4655	
		Average of Peak Amounts =				0.4383	
2	8.675	8.676	-0.001	85894420H	0.5000	0.4548	
2	9.352	9.353	-0.001	65806582H	0.5000	0.5228	
2	9.690	9.689	0.001	119813592H	0.5000	0.5237	
2	10.697	10.697	0.000	180551918H	0.5000	0.4557	
2	11.235	11.235	0.000	101439169H	0.5000	0.4572	
		Average of Peak Amounts =				0.4828	
						RPD = 9.66	
* 16 PCB-205 (IS)							
1	10.711	10.710	0.001	1258367042H	0.1000	0.1000	
2	12.077	12.078	-0.001	803868263H	0.1000	0.1000	

Reagents:

GCAR1660ICV_00015 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 31-Dec-2019 06:27:11 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309017.D

Injection Date: 30-Dec-2019 13:57:34 Instrument ID: CHGC16

Lims ID: ICV

Client ID:

Operator ID: 402331 ALS Bottle#: 16 Worklist Smp#: 16

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_CHGC16 Limit Group: GCS 8082A ICAL with IS

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

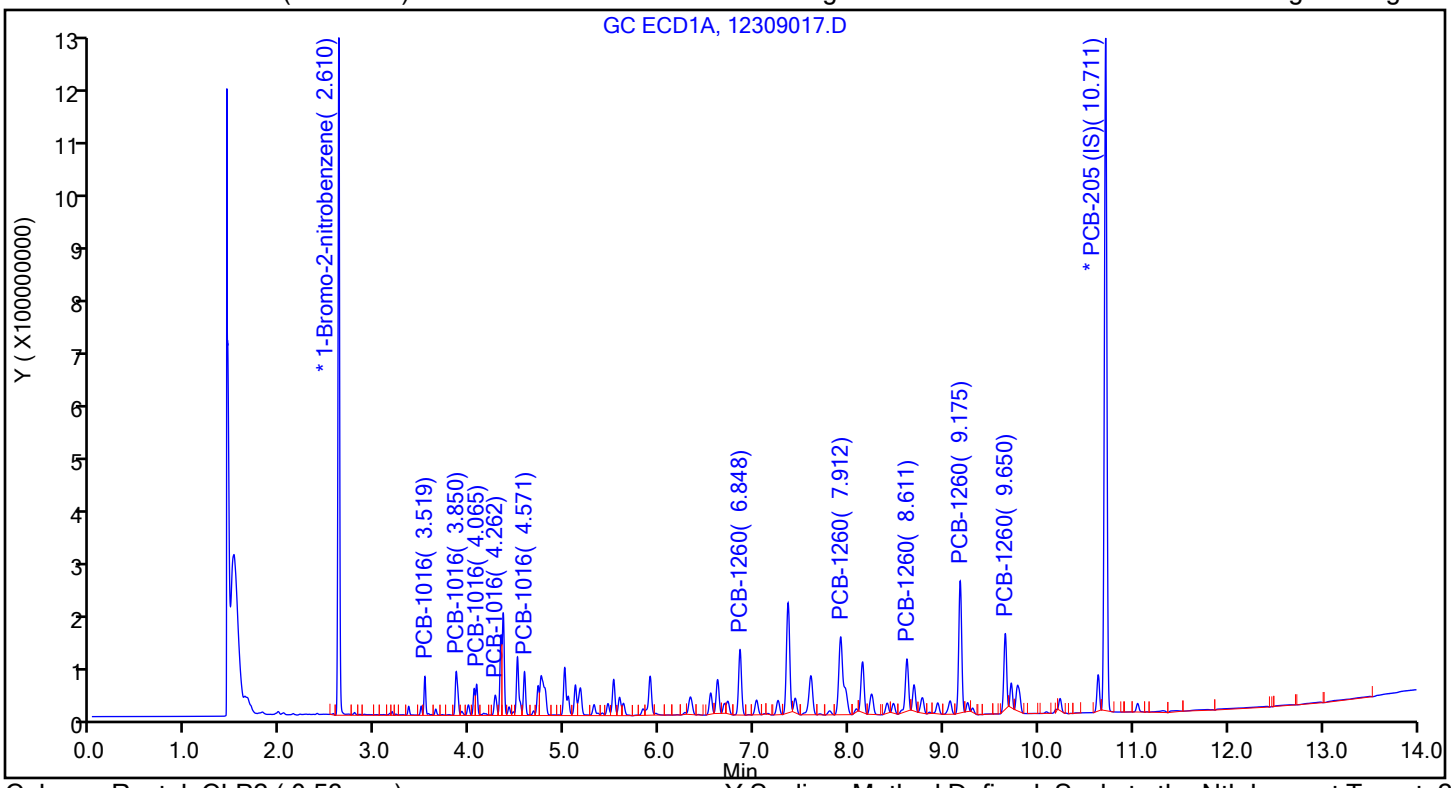

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

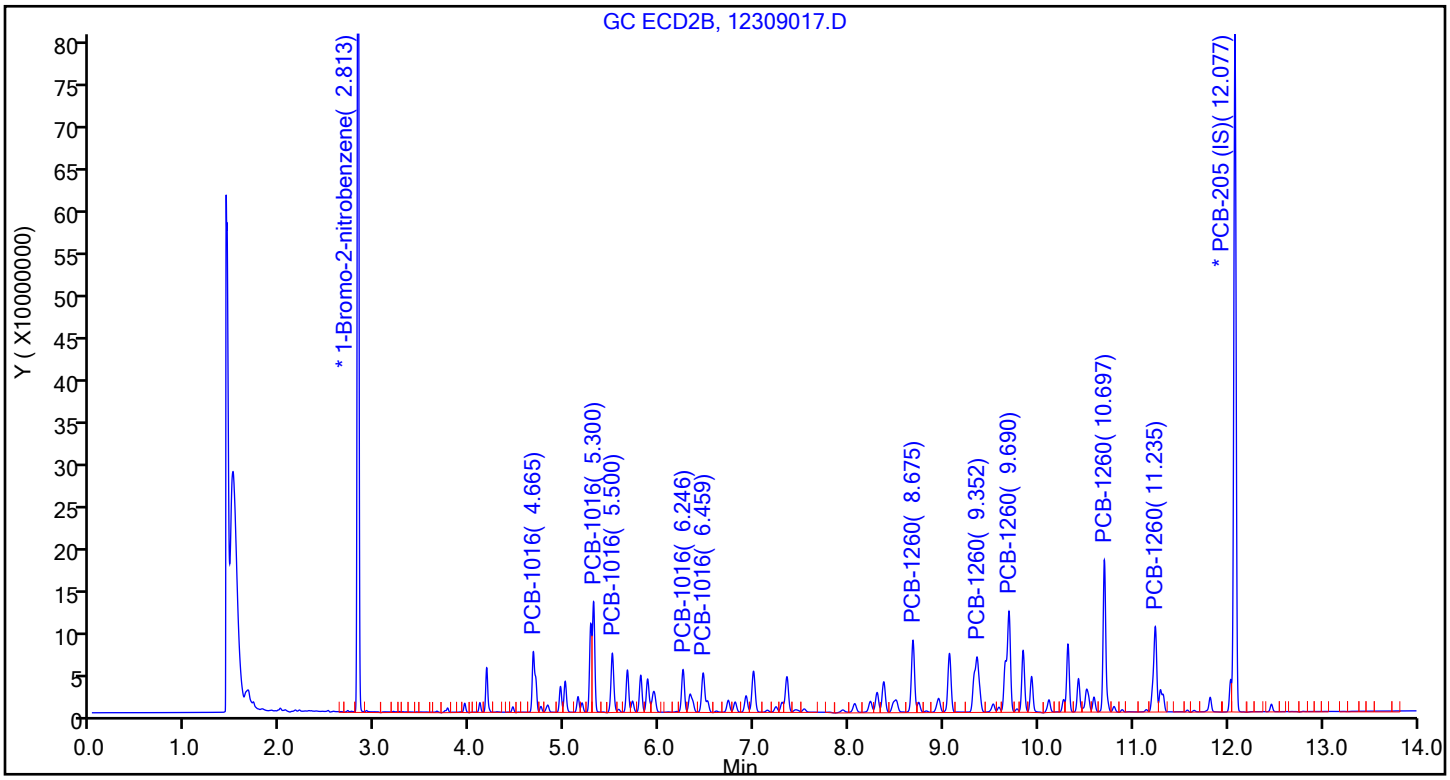

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCVIS 180-302855/37 Calibration Date: 12/30/2019 20:30

Instrument ID: CHGC16 Calib Start Date: 12/30/2019 10:31

GC Column: RTX-CLP1 ID: 0.53(mm) Calib End Date: 12/30/2019 12:24

Lab File ID: 12309038.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Ave	0.0132	0.0133		0.505	0.500	0.9	20.0
PCB-1016 Peak 2	Ave	0.0142	0.0150		0.525	0.500	5.1	20.0
PCB-1016 Peak 3	Ave	0.0081	0.0094		0.577	0.500	15.4	20.0
PCB-1016 Peak 4	Ave	0.0052	0.0057		0.548	0.500	9.6	20.0
PCB-1016 Peak 5	Ave	0.0110	0.0123		0.561	0.500	12.2	20.0
PCB-1260 Peak 1	Lin1		0.0265		0.625	0.500	25.1*	20.0
PCB-1260 Peak 2	Ave	0.0259	0.0304		0.587	0.500	17.4	20.0
PCB-1260 Peak 3	Ave	0.0185	0.0209		0.564	0.500	12.8	20.0
PCB-1260 Peak 4	Ave	0.0488	0.0528		0.541	0.500	8.1	20.0
PCB-1260 Peak 5	Lin1		0.0259		0.537	0.500	7.5	20.0
Tetrachloro-m-xylene (Surr)	Ave	0.8159	0.8124		0.0249	0.0250	-0.4	20.0
DCB Decachlorobiphenyl (Surr)	Lin1		0.4884		0.0250	0.0250	-0.0	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCVIS 180-302855/37 Calibration Date: 12/30/2019 20:30

Instrument ID: CHGC16 Calib Start Date: 12/30/2019 10:31

GC Column: RTX-CLP1 ID: 0.53(mm) Calib End Date: 12/30/2019 12:24

Lab File ID: 12309038.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	3.52	3.50	3.54
PCB-1016 Peak 2	3.85	3.83	3.87
PCB-1016 Peak 3	4.06	4.04	4.08
PCB-1016 Peak 4	4.26	4.24	4.28
PCB-1016 Peak 5	4.57	4.55	4.59
PCB-1260 Peak 1	6.85	6.83	6.87
PCB-1260 Peak 2	7.91	7.89	7.93
PCB-1260 Peak 3	8.61	8.59	8.63
PCB-1260 Peak 4	9.17	9.15	9.19
PCB-1260 Peak 5	9.65	9.63	9.67
Tetrachloro-m-xylene (Surr)	3.21	3.19	3.23
DCB Decachlorobiphenyl (Surr)	11.31	11.29	11.33

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309038.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 30-Dec-2019 20:30:06 ALS Bottle#: 37 Worklist Smp#: 37
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-037
Operator ID: 402331 Instrument ID: CHGC16
Sublist: chrom-PCB_CHGC16*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:39:57 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 31-Dec-2019 04:55:17

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.607	2.607	0.000	1006260066H	0.1000	0.1000	
2	2.813	2.813	0.000	1100907053H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.208	3.208	0.000	204371997H	0.0250	0.0249	
2	3.646	3.646	0.000	175237710H	0.0250	0.0253	
						RPD = 1.67	
6 PCB-1016							
1	3.517	3.517	0.000	67043231H	0.5000	0.5047	
1	3.849	3.849	0.000	75297226H	0.5000	0.5254	
1	4.064	4.064	0.000	47268239H	0.5000	0.5770	
1	4.261	4.261	0.000	28883313H	0.5000	0.5479	
1	4.569	4.569	0.000	61887639H	0.5000	0.5612	
		Average of Peak Amounts =				0.5432	
2	4.663	4.663	0.000	58470822H	0.5000	0.5069	
2	5.300	5.300	0.000	94835302H	0.5000	0.5123	
2	5.499	5.499	0.000	52465749H	0.5000	0.4933	
2	6.246	6.246	0.000	41773869H	0.5000	0.5085	
2	6.458	6.458	0.000	34290612H	0.5000	0.5327	
		Average of Peak Amounts =				0.5107	
						RPD = 6.16	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	6.848	6.848	0.000	95555883H	0.5000	0.6253	
1	7.907	7.907	0.000	109536373H	0.5000	0.5870	
1	8.611	8.611	0.000	75232975H	0.5000	0.5639	
1	9.173	9.173	0.000	190300608H	0.5000	0.5407	
1	9.648	9.648	0.000	93313459H	0.5000	0.5374	
		Average of Peak Amounts =				0.5709	
2	8.674	8.674	0.000	64249395H	0.5000	0.6025	
2	9.352	9.352	0.000	41106383H	0.5000	0.5784	
2	9.687	9.687	0.000	72955428H	0.5000	0.5648	
2	10.696	10.696	0.000	123976788H	0.5000	0.5543	
2	11.234	11.234	0.000	67403349H	0.5000	0.5381	
		Average of Peak Amounts =				0.5676	
						RPD = 0.57	
* 16 PCB-205 (IS)							
1	10.709	10.709	0.000	720783452H	0.1000	0.1000	
2	12.076	12.076	0.000	453850575H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.313	11.313	0.000	88004989H	0.0250	0.0250	
2	12.795	12.795	0.000	44634064H	0.0250	0.0233	
						RPD = 7.14	

Reagents:

GCAR1660CALL4_00019 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 31-Dec-2019 06:39:57 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309038.D

Injection Date: 30-Dec-2019 20:30:06 Instrument ID: CHGC16

Lims ID: CCVIS

Client ID:

Operator ID: 402331 ALS Bottle#: 37 Worklist Smp#: 37

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_CHGC16 Limit Group: GCS 8082A ICAL with IS

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

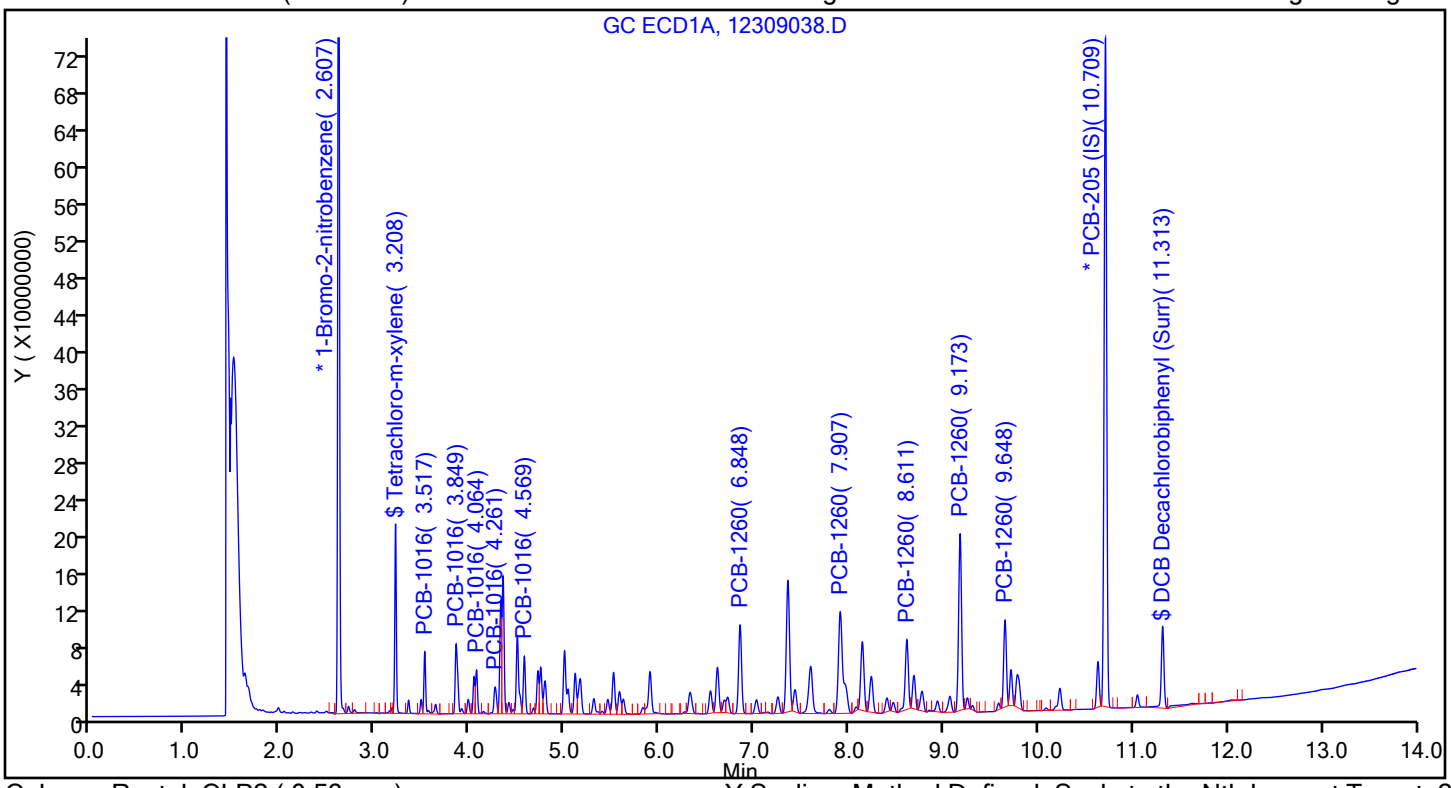

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

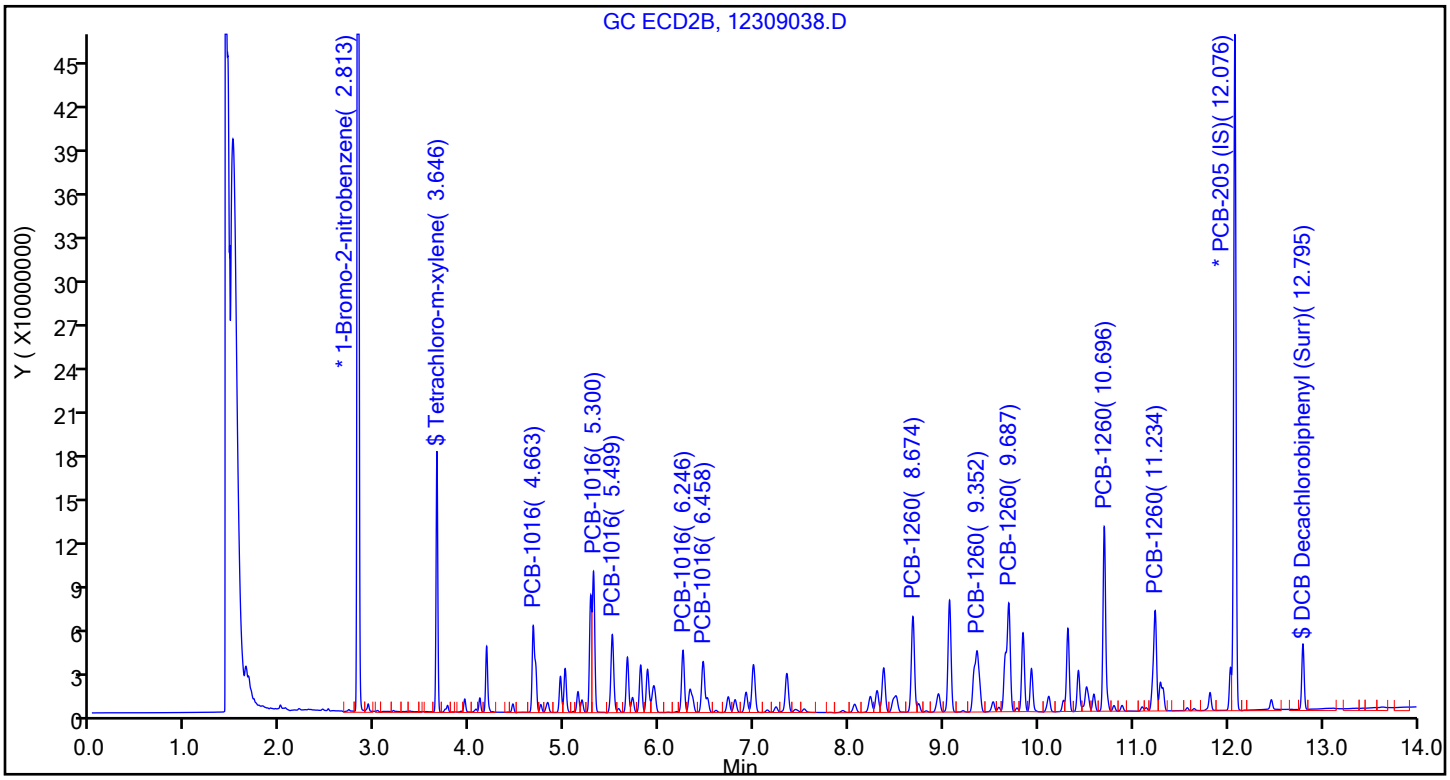

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCVIS 180-302855/37 Calibration Date: 12/30/2019 20:30

Instrument ID: CHGC16 Calib Start Date: 12/30/2019 10:31

GC Column: RTX-CLP2 ID: 0.53(mm) Calib End Date: 12/30/2019 12:24

Lab File ID: 12309038.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
PCB-1016 Peak 1	Ave	0.0105	0.0106		0.507	0.500	1.4	20.0
PCB-1016 Peak 2	Ave	0.0168	0.0172		0.512	0.500	2.5	20.0
PCB-1016 Peak 3	Ave	0.0097	0.0095		0.493	0.500	-1.3	20.0
PCB-1016 Peak 4	Ave	0.0075	0.0076		0.508	0.500	1.7	20.0
PCB-1016 Peak 5	Lin1		0.0062		0.533	0.500	6.5	20.0
PCB-1260 Peak 1	Ave	0.0235	0.0283		0.603	0.500	20.5*	20.0
PCB-1260 Peak 2	Ave	0.0157	0.0181		0.578	0.500	15.7	20.0
PCB-1260 Peak 3	Ave	0.0285	0.0322		0.565	0.500	13.0	20.0
PCB-1260 Peak 4	Ave	0.0493	0.0546		0.554	0.500	10.9	20.0
PCB-1260 Peak 5	Ave	0.0276	0.0297		0.538	0.500	7.6	20.0
Tetrachloro-m-xylene (Surr)	Ave	0.6288	0.6367		0.0253	0.0250	1.3	20.0
DCB Decachlorobiphenyl (Surr)	Ave	0.4228	0.3934		0.0233	0.0250	-7.0	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCVIS 180-302855/37 Calibration Date: 12/30/2019 20:30

Instrument ID: CHGC16 Calib Start Date: 12/30/2019 10:31

GC Column: RTX-CLP2 ID: 0.53(mm) Calib End Date: 12/30/2019 12:24

Lab File ID: 12309038.D

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	4.66	4.64	4.68
PCB-1016 Peak 2	5.30	5.28	5.32
PCB-1016 Peak 3	5.50	5.48	5.52
PCB-1016 Peak 4	6.25	6.23	6.27
PCB-1016 Peak 5	6.46	6.44	6.48
PCB-1260 Peak 1	8.67	8.65	8.69
PCB-1260 Peak 2	9.35	9.33	9.37
PCB-1260 Peak 3	9.69	9.67	9.71
PCB-1260 Peak 4	10.70	10.68	10.72
PCB-1260 Peak 5	11.23	11.21	11.25
Tetrachloro-m-xylene (Surr)	3.65	3.63	3.67
DCB Decachlorobiphenyl (Surr)	12.80	12.78	12.82

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309038.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 30-Dec-2019 20:30:06 ALS Bottle#: 37 Worklist Smp#: 37
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-037
Operator ID: 402331 Instrument ID: CHGC16
Sublist: chrom-PCB_CHGC16*sub25

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:39:57 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 31-Dec-2019 04:55:17

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.607	2.607	0.000	1006260066H	0.1000	0.1000	
2	2.813	2.813	0.000	1100907053H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.208	3.208	0.000	204371997H	0.0250	0.0249	
2	3.646	3.646	0.000	175237710H	0.0250	0.0253	
						RPD = 1.67	
6 PCB-1016							
1	3.517	3.517	0.000	67043231H	0.5000	0.5047	
1	3.849	3.849	0.000	75297226H	0.5000	0.5254	
1	4.064	4.064	0.000	47268239H	0.5000	0.5770	
1	4.261	4.261	0.000	28883313H	0.5000	0.5479	
1	4.569	4.569	0.000	61887639H	0.5000	0.5612	
		Average of Peak Amounts =				0.5432	
2	4.663	4.663	0.000	58470822H	0.5000	0.5069	
2	5.300	5.300	0.000	94835302H	0.5000	0.5123	
2	5.499	5.499	0.000	52465749H	0.5000	0.4933	
2	6.246	6.246	0.000	41773869H	0.5000	0.5085	
2	6.458	6.458	0.000	34290612H	0.5000	0.5327	
		Average of Peak Amounts =				0.5107	
						RPD = 6.16	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	6.848	6.848	0.000	95555883H	0.5000	0.6253	
1	7.907	7.907	0.000	109536373H	0.5000	0.5870	
1	8.611	8.611	0.000	75232975H	0.5000	0.5639	
1	9.173	9.173	0.000	190300608H	0.5000	0.5407	
1	9.648	9.648	0.000	93313459H	0.5000	0.5374	
		Average of Peak Amounts =				0.5709	
2	8.674	8.674	0.000	64249395H	0.5000	0.6025	
2	9.352	9.352	0.000	41106383H	0.5000	0.5784	
2	9.687	9.687	0.000	72955428H	0.5000	0.5648	
2	10.696	10.696	0.000	123976788H	0.5000	0.5543	
2	11.234	11.234	0.000	67403349H	0.5000	0.5381	
		Average of Peak Amounts =				0.5676	
						RPD = 0.57	
* 16 PCB-205 (IS)							
1	10.709	10.709	0.000	720783452H	0.1000	0.1000	
2	12.076	12.076	0.000	453850575H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.313	11.313	0.000	88004989H	0.0250	0.0250	
2	12.795	12.795	0.000	44634064H	0.0250	0.0233	
						RPD = 7.14	

Reagents:

GCAR1660CALL4_00019 Amount Added: 1.00 Units: mL
PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 31-Dec-2019 06:39:58 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309038.D

Injection Date: 30-Dec-2019 20:30:06 Instrument ID: CHGC16

Lims ID: CCVIS

Client ID:

Operator ID: 402331 ALS Bottle#: 37 Worklist Smp#: 37

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_CHGC16 Limit Group: GCS 8082A ICAL with IS

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

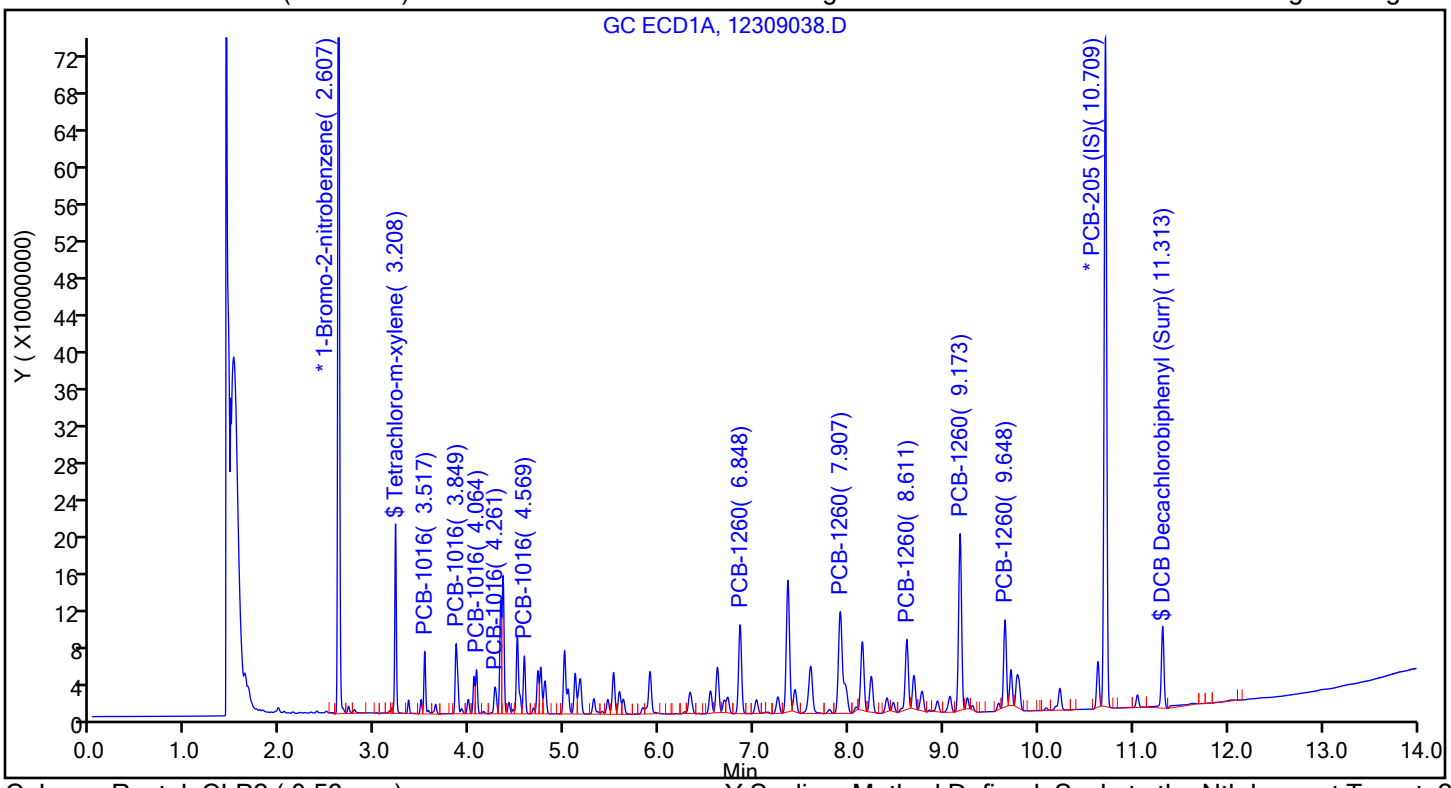

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

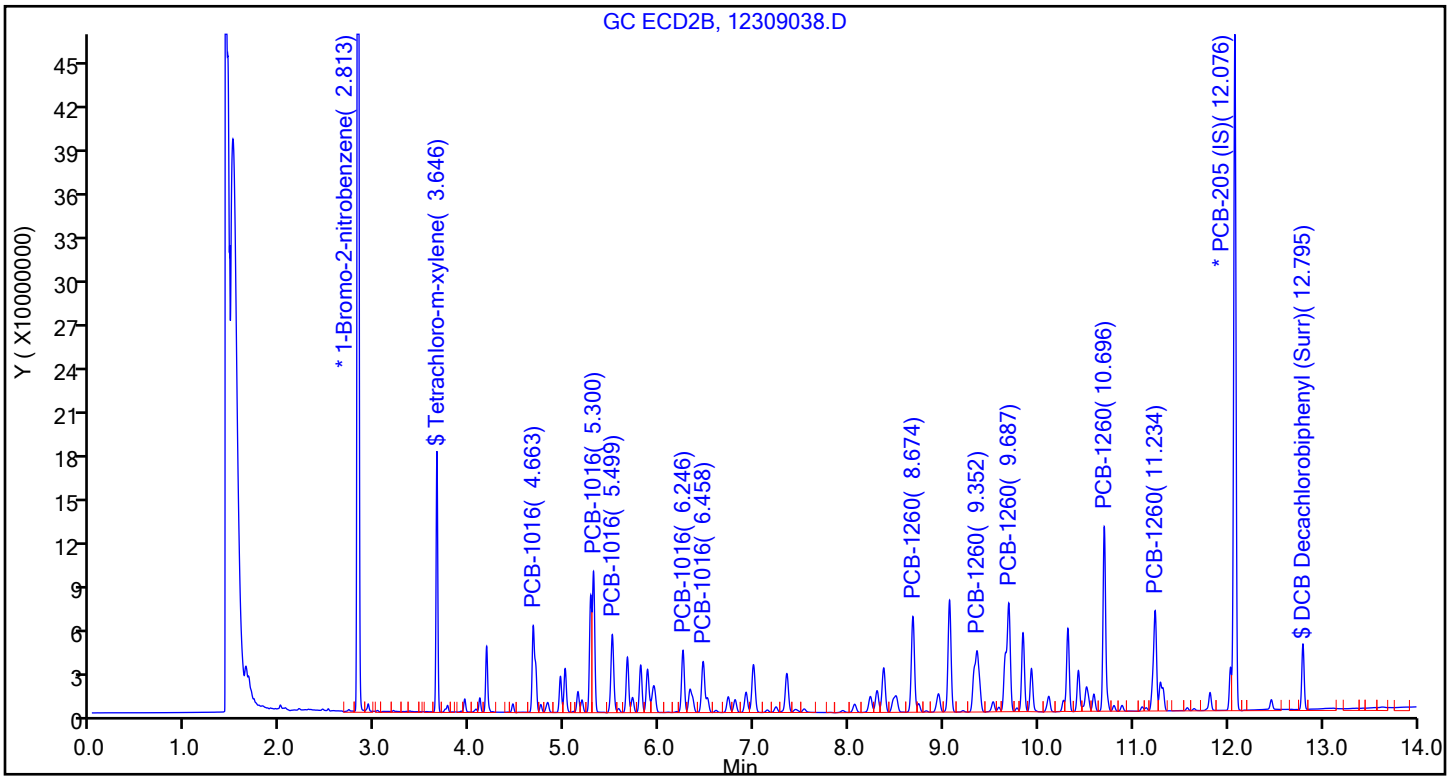

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 180-302202/1-A

Matrix: Solid Lab File ID: 12309048.D

Analysis Method: EPA 8082A Date Collected:

Extraction Method: 3510C Date Extracted: 12/21/2019 02:15

Sample wt/vol: 1000(mL) Date Analyzed: 12/30/2019 23:37

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: RTX-CLP1 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 302855 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
12674-11-2	PCB-1016	ND		0.00040	0.00019
11104-28-2	PCB-1221	ND		0.00040	0.00023
11141-16-5	PCB-1232	ND		0.00040	0.00021
53469-21-9	PCB-1242	ND		0.00040	0.00037
12672-29-6	PCB-1248	ND		0.00040	0.00012
11097-69-1	PCB-1254	ND		0.00040	0.00038
11096-82-5	PCB-1260	ND		0.00040	0.00016

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene (Surr)	98		45-133
2051-24-3	DCB Decachlorobiphenyl (Surr)	96		59-144

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309048.D
Lims ID: MB 180-302202/1-A
Client ID:
Sample Type: MB
Inject. Date: 30-Dec-2019 23:37:41 ALS Bottle#: 47 Worklist Smp#: 47
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-047
Operator ID: 402331 Instrument ID: CHGC16

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:38:21 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 31-Dec-2019 06:30:20

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.609	2.607	0.002	1043431104H	0.1000	0.1000	
2	2.813	2.813	0.001	1105272008H	0.1000	0.1000	
4 PCB-1221							
1		2.772				ND	
1		3.346					
1		3.517					
2		3.187					
2		3.940					
2		4.171					
$ 2 Tetrachloro-m-xylene							
1	3.210	3.208	0.002	166446911H	0.0200	0.0196	
2	3.647	3.646	0.001	129298779H	0.0200	0.0186	
						RPD = 4.97	
3 PCB-1232							U
1		3.347				ND	
1		3.516					
1		3.848					
1		4.494					
1		4.993					
2		3.939					
2		4.170					
2		4.663					
2		5.498					
2		6.994					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
5 PCB-1242							U
1		3.517				ND	
1		3.848					
1		4.494					
1		4.993					
1		5.573					
2		4.170					
2		4.663					
2		6.245					
2		6.998					
2		7.432					
6 PCB-1016							U
1		3.517				ND	
1		3.849					
1		4.064					
1		4.261					
1		4.569					
2		4.663					
2		5.300					
2		5.499					
2		6.246					
2		6.458					
7 PCB-1248							U
1		3.847				ND	
1		4.713					
1		4.994					
1		5.574					
1		6.535					
2		4.664					
2		5.799					
2		6.245					
2		6.998					
2		7.434					
8 PCB-1254							U
1		5.510				ND	
1		6.534					
1		7.018					
1		7.353					
1		7.908					
2		6.988					
2		7.343					
2		8.295					
2		8.735					
2		9.688					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1		6.848				ND	
1		7.907					
1		8.611					
1		9.173					
1		9.648					
2		8.674					
2		9.352					
2		9.687					
2		10.696					
2		11.234					
10 PCB-1262							U
1		8.141				ND	
1		8.609					
1		9.173					
1		9.648					
1		9.778					
2		9.059					
2		9.837					
2		10.312					
2		10.696					
2		11.228					
11 PCB-1268							
1		9.712				ND	
1		9.776					
1		10.084					
1		11.048					
2		11.223					
2		11.288					
2		11.645					
2		12.462					
* 16 PCB-205 (IS)							
1	10.710	10.709	0.001	649636515H	0.1000	0.1000	
2	12.076	12.076	0.000	386714654H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.315	11.313	0.002	61739488H	0.0200	0.0193	
2	12.795	12.795	0.000	32885140H	0.0200	0.0201	
						RPD = 4.23	
47 Firemaster BP-6							
1		11.620				ND	
1		12.024					
1		12.525					
1		13.317					
2		13.545					
2		14.045					
2		14.402					
2		15.665					
13 1260 Res 1							
1		0.000				ND	
2		0.000					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
14 1260 Res 3							
1		0.000				ND	
2		0.000					
15 1260 Res 2							
1		0.000				ND	
2		0.000					

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 31-Dec-2019 06:39:11 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309048.D

Injection Date: 30-Dec-2019 23:37:41 Instrument ID: CHGC16

Lims ID: MB 180-302202/1-A

Client ID:

Operator ID: 402331 ALS Bottle#: 47 Worklist Smp#: 47

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_CHGC16 Limit Group: GCS 8082A ICAL with IS

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

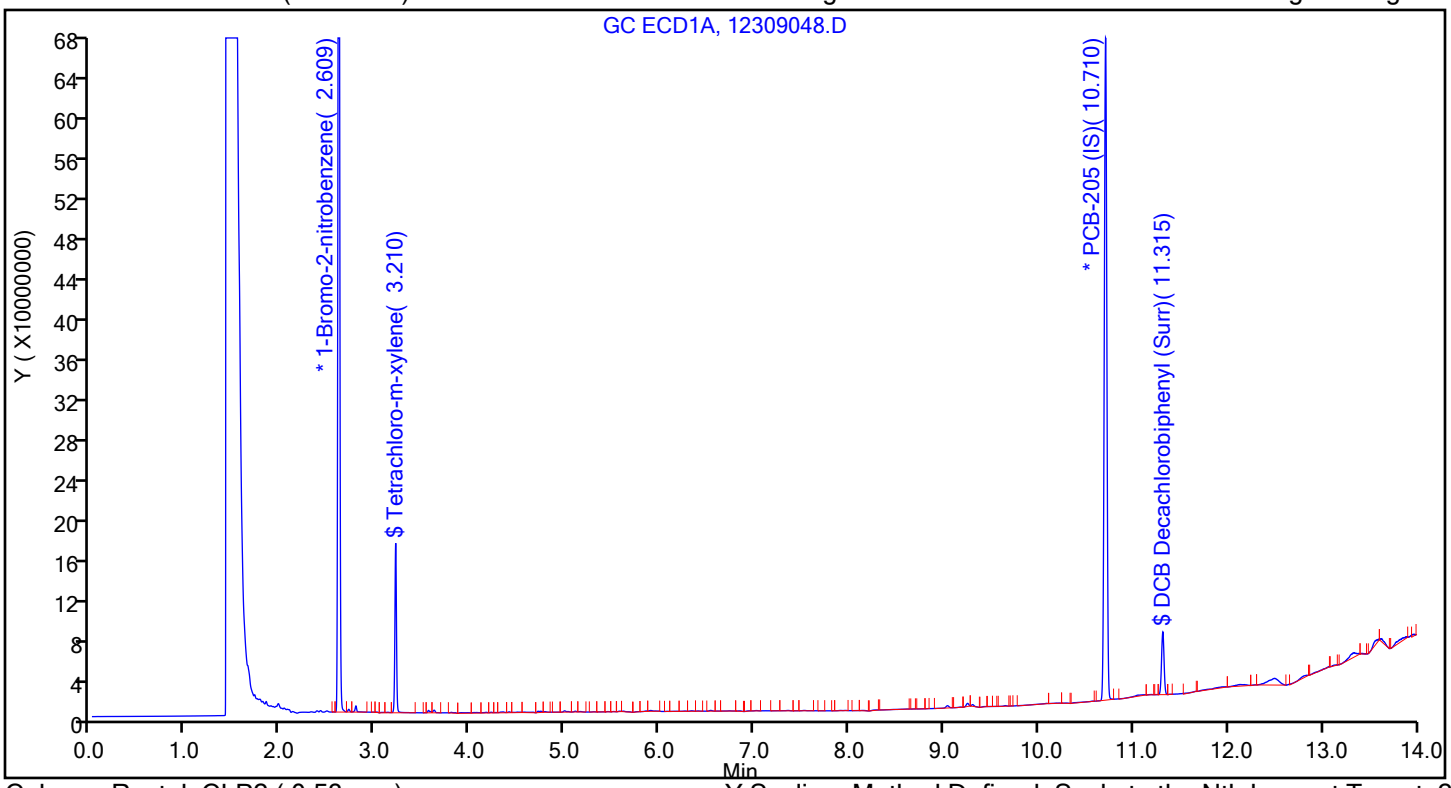

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

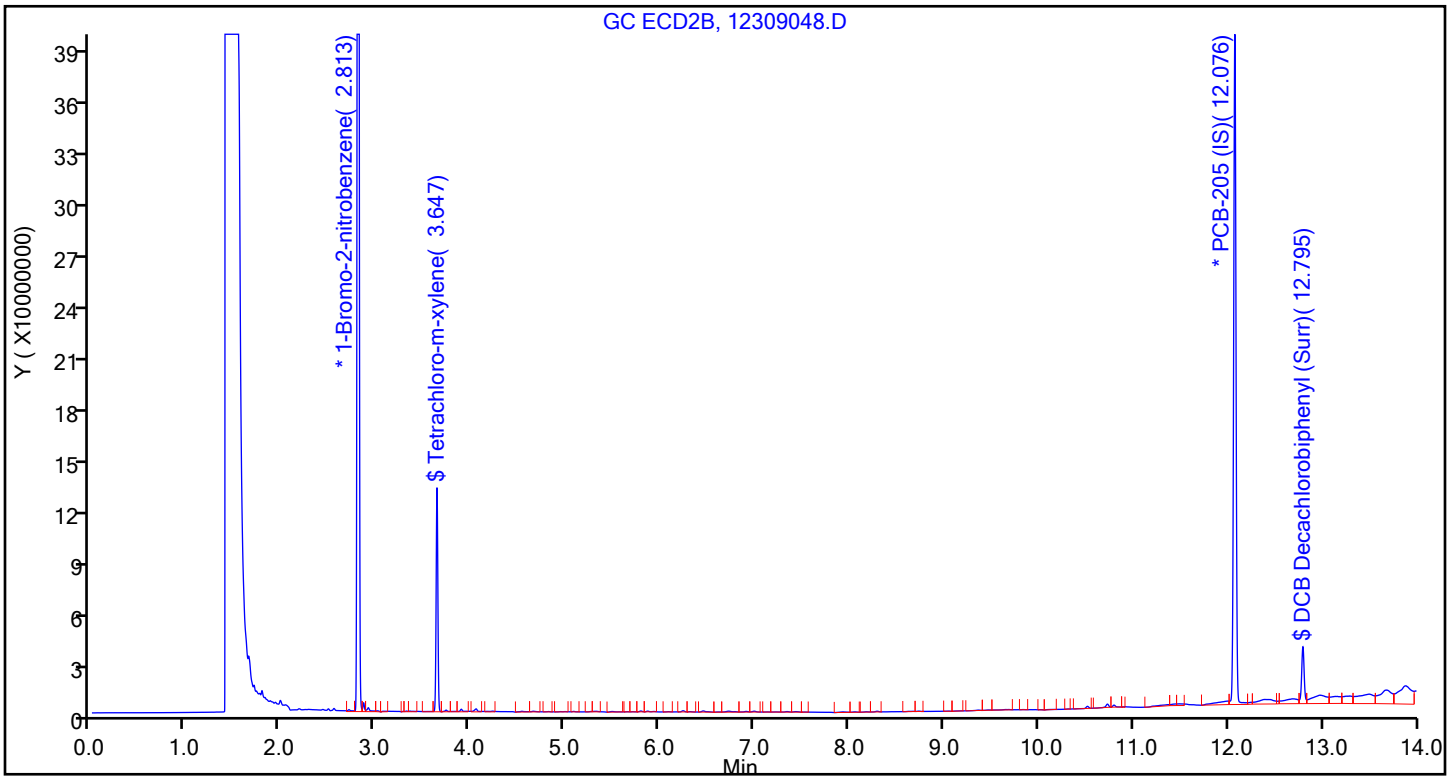

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309048.D				
Lims ID:	MB 180-302202/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	30-Dec-2019 23:37:41	ALS Bottle#:	47	Worklist Smp#:	47
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0030215-047				
Operator ID:	402331	Instrument ID:	CHGC16		
Method:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m				
Limit Group:	GCS 8082A ICAL with IS				
Last Update:	31-Dec-2019 06:38:21	Calib Date:	30-Dec-2019 12:24:02		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D				
Column 1 :	Restek CLP 1 (0.53 mm)		Det: GC ECD1A		
Column 2 :	Restek CLP2 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0304				
First Level Reviewer: oravecj		Date:	31-Dec-2019 06:30:20		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0196	97.76
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0193	96.41

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0186	93.02
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0201	100.57

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 180-302202/1-A

Matrix: Solid Lab File ID: 12309048.D

Analysis Method: EPA 8082A Date Collected:

Extraction Method: 3510C Date Extracted: 12/21/2019 02:15

Sample wt/vol: 1000(mL) Date Analyzed: 12/30/2019 23:37

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: RTX-CLP2 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 302855 Units: mg/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene (Surr)	93		45-133
2051-24-3	DCB Decachlorobiphenyl (Surr)	101		59-144

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309048.D
Lims ID: MB 180-302202/1-A
Client ID:
Sample Type: MB
Inject. Date: 30-Dec-2019 23:37:41 ALS Bottle#: 47 Worklist Smp#: 47
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-047
Operator ID: 402331 Instrument ID: CHGC16

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:38:21 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 31-Dec-2019 06:30:20

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.609	2.607	0.002	1043431104H	0.1000	0.1000	
2	2.813	2.813	0.001	1105272008H	0.1000	0.1000	
4 PCB-1221							
1		2.772				ND	
1		3.346					
1		3.517					
2		3.187					
2		3.940					
2		4.171					
$ 2 Tetrachloro-m-xylene							
1	3.210	3.208	0.002	166446911H	0.0200	0.0196	
2	3.647	3.646	0.001	129298779H	0.0200	0.0186	
						RPD = 4.97	
3 PCB-1232							U
1		3.347				ND	
1		3.516					
1		3.848					
1		4.494					
1		4.993					
2		3.939					
2		4.170					
2		4.663					
2		5.498					
2		6.994					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
5 PCB-1242							U
1		3.517				ND	
1		3.848					
1		4.494					
1		4.993					
1		5.573					
2		4.170					
2		4.663					
2		6.245					
2		6.998					
2		7.432					
6 PCB-1016							U
1		3.517				ND	
1		3.849					
1		4.064					
1		4.261					
1		4.569					
2		4.663					
2		5.300					
2		5.499					
2		6.246					
2		6.458					
7 PCB-1248							U
1		3.847				ND	
1		4.713					
1		4.994					
1		5.574					
1		6.535					
2		4.664					
2		5.799					
2		6.245					
2		6.998					
2		7.434					
8 PCB-1254							U
1		5.510				ND	
1		6.534					
1		7.018					
1		7.353					
1		7.908					
2		6.988					
2		7.343					
2		8.295					
2		8.735					
2		9.688					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1		6.848				ND	
1		7.907					
1		8.611					
1		9.173					
1		9.648					
2		8.674					
2		9.352					
2		9.687					
2		10.696					
2		11.234					
10 PCB-1262							U
1		8.141				ND	
1		8.609					
1		9.173					
1		9.648					
1		9.778					
2		9.059					
2		9.837					
2		10.312					
2		10.696					
2		11.228					
11 PCB-1268							
1		9.712				ND	
1		9.776					
1		10.084					
1		11.048					
2		11.223					
2		11.288					
2		11.645					
2		12.462					
* 16 PCB-205 (IS)							
1	10.710	10.709	0.001	649636515H	0.1000	0.1000	
2	12.076	12.076	0.000	386714654H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.315	11.313	0.002	61739488H	0.0200	0.0193	
2	12.795	12.795	0.000	32885140H	0.0200	0.0201	
						RPD = 4.23	
47 Firemaster BP-6							
1		11.620				ND	
1		12.024					
1		12.525					
1		13.317					
2		13.545					
2		14.045					
2		14.402					
2		15.665					
13 1260 Res 1							
1		0.000				ND	
2		0.000					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
14 1260 Res 3							
1		0.000				ND	
2		0.000					
15 1260 Res 2							
1		0.000				ND	
2		0.000					

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 31-Dec-2019 06:39:12 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309048.D

Injection Date: 30-Dec-2019 23:37:41 Instrument ID: CHGC16

Lims ID: MB 180-302202/1-A

Client ID:

Operator ID: 402331 ALS Bottle#: 47 Worklist Smp#: 47

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_CHGC16 Limit Group: GCS 8082A ICAL with IS

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

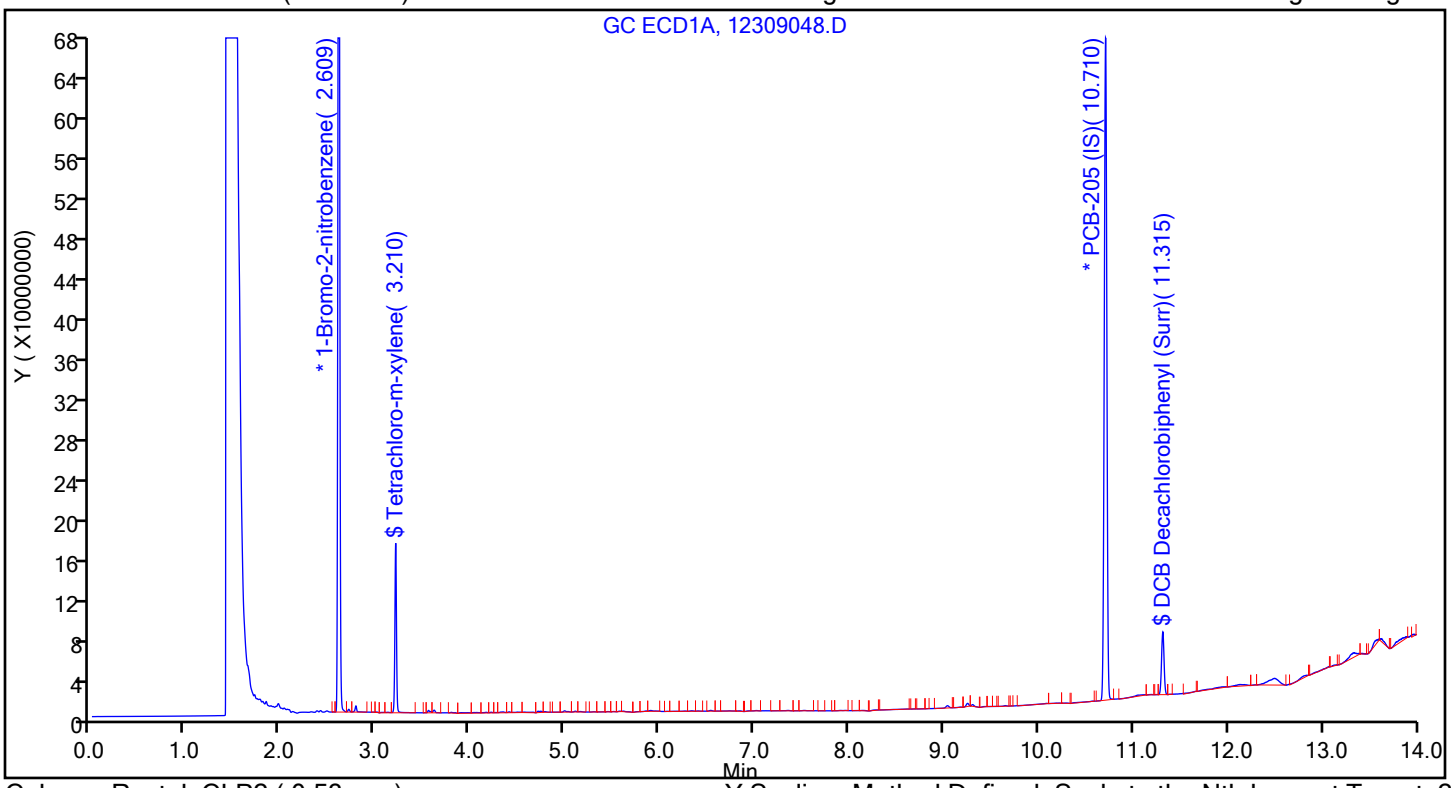

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

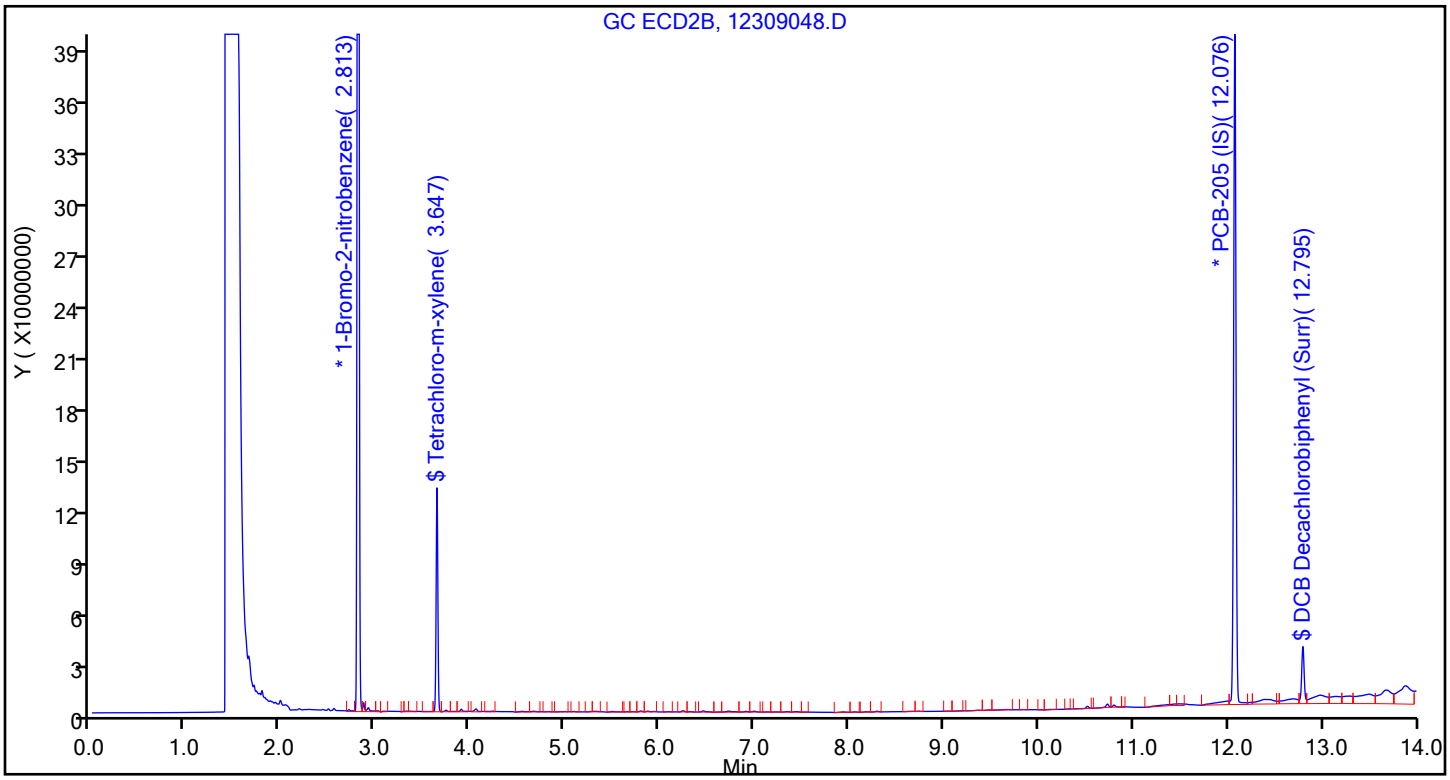

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309048.D				
Lims ID:	MB 180-302202/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	30-Dec-2019 23:37:41	ALS Bottle#:	47	Worklist Smp#:	47
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0030215-047				
Operator ID:	402331	Instrument ID:	CHGC16		
Method:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m				
Limit Group:	GCS 8082A ICAL with IS				
Last Update:	31-Dec-2019 06:38:21	Calib Date:	30-Dec-2019 12:24:02		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D				
Column 1 :	Restek CLP 1 (0.53 mm)		Det: GC ECD1A		
Column 2 :	Restek CLP2 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0304				
First Level Reviewer: oravecj		Date:	31-Dec-2019 06:30:20		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0196	97.76
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0193	96.41

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0186	93.02
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0201	100.57

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Client Sample ID: Lab Sample ID: LB 180-301984/1-D

Matrix: Solid (TCLP) Lab File ID: 12309057.D

Analysis Method: EPA 8082A Date Collected:

Extraction Method: 3510C Date Extracted: 12/21/2019 02:15

Sample wt/vol: 1000(mL) Date Analyzed: 12/31/2019 02:26

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: RTX-CLP1 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 302855 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
12674-11-2	PCB-1016	ND		0.00040	0.00019
11104-28-2	PCB-1221	ND		0.00040	0.00023
11141-16-5	PCB-1232	ND		0.00040	0.00021
53469-21-9	PCB-1242	ND		0.00040	0.00037
12672-29-6	PCB-1248	ND		0.00040	0.00012
11097-69-1	PCB-1254	ND		0.00040	0.00038
11096-82-5	PCB-1260	ND		0.00040	0.00016

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene (Surr)	97		45-133
2051-24-3	DCB Decachlorobiphenyl (Surr)	100		59-144

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309057.D
Lims ID: LB 180-301984/1-D
Client ID:
Sample Type: LB
Inject. Date: 31-Dec-2019 02:26:15 ALS Bottle#: 56 Worklist Smp#: 56
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-056
Operator ID: 402331 Instrument ID: CHGC16

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:38:21 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 31-Dec-2019 06:32:44

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.609	2.607	0.002	1067182742H	0.1000	0.1000	
2	2.813	2.813	0.000	1143126267H	0.1000	0.1000	
4 PCB-1221							
1		2.772				ND	
1		3.346					
1		3.517					
2		3.187					
2		3.940					
2		4.171					
$ 2 Tetrachloro-m-xylene							
1	3.209	3.208	0.001	168752566H	0.0200	0.0194	
2	3.646	3.646	0.000	134913114H	0.0200	0.0188	
						RPD = 3.22	
3 PCB-1232							U
1		3.347				ND	
1		3.516					
1		3.848					
1		4.494					
1		4.993					
2		3.939					
2		4.170					
2		4.663					
2		5.498					
2		6.994					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
5 PCB-1242							U
1		3.517				ND	
1		3.848					
1		4.494					
1		4.993					
1		5.573					
2		4.170					
2		4.663					
2		6.245					
2		6.998					
2		7.432					
6 PCB-1016							
1		3.517				ND	
1		3.849					
1		4.064					
1		4.261					
1		4.569					
2		4.663					
2		5.300					
2		5.499					
2		6.246					
2		6.458					
7 PCB-1248							U
1		3.847				ND	
1		4.713					
1		4.994					
1		5.574					
1		6.535					
2		4.664					
2		5.799					
2		6.245					
2		6.998					
2		7.434					
8 PCB-1254							U
1		5.510				ND	
1		6.534					
1		7.018					
1		7.353					
1		7.908					
2		6.988					
2		7.343					
2		8.295					
2		8.735					
2		9.688					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1		6.848				ND	
1		7.907					
1		8.611					
1		9.173					
1		9.648					
2		8.674					
2		9.352					
2		9.687					
2		10.696					
2		11.234					
10 PCB-1262							U
1		8.141				ND	
1		8.609					
1		9.173					
1		9.648					
1		9.778					
2		9.059					
2		9.837					
2		10.312					
2		10.696					
2		11.228					
11 PCB-1268							U
1		9.712				ND	
1		9.776					
1		10.084					
1		11.048					
2		11.223					
2		11.288					
2		11.645					
2		12.462					
* 16 PCB-205 (IS)							
1	10.708	10.709	-0.001	718786417H	0.1000	0.1000	
2	12.076	12.076	0.000	432883861H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.313	11.313	0.000	70557623H	0.0200	0.0199	
2	12.795	12.795	0.000	35141525H	0.0200	0.0192	
						RPD = 3.77	
47 Firemaster BP-6							
1		11.620				ND	
1		12.024					
1		12.525					
1		13.317					
2		13.545					
2		14.045					
2		14.402					
2		15.665					
13 1260 Res 1							
1		0.000				ND	
2		0.000					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
14 1260 Res 3							
1		0.000				ND	
2		0.000					
15 1260 Res 2							
1		0.000				ND	
2		0.000					

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 31-Dec-2019 06:38:39 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309057.D

Injection Date: 31-Dec-2019 02:26:15 Instrument ID: CHGC16

Lims ID: LB 180-301984/1-D

Client ID:

Operator ID: 402331 ALS Bottle#: 56 Worklist Smp#: 56

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_CHGC16 Limit Group: GCS 8082A ICAL with IS

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

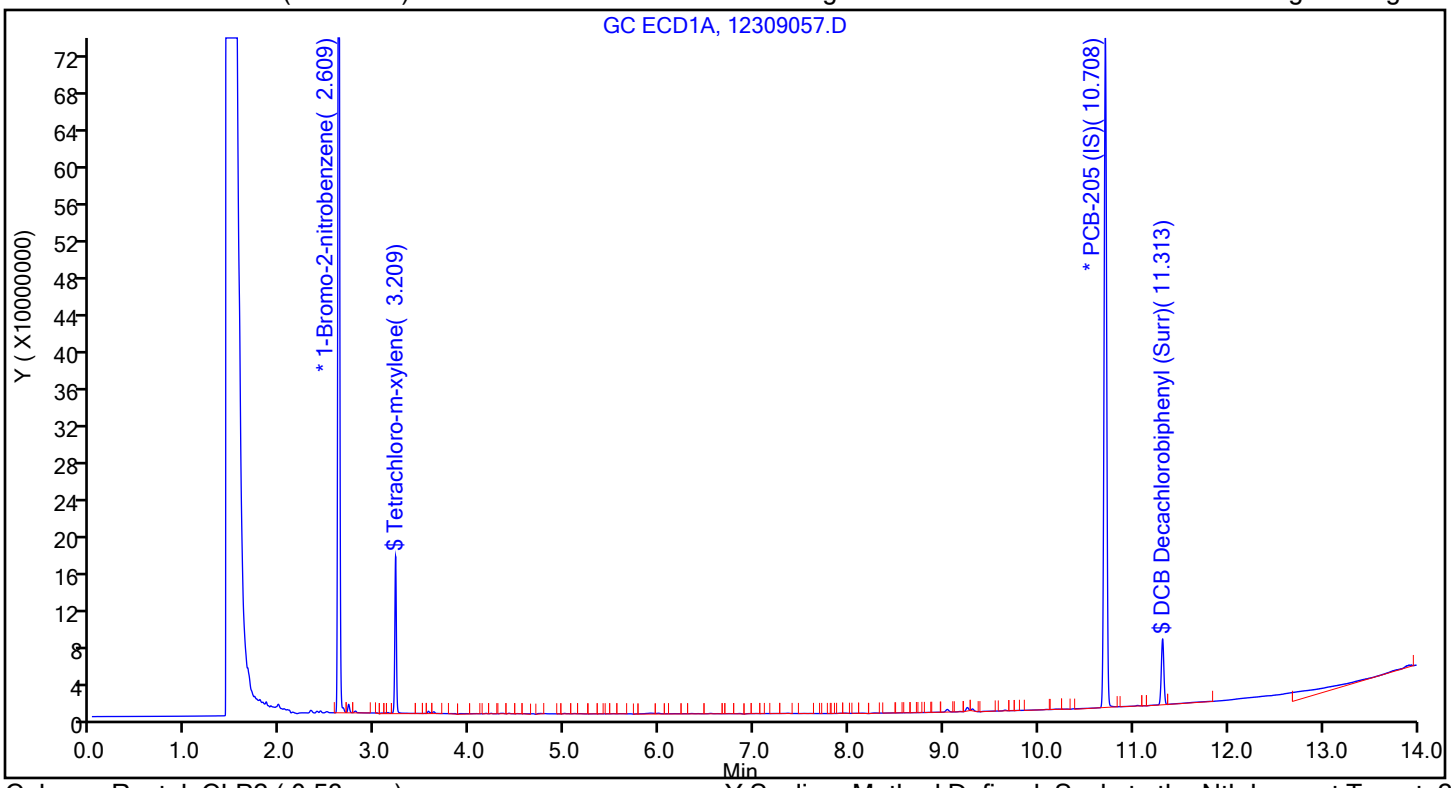

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

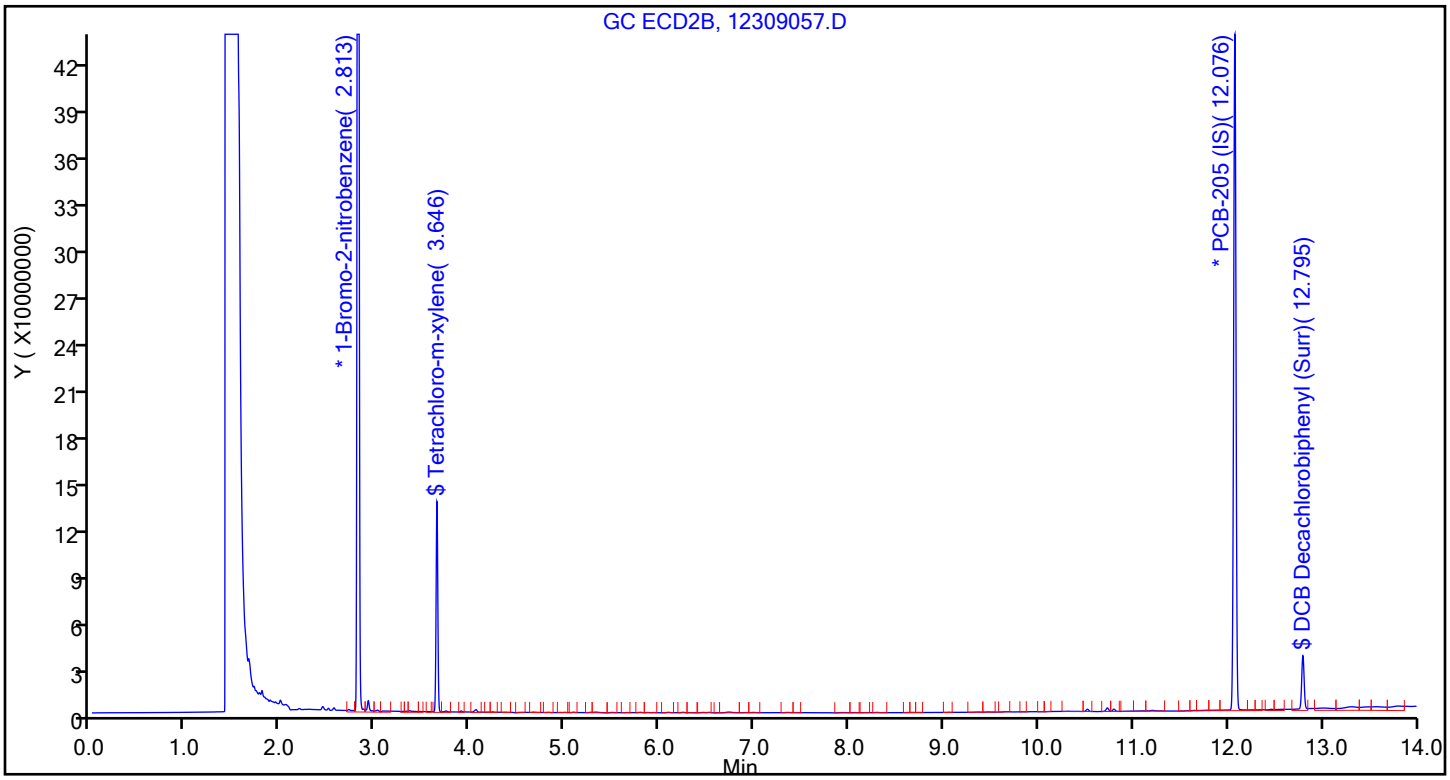

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309057.D				
Lims ID:	LB 180-301984/1-D				
Client ID:					
Sample Type:	LB				
Inject. Date:	31-Dec-2019 02:26:15	ALS Bottle#:	56	Worklist Smp#:	56
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0030215-056				
Operator ID:	402331	Instrument ID:	CHGC16		
Method:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m				
Limit Group:	GCS 8082A ICAL with IS				
Last Update:	31-Dec-2019 06:38:21	Calib Date:	30-Dec-2019 12:24:02		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D				
Column 1 :	Restek CLP 1 (0.53 mm)		Det: GC ECD1A		
Column 2 :	Restek CLP2 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0304				
First Level Reviewer: oravecj		Date:	31-Dec-2019 06:32:44		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0194	96.91
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0199	99.70

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0188	93.84
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0192	96.01

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Client Sample ID: Lab Sample ID: LB 180-301984/1-D

Matrix: Solid (TCLP) Lab File ID: 12309057.D

Analysis Method: EPA 8082A Date Collected:

Extraction Method: 3510C Date Extracted: 12/21/2019 02:15

Sample wt/vol: 1000(mL) Date Analyzed: 12/31/2019 02:26

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: RTX-CLP2 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 302855 Units: mg/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene (Surr)	94		45-133
2051-24-3	DCB Decachlorobiphenyl (Surr)	96		59-144

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309057.D
Lims ID: LB 180-301984/1-D
Client ID:
Sample Type: LB
Inject. Date: 31-Dec-2019 02:26:15 ALS Bottle#: 56 Worklist Smp#: 56
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-056
Operator ID: 402331 Instrument ID: CHGC16

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:38:21 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 31-Dec-2019 06:32:44

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.609	2.607	0.002	1067182742H	0.1000	0.1000	
2	2.813	2.813	0.000	1143126267H	0.1000	0.1000	
4 PCB-1221							
1		2.772				ND	
1		3.346					
1		3.517					
2		3.187					
2		3.940					
2		4.171					
$ 2 Tetrachloro-m-xylene							
1	3.209	3.208	0.001	168752566H	0.0200	0.0194	
2	3.646	3.646	0.000	134913114H	0.0200	0.0188	
						RPD = 3.22	
3 PCB-1232							U
1		3.347				ND	
1		3.516					
1		3.848					
1		4.494					
1		4.993					
2		3.939					
2		4.170					
2		4.663					
2		5.498					
2		6.994					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
5 PCB-1242							U
1		3.517				ND	
1		3.848					
1		4.494					
1		4.993					
1		5.573					
2		4.170					
2		4.663					
2		6.245					
2		6.998					
2		7.432					
6 PCB-1016							
1		3.517				ND	
1		3.849					
1		4.064					
1		4.261					
1		4.569					
2		4.663					
2		5.300					
2		5.499					
2		6.246					
2		6.458					
7 PCB-1248							U
1		3.847				ND	
1		4.713					
1		4.994					
1		5.574					
1		6.535					
2		4.664					
2		5.799					
2		6.245					
2		6.998					
2		7.434					
8 PCB-1254							U
1		5.510				ND	
1		6.534					
1		7.018					
1		7.353					
1		7.908					
2		6.988					
2		7.343					
2		8.295					
2		8.735					
2		9.688					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1		6.848				ND	
1		7.907					
1		8.611					
1		9.173					
1		9.648					
2		8.674					
2		9.352					
2		9.687					
2		10.696					
2		11.234					
10 PCB-1262							U
1		8.141				ND	
1		8.609					
1		9.173					
1		9.648					
1		9.778					
2		9.059					
2		9.837					
2		10.312					
2		10.696					
2		11.228					
11 PCB-1268							U
1		9.712				ND	
1		9.776					
1		10.084					
1		11.048					
2		11.223					
2		11.288					
2		11.645					
2		12.462					
* 16 PCB-205 (IS)							
1	10.708	10.709	-0.001	718786417H	0.1000	0.1000	
2	12.076	12.076	0.000	432883861H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.313	11.313	0.000	70557623H	0.0200	0.0199	
2	12.795	12.795	0.000	35141525H	0.0200	0.0192	
						RPD = 3.77	
47 Firemaster BP-6							
1		11.620				ND	
1		12.024					
1		12.525					
1		13.317					
2		13.545					
2		14.045					
2		14.402					
2		15.665					
13 1260 Res 1							
1		0.000				ND	
2		0.000					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
14 1260 Res 3							
1		0.000				ND	
2		0.000					
15 1260 Res 2							
1		0.000				ND	
2		0.000					

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 31-Dec-2019 06:38:40 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309057.D

Injection Date: 31-Dec-2019 02:26:15 Instrument ID: CHGC16

Lims ID: LB 180-301984/1-D

Client ID:

Operator ID: 402331 ALS Bottle#: 56 Worklist Smp#: 56

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_CHGC16 Limit Group: GCS 8082A ICAL with IS

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

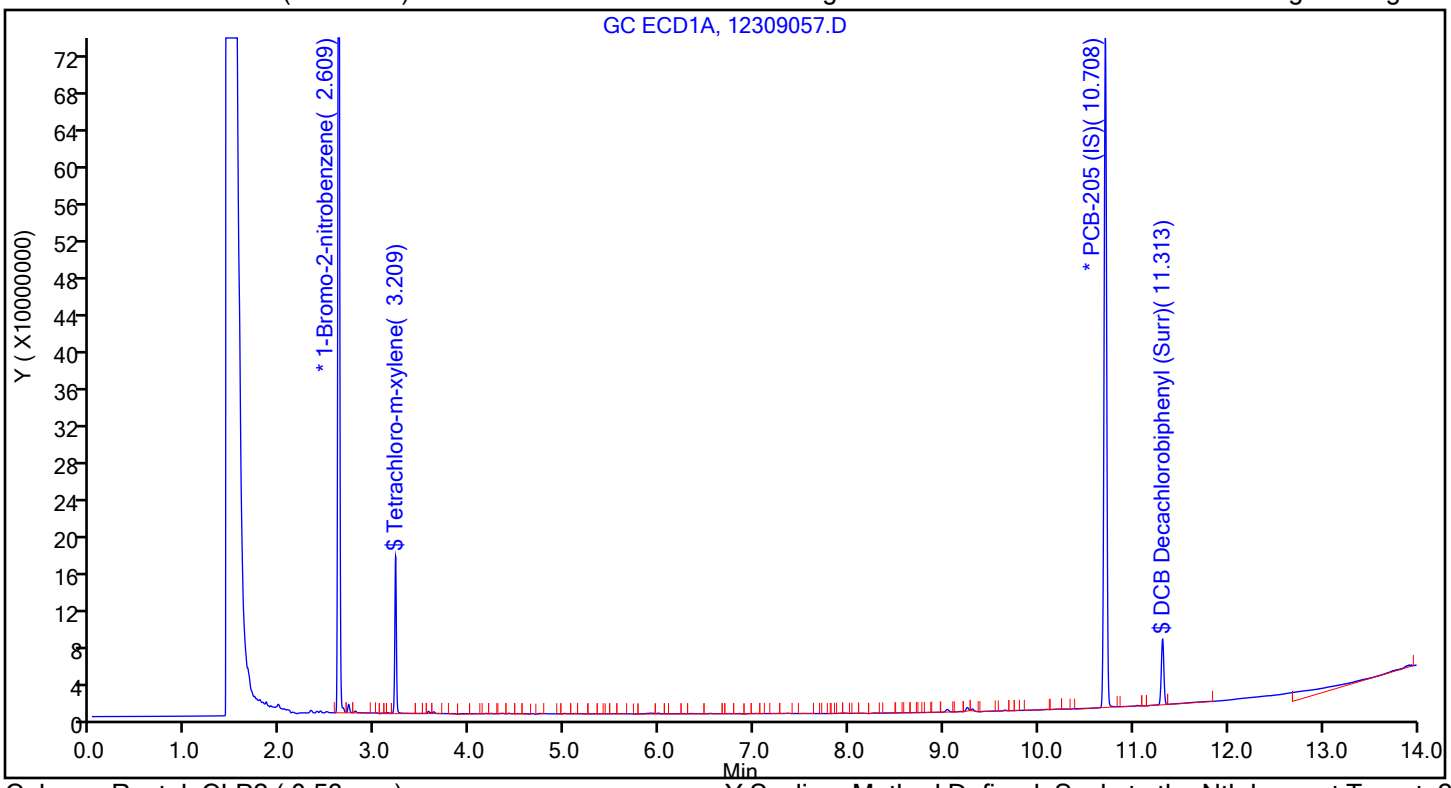

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

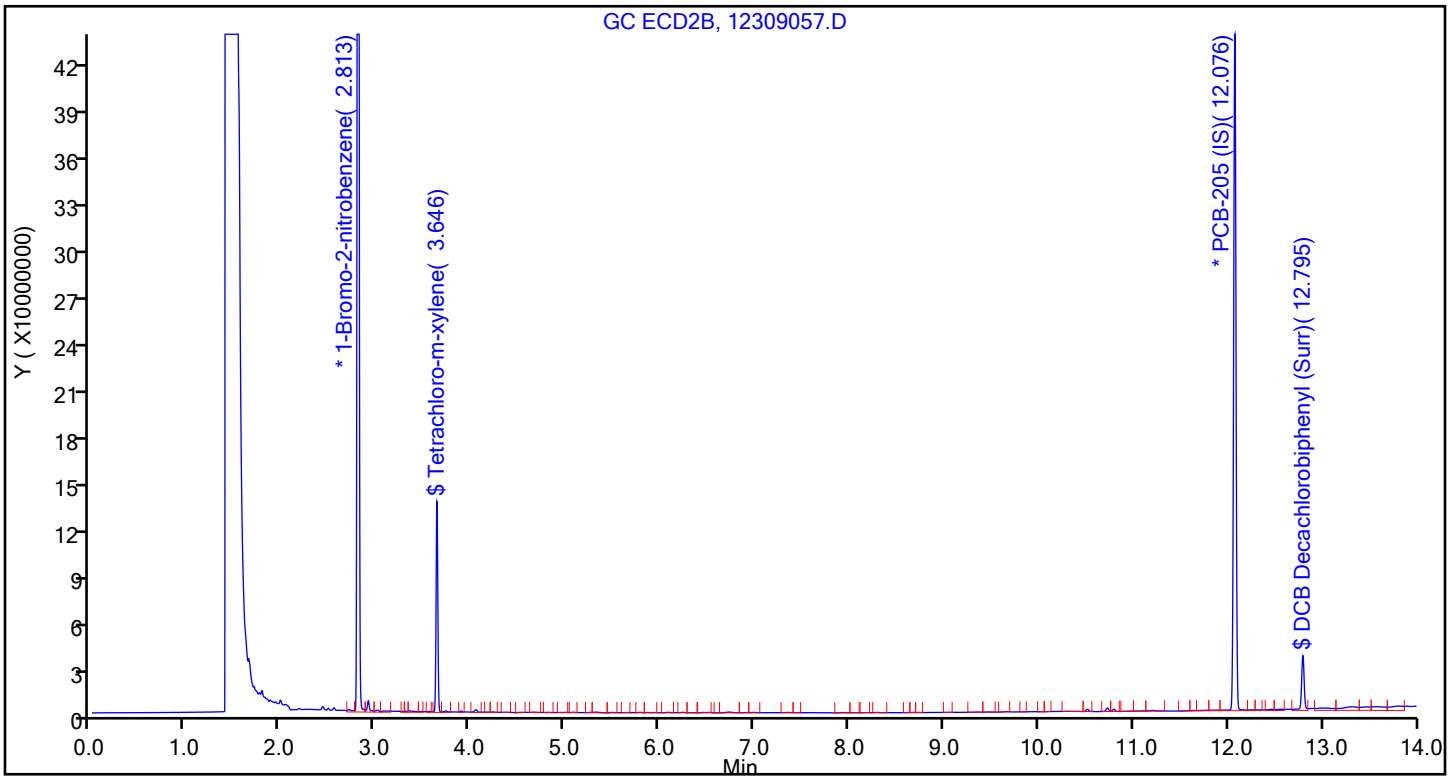

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309057.D				
Lims ID:	LB 180-301984/1-D				
Client ID:					
Sample Type:	LB				
Inject. Date:	31-Dec-2019 02:26:15	ALS Bottle#:	56	Worklist Smp#:	56
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0030215-056				
Operator ID:	402331	Instrument ID:	CHGC16		

Method:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m		
Limit Group:	GCS 8082A ICAL with IS		
Last Update:	31-Dec-2019 06:38:21	Calib Date:	30-Dec-2019 12:24:02
Integrator:	Falcon		
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D		

Column 1 :	Restek CLP 1 (0.53 mm)	Det: GC ECD1A
Column 2 :	Restek CLP2 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0304	

First Level Reviewer: oravecj Date: 31-Dec-2019 06:32:44

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0194	96.91
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0199	99.70

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0188	93.84
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0192	96.01

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 180-302202/2-A

Matrix: Solid Lab File ID: 12309056.D

Analysis Method: EPA 8082A Date Collected:

Extraction Method: 3510C Date Extracted: 12/21/2019 02:15

Sample wt/vol: 1000(mL) Date Analyzed: 12/31/2019 02:07

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: RTX-CLP1 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 302855 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
12674-11-2	PCB-1016	0.0446		0.00040	0.00019
11096-82-5	PCB-1260	0.0462		0.00040	0.00016

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene (Surr)	104		45-133
2051-24-3	DCB Decachlorobiphenyl (Surr)	109		59-144

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309056.D
Lims ID: LCS 180-302202/2-A
Client ID:
Sample Type: LCS
Inject. Date: 31-Dec-2019 02:07:35 ALS Bottle#: 55 Worklist Smp#: 55
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-055
Operator ID: 402331 Instrument ID: CHGC16

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:38:21 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 31-Dec-2019 06:32:26

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.609	2.607	0.002	1017706456H	0.1000	0.1000	
2	2.813	2.813	0.001	1066890162H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.209	3.208	0.001	173378931H	0.0200	0.0209	
2	3.647	3.646	0.001	133439460H	0.0200	0.0199	
						RPD = 4.86	
6 PCB-1016							
1	3.518	3.517	0.001	132206080H	1.00	0.9840	
1	3.851	3.849	0.002	176367651H	1.00	1.22	
1	4.065	4.064	0.001	95875716H	1.00	1.16	
1	4.262	4.261	0.001	57937924H	1.00	1.09	
1	4.570	4.569	0.001	126462198H	1.00	1.13	
		Average of Peak Amounts =				1.12	
2	4.665	4.663	0.002	116956085H	1.00	1.05	
2	5.301	5.300	0.001	196501289H	1.00	1.10	
2	5.499	5.499	0.000	106376372H	1.00	1.03	
2	6.246	6.246	0.000	83994138H	1.00	1.05	
2	6.459	6.458	0.001	60996810H	1.00	0.9836	
		Average of Peak Amounts =				1.04	
						RPD = 6.79	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	0.000	6.848	0.001	0H	1.00	0	
1	7.908	7.907	0.001	196174771H	1.00	1.17	
1	8.611	8.611	0.000	143316623H	1.00	1.20	
1	9.174	9.173	0.001	359888593H	1.00	1.14	
1	9.649	9.648	0.001	169306576H	1.00	1.10	
		Average of Peak Amounts =				1.15	
2	0.000	8.674	0.002	0H	1.00	0	
2	9.352	9.352	0.000	72554133H	1.00	1.21	
2	9.688	9.687	0.001	122962410H	1.00	1.13	
2	10.697	10.696	0.001	226603127H	1.00	1.20	
2	11.233	11.234	-0.001	118693651H	1.00	1.13	
		Average of Peak Amounts =				1.17	
						RPD = 1.16	
* 16 PCB-205 (IS)							
1	10.708	10.709	-0.001	645124376H	0.1000	0.1000	
2	12.075	12.076	-0.001	382173322H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.313	11.313	0.000	68975917H	0.0200	0.0218	
2	12.795	12.795	0.000	34886148H	0.0200	0.0216	
						RPD = 0.90	

Reagents:

PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 31-Dec-2019 06:38:43 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309056.D

Injection Date: 31-Dec-2019 02:07:35 Instrument ID: CHGC16

Lims ID: LCS 180-302202/2-A

Client ID:

Operator ID: 402331 ALS Bottle#: 55 Worklist Smp#: 55

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_CHGC16 Limit Group: GCS 8082A ICAL with IS

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

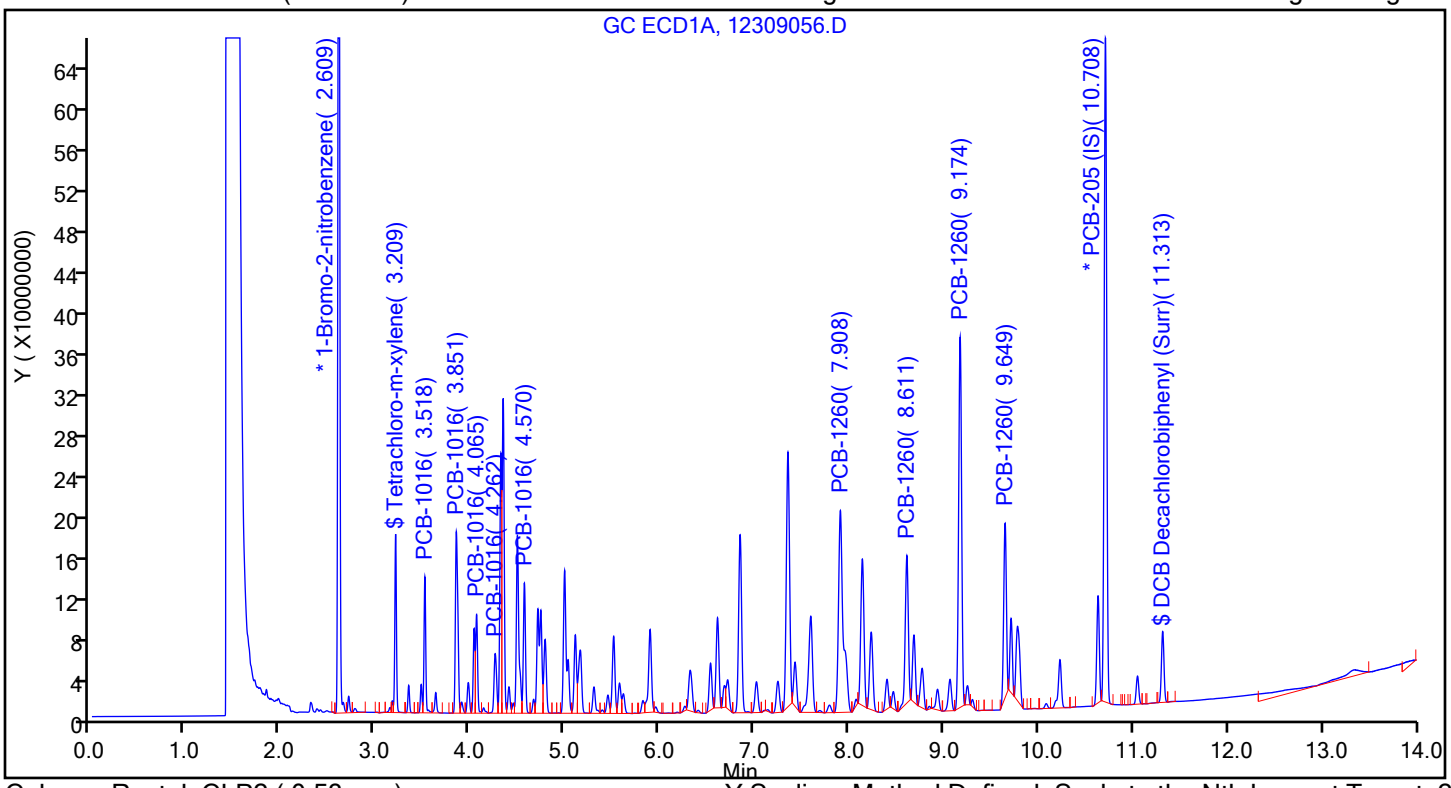

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

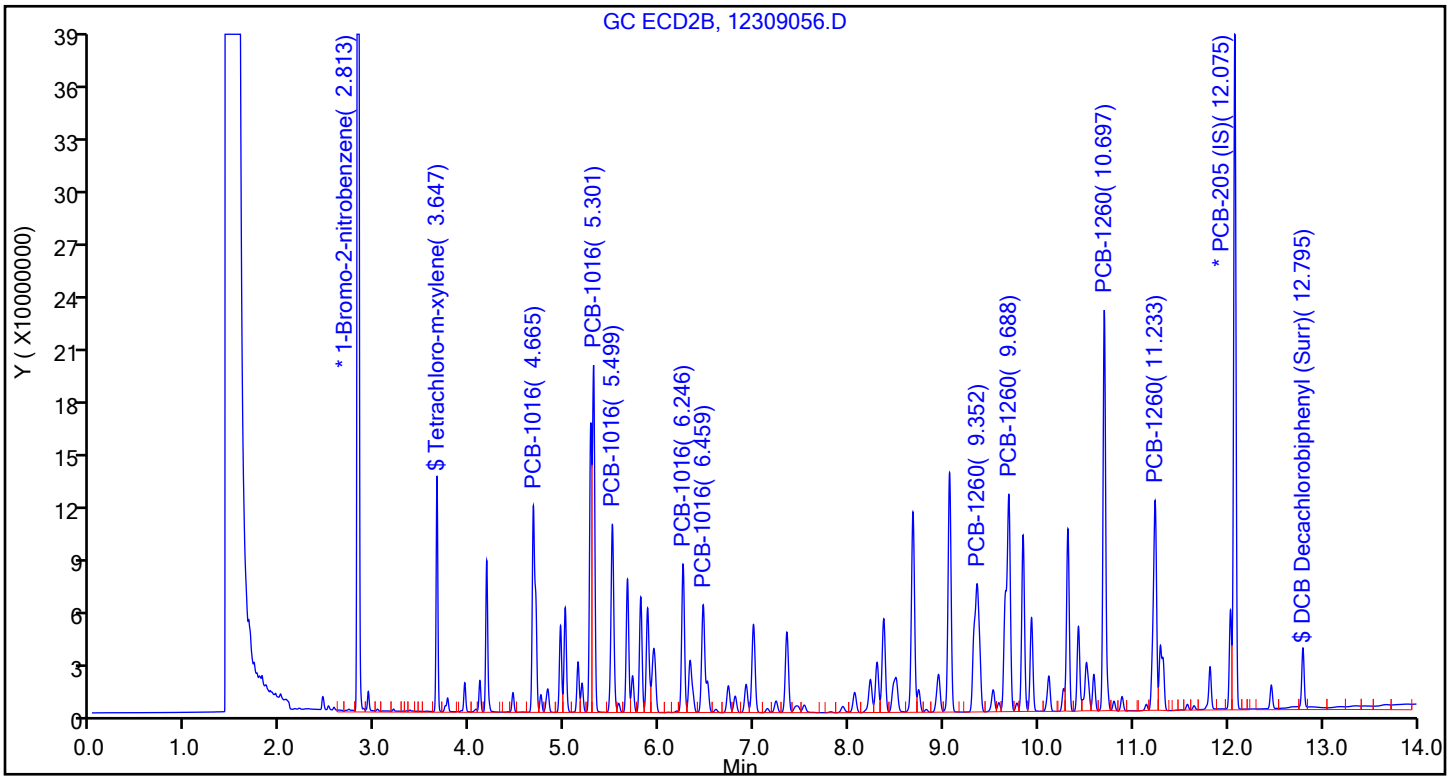

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309056.D				
Lims ID:	LCS 180-302202/2-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	31-Dec-2019 02:07:35	ALS Bottle#:	55	Worklist Smp#:	55
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0030215-055				
Operator ID:	402331	Instrument ID:	CHGC16		
Method:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m				
Limit Group:	GCS 8082A ICAL with IS				
Last Update:	31-Dec-2019 06:38:21	Calib Date:	30-Dec-2019 12:24:02		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D				
Column 1 :	Restek CLP 1 (0.53 mm)		Det: GC ECD1A		
Column 2 :	Restek CLP2 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0304				
First Level Reviewer: oravecj		Date:	31-Dec-2019 06:32:26		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0209	104.40
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0218	108.93

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0199	99.45
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0216	107.96

Report Date: 31-Dec-2019 06:38:43 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309056.D				
Injection Date:	31-Dec-2019 02:07:35	Instrument ID:	CHGC16		
Lims ID:	LCS 180-302202/2-A				
Client ID:					
Operator ID:	402331	ALS Bottle#:	55	Worklist Smp#:	55
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	PCB_CHGC16	Limit Group:	GCS 8082A ICAL with IS		
Column:	Restek CLP 1 (0.53 mm)	Detector	GC ECD1A		

6 PCB-1016, CAS: 12674-11-2

Calibration Sample, Level: 7

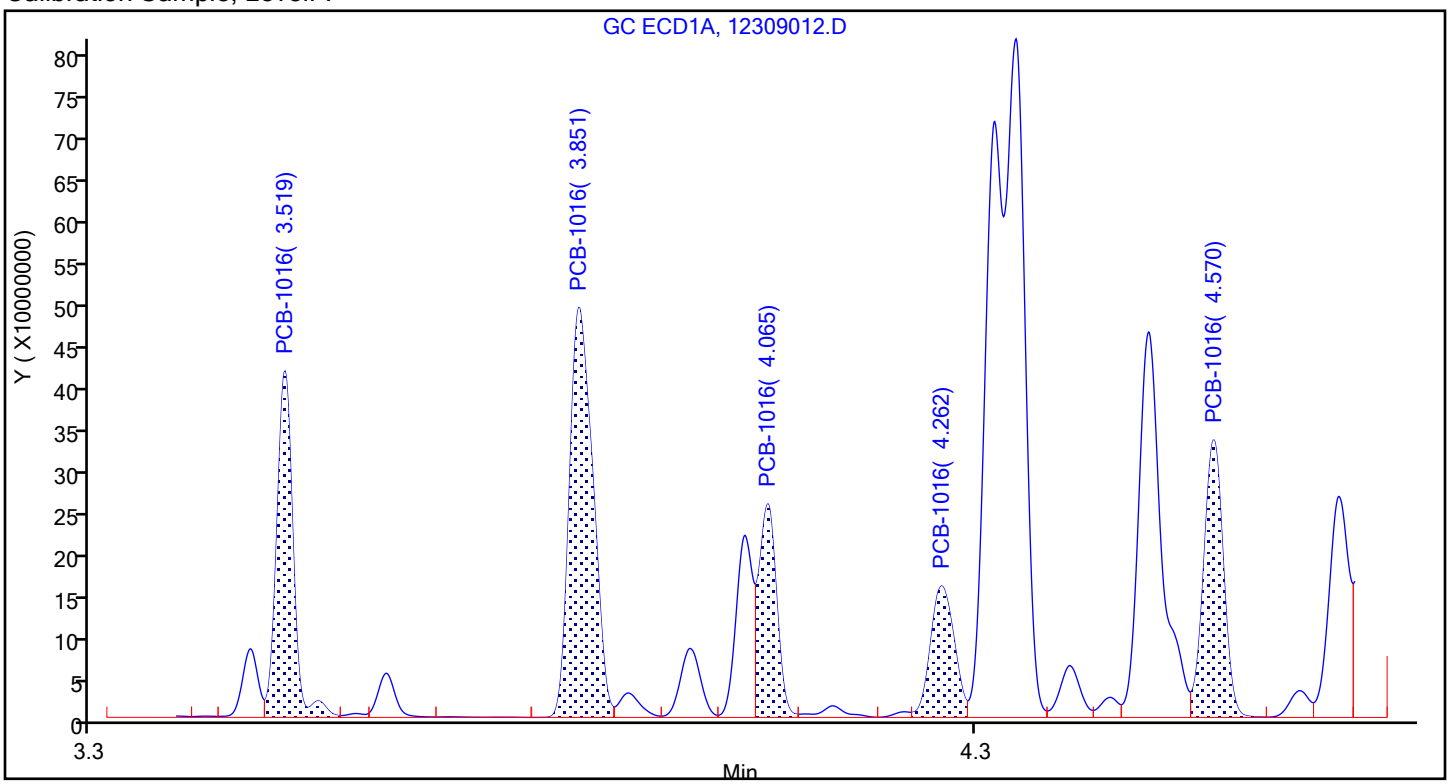

Sample

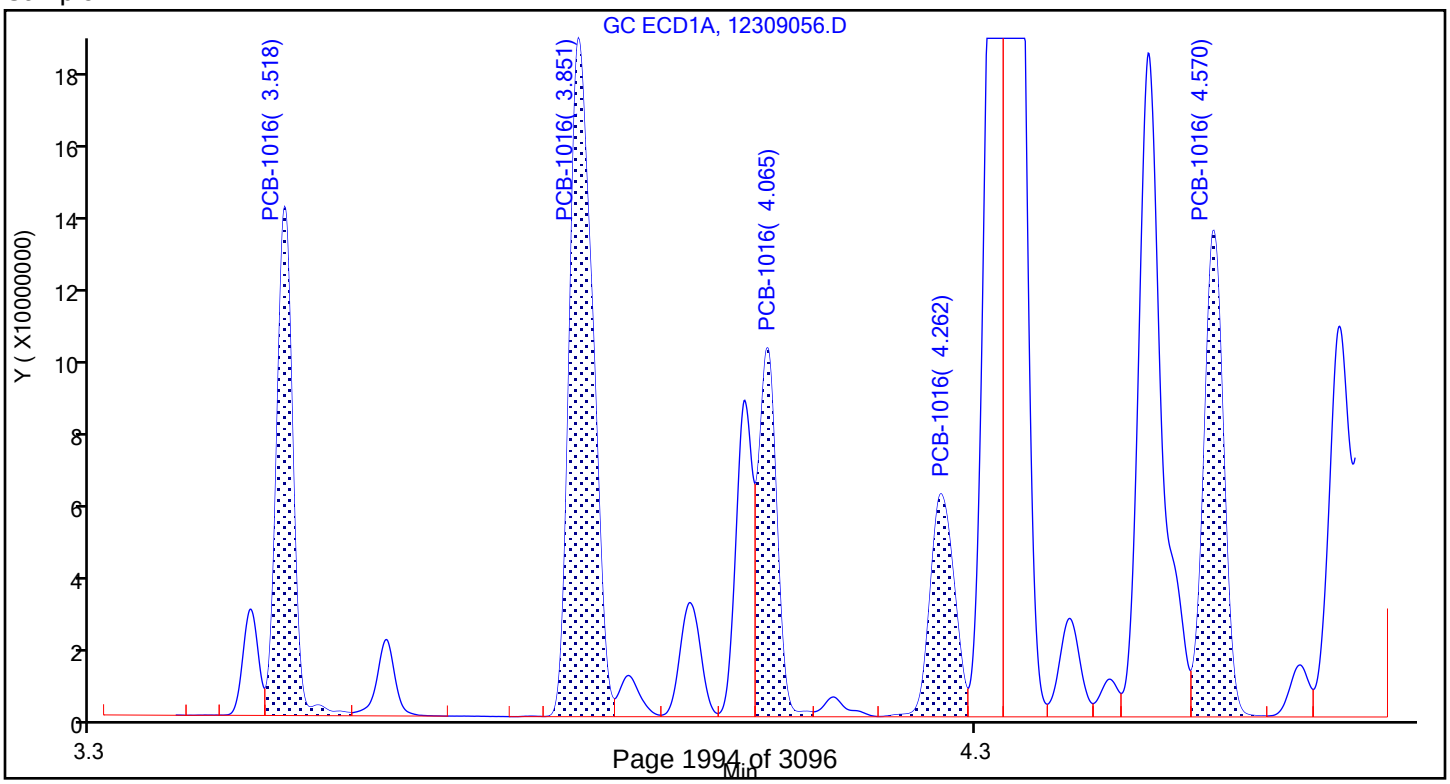

Report Date: 31-Dec-2019 06:38:43 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309056.D				
Injection Date:	31-Dec-2019 02:07:35	Instrument ID:	CHGC16		
Lims ID:	LCS 180-302202/2-A				
Client ID:					
Operator ID:	402331	ALS Bottle#:	55	Worklist Smp#:	55
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	PCB_CHGC16	Limit Group:	GCS 8082A ICAL with IS		
Column:	Restek CLP 1 (0.53 mm)	Detector	GC ECD1A		

9 PCB-1260, CAS: 11096-82-5

Calibration Sample, Level: 7

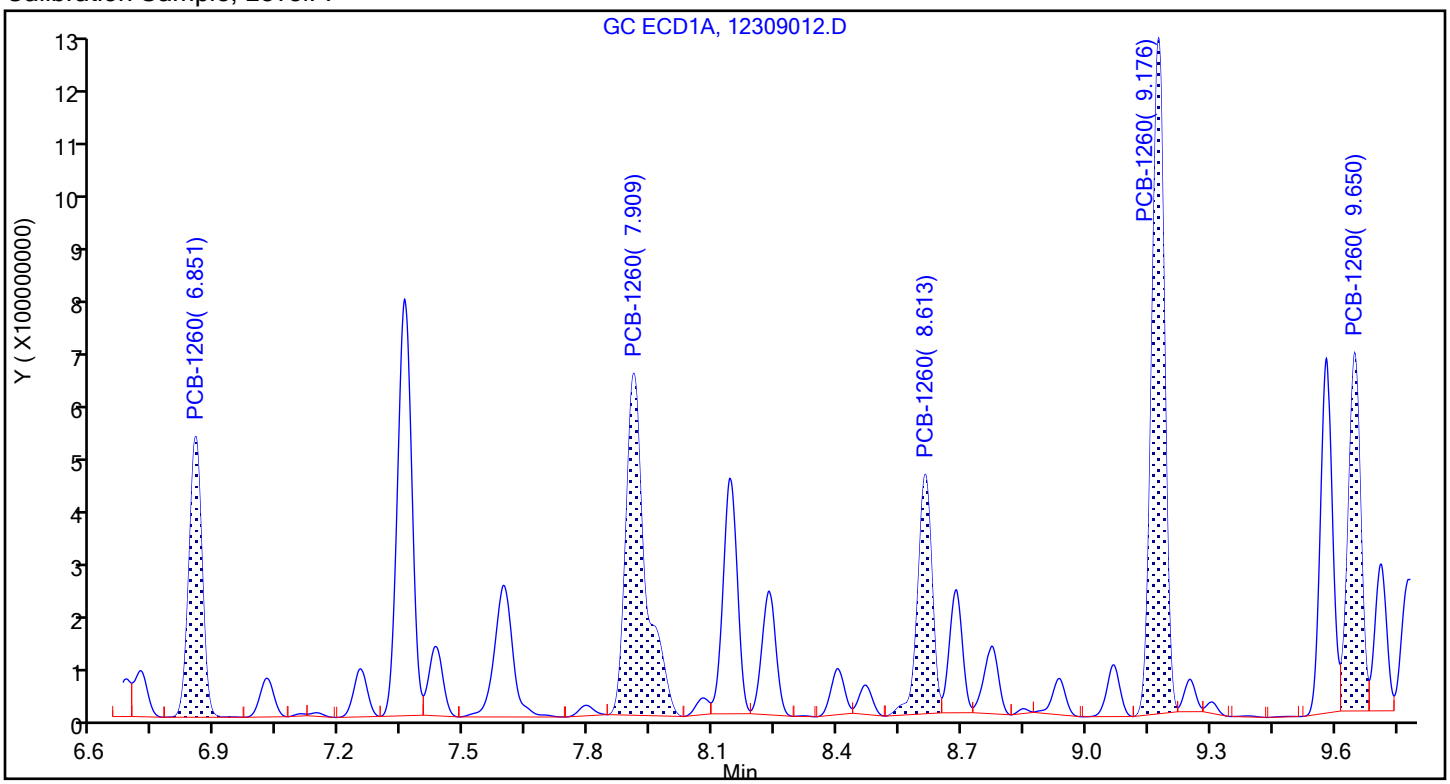

Sample

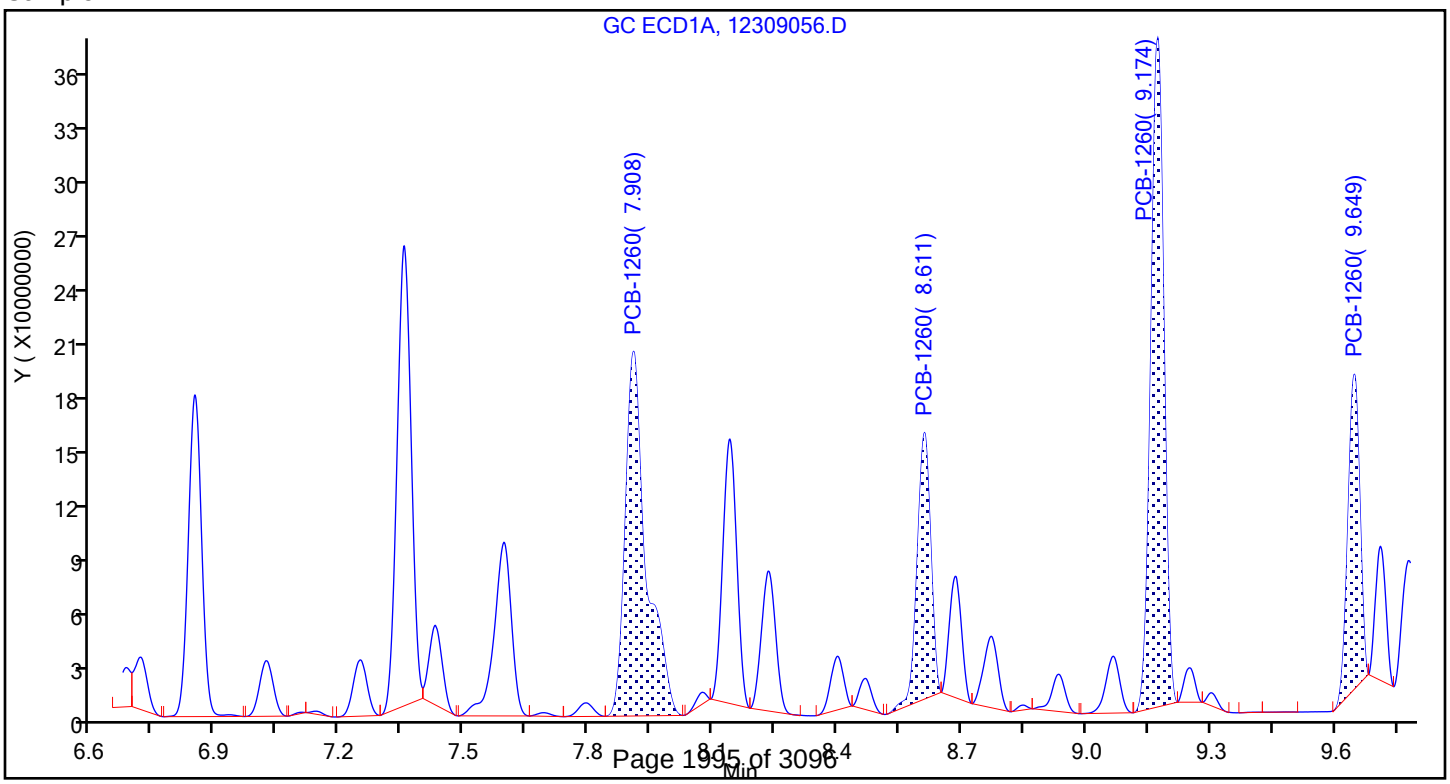

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 180-302202/2-A

Matrix: Solid Lab File ID: 12309056.D

Analysis Method: EPA 8082A Date Collected:

Extraction Method: 3510C Date Extracted: 12/21/2019 02:15

Sample wt/vol: 1000(mL) Date Analyzed: 12/31/2019 02:07

Con. Extract Vol.: 40.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: RTX-CLP2 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 302855 Units: mg/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene (Surr)	99		45-133
2051-24-3	DCB Decachlorobiphenyl (Surr)	108		59-144

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309056.D
Lims ID: LCS 180-302202/2-A
Client ID:
Sample Type: LCS
Inject. Date: 31-Dec-2019 02:07:35 ALS Bottle#: 55 Worklist Smp#: 55
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030215-055
Operator ID: 402331 Instrument ID: CHGC16

Method: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m
Limit Group: GCS 8082A ICAL with IS
Last Update: 31-Dec-2019 06:38:21 Calib Date: 30-Dec-2019 12:24:02
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D

Column 1 : Restek CLP 1 (0.53 mm) Det: GC ECD1A
Column 2 : Restek CLP2 (0.53 mm) Det: GC ECD2B
Process Host: CTX0304

First Level Reviewer: oravecj Date: 31-Dec-2019 06:32:26

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
* 1 1-Bromo-2-nitrobenzene							
1	2.609	2.607	0.002	1017706456H	0.1000	0.1000	
2	2.813	2.813	0.001	1066890162H	0.1000	0.1000	
$ 2 Tetrachloro-m-xylene							
1	3.209	3.208	0.001	173378931H	0.0200	0.0209	
2	3.647	3.646	0.001	133439460H	0.0200	0.0199	
						RPD = 4.86	
6 PCB-1016							
1	3.518	3.517	0.001	132206080H	1.00	0.9840	
1	3.851	3.849	0.002	176367651H	1.00	1.22	
1	4.065	4.064	0.001	95875716H	1.00	1.16	
1	4.262	4.261	0.001	57937924H	1.00	1.09	
1	4.570	4.569	0.001	126462198H	1.00	1.13	
		Average of Peak Amounts =				1.12	
2	4.665	4.663	0.002	116956085H	1.00	1.05	
2	5.301	5.300	0.001	196501289H	1.00	1.10	
2	5.499	5.499	0.000	106376372H	1.00	1.03	
2	6.246	6.246	0.000	83994138H	1.00	1.05	
2	6.459	6.458	0.001	60996810H	1.00	0.9836	
		Average of Peak Amounts =				1.04	
						RPD = 6.79	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 PCB-1260							
1	0.000	6.848	0.001	0H	1.00	0	
1	7.908	7.907	0.001	196174771H	1.00	1.17	
1	8.611	8.611	0.000	143316623H	1.00	1.20	
1	9.174	9.173	0.001	359888593H	1.00	1.14	
1	9.649	9.648	0.001	169306576H	1.00	1.10	
		Average of Peak Amounts =				1.15	
2	0.000	8.674	0.002	0H	1.00	0	
2	9.352	9.352	0.000	72554133H	1.00	1.21	
2	9.688	9.687	0.001	122962410H	1.00	1.13	
2	10.697	10.696	0.001	226603127H	1.00	1.20	
2	11.233	11.234	-0.001	118693651H	1.00	1.13	
		Average of Peak Amounts =				1.17	
						RPD = 1.16	
* 16 PCB-205 (IS)							
1	10.708	10.709	-0.001	645124376H	0.1000	0.1000	
2	12.075	12.076	-0.001	382173322H	0.1000	0.1000	
$ 12 DCB Decachlorobiphenyl (Surr)							
1	11.313	11.313	0.000	68975917H	0.0200	0.0218	
2	12.795	12.795	0.000	34886148H	0.0200	0.0216	
						RPD = 0.90	

Reagents:

PCBINT_00010 Amount Added: 0.01 Units: mL Run Reagent

Report Date: 31-Dec-2019 06:38:43 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309056.D

Injection Date: 31-Dec-2019 02:07:35 Instrument ID: CHGC16

Lims ID: LCS 180-302202/2-A

Client ID:

Operator ID: 402331 ALS Bottle#: 55 Worklist Smp#: 55

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: PCB_CHGC16 Limit Group: GCS 8082A ICAL with IS

Column: Restek CLP 1 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

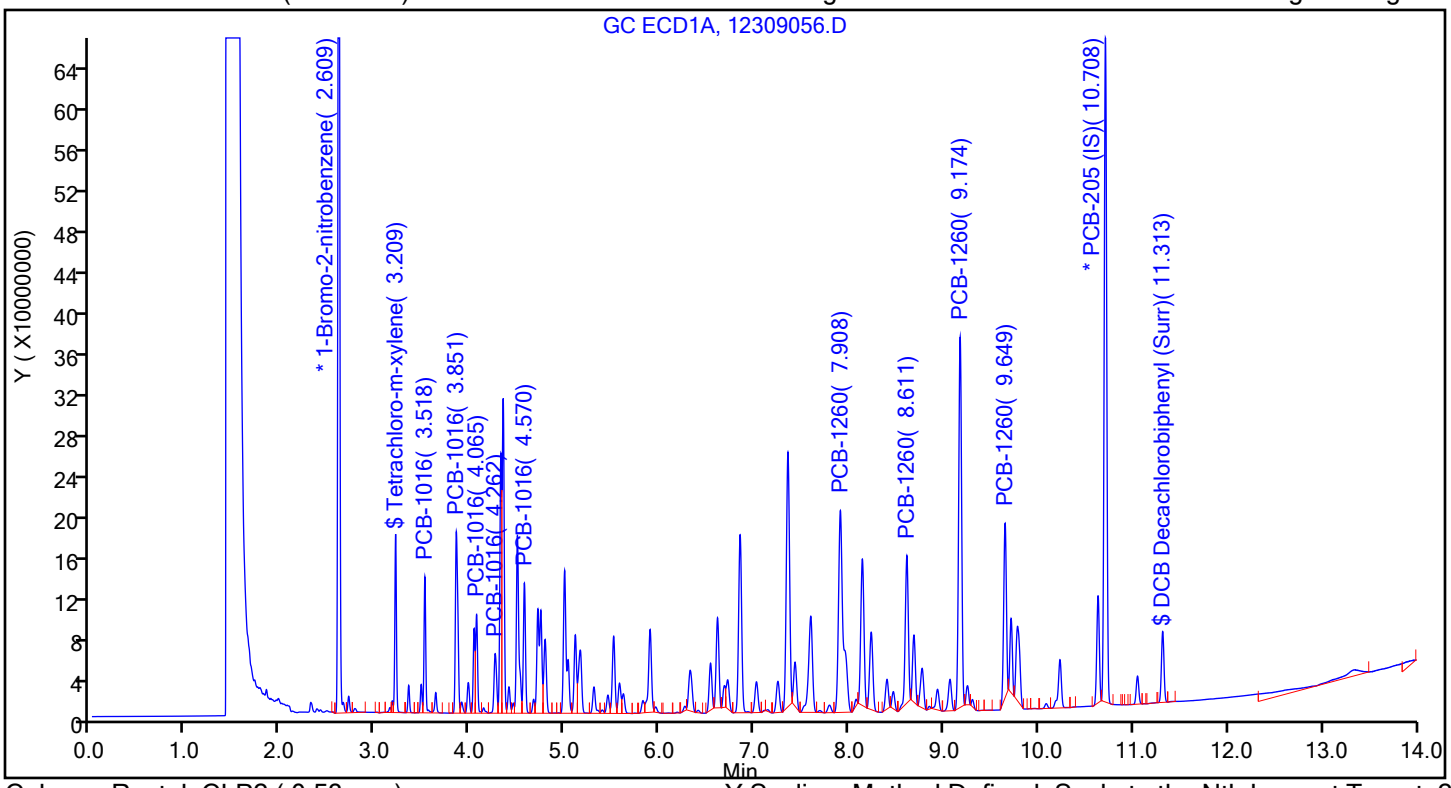

Column: Restek CLP2 (0.53 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2

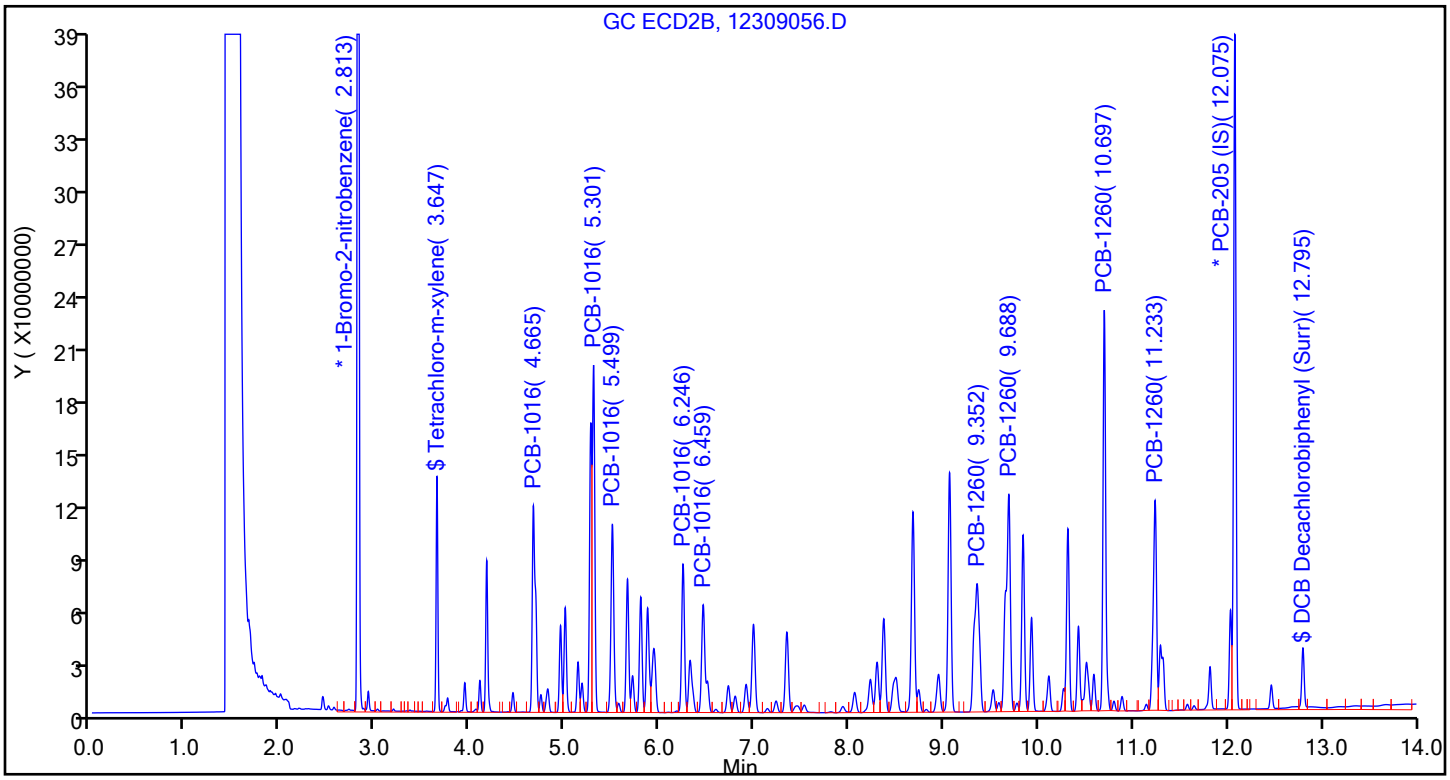

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309056.D				
Lims ID:	LCS 180-302202/2-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	31-Dec-2019 02:07:35	ALS Bottle#:	55	Worklist Smp#:	55
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	180-0030215-055				
Operator ID:	402331	Instrument ID:	CHGC16		
Method:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\PCB_CHGC16.m				
Limit Group:	GCS 8082A ICAL with IS				
Last Update:	31-Dec-2019 06:38:21	Calib Date:	30-Dec-2019 12:24:02		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309012.D				
Column 1 :	Restek CLP 1 (0.53 mm)		Det: GC ECD1A		
Column 2 :	Restek CLP2 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0304				
First Level Reviewer: oravecj		Date:	31-Dec-2019 06:32:26		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0209	104.40
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0218	108.93

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0199	99.45
$ 12 DCB Decachlorobiphenyl (Surr)	0.0200	0.0216	107.96

Report Date: 31-Dec-2019 06:38:43 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309056.D				
Injection Date:	31-Dec-2019 02:07:35	Instrument ID:	CHGC16		
Lims ID:	LCS 180-302202/2-A				
Client ID:					
Operator ID:	402331	ALS Bottle#:	55	Worklist Smp#:	55
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	PCB_CHGC16	Limit Group:	GCS 8082A ICAL with IS		
Column:	Restek CLP2 (0.53 mm)	Detector	GC ECD2B		

6 PCB-1016, CAS: 12674-11-2

Calibration Sample, Level: 7

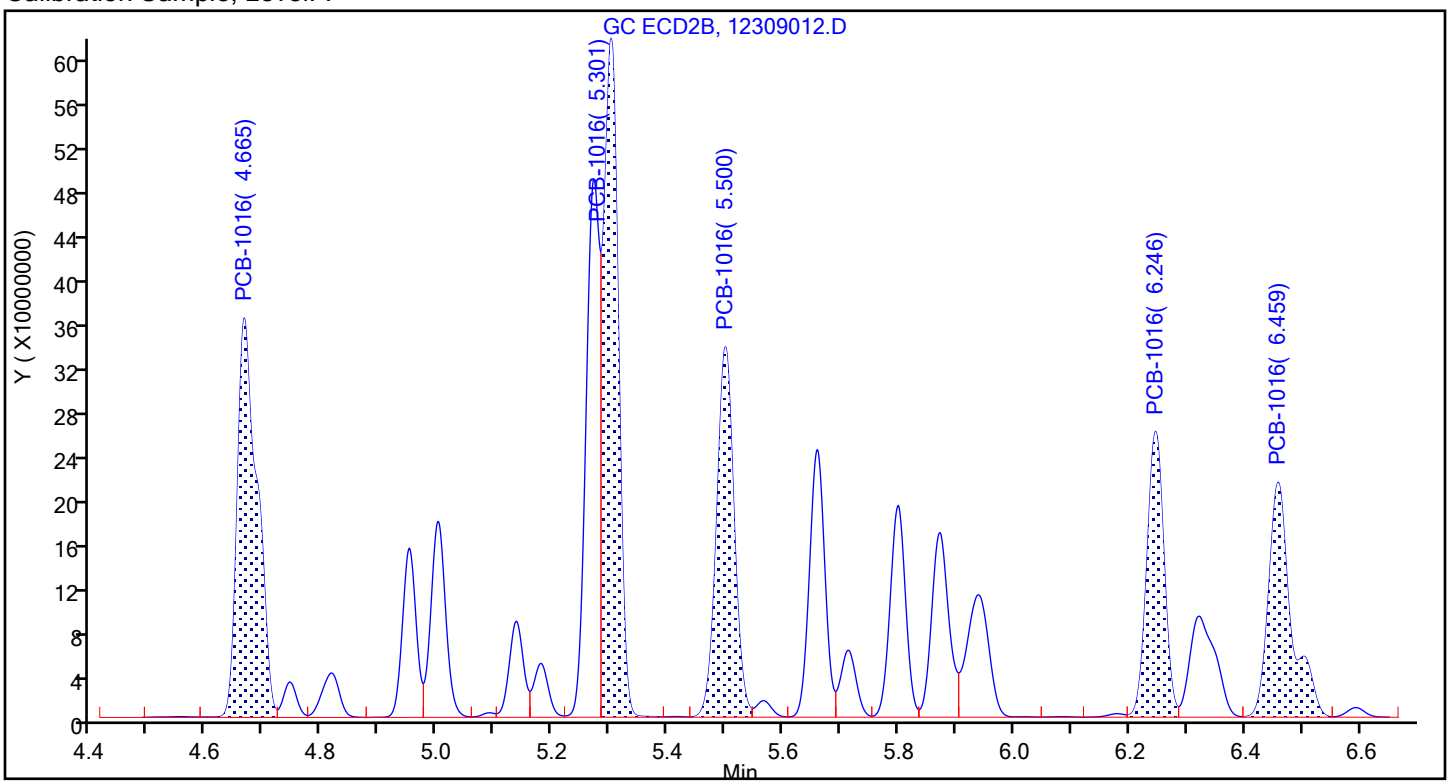

Sample

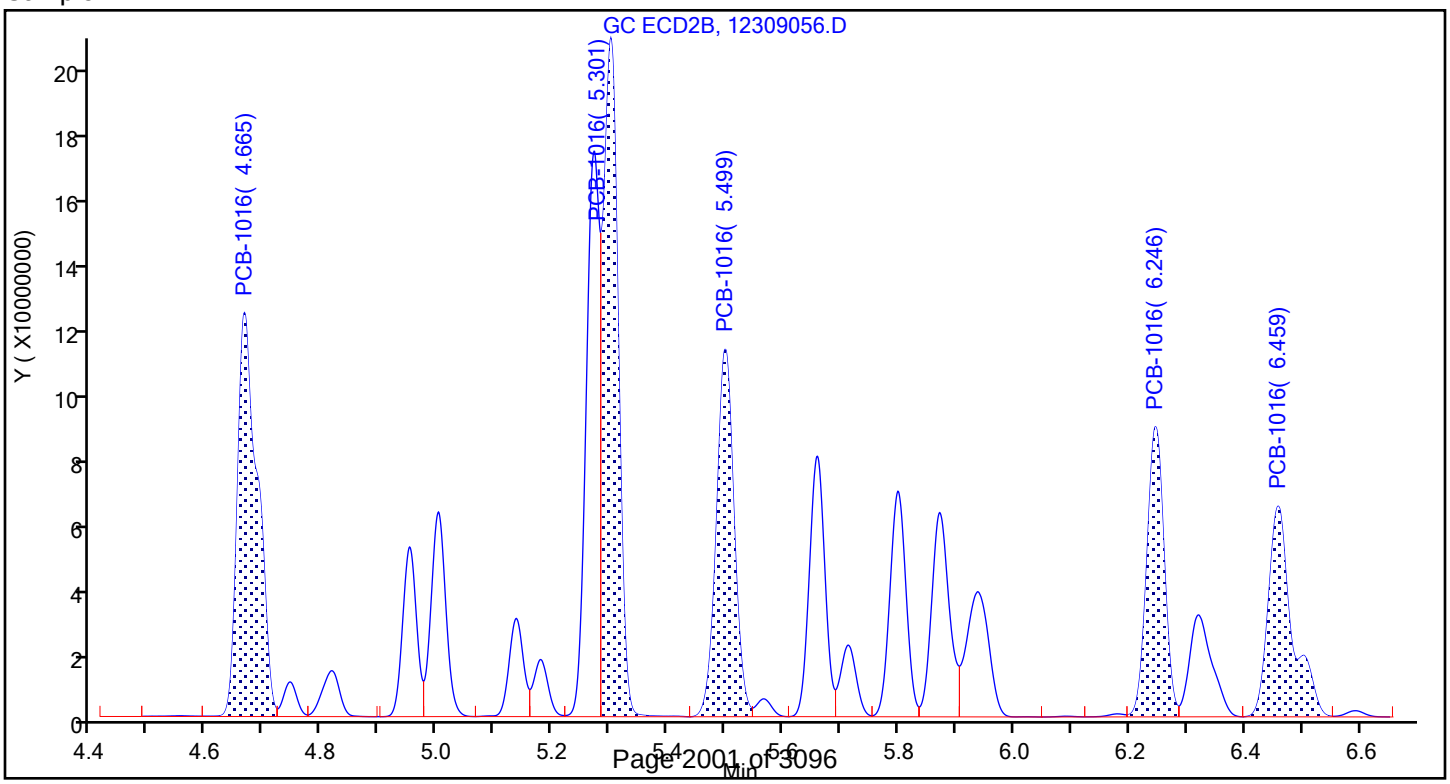

Report Date: 31-Dec-2019 06:38:44 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CHGC16\20191230-30215.b\12309056.D				
Injection Date:	31-Dec-2019 02:07:35	Instrument ID:	CHGC16		
Lims ID:	LCS 180-302202/2-A				
Client ID:					
Operator ID:	402331	ALS Bottle#:	55	Worklist Smp#:	55
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	PCB_CHGC16	Limit Group:	GCS 8082A ICAL with IS		
Column:	Restek CLP2 (0.53 mm)	Detector	GC ECD2B		

9 PCB-1260, CAS: 11096-82-5

Calibration Sample, Level: 7

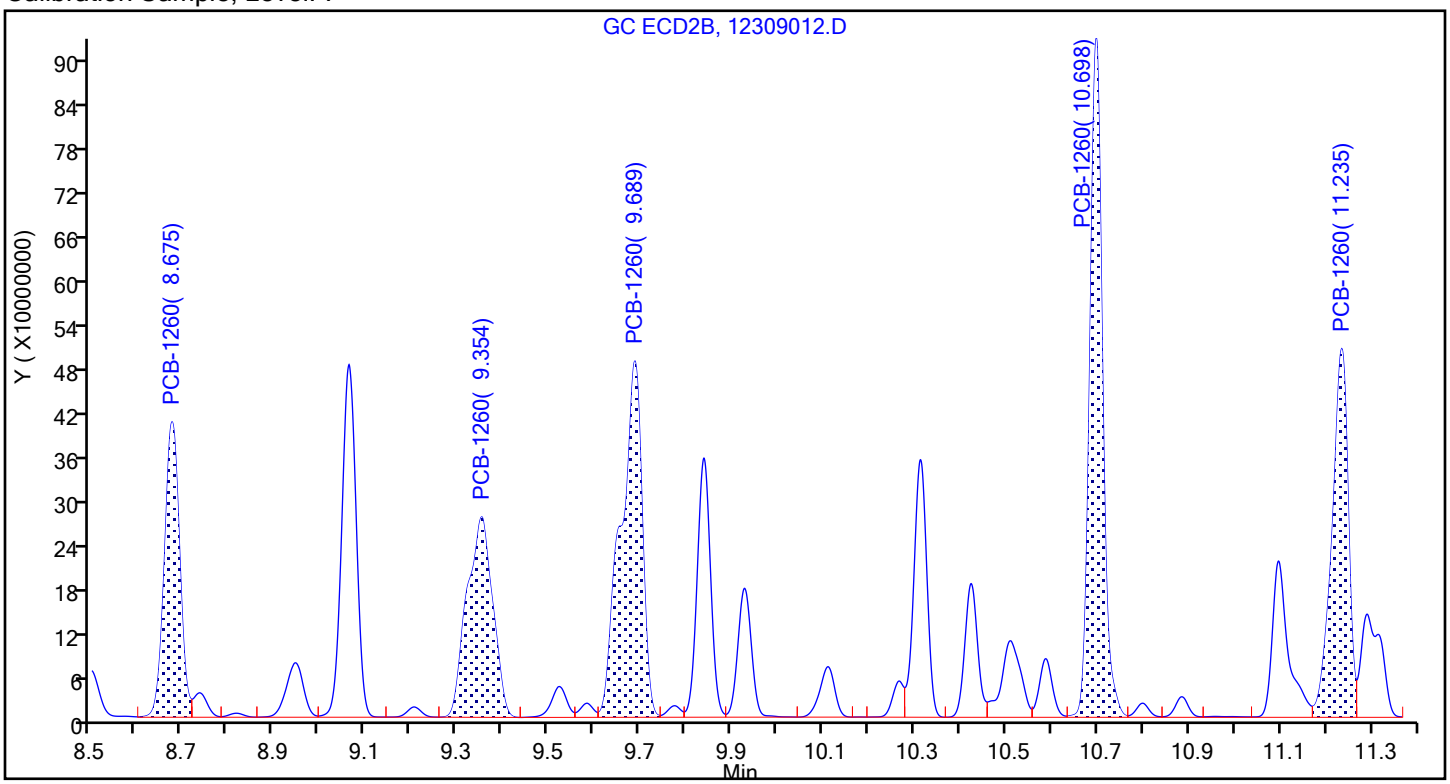

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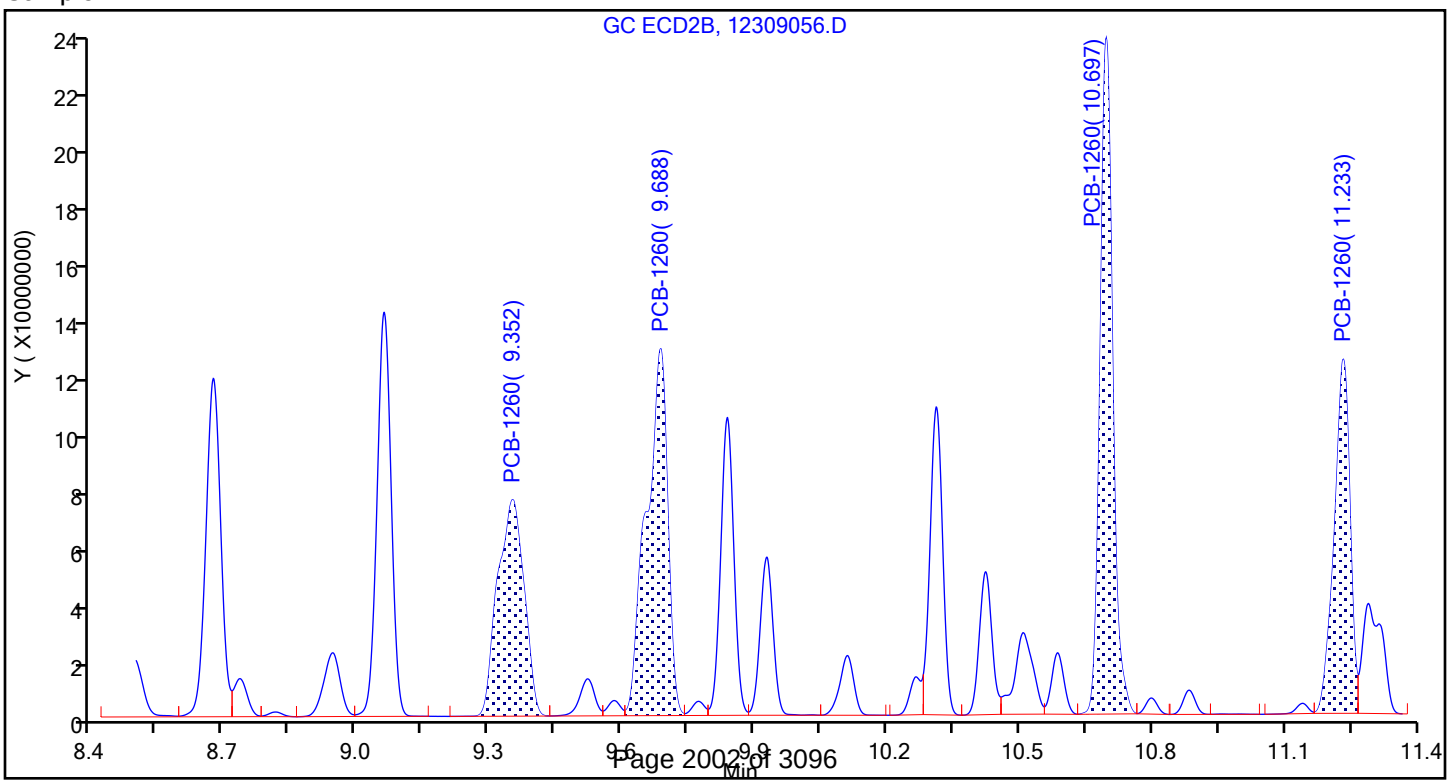

PCBS ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Instrument ID: CHGC16 Start Date: 12/30/2019 09:17

Analysis Batch Number: 302855 End Date: 12/31/2019 02:26

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 180-302855/1		12/30/2019 09:17	1	12309002.D	RTX-CLP1 0.53(mm)
IC 180-302855/1		12/30/2019 09:17	1	12309002.D	RTX-CLP2 0.53(mm)
IC 180-302855/2		12/30/2019 09:35	1	12309003.D	RTX-CLP1 0.53(mm)
IC 180-302855/2		12/30/2019 09:35	1	12309003.D	RTX-CLP2 0.53(mm)
IC 180-302855/3		12/30/2019 09:54	1	12309004.D	RTX-CLP1 0.53(mm)
IC 180-302855/3		12/30/2019 09:54	1	12309004.D	RTX-CLP2 0.53(mm)
IC 180-302855/4		12/30/2019 10:13	1	12309005.D	RTX-CLP1 0.53(mm)
IC 180-302855/4		12/30/2019 10:13	1	12309005.D	RTX-CLP2 0.53(mm)
IC 180-302855/5		12/30/2019 10:31	1	12309006.D	RTX-CLP1 0.53(mm)
IC 180-302855/5		12/30/2019 10:31	1	12309006.D	RTX-CLP2 0.53(mm)
IC 180-302855/6		12/30/2019 10:50	1	12309007.D	RTX-CLP1 0.53(mm)
IC 180-302855/6		12/30/2019 10:50	1	12309007.D	RTX-CLP2 0.53(mm)
IC 180-302855/7		12/30/2019 11:09	1	12309008.D	RTX-CLP1 0.53(mm)
IC 180-302855/7		12/30/2019 11:09	1	12309008.D	RTX-CLP2 0.53(mm)
ICIS 180-302855/8		12/30/2019 11:27	1	12309009.D	RTX-CLP1 0.53(mm)
ICIS 180-302855/8		12/30/2019 11:27	1	12309009.D	RTX-CLP2 0.53(mm)
IC 180-302855/9		12/30/2019 11:46	1	12309010.D	RTX-CLP1 0.53(mm)
IC 180-302855/9		12/30/2019 11:46	1	12309010.D	RTX-CLP2 0.53(mm)
IC 180-302855/10		12/30/2019 12:05	1	12309011.D	RTX-CLP1 0.53(mm)
IC 180-302855/10		12/30/2019 12:05	1	12309011.D	RTX-CLP2 0.53(mm)
IC 180-302855/11		12/30/2019 12:24	1	12309012.D	RTX-CLP1 0.53(mm)
IC 180-302855/11		12/30/2019 12:24	1	12309012.D	RTX-CLP2 0.53(mm)
ICV 180-302855/12		12/30/2019 12:42	1	12309013.D	RTX-CLP1 0.53(mm)
ICV 180-302855/12		12/30/2019 12:42	1	12309013.D	RTX-CLP2 0.53(mm)
ICV 180-302855/13		12/30/2019 13:01	1	12309014.D	RTX-CLP1 0.53(mm)
ICV 180-302855/13		12/30/2019 13:01	1	12309014.D	RTX-CLP2 0.53(mm)
ICV 180-302855/14		12/30/2019 13:19	1	12309015.D	RTX-CLP1 0.53(mm)
ICV 180-302855/14		12/30/2019 13:19	1	12309015.D	RTX-CLP2 0.53(mm)
ICV 180-302855/15		12/30/2019 13:38	1	12309016.D	RTX-CLP1 0.53(mm)
ICV 180-302855/15		12/30/2019 13:38	1	12309016.D	RTX-CLP2 0.53(mm)
ICV 180-302855/16		12/30/2019 13:57	1	12309017.D	RTX-CLP1 0.53(mm)
ICV 180-302855/16		12/30/2019 13:57	1	12309017.D	RTX-CLP2 0.53(mm)
ZZZZZ		12/30/2019 14:16	1		RTX-CLP1 0.53(mm)
ZZZZZ		12/30/2019 14:16	1		RTX-CLP2 0.53(mm)
ZZZZZ		12/30/2019 14:34	1		RTX-CLP1 0.53(mm)
ZZZZZ		12/30/2019 14:34	1		RTX-CLP2 0.53(mm)
ZZZZZ		12/30/2019 14:53	1		RTX-CLP1 0.53(mm)
ZZZZZ		12/30/2019 14:53	1		RTX-CLP2 0.53(mm)
ZZZZZ		12/30/2019 15:12	1		RTX-CLP1 0.53(mm)
ZZZZZ		12/30/2019 15:12	1		RTX-CLP2 0.53(mm)
ZZZZZ		12/30/2019 15:30	1		RTX-CLP1 0.53(mm)
ZZZZZ		12/30/2019 15:30	1		RTX-CLP2 0.53(mm)
ZZZZZ		12/30/2019 15:49	1		RTX-CLP1 0.53(mm)
ZZZZZ		12/30/2019 15:49	1		RTX-CLP2 0.53(mm)
ZZZZZ		12/30/2019 16:08	1		RTX-CLP1 0.53(mm)

EPA 8082A

PCBS ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Instrument ID: CHGC16 Start Date: 12/30/2019 09:17

Analysis Batch Number: 302855 End Date: 12/31/2019 02:26

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		12/30/2019 16:08	1		RTX-CLP2 0.53(mm)
ZZZZZ		12/30/2019 16:26	1		RTX-CLP1 0.53(mm)
ZZZZZ		12/30/2019 16:26	1		RTX-CLP2 0.53(mm)
ZZZZZ		12/30/2019 16:45	1		RTX-CLP1 0.53(mm)
ZZZZZ		12/30/2019 16:45	1		RTX-CLP2 0.53(mm)
ZZZZZ		12/30/2019 17:04	1		RTX-CLP1 0.53(mm)
ZZZZZ		12/30/2019 17:04	1		RTX-CLP2 0.53(mm)
ZZZZZ		12/30/2019 17:22	1		RTX-CLP1 0.53(mm)
ZZZZZ		12/30/2019 17:22	1		RTX-CLP2 0.53(mm)
ZZZZZ		12/30/2019 17:41	1		RTX-CLP1 0.53(mm)
ZZZZZ		12/30/2019 17:41	1		RTX-CLP2 0.53(mm)
ZZZZZ		12/30/2019 18:00	1		RTX-CLP1 0.53(mm)
ZZZZZ		12/30/2019 18:00	1		RTX-CLP2 0.53(mm)
ZZZZZ		12/30/2019 18:19	1		RTX-CLP1 0.53(mm)
ZZZZZ		12/30/2019 18:19	1		RTX-CLP2 0.53(mm)
ZZZZZ		12/30/2019 18:37	1		RTX-CLP1 0.53(mm)
ZZZZZ		12/30/2019 18:37	1		RTX-CLP2 0.53(mm)
ZZZZZ		12/30/2019 18:56	1		RTX-CLP1 0.53(mm)
ZZZZZ		12/30/2019 18:56	1		RTX-CLP2 0.53(mm)
ZZZZZ		12/30/2019 19:15	1		RTX-CLP1 0.53(mm)
ZZZZZ		12/30/2019 19:15	1		RTX-CLP2 0.53(mm)
ZZZZZ		12/30/2019 19:33	1		RTX-CLP1 0.53(mm)
ZZZZZ		12/30/2019 19:33	1		RTX-CLP2 0.53(mm)
ZZZZZ		12/30/2019 19:52	1		RTX-CLP1 0.53(mm)
ZZZZZ		12/30/2019 19:52	1		RTX-CLP2 0.53(mm)
ZZZZZ		12/30/2019 20:11	1		RTX-CLP1 0.53(mm)
ZZZZZ		12/30/2019 20:11	1		RTX-CLP2 0.53(mm)
CCVIS 180-302855/37		12/30/2019 20:30	1	12309038.D	RTX-CLP1 0.53(mm)
CCVIS 180-302855/37		12/30/2019 20:30	1	12309038.D	RTX-CLP2 0.53(mm)
ZZZZZ		12/30/2019 20:49	1		RTX-CLP1 0.53(mm)
ZZZZZ		12/30/2019 20:49	1		RTX-CLP2 0.53(mm)
ZZZZZ		12/30/2019 21:07	1		RTX-CLP1 0.53(mm)
ZZZZZ		12/30/2019 21:07	1		RTX-CLP2 0.53(mm)
ZZZZZ		12/30/2019 21:26	1		RTX-CLP1 0.53(mm)
ZZZZZ		12/30/2019 21:26	1		RTX-CLP2 0.53(mm)
ZZZZZ		12/30/2019 21:45	1		RTX-CLP1 0.53(mm)
ZZZZZ		12/30/2019 21:45	1		RTX-CLP2 0.53(mm)
RINSE 180-302855/42		12/30/2019 22:03	1		RTX-CLP1 0.53(mm)
RINSE 180-302855/42		12/30/2019 22:03	1		RTX-CLP2 0.53(mm)
ZZZZZ		12/30/2019 22:22	1		RTX-CLP1 0.53(mm)
ZZZZZ		12/30/2019 22:22	1		RTX-CLP2 0.53(mm)
ZZZZZ		12/30/2019 22:41	1		RTX-CLP1 0.53(mm)
ZZZZZ		12/30/2019 22:41	1		RTX-CLP2 0.53(mm)
ZZZZZ		12/30/2019 23:00	1		RTX-CLP1 0.53(mm)
ZZZZZ		12/30/2019 23:00	1		RTX-CLP2 0.53(mm)

EPA 8082A

PCBS ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Instrument ID: CHGC16 Start Date: 12/30/2019 09:17

Analysis Batch Number: 302855 End Date: 12/31/2019 02:26

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		12/30/2019 23:18	1		RTX-CLP1 0.53(mm)
ZZZZZ		12/30/2019 23:18	1		RTX-CLP2 0.53(mm)
MB 180-302202/1-A		12/30/2019 23:37	1	12309048.D	RTX-CLP1 0.53(mm)
MB 180-302202/1-A		12/30/2019 23:37	1	12309048.D	RTX-CLP2 0.53(mm)
ZZZZZ		12/30/2019 23:56	1		RTX-CLP1 0.53(mm)
ZZZZZ		12/30/2019 23:56	1		RTX-CLP2 0.53(mm)
ZZZZZ		12/31/2019 00:15	1		RTX-CLP1 0.53(mm)
ZZZZZ		12/31/2019 00:15	1		RTX-CLP2 0.53(mm)
ZZZZZ		12/31/2019 00:33	1		RTX-CLP1 0.53(mm)
ZZZZZ		12/31/2019 00:33	1		RTX-CLP2 0.53(mm)
ZZZZZ		12/31/2019 00:52	1		RTX-CLP1 0.53(mm)
ZZZZZ		12/31/2019 00:52	1		RTX-CLP2 0.53(mm)
180-100205-1		12/31/2019 01:11	1	12309053.D	RTX-CLP1 0.53(mm)
180-100205-1		12/31/2019 01:11	1	12309053.D	RTX-CLP2 0.53(mm)
180-100205-3		12/31/2019 01:29	1	12309054.D	RTX-CLP1 0.53(mm)
180-100205-3		12/31/2019 01:29	1	12309054.D	RTX-CLP2 0.53(mm)
180-100205-5		12/31/2019 01:48	1	12309055.D	RTX-CLP1 0.53(mm)
180-100205-5		12/31/2019 01:48	1	12309055.D	RTX-CLP2 0.53(mm)
LCS 180-302202/2-A		12/31/2019 02:07	1	12309056.D	RTX-CLP1 0.53(mm)
LCS 180-302202/2-A		12/31/2019 02:07	1	12309056.D	RTX-CLP2 0.53(mm)
LB 180-301984/1-D		12/31/2019 02:26	1	12309057.D	RTX-CLP1 0.53(mm)
LB 180-301984/1-D		12/31/2019 02:26	1	12309057.D	RTX-CLP2 0.53(mm)

EPA 8082A

PCBS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 301984 Batch Start Date: 12/19/19 16:30 Batch Analyst: Stundon, Jeremy A

Batch Method: 1311 Batch End Date: 12/20/19 09:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	FiltCompDate	FiltCompTime	LeachatepH		
LB 180-301984/1		1311, 3510C, EPA 8082A		2000 mL	12/20/19	1200	4.93 SU		

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

PCBS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 301984 Batch Start Date: 12/19/19 16:30 Batch Analyst: Stundon, Jeremy A

Batch Method: 1311 Batch End Date: 12/20/19 09:30

Batch Notes	
Balance ID	AND-14577823
Batch Comment	pH Buffer 13: 3418512 and pH Buffer 7 (second source): 3494553
pH Buffer 1 ID	3519611
pH Buffer 2 ID	3468003
pH Buffer 3 ID	2923701
pH Buffer 4 ID	3505862
First End time	1200
Filter ID	3468050
Hot Plate ID	TCLP-2
pH Meter Calibration Slope	99.4/100.5
pH Meter ID	ACCUMET-XL-150
Probe ID	XT3-11598
Room Temperature Thermometer ID	FISHER-160719405 CF 0.0
Analyst ID - Spike Analyst	EPS
Analyst ID - Spike Witness Analyst	JAS
First Start time	1000
TCLP Fluid 1 ID	3473617
TCLP Fluid 1 pH	4.93
TCLP Fluid 2 ID	3509299
TCLP Fluid 2 pH	2.88
Maximum Temperature	23 Degrees C
Minimum Temperature	21 Degrees C
Thermometer ID	TCLP-2 CF 0.0
Tumbler Rotations per Minute	Tumbler 1: 31; Tumbler 4:30
Uncorrected Maximum Temperature	23 Degrees C
Uncorrected Minimum Temperature	21 Degrees C
Uncorrected Water Bath Temperature	50.0 Celsius
Water Bath ID	TCLP-2
Water Bath Temperature	50.0 Degrees C
Water Bath Thermometer ID	TCLP-2 CF 0.0

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

PCBS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 301984 Batch Start Date: 12/19/19 16:30 Batch Analyst: Stundon, Jeremy A

Batch Method: 1311 Batch End Date: 12/20/19 09:30

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

PCBS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 301984 Batch Start Date: 12/19/19 16:30 Batch Analyst: Stundon, Jeremy A

Batch Method: EPA 1311 Batch End Date: 12/20/19 09:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	EFD_SampleWeight	EFD_VolumeWaterAdd	EFD_InitialpH	EFD_AddHClpH>5
180-100205-A-1	11187072-N.TREATMENT AREA #2	EPA 1311, 3510C, EPA 8082A	P	100.00 g	2000 mL	5.00 g	96.5 mL	9.29 SU	3.50 mL
180-100205-A-3	11187072-N.TREATMENT AREA #3	EPA 1311, 3510C, EPA 8082A	P	100.00 g	2000 mL	5.00 g	96.5 mL	9.45 SU	3.50 mL
180-100205-A-5	11187072-N.TREATMENT AREA #4	EPA 1311, 3510C, EPA 8082A	P	100.00 g	2000 mL	5.00 g	96.5 mL	8.47 SU	3.50 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	EFD_HeatHeld	EFD_SecondpHCheck	FiltCompDate	FiltCompTime	LeachatepH	
180-100205-A-1	11187072-N.TREATMENT AREA #2	EPA 1311, 3510C, EPA 8082A	P	50.0 Deg. C	2.10 SU	12/20/19	1200	6.21 SU	
180-100205-A-3	11187072-N.TREATMENT AREA #3	EPA 1311, 3510C, EPA 8082A	P	50.0 Deg. C	1.80 SU	12/20/19	1200	5.03 SU	
180-100205-A-5	11187072-N.TREATMENT AREA #4	EPA 1311, 3510C, EPA 8082A	P	50.0 Deg. C	1.84 SU	12/20/19	1200	5.02 SU	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

PCBS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 301984 Batch Start Date: 12/19/19 16:30 Batch Analyst: Stundon, Jeremy A

Batch Method: EPA 1311 Batch End Date: 12/20/19 09:30

Batch Notes	
Balance ID	AND-14577823
Batch Comment	pH Buffer 13: 3418512 and pH Buffer 7 (second source): 3494553
pH Buffer 1 ID	3519611
pH Buffer 2 ID	3468003
pH Buffer 3 ID	2923701
pH Buffer 4 ID	3505862
First End time	1200
Filter ID	3468050
Hot Plate ID	TCLP-2
pH Meter Calibration Slope	99.4/100.5
pH Meter ID	ACCUMET-XL-150
Probe ID	XT3-11598
Room Temperature Thermometer ID	FISHER-160719405 CF 0.0
Analyst ID - Spike Analyst	EPS
Analyst ID - Spike Witness Analyst	JAS
First Start time	1000
TCLP Fluid 1 ID	3473617
TCLP Fluid 1 pH	4.93
TCLP Fluid 2 ID	3509299
TCLP Fluid 2 pH	2.88
Maximum Temperature	23 Degrees C
Minimum Temperature	21 Degrees C
Thermometer ID	TCLP-2 CF 0.0
Tumbler Rotations per Minute	Tumbler 1: 31; Tumbler 4:30
Uncorrected Maximum Temperature	23 Degrees C
Uncorrected Minimum Temperature	21 Degrees C
Uncorrected Water Bath Temperature	50.0 Celsius
Water Bath ID	TCLP-2
Water Bath Temperature	50.0 Degrees C
Water Bath Thermometer ID	TCLP-2 CF 0.0

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

PCBS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 301984 Batch Start Date: 12/19/19 16:30 Batch Analyst: Stundon, Jeremy A

Batch Method: EPA 1311 Batch End Date: 12/20/19 09:30

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

PCBS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 302202 Batch Start Date: 12/21/19 02:15 Batch Analyst: Yushinski, Charles

Batch Method: 3510C Batch End Date: 12/21/19 11:10

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ReceivedpH	GCMATRIXWORKS 00034	op-p/pcb sur 00024	AnalysisComment
MB 180-302202/1		3510C, EPA 8082A		1000 mL	40.0 mL	6 SU		1 mL	Funnel 11
LCS 180-302202/2		3510C, EPA 8082A		1000 mL	40.0 mL	6 SU	1 mL	1 mL	Funnel 12
LB 180-301984/1-A		3510C, EPA 8082A		1000 mL	40.0 mL	5 SU		1 mL	Funnel 13
180-100205-A-1-B	11187072-N.TREATMENT AREA #2	3510C, EPA 8082A	P	1020 mL	40.0 mL	7 SU		1 mL	Funnel 18
180-100205-A-3-B	11187072-N.TREATMENT AREA #3	3510C, EPA 8082A	P	1010 mL	40.0 mL	5 SU		1 mL	Funnel 19
180-100205-A-5-B	11187072-N.TREATMENT AREA #4	3510C, EPA 8082A	P	1010 mL	40.0 mL	5 SU		1 mL	Funnel 20

Batch Notes	
Analyst ID - Concentration	CBY
Concentration 1 Corrected Temperature	65 Degrees C
Concentration 2 Corrected Temperature	20 Degrees C
Equipment ID - Concentration 1	water bath 1
Equipment ID - Concentration 2	1
Exchange Solvent ID	Hexane 3482469
Analyst ID - Extraction	CBY
Filter ID	16939085
Na2SO4 ID	3327433
pH Indicator ID	Ph paper HC987808
Prep Solvent ID	Methylene chloride 3514307
Prep Solvent Volume Used	180 mL
Analyst ID - Spike Analyst	CBY
Sufficient Volume for Batch QC	no
Thermometer ID - Concentration 1	water bath 1
Thermometer ID - Concentration 2	1
Concentration 1 Uncorrected Temperature	65 CF 0.0 Degrees C
Concentration 2 Uncorrected Temperature	21 CF 1.0 Degrees C

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

PCBS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 302202 Batch Start Date: 12/21/19 02:15 Batch Analyst: Yushinski, Charles

Batch Method: 3510C Batch End Date: 12/21/19 11:10

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Method 8151A

Herbicides (GC) by Method 8151A

FORM II
HERBICIDES SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Matrix: Solid (TCLP) Level: Low

GC Column (1): RTX-50 ID: 0.53(mm) GC Column (2): RTX-1701 ID: 0.53(mm)

Client Sample ID	Lab Sample ID	DCPAA1 #	DCPAA2 #
11187072-N.TREATMENT AREA #2	180-100205-1	83	75
11187072-N.TREATMENT AREA #3	180-100205-3	79	75
11187072-N.TREATMENT AREA #4	180-100205-5	85	78
	MB 180-302208/1-A	73	66
	LB 180-301984/1-G	77	70
	LCS 180-302208/2-A	81	72
	LCSD 180-302208/3-A	84	74

	QC LIMITS
DCPAA = 2,4-Dichlorophenylacetic acid	23-122

Column to be used to flag recovery values

FORM II EPA 8151A

FORM III
HERBICIDES LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 1227190000003.D

Lab ID: LCS 180-302208/2-A Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
2,4-D	0.200	0.155	77	19-127	
Silvex (2,4,5-TP)	0.0500	0.0394	79	24-128	
Dinoseb	0.200	0.231	115	10-150	

Column to be used to flag recovery and RPD values

FORM III EPA 8151A

FORM III
HERBICIDES LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 1227190000004.D

Lab ID: LCSD 180-302208/3-A Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCSD CONCENTRATION (mg/L)	LCSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
2,4-D	0.200	0.164	82	6	35	19-127	
Silvex (2,4,5-TP)	0.0500	0.0405	81	3	35	24-128	
Dinoseb	0.200	0.237	118	2	35	10-150	

Column to be used to flag recovery and RPD values

FORM III EPA 8151A

FORM IV
HERBICIDES METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: MB 180-302208/1-A

Matrix: Water Date Extracted: 12/21/2019 03:55

Lab File ID:(1) 1227190000002.D Lab File ID:(2) 1227190000002.D

Date Analyzed:(1) 12/27/2019 11:26 Date Analyzed:(2) 12/27/2019 11:26

Instrument ID:(1) CGC1 Instrument ID:(2) CGC1

GC Column:(1) RTX-50 ID: 0.53(mm) GC Column:(2) RTX-1701 ID: 0.53(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
	LCS 180-302208/2-A	12/27/2019 11:52	12/27/2019 11:52
	LCSD 180-302208/3-A	12/27/2019 12:17	12/27/2019 12:17
	LB 180-301984/1-G	12/27/2019 13:07	12/27/2019 13:07
11187072-N.TREATMENT AREA #2	180-100205-1	12/27/2019 13:57	12/27/2019 13:57
11187072-N.TREATMENT AREA #3	180-100205-3	12/27/2019 14:22	12/27/2019 14:22
11187072-N.TREATMENT AREA #4	180-100205-5	12/27/2019 14:47	12/27/2019 14:47

FORM VIII
HERBICIDES ANALYTICAL SEQUENCE

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Sample No.: ICRT 180-288571/5 Date Analyzed: 08/19/2019 19:54

Instrument ID: CGC1 GC Column: RTX-50 ID: 0.53(mm)

Lab File ID (Standard): 0819190000018.D Heated Purge: (Y/N) N

Calibration ID: 41303

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, STANDARDS, MS/MSDs AND LCSs IS GIVEN BELOW:

				DCPAA		
				RT #		
INITIAL CALIBRATION SURROGATE				8.03		
UPPER LIMIT				8.06		
LOWER LIMIT				8.00		
LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	LAB FILE ID			
ICRT 180-288571/5		08/19/2019 19:54	0819190000018.D	8.03		

Column used to flag values outside QC limits

FORM VIII EPA 8151A

FORM VIII
HERBICIDES ANALYTICAL SEQUENCE

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Sample No.: ICRT 180-288571/5 Date Analyzed: 08/19/2019 19:54

Instrument ID: CGC1 GC Column: RTX-1701 ID: 0.53(mm)

Lab File ID (Standard): 0819190000018.D Heated Purge: (Y/N) N

Calibration ID: 41304

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, STANDARDS, MS/MSDs AND LCSs IS GIVEN BELOW:

				DCPAA		
				RT #		
INITIAL CALIBRATION SURROGATE				8.00		
UPPER LIMIT				8.03		
LOWER LIMIT				7.97		
LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	LAB FILE ID			
ICRT 180-288571/5		08/19/2019 19:54	0819190000018.D	8.00		

Column used to flag values outside QC limits

FORM VIII EPA 8151A

FORM VIII
HERBICIDES ANALYTICAL SEQUENCE

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Sample No.: CCVRT 180-302642/1 Date Analyzed: 12/27/2019 11:01

Instrument ID: CGC1 GC Column: RTX-50 ID: 0.53(mm)

Lab File ID (Standard): 1227190000001.D Heated Purge: (Y/N) N

Calibration ID: 41303

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, STANDARDS, MS/MSDs AND LCSs IS GIVEN BELOW:

				DCPAA		
				RT #		
CONTINUING CALIBRATION SURROGATE				7.80		
UPPER LIMIT				7.83		
LOWER LIMIT				7.77		
LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	LAB FILE ID			
CCVRT 180-302642/1		12/27/2019 11:01	1227190000001.D	7.80		
MB 180-302208/1-A		12/27/2019 11:26	1227190000002.D	7.80		
LCS 180-302208/2-A		12/27/2019 11:52	1227190000003.D	7.80		
LCSD 180-302208/3-A		12/27/2019 12:17	1227190000004.D	7.80		
LB 180-301984/1-G		12/27/2019 13:07	1227190000006.D	7.80		
180-100205-1	11187072-N.TREATMENT AREA #2	12/27/2019 13:57	1227190000008.D	7.79		
180-100205-3	11187072-N.TREATMENT AREA #3	12/27/2019 14:22	1227190000009.D	7.80		
180-100205-5	11187072-N.TREATMENT AREA #4	12/27/2019 14:47	1227190000010.D	7.80		
CCV 180-302642/12		12/27/2019 15:36	1227190000012.D	7.79		

DCPAA = 2,4-Dichlorophenylacetic acid

DCPAA RT Limit = ± 0.03 minutes of surrogate RT

Column used to flag values outside QC limits

FORM VIII EPA 8151A

FORM VIII
HERBICIDES ANALYTICAL SEQUENCE

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Sample No.: CCVRT 180-302642/1 Date Analyzed: 12/27/2019 11:01

Instrument ID: CGC1 GC Column: RTX-1701 ID: 0.53(mm)

Lab File ID (Standard): 1227190000001.D Heated Purge: (Y/N) N

Calibration ID: 41304

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, STANDARDS, MS/MSDs AND LCSs IS GIVEN BELOW:

				DCPAA		
				RT #		
CONTINUING CALIBRATION SURROGATE				8.18		
UPPER LIMIT				8.21		
LOWER LIMIT				8.15		
LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	LAB FILE ID			
CCVRT 180-302642/1		12/27/2019 11:01	1227190000001.D	8.18		
MB 180-302208/1-A		12/27/2019 11:26	1227190000002.D	8.18		
LCS 180-302208/2-A		12/27/2019 11:52	1227190000003.D	8.18		
LCSD 180-302208/3-A		12/27/2019 12:17	1227190000004.D	8.18		
LB 180-301984/1-G		12/27/2019 13:07	1227190000006.D	8.18		
180-100205-1	11187072-N.TREATMENT AREA #2	12/27/2019 13:57	1227190000008.D	8.18		
180-100205-3	11187072-N.TREATMENT AREA #3	12/27/2019 14:22	1227190000009.D	8.18		
180-100205-5	11187072-N.TREATMENT AREA #4	12/27/2019 14:47	1227190000010.D	8.18		
CCV 180-302642/12		12/27/2019 15:36	1227190000012.D	8.18		

DCPAA = 2,4-Dichlorophenylacetic acid

DCPAA RT Limit = ± 0.03 minutes of surrogate RT

Column used to flag values outside QC limits

FORM VIII EPA 8151A

FORM X
IDENTIFICATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 180-302208/2-A

Instrument ID (1): CGC1 Instrument ID (2): CGC1

Date Analyzed (1): 12/27/2019 11:52 Date Analyzed (2): 12/27/2019 11:52

GC Column (1): RTX-50 ID: 0.53(mm) GC Column (2): RTX-1701 ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
2,4-D	1		9.20	9.17	9.23	0.155		6.4
	2		9.67	9.64	9.70	0.145		
Silvex (2,4,5-TP)	1		9.87	9.85	9.91	0.0394		10.9
	2		10.44	10.41	10.47	0.0354		
Dinoseb	1		10.68	10.63	10.73	0.231		23.3
	2		11.96	11.93	11.99	0.183		

FORM X
IDENTIFICATION SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 180-302208/3-A

Instrument ID (1): CGC1 Instrument ID (2): CGC1

Date Analyzed (1): 12/27/2019 12:17 Date Analyzed (2): 12/27/2019 12:17

GC Column (1): RTX-50 ID: 0.53(mm) GC Column (2): RTX-1701 ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
2,4-D	1		9.19	9.17	9.23	0.164		8.5
	2		9.67	9.64	9.70	0.151		
Silvex (2,4,5-TP)	1		9.87	9.85	9.91	0.0405		10.1
	2		10.44	10.41	10.47	0.0366		
Dinoseb	1		10.67	10.63	10.73	0.237		22.9
	2		11.96	11.93	11.99	0.188		

FORM I
HERBICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-100205-1
SDG No.:
Client Sample ID: 11187072-N.TREATMENT AREA #2
Lab Sample ID: 180-100205-1
Matrix: Solid (TCLP)
Lab File ID: 1227190000008.D
Analysis Method: EPA 8151A
Date Collected: 12/18/2019 13:30
Extraction Method: 8151A
Date Extracted: 12/21/2019 03:55
Sample wt/vol: 100(mL)
Date Analyzed: 12/27/2019 13:57
Con. Extract Vol.: 10.0(mL)
Dilution Factor: 20
Injection Volume: 1(uL)
GC Column: RTX-50 ID: 0.53(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 302642
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
94-75-7	2,4-D	ND		0.040	0.020
93-72-1	Silvex (2,4,5-TP)	ND		0.010	0.0030
88-85-7	Dinoseb	ND		0.040	0.038

CAS NO.	SURROGATE	%REC	Q	LIMITS
19719-28-9	2,4-Dichlorophenylacetic acid	83		23-122

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000008.D				
Lims ID:	180-100205-A-1-H				
Client ID:	11187072-N.TREATMENT AREA #2				
Sample Type:	Client				
Inject. Date:	27-Dec-2019 13:57:12	ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	180-0030174-008				
Operator ID:		Instrument ID:	CGC1		

Method:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\Herbicides_CGC1.m		
Limit Group:	GCS 8151A ICAL		
Last Update:	27-Dec-2019 14:52:22	Calib Date:	19-Aug-2019 21:09:17
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D		

Column 1 :	RTX-50 (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-1701 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0302	

First Level Reviewer: eppinged Date: 27-Dec-2019 14:52:22

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
$ 2 2,4-Dichlorophenylacetic acid						
1	7.794	7.797	-0.003	4524578H	0.0416	
2	8.179	8.180	-0.001	7918661H	0.0375	
					RPD = 10.21	
7 2,4-D						
1		9.196			ND	
2		9.666				
9 Silvex (2,4,5-TP)						M
1	9.882	9.875	0.007	69766H	0.000142	M
2	10.441	10.437	0.004	169849H	0.000180	M
					RPD = 23.57	
11 Dinoseb						
1		10.675			ND	
2		11.963				

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 27-Dec-2019 14:52:51 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000008.D				
Injection Date:	27-Dec-2019 13:57:12	Instrument ID:	CGC1	Operator ID:	
Lims ID:	180-100205-A-1-H	Lab Sample ID:	180-100205-1	Worklist Smp#:	8
Client ID:	11187072-N.TREATMENT AREA #2				
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	8
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

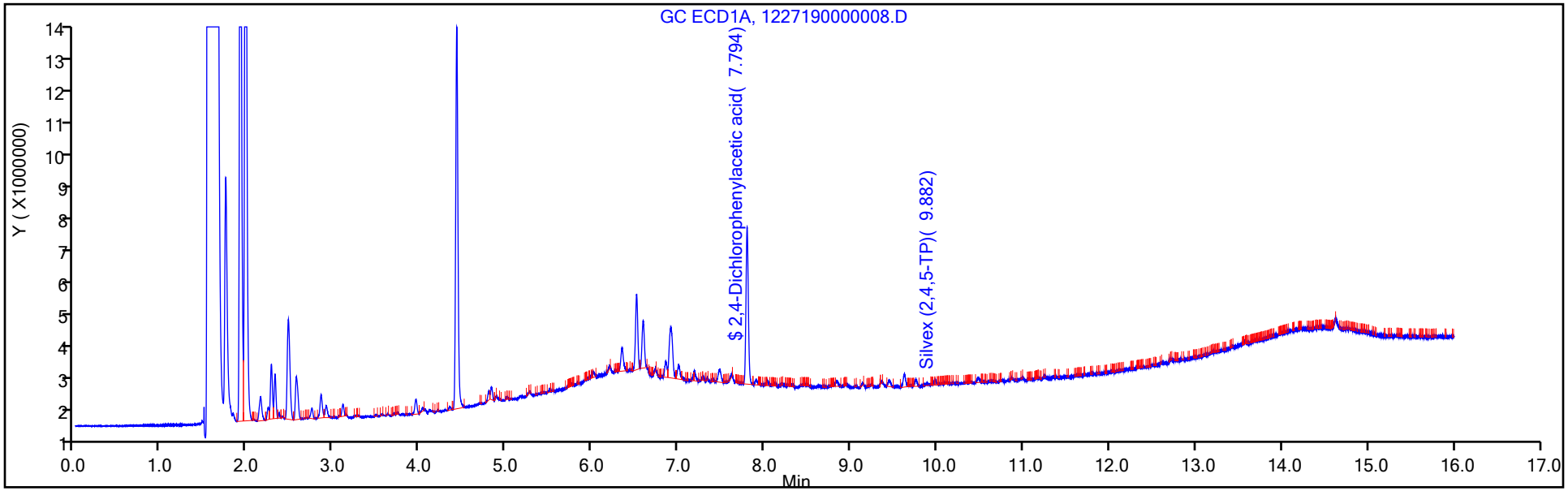

Column: RTX-1701 (0.53 mm)

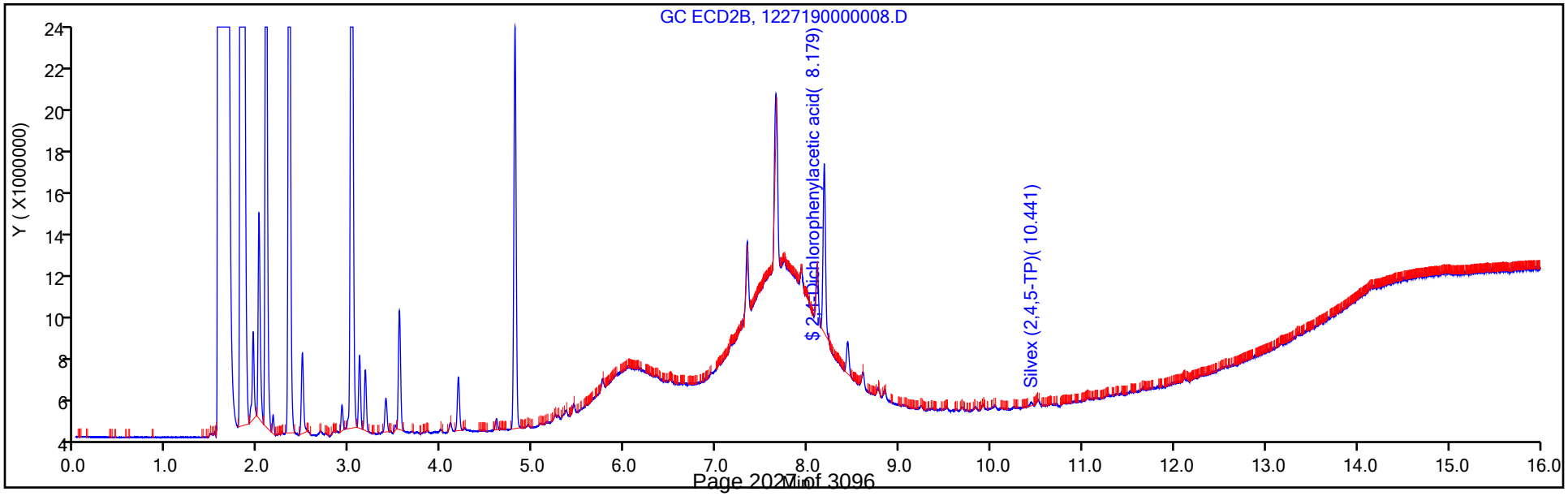

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000008.D				
Lims ID:	180-100205-A-1-H				
Client ID:	11187072-N.TREATMENT AREA #2				
Sample Type:	Client				
Inject. Date:	27-Dec-2019 13:57:12	ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	180-0030174-008				
Operator ID:		Instrument ID:	CGC1		

Method:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\Herbicides_CGC1.m		
Limit Group:	GCS 8151A ICAL		
Last Update:	27-Dec-2019 14:52:22	Calib Date:	19-Aug-2019 21:09:17
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D		

Column 1 :	RTX-50 (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-1701 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0302	

First Level Reviewer: eppinged Date: 27-Dec-2019 14:52:22

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0416	83.16

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0375	75.09

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000008.D				
Injection Date:	27-Dec-2019 13:57:12	Instrument ID:	CGC1		
Lims ID:	180-100205-A-1-H	Lab Sample ID:	180-100205-1		
Client ID:	11187072-N.TREATMENT AREA #2				
Operator ID:		ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

9 Silvex (2,4,5-TP), CAS: 93-72-1

Signal: 1

Processing Integration Results

RT: 9.88
Height: 72893
Amount: 0.000149
Amount Units: ng

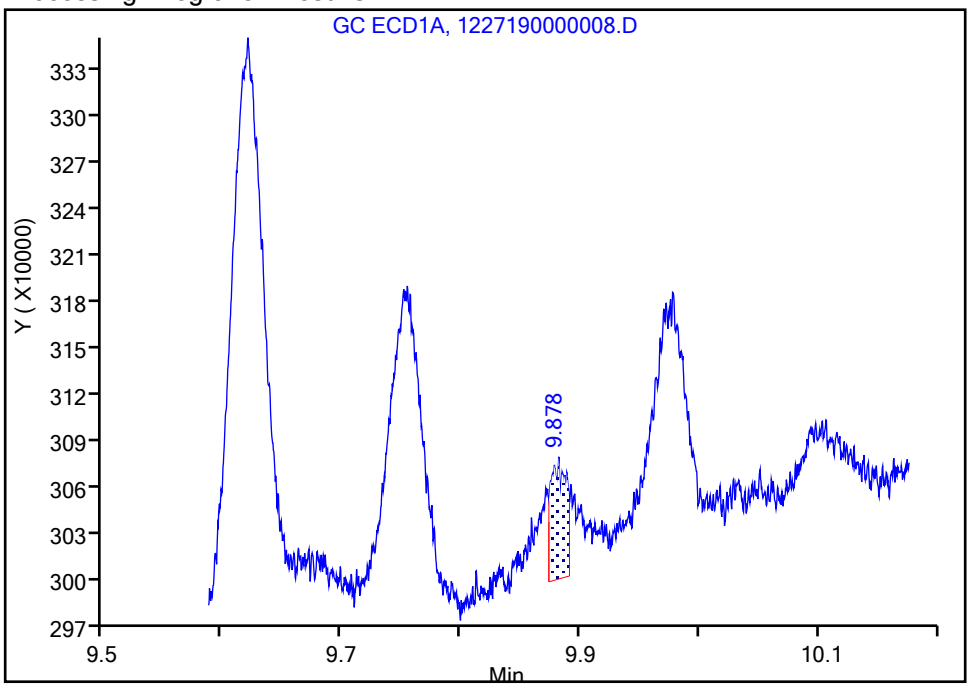

Manual Integration Results

RT: 9.88
Height: 69766
Amount: 0.000142
Amount Units: ng

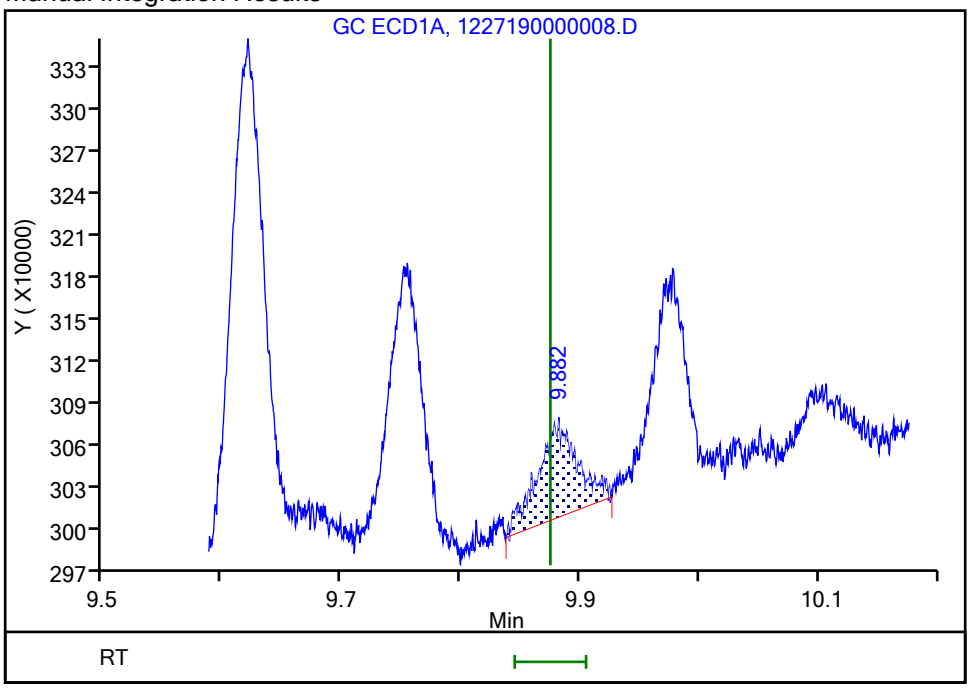

Reviewer: eppinged, 27-Dec-2019 14:52:08

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM I
HERBICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-100205-1
SDG No.:
Client Sample ID: 11187072-N.TREATMENT AREA #2
Lab Sample ID: 180-100205-1
Matrix: Solid (TCLP)
Lab File ID: 1227190000008.D
Analysis Method: EPA 8151A
Date Collected: 12/18/2019 13:30
Extraction Method: 8151A
Date Extracted: 12/21/2019 03:55
Sample wt/vol: 100(mL)
Date Analyzed: 12/27/2019 13:57
Con. Extract Vol.: 10.0(mL)
Dilution Factor: 20
Injection Volume: 1(uL)
GC Column: RTX-1701 ID: 0.53(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 302642
Units: mg/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
19719-28-9	2,4-Dichlorophenylacetic acid	75		23-122

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000008.D				
Lims ID:	180-100205-A-1-H				
Client ID:	11187072-N.TREATMENT AREA #2				
Sample Type:	Client				
Inject. Date:	27-Dec-2019 13:57:12	ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	180-0030174-008				
Operator ID:		Instrument ID:	CGC1		

Method:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\Herbicides_CGC1.m		
Limit Group:	GCS 8151A ICAL		
Last Update:	27-Dec-2019 14:52:22	Calib Date:	19-Aug-2019 21:09:17
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D		

Column 1 :	RTX-50 (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-1701 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0302	

First Level Reviewer: eppinged Date: 27-Dec-2019 14:52:22

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
$ 2 2,4-Dichlorophenylacetic acid						
1	7.794	7.797	-0.003	4524578H	0.0416	
2	8.179	8.180	-0.001	7918661H	0.0375	
					RPD = 10.21	
7 2,4-D						
1		9.196			ND	
2		9.666				
9 Silvex (2,4,5-TP)						M
1	9.882	9.875	0.007	69766H	0.000142	M
2	10.441	10.437	0.004	169849H	0.000180	M
					RPD = 23.57	
11 Dinoseb						
1		10.675			ND	
2		11.963				

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 27-Dec-2019 14:52:52 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000008.D				
Injection Date:	27-Dec-2019 13:57:12	Instrument ID:	CGC1	Operator ID:	
Lims ID:	180-100205-A-1-H	Lab Sample ID:	180-100205-1	Worklist Smp#:	8
Client ID:	11187072-N.TREATMENT AREA #2				
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	8
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

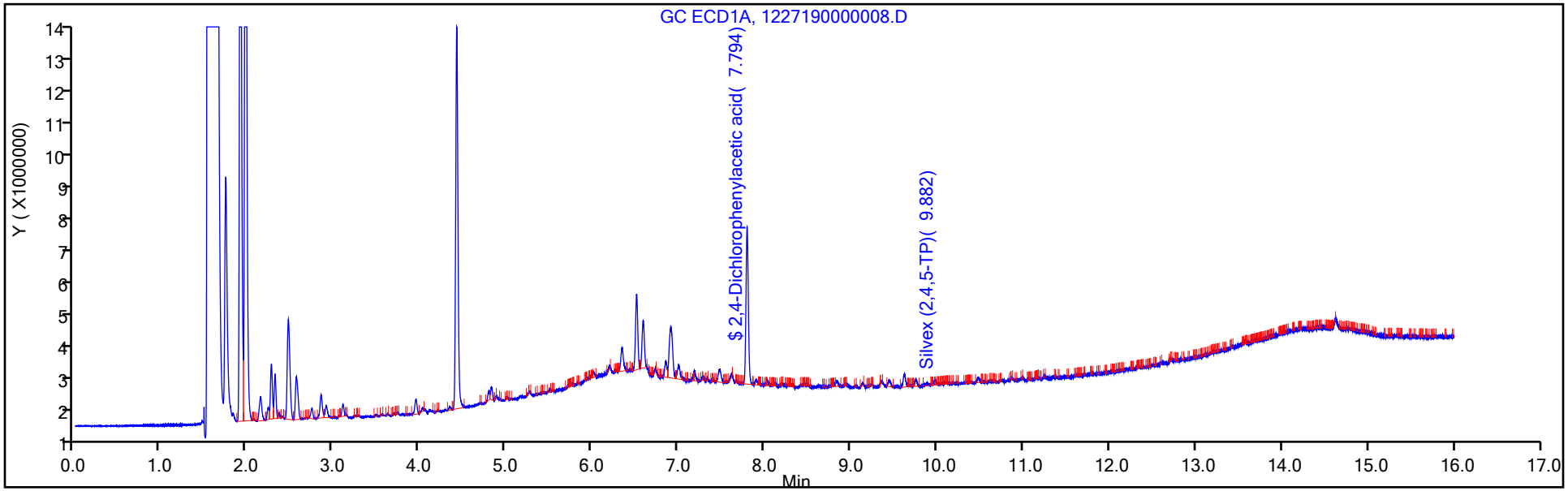

Column: RTX-1701 (0.53 mm)

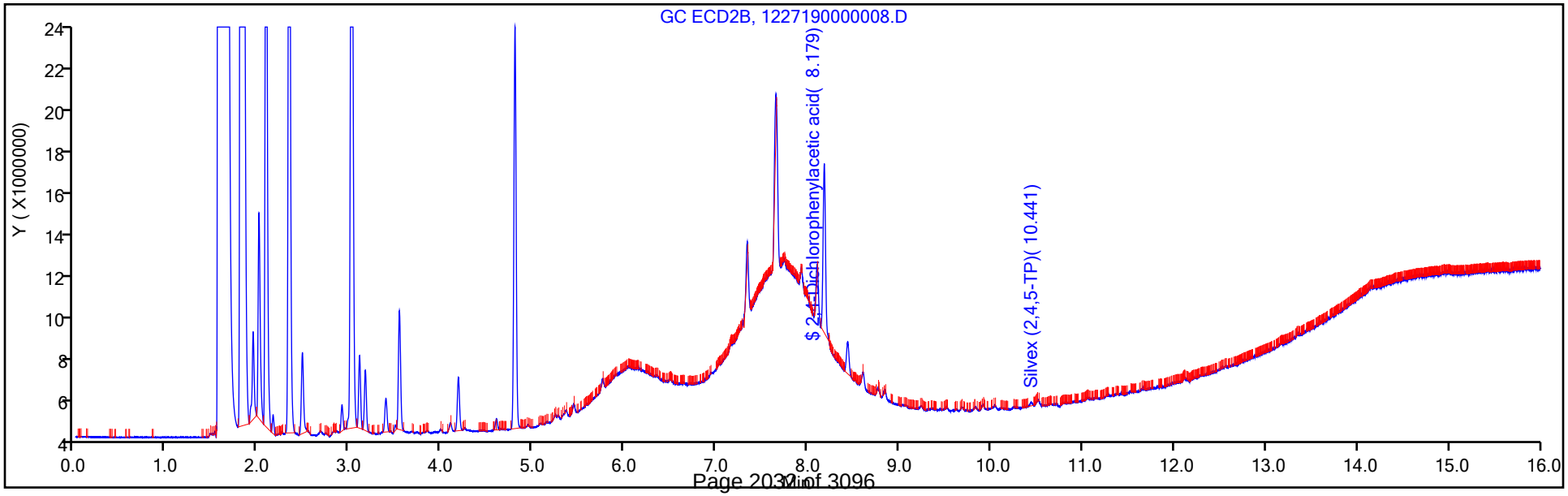

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000008.D				
Lims ID:	180-100205-A-1-H				
Client ID:	11187072-N.TREATMENT AREA #2				
Sample Type:	Client				
Inject. Date:	27-Dec-2019 13:57:12	ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	180-0030174-008				
Operator ID:		Instrument ID:	CGC1		

Method:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\Herbicides_CGC1.m		
Limit Group:	GCS 8151A ICAL		
Last Update:	27-Dec-2019 14:52:22	Calib Date:	19-Aug-2019 21:09:17
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D		

Column 1 :	RTX-50 (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-1701 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0302	

First Level Reviewer: eppinged Date: 27-Dec-2019 14:52:22

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0416	83.16

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0375	75.09

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000008.D				
Injection Date:	27-Dec-2019 13:57:12	Instrument ID:	CGC1		
Lims ID:	180-100205-A-1-H	Lab Sample ID:	180-100205-1		
Client ID:	11187072-N.TREATMENT AREA #2				
Operator ID:		ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

9 Silvex (2,4,5-TP), CAS: 93-72-1

Signal: 2

Processing Integration Results

RT: 10.44
Height: 32914
Amount: 0.000035
Amount Units: ng

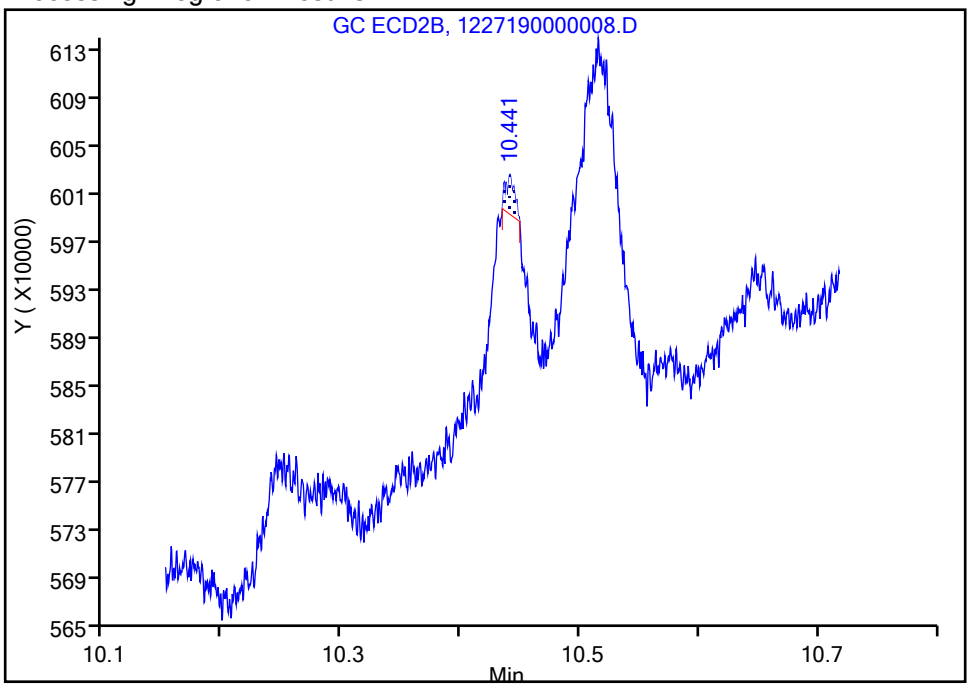

Manual Integration Results

RT: 10.44
Height: 169849
Amount: 0.000180
Amount Units: ng

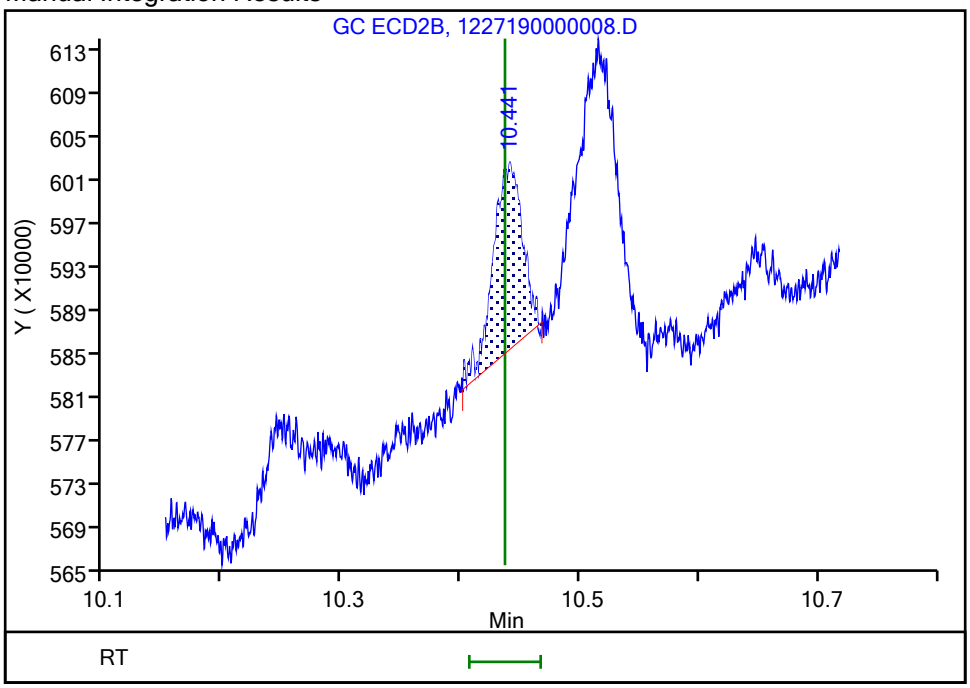

Reviewer: eppinged, 27-Dec-2019 14:52:12

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM I
HERBICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-100205-1
SDG No.:
Client Sample ID: 11187072-N.TREATMENT AREA #3
Lab Sample ID: 180-100205-3
Matrix: Solid (TCLP)
Lab File ID: 1227190000009.D
Analysis Method: EPA 8151A
Date Collected: 12/18/2019 14:00
Extraction Method: 8151A
Date Extracted: 12/21/2019 03:55
Sample wt/vol: 100(mL)
Date Analyzed: 12/27/2019 14:22
Con. Extract Vol.: 10.0(mL)
Dilution Factor: 20
Injection Volume: 1(uL)
GC Column: RTX-50 ID: 0.53(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 302642
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
94-75-7	2,4-D	ND		0.040	0.020
93-72-1	Silvex (2,4,5-TP)	ND		0.010	0.0030
88-85-7	Dinoseb	ND		0.040	0.038

CAS NO.	SURROGATE	%REC	Q	LIMITS
19719-28-9	2,4-Dichlorophenylacetic acid	79		23-122

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000009.D
Lims ID: 180-100205-A-3-H
Client ID: 11187072-N.TREATMENT AREA #3
Sample Type: Client
Inject. Date: 27-Dec-2019 14:22:11 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 20.0000
Sample Info: 180-0030174-009
Operator ID: Instrument ID: CGC1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 27-Dec-2019 14:52:22 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0302

First Level Reviewer: eppinged Date: 27-Dec-2019 14:52:41

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
$ 2 2,4-Dichlorophenylacetic acid						
1	7.795	7.797	-0.002	4319762H	0.0397	
2	8.179	8.180	-0.001	7858692H	0.0373	
					RPD = 6.34	
7 2,4-D						
1		9.196			ND	
2		9.666				
9 Silvex (2,4,5-TP)						
1		9.875			ND	
2		10.437				
11 Dinoseb						
1		10.675			ND	
2		11.963				

Report Date: 27-Dec-2019 14:52:54 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000009.D				
Injection Date:	27-Dec-2019 14:22:11	Instrument ID:	CGC1	Operator ID:	
Lims ID:	180-100205-A-3-H	Lab Sample ID:	180-100205-3	Worklist Smp#:	9
Client ID:	11187072-N.TREATMENT AREA #3				
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	9
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

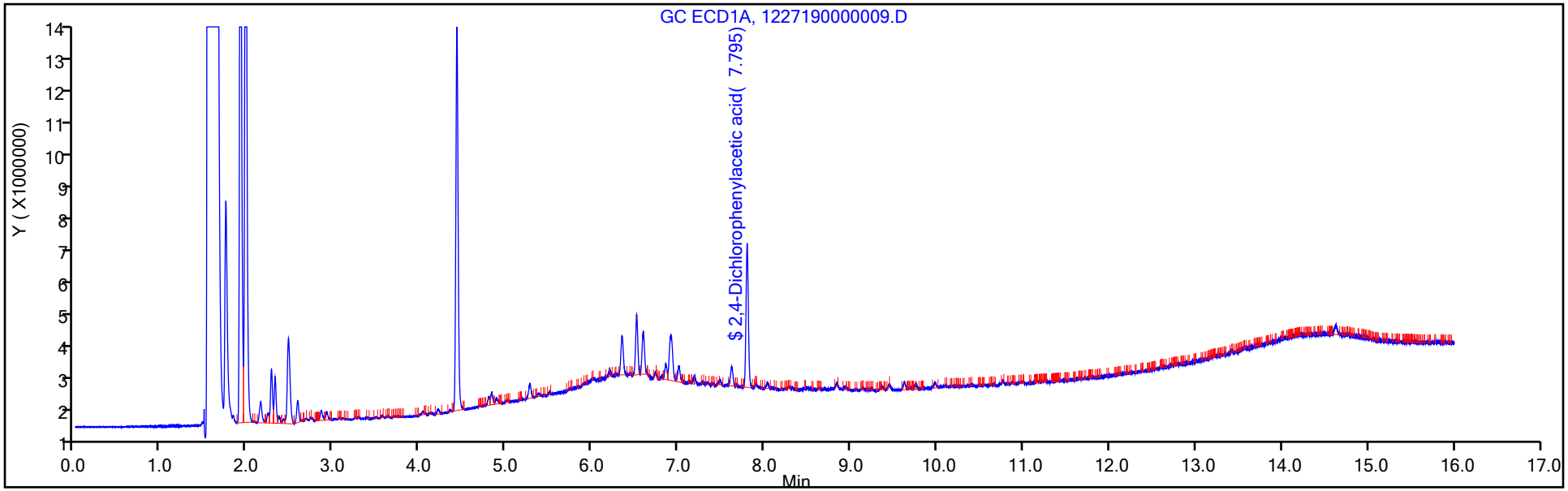

Column: RTX-1701 (0.53 mm)

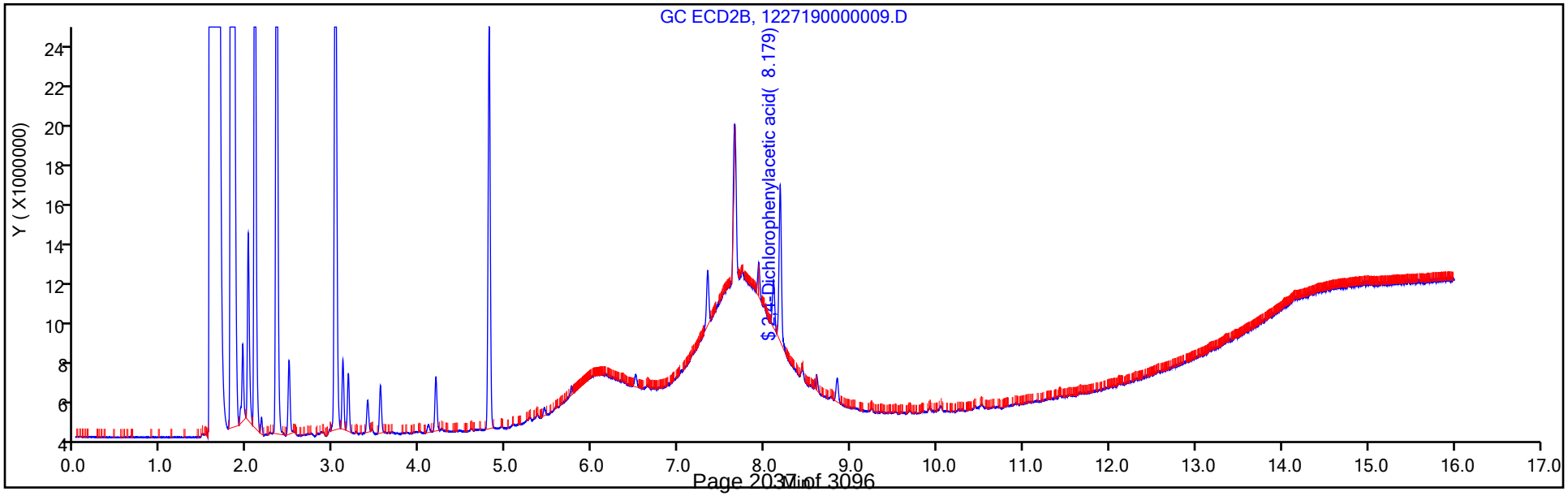

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000009.D				
Lims ID:	180-100205-A-3-H				
Client ID:	11187072-N.TREATMENT AREA #3				
Sample Type:	Client				
Inject. Date:	27-Dec-2019 14:22:11	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	180-0030174-009				
Operator ID:		Instrument ID:	CGC1		

Method:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\Herbicides_CGC1.m		
Limit Group:	GCS 8151A ICAL		
Last Update:	27-Dec-2019 14:52:22	Calib Date:	19-Aug-2019 21:09:17
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D		

Column 1 :	RTX-50 (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-1701 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0302	

First Level Reviewer: eppinged Date: 27-Dec-2019 14:52:41

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0397	79.40

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0373	74.52

FORM I
HERBICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-100205-1
SDG No.:
Client Sample ID: 11187072-N.TREATMENT AREA #3
Lab Sample ID: 180-100205-3
Matrix: Solid (TCLP)
Lab File ID: 1227190000009.D
Analysis Method: EPA 8151A
Date Collected: 12/18/2019 14:00
Extraction Method: 8151A
Date Extracted: 12/21/2019 03:55
Sample wt/vol: 100(mL)
Date Analyzed: 12/27/2019 14:22
Con. Extract Vol.: 10.0(mL)
Dilution Factor: 20
Injection Volume: 1(uL)
GC Column: RTX-1701 ID: 0.53(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 302642
Units: mg/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
19719-28-9	2,4-Dichlorophenylacetic acid	75		23-122

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000009.D
Lims ID: 180-100205-A-3-H
Client ID: 11187072-N.TREATMENT AREA #3
Sample Type: Client
Inject. Date: 27-Dec-2019 14:22:11 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 20.0000
Sample Info: 180-0030174-009
Operator ID: Instrument ID: CGC1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 27-Dec-2019 14:52:22 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0302

First Level Reviewer: eppinged Date: 27-Dec-2019 14:52:41

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
$ 2 2,4-Dichlorophenylacetic acid						
1	7.795	7.797	-0.002	4319762H	0.0397	
2	8.179	8.180	-0.001	7858692H	0.0373	
					RPD = 6.34	
7 2,4-D						
1		9.196			ND	
2		9.666				
9 Silvex (2,4,5-TP)						
1		9.875			ND	
2		10.437				
11 Dinoseb						
1		10.675			ND	
2		11.963				

Report Date: 27-Dec-2019 14:52:56 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000009.D				
Injection Date:	27-Dec-2019 14:22:11	Instrument ID:	CGC1	Operator ID:	
Lims ID:	180-100205-A-3-H	Lab Sample ID:	180-100205-3	Worklist Smp#:	9
Client ID:	11187072-N.TREATMENT AREA #3				
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	9
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

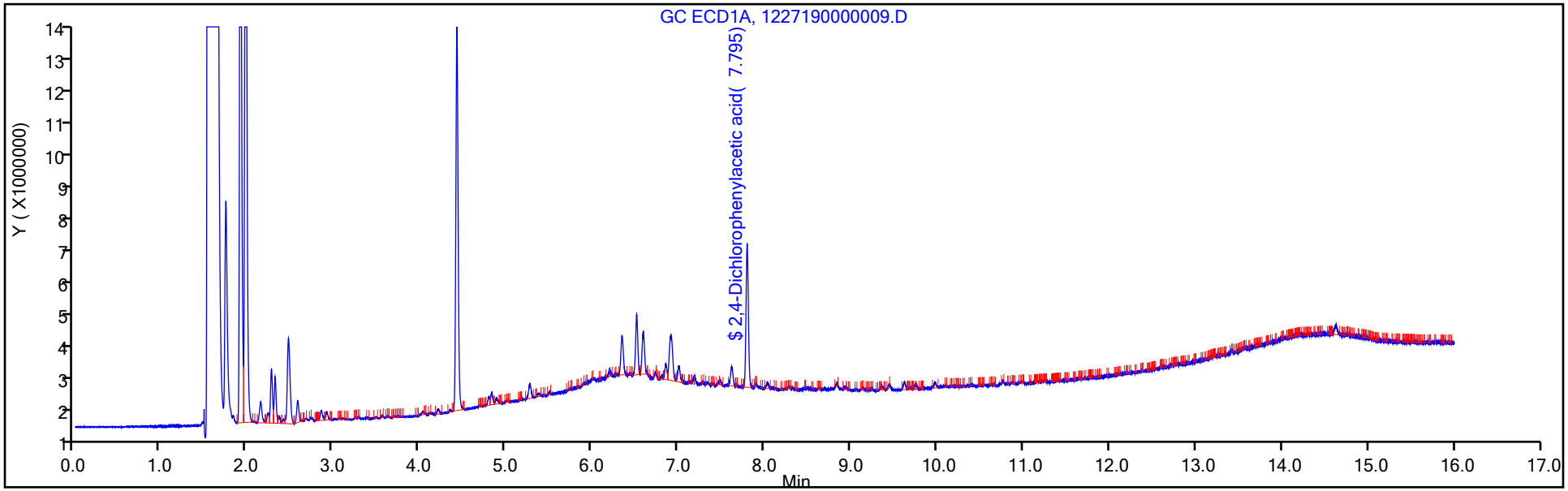

Column: RTX-1701 (0.53 mm)

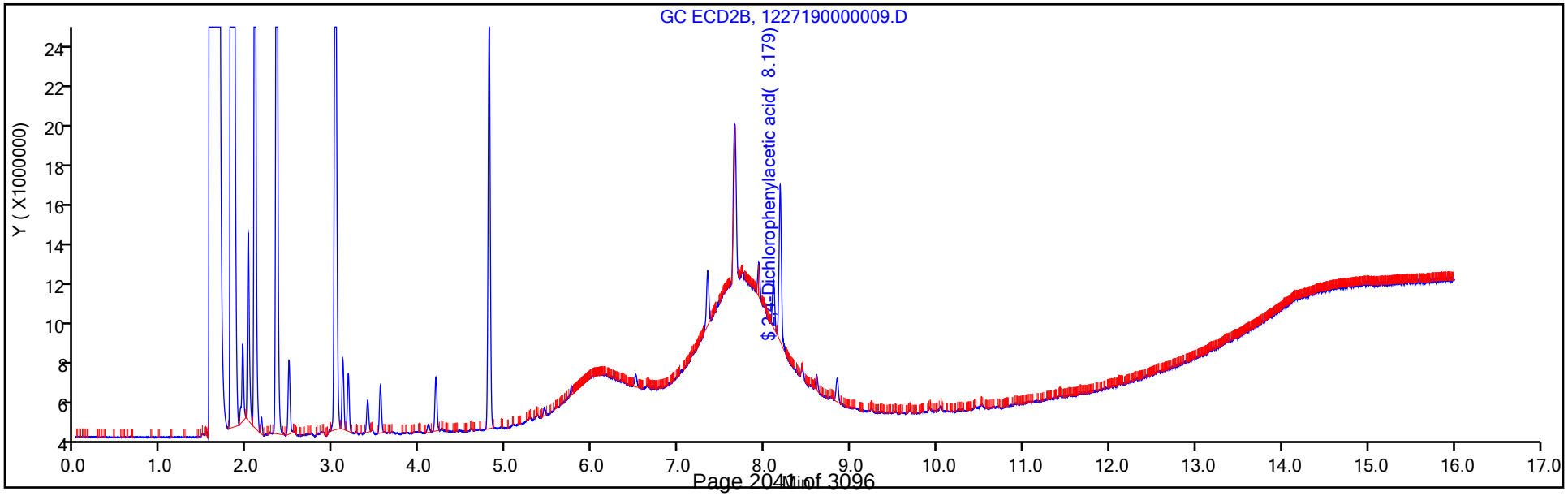

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000009.D				
Lims ID:	180-100205-A-3-H				
Client ID:	11187072-N.TREATMENT AREA #3				
Sample Type:	Client				
Inject. Date:	27-Dec-2019 14:22:11	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	180-0030174-009				
Operator ID:		Instrument ID:	CGC1		

Method:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\Herbicides_CGC1.m		
Limit Group:	GCS 8151A ICAL		
Last Update:	27-Dec-2019 14:52:22	Calib Date:	19-Aug-2019 21:09:17
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D		

Column 1 :	RTX-50 (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-1701 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0302	

First Level Reviewer: eppinged Date: 27-Dec-2019 14:52:41

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0397	79.40

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0373	74.52

FORM I
HERBICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-100205-1
SDG No.:
Client Sample ID: 11187072-N.TREATMENT AREA #4
Lab Sample ID: 180-100205-5
Matrix: Solid (TCLP)
Lab File ID: 1227190000010.D
Analysis Method: EPA 8151A
Date Collected: 12/18/2019 14:30
Extraction Method: 8151A
Date Extracted: 12/21/2019 03:55
Sample wt/vol: 100(mL)
Date Analyzed: 12/27/2019 14:47
Con. Extract Vol.: 10.0(mL)
Dilution Factor: 20
Injection Volume: 1(uL)
GC Column: RTX-50 ID: 0.53(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 302642
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
94-75-7	2,4-D	ND		0.040	0.020
93-72-1	Silvex (2,4,5-TP)	ND		0.010	0.0030
88-85-7	Dinoseb	ND		0.040	0.038

CAS NO.	SURROGATE	%REC	Q	LIMITS
19719-28-9	2,4-Dichlorophenylacetic acid	85		23-122

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000010.D
Lims ID: 180-100205-A-5-H
Client ID: 11187072-N.TREATMENT AREA #4
Sample Type: Client
Inject. Date: 27-Dec-2019 14:47:04 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 20.0000
Sample Info: 180-0030174-010
Operator ID: Instrument ID: CGC1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 27-Dec-2019 15:27:40 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0302

First Level Reviewer: eppinged Date: 27-Dec-2019 15:27:40

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
$ 2 2,4-Dichlorophenylacetic acid						
1	7.796	7.797	-0.001	4608524H	0.0424	
2	8.179	8.180	-0.001	8231689H	0.0390	
					RPD = 8.17	
7 2,4-D						
1		9.196			ND	
2		9.666				
9 Silvex (2,4,5-TP)						M
1	9.880	9.875	0.005	48720H	0.000099	M
2	10.443	10.437	0.006	130684H	0.000139	M
					RPD = 33.07	
LOD = 0.000107						
11 Dinoseb						
1		10.675			ND	
2		11.963				

QC Flag Legend

Processing Flags
7 - Failed Limit of Detection
H - Response Measured by Height
Review Flags
M - Manually Integrated

Report Date: 27-Dec-2019 15:27:44 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000010.D				
Injection Date:	27-Dec-2019 14:47:04	Instrument ID:	CGC1	Operator ID:	
Lims ID:	180-100205-A-5-H	Lab Sample ID:	180-100205-5	Worklist Smp#:	10
Client ID:	11187072-N.TREATMENT AREA #4				
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	10
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

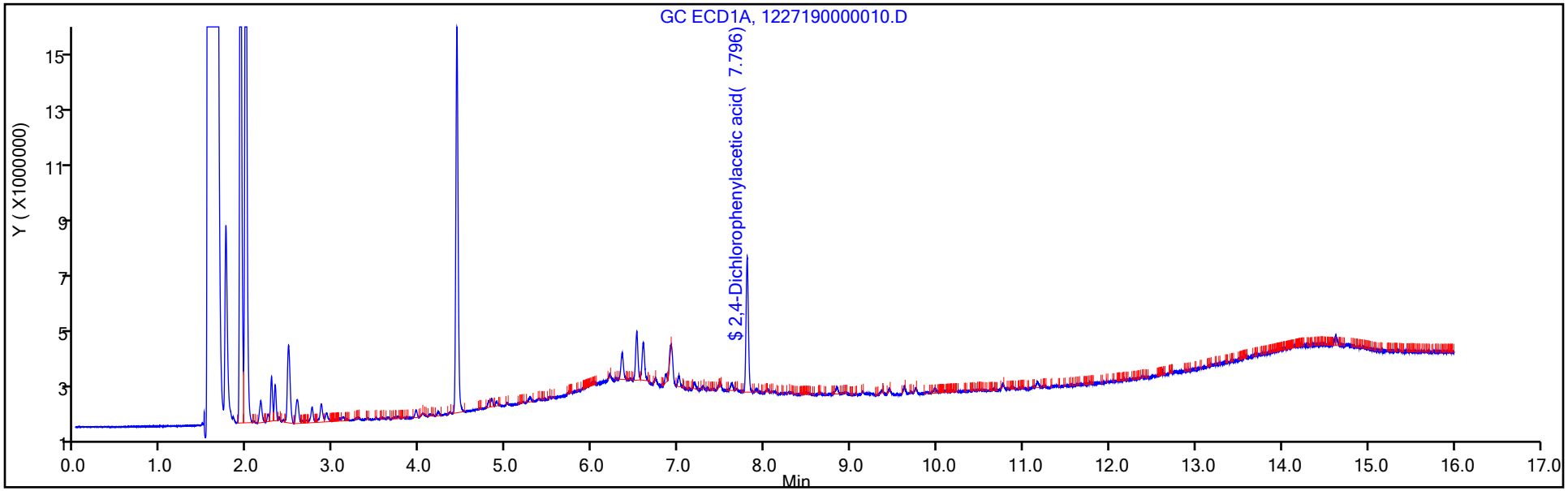

Column: RTX-1701 (0.53 mm)

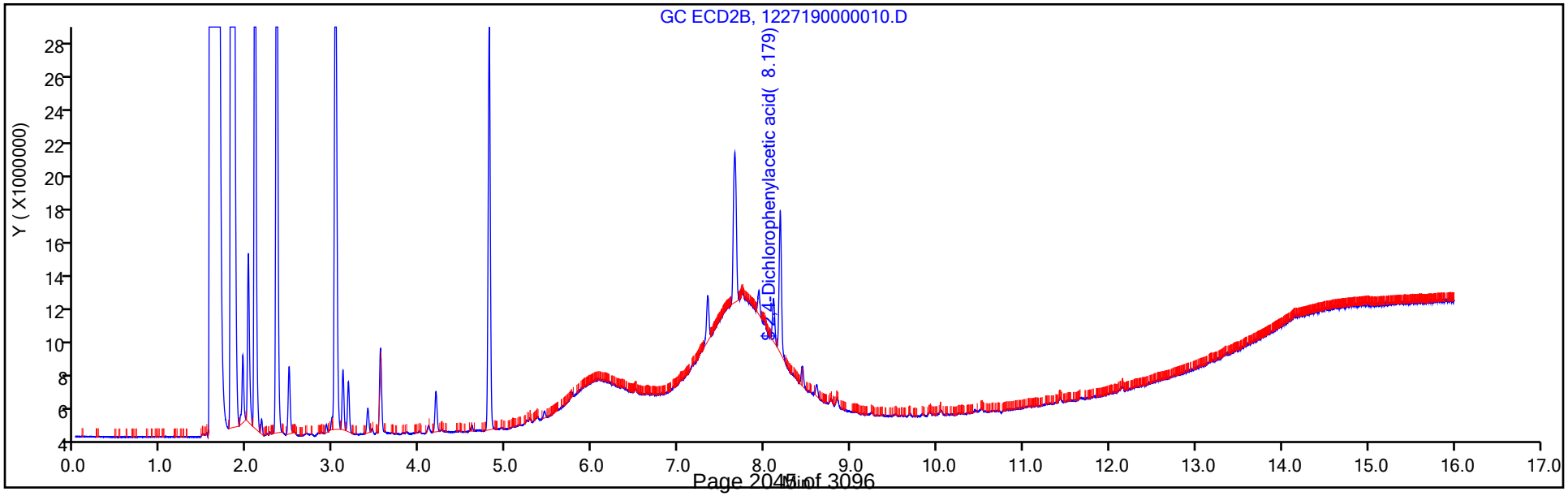

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000010.D				
Lims ID:	180-100205-A-5-H				
Client ID:	11187072-N.TREATMENT AREA #4				
Sample Type:	Client				
Inject. Date:	27-Dec-2019 14:47:04	ALS Bottle#:	10	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	180-0030174-010				
Operator ID:		Instrument ID:	CGC1		

Method:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\Herbicides_CGC1.m		
Limit Group:	GCS 8151A ICAL		
Last Update:	27-Dec-2019 15:27:40	Calib Date:	19-Aug-2019 21:09:17
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D		

Column 1 :	RTX-50 (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-1701 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0302	

First Level Reviewer: eppinged Date: 27-Dec-2019 15:27:40

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0424	84.71

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0390	78.06

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000010.D				
Injection Date:	27-Dec-2019 14:47:04	Instrument ID:	CGC1		
Lims ID:	180-100205-A-5-H	Lab Sample ID:	180-100205-5		
Client ID:	11187072-N.TREATMENT AREA #4				
Operator ID:		ALS Bottle#:	10	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

9 Silvex (2,4,5-TP), CAS: 93-72-1

Signal: 1

Processing Integration Results

RT: 9.87
Height: 46971
Amount: 0.000096
Amount Units: ng

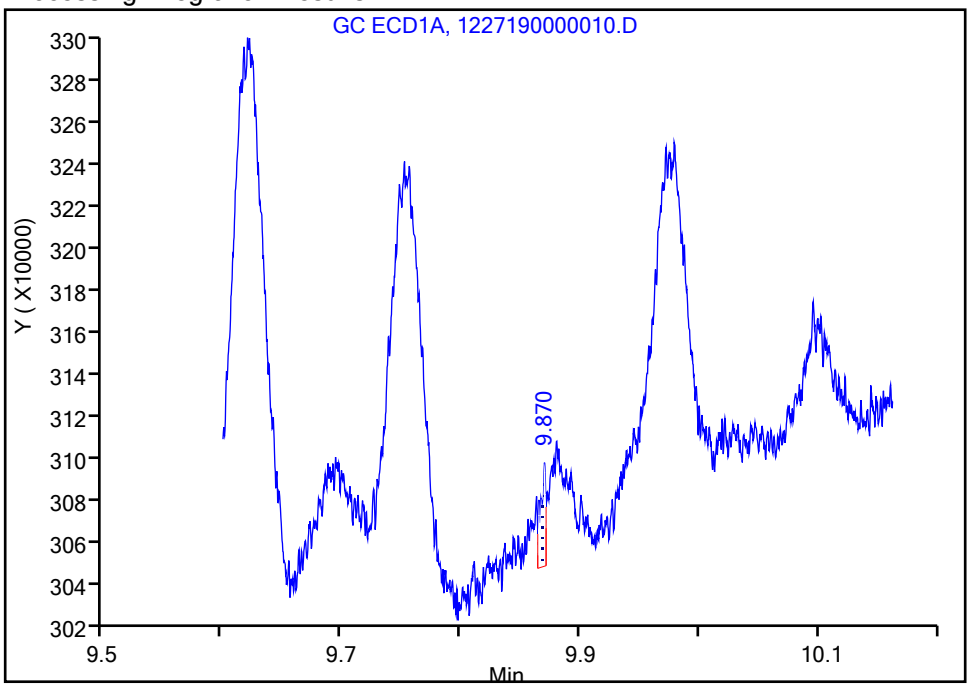

Manual Integration Results

RT: 9.88
Height: 48720
Amount: 0.000099
Amount Units: ng

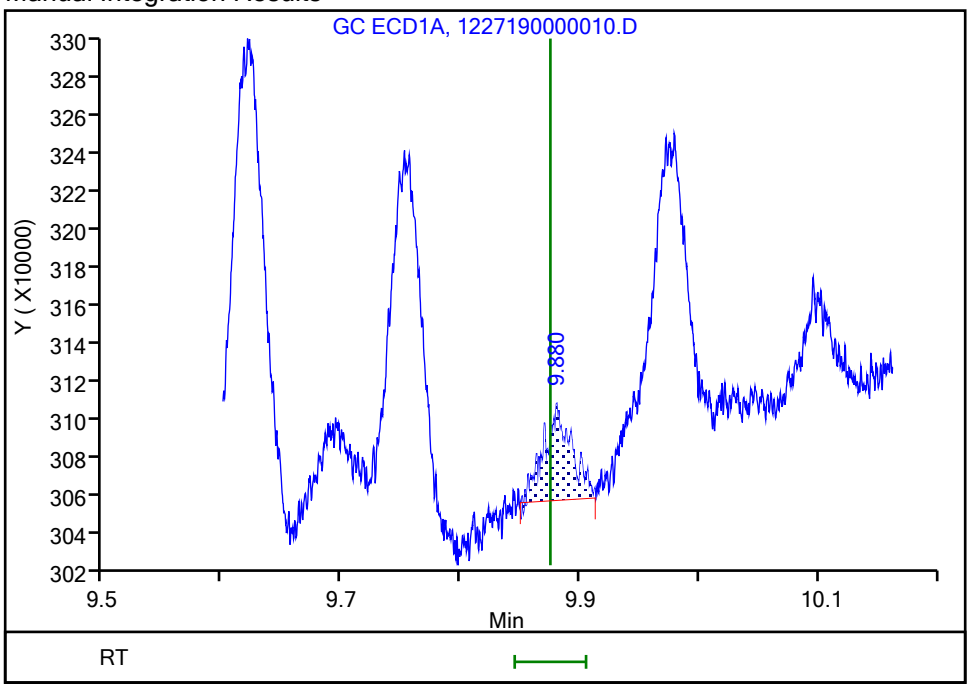

Reviewer: eppinged, 27-Dec-2019 15:27:26

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM I
HERBICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-100205-1
SDG No.:
Client Sample ID: 11187072-N.TREATMENT AREA #4
Lab Sample ID: 180-100205-5
Matrix: Solid (TCLP)
Lab File ID: 1227190000010.D
Analysis Method: EPA 8151A
Date Collected: 12/18/2019 14:30
Extraction Method: 8151A
Date Extracted: 12/21/2019 03:55
Sample wt/vol: 100(mL)
Date Analyzed: 12/27/2019 14:47
Con. Extract Vol.: 10.0(mL)
Dilution Factor: 20
Injection Volume: 1(uL)
GC Column: RTX-1701 ID: 0.53(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 302642
Units: mg/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
19719-28-9	2,4-Dichlorophenylacetic acid	78		23-122

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000010.D
Lims ID: 180-100205-A-5-H
Client ID: 11187072-N.TREATMENT AREA #4
Sample Type: Client
Inject. Date: 27-Dec-2019 14:47:04 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 20.0000
Sample Info: 180-0030174-010
Operator ID: Instrument ID: CGC1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 27-Dec-2019 15:27:40 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0302

First Level Reviewer: eppinged Date: 27-Dec-2019 15:27:40

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ng	Flags
$ 2 2,4-Dichlorophenylacetic acid						
1	7.796	7.797	-0.001	4608524H	0.0424	
2	8.179	8.180	-0.001	8231689H	0.0390	
					RPD = 8.17	
7 2,4-D						
1		9.196			ND	
2		9.666				
9 Silvex (2,4,5-TP)						M
1	9.880	9.875	0.005	48720H	0.000099	M
2	10.443	10.437	0.006	130684H	0.000139	M
					RPD = 33.07	
LOD = 0.000107						
11 Dinoseb						
1		10.675			ND	
2		11.963				

QC Flag Legend

Processing Flags
7 - Failed Limit of Detection
H - Response Measured by Height
Review Flags
M - Manually Integrated

Report Date: 27-Dec-2019 15:27:45 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000010.D				
Injection Date:	27-Dec-2019 14:47:04	Instrument ID:	CGC1	Operator ID:	
Lims ID:	180-100205-A-5-H	Lab Sample ID:	180-100205-5	Worklist Smp#:	10
Client ID:	11187072-N.TREATMENT AREA #4				
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	10
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

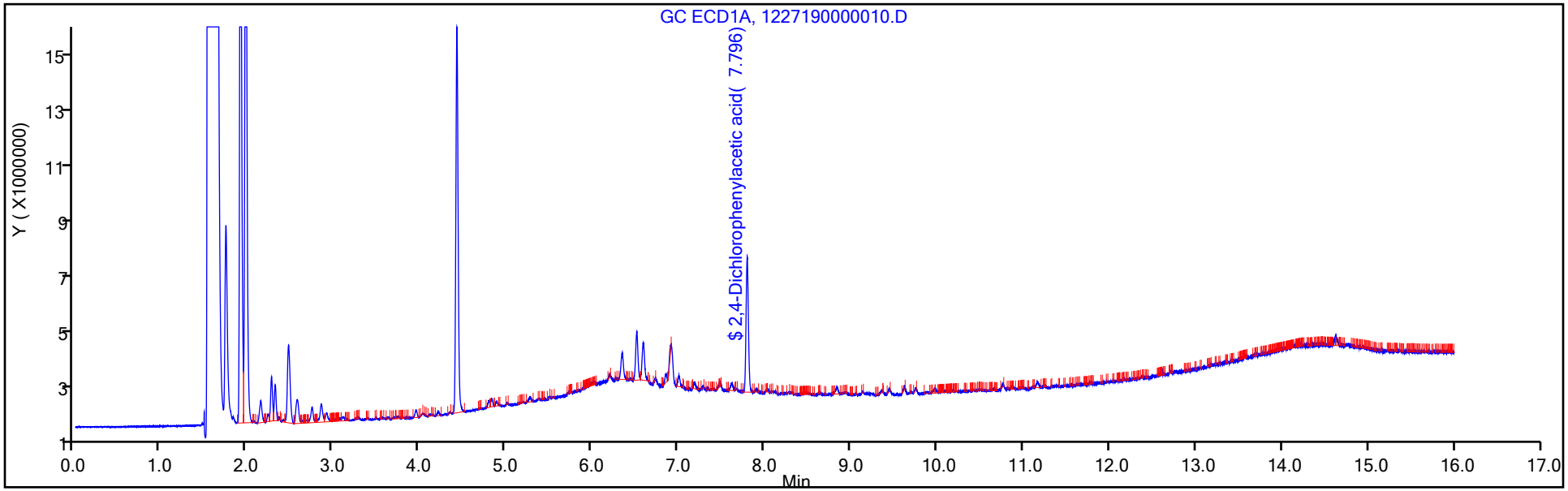

Column: RTX-1701 (0.53 mm)

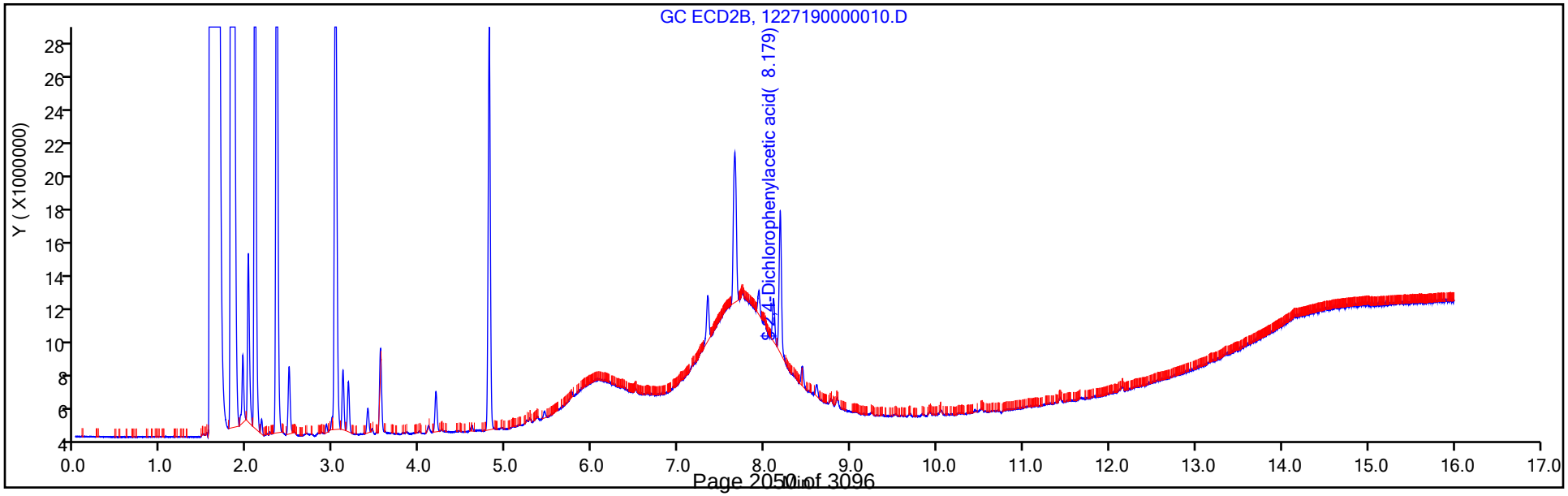

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000010.D				
Lims ID:	180-100205-A-5-H				
Client ID:	11187072-N.TREATMENT AREA #4				
Sample Type:	Client				
Inject. Date:	27-Dec-2019 14:47:04	ALS Bottle#:	10	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	180-0030174-010				
Operator ID:		Instrument ID:	CGC1		

Method:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\Herbicides_CGC1.m		
Limit Group:	GCS 8151A ICAL		
Last Update:	27-Dec-2019 15:27:40	Calib Date:	19-Aug-2019 21:09:17
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D		

Column 1 :	RTX-50 (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-1701 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0302	

First Level Reviewer: eppinged Date: 27-Dec-2019 15:27:40

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0424	84.71

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0390	78.06

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000010.D				
Injection Date:	27-Dec-2019 14:47:04	Instrument ID:	CGC1		
Lims ID:	180-100205-A-5-H	Lab Sample ID:	180-100205-5		
Client ID:	11187072-N.TREATMENT AREA #4				
Operator ID:		ALS Bottle#:	10	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

9 Silvex (2,4,5-TP), CAS: 93-72-1

Signal: 2

Processing Integration Results

RT: 10.44
Height: 26566
Amount: 0.000028
Amount Units: ng

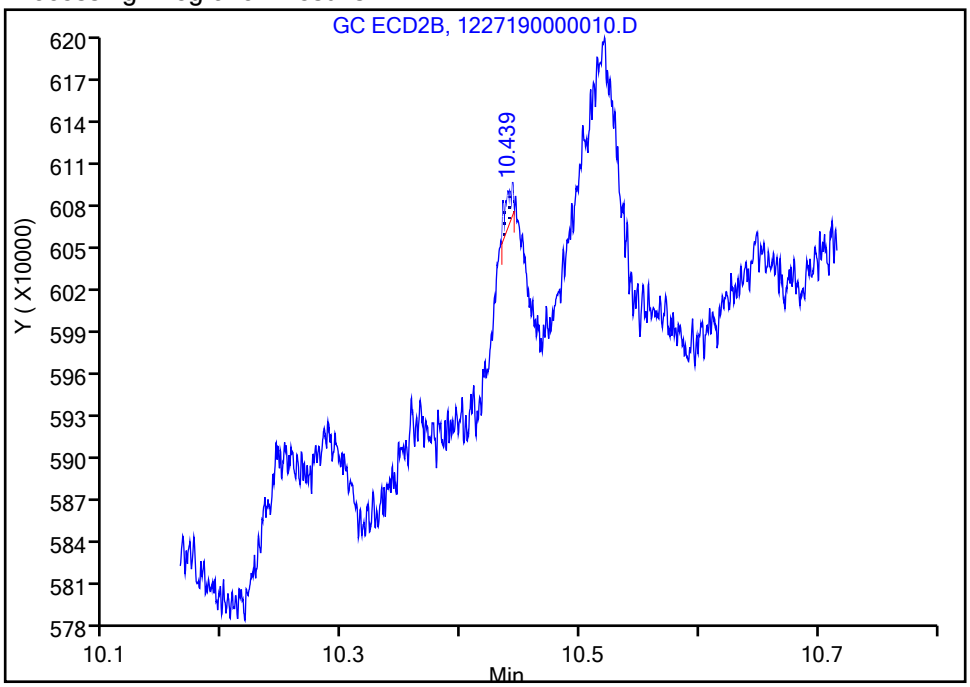

Manual Integration Results

RT: 10.44
Height: 130684
Amount: 0.000139
Amount Units: ng

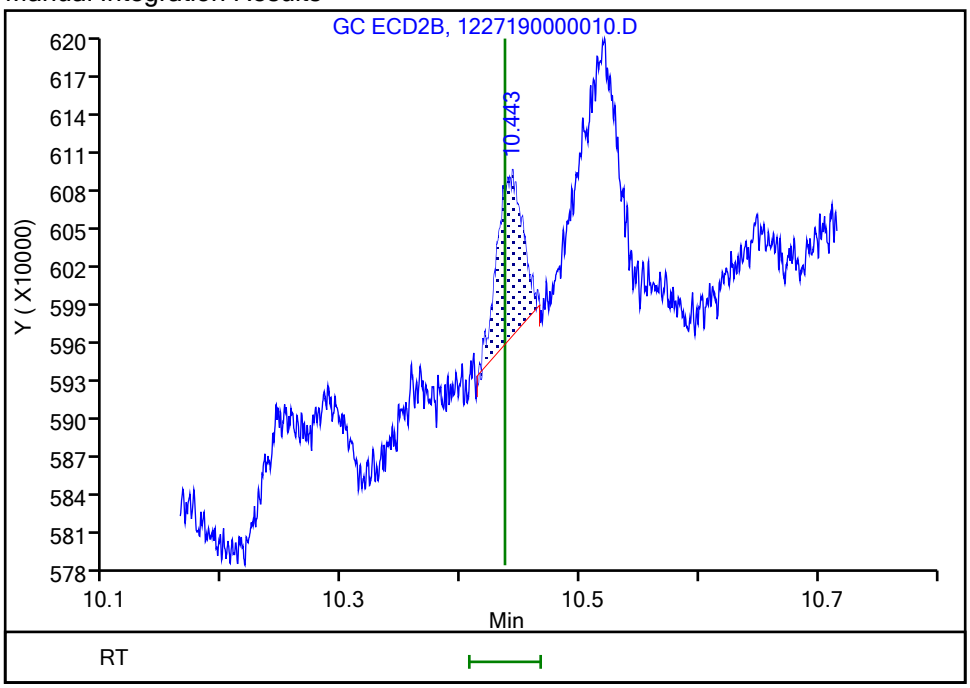

Reviewer: eppinged, 27-Dec-2019 15:27:31

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VI
HERBICIDES BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 288571

SDG No.:

Instrument ID: CGC1 GC Column: RTX-50 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/19/2019 18:39 Calibration End Date: 08/19/2019 21:09 Calibration ID: 41303

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-288571/2	0819190000015.D
Level 2	IC 180-288571/3	0819190000016.D
Level 3	IC 180-288571/4	0819190000017.D
Level 4	ICRT 180-288571/5	0819190000018.D
Level 5	IC 180-288571/6	0819190000019.D
Level 6	IC 180-288571/7	0819190000020.D
Level 7	IC 180-288571/8	0819190000021.D

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7				RT WINDOW	AVG RT
Dalapon	2.180	2.180	2.180	2.179	2.180	2.179	2.180				2.149 - 2.209	2.180
MCPP	8.246	8.247	8.245	8.246	8.245	8.245	8.246				8.216 - 8.276	8.246
Dicamba	8.328	8.325	8.325	8.326	8.325	8.327	8.327				8.296 - 8.356	8.326
MCPA	8.668	8.668	8.667	8.667	8.667	8.667	8.668				8.637 - 8.697	8.667
Dichlorprop	8.949	8.947	8.946	8.947	8.946	8.947	8.946				8.917 - 8.977	8.947
2,4-D	9.440	9.440	9.440	9.439	9.439	9.439	9.439				9.409 - 9.469	9.439
Pentachlorophenol	9.970	9.969	9.970	9.969	9.968	9.968	9.969				9.939 - 9.999	9.969
Silvex (2,4,5-TP)	10.124	10.123	10.124	10.124	10.122	10.123	10.123				10.094 - 10.154	10.123
2,4,5-T	10.673	10.672	10.673	10.673	10.672	10.672	10.672				10.643 - 10.703	10.672
Dinoseb	10.928	10.928	10.928	10.928	10.927	10.927	10.928				10.878 - 10.978	10.928
2,4-DB	11.057	11.056	11.056	11.056	11.055	11.056	11.056				11.026 - 11.086	11.056
2,4-Dichlorophenylacetic acid	8.031	8.030	8.030	8.030	8.027	8.029	8.028				8.000 - 8.060	8.029

FORM VI
HERBICIDES BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 288571

SDG No.:

Instrument ID: CGC1 GC Column: RTX-50 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/19/2019 18:39 Calibration End Date: 08/19/2019 21:09 Calibration ID: 41303

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-288571/2	0819190000015.D
Level 2	IC 180-288571/3	0819190000016.D
Level 3	IC 180-288571/4	0819190000017.D
Level 4	ICRT 180-288571/5	0819190000018.D
Level 5	IC 180-288571/6	0819190000019.D
Level 6	IC 180-288571/7	0819190000020.D
Level 7	IC 180-288571/8	0819190000021.D

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4		B	M1	M2								
Dalapon	160286600 131431331	170903900 136276659	158301550 145817422	140291188	Ave		149044093				9.7		20.0			
MCPP	341535 345395	455498 360245	447974 443949	371839	Ave		395204.933				13.0		20.0			
Dicamba	356212200 304232875	400469400 341317575	378813800 460959563	311265900	Ave		364753045				15.0		20.0			
MCPA	727075 502619	797458 531925	712791 659819	557609	Ave		641328.018				17.5		20.0			
Dichlorprop	102113700 79303013	111712550 86229731	104827675 110020338	83546638	Ave		96821949.1				13.9		20.0			
2,4-D	116153200 88240100	129138050 99128803	118457800 125038273	93229725	Ave		109912279				14.7		20.0			
Pentachlorophenol	2240999200 1923748025	2584593600 2178923663	2434617400 2763045963	1953862600	Ave		2297112921				13.7		20.0			
Silvex (2,4,5-TP)	499654800 403324200	566587400 452343438	526926600 563209406	417512350	Ave		489936885				13.7		20.0			
2,4,5-T	481588400 381033900	543877400 419470263	500321000 523603844	396153250	Ave		463721151				13.9		20.0			
Dinoseb	197126200 158552275	219559100 179837416	203051125 229113877	160240175	Ave		192497167				14.3		20.0			
2,4-DB	71888700 52353250	78670000 57642153	70412850 75359228	55251813	Ave		65939713.4				16.1		20.0			
2,4-Dichlorophenylacetic acid	106851700 91484756	125446850 97214675	117835850 127690266	95169625	Ave		108813389				13.7		20.0			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HERBICIDES BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 288571

SDG No.:

Instrument ID: CGC1 GC Column: RTX-50 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/19/2019 18:39 Calibration End Date: 08/19/2019 21:09 Calibration ID: 41303

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-288571/2	0819190000015.D
Level 2	IC 180-288571/3	0819190000016.D
Level 3	IC 180-288571/4	0819190000017.D
Level 4	ICRT 180-288571/5	0819190000018.D
Level 5	IC 180-288571/6	0819190000019.D
Level 6	IC 180-288571/7	0819190000020.D
Level 7	IC 180-288571/8	0819190000021.D

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Dalapon	Ave	1602866 43608531	3418078 93323150	6332062	11223295	21029013	0.0100 0.320	0.0200 0.640	0.0400	0.0800	0.160
MCPP	Ave	341535 11527851	910995 28412748	1791894	2974715	5526314	1.00 32.0	2.00 64.0	4.00	8.00	16.0
Dicamba	Ave	1781061 54610812	4004694 147507060	7576276	12450636	24338630	0.00500 0.160	0.0100 0.320	0.0200	0.0400	0.0800
MCPA	Ave	727075 17021609	1594916 42228426	2851165	4460869	8041901	1.00 32.0	2.00 64.0	4.00	8.00	16.0
Dichlorprop	Ave	1021137 27593514	2234251 70413016	4193107	6683731	12688482	0.0100 0.320	0.0200 0.640	0.0400	0.0800	0.160
2,4-D	Ave	1161532 31721217	2582761 80024495	4738312	7458378	14118416	0.0100 0.320	0.0200 0.640	0.0400	0.0800	0.160
Pentachlorophenol	Ave	5602498 174313893	12922968 442087354	24346174	39077252	76949921	0.00250 0.0800	0.00500 0.160	0.0100	0.0200	0.0400
Silvex (2,4,5-TP)	Ave	1249137 36187475	2832937 90113505	5269266	8350247	16132968	0.00250 0.0800	0.00500 0.160	0.0100	0.0200	0.0400
2,4,5-T	Ave	1203971 33557621	2719387 83776615	5003210	7923065	15241356	0.00250 0.0800	0.00500 0.160	0.0100	0.0200	0.0400
Dinoseb	Ave	1971262 57547973	4391182 146632881	8122045	12819214	25368364	0.0100 0.320	0.0200 0.640	0.0400	0.0800	0.160
2,4-DB	Ave	718887 18445489	1573400 48229906	2816514	4420145	8376520	0.0100 0.320	0.0200 0.640	0.0400	0.0800	0.160
2,4-Dichlorophenylacetic acid	Ave	1068517 31108696	2508937 81721770	4713434	7613570	14637561	0.0100 0.320	0.0200 0.640	0.0400	0.0800	0.160

Curve Type Legend:
Ave = Average by Height

FORM VI
HERBICIDES BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 288571

SDG No.:

Instrument ID: CGC1 GC Column: RTX-50 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/19/2019 18:39 Calibration End Date: 08/19/2019 21:09 Calibration ID: 41303

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-288571/2	0819190000015.D
Level 2	IC 180-288571/3	0819190000016.D
Level 3	IC 180-288571/4	0819190000017.D
Level 4	ICRT 180-288571/5	0819190000018.D
Level 5	IC 180-288571/6	0819190000019.D
Level 6	IC 180-288571/7	0819190000020.D
Level 7	IC 180-288571/8	0819190000021.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
Dalapon	7.5 -2.2	14.7	6.2	-5.9	-11.8	-8.6	50 30	30	30	30	30	30
MCPP	-13.6 12.3	15.3	13.4	-5.9	-12.6	-8.8	50 30	30	30	30	30	30
Dicamba	-2.3 26.4	9.8	3.9	-14.7	-16.6	-6.4	50 30	30	30	30	30	30
MCPA	13.4 2.9	24.3	11.1	-13.1	-21.6	-17.1	50 30	30	30	30	30	30
Dichlorprop	5.5 13.6	15.4	8.3	-13.7	-18.1	-10.9	50 30	30	30	30	30	30
2,4-D	5.7 13.8	17.5	7.8	-15.2	-19.7	-9.8	50 30	30	30	30	30	30
Pentachlorophenol	-2.4 20.3	12.5	6.0	-14.9	-16.3	-5.1	50 30	30	30	30	30	30
Silvex (2,4,5-TP)	2.0 15.0	15.6	7.5	-14.8	-17.7	-7.7	50 30	30	30	30	30	30
2,4,5-T	3.9 12.9	17.3	7.9	-14.6	-17.8	-9.5	50 30	30	30	30	30	30
Dinoseb	2.4 19.0	14.1	5.5	-16.8	-17.6	-6.6	50 30	30	30	30	30	30
2,4-DB	9.0 14.3	19.3	6.8	-16.2	-20.6	-12.6	50 30	30	30	30	30	30
2,4-Dichlorophenylacetic acid	-1.8 17.3	15.3	8.3	-12.5	-15.9	-10.7	50 30	30	30	30	30	30

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000015.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 19-Aug-2019 18:39:37 ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-002
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:59 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:30:51

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.180	2.179	0.001	1602866H	0.0100	0.0108	
2	2.351	2.348	0.003	3496867H	0.0100	0.0104	
						RPD = 3.17	
$ 2 2,4-Dichlorophenylacetic acid							M
1	8.031	8.030	0.001	1068517H	0.0100	0.009820	M
2	7.996	7.996	0.000	2025382H	0.0100	0.009603	M
						RPD = 2.24	
3 MCPP							M
1	8.246	8.246	0.000	341535H	1.00	0.8642	
2	8.426	8.423	0.003	702287	1.00	0.9494	M
						RPD = 9.39	
4 Dicamba							
1	8.328	8.326	0.002	1781061H	0.005000	0.004883	
2	8.266	8.265	0.001	3182091H	0.005000	0.004538	
						RPD = 7.33	
5 MCPA							M
1	8.668	8.667	0.001	727075H	1.00	1.13	M
2	8.732	8.732	0.000	1239711H	1.00	1.01	M
						RPD = 11.90	
6 Dichlorprop							
1	8.949	8.947	0.002	1021137H	0.0100	0.0105	
2	9.097	9.095	0.002	1841176H	0.0100	0.0099	
						RPD = 6.01	
7 2,4-D							
1	9.440	9.439	0.001	1161532H	0.0100	0.0106	
2	9.495	9.494	0.001	2165042H	0.0100	0.0100	
						RPD = 5.77	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.970	9.969	0.001	5602498	0.002500	0.002439	
2	9.693	9.691	0.002	5047386H	0.002500	0.002354	
						RPD = 3.55	
9 Silvex (2,4,5-TP)							
1	10.124	10.124	0.000	1249137H	0.002500	0.002550	
2	10.264	10.263	0.001	2296435H	0.002500	0.002440	
						RPD = 4.40	
10 2,4,5-T							
1	10.673	10.673	0.000	1203971H	0.002500	0.002596	
2	10.720	10.719	0.001	2235899H	0.002500	0.002467	
						RPD = 5.11	
11 Dinoseb							M
1	10.928	10.928	0.000	1971262H	0.0100	0.0102	
2	11.802	11.800	0.002	3730870H	0.0100	0.009544	M
						RPD = 7.04	
12 2,4-DB							M
1	11.057	11.056	0.001	718887H	0.0100	0.0109	
2	11.150	11.149	0.001	1190823H	0.0100	0.009653	M
						RPD = 12.15	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCHERBCALSL7_00011 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:26:00 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000015.D

Injection Date: 19-Aug-2019 18:39:37 Instrument ID: CGC1 Operator ID:

Lims ID: ic Worklist Smp#: 2

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 1

Method: Herbicides_CGC1 Limit Group: GCS 8151A ICAL

Column: RTX-50 (0.53 mm)

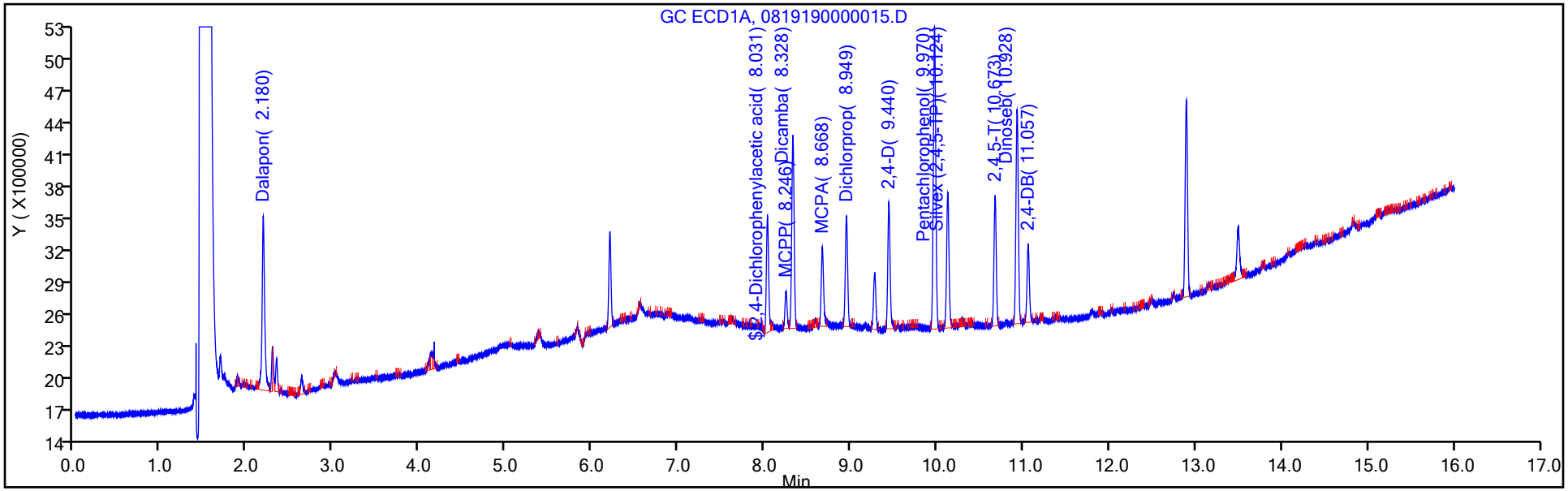

Column: RTX-1701 (0.53 mm)

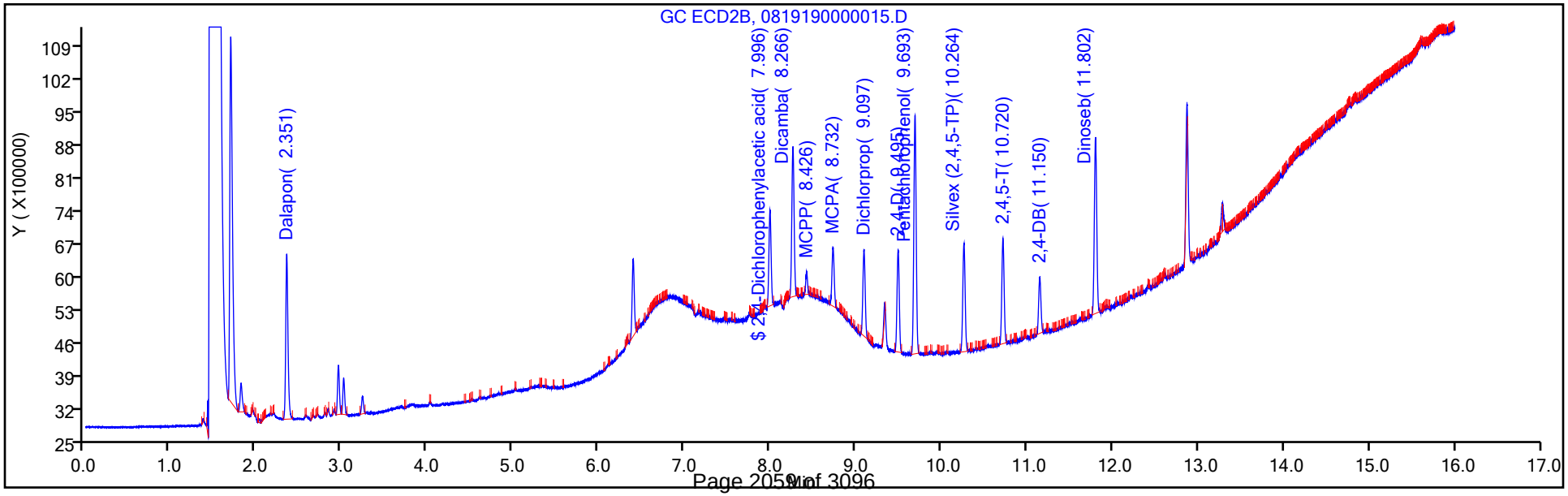

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000015.D				
Injection Date:	19-Aug-2019 18:39:37	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

$ 2 2,4-Dichlorophenylacetic acid, CAS: 19719-28-9

Signal: 1

Processing Integration Results

RT: 8.03
Height: 1045328
Amount: -0.067352
Amount Units: ng

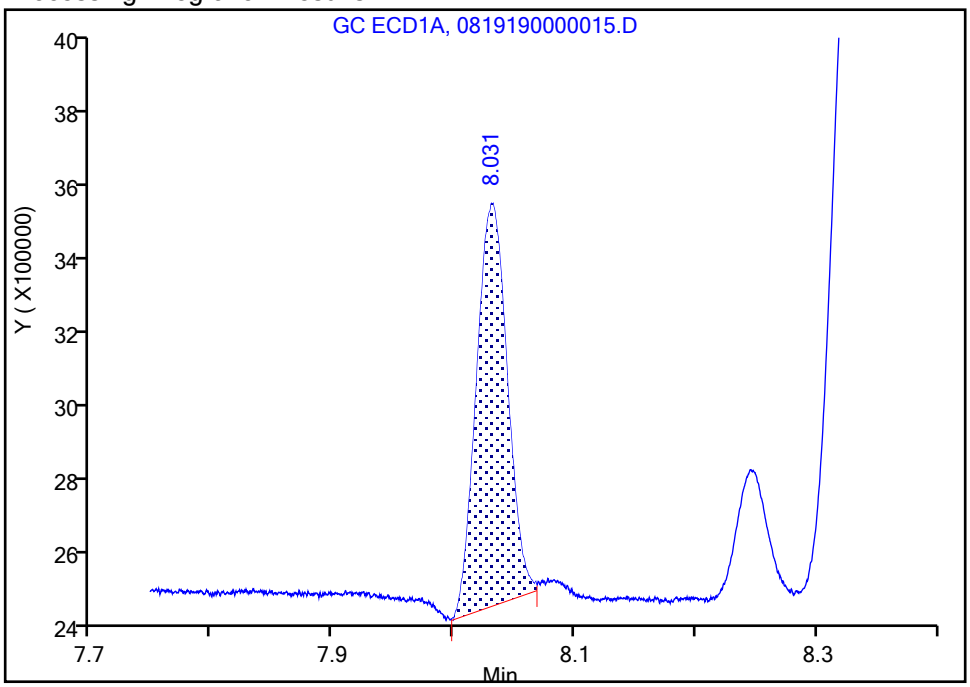

Manual Integration Results

RT: 8.03
Height: 1068517
Amount: 0.009820
Amount Units: ng

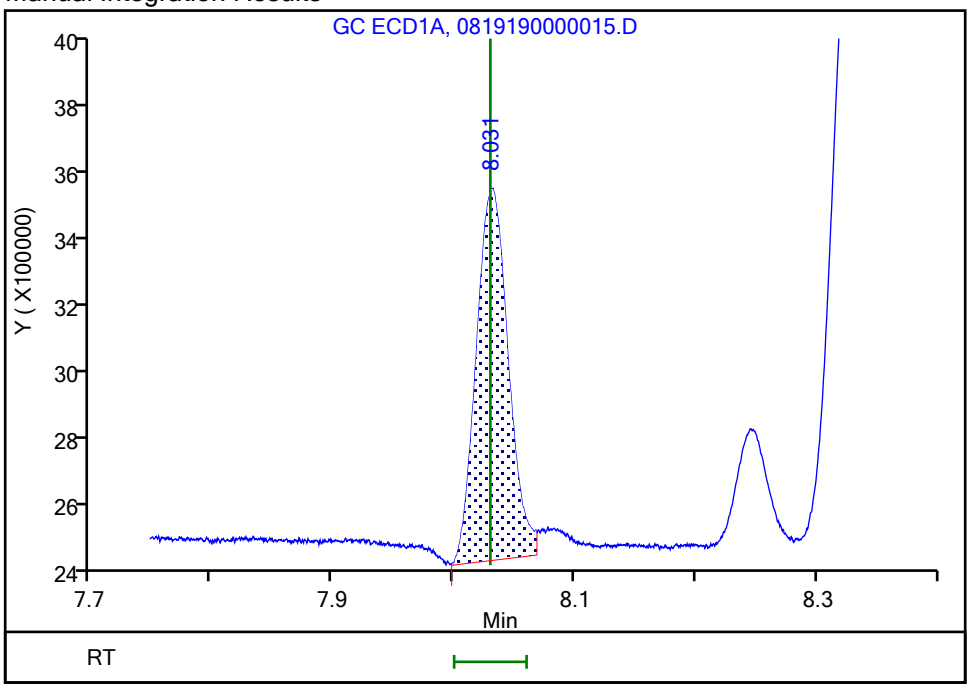

Reviewer: fritschj, 20-Aug-2019 08:28:41

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000015.D				
Injection Date:	19-Aug-2019 18:39:37	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

5 MCPA, CAS: 94-74-6

Signal: 1

Processing Integration Results

RT: 8.67
Height: 717753
Amount: 0.968753
Amount Units: ng

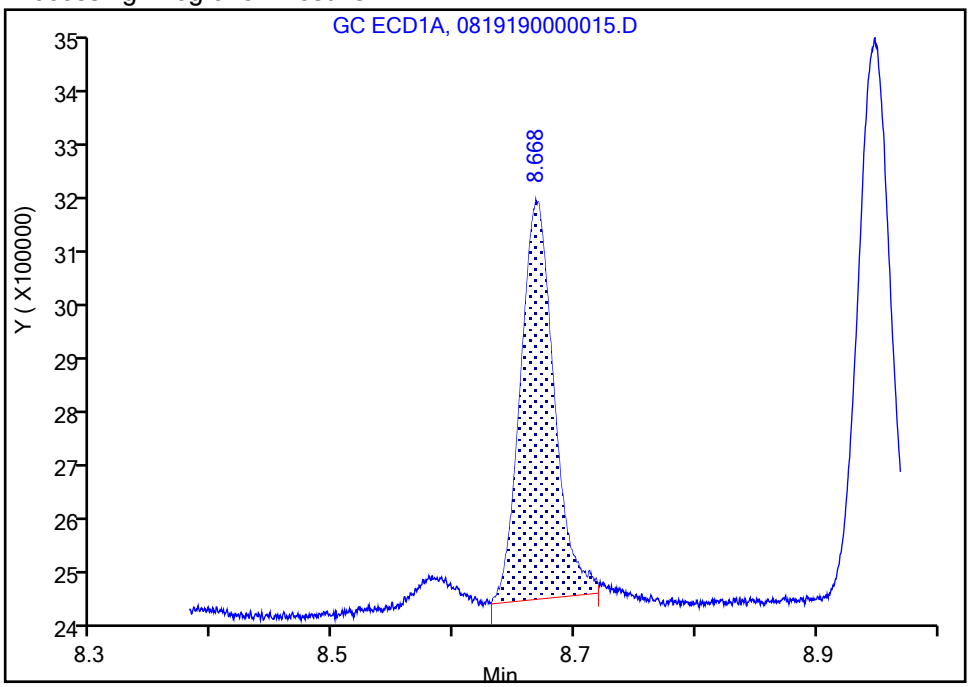

Manual Integration Results

RT: 8.67
Height: 727075
Amount: 1.133702
Amount Units: ng

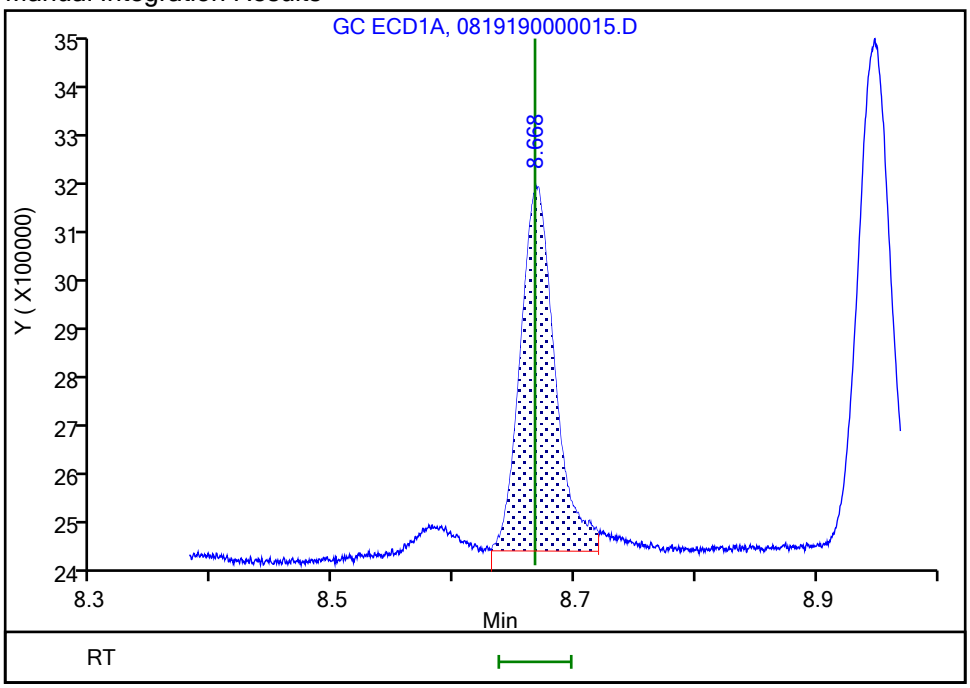

Reviewer: fritschj, 20-Aug-2019 08:30:20
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000016.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 19-Aug-2019 19:04:40 ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-003
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:54 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:33:13

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.180	2.179	0.001	3418078H	0.0200	0.0229	
2	2.351	2.348	0.003	7623859H	0.0200	0.0227	
						RPD = 0.96	
$ 2 2,4-Dichlorophenylacetic acid							M
1	8.030	8.030	0.000	2508937H	0.0200	0.0231	M
2	7.997	7.996	0.001	4812705H	0.0200	0.0228	M
						RPD = 1.04	
3 MCPP							M
1	8.247	8.246	0.001	910995H	2.00	2.31	
2	8.423	8.423	0.000	2326811	2.00	2.14	M
						RPD = 7.53	
4 Dicamba							
1	8.325	8.326	-0.001	4004694H	0.0100	0.0110	
2	8.265	8.265	0.000	7573096H	0.0100	0.0108	
						RPD = 1.66	
5 MCPA							
1	8.668	8.667	0.001	1594916H	2.00	2.49	
2	8.734	8.732	0.002	2949336H	2.00	2.39	
						RPD = 3.80	
6 Dichlorprop							
1	8.947	8.947	0.000	2234251H	0.0200	0.0231	
2	9.095	9.095	0.000	4268906H	0.0200	0.0230	
						RPD = 0.22	
7 2,4-D							
1	9.440	9.439	0.001	2582761H	0.0200	0.0235	
2	9.495	9.494	0.001	5071949H	0.0200	0.0234	
						RPD = 0.55	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.969	9.969	0.000	12922968	0.005000	0.005626	
2	9.692	9.691	0.001	11942592	0.005000	0.005569	H
						RPD = 1.01	
9 Silvex (2,4,5-TP)							
1	10.123	10.124	-0.001	2832937	0.005000	0.005782	H
2	10.263	10.263	0.000	5429675	0.005000	0.005769	H
						RPD = 0.24	
10 2,4,5-T							
1	10.672	10.673	-0.001	2719387	0.005000	0.005864	H
2	10.719	10.719	0.000	5238330	0.005000	0.005779	H
						RPD = 1.46	
11 Dinoseb							
1	10.928	10.928	0.000	4391182	0.0200	0.0228	H
2	11.801	11.800	0.001	8755118	0.0200	0.0224	H
						RPD = 1.83	
12 2,4-DB							
1	11.056	11.056	0.000	1573400	0.0200	0.0239	H
2	11.150	11.149	0.001	2842702	0.0200	0.0230	H
						RPD = 3.48	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCHERBCALSL1_00027 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:25:55 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000016.D				
Injection Date:	19-Aug-2019 19:04:40	Instrument ID:	CGC1	Operator ID:	
Lims ID:	ic			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

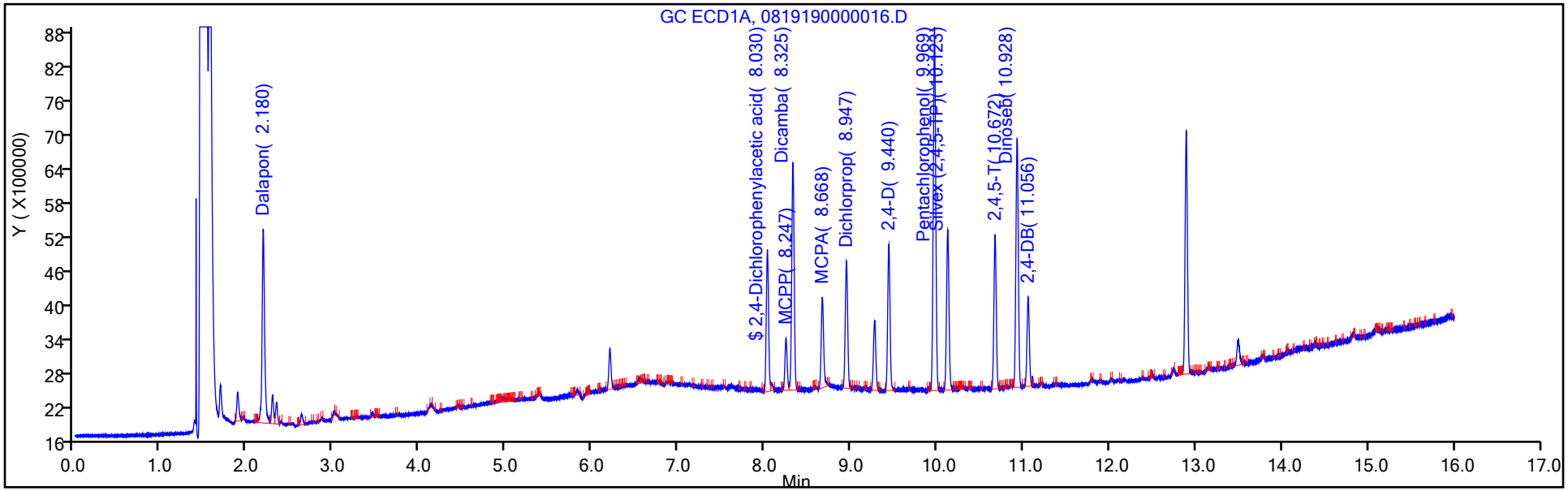

Column: RTX-1701 (0.53 mm)

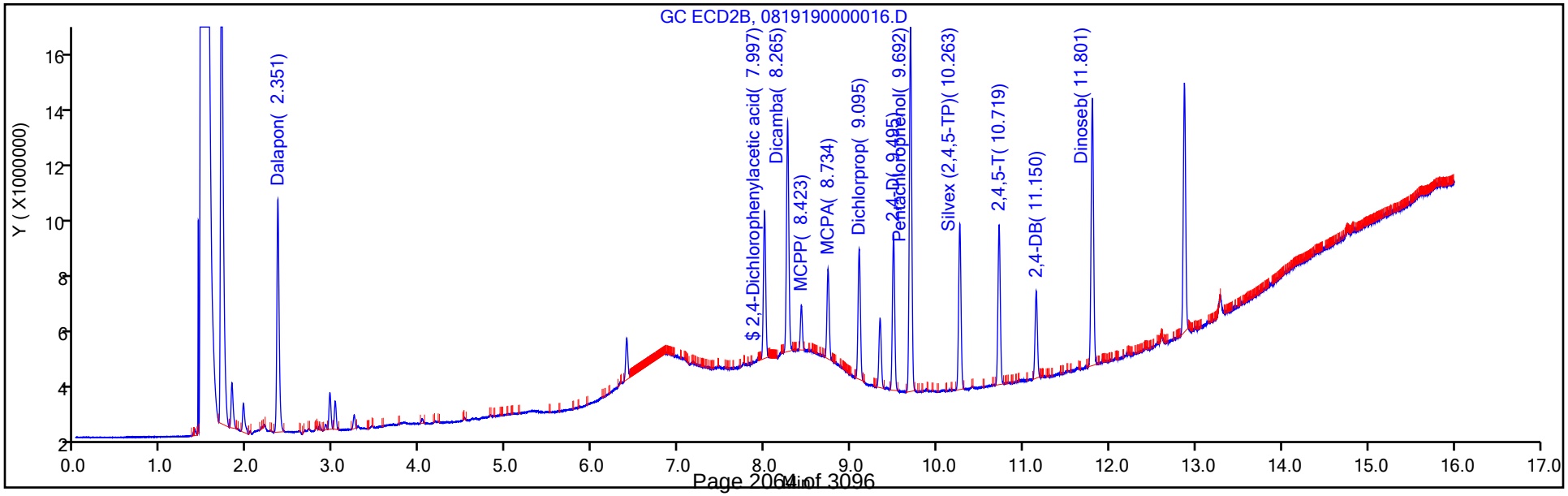

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000016.D				
Injection Date:	19-Aug-2019 19:04:40	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

$ 2 2,4-Dichlorophenylacetic acid, CAS: 19719-28-9

Signal: 1

Processing Integration Results

RT: 8.03
Height: 2498886
Amount: 0.037905
Amount Units: ng

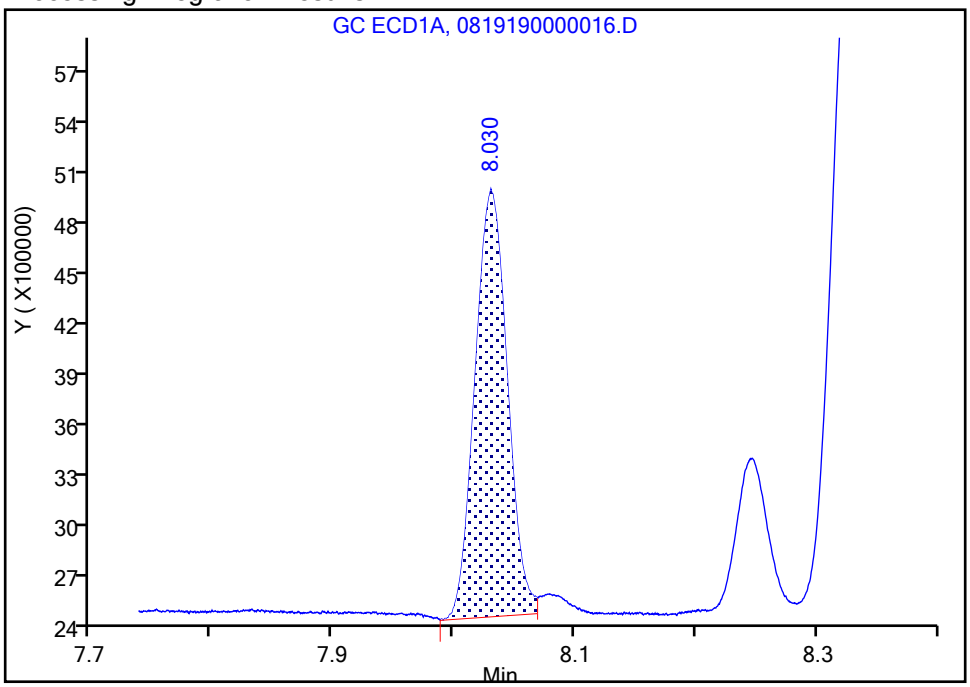

Manual Integration Results

RT: 8.03
Height: 2508937
Amount: 0.023057
Amount Units: ng

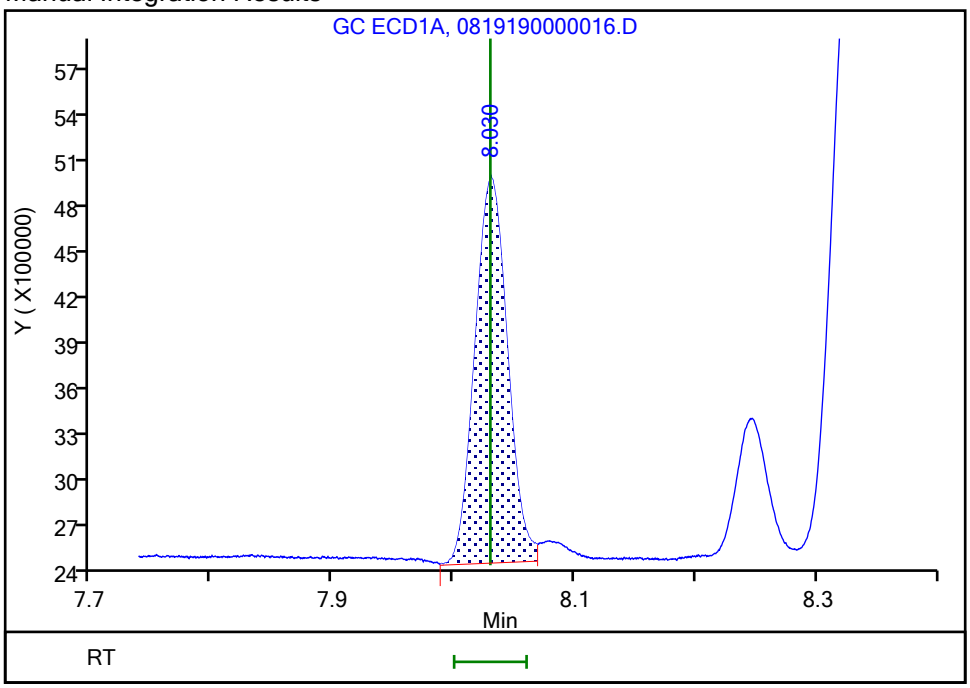

Reviewer: fritschj, 20-Aug-2019 08:32:43

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000017.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 19-Aug-2019 19:29:38 ALS Bottle#: 3 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-004
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:51 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:33:38

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.180	2.179	0.001	6332062H	0.0400	0.0425	
2	2.349	2.348	0.001	14337210H	0.0400	0.0427	
						RPD = 0.54	
$ 2 2,4-Dichlorophenylacetic acid							
1	8.030	8.030	0.000	4713434H	0.0400	0.0433	
2	7.996	7.996	0.000	9171540H	0.0400	0.0435	
						RPD = 0.38	
3 MCPP							
1	8.245	8.246	-0.001	1791894H	4.00	4.53	
2	8.424	8.423	0.001	5452918	4.00	4.43	
						RPD = 2.43	
4 Dicamba							
1	8.325	8.326	-0.001	7576276H	0.0200	0.0208	
2	8.264	8.265	-0.001	14653717H	0.0200	0.0209	
						RPD = 0.60	
5 MCPA							
1	8.667	8.667	0.000	2851165H	4.00	4.45	
2	8.733	8.732	0.001	5563689H	4.00	4.52	
						RPD = 1.58	
6 Dichlorprop							
1	8.946	8.947	-0.001	4193107H	0.0400	0.0433	
2	9.095	9.095	0.000	8138700H	0.0400	0.0439	
						RPD = 1.35	
7 2,4-D							
1	9.440	9.439	0.001	4738312H	0.0400	0.0431	
2	9.492	9.494	-0.002	9501459H	0.0400	0.0438	
						RPD = 1.54	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.970	9.969	0.001	24346174	0.0100	0.0106	
2	9.691	9.691	0.000	22869753H	0.0100	0.0107	
						RPD = 0.63	
9 Silvex (2,4,5-TP)							
1	10.124	10.124	0.000	5269266H	0.0100	0.0108	
2	10.263	10.263	0.000	10301266H	0.0100	0.0109	
						RPD = 1.74	
10 2,4,5-T							
1	10.673	10.673	0.000	5003210H	0.0100	0.0108	
2	10.719	10.719	0.000	9933044H	0.0100	0.0110	
						RPD = 1.56	
11 Dinoseb							
1	10.928	10.928	0.000	8122045H	0.0400	0.0422	
2	11.801	11.800	0.001	16720974H	0.0400	0.0428	
						RPD = 1.37	
12 2,4-DB							
1	11.056	11.056	0.000	2816514H	0.0400	0.0427	
2	11.150	11.149	0.001	5369567H	0.0400	0.0435	
						RPD = 1.89	

Reagents:

GCHERBCALSL2_00024 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:25:51 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000017.D				
Injection Date:	19-Aug-2019 19:29:38	Instrument ID:	CGC1	Operator ID:	
Lims ID:	ic			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

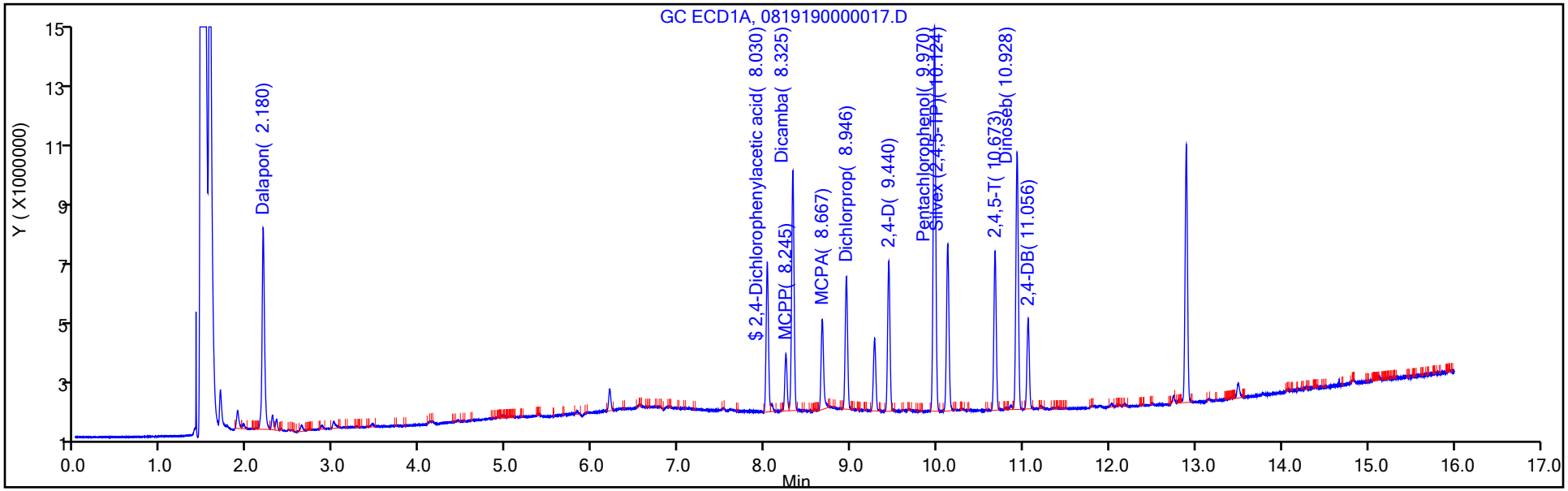

Column: RTX-1701 (0.53 mm)

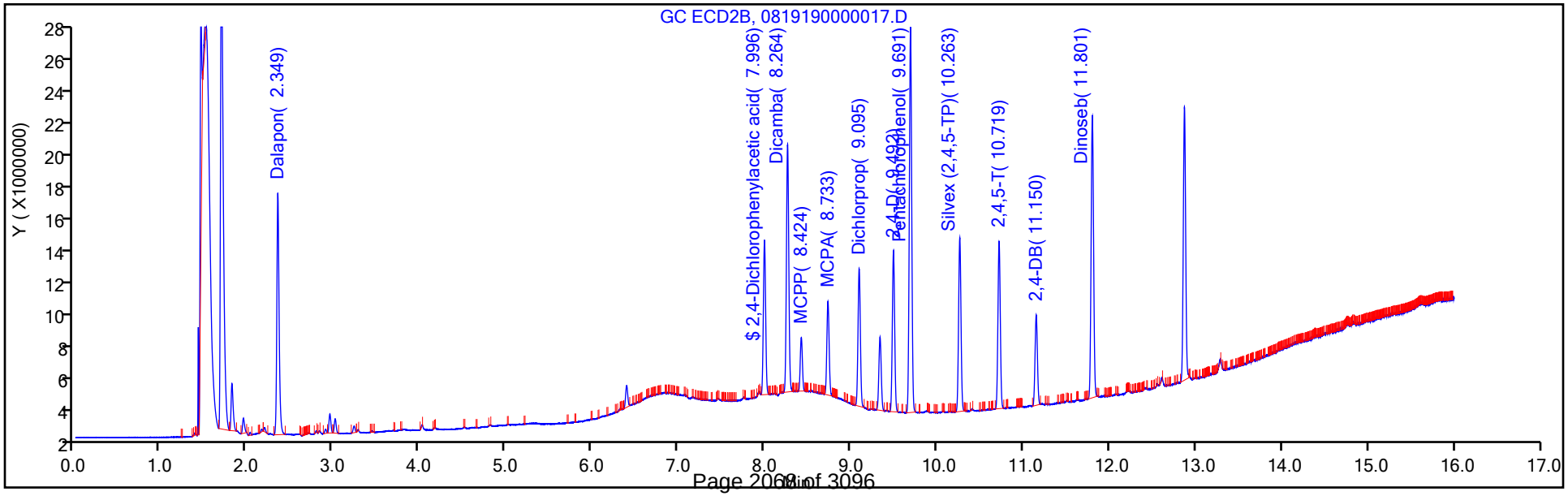

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D
Lims ID: icrt
Client ID:
Sample Type: ICRT Calib Level: 3
Inject. Date: 19-Aug-2019 19:54:39 ALS Bottle#: 4 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-005
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:45 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:28:11

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							a
1	2.179	2.179	0.000	11223295H	0.0800	0.0753	a
2	2.348	2.348	0.000	25411026H	0.0800	0.0757	a
						RPD = 0.54	
$ 2 2,4-Dichlorophenylacetic acid							a
1	8.030	8.030	0.000	7613570H	0.0800	0.0700	a
2	7.996	7.996	0.000	14765553H	0.0800	0.0700	a
						RPD = 0.05	
3 MCPP							Ma
1	8.246	8.246	0.000	2974715H	8.00	7.53	a
2	8.423	8.423	0.000	9866795	8.00	7.65	M
						RPD = 1.68	
4 Dicamba							a
1	8.326	8.326	0.000	12450636H	0.0400	0.0341	a
2	8.265	8.265	0.000	24433399H	0.0400	0.0348	a
						RPD = 2.05	
5 MCPA							a
1	8.667	8.667	0.000	4460869H	8.00	6.96	a
2	8.732	8.732	0.000	8744680H	8.00	7.10	a
						RPD = 2.04	
6 Dichlorprop							a
1	8.947	8.947	0.000	6683731H	0.0800	0.0690	a
2	9.095	9.095	0.000	13013520H	0.0800	0.0702	a
						RPD = 1.67	
7 2,4-D							a
1	9.439	9.439	0.000	7458378H	0.0800	0.0679	a
2	9.494	9.494	0.000	15308071H	0.0800	0.0705	a
						RPD = 3.86	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							a
1	9.969	9.969	0.000	39077252	0.0200	0.0170	a
2	9.691	9.691	0.000	36992114H	0.0200	0.0173	a
						RPD = 1.40	
9 Silvex (2,4,5-TP)							a
1	10.124	10.124	0.000	8350247H	0.0200	0.0170	a
2	10.263	10.263	0.000	16465579H	0.0200	0.0175	a
						RPD = 2.60	
10 2,4,5-T							a
1	10.673	10.673	0.000	7923065H	0.0200	0.0171	a
2	10.719	10.719	0.000	15848356H	0.0200	0.0175	a
						RPD = 2.31	
11 Dinoseb							a
1	10.928	10.928	0.000	12819214H	0.0800	0.0666	a
2	11.800	11.800	0.000	27183193H	0.0800	0.0695	a
						RPD = 4.33	
12 2,4-DB							a
1	11.056	11.056	0.000	4420145H	0.0800	0.0670	a
2	11.149	11.149	0.000	8459711H	0.0800	0.0686	a
						RPD = 2.28	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

GCHERBCALSL3_00028 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:25:46 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1	Operator ID:	
Lims ID:	icrt			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

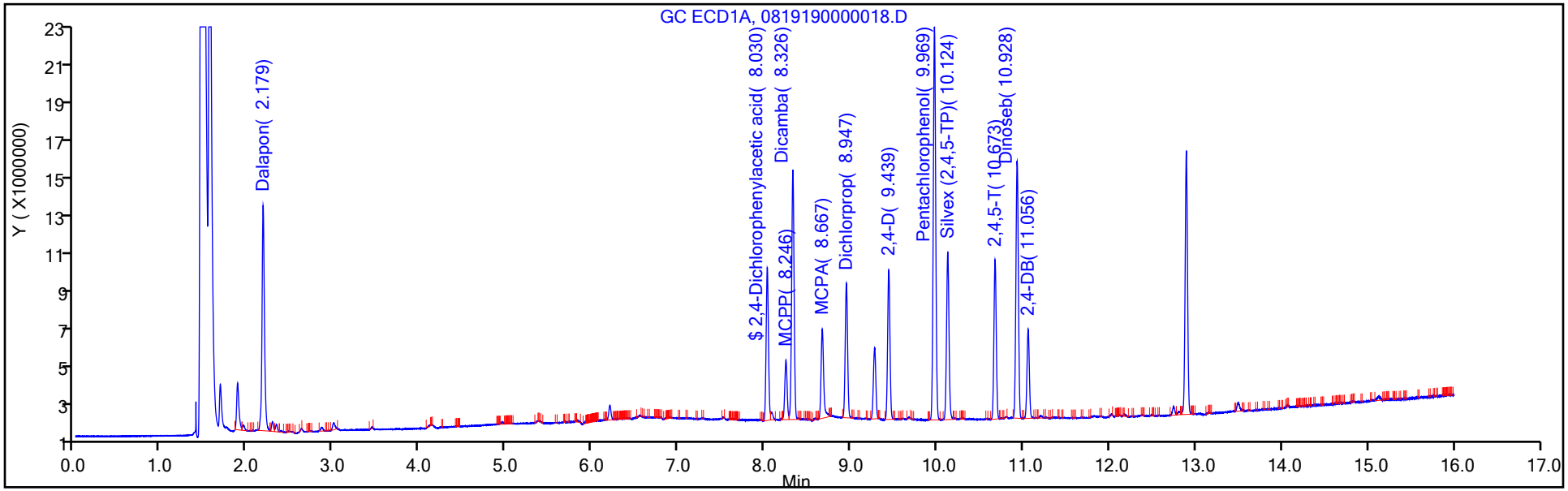

Column: RTX-1701 (0.53 mm)

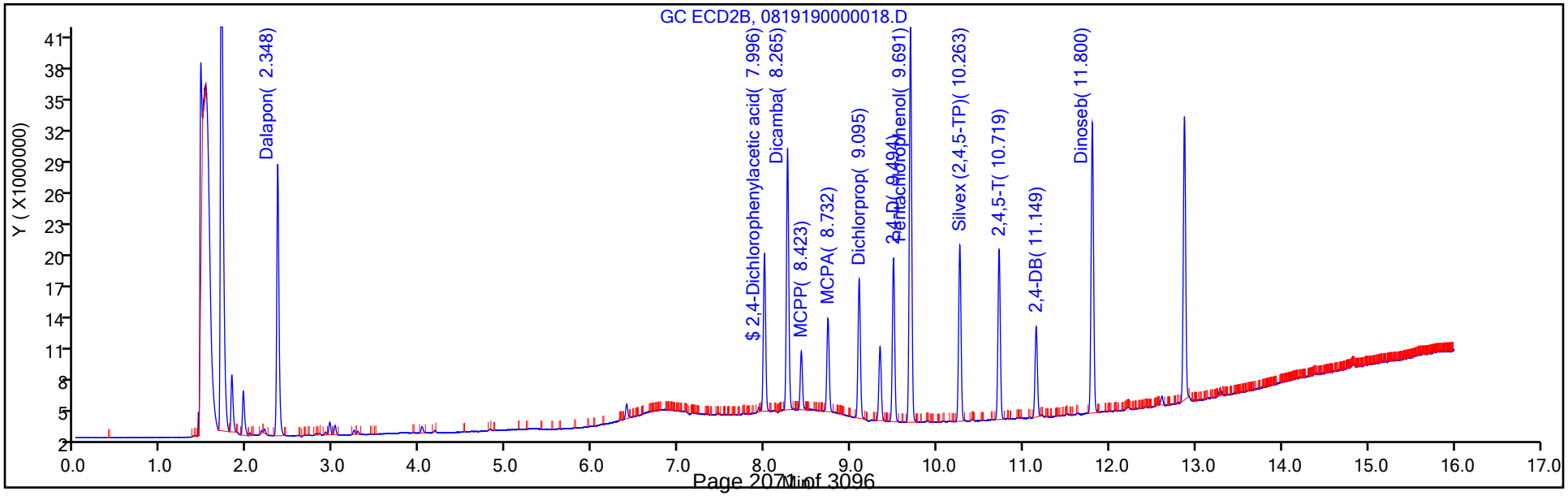

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

1 Dalapon, CAS: 75-99-0

Signal: 1

Not Detected
Expected RT: 2.18

Processing Integration Results

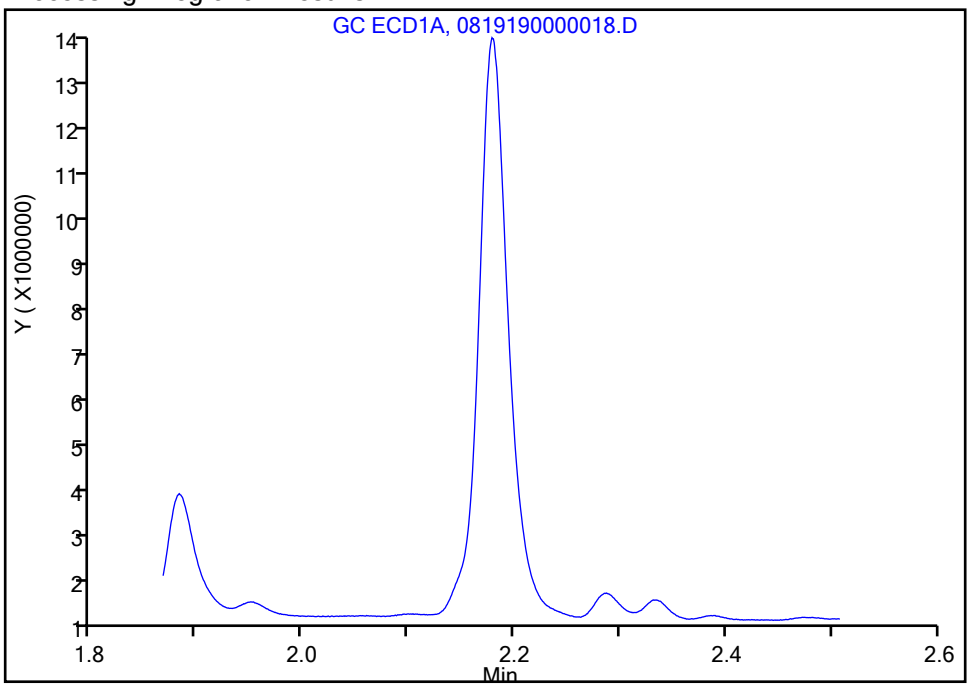

Manual Integration Results

RT: 2.18
Height: 11223295
Amount: 0.075302
Amount Units: ng

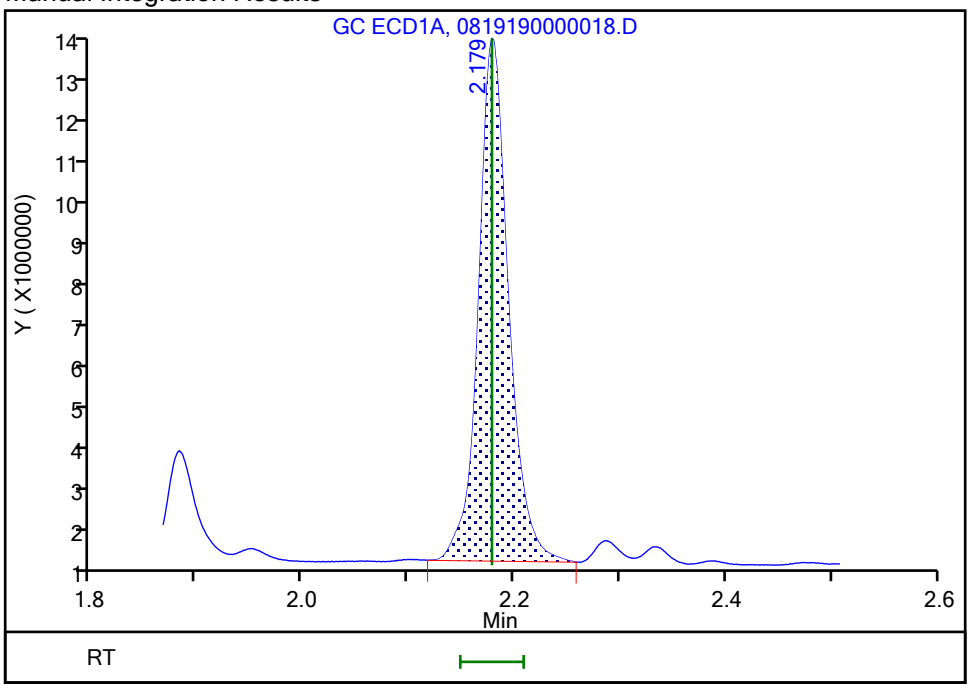

Reviewer: fritschj, 20-Aug-2019 08:15:43
Audit Action: Assigned Compound ID Audit Reason:

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

$ 2 2,4-Dichlorophenylacetic acid, CAS: 19719-28-9

Signal: 1

Processing Integration Results

RT: 8.20
Height: 97884
Amount: 0.377061
Amount Units: ng

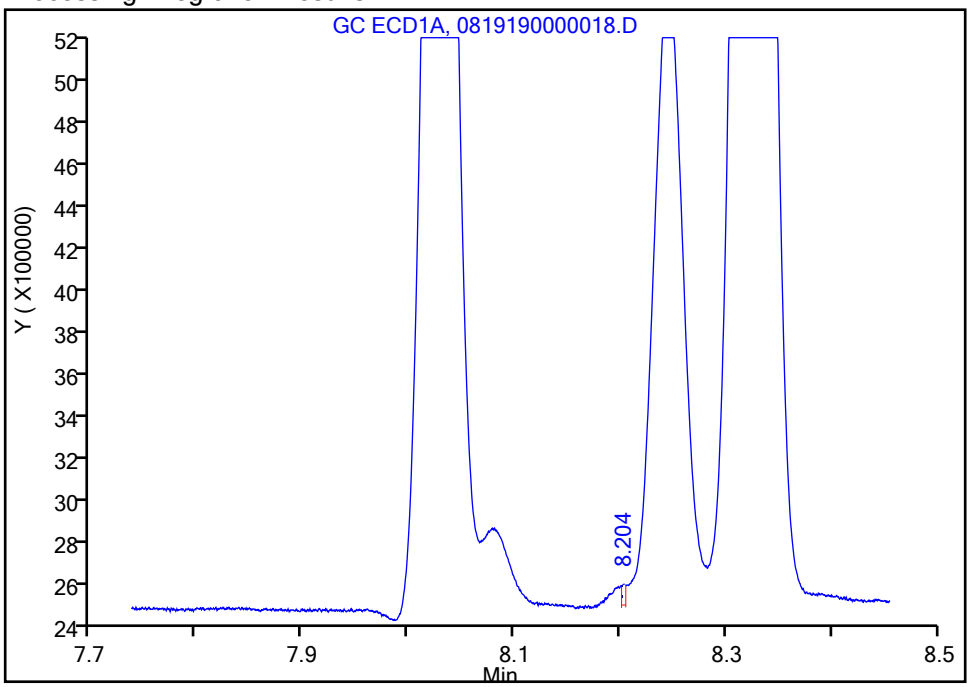

Manual Integration Results

RT: 8.03
Height: 7613570
Amount: 0.069969
Amount Units: ng

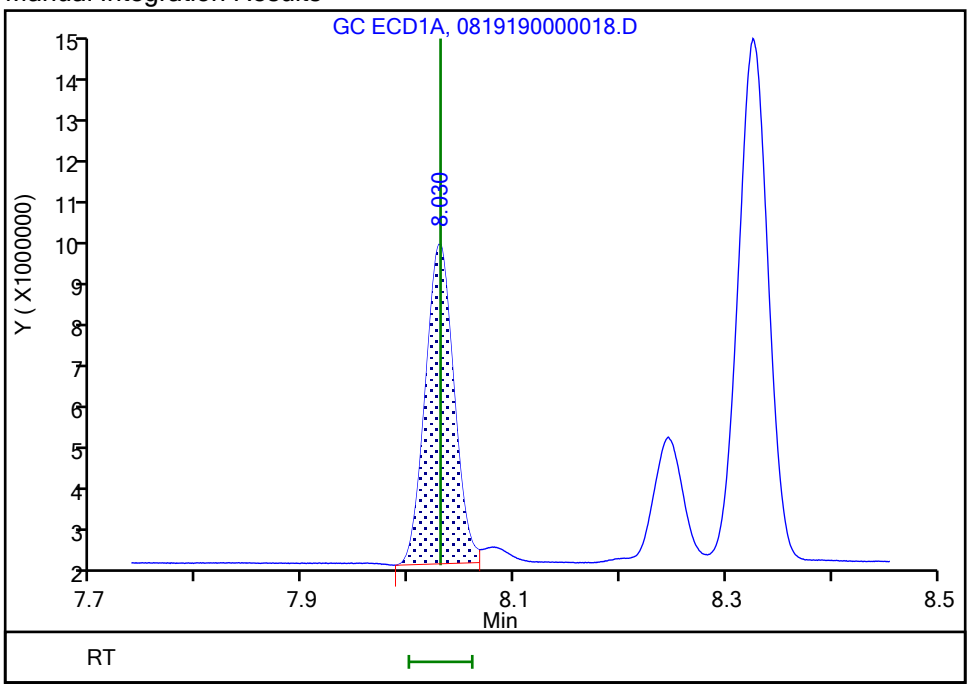

Reviewer: fritschj, 20-Aug-2019 08:15:55
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

3 MCPP, CAS: 93-65-2

Signal: 1

Processing Integration Results

RT: 8.67
Height: 4460869
Amount: 6.970161
Amount Units: ng

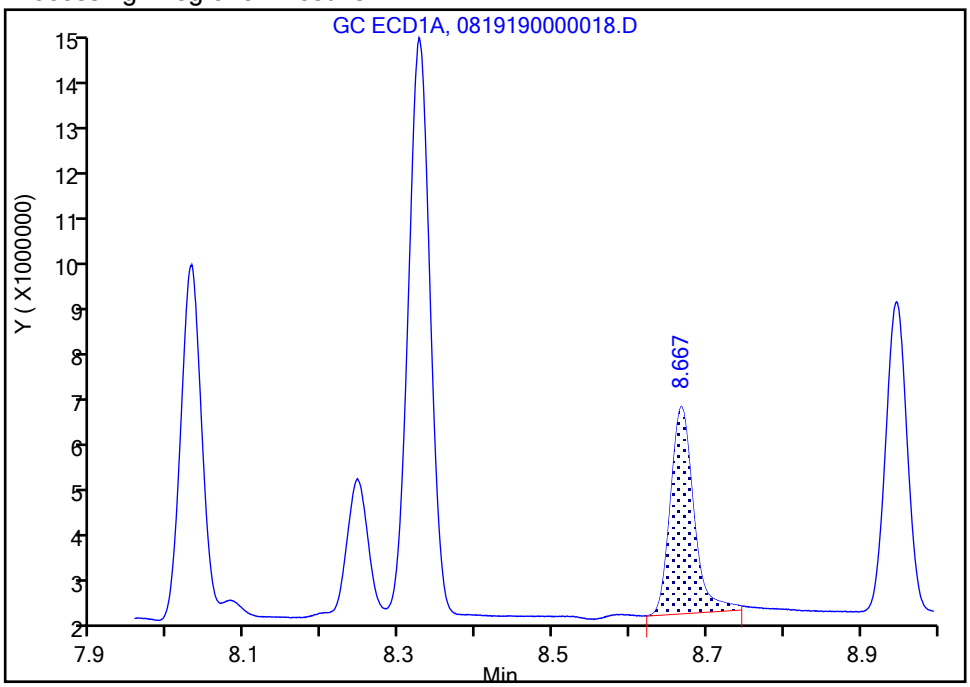

Manual Integration Results

RT: 8.25
Height: 2974715
Amount: 7.527019
Amount Units: ng

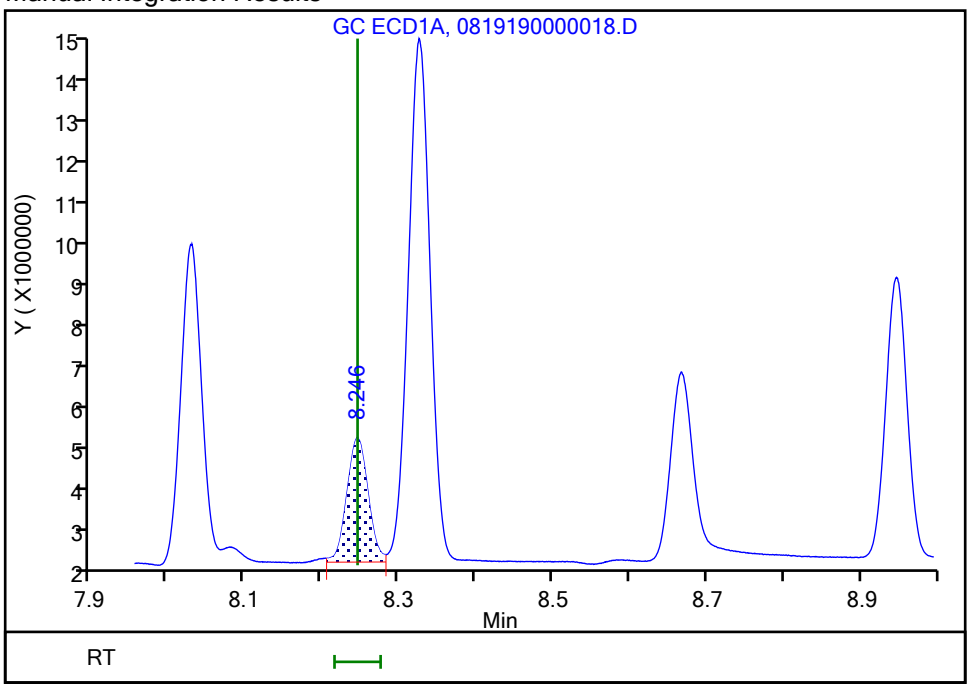

Reviewer: fritschj, 20-Aug-2019 08:17:56
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

4 Dicamba, CAS: 1918-00-9

Signal: 1

Processing Integration Results

RT: 8.49
Height: 19946
Amount: -0.082749
Amount Units: ng

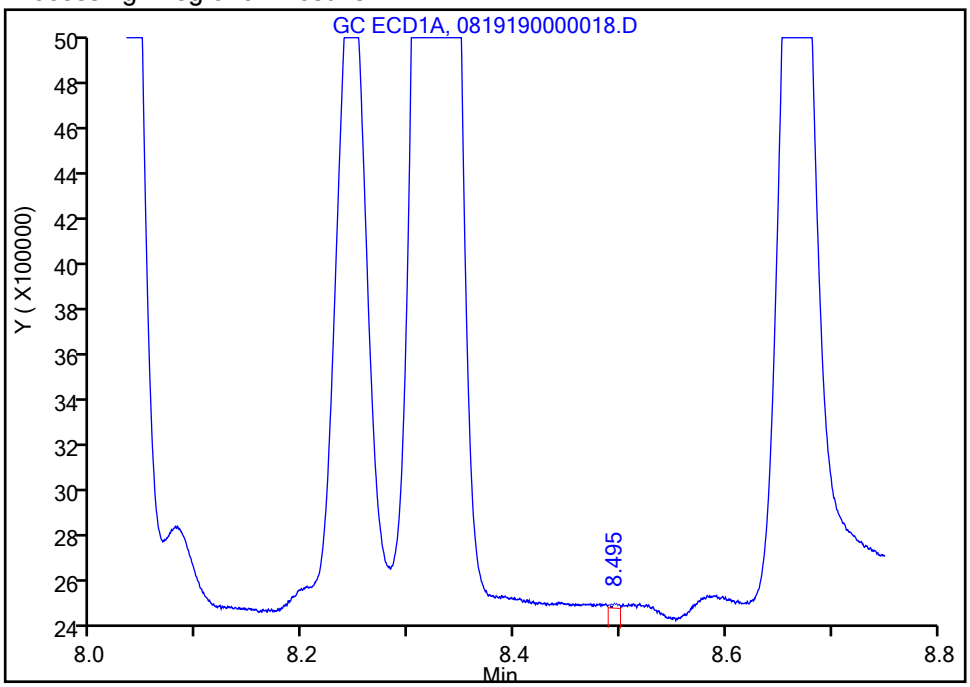

Manual Integration Results

RT: 8.33
Height: 12450636
Amount: 0.034134
Amount Units: ng

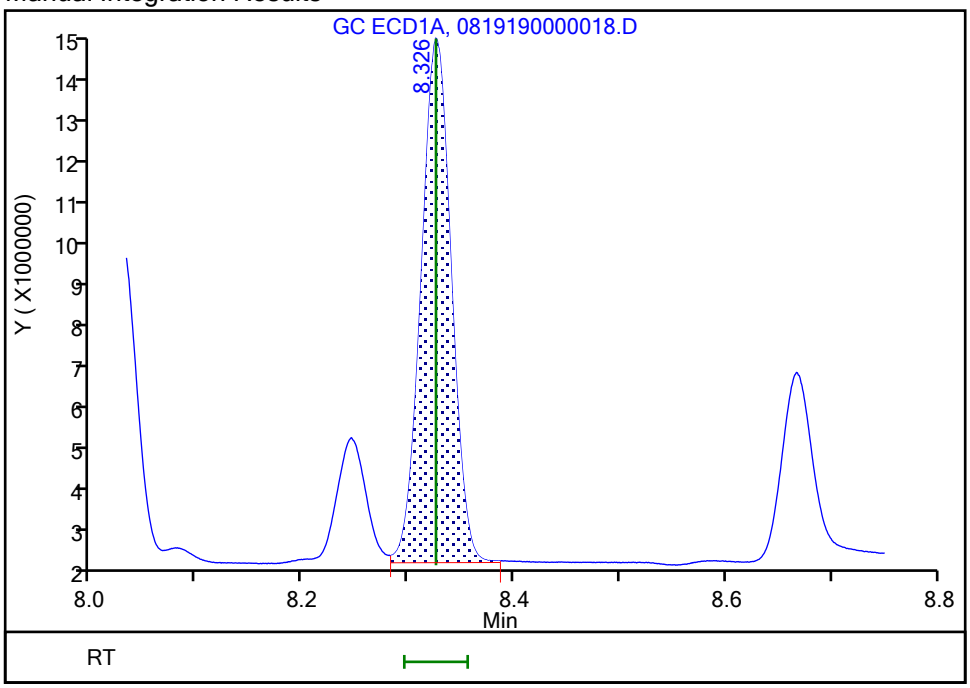

Reviewer: fritschj, 20-Aug-2019 08:18:07
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

5 MCPA, CAS: 94-74-6

Signal: 1

Not Detected
Expected RT: 8.67

Processing Integration Results

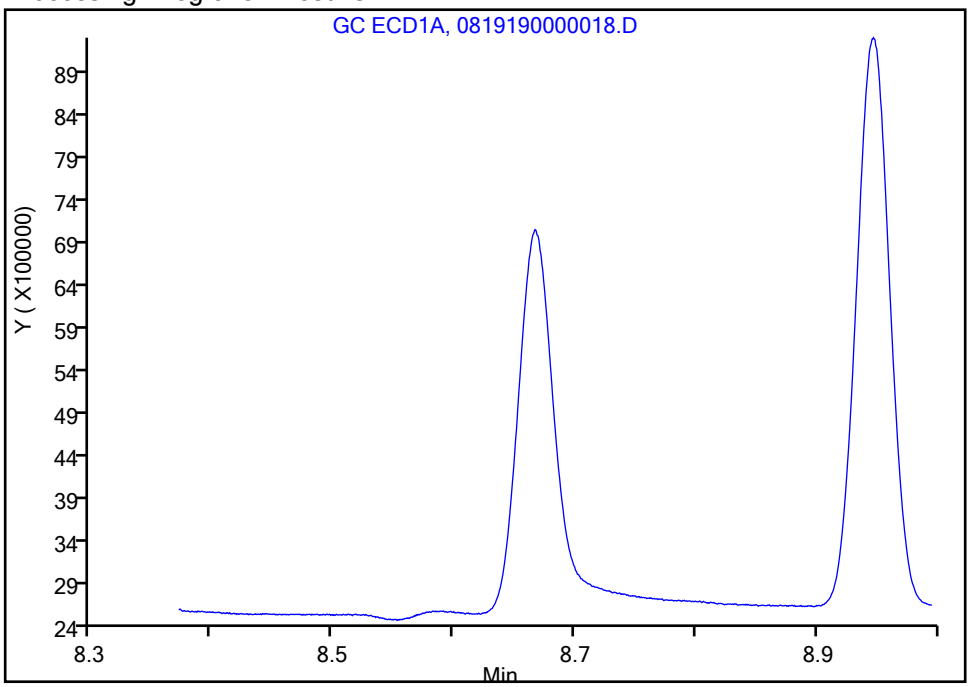

Manual Integration Results

RT: 8.67
Height: 4460869
Amount: 6.955675
Amount Units: ng

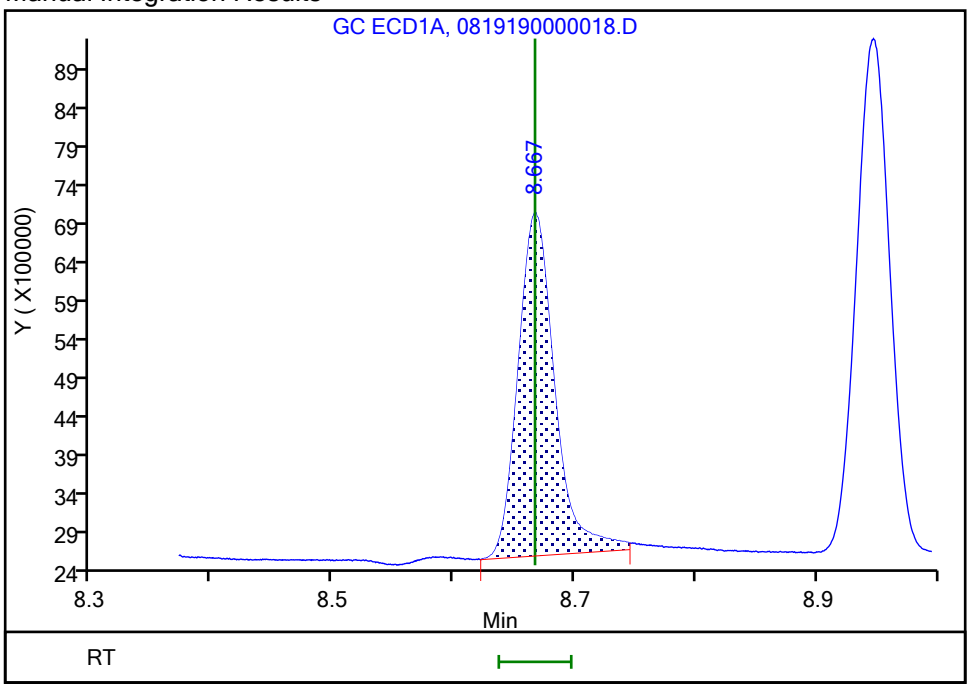

Reviewer: fritschj, 20-Aug-2019 08:18:28
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

6 Dichlorprop, CAS: 120-36-5

Signal: 1

Not Detected
Expected RT: 8.95

Processing Integration Results

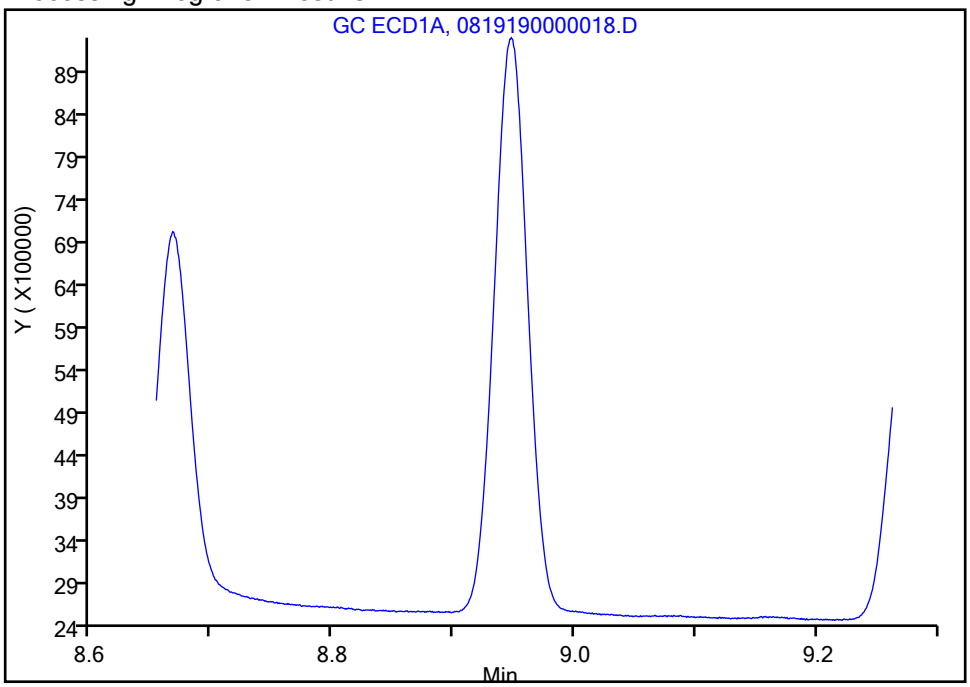

Manual Integration Results

RT: 8.95
Height: 6683731
Amount: 0.069031
Amount Units: ng

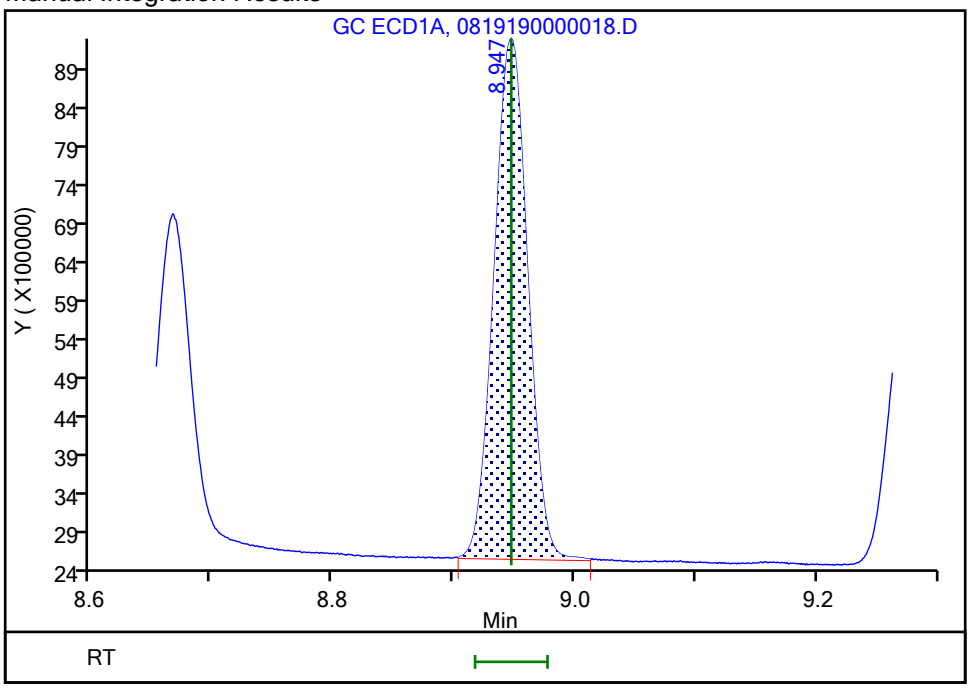

Reviewer: fritschj, 20-Aug-2019 08:19:16
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

7 2,4-D, CAS: 94-75-7

Signal: 1

Not Detected
Expected RT: 9.44

Processing Integration Results

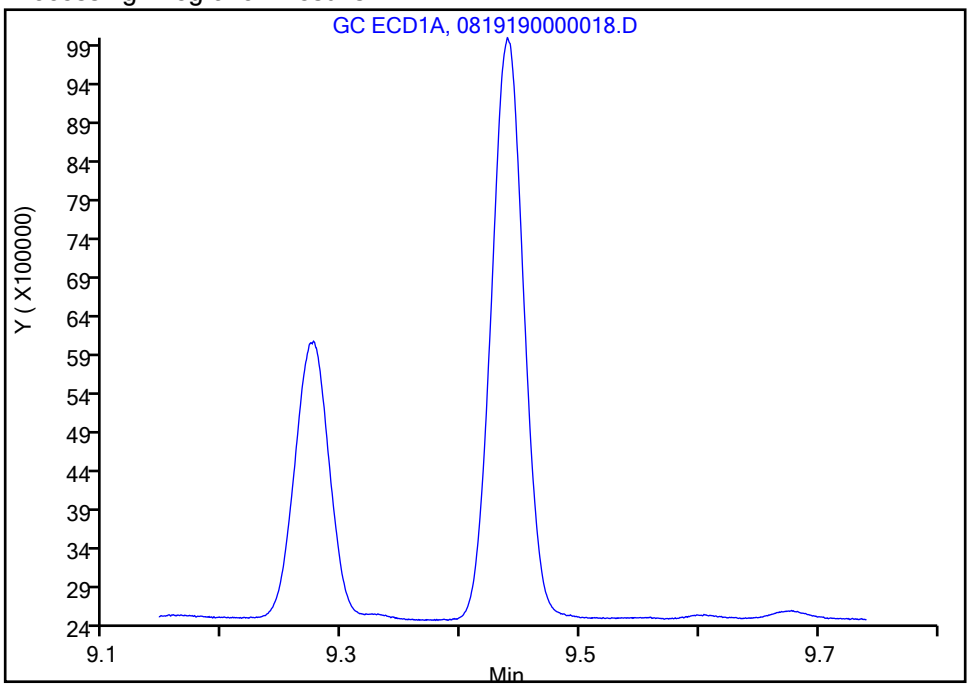

Manual Integration Results

RT: 9.44
Height: 7458378
Amount: 0.067858
Amount Units: ng

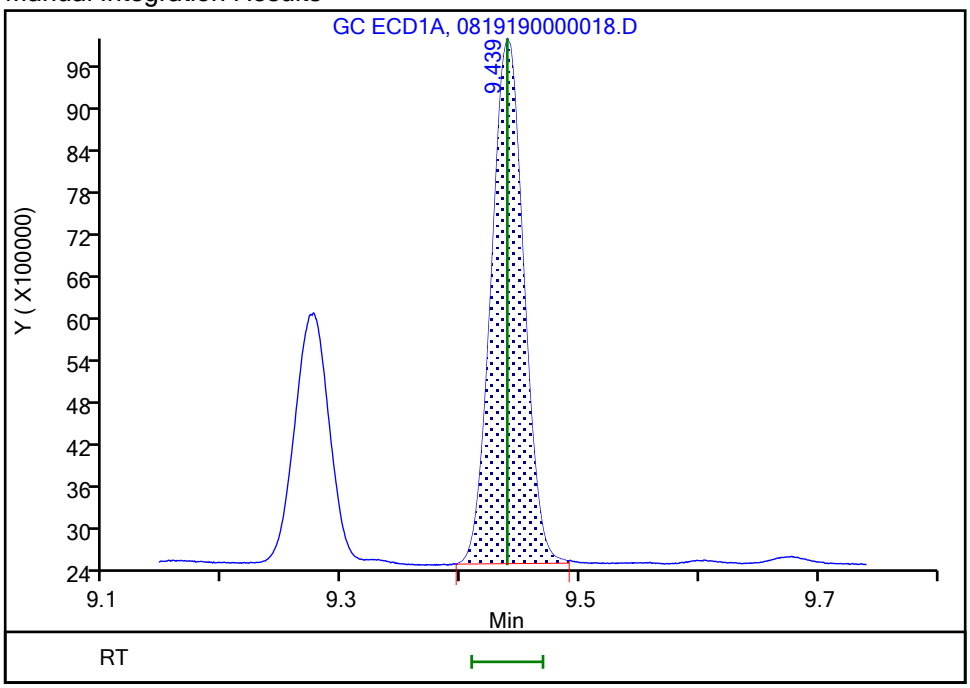

Reviewer: fritschj, 20-Aug-2019 08:19:37
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

8 Pentachlorophenol, CAS: 87-86-5

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 9.97

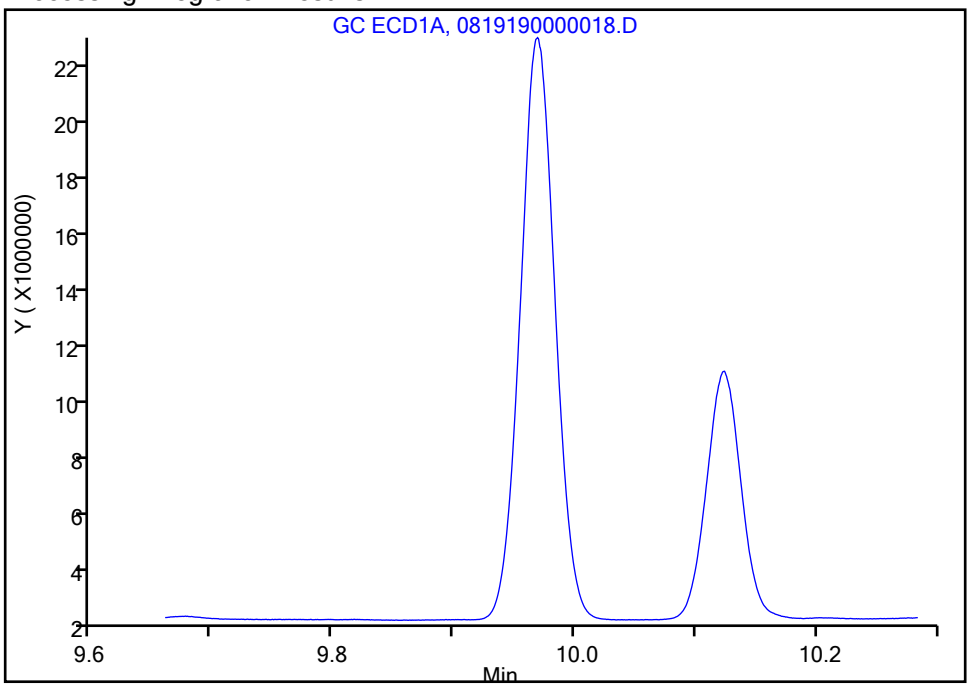

Manual Integration Results

RT: 9.97
Area: 39077252
Amount: 0.017011
Amount Units: ng

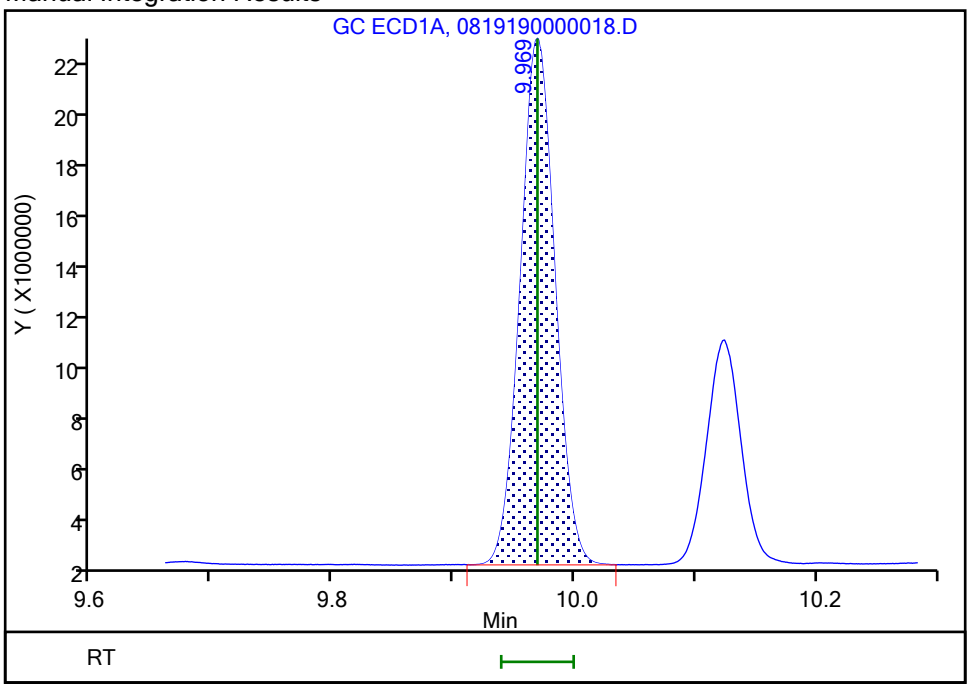

Reviewer: fritschj, 20-Aug-2019 08:21:49
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

9 Silvex (2,4,5-TP), CAS: 93-72-1

Signal: 1

Not Detected
Expected RT: 10.12

Processing Integration Results

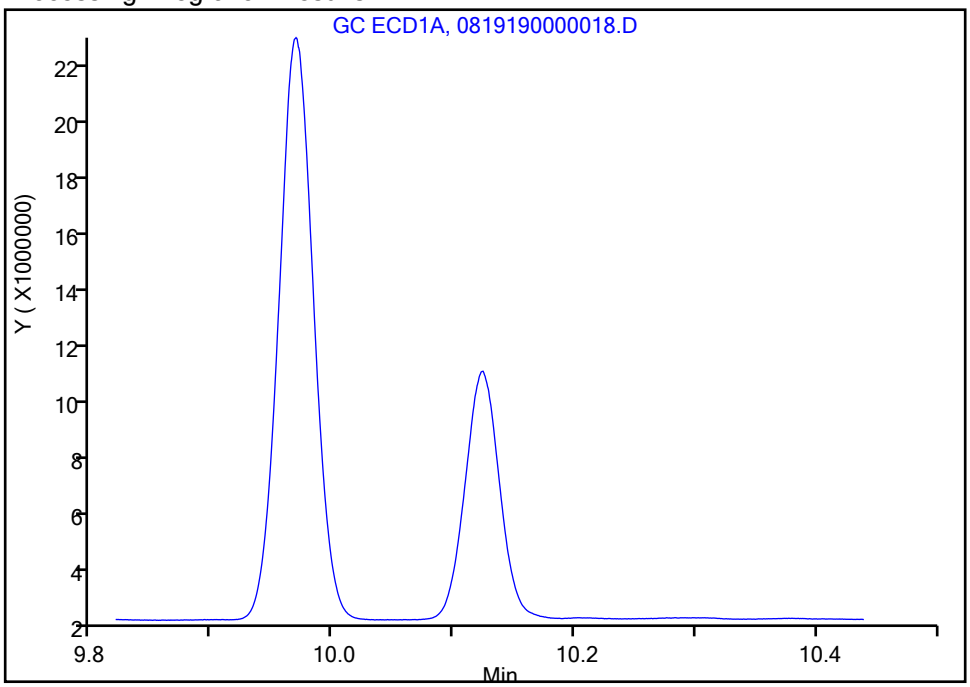

Manual Integration Results

RT: 10.12
Height: 8350247
Amount: 0.017044
Amount Units: ng

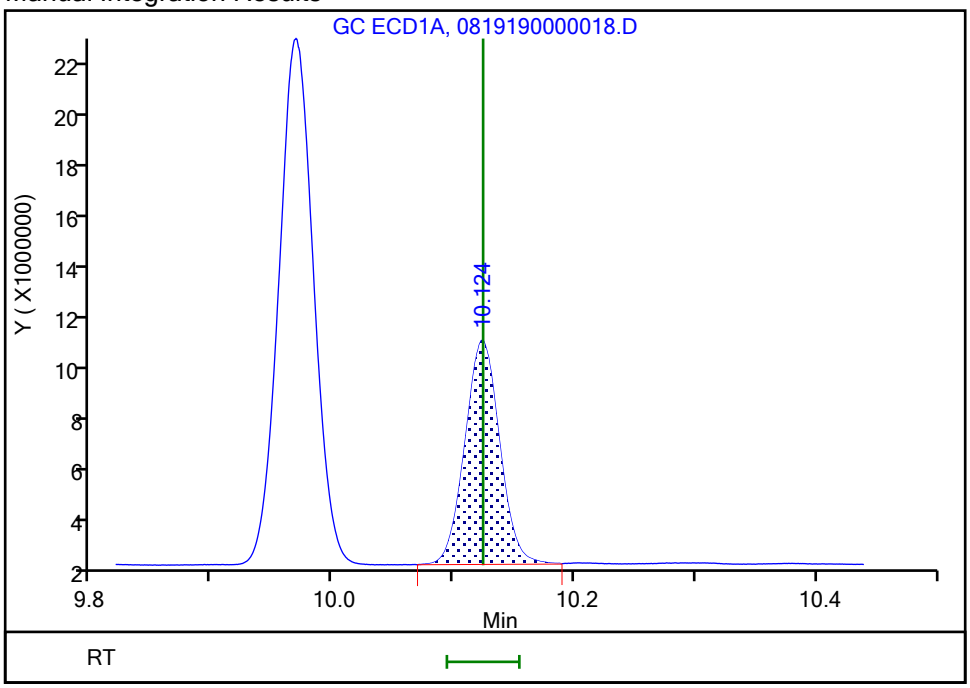

Reviewer: fritschj, 20-Aug-2019 08:22:17
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

10 2,4,5-T, CAS: 93-76-5

Signal: 1

Not Detected
Expected RT: 10.67

Processing Integration Results

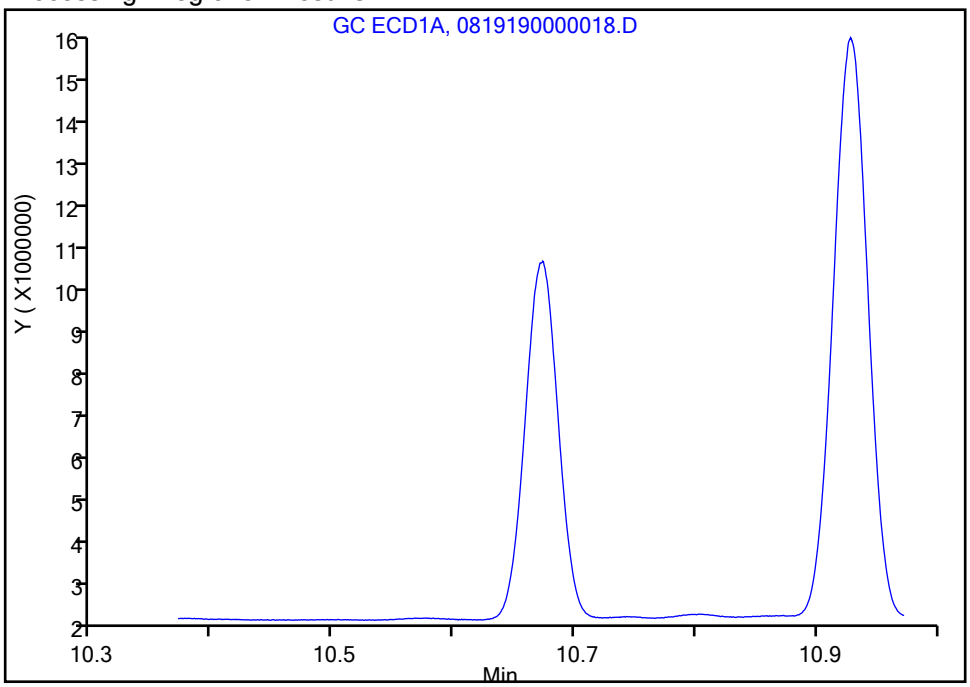

Manual Integration Results

RT: 10.67
Height: 7923065
Amount: 0.017086
Amount Units: ng

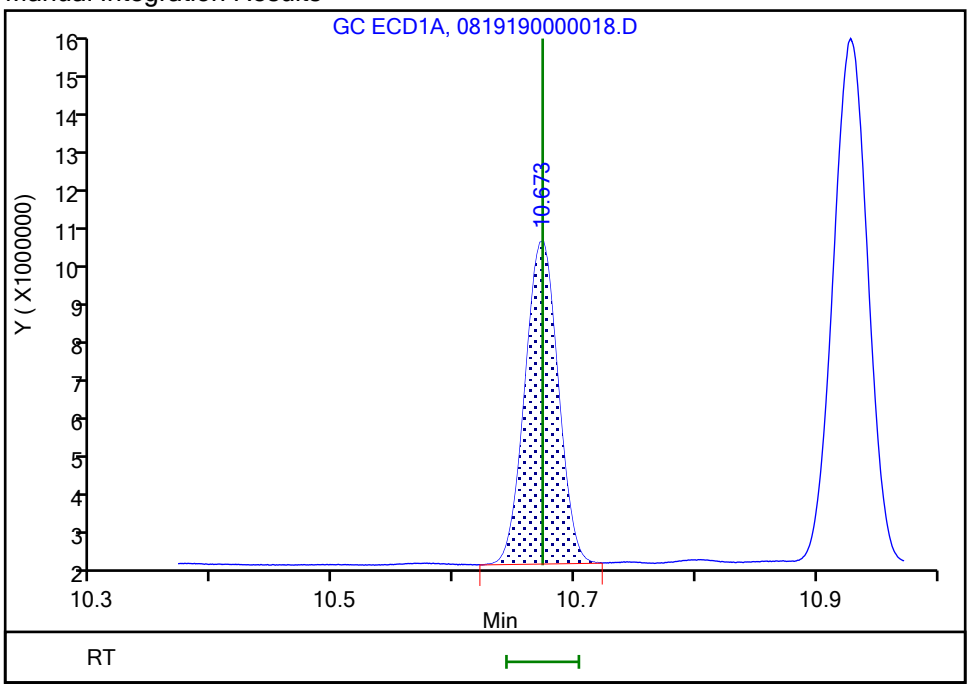

Reviewer: fritschj, 20-Aug-2019 08:23:59
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

11 Dinoseb, CAS: 88-85-7

Signal: 1

Processing Integration Results

RT: 12.07
Height: 29656
Amount: 0.035802
Amount Units: ng

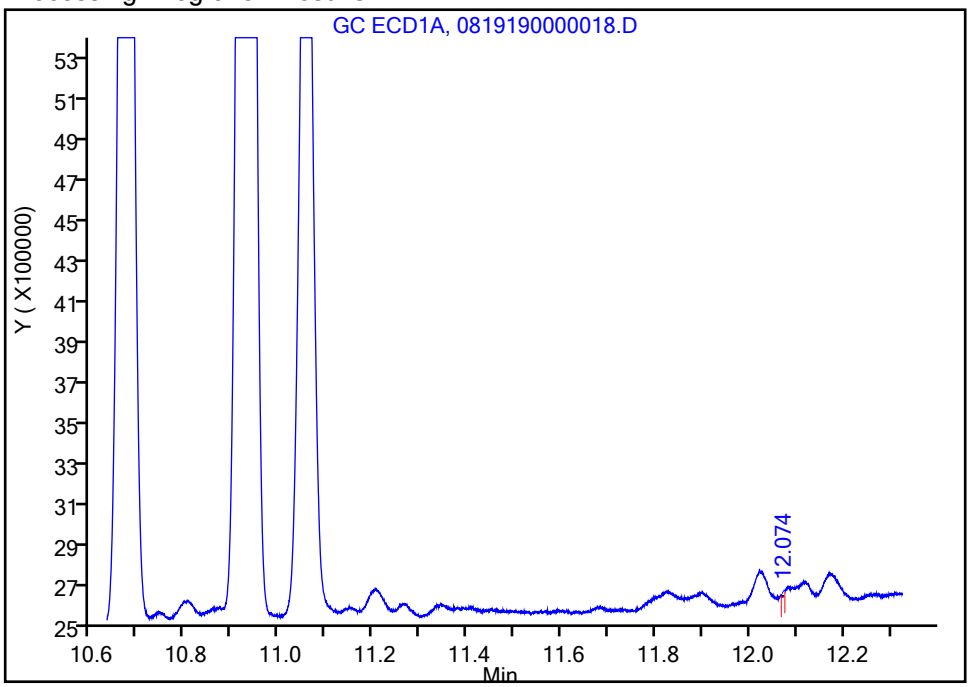

Manual Integration Results

RT: 10.93
Height: 12819214
Amount: 0.066594
Amount Units: ng

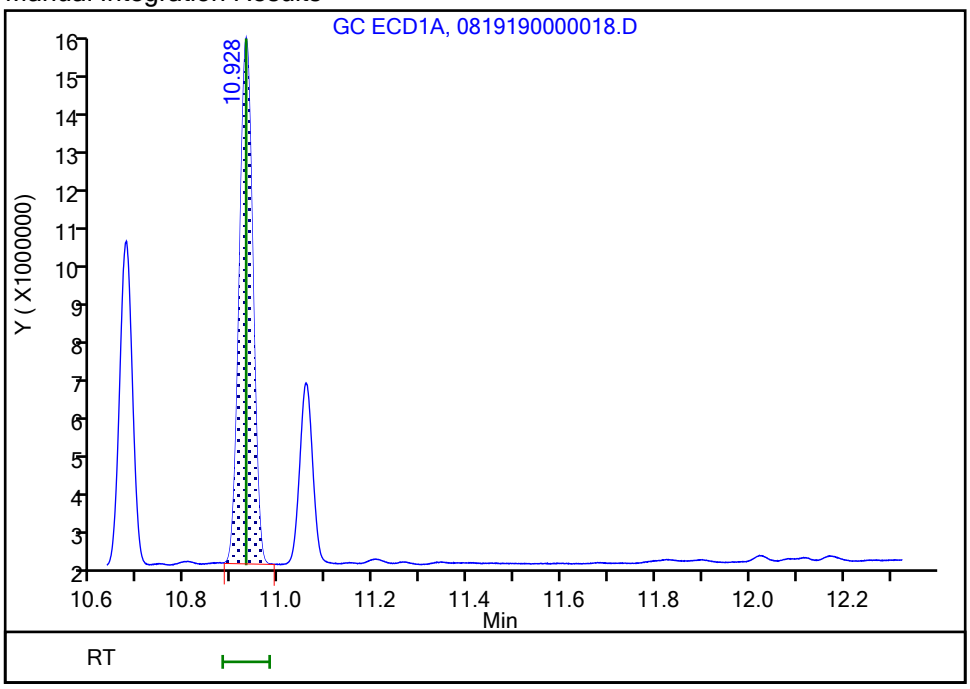

Reviewer: fritschj, 20-Aug-2019 08:24:17
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

12 2,4-DB, CAS: 94-82-6

Signal: 1

Not Detected
Expected RT: 11.06

Processing Integration Results

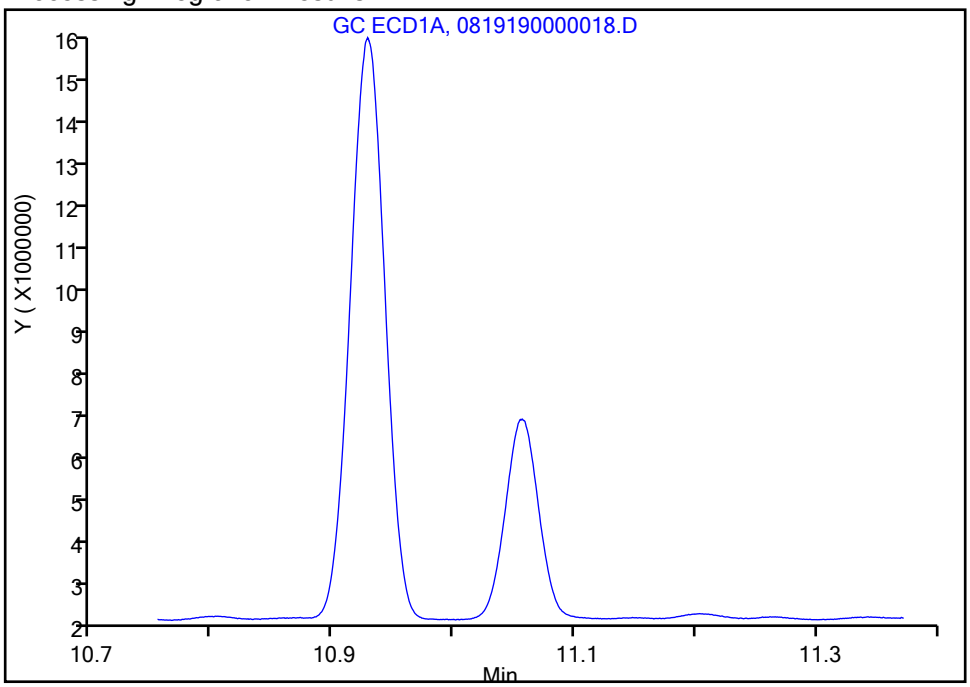

Manual Integration Results

RT: 11.06
Height: 4420145
Amount: 0.067033
Amount Units: ng

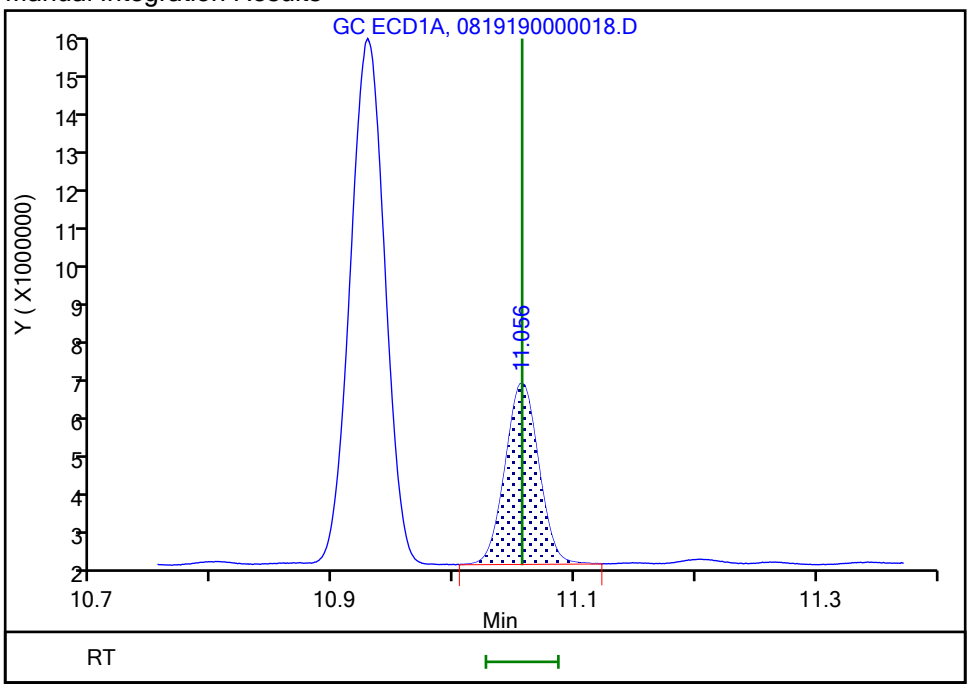

Reviewer: fritschj, 20-Aug-2019 08:24:51
Audit Action: Assigned Compound ID Audit Reason:

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000019.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 19-Aug-2019 20:19:37 ALS Bottle#: 5 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-006
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:41 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:36:14

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.180	2.179	0.001	21029013H	0.1600	0.1411	
2	2.349	2.348	0.001	47108347H	0.1600	0.1404	
						RPD = 0.53	
$ 2 2,4-Dichlorophenylacetic acid							M
1	8.027	8.030	-0.003	14637561H	0.1600	0.1345	
2	7.996	7.996	0.000	28362876H	0.1600	0.1345	M
						RPD = 0.04	
3 MCPP							M
1	8.245	8.246	-0.001	5526314H	16.0	14.0	
2	8.423	8.423	0.000	19552026	16.0	14.7	M
						RPD = 5.27	
4 Dicamba							
1	8.325	8.326	-0.001	24338630H	0.0800	0.0667	
2	8.265	8.265	0.000	48128489H	0.0800	0.0686	
						RPD = 2.81	
5 MCPA							
1	8.667	8.667	0.000	8041901H	16.0	12.5	
2	8.733	8.732	0.001	16184172H	16.0	13.1	
						RPD = 4.66	
6 Dichlorprop							
1	8.946	8.947	-0.001	12688482H	0.1600	0.1310	
2	9.095	9.095	0.000	24921509H	0.1600	0.1344	
						RPD = 2.54	
7 2,4-D							
1	9.439	9.439	0.000	14118416H	0.1600	0.1285	
2	9.493	9.494	-0.001	28835678H	0.1600	0.1329	
						RPD = 3.37	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.968	9.969	-0.001	76949921	0.0400	0.0335	
2	9.690	9.691	-0.001	72319636	0.0400	0.0337	H
						RPD = 0.68	
9 Silvex (2,4,5-TP)							
1	10.122	10.124	-0.002	16132968	0.0400	0.0329	H
2	10.262	10.263	-0.001	31885085	0.0400	0.0339	H
						RPD = 2.83	
10 2,4,5-T							
1	10.672	10.673	-0.001	15241356	0.0400	0.0329	H
2	10.717	10.719	-0.002	30784000	0.0400	0.0340	H
						RPD = 3.28	
11 Dinoseb							
1	10.927	10.928	-0.001	25368364	0.1600	0.1318	H
2	11.801	11.800	0.001	53199332	0.1600	0.1361	H
						RPD = 3.22	
12 2,4-DB							
1	11.055	11.056	-0.001	8376520	0.1600	0.1270	H
2	11.147	11.149	-0.002	16504494	0.1600	0.1338	H
						RPD = 5.18	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCHERBCALSL4_00027 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:25:42 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000019.D

Injection Date: 19-Aug-2019 20:19:37 Instrument ID: CGC1 Operator ID:

Lims ID: ic Worklist Smp#: 6

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 5

Method: Herbicides_CGC1 Limit Group: GCS 8151A ICAL

Column: RTX-50 (0.53 mm)

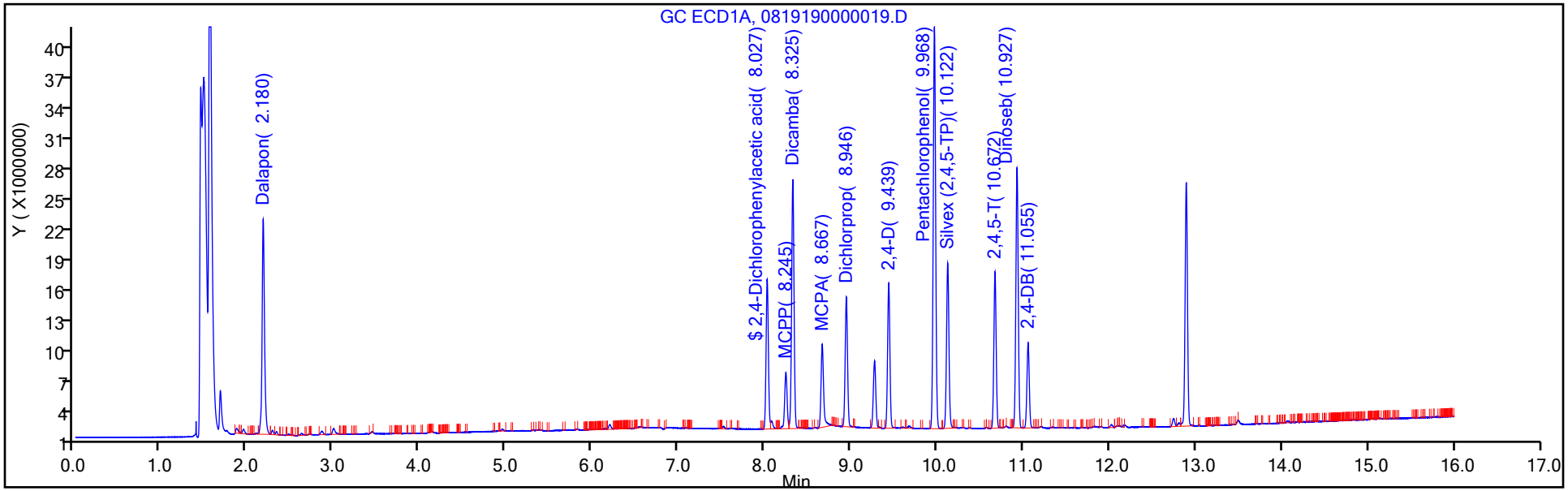

Column: RTX-1701 (0.53 mm)

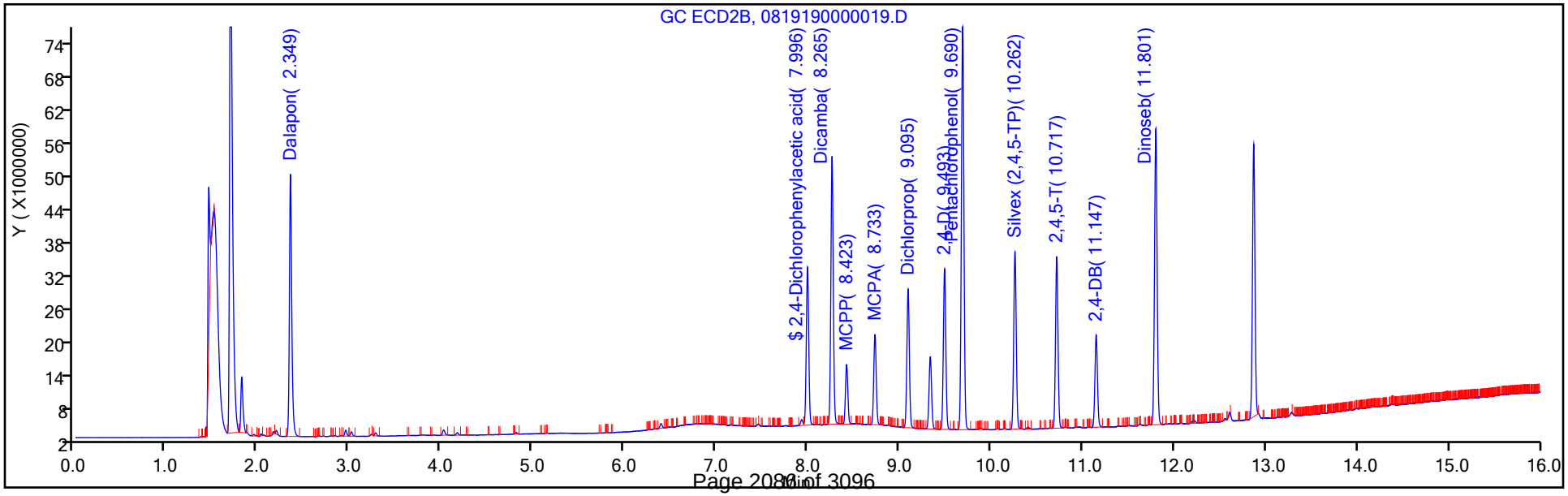

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000020.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 19-Aug-2019 20:44:28 ALS Bottle#: 6 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-007
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:36 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:39:36

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.179	2.179	0.000	43608531H	0.3200	0.2926	
2	2.348	2.348	0.000	99838456H	0.3200	0.2975	
						RPD = 1.65	
$ 2 2,4-Dichlorophenylacetic acid							M
1	8.029	8.030	-0.001	31108696H	0.3200	0.2859	
2	7.995	7.996	-0.001	61366883H	0.3200	0.2909	M
						RPD = 1.75	
3 MCPP							M
1	8.245	8.246	-0.001	11527851H	32.0	29.2	
2	8.423	8.423	0.000	43025874	32.0	31.9	M
						RPD = 8.99	
4 Dicamba							
1	8.327	8.326	0.001	54610812H	0.1600	0.1497	
2	8.264	8.265	-0.001	108308115H	0.1600	0.1544	
						RPD = 3.11	
5 MCPA							M
1	8.667	8.667	0.000	17021609H	32.0	26.5	M
2	8.732	8.732	0.000	34629475H	32.0	28.1	
						RPD = 5.75	
6 Dichlorprop							M
1	8.947	8.947	0.000	27593514H	0.3200	0.2850	M
2	9.094	9.095	-0.001	54016213H	0.3200	0.2913	
						RPD = 2.21	
7 2,4-D							
1	9.439	9.439	0.000	31721217H	0.3200	0.2886	
2	9.493	9.494	-0.001	63139895H	0.3200	0.2909	
						RPD = 0.80	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.968	9.969	-0.001	174313893	0.0800	0.0759	
2	9.690	9.691	-0.001	165194490	0.0800	0.0770	H
						RPD = 1.51	
9 Silvex (2,4,5-TP)							
1	10.123	10.124	-0.001	36187475	0.0800	0.0739	H
2	10.262	10.263	-0.001	69623321	0.0800	0.0740	H
						RPD = 0.15	
10 2,4,5-T							
1	10.672	10.673	-0.001	33557621	0.0800	0.0724	H
2	10.719	10.719	0.000	67021283	0.0800	0.0739	H
						RPD = 2.16	
11 Dinoseb							
1	10.927	10.928	-0.001	57547973	0.3200	0.2990	H
2	11.800	11.800	0.000	118949912	0.3200	0.3043	H
						RPD = 1.77	
12 2,4-DB							
1	11.056	11.056	0.000	18445489	0.3200	0.2797	H
2	11.148	11.149	-0.001	36748566	0.3200	0.2979	H
						RPD = 6.29	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCHERBCALSL5_00024 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:25:37 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000020.D

Injection Date: 19-Aug-2019 20:44:28 Instrument ID: CGC1 Operator ID:

Lims ID: ic Worklist Smp#: 7

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 6

Method: Herbicides_CGC1 Limit Group: GCS 8151A ICAL

Column: RTX-50 (0.53 mm)

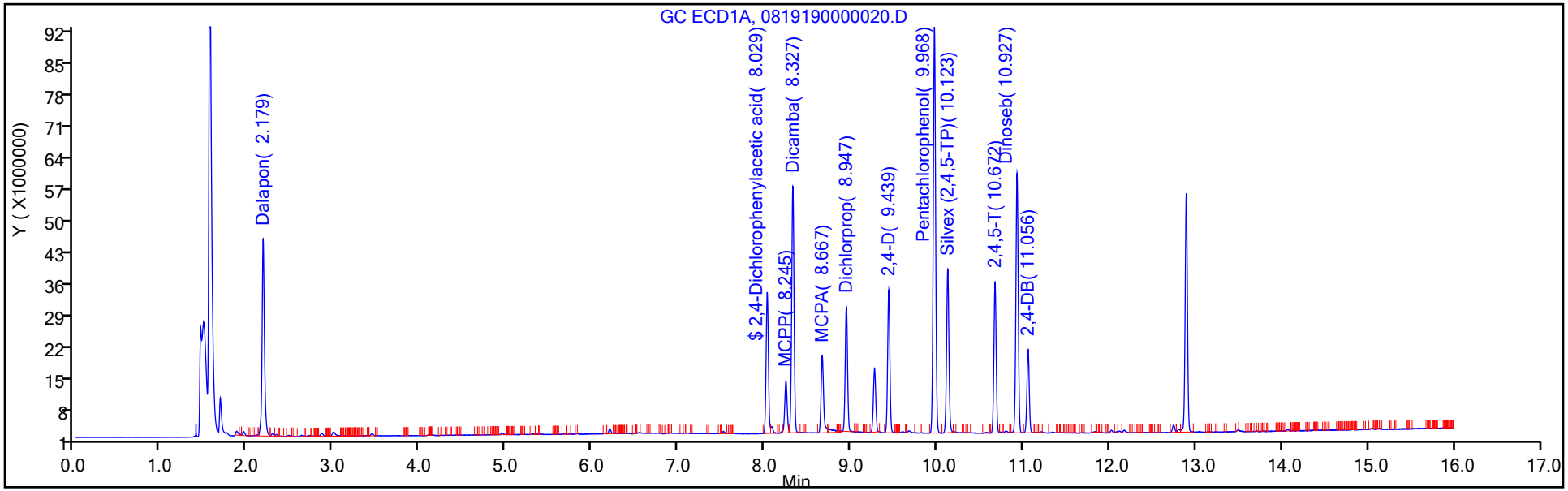

Column: RTX-1701 (0.53 mm)

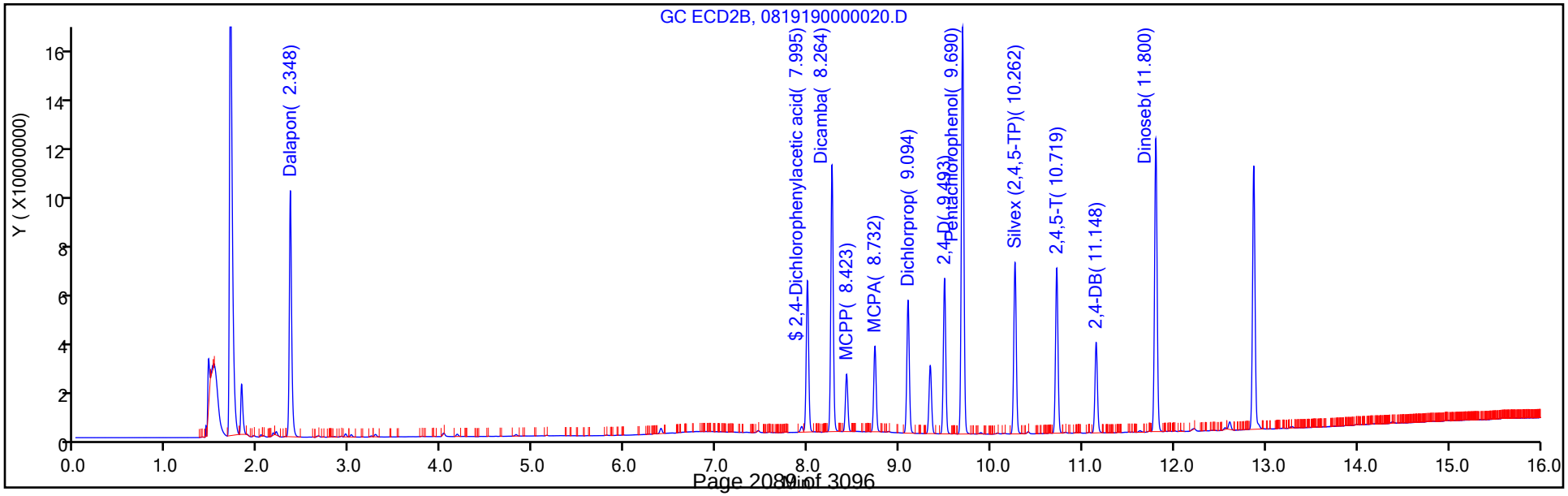

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000020.D				
Injection Date:	19-Aug-2019 20:44:28	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	6	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

5 MCPA, CAS: 94-74-6

Signal: 1

Processing Integration Results

RT: 8.67
Height: 17021582
Amount: 26.541197
Amount Units: ng

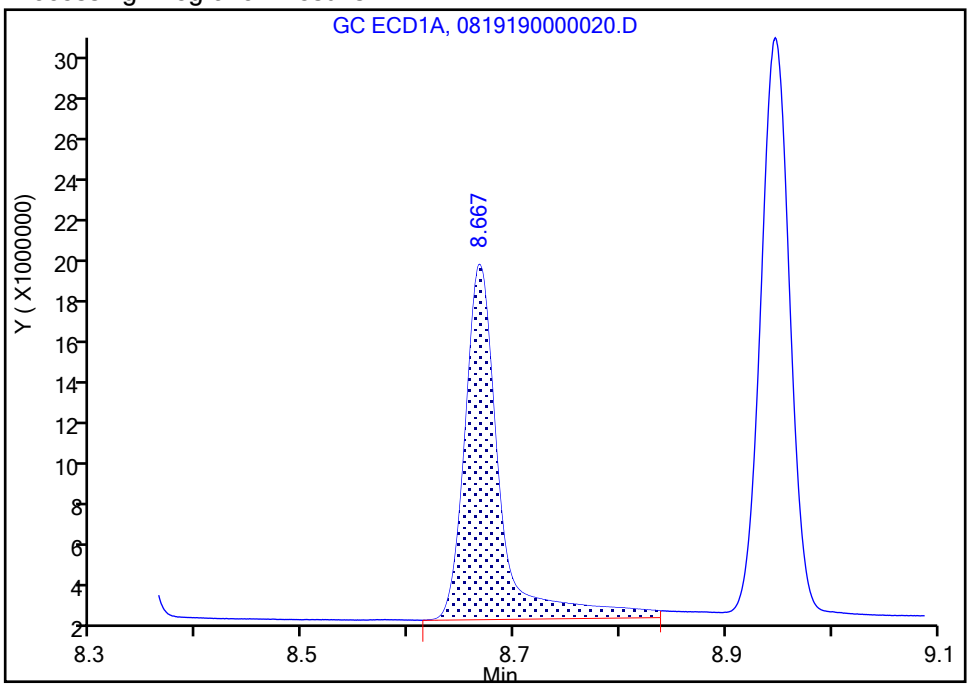

Manual Integration Results

RT: 8.67
Height: 17021609
Amount: 26.541190
Amount Units: ng

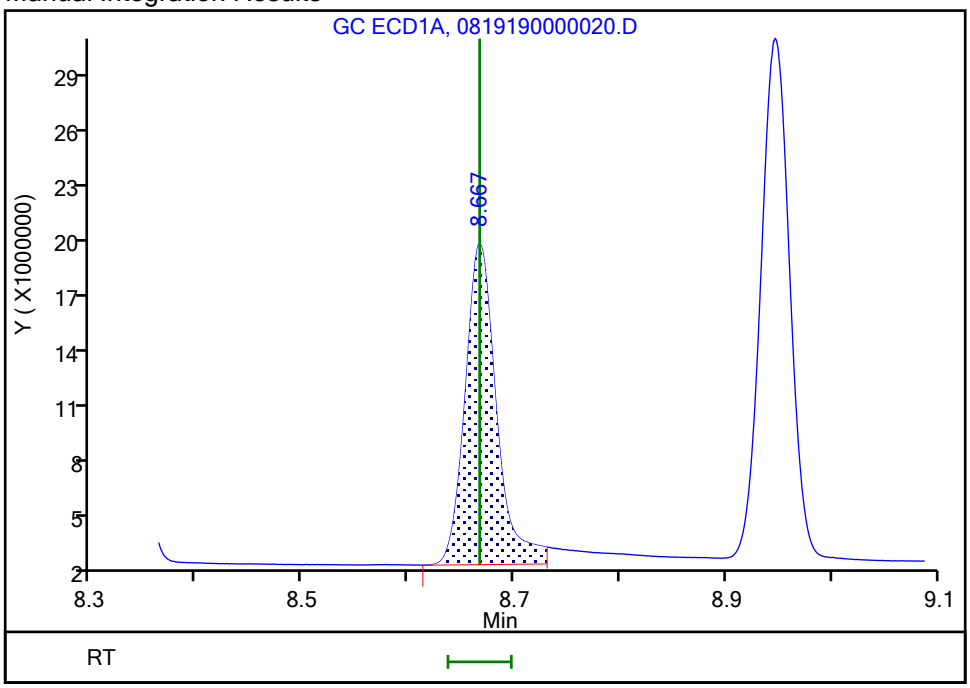

Reviewer: fritschj, 20-Aug-2019 08:39:19

Audit Action: Split an Integrated Peak Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000020.D				
Injection Date:	19-Aug-2019 20:44:28	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	6	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

6 Dichlorprop, CAS: 120-36-5

Signal: 1

Processing Integration Results

RT: 8.95
Height: 27737122
Amount: 0.286286
Amount Units: ng

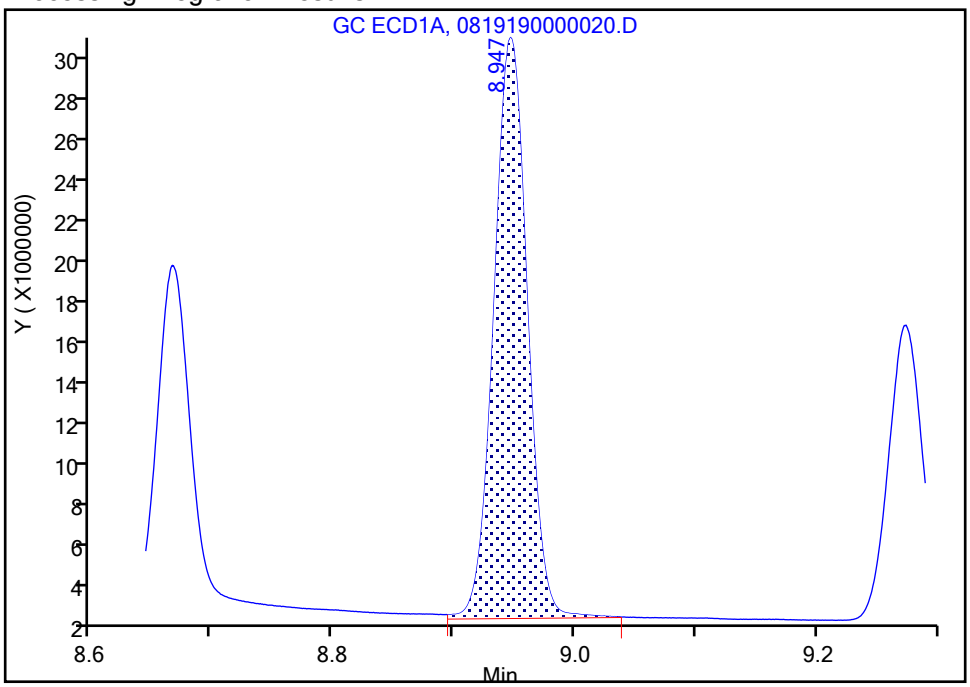

Manual Integration Results

RT: 8.95
Height: 27593514
Amount: 0.284992
Amount Units: ng

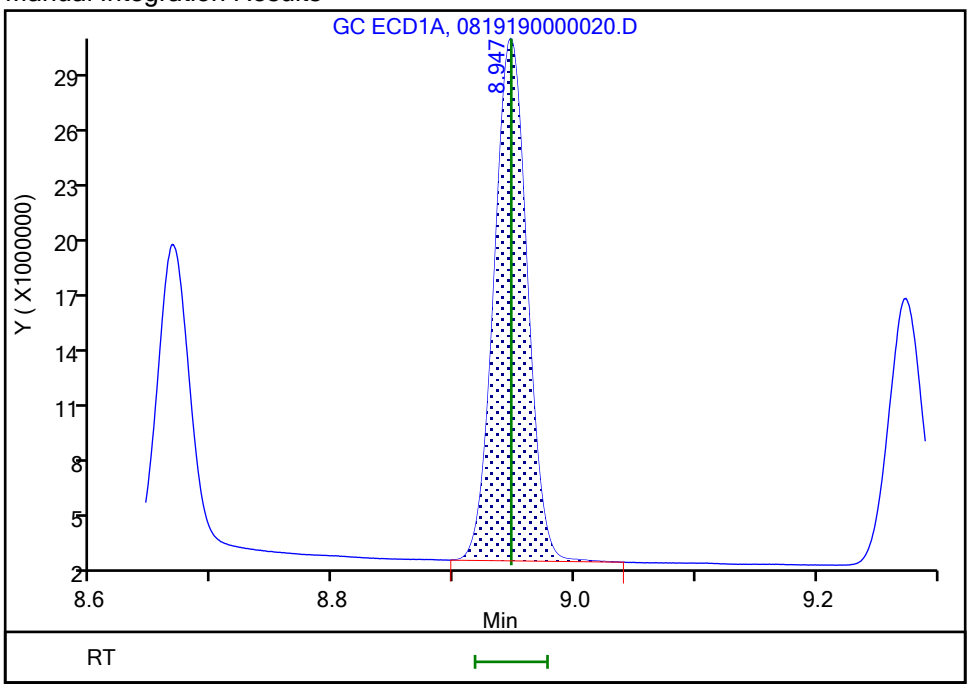

Reviewer: fritschj, 20-Aug-2019 08:39:29

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 19-Aug-2019 21:09:17 ALS Bottle#: 7 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-008
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:30 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:41:54

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.180	2.179	0.001	93323150H	0.6400	0.6261	
2	2.349	2.348	0.001	215136032H	0.6400	0.6410	
						RPD = 2.34	
$ 2 2,4-Dichlorophenylacetic acid							M
1	8.028	8.030	-0.002	81721770H	0.6400	0.7510	
2	7.995	7.996	-0.001	160232905H	0.6400	0.7597	M
						RPD = 1.15	
3 MCPP							M
1	8.246	8.246	0.000	28412748H	64.0	71.9	M
2	8.424	8.423	0.001	105028103	64.0	77.3	M
						RPD = 7.22	
4 Dicamba							
1	8.327	8.326	0.001	147507060H	0.3200	0.4044	
2	8.264	8.265	-0.001	285831491H	0.3200	0.4076	
						RPD = 0.78	
5 MCPA							M
1	8.668	8.667	0.001	42228426H	64.0	65.8	M
2	8.733	8.732	0.001	85179526H	64.0	69.1	
						RPD = 4.89	
6 Dichlorprop							
1	8.946	8.947	-0.001	70413016H	0.6400	0.7272	
2	9.095	9.095	0.000	134112070H	0.6400	0.7234	
						RPD = 0.54	
7 2,4-D							
1	9.439	9.439	0.000	80024495H	0.6400	0.7281	
2	9.492	9.494	-0.002	155353592H	0.6400	0.7158	
						RPD = 1.70	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.969	9.969	0.000	442087354	0.1600	0.1925	
2	9.690	9.691	-0.001	414942166	0.1600	0.1935	H
						RPD = 0.55	
9 Silvex (2,4,5-TP)							
1	10.123	10.124	-0.001	90113505	0.1600	0.1839	H
2	10.261	10.263	-0.002	170145013	0.1600	0.1808	H
						RPD = 1.73	
10 2,4,5-T							
1	10.672	10.673	-0.001	83776615	0.1600	0.1807	H
2	10.717	10.719	-0.002	161521889	0.1600	0.1782	H
						RPD = 1.37	
11 Dinoseb							
1	10.928	10.928	0.000	146632881	0.6400	0.7617	H
2	11.800	11.800	0.000	296590424	0.6400	0.7587	H
						RPD = 0.39	
12 2,4-DB							
1	11.056	11.056	0.000	48229906	0.6400	0.7314	H
2	11.148	11.149	-0.001	92368969	0.6400	0.7488	H
						RPD = 2.34	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCHERBCALSL6_00012 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:25:32 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D				
Injection Date:	19-Aug-2019 21:09:17	Instrument ID:	CGC1	Operator ID:	
Lims ID:	ic			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

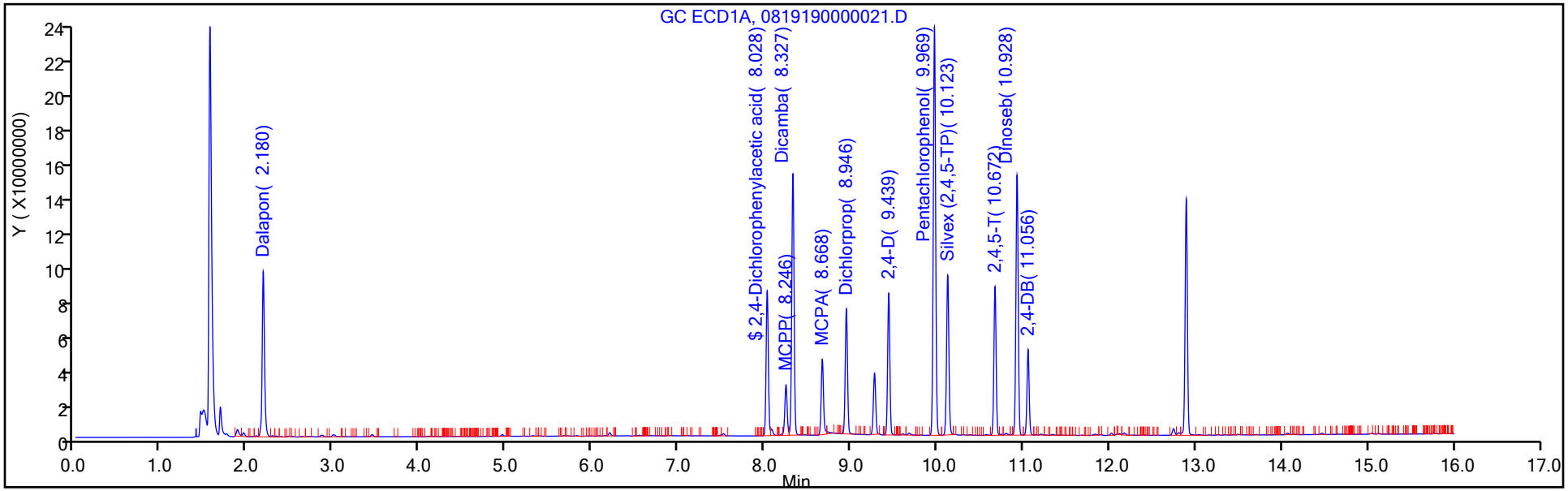

Column: RTX-1701 (0.53 mm)

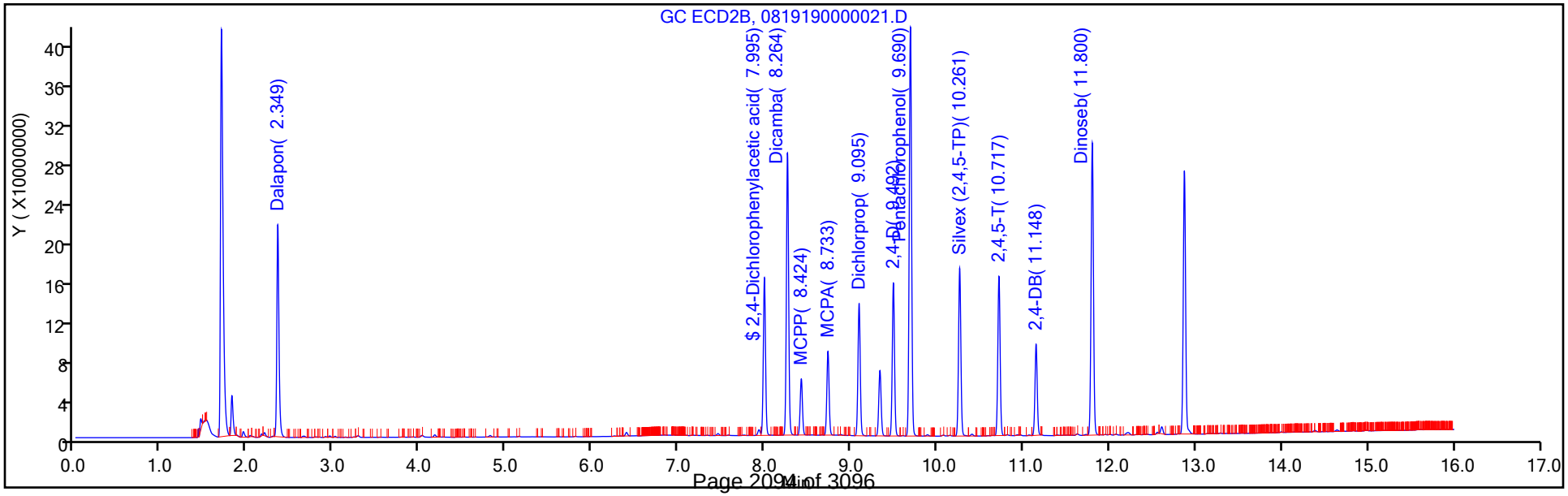

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D				
Injection Date:	19-Aug-2019 21:09:17	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	7	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

3 MCPP, CAS: 93-65-2

Signal: 1

Processing Integration Results

RT: 8.25
Height: 28412713
Amount: 71.893634
Amount Units: ng

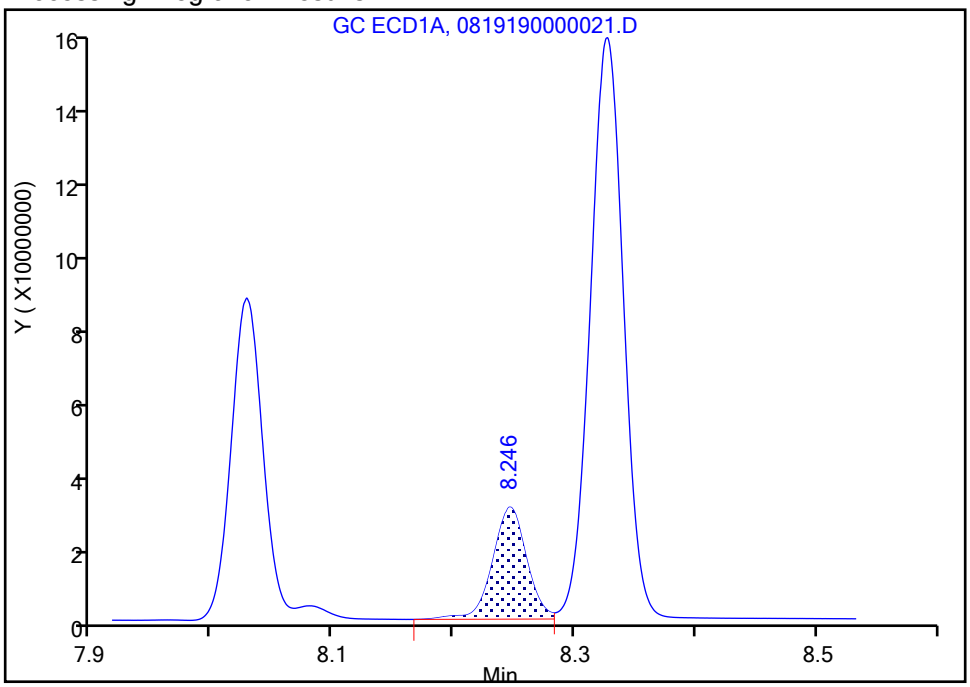

Manual Integration Results

RT: 8.25
Height: 28412748
Amount: 71.893708
Amount Units: ng

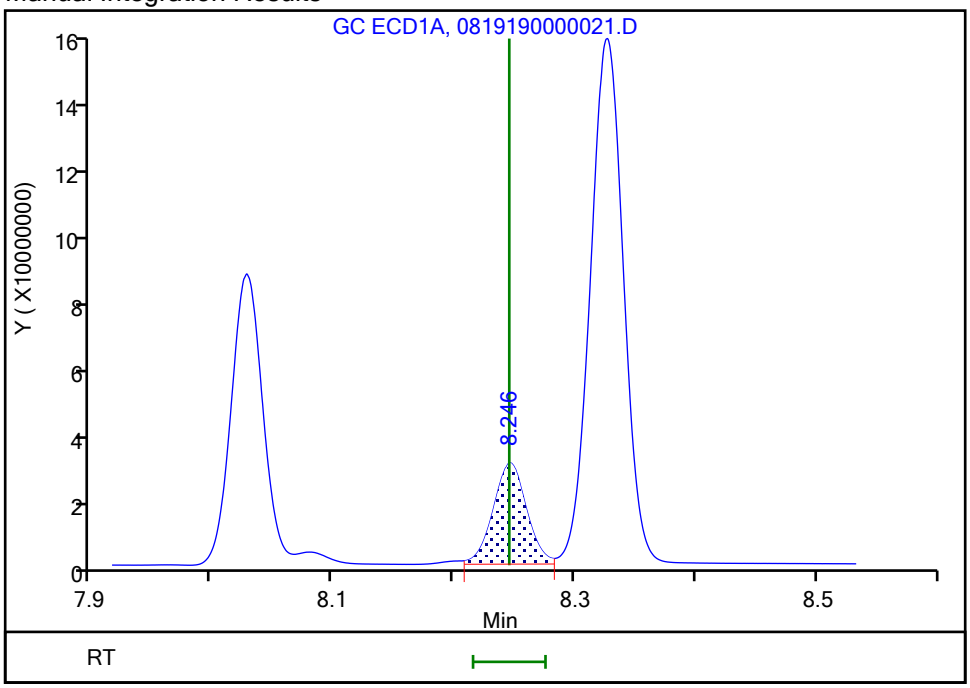

Reviewer: fritschj, 20-Aug-2019 08:40:00

Audit Action: Split an Integrated Peak Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D				
Injection Date:	19-Aug-2019 21:09:17	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	7	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

5 MCPA, CAS: 94-74-6

Signal: 1

Processing Integration Results

RT: 8.67
Height: 42227953
Amount: 65.844656
Amount Units: ng

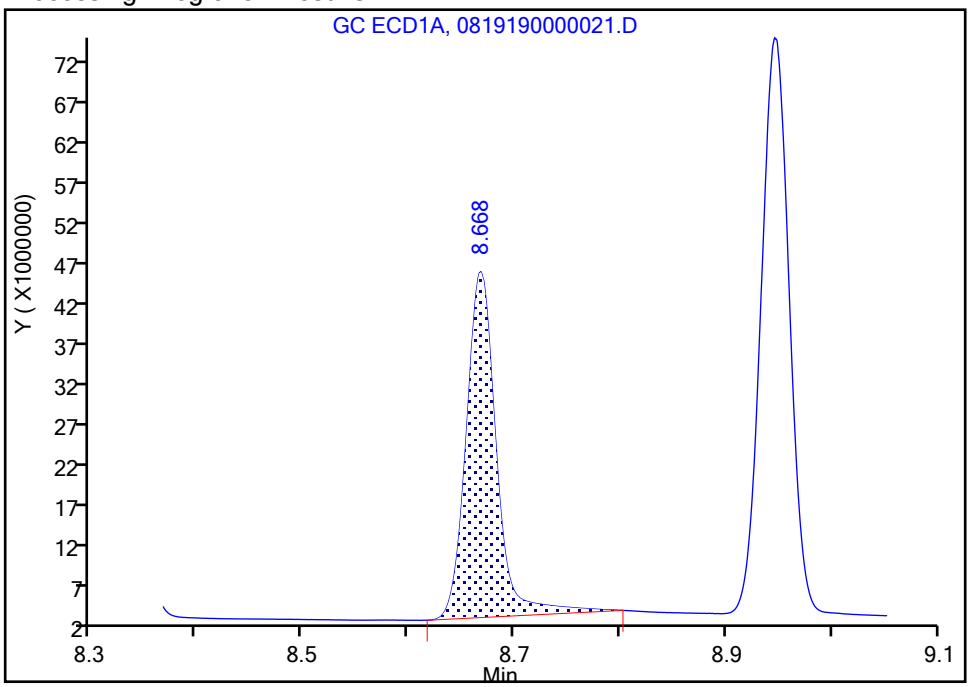

Manual Integration Results

RT: 8.67
Height: 42228426
Amount: 65.845285
Amount Units: ng

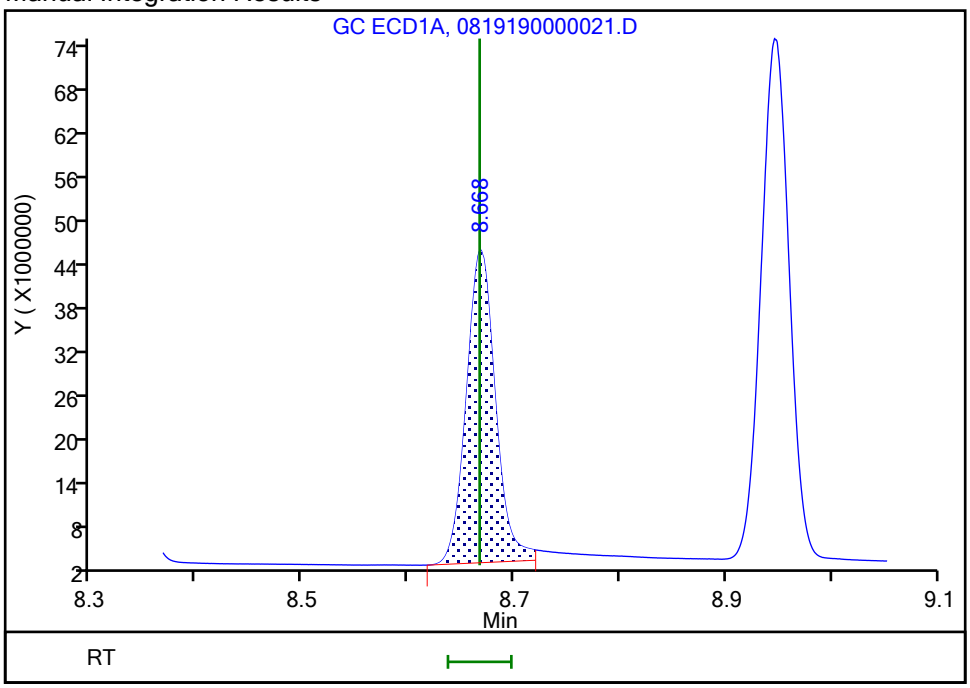

Reviewer: fritschj, 20-Aug-2019 08:40:12

Audit Action: Split an Integrated Peak Audit Reason: Baseline Smoothing

FORM VI
HERBICIDES BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 288571

SDG No.:

Instrument ID: CGC1 GC Column: RTX-1701 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/19/2019 18:39 Calibration End Date: 08/19/2019 21:09 Calibration ID: 41304

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-288571/2	0819190000015.D
Level 2	IC 180-288571/3	0819190000016.D
Level 3	IC 180-288571/4	0819190000017.D
Level 4	ICRT 180-288571/5	0819190000018.D
Level 5	IC 180-288571/6	0819190000019.D
Level 6	IC 180-288571/7	0819190000020.D
Level 7	IC 180-288571/8	0819190000021.D

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7				RT WINDOW	AVG RT
Dalapon	2.351	2.351	2.349	2.348	2.349	2.348	2.349				2.318 - 2.378	2.349
Dicamba	8.266	8.265	8.264	8.265	8.265	8.264	8.264				8.235 - 8.295	8.265
MCPP	8.426	8.423	8.424	8.423	8.423	8.423	+++++				8.393 - 8.453	8.424
MCPA	8.732	8.734	8.733	8.732	8.733	8.732	8.733				8.702 - 8.762	8.733
Dichlorprop	9.097	9.095	9.095	9.095	9.095	9.094	9.095				9.065 - 9.125	9.095
2,4-D	9.495	9.495	9.492	9.494	9.493	9.493	9.492				9.464 - 9.524	9.493
Pentachlorophenol	9.693	9.692	9.691	9.691	9.690	9.690	9.690				9.661 - 9.721	9.691
Silvex (2,4,5-TP)	10.264	10.263	10.263	10.263	10.262	10.262	10.261				10.233 - 10.293	10.263
2,4,5-T	10.720	10.719	10.719	10.719	10.717	10.719	10.717				10.689 - 10.749	10.719
2,4-DB	11.150	11.150	11.150	11.149	11.147	11.148	11.148				11.119 - 11.179	11.149
Dinoseb	11.802	11.801	11.801	11.800	11.801	11.800	11.800				11.770 - 11.830	11.801
2,4-Dichlorophenylacetic acid	7.996	7.997	7.996	7.996	7.996	7.995	7.995				7.966 - 8.026	7.996

FORM VI
HERBICIDES BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 288571

SDG No.:

Instrument ID: CGC1 GC Column: RTX-1701 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/19/2019 18:39 Calibration End Date: 08/19/2019 21:09 Calibration ID: 41304

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-288571/2	0819190000015.D
Level 2	IC 180-288571/3	0819190000016.D
Level 3	IC 180-288571/4	0819190000017.D
Level 4	ICRT 180-288571/5	0819190000018.D
Level 5	IC 180-288571/6	0819190000019.D
Level 6	IC 180-288571/7	0819190000020.D
Level 7	IC 180-288571/8	0819190000021.D

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4		B	M1	M2								
Dalapon	349686700 294427169	381192950 311995175	358430250 336150050	317637825	Ave		335645731				8.9		20.0			
Dicamba	636418200 601606113	757309600 676925719	732685850 893223409	610834975	Ave		701286267				14.7		20.0			
MCPP	702287 1222002	1163406 1344559	1363230 +++++	1233349	Lin2	-595298.44	1366804.23							0.9910		0.9900
MCPA	1239711 1011511	1474668 1082171	1390922 1330930	1093085	Ave		1231856.88				14.2		20.0			
Dichlorprop	184117600 155759431	213445300 168800666	203467500 209550109	162669000	Ave		185401372				12.8		20.0			
2,4-D	216504200 180222988	253597450 197312172	237536475 242739988	191350888	Ave		217037737				13.1		20.0			
Pentachlorophenol	2018954400 1807990900	2388518400 2064931125	2286975300 2593388538	1849605700	Ave		2144337766				13.5		20.0			
Silvex (2,4,5-TP)	918574000 797127125	1085935000 870291513	1030126600 1063406331	823278950	Ave		941248503				12.6		20.0			
2,4,5-T	894359600 769600000	1047666000 837766038	993304400 1009511806	792417800	Ave		906375092				12.3		20.0			
2,4-DB	119082300 103153088	142135100 114839269	134239175 144326514	105746388	Ave		123360262				13.7		20.0			
Dinoseb	373087000 332495825	437755900 371718475	418024350 463422538	339789913	Ave		390899143				12.7		20.0			
2,4-Dichlorophenylacetic acid	202538200 177267975	240635250 191771509	229288500 250363914	184569413	Ave		210919252				13.7		20.0			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HERBICIDES BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 288571

SDG No.:

Instrument ID: CGC1 GC Column: RTX-1701 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/19/2019 18:39 Calibration End Date: 08/19/2019 21:09 Calibration ID: 41304

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-288571/2	0819190000015.D
Level 2	IC 180-288571/3	0819190000016.D
Level 3	IC 180-288571/4	0819190000017.D
Level 4	ICRT 180-288571/5	0819190000018.D
Level 5	IC 180-288571/6	0819190000019.D
Level 6	IC 180-288571/7	0819190000020.D
Level 7	IC 180-288571/8	0819190000021.D

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (NG)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Dalapon	Ave	3496867 99838456	7623859 215136032	14337210	25411026	47108347	0.0100 0.320	0.0200 0.640	0.0400	0.0800	0.160
Dicamba	Ave	3182091 108308115	7573096 285831491	14653717	24433399	48128489	0.00500 0.160	0.0100 0.320	0.0200	0.0400	0.0800
MCPP	Lin2	702287 43025874	2326811 +++++	5452918	9866795	19552026	1.00 32.0	2.00 +++++	4.00	8.00	16.0
MCPA	Ave	1239711 34629475	2949336 85179526	5563689	8744680	16184172	1.00 32.0	2.00 64.0	4.00	8.00	16.0
Dichlorprop	Ave	1841176 54016213	4268906 134112070	8138700	13013520	24921509	0.0100 0.320	0.0200 0.640	0.0400	0.0800	0.160
2,4-D	Ave	2165042 63139895	5071949 155353592	9501459	15308071	28835678	0.0100 0.320	0.0200 0.640	0.0400	0.0800	0.160
Pentachlorophenol	Ave	5047386 165194490	11942592 414942166	22869753	36992114	72319636	0.00250 0.0800	0.00500 0.160	0.0100	0.0200	0.0400
Silvex (2,4,5-TP)	Ave	2296435 69623321	5429675 170145013	10301266	16465579	31885085	0.00250 0.0800	0.00500 0.160	0.0100	0.0200	0.0400
2,4,5-T	Ave	2235899 67021283	5238330 161521889	9933044	15848356	30784000	0.00250 0.0800	0.00500 0.160	0.0100	0.0200	0.0400
2,4-DB	Ave	1190823 36748566	2842702 92368969	5369567	8459711	16504494	0.0100 0.320	0.0200 0.640	0.0400	0.0800	0.160
Dinoseb	Ave	3730870 118949912	8755118 296590424	16720974	27183193	53199332	0.0100 0.320	0.0200 0.640	0.0400	0.0800	0.160
2,4-Dichlorophenylacetic acid	Ave	2025382 61366883	4812705 160232905	9171540	14765553	28362876	0.0100 0.320	0.0200 0.640	0.0400	0.0800	0.160

Curve Type Legend:

Ave = Average by Height
Lin2 = Linear 1/conc^2

FORM VI
HERBICIDES BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1 Analy Batch No.: 288571

SDG No.:

Instrument ID: CGC1 GC Column: RTX-1701 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/19/2019 18:39 Calibration End Date: 08/19/2019 21:09 Calibration ID: 41304

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 180-288571/2	0819190000015.D
Level 2	IC 180-288571/3	0819190000016.D
Level 3	IC 180-288571/4	0819190000017.D
Level 4	ICRT 180-288571/5	0819190000018.D
Level 5	IC 180-288571/6	0819190000019.D
Level 6	IC 180-288571/7	0819190000020.D
Level 7	IC 180-288571/8	0819190000021.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
Dalapon	4.2 0.2	13.6	6.8	-5.4	-12.3	-7.0	50 30	30	30	30	30	30
Dicamba	-9.2 27.4	8.0	4.5	-12.9	-14.2	-3.5	50 30	30	30	30	30	30
MCPP	-5.1 +++++	6.9	10.6	-4.3	-7.9	-0.3	50	30	30	30	30	30
MCPA	0.6 8.0	19.7	12.9	-11.3	-17.9	-12.2	50 30	30	30	30	30	30
Dichlorprop	-0.7 13.0	15.1	9.7	-12.3	-16.0	-9.0	50 30	30	30	30	30	30
2,4-D	-0.2 11.8	16.8	9.4	-11.8	-17.0	-9.1	50 30	30	30	30	30	30
Pentachlorophenol	-5.8 20.9	11.4	6.7	-13.7	-15.7	-3.7	50 30	30	30	30	30	30
Silvex (2,4,5-TP)	-2.4 13.0	15.4	9.4	-12.5	-15.3	-7.5	50 30	30	30	30	30	30
2,4,5-T	-1.3 11.4	15.6	9.6	-12.6	-15.1	-7.6	50 30	30	30	30	30	30
2,4-DB	-3.5 17.0	15.2	8.8	-14.3	-16.4	-6.9	50 30	30	30	30	30	30
Dinoseb	-4.6 18.6	12.0	6.9	-13.1	-14.9	-4.9	50 30	30	30	30	30	30
2,4-Dichlorophenylacetic acid	-4.0 18.7	14.1	8.7	-12.5	-16.0	-9.1	50 30	30	30	30	30	30

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000015.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 19-Aug-2019 18:39:37 ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-002
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:59 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:30:51

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.180	2.179	0.001	1602866H	0.0100	0.0108	
2	2.351	2.348	0.003	3496867H	0.0100	0.0104	
						RPD = 3.17	
$ 2 2,4-Dichlorophenylacetic acid							M
1	8.031	8.030	0.001	1068517H	0.0100	0.009820	M
2	7.996	7.996	0.000	2025382H	0.0100	0.009603	M
						RPD = 2.24	
3 MCPP							M
1	8.246	8.246	0.000	341535H	1.00	0.8642	
2	8.426	8.423	0.003	702287	1.00	0.9494	M
						RPD = 9.39	
4 Dicamba							
1	8.328	8.326	0.002	1781061H	0.005000	0.004883	
2	8.266	8.265	0.001	3182091H	0.005000	0.004538	
						RPD = 7.33	
5 MCPA							M
1	8.668	8.667	0.001	727075H	1.00	1.13	M
2	8.732	8.732	0.000	1239711H	1.00	1.01	M
						RPD = 11.90	
6 Dichlorprop							
1	8.949	8.947	0.002	1021137H	0.0100	0.0105	
2	9.097	9.095	0.002	1841176H	0.0100	0.0099	
						RPD = 6.01	
7 2,4-D							
1	9.440	9.439	0.001	1161532H	0.0100	0.0106	
2	9.495	9.494	0.001	2165042H	0.0100	0.0100	
						RPD = 5.77	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.970	9.969	0.001	5602498	0.002500	0.002439	
2	9.693	9.691	0.002	5047386H	0.002500	0.002354	
						RPD = 3.55	
9 Silvex (2,4,5-TP)							
1	10.124	10.124	0.000	1249137H	0.002500	0.002550	
2	10.264	10.263	0.001	2296435H	0.002500	0.002440	
						RPD = 4.40	
10 2,4,5-T							
1	10.673	10.673	0.000	1203971H	0.002500	0.002596	
2	10.720	10.719	0.001	2235899H	0.002500	0.002467	
						RPD = 5.11	
11 Dinoseb							M
1	10.928	10.928	0.000	1971262H	0.0100	0.0102	
2	11.802	11.800	0.002	3730870H	0.0100	0.009544	M
						RPD = 7.04	
12 2,4-DB							M
1	11.057	11.056	0.001	718887H	0.0100	0.0109	
2	11.150	11.149	0.001	1190823H	0.0100	0.009653	M
						RPD = 12.15	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCHERBCALSL7_00011 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:26:01 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000015.D

Injection Date: 19-Aug-2019 18:39:37 Instrument ID: CGC1 Operator ID:

Lims ID: ic Worklist Smp#: 2

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 1

Method: Herbicides_CGC1 Limit Group: GCS 8151A ICAL

Column: RTX-50 (0.53 mm)

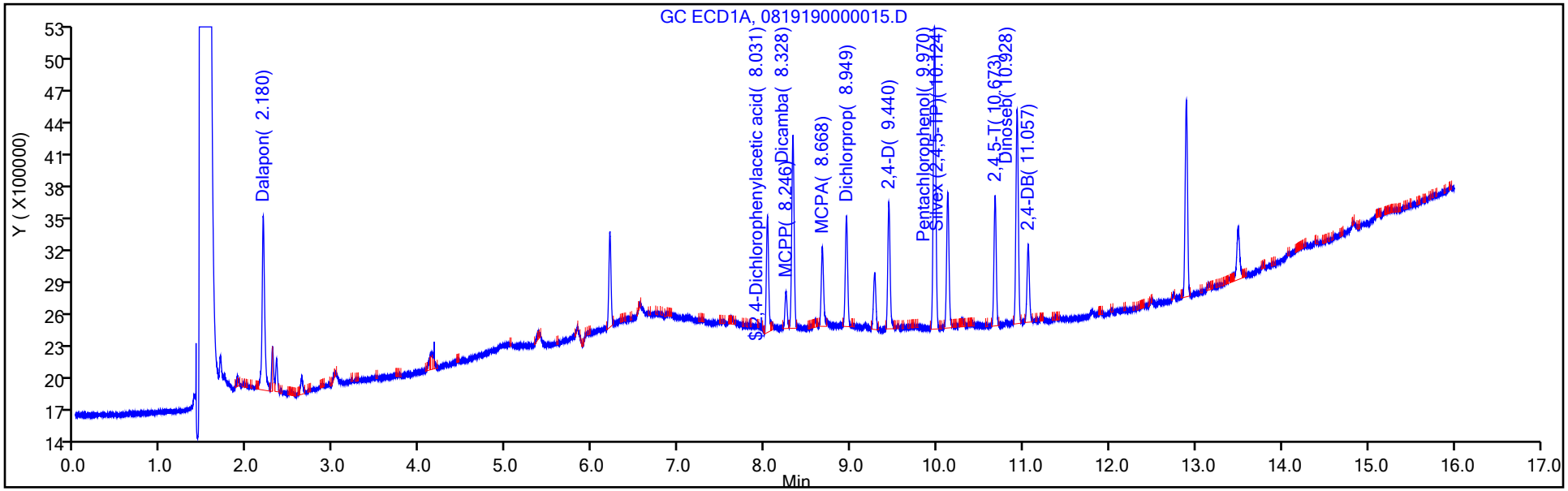

Column: RTX-1701 (0.53 mm)

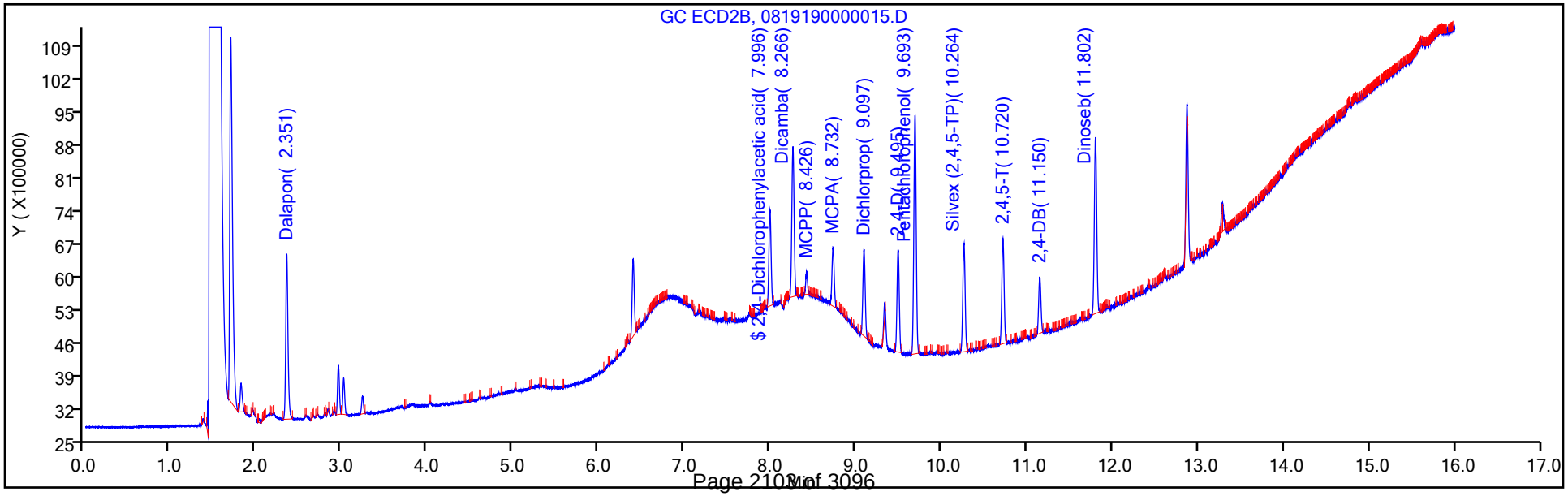

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000015.D				
Injection Date:	19-Aug-2019 18:39:37	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

$ 2 2,4-Dichlorophenylacetic acid, CAS: 19719-28-9

Signal: 2

Processing Integration Results

RT: 8.00
Height: 2033369
Amount: 0.011853
Amount Units: ng

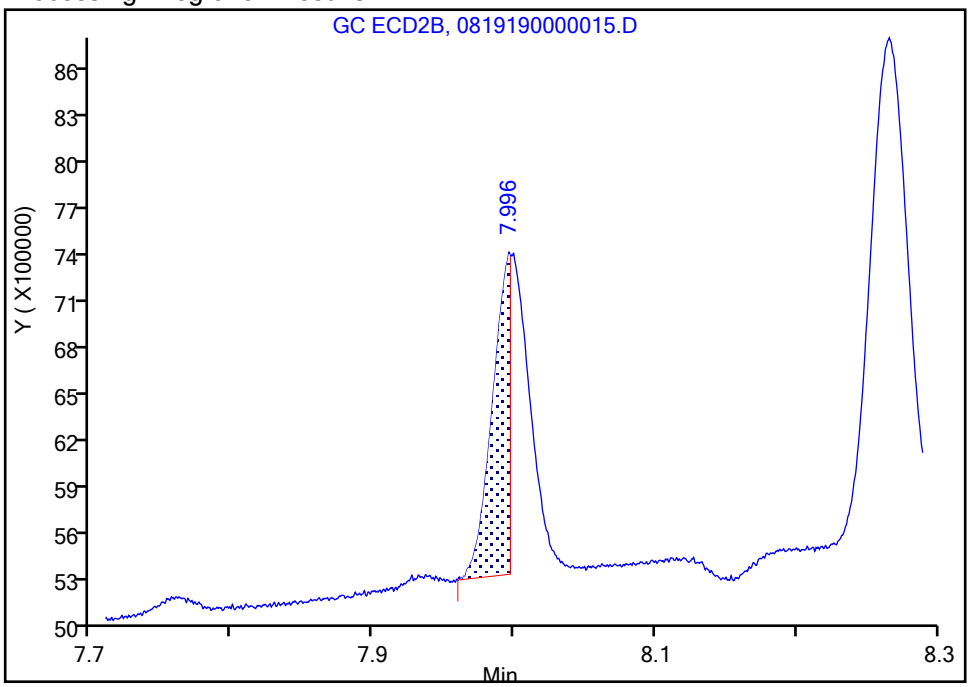

Manual Integration Results

RT: 8.00
Height: 2025382
Amount: 0.009603
Amount Units: ng

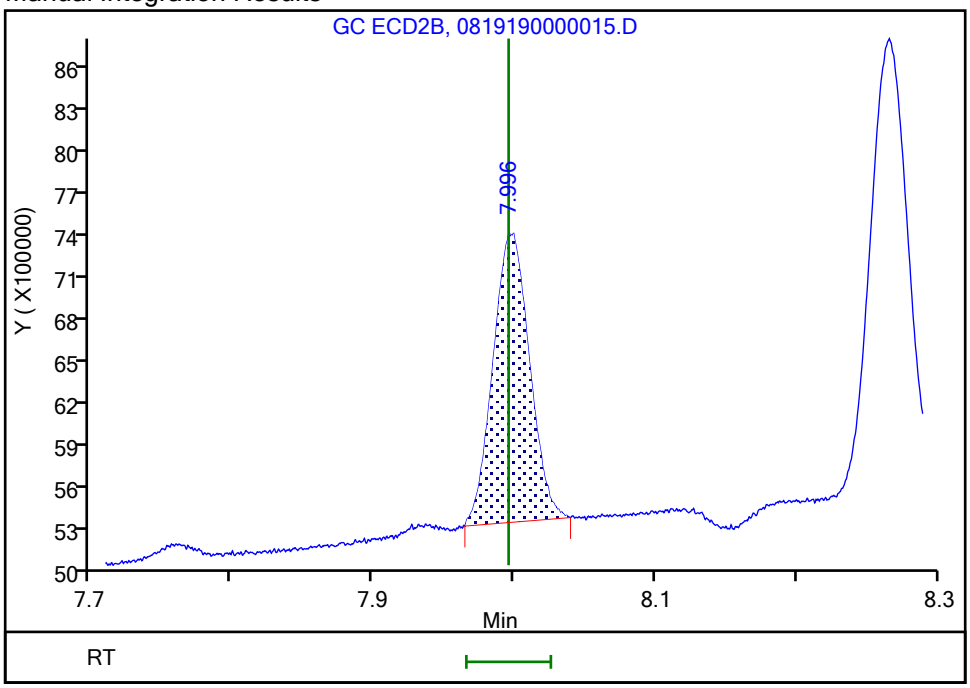

Reviewer: fritschj, 20-Aug-2019 08:28:30

Audit Action: Manually Integrated Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000015.D				
Injection Date:	19-Aug-2019 18:39:37	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

3 MCPP, CAS: 93-65-2

Signal: 2

Processing Integration Results

RT: 8.42
Area: 148086
Amount: 0.346453
Amount Units: ng

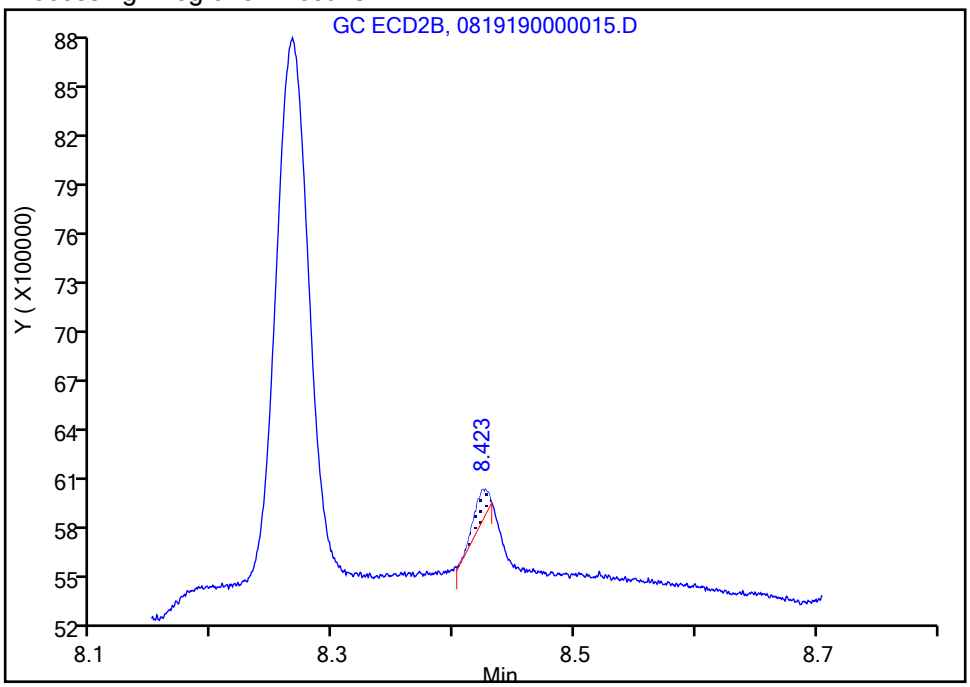

Manual Integration Results

RT: 8.43
Area: 702287
Amount: 0.949357
Amount Units: ng

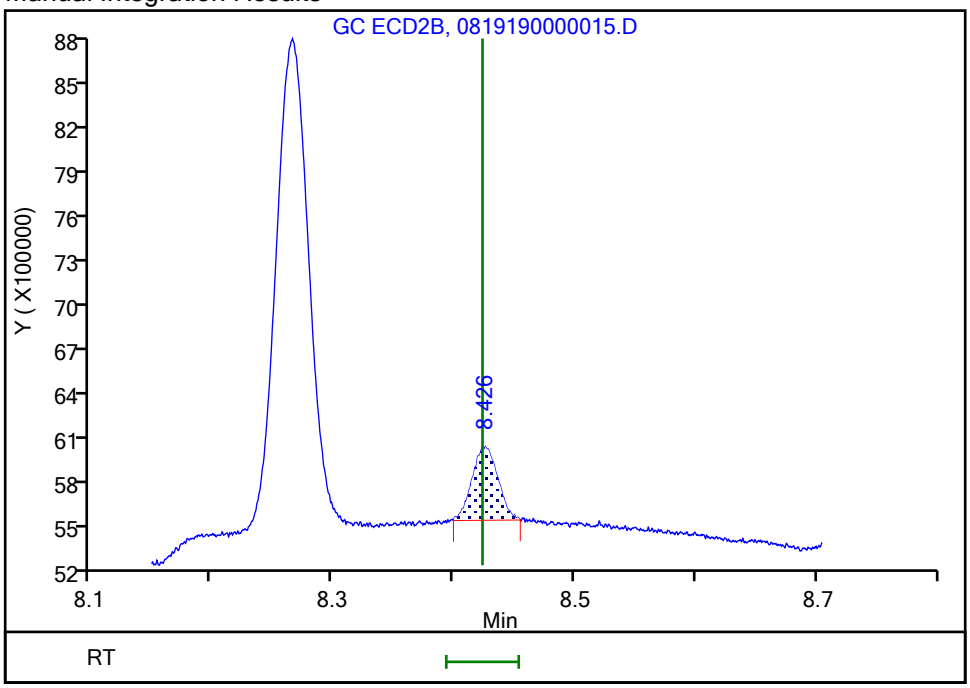

Reviewer: fritschj, 20-Aug-2019 08:28:56

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000015.D				
Injection Date:	19-Aug-2019 18:39:37	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

5 MCPA, CAS: 94-74-6

Signal: 2

Processing Integration Results

RT: 8.74
Height: 1224181
Amount: 0.804941
Amount Units: ng

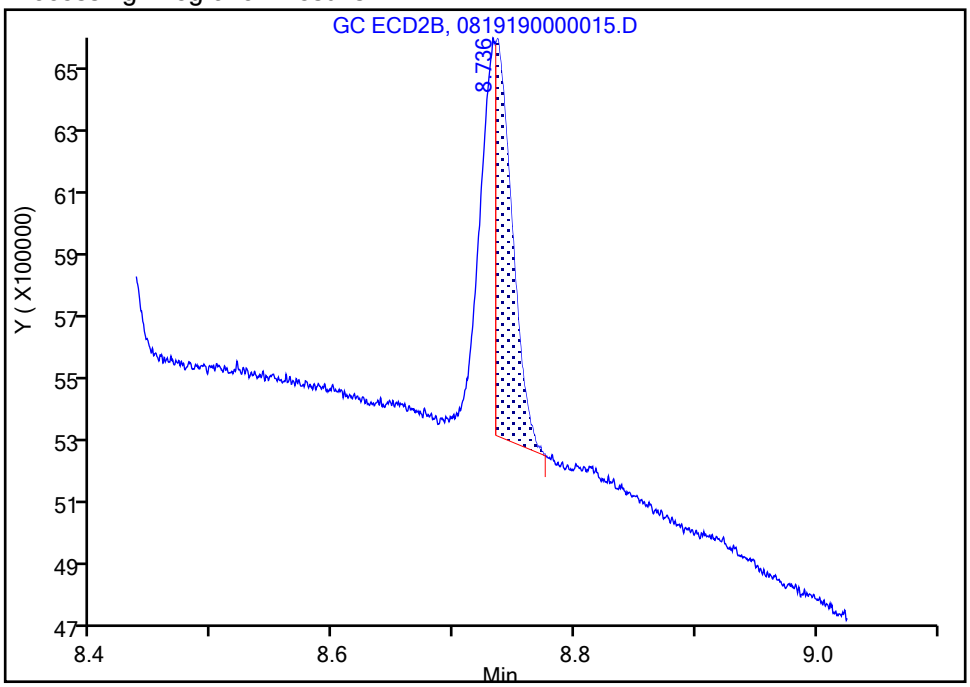

Manual Integration Results

RT: 8.73
Height: 1239711
Amount: 1.006376
Amount Units: ng

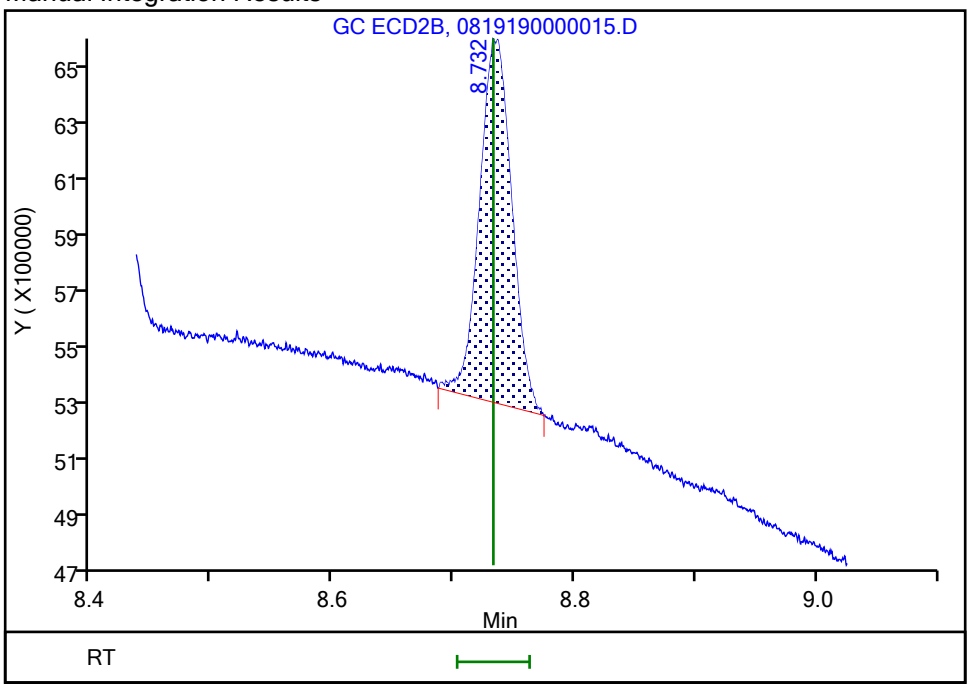

Reviewer: fritschj, 20-Aug-2019 08:29:08

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000015.D				
Injection Date:	19-Aug-2019 18:39:37	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

12 2,4-DB, CAS: 94-82-6

Signal: 2

Processing Integration Results

RT: 11.15
Height: 330938
Amount: 0.518941
Amount Units: ng

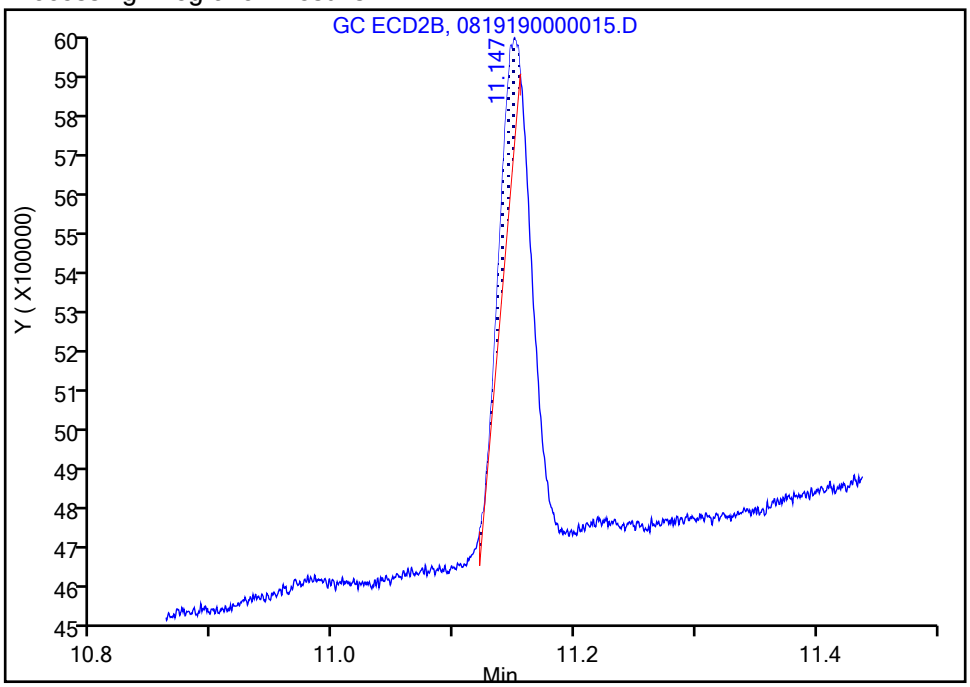

Manual Integration Results

RT: 11.15
Height: 1190823
Amount: 0.009653
Amount Units: ng

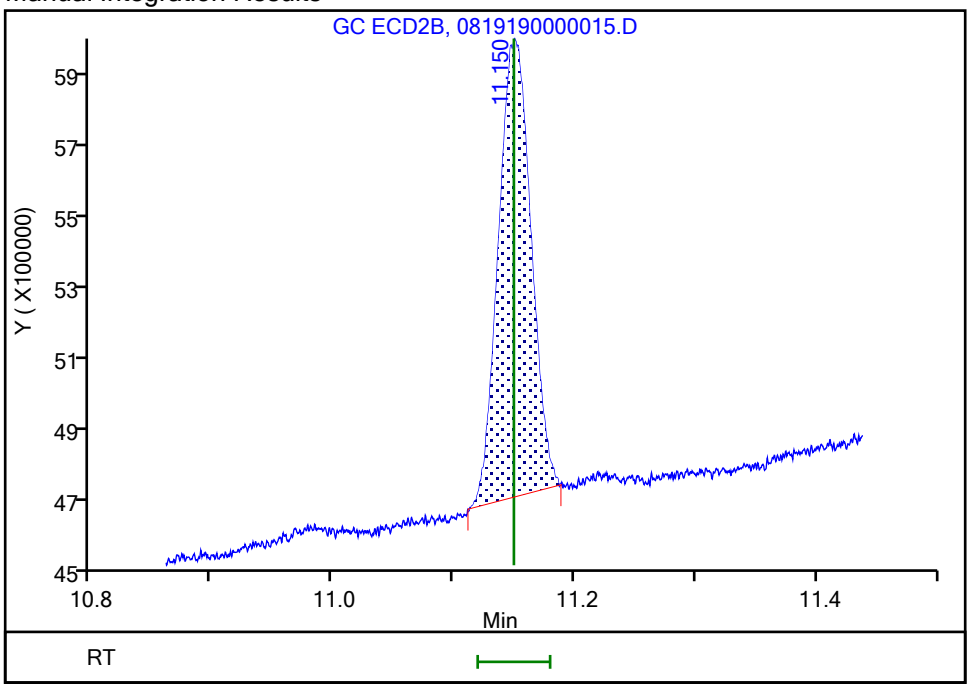

Reviewer: fritschj, 20-Aug-2019 08:30:49

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000015.D				
Injection Date:	19-Aug-2019 18:39:37	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	1	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

11 Dinoseb, CAS: 88-85-7

Signal: 2

Processing Integration Results

RT: 11.80
Height: 1022056
Amount: 0.005511
Amount Units: ng

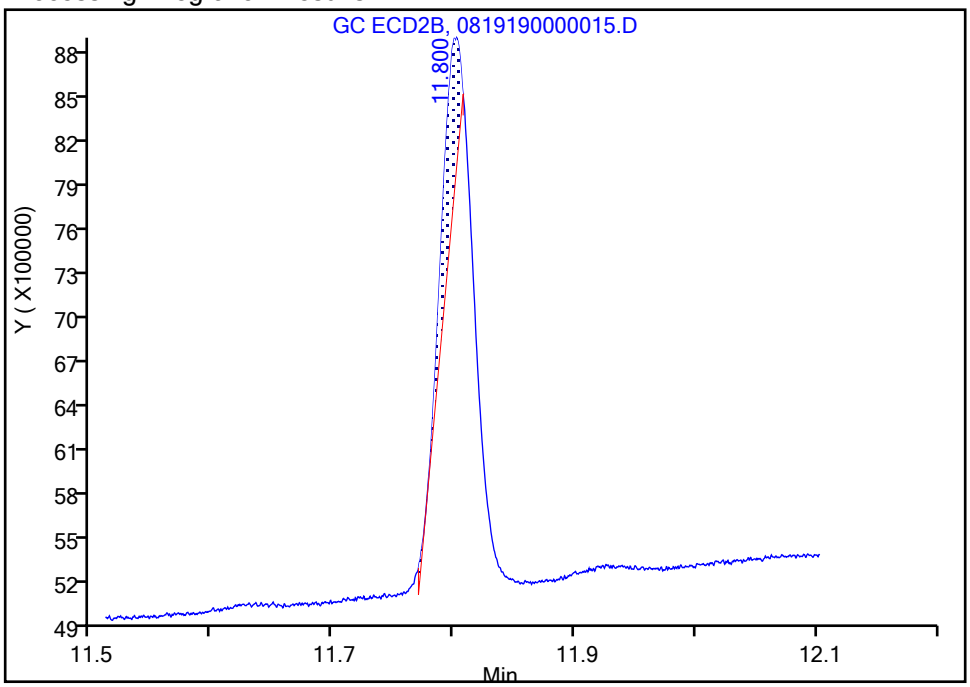

Manual Integration Results

RT: 11.80
Height: 3730870
Amount: 0.009544
Amount Units: ng

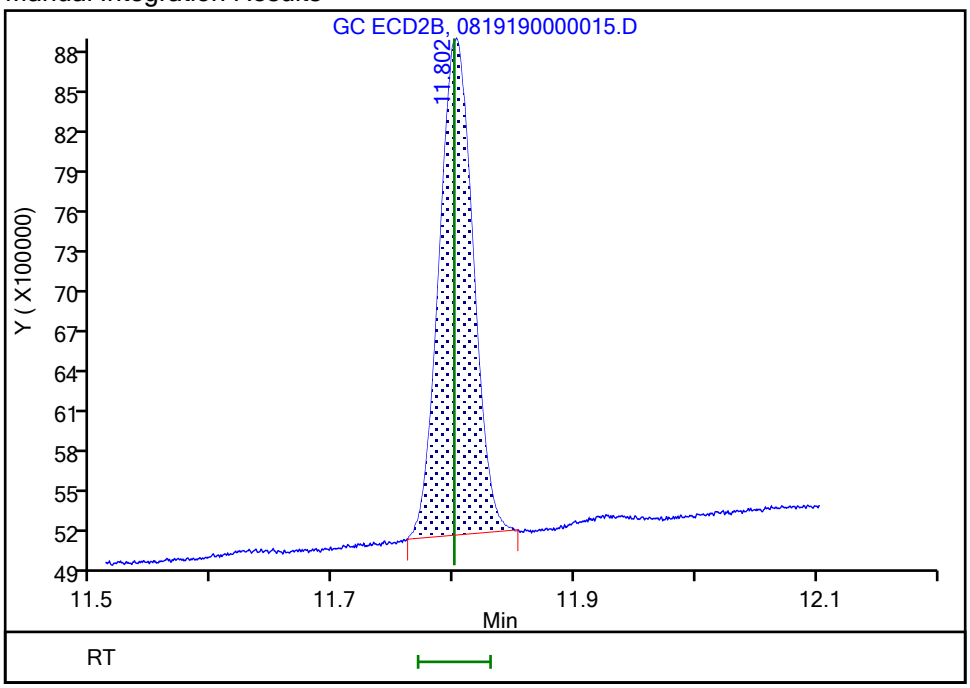

Reviewer: fritschj, 20-Aug-2019 08:30:41

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000016.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 19-Aug-2019 19:04:40 ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-003
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:54 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:33:13

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.180	2.179	0.001	3418078H	0.0200	0.0229	
2	2.351	2.348	0.003	7623859H	0.0200	0.0227	
						RPD = 0.96	
$ 2 2,4-Dichlorophenylacetic acid							M
1	8.030	8.030	0.000	2508937H	0.0200	0.0231	M
2	7.997	7.996	0.001	4812705H	0.0200	0.0228	M
						RPD = 1.04	
3 MCPP							M
1	8.247	8.246	0.001	910995H	2.00	2.31	
2	8.423	8.423	0.000	2326811	2.00	2.14	M
						RPD = 7.53	
4 Dicamba							
1	8.325	8.326	-0.001	4004694H	0.0100	0.0110	
2	8.265	8.265	0.000	7573096H	0.0100	0.0108	
						RPD = 1.66	
5 MCPA							
1	8.668	8.667	0.001	1594916H	2.00	2.49	
2	8.734	8.732	0.002	2949336H	2.00	2.39	
						RPD = 3.80	
6 Dichlorprop							
1	8.947	8.947	0.000	2234251H	0.0200	0.0231	
2	9.095	9.095	0.000	4268906H	0.0200	0.0230	
						RPD = 0.22	
7 2,4-D							
1	9.440	9.439	0.001	2582761H	0.0200	0.0235	
2	9.495	9.494	0.001	5071949H	0.0200	0.0234	
						RPD = 0.55	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.969	9.969	0.000	12922968	0.005000	0.005626	
2	9.692	9.691	0.001	11942592H	0.005000	0.005569	
						RPD = 1.01	
9 Silvex (2,4,5-TP)							
1	10.123	10.124	-0.001	2832937H	0.005000	0.005782	
2	10.263	10.263	0.000	5429675H	0.005000	0.005769	
						RPD = 0.24	
10 2,4,5-T							
1	10.672	10.673	-0.001	2719387H	0.005000	0.005864	
2	10.719	10.719	0.000	5238330H	0.005000	0.005779	
						RPD = 1.46	
11 Dinoseb							
1	10.928	10.928	0.000	4391182H	0.0200	0.0228	
2	11.801	11.800	0.001	8755118H	0.0200	0.0224	
						RPD = 1.83	
12 2,4-DB							
1	11.056	11.056	0.000	1573400H	0.0200	0.0239	
2	11.150	11.149	0.001	2842702H	0.0200	0.0230	
						RPD = 3.48	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCHERBCALSL1_00027 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:25:56 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000016.D

Injection Date: 19-Aug-2019 19:04:40 Instrument ID: CGC1 Operator ID:

Lims ID: ic Worklist Smp#: 3

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 2

Method: Herbicides_CGC1 Limit Group: GCS 8151A ICAL

Column: RTX-50 (0.53 mm)

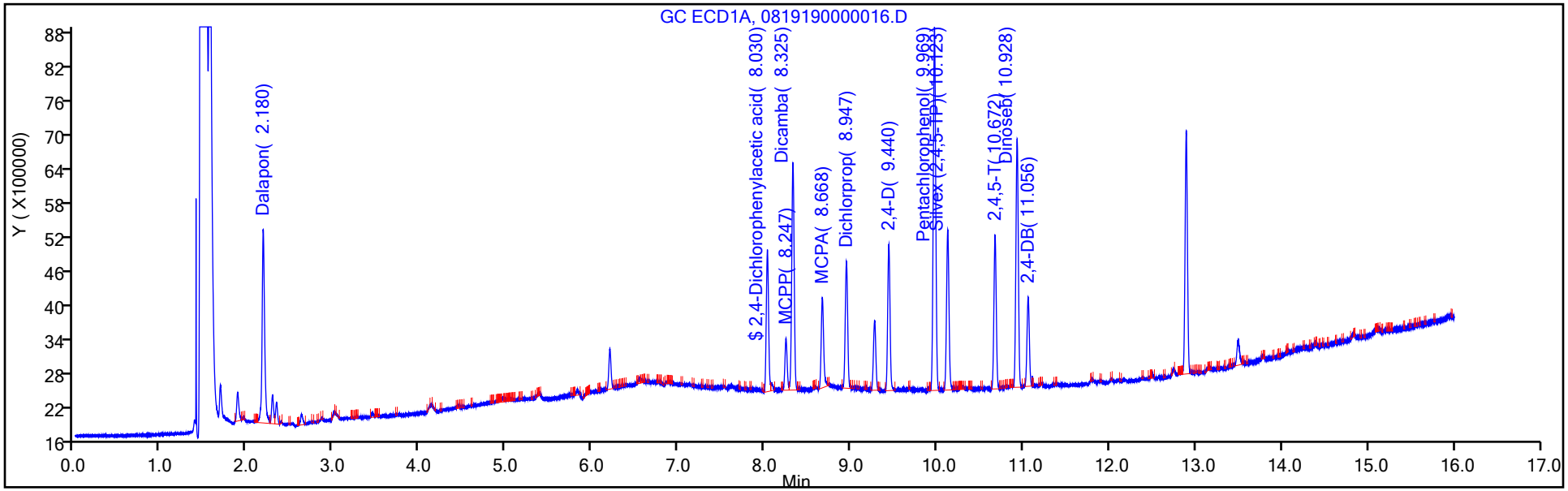

Column: RTX-1701 (0.53 mm)

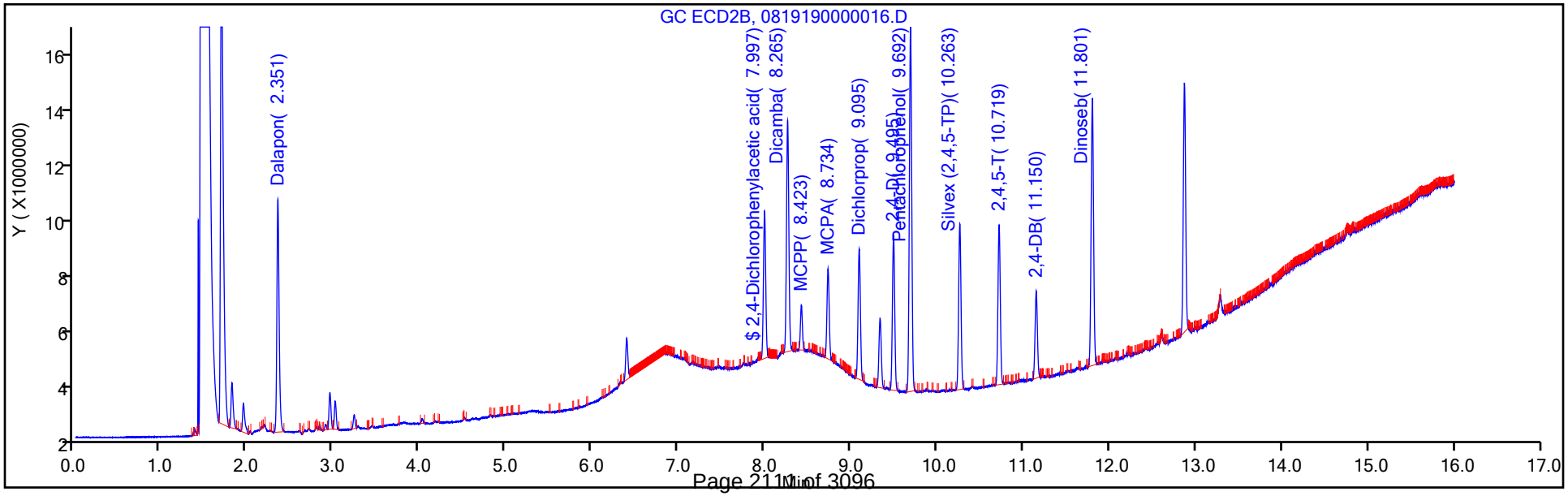

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000016.D				
Injection Date:	19-Aug-2019 19:04:40	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

$ 2 2,4-Dichlorophenylacetic acid, CAS: 19719-28-9

Signal: 2

Processing Integration Results

RT: 8.00
Height: 4807379
Amount: 0.028048
Amount Units: ng

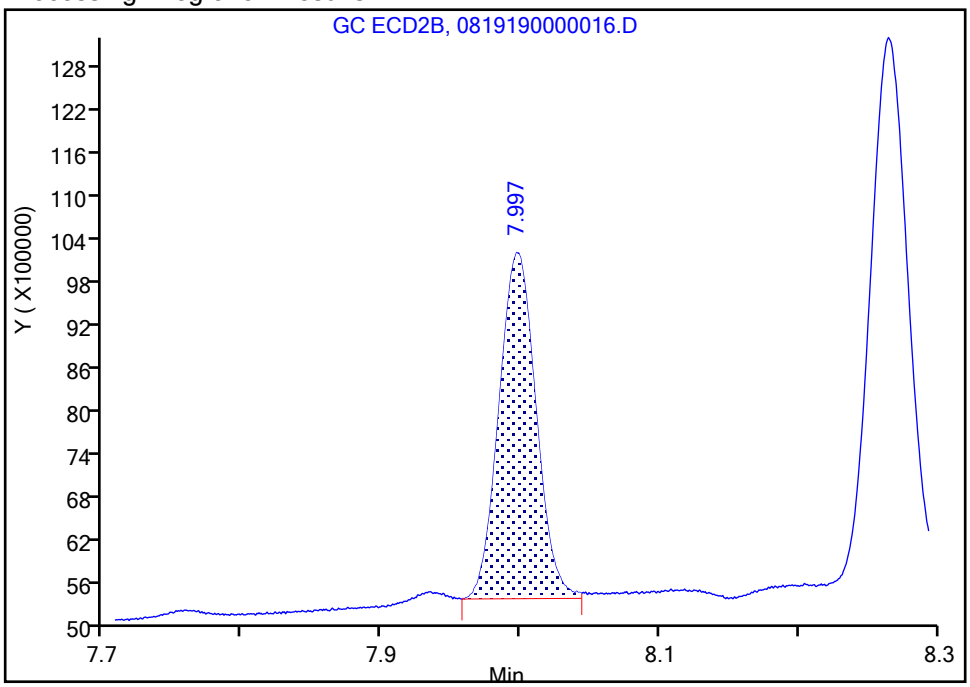

Manual Integration Results

RT: 8.00
Height: 4812705
Amount: 0.022818
Amount Units: ng

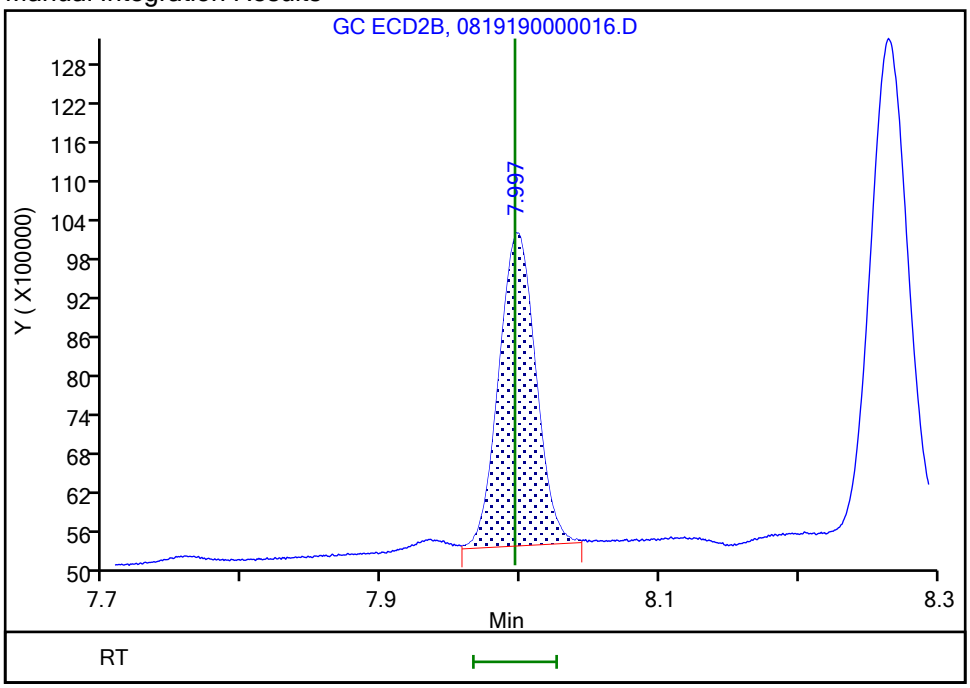

Reviewer: fritschj, 20-Aug-2019 08:32:49
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000016.D				
Injection Date:	19-Aug-2019 19:04:40	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	2	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

3 MCPP, CAS: 93-65-2

Signal: 2

Processing Integration Results

RT: 8.42
Area: 530884
Amount: 1.047922
Amount Units: ng

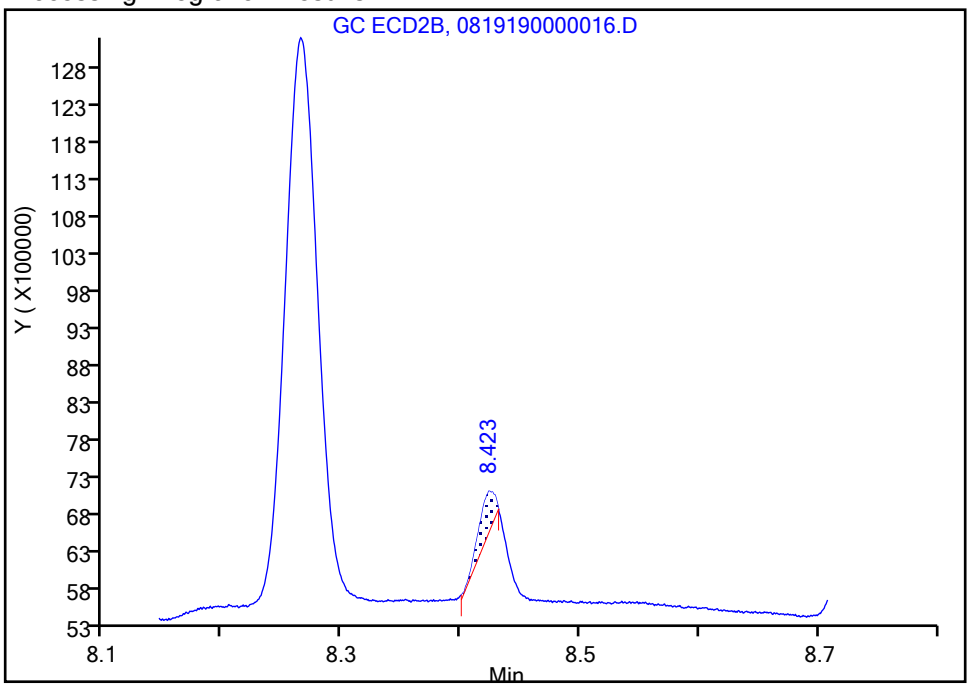

Manual Integration Results

RT: 8.42
Area: 2326811
Amount: 2.137914
Amount Units: ng

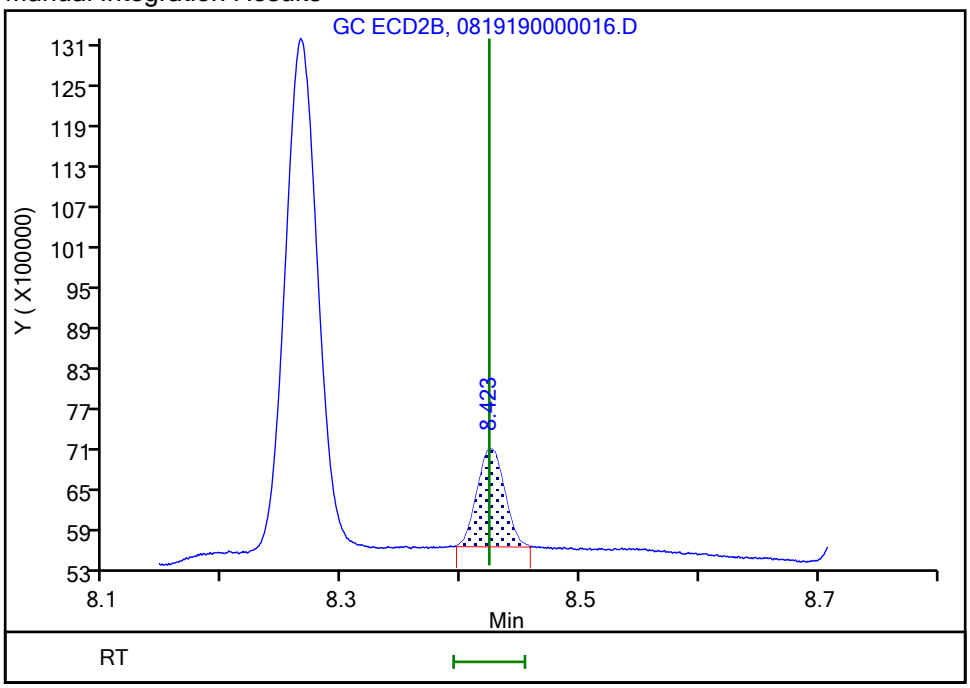

Reviewer: fritschj, 20-Aug-2019 08:33:00

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000017.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 19-Aug-2019 19:29:38 ALS Bottle#: 3 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-004
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:51 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:33:38

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.180	2.179	0.001	6332062H	0.0400	0.0425	
2	2.349	2.348	0.001	14337210H	0.0400	0.0427	
						RPD = 0.54	
$ 2 2,4-Dichlorophenylacetic acid							
1	8.030	8.030	0.000	4713434H	0.0400	0.0433	
2	7.996	7.996	0.000	9171540H	0.0400	0.0435	
						RPD = 0.38	
3 MCPP							
1	8.245	8.246	-0.001	1791894H	4.00	4.53	
2	8.424	8.423	0.001	5452918	4.00	4.43	
						RPD = 2.43	
4 Dicamba							
1	8.325	8.326	-0.001	7576276H	0.0200	0.0208	
2	8.264	8.265	-0.001	14653717H	0.0200	0.0209	
						RPD = 0.60	
5 MCPA							
1	8.667	8.667	0.000	2851165H	4.00	4.45	
2	8.733	8.732	0.001	5563689H	4.00	4.52	
						RPD = 1.58	
6 Dichlorprop							
1	8.946	8.947	-0.001	4193107H	0.0400	0.0433	
2	9.095	9.095	0.000	8138700H	0.0400	0.0439	
						RPD = 1.35	
7 2,4-D							
1	9.440	9.439	0.001	4738312H	0.0400	0.0431	
2	9.492	9.494	-0.002	9501459H	0.0400	0.0438	
						RPD = 1.54	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.970	9.969	0.001	24346174	0.0100	0.0106	
2	9.691	9.691	0.000	22869753H	0.0100	0.0107	
						RPD = 0.63	
9 Silvex (2,4,5-TP)							
1	10.124	10.124	0.000	5269266H	0.0100	0.0108	
2	10.263	10.263	0.000	10301266H	0.0100	0.0109	
						RPD = 1.74	
10 2,4,5-T							
1	10.673	10.673	0.000	5003210H	0.0100	0.0108	
2	10.719	10.719	0.000	9933044H	0.0100	0.0110	
						RPD = 1.56	
11 Dinoseb							
1	10.928	10.928	0.000	8122045H	0.0400	0.0422	
2	11.801	11.800	0.001	16720974H	0.0400	0.0428	
						RPD = 1.37	
12 2,4-DB							
1	11.056	11.056	0.000	2816514H	0.0400	0.0427	
2	11.150	11.149	0.001	5369567H	0.0400	0.0435	
						RPD = 1.89	

Reagents:

GCHERBCALSL2_00024 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:25:52 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000017.D

Injection Date: 19-Aug-2019 19:29:38 Instrument ID: CGC1 Operator ID:

Lims ID: ic Worklist Smp#: 4

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 3

Method: Herbicides_CGC1 Limit Group: GCS 8151A ICAL

Column: RTX-50 (0.53 mm)

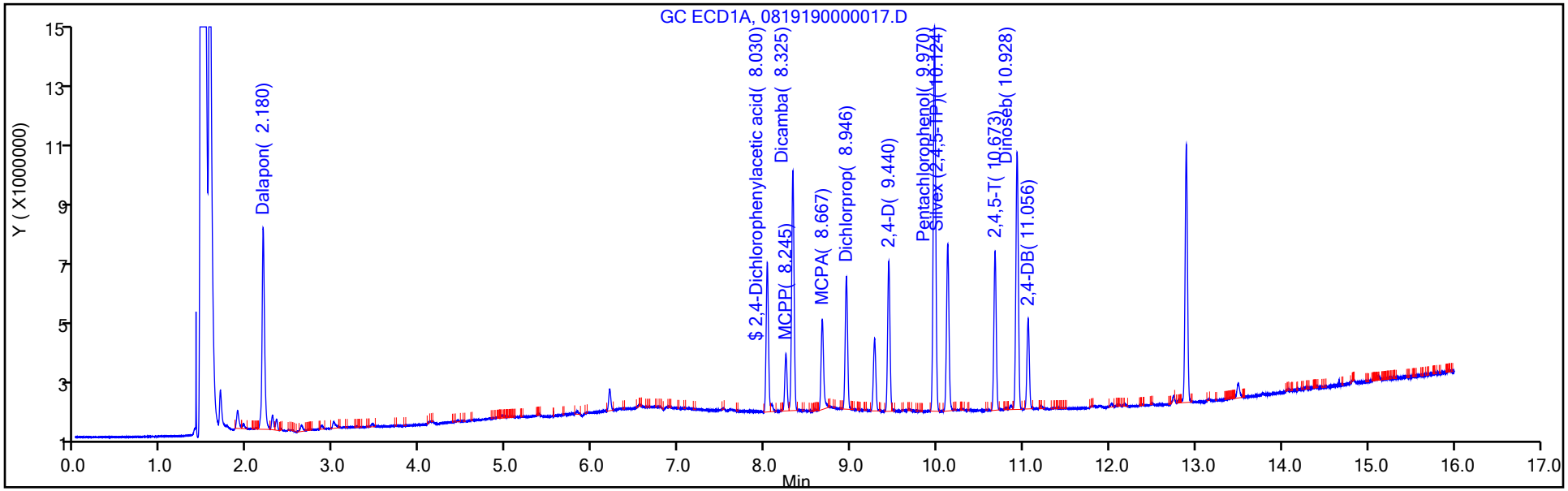

Column: RTX-1701 (0.53 mm)

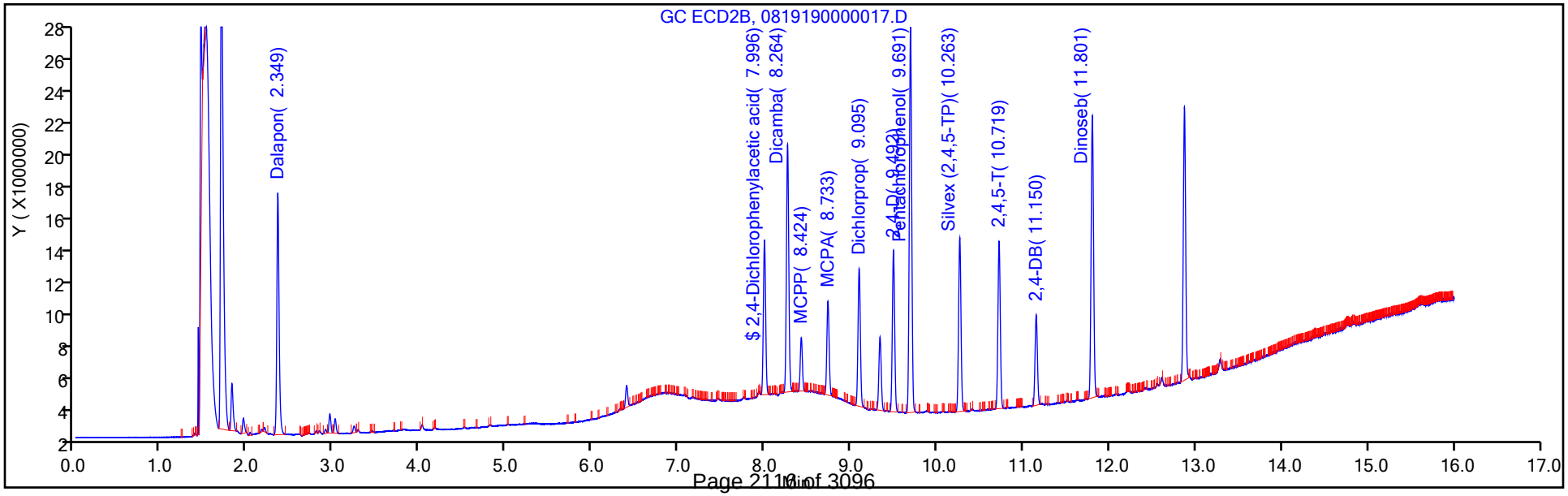

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D
Lims ID: icrt
Client ID:
Sample Type: ICRT Calib Level: 3
Inject. Date: 19-Aug-2019 19:54:39 ALS Bottle#: 4 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-005
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:45 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:28:11

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							a
1	2.179	2.179	0.000	11223295H	0.0800	0.0753	a
2	2.348	2.348	0.000	25411026H	0.0800	0.0757	a
						RPD = 0.54	
$ 2 2,4-Dichlorophenylacetic acid							a
1	8.030	8.030	0.000	7613570H	0.0800	0.0700	a
2	7.996	7.996	0.000	14765553H	0.0800	0.0700	a
						RPD = 0.05	
3 MCPP							Ma
1	8.246	8.246	0.000	2974715H	8.00	7.53	a
2	8.423	8.423	0.000	9866795	8.00	7.65	M
						RPD = 1.68	
4 Dicamba							a
1	8.326	8.326	0.000	12450636H	0.0400	0.0341	a
2	8.265	8.265	0.000	24433399H	0.0400	0.0348	a
						RPD = 2.05	
5 MCPA							a
1	8.667	8.667	0.000	4460869H	8.00	6.96	a
2	8.732	8.732	0.000	8744680H	8.00	7.10	a
						RPD = 2.04	
6 Dichlorprop							a
1	8.947	8.947	0.000	6683731H	0.0800	0.0690	a
2	9.095	9.095	0.000	13013520H	0.0800	0.0702	a
						RPD = 1.67	
7 2,4-D							a
1	9.439	9.439	0.000	7458378H	0.0800	0.0679	a
2	9.494	9.494	0.000	15308071H	0.0800	0.0705	a
						RPD = 3.86	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							a
1	9.969	9.969	0.000	39077252	0.0200	0.0170	a
2	9.691	9.691	0.000	36992114H	0.0200	0.0173	a
						RPD = 1.40	
9 Silvex (2,4,5-TP)							a
1	10.124	10.124	0.000	8350247H	0.0200	0.0170	a
2	10.263	10.263	0.000	16465579H	0.0200	0.0175	a
						RPD = 2.60	
10 2,4,5-T							a
1	10.673	10.673	0.000	7923065H	0.0200	0.0171	a
2	10.719	10.719	0.000	15848356H	0.0200	0.0175	a
						RPD = 2.31	
11 Dinoseb							a
1	10.928	10.928	0.000	12819214H	0.0800	0.0666	a
2	11.800	11.800	0.000	27183193H	0.0800	0.0695	a
						RPD = 4.33	
12 2,4-DB							a
1	11.056	11.056	0.000	4420145H	0.0800	0.0670	a
2	11.149	11.149	0.000	8459711H	0.0800	0.0686	a
						RPD = 2.28	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

GCHERBCALSL3_00028 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:25:47 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D

Injection Date: 19-Aug-2019 19:54:39 Instrument ID: CGC1 Operator ID:

Lims ID: icrt Worklist Smp#: 5

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 4

Method: Herbicides_CGC1 Limit Group: GCS 8151A ICAL

Column: RTX-50 (0.53 mm)

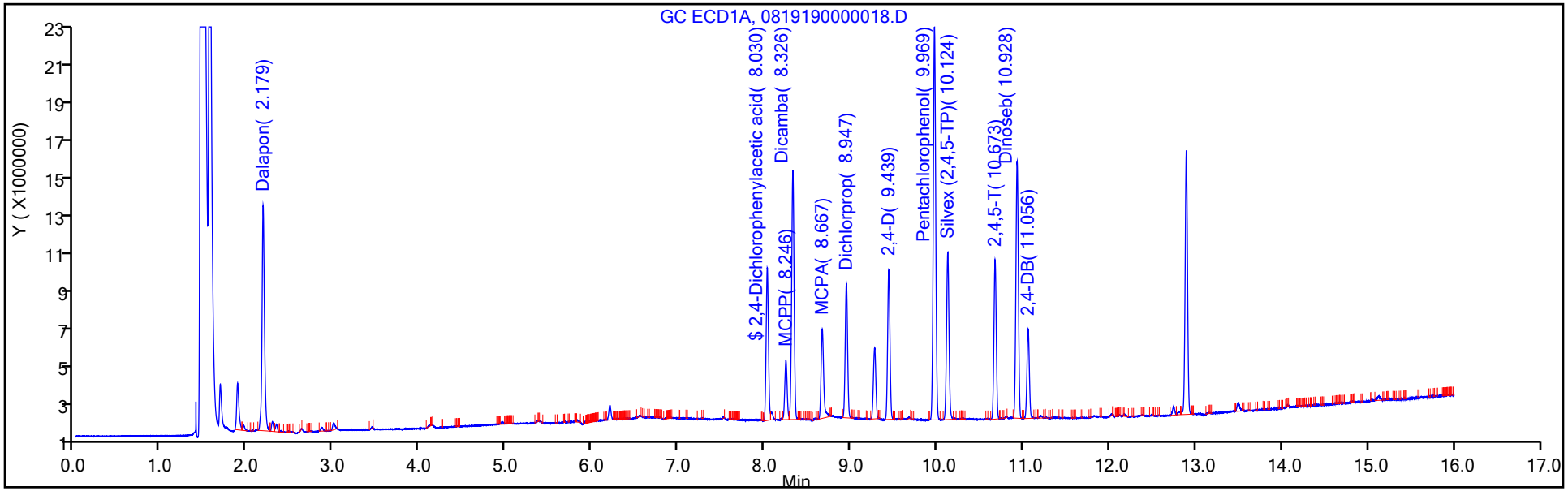

Column: RTX-1701 (0.53 mm)

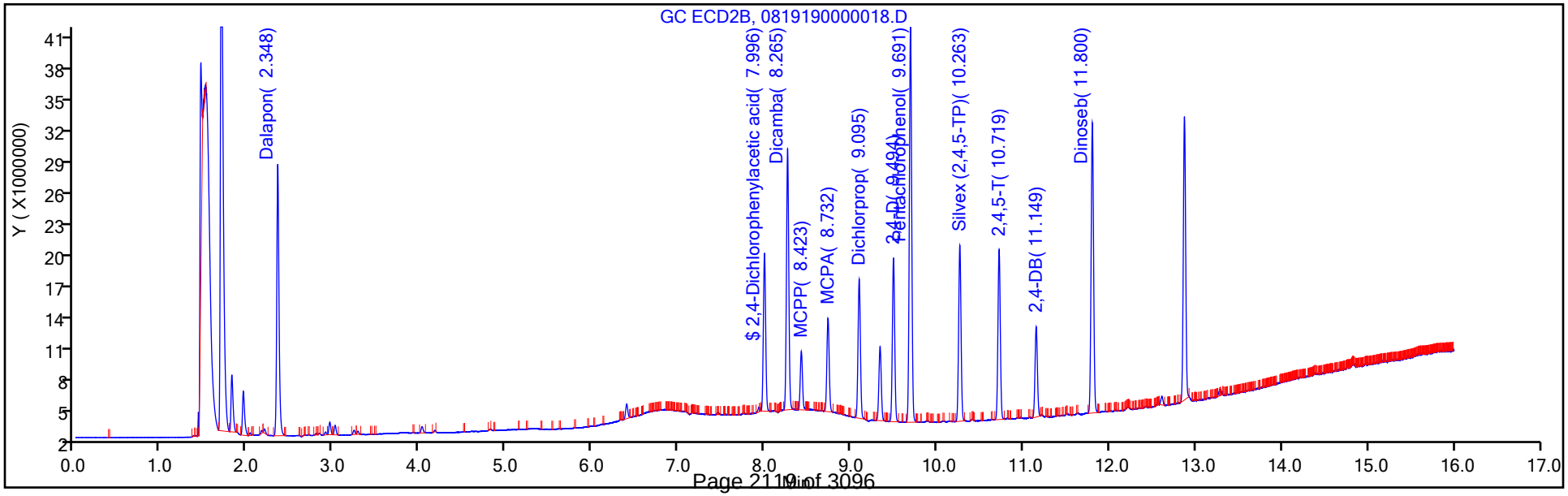

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

1 Dalapon, CAS: 75-99-0

Signal: 2

Processing Integration Results

Not Detected
Expected RT: 2.35

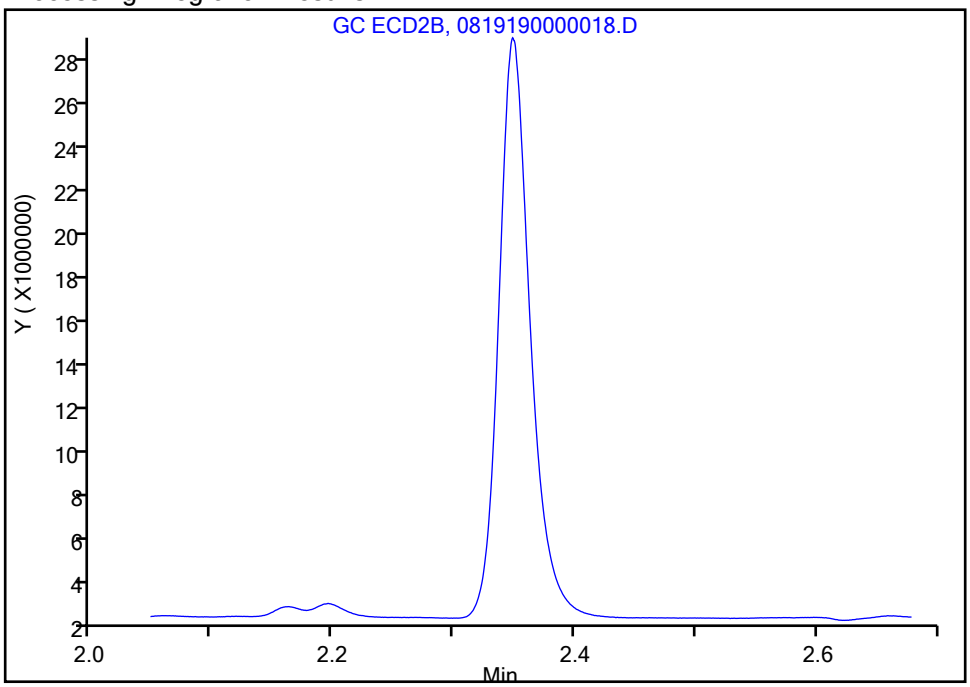

Manual Integration Results

RT: 2.35
Height: 25411026
Amount: 0.075708
Amount Units: ng

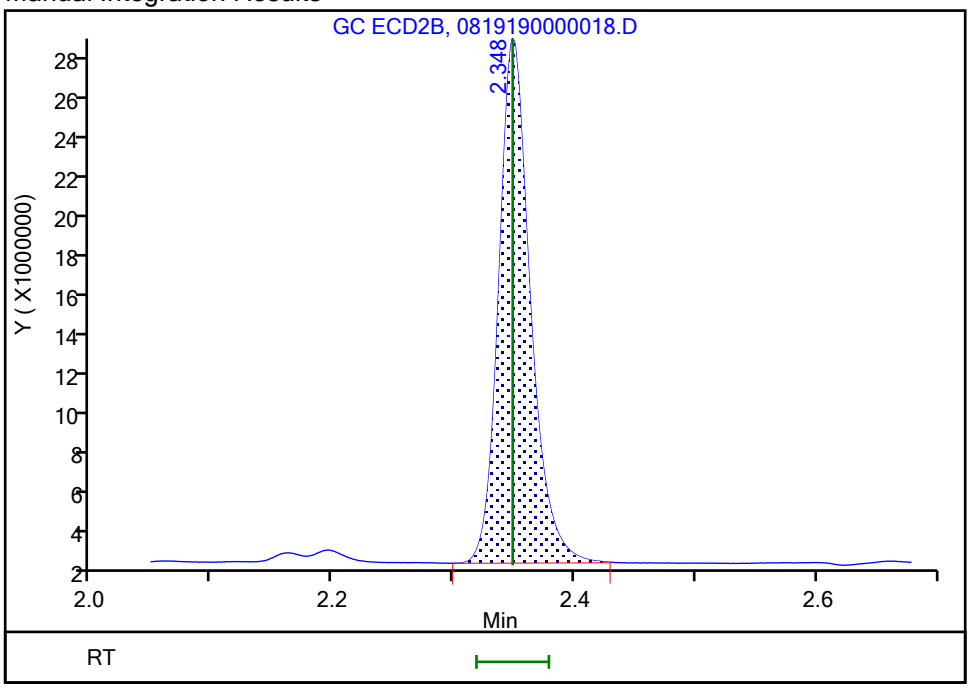

Reviewer: fritschj, 20-Aug-2019 08:15:36
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

$ 2 2,4-Dichlorophenylacetic acid, CAS: 19719-28-9

Signal: 2

Processing Integration Results

RT: 8.16
Height: 15399
Amount: 0.011043
Amount Units: ng

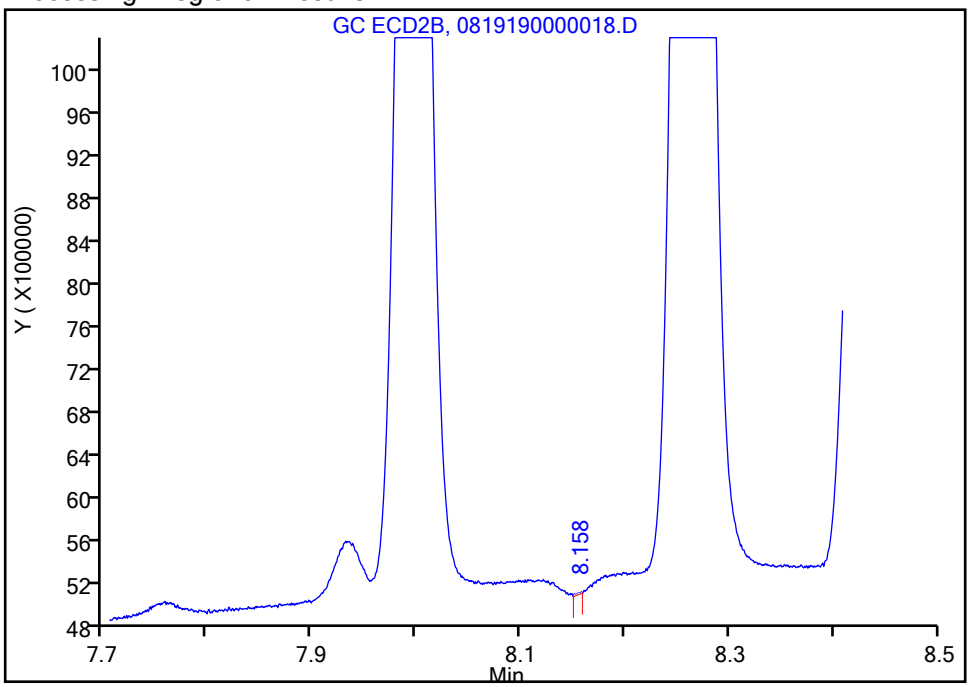

Manual Integration Results

RT: 8.00
Height: 14765553
Amount: 0.070006
Amount Units: ng

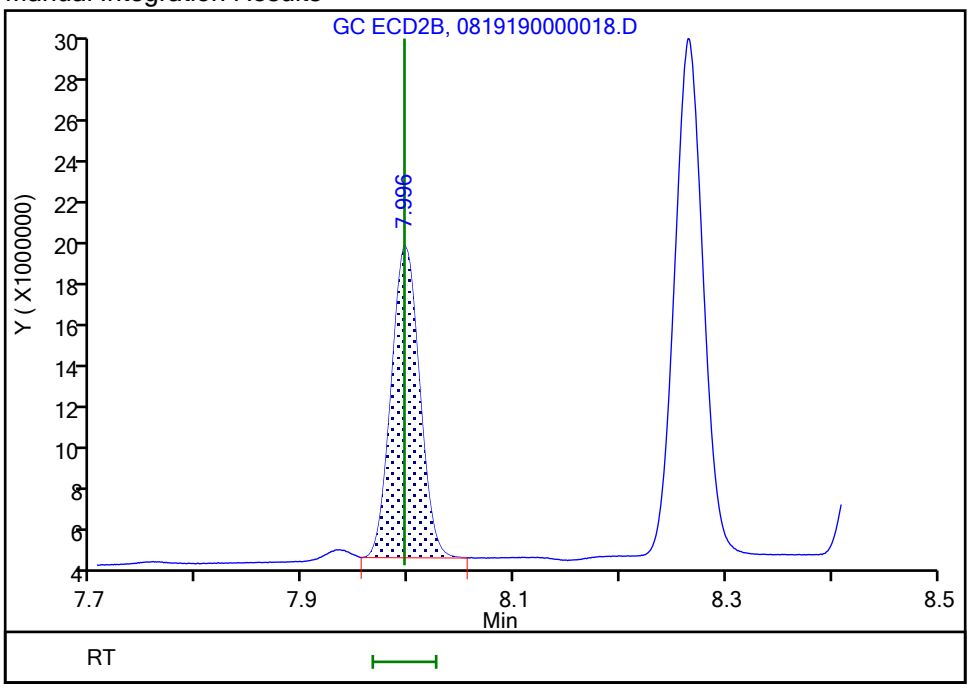

Reviewer: fritschj, 20-Aug-2019 08:16:00
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

4 Dicamba, CAS: 1918-00-9

Signal: 2

Processing Integration Results

RT: 8.48
Height: 39177
Amount: 0.030374
Amount Units: ng

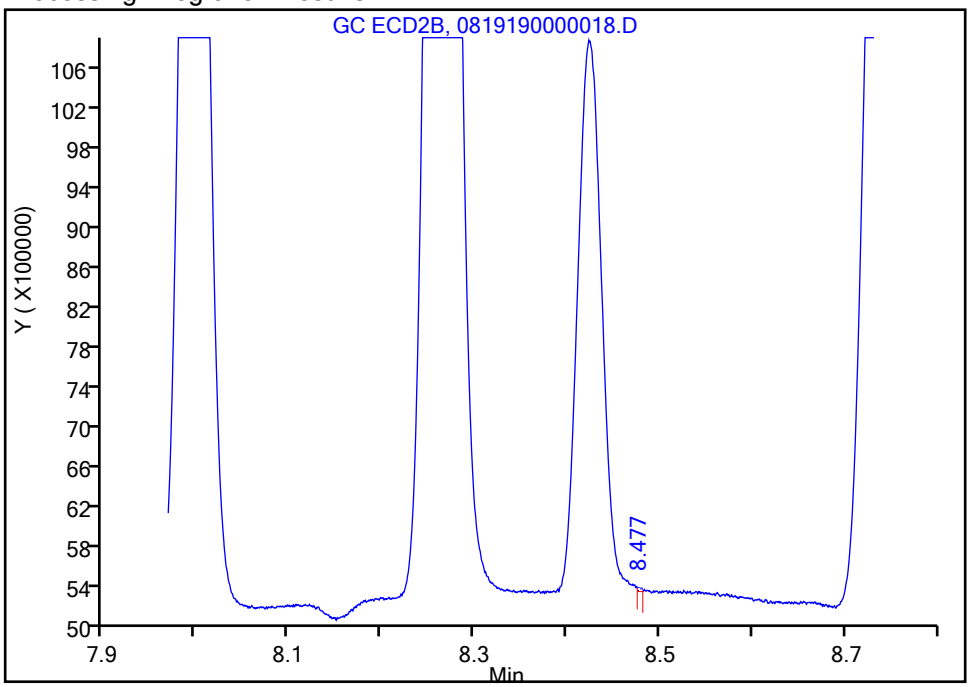

Manual Integration Results

RT: 8.26
Height: 24433399
Amount: 0.034841
Amount Units: ng

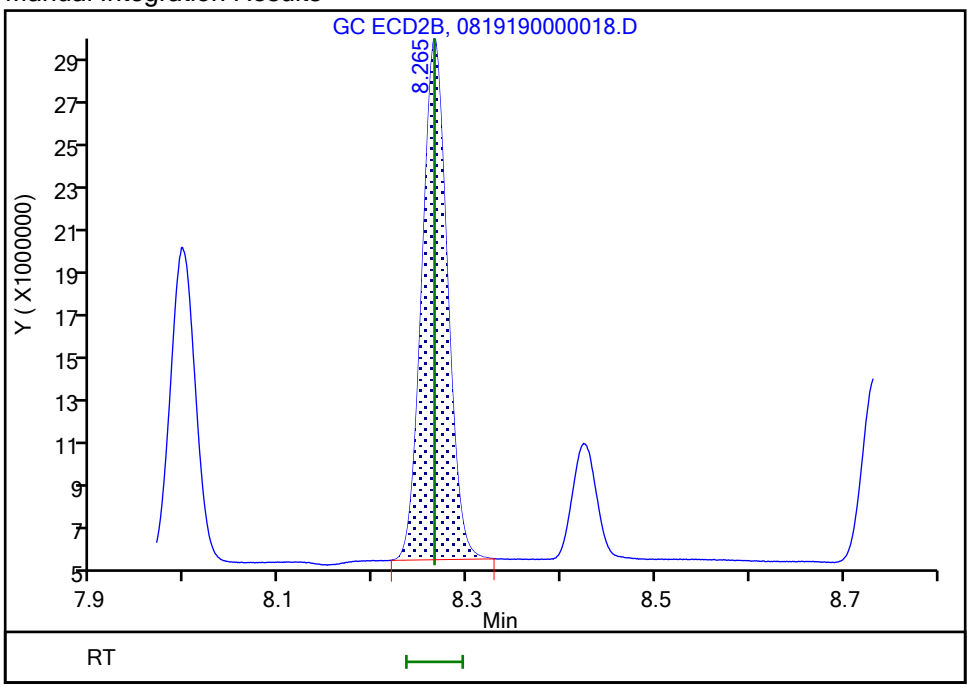

Reviewer: fritschj, 20-Aug-2019 08:18:12
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

3 MCPP, CAS: 93-65-2

Signal: 2

Processing Integration Results

RT: 8.37
Area: 6937
Amount: 3.720368
Amount Units: ng

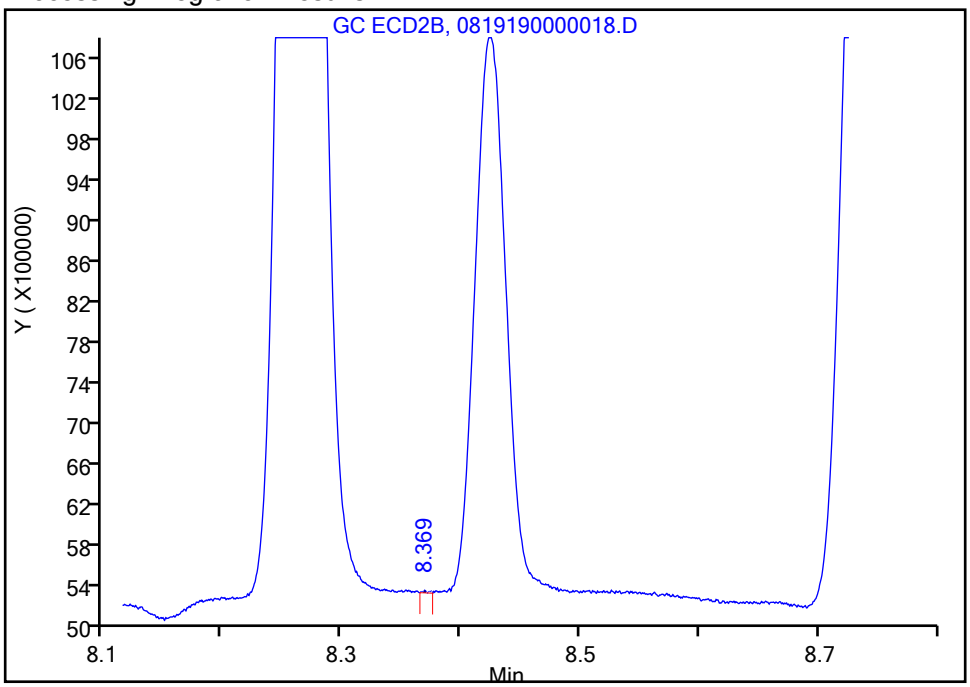

Manual Integration Results

RT: 8.42
Area: 9866795
Amount: 7.654420
Amount Units: ng

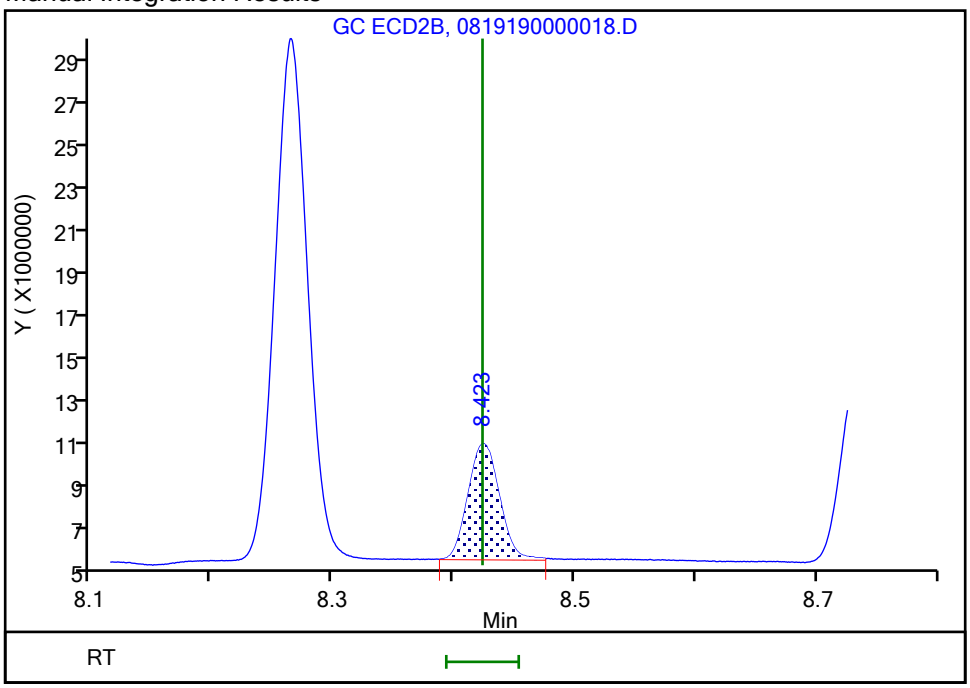

Reviewer: fritschj, 20-Aug-2019 09:09:08

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

5 MCPA, CAS: 94-74-6

Signal: 2

Processing Integration Results

Not Detected
Expected RT: 8.73

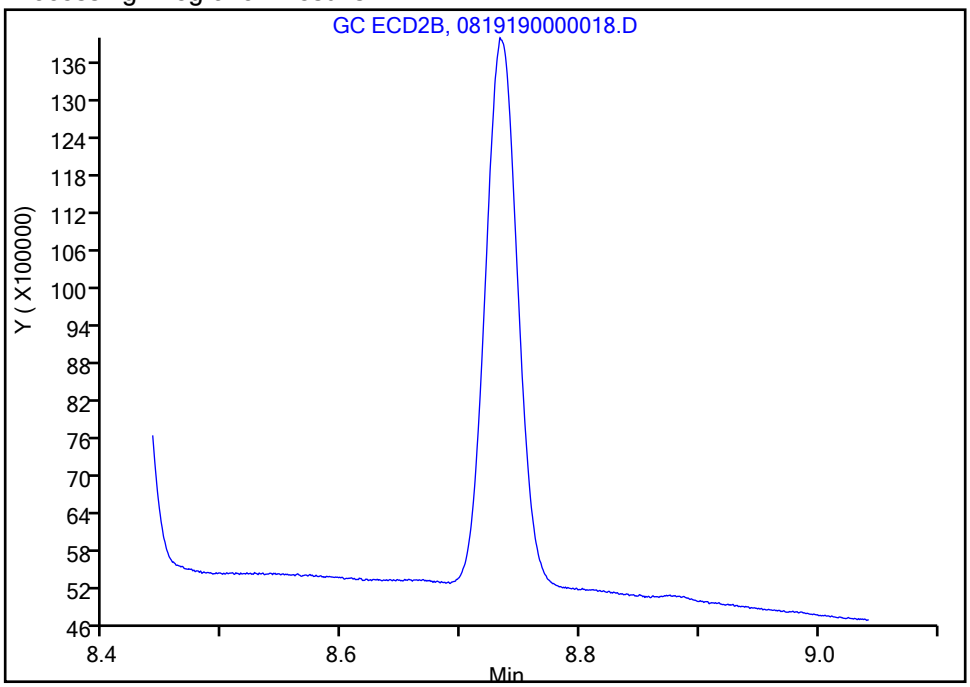

Manual Integration Results

RT: 8.73
Height: 8744680
Amount: 7.098779
Amount Units: ng

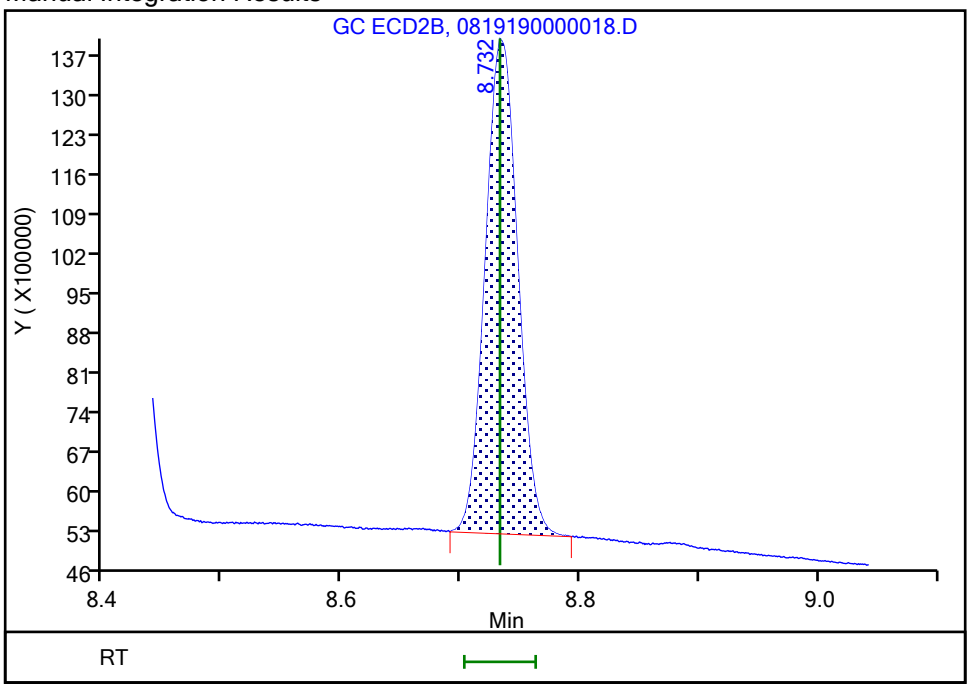

Reviewer: fritschj, 20-Aug-2019 08:18:38
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

6 Dichlorprop, CAS: 120-36-5

Signal: 2

Not Detected
Expected RT: 9.10

Processing Integration Results

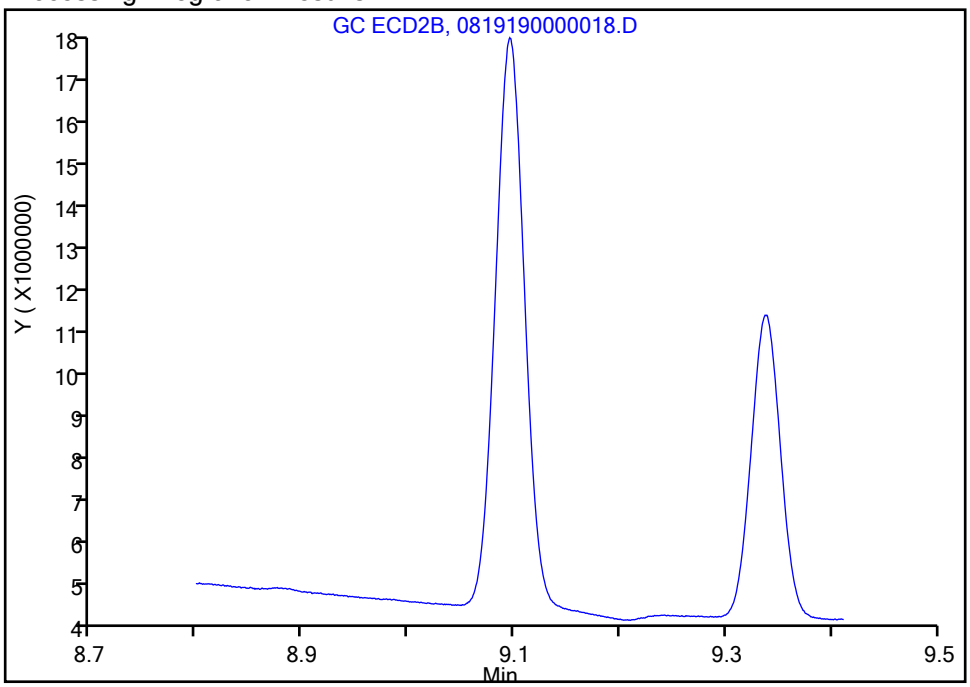

Manual Integration Results

RT: 9.10
Height: 13013520
Amount: 0.070191
Amount Units: ng

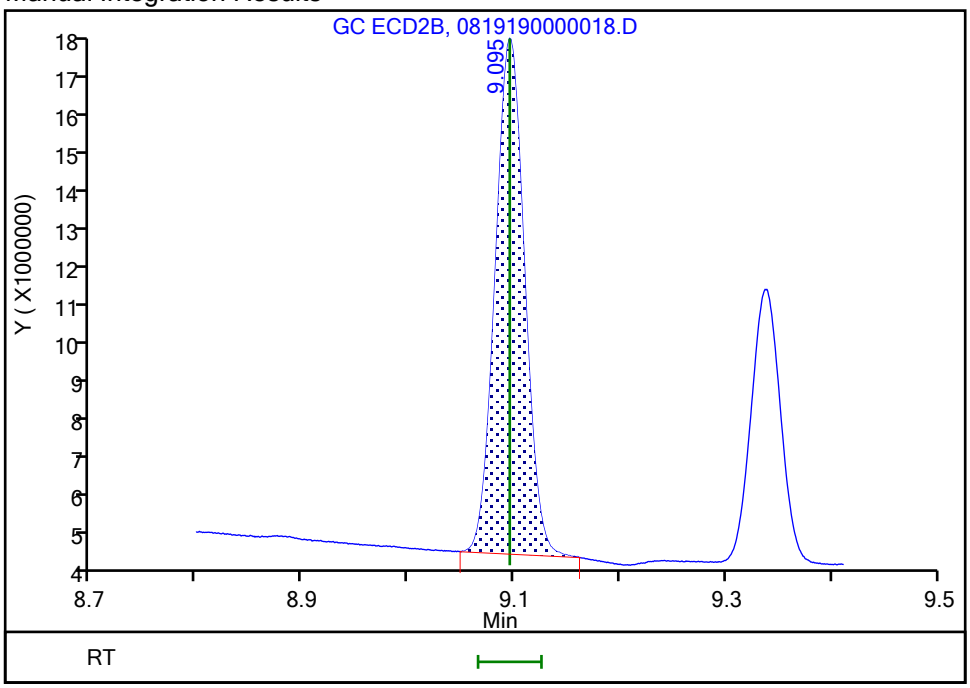

Reviewer: fritschj, 20-Aug-2019 08:19:23
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

7 2,4-D, CAS: 94-75-7

Signal: 2

Processing Integration Results

Not Detected
Expected RT: 9.49

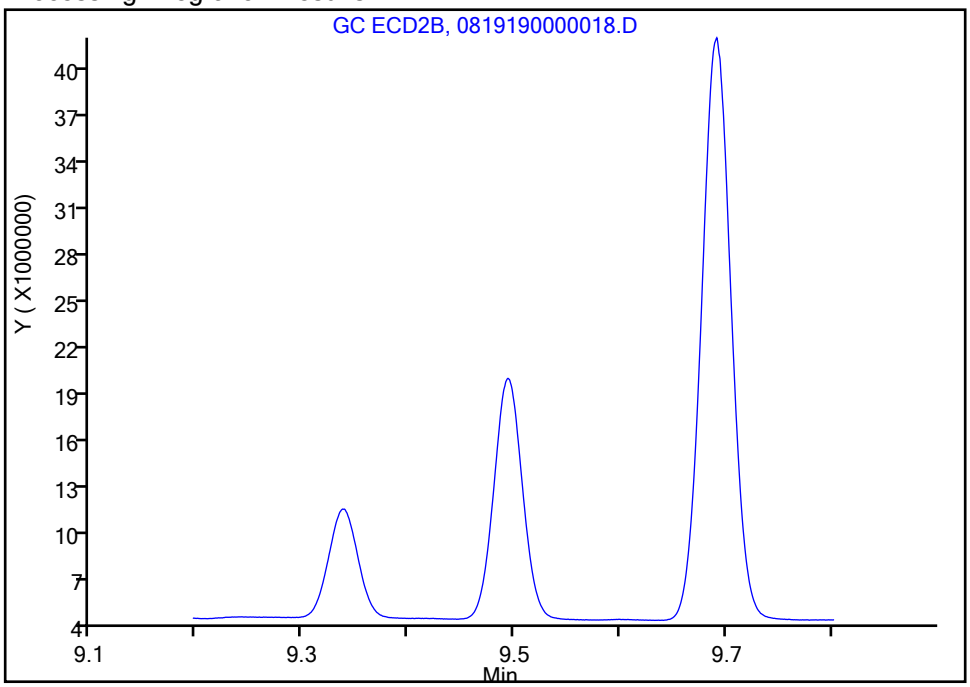

Manual Integration Results

RT: 9.49
Height: 15308071
Amount: 0.070532
Amount Units: ng

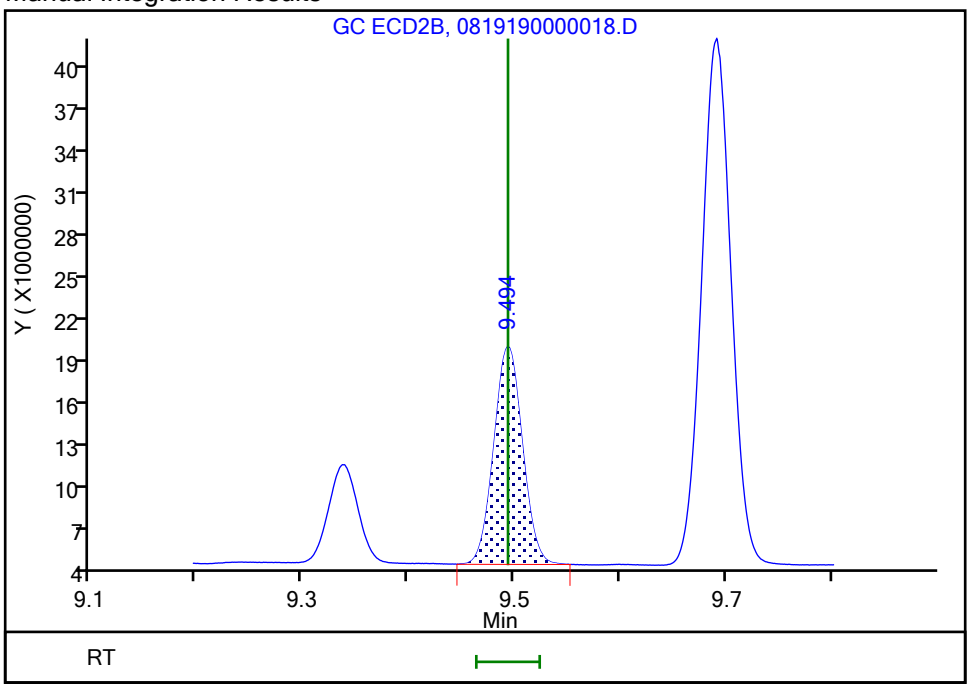

Reviewer: fritschj, 20-Aug-2019 08:19:49
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

8 Pentachlorophenol, CAS: 87-86-5

Signal: 2

Processing Integration Results

Not Detected
Expected RT: 9.69

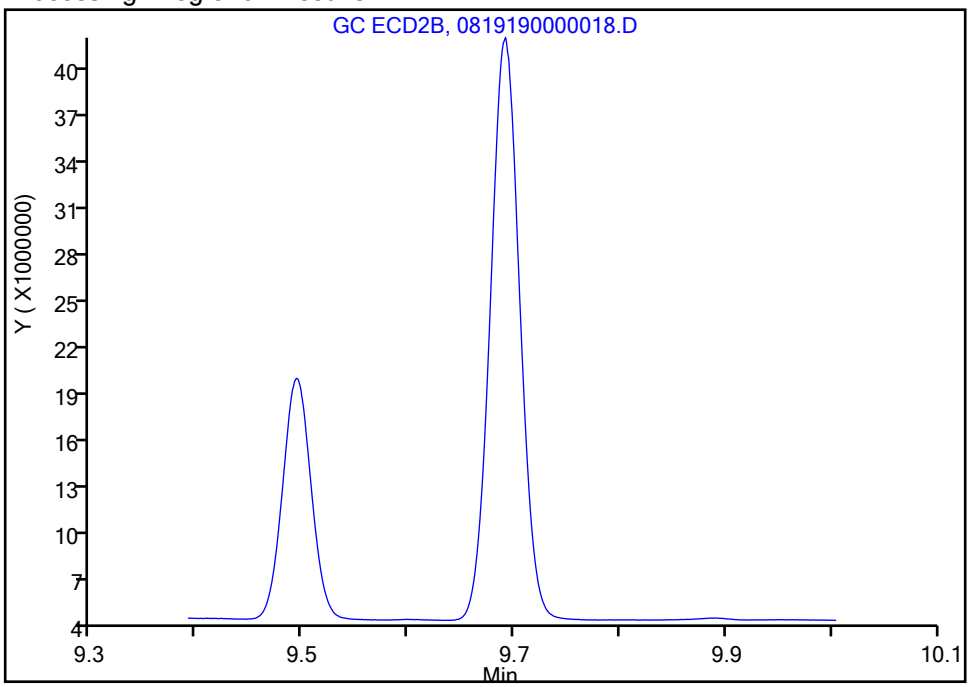

Manual Integration Results

RT: 9.69
Height: 36992114
Amount: 0.017251
Amount Units: ng

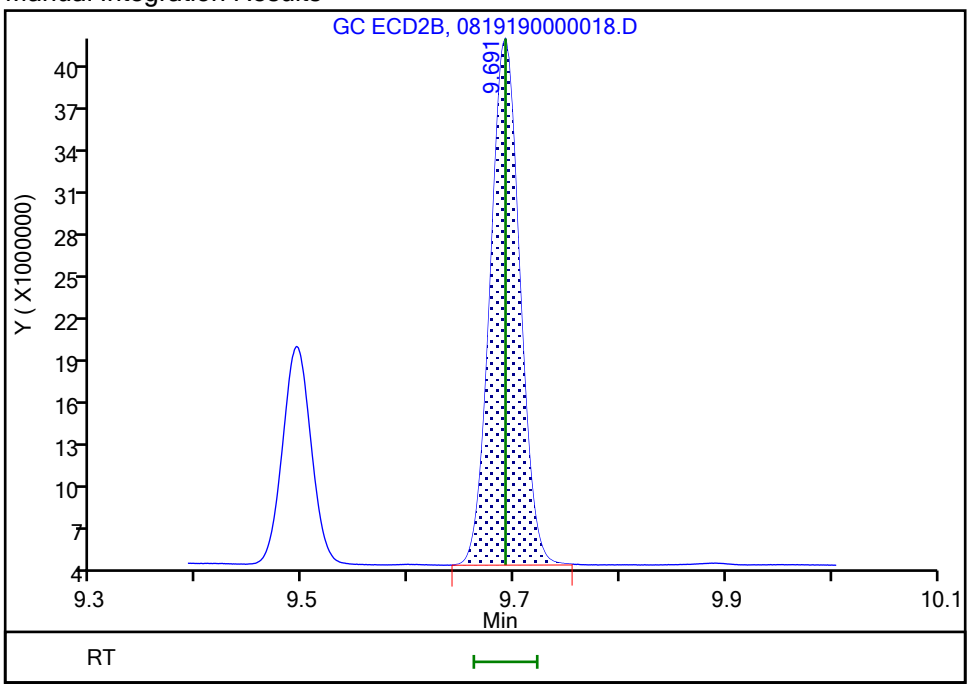

Reviewer: fritschj, 20-Aug-2019 08:22:05
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

9 Silvex (2,4,5-TP), CAS: 93-72-1

Signal: 2

Processing Integration Results

Not Detected
Expected RT: 10.26

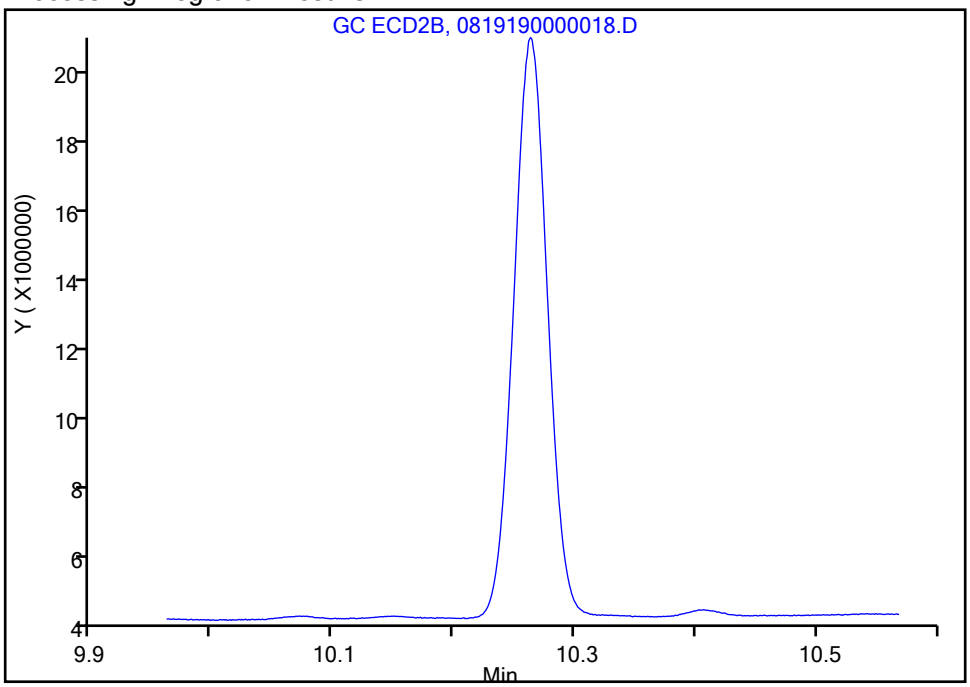

Manual Integration Results

RT: 10.26
Height: 16465579
Amount: 0.017493
Amount Units: ng

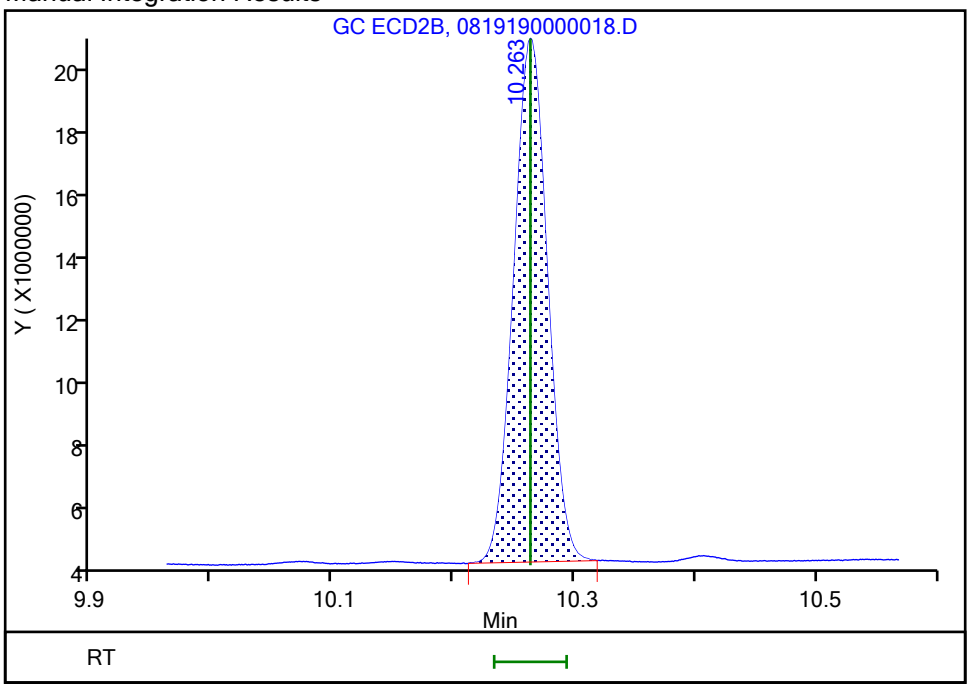

Reviewer: fritschj, 20-Aug-2019 08:22:24
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

10 2,4,5-T, CAS: 93-76-5

Signal: 2

Processing Integration Results

Not Detected
Expected RT: 10.72

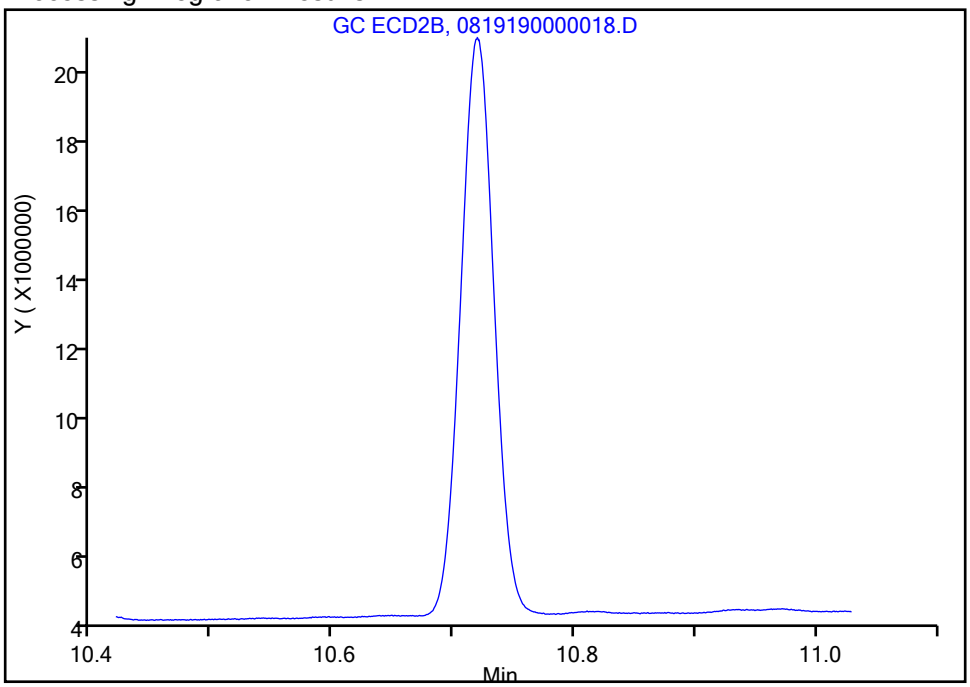

Manual Integration Results

RT: 10.72
Height: 15848356
Amount: 0.017485
Amount Units: ng

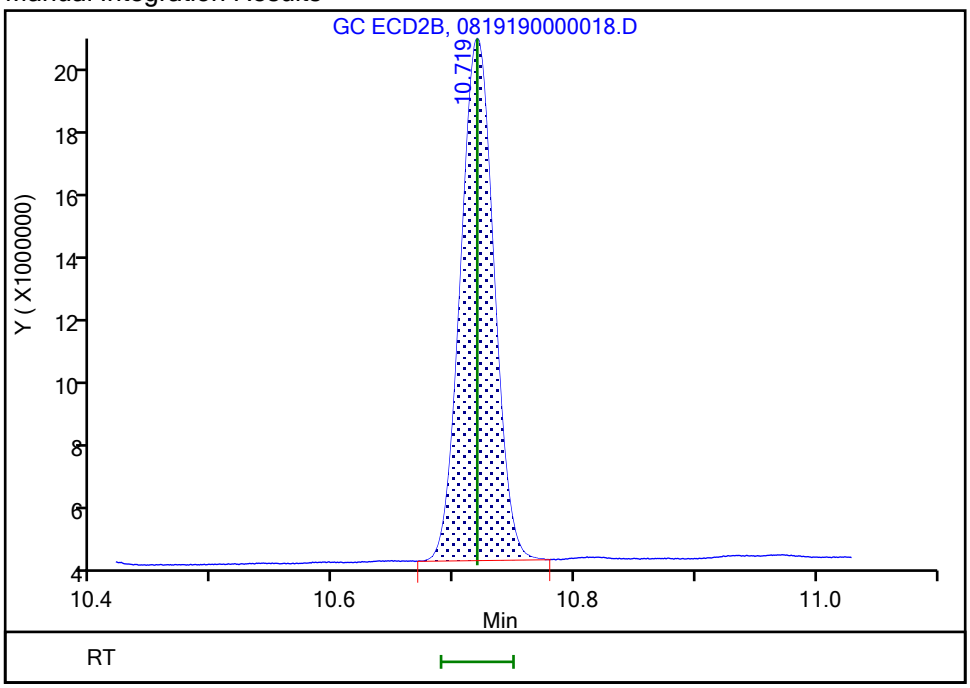

Reviewer: fritschj, 20-Aug-2019 08:23:43
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

12 2,4-DB, CAS: 94-82-6

Signal: 2

Processing Integration Results

Not Detected
Expected RT: 11.15

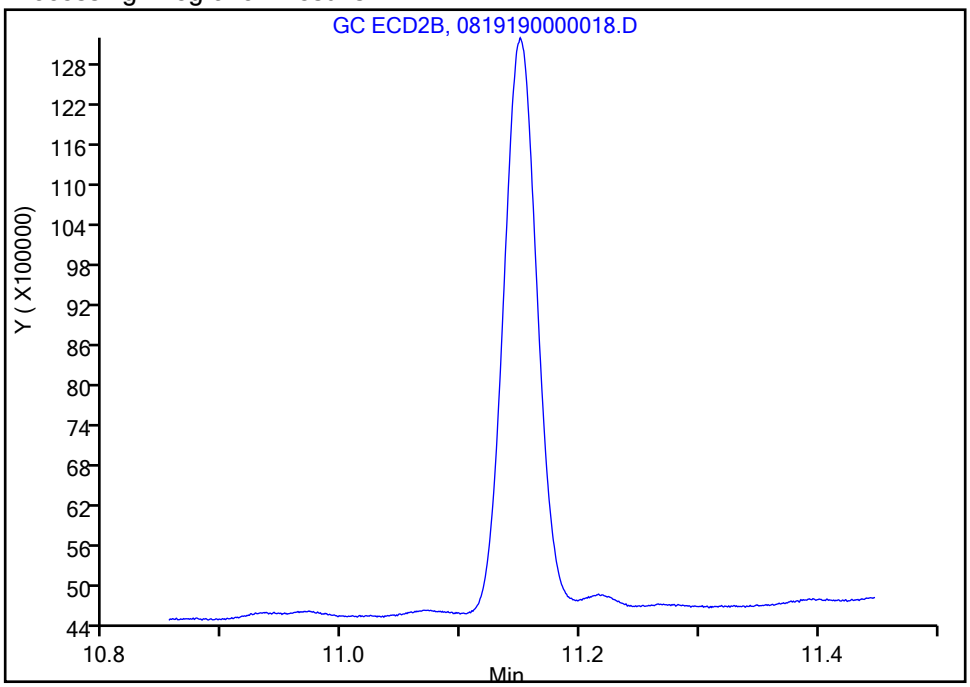

Manual Integration Results

RT: 11.15
Height: 8459711
Amount: 0.068577
Amount Units: ng

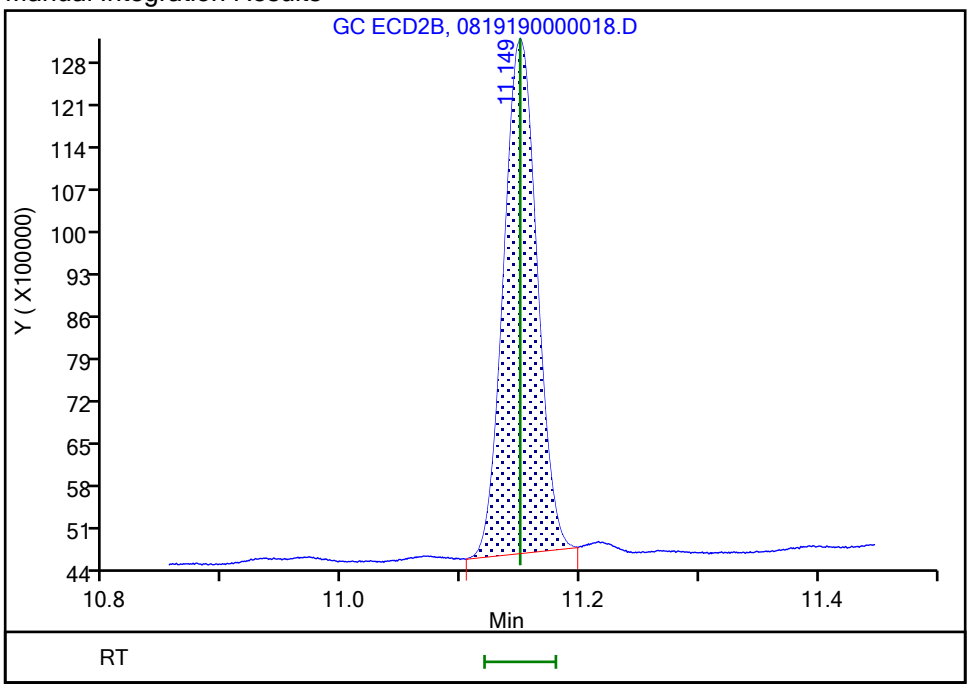

Reviewer: fritschj, 20-Aug-2019 08:24:57
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000018.D				
Injection Date:	19-Aug-2019 19:54:39	Instrument ID:	CGC1		
Lims ID:	icrt				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

11 Dinoseb, CAS: 88-85-7

Signal: 2

Processing Integration Results

RT: 12.99
Height: 34851
Amount: 0.039627
Amount Units: ng

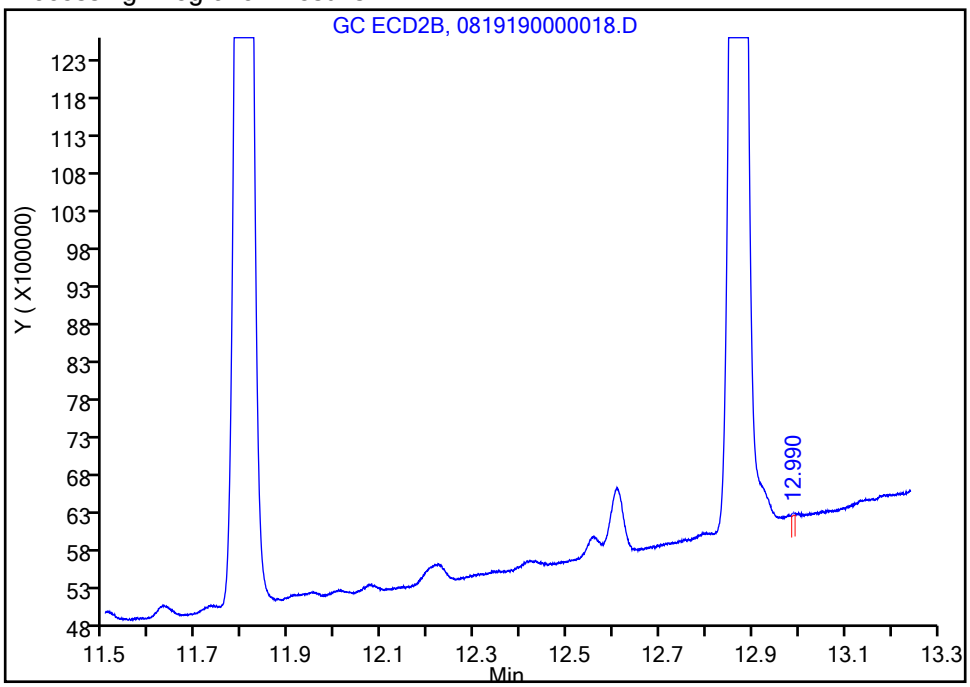

Manual Integration Results

RT: 11.80
Height: 27183193
Amount: 0.069540
Amount Units: ng

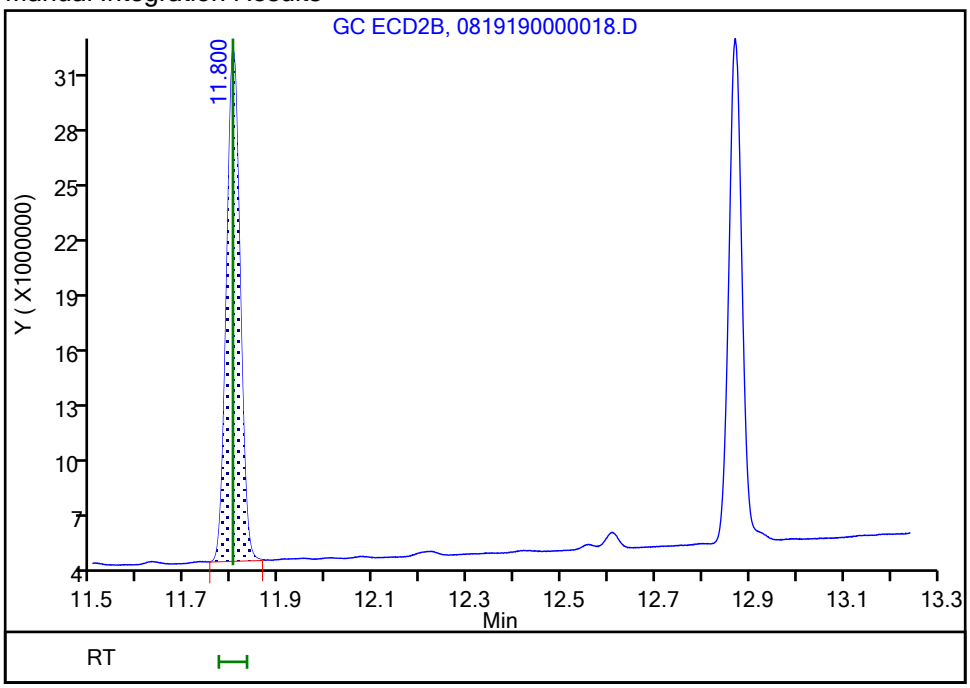

Reviewer: fritschj, 20-Aug-2019 08:24:29
Audit Action: Assigned Compound ID Audit Reason:

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000019.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 19-Aug-2019 20:19:37 ALS Bottle#: 5 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-006
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:41 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:36:14

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.180	2.179	0.001	21029013H	0.1600	0.1411	
2	2.349	2.348	0.001	47108347H	0.1600	0.1404	
						RPD = 0.53	
$ 2 2,4-Dichlorophenylacetic acid							M
1	8.027	8.030	-0.003	14637561H	0.1600	0.1345	
2	7.996	7.996	0.000	28362876H	0.1600	0.1345	M
						RPD = 0.04	
3 MCPP							M
1	8.245	8.246	-0.001	5526314H	16.0	14.0	
2	8.423	8.423	0.000	19552026	16.0	14.7	M
						RPD = 5.27	
4 Dicamba							
1	8.325	8.326	-0.001	24338630H	0.0800	0.0667	
2	8.265	8.265	0.000	48128489H	0.0800	0.0686	
						RPD = 2.81	
5 MCPA							
1	8.667	8.667	0.000	8041901H	16.0	12.5	
2	8.733	8.732	0.001	16184172H	16.0	13.1	
						RPD = 4.66	
6 Dichlorprop							
1	8.946	8.947	-0.001	12688482H	0.1600	0.1310	
2	9.095	9.095	0.000	24921509H	0.1600	0.1344	
						RPD = 2.54	
7 2,4-D							
1	9.439	9.439	0.000	14118416H	0.1600	0.1285	
2	9.493	9.494	-0.001	28835678H	0.1600	0.1329	
						RPD = 3.37	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.968	9.969	-0.001	76949921	0.0400	0.0335	
2	9.690	9.691	-0.001	72319636	0.0400	0.0337	H
						RPD = 0.68	
9 Silvex (2,4,5-TP)							
1	10.122	10.124	-0.002	16132968	0.0400	0.0329	H
2	10.262	10.263	-0.001	31885085	0.0400	0.0339	H
						RPD = 2.83	
10 2,4,5-T							
1	10.672	10.673	-0.001	15241356	0.0400	0.0329	H
2	10.717	10.719	-0.002	30784000	0.0400	0.0340	H
						RPD = 3.28	
11 Dinoseb							
1	10.927	10.928	-0.001	25368364	0.1600	0.1318	H
2	11.801	11.800	0.001	53199332	0.1600	0.1361	H
						RPD = 3.22	
12 2,4-DB							
1	11.055	11.056	-0.001	8376520	0.1600	0.1270	H
2	11.147	11.149	-0.002	16504494	0.1600	0.1338	H
						RPD = 5.18	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCHERBCALSL4_00027 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:25:43 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000019.D				
Injection Date:	19-Aug-2019 20:19:37	Instrument ID:	CGC1	Operator ID:	
Lims ID:	ic			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

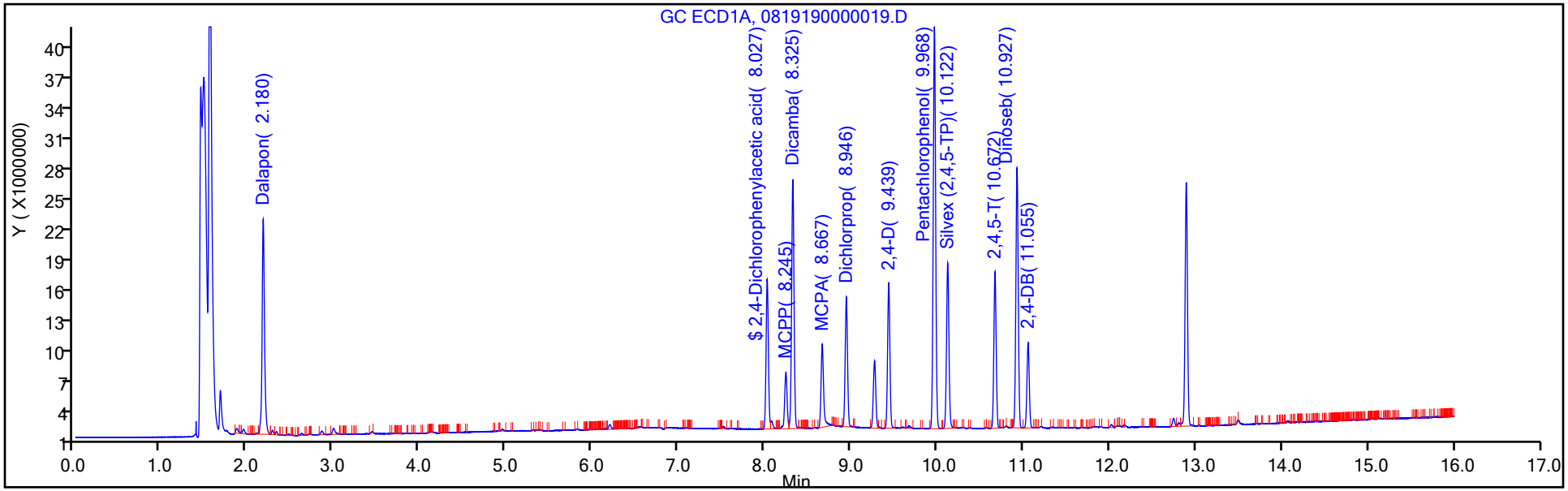

Column: RTX-1701 (0.53 mm)

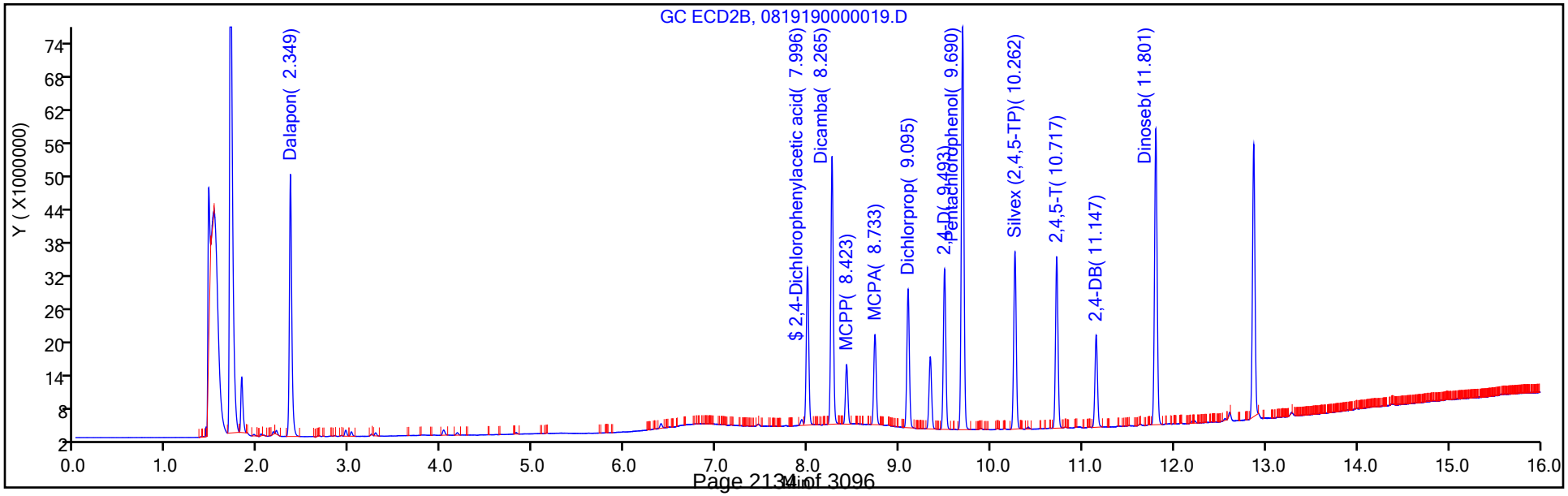

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000019.D				
Injection Date:	19-Aug-2019 20:19:37	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	5	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

$ 2 2,4-Dichlorophenylacetic acid, CAS: 19719-28-9

Signal: 2

Processing Integration Results

RT: 8.00
Height: 28190894
Amount: 0.134033
Amount Units: ng

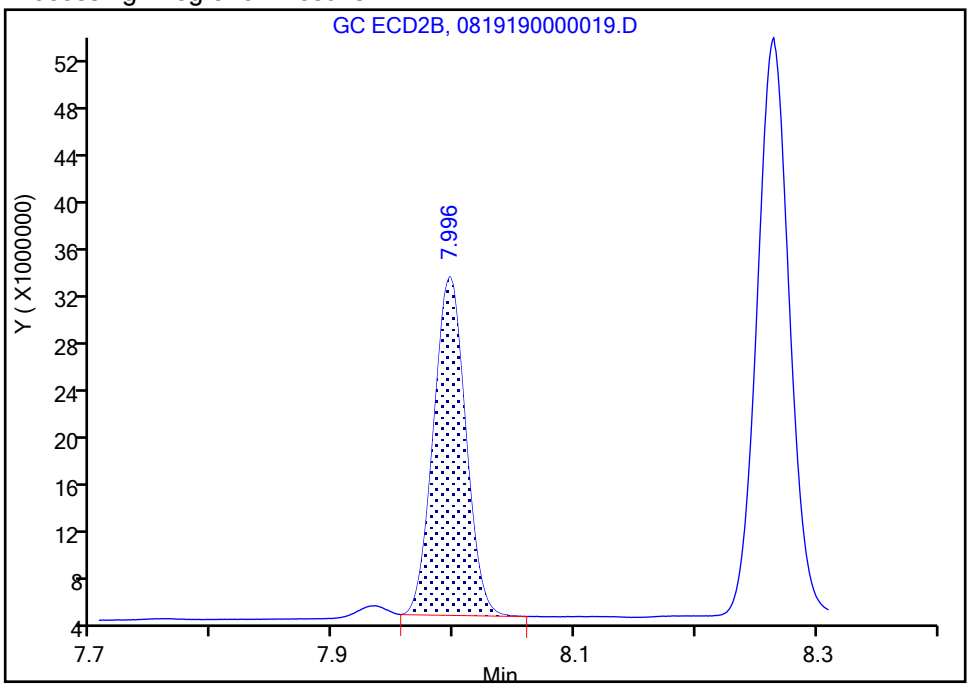

Manual Integration Results

RT: 8.00
Height: 28362876
Amount: 0.134473
Amount Units: ng

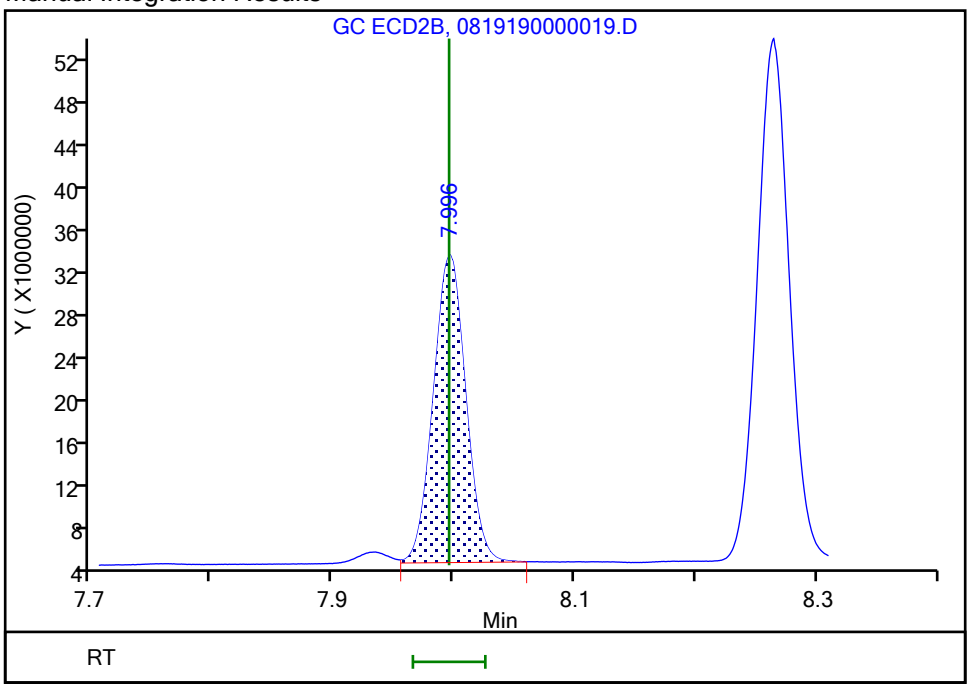

Reviewer: fritschj, 20-Aug-2019 08:38:28

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000019.D				
Injection Date:	19-Aug-2019 20:19:37	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	5	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

3 MCPP, CAS: 93-65-2

Signal: 2

Processing Integration Results

RT: 8.42
Area: 19360884
Amount: 15.027734
Amount Units: ng

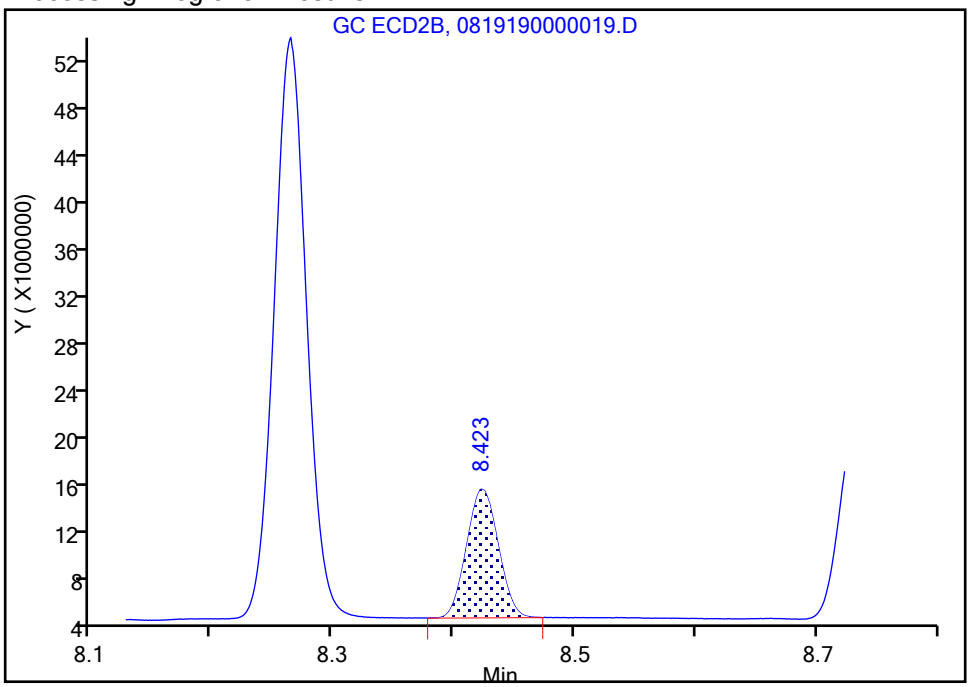

Manual Integration Results

RT: 8.42
Area: 19552026
Amount: 14.740461
Amount Units: ng

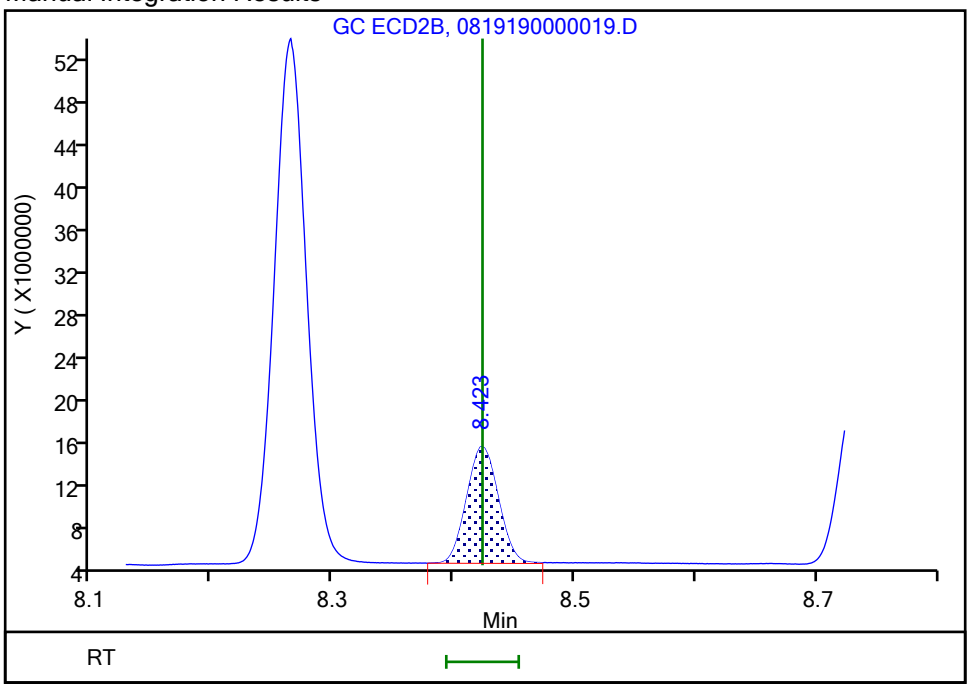

Reviewer: fritschj, 20-Aug-2019 09:01:54

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000020.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 19-Aug-2019 20:44:28 ALS Bottle#: 6 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-007
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:36 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:39:36

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.179	2.179	0.000	43608531H	0.3200	0.2926	
2	2.348	2.348	0.000	99838456H	0.3200	0.2975	
						RPD = 1.65	
$ 2 2,4-Dichlorophenylacetic acid							M
1	8.029	8.030	-0.001	31108696H	0.3200	0.2859	
2	7.995	7.996	-0.001	61366883H	0.3200	0.2909	M
						RPD = 1.75	
3 MCPP							M
1	8.245	8.246	-0.001	11527851H	32.0	29.2	
2	8.423	8.423	0.000	43025874	32.0	31.9	M
						RPD = 8.99	
4 Dicamba							
1	8.327	8.326	0.001	54610812H	0.1600	0.1497	
2	8.264	8.265	-0.001	108308115H	0.1600	0.1544	
						RPD = 3.11	
5 MCPA							M
1	8.667	8.667	0.000	17021609H	32.0	26.5	M
2	8.732	8.732	0.000	34629475H	32.0	28.1	
						RPD = 5.75	
6 Dichlorprop							M
1	8.947	8.947	0.000	27593514H	0.3200	0.2850	M
2	9.094	9.095	-0.001	54016213H	0.3200	0.2913	
						RPD = 2.21	
7 2,4-D							
1	9.439	9.439	0.000	31721217H	0.3200	0.2886	
2	9.493	9.494	-0.001	63139895H	0.3200	0.2909	
						RPD = 0.80	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.968	9.969	-0.001	174313893	0.0800	0.0759	
2	9.690	9.691	-0.001	165194490	0.0800	0.0770	H
						RPD = 1.51	
9 Silvex (2,4,5-TP)							
1	10.123	10.124	-0.001	36187475	0.0800	0.0739	H
2	10.262	10.263	-0.001	69623321	0.0800	0.0740	H
						RPD = 0.15	
10 2,4,5-T							
1	10.672	10.673	-0.001	33557621	0.0800	0.0724	H
2	10.719	10.719	0.000	67021283	0.0800	0.0739	H
						RPD = 2.16	
11 Dinoseb							
1	10.927	10.928	-0.001	57547973	0.3200	0.2990	H
2	11.800	11.800	0.000	118949912	0.3200	0.3043	H
						RPD = 1.77	
12 2,4-DB							
1	11.056	11.056	0.000	18445489	0.3200	0.2797	H
2	11.148	11.149	-0.001	36748566	0.3200	0.2979	H
						RPD = 6.29	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCHERBCALSL5_00024 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:25:38 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000020.D

Injection Date: 19-Aug-2019 20:44:28 Instrument ID: CGC1 Operator ID:

Lims ID: ic Worklist Smp#: 7

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 6

Method: Herbicides_CGC1 Limit Group: GCS 8151A ICAL

Column: RTX-50 (0.53 mm)

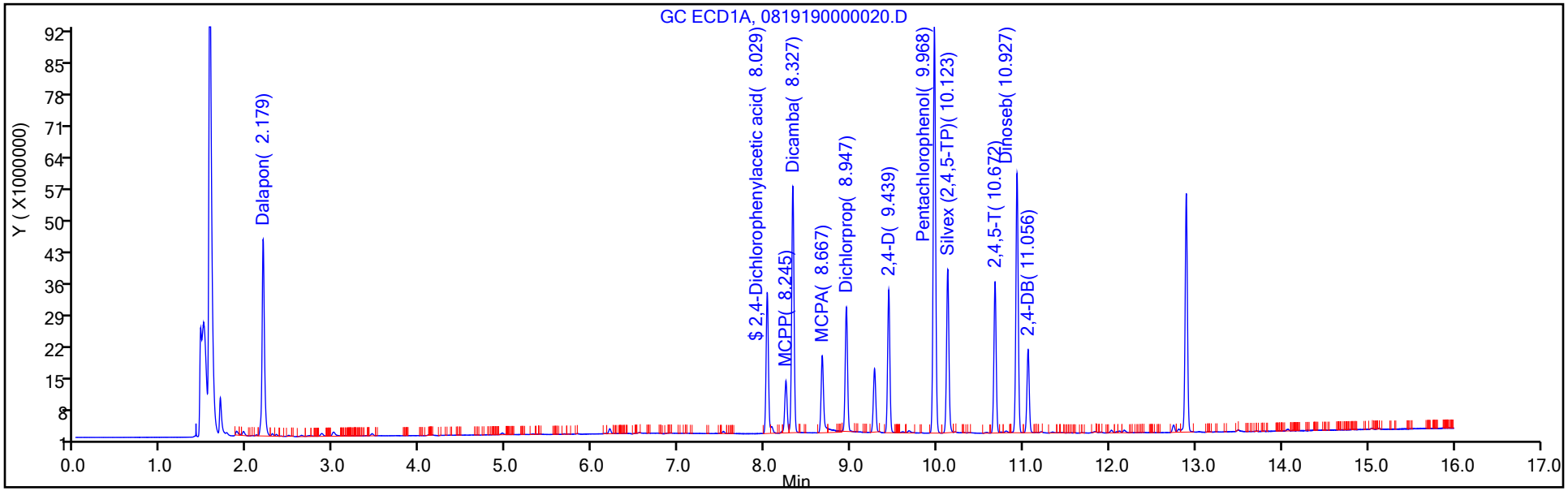

Column: RTX-1701 (0.53 mm)

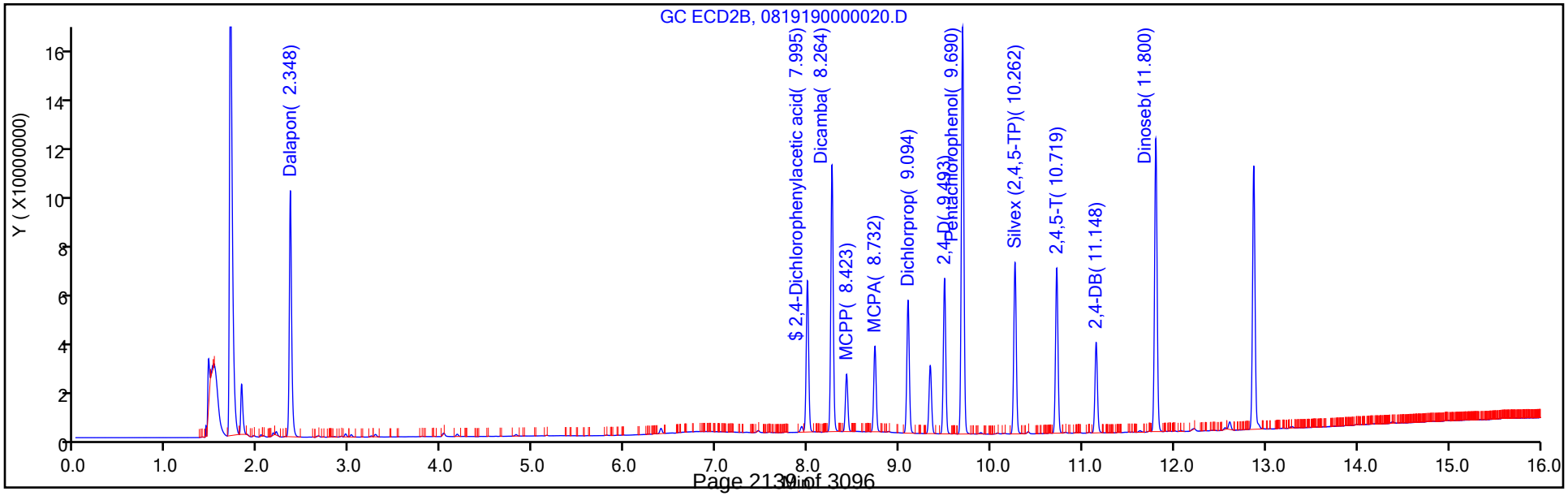

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000020.D				
Injection Date:	19-Aug-2019 20:44:28	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	6	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

$ 2 2,4-Dichlorophenylacetic acid, CAS: 19719-28-9

Signal: 2

Processing Integration Results

RT: 8.00
Height: 60948828
Amount: 0.289569
Amount Units: ng

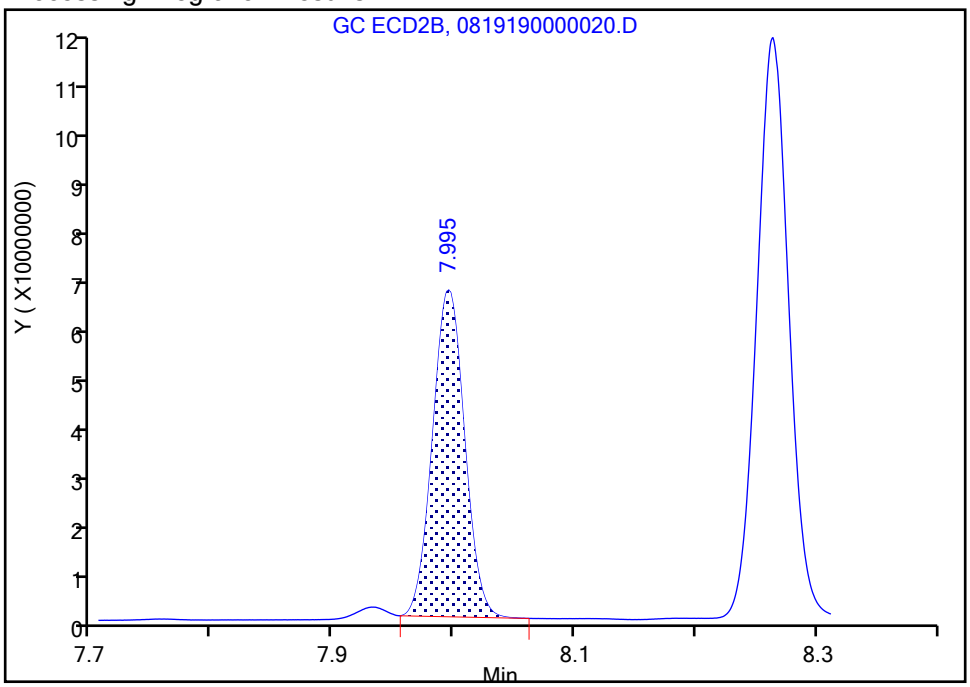

Manual Integration Results

RT: 8.00
Height: 61366883
Amount: 0.290950
Amount Units: ng

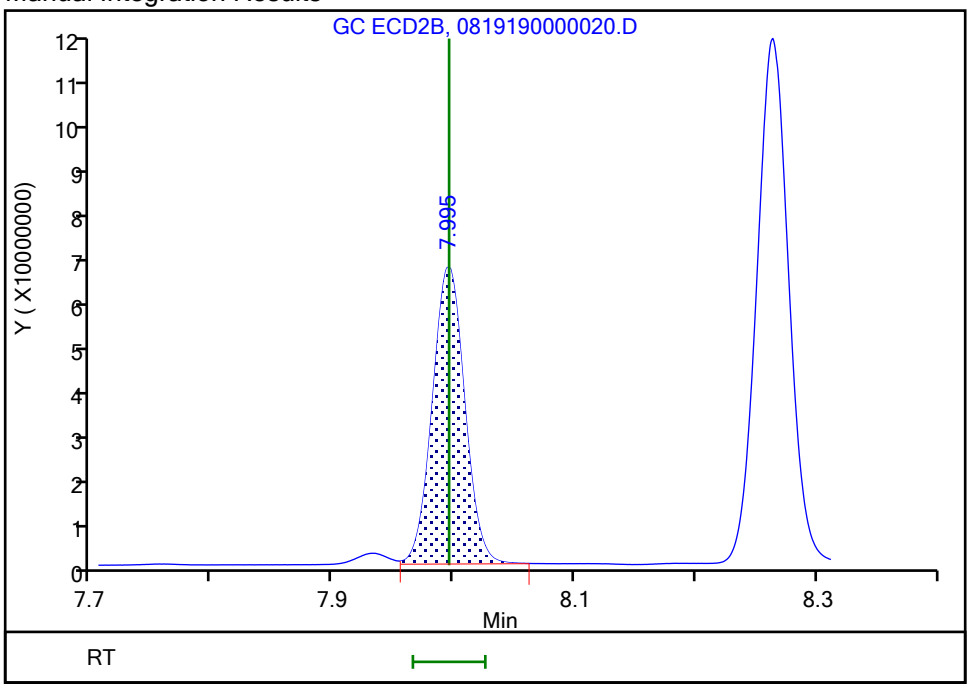

Reviewer: fritschj, 20-Aug-2019 08:39:04

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000020.D				
Injection Date:	19-Aug-2019 20:44:28	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	6	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

3 MCPP, CAS: 93-65-2

Signal: 2

Processing Integration Results

RT: 8.42
Area: 42736423
Amount: 32.786741
Amount Units: ng

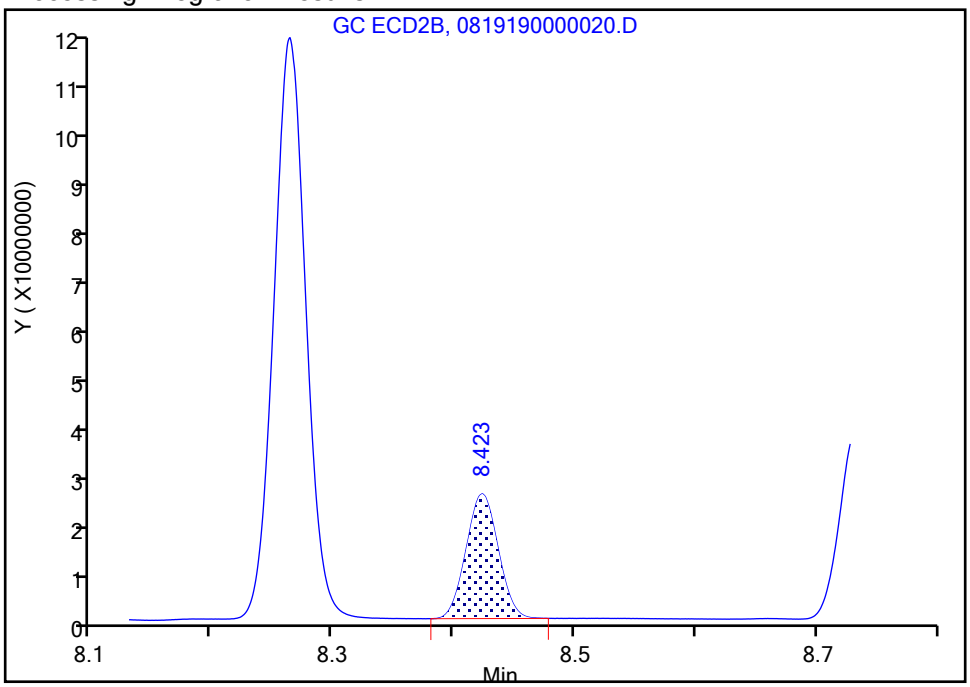

Manual Integration Results

RT: 8.42
Area: 43025874
Amount: 31.914719
Amount Units: ng

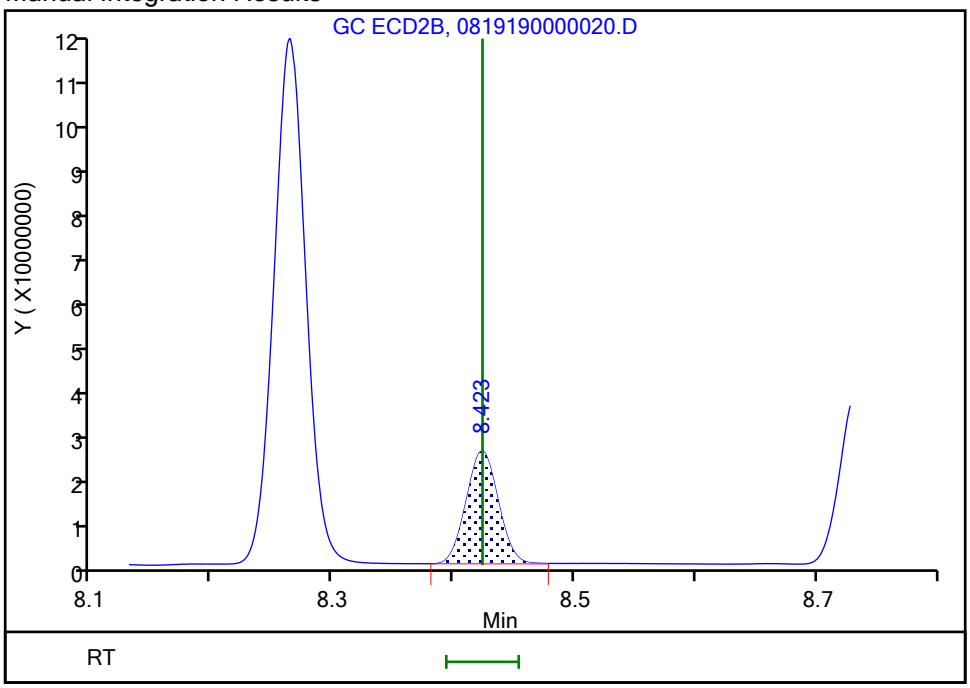

Reviewer: fritschj, 20-Aug-2019 09:01:36

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 19-Aug-2019 21:09:17 ALS Bottle#: 7 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-008
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:30 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:41:54

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.180	2.179	0.001	93323150H	0.6400	0.6261	
2	2.349	2.348	0.001	215136032H	0.6400	0.6410	
						RPD = 2.34	
$ 2 2,4-Dichlorophenylacetic acid							M
1	8.028	8.030	-0.002	81721770H	0.6400	0.7510	
2	7.995	7.996	-0.001	160232905H	0.6400	0.7597	M
						RPD = 1.15	
3 MCPP							M
1	8.246	8.246	0.000	28412748H	64.0	71.9	M
2	8.424	8.423	0.001	105028103	64.0	77.3	M
						RPD = 7.22	
4 Dicamba							
1	8.327	8.326	0.001	147507060H	0.3200	0.4044	
2	8.264	8.265	-0.001	285831491H	0.3200	0.4076	
						RPD = 0.78	
5 MCPA							M
1	8.668	8.667	0.001	42228426H	64.0	65.8	M
2	8.733	8.732	0.001	85179526H	64.0	69.1	
						RPD = 4.89	
6 Dichlorprop							
1	8.946	8.947	-0.001	70413016H	0.6400	0.7272	
2	9.095	9.095	0.000	134112070H	0.6400	0.7234	
						RPD = 0.54	
7 2,4-D							
1	9.439	9.439	0.000	80024495H	0.6400	0.7281	
2	9.492	9.494	-0.002	155353592H	0.6400	0.7158	
						RPD = 1.70	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.969	9.969	0.000	442087354	0.1600	0.1925	
2	9.690	9.691	-0.001	414942166	0.1600	0.1935	H
						RPD = 0.55	
9 Silvex (2,4,5-TP)							
1	10.123	10.124	-0.001	90113505	0.1600	0.1839	H
2	10.261	10.263	-0.002	170145013	0.1600	0.1808	H
						RPD = 1.73	
10 2,4,5-T							
1	10.672	10.673	-0.001	83776615	0.1600	0.1807	H
2	10.717	10.719	-0.002	161521889	0.1600	0.1782	H
						RPD = 1.37	
11 Dinoseb							
1	10.928	10.928	0.000	146632881	0.6400	0.7617	H
2	11.800	11.800	0.000	296590424	0.6400	0.7587	H
						RPD = 0.39	
12 2,4-DB							
1	11.056	11.056	0.000	48229906	0.6400	0.7314	H
2	11.148	11.149	-0.001	92368969	0.6400	0.7488	H
						RPD = 2.34	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCHERBCALSL6_00012 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:25:33 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D				
Injection Date:	19-Aug-2019 21:09:17	Instrument ID:	CGC1	Operator ID:	
Lims ID:	ic			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

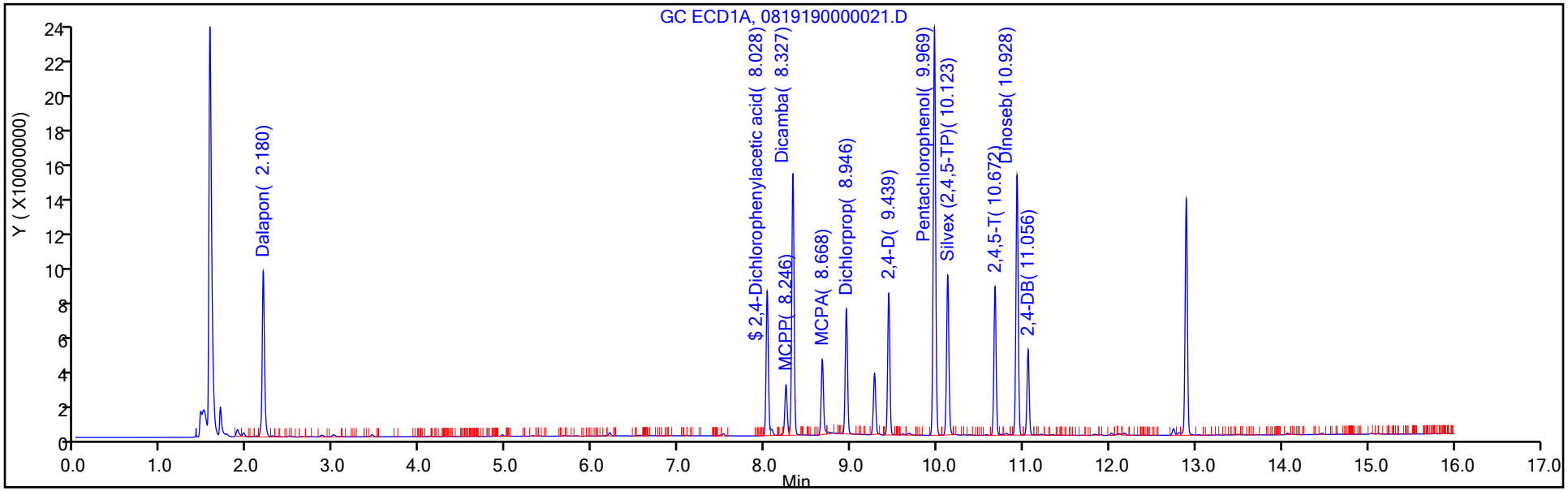

Column: RTX-1701 (0.53 mm)

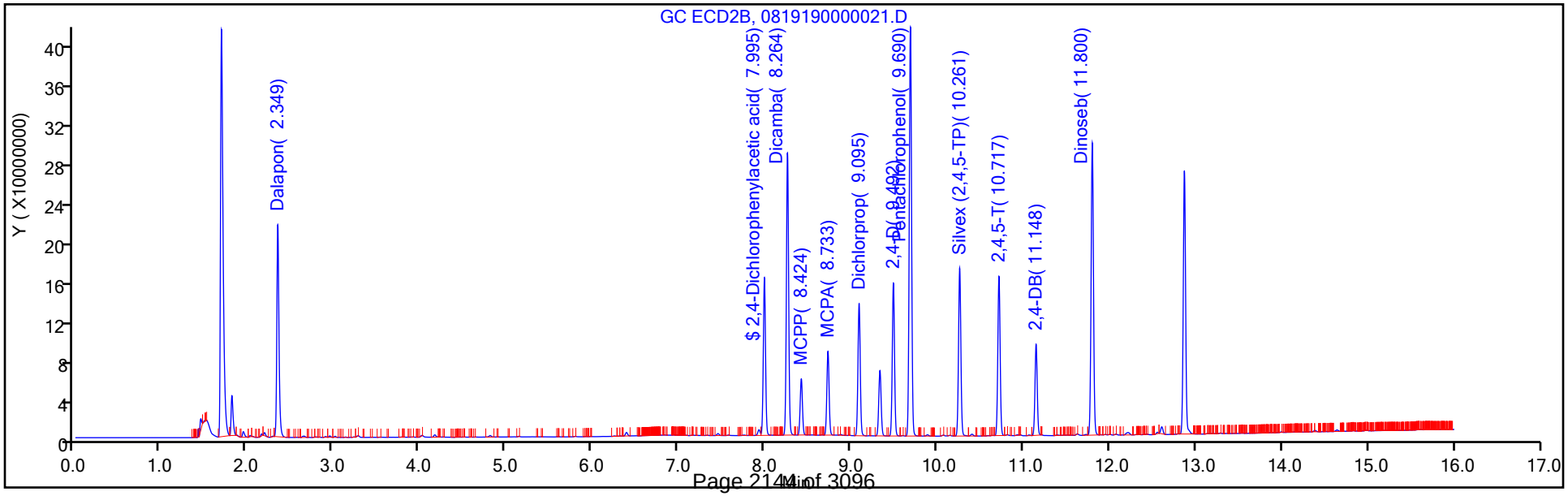

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D				
Injection Date:	19-Aug-2019 21:09:17	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	7	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

$ 2 2,4-Dichlorophenylacetic acid, CAS: 19719-28-9

Signal: 2

Processing Integration Results

RT: 8.00
Height: 159105466
Amount: 0.755244
Amount Units: ng

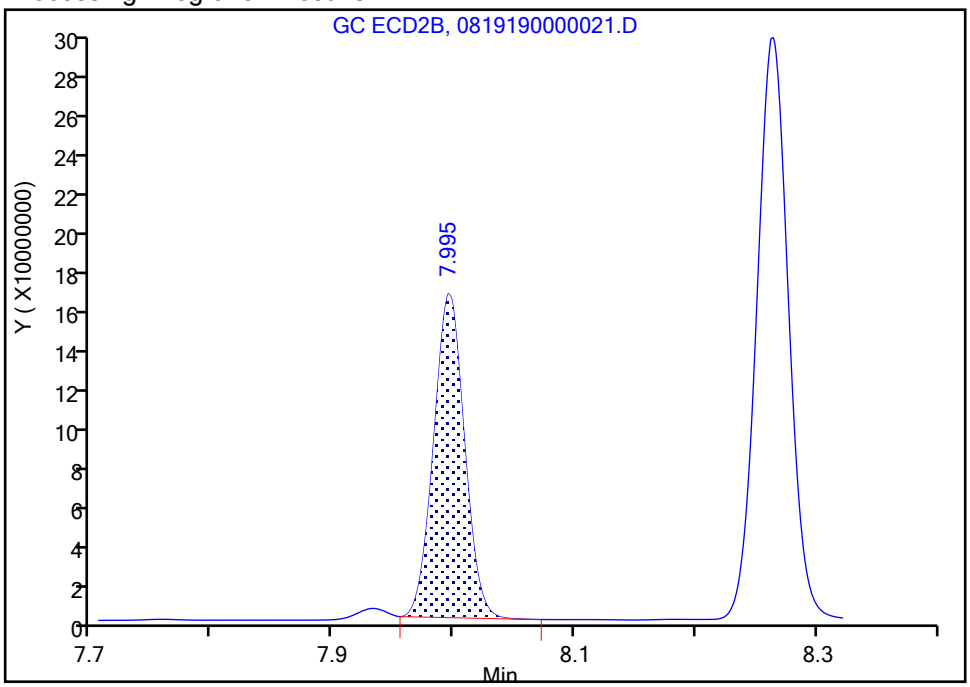

Manual Integration Results

RT: 8.00
Height: 160232905
Amount: 0.759688
Amount Units: ng

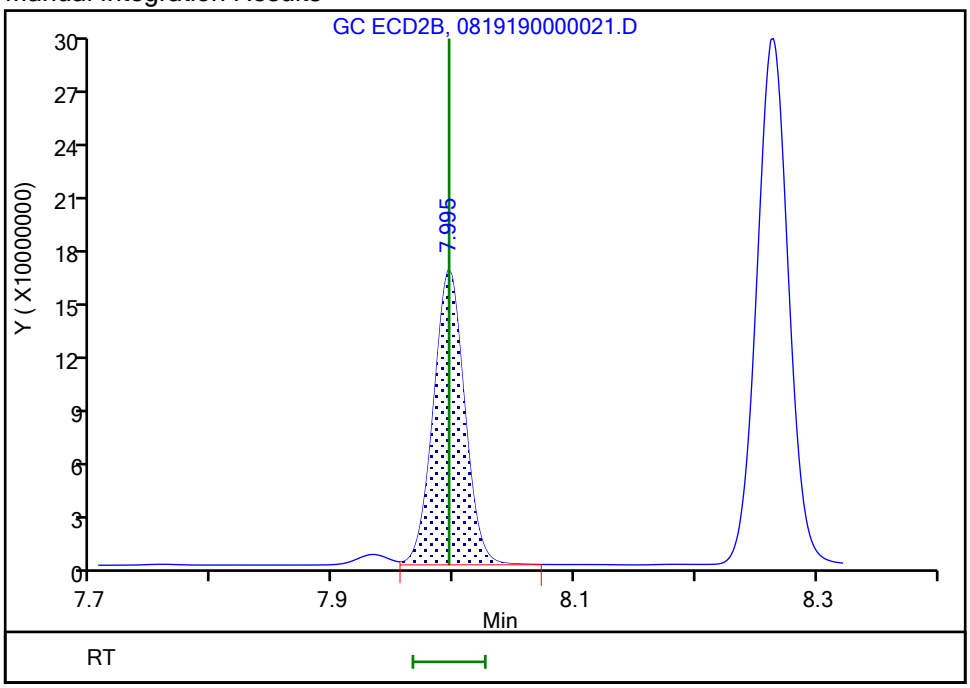

Reviewer: fritschj, 20-Aug-2019 08:39:52

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D				
Injection Date:	19-Aug-2019 21:09:17	Instrument ID:	CGC1		
Lims ID:	ic				
Client ID:					
Operator ID:		ALS Bottle#:	7	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

3 MCPP, CAS: 93-65-2

Signal: 2

Processing Integration Results

RT: 8.42
Area: 105105493
Amount: 85.245776
Amount Units: ng

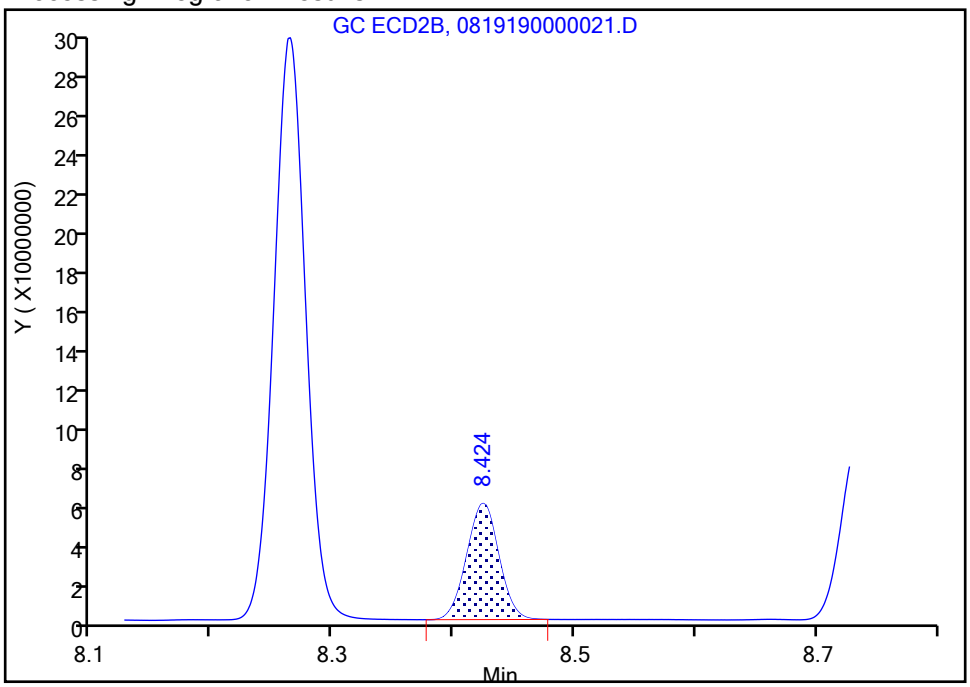

Manual Integration Results

RT: 8.42
Area: 105028103
Amount: 77.277637
Amount Units: ng

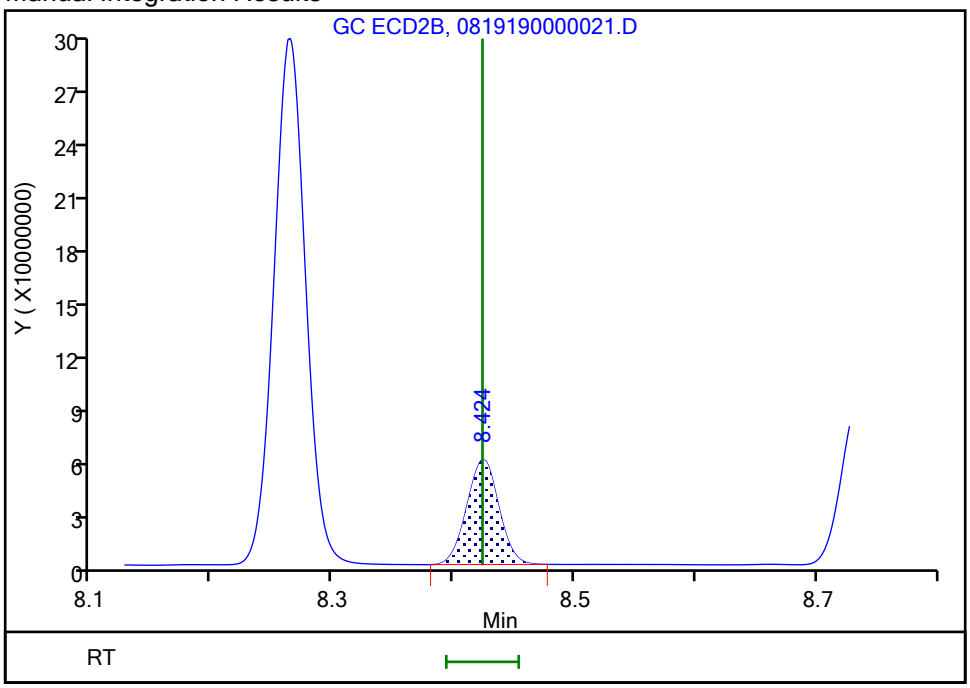

Reviewer: fritschj, 20-Aug-2019 08:59:24

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VII
HERBICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 180-288571/9 Calibration Date: 08/19/2019 21:34

Instrument ID: CGC1 Calib Start Date: 08/19/2019 18:39

GC Column: RTX-50 ID: 0.53(mm) Calib End Date: 08/19/2019 21:09

Lab File ID: 0819190000022.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,4-D	Ave	109912279	115420010		0.210	0.200	5.0	20.0
Pentachlorophenol	Ave	2297112921	2712459320		0.0590	0.0500	18.1	20.0
Silvex (2,4,5-TP)	Ave	489936885	524192660		0.0535	0.0500	7.0	20.0
2,4,5-T	Ave	463721151	476186580		0.0513	0.0500	2.7	20.0
Dinoseb	Ave	192497167	193065405		0.201	0.200	0.3	20.0
2,4-DB	Ave	65939713	64976430		0.197	0.200	-1.5	20.0

FORM VII
HERBICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 180-288571/9 Calibration Date: 08/19/2019 21:34

Instrument ID: CGC1 Calib Start Date: 08/19/2019 18:39

GC Column: RTX-50 ID: 0.53(mm) Calib End Date: 08/19/2019 21:09

Lab File ID: 0819190000022.D

Analyte	RT	RT WINDOW	
		FROM	TO
2,4-D	9.44	9.41	9.47
Pentachlorophenol	9.97	9.94	10.00
Silvex (2,4,5-TP)	10.12	10.09	10.15
2,4,5-T	10.67	10.64	10.70
Dinoseb	10.93	10.88	10.98
2,4-DB	11.06	11.03	11.09

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000022.D
Lims ID: icv
Client ID:
Sample Type: ICV
Inject. Date: 19-Aug-2019 21:34:13 ALS Bottle#: 8 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-009
Operator ID: Instrument ID: CGC1
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:20 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:47:44

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.179	2.179	0.000	26869979H	0.2000	0.1803	
2	2.347	2.348	-0.001	62794648H	0.2000	0.1871	
						RPD = 3.70	
3 MCPP							M
1	8.245	8.246	-0.001	8917715H	20.0	22.6	
2	8.424	8.423	0.001	32030379	20.0	23.9	M
						RPD = 5.62	
4 Dicamba							
1	8.327	8.326	0.001	39408262H	0.1000	0.1080	
2	8.264	8.265	-0.001	76012208H	0.1000	0.1084	
						RPD = 0.32	
5 MCPA							
1	8.668	8.667	0.001	12360617H	20.0	19.3	
2	8.732	8.732	0.000	25518276H	20.0	20.7	
						RPD = 7.21	
6 Dichlorprop							
1	8.947	8.947	0.000	20555961H	0.2000	0.2123	
2	9.095	9.095	0.000	40137624H	0.2000	0.2165	
						RPD = 1.95	
7 2,4-D							
1	9.437	9.439	-0.002	23084002H	0.2000	0.2100	
2	9.493	9.494	-0.001	47024922H	0.2000	0.2167	
						RPD = 3.11	
8 Pentachlorophenol							M
1	9.968	9.969	-0.001	135622966	0.0500	0.0590	M
2	9.690	9.691	-0.001	128183559H	0.0500	0.0598	
						RPD = 1.24	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 Silvex (2,4,5-TP)							
1	10.123	10.124	-0.001	26209633H	0.0500	0.0535	
2	10.263	10.263	0.000	52992376H	0.0500	0.0563	
						RPD = 5.11	
10 2,4,5-T							
1	10.672	10.673	-0.001	23809329H	0.0500	0.0513	
2	10.719	10.719	0.000	48212858H	0.0500	0.0532	
						RPD = 3.54	
11 Dinoseb							
1	10.928	10.928	0.000	38613081H	0.2000	0.2006	
2	11.800	11.800	0.000	80421605H	0.2000	0.2057	
						RPD = 2.53	
12 2,4-DB							
1	11.055	11.056	-0.001	12995286H	0.2000	0.1971	
2	11.149	11.149	0.000	25733084H	0.2000	0.2086	
						RPD = 5.68	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCHERBICVSTD_00022 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:25:26 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000022.D

Injection Date: 19-Aug-2019 21:34:13 Instrument ID: CGC1 Operator ID:

Lims ID: icv Worklist Smp#: 9

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 8

Method: Herbicides_CGC1 Limit Group: GCS 8151A ICAL

Column: RTX-50 (0.53 mm)

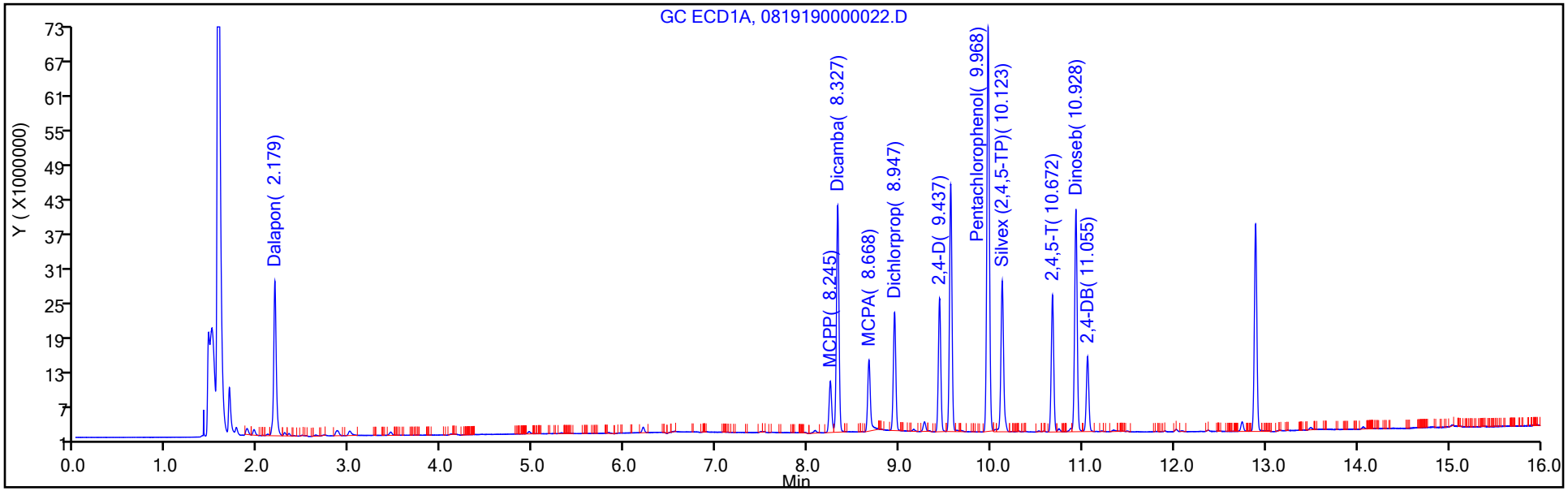

Column: RTX-1701 (0.53 mm)

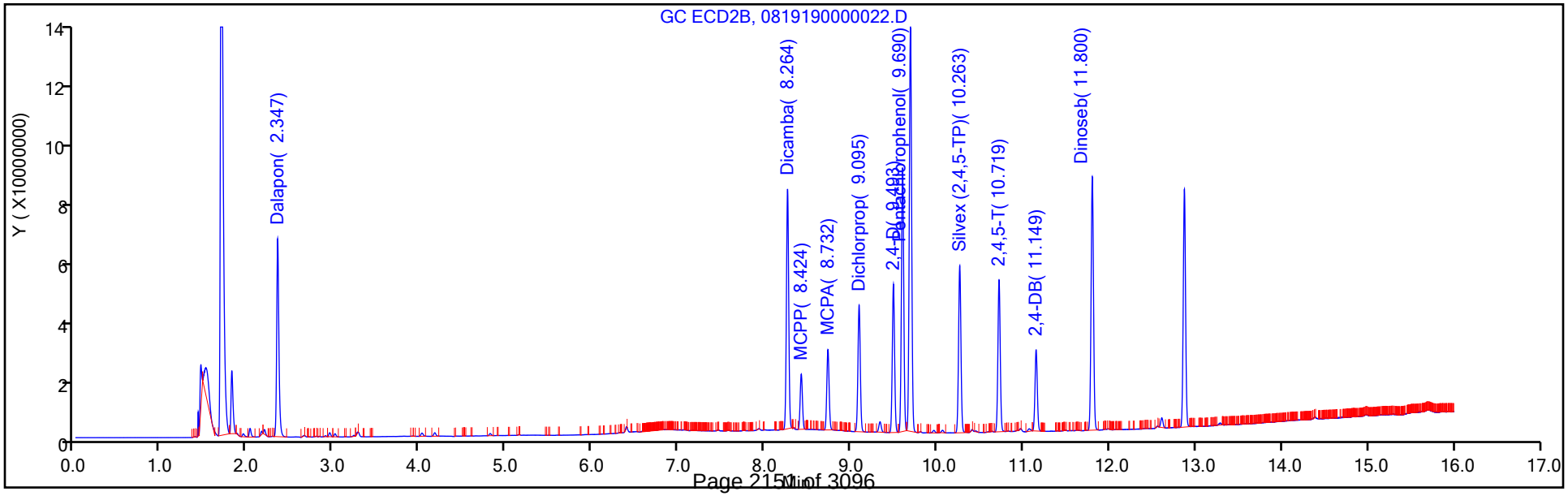

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000022.D				
Injection Date:	19-Aug-2019 21:34:13	Instrument ID:	CGC1		
Lims ID:	icv				
Client ID:					
Operator ID:		ALS Bottle#:	8	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-50 (0.53 mm)	Detector	GC ECD1A		

8 Pentachlorophenol, CAS: 87-86-5

Signal: 1

Processing Integration Results

RT: 9.97
Area: 136275334
Amount: 0.060515
Amount Units: ng

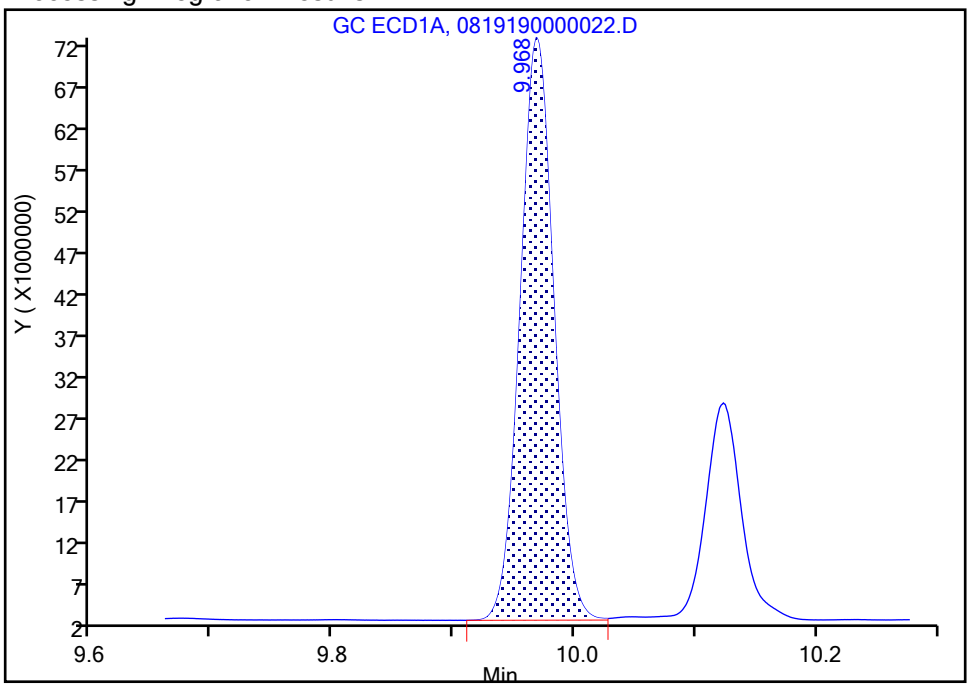

Manual Integration Results

RT: 9.97
Area: 135622966
Amount: 0.059041
Amount Units: ng

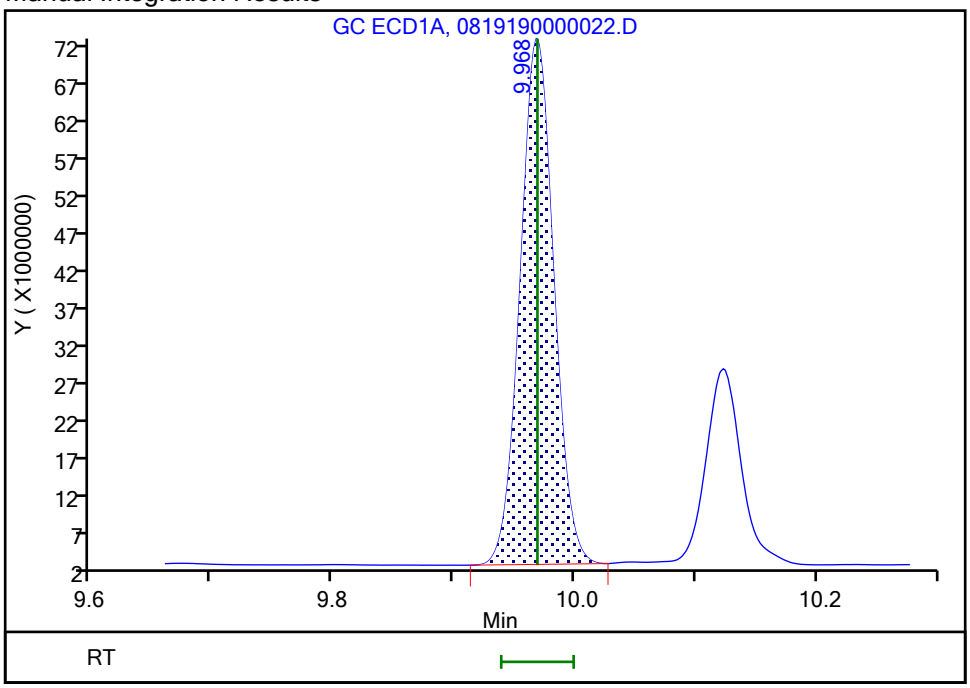

Reviewer: fritschj, 20-Aug-2019 08:48:13
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VII
HERBICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 180-288571/9 Calibration Date: 08/19/2019 21:34

Instrument ID: CGC1 Calib Start Date: 08/19/2019 18:39

GC Column: RTX-1701 ID: 0.53(mm) Calib End Date: 08/19/2019 21:09

Lab File ID: 0819190000022.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,4-D	Ave	217037737	235124610		0.217	0.200	8.3	20.0
Pentachlorophenol	Ave	2144337766	2563671180		0.0598	0.0500	19.6	20.0
Silvex (2,4,5-TP)	Ave	941248503	1059847520		0.0563	0.0500	12.6	20.0
2,4,5-T	Ave	906375092	964257160		0.0532	0.0500	6.4	20.0
2,4-DB	Ave	123360262	128665420		0.209	0.200	4.3	20.0
Dinoseb	Ave	390899143	402108025		0.206	0.200	2.9	20.0

FORM VII
HERBICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 180-288571/9 Calibration Date: 08/19/2019 21:34

Instrument ID: CGC1 Calib Start Date: 08/19/2019 18:39

GC Column: RTX-1701 ID: 0.53(mm) Calib End Date: 08/19/2019 21:09

Lab File ID: 0819190000022.D

Analyte	RT	RT WINDOW	
		FROM	TO
2,4-D	9.49	9.46	9.52
Pentachlorophenol	9.69	9.66	9.72
Silvex (2,4,5-TP)	10.26	10.23	10.29
2,4,5-T	10.72	10.69	10.75
2,4-DB	11.15	11.12	11.18
Dinoseb	11.80	11.77	11.83

Form VII EPA 8151A

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000022.D
Lims ID: icv
Client ID:
Sample Type: ICV
Inject. Date: 19-Aug-2019 21:34:13 ALS Bottle#: 8 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0028271-009
Operator ID: Instrument ID: CGC1
Sublist:

Method: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 20-Aug-2019 15:25:20 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0339

First Level Reviewer: fritschj Date: 20-Aug-2019 08:47:44

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.179	2.179	0.000	26869979H	0.2000	0.1803	
2	2.347	2.348	-0.001	62794648H	0.2000	0.1871	
						RPD = 3.70	
3 MCPP							M
1	8.245	8.246	-0.001	8917715H	20.0	22.6	
2	8.424	8.423	0.001	32030379	20.0	23.9	M
						RPD = 5.62	
4 Dicamba							
1	8.327	8.326	0.001	39408262H	0.1000	0.1080	
2	8.264	8.265	-0.001	76012208H	0.1000	0.1084	
						RPD = 0.32	
5 MCPA							
1	8.668	8.667	0.001	12360617H	20.0	19.3	
2	8.732	8.732	0.000	25518276H	20.0	20.7	
						RPD = 7.21	
6 Dichlorprop							
1	8.947	8.947	0.000	20555961H	0.2000	0.2123	
2	9.095	9.095	0.000	40137624H	0.2000	0.2165	
						RPD = 1.95	
7 2,4-D							
1	9.437	9.439	-0.002	23084002H	0.2000	0.2100	
2	9.493	9.494	-0.001	47024922H	0.2000	0.2167	
						RPD = 3.11	
8 Pentachlorophenol							M
1	9.968	9.969	-0.001	135622966	0.0500	0.0590	M
2	9.690	9.691	-0.001	128183559H	0.0500	0.0598	
						RPD = 1.24	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
9 Silvex (2,4,5-TP)							
1	10.123	10.124	-0.001	26209633H	0.0500	0.0535	
2	10.263	10.263	0.000	52992376H	0.0500	0.0563	
						RPD = 5.11	
10 2,4,5-T							
1	10.672	10.673	-0.001	23809329H	0.0500	0.0513	
2	10.719	10.719	0.000	48212858H	0.0500	0.0532	
						RPD = 3.54	
11 Dinoseb							
1	10.928	10.928	0.000	38613081H	0.2000	0.2006	
2	11.800	11.800	0.000	80421605H	0.2000	0.2057	
						RPD = 2.53	
12 2,4-DB							
1	11.055	11.056	-0.001	12995286H	0.2000	0.1971	
2	11.149	11.149	0.000	25733084H	0.2000	0.2086	
						RPD = 5.68	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

GCHERBICVSTD_00022 Amount Added: 1.00 Units: mL

Report Date: 20-Aug-2019 15:25:27 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000022.D

Injection Date: 19-Aug-2019 21:34:13 Instrument ID: CGC1 Operator ID:

Lims ID: icv Worklist Smp#: 9

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 8

Method: Herbicides_CGC1 Limit Group: GCS 8151A ICAL

Column: RTX-50 (0.53 mm)

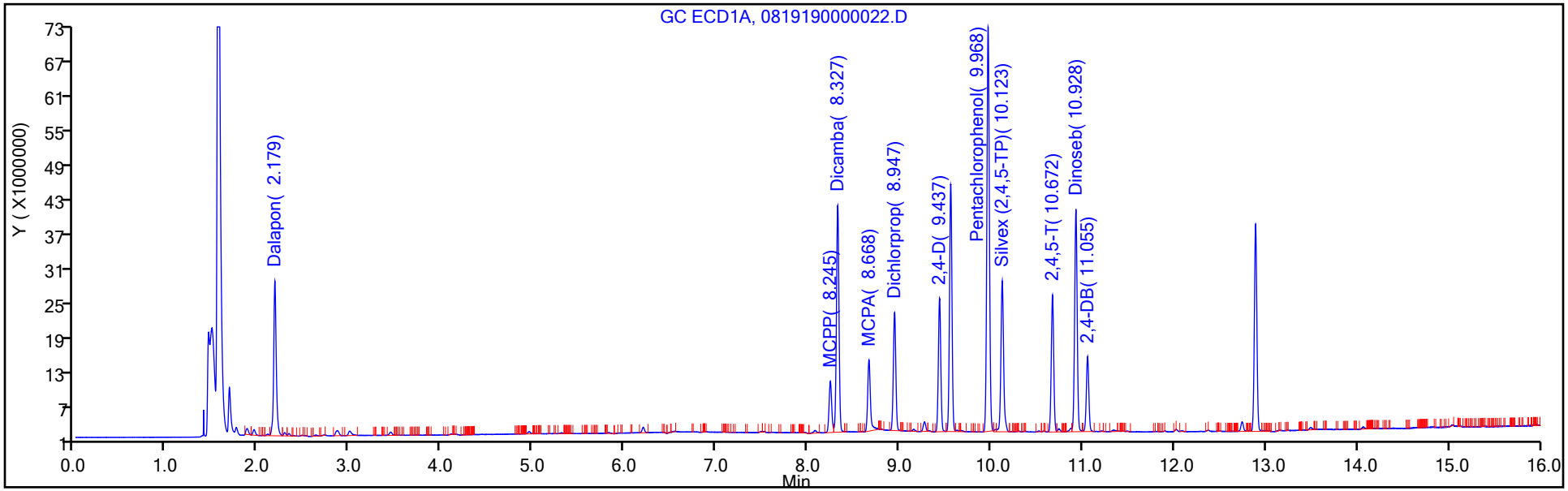

Column: RTX-1701 (0.53 mm)

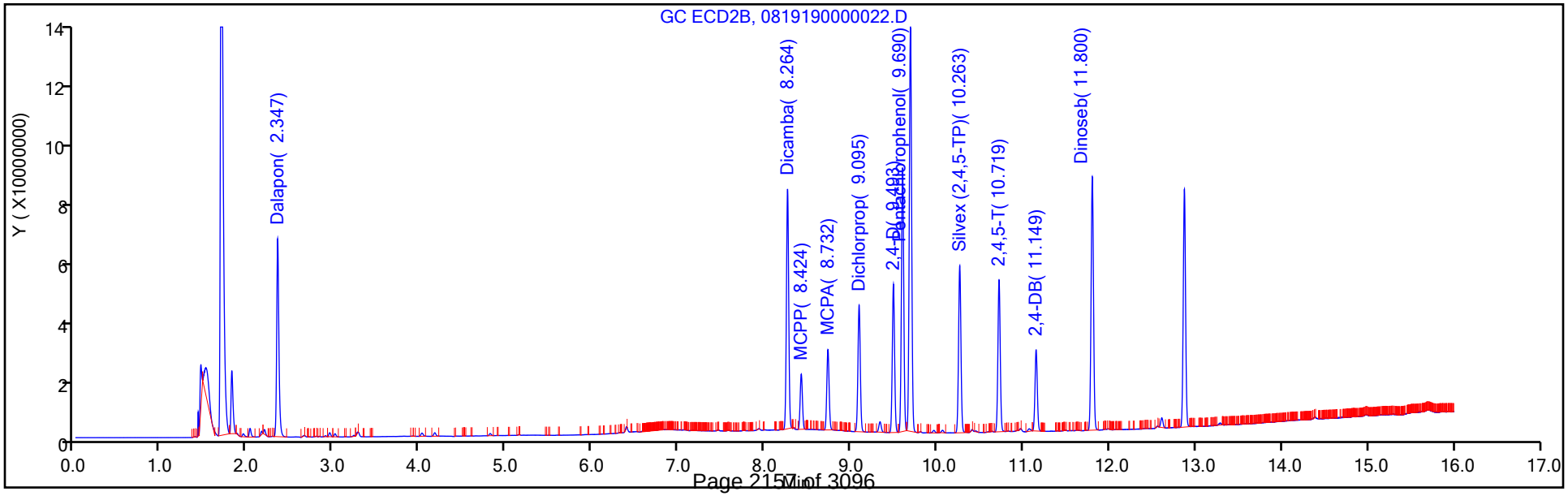

FORM VII
HERBICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCVRT 180-302642/1 Calibration Date: 12/27/2019 11:01

Instrument ID: CGC1 Calib Start Date: 08/19/2019 18:39

GC Column: RTX-50 ID: 0.53(mm) Calib End Date: 08/19/2019 21:09

Lab File ID: 1227190000001.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,4-D	Ave	109912279	103436400		0.151	0.160	-5.9	15.0
Pentachlorophenol	Ave	2297112921	2018901675		0.0352	0.0400	-12.1	15.0
Silvex (2,4,5-TP)	Ave	489936885	468756000		0.0383	0.0400	-4.3	15.0
2,4,5-T	Ave	463721151	435842975		0.0376	0.0400	-6.0	15.0
Dinoseb	Ave	192497167	216334194		0.180	0.160	12.4	15.0
2,4-DB	Ave	65939713	57148000		0.139	0.160	-13.3	15.0
2,4-Dichlorophenylacetic acid	Ave	108813389	103287781		0.152	0.160	-5.1	15.0

FORM VII
HERBICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCVRT 180-302642/1 Calibration Date: 12/27/2019 11:01

Instrument ID: CGC1 Calib Start Date: 08/19/2019 18:39

GC Column: RTX-50 ID: 0.53(mm) Calib End Date: 08/19/2019 21:09

Lab File ID: 1227190000001.D

Analyte	RT	RT WINDOW	
		FROM	TO
2,4-D	9.20	9.17	9.23
Pentachlorophenol	9.70	9.67	9.73
Silvex (2,4,5-TP)	9.88	9.85	9.91
2,4,5-T	10.42	10.39	10.45
Dinoseb	10.68	10.63	10.73
2,4-DB	10.80	10.77	10.83
2,4-Dichlorophenylacetic acid	7.80	7.77	7.83

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000001.D
Lims ID: CCVRT
Client ID:
Sample Type: CCVRT
Inject. Date: 27-Dec-2019 11:01:25 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 30174-001
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 27-Dec-2019 13:17:30 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0326

First Level Reviewer: eppinged Date: 27-Dec-2019 11:23:33

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.179	2.179	0.000	28942653H	0.1600	0.1942	
2	2.491	2.491	0.000	54341730H	0.1600	0.1619	
						RPD = 18.13	
$ 2 2,4-Dichlorophenylacetic acid							a
1	7.797	7.797	0.000	16526045H	0.1600	0.1519	
2	8.180	8.180	0.000	29548201H	0.1600	0.1401	a
						RPD = 8.07	
3 MCPP							M
1	8.018	8.018	0.000	7628146H	16.0	19.3	
2	8.599	8.599	0.000	36571447	16.0	27.2	M
						RPD = 33.94	
4 Dicamba							
1	8.085	8.085	0.000	27152400H	0.0800	0.0744	
2	8.447	8.447	0.000	49694320H	0.0800	0.0709	
						RPD = 4.93	
5 MCPA							
1	8.433	8.433	0.000	10224432H	16.0	15.9	
2	8.908	8.908	0.000	23723799H	16.0	19.3	
						RPD = 18.84	
6 Dichlorprop							a
1	8.710	8.710	0.000	14641238H	0.1600	0.1512	
2	9.270	9.270	0.000	26542364H	0.1600	0.1432	a
						RPD = 5.47	
7 2,4-D							
1	9.196	9.196	0.000	16549824H	0.1600	0.1506	
2	9.666	9.666	0.000	30027806H	0.1600	0.1384	
						RPD = 8.46	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.701	9.701	0.000	80756067	0.0400	0.0352	
2	9.889	9.889	0.000	74633988	0.0400	0.0348	H
						RPD = 1.00	
9 Silvex (2,4,5-TP)							
1	9.875	9.875	0.000	18750240	0.0400	0.0383	H
2	10.437	10.437	0.000	32254502	0.0400	0.0343	H
						RPD = 11.04	
10 2,4,5-T							
1	10.416	10.416	0.000	17433719	0.0400	0.0376	H
2	10.889	10.889	0.000	30506512	0.0400	0.0337	H
						RPD = 11.05	
11 Dinoseb							
1	10.675	10.675	0.000	34613471	0.1600	0.1798	H
2	11.963	11.963	0.000	56272905	0.1600	0.1440	H
						RPD = 22.15	
12 2,4-DB							
1	10.800	10.800	0.000	9143680	0.1600	0.1387	H
2	11.316	11.316	0.000	16148291	0.1600	0.1309	H
						RPD = 5.76	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

GCHERBCALSL4_00027 Amount Added: 1.00 Units: mL

Report Date: 27-Dec-2019 13:17:31 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000001.D				
Injection Date:	27-Dec-2019 11:01:25	Instrument ID:	CGC1	Operator ID:	
Lims ID:	CCVRT			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

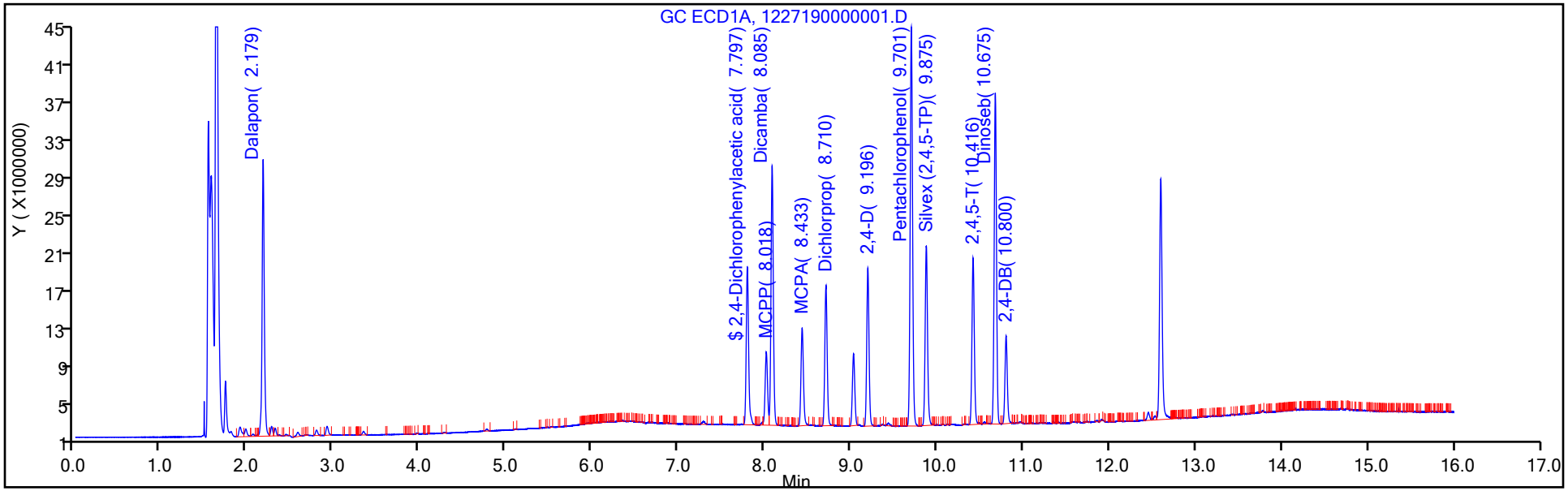

Column: RTX-1701 (0.53 mm)

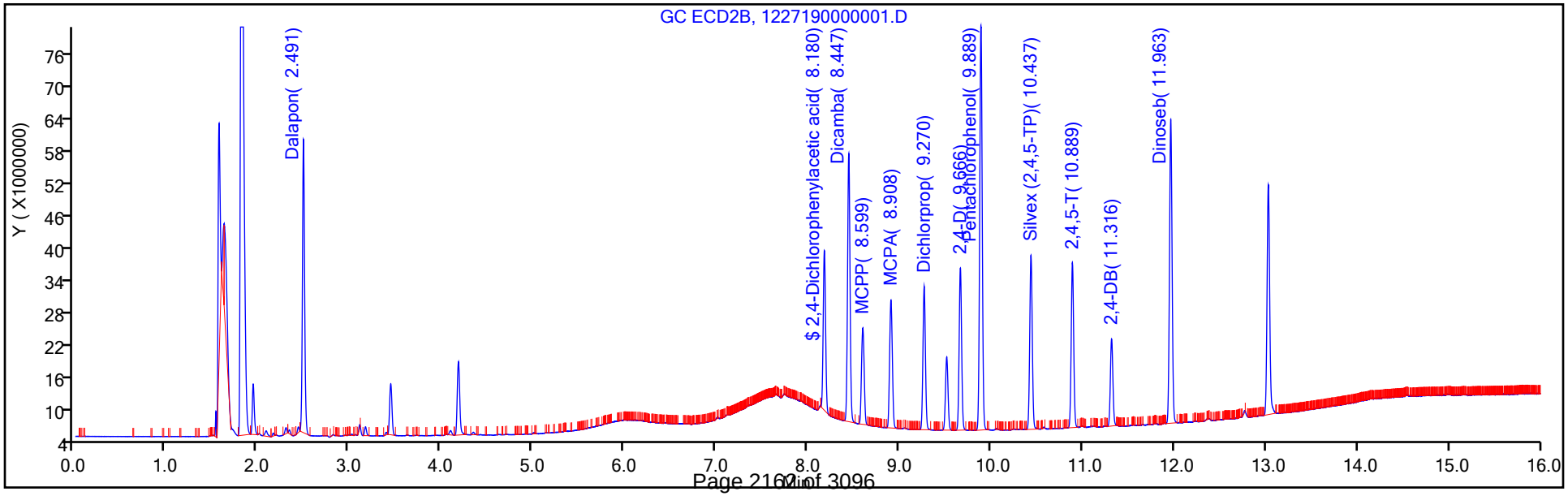

FORM VII
HERBICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCVRT 180-302642/1 Calibration Date: 12/27/2019 11:01

Instrument ID: CGC1 Calib Start Date: 08/19/2019 18:39

GC Column: RTX-1701 ID: 0.53(mm) Calib End Date: 08/19/2019 21:09

Lab File ID: 1227190000001.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,4-D	Ave	217037737	187673788		0.138	0.160	-13.5	15.0
Pentachlorophenol	Ave	2144337766	1865849700		0.0348	0.0400	-13.0	15.0
Silvex (2,4,5-TP)	Ave	941248503	806362550		0.0343	0.0400	-14.3	15.0
2,4,5-T	Ave	906375092	762662800		0.0337	0.0400	-15.9*	15.0
2,4-DB	Ave	123360262	100926819		0.131	0.160	-18.2*	15.0
Dinoseb	Ave	390899143	351705656		0.144	0.160	-10.0	15.0
2,4-Dichlorophenylacetic acid	Ave	210919252	184676256		0.140	0.160	-12.4	15.0

FORM VII
HERBICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCVRT 180-302642/1 Calibration Date: 12/27/2019 11:01

Instrument ID: CGC1 Calib Start Date: 08/19/2019 18:39

GC Column: RTX-1701 ID: 0.53(mm) Calib End Date: 08/19/2019 21:09

Lab File ID: 1227190000001.D

Analyte	RT	RT WINDOW	
		FROM	TO
2,4-D	9.67	9.64	9.70
Pentachlorophenol	9.89	9.86	9.92
Silvex (2,4,5-TP)	10.44	10.41	10.47
2,4,5-T	10.89	10.86	10.92
2,4-DB	11.32	11.29	11.35
Dinoseb	11.96	11.93	11.99
2,4-Dichlorophenylacetic acid	8.18	8.15	8.21

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000001.D
Lims ID: CCVRT
Client ID:
Sample Type: CCVRT
Inject. Date: 27-Dec-2019 11:01:25 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 30174-001
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 27-Dec-2019 13:17:30 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0326

First Level Reviewer: eppinged Date: 27-Dec-2019 11:23:33

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.179	2.179	0.000	28942653H	0.1600	0.1942	
2	2.491	2.491	0.000	54341730H	0.1600	0.1619	
						RPD = 18.13	
$ 2 2,4-Dichlorophenylacetic acid							a
1	7.797	7.797	0.000	16526045H	0.1600	0.1519	
2	8.180	8.180	0.000	29548201H	0.1600	0.1401	a
						RPD = 8.07	
3 MCPP							M
1	8.018	8.018	0.000	7628146H	16.0	19.3	
2	8.599	8.599	0.000	36571447	16.0	27.2	M
						RPD = 33.94	
4 Dicamba							
1	8.085	8.085	0.000	27152400H	0.0800	0.0744	
2	8.447	8.447	0.000	49694320H	0.0800	0.0709	
						RPD = 4.93	
5 MCPA							
1	8.433	8.433	0.000	10224432H	16.0	15.9	
2	8.908	8.908	0.000	23723799H	16.0	19.3	
						RPD = 18.84	
6 Dichlorprop							a
1	8.710	8.710	0.000	14641238H	0.1600	0.1512	
2	9.270	9.270	0.000	26542364H	0.1600	0.1432	a
						RPD = 5.47	
7 2,4-D							
1	9.196	9.196	0.000	16549824H	0.1600	0.1506	
2	9.666	9.666	0.000	30027806H	0.1600	0.1384	
						RPD = 8.46	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.701	9.701	0.000	80756067	0.0400	0.0352	
2	9.889	9.889	0.000	74633988	0.0400	0.0348	H
						RPD = 1.00	
9 Silvex (2,4,5-TP)							
1	9.875	9.875	0.000	18750240	0.0400	0.0383	H
2	10.437	10.437	0.000	32254502	0.0400	0.0343	H
						RPD = 11.04	
10 2,4,5-T							
1	10.416	10.416	0.000	17433719	0.0400	0.0376	H
2	10.889	10.889	0.000	30506512	0.0400	0.0337	H
						RPD = 11.05	
11 Dinoseb							
1	10.675	10.675	0.000	34613471	0.1600	0.1798	H
2	11.963	11.963	0.000	56272905	0.1600	0.1440	H
						RPD = 22.15	
12 2,4-DB							
1	10.800	10.800	0.000	9143680	0.1600	0.1387	H
2	11.316	11.316	0.000	16148291	0.1600	0.1309	H
						RPD = 5.76	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

GCHERBCALSL4_00027 Amount Added: 1.00 Units: mL

Report Date: 27-Dec-2019 13:17:32 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000001.D

Injection Date: 27-Dec-2019 11:01:25 Instrument ID: CGC1 Operator ID:

Lims ID: CCVRT Worklist Smp#: 1

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 1

Method: Herbicides_CGC1 Limit Group: GCS 8151A ICAL

Column: RTX-50 (0.53 mm)

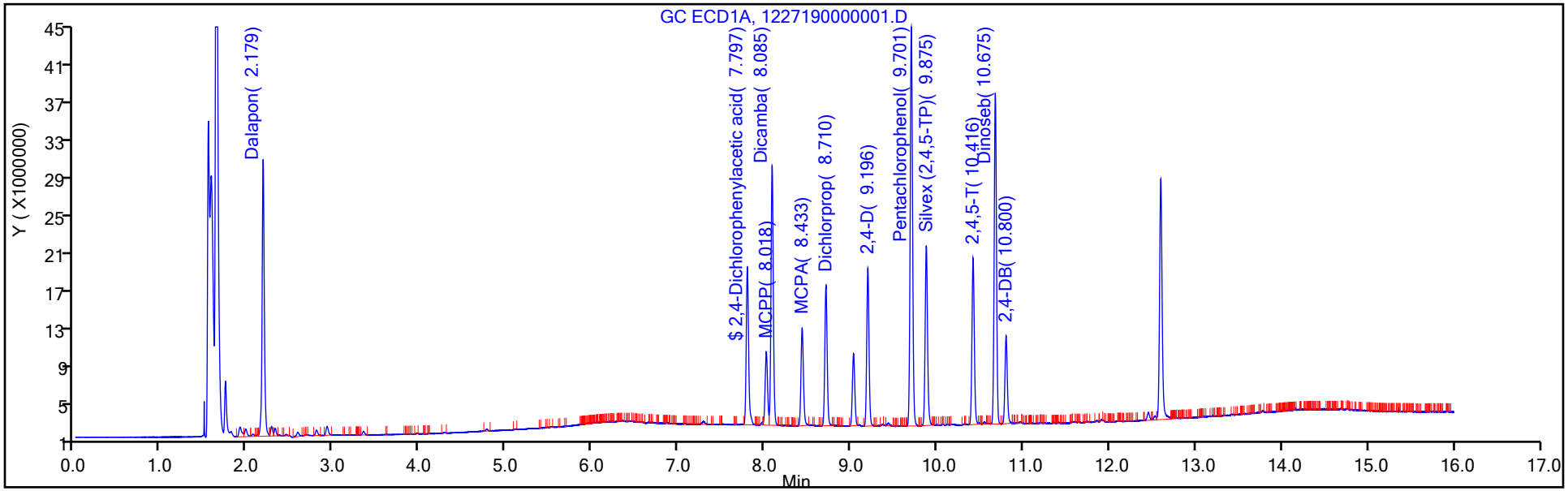

Column: RTX-1701 (0.53 mm)

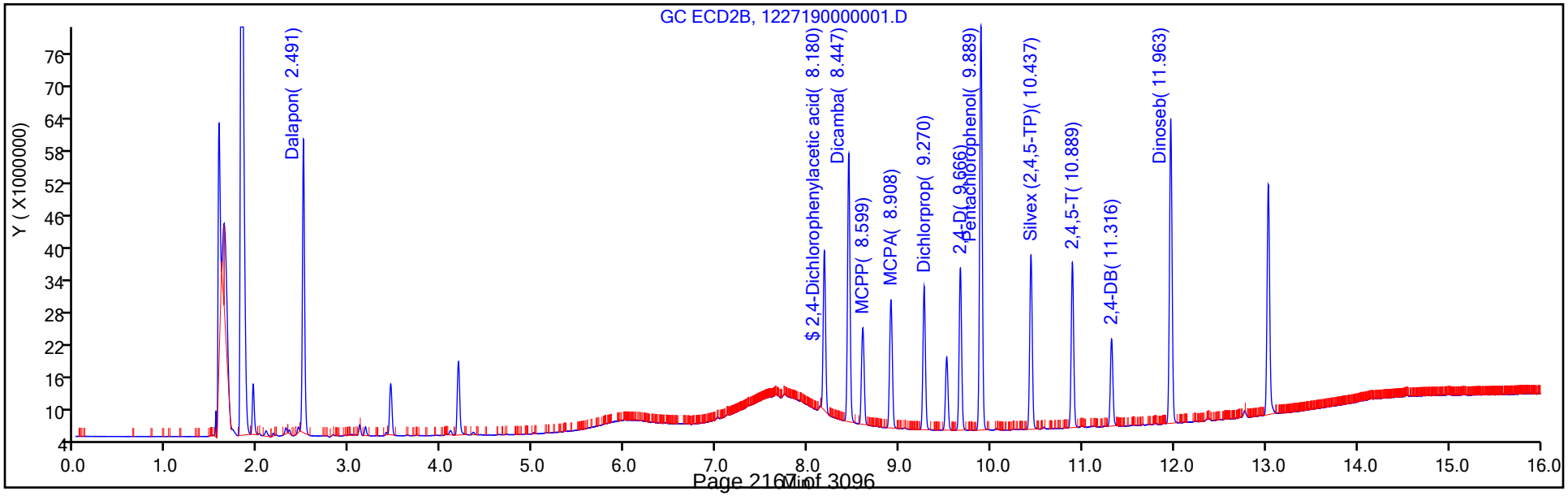

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000001.D				
Injection Date:	27-Dec-2019 11:01:25	Instrument ID:	CGC1		
Lims ID:	CCVRT				
Client ID:					
Operator ID:		ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		
Column:	RTX-1701 (0.53 mm)	Detector	GC ECD2B		

$ 2 2,4-Dichlorophenylacetic acid, CAS: 19719-28-9

Signal: 2

Processing Integration Results

RT: 8.13
Height: 238035
Amount: 0.001129
Amount Units: ng

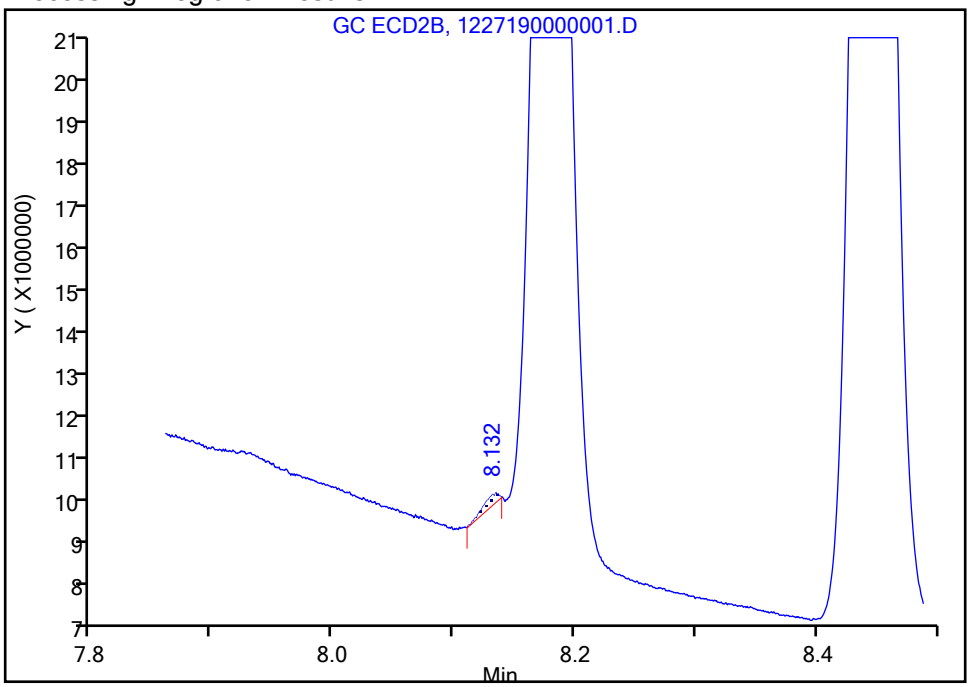

Manual Integration Results

RT: 8.18
Height: 29548201
Amount: 0.140092
Amount Units: ng

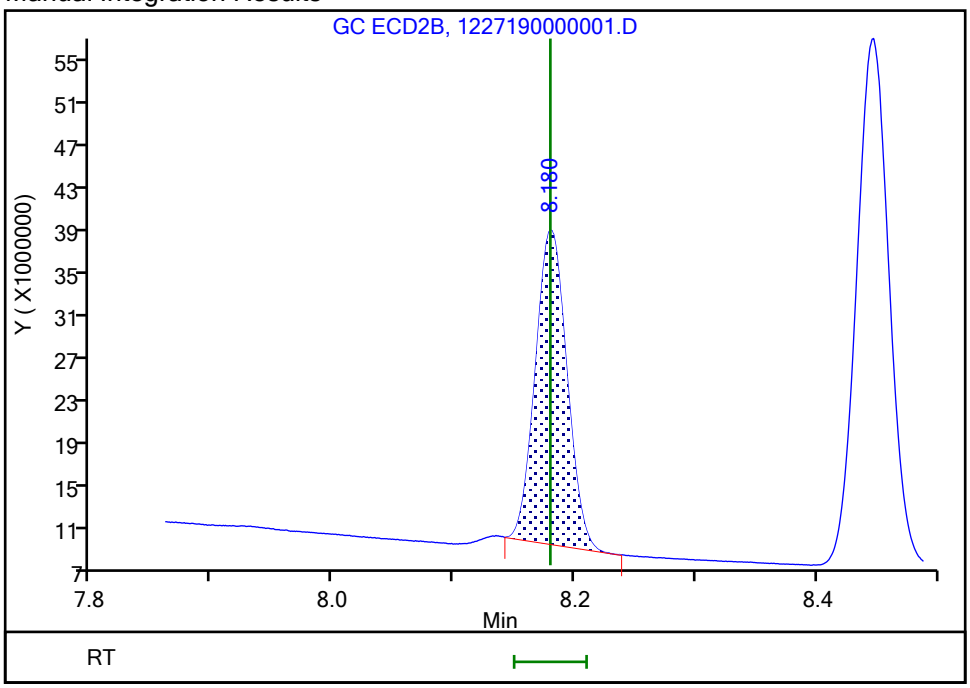

Reviewer: eppinged, 27-Dec-2019 11:22:48
Audit Action: Assigned Compound ID Audit Reason:

FORM VII
HERBICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCV 180-302642/12 Calibration Date: 12/27/2019 15:36

Instrument ID: CGC1 Calib Start Date: 08/19/2019 18:39

GC Column: RTX-50 ID: 0.53(mm) Calib End Date: 08/19/2019 21:09

Lab File ID: 1227190000012.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,4-D	Ave	109912279	107160163		0.156	0.160	-2.5	15.0
Pentachlorophenol	Ave	2297112921	2082933300		0.0363	0.0400	-9.3	15.0
Silvex (2,4,5-TP)	Ave	489936885	487637575		0.0398	0.0400	-0.5	15.0
2,4,5-T	Ave	463721151	459885250		0.0397	0.0400	-0.8	15.0
Dinoseb	Ave	192497167	226542363		0.188	0.160	17.7*	15.0
2,4-DB	Ave	65939713	60231156		0.146	0.160	-8.7	15.0
2,4-Dichlorophenylacetic acid	Ave	108813389	108208331		0.159	0.160	-0.6	15.0

FORM VII
HERBICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCV 180-302642/12 Calibration Date: 12/27/2019 15:36

Instrument ID: CGC1 Calib Start Date: 08/19/2019 18:39

GC Column: RTX-50 ID: 0.53(mm) Calib End Date: 08/19/2019 21:09

Lab File ID: 1227190000012.D

Analyte	RT	RT WINDOW	
		FROM	TO
2,4-D	9.19	9.17	9.23
Pentachlorophenol	9.70	9.67	9.73
Silvex (2,4,5-TP)	9.87	9.85	9.91
2,4,5-T	10.41	10.39	10.45
Dinoseb	10.67	10.63	10.73
2,4-DB	10.80	10.77	10.83
2,4-Dichlorophenylacetic acid	7.79	7.77	7.83

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000012.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 27-Dec-2019 15:36:56 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030174-012
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 28-Dec-2019 11:12:15 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0314

First Level Reviewer: eppinged Date: 28-Dec-2019 10:59:28

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.177	2.179	-0.002	30310416H	0.1600	0.2034	
2	2.489	2.491	-0.002	56700814H	0.1600	0.1689	
						RPD = 18.50	
$ 2 2,4-Dichlorophenylacetic acid							
1	7.794	7.797	-0.003	17313333H	0.1600	0.1591	
2	8.179	8.180	-0.001	30273647H	0.1600	0.1435	
						RPD = 10.29	
3 MCPP							
1	8.014	8.018	-0.004	7861045H	16.0	19.9	
2	8.599	8.599	0.000	37721352	16.0	28.0	
						RPD = 33.98	
4 Dicamba							
1	8.080	8.085	-0.005	28230295H	0.0800	0.0774	
2	8.445	8.447	-0.002	51275523H	0.0800	0.0731	
						RPD = 5.69	
5 MCPA							
1	8.430	8.433	-0.003	10582478H	16.0	16.5	
2	8.905	8.908	-0.003	24276858H	16.0	19.7	
						RPD = 17.71	
6 Dichlorprop							
1	8.706	8.710	-0.004	15342886H	0.1600	0.1585	
2	9.268	9.270	-0.002	27317807H	0.1600	0.1473	
						RPD = 7.27	
7 2,4-D							
1	9.192	9.196	-0.004	17145626H	0.1600	0.1560	
2	9.664	9.666	-0.002	31183609H	0.1600	0.1437	
						RPD = 8.22	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.696	9.701	-0.005	83317332	0.0400	0.0363	
2	9.889	9.889	0.000	77903805H	0.0400	0.0363	
						RPD = 0.16	
9 Silvex (2,4,5-TP)							
1	9.871	9.875	-0.004	19505503H	0.0400	0.0398	
2	10.435	10.437	-0.002	33448306H	0.0400	0.0355	
						RPD = 11.35	
10 2,4,5-T							
1	10.414	10.416	-0.002	18395410H	0.0400	0.0397	
2	10.887	10.889	-0.002	31720182H	0.0400	0.0350	
						RPD = 12.52	
11 Dinoseb							
1	10.672	10.675	-0.003	36246778H	0.1600	0.1883	
2	11.962	11.963	-0.001	58274310H	0.1600	0.1491	
						RPD = 23.25	
12 2,4-DB							
1	10.797	10.800	-0.003	9636985H	0.1600	0.1461	
2	11.316	11.316	0.000	17001621H	0.1600	0.1378	
						RPD = 5.87	

Reagents:

GCHERBCALSL4_00027 Amount Added: 1.00 Units: mL

Report Date: 28-Dec-2019 11:12:16 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000012.D				
Injection Date:	27-Dec-2019 15:36:56	Instrument ID:	CGC1	Operator ID:	
Lims ID:	CCV			Worklist Smp#:	12
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

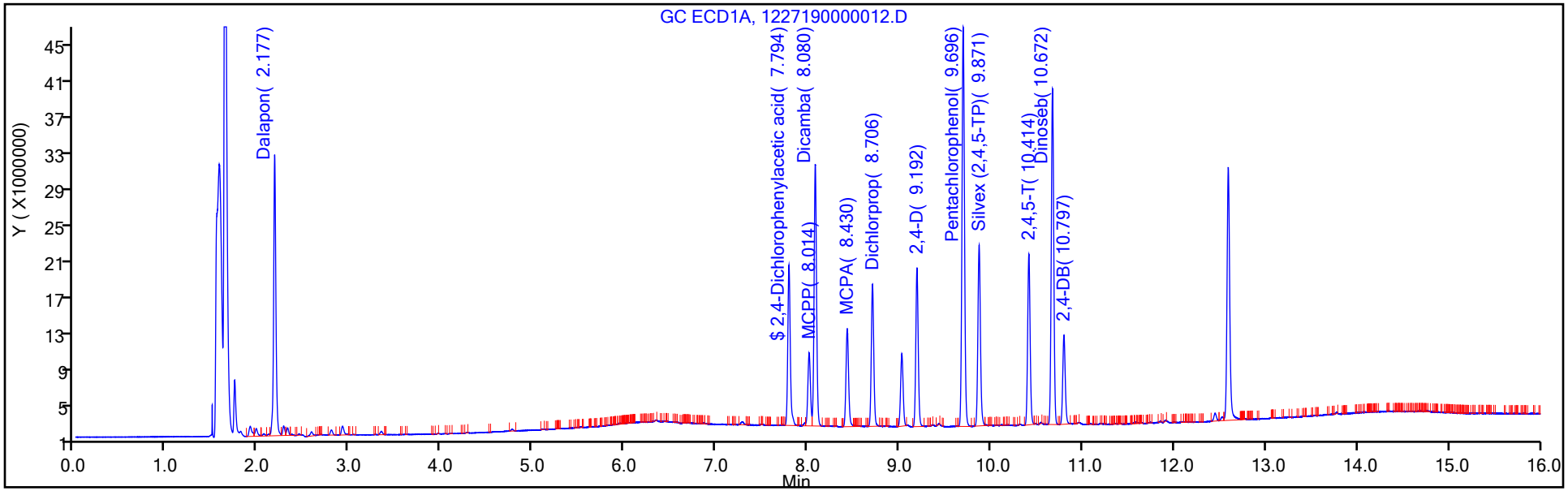

Column: RTX-1701 (0.53 mm)

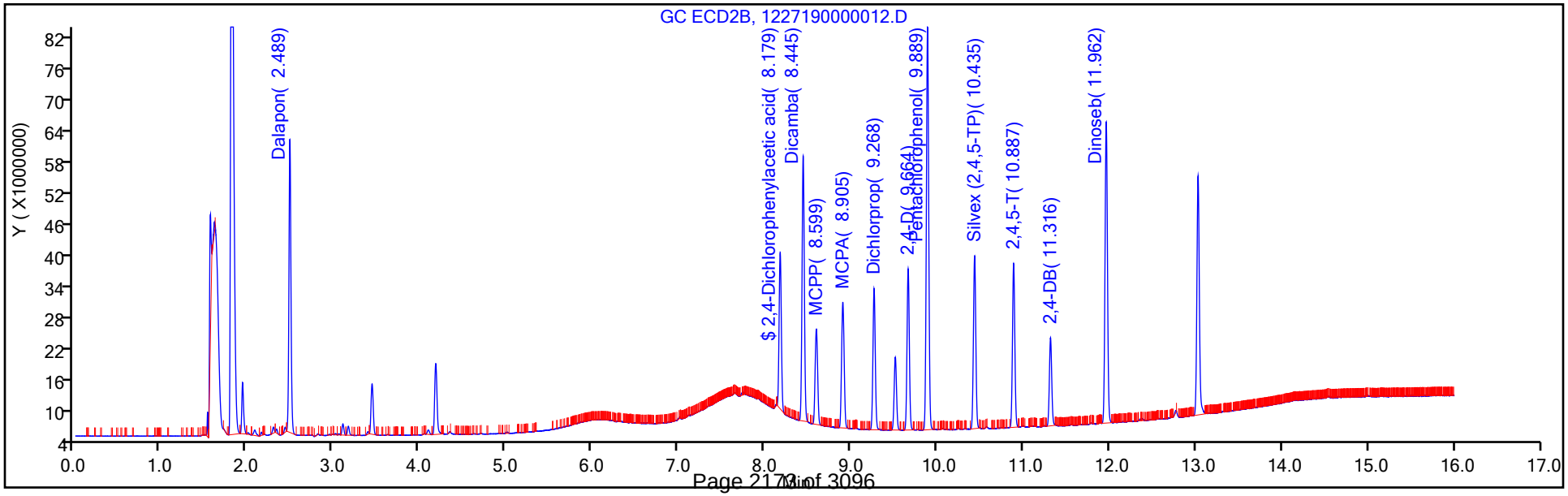

FORM VII
HERBICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCV 180-302642/12 Calibration Date: 12/27/2019 15:36

Instrument ID: CGC1 Calib Start Date: 08/19/2019 18:39

GC Column: RTX-1701 ID: 0.53(mm) Calib End Date: 08/19/2019 21:09

Lab File ID: 1227190000012.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,4-D	Ave	217037737	194897556		0.144	0.160	-10.2	15.0
Pentachlorophenol	Ave	2144337766	1947595125		0.0363	0.0400	-9.2	15.0
Silvex (2,4,5-TP)	Ave	941248503	836207650		0.0355	0.0400	-11.2	15.0
2,4,5-T	Ave	906375092	793004550		0.0350	0.0400	-12.5	15.0
2,4-DB	Ave	123360262	106260131		0.138	0.160	-13.9	15.0
Dinoseb	Ave	390899143	364214438		0.149	0.160	-6.8	15.0
2,4-Dichlorophenylacetic acid	Ave	210919252	189210294		0.144	0.160	-10.3	15.0

FORM VII
HERBICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCV 180-302642/12 Calibration Date: 12/27/2019 15:36

Instrument ID: CGC1 Calib Start Date: 08/19/2019 18:39

GC Column: RTX-1701 ID: 0.53(mm) Calib End Date: 08/19/2019 21:09

Lab File ID: 1227190000012.D

Analyte	RT	RT WINDOW	
		FROM	TO
2,4-D	9.66	9.64	9.70
Pentachlorophenol	9.89	9.86	9.92
Silvex (2,4,5-TP)	10.44	10.41	10.47
2,4,5-T	10.89	10.86	10.92
2,4-DB	11.32	11.29	11.35
Dinoseb	11.96	11.93	11.99
2,4-Dichlorophenylacetic acid	8.18	8.15	8.21

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000012.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 27-Dec-2019 15:36:56 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 180-0030174-012
Operator ID: Instrument ID: CGC1
Sublist: chrom-Herbicides_CGC1*sub1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 28-Dec-2019 11:12:15 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0314

First Level Reviewer: eppinged Date: 28-Dec-2019 10:59:28

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.177	2.179	-0.002	30310416H	0.1600	0.2034	
2	2.489	2.491	-0.002	56700814H	0.1600	0.1689	
						RPD = 18.50	
$ 2 2,4-Dichlorophenylacetic acid							
1	7.794	7.797	-0.003	17313333H	0.1600	0.1591	
2	8.179	8.180	-0.001	30273647H	0.1600	0.1435	
						RPD = 10.29	
3 MCPP							
1	8.014	8.018	-0.004	7861045H	16.0	19.9	
2	8.599	8.599	0.000	37721352	16.0	28.0	
						RPD = 33.98	
4 Dicamba							
1	8.080	8.085	-0.005	28230295H	0.0800	0.0774	
2	8.445	8.447	-0.002	51275523H	0.0800	0.0731	
						RPD = 5.69	
5 MCPA							
1	8.430	8.433	-0.003	10582478H	16.0	16.5	
2	8.905	8.908	-0.003	24276858H	16.0	19.7	
						RPD = 17.71	
6 Dichlorprop							
1	8.706	8.710	-0.004	15342886H	0.1600	0.1585	
2	9.268	9.270	-0.002	27317807H	0.1600	0.1473	
						RPD = 7.27	
7 2,4-D							
1	9.192	9.196	-0.004	17145626H	0.1600	0.1560	
2	9.664	9.666	-0.002	31183609H	0.1600	0.1437	
						RPD = 8.22	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.696	9.701	-0.005	83317332	0.0400	0.0363	
2	9.889	9.889	0.000	77903805H	0.0400	0.0363	
						RPD = 0.16	
9 Silvex (2,4,5-TP)							
1	9.871	9.875	-0.004	19505503H	0.0400	0.0398	
2	10.435	10.437	-0.002	33448306H	0.0400	0.0355	
						RPD = 11.35	
10 2,4,5-T							
1	10.414	10.416	-0.002	18395410H	0.0400	0.0397	
2	10.887	10.889	-0.002	31720182H	0.0400	0.0350	
						RPD = 12.52	
11 Dinoseb							
1	10.672	10.675	-0.003	36246778H	0.1600	0.1883	
2	11.962	11.963	-0.001	58274310H	0.1600	0.1491	
						RPD = 23.25	
12 2,4-DB							
1	10.797	10.800	-0.003	9636985H	0.1600	0.1461	
2	11.316	11.316	0.000	17001621H	0.1600	0.1378	
						RPD = 5.87	

Reagents:

GCHERBCALSL4_00027 Amount Added: 1.00 Units: mL

Report Date: 28-Dec-2019 11:12:17 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000012.D

Injection Date: 27-Dec-2019 15:36:56 Instrument ID: CGC1 Operator ID:

Lims ID: CCV Worklist Smp#: 12

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 12

Method: Herbicides_CGC1 Limit Group: GCS 8151A ICAL

Column: RTX-50 (0.53 mm)

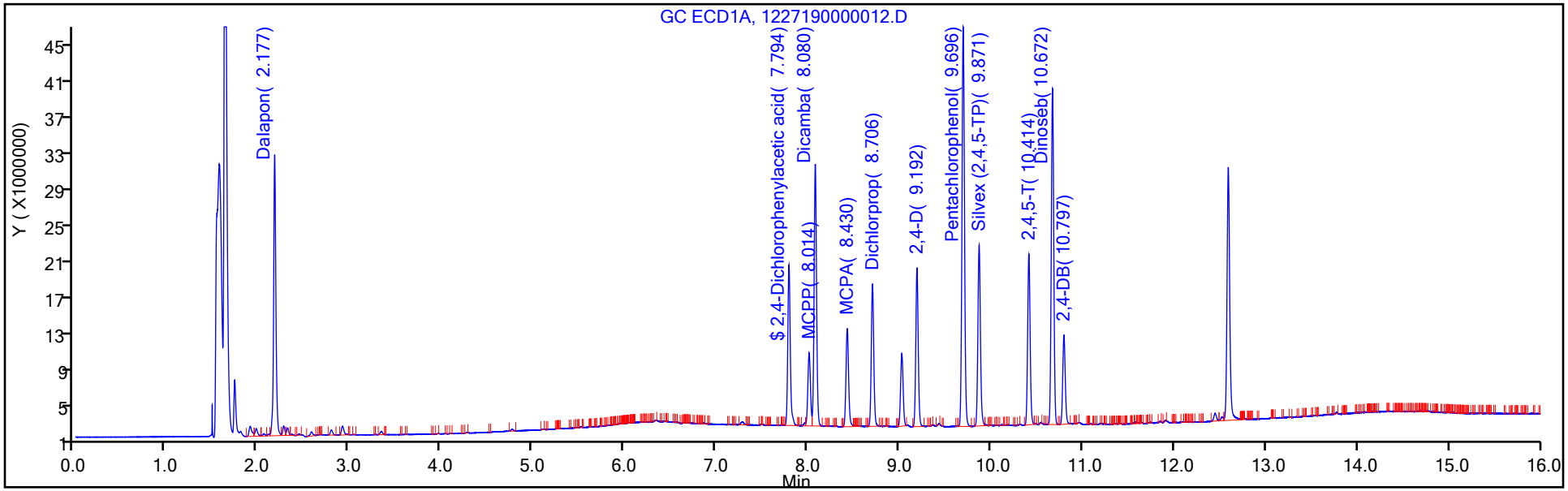

Column: RTX-1701 (0.53 mm)

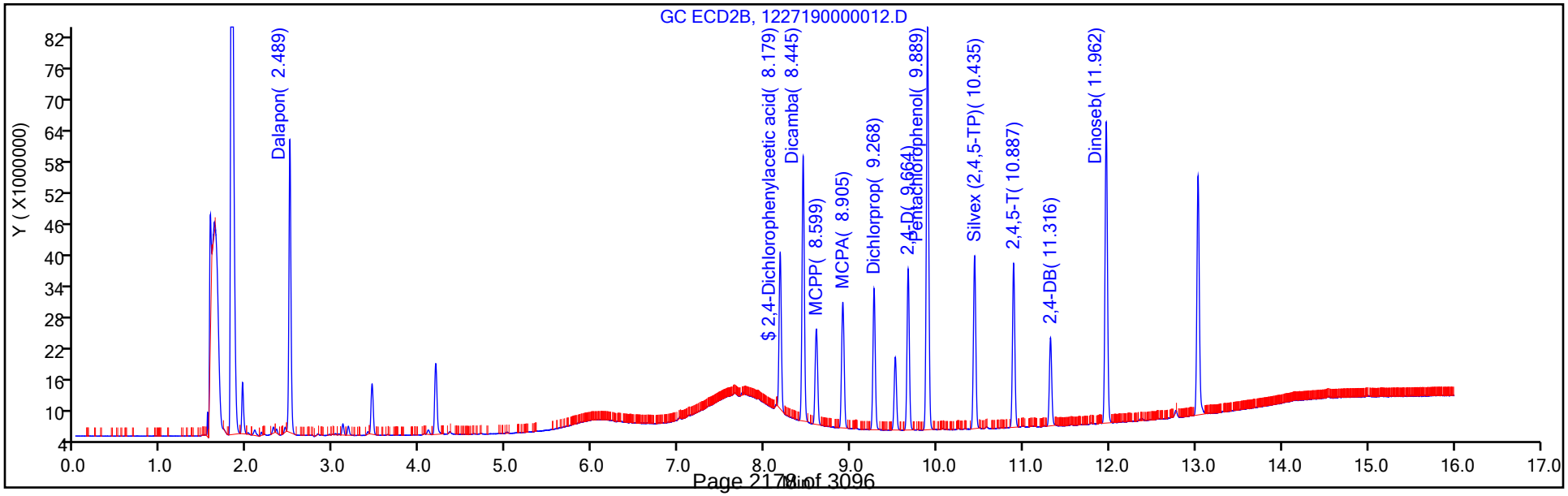

FORM I
HERBICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-100205-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 180-302208/1-A
Matrix: Solid
Lab File ID: 1227190000002.D
Analysis Method: EPA 8151A
Date Collected:
Extraction Method: 8151A
Date Extracted: 12/21/2019 03:55
Sample wt/vol: 100(mL)
Date Analyzed: 12/27/2019 11:26
Con. Extract Vol.: 10.0(mL)
Dilution Factor: 20
Injection Volume: 1(uL)
GC Column: RTX-50 ID: 0.53(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 302642
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
94-75-7	2,4-D	ND		0.040	0.020
93-72-1	Silvex (2,4,5-TP)	ND		0.010	0.0030
88-85-7	Dinoseb	ND		0.040	0.038

CAS NO.	SURROGATE	%REC	Q	LIMITS
19719-28-9	2,4-Dichlorophenylacetic acid	73		23-122

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000002.D
Lims ID: MB 180-302208/1-A
Client ID:
Sample Type: MB
Inject. Date: 27-Dec-2019 11:26:46 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 20.0000
Sample Info: 180-0030174-002
Operator ID: Instrument ID: CGC1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 27-Dec-2019 13:17:30 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0326

First Level Reviewer: eppinged Date: 27-Dec-2019 12:11:43

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1		2.179				ND	
2		2.491					
$ 2 2,4-Dichlorophenylacetic acid							
1	7.798	7.797	0.001	3971380H	0.0500	0.0365	
2	8.180	8.180	0.000	6987825H	0.0500	0.0331	
						RPD = 9.67	
3 MCPP							M
1	8.034	8.018	0.016	148188H		0.3750	
2	8.601	8.599	0.002	982640		1.15	M
						RPD = 101.93	
4 Dicamba							
1		8.085				ND	
2		8.447					
5 MCPA							
1		8.433				ND	
2		8.908					
6 Dichlorprop							
1		8.710				ND	
2		9.270					
7 2,4-D							
1		9.196				ND	
2		9.666					
8 Pentachlorophenol							
1		9.701				ND	
2		9.889					
9 Silvex (2,4,5-TP)							
1		9.875				ND	
2		10.437					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
10 2,4,5-T							
1		10.416				ND	
2		10.889					
11 Dinoseb							
1		10.675				ND	
2		11.963					
12 2,4-DB							
1		10.800				ND	
2		11.316					

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 27-Dec-2019 13:17:35 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000002.D				
Injection Date:	27-Dec-2019 11:26:46	Instrument ID:	CGC1	Operator ID:	
Lims ID:	MB 180-302208/1-A			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	2
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

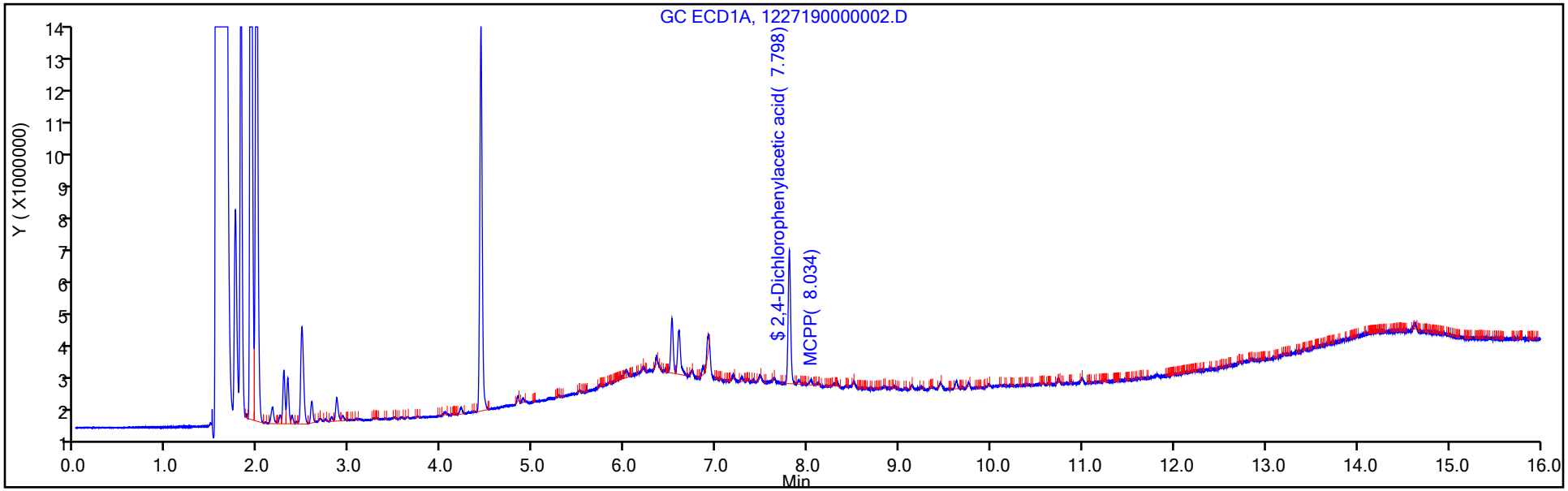

Column: RTX-1701 (0.53 mm)

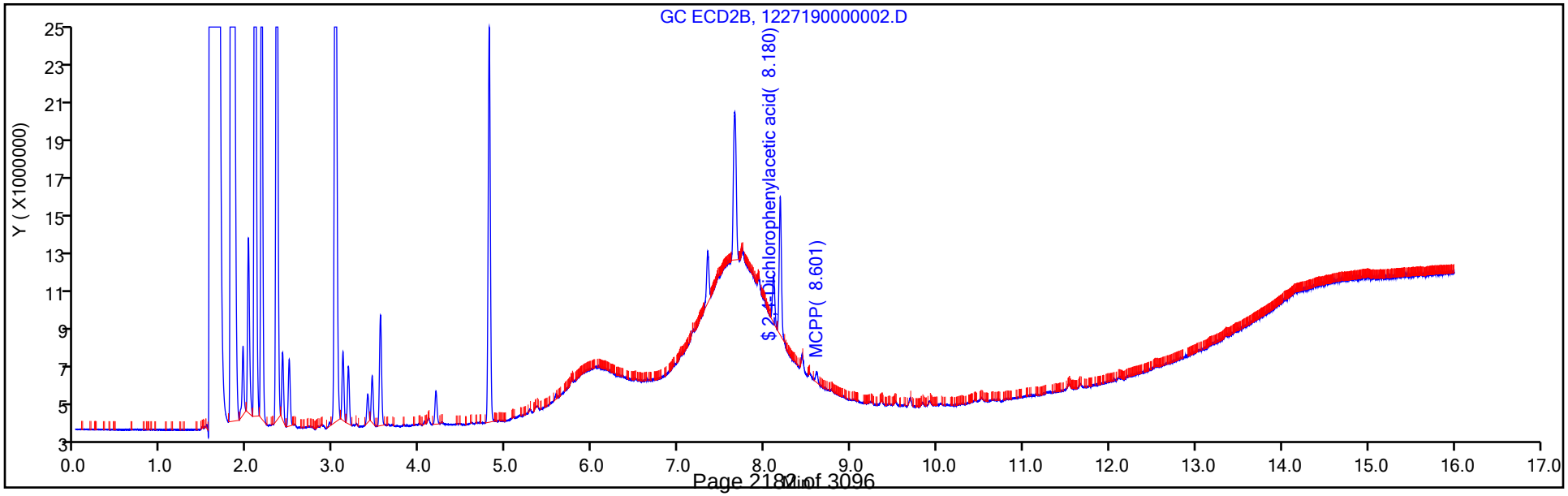

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000002.D				
Lims ID:	MB 180-302208/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	27-Dec-2019 11:26:46	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	180-0030174-002				
Operator ID:		Instrument ID:	CGC1		

Method:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\Herbicides_CGC1.m		
Limit Group:	GCS 8151A ICAL		
Last Update:	27-Dec-2019 13:17:30	Calib Date:	19-Aug-2019 21:09:17
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D		

Column 1 :	RTX-50 (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-1701 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0326	

First Level Reviewer: eppinged Date: 27-Dec-2019 12:11:43

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0365	72.99

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0331	66.26

FORM I
HERBICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 180-302208/1-A

Matrix: Solid Lab File ID: 1227190000002.D

Analysis Method: EPA 8151A Date Collected:

Extraction Method: 8151A Date Extracted: 12/21/2019 03:55

Sample wt/vol: 100(mL) Date Analyzed: 12/27/2019 11:26

Con. Extract Vol.: 10.0(mL) Dilution Factor: 20

Injection Volume: 1(uL) GC Column: RTX-1701 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 302642 Units: mg/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
19719-28-9	2,4-Dichlorophenylacetic acid	66		23-122

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000002.D
Lims ID: MB 180-302208/1-A
Client ID:
Sample Type: MB
Inject. Date: 27-Dec-2019 11:26:46 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 20.0000
Sample Info: 180-0030174-002
Operator ID: Instrument ID: CGC1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 27-Dec-2019 13:17:30 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0326

First Level Reviewer: eppinged Date: 27-Dec-2019 12:11:43

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1		2.179				ND	
2		2.491					
$ 2 2,4-Dichlorophenylacetic acid							
1	7.798	7.797	0.001	3971380H	0.0500	0.0365	
2	8.180	8.180	0.000	6987825H	0.0500	0.0331	
						RPD = 9.67	
3 MCPP							M
1	8.034	8.018	0.016	148188H		0.3750	
2	8.601	8.599	0.002	982640		1.15	M
						RPD = 101.93	
4 Dicamba							
1		8.085				ND	
2		8.447					
5 MCPA							
1		8.433				ND	
2		8.908					
6 Dichlorprop							
1		8.710				ND	
2		9.270					
7 2,4-D							
1		9.196				ND	
2		9.666					
8 Pentachlorophenol							
1		9.701				ND	
2		9.889					
9 Silvex (2,4,5-TP)							
1		9.875				ND	
2		10.437					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
10 2,4,5-T							
1		10.416				ND	
2		10.889					
11 Dinoseb							
1		10.675				ND	
2		11.963					
12 2,4-DB							
1		10.800				ND	
2		11.316					

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 27-Dec-2019 13:17:36 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000002.D				
Injection Date:	27-Dec-2019 11:26:46	Instrument ID:	CGC1	Operator ID:	
Lims ID:	MB 180-302208/1-A			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	2
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

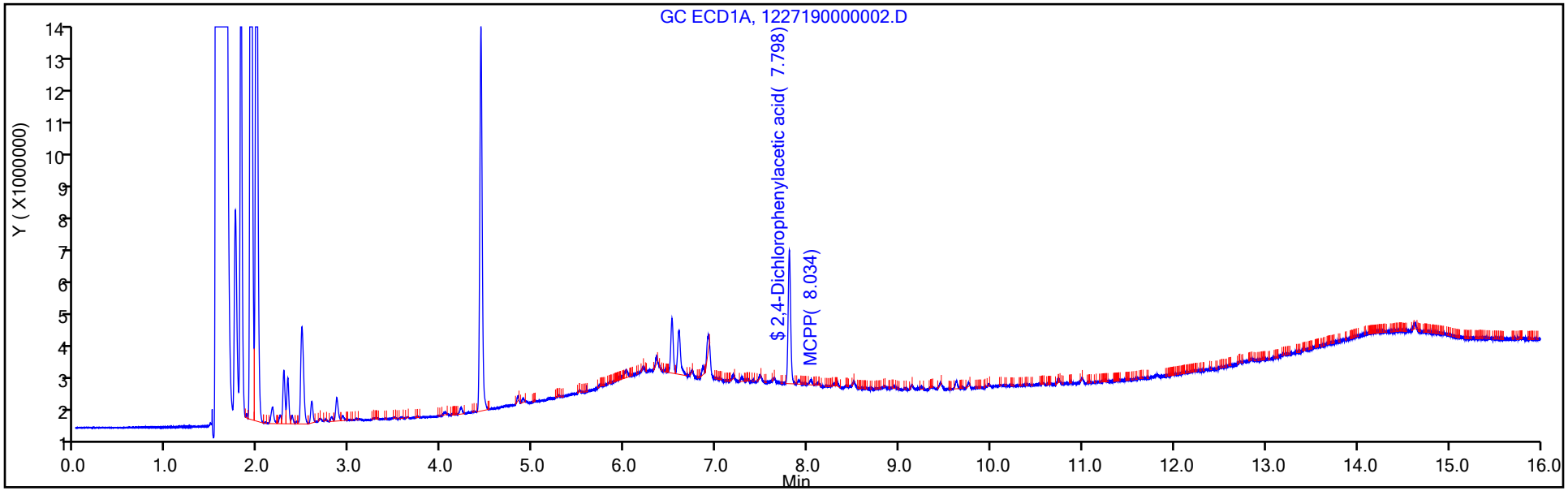

Column: RTX-1701 (0.53 mm)

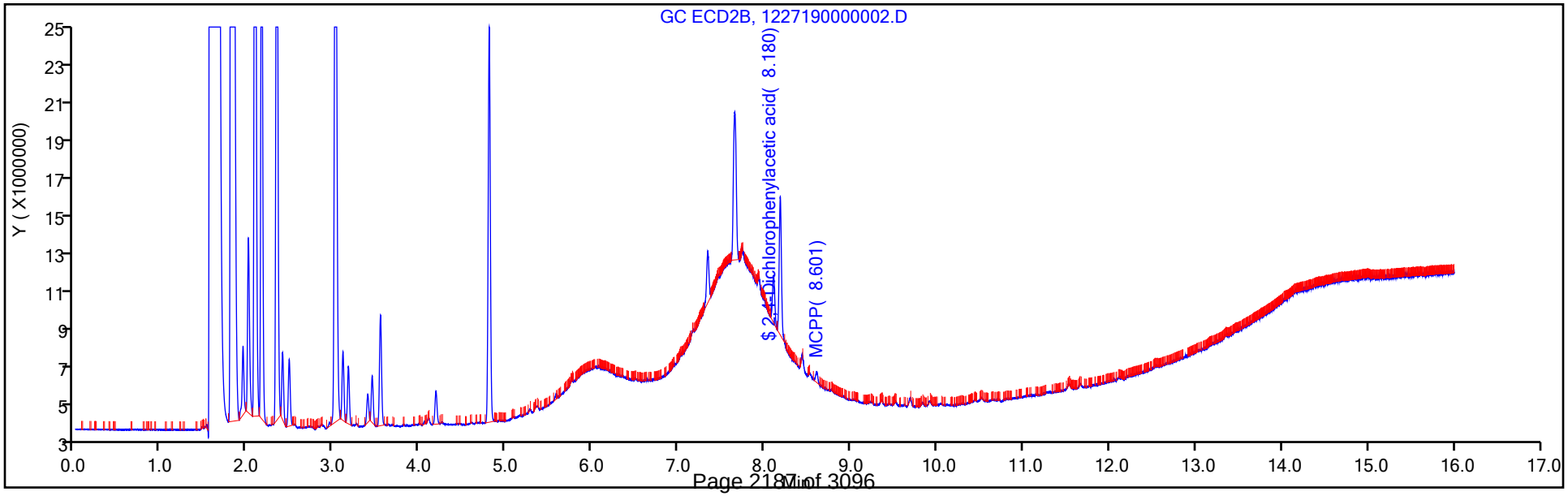

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000002.D				
Lims ID:	MB 180-302208/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	27-Dec-2019 11:26:46	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	180-0030174-002				
Operator ID:		Instrument ID:	CGC1		

Method:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\Herbicides_CGC1.m		
Limit Group:	GCS 8151A ICAL		
Last Update:	27-Dec-2019 13:17:30	Calib Date:	19-Aug-2019 21:09:17
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D		

Column 1 :	RTX-50 (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-1701 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0326	

First Level Reviewer: eppinged Date: 27-Dec-2019 12:11:43

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0365	72.99

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0331	66.26

FORM I
HERBICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Client Sample ID: Lab Sample ID: LB 180-301984/1-G

Matrix: Solid (TCLP) Lab File ID: 1227190000006.D

Analysis Method: EPA 8151A Date Collected:

Extraction Method: 8151A Date Extracted: 12/21/2019 03:55

Sample wt/vol: 100(mL) Date Analyzed: 12/27/2019 13:07

Con. Extract Vol.: 10.0(mL) Dilution Factor: 20

Injection Volume: 1(uL) GC Column: RTX-50 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 302642 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
94-75-7	2,4-D	ND		0.040	0.020
93-72-1	Silvex (2,4,5-TP)	ND		0.010	0.0030
88-85-7	Dinoseb	ND		0.040	0.038

CAS NO.	SURROGATE	%REC	Q	LIMITS
19719-28-9	2,4-Dichlorophenylacetic acid	77		23-122

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000006.D
Lims ID: LB 180-301984/1-G
Client ID:
Sample Type: LB
Inject. Date: 27-Dec-2019 13:07:13 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 20.0000
Sample Info: 180-0030174-006
Operator ID: Instrument ID: CGC1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 27-Dec-2019 13:26:10 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0326

First Level Reviewer: eppinged Date: 27-Dec-2019 13:26:10

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1		2.179				ND	
2		2.491					
$ 2 2,4-Dichlorophenylacetic acid							
1	7.795	7.797	-0.002	4202897H	0.0500	0.0386	
2	8.180	8.180	0.000	7422056H	0.0500	0.0352	
						RPD = 9.31	
3 MCPP							M
1	8.035	8.018	0.017	182129H		0.4608	
2	8.600	8.599	0.001	826712		1.04	M
						RPD = 77.21	
4 Dicamba							
1		8.085				ND	
2		8.447					
5 MCPA							
1		8.433				ND	
2		8.908					
6 Dichlorprop							
1		8.710				ND	
2		9.270					
7 2,4-D							
1		9.196				ND	
2		9.666					
8 Pentachlorophenol							
1		9.701				ND	
2		9.889					
9 Silvex (2,4,5-TP)							
1		9.875				ND	
2		10.437					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
10 2,4,5-T							
1		10.416				ND	
2		10.889					
11 Dinoseb							
1		10.675				ND	
2		11.963					
12 2,4-DB							
1		10.800				ND	
2		11.316					

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 27-Dec-2019 13:26:14 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000006.D				
Injection Date:	27-Dec-2019 13:07:13	Instrument ID:	CGC1	Operator ID:	
Lims ID:	LB 180-301984/1-G			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	6
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

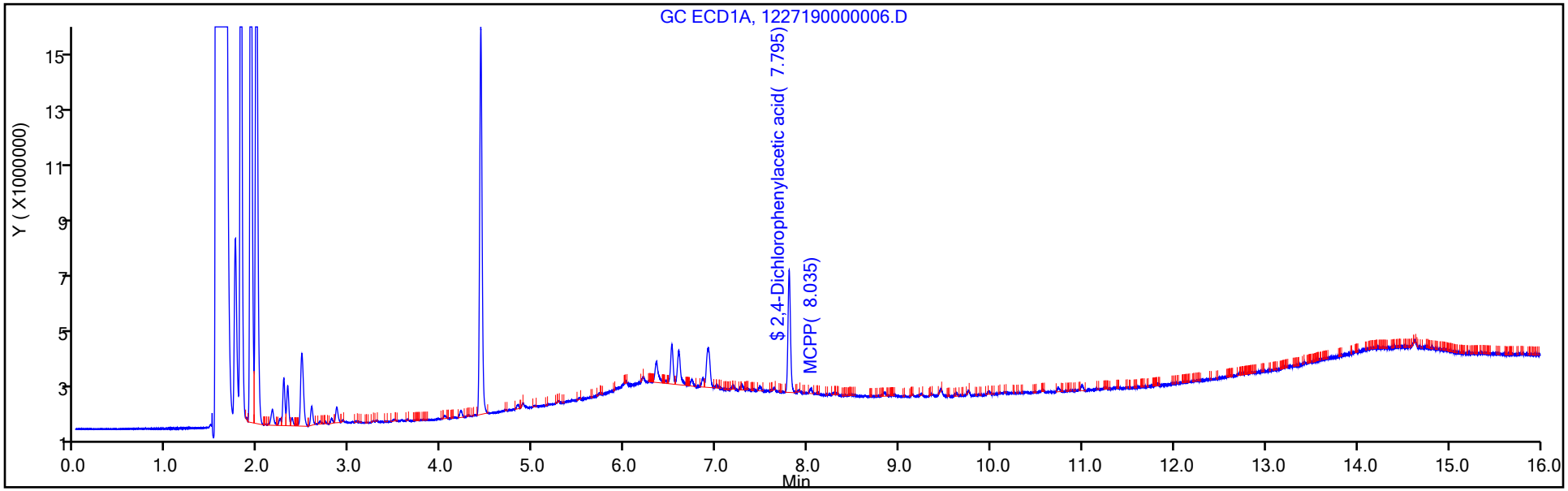

Column: RTX-1701 (0.53 mm)

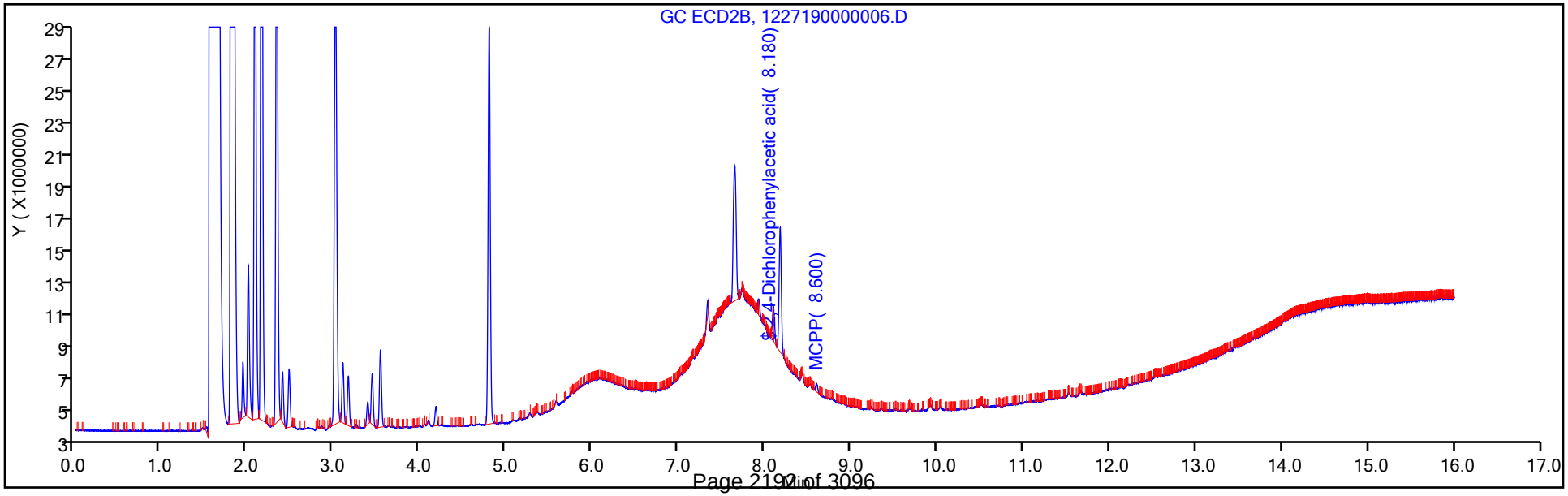

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000006.D				
Lims ID:	LB 180-301984/1-G				
Client ID:					
Sample Type:	LB				
Inject. Date:	27-Dec-2019 13:07:13	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	180-0030174-006				
Operator ID:		Instrument ID:	CGC1		
Method:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\Herbicides_CGC1.m				
Limit Group:	GCS 8151A ICAL				
Last Update:	27-Dec-2019 13:26:10	Calib Date:	19-Aug-2019 21:09:17		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D				
Column 1 :	RTX-50 (0.53 mm)		Det: GC ECD1A		
Column 2 :	RTX-1701 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0326				
First Level Reviewer: eppinged		Date:	27-Dec-2019 13:26:10		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0386	77.25

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0352	70.38

FORM I
HERBICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Client Sample ID: Lab Sample ID: LB 180-301984/1-G

Matrix: Solid (TCLP) Lab File ID: 1227190000006.D

Analysis Method: EPA 8151A Date Collected:

Extraction Method: 8151A Date Extracted: 12/21/2019 03:55

Sample wt/vol: 100(mL) Date Analyzed: 12/27/2019 13:07

Con. Extract Vol.: 10.0(mL) Dilution Factor: 20

Injection Volume: 1(uL) GC Column: RTX-1701 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 302642 Units: mg/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
19719-28-9	2,4-Dichlorophenylacetic acid	70		23-122

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000006.D
Lims ID: LB 180-301984/1-G
Client ID:
Sample Type: LB
Inject. Date: 27-Dec-2019 13:07:13 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 20.0000
Sample Info: 180-0030174-006
Operator ID: Instrument ID: CGC1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 27-Dec-2019 13:26:10 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0326

First Level Reviewer: eppinged Date: 27-Dec-2019 13:26:10

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1		2.179				ND	
2		2.491					
$ 2 2,4-Dichlorophenylacetic acid							
1	7.795	7.797	-0.002	4202897H	0.0500	0.0386	
2	8.180	8.180	0.000	7422056H	0.0500	0.0352	
						RPD = 9.31	
3 MCPP							M
1	8.035	8.018	0.017	182129H		0.4608	
2	8.600	8.599	0.001	826712		1.04	M
						RPD = 77.21	
4 Dicamba							
1		8.085				ND	
2		8.447					
5 MCPA							
1		8.433				ND	
2		8.908					
6 Dichlorprop							
1		8.710				ND	
2		9.270					
7 2,4-D							
1		9.196				ND	
2		9.666					
8 Pentachlorophenol							
1		9.701				ND	
2		9.889					
9 Silvex (2,4,5-TP)							
1		9.875				ND	
2		10.437					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
10 2,4,5-T							
1		10.416				ND	
2		10.889					
11 Dinoseb							
1		10.675				ND	
2		11.963					
12 2,4-DB							
1		10.800				ND	
2		11.316					

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 27-Dec-2019 13:26:15 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000006.D				
Injection Date:	27-Dec-2019 13:07:13	Instrument ID:	CGC1	Operator ID:	
Lims ID:	LB 180-301984/1-G			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	6
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

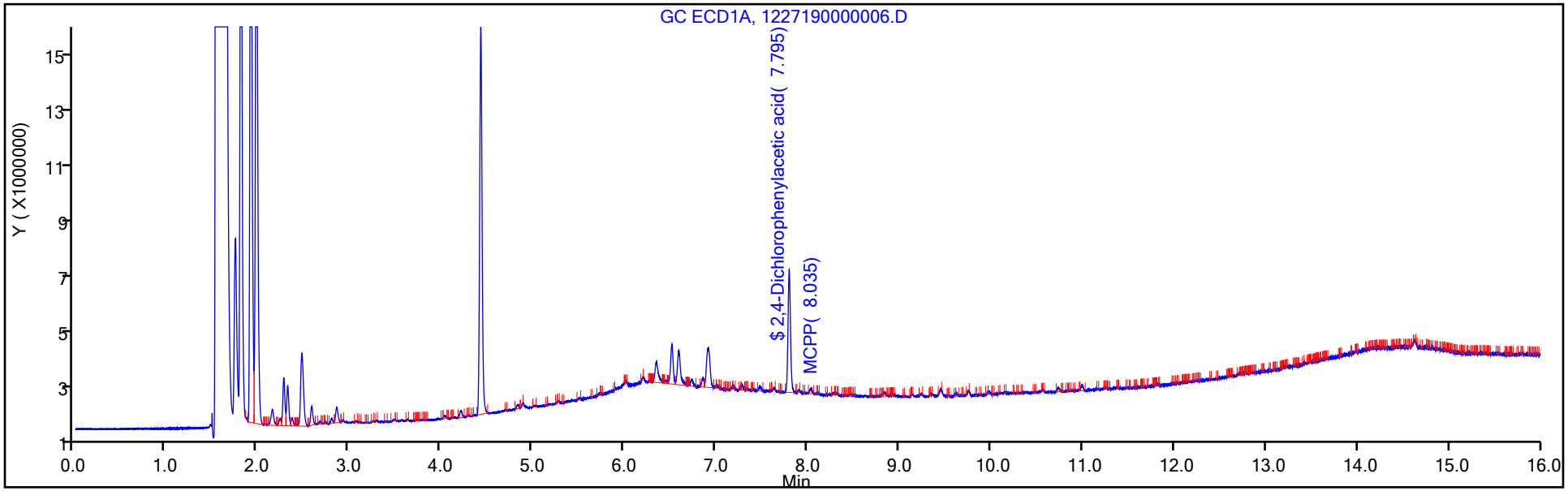

Column: RTX-1701 (0.53 mm)

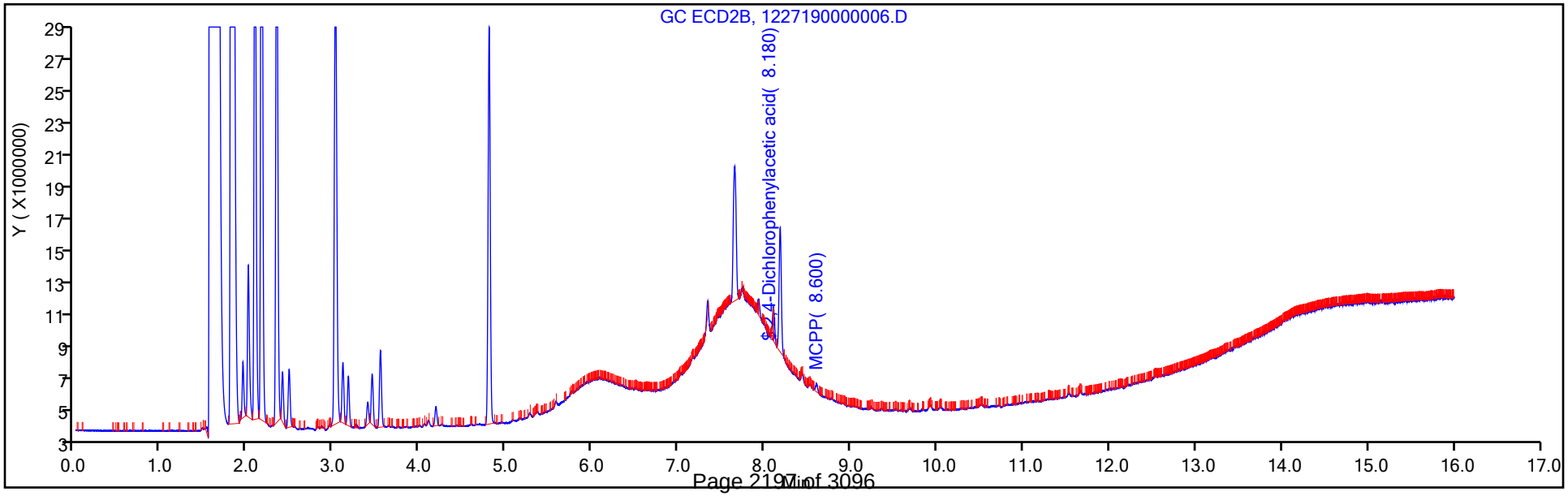

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000006.D				
Lims ID:	LB 180-301984/1-G				
Client ID:					
Sample Type:	LB				
Inject. Date:	27-Dec-2019 13:07:13	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	180-0030174-006				
Operator ID:		Instrument ID:	CGC1		
Method:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\Herbicides_CGC1.m				
Limit Group:	GCS 8151A ICAL				
Last Update:	27-Dec-2019 13:26:10	Calib Date:	19-Aug-2019 21:09:17		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D				
Column 1 :	RTX-50 (0.53 mm)		Det: GC ECD1A		
Column 2 :	RTX-1701 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0326				
First Level Reviewer: eppinged		Date:	27-Dec-2019 13:26:10		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0386	77.25

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0352	70.38

FORM I
HERBICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-100205-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 180-302208/2-A
Matrix: Solid
Lab File ID: 1227190000003.D
Analysis Method: EPA 8151A
Date Collected:
Extraction Method: 8151A
Date Extracted: 12/21/2019 03:55
Sample wt/vol: 100(mL)
Date Analyzed: 12/27/2019 11:52
Con. Extract Vol.: 10.0(mL)
Dilution Factor: 20
Injection Volume: 1(uL)
GC Column: RTX-50 ID: 0.53(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 302642
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
94-75-7	2,4-D	0.155		0.040	0.020
93-72-1	Silvex (2,4,5-TP)	0.0394		0.010	0.0030
88-85-7	Dinoseb	0.231		0.040	0.038

CAS NO.	SURROGATE	%REC	Q	LIMITS
19719-28-9	2,4-Dichlorophenylacetic acid	81		23-122

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000003.D
Lims ID: LCS 180-302208/2-A
Client ID:
Sample Type: LCS
Inject. Date: 27-Dec-2019 11:52:10 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 20.0000
Sample Info: 180-0030174-003
Operator ID: Instrument ID: CGC1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 27-Dec-2019 13:17:30 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0326

First Level Reviewer: eppinged Date: 27-Dec-2019 12:11:54

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.178	2.179	-0.001	8749100H	0.1000	0.0587	
2	2.488	2.491	-0.003	18327542H	0.1000	0.0546	
						RPD = 7.23	
$ 2 2,4-Dichlorophenylacetic acid							
1	7.798	7.797	0.001	4398290H	0.0500	0.0404	
2	8.180	8.180	0.000	7624484H	0.0500	0.0361	
						RPD = 11.16	
3 MCPP							
1	8.018	8.018	0.000	4138682H	10.0	10.5	
2	8.599	8.599	0.000	21159306	10.0	15.9	
						RPD = 41.26	
4 Dicamba							
1	8.085	8.085	0.000	13027110H	0.0500	0.0357	
2	8.446	8.447	-0.001	24089253H	0.0500	0.0344	
						RPD = 3.90	
5 MCPA							
1	8.434	8.433	0.001	5573056H	10.0	8.69	
2	8.907	8.908	-0.001	14059697H	10.0	11.4	
						RPD = 27.10	
6 Dichlorprop							
1	8.709	8.710	-0.001	7508845H	0.1000	0.0776	
2	9.270	9.270	0.000	13324280H	0.1000	0.0719	
						RPD = 7.61	
7 2,4-D							
1	9.195	9.196	-0.001	8513952H	0.1000	0.0775	
2	9.665	9.666	-0.001	15765709H	0.1000	0.0726	
						RPD = 6.42	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.699	9.701	-0.002	39055888	0.0250	0.0170	
2	9.889	9.889	0.000	35747842H	0.0250	0.0167	
						RPD = 1.97	
9 Silvex (2,4,5-TP)							
1	9.873	9.875	-0.002	9659769H	0.0250	0.0197	
2	10.435	10.437	-0.002	16640810H	0.0250	0.0177	
						RPD = 10.89	
10 2,4,5-T							
1	10.416	10.416	0.000	9175174H	0.0250	0.0198	
2	10.889	10.889	0.000	15477341H	0.0250	0.0171	
						RPD = 14.70	
11 Dinoseb							
1	10.676	10.675	0.001	22228510H	0.1000	0.1155	
2	11.962	11.963	-0.001	35703259H	0.1000	0.0913	
						RPD = 23.34	
12 2,4-DB							
1	10.799	10.800	-0.001	4674371H	0.1000	0.0709	
2	11.316	11.316	0.000	8393147H	0.1000	0.0680	
						RPD = 4.10	

Report Date: 27-Dec-2019 13:17:41 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000003.D				
Injection Date:	27-Dec-2019 11:52:10	Instrument ID:	CGC1	Operator ID:	
Lims ID:	LCS 180-302208/2-A			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	3
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

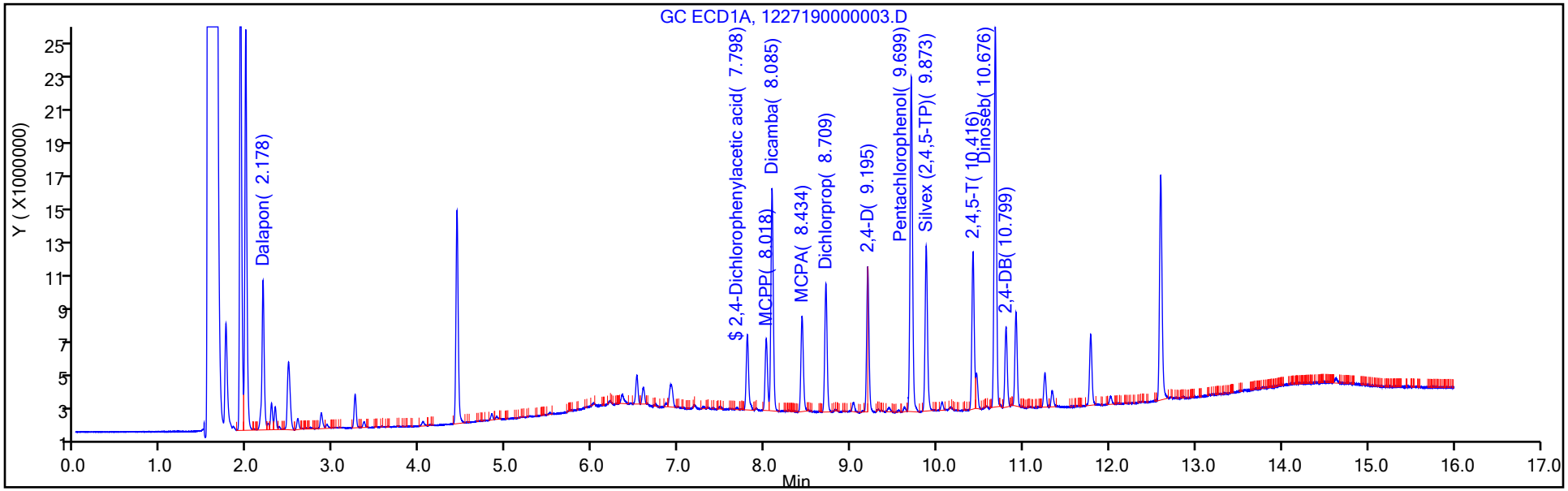

Column: RTX-1701 (0.53 mm)

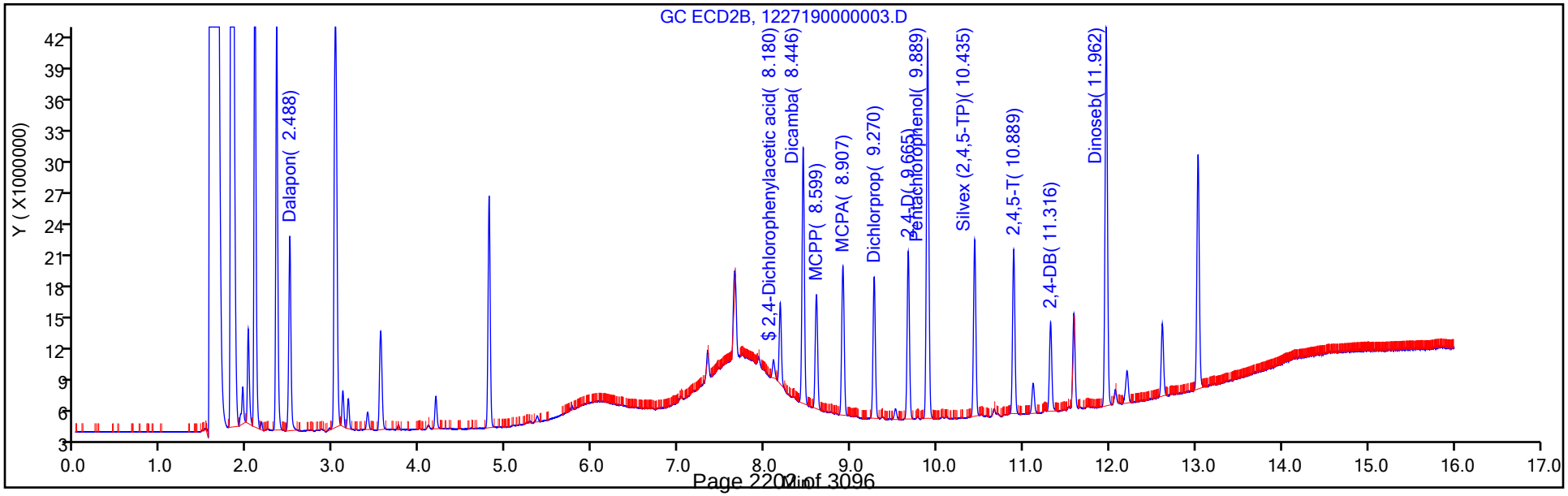

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000003.D				
Lims ID:	LCS 180-302208/2-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	27-Dec-2019 11:52:10	ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	180-0030174-003				
Operator ID:		Instrument ID:	CGC1		

Method:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\Herbicides_CGC1.m		
Limit Group:	GCS 8151A ICAL		
Last Update:	27-Dec-2019 13:17:30	Calib Date:	19-Aug-2019 21:09:17
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D		

Column 1 :	RTX-50 (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-1701 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0326	

First Level Reviewer: eppinged Date: 27-Dec-2019 12:11:54

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0404	80.84

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0361	72.30

FORM I
HERBICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 180-302208/2-A

Matrix: Solid Lab File ID: 1227190000003.D

Analysis Method: EPA 8151A Date Collected:

Extraction Method: 8151A Date Extracted: 12/21/2019 03:55

Sample wt/vol: 100(mL) Date Analyzed: 12/27/2019 11:52

Con. Extract Vol.: 10.0(mL) Dilution Factor: 20

Injection Volume: 1(uL) GC Column: RTX-1701 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 302642 Units: mg/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
19719-28-9	2,4-Dichlorophenylacetic acid	72		23-122

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000003.D
Lims ID: LCS 180-302208/2-A
Client ID:
Sample Type: LCS
Inject. Date: 27-Dec-2019 11:52:10 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 20.0000
Sample Info: 180-0030174-003
Operator ID: Instrument ID: CGC1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 27-Dec-2019 13:17:30 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0326

First Level Reviewer: eppinged Date: 27-Dec-2019 12:11:54

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.178	2.179	-0.001	8749100H	0.1000	0.0587	
2	2.488	2.491	-0.003	18327542H	0.1000	0.0546	
						RPD = 7.23	
$ 2 2,4-Dichlorophenylacetic acid							
1	7.798	7.797	0.001	4398290H	0.0500	0.0404	
2	8.180	8.180	0.000	7624484H	0.0500	0.0361	
						RPD = 11.16	
3 MCPP							
1	8.018	8.018	0.000	4138682H	10.0	10.5	
2	8.599	8.599	0.000	21159306	10.0	15.9	
						RPD = 41.26	
4 Dicamba							
1	8.085	8.085	0.000	13027110H	0.0500	0.0357	
2	8.446	8.447	-0.001	24089253H	0.0500	0.0344	
						RPD = 3.90	
5 MCPA							
1	8.434	8.433	0.001	5573056H	10.0	8.69	
2	8.907	8.908	-0.001	14059697H	10.0	11.4	
						RPD = 27.10	
6 Dichlorprop							
1	8.709	8.710	-0.001	7508845H	0.1000	0.0776	
2	9.270	9.270	0.000	13324280H	0.1000	0.0719	
						RPD = 7.61	
7 2,4-D							
1	9.195	9.196	-0.001	8513952H	0.1000	0.0775	
2	9.665	9.666	-0.001	15765709H	0.1000	0.0726	
						RPD = 6.42	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.699	9.701	-0.002	39055888	0.0250	0.0170	
2	9.889	9.889	0.000	35747842H	0.0250	0.0167	
						RPD = 1.97	
9 Silvex (2,4,5-TP)							
1	9.873	9.875	-0.002	9659769H	0.0250	0.0197	
2	10.435	10.437	-0.002	16640810H	0.0250	0.0177	
						RPD = 10.89	
10 2,4,5-T							
1	10.416	10.416	0.000	9175174H	0.0250	0.0198	
2	10.889	10.889	0.000	15477341H	0.0250	0.0171	
						RPD = 14.70	
11 Dinoseb							
1	10.676	10.675	0.001	22228510H	0.1000	0.1155	
2	11.962	11.963	-0.001	35703259H	0.1000	0.0913	
						RPD = 23.34	
12 2,4-DB							
1	10.799	10.800	-0.001	4674371H	0.1000	0.0709	
2	11.316	11.316	0.000	8393147H	0.1000	0.0680	
						RPD = 4.10	

Report Date: 27-Dec-2019 13:17:42 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000003.D				
Injection Date:	27-Dec-2019 11:52:10	Instrument ID:	CGC1	Operator ID:	
Lims ID:	LCS 180-302208/2-A			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	3
Method:	Herbicides_CGC1	Limit Group:	GCS 8151A ICAL		

Column: RTX-50 (0.53 mm)

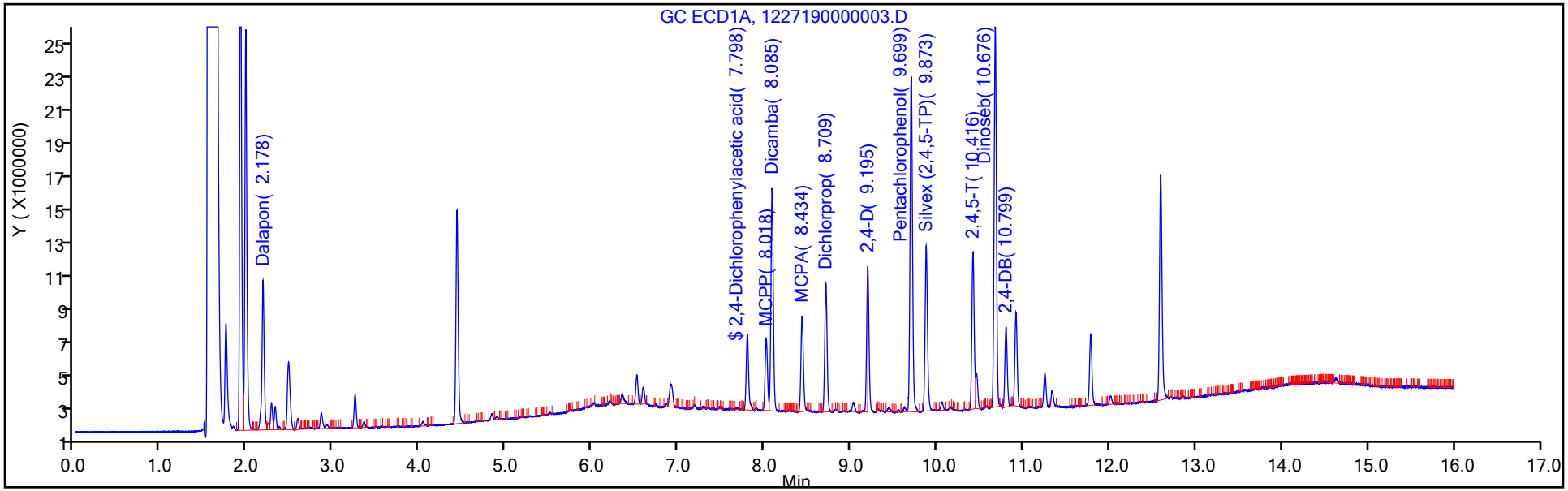

Column: RTX-1701 (0.53 mm)

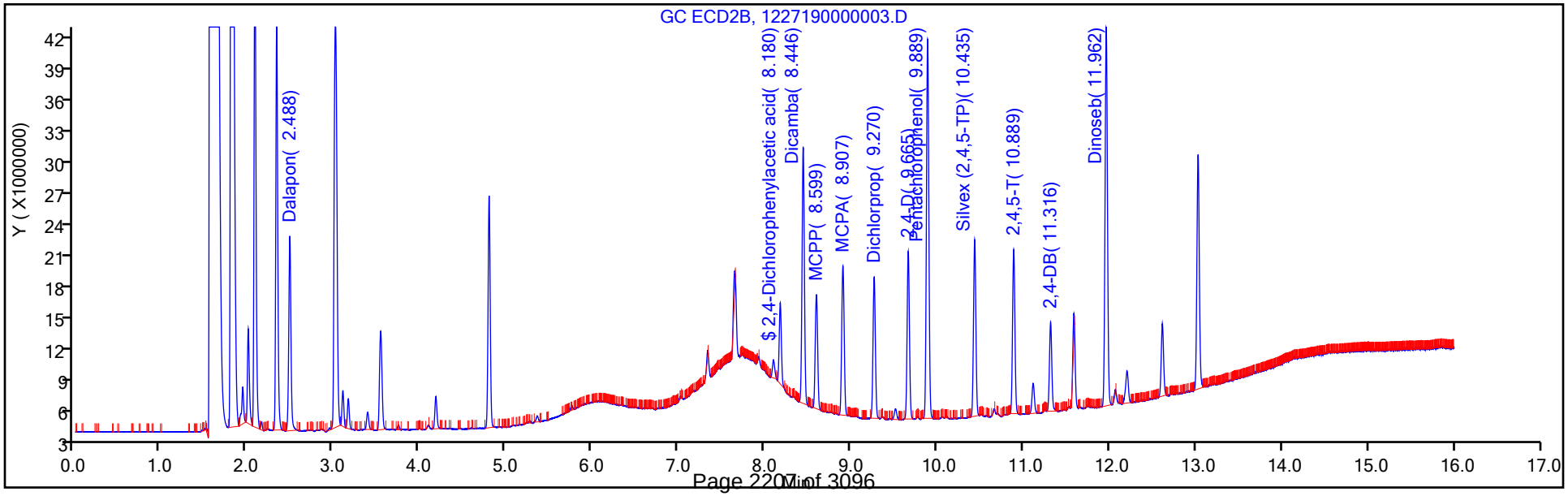

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000003.D				
Lims ID:	LCS 180-302208/2-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	27-Dec-2019 11:52:10	ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	180-0030174-003				
Operator ID:		Instrument ID:	CGC1		

Method:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\Herbicides_CGC1.m		
Limit Group:	GCS 8151A ICAL		
Last Update:	27-Dec-2019 13:17:30	Calib Date:	19-Aug-2019 21:09:17
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D		

Column 1 :	RTX-50 (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-1701 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0326	

First Level Reviewer: eppinged Date: 27-Dec-2019 12:11:54

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0404	80.84

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0361	72.30

FORM I
HERBICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-100205-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCSD 180-302208/3-A
Matrix: Solid
Lab File ID: 1227190000004.D
Analysis Method: EPA 8151A
Date Collected:
Extraction Method: 8151A
Date Extracted: 12/21/2019 03:55
Sample wt/vol: 100(mL)
Date Analyzed: 12/27/2019 12:17
Con. Extract Vol.: 10.0(mL)
Dilution Factor: 20
Injection Volume: 1(uL)
GC Column: RTX-50 ID: 0.53(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 302642
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
94-75-7	2,4-D	0.164		0.040	0.020
93-72-1	Silvex (2,4,5-TP)	0.0405		0.010	0.0030
88-85-7	Dinoseb	0.237		0.040	0.038

CAS NO.	SURROGATE	%REC	Q	LIMITS
19719-28-9	2,4-Dichlorophenylacetic acid	84		23-122

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000004.D
Lims ID: LCSD 180-302208/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 27-Dec-2019 12:17:07 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 20.0000
Sample Info: 180-0030174-004
Operator ID: Instrument ID: CGC1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 27-Dec-2019 13:17:30 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0326

First Level Reviewer: eppinged Date: 27-Dec-2019 12:41:30

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.180	2.179	0.001	9085704H	0.1000	0.0610	
2	2.492	2.491	0.001	18945878H	0.1000	0.0564	
						RPD = 7.69	
$ 2 2,4-Dichlorophenylacetic acid							
1	7.797	7.797	0.000	4575179H	0.0500	0.0420	
2	8.179	8.180	-0.001	7821438H	0.0500	0.0371	
						RPD = 12.55	
3 MCPP							
1	8.016	8.018	-0.002	4411640H	10.0	11.2	
2	8.599	8.599	0.000	22246278	10.0	16.7	
						RPD = 39.81	
4 Dicamba							
1	8.084	8.085	-0.001	13609220H	0.0500	0.0373	
2	8.445	8.447	-0.002	25579496H	0.0500	0.0365	
						RPD = 2.27	
5 MCPA							
1	8.434	8.433	0.001	5793102H	10.0	9.03	
2	8.907	8.908	-0.001	14450475H	10.0	11.7	
						RPD = 25.98	
6 Dichlorprop							
1	8.708	8.710	-0.002	7798000H	0.1000	0.0805	
2	9.270	9.270	0.000	13827128H	0.1000	0.0746	
						RPD = 7.68	
7 2,4-D							
1	9.194	9.196	-0.002	9014963H	0.1000	0.0820	
2	9.665	9.666	-0.001	16356537H	0.1000	0.0754	
						RPD = 8.46	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.700	9.701	-0.001	41191066	0.0250	0.0179	
2	9.890	9.889	0.001	37533966H	0.0250	0.0175	
						RPD = 2.42	
9 Silvex (2,4,5-TP)							
1	9.872	9.875	-0.003	9909550H	0.0250	0.0202	
2	10.435	10.437	-0.002	17211634H	0.0250	0.0183	
						RPD = 10.08	
10 2,4,5-T							
1	10.417	10.416	0.001	9685319H	0.0250	0.0209	
2	10.890	10.889	0.001	4324773H	0.0250	0.004772	
						RPD = 125.61	
11 Dinoseb							
1	10.673	10.675	-0.002	22768683H	0.1000	0.1183	
2	11.963	11.963	0.000	36724850H	0.1000	0.0939	
						RPD = 22.93	
12 2,4-DB							
1	10.799	10.800	-0.001	4901505H	0.1000	0.0743	
2	11.317	11.316	0.001	8592419H	0.1000	0.0697	
						RPD = 6.50	

Report Date: 27-Dec-2019 13:17:47 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000004.D

Injection Date: 27-Dec-2019 12:17:07 Instrument ID: CGC1 Operator ID:

Lims ID: LCSD 180-302208/3-A Worklist Smp#: 4

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 20.0000 ALS Bottle#: 4

Method: Herbicides_CGC1 Limit Group: GCS 8151A ICAL

Column: RTX-50 (0.53 mm)

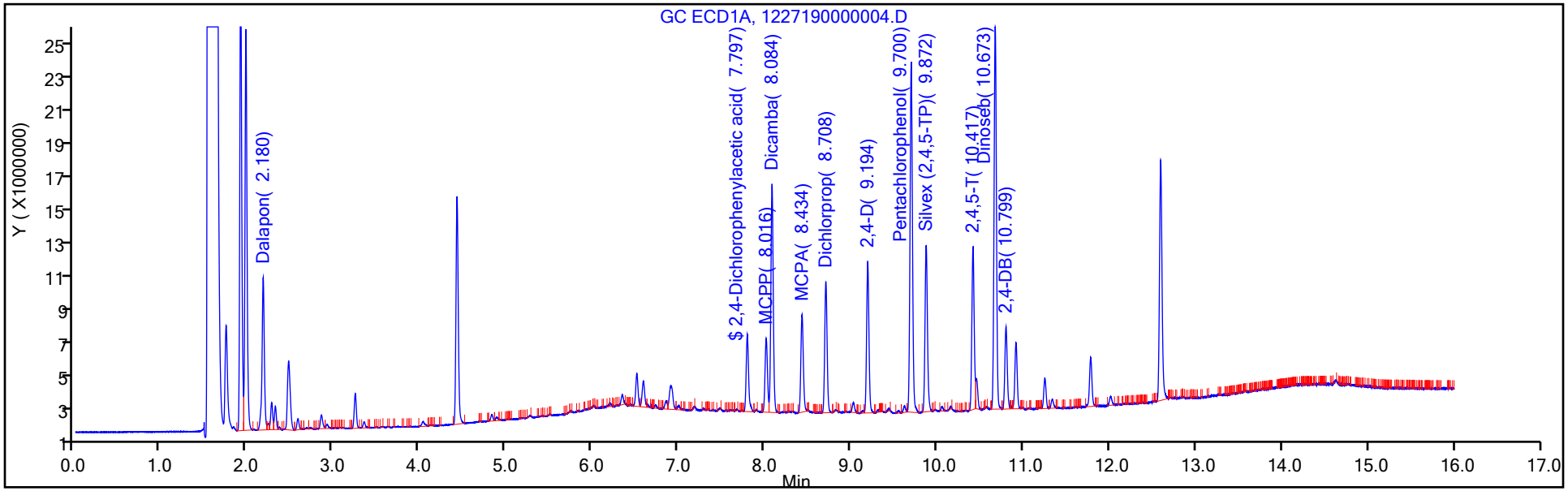

Column: RTX-1701 (0.53 mm)

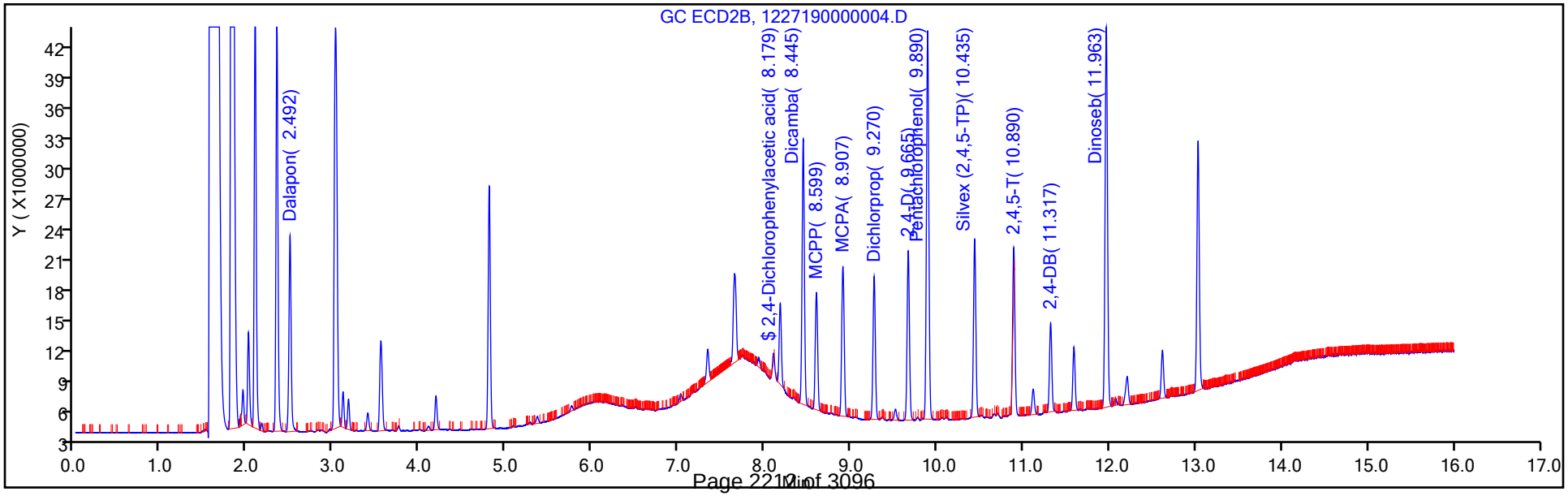

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000004.D				
Lims ID:	LCSD 180-302208/3-A				
Client ID:					
Sample Type:	LCSD				
Inject. Date:	27-Dec-2019 12:17:07	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	180-0030174-004				
Operator ID:		Instrument ID:	CGC1		
Method:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\Herbicides_CGC1.m				
Limit Group:	GCS 8151A ICAL				
Last Update:	27-Dec-2019 13:17:30	Calib Date:	19-Aug-2019 21:09:17		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D				
Column 1 :	RTX-50 (0.53 mm)		Det: GC ECD1A		
Column 2 :	RTX-1701 (0.53 mm)		Det: GC ECD2B		
Process Host:	CTX0326				
First Level Reviewer: eppinged		Date:	27-Dec-2019 12:41:30		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0420	84.09

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0371	74.17

FORM I
HERBICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 180-302208/3-A

Matrix: Solid Lab File ID: 1227190000004.D

Analysis Method: EPA 8151A Date Collected:

Extraction Method: 8151A Date Extracted: 12/21/2019 03:55

Sample wt/vol: 100(mL) Date Analyzed: 12/27/2019 12:17

Con. Extract Vol.: 10.0(mL) Dilution Factor: 20

Injection Volume: 1(uL) GC Column: RTX-1701 ID: 0.53(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 302642 Units: mg/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
19719-28-9	2,4-Dichlorophenylacetic acid	74		23-122

Eurofins TestAmerica, Pittsburgh
Target Compound Quantitation Report

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000004.D
Lims ID: LCSD 180-302208/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 27-Dec-2019 12:17:07 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 20.0000
Sample Info: 180-0030174-004
Operator ID: Instrument ID: CGC1

Method: \\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\Herbicides_CGC1.m
Limit Group: GCS 8151A ICAL
Last Update: 27-Dec-2019 13:17:30 Calib Date: 19-Aug-2019 21:09:17
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D

Column 1 : RTX-50 (0.53 mm) Det: GC ECD1A
Column 2 : RTX-1701 (0.53 mm) Det: GC ECD2B
Process Host: CTX0326

First Level Reviewer: eppinged Date: 27-Dec-2019 12:41:30

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
1 Dalapon							
1	2.180	2.179	0.001	9085704H	0.1000	0.0610	
2	2.492	2.491	0.001	18945878H	0.1000	0.0564	
						RPD = 7.69	
$ 2 2,4-Dichlorophenylacetic acid							
1	7.797	7.797	0.000	4575179H	0.0500	0.0420	
2	8.179	8.180	-0.001	7821438H	0.0500	0.0371	
						RPD = 12.55	
3 MCPP							
1	8.016	8.018	-0.002	4411640H	10.0	11.2	
2	8.599	8.599	0.000	22246278	10.0	16.7	
						RPD = 39.81	
4 Dicamba							
1	8.084	8.085	-0.001	13609220H	0.0500	0.0373	
2	8.445	8.447	-0.002	25579496H	0.0500	0.0365	
						RPD = 2.27	
5 MCPA							
1	8.434	8.433	0.001	5793102H	10.0	9.03	
2	8.907	8.908	-0.001	14450475H	10.0	11.7	
						RPD = 25.98	
6 Dichlorprop							
1	8.708	8.710	-0.002	7798000H	0.1000	0.0805	
2	9.270	9.270	0.000	13827128H	0.1000	0.0746	
						RPD = 7.68	
7 2,4-D							
1	9.194	9.196	-0.002	9014963H	0.1000	0.0820	
2	9.665	9.666	-0.001	16356537H	0.1000	0.0754	
						RPD = 8.46	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ng	OnCol Amt ng	Flags
8 Pentachlorophenol							
1	9.700	9.701	-0.001	41191066	0.0250	0.0179	
2	9.890	9.889	0.001	37533966H	0.0250	0.0175	
						RPD = 2.42	
9 Silvex (2,4,5-TP)							
1	9.872	9.875	-0.003	9909550H	0.0250	0.0202	
2	10.435	10.437	-0.002	17211634H	0.0250	0.0183	
						RPD = 10.08	
10 2,4,5-T							
1	10.417	10.416	0.001	9685319H	0.0250	0.0209	
2	10.890	10.889	0.001	4324773H	0.0250	0.004772	
						RPD = 125.61	
11 Dinoseb							
1	10.673	10.675	-0.002	22768683H	0.1000	0.1183	
2	11.963	11.963	0.000	36724850H	0.1000	0.0939	
						RPD = 22.93	
12 2,4-DB							
1	10.799	10.800	-0.001	4901505H	0.1000	0.0743	
2	11.317	11.316	0.001	8592419H	0.1000	0.0697	
						RPD = 6.50	

Report Date: 27-Dec-2019 13:17:48 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Pittsburgh

Data File: \\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000004.D

Injection Date: 27-Dec-2019 12:17:07 Instrument ID: CGC1 Operator ID:

Lims ID: LCSD 180-302208/3-A Worklist Smp#: 4

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 20.0000 ALS Bottle#: 4

Method: Herbicides_CGC1 Limit Group: GCS 8151A ICAL

Column: RTX-50 (0.53 mm)

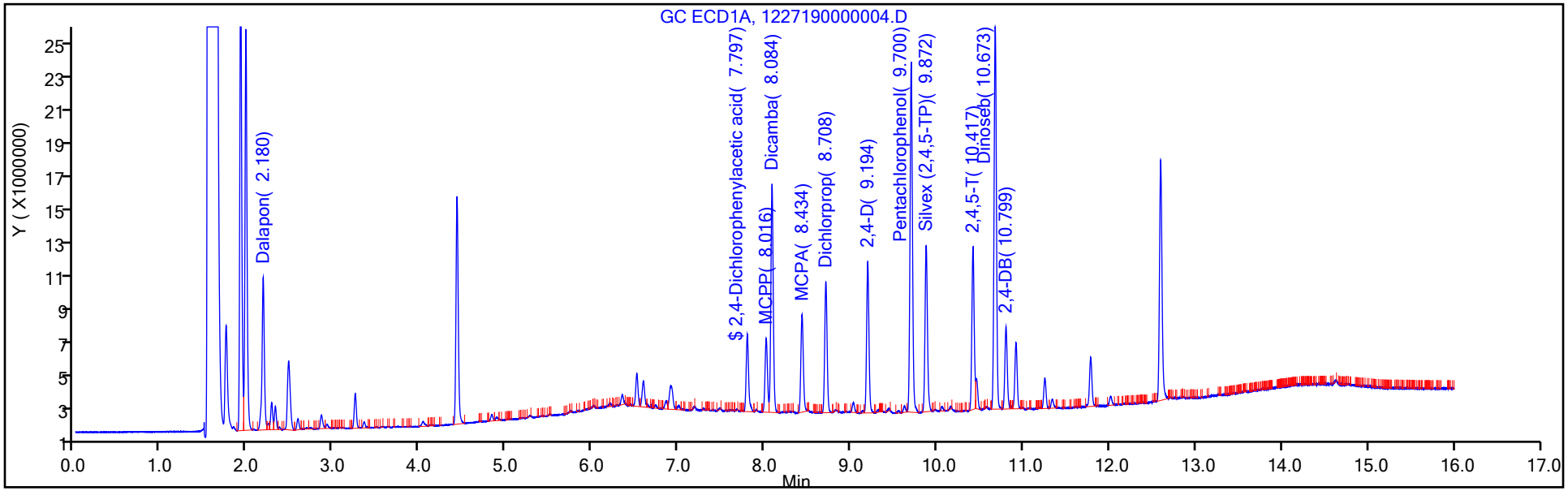

Column: RTX-1701 (0.53 mm)

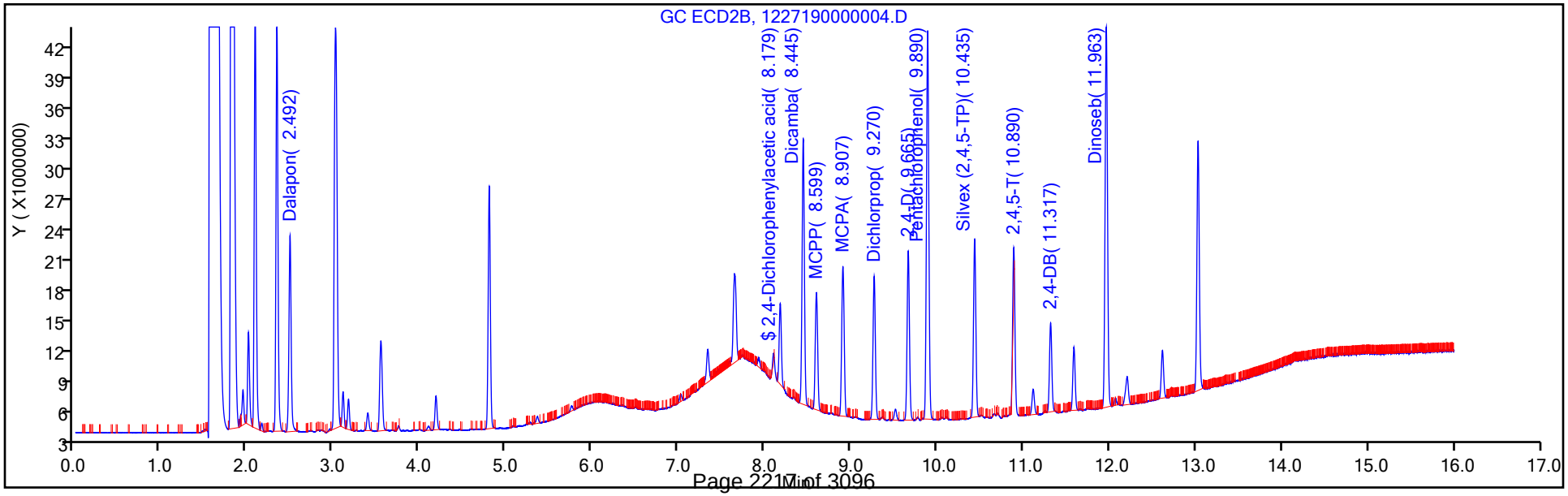

Eurofins TestAmerica, Pittsburgh
Recovery Report

Data File:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\1227190000004.D				
Lims ID:	LCSD 180-302208/3-A				
Client ID:					
Sample Type:	LCSD				
Inject. Date:	27-Dec-2019 12:17:07	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	20.0000		
Sample Info:	180-0030174-004				
Operator ID:		Instrument ID:	CGC1		

Method:	\\chromna\Pittsburgh\ChromData\CGC1\20191227-30174.b\Herbicides_CGC1.m		
Limit Group:	GCS 8151A ICAL		
Last Update:	27-Dec-2019 13:17:30	Calib Date:	19-Aug-2019 21:09:17
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\chromna\Pittsburgh\ChromData\CGC1\20190819-28271.b\0819190000021.D		

Column 1 :	RTX-50 (0.53 mm)	Det: GC ECD1A
Column 2 :	RTX-1701 (0.53 mm)	Det: GC ECD2B
Process Host:	CTX0326	

First Level Reviewer: eppinged Date: 27-Dec-2019 12:41:30

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0420	84.09

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	0.0371	74.17

HERBICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Instrument ID: CGC1 Start Date: 08/19/2019 16:32

Analysis Batch Number: 288571 End Date: 08/20/2019 17:22

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
RINSE 180-288571/1		08/19/2019 16:32	1		RTX-50 0.53(mm)
RINSE 180-288571/1		08/19/2019 16:32	1		RTX-1701 0.53(mm)
IC 180-288571/2		08/19/2019 18:39	1	0819190000015.D	RTX-50 0.53(mm)
IC 180-288571/2		08/19/2019 18:39	1	0819190000015.D	RTX-1701 0.53(mm)
IC 180-288571/3		08/19/2019 19:04	1	0819190000016.D	RTX-50 0.53(mm)
IC 180-288571/3		08/19/2019 19:04	1	0819190000016.D	RTX-1701 0.53(mm)
IC 180-288571/4		08/19/2019 19:29	1	0819190000017.D	RTX-50 0.53(mm)
IC 180-288571/4		08/19/2019 19:29	1	0819190000017.D	RTX-1701 0.53(mm)
ICRT 180-288571/5		08/19/2019 19:54	1	0819190000018.D	RTX-50 0.53(mm)
ICRT 180-288571/5		08/19/2019 19:54	1	0819190000018.D	RTX-1701 0.53(mm)
IC 180-288571/6		08/19/2019 20:19	1	0819190000019.D	RTX-50 0.53(mm)
IC 180-288571/6		08/19/2019 20:19	1	0819190000019.D	RTX-1701 0.53(mm)
IC 180-288571/7		08/19/2019 20:44	1	0819190000020.D	RTX-50 0.53(mm)
IC 180-288571/7		08/19/2019 20:44	1	0819190000020.D	RTX-1701 0.53(mm)
IC 180-288571/8		08/19/2019 21:09	1	0819190000021.D	RTX-50 0.53(mm)
IC 180-288571/8		08/19/2019 21:09	1	0819190000021.D	RTX-1701 0.53(mm)
ICV 180-288571/9		08/19/2019 21:34	1	0819190000022.D	RTX-50 0.53(mm)
ICV 180-288571/9		08/19/2019 21:34	1	0819190000022.D	RTX-1701 0.53(mm)
CCV 180-288571/10		08/19/2019 21:58	1		RTX-50 0.53(mm)
CCV 180-288571/10		08/19/2019 21:58	1		RTX-1701 0.53(mm)
ZZZZZ		08/19/2019 22:23	1		RTX-50 0.53(mm)
ZZZZZ		08/19/2019 22:23	1		RTX-1701 0.53(mm)
ZZZZZ		08/19/2019 22:48	1		RTX-50 0.53(mm)
ZZZZZ		08/19/2019 22:48	1		RTX-1701 0.53(mm)
ZZZZZ		08/19/2019 23:13	20		RTX-50 0.53(mm)
ZZZZZ		08/19/2019 23:13	20		RTX-1701 0.53(mm)
ZZZZZ		08/19/2019 23:38	20		RTX-50 0.53(mm)
ZZZZZ		08/19/2019 23:38	20		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 00:03	20		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 00:03	20		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 00:28	20		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 00:28	20		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 00:53	20		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 00:53	20		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 01:17	20		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 01:17	20		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 01:42	20		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 01:42	20		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 02:07	20		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 02:07	20		RTX-1701 0.53(mm)
CCV 180-288571/21		08/20/2019 02:32	1		RTX-50 0.53(mm)
CCV 180-288571/21		08/20/2019 02:32	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 02:57	20		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 02:57	20		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 03:21	20		RTX-50 0.53(mm)

EPA 8151A

HERBICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Instrument ID: CGC1 Start Date: 08/19/2019 16:32

Analysis Batch Number: 288571 End Date: 08/20/2019 17:22

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		08/20/2019 03:21	20		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 03:46	20		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 03:46	20		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 04:11	20		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 04:11	20		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 04:36	20		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 04:36	20		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 05:01	20		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 05:01	20		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 05:25	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 05:25	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 05:50	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 05:50	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 06:15	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 06:15	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 06:40	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 06:40	1		RTX-1701 0.53(mm)
CCV 180-288571/32		08/20/2019 07:05	1		RTX-50 0.53(mm)
CCV 180-288571/32		08/20/2019 07:05	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 07:30	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 07:30	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 07:55	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 07:55	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 08:20	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 08:20	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 08:47	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 08:47	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 09:13	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 09:13	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 09:40	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 09:40	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 10:07	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 10:07	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 10:35	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 10:35	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 11:01	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 11:01	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 11:29	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 11:29	1		RTX-1701 0.53(mm)
CCV 180-288571/43		08/20/2019 11:56	1		RTX-50 0.53(mm)
CCV 180-288571/43		08/20/2019 11:56	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 12:23	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 12:23	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 12:50	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 12:50	1		RTX-1701 0.53(mm)

EPA 8151A

HERBICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Instrument ID: CGC1 Start Date: 08/19/2019 16:32

Analysis Batch Number: 288571 End Date: 08/20/2019 17:22

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		08/20/2019 13:16	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 13:16	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 13:43	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 13:43	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 14:10	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 14:10	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 14:38	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 14:38	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 15:05	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 15:05	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 15:32	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 15:32	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 16:00	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 16:00	1		RTX-1701 0.53(mm)
ZZZZZ		08/20/2019 16:28	1		RTX-50 0.53(mm)
ZZZZZ		08/20/2019 16:28	1		RTX-1701 0.53(mm)
CCV 180-288571/54		08/20/2019 16:55	1		RTX-50 0.53(mm)
CCV 180-288571/54		08/20/2019 16:55	1		RTX-1701 0.53(mm)
CCVL 180-288571/55		08/20/2019 17:22	1		RTX-50 0.53(mm)
CCVL 180-288571/55		08/20/2019 17:22	1		RTX-1701 0.53(mm)

EPA 8151A

HERBICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Instrument ID: CGC1 Start Date: 12/27/2019 11:01

Analysis Batch Number: 302642 End Date: 12/28/2019 11:00

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVRT 180-302642/1		12/27/2019 11:01	1	1227190000001.D	RTX-50 0.53(mm)
CCVRT 180-302642/1		12/27/2019 11:01	1	1227190000001.D	RTX-1701 0.53(mm)
MB 180-302208/1-A		12/27/2019 11:26	20	1227190000002.D	RTX-50 0.53(mm)
MB 180-302208/1-A		12/27/2019 11:26	20	1227190000002.D	RTX-1701 0.53(mm)
LCS 180-302208/2-A		12/27/2019 11:52	20	1227190000003.D	RTX-50 0.53(mm)
LCS 180-302208/2-A		12/27/2019 11:52	20	1227190000003.D	RTX-1701 0.53(mm)
LCSD 180-302208/3-A		12/27/2019 12:17	20	1227190000004.D	RTX-50 0.53(mm)
LCSD 180-302208/3-A		12/27/2019 12:17	20	1227190000004.D	RTX-1701 0.53(mm)
ZZZZZ		12/27/2019 12:42	20		RTX-50 0.53(mm)
ZZZZZ		12/27/2019 12:42	20		RTX-1701 0.53(mm)
LB 180-301984/1-G		12/27/2019 13:07	20	1227190000006.D	RTX-50 0.53(mm)
LB 180-301984/1-G		12/27/2019 13:07	20	1227190000006.D	RTX-1701 0.53(mm)
ZZZZZ		12/27/2019 13:32	20		RTX-50 0.53(mm)
ZZZZZ		12/27/2019 13:32	20		RTX-1701 0.53(mm)
180-100205-1		12/27/2019 13:57	20	1227190000008.D	RTX-50 0.53(mm)
180-100205-1		12/27/2019 13:57	20	1227190000008.D	RTX-1701 0.53(mm)
180-100205-3		12/27/2019 14:22	20	1227190000009.D	RTX-50 0.53(mm)
180-100205-3		12/27/2019 14:22	20	1227190000009.D	RTX-1701 0.53(mm)
180-100205-5		12/27/2019 14:47	20	1227190000010.D	RTX-50 0.53(mm)
180-100205-5		12/27/2019 14:47	20	1227190000010.D	RTX-1701 0.53(mm)
ZZZZZ		12/27/2019 15:11	20		RTX-50 0.53(mm)
ZZZZZ		12/27/2019 15:11	20		RTX-1701 0.53(mm)
CCV 180-302642/12		12/27/2019 15:36	1	1227190000012.D	RTX-50 0.53(mm)
CCV 180-302642/12		12/27/2019 15:36	1	1227190000012.D	RTX-1701 0.53(mm)
ZZZZZ		12/27/2019 16:01	20		RTX-50 0.53(mm)
ZZZZZ		12/27/2019 16:01	20		RTX-1701 0.53(mm)
ZZZZZ		12/27/2019 16:26	20		RTX-50 0.53(mm)
ZZZZZ		12/27/2019 16:26	20		RTX-1701 0.53(mm)
ZZZZZ		12/27/2019 16:51	20		RTX-50 0.53(mm)
ZZZZZ		12/27/2019 16:51	20		RTX-1701 0.53(mm)
ZZZZZ		12/27/2019 17:16	20		RTX-50 0.53(mm)
ZZZZZ		12/27/2019 17:16	20		RTX-1701 0.53(mm)
ZZZZZ		12/27/2019 17:41	20		RTX-50 0.53(mm)
ZZZZZ		12/27/2019 17:41	20		RTX-1701 0.53(mm)
ZZZZZ		12/27/2019 18:06	20		RTX-50 0.53(mm)
ZZZZZ		12/27/2019 18:06	20		RTX-1701 0.53(mm)
ZZZZZ		12/27/2019 18:31	20		RTX-50 0.53(mm)
ZZZZZ		12/27/2019 18:31	20		RTX-1701 0.53(mm)
ZZZZZ		12/27/2019 18:56	20		RTX-50 0.53(mm)
ZZZZZ		12/27/2019 18:56	20		RTX-1701 0.53(mm)
ZZZZZ		12/27/2019 19:21	20		RTX-50 0.53(mm)
ZZZZZ		12/27/2019 19:21	20		RTX-1701 0.53(mm)
ZZZZZ		12/27/2019 19:45	20		RTX-50 0.53(mm)
ZZZZZ		12/27/2019 19:45	20		RTX-1701 0.53(mm)
CCV 180-302642/23		12/27/2019 20:10	1		RTX-50 0.53(mm)

EPA 8151A

HERBICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Instrument ID: CGC1 Start Date: 12/27/2019 11:01

Analysis Batch Number: 302642 End Date: 12/28/2019 11:00

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 180-302642/23		12/27/2019 20:10	1		RTX-1701 0.53(mm)
ZZZZZ		12/27/2019 20:35	20		RTX-50 0.53(mm)
ZZZZZ		12/27/2019 20:35	20		RTX-1701 0.53(mm)
ZZZZZ		12/27/2019 21:00	20		RTX-50 0.53(mm)
ZZZZZ		12/27/2019 21:00	20		RTX-1701 0.53(mm)
ZZZZZ		12/27/2019 21:24	20		RTX-50 0.53(mm)
ZZZZZ		12/27/2019 21:24	20		RTX-1701 0.53(mm)
ZZZZZ		12/27/2019 21:49	20		RTX-50 0.53(mm)
ZZZZZ		12/27/2019 21:49	20		RTX-1701 0.53(mm)
ZZZZZ		12/27/2019 22:14	20		RTX-50 0.53(mm)
ZZZZZ		12/27/2019 22:14	20		RTX-1701 0.53(mm)
ZZZZZ		12/27/2019 22:38	20		RTX-50 0.53(mm)
ZZZZZ		12/27/2019 22:38	20		RTX-1701 0.53(mm)
ZZZZZ		12/27/2019 23:03	20		RTX-50 0.53(mm)
ZZZZZ		12/27/2019 23:03	20		RTX-1701 0.53(mm)
ZZZZZ		12/27/2019 23:28	20		RTX-50 0.53(mm)
ZZZZZ		12/27/2019 23:28	20		RTX-1701 0.53(mm)
ZZZZZ		12/27/2019 23:53	20		RTX-50 0.53(mm)
ZZZZZ		12/27/2019 23:53	20		RTX-1701 0.53(mm)
ZZZZZ		12/28/2019 00:17	20		RTX-50 0.53(mm)
ZZZZZ		12/28/2019 00:17	20		RTX-1701 0.53(mm)
CCV 180-302642/34		12/28/2019 00:42	1		RTX-50 0.53(mm)
CCV 180-302642/34		12/28/2019 00:42	1		RTX-1701 0.53(mm)
ZZZZZ		12/28/2019 01:07	20		RTX-50 0.53(mm)
ZZZZZ		12/28/2019 01:07	20		RTX-1701 0.53(mm)
ZZZZZ		12/28/2019 01:31	20		RTX-50 0.53(mm)
ZZZZZ		12/28/2019 01:31	20		RTX-1701 0.53(mm)
ZZZZZ		12/28/2019 01:56	20		RTX-50 0.53(mm)
ZZZZZ		12/28/2019 01:56	20		RTX-1701 0.53(mm)
ZZZZZ		12/28/2019 02:20	20		RTX-50 0.53(mm)
ZZZZZ		12/28/2019 02:20	20		RTX-1701 0.53(mm)
ZZZZZ		12/28/2019 02:45	20		RTX-50 0.53(mm)
ZZZZZ		12/28/2019 02:45	20		RTX-1701 0.53(mm)
ZZZZZ		12/28/2019 03:10	20		RTX-50 0.53(mm)
ZZZZZ		12/28/2019 03:10	20		RTX-1701 0.53(mm)
ZZZZZ		12/28/2019 03:34	20		RTX-50 0.53(mm)
ZZZZZ		12/28/2019 03:34	20		RTX-1701 0.53(mm)
ZZZZZ		12/28/2019 03:59	20		RTX-50 0.53(mm)
ZZZZZ		12/28/2019 03:59	20		RTX-1701 0.53(mm)
ZZZZZ		12/28/2019 04:24	20		RTX-50 0.53(mm)
ZZZZZ		12/28/2019 04:24	20		RTX-1701 0.53(mm)
ZZZZZ		12/28/2019 04:48	20		RTX-50 0.53(mm)
ZZZZZ		12/28/2019 04:48	20		RTX-1701 0.53(mm)
CCV 180-302642/45		12/28/2019 05:13	1		RTX-50 0.53(mm)
CCV 180-302642/45		12/28/2019 05:13	1		RTX-1701 0.53(mm)

EPA 8151A

HERBICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Instrument ID: CGC1 Start Date: 12/27/2019 11:01

Analysis Batch Number: 302642 End Date: 12/28/2019 11:00

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		12/28/2019 05:38	20		RTX-50 0.53(mm)
ZZZZZ		12/28/2019 05:38	20		RTX-1701 0.53(mm)
ZZZZZ		12/28/2019 06:02	20		RTX-50 0.53(mm)
ZZZZZ		12/28/2019 06:02	20		RTX-1701 0.53(mm)
ZZZZZ		12/28/2019 06:27	20		RTX-50 0.53(mm)
ZZZZZ		12/28/2019 06:27	20		RTX-1701 0.53(mm)
ZZZZZ		12/28/2019 06:52	20		RTX-50 0.53(mm)
ZZZZZ		12/28/2019 06:52	20		RTX-1701 0.53(mm)
ZZZZZ		12/28/2019 07:16	20		RTX-50 0.53(mm)
ZZZZZ		12/28/2019 07:16	20		RTX-1701 0.53(mm)
ZZZZZ		12/28/2019 07:41	20		RTX-50 0.53(mm)
ZZZZZ		12/28/2019 07:41	20		RTX-1701 0.53(mm)
ZZZZZ		12/28/2019 08:06	20		RTX-50 0.53(mm)
ZZZZZ		12/28/2019 08:06	20		RTX-1701 0.53(mm)
ZZZZZ		12/28/2019 08:31	20		RTX-50 0.53(mm)
ZZZZZ		12/28/2019 08:31	20		RTX-1701 0.53(mm)
ZZZZZ		12/28/2019 08:56	20		RTX-50 0.53(mm)
ZZZZZ		12/28/2019 08:56	20		RTX-1701 0.53(mm)
ZZZZZ		12/28/2019 09:21	20		RTX-50 0.53(mm)
ZZZZZ		12/28/2019 09:21	20		RTX-1701 0.53(mm)
CCV 180-302642/56		12/28/2019 09:45	1		RTX-50 0.53(mm)
CCV 180-302642/56		12/28/2019 09:45	1		RTX-1701 0.53(mm)
ZZZZZ		12/28/2019 10:11	20		RTX-50 0.53(mm)
ZZZZZ		12/28/2019 10:11	20		RTX-1701 0.53(mm)
ZZZZZ		12/28/2019 10:36	20		RTX-50 0.53(mm)
ZZZZZ		12/28/2019 10:36	20		RTX-1701 0.53(mm)
CCV 180-302642/59		12/28/2019 11:00	1		RTX-50 0.53(mm)
CCV 180-302642/59		12/28/2019 11:00	1		RTX-1701 0.53(mm)

EPA 8151A

HERBICIDES BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 301984 Batch Start Date: 12/19/19 16:30 Batch Analyst: Stundon, Jeremy A

Batch Method: 1311 Batch End Date: 12/20/19 09:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	FiltCompDate	FiltCompTime	LeachatepH		
LB 180-301984/1		1311, 8151A, EPA 8151A		2000 mL	12/20/19	1200	4.93 SU		

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

HERBICIDES BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 301984 Batch Start Date: 12/19/19 16:30 Batch Analyst: Stundon, Jeremy A

Batch Method: 1311 Batch End Date: 12/20/19 09:30

Batch Notes	
Balance ID	AND-14577823
Batch Comment	pH Buffer 13: 3418512 and pH Buffer 7 (second source): 3494553
pH Buffer 1 ID	3519611
pH Buffer 2 ID	3468003
pH Buffer 3 ID	2923701
pH Buffer 4 ID	3505862
First End time	1200
Filter ID	3468050
Hot Plate ID	TCLP-2
pH Meter Calibration Slope	99.4/100.5
pH Meter ID	ACCUMET-XL-150
Probe ID	XT3-11598
Room Temperature Thermometer ID	FISHER-160719405 CF 0.0
Analyst ID - Spike Analyst	EPS
Analyst ID - Spike Witness Analyst	JAS
First Start time	1000
TCLP Fluid 1 ID	3473617
TCLP Fluid 1 pH	4.93
TCLP Fluid 2 ID	3509299
TCLP Fluid 2 pH	2.88
Maximum Temperature	23 Degrees C
Minimum Temperature	21 Degrees C
Thermometer ID	TCLP-2 CF 0.0
Tumbler Rotations per Minute	Tumbler 1: 31; Tumbler 4:30
Uncorrected Maximum Temperature	23 Degrees C
Uncorrected Minimum Temperature	21 Degrees C
Uncorrected Water Bath Temperature	50.0 Celsius
Water Bath ID	TCLP-2
Water Bath Temperature	50.0 Degrees C
Water Bath Thermometer ID	TCLP-2 CF 0.0

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

HERBICIDES BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 301984 Batch Start Date: 12/19/19 16:30 Batch Analyst: Stundon, Jeremy A

Batch Method: 1311 Batch End Date: 12/20/19 09:30

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

HERBICIDES BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 301984 Batch Start Date: 12/19/19 16:30 Batch Analyst: Stundon, Jeremy A

Batch Method: EPA 1311 Batch End Date: 12/20/19 09:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	EFD_SampleWeight	EFD_VolumeWaterAdd	EFD_InitialpH	EFD_AddHClpH>5
180-100205-A-1	11187072-N.TREATMENT AREA #2	EPA 1311, 8151A, EPA 8151A	P	100.00 g	2000 mL	5.00 g	96.5 mL	9.29 SU	3.50 mL
180-100205-A-3	11187072-N.TREATMENT AREA #3	EPA 1311, 8151A, EPA 8151A	P	100.00 g	2000 mL	5.00 g	96.5 mL	9.45 SU	3.50 mL
180-100205-A-5	11187072-N.TREATMENT AREA #4	EPA 1311, 8151A, EPA 8151A	P	100.00 g	2000 mL	5.00 g	96.5 mL	8.47 SU	3.50 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	EFD_HeatHeld	EFD_SecondpHCheck	FiltCompDate	FiltCompTime	LeachatepH	
180-100205-A-1	11187072-N.TREATMENT AREA #2	EPA 1311, 8151A, EPA 8151A	P	50.0 Deg. C	2.10 SU	12/20/19	1200	6.21 SU	
180-100205-A-3	11187072-N.TREATMENT AREA #3	EPA 1311, 8151A, EPA 8151A	P	50.0 Deg. C	1.80 SU	12/20/19	1200	5.03 SU	
180-100205-A-5	11187072-N.TREATMENT AREA #4	EPA 1311, 8151A, EPA 8151A	P	50.0 Deg. C	1.84 SU	12/20/19	1200	5.02 SU	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

HERBICIDES BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 301984 Batch Start Date: 12/19/19 16:30 Batch Analyst: Stundon, Jeremy A

Batch Method: EPA 1311 Batch End Date: 12/20/19 09:30

Batch Notes	
Balance ID	AND-14577823
Batch Comment	pH Buffer 13: 3418512 and pH Buffer 7 (second source): 3494553
pH Buffer 1 ID	3519611
pH Buffer 2 ID	3468003
pH Buffer 3 ID	2923701
pH Buffer 4 ID	3505862
First End time	1200
Filter ID	3468050
Hot Plate ID	TCLP-2
pH Meter Calibration Slope	99.4/100.5
pH Meter ID	ACCUMET-XL-150
Probe ID	XT3-11598
Room Temperature Thermometer ID	FISHER-160719405 CF 0.0
Analyst ID - Spike Analyst	EPS
Analyst ID - Spike Witness Analyst	JAS
First Start time	1000
TCLP Fluid 1 ID	3473617
TCLP Fluid 1 pH	4.93
TCLP Fluid 2 ID	3509299
TCLP Fluid 2 pH	2.88
Maximum Temperature	23 Degrees C
Minimum Temperature	21 Degrees C
Thermometer ID	TCLP-2 CF 0.0
Tumbler Rotations per Minute	Tumbler 1: 31; Tumbler 4:30
Uncorrected Maximum Temperature	23 Degrees C
Uncorrected Minimum Temperature	21 Degrees C
Uncorrected Water Bath Temperature	50.0 Celsius
Water Bath ID	TCLP-2
Water Bath Temperature	50.0 Degrees C
Water Bath Thermometer ID	TCLP-2 CF 0.0

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

HERBICIDES BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 301984 Batch Start Date: 12/19/19 16:30 Batch Analyst: Stundon, Jeremy A

Batch Method: EPA 1311 Batch End Date: 12/20/19 09:30

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

HERBICIDES BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 302208 Batch Start Date: 12/21/19 03:55 Batch Analyst: Yushinski, Charles

Batch Method: 8151A Batch End Date: 12/23/19 18:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ReceivedpH	FirstAdjustpH	SecondAdjustpH	Herb(RTS)spk 00009
MB 180-302208/1		8151A, EPA 8151A		100 mL	10.0 mL	6 SU	12 SU	2	
LCS 180-302208/2		8151A, EPA 8151A		100 mL	10.0 mL	6 SU	12 SU	2	1 mL
LCSD 180-302208/3		8151A, EPA 8151A		100 mL	10.0 mL	6 SU	12 SU	2	1 mL
LB 180-301984/1-A		8151A, EPA 8151A		100 mL	10.0 mL	5 SU	12 SU	2	
180-100205-A-1-B	11187072-N.TREATMENT AREA #2	8151A, EPA 8151A	P	100 mL	10.0 mL	7 SU	12 SU	2	
180-100205-A-3-B	11187072-N.TREATMENT AREA #3	8151A, EPA 8151A	P	100 mL	10.0 mL	5 SU	12 SU	2	
180-100205-A-5-B	11187072-N.TREATMENT AREA #4	8151A, EPA 8151A	P	100 mL	10.0 mL	5 SU	12 SU	2	

Lab Sample ID	Client Sample ID	Method Chain	Basis	OPHERBRTSSURR 00010	AnalysisComment				
MB 180-302208/1		8151A, EPA 8151A		1 mL	Funnel 1				
LCS 180-302208/2		8151A, EPA 8151A		1 mL	Funnel 2				
LCSD 180-302208/3		8151A, EPA 8151A		1 mL	Funnel 3				
LB 180-301984/1-A		8151A, EPA 8151A		1 mL	Funnel 5				
180-100205-A-1-B	11187072-N.TREATMENT AREA #2	8151A, EPA 8151A	P	1 mL	Funnel 7				
180-100205-A-3-B	11187072-N.TREATMENT AREA #3	8151A, EPA 8151A	P	1 mL	Funnel 8				
180-100205-A-5-B	11187072-N.TREATMENT AREA #4	8151A, EPA 8151A	P	1 mL	Funnel 9				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

HERBICIDES BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 302208 Batch Start Date: 12/21/19 03:55 Batch Analyst: Yushinski, Charles

Batch Method: 8151A Batch End Date: 12/23/19 18:30

Batch Notes	
Acid Used for pH Adjustment ID	3363493
Base Used to Adjust pH ID	2843181
Concentration 1 Equipment ID	Water bath 1
Concentration 1 Thermometer ID	Water bath 1
Concentration 2 Equipment ID	1
Concentration 2 Thermometer ID	1
Analyst ID - Concentration	CTM
Concentration 1 Corrected Temperature	65 Degrees C
Concentration 2 Corrected Temperature	20 Degrees C
Diethyl Ether ID	3498356
Analyst ID - Extraction	CBY
Sulfuric Acid Lot Number	3363493
MeCL2 ID	3514307
Acidified Na2SO4 ID	3518245
NaCl ID	3431555
pH Indicator ID	Ph paper HC987808
Analyst ID - Spike Analyst	CBY
Sufficient Volume for Batch QC	no
TMSDM ID	3410525
Concentration 1 Uncorrected Temperature	65 CF 0.0 Degrees C
Concentration 2 Uncorrected Temperature	21 Cf 1.0 Degrees C

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Method 8321A
Carbamates

Carbamates (LCMS) by Method 8321A

FORM II
LCMS SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Denver Job No.: 180-100205-1

SDG No.:

Matrix: Solid (TCLP) Level: Low

GC Column (1): Synergi Hyd ID: 3 (mm)

Client Sample ID	Lab Sample ID	ATR #	DRNd6 #
11187072-N.TREATMENT AREA #2	180-100205-1	108	130
11187072-N.TREATMENT AREA #3	180-100205-3	106	130
11187072-N.TREATMENT AREA #4	180-100205-5	112	132
	LB 280-481805/1-A	112	134
	LCS 280-481805/2-A	108	122
	LCSD 280-481805/3-A	115	128

	QC LIMITS
ATR = Atrazine-d5	60-142
DRNd6 = Diuron-d6	50-150

Column to be used to flag recovery values

FORM II 8321A

FORM III
LCMS LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Denver Job No.: 180-100205-1

SDG No.:

Matrix: Water Level: Low Lab File ID: CP319L31018.d

Lab ID: LCS 280-481805/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Methomyl	2.00	2.03	102	55-143	

Column to be used to flag recovery and RPD values

FORM III 8321A

FORM III
LCMS LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Denver Job No.: 180-100205-1

SDG No.:

Matrix: Water Level: Low Lab File ID: CP319L31019.d

Lab ID: LCSD 280-481805/3-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Methomyl	2.00	2.08	104	2	40	55-143	

Column to be used to flag recovery and RPD values

FORM III 8321A

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Denver
Job No.: 180-100205-1
SDG No.:
Client Sample ID: 11187072-N.TREATMENT AREA #2
Lab Sample ID: 180-100205-1
Matrix: Solid (TCLP)
Lab File ID: CP319L31020.d
Analysis Method: 8321A
Date Collected: 12/18/2019 13:30
Extraction Method: 3535
Date Extracted: 12/28/2019 14:56
Sample wt/vol: 234.7(mL)
Date Analyzed: 12/31/2019 12:42
Con. Extract Vol.: 10(mL)
Dilution Factor: 1
Injection Volume: 20(uL)
GC Column: Synergi Hydro 4 ID: 3(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 482046
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
16752-77-5	Methomyl	ND		0.85	0.13

CAS NO.	SURROGATE	%REC	Q	LIMITS
163165-75-1	Atrazine-d5	108		60-142
STL01549	Diuron-d6	130		50-150

Eurofins TestAmerica, Denver
Target Compound Quantitation Report

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31020.d
Lims ID: 180-100205-B-1-B
Client ID: 11187072-N.TREATMENT AREA #2
Sample Type: Client
Inject. Date: 31-Dec-2019 12:42:59 ALS Bottle#: 18 Worklist Smp#: 22
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 180-100205-B-1-B
Misc. Info.: CP319L31
Operator ID: Instrument ID: LC_LCMS3

Method: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\Carbs8321.m
Limit Group: LC - 8321A Carbamates
Last Update: 14-Jan-2020 13:30:05 Calib Date: 31-Dec-2019 11:04:24
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31008.d

Column 1 : Det: F1:MRM
Process Host: CTX0303

First Level Reviewer: coopert Date: 31-Dec-2019 13:01:47
Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
$ 12 Atrazine-d5								
221.0 > 179.0	3.680	3.680	0.0	2147039	108.4		4676	
$ 13 Diuron-d6								
238.9 > 77.9	3.727	3.727	0.0	278956	131.2		1657	

Report Date: 14-Jan-2020 13:30:25 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Denver

Data File:	\\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31020.d				
Injection Date:	31-Dec-2019 12:42:59	Instrument ID:	LC_LCMS3		
Lims ID:	180-100205-B-1-B	Lab Sample ID:	280-100205-1		
Client ID:	11187072-N.TREATMENT AREA #2				
Operator ID:		ALS Bottle#:	18	Worklist Smp#:	22
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	Carbs8321	Limit Group:	LC - 8321A Carbamates		

3 Methomyl (ND)

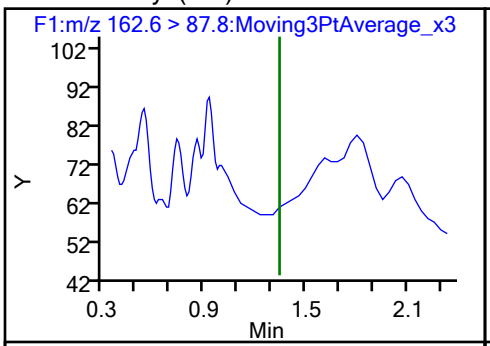

RT

$ 12 Atrazine-d5

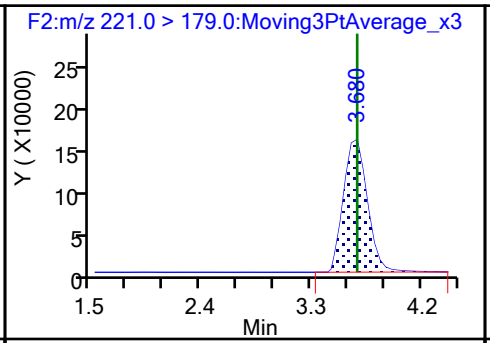

RT

$ 13 Diuron-d6

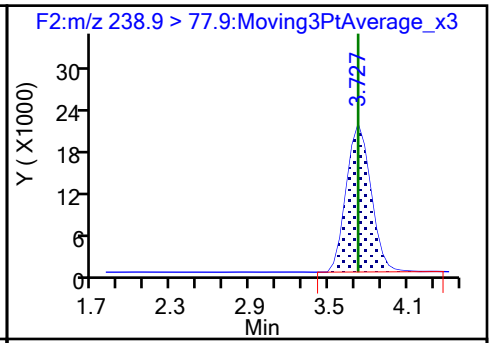

RT

Eurofins TestAmerica, Denver
Recovery Report

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31020.d
Lims ID: 180-100205-B-1-B
Client ID: 11187072-N.TREATMENT AREA #2
Sample Type: Client
Inject. Date: 31-Dec-2019 12:42:59 ALS Bottle#: 18 Worklist Smp#: 22
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 180-100205-B-1-B
Misc. Info.: CP319L31
Operator ID: Instrument ID: LC_LCMS3

Method: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\Carbs8321.m
Limit Group: LC - 8321A Carbamates
Last Update: 14-Jan-2020 13:30:05 Calib Date: 31-Dec-2019 11:04:24
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31008.d

Column 1 : Det: F1:MRM
Process Host: CTX0303

First Level Reviewer: coopert Date: 31-Dec-2019 13:01:47

Compound	Amount Added	Amount Recovered	% Rec.
$ 12 Atrazine-d5	100.0	108.4	108.36
$ 13 Diuron-d6	101.0	131.2	129.91

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Denver
Job No.: 180-100205-1
SDG No.:
Client Sample ID: 11187072-N.TREATMENT AREA #3
Lab Sample ID: 180-100205-3
Matrix: Solid (TCLP)
Lab File ID: CP319L31021.d
Analysis Method: 8321A
Date Collected: 12/18/2019 14:00
Extraction Method: 3535
Date Extracted: 12/28/2019 14:56
Sample wt/vol: 257(mL)
Date Analyzed: 12/31/2019 12:51
Con. Extract Vol.: 10(mL)
Dilution Factor: 1
Injection Volume: 20(uL)
GC Column: Synergi Hydro 4 ID: 3(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 482046
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
16752-77-5	Methomyl	ND		0.78	0.12

CAS NO.	SURROGATE	%REC	Q	LIMITS
163165-75-1	Atrazine-d5	106		60-142
STL01549	Diuron-d6	130		50-150

Eurofins TestAmerica, Denver
Target Compound Quantitation Report

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31021.d
Lims ID: 180-100205-B-3-B
Client ID: 11187072-N.TREATMENT AREA #3
Sample Type: Client
Inject. Date: 31-Dec-2019 12:51:01 ALS Bottle#: 19 Worklist Smp#: 23
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 180-100205-B-3-B
Misc. Info.: CP319L31
Operator ID: Instrument ID: LC_LCMS3

Method: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\Carbs8321.m
Limit Group: LC - 8321A Carbamates
Last Update: 14-Jan-2020 13:30:05 Calib Date: 31-Dec-2019 11:04:24
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31008.d

Column 1 : Det: F1:MRM
Process Host: CTX0303

First Level Reviewer: coopert Date: 31-Dec-2019 13:35:33
Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
$ 12 Atrazine-d5								
221.0 > 179.0	3.680	3.680	0.0	2109133	106.4		4591	
$ 13 Diuron-d6								
238.9 > 77.9	3.727	3.727	0.0	280079	131.7		1823	

Report Date: 14-Jan-2020 13:30:25 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Denver

Data File:	\\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31021.d				
Injection Date:	31-Dec-2019 12:51:01	Instrument ID:	LC_LCMS3		
Lims ID:	180-100205-B-3-B	Lab Sample ID:	280-100205-3		
Client ID:	11187072-N.TREATMENT AREA #3				
Operator ID:		ALS Bottle#:	19	Worklist Smp#:	23
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	Carbs8321	Limit Group:	LC - 8321A Carbamates		

3 Methomyl (ND)

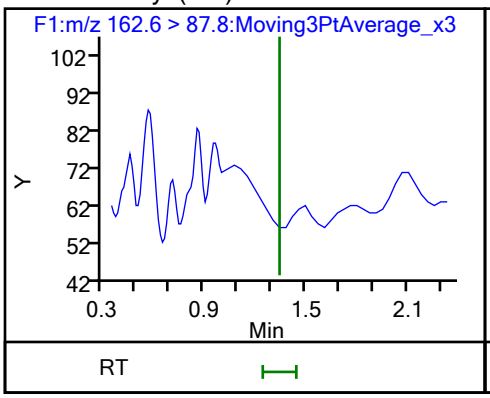

$ 12 Atrazine-d5

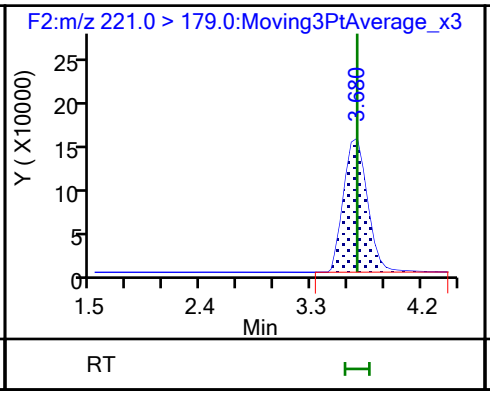

$ 13 Diuron-d6

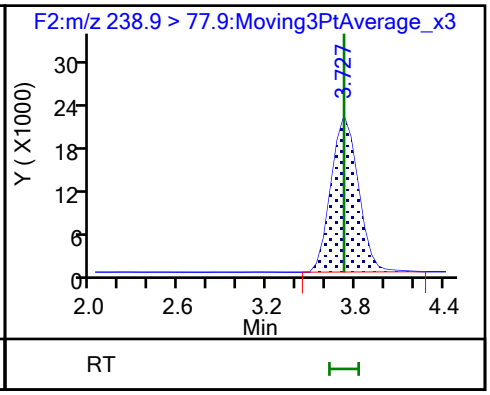

Eurofins TestAmerica, Denver
Recovery Report

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31021.d
Lims ID: 180-100205-B-3-B
Client ID: 11187072-N.TREATMENT AREA #3
Sample Type: Client
Inject. Date: 31-Dec-2019 12:51:01 ALS Bottle#: 19 Worklist Smp#: 23
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 180-100205-B-3-B
Misc. Info.: CP319L31
Operator ID: Instrument ID: LC_LCMS3

Method: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\Carbs8321.m
Limit Group: LC - 8321A Carbamates
Last Update: 14-Jan-2020 13:30:05 Calib Date: 31-Dec-2019 11:04:24
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31008.d

Column 1 : Det: F1:MRM
Process Host: CTX0303

First Level Reviewer: coopert Date: 31-Dec-2019 13:35:33

Compound	Amount Added	Amount Recovered	% Rec.
$ 12 Atrazine-d5	100.0	106.4	106.44
$ 13 Diuron-d6	101.0	131.7	130.44

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Denver
Job No.: 180-100205-1
SDG No.:
Client Sample ID: 11187072-N.TREATMENT AREA #4
Lab Sample ID: 180-100205-5
Matrix: Solid (TCLP)
Lab File ID: CP319L31022.d
Analysis Method: 8321A
Date Collected: 12/18/2019 14:30
Extraction Method: 3535
Date Extracted: 12/28/2019 14:56
Sample wt/vol: 243.9(mL)
Date Analyzed: 12/31/2019 12:59
Con. Extract Vol.: 10(mL)
Dilution Factor: 1
Injection Volume: 20(uL)
GC Column: Synergi Hydro 4 ID: 3(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 482046
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
16752-77-5	Methomyl	ND		0.82	0.13

CAS NO.	SURROGATE	%REC	Q	LIMITS
163165-75-1	Atrazine-d5	112		60-142
STL01549	Diuron-d6	132		50-150

Eurofins TestAmerica, Denver
Target Compound Quantitation Report

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31022.d
Lims ID: 180-100205-B-5-B
Client ID: 11187072-N.TREATMENT AREA #4
Sample Type: Client
Inject. Date: 31-Dec-2019 12:59:03 ALS Bottle#: 20 Worklist Smp#: 24
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 180-100205-B-5-B
Misc. Info.: CP319L31
Operator ID: Instrument ID: LC_LCMS3

Method: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\Carbs8321.m
Limit Group: LC - 8321A Carbamates
Last Update: 14-Jan-2020 13:30:05 Calib Date: 31-Dec-2019 11:04:24
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31008.d

Column 1 : Det: F1:MRM
Process Host: CTX0303

First Level Reviewer: coopert Date: 31-Dec-2019 13:35:37
Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
$ 12 Atrazine-d5								
221.0 > 179.0	3.680	3.680	0.0	2213395	111.7		6108	
$ 13 Diuron-d6								
238.9 > 77.9	3.727	3.727	0.0	284226	133.7		1376	

Report Date: 14-Jan-2020 13:30:26 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Denver

Data File:	\\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31022.d				
Injection Date:	31-Dec-2019 12:59:03	Instrument ID:	LC_LCMS3		
Lims ID:	180-100205-B-5-B	Lab Sample ID:	280-100205-5		
Client ID:	11187072-N.TREATMENT AREA #4				
Operator ID:		ALS Bottle#:	20	Worklist Smp#:	24
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	Carbs8321	Limit Group:	LC - 8321A Carbamates		

3 Methomyl (ND)

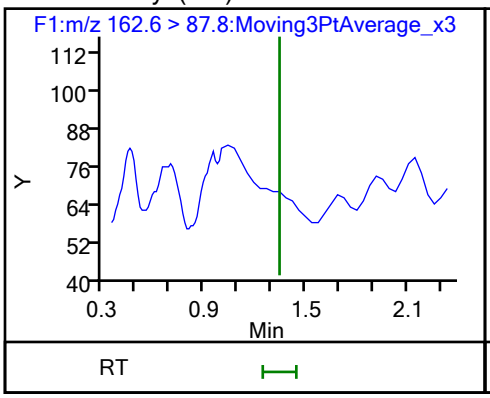

$ 12 Atrazine-d5

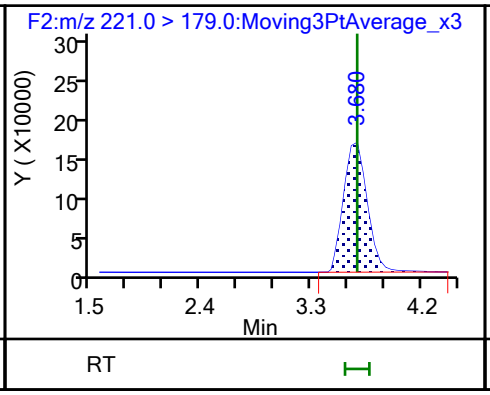

$ 13 Diuron-d6

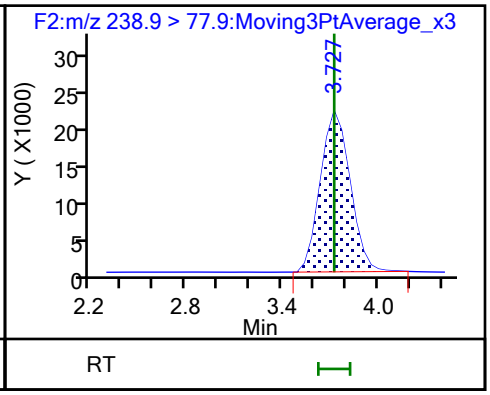

Eurofins TestAmerica, Denver
Recovery Report

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31022.d
Lims ID: 180-100205-B-5-B
Client ID: 11187072-N.TREATMENT AREA #4
Sample Type: Client
Inject. Date: 31-Dec-2019 12:59:03 ALS Bottle#: 20 Worklist Smp#: 24
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 180-100205-B-5-B
Misc. Info.: CP319L31
Operator ID: Instrument ID: LC_LCMS3

Method: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\Carbs8321.m
Limit Group: LC - 8321A Carbamates
Last Update: 14-Jan-2020 13:30:05 Calib Date: 31-Dec-2019 11:04:24
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31008.d

Column 1 : Det: F1:MRM
Process Host: CTX0303

First Level Reviewer: coopert Date: 31-Dec-2019 13:35:37

Compound	Amount Added	Amount Recovered	% Rec.
$ 12 Atrazine-d5	100.0	111.7	111.73
$ 13 Diuron-d6	101.0	133.7	132.38

FORM VI
LCMS BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Denver Job No.: 180-100205-1 Analy Batch No.: 482046

SDG No.:

Instrument ID: LC_LCMS3 GC Column: Synergi Hyd ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/31/2019 10:16 Calibration End Date: 12/31/2019 11:04 Calibration ID: 41219

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0025 280-482046/4	CP319L31002.d
Level 2	STD005 280-482046/5	CP319L31003.d
Level 3	STD010 280-482046/6	CP319L31004.d
Level 4	STD020 280-482046/7	CP319L31005.d
Level 5	STD050 280-482046/8	CP319L31006.d
Level 6	STD100 280-482046/9	CP319L31007.d
Level 7	STD200 280-482046/10	CP319L31008.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7				RT WINDOW	AVG RT
Aminocarb	0.730	0.730	0.730	0.730	0.730	0.730	0.730				0.630 - 0.830	0.730
Mexacarbate	0.949	0.949	0.949	0.961	0.961	0.961	0.961				0.861 - 1.061	0.956
Methomyl	1.343	1.343	1.343	1.343	1.343	1.343	1.343				1.243 - 1.443	1.343
Fenuron	1.842	1.842	1.842	1.842	1.842	1.842	1.842				1.742 - 1.942	1.842
Aldicarb	2.560	2.599	2.560	2.560	2.560	2.560	2.560				2.460 - 2.660	2.566
Monuron	2.829	2.829	2.829	2.829	2.829	2.829	2.829				2.729 - 2.929	2.829
Propoxur	3.179	3.179	3.179	3.179	3.179	3.179	3.179				3.079 - 3.279	3.179
Carbofuran	3.258	3.258	3.258	3.258	3.258	3.258	3.258				3.158 - 3.358	3.258
Fluometuron	3.468	3.468	3.468	3.468	3.468	3.468	3.468				3.368 - 3.568	3.468
Carbaryl	3.540	3.540	3.540	3.540	3.540	3.540	3.540				3.440 - 3.640	3.540
Diuron	3.773	3.773	3.773	3.773	3.773	3.773	3.773				3.673 - 3.873	3.773
Propham	4.258	4.258	4.258	4.258	4.258	4.258	4.258				4.158 - 4.358	4.258
Siduron	4.444	4.444	4.444	4.444	4.444	4.444	4.444				4.344 - 4.544	4.444
Methiocarb	4.562	4.562	4.562	4.562	4.562	4.562	4.562				4.462 - 4.662	4.562
Linuron	4.743	4.723	4.743	4.743	4.723	4.743	4.723				4.623 - 4.823	4.734
Chlorpropham	5.248	5.248	5.248	5.248	5.248	5.248	5.248				5.148 - 5.348	5.248
Neburon	5.673	5.673	5.673	5.673	5.673	5.673	5.673				5.573 - 5.773	5.673
Atrazine-d5	3.680	3.680	3.680	3.680	3.680	3.680	3.680				3.580 - 3.780	3.680
Diuron-d6	3.727	3.727	3.727	3.727	3.727	3.727	3.727				3.627 - 3.827	3.727

FORM VI
LCMS BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Denver Job No.: 180-100205-1 Analy Batch No.: 482046

SDG No.:

Instrument ID: LC_LCMS3 GC Column: Synergi Hyd ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/31/2019 10:16 Calibration End Date: 12/31/2019 11:04 Calibration ID: 41219

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0025 280-482046/4	CP319L31002.d
Level 2	STD005 280-482046/5	CP319L31003.d
Level 3	STD010 280-482046/6	CP319L31004.d
Level 4	STD020 280-482046/7	CP319L31005.d
Level 5	STD050 280-482046/8	CP319L31006.d
Level 6	STD100 280-482046/9	CP319L31007.d
Level 7	STD200 280-482046/10	CP319L31008.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4		B	M1	M2								
Aminocarb	72070 59182	63949 54685	63631 49748	64518	Lin2	41707.1962	56434.4866							0.9920		0.9900
Mexacarbate	73886 64669	70891 62676	67668 58154	66585	Lin2	31569.5146	62820.9509							0.9980		0.9900
Methomyl	5426.4 3519.4	3793.8 3250.1	3588.0 3437.0	3737.1	Lin2	4760.52952	3287.81490							0.9920		0.9900
Fenuron	9431.6 7518.7	7913.4 7231.0	7955.1 6545.8	7857.0	Lin2	5541.27619	7157.53260							0.9960		0.9900
Aldicarb	4800.8 2862.4	4509.2 2433.0	3728.6 2541.7	3262.2	Lin1	8348.79157	2512.01409							0.9950		0.9900
Monuron	4200.8 3772.8	4180.4 3806.7	3787.2 3494.3	3582.0	Lin2	1576.73753	3655.19658							0.9980		0.9900
Propoxur	24909 17892	21884 15511	22109 11916	20506	Qua	27347.6942	18965.4141	-35.990154						1.0000		0.9900
Carbofuran	21250 17059	18490 16091	18053 14433	18035	Lin2	13117.9759	16158.8948							0.9950		0.9900
Fluometuron	2665.2 1524.1	2114.2 1418.7	1641.5 1644.8	1674.6	Lin2	2939.23721	1482.24340							0.9940		0.9900
Carbaryl	3965.2 4278.0	4635.4 4212.6	3545.7 3983.1	4418.7	Ave		4148.39071				8.6		20.0			
Diuron	2210.4 1436.4	1451.6 1514.5	1340.2 1370.4	1580.8	Lin1	1329.58829	1408.65260							0.9960		0.9900
Propham	431.60 528.30	755.00 525.28	649.90 488.80	551.40	Ave		561.468571				19.2		20.0			
Siduron	9248.4 8367.2	8430.2 8333.3	8504.9 8354.0	8630.1	Lin	2048.98699	8338.22991							1.0000		0.9900
Methiocarb	6591.2 5803.9	6320.0 5590.6	6019.2 5202.7	5922.0	Lin2	2785.93874	5608.94401							0.9980		0.9900

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
LCMS BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Denver Job No.: 180-100205-1 Analy Batch No.: 482046

SDG No.:

Instrument ID: LC_LCMS3 GC Column: Synergi Hyd ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/31/2019 10:16 Calibration End Date: 12/31/2019 11:04 Calibration ID: 41219

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4		B	M1	M2								
Linuron	2684.4 2088.3	2108.4 1985.3	1998.1 1967.9	2101.2	Lin2	1576.62729	1956.56751							0.9960		0.9900
Chlorpropham	1310.4 1291.0	1300.0 1368.3	1274.2 1313.8	1301.6	Lin2	-35.359849	1312.43893							0.9990		0.9900
Neburon	7577.6 6709.8	7855.4 6534.9	7347.5 6094.7	6954.9	Lin2	3290.17818	6641.70859							0.9950		0.9900
Atrazine-d5	24207 20326	21403 20290	20433 19593	20008	Lin2	10500.8322	19716.7474							0.9990		0.9900
Diuron-d6	2654.3 2300.5	2347.1 2287.6	1865.2 2036.1	1939.8	Lin1	758.284105	2120.18911							0.9950		0.9900

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
LCMS BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Denver Job No.: 180-100205-1 Analy Batch No.: 482046

SDG No.:

Instrument ID: LC_LCMS3 GC Column: Synergi Hyd ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/31/2019 10:16 Calibration End Date: 12/31/2019 11:04 Calibration ID: 41219

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0025 280-482046/4	CP319L31002.d
Level 2	STD005 280-482046/5	CP319L31003.d
Level 3	STD010 280-482046/6	CP319L31004.d
Level 4	STD020 280-482046/7	CP319L31005.d
Level 5	STD050 280-482046/8	CP319L31006.d
Level 6	STD100 280-482046/9	CP319L31007.d
Level 7	STD200 280-482046/10	CP319L31008.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Aminocarb	Lin2	180174 5468490	319743 9949589	636307	1290355	2959103	2.50 100	5.00 200	10.0	20.0	50.0
Mexacarbate	Lin2	184715 6267617	354456 11630767	676675	1331694	3233466	2.50 100	5.00 200	10.0	20.0	50.0
Methomyl	Lin2	13566 325007	18969 687396	35880	74741	175971	2.50 100	5.00 200	10.0	20.0	50.0
Fenuron	Lin2	23579 723100	39567 1309162	79551	157140	375936	2.50 100	5.00 200	10.0	20.0	50.0
Aldicarb	Lin1	12002 243303	22546 508348	37286	65243	143119	2.50 100	5.00 200	10.0	20.0	50.0
Monuron	Lin2	10502 380665	20902 698853	37872	71640	188640	2.50 100	5.00 200	10.0	20.0	50.0
Propoxur	Qua	62272 1551132	109419 2383289	221090	410110	894617	2.50 100	5.00 200	10.0	20.0	50.0
Carbofuran	Lin2	53124 1609094	92452 2886531	180528	360698	852929	2.50 100	5.00 200	10.0	20.0	50.0
Fluometuron	Lin2	6663 141867	10571 328951	16415	33492	76204	2.50 100	5.00 200	10.0	20.0	50.0
Carbaryl	Ave	9913 421264	23177 796627	35457	88374	213898	2.50 100	5.00 200	10.0	20.0	50.0
Diuron	Lin1	5526 151450	7258 274089	13402	31615	71820	2.50 100	5.00 200	10.0	20.0	50.0
Propham	Ave	1079 52528	3775 97760	6499	11028	26415	2.50 100	5.00 200	10.0	20.0	50.0
Siduron	Lin	23121 833330	42151 1670793	85049	172602	418361	2.50 100	5.00 200	10.0	20.0	50.0
Methiocarb	Lin2	16478 559059	31600 1040538	60192	118439	290197	2.50 100	5.00 200	10.0	20.0	50.0
Linuron	Lin2	6711 198533	10542 393589	19981	42023	104415	2.50 100	5.00 200	10.0	20.0	50.0

FORM VI
LCMS BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Denver Job No.: 180-100205-1 Analy Batch No.: 482046

SDG No.:

Instrument ID: LC_LCMS3 GC Column: Synergi Hyd ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/31/2019 10:16 Calibration End Date: 12/31/2019 11:04 Calibration ID: 41219

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Chlorpropham	Lin2	3276 136829	6500 262765	12742	26032	64550	2.50 100	5.00 200	10.0	20.0	50.0
Neburon	Lin2	18944 653493	39277 1218930	73475	139097	335491	2.50 100	5.00 200	10.0	20.0	50.0
Atrazine-d5	Lin2	60518 2029045	107016 3918503	204327	400162	1016311	2.50 100	5.00 200	10.0	20.0	50.0
Diuron-d6	Lin1	6702 231051	11853 411292	18839	39184	116176	2.53 101	5.05 202	10.1	20.2	50.5

Curve Type Legend:

Ave = Average
Lin = Linear
Lin1 = Linear 1/conc
Lin2 = Linear 1/conc^2
Qua = Quadratic

Eurofins TestAmerica, Denver
Target Compound Quantitation Report

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31002.d
Lims ID: std0025
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 31-Dec-2019 10:16:14 ALS Bottle#: 2 Worklist Smp#: 4
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: STD0025
Misc. Info.: CP319L31
Operator ID: Instrument ID: LC_LCMS3
Sublist: chrom-Carbs8321*sub1

Method: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\Carbs8321.m
Limit Group: LC - 8321A Carbamates
Last Update: 31-Dec-2019 13:38:18 Calib Date: 31-Dec-2019 11:04:24
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31008.d

Column 1 : Det: F1:MRM
Process Host: CTX0311

First Level Reviewer: coopert Date: 31-Dec-2019 11:23:11
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
1 Aminocarb								
209.0 > 152.0	0.730	0.730	0.0	180174	2.45		1651	
2 Carbamicacid,methyl4-dimethylamino								
223.0 > 165.9	0.949	0.961	-0.012	184715	2.44		1253	
3 Methomyl								
162.6 > 87.8	1.343	1.343	0.0	13566	2.68		110	
4 Fenuron								
164.7 > 71.7	1.842	1.842	0.0	23579	2.52		140	
5 Aldicarb								M
212.6 > 88.8	2.560	2.560	0.0	12002	1.45		14.2	M
6 Monuron								RMa
198.8 > 71.9	2.829	2.829	0.0	10502	2.44	Target=1.00	72.6	Ra
198.8 > 125.9	2.829	2.829	0.0	1045		10.05(0.90-1.10)	6.2	M
7 Propoxur								
272.8 > 232.0	3.179	3.179	0.0	62272	1.85		48.9	
8 Carbofuran								
221.7 > 122.9	3.258	3.258	0.0	53124	2.48		93.9	
9 Fluometuron								M
232.6 > 45.7	3.468	3.468	0.0	6663	2.51		62.8	M
10 Carbaryl								
201.8 > 144.8	3.540	3.540	0.0	9913	2.39		58.6	
$ 12 Atrazine-d5								
221.0 > 179.0	3.680	3.680	0.0	60518	2.54		229	
$ 13 Diuron-d6								
238.9 > 77.9	3.727	3.727	0.0	6702	2.80		47.0	

Report Date: 31-Dec-2019 13:38:18 Chrom Revision: 2.3 15-Dec-2019 06:20:02
Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31002.d
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
11 Diuron								M
234.7 > 71.7	3.773	3.773	0.0	5526	2.98	Target=1.00	40.1	
232.8 > 71.7	3.773	3.773	0.0	5085		1.09(0.90-1.10)	2.3	M
14 Propham								M
137.6 > 91.8	4.258	4.258	0.0	1079	1.92		5.6	M
15 Siduron								R
232.9 > 93.8	4.444	4.444	0.0	23121	2.53	Target=1.00	84.7	R
232.9 > 136.8	4.444	4.444	0.0	38733		0.60(0.90-1.10)	65.3	
16 Methiocarb								
225.8 > 168.9	4.562	4.562	0.0	16478	2.44		36.1	
17 Linuron								R
248.8 > 159.9	4.743	4.723	0.020	6711	2.62	Target=1.00	57.8	R
248.8 > 182.1	4.723	4.723	0.0	3740		1.79(0.90-1.10)	40.9	
18 Chlorpropham								R
214.0 > 153.8	5.248	5.248	0.0	3276	2.52	Target=1.00	20.0	R
214.0 > 171.9	5.248	5.248	0.0	6717		0.49(0.90-1.10)	57.9	
19 Neburon								R
275.0 > 88.0	5.673	5.673	0.0	18944	2.36	Target=1.00	190	R
275.0 > 114.0	5.673	5.673	0.0	8387		2.26(0.90-1.10)	82.0	

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

Carb_CS_Cal_00033 Amount Added: 5.00 Units: uL

Report Date: 31-Dec-2019 13:38:18 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Denver

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31002.d

Injection Date: 31-Dec-2019 10:16:14 Instrument ID: LC_LCMS3

Lims ID: std0025

Client ID:

Operator ID: ALS Bottle#: 2 Worklist Smp#: 4

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: Carbs8321 Limit Group: LC - 8321A Carbamates

1 Aminocarb

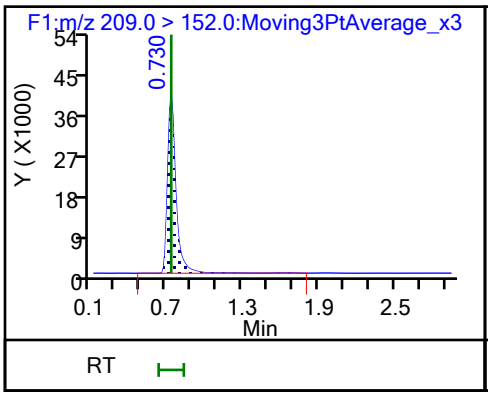

2 Carbamicacid,methyl4-dimethylamino

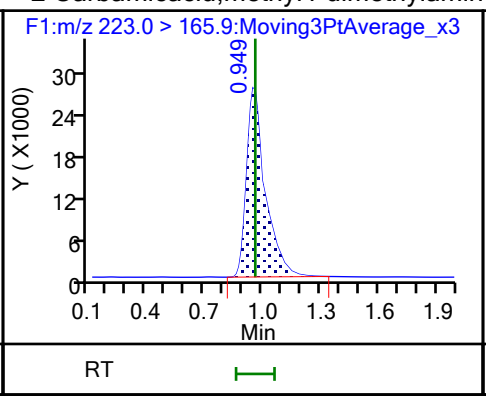

3 Methomyl

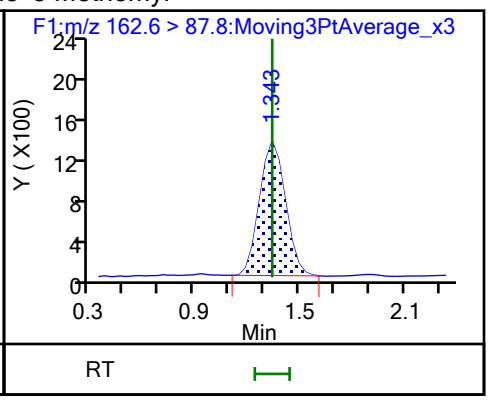

4 Fenuron

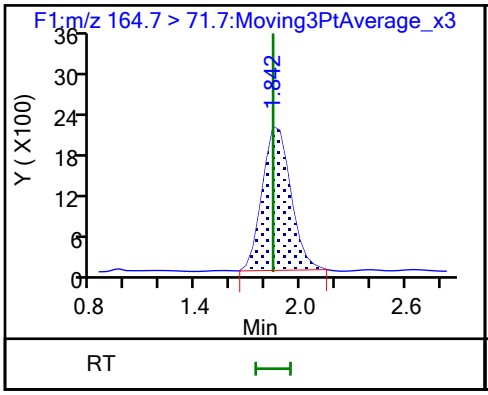

5 Aldicarb (M)

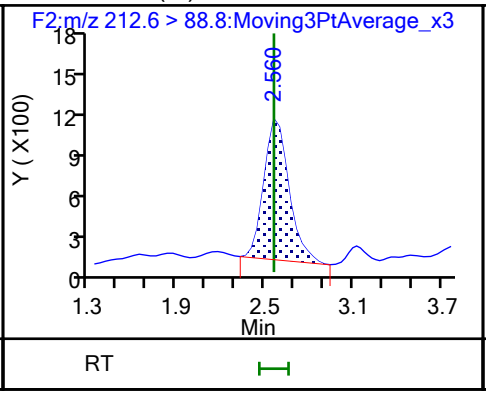

6 Monuron (M)

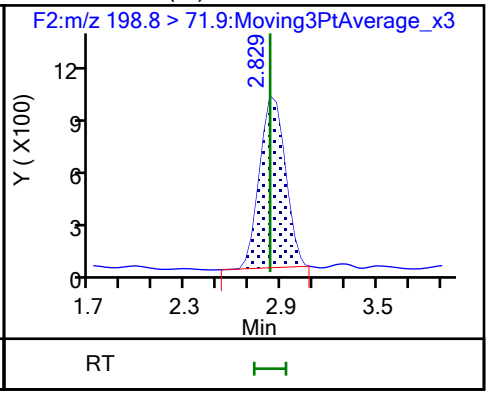

6 Monuron (M)

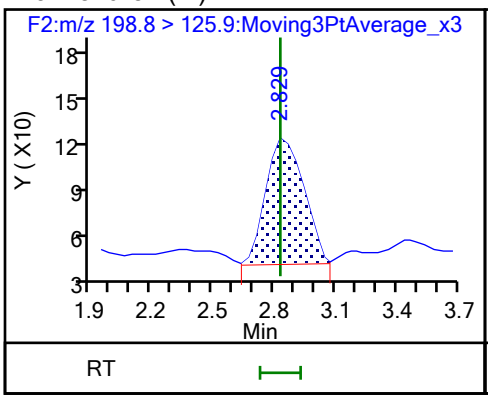

7 Propoxur

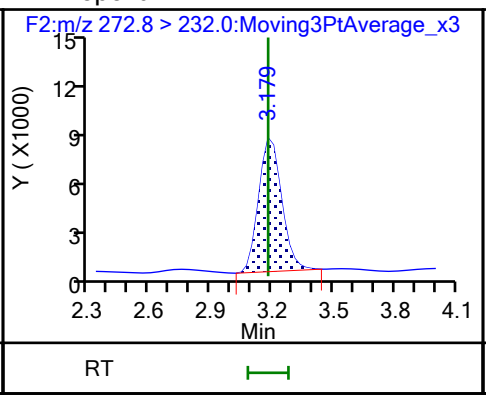

8 Carbofuran

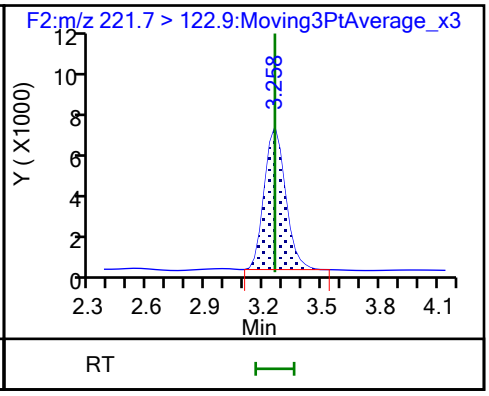

9 Fluometuron (M)

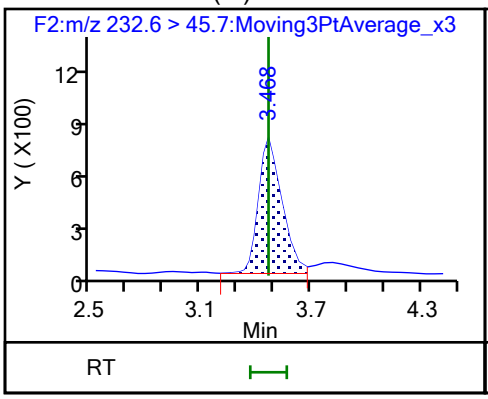

10 Carbaryl

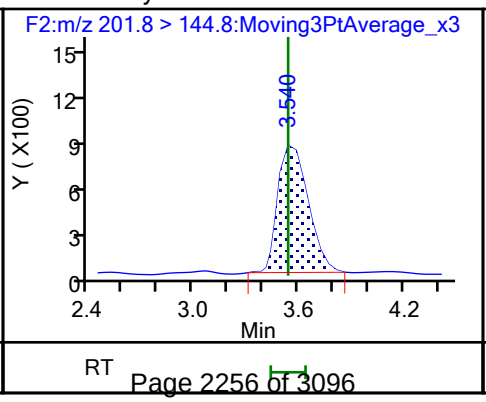

$ 12 Atrazine-d5

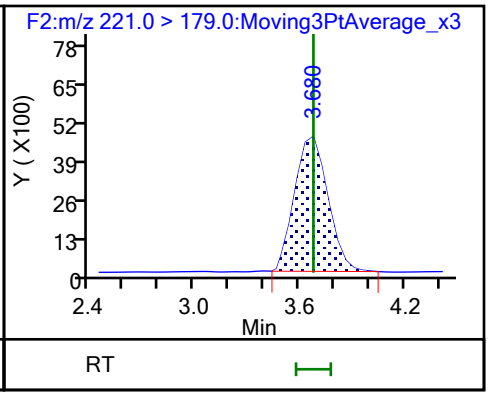

Report Date: 31-Dec-2019 13:38:18 Chrom Revision: 2.3 15-Dec-2019 06:20:02
Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31002.d

$ 13 Diuron-d6

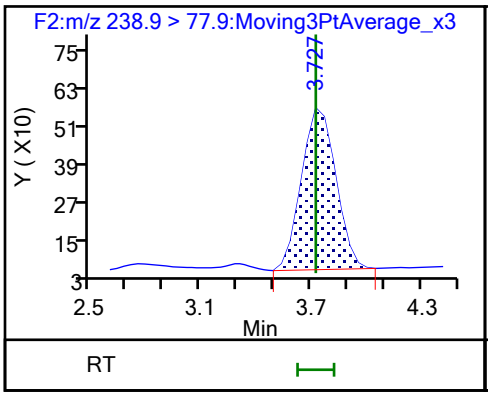

11 Diuron

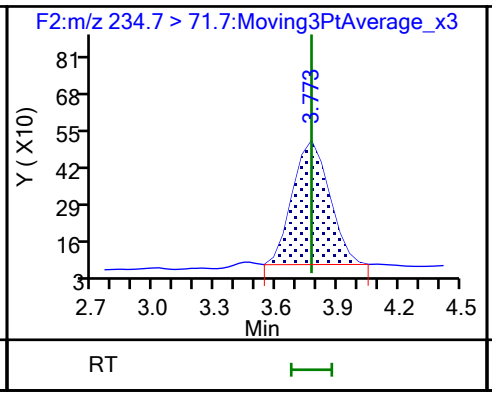

11 Diuron (M)

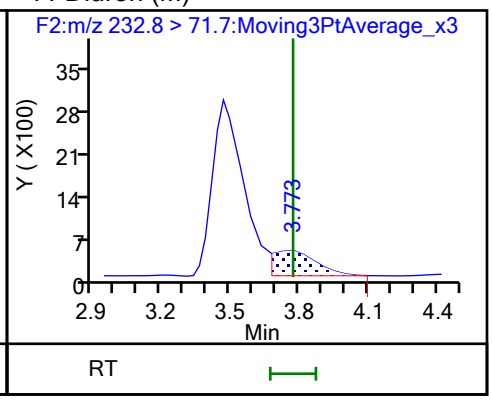

14 Propham (M)

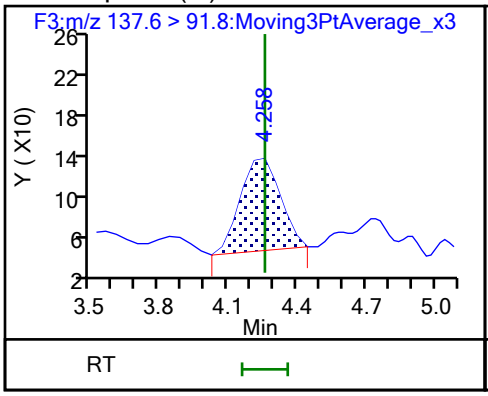

15 Siduron

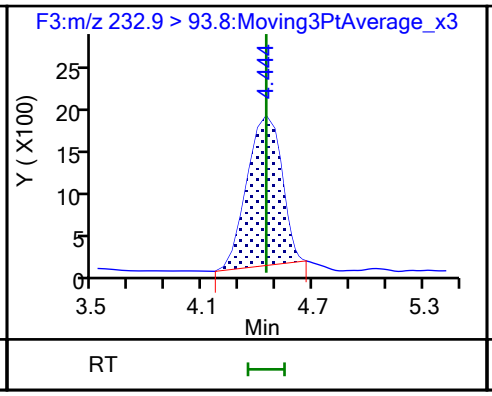

15 Siduron

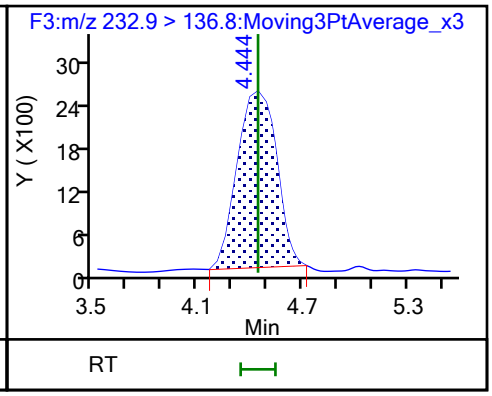

16 Methiocarb

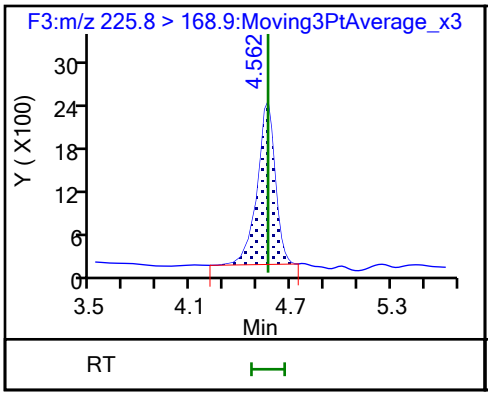

17 Linuron

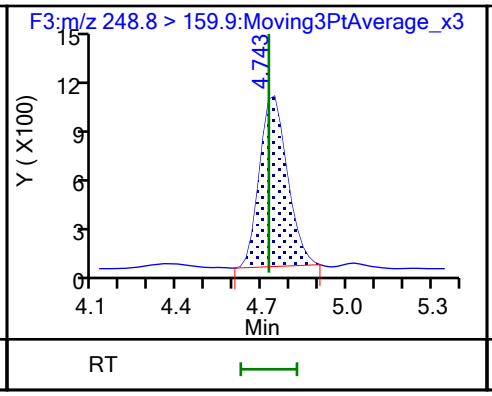

17 Linuron

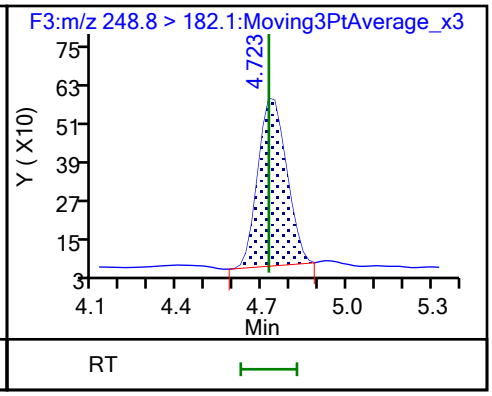

18 Chlorpropham

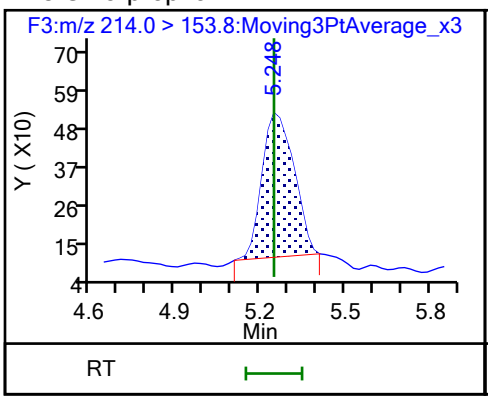

18 Chlorpropham

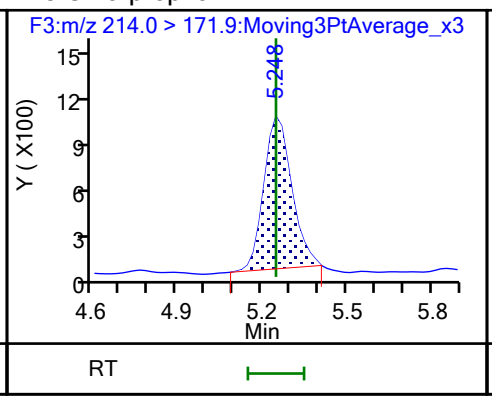

19 Neburon

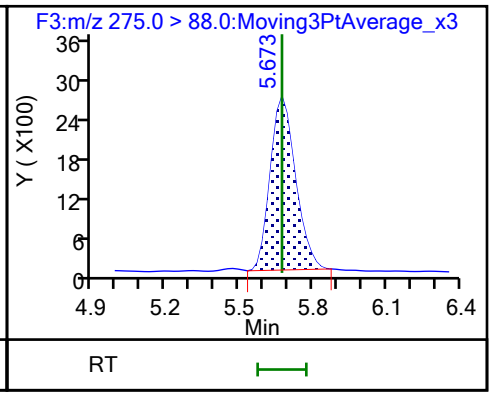

19 Neburon

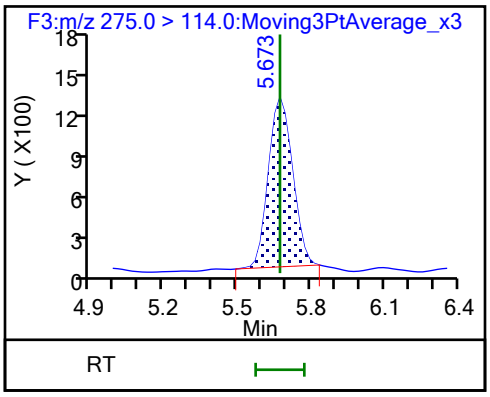
F3:m/z 275.0 > 114.0:Moving3PtAverage_x3
5.673
Y (X100)
18
15
12
9
6
3
0
4.9
5.2
5.5
5.8
6.1
6.4
Min
RT

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

Data File:	\\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31002.d				
Injection Date:	31-Dec-2019 10:16:14	Instrument ID:	LC_LCMS3		
Lims ID:	std0025				
Client ID:					
Operator ID:		ALS Bottle#:	2	Worklist Smp#:	4
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	Carbs8321	Limit Group:	LC - 8321A Carbamates		
Column:		Detector	F2:MRM		

5 Aldicarb, CAS: 116-06-3

Signal: 1

Processing Integration Results

RT: 2.56
Area: 11708
Amount: 1.403837
Amount Units: ug/l

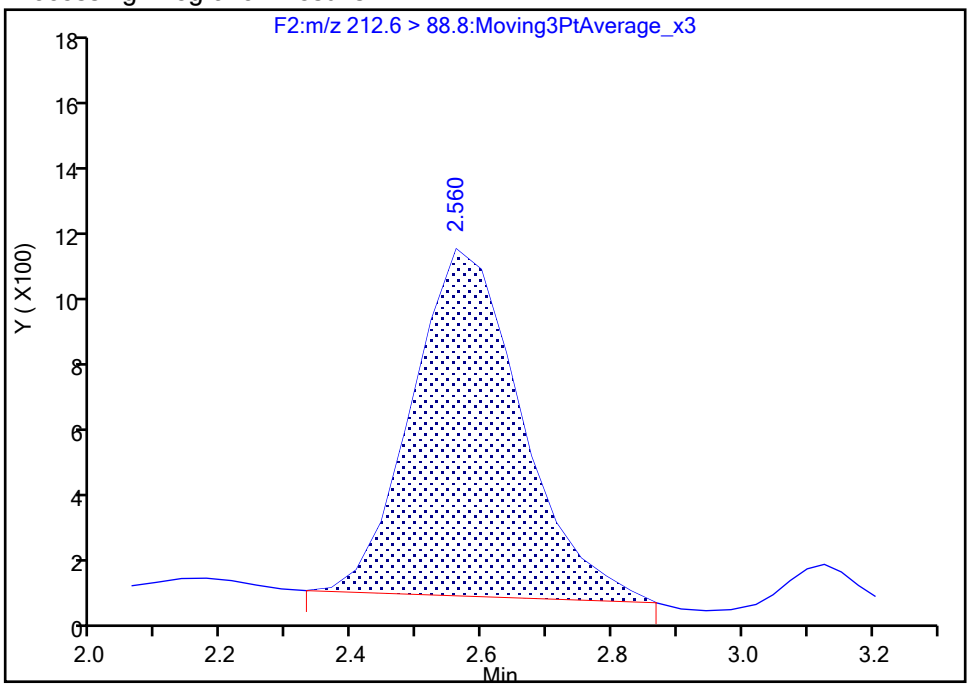

Manual Integration Results

RT: 2.56
Area: 12002
Amount: 1.454295
Amount Units: ug/l

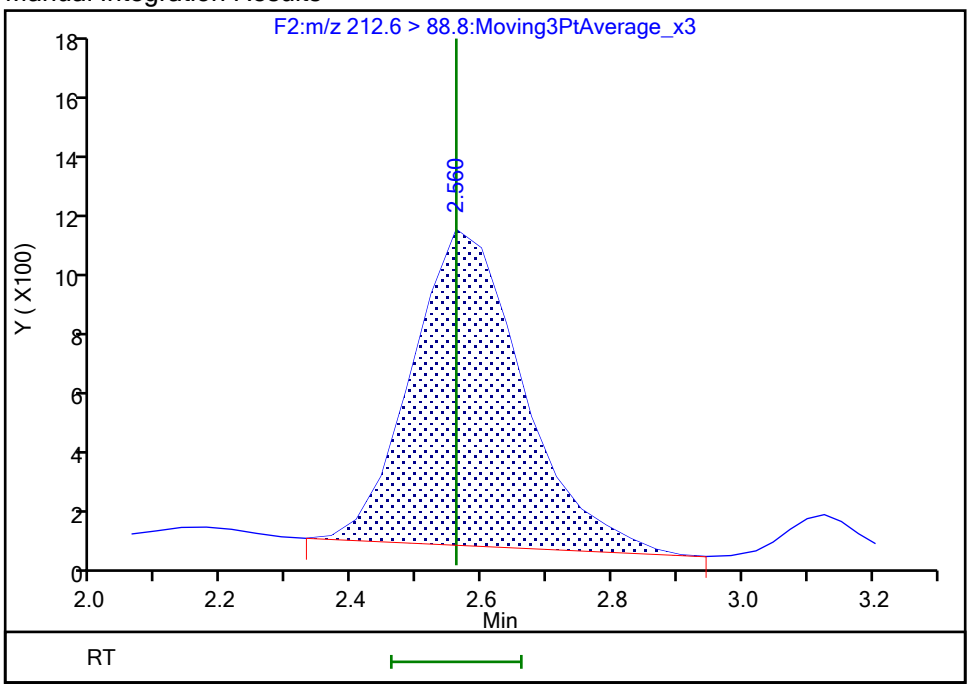

Reviewer: coopert, 31-Dec-2019 11:22:13

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

Data File:	\\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31002.d				
Injection Date:	31-Dec-2019 10:16:14	Instrument ID:	LC_LCMS3		
Lims ID:	std0025				
Client ID:					
Operator ID:		ALS Bottle#:	2	Worklist Smp#:	4
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	Carbs8321	Limit Group:	LC - 8321A Carbamates		
Column:		Detector	F2:MRM		

6 Monuron, CAS: 150-68-5

Signal: 1

Processing Integration Results

RT: 2.83
Area: 10502
Amount: 2.740594
Amount Units: ug/l

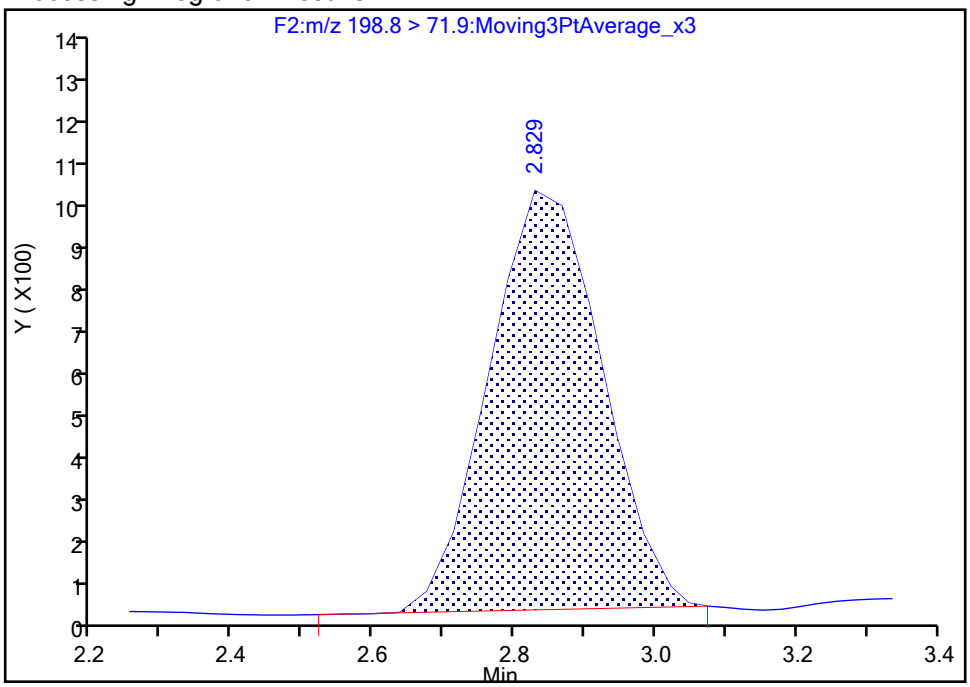

Manual Integration Results

RT: 2.83
Area: 10502
Amount: 2.441801
Amount Units: ug/l

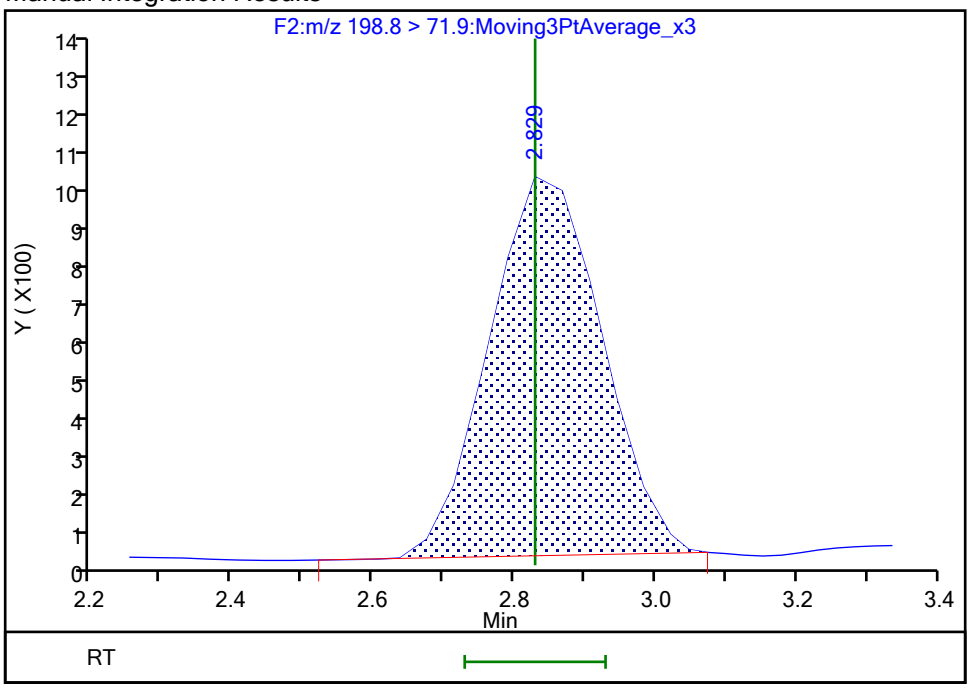

Reviewer: coopert, 31-Dec-2019 11:22:20

Audit Action: Assigned Compound ID Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

Data File:	\\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31002.d				
Injection Date:	31-Dec-2019 10:16:14	Instrument ID:	LC_LCMS3		
Lims ID:	std0025				
Client ID:					
Operator ID:		ALS Bottle#:	2	Worklist Smp#:	4
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	Carbs8321	Limit Group:	LC - 8321A Carbamates		
Column:		Detector	F2:MRM		

6 Monuron, CAS: 150-68-5

Signal: 2

Processing Integration Results

RT: 2.83
Area: 0
Amount: 2.740594
Amount Units: ug/l

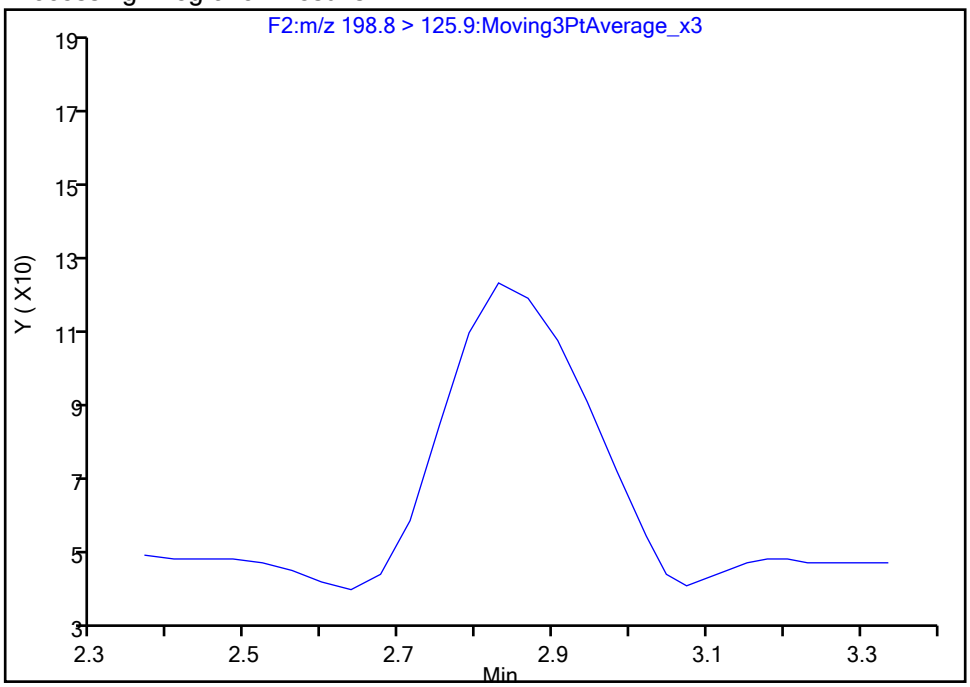

Manual Integration Results

RT: 2.83
Area: 1045
Amount: 2.441801
Amount Units: ug/l

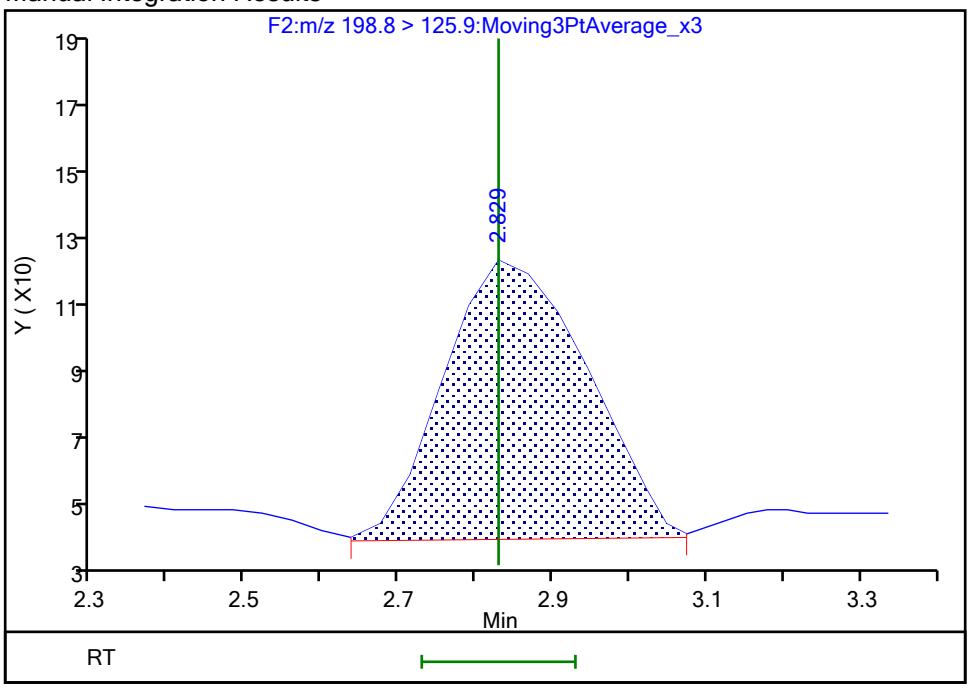

Reviewer: coopert, 31-Dec-2019 11:22:24

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

Data File:	\\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31002.d				
Injection Date:	31-Dec-2019 10:16:14	Instrument ID:	LC_LCMS3		
Lims ID:	std0025				
Client ID:					
Operator ID:		ALS Bottle#:	2	Worklist Smp#:	4
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	Carbs8321	Limit Group:	LC - 8321A Carbamates		
Column:		Detector	F2:MRM		

9 Fluometuron, CAS: 2164-17-2

Signal: 1

Processing Integration Results

RT: 3.47
Area: 6988
Amount: 2.383651
Amount Units: ug/l

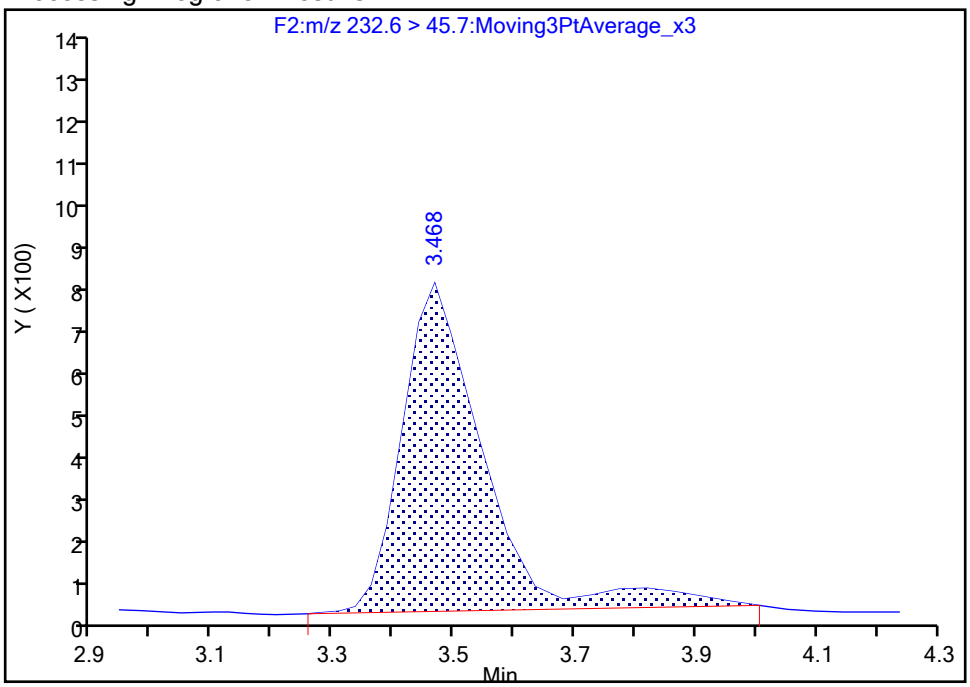

Manual Integration Results

RT: 3.47
Area: 6663
Amount: 2.512248
Amount Units: ug/l

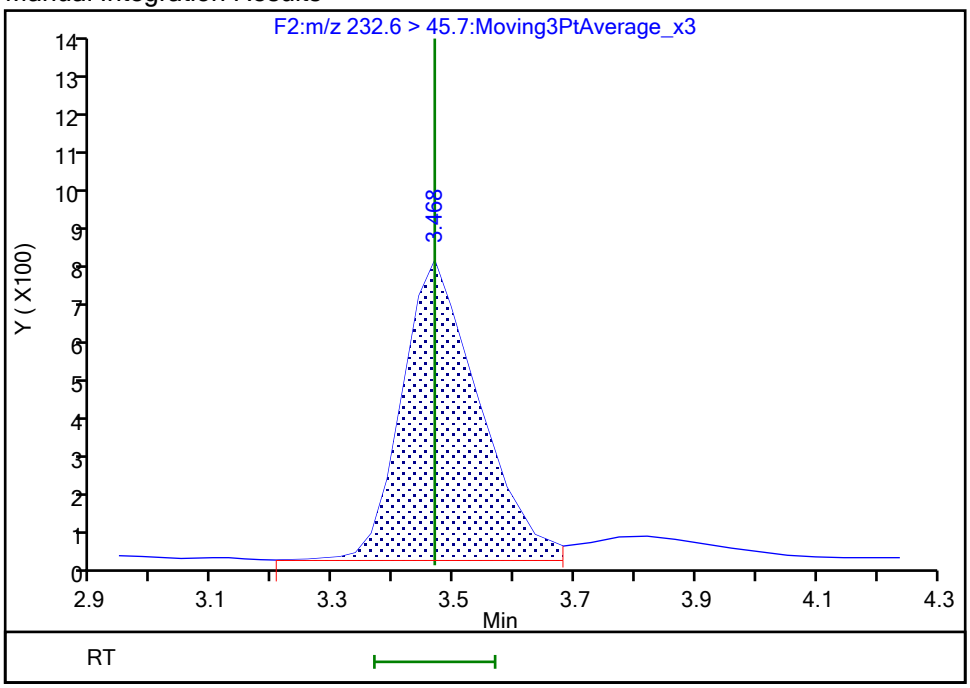

Reviewer: coopert, 31-Dec-2019 11:22:38

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

Data File:	\\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31002.d				
Injection Date:	31-Dec-2019 10:16:14	Instrument ID:	LC_LCMS3		
Lims ID:	std0025				
Client ID:					
Operator ID:		ALS Bottle#:	2	Worklist Smp#:	4
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	Carbs8321	Limit Group:	LC - 8321A Carbamates		
Column:		Detector	F2:MRM		

11 Diuron, CAS: 330-54-1

Signal: 2

Processing Integration Results

RT: 3.47
Area: 31980
Amount: 3.221300
Amount Units: ug/l

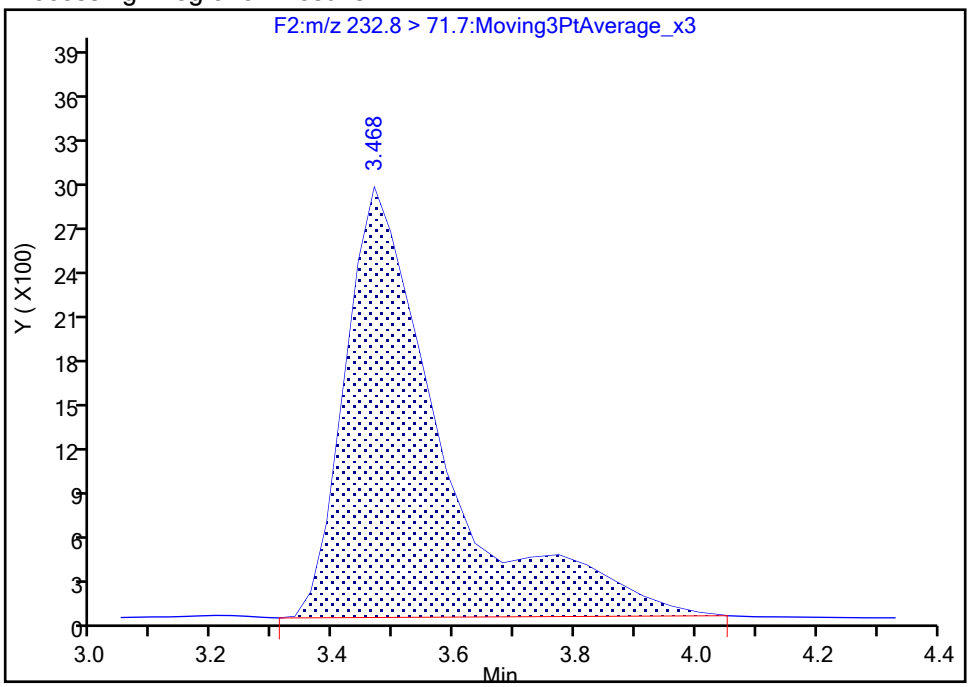

Manual Integration Results

RT: 3.77
Area: 5085
Amount: 2.979025
Amount Units: ug/l

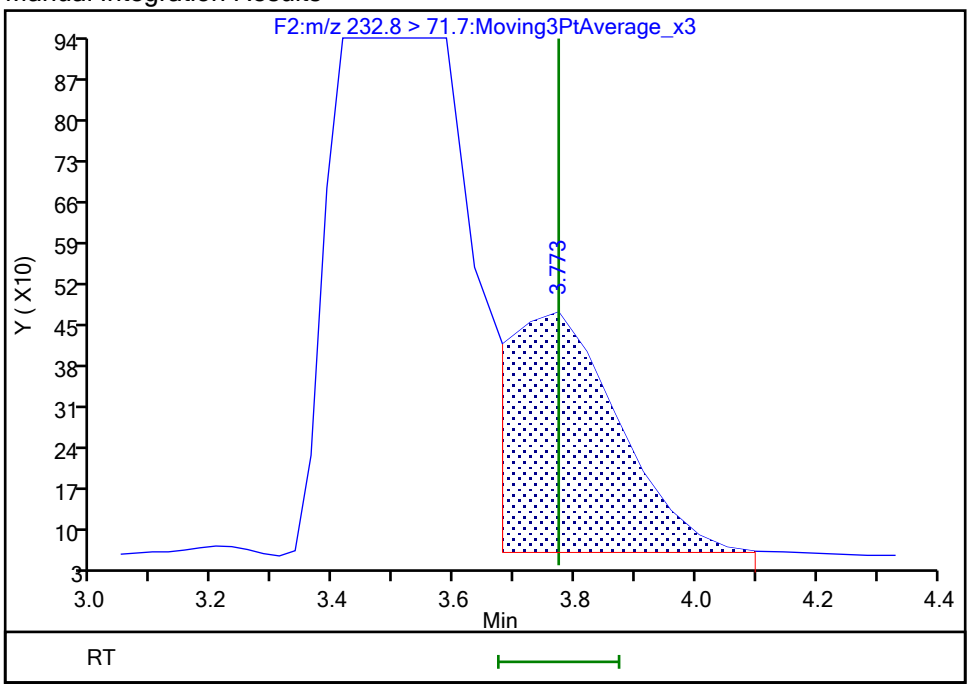

Reviewer: coopert, 31-Dec-2019 11:22:51

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

Data File:	\\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31002.d				
Injection Date:	31-Dec-2019 10:16:14	Instrument ID:	LC_LCMS3		
Lims ID:	std0025				
Client ID:					
Operator ID:		ALS Bottle#:	2	Worklist Smp#:	4
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	Carbs8321	Limit Group:	LC - 8321A Carbamates		
Column:		Detector	F3:MRM		

14 Propham, CAS: 122-42-9

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 4.26

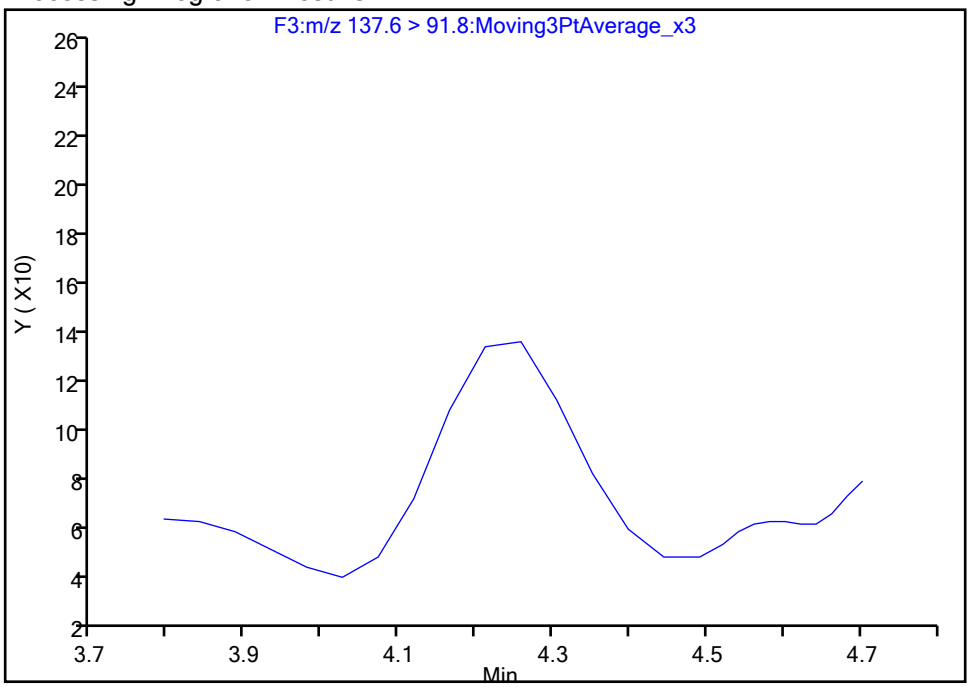

Manual Integration Results

RT: 4.26
Area: 1079
Amount: 1.921746
Amount Units: ug/l

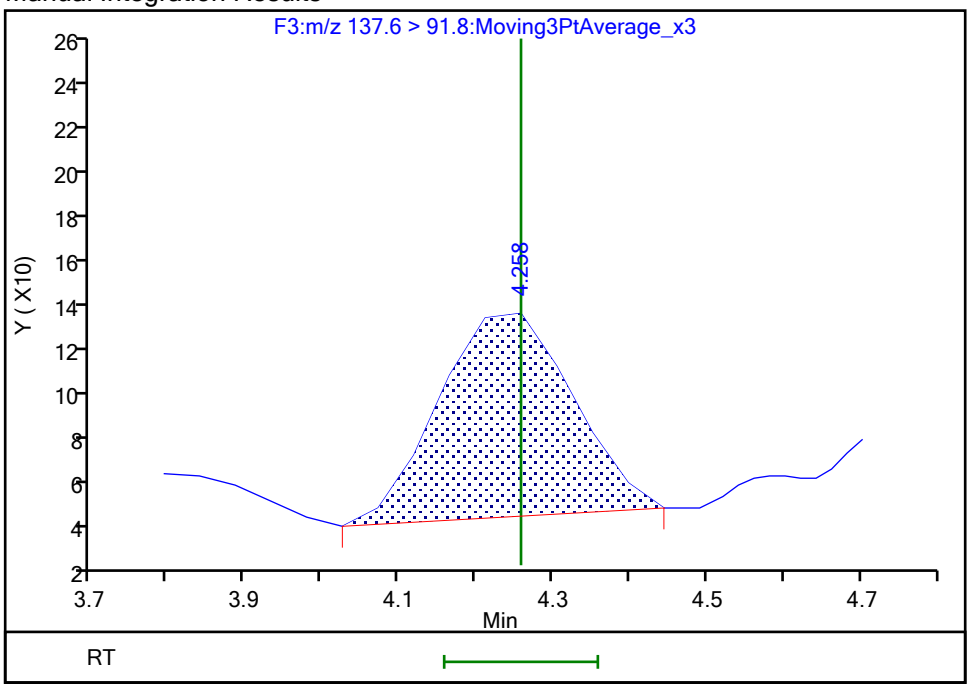

Reviewer: coopert, 31-Dec-2019 11:22:58
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Denver
Target Compound Quantitation Report

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31003.d
Lims ID: std005
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 31-Dec-2019 10:24:16 ALS Bottle#: 3 Worklist Smp#: 5
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: STD005
Misc. Info.: CP319L31
Operator ID: Instrument ID: LC_LCMS3
Sublist: chrom-Carbs8321*sub1

Method: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\Carbs8321.m
Limit Group: LC - 8321A Carbamates
Last Update: 31-Dec-2019 13:38:19 Calib Date: 31-Dec-2019 11:04:24
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31008.d

Column 1 : Det: F1:MRM
Process Host: CTX0311

First Level Reviewer: coopert Date: 31-Dec-2019 11:24:37
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
1 Aminocarb								
209.0 > 152.0	0.730	0.730	0.0	319743	4.93		4961	
2 Carbamicacid,methyl4-dimethylamino								
223.0 > 165.9	0.949	0.961	-0.012	354456	5.14		2036	
3 Methomyl								
162.6 > 87.8	1.343	1.343	0.0	18969	4.32		177	
4 Fenuron								
164.7 > 71.7	1.842	1.842	0.0	39567	4.75		175	
5 Aldicarb								
212.6 > 88.8	2.599	2.560	0.039	22546	5.65		25.9	
6 Monuron								RMa
198.8 > 71.9	2.829	2.829	0.0	20902	5.29	Target=1.00	141	Ra
198.8 > 125.9	2.829	2.829	0.0	2856		7.32(0.90-1.10)	18.6	M
7 Propoxur								
272.8 > 232.0	3.179	3.179	0.0	109419	4.36		78.1	
8 Carbofuran								
221.7 > 122.9	3.258	3.258	0.0	92452	4.91		215	
9 Fluometuron								M
232.6 > 45.7	3.468	3.468	0.0	10571	5.15		64.6	M
10 Carbaryl								
201.8 > 144.8	3.540	3.540	0.0	23177	5.59		179	
$ 12 Atrazine-d5								
221.0 > 179.0	3.680	3.680	0.0	107016	4.90		321	
$ 13 Diuron-d6								M
238.9 > 77.9	3.727	3.727	0.0	11853	5.23		105	M

Report Date: 31-Dec-2019 13:38:19 Chrom Revision: 2.3 15-Dec-2019 06:20:02
Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31003.d
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
11 Diuron								M
234.7 > 71.7	3.773	3.773	0.0	7258	4.21	Target=1.00	33.6	M
232.8 > 71.7	3.773	3.773	0.0	7767		0.93(0.90-1.10)	1.7	M
14 Propham								M
137.6 > 91.8	4.258	4.258	0.0	3775	6.72		17.7	M
15 Siduron								R
232.9 > 93.8	4.444	4.444	0.0	42151	4.81	Target=1.00	147	R
232.9 > 136.8	4.444	4.444	0.0	69931		0.60(0.90-1.10)	117	
16 Methiocarb								
225.8 > 168.9	4.562	4.562	0.0	31600	5.14		68.8	
17 Linuron								R
248.8 > 159.9	4.723	4.723	0.0	10542	4.58	Target=1.00	116	R
248.8 > 182.1	4.723	4.723	0.0	6840		1.54(0.90-1.10)	100	
18 Chlorpropham								RM
214.0 > 153.8	5.248	5.248	0.0	6500	4.98	Target=1.00	38.3	RM
214.0 > 171.9	5.248	5.248	0.0	13007		0.50(0.90-1.10)	119	
19 Neburon								R
275.0 > 88.0	5.673	5.673	0.0	39277	5.42	Target=1.00	316	R
275.0 > 114.0	5.673	5.673	0.0	15265		2.57(0.90-1.10)	126	

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

Carb_CS_Cal_00033 Amount Added: 10.00 Units: uL

Report Date: 31-Dec-2019 13:38:19 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Denver

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31003.d

Injection Date: 31-Dec-2019 10:24:16 Instrument ID: LC_LCMS3

Lims ID: std005

Client ID:

Operator ID: ALS Bottle#: 3 Worklist Smp#: 5

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: Carbs8321 Limit Group: LC - 8321A Carbamates

1 Aminocarb

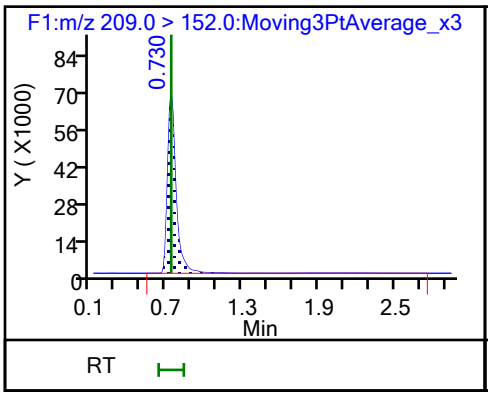

2 Carbamicacid,methyl4-dimethylamino

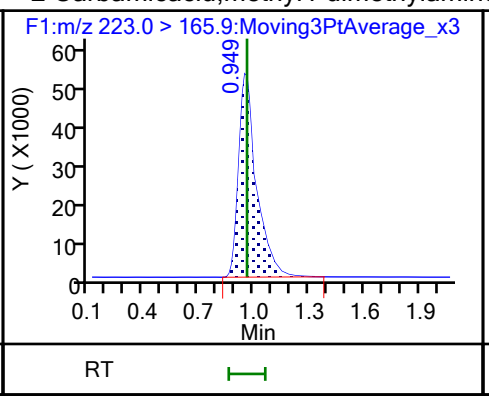

3 Methomyl

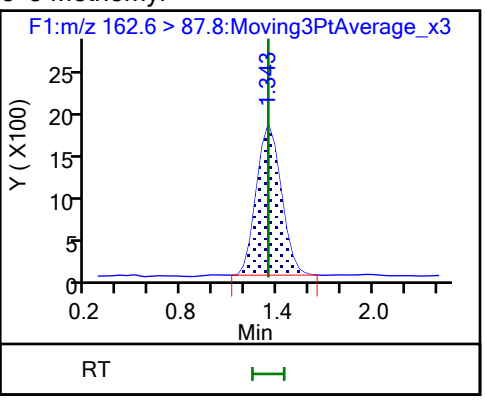

4 Fenuron

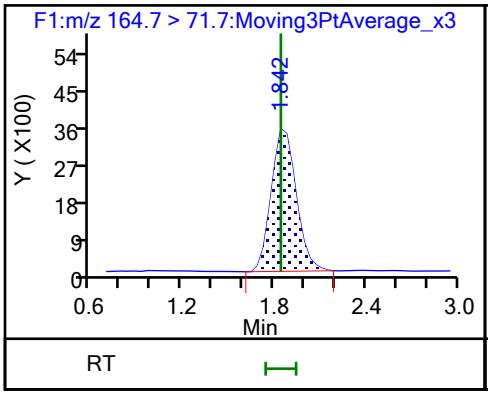

5 Aldicarb

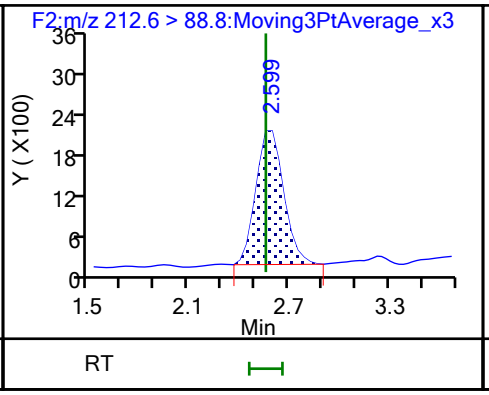

6 Monuron (M)

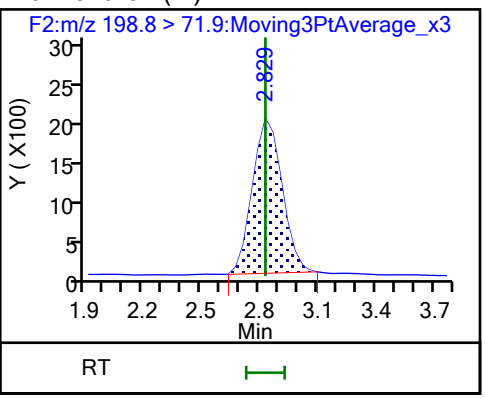

6 Monuron (M)

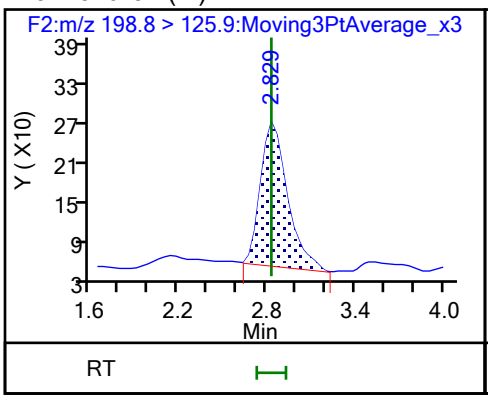

7 Propoxur

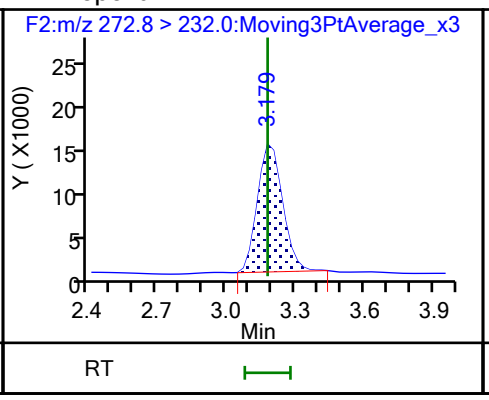

8 Carbofuran

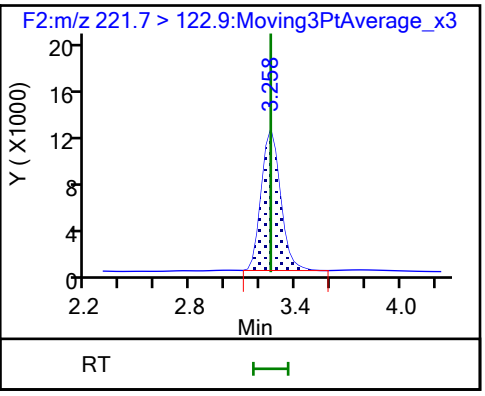

9 Fluometuron (M)

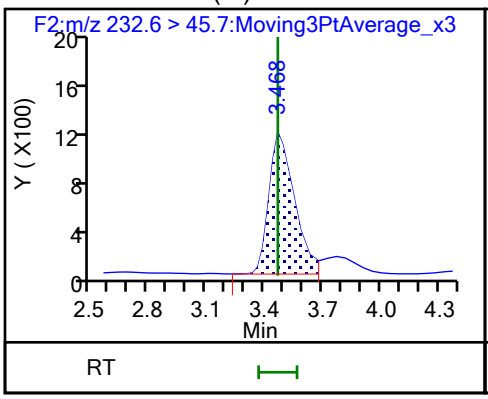

10 Carbaryl

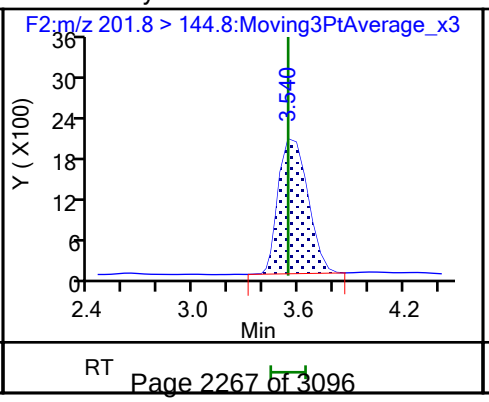

$ 12 Atrazine-d5

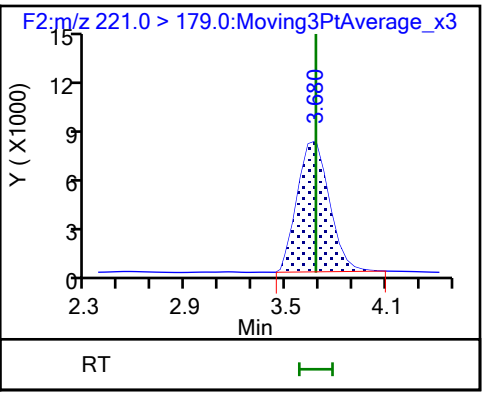

$ 13 Diuron-d6 (M)

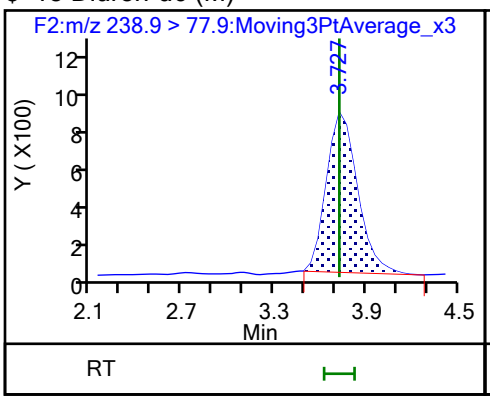

11 Diuron (M)

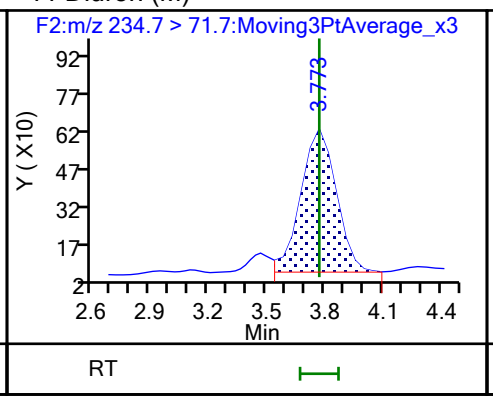

11 Diuron (M)

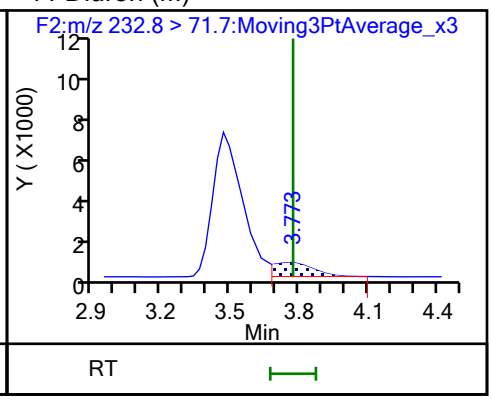

14 Propham (M)

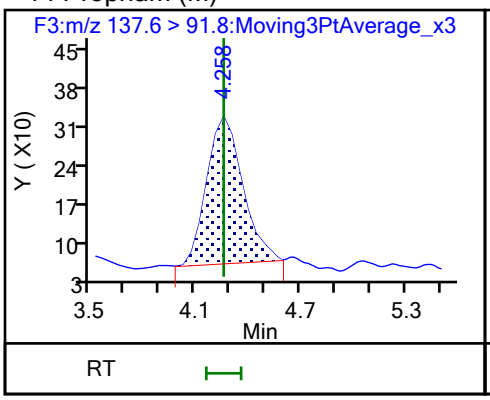

15 Siduron

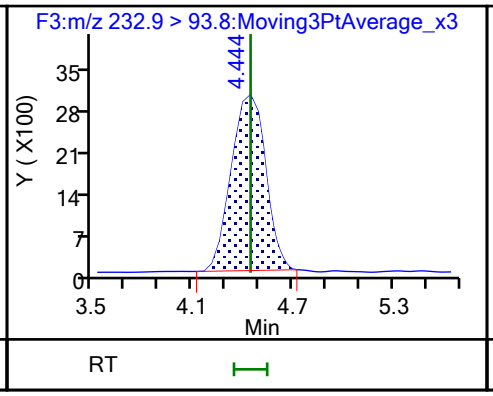

15 Siduron

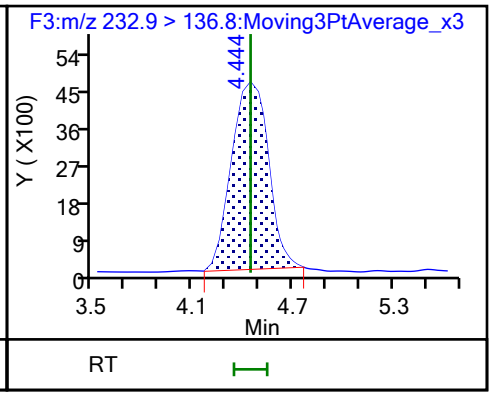

16 Methiocarb

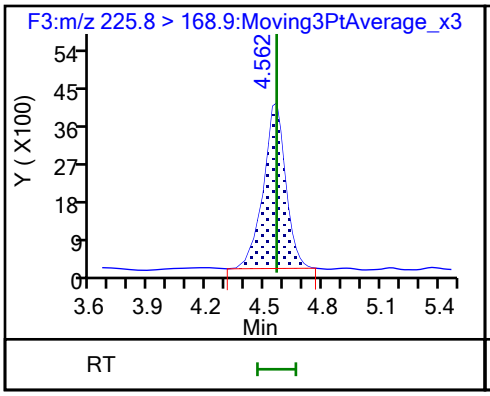

17 Linuron

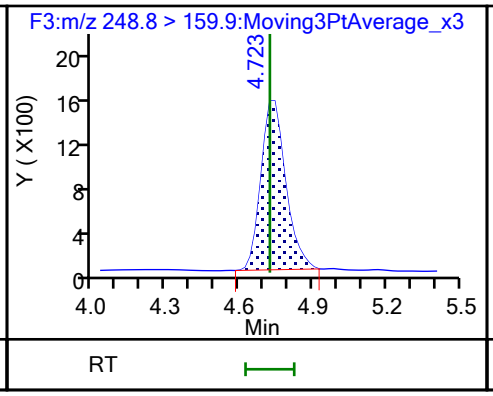

17 Linuron

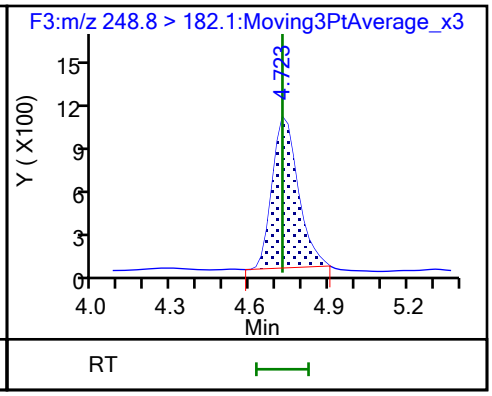

18 Chlorpropham (M)

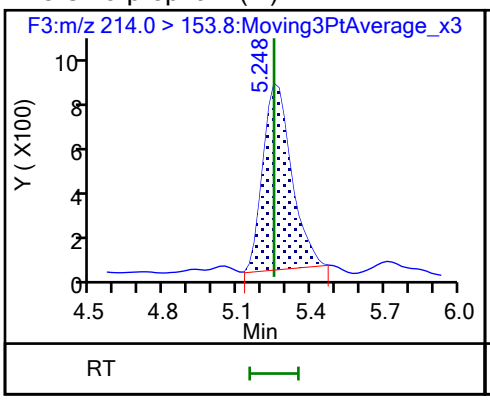

18 Chlorpropham

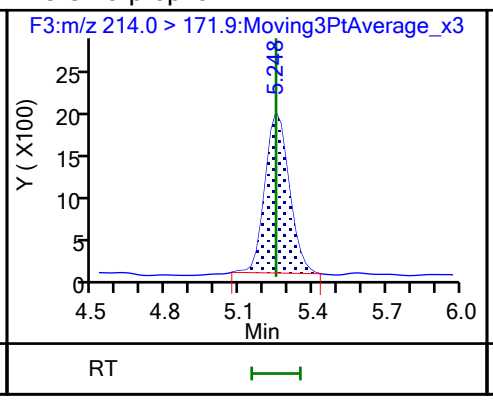

19 Neburon

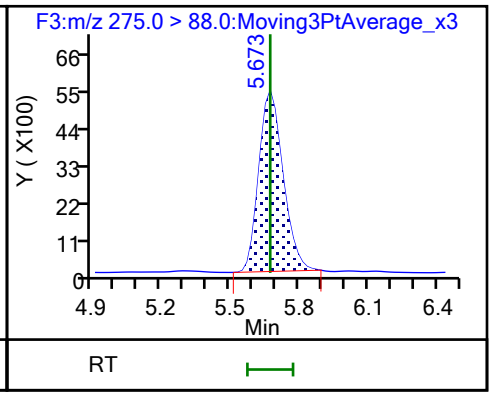

19 Neburon

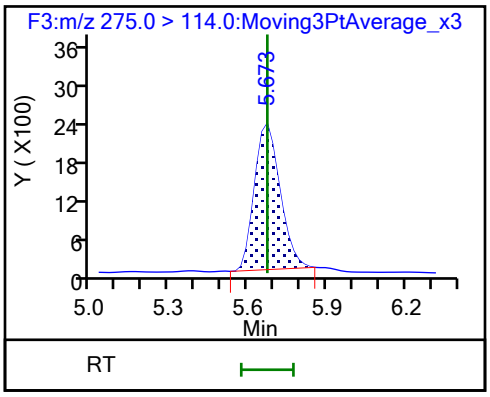
F3:m/z 275.0 > 114.0:Moving3PtAverage_x3
5.673
Y (X100)
36
30
24
18
12
6
0
5.0
5.3
5.6
5.9
6.2
Min
RT

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

Data File:	\\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31003.d				
Injection Date:	31-Dec-2019 10:24:16	Instrument ID:	LC_LCMS3		
Lims ID:	std005				
Client ID:					
Operator ID:		ALS Bottle#:	3	Worklist Smp#:	5
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	Carbs8321	Limit Group:	LC - 8321A Carbamates		
Column:		Detector	F2:MRM		

6 Monuron, CAS: 150-68-5

Signal: 1

Processing Integration Results

RT: 2.83
Area: 20902
Amount: 5.454570
Amount Units: ug/l

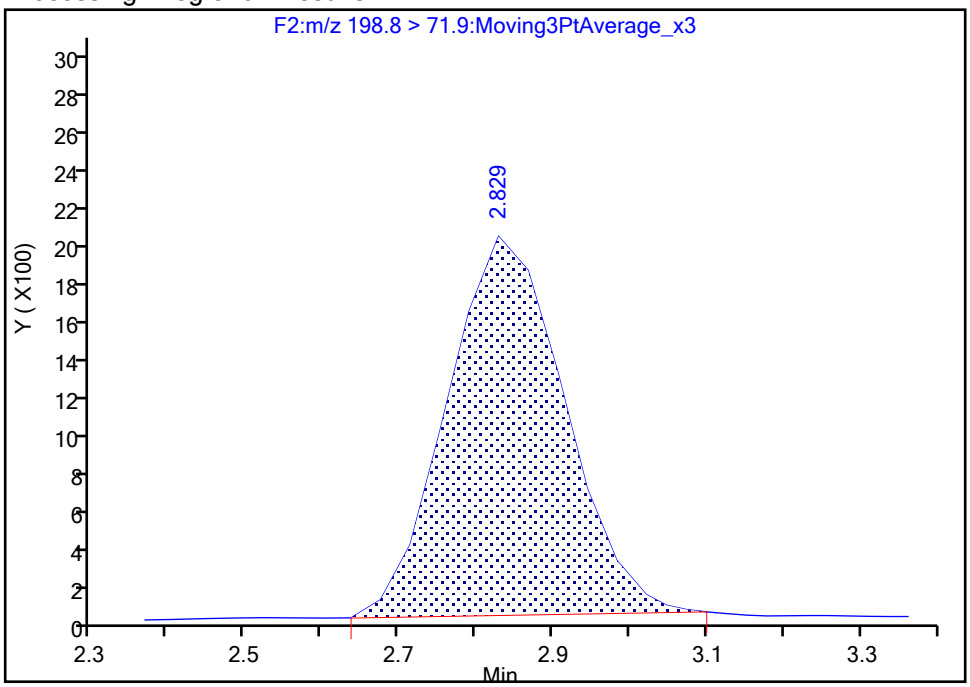

Manual Integration Results

RT: 2.83
Area: 20902
Amount: 5.287065
Amount Units: ug/l

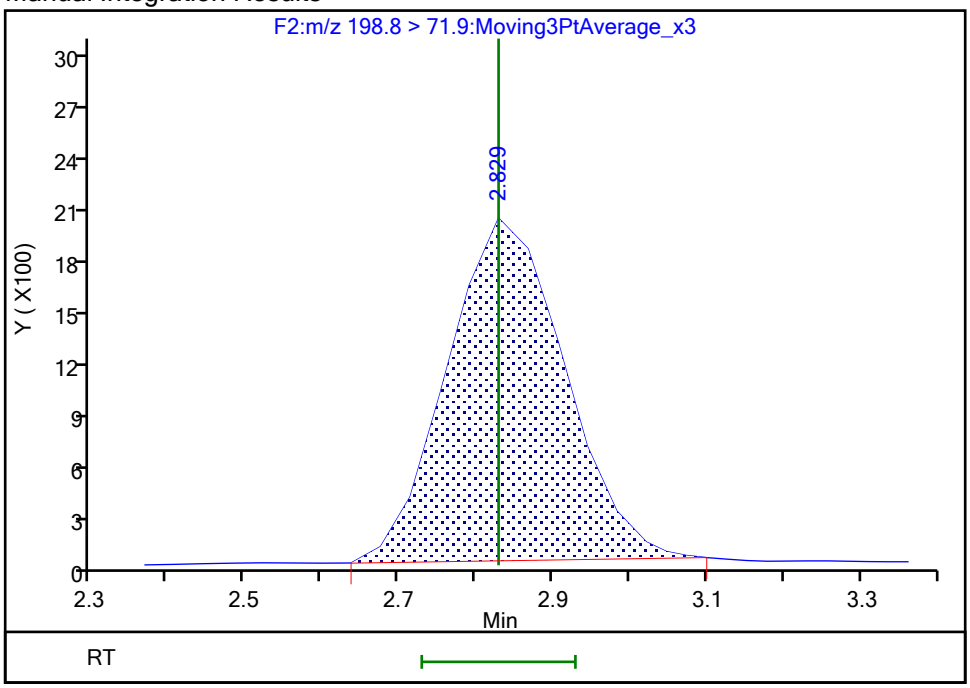

Reviewer: coopert, 31-Dec-2019 11:24:25

Audit Action: Assigned Compound ID Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

Data File:	\\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31003.d				
Injection Date:	31-Dec-2019 10:24:16	Instrument ID:	LC_LCMS3		
Lims ID:	std005				
Client ID:					
Operator ID:		ALS Bottle#:	3	Worklist Smp#:	5
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	Carbs8321	Limit Group:	LC - 8321A Carbamates		
Column:		Detector	F2:MRM		

6 Monuron, CAS: 150-68-5

Signal: 2

Processing Integration Results

RT: 2.83
Area: 0
Amount: 5.454570
Amount Units: ug/l

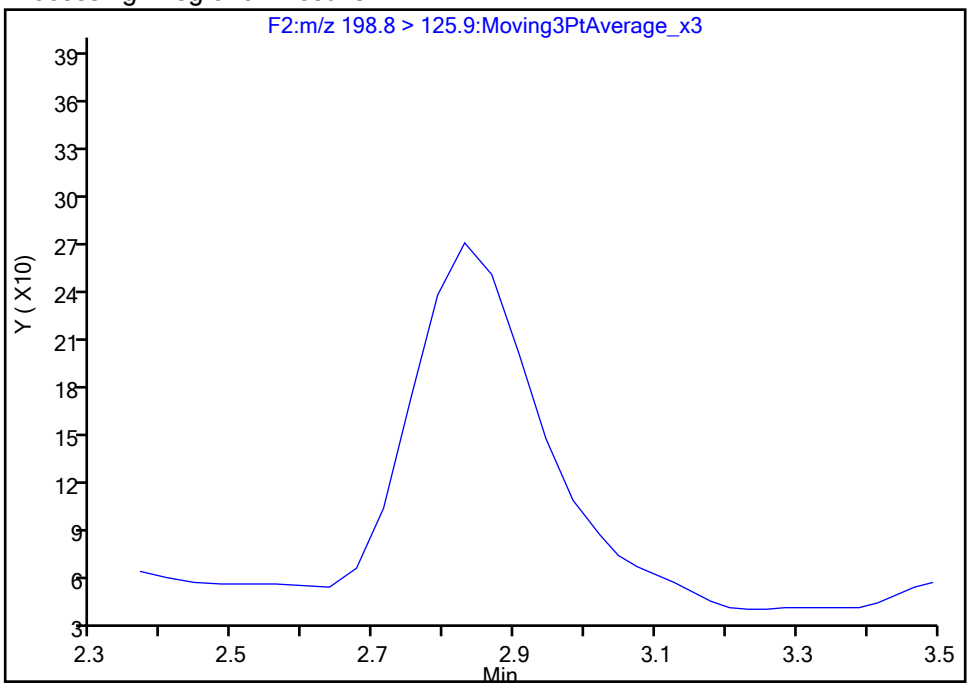

Manual Integration Results

RT: 2.83
Area: 2856
Amount: 5.287065
Amount Units: ug/l

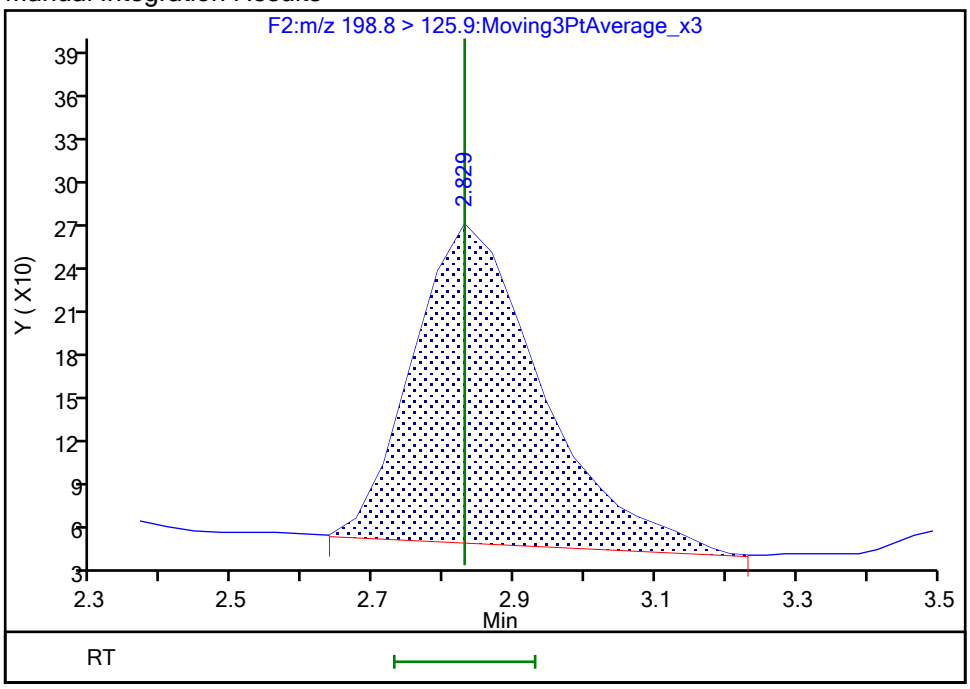

Reviewer: coopert, 31-Dec-2019 11:24:29

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

Data File:	\\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31003.d				
Injection Date:	31-Dec-2019 10:24:16	Instrument ID:	LC_LCMS3		
Lims ID:	std005				
Client ID:					
Operator ID:		ALS Bottle#:	3	Worklist Smp#:	5
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	Carbs8321	Limit Group:	LC - 8321A Carbamates		
Column:		Detector	F2:MRM		

9 Fluometuron, CAS: 2164-17-2

Signal: 1

Processing Integration Results

RT: 3.47
Area: 9353
Amount: 3.995200
Amount Units: ug/l

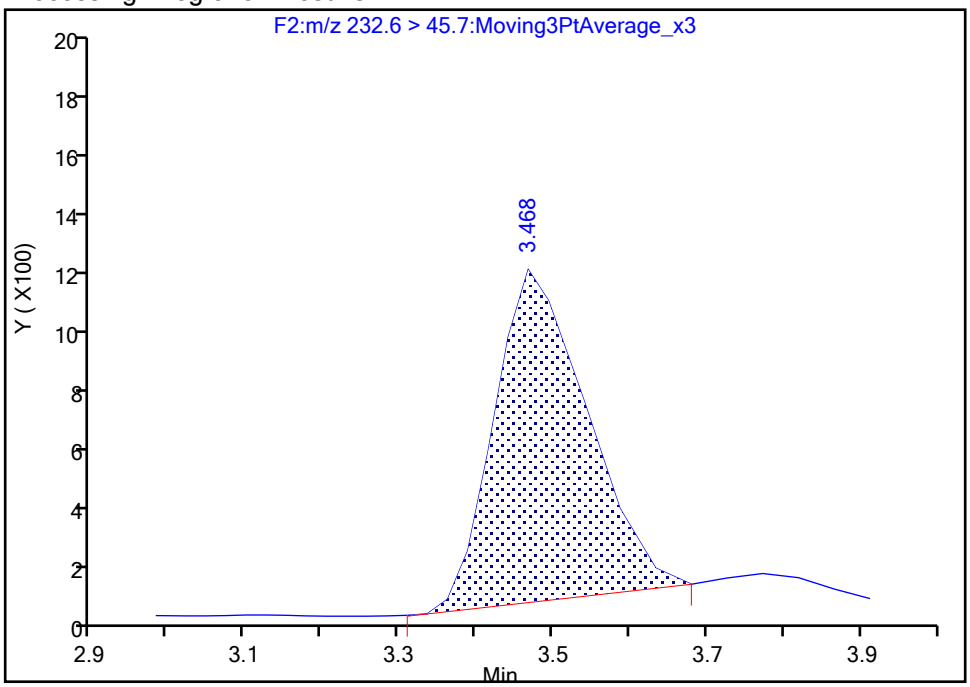

Manual Integration Results

RT: 3.47
Area: 10571
Amount: 5.148792
Amount Units: ug/l

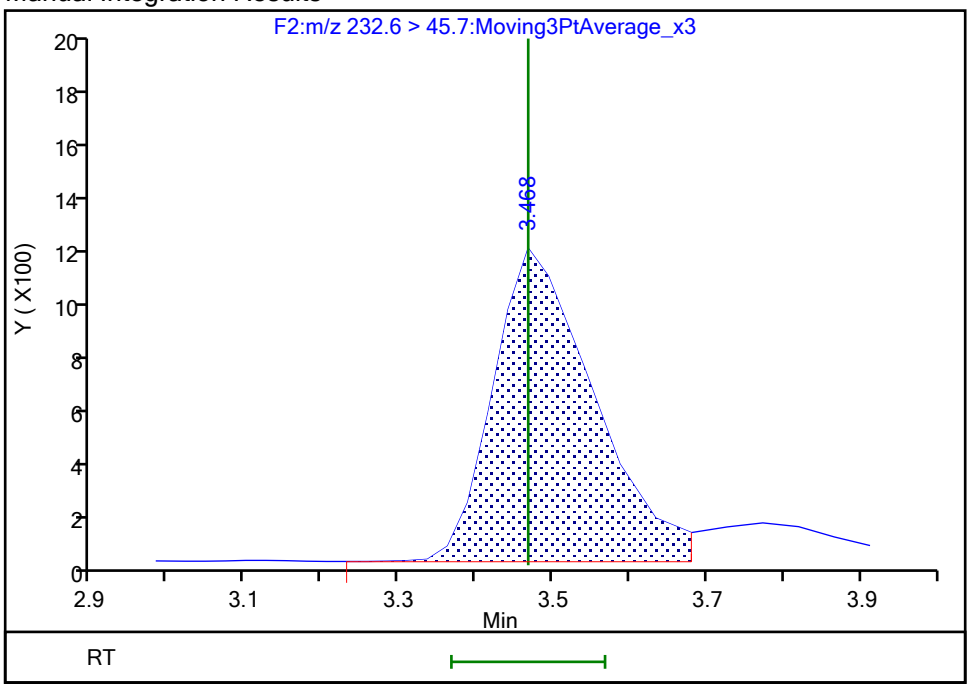

Reviewer: coopert, 31-Dec-2019 11:24:14

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

Data File:	\\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31003.d				
Injection Date:	31-Dec-2019 10:24:16	Instrument ID:	LC_LCMS3		
Lims ID:	std005				
Client ID:					
Operator ID:		ALS Bottle#:	3	Worklist Smp#:	5
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	Carbs8321	Limit Group:	LC - 8321A Carbamates		
Column:		Detector	F2:MRM		

$ 13 Diuron-d6, CAS: STL01549

Signal: 1

Processing Integration Results

RT: 3.73
Area: 11231
Amount: 5.135843
Amount Units: ug/l

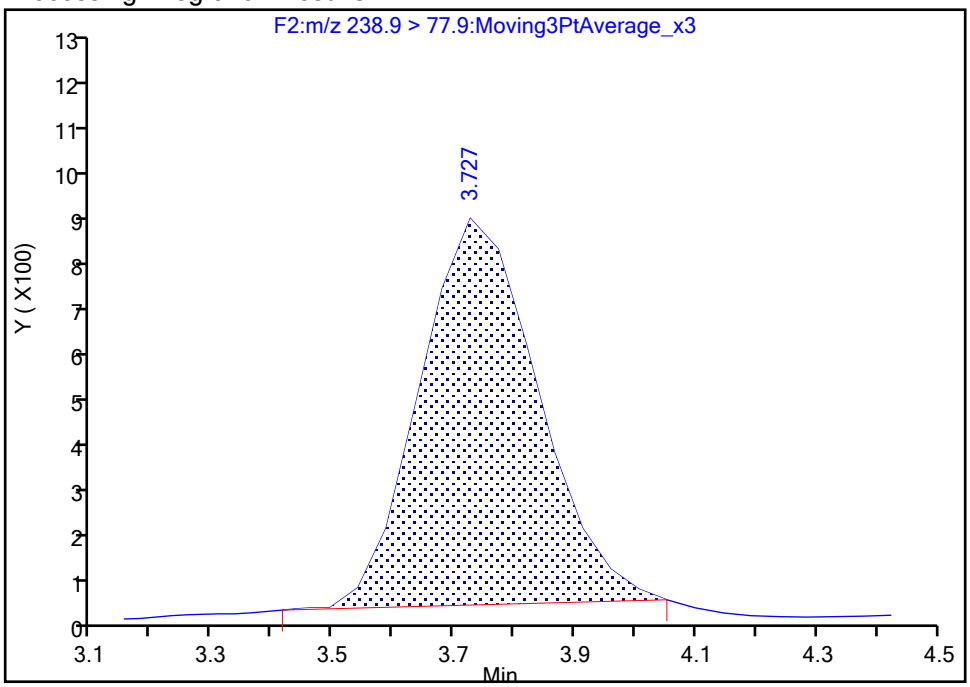

Manual Integration Results

RT: 3.73
Area: 11853
Amount: 5.232890
Amount Units: ug/l

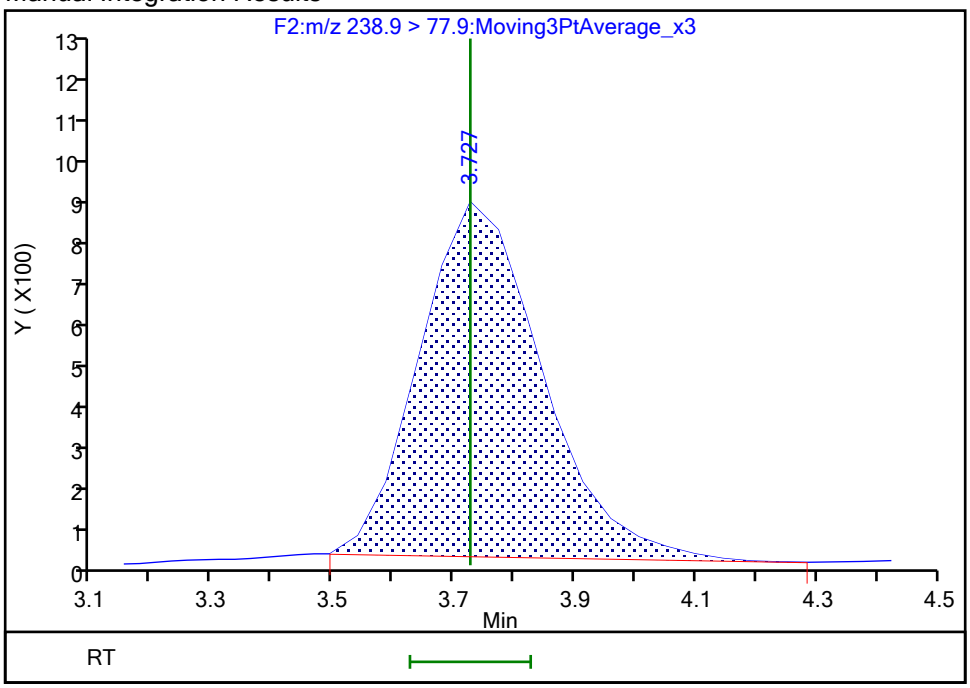

Reviewer: coopert, 31-Dec-2019 11:24:03

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

Data File:	\\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31003.d				
Injection Date:	31-Dec-2019 10:24:16	Instrument ID:	LC_LCMS3		
Lims ID:	std005				
Client ID:					
Operator ID:		ALS Bottle#:	3	Worklist Smp#:	5
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	Carbs8321	Limit Group:	LC - 8321A Carbamates		
Column:		Detector	F2:MRM		

11 Diuron, CAS: 330-54-1

Signal: 1

Processing Integration Results

RT: 3.77
Area: 6452
Amount: 3.879601
Amount Units: ug/l

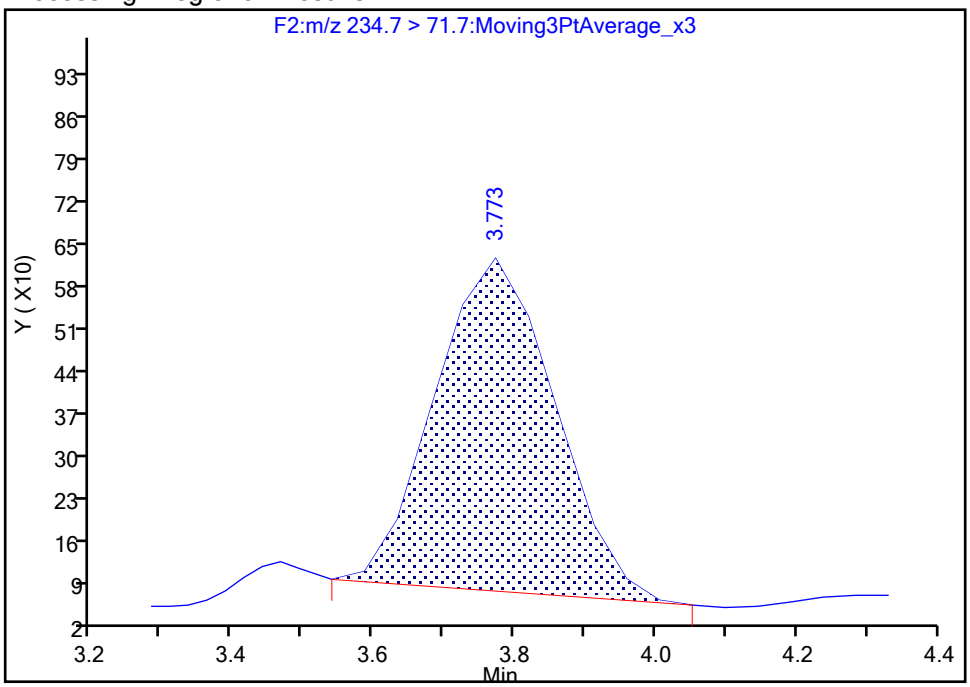

Manual Integration Results

RT: 3.77
Area: 7258
Amount: 4.208569
Amount Units: ug/l

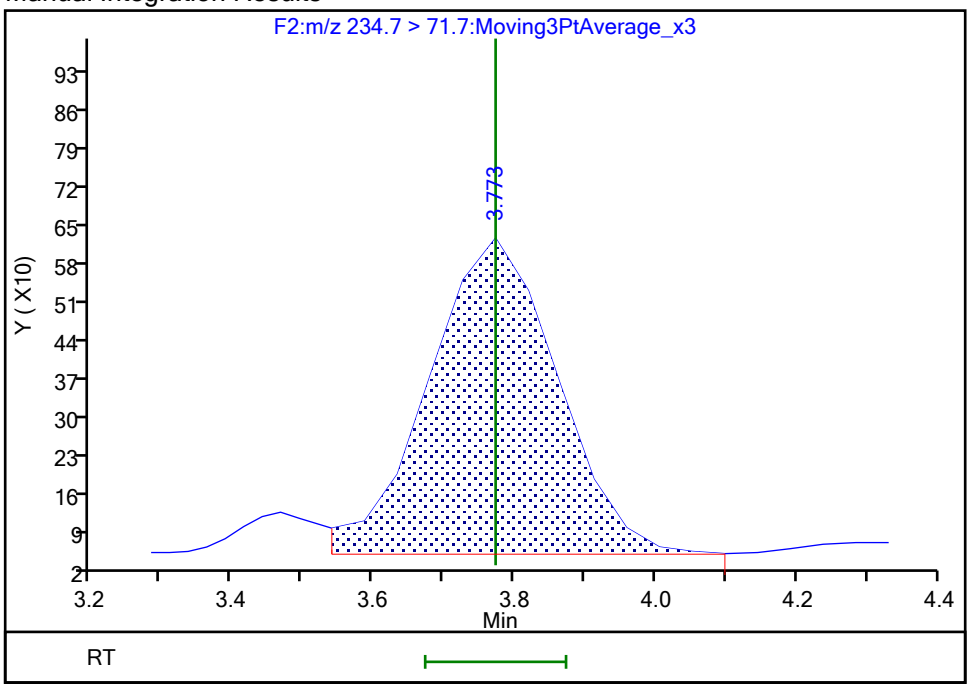

Reviewer: coopert, 31-Dec-2019 11:23:46

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

Data File:	\\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31003.d				
Injection Date:	31-Dec-2019 10:24:16	Instrument ID:	LC_LCMS3		
Lims ID:	std005				
Client ID:					
Operator ID:		ALS Bottle#:	3	Worklist Smp#:	5
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	Carbs8321	Limit Group:	LC - 8321A Carbamates		
Column:		Detector	F2:MRM		

11 Diuron, CAS: 330-54-1

Signal: 2

Processing Integration Results

RT: 3.47
Area: 70568
Amount: 3.879601
Amount Units: ug/l

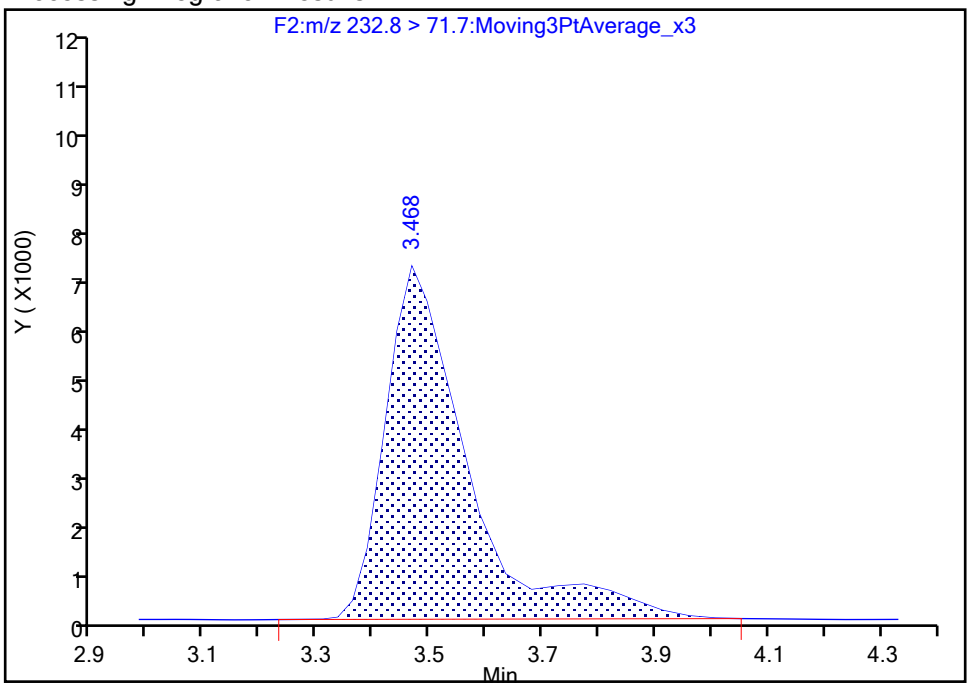

Manual Integration Results

RT: 3.77
Area: 7767
Amount: 4.208569
Amount Units: ug/l

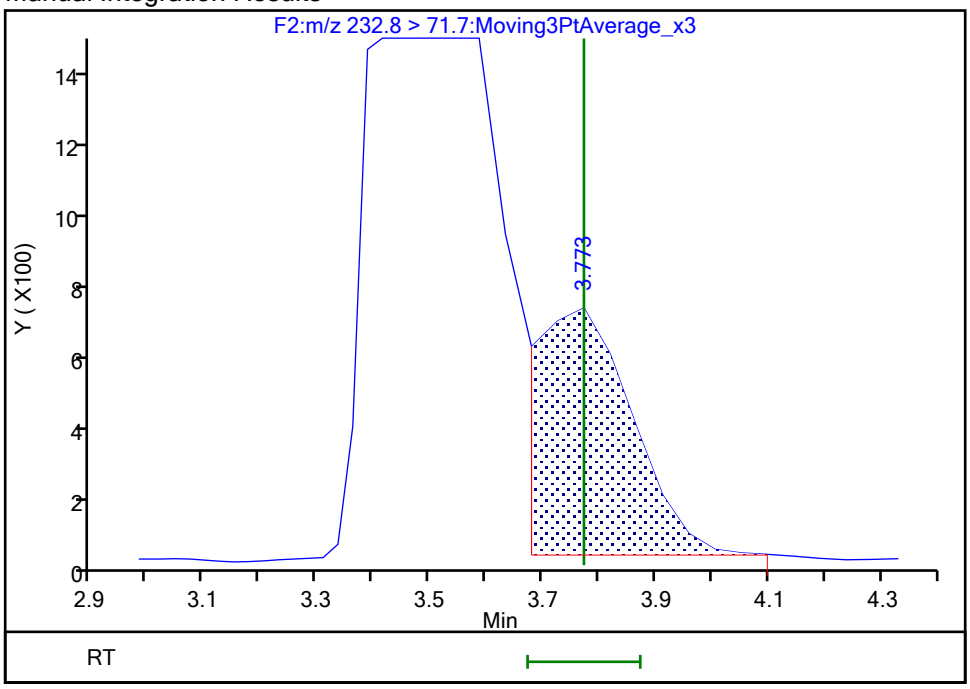

Reviewer: coopert, 31-Dec-2019 11:23:52

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

Data File:	\\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31003.d				
Injection Date:	31-Dec-2019 10:24:16	Instrument ID:	LC_LCMS3		
Lims ID:	std005				
Client ID:					
Operator ID:		ALS Bottle#:	3	Worklist Smp#:	5
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	Carbs8321	Limit Group:	LC - 8321A Carbamates		
Column:		Detector	F3:MRM		

14 Propham, CAS: 122-42-9

Signal: 1

Not Detected

Expected RT: 4.26

Processing Integration Results

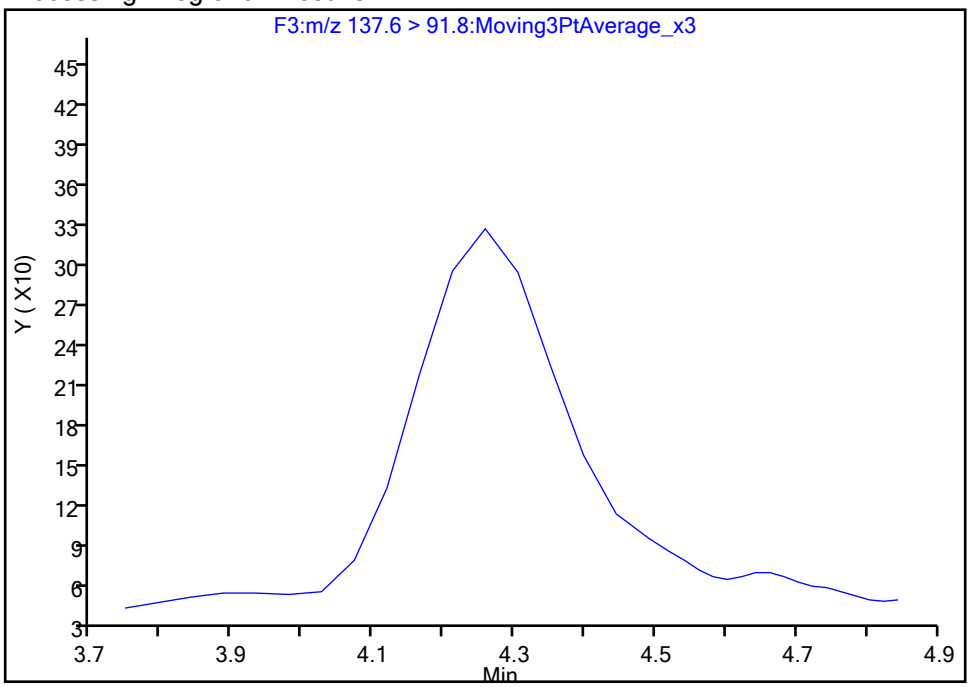

Manual Integration Results

RT:	4.26
Area:	3775
Amount:	6.723440
Amount Units:	ug/l

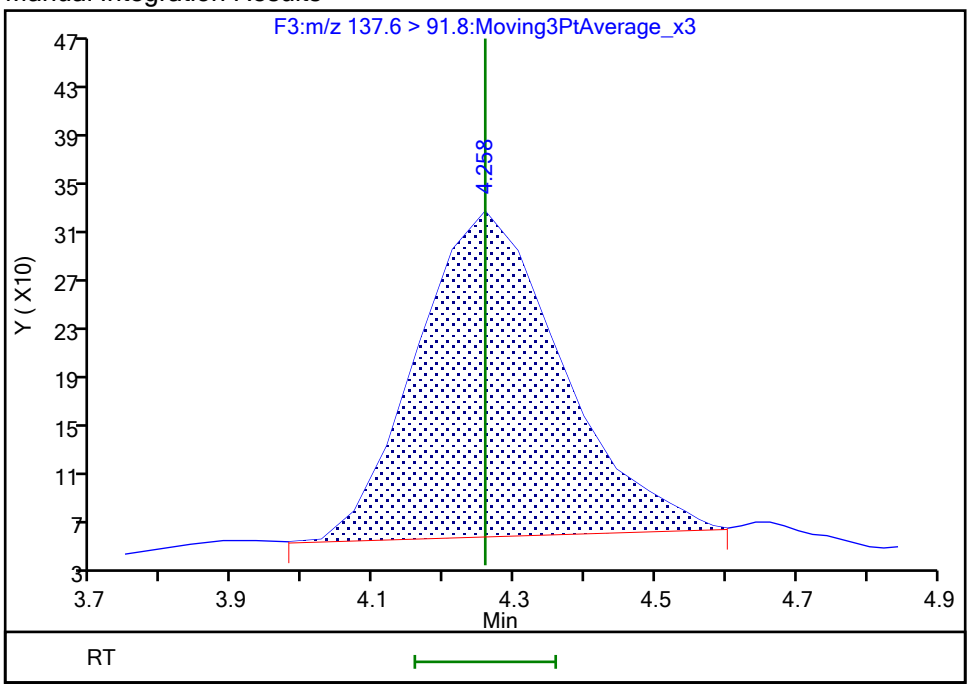

Reviewer: coopert, 31-Dec-2019 11:23:36

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

Data File:	\\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31003.d				
Injection Date:	31-Dec-2019 10:24:16	Instrument ID:	LC_LCMS3		
Lims ID:	std005				
Client ID:					
Operator ID:		ALS Bottle#:	3	Worklist Smp#:	5
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	Carbs8321	Limit Group:	LC - 8321A Carbamates		
Column:		Detector	F3:MRM		

18 Chlorpropham, CAS: 101-21-3

Signal: 1

Processing Integration Results

RT: 5.25
Area: 5826
Amount: 4.519024
Amount Units: ug/l

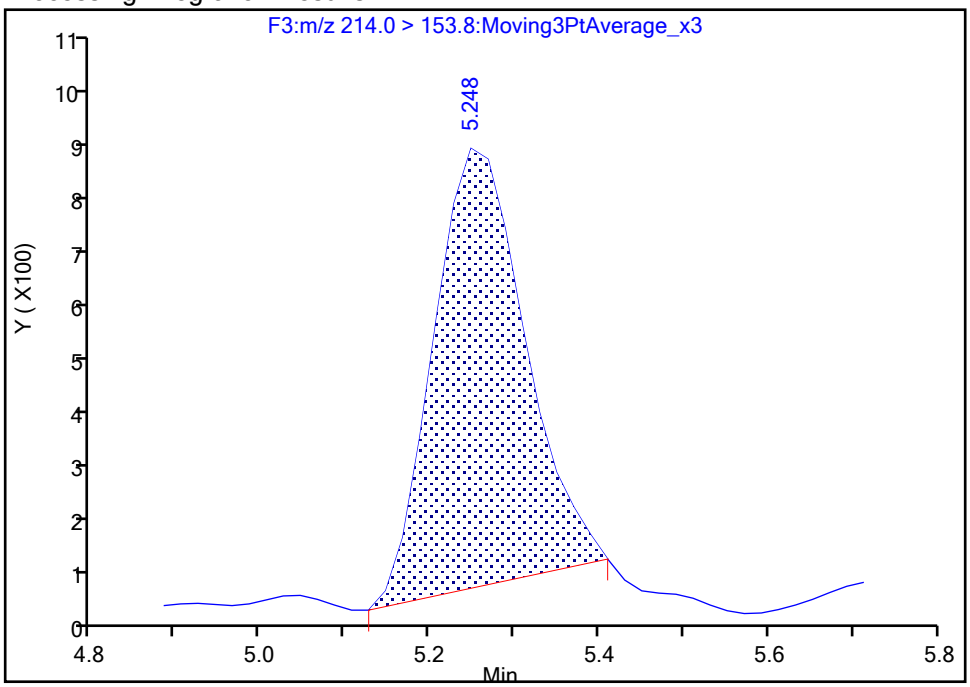

Manual Integration Results

RT: 5.25
Area: 6500
Amount: 4.979554
Amount Units: ug/l

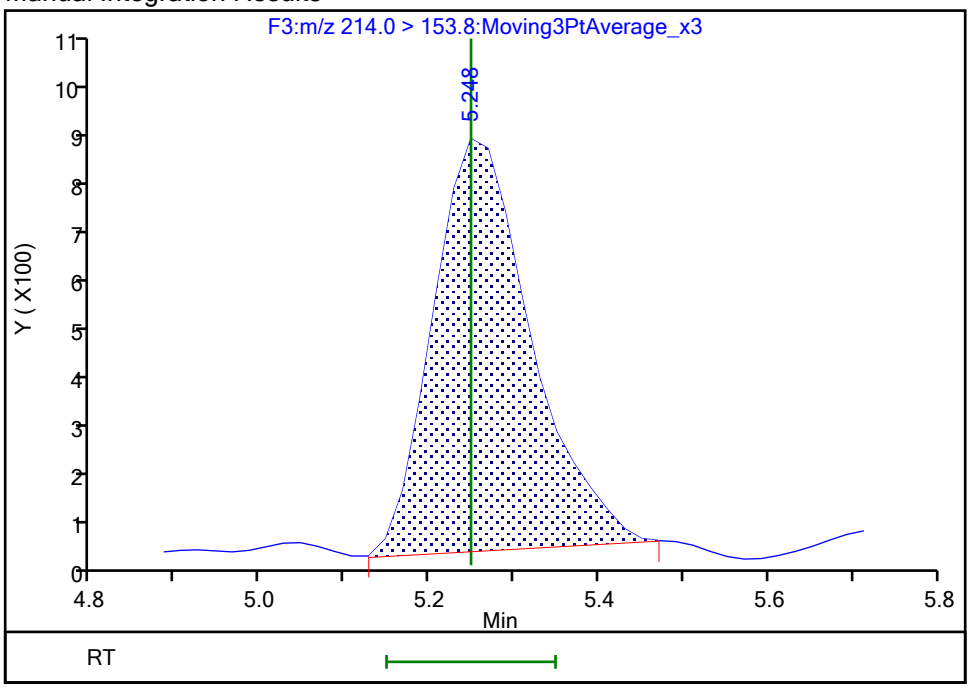

Reviewer: coopert, 31-Dec-2019 11:23:26

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Denver
Target Compound Quantitation Report

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31004.d
Lims ID: std010
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 31-Dec-2019 10:32:17 ALS Bottle#: 4 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: STD010
Misc. Info.: CP319L31
Operator ID: Instrument ID: LC_LCMS3
Sublist: chrom-Carbs8321*sub1

Method: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\Carbs8321.m
Limit Group: LC - 8321A Carbamates
Last Update: 31-Dec-2019 13:38:20 Calib Date: 31-Dec-2019 11:04:24
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31008.d

Column 1 : Det: F1:MRM
Process Host: CTX0311

First Level Reviewer: coopert Date: 31-Dec-2019 11:25:14
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
1 Aminocarb								
209.0 > 152.0	0.730	0.730	0.0	636307	10.5		3888	
2 Carbamicacid,methyl4-dimethylamino								
223.0 > 165.9	0.949	0.961	-0.012	676675	10.3		2959	
3 Methomyl								
162.6 > 87.8	1.343	1.343	0.0	35880	9.47		298	
4 Fenuron								
164.7 > 71.7	1.842	1.842	0.0	79551	10.3		549	
5 Aldicarb								
212.6 > 88.8	2.560	2.560	0.0	37286	11.5		30.0	
6 Monuron								R
198.8 > 71.9	2.829	2.829	0.0	37872	9.93	Target=1.00	217	R
198.8 > 125.9	2.829	2.829	0.0	4977		7.61(0.90-1.10)	57.4	
7 Propoxur								
272.8 > 232.0	3.179	3.179	0.0	221090	10.4		160	
8 Carbofuran								
221.7 > 122.9	3.258	3.258	0.0	180528	10.4		328	
9 Fluometuron								M
232.6 > 45.7	3.468	3.468	0.0	16415	9.09		41.6	M
10 Carbaryl								
201.8 > 144.8	3.540	3.540	0.0	35457	8.55		215	
$ 12 Atrazine-d5								
221.0 > 179.0	3.680	3.680	0.0	204327	9.83		648	
$ 13 Diuron-d6								
238.9 > 77.9	3.727	3.727	0.0	18839	8.53		132	

Report Date: 31-Dec-2019 13:38:20 Chrom Revision: 2.3 15-Dec-2019 06:20:02
Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31004.d
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
11 Diuron								RM
234.7 > 71.7	3.773	3.773	0.0	13402	8.57	Target=1.00	98.2	R
232.8 > 71.7	3.773	3.773	0.0	21066		0.64(0.90-1.10)	2.1	M
14 Propham								
137.6 > 91.8	4.258	4.258	0.0	6499	11.6		30.6	
15 Siduron								R
232.9 > 93.8	4.444	4.444	0.0	85049	9.95	Target=1.00	226	R
232.9 > 136.8	4.444	4.444	0.0	139473		0.61(0.90-1.10)	255	
16 Methiocarb								
225.8 > 168.9	4.562	4.562	0.0	60192	10.2		130	
17 Linuron								R
248.8 > 159.9	4.743	4.723	0.020	19981	9.41	Target=1.00	187	R
248.8 > 182.1	4.743	4.723	0.020	13466		1.48(0.90-1.10)	113	
18 Chlorpropham								R
214.0 > 153.8	5.248	5.248	0.0	12742	9.74	Target=1.00	75.8	R
214.0 > 171.9	5.248	5.248	0.0	22637		0.56(0.90-1.10)	137	
19 Neburon								R
275.0 > 88.0	5.673	5.673	0.0	73475	10.6	Target=1.00	494	R
275.0 > 114.0	5.673	5.673	0.0	32196		2.28(0.90-1.10)	360	

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Review Flags
M - Manually Integrated

Reagents:

Carb_CS_Cal_00033 Amount Added: 20.00 Units: uL

Report Date: 31-Dec-2019 13:38:20 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Denver

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31004.d

Injection Date: 31-Dec-2019 10:32:17 Instrument ID: LC_LCMS3

Lims ID: std010

Client ID:

Operator ID: ALS Bottle#: 4 Worklist Smp#: 6

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: Carbs8321 Limit Group: LC - 8321A Carbamates

1 Aminocarb

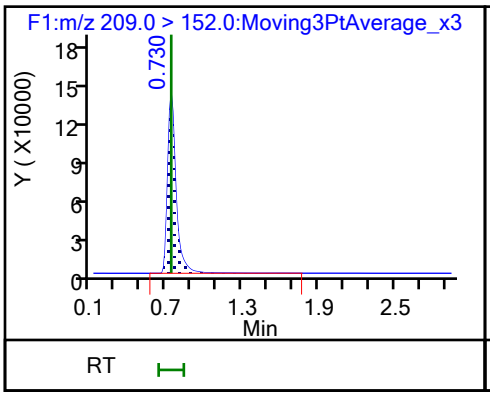

2 Carbamicacid,methyl4-dimethylamino

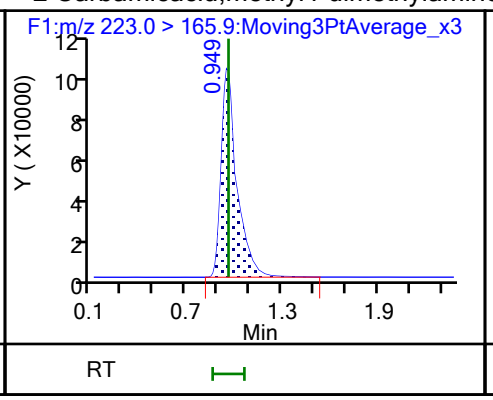

3 Methomyl

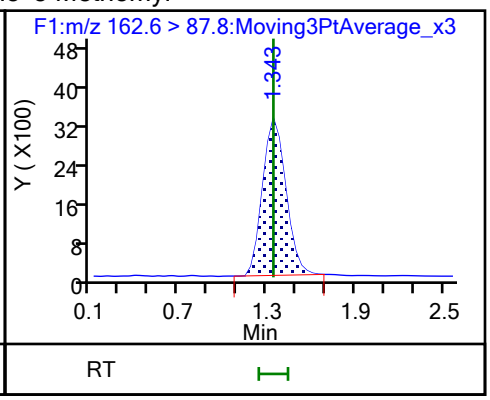

4 Fenuron

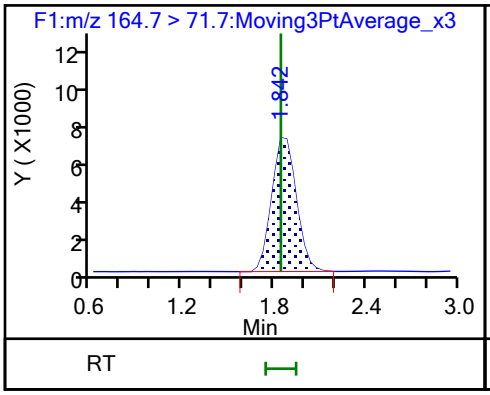

5 Aldicarb

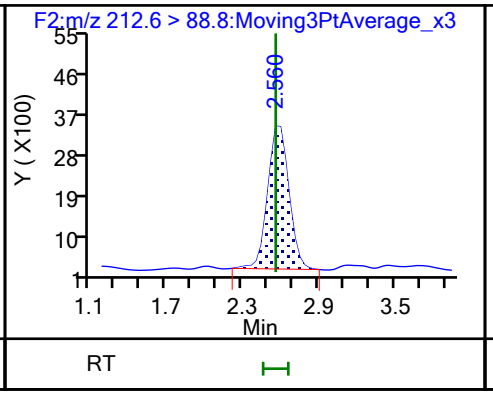

6 Monuron

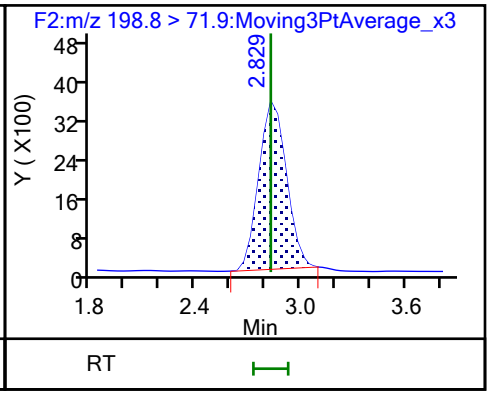

6 Monuron

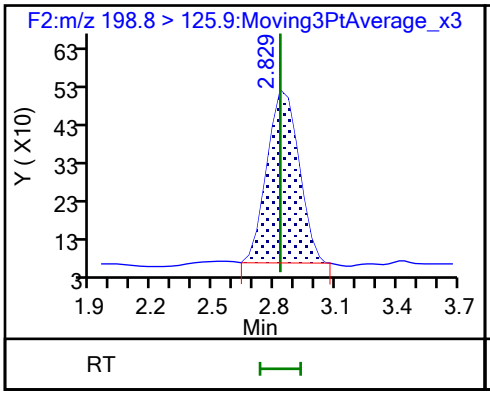

7 Propoxur

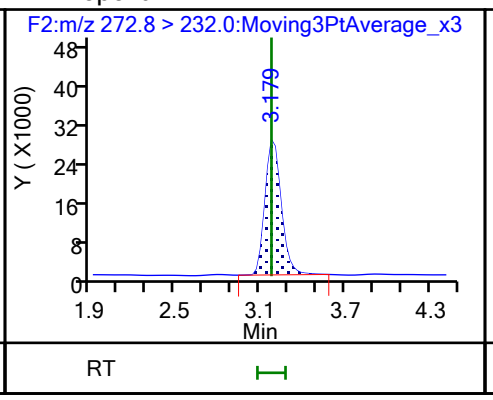

8 Carbofuran

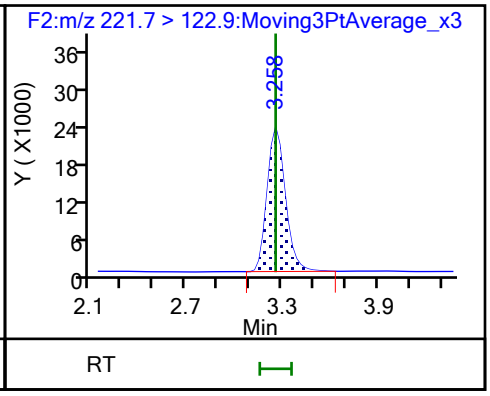

9 Fluometuron (M)

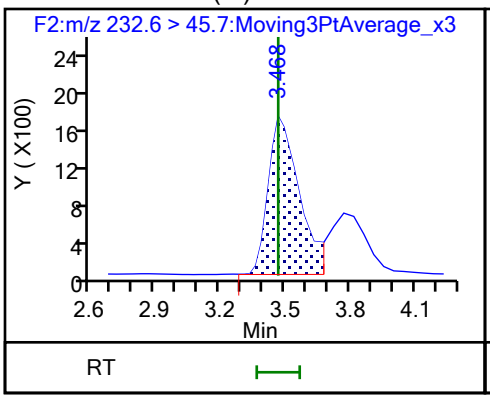

10 Carbaryl

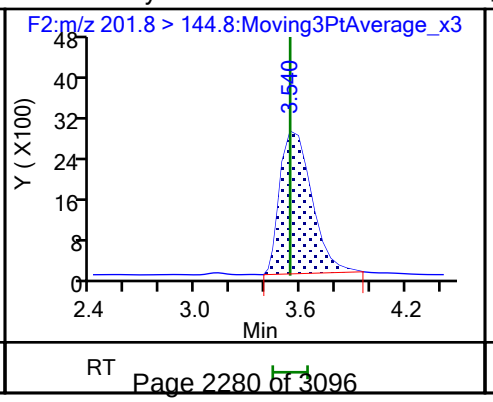

$ 12 Atrazine-d5

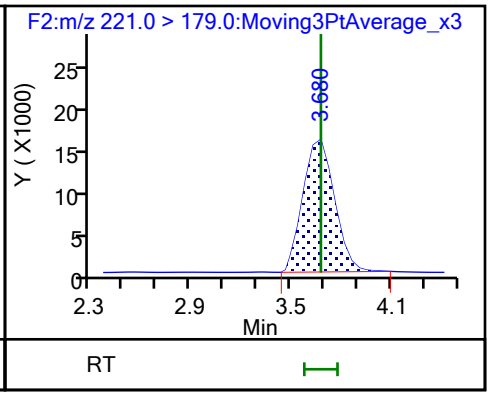

$ 13 Diuron-d6

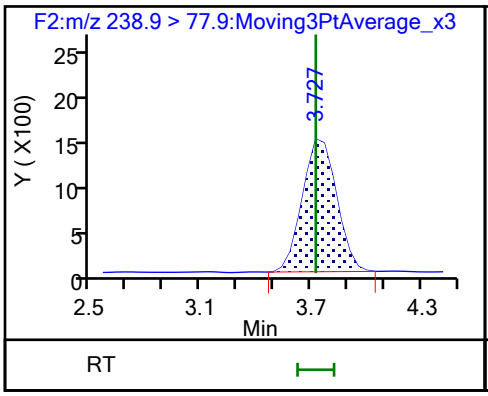

11 Diuron

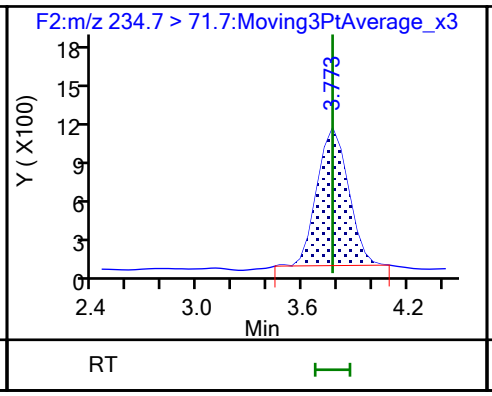

11 Diuron (M)

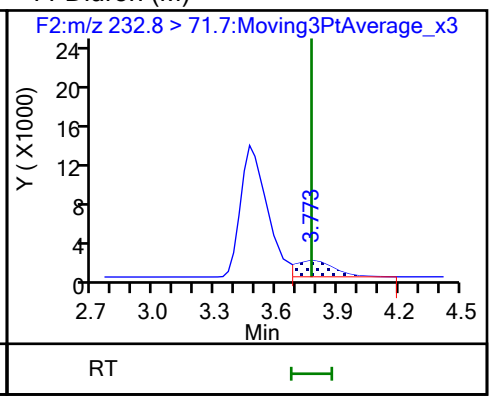

14 Propham

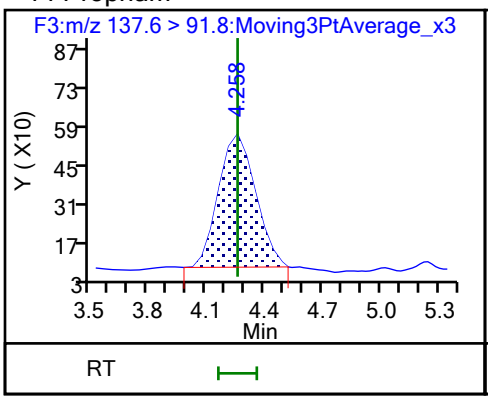

15 Siduron

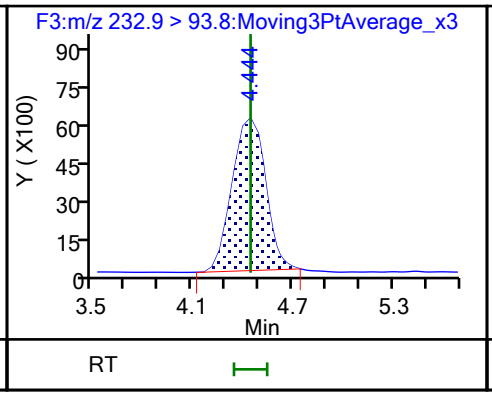

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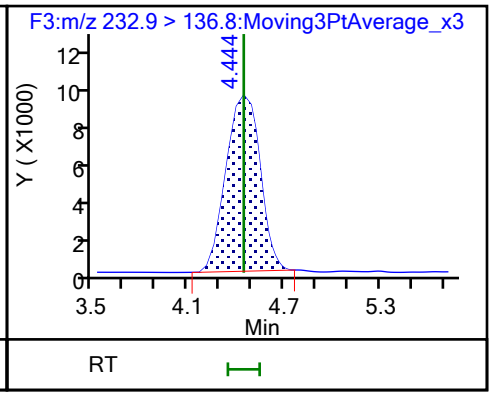

16 Methiocarb

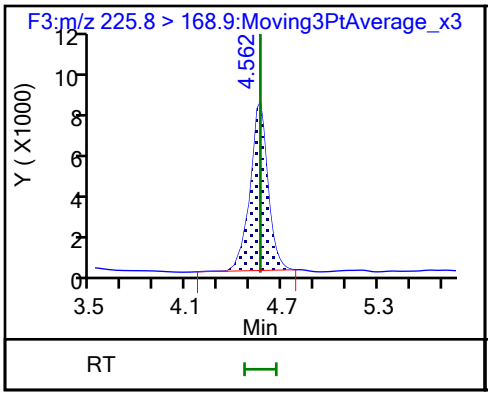

17 Linuron

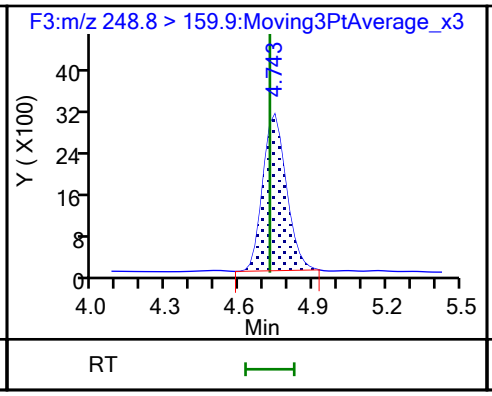

17 Linuron

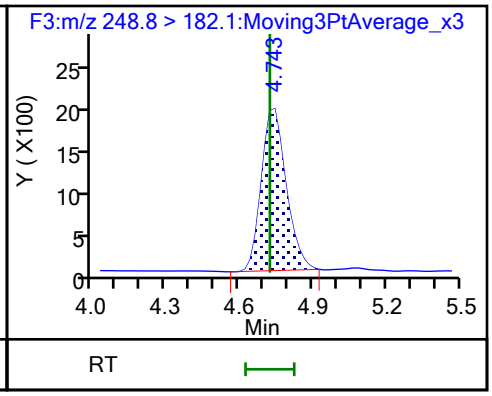

18 Chlorpropham

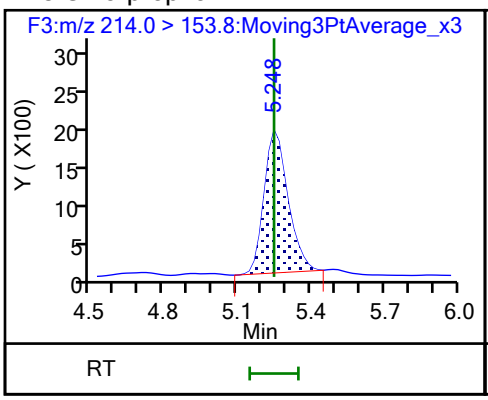

18 Chlorpropham

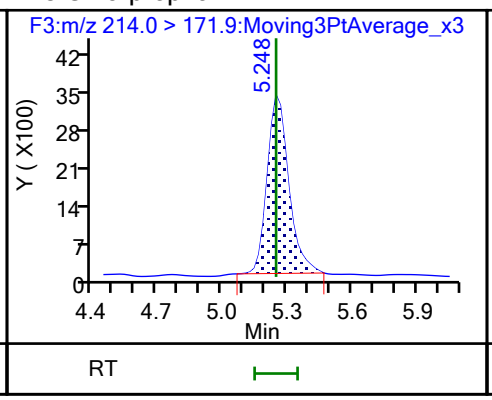

19 Neburon

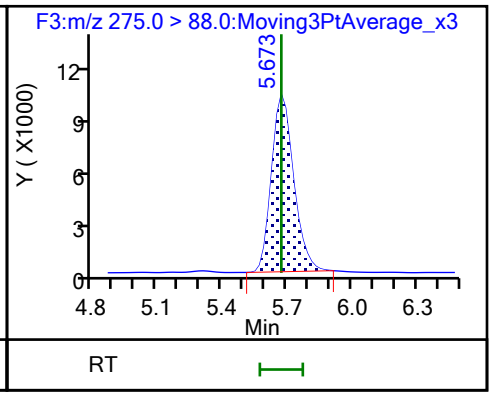

19 Neburon

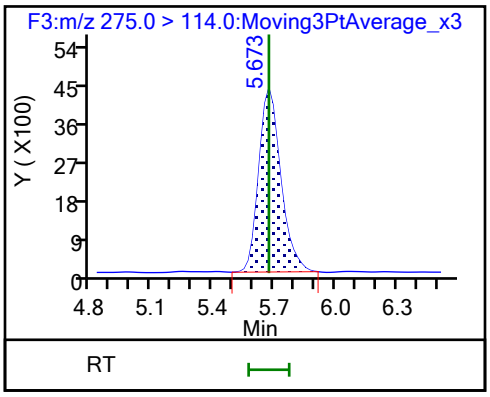
F3:m/z 275.0 > 114.0:Moving3PtAverage_x3
5.673
Y (X100)
54
45
36
27
18
9
0
4.8
5.1
5.4
5.7
6.0
6.3
Min
RT

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

Data File:	\\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31004.d				
Injection Date:	31-Dec-2019 10:32:17	Instrument ID:	LC_LCMS3		
Lims ID:	std010				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	6
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	Carbs8321	Limit Group:	LC - 8321A Carbamates		
Column:		Detector	F2:MRM		

9 Fluometuron, CAS: 2164-17-2

Signal: 1

Processing Integration Results

RT: 3.47
Area: 21994
Amount: 11.801339
Amount Units: ug/l

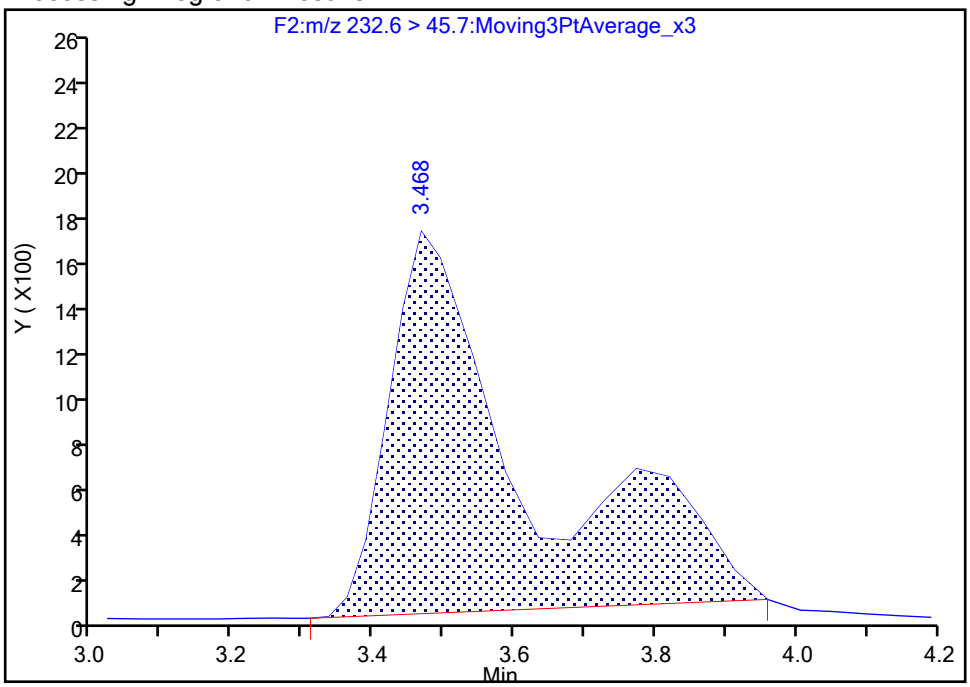

Manual Integration Results

RT: 3.47
Area: 16415
Amount: 9.091464
Amount Units: ug/l

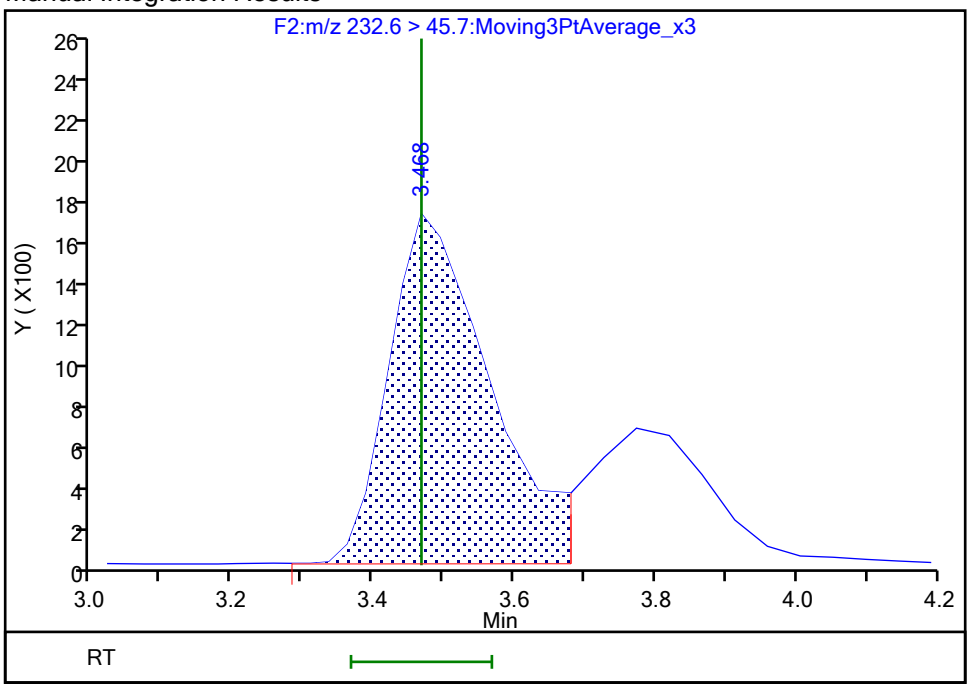

Reviewer: coopert, 31-Dec-2019 11:24:55

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

Data File:	\\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31004.d				
Injection Date:	31-Dec-2019 10:32:17	Instrument ID:	LC_LCMS3		
Lims ID:	std010				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	6
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	Carbs8321	Limit Group:	LC - 8321A Carbamates		
Column:		Detector	F2:MRM		

11 Diuron, CAS: 330-54-1

Signal: 2

Processing Integration Results

RT: 3.47
Area: 139315
Amount: 8.695624
Amount Units: ug/l

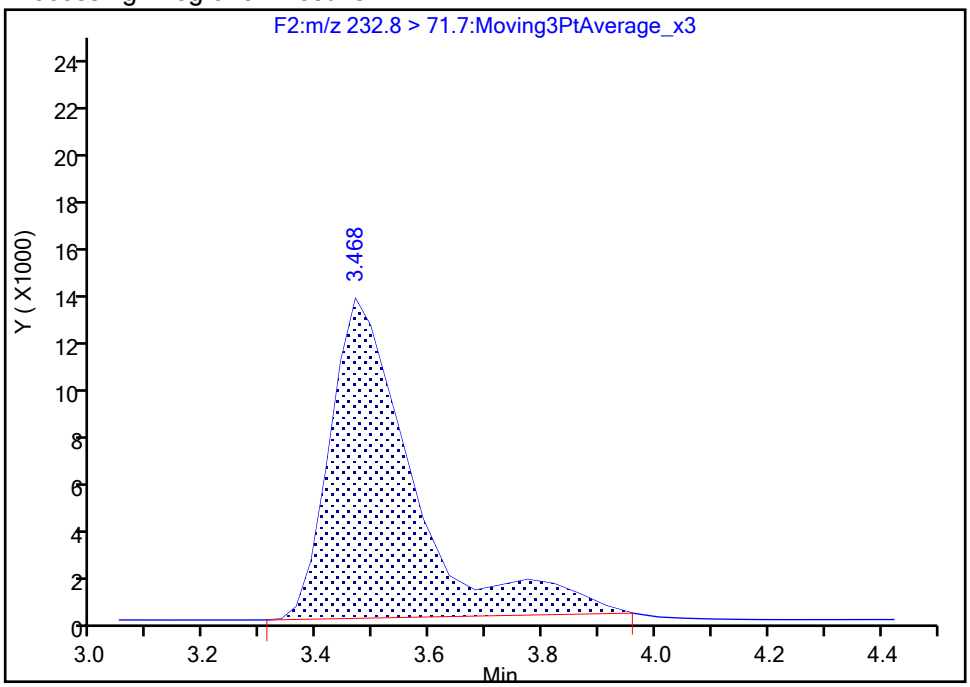

Manual Integration Results

RT: 3.77
Area: 21066
Amount: 8.570184
Amount Units: ug/l

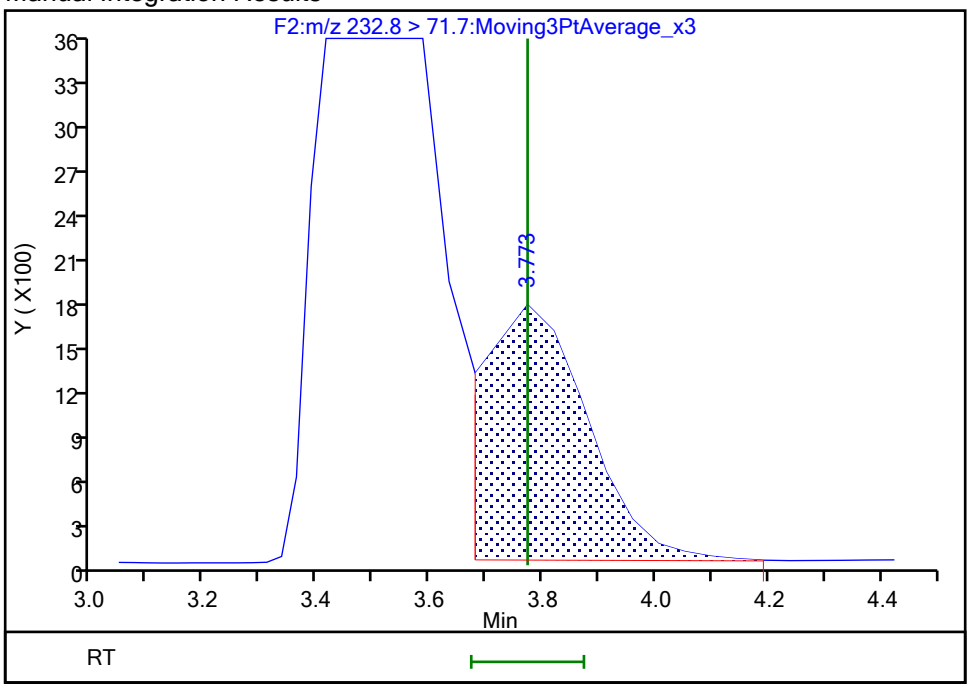

Reviewer: coopert, 31-Dec-2019 11:25:07

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Denver
Target Compound Quantitation Report

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31005.d
Lims ID: std020
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 31-Dec-2019 10:40:19 ALS Bottle#: 5 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: STD020
Misc. Info.: CP319L31
Operator ID: Instrument ID: LC_LCMS3
Sublist: chrom-Carbs8321*sub1

Method: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\Carbs8321.m
Limit Group: LC - 8321A Carbamates
Last Update: 31-Dec-2019 13:38:21 Calib Date: 31-Dec-2019 11:04:24
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31008.d

Column 1 : Det: F1:MRM
Process Host: CTX0311

First Level Reviewer: coopert Date: 31-Dec-2019 11:25:49
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
1 Aminocarb								
209.0 > 152.0	0.730	0.730	0.0	1290355	22.1		8806	
2 Carbamicacid,methyl4-dimethylamino								
223.0 > 165.9	0.961	0.961	0.0	1331694	20.7		3525	
3 Methomyl								
162.6 > 87.8	1.343	1.343	0.0	74741	21.3		577	
4 Fenuron								
164.7 > 71.7	1.842	1.842	0.0	157140	21.2		714	
5 Aldicarb								
212.6 > 88.8	2.560	2.560	0.0	65243	22.6		104	
6 Monuron								R
198.8 > 71.9	2.829	2.829	0.0	71640	19.2	Target=1.00	436	R
198.8 > 125.9	2.829	2.829	0.0	9179		7.80(0.90-1.10)	74.1	
7 Propoxur								
272.8 > 232.0	3.179	3.179	0.0	410110	21.0		364	
8 Carbofuran								
221.7 > 122.9	3.258	3.258	0.0	360698	21.5		522	
9 Fluometuron								M
232.6 > 45.7	3.468	3.468	0.0	33492	20.6		101	M
10 Carbaryl								
201.8 > 144.8	3.540	3.540	0.0	88374	21.3		539	
$ 12 Atrazine-d5								
221.0 > 179.0	3.680	3.680	0.0	400162	19.8		1238	
$ 13 Diuron-d6								
238.9 > 77.9	3.727	3.727	0.0	39184	18.1		305	

Report Date: 31-Dec-2019 13:38:21 Chrom Revision: 2.3 15-Dec-2019 06:20:02
Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31005.d
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
11 Diuron								RM
234.7 > 71.7	3.773	3.773	0.0	31615	21.5	Target=1.00	174	RM
232.8 > 71.7	3.773	3.773	0.0	41926		0.75(0.90-1.10)	2.9	
14 Propham								
137.6 > 91.8	4.258	4.258	0.0	11028	19.6		39.9	
15 Siduron								R
232.9 > 93.8	4.444	4.444	0.0	172602	20.5	Target=1.00	363	R
232.9 > 136.8	4.444	4.444	0.0	277356		0.62(0.90-1.10)	357	
16 Methiocarb								
225.8 > 168.9	4.562	4.562	0.0	118439	20.6		311	
17 Linuron								R
248.8 > 159.9	4.743	4.743	0.0	42023	20.7	Target=1.00	334	R
248.8 > 182.1	4.743	4.743	0.0	27562		1.52(0.90-1.10)	354	
18 Chlorpropham								R
214.0 > 153.8	5.248	5.248	0.0	26032	19.9	Target=1.00	180	R
214.0 > 171.9	5.248	5.248	0.0	51002		0.51(0.90-1.10)	351	
19 Neburon								R
275.0 > 88.0	5.673	5.673	0.0	139097	20.4	Target=1.00	849	R
275.0 > 114.0	5.673	5.673	0.0	58616		2.37(0.90-1.10)	472	

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Review Flags
M - Manually Integrated

Reagents:

Carb_CS_Cal_00033 Amount Added: 40.00 Units: uL

Report Date: 31-Dec-2019 13:38:21 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Denver

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31005.d

Injection Date: 31-Dec-2019 10:40:19 Instrument ID: LC_LCMS3

Lims ID: std020

Client ID:

Operator ID: ALS Bottle#: 5 Worklist Smp#: 7

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: Carbs8321 Limit Group: LC - 8321A Carbamates

1 Aminocarb

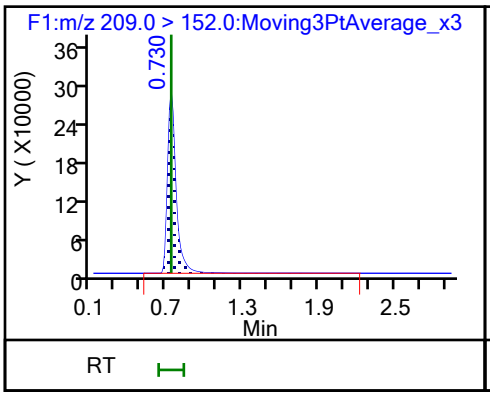

2 Carbamicacid,methyl4-dimethylamino

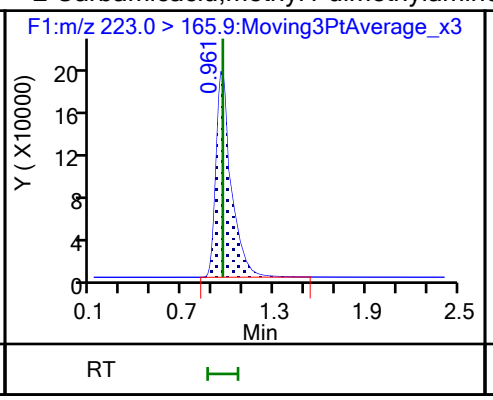

3 Methomyl

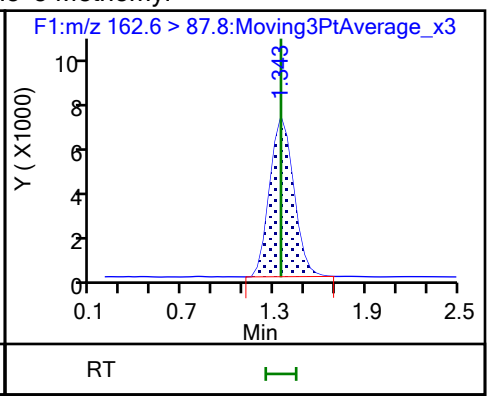

4 Fenuron

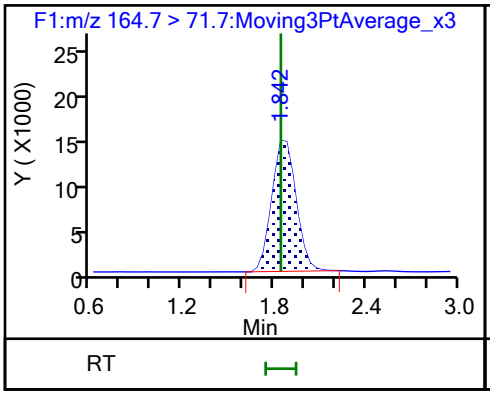

5 Aldicarb

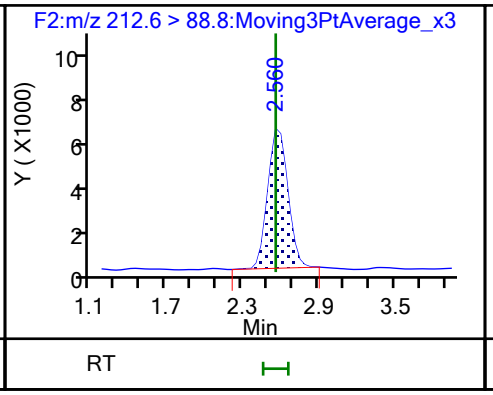

6 Monuron

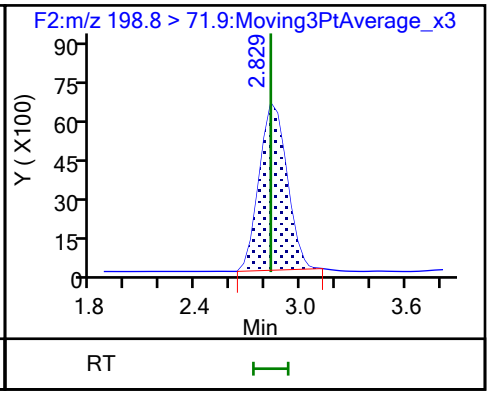

6 Monuron

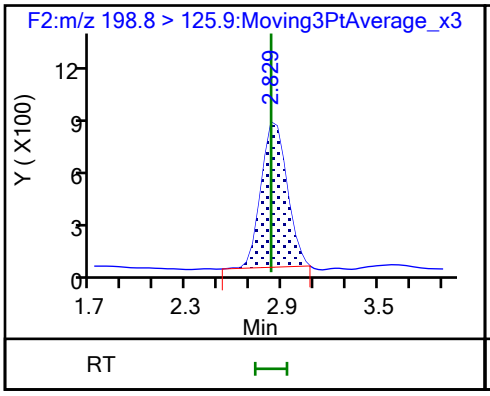

7 Propoxur

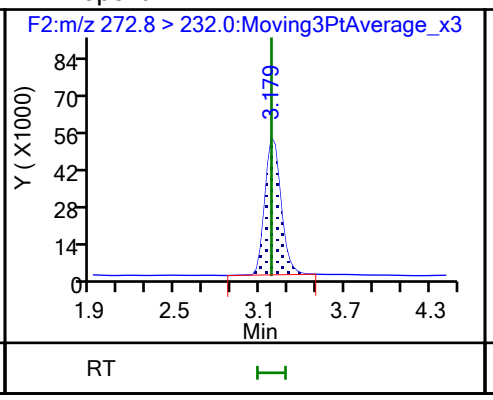

8 Carbofuran

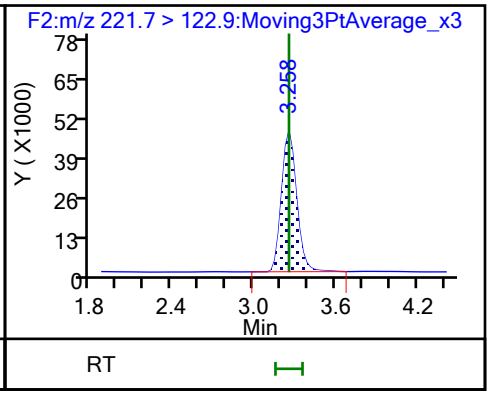

9 Fluometuron (M)

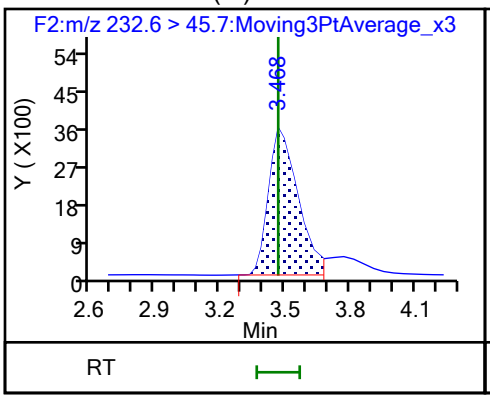

10 Carbaryl

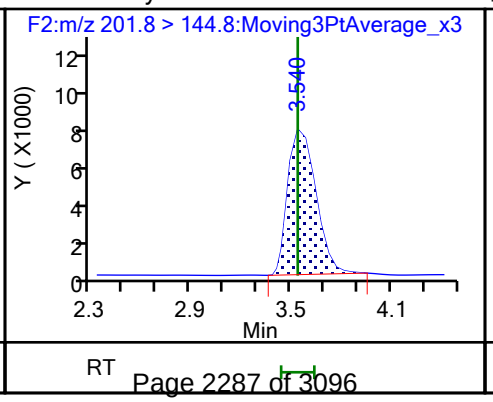

$ 12 Atrazine-d5

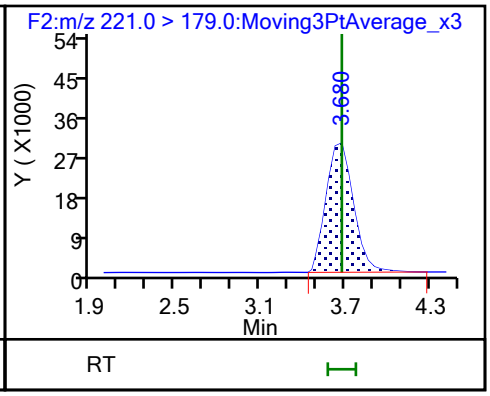

Report Date: 31-Dec-2019 13:38:21 Chrom Revision: 2.3 15-Dec-2019 06:20:02
Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31005.d

$ 13 Diuron-d6

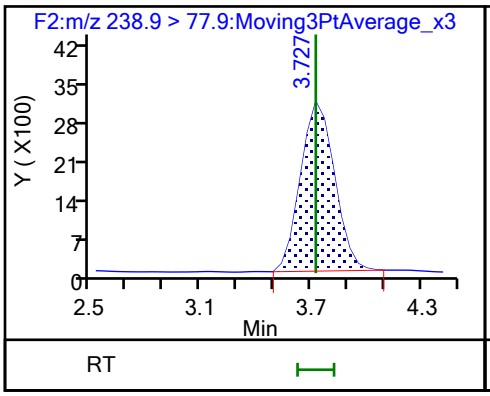

11 Diuron (M)

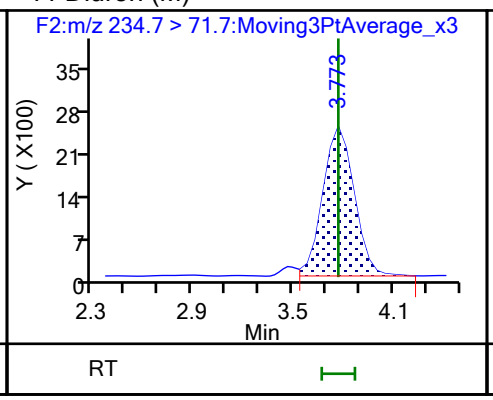

11 Diuron

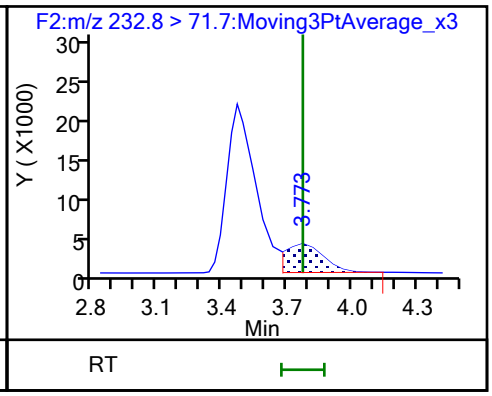

14 Propham

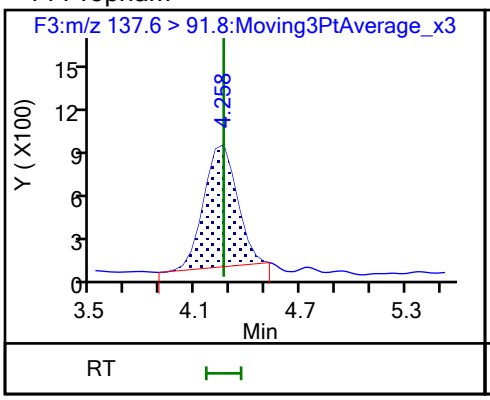

15 Siduron

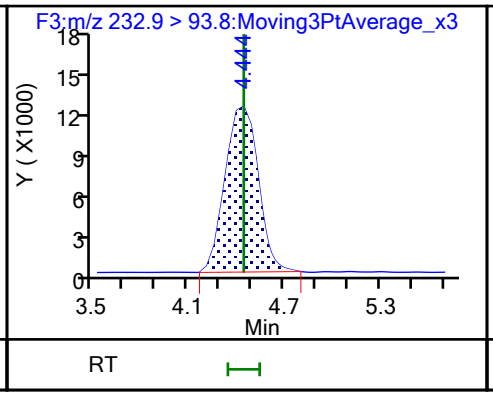

15 Siduron

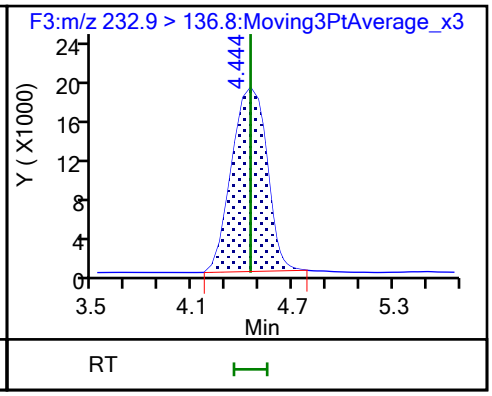

16 Methiocarb

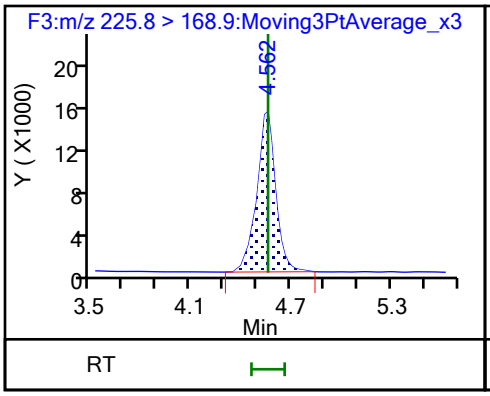

17 Linuron

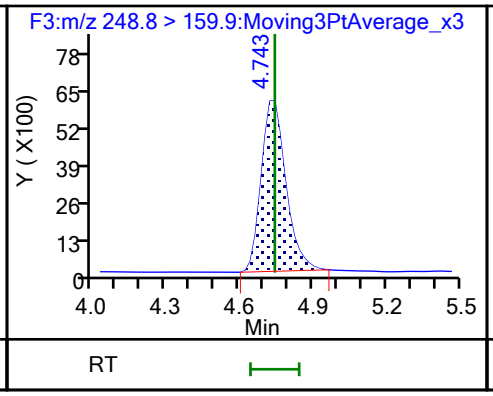

17 Linuron

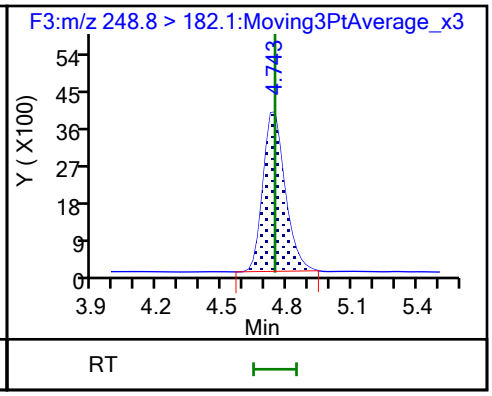

18 Chlorpropham

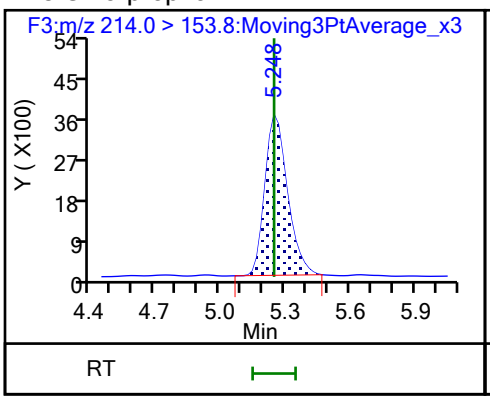

18 Chlorpropham

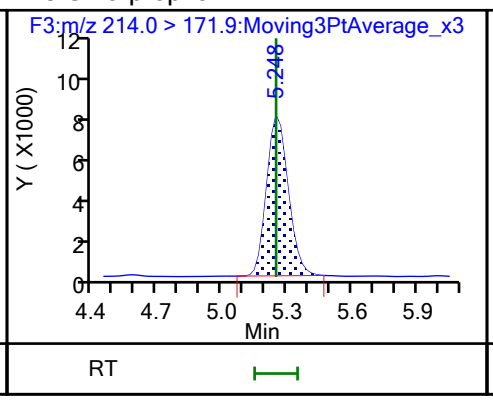

19 Neburon

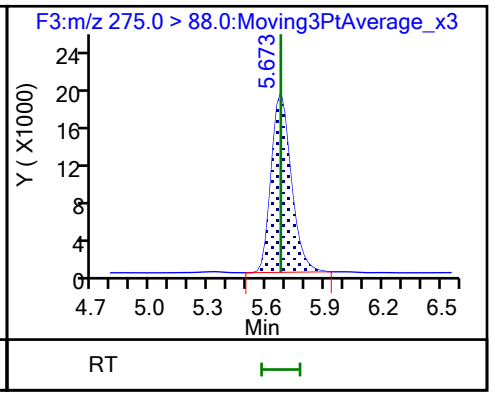

19 Neburon

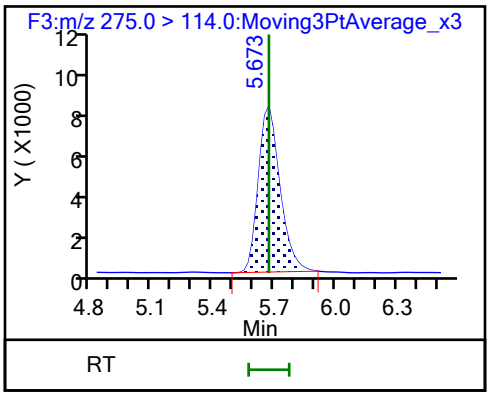
F3:m/z 275.0 > 114.0:Moving3PtAverage_x3
5.673
Y (X1000)
12
10
8
6
4
2
0
4.8
5.1
5.4
5.7
6.0
6.3
Min
RT

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

Data File:	\\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31005.d				
Injection Date:	31-Dec-2019 10:40:19	Instrument ID:	LC_LCMS3		
Lims ID:	std020				
Client ID:					
Operator ID:		ALS Bottle#:	5	Worklist Smp#:	7
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	Carbs8321	Limit Group:	LC - 8321A Carbamates		
Column:		Detector	F2:MRM		

9 Fluometuron, CAS: 2164-17-2

Signal: 1

Processing Integration Results

RT: 3.47
Area: 38393
Amount: 22.661809
Amount Units: ug/l

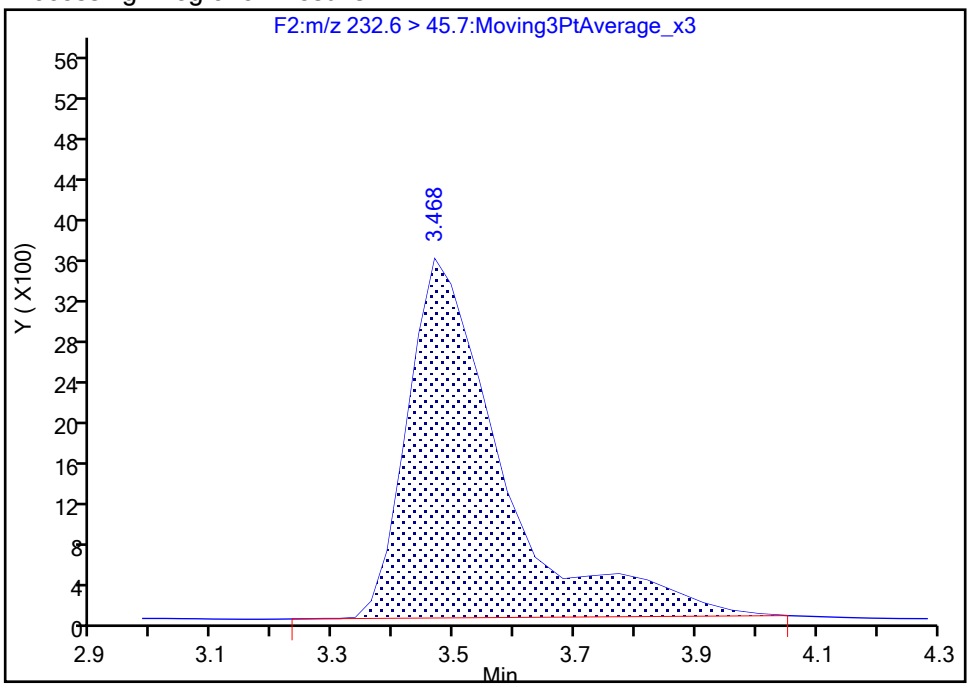

Manual Integration Results

RT: 3.47
Area: 33492
Amount: 20.612514
Amount Units: ug/l

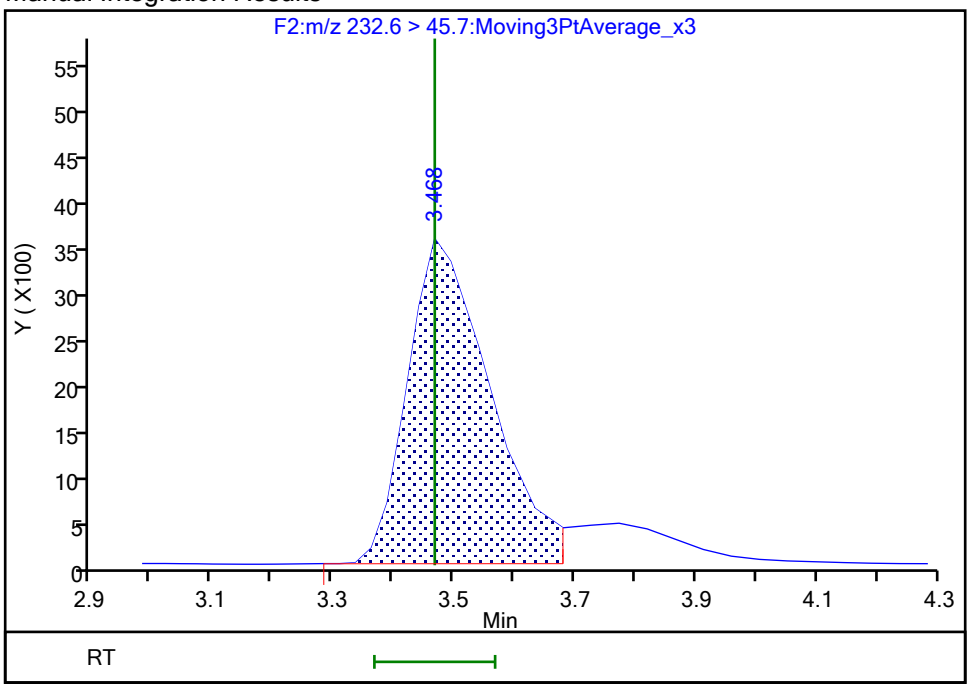

Reviewer: coopert, 31-Dec-2019 11:25:42

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

Data File:	\\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31005.d				
Injection Date:	31-Dec-2019 10:40:19	Instrument ID:	LC_LCMS3		
Lims ID:	std020				
Client ID:					
Operator ID:		ALS Bottle#:	5	Worklist Smp#:	7
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	Carbs8321	Limit Group:	LC - 8321A Carbamates		
Column:		Detector	F2:MRM		

11 Diuron, CAS: 330-54-1

Signal: 1

Processing Integration Results

RT: 3.77
Area: 29302
Amount: 19.012026
Amount Units: ug/l

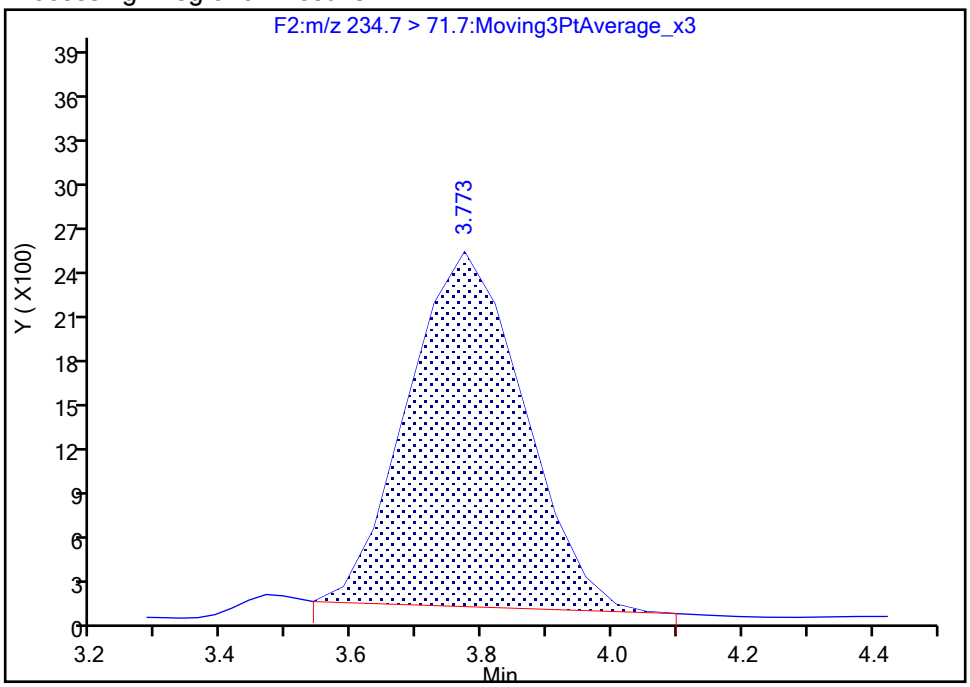

Manual Integration Results

RT: 3.77
Area: 31615
Amount: 21.499560
Amount Units: ug/l

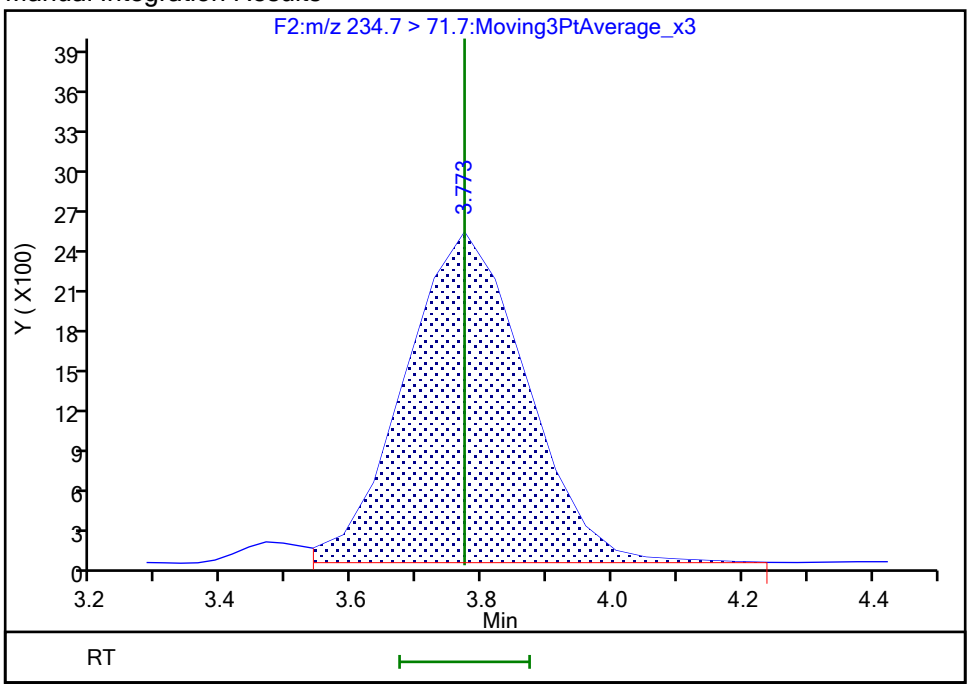

Reviewer: coopert, 31-Dec-2019 11:25:30

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Denver
Target Compound Quantitation Report

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31006.d
Lims ID: std050
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 31-Dec-2019 10:48:21 ALS Bottle#: 6 Worklist Smp#: 8
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: STD050
Misc. Info.: CP319L31
Operator ID: Instrument ID: LC_LCMS3
Sublist: chrom-Carbs8321*sub1

Method: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\Carbs8321.m
Limit Group: LC - 8321A Carbamates
Last Update: 31-Dec-2019 13:38:22 Calib Date: 31-Dec-2019 11:04:24
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31008.d

Column 1 : Det: F1:MRM
Process Host: CTX0311

First Level Reviewer: coopert Date: 31-Dec-2019 11:26:12
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
1 Aminocarb								
209.0 > 152.0	0.730	0.730	0.0	2959103	51.7		19875	
2 Carbamicacid,methyl4-dimethylamino								
223.0 > 165.9	0.961	0.961	0.0	3233466	51.0		5279	
3 Methomyl								
162.6 > 87.8	1.343	1.343	0.0	175971	52.1		811	
4 Fenuron								
164.7 > 71.7	1.842	1.842	0.0	375936	51.7		1130	
5 Aldicarb								
212.6 > 88.8	2.560	2.560	0.0	143119	53.7		125	
6 Monuron								R
198.8 > 71.9	2.829	2.829	0.0	188640	51.2	Target=1.00	745	R
198.8 > 125.9	2.829	2.829	0.0	21116		8.93(0.90-1.10)	162	
7 Propoxur								
272.8 > 232.0	3.179	3.179	0.0	894617	50.6		878	
8 Carbofuran								
221.7 > 122.9	3.258	3.258	0.0	852929	52.0		1056	
9 Fluometuron								M
232.6 > 45.7	3.468	3.468	0.0	76204	49.4		104	M
10 Carbaryl								
201.8 > 144.8	3.540	3.540	0.0	213898	51.6		626	
$ 12 Atrazine-d5								
221.0 > 179.0	3.680	3.680	0.0	1016311	51.0		3801	
$ 13 Diuron-d6								
238.9 > 77.9	3.727	3.727	0.0	116176	54.4		632	

Report Date: 31-Dec-2019 13:38:23 Chrom Revision: 2.3 15-Dec-2019 06:20:02
Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31006.d
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
11 Diuron								R
234.7 > 71.7	3.773	3.773	0.0	71820	50.0	Target=1.00	174	R
232.8 > 71.7	3.773	3.773	0.0	103626		0.69(0.90-1.10)	2.9	
14 Propham								
137.6 > 91.8	4.258	4.258	0.0	26415	47.0		94.7	
15 Siduron								R
232.9 > 93.8	4.444	4.444	0.0	418361	49.9	Target=1.00	693	R
232.9 > 136.8	4.444	4.444	0.0	693438		0.60(0.90-1.10)	573	
16 Methiocarb								
225.8 > 168.9	4.562	4.562	0.0	290197	51.2		1046	
17 Linuron								R
248.8 > 159.9	4.723	4.723	0.0	104415	52.6	Target=1.00	840	R
248.8 > 182.1	4.723	4.723	0.0	63284		1.65(0.90-1.10)	661	
18 Chlorpropham								R
214.0 > 153.8	5.248	5.248	0.0	64550	49.2	Target=1.00	332	R
214.0 > 171.9	5.248	5.248	0.0	118557		0.54(0.90-1.10)	650	
19 Neburon								R
275.0 > 88.0	5.673	5.673	0.0	335491	50.0	Target=1.00	886	R
275.0 > 114.0	5.673	5.673	0.0	146914		2.28(0.90-1.10)	928	

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Review Flags
M - Manually Integrated

Reagents:

Carb_CS_Cal_00033 Amount Added: 100.00 Units: uL

Report Date: 31-Dec-2019 13:38:23 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Denver

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31006.d

Injection Date: 31-Dec-2019 10:48:21 Instrument ID: LC_LCMS3

Lims ID: std050

Client ID:

Operator ID: ALS Bottle#: 6 Worklist Smp#: 8

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: Carbs8321 Limit Group: LC - 8321A Carbamates

1 Aminocarb

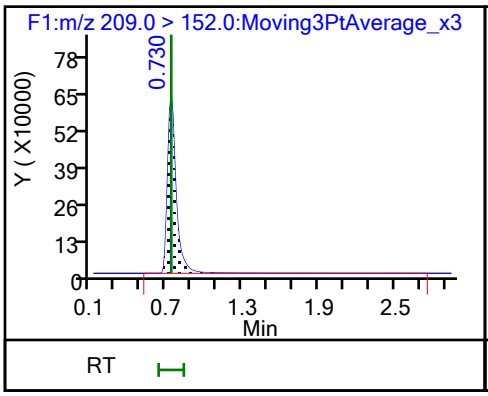

2 Carbamicacid,methyl4-dimethylamino

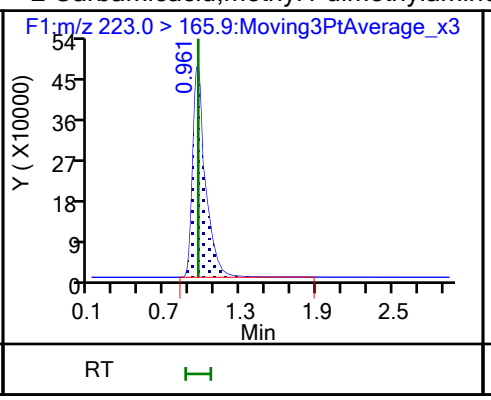

3 Methomyl

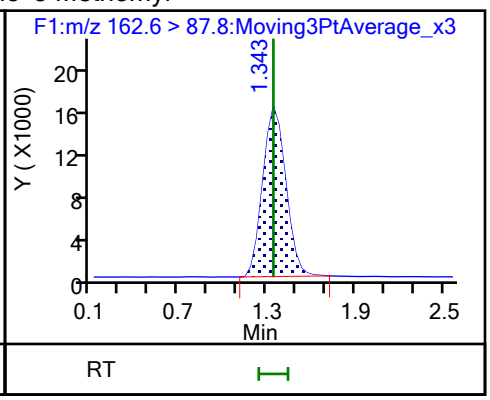

4 Fenuron

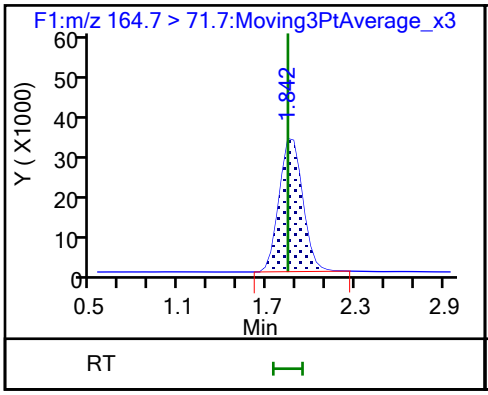

5 Aldicarb

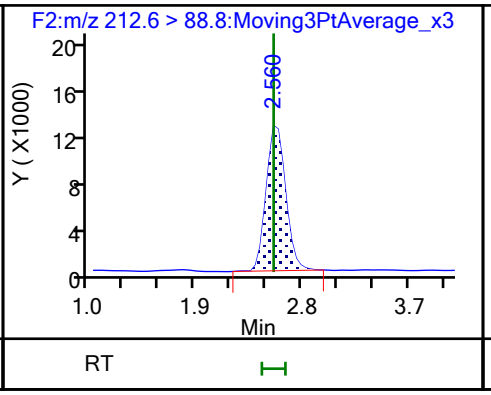

6 Monuron

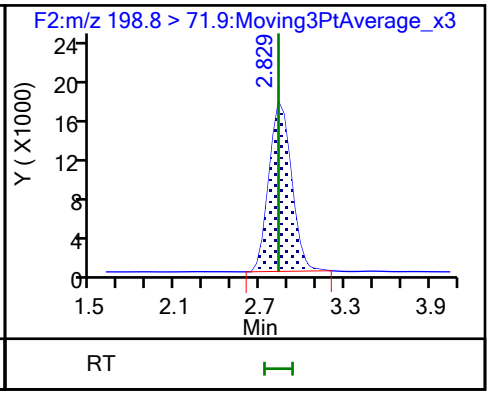

6 Monuron

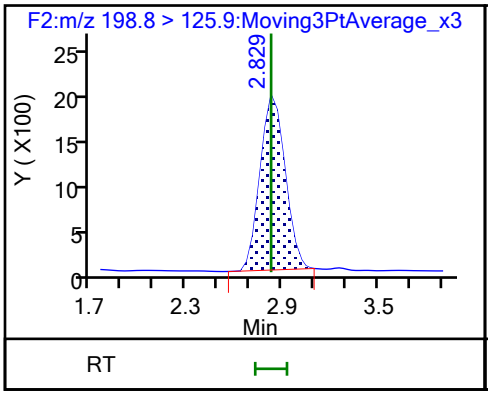

7 Propoxur

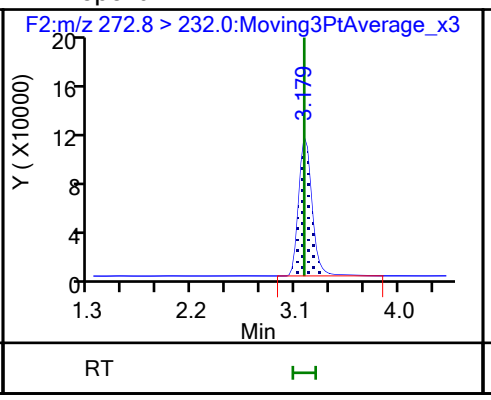

8 Carbofuran

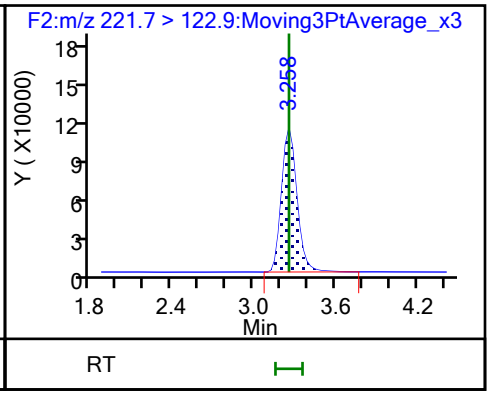

9 Fluometuron (M)

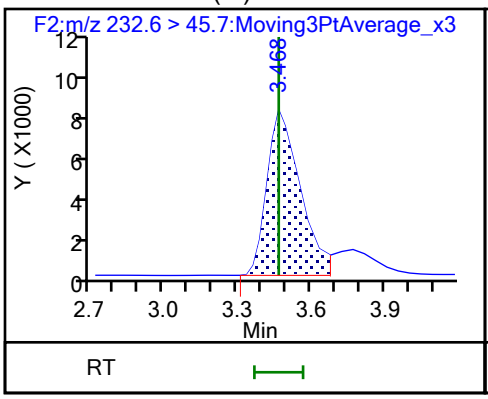

10 Carbaryl

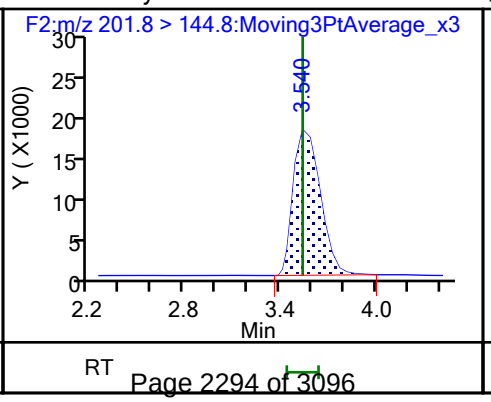

$ 12 Atrazine-d5

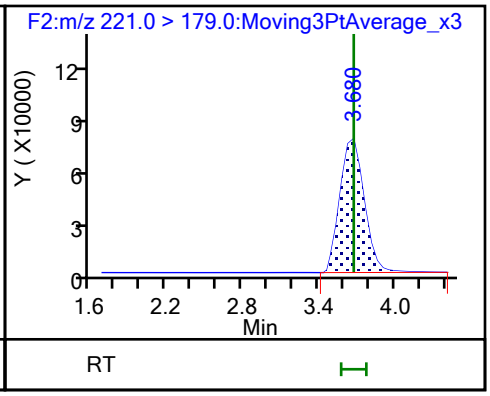

$ 13 Diuron-d6

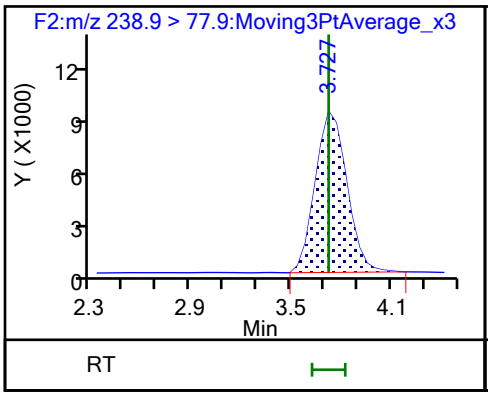

11 Diuron

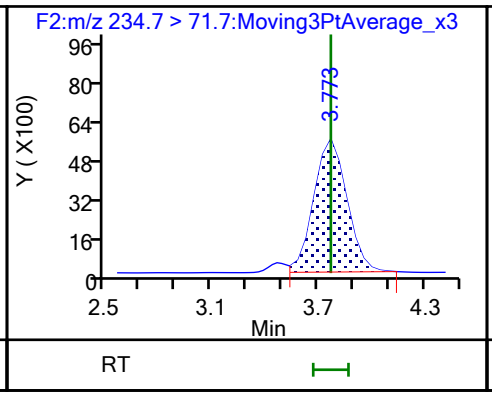

11 Diuron

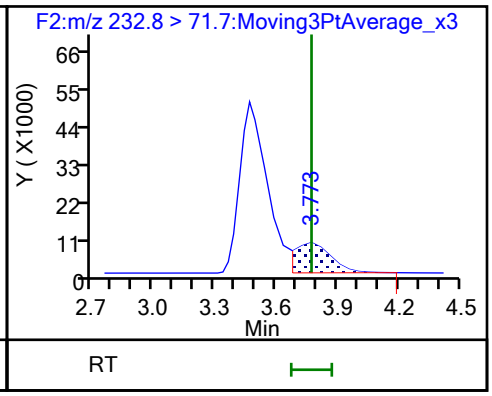

14 Propham

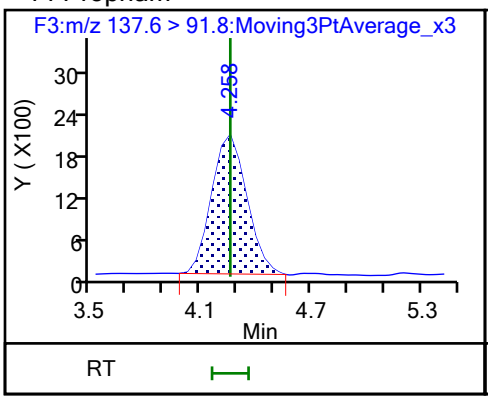

15 Siduron

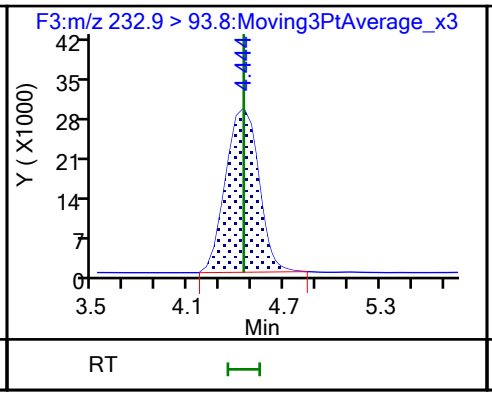

15 Siduron

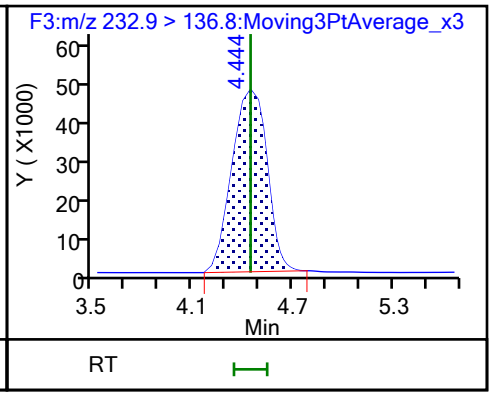

16 Methiocarb

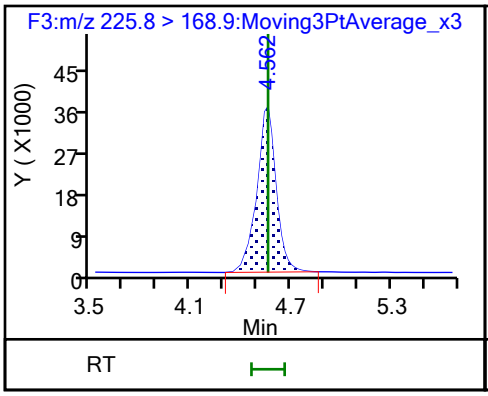

17 Linuron

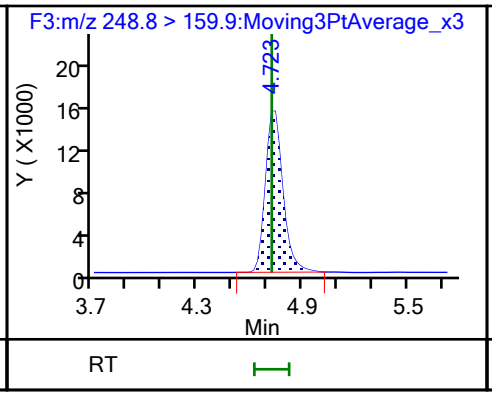

17 Linuron

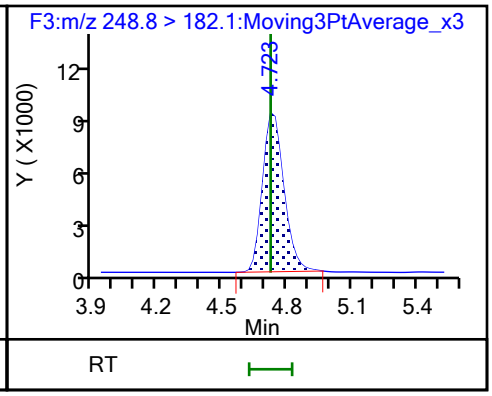

18 Chlorpropham

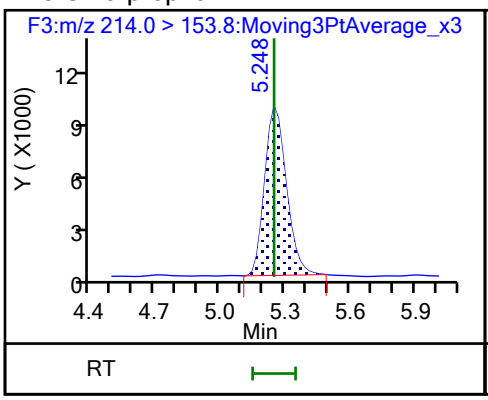

18 Chlorpropham

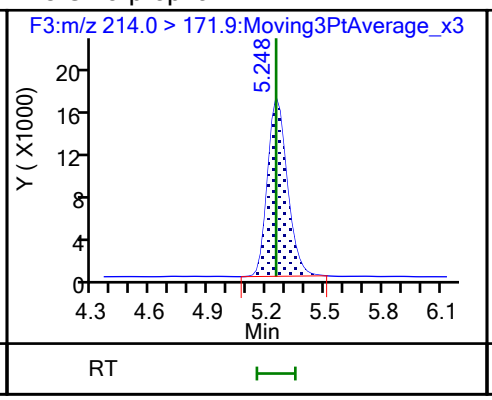

19 Neburon

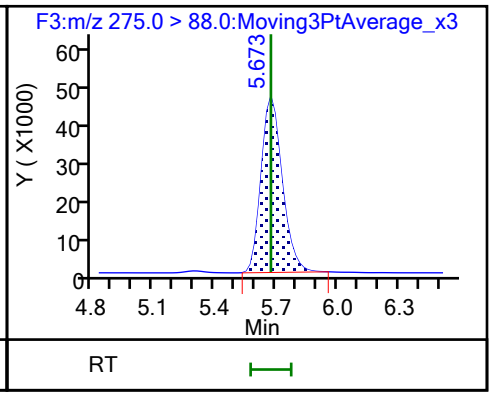

19 Neburon

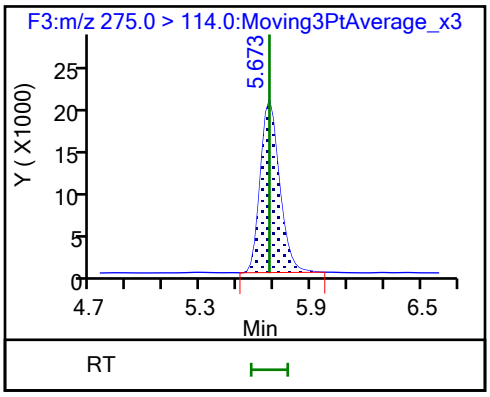
F3:m/z 275.0 > 114.0:Moving3PtAverage_x3
5.673
Y (X1000)
25
20
15
10
5
0
4.7
5.3
5.9
6.5
Min
RT

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

Data File:	\\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31006.d				
Injection Date:	31-Dec-2019 10:48:21	Instrument ID:	LC_LCMS3		
Lims ID:	std050				
Client ID:					
Operator ID:		ALS Bottle#:	6	Worklist Smp#:	8
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	Carbs8321	Limit Group:	LC - 8321A Carbamates		
Column:		Detector	F2:MRM		

9 Fluometuron, CAS: 2164-17-2

Signal: 1

Processing Integration Results

RT: 3.47
Area: 86564
Amount: 54.793334
Amount Units: ug/l

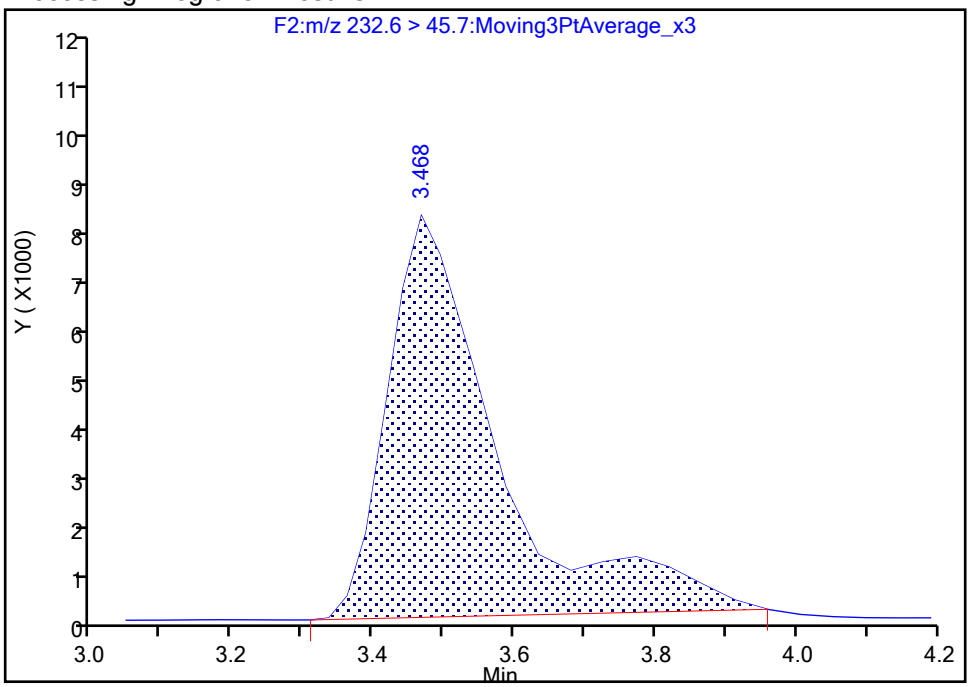

Manual Integration Results

RT: 3.47
Area: 76204
Amount: 49.428294
Amount Units: ug/l

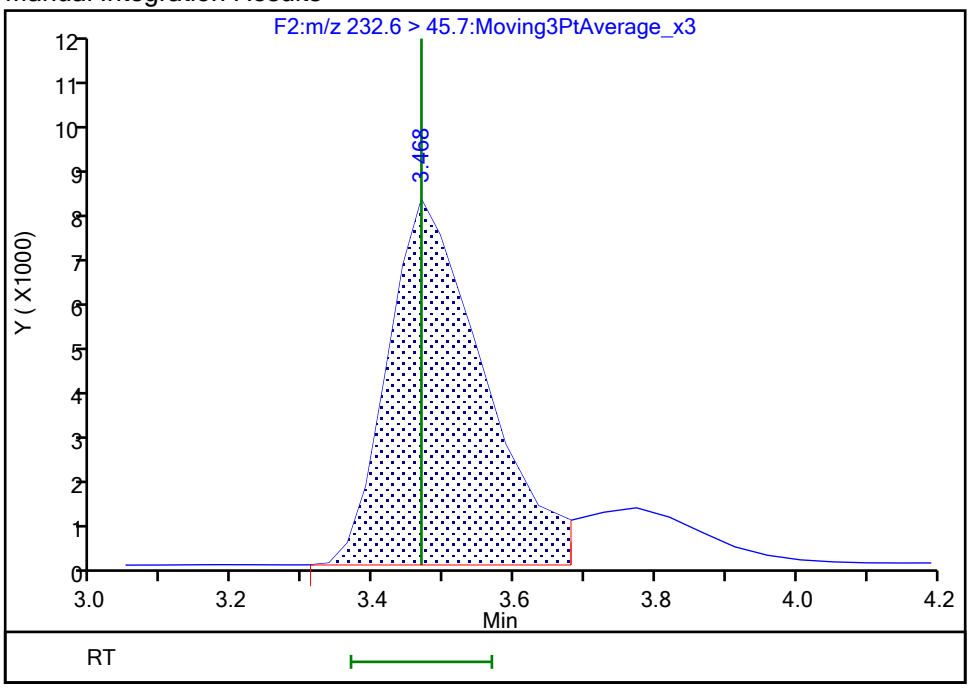

Reviewer: coopert, 31-Dec-2019 11:26:03

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Denver
Target Compound Quantitation Report

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31007.d
Lims ID: std100
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 31-Dec-2019 10:56:22 ALS Bottle#: 7 Worklist Smp#: 9
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: STD100
Misc. Info.: CP319L31
Operator ID: Instrument ID: LC_LCMS3
Sublist: chrom-Carbs8321*sub1

Method: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\Carbs8321.m
Limit Group: LC - 8321A Carbamates
Last Update: 31-Dec-2019 13:38:23 Calib Date: 31-Dec-2019 11:04:24
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31008.d

Column 1 : Det: F1:MRM
Process Host: CTX0311

First Level Reviewer: coopert Date: 31-Dec-2019 11:26:27
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
1 Aminocarb								
209.0 > 152.0	0.730	0.730	0.0	5468490	96.2		14557	
2 Carbamicacid,methyl4-dimethylamino								
223.0 > 165.9	0.961	0.961	0.0	6267617	99.3		5485	
3 Methomyl								
162.6 > 87.8	1.343	1.343	0.0	325007	97.4		1394	
4 Fenuron								
164.7 > 71.7	1.842	1.842	0.0	723100	100.3		1832	
5 Aldicarb								
212.6 > 88.8	2.560	2.560	0.0	243303	93.5		193	
6 Monuron								R
198.8 > 71.9	2.829	2.829	0.0	380665	103.7	Target=1.00	826	R
198.8 > 125.9	2.829	2.829	0.0	34802		10.94(0.90-1.10)	256	
7 Propoxur								
272.8 > 232.0	3.179	3.179	0.0	1551132	98.9		1245	
8 Carbofuran								
221.7 > 122.9	3.258	3.258	0.0	1609094	98.8		2523	
9 Fluometuron								
232.6 > 45.7	3.468	3.468	0.0	141867	93.7		87.8	
10 Carbaryl								
201.8 > 144.8	3.540	3.540	0.0	421264	101.5		2213	
$ 12 Atrazine-d5								
221.0 > 179.0	3.680	3.680	0.0	2029045	102.4		4214	
$ 13 Diuron-d6								
238.9 > 77.9	3.727	3.727	0.0	231051	108.6		1273	

Report Date: 31-Dec-2019 13:38:24 Chrom Revision: 2.3 15-Dec-2019 06:20:02
Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31007.d
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
11 Diuron								R
234.7 > 71.7	3.773	3.773	0.0	151450	106.6	Target=1.00	311	R
232.8 > 71.7	3.773	3.773	0.0	189035		0.80(0.90-1.10)	2.7	
14 Propham								
137.6 > 91.8	4.258	4.258	0.0	52528	93.6		155	
15 Siduron								R
232.9 > 93.8	4.444	4.444	0.0	833330	99.7	Target=1.00	833	R
232.9 > 136.8	4.444	4.444	0.0	1347770		0.62(0.90-1.10)	815	
16 Methiocarb								
225.8 > 168.9	4.562	4.562	0.0	559059	99.2		1337	
17 Linuron								R
248.8 > 159.9	4.743	4.723	0.020	198533	100.7	Target=1.00	1281	R
248.8 > 182.1	4.723	4.723	0.0	130112		1.53(0.90-1.10)	1452	
18 Chlorpropham								R
214.0 > 153.8	5.248	5.248	0.0	136829	104.3	Target=1.00	724	R
214.0 > 171.9	5.248	5.248	0.0	245992		0.56(0.90-1.10)	1097	
19 Neburon								R
275.0 > 88.0	5.673	5.673	0.0	653493	97.9	Target=1.00	1221	R
275.0 > 114.0	5.673	5.673	0.0	272819		2.40(0.90-1.10)	1086	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Reagents:

Carb_CS_Cal_00033 Amount Added: 200.00 Units: uL

Report Date: 31-Dec-2019 13:38:24 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Denver

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31007.d

Injection Date: 31-Dec-2019 10:56:22 Instrument ID: LC_LCMS3

Lims ID: std100

Client ID:

Operator ID: ALS Bottle#: 7 Worklist Smp#: 9

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: Carbs8321 Limit Group: LC - 8321A Carbamates

1 Aminocarb

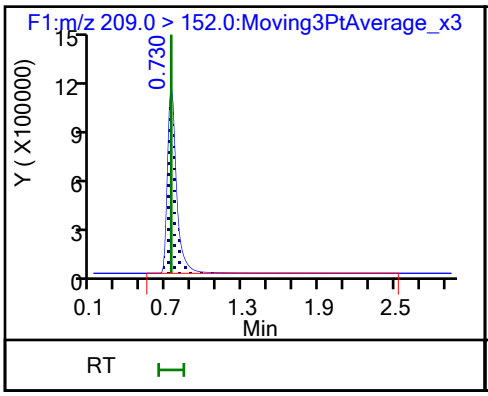

2 Carbamicacid,methyl4-dimethylamino

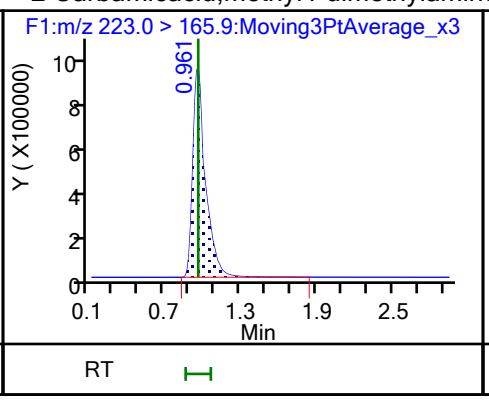

3 Methomyl

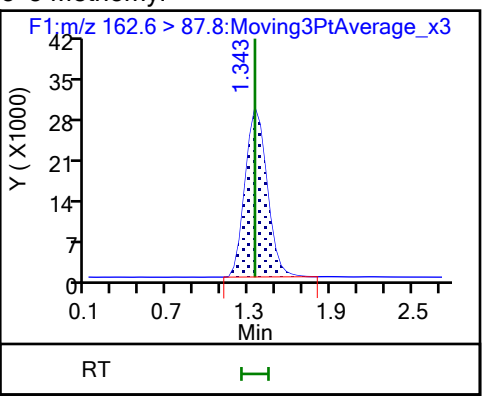

4 Fenuron

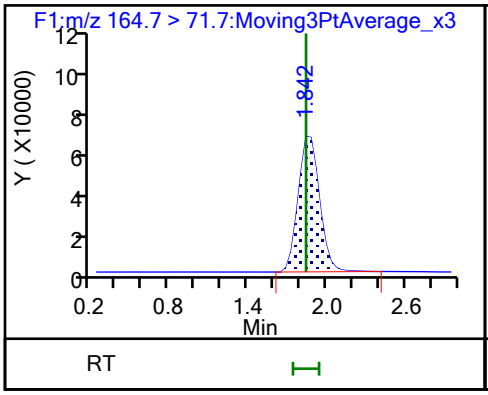

5 Aldicarb

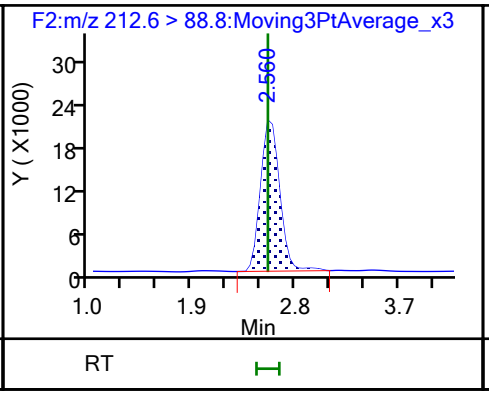

6 Monuron

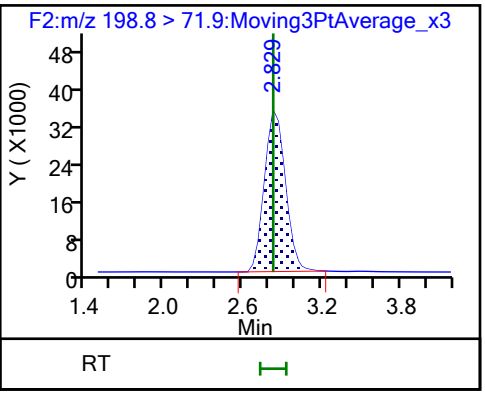

6 Monuron

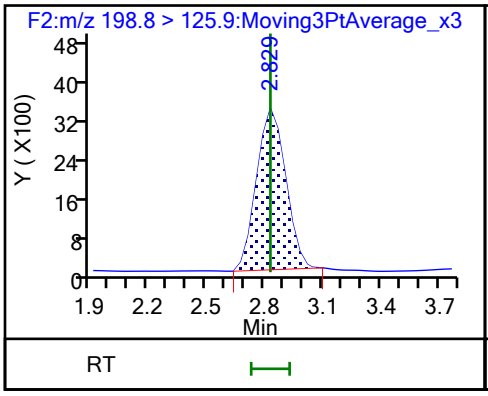

7 Propoxur

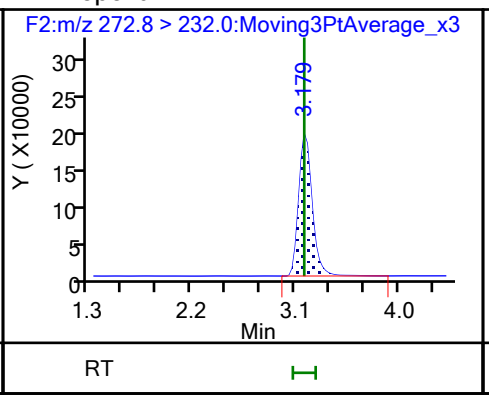

8 Carbofuran

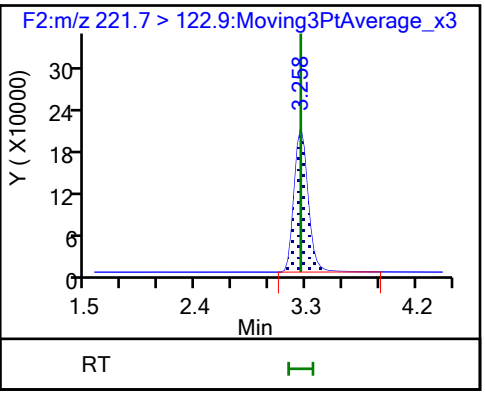

9 Fluometuron

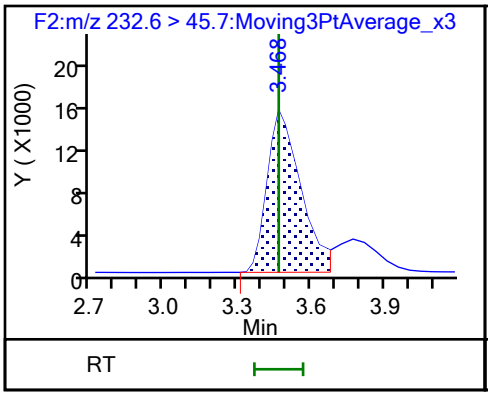

10 Carbaryl

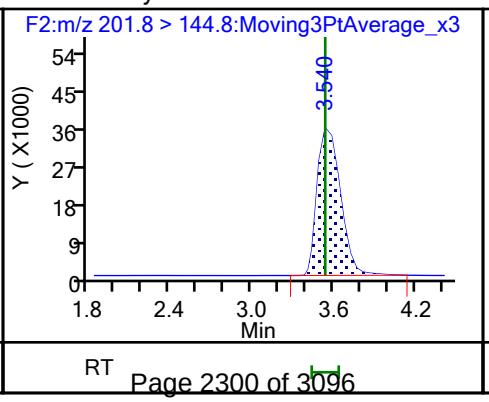

$ 12 Atrazine-d5

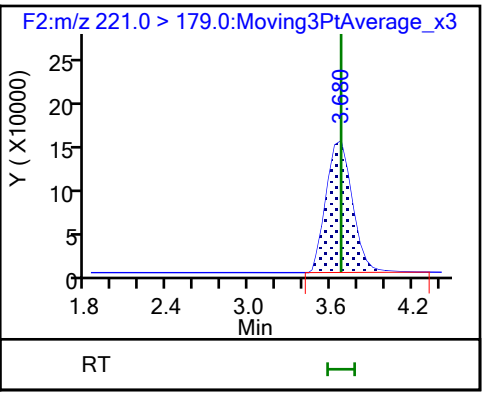

$ 13 Diuron-d6

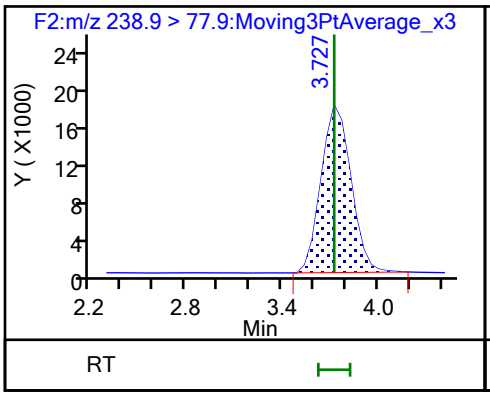

11 Diuron

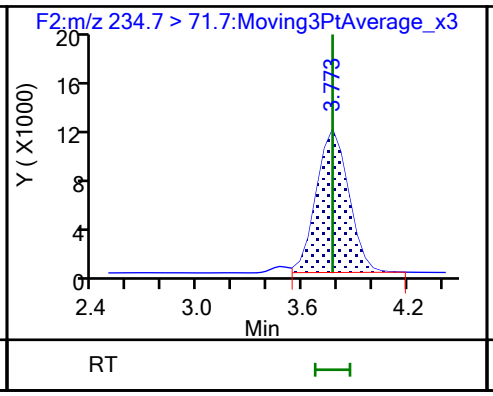

11 Diuron

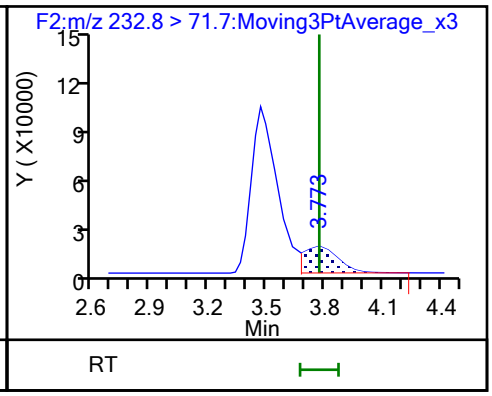

14 Propham

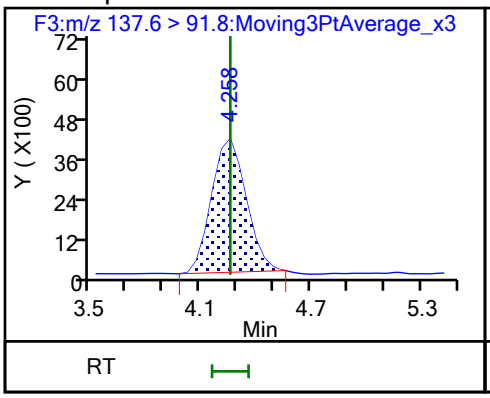

15 Siduron

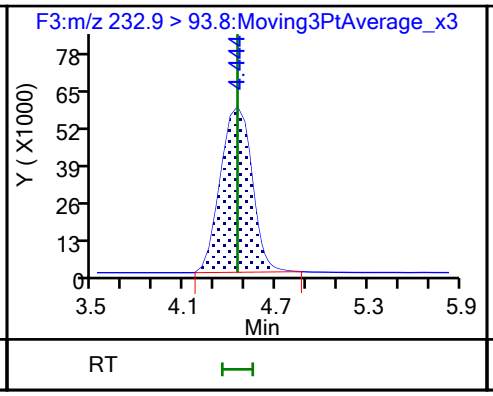

15 Siduron

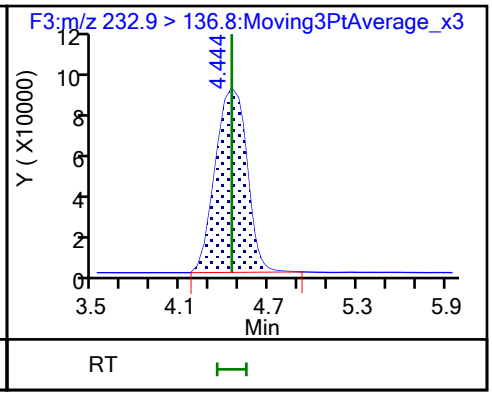

16 Methiocarb

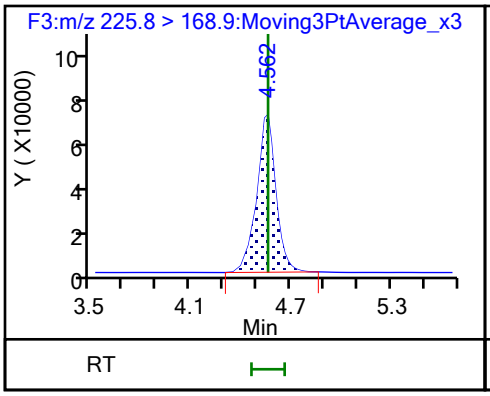

17 Linuron

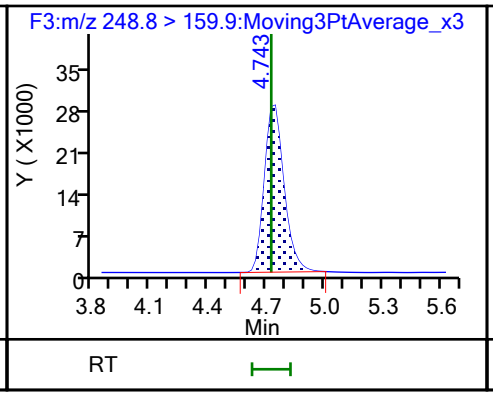

17 Linuron

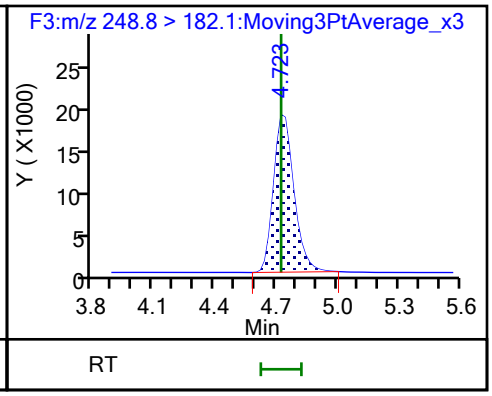

18 Chlorpropham

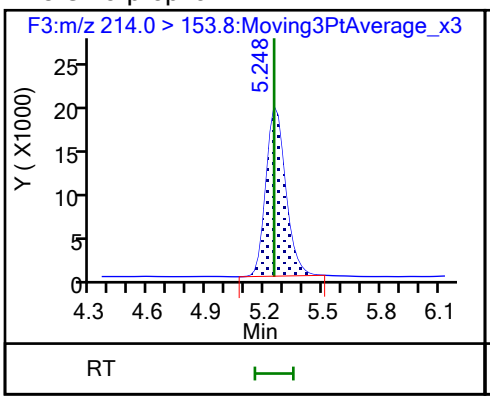

18 Chlorpropham

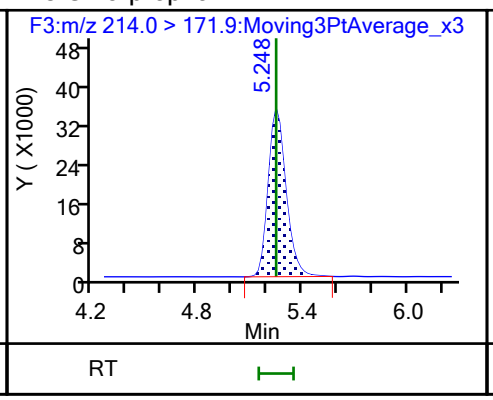

19 Neburon

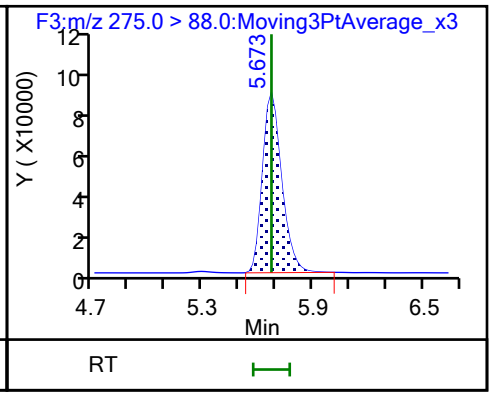

19 Neburon

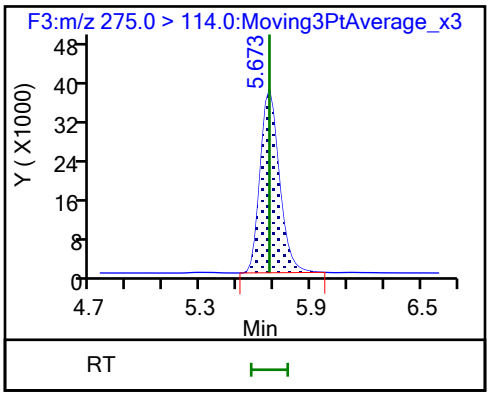
F3:m/z 275.0 > 114.0:Moving3PtAverage_x3
5.673
Y (X1000)
48
40
32
24
16
8
0
4.7
5.3
5.9
6.5
Min
RT

Eurofins TestAmerica, Denver
Target Compound Quantitation Report

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31008.d
Lims ID: std200
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 31-Dec-2019 11:04:24 ALS Bottle#: 8 Worklist Smp#: 10
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: STD200
Misc. Info.: CP319L31
Operator ID: Instrument ID: LC_LCMS3
Sublist: chrom-Carbs8321*sub1

Method: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\Carbs8321.m
Limit Group: LC - 8321A Carbamates
Last Update: 31-Dec-2019 13:38:25 Calib Date: 31-Dec-2019 11:04:24
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31008.d

Column 1 : Det: F1:MRM
Process Host: CTX0311

First Level Reviewer: coopert Date: 31-Dec-2019 11:26:42
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
1 Aminocarb								
209.0 > 152.0	0.730	0.730	0.0	9949589	175.6		34128	
2 Carbamicacid,methyl4-dimethylamino								
223.0 > 165.9	0.961	0.961	0.0	11630767	184.6		7011	
3 Methomyl								
162.6 > 87.8	1.343	1.343	0.0	687396	207.6		1779	
4 Fenuron								
164.7 > 71.7	1.842	1.842	0.0	1309162	182.1		2321	
5 Aldicarb								
212.6 > 88.8	2.560	2.560	0.0	508348	199.0		401	
6 Monuron								R
198.8 > 71.9	2.829	2.829	0.0	698853	190.8	Target=1.00	960	R
198.8 > 125.9	2.829	2.829	0.0	77187		9.05(0.90-1.10)	339	
7 Propoxur								
272.8 > 232.0	3.179	3.179	0.0	2383289	200.5		1973	
8 Carbofuran								
221.7 > 122.9	3.258	3.258	0.0	2886531	177.8		5220	
9 Fluometuron								
232.6 > 45.7	3.468	3.468	0.0	328951	219.9		120	
10 Carbaryl								
201.8 > 144.8	3.540	3.540	0.0	796627	192.0		3174	
$ 12 Atrazine-d5								
221.0 > 179.0	3.680	3.680	0.0	3918503	198.2		12634	
$ 13 Diuron-d6								
238.9 > 77.9	3.727	3.727	0.0	411292	193.6		2849	

Report Date: 31-Dec-2019 13:38:25 Chrom Revision: 2.3 15-Dec-2019 06:20:02
Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31008.d
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
11 Diuron								R
234.7 > 71.7	3.773	3.773	0.0	274089	193.6	Target=1.00	261	R
232.8 > 71.7	3.773	3.773	0.0	367405		0.75(0.90-1.10)	2.2	
14 Propham								
137.6 > 91.8	4.258	4.258	0.0	97760	174.1		327	
15 Siduron								R
232.9 > 93.8	4.444	4.444	0.0	1670793	200.1	Target=1.00	996	R
232.9 > 136.8	4.444	4.444	0.0	2704030		0.62(0.90-1.10)	1026	
16 Methiocarb								
225.8 > 168.9	4.562	4.562	0.0	1040538	185.0		1621	
17 Linuron								R
248.8 > 159.9	4.723	4.723	0.0	393589	200.4	Target=1.00	1693	R
248.8 > 182.1	4.723	4.723	0.0	262470		1.50(0.90-1.10)	1518	
18 Chlorpropham								R
214.0 > 153.8	5.248	5.248	0.0	262765	200.2	Target=1.00	1582	R
214.0 > 171.9	5.248	5.248	0.0	474708		0.55(0.90-1.10)	2419	
19 Neburon								R
275.0 > 88.0	5.673	5.673	0.0	1218930	183.0	Target=1.00	1355	R
275.0 > 114.0	5.673	5.673	0.0	500498		2.44(0.90-1.10)	883	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Reagents:

Carb_CS_Cal_00033 Amount Added: 400.00 Units: uL

Report Date: 31-Dec-2019 13:38:25 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Denver

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31008.d

Injection Date: 31-Dec-2019 11:04:24 Instrument ID: LC_LCMS3

Lims ID: std200

Client ID:

Operator ID: ALS Bottle#: 8 Worklist Smp#: 10

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: Carbs8321 Limit Group: LC - 8321A Carbamates

1 Aminocarb

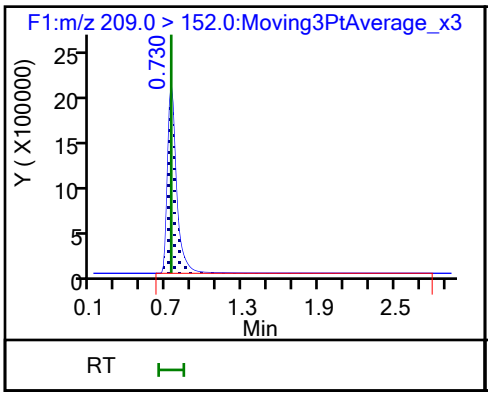

2 Carbamicacid,methyl4-dimethylamino

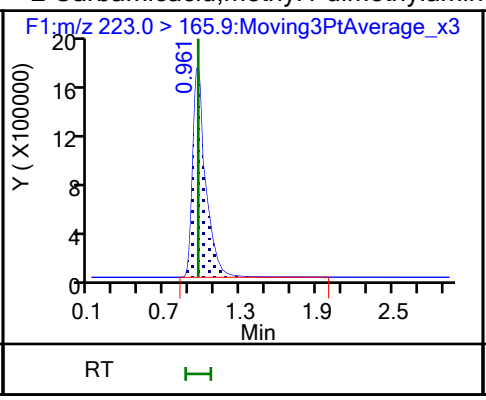

3 Methomyl

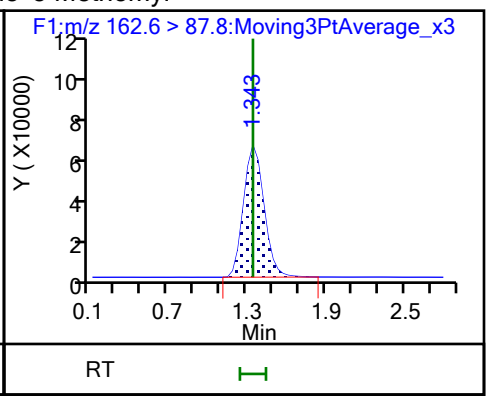

4 Fenuron

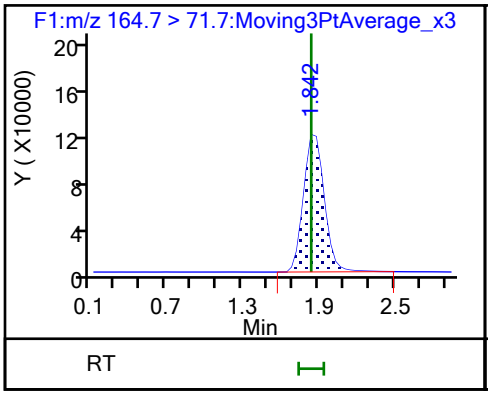

5 Aldicarb

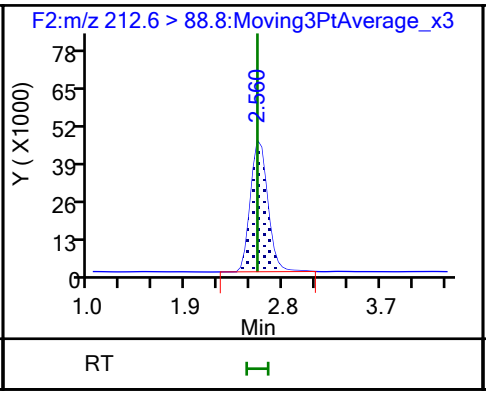

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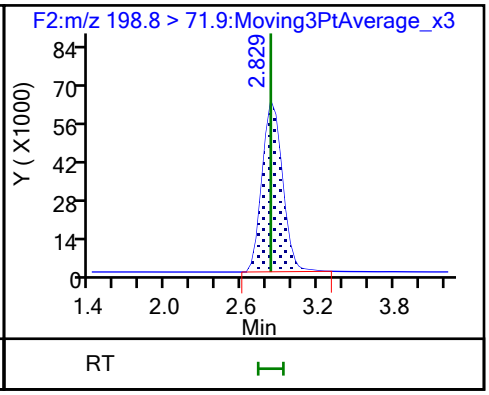

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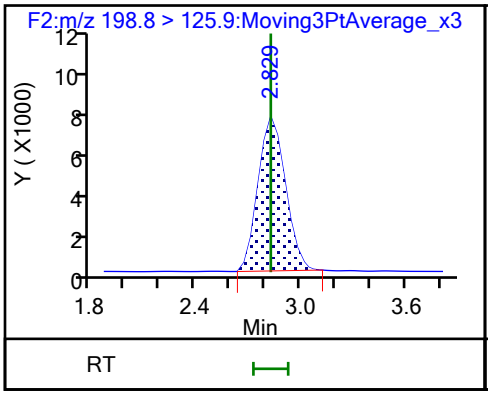

7 Propoxur

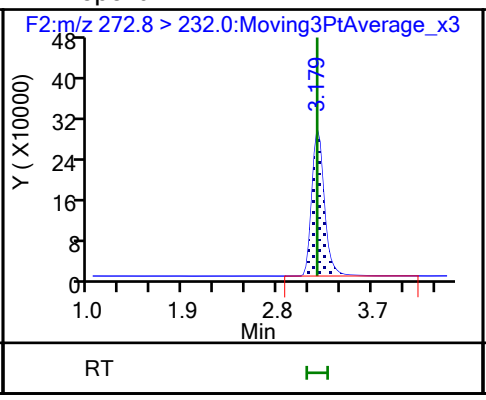

8 Carbofuran

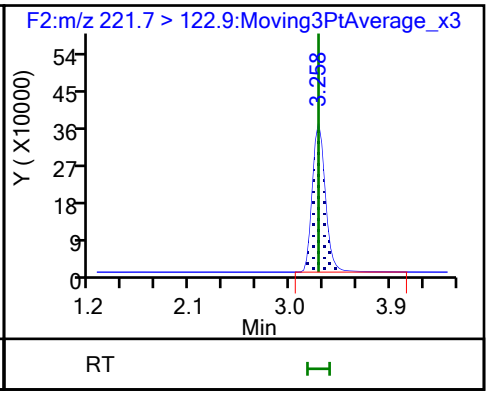

9 Fluometuron

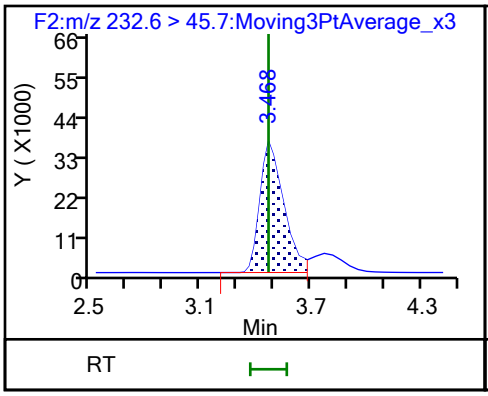

10 Carbaryl

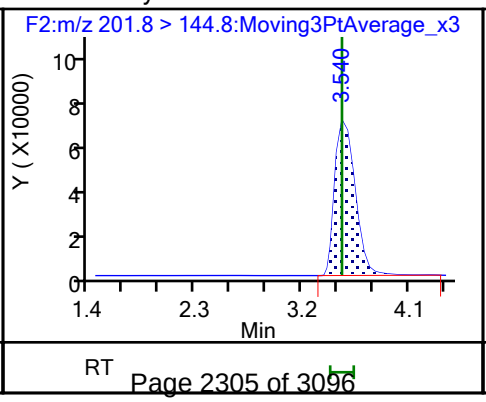

$ 12 Atrazine-d5

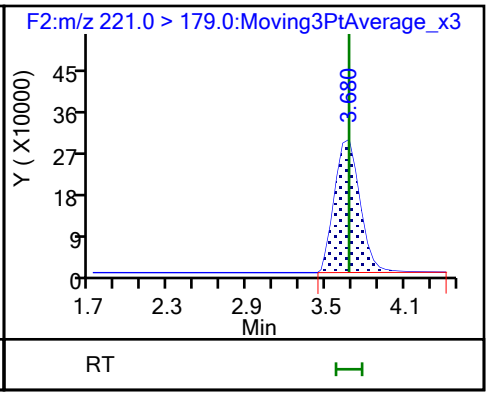

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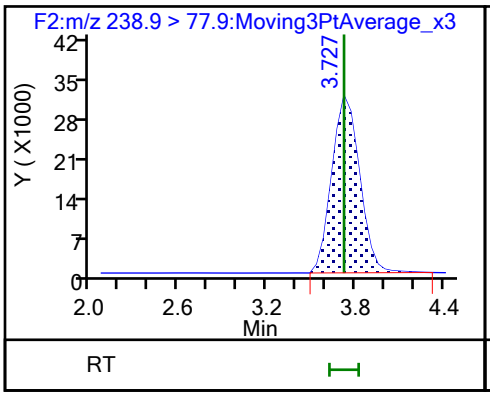

11 Diuron

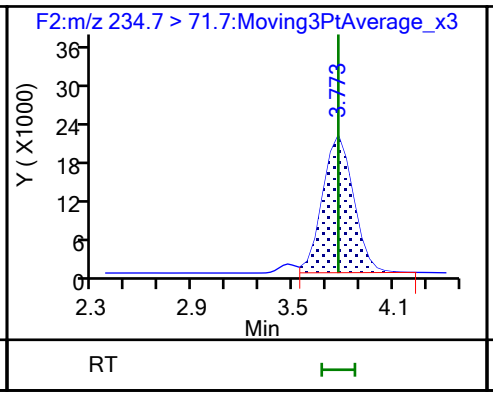

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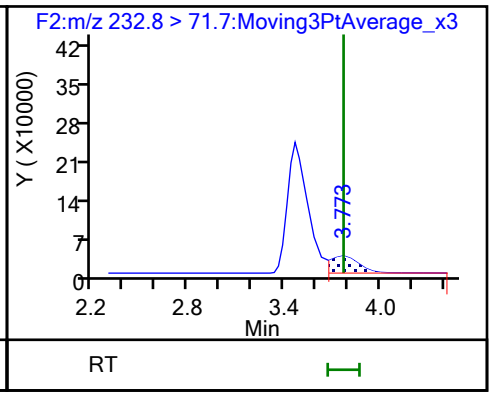

14 Propham

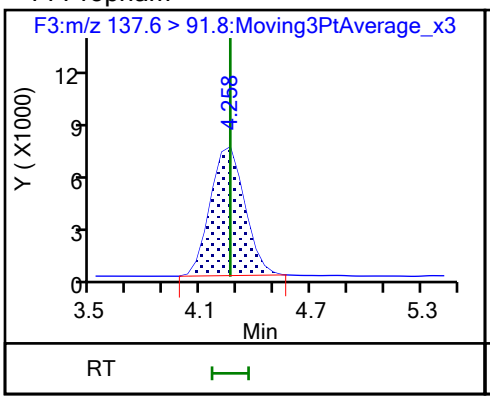

15 Siduron

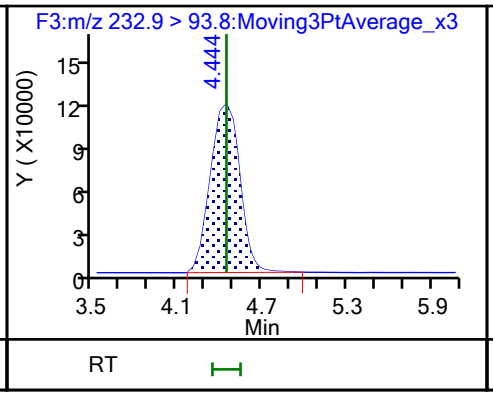

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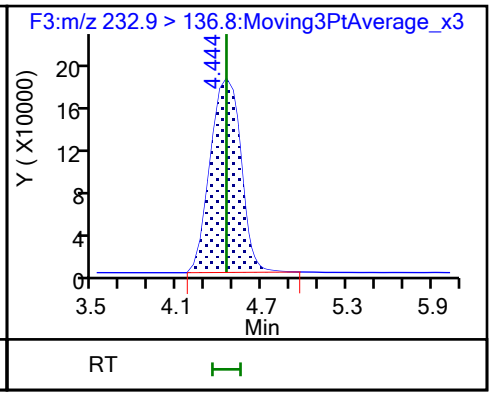

16 Methiocarb

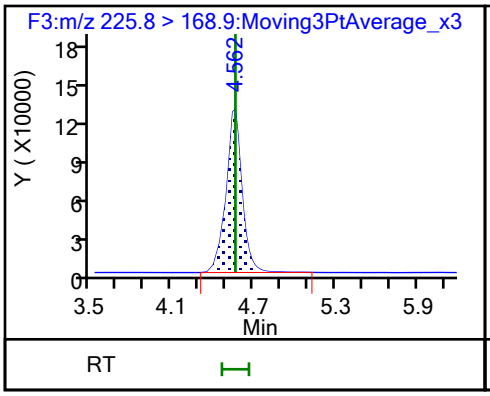

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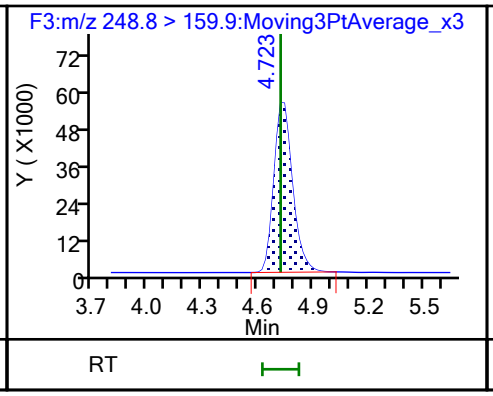

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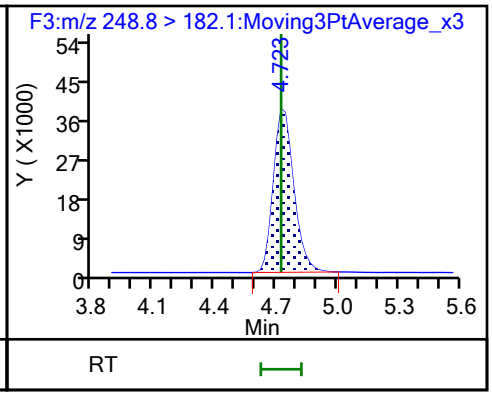

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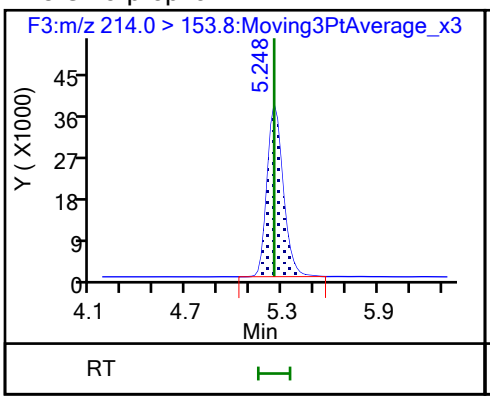

18 Chlorpropham

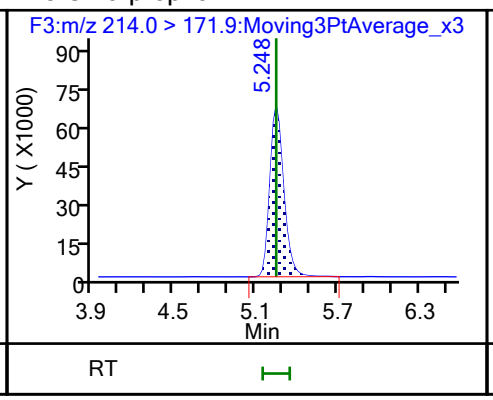

19 Neburon

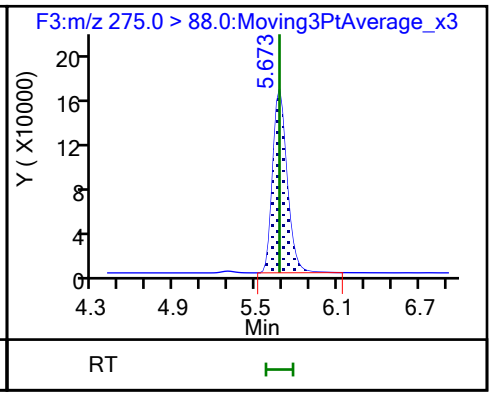

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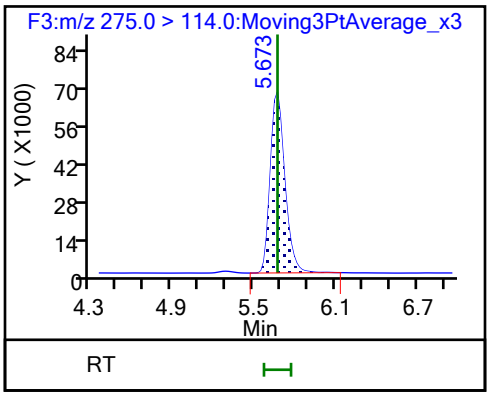
F3:m/z 275.0 > 114.0:Moving3PtAverage_x3
5.673
Y (X1000)
84
70
56
42
28
14
0
4.3
4.9
5.5
6.1
6.7
Min
RT

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Denver Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 280-482046/12 Calibration Date: 12/31/2019 11:20

Instrument ID: LC_LCMS3 Calib Start Date: 12/31/2019 10:16

GC Column: Synergi Hydro 4 ID: 3.00(mm) Calib End Date: 12/31/2019 11:04

Lab File ID: CP319L31010.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Aminocarb	Lin2		59353		51.8	50.0	3.7	30.0
Mexacarbate	Lin2		66630		52.5	50.0	5.1	30.0
Methomyl	Lin2		4295		63.9	50.0	27.7	30.0
Fenuron	Lin2		6877		47.3	50.0	-5.5	30.0
Aldicarb	Lin1		2744		51.3	50.0	2.6	30.0
Monuron	Lin2		3632		49.3	50.0	-1.5	30.0
Propoxur	Qua		17870		50.5	50.0	1.0	30.0
Carbofuran	Lin2		15894		48.4	50.0	-3.3	30.0
Fluometuron	Lin2		1371		44.3	50.0	-11.4	30.0
Carbaryl	Ave	4148	2976		35.9	50.0	-28.3	30.0
Diuron	Lin1		1449		50.5	50.0	1.0	30.0
Propham	Ave	561.5	479.4		42.7	50.0	-14.6	30.0
Siduron	Lin		8914		53.2	50.0	6.4	30.0
Methiocarb	Lin2		4390		38.6	50.0	-22.7	30.0
Linuron	Lin2		1937		48.7	50.0	-2.6	30.0
Chlorpropham	Lin2		1325		50.5	50.0	1.0	30.0
Neburon	Lin2		6240		46.5	50.0	-7.0	30.0
Atrazine-d5	Lin2		19152		48.0	50.0	-3.9	30.0
Diuron-d6	Lin1		2144		50.7	50.5	0.4	30.0

Eurofins TestAmerica, Denver
Target Compound Quantitation Report

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31010.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 31-Dec-2019 11:20:27 ALS Bottle#: 9 Worklist Smp#: 12
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: CP319L31
Operator ID: Instrument ID: LC_LCMS3
Sublist:

Method: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\Carbs8321.m
Limit Group: LC - 8321A Carbamates
Last Update: 31-Dec-2019 13:38:27 Calib Date: 31-Dec-2019 11:04:24
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31008.d

Column 1 : Det: F1:MRM
Process Host: CTX0311

First Level Reviewer: coopert Date: 31-Dec-2019 11:37:46
Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
1 Aminocarb								M
209.0 > 152.0	0.730	0.730	0.0	2967665	51.8		14647	M
2 Carbamicacid,methyl4-dimethylamino								
223.0 > 165.9	0.961	0.961	0.0	3331494	52.5		2986	
3 Methomyl								
162.6 > 87.8	1.343	1.343	0.0	214739	63.9		1274	
4 Fenuron								
164.7 > 71.7	1.842	1.842	0.0	343852	47.3		1236	
5 Aldicarb								
212.6 > 88.8	2.560	2.560	0.0	137188	51.3		146	
6 Monuron								R
198.8 > 71.9	2.829	2.829	0.0	181596	49.3	Target=1.00	645	R
198.8 > 125.9	2.829	2.829	0.0	19370		9.38(0.90-1.10)	137	
7 Propoxur								
272.8 > 232.0	3.179	3.179	0.0	893509	50.5		914	
8 Carbofuran								
221.7 > 122.9	3.258	3.258	0.0	794704	48.4		1538	
9 Fluometuron								M
232.6 > 45.7	3.468	3.468	0.0	68572	44.3		87.2	M
10 Carbaryl								
201.8 > 144.8	3.540	3.540	0.0	148810	35.9		545	
$ 12 Atrazine-d5								
221.0 > 179.0	3.680	3.680	0.0	957602	48.0		4191	
$ 13 Diuron-d6								
238.9 > 77.9	3.727	3.727	0.0	108296	50.7		597	

Report Date: 31-Dec-2019 13:38:27 Chrom Revision: 2.3 15-Dec-2019 06:20:02
Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31010.d
Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
11 Diuron								R
234.7 > 71.7	3.773	3.773	0.0	72458	50.5	Target=1.00	172	R
232.8 > 71.7	3.773	3.773	0.0	88837		0.82(0.90-1.10)	2.6	
14 Propham								
137.6 > 91.8	4.258	4.258	0.0	23972	42.7		92.6	
15 Siduron								R
232.9 > 93.8	4.521	4.444	0.077	445713	53.2	Target=1.00	1152	R
232.9 > 136.8	4.521	4.444	0.077	980276		0.45(0.90-1.10)	1292	
16 Methiocarb								
225.8 > 168.9	4.562	4.562	0.0	219499	38.6		438	
17 Linuron								R
248.8 > 159.9	4.743	4.723	0.020	96849	48.7	Target=1.00	727	R
248.8 > 182.1	4.723	4.723	0.0	67696		1.43(0.90-1.10)	884	
18 Chlorpropham								R
214.0 > 153.8	5.248	5.248	0.0	66266	50.5	Target=1.00	402	R
214.0 > 171.9	5.248	5.248	0.0	117385		0.56(0.90-1.10)	677	
19 Neburon								R
275.0 > 88.0	5.673	5.673	0.0	311991	46.5	Target=1.00	1562	R
275.0 > 114.0	5.673	5.673	0.0	128329		2.43(0.90-1.10)	708	

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Review Flags
M - Manually Integrated

Reagents:

Carb_ICV_W_00053 Amount Added: 100.00 Units: uL

Report Date: 31-Dec-2019 13:38:27 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Denver

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31010.d

Injection Date: 31-Dec-2019 11:20:27 Instrument ID: LC_LCMS3

Lims ID: ICV

Client ID:

Operator ID: ALS Bottle#: 9 Worklist Smp#: 12

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: Carbs8321 Limit Group: LC - 8321A Carbamates

1 Aminocarb (M)

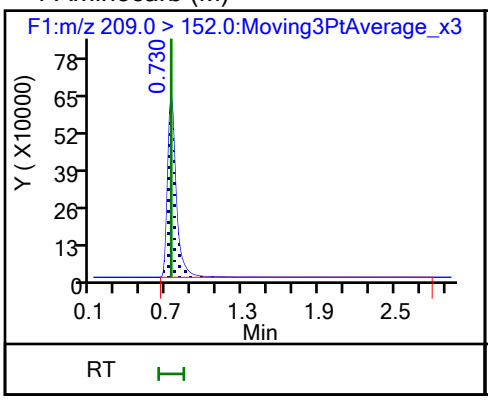

2 Carbamicacid,methyl4-dimethylamino

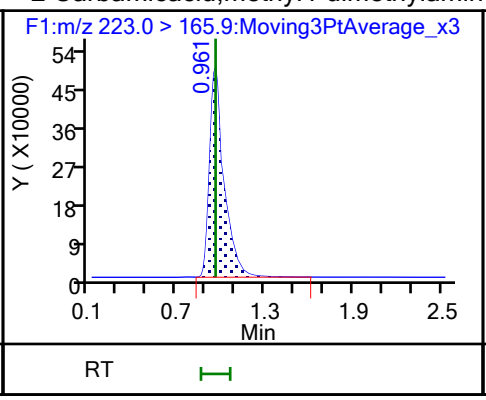

3 Methomyl

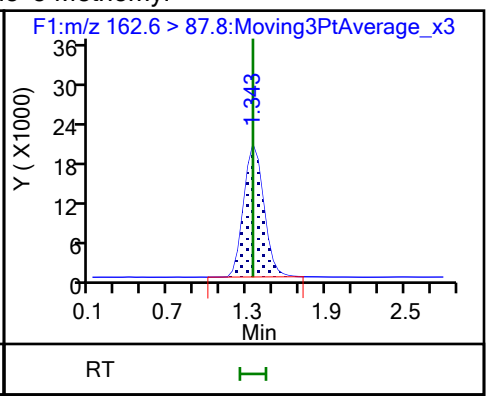

4 Fenuron

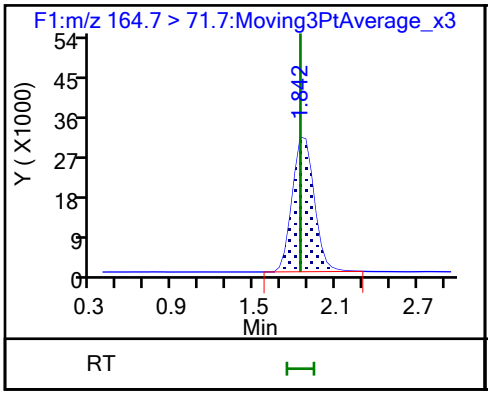

5 Aldicarb

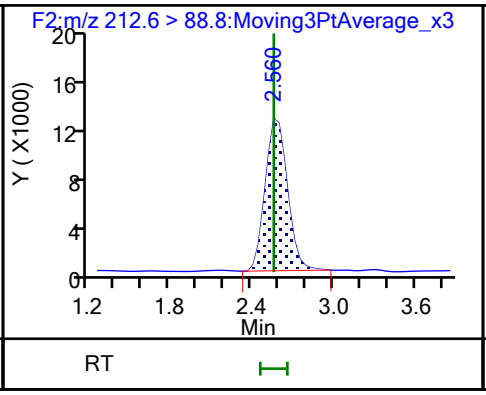

6 Monuron

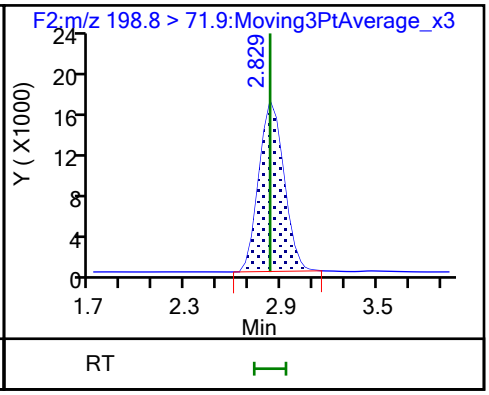

6 Monuron

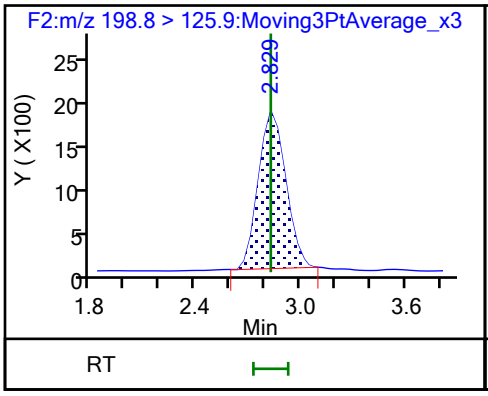

7 Propoxur

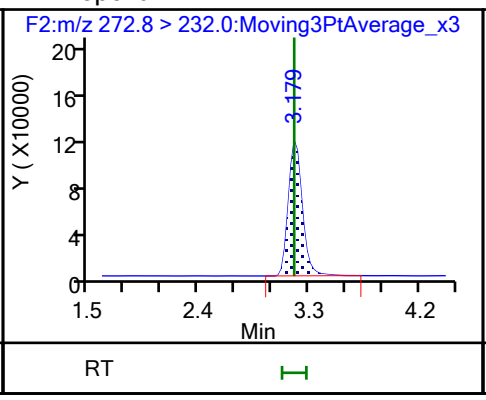

8 Carbofuran

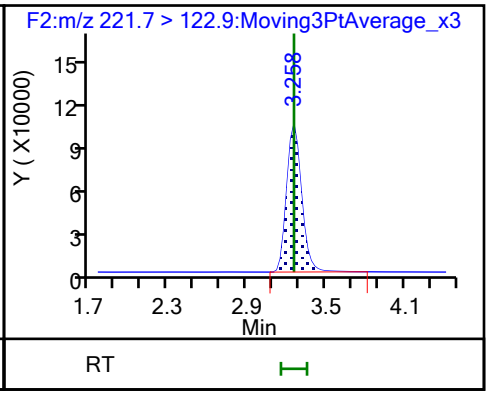

9 Fluometuron (M)

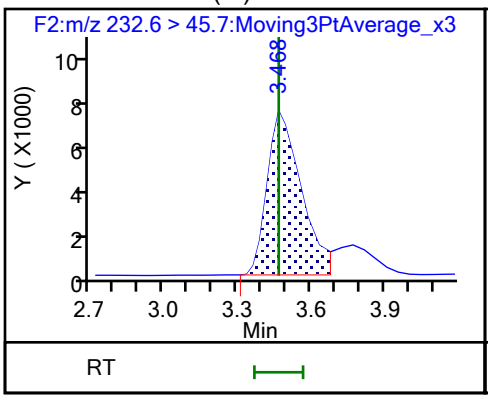

10 Carbaryl

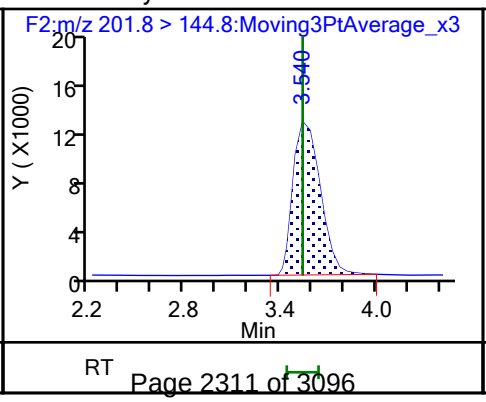

$ 12 Atrazine-d5

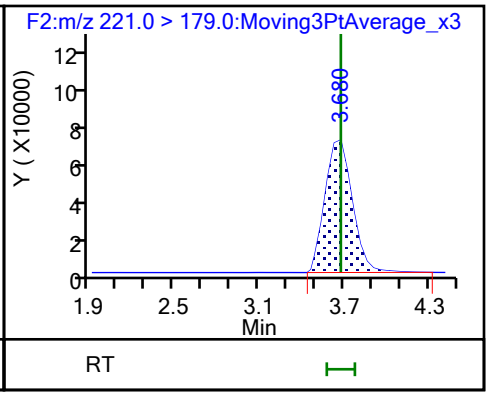

$ 13 Diuron-d6

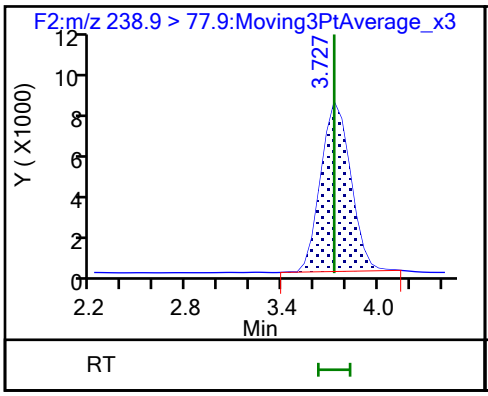

11 Diuron

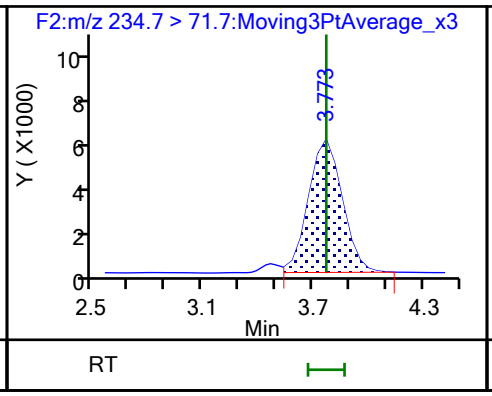

11 Diuron

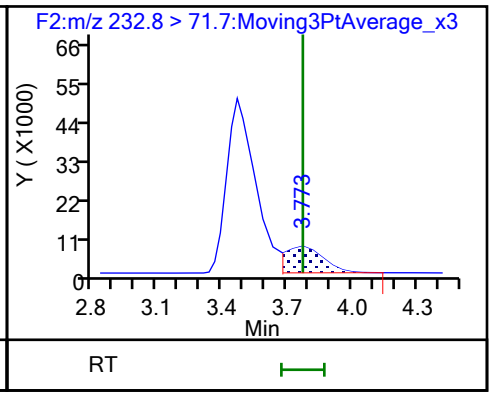

14 Propham

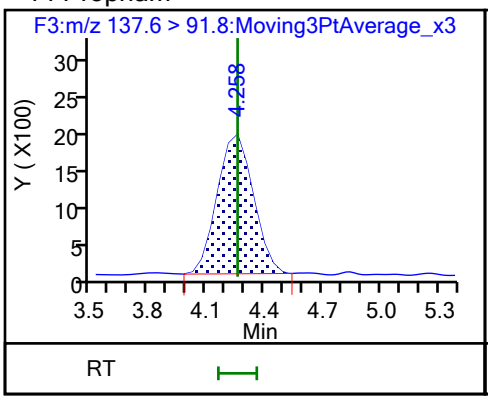

15 Siduron

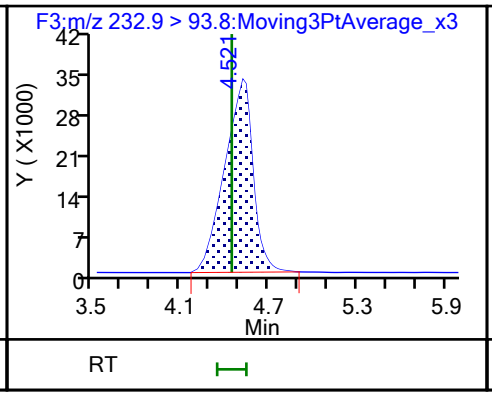

15 Siduron

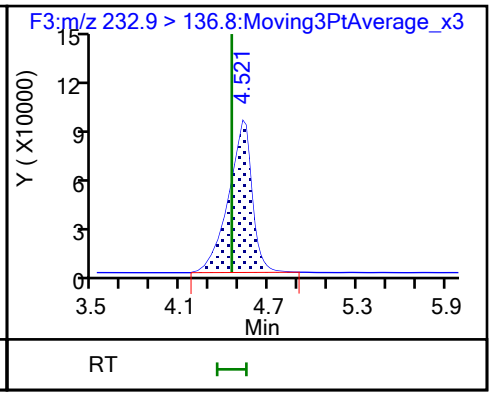

16 Methiocarb

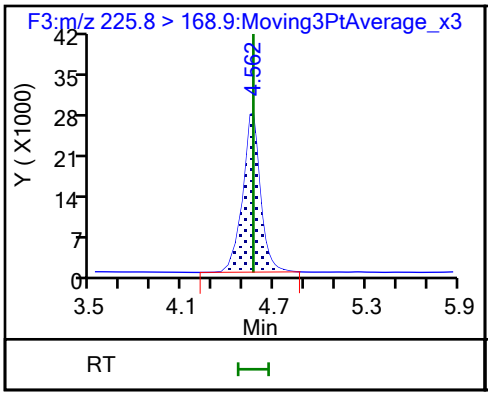

17 Linuron

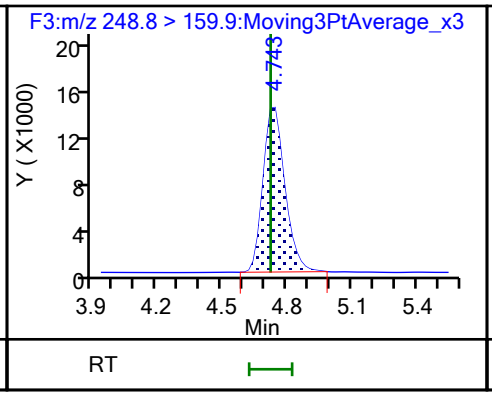

17 Linuron

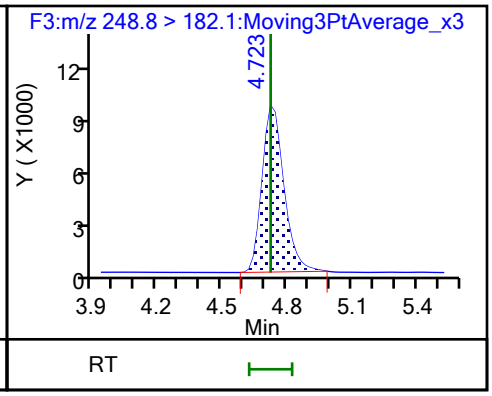

18 Chlorpropham

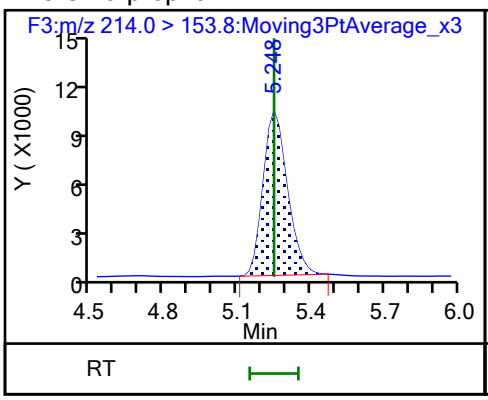

18 Chlorpropham

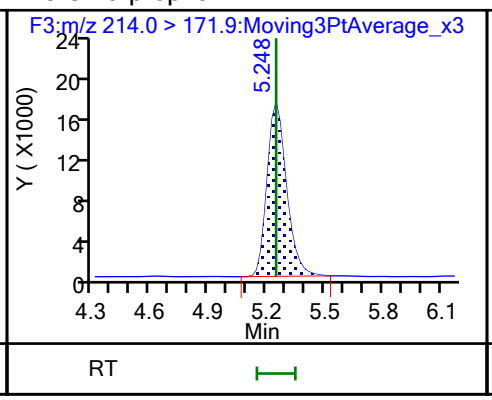

19 Neburon

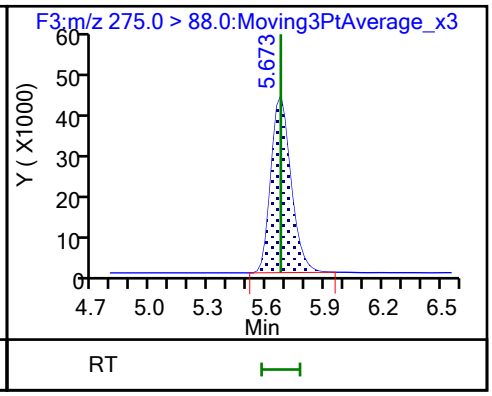

19 Neburon

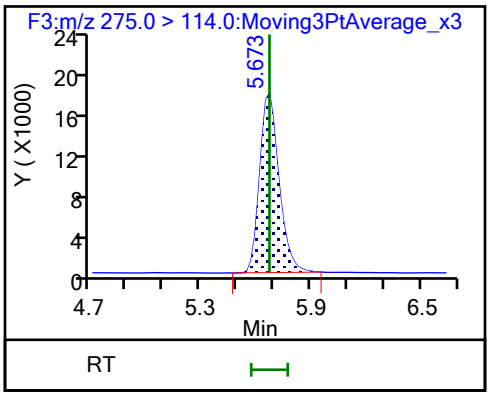
F3:m/z 275.0 > 114.0:Moving3PtAverage_x3
5.673
Y (X1000)
24
20
16
12
8
4
0
4.7
5.3
5.9
6.5
Min
RT

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

Data File:	\\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31010.d				
Injection Date:	31-Dec-2019 11:20:27	Instrument ID:	LC_LCMS3		
Lims ID:	ICV				
Client ID:					
Operator ID:		ALS Bottle#:	9	Worklist Smp#:	12
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	Carbs8321	Limit Group:	LC - 8321A Carbamates		
Column:		Detector	F1:MRM		

1 Aminocarb, CAS: 2032-59-9

Signal: 1

Processing Integration Results

RT: 0.73
Area: 1765986
Amount: 30.553637
Amount Units: ug/l

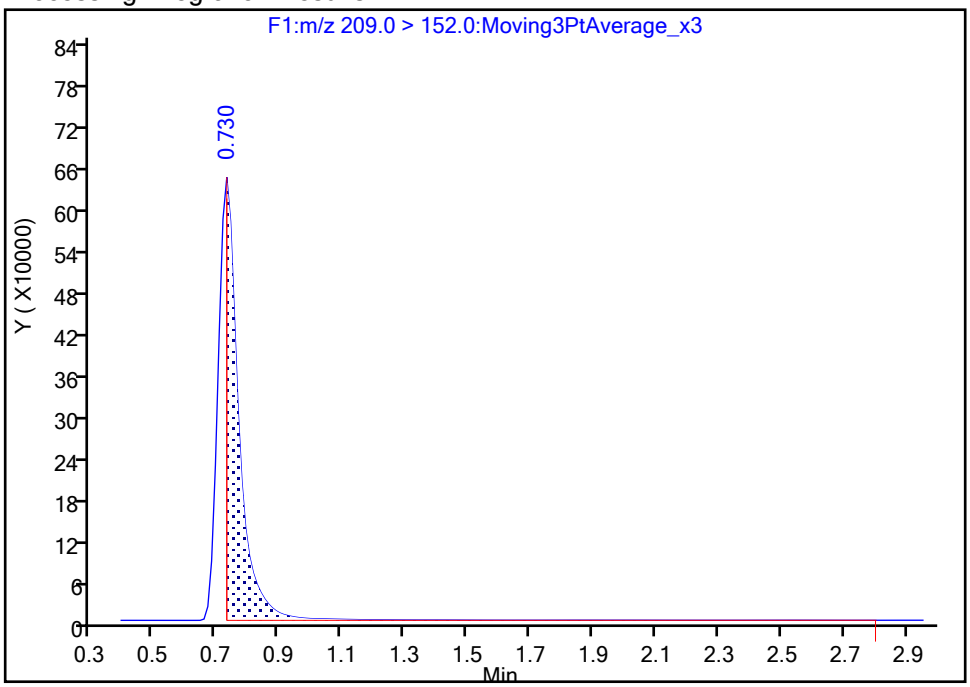

Manual Integration Results

RT: 0.73
Area: 2967665
Amount: 51.846982
Amount Units: ug/l

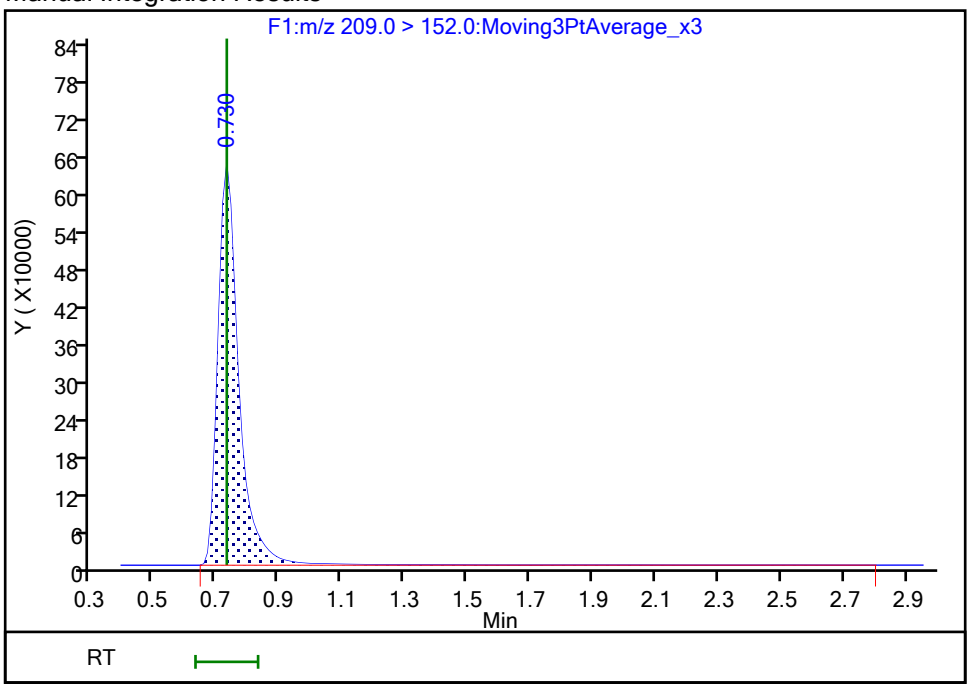

Reviewer: coopert, 31-Dec-2019 11:37:19

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

Data File:	\\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31010.d				
Injection Date:	31-Dec-2019 11:20:27	Instrument ID:	LC_LCMS3		
Lims ID:	ICV				
Client ID:					
Operator ID:		ALS Bottle#:	9	Worklist Smp#:	12
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	Carbs8321	Limit Group:	LC - 8321A Carbamates		
Column:		Detector	F2:MRM		

9 Fluometuron, CAS: 2164-17-2

Signal: 1

Processing Integration Results

RT: 3.47
Area: 80733
Amount: 52.483798
Amount Units: ug/l

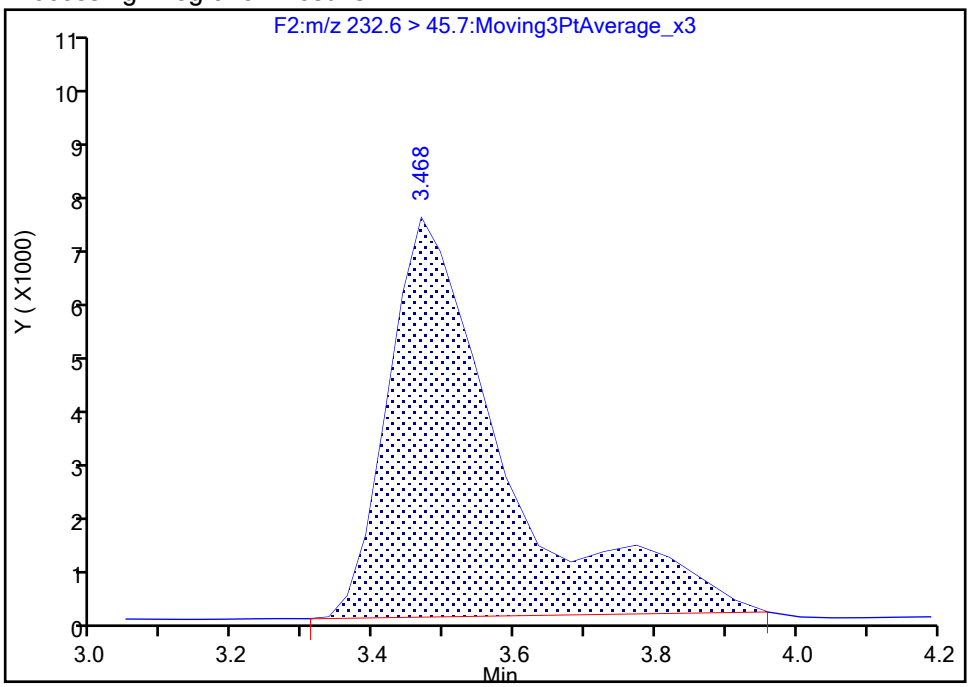

Manual Integration Results

RT: 3.47
Area: 68572
Amount: 44.279342
Amount Units: ug/l

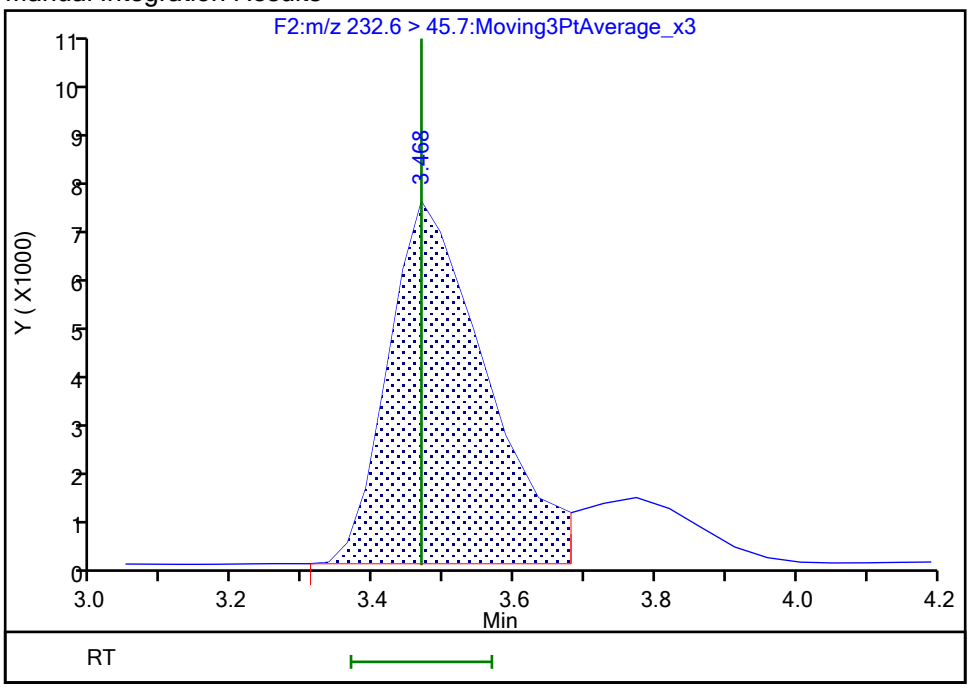

Reviewer: coopert, 31-Dec-2019 11:37:34

Audit Action: Manually Integrated Audit Reason: Baseline

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Denver Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCV050 280-482046/18 Calibration Date: 12/31/2019 12:10

Instrument ID: LC_LCMS3 Calib Start Date: 12/31/2019 10:16

GC Column: Synergi Hydro 4 ID: 3.00(mm) Calib End Date: 12/31/2019 11:04

Lab File ID: CP319L31016.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Aminocarb	Lin2		57973		50.6	50.0	1.2	30.0
Mexacarbate	Lin2		62435		49.2	50.0	-1.6	30.0
Methomyl	Lin2		3445		50.9	50.0	1.9	30.0
Fenuron	Lin2		6921		47.6	50.0	-4.8	30.0
Aldicarb	Lin1		2661		49.6	50.0	-0.7	30.0
Monuron	Lin2		3645		49.4	50.0	-1.1	30.0
Propoxur	Qua		17771		50.2	50.0	0.4	30.0
Carbofuran	Lin2		16009		48.7	50.0	-2.6	30.0
Fluometuron	Lin2		1498		48.6	50.0	-2.9	30.0
Carbaryl	Ave	4148	4426		53.3	50.0	6.7	30.0
Diuron	Lin1		1538		53.6	50.0	7.3	30.0
Propham	Ave	561.5	578.8		51.5	50.0	3.1	30.0
Siduron	Lin		8132		48.5	50.0	-3.0	30.0
Methiocarb	Lin2		5314		46.9	50.0	-6.3	30.0
Linuron	Lin2		2045		51.5	50.0	2.9	30.0
Chlorpropham	Lin2		1284		48.9	50.0	-2.1	30.0
Neburon	Lin2		5831		43.4	50.0	-13.2	30.0
Atrazine-d5	Lin2		19713		49.5	50.0	-1.1	30.0
Diuron-d6	Lin1		2486		58.9	50.5	16.5	30.0

Eurofins TestAmerica, Denver
Target Compound Quantitation Report

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31016.d
Lims ID: CCV050
Client ID:
Sample Type: CCV
Inject. Date: 31-Dec-2019 12:10:53 ALS Bottle#: 6 Worklist Smp#: 18
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: CCV020
Misc. Info.: CP319L31
Operator ID: Instrument ID: LC_LCMS3
Sublist: chrom-Carbs8321*sub1

Method: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\Carbs8321.m
Limit Group: LC - 8321A Carbamates
Last Update: 31-Dec-2019 13:38:32 Calib Date: 31-Dec-2019 11:04:24
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31008.d

Column 1 : Det: F1:MRM
Process Host: CTX0311

First Level Reviewer: coopert Date: 31-Dec-2019 12:56:50
Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
1 Aminocarb								
209.0 > 152.0	0.730	0.730	0.0	2898633	50.6		13705	
2 Carbamicacid,methyl4-dimethylamino								
223.0 > 165.9	0.961	0.961	0.0	3121733	49.2		4627	
3 Methomyl								
162.6 > 87.8	1.343	1.343	0.0	172246	50.9		931	
4 Fenuron								
164.7 > 71.7	1.842	1.842	0.0	346061	47.6		1113	
5 Aldicarb								
212.6 > 88.8	2.560	2.560	0.0	133049	49.6		107	
6 Monuron								R
198.8 > 71.9	2.829	2.829	0.0	182239	49.4	Target=1.00	559	R
198.8 > 125.9	2.829	2.829	0.0	18824		9.68(0.90-1.10)	162	
7 Propoxur								
272.8 > 232.0	3.179	3.179	0.0	888528	50.2		451	
8 Carbofuran								
221.7 > 122.9	3.258	3.258	0.0	800450	48.7		1681	
9 Fluometuron								M
232.6 > 45.7	3.468	3.468	0.0	74908	48.6		115	M
10 Carbaryl								
201.8 > 144.8	3.540	3.540	0.0	221303	53.3		1142	
$ 12 Atrazine-d5								
221.0 > 179.0	3.680	3.680	0.0	985636	49.5		3168	
$ 13 Diuron-d6								
238.9 > 77.9	3.727	3.727	0.0	125539	58.9		617	

Report Date: 31-Dec-2019 13:38:32 Chrom Revision: 2.3 15-Dec-2019 06:20:02
Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31016.d
Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
11 Diuron								R
234.7 > 71.7	3.773	3.773	0.0	76890	53.6	Target=1.00	243	R
232.8 > 71.7	3.773	3.773	0.0	101776		0.76(0.90-1.10)	2.4	
14 Propham								
137.6 > 91.8	4.212	4.258	-0.046	28942	51.5		100	
15 Siduron								R
232.9 > 93.8	4.444	4.444	0.0	406624	48.5	Target=1.00	582	R
232.9 > 136.8	4.444	4.444	0.0	687691		0.59(0.90-1.10)	625	
16 Methiocarb								
225.8 > 168.9	4.541	4.562	-0.021	265679	46.9		651	
17 Linuron								R
248.8 > 159.9	4.723	4.723	0.0	102255	51.5	Target=1.00	755	R
248.8 > 182.1	4.723	4.723	0.0	69878		1.46(0.90-1.10)	690	
18 Chlorpropham								R
214.0 > 153.8	5.248	5.248	0.0	64201	48.9	Target=1.00	438	R
214.0 > 171.9	5.248	5.248	0.0	125831		0.51(0.90-1.10)	698	
19 Neburon								R
275.0 > 88.0	5.673	5.673	0.0	291548	43.4	Target=1.00	1082	R
275.0 > 114.0	5.673	5.673	0.0	124768		2.34(0.90-1.10)	649	

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Review Flags
M - Manually Integrated

Reagents:

Carb_CS_Cal_00033 Amount Added: 100.00 Units: uL

Report Date: 31-Dec-2019 13:38:32 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Denver

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31016.d

Injection Date: 31-Dec-2019 12:10:53 Instrument ID: LC_LCMS3

Lims ID: CCV050

Client ID:

Operator ID: ALS Bottle#: 6 Worklist Smp#: 18

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: Carbs8321 Limit Group: LC - 8321A Carbamates

1 Aminocarb

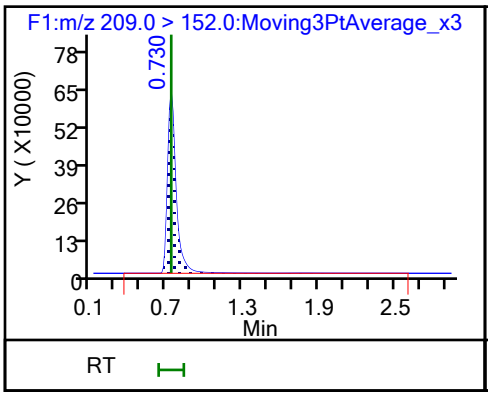

2 Carbamicacid,methyl4-dimethylamino

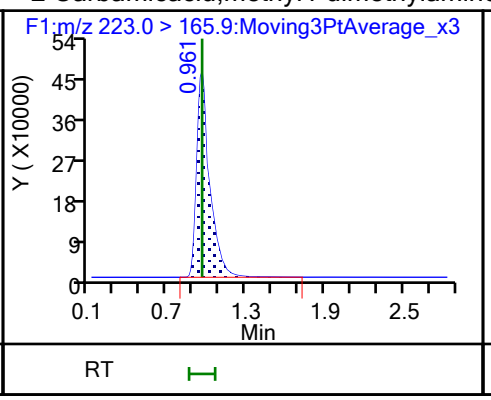

3 Methomyl

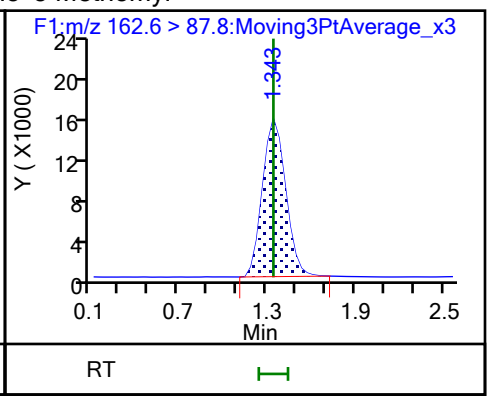

4 Fenuron

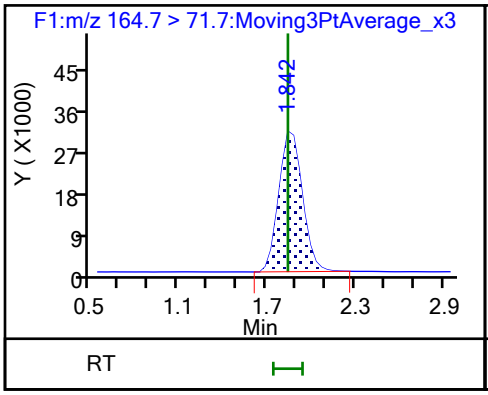

5 Aldicarb

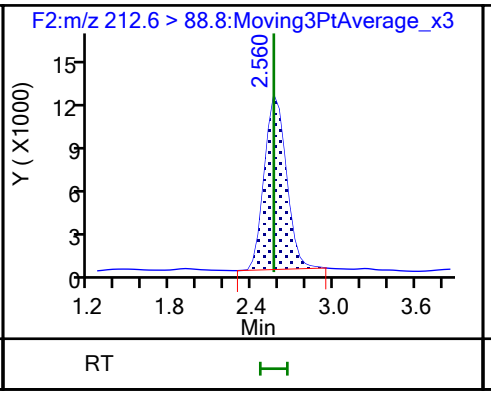

6 Monuron

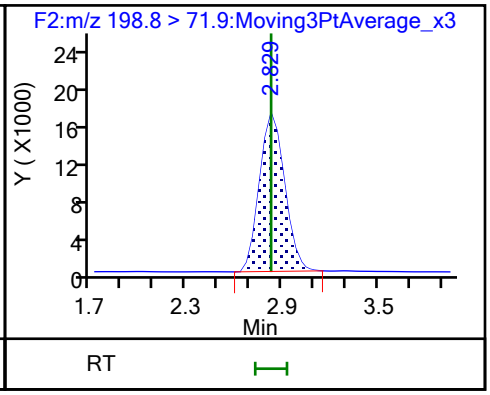

6 Monuron

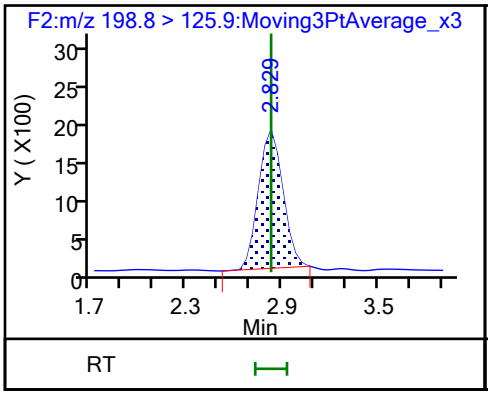

7 Propoxur

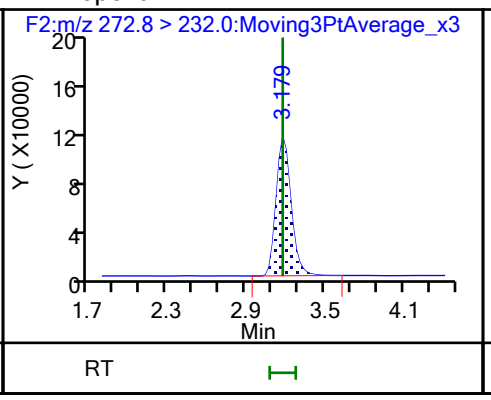

8 Carbofuran

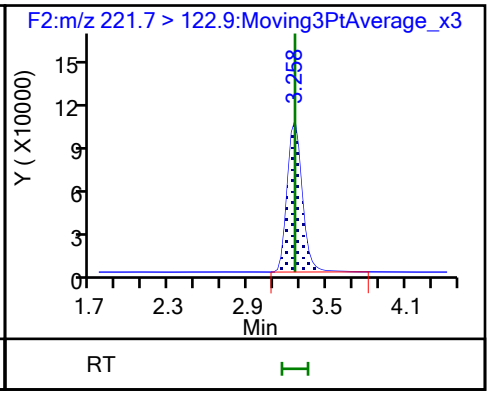

9 Fluometuron (M)

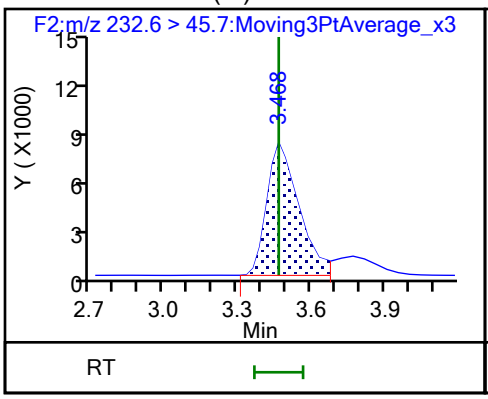

10 Carbaryl

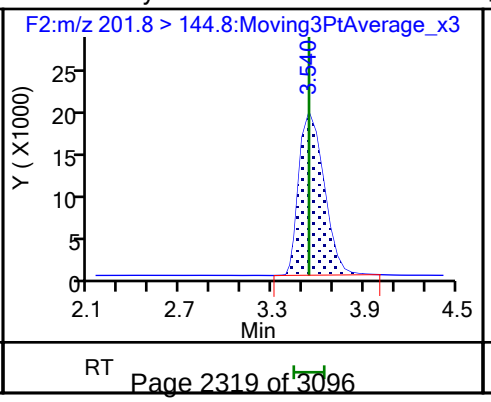

$ 12 Atrazine-d5

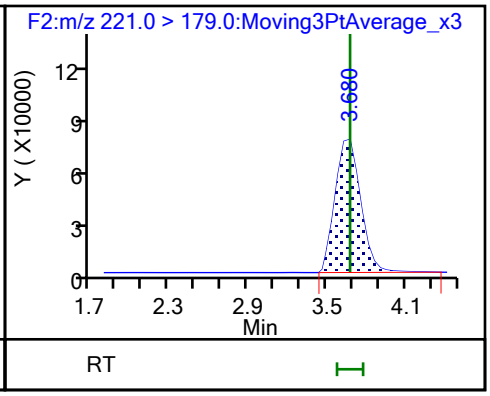

$ 13 Diuron-d6

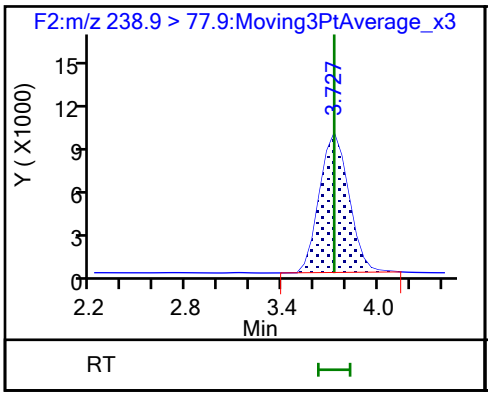

11 Diuron

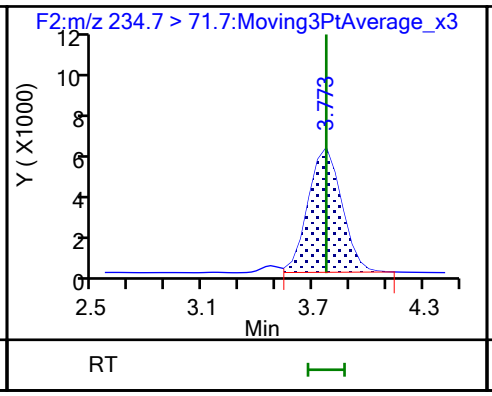

11 Diuron

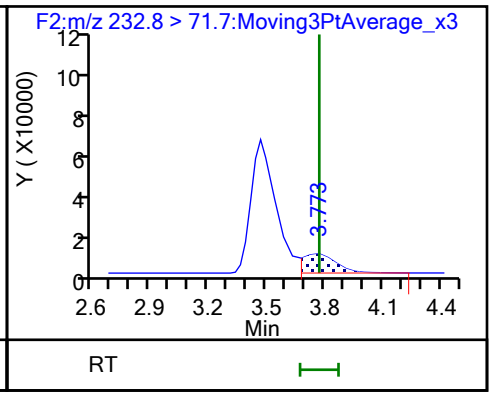

14 Propham

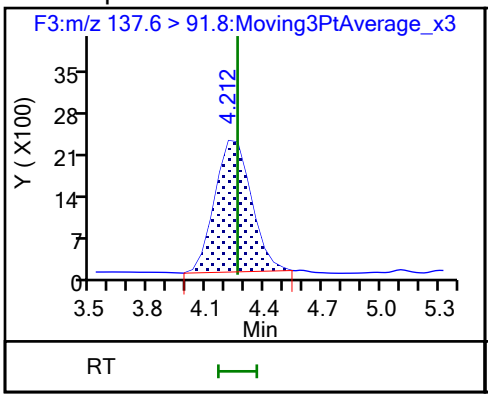

15 Siduron

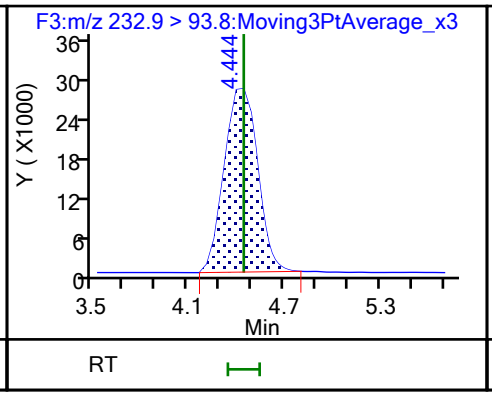

15 Siduron

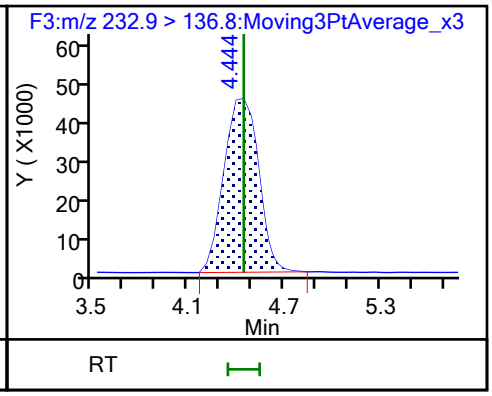

16 Methiocarb

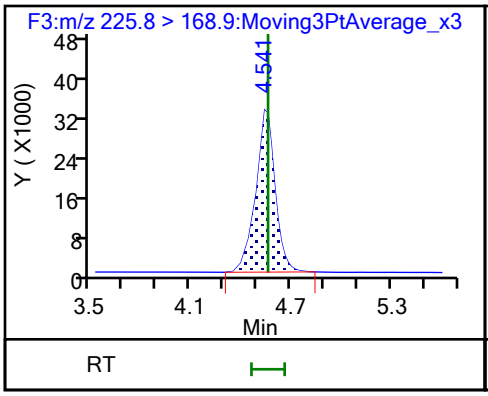

17 Linuron

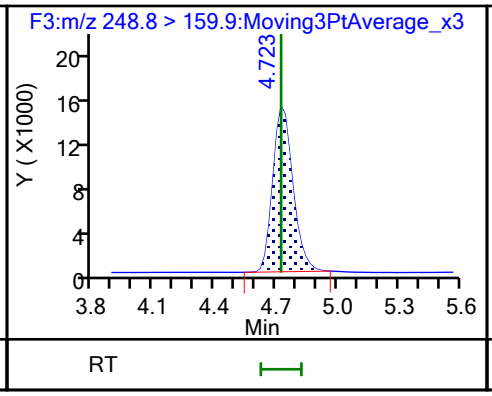

17 Linuron

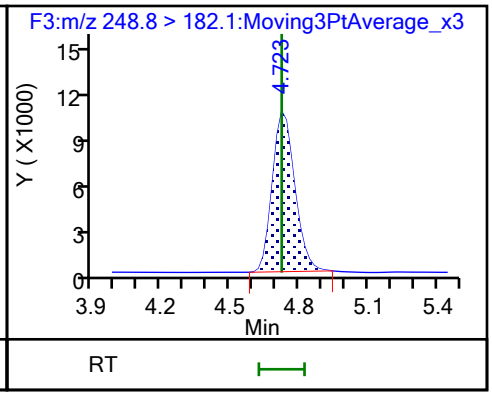

18 Chlorpropham

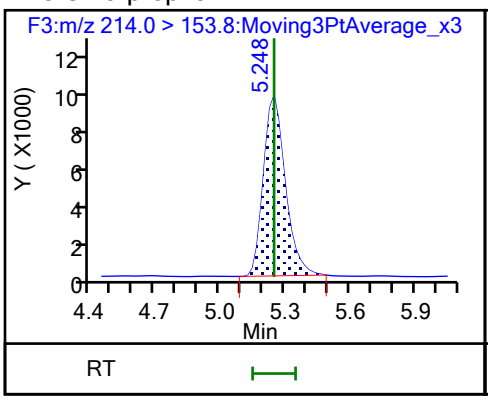

18 Chlorpropham

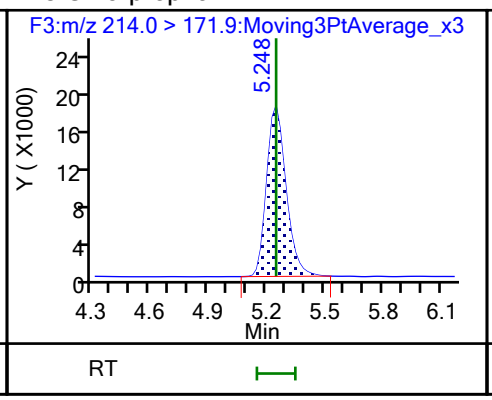

19 Neburon

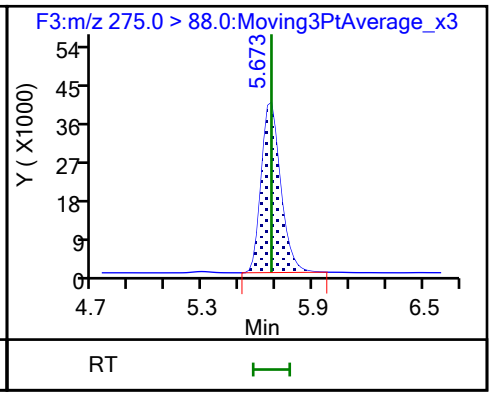

19 Neburon

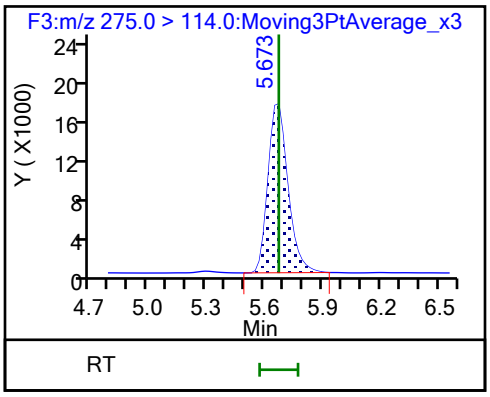
F3:m/z 275.0 > 114.0:Moving3PtAverage_x3
5.673
Y (X1000)
24
20
16
12
8
4
0
4.7
5.0
5.3
5.6
5.9
6.2
6.5
Min
RT

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

Data File:	\\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31016.d				
Injection Date:	31-Dec-2019 12:10:53	Instrument ID:	LC_LCMS3		
Lims ID:	CCV050				
Client ID:					
Operator ID:		ALS Bottle#:	6	Worklist Smp#:	18
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	Carbs8321	Limit Group:	LC - 8321A Carbamates		
Column:		Detector	F2:MRM		

9 Fluometuron, CAS: 2164-17-2

Signal: 1

Processing Integration Results

RT: 3.47
Area: 85145
Amount: 55.460367
Amount Units: ug/l

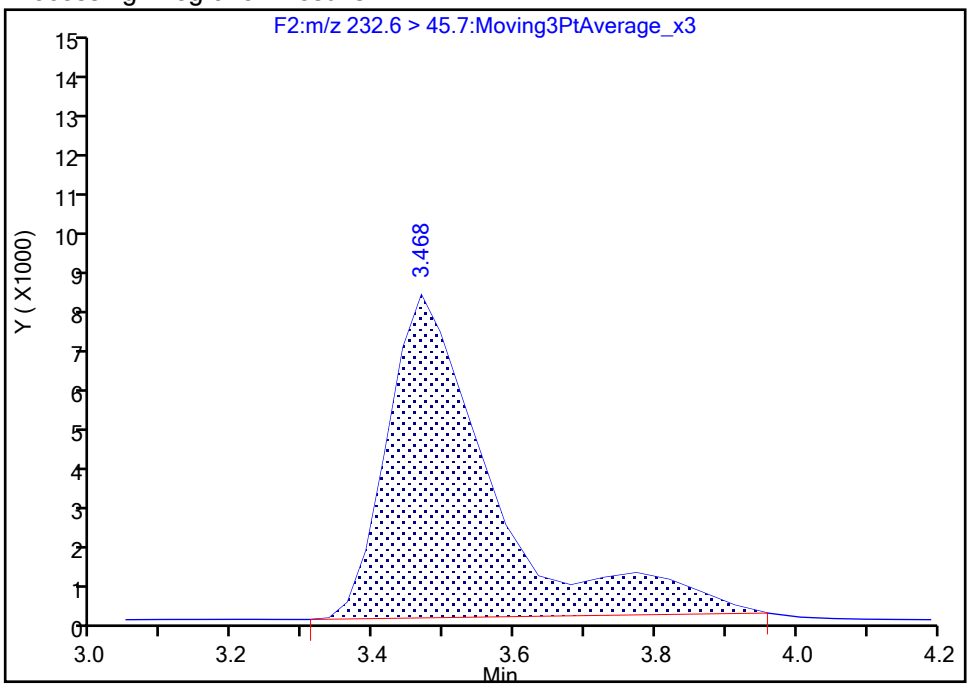

Manual Integration Results

RT: 3.47
Area: 74908
Amount: 48.553944
Amount Units: ug/l

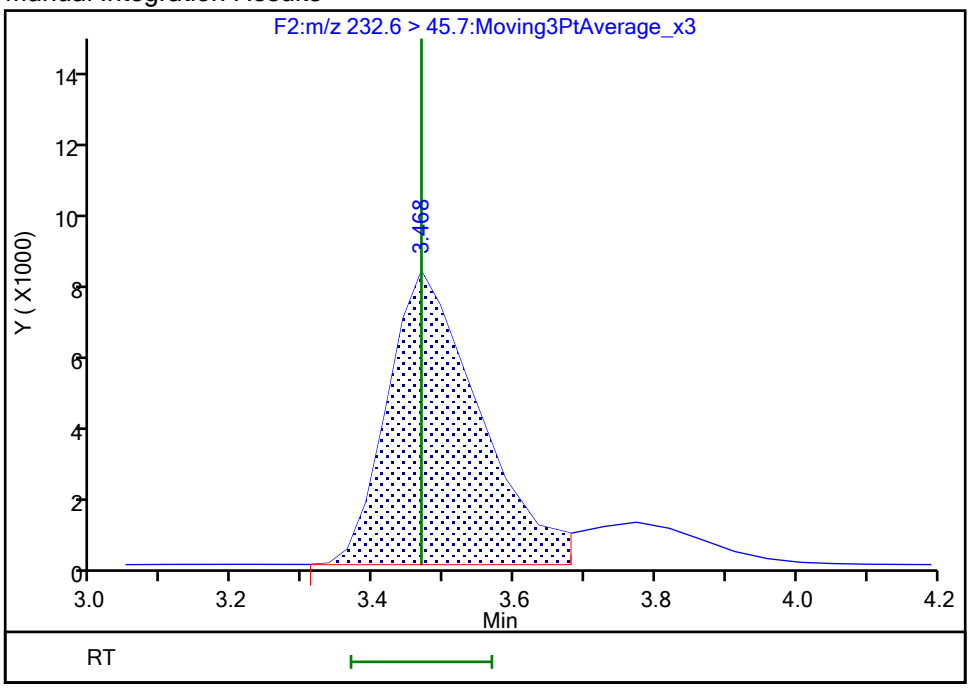

Reviewer: coopert, 31-Dec-2019 12:59:56

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Denver Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCV100 280-482046/25 Calibration Date: 12/31/2019 13:07

Instrument ID: LC_LCMS3 Calib Start Date: 12/31/2019 10:16

GC Column: Synergi Hydro 4 ID: 3.00(mm) Calib End Date: 12/31/2019 11:04

Lab File ID: CP319L31023.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Aminocarb	Lin2		53706		94.4	100	-5.6	30.0
Mexacarbate	Lin2		60119		95.2	100	-4.8	30.0
Methomyl	Lin2		3801		114	100	14.2	30.0
Fenuron	Lin2		6920		95.9	100	-4.1	30.0
Aldicarb	Lin1		2543		97.9	100	-2.1	30.0
Monuron	Lin2		3842		105	100	4.7	30.0
Propoxur	Qua		16402		107	100	6.6	30.0
Carbofuran	Lin2		15077		92.5	100	-7.5	30.0
Fluometuron	Lin2		1425		94.1	100	-5.9	30.0
Carbaryl	Ave	4148	4504		109	100	8.6	30.0
Diuron	Lin1		2066		146	100	45.7*	30.0
Propham	Ave	561.5	480.5		85.6	100	-14.4	30.0
Siduron	Lin		8790		105	100	5.2	30.0
Methiocarb	Lin2		5219		92.6	100	-7.4	30.0
Linuron	Lin2		2081		106	100	5.5	30.0
Chlorpropham	Lin2		1374		105	100	4.7	30.0
Neburon	Lin2		5834		87.3	100	-12.7	30.0
Atrazine-d5	Lin2		19976		101	100	0.8	30.0
Diuron-d6	Lin1		2543		121	101	19.6	30.0

Eurofins TestAmerica, Denver
Target Compound Quantitation Report

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31023.d
Lims ID: CCV100
Client ID:
Sample Type: CCV
Inject. Date: 31-Dec-2019 13:07:06 ALS Bottle#: 7 Worklist Smp#: 25
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: CCV050
Misc. Info.: CP319L31
Operator ID: Instrument ID: LC_LCMS3
Sublist: chrom-Carbs8321*sub1

Method: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\Carbs8321.m
Limit Group: LC - 8321A Carbamates
Last Update: 14-Jan-2020 13:30:27 Calib Date: 31-Dec-2019 11:04:24
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31008.d

Column 1 : Det: F1:MRM
Process Host: CTX0303

First Level Reviewer: coopert Date: 31-Dec-2019 13:35:58
Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
1 Aminocarb								
209.0 > 152.0	0.730	0.730	0.0	5370600	94.4		22659	
2 Carbamicacid,methyl4-dimethylamino								
223.0 > 165.9	0.961	0.961	0.0	6011890	95.2		4478	
3 Methomyl								
162.6 > 87.8	1.343	1.343	0.0	380065	114.2		1378	
4 Fenuron								
164.7 > 71.7	1.842	1.842	0.0	691971	95.9		1956	
5 Aldicarb								
212.6 > 88.8	2.560	2.560	0.0	254261	97.9		228	
6 Monuron								R
198.8 > 71.9	2.829	2.829	0.0	384194	104.7	Target=1.00	793	R
198.8 > 125.9	2.829	2.829	0.0	36010		10.67(0.90-1.10)	212	
7 Propoxur								
272.8 > 232.0	3.179	3.179	0.0	1640249	106.6		1852	
8 Carbofuran								
221.7 > 122.9	3.258	3.258	0.0	1507679	92.5		3029	
9 Fluometuron								M
232.6 > 45.7	3.468	3.468	0.0	142457	94.1		111	M
10 Carbaryl								
201.8 > 144.8	3.540	3.540	0.0	450352	108.6		1167	
$ 12 Atrazine-d5								
221.0 > 179.0	3.680	3.680	0.0	1997607	100.8		9136	
$ 13 Diuron-d6								
238.9 > 77.9	3.727	3.727	0.0	256831	120.8		1342	

Report Date: 14-Jan-2020 13:30:27 Chrom Revision: 2.3 15-Dec-2019 06:20:02
Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31023.d
Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
11 Diuron								
234.7 > 71.7	3.773	3.773	0.0	206635	145.7	Target=1.00	279	
232.8 > 71.7	3.773	3.773	0.0	206826		1.00(0.90-1.10)	2.5	
14 Propham								
137.6 > 91.8	4.212	4.258	-0.046	48048	85.6		114	
15 Siduron								R
232.9 > 93.8	4.398	4.444	-0.046	878971	105.2	Target=1.00	986	R
232.9 > 136.8	4.398	4.444	-0.046	1448531		0.61(0.90-1.10)	1042	
16 Methiocarb								
225.8 > 168.9	4.541	4.562	-0.021	521945	92.6		1057	
17 Linuron								R
248.8 > 159.9	4.723	4.723	0.0	208083	105.5	Target=1.00	1115	R
248.8 > 182.1	4.723	4.723	0.0	141845		1.47(0.90-1.10)	1376	
18 Chlorpropham								R
214.0 > 153.8	5.248	5.248	0.0	137385	104.7	Target=1.00	856	R
214.0 > 171.9	5.248	5.248	0.0	231101		0.59(0.90-1.10)	1064	
19 Neburon								R
275.0 > 88.0	5.653	5.673	-0.020	583435	87.3	Target=1.00	1231	R
275.0 > 114.0	5.653	5.673	-0.020	228966		2.55(0.90-1.10)	737	

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Review Flags
M - Manually Integrated

Reagents:

Carb_CS_Cal_00033 Amount Added: 200.00 Units: uL

Report Date: 14-Jan-2020 13:30:27 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Denver

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31023.d

Injection Date: 31-Dec-2019 13:07:06 Instrument ID: LC_LCMS3

Lims ID: CCV100

Client ID:

Operator ID: ALS Bottle#: 7 Worklist Smp#: 25

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: Carbs8321 Limit Group: LC - 8321A Carbamates

1 Aminocarb

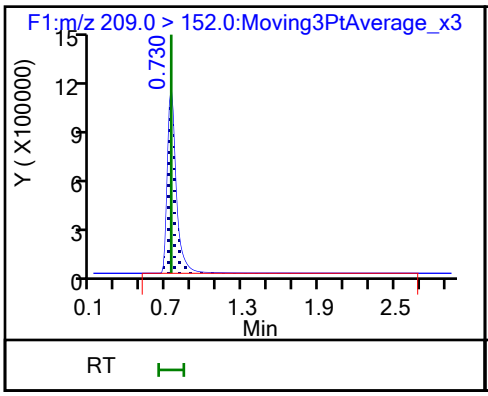

2 Carbamicacid,methyl4-dimethylamino

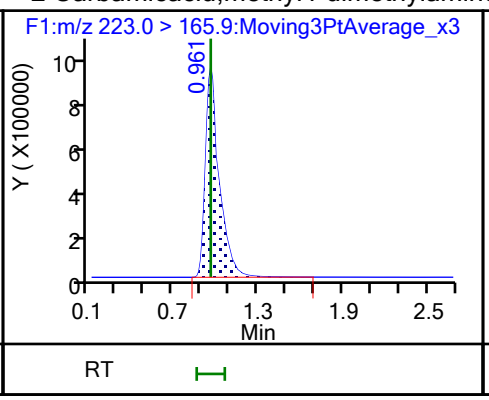

3 Methomyl

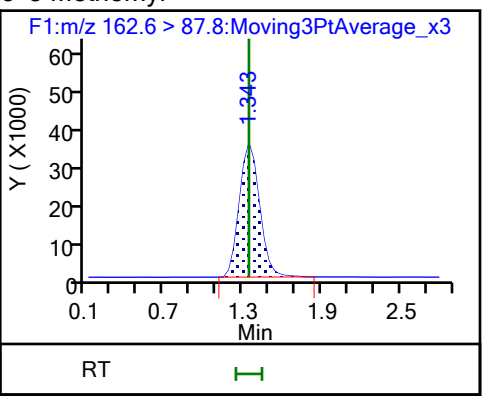

4 Fenuron

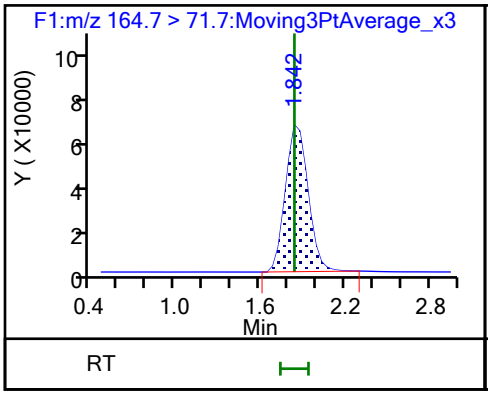

5 Aldicarb

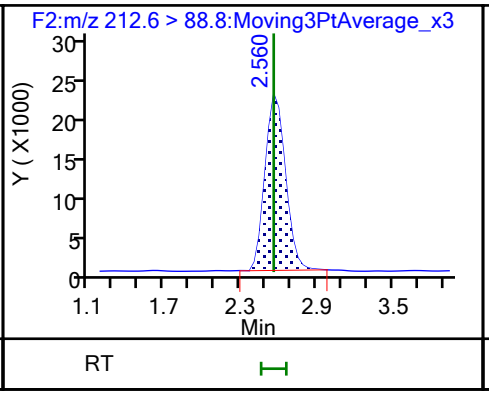

6 Monuron

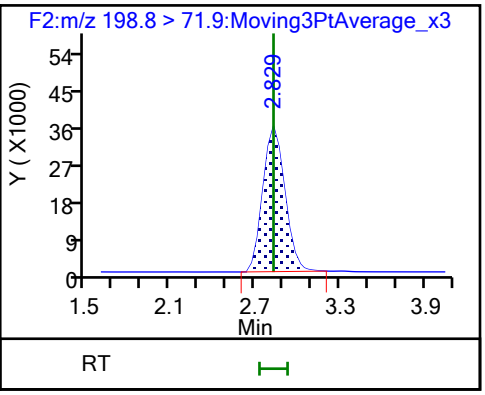

6 Monuron

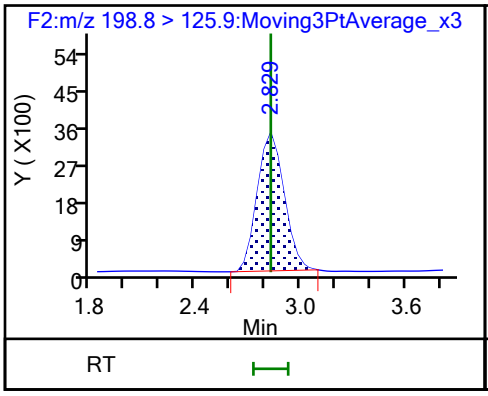

7 Propoxur

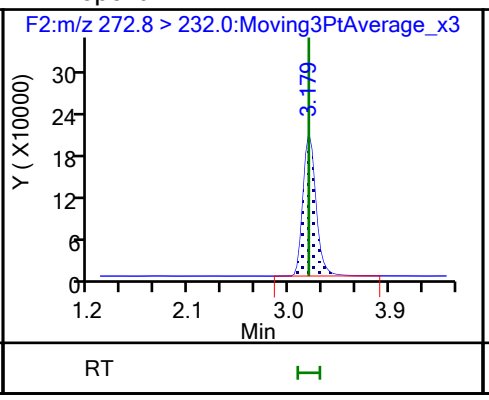

8 Carbofuran

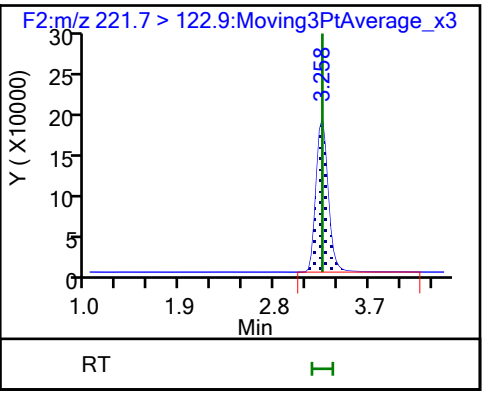

9 Fluometuron (M)

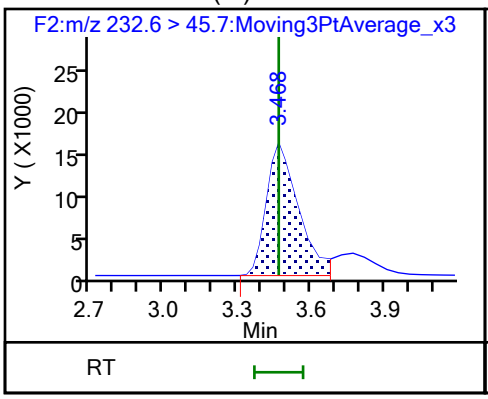

10 Carbaryl

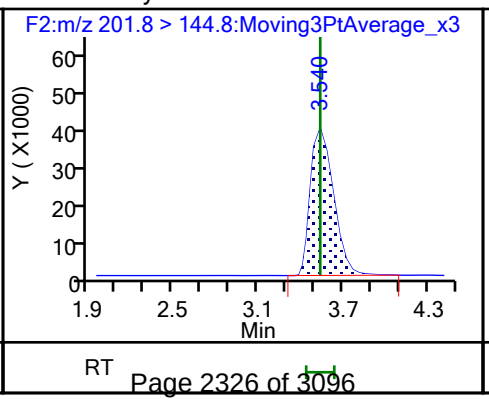

$ 12 Atrazine-d5

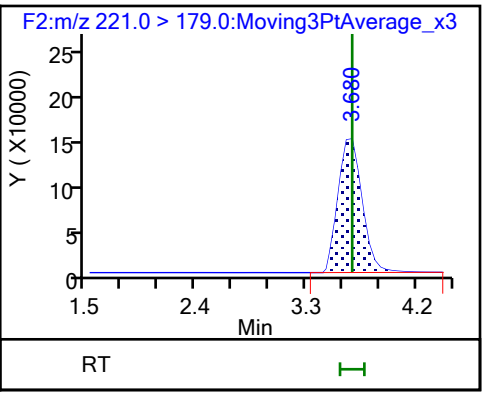

$ 13 Diuron-d6

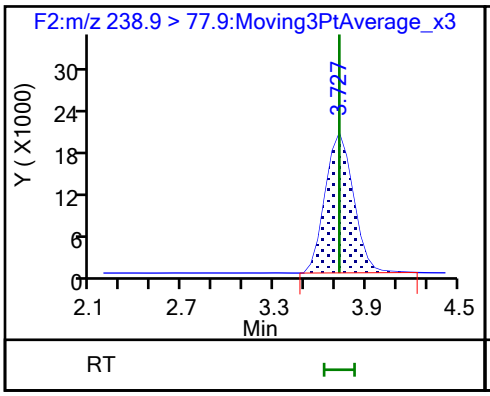

11 Diuron

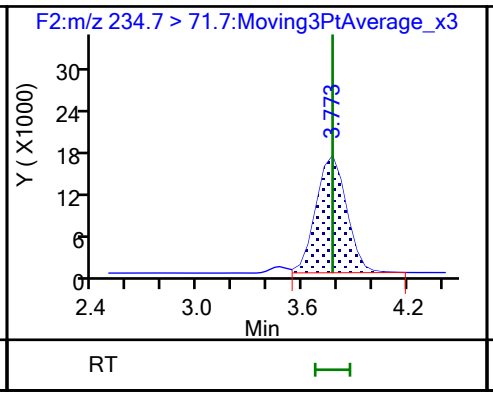

11 Diuron

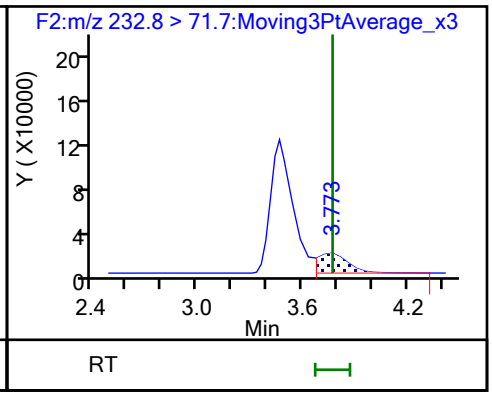

14 Propham

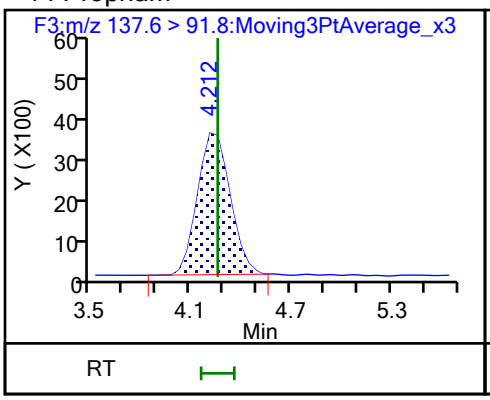

15 Siduron

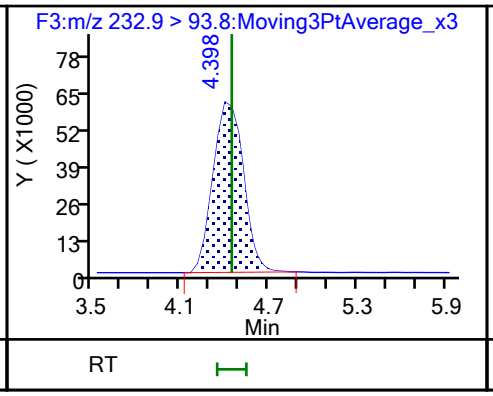

15 Siduron

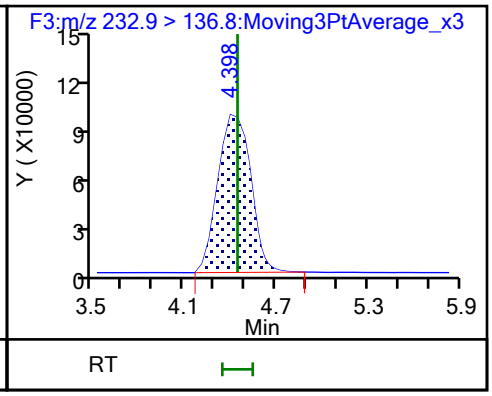

16 Methiocarb

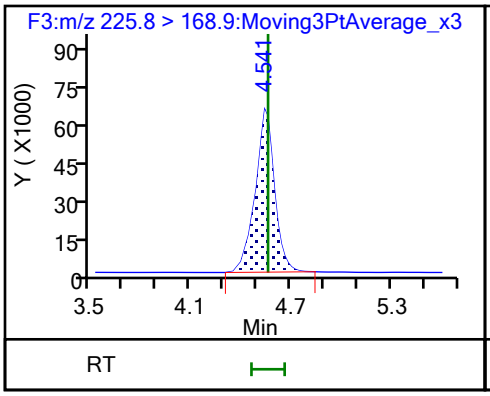

17 Linuron

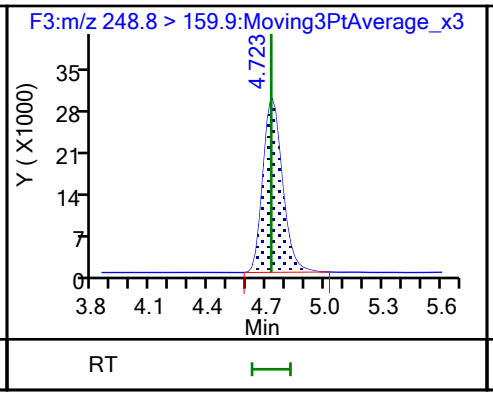

17 Linuron

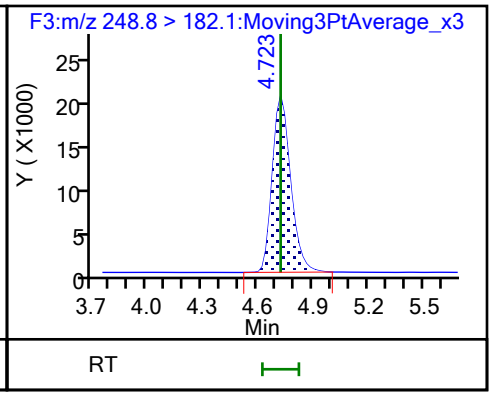

18 Chlorpropham

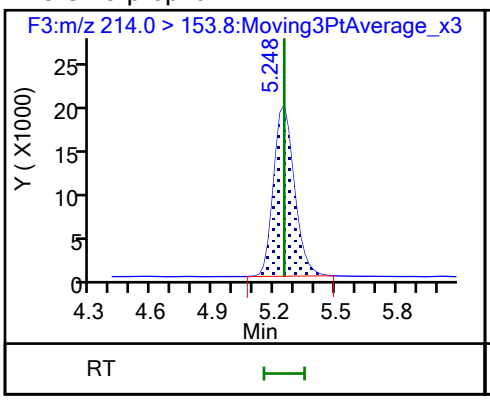

18 Chlorpropham

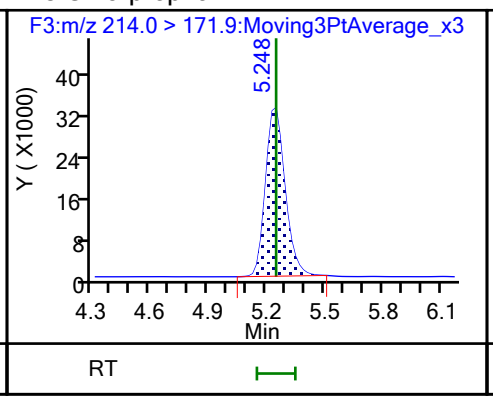

19 Neburon

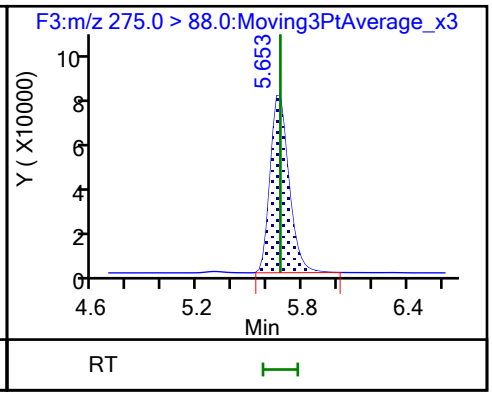

19 Neburon

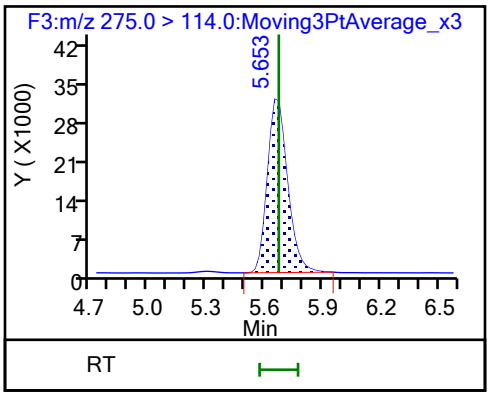
F3:m/z 275.0 > 114.0:Moving3PtAverage_x3
5.653
Y (X1000)
42
35
28
21
14
7
0
4.7
5.0
5.3
5.6
5.9
6.2
6.5
Min
RT

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

Data File:	\\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31023.d				
Injection Date:	31-Dec-2019 13:07:06	Instrument ID:	LC_LCMS3		
Lims ID:	CCV100				
Client ID:					
Operator ID:		ALS Bottle#:	7	Worklist Smp#:	25
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	Carbs8321	Limit Group:	LC - 8321A Carbamates		
Column:		Detector	F2:MRM		

9 Fluometuron, CAS: 2164-17-2

Signal: 1

Processing Integration Results

RT: 3.47
Area: 165422
Amount: 109.6195
Amount Units: ug/l

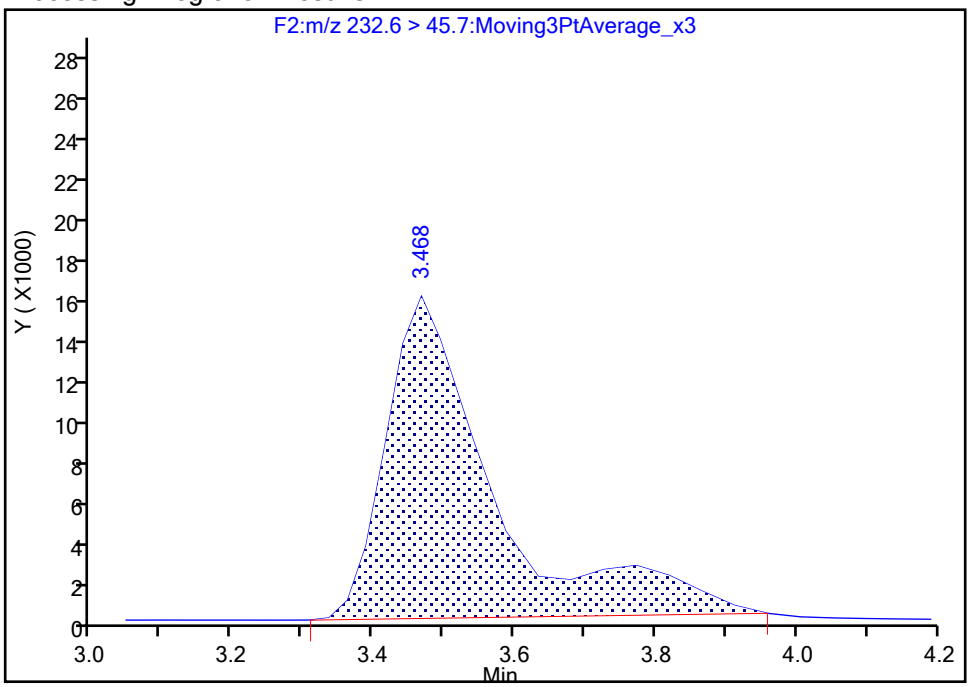

Manual Integration Results

RT: 3.47
Area: 142457
Amount: 94.126081
Amount Units: ug/l

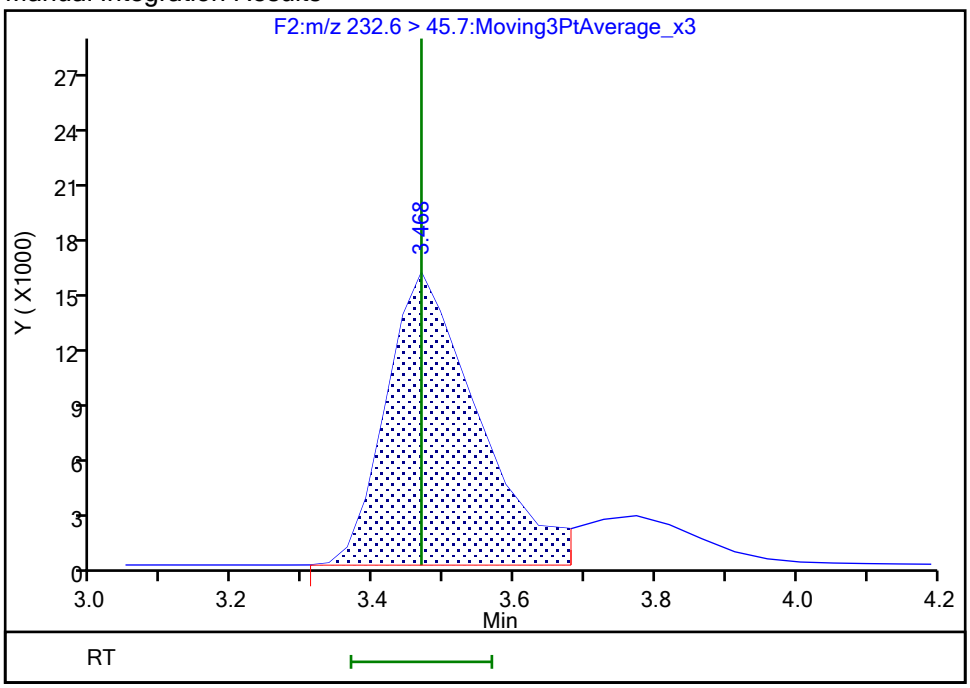

Reviewer: coopert, 31-Dec-2019 13:37:26

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Denver
Job No.: 180-100205-1
SDG No.:
Client Sample ID:
Lab Sample ID: LB 280-481805/1-A
Matrix: Solid
Lab File ID: CP319L31017.d
Analysis Method: 8321A
Date Collected:
Extraction Method: 3535
Date Extracted: 12/28/2019 14:56
Sample wt/vol: 200(mL)
Date Analyzed: 12/31/2019 12:18
Con. Extract Vol.: 10(mL)
Dilution Factor: 1
Injection Volume: 20(uL)
GC Column: Synergi Hydro 4 ID: 3(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 482046
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
16752-77-5	Methomyl	ND		1.0	0.16

CAS NO.	SURROGATE	%REC	Q	LIMITS
163165-75-1	Atrazine-d5	112		60-142
STL01549	Diuron-d6	134		50-150

Eurofins TestAmerica, Denver
Target Compound Quantitation Report

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31017.d
Lims ID: LB 280-481805/1-A
Client ID:
Sample Type: LB
Inject. Date: 31-Dec-2019 12:18:54 ALS Bottle#: 15 Worklist Smp#: 19
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: LB 280-481805/1-A
Misc. Info.: CP319L31
Operator ID: Instrument ID: LC_LCMS3

Method: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\Carbs8321.m
Limit Group: LC - 8321A Carbamates
Last Update: 14-Jan-2020 13:30:05 Calib Date: 31-Dec-2019 11:04:24
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31008.d

Column 1 : Det: F1:MRM
Process Host: CTX0303

First Level Reviewer: coopert Date: 31-Dec-2019 13:00:17
Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
$ 12 Atrazine-d5								
221.0 > 179.0	3.680	3.680	0.0	2226420	112.4		6401	
$ 13 Diuron-d6								
238.9 > 77.9	3.727	3.727	0.0	287925	135.4		2024	

Report Date: 14-Jan-2020 13:30:21 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Denver

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31017.d

Injection Date: 31-Dec-2019 12:18:54 Instrument ID: LC_LCMS3

Lims ID: LB 280-481805/1-A

Client ID:

Operator ID: ALS Bottle#: 15 Worklist Smp#: 19

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: Carbs8321 Limit Group: LC - 8321A Carbamates

1 Aminocarb (ND)

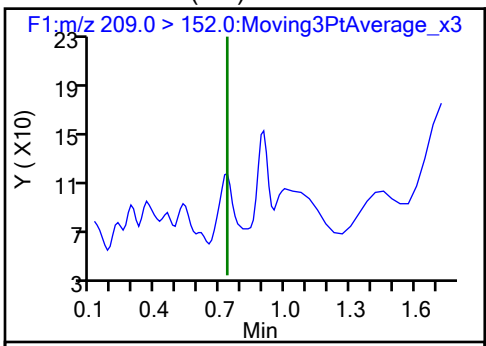

RT

2 Carbamicacid,methyl4-dimethylamino (ND)

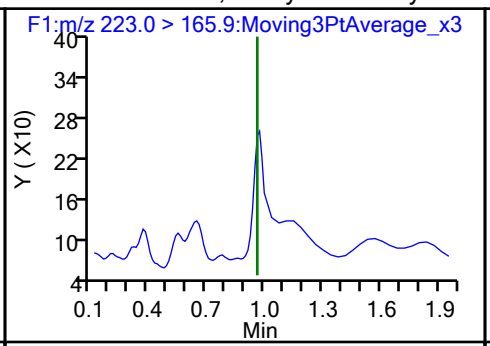

RT

3 Methomyl (ND)

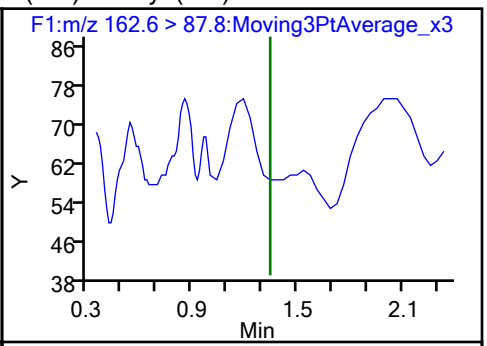

RT

4 Fenuron (ND)

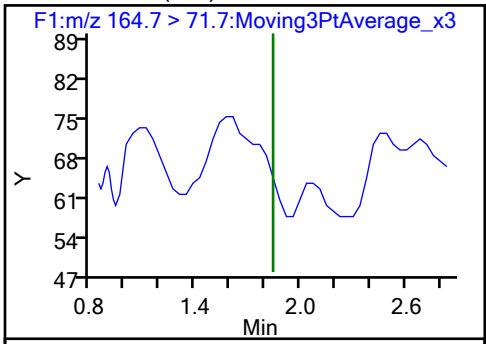

RT

5 Aldicarb (ND)

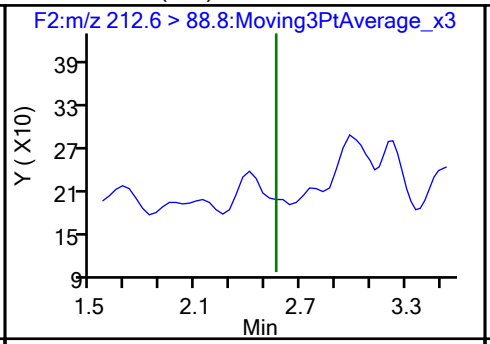

RT

6 Monuron (ND)

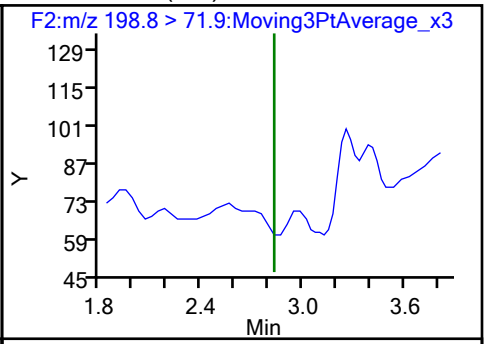

RT

6 Monuron (ND)

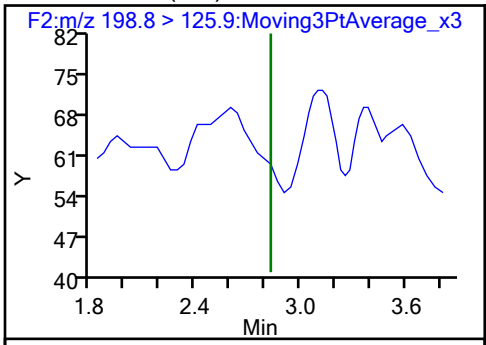

RT

7 Propoxur (ND)

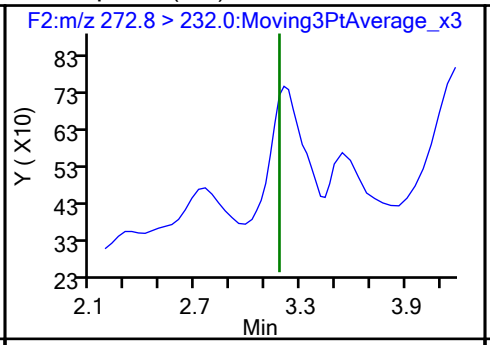

RT

8 Carbofuran (ND)

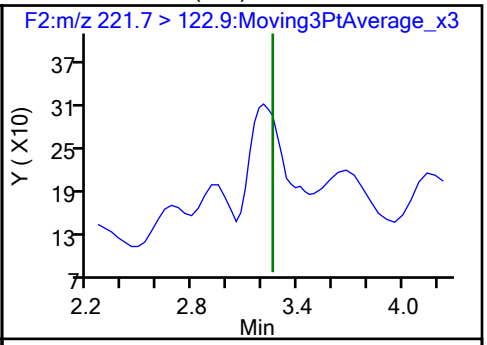

RT

9 Fluometuron (ND)

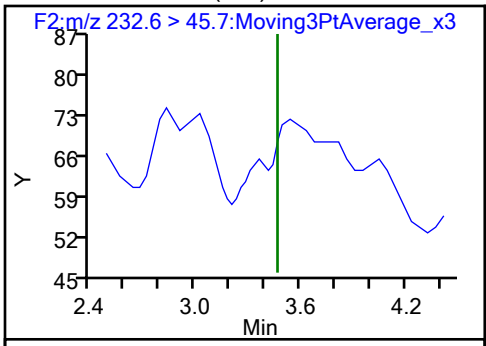

RT

10 Carbaryl (ND)

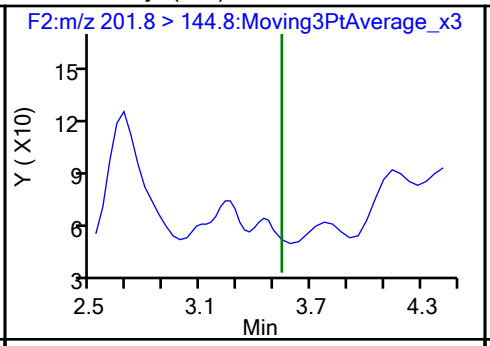

RT

$ 12 Atrazine-d5

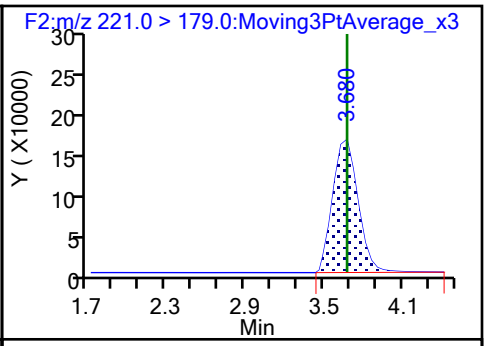

RT

Report Date: 14-Jan-2020 13:30:21 Chrom Revision: 2.3 15-Dec-2019 06:20:02
Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31017.d

$ 13 Diuron-d6

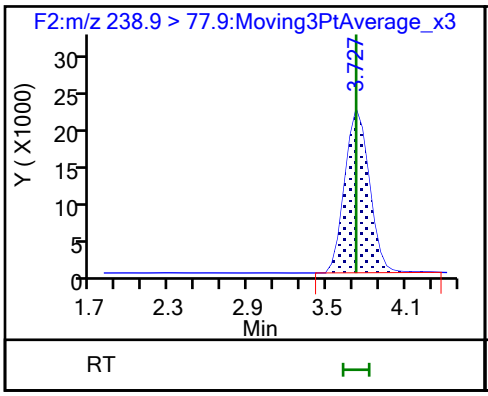

11 Diuron (ND)

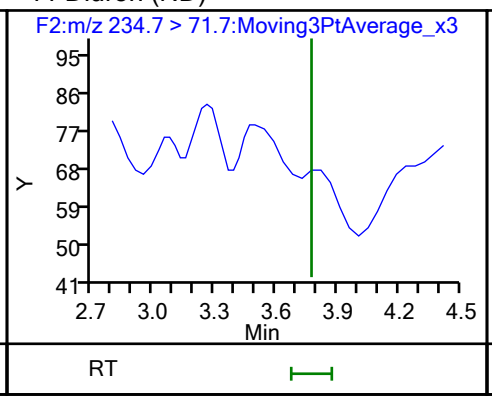

11 Diuron (ND)

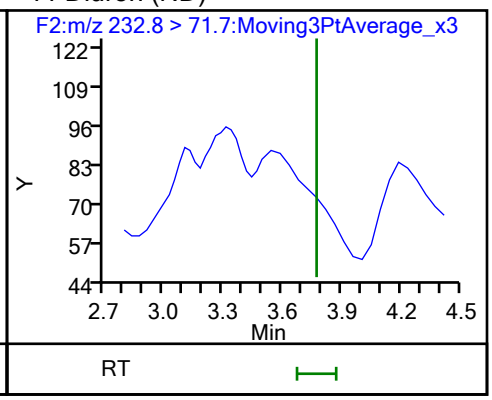

14 Propham (ND)

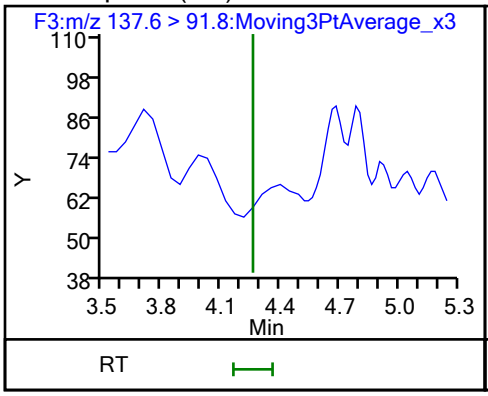

15 Siduron (ND)

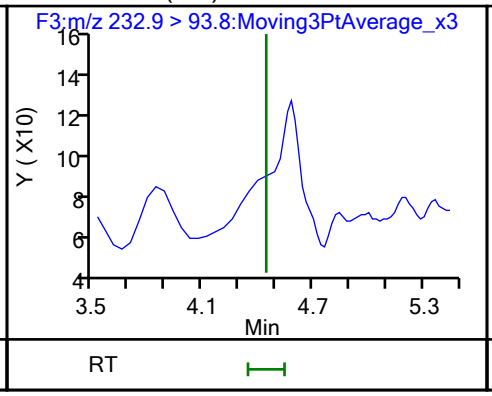

15 Siduron (ND)

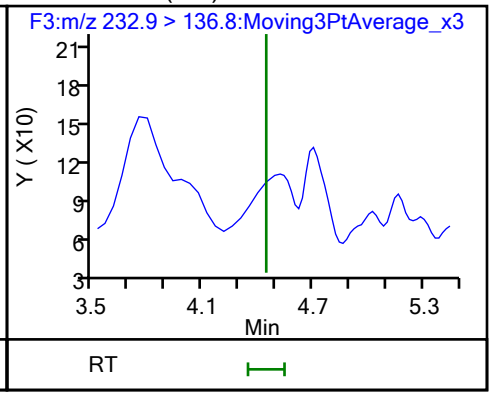

16 Methiocarb (ND)

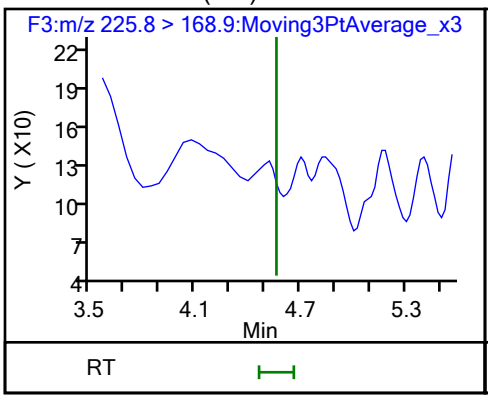

17 Linuron (ND)

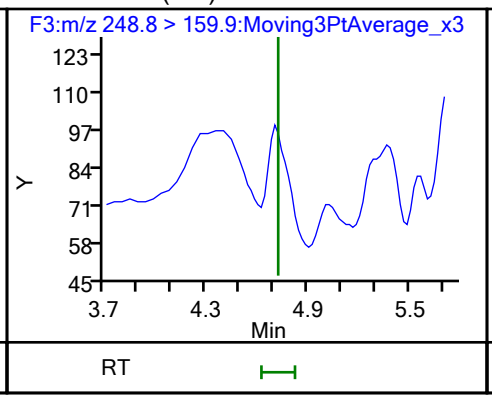

17 Linuron (ND)

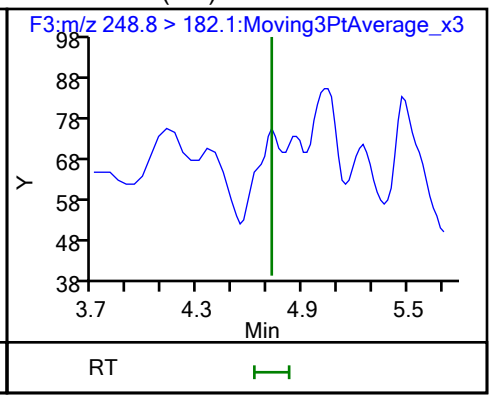

18 Chlorpropham (ND)

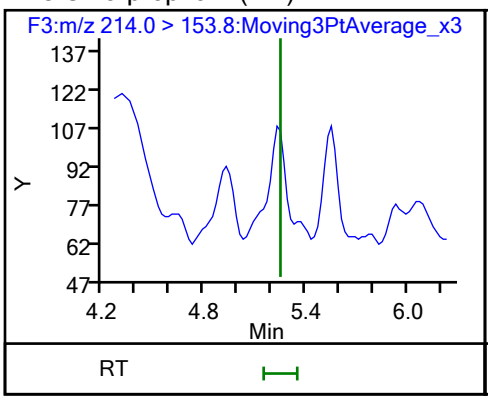

18 Chlorpropham (ND)

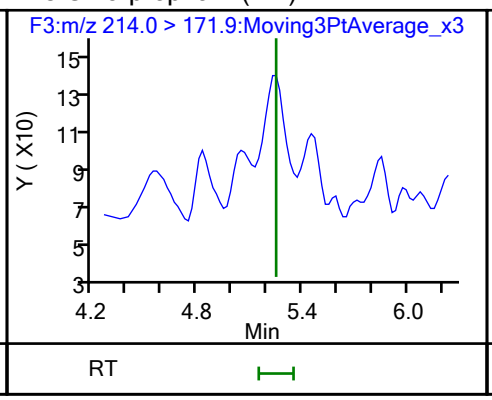

19 Neburon (ND)

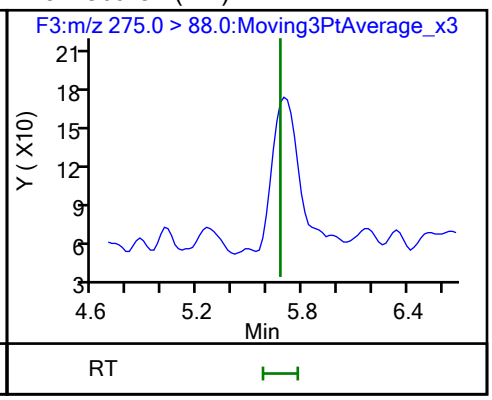

19 Neburon (ND)

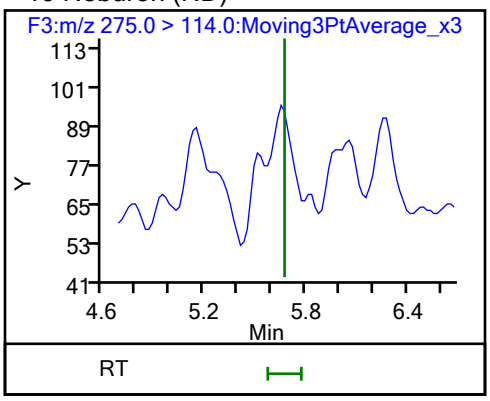

Eurofins TestAmerica, Denver
Recovery Report

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31017.d
Lims ID: LB 280-481805/1-A
Client ID:
Sample Type: LB
Inject. Date: 31-Dec-2019 12:18:54 ALS Bottle#: 15 Worklist Smp#: 19
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: LB 280-481805/1-A
Misc. Info.: CP319L31
Operator ID: Instrument ID: LC_LCMS3

Method: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\Carbs8321.m
Limit Group: LC - 8321A Carbamates
Last Update: 14-Jan-2020 13:30:05 Calib Date: 31-Dec-2019 11:04:24
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31008.d

Column 1 : Det: F1:MRM
Process Host: CTX0303

First Level Reviewer: coopert Date: 31-Dec-2019 13:00:17

Compound	Amount Added	Amount Recovered	% Rec.
$ 12 Atrazine-d5	100.0	112.4	112.39
$ 13 Diuron-d6	101.0	135.4	134.10

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Denver
Job No.: 180-100205-1
SDG No.:
Client Sample ID:
Lab Sample ID: ICB 280-482046/11
Matrix: Solid
Lab File ID: CP319L31009.d
Analysis Method: 8321A
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 1(mL)
Date Analyzed: 12/31/2019 11:12
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 20(uL)
GC Column: Synergi Hydro 4 ID: 3(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 482046
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
16752-77-5	Methomyl	ND		20	3.1

CAS NO.	SURROGATE	%REC	Q	LIMITS
163165-75-1	Atrazine-d5			
STL01549	Diuron-d6			

Eurofins TestAmerica, Denver
Target Compound Quantitation Report

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31009.d
Lims ID: ICB
Client ID:
Sample Type: ICB
Inject. Date: 31-Dec-2019 11:12:26 ALS Bottle#: 1 Worklist Smp#: 11
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: ICB
Misc. Info.: CP319L31
Operator ID: Instrument ID: LC_LCMS3

Method: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\Carbs8321.m
Limit Group: LC - 8321A Carbamates
Last Update: 31-Dec-2019 13:38:25 Calib Date: 31-Dec-2019 11:04:24
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31008.d

Column 1 : Det: F1:MRM
Process Host: CTX0311

First Level Reviewer: coopert Date: 31-Dec-2019 11:37:02
Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags

Report Date: 31-Dec-2019 13:38:26 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Denver

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31009.d

Injection Date: 31-Dec-2019 11:12:26 Instrument ID: LC_LCMS3

Lims ID: ICB

Client ID:

Operator ID: ALS Bottle#: 1 Worklist Smp#: 11

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: Carbs8321 Limit Group: LC - 8321A Carbamates

1 Aminocarb (ND)

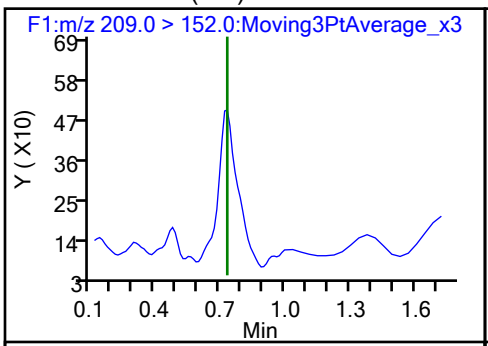

2 Carbamicacid,methyl4-dimethylamino (ND)

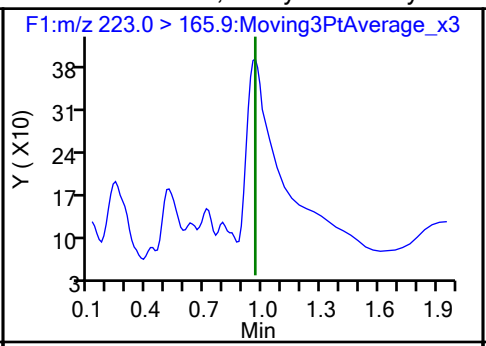

3 Methomyl (ND)

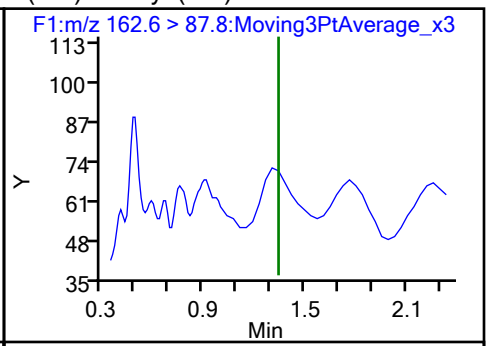

4 Fenuron (ND)

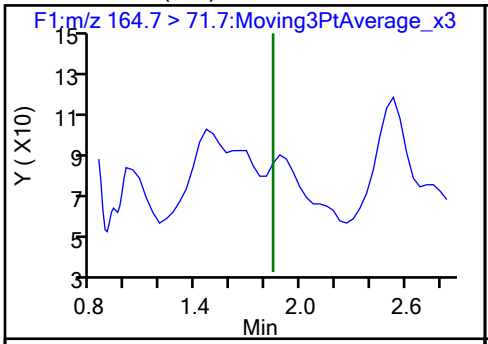

5 Aldicarb (ND)

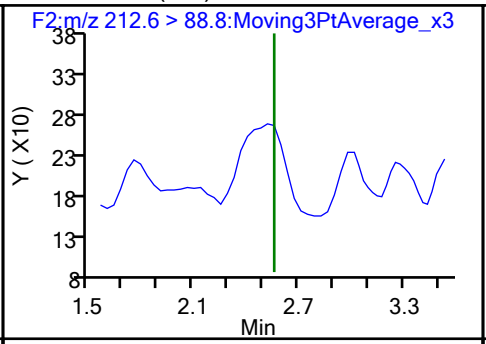

6 Monuron (ND)

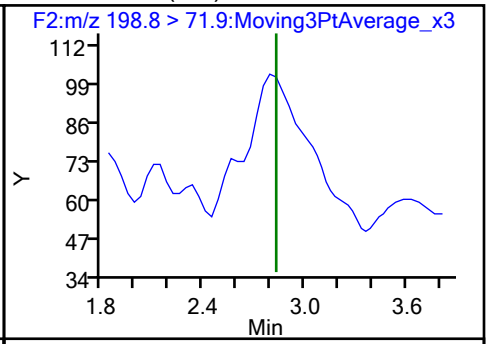

6 Monuron (ND)

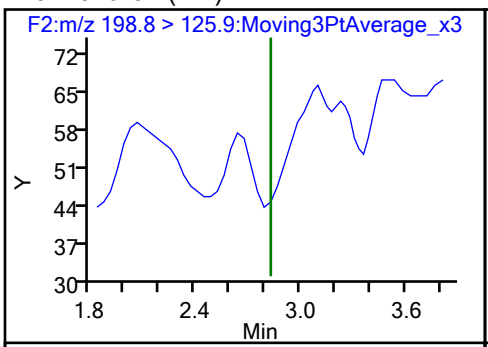

7 Propoxur (ND)

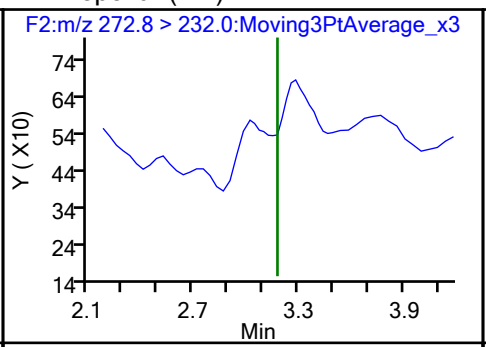

8 Carbofuran (ND)

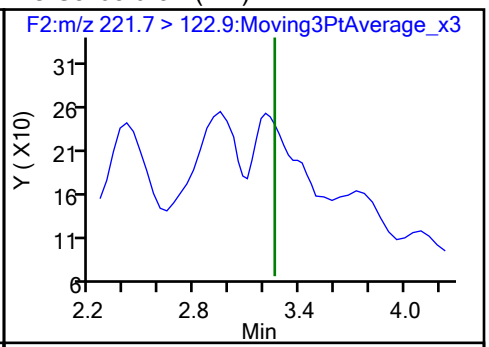

9 Fluometuron (ND)

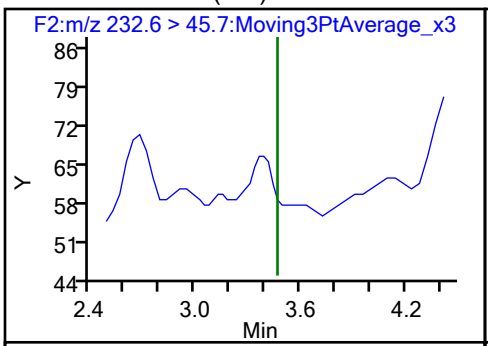

10 Carbaryl (ND)

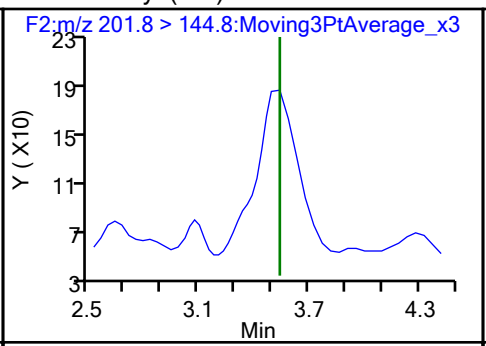

$ 12 Atrazine-d5 (ND)

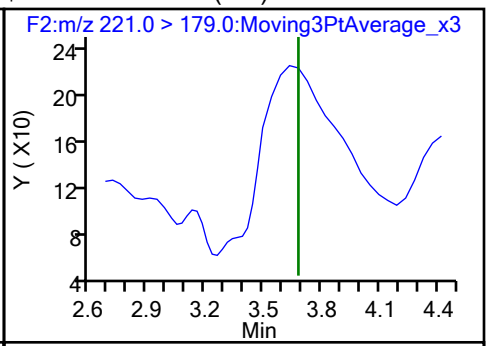

Report Date: 31-Dec-2019 13:38:26 Chrom Revision: 2.3 15-Dec-2019 06:20:02
Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31009.d

$ 13 Diuron-d6 (ND)

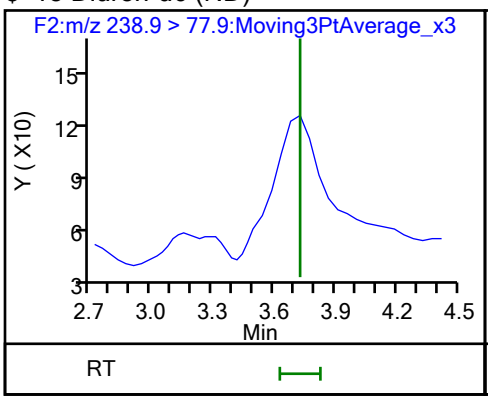

11 Diuron (ND)

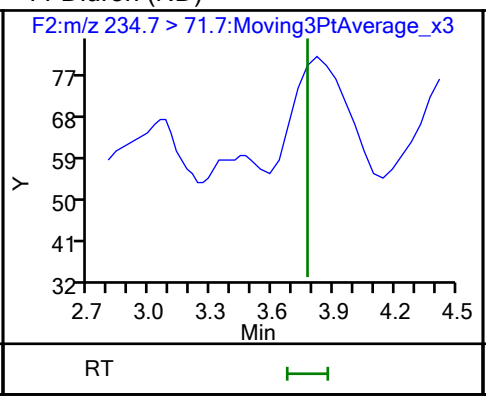

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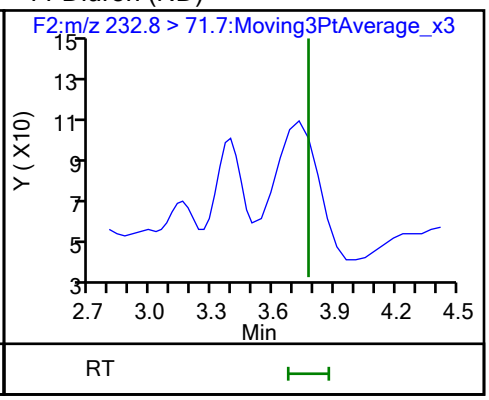

14 Propham (ND)

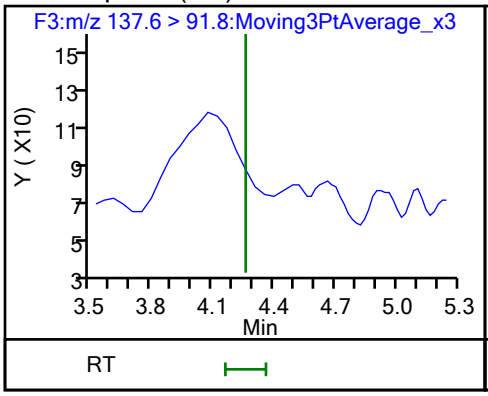

15 Siduron (ND)

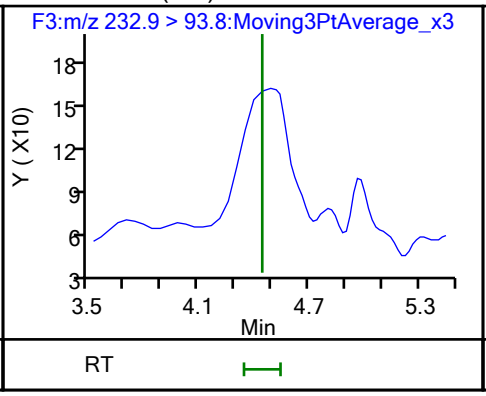

15 Siduron (ND)

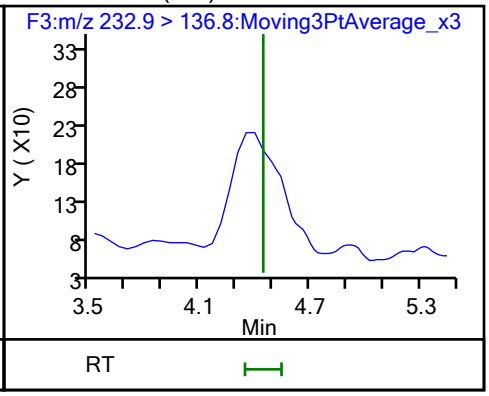

16 Methiocarb (ND)

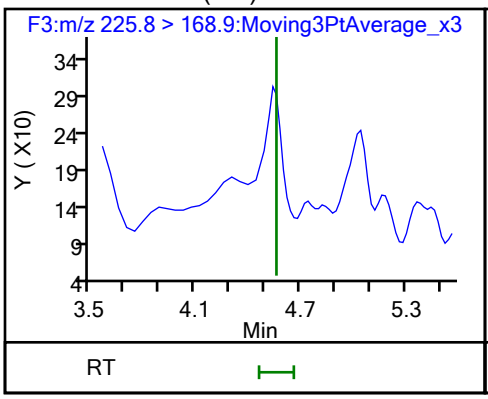

17 Linuron (ND)

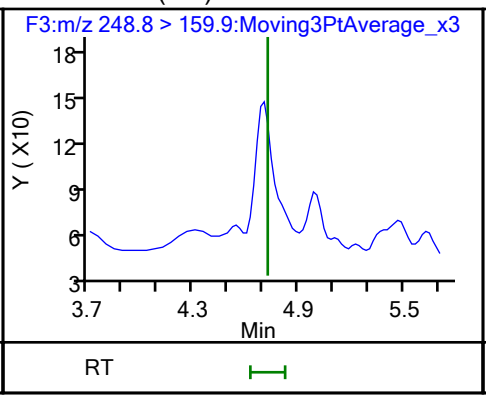

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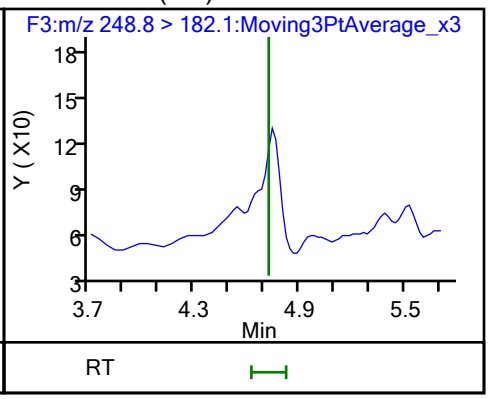

18 Chlorpropham (ND)

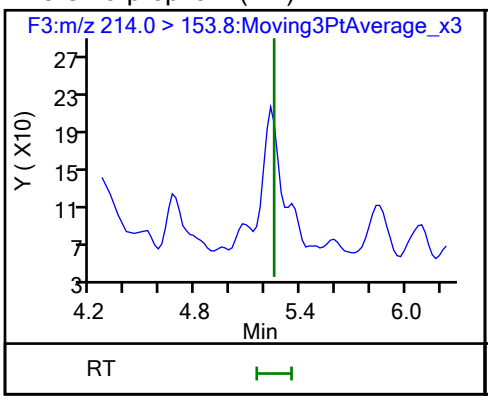

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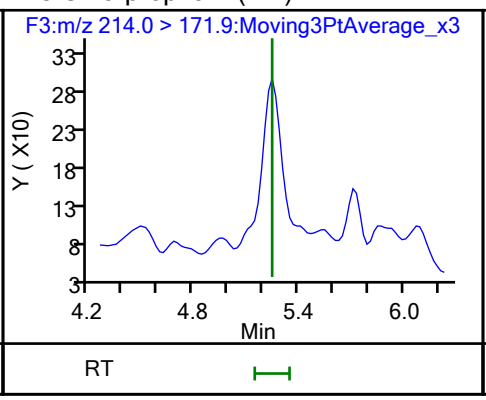

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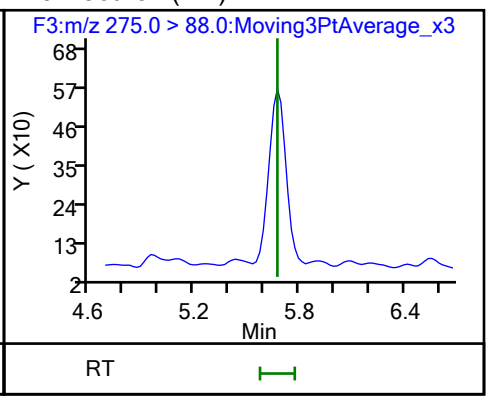

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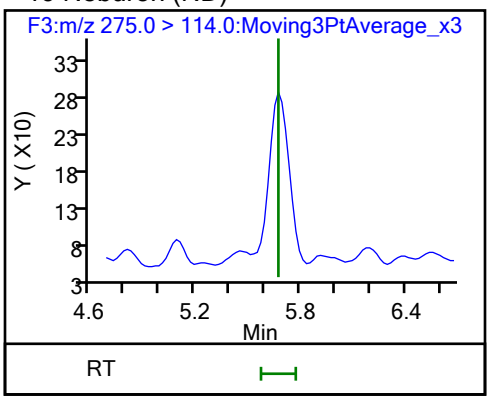

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Denver
Job No.: 180-100205-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 280-481805/2-A
Matrix: Solid
Lab File ID: CP319L31018.d
Analysis Method: 8321A
Date Collected:
Extraction Method: 3535
Date Extracted: 12/28/2019 14:56
Sample wt/vol: 200(mL)
Date Analyzed: 12/31/2019 12:26
Con. Extract Vol.: 10(mL)
Dilution Factor: 1
Injection Volume: 20(uL)
GC Column: Synergi Hydro 4 ID: 3(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 482046
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
16752-77-5	Methomyl	2.03		1.0	0.16

CAS NO.	SURROGATE	%REC	Q	LIMITS
163165-75-1	Atrazine-d5	108		60-142
STL01549	Diuron-d6	122		50-150

Eurofins TestAmerica, Denver
Target Compound Quantitation Report

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31018.d
Lims ID: LCS 280-481805/2-A
Client ID:
Sample Type: LCS
Inject. Date: 31-Dec-2019 12:26:56 ALS Bottle#: 16 Worklist Smp#: 20
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: LCS 280-481805/2-A
Misc. Info.: CP319L31
Operator ID: Instrument ID: LC_LCMS3

Method: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\Carbs8321.m
Limit Group: LC - 8321A Carbamates
Last Update: 14-Jan-2020 13:30:05 Calib Date: 31-Dec-2019 11:04:24
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31008.d

Column 1 : Det: F1:MRM
Process Host: CTX0303

First Level Reviewer: coopert Date: 31-Dec-2019 13:00:47
Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
1 Aminocarb								
209.0 > 152.0	0.730	0.730	0.0	2103275	36.5		16884	
2 Carbamicacid,methyl4-dimethylamino								
223.0 > 165.9	0.973	0.961	0.012	3586685	56.6		4099	
3 Methomyl								M
162.6 > 87.8	1.343	1.343	0.0	138461	40.7		949	M
4 Fenuron								
164.7 > 71.7	1.881	1.842	0.039	240688	32.9		770	
5 Aldicarb								
212.6 > 88.8	2.560	2.560	0.0	133432	49.8		153	
6 Monuron								R
198.8 > 71.9	2.829	2.829	0.0	179183	48.6	Target=1.00	495	R
198.8 > 125.9	2.829	2.829	0.0	20938		8.56(0.90-1.10)	140	
7 Propoxur								
272.8 > 232.0	3.179	3.179	0.0	977353	56.1		789	
8 Carbofuran								
221.7 > 122.9	3.258	3.258	0.0	851425	51.9		1991	
9 Fluometuron								M
232.6 > 45.7	3.468	3.468	0.0	80273	52.2		125	M
10 Carbaryl								
201.8 > 144.8	3.540	3.540	0.0	135504	32.7		472	
$ 12 Atrazine-d5								
221.0 > 179.0	3.680	3.680	0.0	2139612	108.0		4851	
$ 13 Diuron-d6								
238.9 > 77.9	3.727	3.727	0.0	261407	122.9		1686	

Report Date: 14-Jan-2020 13:30:22 Chrom Revision: 2.3 15-Dec-2019 06:20:02
Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31018.d
Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
11 Diuron								R
234.7 > 71.7	3.773	3.773	0.0	75321	52.5	Target=1.00	144	R
232.8 > 71.7	3.773	3.773	0.0	95094		0.79(0.90-1.10)	2.5	
14 Propham								
137.6 > 91.8	4.258	4.258	0.0	29657	52.8		127	
15 Siduron								R
232.9 > 93.8	4.521	4.444	0.077	532270	63.6	Target=1.00	953	R
232.9 > 136.8	4.521	4.444	0.077	1099247		0.48(0.90-1.10)	1363	
16 Methiocarb								
225.8 > 168.9	4.541	4.562	-0.021	210072	37.0		367	
17 Linuron								R
248.8 > 159.9	4.723	4.723	0.0	118255	59.6	Target=1.00	589	R
248.8 > 182.1	4.723	4.723	0.0	75452		1.57(0.90-1.10)	654	
18 Chlorpropham								R
214.0 > 153.8	5.248	5.248	0.0	72911	55.6	Target=1.00	377	R
214.0 > 171.9	5.248	5.248	0.0	138555		0.53(0.90-1.10)	642	
19 Neburon								R
275.0 > 88.0	5.673	5.673	0.0	358560	53.5	Target=1.00	2065	R
275.0 > 114.0	5.673	5.673	0.0	145967		2.46(0.90-1.10)	986	

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Review Flags
M - Manually Integrated

Report Date: 14-Jan-2020 13:30:22 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Denver

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31018.d

Injection Date: 31-Dec-2019 12:26:56 Instrument ID: LC_LCMS3

Lims ID: LCS 280-481805/2-A

Client ID:

Operator ID: ALS Bottle#: 16 Worklist Smp#: 20

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: Carbs8321 Limit Group: LC - 8321A Carbamates

1 Aminocarb

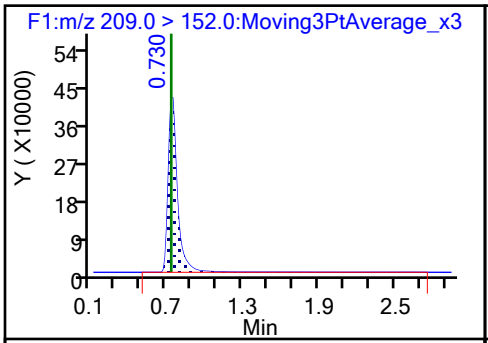

2 Carbamicacid,methyl4-dimethylamino

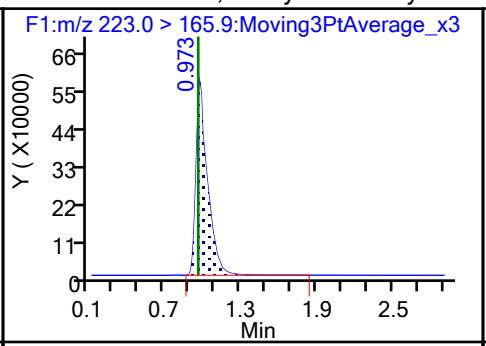

3 Methomyl (M)

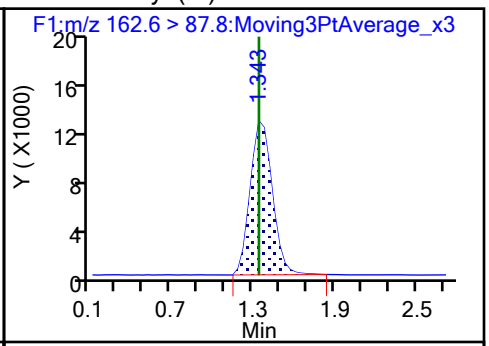

4 Fenuron

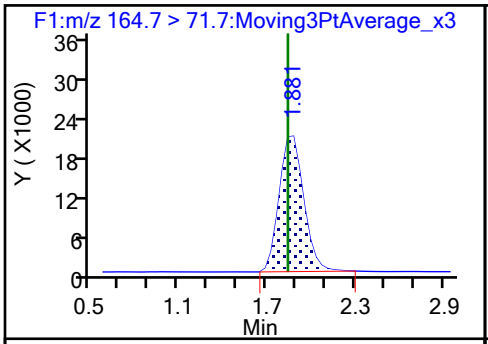

5 Aldicarb

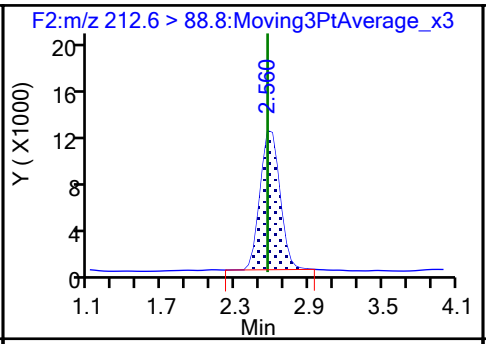

6 Monuron

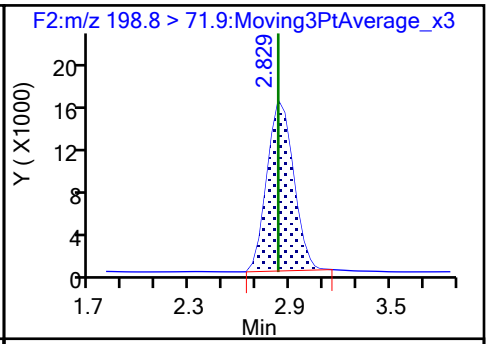

6 Monuron

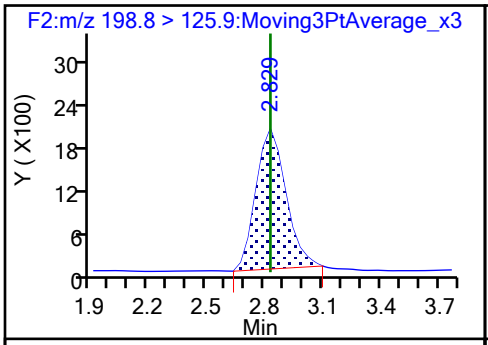

7 Propoxur

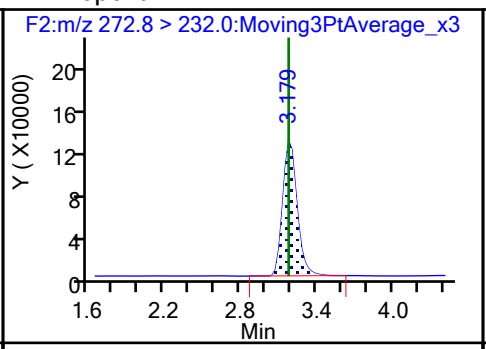

8 Carbofuran

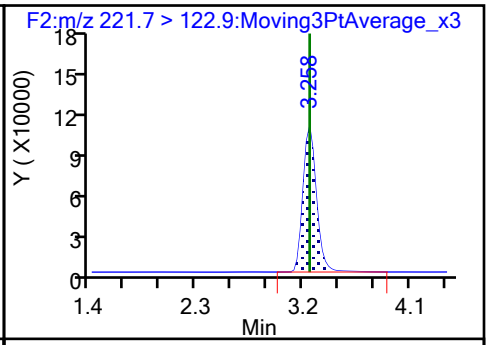

9 Fluometuron (M)

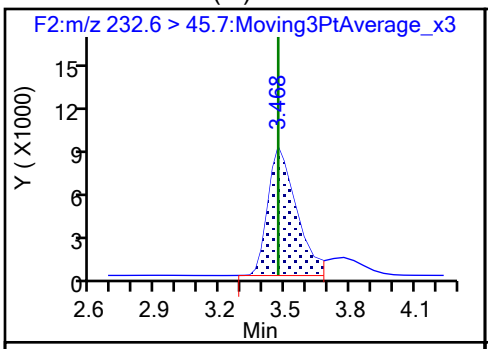

10 Carbaryl

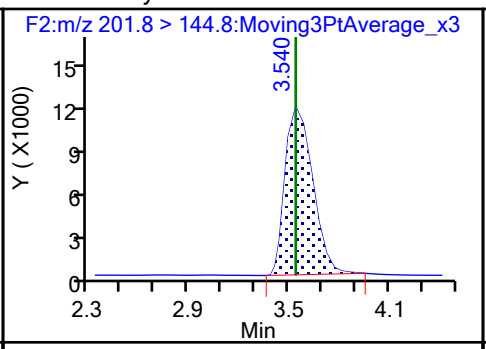

$ 12 Atrazine-d5

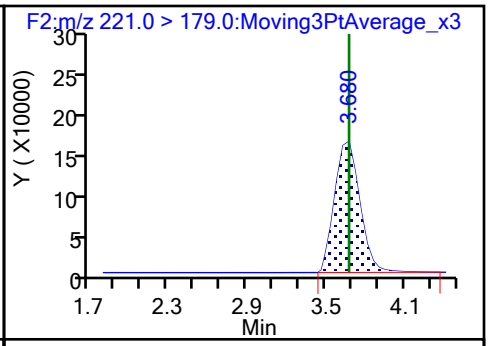

$ 13 Diuron-d6

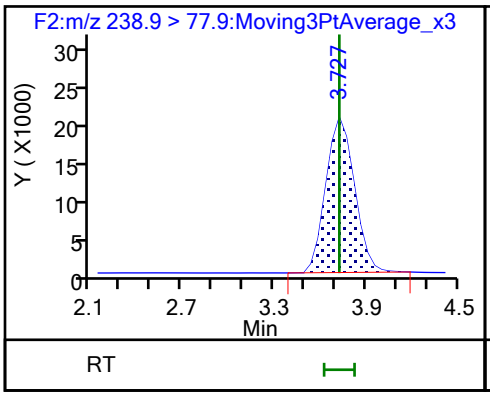

11 Diuron

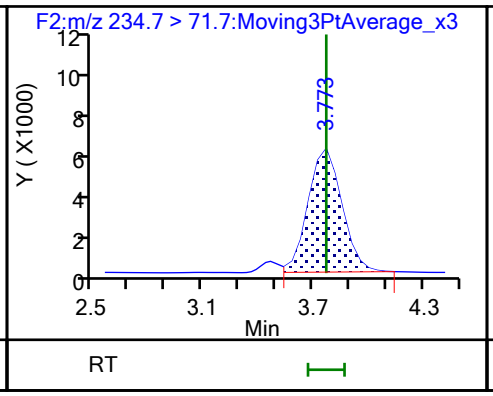

11 Diuron

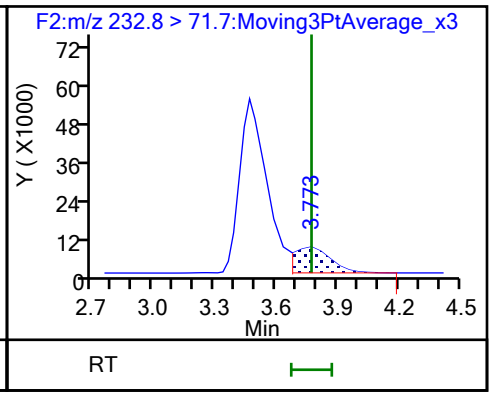

14 Propham

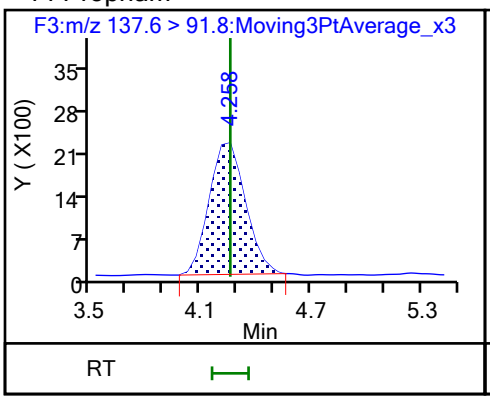

15 Siduron

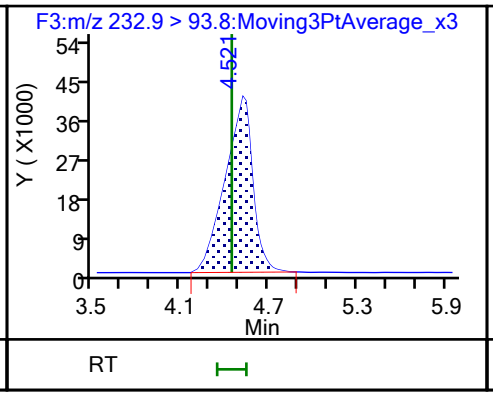

15 Siduron

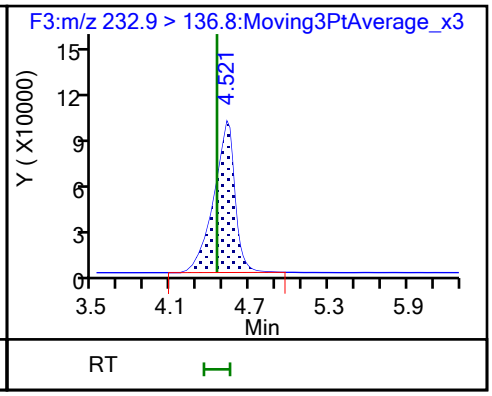

16 Methiocarb

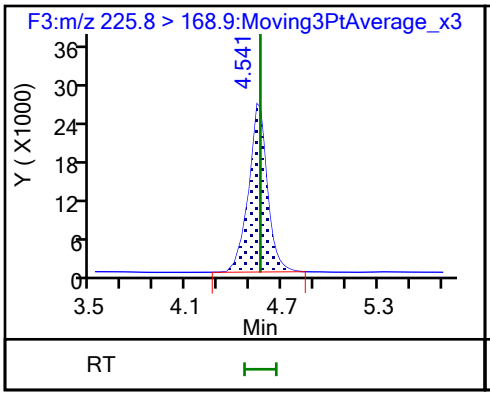

17 Linuron

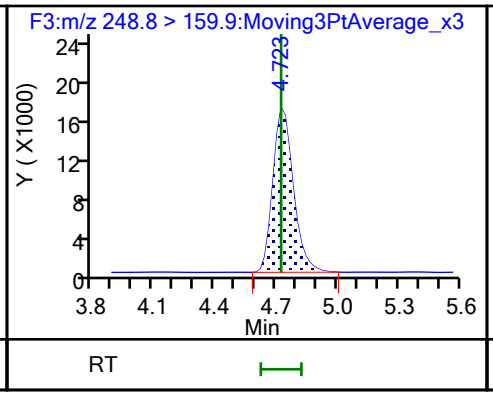

17 Linuron

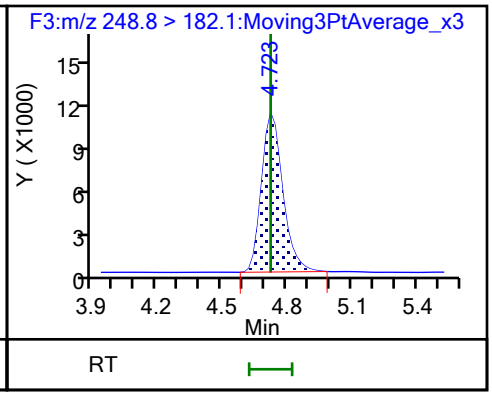

18 Chlorpropham

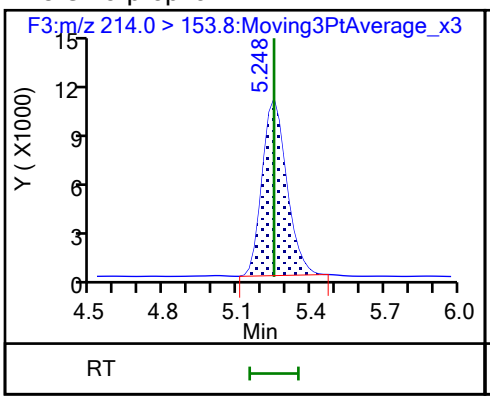

18 Chlorpropham

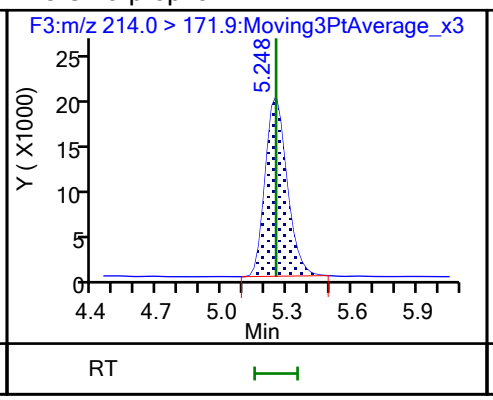

19 Neburon

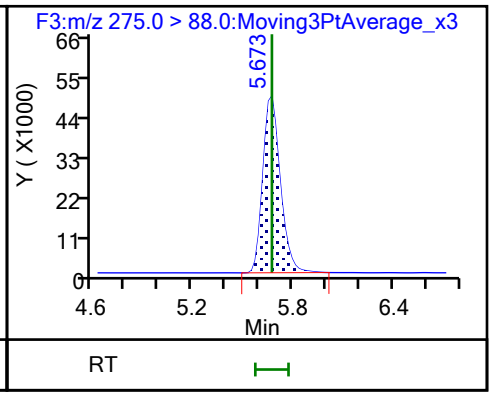

19 Neburon

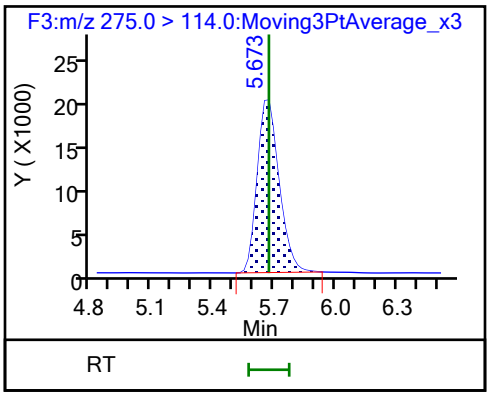
F3:m/z 275.0 > 114.0:Moving3PtAverage_x3
5.673
Y (X1000)
25
20
15
10
5
0
4.8
5.1
5.4
5.7
6.0
6.3
Min
RT

Eurofins TestAmerica, Denver
Recovery Report

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31018.d
Lims ID: LCS 280-481805/2-A
Client ID:
Sample Type: LCS
Inject. Date: 31-Dec-2019 12:26:56 ALS Bottle#: 16 Worklist Smp#: 20
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: LCS 280-481805/2-A
Misc. Info.: CP319L31
Operator ID: Instrument ID: LC_LCMS3

Method: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\Carbs8321.m
Limit Group: LC - 8321A Carbamates
Last Update: 14-Jan-2020 13:30:05 Calib Date: 31-Dec-2019 11:04:24
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31008.d

Column 1 : Det: F1:MRM
Process Host: CTX0303

First Level Reviewer: coopert Date: 31-Dec-2019 13:00:47

Compound	Amount Added	Amount Recovered	% Rec.
$ 12 Atrazine-d5	100.0	108.0	107.98
$ 13 Diuron-d6	101.0	122.9	121.72

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

Data File:	\\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31018.d				
Injection Date:	31-Dec-2019 12:26:56	Instrument ID:	LC_LCMS3		
Lims ID:	LCS 280-481805/2-A				
Client ID:					
Operator ID:		ALS Bottle#:	16	Worklist Smp#:	20
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	Carbs8321	Limit Group:	LC - 8321A Carbamates		
Column:		Detector	F1:MRM		

3 Methomyl, CAS: 16752-77-5

Signal: 1

Processing Integration Results

RT: 1.34
Area: 137262
Amount: 40.300769
Amount Units: ug/l

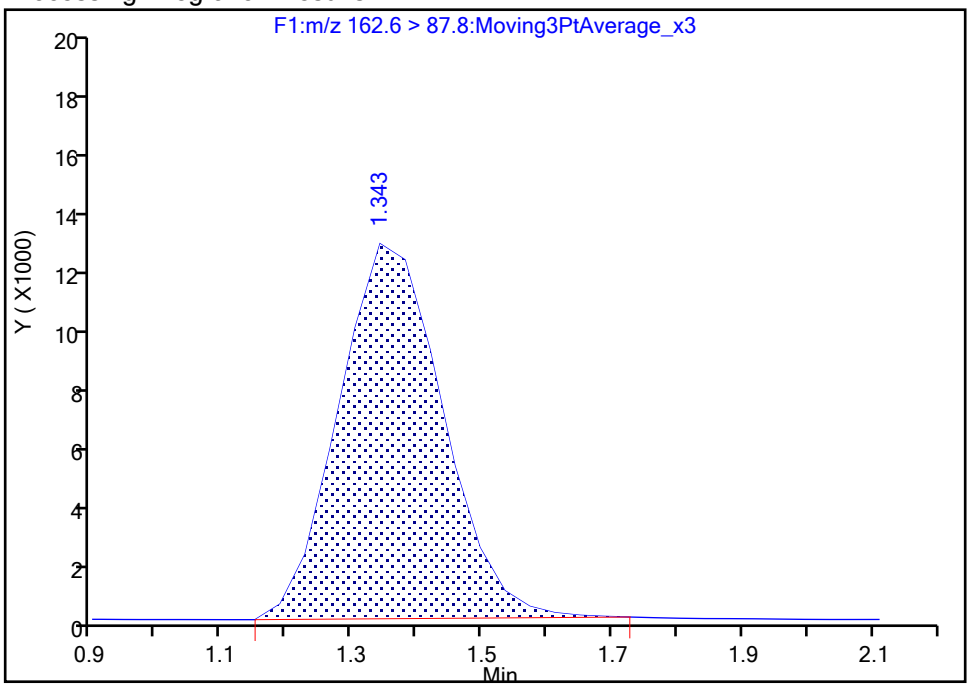

Manual Integration Results

RT: 1.34
Area: 138461
Amount: 40.665449
Amount Units: ug/l

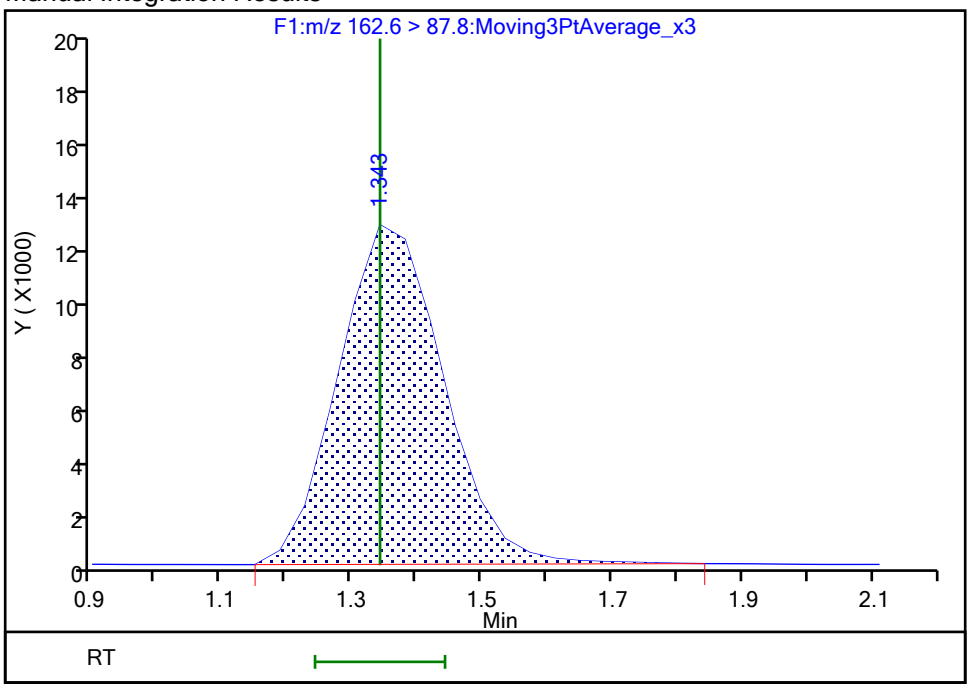

Reviewer: coopert, 31-Dec-2019 13:53:19

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Denver
Job No.: 180-100205-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCSD 280-481805/3-A
Matrix: Solid
Lab File ID: CP319L31019.d
Analysis Method: 8321A
Date Collected:
Extraction Method: 3535
Date Extracted: 12/28/2019 14:56
Sample wt/vol: 200(mL)
Date Analyzed: 12/31/2019 12:34
Con. Extract Vol.: 10(mL)
Dilution Factor: 1
Injection Volume: 20(uL)
GC Column: Synergi Hydro 4 ID: 3(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 482046
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
16752-77-5	Methomyl	2.08		1.0	0.16

CAS NO.	SURROGATE	%REC	Q	LIMITS
163165-75-1	Atrazine-d5	115		60-142
STL01549	Diuron-d6	128		50-150

Eurofins TestAmerica, Denver
Target Compound Quantitation Report

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31019.d
Lims ID: LCSD 280-481805/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 31-Dec-2019 12:34:58 ALS Bottle#: 17 Worklist Smp#: 21
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 280-481805/3-A
Misc. Info.: CP319L31
Operator ID: Instrument ID: LC_LCMS3

Method: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\Carbs8321.m
Limit Group: LC - 8321A Carbamates
Last Update: 14-Jan-2020 13:30:05 Calib Date: 31-Dec-2019 11:04:24
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31008.d

Column 1 : Det: F1:MRM
Process Host: CTX0303

First Level Reviewer: coopert Date: 31-Dec-2019 13:01:17
Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
1 Aminocarb								
209.0 > 152.0	0.743	0.730	0.013	1942056	33.7		9152	
2 Carbamicacid,methyl4-dimethylamino								
223.0 > 165.9	0.973	0.961	0.012	3659448	57.7		3124	
3 Methomyl								M
162.6 > 87.8	1.343	1.343	0.0	141221	41.5		704	M
4 Fenuron								
164.7 > 71.7	1.881	1.842	0.039	243789	33.3		921	
5 Aldicarb								
212.6 > 88.8	2.560	2.560	0.0	142096	53.2		215	
6 Monuron								R
198.8 > 71.9	2.829	2.829	0.0	202295	54.9	Target=1.00	575	R
198.8 > 125.9	2.829	2.829	0.0	20588		9.83(0.90-1.10)	124	
7 Propoxur								
272.8 > 232.0	3.179	3.179	0.0	1024375	59.2		980	
8 Carbofuran								
221.7 > 122.9	3.258	3.258	0.0	883640	53.9		1421	
9 Fluometuron								M
232.6 > 45.7	3.468	3.468	0.0	72537	47.0		96.7	M
10 Carbaryl								
201.8 > 144.8	3.540	3.540	0.0	133645	32.2		576	
$ 12 Atrazine-d5								
221.0 > 179.0	3.680	3.680	0.0	2274173	114.8		4125	
$ 13 Diuron-d6								
238.9 > 77.9	3.727	3.727	0.0	275093	129.4		1246	

Report Date: 14-Jan-2020 13:30:24 Chrom Revision: 2.3 15-Dec-2019 06:20:02
Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31019.d
Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	Ratio(Limits)	S/N	Flags
11 Diuron								R
234.7 > 71.7	3.773	3.773	0.0	85862	60.0	Target=1.00	155	R
232.8 > 71.7	3.773	3.773	0.0	109549		0.78(0.90-1.10)	2.2	
14 Propham								
137.6 > 91.8	4.258	4.258	0.0	29227	52.1		94.8	
15 Siduron								R
232.9 > 93.8	4.521	4.444	0.077	565209	67.5	Target=1.00	994	R
232.9 > 136.8	4.521	4.444	0.077	1147225		0.49(0.90-1.10)	1096	
16 Methiocarb								
225.8 > 168.9	4.541	4.562	-0.021	223811	39.4		487	
17 Linuron								R
248.8 > 159.9	4.723	4.723	0.0	124024	62.6	Target=1.00	678	R
248.8 > 182.1	4.723	4.723	0.0	79242		1.57(0.90-1.10)	596	
18 Chlorpropham								R
214.0 > 153.8	5.248	5.248	0.0	74125	56.5	Target=1.00	424	R
214.0 > 171.9	5.248	5.248	0.0	141684		0.52(0.90-1.10)	568	
19 Neburon								R
275.0 > 88.0	5.673	5.673	0.0	353147	52.7	Target=1.00	1619	R
275.0 > 114.0	5.653	5.673	-0.020	142085		2.49(0.90-1.10)	1086	

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Review Flags
M - Manually Integrated

Report Date: 14-Jan-2020 13:30:24 Chrom Revision: 2.3 15-Dec-2019 06:20:02

Eurofins TestAmerica, Denver

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31019.d

Injection Date: 31-Dec-2019 12:34:58 Instrument ID: LC_LCMS3

Lims ID: LCSD 280-481805/3-A

Client ID:

Operator ID: ALS Bottle#: 17 Worklist Smp#: 21

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: Carbs8321 Limit Group: LC - 8321A Carbamates

1 Aminocarb

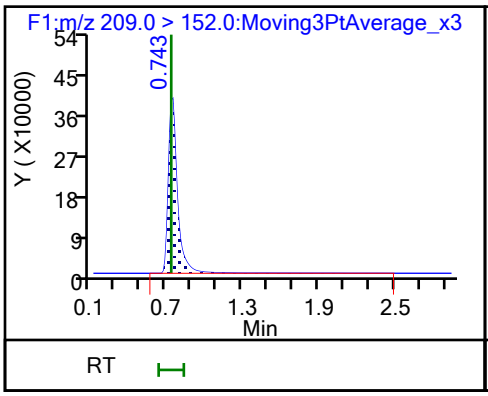

2 Carbamicacid,methyl4-dimethylamino

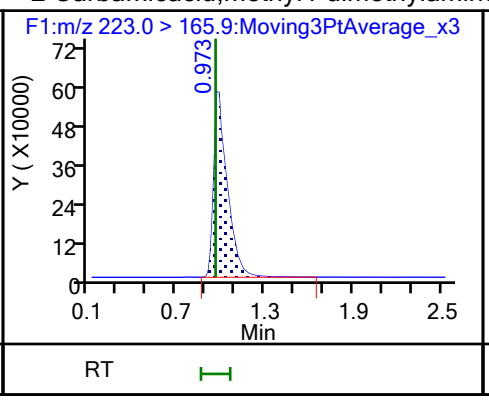

3 Methomyl (M)

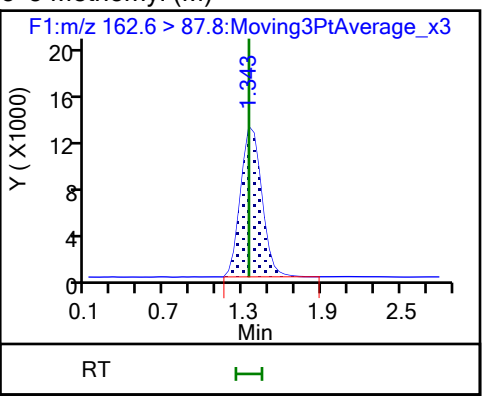

4 Fenuron

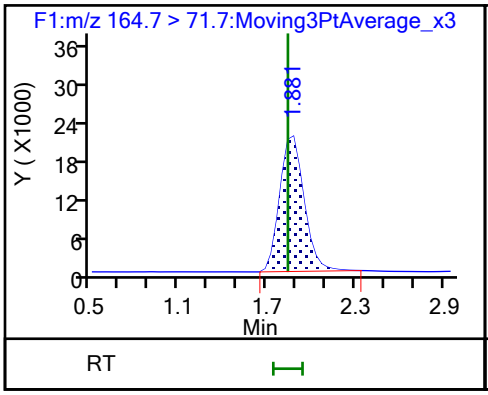

5 Aldicarb

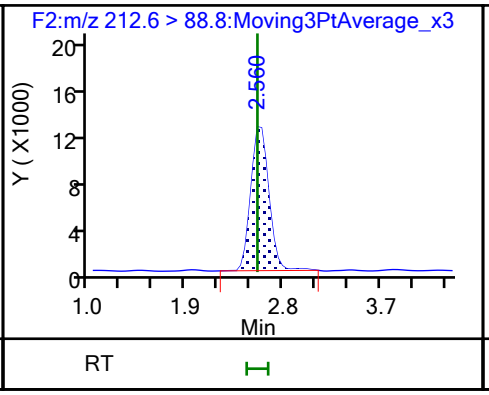

6 Monuron

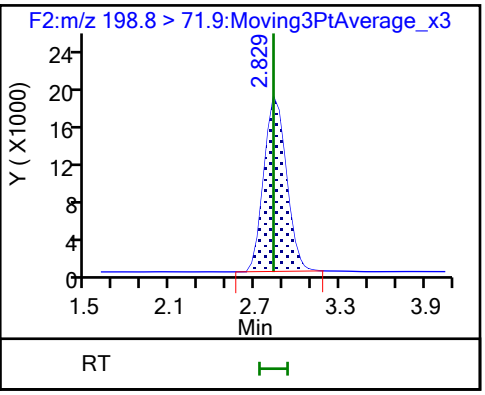

6 Monuron

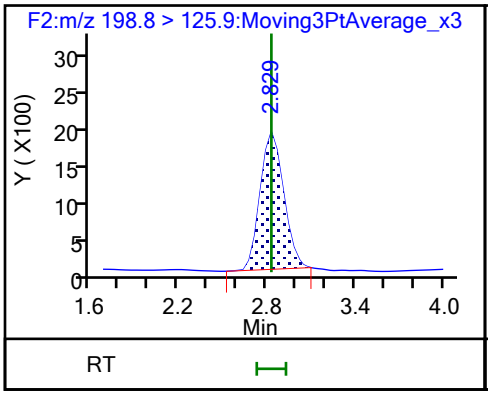

7 Propoxur

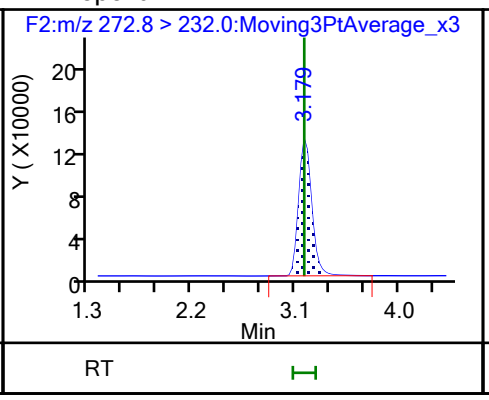

8 Carbofuran

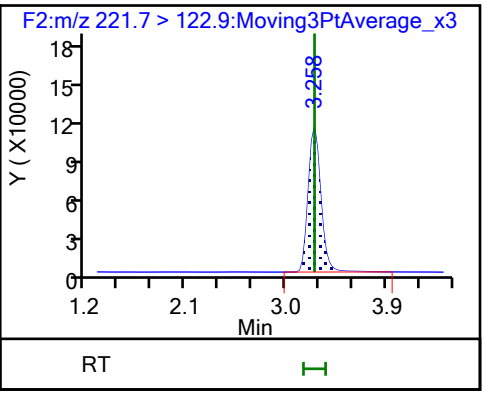

9 Fluometuron (M)

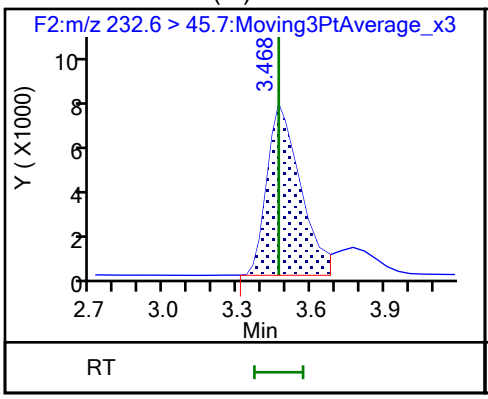

10 Carbaryl

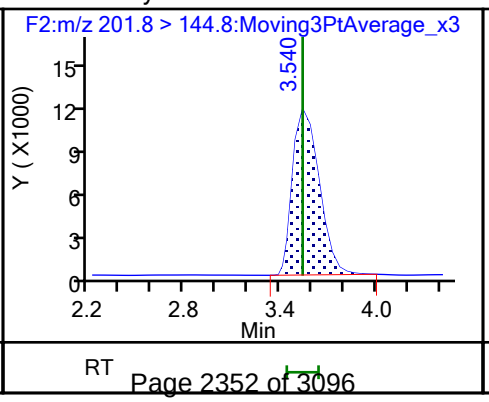

$ 12 Atrazine-d5

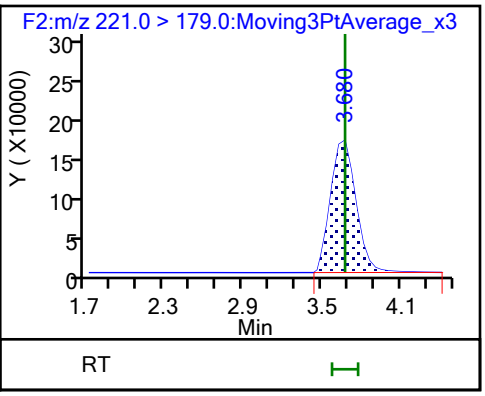

$ 13 Diuron-d6

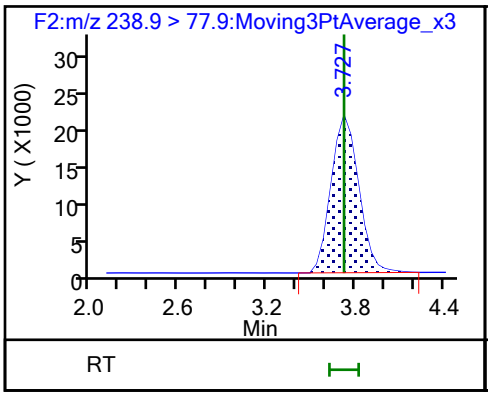

11 Diuron

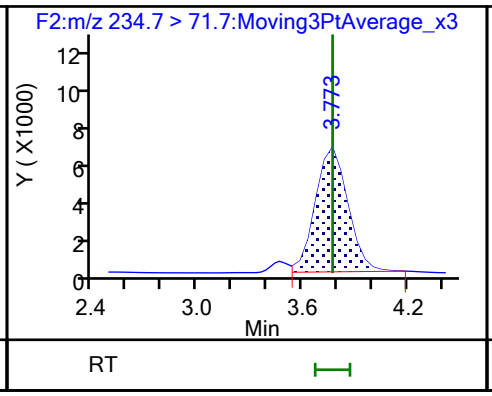

11 Diuron

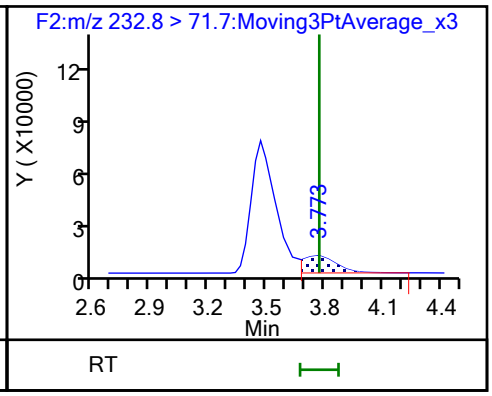

14 Propham

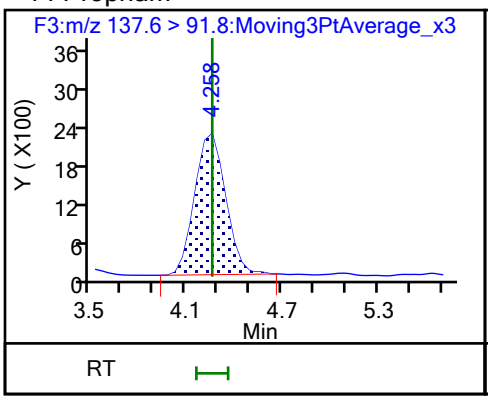

15 Siduron

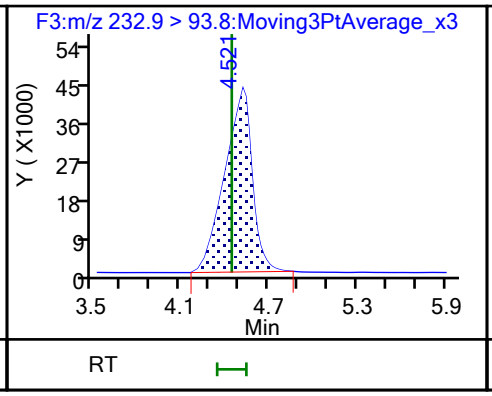

15 Siduron

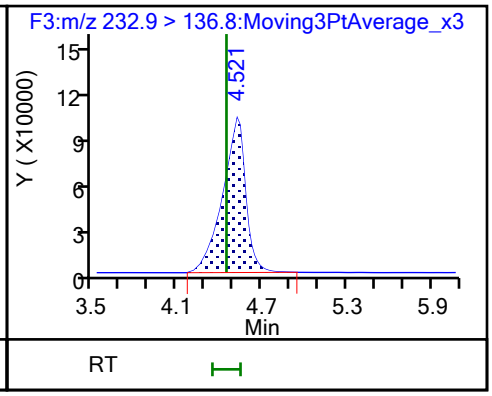

16 Methiocarb

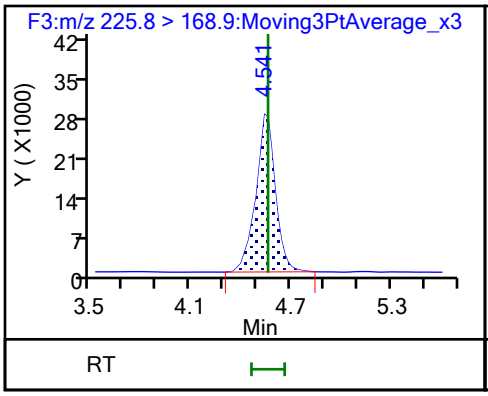

17 Linuron

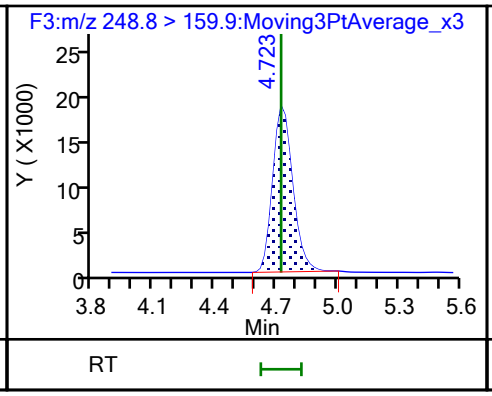

17 Linuron

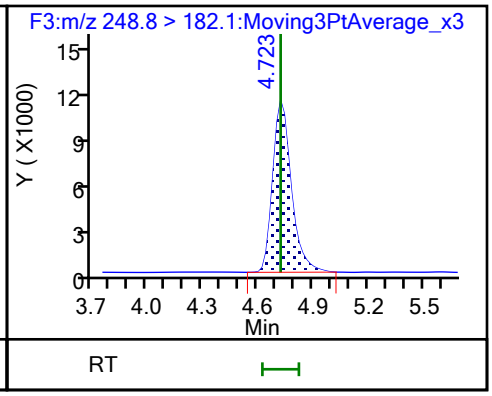

18 Chlorpropham

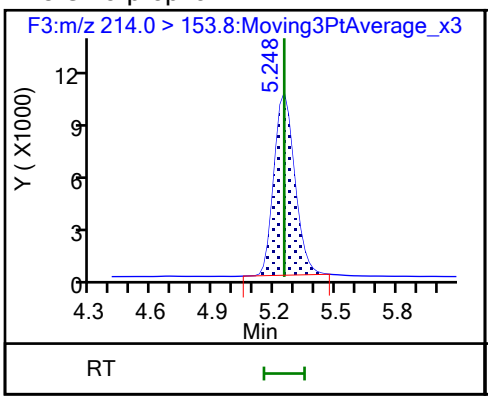

18 Chlorpropham

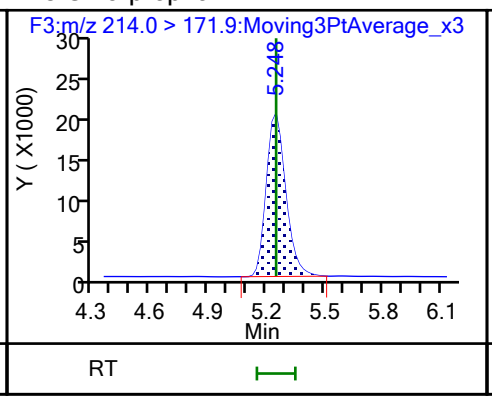

19 Neburon

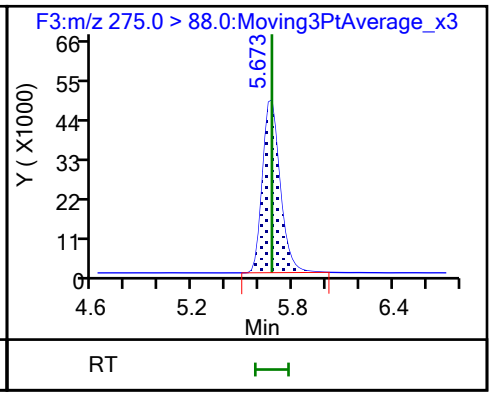

19 Neburon

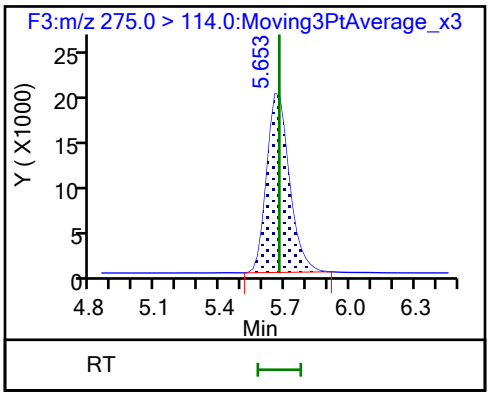
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5.653
Y (X1000)
25
20
15
10
5
0
4.8
5.1
5.4
5.7
6.0
6.3
Min
RT

Eurofins TestAmerica, Denver
Recovery Report

Data File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31019.d
Lims ID: LCSD 280-481805/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 31-Dec-2019 12:34:58 ALS Bottle#: 17 Worklist Smp#: 21
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 280-481805/3-A
Misc. Info.: CP319L31
Operator ID: Instrument ID: LC_LCMS3

Method: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\Carbs8321.m
Limit Group: LC - 8321A Carbamates
Last Update: 14-Jan-2020 13:30:05 Calib Date: 31-Dec-2019 11:04:24
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31008.d

Column 1 : Det: F1:MRM
Process Host: CTX0303

First Level Reviewer: coopert Date: 31-Dec-2019 13:01:17

Compound	Amount Added	Amount Recovered	% Rec.
$ 12 Atrazine-d5	100.0	114.8	114.81
$ 13 Diuron-d6	101.0	129.4	128.11

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

Data File:	\\chromna\Denver\ChromData\LC_LCMS3\20191231-88363.b\CP319L31019.d				
Injection Date:	31-Dec-2019 12:34:58	Instrument ID:	LC_LCMS3		
Lims ID:	LCSD 280-481805/3-A				
Client ID:					
Operator ID:		ALS Bottle#:	17	Worklist Smp#:	21
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	Carbs8321	Limit Group:	LC - 8321A Carbamates		
Column:		Detector	F1:MRM		

3 Methomyl, CAS: 16752-77-5

Signal: 1

Processing Integration Results

RT: 1.34
Area: 141011
Amount: 41.441040
Amount Units: ug/l

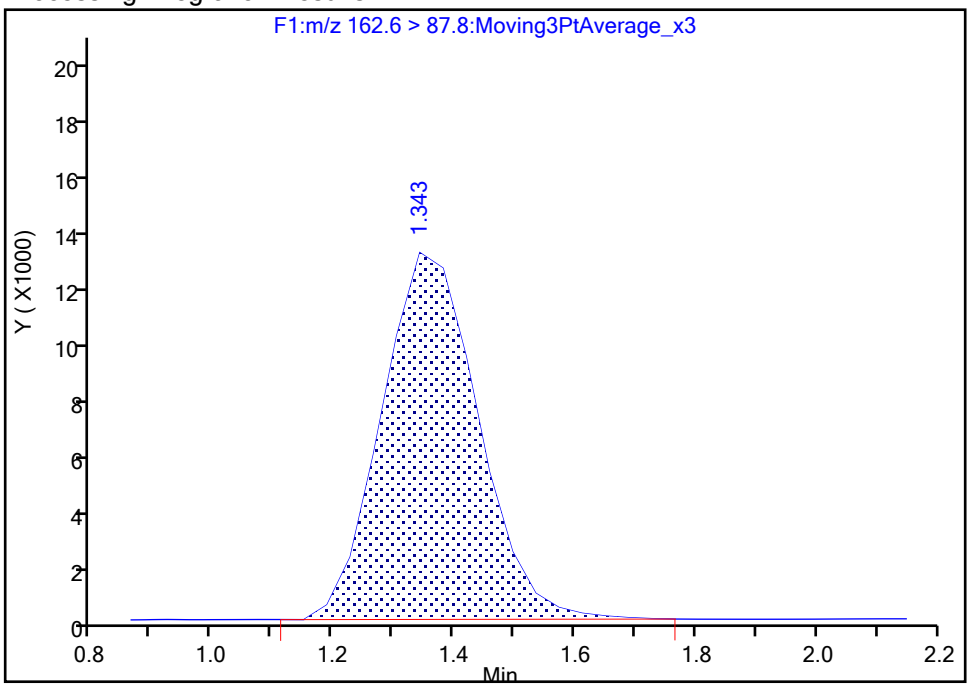

Manual Integration Results

RT: 1.34
Area: 141221
Amount: 41.504913
Amount Units: ug/l

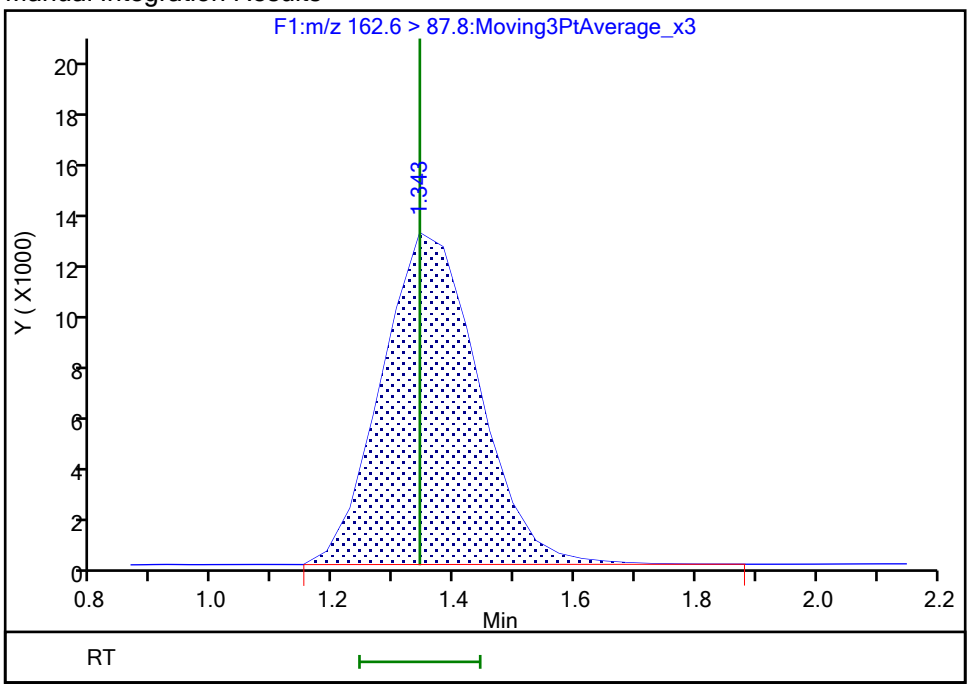

Reviewer: coopert, 31-Dec-2019 13:53:34

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

LCMS ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Denver Job No.: 180-100205-1

SDG No.:

Instrument ID: LC_LCMS3 Start Date: 12/31/2019 10:16

Analysis Batch Number: 482046 End Date: 12/31/2019 13:07

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
STD0025 280-482046/4 IC		12/31/2019 10:16	1	CP319L31002.d	Synergi Hydro 4 3(mm)
STD005 280-482046/5 IC		12/31/2019 10:24	1	CP319L31003.d	Synergi Hydro 4 3(mm)
STD010 280-482046/6 IC		12/31/2019 10:32	1	CP319L31004.d	Synergi Hydro 4 3(mm)
STD020 280-482046/7 IC		12/31/2019 10:40	1	CP319L31005.d	Synergi Hydro 4 3(mm)
STD050 280-482046/8 IC		12/31/2019 10:48	1	CP319L31006.d	Synergi Hydro 4 3(mm)
STD100 280-482046/9 IC		12/31/2019 10:56	1	CP319L31007.d	Synergi Hydro 4 3(mm)
STD200 280-482046/10 IC		12/31/2019 11:04	1	CP319L31008.d	Synergi Hydro 4 3(mm)
ICB 280-482046/11		12/31/2019 11:12	1	CP319L31009.d	Synergi Hydro 4 3(mm)
ICV 280-482046/12		12/31/2019 11:20	1	CP319L31010.d	Synergi Hydro 4 3(mm)
ZZZZZ		12/31/2019 11:30	1		Synergi Hydro 4 3(mm)
ZZZZZ		12/31/2019 11:38	1		Synergi Hydro 4 3(mm)
ZZZZZ		12/31/2019 11:46	1		Synergi Hydro 4 3(mm)
ZZZZZ		12/31/2019 11:54	1		Synergi Hydro 4 3(mm)
ZZZZZ		12/31/2019 12:02	1		Synergi Hydro 4 3(mm)
CCV050 280-482046/18		12/31/2019 12:10	1	CP319L31016.d	Synergi Hydro 4 3(mm)
LB 280-481805/1-A		12/31/2019 12:18	1	CP319L31017.d	Synergi Hydro 4 3(mm)
LCS 280-481805/2-A		12/31/2019 12:26	1	CP319L31018.d	Synergi Hydro 4 3(mm)
LCSD 280-481805/3-A		12/31/2019 12:34	1	CP319L31019.d	Synergi Hydro 4 3(mm)
180-100205-1		12/31/2019 12:42	1	CP319L31020.d	Synergi Hydro 4 3(mm)
180-100205-3		12/31/2019 12:51	1	CP319L31021.d	Synergi Hydro 4 3(mm)
180-100205-5		12/31/2019 12:59	1	CP319L31022.d	Synergi Hydro 4 3(mm)
CCV100 280-482046/25		12/31/2019 13:07	1	CP319L31023.d	Synergi Hydro 4 3(mm)

8321A

LCMS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Denver Job No.: 180-100205-1

SDG No.:

Batch Number: 481805 Batch Start Date: 12/28/19 14:56 Batch Analyst: Anders, Kayla S

Batch Method: 3535 Batch End Date: 12/28/19 16:12

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	CARB LCS 00045	CARB_Prep_Sur 00058
LB 280-481805/1		3535, 8321A				200 mL	10 mL		0.2 mL
LCS 280-481805/2		3535, 8321A				200 mL	10 mL	0.2 mL	0.2 mL
LCSD 280-481805/3		3535, 8321A				200 mL	10 mL	0.2 mL	0.2 mL
180-100205-B-1-A	11187072-N.TREATMENT AREA #2	3535, 8321A	P	409.1 g	174.4 g	234.7 mL	10 mL		0.2 mL
180-100205-B-3-A	11187072-N.TREATMENT AREA #3	3535, 8321A	P	430.4 g	173.4 g	257 mL	10 mL		0.2 mL
180-100205-B-5-A	11187072-N.TREATMENT AREA #4	3535, 8321A	P	416.2 g	172.3 g	243.9 mL	10 mL		0.2 mL

Batch Notes	
Balance ID	24350888
Batch Comment	DV-LC_0016 HPLC_Water_00976
First End time	12/28/2019 15:42
Pipette/Syringe/Dispenser ID	Jiji
Rinse Solvent Lot	ACN_00043
Rinse Solvent Name	ACN
Solvent Lot #	ACN_00043
Solvent Name	ACN
SPE Cartridge Lot ID	8B-S100-HCH
SPE Cartridge Type	Strata-X 33U Polymeric Reversed Phase
Analyst ID - Spike Analyst	KA
Analyst ID - Spike Witness Analyst	Reviewer:self-review
First Start time	12/28/2019 15:06

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

1613B

Dioxins and Furans (HRGC/HRMS)

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-100205-1

SDG No.:

Matrix: Solid (TCLP) Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCDF #	TCDD #	37TCDD #	PeCDF #	PeCF #	PeCDD #	HxCDF #	HxDF #
	LCS 320-348771/2-A	79	76	116	75	82	70	77	75
	LCSD 320-348771/3-A	66	65	113	61	66	59	66	64

	QC LIMITS
TCDF = 13C-2,3,7,8-TCDF	22-152
TCDD = 13C-2,3,7,8-TCDD	20-175
37TCDD = 37Cl4-2,3,7,8-TCDD	31-191
PeCDF = 13C-1,2,3,7,8-PeCDF	21-192
PeCF = 13C-2,3,4,7,8-PeCDF	13-328
PeCDD = 13C-1,2,3,7,8-PeCDD	21-227
HxCDF = 13C-1,2,3,4,7,8-HxCDF	19-202
HxDF = 13C-1,2,3,6,7,8-HxCDF	21-159

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-100205-1

SDG No.:

Matrix: Solid (TCLP) Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	13CHxCF #	HxCDD #	HxDD #	HxCF #	HpCDF #	HpCDD #	HpCDF2 #	OCDD #
	LCS 320-348771/2-A	70	77	76	67	68	61	71	46
	LCSD 320-348771/3-A	58	66	65	57	56	50	64	37

	QC LIMITS
13CHxCF = 13C-2,3,4,6,7,8-HxCDF	22-176
HxCDD = 13C-1,2,3,4,7,8-HxCDD	21-193
HxDD = 13C-1,2,3,6,7,8-HxCDD	25-163
HxCF = 13C-1,2,3,7,8,9-HxCDF	17-205
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF	21-158
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD	26-166
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF	20-186
OCDD = 13C-OCDD	13-199

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-100205-1

SDG No.:

Matrix: Solid (TCLP) Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCDF #	TCDD #	37TCDD #	PeCDF #	PeCF #	PeCDD #	HxCDF #	HxDF #
11187072-N.TREATMENT AREA #2	180-100205-1	76	71	112	71	76	67	79	78
11187072-N.TREATMENT AREA #3	180-100205-3	78	75	117	71	77	67	75	75
11187072-N.TREATMENT AREA #4	180-100205-5	80	77	116	78	78	68	80	74
	MB 320-348771/1-A	75	74	114	71	74	67	77	76

	QC LIMITS
TCDF = 13C-2,3,7,8-TCDF	24-169
TCDD = 13C-2,3,7,8-TCDD	25-164
37TCDD = 37Cl4-2,3,7,8-TCDD	35-197
PeCDF = 13C-1,2,3,7,8-PeCDF	24-185
PeCF = 13C-2,3,4,7,8-PeCDF	21-178
PeCDD = 13C-1,2,3,7,8-PeCDD	25-181
HxCDF = 13C-1,2,3,4,7,8-HxCDF	26-152
HxDF = 13C-1,2,3,6,7,8-HxCDF	26-123

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-100205-1

SDG No.:

Matrix: Solid (TCLP) Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	13CHxCF #	HxCDD #	HxDD #	HxCF #	HpCDF #	HpCDD #	HpCDF2 #	OCDD #
11187072-N.TREATMENT AREA #2	180-100205-1	75	81	79	67	73	70	74	60
11187072-N.TREATMENT AREA #3	180-100205-3	71	80	76	70	74	69	76	56
11187072-N.TREATMENT AREA #4	180-100205-5	75	78	80	70	76	72	80	58
	MB 320-348771/1-A	72	79	82	66	68	61	69	50

	QC LIMITS
13CHxCF = 13C-2,3,4,6,7,8-HxCDF	28-136
HxCDD = 13C-1,2,3,4,7,8-HxCDD	32-141
HxDD = 13C-1,2,3,6,7,8-HxCDD	28-130
HxCF = 13C-1,2,3,7,8,9-HxCDF	29-147
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF	28-143
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD	23-140
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF	26-138
OCDD = 13C-OCDD	17-157

Column to be used to flag recovery values

FORM II 1613B

FORM III
DIOXIN LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-100205-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 06JA20A3D5_5.d

Lab ID: LCS 320-348771/2-A Client ID:

COMPOUND	SPIKE ADDED (pg/L)	LCS CONCENTRATION (pg/L)	LCS % REC	QC LIMITS REC	#
2,3,7,8-TCDD	200	205	103	67-158	
2,3,7,8-TCDF	200	200	100	75-158	
1,2,3,7,8-PeCDD	1000	1090	109	70-142	
1,2,3,7,8-PeCDF	1000	1050	105	80-134	
2,3,4,7,8-PeCDF	1000	974	97	68-160	
1,2,3,4,7,8-HxCDD	1000	986	99	70-164	
1,2,3,6,7,8-HxCDD	1000	1070	107	76-134	
1,2,3,7,8,9-HxCDD	1000	870	87	64-162	
1,2,3,4,7,8-HxCDF	1000	1020	102	72-134	
1,2,3,6,7,8-HxCDF	1000	1070	107	84-130	
1,2,3,7,8,9-HxCDF	1000	1100	110	78-130	
2,3,4,6,7,8-HxCDF	1000	1100	110	70-156	
1,2,3,4,6,7,8-HpCDD	1000	1050	105	70-140	
1,2,3,4,6,7,8-HpCDF	1000	1120	112	82-122	
1,2,3,4,7,8,9-HpCDF	1000	1040	104	78-138	
OCDD	2000	2030	101	78-144	
OCDF	2000	2630	131	63-170	
13C-2,3,7,8-TCDD	2000	1530	76	20-175	
13C-2,3,7,8-TCDF	2000	1590	79	22-152	
13C-1,2,3,7,8-PeCDD	2000	1400	70	21-227	
13C-1,2,3,7,8-PeCDF	2000	1510	75	21-192	
13C-2,3,4,7,8-PeCDF	2000	1630	82	13-328	
13C-1,2,3,4,7,8-HxCDD	2000	1550	77	21-193	
13C-1,2,3,6,7,8-HxCDD	2000	1520	76	25-163	
13C-1,2,3,4,7,8-HxCDF	2000	1550	77	19-202	
13C-1,2,3,6,7,8-HxCDF	2000	1500	75	21-159	
13C-1,2,3,7,8,9-HxCDF	2000	1350	67	17-205	
13C-2,3,4,6,7,8-HxCDF	2000	1400	70	22-176	
13C-1,2,3,4,6,7,8-HpCDD	2000	1220	61	26-166	
13C-1,2,3,4,6,7,8-HpCDF	2000	1360	68	21-158	
13C-1,2,3,4,7,8,9-HpCDF	2000	1430	71	20-186	
13C-OCDD	4000	1840	46	13-199	

Column to be used to flag recovery and RPD values

FORM III 1613B

FORM III
DIOXIN LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-100205-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 06JA20A3D5_6.d

Lab ID: LCSD 320-348771/3-A Client ID:

COMPOUND	SPIKE ADDED (pg/L)	LCSD CONCENTRATION (pg/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
2,3,7,8-TCDD	200	199	100	3	50	67-158	
2,3,7,8-TCDF	200	202	101	1	50	75-158	
1,2,3,7,8-PeCDD	1000	1070	107	2	50	70-142	
1,2,3,7,8-PeCDF	1000	1020	102	2	50	80-134	
2,3,4,7,8-PeCDF	1000	967	97	1	50	68-160	
1,2,3,4,7,8-HxCDD	1000	964	96	2	50	70-164	
1,2,3,6,7,8-HxCDD	1000	1040	104	2	50	76-134	
1,2,3,7,8,9-HxCDD	1000	812	81	7	50	64-162	
1,2,3,4,7,8-HxCDF	1000	1000	100	2	50	72-134	
1,2,3,6,7,8-HxCDF	1000	1010	101	5	50	84-130	
1,2,3,7,8,9-HxCDF	1000	1100	110	0	50	78-130	
2,3,4,6,7,8-HxCDF	1000	1070	107	2	50	70-156	
1,2,3,4,6,7,8-HpCDD	1000	1080	108	3	50	70-140	
1,2,3,4,6,7,8-HpCDF	1000	1100	110	2	50	82-122	
1,2,3,4,7,8,9-HpCDF	1000	983	98	6	50	78-138	
OCDD	2000	2050	103	1	50	78-144	
OCDF	2000	2780	139	6	50	63-170	
13C-2,3,7,8-TCDD	2000	1290	65			20-175	
13C-2,3,7,8-TCDF	2000	1330	66			22-152	
13C-1,2,3,7,8-PeCDD	2000	1190	59			21-227	
13C-1,2,3,7,8-PeCDF	2000	1220	61			21-192	
13C-2,3,4,7,8-PeCDF	2000	1320	66			13-328	
13C-1,2,3,4,7,8-HxCDD	2000	1310	66			21-193	
13C-1,2,3,6,7,8-HxCDD	2000	1300	65			25-163	
13C-1,2,3,4,7,8-HxCDF	2000	1330	66			19-202	
13C-1,2,3,6,7,8-HxCDF	2000	1270	64			21-159	
13C-1,2,3,7,8,9-HxCDF	2000	1140	57			17-205	
13C-2,3,4,6,7,8-HxCDF	2000	1160	58			22-176	
13C-1,2,3,4,6,7,8-HpCDD	2000	1010	50			26-166	
13C-1,2,3,4,6,7,8-HpCDF	2000	1130	56			21-158	
13C-1,2,3,4,7,8,9-HpCDF	2000	1290	64			20-186	
13C-OCDD	4000	1480	37			13-199	

Column to be used to flag recovery and RPD values

FORM III 1613B

FORM IV
DIOXIN METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-100205-1

SDG No.:

Lab File ID: 06JA20A3D5_4.d Lab Sample ID: MB 320-348771/1-A

Matrix: Water Date Extracted: 12/31/2019 11:06

Instrument ID: 3D5 Date Analyzed: 01/07/2020 00:06

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 320-348771/2-A	06JA20A3D5_5.d	01/07/2020 01:00
	LCSD 320-348771/3-A	06JA20A3D5_6.d	01/07/2020 01:48
11187072-N.TREATMENT AREA #2	180-100205-1	06JA20A3D5_7.d	01/07/2020 02:35
11187072-N.TREATMENT AREA #3	180-100205-3	06JA20A3D5_8.d	01/07/2020 03:23
11187072-N.TREATMENT AREA #4	180-100205-5	06JA20A3D5_9.d	01/07/2020 04:10

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 180-100205-1
SDG No.:
Client Sample ID: 11187072-N.TREATMENT AREA #2
Lab Sample ID: 180-100205-1
Matrix: Solid (TCLP)
Lab File ID: 06JA20A3D5_7.d
Analysis Method: 1613B
Date Collected: 12/18/2019 13:30
Extract. Method: HRMS-Sep
Date Extracted: 12/31/2019 11:06
Sample wt/vol: 200.99(g)
Date Analyzed: 01/07/2020 02:35
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 349283
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		50	12
51207-31-9	2,3,7,8-TCDF	11	J	50	6.7
40321-76-4	1,2,3,7,8-PeCDD	ND		250	19
57117-41-6	1,2,3,7,8-PeCDF	ND		250	10
57117-31-4	2,3,4,7,8-PeCDF	ND		250	11
39227-28-6	1,2,3,4,7,8-HxCDD	20	J q	250	7.2
57653-85-7	1,2,3,6,7,8-HxCDD	ND		250	7.9
19408-74-3	1,2,3,7,8,9-HxCDD	ND		250	6.7
70648-26-9	1,2,3,4,7,8-HxCDF	ND		250	15
57117-44-9	1,2,3,6,7,8-HxCDF	ND		250	13
72918-21-9	1,2,3,7,8,9-HxCDF	15	J q	250	9.9
60851-34-5	2,3,4,6,7,8-HxCDF	ND		250	9.2
35822-46-9	1,2,3,4,6,7,8-HpCDD	23	J	250	7.4
67562-39-4	1,2,3,4,6,7,8-HpCDF	ND		250	9.0
55673-89-7	1,2,3,4,7,8,9-HpCDF	31	J q	250	13
3268-87-9	OCDD	77	J	500	10
39001-02-0	OCDF	95	J	500	18
41903-57-5	Total TCDD	ND		50	12
30402-14-3	Total TCDF	11	J	50	6.7
36088-22-9	Total PeCDD	ND		250	19
30402-15-4	Total PeCDF	ND		250	11
34465-46-8	Total HxCDD	20	J q	250	7.2
55684-94-1	Total HxCDF	15	J q	250	12
37871-00-4	Total HpCDD	23	J	250	7.4
38998-75-3	Total HpCDF	31	J q	250	11

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 180-100205-1
SDG No.:
Client Sample ID: 11187072-N.TREATMENT AREA #2
Lab Sample ID: 180-100205-1
Matrix: Solid (TCLP)
Lab File ID: 06JA20A3D5_7.d
Analysis Method: 1613B
Date Collected: 12/18/2019 13:30
Extract. Method: HRMS-Sep
Date Extracted: 12/31/2019 11:06
Sample wt/vol: 200.99(g)
Date Analyzed: 01/07/2020 02:35
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 349283
Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	71		25-164
89059-46-1	13C-2,3,7,8-TCDF	76		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	67		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	71		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	76		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	81		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	79		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	79		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	78		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	67		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	75		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	70		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	73		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	74		26-138
114423-97-1	13C-OCDD	60		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	112		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_7.d
Lims ID: 180-100205-C-1-B
Client ID: 11187072-N.TREATMENT AREA #2
Sample Type: Client
Inject. Date: 07-Jan-2020 02:35:32 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-100205-C-1-B 180-100205-C-1-B
Misc. Info.: 06JA20A3D5
Operator ID: ALM Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 08-Jan-2020 09:05:31 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0314

First Level Reviewer: shardaa Date: 07-Jan-2020 10:39:13

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.158	69667847	0.82	2.2E+06	100.0	100.0				a
D 13C-2,3,7,8-TCDF	16.674	75397231	0.76	1.4157	76.4	76.4	0.2901	0.2901	76.44	
2,3,7,8-TCDF	16.705	80504	0.86	0.9502	0.1124	0.1124	0.0672	0.0672		
A Non-2,3,7,8-sub-TCDF	16.387						0.0672	0.0672		
S Total TCDF					0.1124	0.1124	0.0672	0.0672		
D 13C-2,3,7,8-TCDD	17.340	48525619	0.81	0.9751	71.4	71.4	0.3081	0.3081	71.43	
2,3,7,8-TCDD	17.340						0.1238	0.1238		
$ 37Cl4-2,3,7,8-TCDD	17.355	42250675		1.3480	45.0	45.0	0.0686	0.0686	112	
A Non-2,3,7,8-sub-TCDD	16.818						0.1238	0.1238		
S Total TCDD							0.1238	0.1238		
D 13C-1,2,3,7,8-PeCDF	21.394	58643745	1.61	1.1786	71.4	71.4	0.2773	0.2773	71.42	
1,2,3,7,8-PeCDF	21.408						0.1024	0.1024		
D 13C-2,3,4,7,8-PeCDF	22.662	60063175	1.59	1.1308	76.2	76.2	0.2890	0.2890	76.24	
2,3,4,7,8-PeCDF	22.662						0.1067	0.1067		
A F1 PeCDFs	19.117						0.0643	0.0643		
A Non-2,3,7,8-sub-PeCDF	22.077						0.1045	0.1045		
S Total PeCDF							0.1067	0.1067		
D 13C-1,2,3,7,8-PeCDD	23.344	35498896	1.58	0.7572	67.3	67.3	0.1784	0.1784	67.29	
1,2,3,7,8-PeCDD	23.344						0.1936	0.1936		
A Non-2,3,7,8-sub-PeCDD	22.301						0.1936	0.1936		
S Total PeCDD							0.1936	0.1936		
D 13C-1,2,3,4,7,8-HxCDF	29.399	54346714	0.52	1.1043	79.1	79.1	0.4212	0.4212	79.07	
1,2,3,4,7,8-HxCDF	29.399						0.1460	0.1460		
D 13C-1,2,3,6,7,8-HxCDF	29.692	55821068	0.51	1.1470	78.2	78.2	0.4055	0.4055	78.19	
1,2,3,6,7,8-HxCDF	29.692						0.1300	0.1300		
D 13C-2,3,4,6,7,8-HxCDF	30.850	50045174	0.50	1.0769	74.7	74.7	0.4319	0.4319	74.66	
2,3,4,6,7,8-HxCDF	30.850						0.0921	0.0921		U
D 13C-1,2,3,7,8,9-HxCDF	31.795	42325876	0.52	1.0115	67.2	67.2	0.4598	0.4598	67.23	
1,2,3,7,8,9-HxCDF	31.809	76462	1.24	1.1717	0.1724	0.1542	0.0991	0.0991		RQM
A Non-2,3,7,8-sub-HxCDF	29.272						0.1129	0.1129		U
S Total HxCDF					0.1724	0.1542	0.1168	0.1168		RQ

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.596	62243750	1.28	2.1E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.076	40127041	1.29	0.7962	81.0	81.0	0.3644	0.3644	80.97	
1,2,3,4,7,8-HxCDD	31.090	88373	1.24	1.0934	0.2299	0.2014	0.0720	0.0720		RQ
D 13C-1,2,3,6,7,8-HxCDD	31.210	42727434	1.28	0.8720	78.7	78.7	0.3327	0.3327	78.72	
1,2,3,6,7,8-HxCDD	31.090						0.0795	0.0795		RQU
1,2,3,7,8,9-HxCDD	31.596						0.0669	0.0669		
A Non-2,3,7,8-sub-HxCDD	29.885						0.0725	0.0725		
S Total HxCDD					0.2299	0.2014	0.0728	0.0728		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	33.367	34527532	0.44	0.7577	73.2	73.2	1.083	1.083	73.21	
1,2,3,4,6,7,8-HpCDF	33.367						0.0903	0.0903		
D 13C-1,2,3,4,7,8,9-HpCDF	34.424	32053442	0.45	0.6941	74.2	74.2	1.182	1.182	74.19	
1,2,3,4,7,8,9-HpCDF	34.436	129176	1.04	1.2933	0.4101	0.3116	0.1279	0.1279		RQM
A Non-2,3,7,8-sub-HpCDF	33.907						0.1066	0.1066		
S Total HpCDF					0.4101	0.3116	0.1091	0.1091		RQ
D 13C-1,2,3,4,6,7,8-HpCDD	34.144	30658475	1.07	0.7058	69.8	69.8	0.4992	0.4992	69.78	
1,2,3,4,6,7,8-HpCDD	34.144	73772	1.11	1.0535	0.2284	0.2284	0.0747	0.0747		M
A Non-2,3,7,8-sub-HpCDD	33.883						0.0747	0.0747		
S Total HpCDD					0.2284	0.2284	0.0747	0.0747		
D 13C-OCDD	36.427	34249655	0.93	0.4603	119.6	119.6	0.3705	0.3705	59.78	
OCDF	36.523	228718	1.02	1.3945	0.9578	0.9578	0.1851	0.1851		M
OCDD	36.439	151017	0.92	1.1362	0.7762	0.7762	0.1045	0.1045		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- U - Marked Undetected
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_7.d
Lims ID: 180-100205-C-1-B
Client ID: 11187072-N.TREATMENT AREA #2
Sample Type: Client
Inject. Date: 07-Jan-2020 02:35:32 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-100205-C-1-B 180-100205-C-1-B
Misc. Info.: 06JA20A3D5
Operator ID: ALM Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 08-Jan-2020 09:05:31 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0314

First Level Reviewer: shardaa Date: 07-Jan-2020 10:39:13

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											a
331.9368	17.158	17.128	2		31353176	8155732	14426	36065	565		a
333.9339	17.143	17.128	1		38314671	9634260	6954	17385	1385	0.82(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.674	16.659	1	0.972	32542463	8051453	14894	37235	541		
317.9389	16.674	16.659	1	0.972	42854768	10606141	14329	35822	740	0.76(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.705	16.674	2	1.002	37187	6906	1668	4170	4		
305.8987	16.690	16.674	1	1.001	43317	11746	3099	7747	4	0.86(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.387						1668	4170			
305.8987	16.387						3099	7747			
13C-2,3,7,8-TCDD											
331.9368	17.340	17.324	1	1.011	21720485	5271916	14426	36065	365		
333.9339	17.340	17.324	1	1.011	26805134	6466486	6954	17385	930	0.81(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.340						3011	7527			
321.8936	17.340						3079	7697			
37Cl4-2,3,7,8-TCDD											
327.8847	17.355	17.340	1	1.011	42250675	10231253	6576	16440	1556		
A Non-2,3,7,8-sub-TCDD											
319.8965	16.818						3011	7527			
321.8936	16.818						3079	7697			
13C-1,2,3,7,8-PeCDF											
351.9000	21.394	21.381	1	1.247	36194551	6333647	13489	33722	470		
353.8970	21.394	21.381	1	1.247	22449194	3964162	9769	24422	406	1.61(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	21.408						1444	3610			
341.8567	21.408						2902	7255			
13C-2,3,4,7,8-PeCDF											
351.9000	22.662	22.635	2	1.321	36831014	5963903	13489	33722	442		
353.8970	22.662	22.635	2	1.321	23232161	3814142	9769	24422	390	1.59(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.662						1444	3610			
341.8567	22.662						2902	7255			
A F1 PeCDFs											
339.8597	19.117						810	2025			
341.8567	19.117						1862	4655			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.077						1444	3610			
341.8567	22.077						2902	7255			
13C-1,2,3,7,8-PeCDD											
367.8949	23.344	23.317	2	1.361	21728258	3254269	5380	13450	605		
369.8919	23.344	23.317	2	1.361	13770638	2147263	4235	10587	507	1.58(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.344						2878	7195			
357.8516	23.344						1662	4155			
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.301						2878	7195			
357.8516	22.301						1662	4155			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.399	29.346	3	0.930	18682887	2064184	8629	21572	239		
385.8610	29.385	29.346	2	0.930	35663827	3917286	15795	39487	248	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.399						2196	5490			
375.8178	29.399						1812	4530			
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.692	29.678	1	0.940	18806915	2314722	8629	21572	268		
385.8610	29.692	29.678	1	0.940	37014153	4416830	15795	39487	280	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	29.692						2196	5490			
375.8178	29.692						1812	4530			
13C-2,3,4,6,7,8-HxCDF											
383.8639	30.850	30.810	2	0.976	16753945	3074127	8629	21572	356		
385.8610	30.837	30.810	2	0.976	33291229	6205643	15795	39487	393	0.50(0.43-0.59)	
2,3,4,6,7,8-HxCDF											U
373.8208	30.837						2196	5490			
375.8178	30.837						1812	4530			
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.795	31.782	1	1.006	14389912	3040449	8629	21572	352		
385.8610	31.795	31.782	1	1.006	27935964	5587694	15795	39487	354	0.52(0.43-0.59)	

Report Date: 08-Jan-2020 09:05:31 Chrom Revision: 2.3 23-Dec-2019 10:12:06
Data File: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_7.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											RQM
373.8208	31.809	31.795	1	1.000	51357	12117	2196	5490	6		M
	Empc Correction				42327	9400	2196	5490	4		
375.8178	31.795	31.795	0	1.000	34135	7581	1812	4530	4	1.50(1.05-1.43)	M
A Non-2,3,7,8-sub-HxCDF											U
373.8208	29.272						2196	5490			
375.8178	29.272						1812	4530			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.596	31.569	2		34897436	7387157	7716	19290	957		
403.8529	31.596	31.569	2		27346314	5740332	7520	18800	763	1.28(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.076	31.050	2	0.984	22602773	5042258	7716	19290	653		
403.8529	31.076	31.050	2	0.984	17524268	3805135	7520	18800	506	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											RQ
389.8157	31.090	31.063	2	1.000	48921	11860	1040	2600	11		
391.8127	31.090	31.063	2	1.000	51960	12207	1747	4367	7	0.94(1.05-1.43)	
	Empc Correction				39452	9564	1747	4367	5		
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.210	31.183	2	0.988	23986971	4729973	7716	19290	613		
403.8529	31.196	31.183	1	0.987	18740463	3672508	7520	18800	488	1.28(1.05-1.43)	
1,2,3,6,7,8-HxCDD											RQU
389.8157	31.196						1040	2600			
391.8127	31.196						1747	4367			
1,2,3,7,8,9-HxCDD											
389.8157	31.583						1040	2600			
391.8127	31.583						1747	4367			
A Non-2,3,7,8-sub-HxCDD											
389.8157	29.885						1040	2600			
391.8127	29.885						1747	4367			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.367	33.354	1	1.056	10530659	3391937	16803	42007	202		
419.8220	33.367	33.354	1	1.056	23996873	7573822	26281	65702	288	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.367						3942	9855			
409.7789	33.367						1920	4800			
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.424	34.412	1	1.090	9902205	2736435	16803	42007	163		
419.8220	34.424	34.412	1	1.090	22151237	6121434	26281	65702	233	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											RQM
407.7818	34.436	34.424	1	1.000	106665	20102	3942	9855	5		M
	Empc Correction				65854	14832	3942	9855	4		
409.7789	34.424	34.424	0	1.000	63322	14262	1920	4800	7	1.68(0.88-1.20)	M
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.907						3942	9855			
409.7789	33.907						1920	4800			

Report Date: 08-Jan-2020 09:05:31 Chrom Revision: 2.3 23-Dec-2019 10:12:06
Data File: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_7.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.144	34.132	1	1.081	15820345	4837853	9701	24252	499		
437.8140	34.144	34.132	1	1.081	14838130	4595683	8802	22005	522	1.07(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											M
423.7766	34.144	34.144	0	1.000	38764	11406	1604	4010	7		
425.7737	34.157	34.144	1	1.000	35008	12847	1364	3410	9	1.11(0.88-1.20)	M
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.883						1604	4010			
425.7737	33.883						1364	3410			
13C-OCDD											
469.7779	36.427	36.415	1	1.153	16529285	4254151	4521	11302	941		
471.7750	36.427	36.415	1	1.153	17720370	4596001	4434	11085	1037	0.93(0.76-1.02)	
OCDF											M
441.7428	36.523	36.511	1	1.003	115546	21053	1657	4142	13		
443.7399	36.523	36.511	1	1.003	113172	21350	2911	7277	7	1.02(0.76-1.02)	M
OCDD											
457.7377	36.439	36.427	1	1.000	72318	18066	1116	2790	16		
459.7348	36.439	36.427	1	1.000	78699	19197	986	2465	19	0.92(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

U - Marked Undetected

a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_7.d
Lims ID: 180-100205-C-1-B
Client ID: 11187072-N.TREATMENT AREA #2
Inject. Date: 07-Jan-2020 02:35:32 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5 Operator: ALM
Lims Batch ID: 349283 Lims Sample ID: 7

Non-2,3,7,8-sub-HxCDF, RT: 29.272

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.147	D 13C-1,2,3,4,7,8-HxCDF	100.000	54346714	5981470
1,2,3,6,7,8-HxCDF	1.145	D 13C-1,2,3,6,7,8-HxCDF	100.000	55821068	6731552
2,3,4,6,7,8-HxCDF	1.173	D 13C-2,3,4,6,7,8-HxCDF	100.000	50045174	9279770
1,2,3,7,8,9-HxCDF	1.172	D 13C-1,2,3,7,8,9-HxCDF	100.000	42325876	8628143

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.159		100.000	50634708	7655233

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags

Compound is Marked ND

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_7.d				
Injection Date:	07-Jan-2020 02:35:32	Instrument ID:	3D5		
Lims ID:	180-100205-C-1-B	Lab Sample ID:	320-100205-1		
Client ID:	11187072-N.TREATMENT AREA #2				
Operator ID:	ALM	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 1

Processing Integration Results

RT: 31.81
Area: 88416
Amount: 0.283316
Amount Units: pg/ul

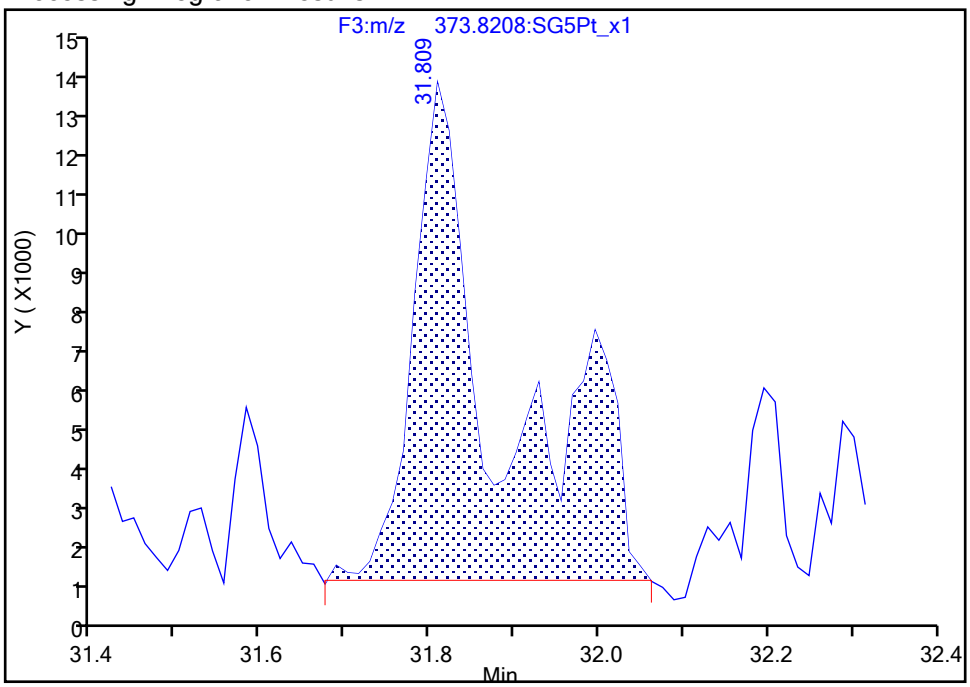

Manual Integration Results

RT: 31.81
Area: 51357
Amount: 0.172393
Amount Units: pg/ul

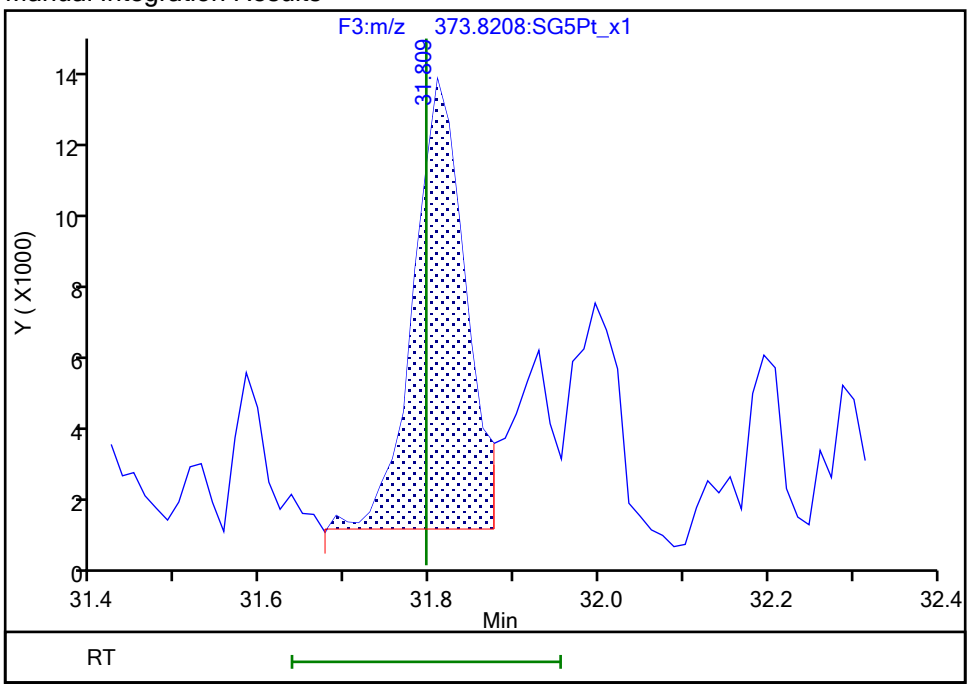

Reviewer: dadunj, 08-Jan-2020 09:04:03

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_7.d				
Injection Date:	07-Jan-2020 02:35:32	Instrument ID:	3D5		
Lims ID:	180-100205-C-1-B	Lab Sample ID:	320-100205-1		
Client ID:	11187072-N.TREATMENT AREA #2				
Operator ID:	ALM	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 2

Processing Integration Results

RT: 31.80
Area: 52084
Amount: 0.283316
Amount Units: pg/ul

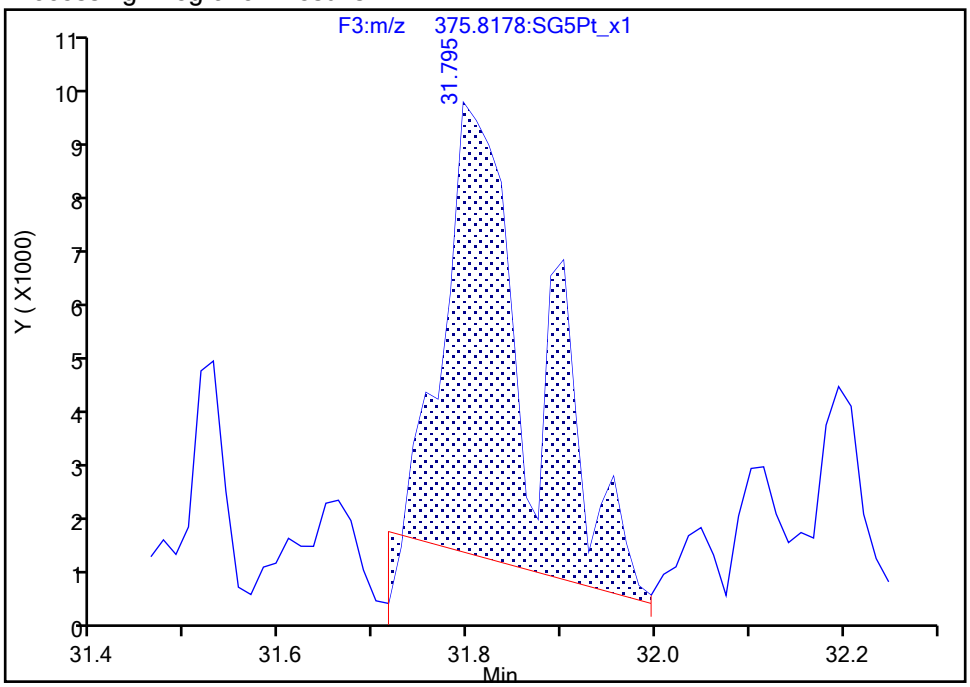

Manual Integration Results

RT: 31.80
Area: 34135
Amount: 0.172393
Amount Units: pg/ul

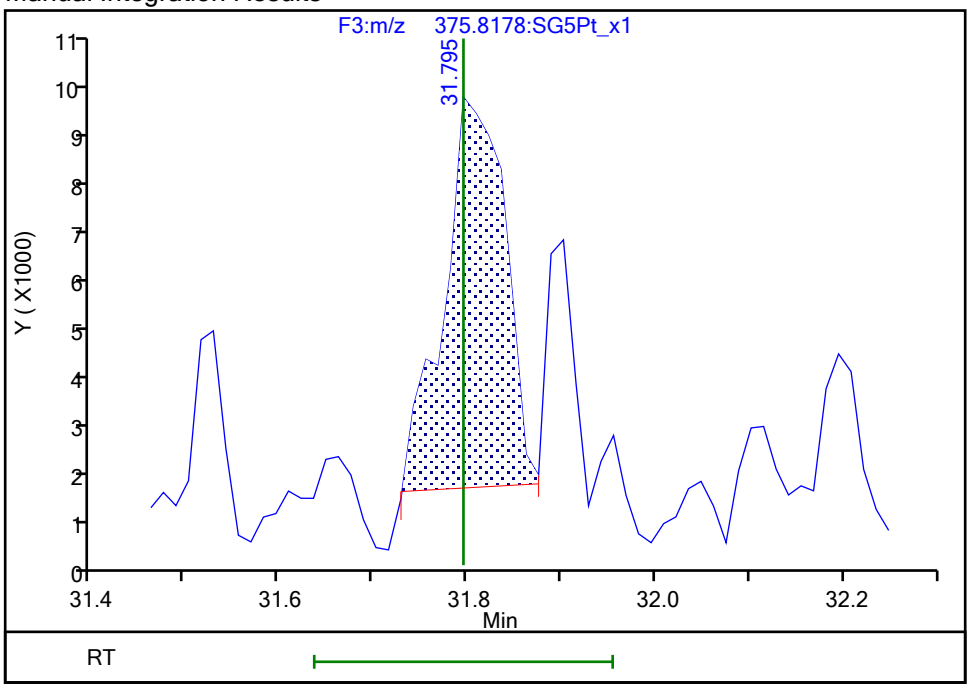

Reviewer: dadunj, 08-Jan-2020 09:04:19

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_7.d				
Injection Date:	07-Jan-2020 02:35:32	Instrument ID:	3D5		
Lims ID:	180-100205-C-1-B	Lab Sample ID:	320-100205-1		
Client ID:	11187072-N.TREATMENT AREA #2				
Operator ID:	ALM	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,7,8,9-HpCDF, CAS: 55673-89-7

Signal: 1

Processing Integration Results

RT: 34.44
Area: 186701
Amount: 0.627577
Amount Units: pg/ul

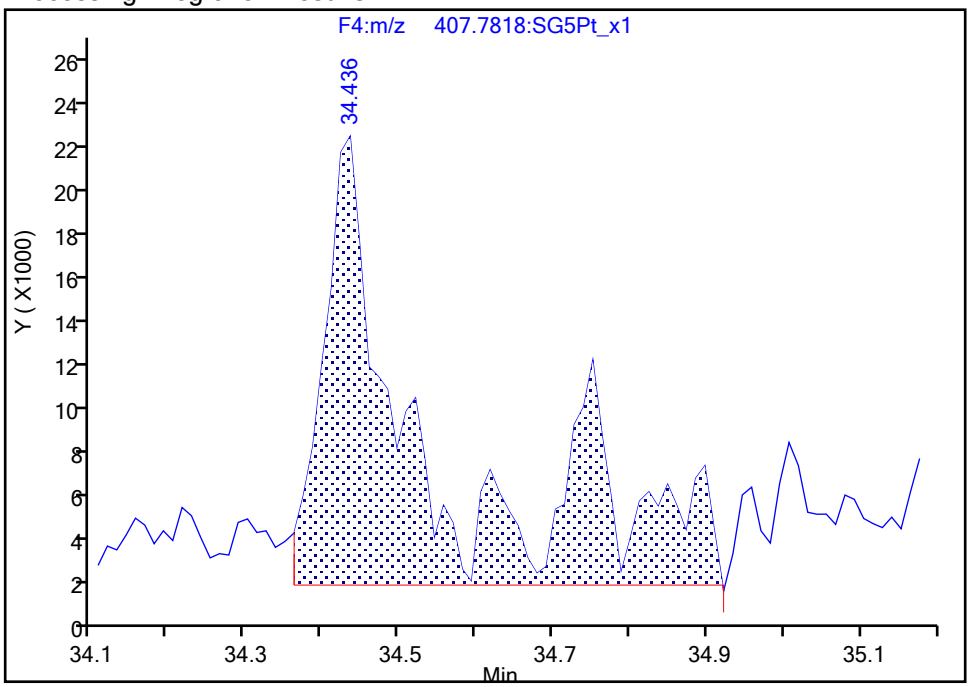

Manual Integration Results

RT: 34.44
Area: 106665
Amount: 0.410056
Amount Units: pg/ul

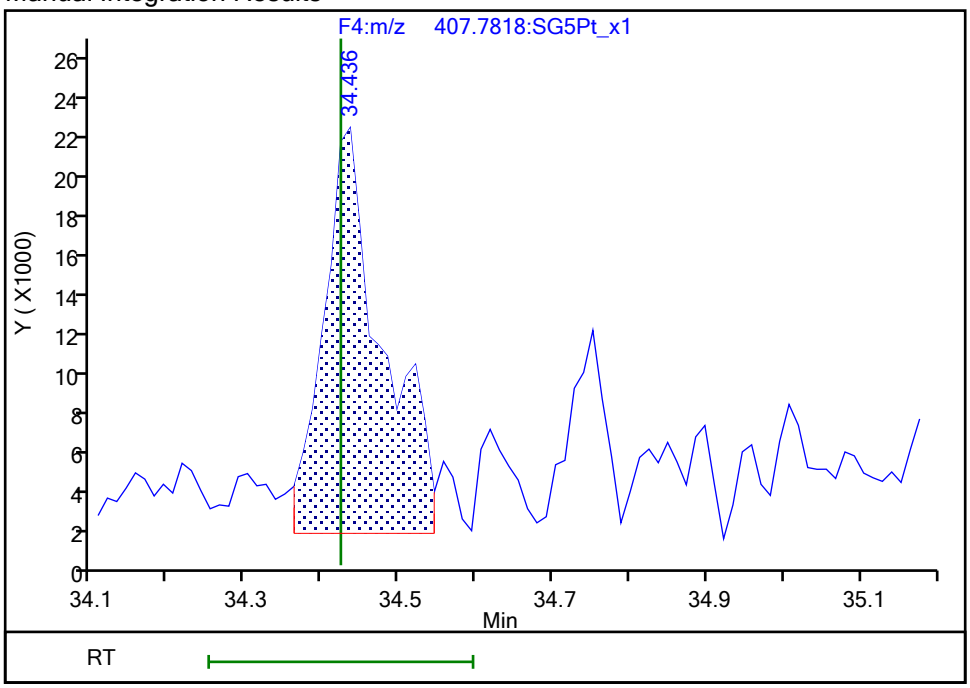

Reviewer: dadunj, 08-Jan-2020 09:04:36

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_7.d				
Injection Date:	07-Jan-2020 02:35:32	Instrument ID:	3D5		
Lims ID:	180-100205-C-1-B	Lab Sample ID:	320-100205-1		
Client ID:	11187072-N.TREATMENT AREA #2				
Operator ID:	ALM	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,7,8,9-HpCDF, CAS: 55673-89-7

Signal: 2

Processing Integration Results

RT: 34.42
Area: 73458
Amount: 0.627577
Amount Units: pg/ul

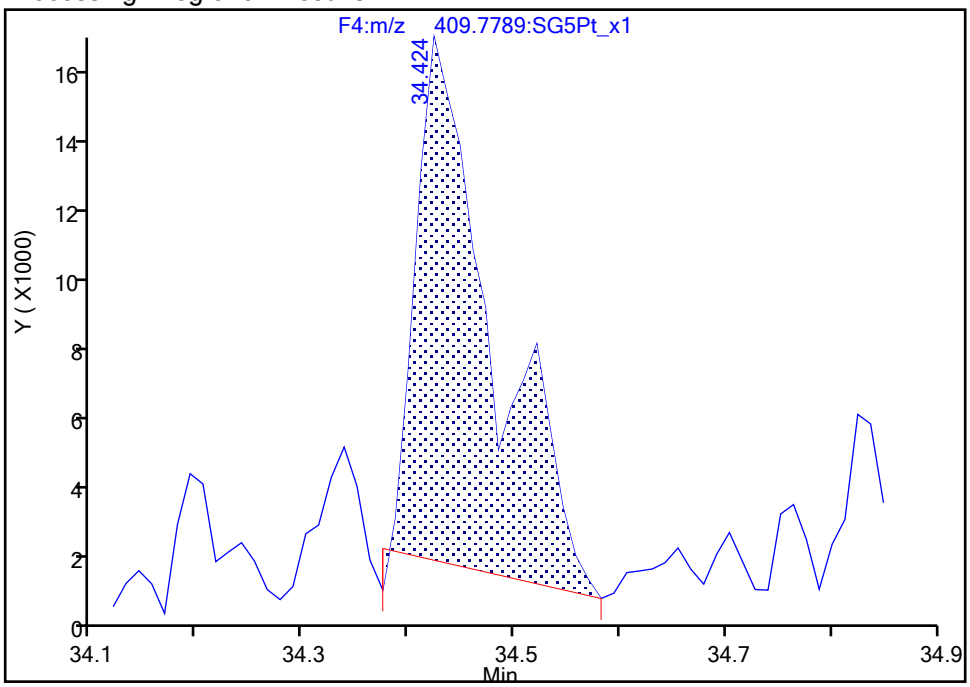

Manual Integration Results

RT: 34.42
Area: 63322
Amount: 0.410056
Amount Units: pg/ul

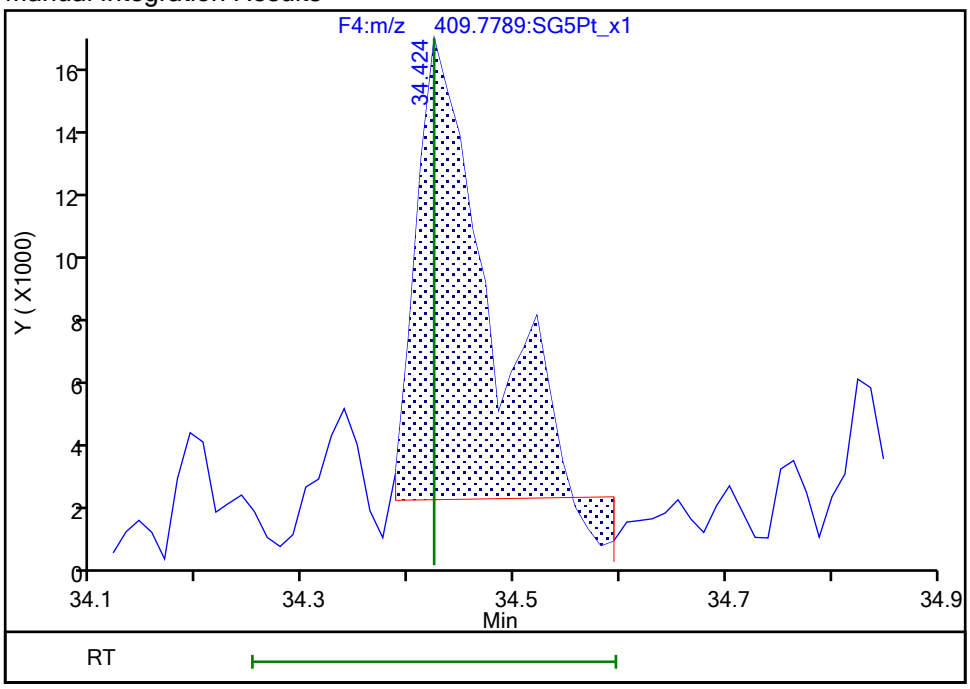

Reviewer: dadunj, 08-Jan-2020 09:04:43

Audit Action: Manually Integrated Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_7.d				
Injection Date:	07-Jan-2020 02:35:32	Instrument ID:	3D5		
Lims ID:	180-100205-C-1-B	Lab Sample ID:	320-100205-1		
Client ID:	11187072-N.TREATMENT AREA #2				
Operator ID:	ALM	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 2

Processing Integration Results

RT: 34.16
Area: 39495
Amount: 0.242289
Amount Units: pg/ul

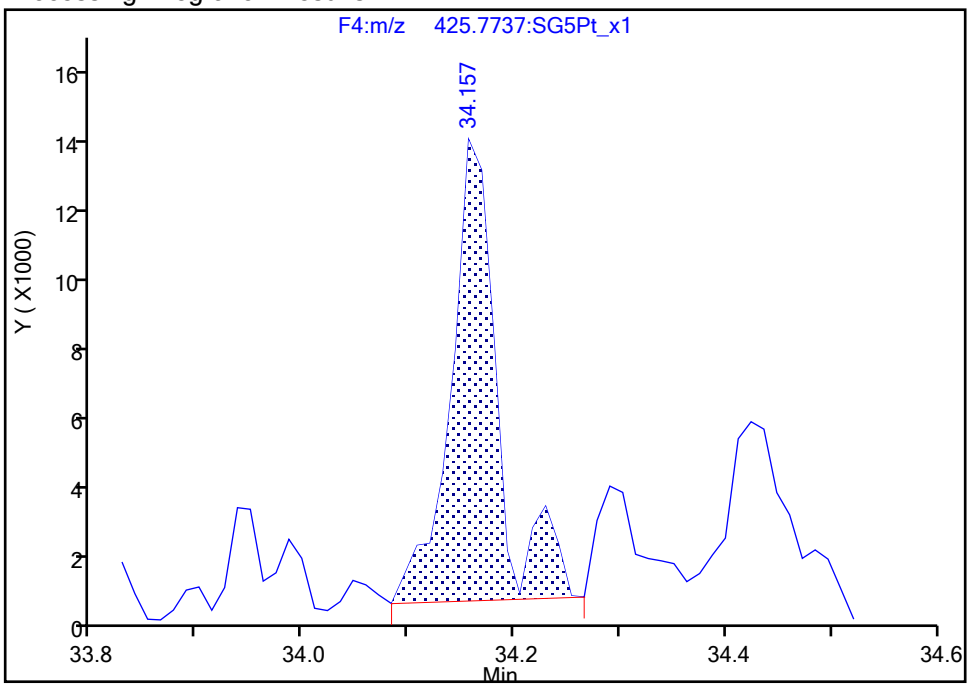

Manual Integration Results

RT: 34.16
Area: 35008
Amount: 0.228397
Amount Units: pg/ul

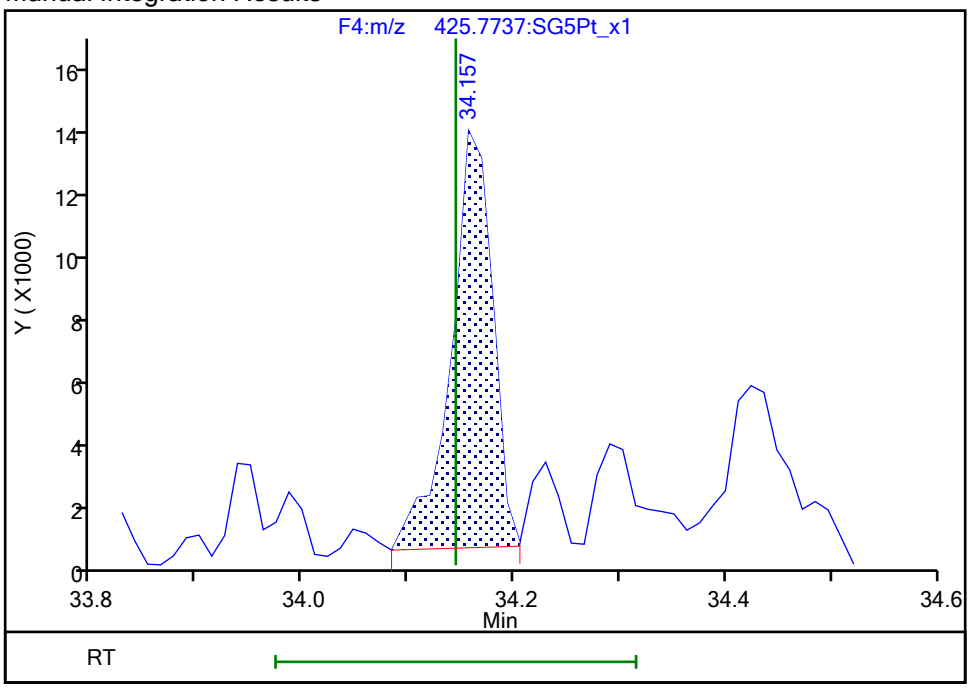

Reviewer: dadunj, 08-Jan-2020 09:04:53

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_7.d				
Injection Date:	07-Jan-2020 02:35:32	Instrument ID:	3D5		
Lims ID:	180-100205-C-1-B	Lab Sample ID:	320-100205-1		
Client ID:	11187072-N.TREATMENT AREA #2				
Operator ID:	ALM	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5:HRSIR		

OCDF, CAS: 39001-02-0

Signal: 2

Processing Integration Results

RT: 36.52
Area: 149666
Amount: 1.110591
Amount Units: pg/ul

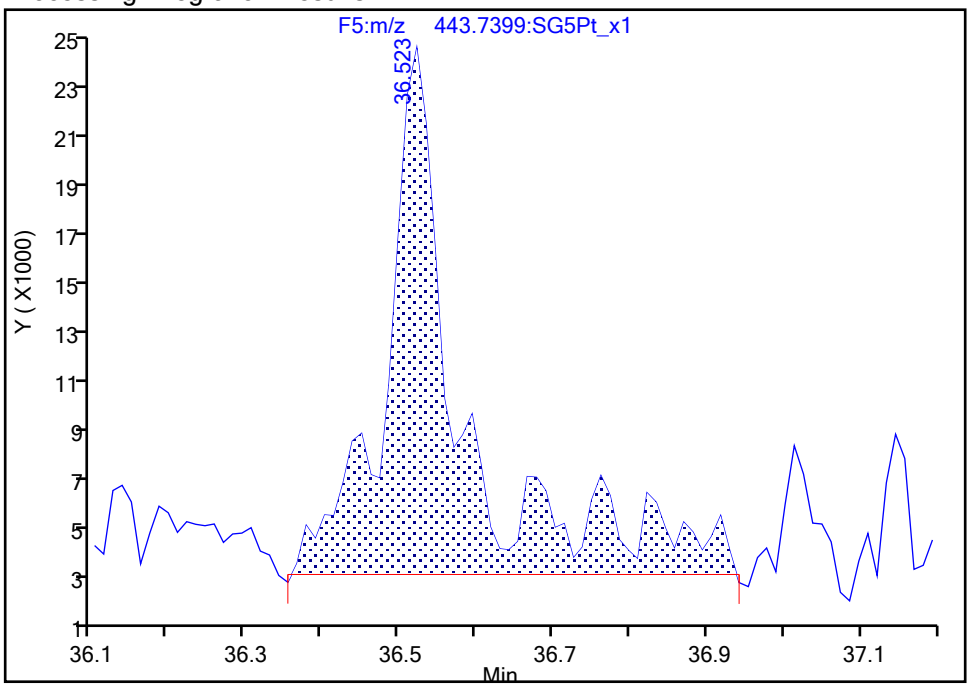

Manual Integration Results

RT: 36.52
Area: 113172
Amount: 0.957770
Amount Units: pg/ul

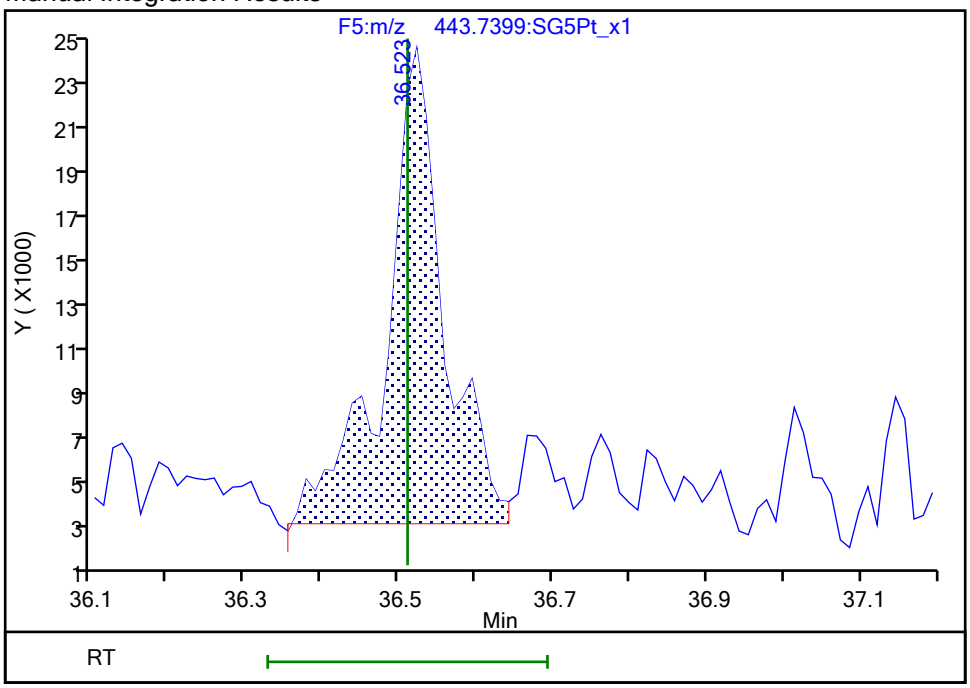

Reviewer: dadunj, 08-Jan-2020 09:04:59

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 08-Jan-2020 09:05:32 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_7.d		
Injection Date:	07-Jan-2020 02:35:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-N.TREATMENT AREA #2		
Worklist#:	349283	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

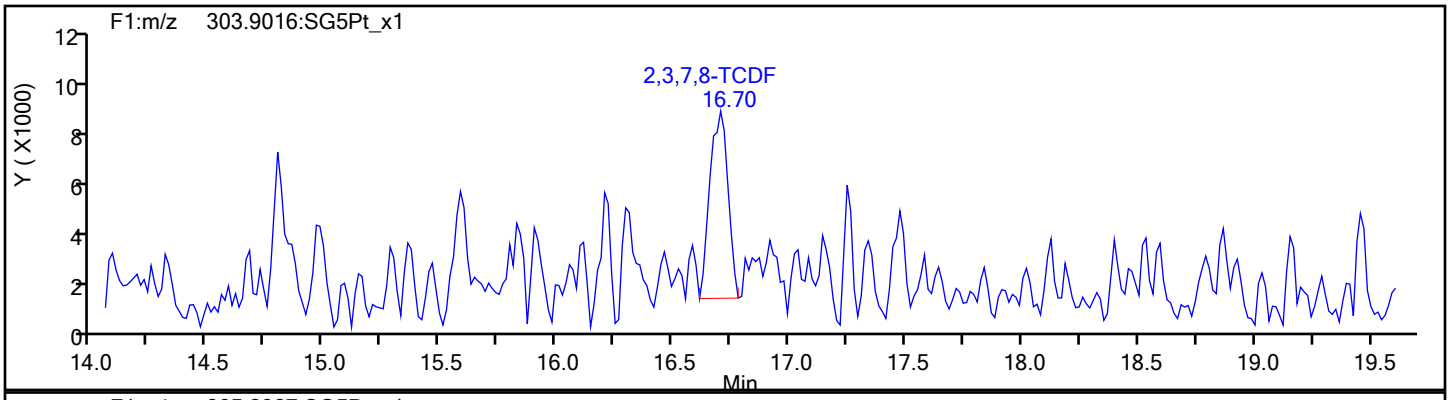

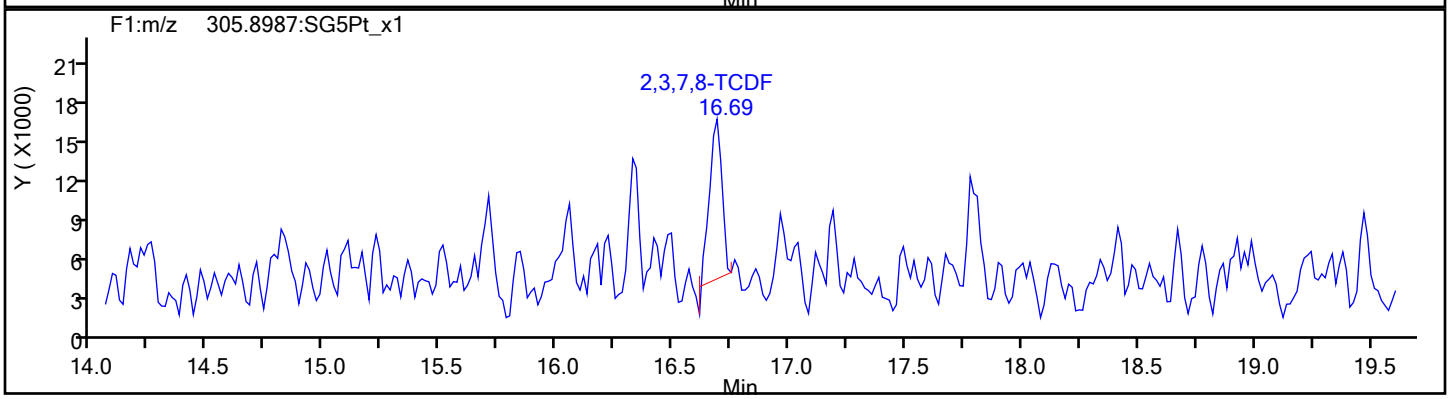

TCDF Standards

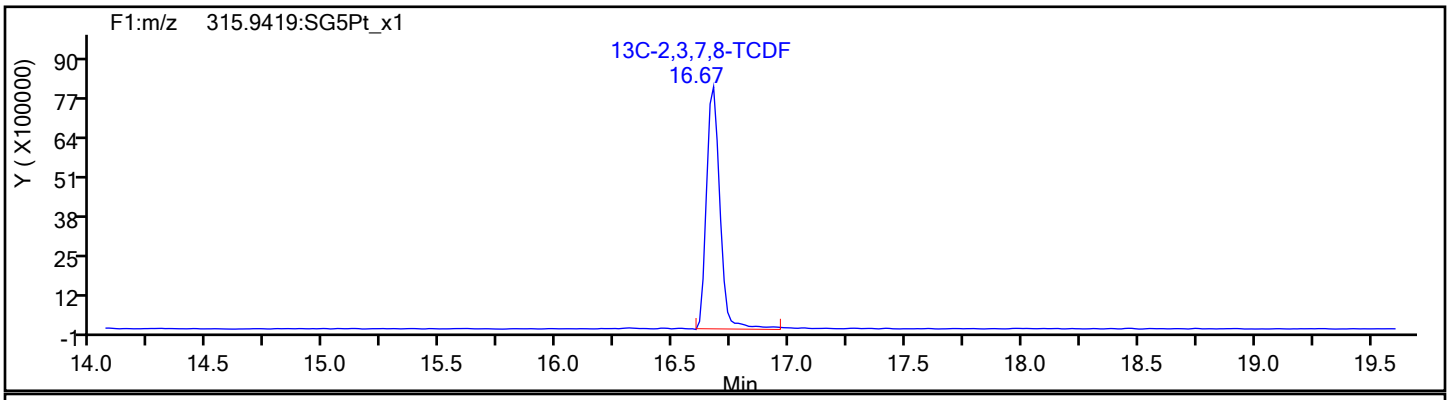

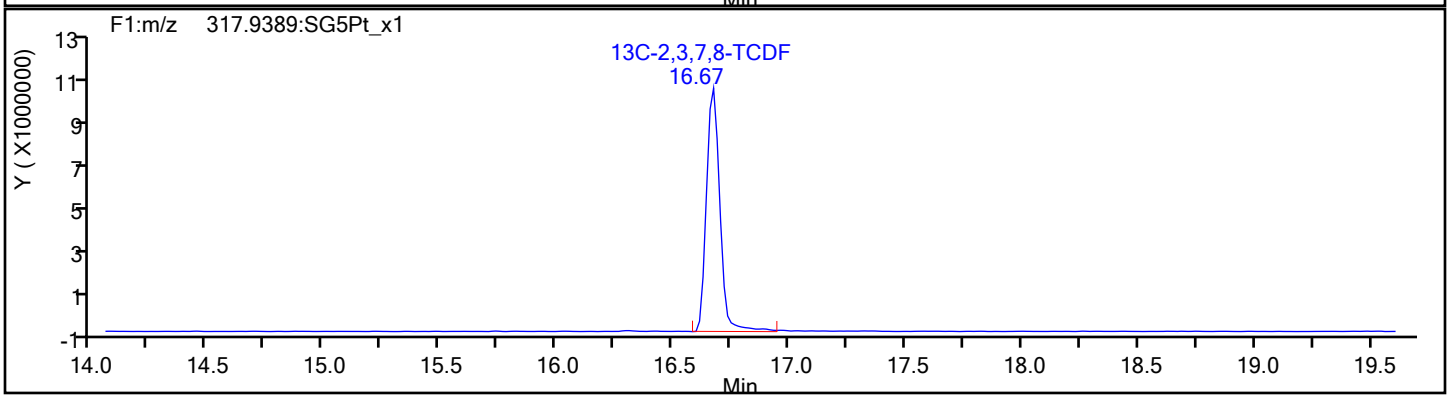

Report Date: 08-Jan-2020 09:05:32 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_7.d		
Injection Date:	07-Jan-2020 02:35:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-N.TREATMENT AREA #2		
Worklist#:	349283	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

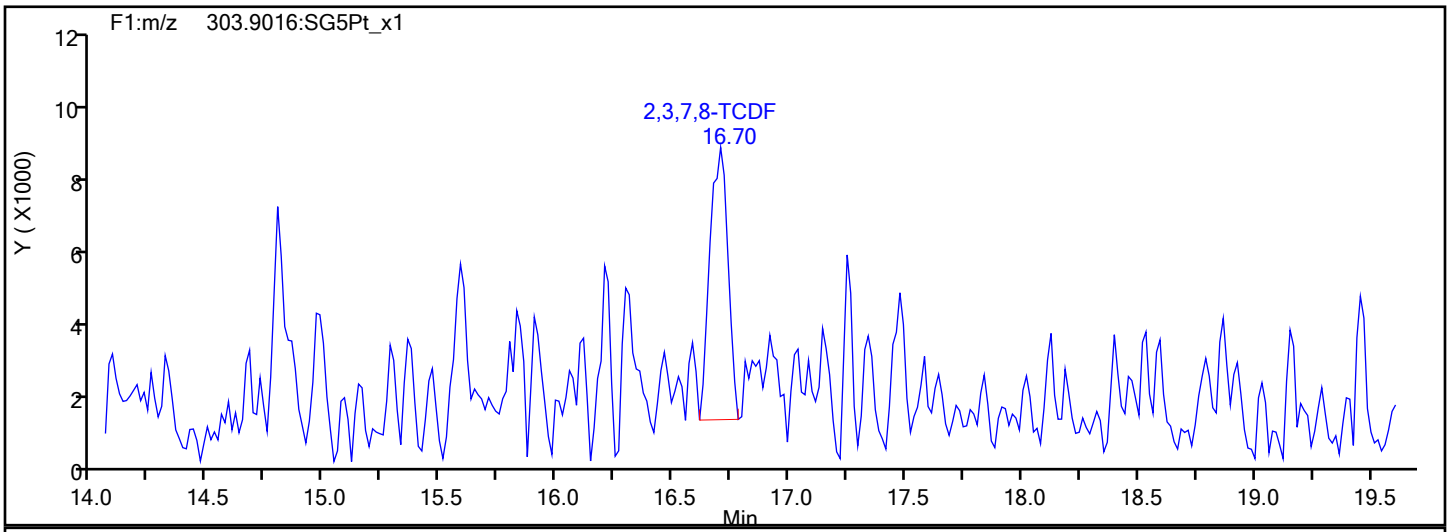

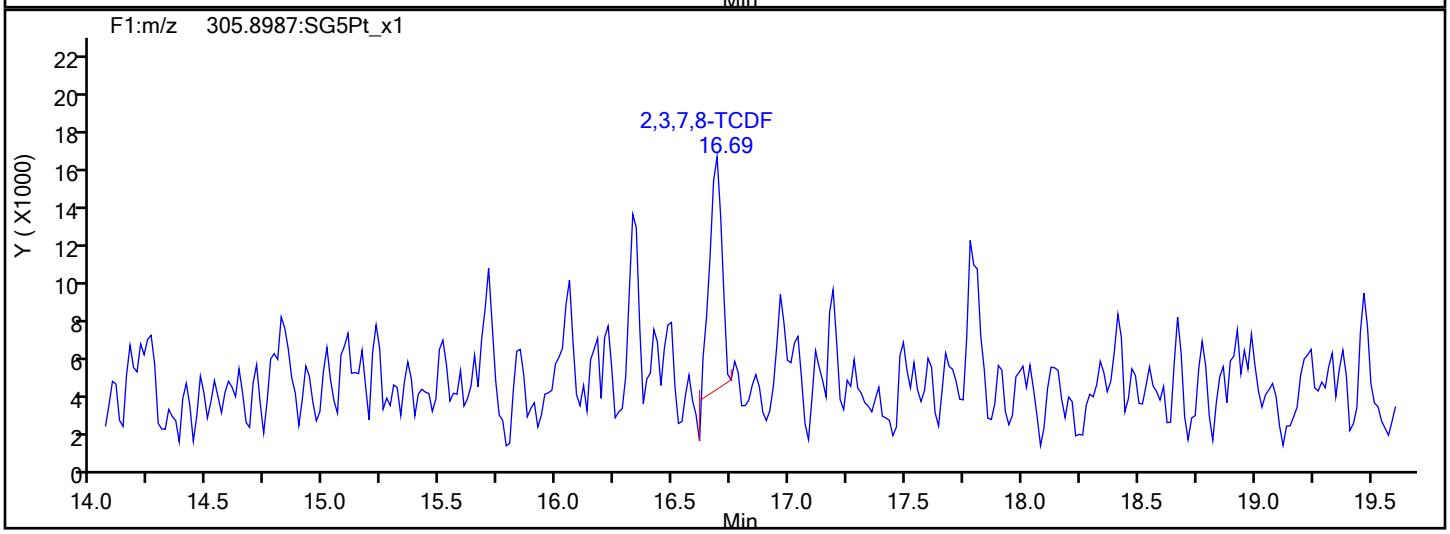

TCDF Interference Mass

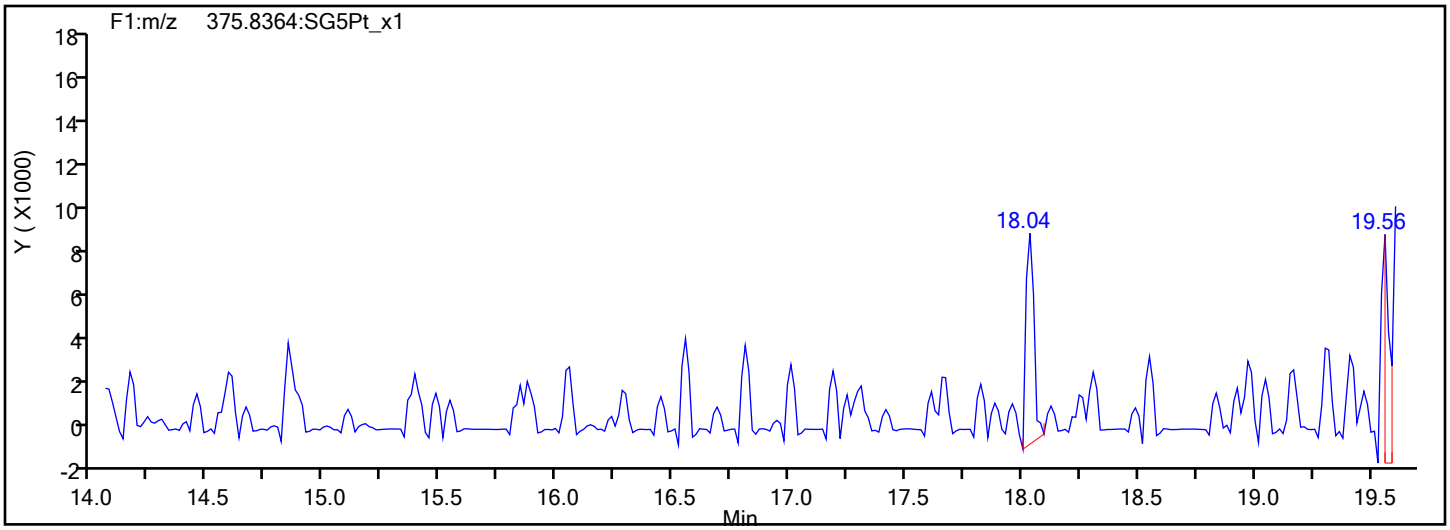

Report Date: 08-Jan-2020 09:05:32 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_7.d		
Injection Date:	07-Jan-2020 02:35:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-N.TREATMENT AREA #2		
Worklist#:	349283	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

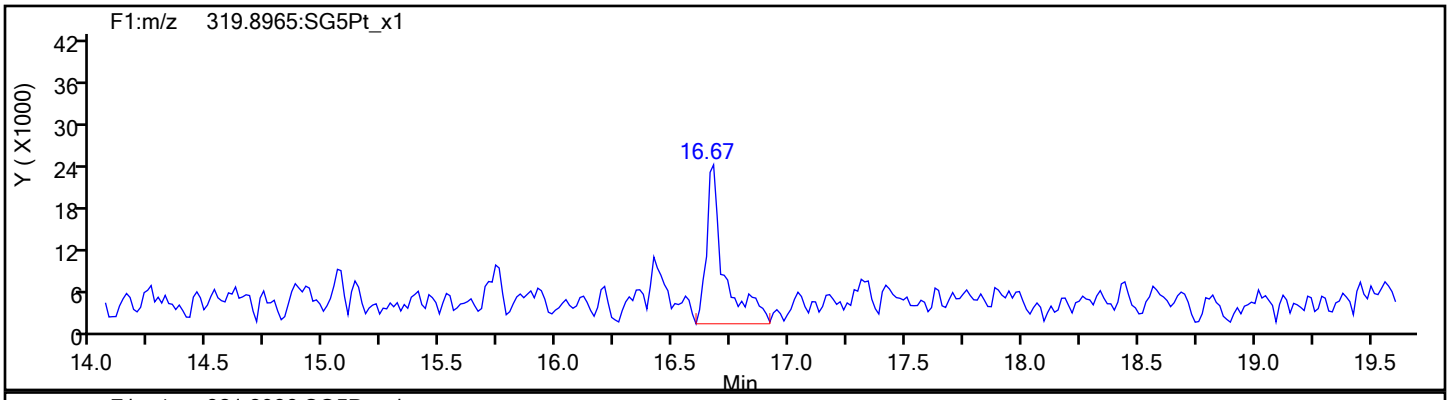

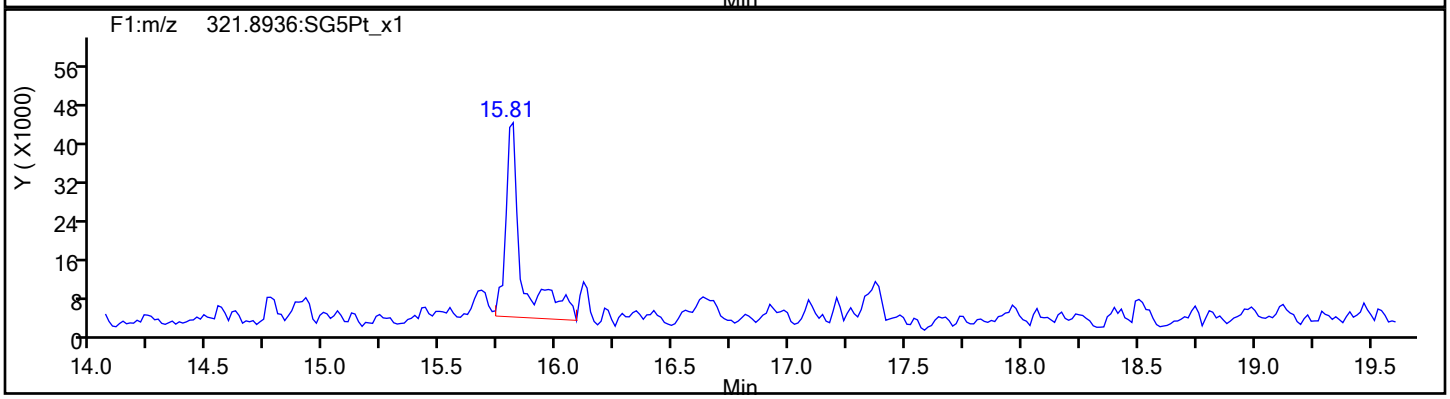

TCDD Standards

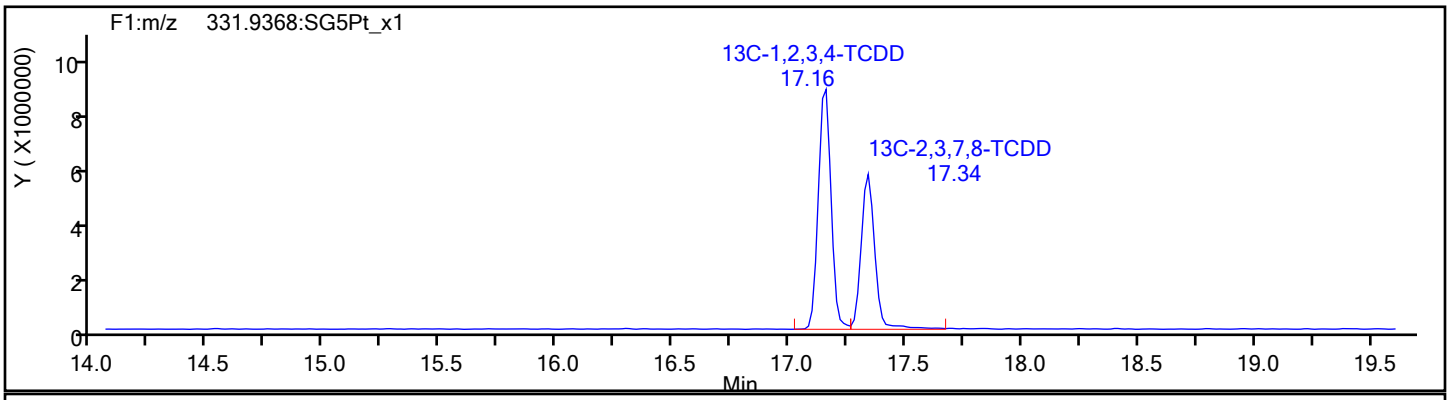

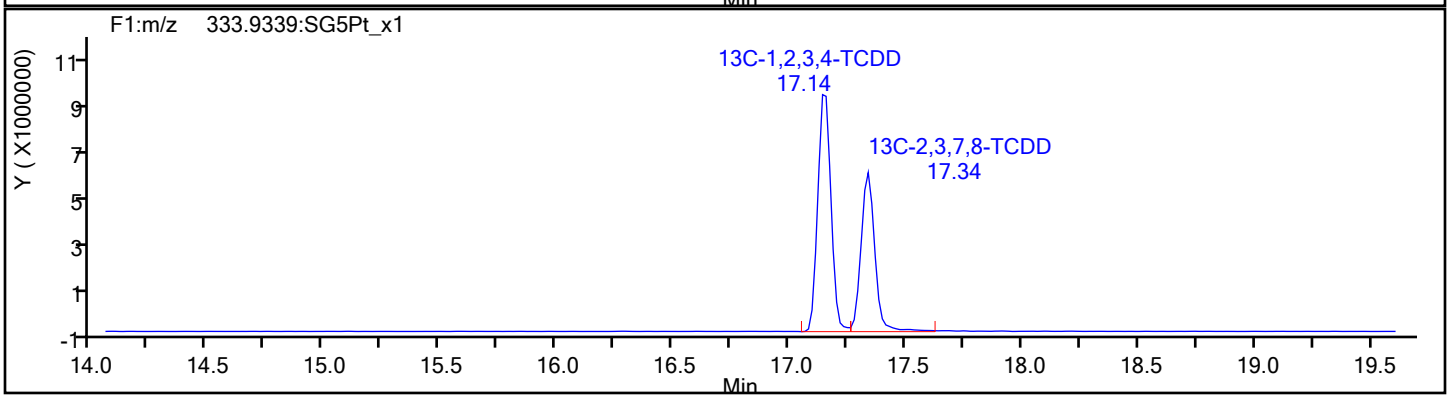

Report Date: 08-Jan-2020 09:05:32 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_7.d		
Injection Date:	07-Jan-2020 02:35:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-N.TREATMENT AREA #2		
Worklist#:	349283	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

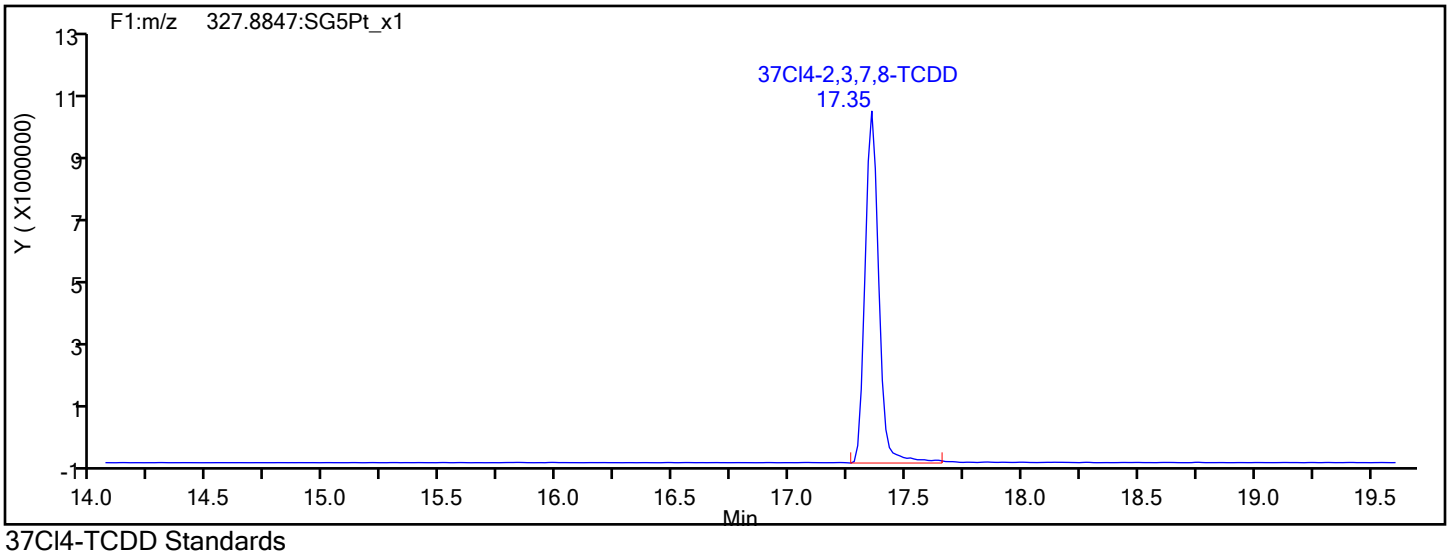

37Cl4-TCDD Standards

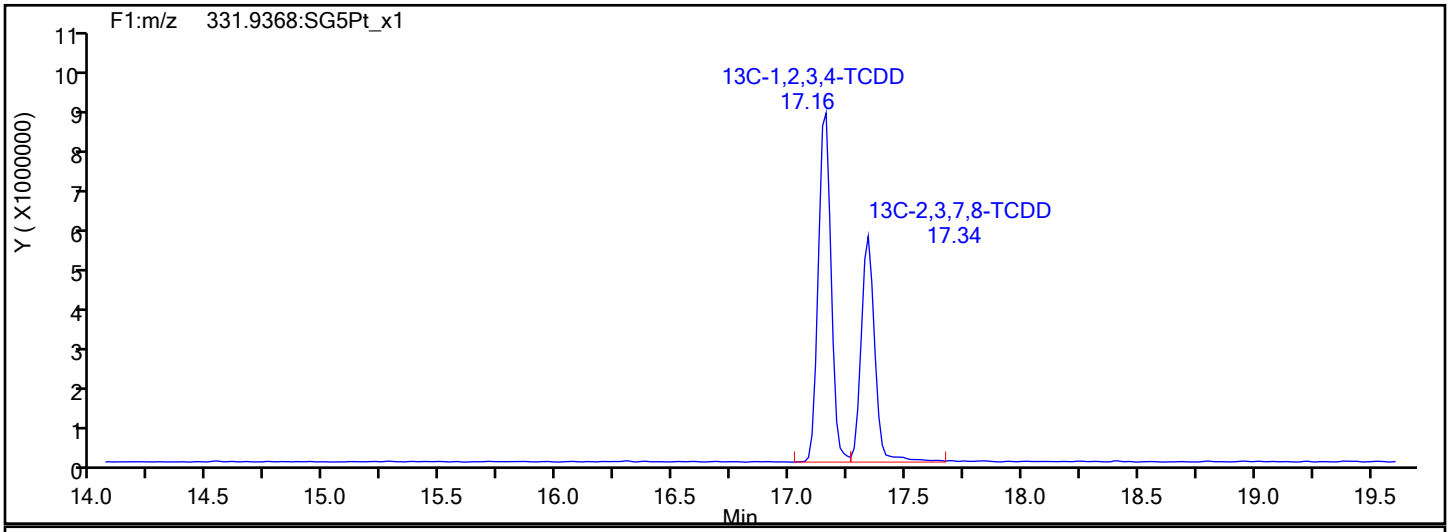

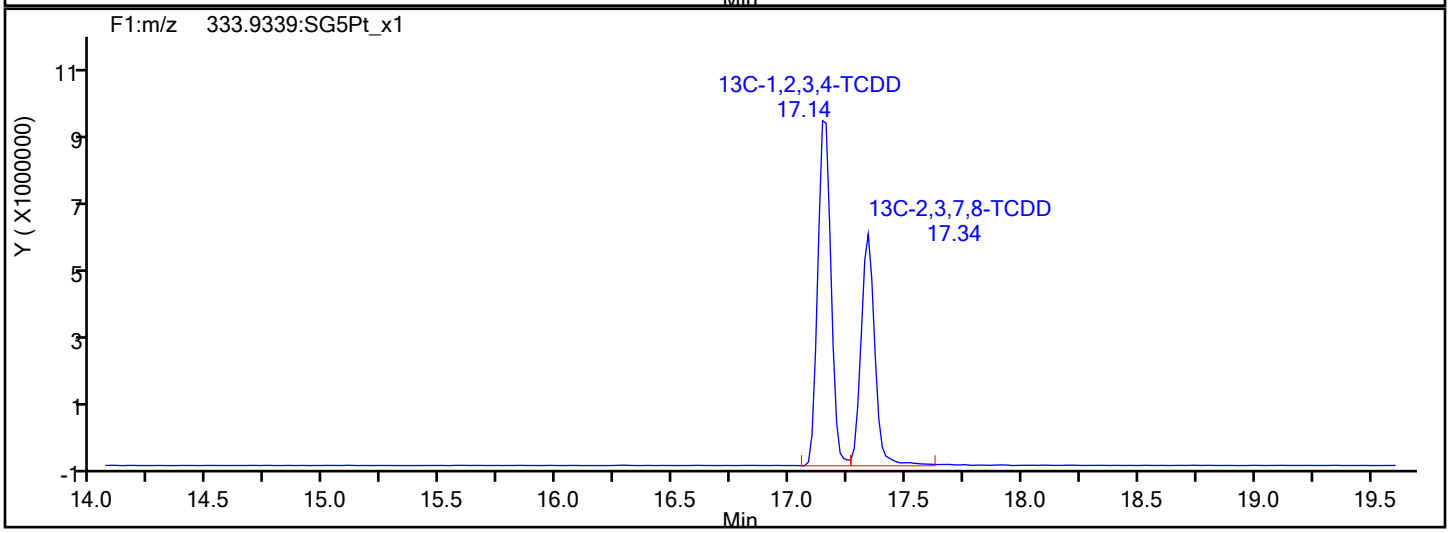

Report Date: 08-Jan-2020 09:05:32 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_7.d		
Injection Date:	07-Jan-2020 02:35:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-N.TREATMENT AREA #2		
Worklist#:	349283	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

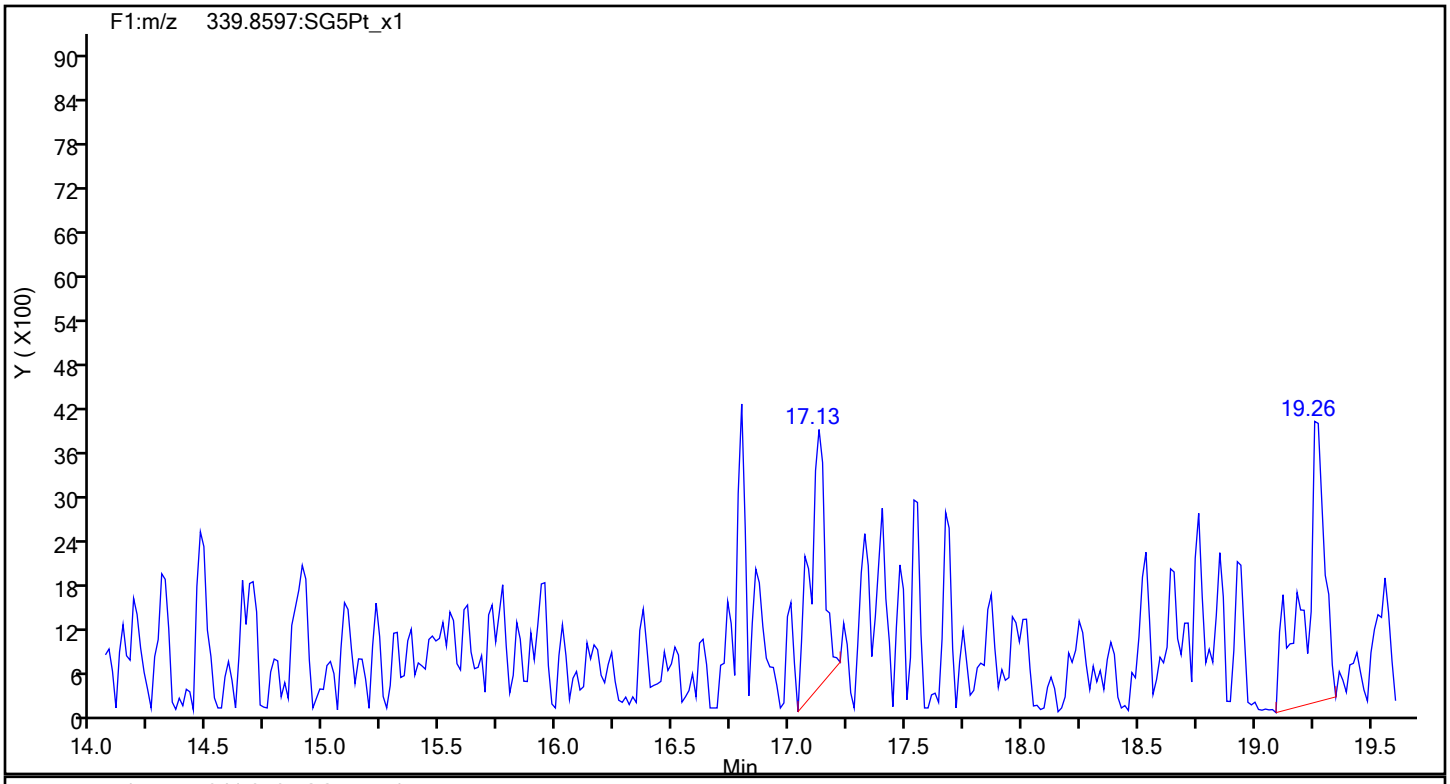

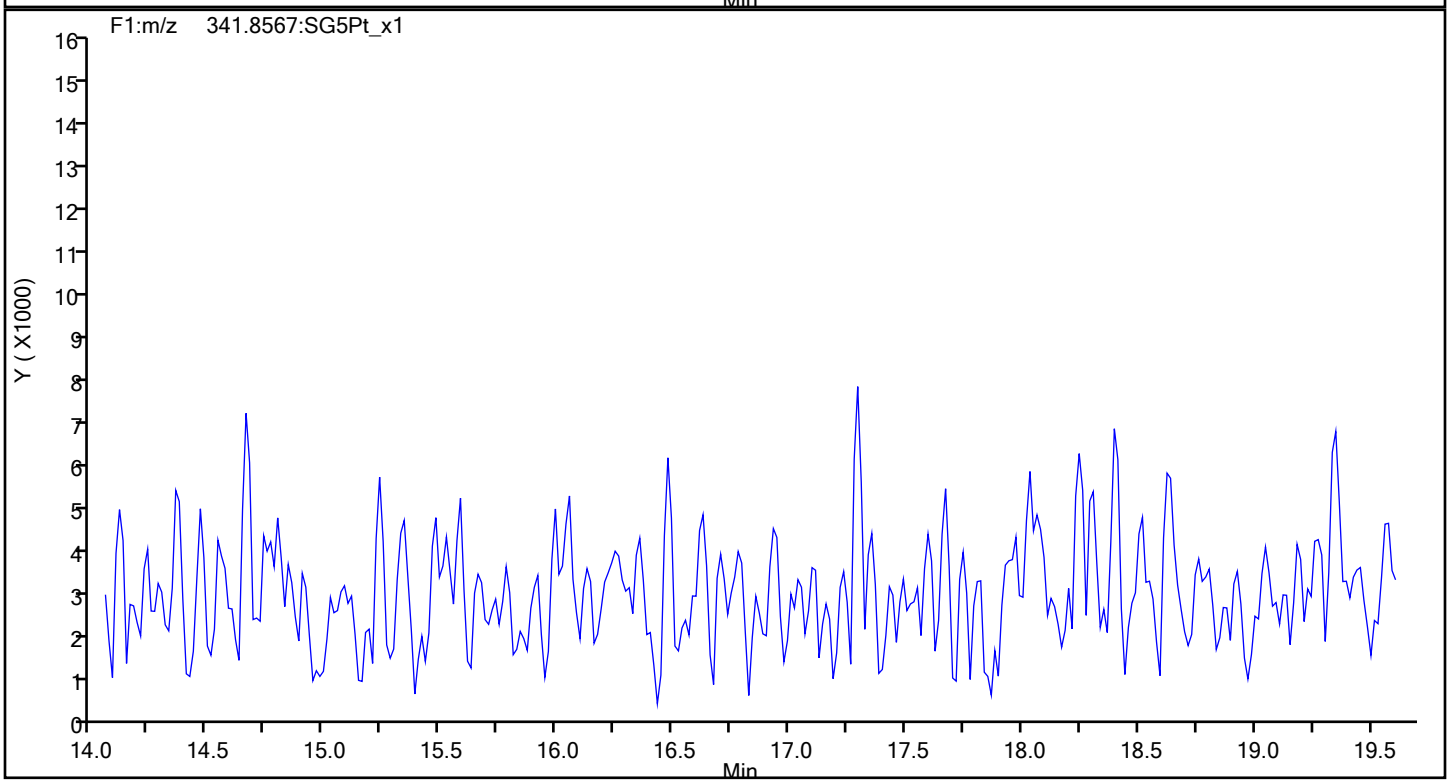

Report Date: 08-Jan-2020 09:05:32 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_7.d		
Injection Date:	07-Jan-2020 02:35:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-N.TREATMENT AREA #2		
Worklist#:	349283	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

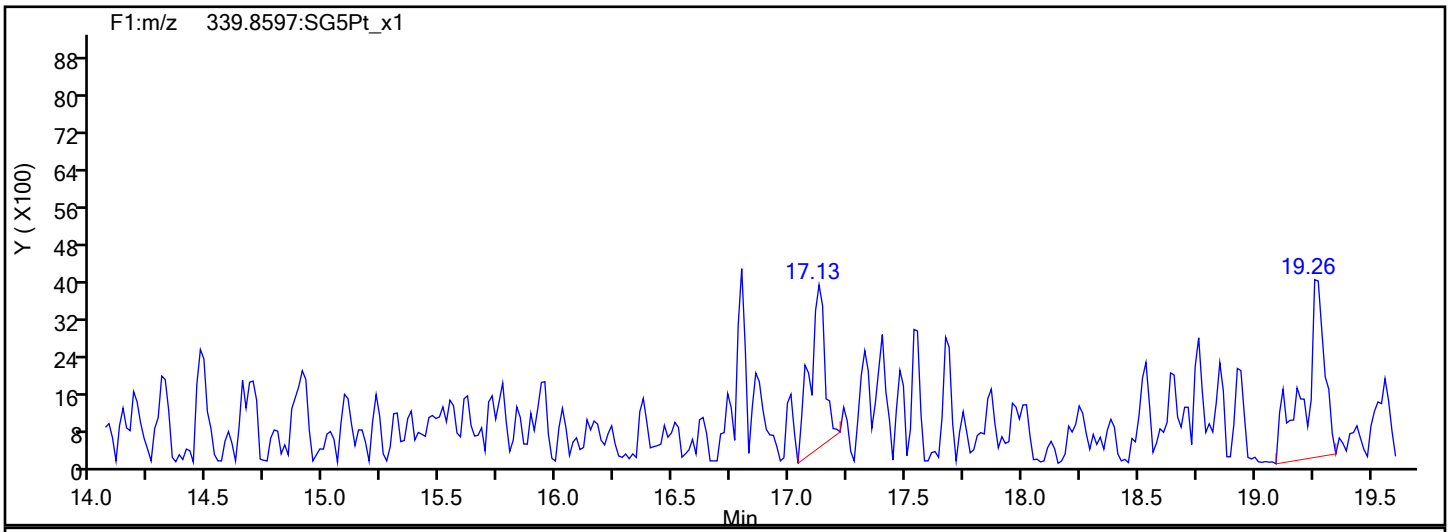

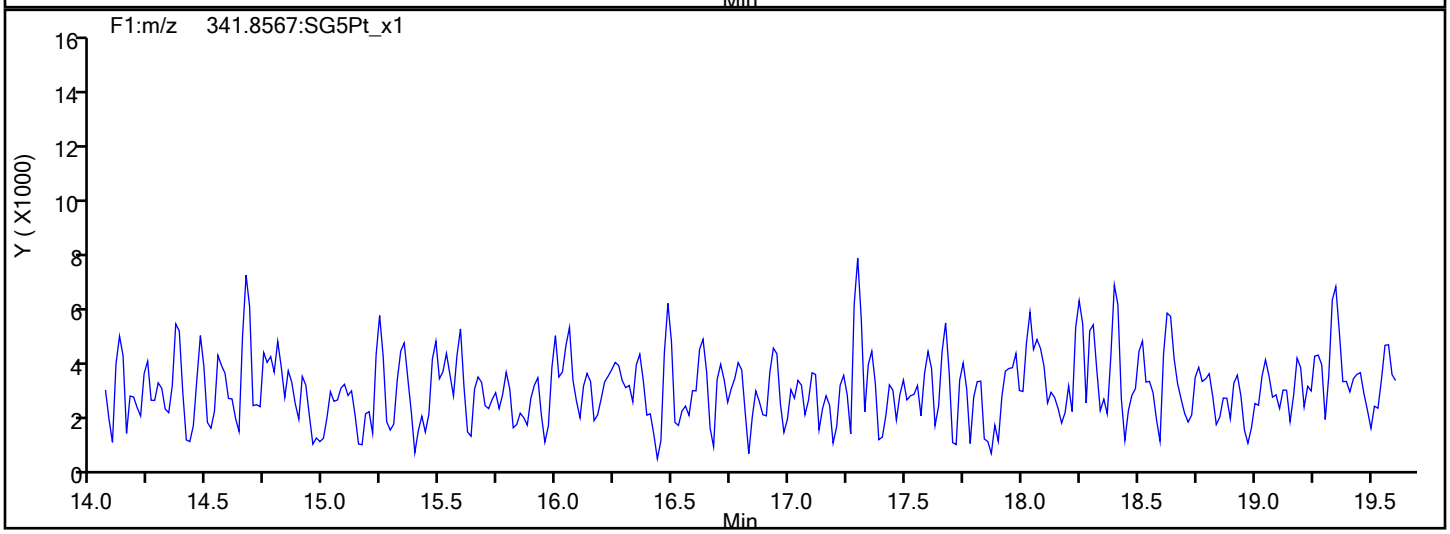

F1 PeCDFs Interference Mass

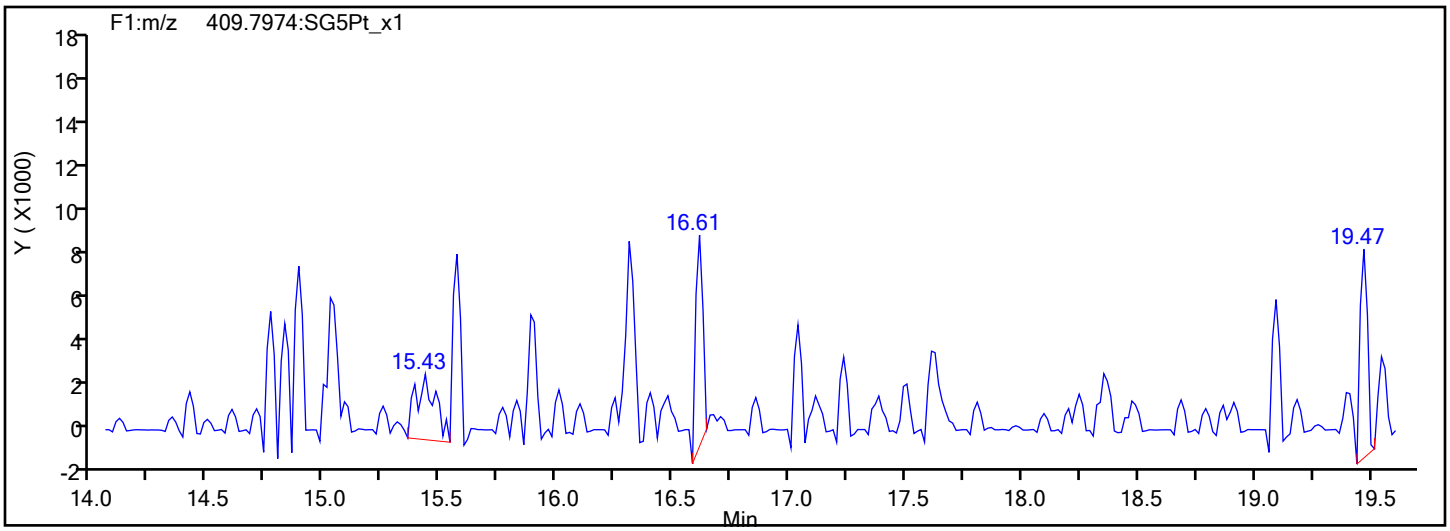

Report Date: 08-Jan-2020 09:05:32 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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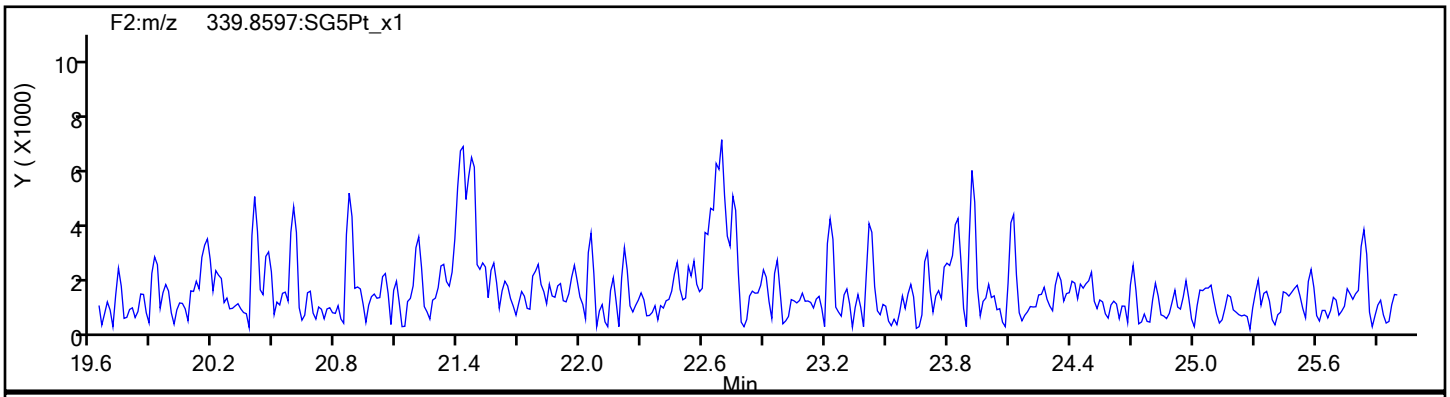

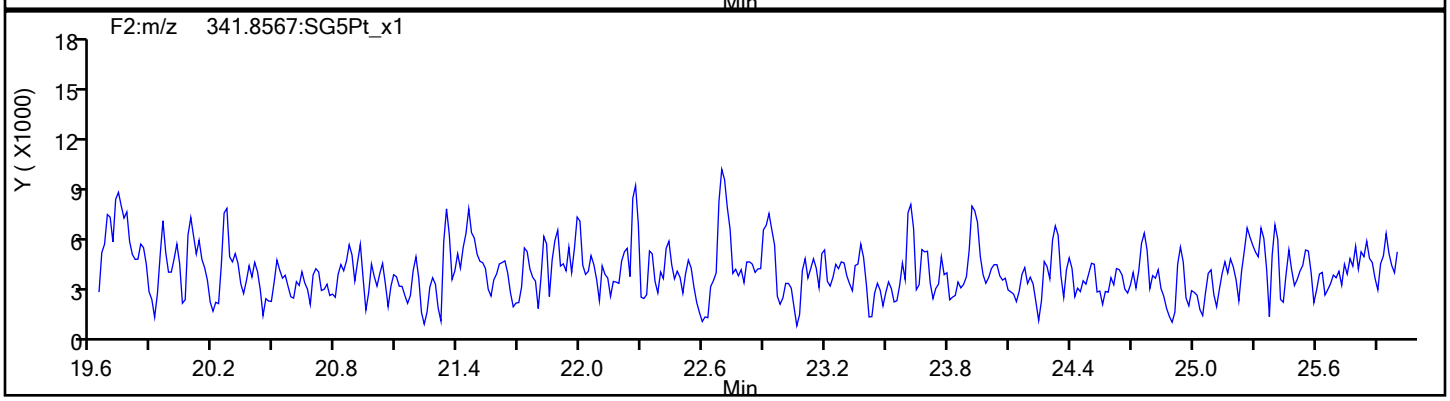

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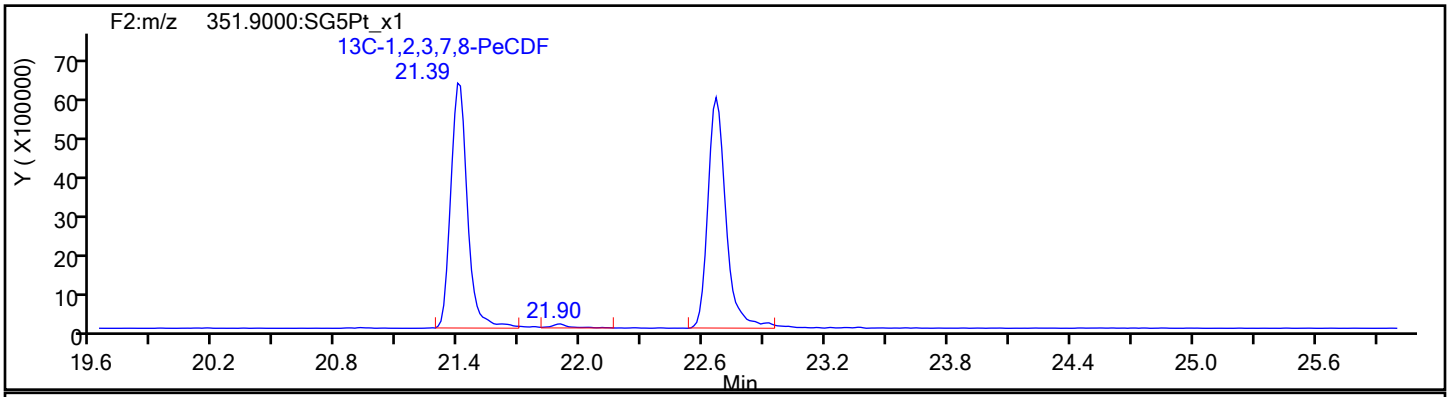

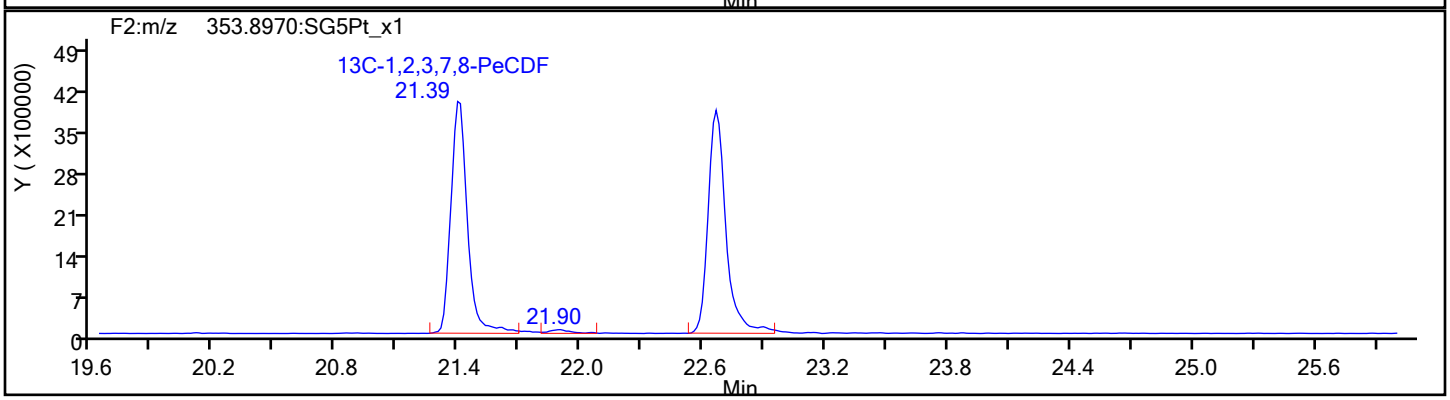

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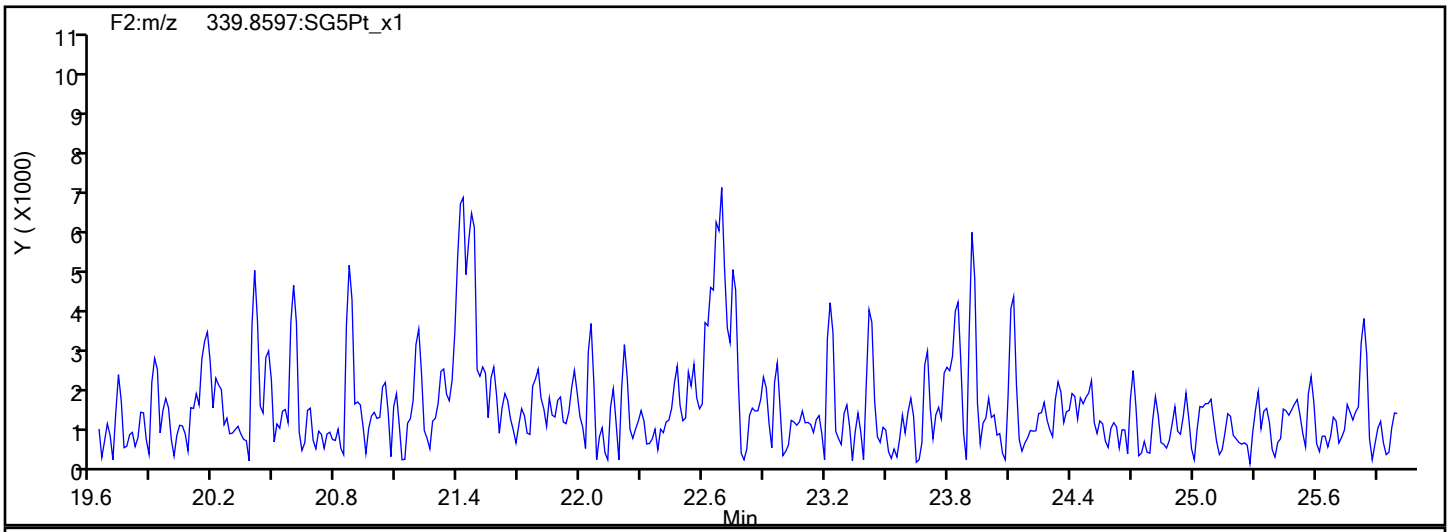

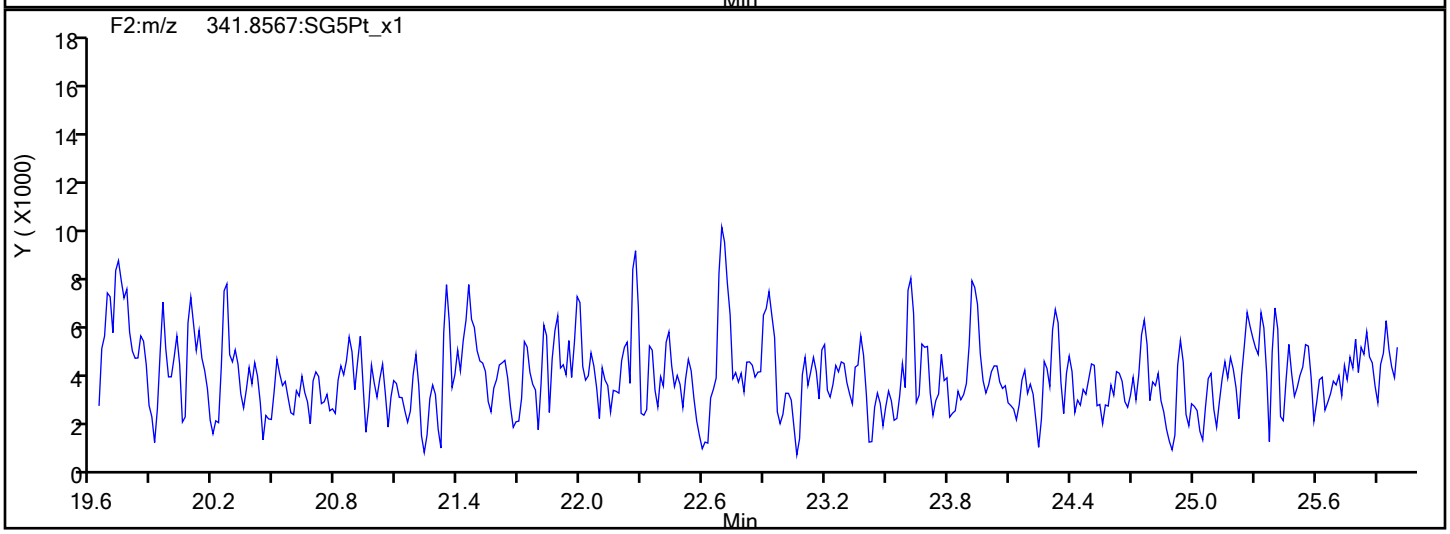

PeCDF Interference Mass

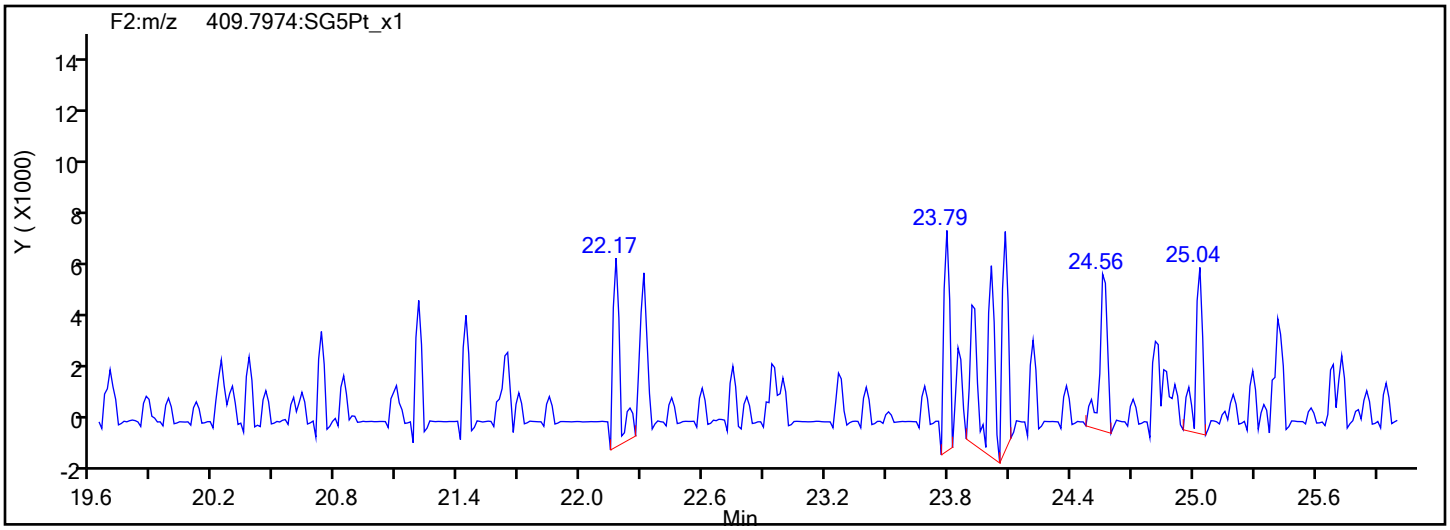

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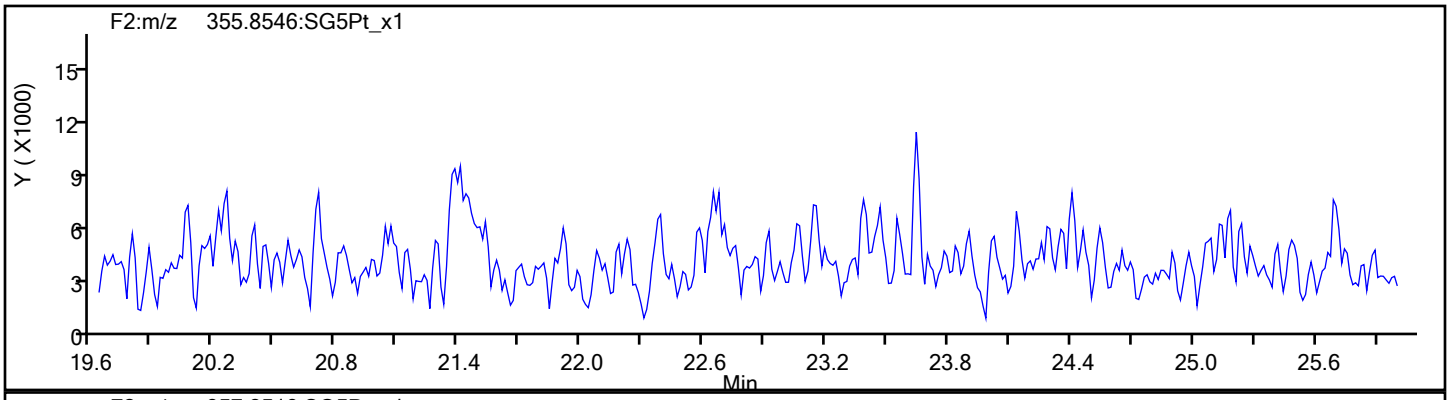

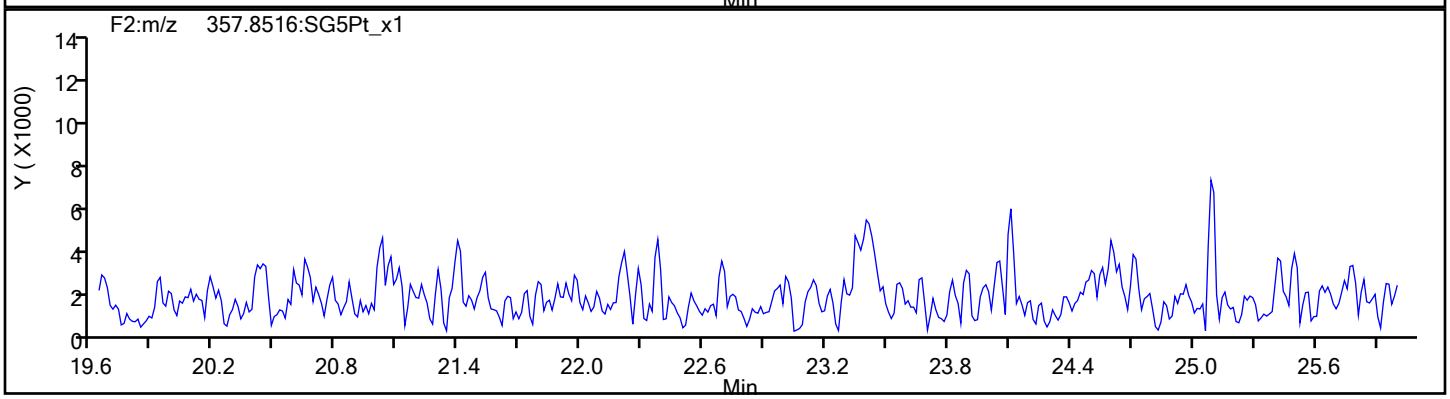

PeCDD Standards

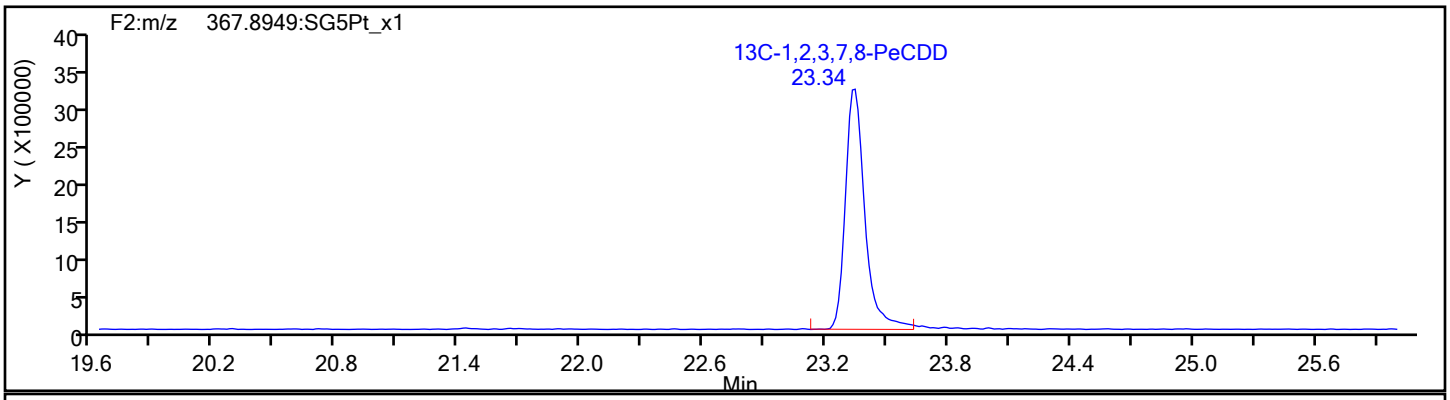

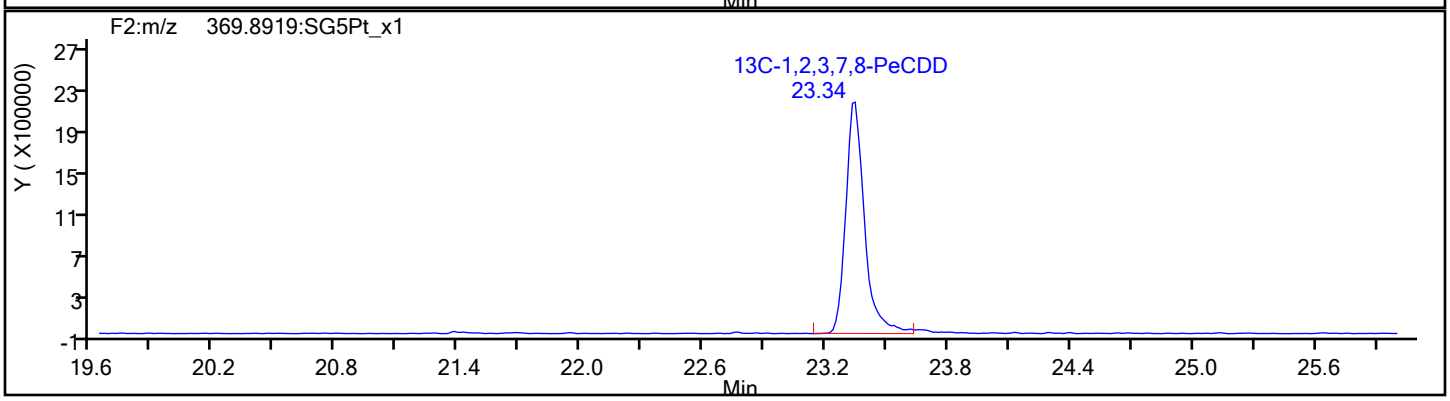

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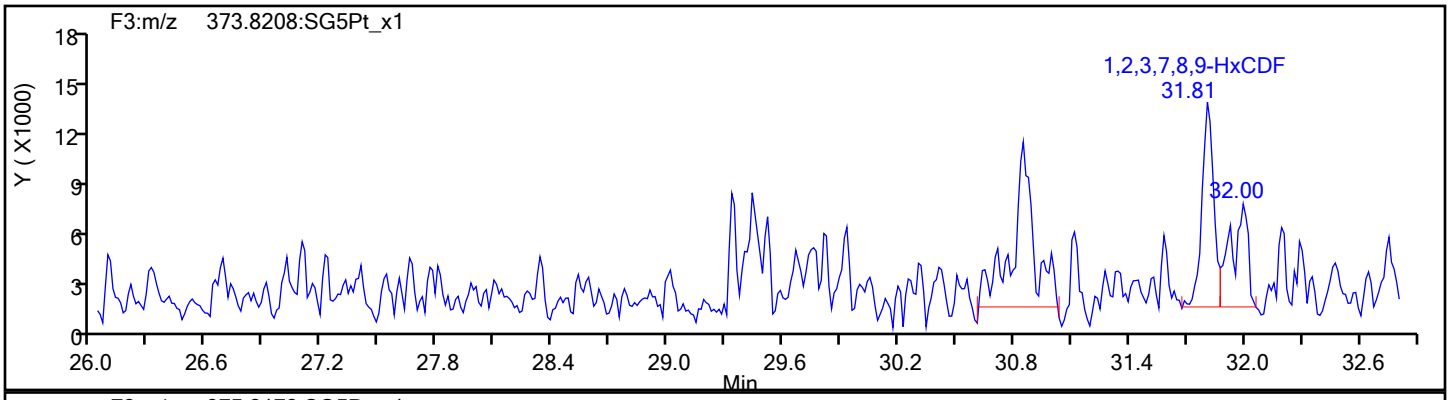

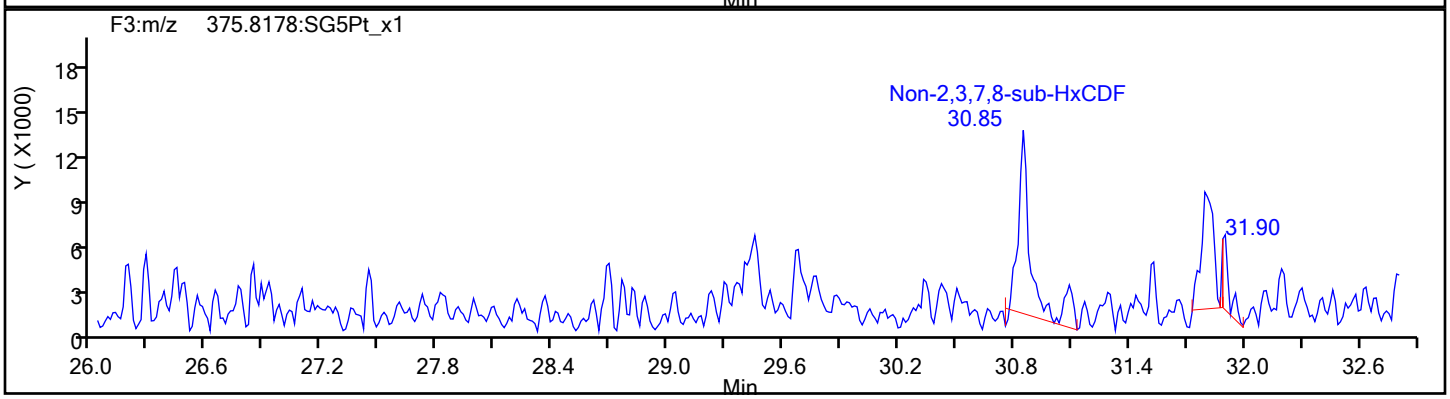

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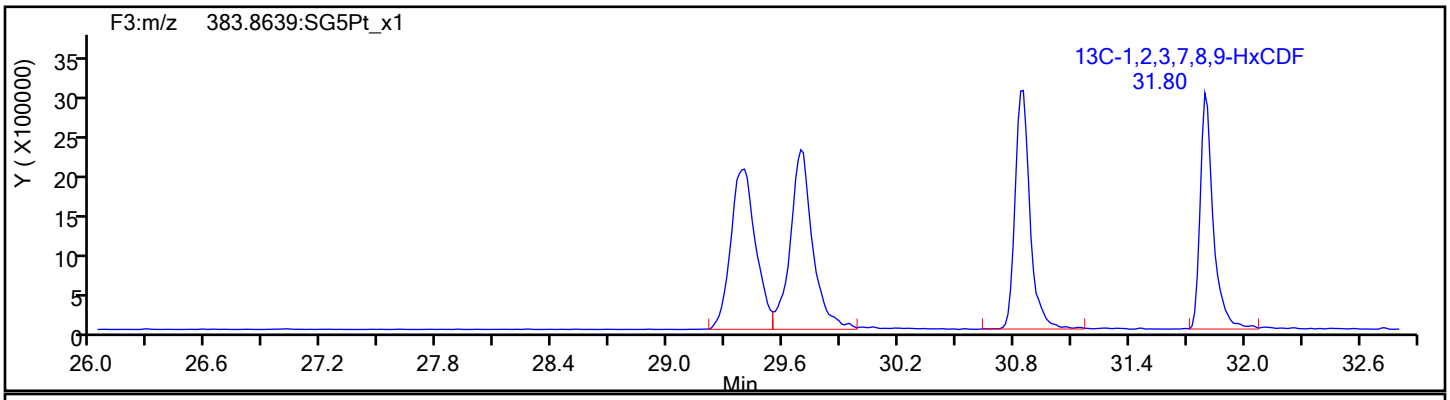

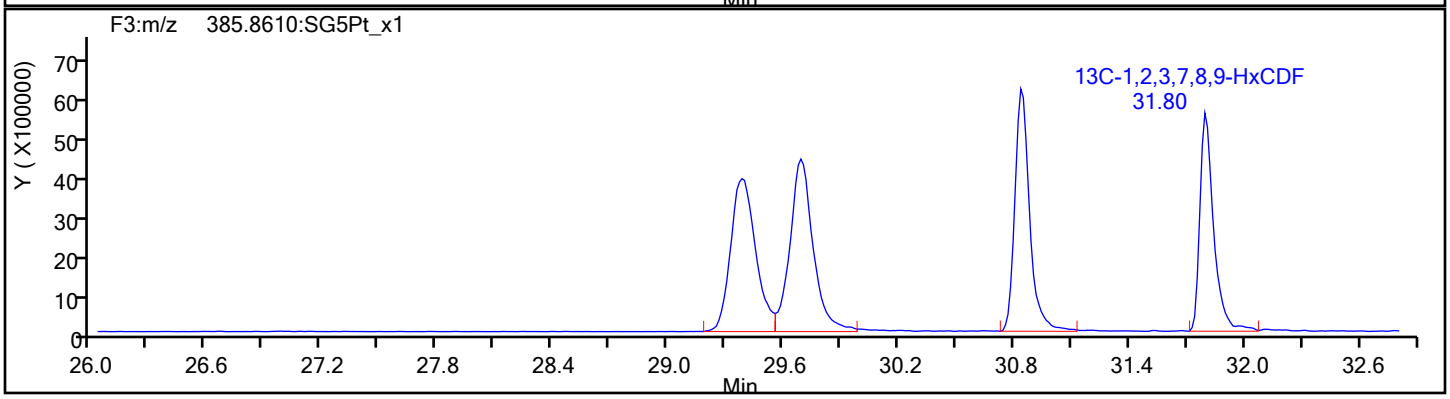

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Eurofins TestAmerica, Sacramento

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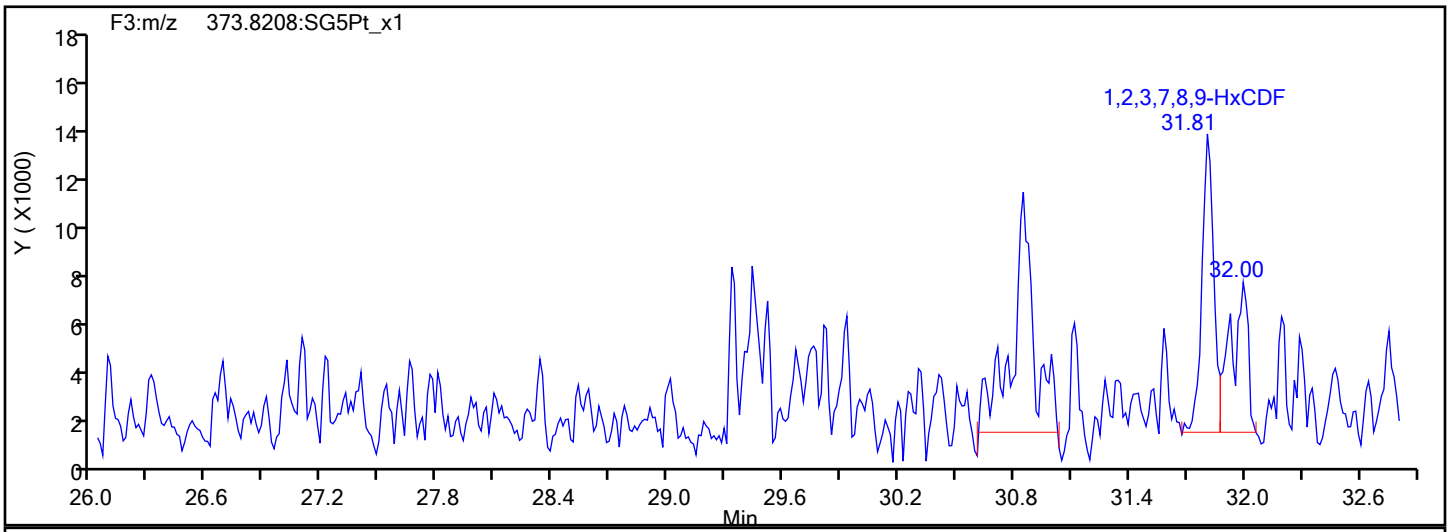

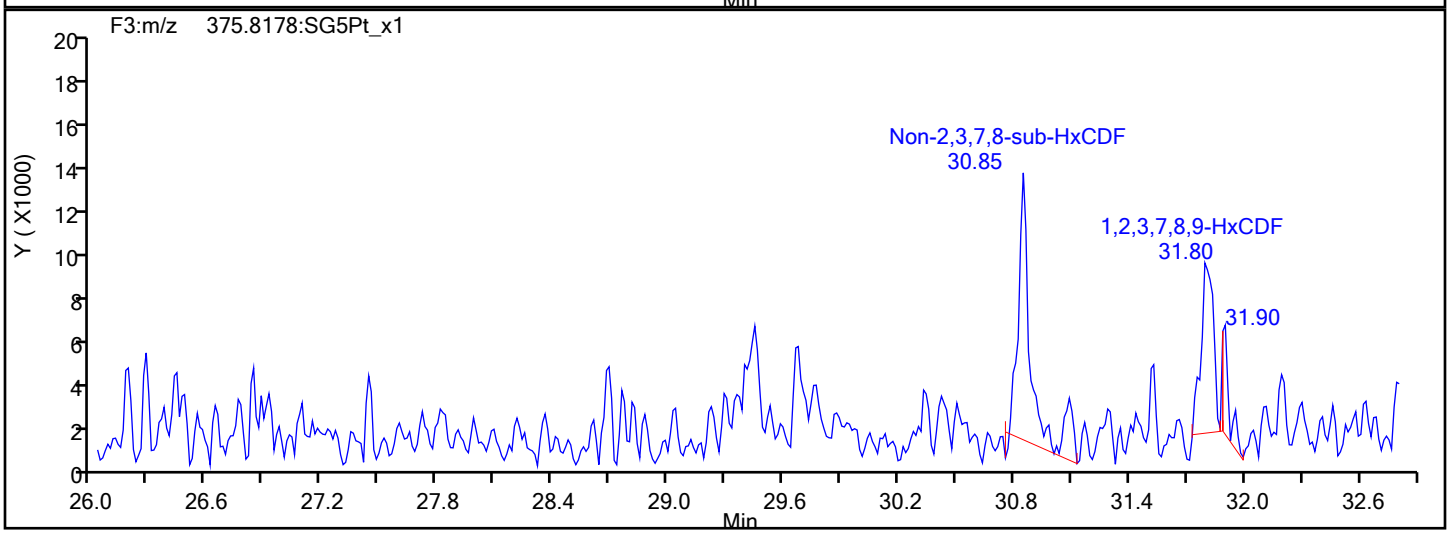

HxCDF Interference Mass

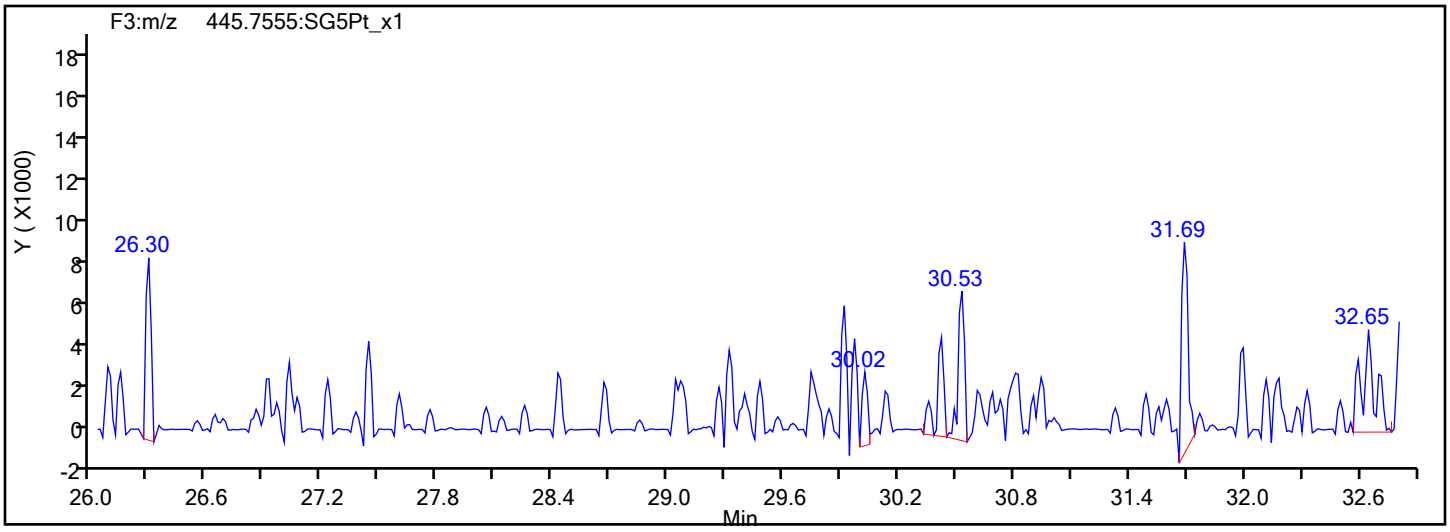

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Eurofins TestAmerica, Sacramento

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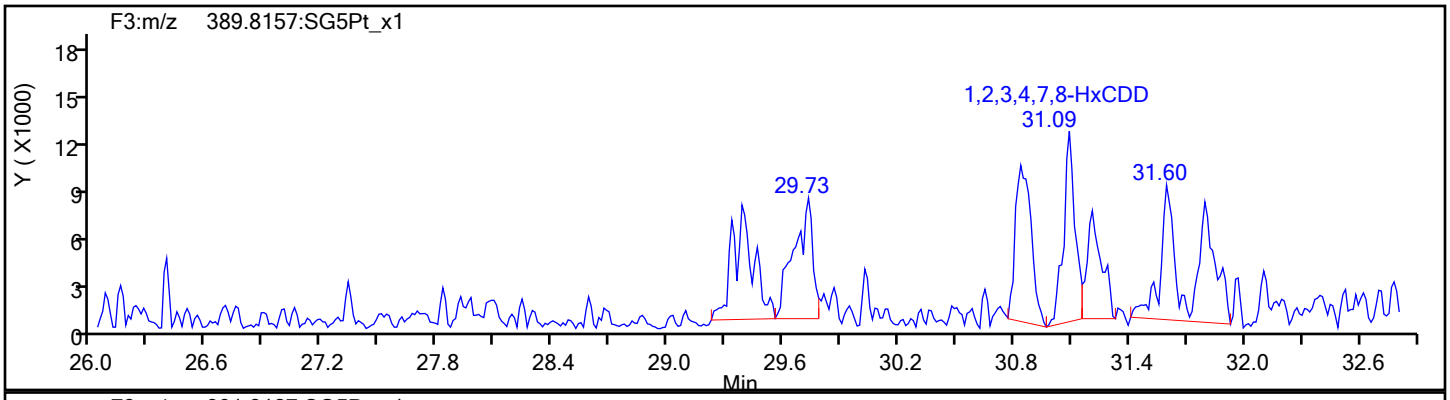

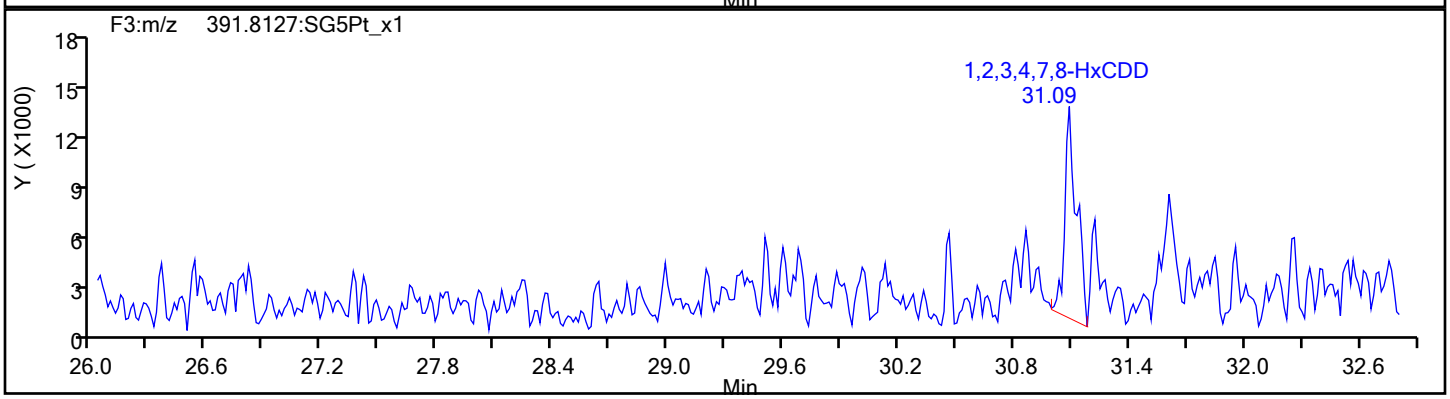

HxCDD Standards

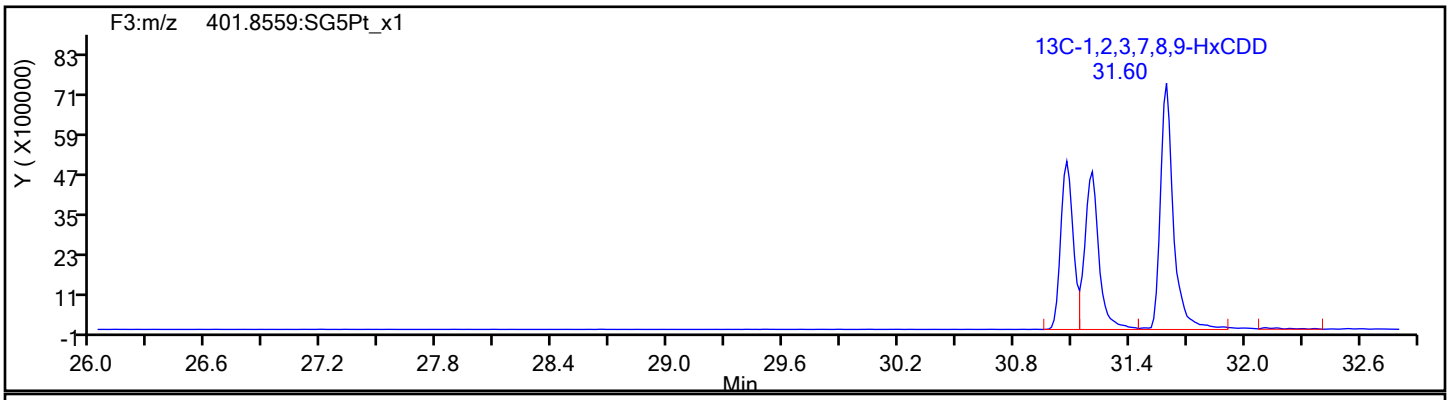

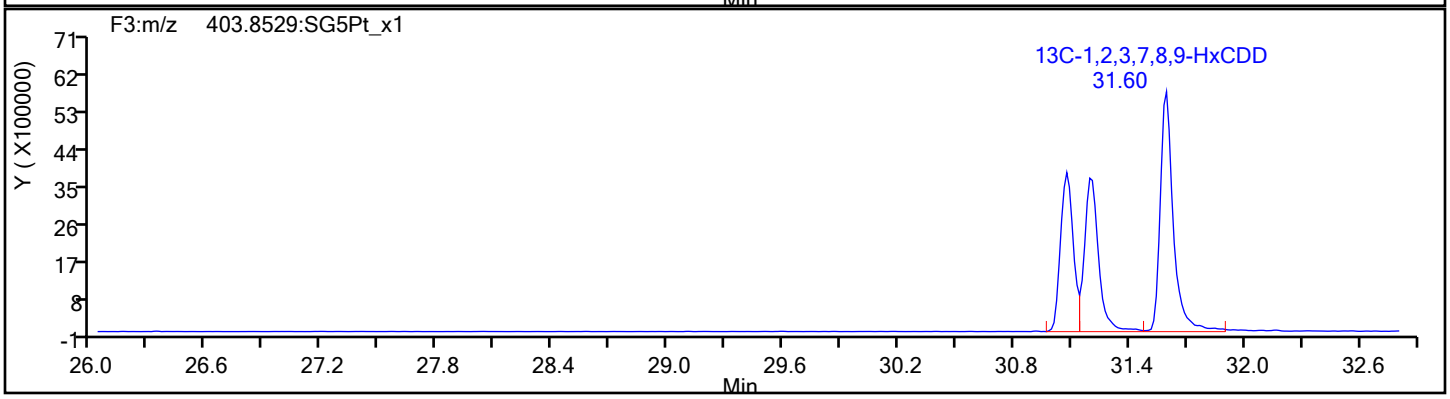

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Eurofins TestAmerica, Sacramento

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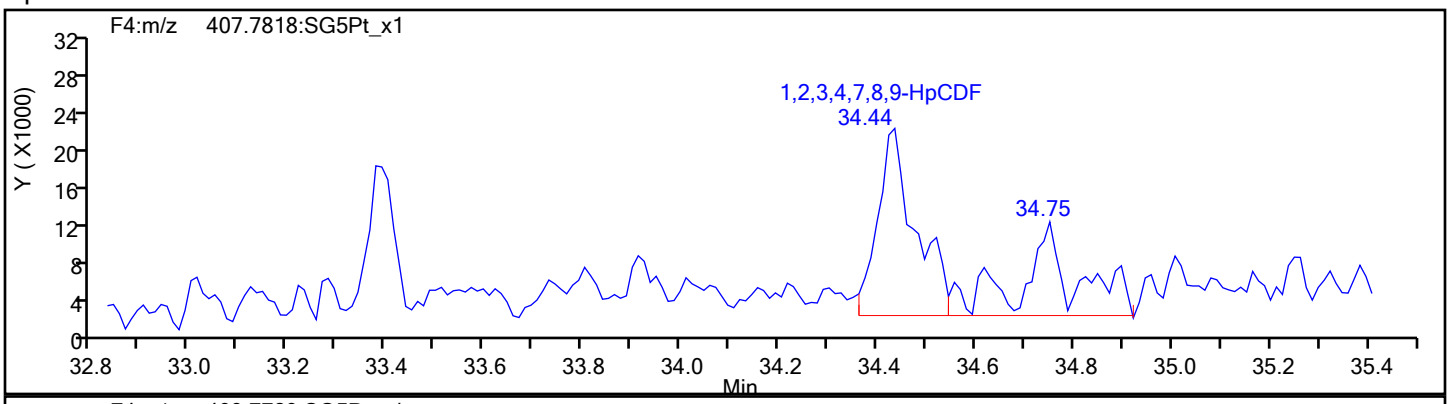

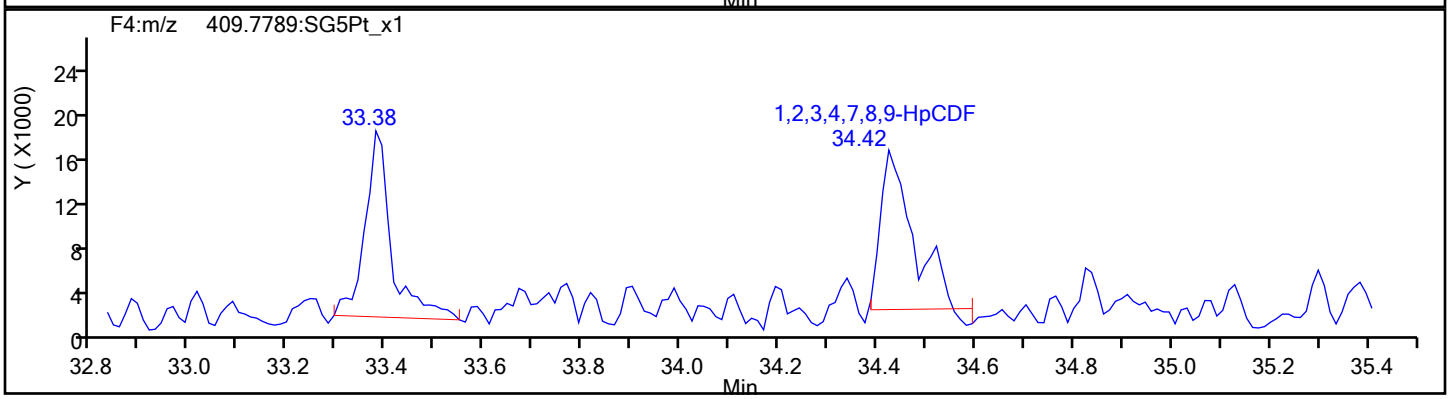

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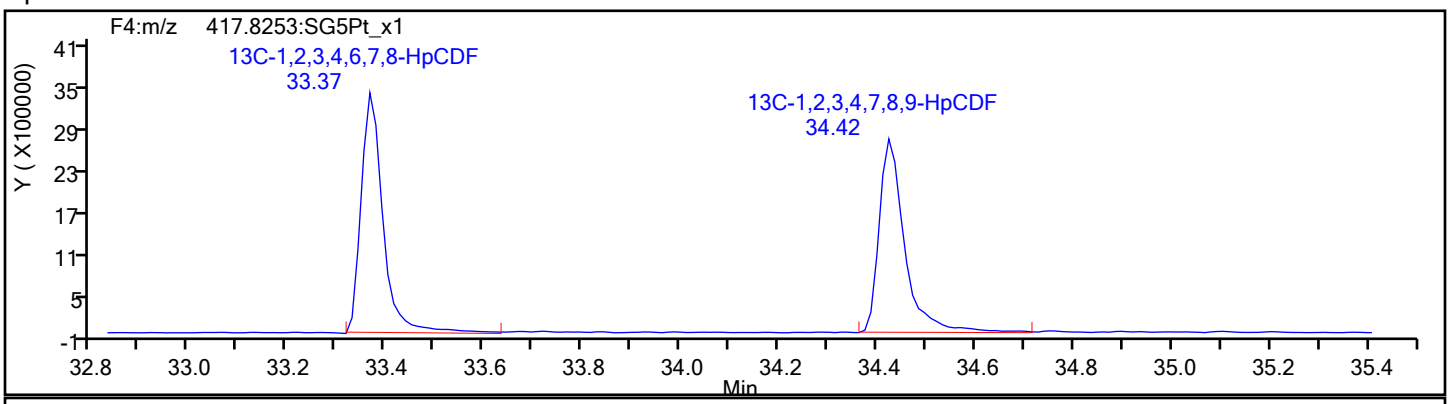

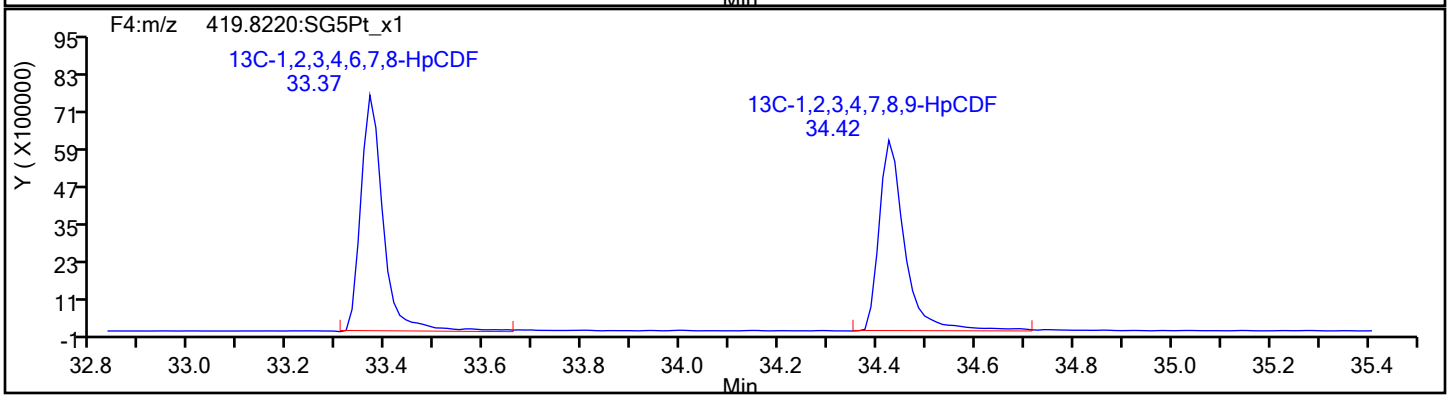

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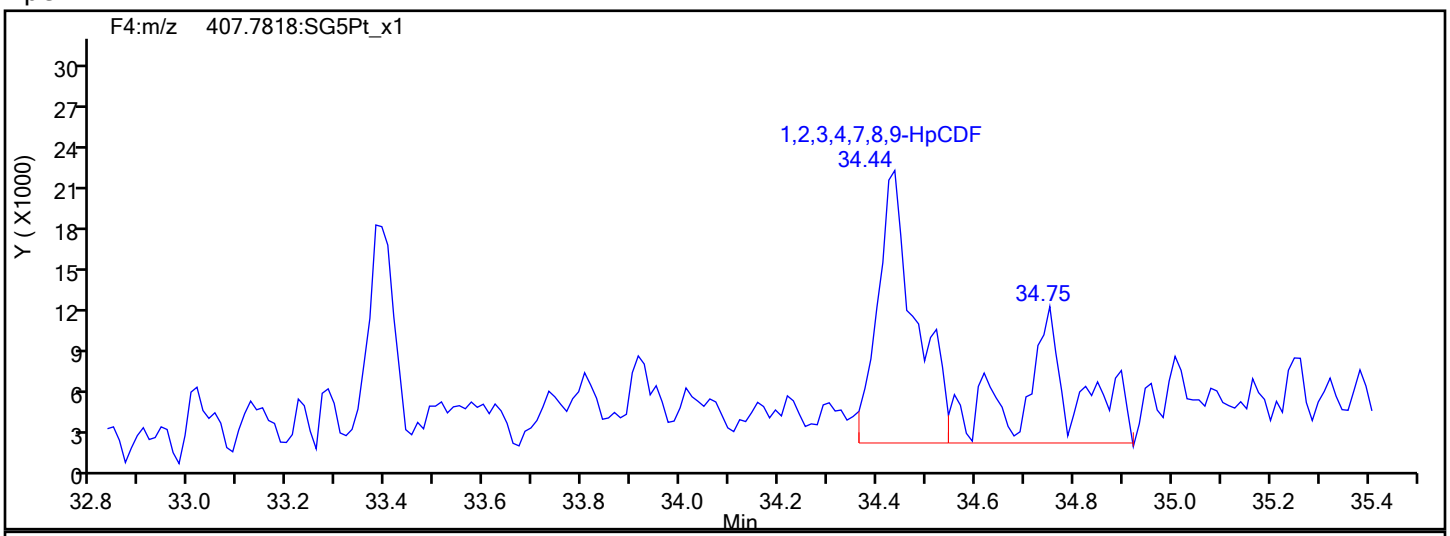

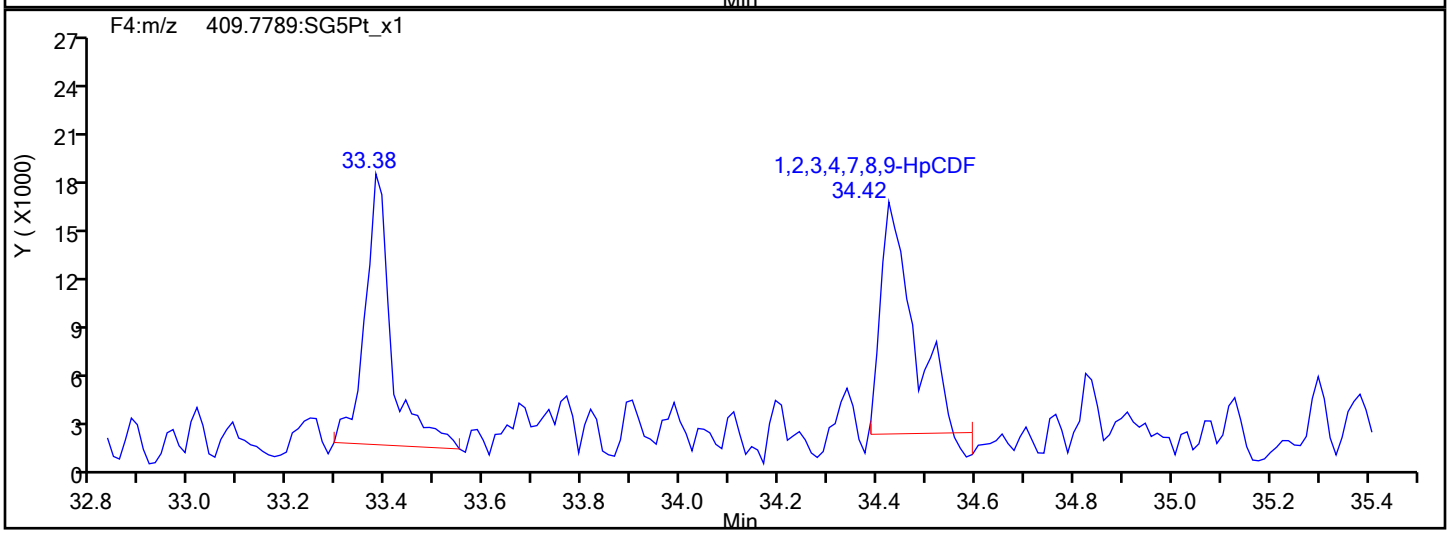

HpCDF Interference Mass

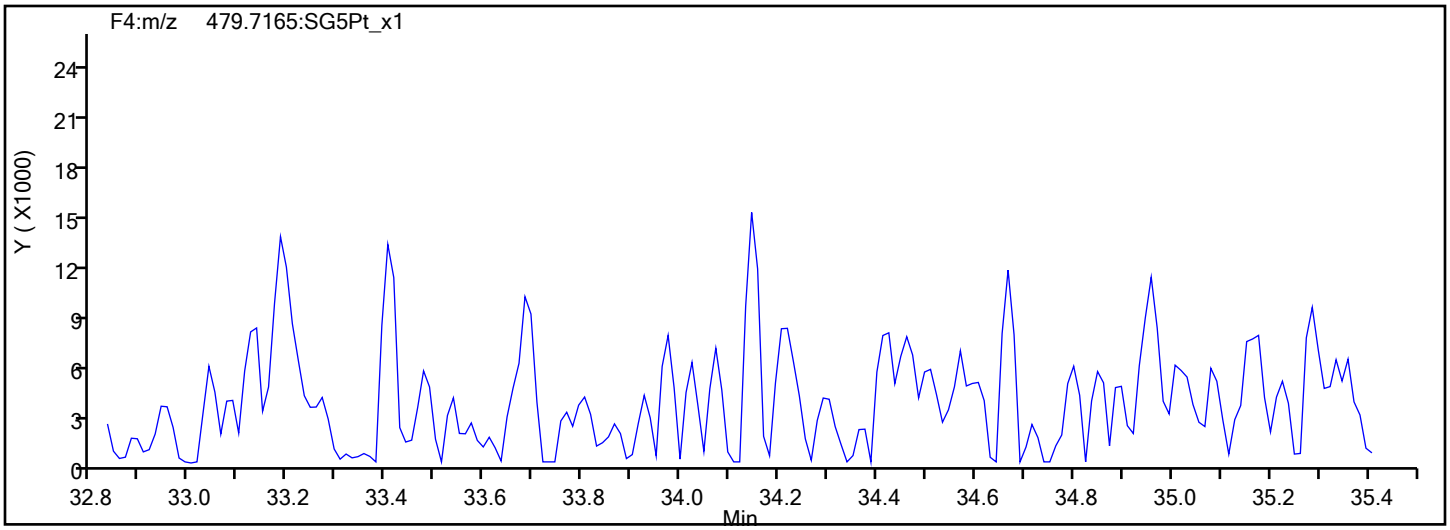

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Eurofins TestAmerica, Sacramento

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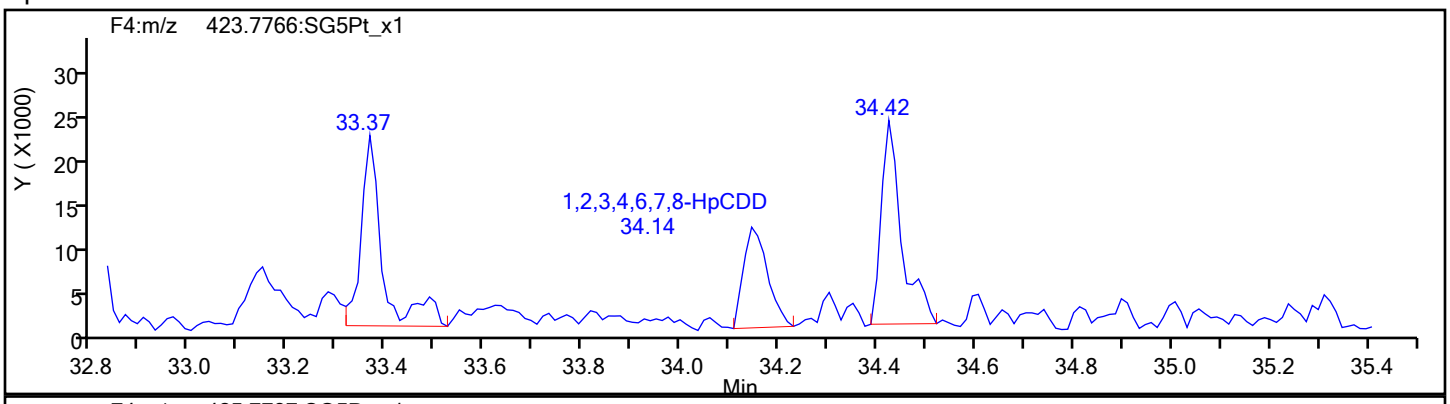

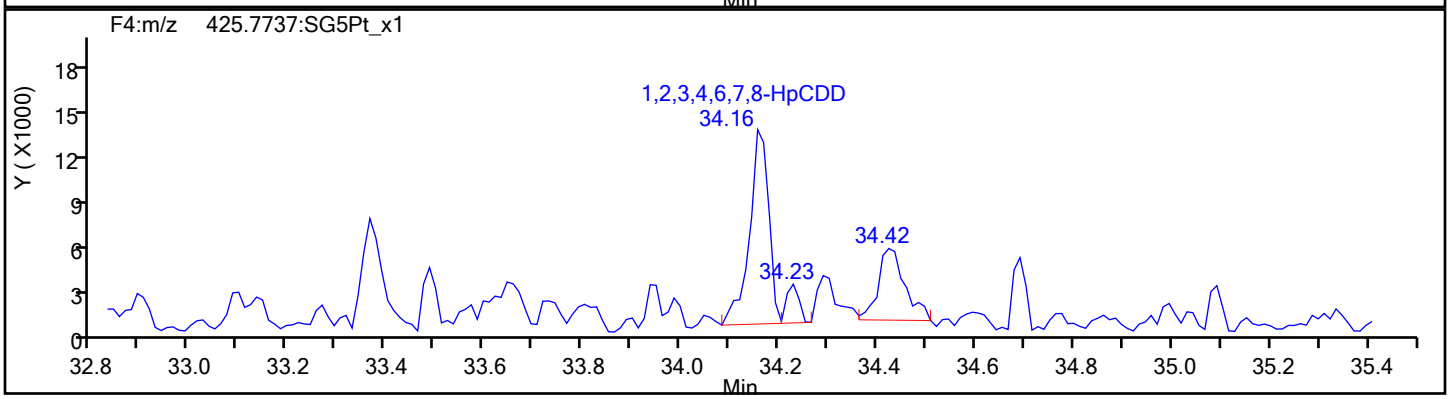

HpCDD Standards

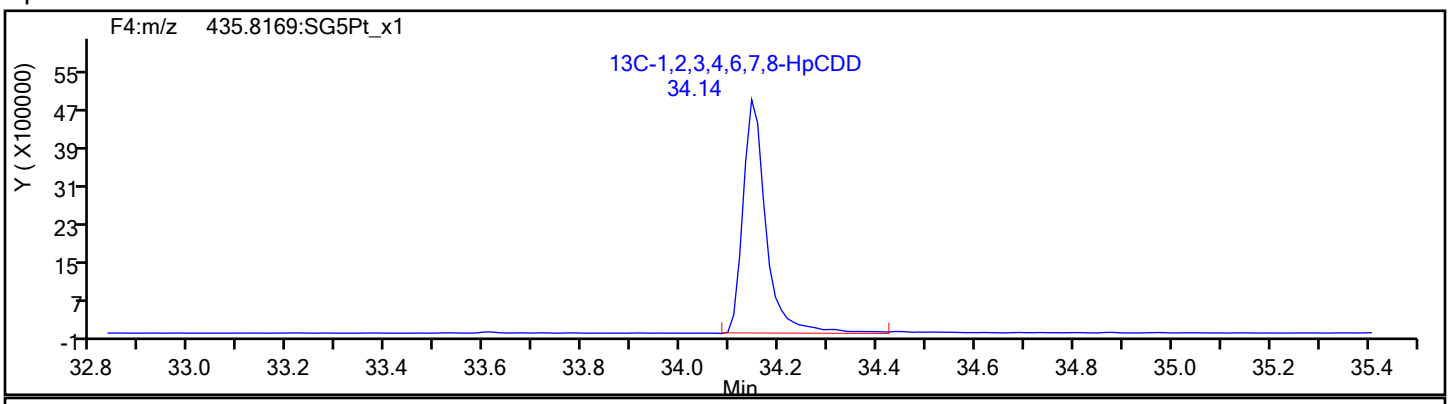

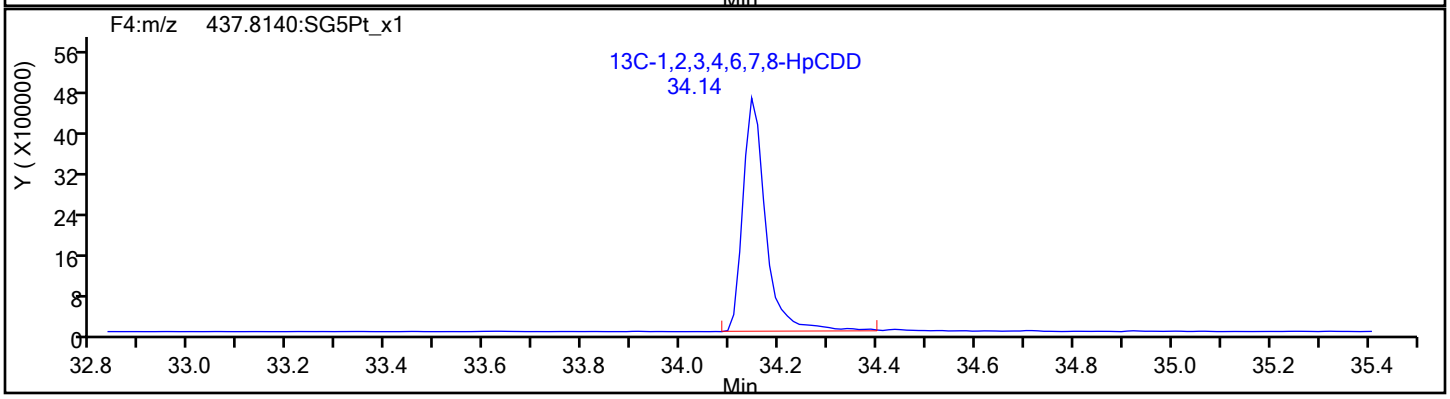

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Eurofins TestAmerica, Sacramento

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OCDF

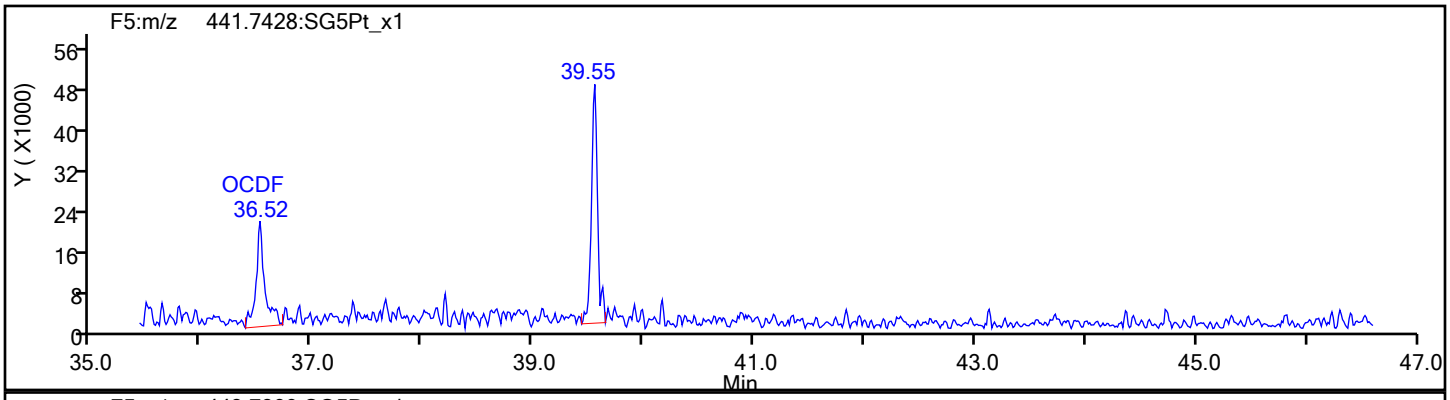

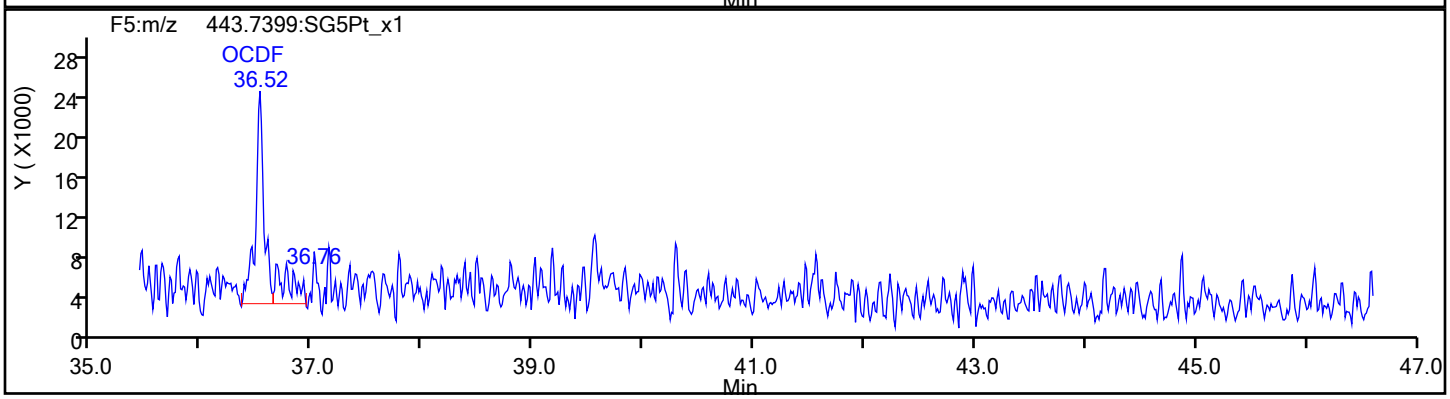

OCDF Standards

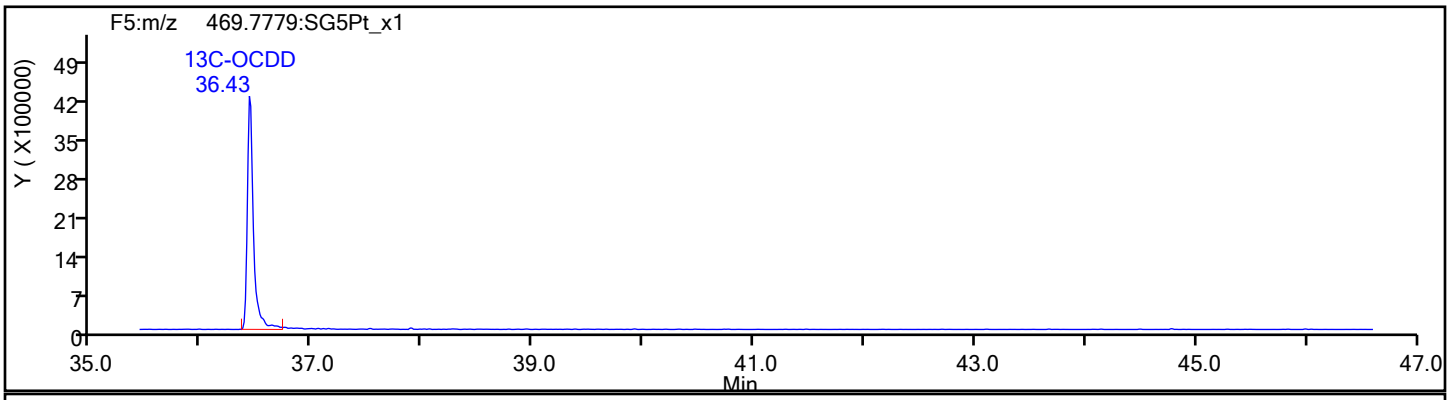

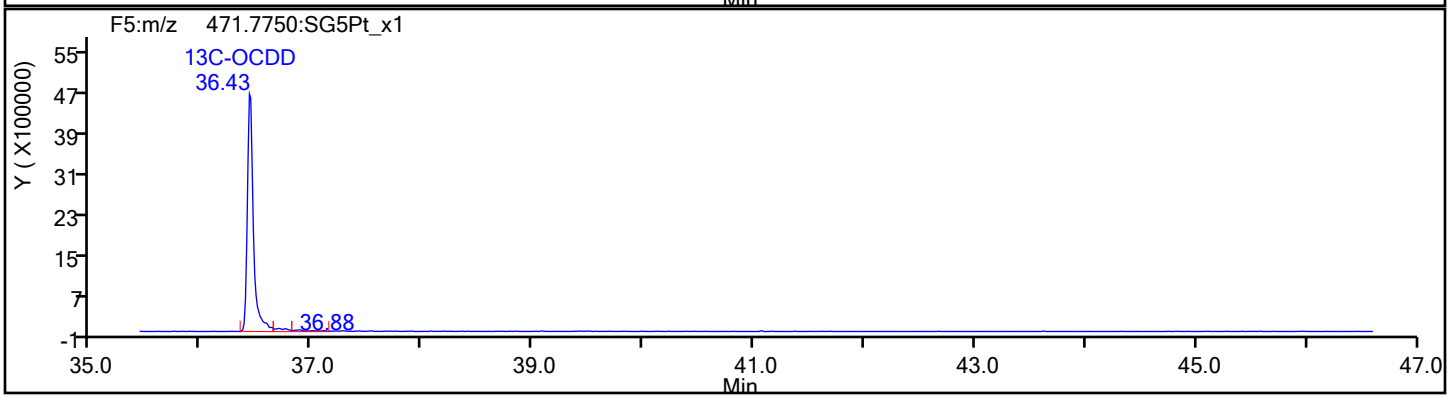

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Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

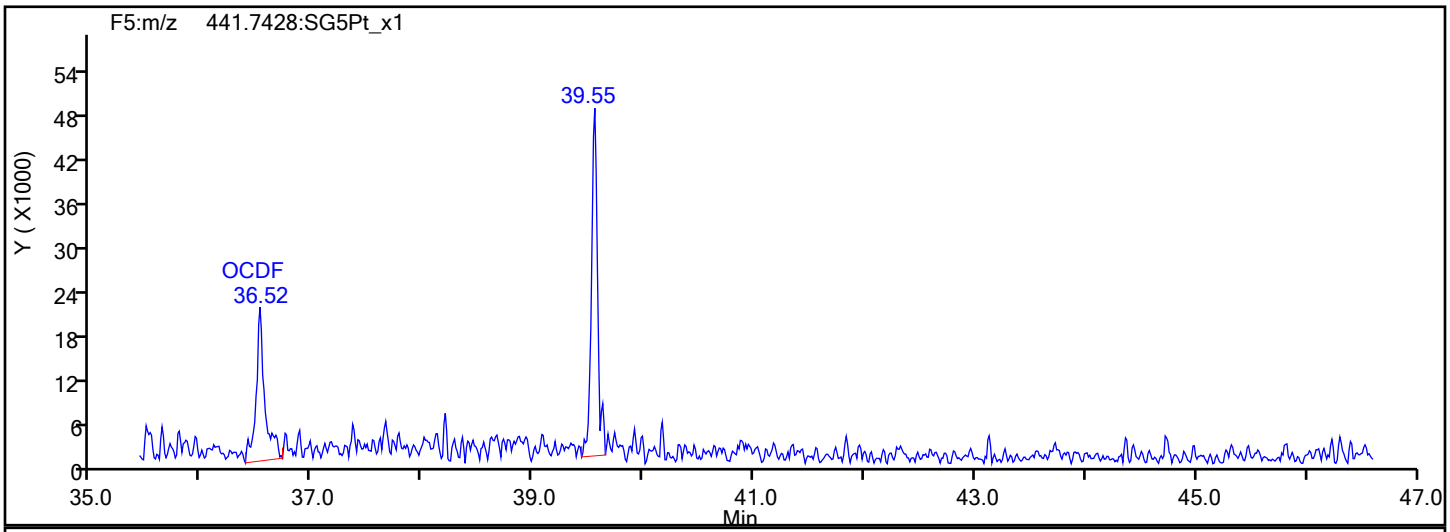

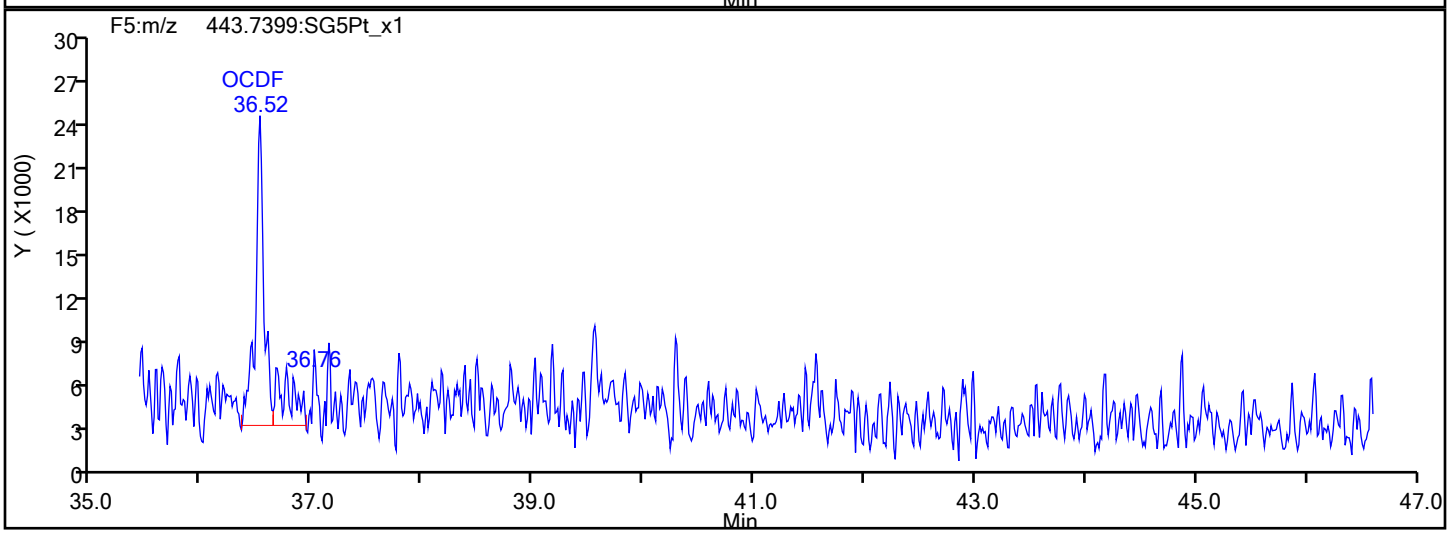

OCDF Interference Mass

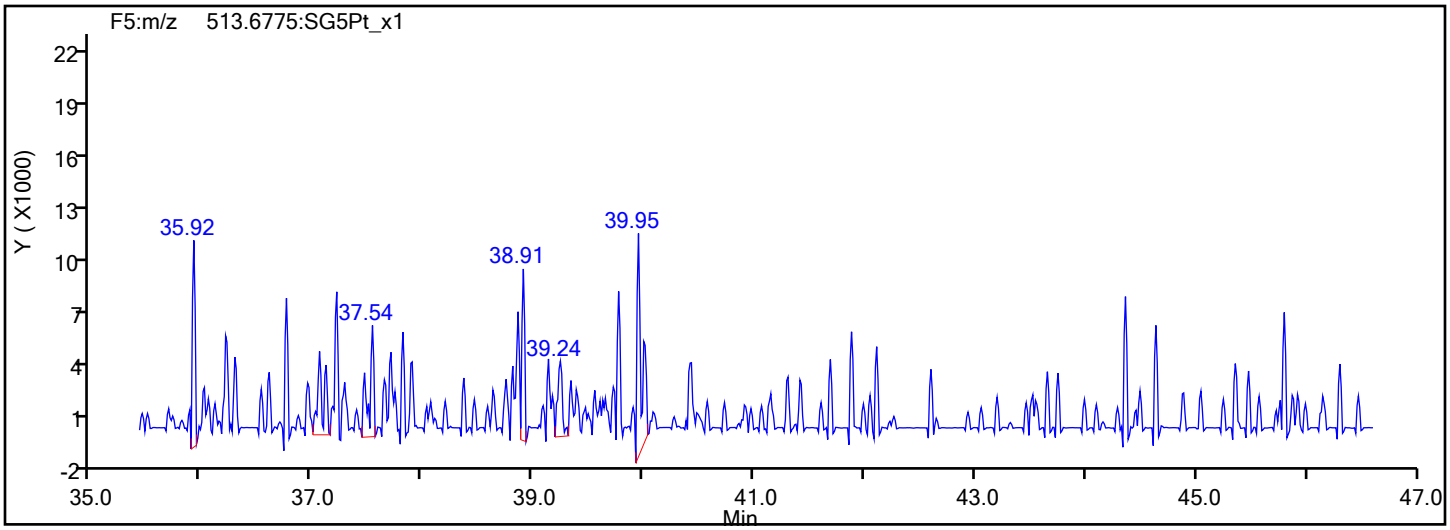

Report Date: 08-Jan-2020 09:05:33 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_7.d		
Injection Date:	07-Jan-2020 02:35:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-N.TREATMENT AREA #2		
Worklist#:	349283	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

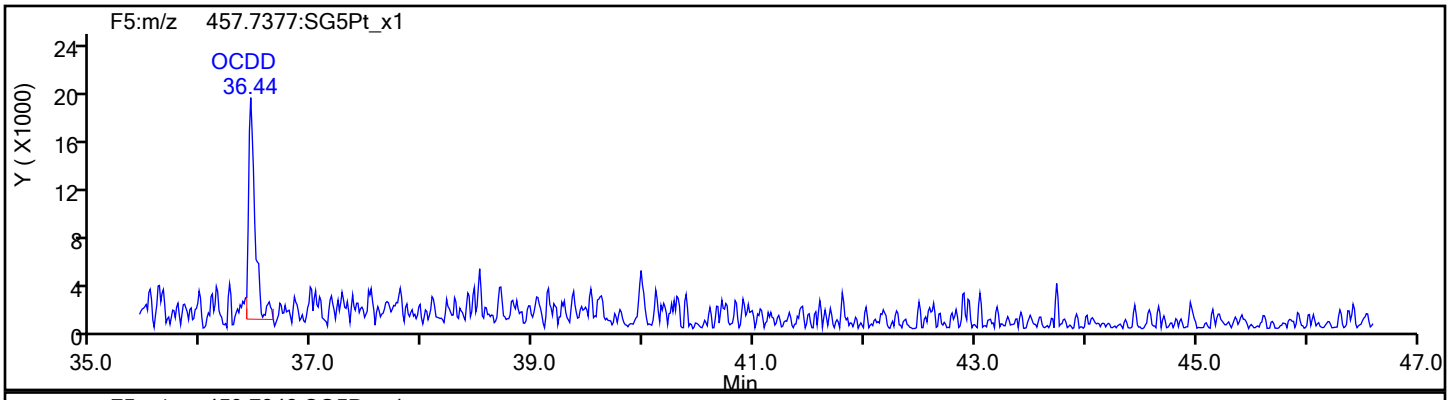

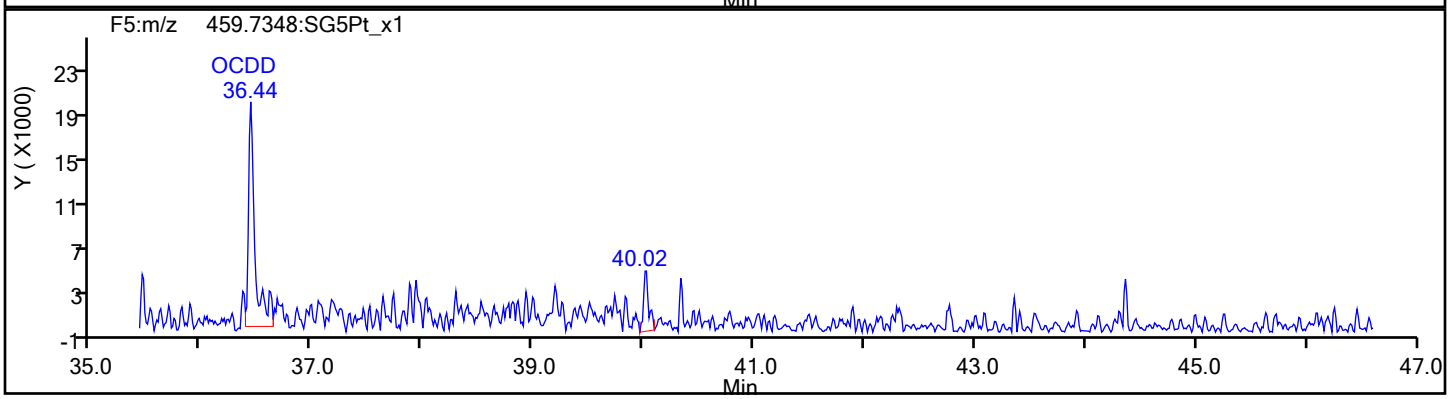

OCDD Standards

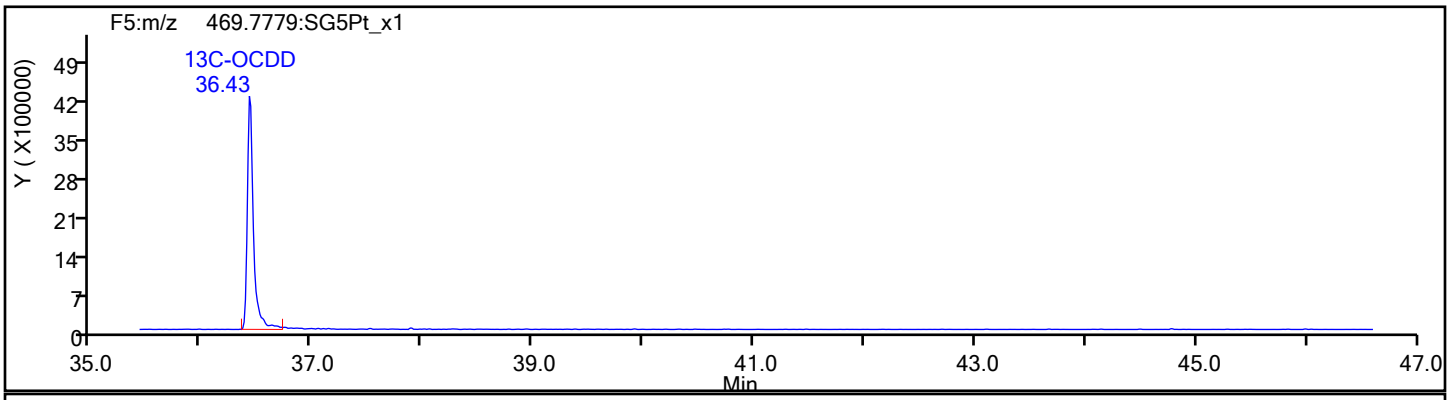

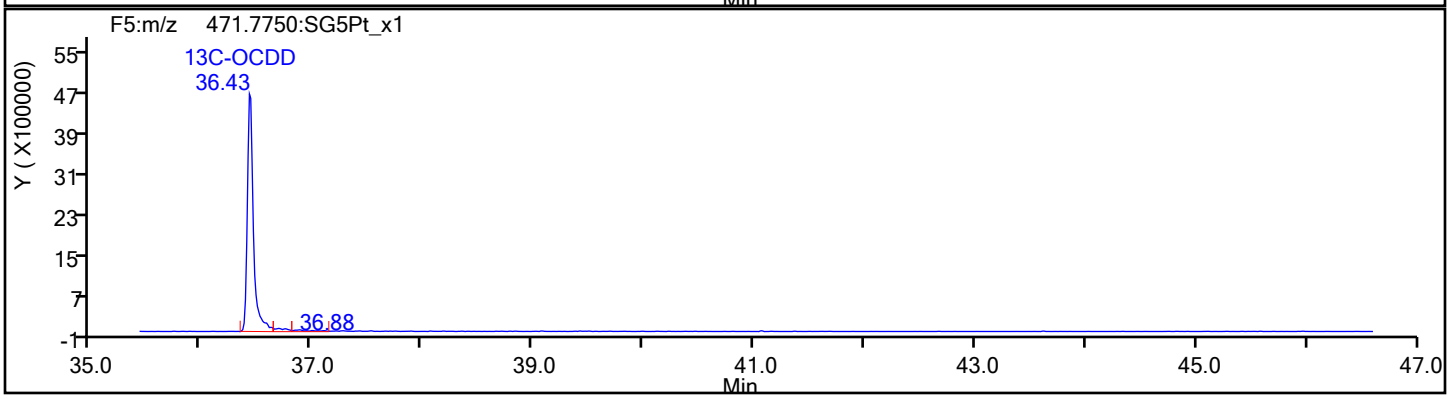

Report Date: 08-Jan-2020 09:05:33 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_7.d		
Injection Date:	07-Jan-2020 02:35:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-N.TREATMENT AREA #2		
Worklist#:	349283	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

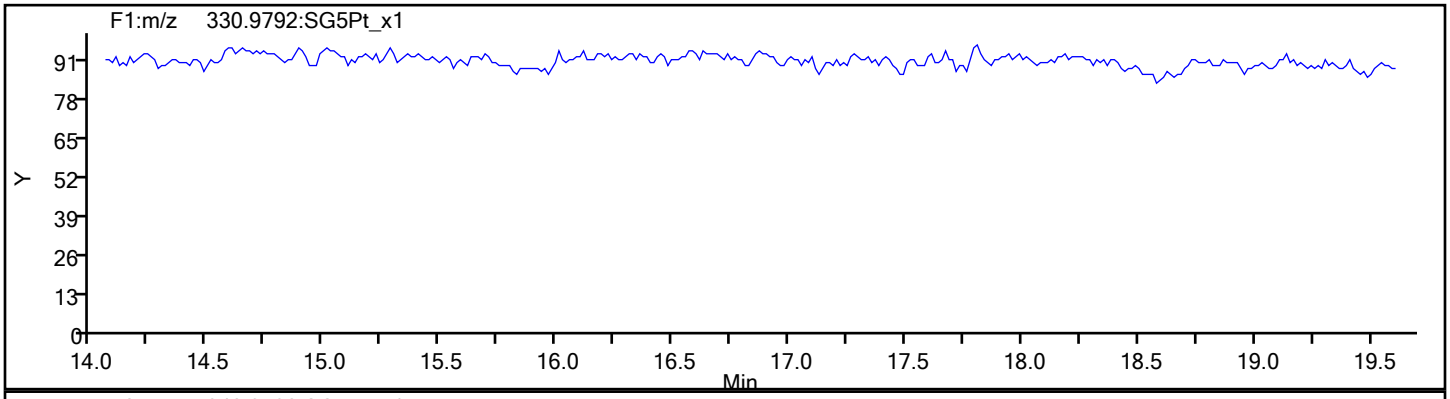

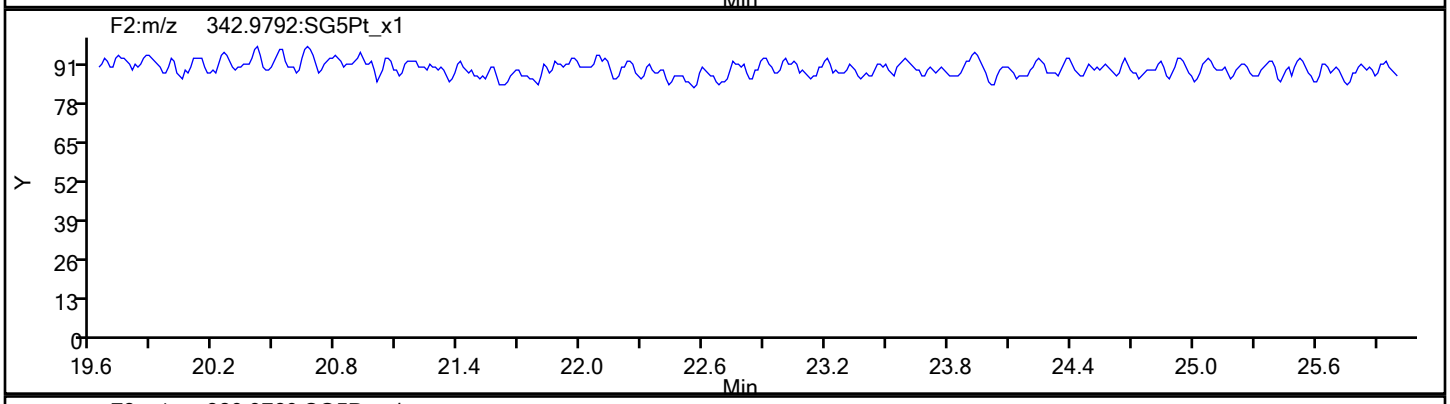

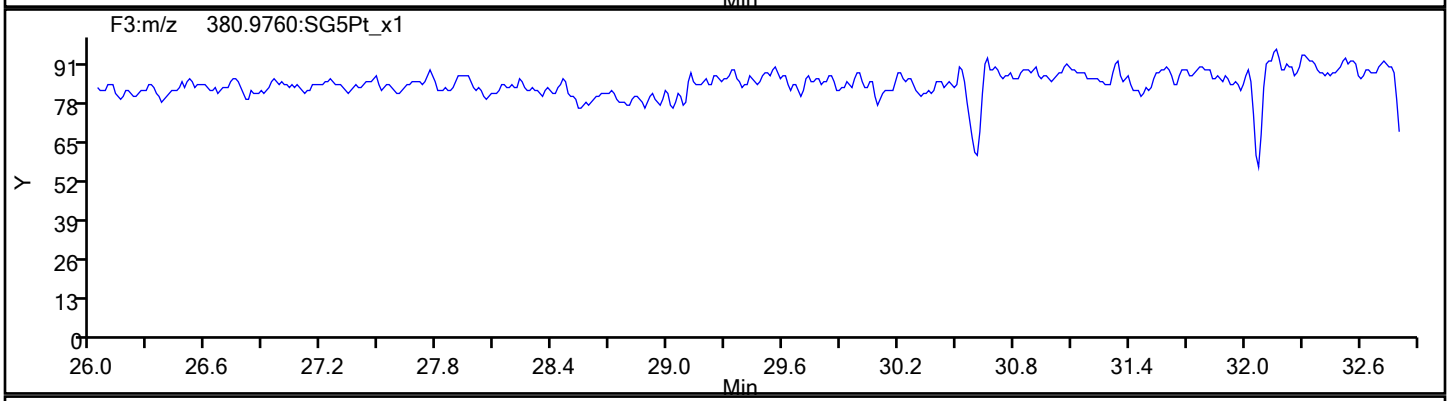

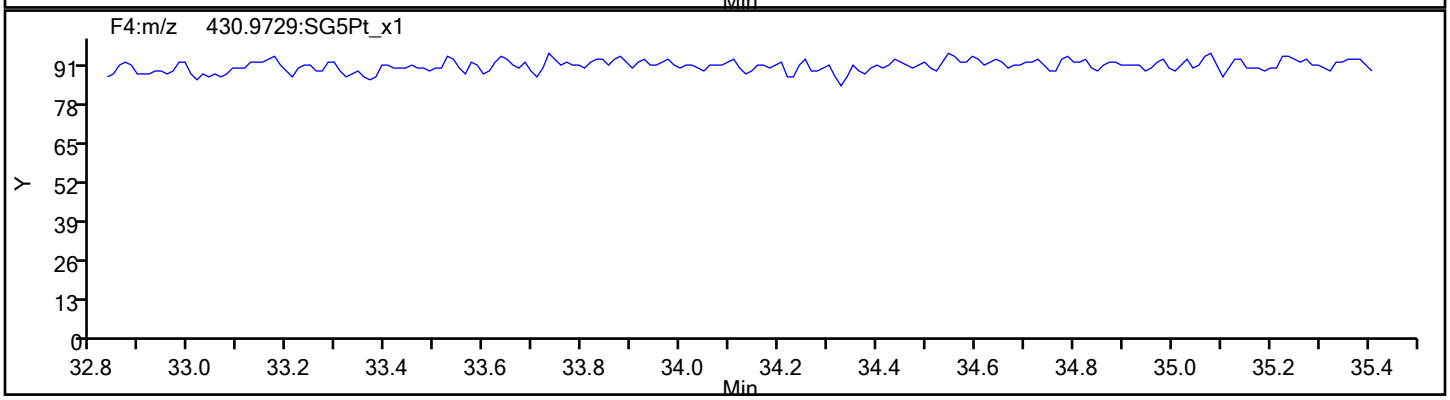

Report Date: 08-Jan-2020 09:05:33 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_7.d		
Injection Date:	07-Jan-2020 02:35:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-N.TREATMENT AREA #2		
Worklist#:	349283	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

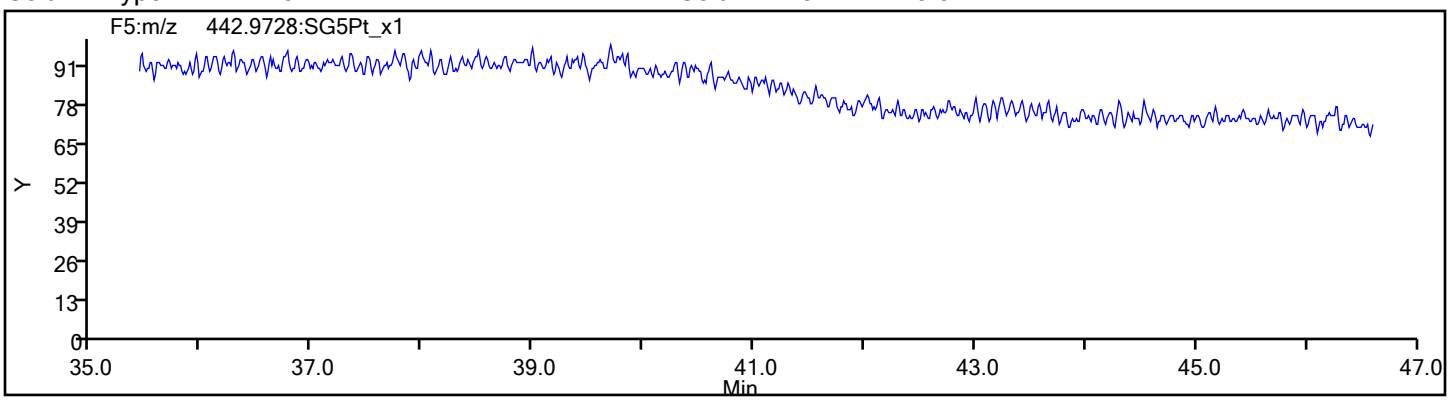

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 180-100205-1
SDG No.:
Client Sample ID: 11187072-N.TREATMENT AREA #3
Lab Sample ID: 180-100205-3
Matrix: Solid (TCLP)
Lab File ID: 06JA20A3D5_8.d
Analysis Method: 1613B
Date Collected: 12/18/2019 14:00
Extract. Method: HRMS-Sep
Date Extracted: 12/31/2019 11:06
Sample wt/vol: 200.56(g)
Date Analyzed: 01/07/2020 03:23
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 349283
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		50	12
51207-31-9	2,3,7,8-TCDF	ND		50	6.5
40321-76-4	1,2,3,7,8-PeCDD	ND		250	20
57117-41-6	1,2,3,7,8-PeCDF	ND		250	8.4
57117-31-4	2,3,4,7,8-PeCDF	ND		250	9.2
39227-28-6	1,2,3,4,7,8-HxCDD	ND		250	8.7
57653-85-7	1,2,3,6,7,8-HxCDD	ND		250	9.2
19408-74-3	1,2,3,7,8,9-HxCDD	ND		250	7.9
70648-26-9	1,2,3,4,7,8-HxCDF	ND		250	12
57117-44-9	1,2,3,6,7,8-HxCDF	ND		250	11
72918-21-9	1,2,3,7,8,9-HxCDF	ND		250	7.3
60851-34-5	2,3,4,6,7,8-HxCDF	ND		250	7.5
35822-46-9	1,2,3,4,6,7,8-HpCDD	ND		250	7.5
67562-39-4	1,2,3,4,6,7,8-HpCDF	ND		250	8.5
55673-89-7	1,2,3,4,7,8,9-HpCDF	ND		250	12
3268-87-9	OCDD	ND		500	11
39001-02-0	OCDF	ND		500	19
41903-57-5	Total TCDD	ND		50	12
30402-14-3	Total TCDF	ND		50	6.5
36088-22-9	Total PeCDD	ND		250	20
30402-15-4	Total PeCDF	ND		250	9.2
34465-46-8	Total HxCDD	ND		250	9.2
55684-94-1	Total HxCDF	ND		250	12
37871-00-4	Total HpCDD	ND		250	7.5
38998-75-3	Total HpCDF	ND		250	12

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 180-100205-1
SDG No.:
Client Sample ID: 11187072-N.TREATMENT AREA #3
Lab Sample ID: 180-100205-3
Matrix: Solid (TCLP)
Lab File ID: 06JA20A3D5_8.d
Analysis Method: 1613B
Date Collected: 12/18/2019 14:00
Extract. Method: HRMS-Sep
Date Extracted: 12/31/2019 11:06
Sample wt/vol: 200.56(g)
Date Analyzed: 01/07/2020 03:23
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 349283
Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	75		25-164
89059-46-1	13C-2,3,7,8-TCDF	78		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	67		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	71		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	77		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	80		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	76		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	75		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	75		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	70		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	71		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	69		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	74		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	76		26-138
114423-97-1	13C-OCDD	56		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	117		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_8.d
Lims ID: 180-100205-C-3-B
Client ID: 11187072-N.TREATMENT AREA #3
Sample Type: Client
Inject. Date: 07-Jan-2020 03:23:02 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-100205-C-3-B 180-100205-C-3-B
Misc. Info.: 06JA20A3D5
Operator ID: ALM Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 08-Jan-2020 09:05:31 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0314

First Level Reviewer: dadunj Date: 08-Jan-2020 09:07:22

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.143	63788758	0.80	2.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.674	70468872	0.75	1.4157	78.0	78.0	0.4158	0.4158	78.03	
2,3,7,8-TCDF	16.674						0.0650	0.0650		
A Non-2,3,7,8-sub-TCDF	16.387						0.0650	0.0650		
S Total TCDF							0.0650	0.0650		
D 13C-2,3,7,8-TCDD	17.340	46953788	0.79	0.9751	75.5	75.5	0.3063	0.3063	75.49	
2,3,7,8-TCDD	17.340						0.1232	0.1232		
$ 37Cl4-2,3,7,8-TCDD	17.355	40143026		1.3480	46.7	46.7	0.1338	0.1338	117	
A Non-2,3,7,8-sub-TCDD	16.818						0.1232	0.1232		
S Total TCDD							0.1232	0.1232		
D 13C-1,2,3,7,8-PeCDF	21.394	53070416	1.60	1.1786	70.6	70.6	0.2455	0.2455	70.59	
1,2,3,7,8-PeCDF	21.408						0.0839	0.0839		
D 13C-2,3,4,7,8-PeCDF	22.662	55623758	1.58	1.1308	77.1	77.1	0.2559	0.2559	77.12	
2,3,4,7,8-PeCDF	22.662						0.0922	0.0922		
A F1 PeCDFs	19.117						0.0838	0.0838		
A Non-2,3,7,8-sub-PeCDF	22.077						0.0878	0.0878		
S Total PeCDF							0.0922	0.0922		
D 13C-1,2,3,7,8-PeCDD	23.330	32177330	1.59	0.7572	66.6	66.6	0.2094	0.2094	66.62	
1,2,3,7,8-PeCDD	23.344						0.2025	0.2025		
A Non-2,3,7,8-sub-PeCDD	22.301						0.2025	0.2025		
S Total PeCDD							0.2025	0.2025		
D 13C-1,2,3,4,7,8-HxCDF	29.385	48459998	0.51	1.1043	75.1	75.1	0.8974	0.8974	75.12	
1,2,3,4,7,8-HxCDF	29.399						0.1219	0.1219		
D 13C-1,2,3,6,7,8-HxCDF	29.692	50335007	0.51	1.1470	75.1	75.1	0.8640	0.8640	75.11	
1,2,3,6,7,8-HxCDF	29.692						0.1118	0.1118		
D 13C-2,3,4,6,7,8-HxCDF	30.837	44616582	0.51	1.0769	70.9	70.9	0.9202	0.9202	70.92	
2,3,4,6,7,8-HxCDF	30.837						0.0752	0.0752		
D 13C-1,2,3,7,8,9-HxCDF	31.795	41569137	0.52	1.0115	70.3	70.3	0.9797	0.9797	70.34	
1,2,3,7,8,9-HxCDF	31.795						0.0730	0.0730		
A Non-2,3,7,8-sub-HxCDF	29.272						0.0909	0.0909		
S Total HxCDF							0.1219	0.1219		

Report Date: 08-Jan-2020 09:07:23 Chrom Revision: 2.3 23-Dec-2019 10:12:06
Data File: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_8.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.583	58421665	1.29	2.1E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.063	37250087	1.33	0.7962	80.1	80.1	0.3803	0.3803	80.08	
1,2,3,4,7,8-HxCDD	31.063						0.0874	0.0874		
D 13C-1,2,3,6,7,8-HxCDD	31.196	38902370	1.30	0.8720	76.4	76.4	0.3472	0.3472	76.36	
1,2,3,6,7,8-HxCDD	31.196						0.0925	0.0925		
1,2,3,7,8,9-HxCDD	31.583						0.0795	0.0795		
A Non-2,3,7,8-sub-HxCDD	29.885						0.0862	0.0862		
S Total HxCDD							0.0925	0.0925		
D 13C-1,2,3,4,6,7,8-HpCDF	33.367	32799024	0.44	0.7577	74.1	74.1	0.9570	0.9570	74.10	
1,2,3,4,6,7,8-HpCDF	33.367						0.0854	0.0854		
D 13C-1,2,3,4,7,8,9-HpCDF	34.424	31021650	0.43	0.6941	76.5	76.5	1.045	1.045	76.50	
1,2,3,4,7,8,9-HpCDF	34.424						0.1181	0.1181		
A Non-2,3,7,8-sub-HpCDF	33.907						0.0997	0.0997		
S Total HpCDF							0.1181	0.1181		
D 13C-1,2,3,4,6,7,8-HpCDD	34.144	28538871	1.07	0.7058	69.2	69.2	0.4867	0.4867	69.21	
1,2,3,4,6,7,8-HpCDD	34.144						0.0751	0.0751		
A Non-2,3,7,8-sub-HpCDD	33.883						0.0751	0.0751		
S Total HpCDD							0.0751	0.0751		
D 13C-OCDD	36.427	30254267	0.91	0.4603	112.5	112.5	0.3635	0.3635	56.26	
OCDF	36.511						0.1914	0.1914		
OCDD	36.427						0.1107	0.1107		

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_8.d
Lims ID: 180-100205-C-3-B
Client ID: 11187072-N.TREATMENT AREA #3
Sample Type: Client
Inject. Date: 07-Jan-2020 03:23:02 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-100205-C-3-B 180-100205-C-3-B
Misc. Info.: 06JA20A3D5
Operator ID: ALM Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 08-Jan-2020 09:05:31 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0314

First Level Reviewer: dadunj Date: 08-Jan-2020 09:07:22

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.143	17.128	1		28376106	7135823	11828	29570	603		
333.9339	17.143	17.128	1		35412652	9171490	7655	19137	1198	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.674	16.659	1	0.973	30211415	7746250	15340	38350	505		
317.9389	16.674	16.659	1	0.973	40257457	10156796	23054	57635	441	0.75(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.674						1767	4417			
305.8987	16.674						2658	6645			
A Non-2,3,7,8-sub-TCDF											
303.9016	16.387						1767	4417			
305.8987	16.387						2658	6645			
13C-2,3,7,8-TCDD											
331.9368	17.340	17.324	1	1.011	20711649	4851171	11828	29570	410		
333.9339	17.324	17.324	0	1.011	26242139	6071207	7655	19137	793	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.340						3149	7872			
321.8936	17.340						2490	6225			
37Cl4-2,3,7,8-TCDD											
327.8847	17.355	17.340	1	1.012	40143026	9616403	11765	29412	817		
A Non-2,3,7,8-sub-TCDD											
319.8965	16.818						3149	7872			
321.8936	16.818						2490	6225			
13C-1,2,3,7,8-PeCDF											
351.9000	21.394	21.381	1	1.248	32687162	6058806	10179	25447	595		
353.8970	21.394	21.381	1	1.248	20383254	3673049	8697	21742	422	1.60(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	21.408						1248	3120			
341.8567	21.408						2118	5295			
13C-2,3,4,7,8-PeCDF											
351.9000	22.662	22.635	2	1.322	34101478	5367087	10179	25447	527		
353.8970	22.649	22.635	1	1.321	21522280	3404766	8697	21742	391	1.58(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.662						1248	3120			
341.8567	22.662						2118	5295			
A F1 PeCDFs											
339.8597	19.117						915	2287			
341.8567	19.117						2298	5745			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.077						1248	3120			
341.8567	22.077						2118	5295			
13C-1,2,3,7,8-PeCDD											
367.8949	23.330	23.317	1	1.361	19735379	3134393	6162	15405	509		
369.8919	23.330	23.317	1	1.361	12441951	1956859	4183	10457	468	1.59(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.344						2808	7020			
357.8516	23.344						1669	4172			
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.301						2808	7020			
357.8516	22.301						1669	4172			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.385	29.346	2	0.930	16427546	1729674	33803	84507	51		
385.8610	29.372	29.346	2	0.930	32032452	3578193	15212	38030	235	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.399						1743	4357			
375.8178	29.399						1225	3062			
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.692	29.678	1	0.940	16918543	2010995	33803	84507	59		
385.8610	29.678	29.678	0	0.940	33416464	3783859	15212	38030	249	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	29.692						1743	4357			
375.8178	29.692						1225	3062			
13C-2,3,4,6,7,8-HxCDF											
383.8639	30.837	30.810	2	0.976	15164483	2789974	33803	84507	83		
385.8610	30.837	30.810	2	0.976	29452099	5619801	15212	38030	369	0.51(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	30.837						1743	4357			
375.8178	30.837						1225	3062			
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.795	31.782	1	1.007	14185296	3010047	33803	84507	89		
385.8610	31.795	31.782	1	1.007	27383841	5659810	15212	38030	372	0.52(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	31.795						1743	4357			
375.8178	31.795						1225	3062			
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.272						1743	4357			
375.8178	29.272						1225	3062			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.583	31.569	1		32862014	7024396	7401	18502	949		
403.8529	31.583	31.569	1		25559651	5340748	7575	18937	705	1.29(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.063	31.050	1	0.984	21271264	4489888	7401	18502	607		
403.8529	31.076	31.050	2	0.984	15978823	3464960	7575	18937	457	1.33(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.063						1156	2890			
391.8127	31.063						1885	4712			
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.196	31.183	1	0.988	21998237	4479441	7401	18502	605		
403.8529	31.196	31.183	1	0.988	16904133	3399963	7575	18937	449	1.30(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.196						1156	2890			
391.8127	31.196						1885	4712			
1,2,3,7,8,9-HxCDD											
389.8157	31.583						1156	2890			
391.8127	31.583						1885	4712			
A Non-2,3,7,8-sub-HxCDD											
389.8157	29.885						1156	2890			
391.8127	29.885						1885	4712			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.367	33.354	1	1.056	9958607	3175716	13578	33945	234		
419.8220	33.367	33.354	1	1.056	22840417	7439372	22284	55710	334	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.367						3811	9527			
409.7789	33.367						1556	3890			
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.424	34.412	1	1.090	9345718	2676525	13578	33945	197		
419.8220	34.424	34.412	1	1.090	21675932	6107897	22284	55710	274	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.424						3811	9527			
409.7789	34.424						1556	3890			
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.907						3811	9527			
409.7789	33.907						1556	3890			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.144	34.132	1	1.081	14752040	4473435	9261	23152	483		
437.8140	34.144	34.132	1	1.081	13786831	4128430	7731	19327	534	1.07(0.88-1.20)	

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Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.144						1612	4030			
425.7737	34.144						1112	2780			
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.883						1612	4030			
425.7737	33.883						1112	2780			
13C-OCDD											
469.7779	36.427	36.415	1	1.153	14425837	3698055	4320	10800	856		
471.7750	36.427	36.415	1	1.153	15828430	4061554	3955	9887	1027	0.91(0.76-1.02)	
OCDF											
441.7428	36.511						1424	3560			
443.7399	36.511						2719	6797			
OCDD											
457.7377	36.427						1029	2572			
459.7348	36.427						923	2307			

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Eurofins TestAmerica, Sacramento

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Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-N.TREATMENT AREA #3		
Worklist#:	349283	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

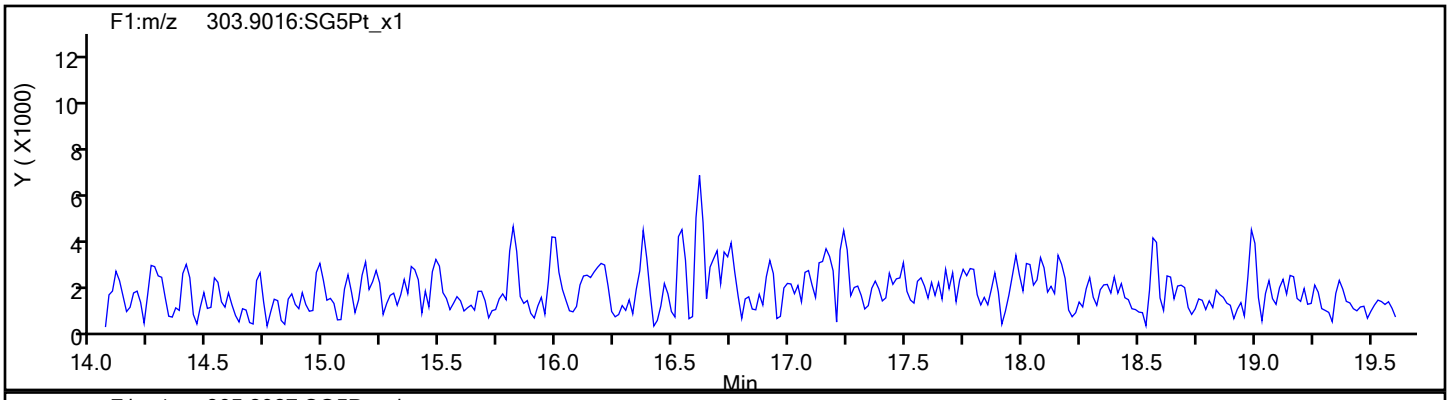

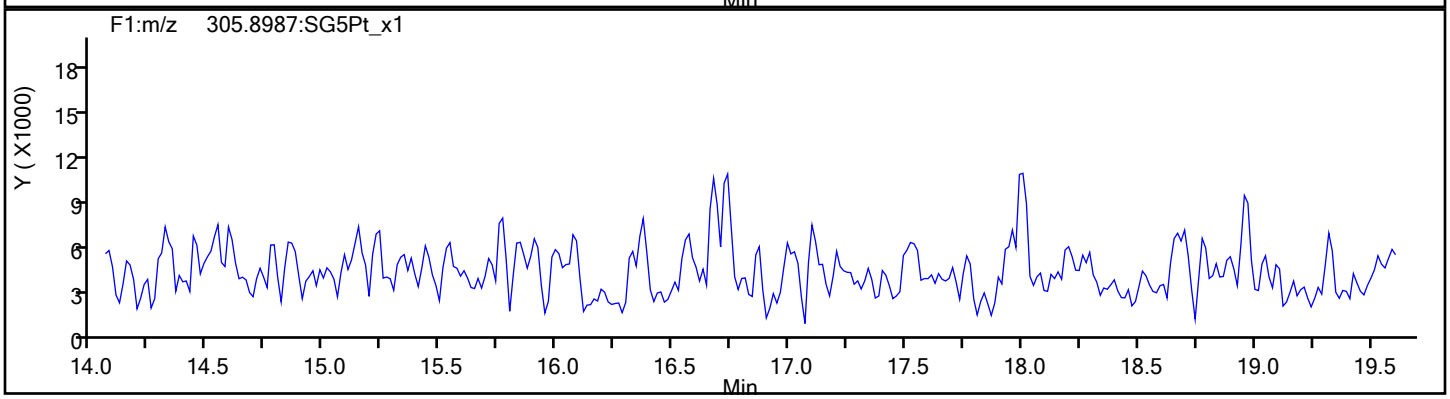

TCDF Standards

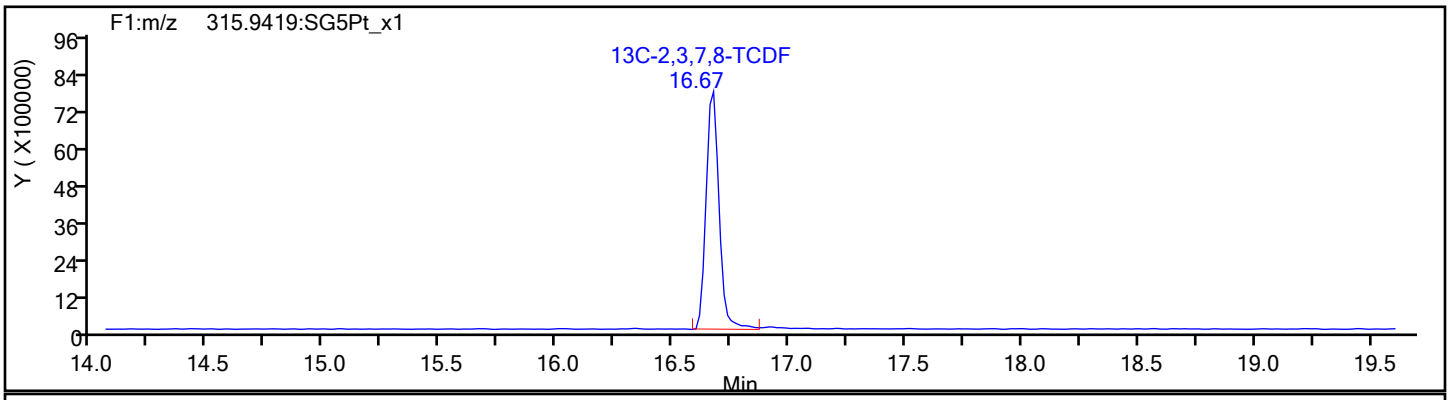

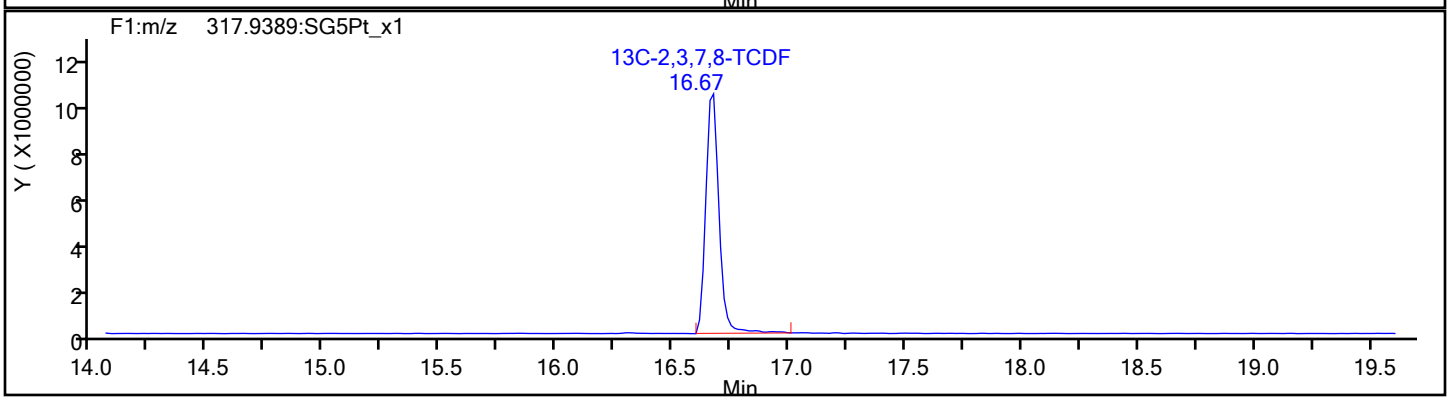

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

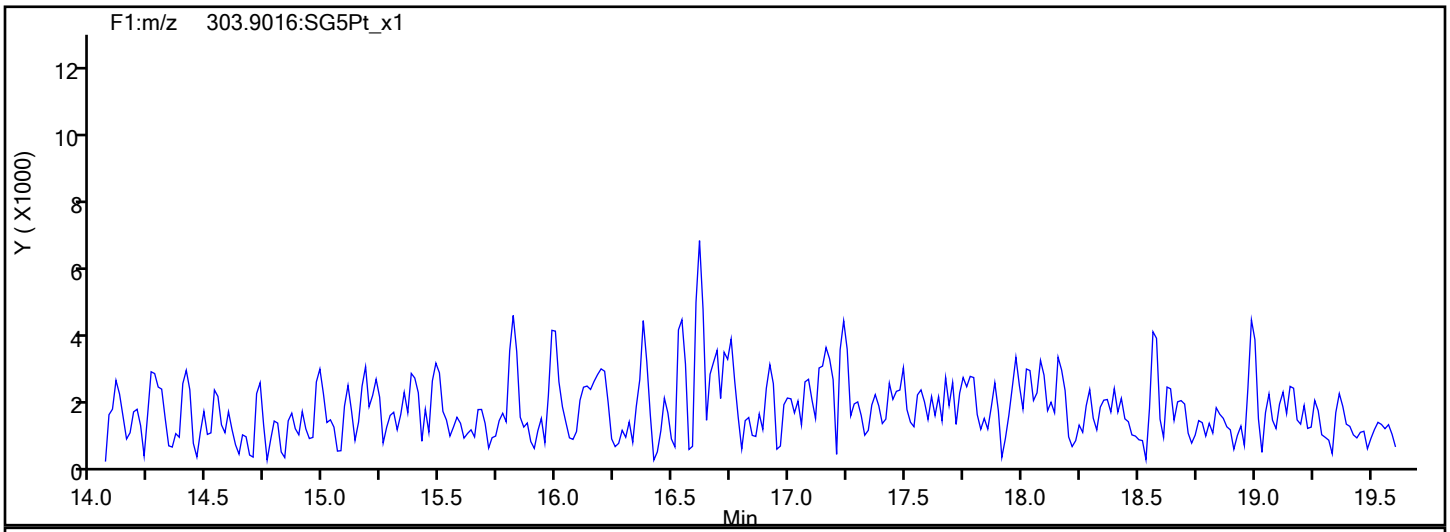

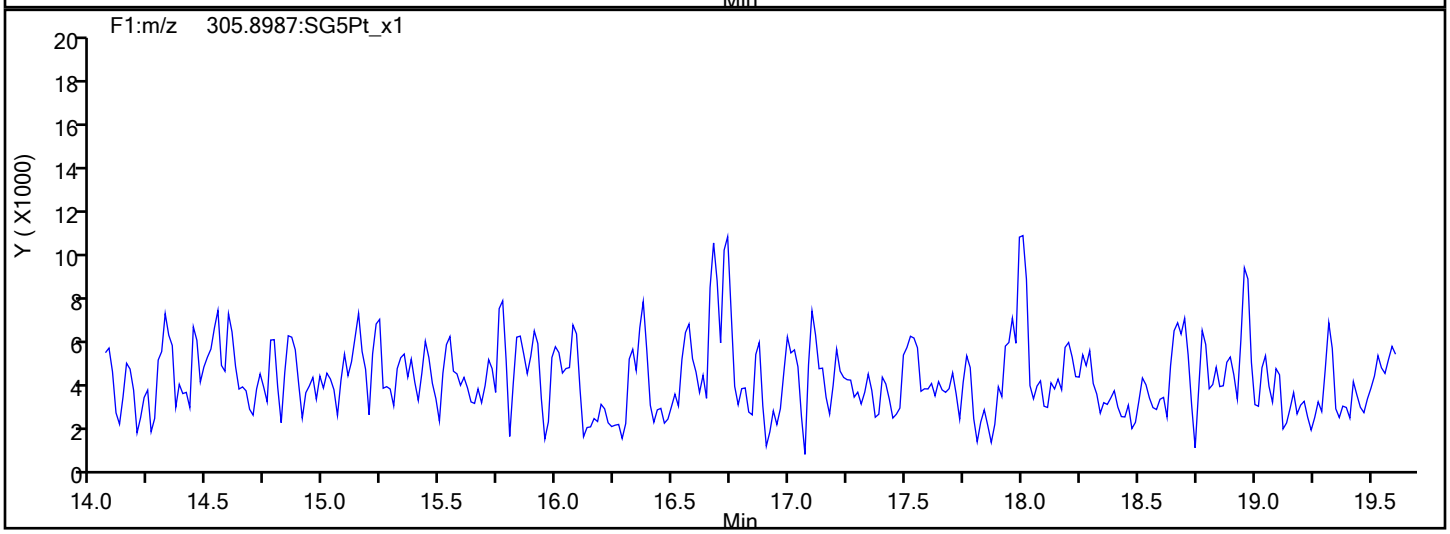

TCDF Interference Mass

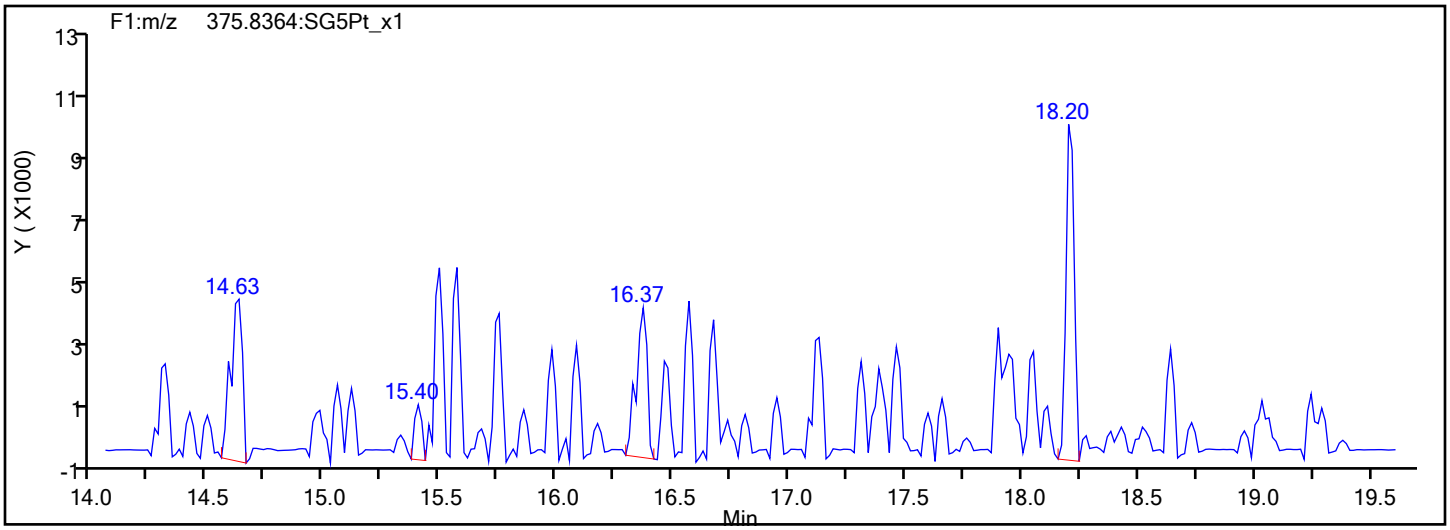

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Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

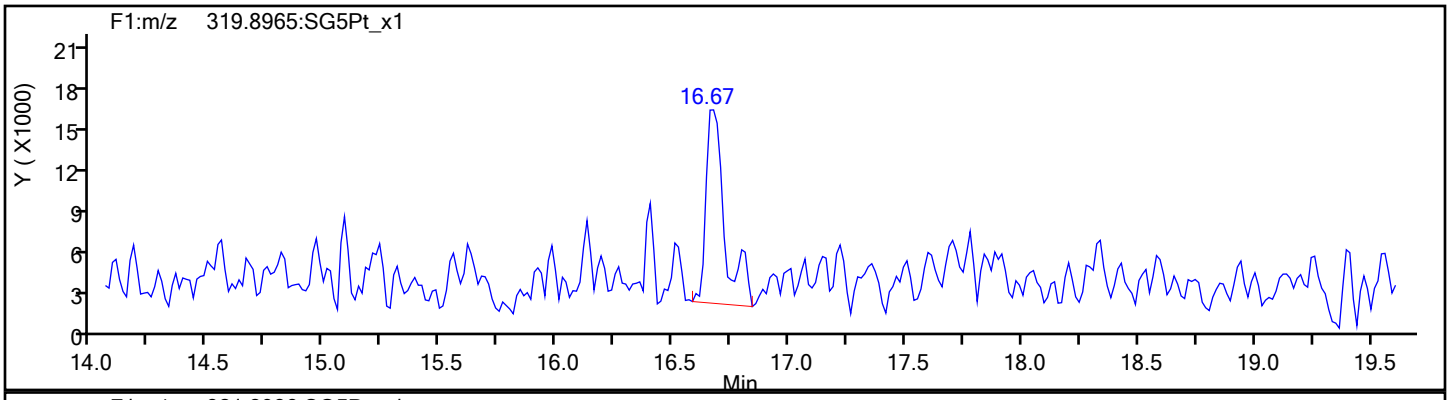

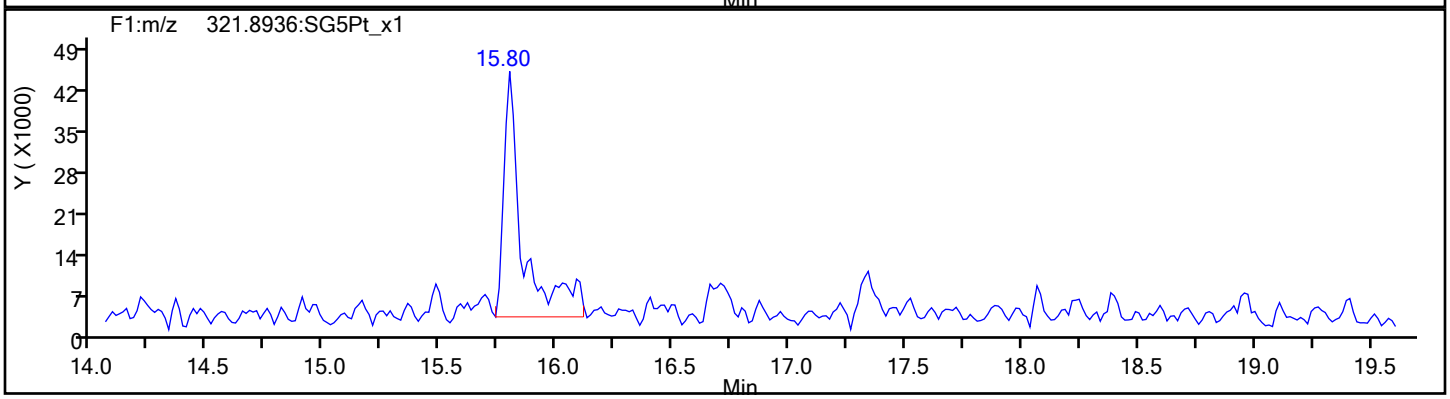

TCDD Standards

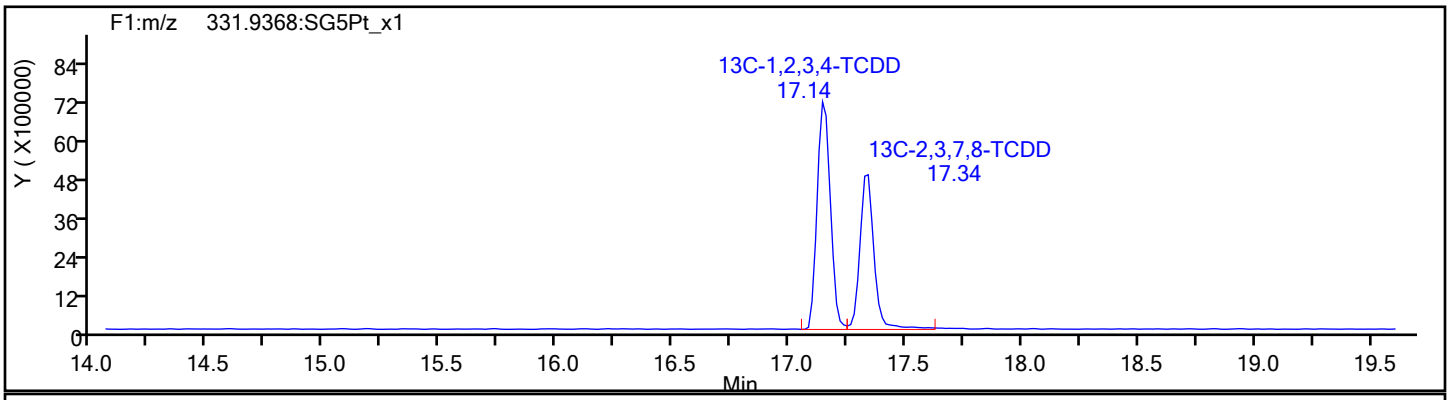

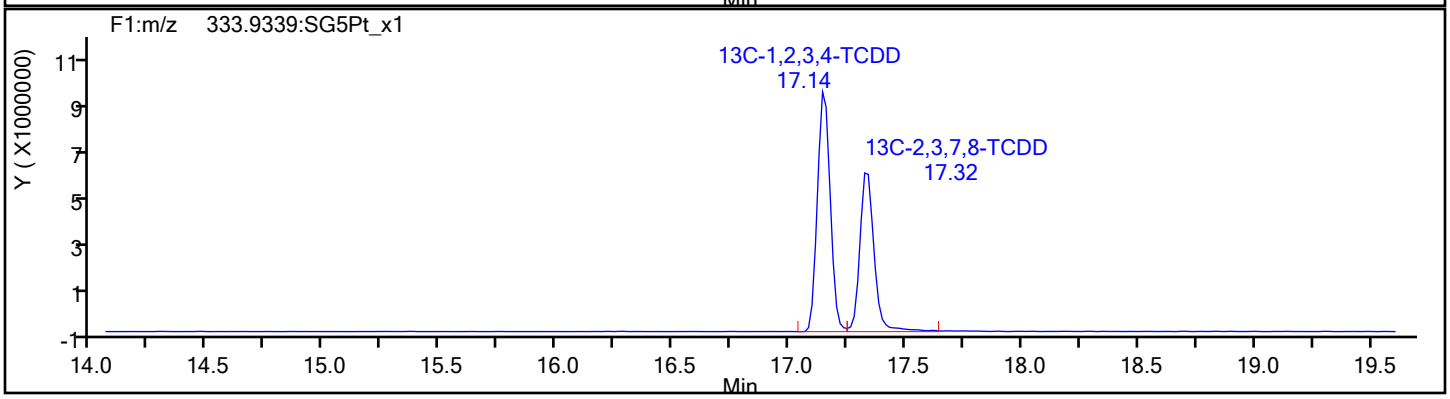

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Eurofins TestAmerica, Sacramento

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Client ID:	11187072-N.TREATMENT AREA #3		
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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

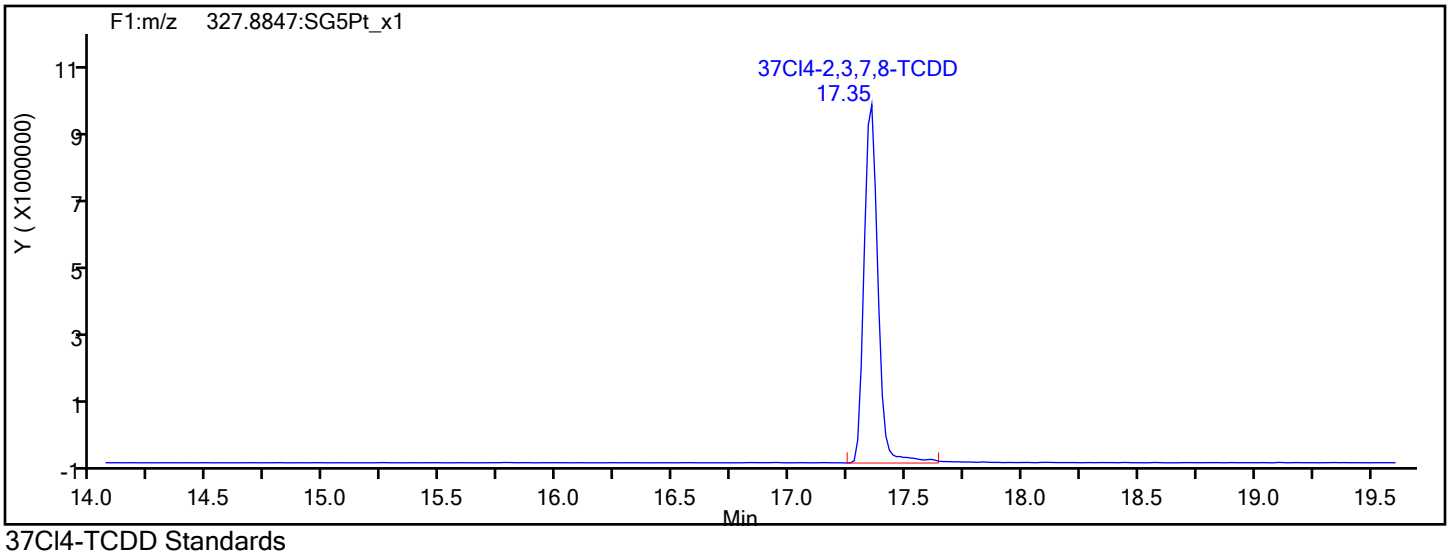

37Cl4-TCDD Standards

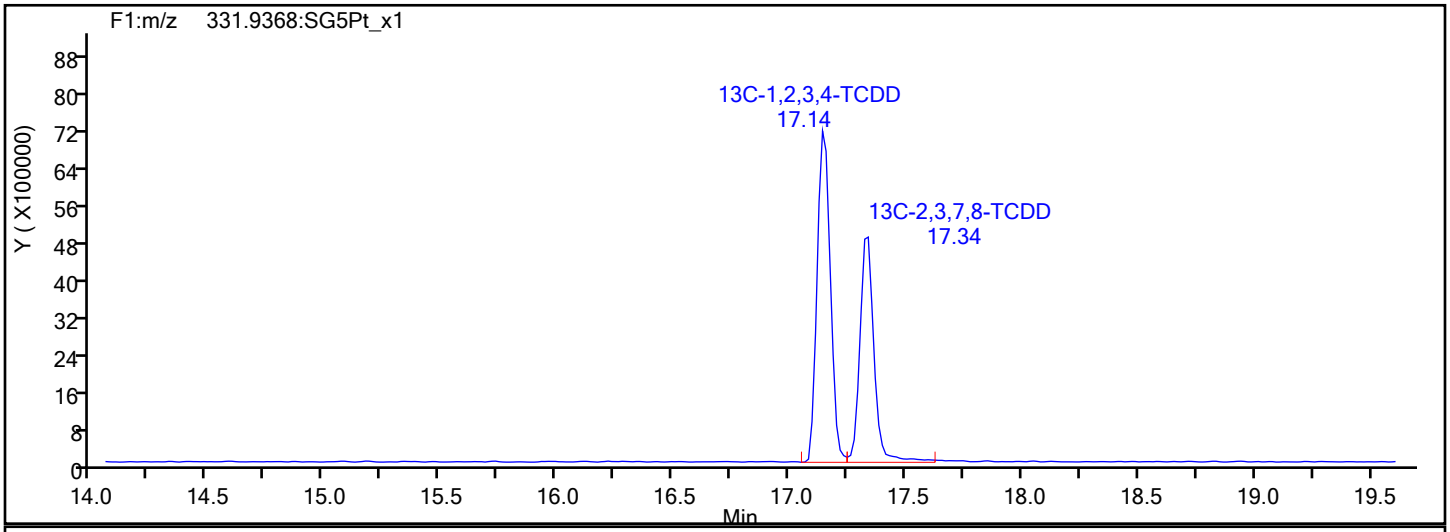

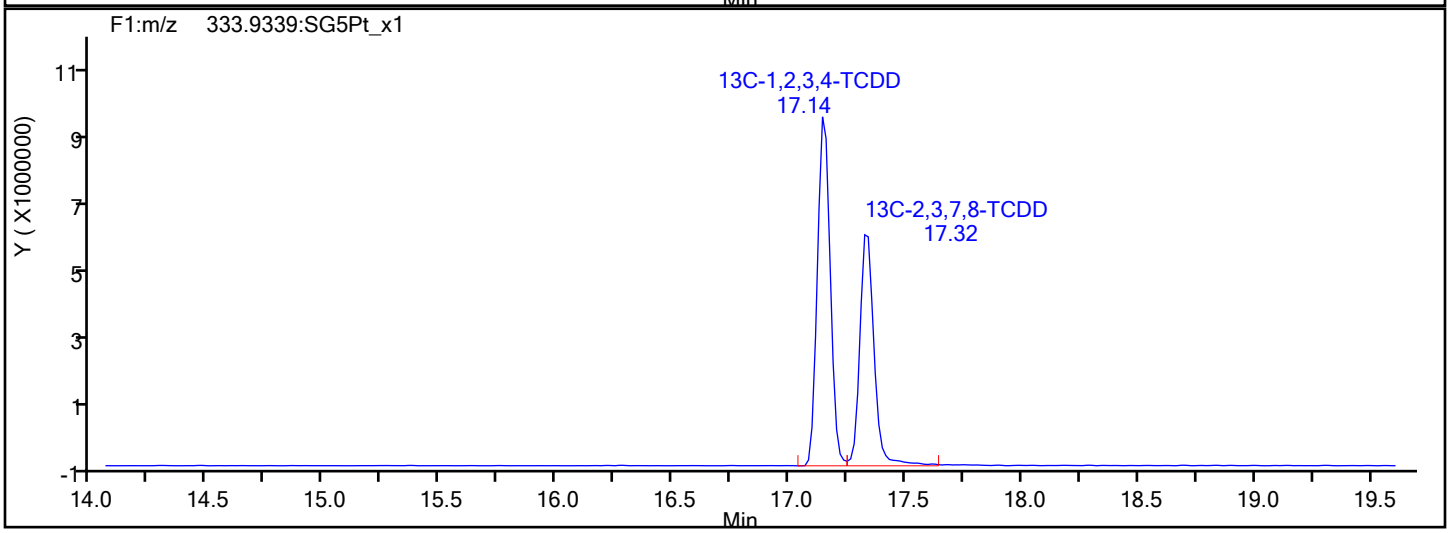

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

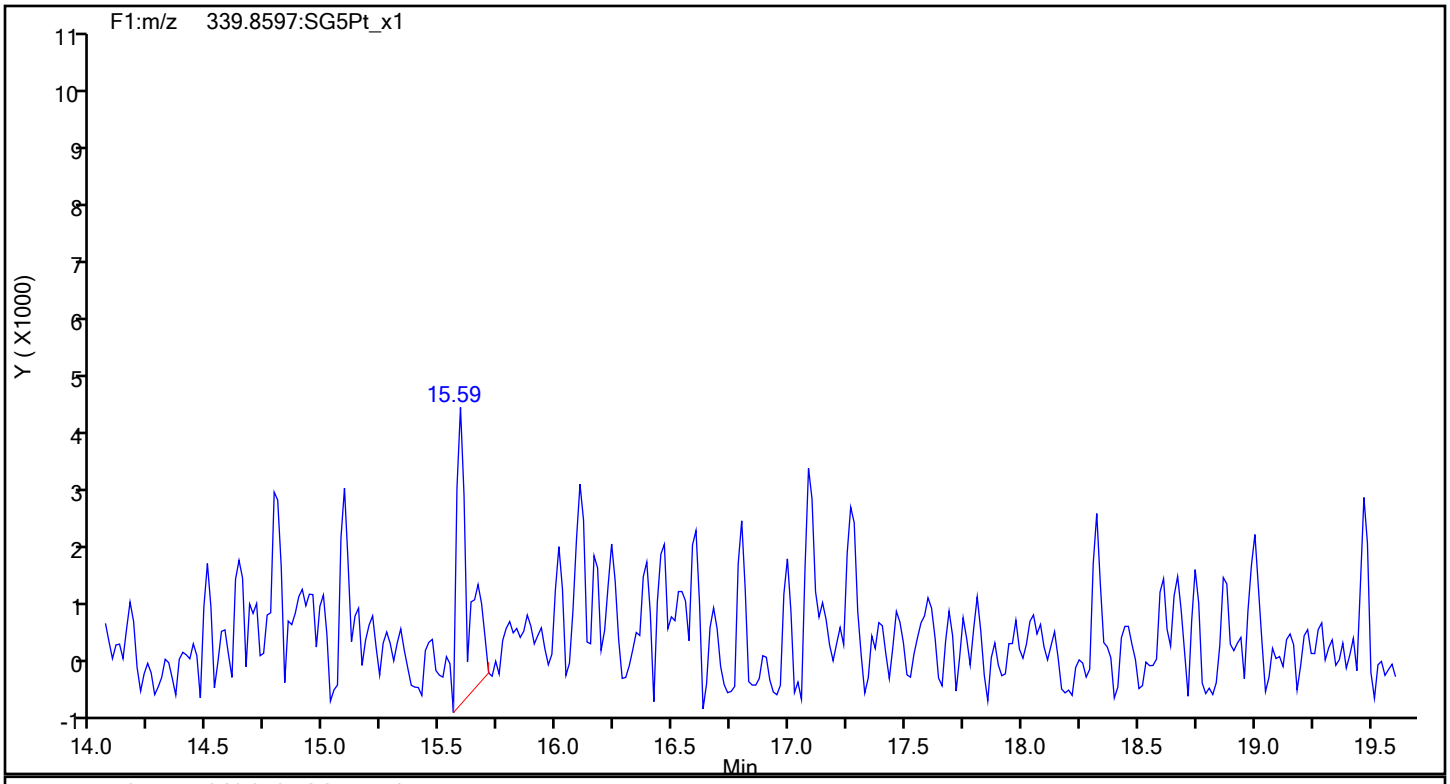

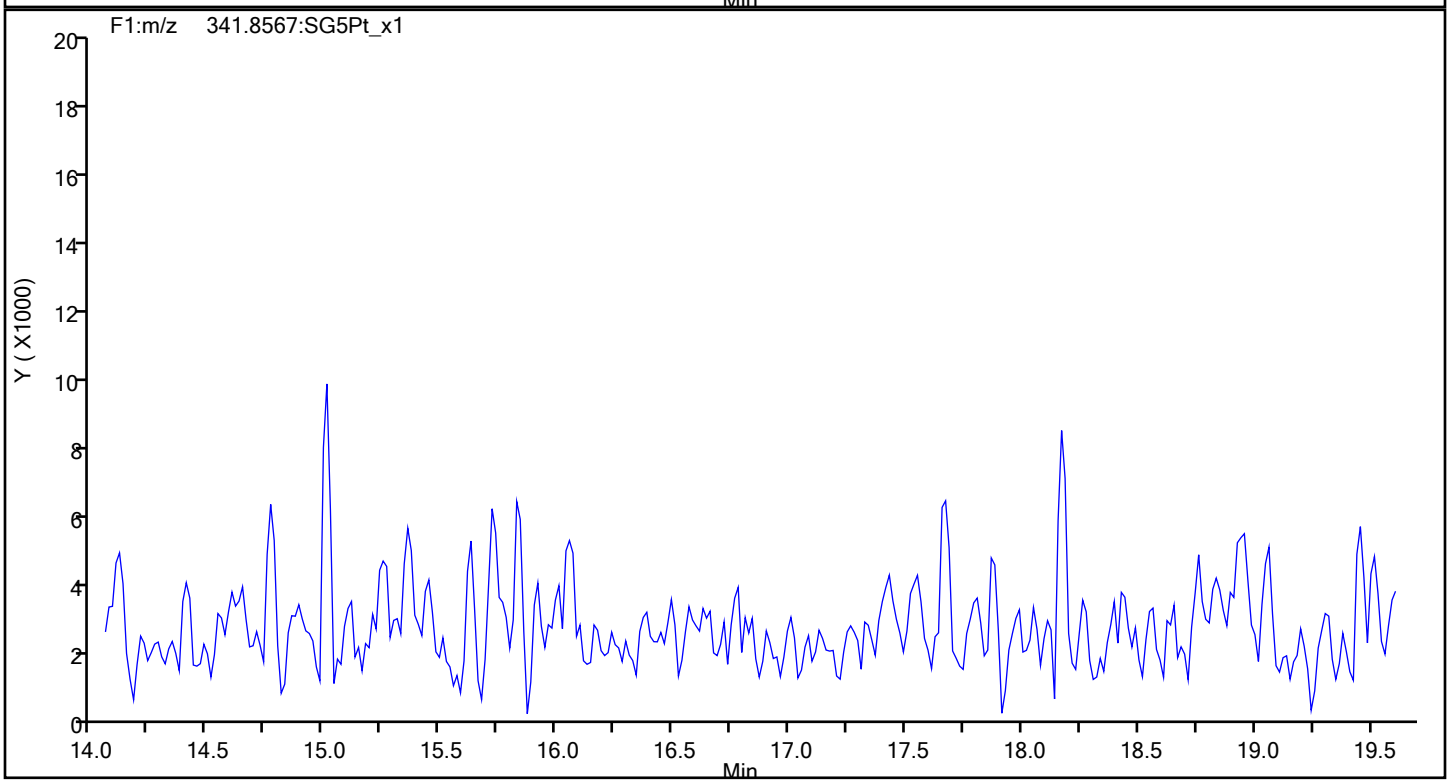

Report Date: 08-Jan-2020 09:07:23 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-N.TREATMENT AREA #3		
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F1 PeCDFs

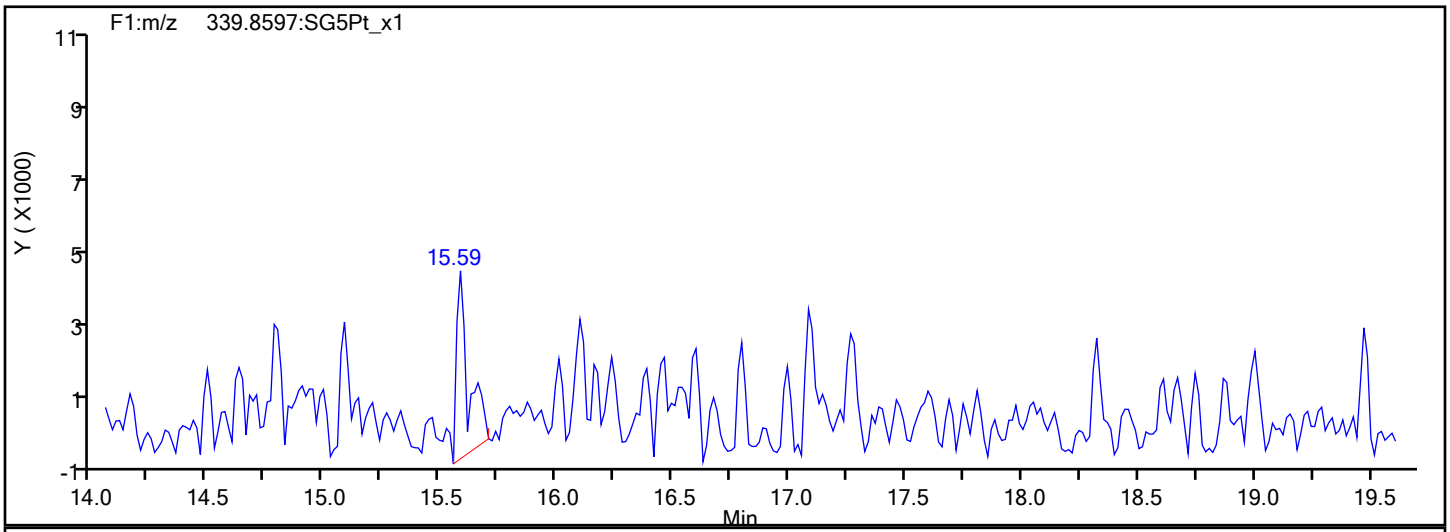

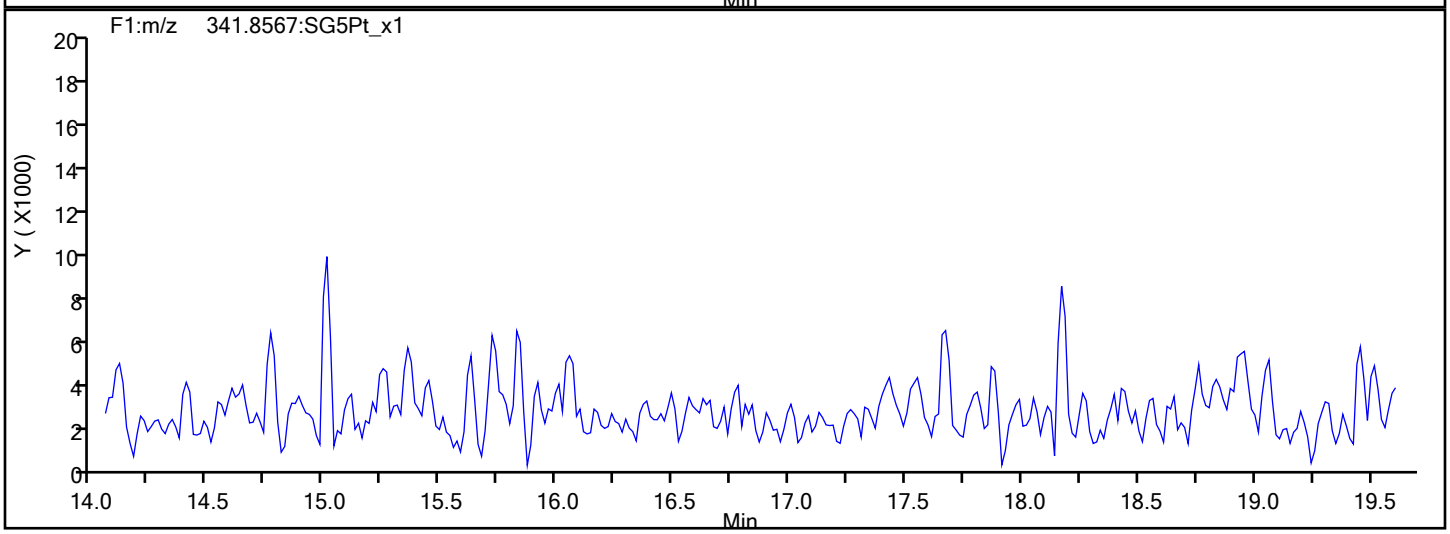

F1 PeCDFs Interference Mass

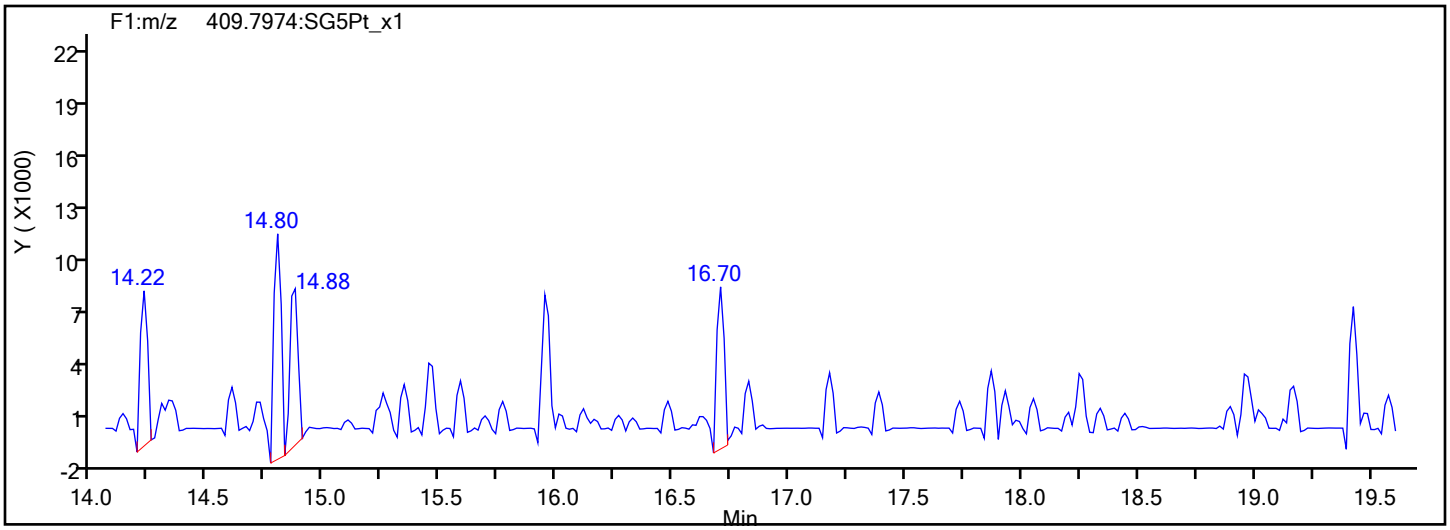

Report Date: 08-Jan-2020 09:07:23 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-N.TREATMENT AREA #3		
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PeCDF

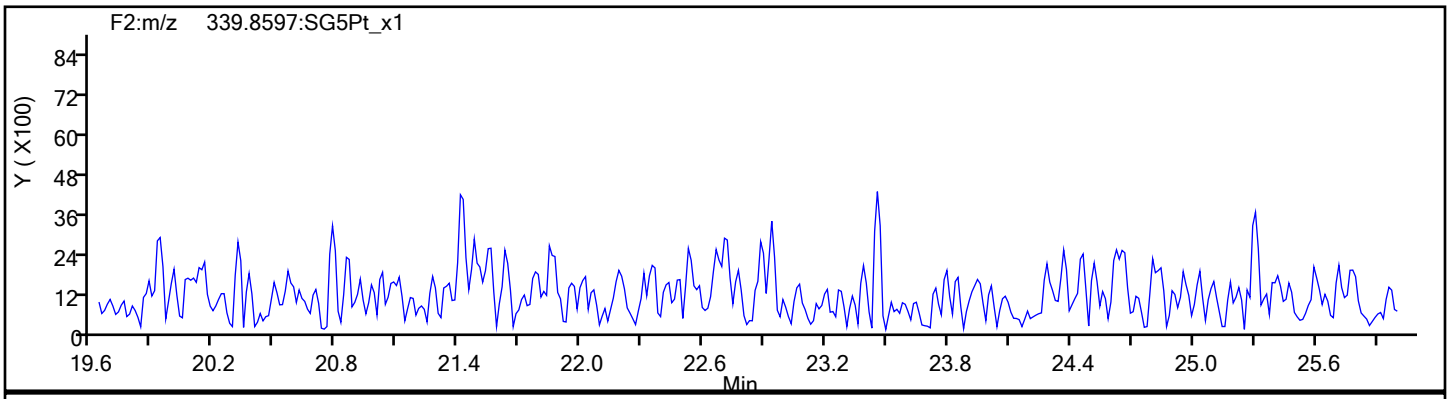

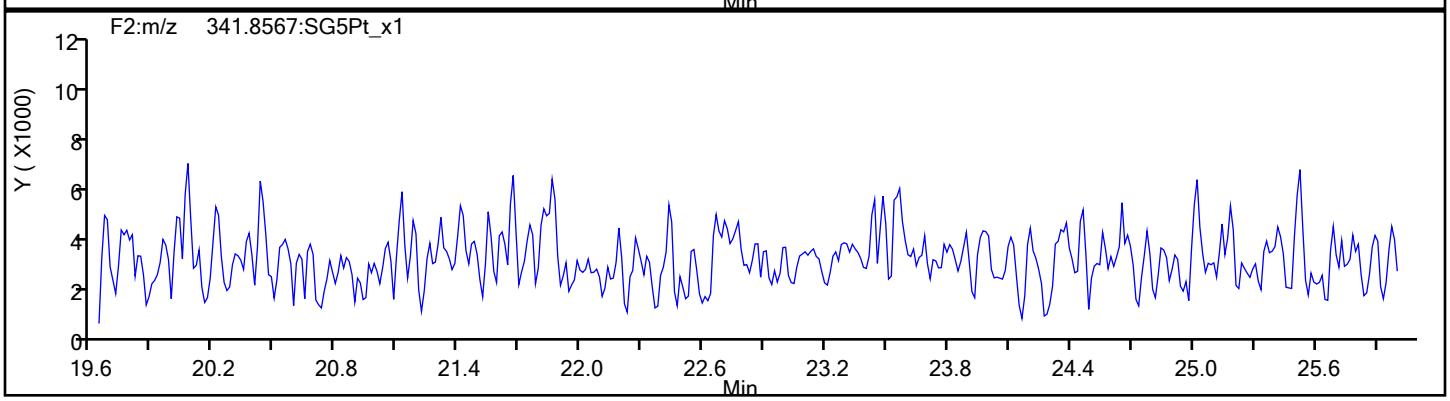

PeCDF Standards

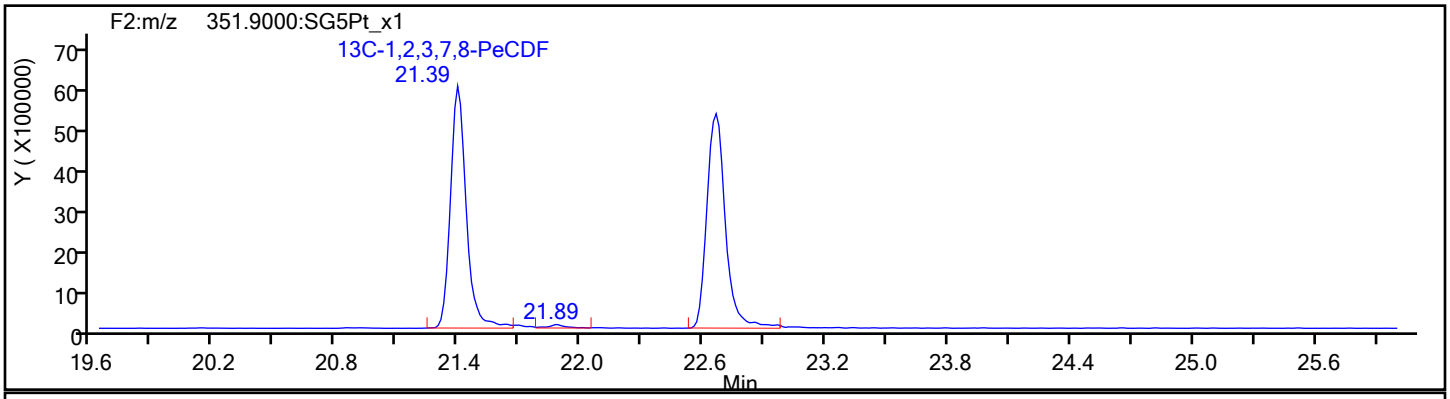

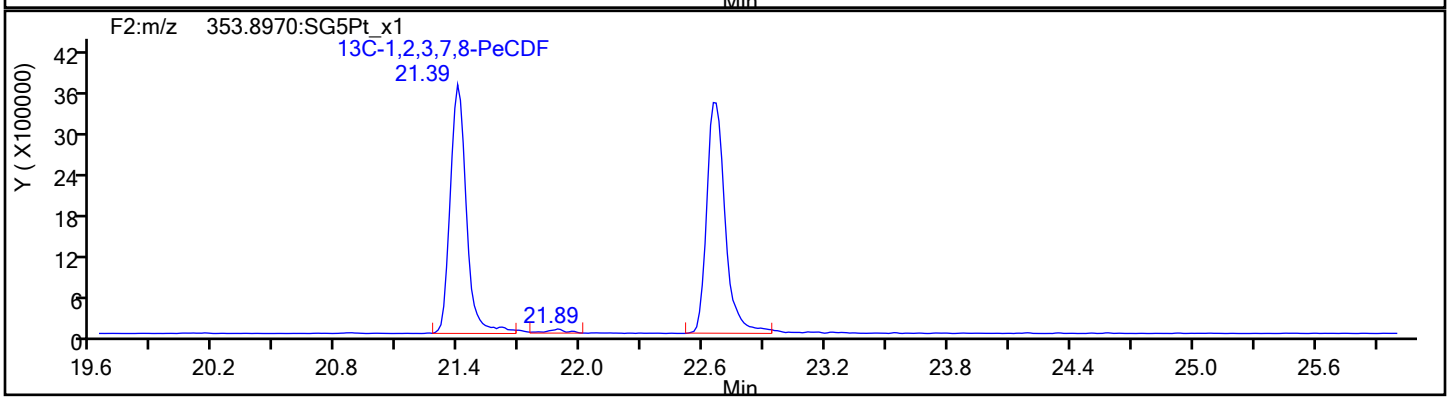

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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PeCDF

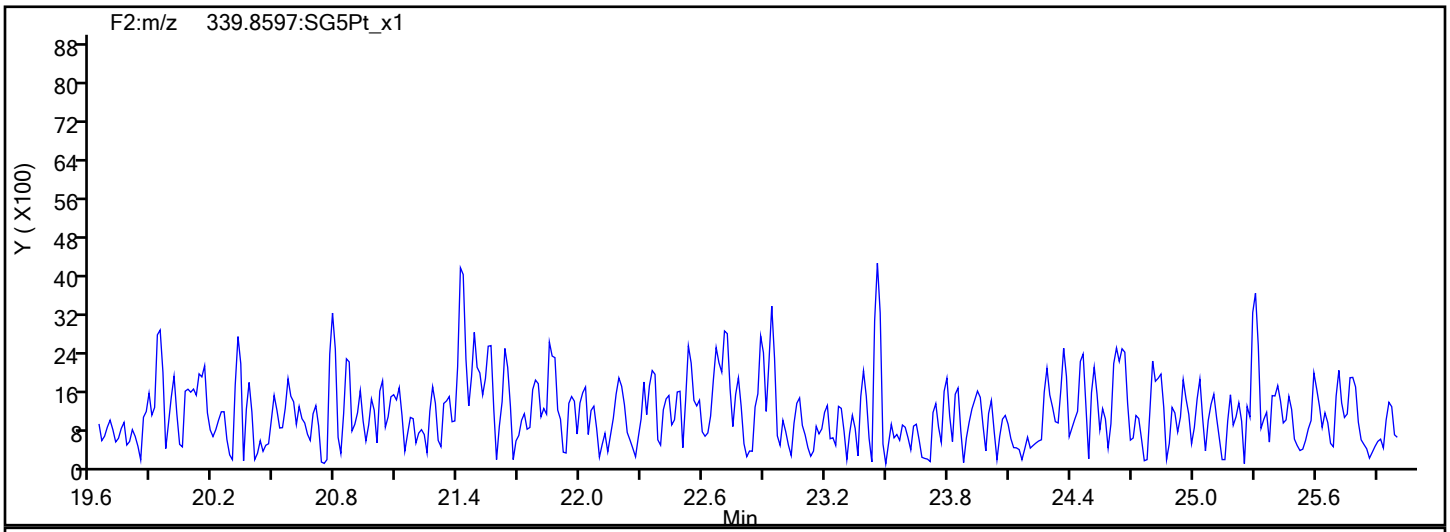

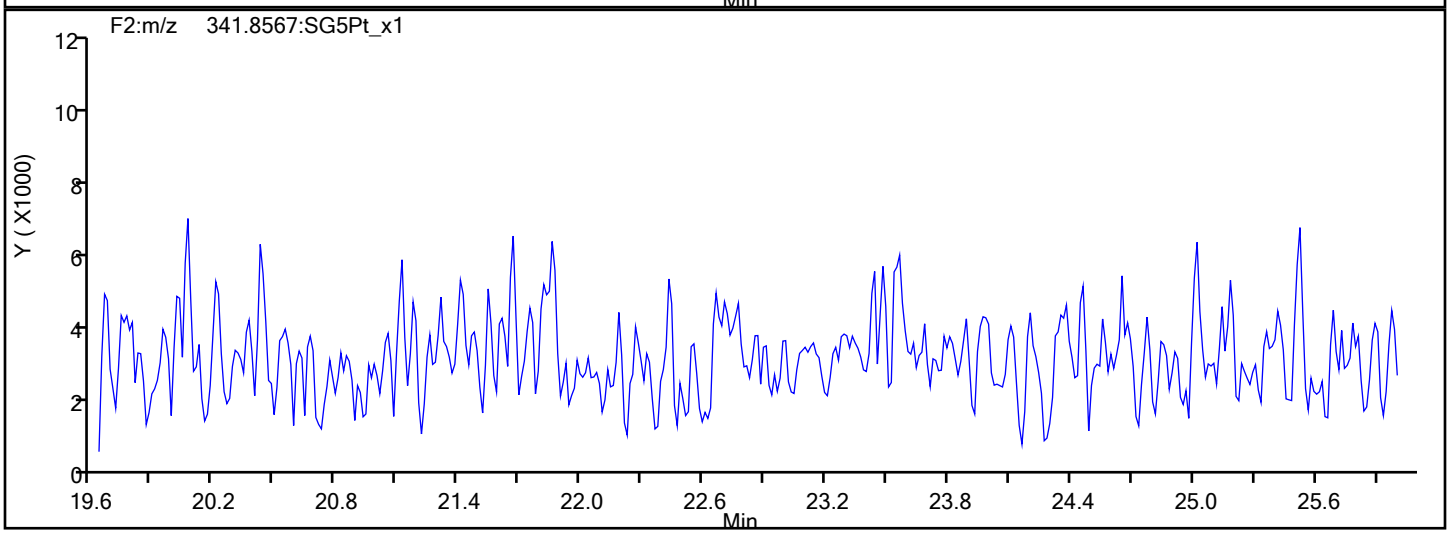

PeCDF Interference Mass

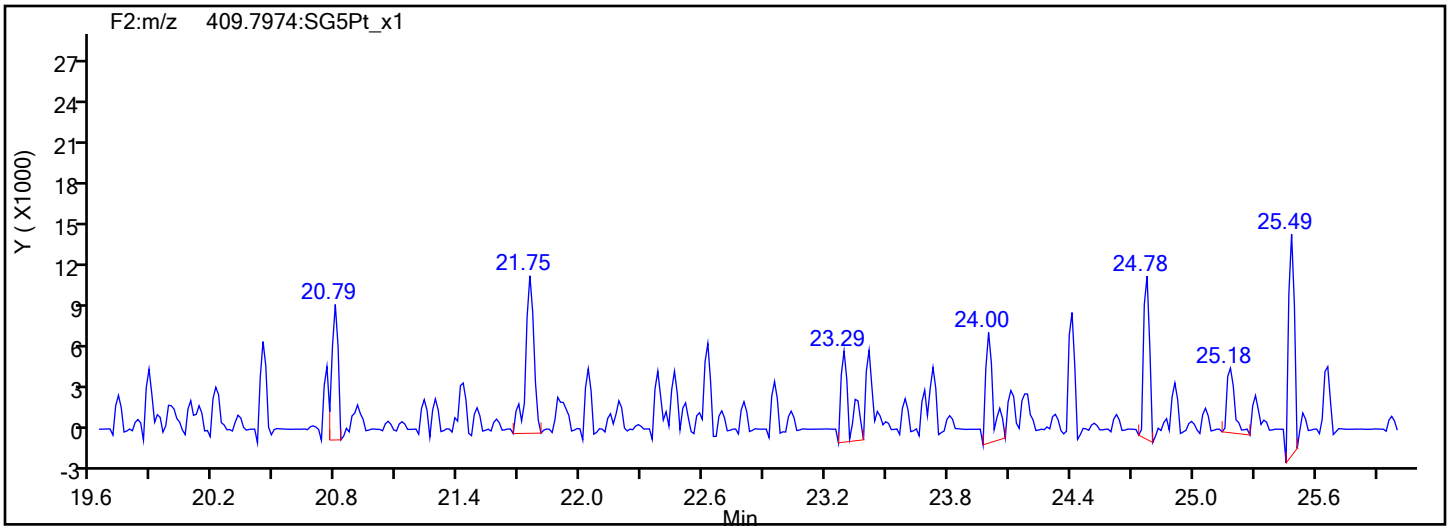

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Eurofins TestAmerica, Sacramento

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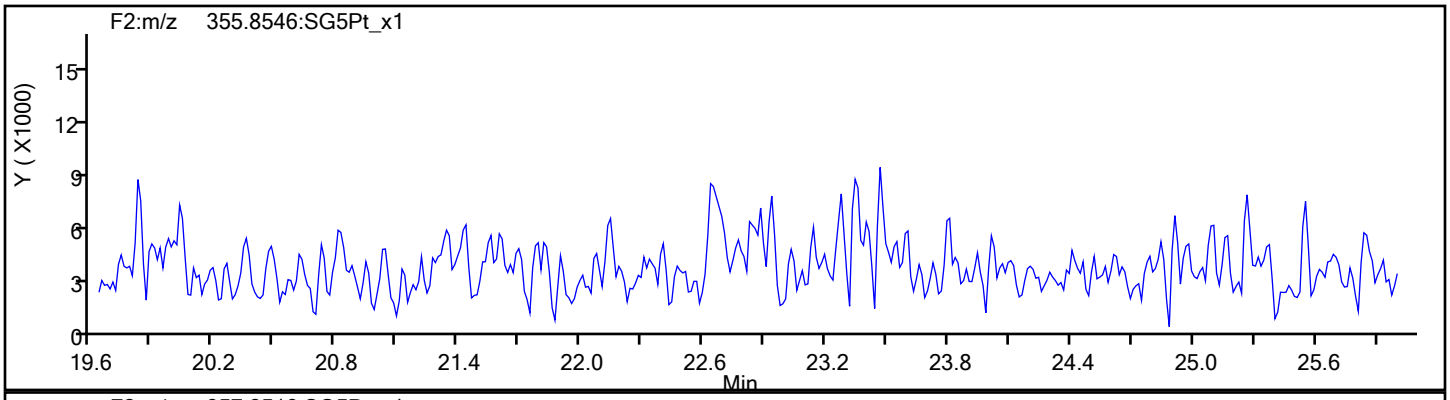

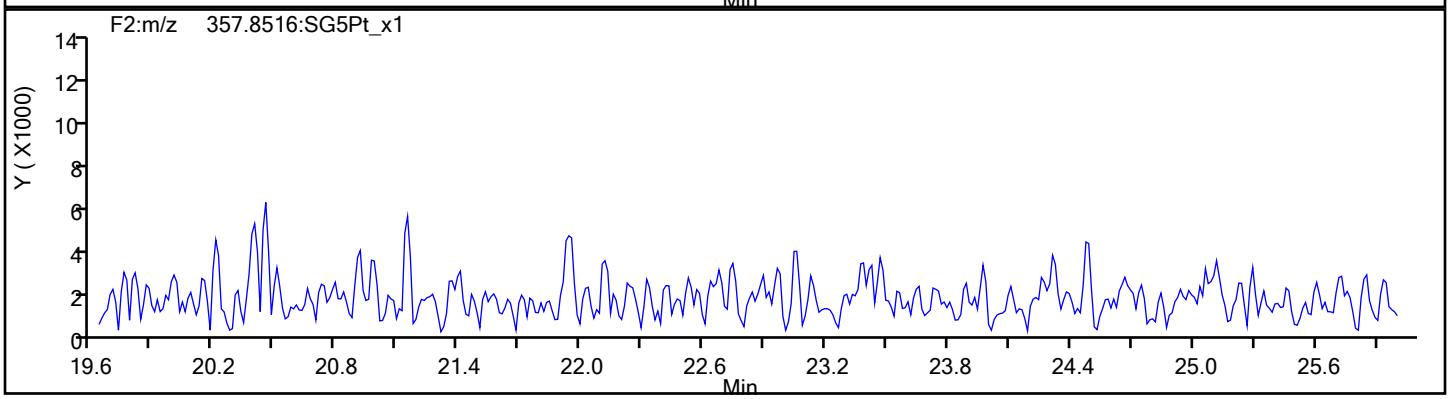

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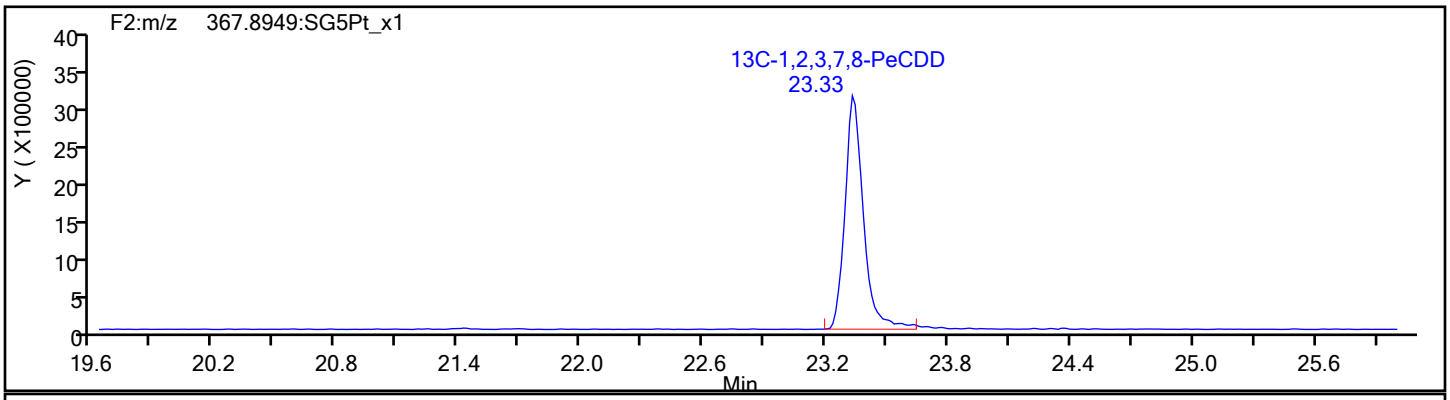

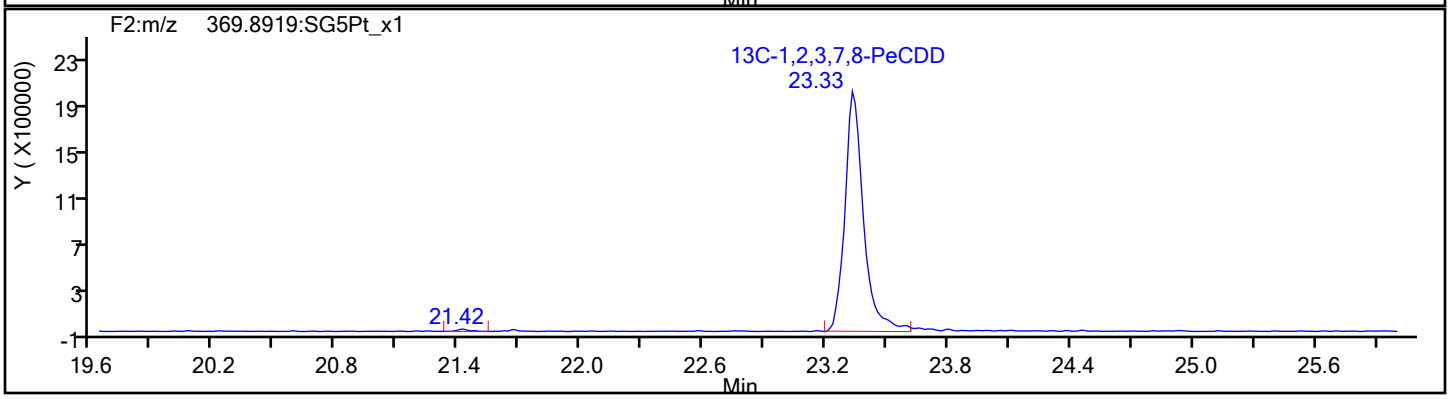

Report Date: 08-Jan-2020 09:07:23 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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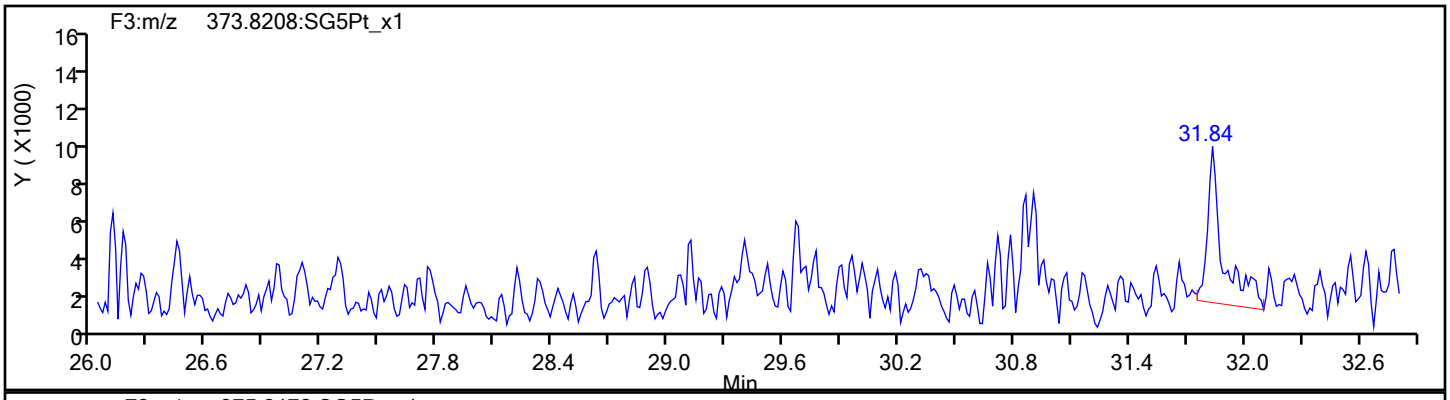

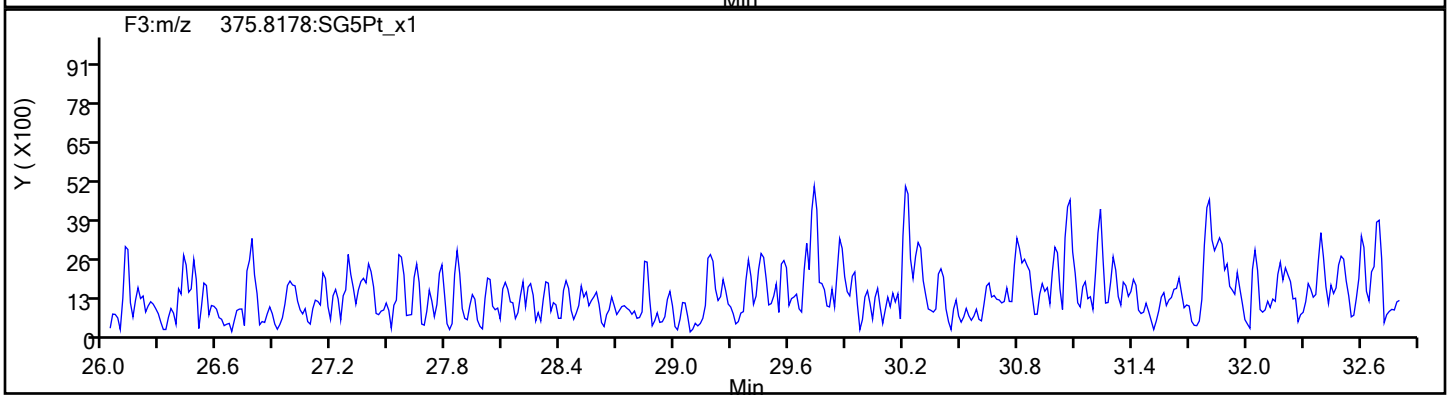

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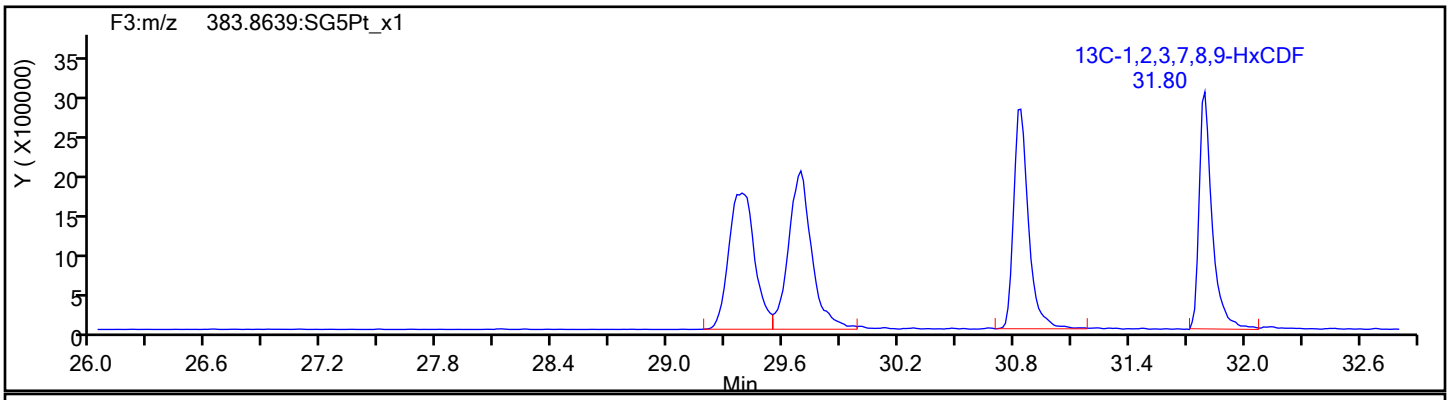

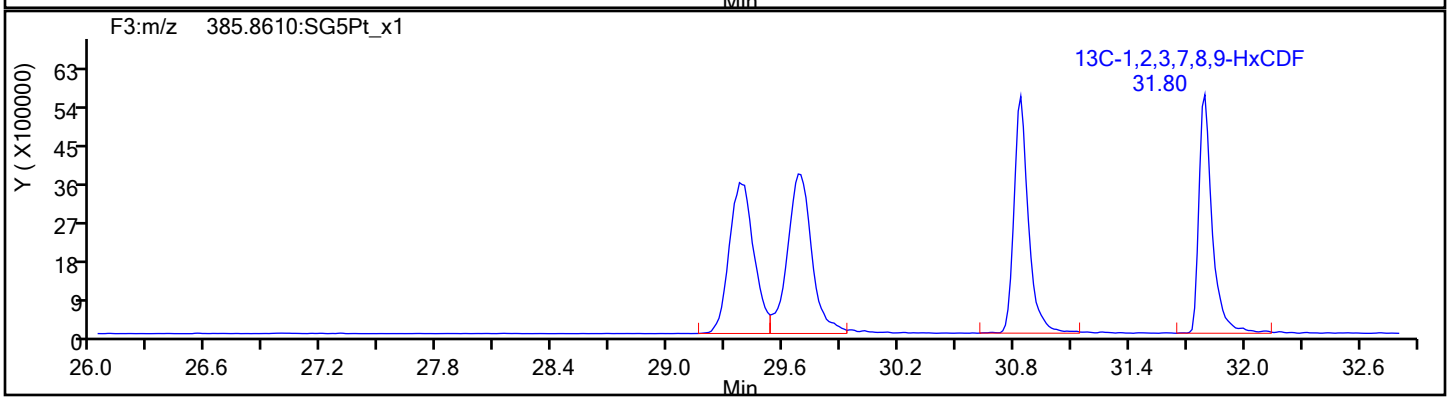

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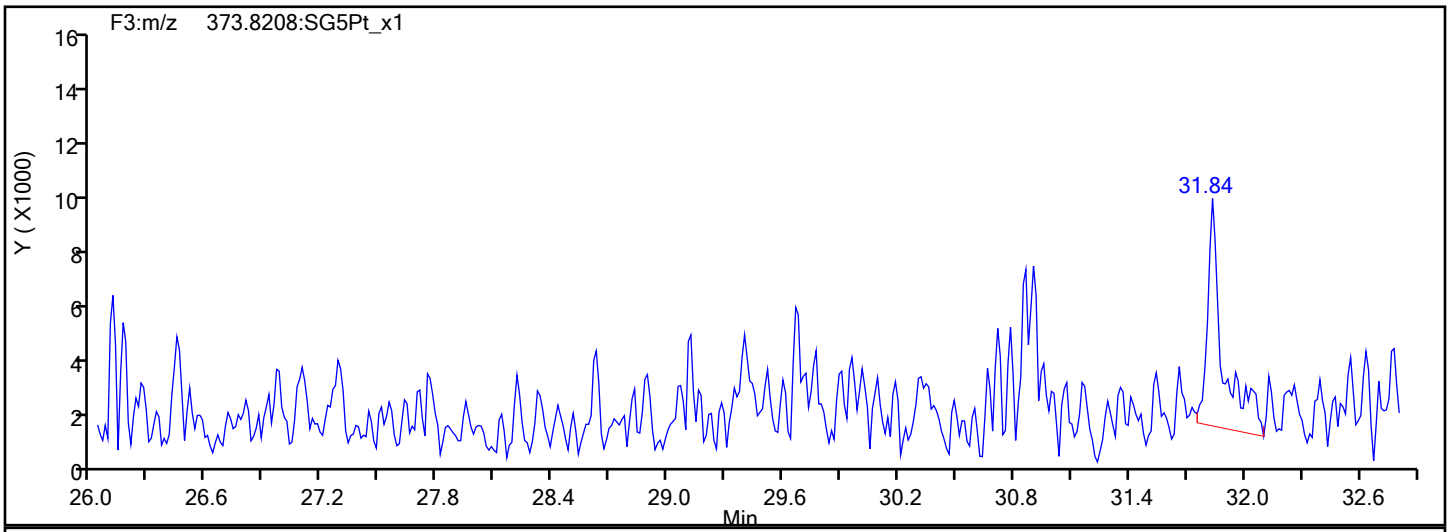

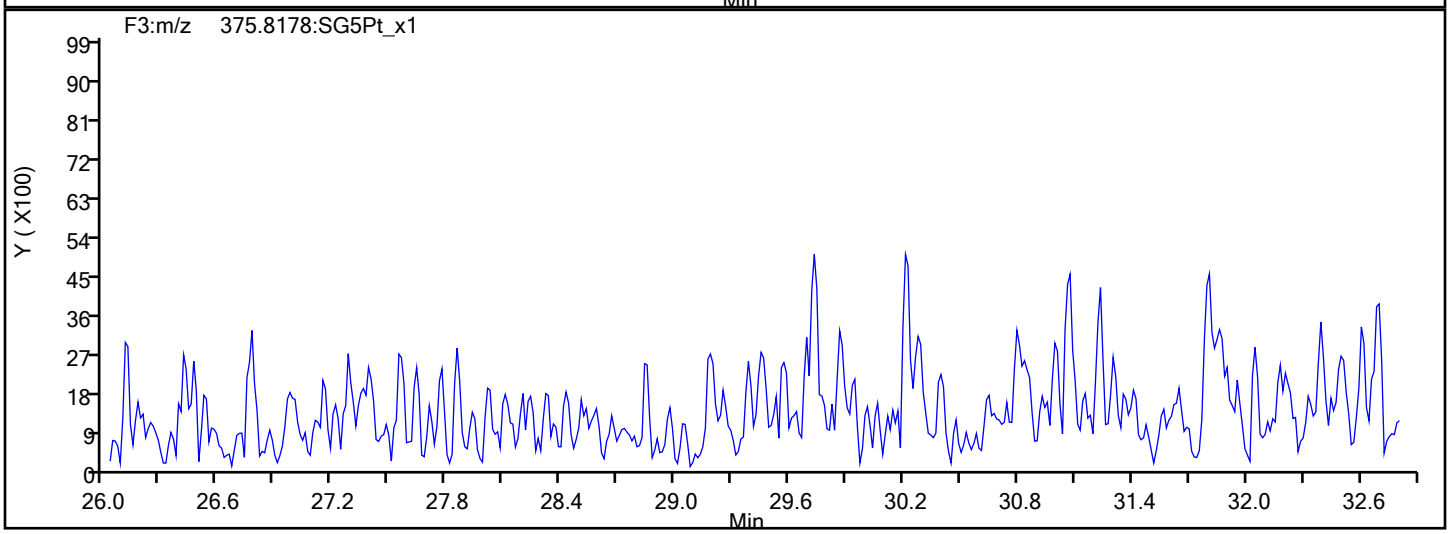

HxCDF Interference Mass

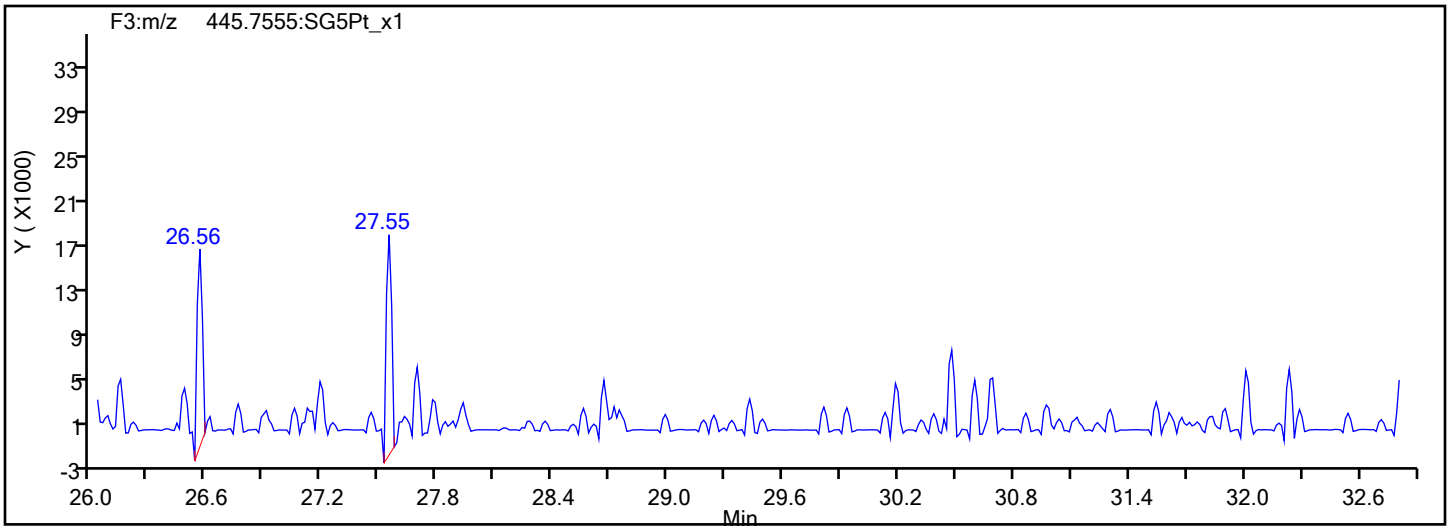

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Eurofins TestAmerica, Sacramento

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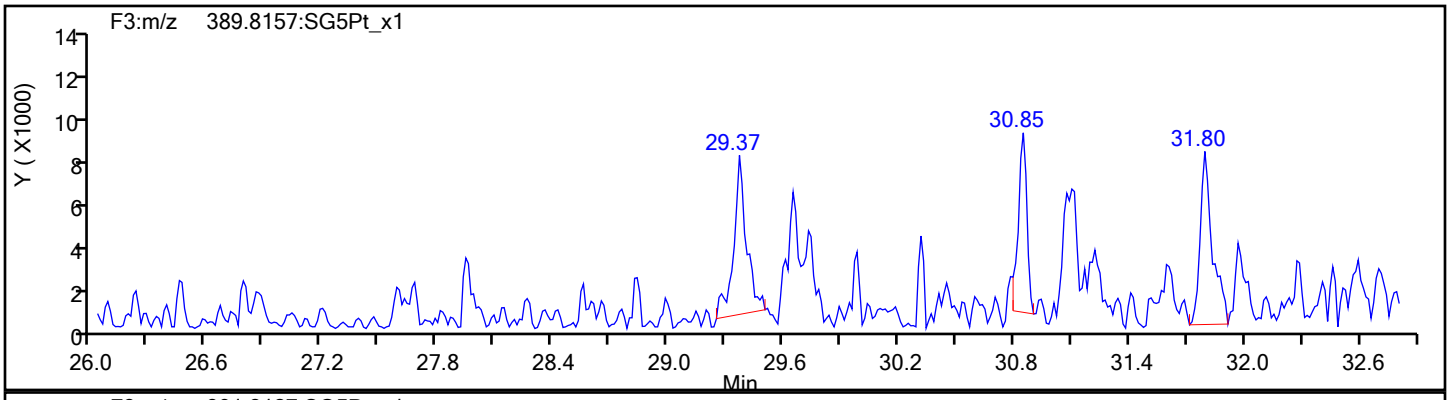

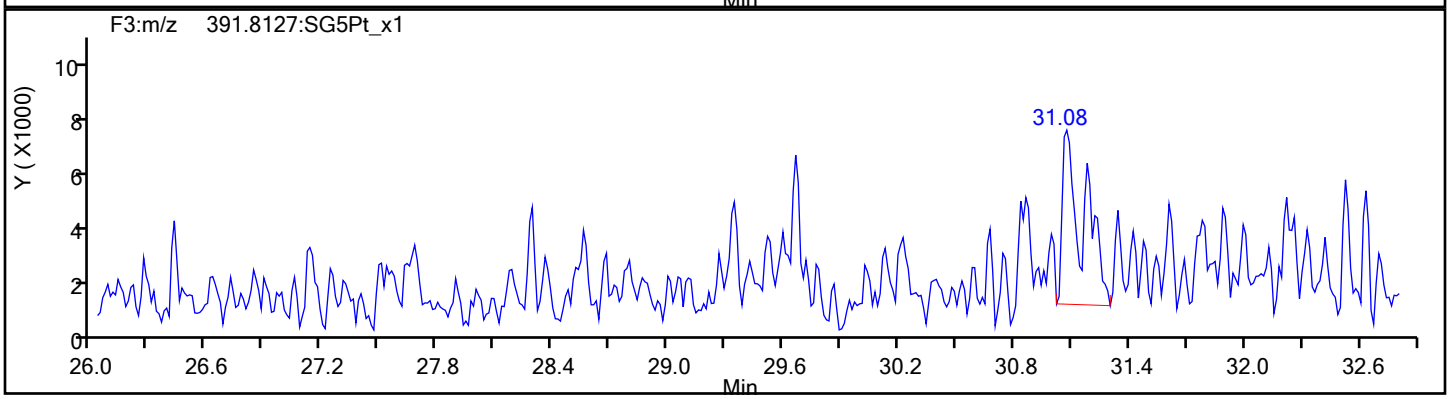

HxCDD Standards

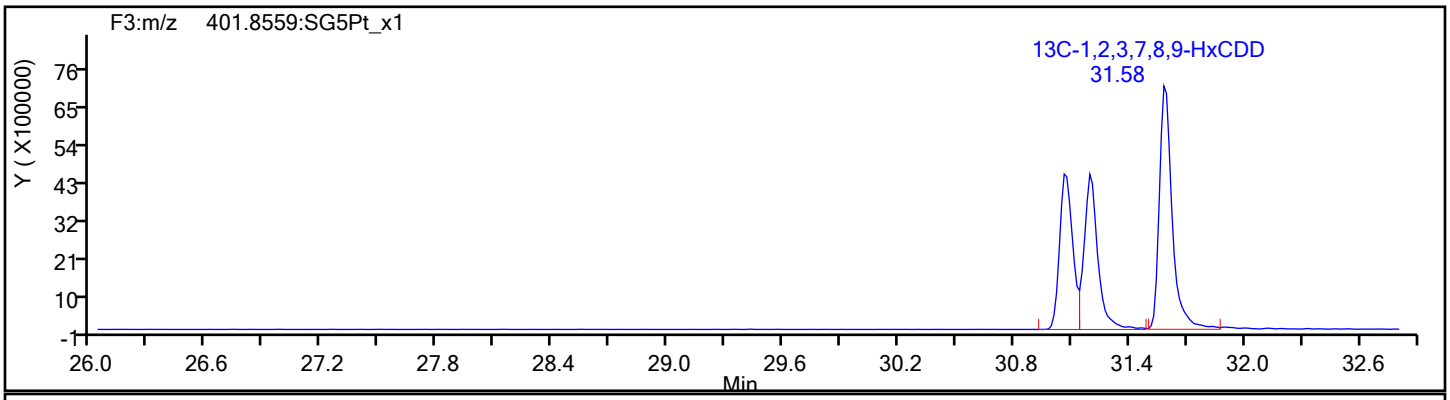

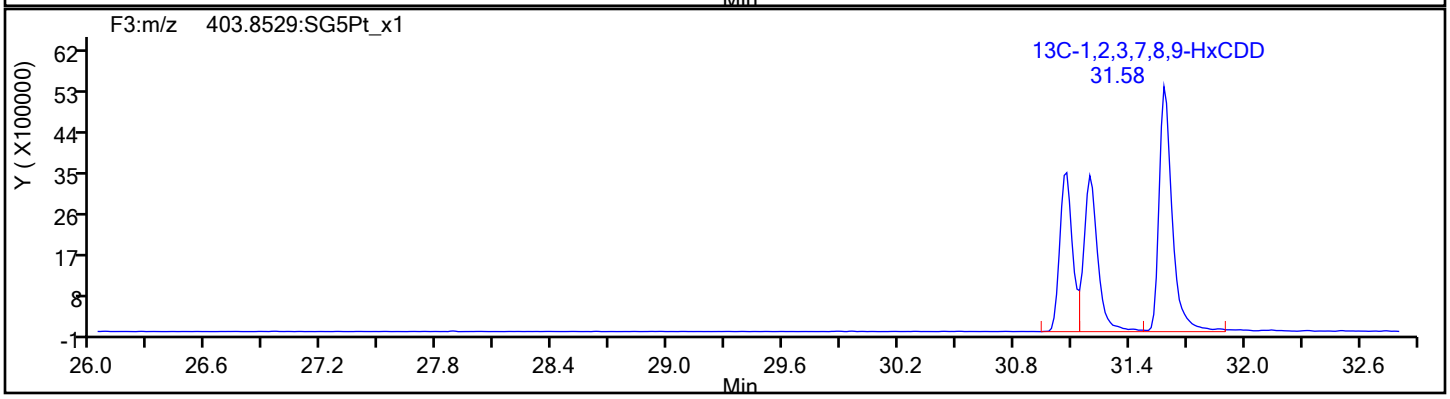

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Eurofins TestAmerica, Sacramento

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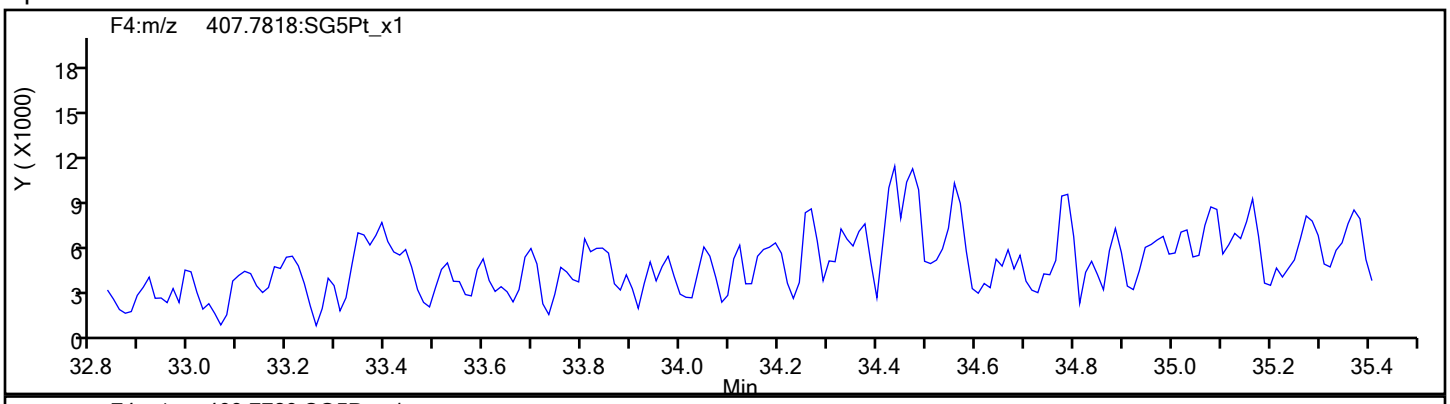

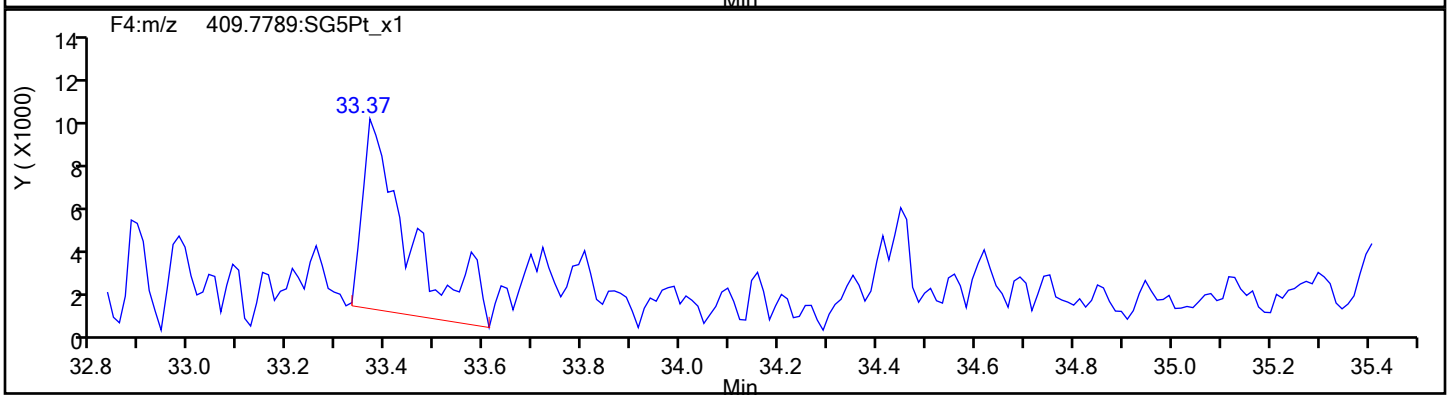

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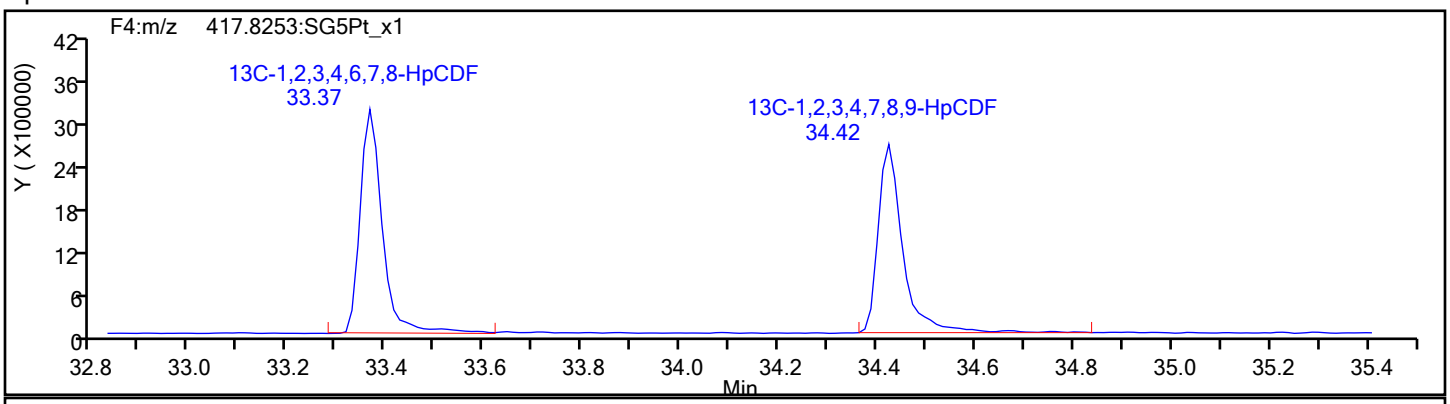

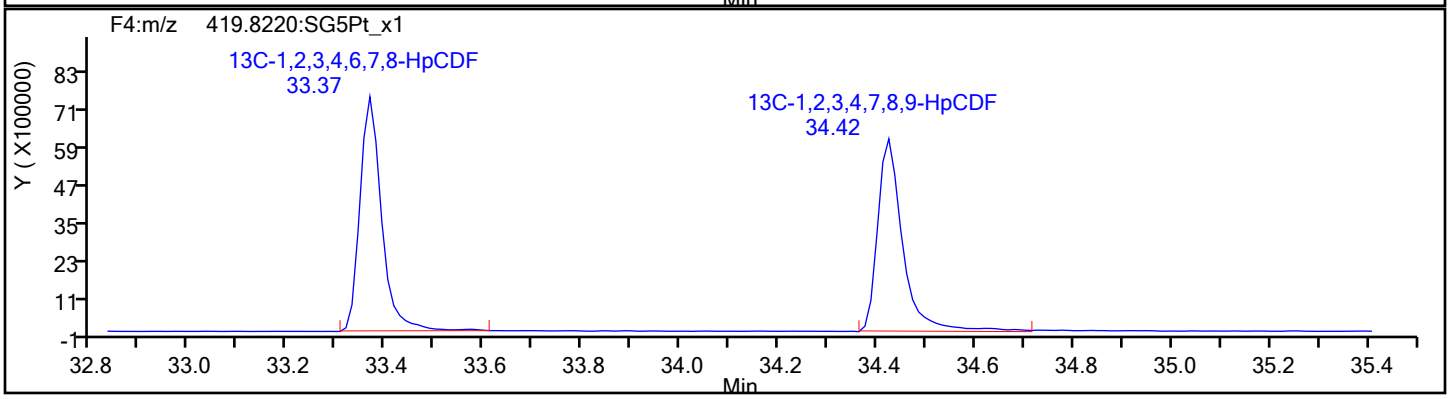

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Eurofins TestAmerica, Sacramento

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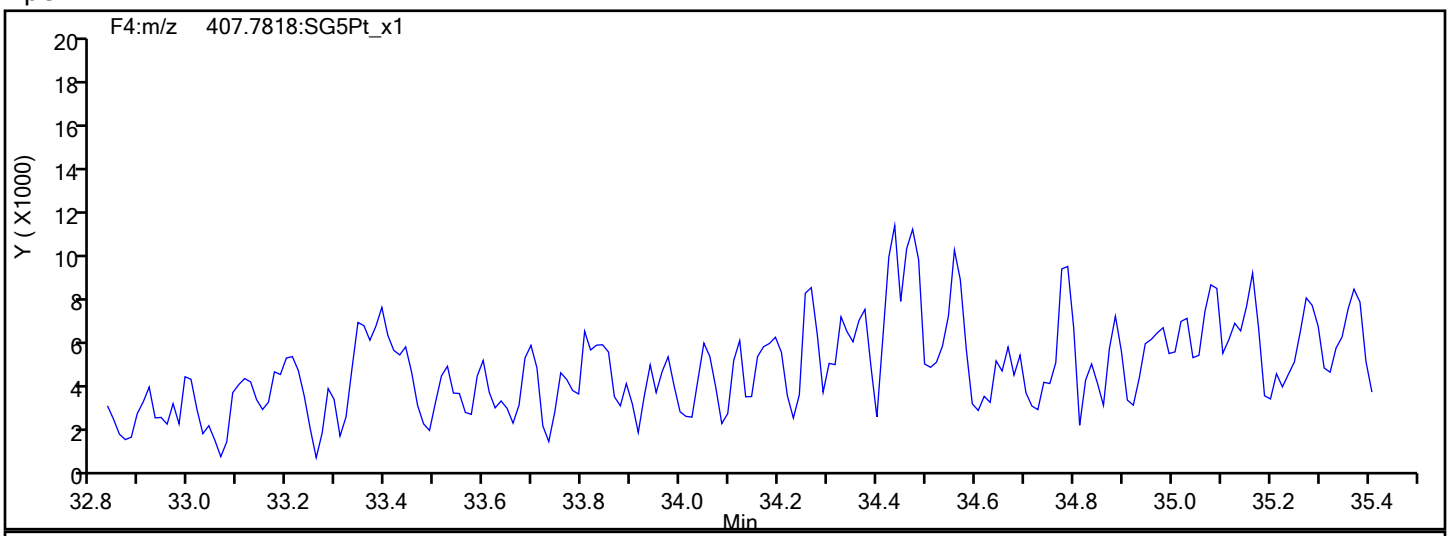

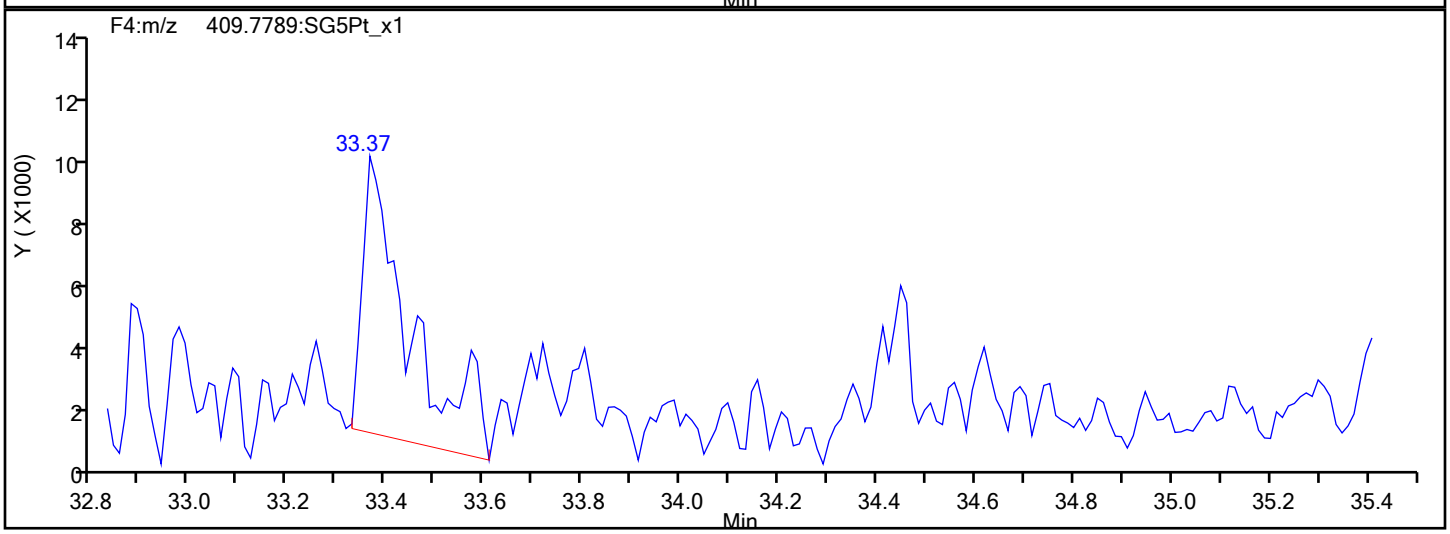

HpCDF Interference Mass

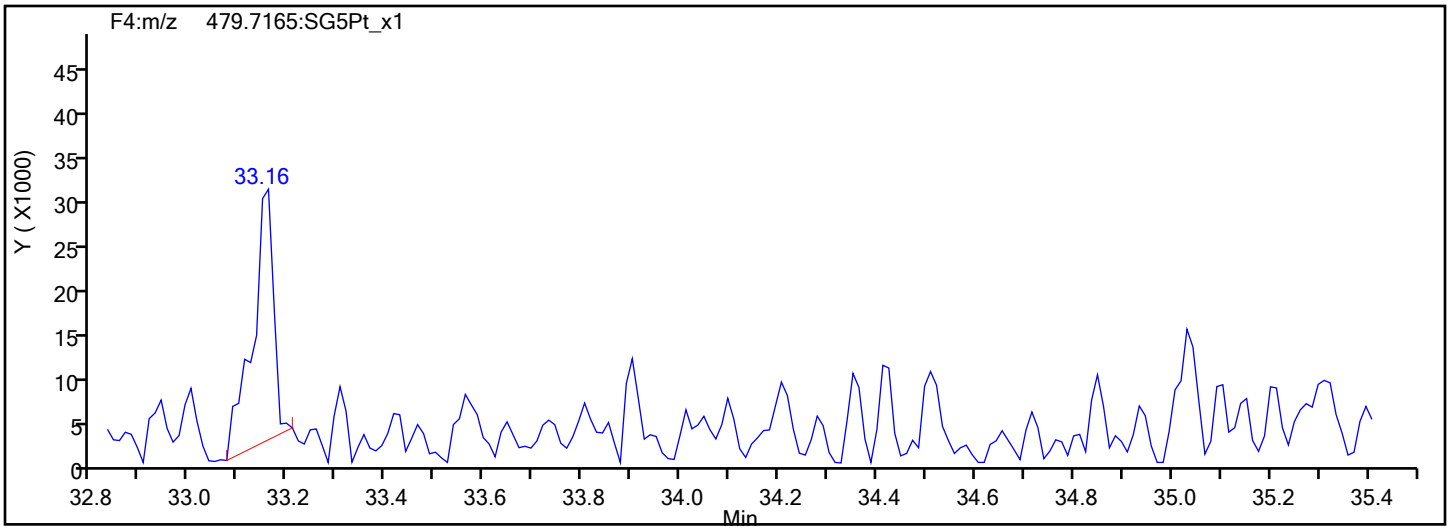

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Eurofins TestAmerica, Sacramento

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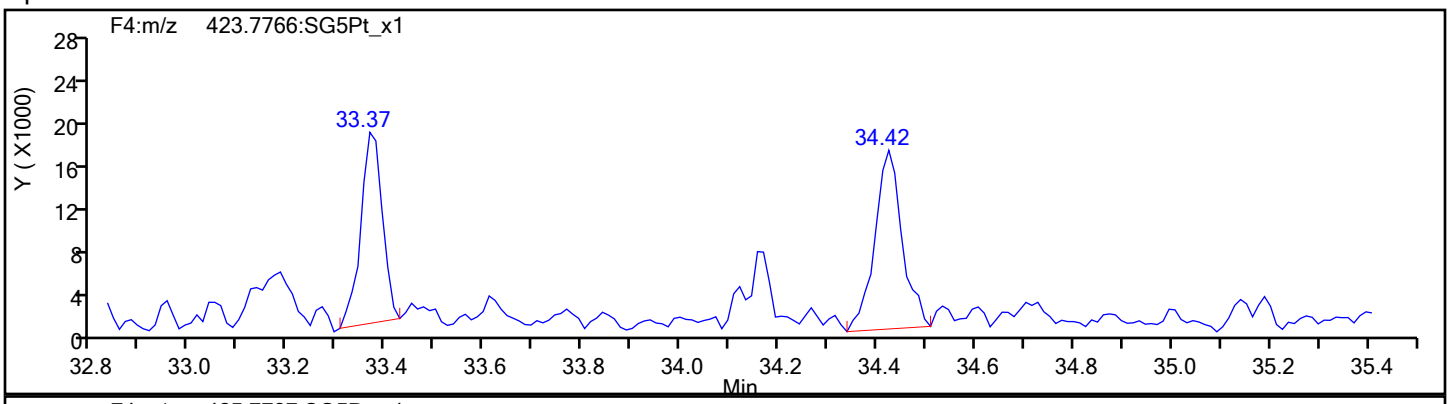

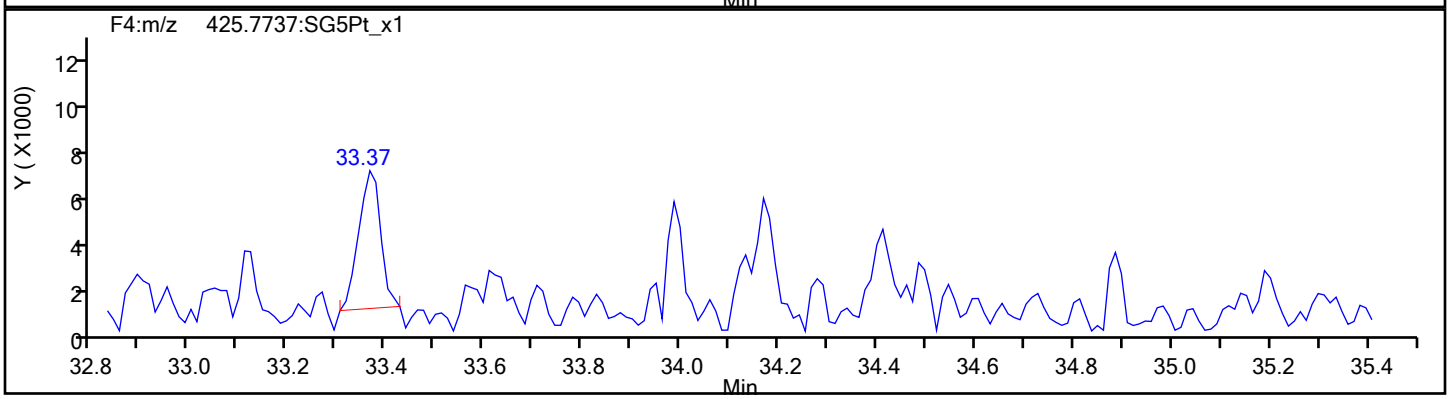

HpCDD Standards

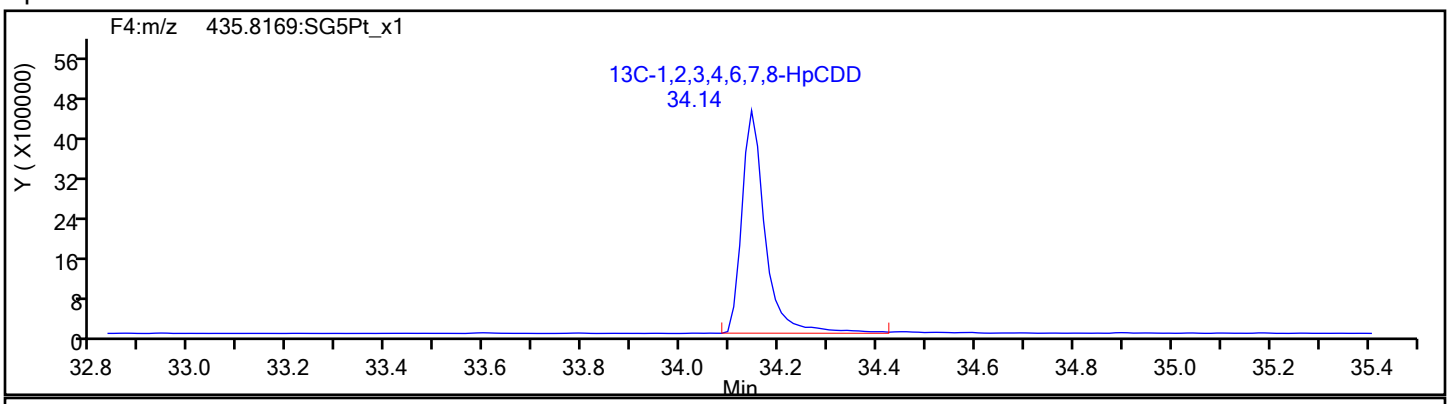

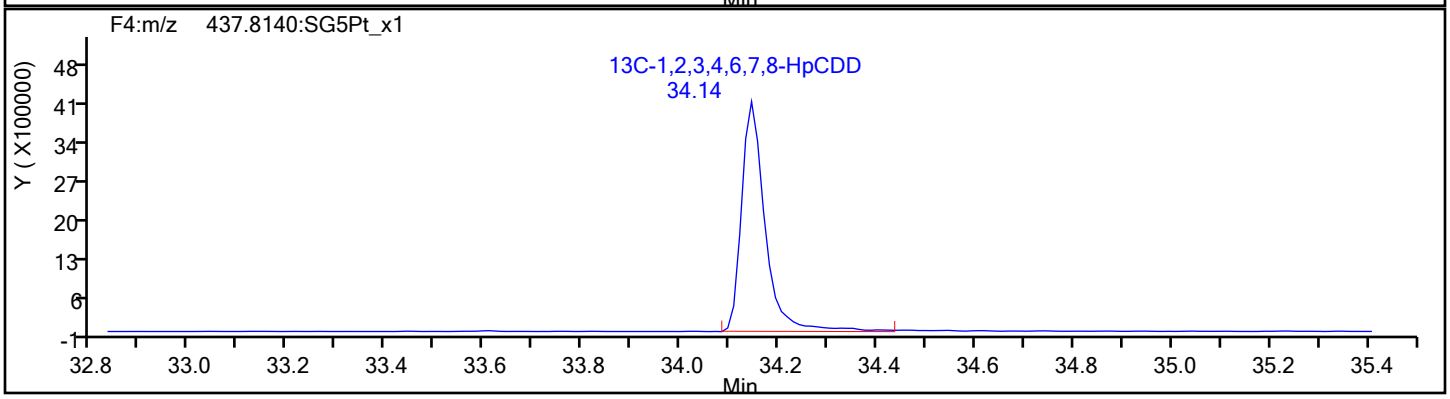

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Eurofins TestAmerica, Sacramento

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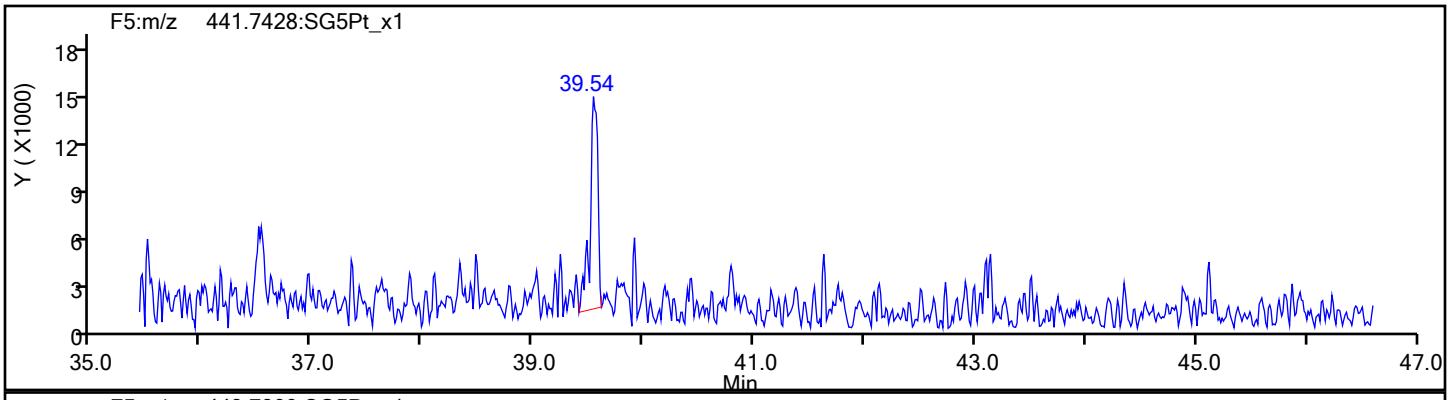

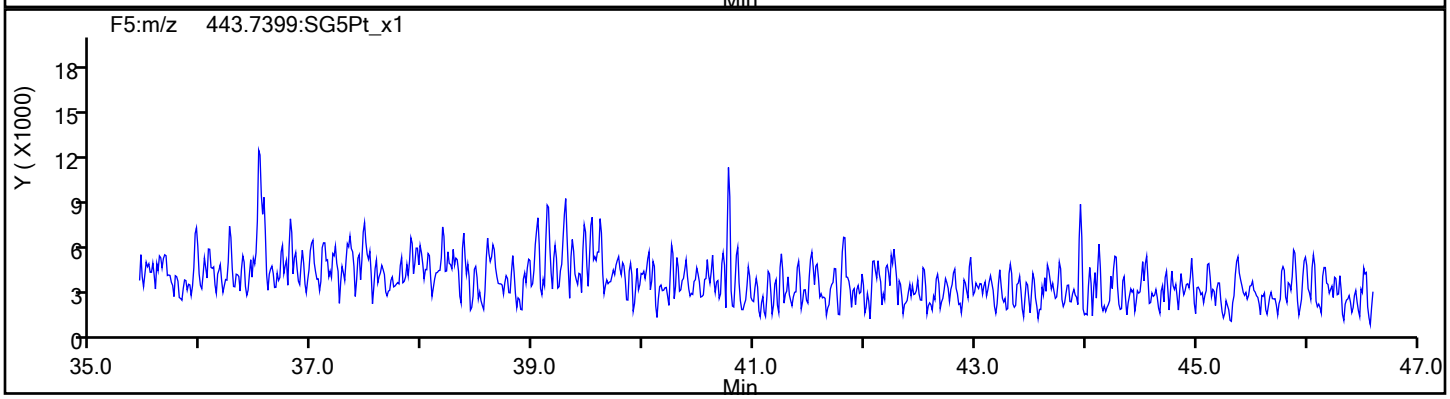

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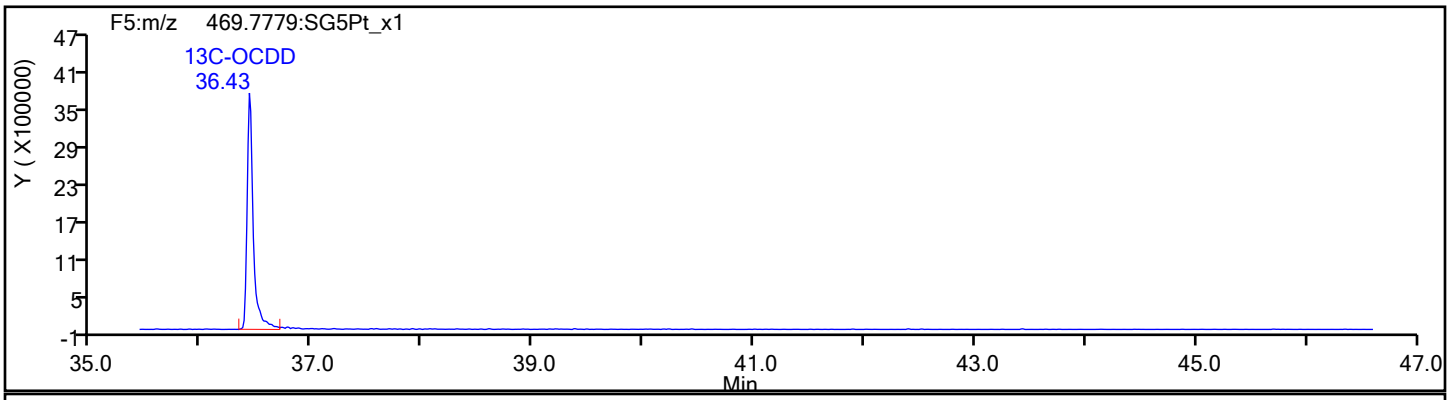

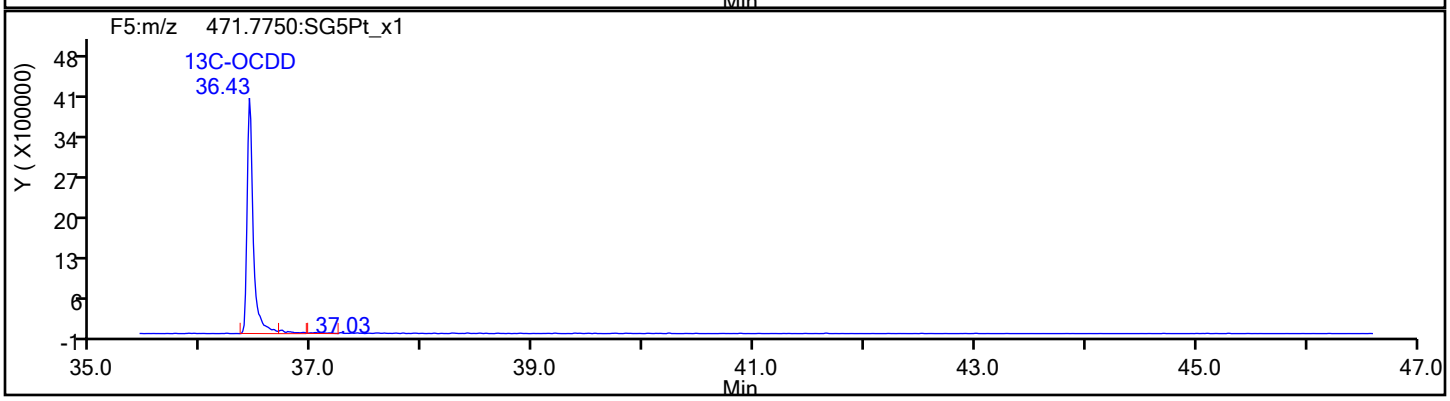

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Eurofins TestAmerica, Sacramento

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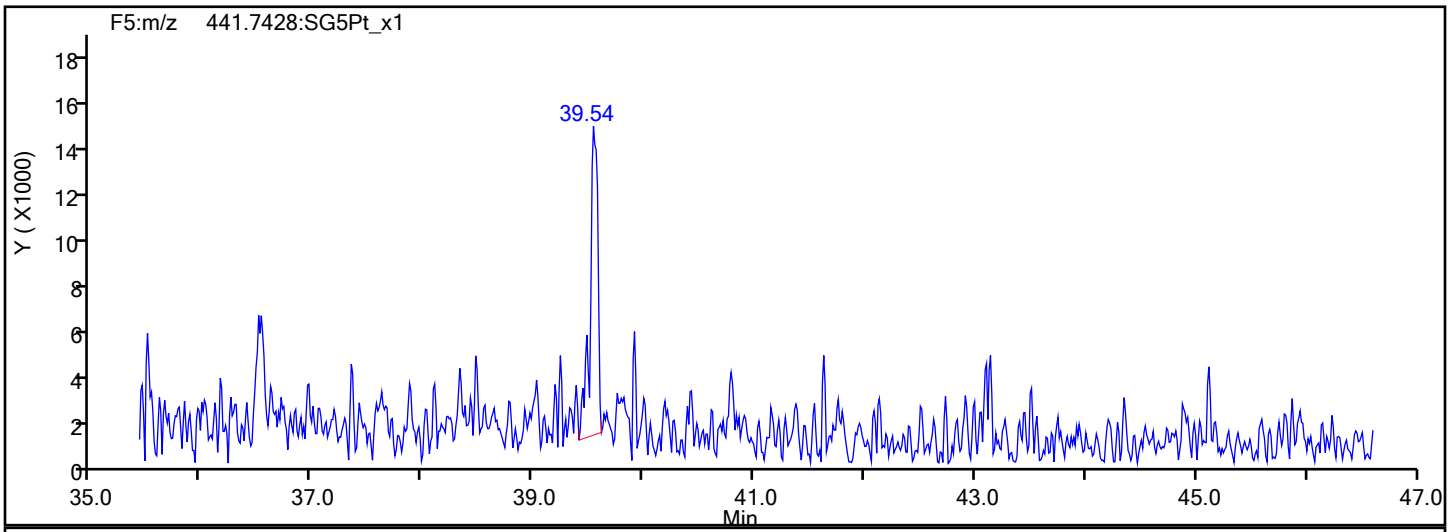

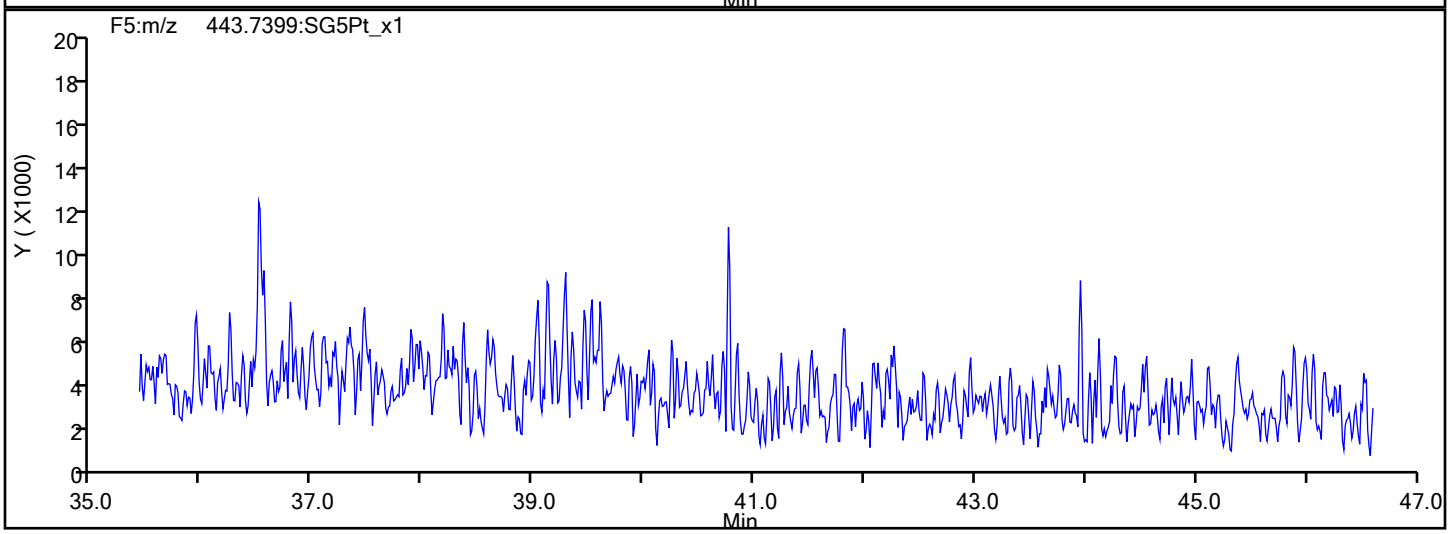

OCDF Interference Mass

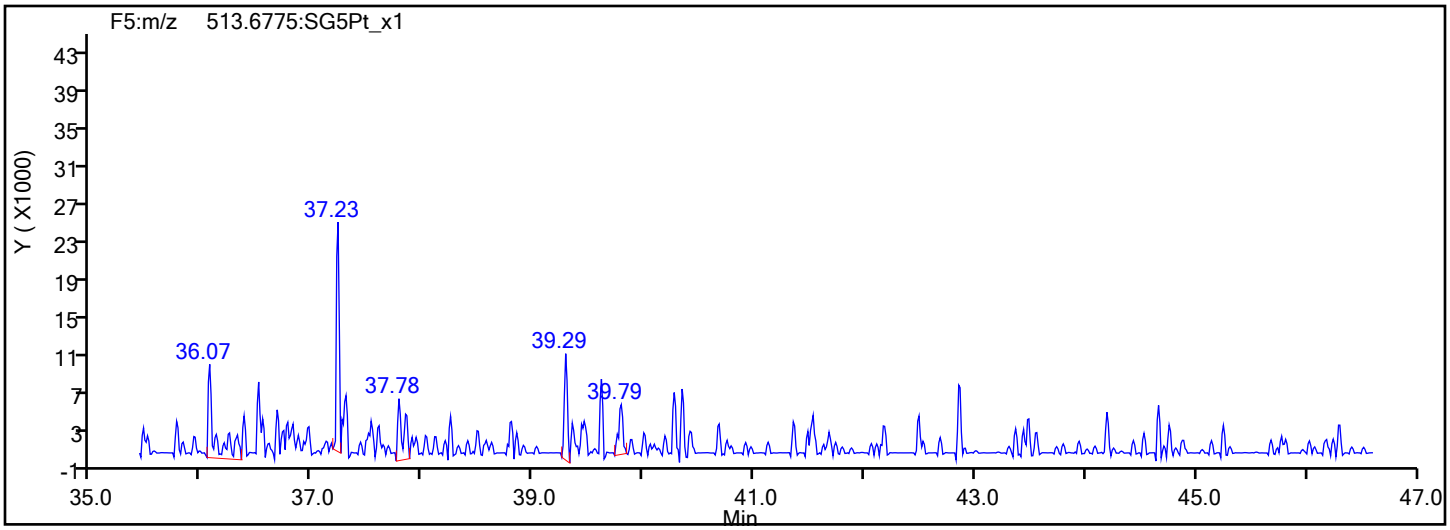

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Eurofins TestAmerica, Sacramento

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OCDD

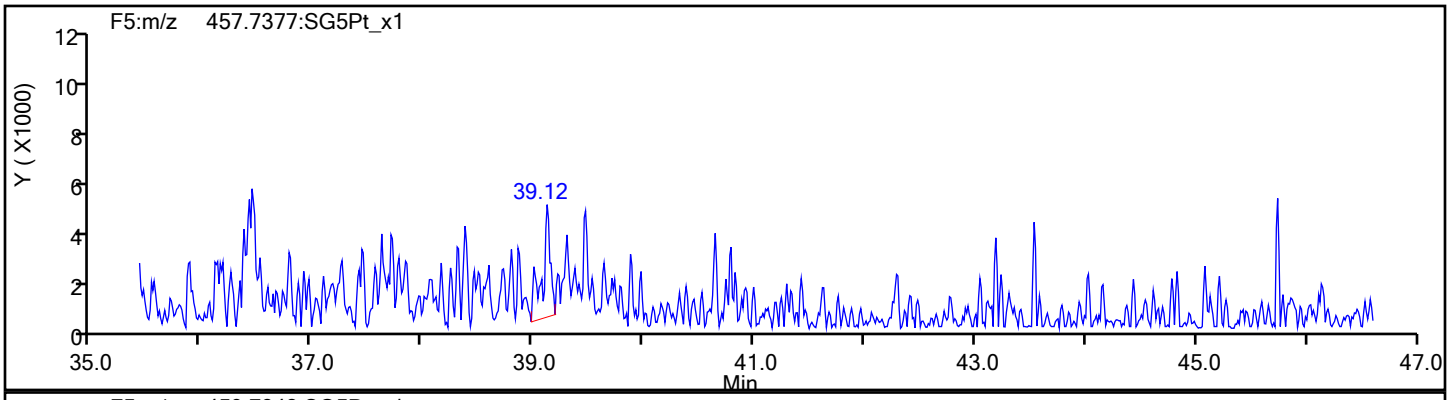

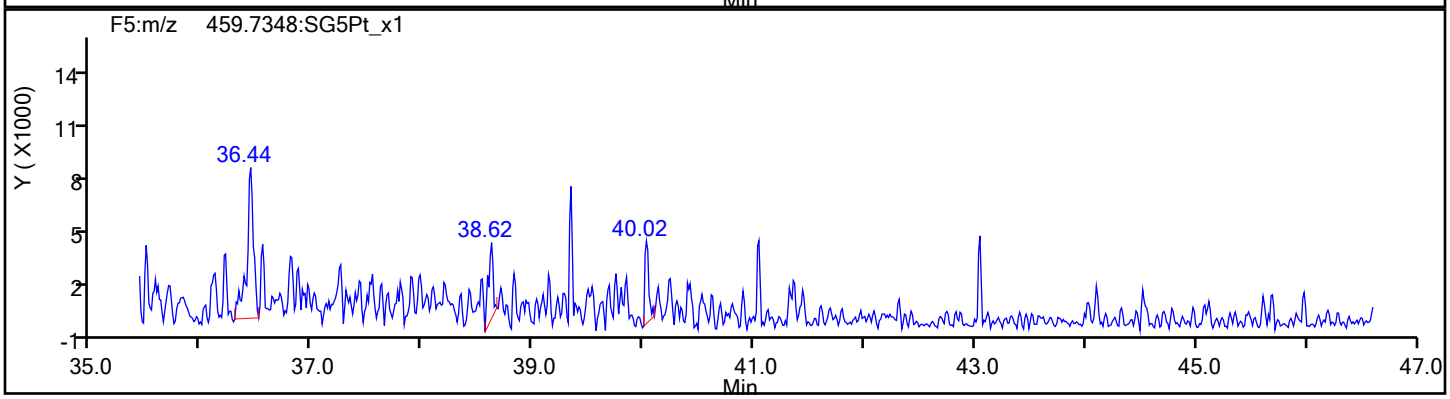

OCDD Standards

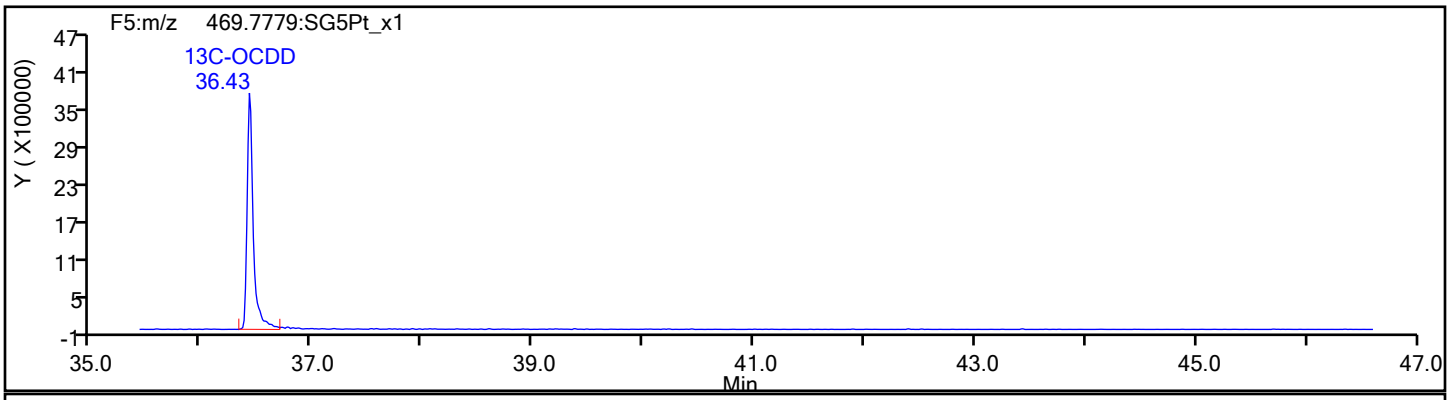

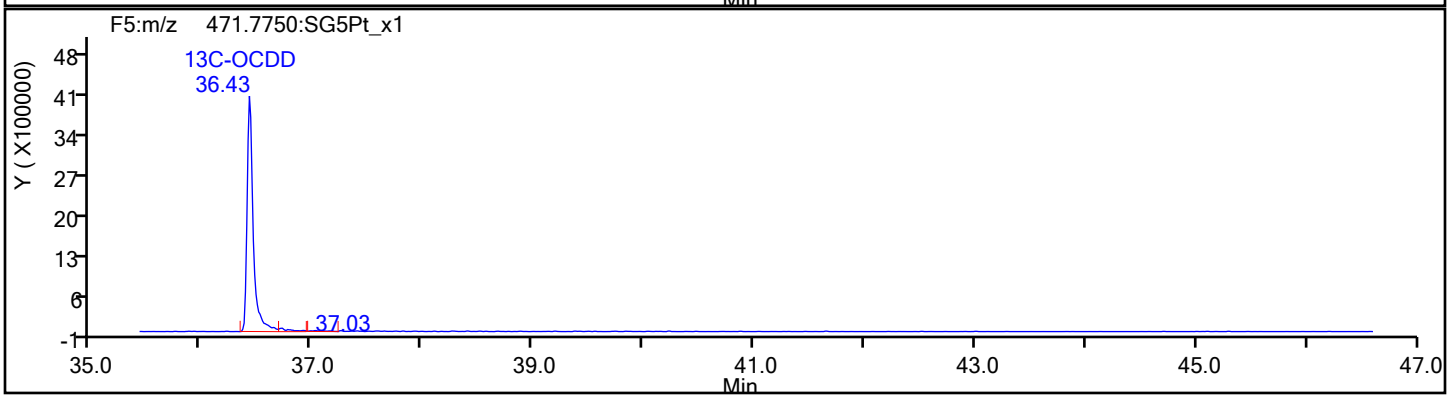

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Eurofins TestAmerica, Sacramento

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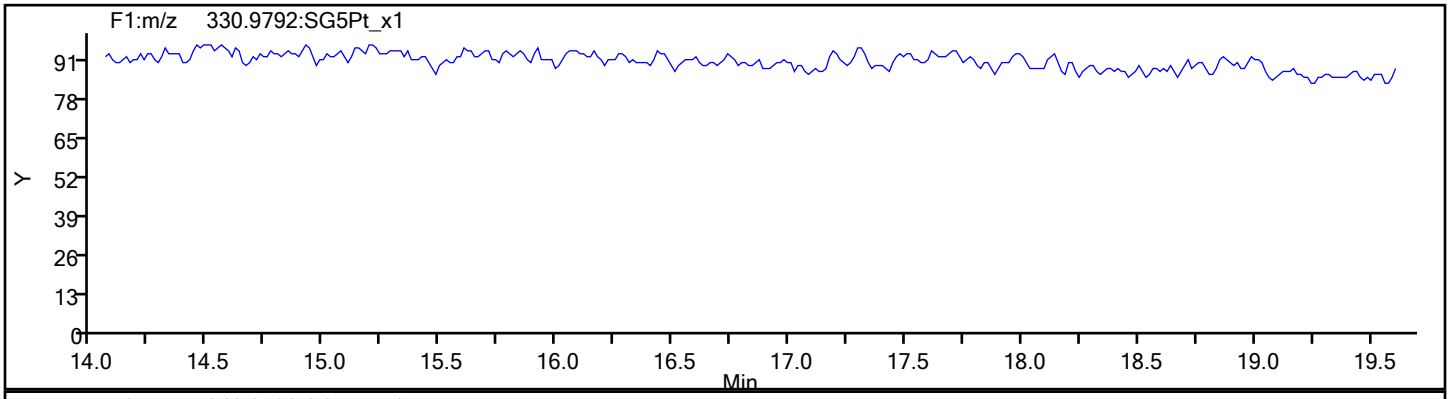

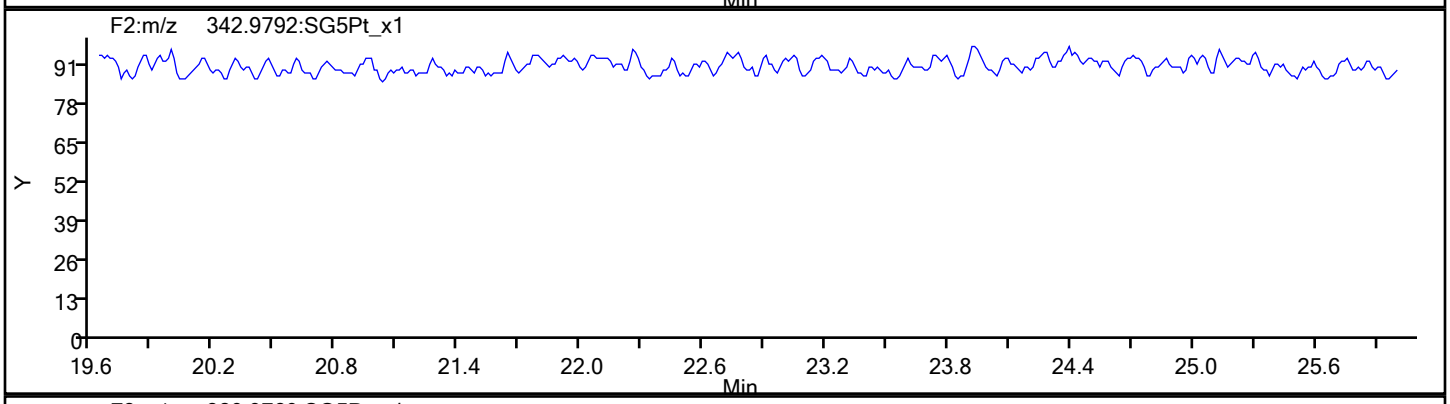

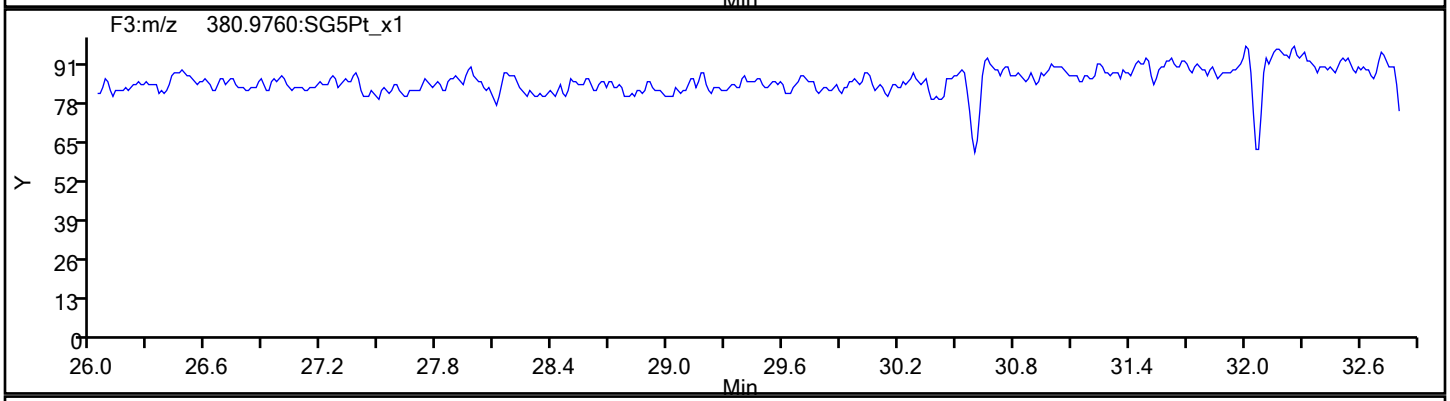

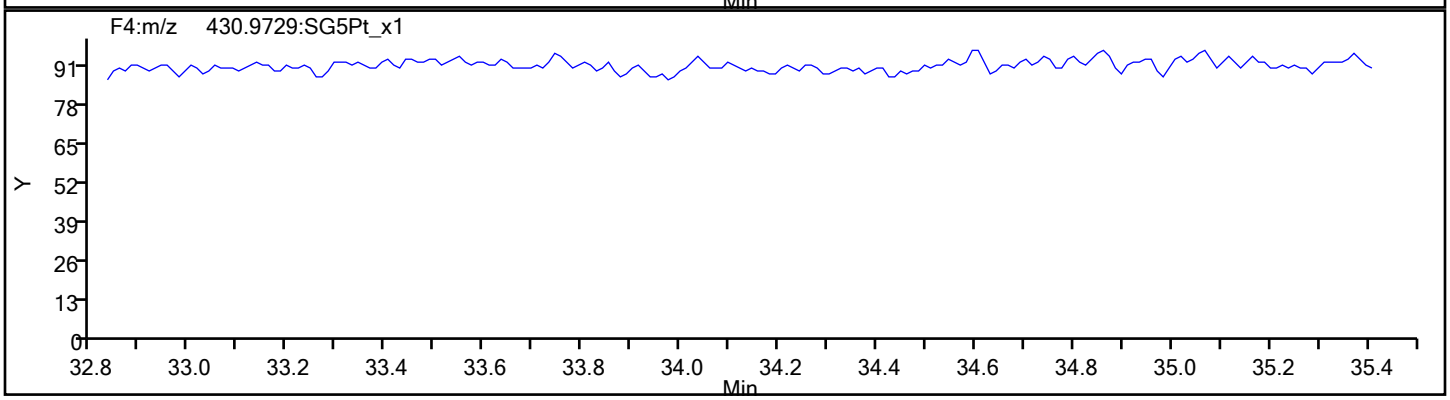

Report Date: 08-Jan-2020 09:07:23 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_8.d		
Injection Date:	07-Jan-2020 03:23:02	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-N.TREATMENT AREA #3		
Worklist#:	349283	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

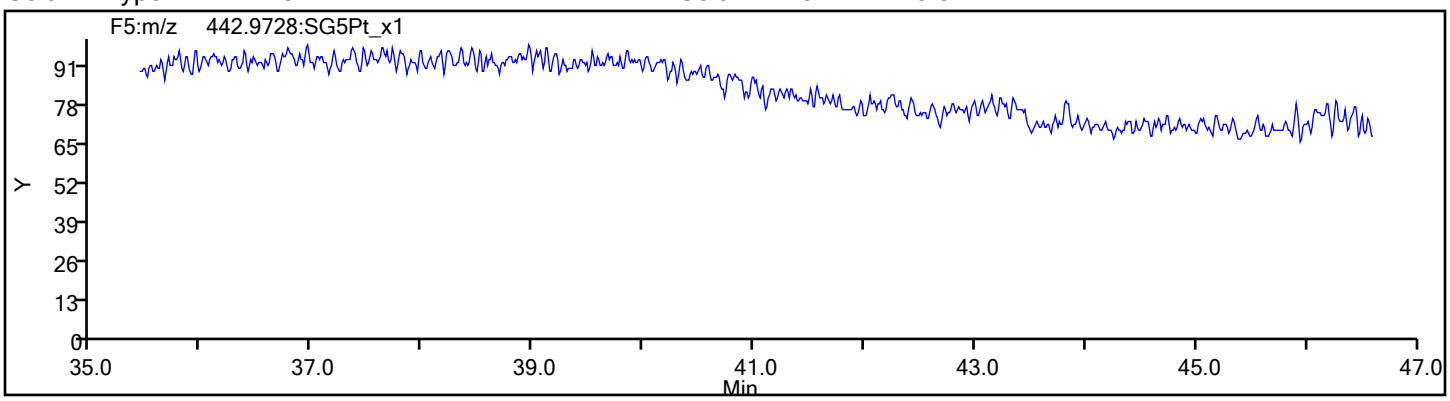

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 180-100205-1
SDG No.:
Client Sample ID: 11187072-N.TREATMENT AREA #4
Lab Sample ID: 180-100205-5
Matrix: Solid (TCLP)
Lab File ID: 06JA20A3D5_9.d
Analysis Method: 1613B
Date Collected: 12/18/2019 14:30
Extract. Method: HRMS-Sep
Date Extracted: 12/31/2019 11:06
Sample wt/vol: 211.15(g)
Date Analyzed: 01/07/2020 04:10
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 349283
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		47	12
51207-31-9	2,3,7,8-TCDF	ND		47	6.6
40321-76-4	1,2,3,7,8-PeCDD	ND		240	16
57117-41-6	1,2,3,7,8-PeCDF	ND		240	8.3
57117-31-4	2,3,4,7,8-PeCDF	ND		240	9.4
39227-28-6	1,2,3,4,7,8-HxCDD	ND		240	6.9
57653-85-7	1,2,3,6,7,8-HxCDD	ND		240	7.5
19408-74-3	1,2,3,7,8,9-HxCDD	ND		240	6.3
70648-26-9	1,2,3,4,7,8-HxCDF	ND		240	10
57117-44-9	1,2,3,6,7,8-HxCDF	ND		240	11
72918-21-9	1,2,3,7,8,9-HxCDF	ND		240	7.1
60851-34-5	2,3,4,6,7,8-HxCDF	ND		240	6.8
35822-46-9	1,2,3,4,6,7,8-HpCDD	ND		240	5.9
67562-39-4	1,2,3,4,6,7,8-HpCDF	ND		240	8.3
55673-89-7	1,2,3,4,7,8,9-HpCDF	ND		240	11
3268-87-9	OCDD	ND		470	9.9
39001-02-0	OCDF	ND		470	16
41903-57-5	Total TCDD	ND		47	12
30402-14-3	Total TCDF	ND		47	6.6
36088-22-9	Total PeCDD	ND		240	16
30402-15-4	Total PeCDF	ND		240	9.4
34465-46-8	Total HxCDD	ND		240	7.5
55684-94-1	Total HxCDF	ND		240	11
37871-00-4	Total HpCDD	ND		240	5.9
38998-75-3	Total HpCDF	ND		240	11

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 180-100205-1
SDG No.:
Client Sample ID: 11187072-N.TREATMENT AREA #4
Lab Sample ID: 180-100205-5
Matrix: Solid (TCLP)
Lab File ID: 06JA20A3D5_9.d
Analysis Method: 1613B
Date Collected: 12/18/2019 14:30
Extract. Method: HRMS-Sep
Date Extracted: 12/31/2019 11:06
Sample wt/vol: 211.15(g)
Date Analyzed: 01/07/2020 04:10
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 349283
Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	77		25-164
89059-46-1	13C-2,3,7,8-TCDF	80		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	68		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	78		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	78		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	78		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	80		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	80		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	74		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	70		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	75		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	72		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	76		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	80		26-138
114423-97-1	13C-OCDD	58		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	116		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_9.d
Lims ID: 180-100205-C-5-B
Client ID: 11187072-N.TREATMENT AREA #4
Sample Type: Client
Inject. Date: 07-Jan-2020 04:10:33 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-100205-C-5-B 180-100205-C-5-B
Misc. Info.: 06JA20A3D5
Operator ID: ALM Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 08-Jan-2020 09:09:23 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0314

First Level Reviewer: shardaa Date: 07-Jan-2020 10:39:29

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.158	62292798	0.80	2.2E+06	100.0	100.0				a
D 13C-2,3,7,8-TCDF	16.674	70730920	0.76	1.4157	80.2	80.2	0.2641	0.2641	80.20	
2,3,7,8-TCDF	16.674						0.0700	0.0700		
A Non-2,3,7,8-sub-TCDF	16.387						0.0700	0.0700		
S Total TCDF							0.0700	0.0700		
D 13C-2,3,7,8-TCDD	17.340	46953208	0.82	0.9751	77.3	77.3	0.2641	0.2641	77.30	
2,3,7,8-TCDD	17.340						0.1238	0.1238		
$ 37Cl4-2,3,7,8-TCDD	17.355	38936525		1.3480	46.4	46.4	0.1481	0.1481	116	
A Non-2,3,7,8-sub-TCDD	16.818						0.1238	0.1238		
S Total TCDD							0.1238	0.1238		
D 13C-1,2,3,7,8-PeCDF	21.394	57584985	1.59	1.1786	78.4	78.4	0.2614	0.2614	78.44	
1,2,3,7,8-PeCDF	21.408						0.0879	0.0879		
D 13C-2,3,4,7,8-PeCDF	22.662	55275807	1.59	1.1308	78.5	78.5	0.2725	0.2725	78.47	
2,3,4,7,8-PeCDF	22.662						0.0997	0.0997		
A F1 PeCDFs	19.117						0.0819	0.0819		
A Non-2,3,7,8-sub-PeCDF	22.077						0.0934	0.0934		
S Total PeCDF							0.0997	0.0997		
D 13C-1,2,3,7,8-PeCDD	23.344	32037766	1.60	0.7572	67.9	67.9	0.1779	0.1779	67.92	
1,2,3,7,8-PeCDD	23.344						0.1648	0.1648		
A Non-2,3,7,8-sub-PeCDD	22.301						0.1648	0.1648		
S Total PeCDD							0.1648	0.1648		
D 13C-1,2,3,4,7,8-HxCDF	29.385	51893341	0.52	1.1043	80.0	80.0	0.4266	0.4266	79.98	
1,2,3,4,7,8-HxCDF	29.399						0.1081	0.1081		
D 13C-1,2,3,6,7,8-HxCDF	29.692	49543204	0.51	1.1470	73.5	73.5	0.4107	0.4107	73.51	
1,2,3,6,7,8-HxCDF	29.692						0.1129	0.1129		
D 13C-2,3,4,6,7,8-HxCDF	30.837	47172084	0.50	1.0769	74.5	74.5	0.4374	0.4374	74.55	
2,3,4,6,7,8-HxCDF	30.837						0.0723	0.0723		
D 13C-1,2,3,7,8,9-HxCDF	31.809	41498656	0.52	1.0115	69.8	69.8	0.4657	0.4657	69.82	
1,2,3,7,8,9-HxCDF	31.795						0.0753	0.0753		
A Non-2,3,7,8-sub-HxCDF	29.272						0.0886	0.0886		
S Total HxCDF							0.1129	0.1129		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.596	58759366	1.29	2.1E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.076	36722810	1.33	0.7962	78.5	78.5	0.3399	0.3399	78.49	
1,2,3,4,7,8-HxCDD	31.090						0.0730	0.0730		RQU
D 13C-1,2,3,6,7,8-HxCDD	31.210	40815578	1.32	0.8720	79.7	79.7	0.3103	0.3103	79.66	
1,2,3,6,7,8-HxCDD	31.090						0.0787	0.0787		RQU
1,2,3,7,8,9-HxCDD	31.583						0.0670	0.0670		
A Non-2,3,7,8-sub-HxCDD	29.885						0.0726	0.0726		U
S Total HxCDD							0.0787	0.0787		
D 13C-1,2,3,4,6,7,8-HpCDF	33.379	33937756	0.42	0.7577	76.2	76.2	1.241	1.241	76.23	
1,2,3,4,6,7,8-HpCDF	33.367						0.0873	0.0873		
D 13C-1,2,3,4,7,8,9-HpCDF	34.436	32709812	0.44	0.6941	80.2	80.2	1.354	1.354	80.20	
1,2,3,4,7,8,9-HpCDF	34.424						0.1153	0.1153		
A Non-2,3,7,8-sub-HpCDF	33.907						0.0998	0.0998		
S Total HpCDF							0.1153	0.1153		
D 13C-1,2,3,4,6,7,8-HpCDD	34.156	29896421	1.09	0.7058	72.1	72.1	0.5230	0.5230	72.09	
1,2,3,4,6,7,8-HpCDD	34.144						0.0623	0.0623		
A Non-2,3,7,8-sub-HpCDD	33.883						0.0623	0.0623		
S Total HpCDD							0.0623	0.0623		
D 13C-OCDD	36.439	31440112	0.90	0.4603	116.3	116.3	0.4006	0.4006	58.13	
OCDF	36.511						0.1713	0.1713		
OCDD	36.451						0.1041	0.1041		U

QC Flag Legend

Review Flags

U - Marked Undetected

a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_9.d
Lims ID: 180-100205-C-5-B
Client ID: 11187072-N.TREATMENT AREA #4
Sample Type: Client
Inject. Date: 07-Jan-2020 04:10:33 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 180-100205-C-5-B 180-100205-C-5-B
Misc. Info.: 06JA20A3D5
Operator ID: ALM Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 08-Jan-2020 09:09:23 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0314

First Level Reviewer: shardaa Date: 07-Jan-2020 10:39:29

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											a
331.9368	17.158	17.128	2		27592684	7167590	10793	26982	664		a
333.9339	17.158	17.128	2		34700114	9036795	5902	14755	1531	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.674	16.659	1	0.972	30635758	7676228	13380	33450	574		
317.9389	16.674	16.659	1	0.972	40095162	10320659	10852	27130	951	0.76(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.674						1499	3747			
305.8987	16.674						3291	8227			
A Non-2,3,7,8-sub-TCDF											
303.9016	16.387						1499	3747			
305.8987	16.387						3291	8227			
13C-2,3,7,8-TCDD											
331.9368	17.340	17.324	1	1.011	21101172	5070263	10793	26982	470		
333.9339	17.340	17.324	1	1.011	25852036	6186815	5902	14755	1048	0.82(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.340						3143	7857			
321.8936	17.340						2696	6740			
37Cl4-2,3,7,8-TCDD											
327.8847	17.355	17.340	1	1.011	38936525	9110080	12944	32360	704		
A Non-2,3,7,8-sub-TCDD											
319.8965	16.818						3143	7857			
321.8936	16.818						2696	6740			
13C-1,2,3,7,8-PeCDF											
351.9000	21.394	21.381	1	1.247	35332538	6269561	13110	32775	478		
353.8970	21.408	21.381	2	1.248	22252447	3890385	6859	17147	567	1.59(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	21.408						1180	2950			
341.8567	21.408						2501	6252			
13C-2,3,4,7,8-PeCDF											
351.9000	22.662	22.635	2	1.321	33908465	5492580	13110	32775	419		
353.8970	22.662	22.635	2	1.321	21367342	3372396	6859	17147	492	1.59(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.662						1180	2950			
341.8567	22.662						2501	6252			
A F1 PeCDFs											
339.8597	19.117						1013	2532			
341.8567	19.117						2216	5540			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.077						1180	2950			
341.8567	22.077						2501	6252			
13C-1,2,3,7,8-PeCDD											
367.8949	23.344	23.317	2	1.361	19738708	3017826	6061	15152	498		
369.8919	23.344	23.317	2	1.361	12299058	1908528	2671	6677	715	1.60(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.344						2283	5707			
357.8516	23.344						1242	3105			
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.301						2283	5707			
357.8516	22.301						1242	3105			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.385	29.346	2	0.930	17680892	2129566	7530	18825	283		
385.8610	29.399	29.346	3	0.930	34212449	3926118	15741	39352	249	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.399						1568	3920			
375.8178	29.399						1437	3592			
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.692	29.678	1	0.940	16691787	1957861	7530	18825	260		
385.8610	29.692	29.678	1	0.940	32851417	3854414	15741	39352	245	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	29.692						1568	3920			
375.8178	29.692						1437	3592			
13C-2,3,4,6,7,8-HxCDF											
383.8639	30.837	30.810	2	0.976	15649489	2893955	7530	18825	384		
385.8610	30.837	30.810	2	0.976	31522595	5970739	15741	39352	379	0.50(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	30.837						1568	3920			
375.8178	30.837						1437	3592			
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.809	31.782	2	1.007	14269534	2935031	7530	18825	390		
385.8610	31.795	31.782	1	1.006	27229122	5580342	15741	39352	355	0.52(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	31.795						1568	3920			
375.8178	31.795						1437	3592			
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.272						1568	3920			
375.8178	29.272						1437	3592			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.596	31.569	2		33086976	6765451	6909	17272	979		
403.8529	31.596	31.569	2		25672390	5584443	6459	16147	865	1.29(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.076	31.050	2	0.984	20980322	4742615	6909	17272	686		
403.8529	31.076	31.050	2	0.984	15742488	3514689	6459	16147	544	1.33(1.05-1.43)	
1,2,3,4,7,8-HxCDD											RQU
389.8157	31.063						1103	2757			
391.8127	31.063						1533	3832			
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.210	31.183	2	0.988	23185523	4468453	6909	17272	647		
403.8529	31.210	31.183	2	0.988	17630055	3565179	6459	16147	552	1.32(1.05-1.43)	
1,2,3,6,7,8-HxCDD											RQU
389.8157	31.196						1103	2757			
391.8127	31.196						1533	3832			
1,2,3,7,8,9-HxCDD											
389.8157	31.583						1103	2757			
391.8127	31.583						1533	3832			
A Non-2,3,7,8-sub-HxCDD											U
389.8157	29.885						1103	2757			
391.8127	29.885						1533	3832			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.379	33.354	1	1.056	10065484	3298198	12299	30747	268		
419.8220	33.379	33.354	1	1.056	23872272	7417058	34137	85342	217	0.42(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.367						3881	9702			
409.7789	33.367						1655	4137			
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.436	34.412	1	1.090	10019818	2879522	12299	30747	234		
419.8220	34.436	34.412	1	1.090	22689994	6401182	34137	85342	188	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.424						3881	9702			
409.7789	34.424						1655	4137			
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.907						3881	9702			
409.7789	33.907						1655	4137			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.156	34.132	1	1.081	15618542	4729298	9079	22697	521		
437.8140	34.156	34.132	1	1.081	14277879	4394056	9157	22892	480	1.09(0.88-1.20)	

Report Date: 08-Jan-2020 09:09:24 Chrom Revision: 2.3 23-Dec-2019 10:12:06
Data File: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_9.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.144						1449	3622			
425.7737	34.144						945	2362			
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.883						1449	3622			
425.7737	33.883						945	2362			
13C-OCDD											
469.7779	36.439	36.415	1	1.153	14889250	3653867	5873	14682	622		
471.7750	36.439	36.415	1	1.153	16550862	4237131	3236	8090	1309	0.90(0.76-1.02)	
OCDF											
441.7428	36.511						1283	3207			
443.7399	36.511						2488	6220			
OCDD											U
457.7377	36.427						954	2385			
459.7348	36.427						912	2280			

QC Flag Legend

Review Flags

U - Marked Undetected

a - User Assigned ID

Report Date: 08-Jan-2020 09:09:24 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_9.d
Lims ID: 180-100205-C-5-B
Client ID: 11187072-N.TREATMENT AREA #4
Inject. Date: 07-Jan-2020 04:10:33 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 3D5 Operator: ALM
Lims Batch ID: 349283 Lims Sample ID: 9

Non-2,3,7,8-sub-HxCDD, RT: 29.885

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.093	D 13C-1,2,3,4,7,8-HxCDD	100.000	36722810	8257304
1,2,3,6,7,8-HxCDD	1.043	D 13C-1,2,3,6,7,8-HxCDD	100.000	40815578	8033632
1,2,3,7,8,9-HxCDD	1.207				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.115		100.000	38769194	8145468

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags

Compound is Marked ND

Report Date: 08-Jan-2020 09:09:24 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_9.d		
Injection Date:	07-Jan-2020 04:10:33	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-N.TREATMENT AREA #4		
Worklist#:	349283	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

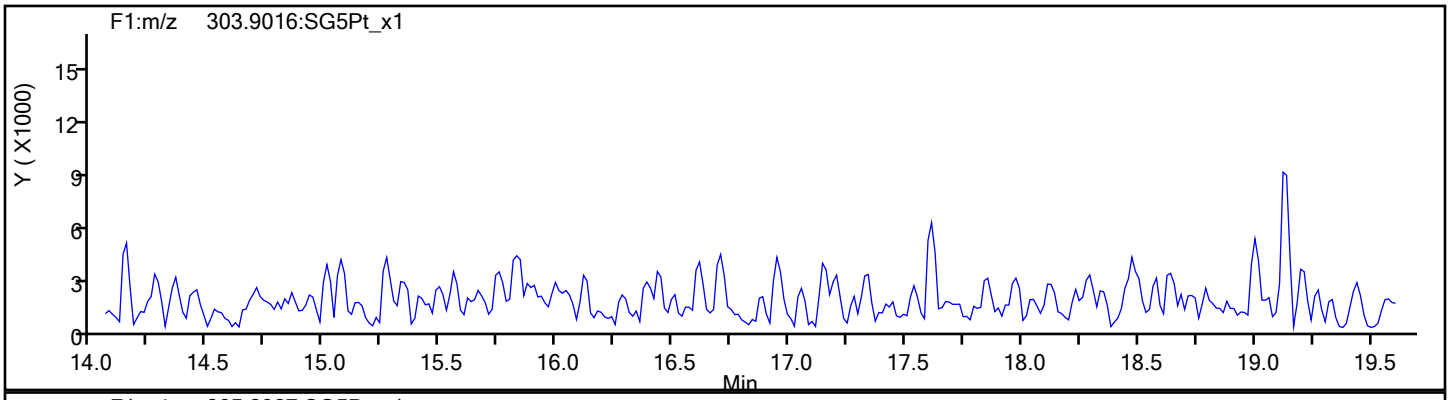

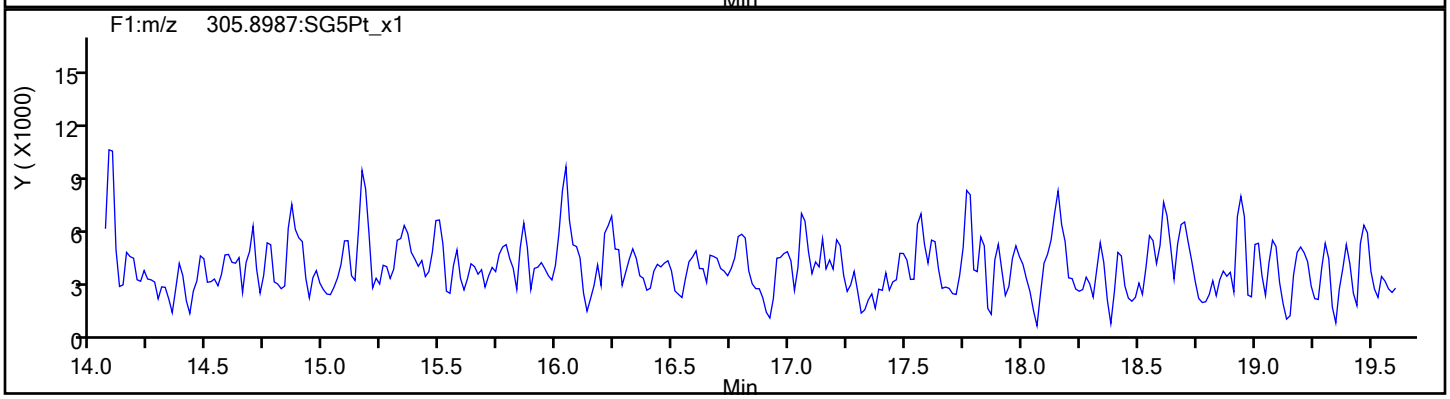

TCDF Standards

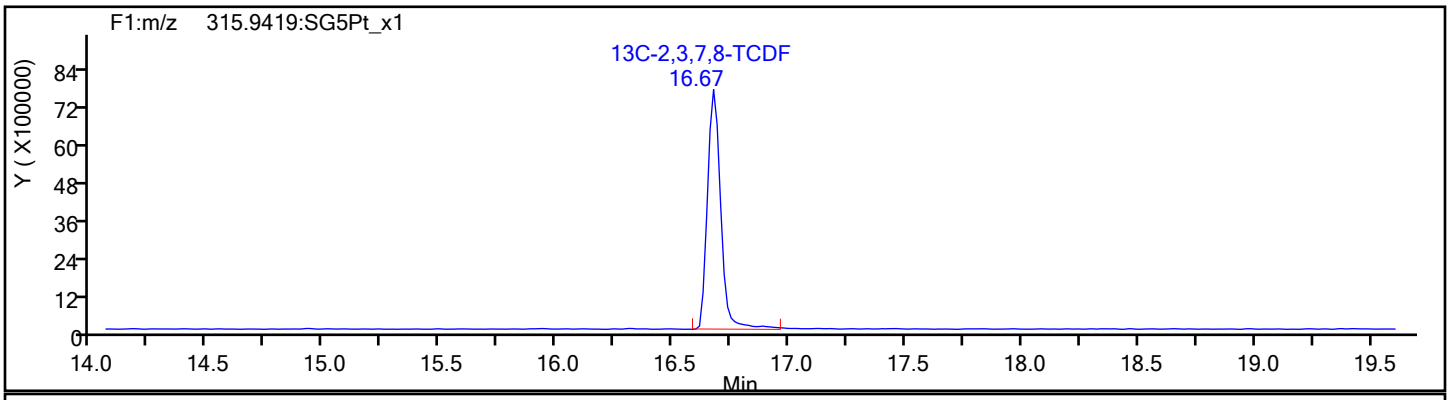

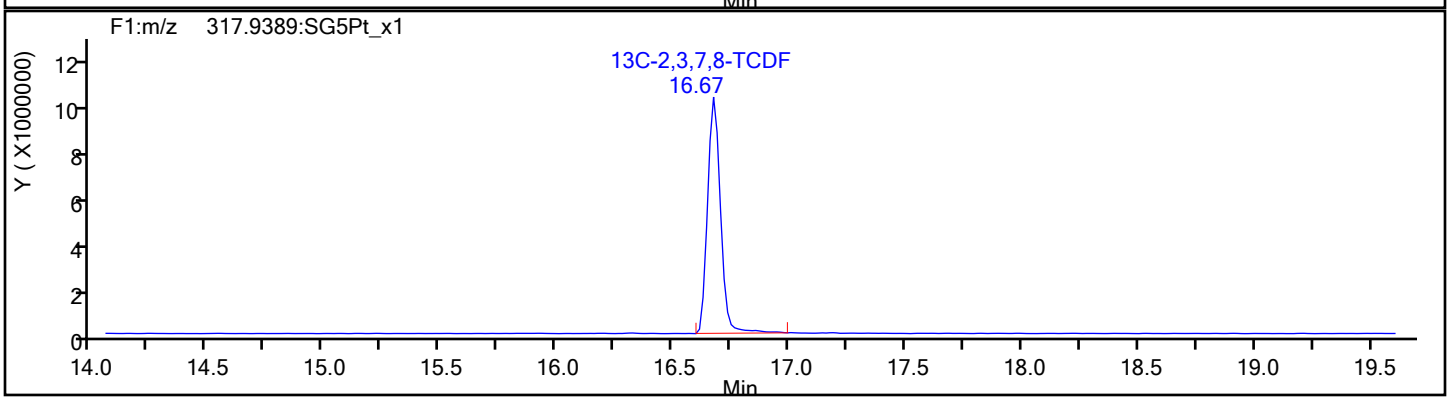

Report Date: 08-Jan-2020 09:09:24 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-N.TREATMENT AREA #4		
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

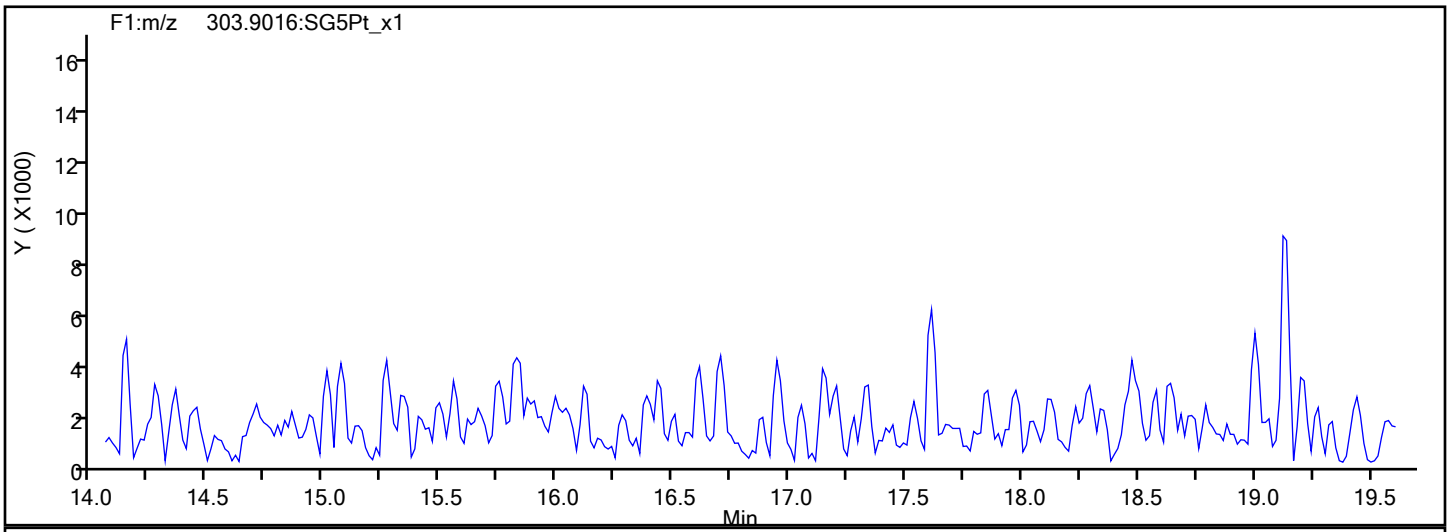

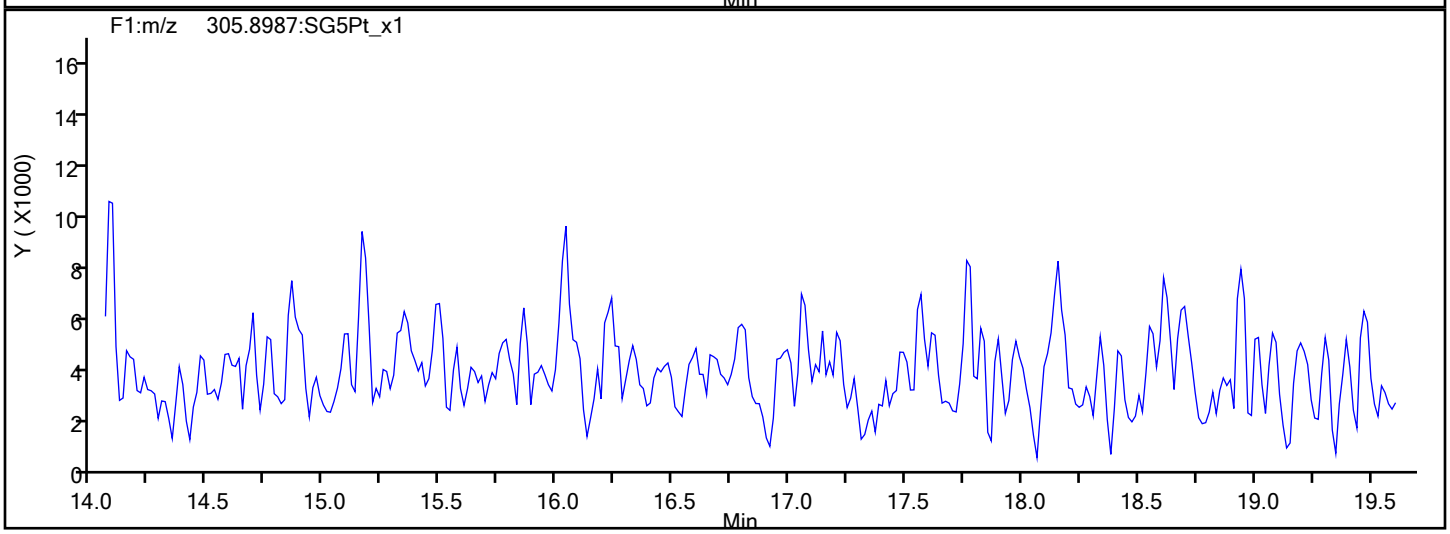

TCDF Interference Mass

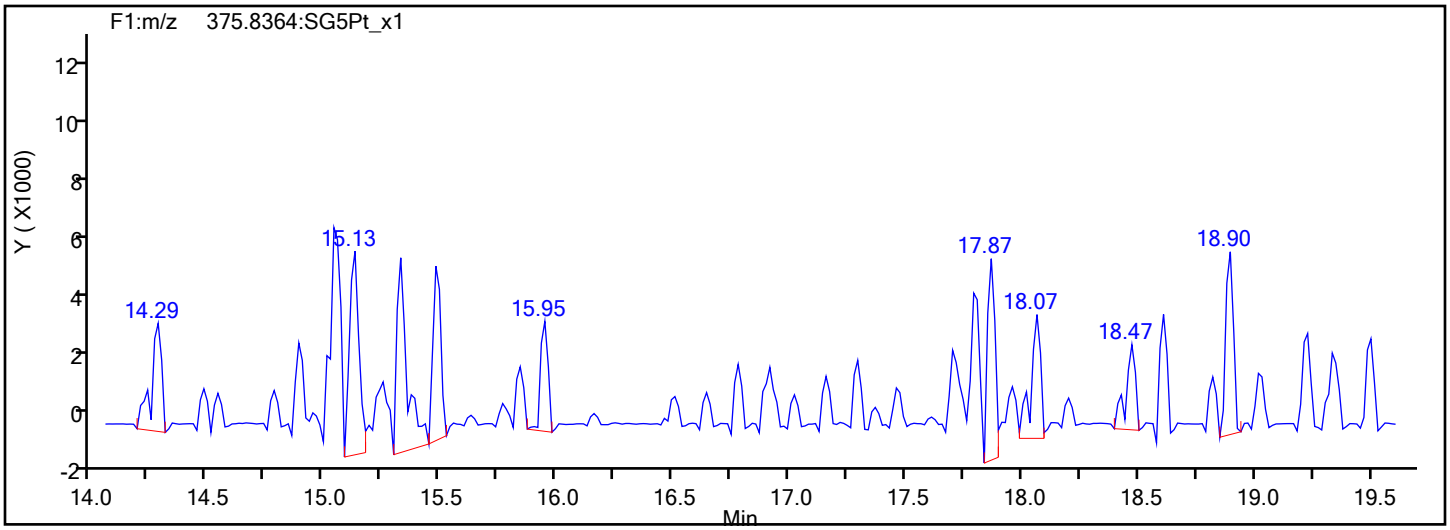

Report Date: 08-Jan-2020 09:09:24 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_9.d		
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Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-N.TREATMENT AREA #4		
Worklist#:	349283	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

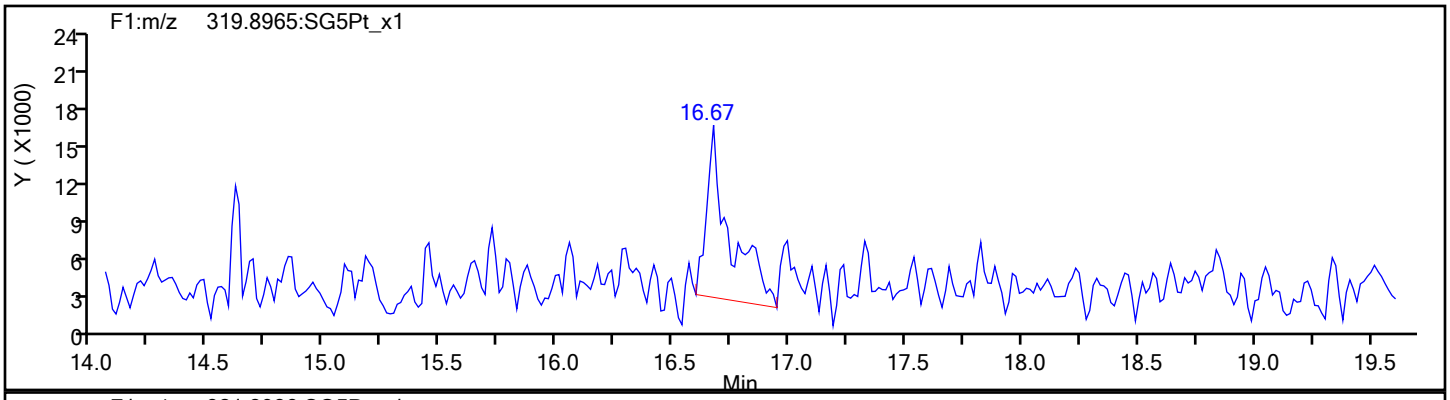

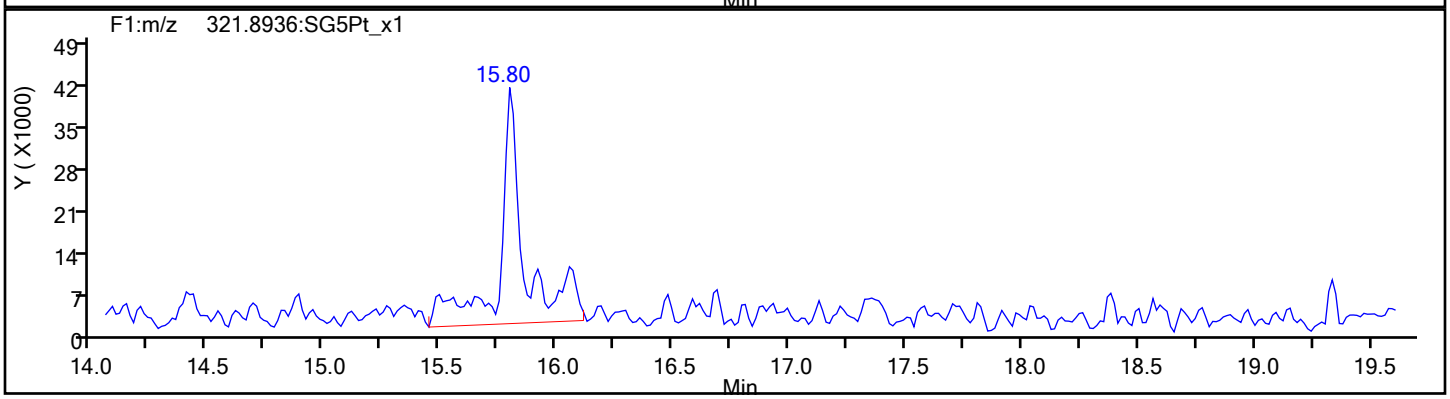

TCDD Standards

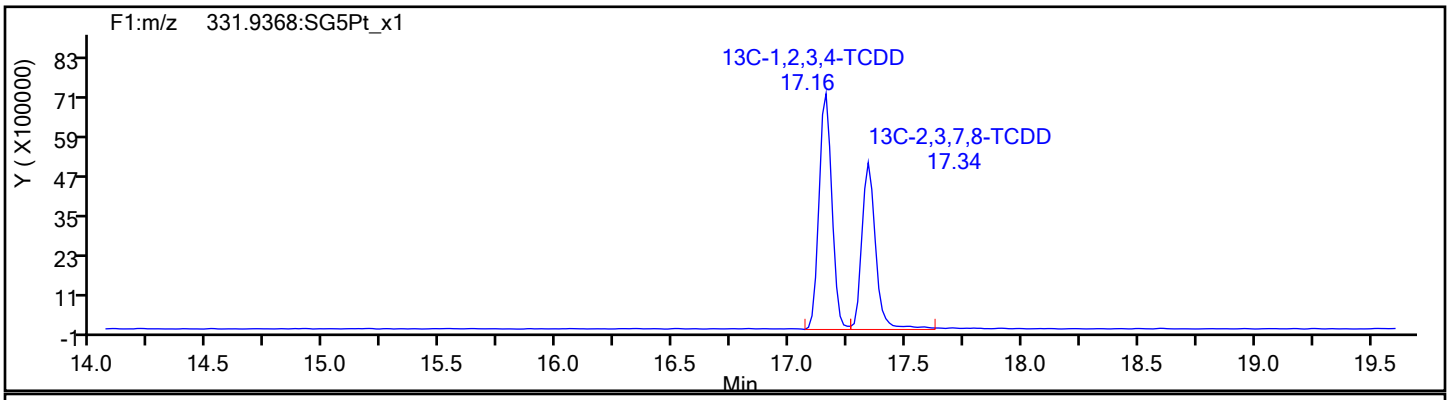

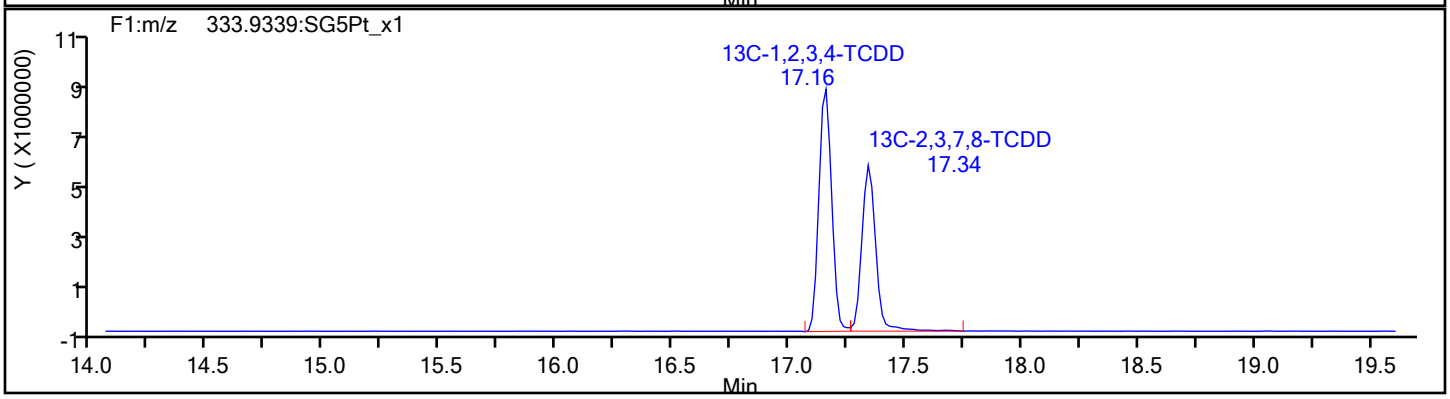

Report Date: 08-Jan-2020 09:09:24 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_9.d		
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Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-N.TREATMENT AREA #4		
Worklist#:	349283	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

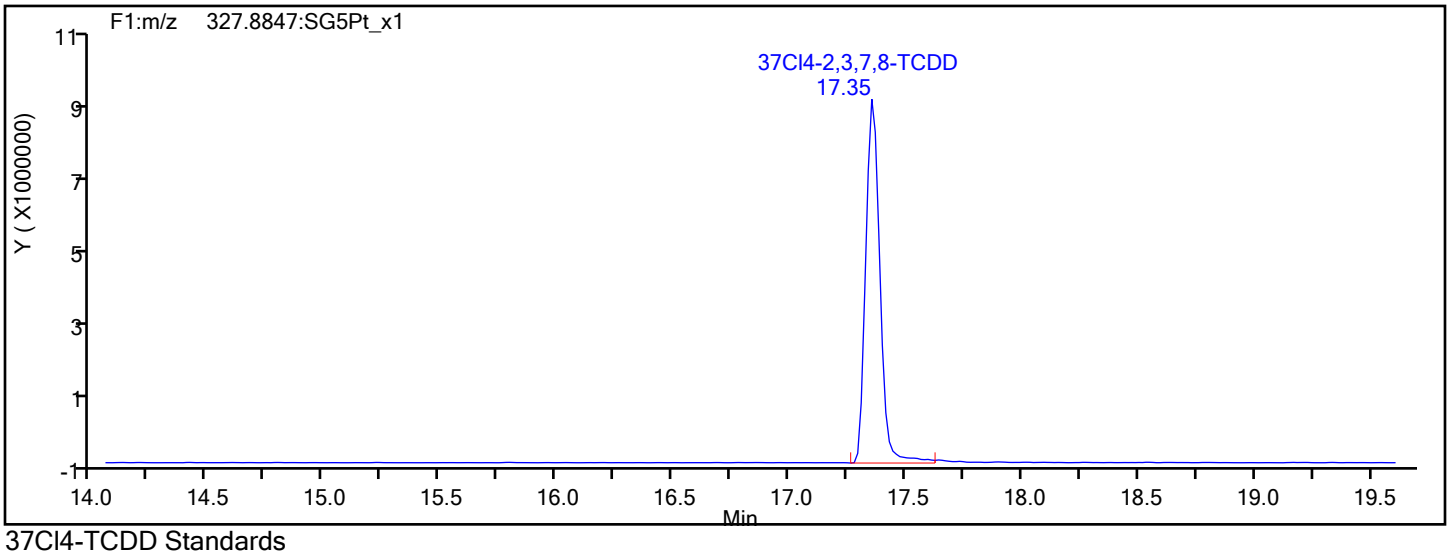

37Cl4-TCDD Standards

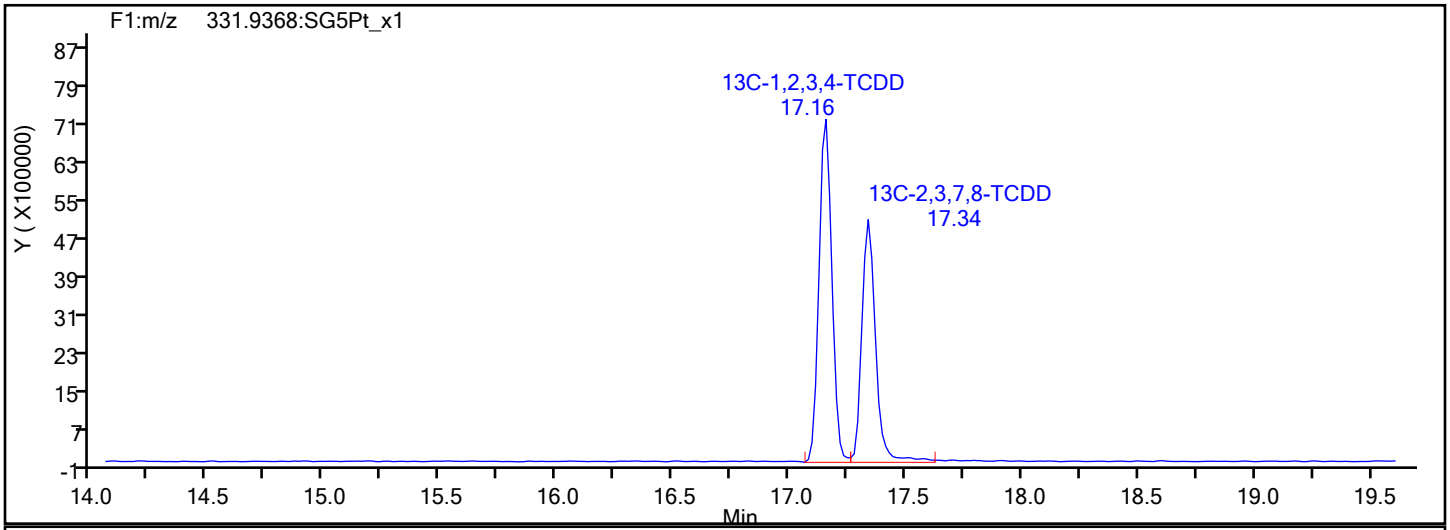

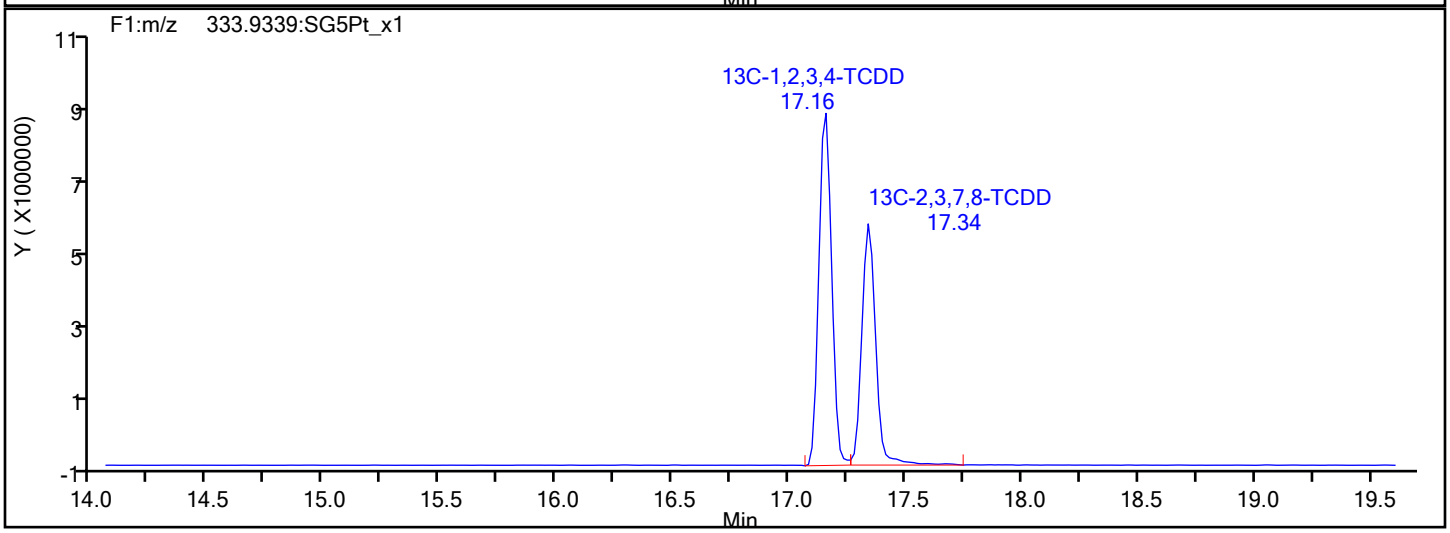

Report Date: 08-Jan-2020 09:09:24 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_9.d		
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Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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F1 PeCDFs

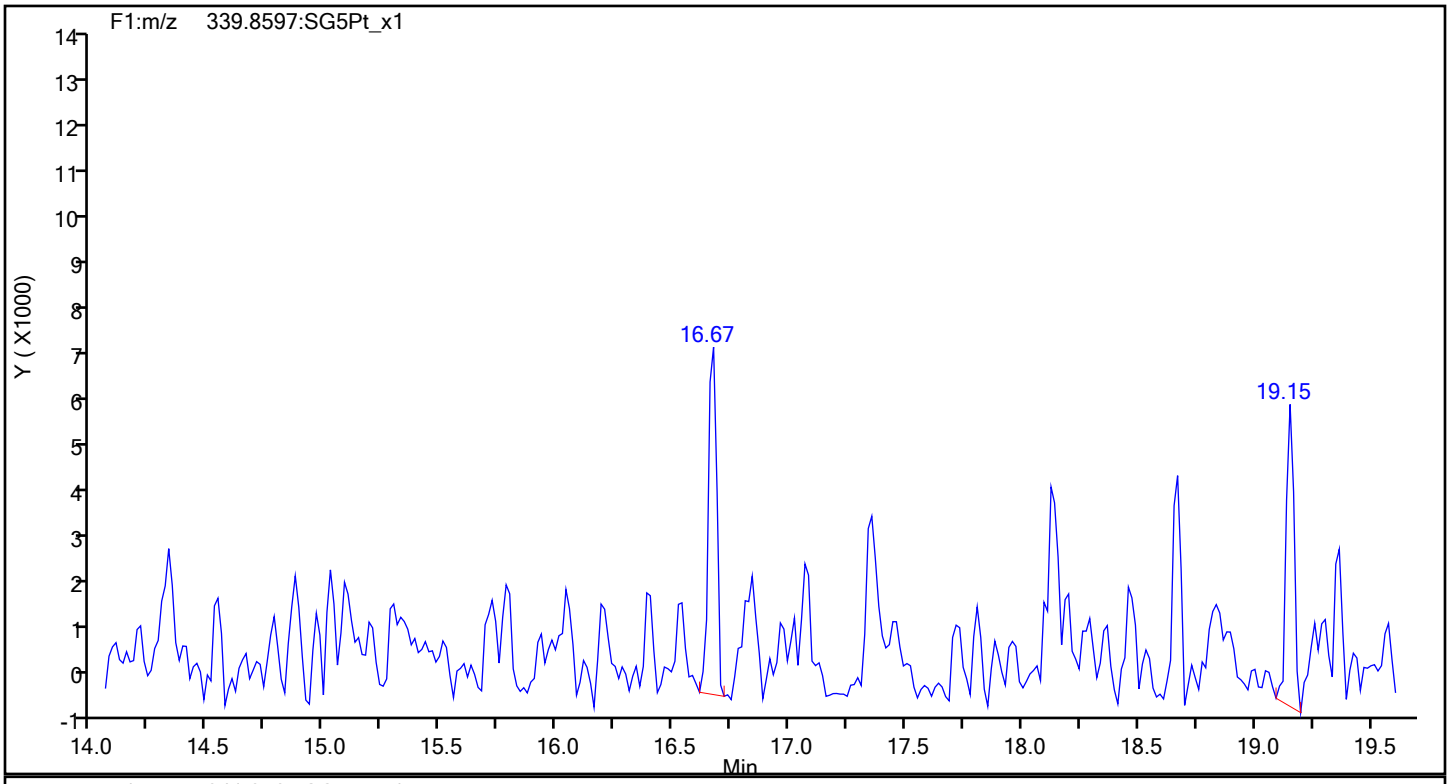

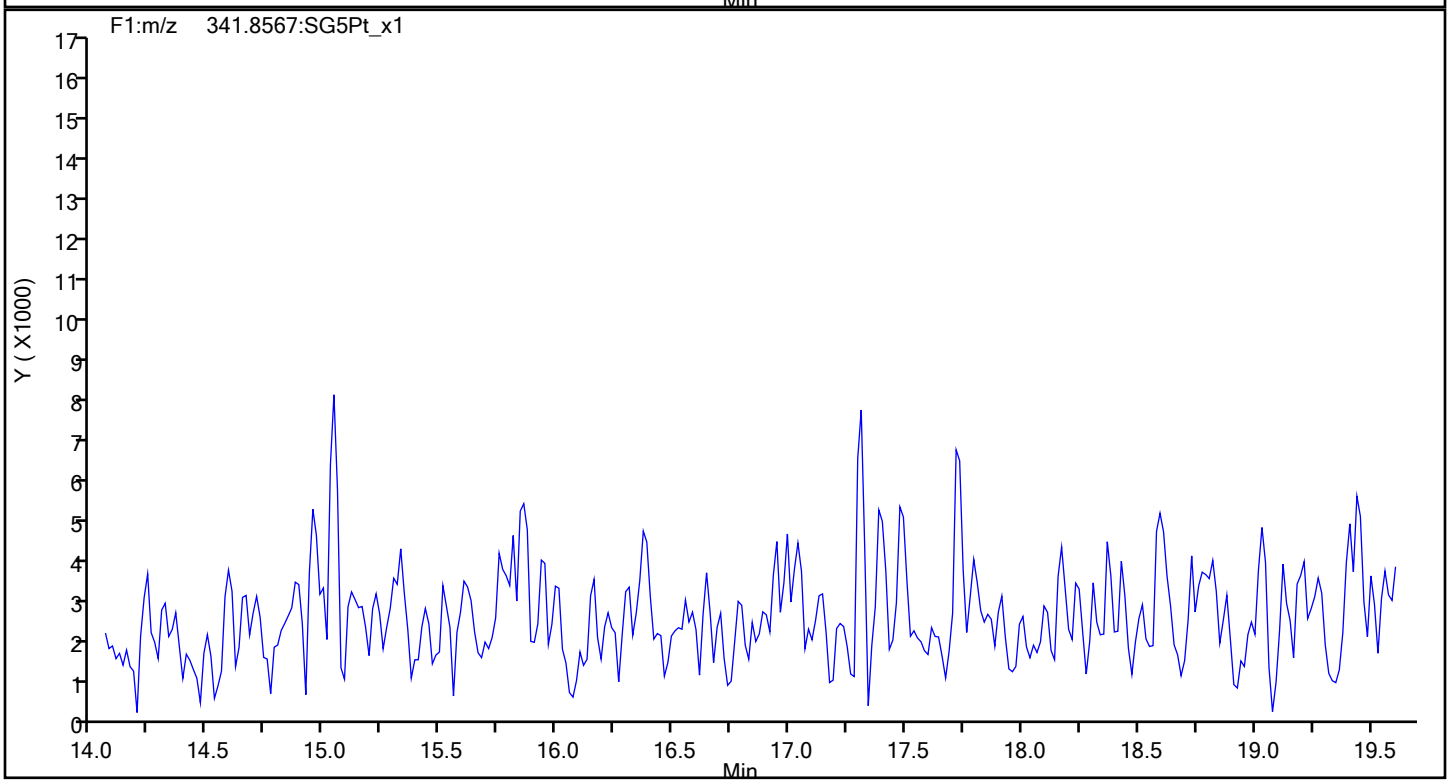

Report Date: 08-Jan-2020 09:09:24 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_9.d		
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Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-N.TREATMENT AREA #4		
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F1 PeCDFs

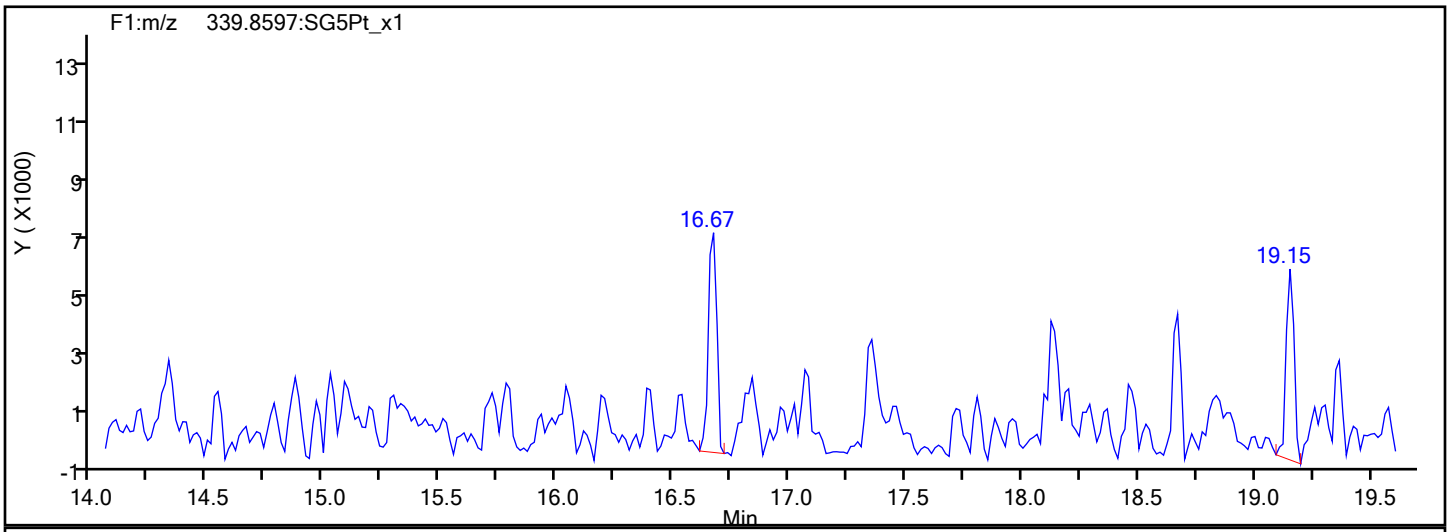

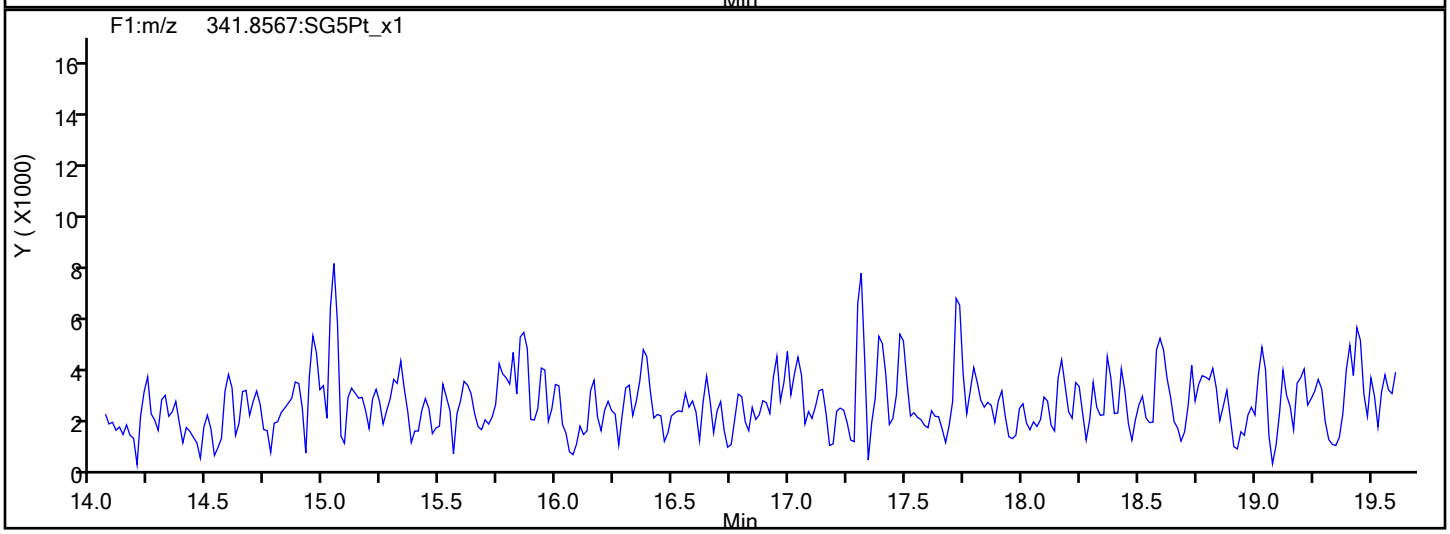

F1 PeCDFs Interference Mass

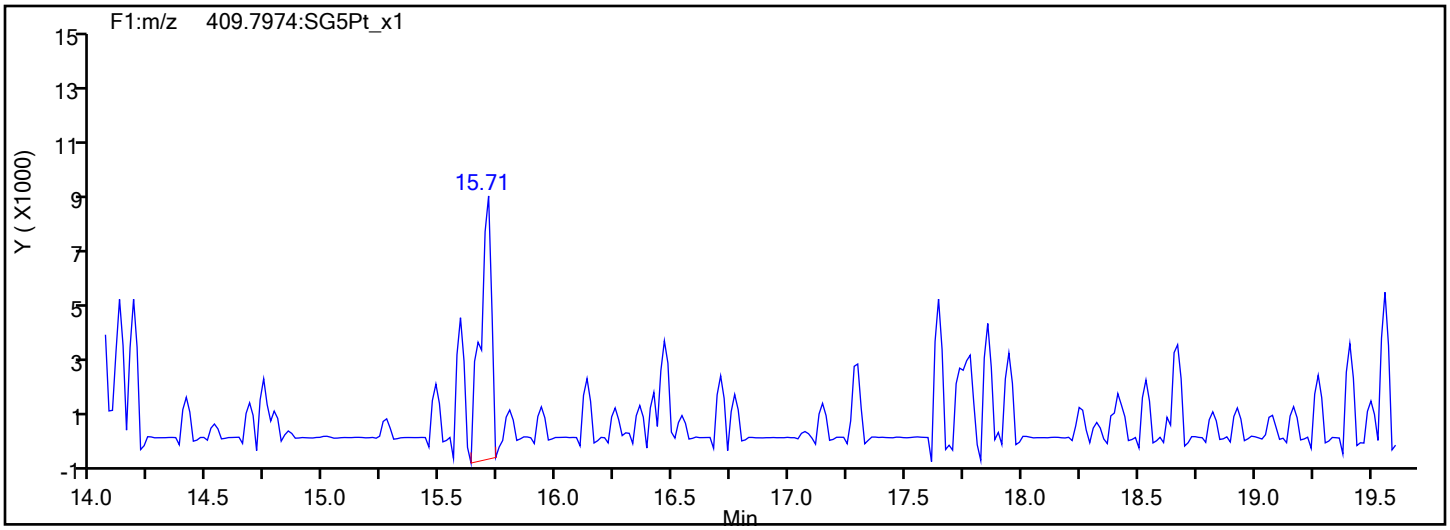

Report Date: 08-Jan-2020 09:09:24 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-N.TREATMENT AREA #4		
Worklist#:	349283	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

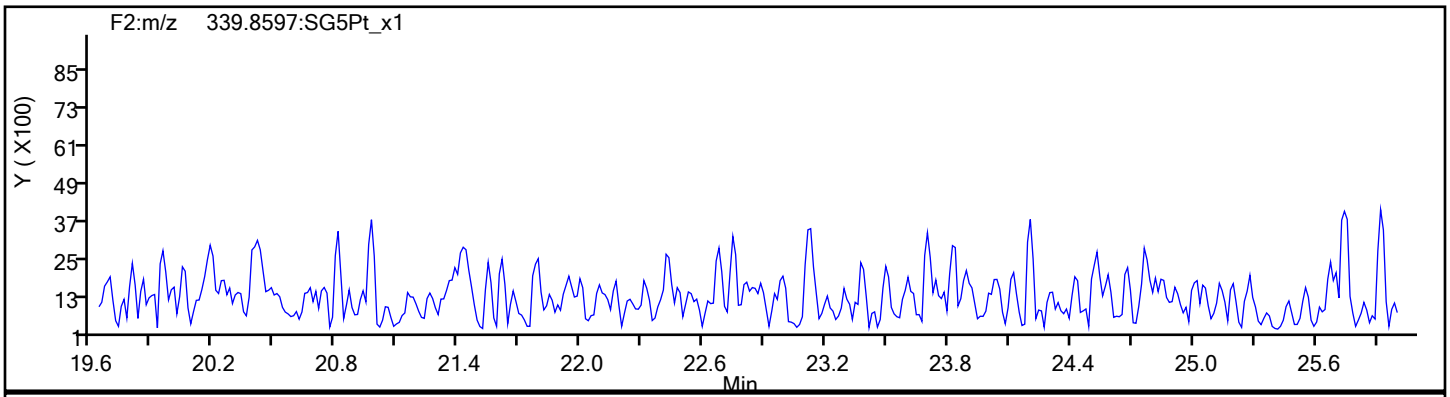

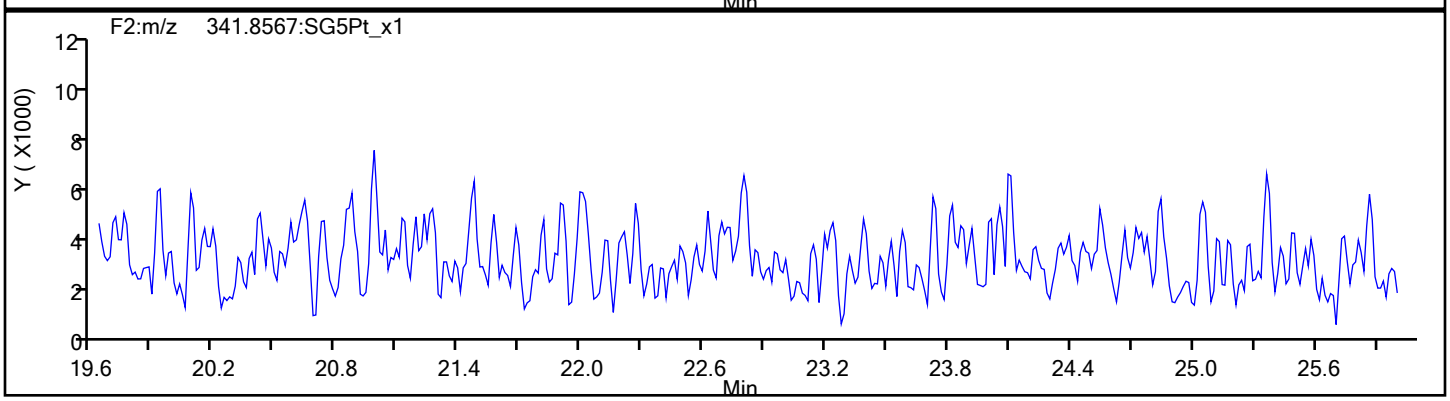

PeCDF Standards

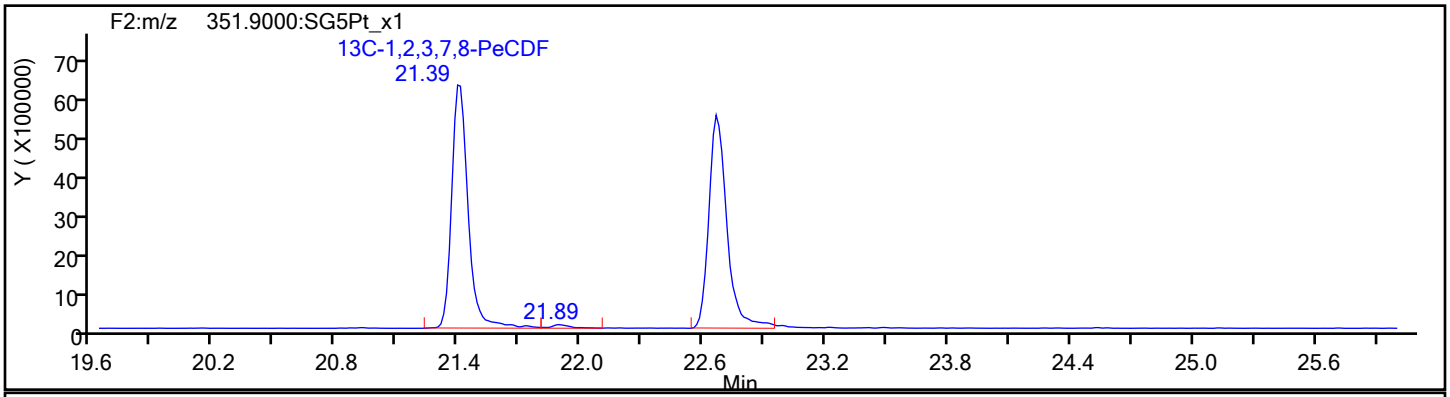

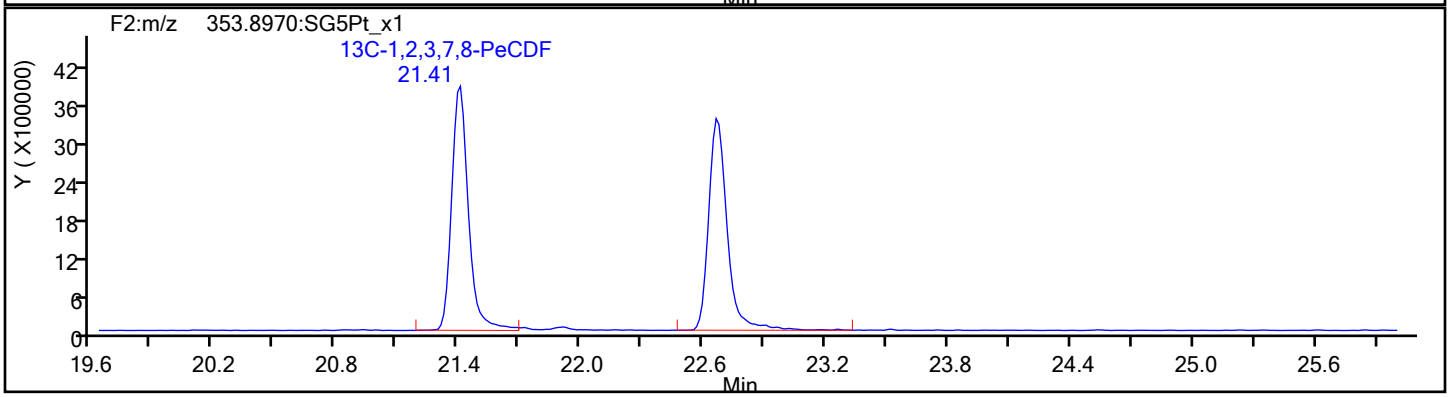

Report Date: 08-Jan-2020 09:09:24 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_9.d		
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Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-N.TREATMENT AREA #4		
Worklist#:	349283	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

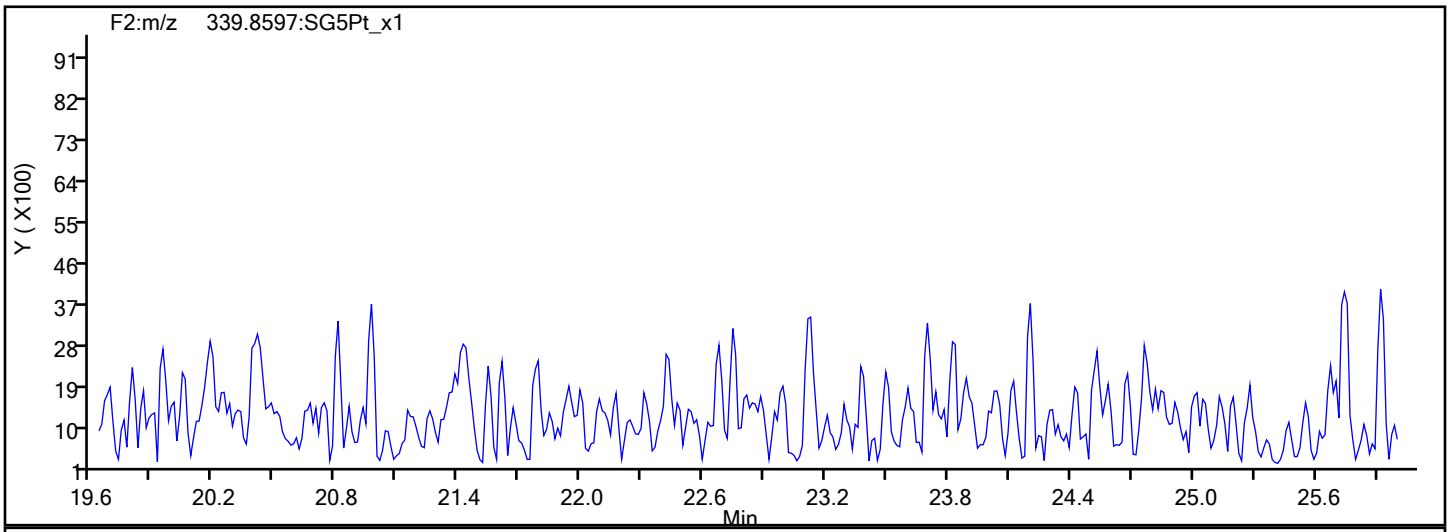

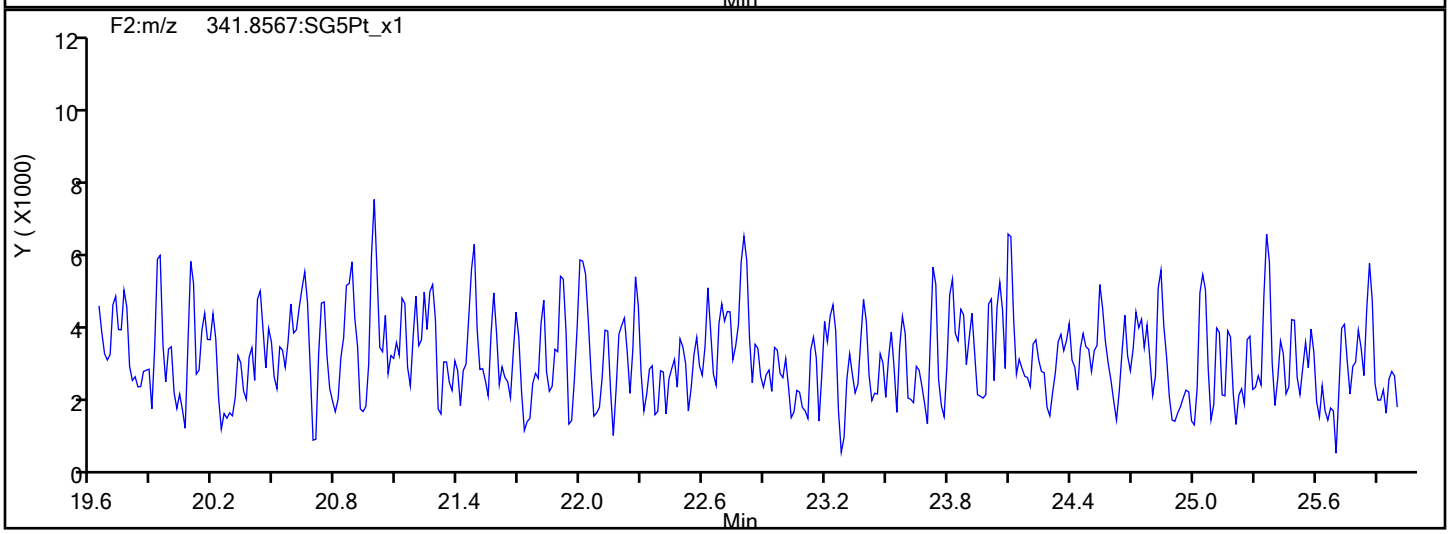

PeCDF Interference Mass

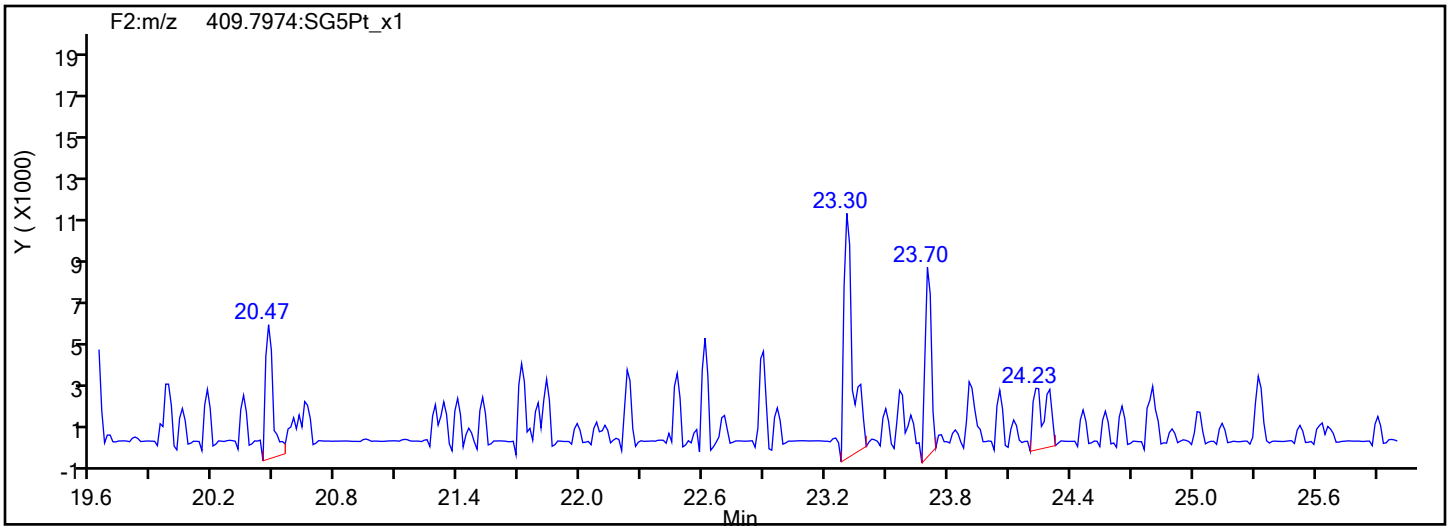

Report Date: 08-Jan-2020 09:09:24 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_9.d		
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Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-N.TREATMENT AREA #4		
Worklist#:	349283	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

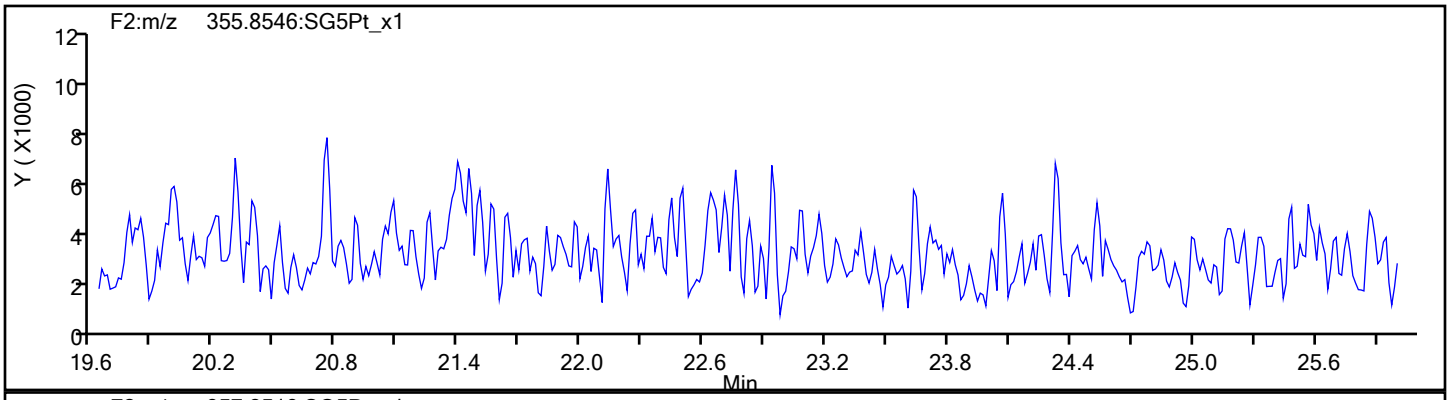

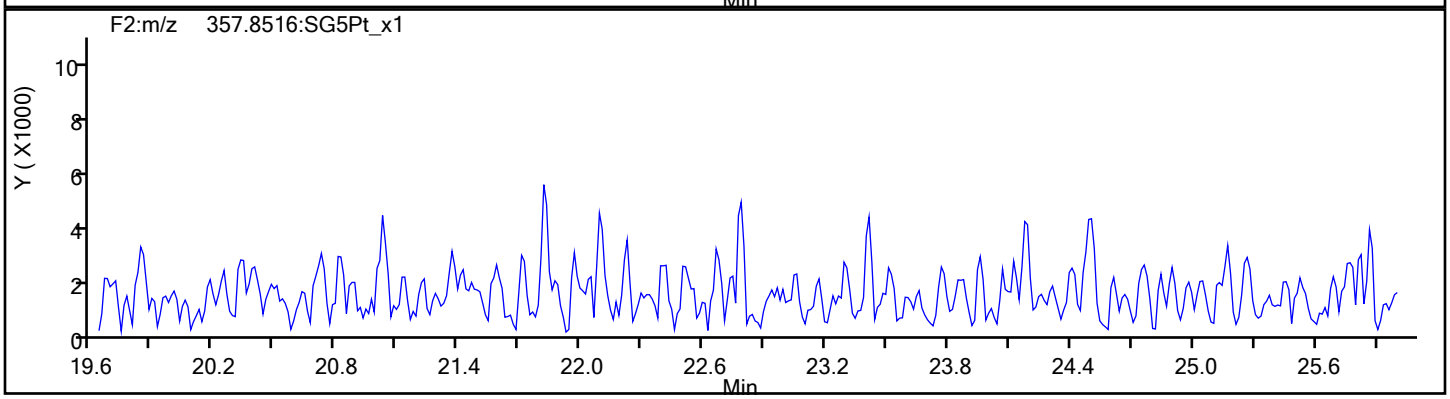

PeCDD Standards

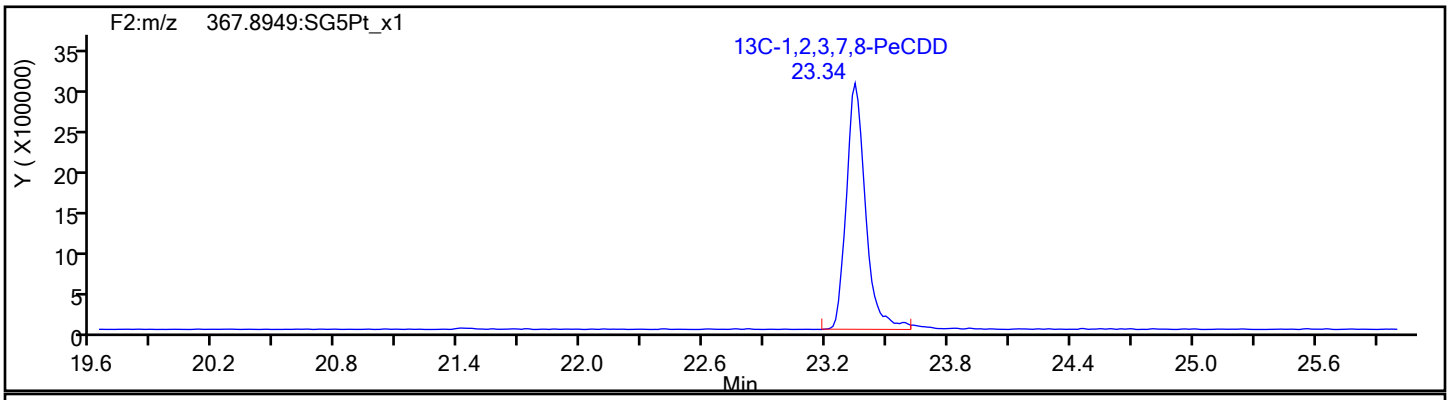

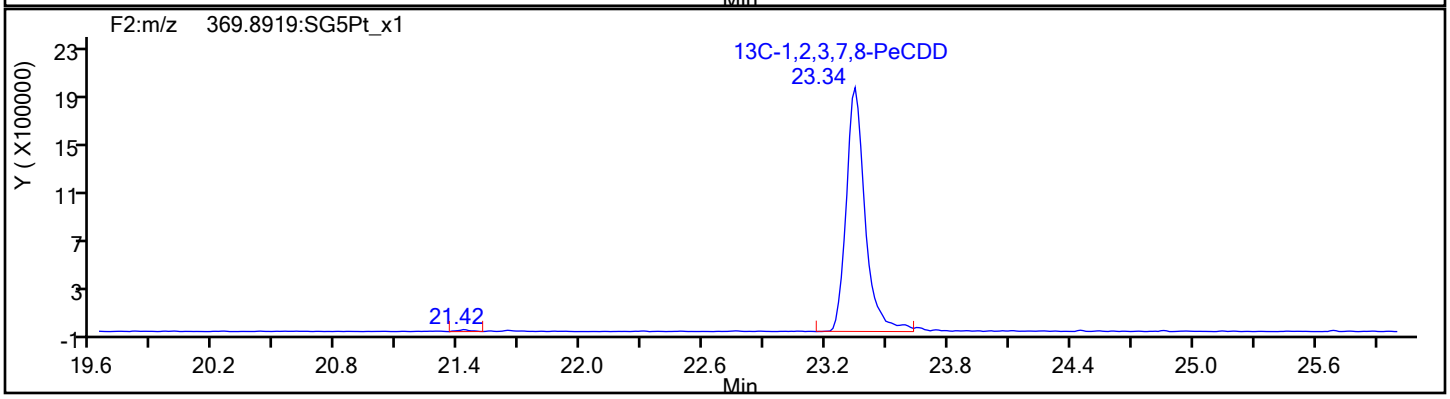

Report Date: 08-Jan-2020 09:09:24 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_9.d		
Injection Date:	07-Jan-2020 04:10:33	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-N.TREATMENT AREA #4		
Worklist#:	349283	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

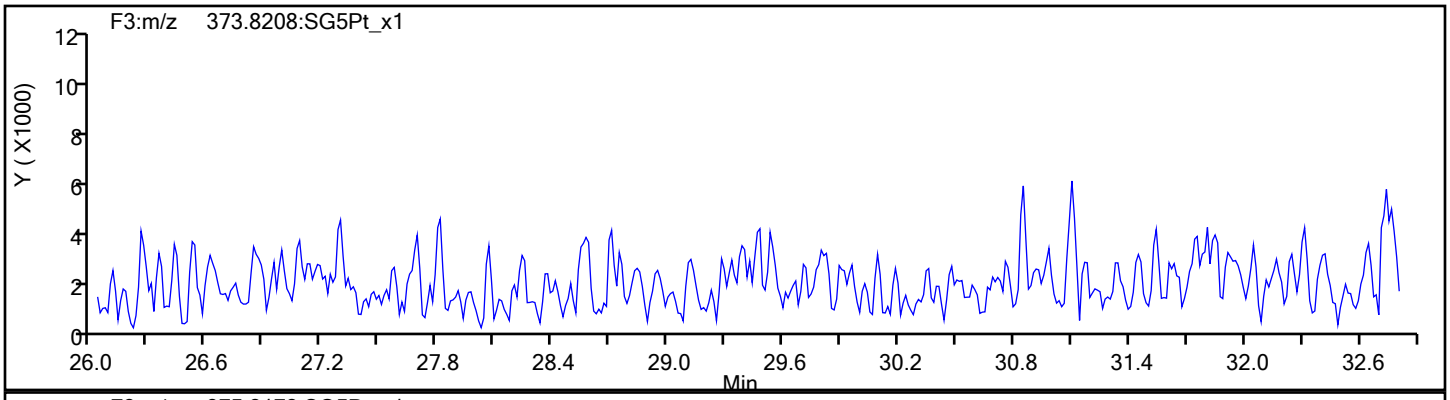

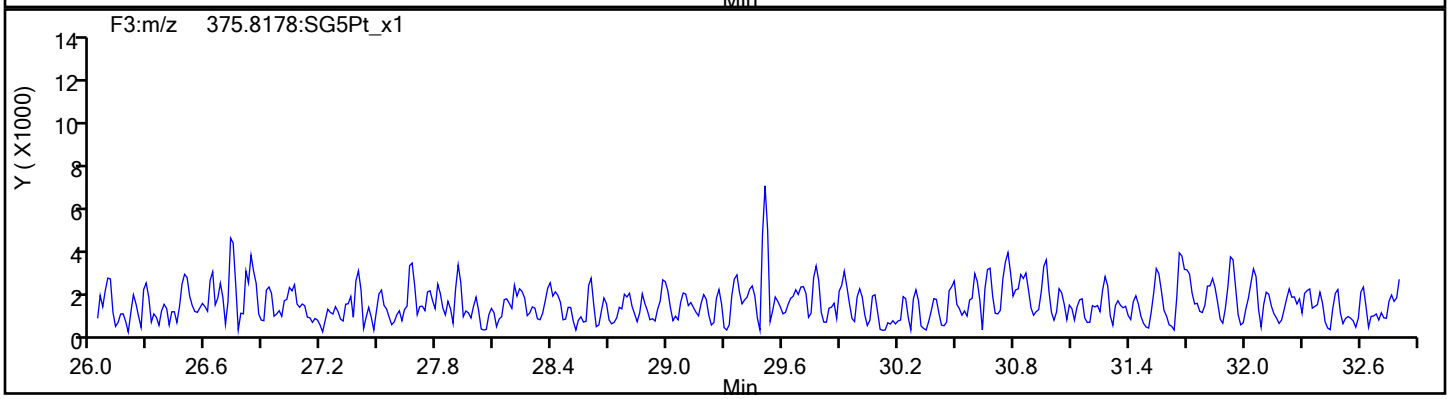

HxCDF Standards

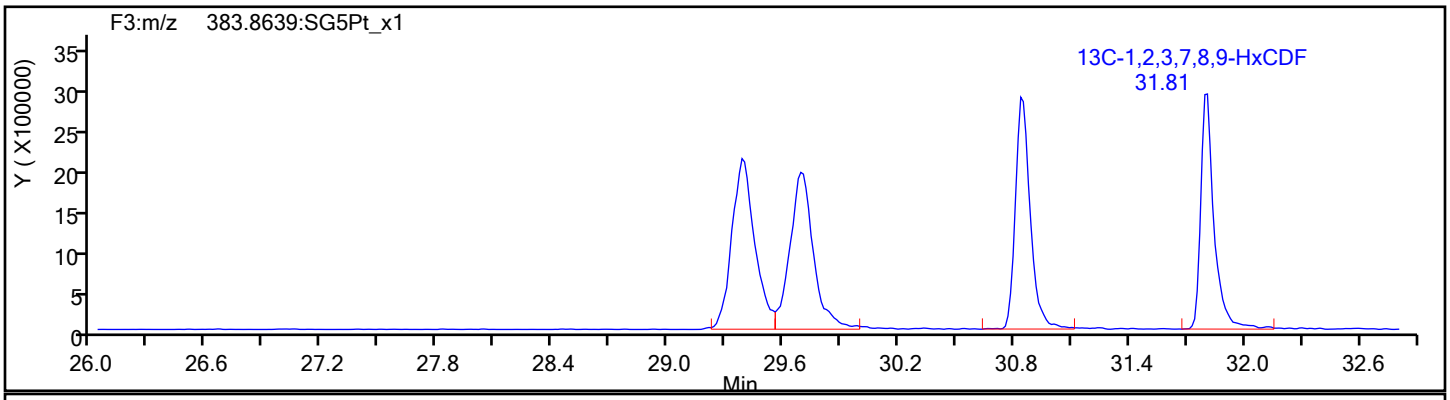

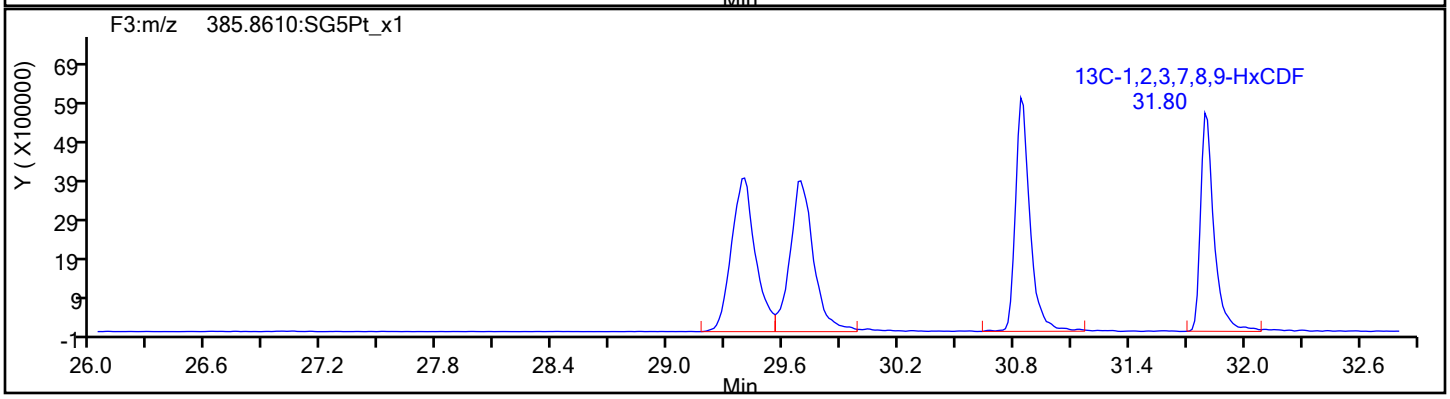

Report Date: 08-Jan-2020 09:09:24 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_9.d		
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Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-N.TREATMENT AREA #4		
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Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

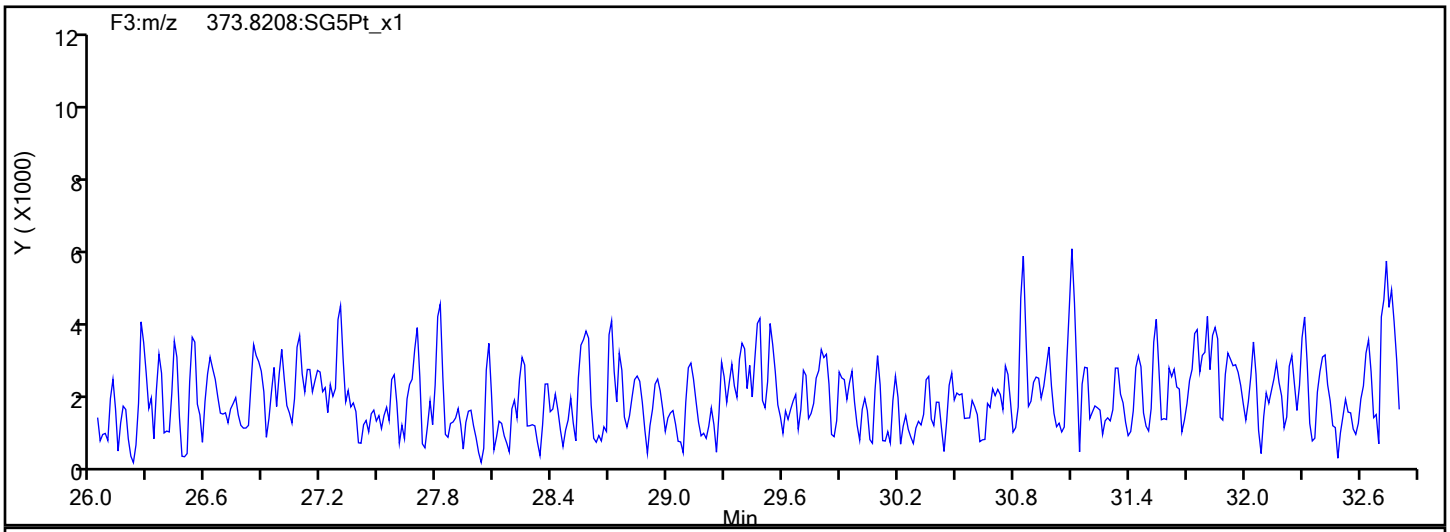

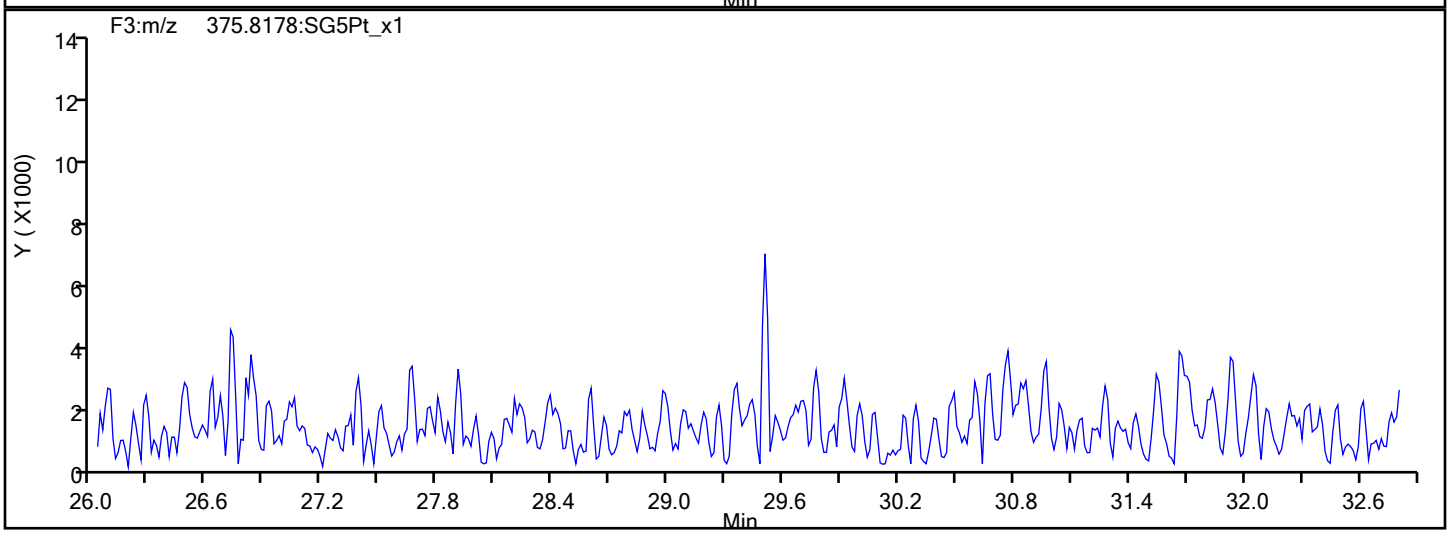

HxCDF Interference Mass

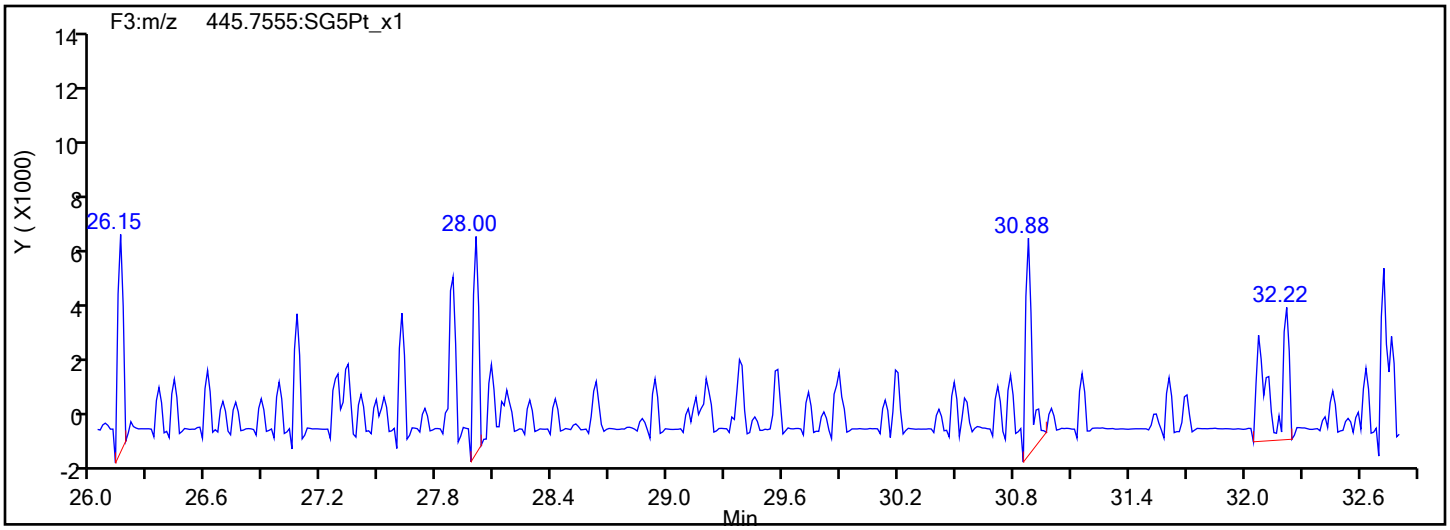

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

HxCDD

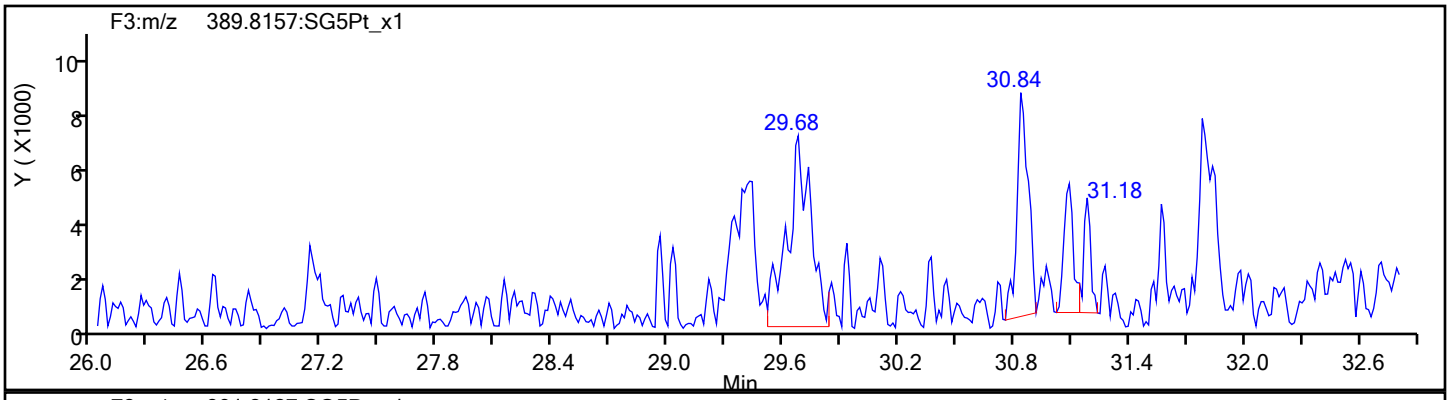

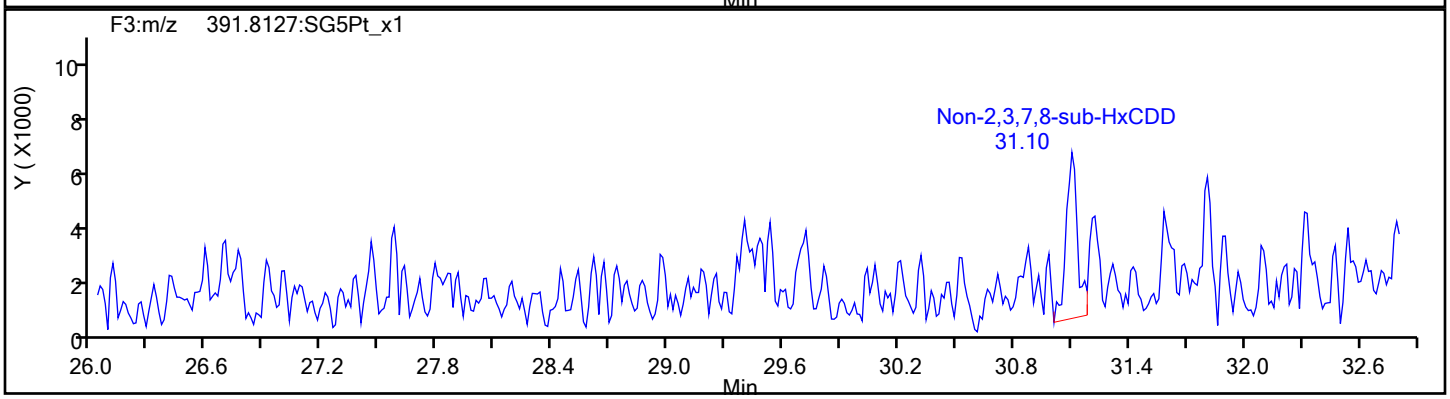

HxCDD Standards

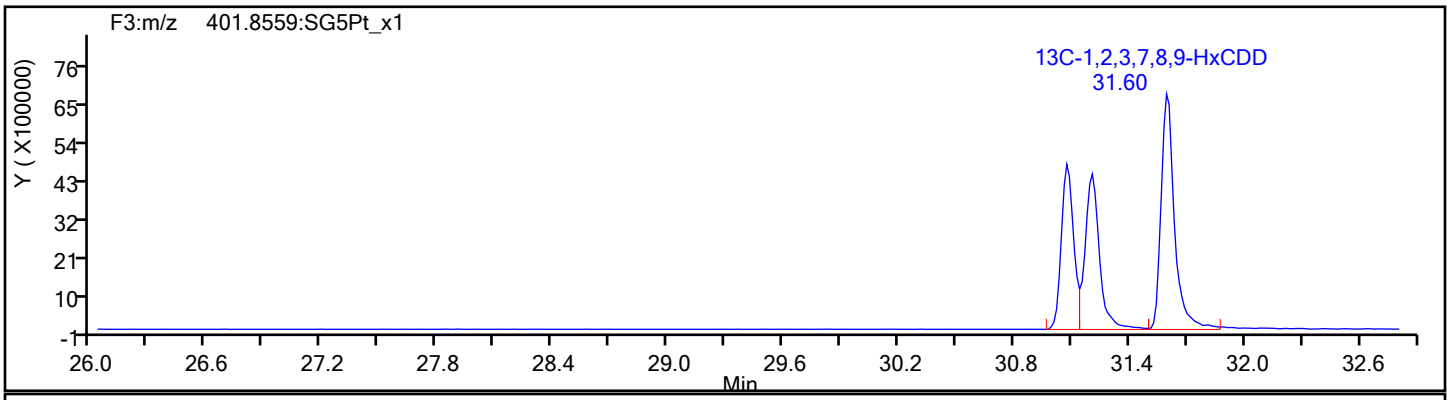

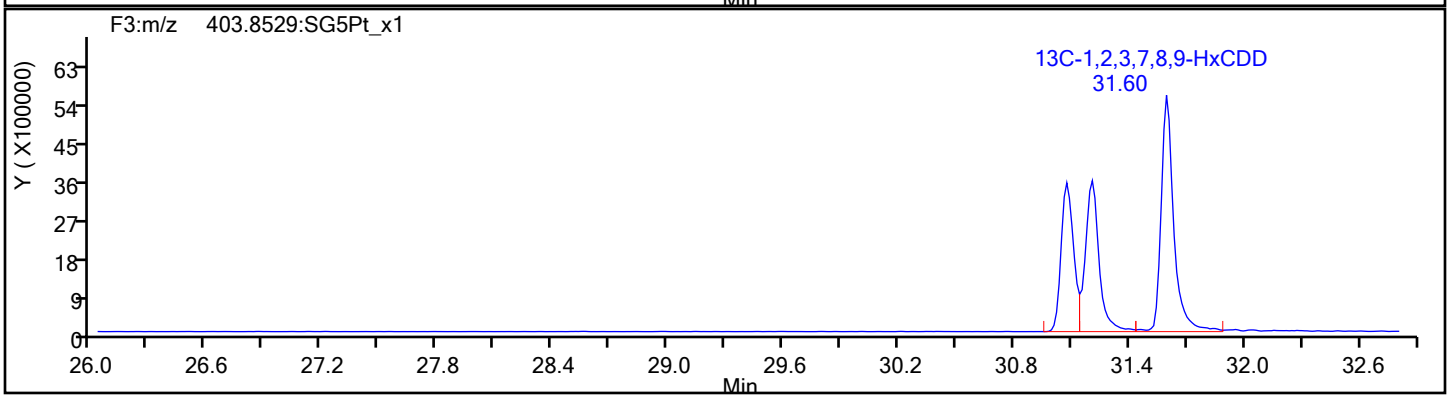

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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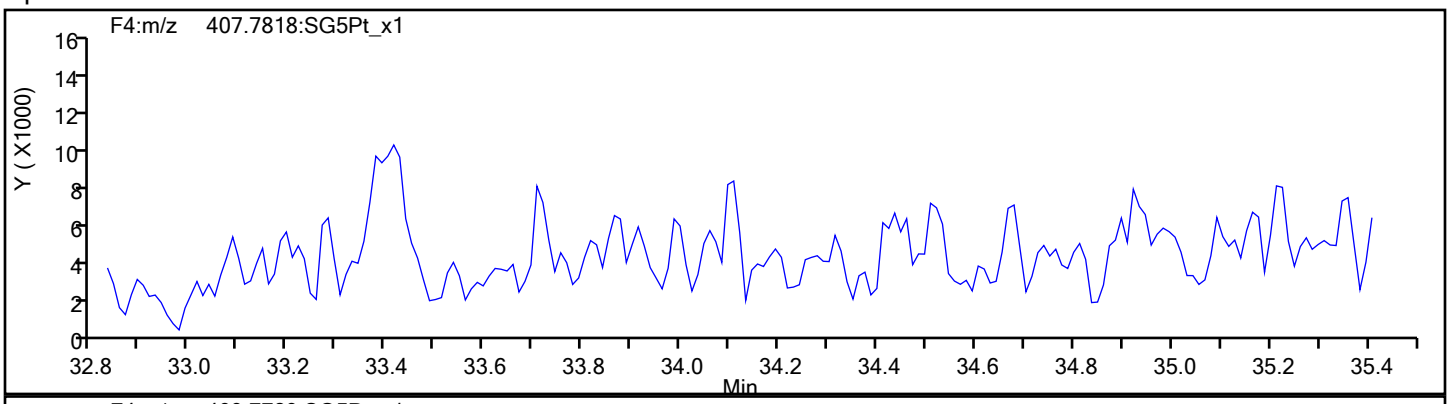

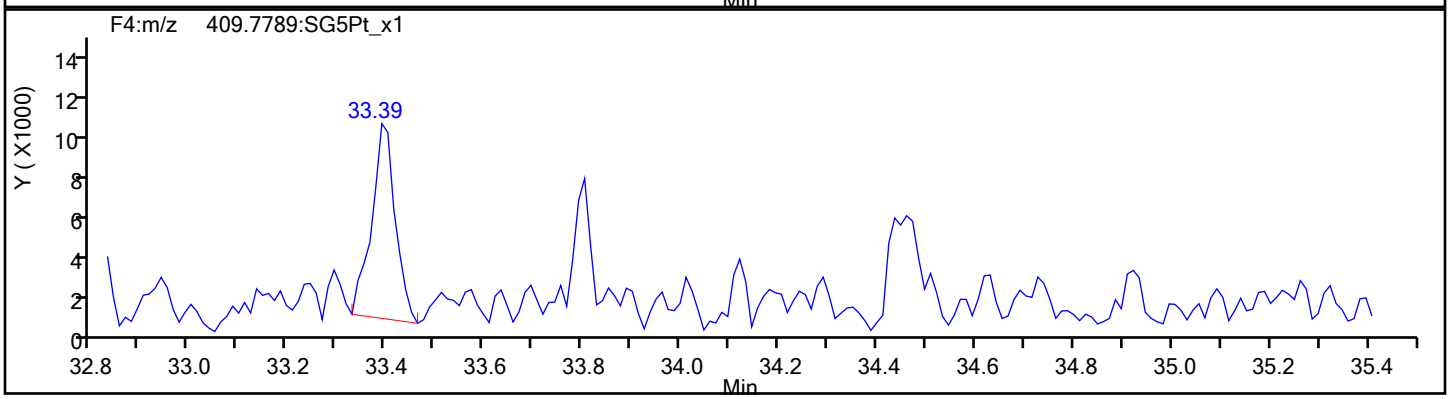

HpCDF Standards

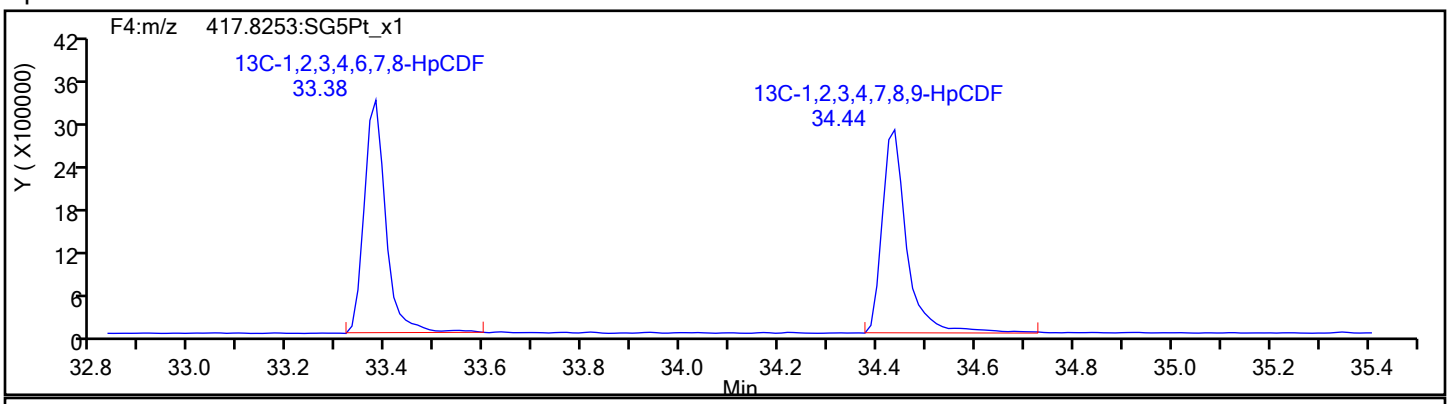

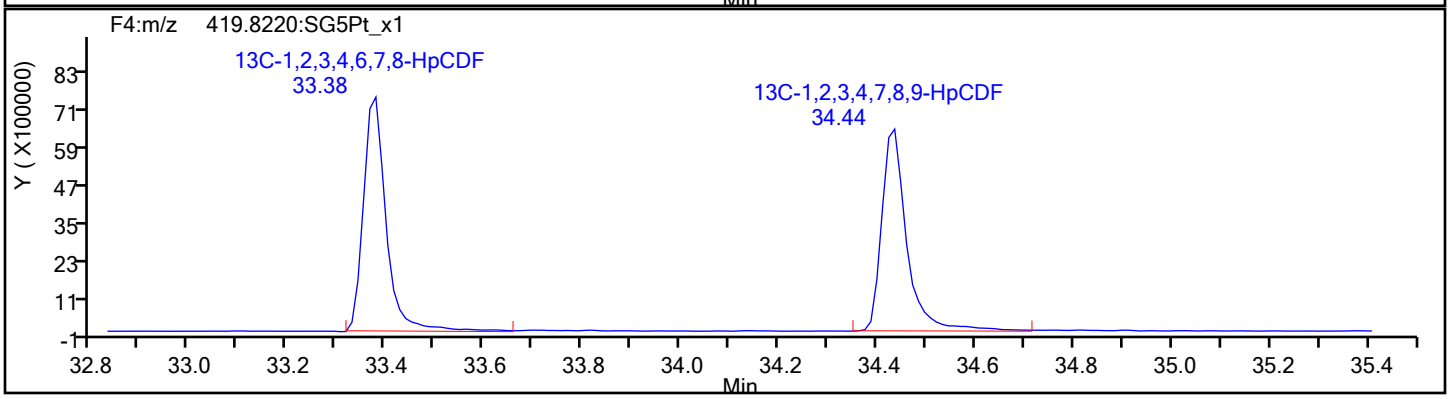

Report Date: 08-Jan-2020 09:09:24 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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HpCDF

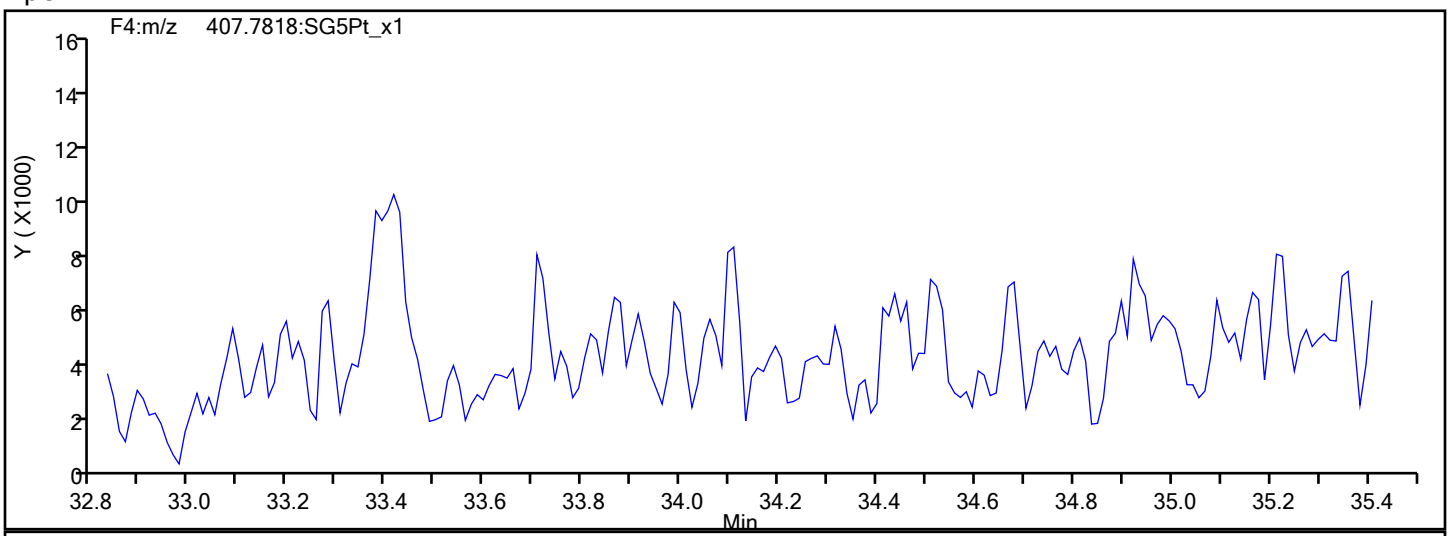

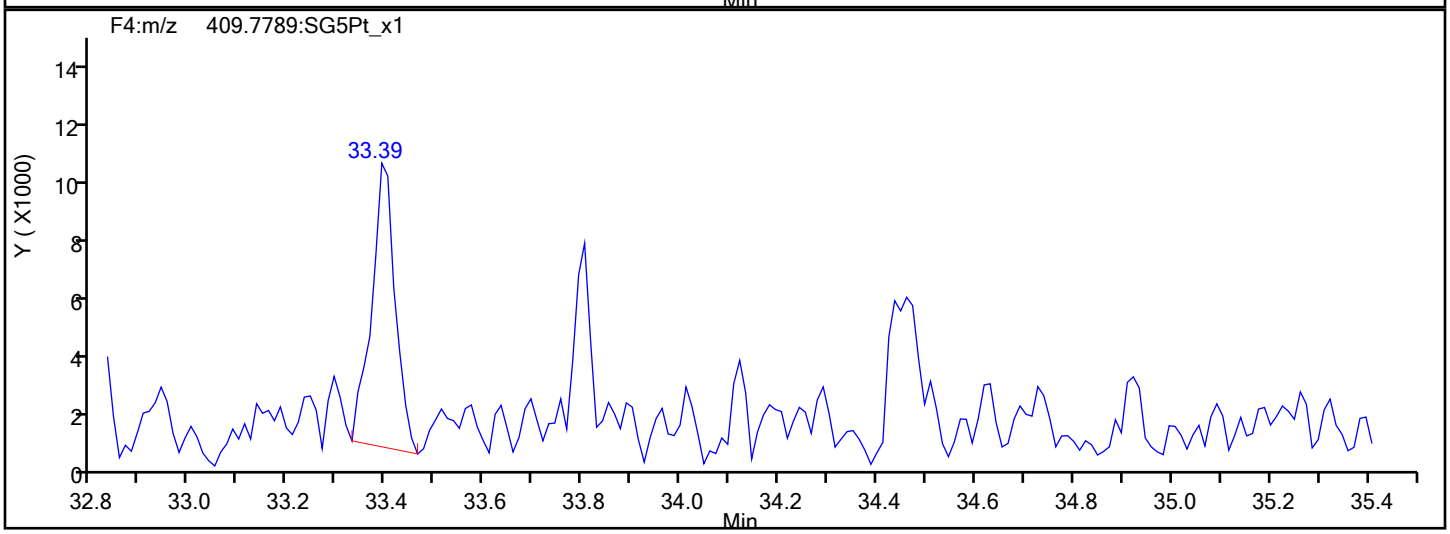

HpCDF Interference Mass

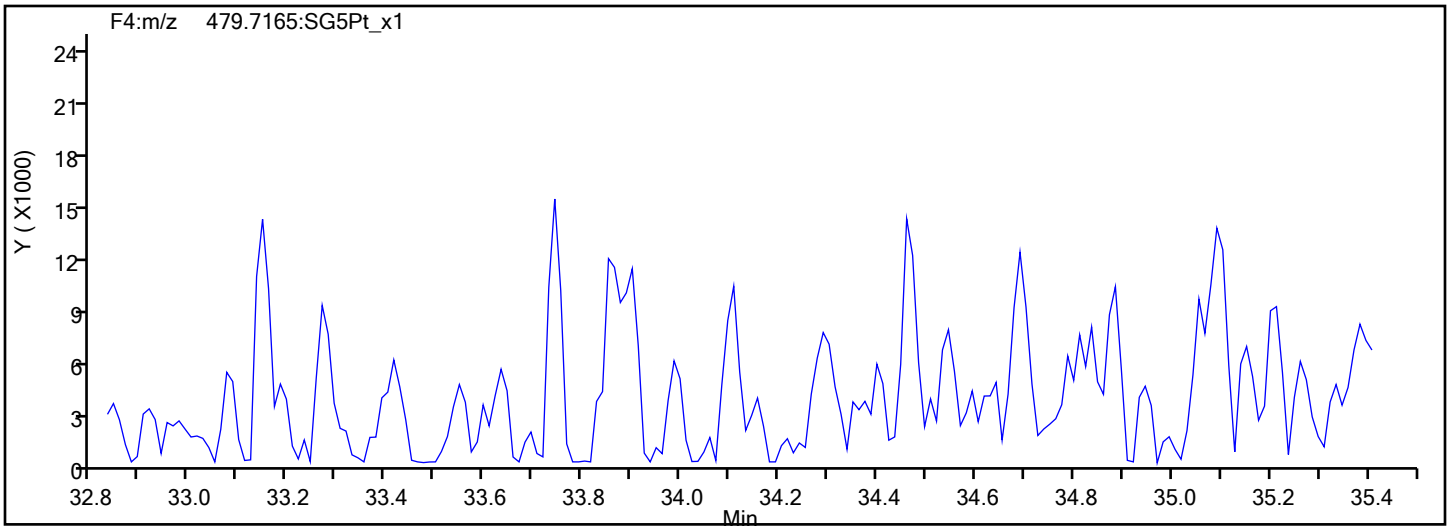

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Eurofins TestAmerica, Sacramento

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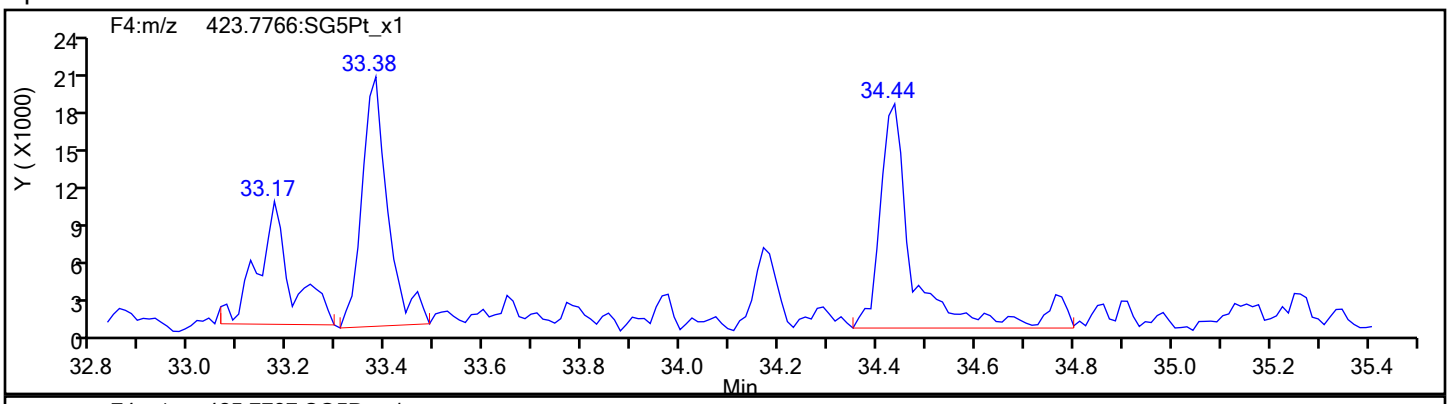

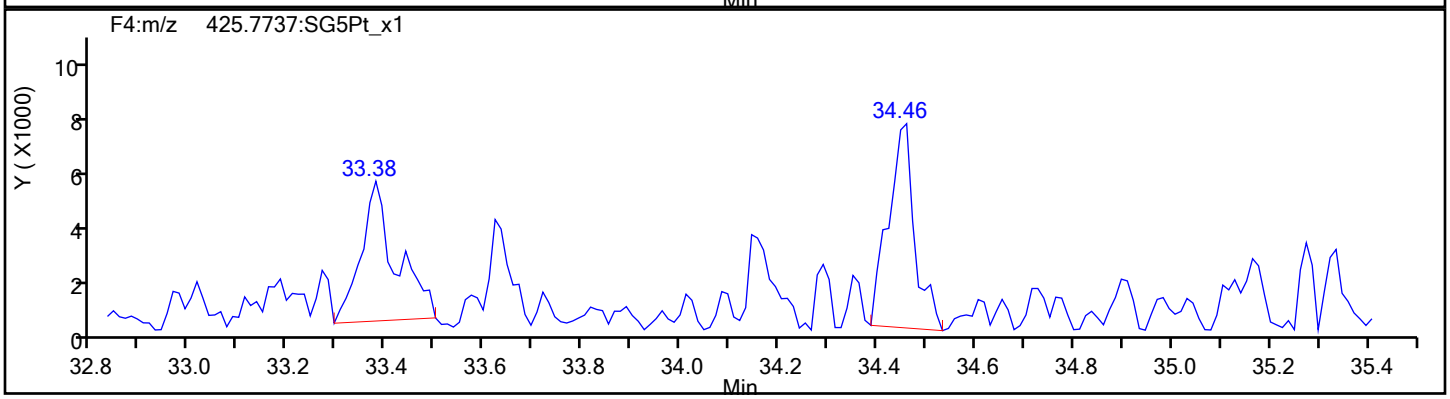

HpCDD Standards

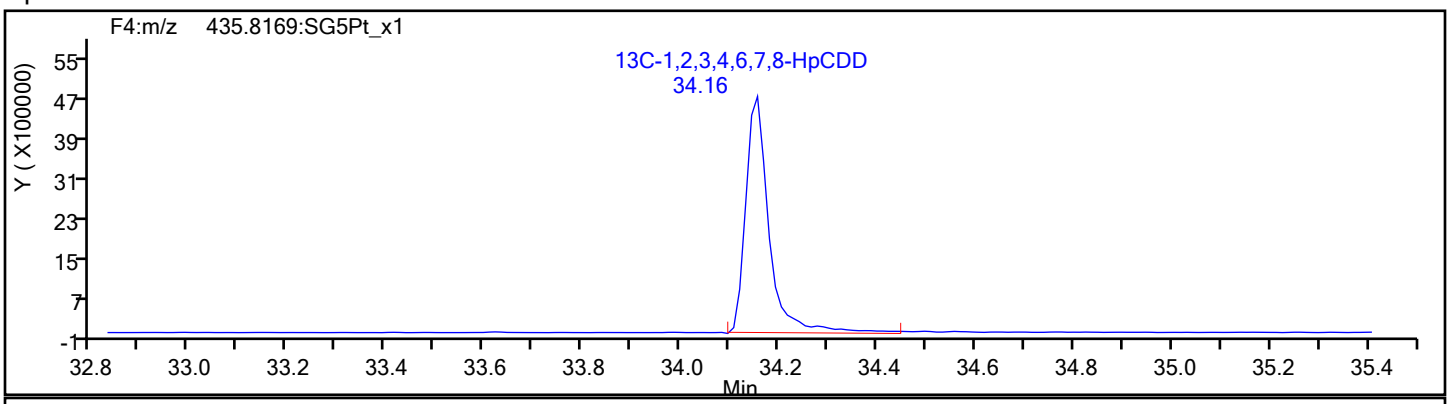

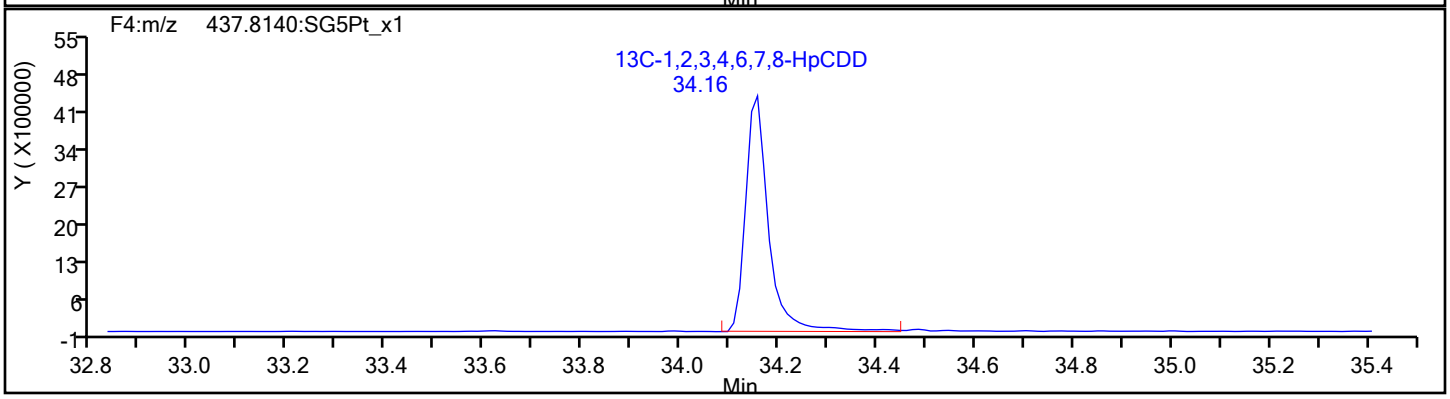

Report Date: 08-Jan-2020 09:09:24 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-N.TREATMENT AREA #4		
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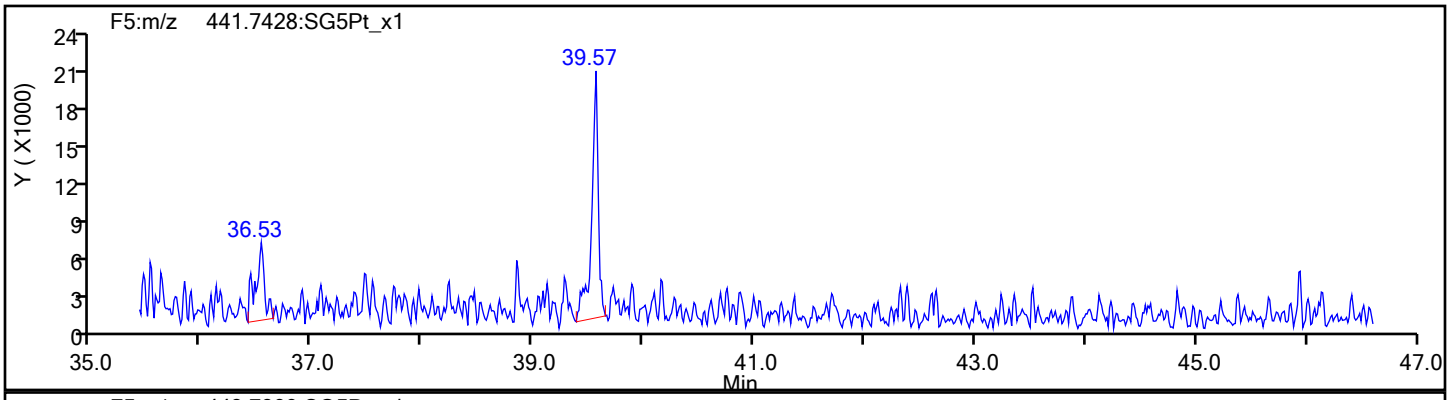

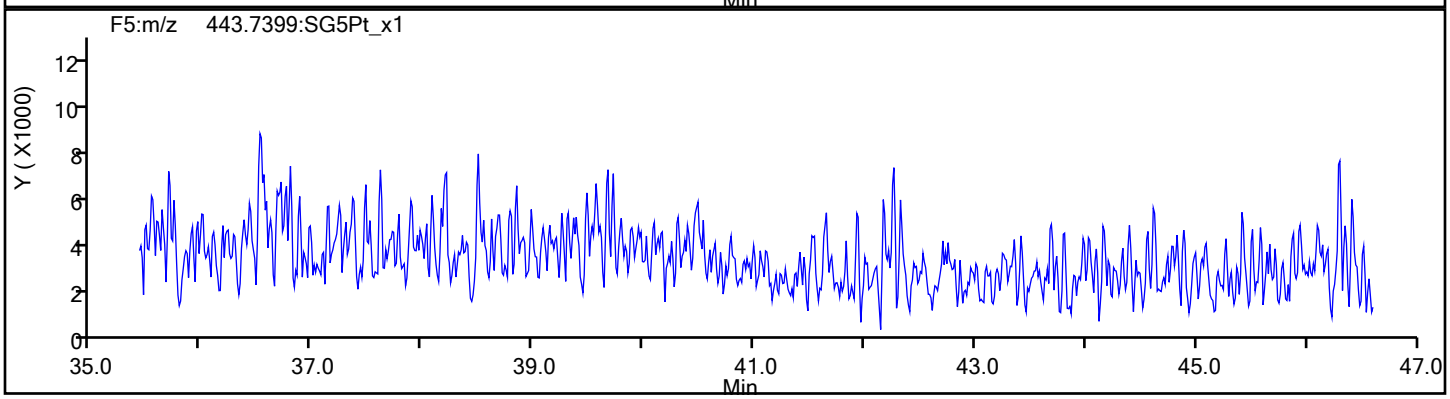

OCDF Standards

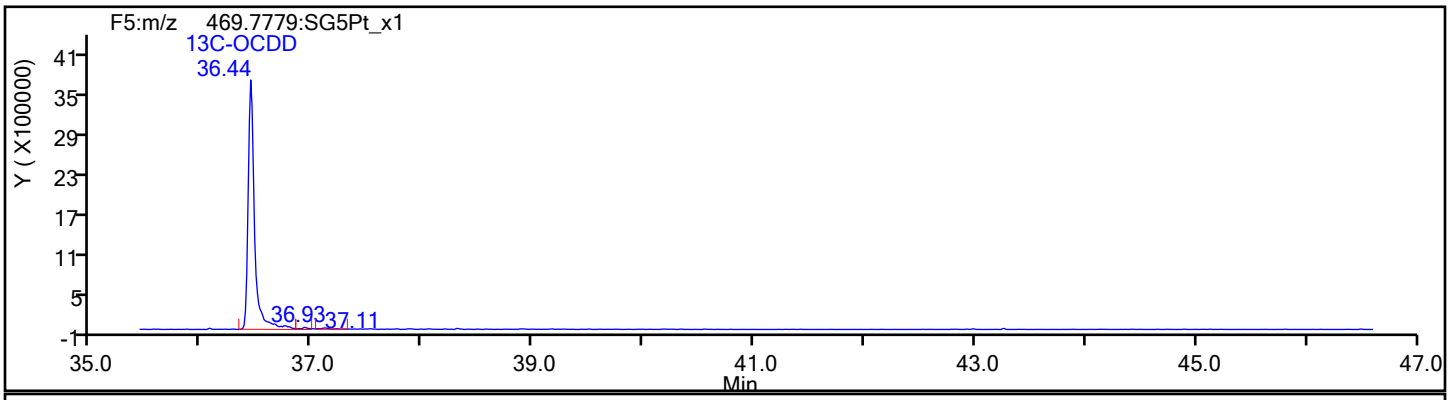

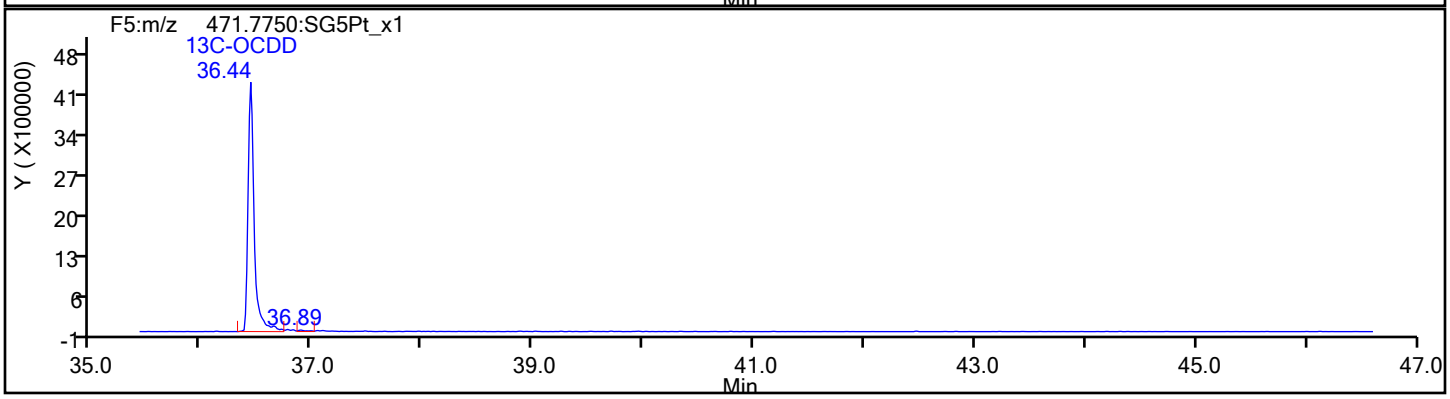

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Eurofins TestAmerica, Sacramento

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OCDF

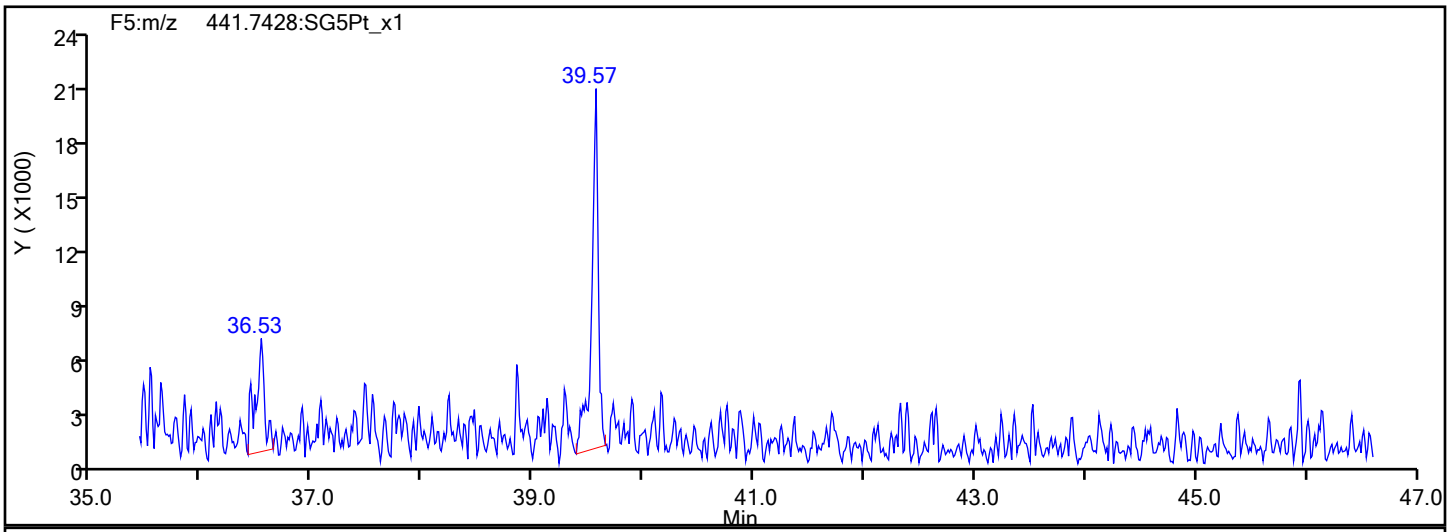

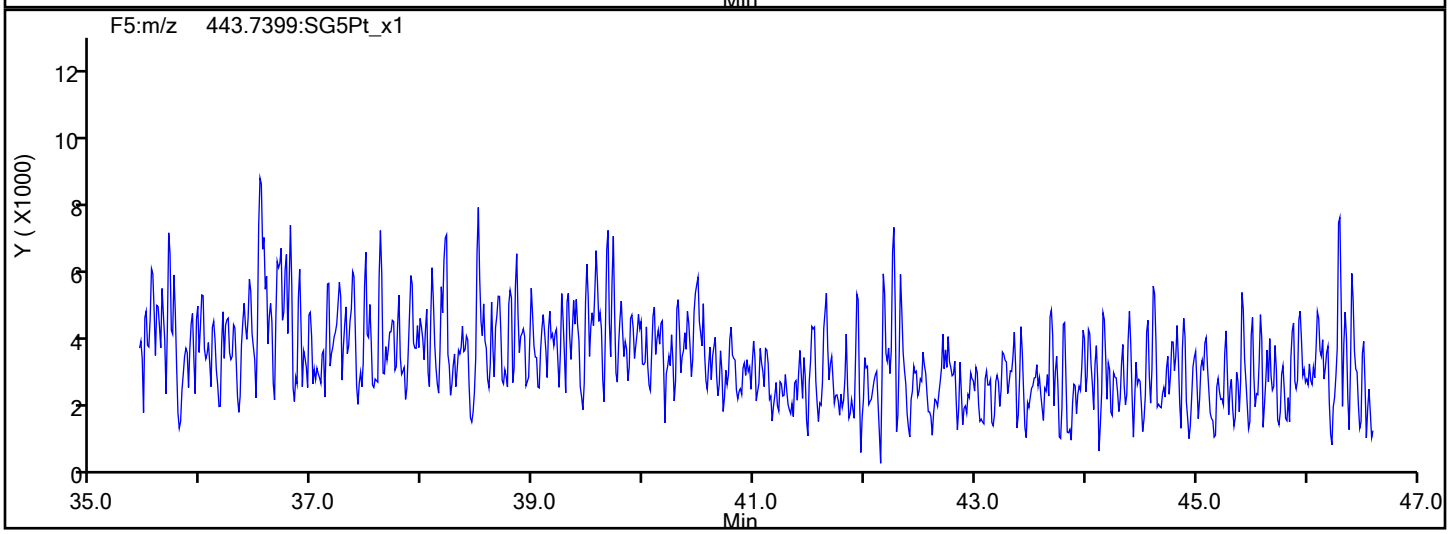

OCDF Interference Mass

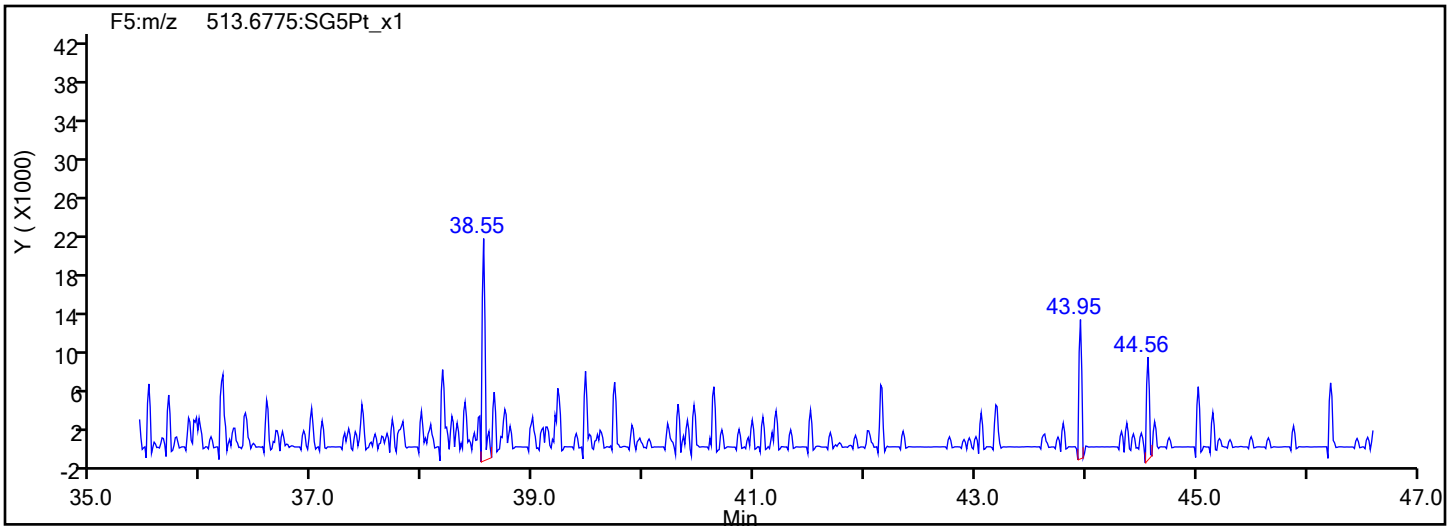

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Eurofins TestAmerica, Sacramento

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OCDD

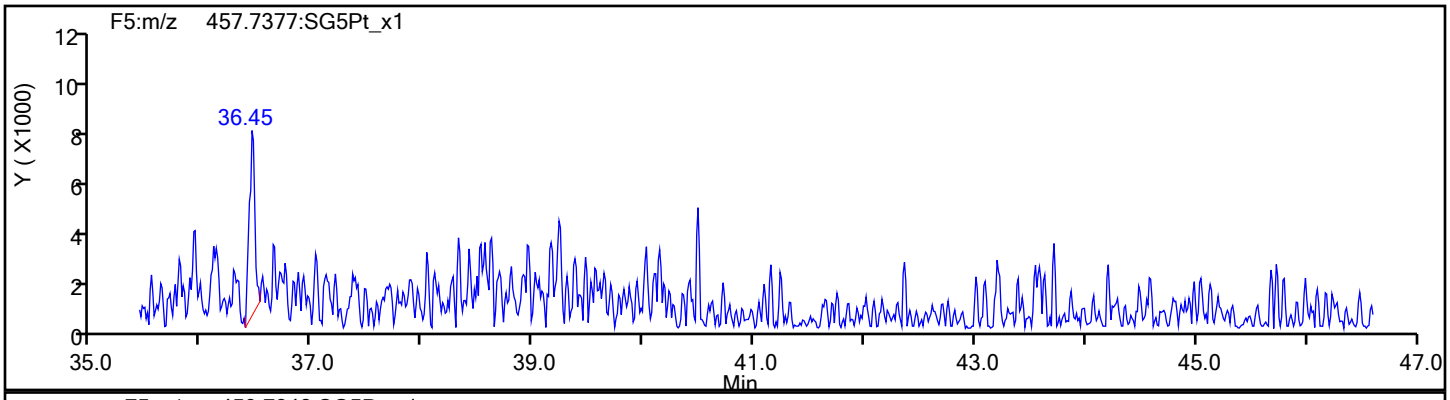

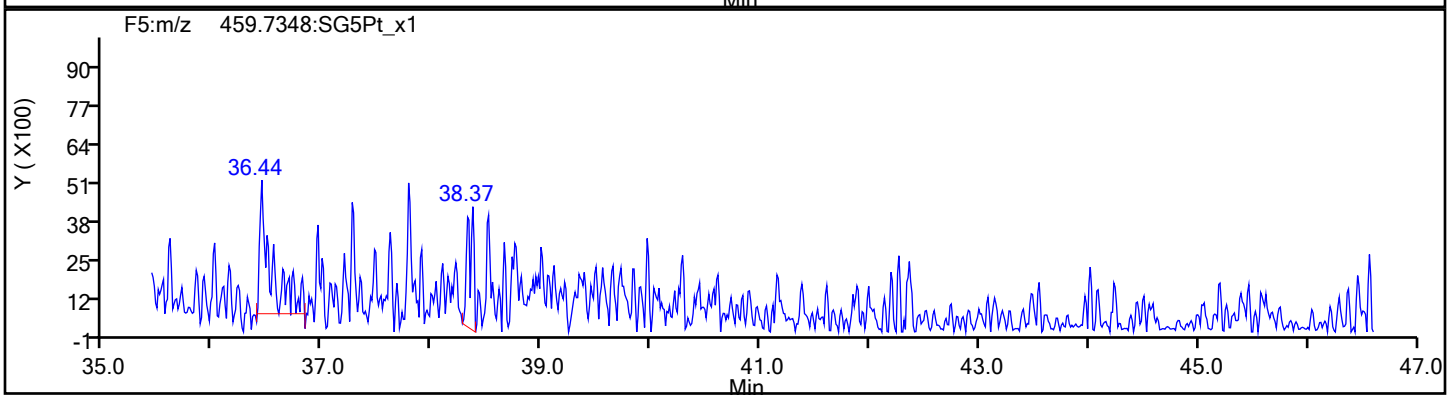

OCDD Standards

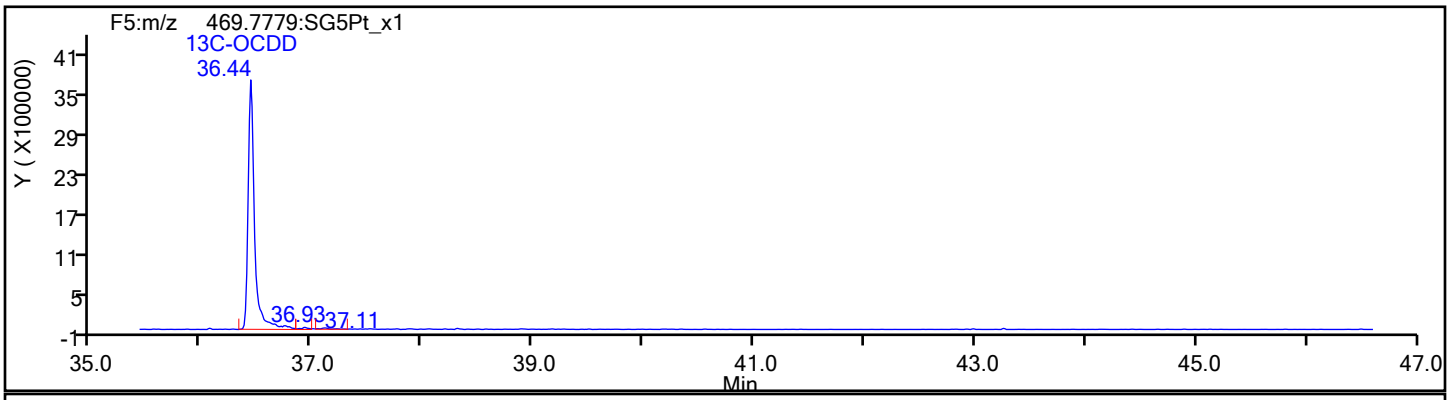

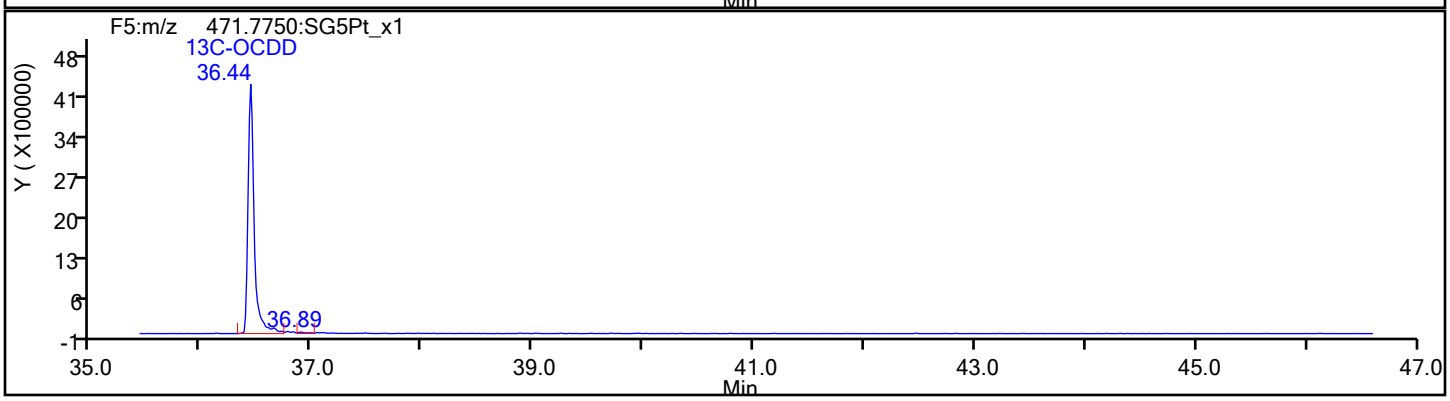

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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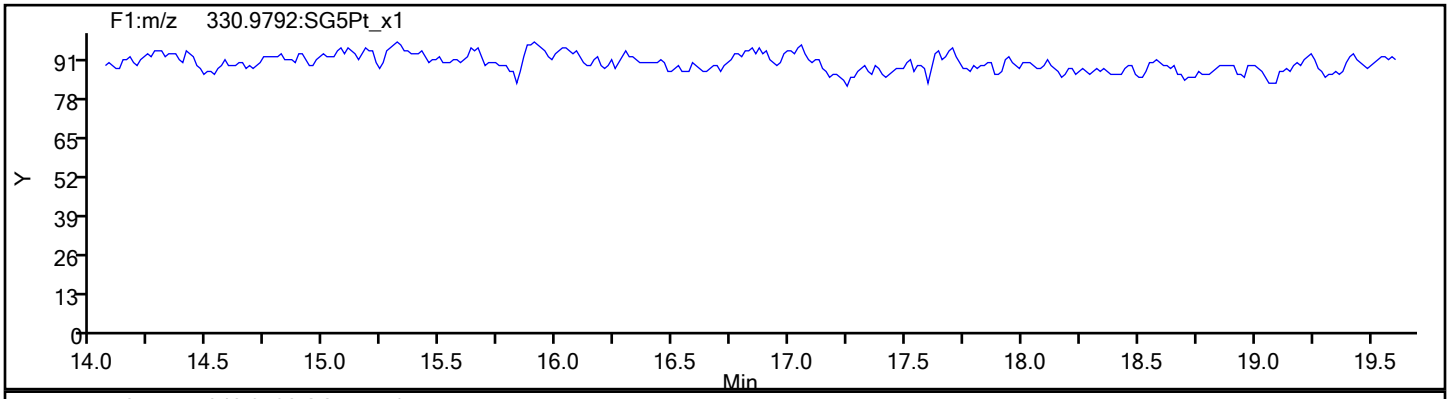

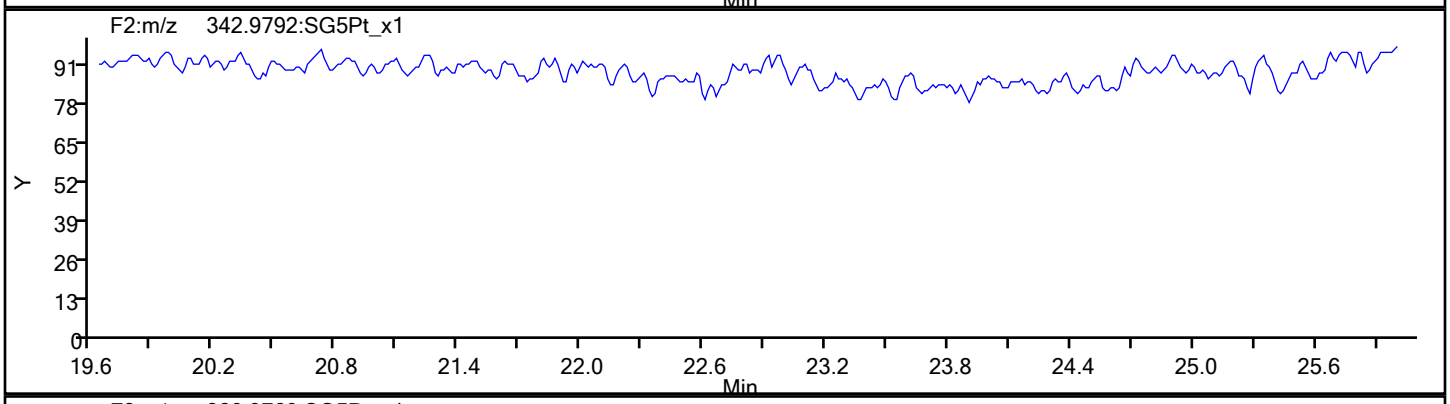

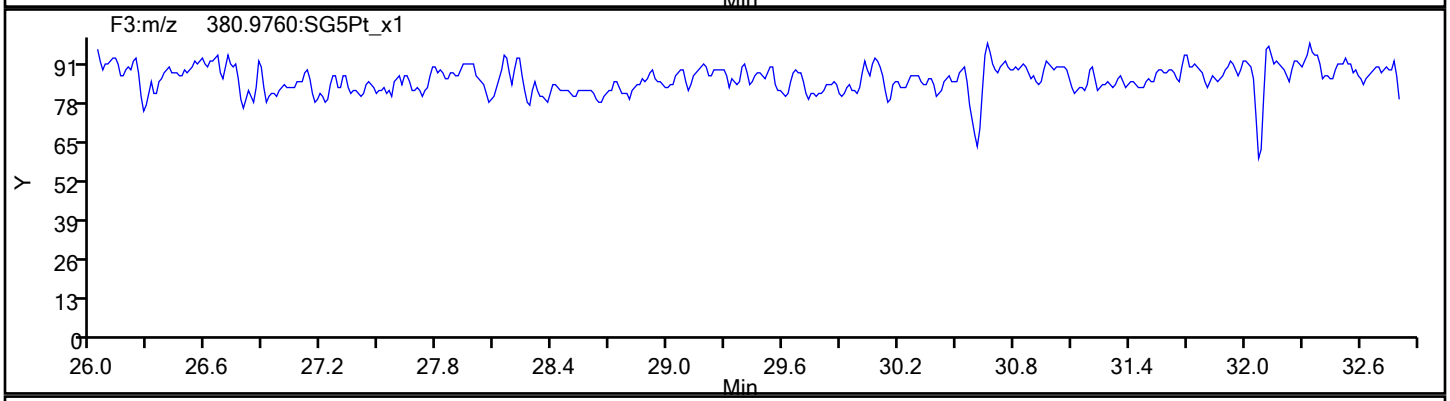

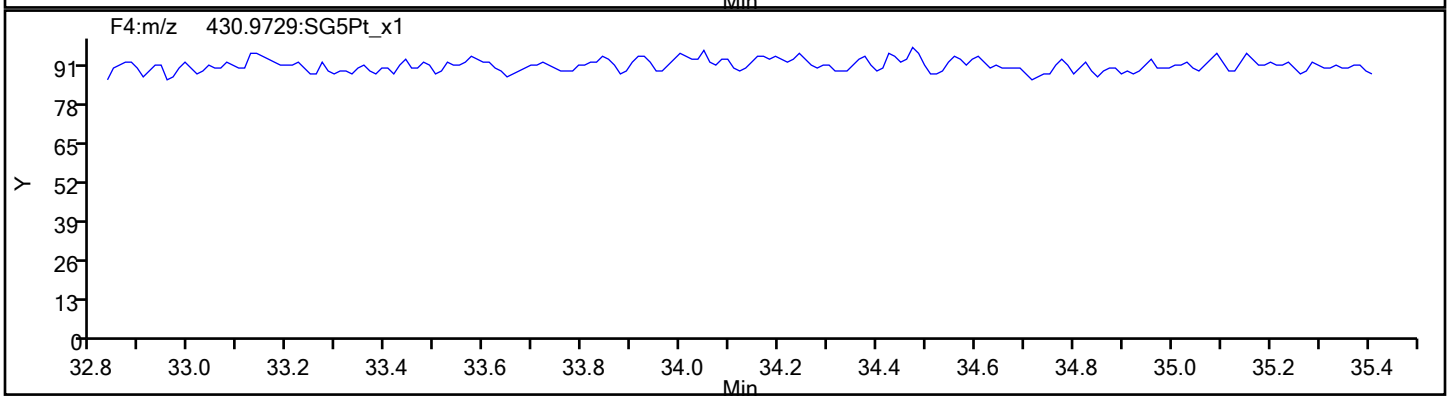

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-N.TREATMENT AREA #4		
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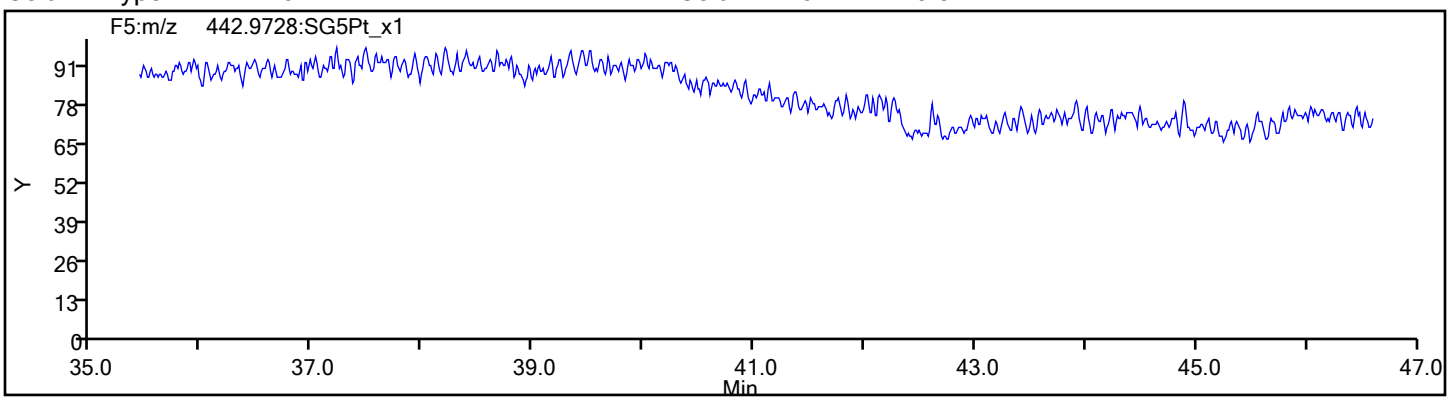

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-100205-1 Analy Batch No.: 345037

SDG No.:

Instrument ID: 3D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/12/2019 11:28 Calibration End Date: 12/12/2019 14:39 Calibration ID: 48401

Calibration Files:

LEVEL:	LAB SAMPLE ID:	EPA SAMPLE NO:	LAB FILE ID:
Level 1	IC 320-345037/3	L2	12DE193D5_3.d
Level 2	IC 320-345037/4	L3	12DE193D5_4.d
Level 3	IC 320-345037/5	L4	12DE193D5_5.d
Level 4	IC 320-345037/6	L5	12DE193D5_6.d
Level 5	IC 320-345037/7	L6	12DE193D5_7.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
2,3,7,8-TCDF	0.7733	0.9283	0.9752	1.0509	1.0232	AveID		0.9502				11.5		20.0			
2,3,7,8-TCDD	0.8866	1.0677	1.0581	1.1092	1.1170	AveID		1.0477				8.9		20.0			
1,2,3,7,8-PeCDF	0.8736	1.1020	1.0451	1.0906	1.0398	AveID		1.0302				8.9		20.0			
2,3,4,7,8-PeCDF	0.8948	1.1141	0.9855	1.1344	1.0759	AveID		1.0410				9.6		20.0			
1,2,3,7,8-PeCDD	0.9736	1.1578	1.1149	1.1160	1.0652	AveID		1.0855				6.5		20.0			
1,2,3,4,7,8-HxCDF	0.9727	1.2028	1.1378	1.2189	1.2038	AveID		1.1472				8.9		20.0			
1,2,3,6,7,8-HxCDF	0.9782	1.2008	1.1729	1.2146	1.1586	AveID		1.1450				8.4		20.0			
2,3,4,6,7,8-HxCDF	1.0083	1.2303	1.2055	1.2332	1.1857	AveID		1.1726				8.0		20.0			
1,2,3,4,7,8-HxCDD	0.9769	1.1694	1.0703	1.1689	1.0815	AveID		1.0934				7.3		20.0			
1,2,3,6,7,8-HxCDD	0.8928	1.1393	1.0733	1.0530	1.0561	AveID		1.0429				8.7		20.0			
1,2,3,7,8,9-HxCDD	1.1190	1.2983	1.2307	1.2270	1.1617	AveID		1.2073				5.7		20.0			
1,2,3,7,8,9-HxCDF	1.0099	1.2240	1.2032	1.2271	1.1941	AveID		1.1717				7.8		20.0			
1,2,3,4,6,7,8-HpCDF	1.2679	1.5610	1.4386	1.6231	1.5111	AveID		1.4804				9.2		20.0			
1,2,3,4,6,7,8-HpCDD	0.9486	1.0921	1.0633	1.0950	1.0688	AveID		1.0535				5.7		20.0			
1,2,3,4,7,8,9-HpCDF	1.1475	1.3140	1.2683	1.3777	1.3590	AveID		1.2933				7.1		20.0			
OCDD	1.0920	1.2499	1.1141	1.1447	1.0802	AveID		1.1362				6.0		20.0			
OCDF	1.2883	1.5239	1.3341	1.4689	1.3572	AveID		1.3945				7.0		20.0			
13C-2,3,7,8-TCDF	1.4149	1.3615	1.4301	1.4025	1.4697	Ave		1.4157				2.8		35.0			
13C-2,3,7,8-TCDD	0.9639	0.9558	0.9685	0.9943	0.9929	Ave		0.9751				1.8		35.0			
13C-1,2,3,7,8-PeCDF	1.1504	1.1299	1.1699	1.1868	1.2560	Ave		1.1786				4.1		35.0			
13C-2,3,4,7,8-PeCDF	1.1012	1.0905	1.1528	1.1309	1.1785	Ave		1.1308				3.2		35.0			
13C-1,2,3,7,8-PeCDD	0.7490	0.7273	0.7283	0.7794	0.8019	Ave		0.7572				4.3		35.0			
13C-1,2,3,4,7,8-HxCDF	1.0651	1.1051	1.1007	1.1073	1.1431	Ave		1.1043				2.5		35.0			
13C-1,2,3,6,7,8-HxCDF	1.1269	1.1509	1.1084	1.1531	1.1960	Ave		1.1470				2.9		35.0			
13C-2,3,4,6,7,8-HxCDF	1.0491	1.0900	1.0279	1.1014	1.1159	Ave		1.0769				3.4		35.0			
13C-1,2,3,4,7,8-HxCDD	0.7651	0.8011	0.7923	0.7924	0.8302	Ave		0.7962				2.9		35.0			
13C-1,2,3,6,7,8-HxCDD	0.8463	0.8650	0.8355	0.9041	0.9091	Ave		0.8720				3.8		35.0			
13C-1,2,3,7,8,9-HxCDF	0.9635	1.0187	0.9696	1.0318	1.0740	Ave		1.0115				4.5		35.0			
13C-1,2,3,4,6,7,8-HpCDF	0.7007	0.7750	0.7261	0.7657	0.8206	Ave		0.7577				6.1		35.0			
13C-1,2,3,4,6,7,8-HpCDD	0.6455	0.7147	0.6645	0.7528	0.7517	Ave		0.7058				7.0		35.0			
13C-1,2,3,4,7,8,9-HpCDF	0.6248	0.6970	0.6631	0.7301	0.7557	Ave		0.6941				7.5		35.0			
13C-OCDD	0.4116	0.4270	0.4351	0.4924	0.5352	Ave		0.4603				11.3		35.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-100205-1 Analy Batch No.: 345037

SDG No.:

Instrument ID: 3D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/12/2019 11:28 Calibration End Date: 12/12/2019 14:39 Calibration ID: 48401

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
37Cl4-2,3,7,8-TCDD	1.2285	1.2329	1.5190	1.3729	1.3866	Ave		1.3480				9.0					

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-100205-1 Analy Batch No.: 345037

SDG No.:

Instrument ID: 3D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/12/2019 11:28 Calibration End Date: 12/12/2019 14:39 Calibration ID: 48401

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-345037/3	12DE193D5_3.d
Level 2	IC 320-345037/4	12DE193D5_4.d
Level 3	IC 320-345037/5	12DE193D5_5.d
Level 4	IC 320-345037/6	12DE193D5_6.d
Level 5	IC 320-345037/7	12DE193D5_7.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (PG/UL)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
2,3,7,8-TCDF		AveID	1274172	5903543	32091889	132413553	567933884	0.500	2.00	10.0	40.0	200
2,3,7,8-TCDD		AveID	995222	4766996	23580601	99082308	418876400	0.500	2.00	10.0	40.0	200
1,2,3,7,8-PeCDF		AveID	5851206	29080170	140673612	581363087	2466178873	2.50	10.0	50.0	200	1000
2,3,4,7,8-PeCDF		AveID	5737636	28373728	130713898	576277220	2394358497	2.50	10.0	50.0	200	1000
1,2,3,7,8-PeCDD		AveID	4246020	19667667	93429816	390728173	1612908693	2.50	10.0	50.0	200	1000
1,2,3,4,7,8-HxCDF		AveID	5545989	27852640	137734608	570996325	2563115775	2.50	10.0	50.0	200	1000
1,2,3,6,7,8-HxCDF		AveID	5900625	28957236	142961587	592549839	2581265503	2.50	10.0	50.0	200	1000
2,3,4,6,7,8-HxCDF		AveID	5662489	28098536	136271106	574663111	2464596807	2.50	10.0	50.0	200	1000
1,2,3,4,7,8-HxCDD		AveID	4000505	19629316	93254778	391874961	1672379041	2.50	10.0	50.0	200	1000
1,2,3,6,7,8-HxCDD		AveID	4044419	20651010	98614866	402773504	1788364825	2.50	10.0	50.0	200	1000
1,2,3,7,8,9-HxCDD		AveID	4825859	22661690	110159416	440337374	1881769266	2.50	10.0	50.0	200	1000
1,2,3,7,8,9-HxCDF		AveID	5208722	26126431	128293546	535635876	2388744572	2.50	10.0	50.0	200	1000
1,2,3,4,6,7,8-HpCDF		AveID	4755914	25350445	114883210	525836756	2309957389	2.50	10.0	50.0	200	1000
1,2,3,4,6,7,8-HpCDD		AveID	3277321	16353697	77704317	348725265	1496594886	2.50	10.0	50.0	200	1000
1,2,3,4,7,8,9-HpCDF		AveID	3837855	19189830	92482689	425539186	1913174732	2.50	10.0	50.0	200	1000
OCDD		AveID	4811448	22367401	106623239	476901861	2153864314	5.00	20.0	100	400	2000
OCDF		AveID	5676582	27270567	127683858	611942959	2706173170	5.00	20.0	100	400	2000
13C-2,3,7,8-TCDF	13CTC	Ave	329541553	317966293	329077583	314996891	277528864	100	100	100	100	100
13C-2,3,7,8-TCDD	13CTC	Ave	224505471	223228422	222854376	223322673	187504800	100	100	100	100	100
13C-1,2,3,7,8-PeCDF	13CTC	Ave	267927119	263888884	269197886	266542876	237179506	100	100	100	100	100
13C-2,3,4,7,8-PeCDF	13CTC	Ave	256478177	254672733	265262610	253995484	222542126	100	100	100	100	100
13C-1,2,3,7,8-PeCDD	13CTC	Ave	174446593	169864186	167599127	175058491	151420854	100	100	100	100	100
13C-1,2,3,4,7,8-HxCDF	13CHx	Ave	228057392	231563640	242099177	234227258	212926355	100	100	100	100	100
13C-1,2,3,6,7,8-HxCDF	13CHx	Ave	241275292	241149788	243784643	243919748	222786807	100	100	100	100	100
13C-2,3,4,6,7,8-HxCDF	13CHx	Ave	224637565	228396958	226090409	232992892	207860074	100	100	100	100	100
13C-1,2,3,4,7,8-HxCDD	13CHx	Ave	163808128	167853325	174266733	167631105	154639045	100	100	100	100	100
13C-1,2,3,6,7,8-HxCDD	13CHx	Ave	181206025	181254882	183758146	191249218	169339469	100	100	100	100	100
13C-1,2,3,7,8,9-HxCDF	13CHx	Ave	206305806	213447196	213252409	218257445	200052961	100	100	100	100	100
13C-1,2,3,4,6,7,8-HpCDF	13CHx	Ave	150037410	162401122	159712904	161981056	152865078	100	100	100	100	100
13C-1,2,3,4,6,7,8-HpCDD	13CHx	Ave	138203122	149748569	146156878	159237326	140028109	100	100	100	100	100
13C-1,2,3,4,7,8,9-HpCDF	13CHx	Ave	133781139	146041140	145840544	154442339	140774596	100	100	100	100	100
13C-OCDD	13CHx	Ave	176245574	178956155	191409180	208300311	199399104	200	200	200	200	200
37Cl4-2,3,7,8-TCDD	13CTC	Ave	1430622	5758902	34952681	123340927	523686187	0.500	2.00	10.0	40.0	200

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-100205-1 Analy Batch No.: 345037

SDG No.:

Instrument ID: 3D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/12/2019 11:28 Calibration End Date: 12/12/2019 14:39 Calibration ID: 48401

Curve Type Legend:

Ave = Average ISTD
AveID = Average isotope dilution

Sample List Report **MassLynx 4.1**

Sample List: C:\MassLynx\DATA 2019.PRO\SampleDB\12DE193D5.SPL
Last Modified: Thursday, December 12, 2019 18:03:39 Pacific Standard Time
Printed: Thursday, December 12, 2019 18:06:59 Pacific Standard Time

Page Position (1, 1)

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #	User	Sample Size
1	12DE193D5_1	WDM HRDXNCP_00040	WDM 121219	Tray1:1	DXN		KSS	1.000000
2	12DE193D5_2	SB Solvent Blank C-14	SB 121219	Tray1:3			KSS	1.000000
3	12DE193D5_3	IC HRDXNL2_00027	IC 121219	Tray1:4	DXN	ICAL	KSS	1.000000
4	12DE193D5_4	IC HRDXNL3_00025	IC 121219A	Tray1:5	DXN	ICAL	KSS	1.000000
5	12DE193D5_5	IC HRDXNL4_00086	IC 121219B	Tray1:2	DXN	ICAL	KSS	1.000000
6	12DE193D5_6	IC HRDXNL5_00028	IC 121219C	Tray1:6	DXN	ICAL	KSS	1.000000
7	12DE193D5_7	IC HRDXNL6_00024	IC 121219D	Tray1:7	DXN	ICAL	KSS	1.000000
8	12DE193D5_8	SB Solvent Blank C-14	SB 121219A	Tray1:3			KSS	1.000000
9	12DE193D5_9	ICV HRDXNIC_00042	ICV 121219	Tray1:9	DXN	ICAL	KSS	1.000000

logfile checked
12-12-19 ALM

Units	MS File	Inlet File	Inject Volume	Sample Type	Conc A	Conc B	Conc C	Conc D	Conc E	Conc F
---	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---	---	---
	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---	---	---
---	Dioxin3D5	dioxinnogc	2.000000	Analyte	0.5	2.5	5	100	200	0.25
---	Dioxin3D5	dioxinnogc	2.000000	Analyte	2	10	20	100	200	1
---	Dioxin3D5	dioxinnogc	2.000000	Analyte	10	50	100	100	200	5
---	Dioxin3D5	dioxinnogc	2.000000	Analyte	40	200	400	100	200	20
---	Dioxin3D5	dioxinnogc	2.000000	Analyte	200	1000	2000	100	200	100
	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---	---	---
	Dioxin3D5	dioxinnogc	2.000000	Analyte	---	---	---	---	---	---

Conc G	Process	Process Options	Action On Error	s5
---	FBAT_ML_FileMover	---	---	C:\CHROM
---	FBAT_ML_FileMover	---	---	C:\CHROM
100	FBAT_ML_FileMover	---	---	C:\CHROM
100	FBAT_ML_FileMover	---	---	C:\CHROM
100	FBAT_ML_FileMover	---	---	C:\CHROM
100	FBAT_ML_FileMover	---	---	C:\CHROM
100	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error	---
---	FBAT_ML_FileMover	---	---	C:\CHROM
---	ResolutionCheck	C:\MassLynx\Autospec\dioxinendres.dat	Ignore Error	---

File: Experiment: Dioxin3D5.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed: Thursday, December 12, 2019 09:42:14 Pacific Standard Time

M 292.9824 R 12889

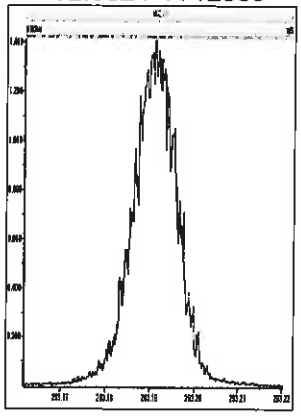

M 304.9824 R 13022

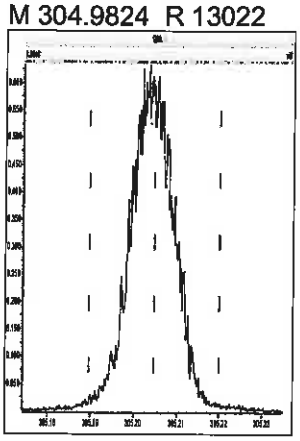

M 318.9792 R 13369

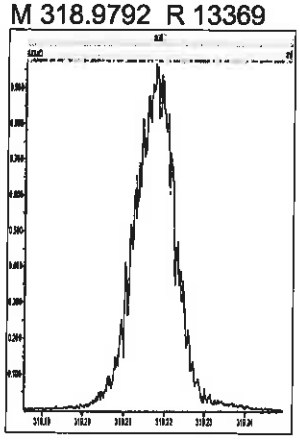

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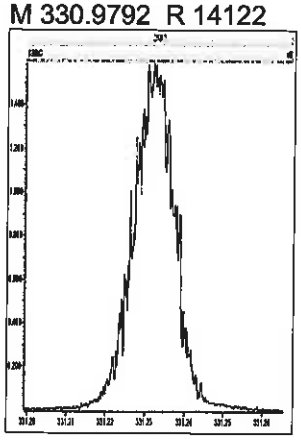

M 342.9792 R 14201

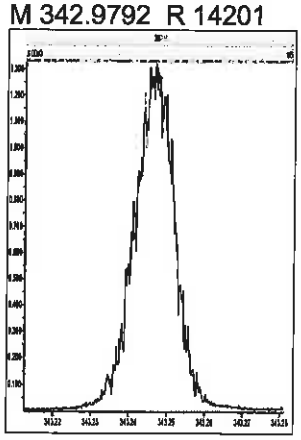

M 354.9792 R 14125

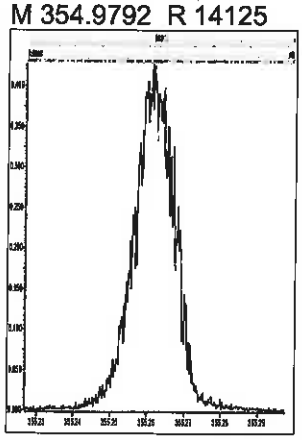

M 366.9792 R 12562

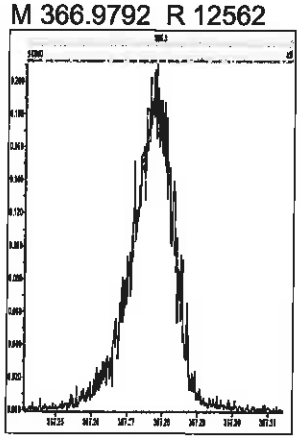

M 380.9760 R 13368

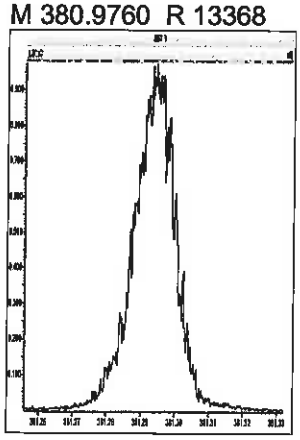

M 392.9760 R 12693

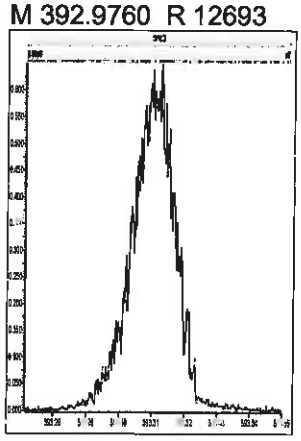

M 404.9760 R 12078

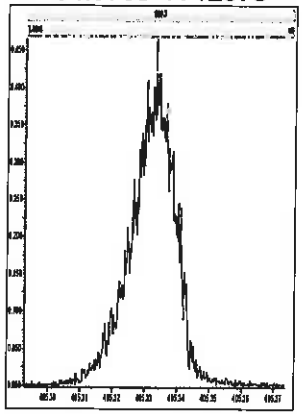

M 416.9760 R 12686

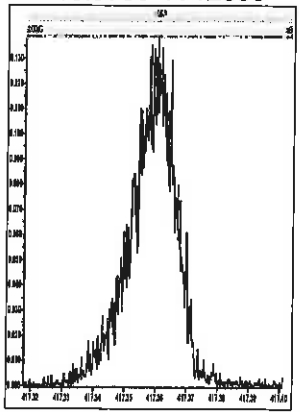

File: Experiment: Dioxin3D5.exp Reference: Pfk.ref Function: 2 @ 200 (ppm)

Printed: Thursday, December 12, 2019 09:42:39 Pacific Standard Time

M 318.9792 R 13888

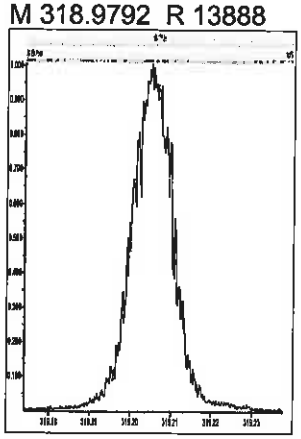

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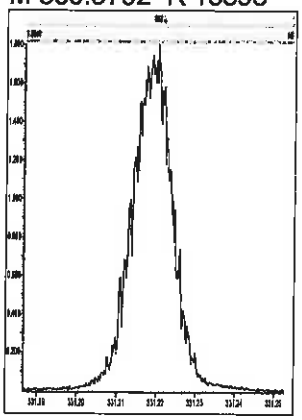

M 342.9792 R 14207

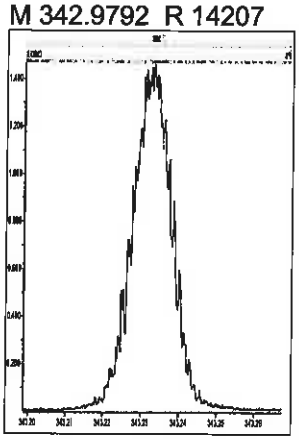

M 354.9792 R 14620

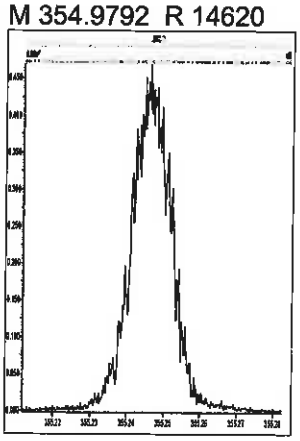

M 366.9792 R 12952

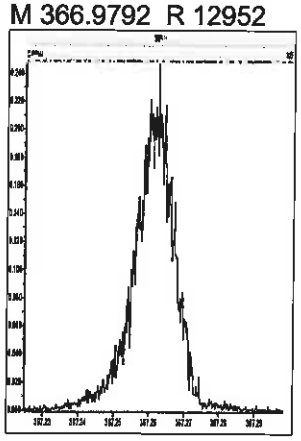

M 380.9760 R 14043

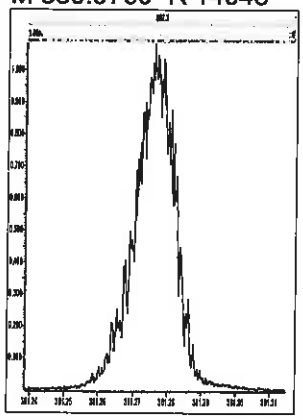

M 392.9760 R 13891

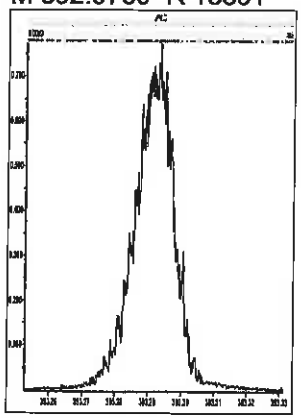

M 404.9760 R 13967

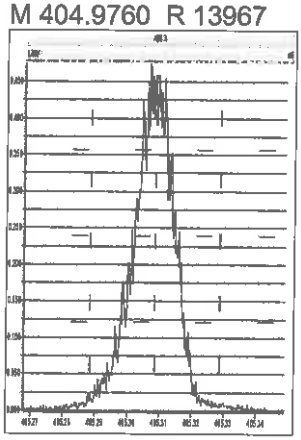

M 416.9760 R 13888

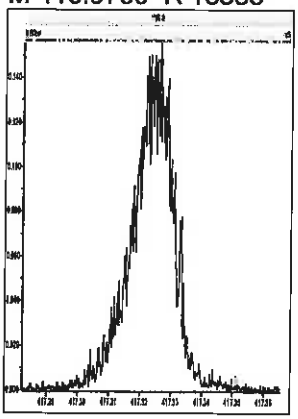

File: Experiment: Dioxin3D5.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

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M 366.9792 R 13888

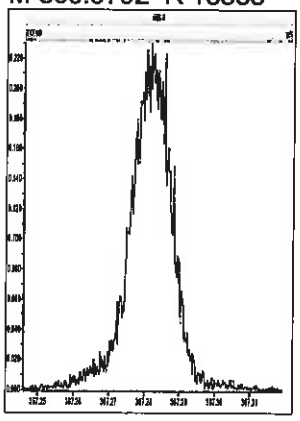

M 380.9760 R 14284

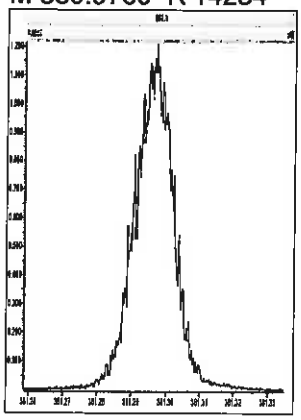

M 392.9760 R 14703

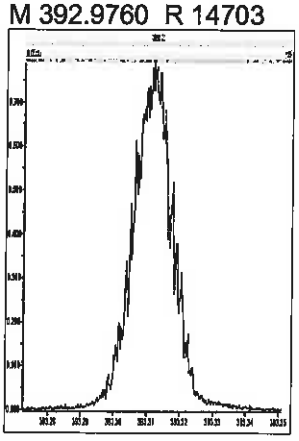

M 404.9760 R 15056

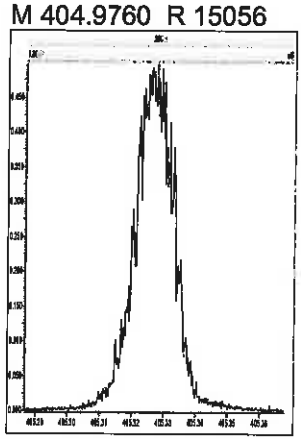

M 416.9760 R 14535

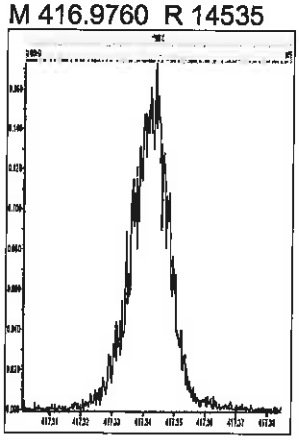

M 430.9728 R 13368

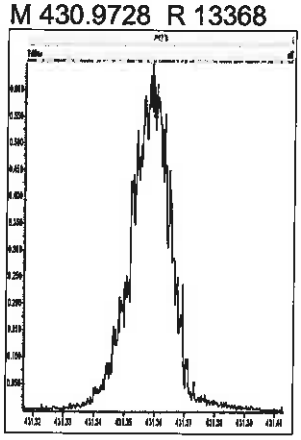

M 442.9728 R 13969

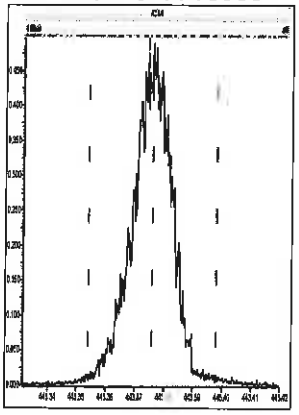

M 454.9728 R 13738

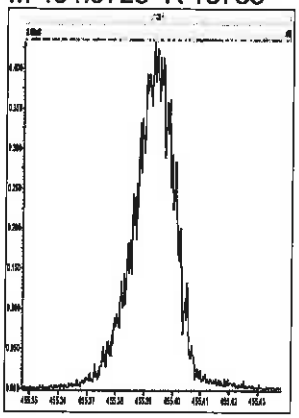

File: Experiment: Dioxin3D5.exp Reference: Pfk.ref Function: 4 @ 200 (ppm)

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M 380.9760 R 14046

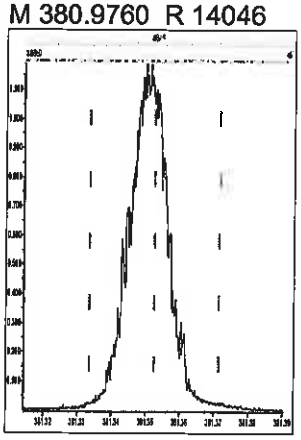

M 392.9760 R 16346

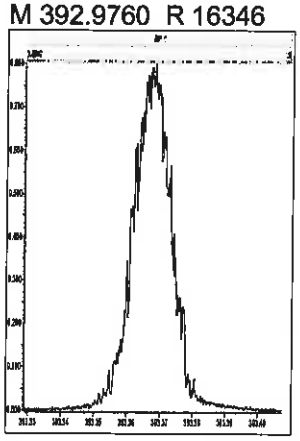

M 404.9760 R 15821

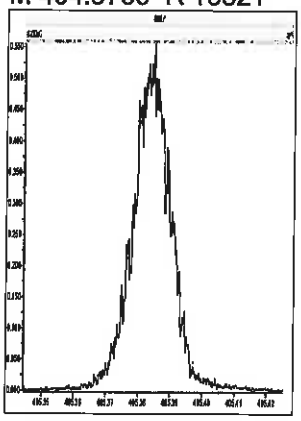

M 416.9760 R 15240

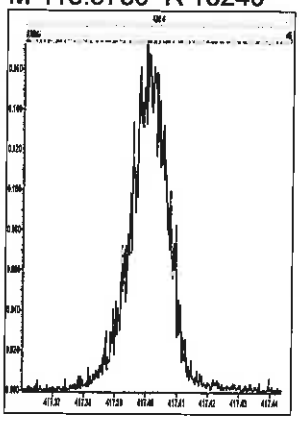

M 430.9728 R 13890

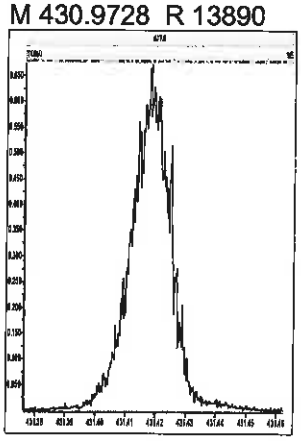

M 442.9728 R 13736

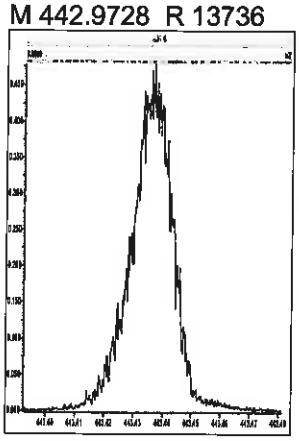

M 454.9728 R 13161

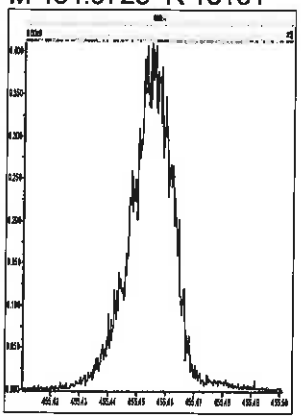

M 466.9728 R 13659

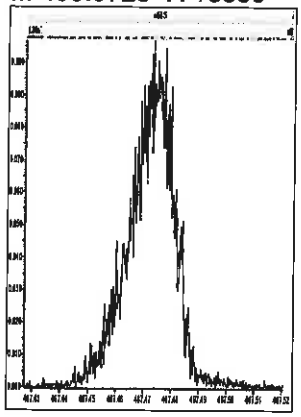

M 480.9696 R 12252

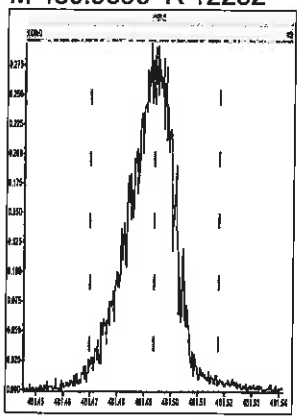

File: Experiment: Dioxin3D5.exp Reference: Pfk.ref Function: 5 @ 200 (ppm)

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M 380.9760 R 14286

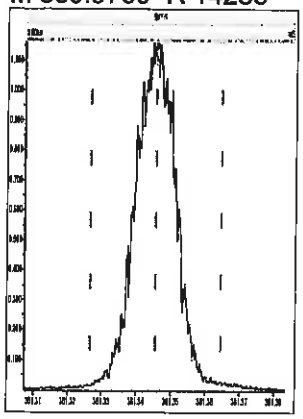

M 392.9760 R 14450

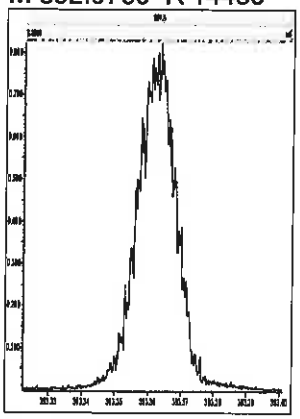

M 404.9760 R 14449

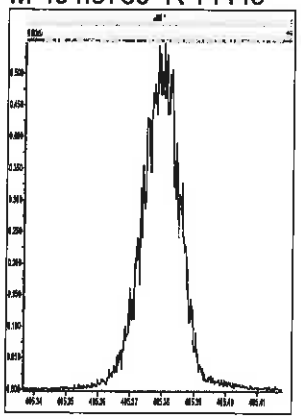

M 416.9760 R 14288

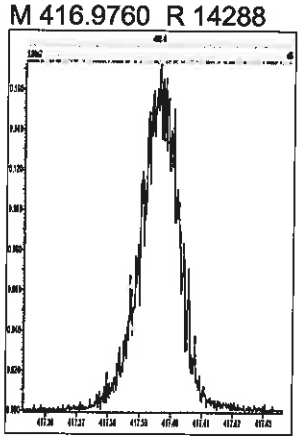

M 430.9728 R 14369

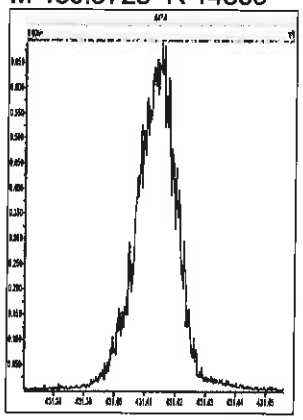

M 442.9728 R 13736

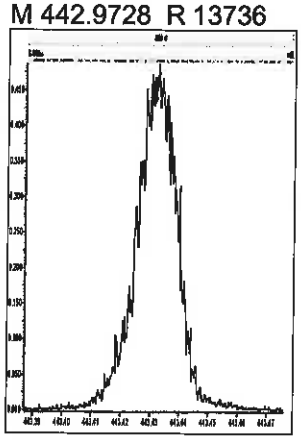

M 454.9728 R 13735

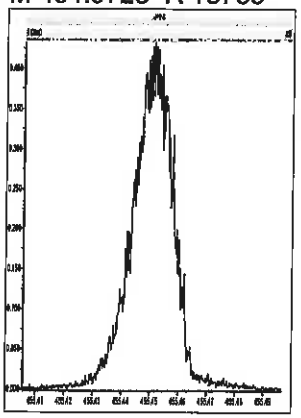

M 466.9728 R 14968

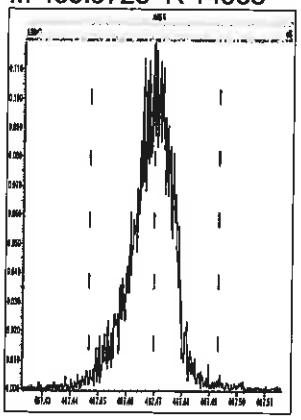

M 480.9696 R 12196

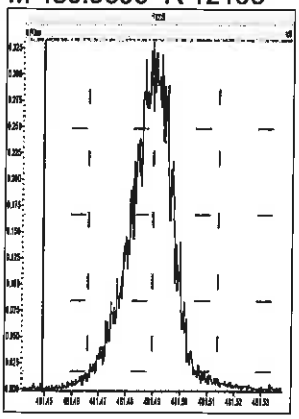

M 492.9696 R 12316

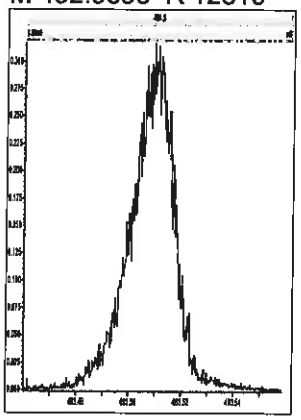

M 504.9696 R 13297

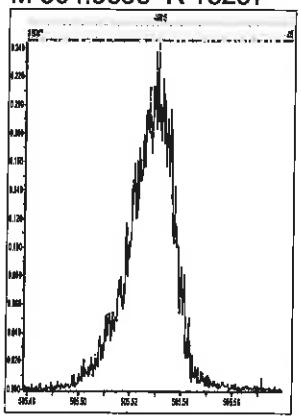

M 516.9697 R 13887

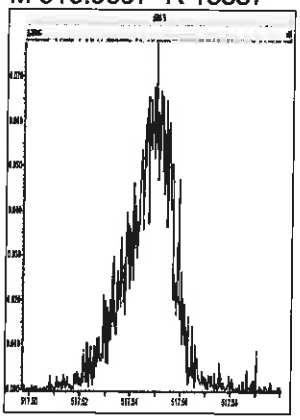

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M 292.9824 R 13393

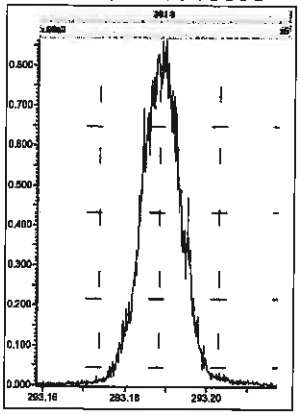

M 304.9824 R 13832

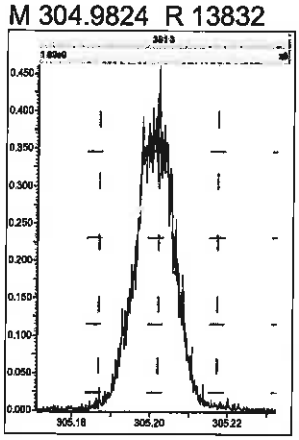

M 318.9792 R 13746

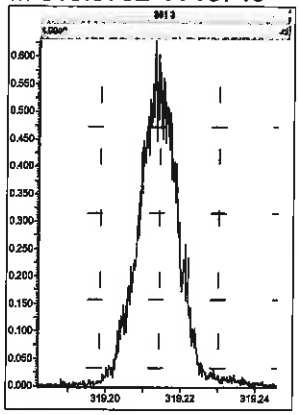

M 330.9792 R 12562

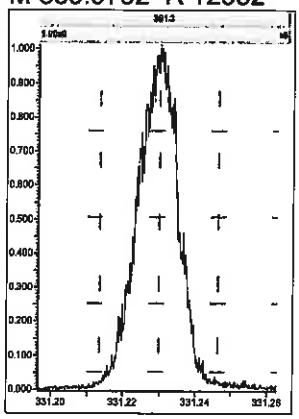

M 342.9792 R 12600

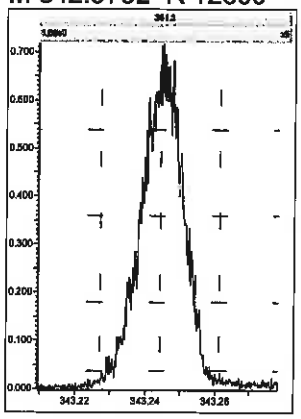

M 354.9792 R 12469

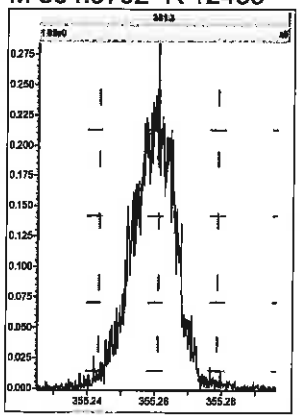

M 366.9792 R 11628

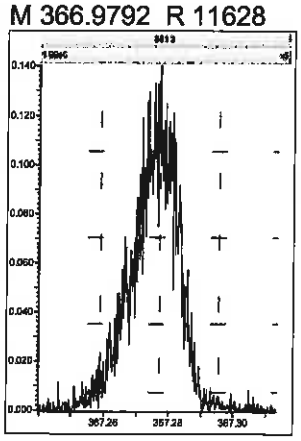

M 380.9760 R 10895

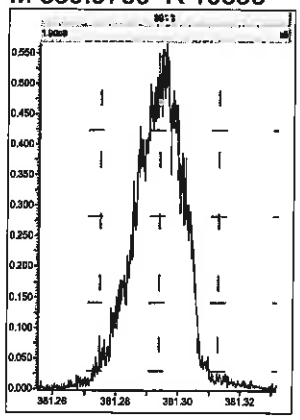

M 392.9760 R 10952

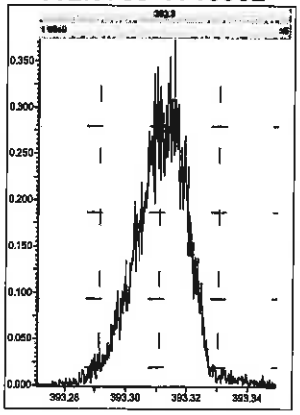

M 404.9760 R 11088

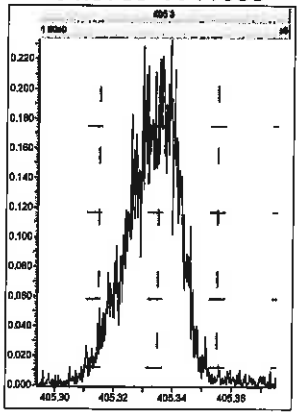

M 416.9760 R 10941

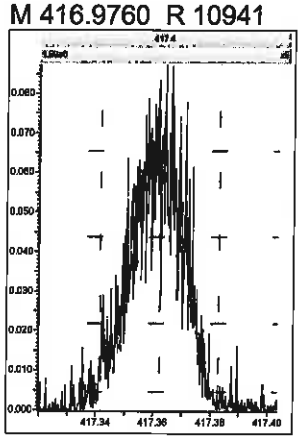

M 318.9792 R 14226

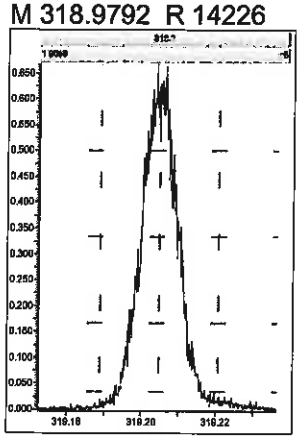

M 330.9792 R 13774

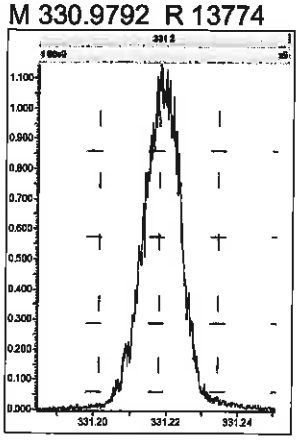

M 342.9792 R 13778

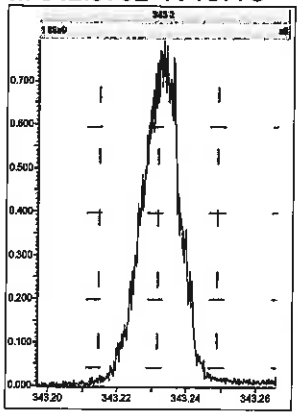

M 354.9792 R 13586

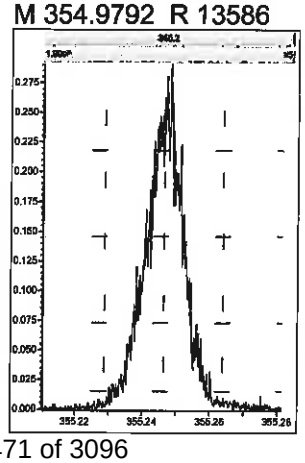

M 366.9792 R 12759

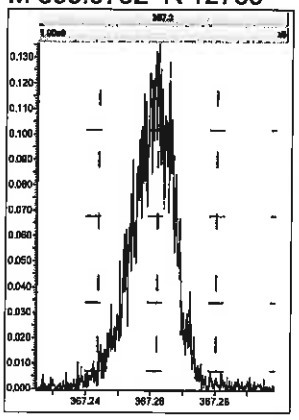

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M 380.9760 R 11493

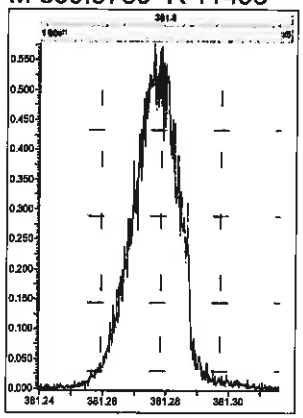

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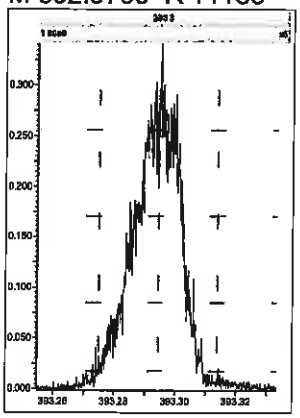

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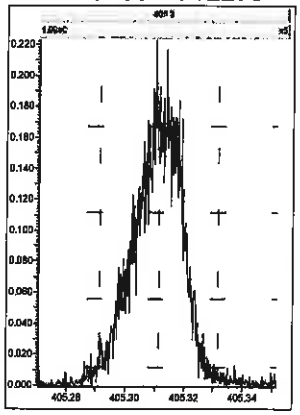

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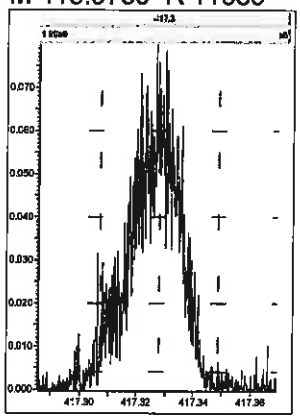

M 366.9792 R 13858

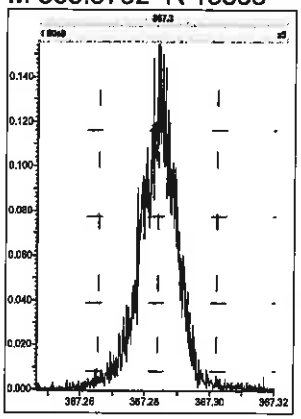

M 380.9760 R 13143

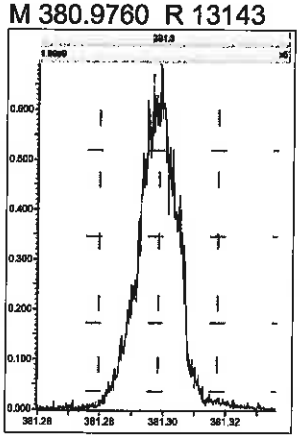

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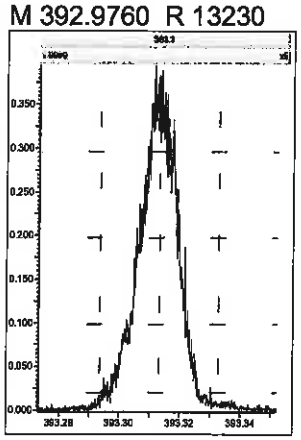

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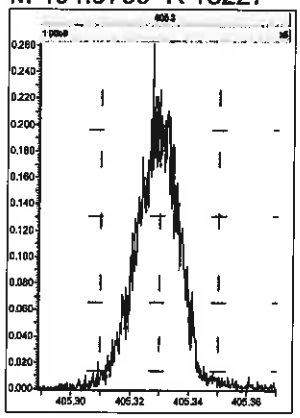

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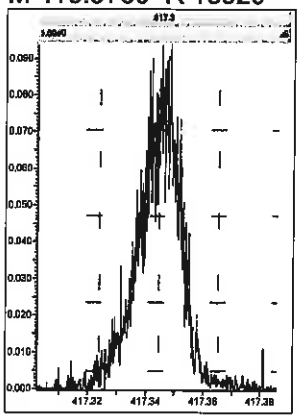

M 430.9728 R 12021

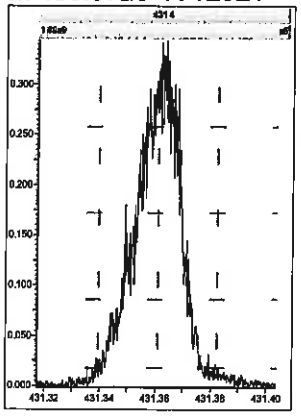

M 442.9728 R 11966

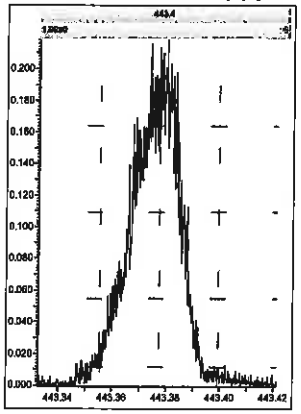

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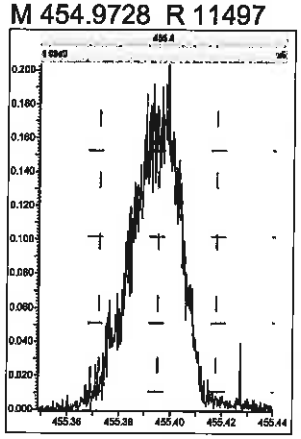

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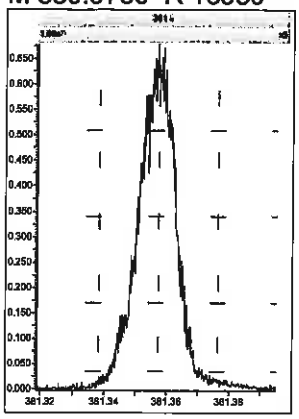

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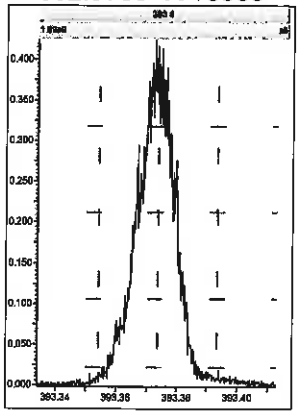

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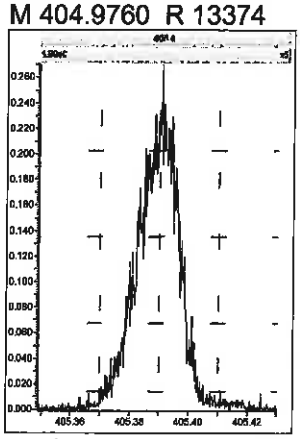

M 416.9760 R 14752

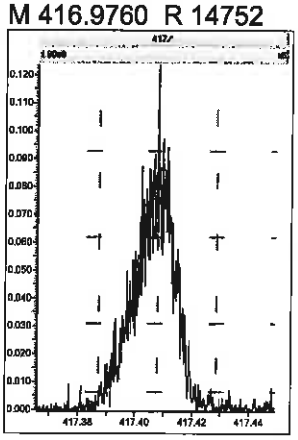

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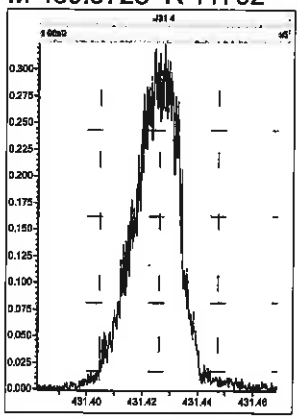

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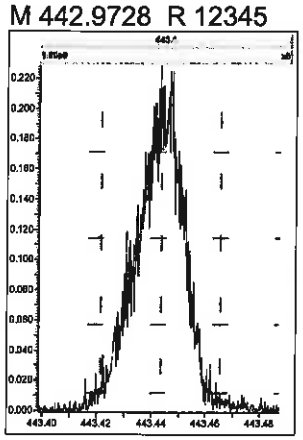

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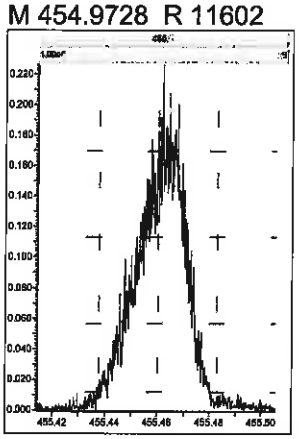

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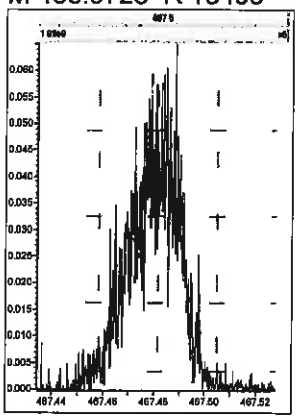

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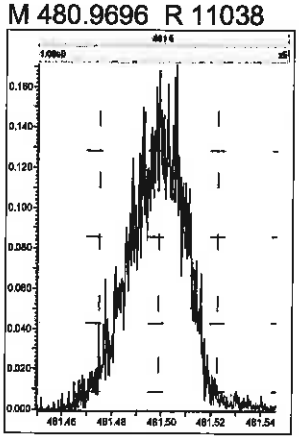

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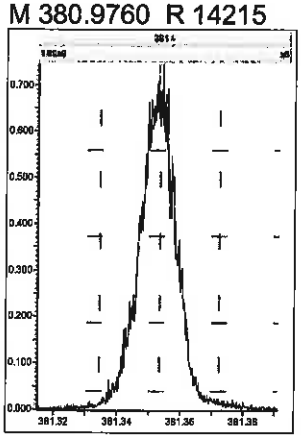

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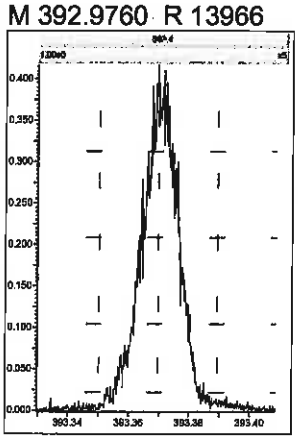

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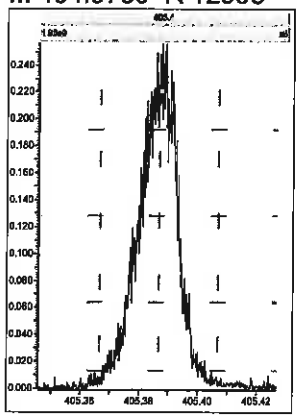

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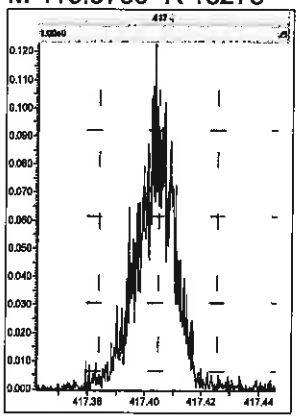

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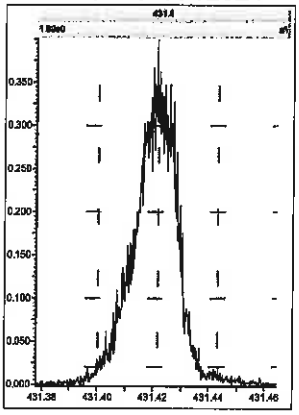

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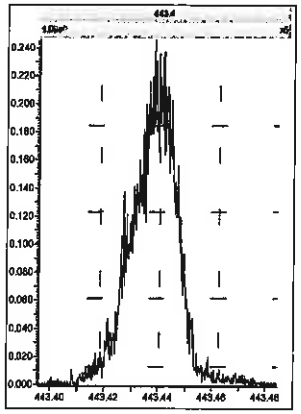

M 454.9728 R 11366

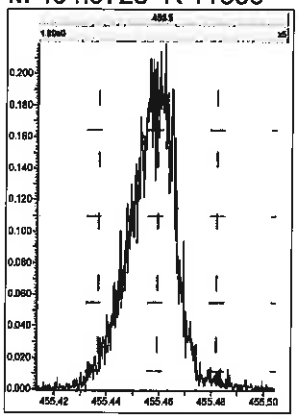

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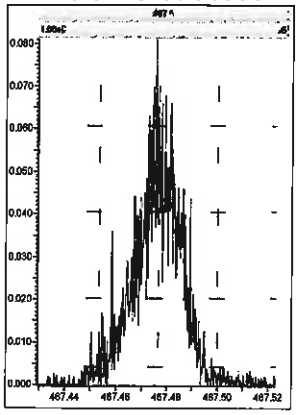

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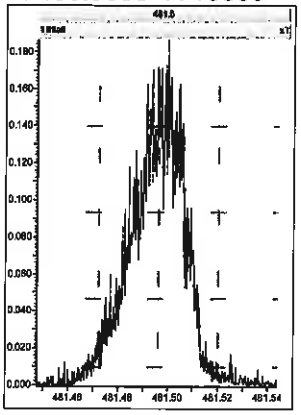

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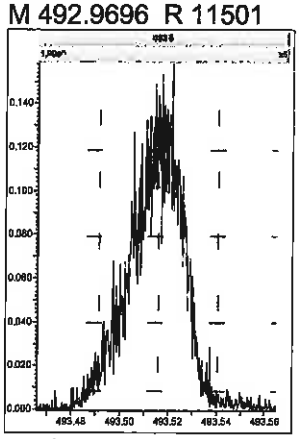

M 504.9696 R 10727

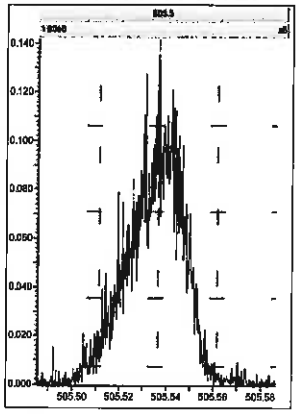

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M 516.9697 R 11957

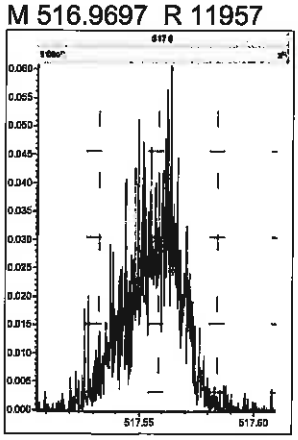

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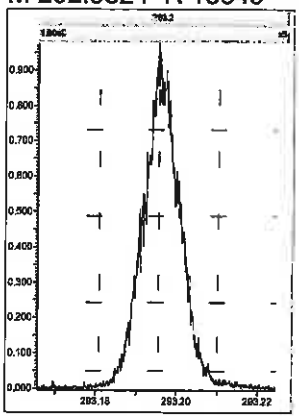

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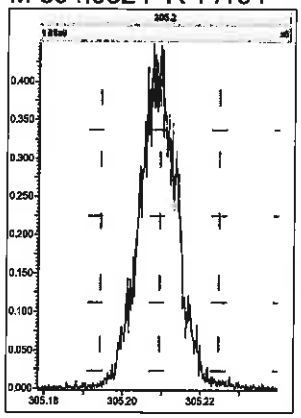

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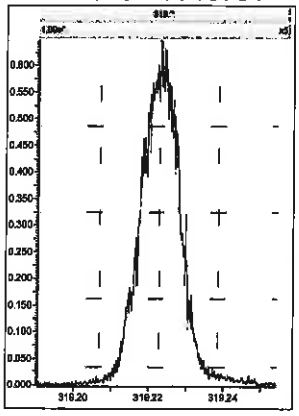

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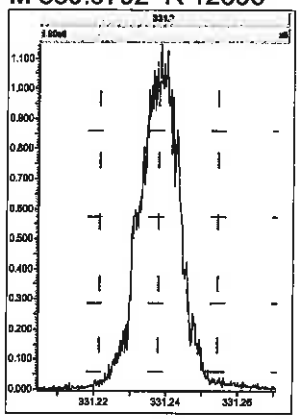

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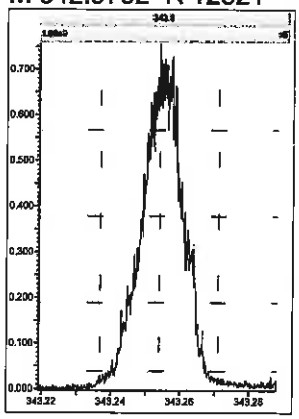

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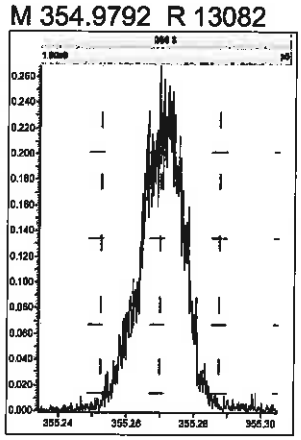

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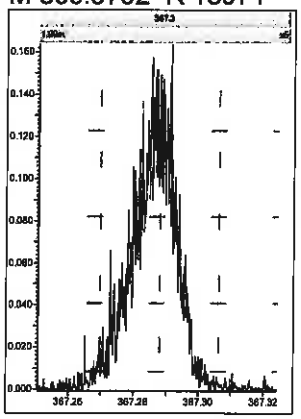

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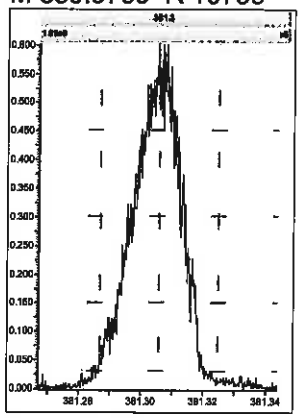

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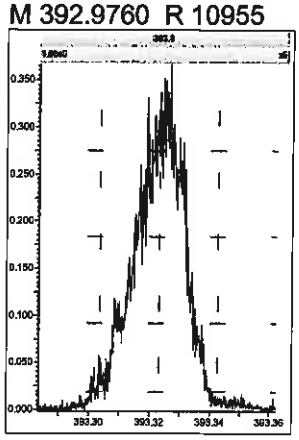

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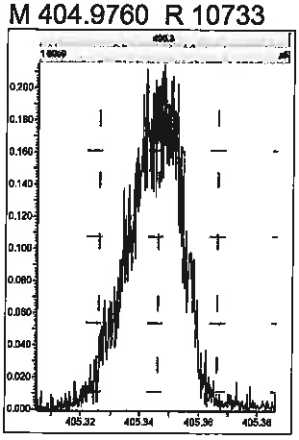

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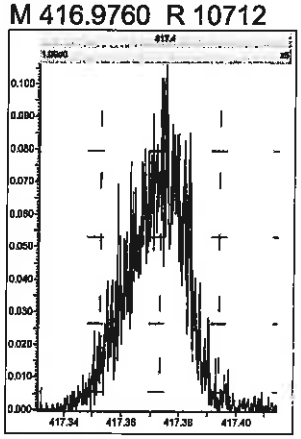

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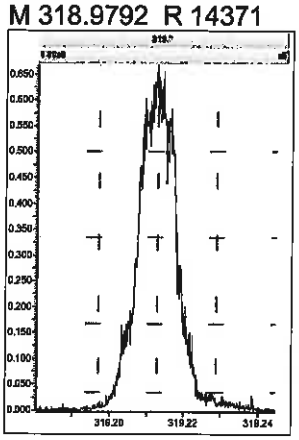

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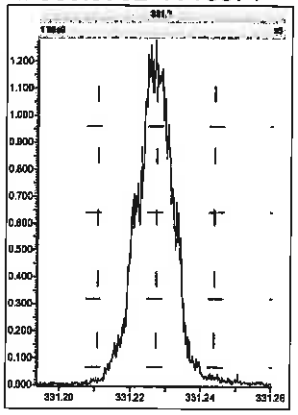

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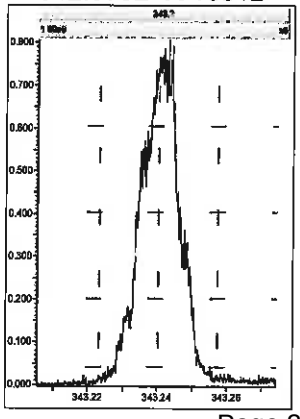

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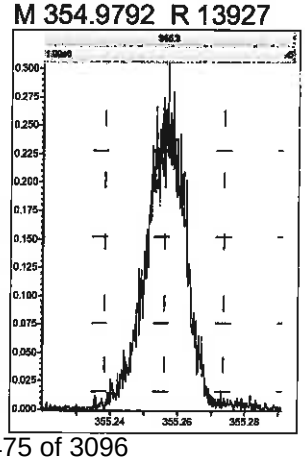

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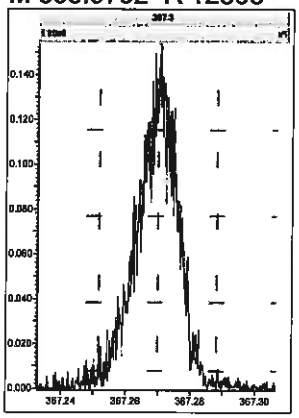

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M 380.9760 R 11884

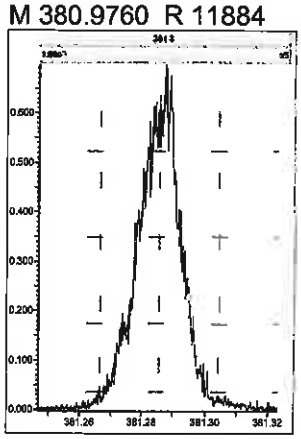

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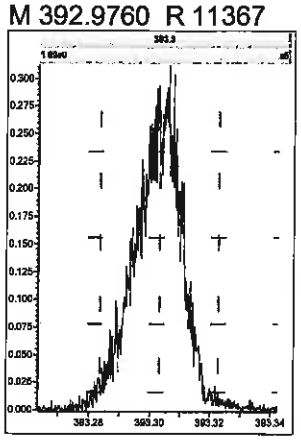

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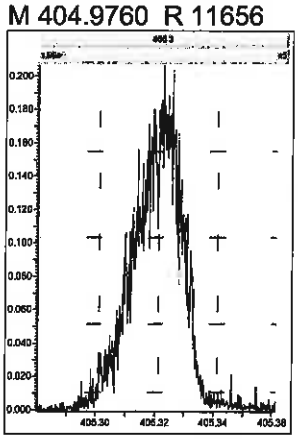

M 416.9760 R 13283

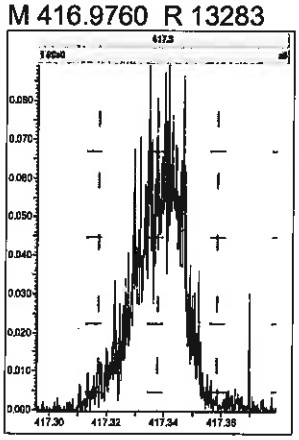

M 366.9792 R 15105

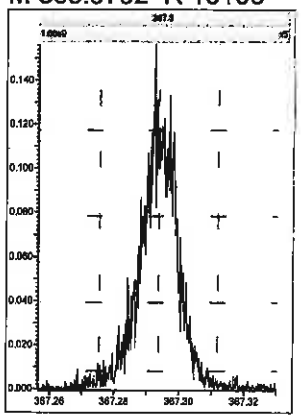

M 380.9760 R 13693

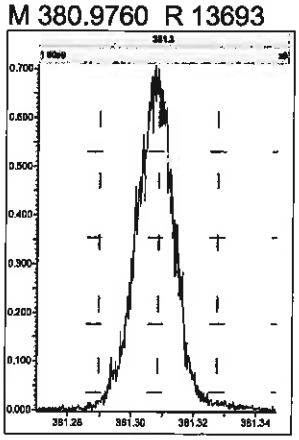

M 392.9760 R 14125

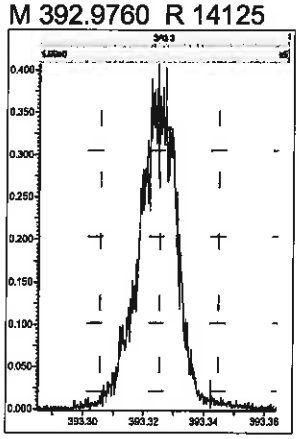

M 404.9760 R 12793

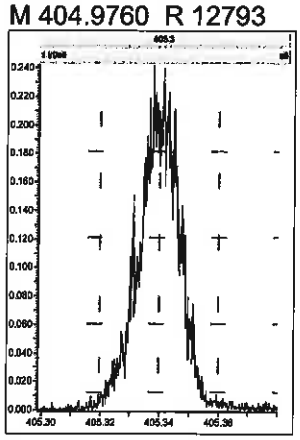

M 416.9760 R 14536

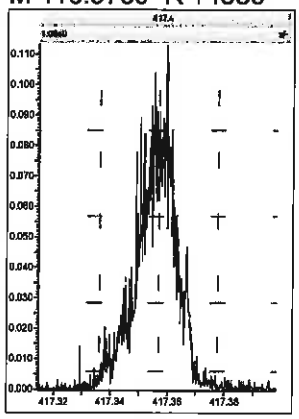

M 430.9728 R 12693

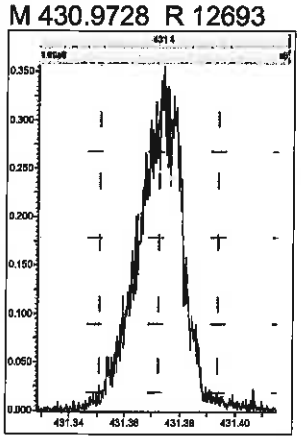

M 442.9728 R 11186

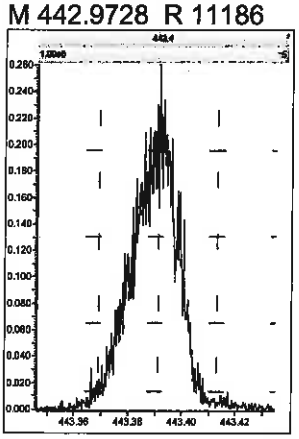

M 454.9728 R 11224

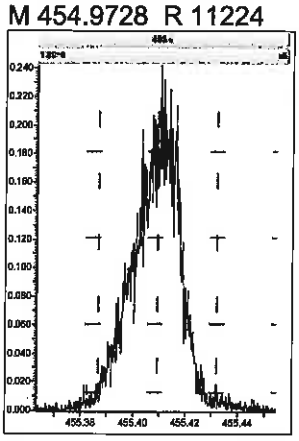

M 380.9760 R 13631

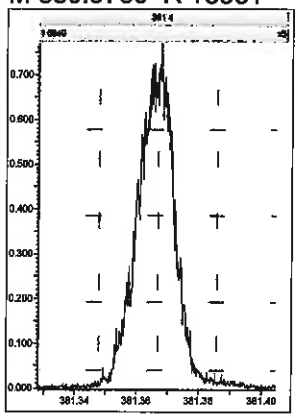

M 392.9760 R 13923

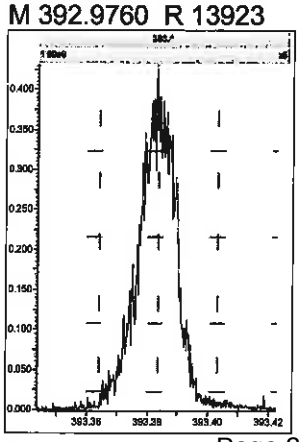

M 404.9760 R 12854

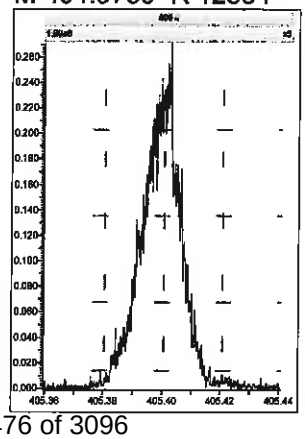

M 416.9760 R 14295

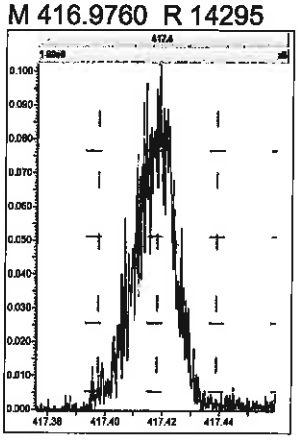

M 430.9728 R 12315

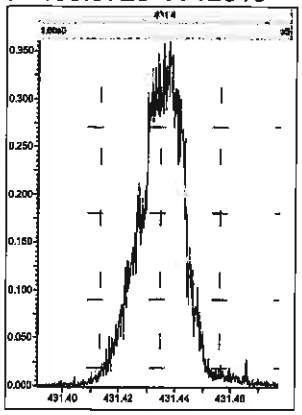

M 442.9728 R 11688

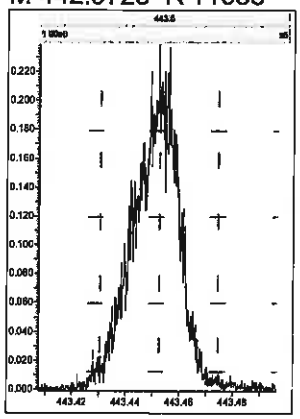

M 454.9728 R 11415

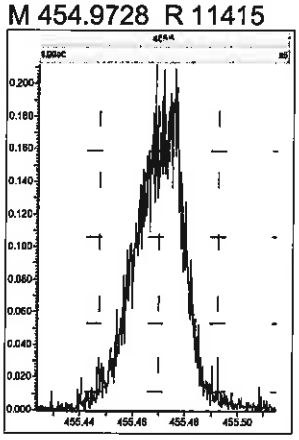

M 466.9728 R 13066

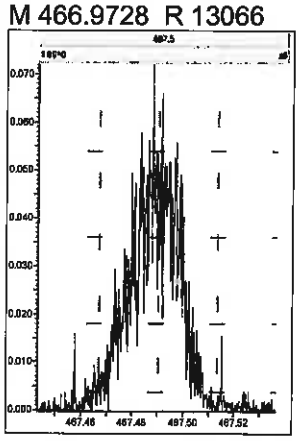

M 480.9696 R 10623

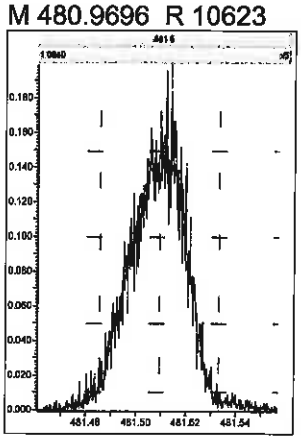

M 380.9760 R 14008

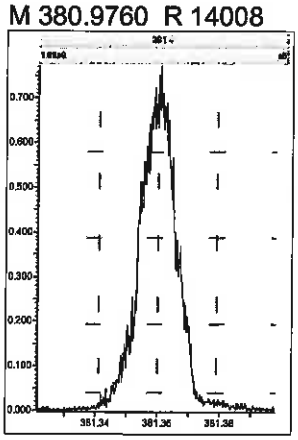

M 392.9760 R 14662

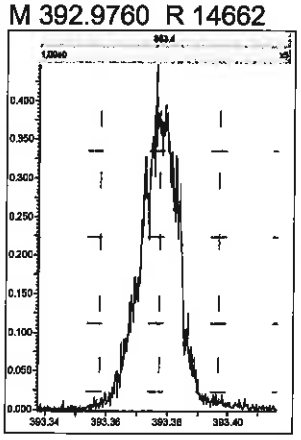

M 404.9760 R 13561

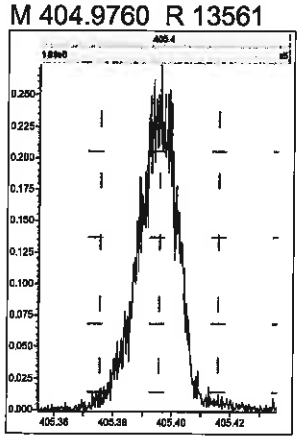

M 416.9760 R 14060

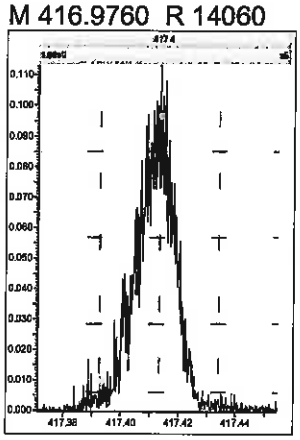

M 430.9728 R 12423

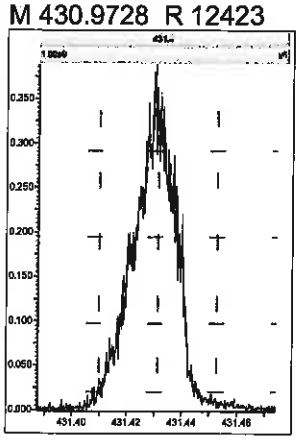

M 442.9728 R 11834

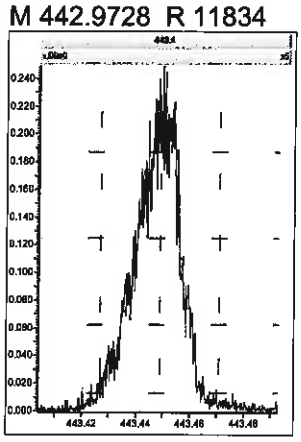

M 454.9728 R 11163

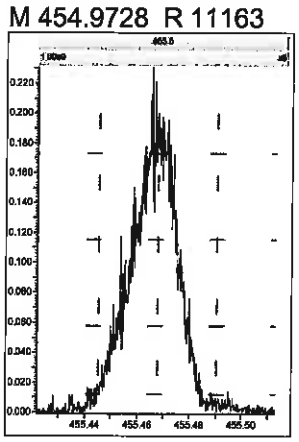

M 466.9728 R 12603

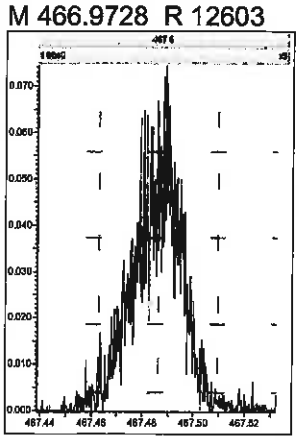

M 480.9696 R 10287

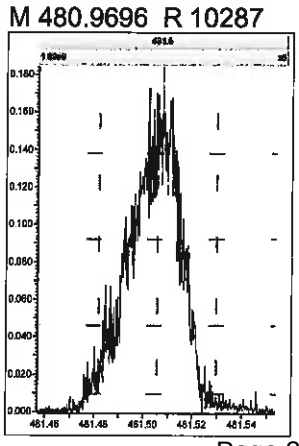

M 492.9696 R 10542

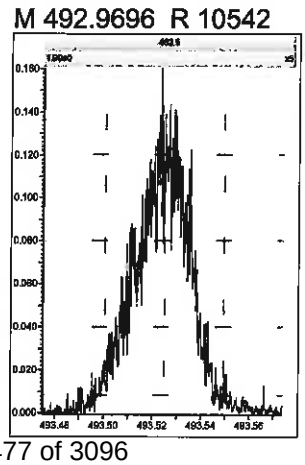

M 504.9696 R 10105

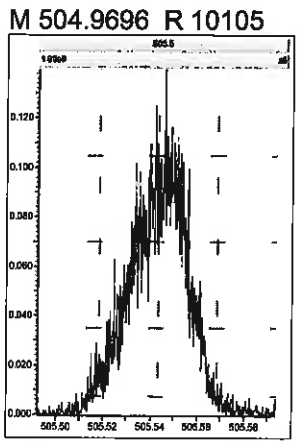

Printed: Thursday, December 12, 2019 17:21:39 Pacific Standard Time

M 516.9697 R 11908

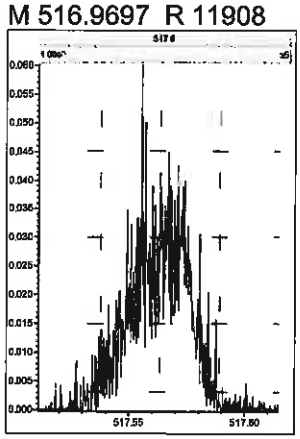

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_3.d
Lims ID: IC 2
Client ID: L2
Sample Type: IC Calib Level: 2
Inject. Date: 12-Dec-2019 11:28:54 ALS Bottle#: 4 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 121219 IC HRDXNL2_00027
Misc. Info.: 12DE193D5
Operator ID: KSS Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 12-Dec-2019 15:54:08 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: stephensk Date: 12-Dec-2019 13:35:12

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.672	232904111	0.79	2.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.173	329541553	0.77	1.4157	99.9	99.9	0.2093	0.2093	99.94	
2,3,7,8-TCDF	17.173	1274172	0.88	0.9502	0.4069	0.4069	0.0250	0.0250	81.38	
S Total TCDF					0.4069	0.4069	0.0250	0.0250		
D 13C-2,3,7,8-TCDD	17.854	224505471	0.79	0.9751	98.9	98.9	0.1651	0.1651	98.86	
2,3,7,8-TCDD	17.869	995222	0.78	1.0477	0.4231	0.4231	0.0273	0.0273	84.62	
$ 37Cl4-2,3,7,8-TCDD	17.869	1430622		1.3480	0.4557	0.4557	0.0167	0.0167	91.14	
S Total TCDD					0.4231	0.4231	0.0273	0.0273		
D 13C-1,2,3,7,8-PeCDF	22.114	267927119	1.60	1.1786	97.6	97.6	0.2528	0.2528	97.61	
1,2,3,7,8-PeCDF	22.141	5851206	1.59	1.0302	2.120	2.120	0.0436	0.0436	84.79	
D 13C-2,3,4,7,8-PeCDF	23.437	256478177	1.60	1.1308	97.4	97.4	0.2635	0.2635	97.39	
2,3,4,7,8-PeCDF	23.464	5737636	1.64	1.0410	2.149	2.149	0.0481	0.0481	85.96	
S Total PeCDF					4.269	4.269	0.0458	0.0458		
D 13C-1,2,3,7,8-PeCDD	24.146	174446593	1.59	0.7572	98.9	98.9	0.1508	0.1508	98.92	
1,2,3,7,8-PeCDD	24.159	4246020	1.69	1.0855	2.242	2.242	0.0566	0.0566	89.69	
S Total PeCDD					2.242	2.242	0.0566	0.0566		
D 13C-1,2,3,4,7,8-HxCDF	30.273	228057392	0.51	1.1043	96.5	96.5	0.2688	0.2688	96.46	
1,2,3,4,7,8-HxCDF	30.313	5545989	1.17	1.1472	2.120	2.120	0.0312	0.0312	84.79	
D 13C-1,2,3,6,7,8-HxCDF	30.473	241275292	0.51	1.1470	98.2	98.2	0.2588	0.2588	98.24	
1,2,3,6,7,8-HxCDF	30.499	5900625	1.17	1.1450	2.136	2.136	0.0296	0.0296	85.43	
D 13C-2,3,4,6,7,8-HxCDF	31.365	224637565	0.53	1.0769	97.4	97.4	0.2757	0.2757	97.43	
2,3,4,6,7,8-HxCDF	31.378	5662489	1.16	1.1726	2.150	2.150	0.0226	0.0226	85.99	
D 13C-1,2,3,7,8,9-HxCDF	32.204	206305806	0.52	1.0115	95.3	95.3	0.2935	0.2935	95.26	
1,2,3,7,8,9-HxCDF	32.217	5208722	1.21	1.1717	2.155	2.155	0.0235	0.0235	86.19	
S Total HxCDF					8.560	8.560	0.0267	0.0267		
* 13C-1,2,3,7,8,9-HxCDD	32.004	214114257	1.24	2.1E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.565	163808128	1.29	0.7962	96.1	96.1	0.2305	0.2305	96.09	
1,2,3,4,7,8-HxCDD	31.578	4000505	1.21	1.0934	2.234	2.234	0.0334	0.0334	89.34	
D 13C-1,2,3,6,7,8-HxCDD	31.671	181206025	1.27	0.8720	97.1	97.1	0.2105	0.2105	97.05	

Report Date: 12-Dec-2019 15:54:09 Chrom Revision: 2.3 02-Dec-2019 08:23:04
Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_3.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.684	4044419	1.22	1.0429	2.140	2.140	0.0318	0.0318	85.61	
1,2,3,7,8,9-HxCDD	32.031	4825859	1.15	1.2073	2.317	2.317	0.0288	0.0288	92.68	
S Total HxCDD					6.691	6.691	0.0314	0.0314		
D 13C-1,2,3,4,6,7,8-HpCDF	33.652	150037410	0.44	0.7577	92.5	92.5	1.159	1.159	92.49	
1,2,3,4,6,7,8-HpCDF	33.664	4755914	1.18	1.4804	2.141	2.141	0.0490	0.0490	85.65	
D 13C-1,2,3,4,7,8,9-HpCDF	34.734	133781139	0.44	0.6941	90.0	90.0	1.265	1.265	90.01	
1,2,3,4,7,8,9-HpCDF	34.746	3837855	1.11	1.2933	2.218	2.218	0.0660	0.0660	88.73	
S Total HpCDF					4.359	4.359	0.0575	0.0575		
D 13C-1,2,3,4,6,7,8-HpCDD	34.442	138203122	1.05	0.7058	91.4	91.4	0.4508	0.4508	91.45	
1,2,3,4,6,7,8-HpCDD	34.454	3277321	0.97	1.0535	2.251	2.251	0.0263	0.0263	90.03	
S Total HpCDD					2.251	2.251	0.0263	0.0263		
D 13C-OCDD	36.770	176245574	0.88	0.4603	178.8	178.8	0.1805	0.1805	89.42	
OCDF	36.877	5676582	0.95	1.3945	4.619	4.619	0.0557	0.0557	92.39	
OCDD	36.782	4811448	0.89	1.1362	4.806	4.806	0.0425	0.0425	96.11	

Reagents:

HRDXNL2_00027 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_3.d
Lims ID: IC 2
Client ID: L2
Sample Type: IC Calib Level: 2
Inject. Date: 12-Dec-2019 11:28:54 ALS Bottle#: 4 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 121219 IC HRDXNL2_00027
Misc. Info.: 12DE193D5
Operator ID: KSS Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 12-Dec-2019 15:54:08 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: stephensk Date: 12-Dec-2019 13:35:12

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.672	17.666	0		102601529	26223424	24034	60085	1091		
333.9339	17.672	17.666	0		130302582	32981144	14096	35240	2340	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.173	17.164	1	0.972	143162383	35138724	33977	84942	1034		
317.9389	17.158	17.164	0	0.971	186379170	44913079	36197	90492	1241	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.173	17.176	0	1.000	597494	161938	2758	6895	59		
305.8987	17.173	17.176	0	1.000	676678	155092	4856	12140	32	0.88(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.854	17.854	0	1.010	98843345	22651530	24034	60085	942		
333.9339	17.854	17.854	0	1.010	125662126	29074532	14096	35240	2063	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.869	17.872	0	1.001	435714	109775	4000	10000	27		
321.8936	17.884	17.872	1	1.002	559508	133812	1921	4802	70	0.78(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.869	17.872	0	1.011	1430622	305157	5346	13365	57		
13C-1,2,3,7,8-PeCDF											
351.9000	22.114	22.103	1	1.251	164768205	29211398	41861	104652	698		
353.8970	22.114	22.103	1	1.251	103158914	18407331	28706	71765	641	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.141	22.130	1	1.001	3594154	634928	2668	6670	238		
341.8567	22.127	22.130	0	1.001	2257052	386507	5878	14695	66	1.59(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	23.437	23.426	1	1.326	157892502	26441421	41861	104652	632		
353.8970	23.437	23.426	1	1.326	98585675	16252239	28706	71765	566	1.60(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.464	23.450	1	1.001	3563135	595769	2668	6670	223		
341.8567	23.450	23.450	0	1.001	2174501	346430	5878	14695	59	1.64(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	24.146	24.137	0	1.366	107170547	17008758	16296	40740	1044		
369.8919	24.146	24.137	0	1.366	67276046	10989017	10745	26862	1023	1.59(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.159	24.162	0	1.001	2665340	393517	5091	12727	77		
357.8516	24.159	24.162	0	1.001	1580680	244694	1792	4480	137	1.69(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.273	30.270	0	0.946	77253554	14027029	22263	55657	630		
385.8610	30.273	30.270	0	0.946	150803838	27508910	43796	109490	628	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.313	30.300	1	1.001	2986669	520795	3356	8390	155		
375.8178	30.300	30.300	0	1.001	2559320	449115	2585	6462	174	1.17(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.473	30.473	0	0.952	81506617	14891702	22263	55657	669		
385.8610	30.473	30.473	0	0.952	159768675	28934549	43796	109490	661	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.499	30.497	0	1.001	3180012	591716	3356	8390	176		
375.8178	30.499	30.497	0	1.001	2720613	514140	2585	6462	199	1.17(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.365	31.357	0	0.980	77774082	19640762	22263	55657	882		
385.8610	31.365	31.357	0	0.980	146863483	36420034	43796	109490	832	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.378	31.375	0	1.000	3034914	784754	3356	8390	234		
375.8178	31.378	31.375	0	1.000	2627575	661174	2585	6462	256	1.16(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.204	32.196	0	1.006	70786307	18972528	22263	55657	852		
385.8610	32.204	32.196	0	1.006	135519499	35003127	43796	109490	799	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.217	32.209	0	1.000	2853990	754034	3356	8390	225		
375.8178	32.217	32.209	0	1.000	2354732	581418	2585	6462	225	1.21(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.004	32.004	0		118740246	30809175	21848	54620	1410		
403.8529	32.004	32.004	0		95374011	24823233	19000	47500	1306	1.24(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.565	31.557	0	0.986	92162296	24211600	21848	54620	1108		
403.8529	31.551	31.557	0	0.986	71645832	19161827	19000	47500	1009	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.578	31.570	0	1.000	2187039	559529	2526	6315	222		
391.8127	31.578	31.570	0	1.000	1813466	500239	3818	9545	131	1.21(1.05-1.43)	

Report Date: 12-Dec-2019 15:54:09 Chrom Revision: 2.3 02-Dec-2019 08:23:04
Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_3.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.671	31.666	0	0.990	101462065	26895597	21848	54620	1231		
403.8529	31.671	31.666	0	0.990	79743960	20856177	19000	47500	1098	1.27(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.684	31.682	0	1.000	2220379	596423	2526	6315	236		
391.8127	31.684	31.682	0	1.000	1824040	520180	3818	9545	136	1.22(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.031	32.023	0	1.015	2583152	723772	2526	6315	287		
391.8127	32.031	32.023	0	1.015	2242707	565938	3818	9545	148	1.15(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.652	33.647	0	1.051	46052027	15310112	59871	149677	256		
419.8220	33.652	33.647	0	1.051	103985383	34503747	135580	338950	254	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.664	33.659	0	1.000	2571421	950159	10708	26770	89		
409.7789	33.664	33.659	0	1.000	2184493	818813	3748	9370	218	1.18(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.734	34.726	0	1.085	40988902	13212969	59871	149677	221		
419.8220	34.734	34.726	0	1.085	92792237	29102895	135580	338950	215	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.746	34.736	1	1.000	2022434	643925	10708	26770	60		
409.7789	34.746	34.736	1	1.000	1815421	576272	3748	9370	154	1.11(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.442	34.437	0	1.076	70840109	23993001	34698	86745	691		
437.8140	34.442	34.437	0	1.076	67363013	22937398	36110	90275	635	1.05(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.454	34.449	0	1.000	1617099	515334	2601	6502	198		
425.7737	34.454	34.449	0	1.000	1660222	560602	2601	6502	216	0.97(0.88-1.20)	
13C-OCDD											
469.7779	36.770	36.767	0	1.149	82535262	22666516	9705	24262	2336		
471.7750	36.770	36.767	0	1.149	93710312	26260117	8785	21962	2989	0.88(0.76-1.02)	
OCDF											
441.7428	36.877	36.870	0	1.003	2759791	781017	2559	6397	305		
443.7399	36.877	36.870	0	1.003	2916791	820491	5045	12612	163	0.95(0.76-1.02)	
OCDD											
457.7377	36.782	36.779	0	1.000	2266337	646718	2724	6810	237		
459.7348	36.782	36.779	0	1.000	2545111	730372	2001	5002	365	0.89(0.76-1.02)	

Reagents:

HRDXNL2_00027 Amount Added: 2.00 Units: uL

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L2		
Worklist#:	345037	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

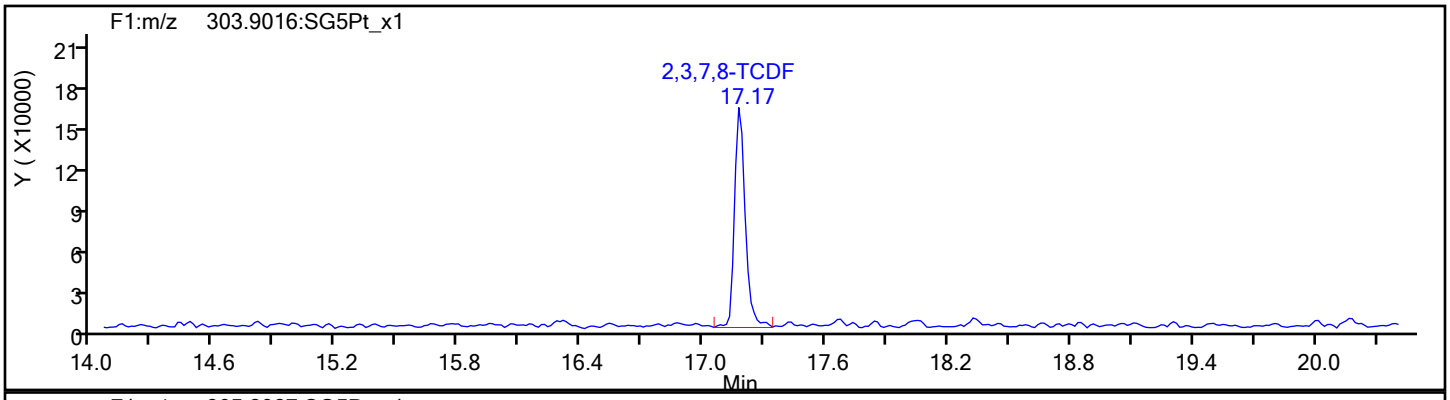

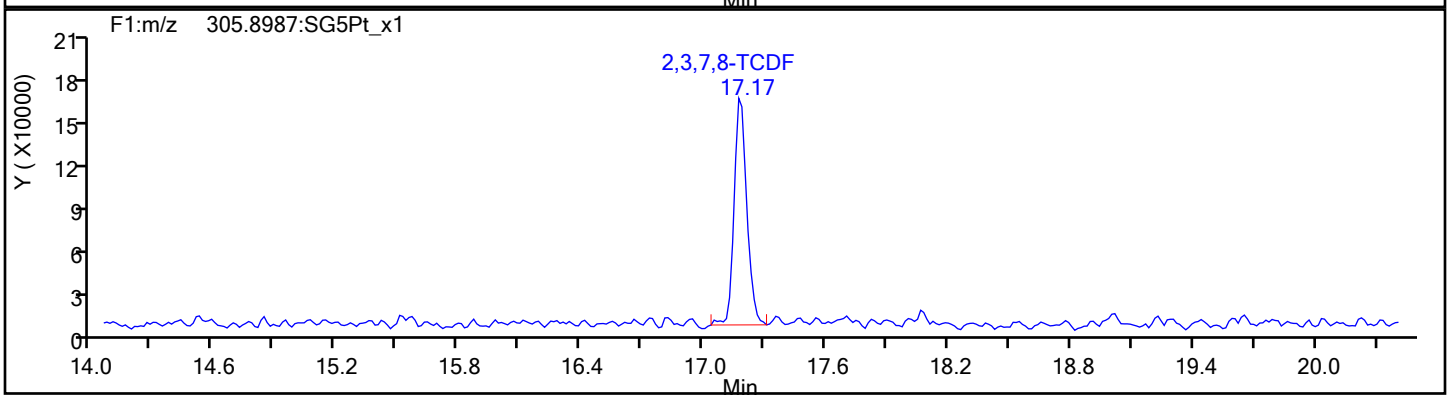

TCDF Standards

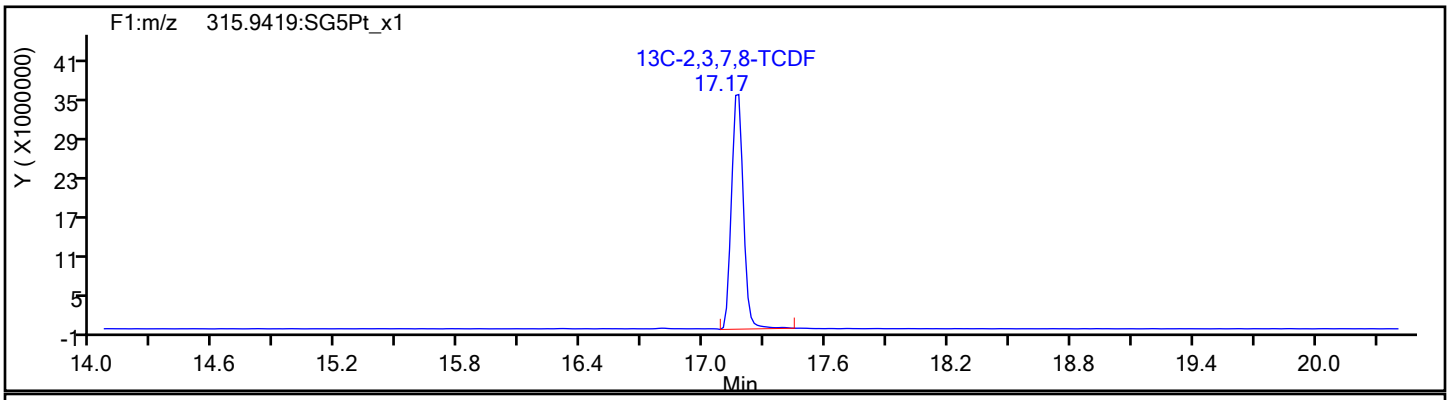

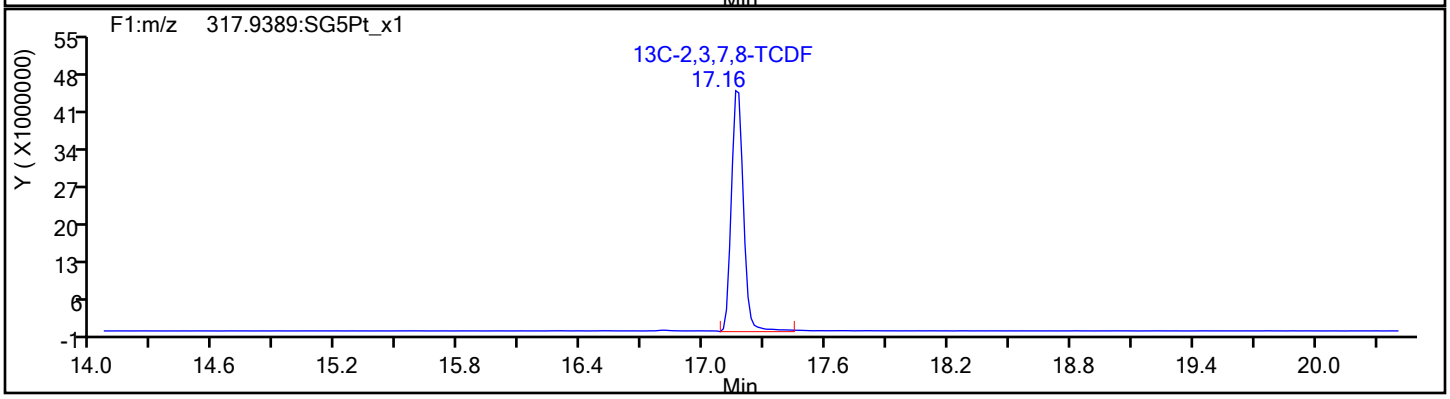

Report Date: 12-Dec-2019 15:54:09 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L2		
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TCDF

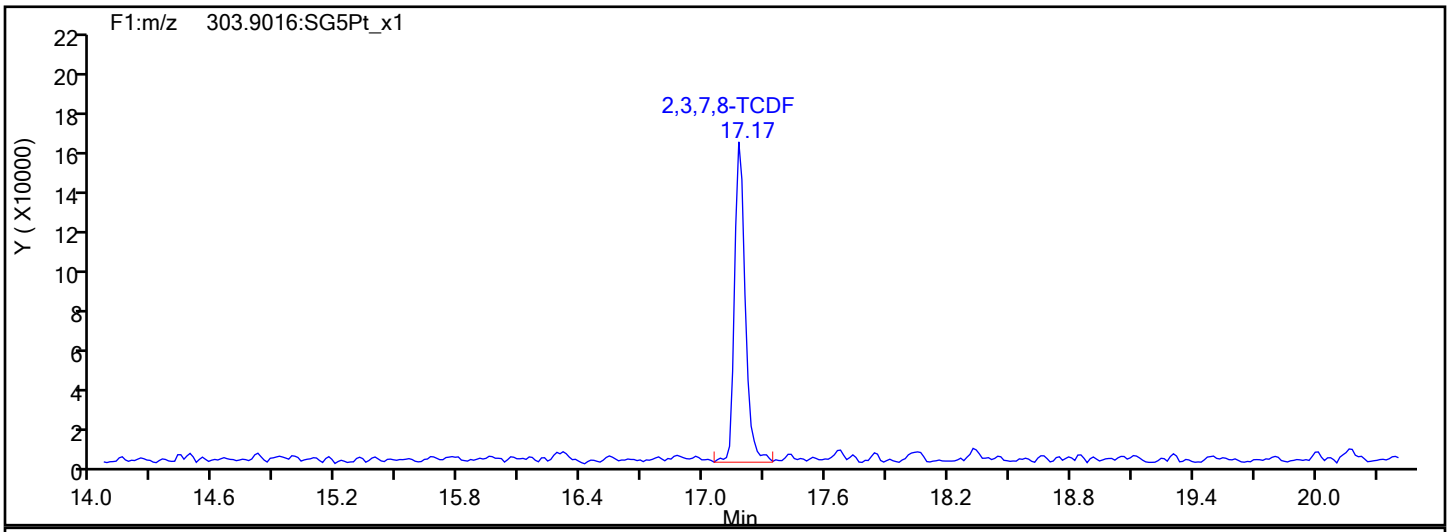

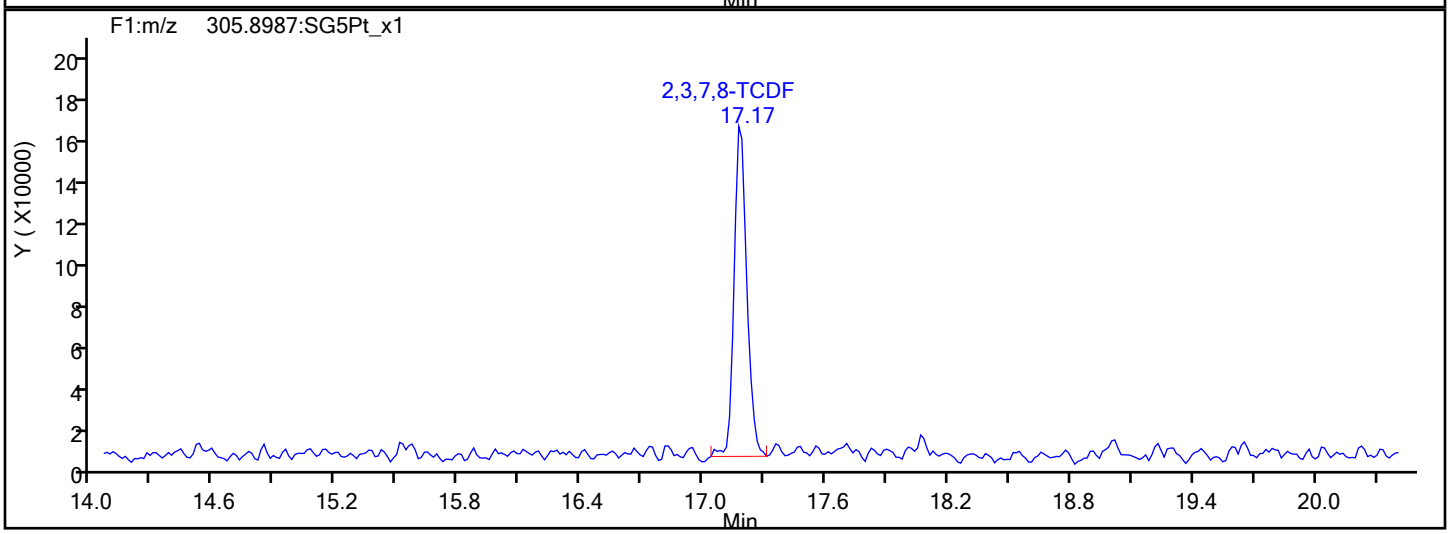

TCDF Interference Mass

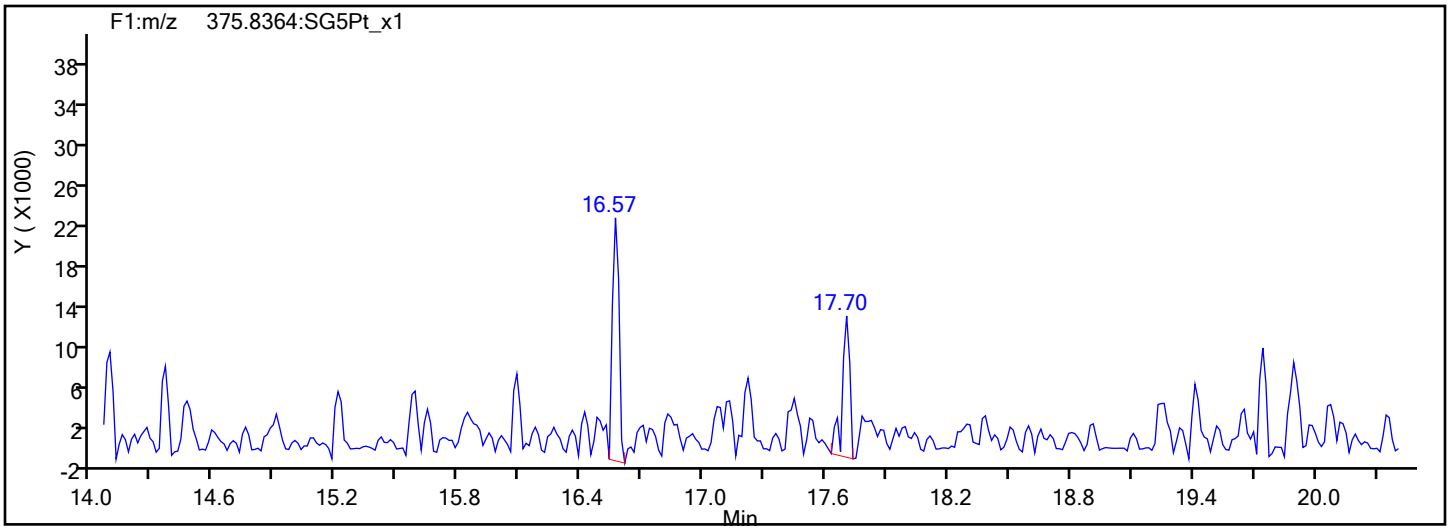

Report Date: 12-Dec-2019 15:54:09 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L2		
Worklist#:	345037	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

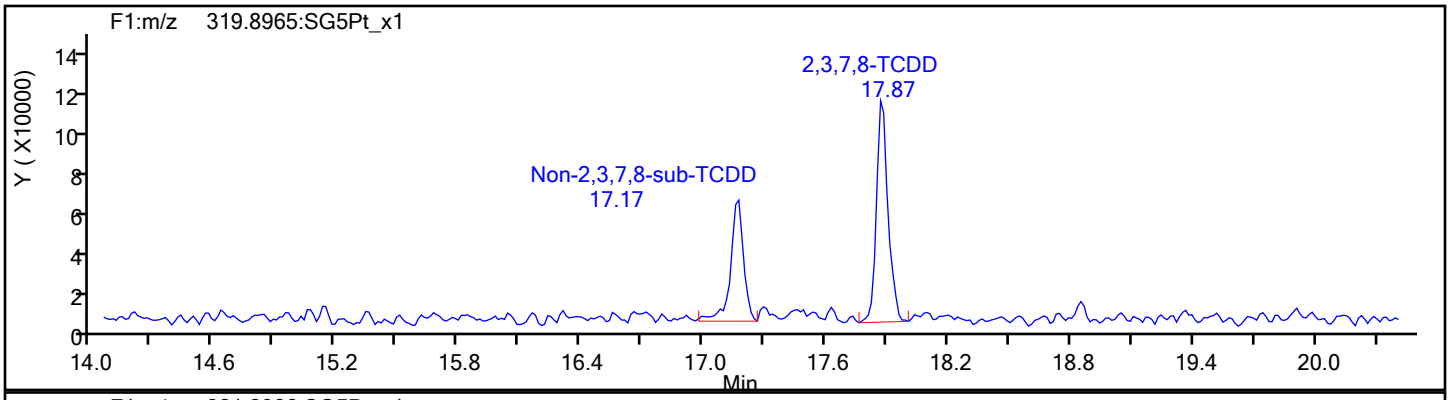

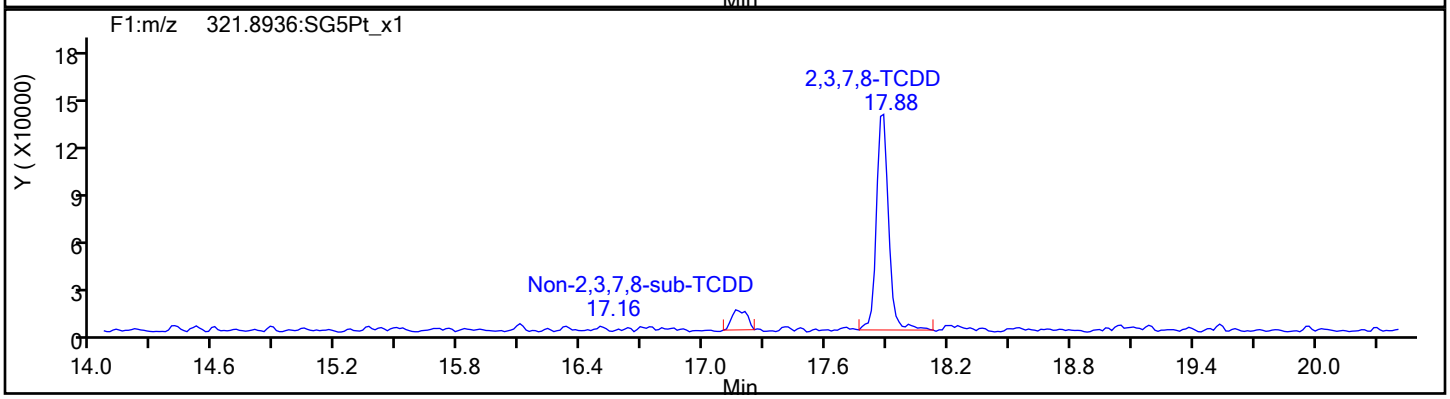

TCDD Standards

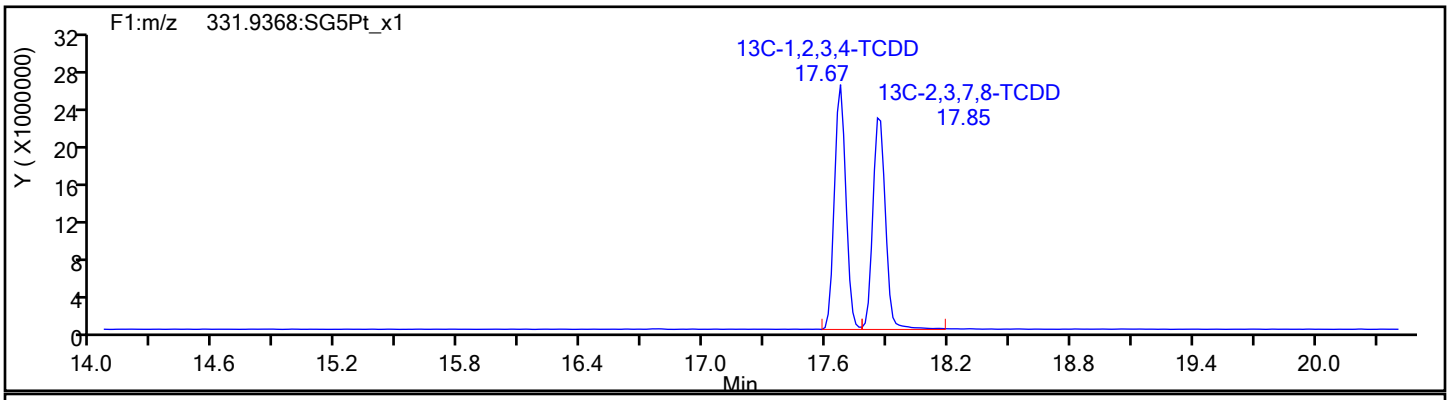

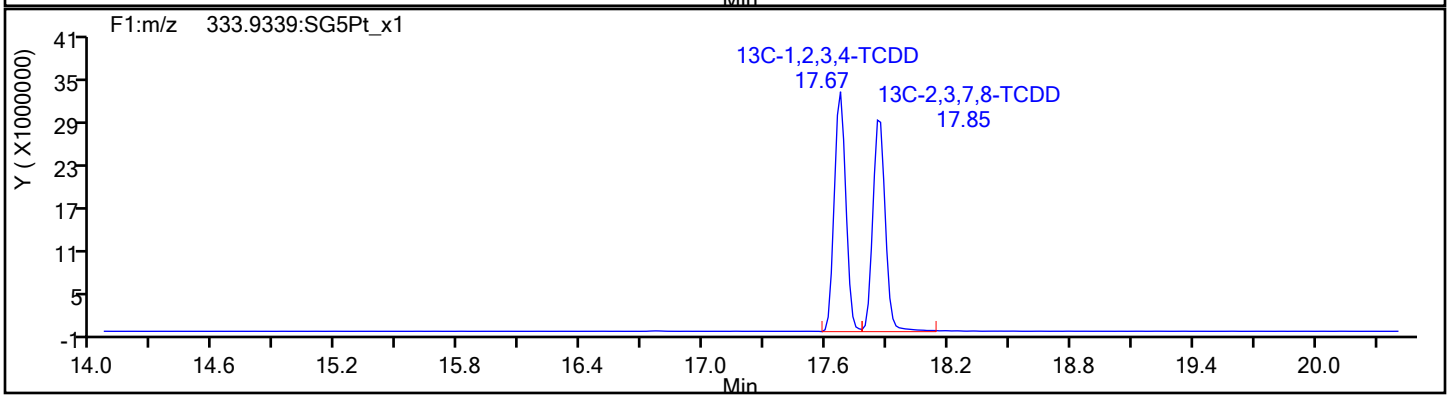

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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Worklist#:	345037	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

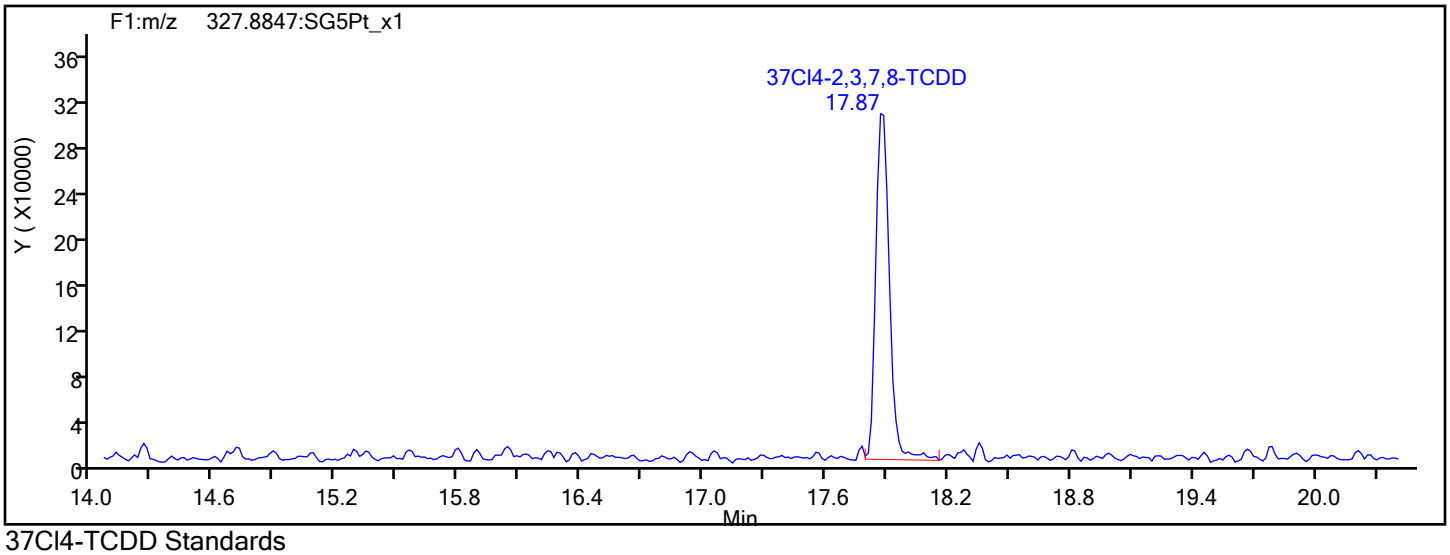

37Cl4-TCDD Standards

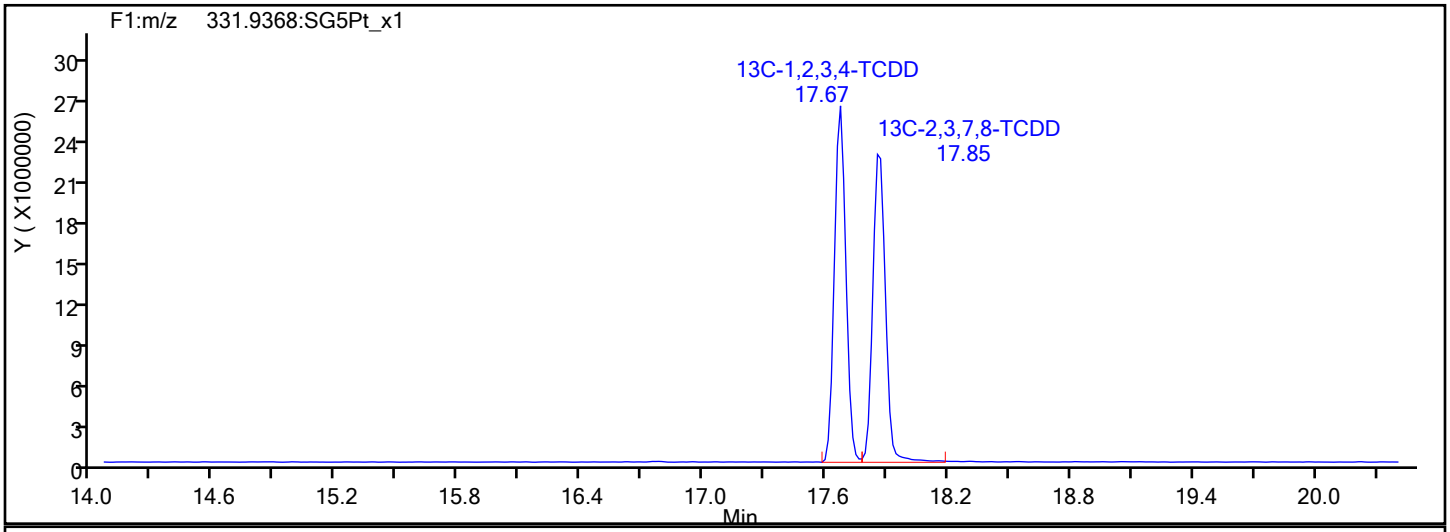

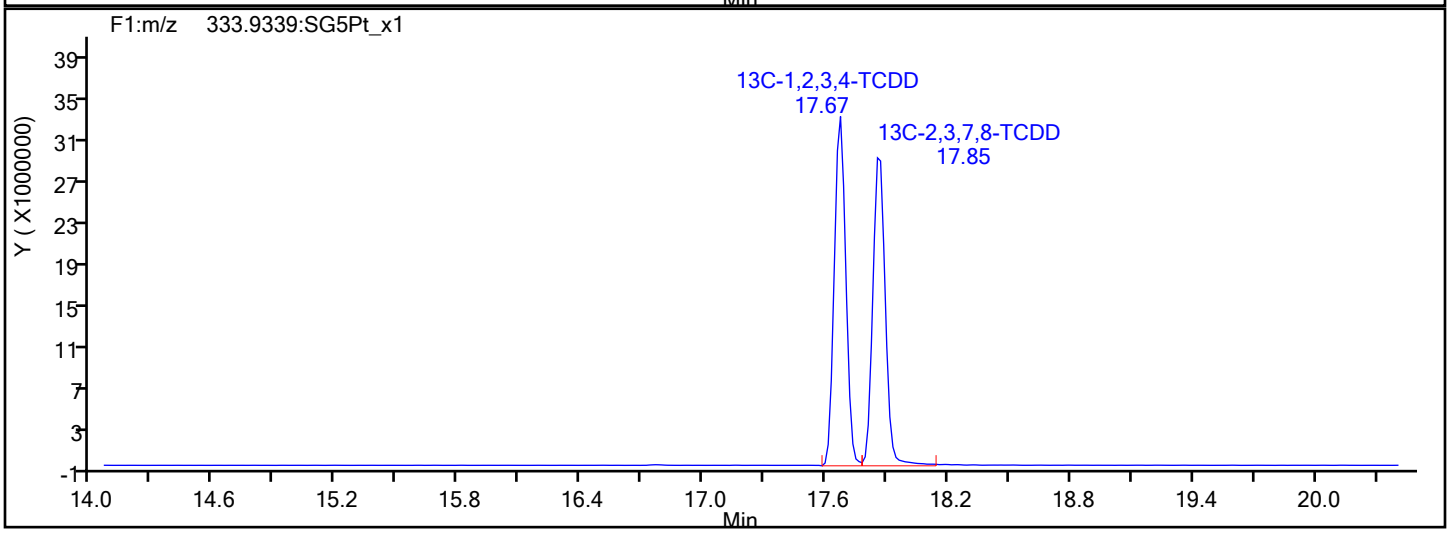

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

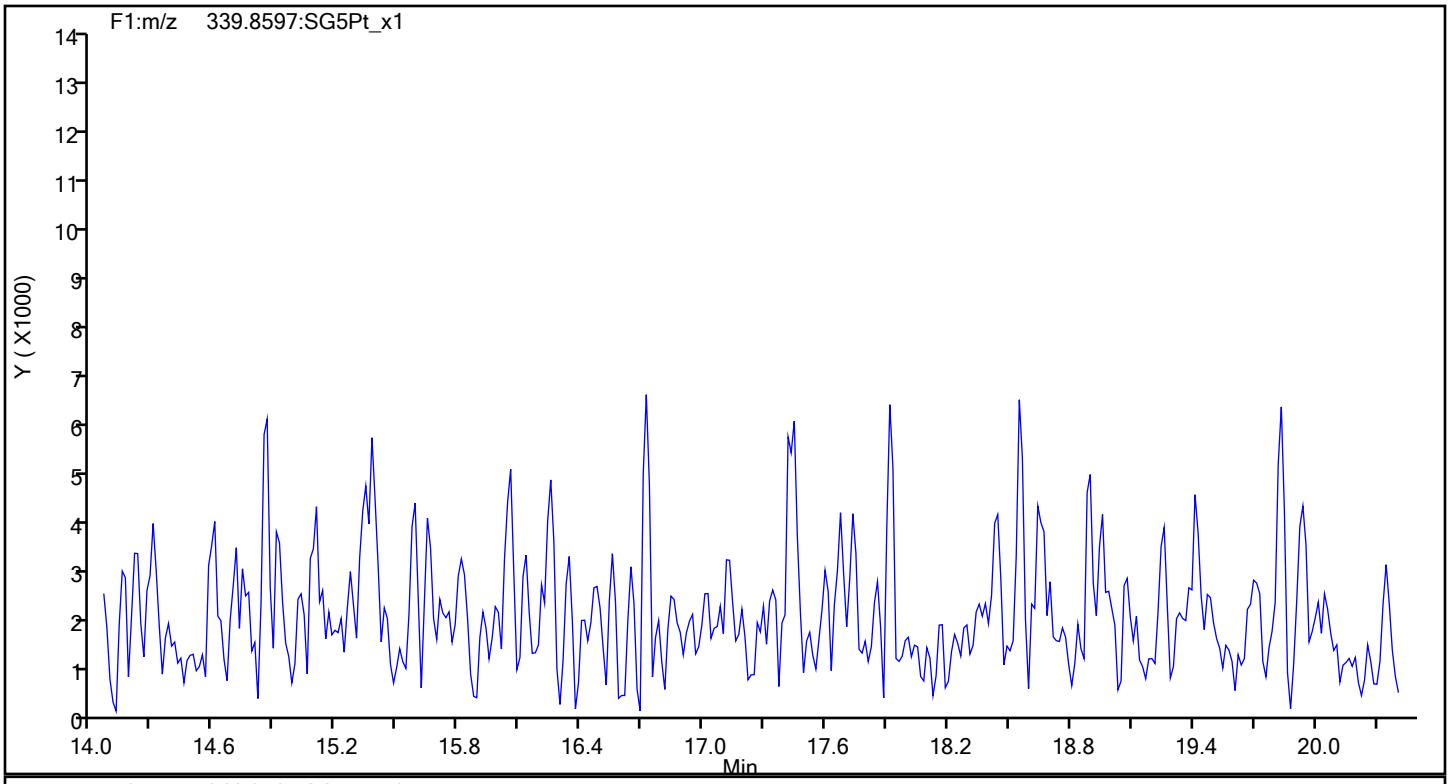

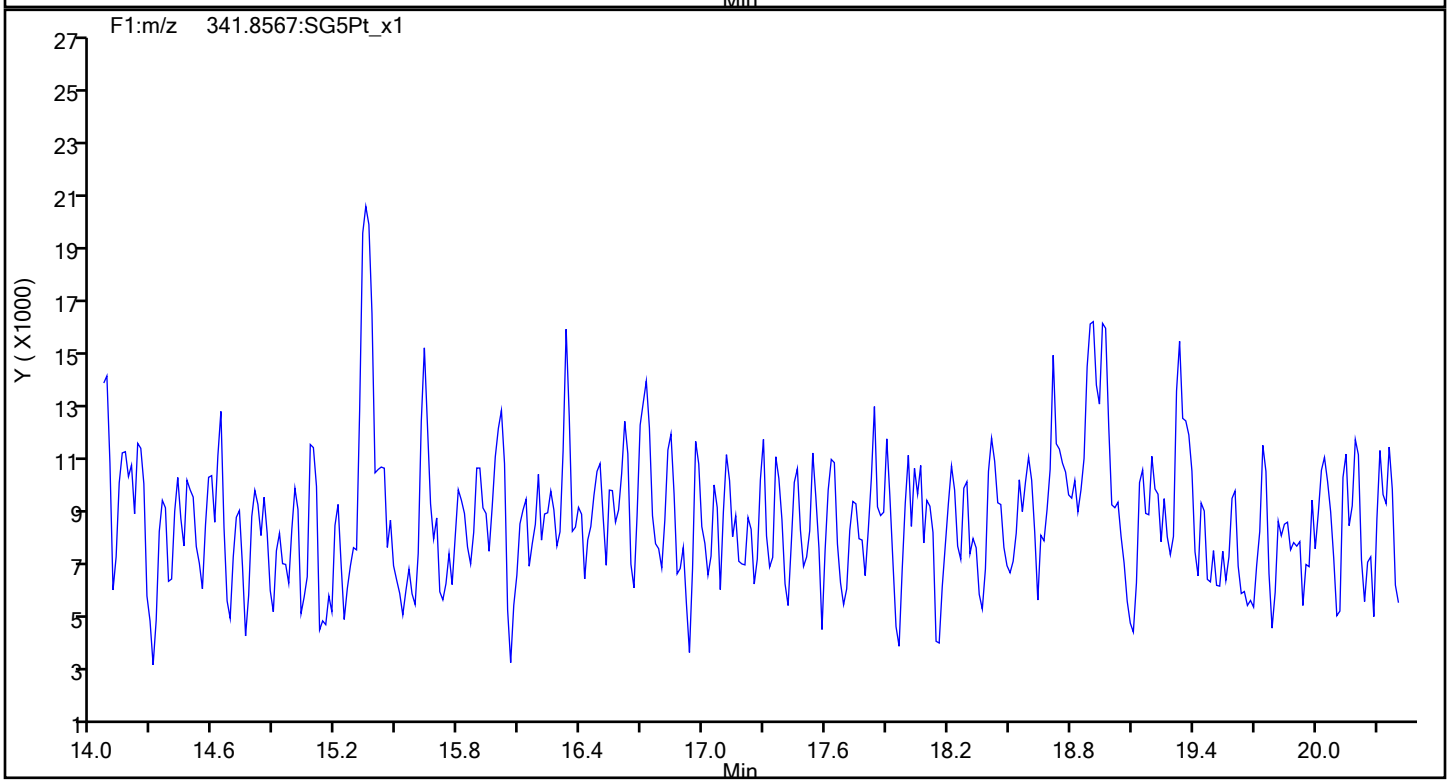

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L2		
Worklist#:	345037	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

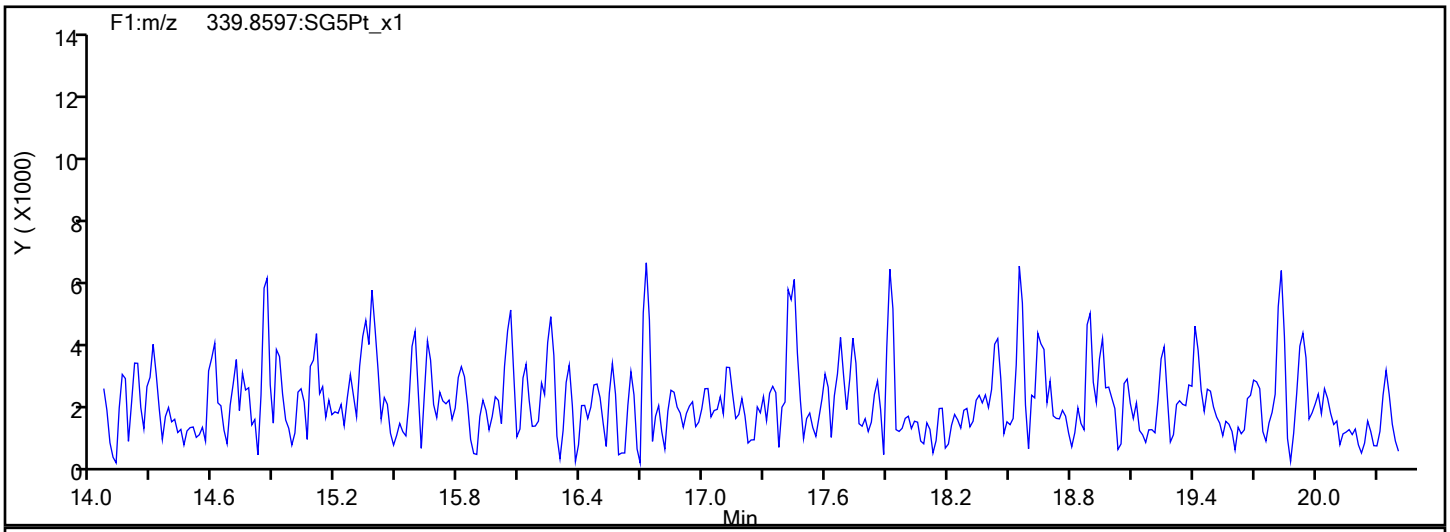

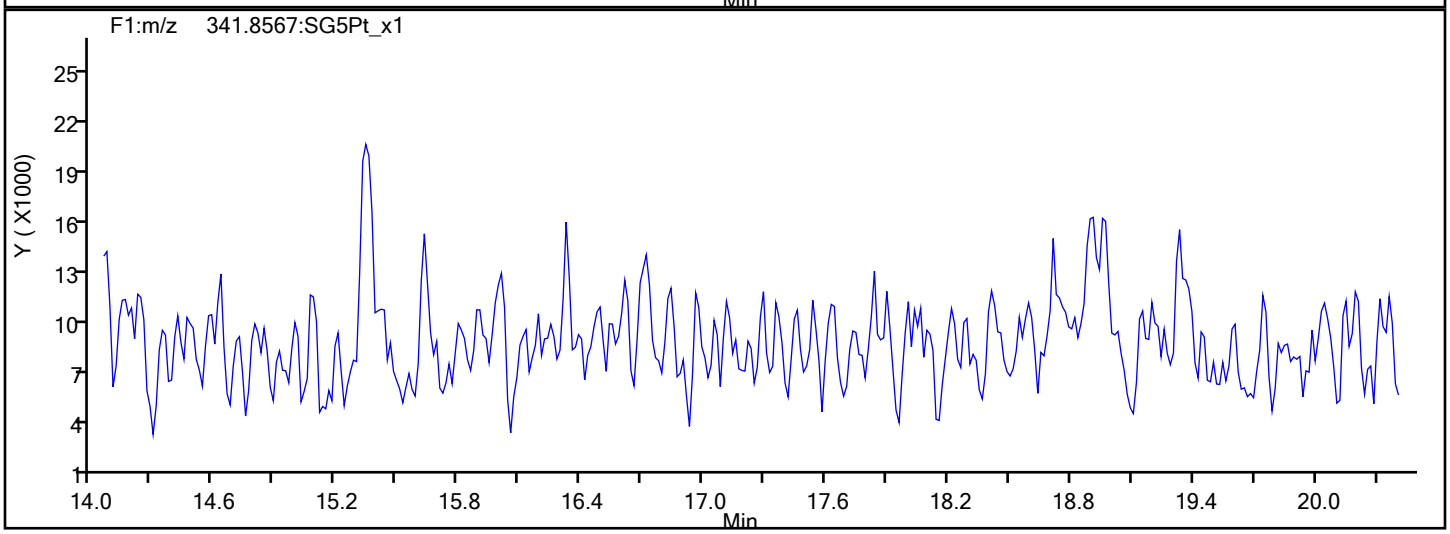

F1 PeCDFs Interference Mass

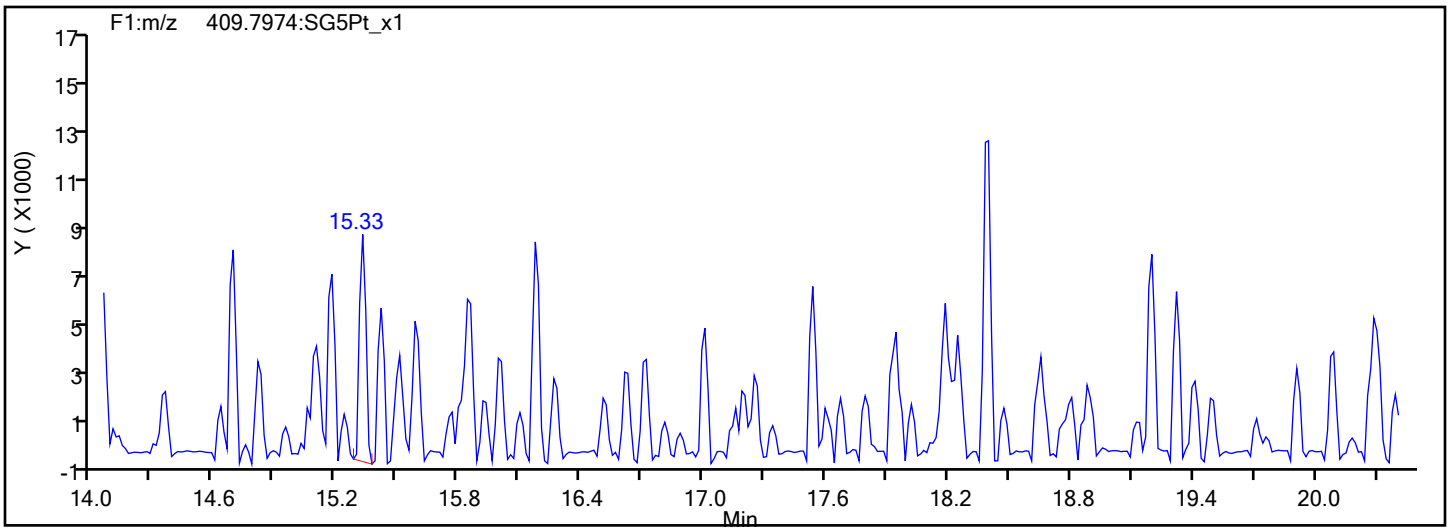

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Eurofins TestAmerica, Sacramento

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Client ID:	L2		
Worklist#:	345037	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

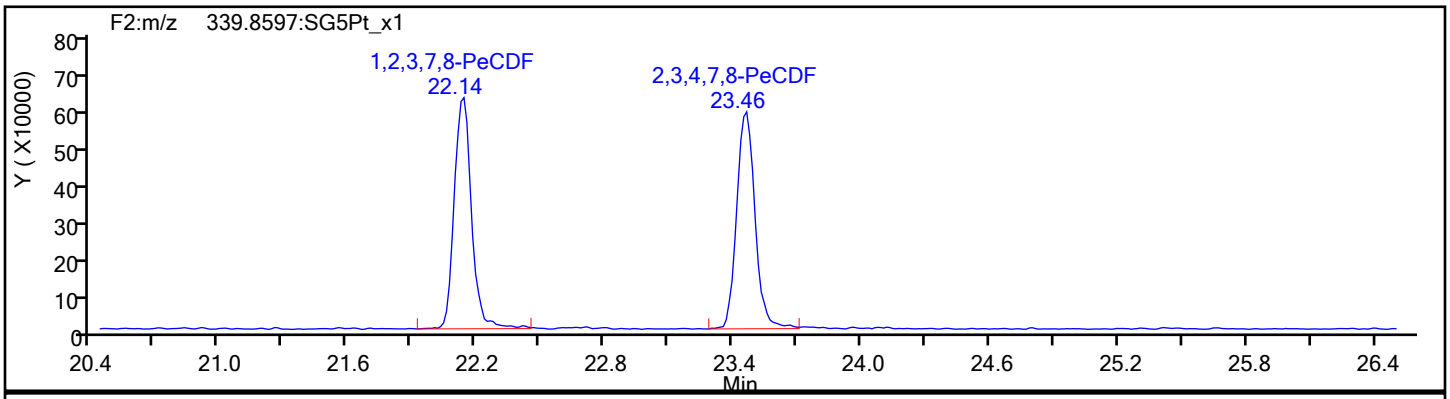

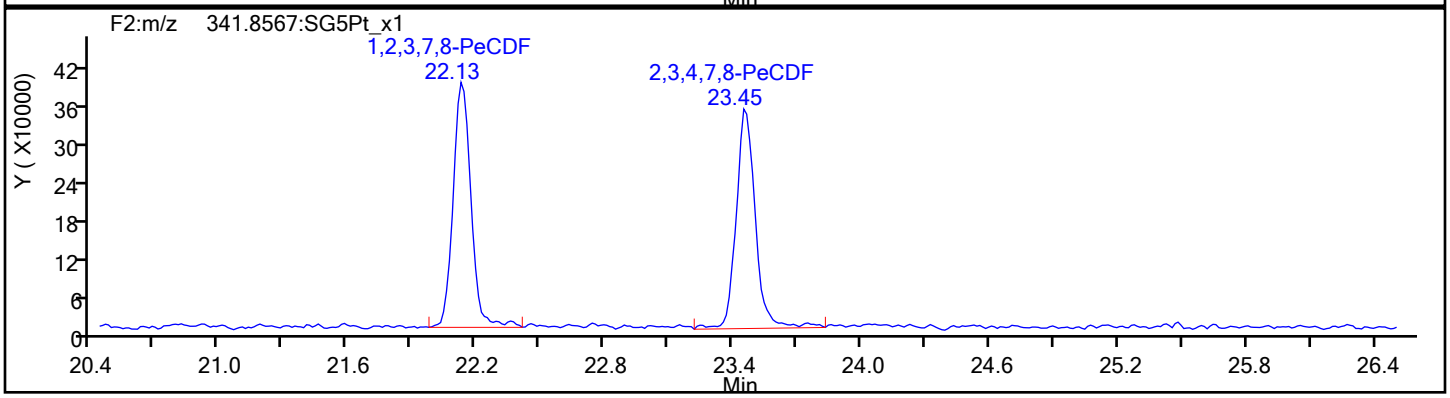

PeCDF Standards

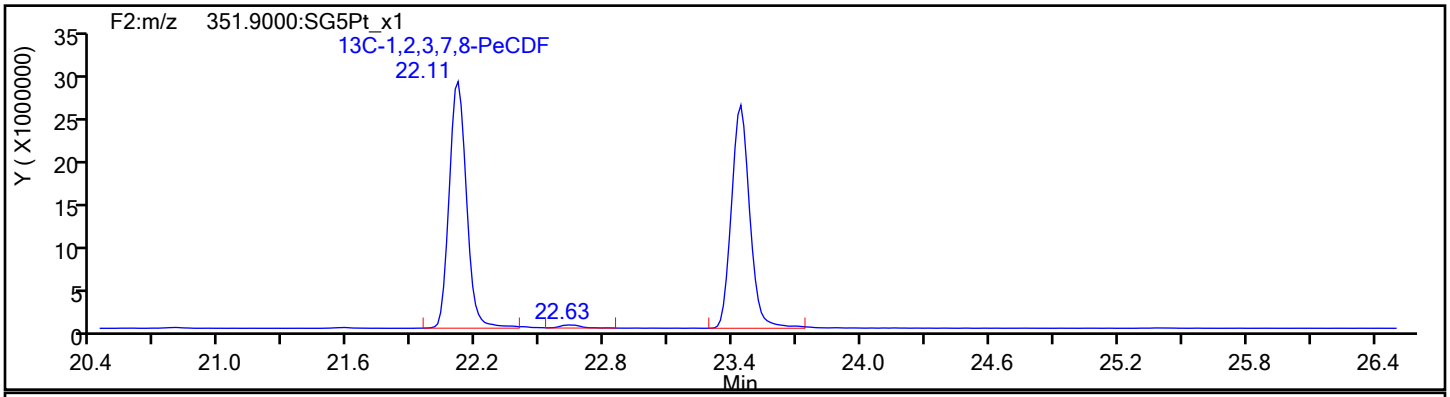

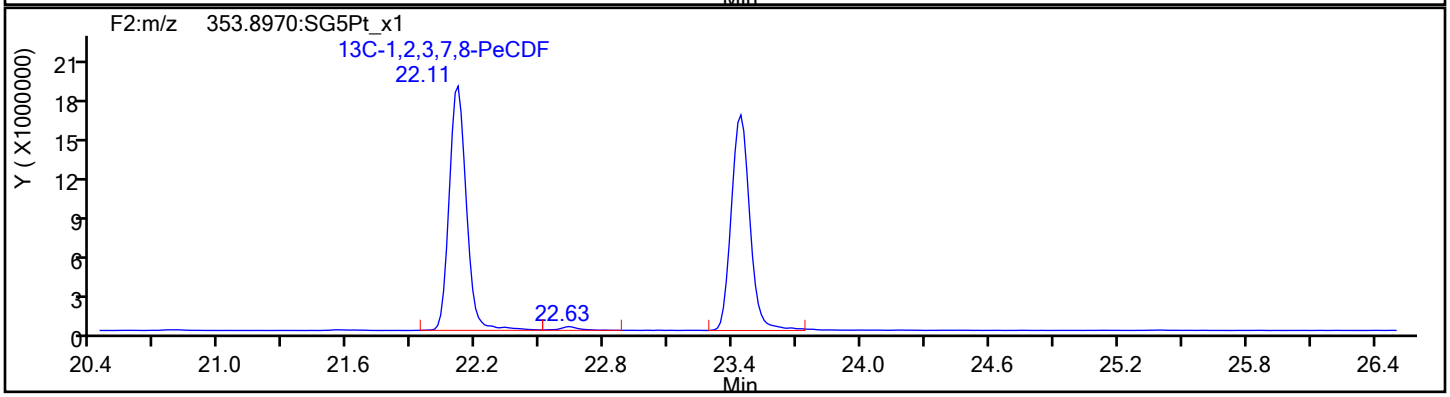

Report Date: 12-Dec-2019 15:54:09 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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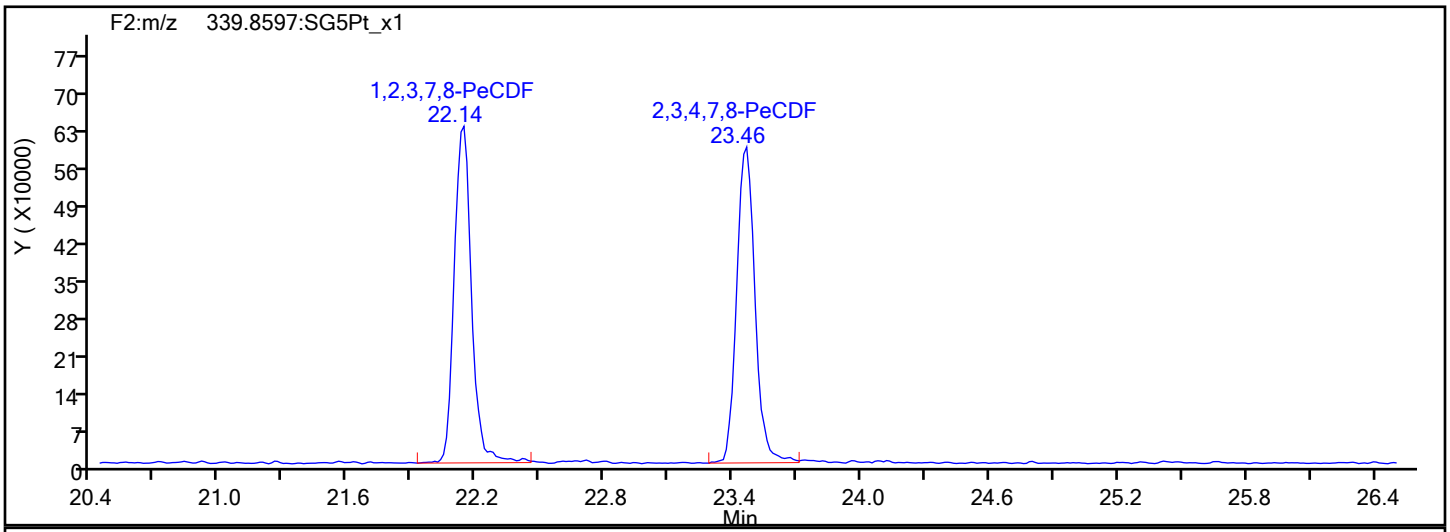

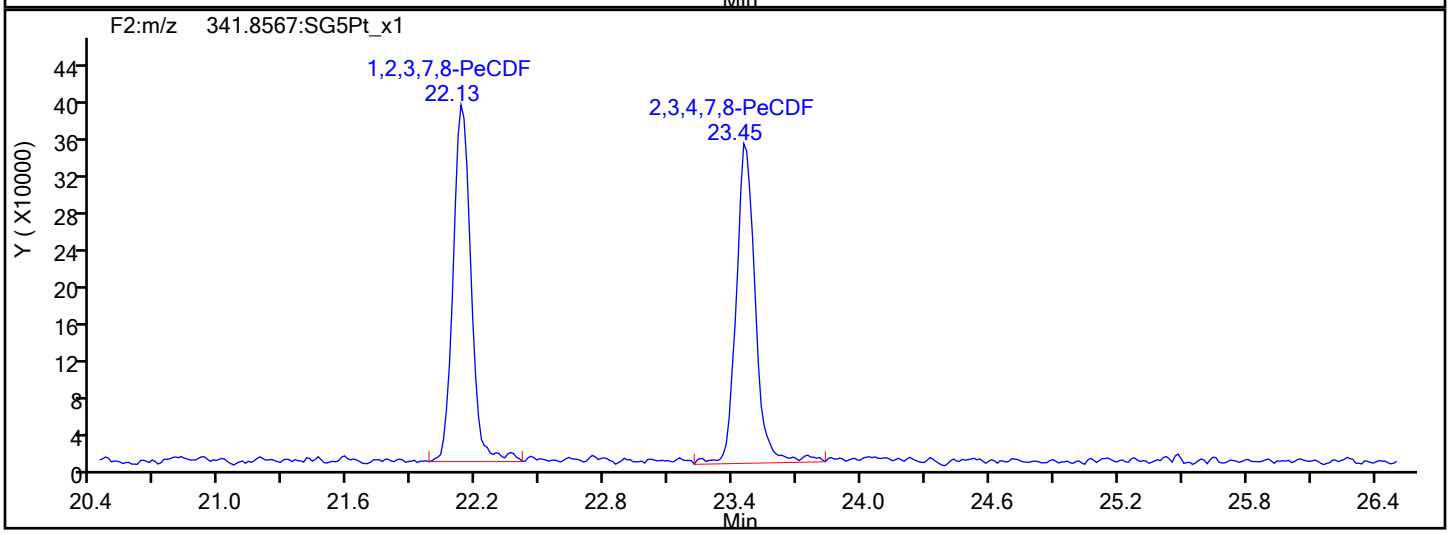

PeCDF Interference Mass

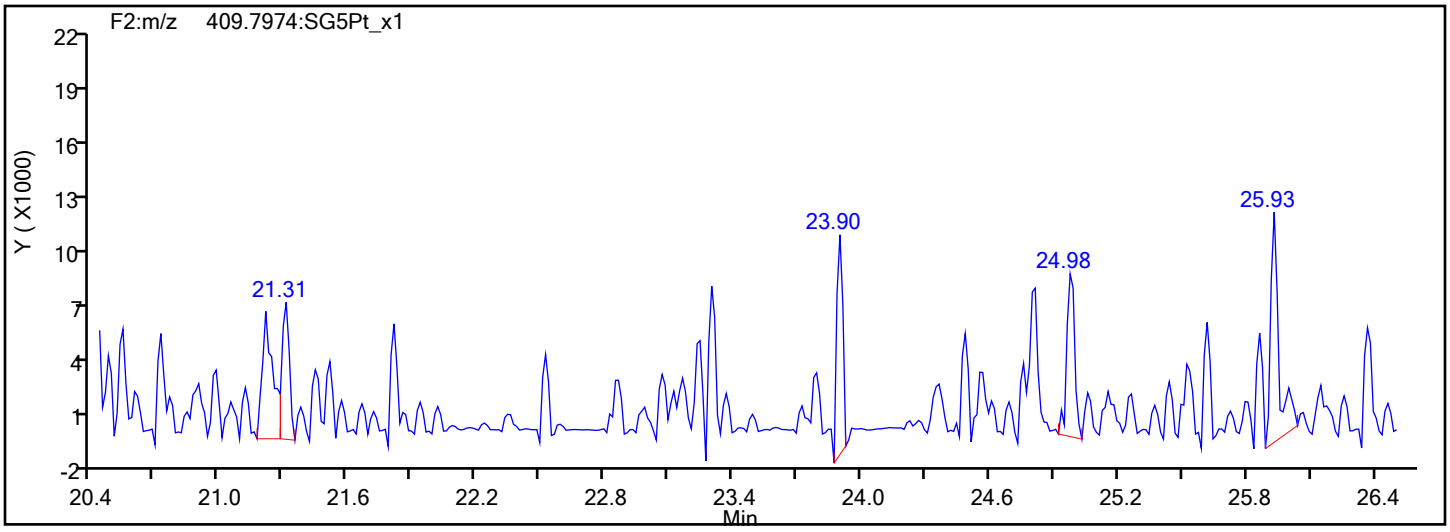

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Eurofins TestAmerica, Sacramento

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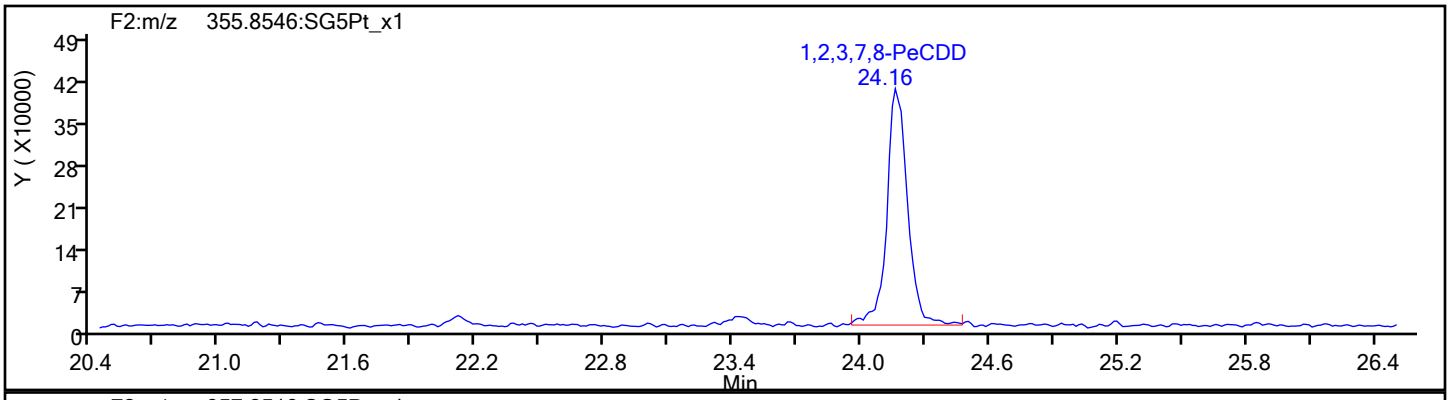

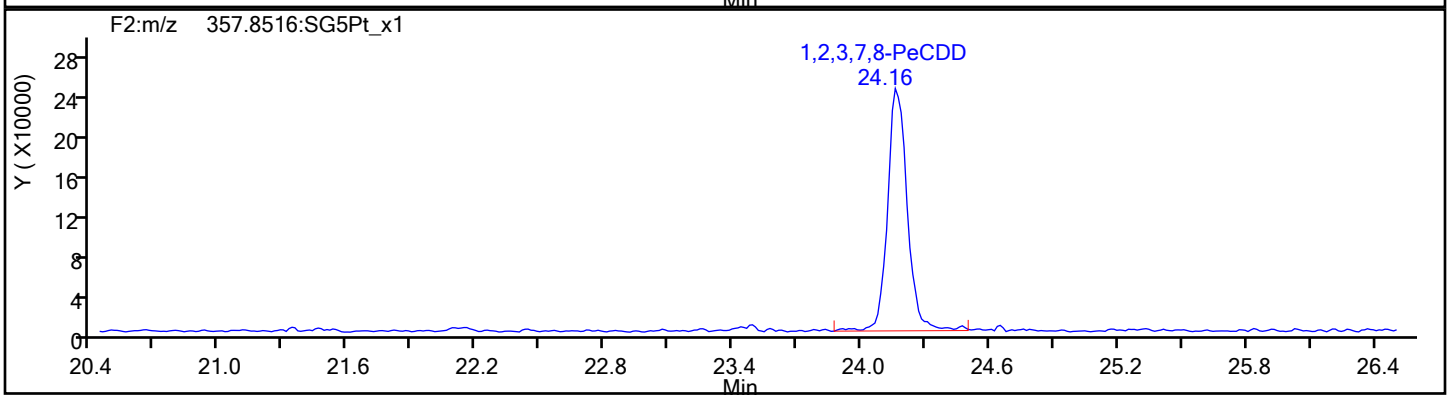

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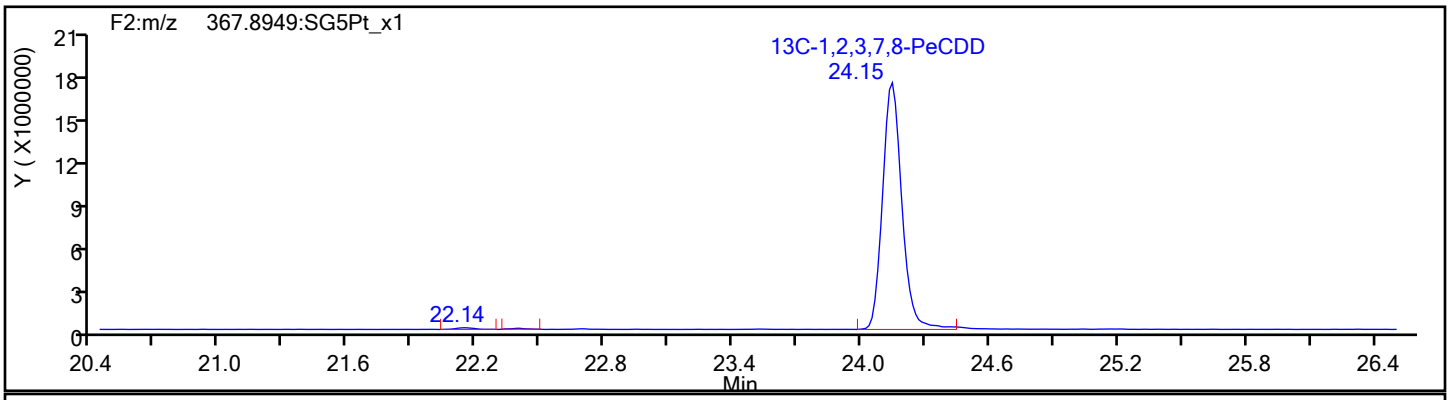

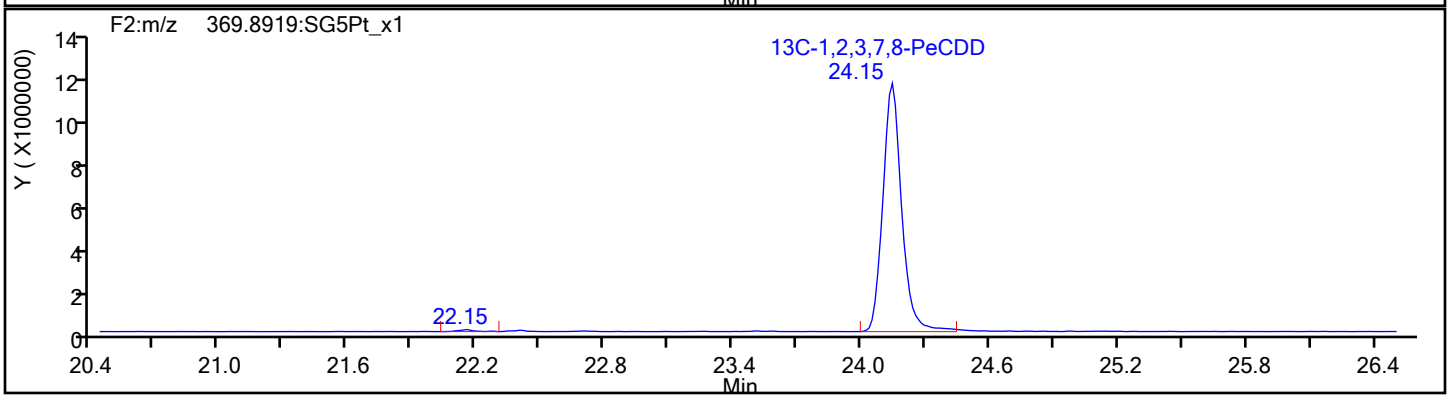

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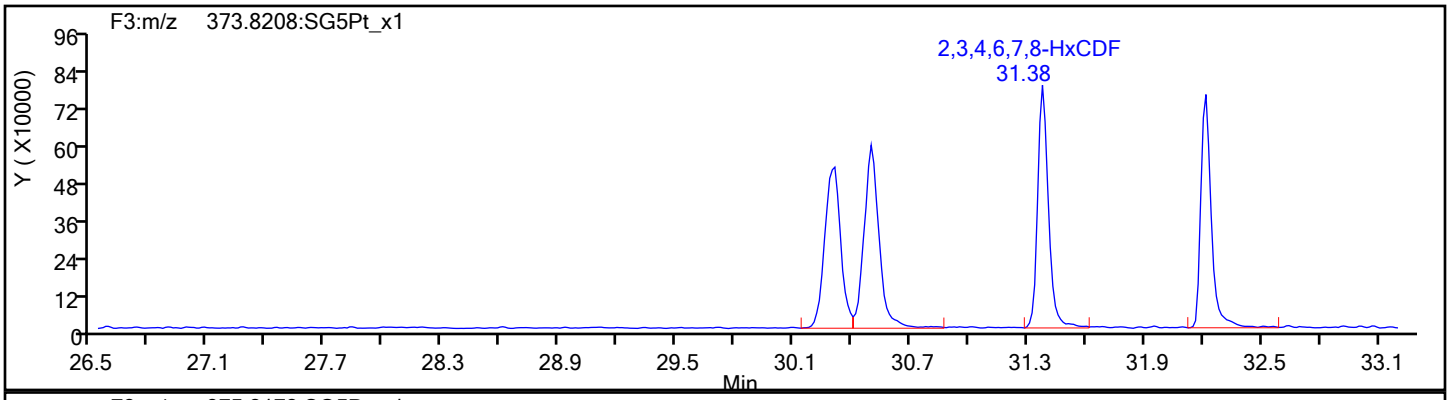

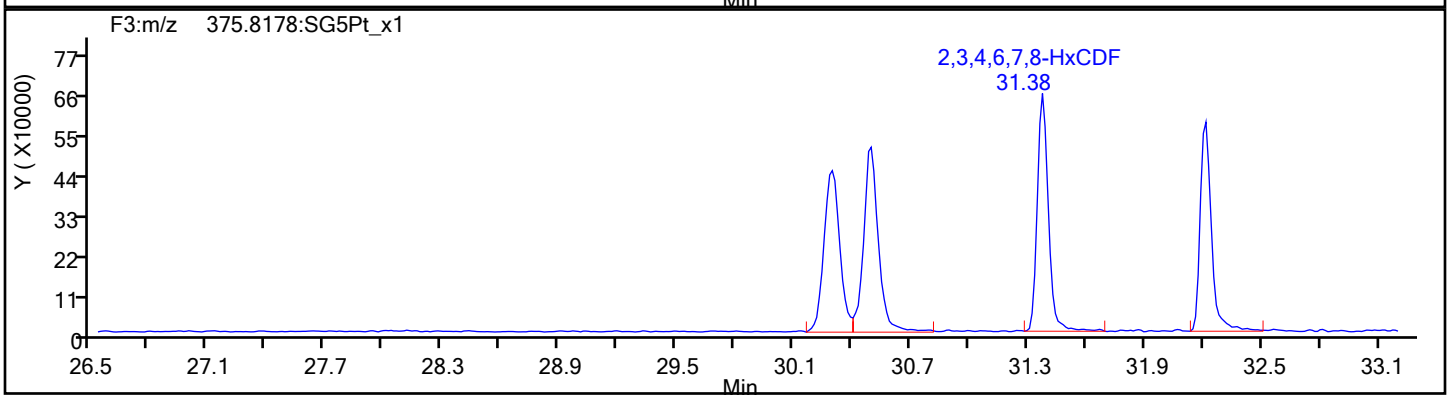

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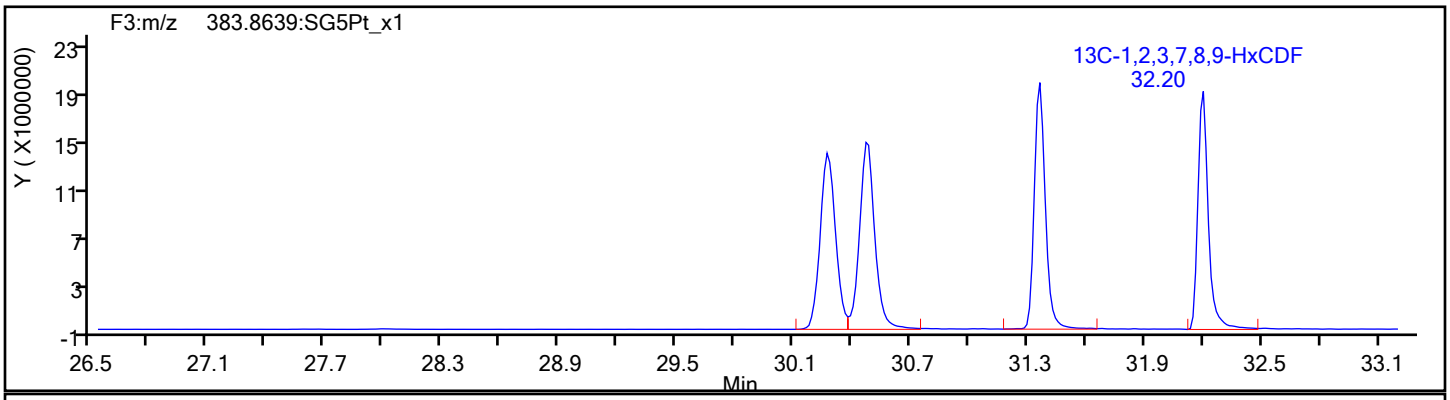

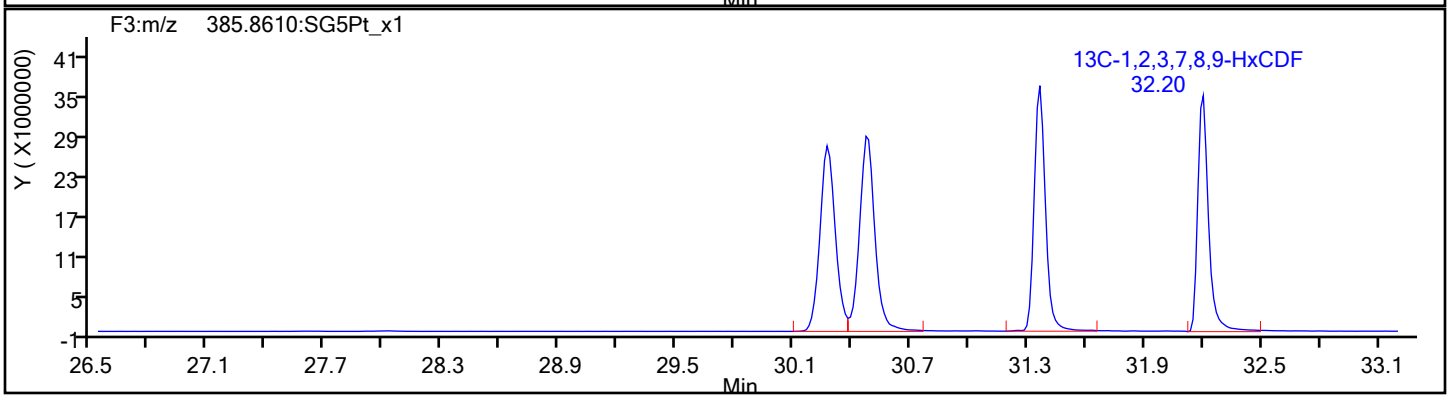

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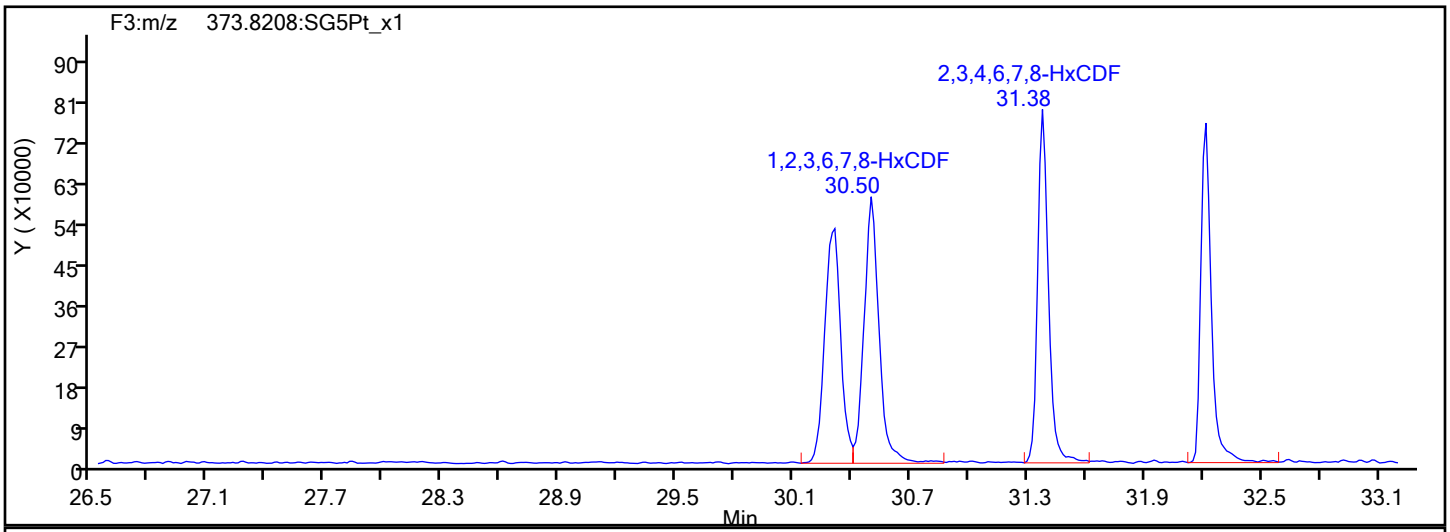

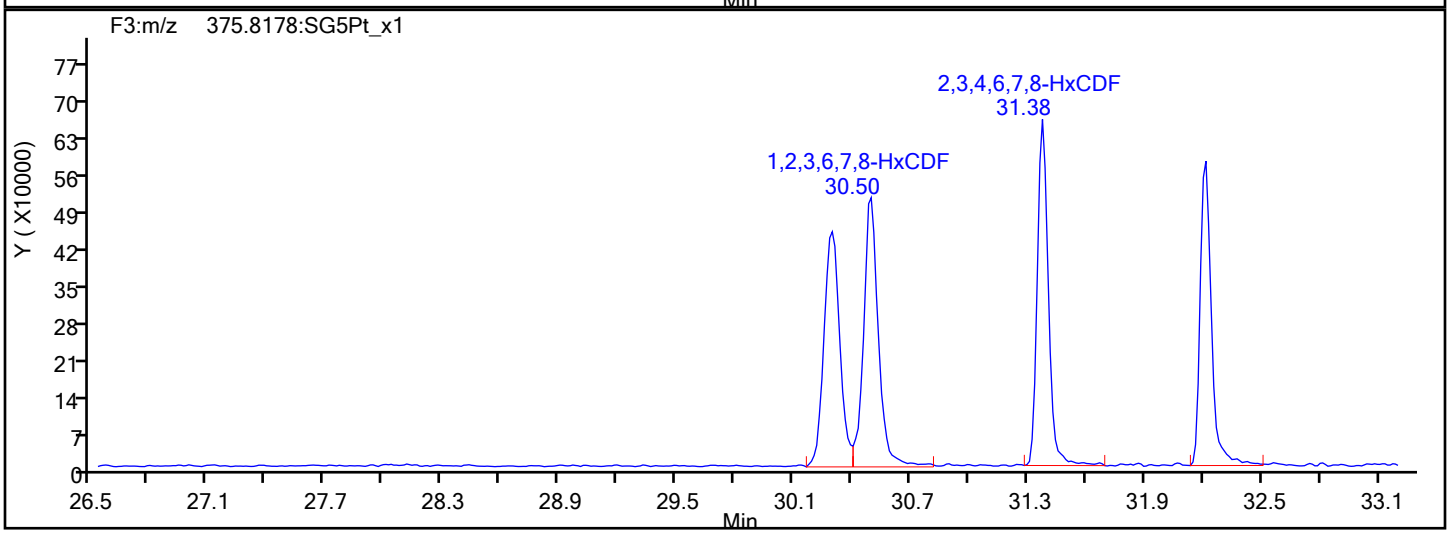

HxCDF Interference Mass

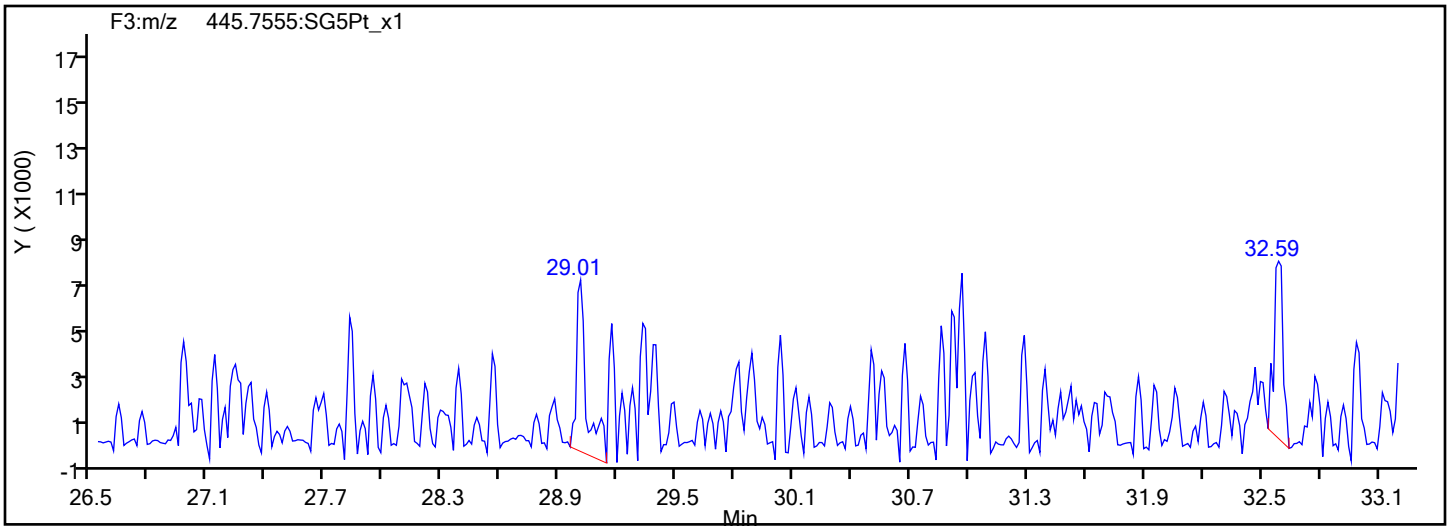

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Eurofins TestAmerica, Sacramento

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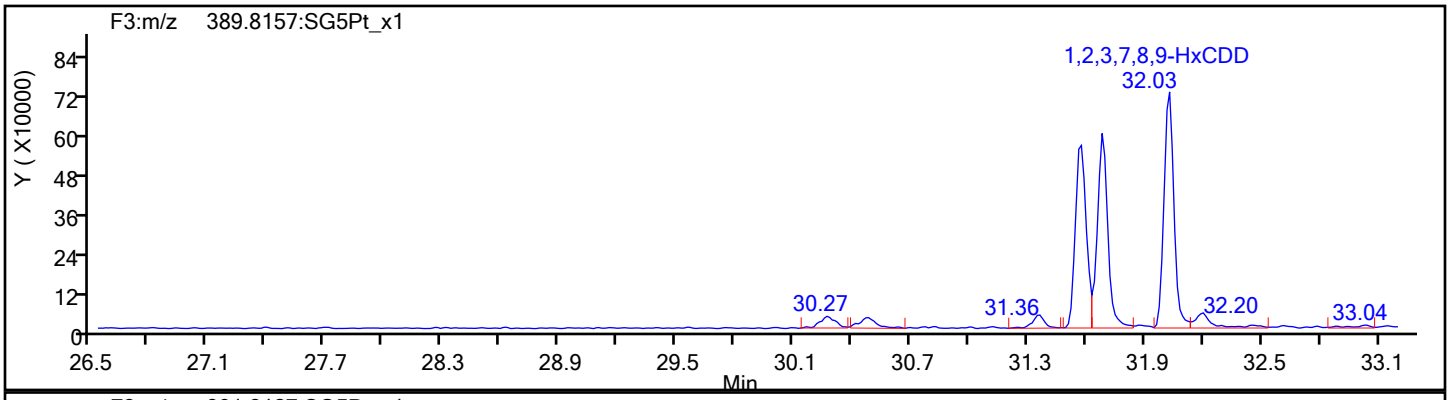

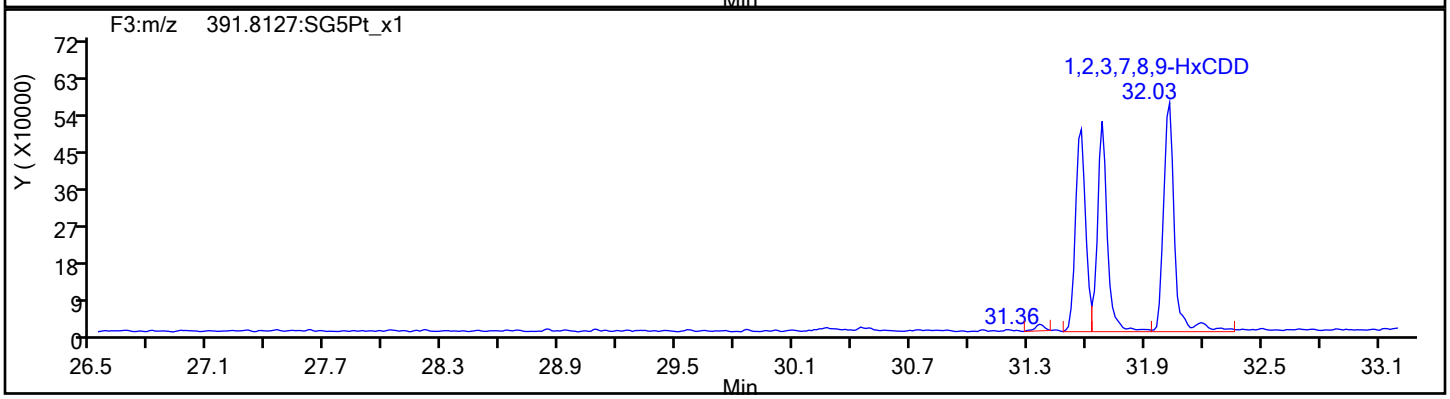

HxCDD Standards

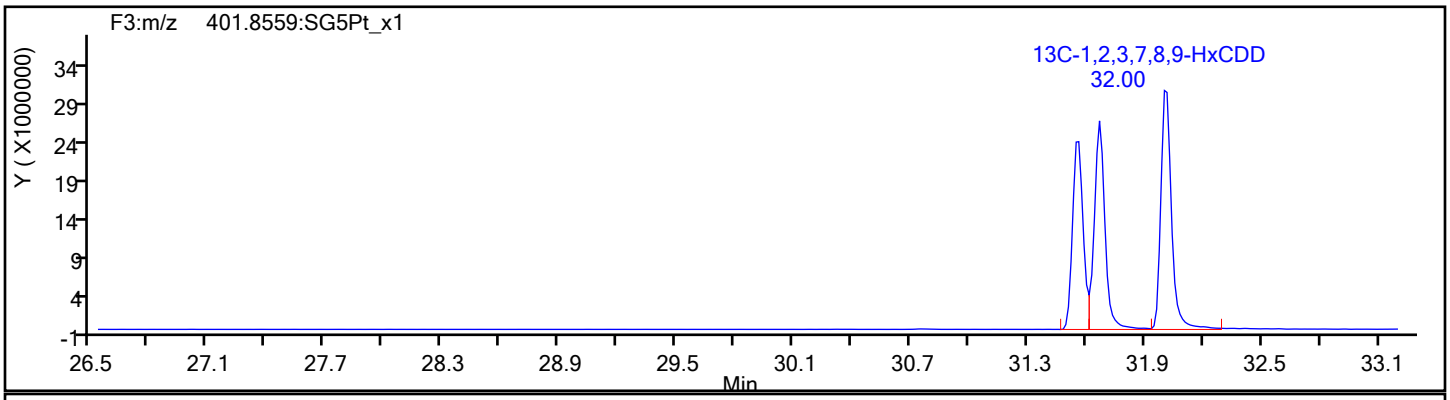

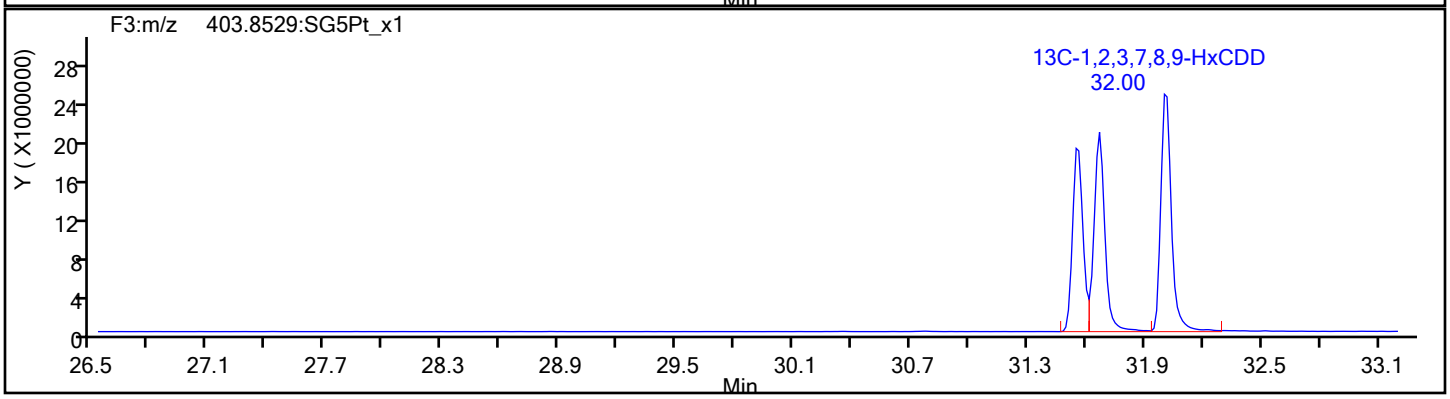

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Eurofins TestAmerica, Sacramento

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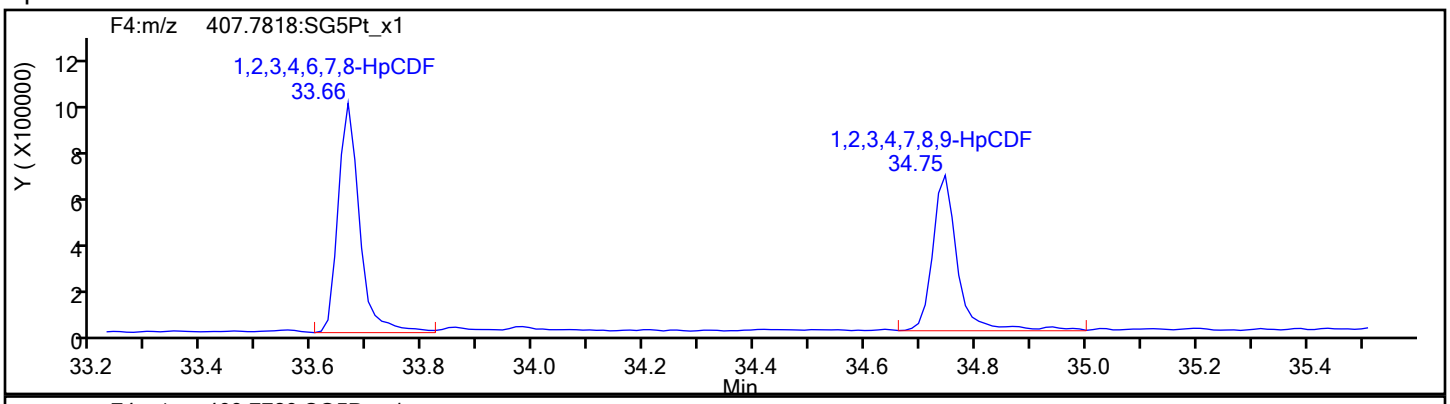

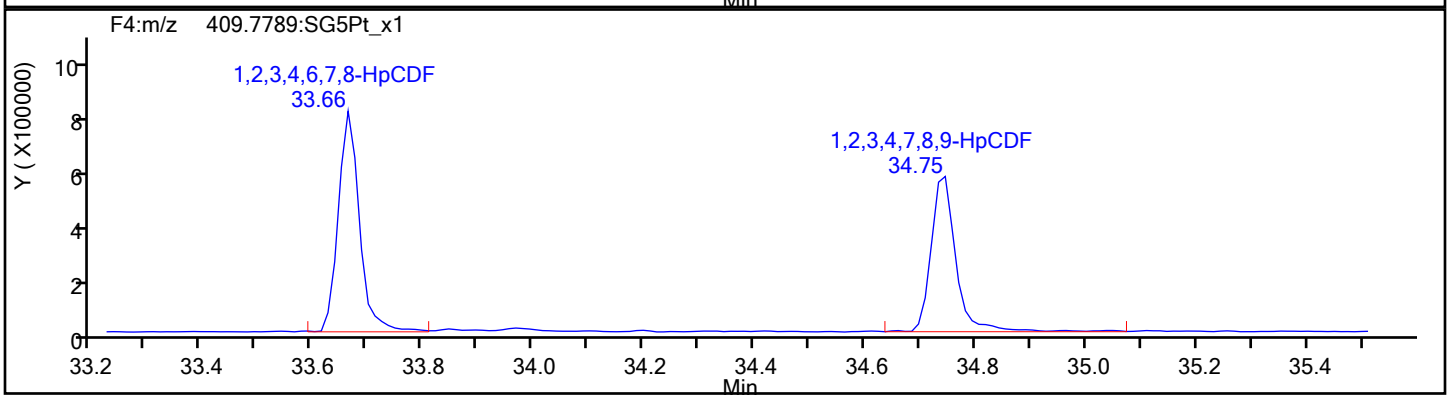

HpCDF Standards

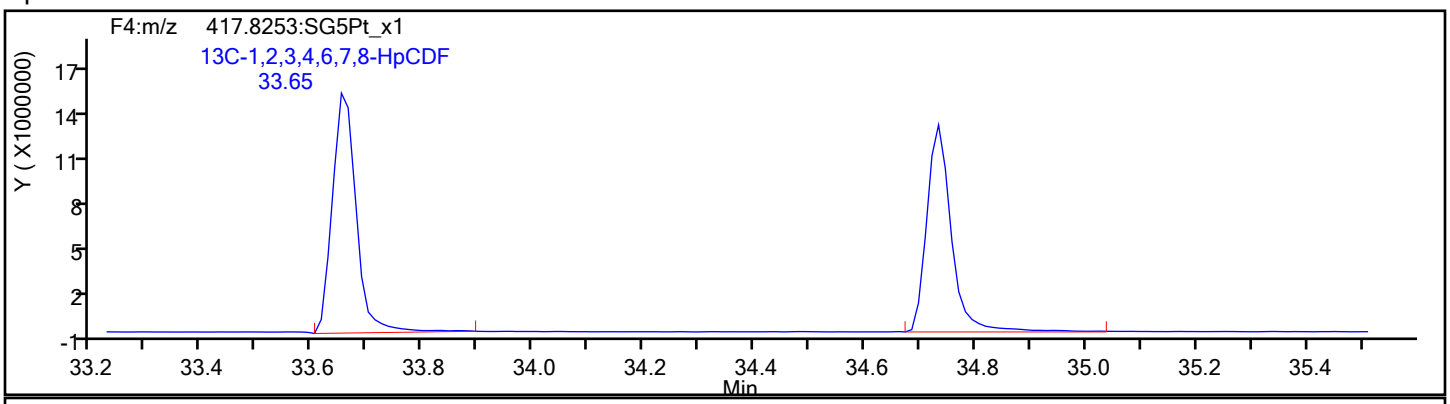

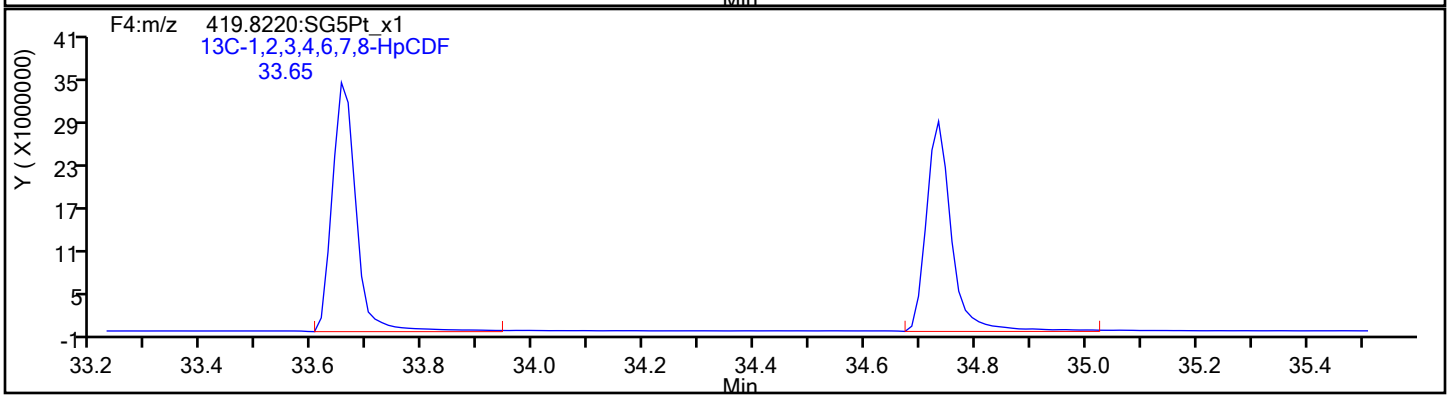

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Eurofins TestAmerica, Sacramento

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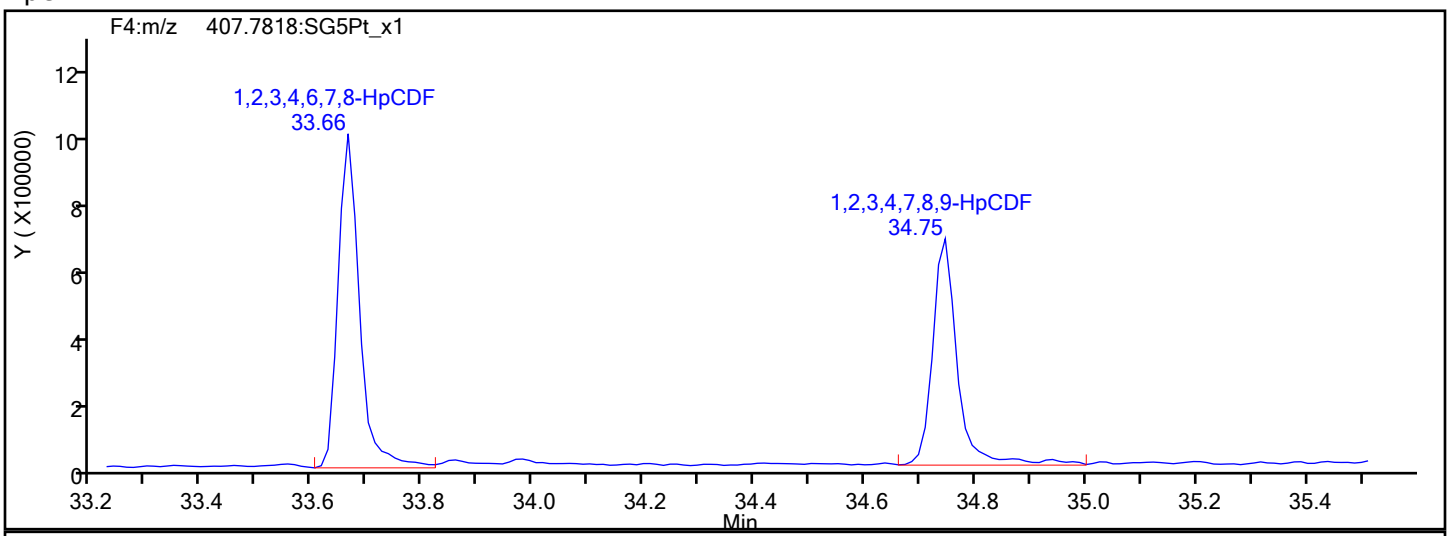

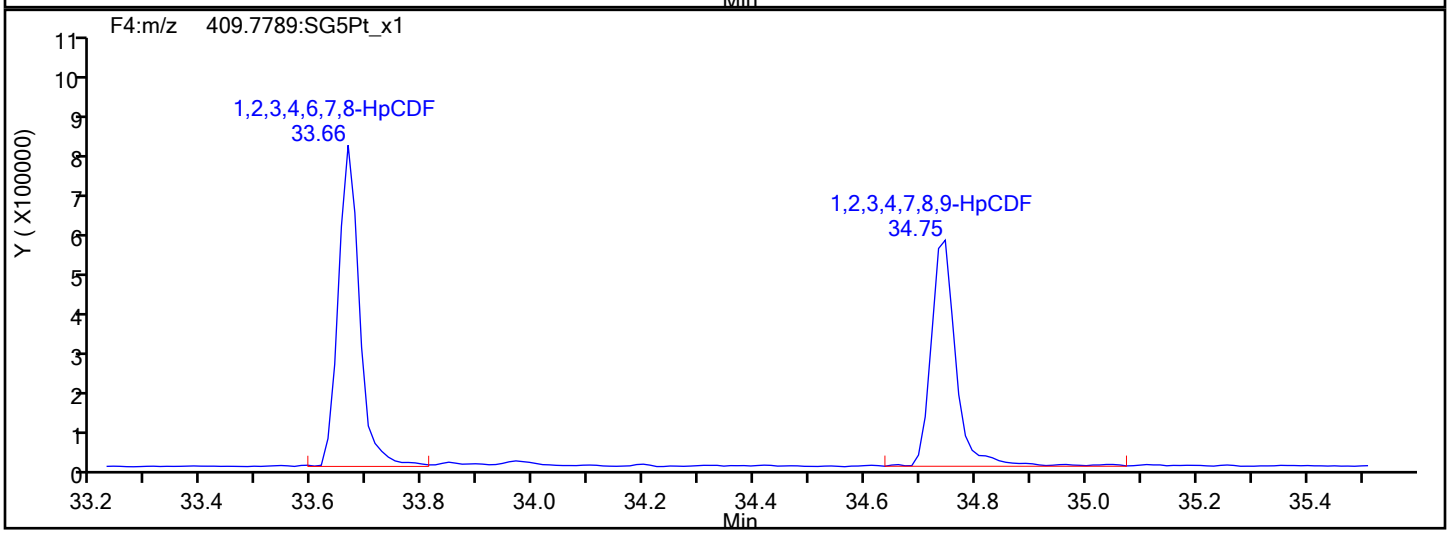

HpCDF Interference Mass

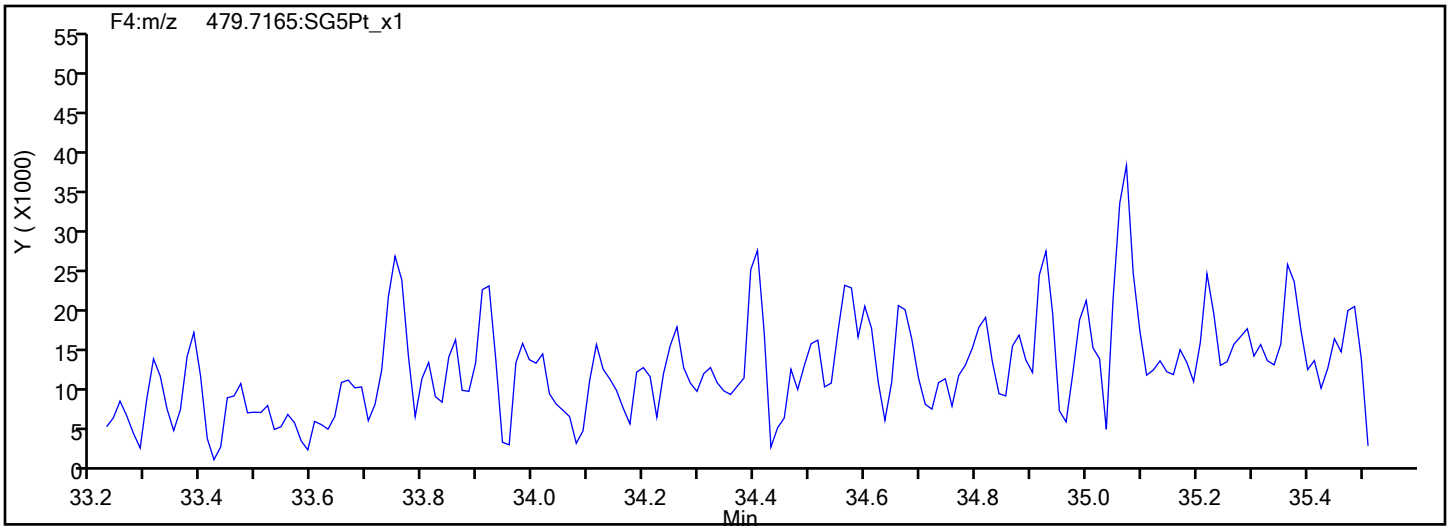

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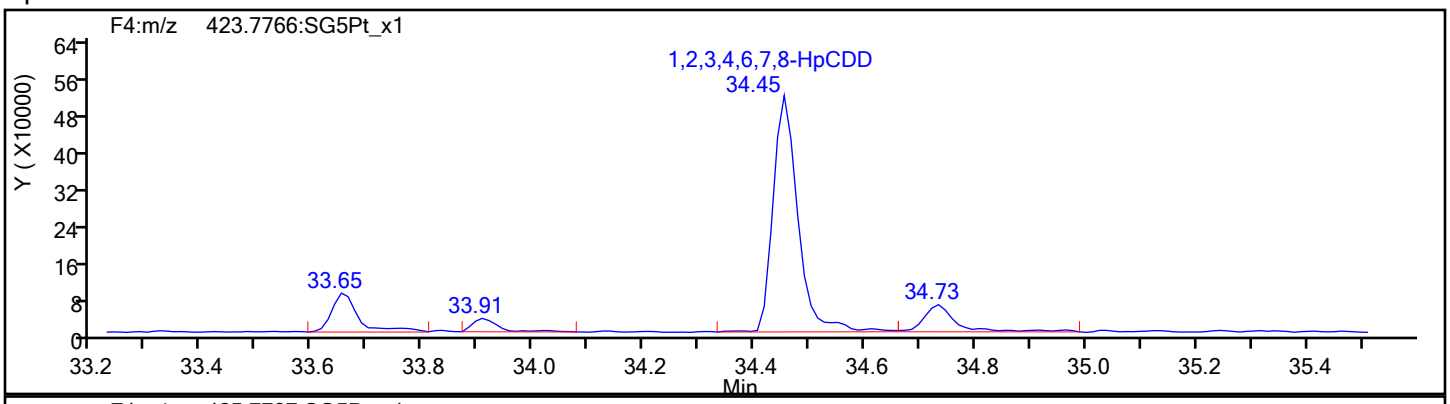

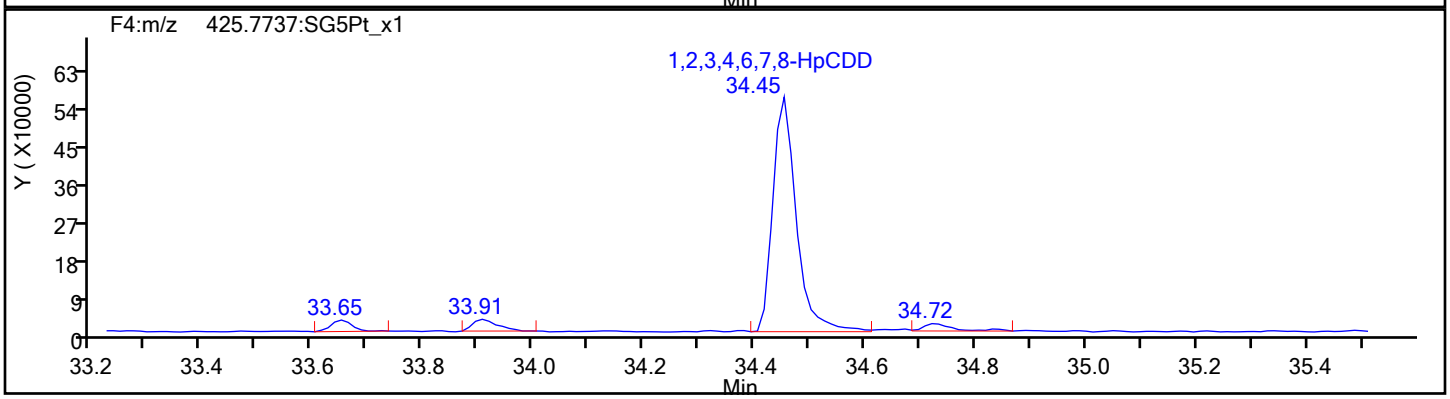

HpCDD Standards

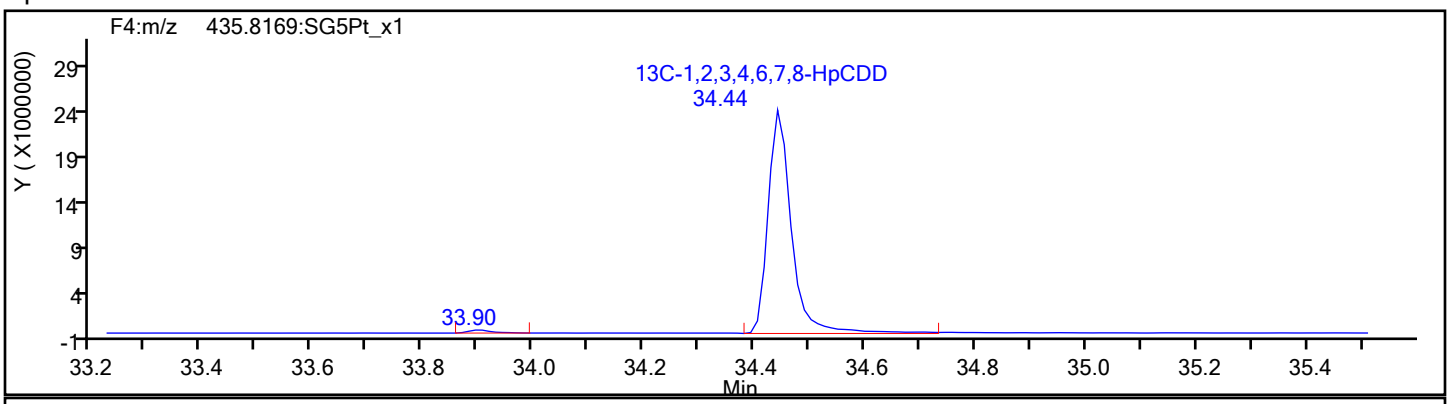

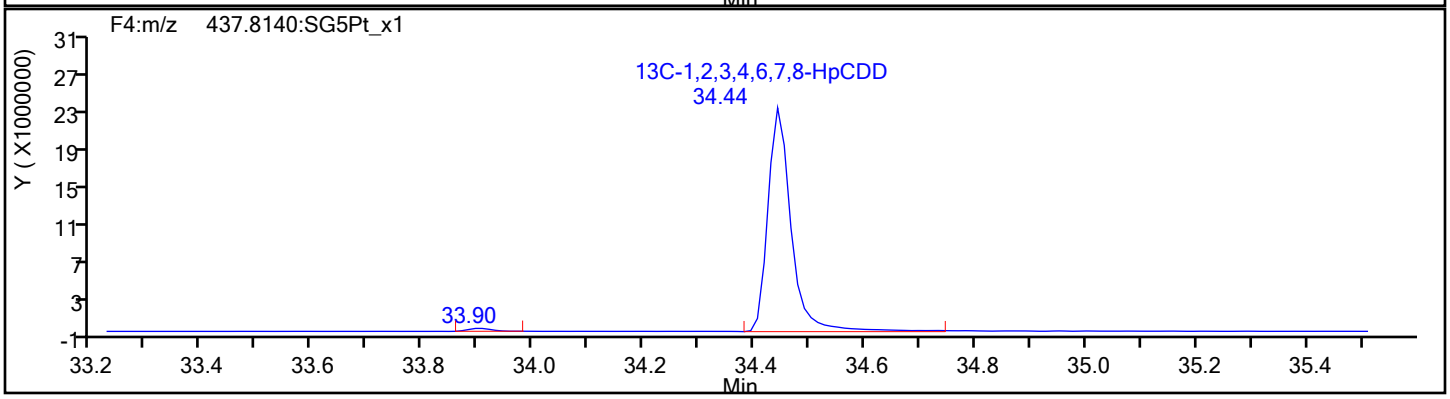

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OCDF

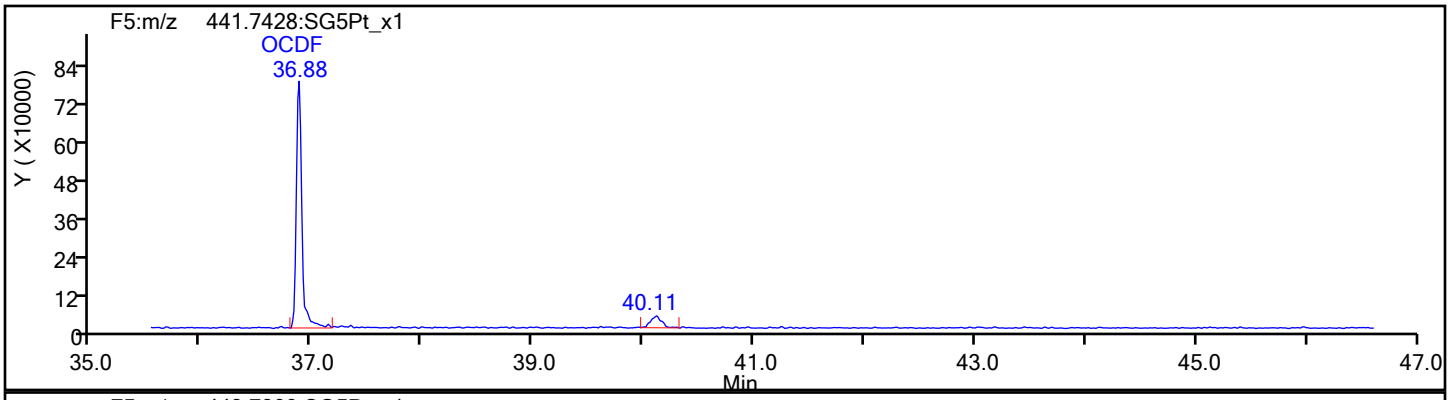

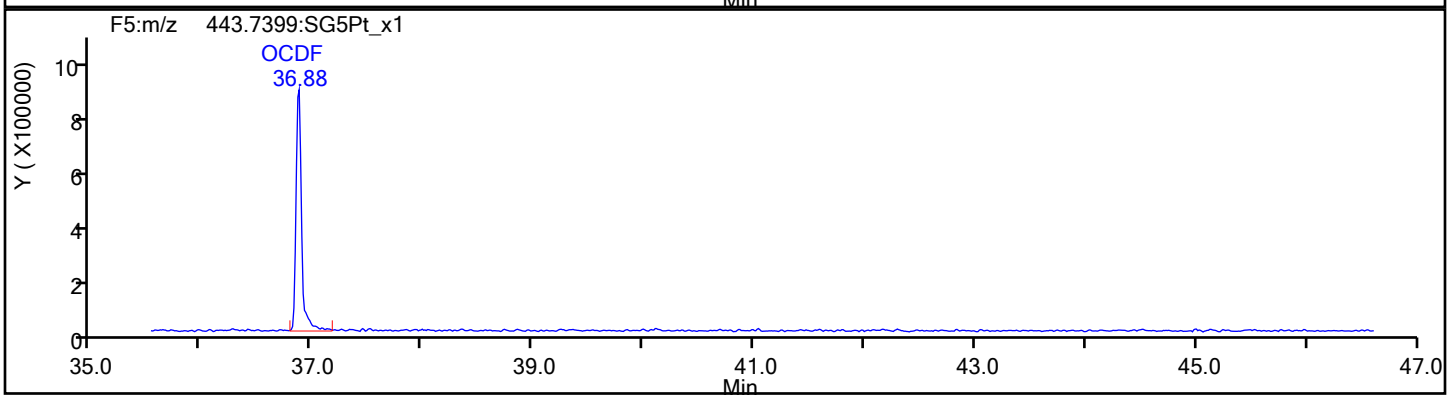

OCDF Standards

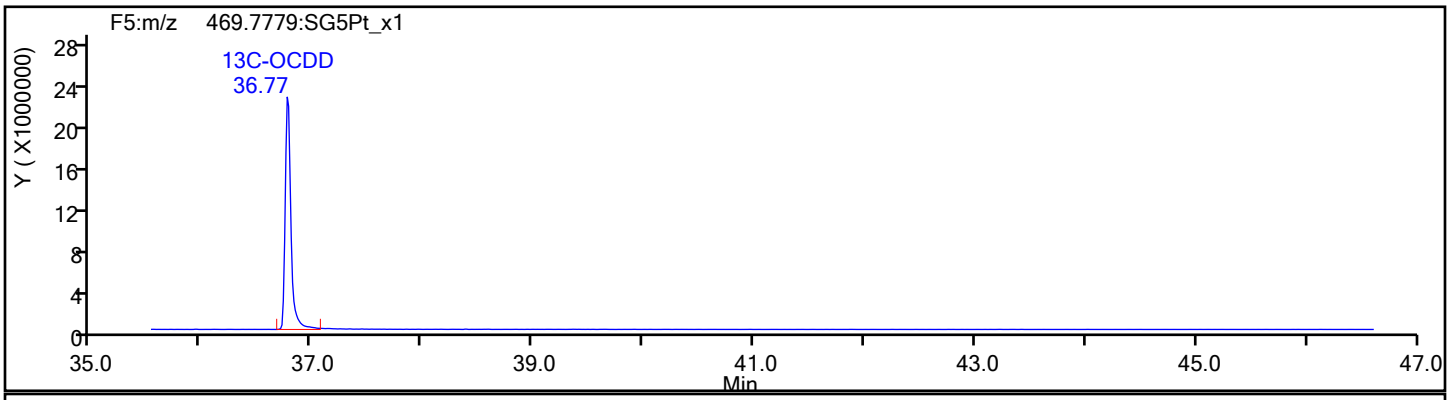

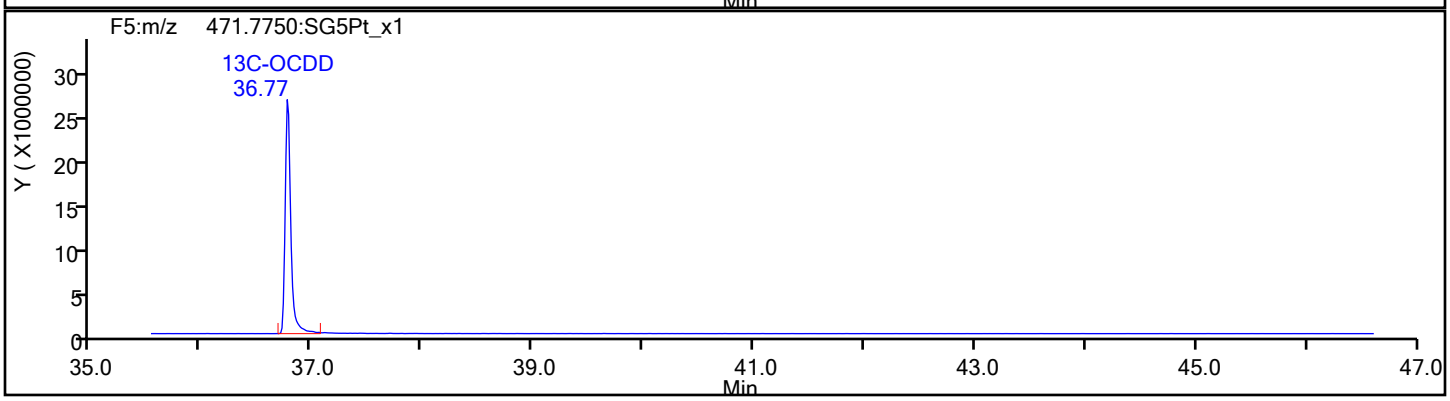

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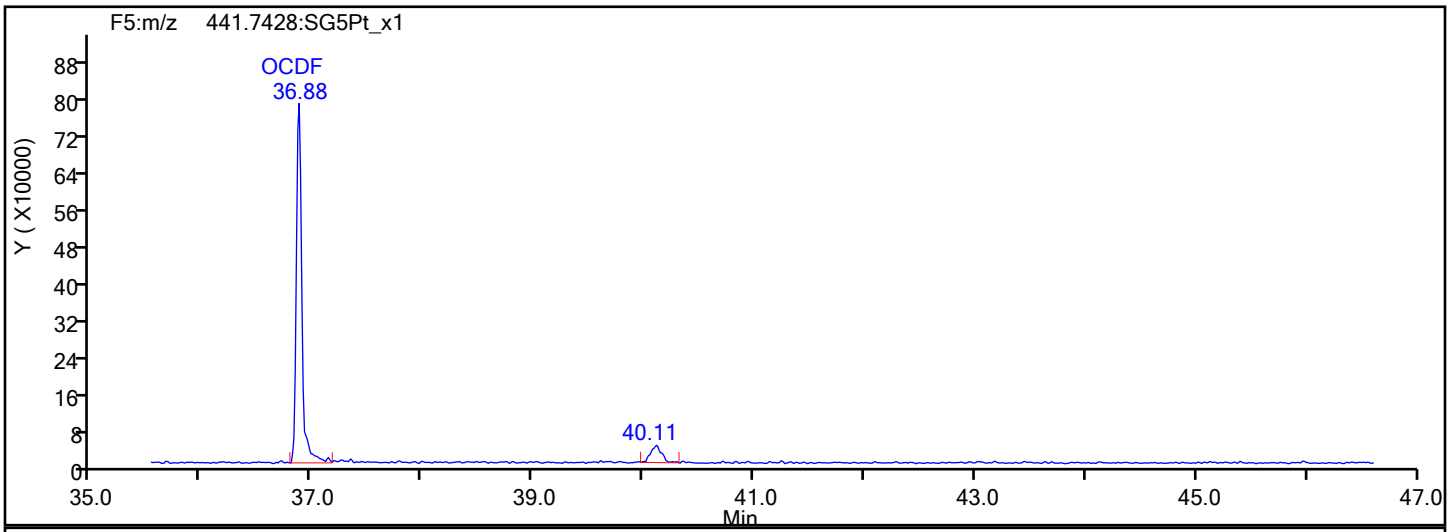

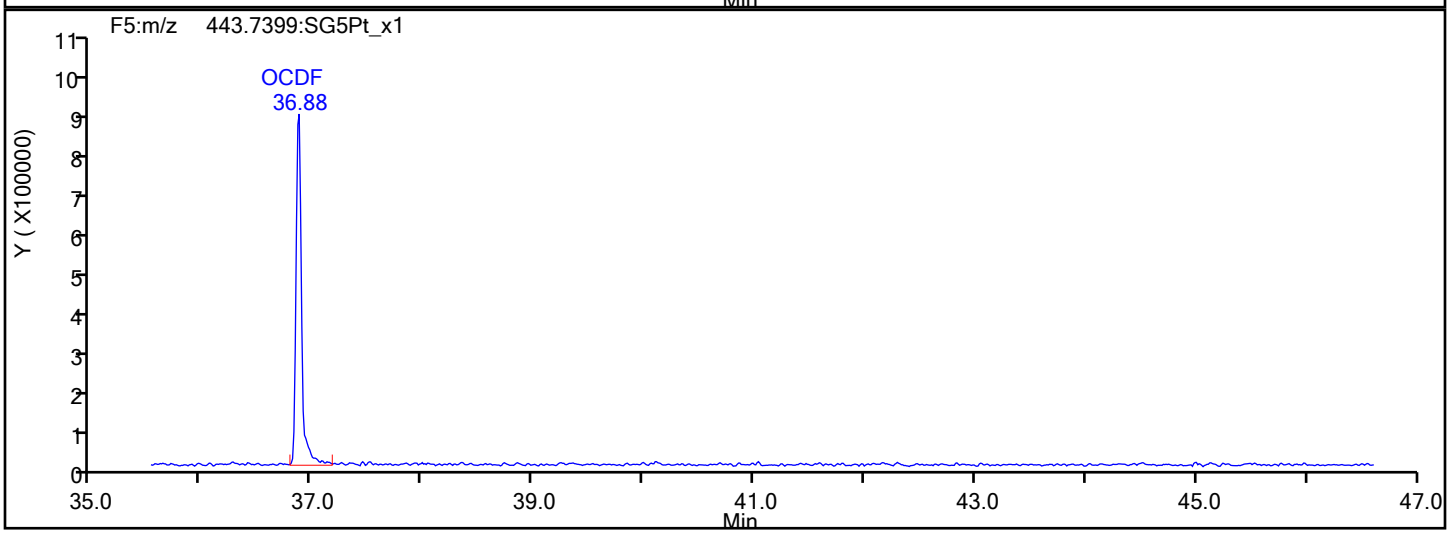

OCDF Interference Mass

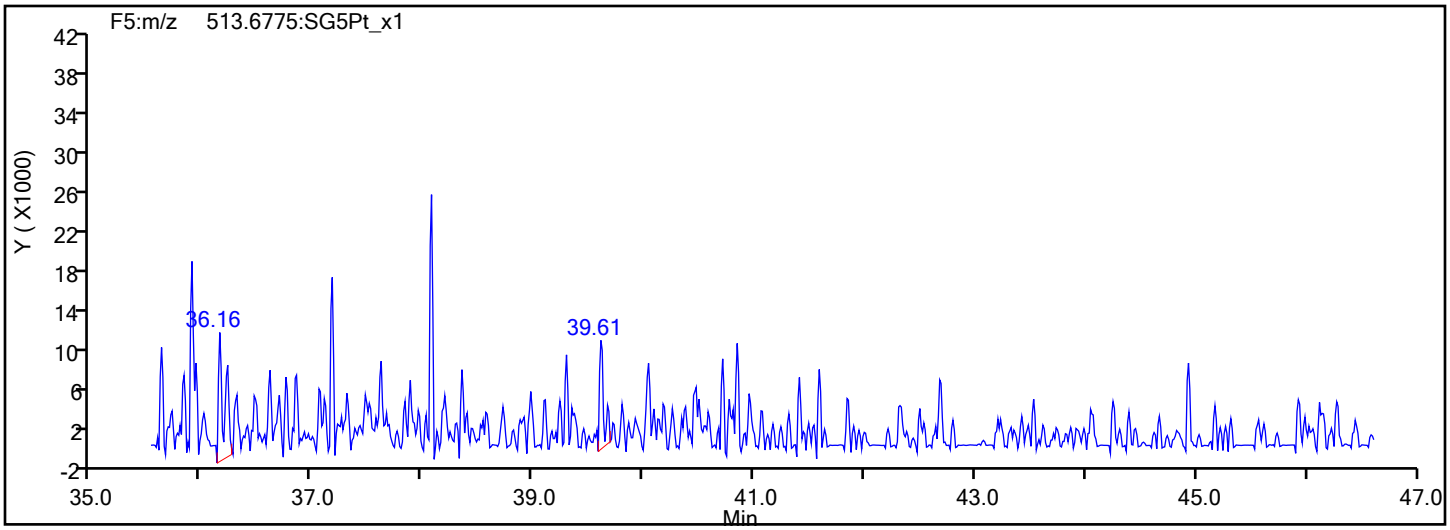

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OCDD

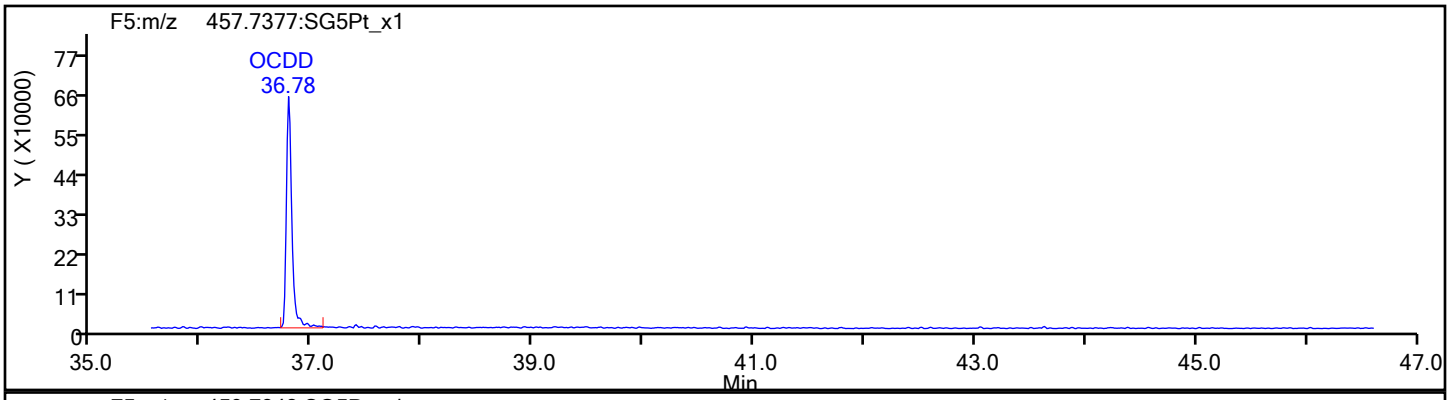

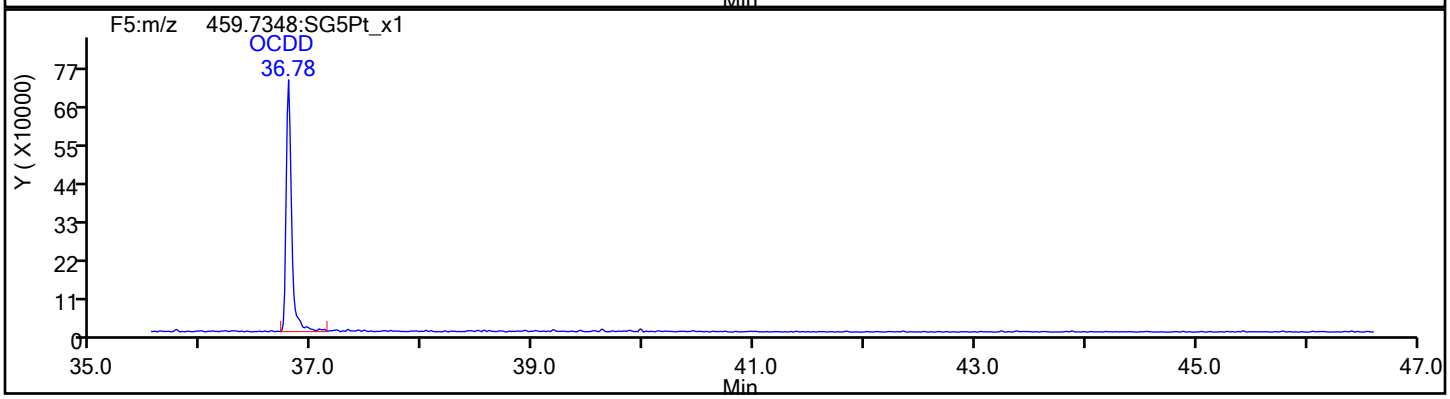

OCDD Standards

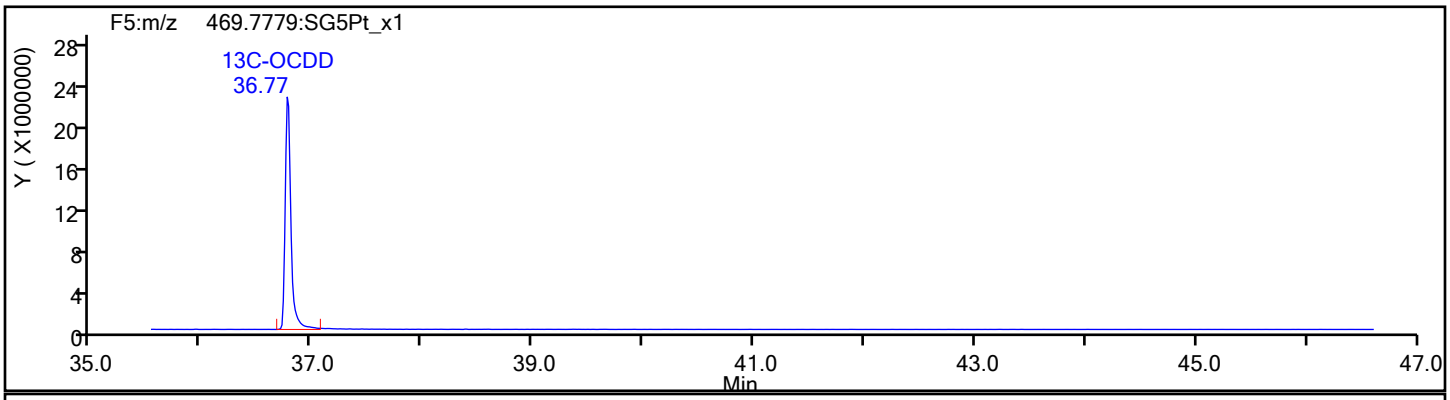

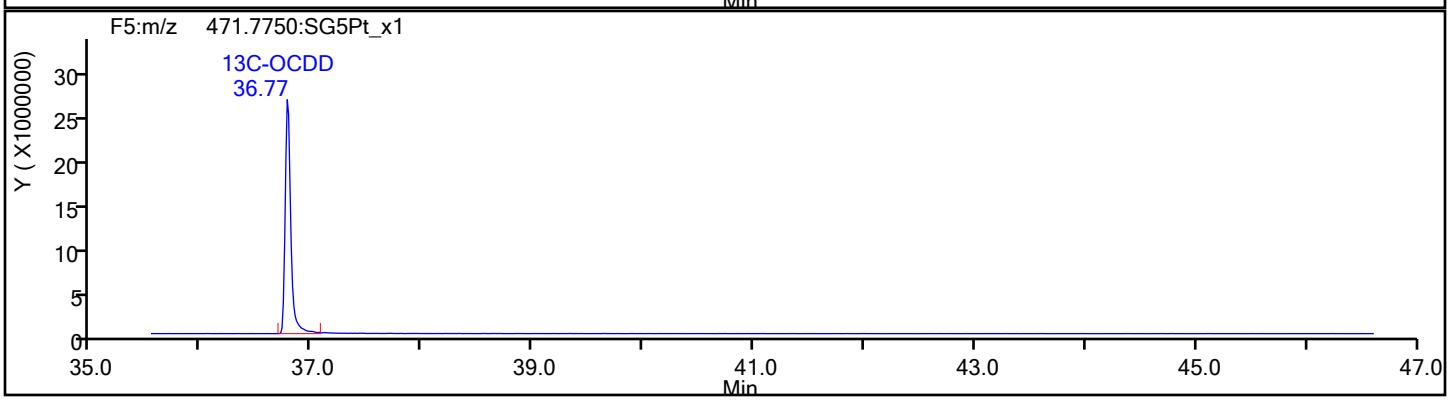

Report Date: 12-Dec-2019 15:54:10 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_3.d		
Injection Date:	12-Dec-2019 11:28:54	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L2		
Worklist#:	345037	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

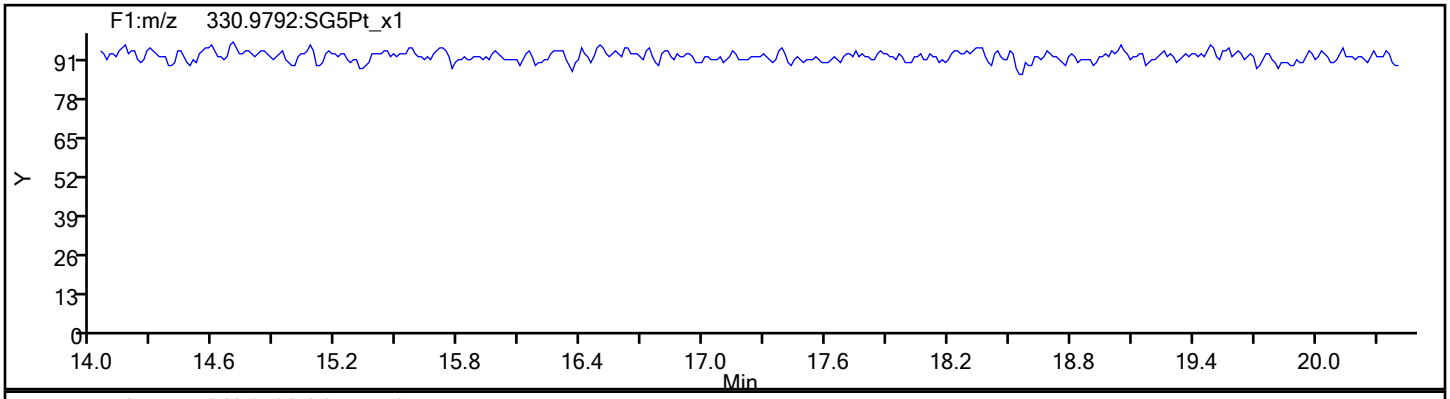

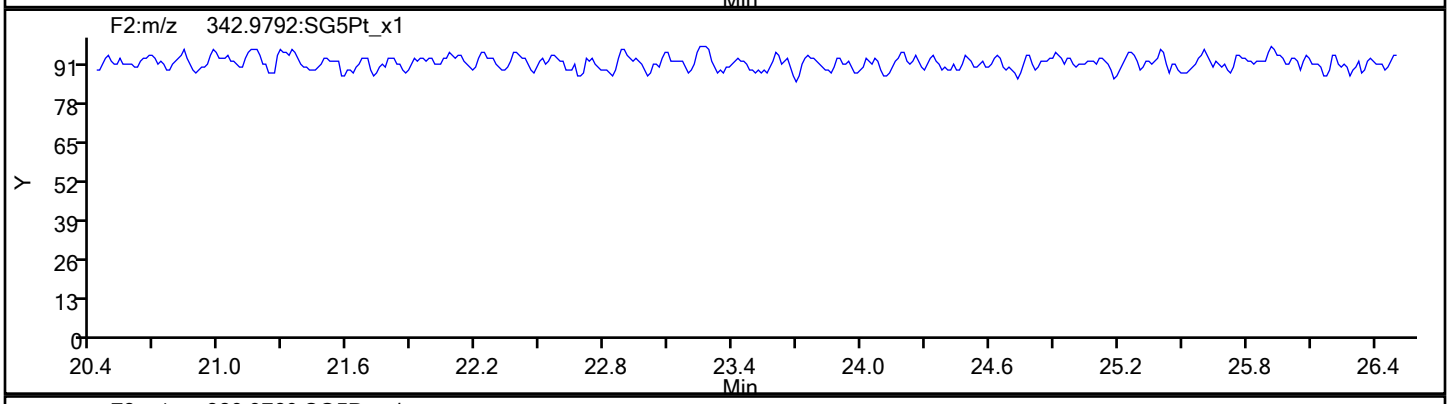

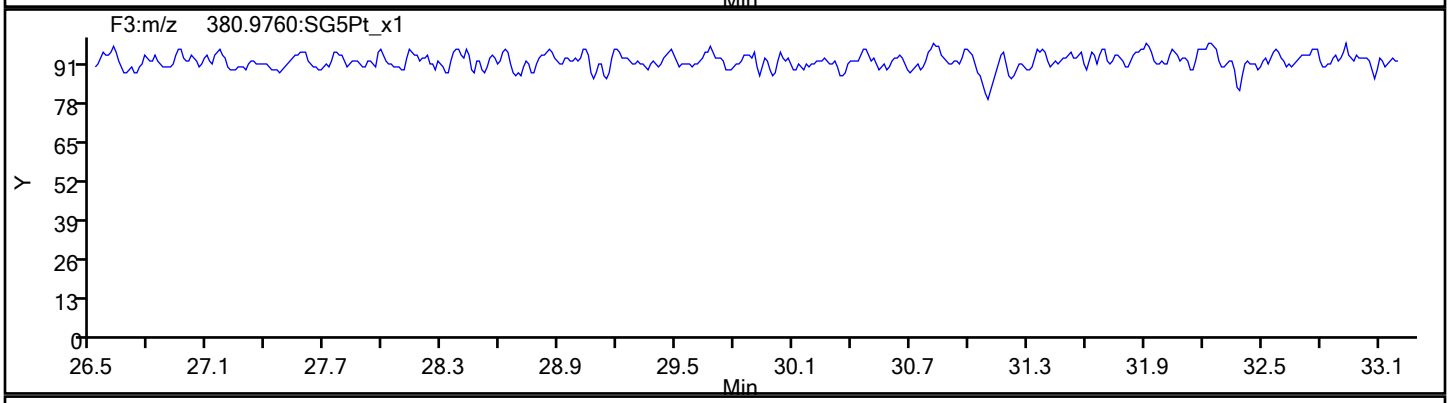

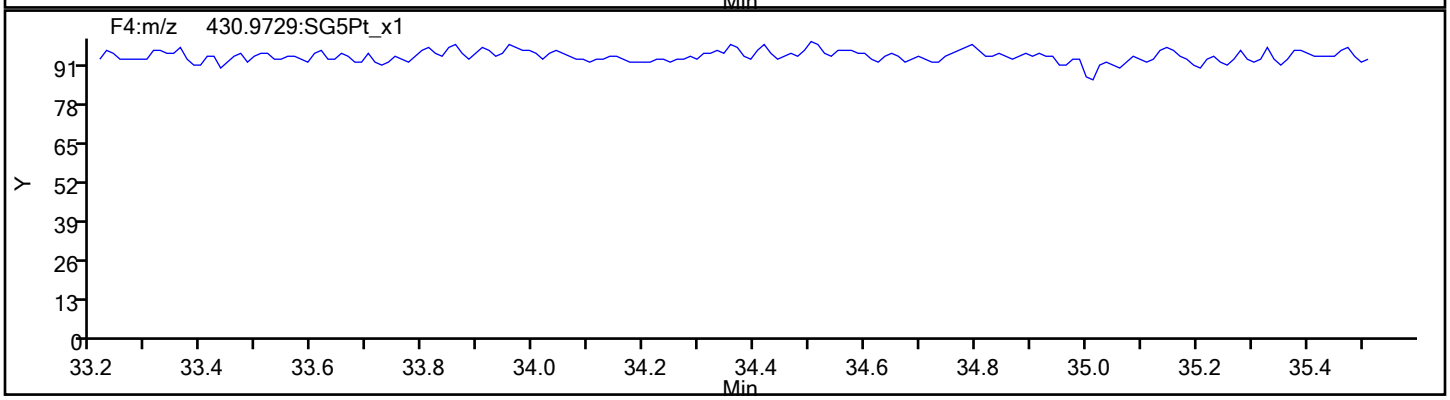

Report Date: 12-Dec-2019 15:54:10 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_3.d		
Injection Date:	12-Dec-2019 11:28:54	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L2		
Worklist#:	345037	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

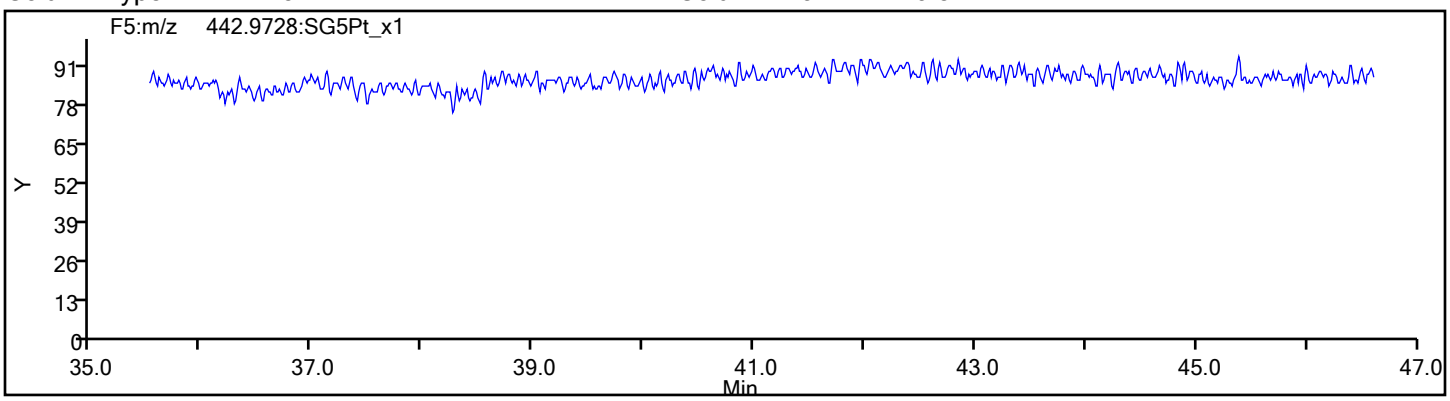

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_4.d
Lims ID: IC 3
Client ID: L3
Sample Type: IC Calib Level: 3
Inject. Date: 12-Dec-2019 12:16:27 ALS Bottle#: 5 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 121219A IC HRDXNL3_00025
Misc. Info.: 12DE193D5
Operator ID: KSS Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 12-Dec-2019 15:54:15 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: stephensk Date: 12-Dec-2019 13:36:49

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.657	233547342	0.81	2.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.158	317966293	0.80	1.4157	96.2	96.2	0.1604	0.1604	96.17	
2,3,7,8-TCDF	17.173	5903543	0.75	0.9502	1.954	1.954	0.0287	0.0287	97.70	
S Total TCDF					1.954	1.954	0.0287	0.0287		
D 13C-2,3,7,8-TCDD	17.839	223228422	0.77	0.9751	98.0	98.0	0.2185	0.2185	98.02	
2,3,7,8-TCDD	17.869	4766996	0.72	1.0477	2.038	2.038	0.0287	0.0287	102	
$ 37Cl4-2,3,7,8-TCDD	17.869	5758902		1.3480	1.829	1.829	0.0169	0.0169	91.46	
S Total TCDD					2.038	2.038	0.0287	0.0287		
D 13C-1,2,3,7,8-PeCDF	22.086	263888884	1.59	1.1786	95.9	95.9	0.2594	0.2594	95.87	
1,2,3,7,8-PeCDF	22.114	29080170	1.67	1.0302	10.7	10.7	0.0686	0.0686	107	
D 13C-2,3,4,7,8-PeCDF	23.409	254672733	1.58	1.1308	96.4	96.4	0.2703	0.2703	96.44	a
2,3,4,7,8-PeCDF	23.436	28373728	1.51	1.0410	10.7	10.7	0.0747	0.0747	107	
S Total PeCDF					21.4	21.4	0.0717	0.0717		
D 13C-1,2,3,7,8-PeCDD	24.132	169864186	1.60	0.7572	96.1	96.1	0.1493	0.1493	96.05	
1,2,3,7,8-PeCDD	24.159	19667667	1.64	1.0855	10.7	10.7	0.0671	0.0671	107	
S Total PeCDD					10.7	10.7	0.0671	0.0671		
D 13C-1,2,3,4,7,8-HxCDF	30.260	231563640	0.52	1.1043	100.1	100.1	0.2612	0.2612	100	
1,2,3,4,7,8-HxCDF	30.286	27852640	1.19	1.1472	10.5	10.5	0.0609	0.0609	105	
D 13C-1,2,3,6,7,8-HxCDF	30.459	241149788	0.53	1.1470	100.3	100.3	0.2514	0.2514	100	
1,2,3,6,7,8-HxCDF	30.486	28957236	1.21	1.1450	10.5	10.5	0.0577	0.0577	105	
D 13C-2,3,4,6,7,8-HxCDF	31.351	228396958	0.51	1.0769	101.2	101.2	0.2678	0.2678	101	
2,3,4,6,7,8-HxCDF	31.365	28098536	1.18	1.1726	10.5	10.5	0.0444	0.0444	105	
D 13C-1,2,3,7,8,9-HxCDF	32.190	213447196	0.52	1.0115	100.7	100.7	0.2851	0.2851	101	
1,2,3,7,8,9-HxCDF	32.203	26126431	1.27	1.1717	10.4	10.4	0.0440	0.0440	104	
S Total HxCDF					41.9	41.9	0.0517	0.0517		
* 13C-1,2,3,7,8,9-HxCDD	31.990	209536560	1.29	2.1E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.551	167853325	1.27	0.7962	100.6	100.6	0.2289	0.2289	101	a
1,2,3,4,7,8-HxCDD	31.565	19629316	1.28	1.0934	10.7	10.7	0.0733	0.0733	107	
D 13C-1,2,3,6,7,8-HxCDD	31.658	181254882	1.28	0.8720	99.2	99.2	0.2090	0.2090	99.20	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.671	20651010	1.24	1.0429	10.9	10.9	0.0731	0.0731	109	
1,2,3,7,8,9-HxCDD	32.017	22661690	1.27	1.2073	10.8	10.8	0.0647	0.0647	108	
S Total HxCDD					32.4	32.4	0.0704	0.0704		
D 13C-1,2,3,4,6,7,8-HpCDF	33.640	162401122	0.42	0.7577	102.3	102.3	0.7492	0.7492	102	
1,2,3,4,6,7,8-HpCDF	33.652	25350445	1.02	1.4804	10.5	10.5	0.0845	0.0845	105	
D 13C-1,2,3,4,7,8,9-HpCDF	34.721	146041140	0.45	0.6941	100.4	100.4	0.8178	0.8178	100	a
1,2,3,4,7,8,9-HpCDF	34.721	19189830	1.03	1.2933	10.2	10.2	0.1196	0.1196	102	
S Total HpCDF					20.7	20.7	0.1020	0.1020		
D 13C-1,2,3,4,6,7,8-HpCDD	34.430	149748569	1.07	0.7058	101.3	101.3	0.5362	0.5362	101	
1,2,3,4,6,7,8-HpCDD	34.442	16353697	1.05	1.0535	10.4	10.4	0.0807	0.0807	104	
S Total HpCDD					10.4	10.4	0.0807	0.0807		
D 13C-OCDD	36.758	178956155	0.91	0.4603	185.6	185.6	0.1540	0.1540	92.78	
OCDF	36.866	27270567	0.91	1.3945	21.9	21.9	0.0615	0.0615	109	
OCDD	36.770	22367401	0.90	1.1362	22.0	22.0	0.0537	0.0537	110	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

HRDXNL3_00025 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_4.d
Lims ID: IC 3
Client ID: L3
Sample Type: IC Calib Level: 3
Inject. Date: 12-Dec-2019 12:16:27 ALS Bottle#: 5 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 121219A IC HRDXNL3_00025
Misc. Info.: 12DE193D5
Operator ID: KSS Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 12-Dec-2019 15:54:15 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: stephensk Date: 12-Dec-2019 13:36:49

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.657	17.666	-1		104662717	26747295	22496	56240	1189		
333.9339	17.657	17.666	-1		128884625	32879364	28326	70815	1161	0.81(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.158	17.164	0	0.972	141397908	33164820	26286	65715	1262		
317.9389	17.158	17.164	0	0.972	176568385	41354591	27869	69672	1484	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.173	17.176	0	1.001	2535723	667276	3116	7790	214		
305.8987	17.173	17.176	0	1.001	3367820	860456	5012	12530	172	0.75(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.839	17.854	-1	1.010	96904646	22067106	22496	56240	981		
333.9339	17.839	17.854	-1	1.010	126323776	29552129	28326	70815	1043	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.869	17.872	0	1.002	1996583	458998	4079	10197	113		
321.8936	17.869	17.872	0	1.002	2770413	702094	2125	5312	330	0.72(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.869	17.872	0	1.012	5758902	1359398	5441	13602	250		
13C-1,2,3,7,8-PeCDF											
351.9000	22.086	22.103	-1	1.251	162011430	29168116	44703	111757	652		
353.8970	22.086	22.103	-1	1.251	101877454	17995974	28209	70522	638	1.59(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.114	22.130	-1	1.001	18199461	3342738	5528	13820	605		
341.8567	22.114	22.130	-1	1.001	10880709	1959223	7807	19517	251	1.67(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											a
351.9000	23.409	23.426	-1	1.326	155851342	26185405	44703	111757	586		a
353.8970	23.423	23.426	0	1.327	98821391	16678843	28209	70522	591	1.58(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.436	23.450	-1	1.001	17090087	3030493	5528	13820	548		
341.8567	23.436	23.450	-1	1.001	11283641	1898405	7807	19517	243	1.51(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	24.132	24.137	0	1.367	104622747	16323037	16102	40255	1014		
369.8919	24.132	24.137	0	1.367	65241439	10221375	10855	27137	942	1.60(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.159	24.162	0	1.001	12203730	1938062	5168	12920	375		
357.8516	24.146	24.162	-1	1.001	7463937	1235624	2570	6425	481	1.64(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.260	30.270	-1	0.946	79653125	13936170	21408	53520	651		
385.8610	30.260	30.270	-1	0.946	151910515	26566208	41154	102885	646	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.286	30.300	-1	1.001	15123024	2754138	6329	15822	435		
375.8178	30.286	30.300	-1	1.001	12729616	2240803	4992	12480	449	1.19(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.459	30.473	-1	0.952	84009479	14851340	21408	53520	694		
385.8610	30.459	30.473	-1	0.952	157140309	27991883	41154	102885	680	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.486	30.497	-1	1.001	15835206	2829861	6329	15822	447		
375.8178	30.486	30.497	-1	1.001	13122030	2485303	4992	12480	498	1.21(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.351	31.357	0	0.980	77515211	18074944	21408	53520	844		
385.8610	31.351	31.357	0	0.980	150881747	36268746	41154	102885	881	0.51(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.365	31.375	-1	1.000	15198110	3769186	6329	15822	596		
375.8178	31.365	31.375	-1	1.000	12900426	3247170	4992	12480	650	1.18(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.190	32.196	0	1.006	73446813	19093412	21408	53520	892		
385.8610	32.190	32.196	0	1.006	140000383	35859683	41154	102885	871	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.203	32.209	0	1.000	14635281	4045617	6329	15822	639		
375.8178	32.203	32.209	0	1.000	11491150	3054590	4992	12480	612	1.27(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.990	32.004	-1		117929616	30467986	20414	51035	1493		
403.8529	31.990	32.004	-1		91606944	23762720	19117	47792	1243	1.29(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											a
401.8559	31.551	31.557	0	0.986	93982258	24855119	20414	51035	1218		a
403.8529	31.538	31.557	-1	0.986	73871067	19150014	19117	47792	1002	1.27(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.565	31.570	0	1.000	11001177	3028965	8713	21782	348		
391.8127	31.565	31.570	0	1.000	8628139	2291510	5398	13495	425	1.28(1.05-1.43)	

Report Date: 12-Dec-2019 15:54:16 Chrom Revision: 2.3 02-Dec-2019 08:23:04
Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_4.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.658	31.666	0	0.990	101608718	25876318	20414	51035	1268		
403.8529	31.658	31.666	0	0.990	79646164	20425256	19117	47792	1068	1.28(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.671	31.682	-1	1.000	11440593	3016792	8713	21782	346		
391.8127	31.671	31.682	-1	1.000	9210417	2335920	5398	13495	433	1.24(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.017	32.023	0	1.015	12668415	3326529	8713	21782	382		
391.8127	32.004	32.023	-1	1.014	9993275	2630549	5398	13495	487	1.27(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.640	33.647	0	1.052	47679327	16977900	44531	111327	381		
419.8220	33.640	33.647	0	1.052	114721795	39636130	78601	196502	504	0.42(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.652	33.659	0	1.000	12772687	4580630	16196	40490	283		
409.7789	33.652	33.659	0	1.000	12577758	4538391	12118	30295	375	1.02(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											a
417.8253	34.721	34.726	0	1.085	45238008	14292822	44531	111327	321		a
419.8220	34.721	34.726	0	1.085	100803132	31457091	78601	196502	400	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.721	34.736	-1	1.000	9741829	2988285	16196	40490	185		
409.7789	34.721	34.736	-1	1.000	9448001	3019813	12118	30295	249	1.03(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.430	34.437	0	1.076	77355572	25448372	44231	110577	575		
437.8140	34.430	34.437	0	1.076	72392997	23906285	37864	94660	631	1.07(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.442	34.449	0	1.000	8362316	2927448	10490	26225	279		
425.7737	34.442	34.449	0	1.000	7991381	2681537	6303	15757	425	1.05(0.88-1.20)	
13C-OCDD											
469.7779	36.758	36.767	-1	1.149	85394423	24155307	8629	21572	2799		
471.7750	36.758	36.767	-1	1.149	93561732	25728540	6744	16860	3815	0.91(0.76-1.02)	
OCDF											
441.7428	36.866	36.870	0	1.003	13003258	3649120	3679	9197	992		
443.7399	36.854	36.870	-1	1.003	14267309	3989890	4872	12180	819	0.91(0.76-1.02)	
OCDD											
457.7377	36.770	36.779	-1	1.000	10610136	3037425	3003	7507	1011		
459.7348	36.770	36.779	-1	1.000	11757265	3345664	3079	7697	1087	0.90(0.76-1.02)	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

HRDXNL3_00025 Amount Added: 2.00 Units: uL

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_4.d				
Injection Date:	12-Dec-2019 12:16:27	Instrument ID:	3D5		
Lims ID:	IC 3				
Client ID:	L3				
Operator ID:	KSS	ALS Bottle#:	5	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

13C-2,3,4,7,8-PeCDF, CAS: 116843-02-8

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 23.43

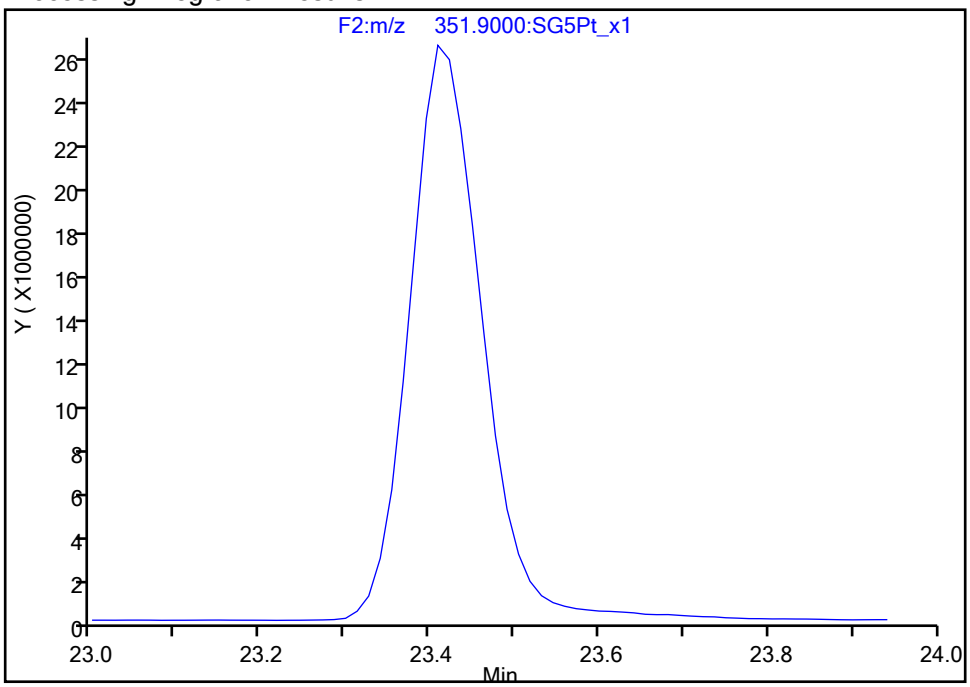

Manual Integration Results

RT: 23.41
Area: 155851342
Amount: 96.435079
Amount Units: pg/ul

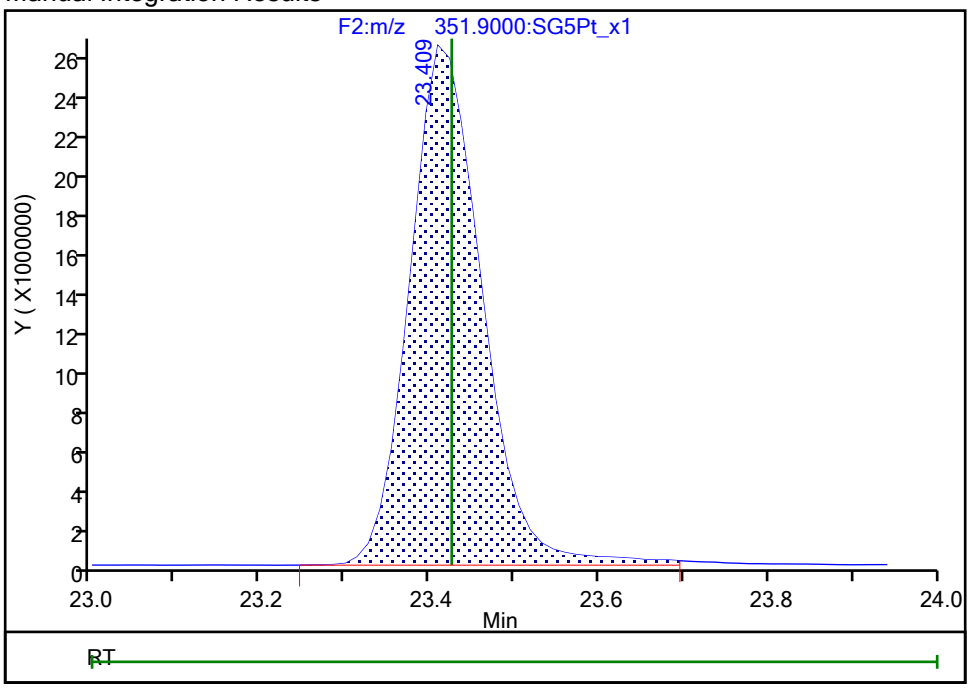

Reviewer: stephensk, 12-Dec-2019 13:35:45
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_4.d				
Injection Date:	12-Dec-2019 12:16:27	Instrument ID:	3D5		
Lims ID:	IC 3				
Client ID:	L3				
Operator ID:	KSS	ALS Bottle#:	5	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

13C-1,2,3,4,7,8-HxCDD, CAS: 109719-80-4

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 31.56

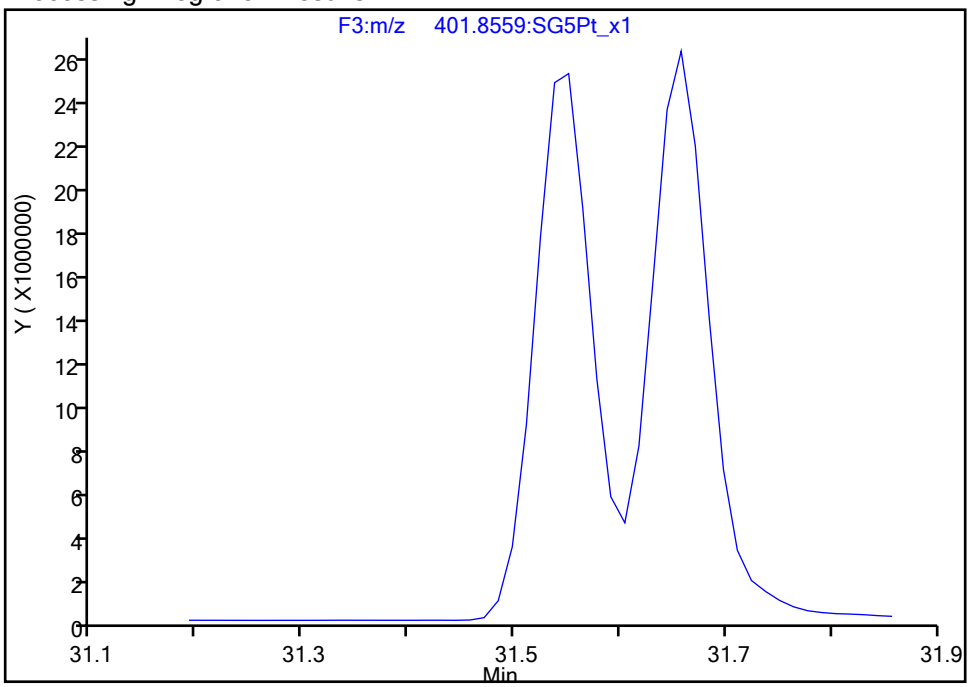

Manual Integration Results

RT: 31.55
Area: 93982258
Amount: 100.6108
Amount Units: pg/ul

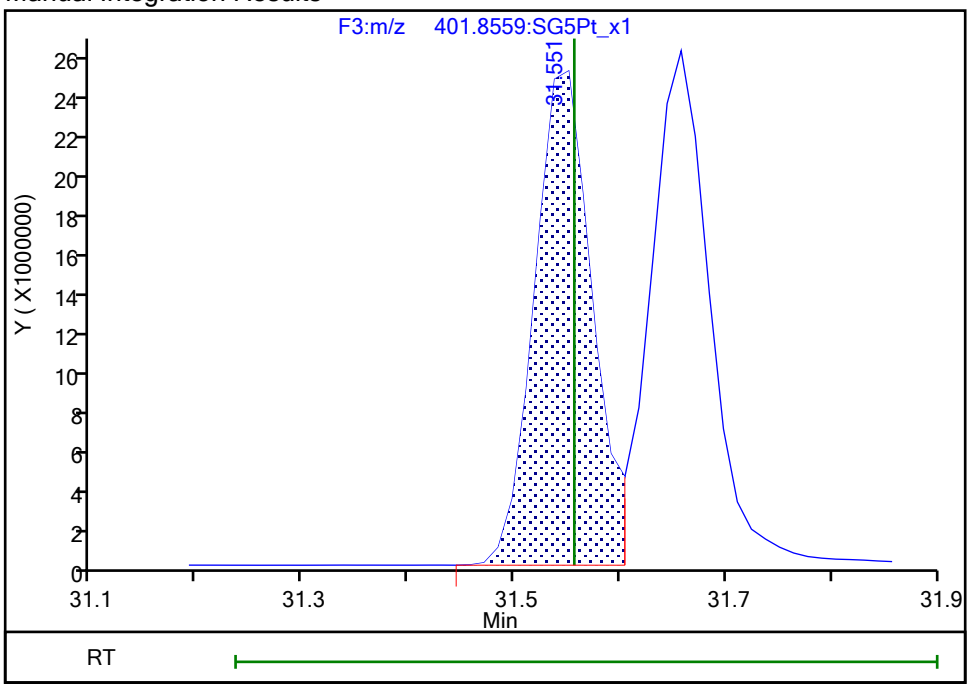

Reviewer: stephensk, 12-Dec-2019 13:36:09
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_4.d				
Injection Date:	12-Dec-2019 12:16:27	Instrument ID:	3D5		
Lims ID:	IC 3				
Client ID:	L3				
Operator ID:	KSS	ALS Bottle#:	5	Worklist Smp#:	4
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

13C-1,2,3,4,7,8,9-HpCDF, CAS: 109719-94-0

Signal: 1

Not Detected
Expected RT: 34.73

Processing Integration Results

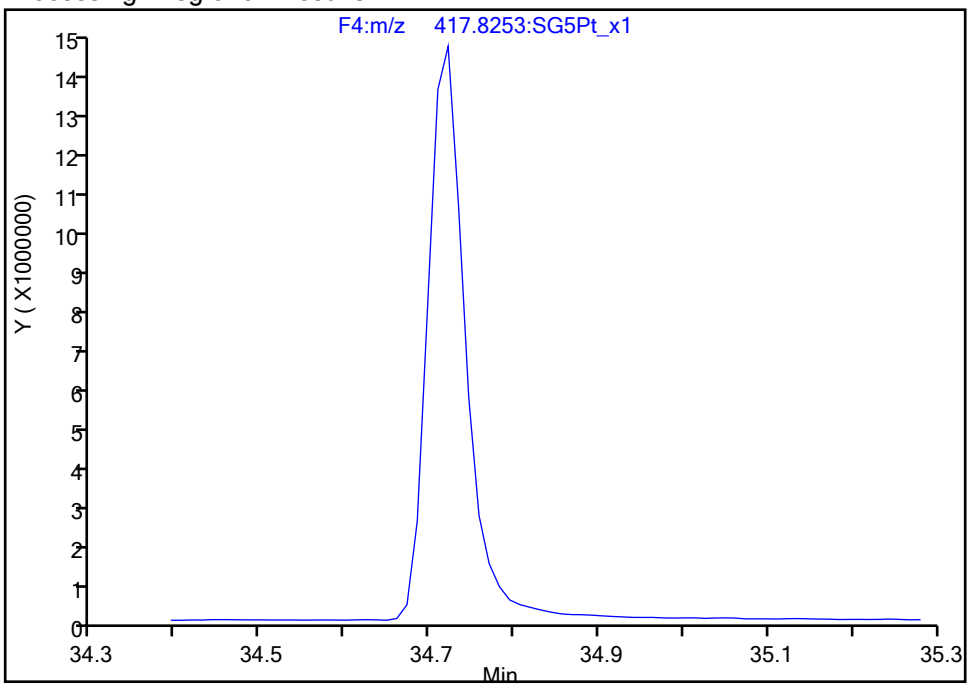

Manual Integration Results

RT: 34.72
Area: 45238008
Amount: 100.4087
Amount Units: pg/ul

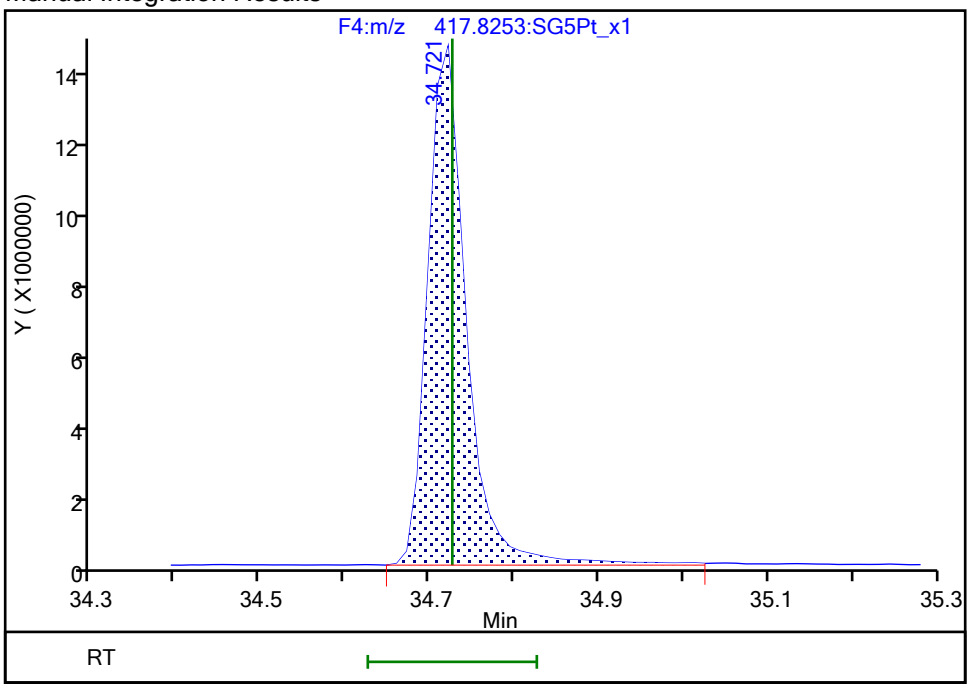

Reviewer: stephensk, 12-Dec-2019 13:36:34
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Report Date: 12-Dec-2019 15:54:17 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_4.d		
Injection Date:	12-Dec-2019 12:16:27	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L3		
Worklist#:	345037	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

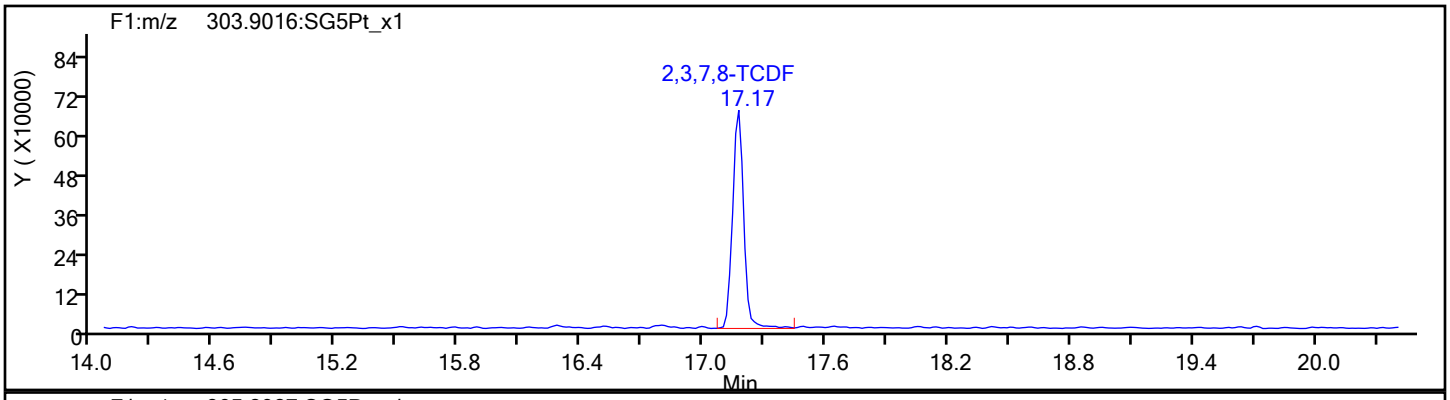

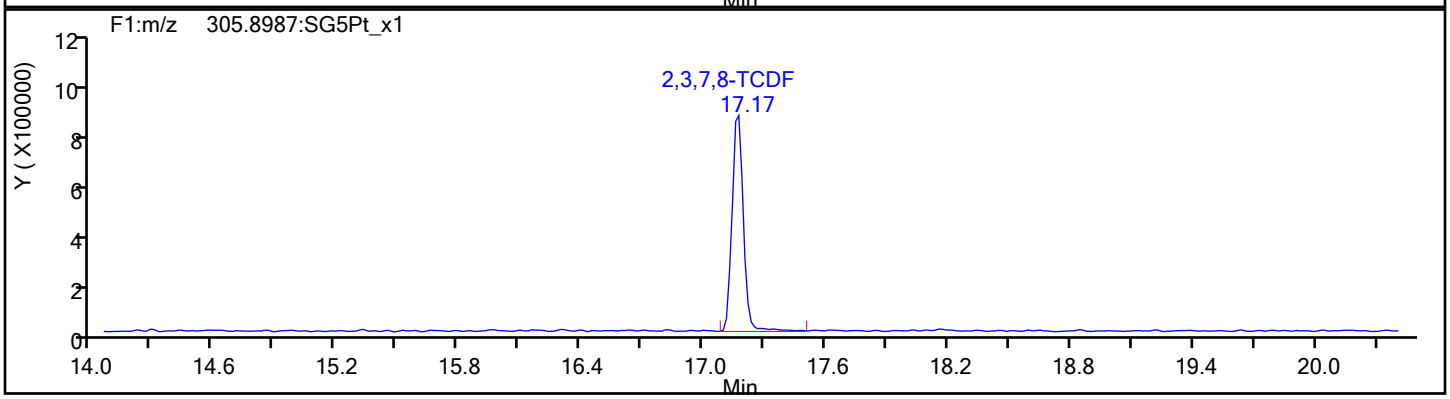

TCDF Standards

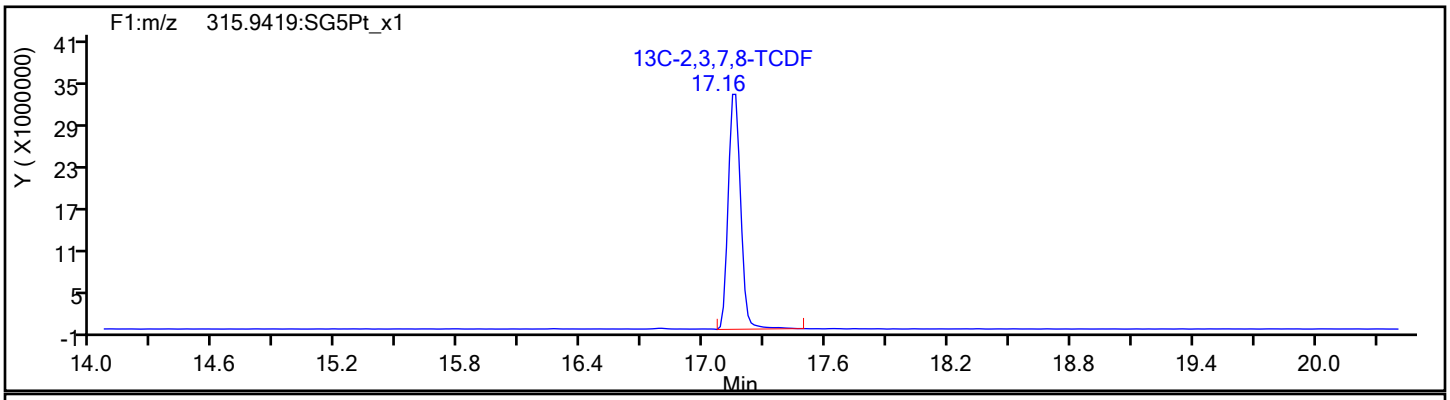

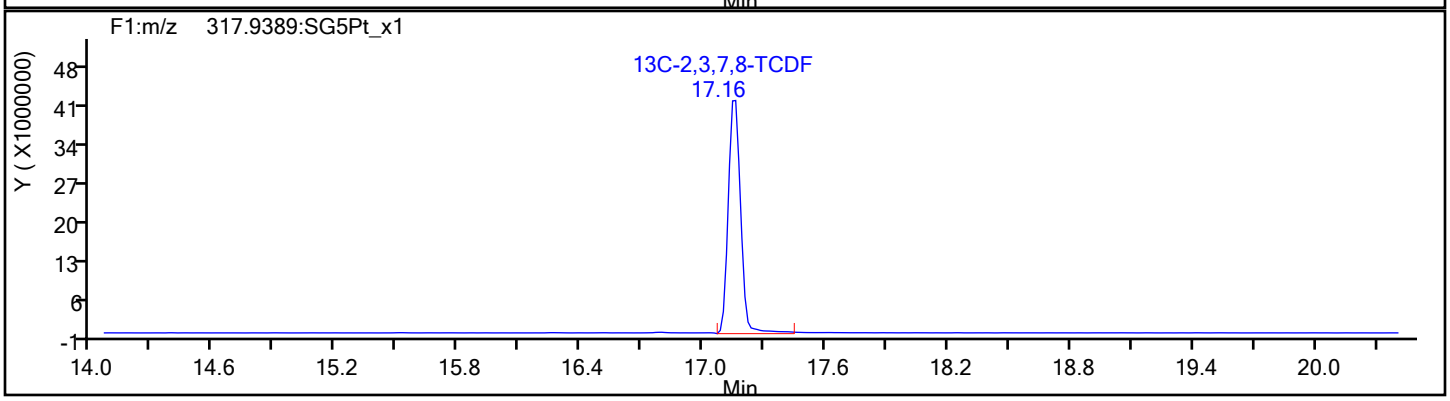

Report Date: 12-Dec-2019 15:54:17 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_4.d		
Injection Date:	12-Dec-2019 12:16:27	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L3		
Worklist#:	345037	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

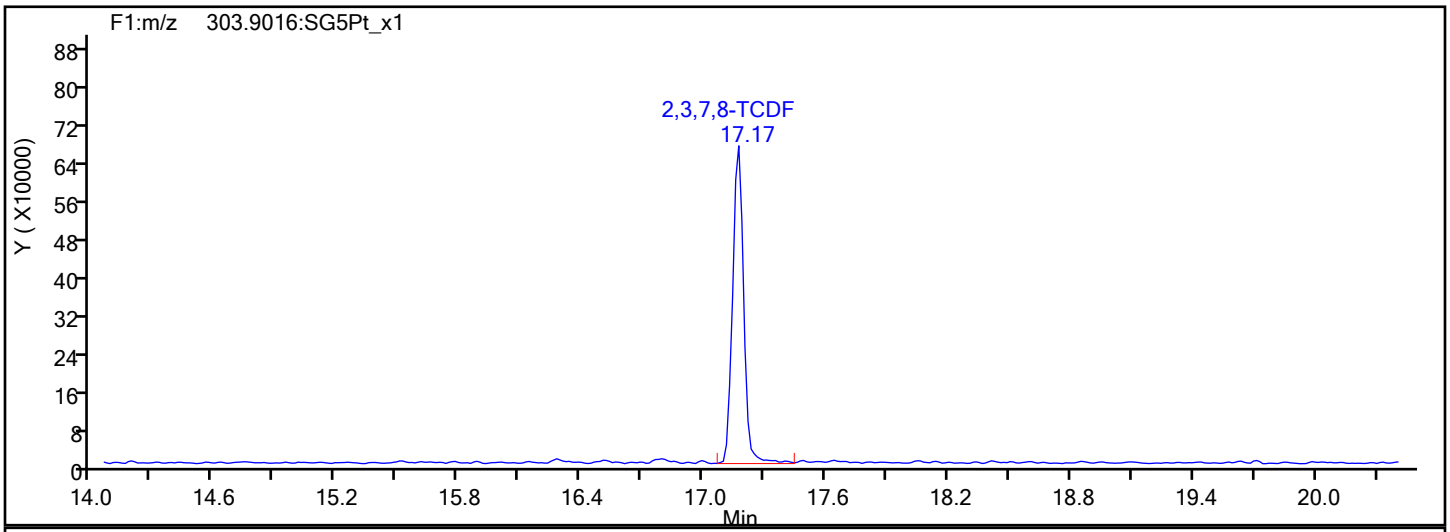

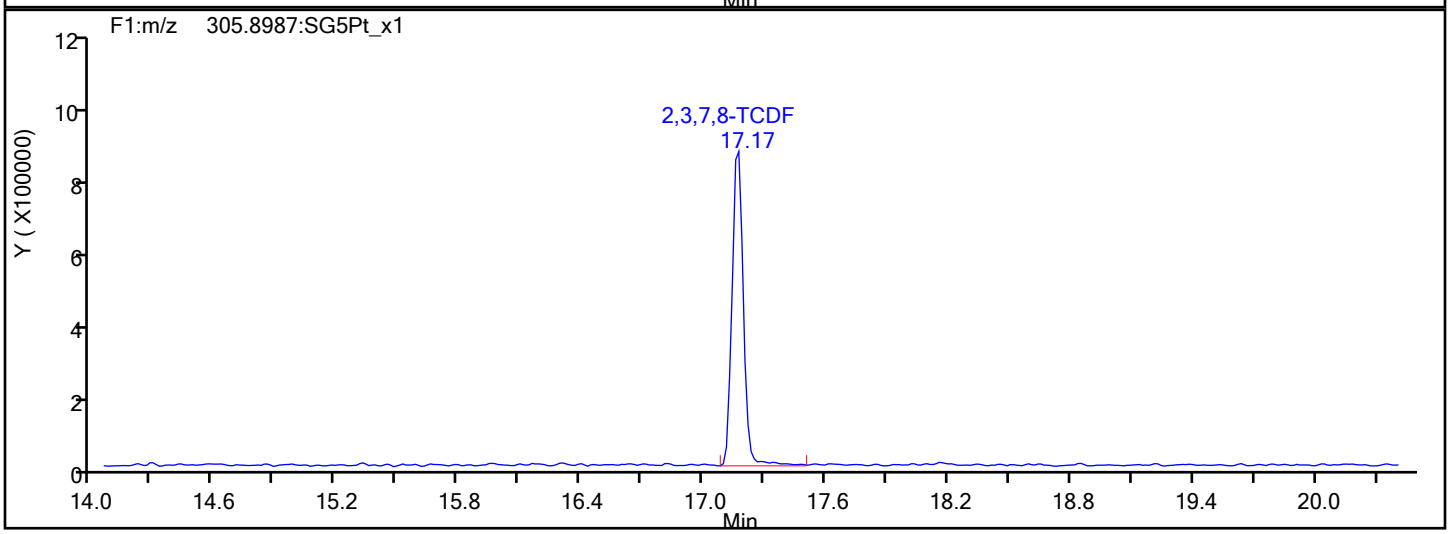

TCDF Interference Mass

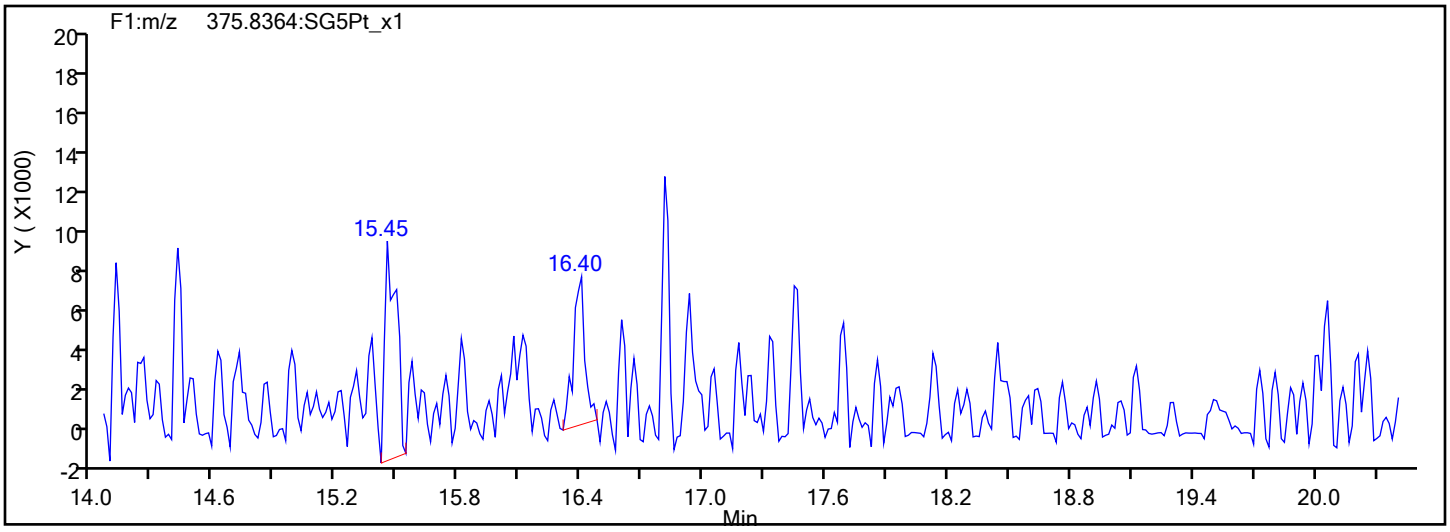

Report Date: 12-Dec-2019 15:54:17 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_4.d		
Injection Date:	12-Dec-2019 12:16:27	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L3		
Worklist#:	345037	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

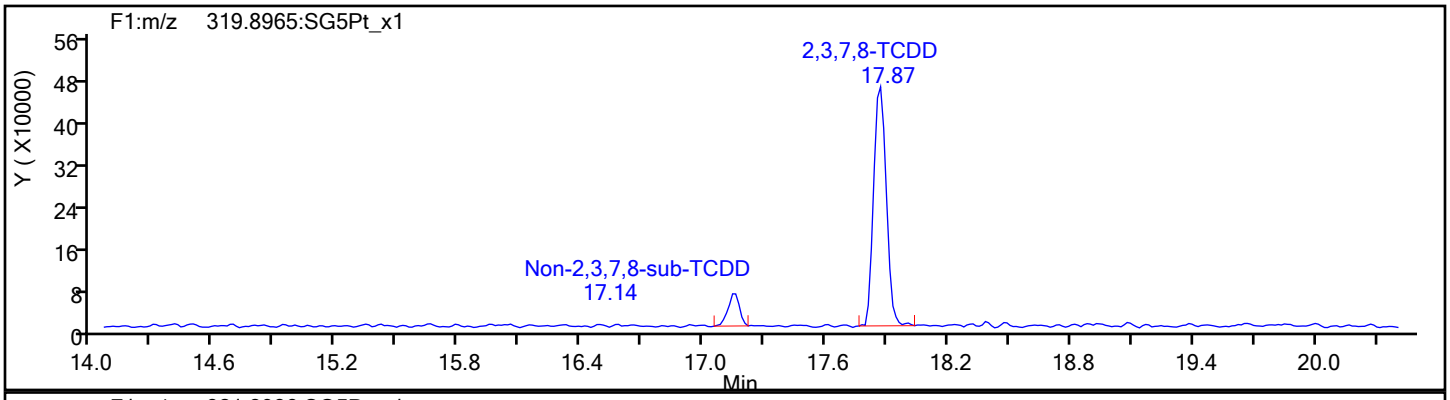

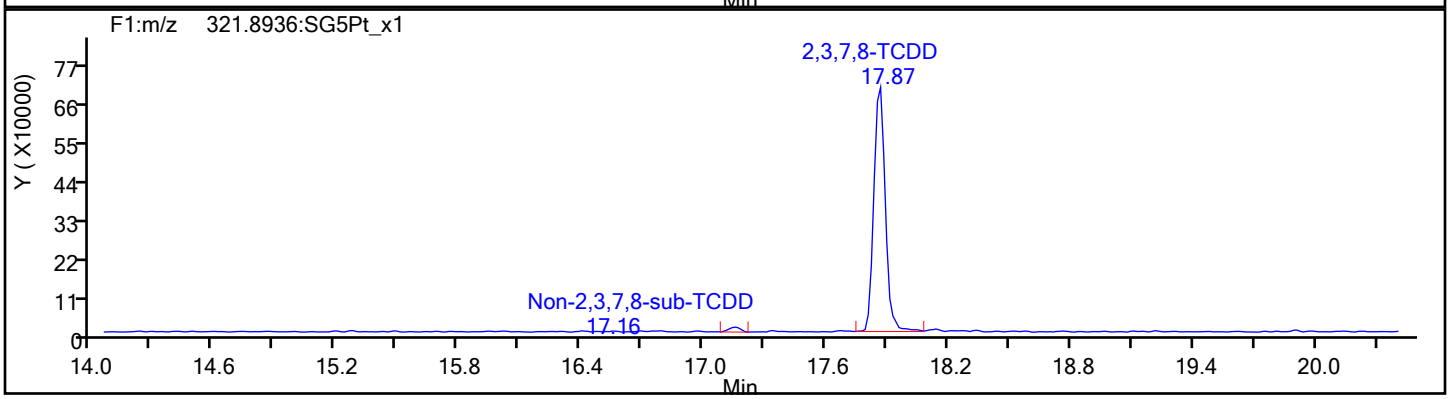

TCDD Standards

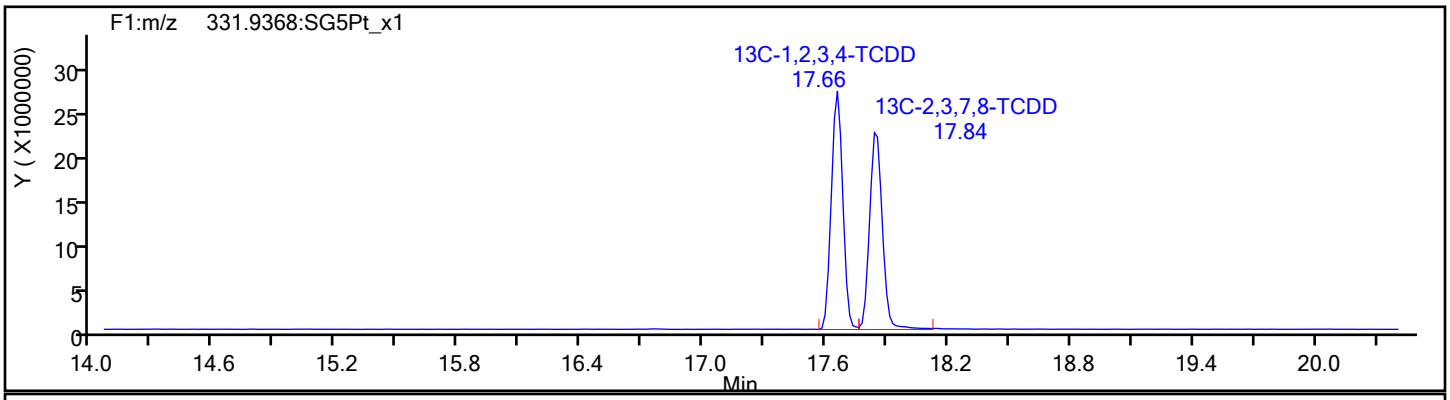

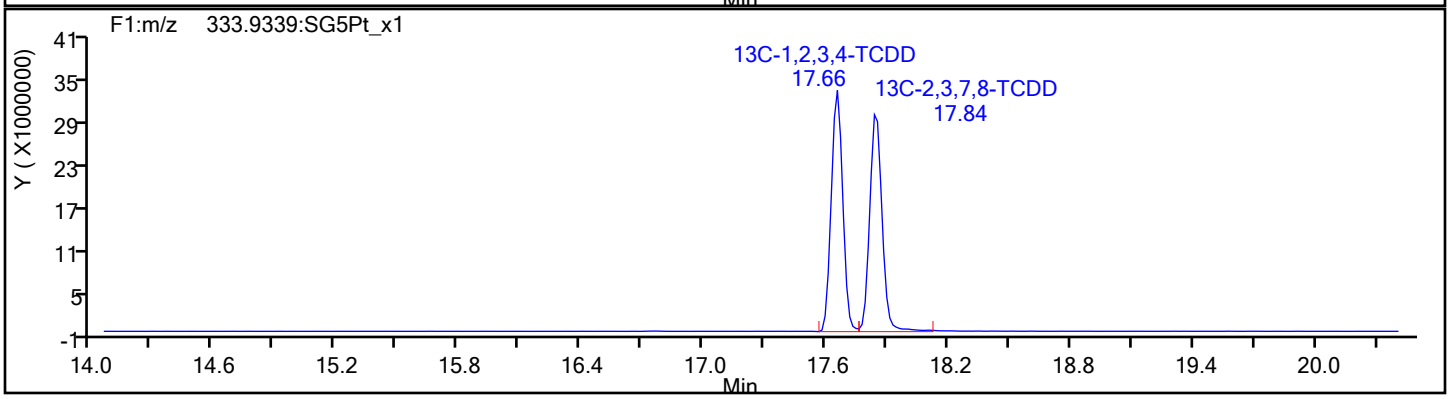

Report Date: 12-Dec-2019 15:54:17 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_4.d		
Injection Date:	12-Dec-2019 12:16:27	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L3		
Worklist#:	345037	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

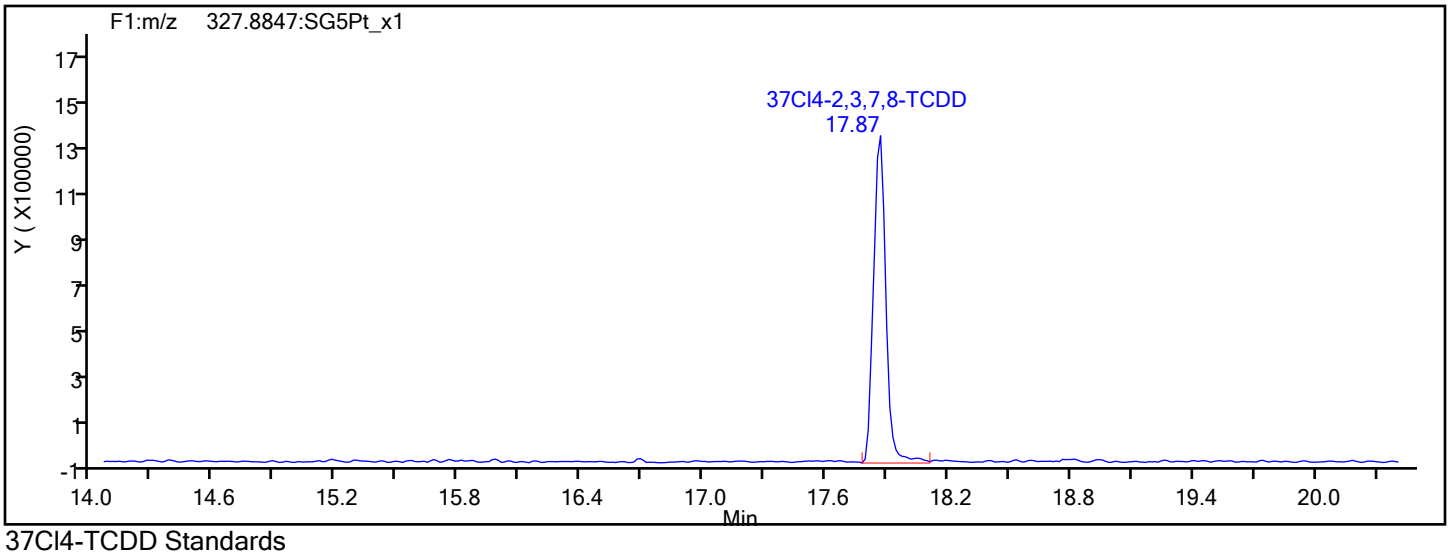

37Cl4-TCDD Standards

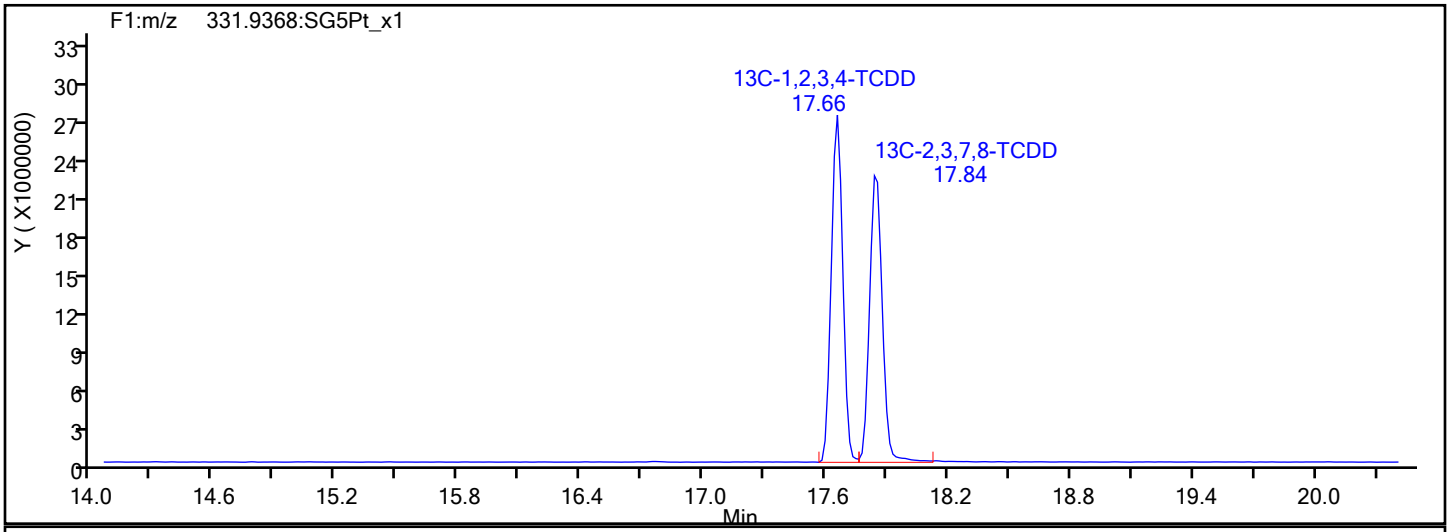

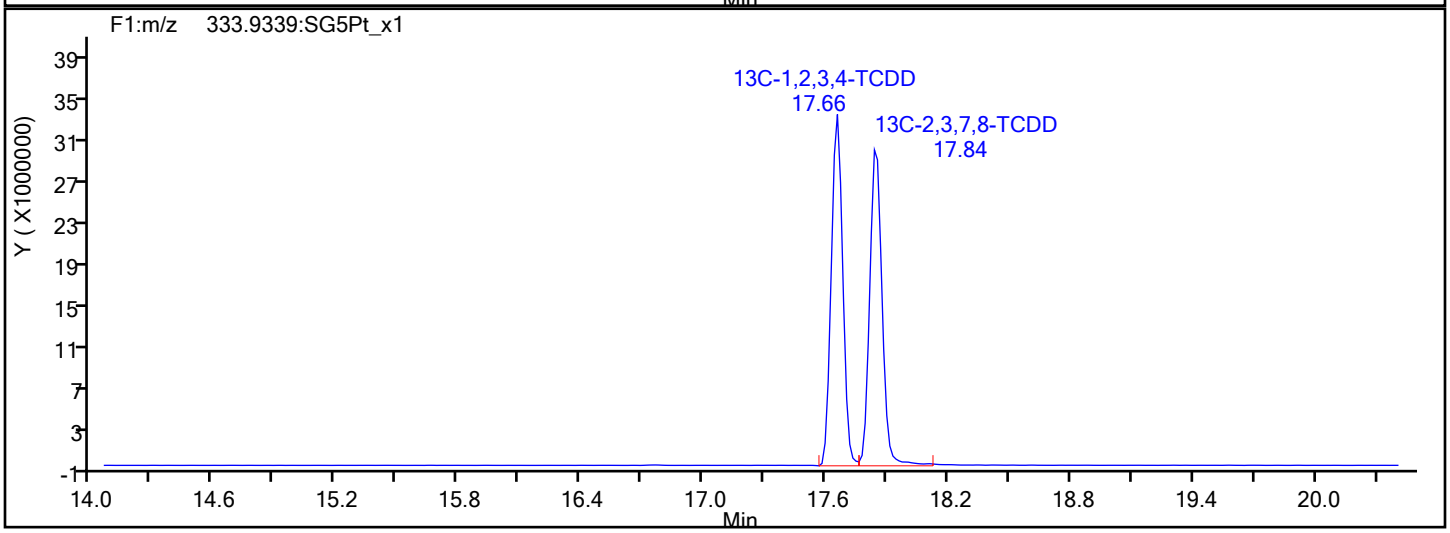

Report Date: 12-Dec-2019 15:54:17 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_4.d		
Injection Date:	12-Dec-2019 12:16:27	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L3		
Worklist#:	345037	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

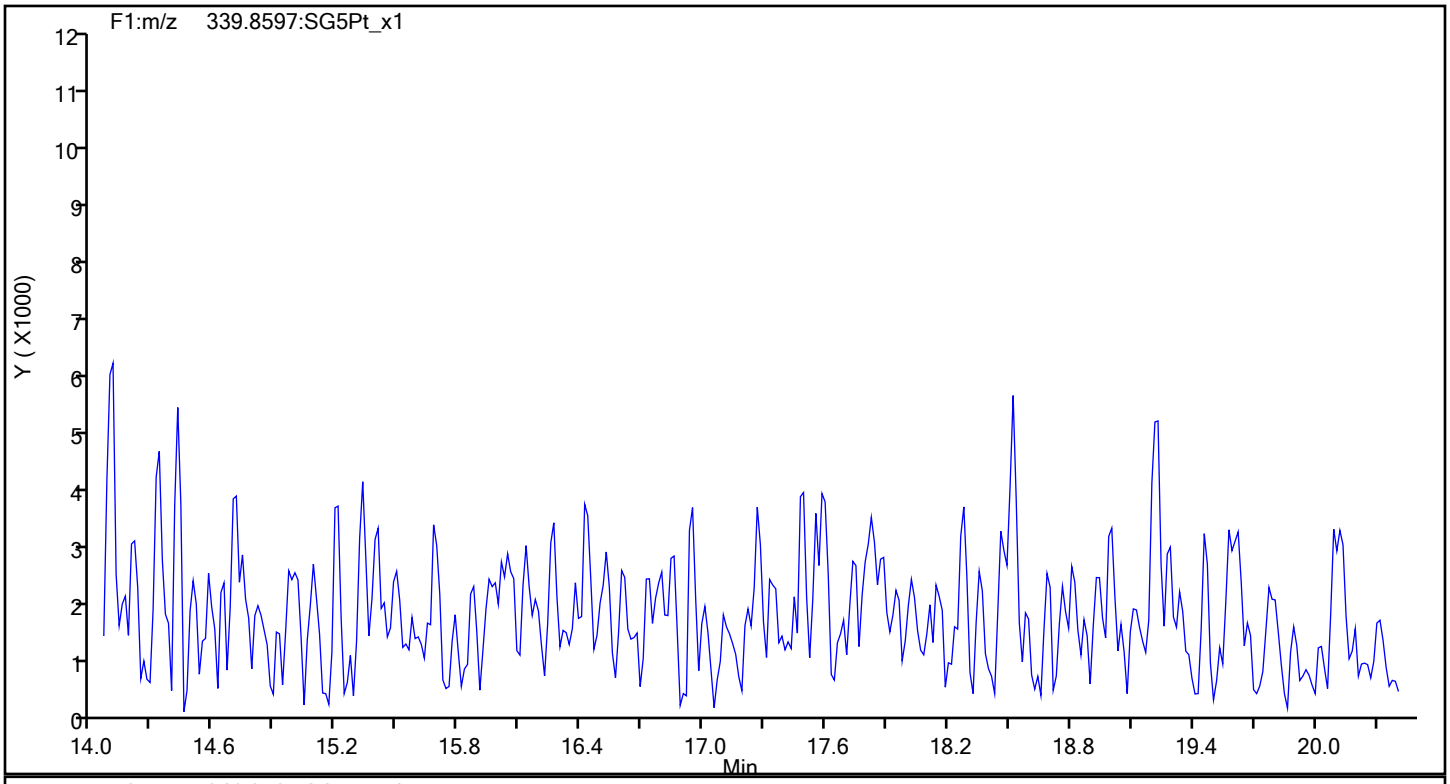

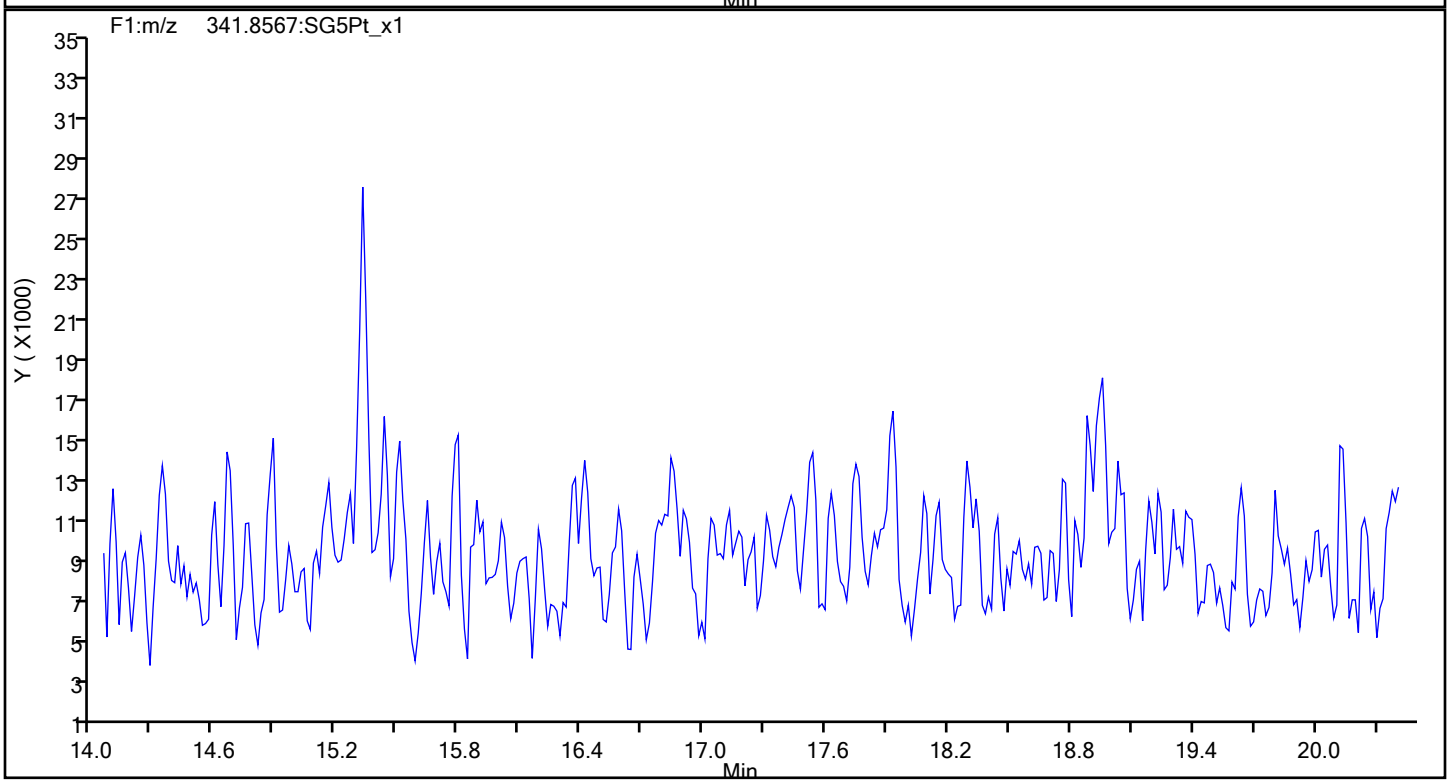

Report Date: 12-Dec-2019 15:54:17 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_4.d		
Injection Date:	12-Dec-2019 12:16:27	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L3		
Worklist#:	345037	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

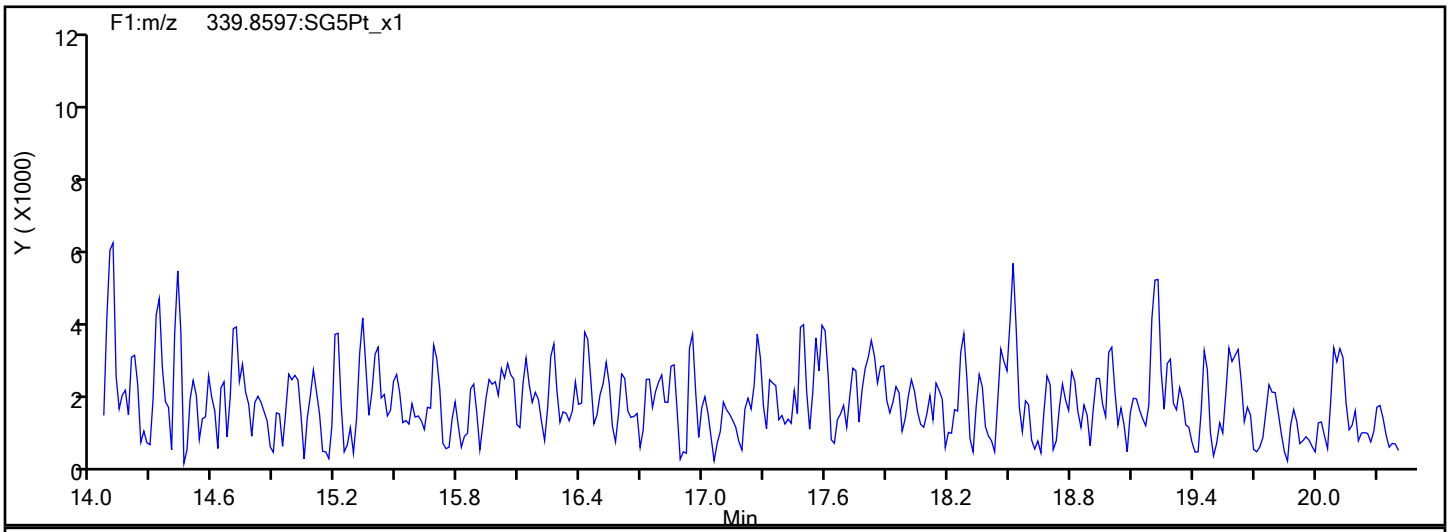

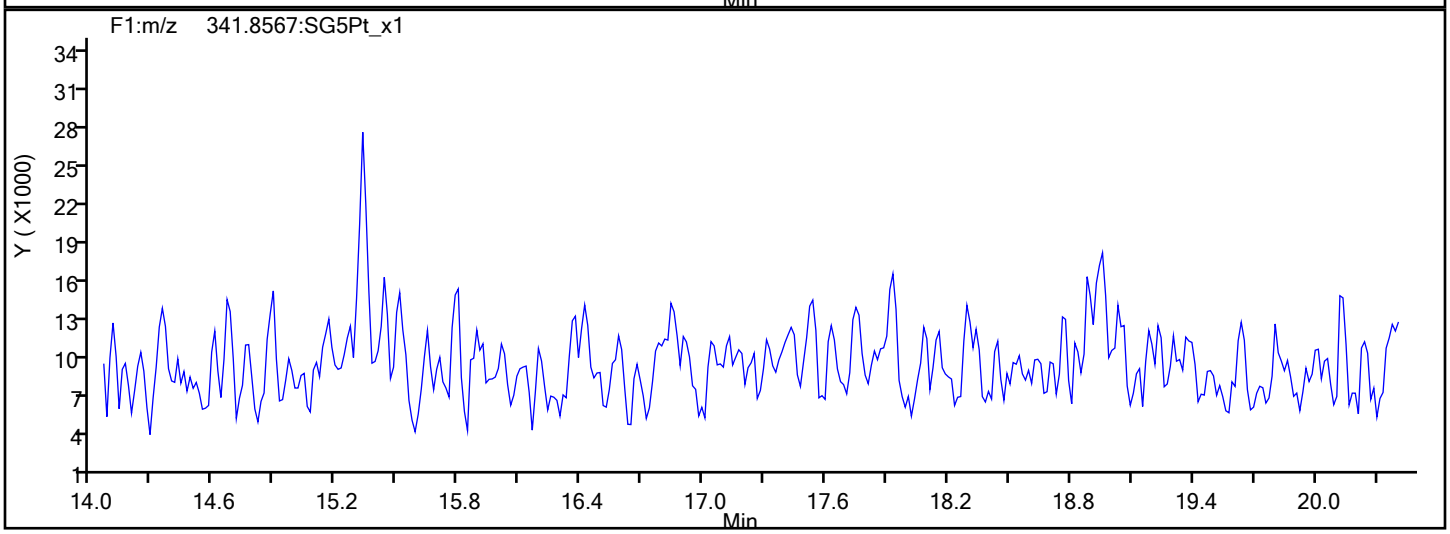

F1 PeCDFs Interference Mass

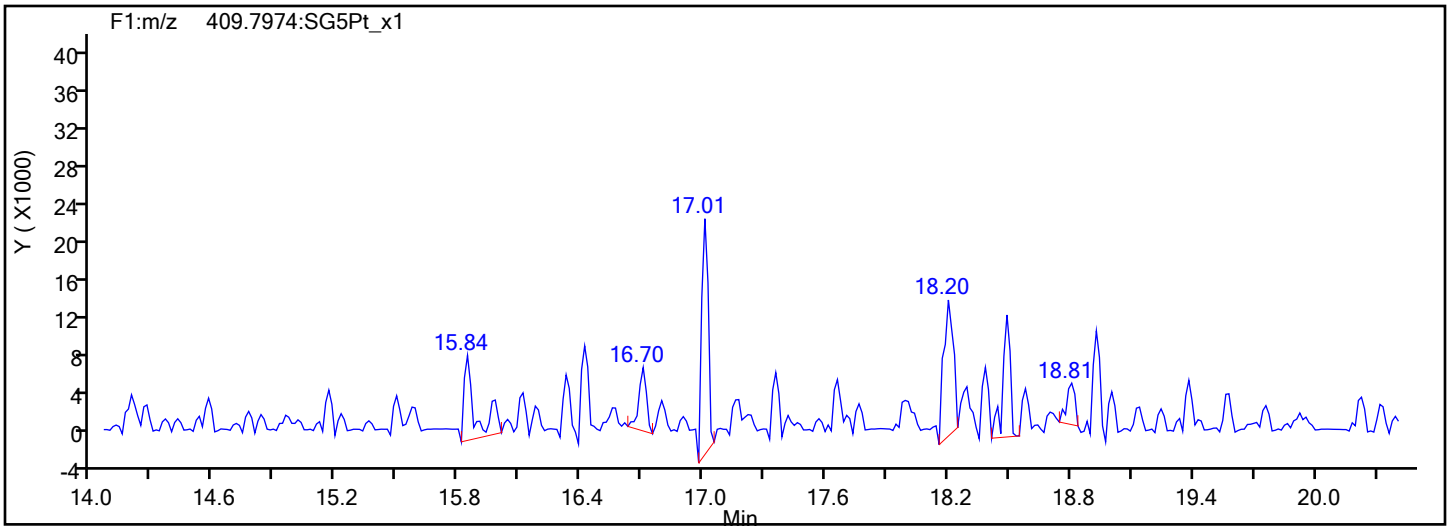

Report Date: 12-Dec-2019 15:54:17 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_4.d		
Injection Date:	12-Dec-2019 12:16:27	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L3		
Worklist#:	345037	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

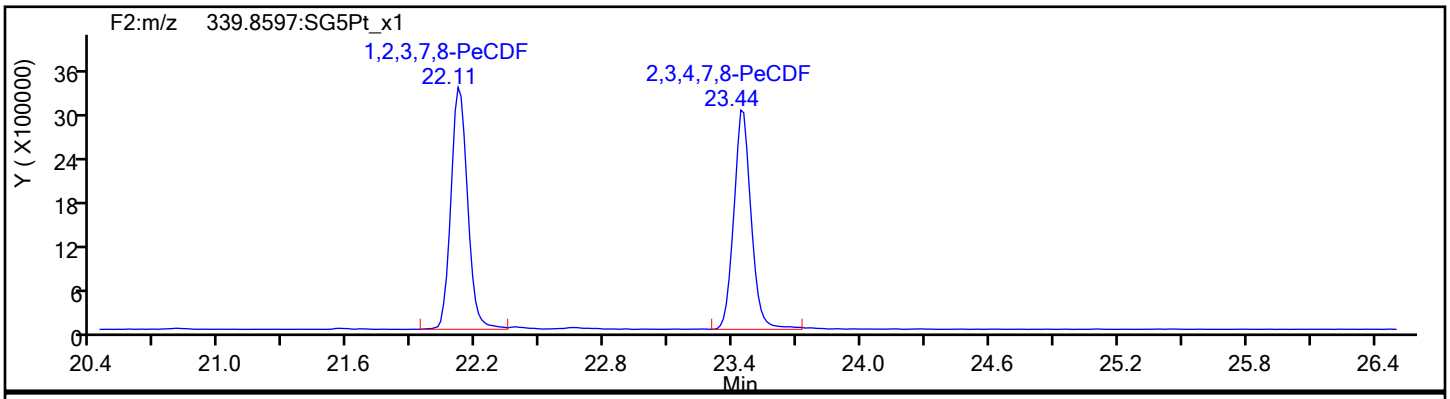

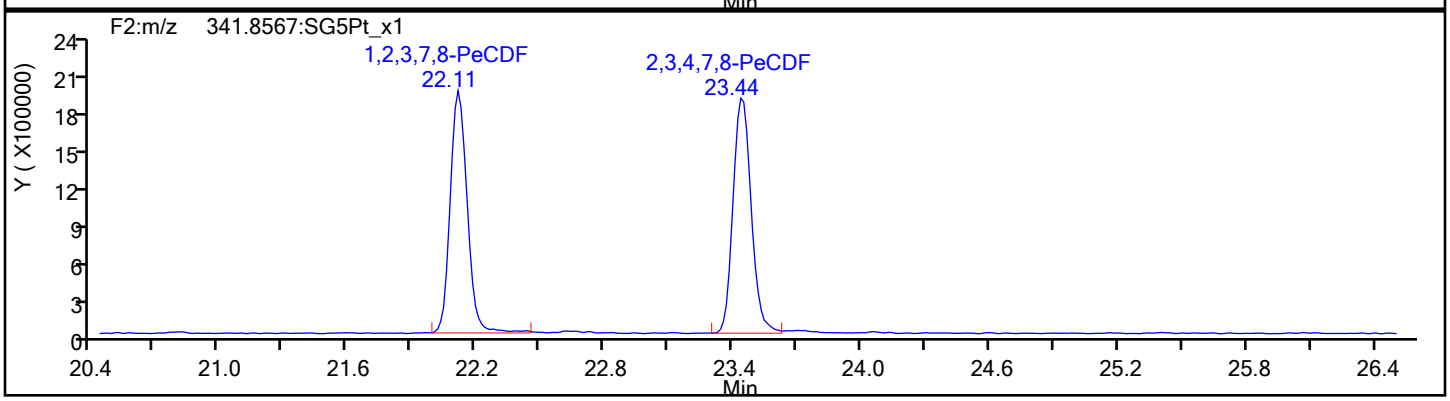

PeCDF Standards

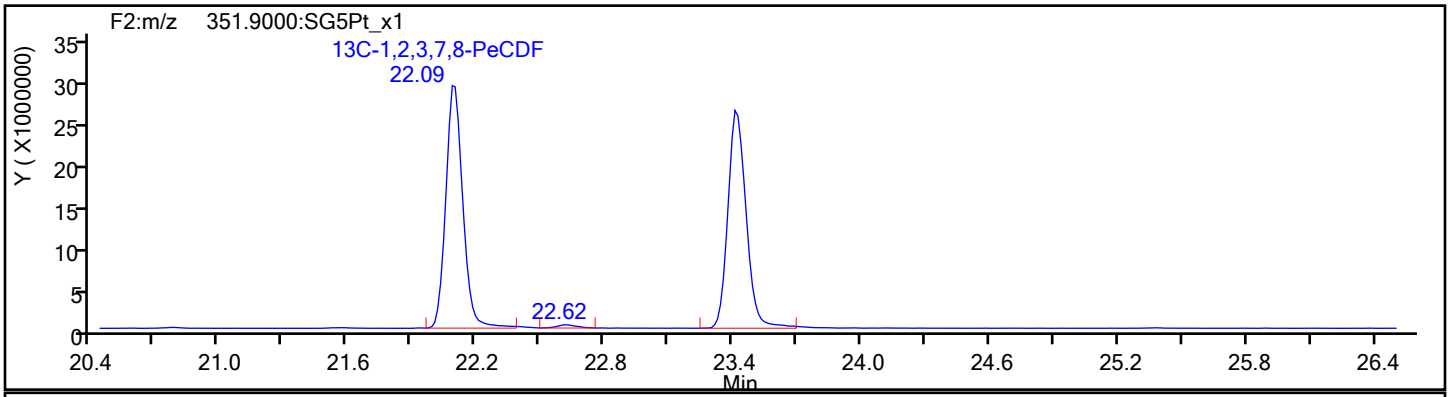

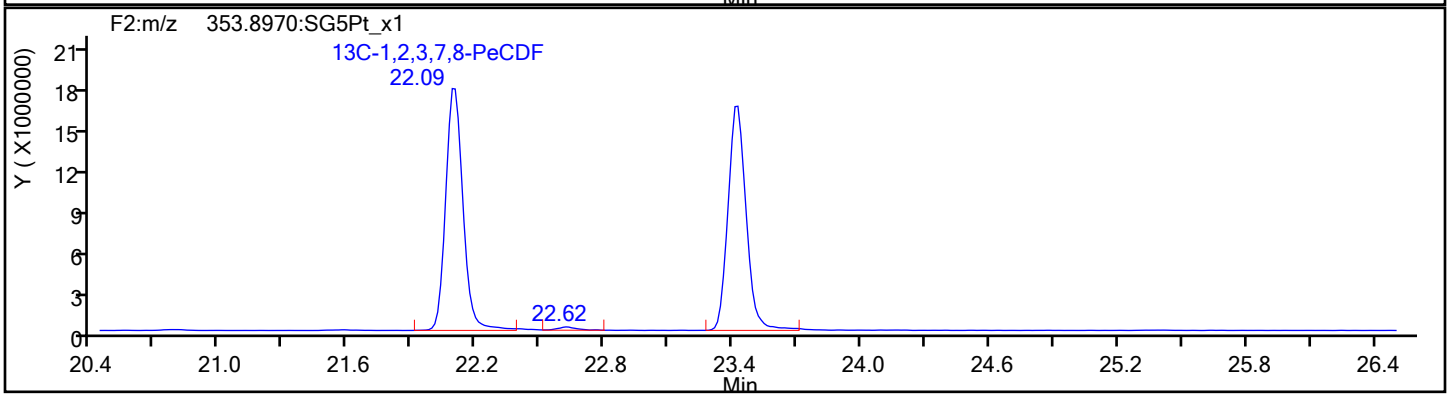

Report Date: 12-Dec-2019 15:54:17 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_4.d		
Injection Date:	12-Dec-2019 12:16:27	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L3		
Worklist#:	345037	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

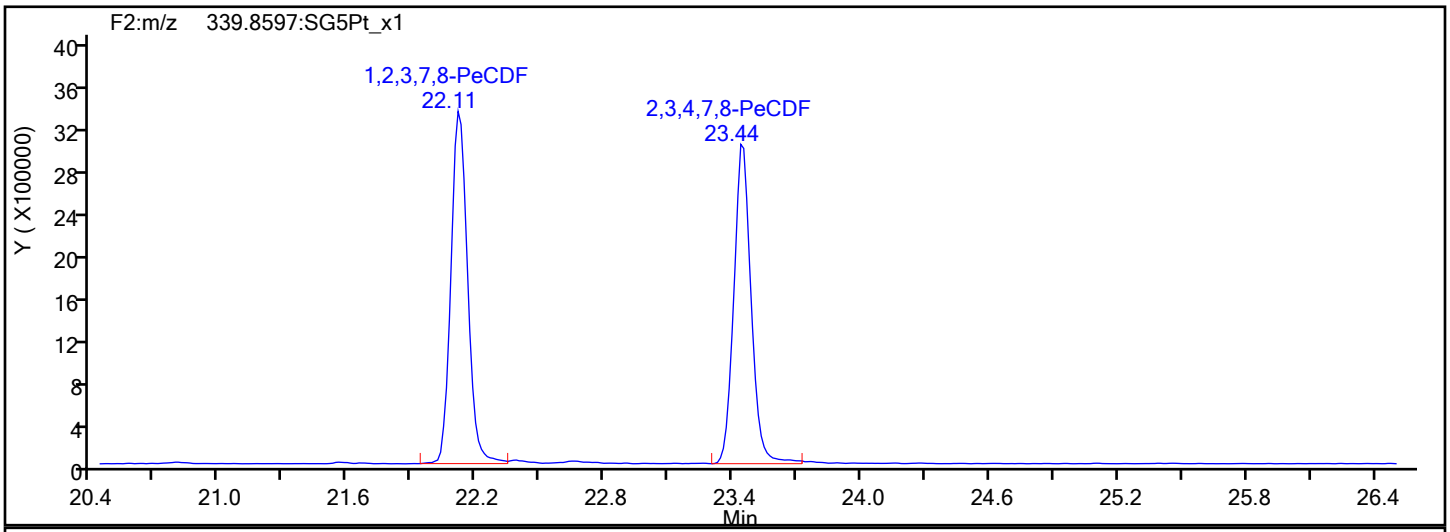

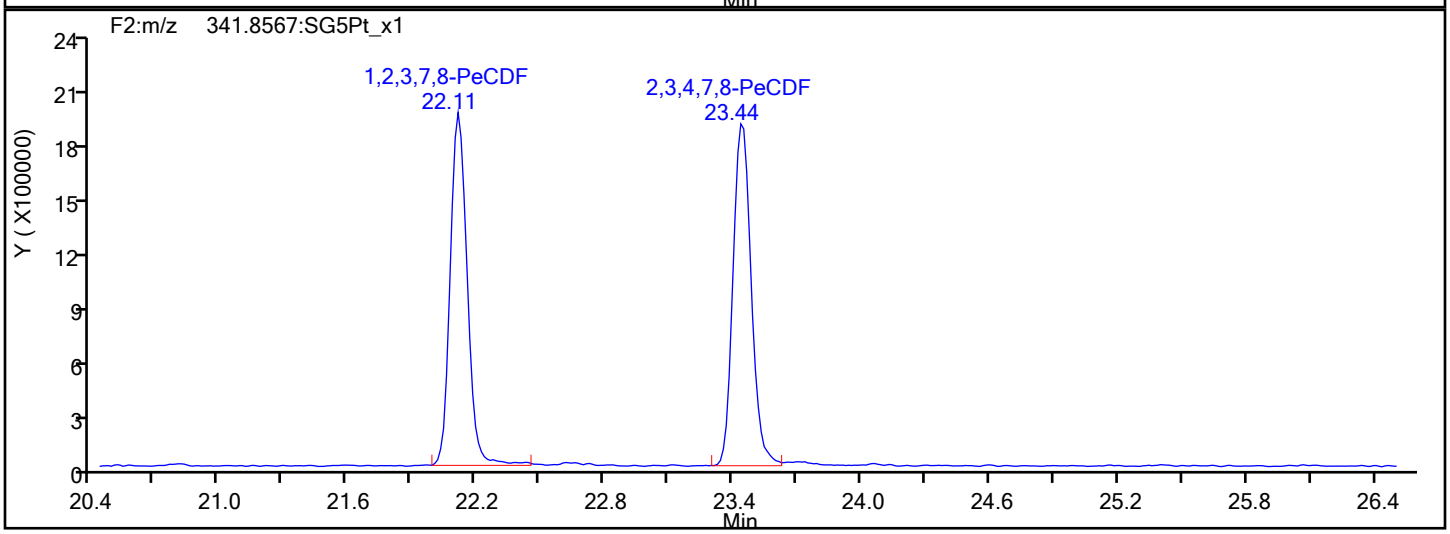

PeCDF Interference Mass

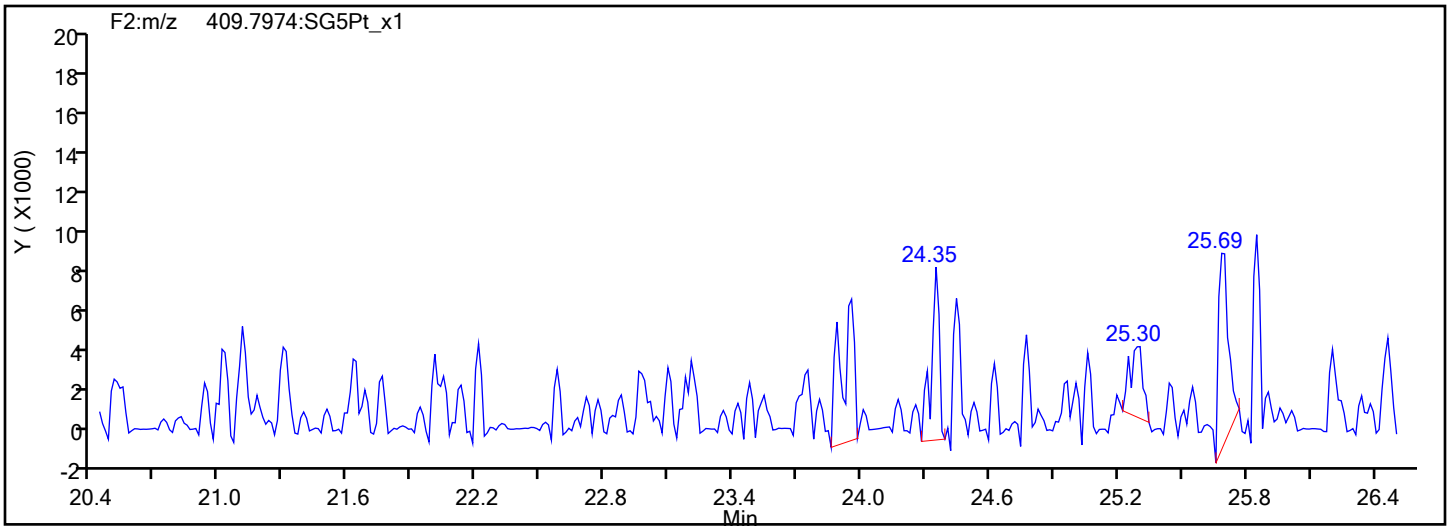

Report Date: 12-Dec-2019 15:54:17 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_4.d		
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Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L3		
Worklist#:	345037	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

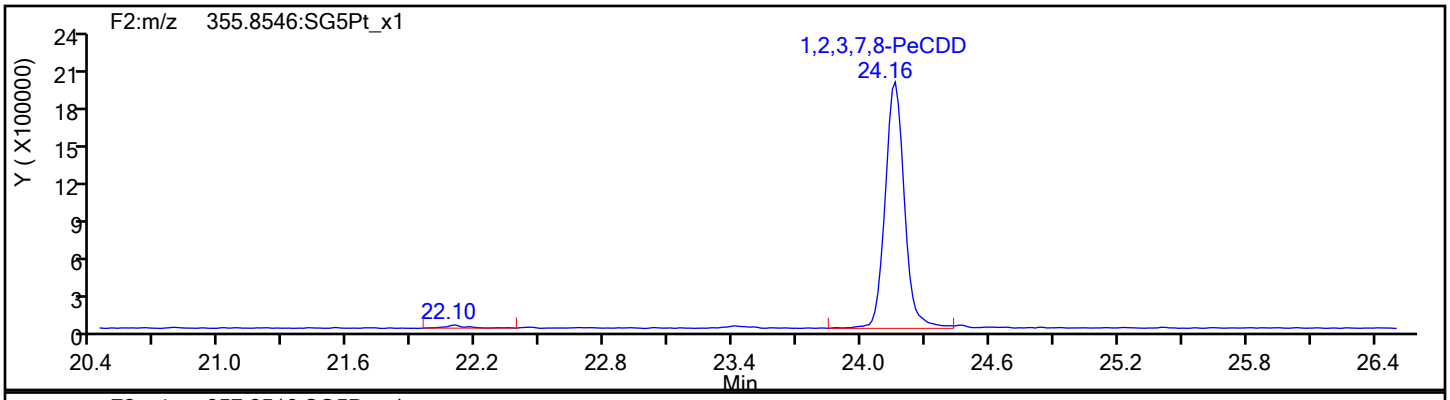

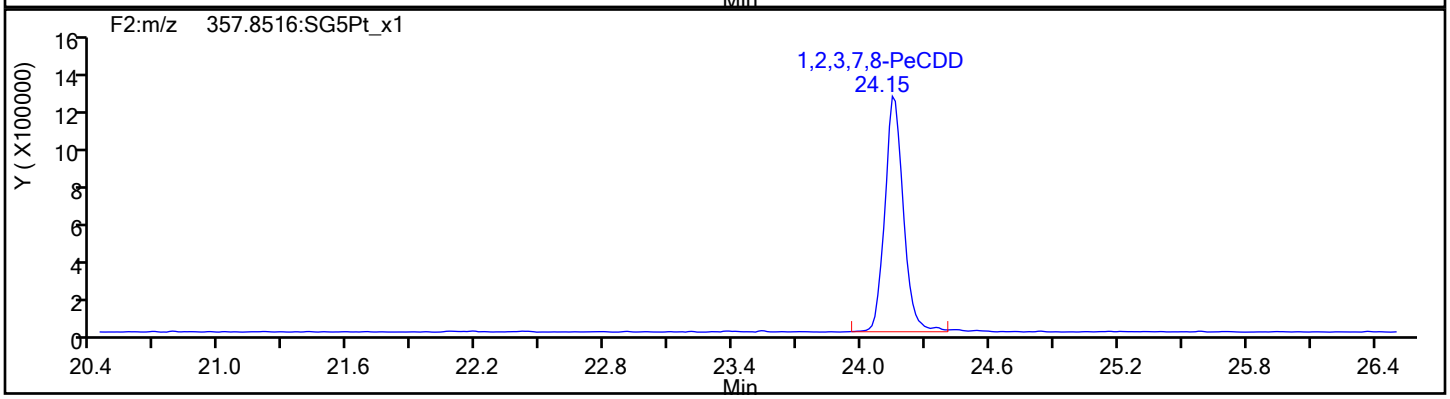

PeCDD Standards

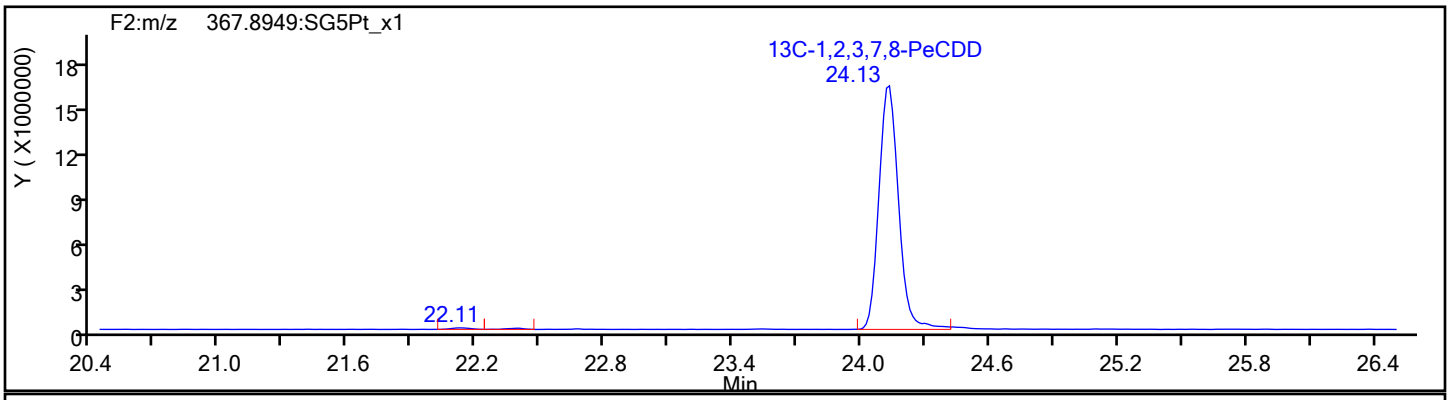

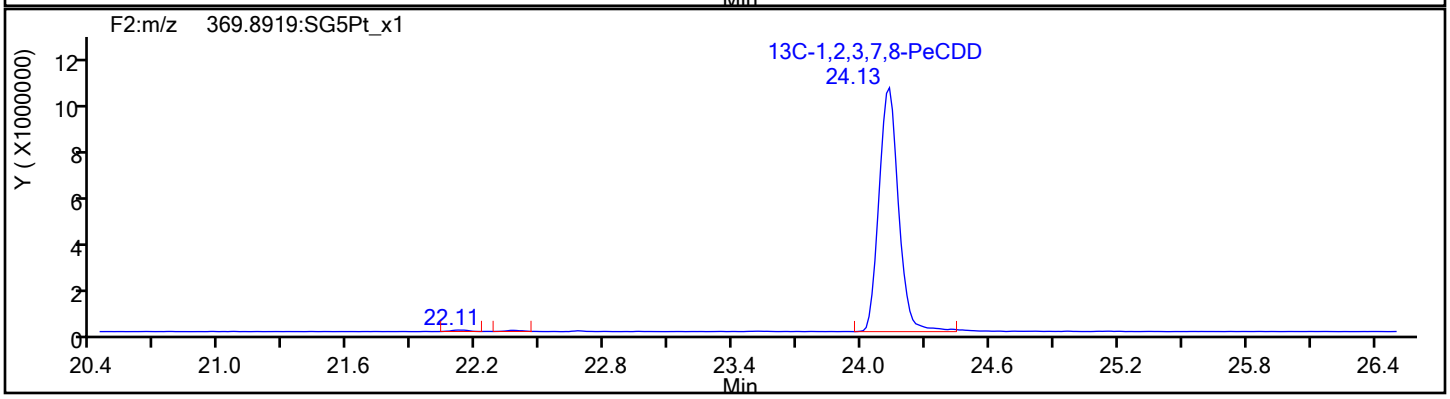

Report Date: 12-Dec-2019 15:54:17 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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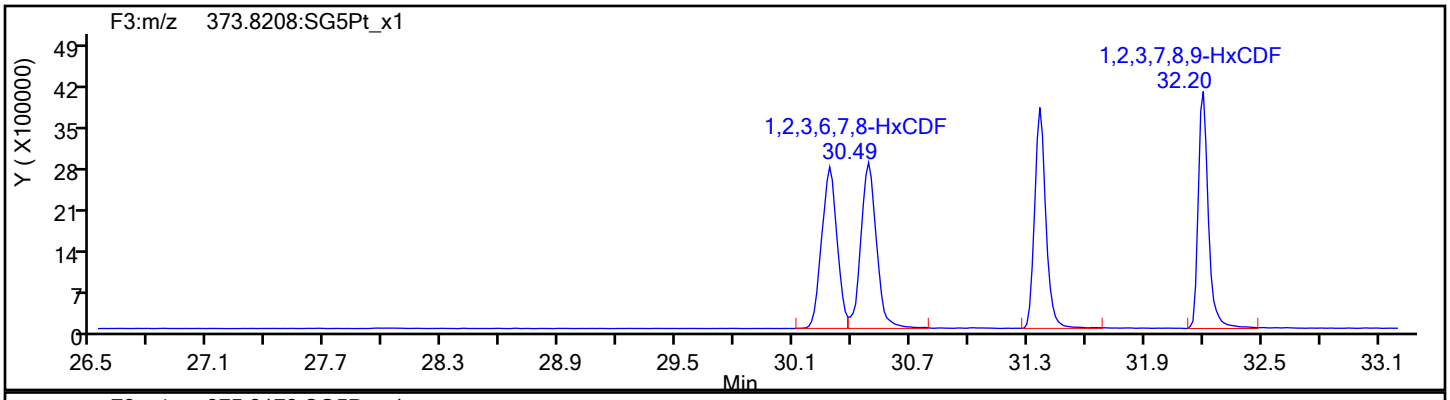

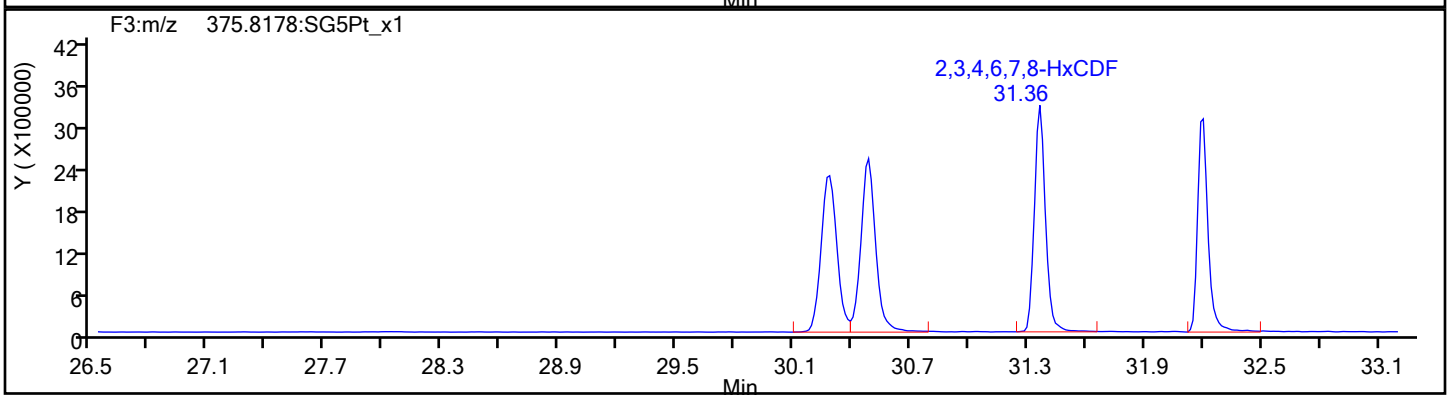

HxCDF Standards

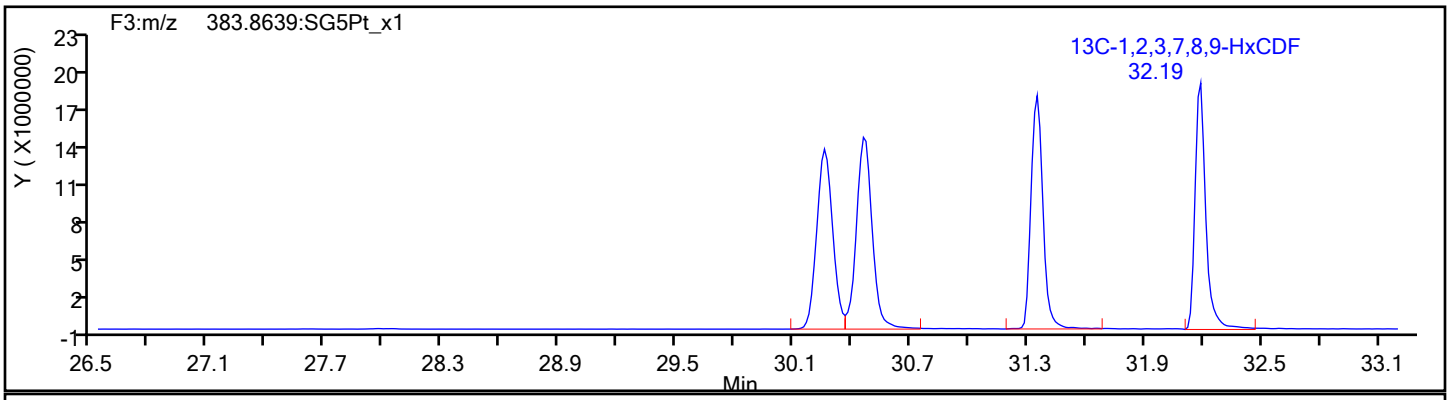

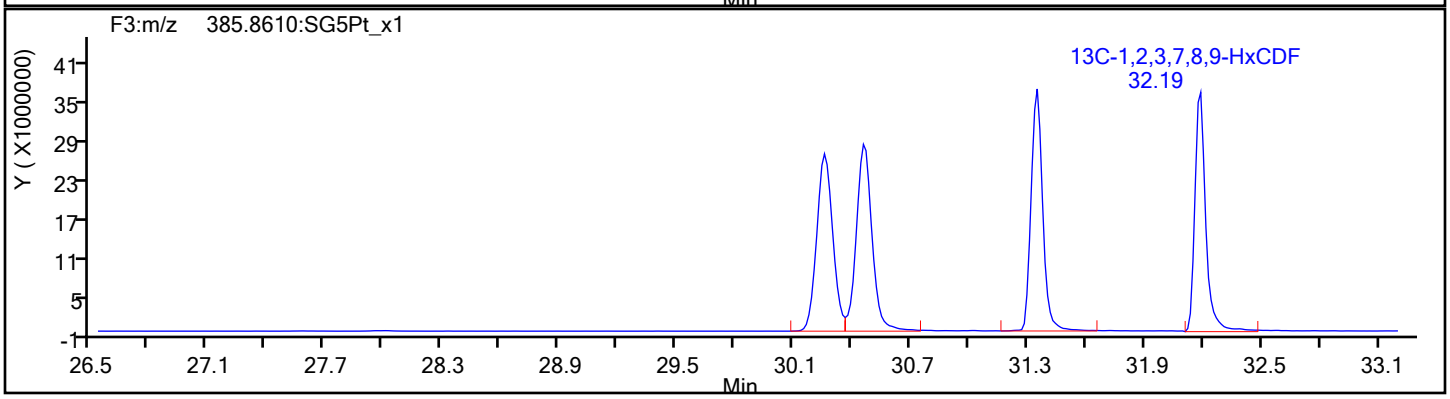

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Eurofins TestAmerica, Sacramento

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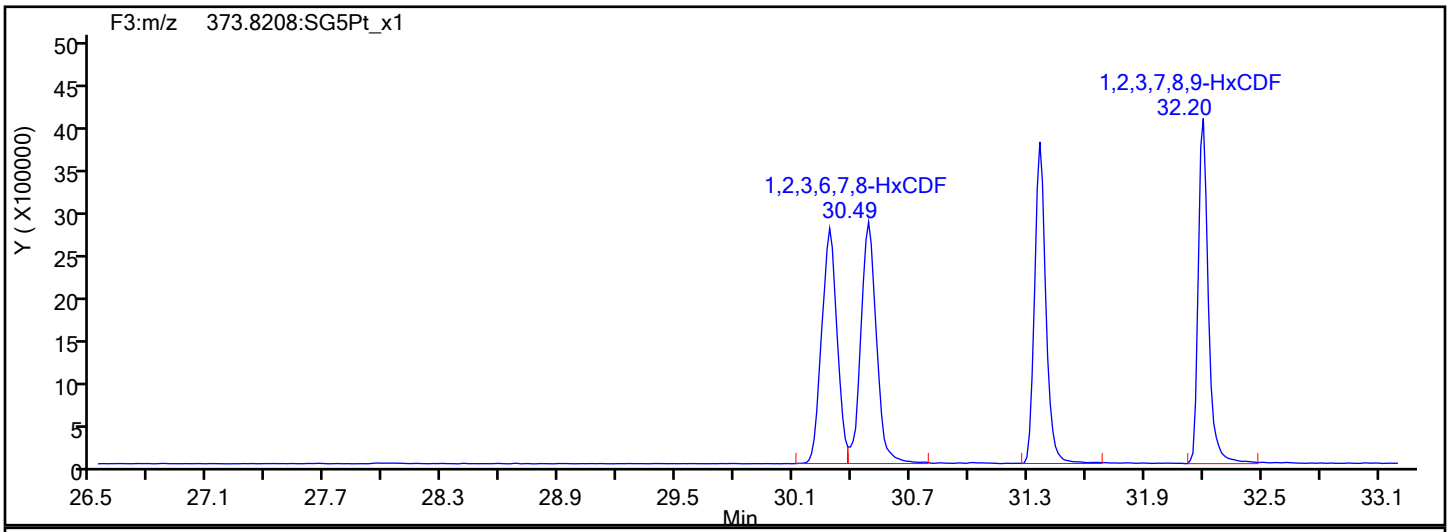

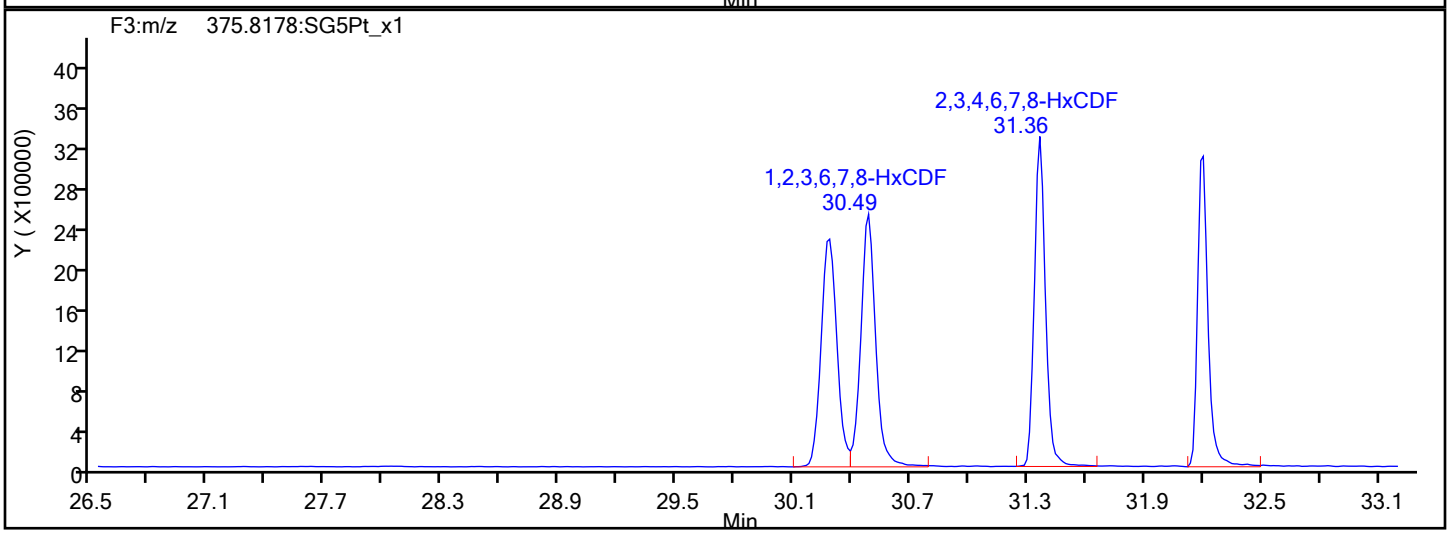

HxCDF Interference Mass

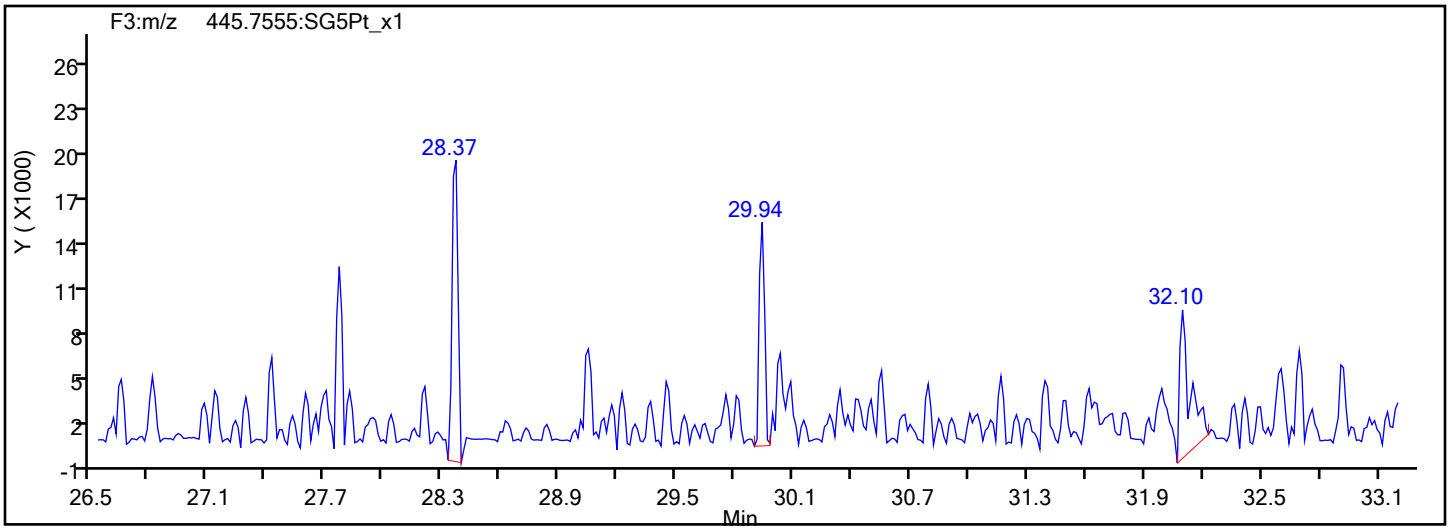

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Eurofins TestAmerica, Sacramento

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HxCDD

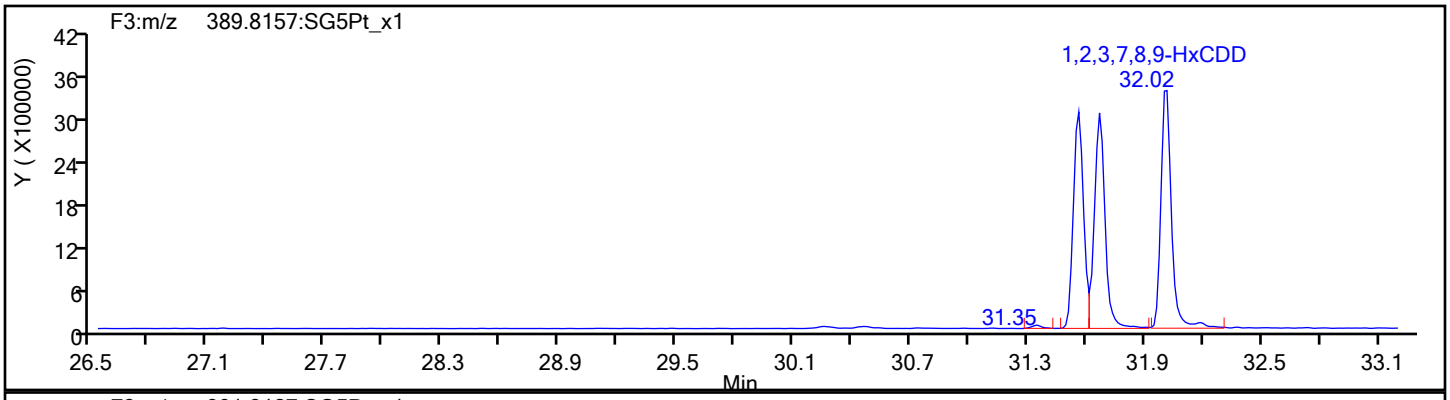

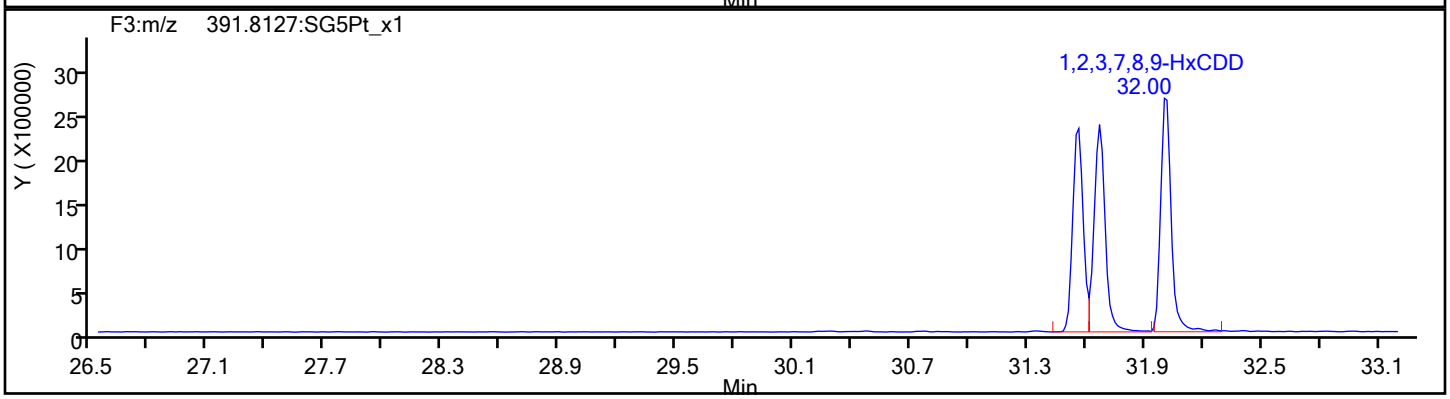

HxCDD Standards

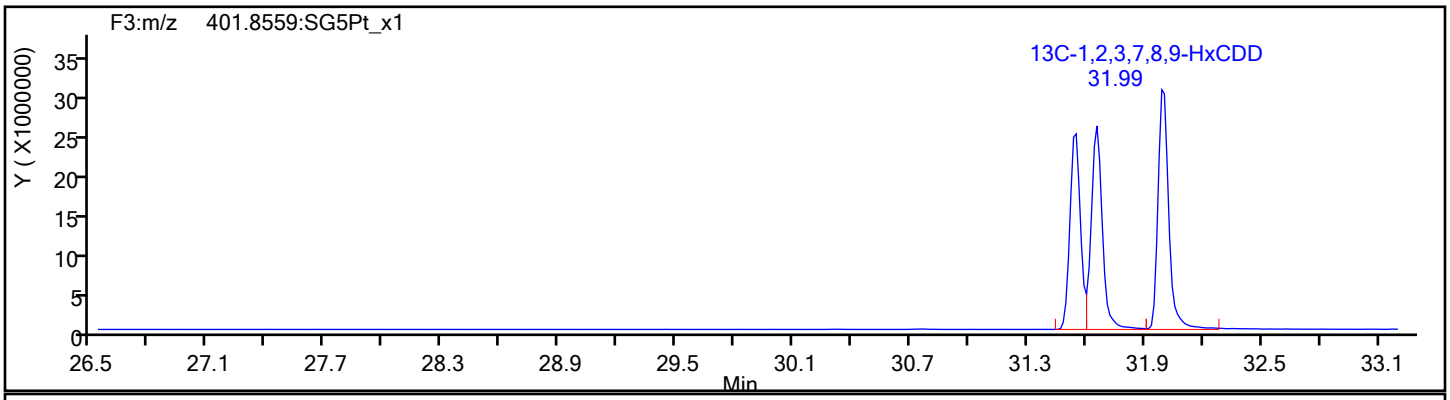

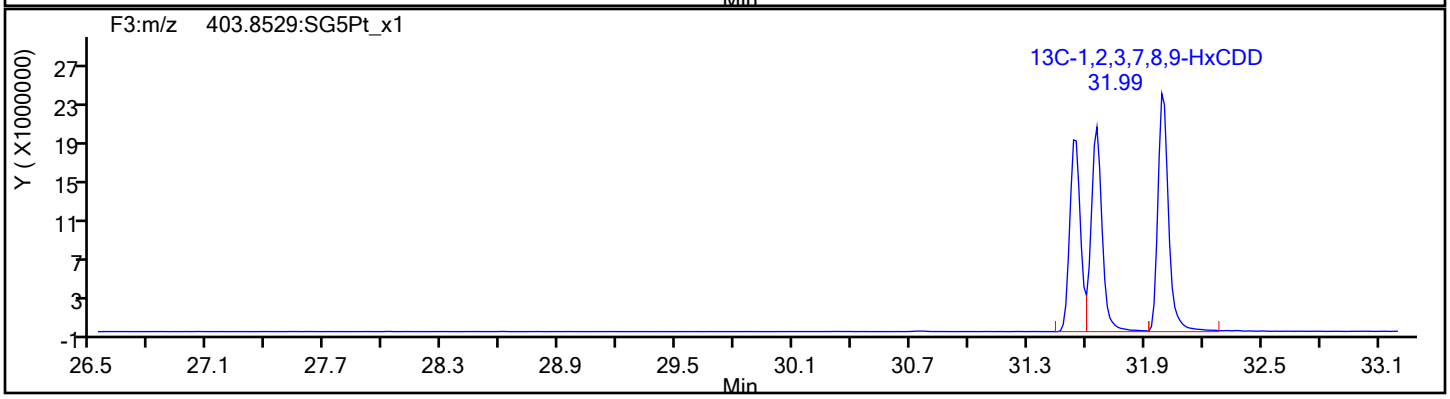

Report Date: 12-Dec-2019 15:54:17 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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HpCDF

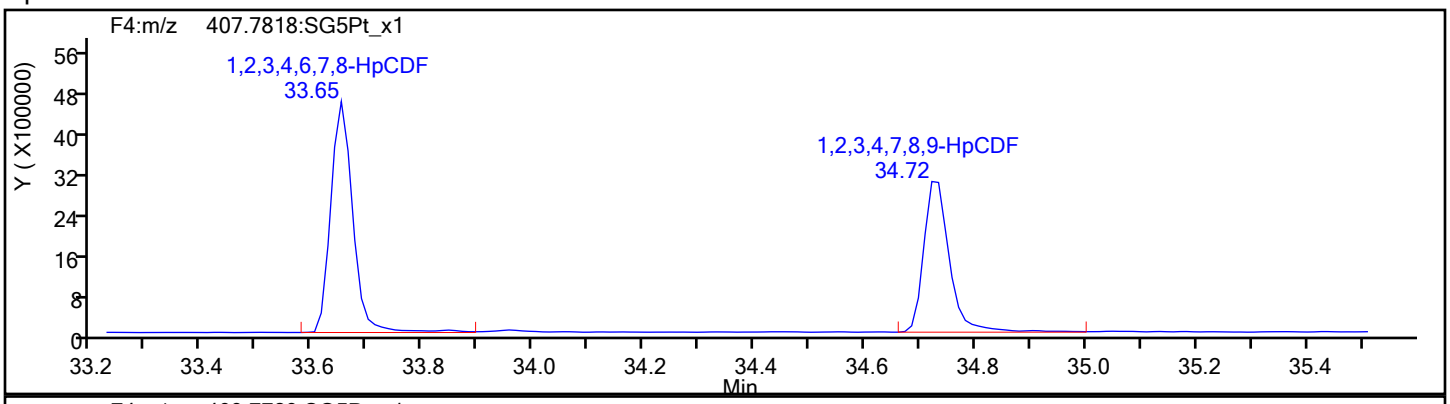

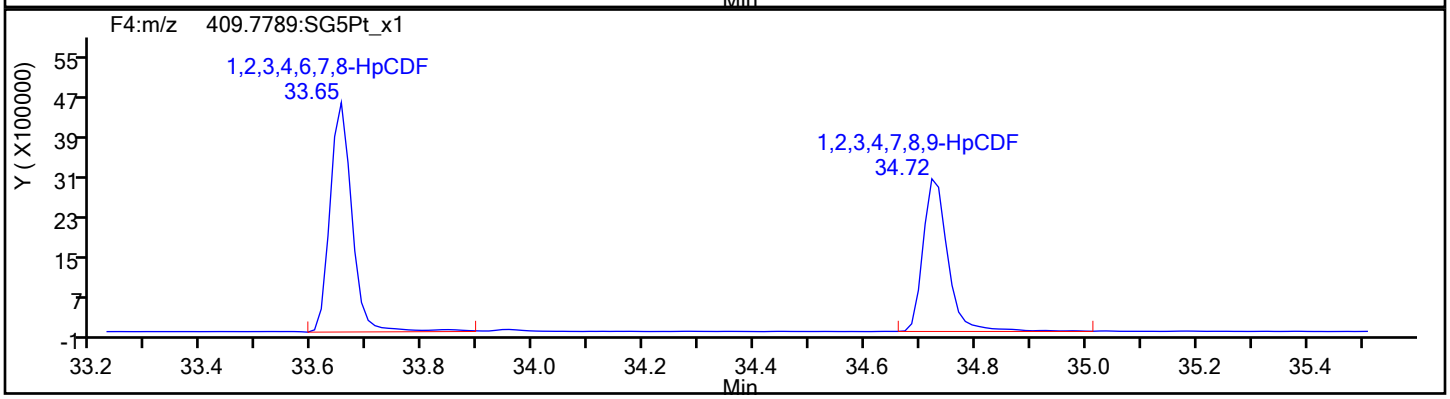

HpCDF Standards

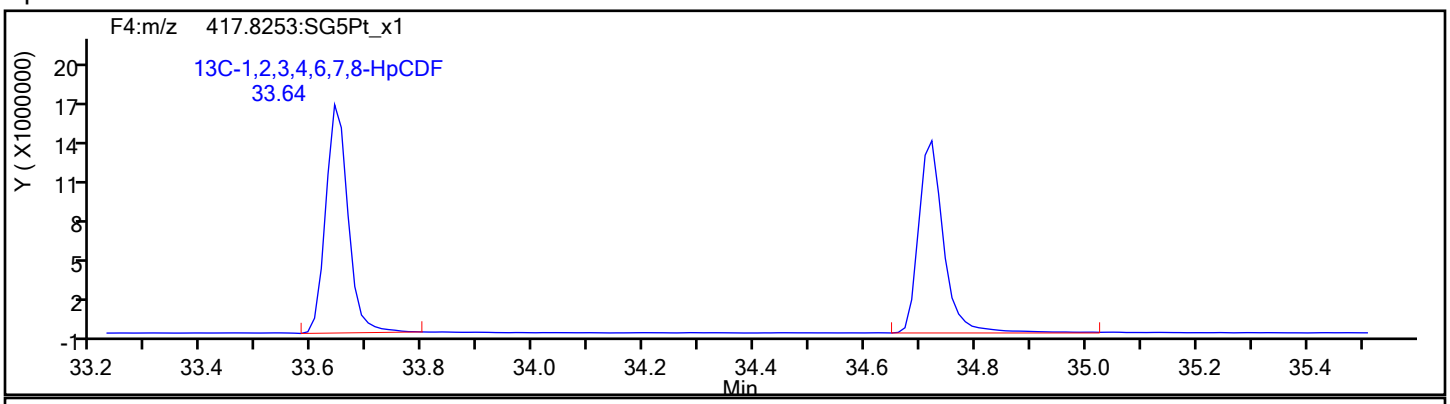

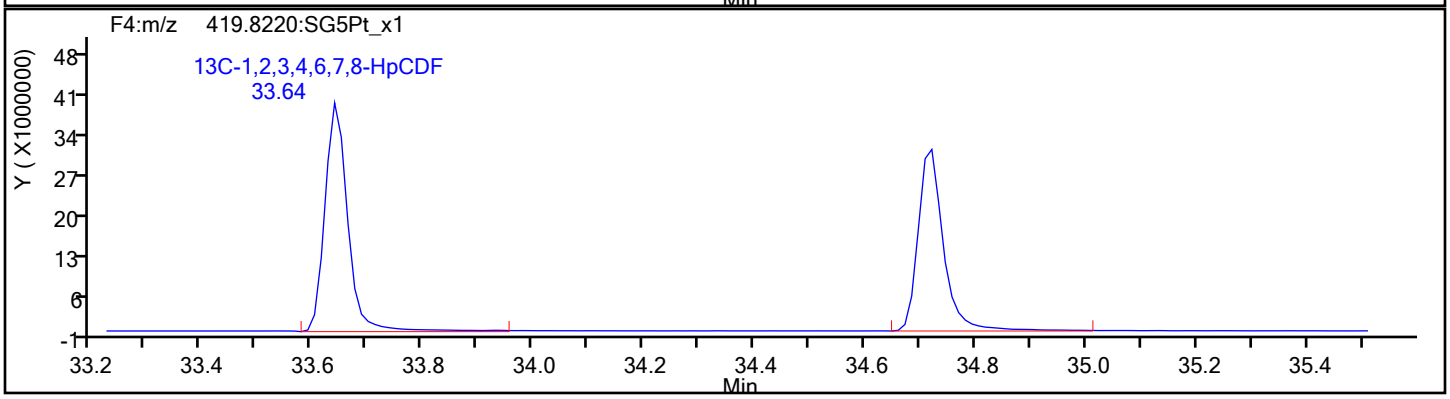

Report Date: 12-Dec-2019 15:54:17 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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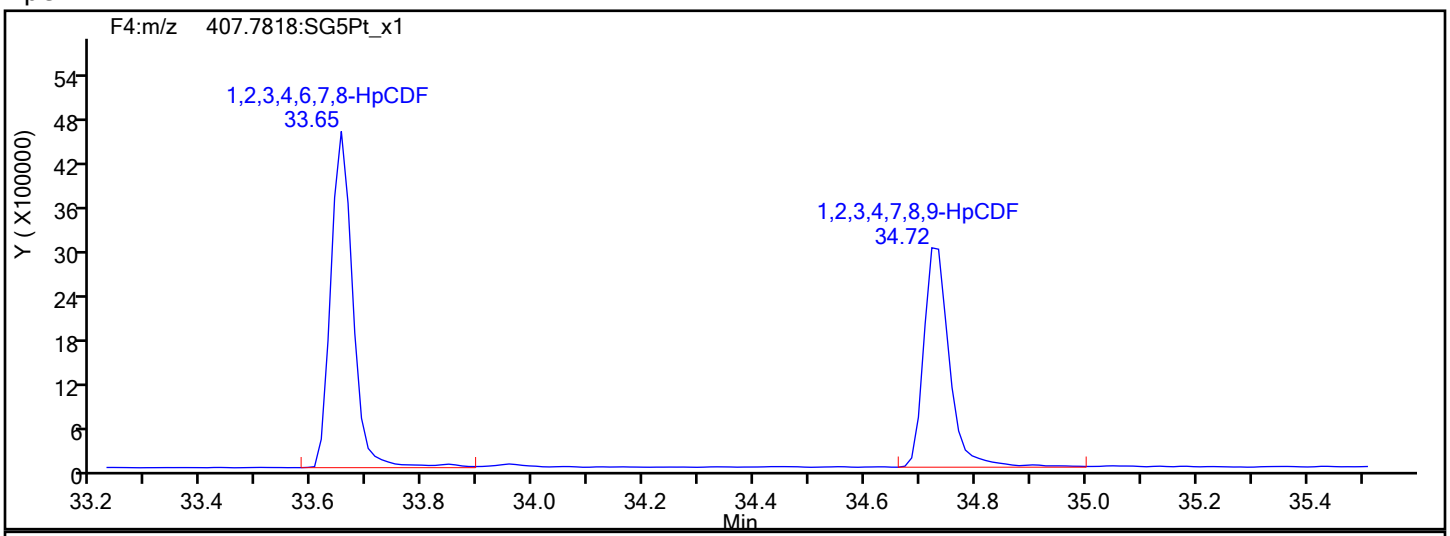

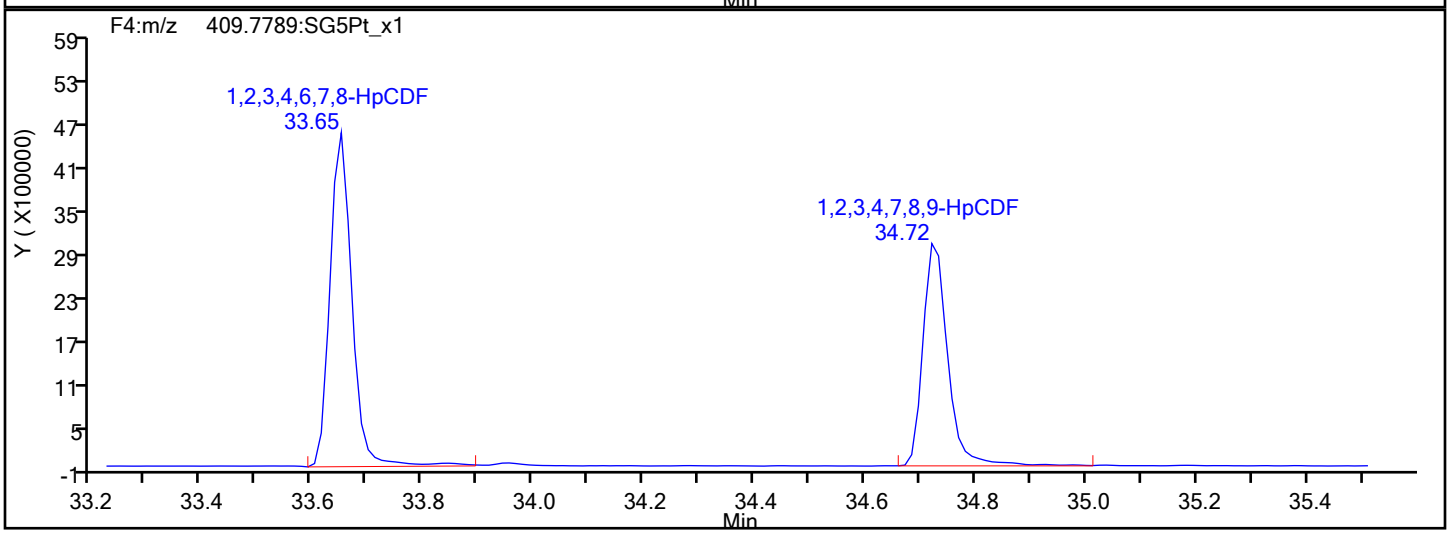

HpCDF Interference Mass

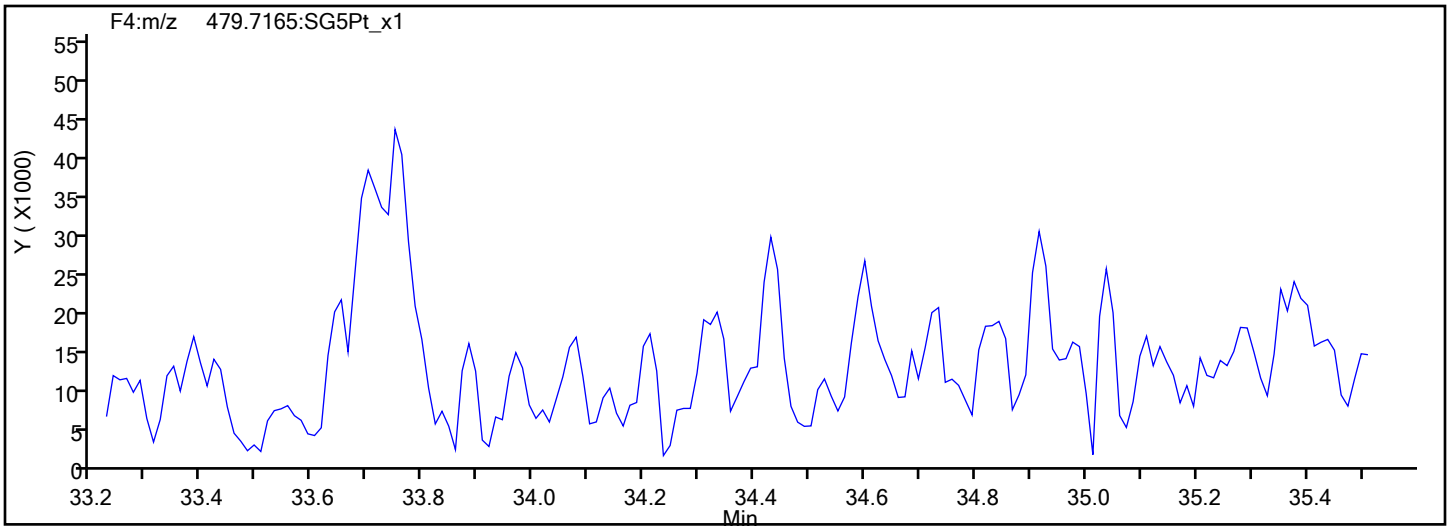

Report Date: 12-Dec-2019 15:54:17 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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HpCDD

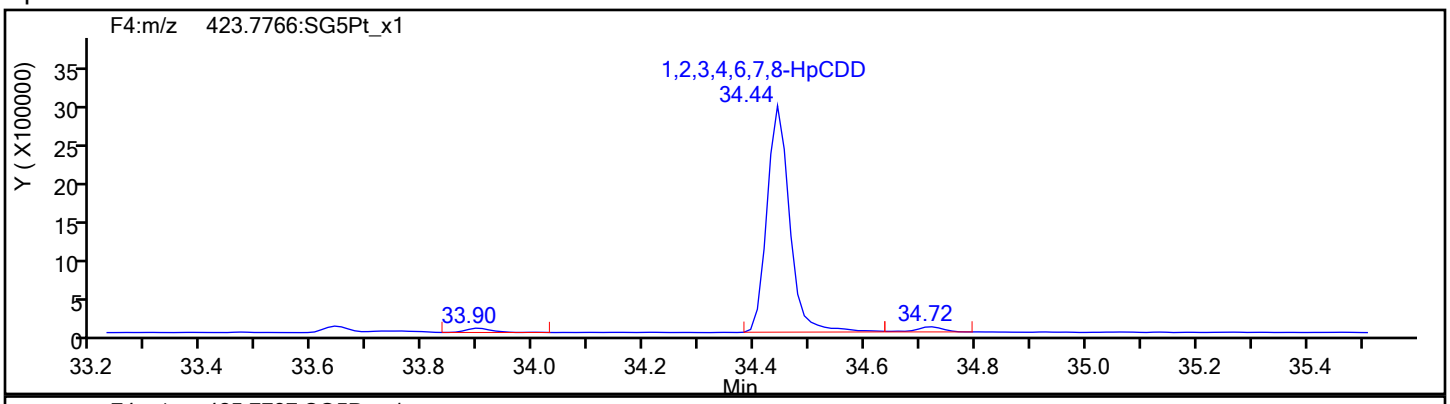

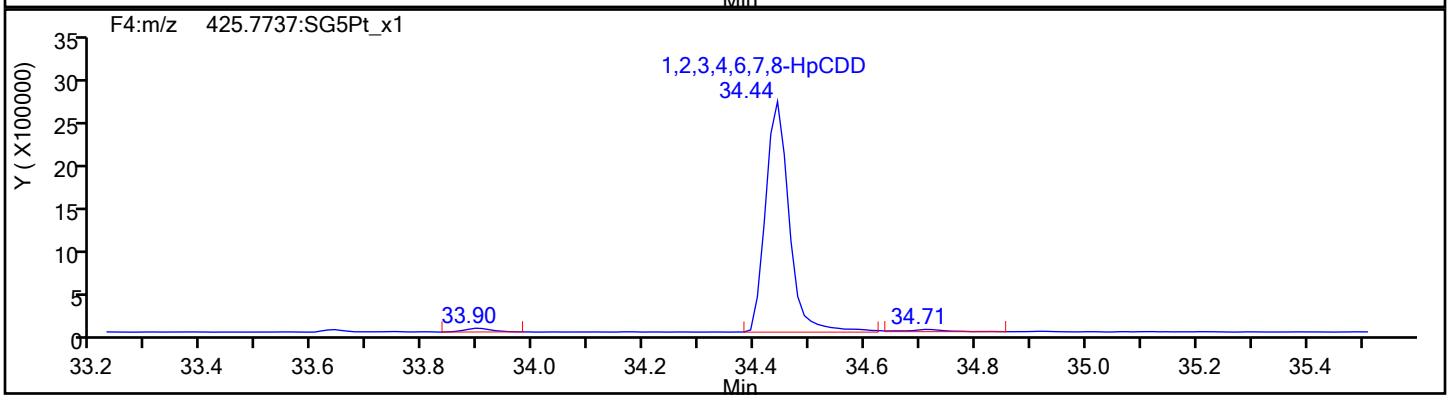

HpCDD Standards

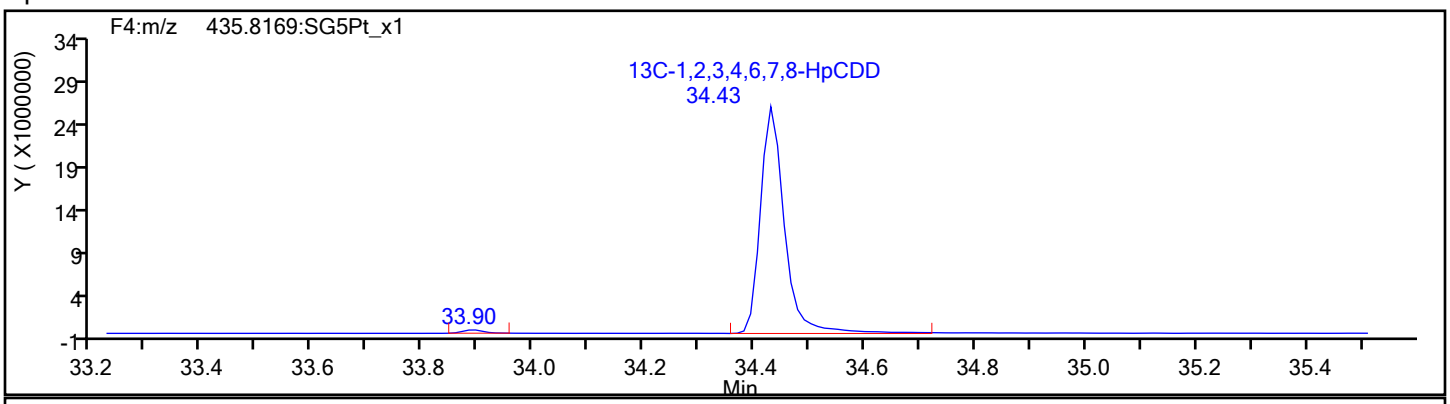

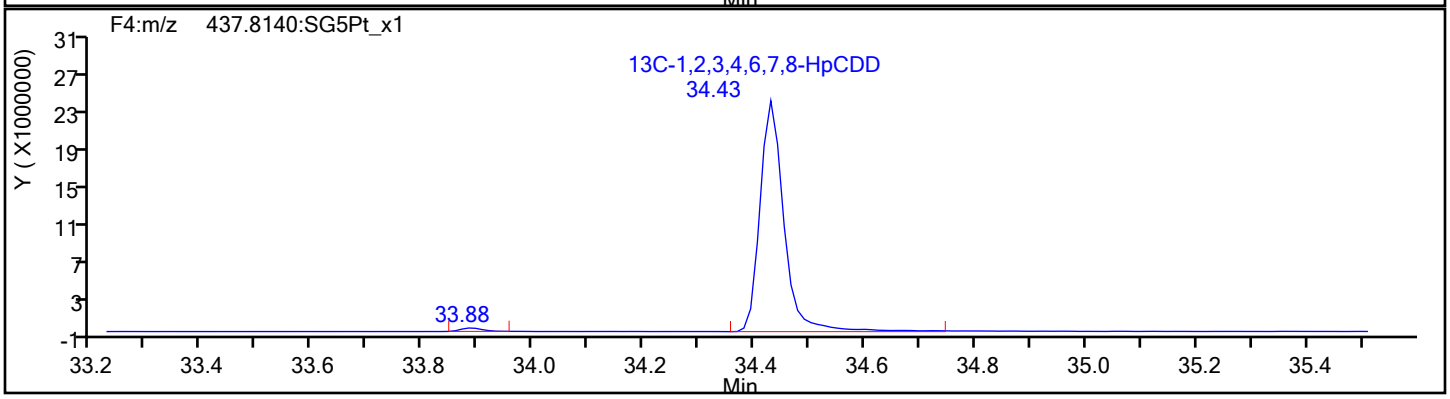

Report Date: 12-Dec-2019 15:54:17 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

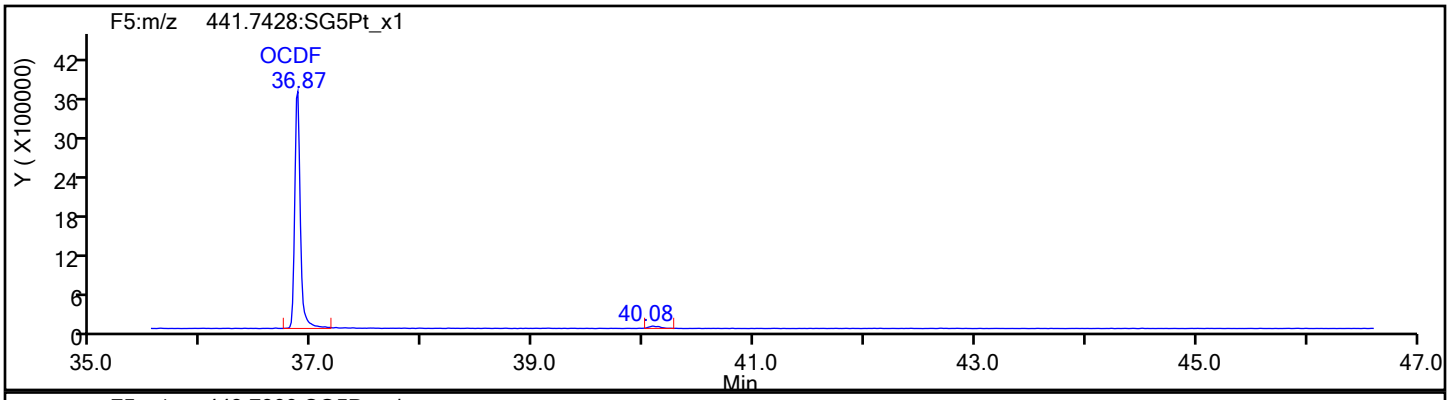

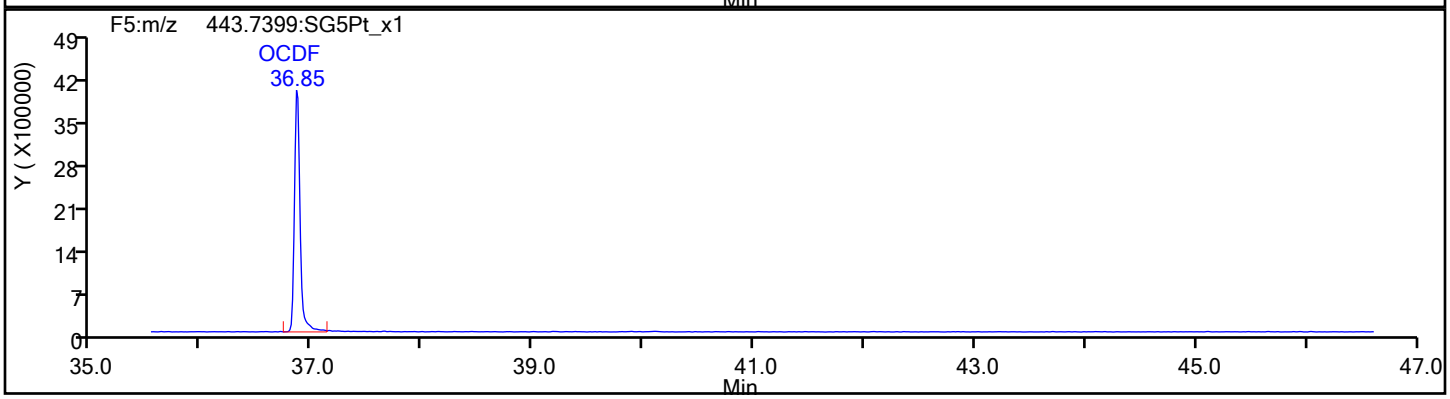

OCDF Standards

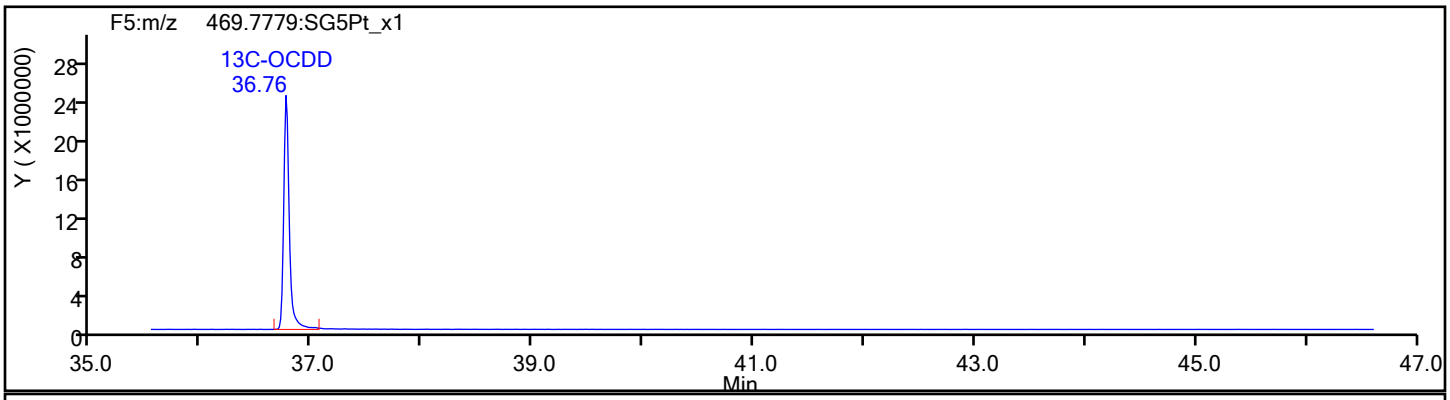

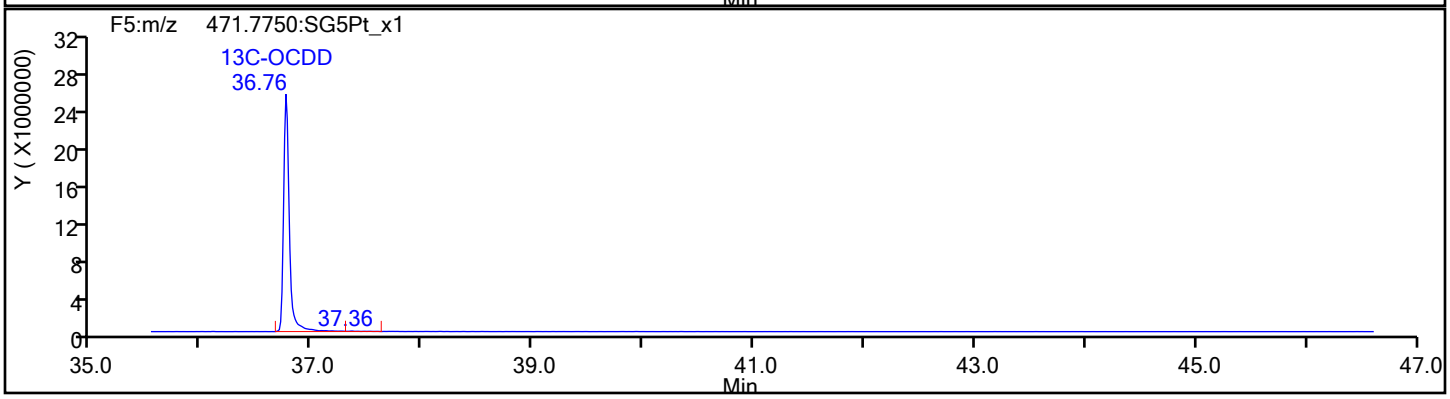

Report Date: 12-Dec-2019 15:54:17 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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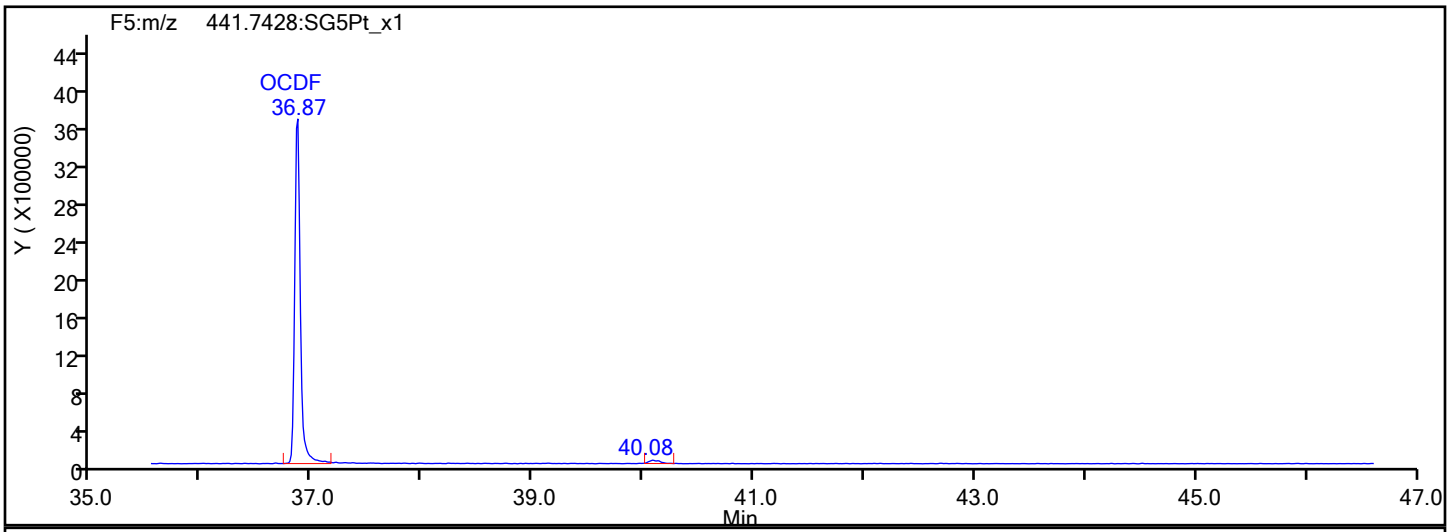

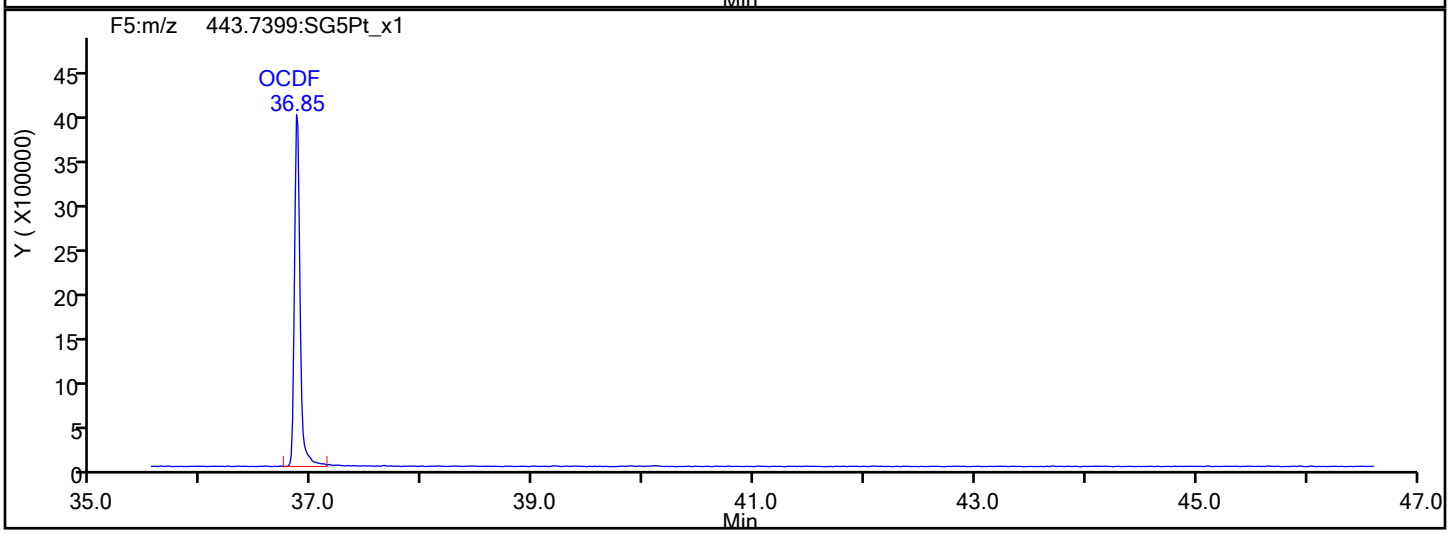

OCDF Interference Mass

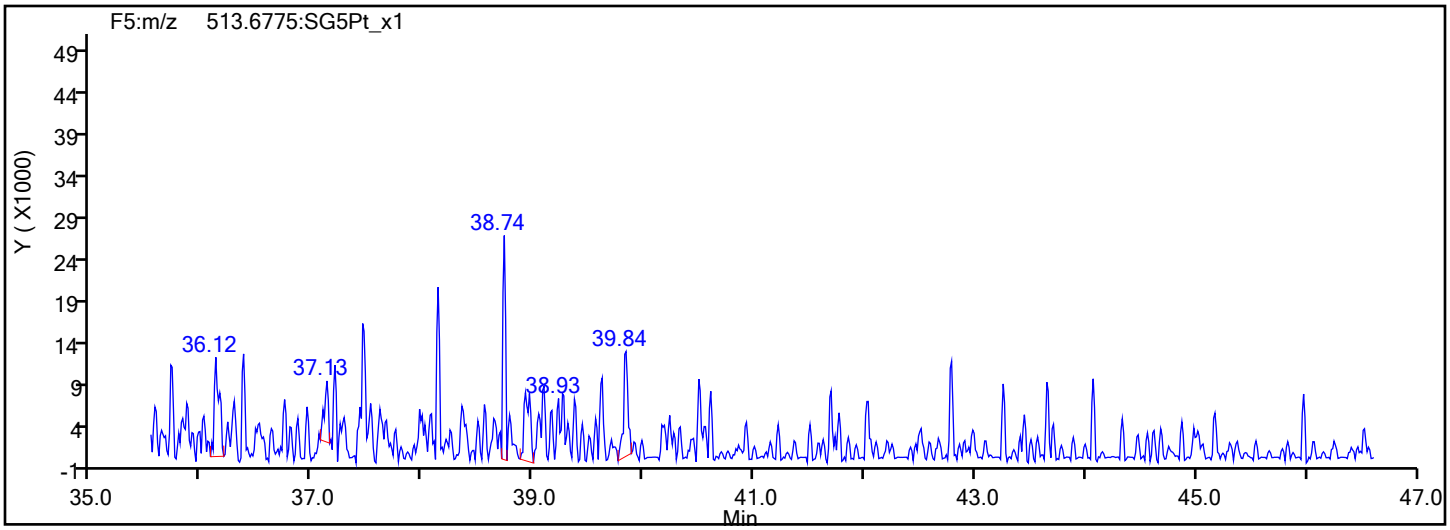

Report Date: 12-Dec-2019 15:54:17 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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OCDD

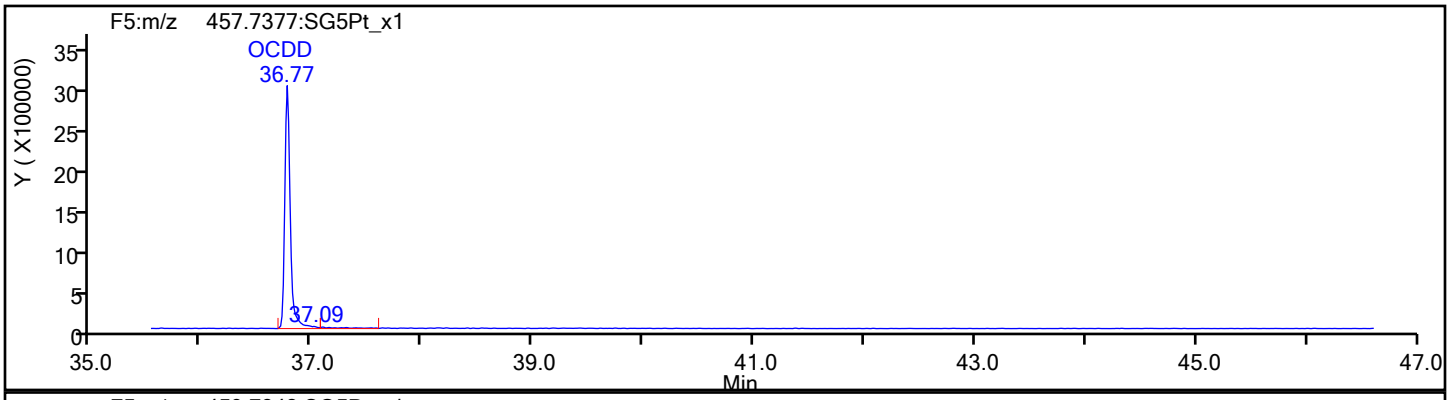

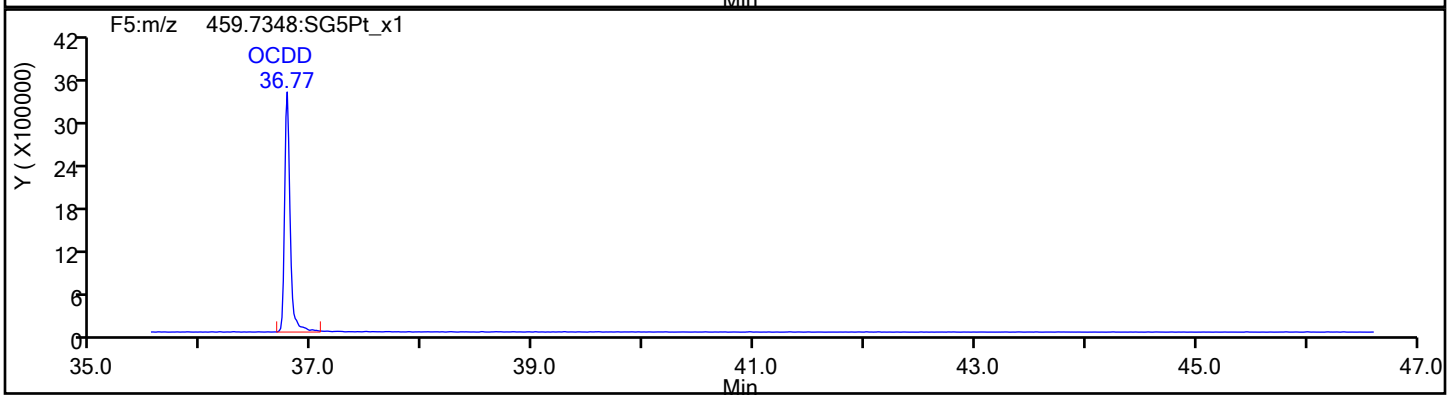

OCDD Standards

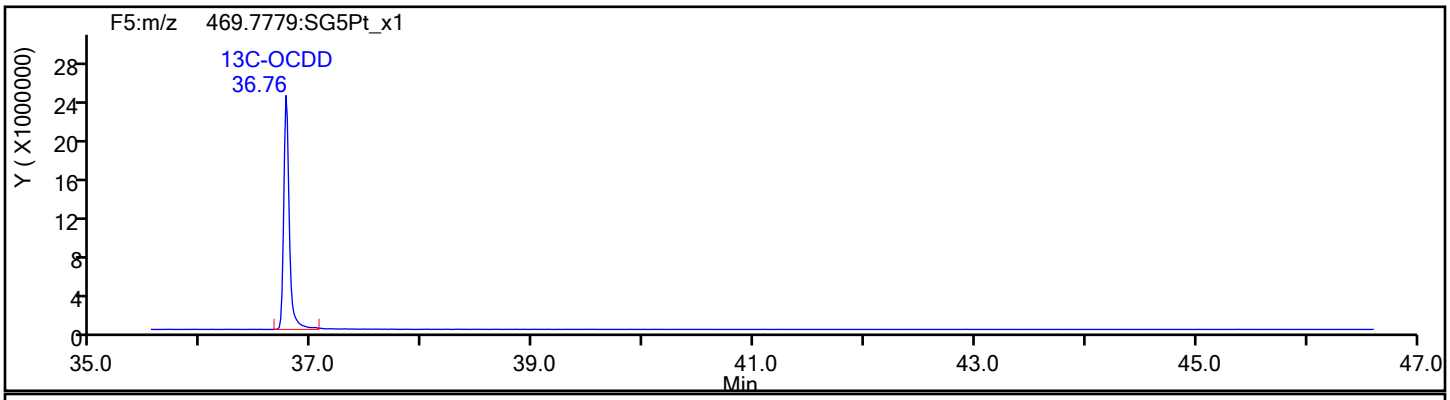

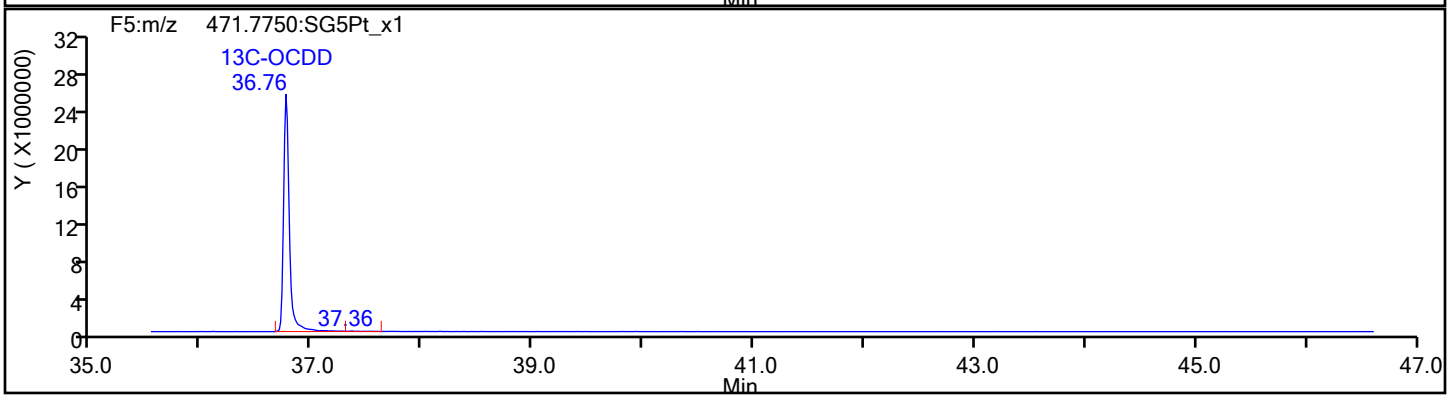

Report Date: 12-Dec-2019 15:54:17 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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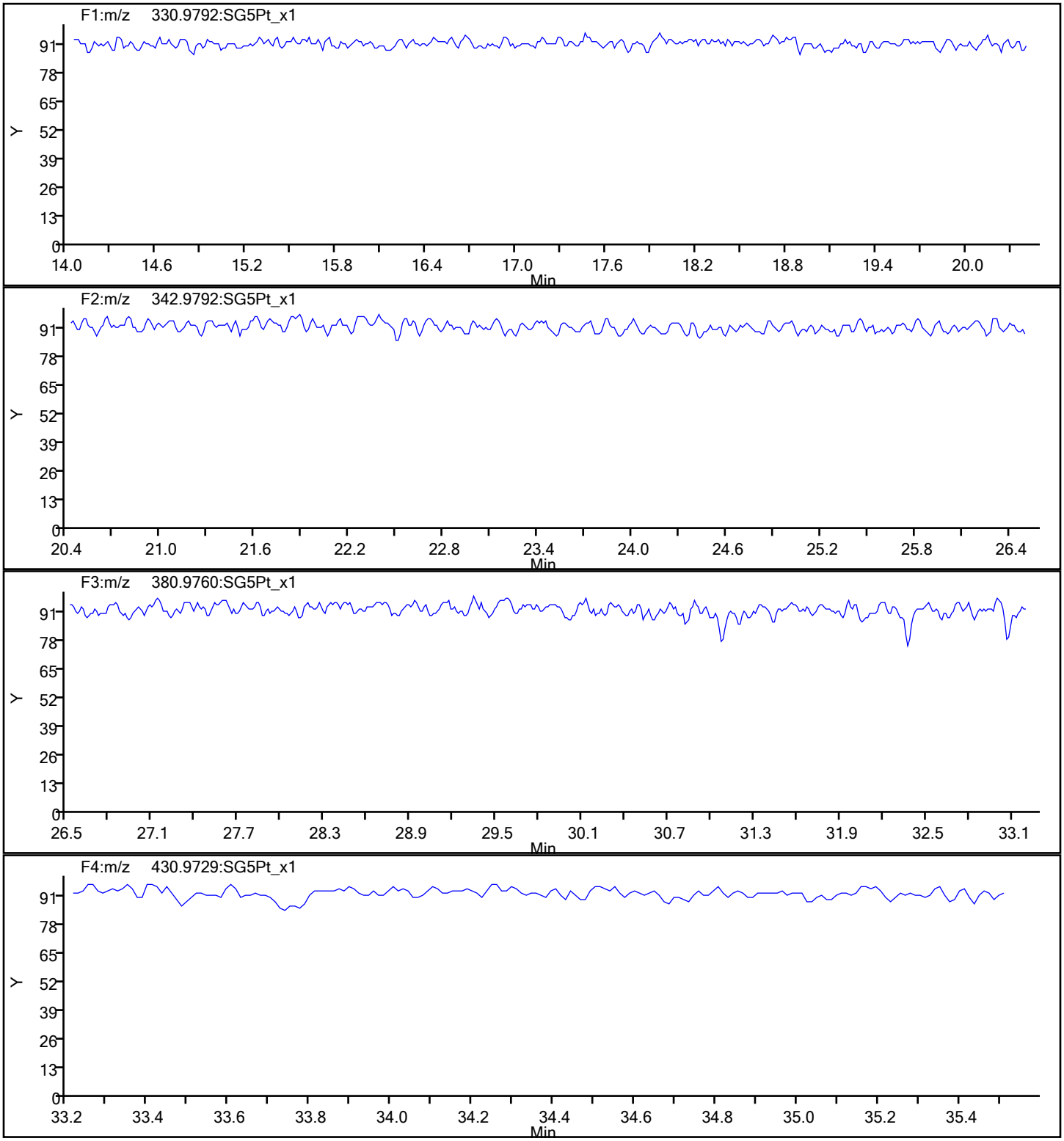

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Eurofins TestAmerica, Sacramento

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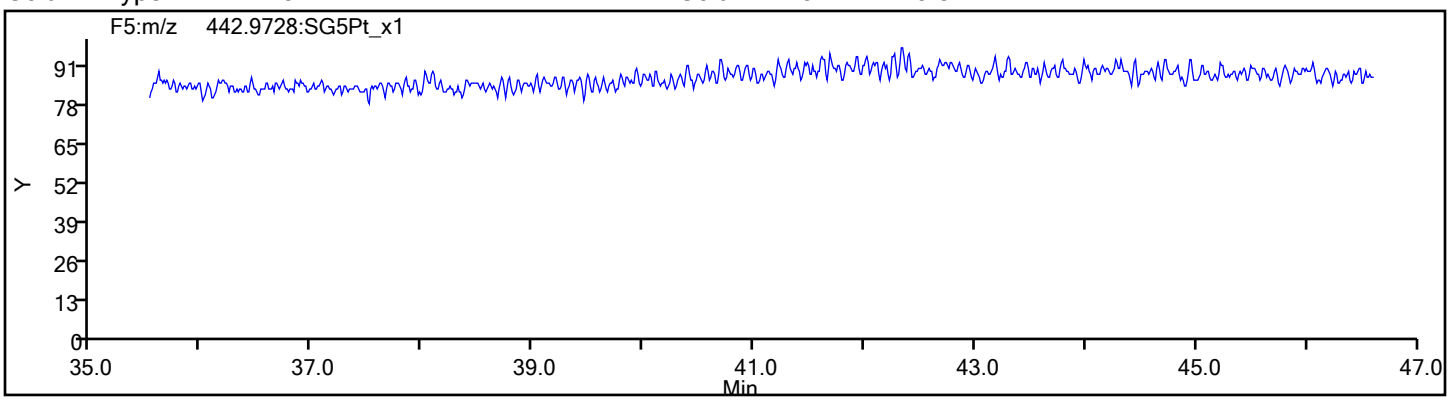

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_5.d
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Client ID: L4
Sample Type: IC Calib Level: 4
Inject. Date: 12-Dec-2019 13:04:00 ALS Bottle#: 2 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 121219B IC HRDXNL4_00086
Misc. Info.: 12DE193D5
Operator ID: KSS Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 12-Dec-2019 15:54:24 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: stephensk Date: 12-Dec-2019 14:41:14

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.672	230108476	0.78	2.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.173	329077583	0.82	1.4157	101.0	101.0	0.1434	0.1434	101	
2,3,7,8-TCDF	17.188	32091889	0.79	0.9502	10.3	10.3	0.0363	0.0363	103	
S Total TCDF					10.3	10.3	0.0363	0.0363		
D 13C-2,3,7,8-TCDD	17.869	222854376	0.80	0.9751	99.3	99.3	0.2013	0.2013	99.32	
2,3,7,8-TCDD	17.884	23580601	0.81	1.0477	10.1	10.1	0.0328	0.0328	101	
$ 37Cl4-2,3,7,8-TCDD	17.884	34952681		1.3480	11.3	11.3	0.0222	0.0222	113	
S Total TCDD					10.1	10.1	0.0328	0.0328		
D 13C-1,2,3,7,8-PeCDF	22.114	269197886	1.59	1.1786	99.3	99.3	0.2470	0.2470	99.26	
1,2,3,7,8-PeCDF	22.141	140673612	1.59	1.0302	50.7	50.7	0.1695	0.1695	101	
D 13C-2,3,4,7,8-PeCDF	23.437	265262610	1.60	1.1308	101.9	101.9	0.2575	0.2575	102	
2,3,4,7,8-PeCDF	23.450	130713898	1.53	1.0410	47.3	47.3	0.1817	0.1817	94.68	
S Total PeCDF					98.1	98.1	0.1756	0.1756		
D 13C-1,2,3,7,8-PeCDD	24.146	167599127	1.60	0.7572	96.2	96.2	0.1540	0.1540	96.19	
1,2,3,7,8-PeCDD	24.173	93429816	1.57	1.0855	51.4	51.4	0.1277	0.1277	103	
S Total PeCDD					51.4	51.4	0.1277	0.1277		
D 13C-1,2,3,4,7,8-HxCDF	30.273	242099177	0.51	1.1043	99.7	99.7	0.2432	0.2432	99.68	
1,2,3,4,7,8-HxCDF	30.299	137734608	1.20	1.1472	49.6	49.6	0.1763	0.1763	99.18	
D 13C-1,2,3,6,7,8-HxCDF	30.486	243784643	0.51	1.1470	96.6	96.6	0.2342	0.2342	96.63	
1,2,3,6,7,8-HxCDF	30.499	142961587	1.23	1.1450	51.2	51.2	0.1730	0.1730	102	
D 13C-2,3,4,6,7,8-HxCDF	31.365	226090409	0.54	1.0769	95.5	95.5	0.2494	0.2494	95.45	
2,3,4,6,7,8-HxCDF	31.378	136271106	1.23	1.1726	51.4	51.4	0.1322	0.1322	103	
D 13C-1,2,3,7,8,9-HxCDF	32.204	213252409	0.51	1.0115	95.9	95.9	0.2656	0.2656	95.85	
1,2,3,7,8,9-HxCDF	32.217	128293546	1.22	1.1717	51.3	51.3	0.1275	0.1275	103	
S Total HxCDF					203.6	203.6	0.1523	0.1523		
* 13C-1,2,3,7,8,9-HxCDD	32.017	219948678	1.29	2.1E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.565	174266733	1.28	0.7962	99.5	99.5	0.2058	0.2058	99.51	
1,2,3,4,7,8-HxCDD	31.578	93254778	1.29	1.0934	48.9	48.9	0.1071	0.1071	97.88	
D 13C-1,2,3,6,7,8-HxCDD	31.671	183758146	1.29	0.8720	95.8	95.8	0.1879	0.1879	95.81	

Report Date: 12-Dec-2019 15:54:25 Chrom Revision: 2.3 02-Dec-2019 08:23:04
Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_5.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.684	98614866	1.28	1.0429	51.5	51.5	0.1127	0.1127	103	
1,2,3,7,8,9-HxCDD	32.030	110159416	1.25	1.2073	51.0	51.0	0.0972	0.0972	102	
S Total HxCDD					151.4	151.4	0.1056	0.1056		
D 13C-1,2,3,4,6,7,8-HpCDF	33.652	159712904	0.44	0.7577	95.8	95.8	1.031	1.031	95.84	
1,2,3,4,6,7,8-HpCDF	33.664	114883210	1.05	1.4804	48.6	48.6	0.4672	0.4672	97.18	
D 13C-1,2,3,4,7,8,9-HpCDF	34.734	145840544	0.44	0.6941	95.5	95.5	1.125	1.125	95.52	
1,2,3,4,7,8,9-HpCDF	34.746	92482689	1.14	1.2933	49.0	49.0	0.6351	0.6351	98.07	
S Total HpCDF					97.6	97.6	0.5512	0.5512		
D 13C-1,2,3,4,6,7,8-HpCDD	34.442	146156878	1.07	0.7058	94.1	94.1	0.6652	0.6652	94.15	
1,2,3,4,6,7,8-HpCDD	34.454	77704317	1.06	1.0535	50.5	50.5	0.3333	0.3333	101	
S Total HpCDD					50.5	50.5	0.3333	0.3333		
D 13C-OCDD	36.770	191409180	0.93	0.4603	189.1	189.1	0.1713	0.1713	94.54	
OCDF	36.877	127683858	0.91	1.3945	95.7	95.7	0.0845	0.0845	95.67	
OCDD	36.782	106623239	0.90	1.1362	98.1	98.1	0.0768	0.0768	98.06	

Reagents:

HRDXNL4_00086 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_5.d
Lims ID: IC 4
Client ID: L4
Sample Type: IC Calib Level: 4
Inject. Date: 12-Dec-2019 13:04:00 ALS Bottle#: 2 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 121219B IC HRDXNL4_00086
Misc. Info.: 12DE193D5
Operator ID: KSS Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 12-Dec-2019 15:54:24 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: stephensk Date: 12-Dec-2019 14:41:14

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.672	17.666	0		100646493	26054224	25756	64390	1012		
333.9339	17.672	17.666	0		129461983	33352164	20891	52227	1596	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.173	17.164	1	0.972	148097005	37302247	26680	66700	1398		
317.9389	17.173	17.164	1	0.972	180980578	44947883	21559	53897	2085	0.82(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.188	17.176	1	1.001	14195019	3703043	5026	12565	737		
305.8987	17.188	17.176	1	1.001	17896870	4565831	6334	15835	721	0.79(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.869	17.854	1	1.011	99038720	23452241	25756	64390	911		
333.9339	17.869	17.854	1	1.011	123815656	28590510	20891	52227	1369	0.80(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.884	17.872	1	1.001	10569215	2553534	4609	11522	554		
321.8936	17.884	17.872	1	1.001	13011386	3080359	2541	6352	1212	0.81(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.884	17.872	1	1.012	34952681	8297944	7115	17787	1166		
13C-1,2,3,7,8-PeCDF											
351.9000	22.114	22.103	1	1.251	165287075	30019770	40905	102262	734		
353.8970	22.114	22.103	1	1.251	103910811	18863812	28281	70702	667	1.59(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.141	22.130	1	1.001	86311912	15620236	18085	45212	864		
341.8567	22.127	22.130	0	1.001	54361700	9970298	16064	40160	621	1.59(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	23.437	23.426	1	1.326	163093024	27685229	40905	102262	677		
353.8970	23.437	23.426	1	1.326	102169586	17441677	28281	70702	617	1.60(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.450	23.450	0	1.001	78965684	12640006	18085	45212	699		
341.8567	23.464	23.450	1	1.001	51748214	8335290	16064	40160	519	1.53(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	24.146	24.137	0	1.366	103252705	16542346	16807	42017	984		
369.8919	24.146	24.137	0	1.366	64346422	10277195	10896	27240	943	1.60(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.173	24.162	1	1.001	57119994	9304403	9790	24475	950		
357.8516	24.173	24.162	1	1.001	36309822	5917276	5080	12700	1165	1.57(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.273	30.270	0	0.946	82296238	14406879	22532	56330	639		
385.8610	30.273	30.270	0	0.946	159802939	28643839	41418	103545	692	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.299	30.300	0	1.001	75239346	13462429	18834	47085	715		
375.8178	30.299	30.300	0	1.001	62495262	11173585	16002	40005	698	1.20(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.486	30.473	1	0.952	82485356	14921046	22532	56330	662		
385.8610	30.486	30.473	1	0.952	161299287	29038923	41418	103545	701	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.499	30.497	0	1.000	78848595	14484100	18834	47085	769		
375.8178	30.499	30.497	0	1.000	64112992	11951221	16002	40005	747	1.23(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.365	31.357	0	0.980	78892516	19703531	22532	56330	874		
385.8610	31.365	31.357	0	0.980	147197893	36465715	41418	103545	880	0.54(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.378	31.375	0	1.000	75096482	19315307	18834	47085	1026		
375.8178	31.378	31.375	0	1.000	61174624	15153830	16002	40005	947	1.23(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.204	32.196	0	1.006	71691344	19663388	22532	56330	873		
385.8610	32.204	32.196	0	1.006	141561065	38629634	41418	103545	933	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.217	32.209	0	1.000	70626531	19376007	18834	47085	1029		
375.8178	32.217	32.209	0	1.000	57667015	15830229	16002	40005	989	1.22(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.017	32.004	1		123883759	33584704	21780	54450	1542		
403.8529	32.017	32.004	1		96064919	25935284	17229	43072	1505	1.29(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.565	31.557	0	0.986	97992334	26849414	21780	54450	1233		
403.8529	31.565	31.557	0	0.986	76274399	20962976	17229	43072	1217	1.28(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.578	31.570	0	1.000	52536003	14668722	12137	30342	1209		
391.8127	31.578	31.570	0	1.000	40718775	11337787	10249	25622	1106	1.29(1.05-1.43)	

Report Date: 12-Dec-2019 15:54:25 Chrom Revision: 2.3 02-Dec-2019 08:23:04
Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_5.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.671	31.666	0	0.989	103381913	26694519	21780	54450	1226		
403.8529	31.671	31.666	0	0.989	80376233	20910507	17229	43072	1214	1.29(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.684	31.682	0	1.000	55419441	14148502	12137	30342	1166		
391.8127	31.684	31.682	0	1.000	43195425	11159771	10249	25622	1089	1.28(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.030	32.023	0	1.015	61189359	16622466	12137	30342	1370		
391.8127	32.030	32.023	0	1.015	48970057	13234369	10249	25622	1291	1.25(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.652	33.647	0	1.051	48689452	17719541	49975	124937	355		
419.8220	33.652	33.647	0	1.051	111023452	38611583	135949	339872	284	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.664	33.659	0	1.000	58935767	21942144	74726	186815	294		
409.7789	33.664	33.659	0	1.000	55947443	21112986	81100	202750	260	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.734	34.726	0	1.085	44614173	14611319	49975	124937	292		
419.8220	34.734	34.726	0	1.085	101226371	32813726	135949	339872	241	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.746	34.736	1	1.000	49189461	15452037	74726	186815	207		
409.7789	34.746	34.736	1	1.000	43293228	14014895	81100	202750	173	1.14(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.442	34.437	0	1.076	75641640	25399742	35620	89050	713		
437.8140	34.442	34.437	0	1.076	70515238	23743066	76163	190407	312	1.07(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.454	34.449	0	1.000	40042499	13531877	45519	113797	297		
425.7737	34.454	34.449	0	1.000	37661818	12776415	23509	58772	543	1.06(0.88-1.20)	
13C-OCDD											
469.7779	36.770	36.767	0	1.148	92170386	25778405	10027	25067	2571		
471.7750	36.770	36.767	0	1.148	99238794	27541934	8740	21850	3151	0.93(0.76-1.02)	
OCDF											
441.7428	36.877	36.870	0	1.003	60846957	17590255	5390	13475	3263		
443.7399	36.866	36.870	0	1.003	66836901	18992346	7175	17937	2647	0.91(0.76-1.02)	
OCDD											
457.7377	36.782	36.779	0	1.000	50544978	14413363	4729	11822	3048		
459.7348	36.782	36.779	0	1.000	56078261	16151394	4573	11432	3532	0.90(0.76-1.02)	

Reagents:

HRDXNL4_00086 Amount Added: 2.00 Units: uL

Report Date: 12-Dec-2019 15:54:25 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_5.d		
Injection Date:	12-Dec-2019 13:04:00	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L4		
Worklist#:	345037	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

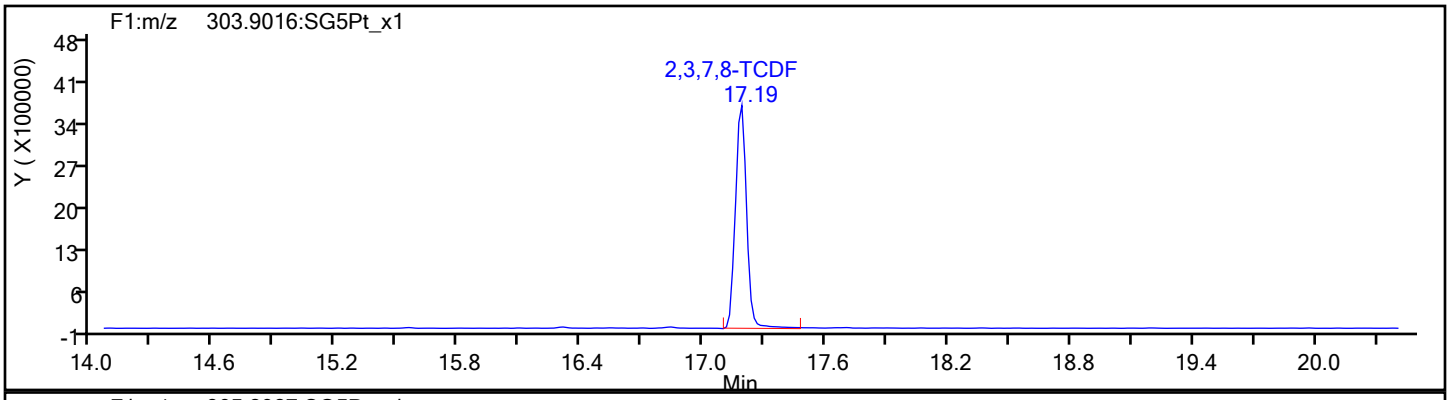

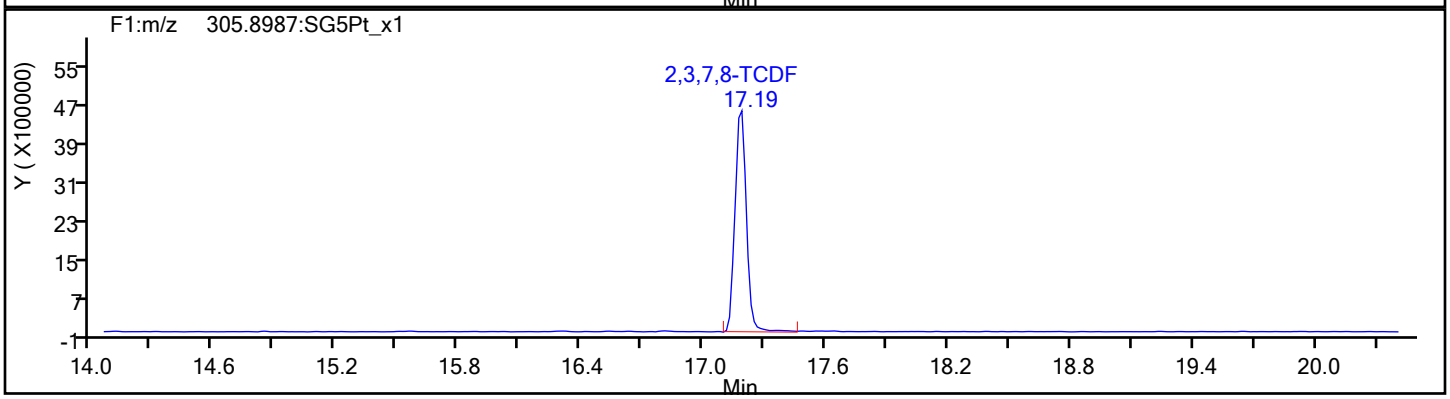

TCDF Standards

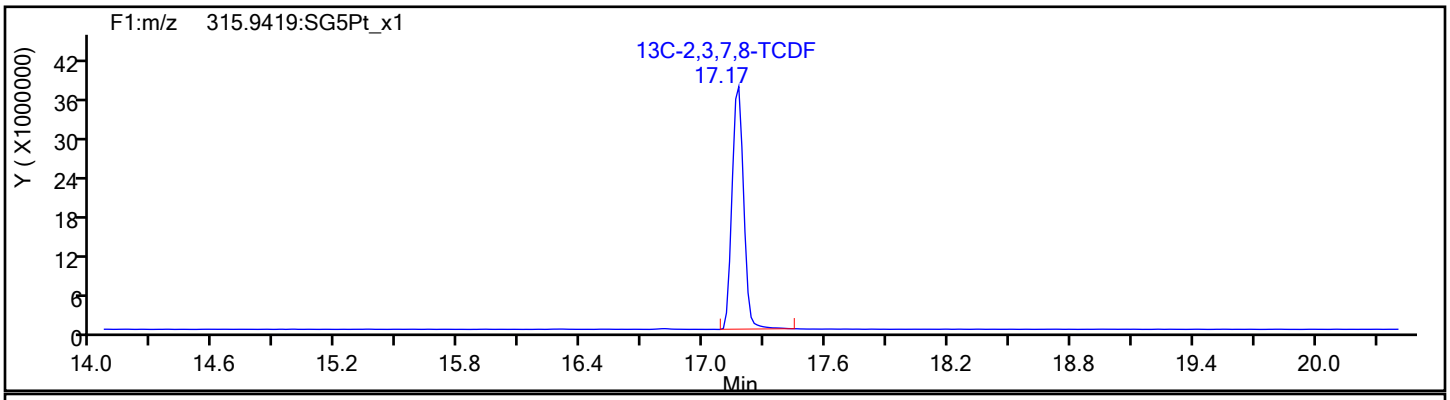

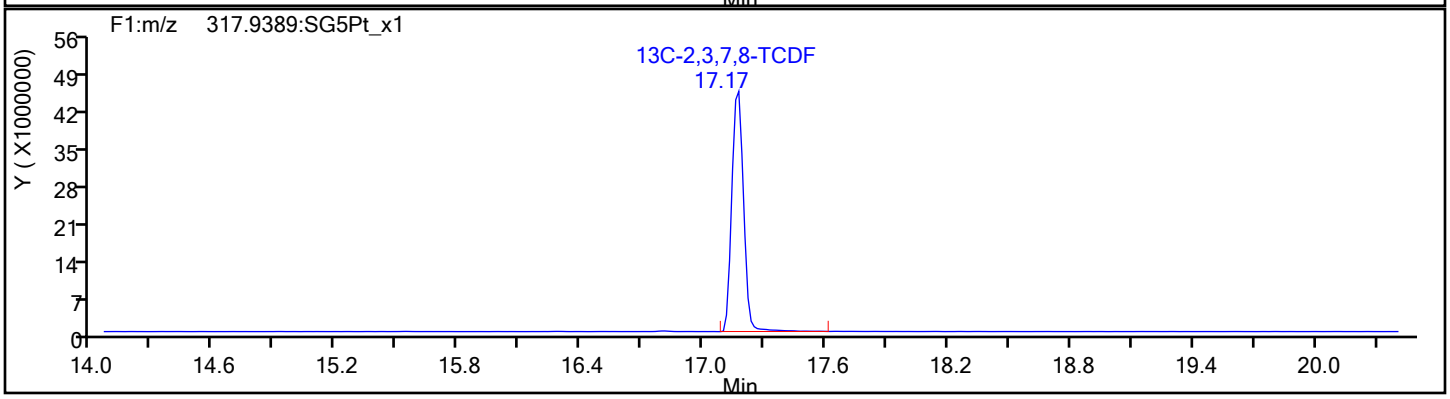

Report Date: 12-Dec-2019 15:54:25 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_5.d		
Injection Date:	12-Dec-2019 13:04:00	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L4		
Worklist#:	345037	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

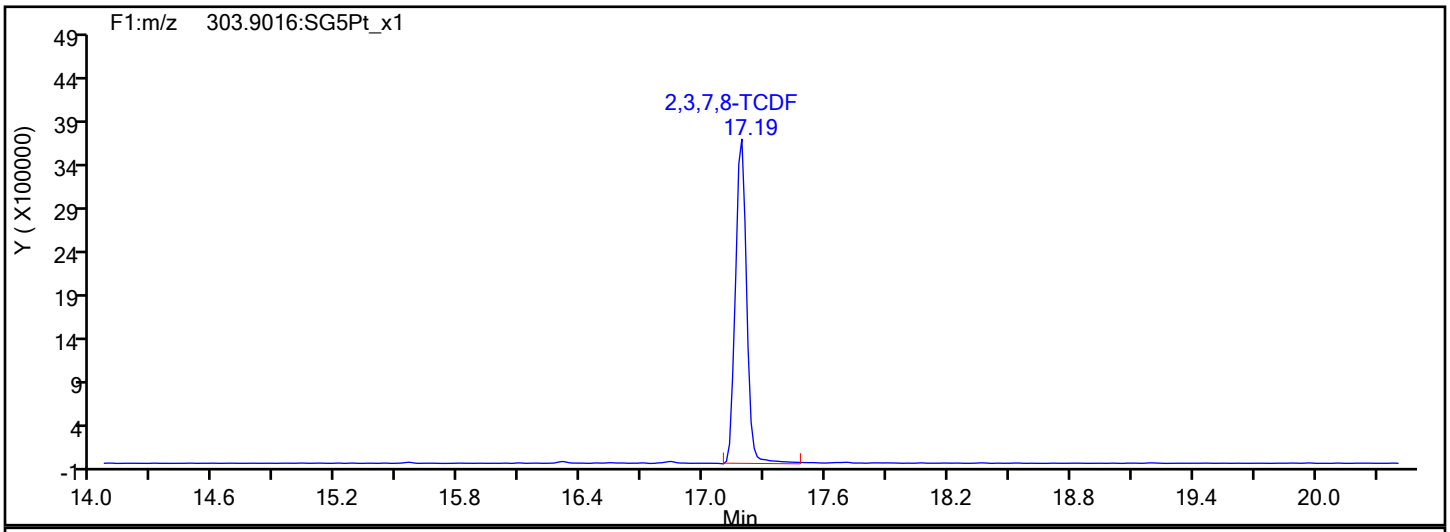

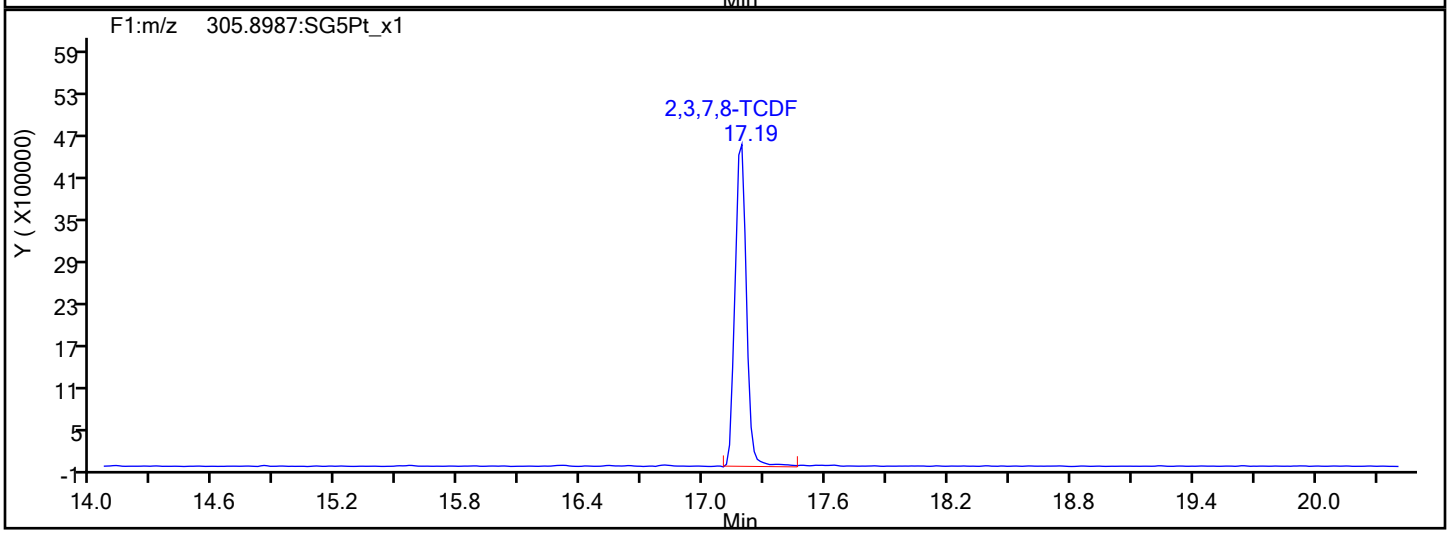

TCDF Interference Mass

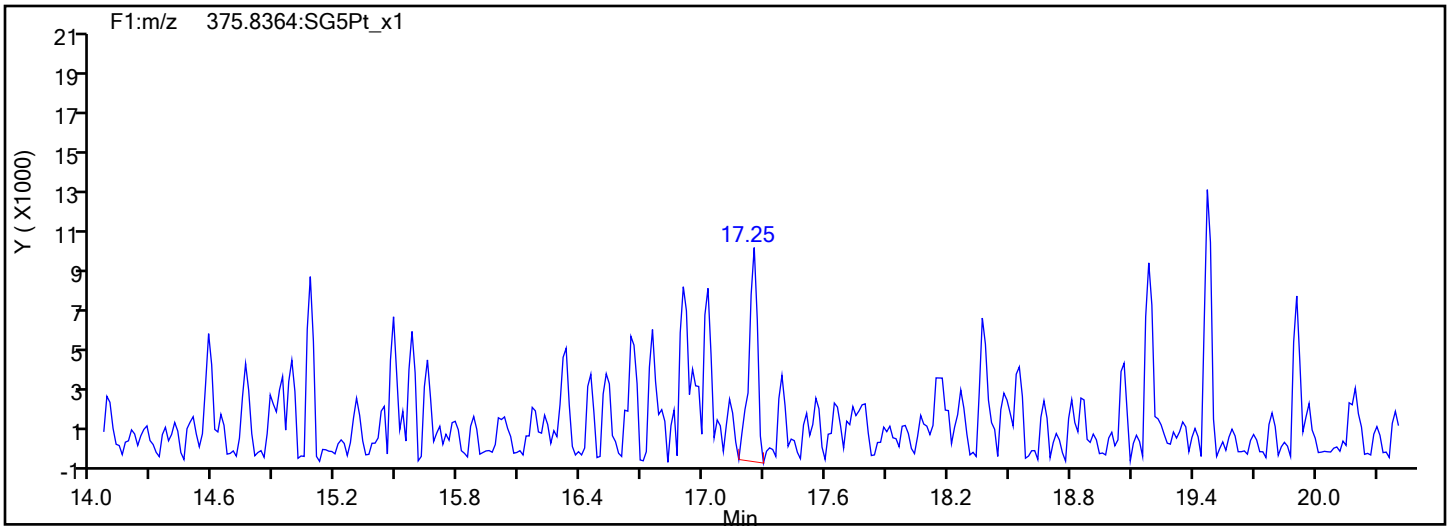

Report Date: 12-Dec-2019 15:54:25 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L4		
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

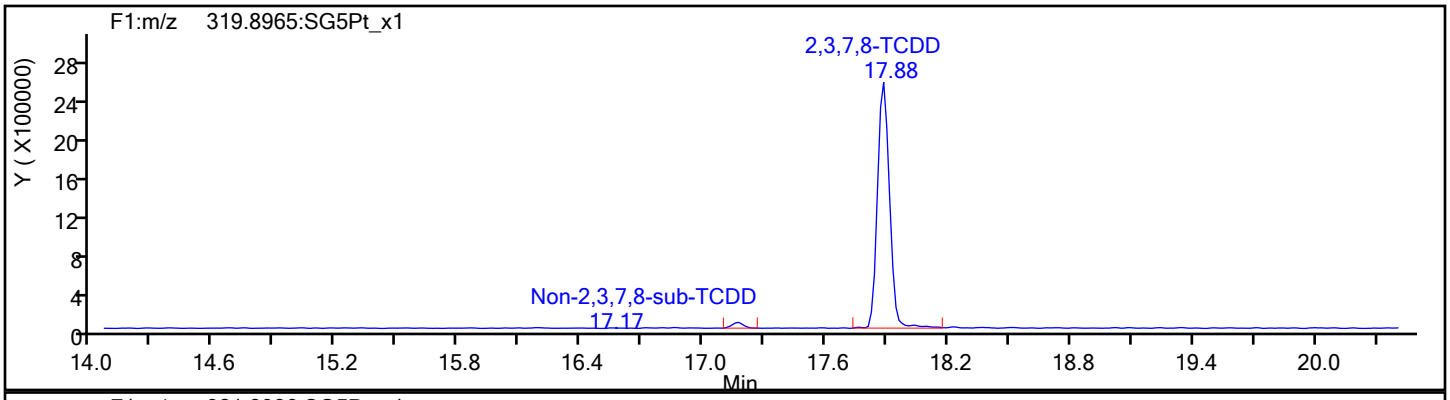

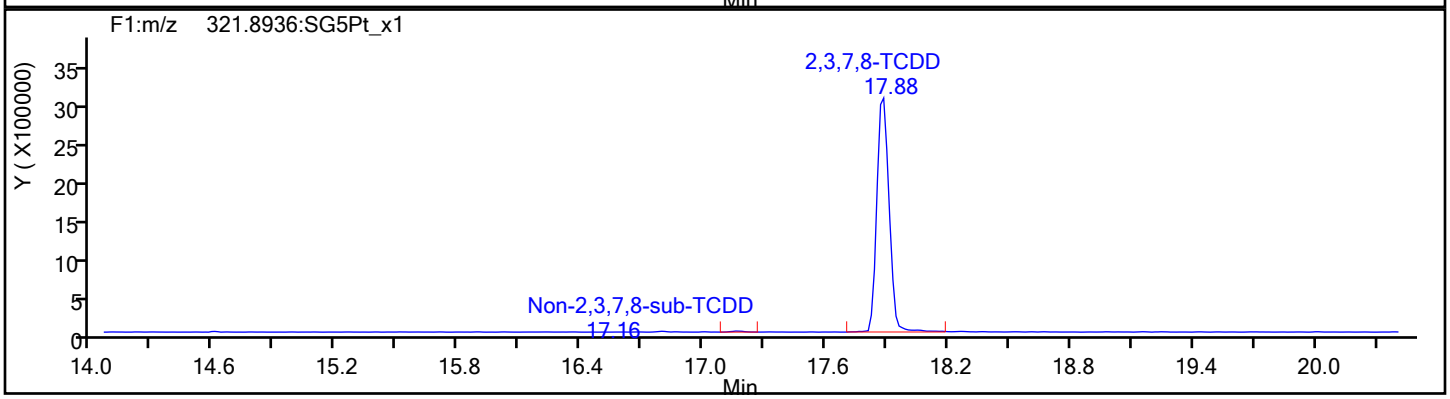

TCDD Standards

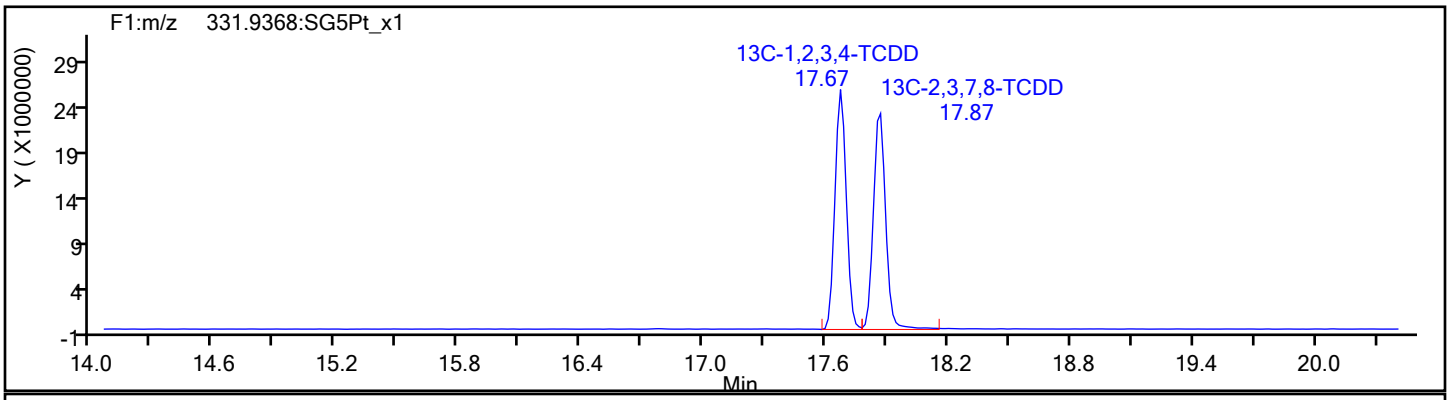

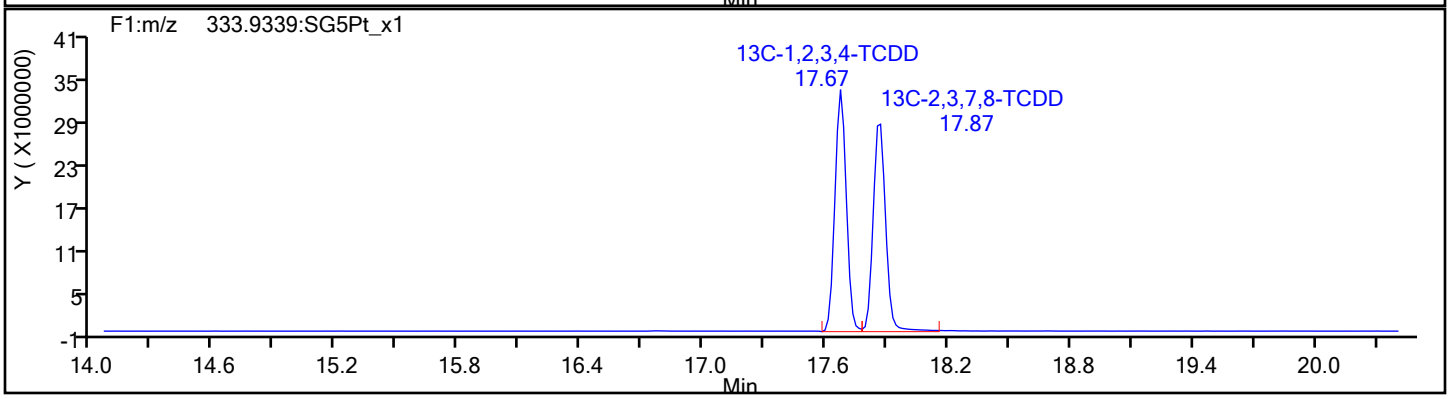

Report Date: 12-Dec-2019 15:54:25 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

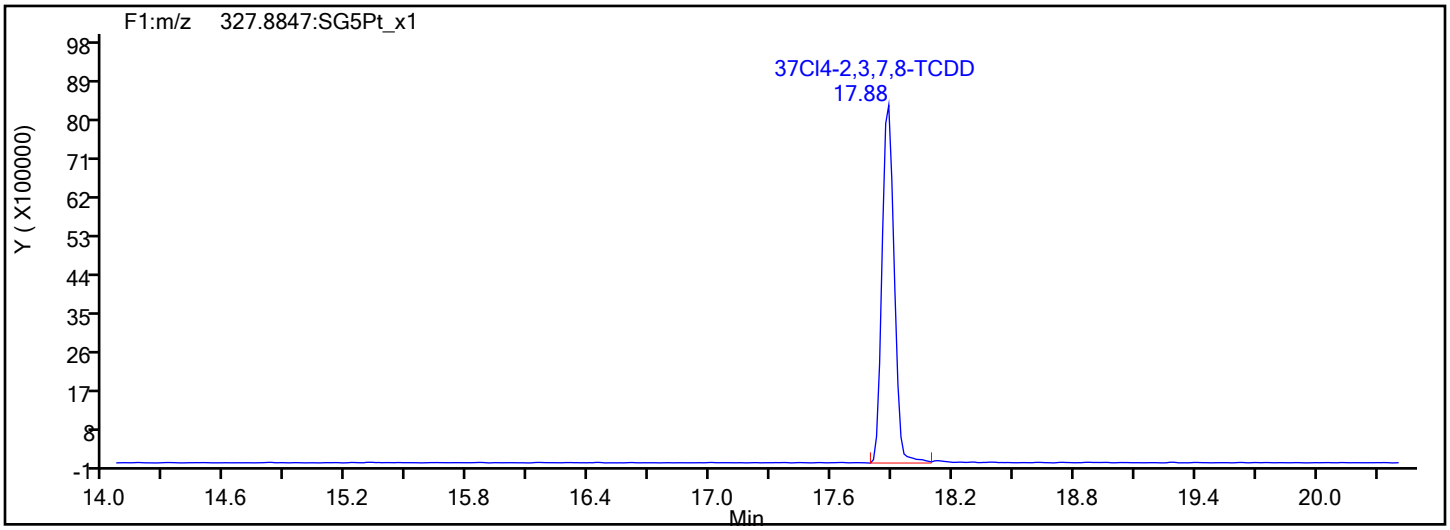

37Cl4-TCDD Standards

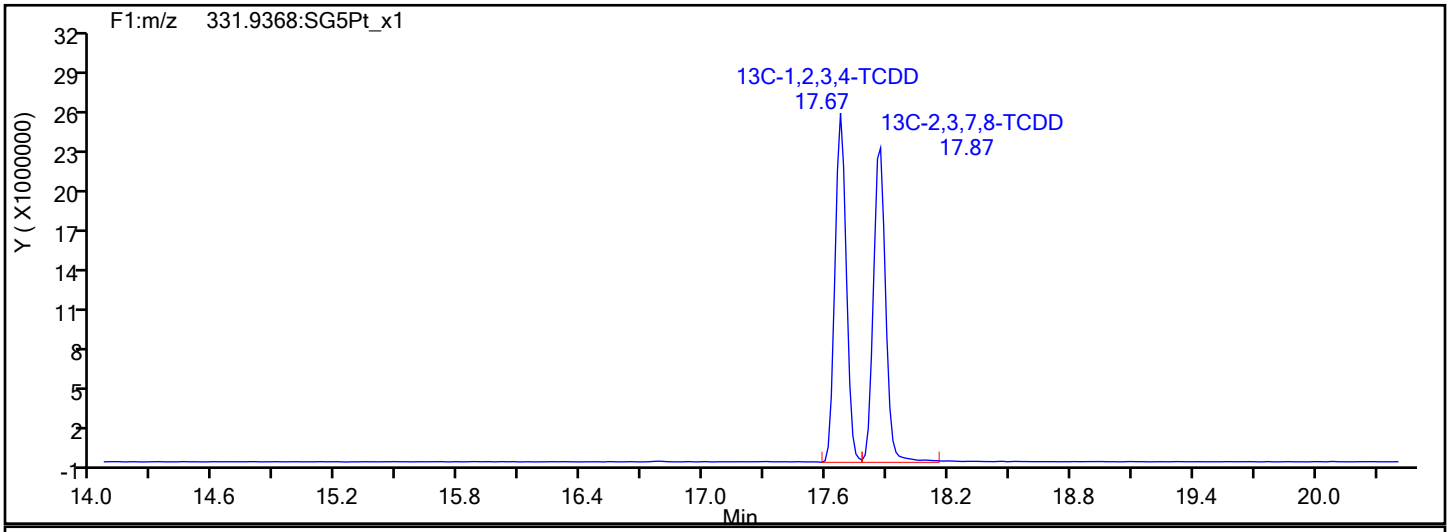

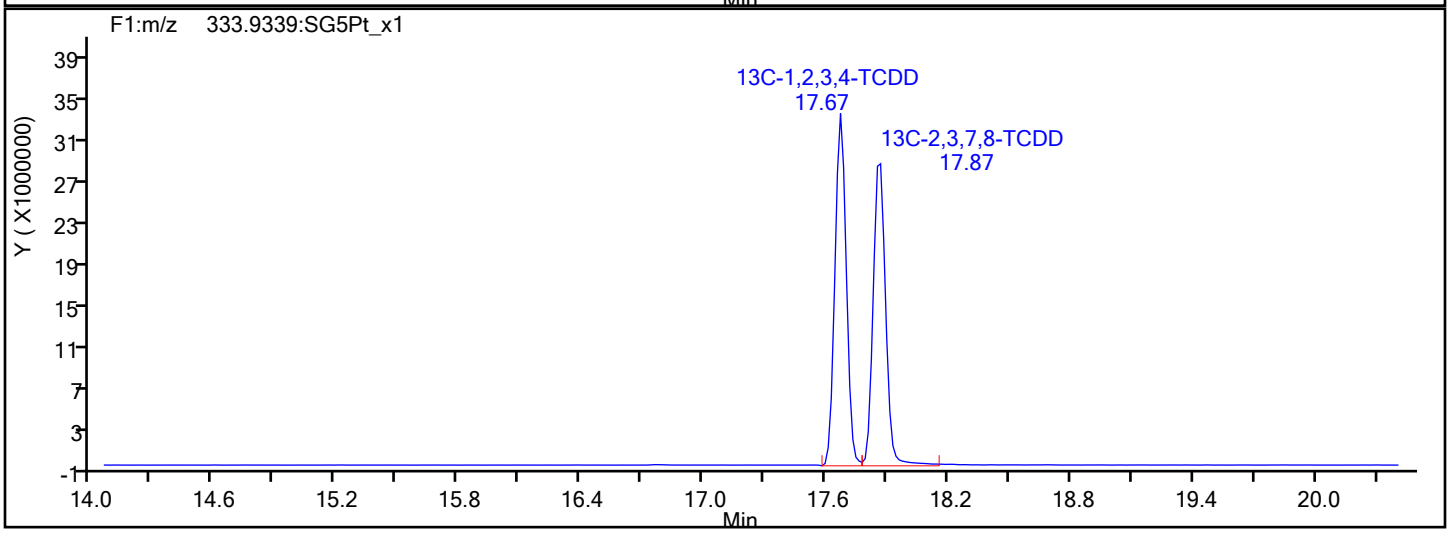

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

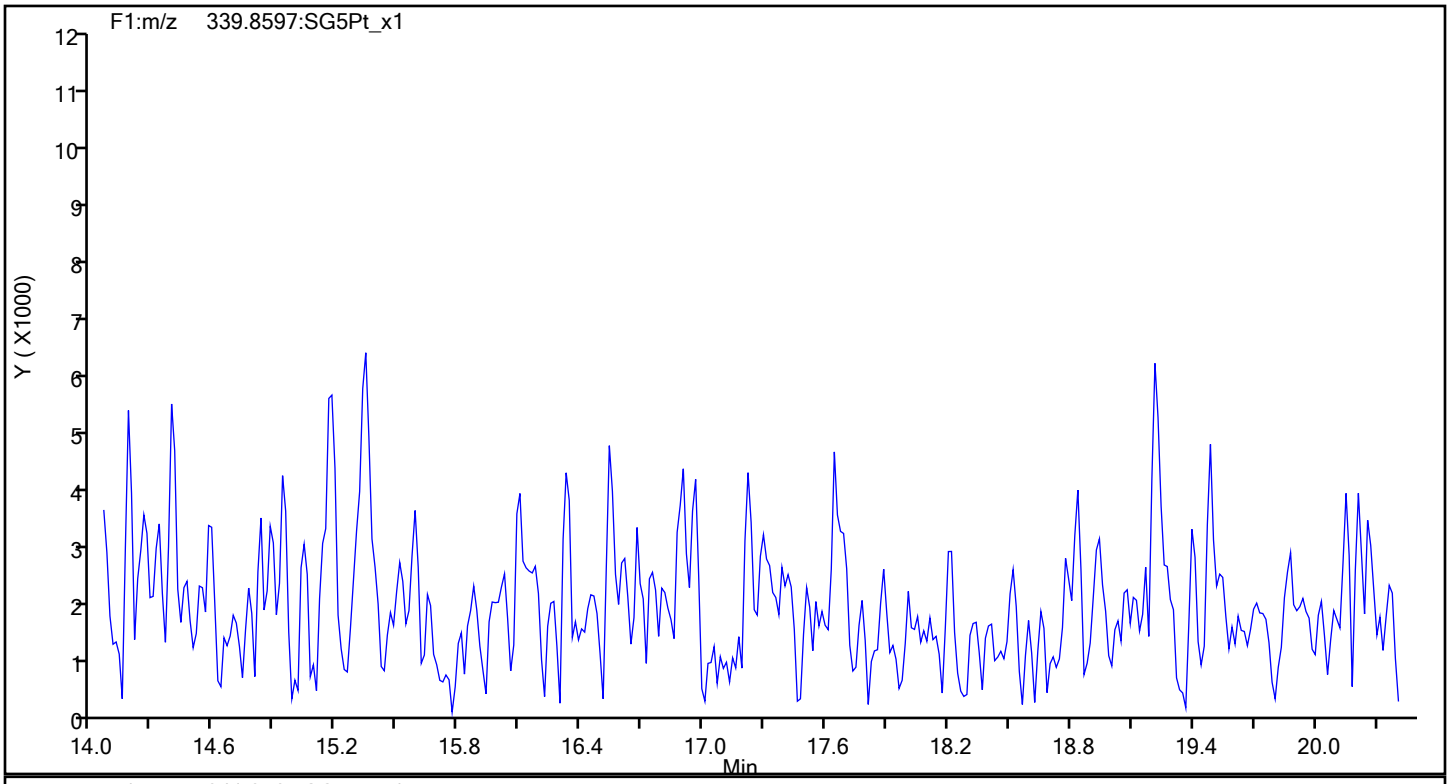

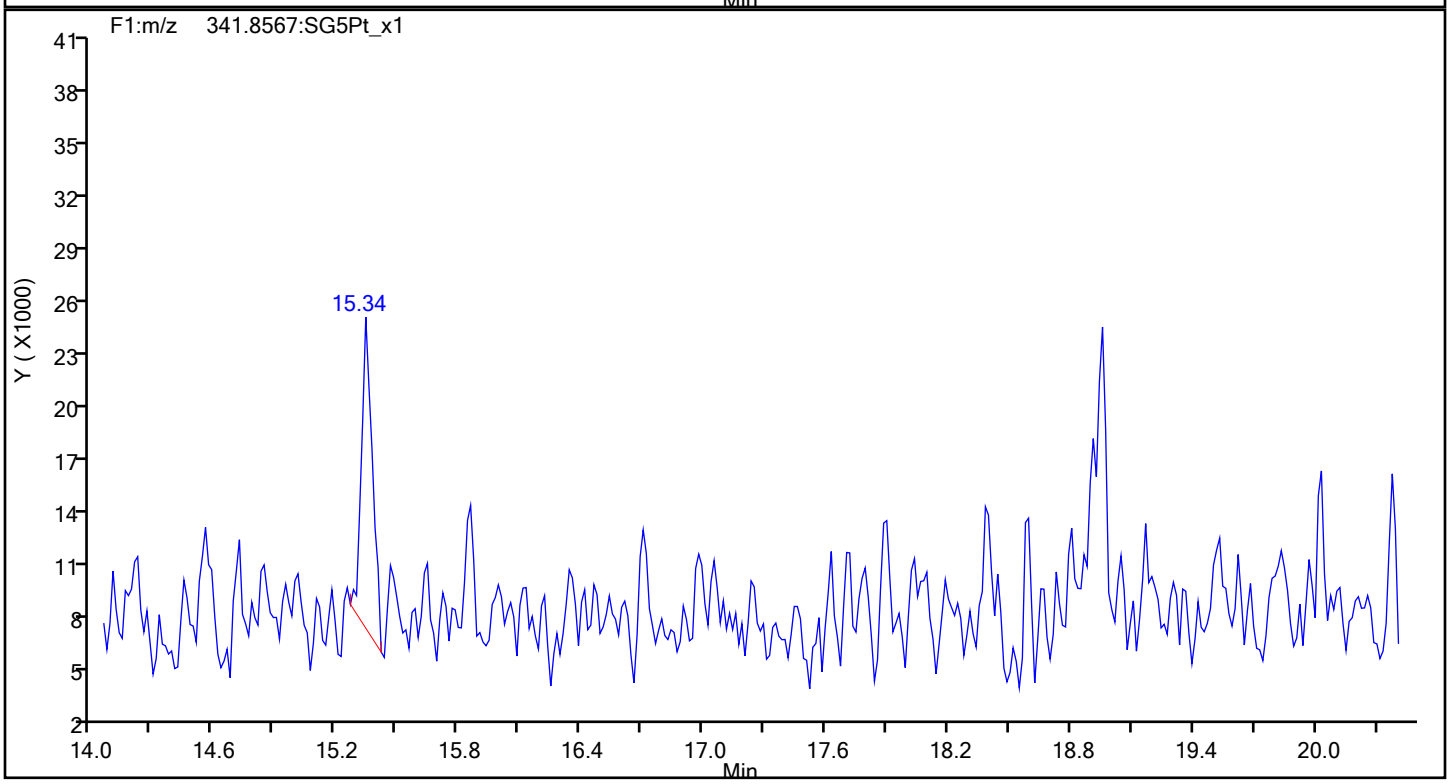

Report Date: 12-Dec-2019 15:54:25 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

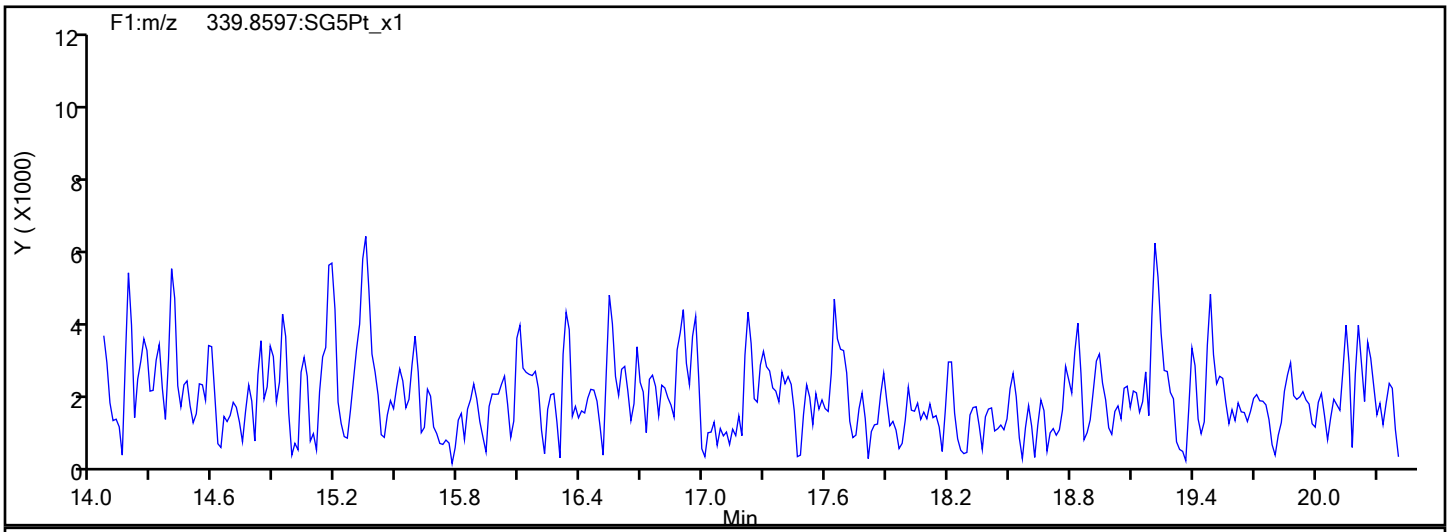

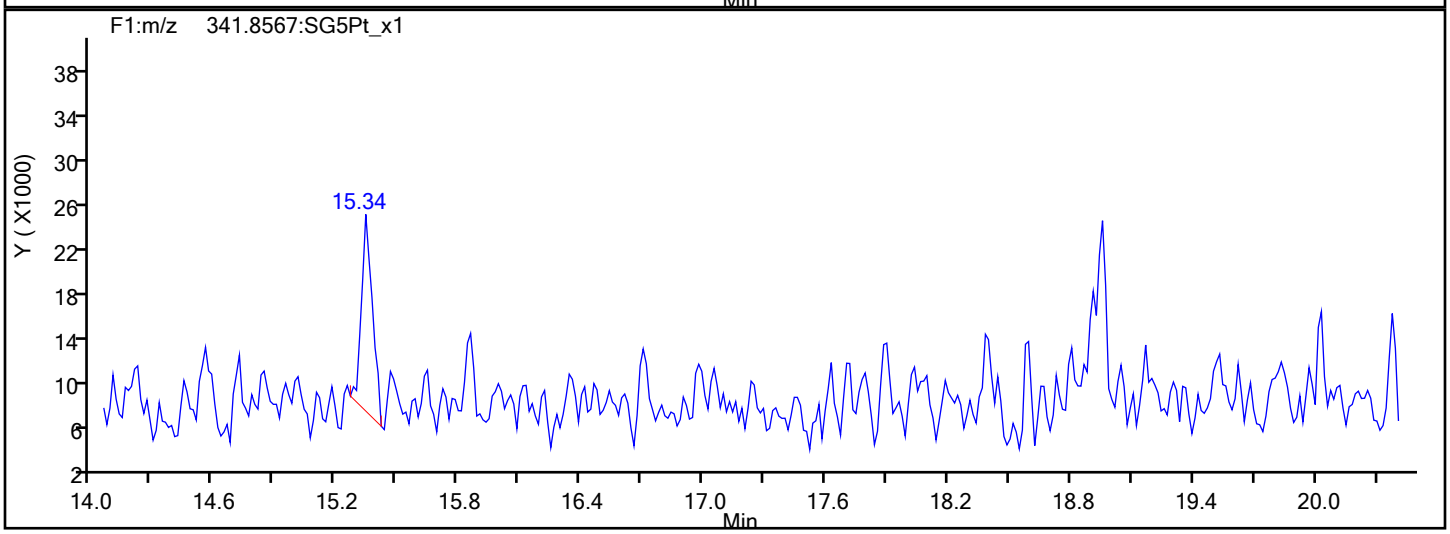

F1 PeCDFs Interference Mass

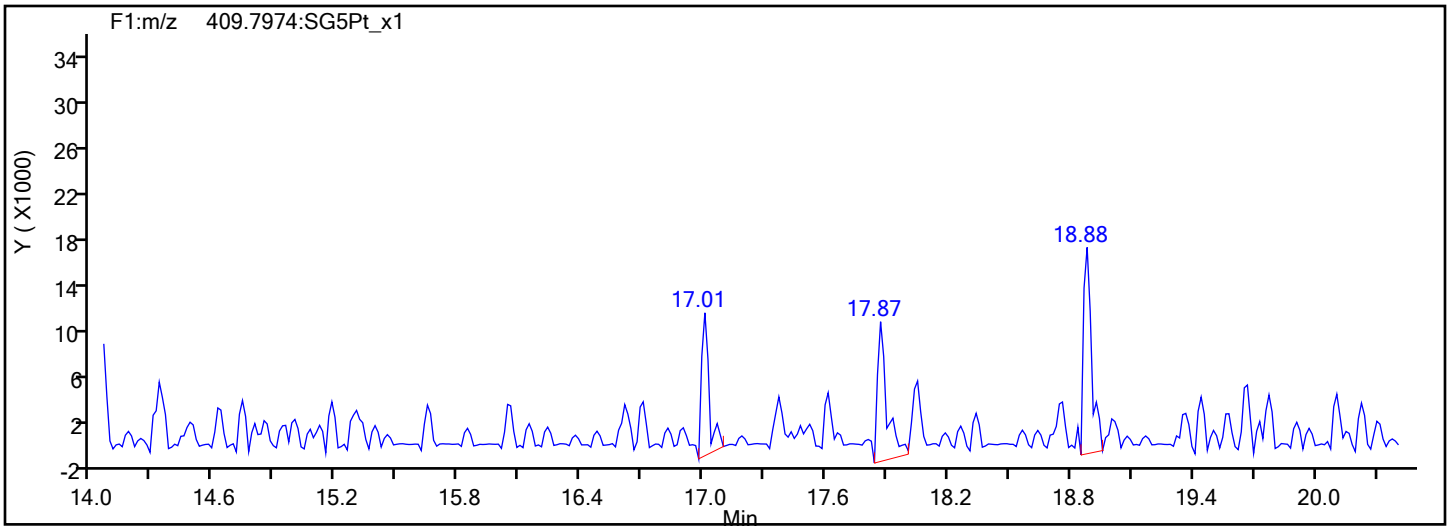

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Eurofins TestAmerica, Sacramento

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PeCDF

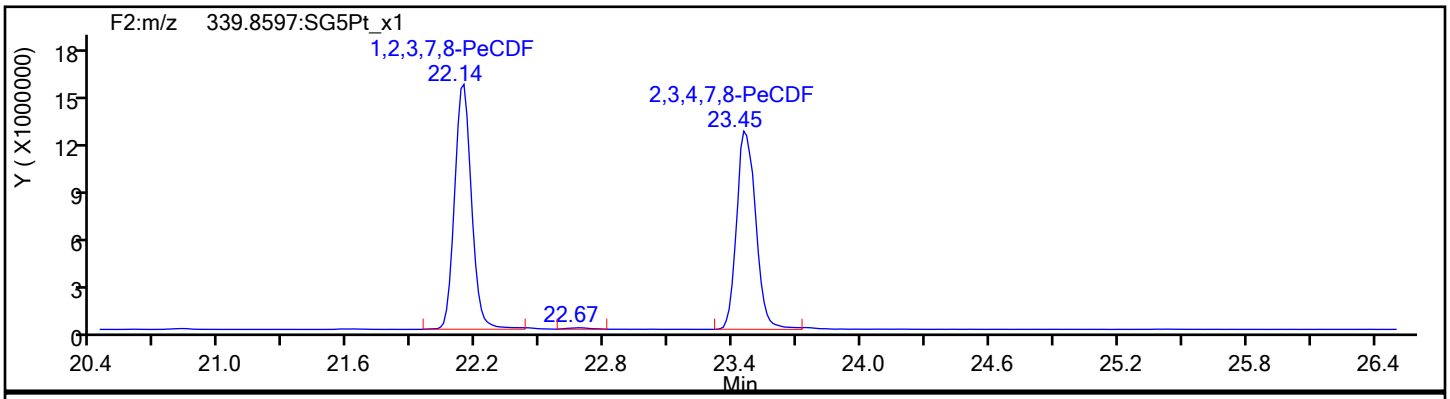

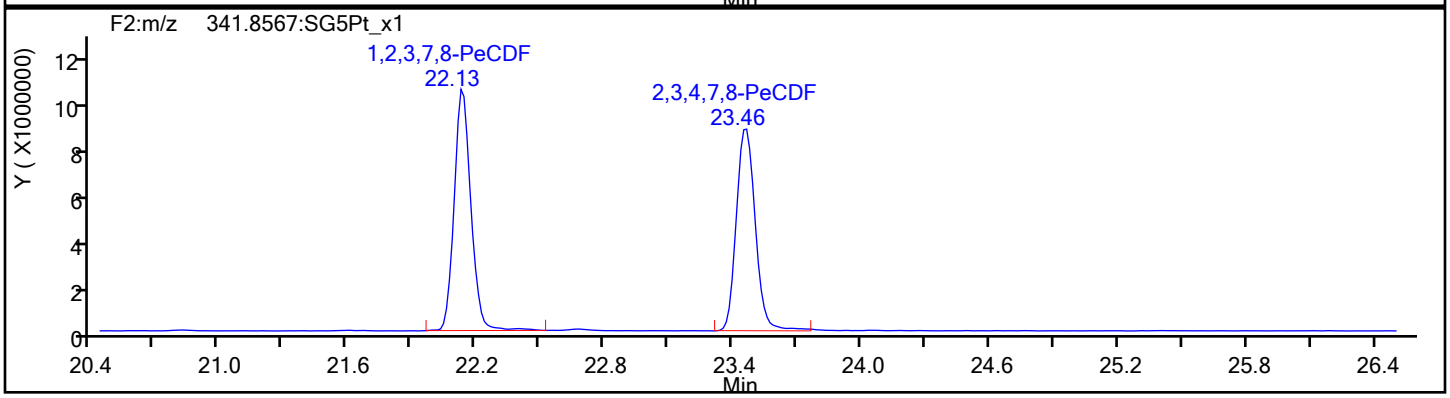

PeCDF Standards

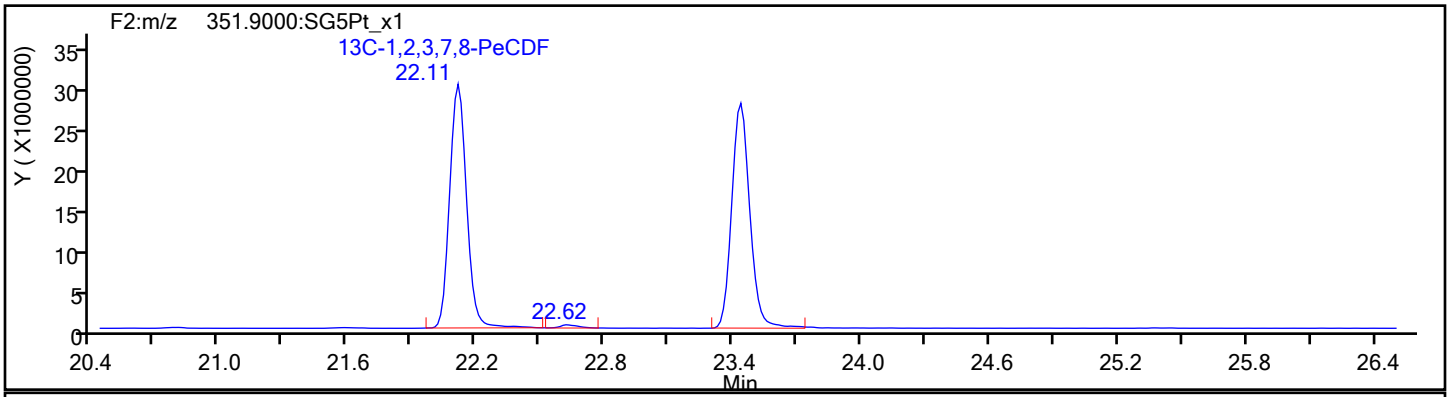

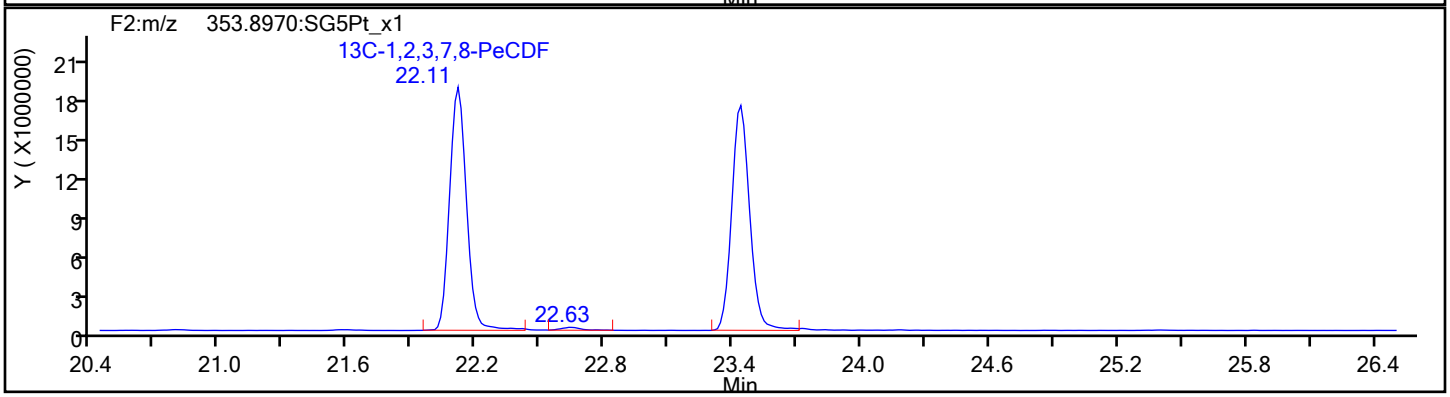

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Eurofins TestAmerica, Sacramento

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PeCDF

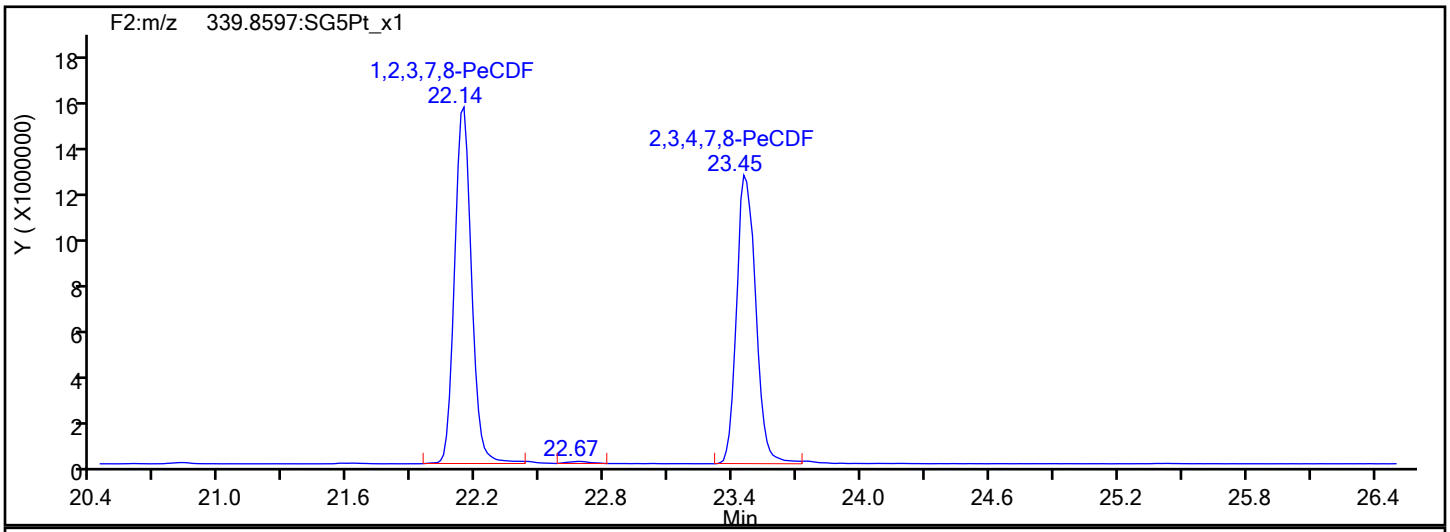

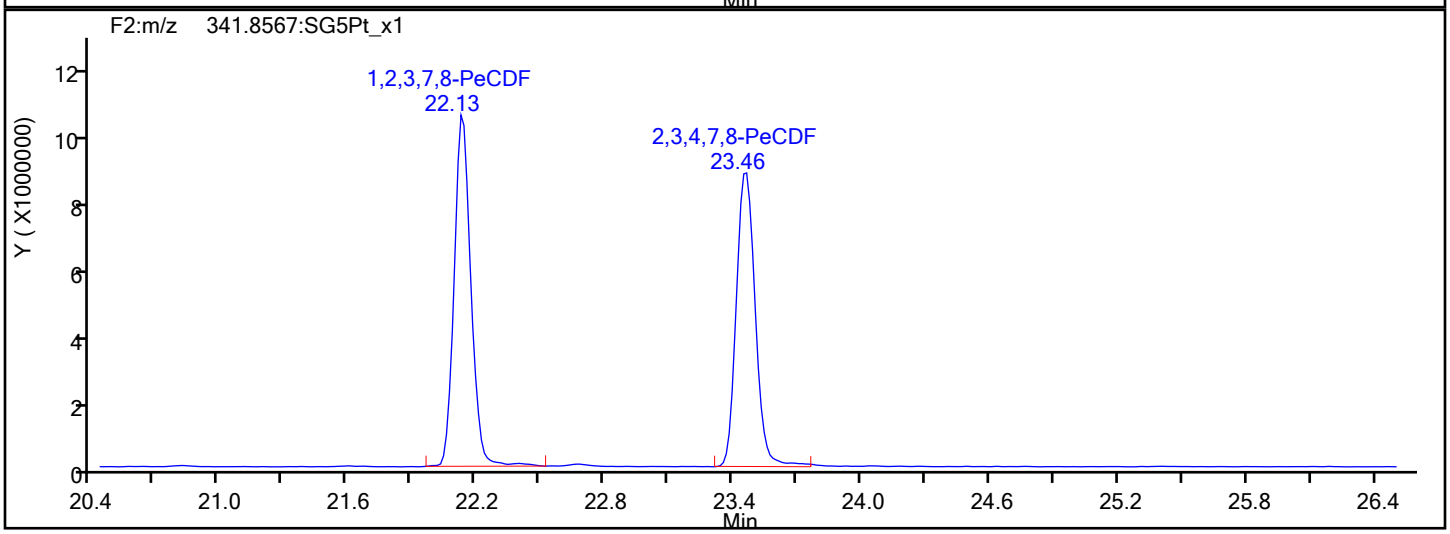

PeCDF Interference Mass

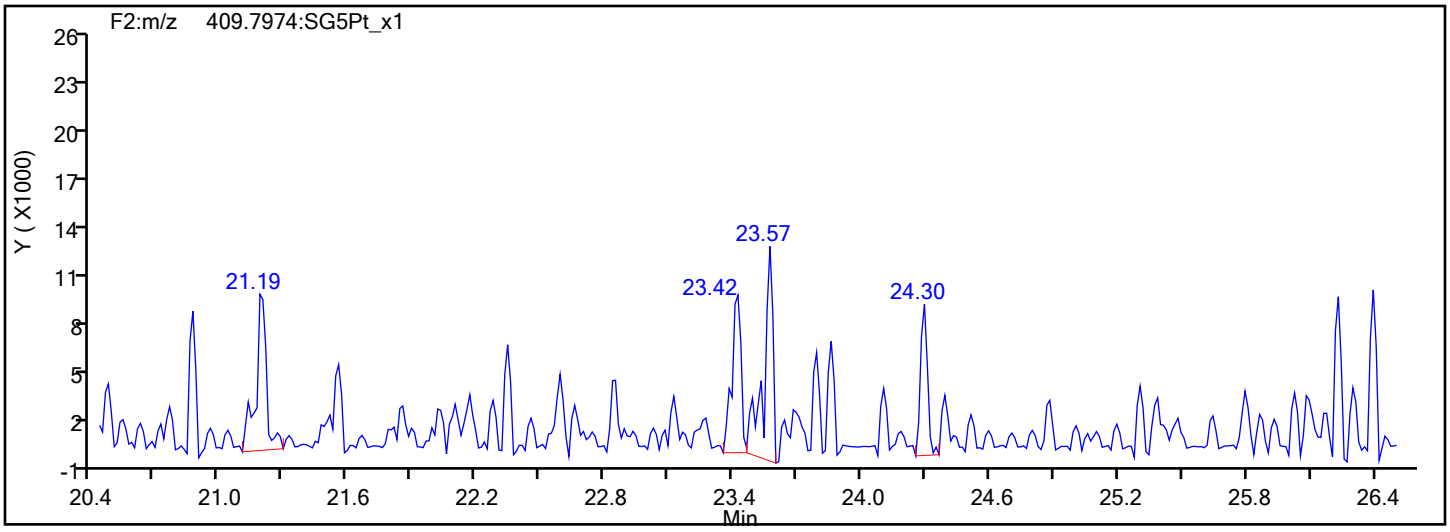

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Eurofins TestAmerica, Sacramento

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PeCDD

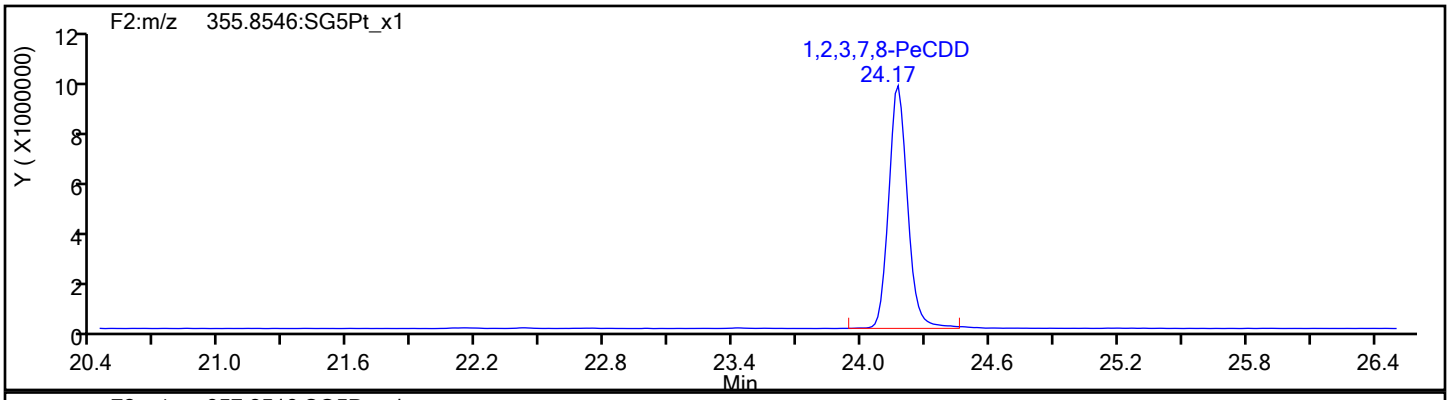

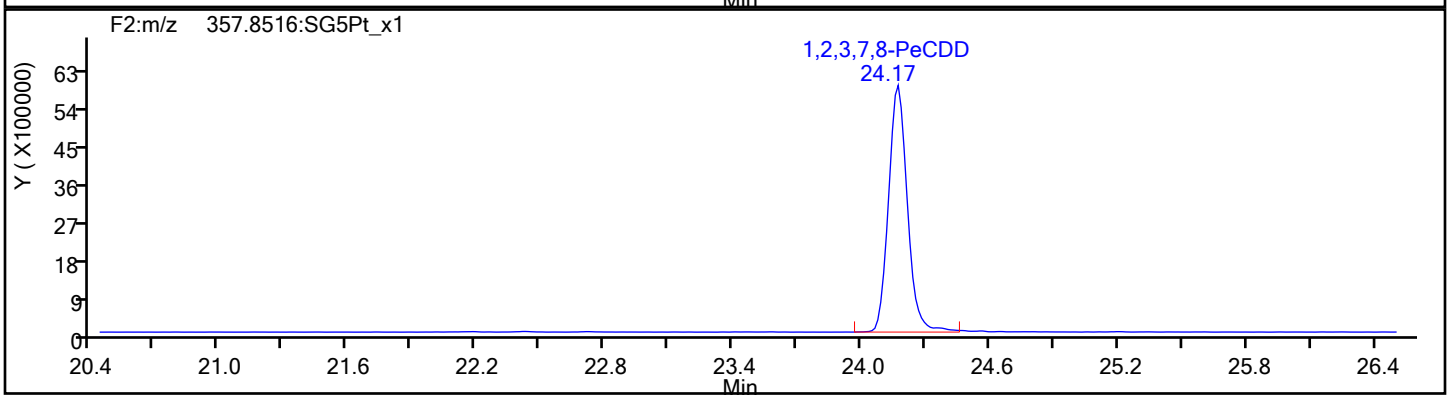

PeCDD Standards

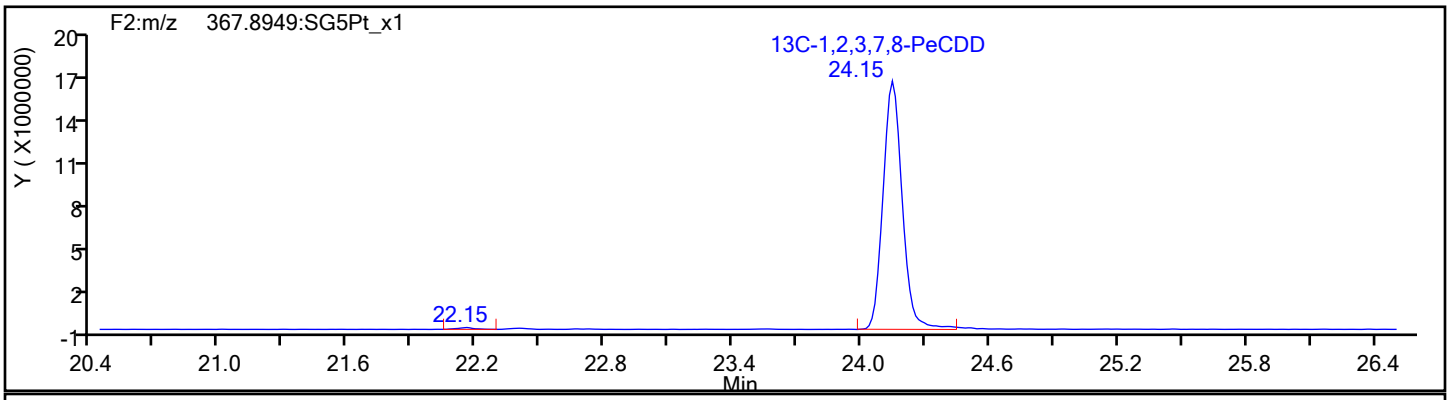

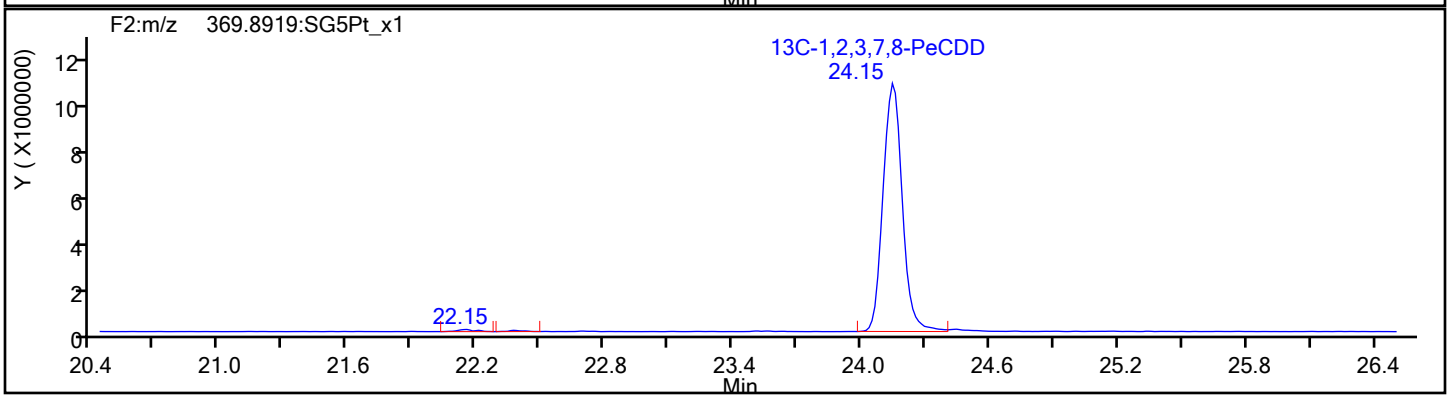

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Eurofins TestAmerica, Sacramento

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HxCDF

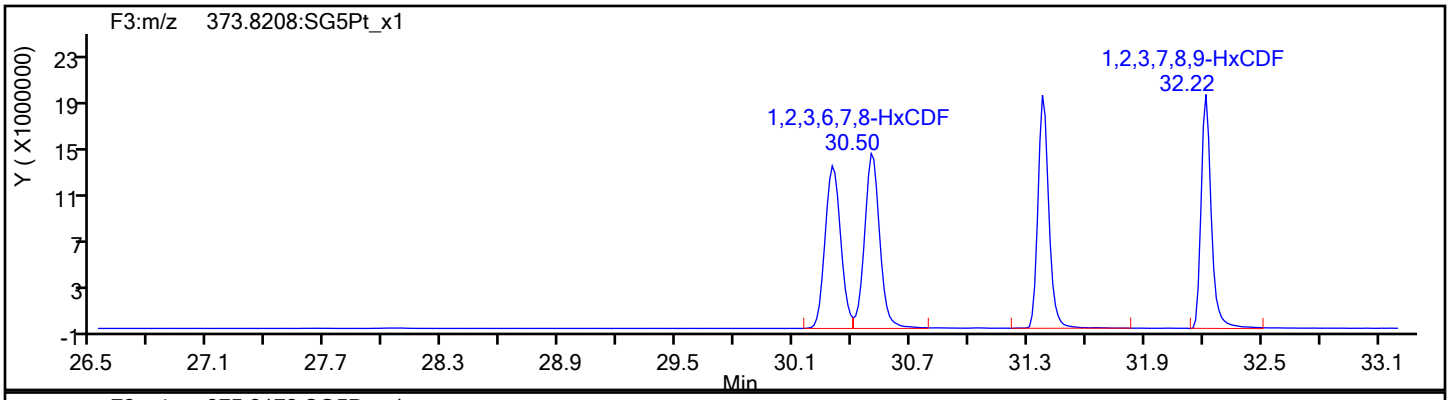

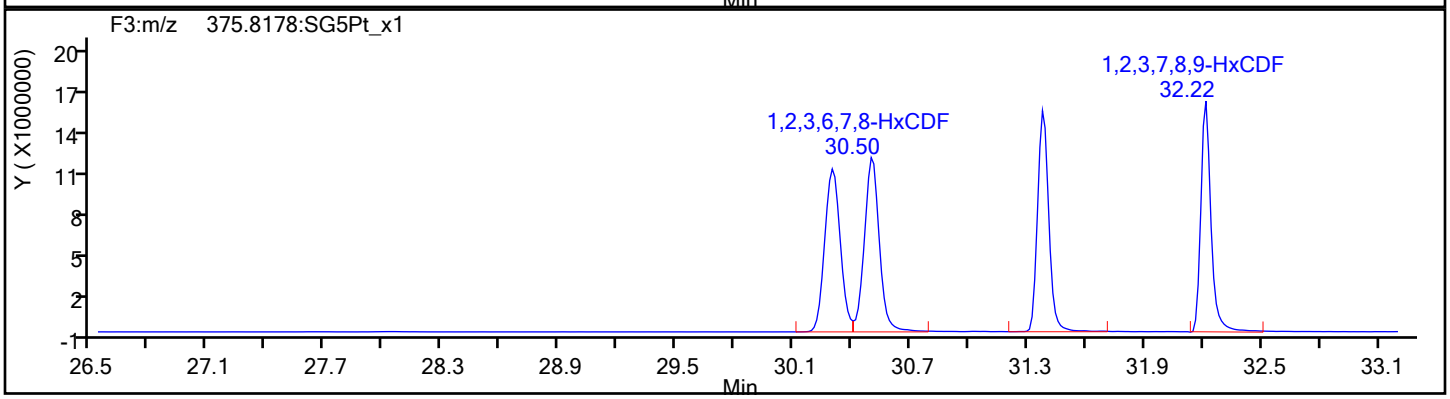

HxCDF Standards

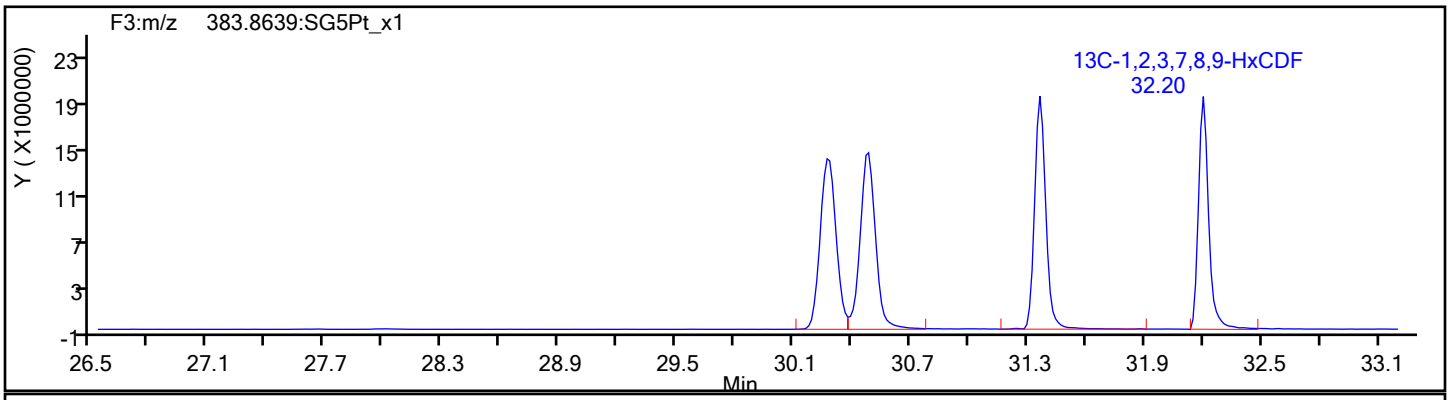

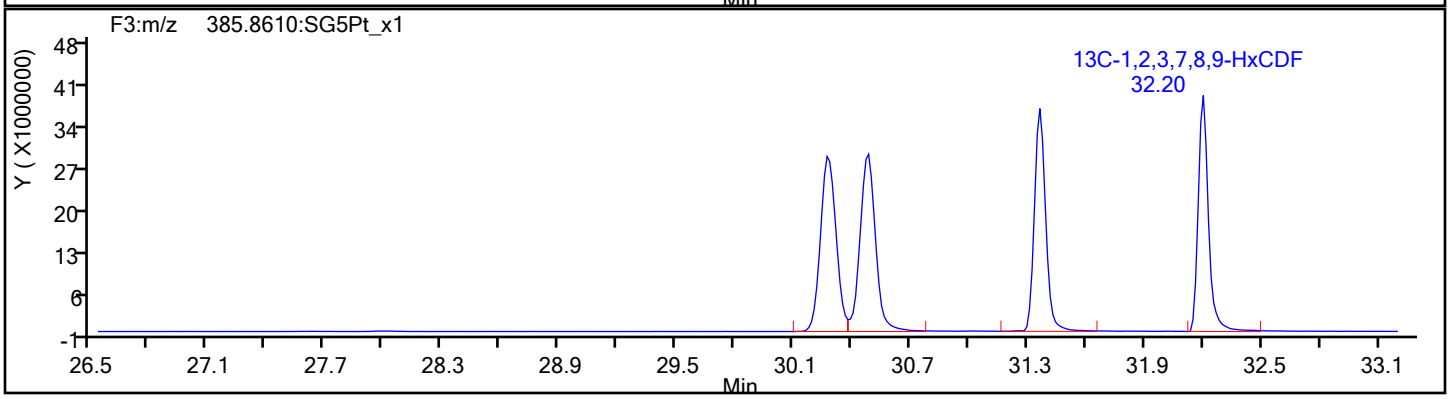

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Eurofins TestAmerica, Sacramento

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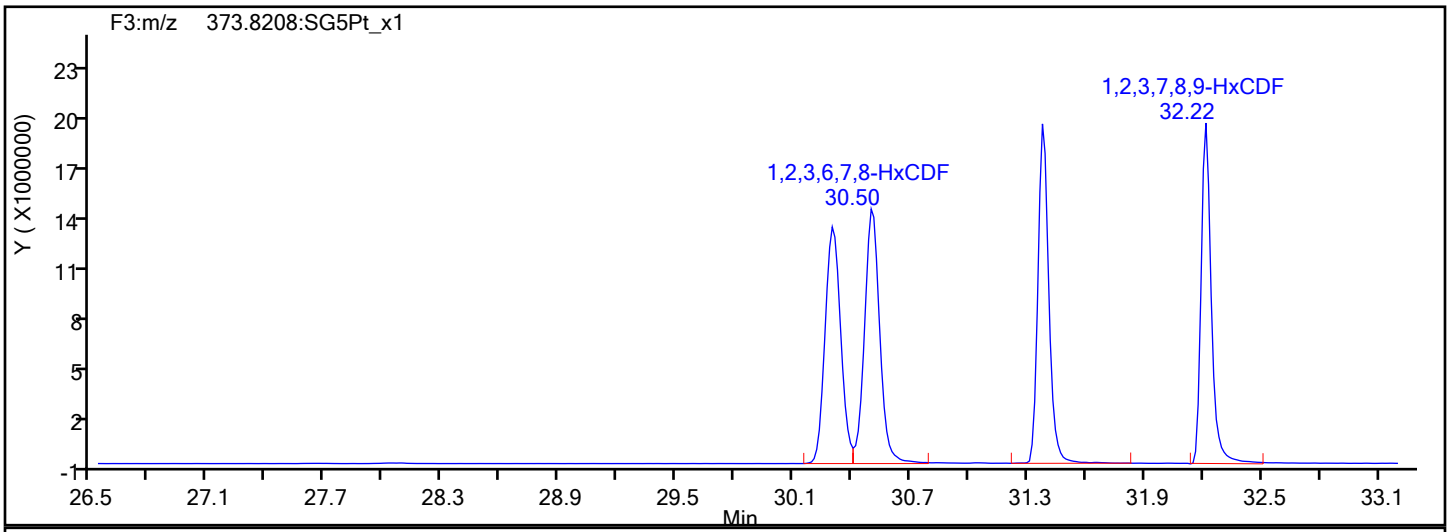

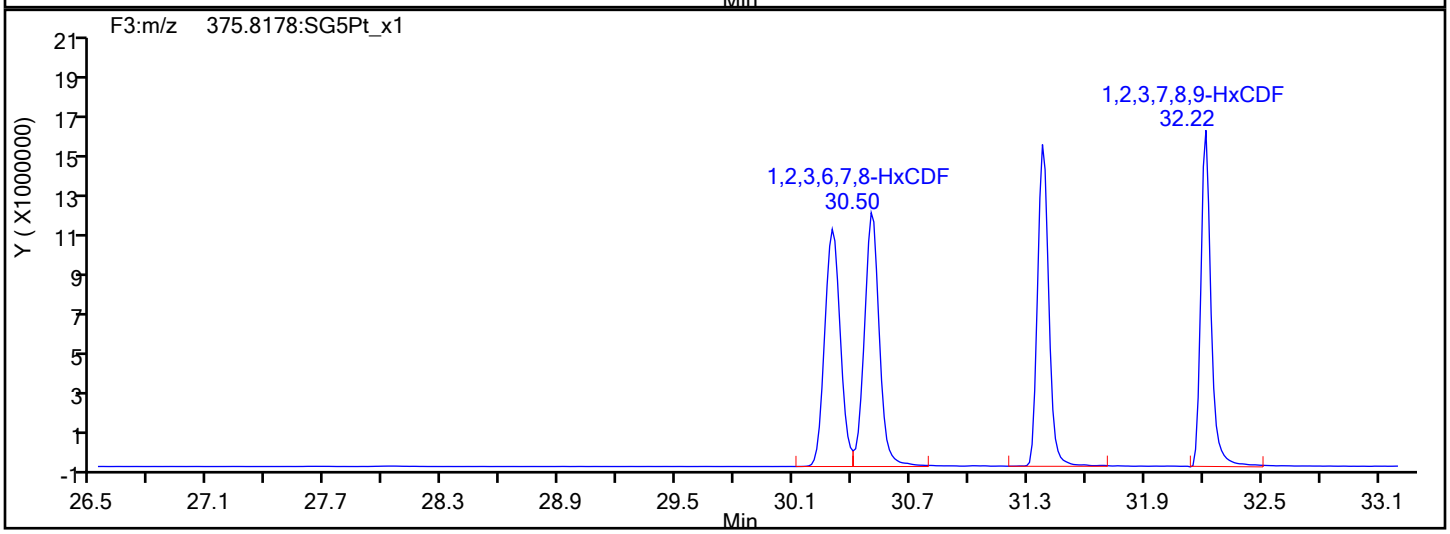

HxCDF Interference Mass

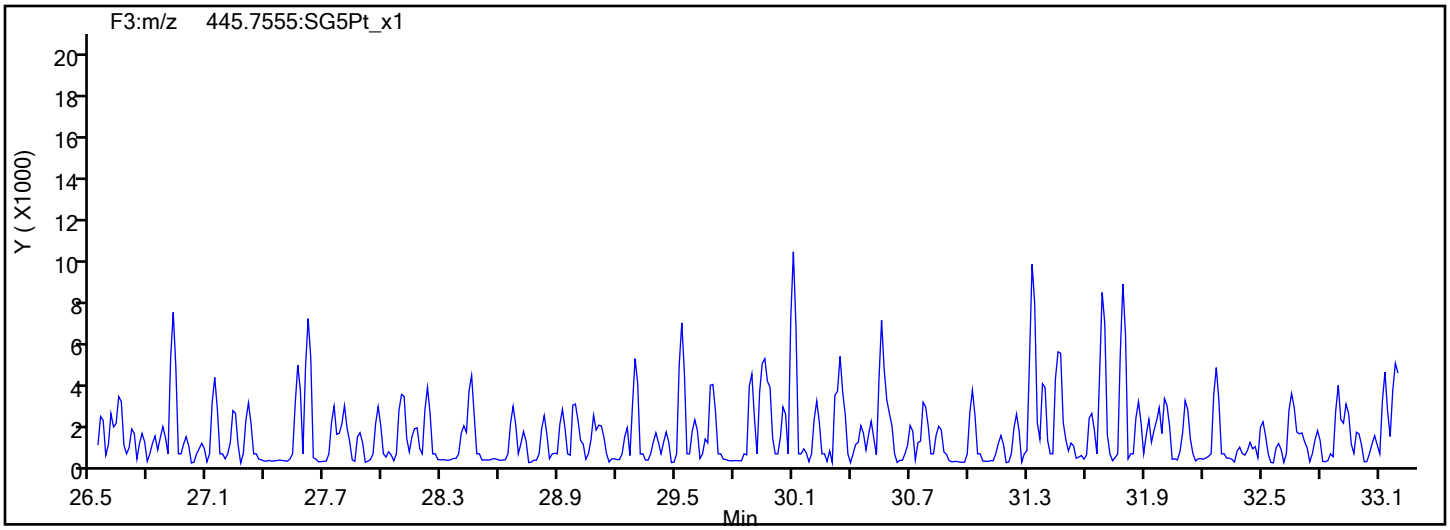

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Eurofins TestAmerica, Sacramento

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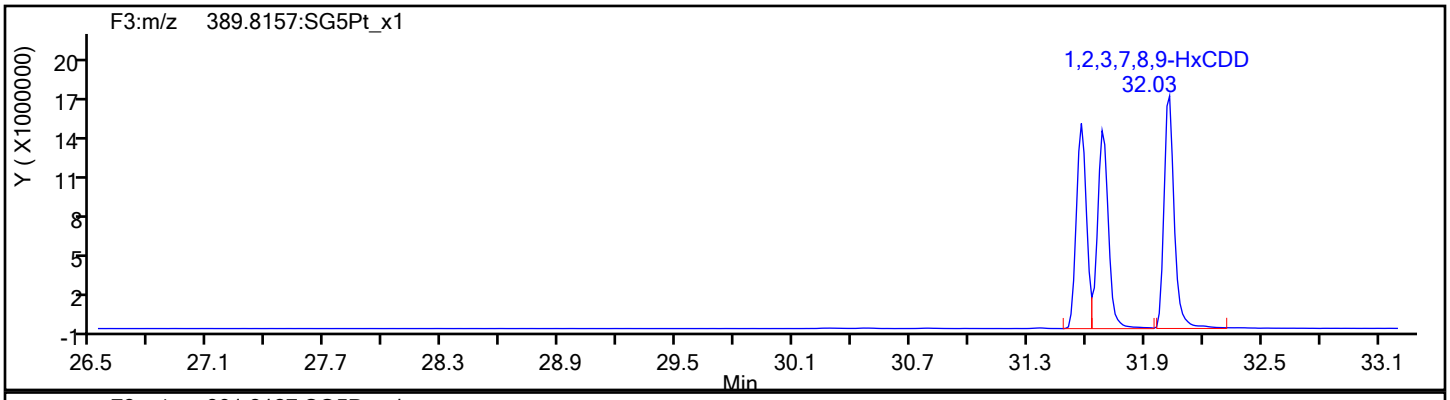

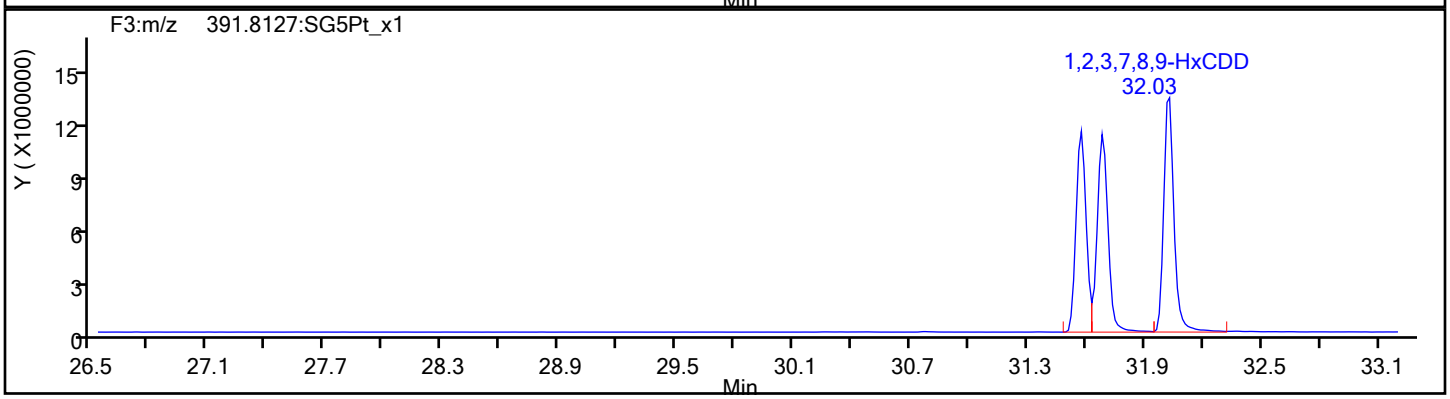

HxCDD Standards

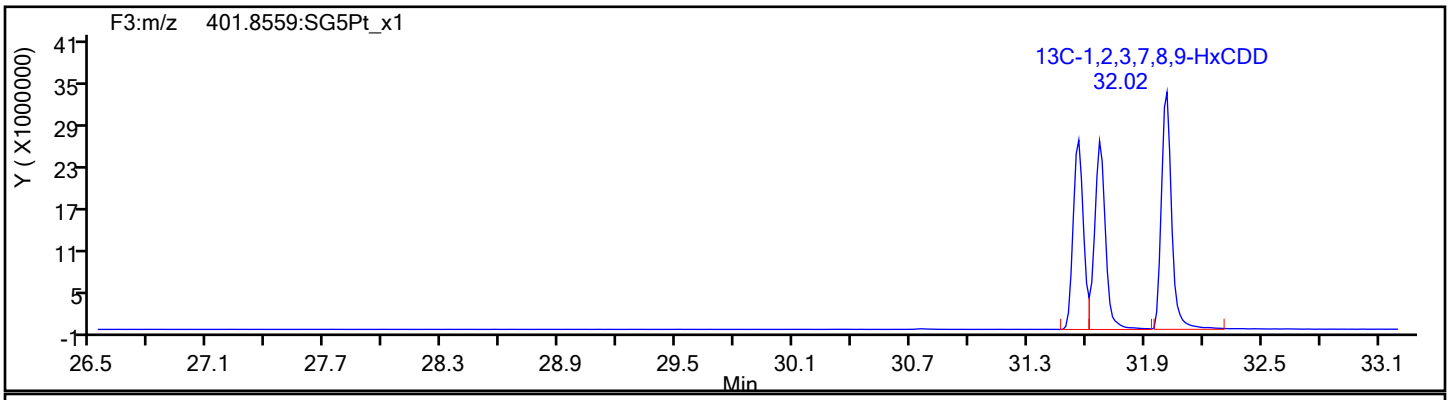

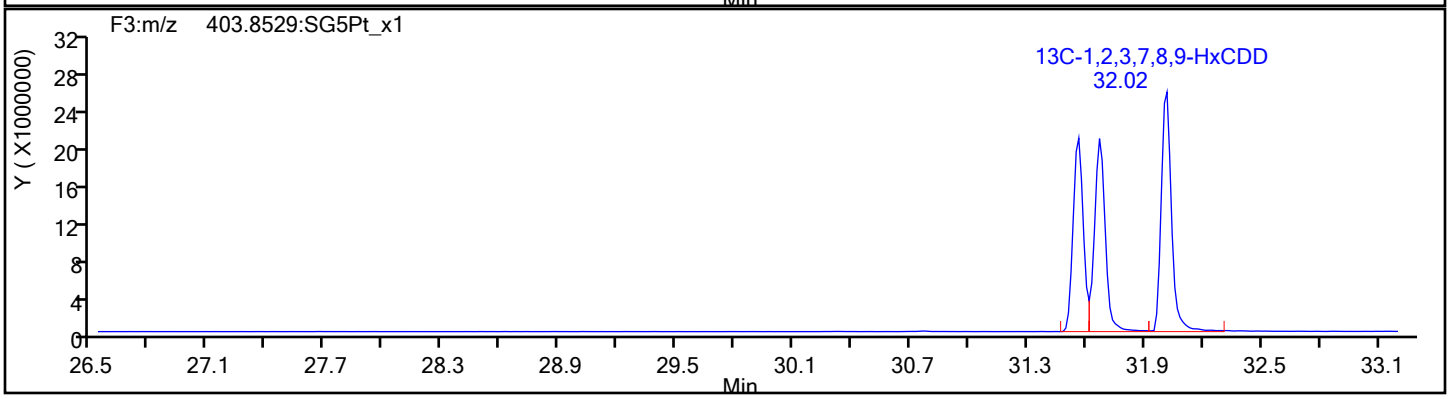

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Eurofins TestAmerica, Sacramento

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HpCDF

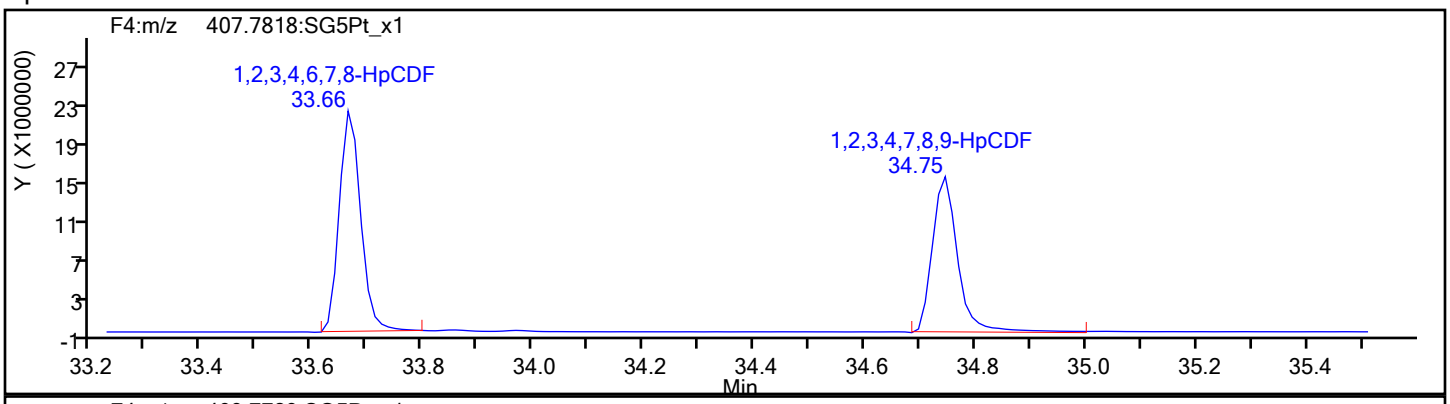

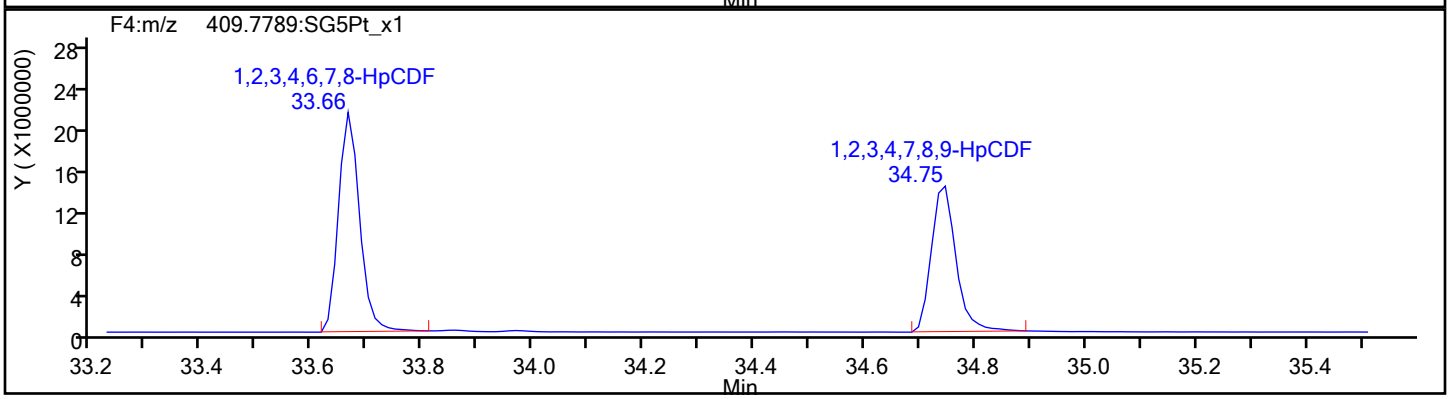

HpCDF Standards

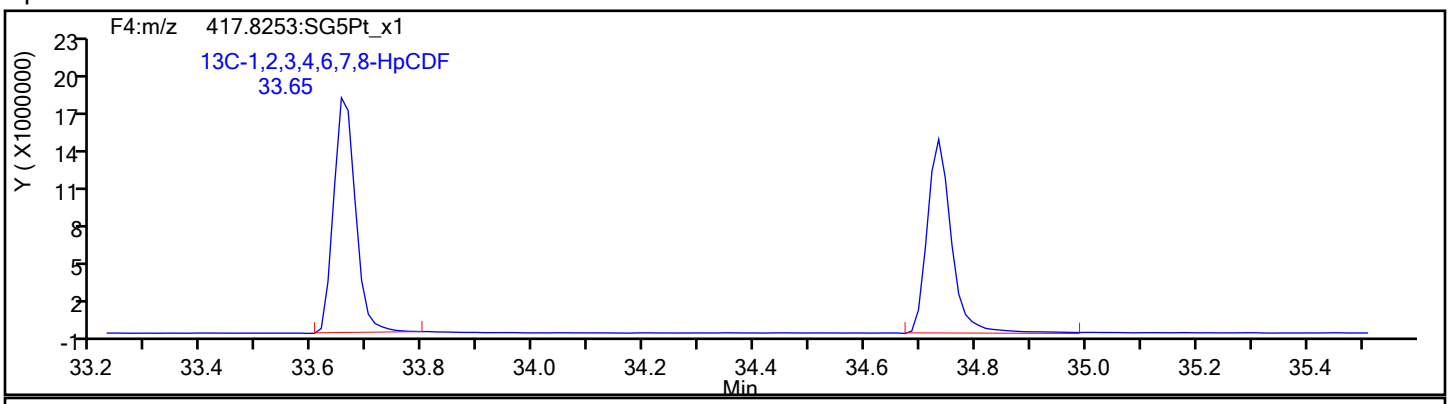

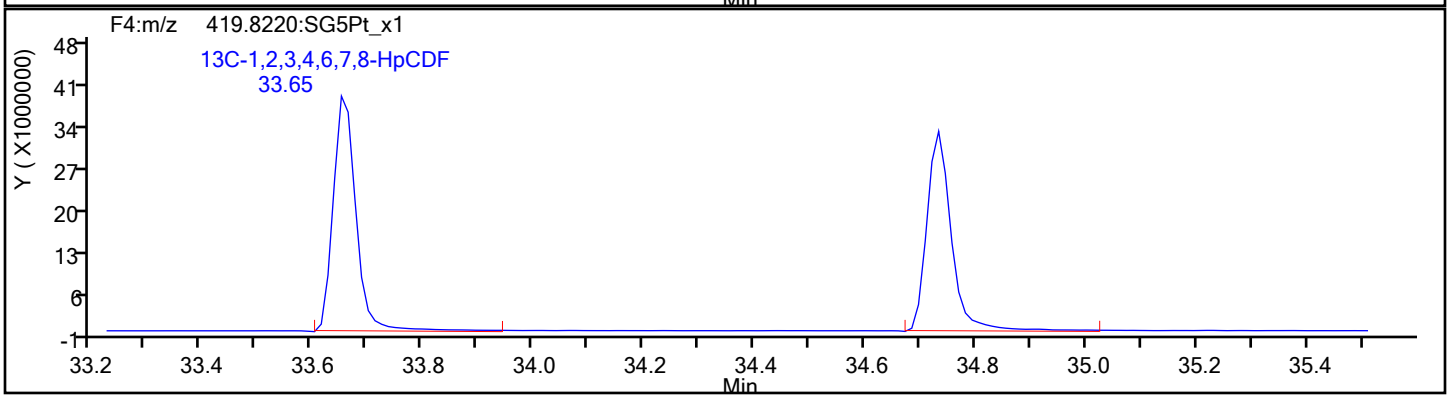

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Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

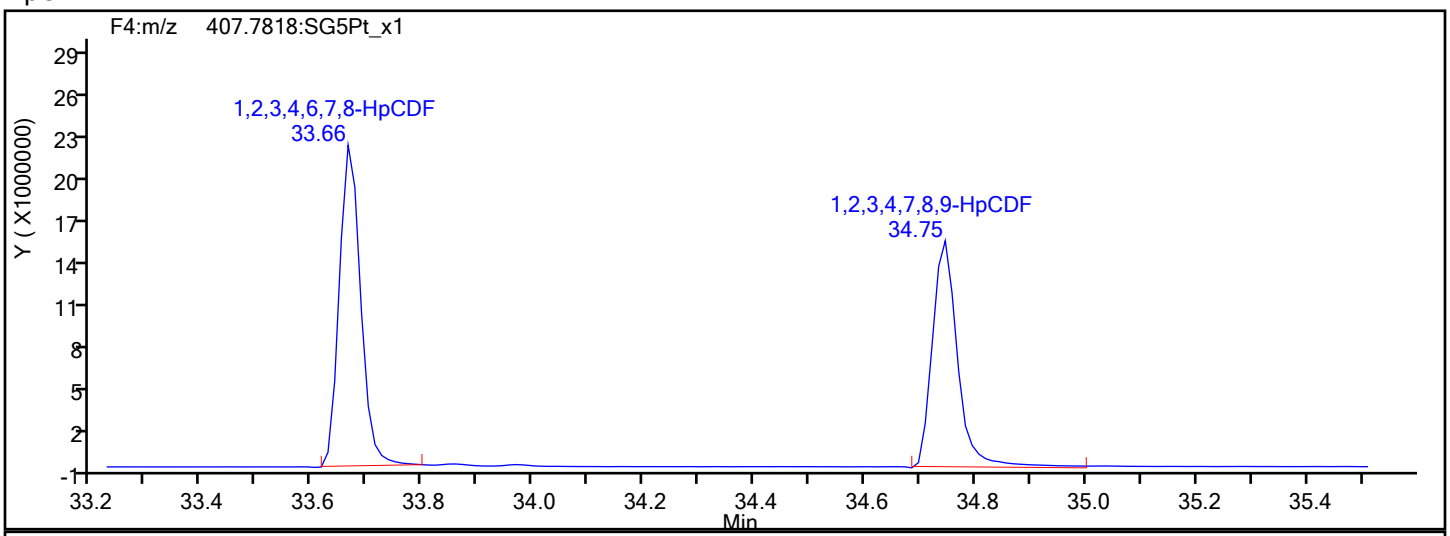

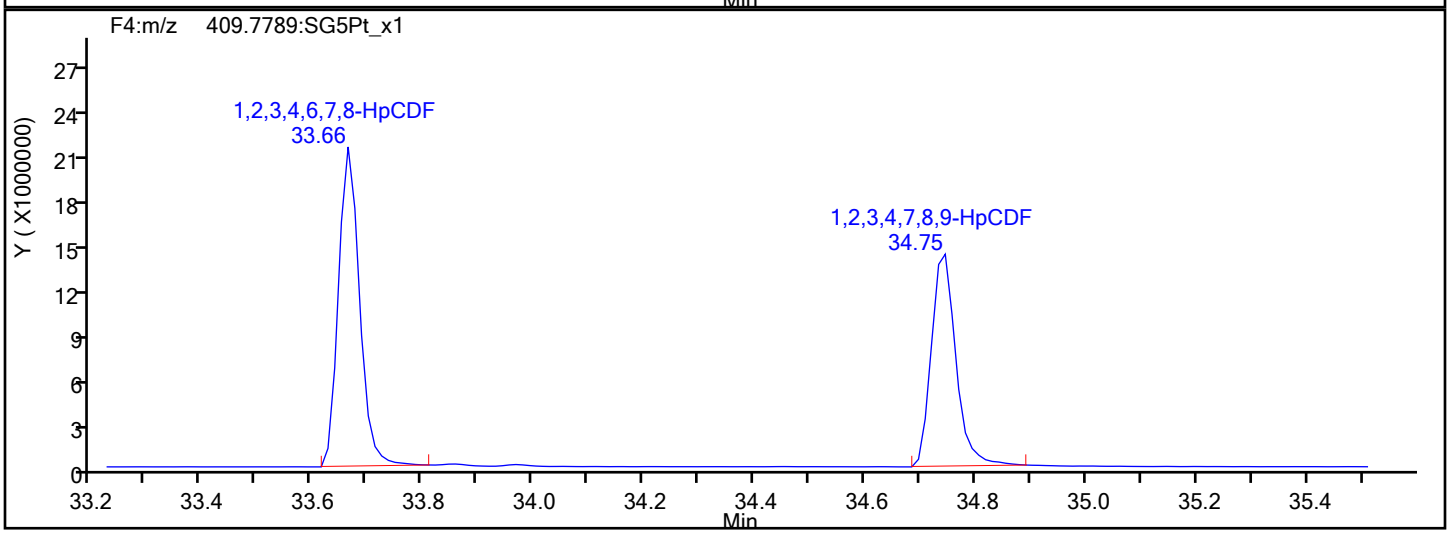

HpCDF Interference Mass

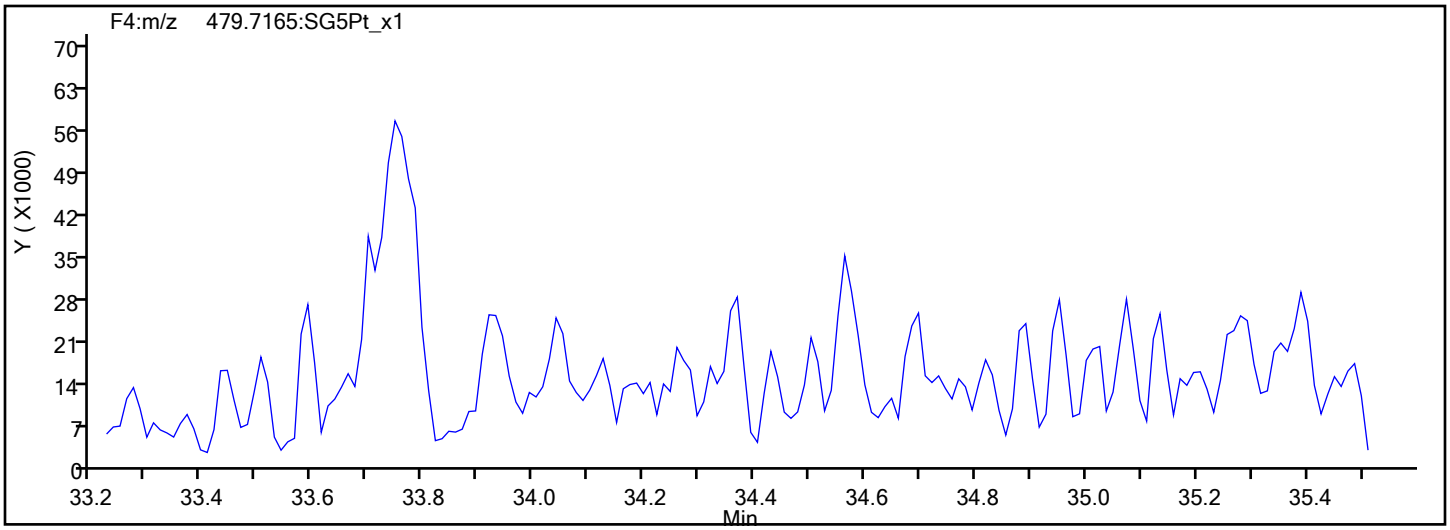

Report Date: 12-Dec-2019 15:54:26 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_5.d		
Injection Date:	12-Dec-2019 13:04:00	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L4		
Worklist#:	345037	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

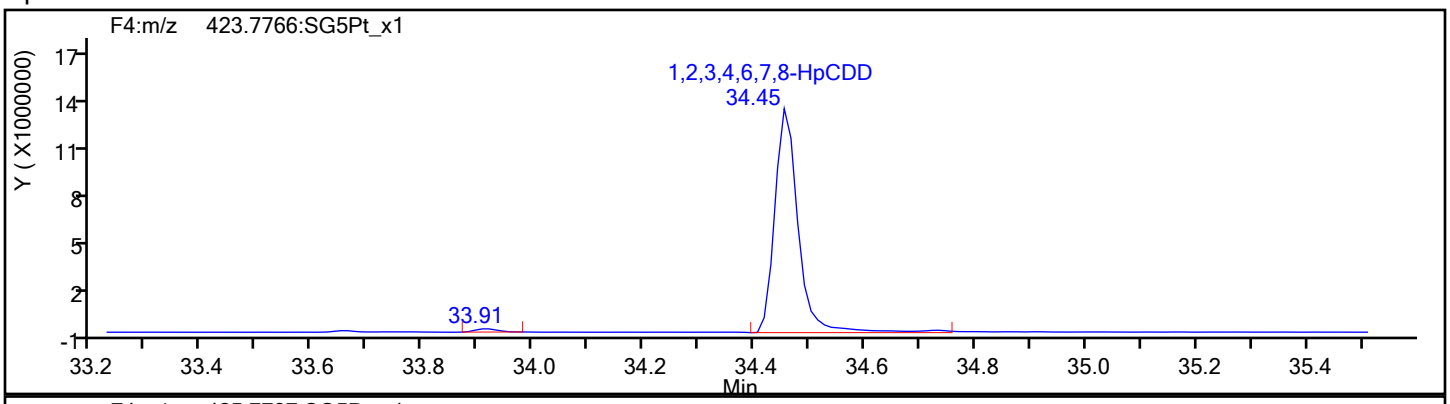

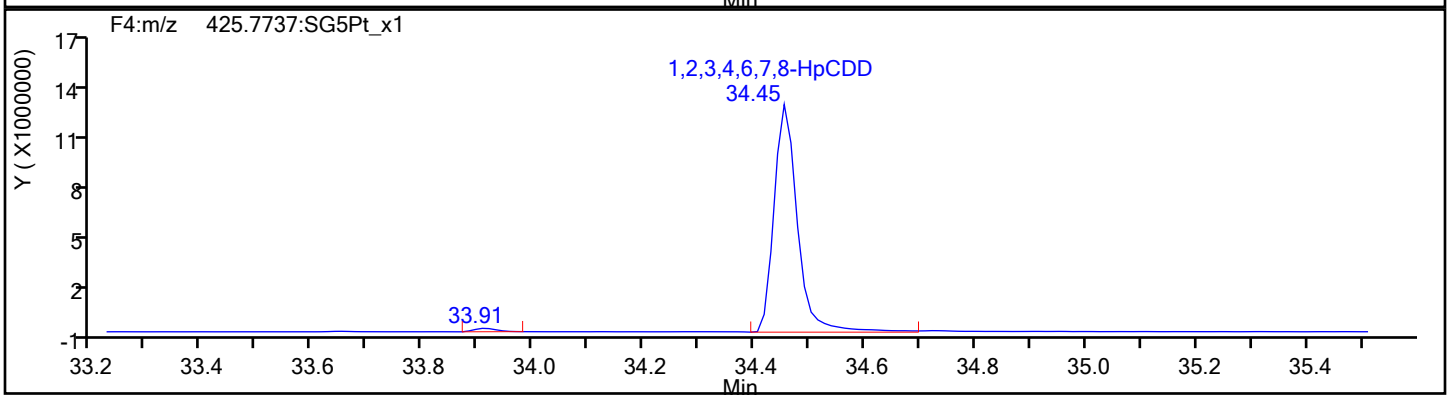

HpCDD Standards

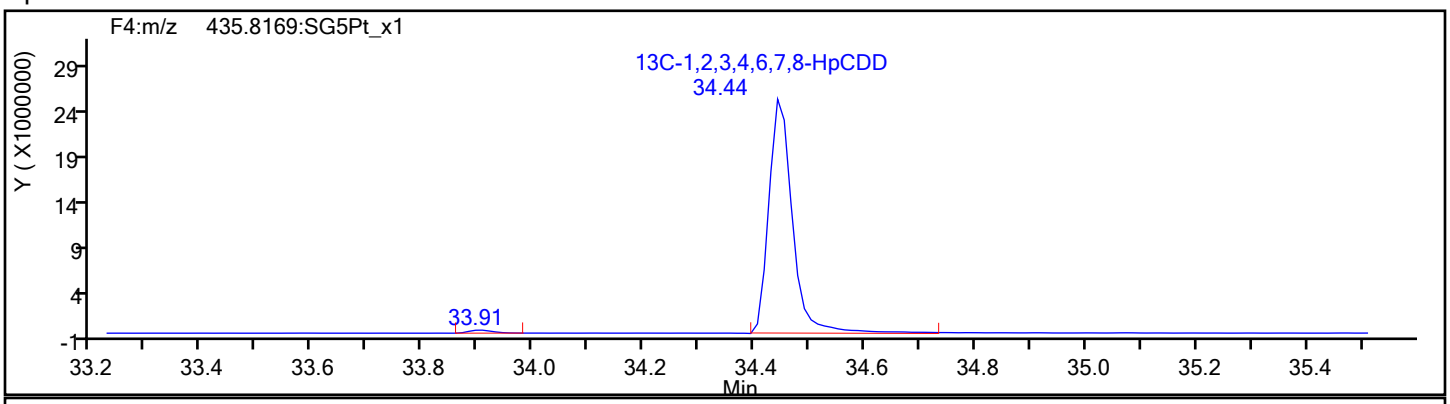

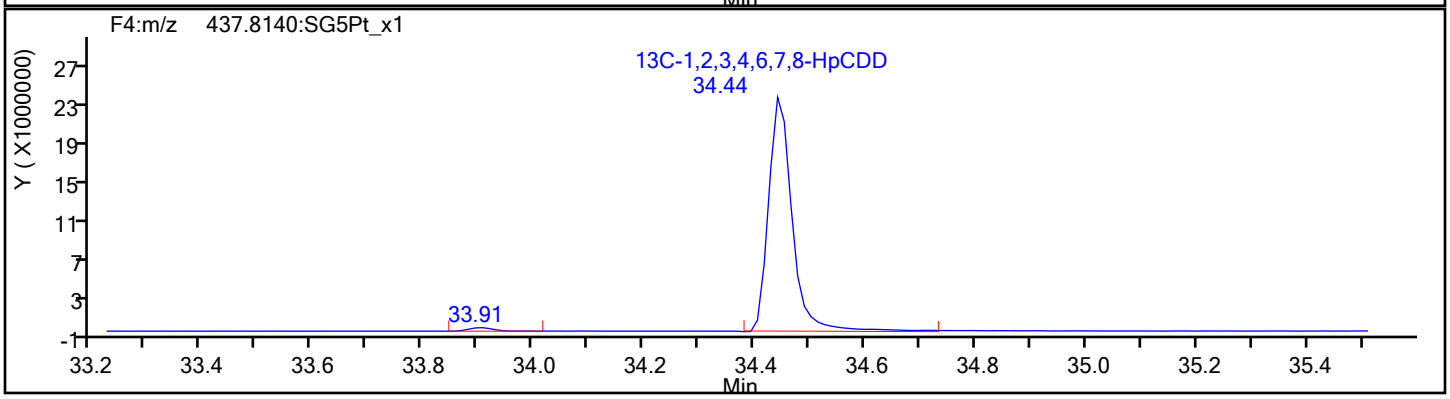

Report Date: 12-Dec-2019 15:54:26 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_5.d		
Injection Date:	12-Dec-2019 13:04:00	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L4		
Worklist#:	345037	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

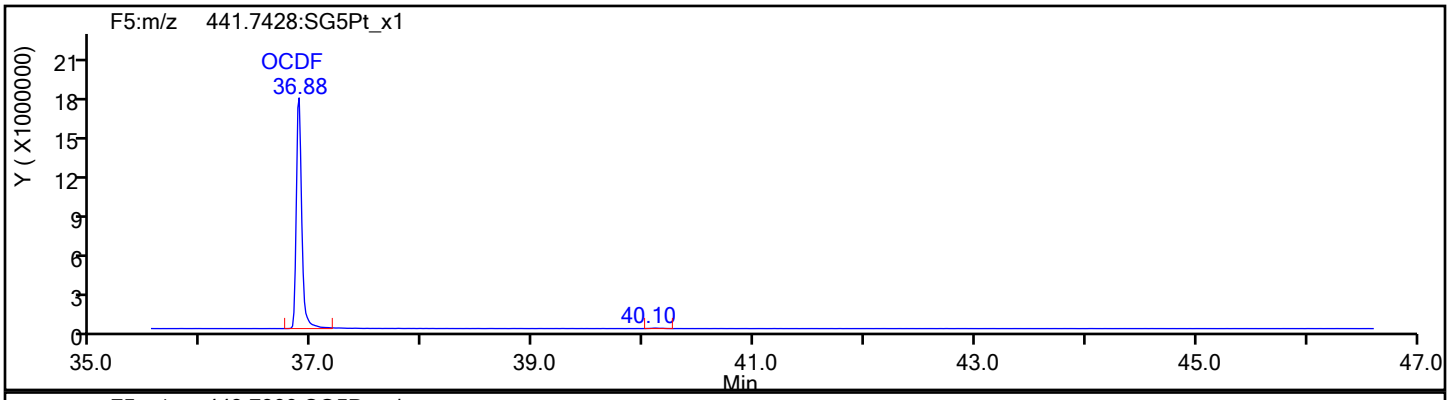

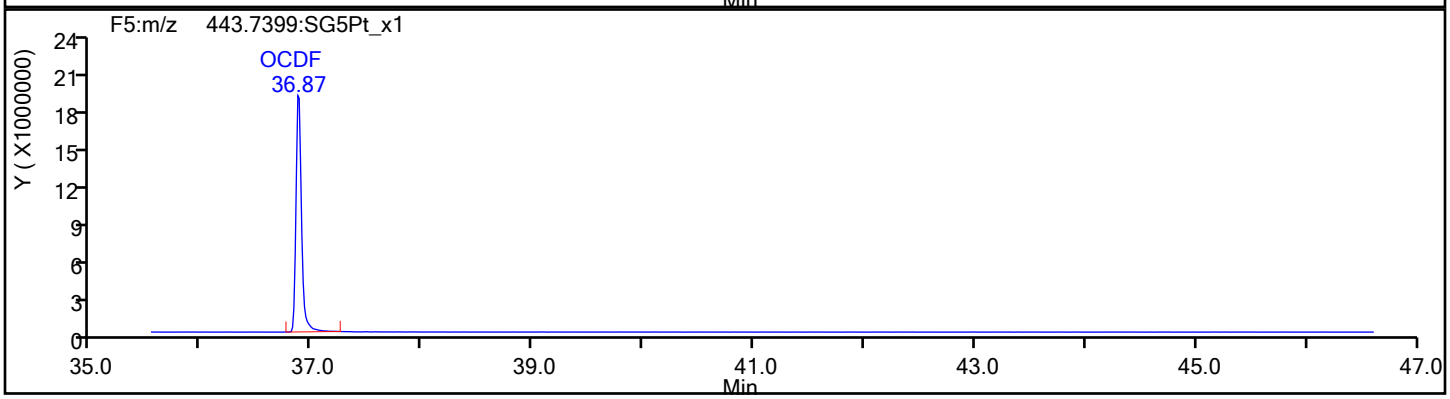

OCDF Standards

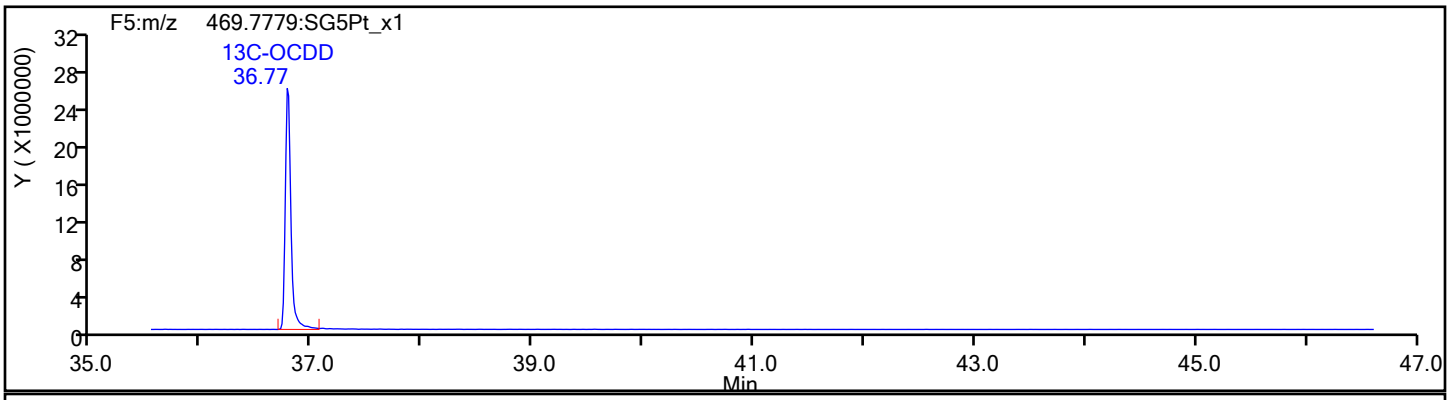

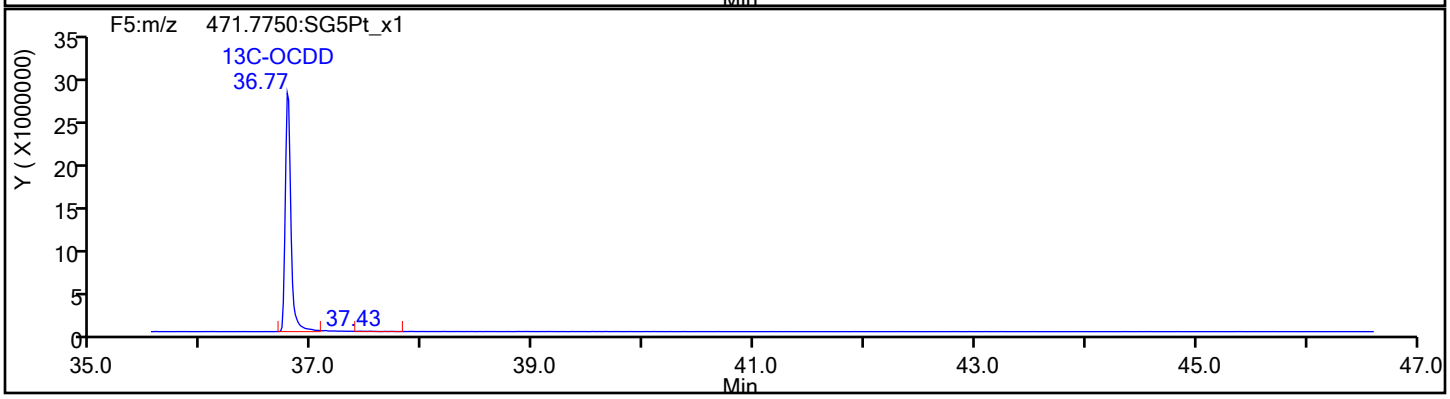

Report Date: 12-Dec-2019 15:54:26 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_5.d		
Injection Date:	12-Dec-2019 13:04:00	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L4		
Worklist#:	345037	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

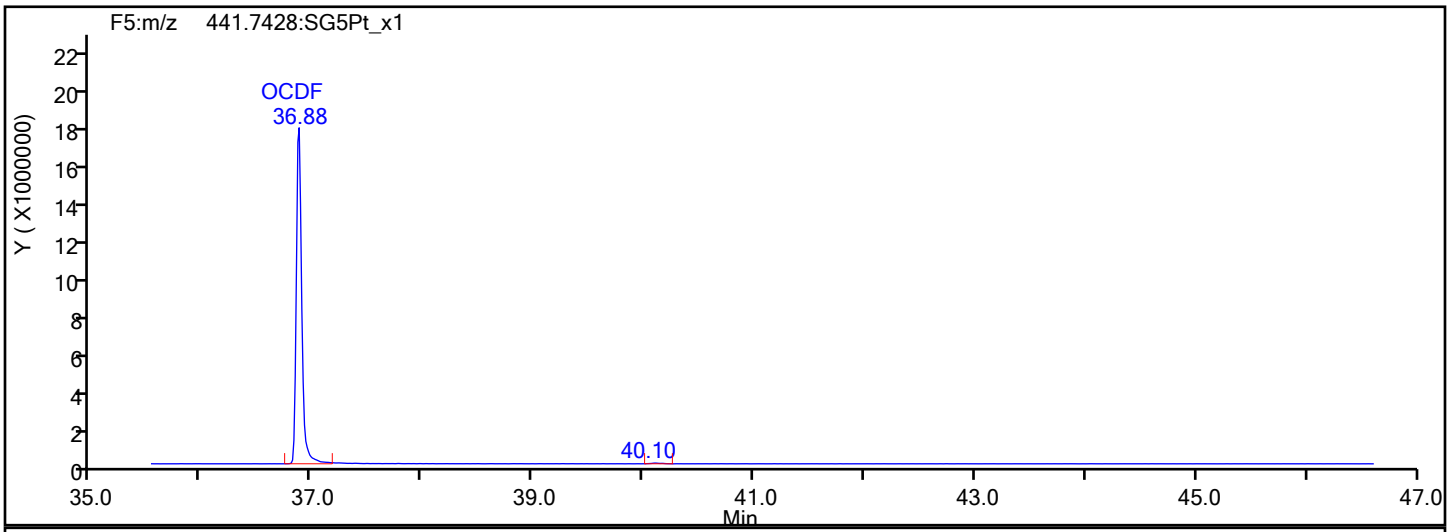

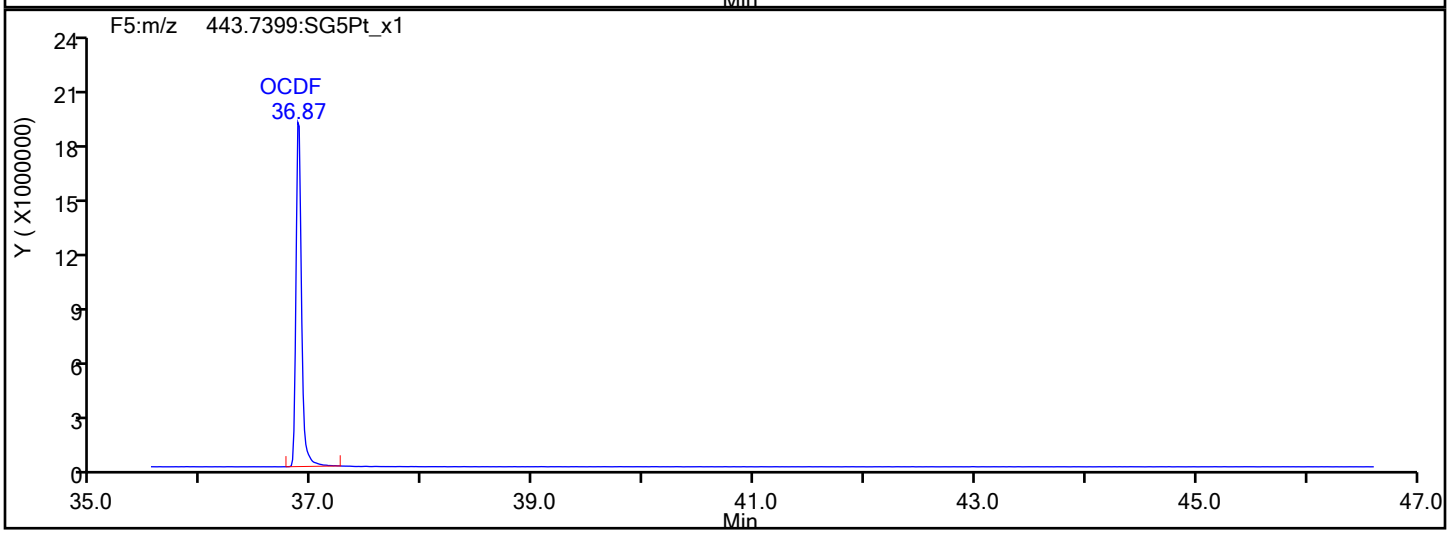

OCDF Interference Mass

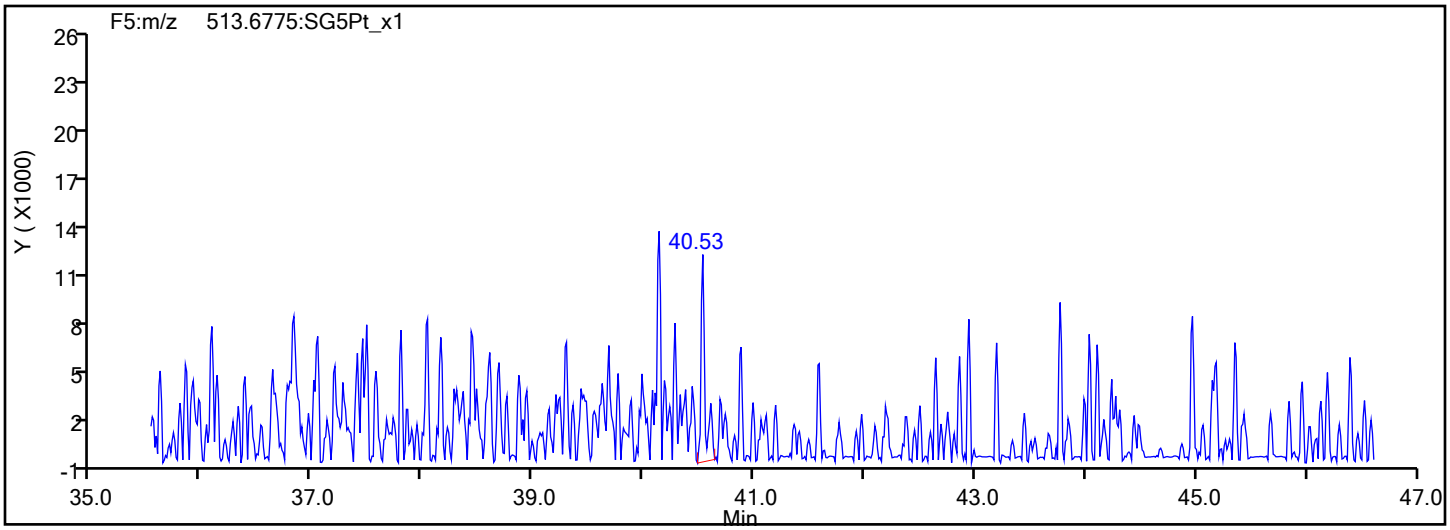

Report Date: 12-Dec-2019 15:54:26 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_5.d		
Injection Date:	12-Dec-2019 13:04:00	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L4		
Worklist#:	345037	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

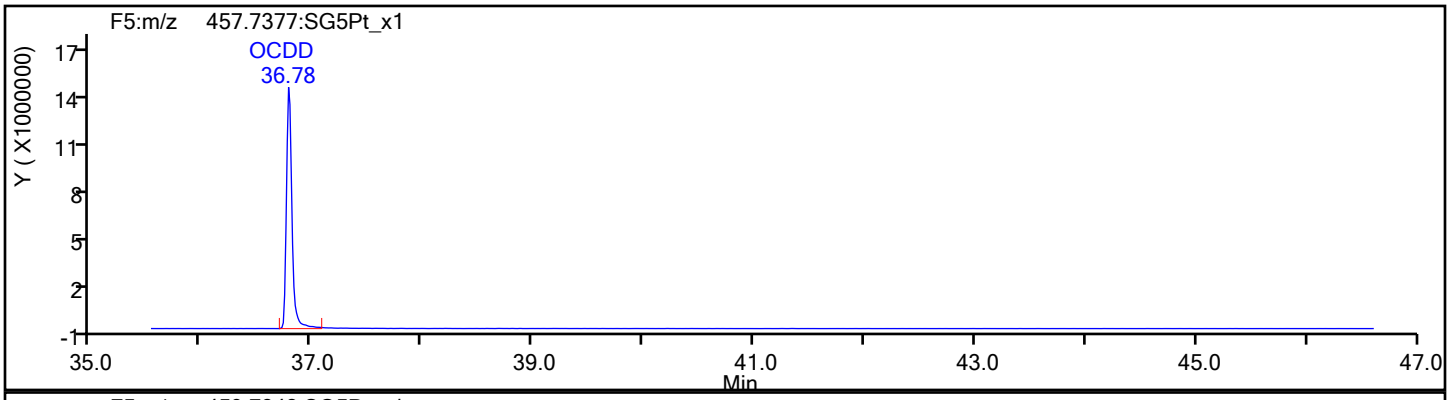

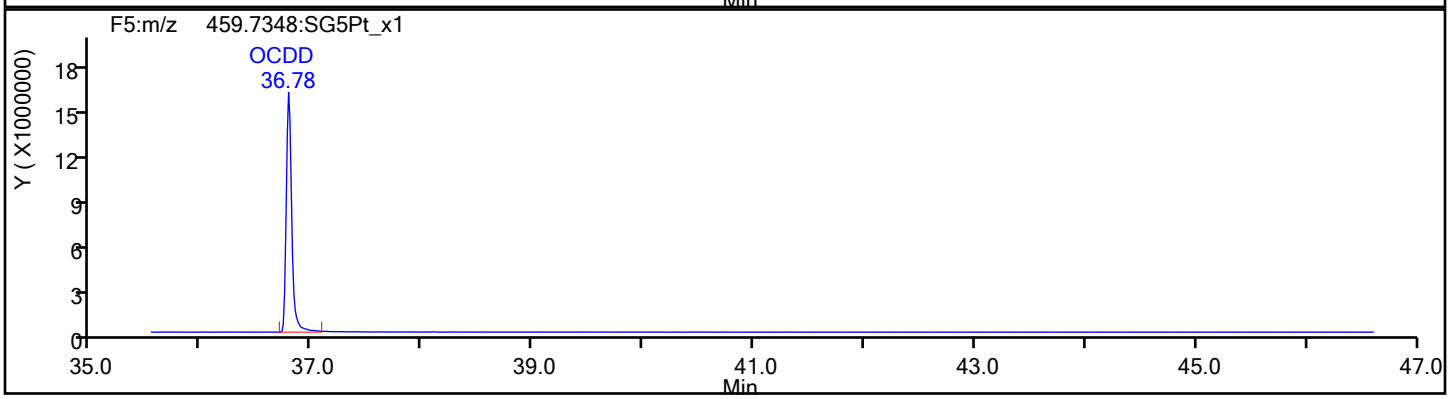

OCDD Standards

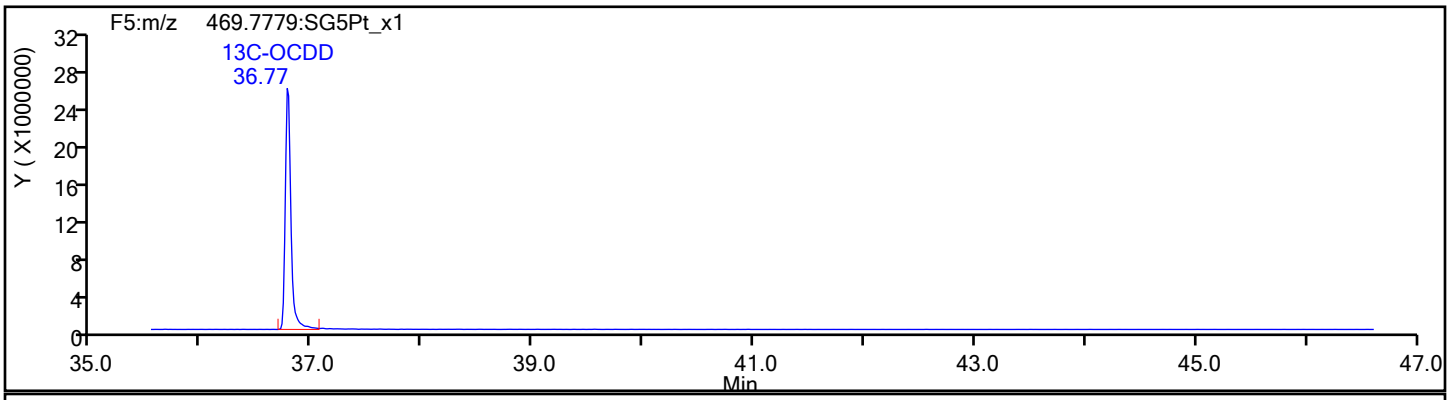

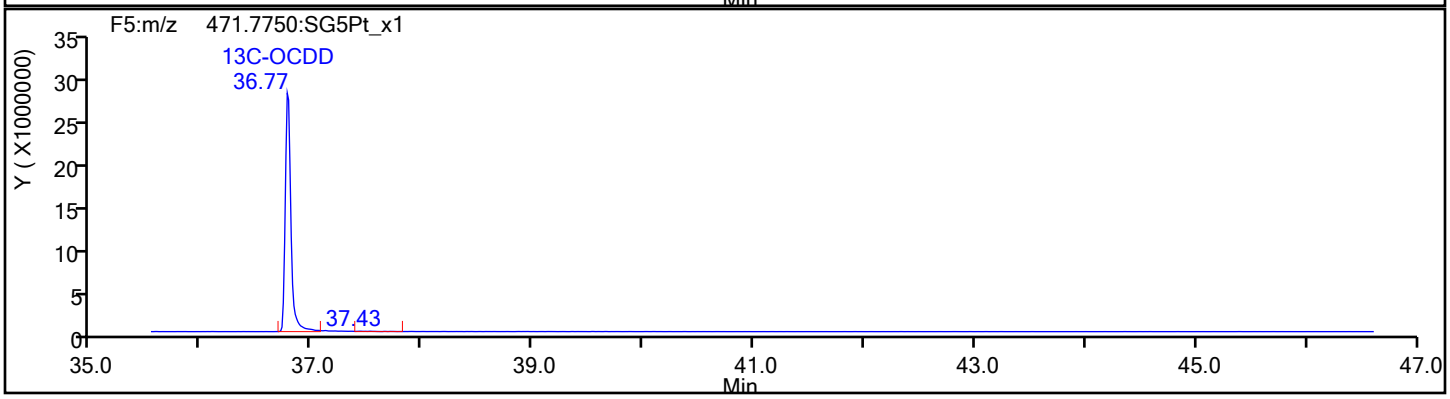

Report Date: 12-Dec-2019 15:54:26 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_5.d		
Injection Date:	12-Dec-2019 13:04:00	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L4		
Worklist#:	345037	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

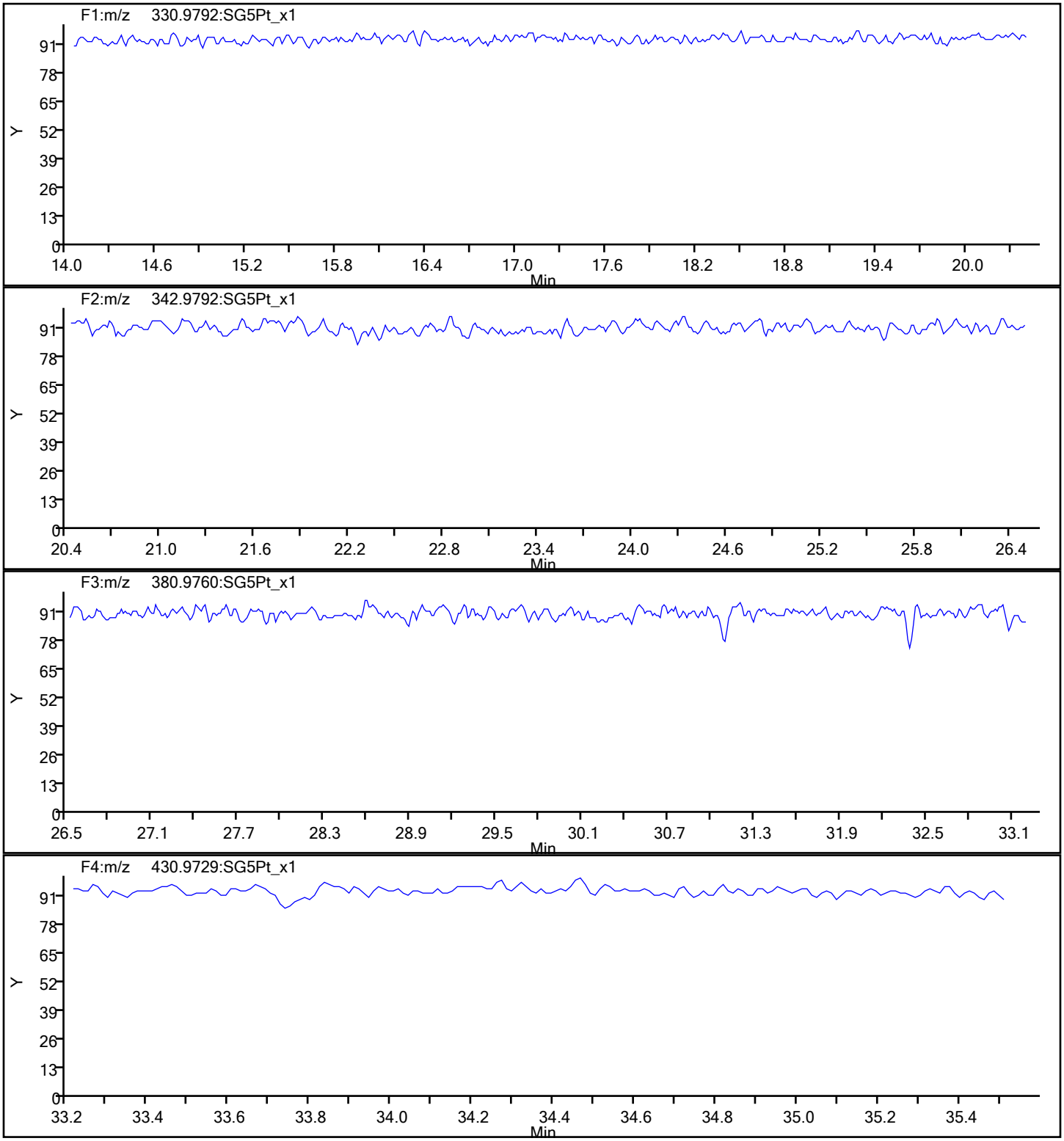

Report Date: 12-Dec-2019 15:54:26 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_5.d		
Injection Date:	12-Dec-2019 13:04:00	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L4		
Worklist#:	345037	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

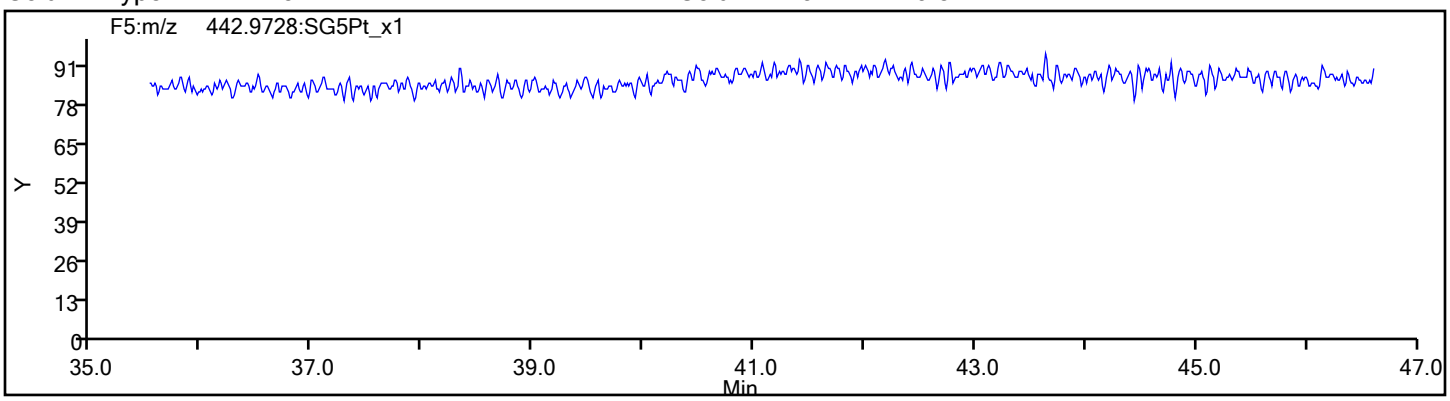

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_6.d
Lims ID: IC 5
Client ID: L5
Sample Type: IC Calib Level: 5
Inject. Date: 12-Dec-2019 13:51:32 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 121219C IC HRDXNL5_00028
Misc. Info.: 12DE193D5
Operator ID: KSS Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 12-Dec-2019 15:54:32 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: stephensk Date: 12-Dec-2019 14:41:50

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.672	224595364	0.78	2.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.158	314996891	0.81	1.4157	99.1	99.1	0.1628	0.1628	99.07	
2,3,7,8-TCDF	17.173	132413553	0.79	0.9502	44.2	44.2	0.1052	0.1052	111	
S Total TCDF					44.2	44.2	0.1052	0.1052		
D 13C-2,3,7,8-TCDD	17.854	223322673	0.80	0.9751	102.0	102.0	0.2435	0.2435	102	
2,3,7,8-TCDD	17.869	99082308	0.80	1.0477	42.3	42.3	0.0517	0.0517	106	
$ 37Cl4-2,3,7,8-TCDD	17.869	123340927		1.3480	40.7	40.7	0.0568	0.0568	102	
S Total TCDD					42.3	42.3	0.0517	0.0517		
D 13C-1,2,3,7,8-PeCDF	22.100	266542876	1.60	1.1786	100.7	100.7	0.2421	0.2421	101	
1,2,3,7,8-PeCDF	22.127	581363087	1.58	1.0302	211.7	211.7	0.6180	0.6180	106	
D 13C-2,3,4,7,8-PeCDF	23.423	253995484	1.60	1.1308	100.0	100.0	0.2524	0.2524	100	a
2,3,4,7,8-PeCDF	23.450	576277220	1.55	1.0410	218.0	218.0	0.6853	0.6853	109	
S Total PeCDF					429.7	429.7	0.6517	0.6517		
D 13C-1,2,3,7,8-PeCDD	24.132	175058491	1.60	0.7572	102.9	102.9	0.1407	0.1407	103	
1,2,3,7,8-PeCDD	24.159	390728173	1.59	1.0855	205.6	205.6	0.2728	0.2728	103	
S Total PeCDD					205.6	205.6	0.2728	0.2728		
D 13C-1,2,3,4,7,8-HxCDF	30.273	234227258	0.51	1.1043	100.3	100.3	0.3003	0.3003	100	
1,2,3,4,7,8-HxCDF	30.300	570996325	1.21	1.1472	212.5	212.5	0.6662	0.6662	106	
D 13C-1,2,3,6,7,8-HxCDF	30.473	243919748	0.54	1.1470	100.5	100.5	0.2891	0.2891	101	
1,2,3,6,7,8-HxCDF	30.499	592549839	1.27	1.1450	212.2	212.2	0.6189	0.6189	106	
D 13C-2,3,4,6,7,8-HxCDF	31.351	232992892	0.53	1.0769	102.3	102.3	0.3079	0.3079	102	
2,3,4,6,7,8-HxCDF	31.378	574663111	1.24	1.1726	210.3	210.3	0.4726	0.4726	105	
D 13C-1,2,3,7,8,9-HxCDF	32.190	218257445	0.52	1.0115	102.0	102.0	0.3278	0.3278	102	
1,2,3,7,8,9-HxCDF	32.204	535635876	1.21	1.1717	209.5	209.5	0.4483	0.4483	105	
S Total HxCDF					844.5	844.5	0.5515	0.5515		
* 13C-1,2,3,7,8,9-HxCDD	32.004	211535818	1.29	2.1E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.551	167631105	1.27	0.7962	99.5	99.5	0.1878	0.1878	99.53	a
1,2,3,4,7,8-HxCDD	31.565	391874961	1.25	1.0934	213.8	213.8	0.3654	0.3654	107	
D 13C-1,2,3,6,7,8-HxCDD	31.671	191249218	1.28	0.8720	103.7	103.7	0.1715	0.1715	104	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.684	402773504	1.26	1.0429	201.9	201.9	0.3687	0.3687	101	
1,2,3,7,8,9-HxCDD	32.017	440337374	1.26	1.2073	203.3	203.3	0.3246	0.3246	102	
S Total HxCDD					619.0	619.0	0.3529	0.3529		
D 13C-1,2,3,4,6,7,8-HpCDF	33.652	161981056	0.45	0.7577	101.1	101.1	0.6163	0.6163	101	
1,2,3,4,6,7,8-HpCDF	33.664	525836756	1.01	1.4804	219.3	219.3	1.577	1.577	110	
D 13C-1,2,3,4,7,8,9-HpCDF	34.722	154442339	0.45	0.6941	105.2	105.2	0.6727	0.6727	105	a
1,2,3,4,7,8,9-HpCDF	34.734	425539186	1.06	1.2933	213.0	213.0	2.068	2.068	107	
S Total HpCDF					432.3	432.3	1.823	1.823		
D 13C-1,2,3,4,6,7,8-HpCDD	34.442	159237326	1.08	0.7058	106.7	106.7	0.5432	0.5432	107	
1,2,3,4,6,7,8-HpCDD	34.454	348725265	1.05	1.0535	207.9	207.9	1.074	1.074	104	
S Total HpCDD					207.9	207.9	1.074	1.074		
D 13C-OCDD	36.770	208300311	0.92	0.4603	213.9	213.9	0.1729	0.1729	107	
OCDF	36.866	611942959	0.92	1.3945	421.3	421.3	0.1647	0.1647	105	
OCDD	36.782	476901861	0.90	1.1362	403.0	403.0	0.1660	0.1660	101	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

HRDXNL5_00028 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_6.d
Lims ID: IC 5
Client ID: L5
Sample Type: IC Calib Level: 5
Inject. Date: 12-Dec-2019 13:51:32 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 121219C IC HRDXNL5_00028
Misc. Info.: 12DE193D5
Operator ID: KSS Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 12-Dec-2019 15:54:32 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: stephensk Date: 12-Dec-2019 14:41:50

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.672	17.666	0		98666902	24515919	22061	55152	1111		
333.9339	17.657	17.666	-1		125928462	31246645	30891	77227	1012	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.158	17.164	0	0.971	141027224	35995868	31921	79802	1128		
317.9389	17.158	17.164	0	0.971	173969667	43295209	19473	48682	2223	0.81(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.173	17.176	0	1.001	58421847	14939787	13152	32880	1136		
305.8987	17.173	17.176	0	1.001	73991706	19209026	18537	46342	1036	0.79(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.854	17.854	0	1.010	99307865	24850045	22061	55152	1126		
333.9339	17.854	17.854	0	1.010	124014808	31162735	30891	77227	1009	0.80(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.869	17.872	0	1.001	43913881	10690254	7340	18350	1456		
321.8936	17.869	17.872	0	1.001	55168427	13628007	4800	12000	2839	0.80(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.869	17.872	0	1.011	123340927	30294267	17089	42722	1773		
13C-1,2,3,7,8-PeCDF											
351.9000	22.100	22.103	0	1.251	163865860	29956021	36906	92265	812		
353.8970	22.100	22.103	0	1.251	102677016	18751883	26749	66872	701	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.127	22.130	0	1.001	356370962	66490206	72745	181862	914		
341.8567	22.127	22.130	0	1.001	224992125	40936011	51308	128270	798	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											a
351.9000	23.423	23.426	0	1.325	156282583	26674373	36906	92265	723		a
353.8970	23.423	23.426	0	1.325	97712901	16797541	26749	66872	628	1.60(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.450	23.450	0	1.001	350354478	57462536	72745	181862	790		
341.8567	23.450	23.450	0	1.001	225922742	37730273	51308	128270	735	1.55(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	24.132	24.137	0	1.366	107751383	17516576	13542	33855	1294		
369.8919	24.132	24.137	0	1.366	67307108	10994191	10221	25552	1076	1.60(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.159	24.162	0	1.001	239758273	39037102	21414	53535	1823		
357.8516	24.159	24.162	0	1.001	150969900	24882755	12353	30882	2014	1.59(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.273	30.270	0	0.946	78644228	14104833	24363	60907	579		
385.8610	30.273	30.270	0	0.946	155583030	28295769	55002	137505	514	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.300	30.300	0	1.001	313081855	56478414	75373	188432	749		
375.8178	30.286	30.300	-1	1.000	257914470	46425640	54242	135605	856	1.21(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.473	30.473	0	0.952	85087686	15906610	24363	60907	653		
385.8610	30.473	30.473	0	0.952	158832062	29820804	55002	137505	542	0.54(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.499	30.497	0	1.001	331562685	60661773	75373	188432	805		
375.8178	30.499	30.497	0	1.001	260987154	47748698	54242	135605	880	1.27(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.351	31.357	0	0.980	81056434	20265978	24363	60907	832		
385.8610	31.351	31.357	0	0.980	151936458	38212025	55002	137505	695	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.378	31.375	0	1.001	317706357	79190734	75373	188432	1051		
375.8178	31.378	31.375	0	1.001	256956754	63014833	54242	135605	1162	1.24(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.190	32.196	0	1.006	74527909	21136572	24363	60907	868		
385.8610	32.190	32.196	0	1.006	143729536	40554765	55002	137505	737	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.204	32.209	0	1.000	292943277	81353735	75373	188432	1079		
375.8178	32.204	32.209	0	1.000	242692599	67884862	54242	135605	1252	1.21(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.004	32.004	0		119156228	33909457	18818	47045	1802		
403.8529	32.004	32.004	0		92379590	25930247	16982	42455	1527	1.29(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											a
401.8559	31.551	31.557	0	0.986	93899540	26128579	18818	47045	1388		a
403.8529	31.551	31.557	0	0.986	73731565	20820763	16982	42455	1226	1.27(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.565	31.570	0	1.000	218078173	57189299	41171	102927	1389		
391.8127	31.565	31.570	0	1.000	173796788	45825138	33854	84635	1354	1.25(1.05-1.43)	

Report Date: 12-Dec-2019 15:54:33 Chrom Revision: 2.3 02-Dec-2019 08:23:04
Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_6.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.671	31.666	0	0.990	107339574	27522450	18818	47045	1463		
403.8529	31.671	31.666	0	0.990	83909644	21260845	16982	42455	1252	1.28(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.684	31.682	0	1.000	224582682	60738483	41171	102927	1475		
391.8127	31.684	31.682	0	1.000	178190822	47473358	33854	84635	1402	1.26(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.017	32.023	0	1.015	245673103	69976937	41171	102927	1700		
391.8127	32.017	32.023	0	1.015	194664271	55809192	33854	84635	1649	1.26(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.652	33.647	0	1.051	50617005	18038718	30961	77402	583		
419.8220	33.652	33.647	0	1.051	111364051	39847587	80813	202032	493	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.664	33.659	0	1.000	264742118	97611249	262056	655140	372		
409.7789	33.664	33.659	0	1.000	261094638	90622375	278481	696202	325	1.01(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											a
417.8253	34.722	34.726	0	1.085	47887734	15735543	30961	77402	508		a
419.8220	34.722	34.726	0	1.085	106554605	34781659	80813	202032	430	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.734	34.736	0	1.000	218627803	71787981	262056	655140	274		
409.7789	34.734	34.736	0	1.000	206911383	68370612	278481	696202	246	1.06(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.442	34.437	0	1.076	82684782	27916319	55153	137882	506		
437.8140	34.442	34.437	0	1.076	76552544	25864716	36611	91527	706	1.08(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.454	34.449	0	1.000	178857029	60226461	105925	264812	569		
425.7737	34.454	34.449	0	1.000	169868236	55711988	137410	343525	405	1.05(0.88-1.20)	
13C-OCDD											
469.7779	36.770	36.767	0	1.149	99727463	28654535	8561	21402	3347		
471.7750	36.770	36.767	0	1.149	108572848	30945683	10486	26215	2951	0.92(0.76-1.02)	
OCDF											
441.7428	36.866	36.870	0	1.003	293821227	87767807	11843	29607	7411		
443.7399	36.866	36.870	0	1.003	318121732	95847756	15528	38820	6173	0.92(0.76-1.02)	
OCDD											
457.7377	36.782	36.779	0	1.000	225772958	64929459	10884	27210	5966		
459.7348	36.782	36.779	0	1.000	251128903	70952785	11602	29005	6116	0.90(0.76-1.02)	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

HRDXNL5_00028 Amount Added: 2.00 Units: uL

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_6.d				
Injection Date:	12-Dec-2019 13:51:32	Instrument ID:	3D5		
Lims ID:	IC 5				
Client ID:	L5				
Operator ID:	KSS	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

13C-2,3,4,7,8-PeCDF, CAS: 116843-02-8

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 23.43

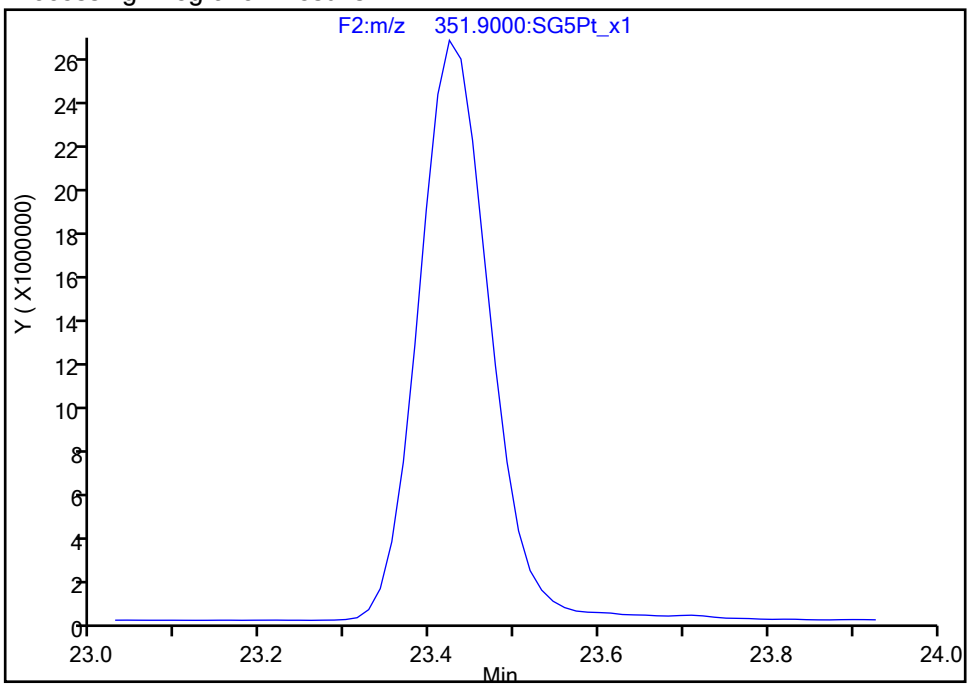

Manual Integration Results

RT: 23.42
Area: 156282583
Amount: 100.0121
Amount Units: pg/ul

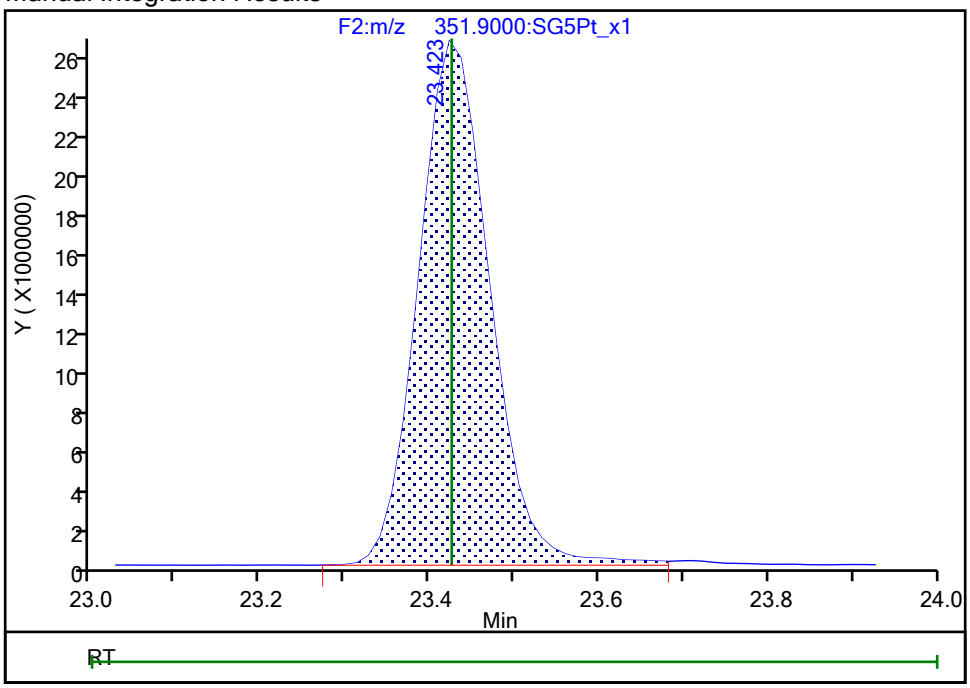

Reviewer: stephensk, 12-Dec-2019 14:41:39
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_6.d				
Injection Date:	12-Dec-2019 13:51:32	Instrument ID:	3D5		
Lims ID:	IC 5				
Client ID:	L5				
Operator ID:	KSS	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

13C-1,2,3,4,7,8-HxCDD, CAS: 109719-80-4

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 31.56

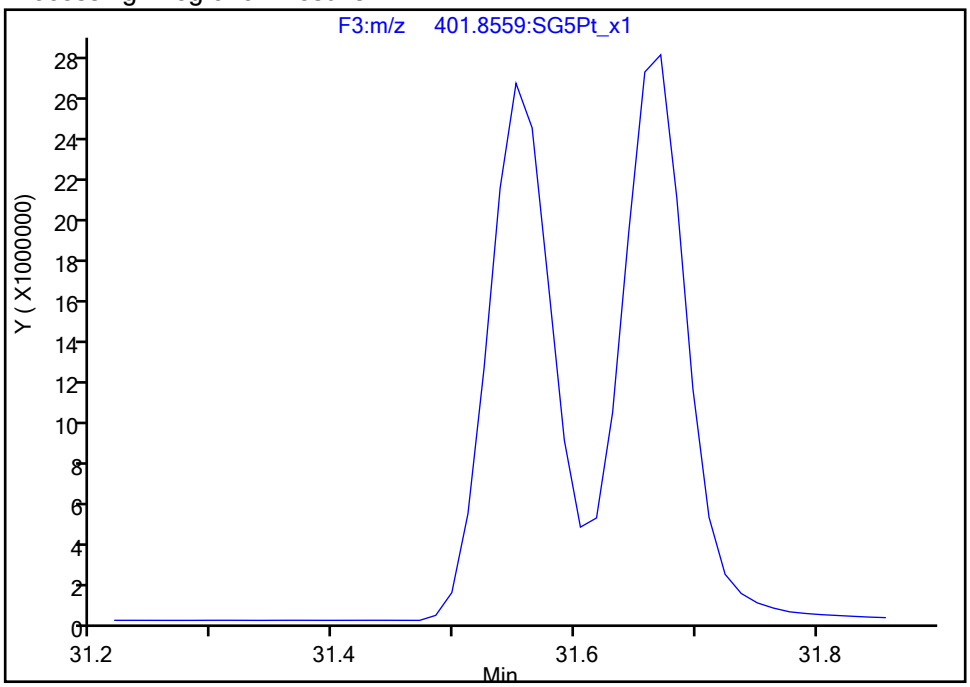

Manual Integration Results

RT: 31.55
Area: 93899540
Amount: 99.528000
Amount Units: pg/ul

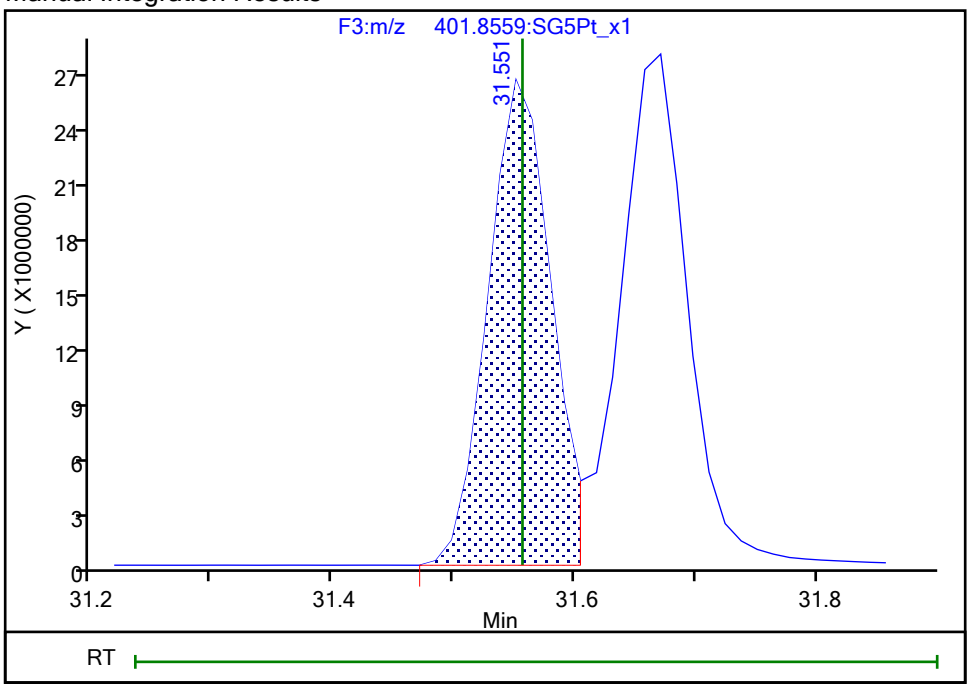

Reviewer: stephensk, 12-Dec-2019 14:41:25
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_6.d				
Injection Date:	12-Dec-2019 13:51:32	Instrument ID:	3D5		
Lims ID:	IC 5				
Client ID:	L5				
Operator ID:	KSS	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

13C-1,2,3,4,7,8,9-HpCDF, CAS: 109719-94-0

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 34.73

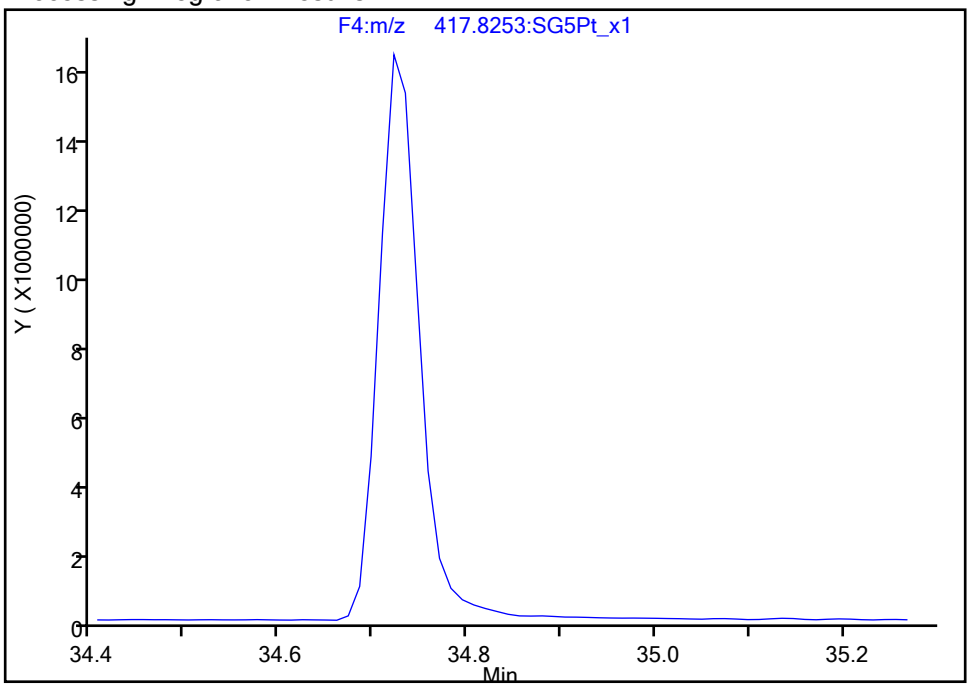

Manual Integration Results

RT: 34.72
Area: 47887734
Amount: 105.1812
Amount Units: pg/ul

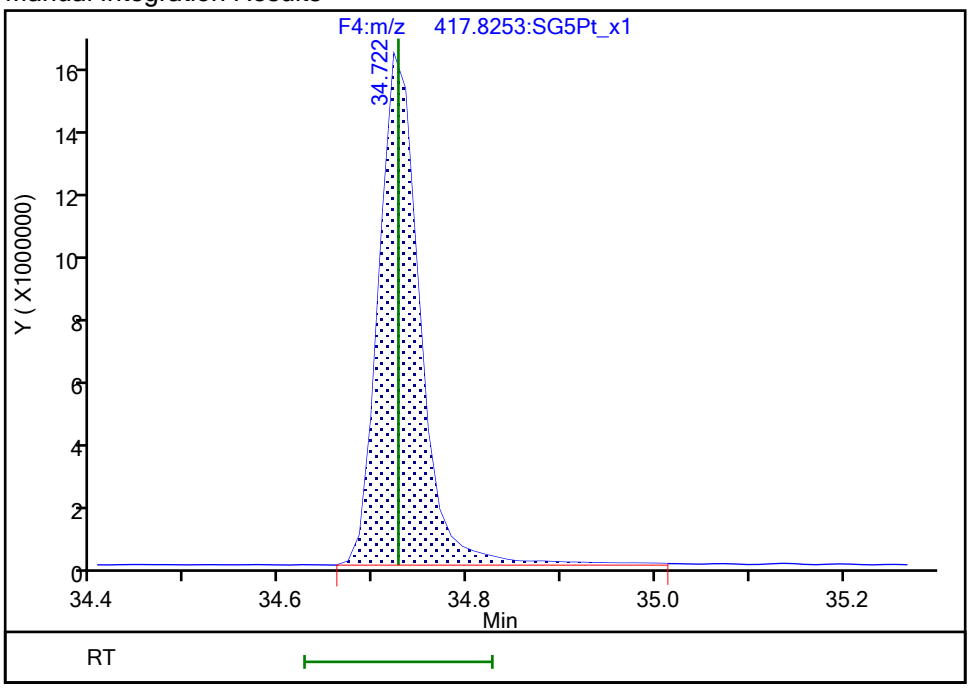

Reviewer: stephensk, 12-Dec-2019 14:41:31
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Report Date: 12-Dec-2019 15:54:33 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_6.d		
Injection Date:	12-Dec-2019 13:51:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
Worklist#:	345037	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

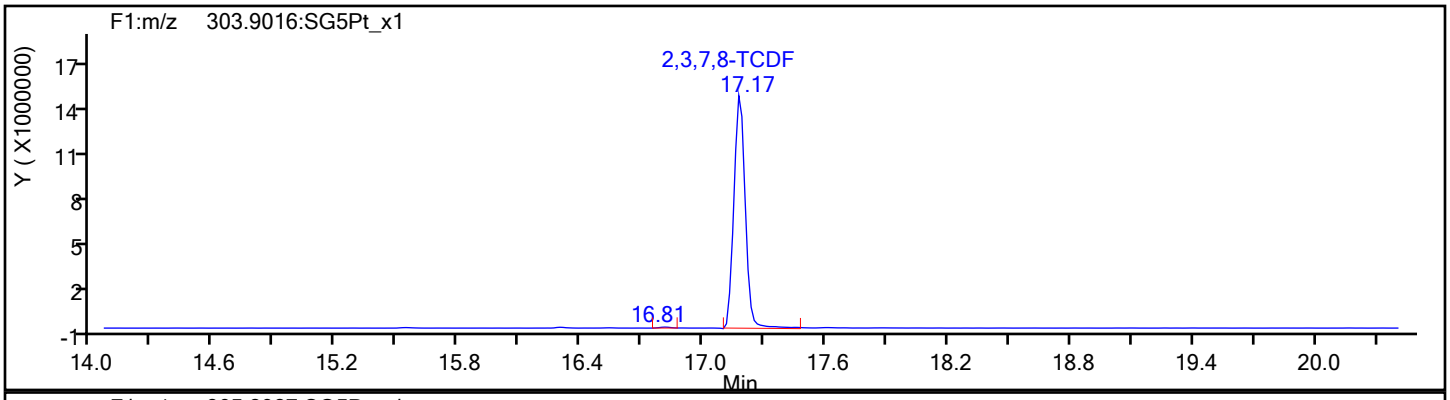

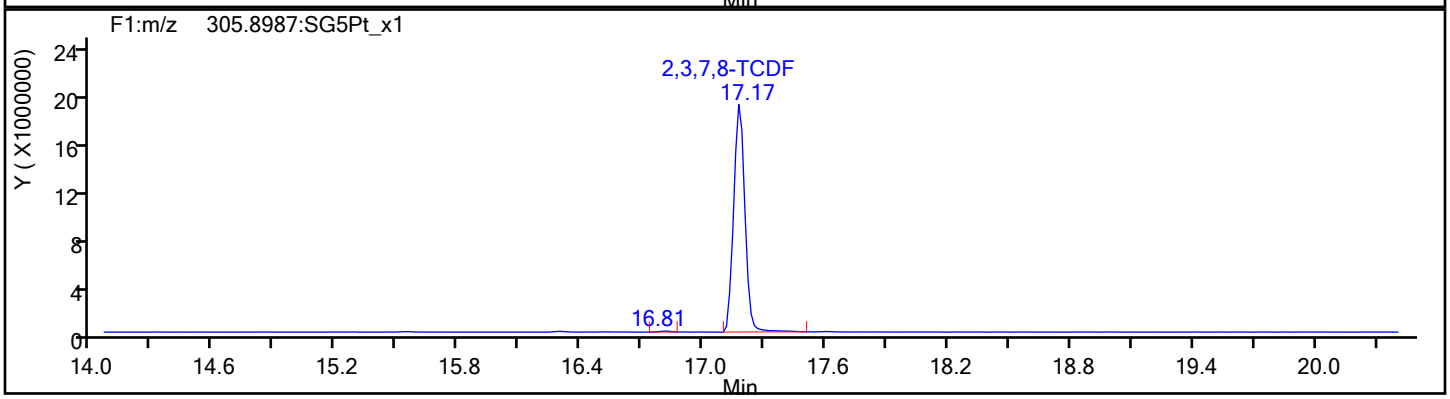

TCDF Standards

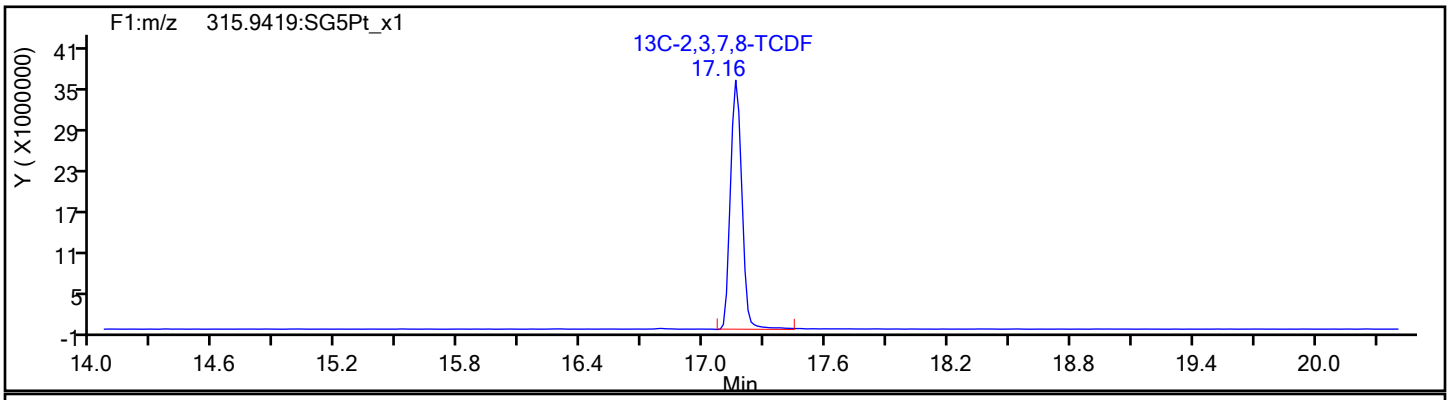

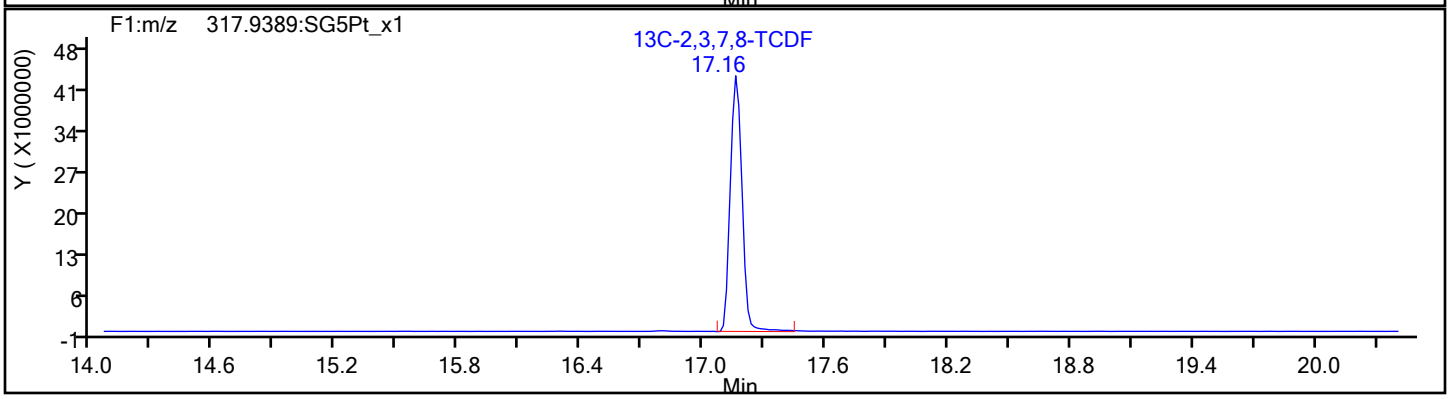

Report Date: 12-Dec-2019 15:54:34 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_6.d		
Injection Date:	12-Dec-2019 13:51:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
Worklist#:	345037	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

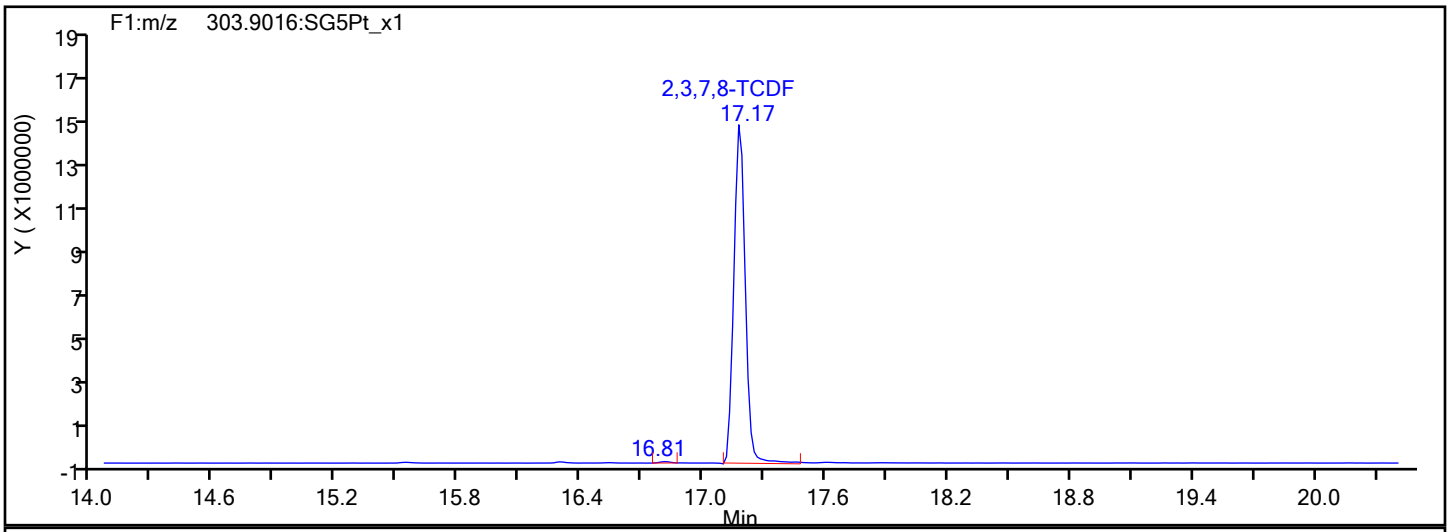

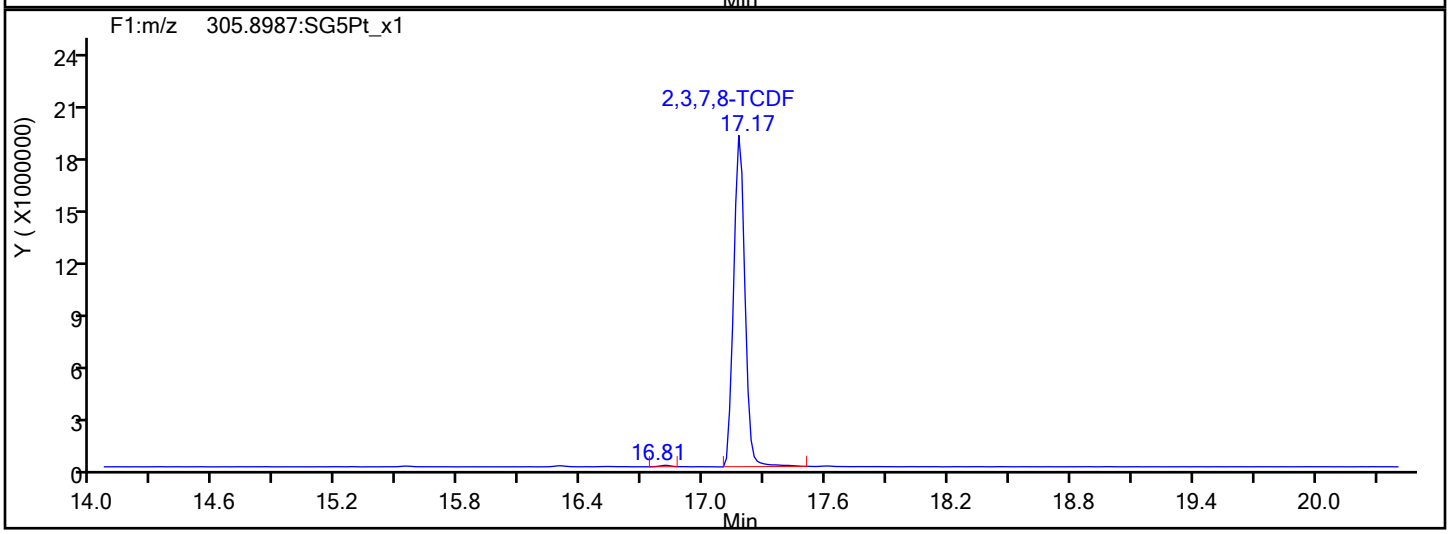

TCDF Interference Mass

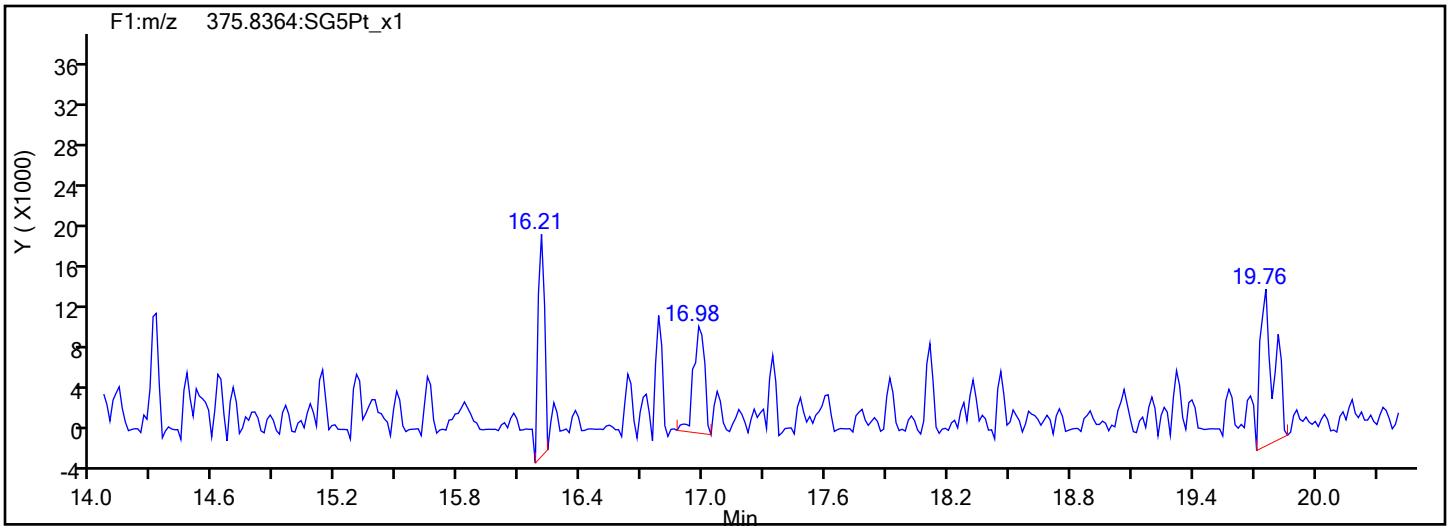

Report Date: 12-Dec-2019 15:54:34 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_6.d		
Injection Date:	12-Dec-2019 13:51:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
Worklist#:	345037	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

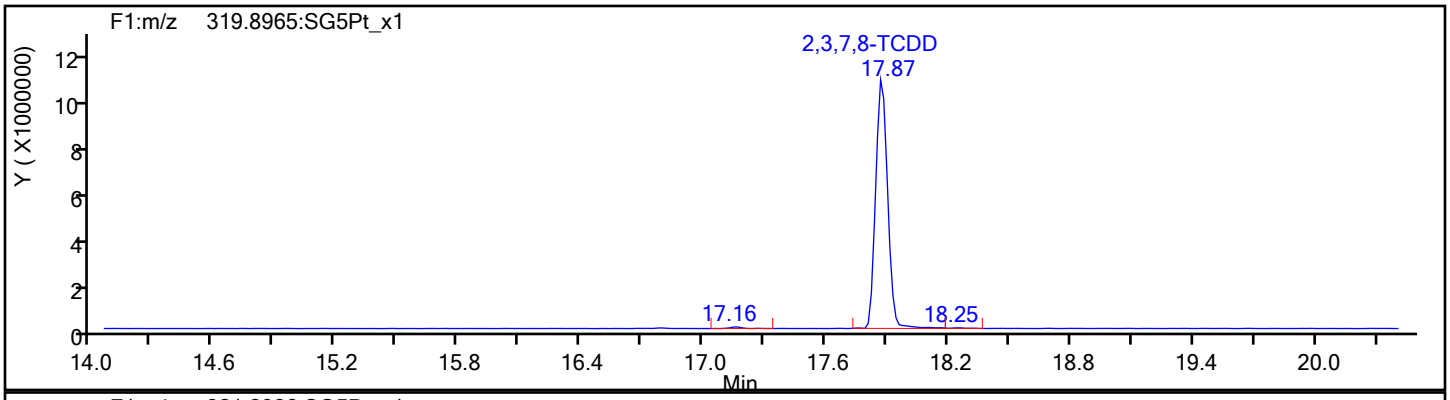

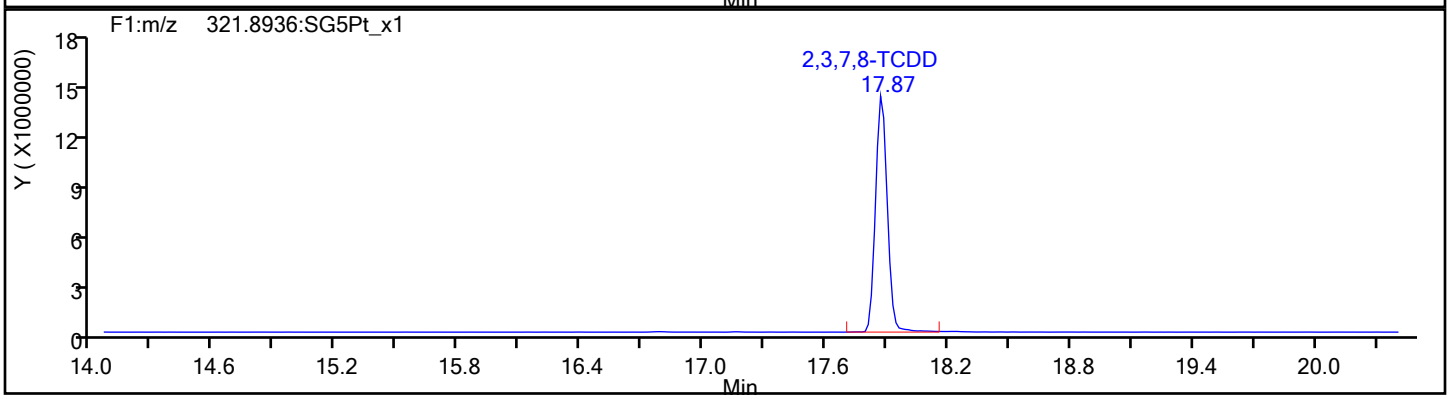

TCDD Standards

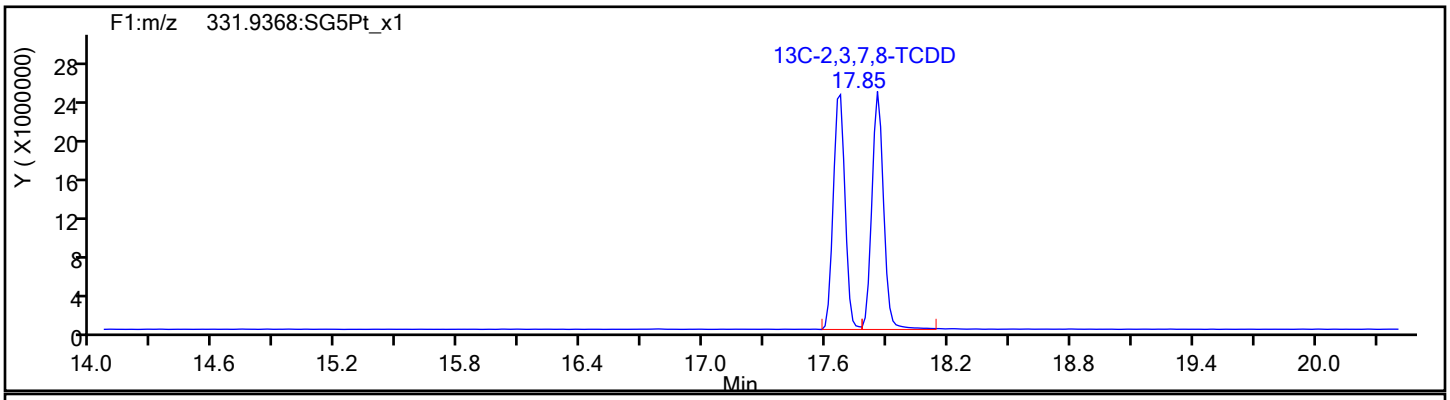

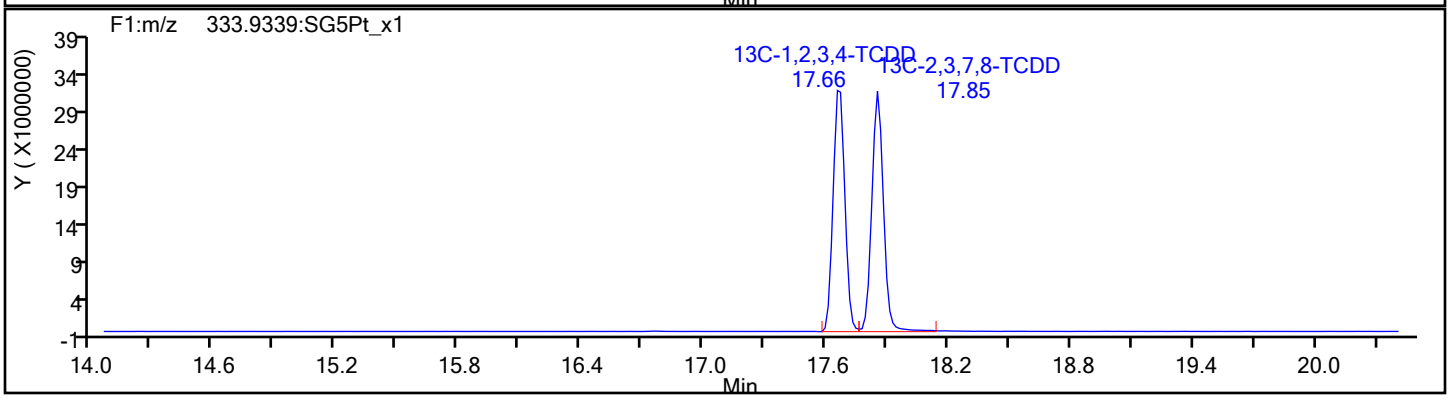

Report Date: 12-Dec-2019 15:54:34 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_6.d		
Injection Date:	12-Dec-2019 13:51:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
Worklist#:	345037	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

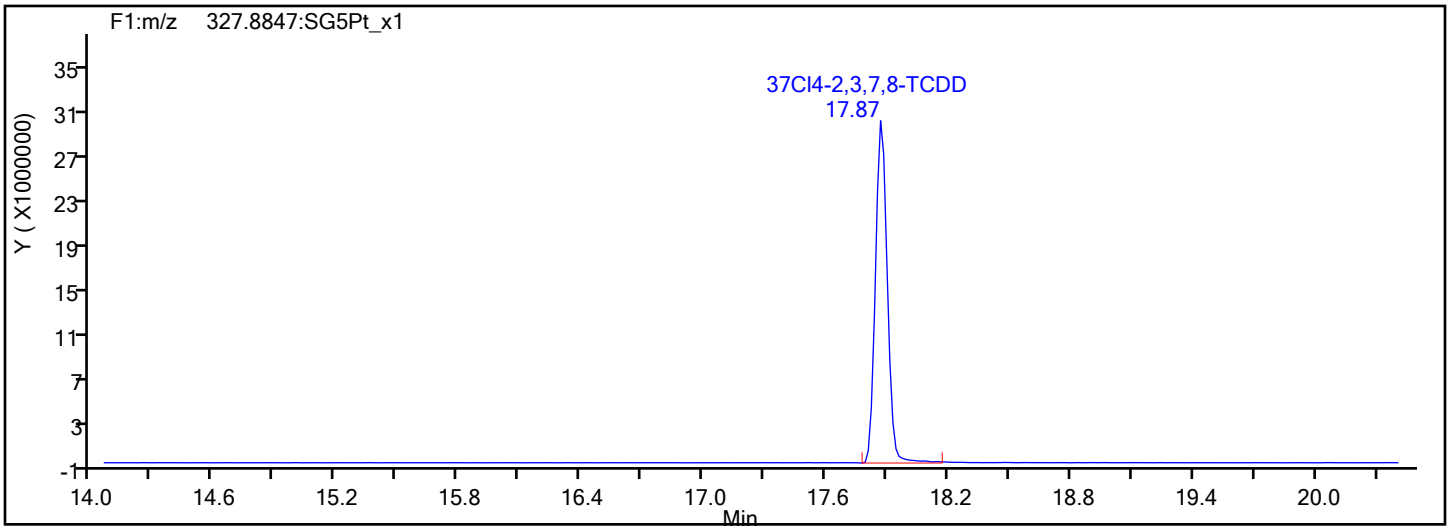

37Cl4-TCDD Standards

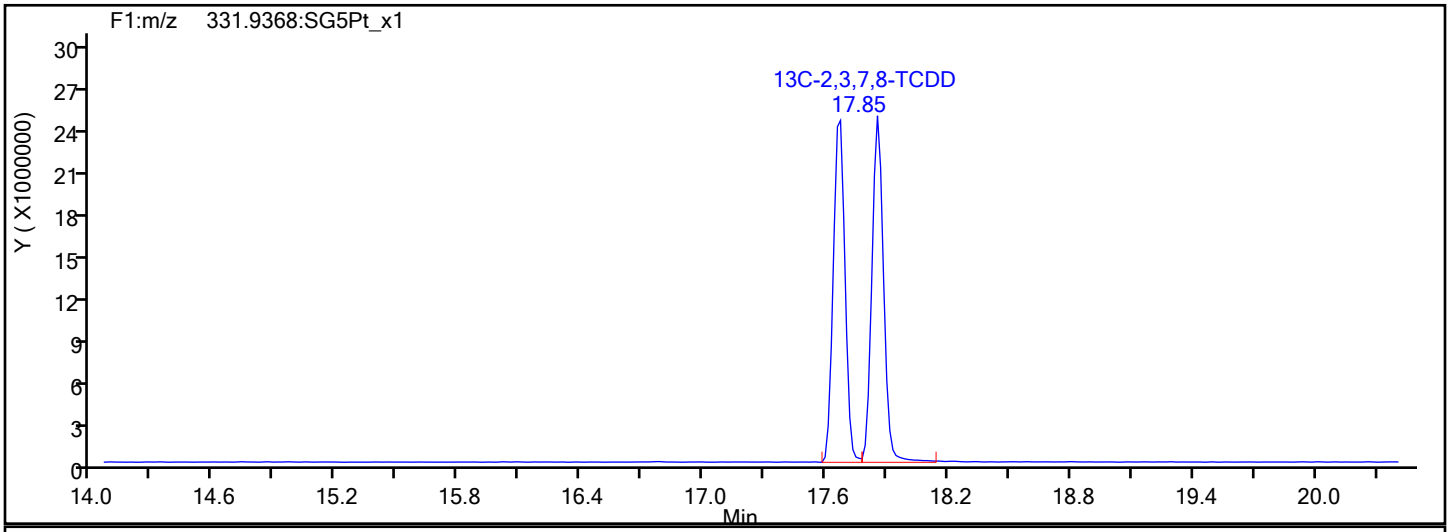

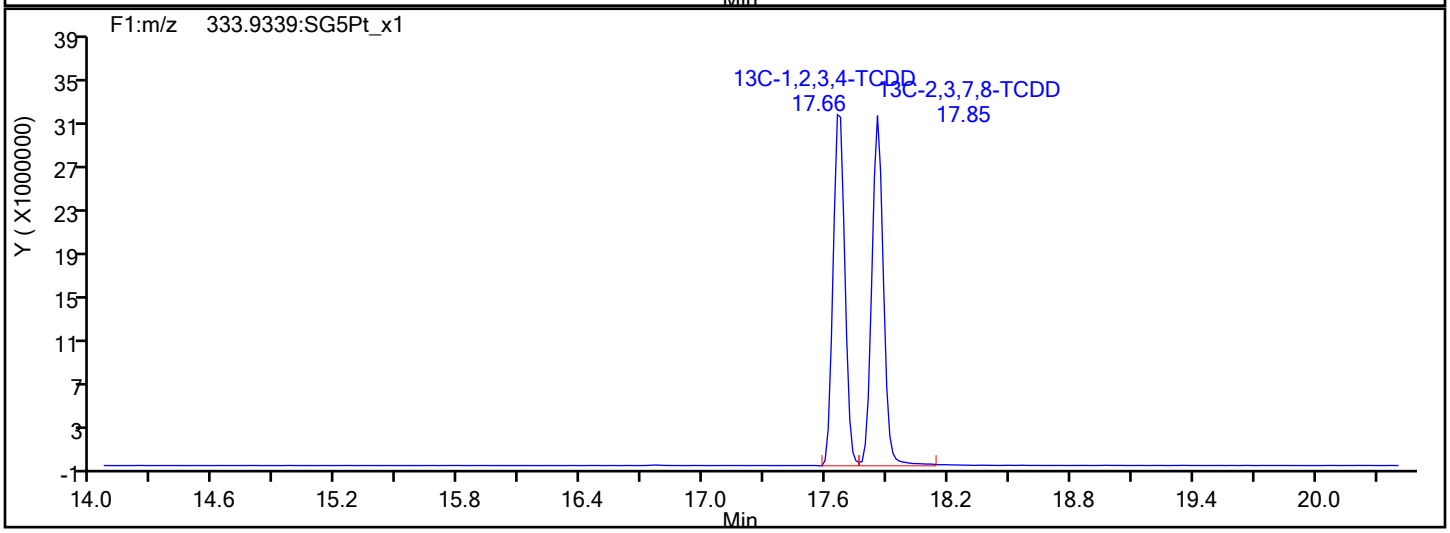

Report Date: 12-Dec-2019 15:54:34 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_6.d		
Injection Date:	12-Dec-2019 13:51:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
Worklist#:	345037	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

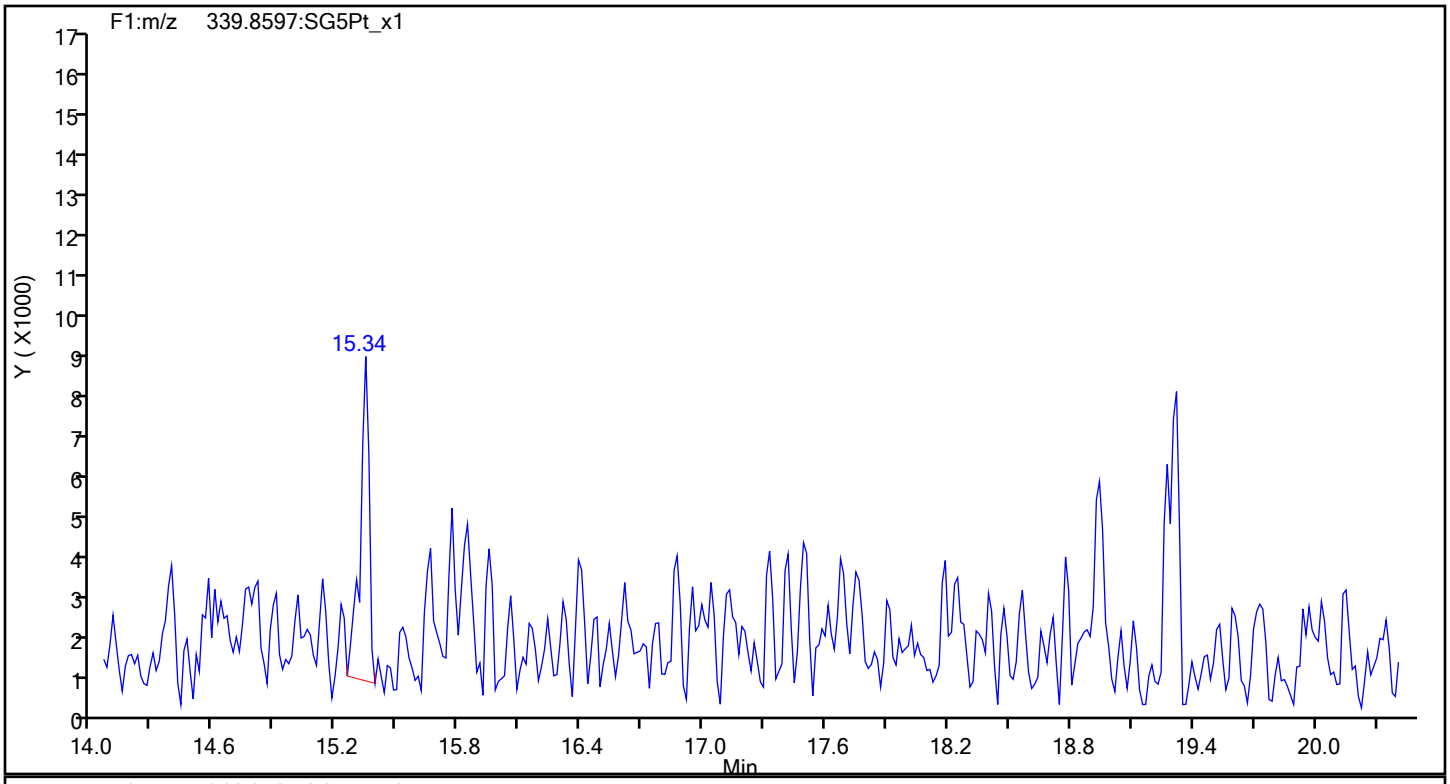

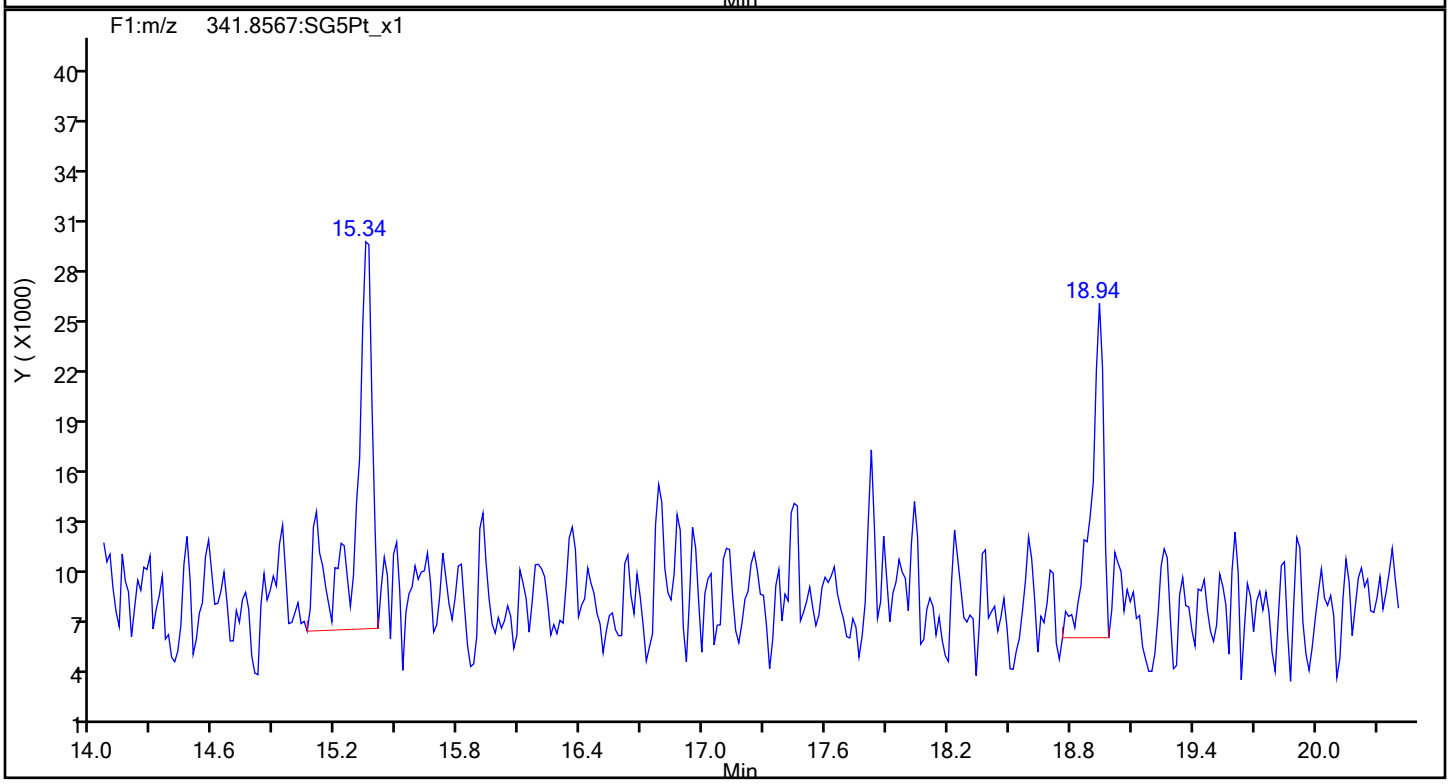

Report Date: 12-Dec-2019 15:54:34 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

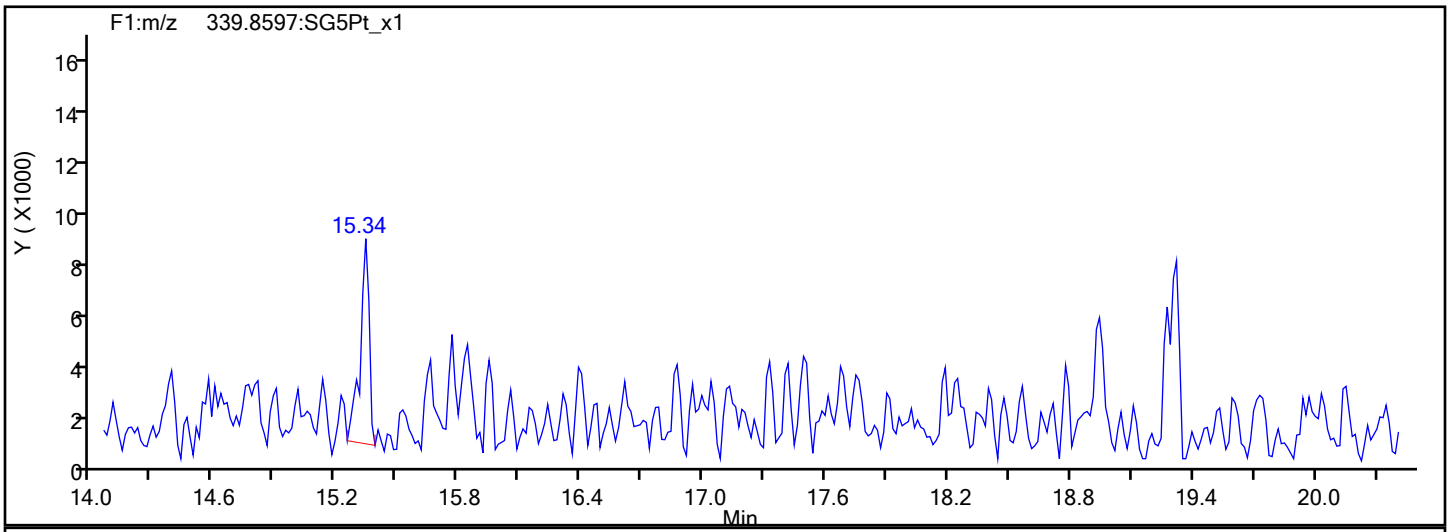

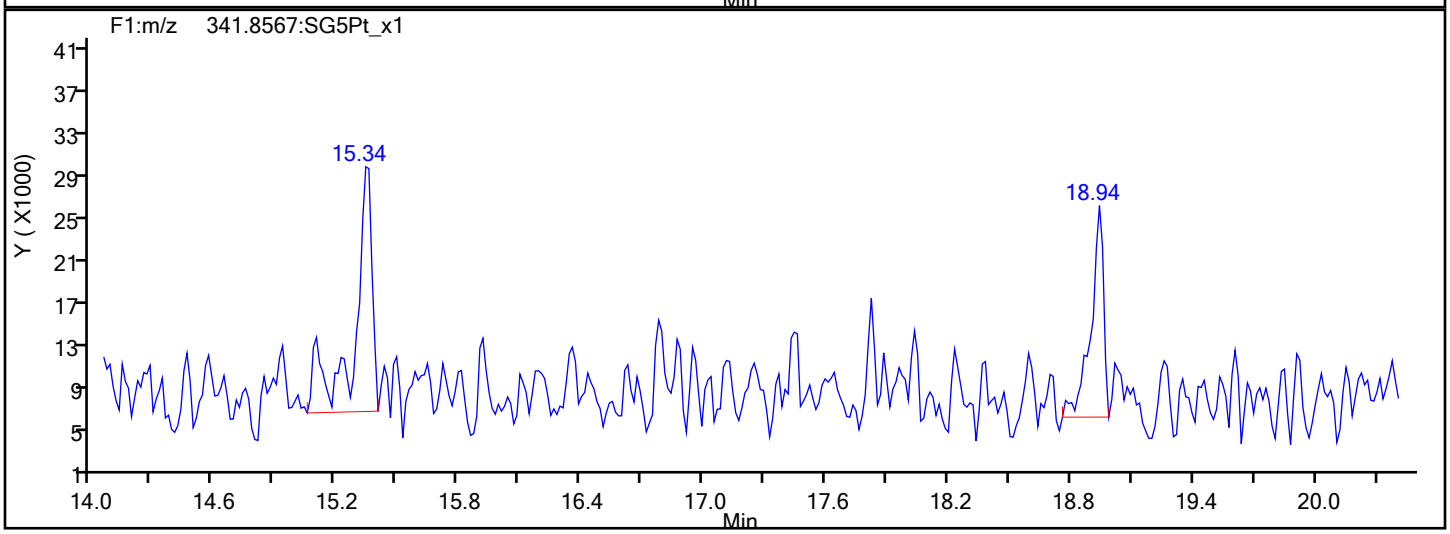

F1 PeCDFs Interference Mass

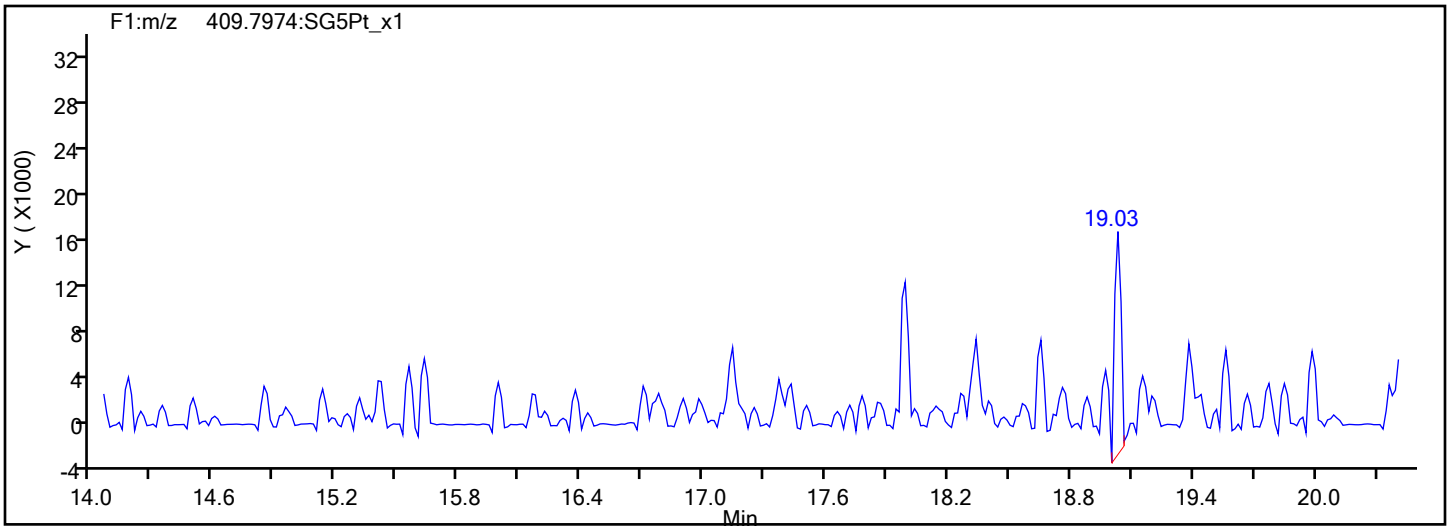

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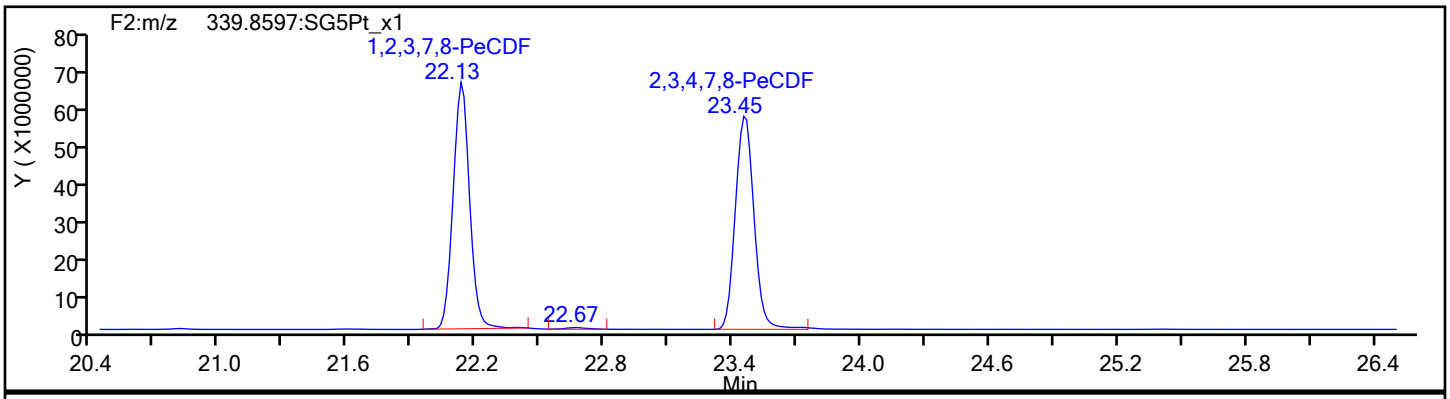

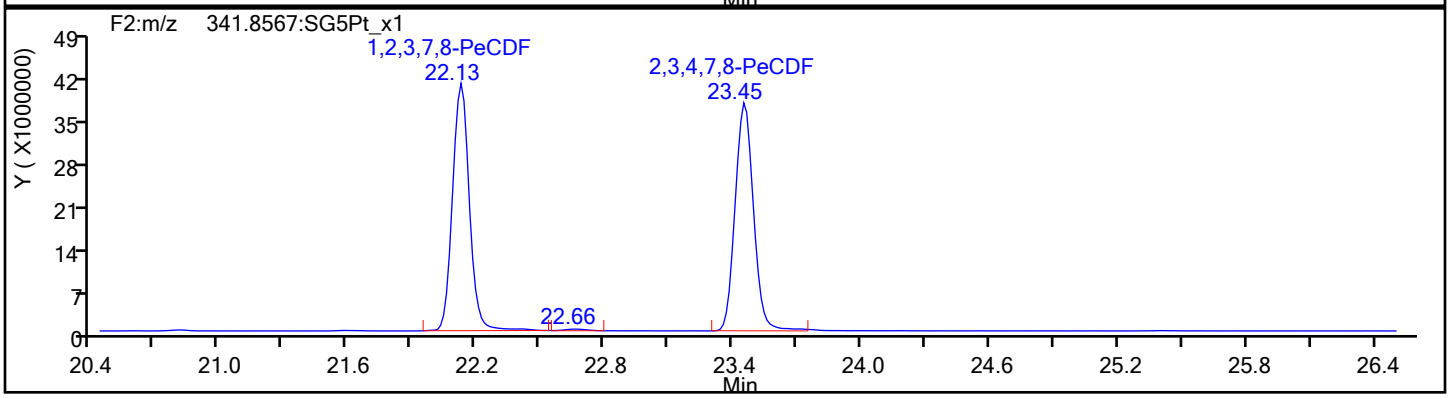

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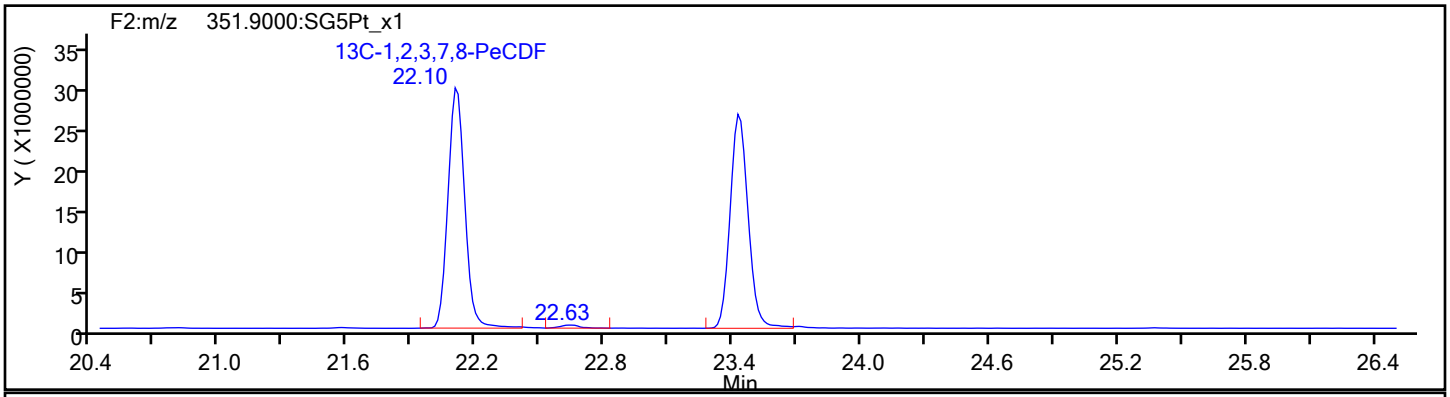

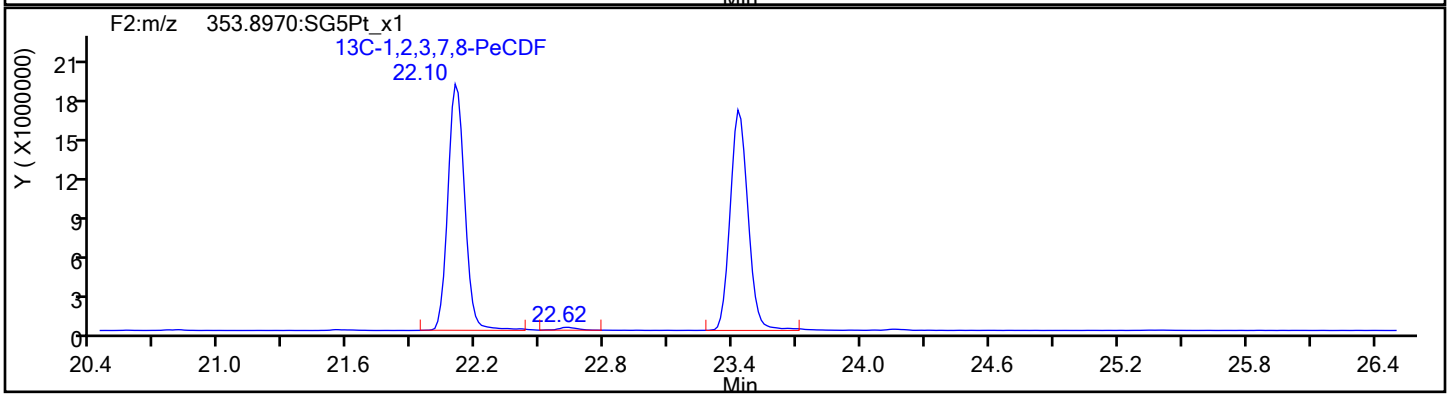

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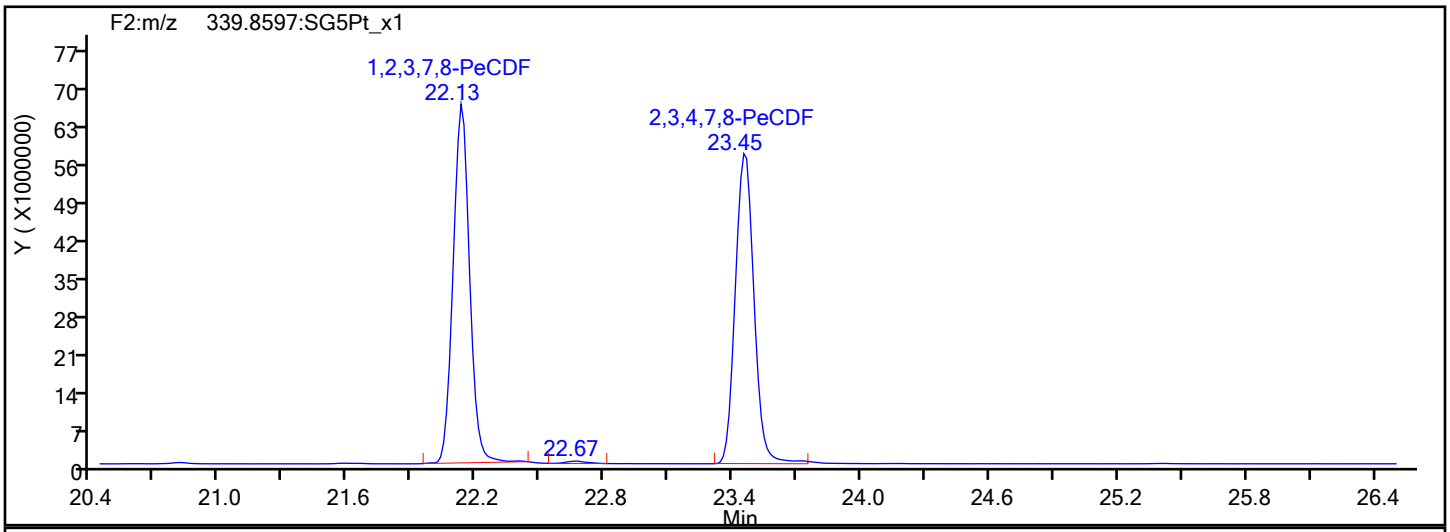

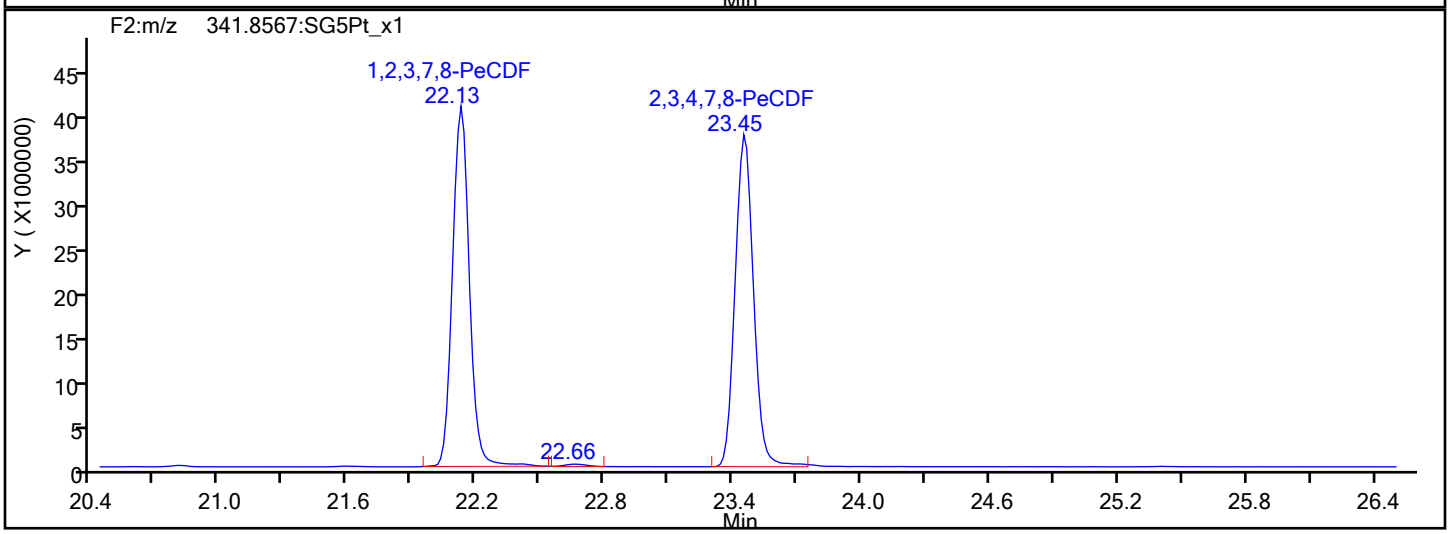

PeCDF Interference Mass

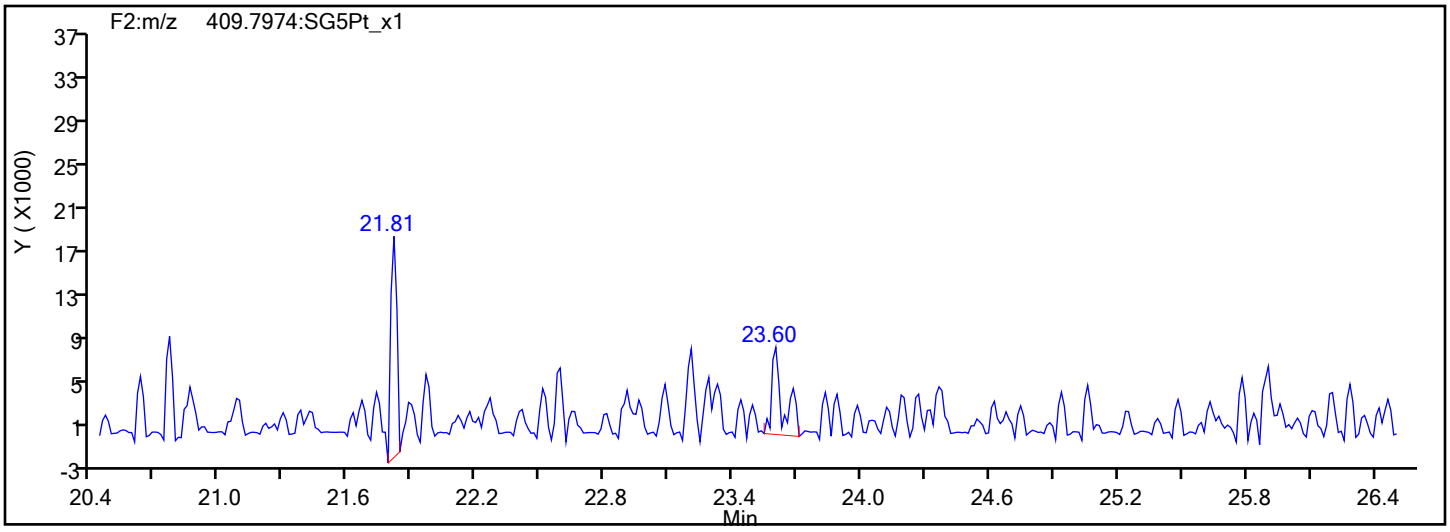

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Eurofins TestAmerica, Sacramento

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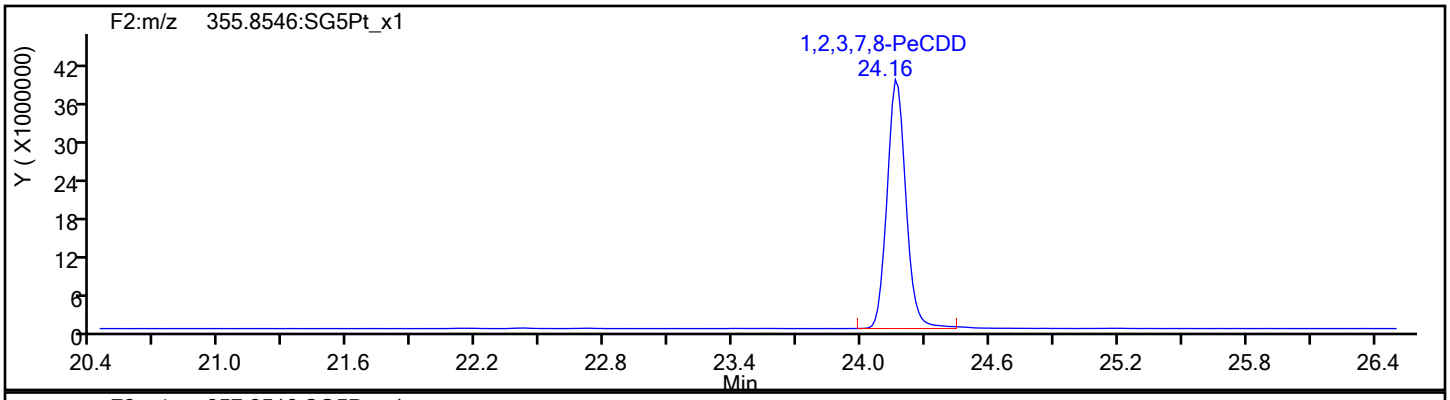

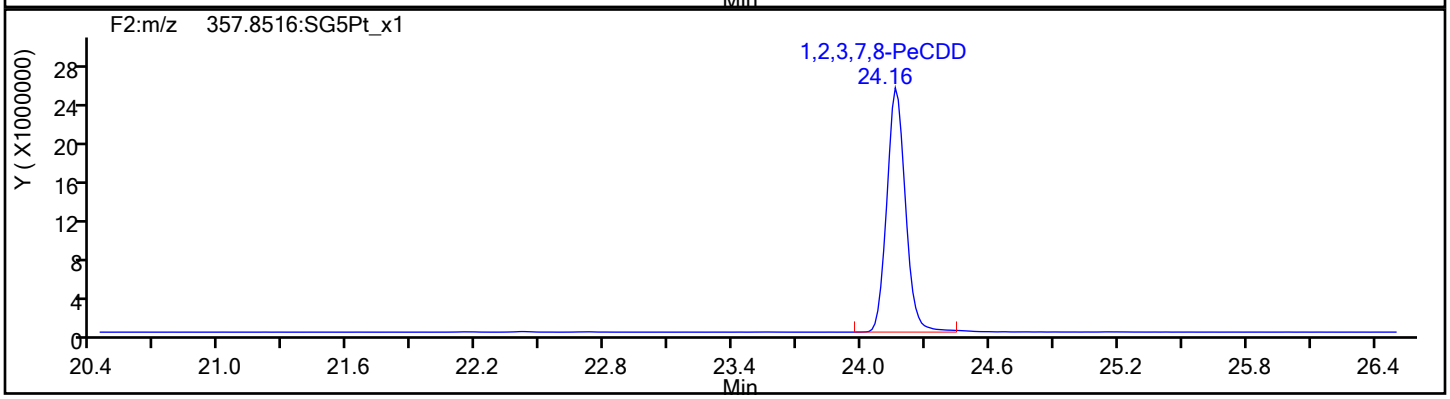

PeCDD Standards

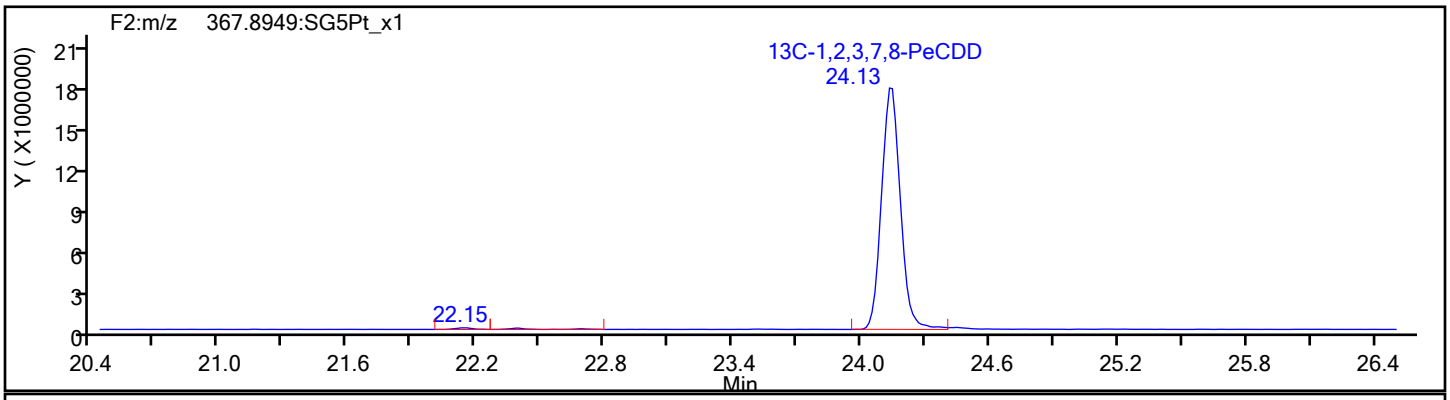

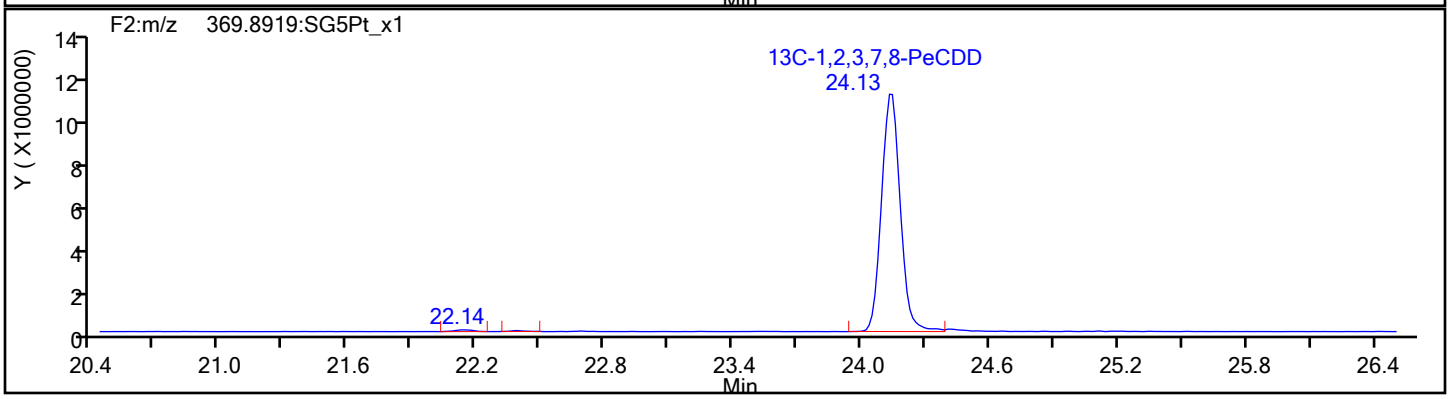

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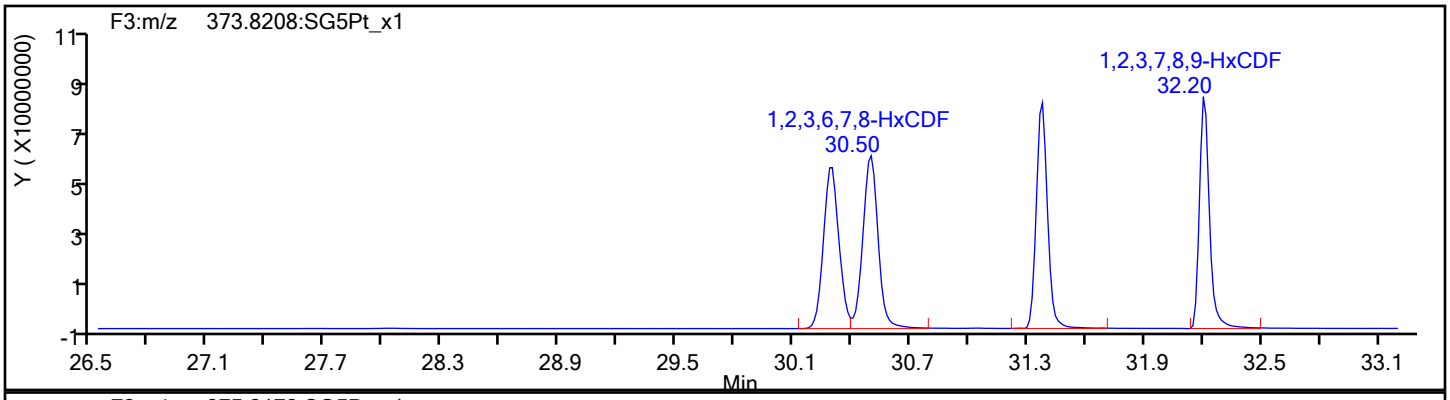

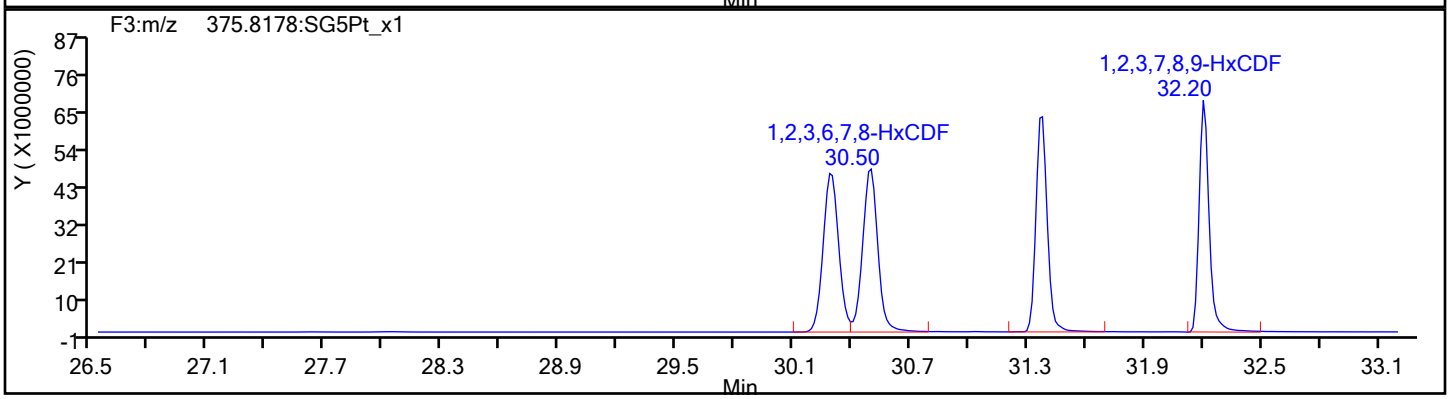

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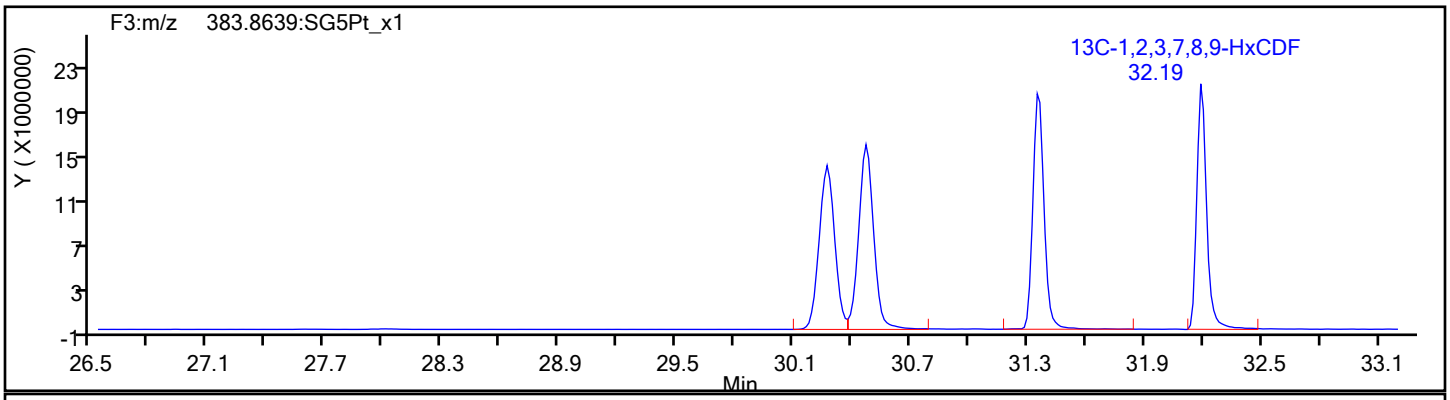

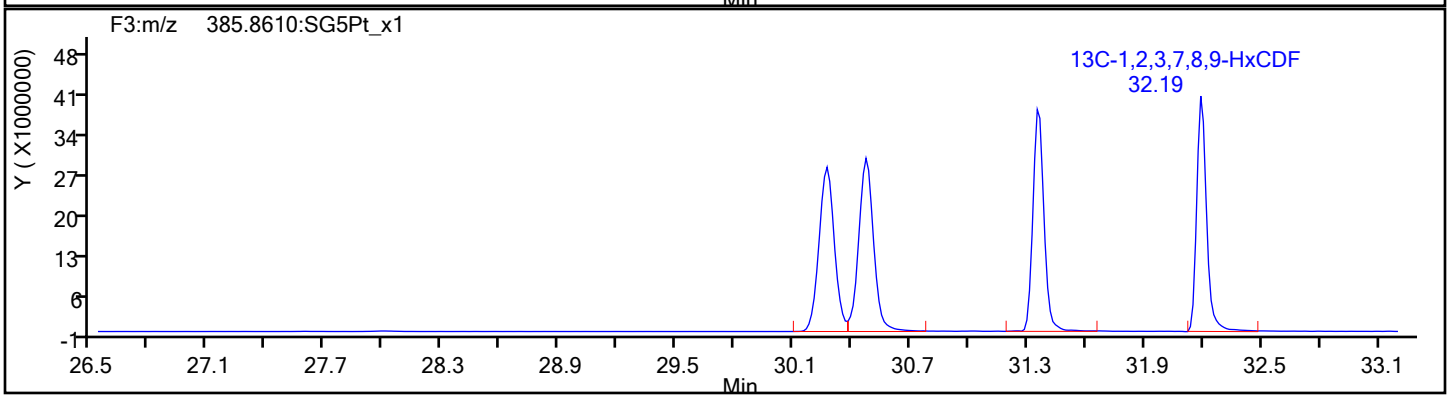

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Eurofins TestAmerica, Sacramento

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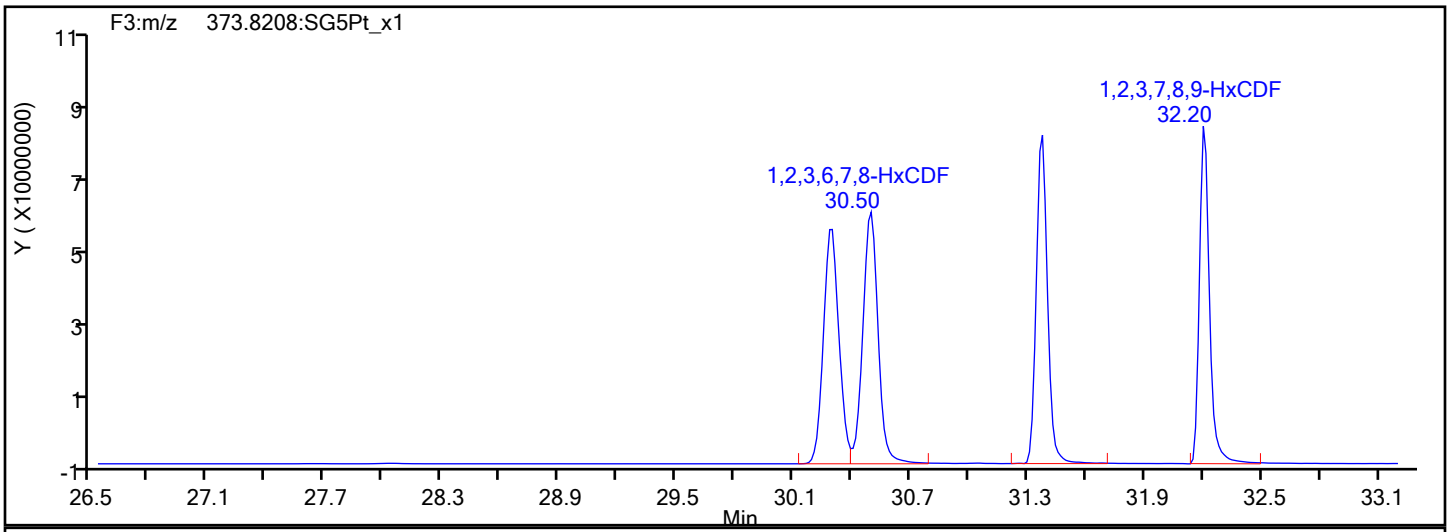

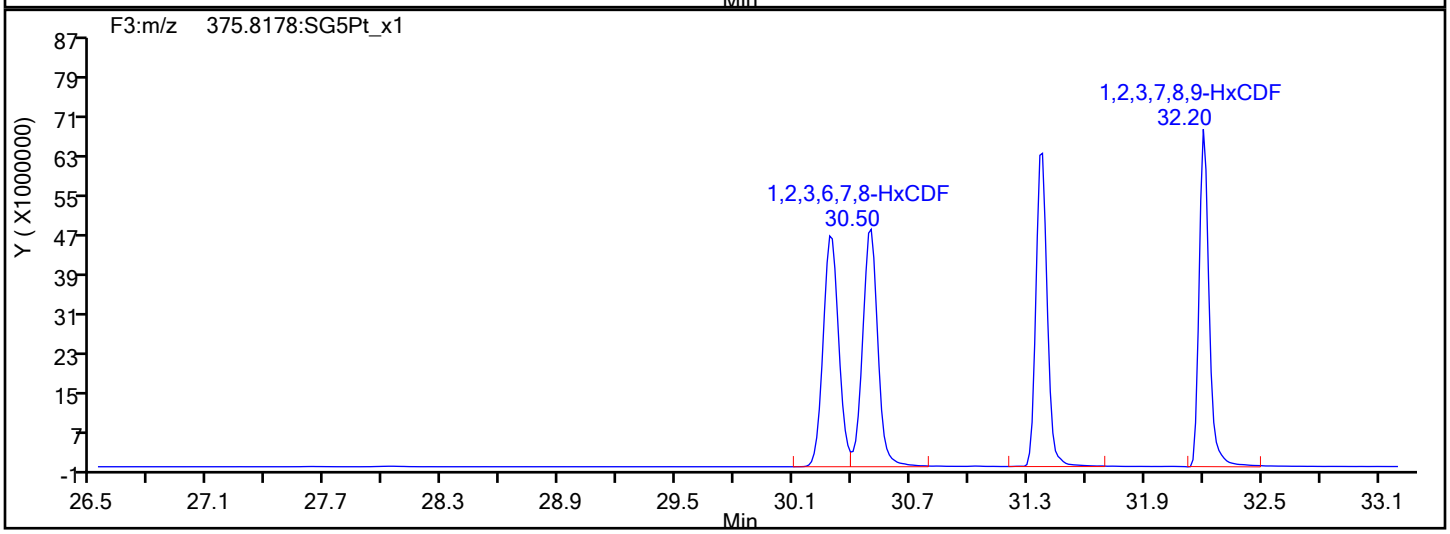

HxCDF Interference Mass

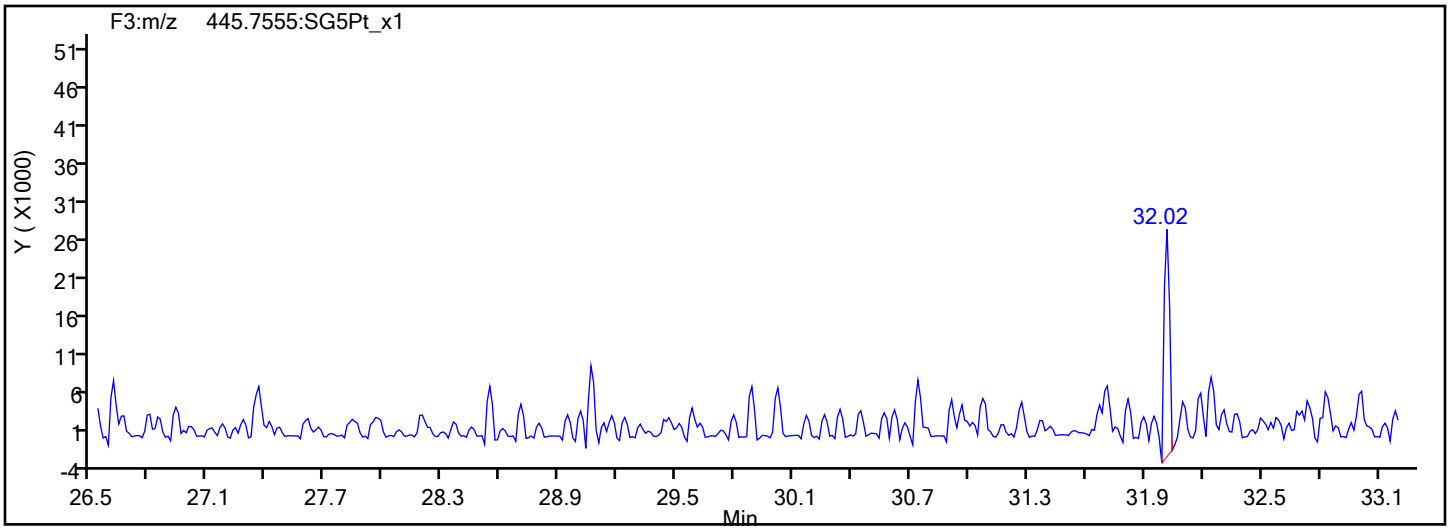

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Eurofins TestAmerica, Sacramento

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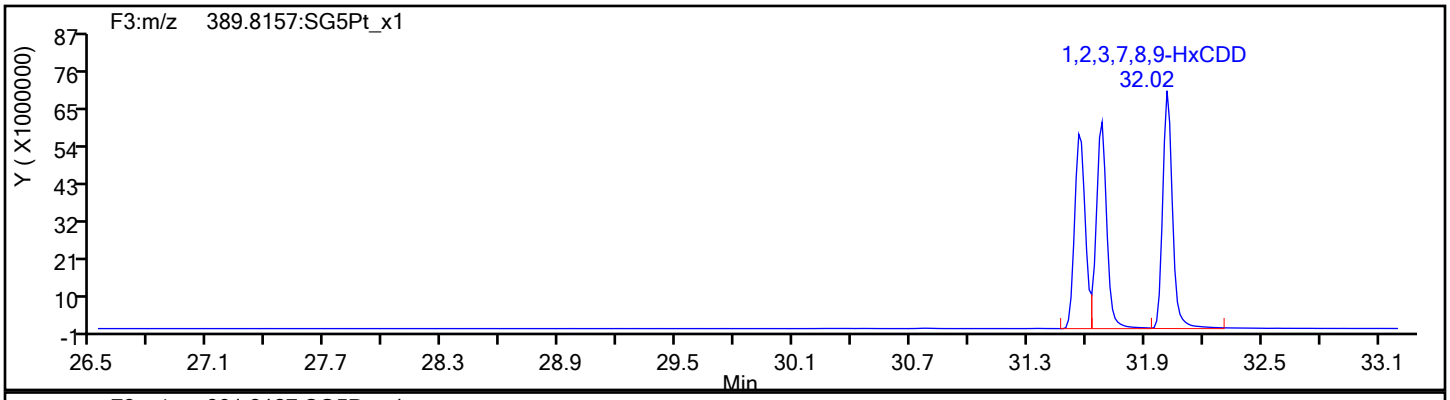

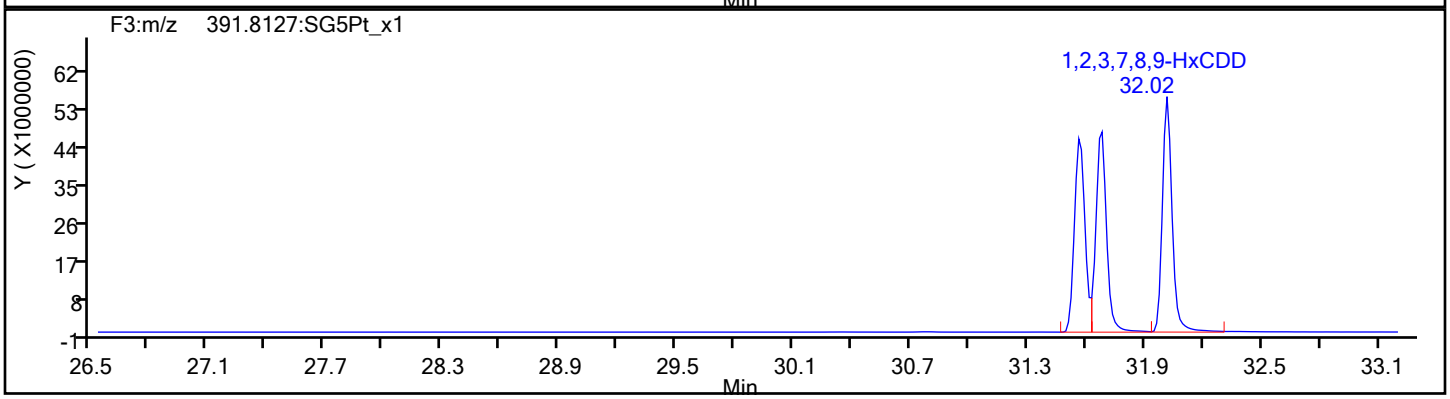

HxCDD Standards

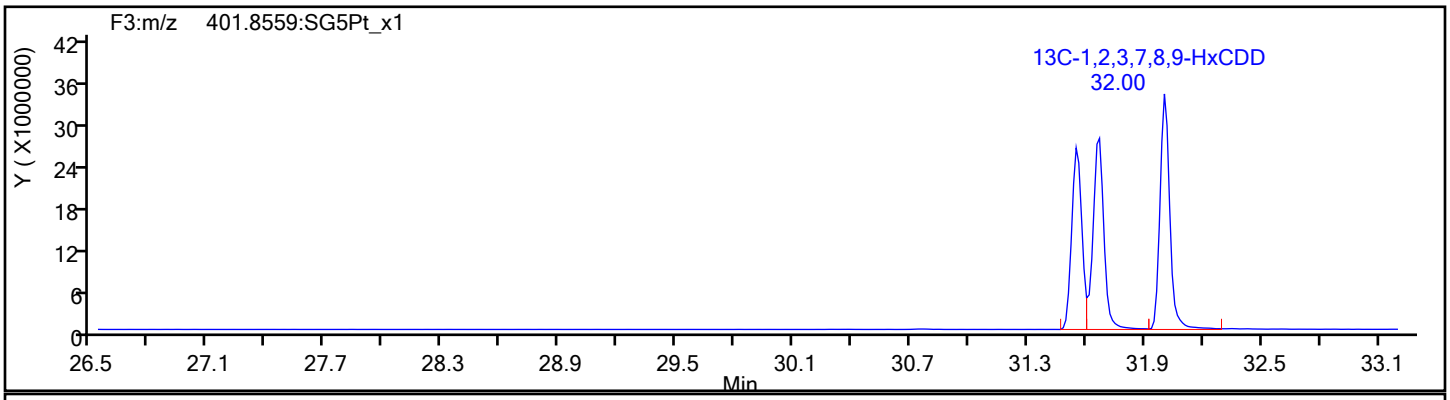

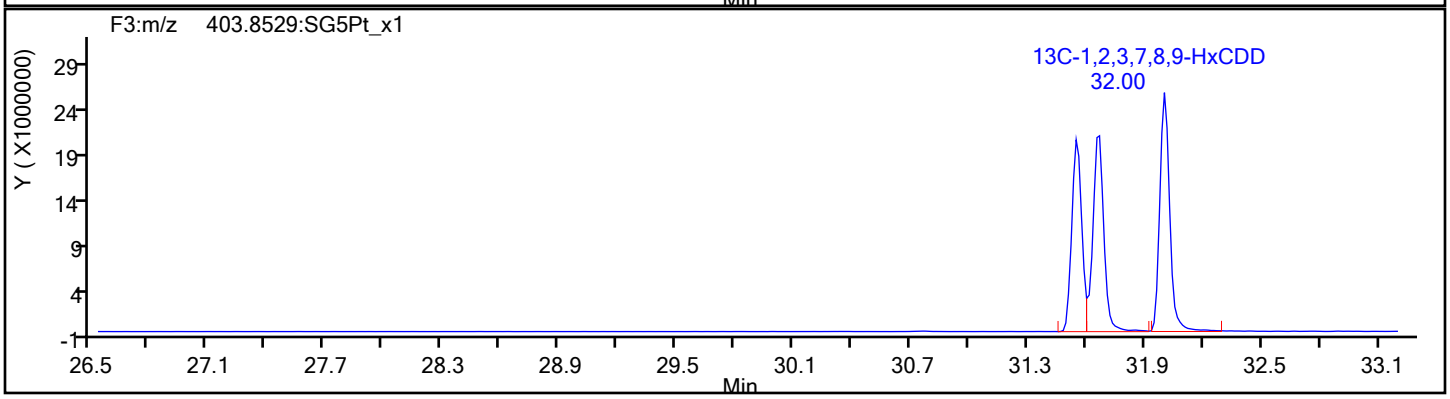

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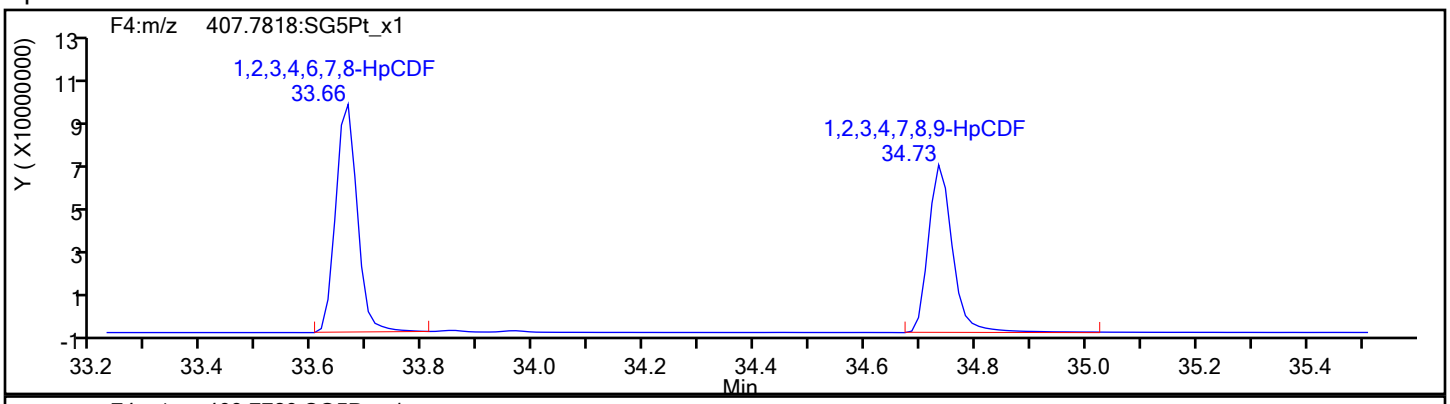

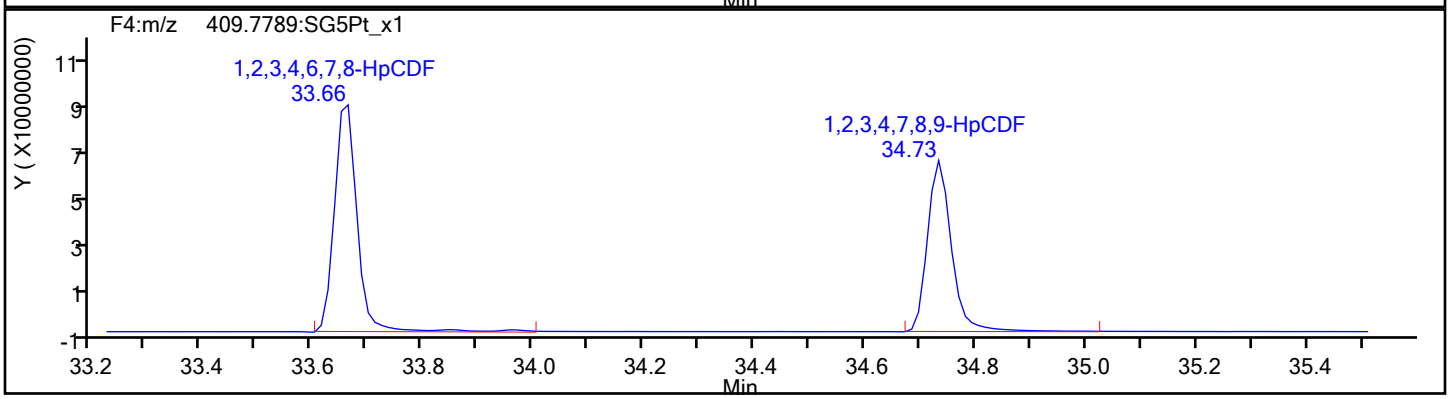

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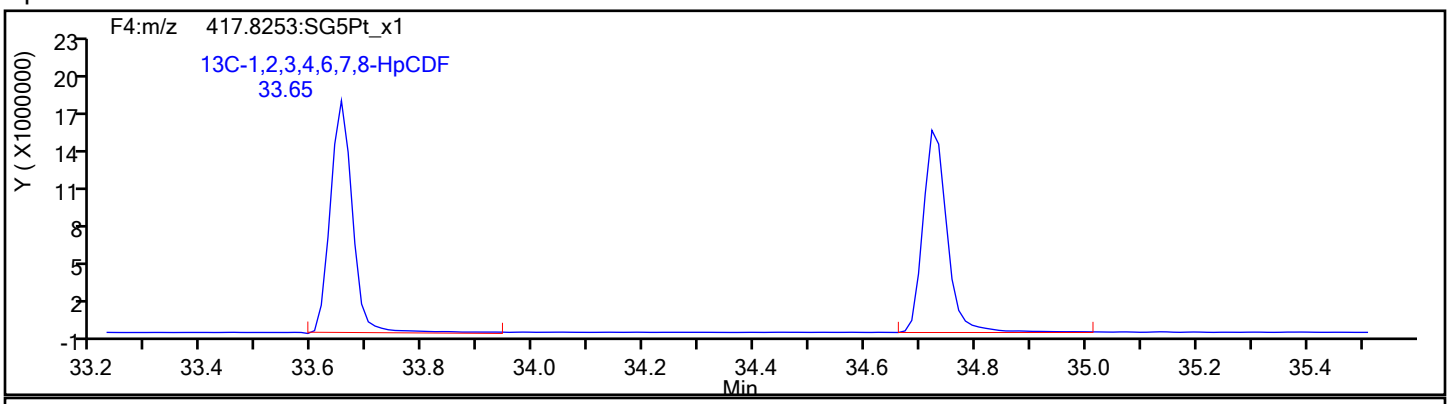

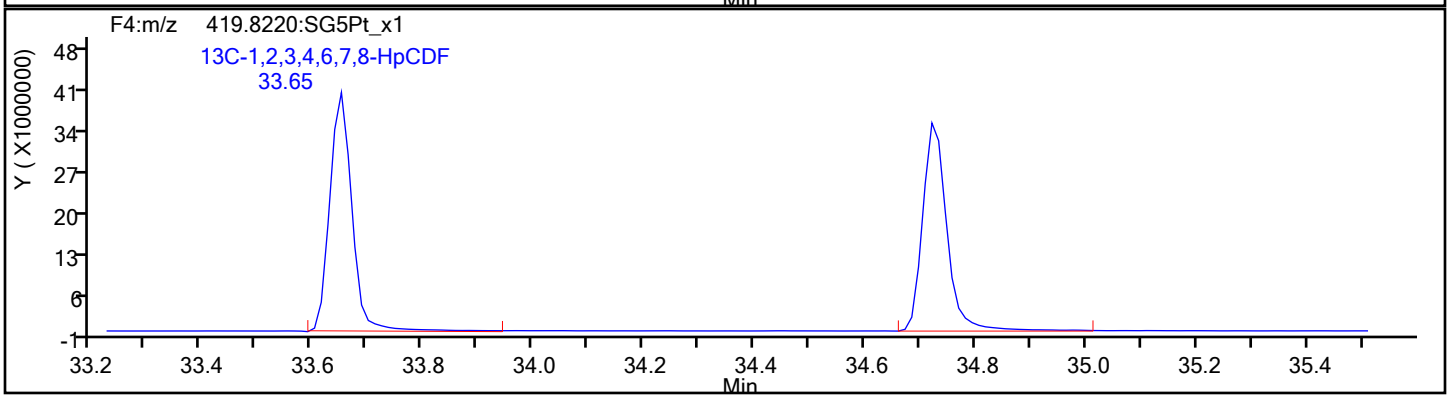

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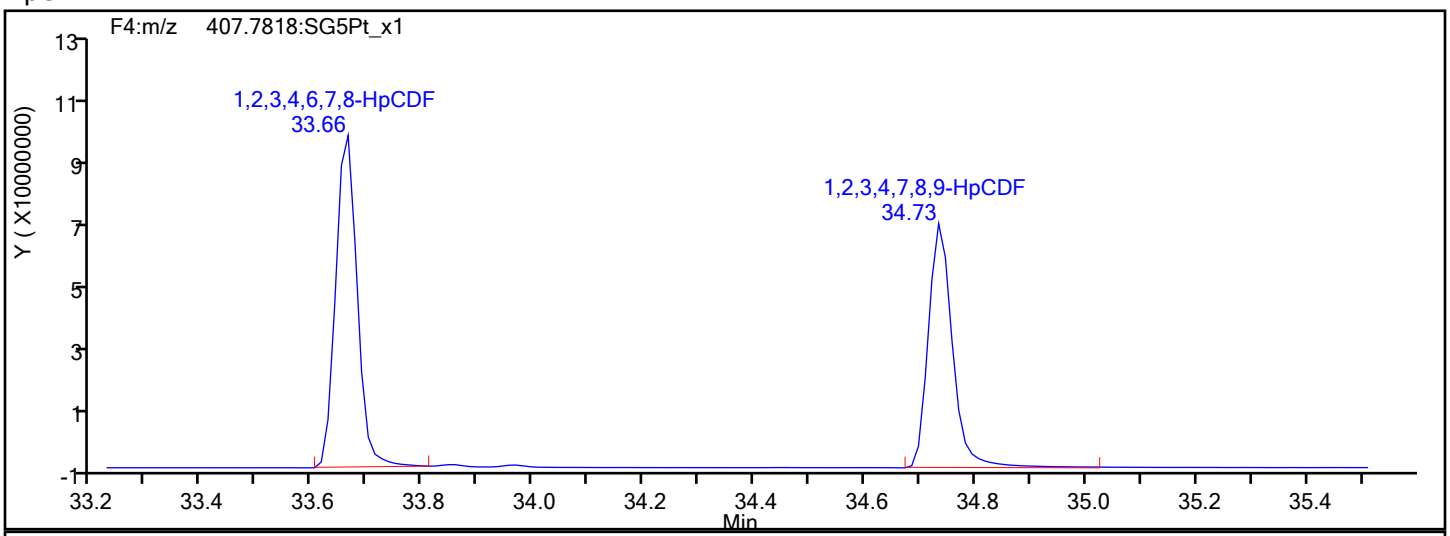

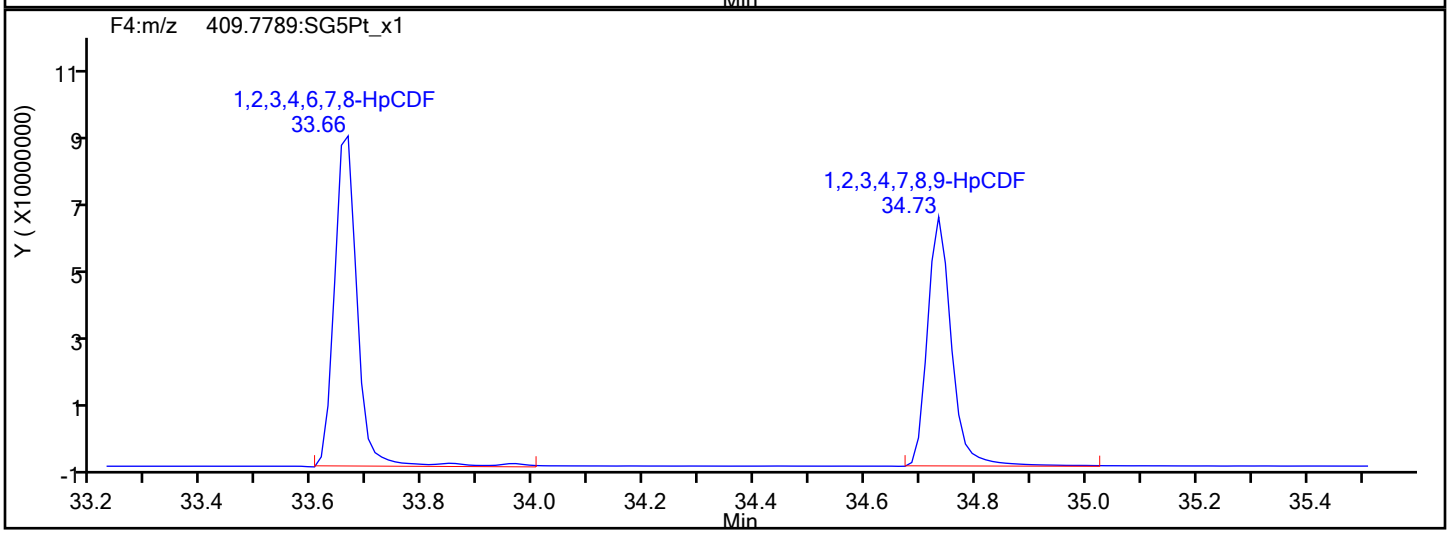

HpCDF Interference Mass

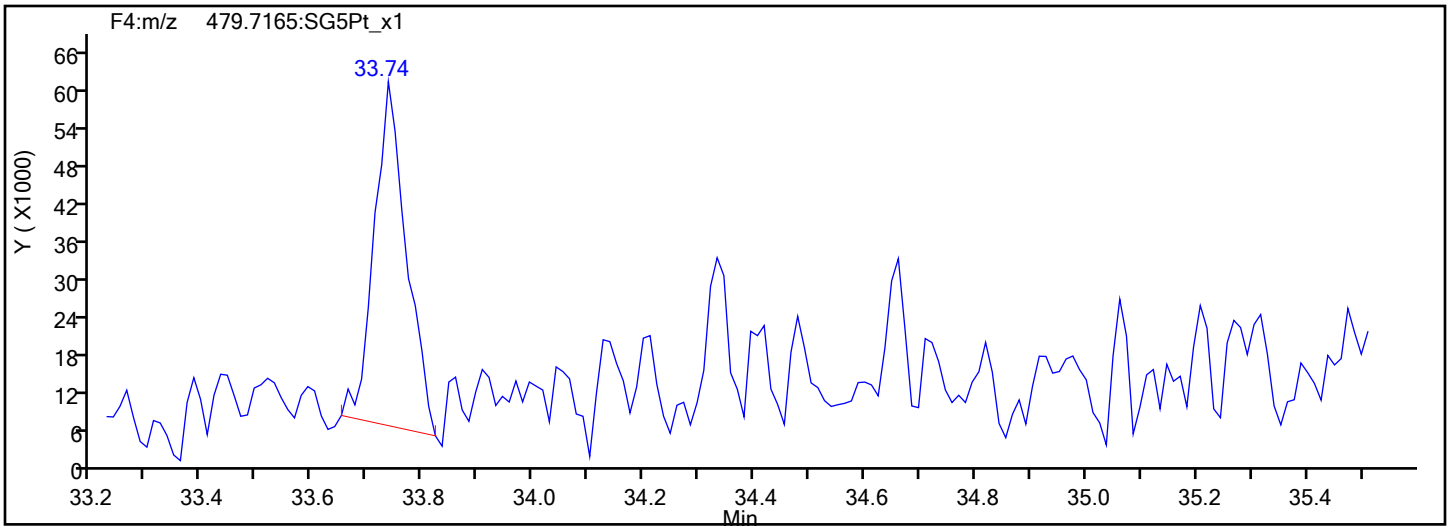

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Eurofins TestAmerica, Sacramento

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HpCDD

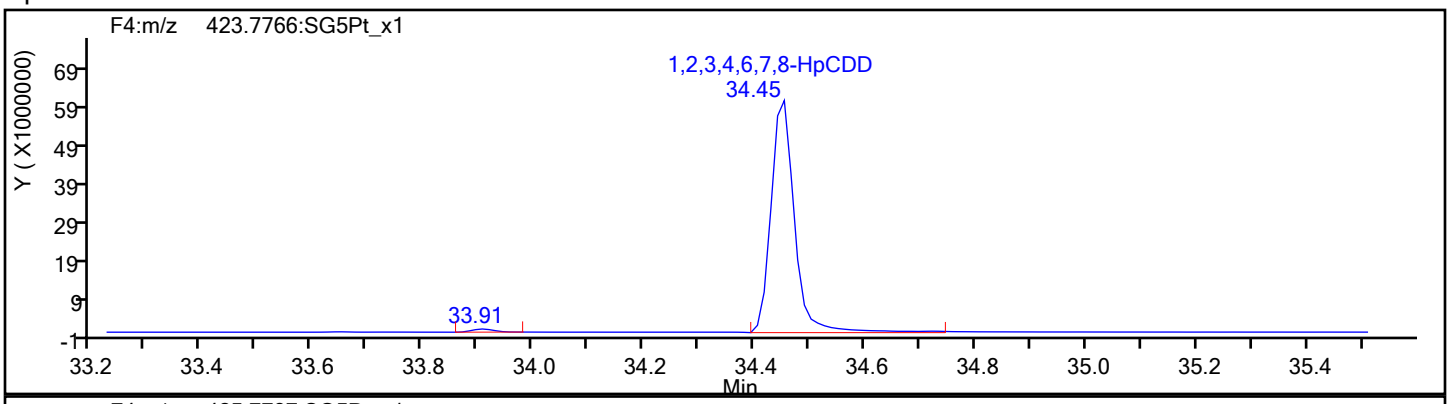

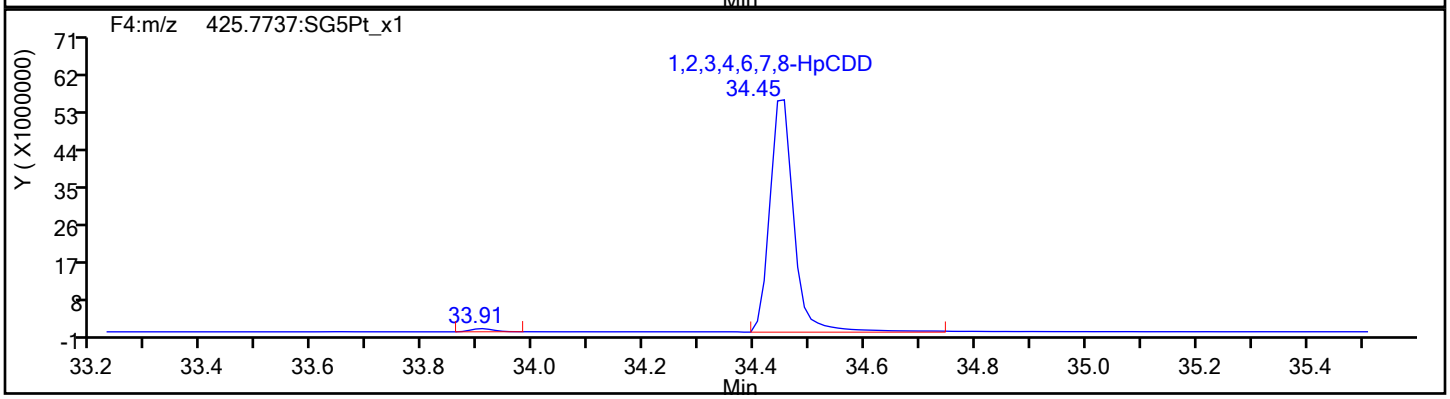

HpCDD Standards

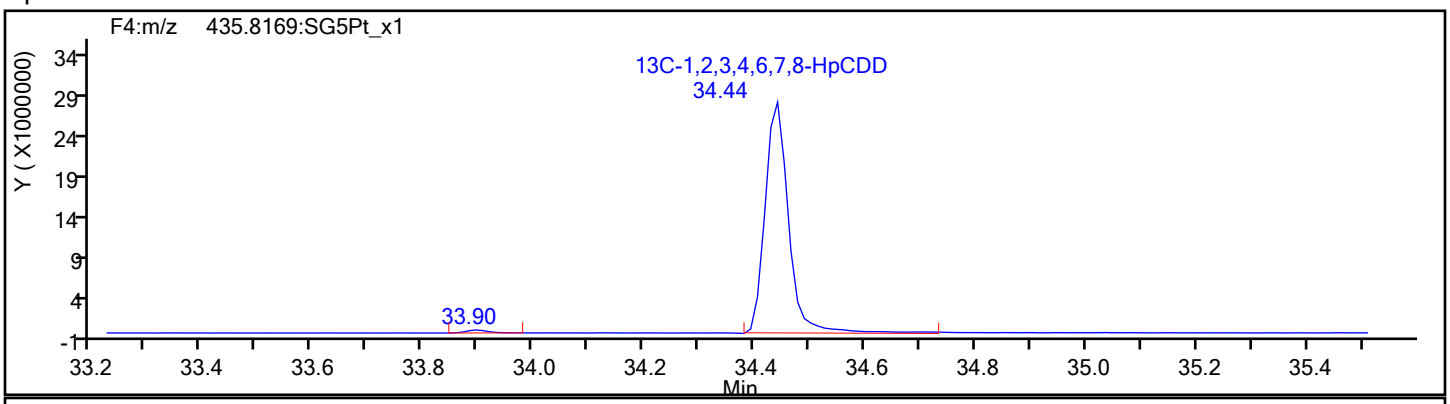

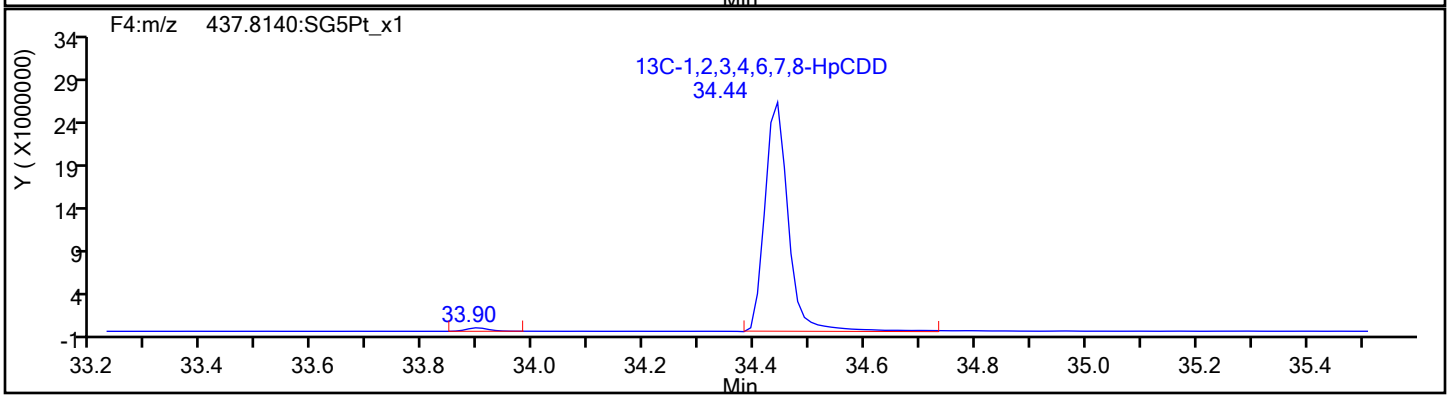

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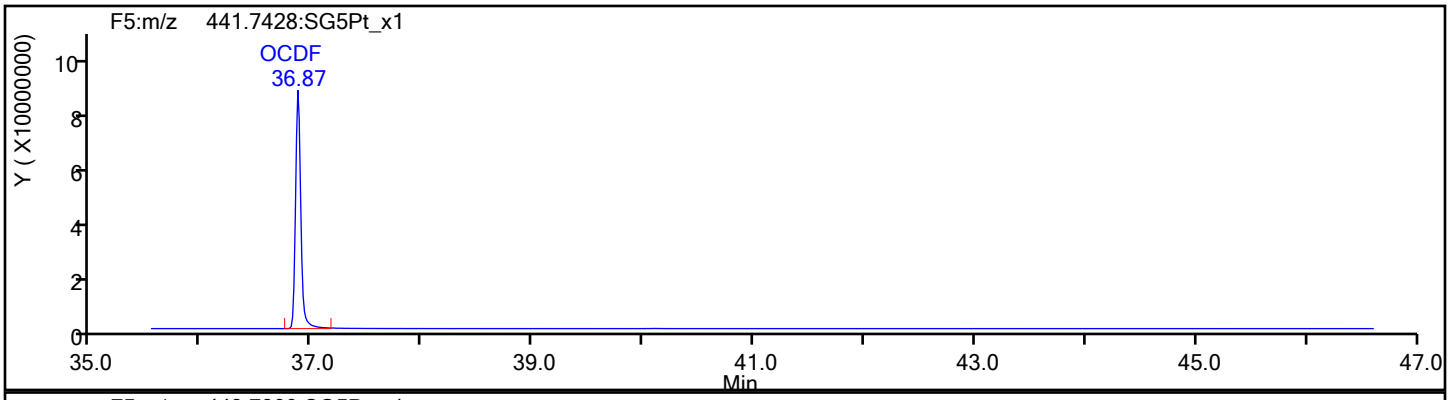

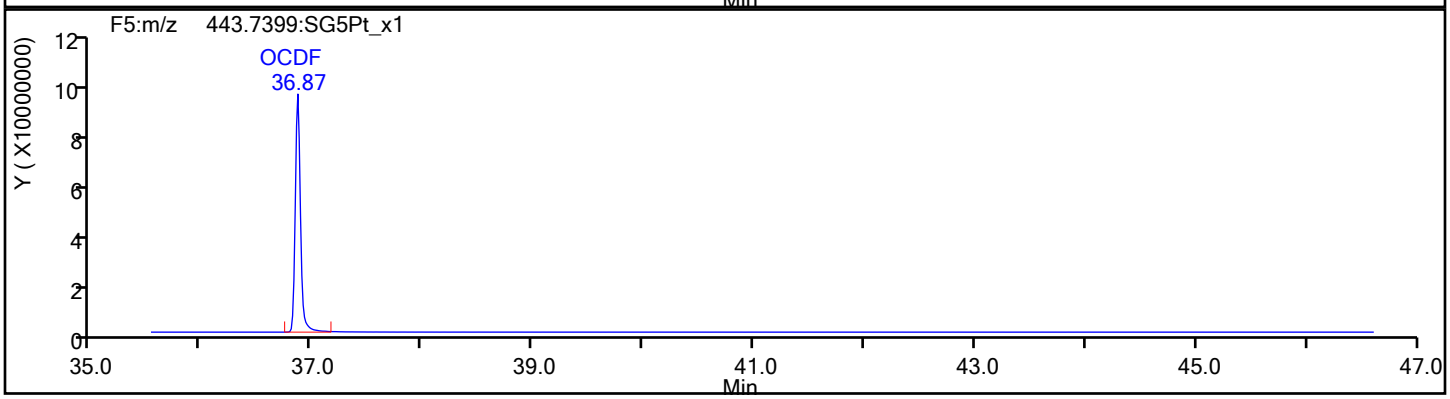

OCDF Standards

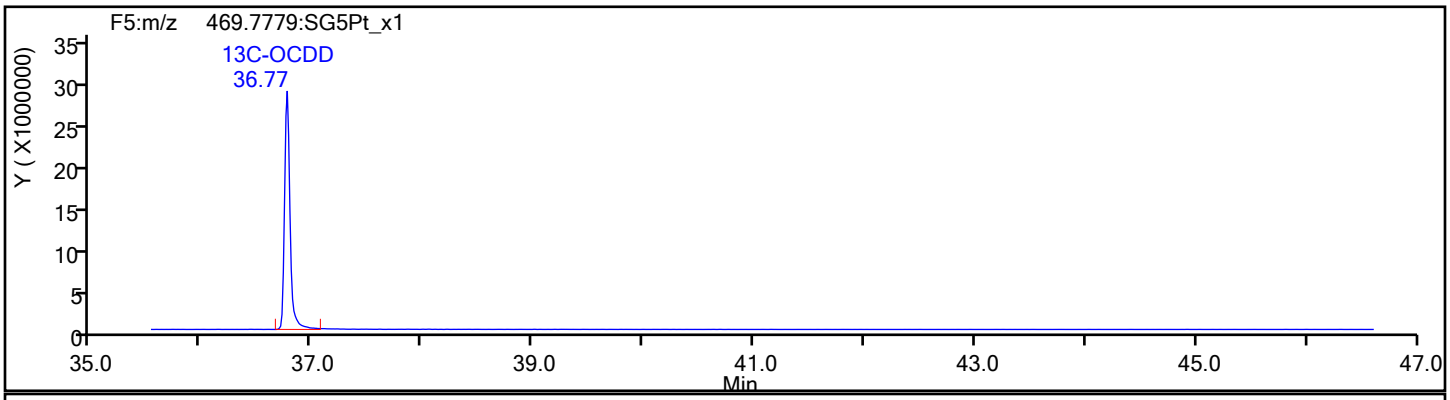

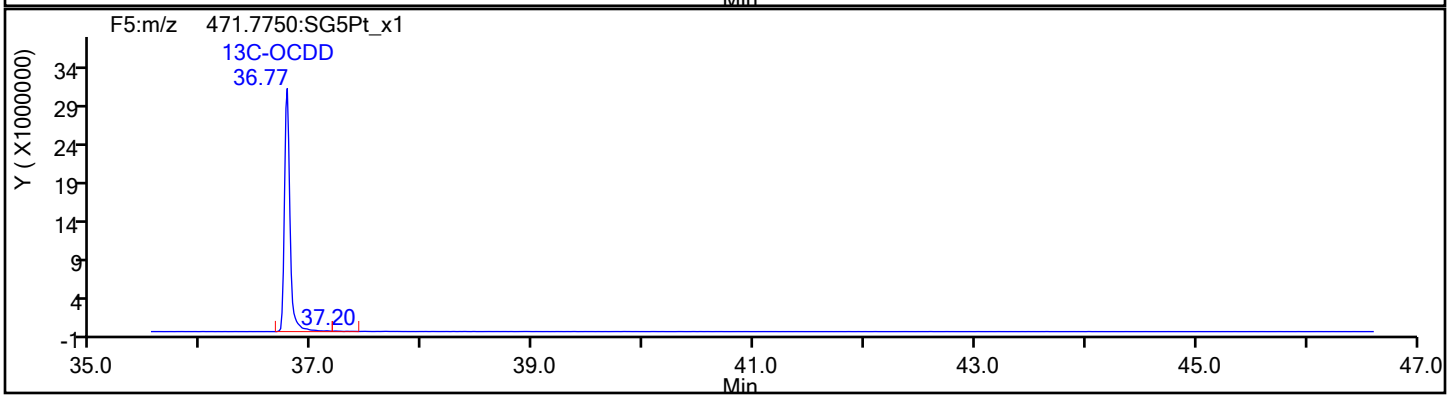

Report Date: 12-Dec-2019 15:54:34 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_6.d		
Injection Date:	12-Dec-2019 13:51:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
Worklist#:	345037	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

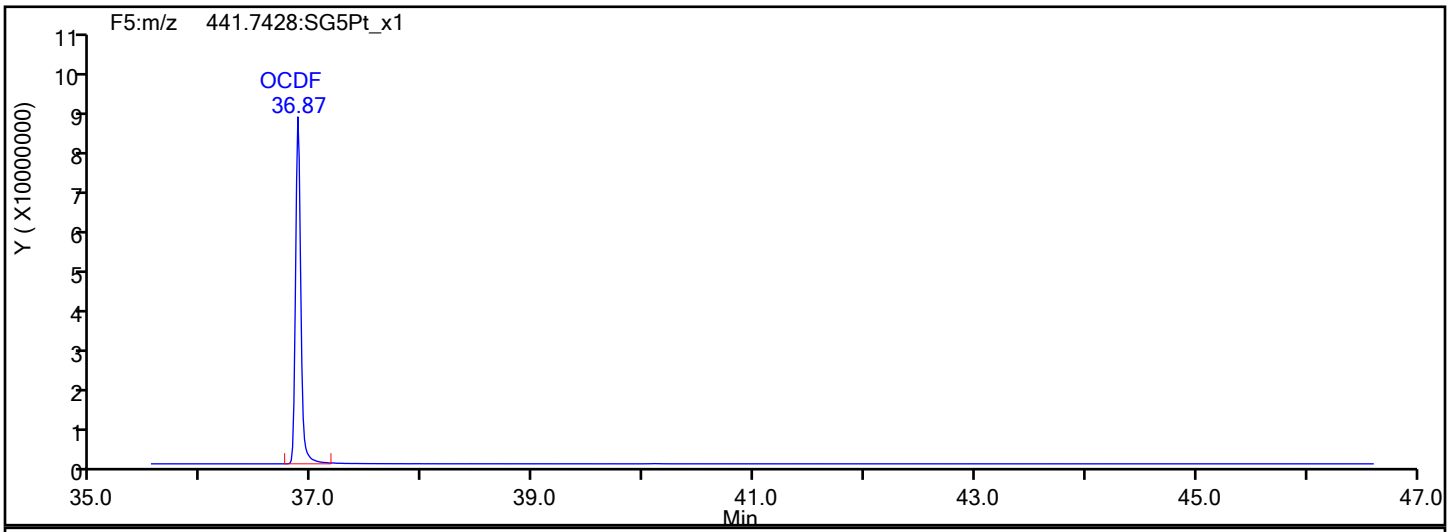

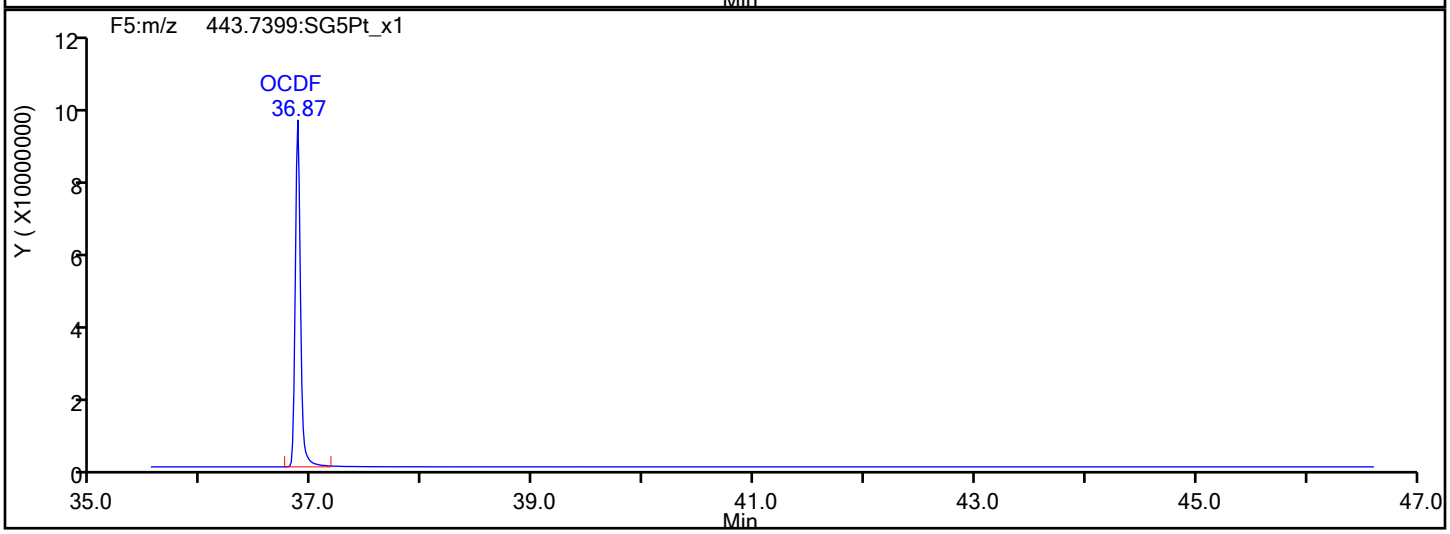

OCDF Interference Mass

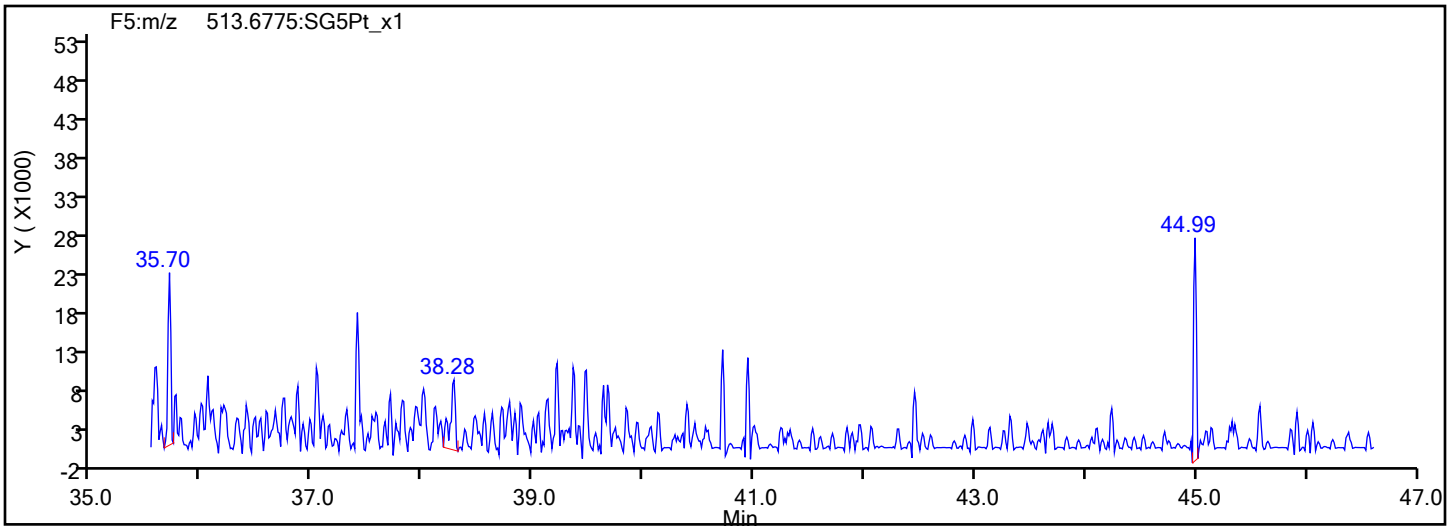

Report Date: 12-Dec-2019 15:54:34 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_6.d		
Injection Date:	12-Dec-2019 13:51:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
Worklist#:	345037	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

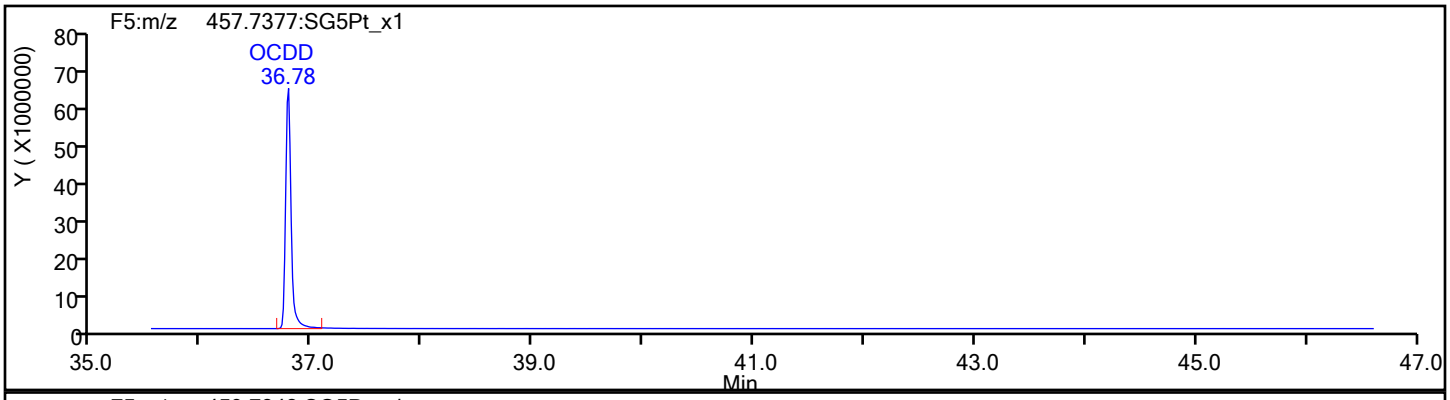

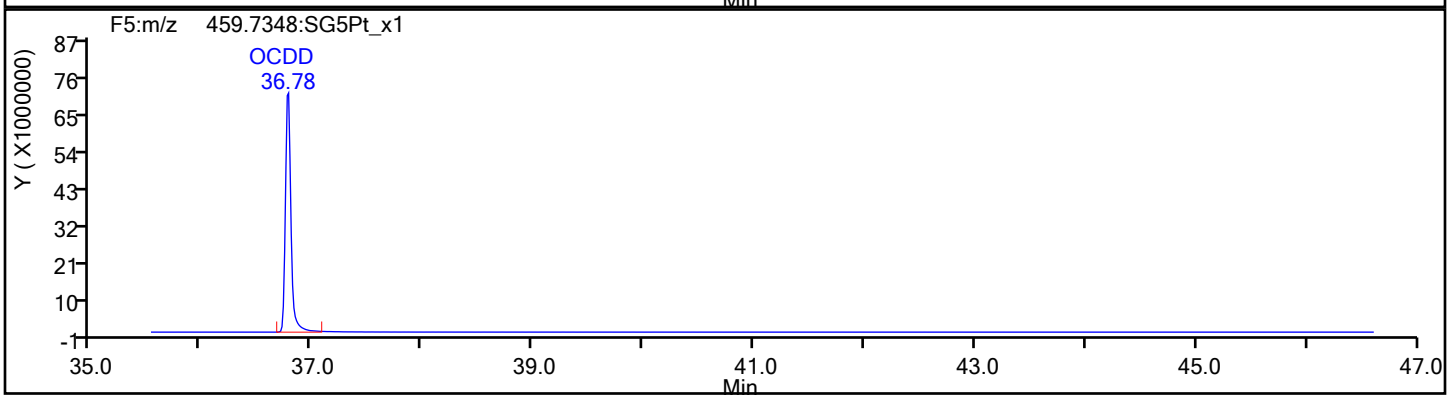

OCDD Standards

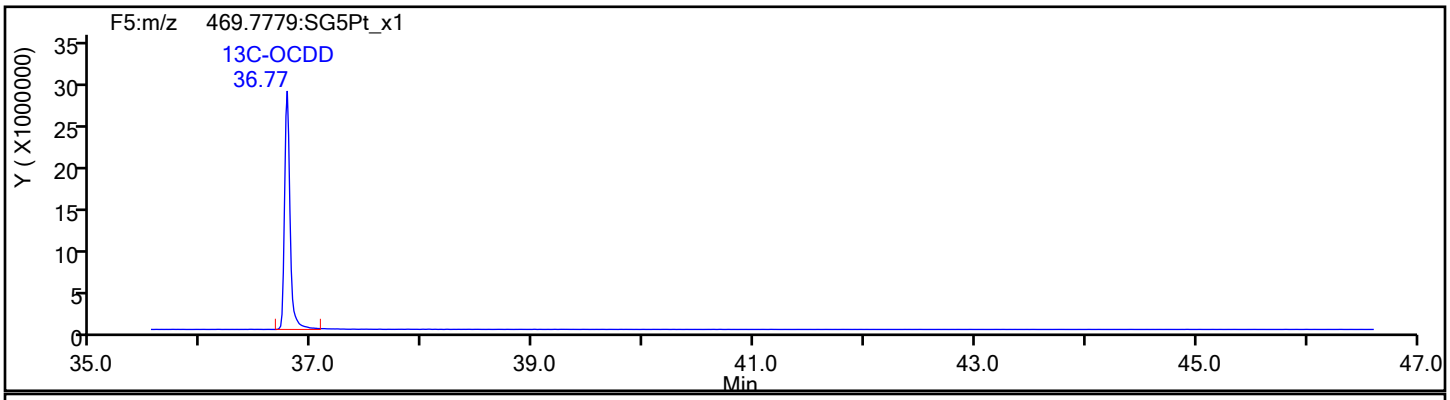

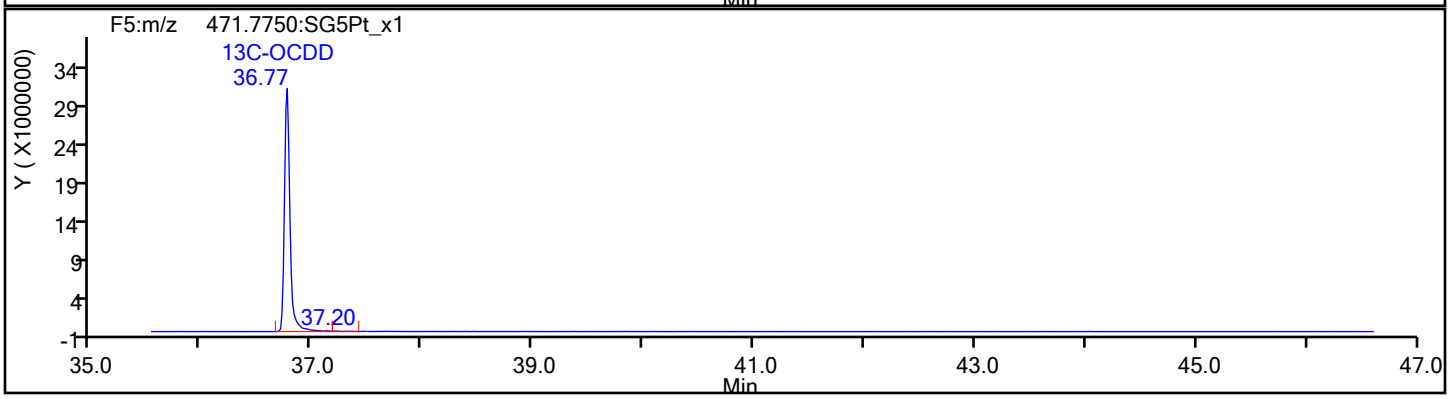

Report Date: 12-Dec-2019 15:54:34 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_6.d		
Injection Date:	12-Dec-2019 13:51:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
Worklist#:	345037	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

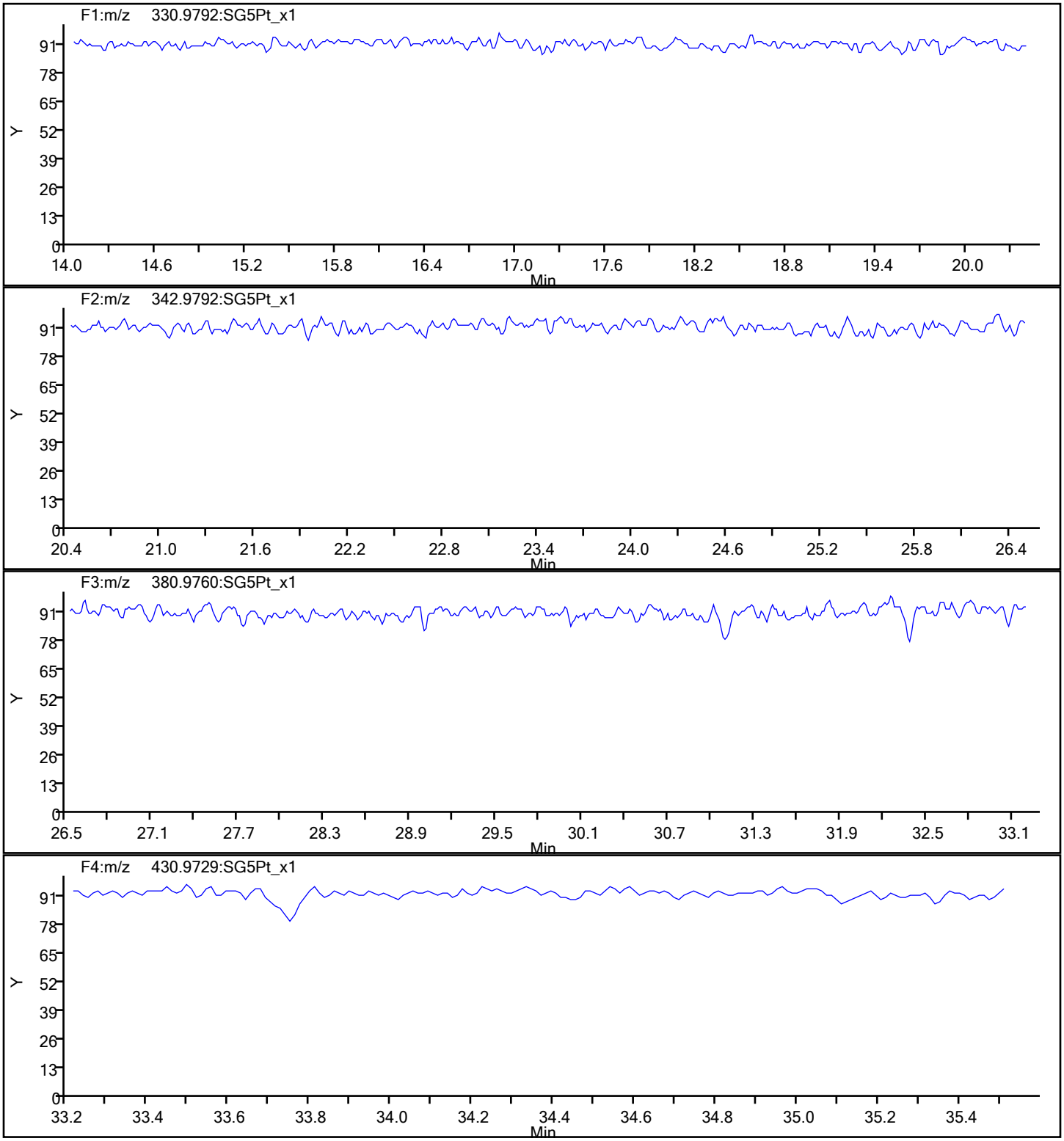

Report Date: 12-Dec-2019 15:54:34 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_6.d		
Injection Date:	12-Dec-2019 13:51:32	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L5		
Worklist#:	345037	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

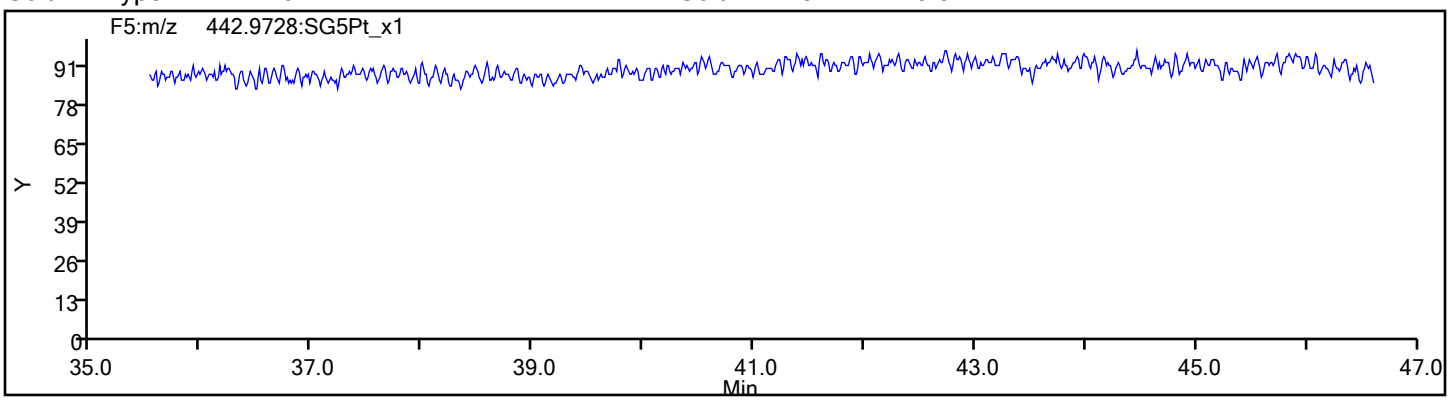

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d
Lims ID: IC 6
Client ID: L6
Sample Type: IC Calib Level: 6
Inject. Date: 12-Dec-2019 14:39:03 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 121219D IC HRDXNL6_00024
Misc. Info.: 12DE193D5
Operator ID: KSS Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 12-Dec-2019 15:54:41 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: stephensk Date: 12-Dec-2019 15:49:44

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.657	188838327	0.79	2.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.158	277528864	0.78	1.4157	103.8	103.8	0.1674	0.1674	104	
2,3,7,8-TCDF	17.173	567933884	0.79	0.9502	215.4	215.4	0.4520	0.4520	108	
S Total TCDF					215.4	215.4	0.4520	0.4520		
D 13C-2,3,7,8-TCDD	17.854	187504800	0.79	0.9751	101.8	101.8	0.1949	0.1949	102	
2,3,7,8-TCDD	17.869	418876400	0.79	1.0477	213.2	213.2	0.1533	0.1533	107	
$ 37Cl4-2,3,7,8-TCDD	17.869	523686187		1.3480	205.7	205.7	0.4046	0.4046	103	
S Total TCDD					213.2	213.2	0.1533	0.1533		
D 13C-1,2,3,7,8-PeCDF	22.100	237179506	1.59	1.1786	106.6	106.6	0.2447	0.2447	107	
1,2,3,7,8-PeCDF	22.127	2466178873	1.58	1.0302	1009.3	1009.3	2.494	2.494	101	
D 13C-2,3,4,7,8-PeCDF	23.423	222542126	1.58	1.1308	104.2	104.2	0.2551	0.2551	104	a
2,3,4,7,8-PeCDF	23.450	2394358497	1.55	1.0410	1033.6	1033.6	2.898	2.898	103	
S Total PeCDF					2042.9	2042.9	2.696	2.696		
D 13C-1,2,3,7,8-PeCDD	24.132	151420854	1.60	0.7572	105.9	105.9	0.1615	0.1615	106	
1,2,3,7,8-PeCDD	24.159	1612908693	1.58	1.0855	981.3	981.3	1.052	1.052	98.13	
S Total PeCDD					981.3	981.3	1.052	1.052		
D 13C-1,2,3,4,7,8-HxCDF	30.273	212926355	0.53	1.1043	103.5	103.5	0.1858	0.1858	104	
1,2,3,4,7,8-HxCDF	30.299	2563115775	1.26	1.1472	1049.3	1049.3	2.784	2.784	105	
D 13C-1,2,3,6,7,8-HxCDF	30.473	222786807	0.53	1.1470	104.3	104.3	0.1788	0.1788	104	
1,2,3,6,7,8-HxCDF	30.499	2581265503	1.25	1.1450	1011.9	1011.9	2.490	2.490	101	
D 13C-2,3,4,6,7,8-HxCDF	31.351	207860074	0.52	1.0769	103.6	103.6	0.1905	0.1905	104	
2,3,4,6,7,8-HxCDF	31.378	2464596807	1.24	1.1726	1011.2	1011.2	2.007	2.007	101	
D 13C-1,2,3,7,8,9-HxCDF	32.190	200052961	0.52	1.0115	106.2	106.2	0.2028	0.2028	106	
1,2,3,7,8,9-HxCDF	32.204	2388744572	1.24	1.1717	1019.1	1019.1	1.747	1.747	102	
S Total HxCDF					4091.5	4091.5	2.257	2.257		
* 13C-1,2,3,7,8,9-HxCDD	32.004	186277075	1.31	2.1E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.551	154639045	1.27	0.7962	104.3	104.3	0.1737	0.1737	104	a
1,2,3,4,7,8-HxCDD	31.565	1672379041	1.27	1.0934	989.1	989.1	1.243	1.243	98.91	
D 13C-1,2,3,6,7,8-HxCDD	31.658	169339469	1.28	0.8720	104.3	104.3	0.1586	0.1586	104	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.684	1788364825	1.26	1.0429	1012.6	1012.6	1.235	1.235	101	
1,2,3,7,8,9-HxCDD	32.017	1881769266	1.26	1.2073	962.2	962.2	1.095	1.095	96.22	
S Total HxCDD					2963.9	2963.9	1.191	1.191		
D 13C-1,2,3,4,6,7,8-HpCDF	33.640	152865078	0.44	0.7577	108.3	108.3	0.996	0.996	108	
1,2,3,4,6,7,8-HpCDF	33.652	2309957389	1.05	1.4804	1020.8	1020.8	7.834	7.834	102	
D 13C-1,2,3,4,7,8,9-HpCDF	34.721	140774596	0.45	0.6941	108.9	108.9	1.087	1.087	109	a
1,2,3,4,7,8,9-HpCDF	34.734	1913174732	1.07	1.2933	1050.8	1050.8	10.6	10.6	105	
S Total HpCDF					2071.6	2071.6	9.199	9.199		
D 13C-1,2,3,4,6,7,8-HpCDD	34.430	140028109	1.06	0.7058	106.5	106.5	0.4261	0.4261	107	
1,2,3,4,6,7,8-HpCDD	34.442	1496594886	1.06	1.0535	1014.5	1014.5	3.513	3.513	101	
S Total HpCDD					1014.5	1014.5	3.513	3.513		
D 13C-OCDD	36.770	199399104	0.90	0.4603	232.6	232.6	0.1424	0.1424	116	
OCDF	36.866	2706173170	0.91	1.3945	1946.5	1946.5	0.4617	0.4617	97.32	
OCDD	36.782	2153864314	0.90	1.1362	1901.4	1901.4	0.5913	0.5913	95.07	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

HRDXNL6_00024 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d
Lims ID: IC 6
Client ID: L6
Sample Type: IC Calib Level: 6
Inject. Date: 12-Dec-2019 14:39:03 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 121219D IC HRDXNL6_00024
Misc. Info.: 12DE193D5
Operator ID: KSS Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 12-Dec-2019 15:54:41 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: stephensk Date: 12-Dec-2019 15:49:44

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.657	17.666	-1		83564714	21577386	22000	55000	981		
333.9339	17.657	17.666	-1		105273613	27513016	15318	38295	1796	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.158	17.164	0	0.972	121895716	31329327	22298	55745	1405		
317.9389	17.158	17.164	0	0.972	155633148	39478925	24242	60605	1629	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.173	17.176	0	1.001	250240699	63148791	46539	116347	1357		
305.8987	17.173	17.176	0	1.001	317693185	79789284	75095	187737	1063	0.79(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.854	17.854	0	1.011	82790590	20124816	22000	55000	915		
333.9339	17.854	17.854	0	1.011	104714210	25060871	15318	38295	1636	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.869	17.872	0	1.001	184989351	46007272	14533	36332	3166		
321.8936	17.869	17.872	0	1.001	233887049	57402962	14506	36265	3957	0.79(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.869	17.872	0	1.012	523686187	127631105	107091	267727	1192		
13C-1,2,3,7,8-PeCDF											
351.9000	22.100	22.103	0	1.252	145535198	27804087	29026	72565	958		
353.8970	22.100	22.103	0	1.252	91644308	17332335	27615	69037	628	1.59(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.127	22.130	0	1.001	1511912726	280981043	283011	707527	993		
341.8567	22.127	22.130	0	1.001	954266147	176189062	180870	452175	974	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											a
351.9000	23.423	23.426	0	1.327	136268845	23481541	29026	72565	809		a
353.8970	23.423	23.426	0	1.327	86273281	14959019	27615	69037	542	1.58(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.450	23.450	0	1.001	1456222017	254944581	283011	707527	901		
341.8567	23.450	23.450	0	1.001	938136480	163300906	180870	452175	903	1.55(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	24.132	24.137	0	1.367	93280756	15111276	14214	35535	1063		
369.8919	24.132	24.137	0	1.367	58140098	9460564	9797	24492	966	1.60(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.159	24.162	0	1.001	988724157	160523690	68846	172115	2332		
357.8516	24.159	24.162	0	1.001	624184536	102295717	43362	108405	2359	1.58(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.273	30.270	0	0.946	73575187	13415942	15619	39047	859		
385.8610	30.273	30.270	0	0.946	139351168	24979720	29533	73832	846	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.299	30.300	0	1.001	1428159559	262993927	271530	678825	969		
375.8178	30.286	30.300	-1	1.000	1134956216	208140679	219056	547640	950	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.473	30.473	0	0.952	77296638	14994756	15619	39047	960		
385.8610	30.473	30.473	0	0.952	145490169	28014930	29533	73832	949	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.499	30.497	0	1.001	1432647832	268450864	271530	678825	989		
375.8178	30.486	30.497	-1	1.000	1148617671	215350626	219056	547640	983	1.25(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.351	31.357	0	0.980	71478208	18056132	15619	39047	1156		
385.8610	31.351	31.357	0	0.980	136381866	34065069	29533	73832	1153	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.378	31.375	0	1.001	1366153637	346597380	271530	678825	1276		
375.8178	31.365	31.375	-1	1.000	1098443170	277212218	219056	547640	1265	1.24(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.190	32.196	0	1.006	68790551	20692649	15619	39047	1325		
385.8610	32.190	32.196	0	1.006	131262410	39242010	29533	73832	1329	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.204	32.209	0	1.000	1324529876	395878194	271530	678825	1458		
375.8178	32.204	32.209	0	1.000	1064214696	313784696	219056	547640	1432	1.24(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.004	32.004	0		105532438	31259756	15504	38760	2016		
403.8529	32.004	32.004	0		80744637	23764608	14928	37320	1592	1.31(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											a
401.8559	31.551	31.557	0	0.986	86613004	24369652	15504	38760	1572		a
403.8529	31.551	31.557	0	0.986	68026041	18996198	14928	37320	1273	1.27(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.565	31.570	0	1.000	935066782	268480797	131209	328022	2046		
391.8127	31.565	31.570	0	1.000	737312259	211543510	104462	261155	2025	1.27(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.658	31.666	0	0.989	95146559	25619096	15504	38760	1652		
403.8529	31.658	31.666	0	0.989	74192910	20108305	14928	37320	1347	1.28(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.684	31.682	0	1.001	996220992	261077237	131209	328022	1990		
391.8127	31.671	31.682	-1	1.000	792143833	209894463	104462	261155	2009	1.26(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.017	32.023	0	1.015	1049116210	310668645	131209	328022	2368		
391.8127	32.017	32.023	0	1.015	832653056	244077375	104462	261155	2337	1.26(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.640	33.647	0	1.051	46733620	17595027	54412	136030	323		
419.8220	33.640	33.647	0	1.051	106131458	39067926	111724	279310	350	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.652	33.659	0	1.000	1183135025	439502144	13054	913263727	337		
409.7789	33.652	33.659	0	1.000	1126822364	423476232	13231	193307797	320	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											a
417.8253	34.721	34.726	0	1.085	43429979	14929393	54412	136030	274		a
419.8220	34.721	34.726	0	1.085	97344617	33174544	111724	279310	297	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.734	34.736	0	1.000	989548862	337327270	13054	913263727	258		
409.7789	34.734	34.736	0	1.000	923625870	310086210	13231	193307797	234	1.07(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.430	34.437	0	1.076	72140842	25597315	34784	86960	736		
437.8140	34.430	34.437	0	1.076	67887267	24359367	31415	78537	775	1.06(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.442	34.449	0	1.000	769189585	280356398	363826	909565	771		
425.7737	34.442	34.449	0	1.000	727405301	265970164	375758	939395	708	1.06(0.88-1.20)	
13C-OCDD											
469.7779	36.770	36.767	0	1.149	94611986	29685306	7599	18997	3906		
471.7750	36.770	36.767	0	1.149	104787118	32469541	6829	17072	4755	0.90(0.76-1.02)	
OCDF											
441.7428	36.866	36.870	0	1.003	1292260901	401703074	39115	97787	10270		
443.7399	36.866	36.870	0	1.003	1413912269	436740000	40915	102287	10674	0.91(0.76-1.02)	
OCDD											
457.7377	36.782	36.779	0	1.000	1018958639	313411053	44158	110395	7097		
459.7348	36.770	36.779	-1	1.000	1134905675	349675570	39355	98387	8885	0.90(0.76-1.02)	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

HRDXNL6_00024 Amount Added: 2.00 Units: uL

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d				
Injection Date:	12-Dec-2019 14:39:03	Instrument ID:	3D5		
Lims ID:	IC 6				
Client ID:	L6				
Operator ID:	KSS	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

13C-2,3,4,7,8-PeCDF, CAS: 116843-02-8

Signal: 1

Not Detected
Expected RT: 23.43

Processing Integration Results

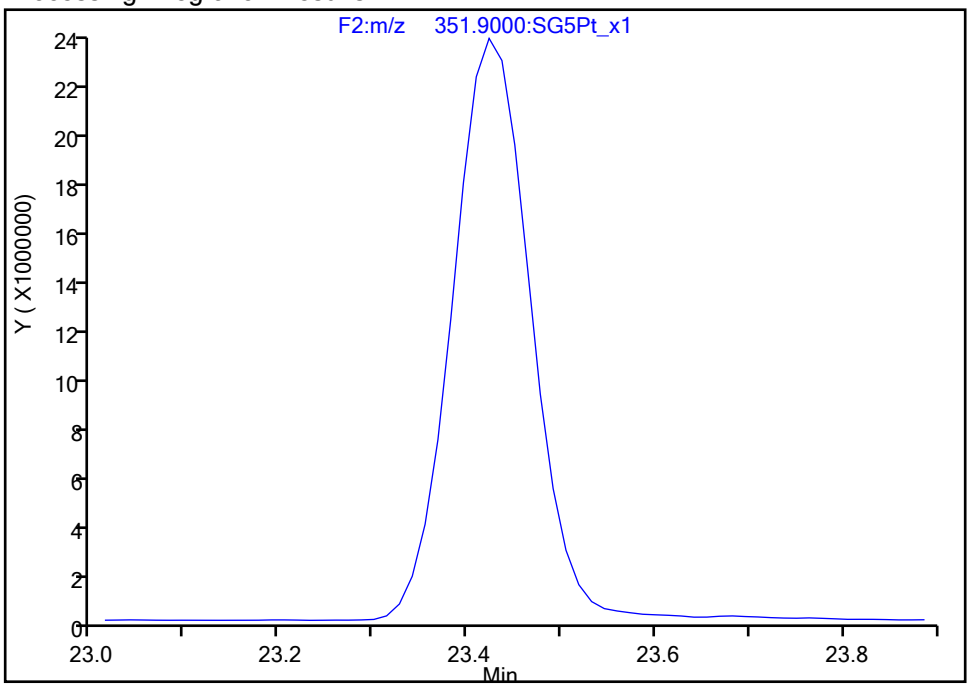

Manual Integration Results

RT: 23.42
Area: 136268845
Amount: 104.2196
Amount Units: pg/ul

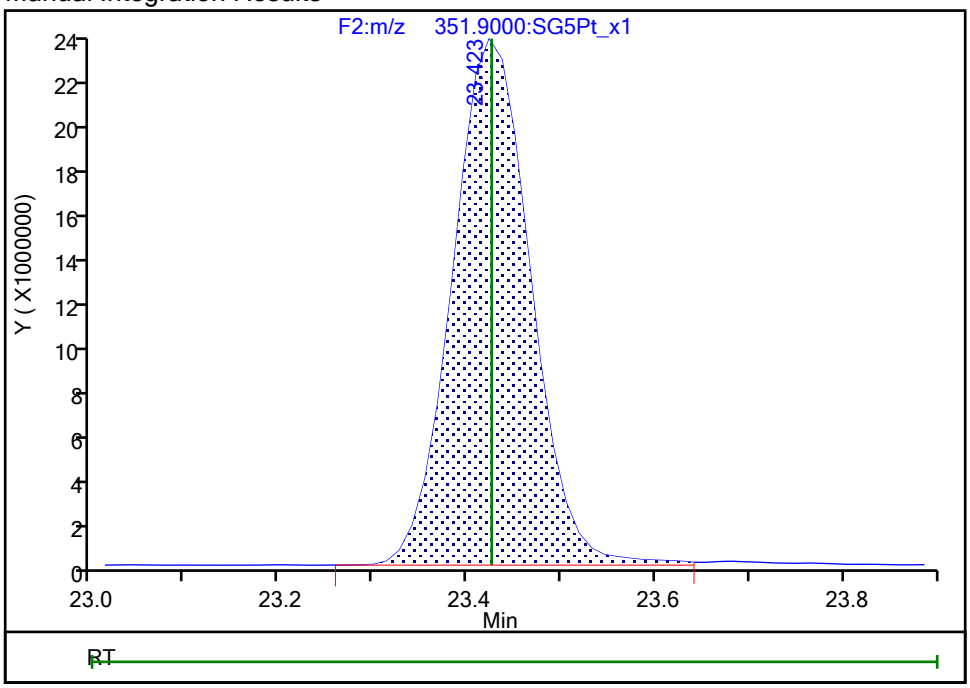

Reviewer: stephensk, 12-Dec-2019 15:48:50
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d				
Injection Date:	12-Dec-2019 14:39:03	Instrument ID:	3D5		
Lims ID:	IC 6				
Client ID:	L6				
Operator ID:	KSS	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

13C-1,2,3,4,7,8-HxCDD, CAS: 109719-80-4

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 31.56

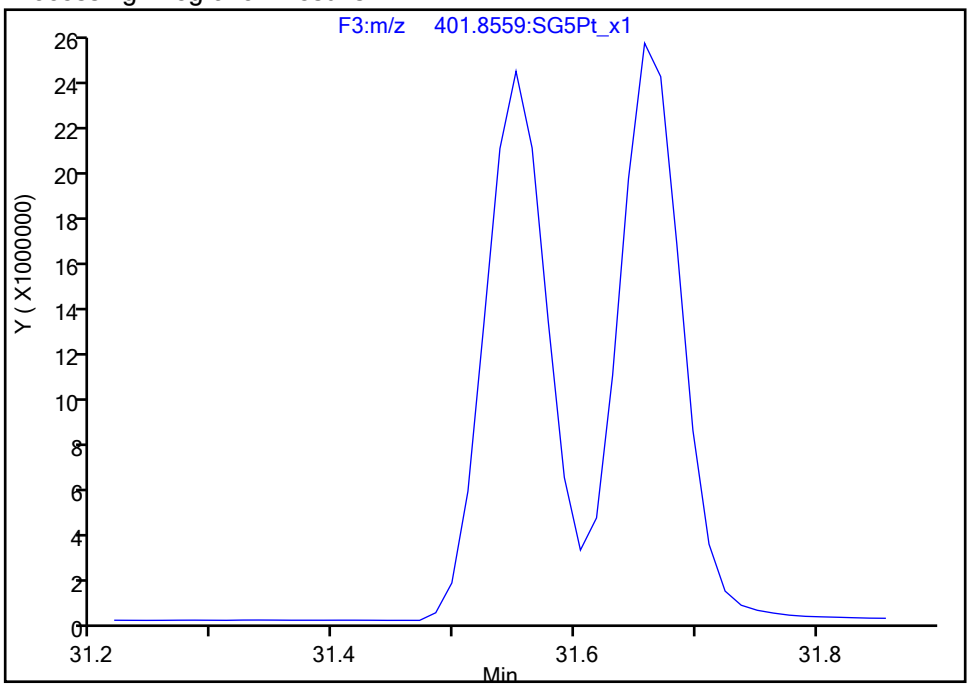

Manual Integration Results

RT: 31.55
Area: 86613004
Amount: 104.2640
Amount Units: pg/ul

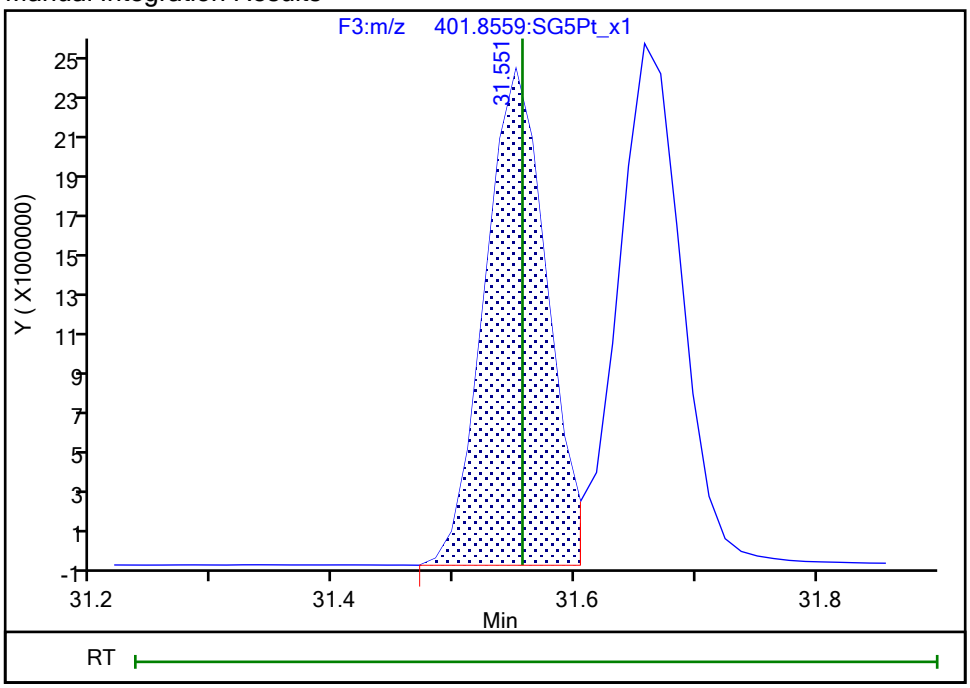

Reviewer: stephensk, 12-Dec-2019 15:48:56
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d				
Injection Date:	12-Dec-2019 14:39:03	Instrument ID:	3D5		
Lims ID:	IC 6				
Client ID:	L6				
Operator ID:	KSS	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

13C-1,2,3,4,7,8,9-HpCDF, CAS: 109719-94-0

Signal: 1

Not Detected
Expected RT: 34.73

Processing Integration Results

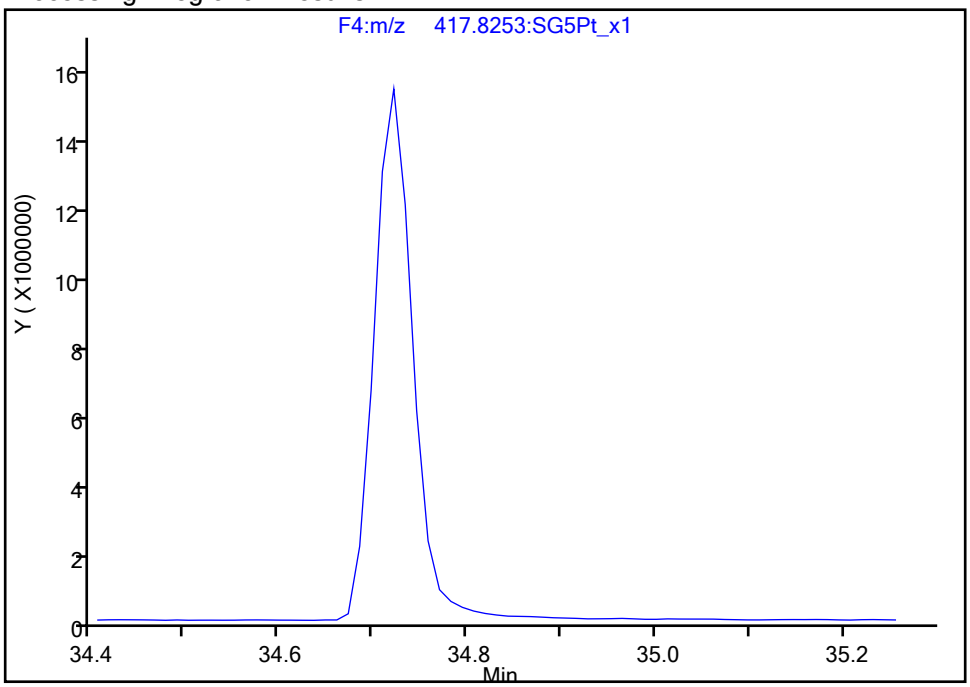

Manual Integration Results

RT: 34.72
Area: 43429979
Amount: 108.8731
Amount Units: pg/ul

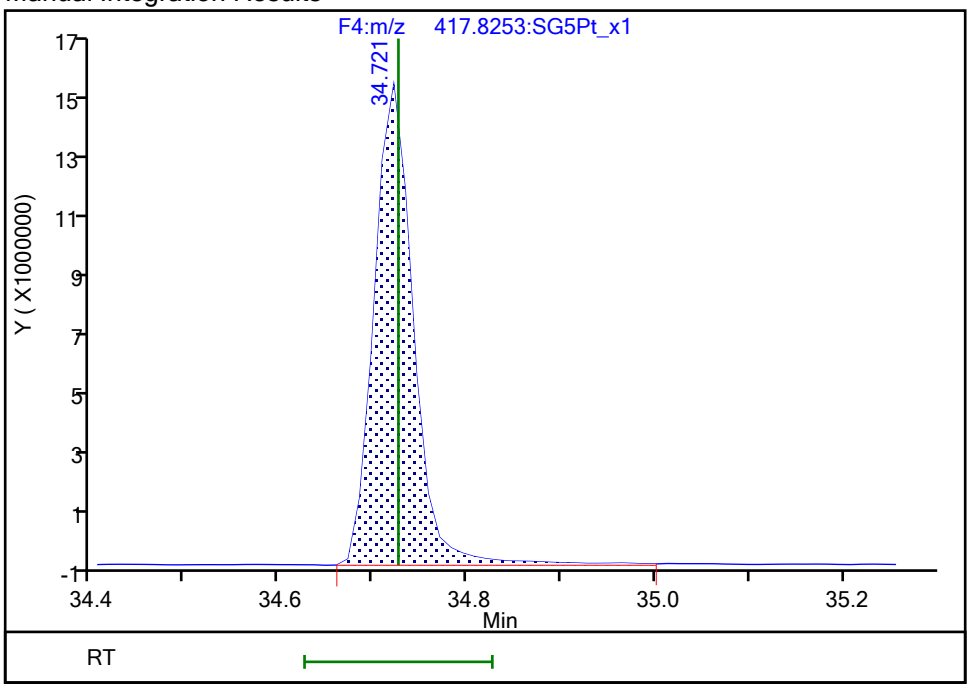

Reviewer: stephensk, 12-Dec-2019 15:49:01
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Report Date: 12-Dec-2019 15:54:43 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d		
Injection Date:	12-Dec-2019 14:39:03	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L6		
Worklist#:	345037	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

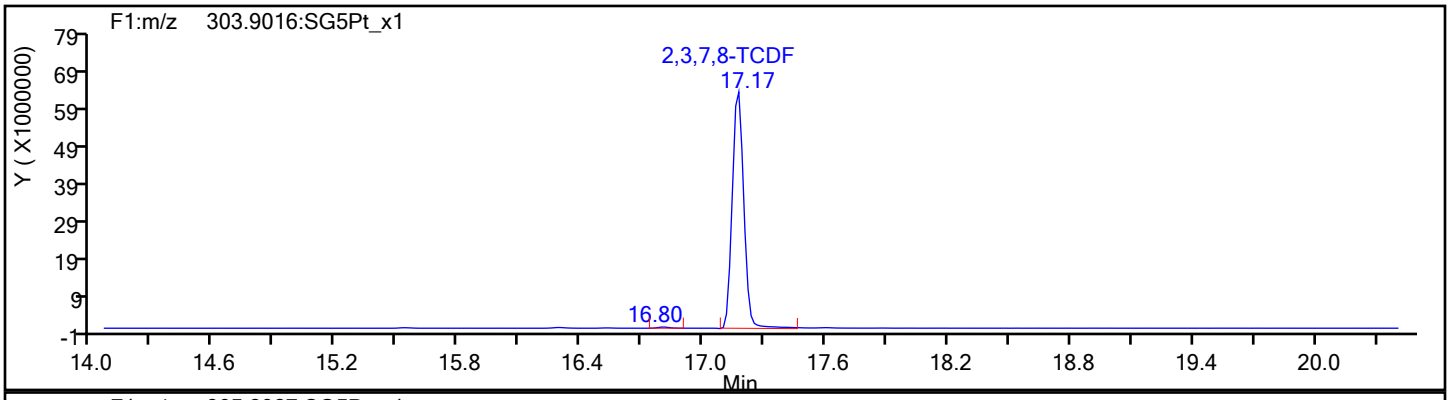

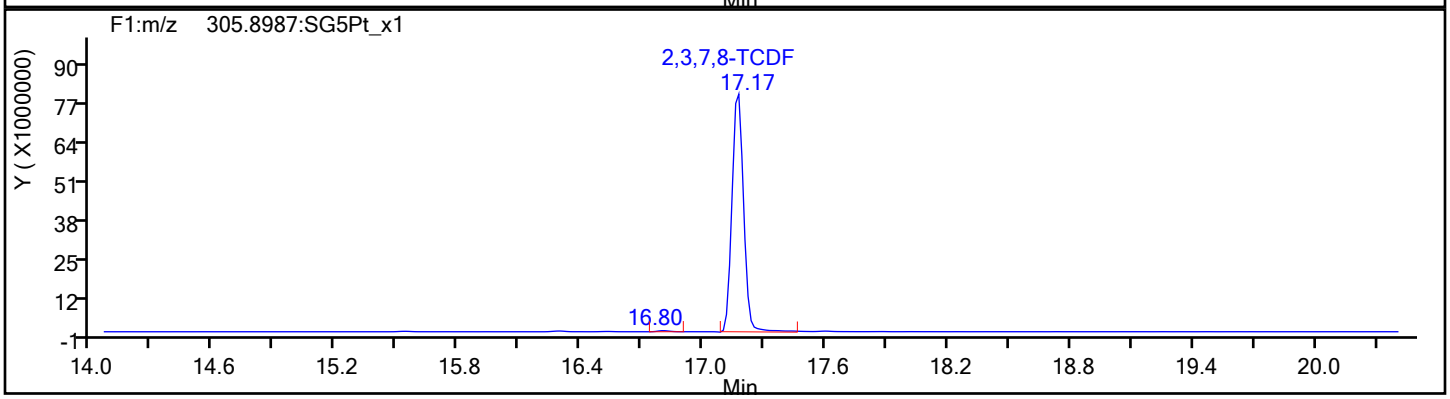

TCDF Standards

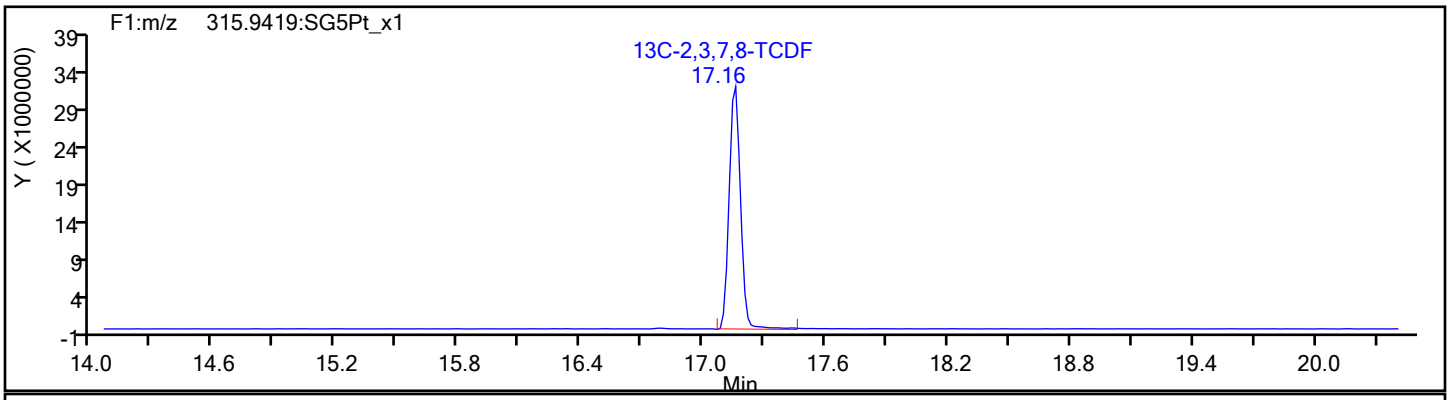

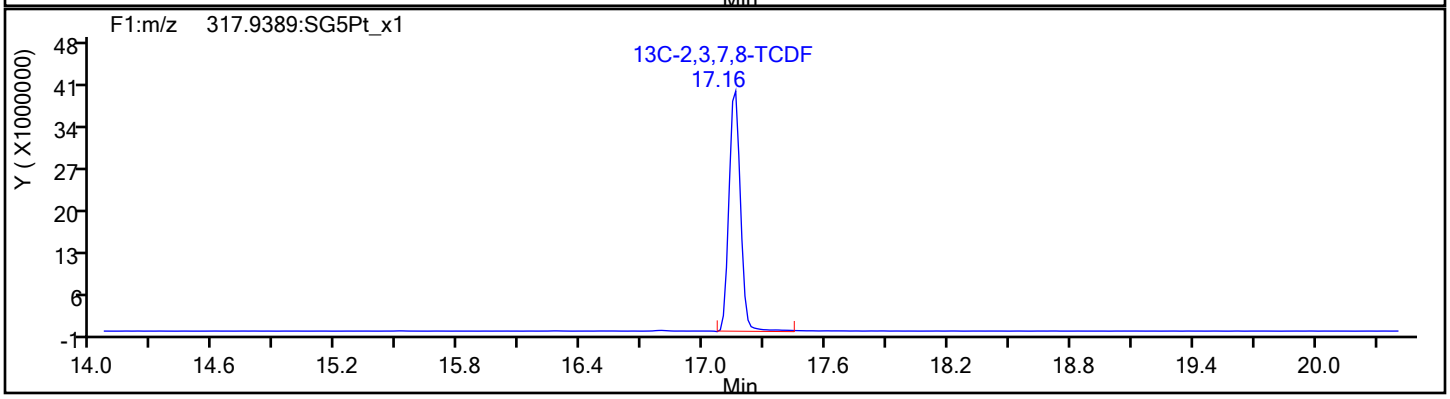

Report Date: 12-Dec-2019 15:54:43 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d		
Injection Date:	12-Dec-2019 14:39:03	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L6		
Worklist#:	345037	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

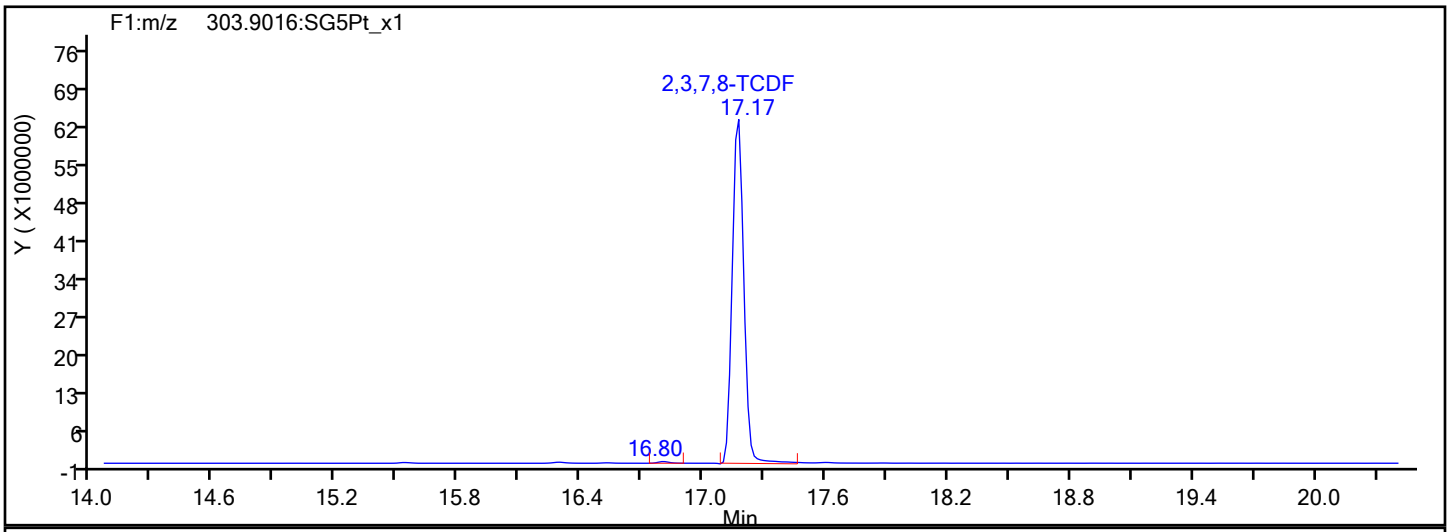

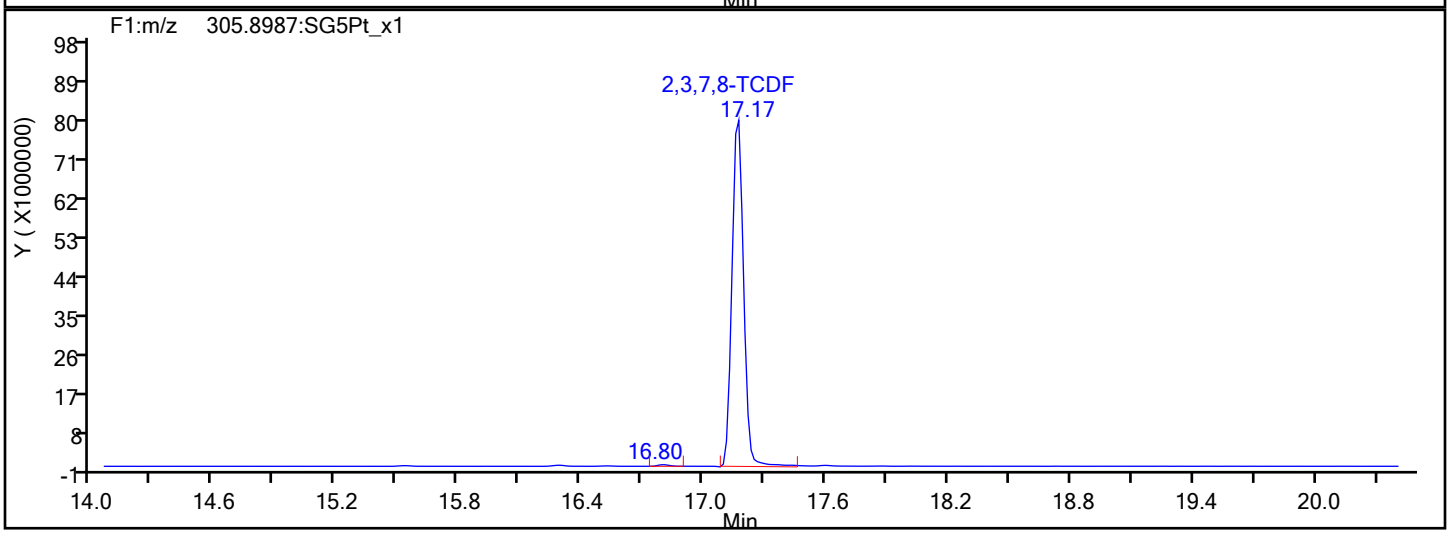

TCDF Interference Mass

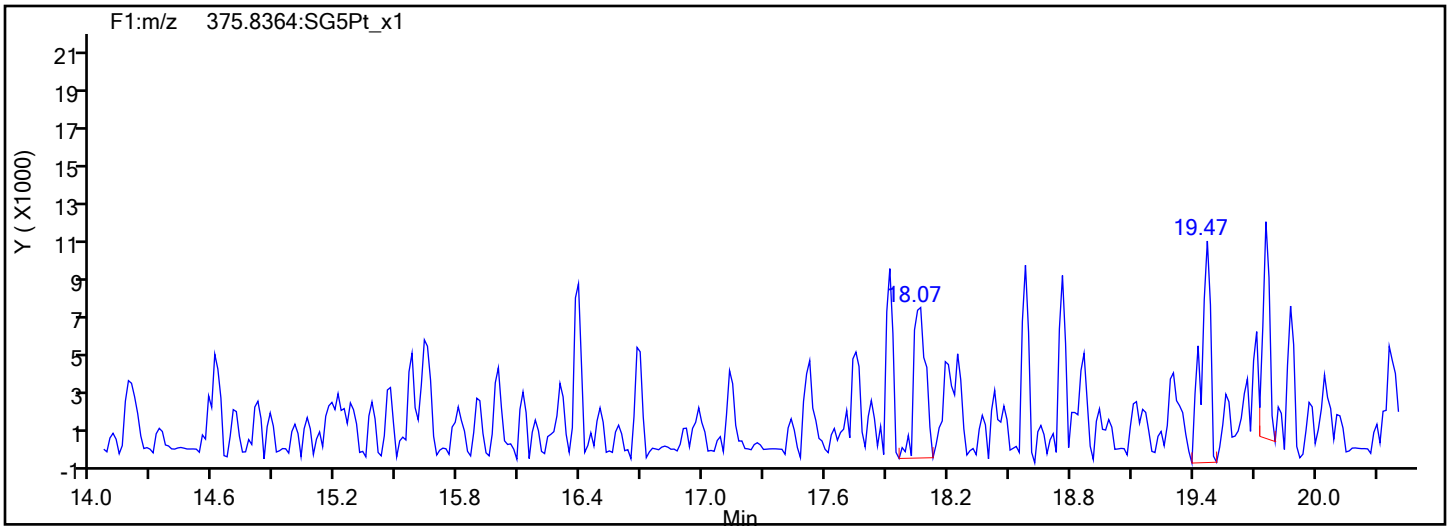

Report Date: 12-Dec-2019 15:54:43 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d		
Injection Date:	12-Dec-2019 14:39:03	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L6		
Worklist#:	345037	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

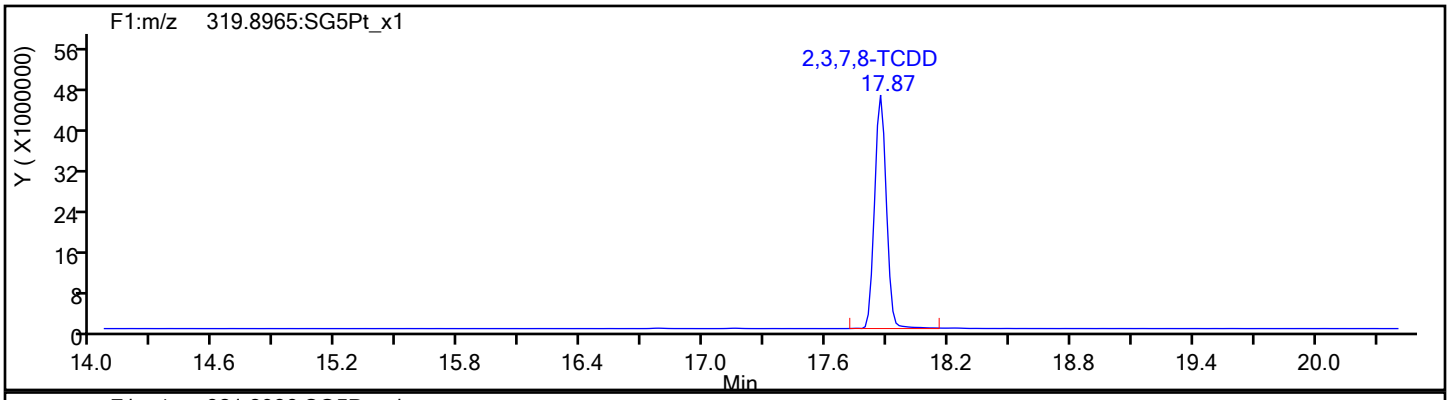

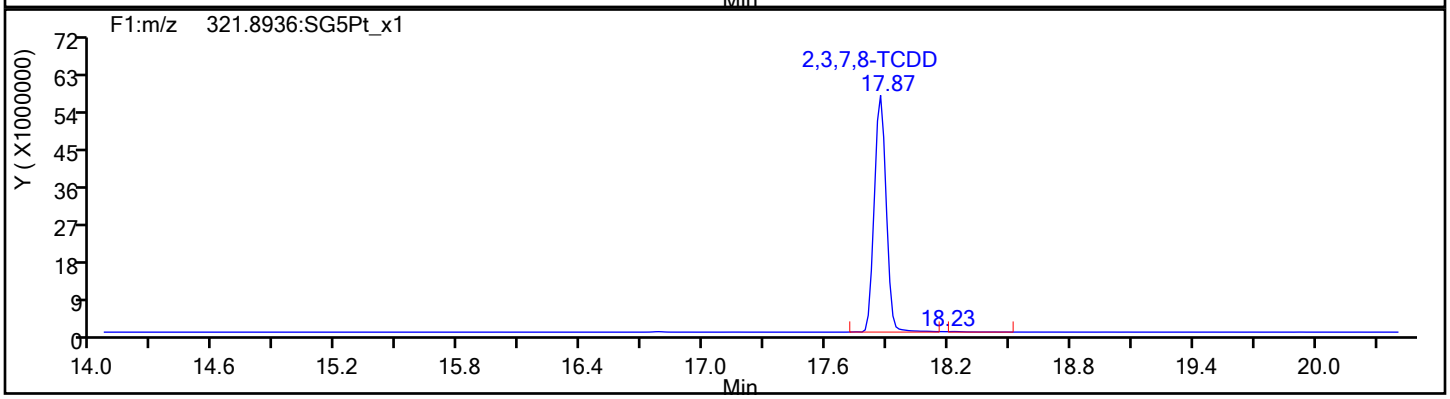

TCDD Standards

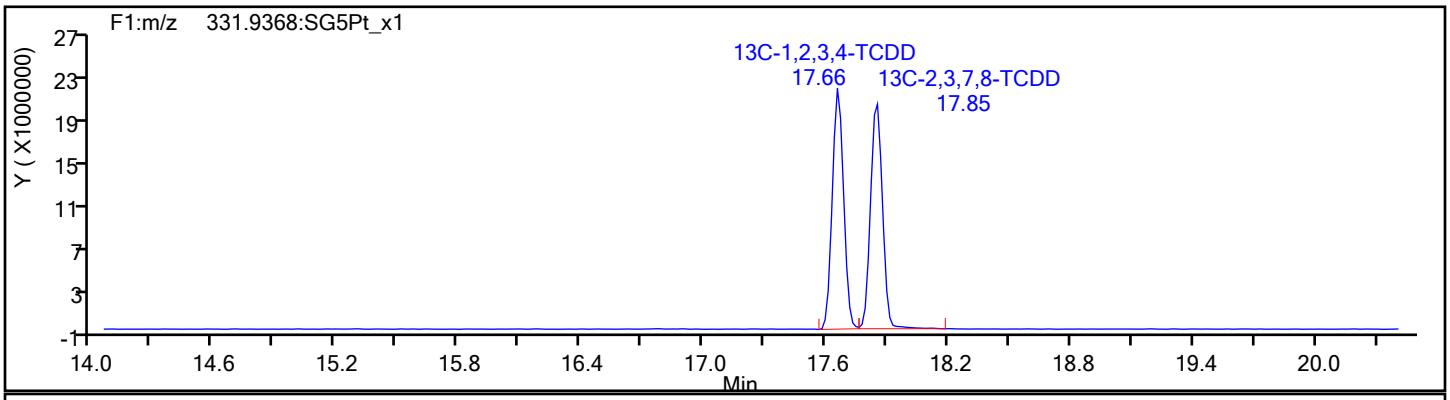

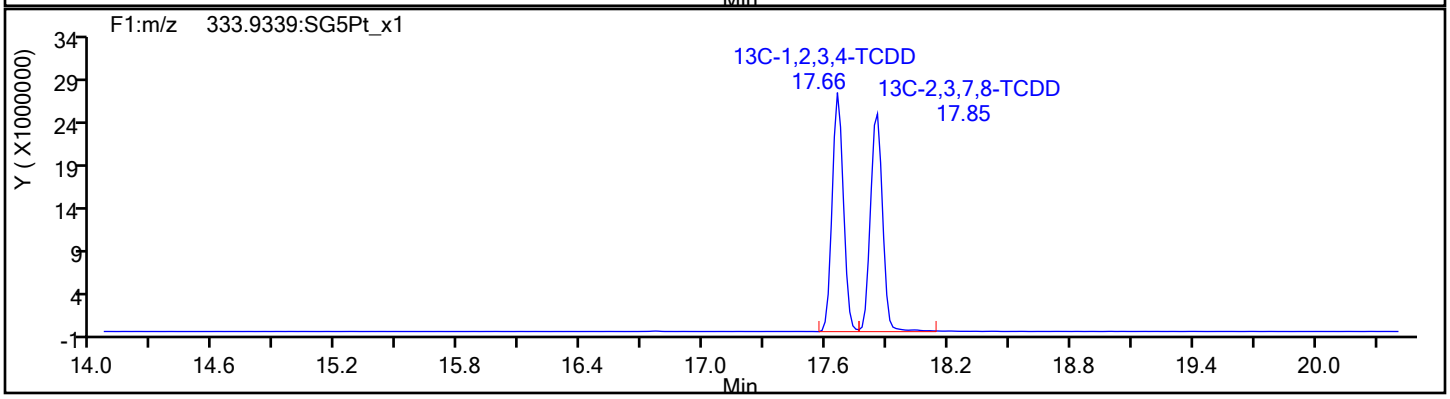

Report Date: 12-Dec-2019 15:54:43 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d		
Injection Date:	12-Dec-2019 14:39:03	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L6		
Worklist#:	345037	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

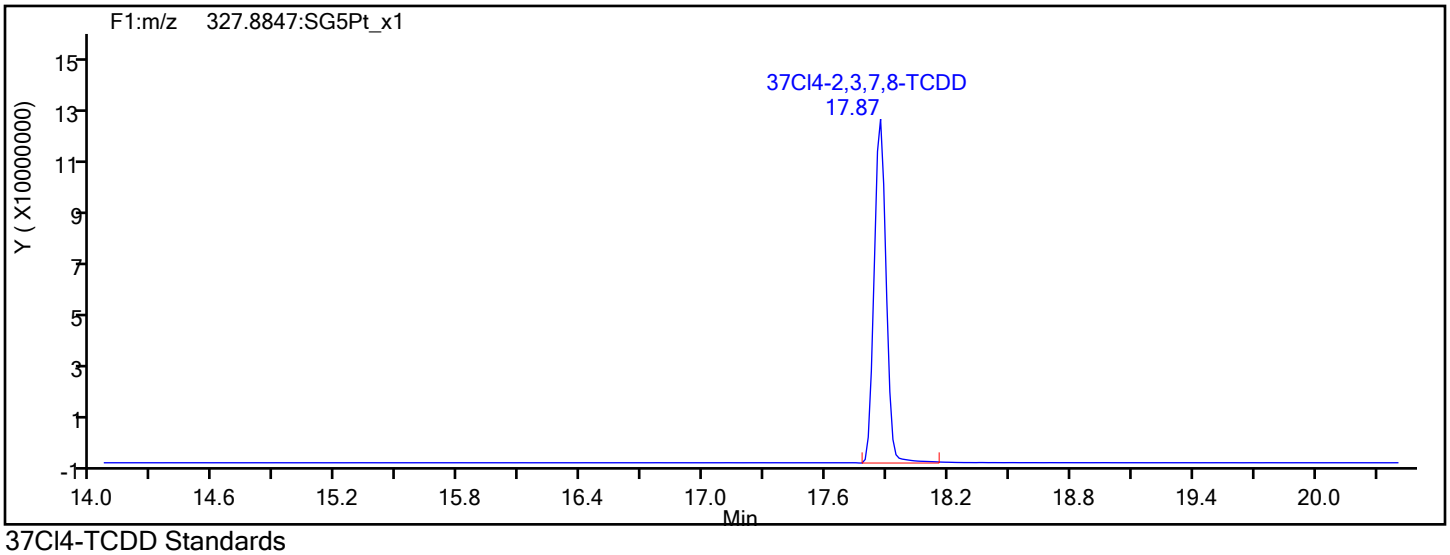

37Cl4-TCDD Standards

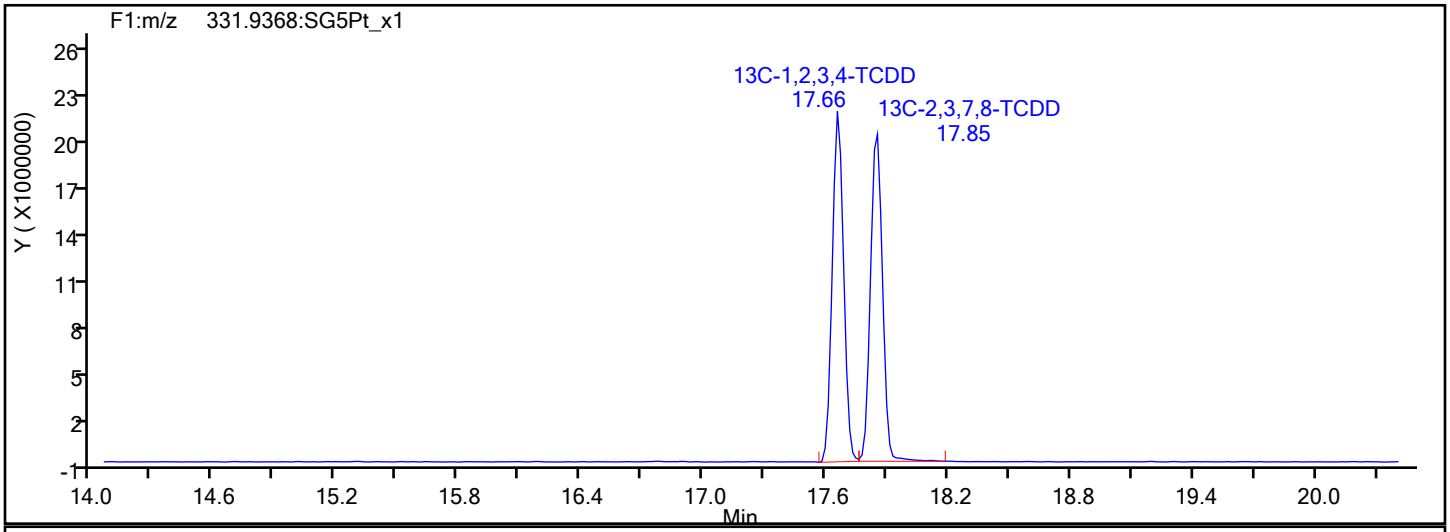

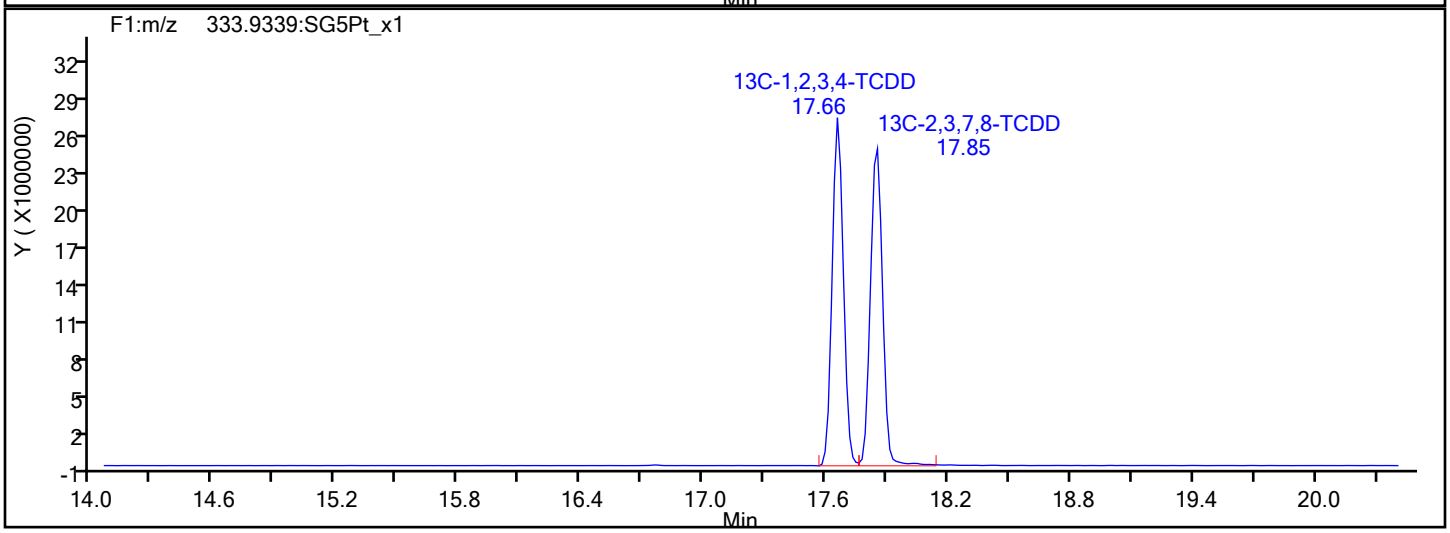

Report Date: 12-Dec-2019 15:54:43 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d		
Injection Date:	12-Dec-2019 14:39:03	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L6		
Worklist#:	345037	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

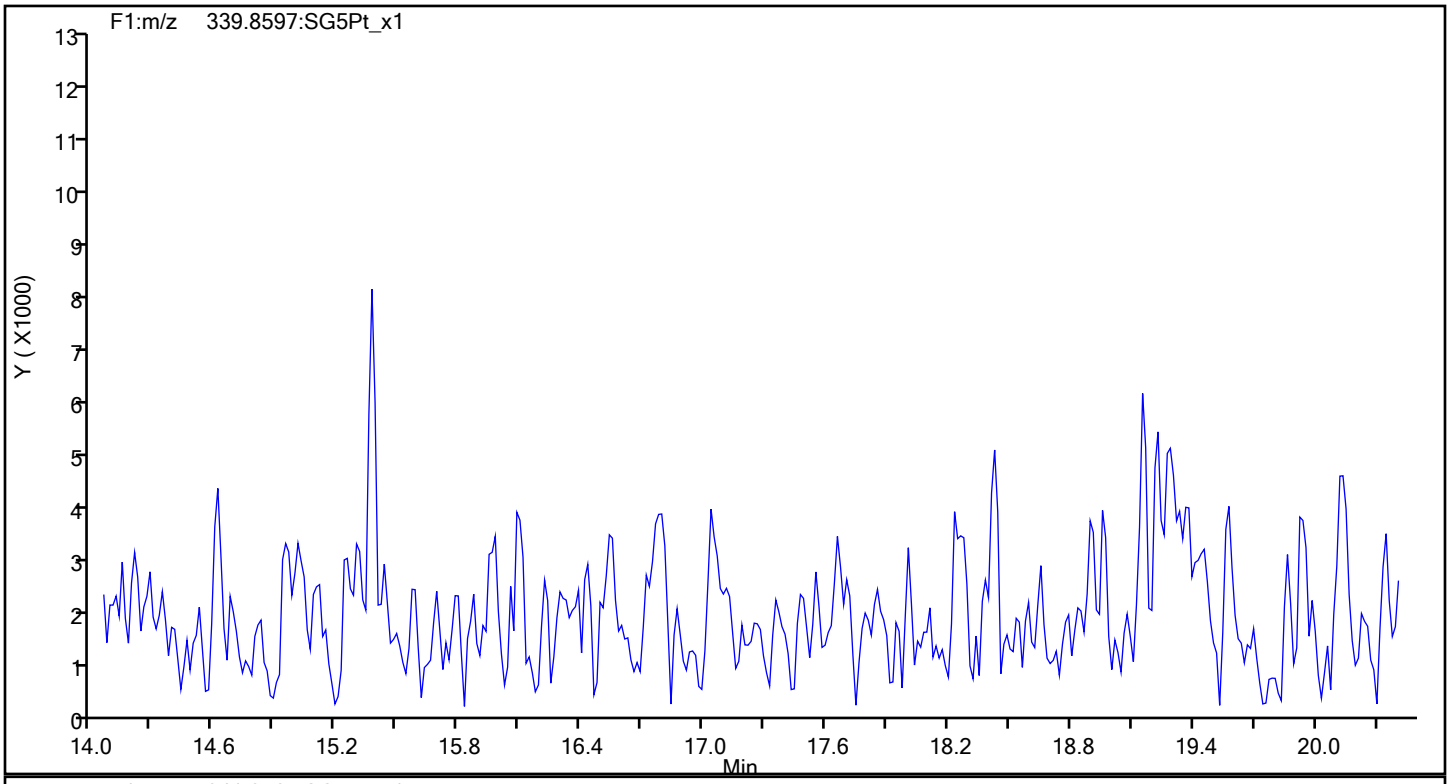

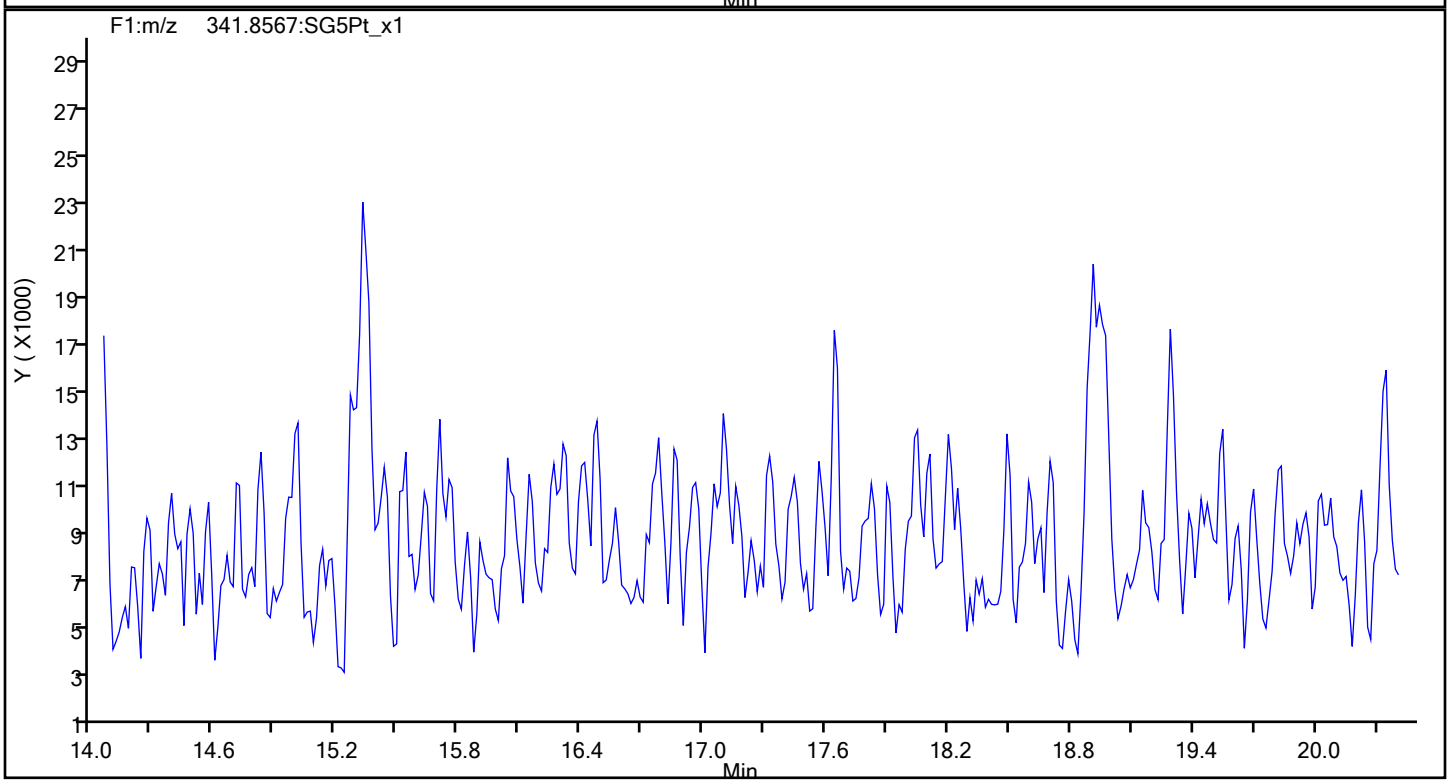

Report Date: 12-Dec-2019 15:54:43 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d		
Injection Date:	12-Dec-2019 14:39:03	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L6		
Worklist#:	345037	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

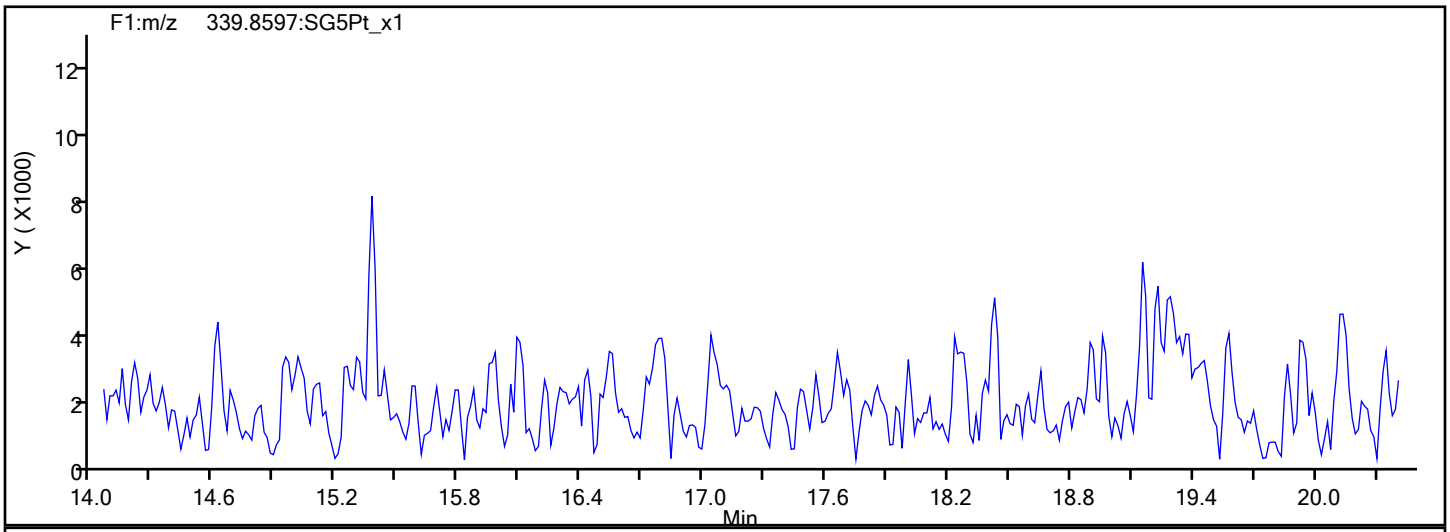

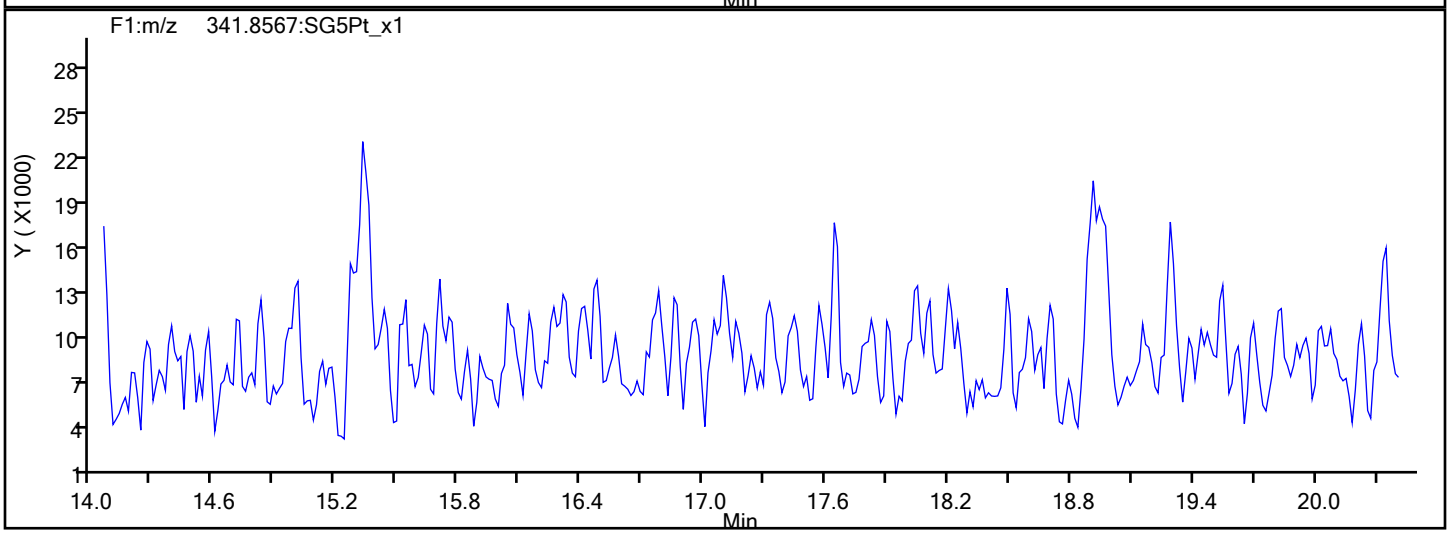

F1 PeCDFs Interference Mass

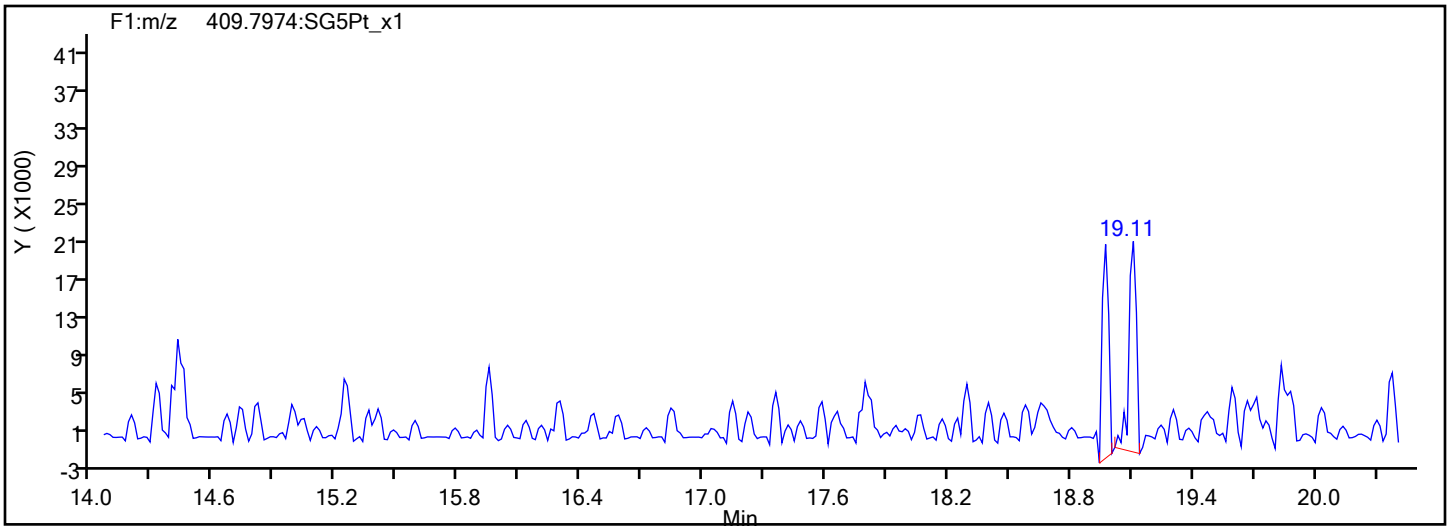

Report Date: 12-Dec-2019 15:54:43 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d		
Injection Date:	12-Dec-2019 14:39:03	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L6		
Worklist#:	345037	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

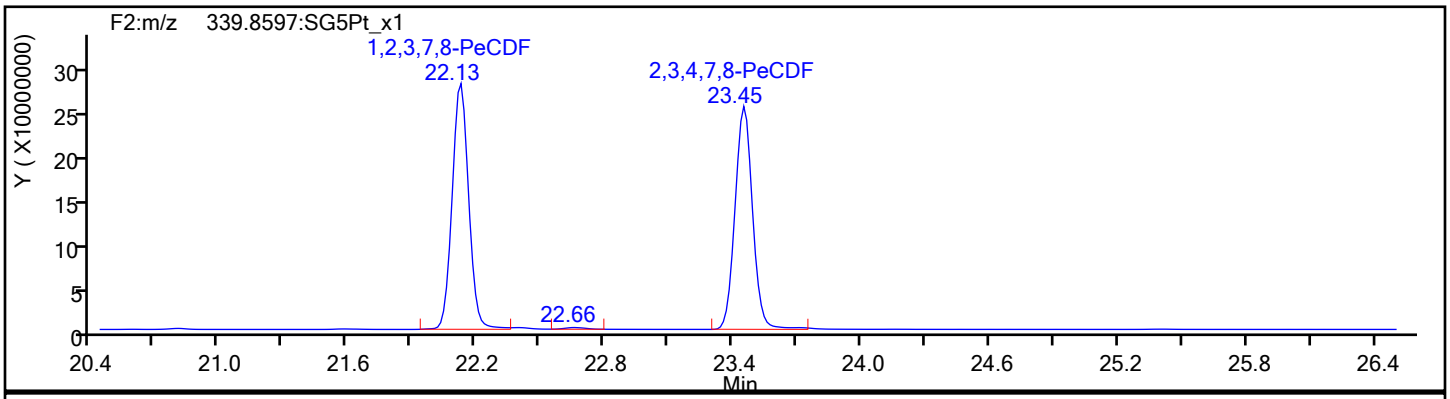

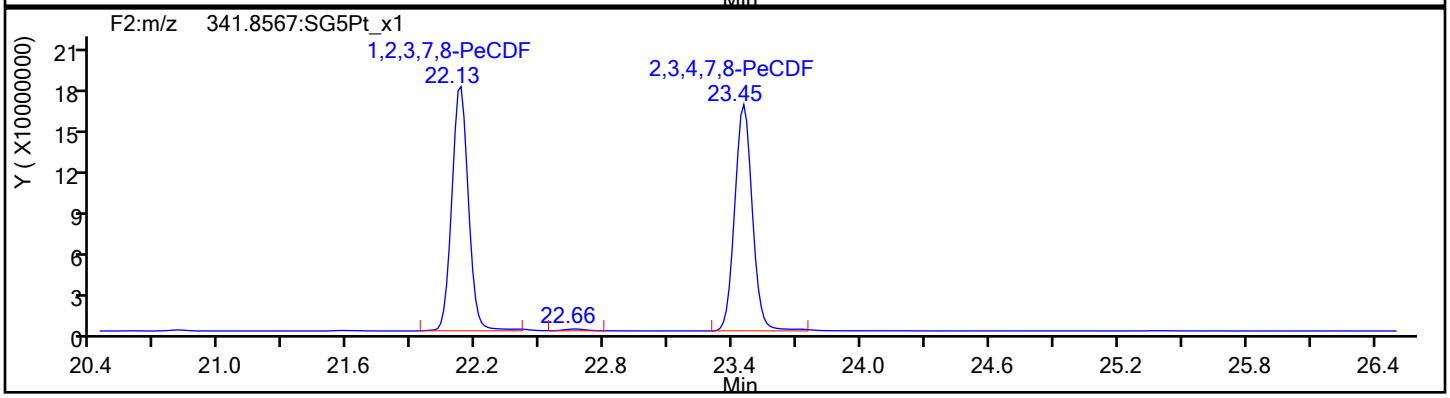

PeCDF Standards

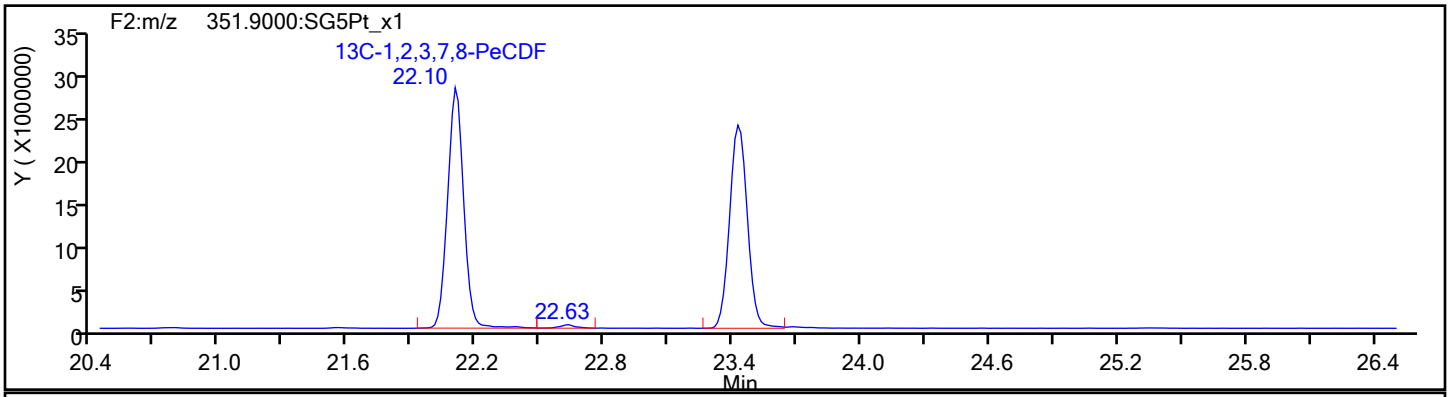

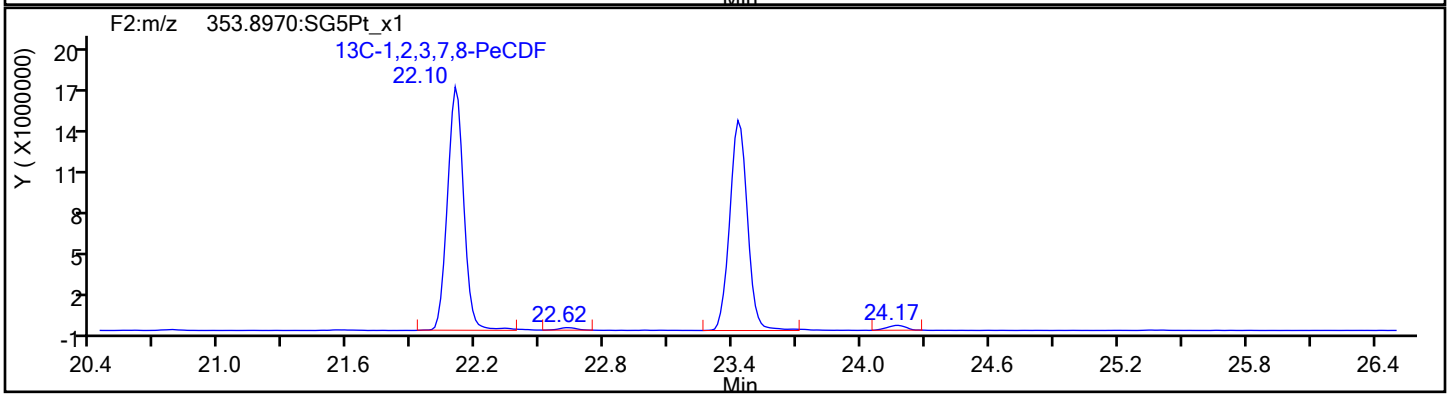

Report Date: 12-Dec-2019 15:54:43 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d		
Injection Date:	12-Dec-2019 14:39:03	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

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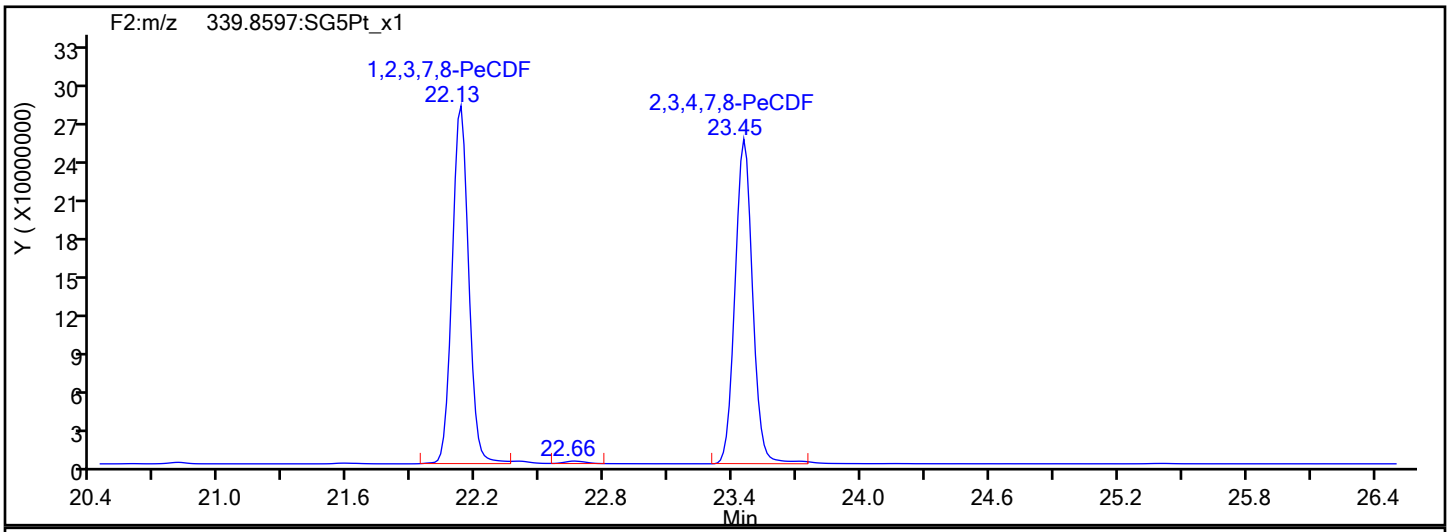

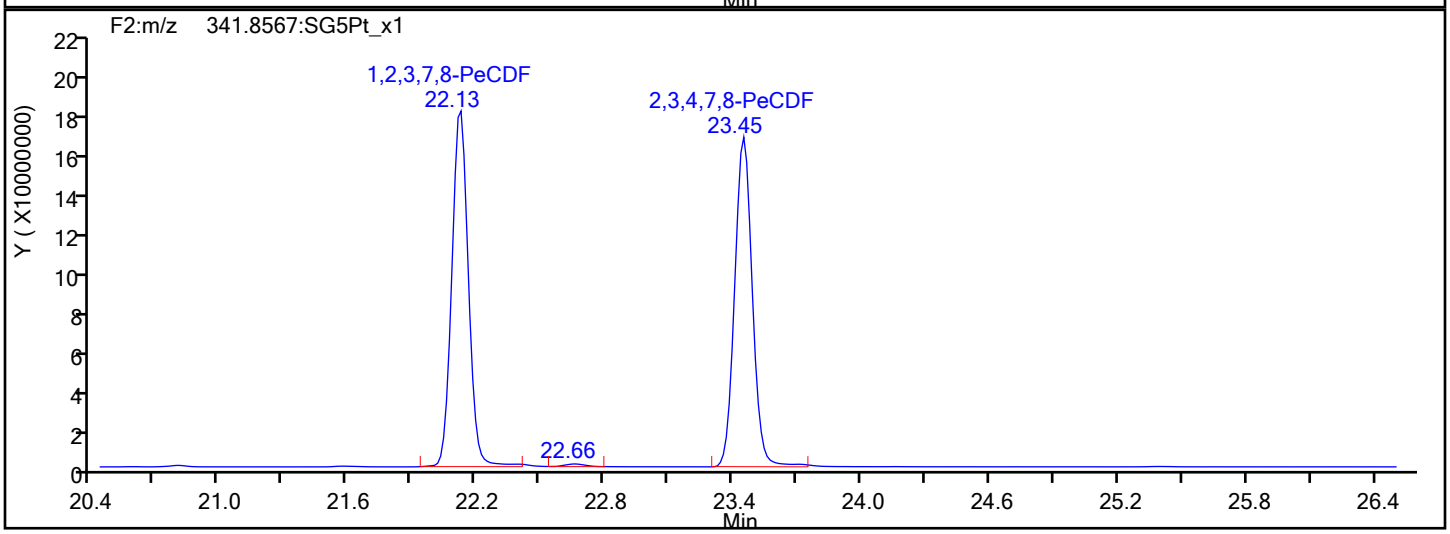

PeCDF Interference Mass

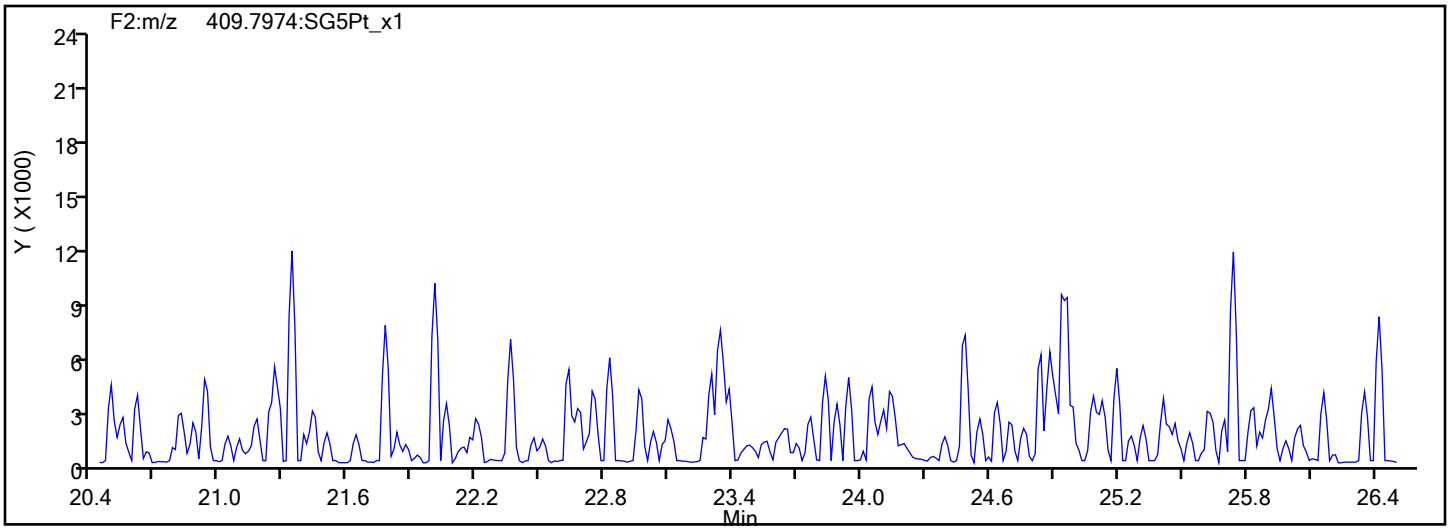

Report Date: 12-Dec-2019 15:54:43 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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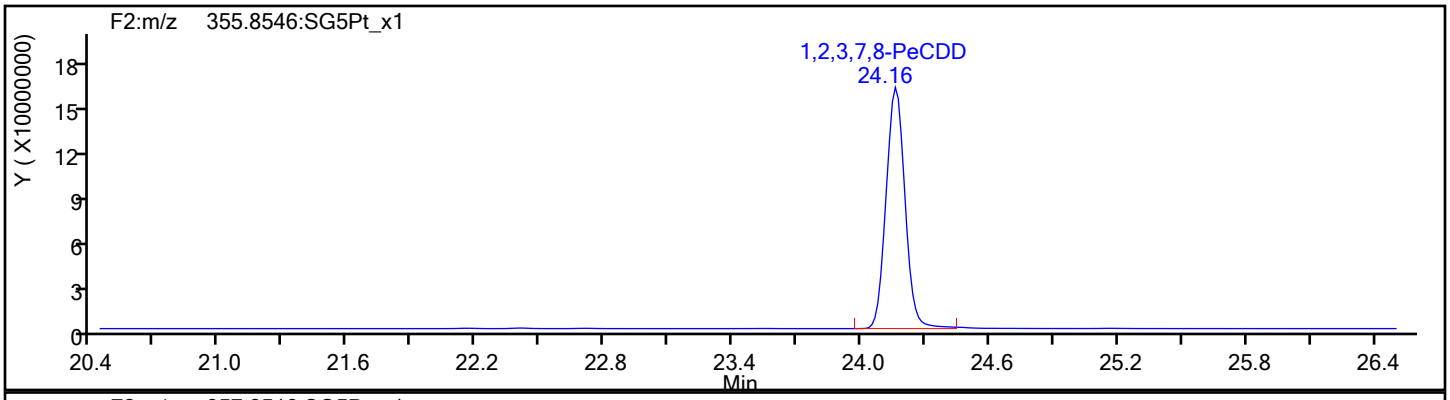

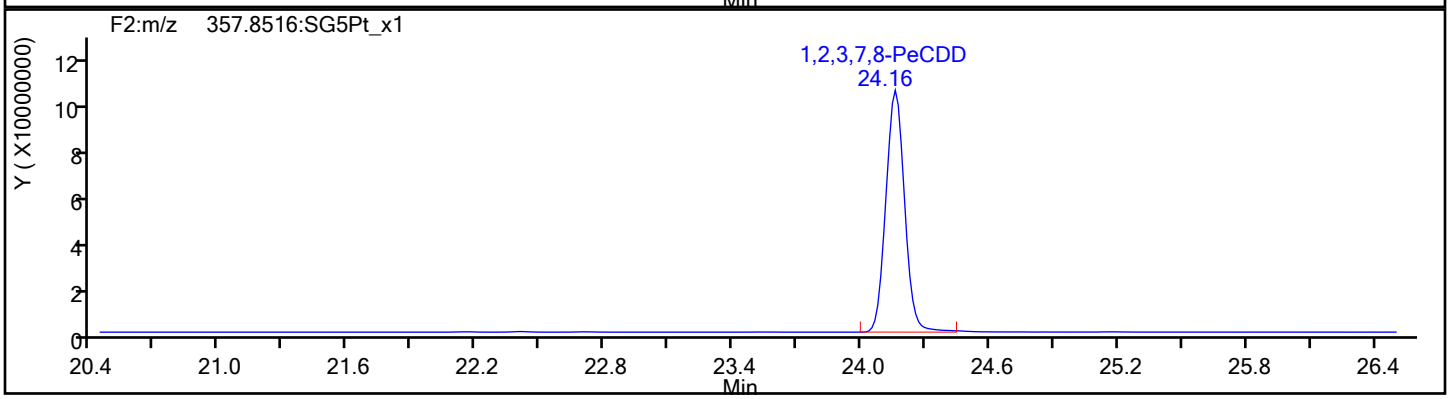

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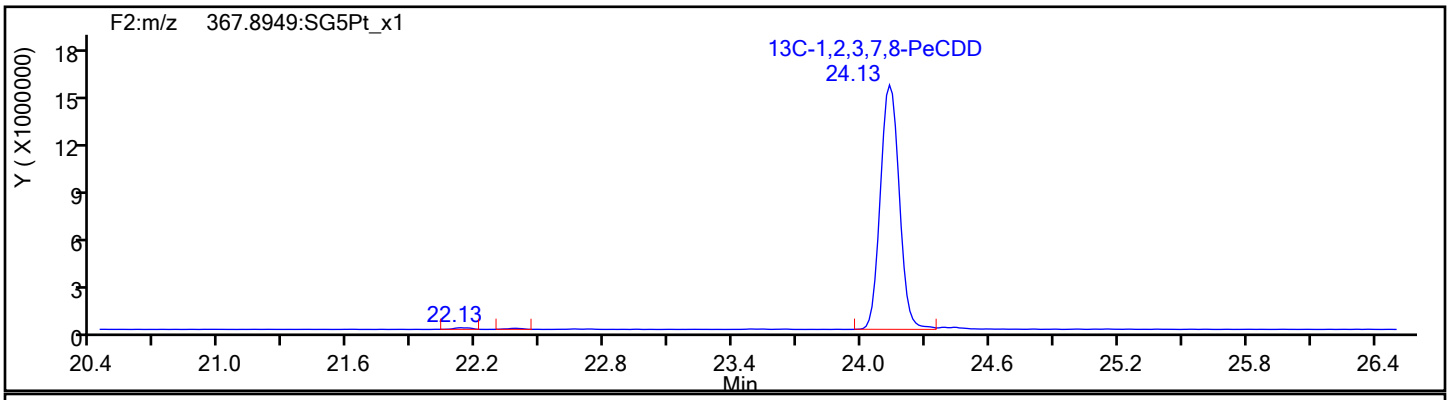

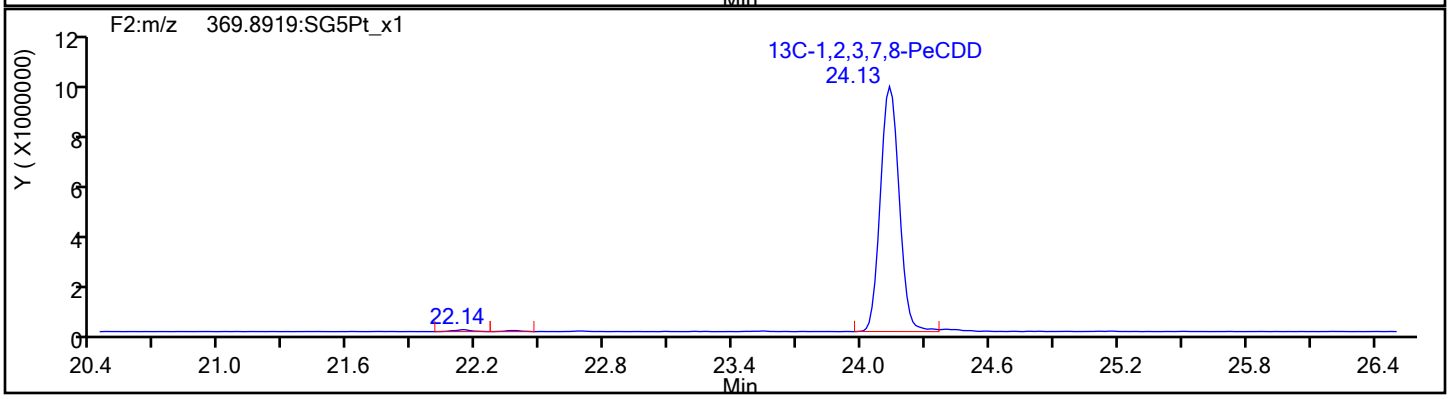

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Eurofins TestAmerica, Sacramento

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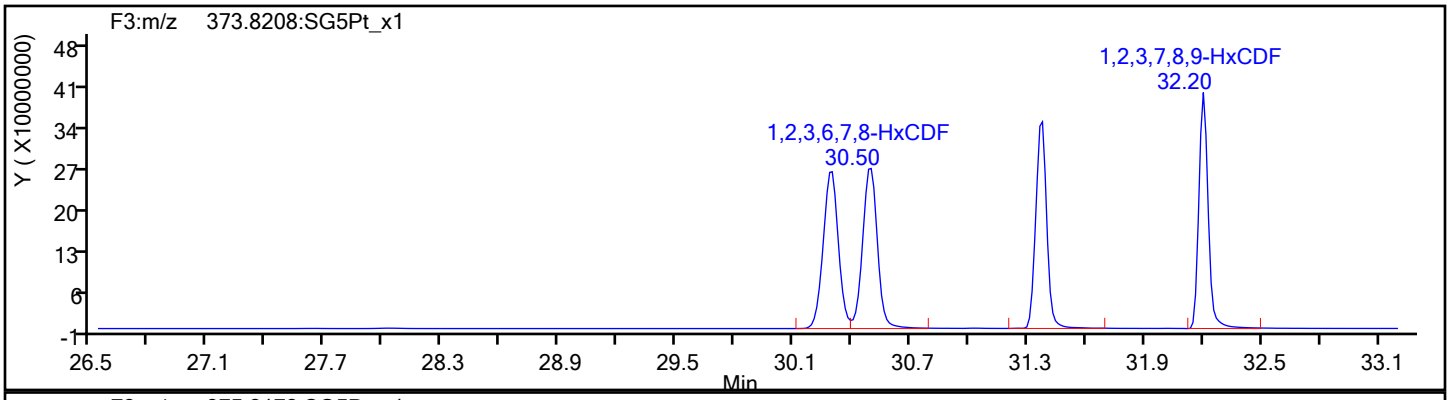

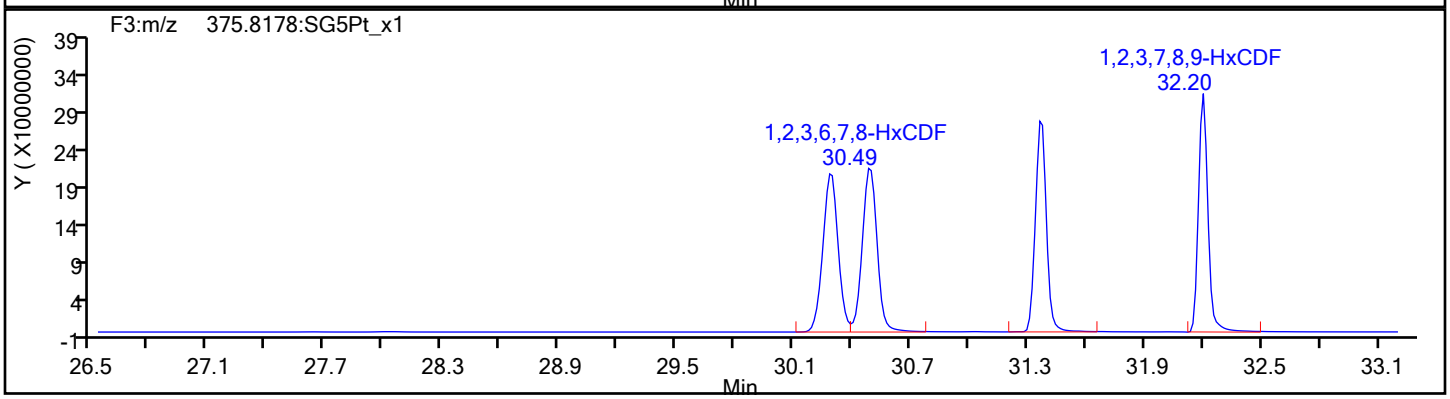

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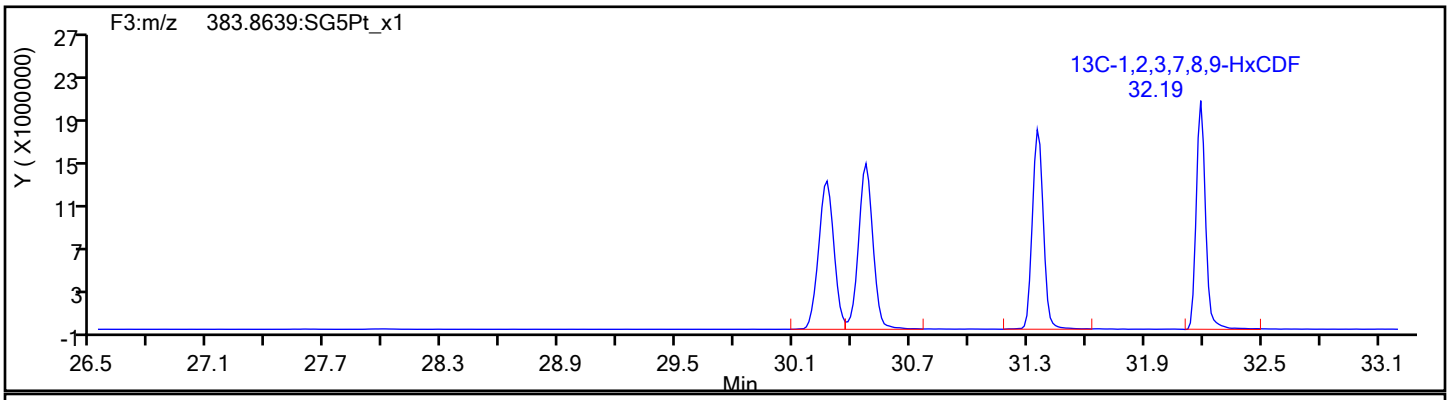

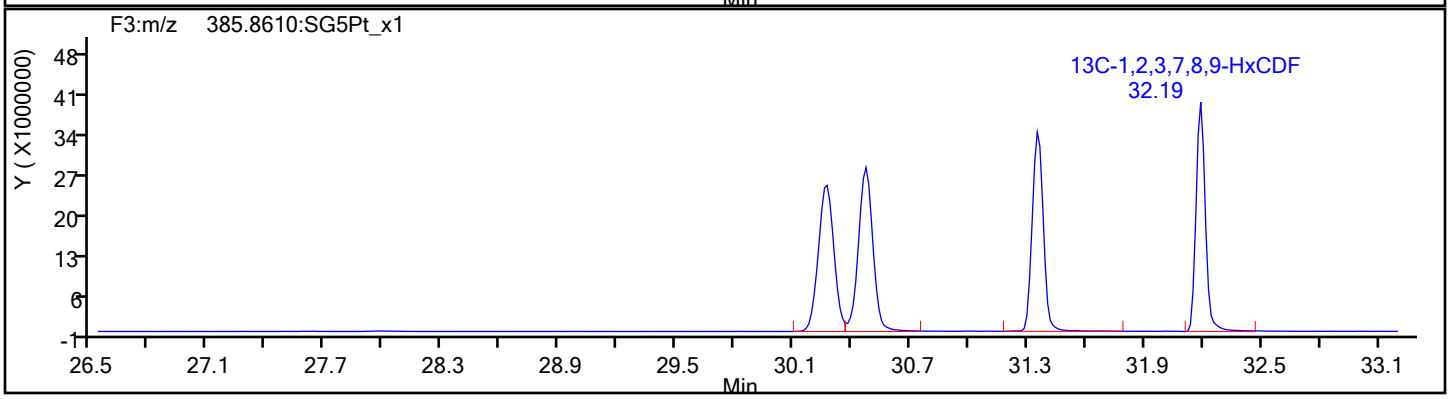

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Eurofins TestAmerica, Sacramento

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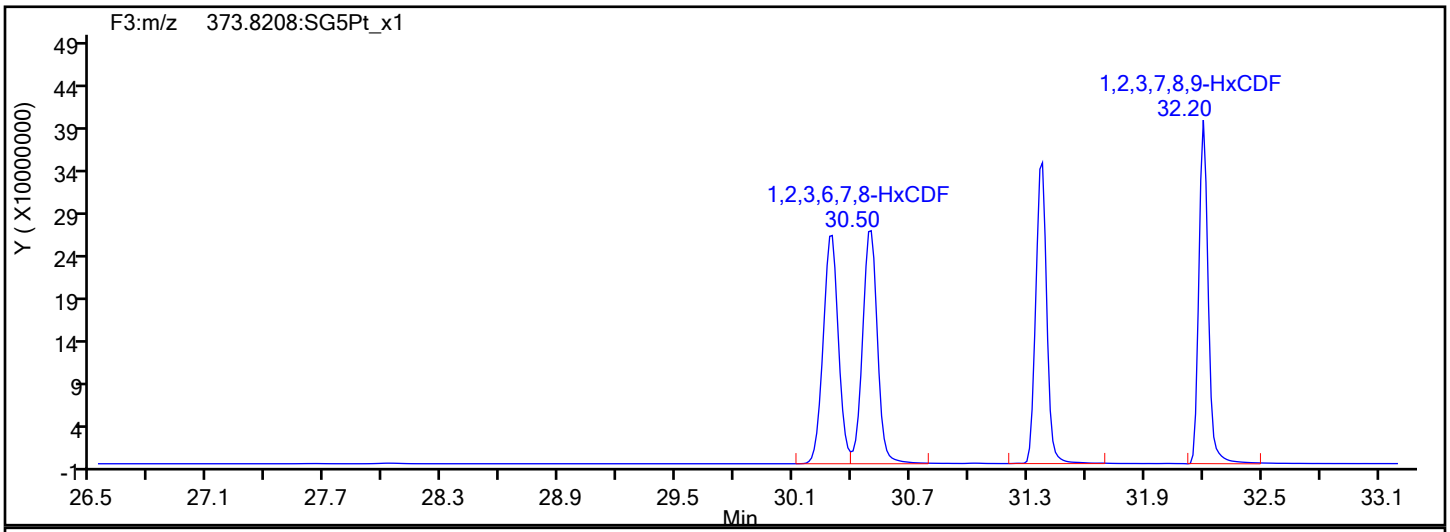

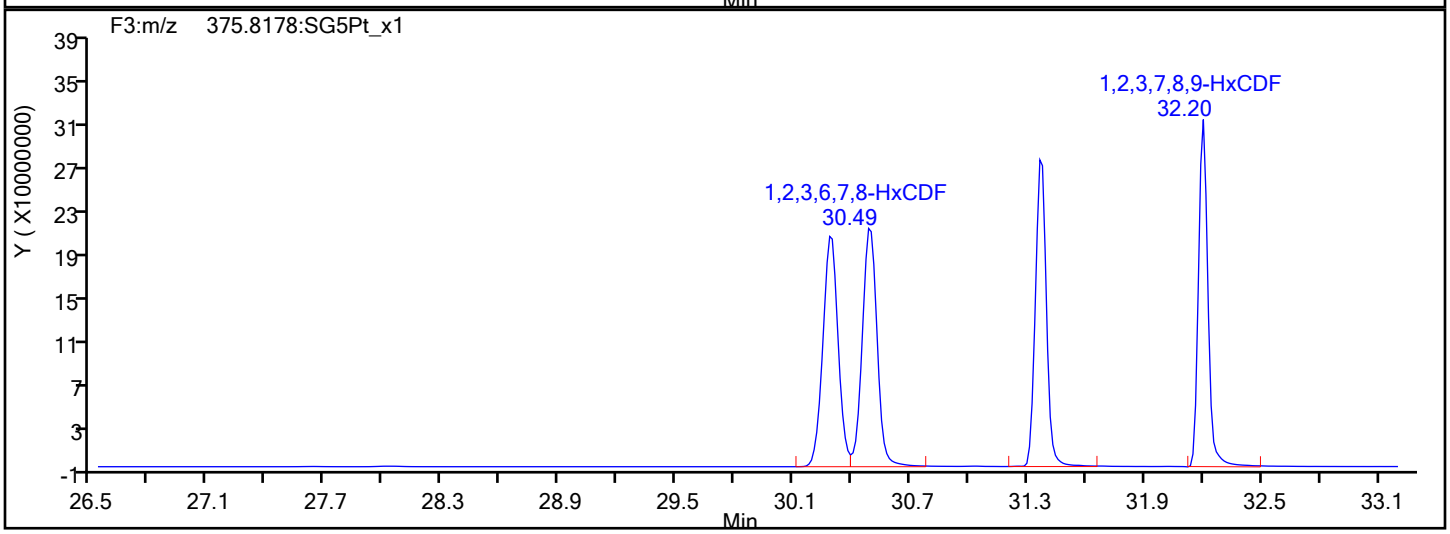

HxCDF Interference Mass

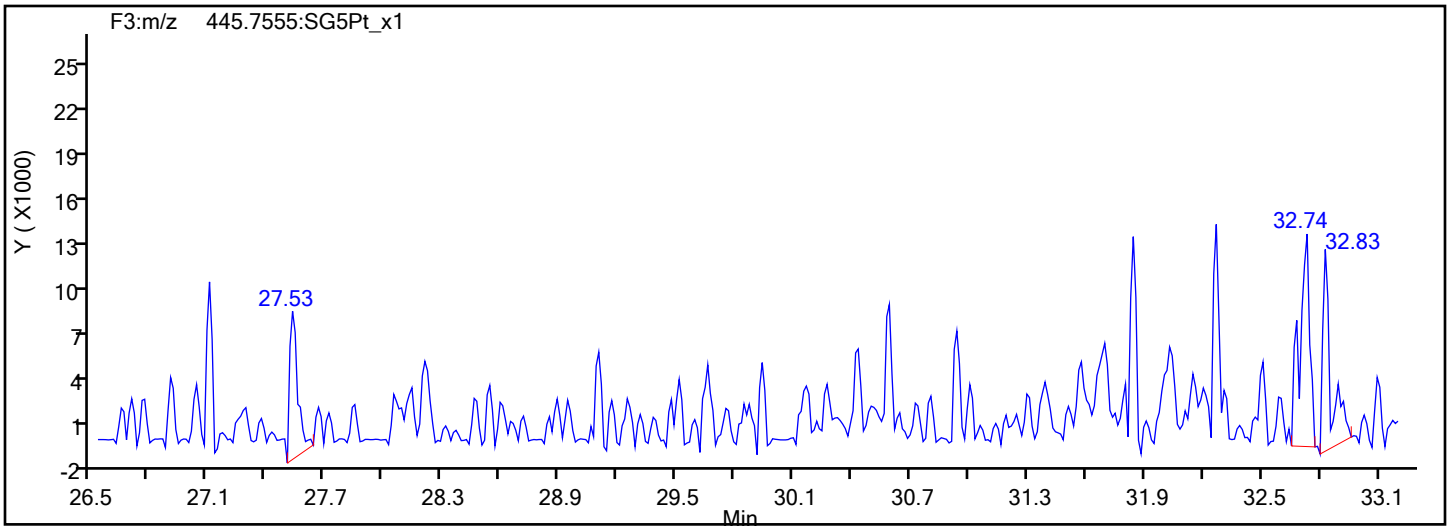

Report Date: 12-Dec-2019 15:54:43 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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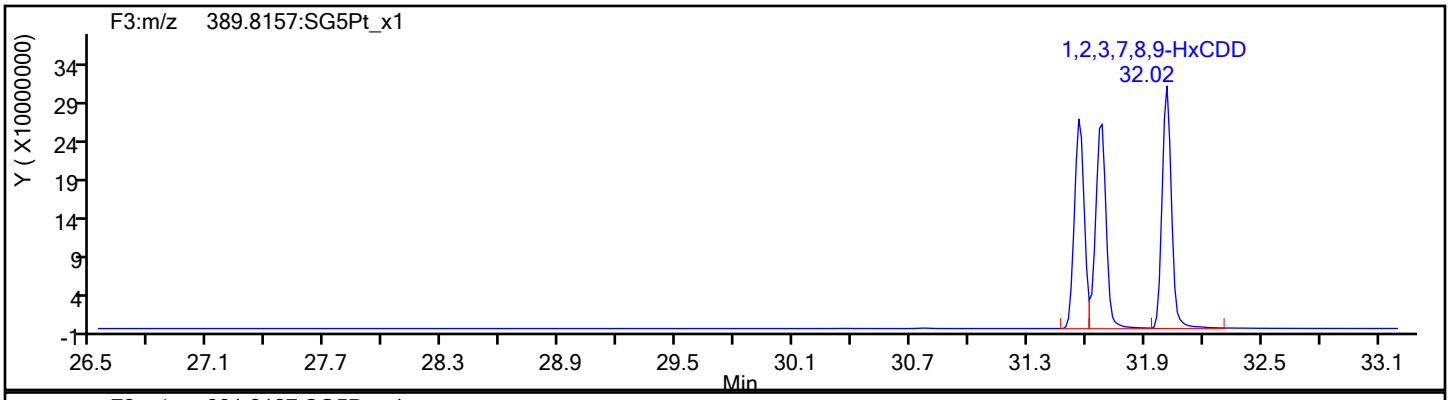

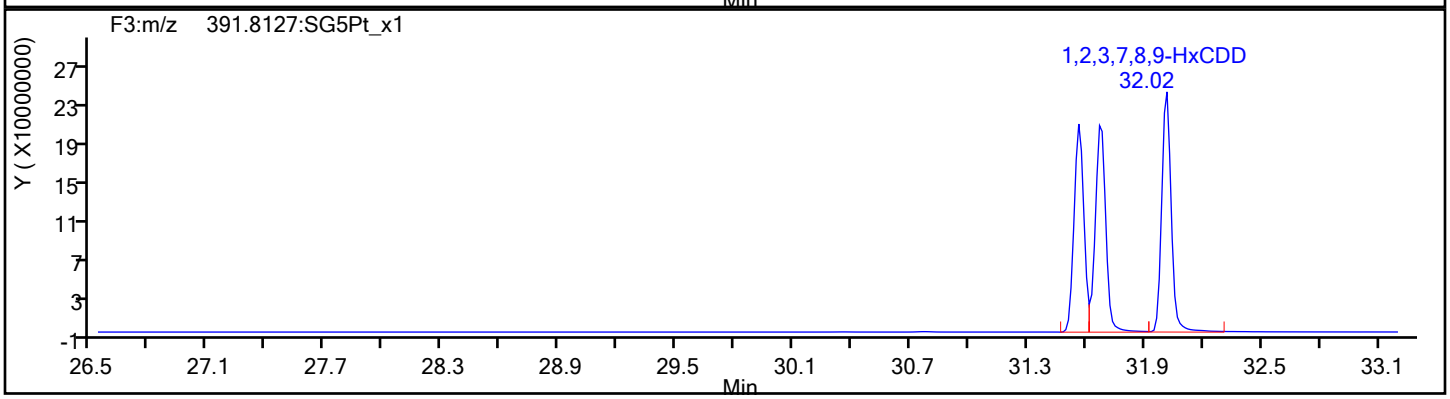

HxCDD Standards

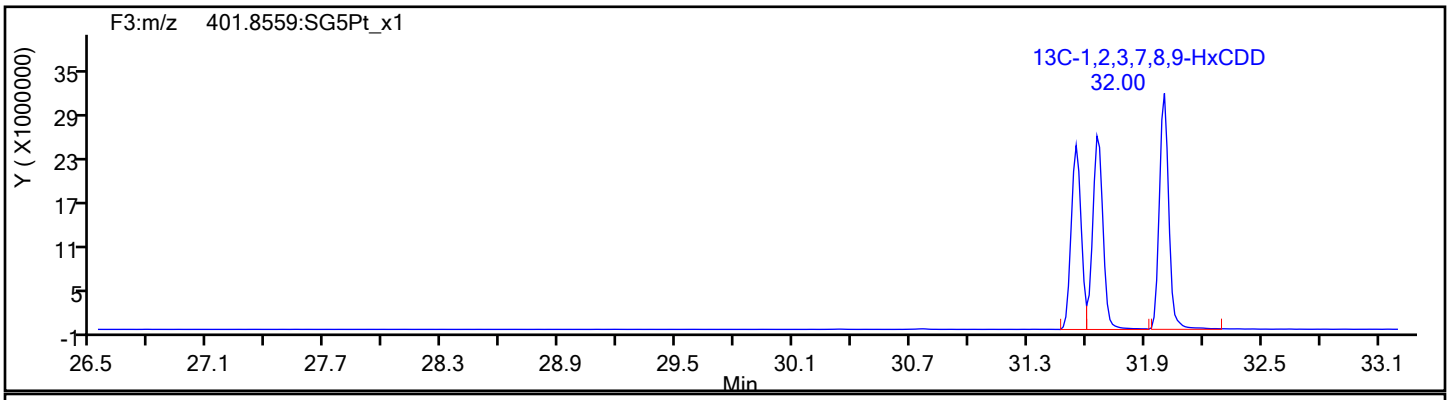

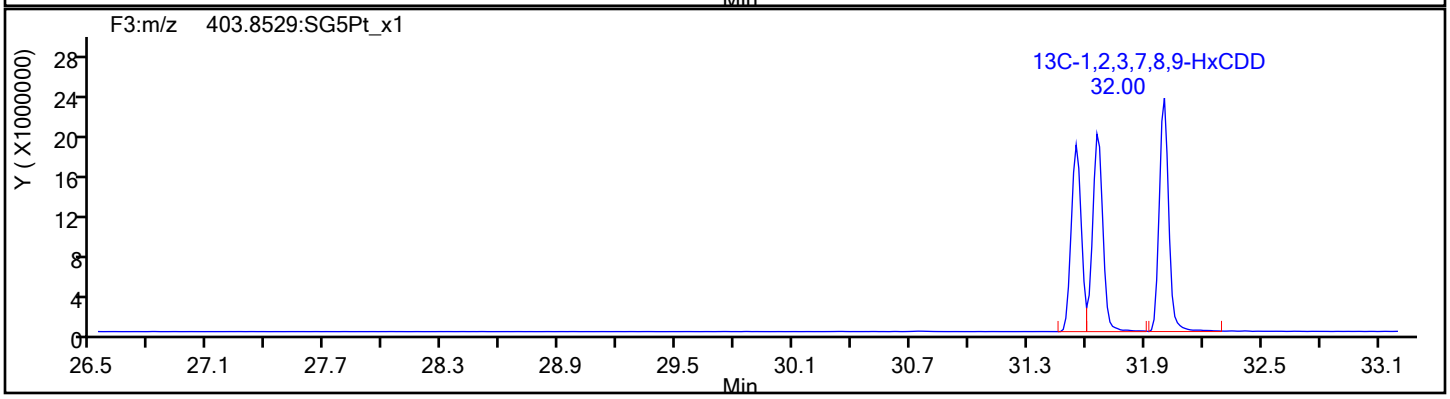

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Eurofins TestAmerica, Sacramento

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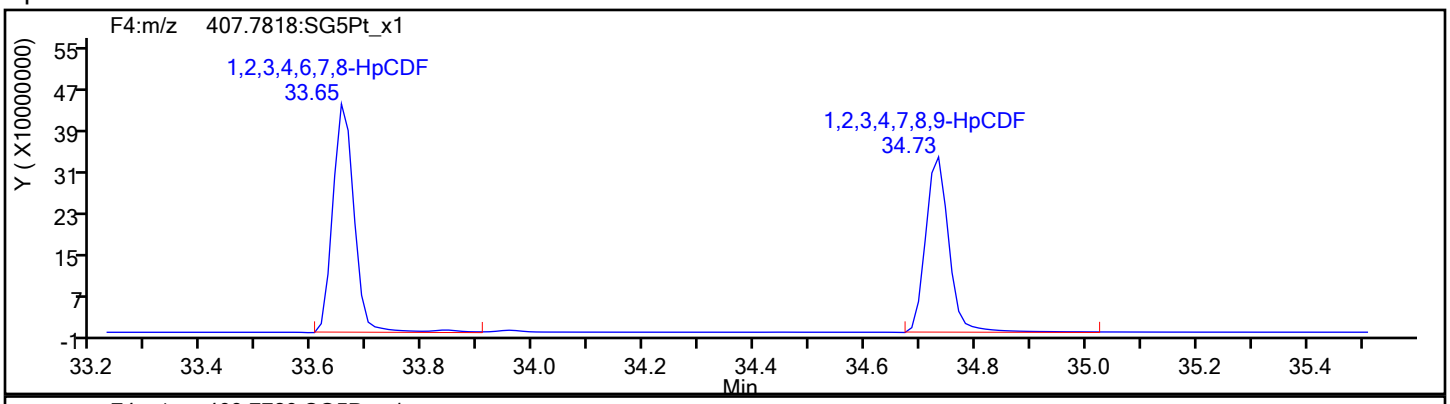

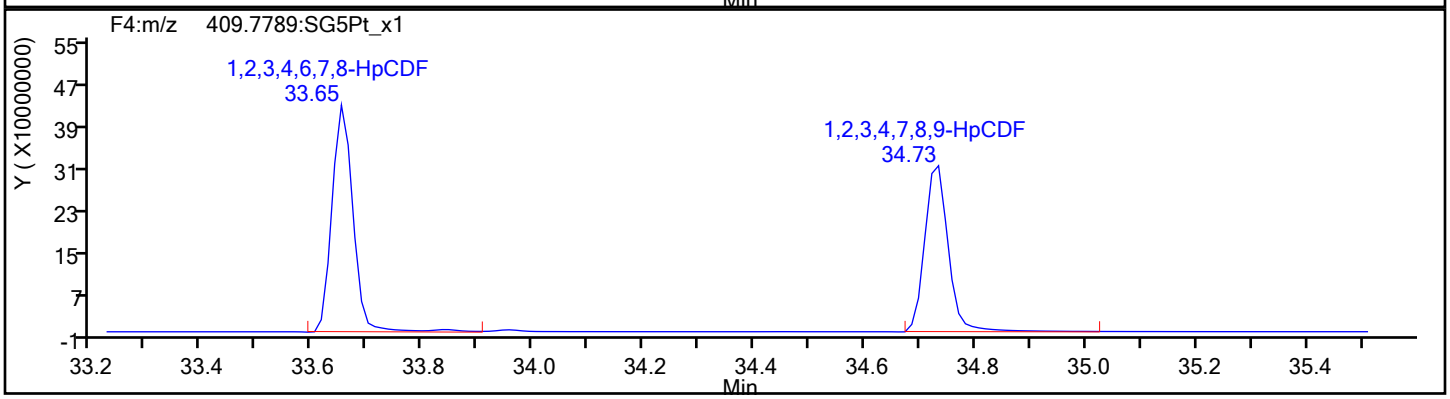

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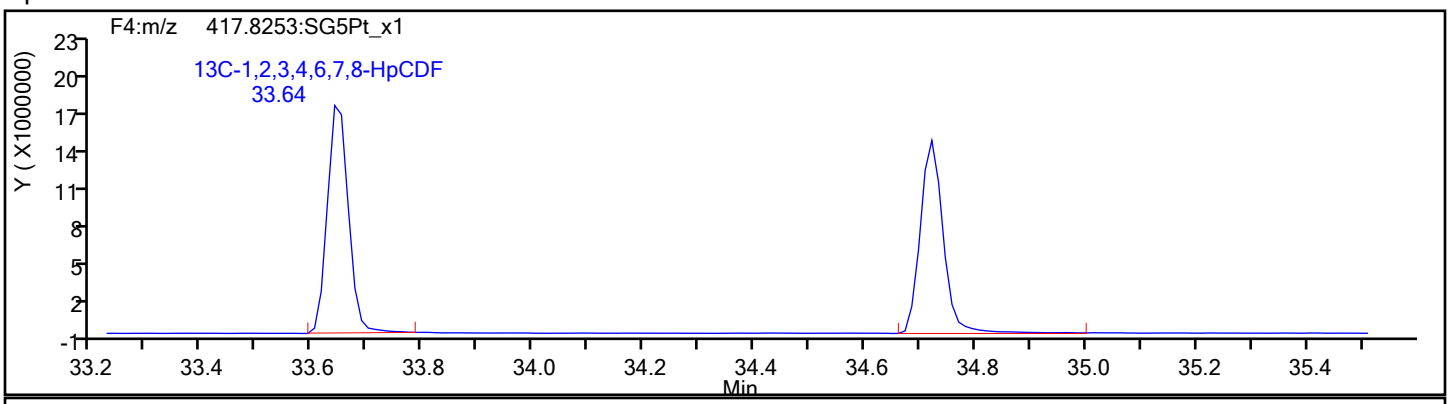

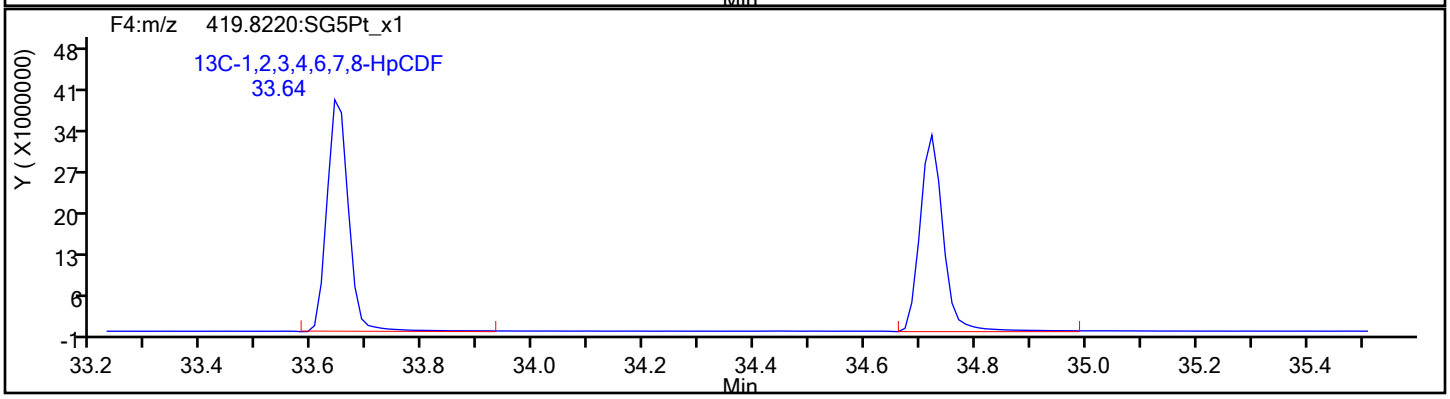

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Eurofins TestAmerica, Sacramento

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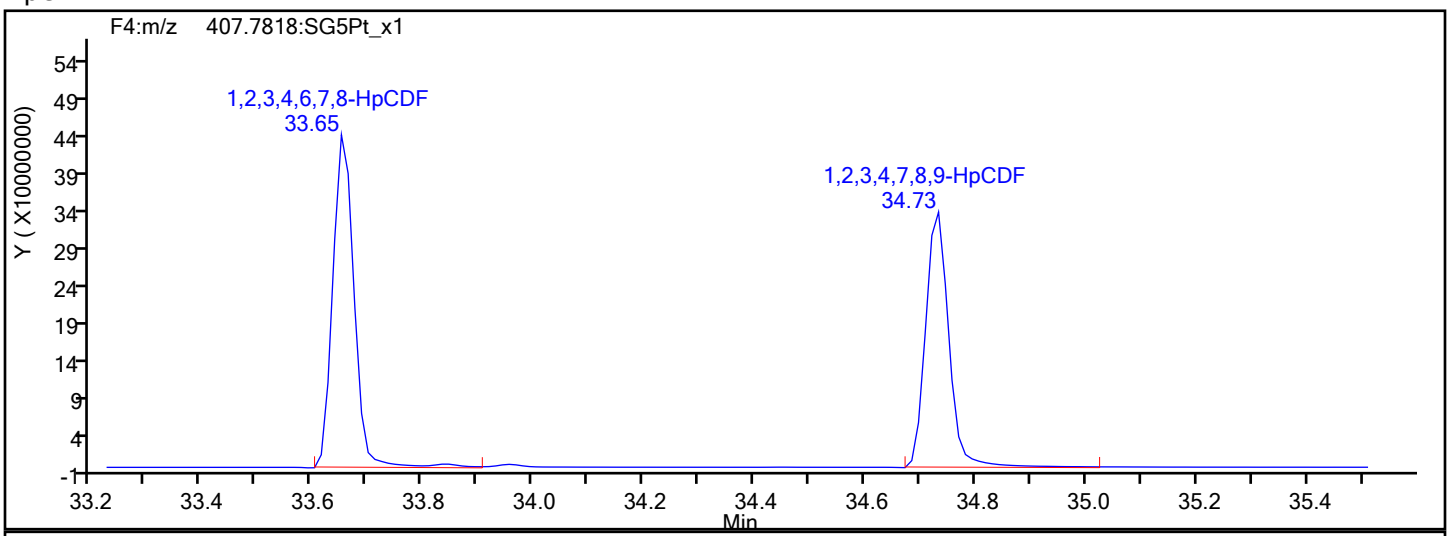

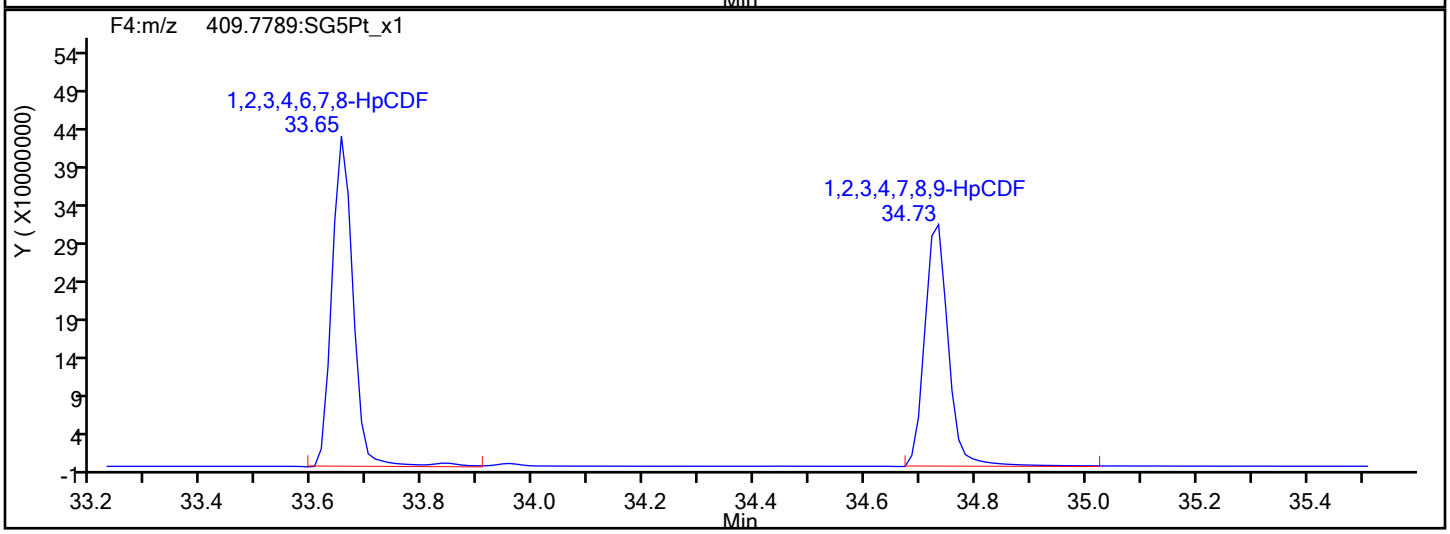

HpCDF Interference Mass

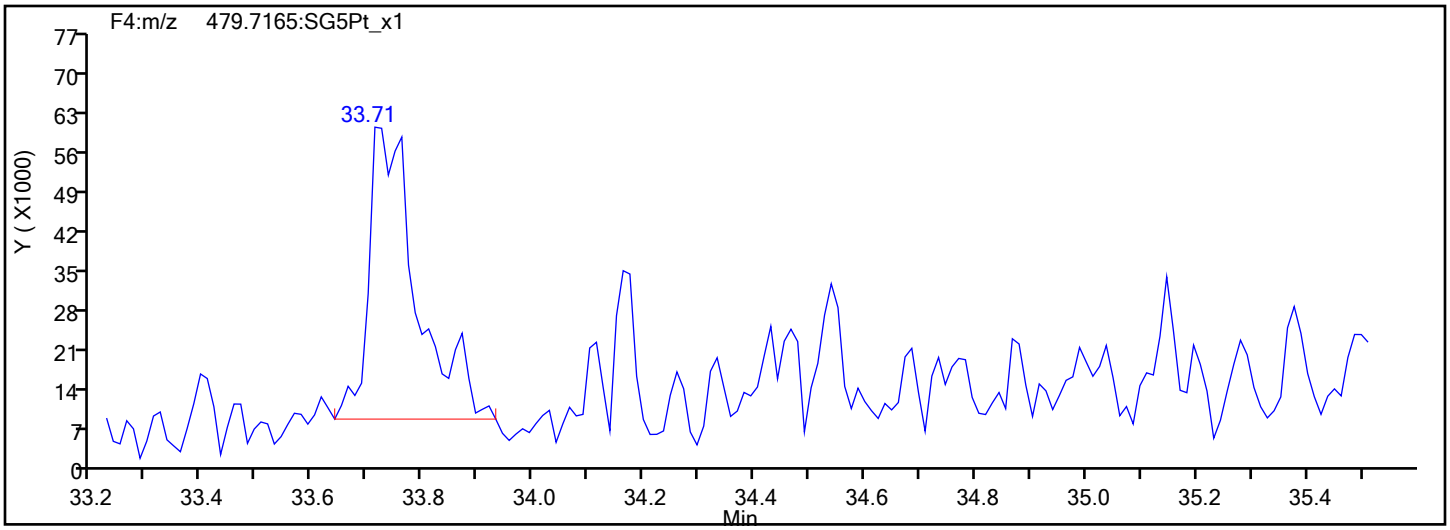

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Eurofins TestAmerica, Sacramento

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HpCDD

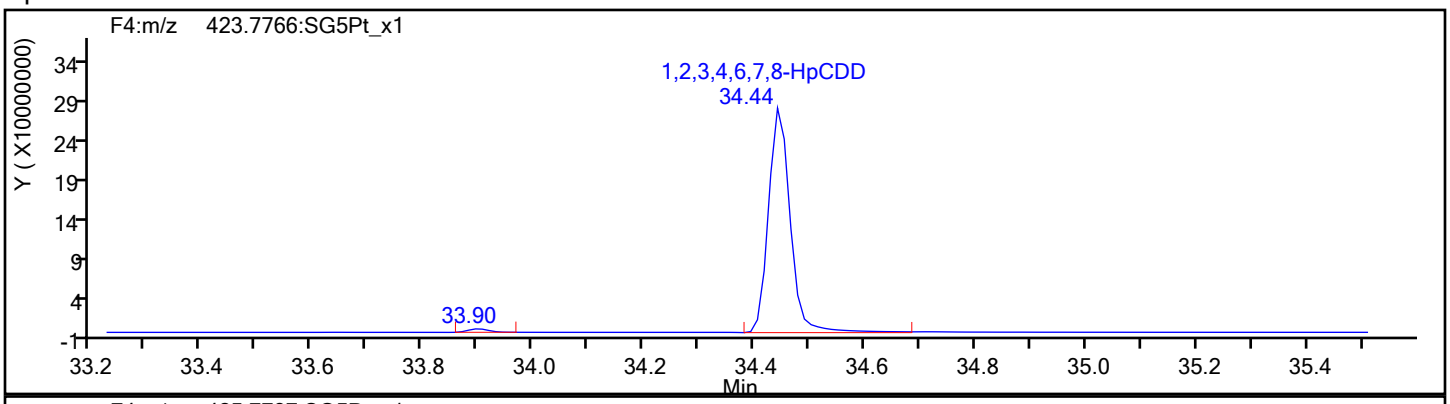

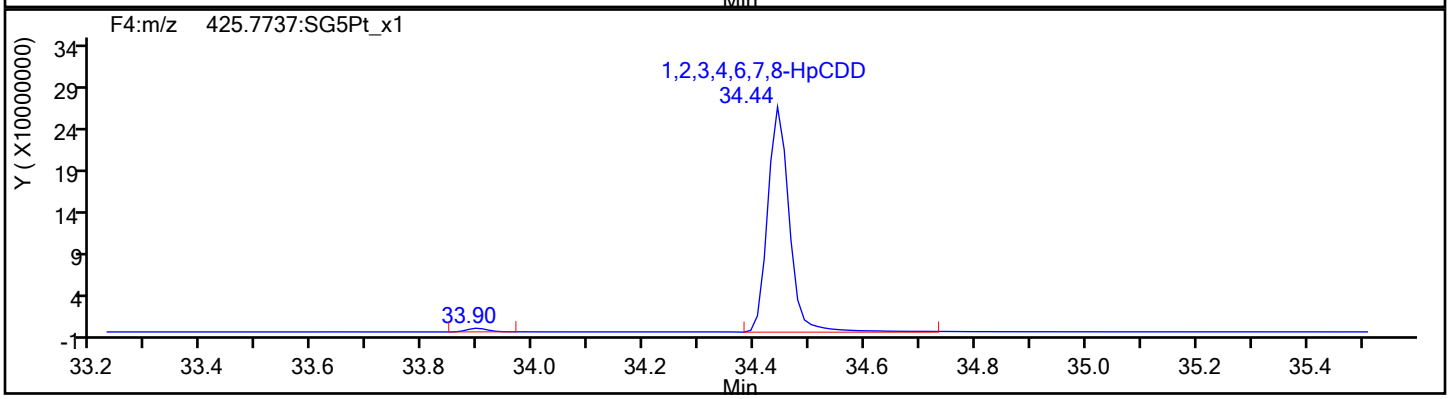

HpCDD Standards

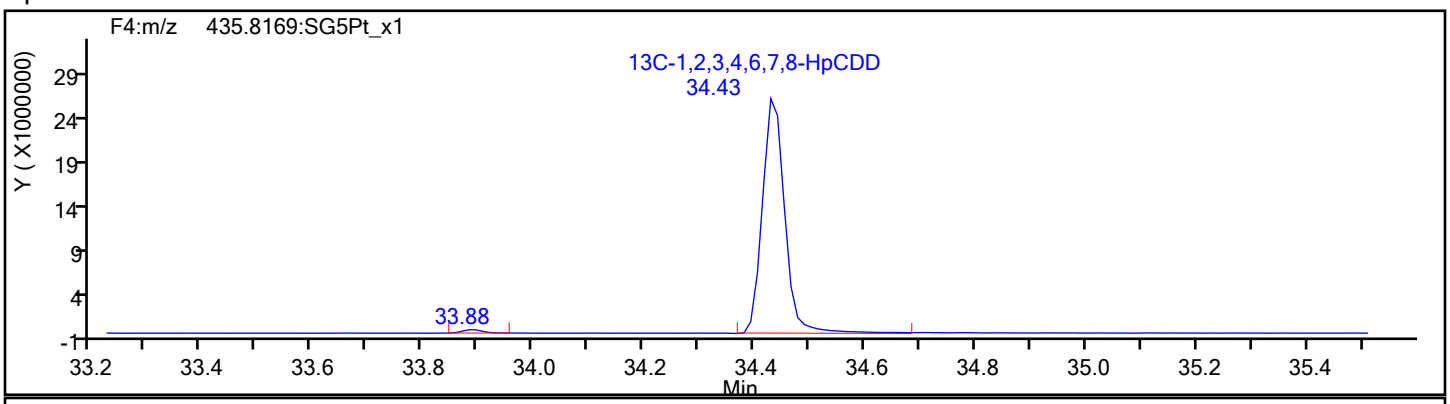

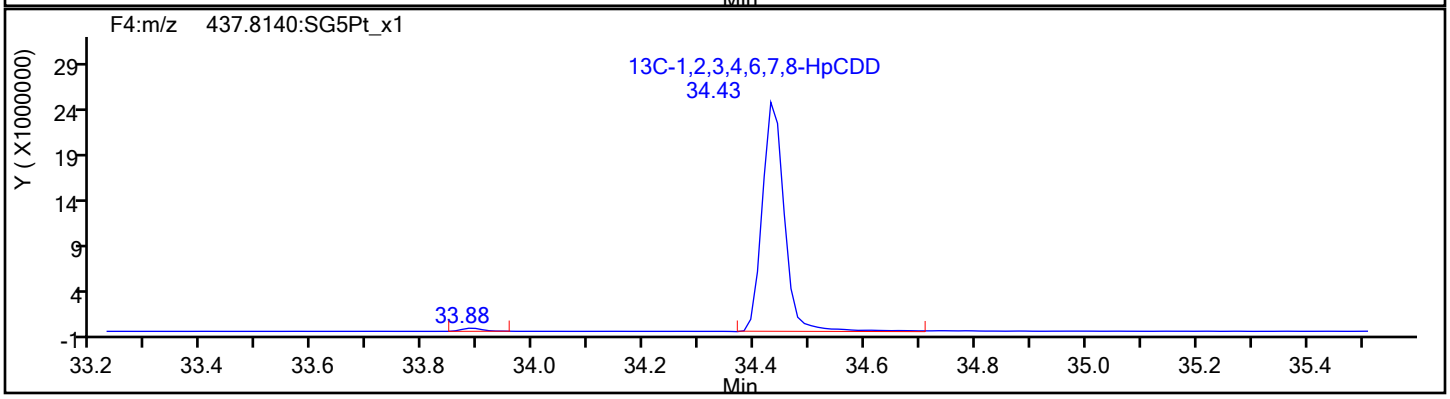

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Eurofins TestAmerica, Sacramento

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OCDF

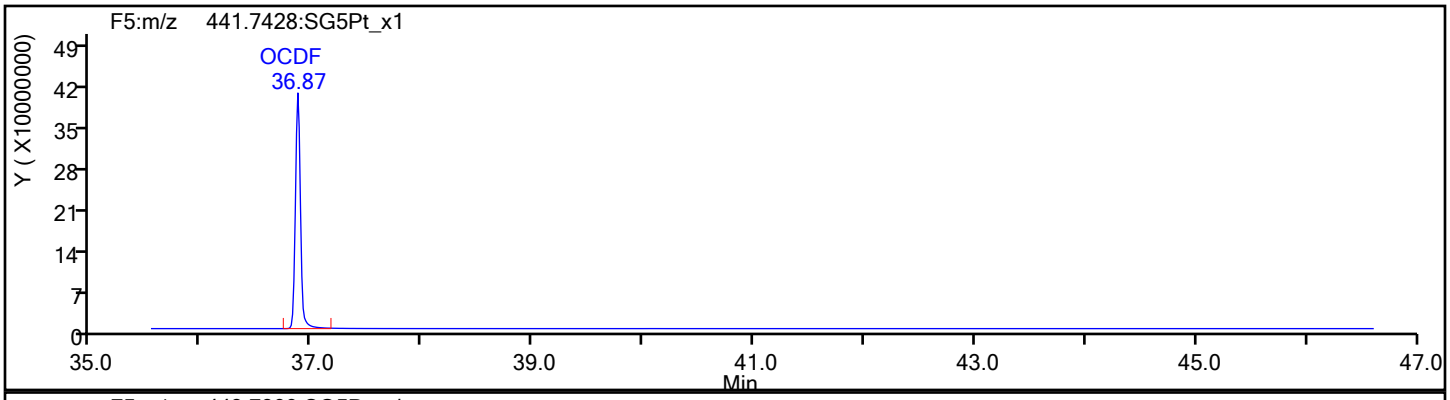

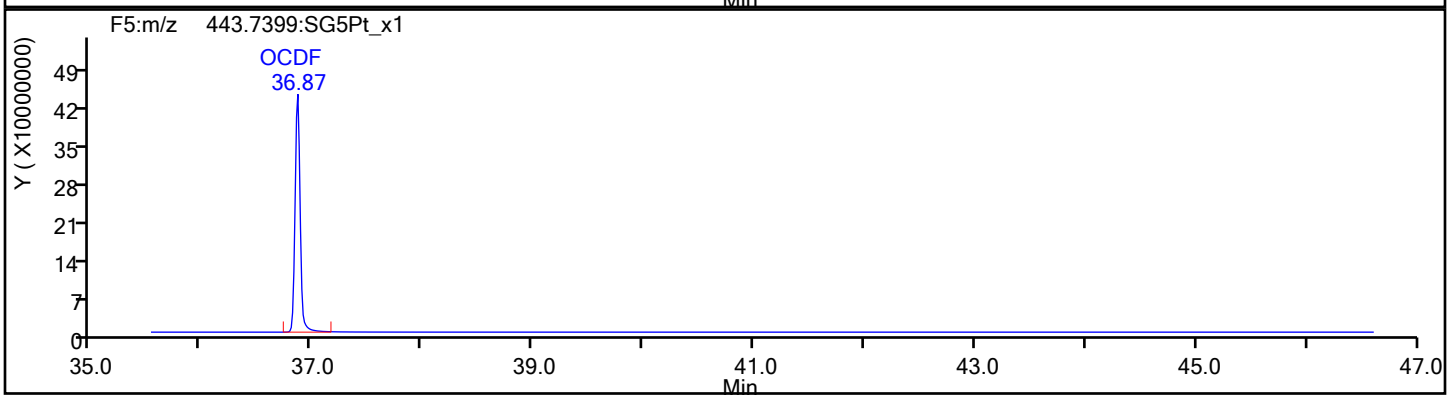

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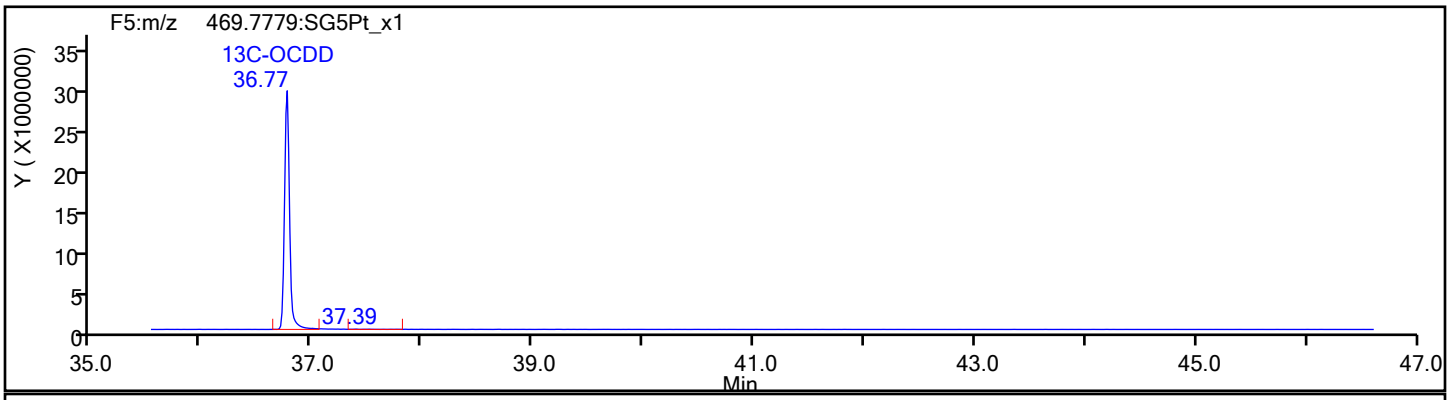

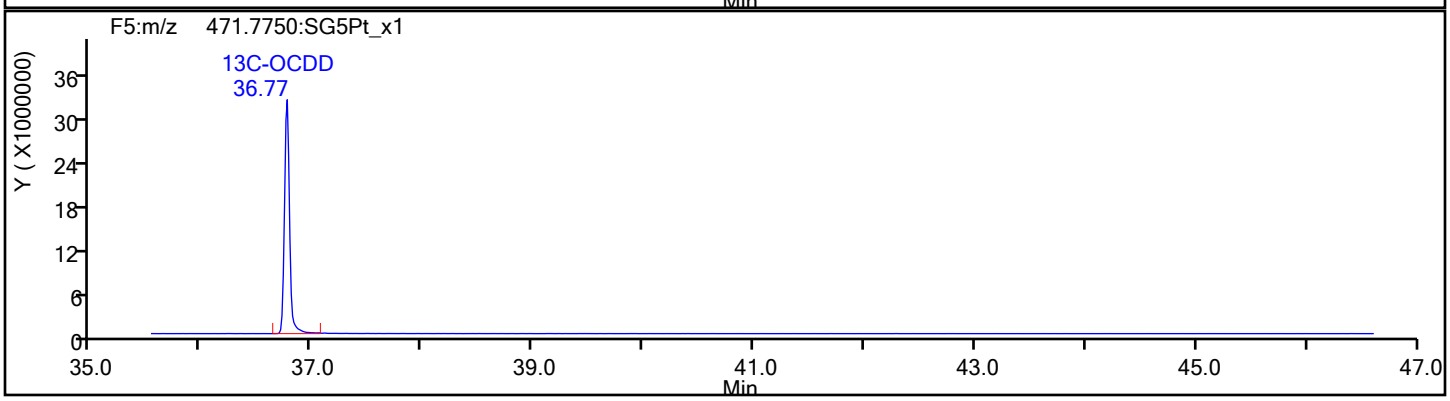

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Eurofins TestAmerica, Sacramento

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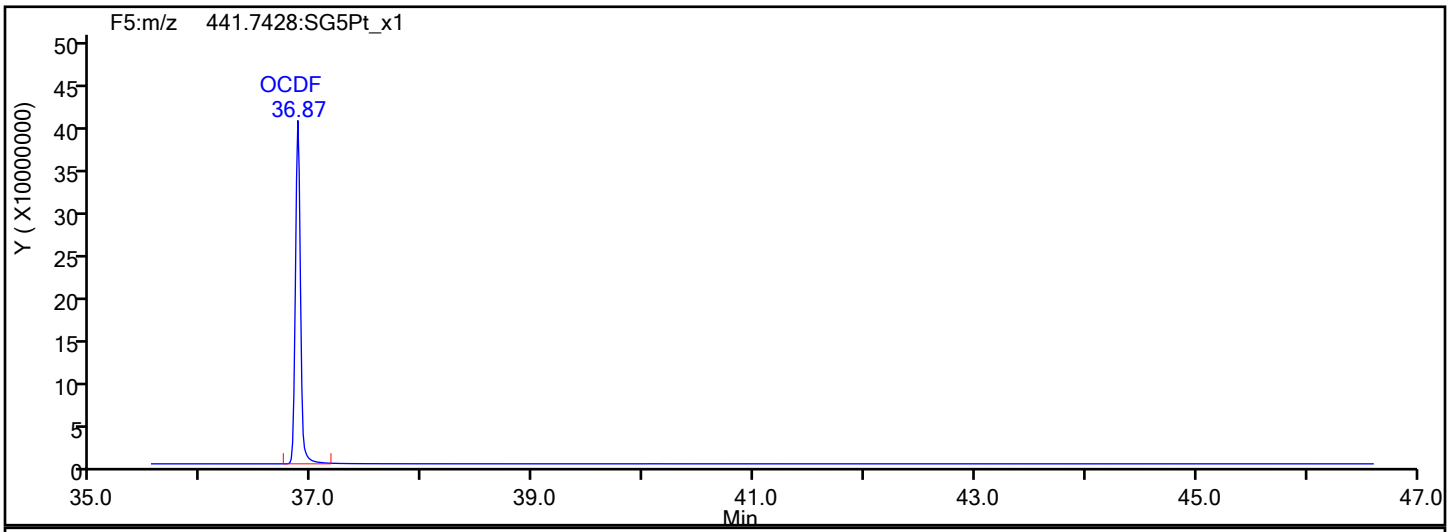

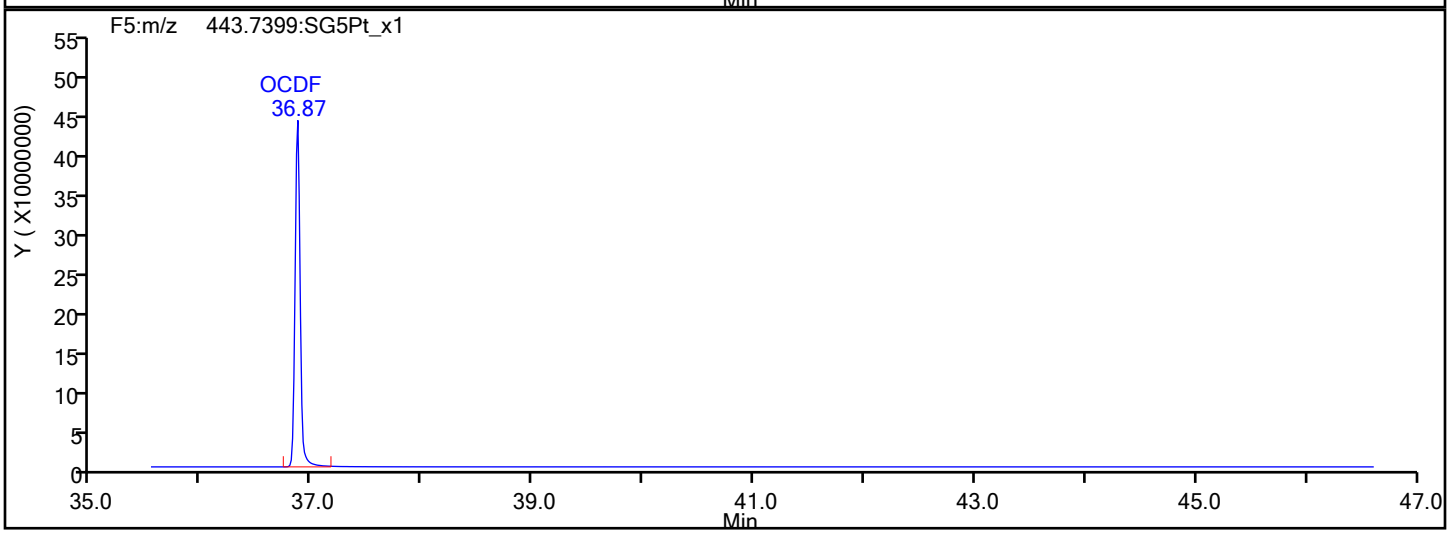

OCDF Interference Mass

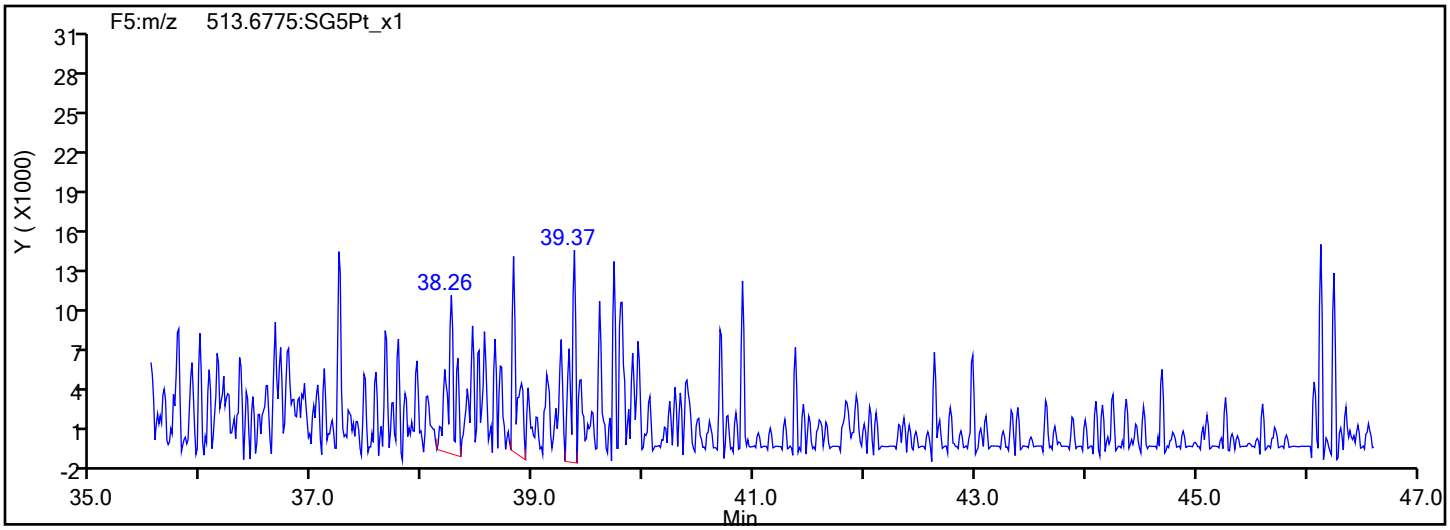

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Eurofins TestAmerica, Sacramento

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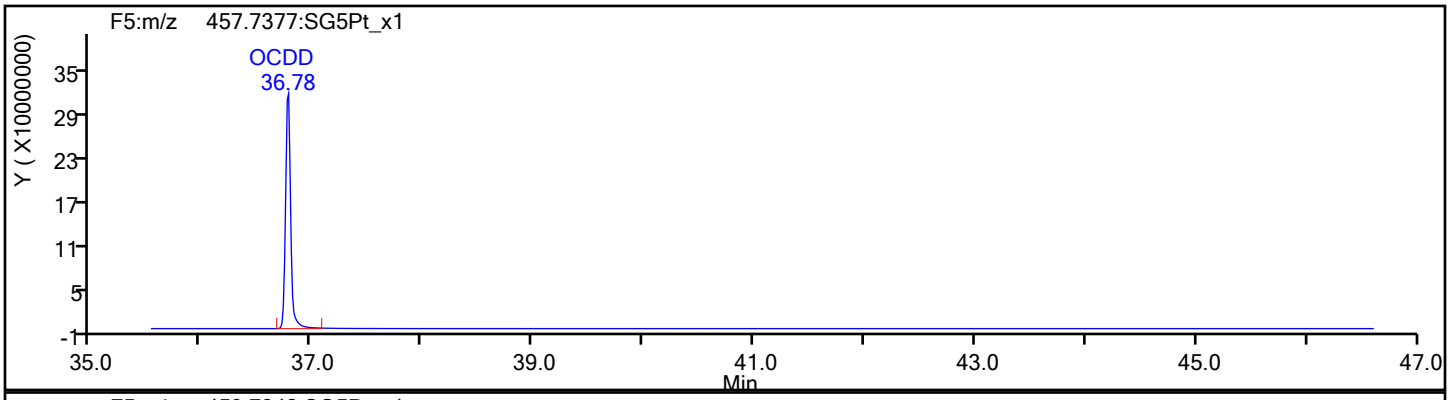

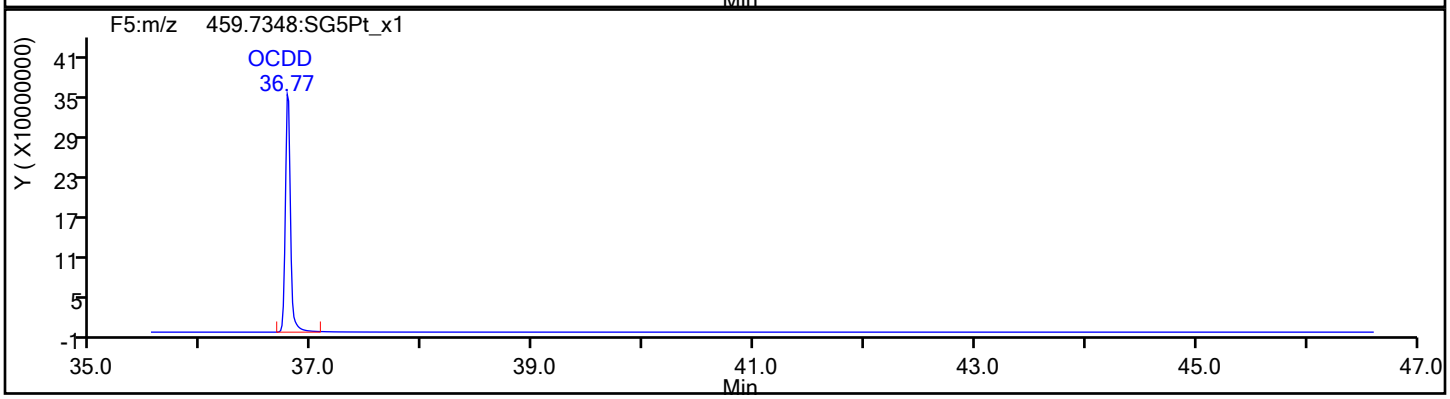

OCDD Standards

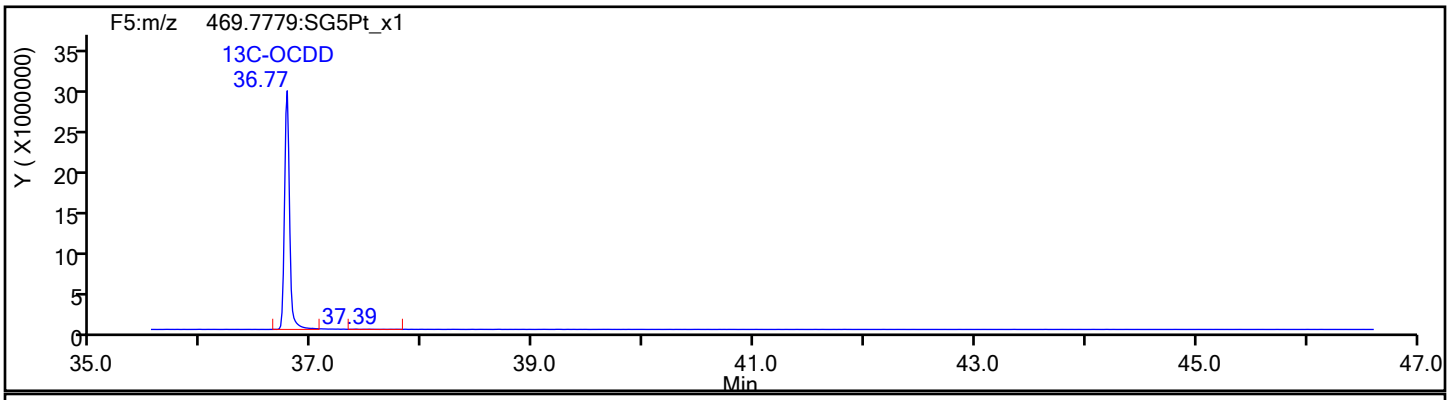

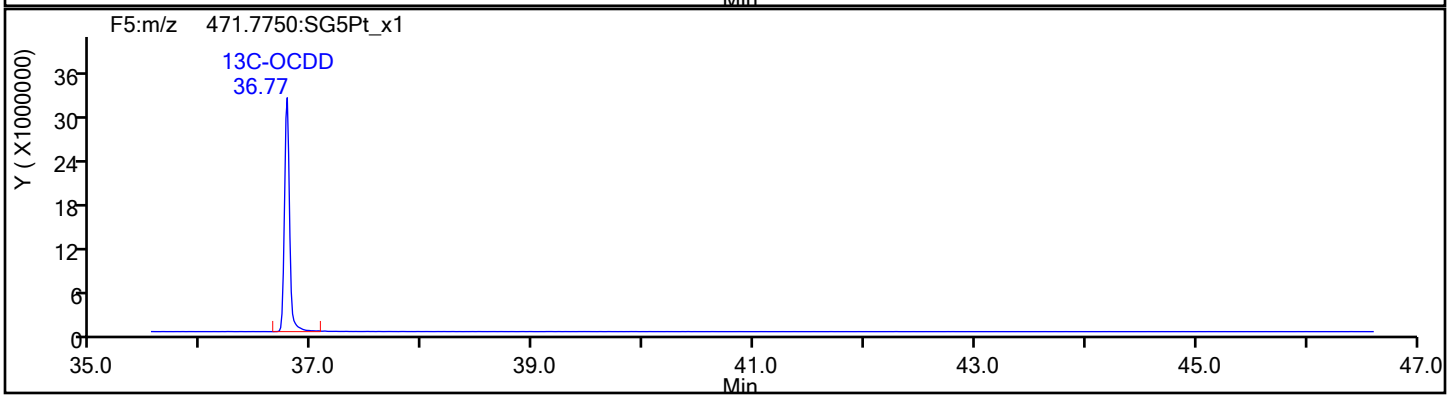

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Column Type:	DB-5	Column Dia:	0.32 mm

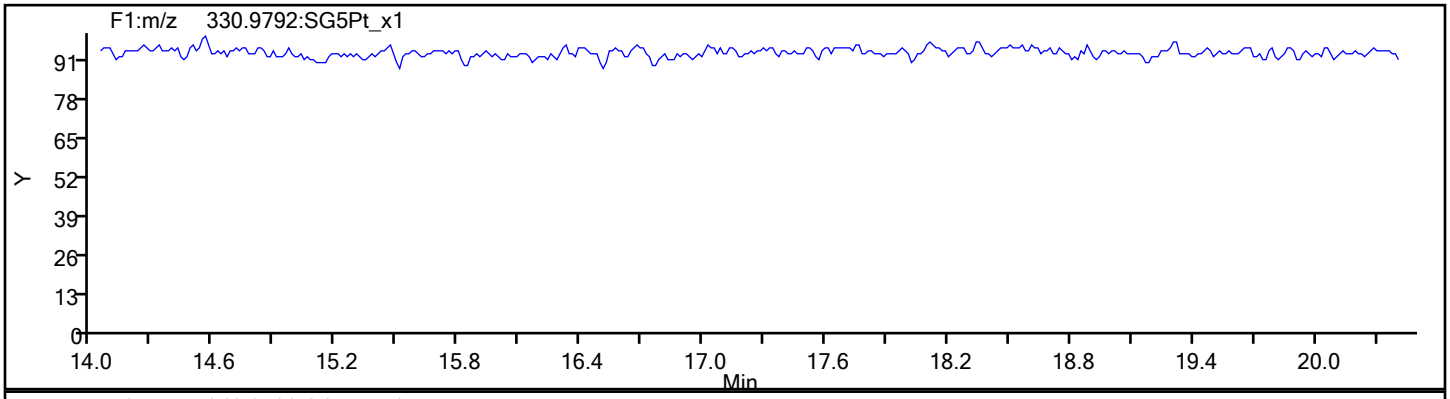

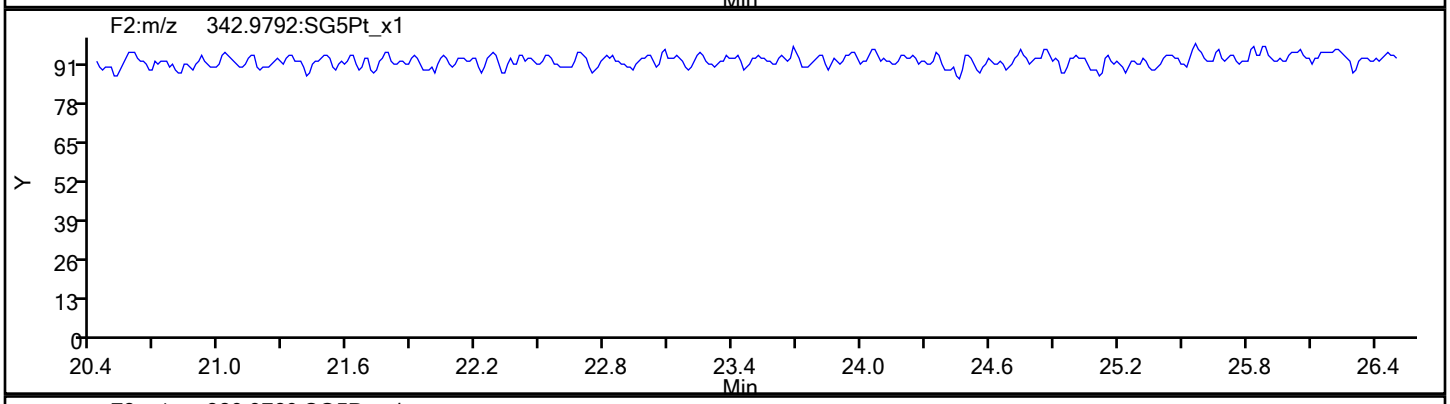

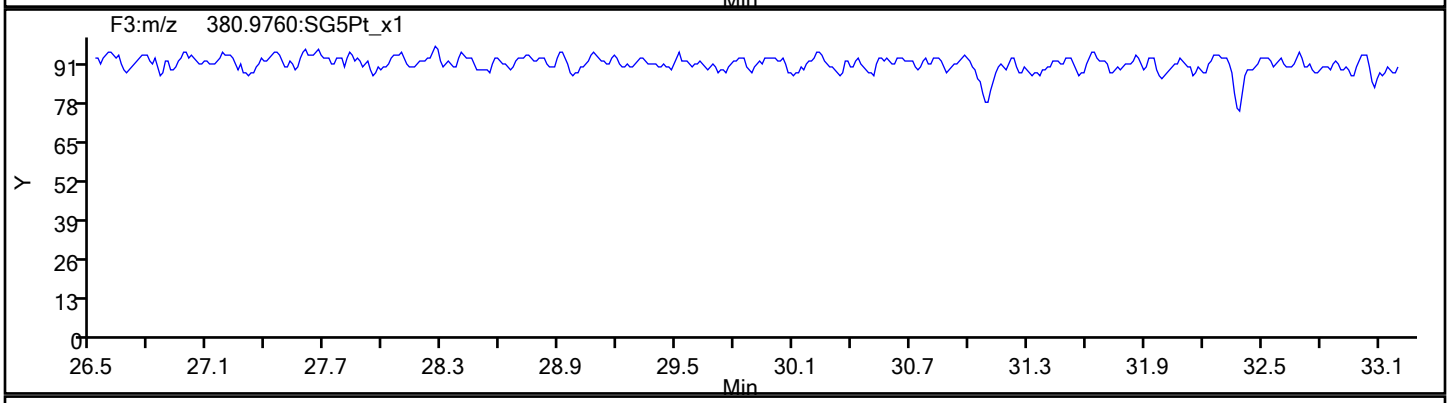

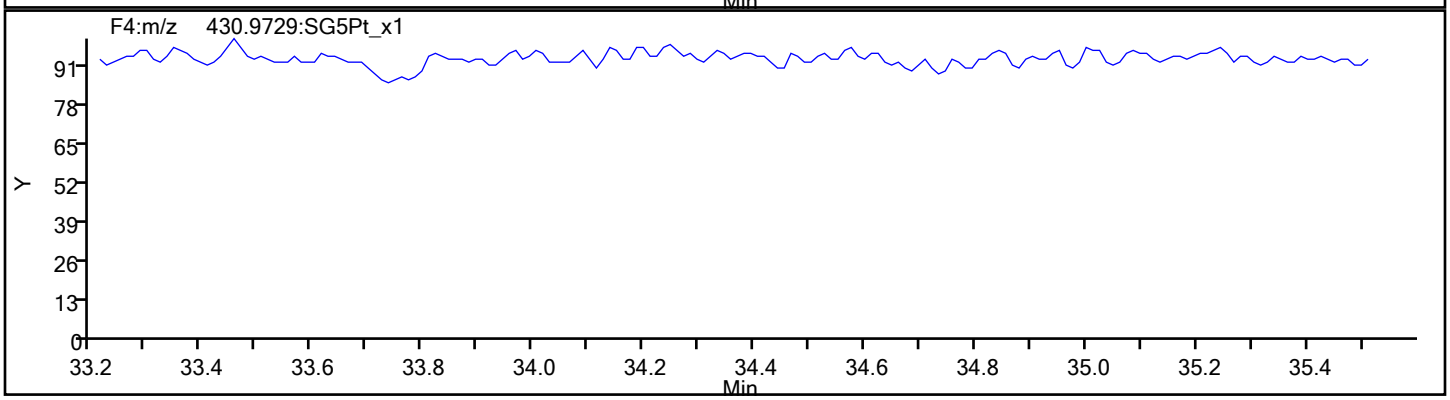

Report Date: 12-Dec-2019 15:54:43 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d		
Injection Date:	12-Dec-2019 14:39:03	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	L6		
Worklist#:	345037	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

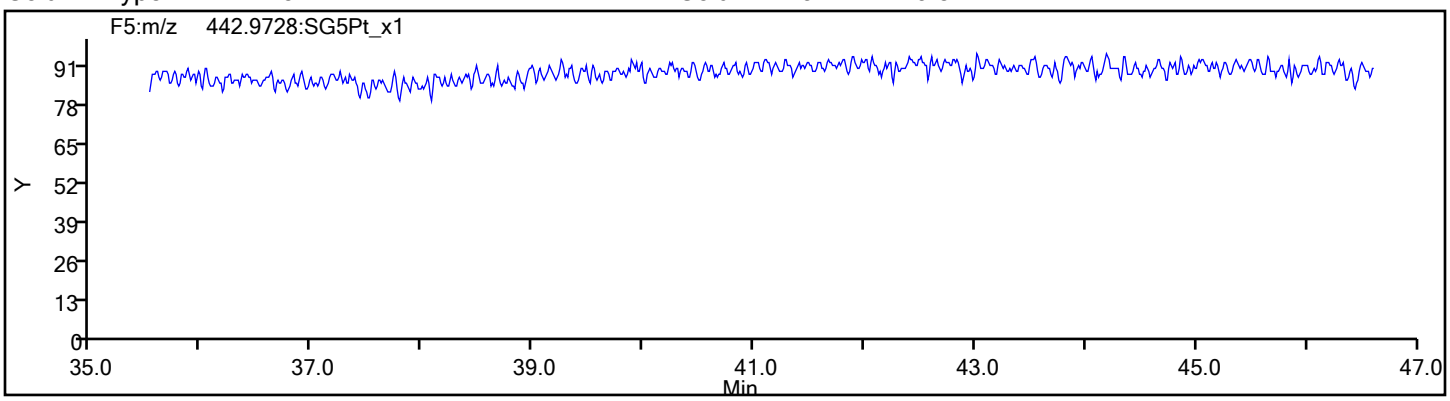

Calibration / 1,2,3,4,6,7,8-HpCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.054

Error Coefficients

Standard Error:	769000000
Relative Standard Error:	5.7
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-345037/3	2.5	2.37138	100.0	138203122.0	0.948552	Y
2	IC 320-345037/4	10.0	10.92077	100.0	149748569.0	1.092077	Y
3	IC 320-345037/5	50.0	53.165009	100.0	146156878.0	1.0633	Y
4	IC 320-345037/6	200.0	218.997187	100.0	159237326.0	1.094986	Y
5	IC 320-345037/7	1000.0	1068.781759	100.0	140028109.0	1.068782	Y

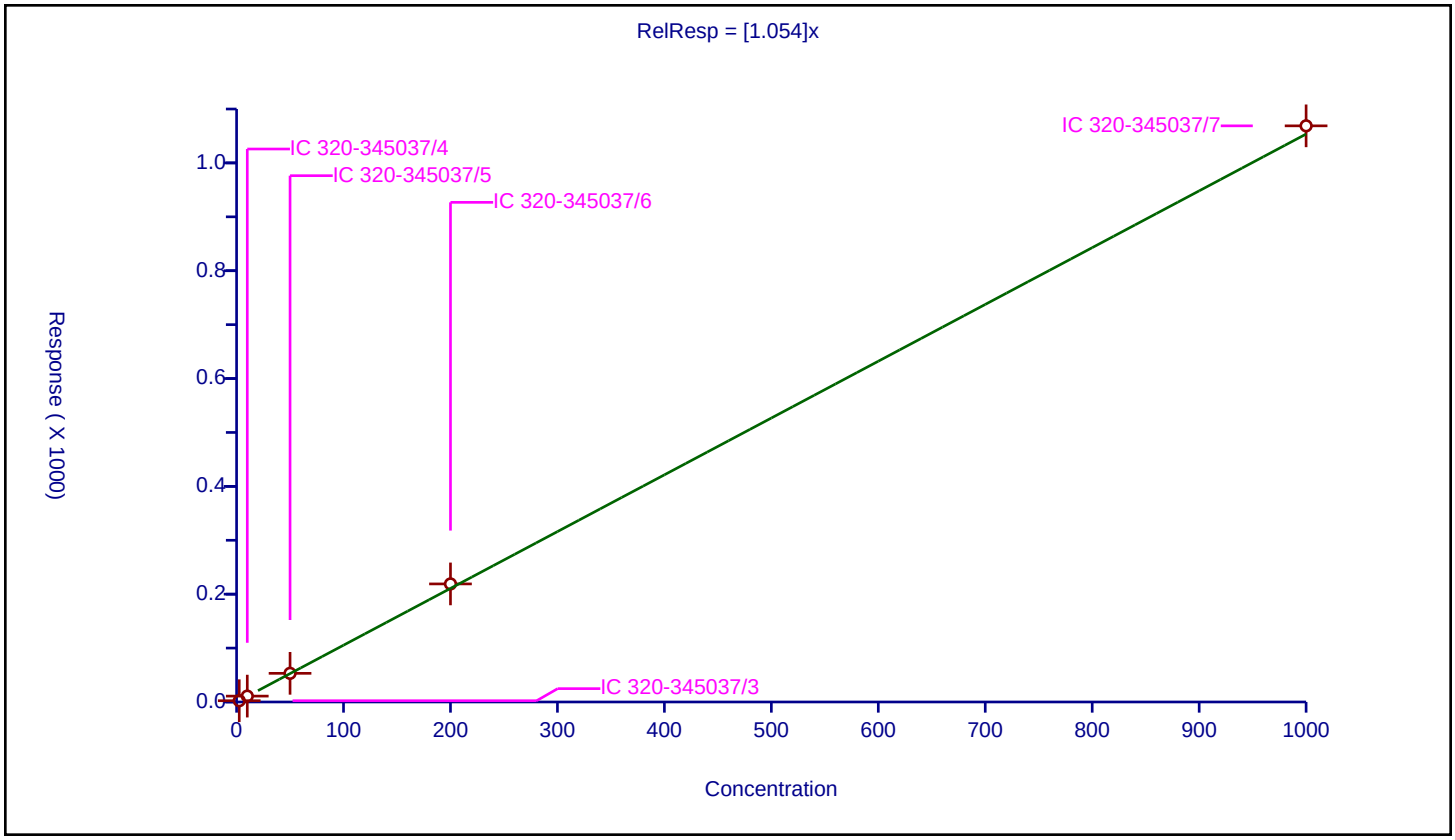

Calibration / 1,2,3,4,6,7,8-HpCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.48

Error Coefficients

Standard Error:	1190000000
Relative Standard Error:	9.2
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-345037/3	2.5	3.169819	100.0	150037410.0	1.267928	Y
2	IC 320-345037/4	10.0	15.609772	100.0	162401122.0	1.560977	Y
3	IC 320-345037/5	50.0	71.931076	100.0	159712904.0	1.438622	Y
4	IC 320-345037/6	200.0	324.628552	100.0	161981056.0	1.623143	Y
5	IC 320-345037/7	1000.0	1511.108632	100.0	152865078.0	1.511109	Y

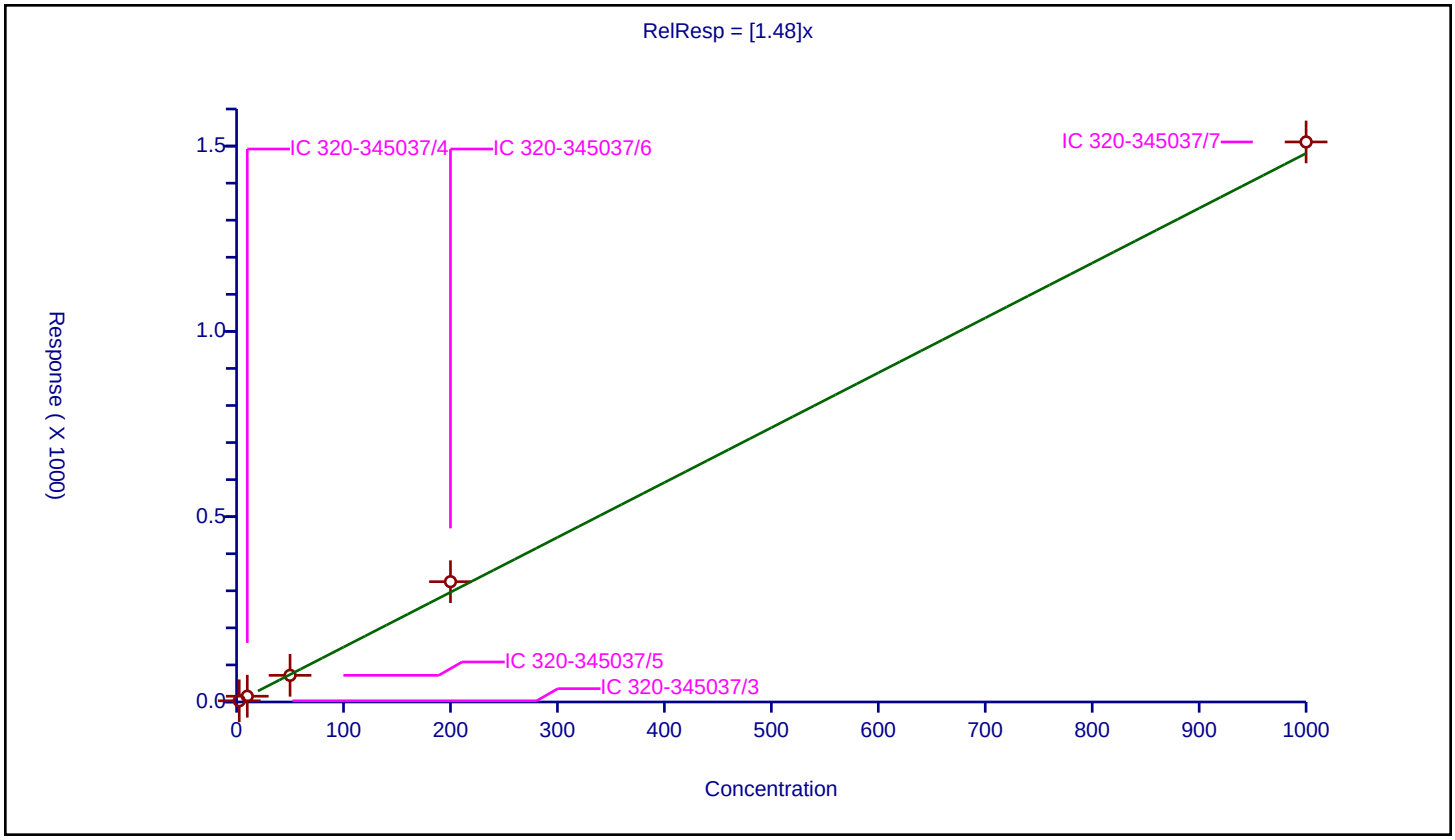

Calibration / 1,2,3,4,7,8,9-HpCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.293

Error Coefficients

Standard Error:	981000000
Relative Standard Error:	7.1
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-345037/3	2.5	2.868756	100.0	133781139.0	1.147503	Y
2	IC 320-345037/4	10.0	13.140017	100.0	146041140.0	1.314002	Y
3	IC 320-345037/5	50.0	63.413566	100.0	145840544.0	1.268271	Y
4	IC 320-345037/6	200.0	275.532726	100.0	154442339.0	1.377664	Y
5	IC 320-345037/7	1000.0	1359.034077	100.0	140774596.0	1.359034	Y

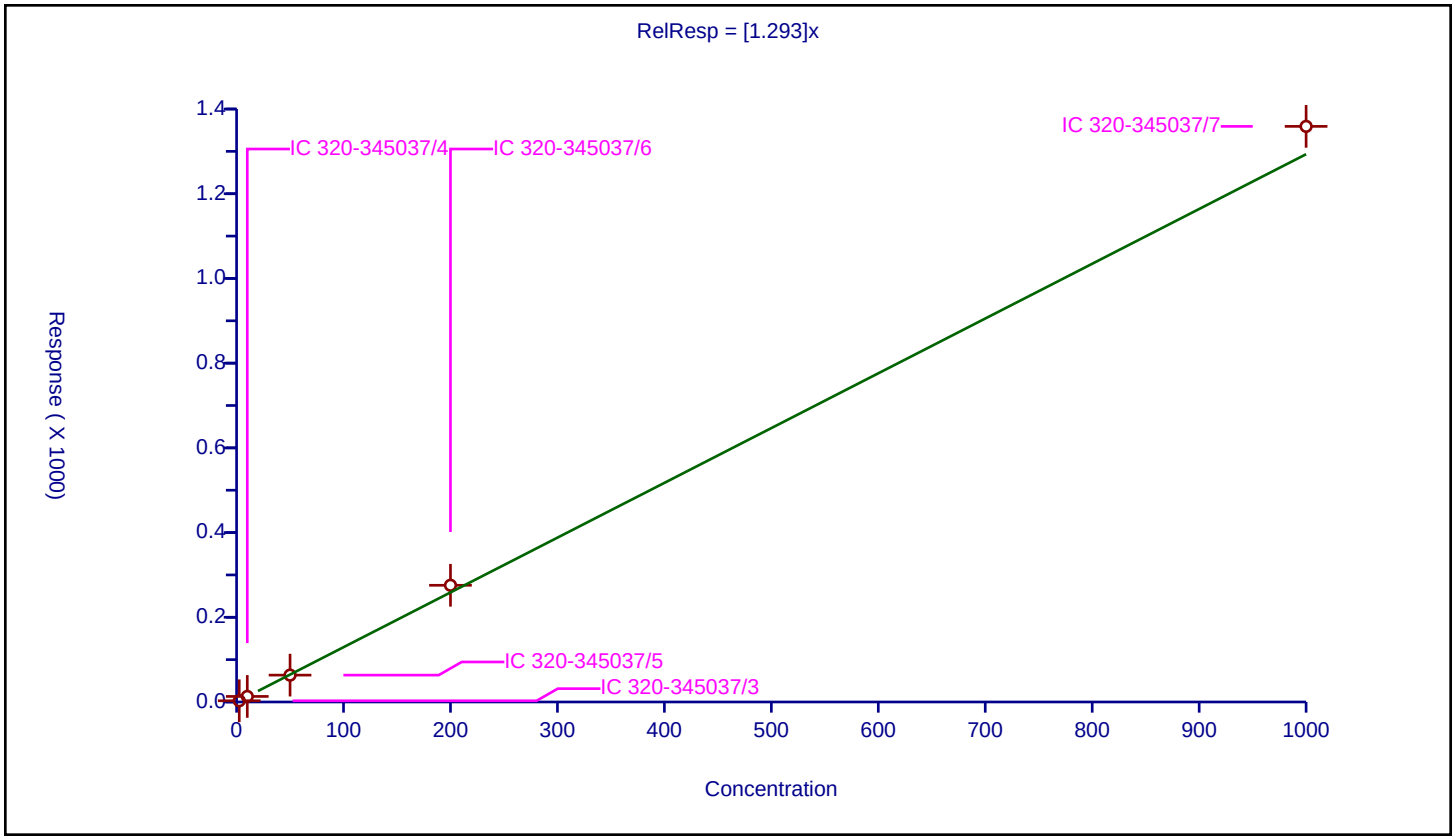

Calibration / 1,2,3,4,7,8-HxCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.093

Error Coefficients

Standard Error:	860000000
Relative Standard Error:	7.3
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-345037/3	2.5	2.44219	100.0	163808128.0	0.976876	Y
2	IC 320-345037/4	10.0	11.694327	100.0	167853325.0	1.169433	Y
3	IC 320-345037/5	50.0	53.512668	100.0	174266733.0	1.070253	Y
4	IC 320-345037/6	200.0	233.772223	100.0	167631105.0	1.168861	Y
5	IC 320-345037/7	1000.0	1081.472691	100.0	154639045.0	1.081473	Y

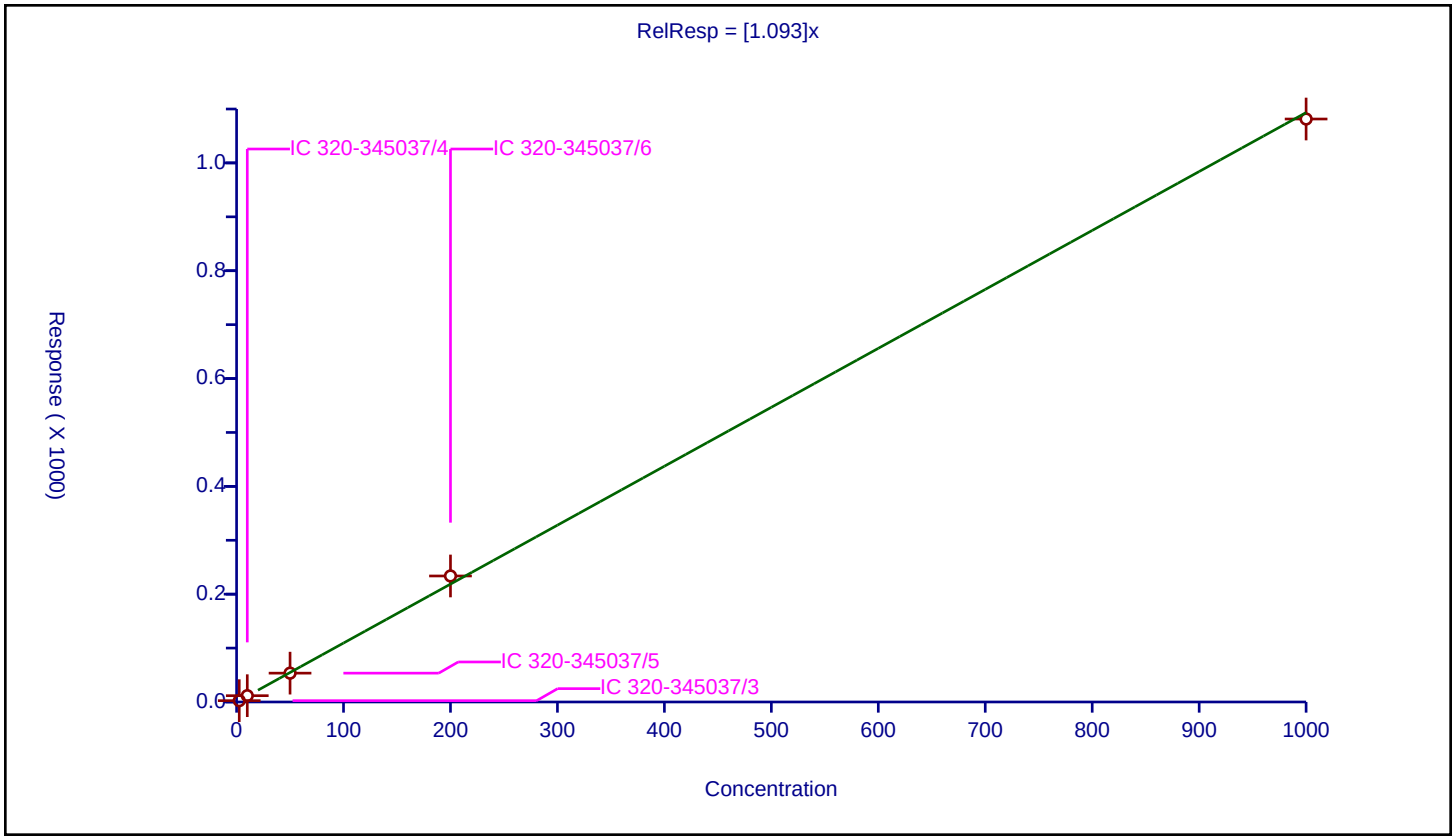

Calibration / 1,2,3,4,7,8-HxCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.147

Error Coefficients

Standard Error:	1310000000
Relative Standard Error:	8.9
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-345037/3	2.5	2.431839	100.0	228057392.0	0.972736	Y
2	IC 320-345037/4	10.0	12.028071	100.0	231563640.0	1.202807	Y
3	IC 320-345037/5	50.0	56.891812	100.0	242099177.0	1.137836	Y
4	IC 320-345037/6	200.0	243.778768	100.0	234227258.0	1.218894	Y
5	IC 320-345037/7	1000.0	1203.75694	100.0	212926355.0	1.203757	Y

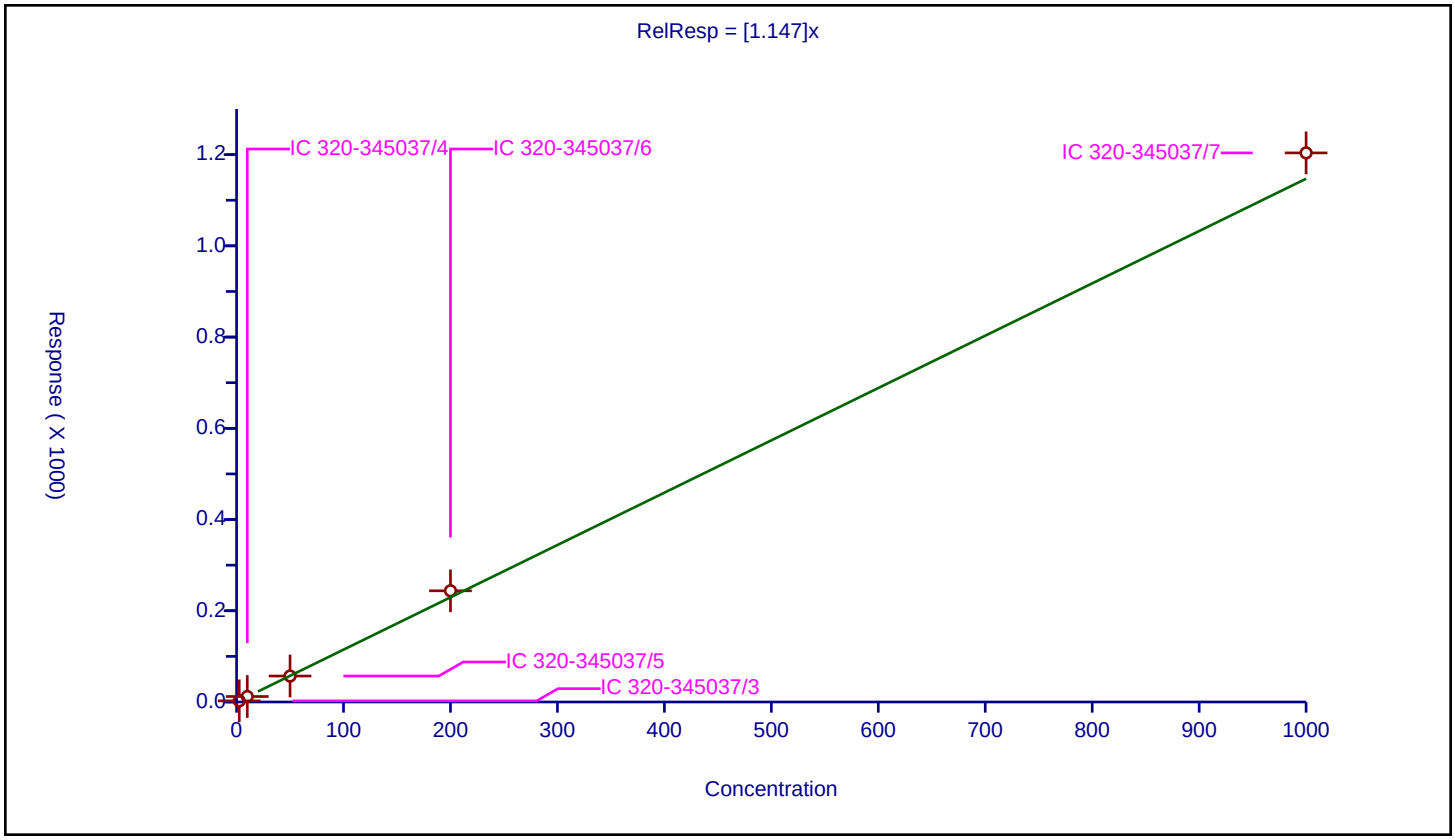

Calibration / 1,2,3,6,7,8-HxCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.043

Error Coefficients

Standard Error:	918000000
Relative Standard Error:	8.7
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.992

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-345037/3	2.5	2.231945	100.0	181206025.0	0.892778	Y
2	IC 320-345037/4	10.0	11.393354	100.0	181254882.0	1.139335	Y
3	IC 320-345037/5	50.0	53.665575	100.0	183758146.0	1.073312	Y
4	IC 320-345037/6	200.0	210.601386	100.0	191249218.0	1.053007	Y
5	IC 320-345037/7	1000.0	1056.082693	100.0	169339469.0	1.056083	Y

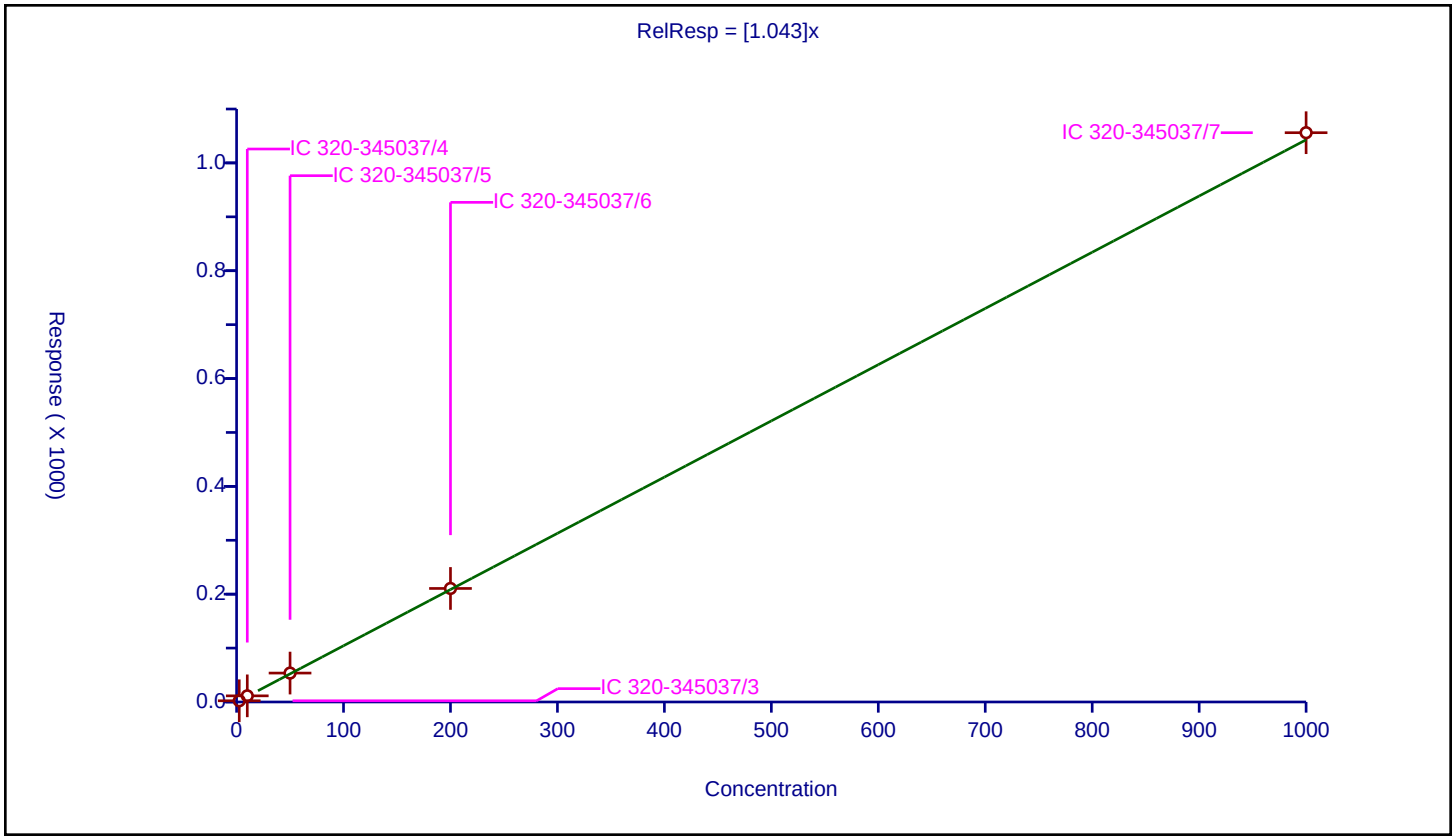

Calibration / 1,2,3,6,7,8-HxCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.145

Error Coefficients

Standard Error:	1330000000
Relative Standard Error:	8.4
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.992

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-345037/3	2.5	2.445599	100.0	241275292.0	0.978239	Y
2	IC 320-345037/4	10.0	12.007987	100.0	241149788.0	1.200799	Y
3	IC 320-345037/5	50.0	58.642573	100.0	243784643.0	1.172851	Y
4	IC 320-345037/6	200.0	242.928194	100.0	243919748.0	1.214641	Y
5	IC 320-345037/7	1000.0	1158.625835	100.0	222786807.0	1.158626	Y

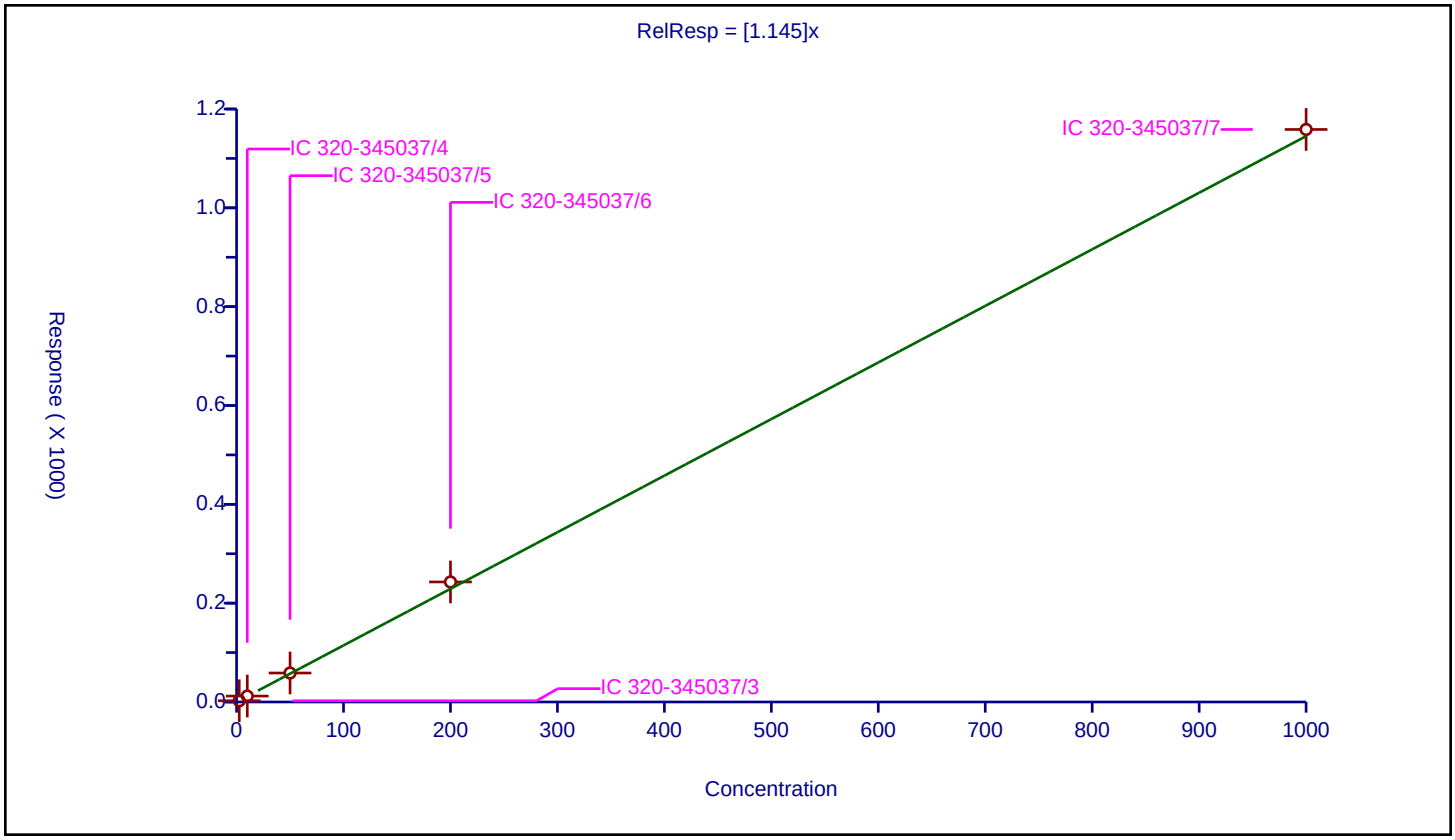

Calibration / 1,2,3,7,8,9-HxCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.265

Error Coefficients

Standard Error:	968000000
Relative Standard Error:	5.5
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-345037/3	2.5	2.946044	100.0	163808128.0	1.178417	Y
2	IC 320-345037/4	10.0	13.500888	100.0	167853325.0	1.350089	Y
3	IC 320-345037/5	50.0	63.213107	100.0	174266733.0	1.264262	Y
4	IC 320-345037/6	200.0	262.682379	100.0	167631105.0	1.313412	Y
5	IC 320-345037/7	1000.0	1216.878484	100.0	154639045.0	1.216878	Y

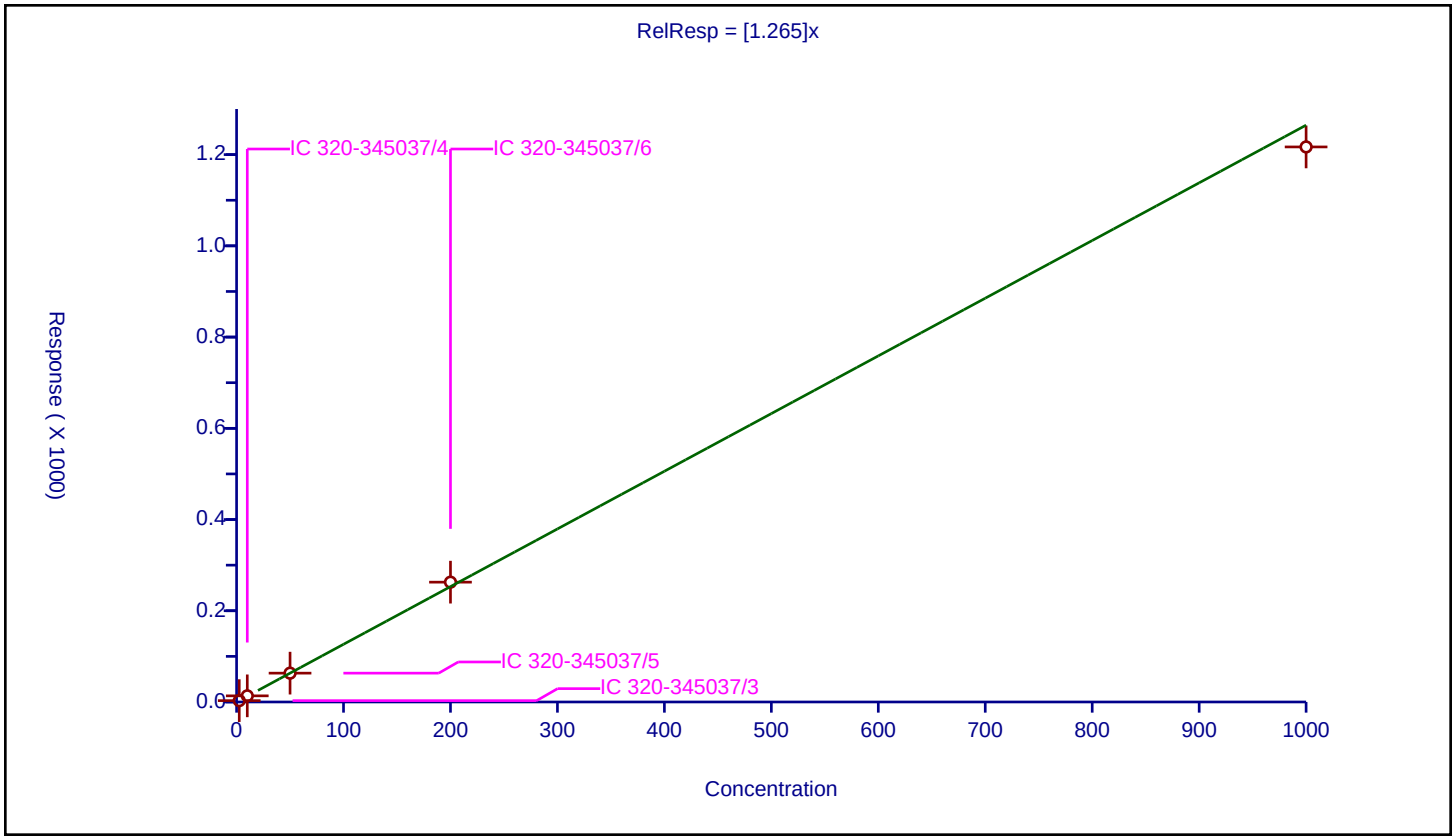

Calibration / 1,2,3,7,8,9-HxCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.172

Error Coefficients

Standard Error:	1230000000
Relative Standard Error:	7.8
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-345037/3	2.5	2.524758	100.0	206305806.0	1.009903	Y
2	IC 320-345037/4	10.0	12.240232	100.0	213447196.0	1.224023	Y
3	IC 320-345037/5	50.0	60.160421	100.0	213252409.0	1.203208	Y
4	IC 320-345037/6	200.0	245.41471	100.0	218257445.0	1.227074	Y
5	IC 320-345037/7	1000.0	1194.056094	100.0	200052961.0	1.194056	Y

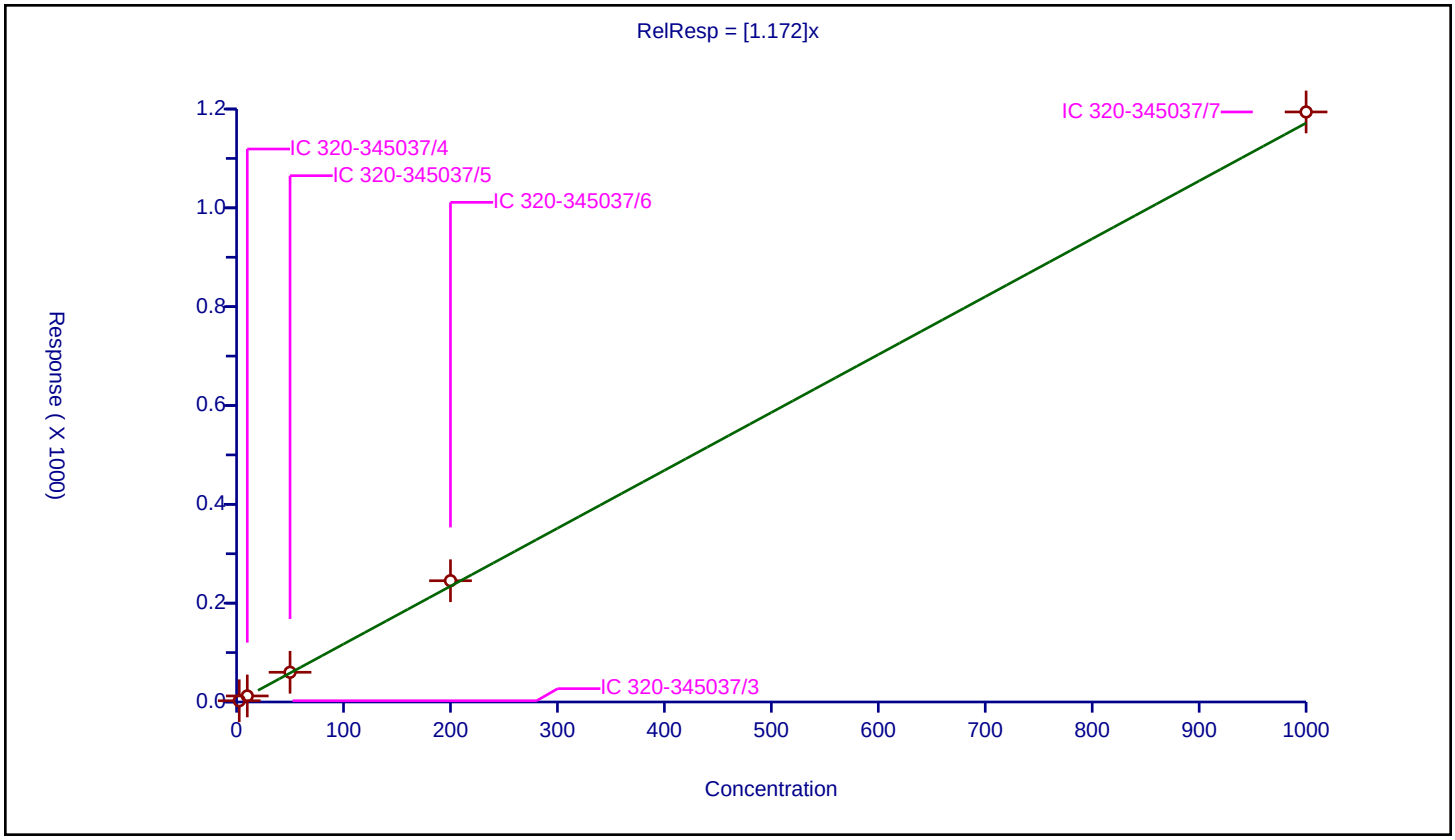

Calibration / 1,2,3,7,8-PeCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.086

Error Coefficients

Standard Error:	831000000
Relative Standard Error:	6.5
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-345037/3	2.5	2.433994	100.0	174446593.0	0.973598	Y
2	IC 320-345037/4	10.0	11.578466	100.0	169864186.0	1.157847	Y
3	IC 320-345037/5	50.0	55.746004	100.0	167599127.0	1.11492	Y
4	IC 320-345037/6	200.0	223.198641	100.0	175058491.0	1.115993	Y
5	IC 320-345037/7	1000.0	1065.182668	100.0	151420854.0	1.065183	Y

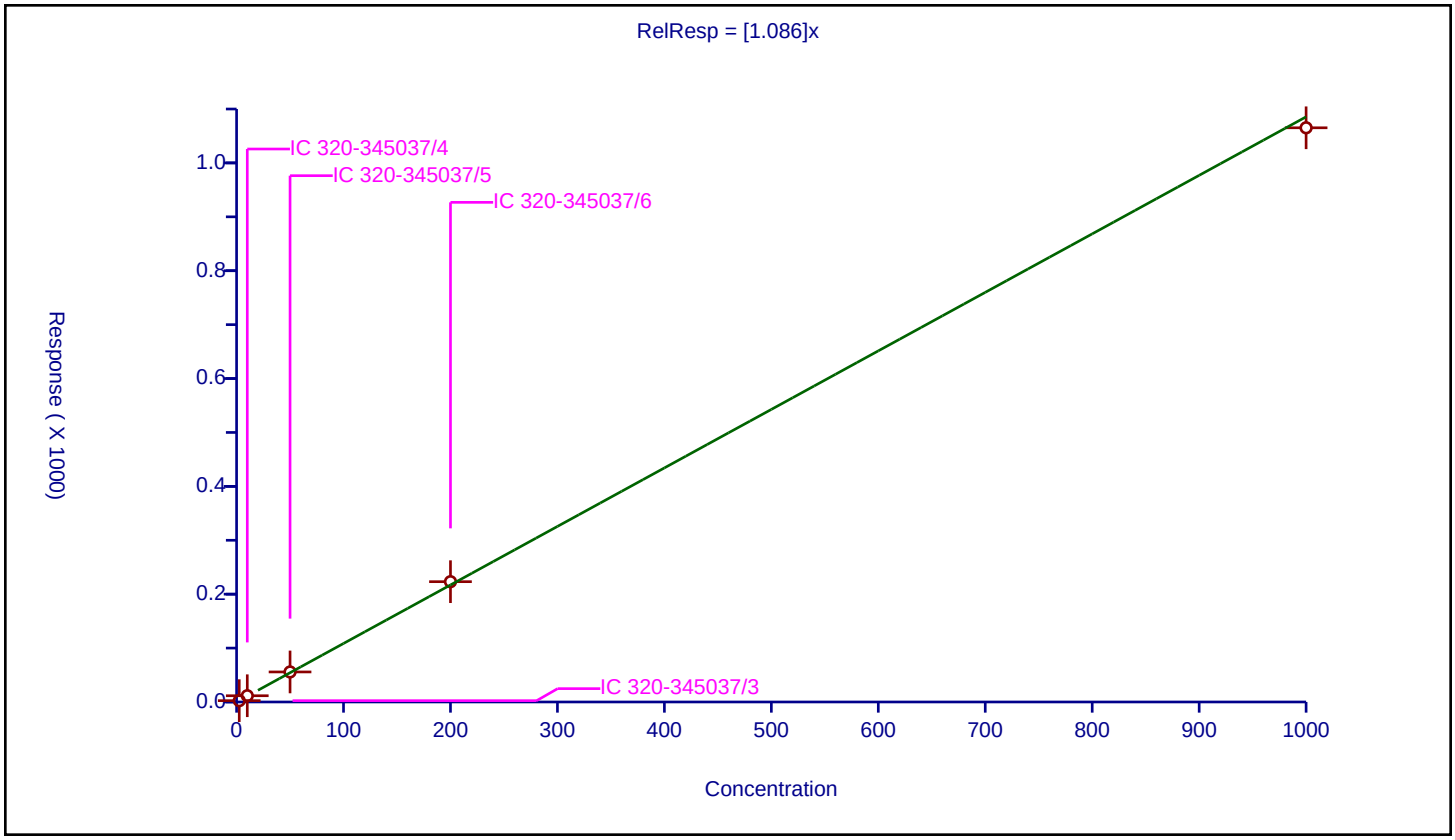

Calibration / 1,2,3,7,8-PeCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.03

Error Coefficients

Standard Error:	1270000000
Relative Standard Error:	8.9
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-345037/3	2.5	2.18388	100.0	267927119.0	0.873552	Y
2	IC 320-345037/4	10.0	11.019854	100.0	263888884.0	1.101985	Y
3	IC 320-345037/5	50.0	52.256581	100.0	269197886.0	1.045132	Y
4	IC 320-345037/6	200.0	218.112409	100.0	266542876.0	1.090562	Y
5	IC 320-345037/7	1000.0	1039.794253	100.0	237179506.0	1.039794	Y

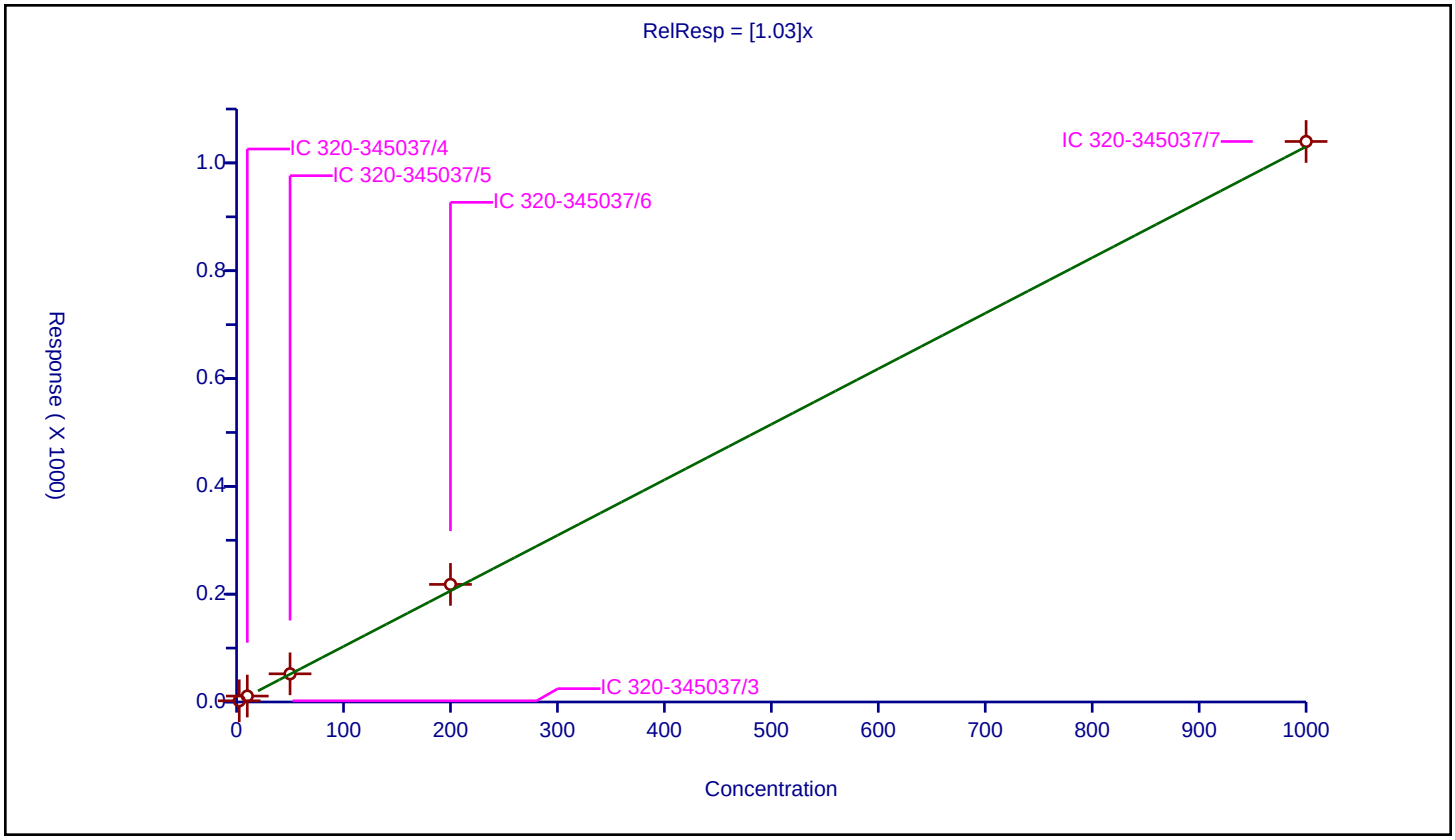

Calibration / 2,3,4,6,7,8-HxCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.173

Error Coefficients

Standard Error:	1270000000
Relative Standard Error:	8.0
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-345037/3	2.5	2.520722	100.0	224637565.0	1.008289	Y
2	IC 320-345037/4	10.0	12.3025	100.0	228396958.0	1.23025	Y
3	IC 320-345037/5	50.0	60.272838	100.0	226090409.0	1.205457	Y
4	IC 320-345037/6	200.0	246.644053	100.0	232992892.0	1.23322	Y
5	IC 320-345037/7	1000.0	1185.699957	100.0	207860074.0	1.1857	Y

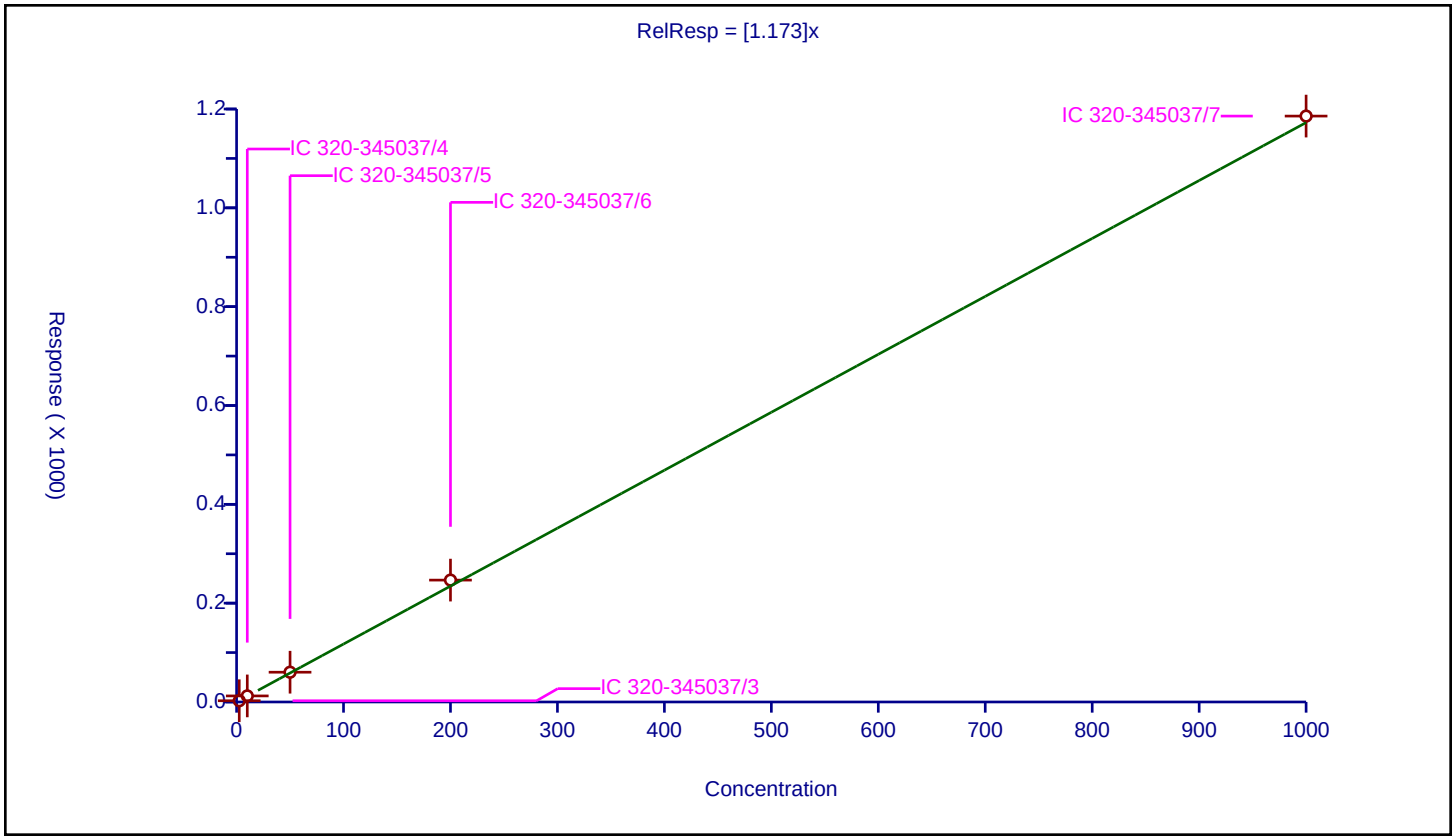

Calibration / 2,3,4,7,8-PeCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.041

Error Coefficients

Standard Error:	1230000000
Relative Standard Error:	9.6
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.990

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-345037/3	2.5	2.237085	100.0	256478177.0	0.894834	Y
2	IC 320-345037/4	10.0	11.141251	100.0	254672733.0	1.114125	Y
3	IC 320-345037/5	50.0	49.277167	100.0	265262610.0	0.985543	Y
4	IC 320-345037/6	200.0	226.884829	100.0	253995484.0	1.134424	Y
5	IC 320-345037/7	1000.0	1075.912476	100.0	222542126.0	1.075912	Y

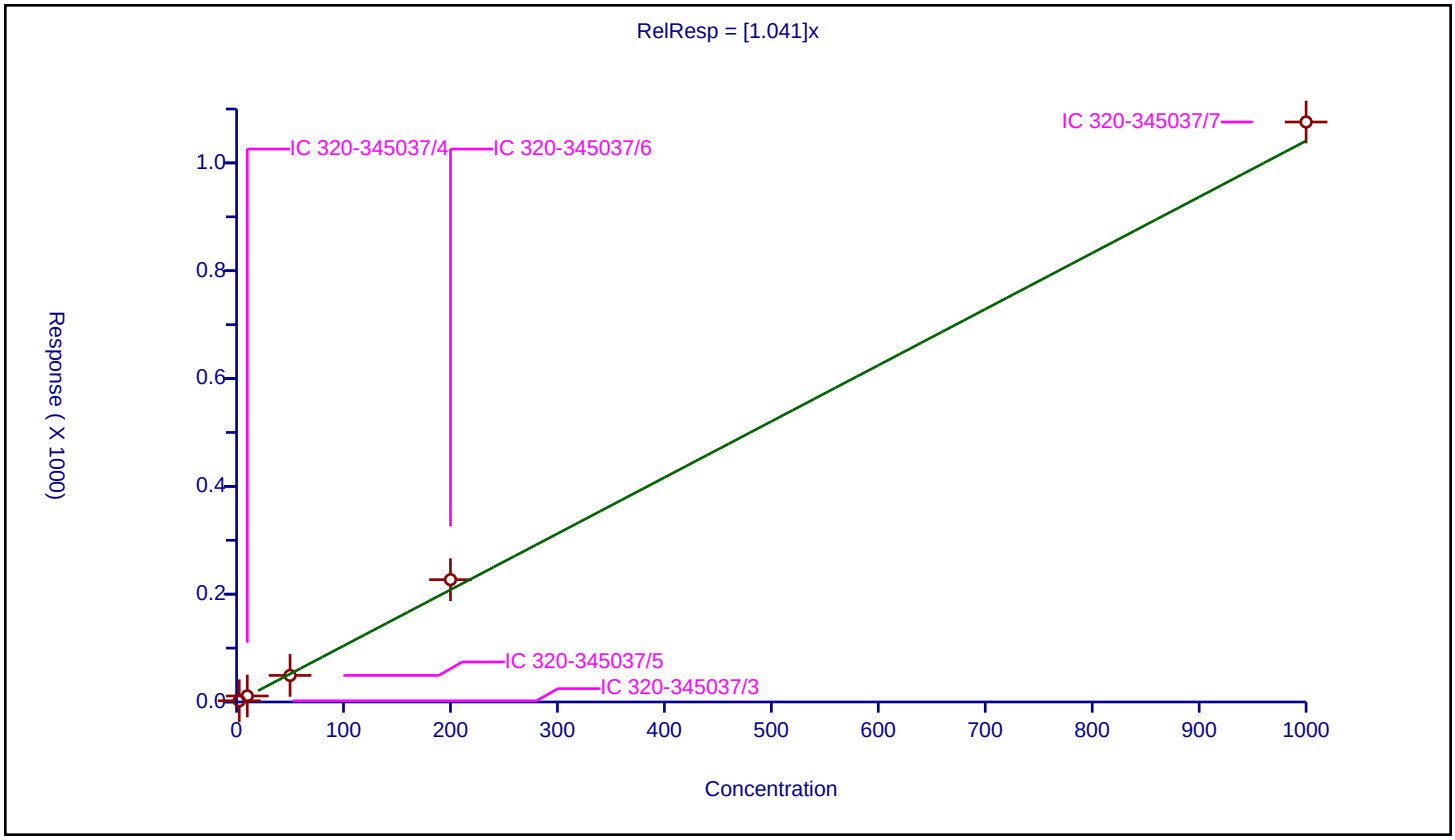

Calibration / 2,3,7,8-TCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.048

Error Coefficients

Standard Error:	216000000
Relative Standard Error:	8.9
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-345037/3	0.5	0.443295	100.0	224505471.0	0.88659	Y
2	IC 320-345037/4	2.0	2.135479	100.0	223228422.0	1.067739	Y
3	IC 320-345037/5	10.0	10.58117	100.0	222854376.0	1.058117	Y
4	IC 320-345037/6	40.0	44.36733	100.0	223322673.0	1.109183	Y
5	IC 320-345037/7	200.0	223.395028	100.0	187504800.0	1.116975	Y

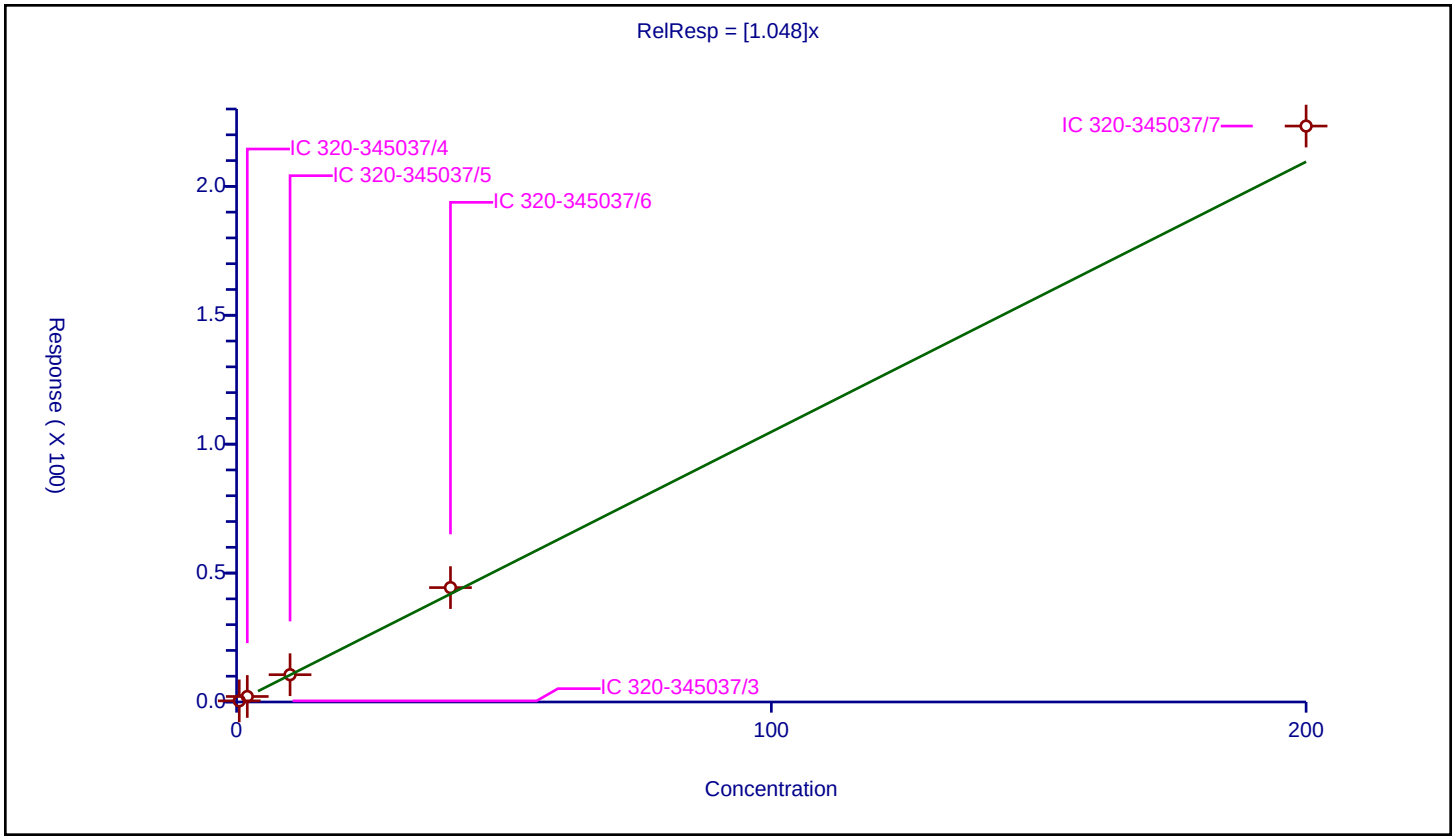

Calibration / 2,3,7,8-TCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.9502

Error Coefficients

Standard Error:	292000000
Relative Standard Error:	11.5
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.986

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-345037/3	0.5	0.38665	100.0	329541553.0	0.7733	Y
2	IC 320-345037/4	2.0	1.856657	100.0	317966293.0	0.928328	Y
3	IC 320-345037/5	10.0	9.752074	100.0	329077583.0	0.975207	Y
4	IC 320-345037/6	40.0	42.036463	100.0	314996891.0	1.050912	Y
5	IC 320-345037/7	200.0	204.639574	100.0	277528864.0	1.023198	Y

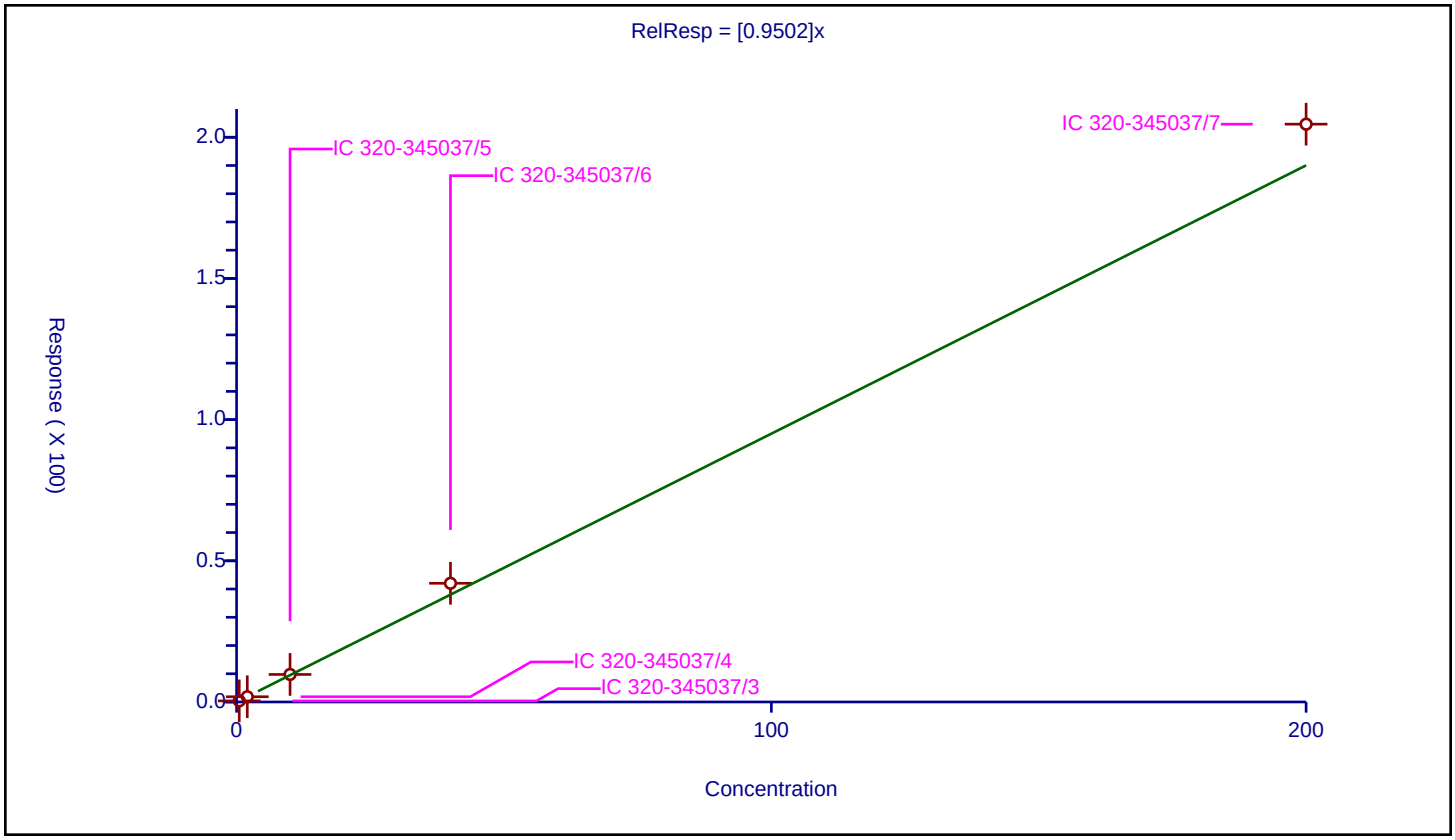

Calibration / 37Cl4-2,3,7,8-TCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.348

Error Coefficients

Standard Error:	270000000
Relative Standard Error:	9.0
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-345037/3	0.5	0.614254	100.0	232904111.0	1.228507	Y
2	IC 320-345037/4	2.0	2.465839	100.0	233547342.0	1.23292	Y
3	IC 320-345037/5	10.0	15.189654	100.0	230108476.0	1.518965	Y
4	IC 320-345037/6	40.0	54.916951	100.0	224595364.0	1.372924	Y
5	IC 320-345037/7	200.0	277.319862	100.0	188838327.0	1.386599	Y

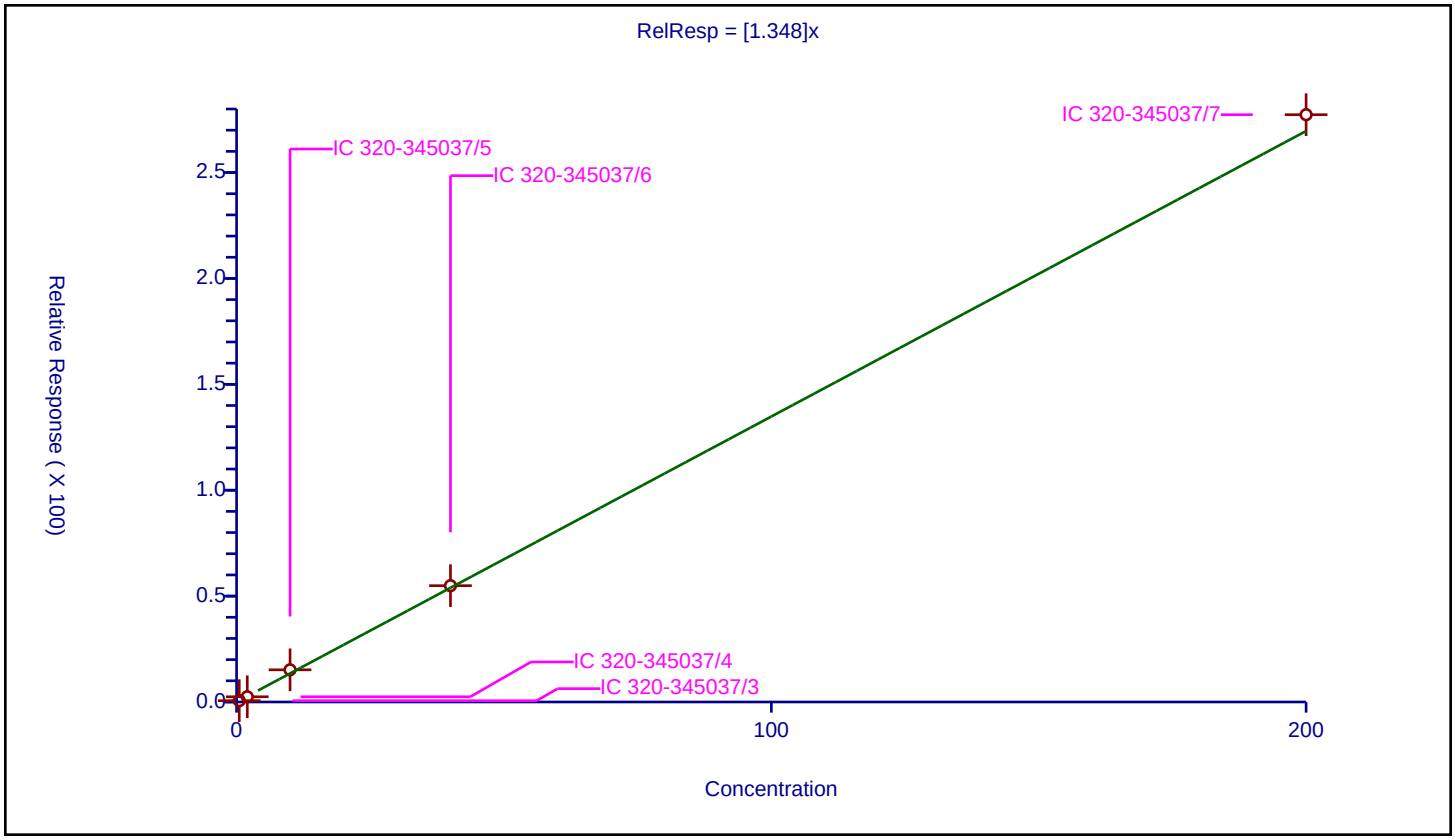

Calibration / OCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.136

Error Coefficients

Standard Error:	1100000000
Relative Standard Error:	6.0
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-345037/3	5.0	5.459936	200.0	176245574.0	1.091987	Y
2	IC 320-345037/4	20.0	24.997633	200.0	178956155.0	1.249882	Y
3	IC 320-345037/5	100.0	111.408699	200.0	191409180.0	1.114087	Y
4	IC 320-345037/6	400.0	457.898367	200.0	208300311.0	1.144746	Y
5	IC 320-345037/7	2000.0	2160.355058	200.0	199399104.0	1.080178	Y

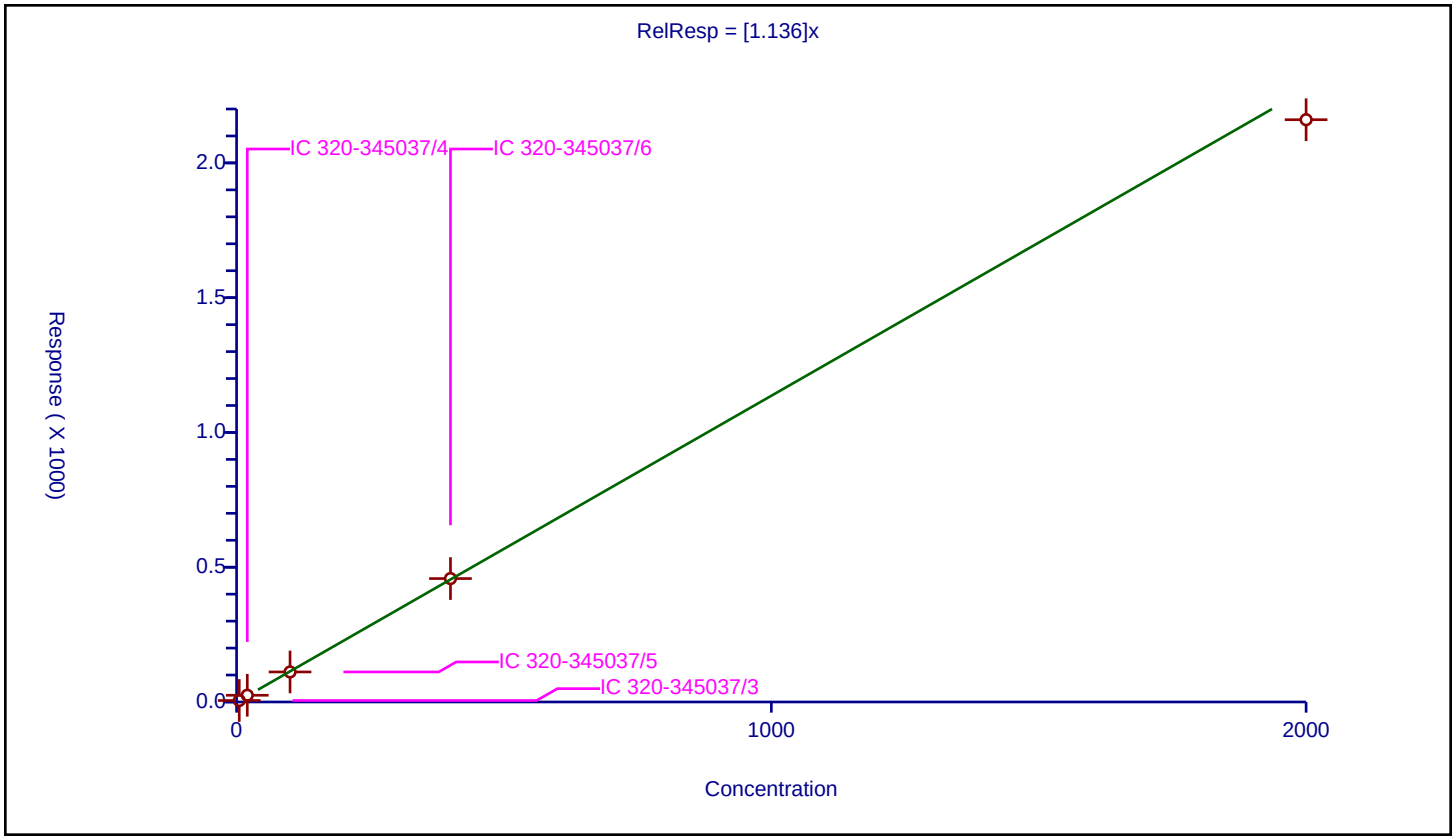

Calibration / OCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.394

Error Coefficients

Standard Error:	1390000000
Relative Standard Error:	7.0
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-345037/3	5.0	6.441673	200.0	176245574.0	1.288335	Y
2	IC 320-345037/4	20.0	30.477373	200.0	178956155.0	1.523869	Y
3	IC 320-345037/5	100.0	133.41456	200.0	191409180.0	1.334146	Y
4	IC 320-345037/6	400.0	587.558373	200.0	208300311.0	1.468896	Y
5	IC 320-345037/7	2000.0	2714.328315	200.0	199399104.0	1.357164	Y

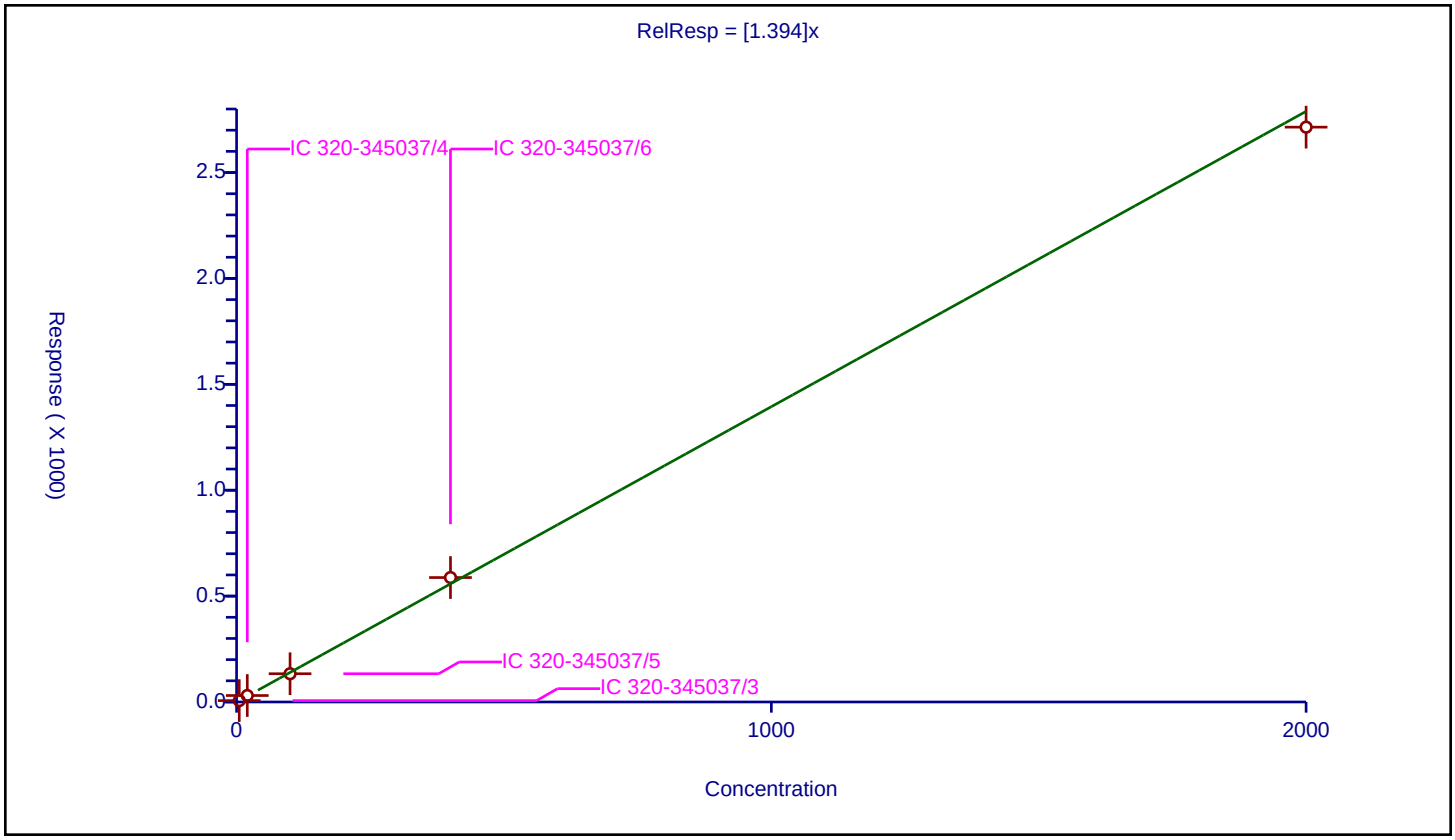

FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-100205-1

SDG No.:

Lab Sample ID (1): WDM 320-345037/1 Instrument ID (1): 3D5

GC Column (1): DB-5 ID: 0.32(mm) Date Analyzed (1): 12/12/2019 09:53

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDD	17.84	20

Resolution Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_1.d				
Injection Date:	12-Dec-2019 09:53:45	Instrument ID:	3D5		
Lims ID:	WDM				
Client ID:					
Operator ID:	KSS	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	2.0 ul	Column:	DB-5 (0.32 mm)		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		

2,3,7,8-TCDD

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 2438280
H (Peak Height) = 12393684

%R = 20 <= 25
Passed

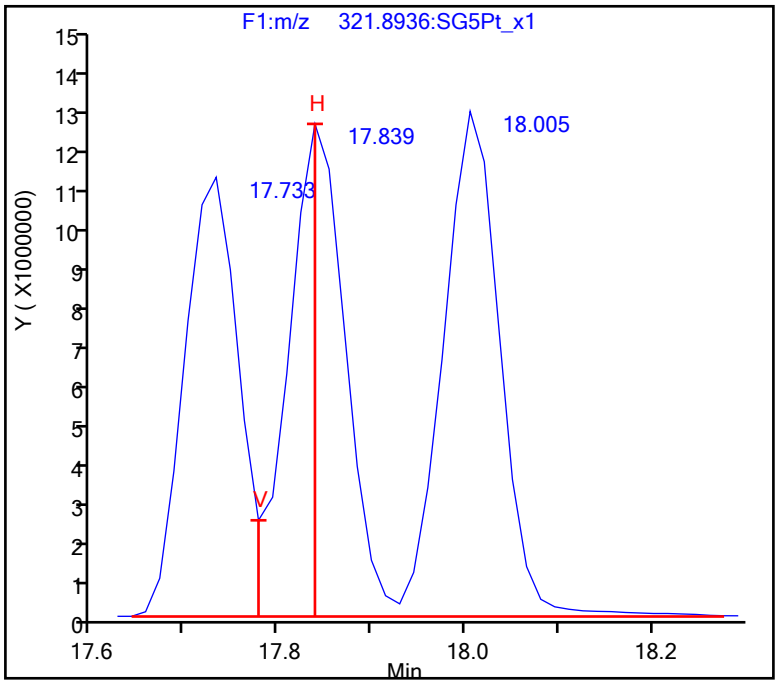

FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-100205-1

SDG No.:

Lab Sample ID (1): WDM 320-349283/1 Instrument ID (1): 3D5

GC Column (1): DB-5 ID: 0.32(mm) Date Analyzed (1): 01/06/2020 21:27

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDD	17.34	22

Resolution Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_1.d				
Injection Date:	06-Jan-2020 21:27:34	Instrument ID:	3D5		
Lims ID:	WDM				
Client ID:					
Operator ID:	ALM	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	2.0 ul	Column:	DB-5 (0.32 mm)		
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL		

2,3,7,8-TCDD

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 931097
H (Peak Height) = 4233933

%R = 22 <= 25
Passed

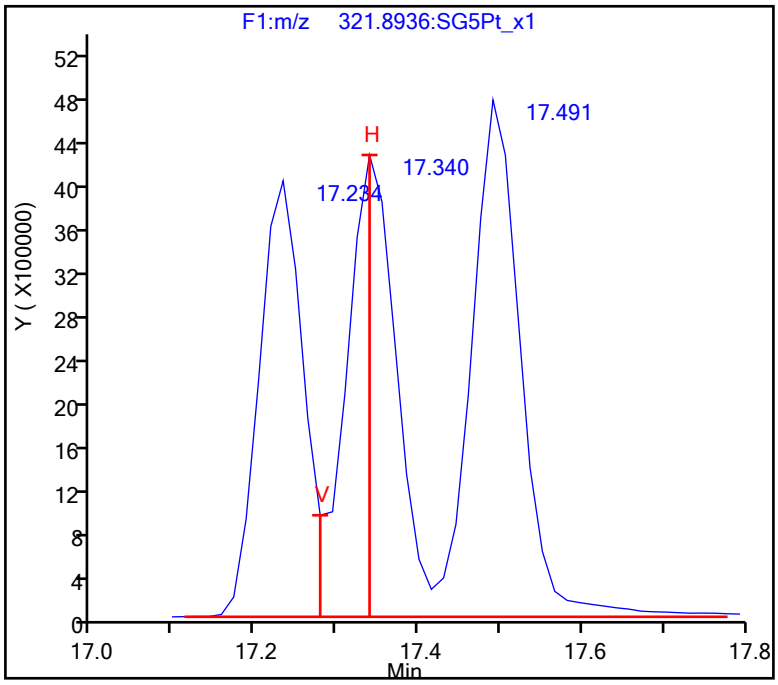

FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICV 320-345037/9 Calibration Date: 12/12/2019 16:24

Instrument ID: 3D5 Calib Start Date: 12/12/2019 11:28

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 12/12/2019 14:39

Lab File ID: 12DE193D5_9.d Conc. Units: pg/uL

EPA Sample No.: ICV

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
2,3,7,8-TCDF	AveID	0.9502	1.041		43.8	40.0	110	70-130
2,3,7,8-TCDD	AveID	1.048	1.179		45.0	40.0	113	70-130
1,2,3,7,8-PeCDF	AveID	1.030	1.059		206	200	103	70-130
2,3,4,7,8-PeCDF	AveID	1.041	1.179		226	200	113	70-130
1,2,3,7,8-PeCDD	AveID	1.086	1.044		192	200	96	70-130
1,2,3,4,7,8-HxCDF	AveID	1.147	1.215		212	200	106	70-130
1,2,3,6,7,8-HxCDF	AveID	1.145	1.225		214	200	107	70-130
2,3,4,6,7,8-HxCDF	AveID	1.173	1.282		219	200	109	70-130
1,2,3,4,7,8-HxCDD	AveID	1.093	1.118		204	200	102	70-130
1,2,3,6,7,8-HxCDD	AveID	1.043	1.144		219	200	110	70-130
1,2,3,7,8,9-HxCDD	AveID	1.207	1.171		194	200	97	70-130
1,2,3,7,8,9-HxCDF	AveID	1.172	1.229		210	200	105	70-130
1,2,3,4,6,7,8-HpCDF	AveID	1.480	1.572		212	200	106	70-130
1,2,3,4,6,7,8-HpCDD	AveID	1.054	1.099		209	200	104	70-130
1,2,3,4,7,8,9-HpCDF	AveID	1.293	1.366		211	200	106	70-130
OCDD	AveID	1.136	1.186		418	400	104	70-130
OCDF	AveID	1.394	1.453		417	400	104	70-130
13C-2,3,7,8-TCDF	Ave	1.416	1.376		97.2	100	97	71-140
13C-2,3,7,8-TCDD	Ave	0.9751	0.9535		97.8	100	98	82-121
13C-1,2,3,7,8-PeCDF	Ave	1.179	1.147		97.3	100	97	76-130
13C-2,3,4,7,8-PeCDF	Ave	1.131	1.134		100	100	100	77-130
13C-1,2,3,7,8-PeCDD	Ave	0.7572	0.7558		99.8	100	100	62-160
13C-1,2,3,4,7,8-HxCDF	Ave	1.104	1.115		101	100	101	76-131
13C-1,2,3,6,7,8-HxCDF	Ave	1.147	1.118		97.5	100	97	70-143
13C-2,3,4,6,7,8-HxCDF	Ave	1.077	1.051		97.6	100	98	73-137
13C-1,2,3,4,7,8-HxCDD	Ave	0.7962	0.8195		103	100	103	85-117
13C-1,2,3,6,7,8-HxCDD	Ave	0.8720	0.8702		99.8	100	100	85-118
13C-1,2,3,7,8,9-HxCDF	Ave	1.011	0.9661		95.5	100	96	74-135
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.7577	0.7715		102	100	102	78-129
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.7058	0.7545		107	100	107	72-138
13C-1,2,3,4,7,8,9-HpCDF	Ave	0.6941	0.7448		107	100	107	77-129
13C-OCDD	Ave	0.4603	0.4774		207	200	104	48-208
37Cl4-2,3,7,8-TCDD	Ave	1.348	1.357		40.3	40.0	101	79-127

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_9.d
Lims ID: ICV
Client ID: ICV
Sample Type: ICV
Inject. Date: 12-Dec-2019 16:24:09 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ICV 121219 ICV HRDXNIC_00042
Misc. Info.: 12DE193D5
Operator ID: KSS Instrument ID: 3D5
Sublist:

Method: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 13-Dec-2019 08:02:44 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0302

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.672	270085932	0.79	2.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	17.173	371649958	0.82	1.4157	97.2	97.2	0.1394	0.1394	97.20	
2,3,7,8-TCDF	17.188	154755506	0.77	0.9502	43.8	43.8	0.0778	0.0778	110	
A Non-2,3,7,8-sub-TCDF	16.841	1135104	0.87	0.9502	0.3214	0.3214	0.0778	0.3214		
S Total TCDF					44.1	44.1	0.0778	0.0778		
D 13C-2,3,7,8-TCDD	17.869	257527783	0.79	0.9751	97.8	97.8	0.1551	0.1551	97.79	
2,3,7,8-TCDD	17.884	121462424	0.79	1.0477	45.0	45.0	0.0527	0.0527	113	
$ 37Cl4-2,3,7,8-TCDD	17.884	146639981		1.3480	40.3	40.3	0.0787	0.0787	101	
A Non-2,3,7,8-sub-TCDD	17.294	1743442	0.77	1.0477	0.7532	0.6462	0.0527	0.6462		RQ
S Total TCDD					45.8	45.7	0.0527	0.0527		RQ
D 13C-1,2,3,7,8-PeCDF	22.114	309874781	1.58	1.1786	97.3	97.3	0.2252	0.2252	97.35	
1,2,3,7,8-PeCDF	22.141	656505253	1.57	1.0302	205.6	205.6	0.7951	0.7951	103	
D 13C-2,3,4,7,8-PeCDF	23.437	306164012	1.61	1.1308	100.2	100.2	0.2347	0.2347	100	
2,3,4,7,8-PeCDF	23.464	721626753	1.61	1.0410	226.4	226.4	0.8510	0.8510	113	
A F1 PeCDFs	19.797						0.0305	0.0305		
A Non-2,3,7,8-sub-PeCDF	22.906	15330047	1.72	1.0356	4.806	4.806	0.8219	4.806		
S Total PeCDF					436.9	436.9	0.8230	0.8230		
D 13C-1,2,3,7,8-PeCDD	24.146	204118372	1.58	0.7572	99.8	99.8	0.1420	0.1420	99.81	
1,2,3,7,8-PeCDD	24.173	426058756	1.59	1.0855	192.3	192.3	0.2704	0.2704	96.14	
A Non-2,3,7,8-sub-PeCDD	23.055						0.2704	0.2704		
S Total PeCDD					192.3	192.3	0.2704	0.2704		
D 13C-1,2,3,4,7,8-HxCDF	30.273	271260302	0.53	1.1043	100.9	100.9	0.2306	0.2306	101	
1,2,3,4,7,8-HxCDF	30.300	659203064	1.22	1.1472	211.8	211.8	0.6366	0.6366	106	
D 13C-1,2,3,6,7,8-HxCDF	30.473	272013222	0.52	1.1470	97.5	97.5	0.2220	0.2220	97.45	
1,2,3,6,7,8-HxCDF	30.499	666204959	1.26	1.1450	213.9	213.9	0.6235	0.6235	107	
D 13C-2,3,4,6,7,8-HxCDF	31.365	255749967	0.54	1.0769	97.6	97.6	0.2364	0.2364	97.59	
2,3,4,6,7,8-HxCDF	31.378	655580573	1.22	1.1726	218.6	218.6	0.4779	0.4779	109	
D 13C-1,2,3,7,8,9-HxCDF	32.204	235091692	0.52	1.0115	95.5	95.5	0.2517	0.2517	95.51	
1,2,3,7,8,9-HxCDF	32.217	577659417	1.23	1.1717	209.7	209.7	0.4861	0.4861	105	
A Non-2,3,7,8-sub-HxCDF	29.954						0.5469	0.5469		
S Total HxCDF					854.1	854.1	0.5560	0.5560		

Report Date: 13-Dec-2019 08:02:46 Chrom Revision: 2.3 02-Dec-2019 08:23:04
Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_9.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	32.004	243345620	1.29	2.1E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.565	199415534	1.28	0.7962	102.9	102.9	0.2000	0.2000	103	
1,2,3,4,7,8-HxCDD	31.578	445827448	1.25	1.0934	204.5	204.5	0.4135	0.4135	102	
D 13C-1,2,3,6,7,8-HxCDD	31.671	211767568	1.28	0.8720	99.8	99.8	0.1826	0.1826	99.80	
1,2,3,6,7,8-HxCDD	31.684	484510720	1.27	1.0429	219.4	219.4	0.4097	0.4097	110	
1,2,3,7,8,9-HxCDD	32.017	481676148	1.25	1.2073	194.1	194.1	0.3639	0.3639	97.03	
A Non-2,3,7,8-sub-HxCDD	30.606						0.3942	0.3942		
S Total HxCDD					617.9	617.9	0.3957	0.3957		
D 13C-1,2,3,4,6,7,8-HpCDF	33.652	187732796	0.46	0.7577	101.8	101.8	1.433	1.433	102	
1,2,3,4,6,7,8-HpCDF	33.664	590414217	1.05	1.4804	212.4	212.4	1.138	1.138	106	
D 13C-1,2,3,4,7,8,9-HpCDF	34.734	181231378	0.43	0.6941	107.3	107.3	1.564	1.564	107	
1,2,3,4,7,8,9-HpCDF	34.734	495258328	1.05	1.2933	211.3	211.3	1.552	1.552	106	
A Non-2,3,7,8-sub-HpCDF	34.193						1.321	1.321		
S Total HpCDF					423.7	423.7	1.345	1.345		
D 13C-1,2,3,4,6,7,8-HpCDD	34.442	183613445	1.09	0.7058	106.9	106.9	0.4437	0.4437	107	
1,2,3,4,6,7,8-HpCDD	34.454	403758571	1.06	1.0535	208.7	208.7	0.8556	0.8556	104	
A Non-2,3,7,8-sub-HpCDD	34.169	6591915	0.95	1.0535	3.408	3.408	0.8556	3.408		
S Total HpCDD					212.1	212.1	0.8556	0.8556		
D 13C-OCDD	36.770	232322449	0.90	0.4603	207.4	207.4	0.4010	0.4010	104	
OCDF	36.866	674947816	0.91	1.3945	416.7	416.7	0.5045	0.5045	104	
OCDD	36.782	551081986	0.90	1.1362	417.6	417.6	0.5796	0.5796	104	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNIC_00042 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_9.d
Lims ID: ICV
Client ID: ICV
Sample Type: ICV
Inject. Date: 12-Dec-2019 16:24:09 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: ICV 121219 ICV HRDXNIC_00042
Misc. Info.: 12DE193D5
Operator ID: KSS Instrument ID: 3D5
Sublist:

Method: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 13-Dec-2019 08:02:44 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0302

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.672	17.657	1		119112558	30773227	22008	55020	1398		
333.9339	17.672	17.657	1		150973374	38610201	19974	49935	1933	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	17.173	17.128	3	0.972	167566864	42270701	25199	62997	1677		
317.9389	17.173	17.128	3	0.972	204083094	50484076	29557	73892	1708	0.82(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.188	17.158	2	1.001	67498189	17335870	12820	32050	1352		
305.8987	17.188	17.158	2	1.001	87257317	22264388	14618	36545	1523	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.538	16.841	-18	0.963	529102	131768	12820	32050	10		
305.8987	16.538	16.841	-18	0.963	606002	158140	14618	36545	11	0.87(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.869	17.823	3	1.011	113833668	27054631	22008	55020	1229		
333.9339	17.869	17.823	3	1.011	143694115	34423261	19974	49935	1723	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.884	17.839	3	1.001	53786271	13427177	8291	20727	1619		
321.8936	17.884	17.839	3	1.001	67676153	16730882	5299	13247	3157	0.79(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.884	17.869	1	1.012	146639981	35503806	29430	73575	1206		
A Non-2,3,7,8-sub-TCDD											RQ
319.8965	17.778	17.294	29	0.995	1047305	302600	8291	20727	36		
	Empc Correction				758446	249995	8291	20727	30		
321.8936	17.778	17.294	29	0.995	984996	324670	5299	13247	61	1.06(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	22.114	22.100	1	1.251	189969392	34848954	42106	105265	828		
353.8970	22.114	22.100	1	1.251	119905389	21921524	31540	78850	695	1.58(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	22.141	22.127	1	1.001	401053631	72411616	112425	281062	644		
341.8567	22.141	22.127	1	1.001	255451622	46292478	73577	183942	629	1.57(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	23.437	23.423	1	1.326	188948891	32328162	42106	105265	768		
353.8970	23.437	23.423	1	1.326	117215121	20163286	31540	78850	639	1.61(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	23.464	23.450	1	1.001	444775112	75331835	112425	281062	670		
341.8567	23.464	23.450	1	1.001	276851641	46580158	73577	183942	633	1.61(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.797						2026	5065			
341.8567	19.797						4867	12167			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.659	22.906	-15	1.025	9701220	1791183	112425	281062	16		
341.8567	22.659	22.906	-15	1.025	5628827	1014945	73577	183942	14	1.72(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	24.146	24.132	1	1.366	125070440	20673410	17811	44527	1161		
369.8919	24.146	24.132	1	1.366	79047932	12976636	12029	30072	1079	1.58(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	24.173	24.159	1	1.001	261337003	41660287	24825	62062	1678		
357.8516	24.173	24.159	1	1.001	164721753	26234267	14680	36700	1787	1.59(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.055						24825	62062			
357.8516	23.055						14680	36700			
13C-1,2,3,4,7,8-HxCDF											
383.8639	30.273	30.273	0	0.946	94377084	16850440	24667	61667	683		
385.8610	30.273	30.273	0	0.946	176883218	32253564	43035	107587	749	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	30.300	30.299	0	1.001	362541027	67340226	77949	194872	864		
375.8178	30.300	30.299	0	1.001	296662037	54726850	65494	163735	836	1.22(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.473	30.473	0	0.952	93363035	17583506	24667	61667	713		
385.8610	30.473	30.473	0	0.952	178650187	32649082	43035	107587	759	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.499	30.499	0	1.001	370782818	68294614	77949	194872	876		
375.8178	30.499	30.499	0	1.001	295422141	54776049	65494	163735	836	1.26(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.365	31.351	1	0.980	89463419	22749754	24667	61667	922		
385.8610	31.365	31.351	1	0.980	166286548	41238876	43035	107587	958	0.54(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.378	31.378	0	1.000	360017692	92269270	77949	194872	1184		
375.8178	31.378	31.378	0	1.000	295562881	75646415	65494	163735	1155	1.22(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	32.204	32.190	1	1.006	80327273	21851193	24667	61667	886		
385.8610	32.204	32.190	1	1.006	154764419	41110712	43035	107587	955	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	32.217	32.204	1	1.000	318175057	87154137	77949	194872	1118		
375.8178	32.217	32.204	1	1.000	259484360	69530162	65494	163735	1062	1.23(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.954						77949	194872			
375.8178	29.954						65494	163735			
13C-1,2,3,7,8,9-HxCDD											
401.8559	32.004	32.004	0		137156162	37414623	23456	58640	1595		
403.8529	32.004	32.004	0		106189458	29059462	18880	47200	1539	1.29(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.565	31.551	1	0.986	111978645	30454874	23456	58640	1298		
403.8529	31.565	31.551	1	0.986	87436889	23239407	18880	47200	1231	1.28(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.578	31.565	1	1.000	247740093	68789569	54687	136717	1258		
391.8127	31.578	31.565	1	1.000	198087355	54337126	42423	106057	1281	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.671	31.658	1	0.990	118903305	32064033	23456	58640	1367		
403.8529	31.671	31.658	1	0.990	92864263	24757329	18880	47200	1311	1.28(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.684	31.684	0	1.000	270897778	72335351	54687	136717	1323		
391.8127	31.684	31.684	0	1.000	213612942	57126331	42423	106057	1347	1.27(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	32.017	32.017	0	1.014	267452966	73977779	54687	136717	1353		
391.8127	32.017	32.017	0	1.014	214223182	60689549	42423	106057	1431	1.25(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.606						54687	136717			
391.8127	30.606						42423	106057			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.652	33.640	1	1.051	58921143	21697769	90467	226167	240		
419.8220	33.652	33.640	1	1.051	128811653	47591801	198150	495375	240	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.664	33.652	1	1.000	301741769	112712483	231277	578192	487		
409.7789	33.664	33.652	1	1.000	288672448	106248548	235777	589442	451	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.734	34.721	1	1.085	54803039	17876401	90467	226167	198		
419.8220	34.734	34.721	1	1.085	126428339	40307650	198150	495375	203	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.734	34.734	0	1.000	253307591	83102110	231277	578192	359		
409.7789	34.734	34.734	0	1.000	241950737	80723141	235777	589442	342	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.193						231277	578192			
409.7789	34.193						235777	589442			

Report Date: 13-Dec-2019 08:02:46 Chrom Revision: 2.3 02-Dec-2019 08:23:04
Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_9.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.442	34.430	1	1.076	95572249	33460614	42780	106950	782		
437.8140	34.442	34.430	1	1.076	88041196	31402252	40489	101222	776	1.09(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.454	34.442	1	1.000	207482296	71879897	110330	275825	651		
425.7737	34.454	34.442	1	1.000	196276275	66647376	123534	308835	540	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.907	34.169	-16	0.984	3217726	1264627	110330	275825	11		
425.7737	33.907	34.169	-16	0.984	3374189	1232369	123534	308835	10	0.95(0.88-1.20)	
13C-OCDD											
469.7779	36.770	36.770	0	1.149	110263401	31794781	23623	59057	1346		
471.7750	36.770	36.770	0	1.149	122059048	35774867	25447	63617	1406	0.90(0.76-1.02)	
OCDF											
441.7428	36.866	36.866	0	1.003	322035229	94527211	43535	108837	2171		
443.7399	36.866	36.866	0	1.003	352912587	106059231	51530	128825	2058	0.91(0.76-1.02)	
OCDD											
457.7377	36.782	36.782	0	1.000	261007674	77122926	42299	105747	1823		
459.7348	36.782	36.782	0	1.000	290074312	85553254	46691	116727	1832	0.90(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

n - Failed Sig-To-Noise Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNIC_00042 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_9.d
Lims ID: ICV
Client ID: ICV
Inject. Date: 12-Dec-2019 16:24:09 Dil. Factor: 1.0000
Sample Type: ICV, ICal Verification
Instrument ID: 3D5 Operator: KSS
Lims Batch ID: 345037 Lims Sample ID: 9
Sublist:

Non-2,3,7,8-sub-TCDF, RT: 16.841

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	0.950	D 13C-2,3,7,8-TCDF	100.000	371649958	92754777

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.950		100.000	371649958	92754777

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
16.538	529102	131768	606002	158140	0.3214	0.87	
Signal Totals:							
	529102	131768	606002	158140			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1135104	289908				0.87	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.3214 = (1135104 * 100.000) / (371649958 * 0.950)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_9.d
Lims ID: ICV
Client ID: ICV
Inject. Date: 12-Dec-2019 16:24:09 Dil. Factor: 1.0000
Sample Type: ICV, ICal Verification
Instrument ID: 3D5 Operator: KSS
Lims Batch ID: 345037 Lims Sample ID: 9
Sublist:

Non-2,3,7,8-sub-TCDD, RT: 17.294

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.048	D 13C-2,3,7,8-TCDD	100.000	257527783	61477892

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.048		100.000	257527783	61477892

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
17.778	1047305	302600	984996	324670	0.7532	1.06	RQ
17.778	758446	249995	984996	324670	0.6462		Empc Correction
Signal Totals:							
	758446	249995	984996	324670			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	2032301	627270				1.06	RQ
	1743442	574665					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.7532 = (2032301 * 100.000) / (257527783 * 1.048)
Empc Amount: 0.6462 = (1743442 * 100.000) / (257527783 * 1.048)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_9.d
Lims ID: ICV
Client ID: ICV
Inject. Date: 12-Dec-2019 16:24:09 Dil. Factor: 1.0000
Sample Type: ICV, ICal Verification
Instrument ID: 3D5 Operator: KSS
Lims Batch ID: 345037 Lims Sample ID: 9
Sublist:

Non-2,3,7,8-sub-PeCDF, RT: 22.906

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.030	D 13C-1,2,3,7,8-PeCDF	100.000	309874781	56770478
2,3,4,7,8-PeCDF	1.041	D 13C-2,3,4,7,8-PeCDF	100.000	306164012	52491448

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.036		100.000	308019396	54630963

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
22.659	9701220	1791183	5628827	1014945	4.81	1.72	
Signal Totals:							
	9701220	1791183	5628827	1014945			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	15330047	2806128				1.72	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 4.806 = (15330047 * 100.000) / (308019396 * 1.036)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_9.d
Lims ID: ICV
Client ID: ICV
Inject. Date: 12-Dec-2019 16:24:09 Dil. Factor: 1.0000
Sample Type: ICV, ICal Verification
Instrument ID: 3D5 Operator: KSS
Lims Batch ID: 345037 Lims Sample ID: 9
Sublist:

Non-2,3,7,8-sub-HpCDD, RT: 34.169

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	1.054	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	183613445	64862866

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.054		100.000	183613445	64862866

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
33.907	3217726	1264627	3374189	1232369	3.41	0.95	n
Signal Totals:							
	3217726	1264627	3374189	1232369			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	6591915	2496996				0.95	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 3.408 = (6591915 * 100.000) / (183613445 * 1.054)

QC Flag Legend

Processing Flags
n - Failed Sig-To-Noise Test

Report Date: 13-Dec-2019 08:02:46 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_9.d		
Injection Date:	12-Dec-2019 16:24:09	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
Worklist#:	345037	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

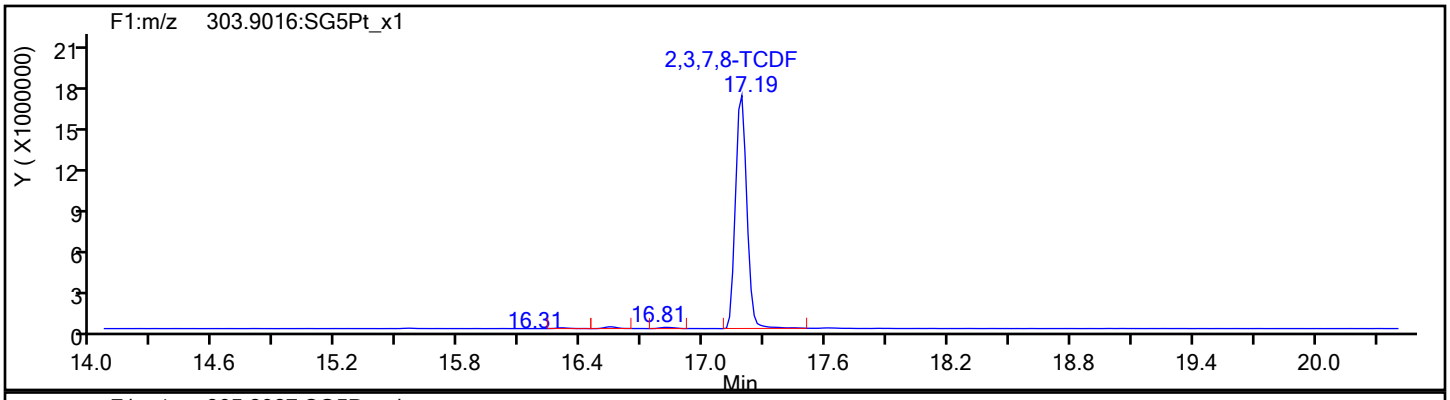

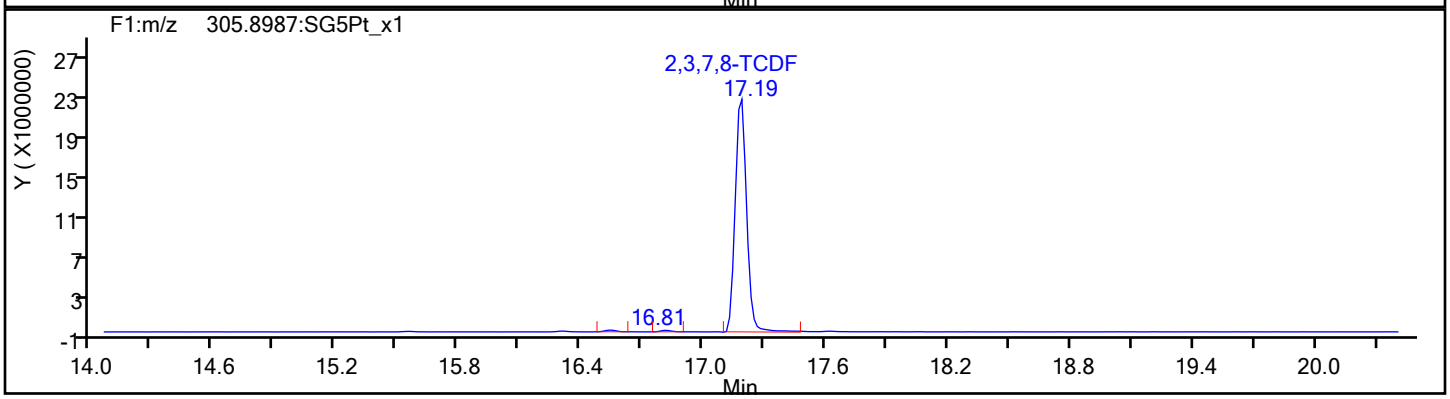

TCDF Standards

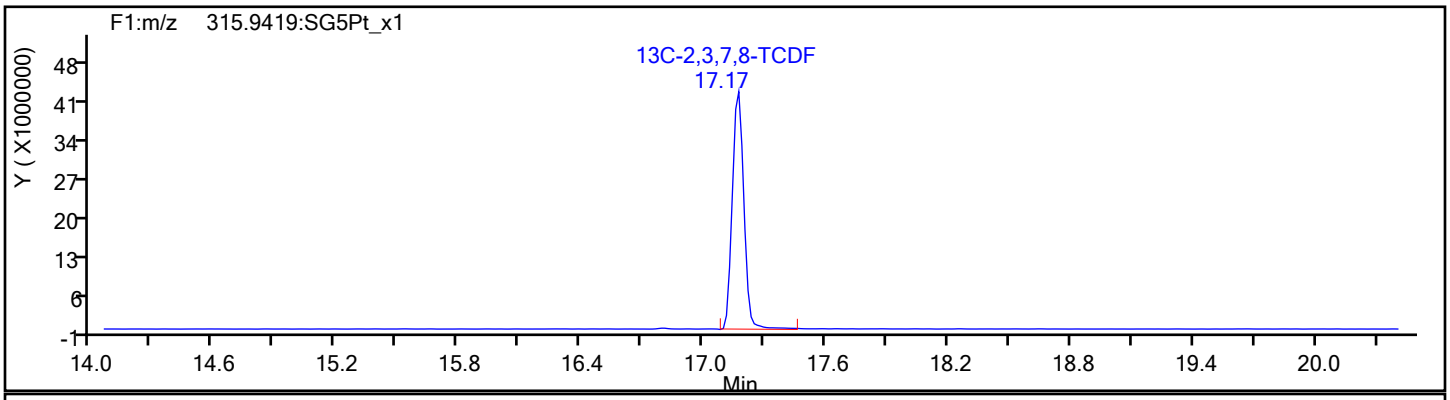

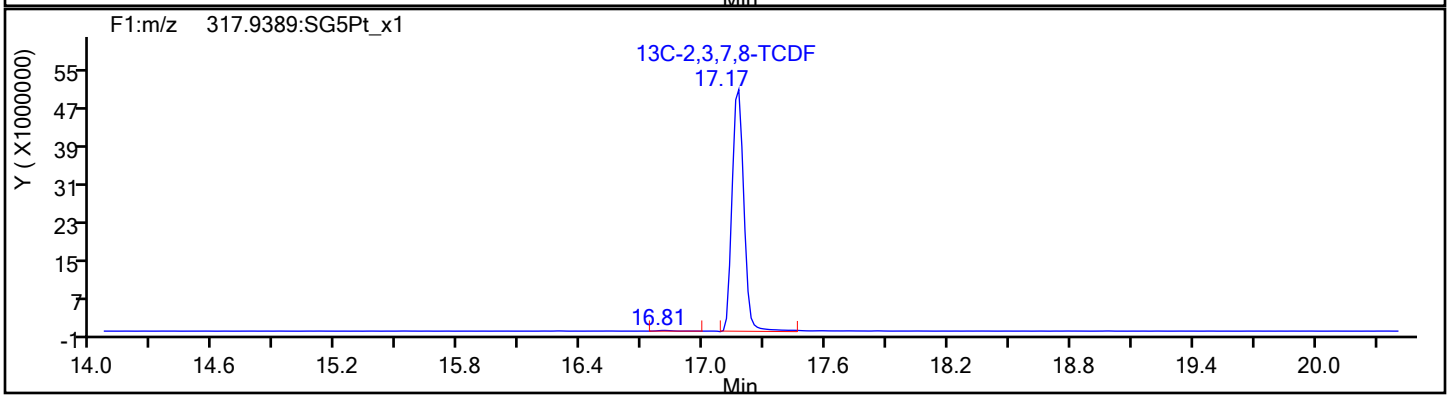

Report Date: 13-Dec-2019 08:02:46 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_9.d		
Injection Date:	12-Dec-2019 16:24:09	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

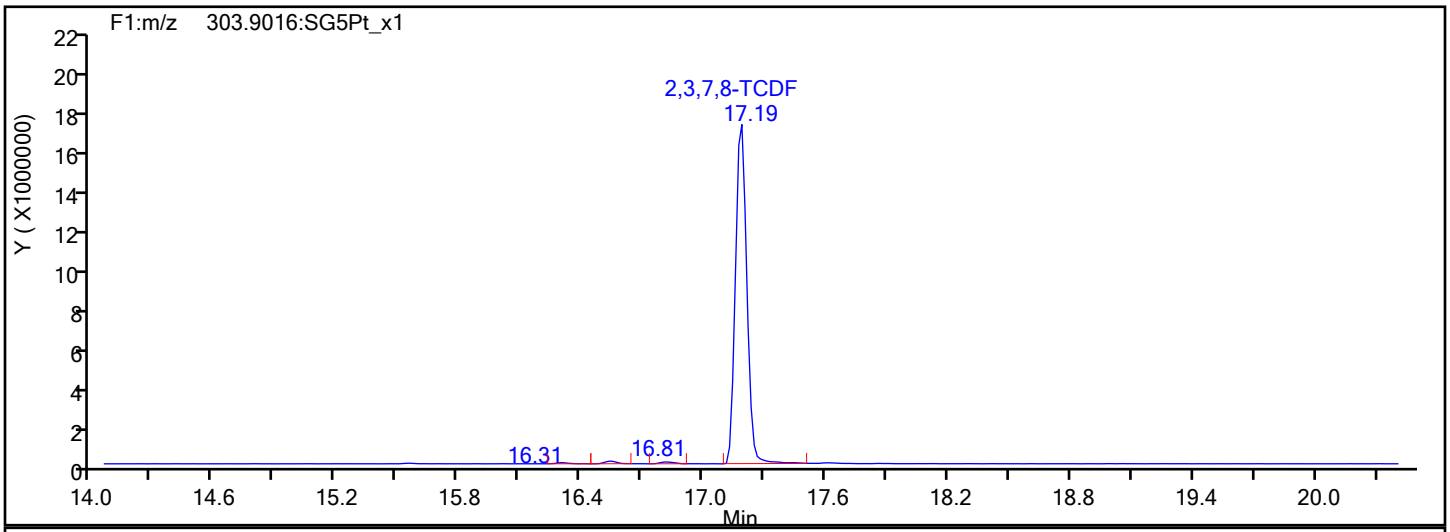

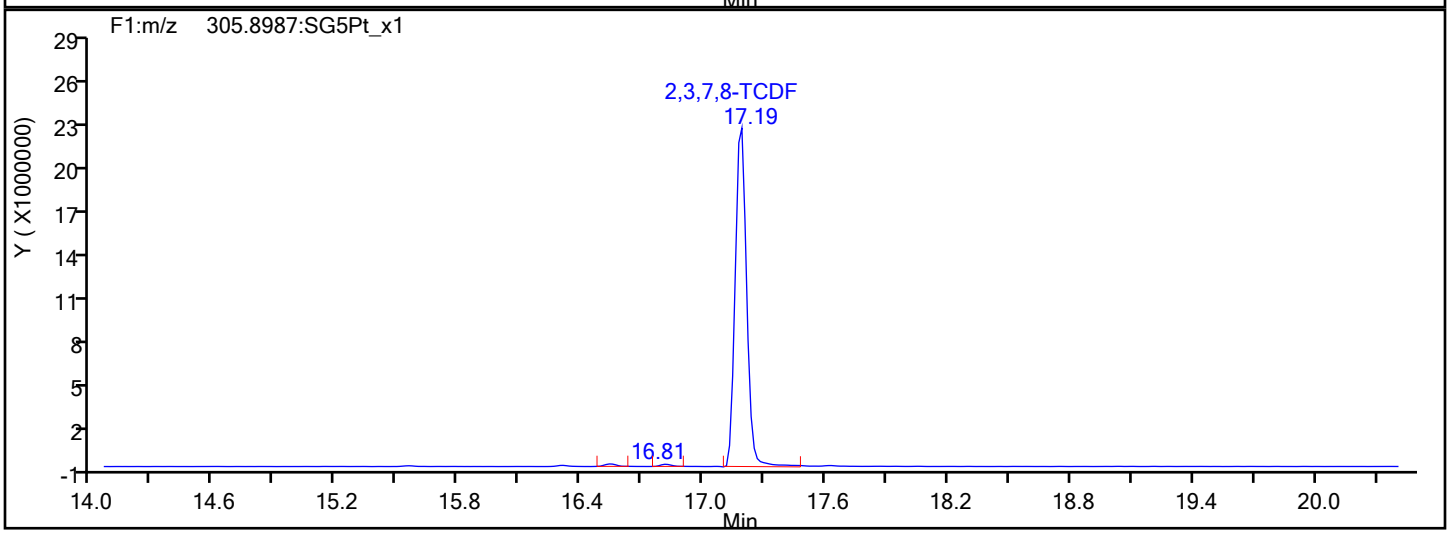

TCDF Interference Mass

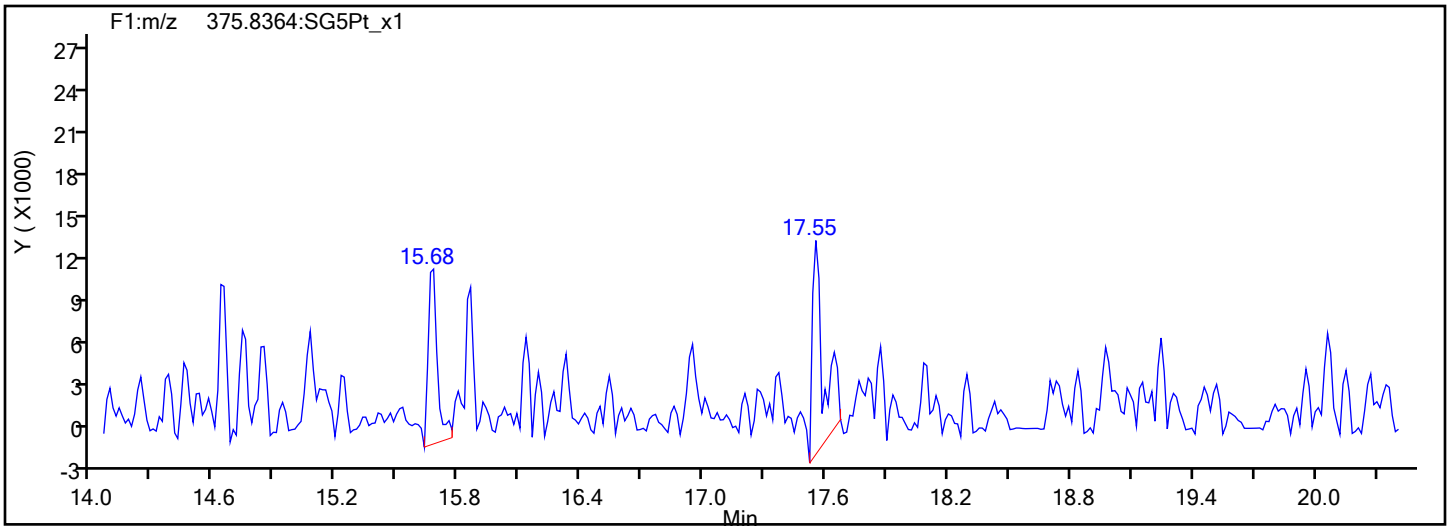

Report Date: 13-Dec-2019 08:02:46 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

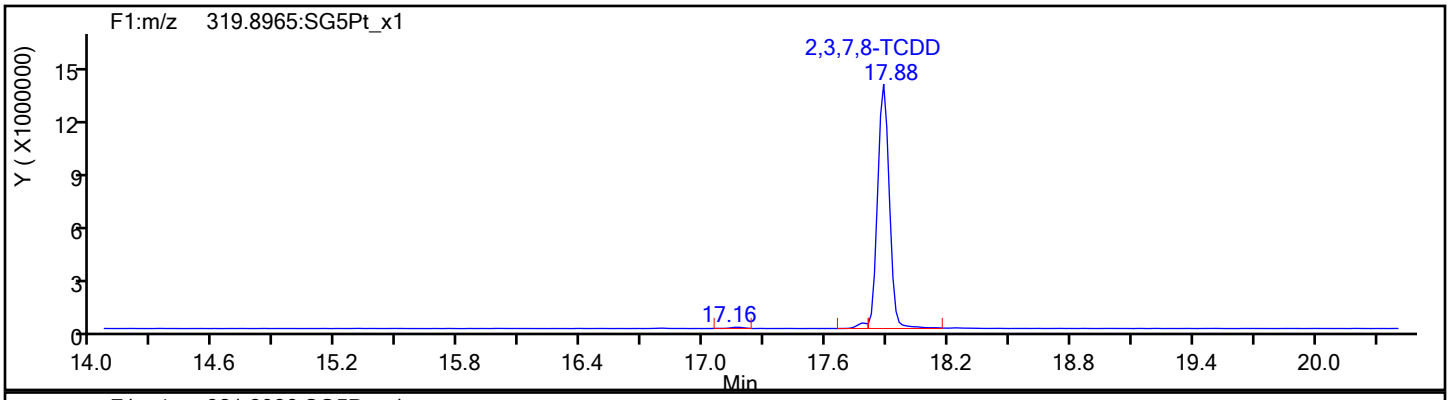

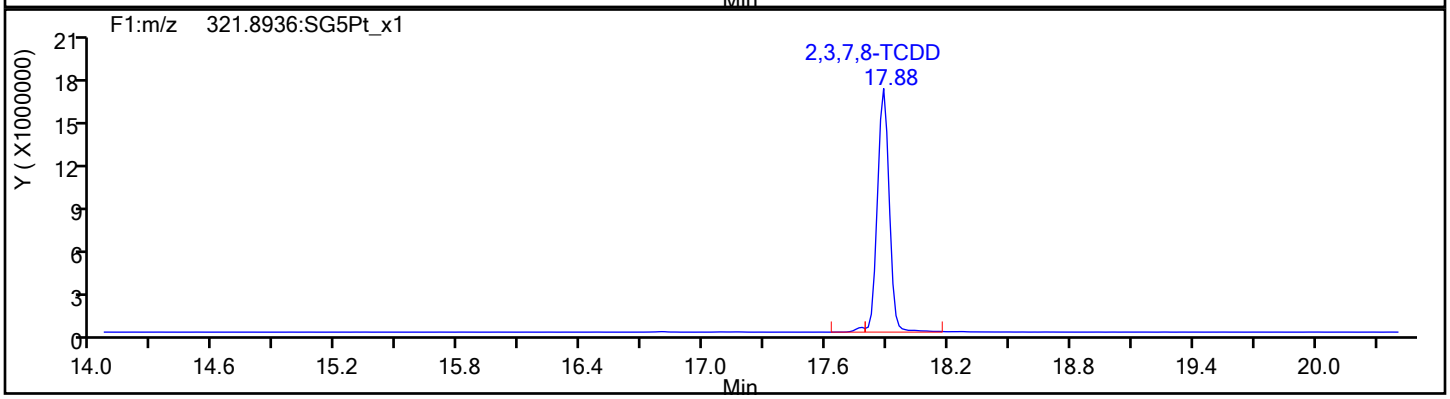

TCDD Standards

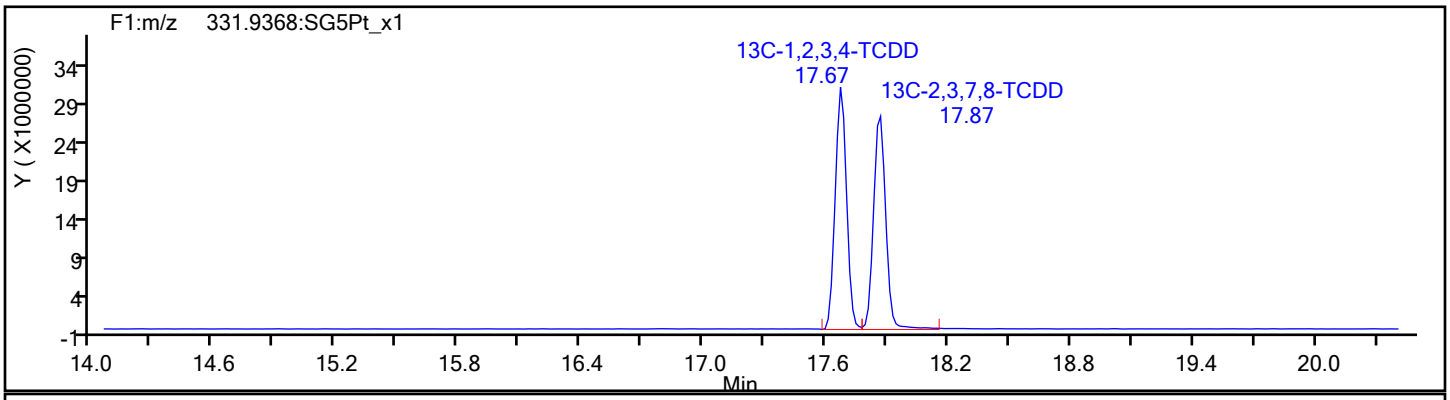

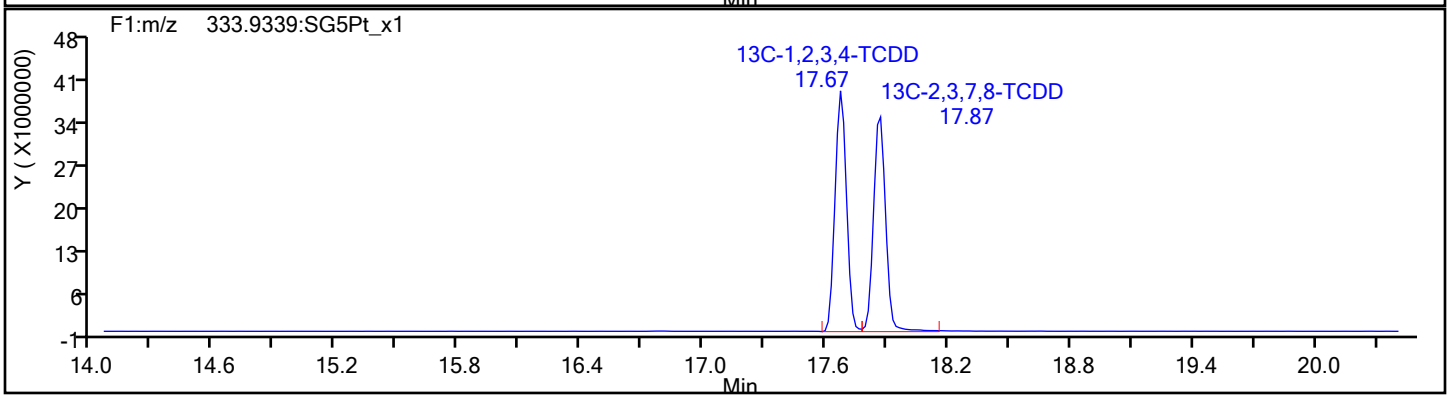

Report Date: 13-Dec-2019 08:02:46 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

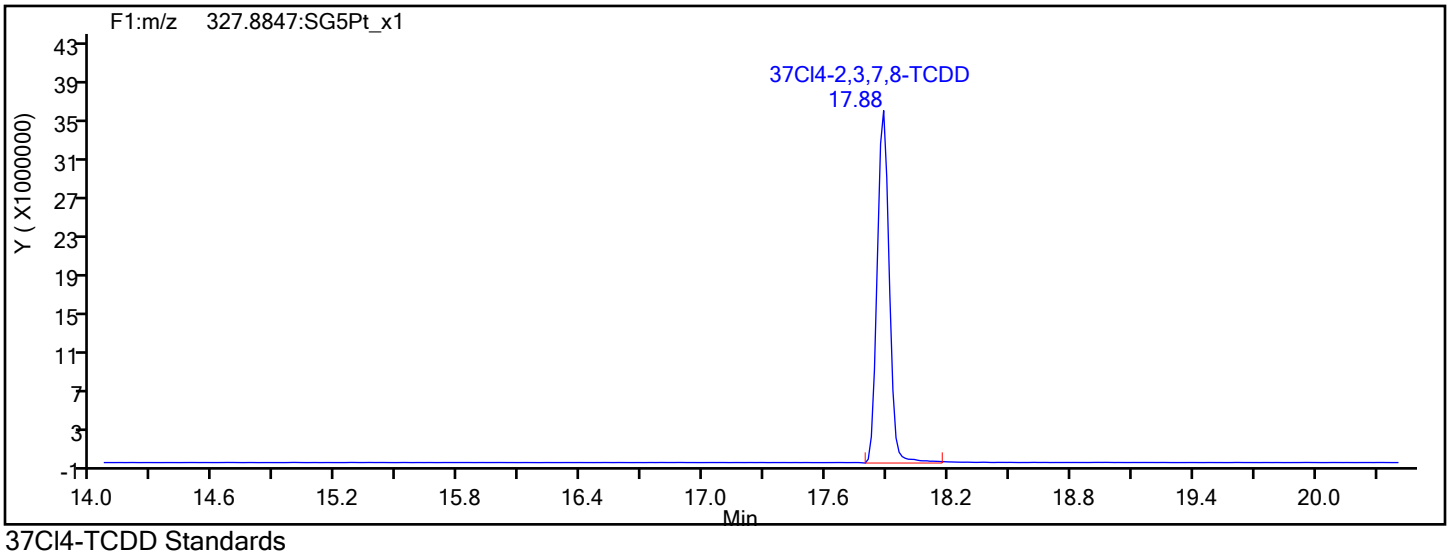

37Cl4-TCDD Standards

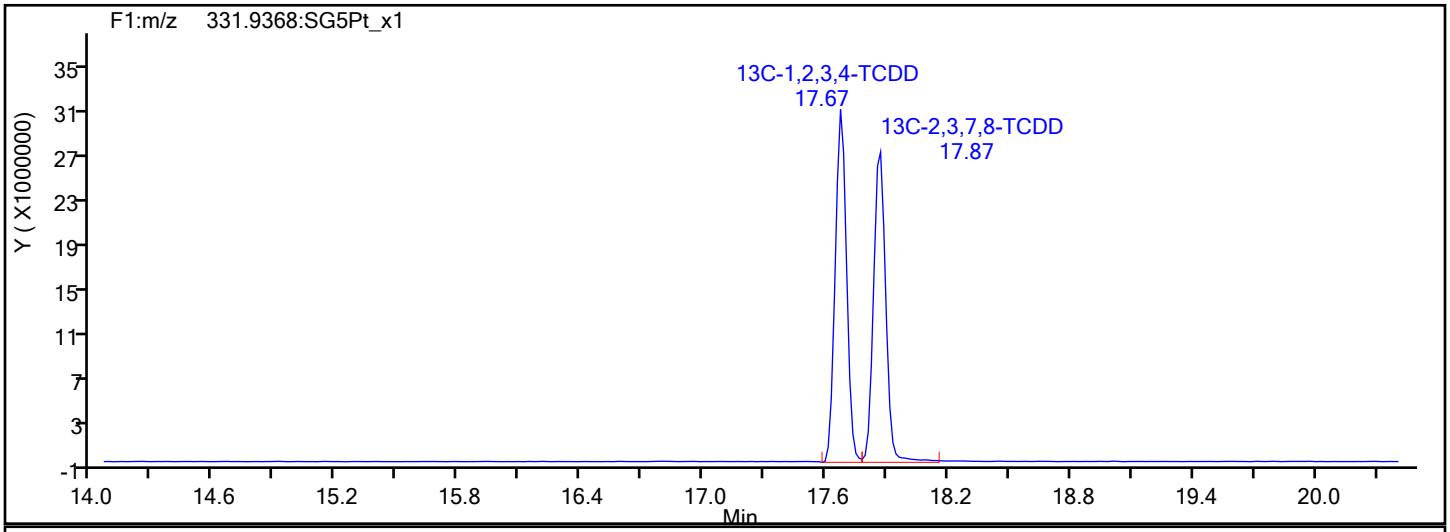

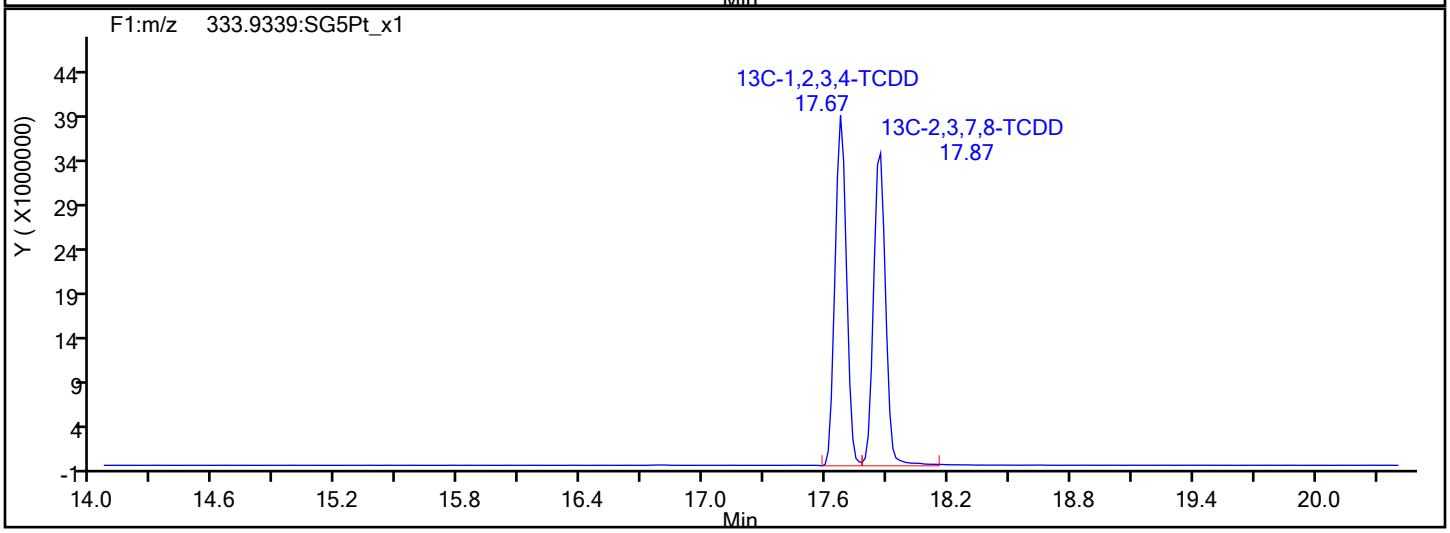

Report Date: 13-Dec-2019 08:02:47 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

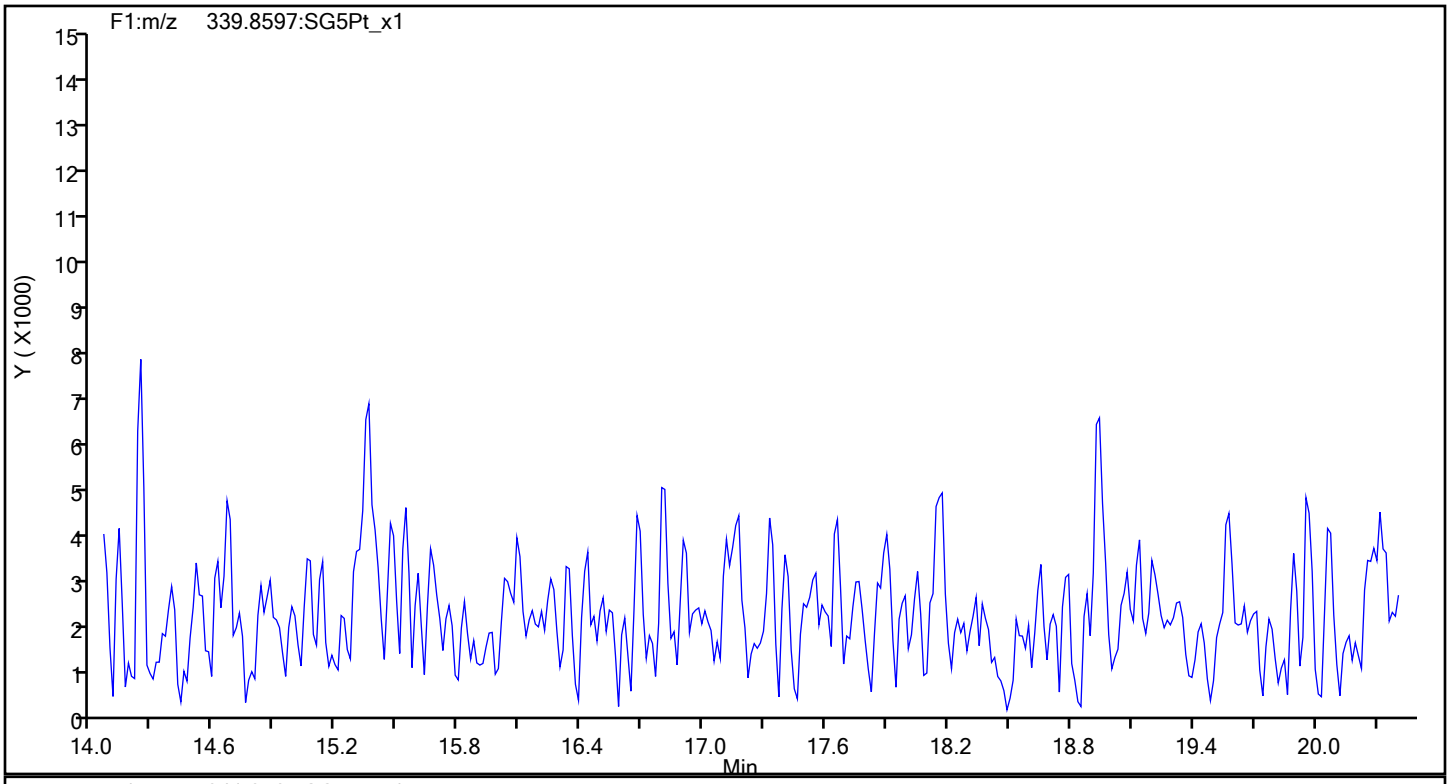

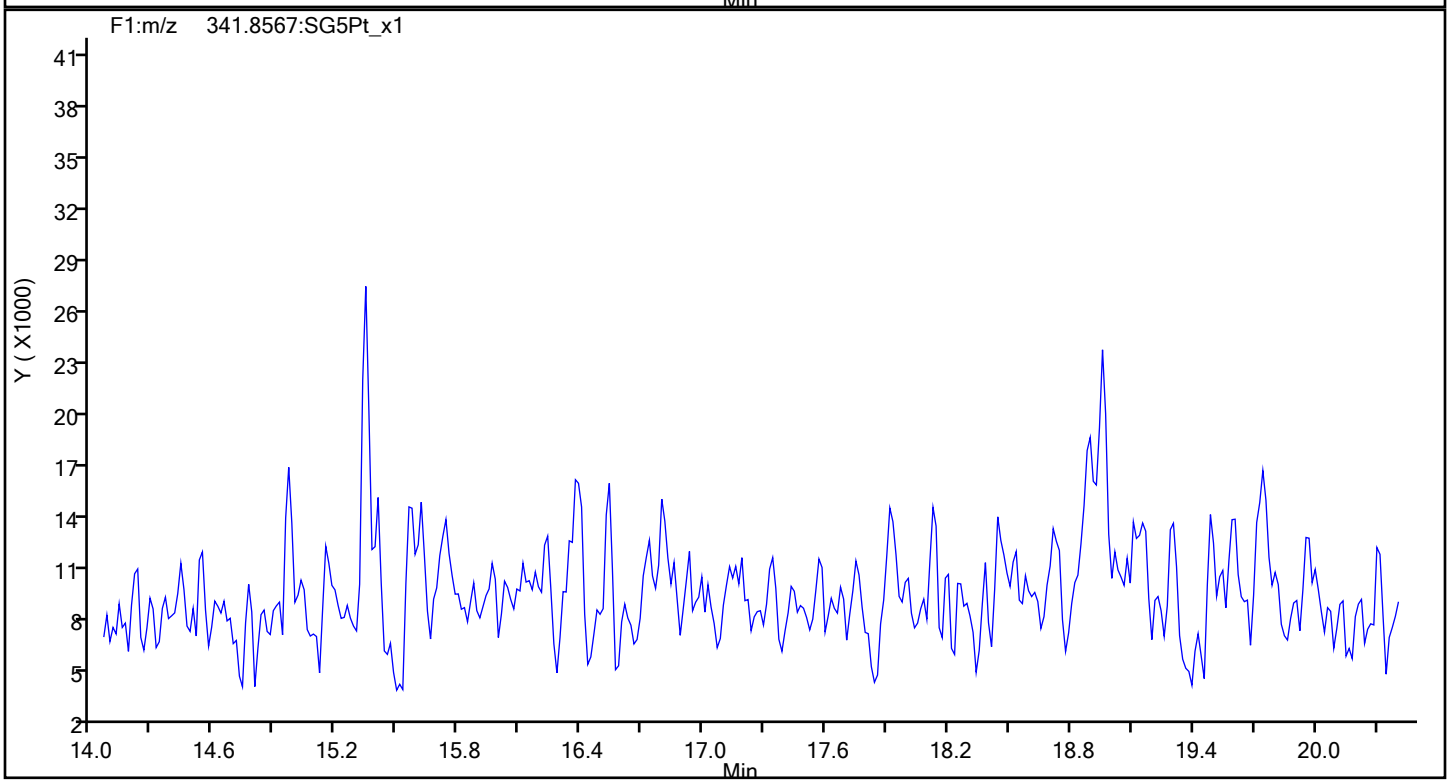

Report Date: 13-Dec-2019 08:02:47 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

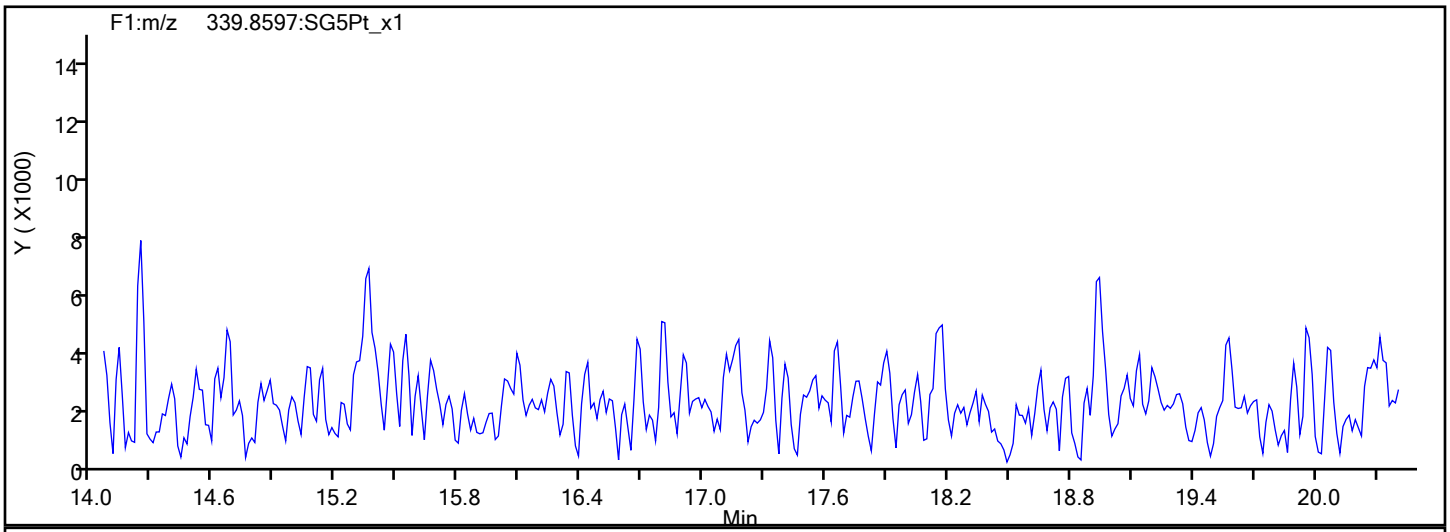

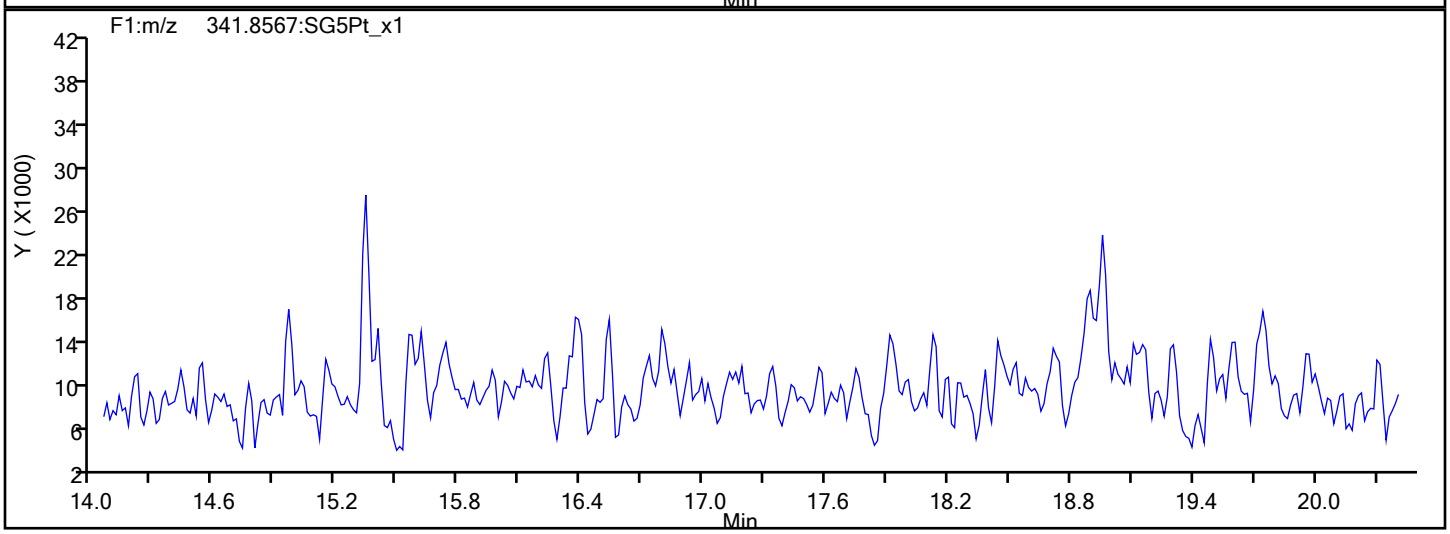

F1 PeCDFs Interference Mass

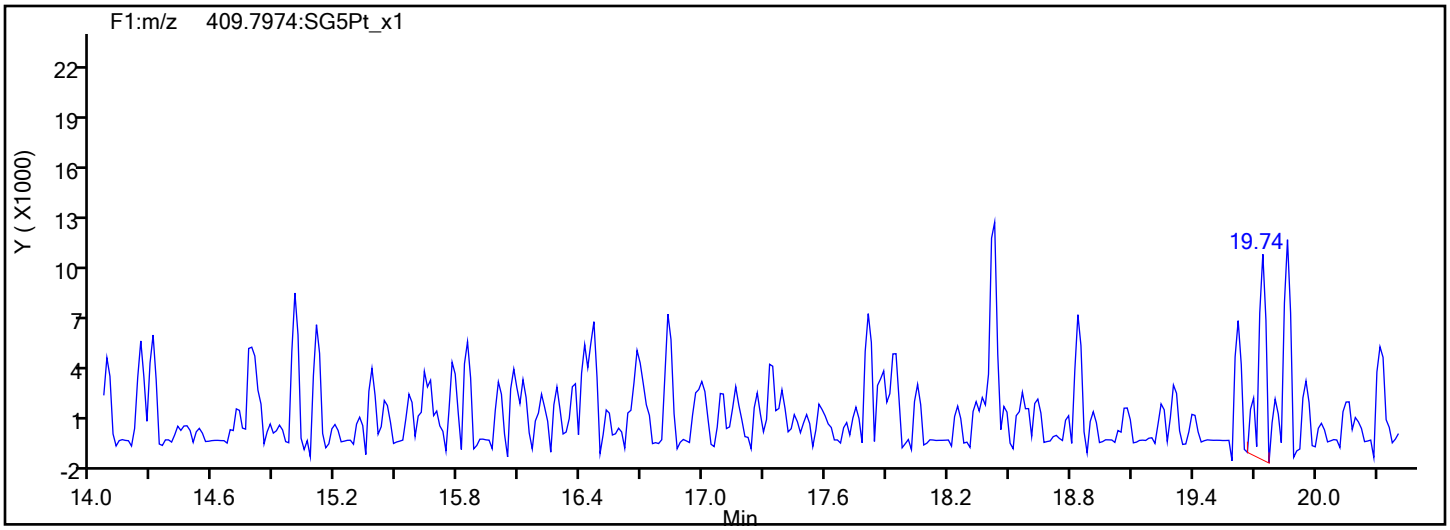

Report Date: 13-Dec-2019 08:02:47 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_9.d		
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PeCDF

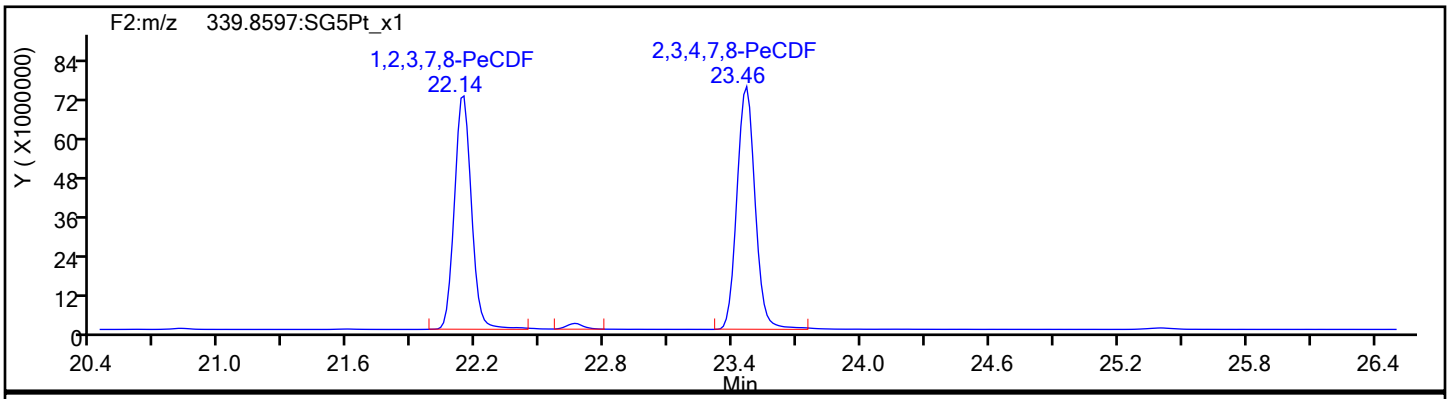

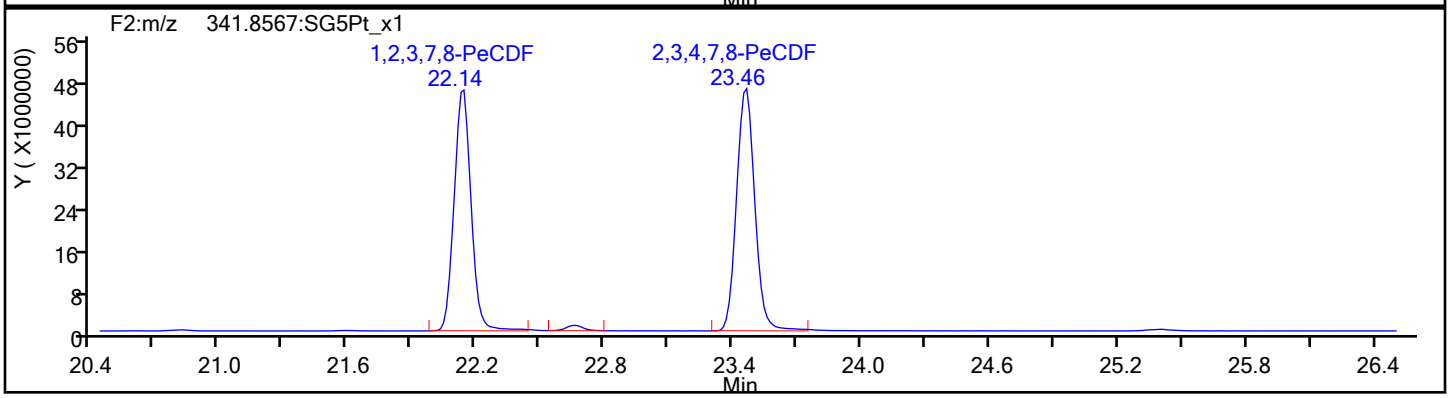

PeCDF Standards

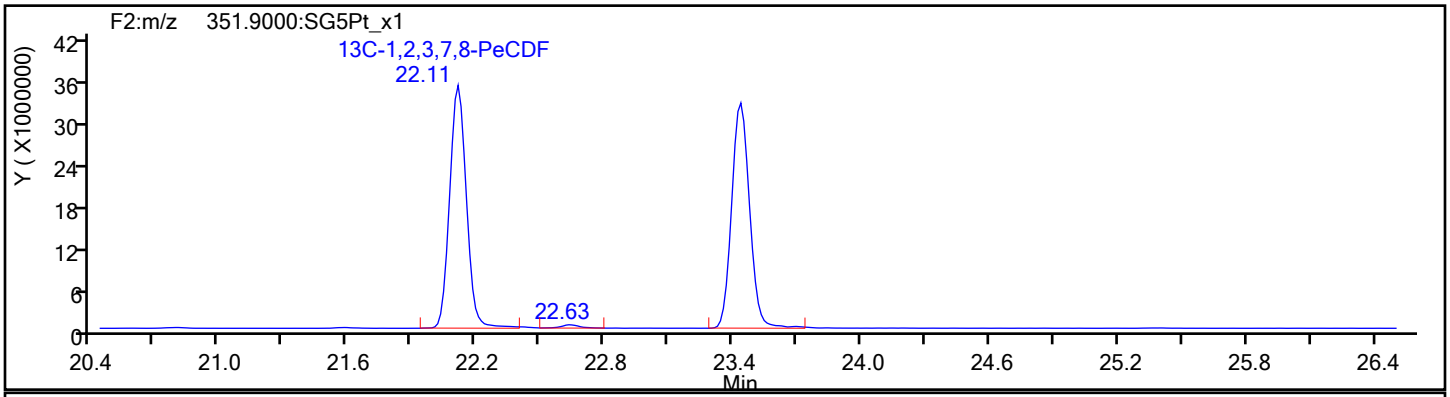

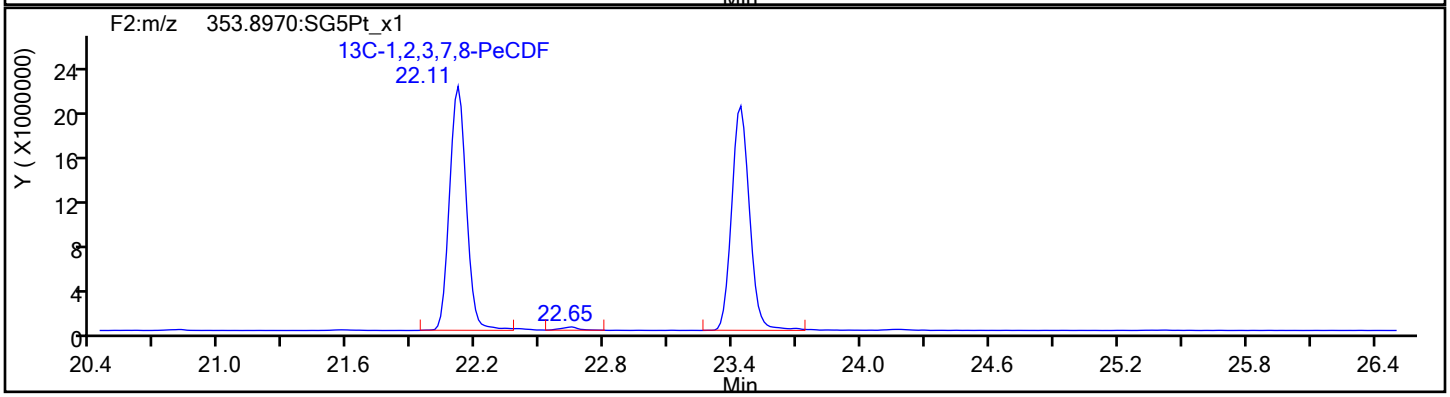

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Eurofins TestAmerica, Sacramento

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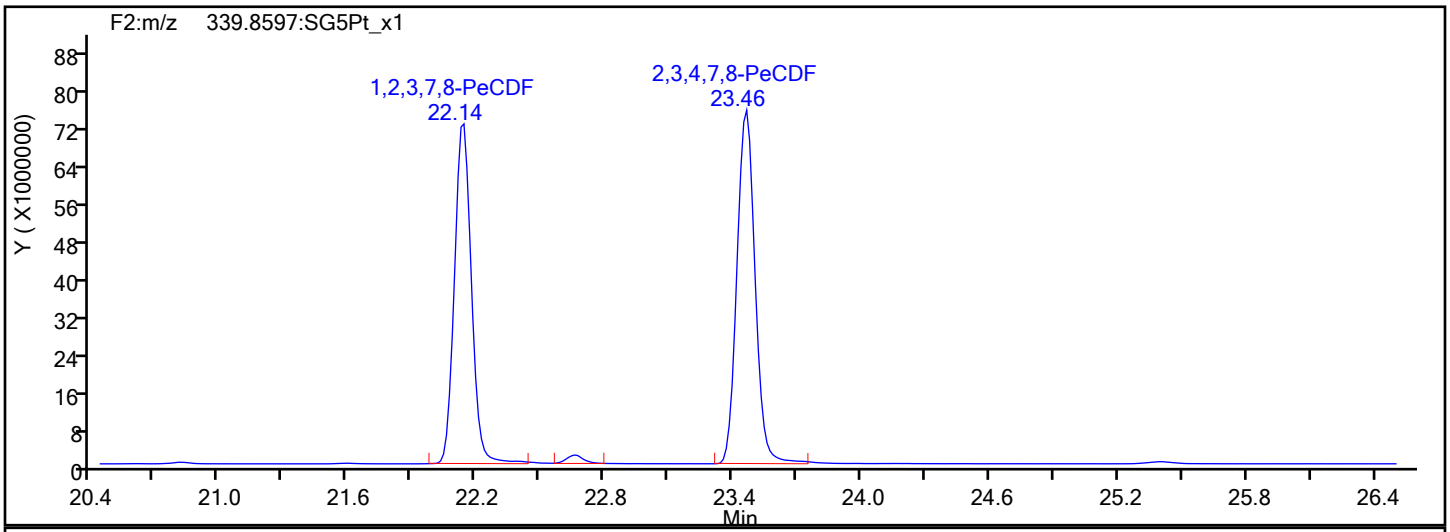

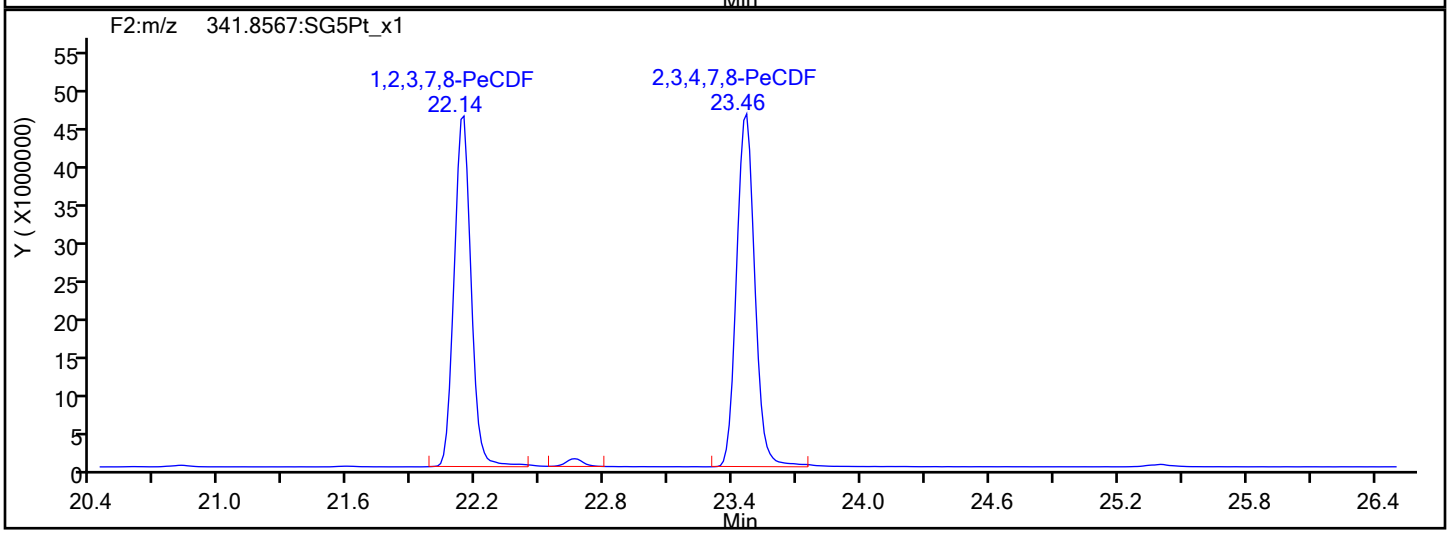

PeCDF Interference Mass

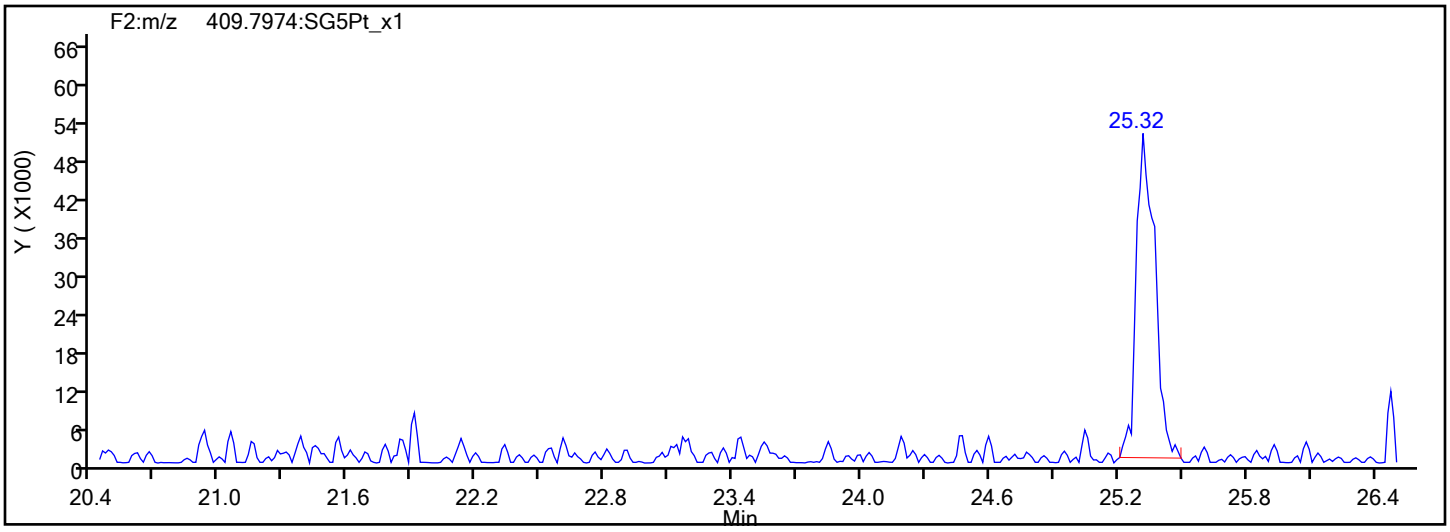

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Eurofins TestAmerica, Sacramento

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PeCDD

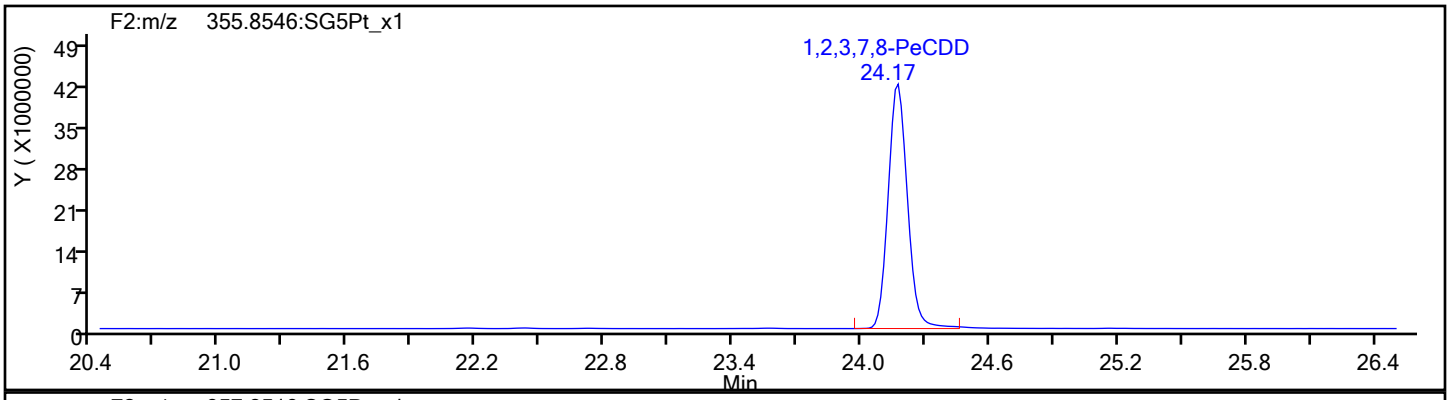

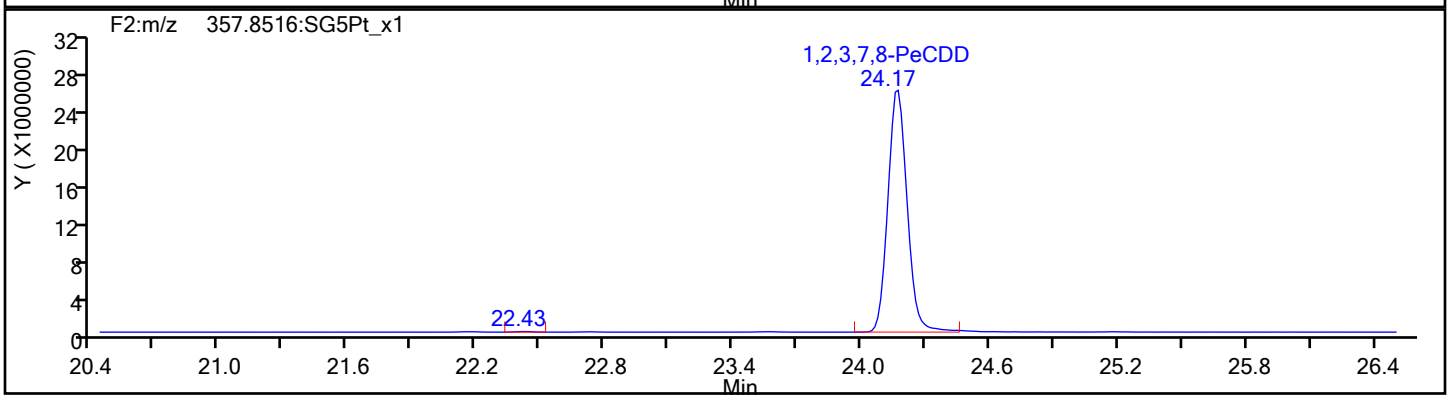

PeCDD Standards

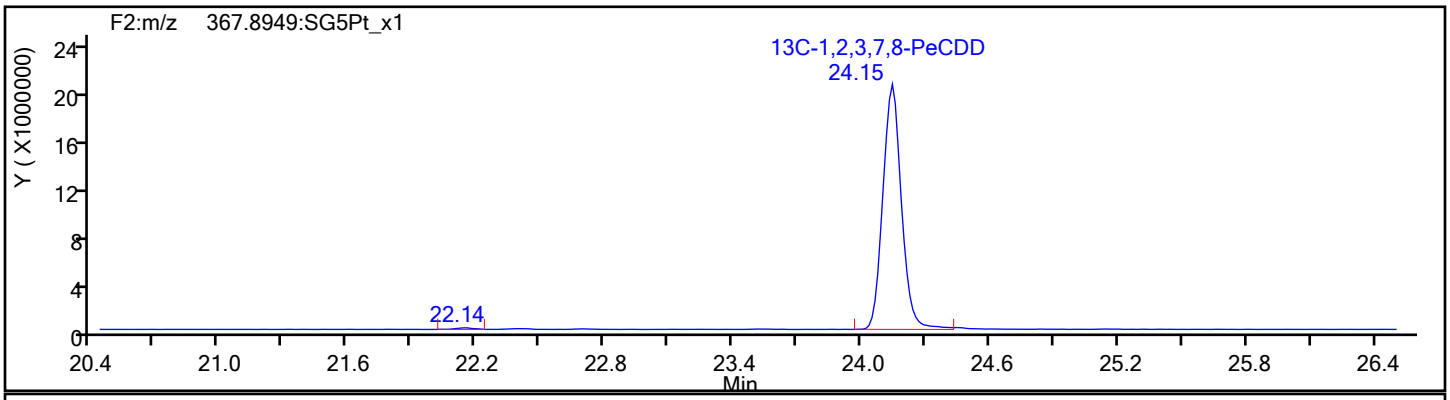

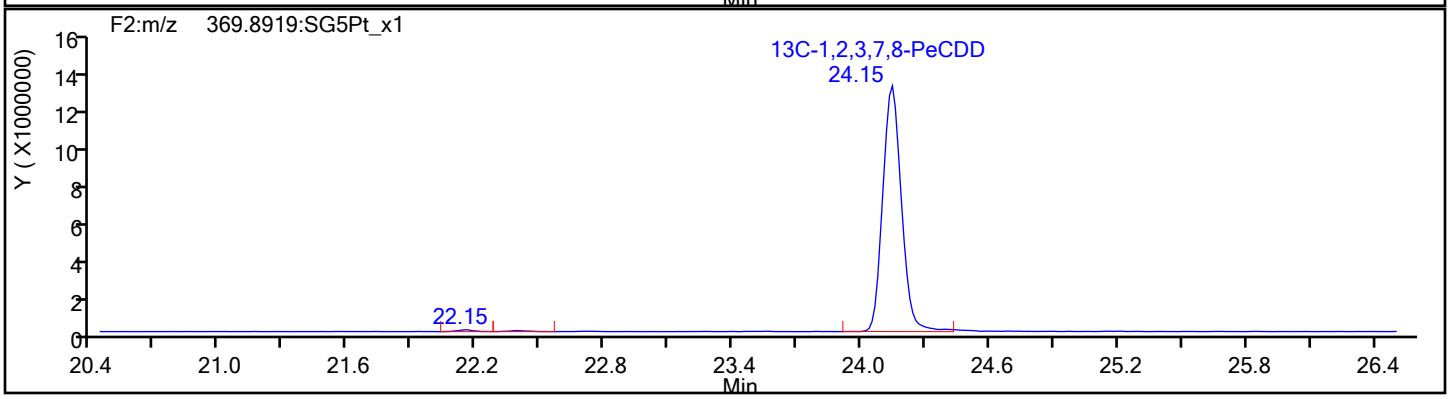

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Eurofins TestAmerica, Sacramento

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HxCDF

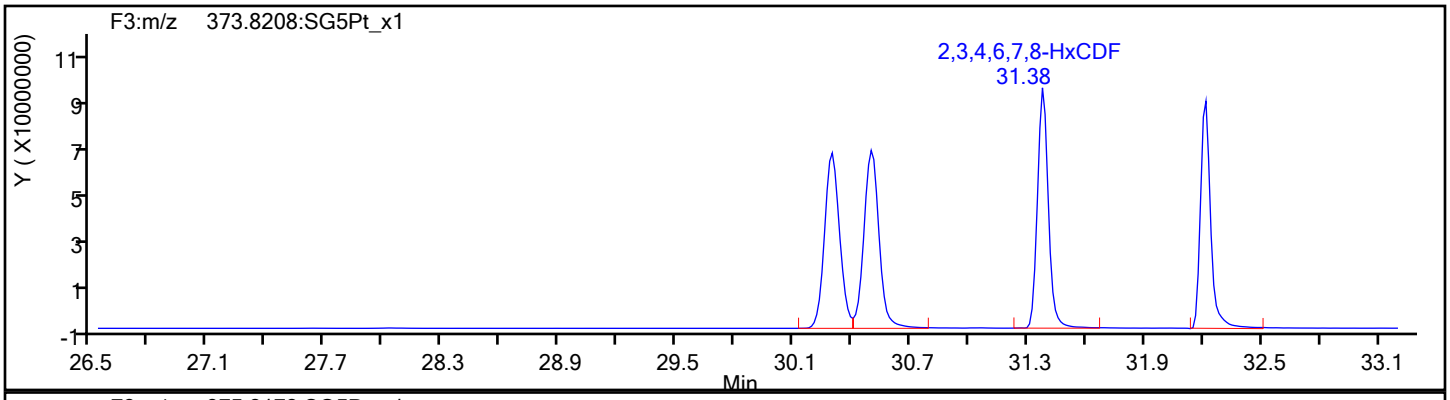

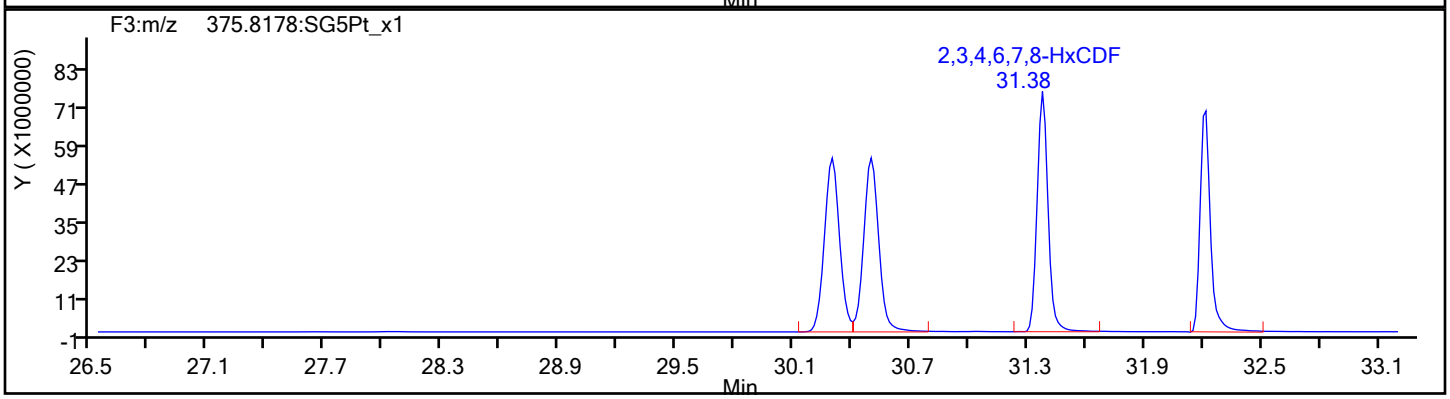

HxCDF Standards

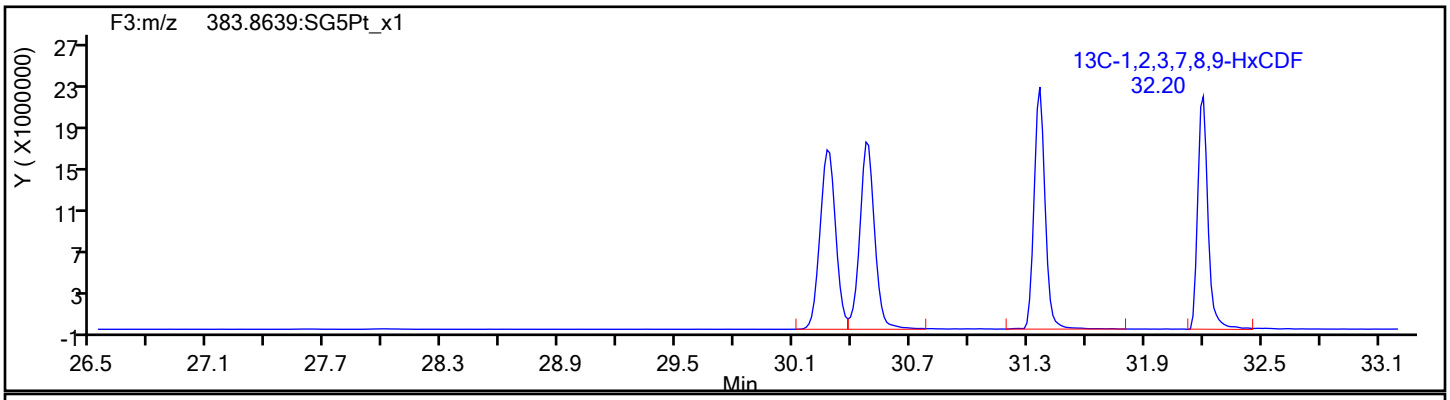

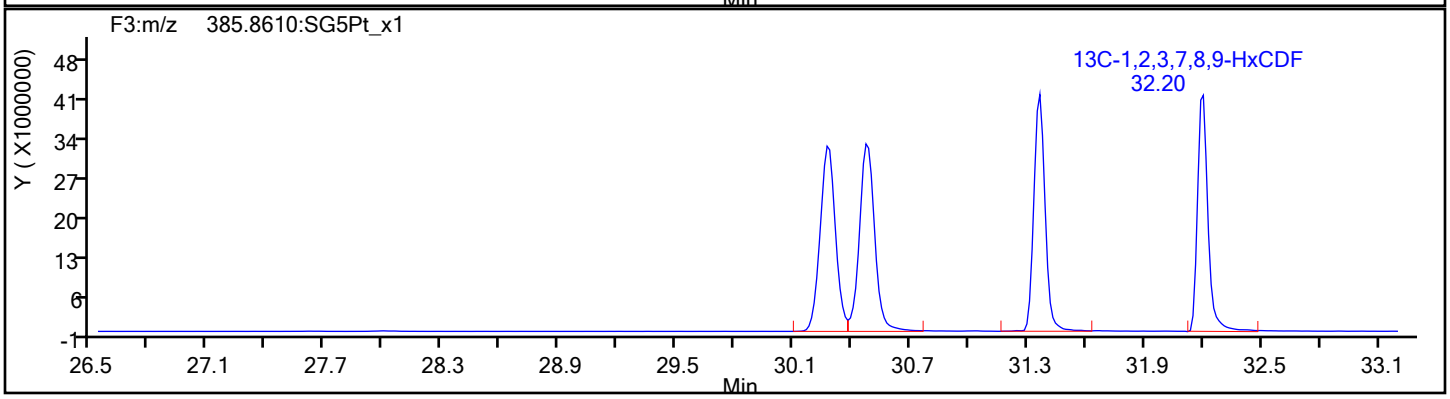

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Eurofins TestAmerica, Sacramento

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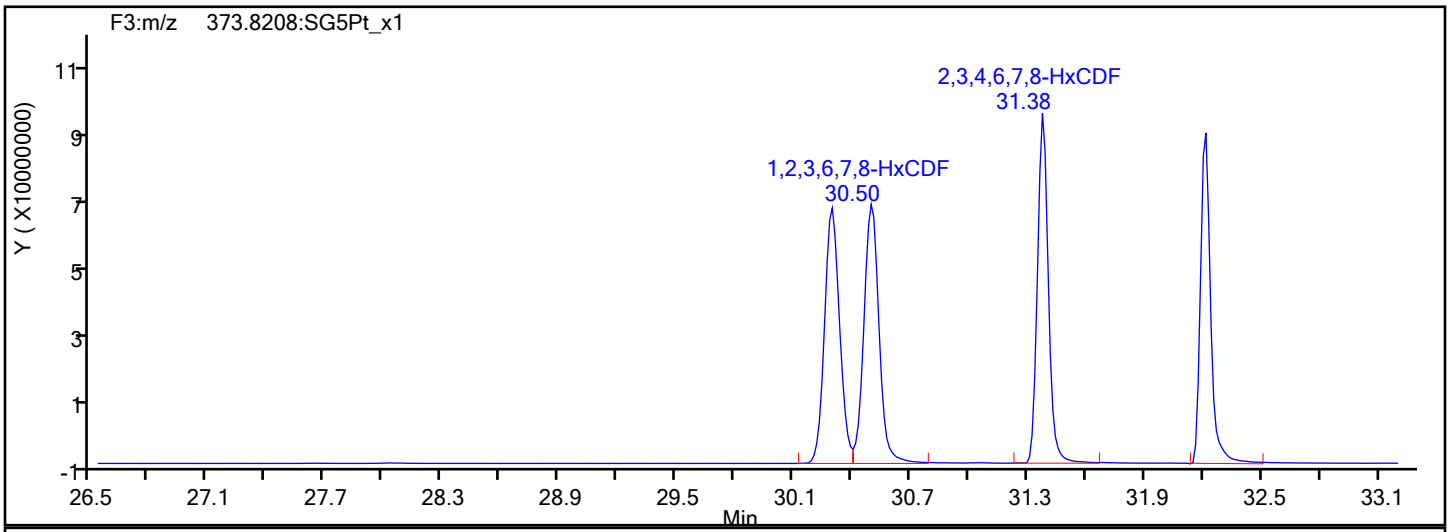

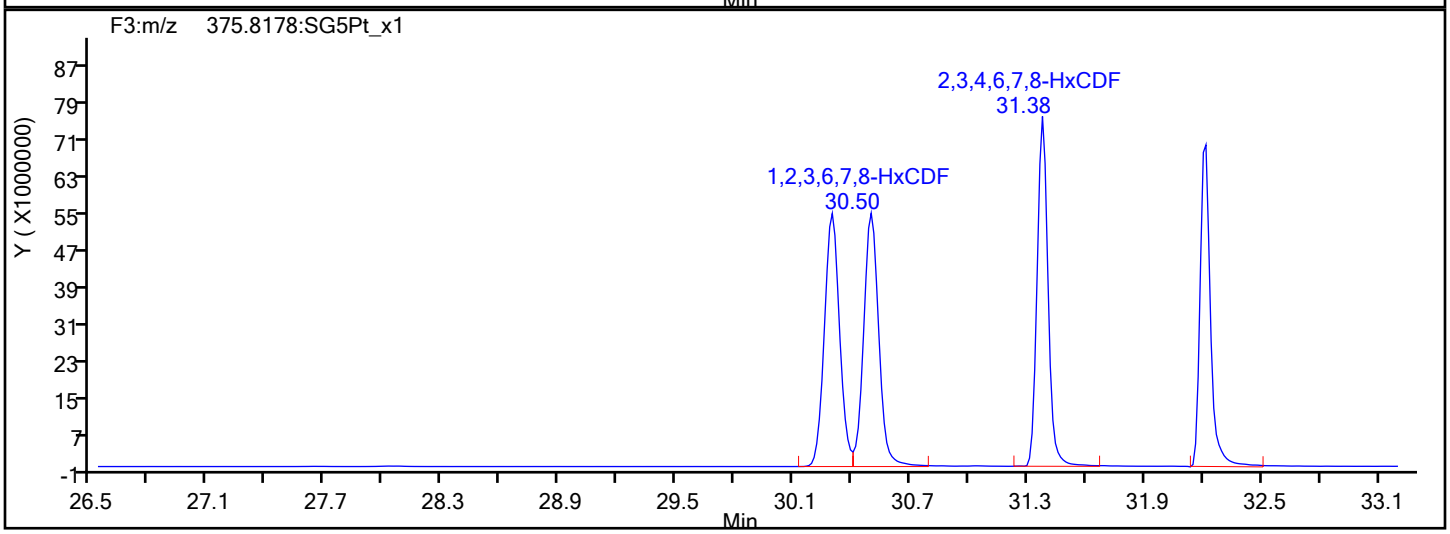

HxCDF Interference Mass

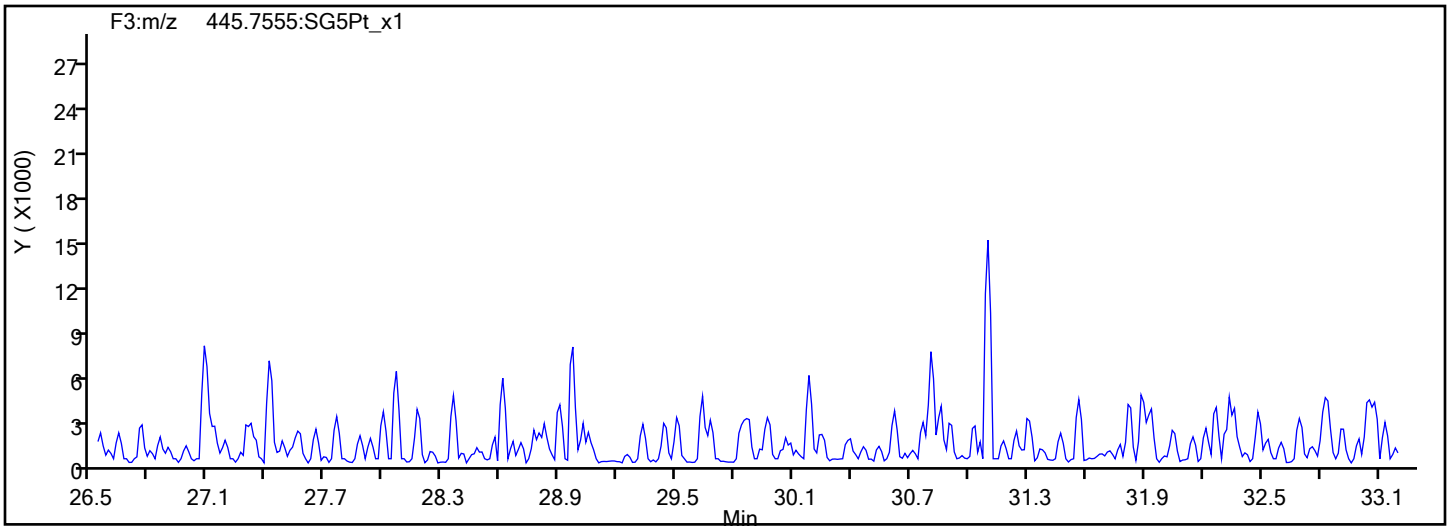

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Eurofins TestAmerica, Sacramento

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HxCDD

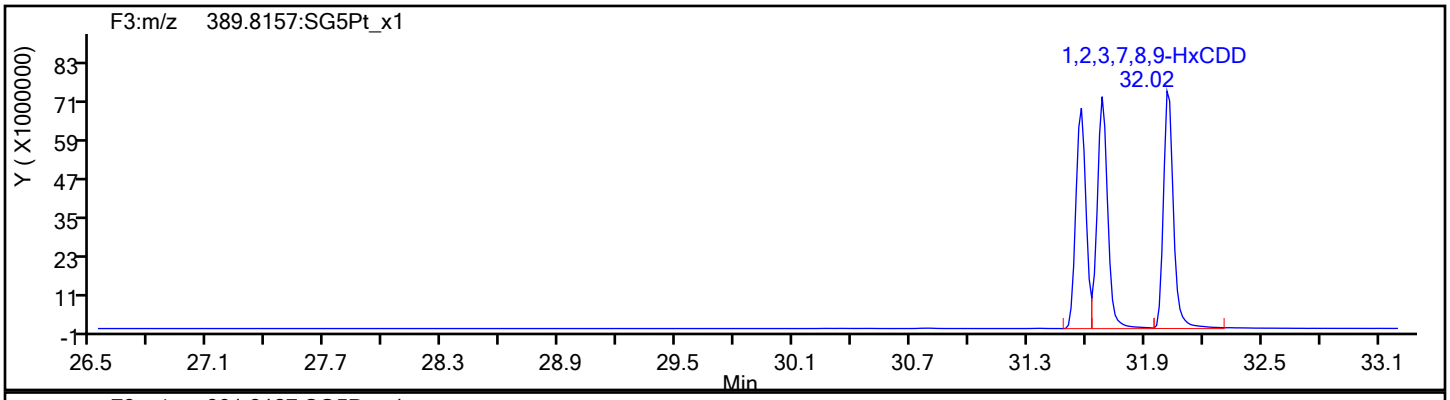

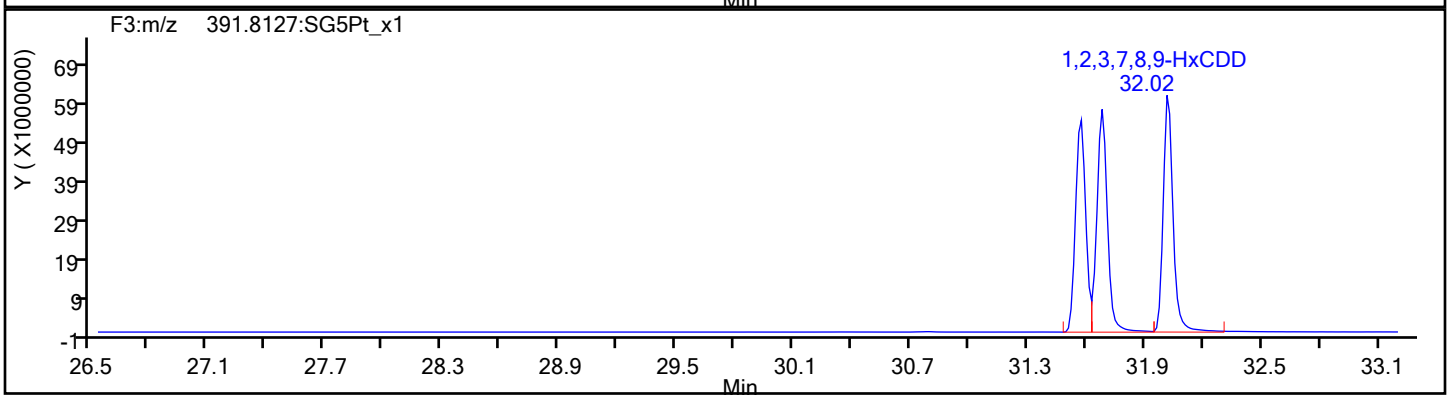

HxCDD Standards

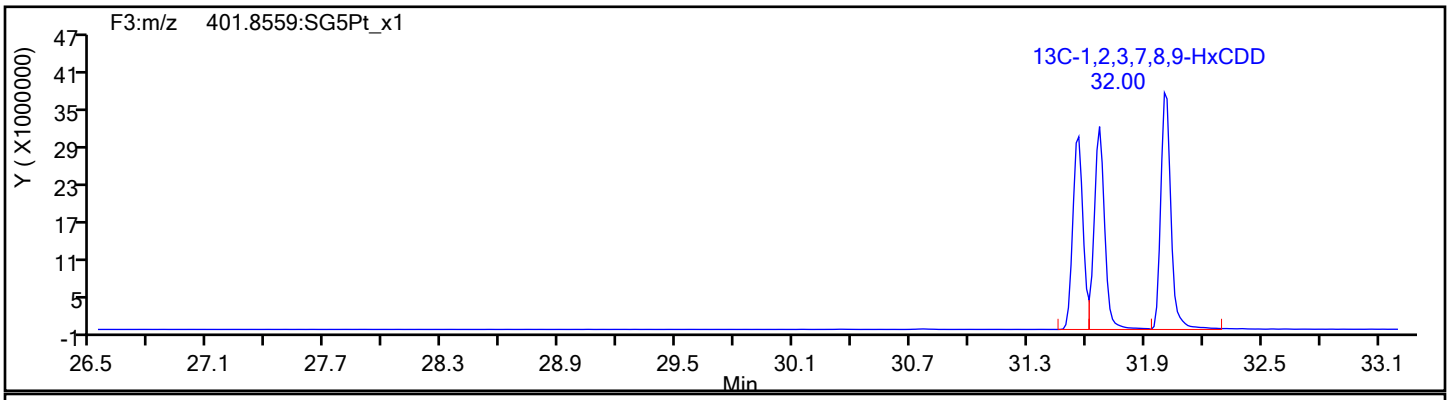

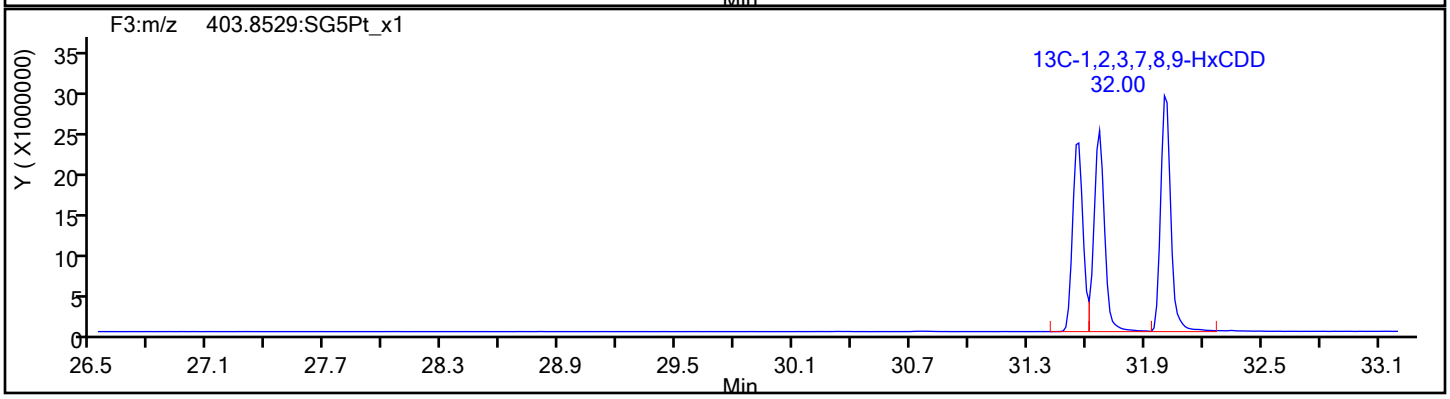

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Eurofins TestAmerica, Sacramento

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HpCDF

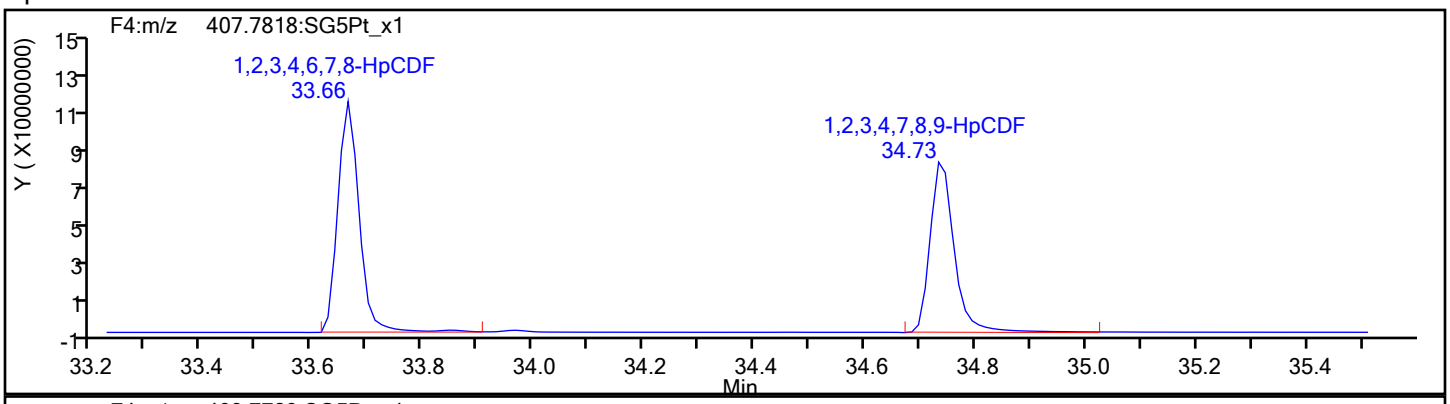

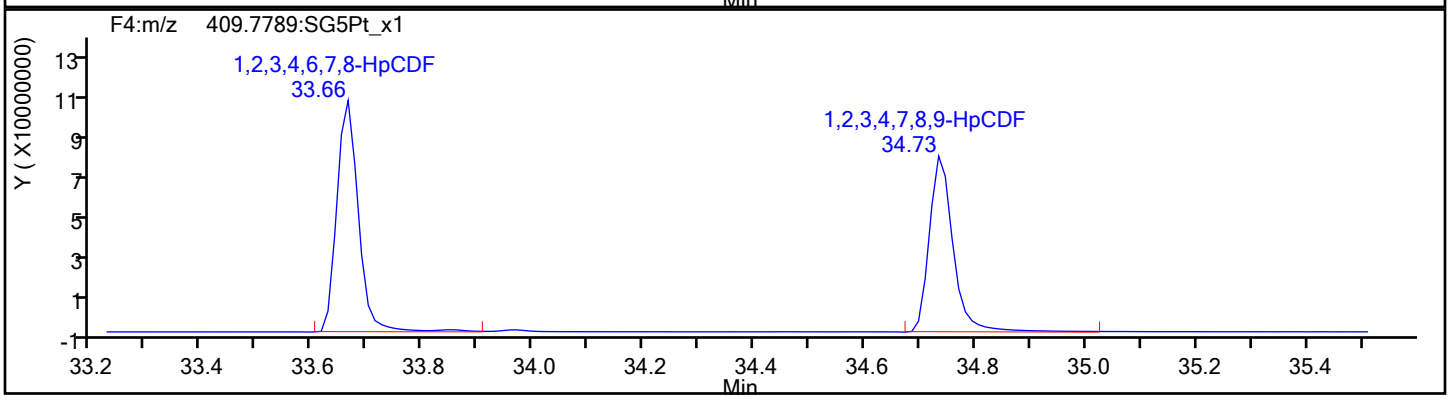

HpCDF Standards

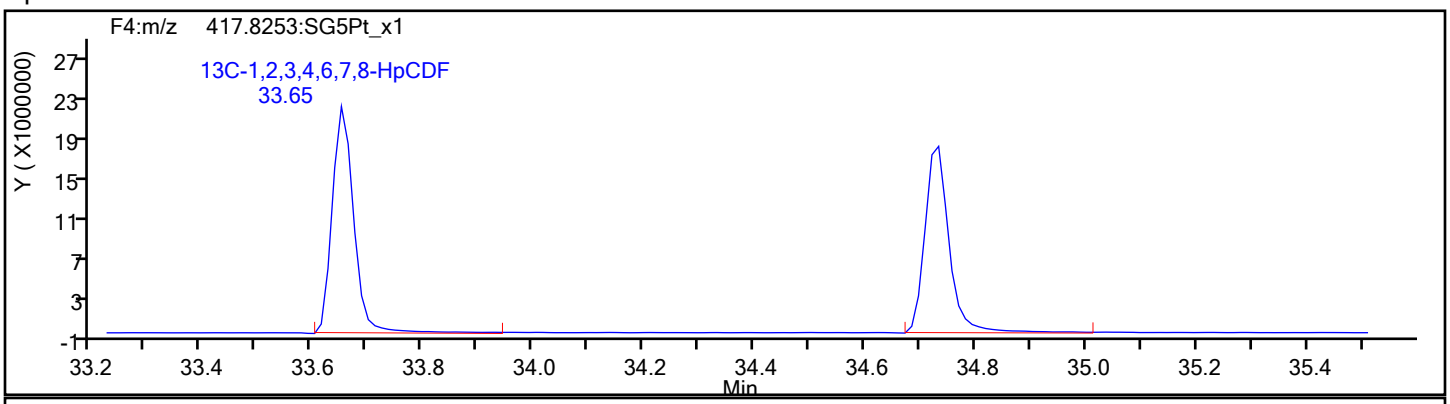

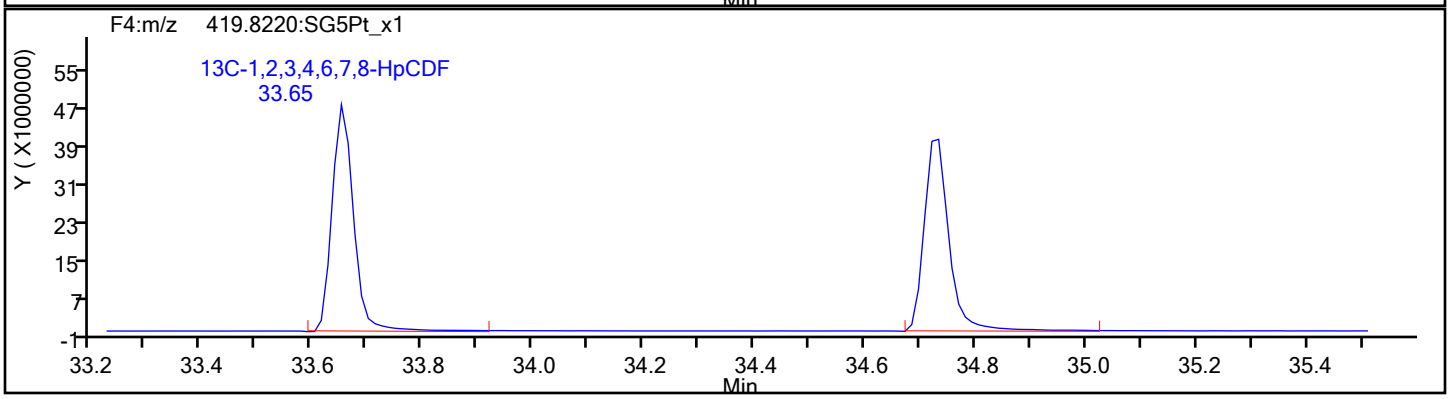

Report Date: 13-Dec-2019 08:02:47 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_9.d		
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Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
Worklist#:	345037	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

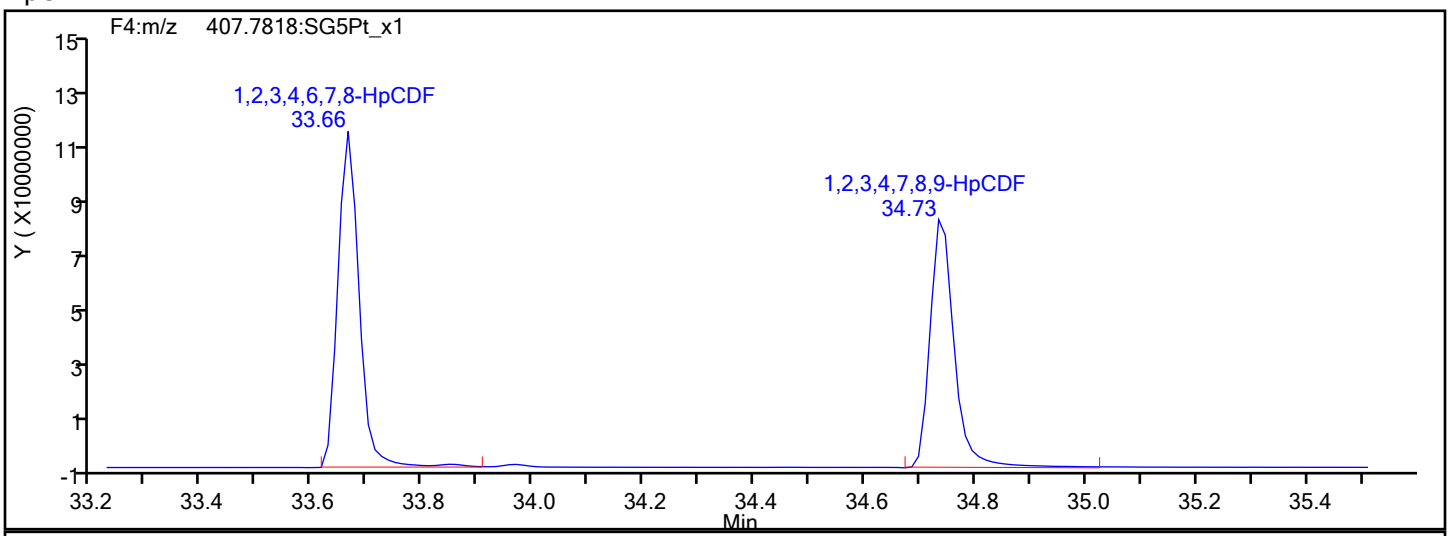

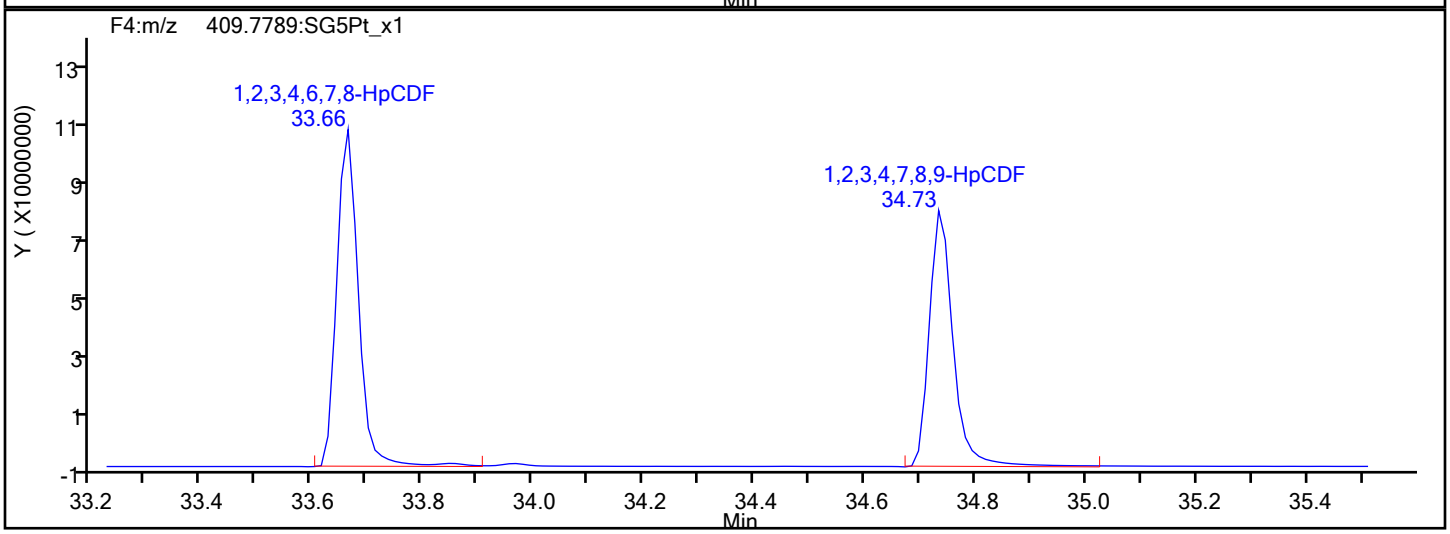

HpCDF Interference Mass

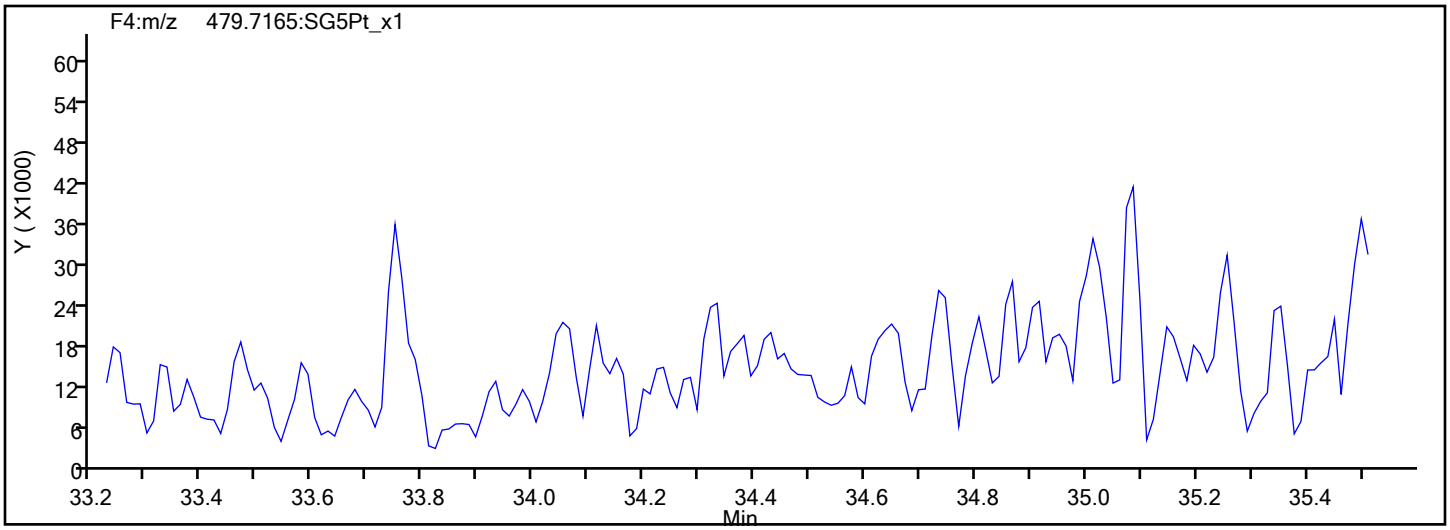

Report Date: 13-Dec-2019 08:02:47 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
Worklist#:	345037	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

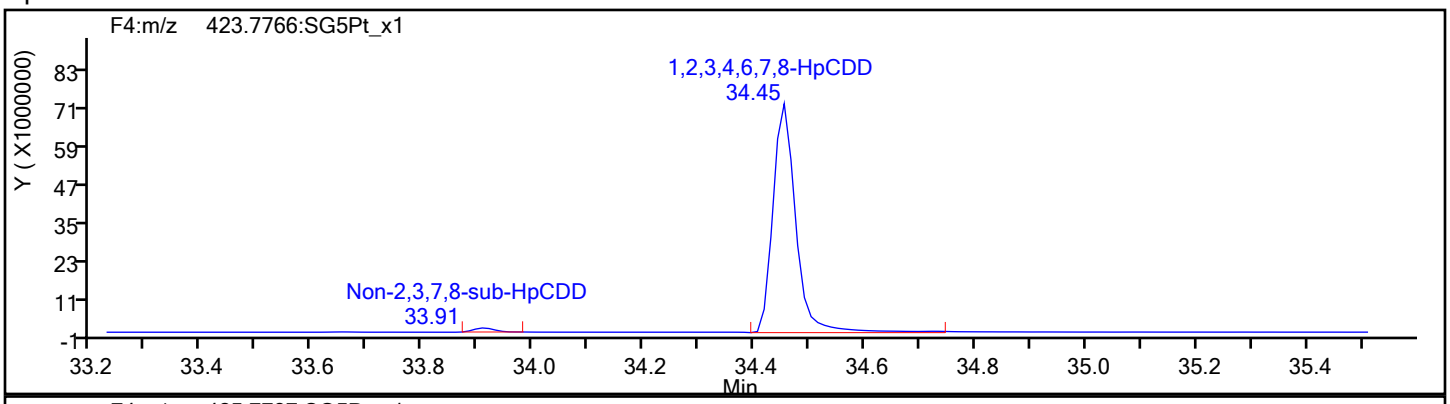

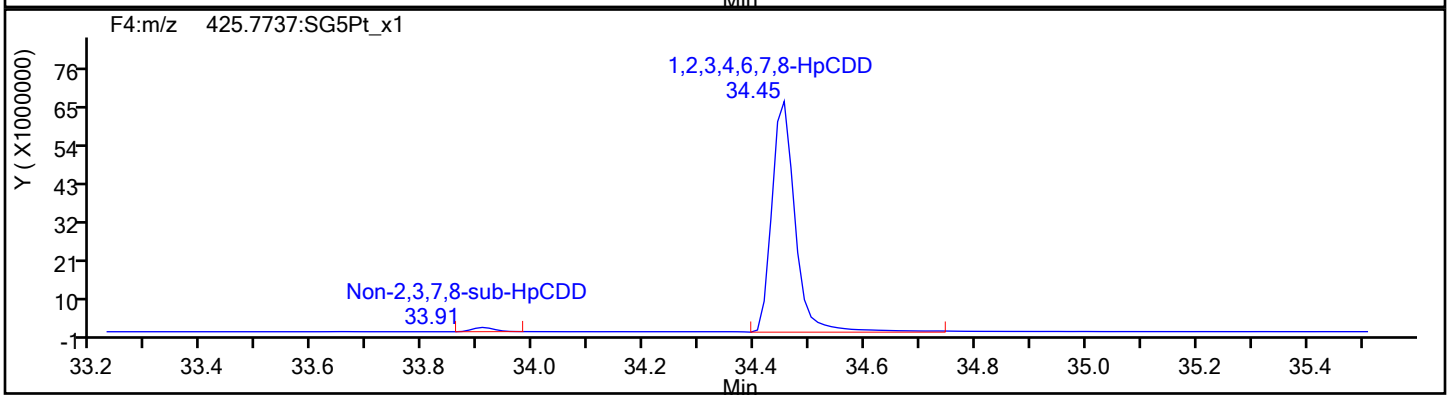

HpCDD Standards

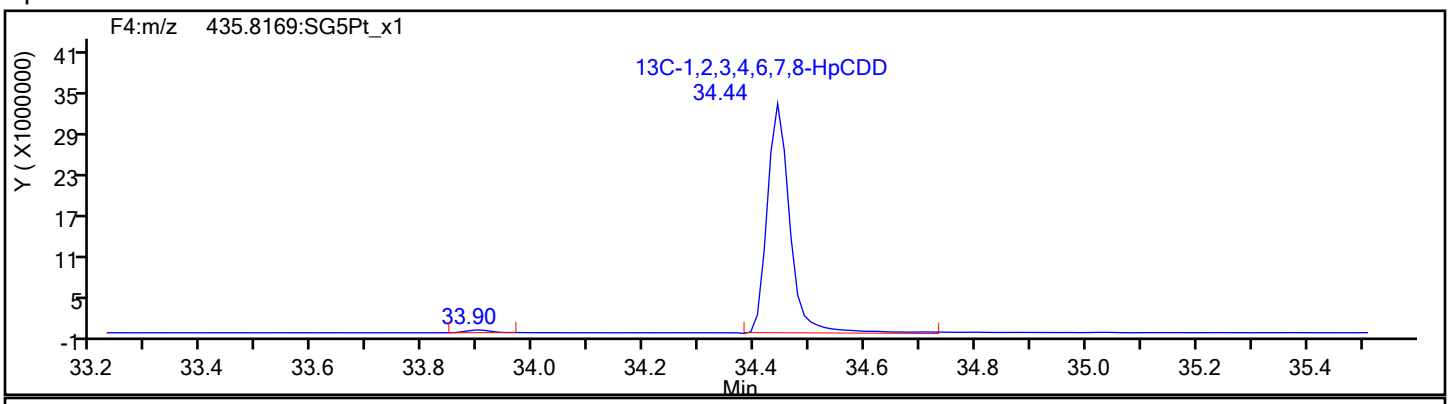

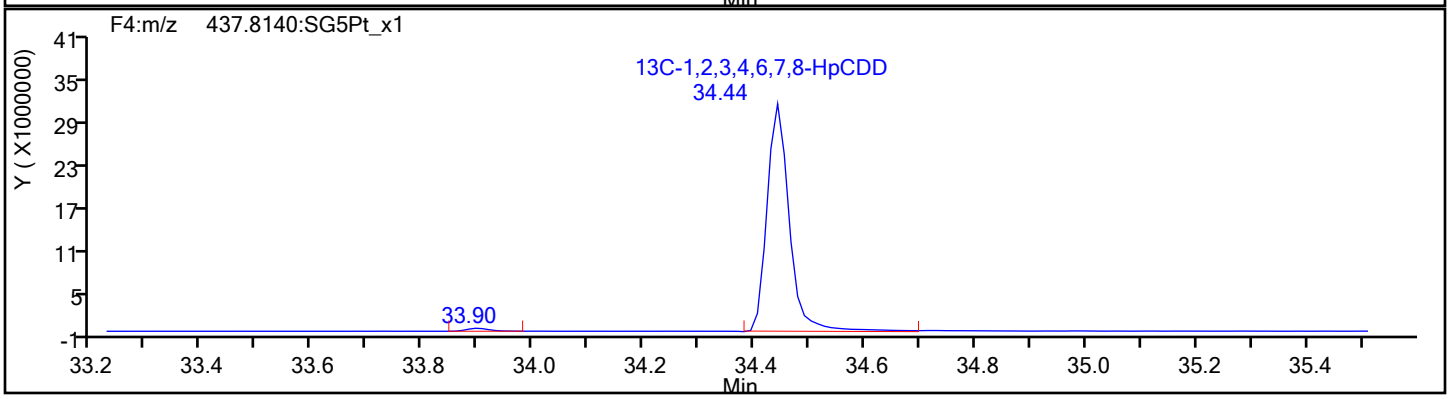

Report Date: 13-Dec-2019 08:02:47 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_9.d		
Injection Date:	12-Dec-2019 16:24:09	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
Worklist#:	345037	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

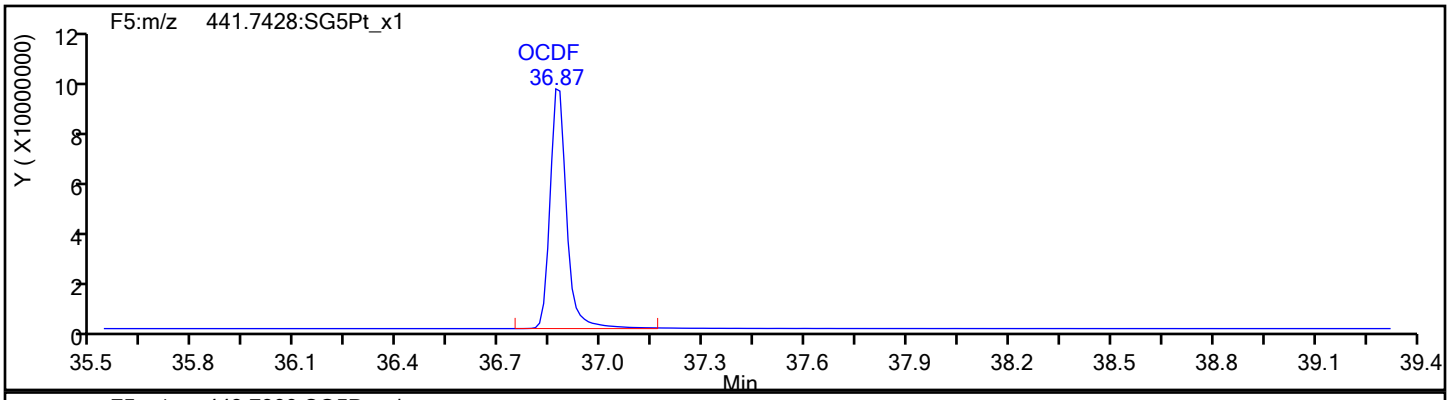

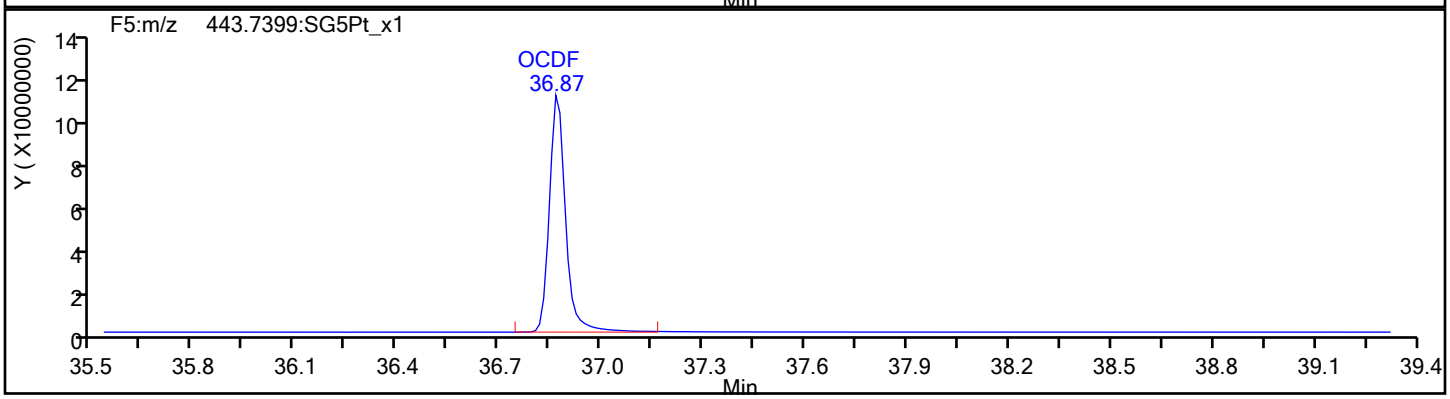

OCDF Standards

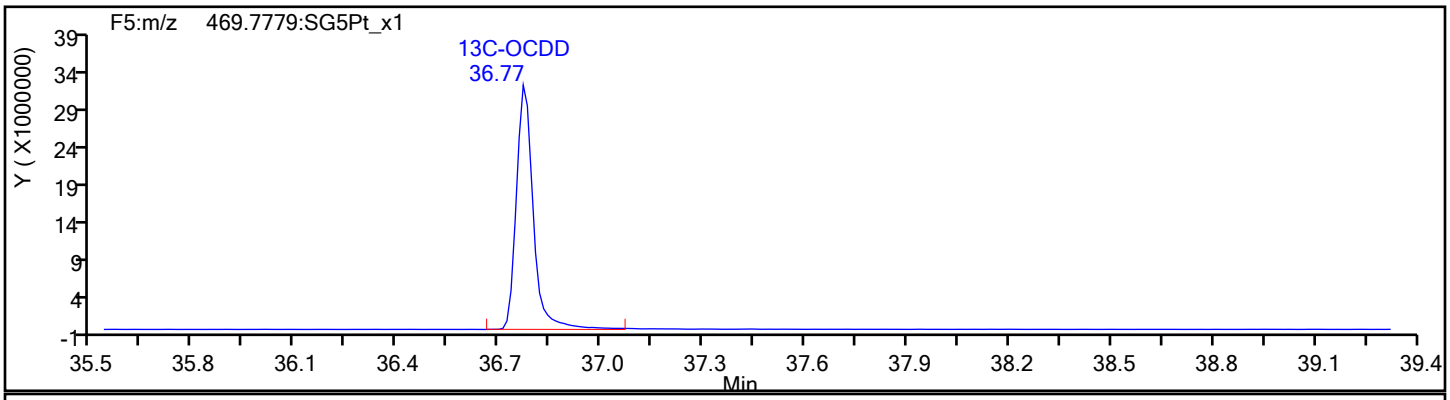

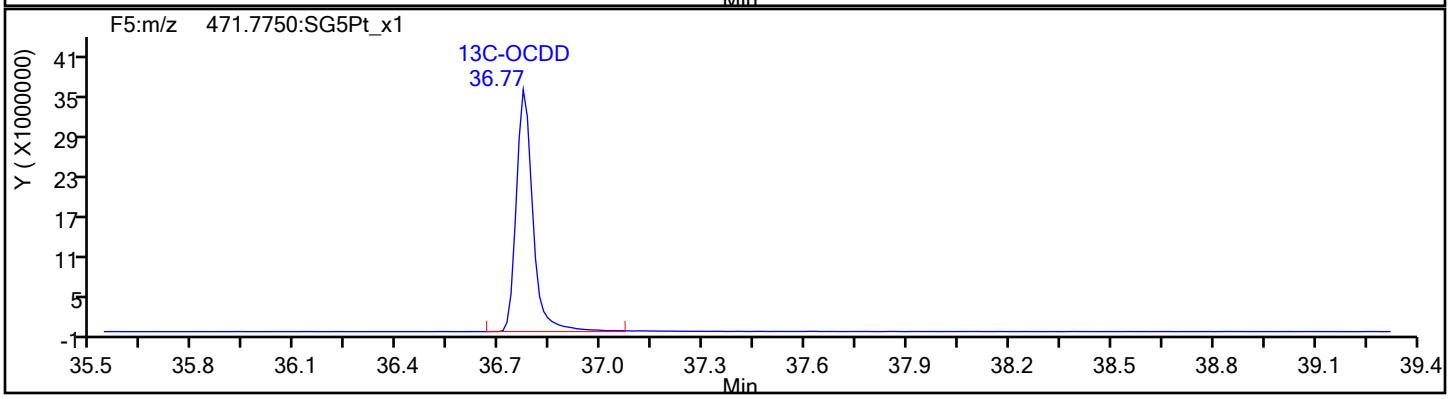

Report Date: 13-Dec-2019 08:02:47 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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Injection Date:	12-Dec-2019 16:24:09	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
Worklist#:	345037	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

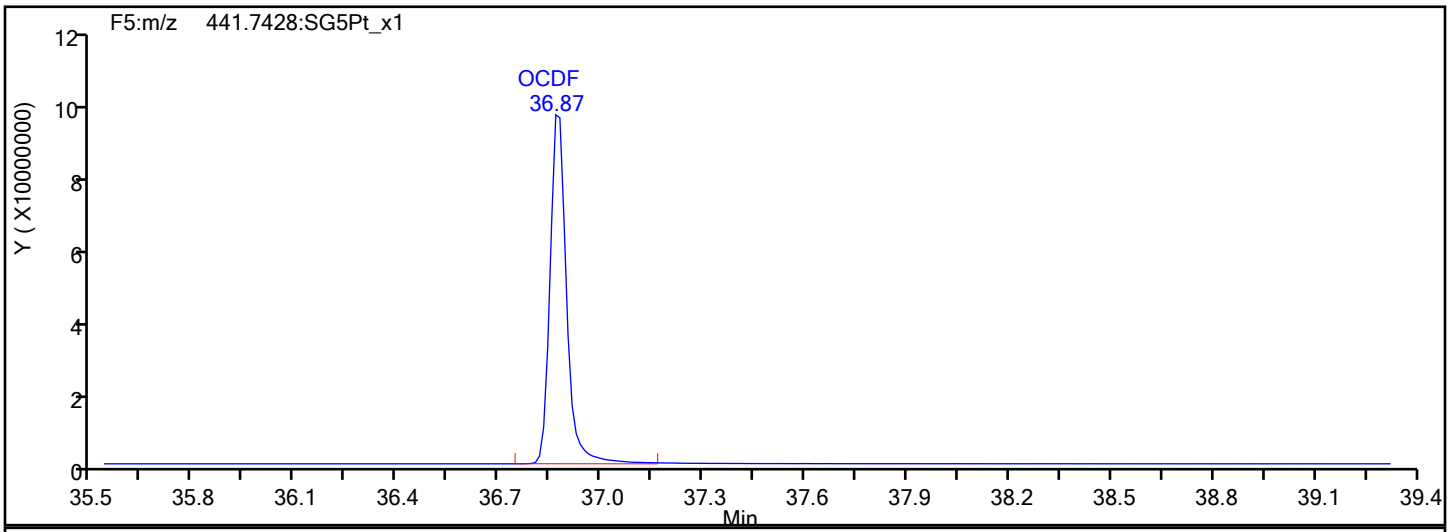

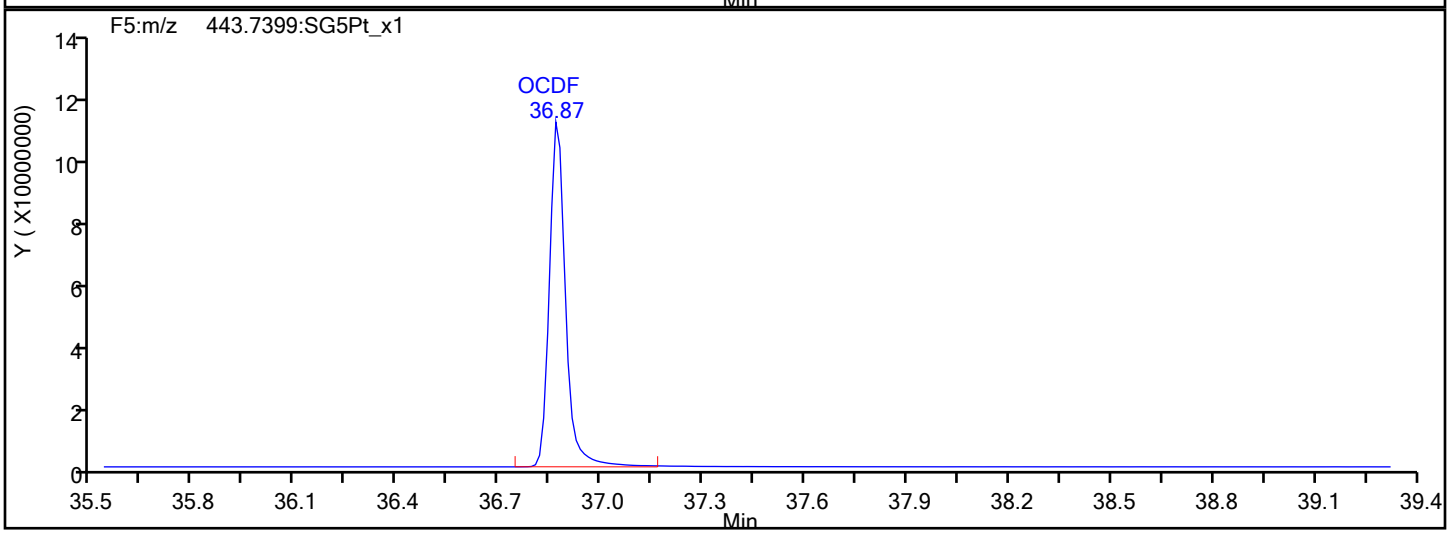

OCDF Interference Mass

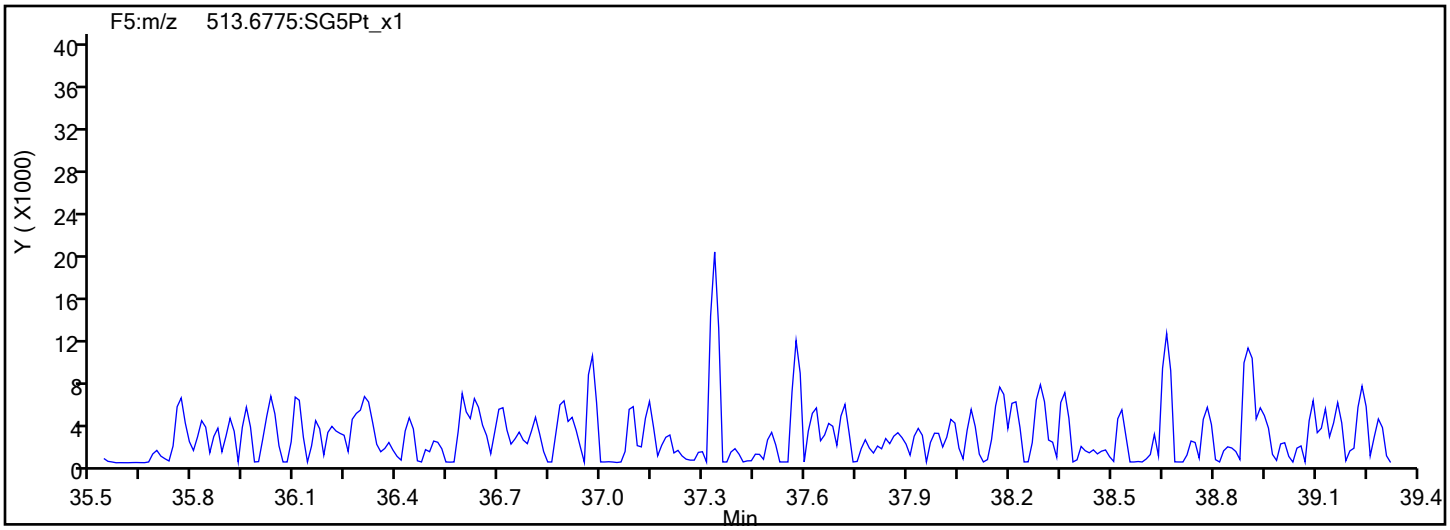

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
Worklist#:	345037	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

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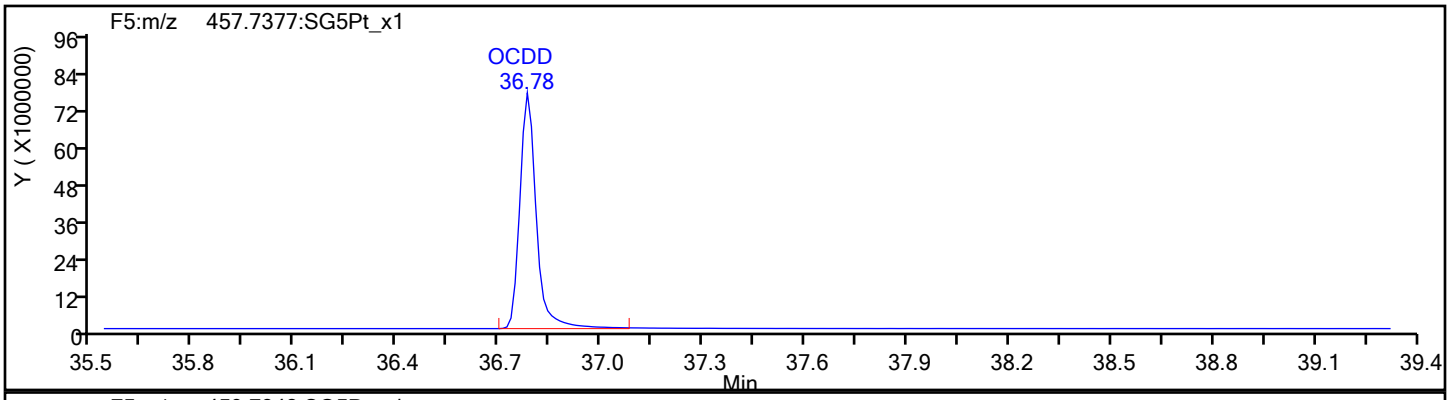

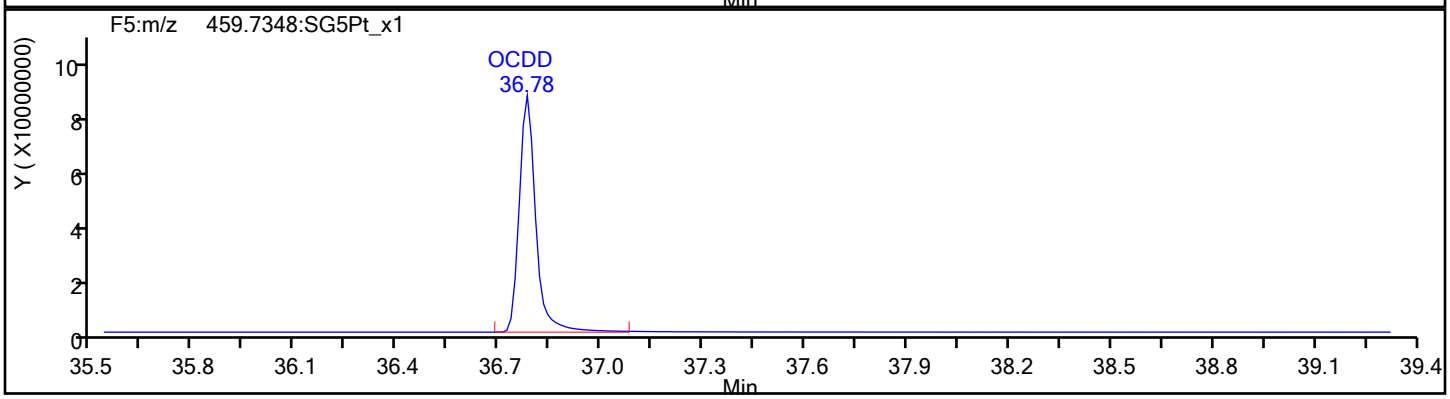

OCDD Standards

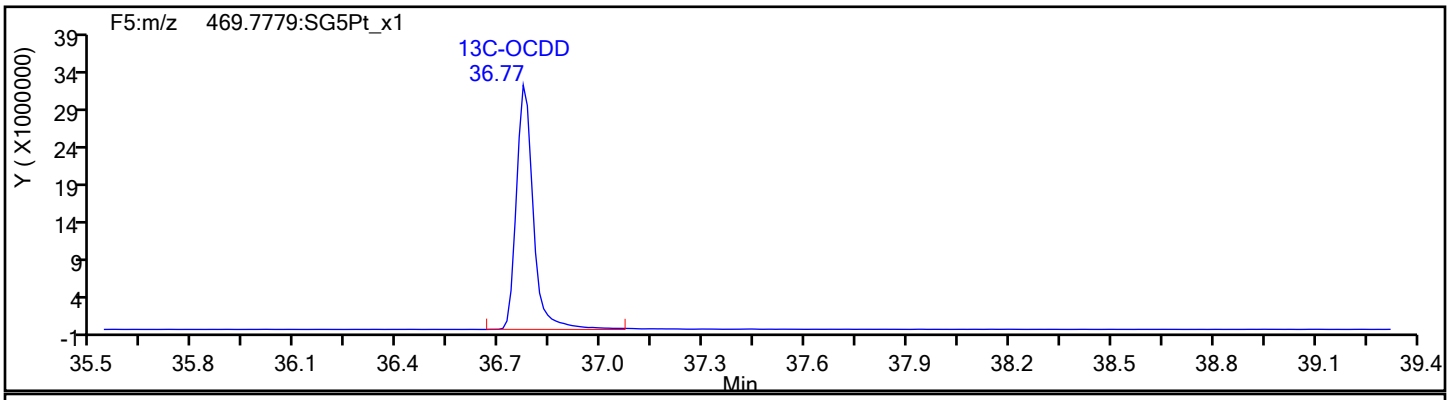

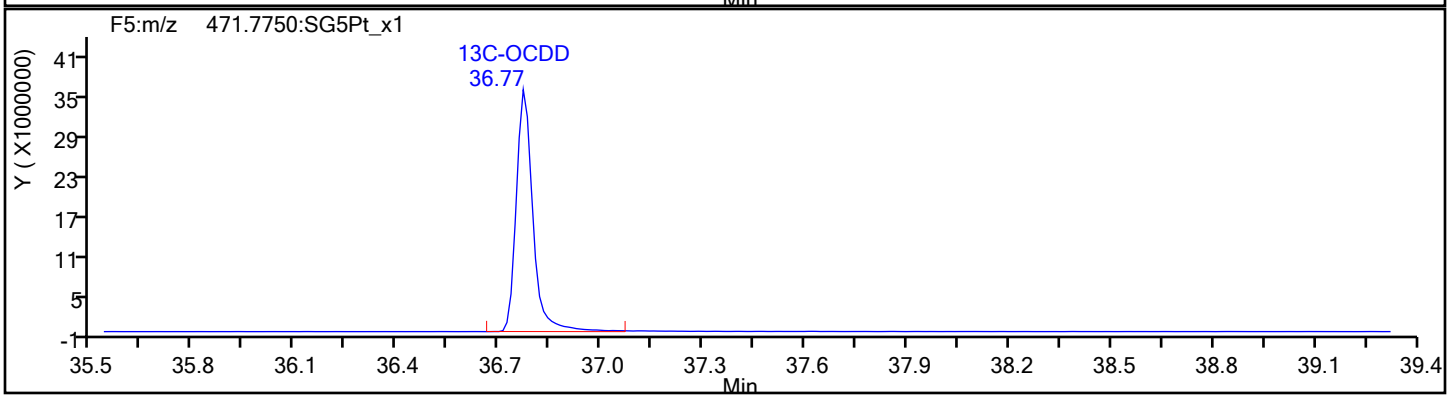

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Eurofins TestAmerica, Sacramento

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Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
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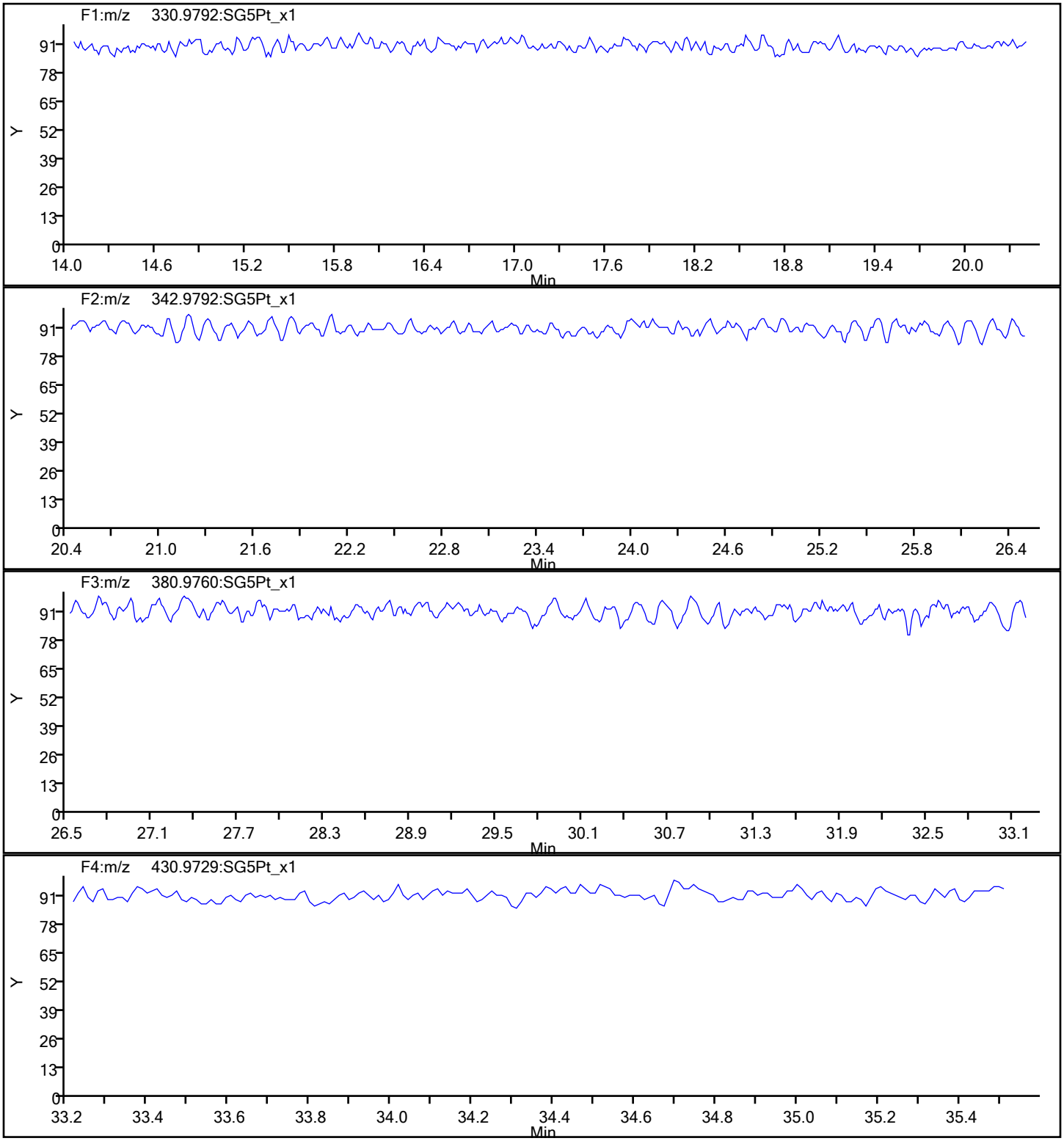

Report Date: 13-Dec-2019 08:02:48 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:	ICV		
Worklist#:	345037	Sample Line#:	9
Column Type:	DB-5	Column Dia:	0.32 mm

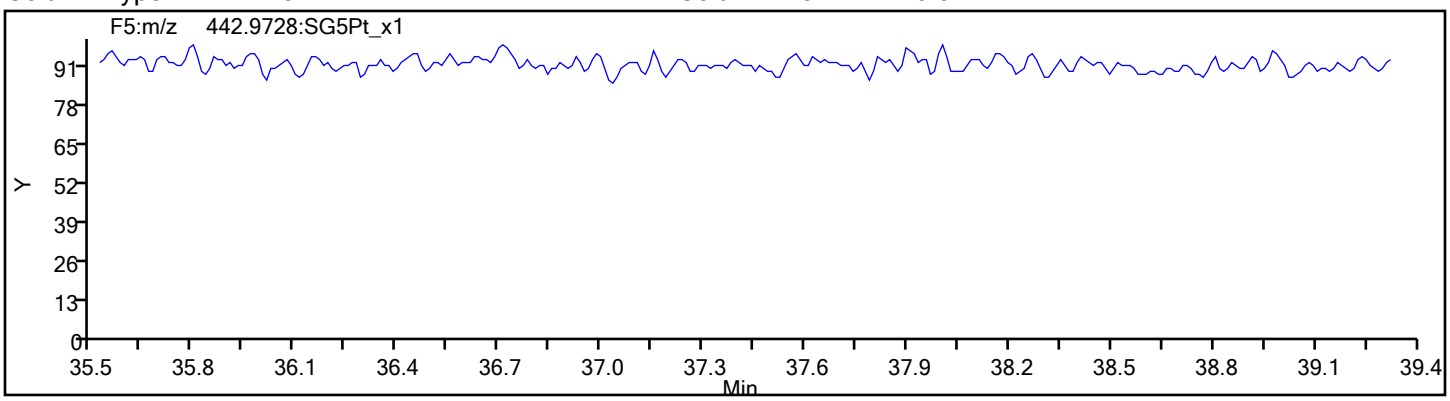

FORM VII
DIOXIN CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-100205-1

SDG No.:

Lab Sample ID: CCV 320-349283/2 Calibration Date: 01/06/2020 22:15

Instrument ID: 3D5 Calib Start Date: 12/12/2019 11:28

GC Column: DB-5 ID: 0.32(mm) Calib End Date: 12/12/2019 14:39

Lab File ID: 06JA20A3D5_2.d Conc. Units: pg/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%REC	%REC LIMITS
2,3,7,8-TCDF	AveID	0.9502	0.9237		9.72	10.0	97	84-120
2,3,7,8-TCDD	AveID	1.048	1.092		10.4	10.0	104	78-129
1,2,3,7,8-PeCDF	AveID	1.030	1.037		50.3	50.0	101	82-120
2,3,4,7,8-PeCDF	AveID	1.041	0.9907		47.6	50.0	95	82-122
1,2,3,7,8-PeCDD	AveID	1.086	1.077		49.6	50.0	99	78-130
1,2,3,4,7,8-HxCDF	AveID	1.147	1.145		49.9	50.0	100	90-112
1,2,3,6,7,8-HxCDF	AveID	1.145	1.169		51.1	50.0	102	88-114
2,3,4,6,7,8-HxCDF	AveID	1.173	1.191		50.8	50.0	102	88-114
1,2,3,4,7,8-HxCDD	AveID	1.093	1.030		47.1	50.0	94	78-128
1,2,3,6,7,8-HxCDD	AveID	1.043	1.016		48.7	50.0	97	78-128
1,2,3,7,8,9-HxCDD	AveID	1.207	1.073		44.5	50.0	89	82-122
1,2,3,7,8,9-HxCDF	AveID	1.172	1.192		50.9	50.0	102	90-112
1,2,3,4,6,7,8-HpCDF	AveID	1.480	1.497		50.6	50.0	101	90-110
1,2,3,4,6,7,8-HpCDD	AveID	1.054	1.057		50.2	50.0	100	86-116
1,2,3,4,7,8,9-HpCDF	AveID	1.293	1.323		51.2	50.0	102	86-116
OCDD	AveID	1.136	1.102		97.0	100	97	79-126
OCDF	AveID	1.394	1.308		93.8	100	94	63-159
13C-2,3,7,8-TCDF	Ave	1.416	1.411		99.7	100	100	71-140
13C-2,3,7,8-TCDD	Ave	0.9751	0.9519		97.6	100	98	82-121
13C-1,2,3,7,8-PeCDF	Ave	1.179	1.051		89.2	100	89	76-130
13C-2,3,4,7,8-PeCDF	Ave	1.131	1.047		92.6	100	93	77-130
13C-1,2,3,7,8-PeCDD	Ave	0.7572	0.6135		81.0	100	81	62-160
13C-1,2,3,4,7,8-HxCDF	Ave	1.104	1.210		110	100	110	76-131
13C-1,2,3,6,7,8-HxCDF	Ave	1.147	1.223		107	100	107	70-143
13C-2,3,4,6,7,8-HxCDF	Ave	1.077	1.201		111	100	111	73-137
13C-1,2,3,4,7,8-HxCDD	Ave	0.7962	0.8539		107	100	107	85-117
13C-1,2,3,6,7,8-HxCDD	Ave	0.8720	0.9820		113	100	113	85-118
13C-1,2,3,7,8,9-HxCDF	Ave	1.011	0.9739		96.3	100	96	74-135
13C-1,2,3,4,6,7,8-HpCDF	Ave	0.7577	0.8544		113	100	113	78-129
13C-1,2,3,4,6,7,8-HpCDD	Ave	0.7058	0.7508		106	100	106	72-138
13C-1,2,3,4,7,8,9-HpCDF	Ave	0.6941	0.7226		104	100	104	77-129
13C-OCDD	Ave	0.4603	0.4835		210	200	105	48-208
37Cl4-2,3,7,8-TCDD	Ave	1.348	1.492		11.1	10.0	111	79-127

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #	User
1	06JA20A3D5_1	WDM HRDXNCP_00040	WDM 010620A	Tray1:1	DXN		ALM
2	06JA20A3D5_2	CCV HRDXNL4_00086	CCV 010620B	Tray1:2	DXN		ALM
3	06JA20A3D5_3	SB Solvent Blank C-14	SB 010620A	Tray1:3			ALM
4	06JA20A3D5_4	MB 320-348771/1-A	MB 320-348771/1-A	Tray1:4	1613B/Water	D121	ALM
5	06JA20A3D5_5	LCS 320-348771/2-A	LCS 320-348771/2-A	Tray1:5	1613B/Water		ALM
6	06JA20A3D5_6	LCSD 320-348771/3-A	LCSD 320-348771/3-A	Tray1:6	1613B/Water		ALM
7	06JA20A3D5_7	180-100205-C-1-B	180-100205-C-1-B	Tray1:7	1613B/Water		ALM
8	06JA20A3D5_8	180-100205-C-3-B	180-100205-C-3-B	Tray1:8	1613B/Water		ALM
9	06JA20A3D5_9	180-100205-C-5-B	180-100205-C-5-B	Tray1:9	1613B/Water		ALM
10	06JA20A3D5_10	LCS 320-340719/2-A RA	LCS 320-340719/2-A	Tray1:10	8290/Solid	63	ALM
11	06JA20A3D5_11	460-199511-A-16-A (20x)	460-199511-A-16-A (20x)	Tray1:11	8290A/Solid	D121	ALM
12	06JA20A3D5_12	SB Solvent Blank C-14	SB 010620B	Tray1:3			ALM
13	06JA20A3D5_13	CCV HRDXNL4_00086	CCV 010620C	Tray1:2	DXN		ALM
14	06JA20A3D5_14	WDM HRDXNCP_00040	WDM 010620B	Tray1:1	DXN		ALM
15	06JA20A3D5_15	SB Solvent Blank C-14	SB 010620C	Tray1:3			ALM

Logfile checked
01/07/20 SMA

File: Experiment: Dioxin3D5.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed: Monday, January 06, 2020 21:17:03 Pacific Standard Time

M 292.9824 R 13440

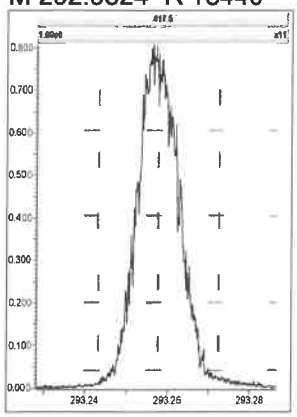

M 304.9824 R 14617

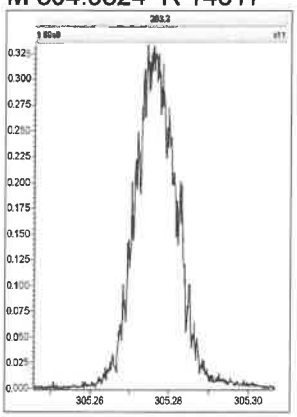

M 318.9792 R 13892

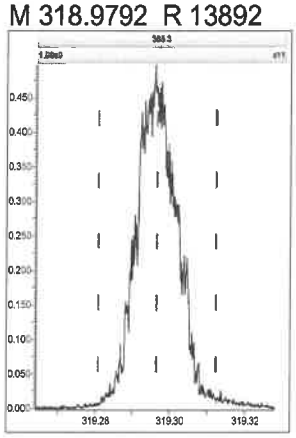

M 330.9792 R 13022

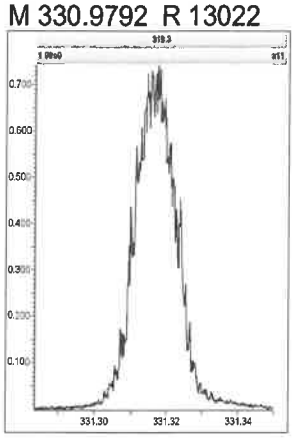

M 342.9792 R 13228

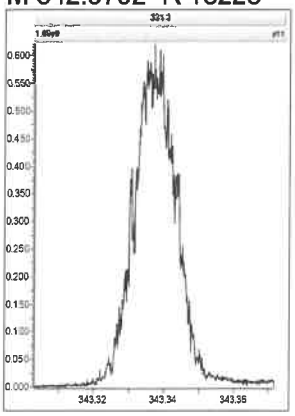

M 354.9792 R 13088

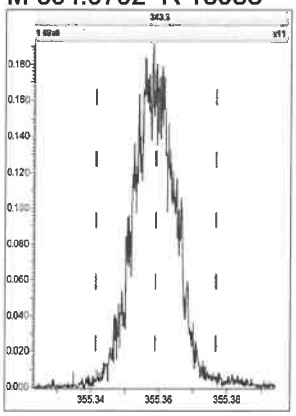

M 366.9792 R 13018

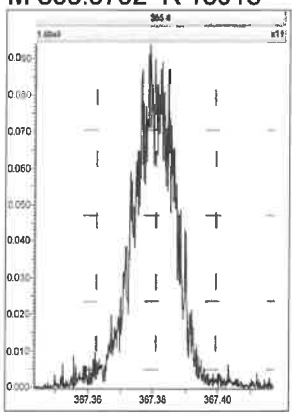

M 380.9760 R 12951

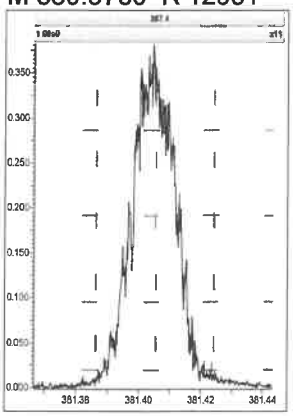

M 392.9760 R 12132

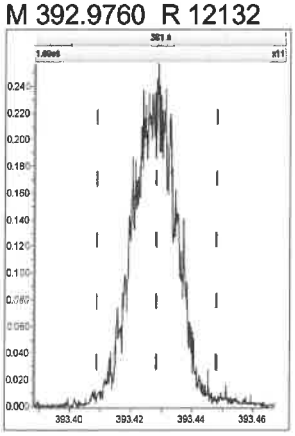

M 404.9760 R 12954

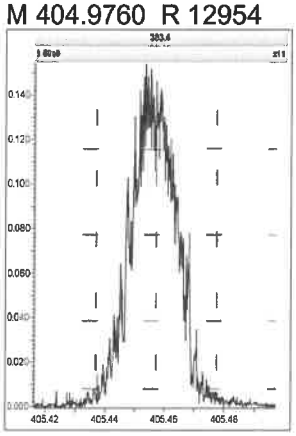

M 416.9760 R 14451

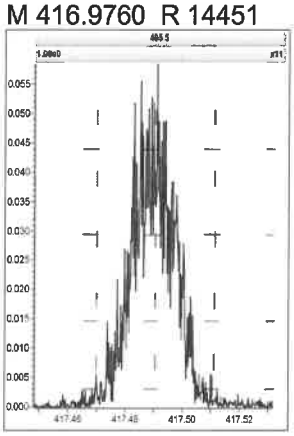

File: Experiment: Dioxin3D5.exp Reference: Pfk.ref Function: 2 @ 200 (ppm)

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M 318.9792 R 12757

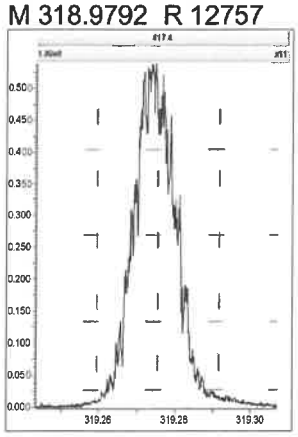

M 330.9792 R 13090

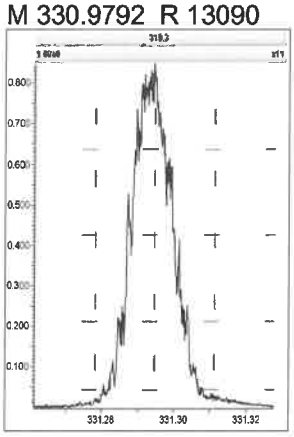

M 342.9792 R 13157

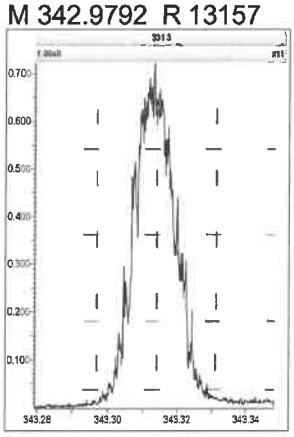

M 354.9792 R 13439

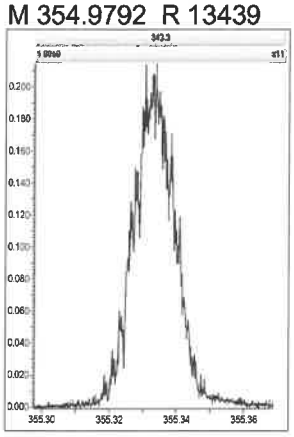

M 366.9792 R 13437

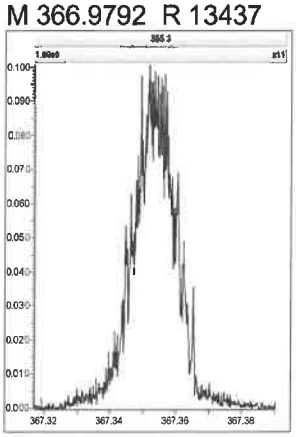

M 380.9760 R 13085

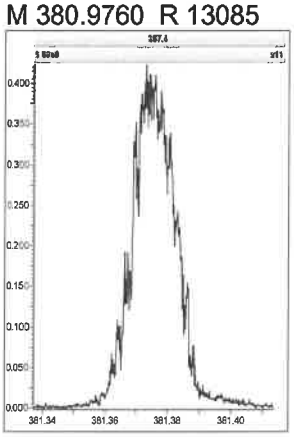

M 392.9760 R 13228

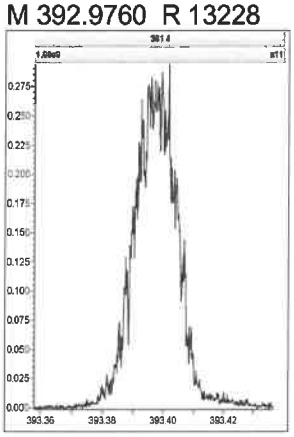

M 404.9760 R 12135

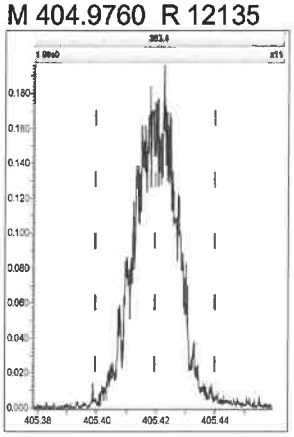

M 416.9760 R 14122

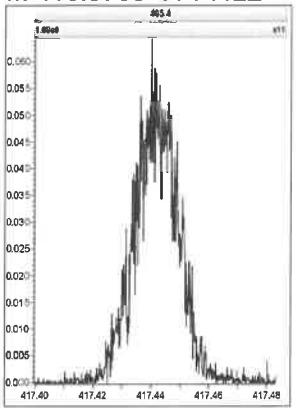

File: Experiment: Dioxin3D5.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

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M 366.9792 R 13733

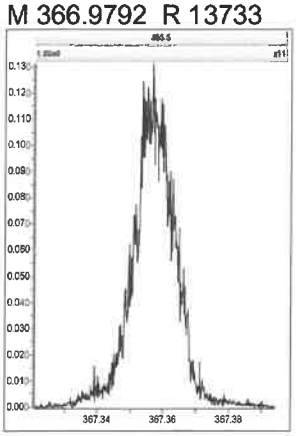

M 380.9760 R 12950

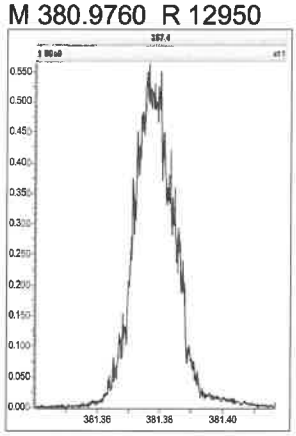

M 392.9760 R 13369

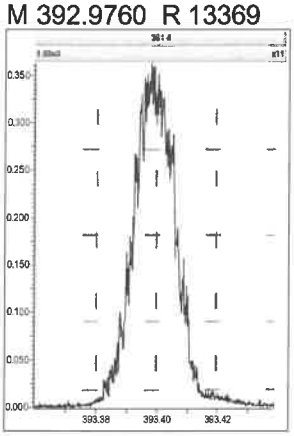

M 404.9760 R 13966

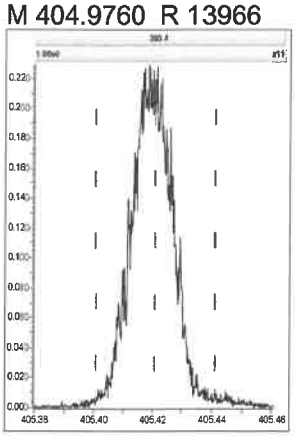

M 416.9760 R 14122

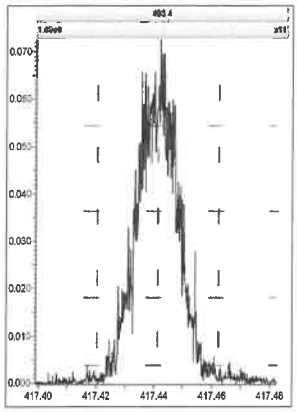

M 430.9728 R 12688

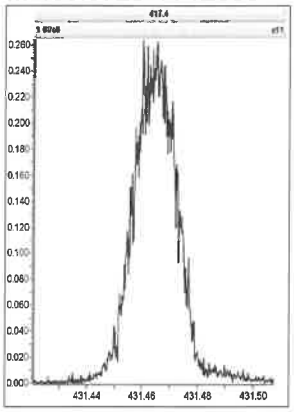

M 442.9728 R 13018

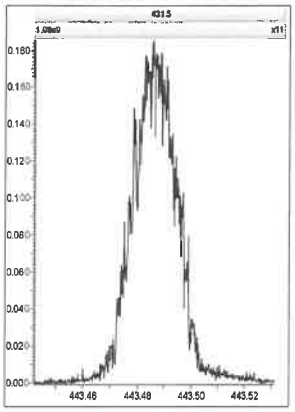

M 454.9728 R 12255

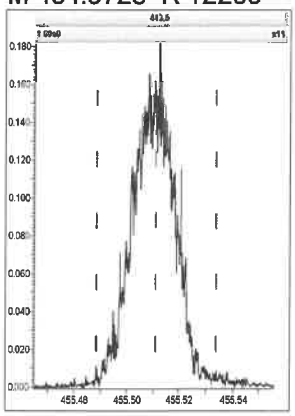

File: Experiment: Dioxin3D5.exp Reference: Pfk.ref Function: 4 @ 200 (ppm)

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M 380.9760 R 13087

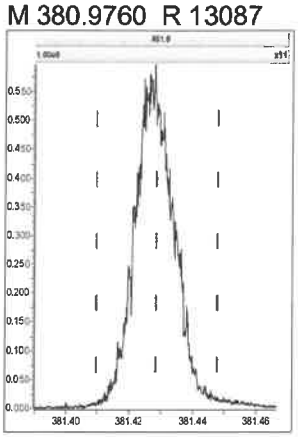

M 392.9760 R 13584

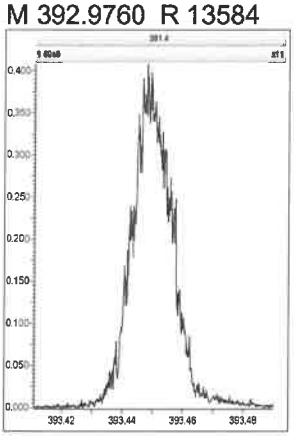

M 404.9760 R 12817

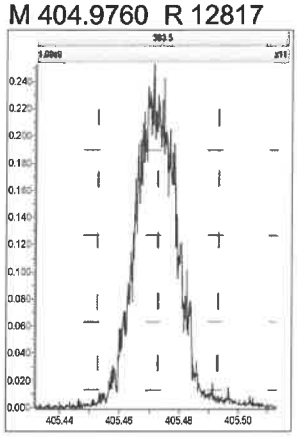

M 416.9760 R 13889

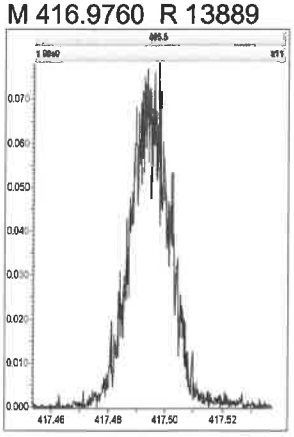

M 430.9728 R 12953

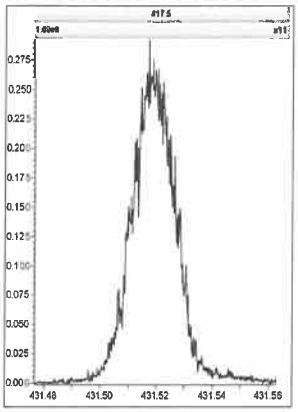

M 442.9728 R 12135

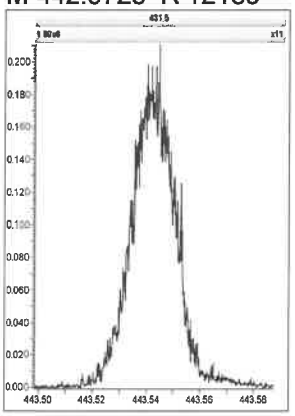

M 454.9728 R 11846

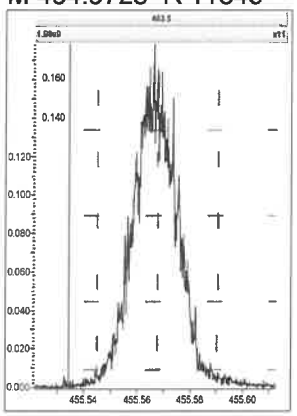

M 466.9728 R 13022

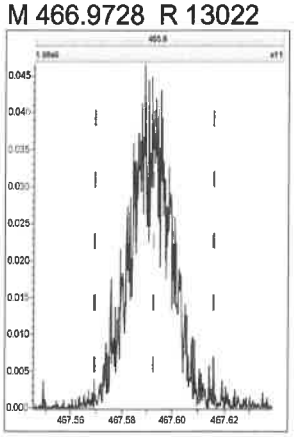

M 480.9696 R 13022

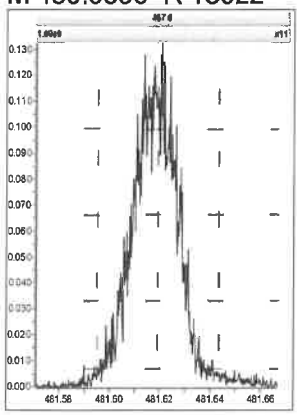

File: Experiment: Dioxin3D5.exp Reference: Pfk.ref Function: 5 @ 200 (ppm)

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M 380.9760 R 12624

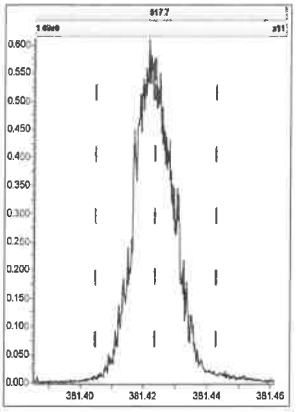

M 392.9760 R 12497

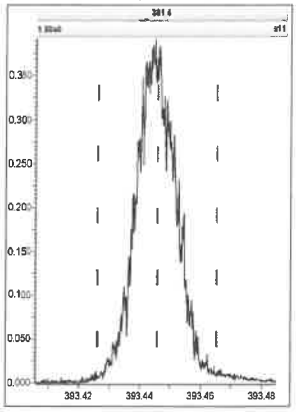

M 404.9760 R 13223

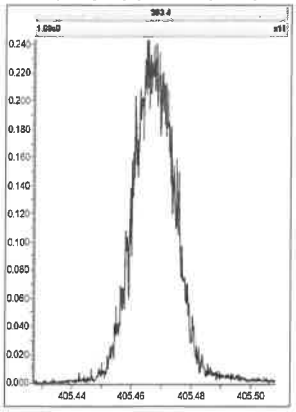

M 416.9760 R 14793

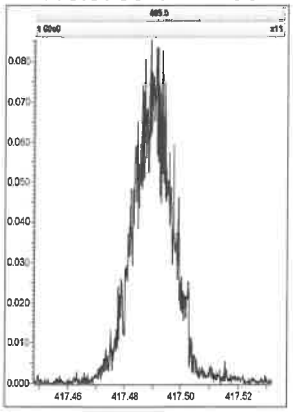

M 430.9728 R 13157

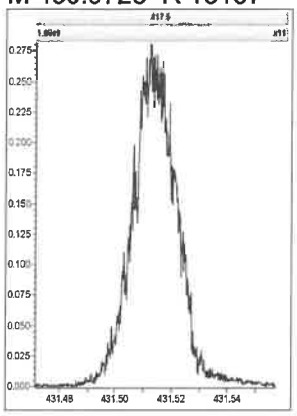

M 442.9728 R 12379

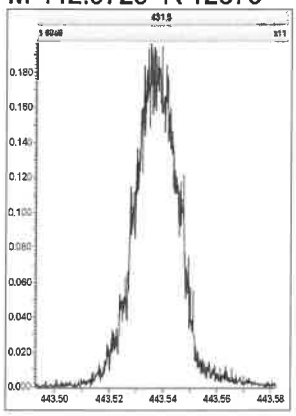

M 454.9728 R 11959

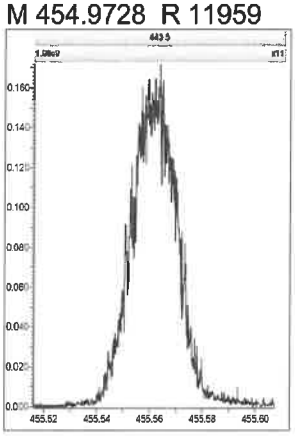

M 466.9728 R 14536

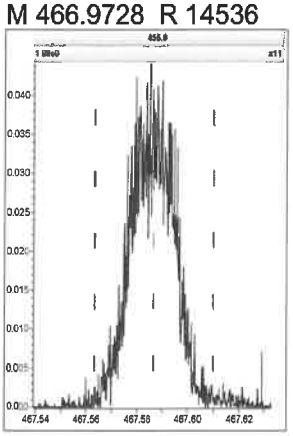

M 480.9696 R 11734

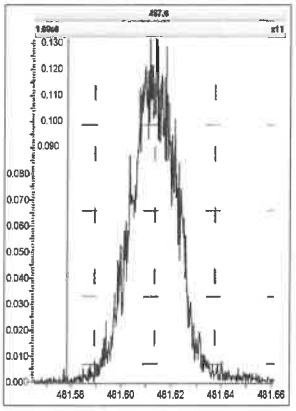

M 492.9696 R 12563

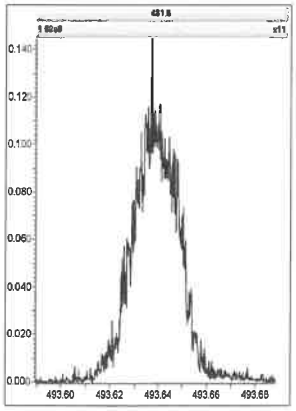

M 504.9696 R 12437

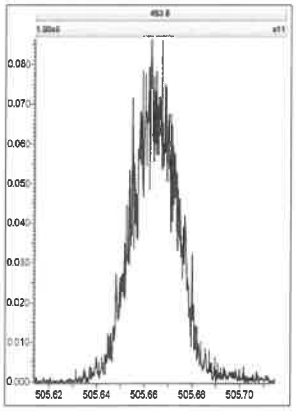

M 516.9697 R 15154

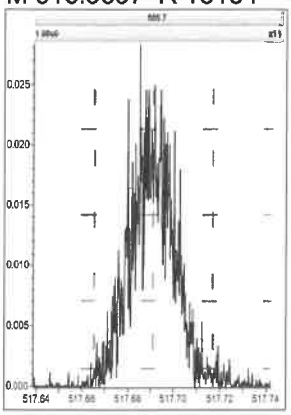

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M 292.9824 R 13660

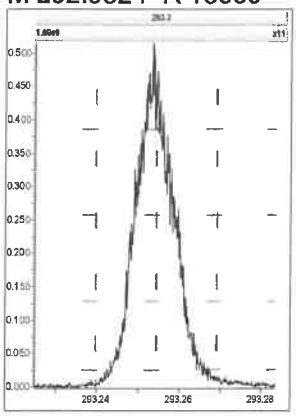

M 304.9824 R 14583

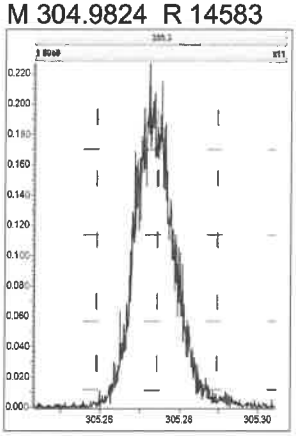

M 318.9792 R 15031

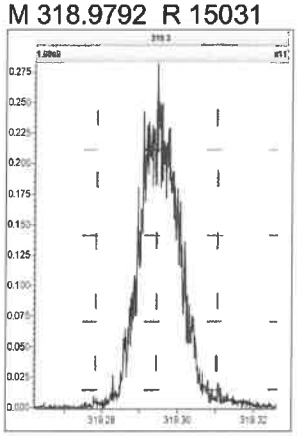

M 330.9792 R 14326

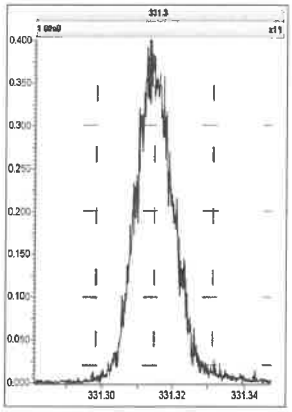

M 342.9792 R 13158

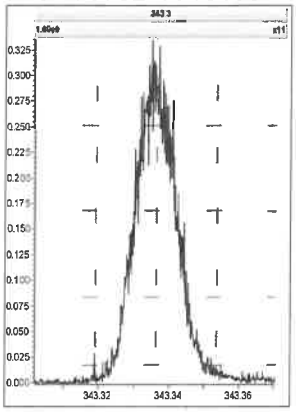

M 354.9792 R 13892

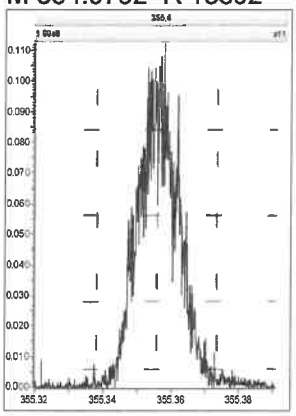

M 366.9792 R 15576

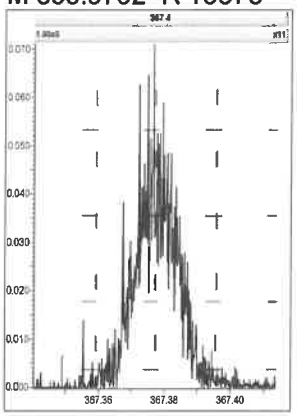

M 380.9760 R 12965

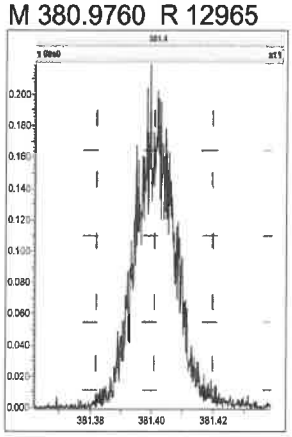

M 392.9760 R 13196

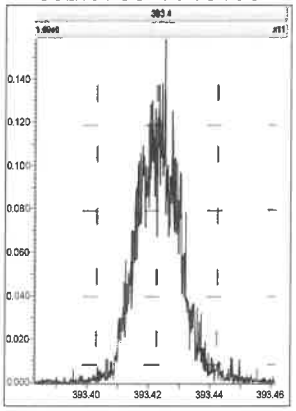

M 404.9760 R 14705

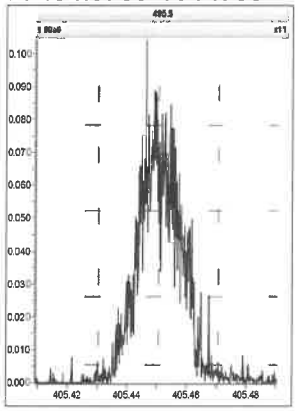

M 416.9760 R 18180

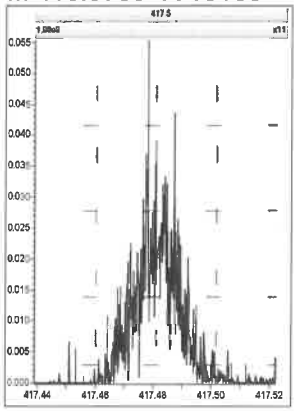

M 318.9792 R 15094

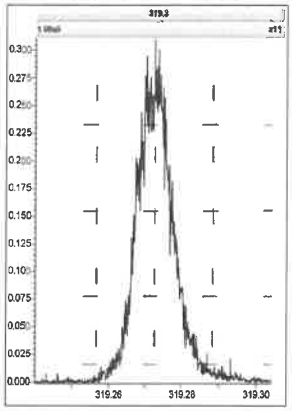

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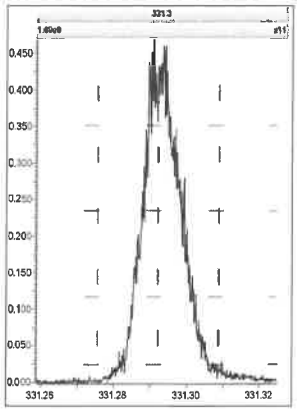

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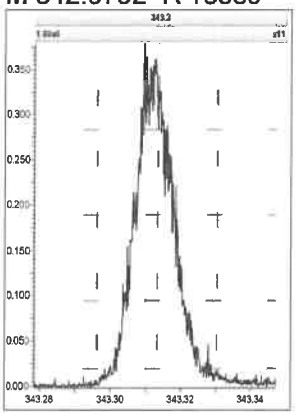

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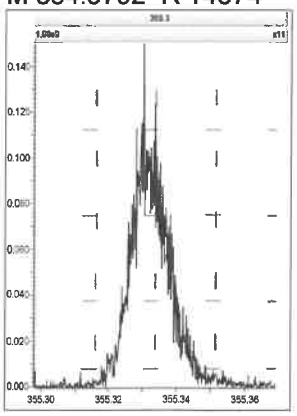

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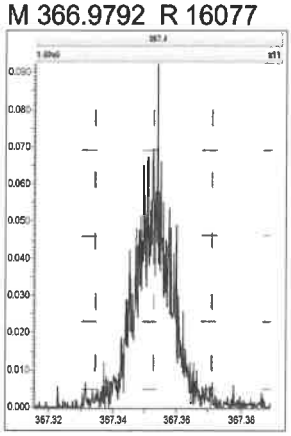

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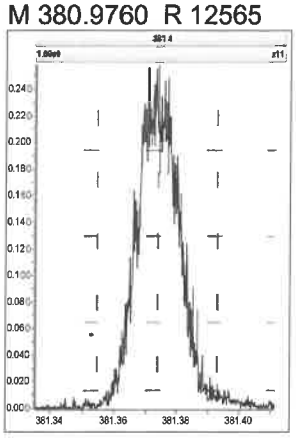

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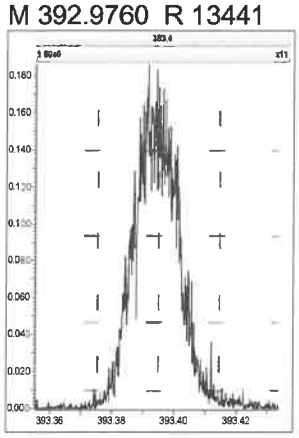

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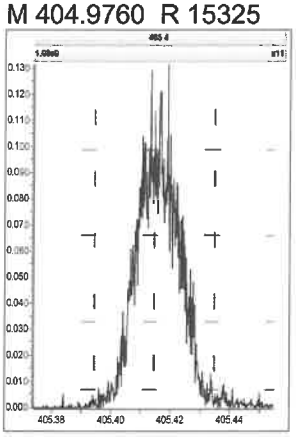

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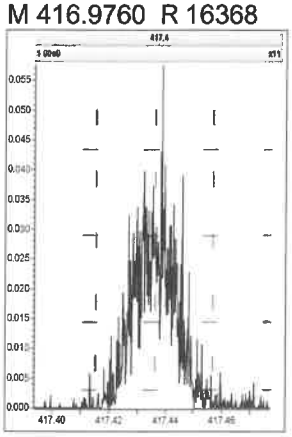

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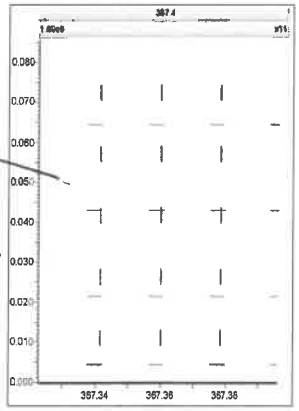

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1-7-2020

M 380.9760 R 13667

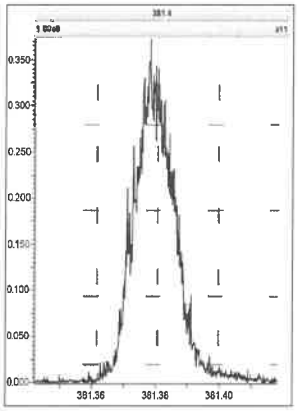

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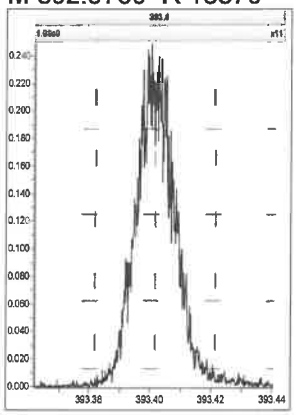

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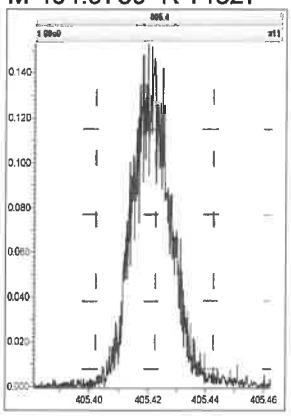

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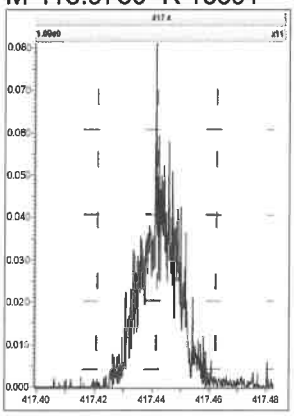

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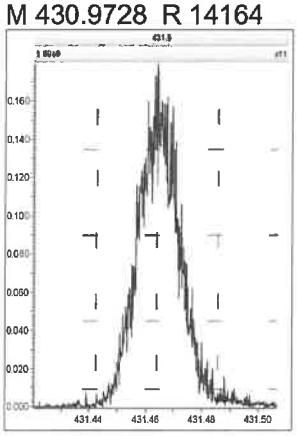

M 442.9728 R 14527

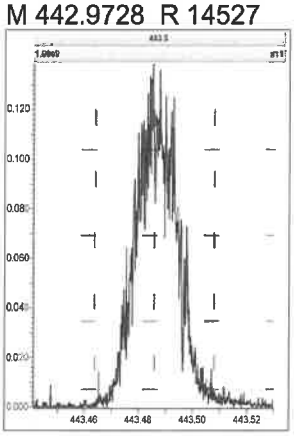

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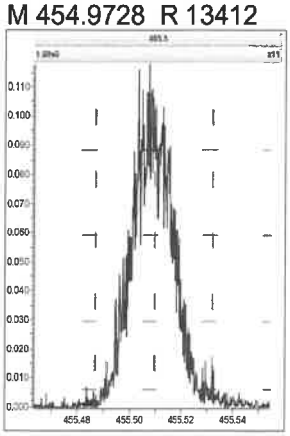

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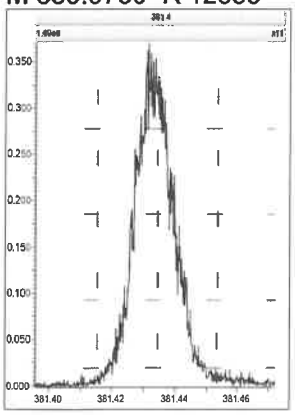

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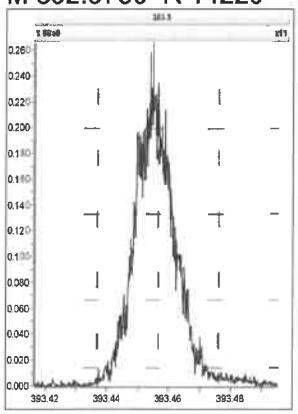

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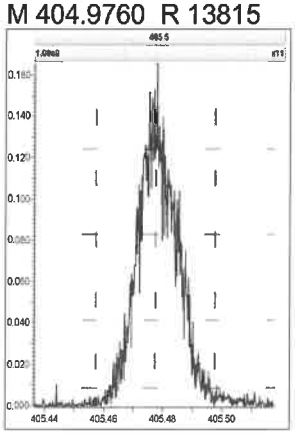

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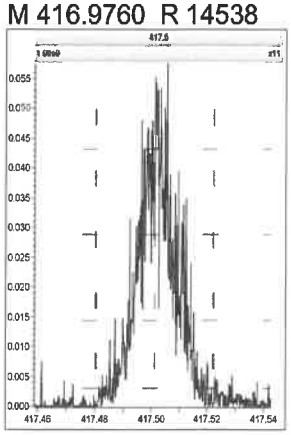

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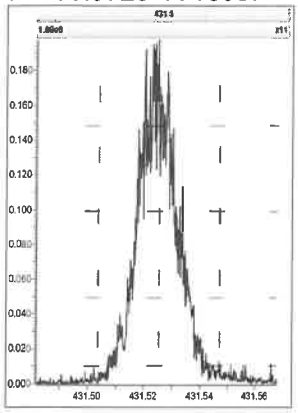

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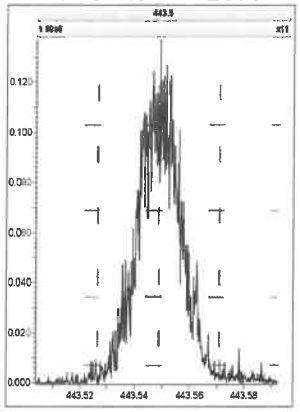

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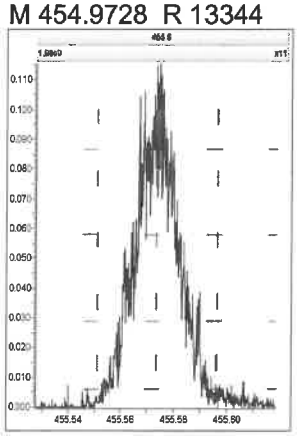

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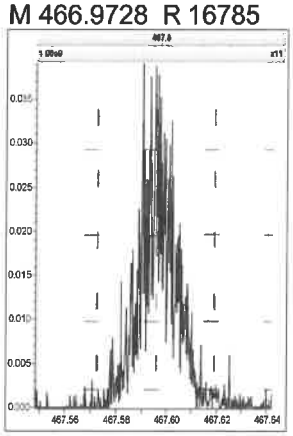

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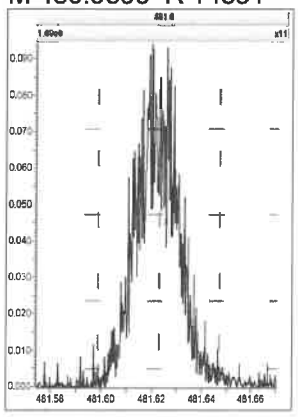

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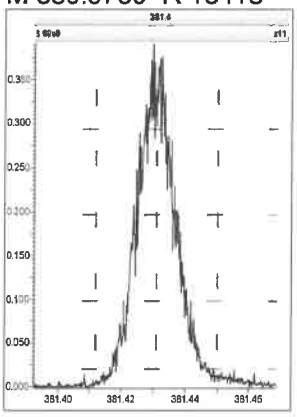

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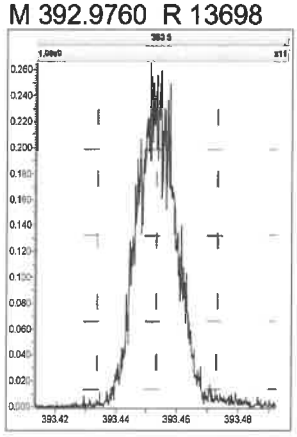

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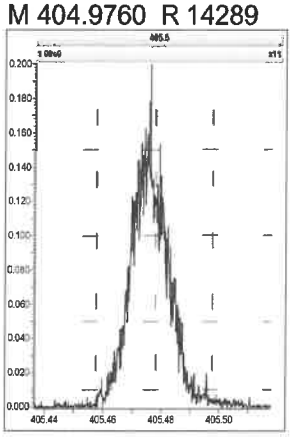

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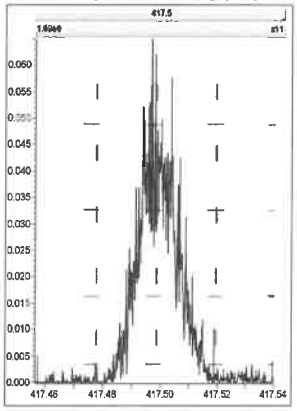

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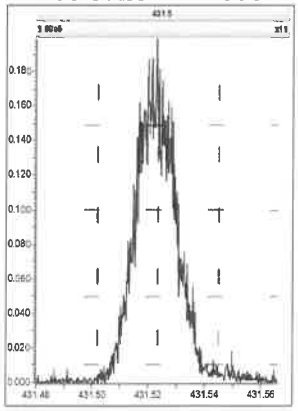

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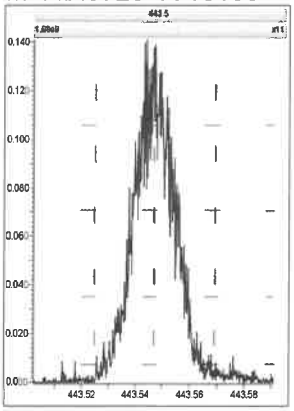

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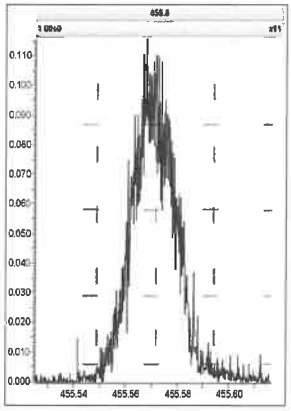

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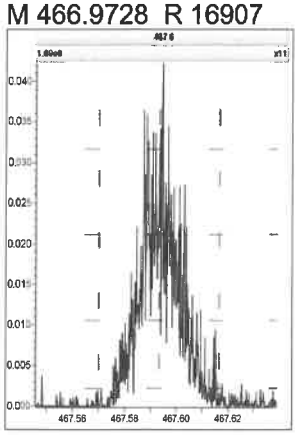

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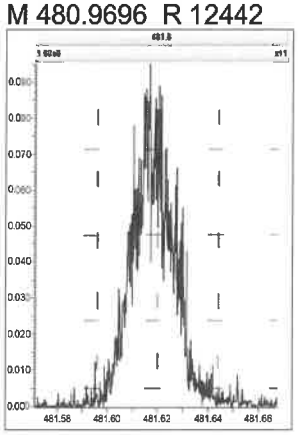

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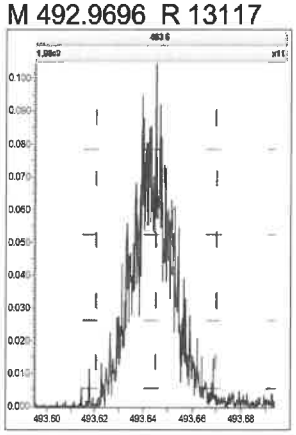

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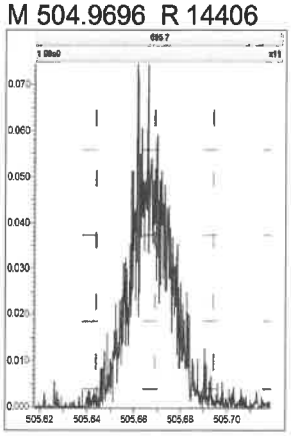

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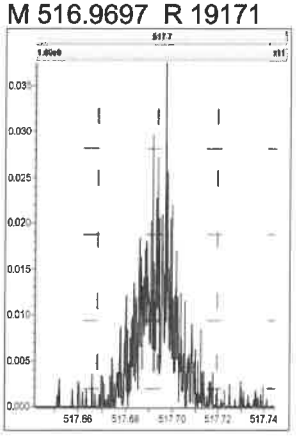

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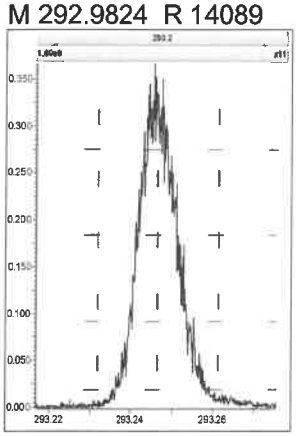

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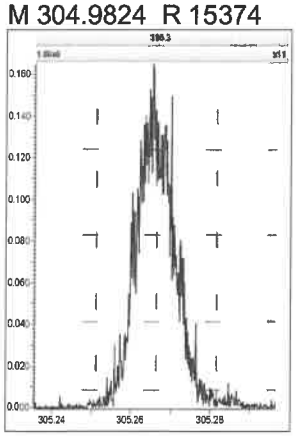

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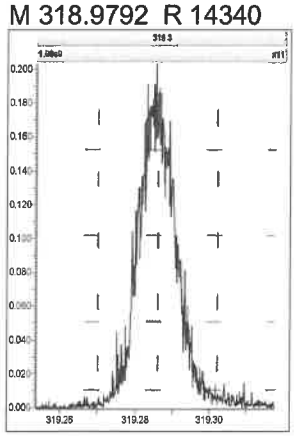

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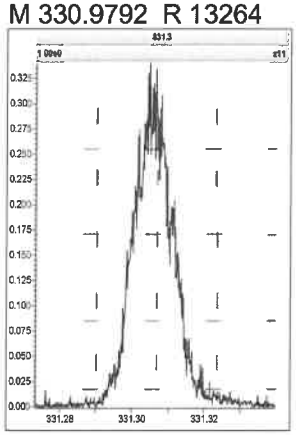

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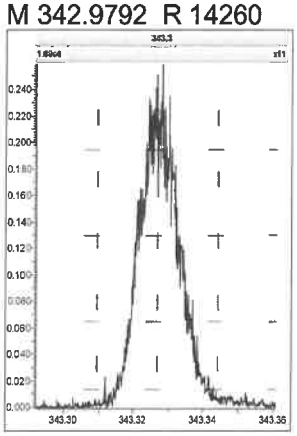

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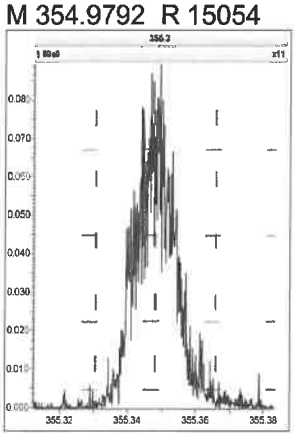

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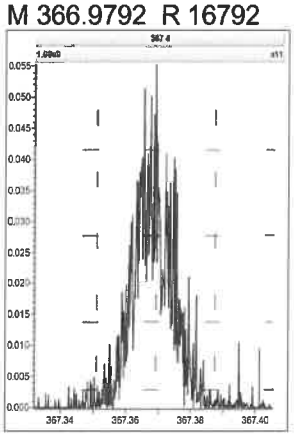

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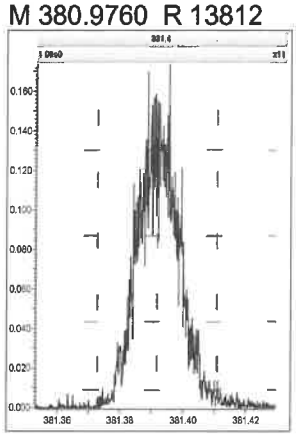

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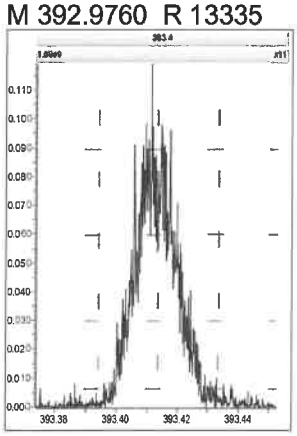

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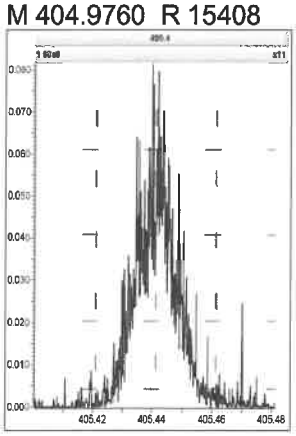

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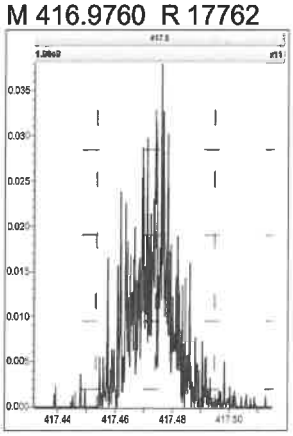

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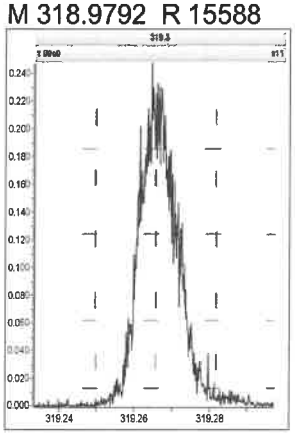

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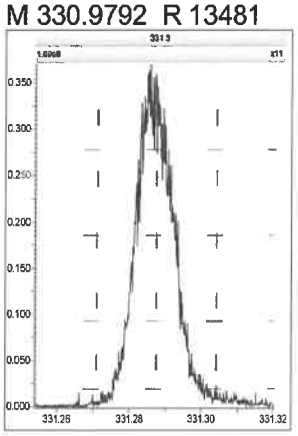

M 342.9792 R 13928

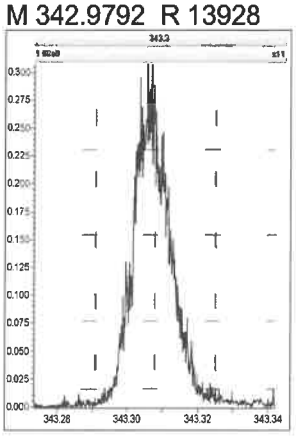

M 354.9792 R 16046

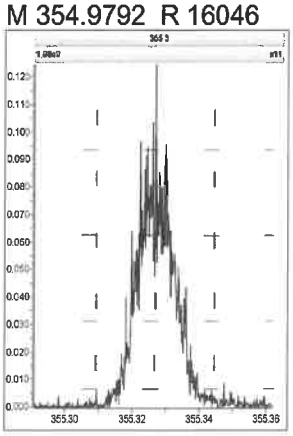

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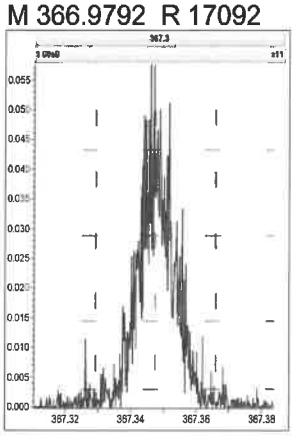

M 380.9760 R 12953

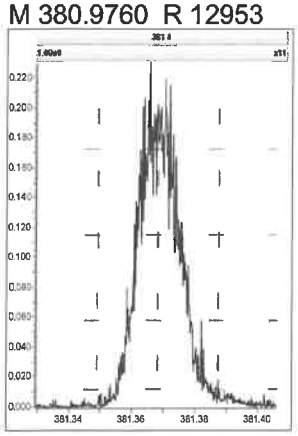

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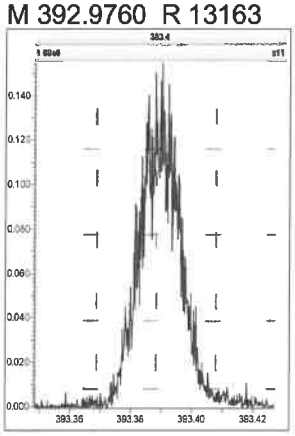

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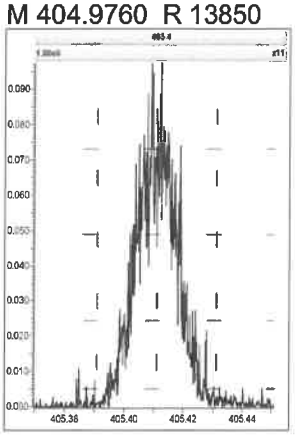

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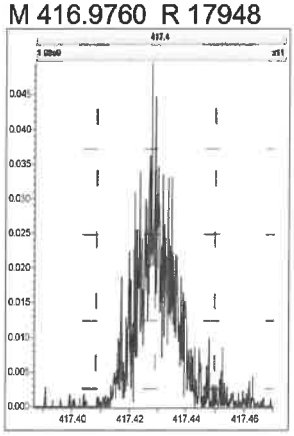

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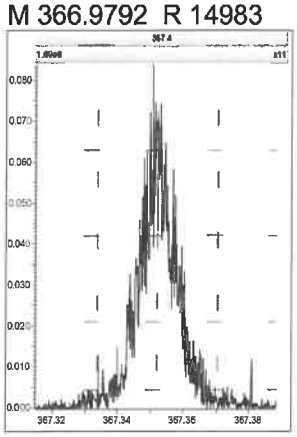

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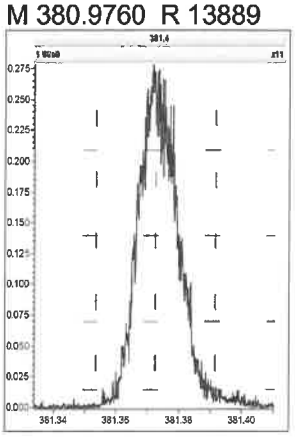

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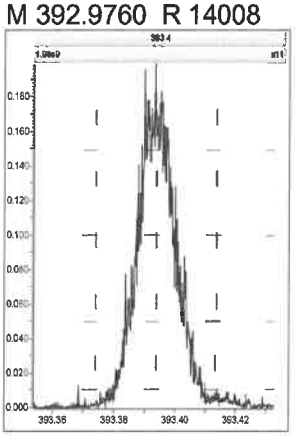

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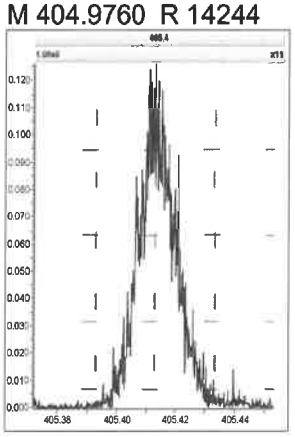

M 416.9760 R 16078

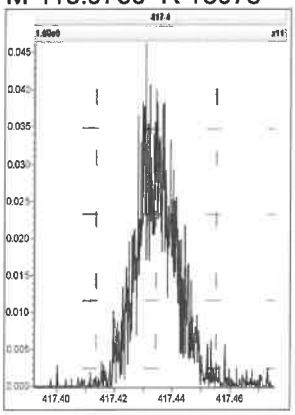

M 430.9728 R 13596

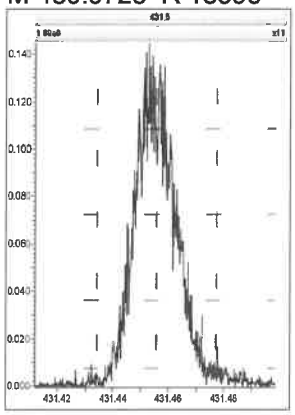

M 442.9728 R 14086

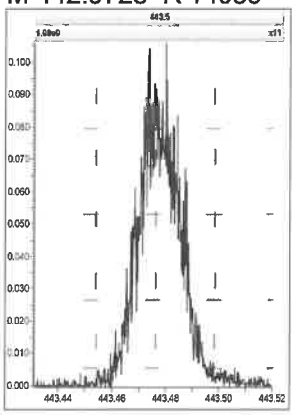

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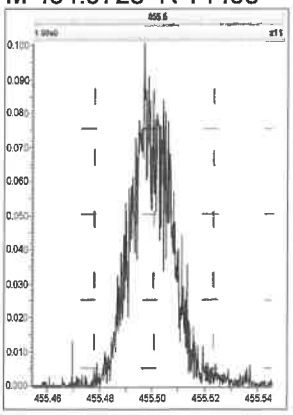

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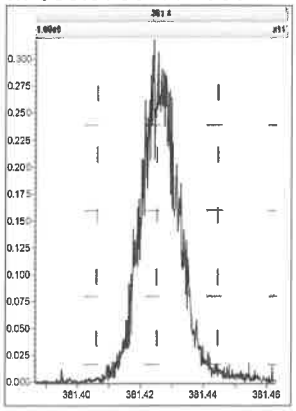

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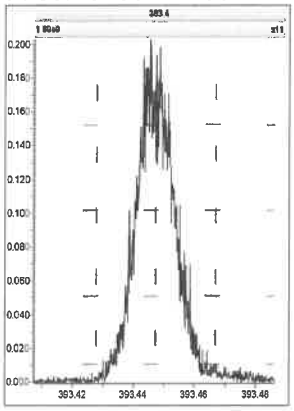

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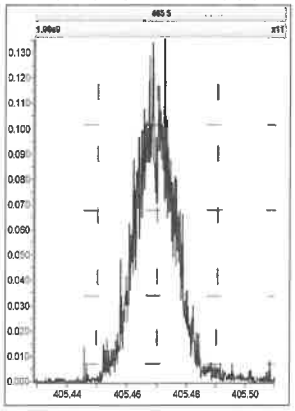

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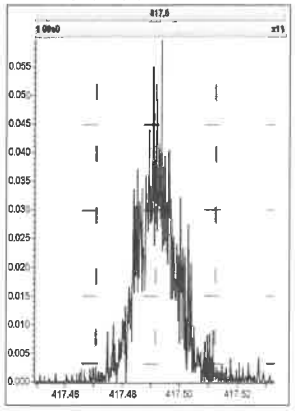

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M 430.9728 R 13505

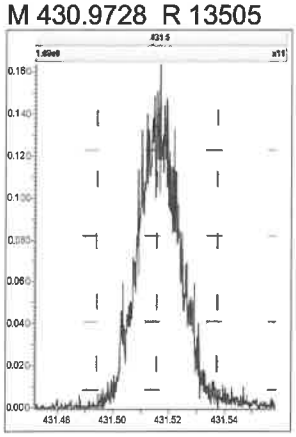

M 442.9728 R 13776

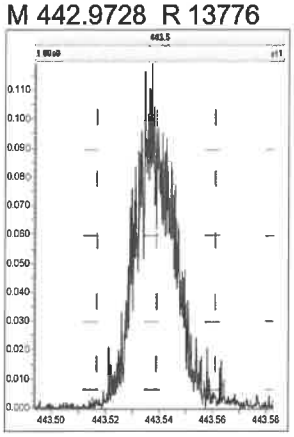

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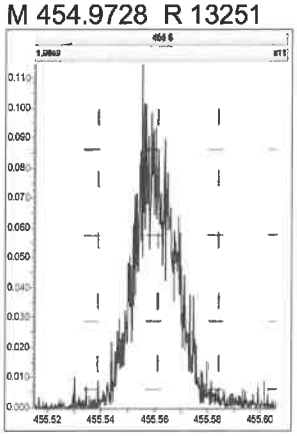

M 466.9728 R 18739

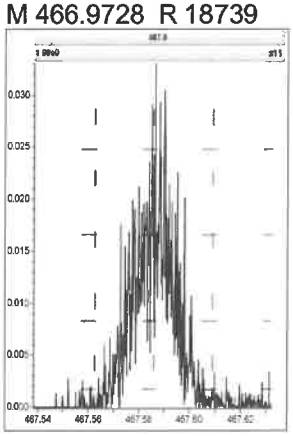

M 480.9696 R 13852

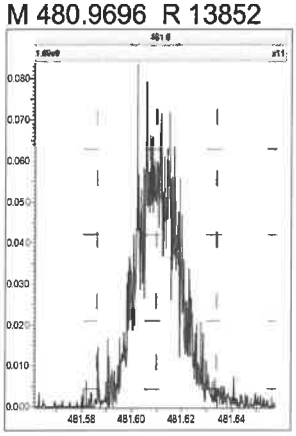

M 380.9760 R 13488

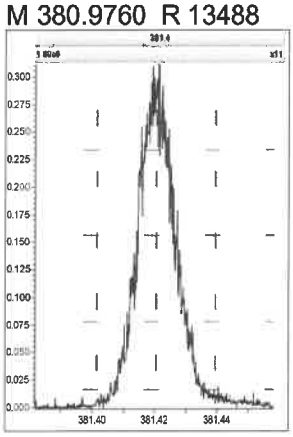

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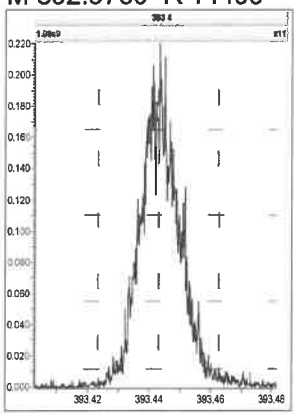

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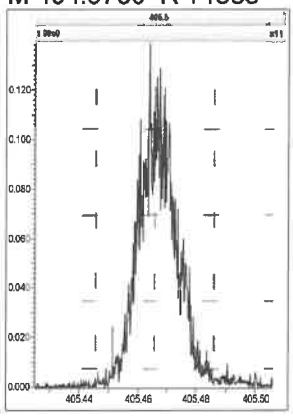

M 416.9760 R 15532

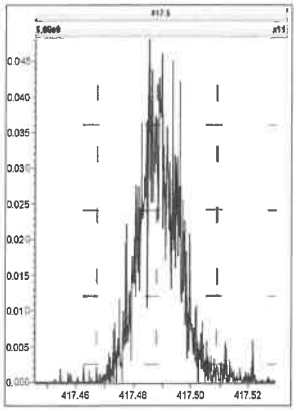

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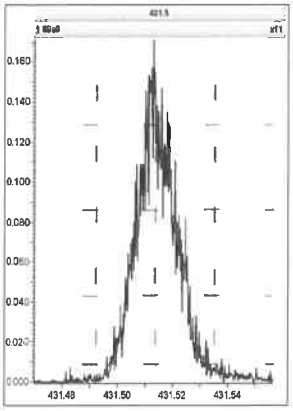

M 442.9728 R 13303

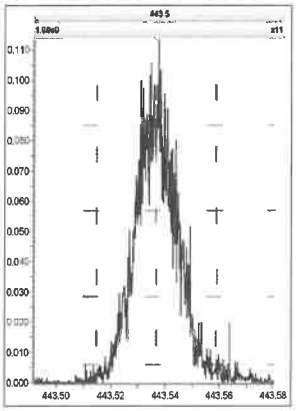

M 454.9728 R 12823

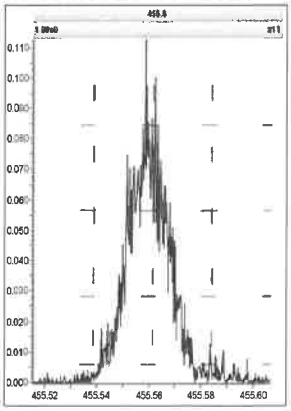

M 466.9728 R 16096

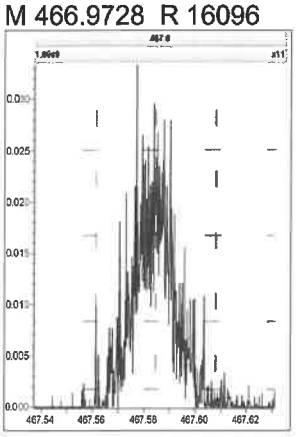

M 480.9696 R 13588

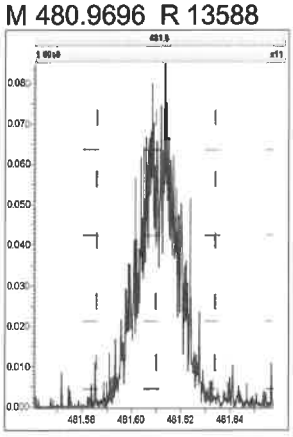

M 492.9696 R 14983

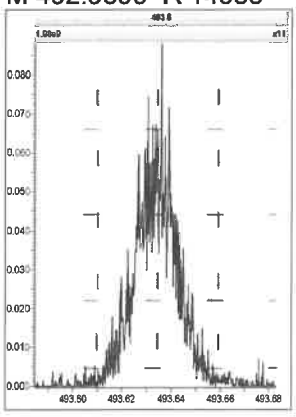

M 504.9696 R 15000

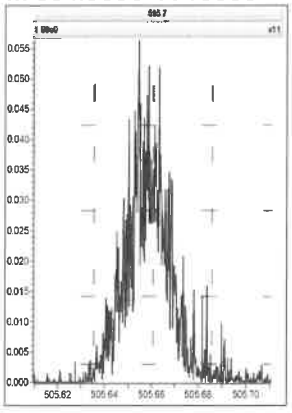

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M 516.9697 R 24318

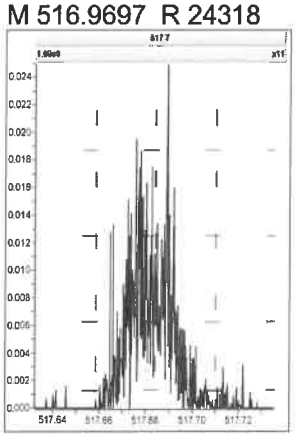

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M 292.9824 R 14244

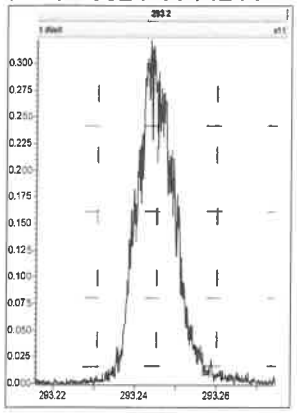

M 304.9824 R 14970

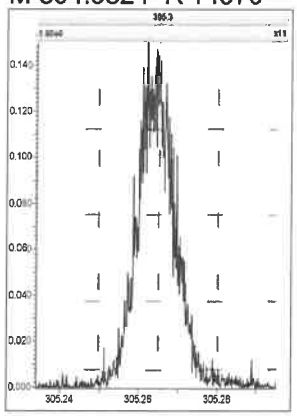

M 318.9792 R 14145

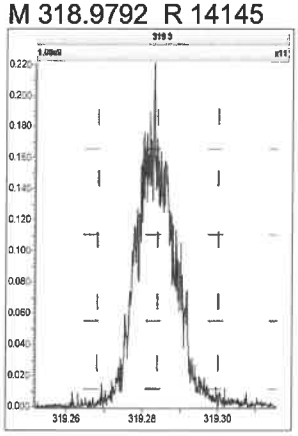

M 330.9792 R 13736

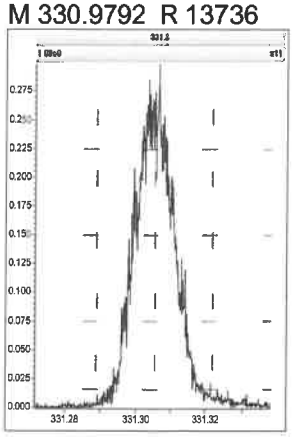

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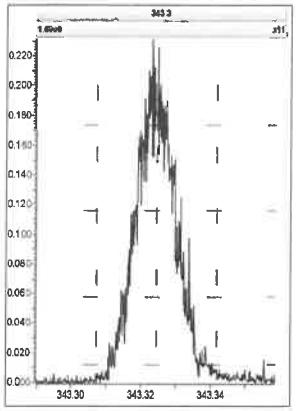

M 354.9792 R 15015

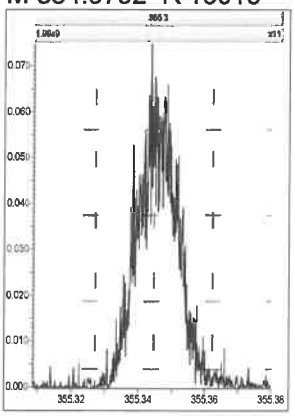

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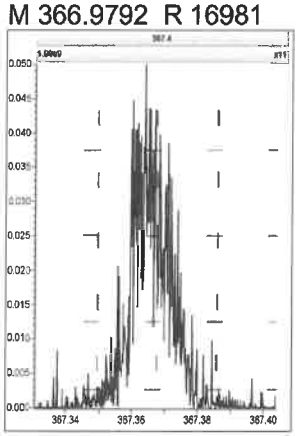

M 380.9760 R 13158

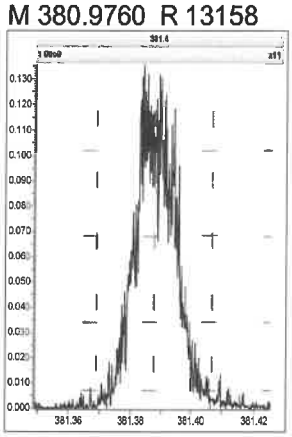

M 392.9760 R 14710

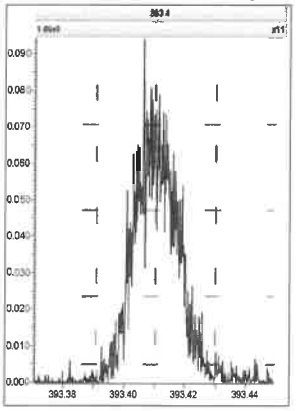

M 404.9760 R 14914

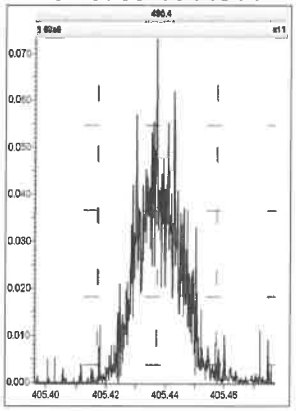

M 416.9760 R 26993

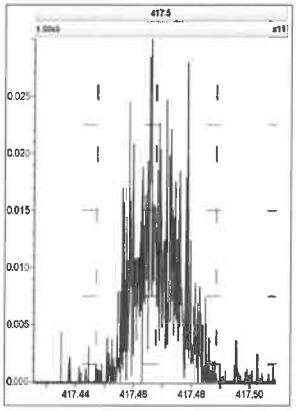

M 318.9792 R 14423

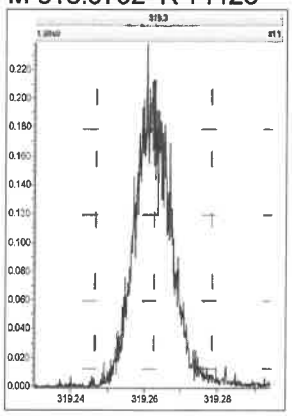

M 330.9792 R 14794

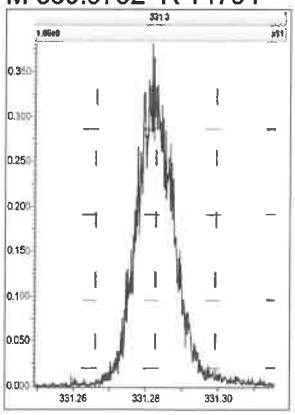

M 342.9792 R 14093

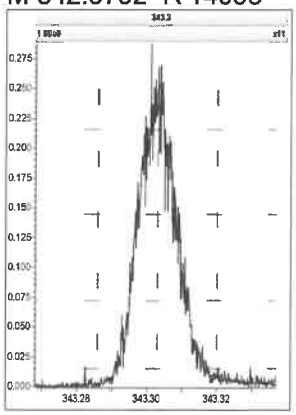

M 354.9792 R 15899

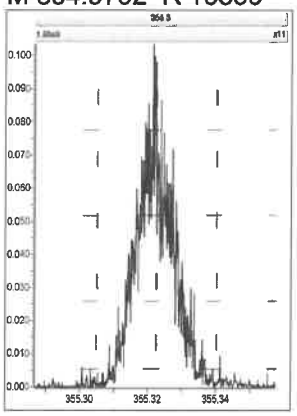

M 366.9792 R 14692

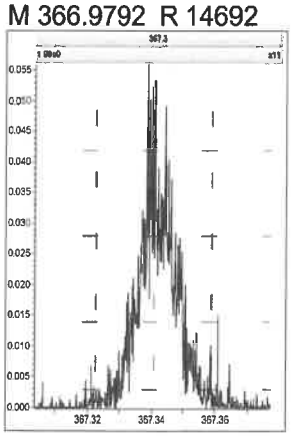

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M 380.9760 R 14084

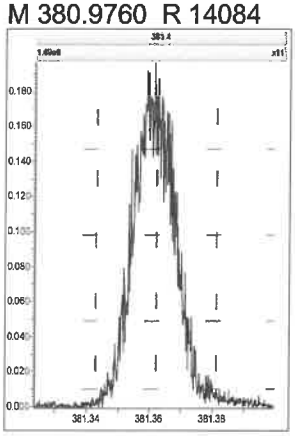

M 392.9760 R 14454

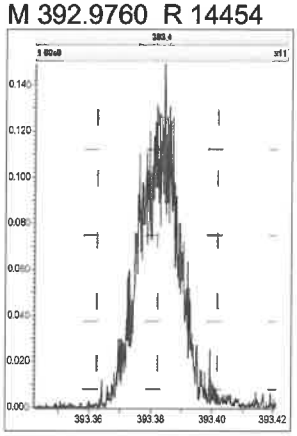

M 404.9760 R 14935

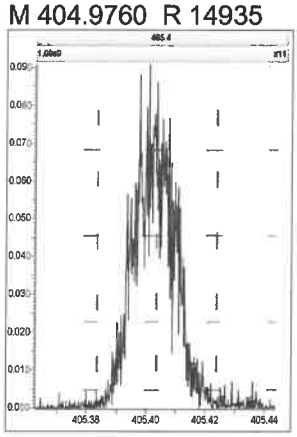

M 416.9760 R 16131

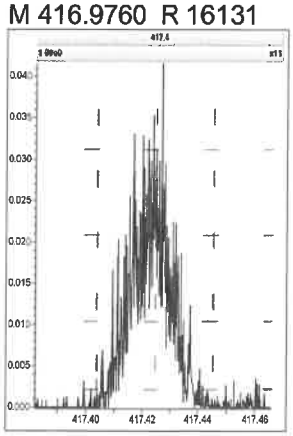

M 366.9792 R 15782

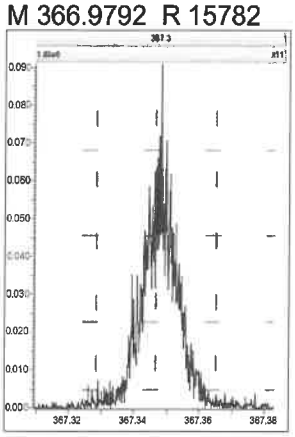

M 380.9760 R 14173

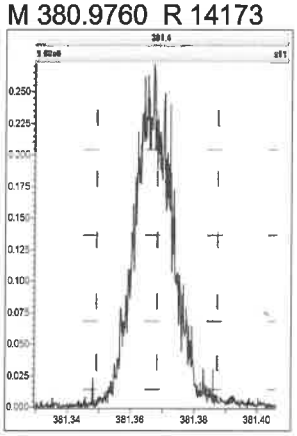

M 392.9760 R 15136

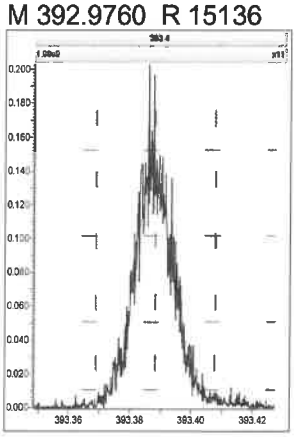

M 404.9760 R 14270

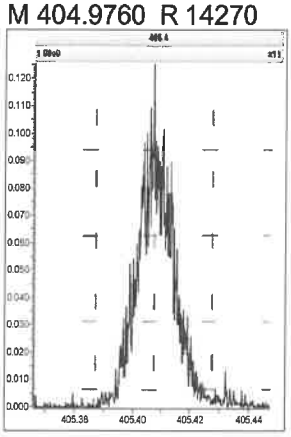

M 416.9760 R 16266

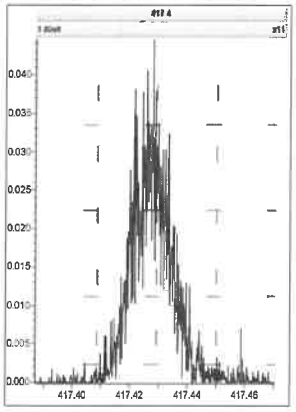

M 430.9728 R 13074

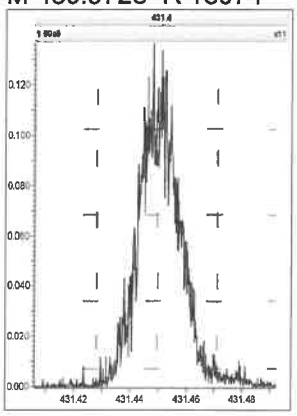

M 442.9728 R 14173

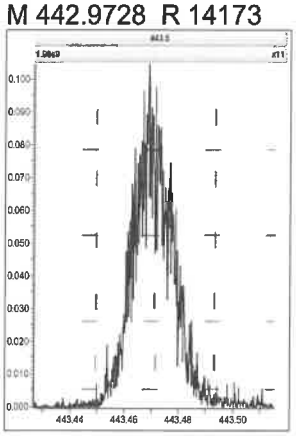

M 454.9728 R 13936

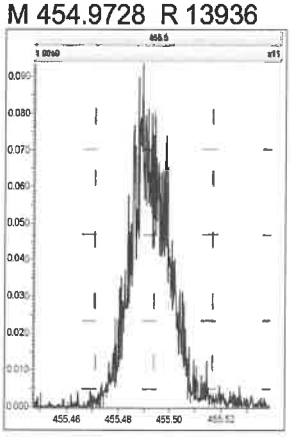

M 380.9760 R 13549

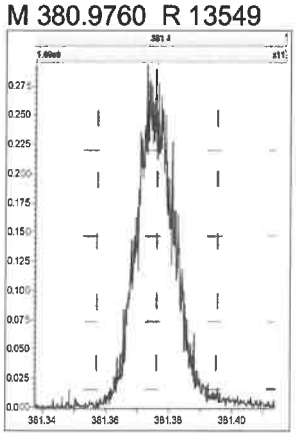

M 392.9760 R 13033

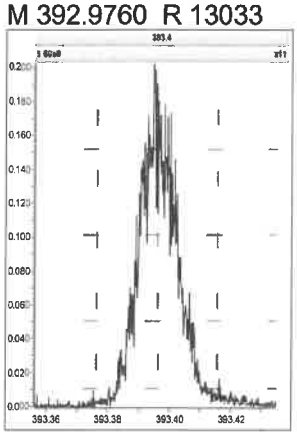

M 404.9760 R 14769

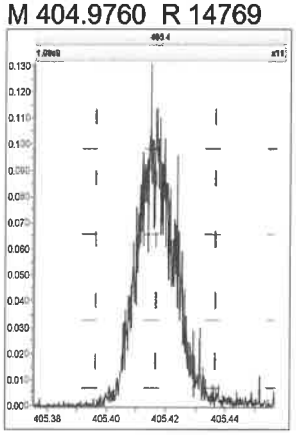

M 416.9760 R 15957

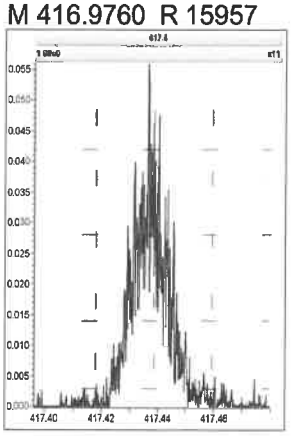

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M 430.9728 R 14053

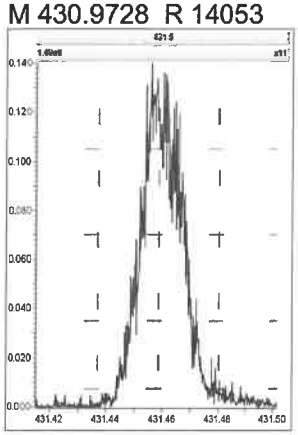

M 442.9728 R 14538

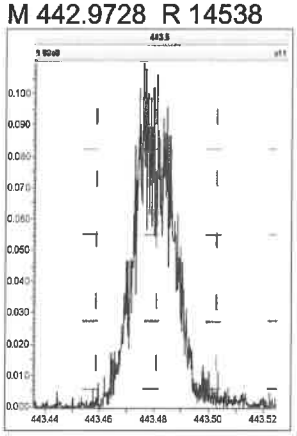

M 454.9728 R 14970

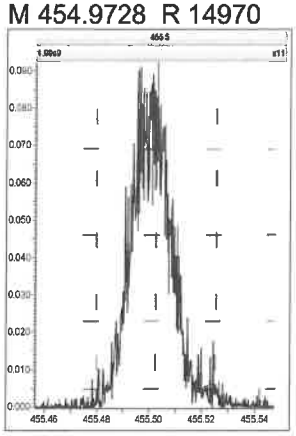

M 466.9728 R 17543

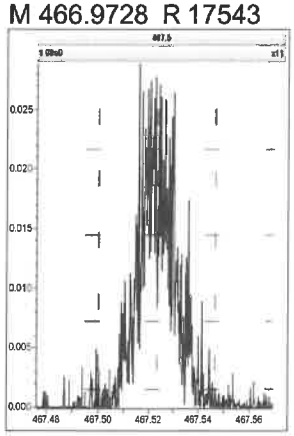

M 480.9696 R 15365

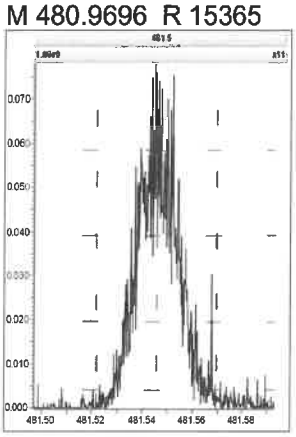

M 380.9760 R 14102

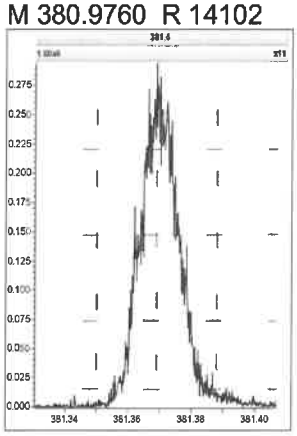

M 392.9760 R 15094

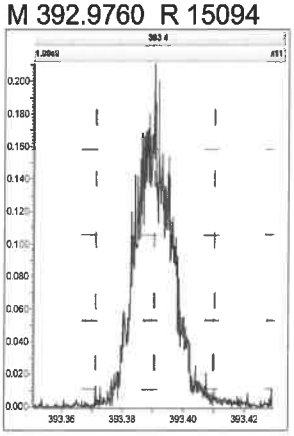

M 404.9760 R 15079

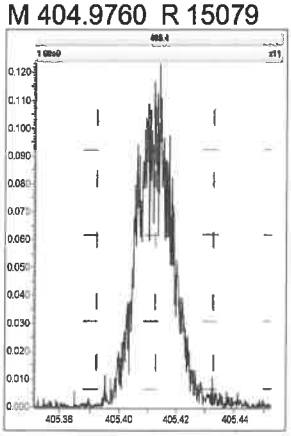

M 416.9760 R 16307

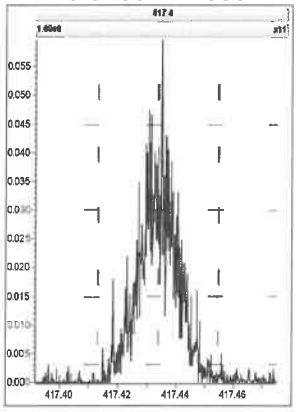

M 430.9728 R 13585

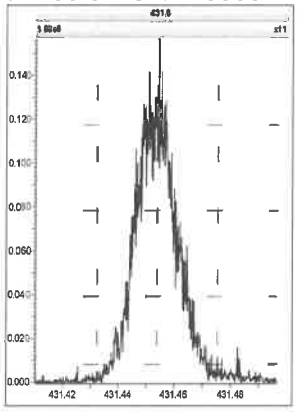

M 442.9728 R 14705

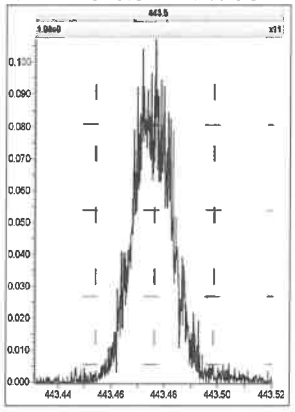

M 454.9728 R 14497

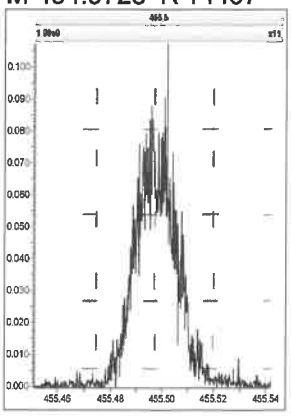

M 466.9728 R 20046

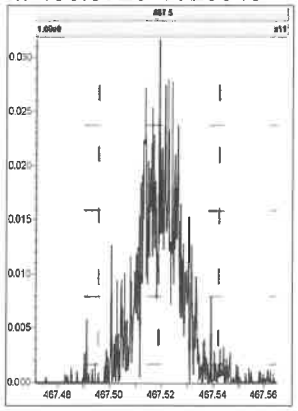

M 480.9696 R 13890

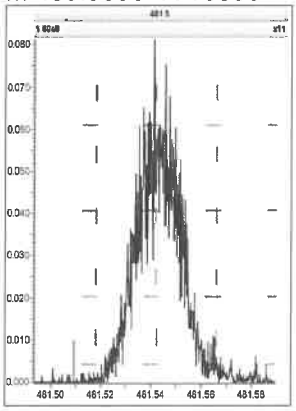

M 492.9696 R 15034

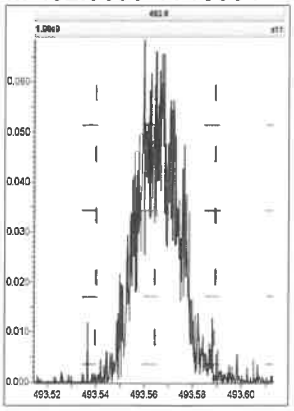

M 504.9696 R 14970

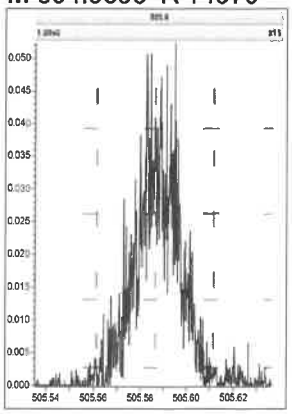

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M 516.9697 R 21931

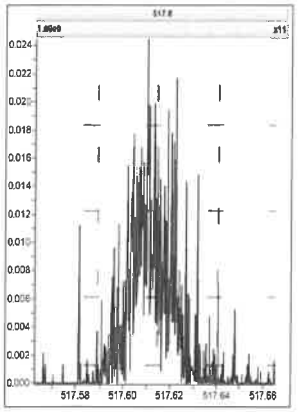

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_2.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 06-Jan-2020 22:15:12 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 010620B CCV HRDXNL4_00086
Misc. Info.: 06JA20A3D5
Operator ID: ALM Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 07-Jan-2020 11:21:56 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0317

First Level Reviewer: shardaa Date: 07-Jan-2020 10:36:49

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.128	63176535	0.81	2.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.659	89132002	0.78	1.4157	99.7	99.7	0.3709	0.3709	99.65	
2,3,7,8-TCDF	16.674	8232779	0.75	0.9502	9.721	9.721	0.0743	0.0743	97.21	
A Non-2,3,7,8-sub-TCDF	16.395						0.0743	0.0743		
S Total TCDF					9.721	9.721	0.0743	0.0743		
D 13C-2,3,7,8-TCDD	17.324	60139352	0.81	0.9751	97.6	97.6	0.3541	0.3541	97.62	
2,3,7,8-TCDD	17.340	6565604	0.79	1.0477	10.4	10.4	0.1222	0.1222	104	
$ 37Cl4-2,3,7,8-TCDD	17.340	9427022		1.3480	11.1	11.1	0.0370	0.0370	111	
A Non-2,3,7,8-sub-TCDD	16.818						0.1222	0.1222		
S Total TCDD					10.4	10.4	0.1222	0.1222		
D 13C-1,2,3,7,8-PeCDF	21.381	66387621	1.60	1.1786	89.2	89.2	0.3304	0.3304	89.16	
1,2,3,7,8-PeCDF	21.408	34408726	1.61	1.0302	50.3	50.3	0.3005	0.3005	101	
D 13C-2,3,4,7,8-PeCDF	22.635	66135049	1.61	1.1308	92.6	92.6	0.3443	0.3443	92.58	
2,3,4,7,8-PeCDF	22.662	32759487	1.50	1.0410	47.6	47.6	0.3324	0.3324	95.17	
A F1 PeCDFs	19.117						0.0821	0.0821		
A Non-2,3,7,8-sub-PeCDF	22.077						0.3156	0.3156		
S Total PeCDF					97.9	97.9	0.3165	0.3165		
D 13C-1,2,3,7,8-PeCDD	23.317	38758409	1.62	0.7572	81.0	81.0	0.1904	0.1904	81.02	
1,2,3,7,8-PeCDD	23.344	20862658	1.64	1.0855	49.6	49.6	0.2400	0.2400	99.17	
A Non-2,3,7,8-sub-PeCDD	22.315						0.2400	0.2400		
S Total PeCDD					49.6	49.6	0.2400	0.2400		
D 13C-1,2,3,4,7,8-HxCDF	29.346	56126534	0.53	1.1043	109.6	109.6	0.5447	0.5447	110	
1,2,3,4,7,8-HxCDF	29.385	32139973	1.28	1.1472	49.9	49.9	0.4973	0.4973	99.83	
D 13C-1,2,3,6,7,8-HxCDF	29.665	56723079	0.51	1.1470	106.6	106.6	0.5244	0.5244	107	
1,2,3,6,7,8-HxCDF	29.678	33165753	1.24	1.1450	51.1	51.1	0.4863	0.4863	102	
D 13C-2,3,4,6,7,8-HxCDF	30.823	55693906	0.51	1.0769	111.5	111.5	0.5585	0.5585	111	
2,3,4,6,7,8-HxCDF	30.837	33176388	1.21	1.1726	50.8	50.8	0.2973	0.2973	102	
D 13C-1,2,3,7,8,9-HxCDF	31.782	45175762	0.50	1.0115	96.3	96.3	0.5946	0.5946	96.28	
1,2,3,7,8,9-HxCDF	31.795	26933120	1.19	1.1717	50.9	50.9	0.3292	0.3292	102	
A Non-2,3,7,8-sub-HxCDF	29.272						0.3830	0.3830		

Report Date: 07-Jan-2020 11:21:58 Chrom Revision: 2.3 23-Dec-2019 10:12:06
Data File: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_2.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					202.7	202.7	0.4025	0.4025		
* 13C-1,2,3,7,8,9-HxCDD	31.569	46387135	1.28	2.1E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.050	39611624	1.31	0.7962	107.3	107.3	0.4286	0.4286	107	
1,2,3,4,7,8-HxCDD	31.076	20398655	1.30	1.0934	47.1	47.1	0.2018	0.2018	94.20	
D 13C-1,2,3,6,7,8-HxCDD	31.183	45552349	1.26	0.8720	112.6	112.6	0.3914	0.3914	113	
1,2,3,6,7,8-HxCDD	31.196	23129806	1.25	1.0429	48.7	48.7	0.2105	0.2105	97.37	
1,2,3,7,8,9-HxCDD	31.596	22854811	1.29	1.2073	44.5	44.5	0.1823	0.1823	88.91	
A Non-2,3,7,8-sub-HxCDD	29.885						0.1975	0.1975		
S Total HxCDD					140.2	140.2	0.1982	0.1982		
D 13C-1,2,3,4,6,7,8-HpCDF	33.354	39633729	0.45	0.7577	112.8	112.8	1.224	1.224	113	
1,2,3,4,6,7,8-HpCDF	33.367	29670976	1.01	1.4804	50.6	50.6	0.3951	0.3951	101	
D 13C-1,2,3,4,7,8,9-HpCDF	34.412	33518830	0.42	0.6941	104.1	104.1	1.336	1.336	104	
1,2,3,4,7,8,9-HpCDF	34.424	22175532	1.10	1.2933	51.2	51.2	0.6104	0.6104	102	
A Non-2,3,7,8-sub-HpCDF	33.901						0.4845	0.4845		
S Total HpCDF					101.7	101.7	0.5027	0.5027		
D 13C-1,2,3,4,6,7,8-HpCDD	34.132	34827010	1.10	0.7058	106.4	106.4	0.6440	0.6440	106	
1,2,3,4,6,7,8-HpCDD	34.144	18404985	1.07	1.0535	50.2	50.2	0.2859	0.2859	100	
A Non-2,3,7,8-sub-HpCDD	33.883						0.2859	0.2859		Rn
S Total HpCDD					50.2	50.2	0.2859	0.2859		
D 13C-OCDD	36.415	44855349	0.90	0.4603	210.1	210.1	0.4540	0.4540	105	
OCDF	36.511	29328797	0.90	1.3945	93.8	93.8	0.2178	0.2178	93.78	
OCDD	36.427	24705703	0.91	1.1362	97.0	97.0	0.1526	0.1526	96.95	

Reagents:

HRDXNL4_00086 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_2.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 06-Jan-2020 22:15:12 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 010620B CCV HRDXNL4_00086
Misc. Info.: 06JA20A3D5
Operator ID: ALM Instrument ID: 3D5
Sublist: chrom-Dioxin_3D5*sub1

Method: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 07-Jan-2020 11:21:56 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0317

First Level Reviewer: shardaa Date: 07-Jan-2020 10:36:49

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.128	17.128	0		28296198	7209963	15295	38237	471		
333.9339	17.128	17.128	0		34880337	8747571	6745	16862	1297	0.81(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.659	16.659	0	0.973	39095531	9903590	17545	43862	564		
317.9389	16.659	16.659	0	0.973	50036471	12627081	15969	39922	791	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.674	16.674	0	1.001	3521446	872997	2656	6640	329		
305.8987	16.674	16.674	0	1.001	4711333	1166923	3703	9257	315	0.75(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.395						2656	6640			
305.8987	16.395						3703	9257			
13C-2,3,7,8-TCDD											
331.9368	17.324	17.324	0	1.011	26872992	6286607	15295	38237	411		
333.9339	17.324	17.324	0	1.011	33266360	7704503	6745	16862	1142	0.81(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.340	17.340	0	1.001	2905770	708402	3150	7875	225		
321.8936	17.340	17.340	0	1.001	3659834	915097	4014	10035	228	0.79(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.340	17.340	0	1.012	9427022	2312899	3186	7965	726		
A Non-2,3,7,8-sub-TCDD											
319.8965	16.818						3150	7875			
321.8936	16.818						4014	10035			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8-PeCDF											
351.9000	21.381	21.381	0	1.248	40865741	7213290	14133	35332	510		
353.8970	21.381	21.381	0	1.248	25521880	4604570	10721	26802	429	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.408	21.408	0	1.001	21236563	3776830	7780	19450	485		
341.8567	21.408	21.408	0	1.001	13172163	2380128	6856	17140	347	1.61(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	22.635	22.635	0	1.322	40806360	6499799	14133	35332	460		
353.8970	22.635	22.635	0	1.322	25328689	4074989	10721	26802	380	1.61(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.662	22.662	0	1.001	19646718	3303017	7780	19450	425		
341.8567	22.662	22.662	0	1.001	13112769	2190851	6856	17140	320	1.50(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.117						1248	3120			
341.8567	19.117						2562	6405			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.077						7780	19450			
341.8567	22.077						6856	17140			
13C-1,2,3,7,8-PeCDD											
367.8949	23.317	23.317	0	1.361	23955459	3587361	5026	12565	714		
369.8919	23.317	23.317	0	1.361	14802950	2267029	4178	10445	543	1.62(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.344	23.344	0	1.001	12953833	2006604	3479	8697	577		
357.8516	23.344	23.344	0	1.001	7908825	1198210	2622	6555	457	1.64(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.315						3479	8697			
357.8516	22.315						2622	6555			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.346	29.346	0	0.930	19466074	2292113	8965	22412	256		
385.8610	29.359	29.346	1	0.930	36660460	4238594	14813	37032	286	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.385	29.385	0	1.001	18016774	2104557	7992	19980	263		
375.8178	29.385	29.385	0	1.001	14123199	1600272	6910	17275	232	1.28(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.665	29.665	0	0.940	19042770	2180940	8965	22412	243		
385.8610	29.665	29.665	0	0.940	37680309	4509116	14813	37032	304	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	29.678	29.678	0	1.000	18329545	2148220	7992	19980	269		
375.8178	29.678	29.678	0	1.000	14836208	1725204	6910	17275	250	1.24(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	30.823	30.823	0	0.976	18837236	3637594	8965	22412	406		
385.8610	30.823	30.823	0	0.976	36856670	7049955	14813	37032	476	0.51(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	30.837	30.837	0	1.000	18140104	3495636	7992	19980	437		
375.8178	30.837	30.837	0	1.000	15036284	2987748	6910	17275	432	1.21(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.782	31.782	0	1.007	15134404	3230694	8965	22412	360		
385.8610	31.782	31.782	0	1.007	30041358	6426775	14813	37032	434	0.50(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.795	31.795	0	1.000	14608627	3204206	7992	19980	401		
375.8178	31.795	31.795	0	1.000	12324493	2694225	6910	17275	390	1.19(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.272						7992	19980			
375.8178	29.272						6910	17275			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.569	31.569	0		26015300	5493529	6890	17225	797		
403.8529	31.569	31.569	0		20371835	4389534	6602	16505	665	1.28(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.050	31.050	0	0.984	22483847	5044688	6890	17225	732		
403.8529	31.050	31.050	0	0.984	17127777	3898286	6602	16505	590	1.31(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.076	31.076	0	1.001	11530671	2558047	4150	10375	616		
391.8127	31.076	31.076	0	1.001	8867984	2027515	3745	9362	541	1.30(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.183	31.183	0	0.988	25433988	4994926	6890	17225	725		
403.8529	31.183	31.183	0	0.988	20118361	3995882	6602	16505	605	1.26(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.196	31.196	0	1.000	12836876	2545750	4150	10375	613		
391.8127	31.196	31.196	0	1.000	10292930	2057231	3745	9362	549	1.25(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.596	31.596	0	1.018	12883340	2754175	4150	10375	664		
391.8127	31.583	31.596	-1	1.017	9971471	2150395	3745	9362	574	1.29(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	29.885						4150	10375			
391.8127	29.885						3745	9362			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.354	33.354	0	1.057	12292963	4012067	13215	33037	304		
419.8220	33.354	33.354	0	1.057	27340766	8789466	23433	58582	375	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.367	33.367	0	1.000	14879612	4861320	15914	39785	305		
409.7789	33.367	33.367	0	1.000	14791364	4679908	14037	35092	333	1.01(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.412	34.412	0	1.090	9846330	2887241	13215	33037	218		
419.8220	34.412	34.412	0	1.090	23672500	6598397	23433	58582	282	0.42(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.424	34.424	0	1.000	11599995	3427957	15914	39785	215		
409.7789	34.424	34.424	0	1.000	10575537	2958389	14037	35092	211	1.10(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.901						15914	39785			
409.7789	33.901						14037	35092			

Report Date: 07-Jan-2020 11:21:58 Chrom Revision: 2.3 23-Dec-2019 10:12:06
Data File: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_2.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.132	34.132	0	1.081	18275955	5496153	9186	22965	598		
437.8140	34.132	34.132	0	1.081	16551055	4974819	8784	21960	566	1.10(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.144	34.144	0	1.000	9511185	2897651	6971	17427	416		
425.7737	34.144	34.144	0	1.000	8893800	2750273	5644	14110	487	1.07(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.610	33.883	-16	0.985	125489	43383	6971	17427	6		
425.7737	33.610	33.883	-16	0.985	88046	31418	5644	14110	6	1.43(0.88-1.20)	
13C-OCDD											
469.7779	36.415	36.415	0	1.153	21304902	5497781	3709	9272	1482		
471.7750	36.415	36.415	0	1.153	23550447	5931199	4552	11380	1303	0.90(0.76-1.02)	
OCDF											
441.7428	36.511	36.511	0	1.003	13863525	3644829	3029	7572	1203		
443.7399	36.511	36.511	0	1.003	15465272	4237762	3913	9782	1083	0.90(0.76-1.02)	
OCDD											
457.7377	36.427	36.427	0	1.000	11765569	3077712	1939	4847	1587		
459.7348	36.427	36.427	0	1.000	12940134	3403961	2024	5060	1682	0.91(0.76-1.02)	

Reagents:

HRDXNL4_00086 Amount Added: 1.00 Units: mL

Report Date: 07-Jan-2020 11:21:58 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_2.d		
Injection Date:	06-Jan-2020 22:15:12	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	349283	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

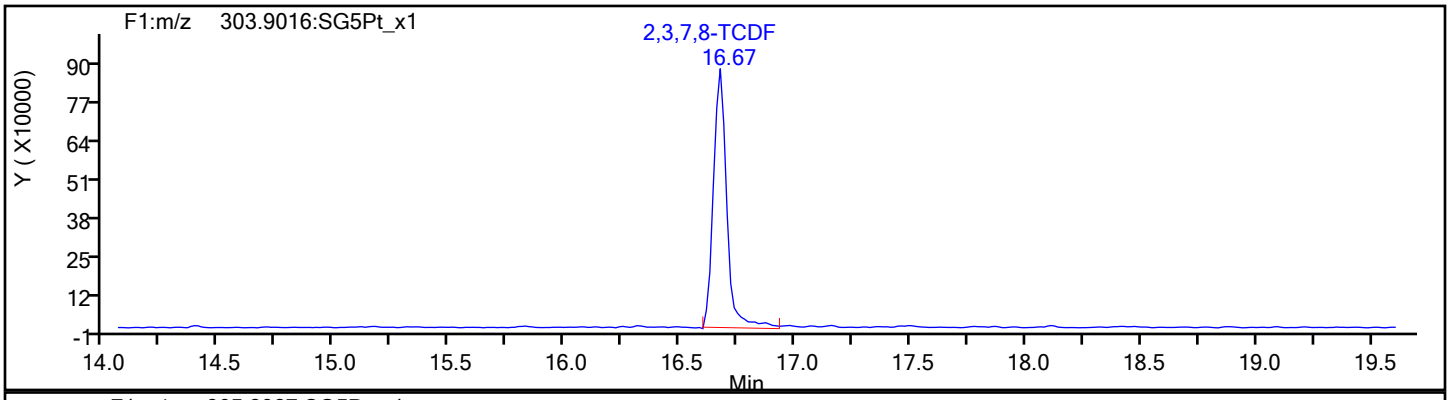

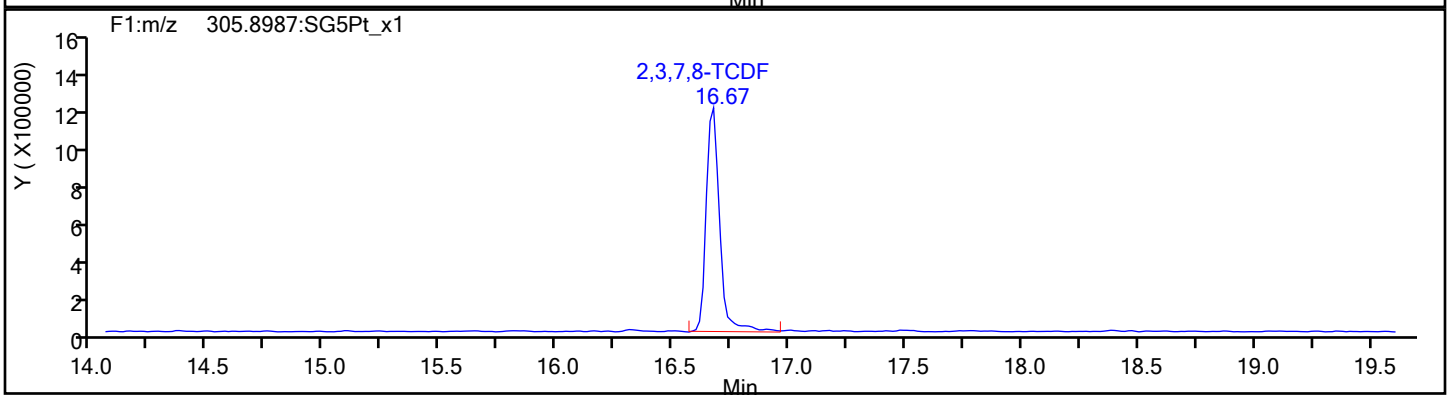

TCDF Standards

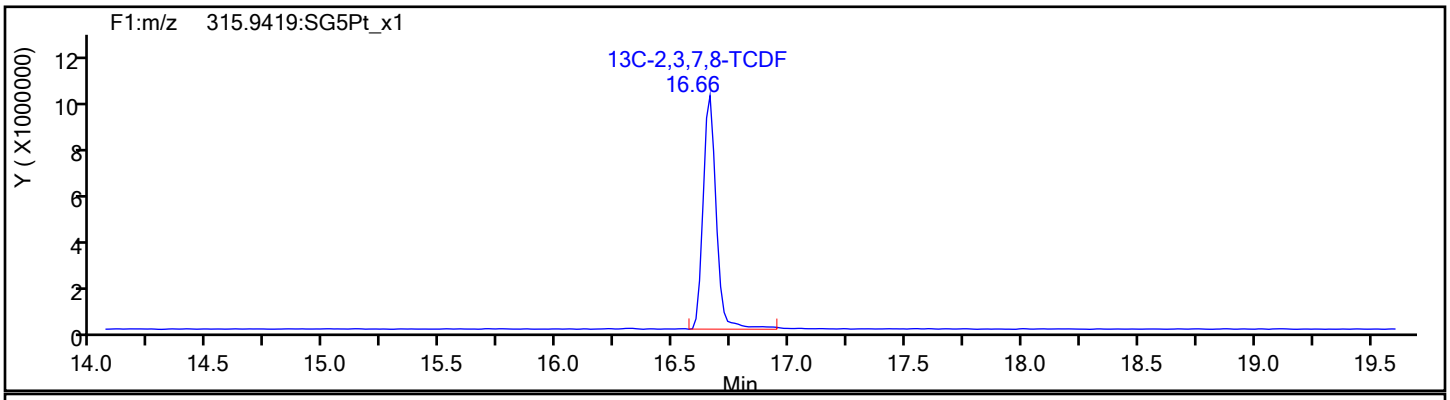

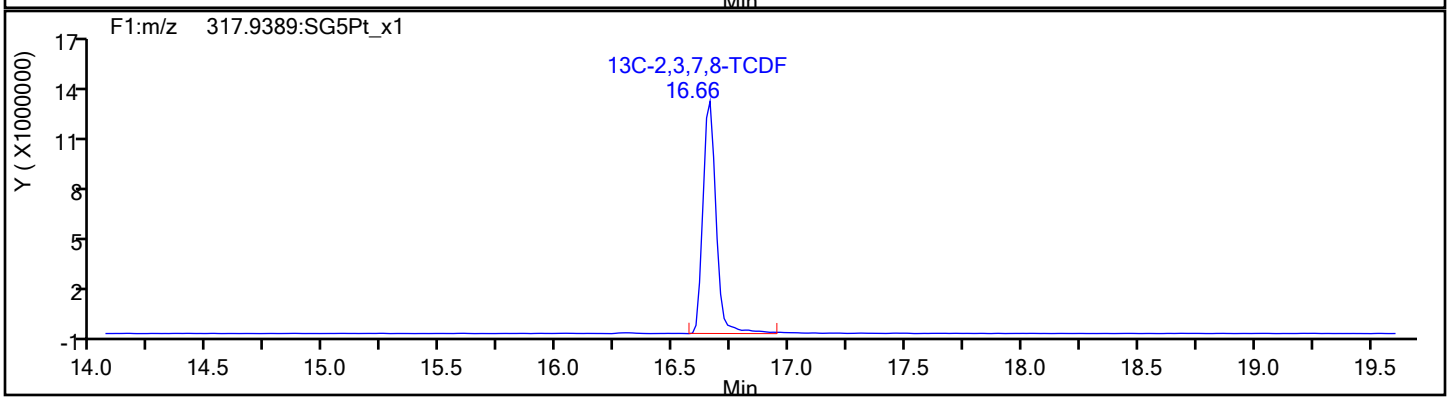

Report Date: 07-Jan-2020 11:21:58 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_2.d		
Injection Date:	06-Jan-2020 22:15:12	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	349283	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

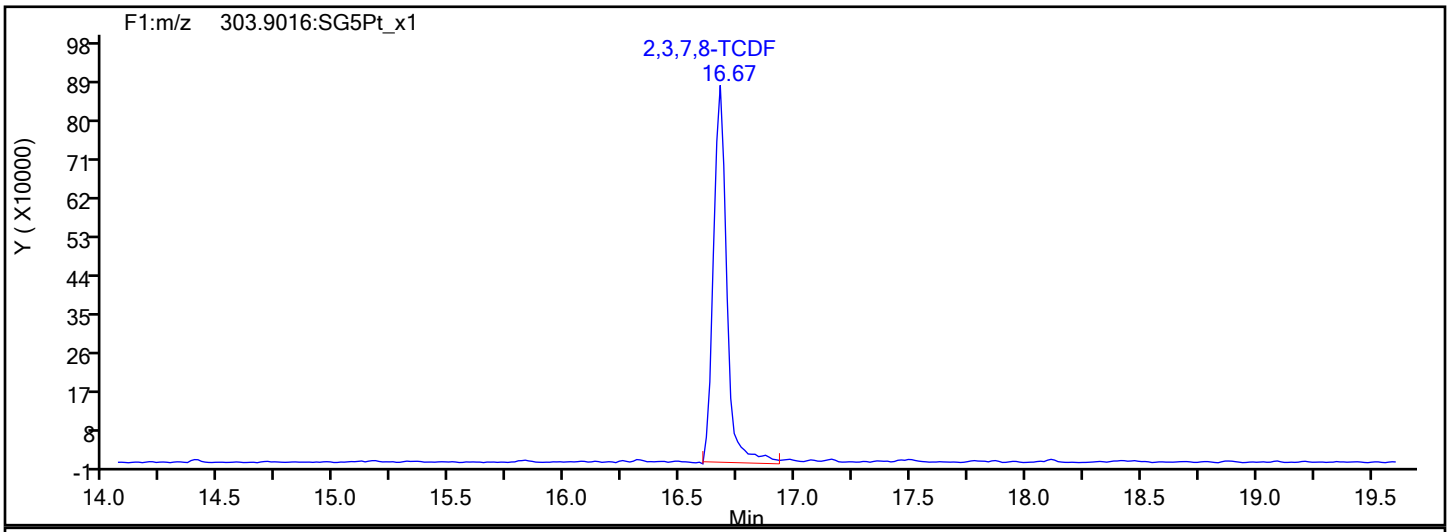

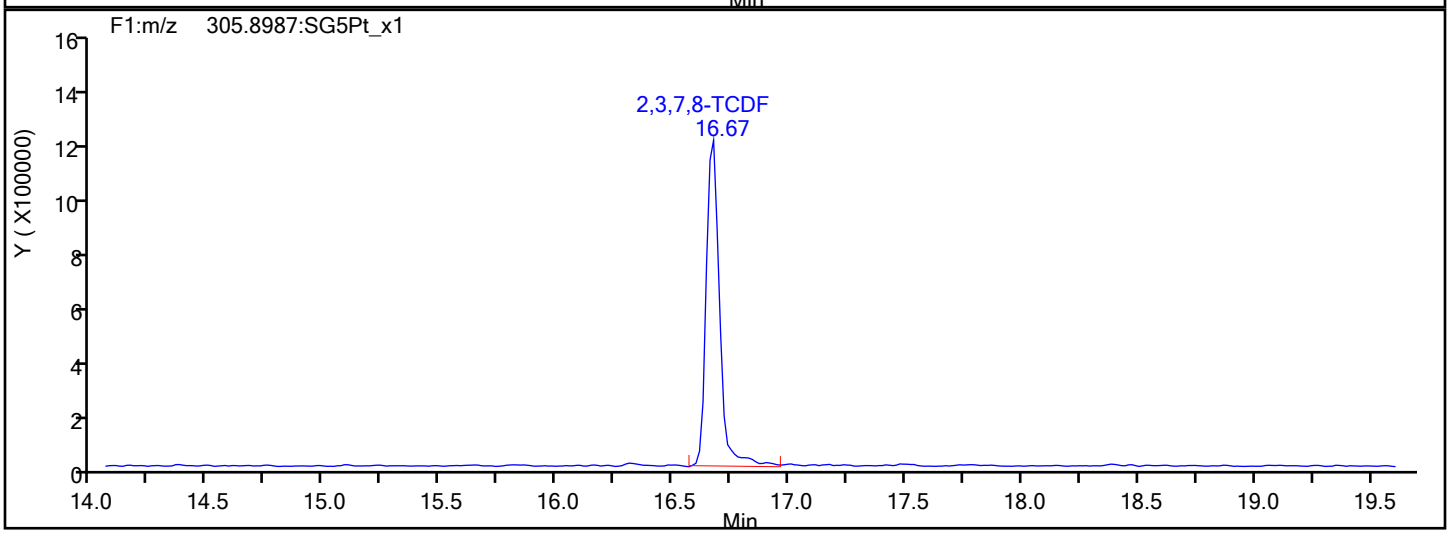

TCDF Interference Mass

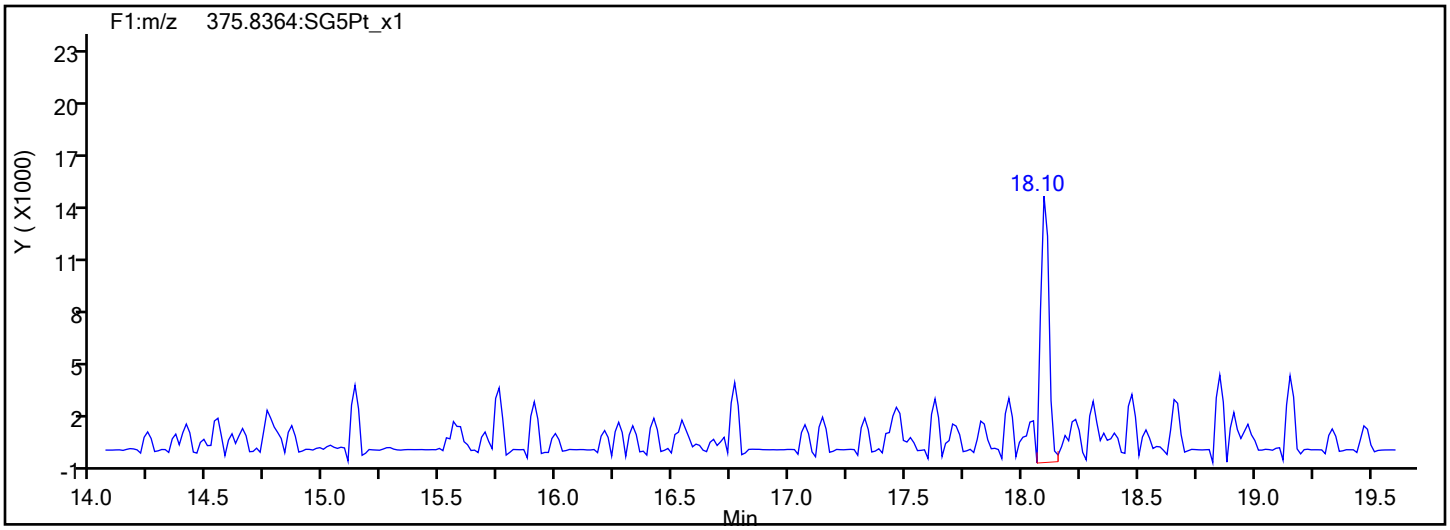

Report Date: 07-Jan-2020 11:21:58 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_2.d		
Injection Date:	06-Jan-2020 22:15:12	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	349283	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

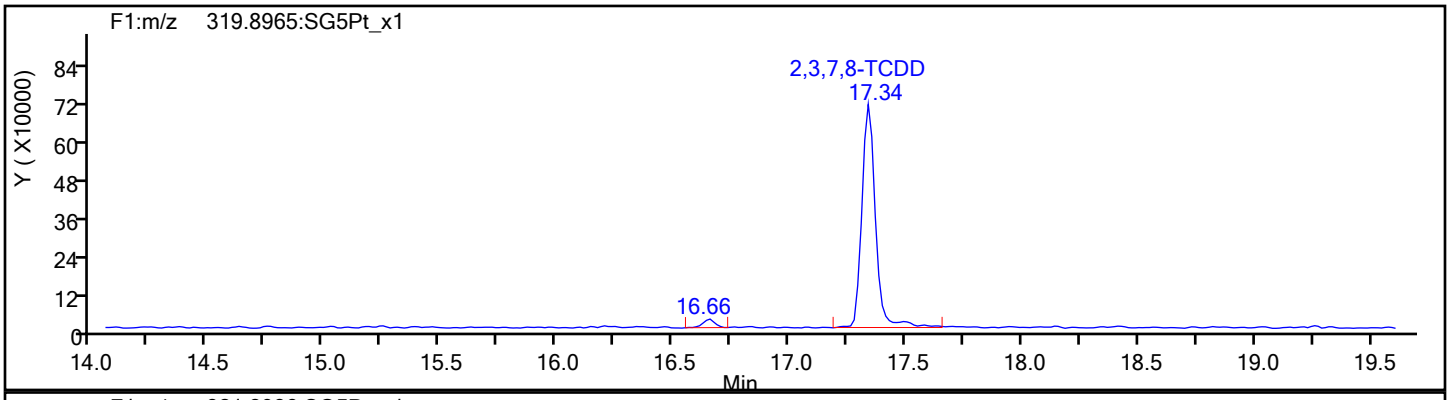

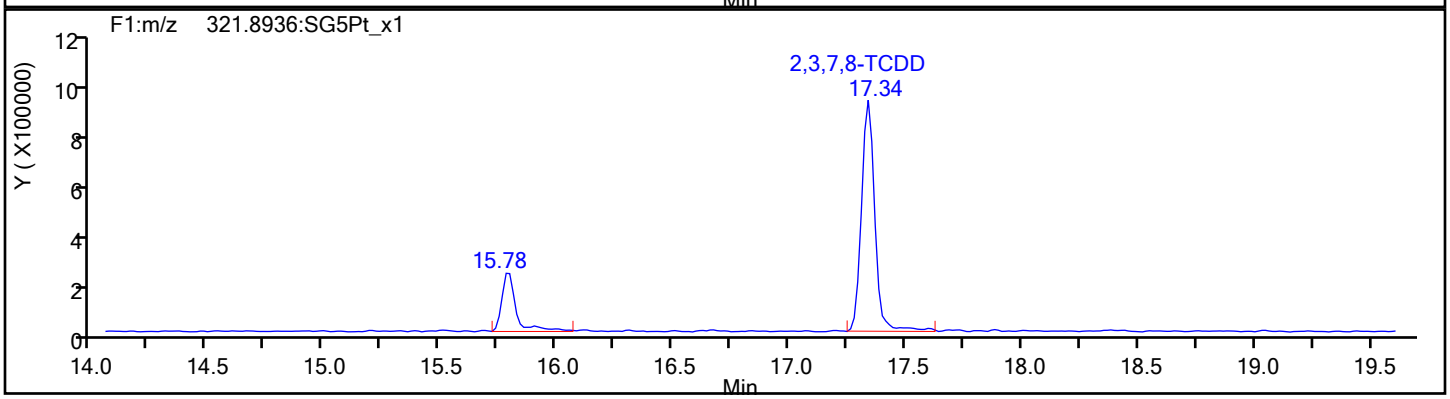

TCDD Standards

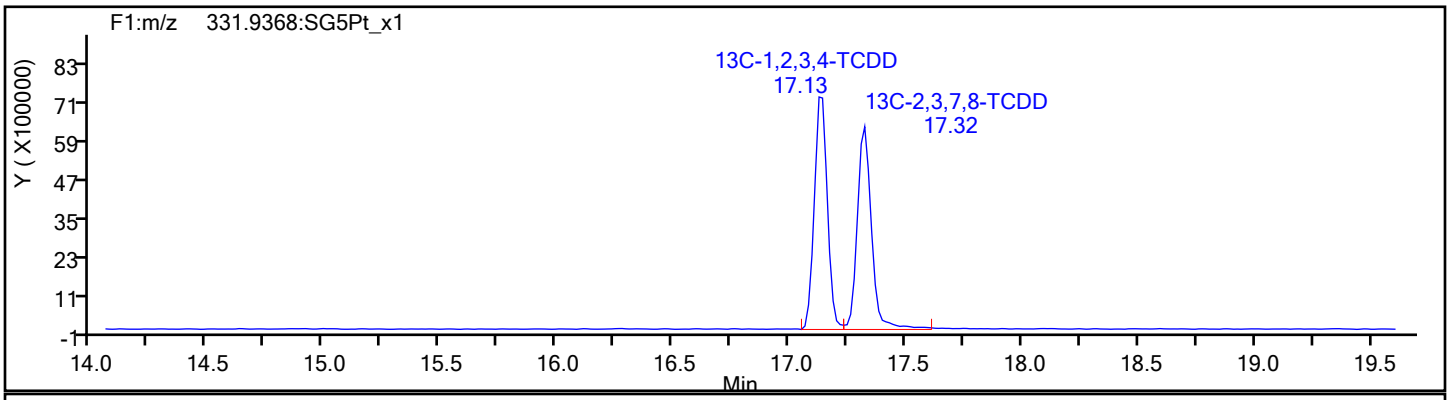

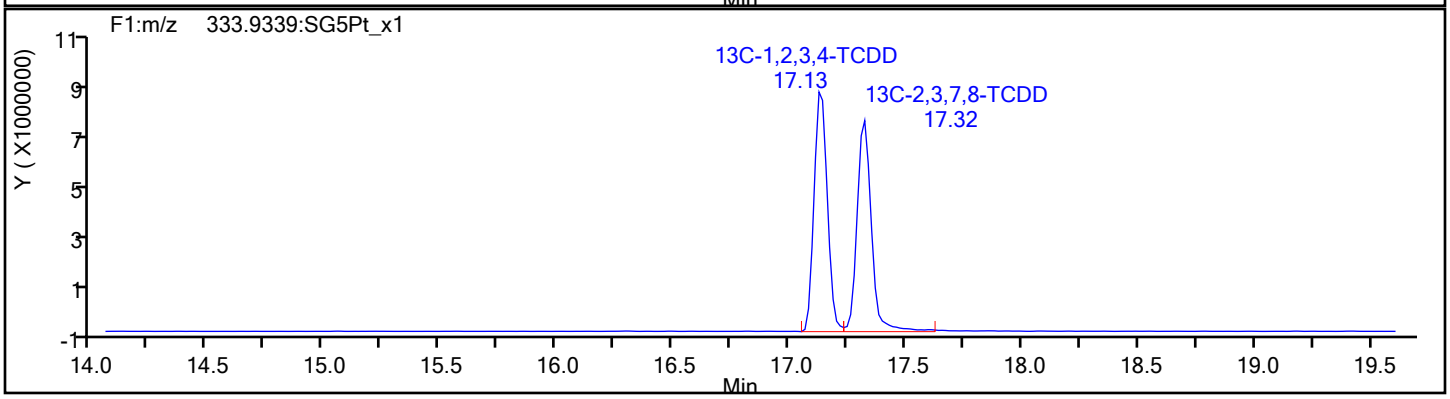

Report Date: 07-Jan-2020 11:21:58 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_2.d		
Injection Date:	06-Jan-2020 22:15:12	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	349283	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

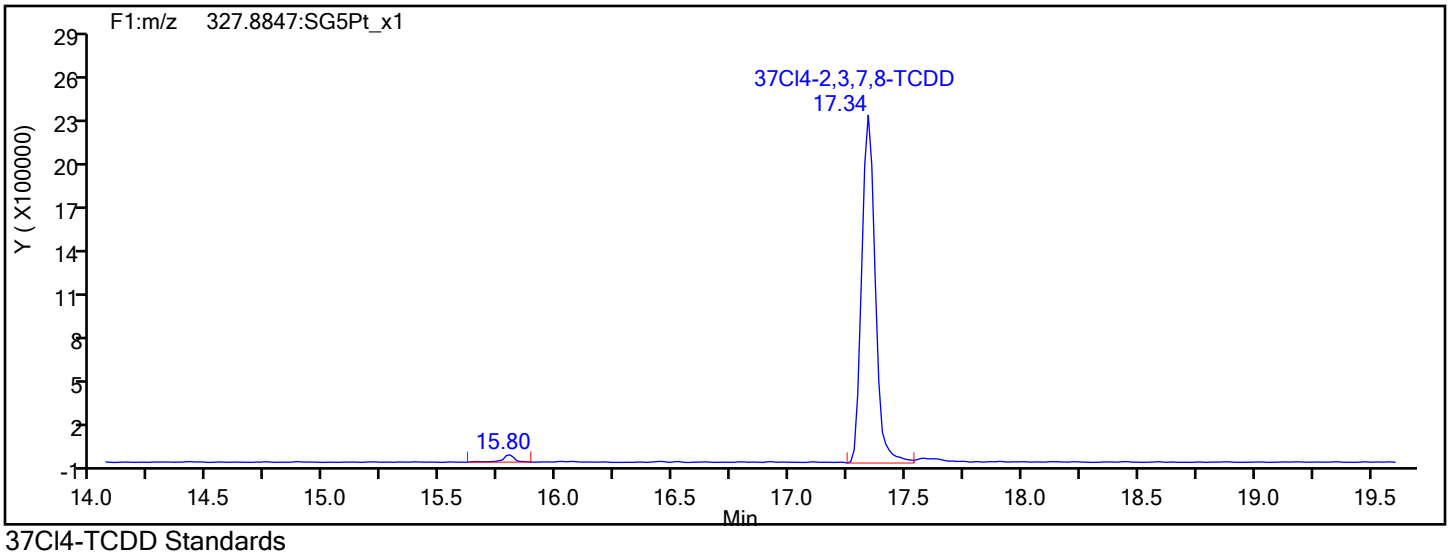

37Cl4-TCDD Standards

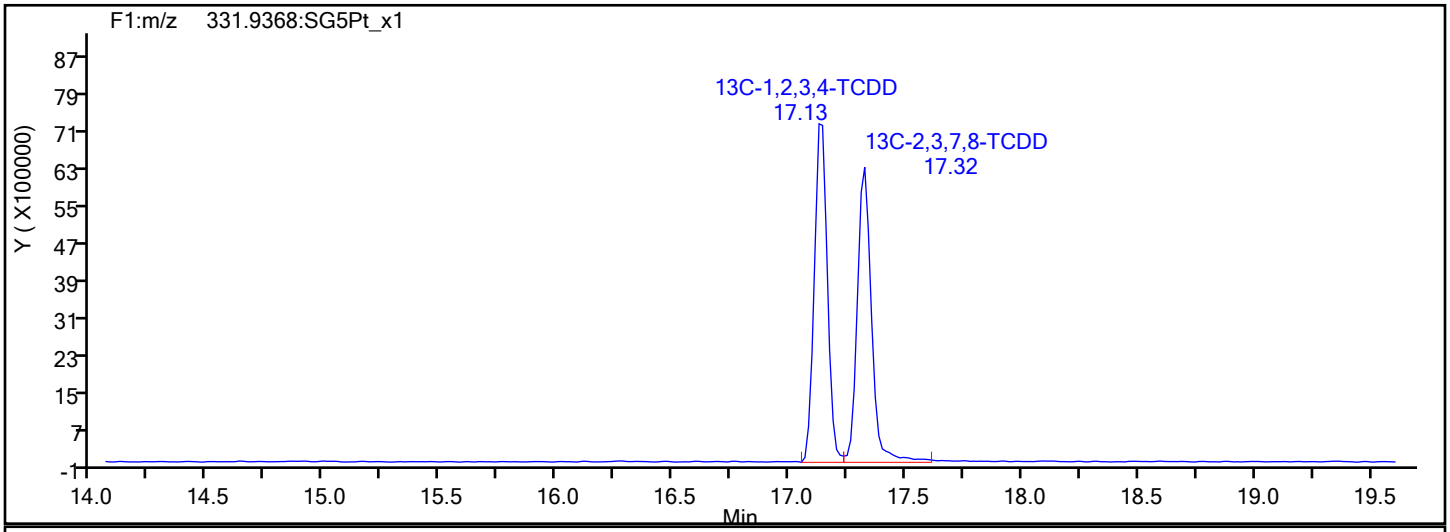

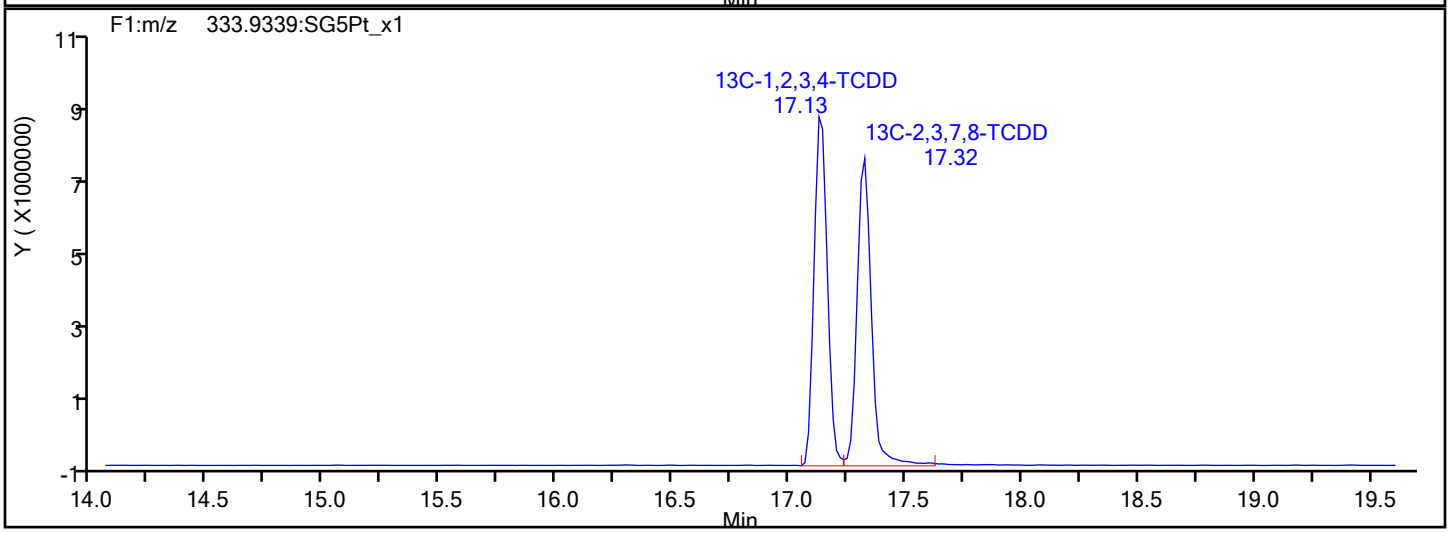

Report Date: 07-Jan-2020 11:21:58 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_2.d		
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Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	349283	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

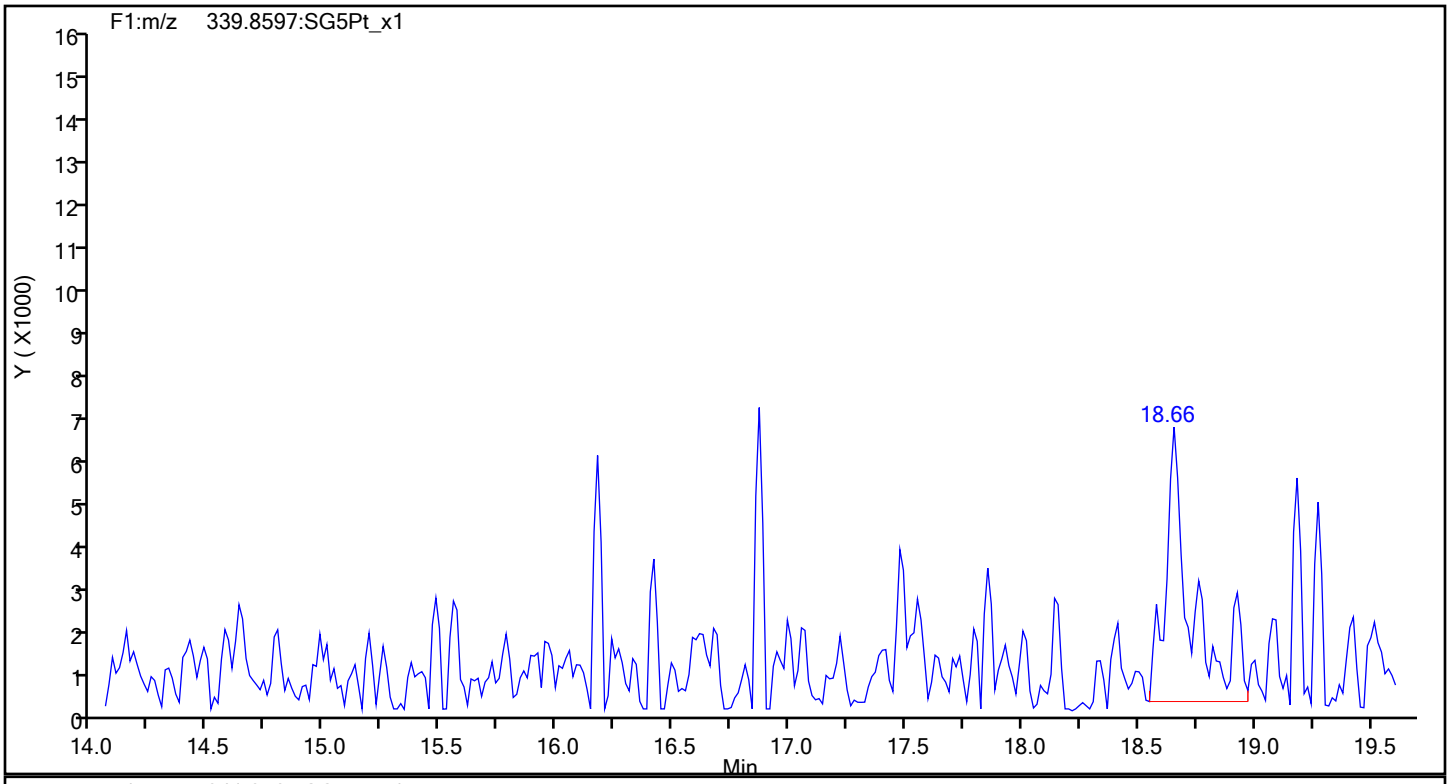

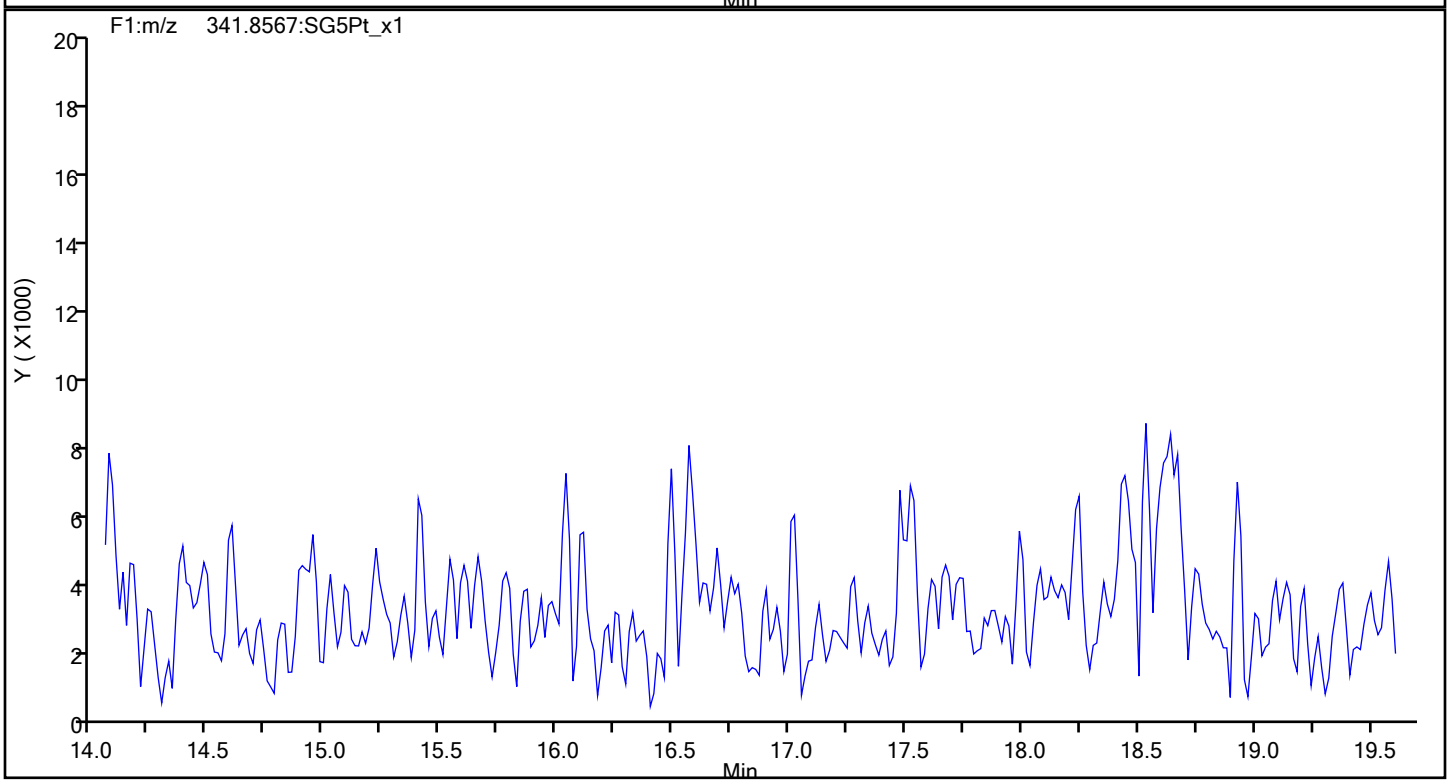

Report Date: 07-Jan-2020 11:21:58 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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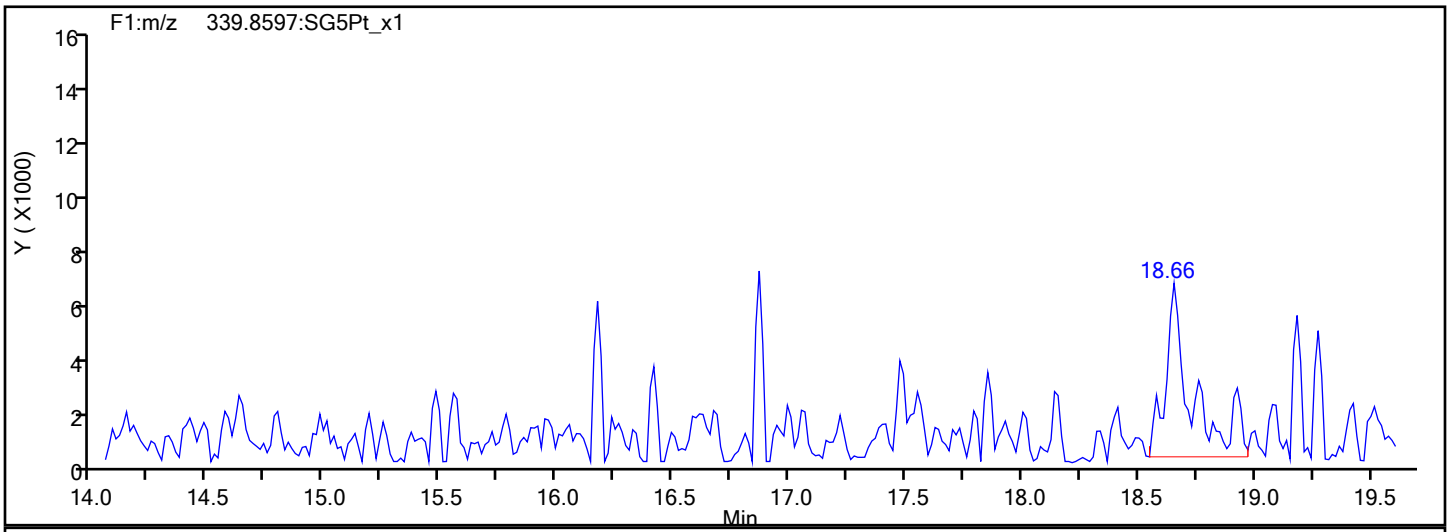

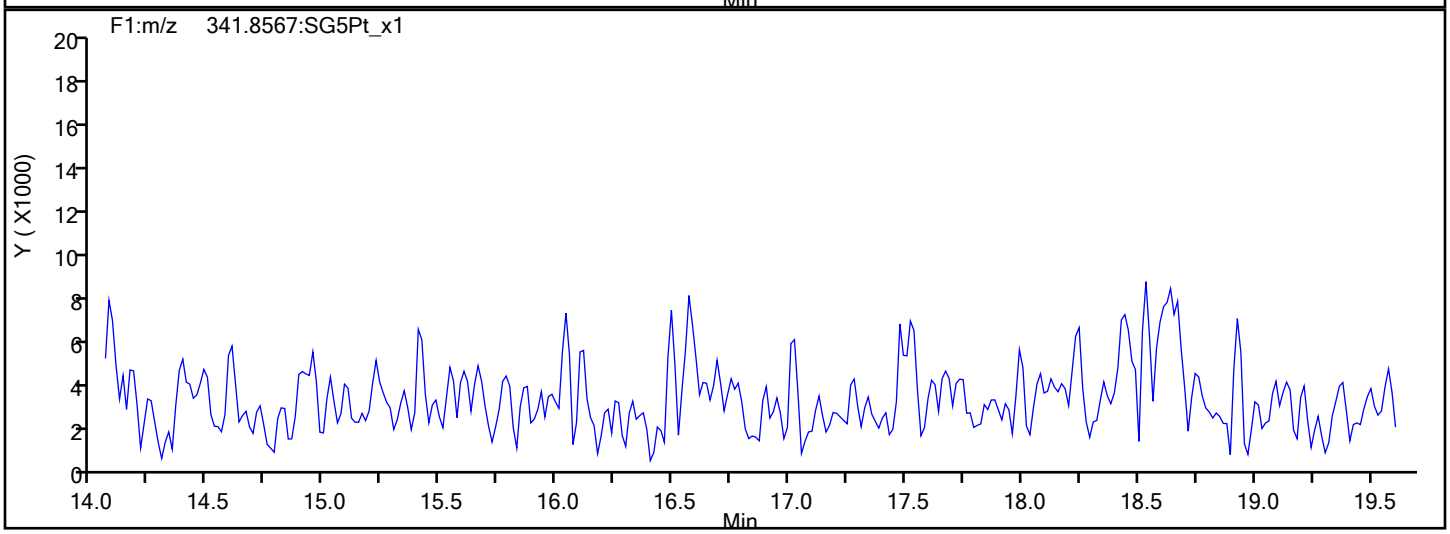

F1 PeCDFs Interference Mass

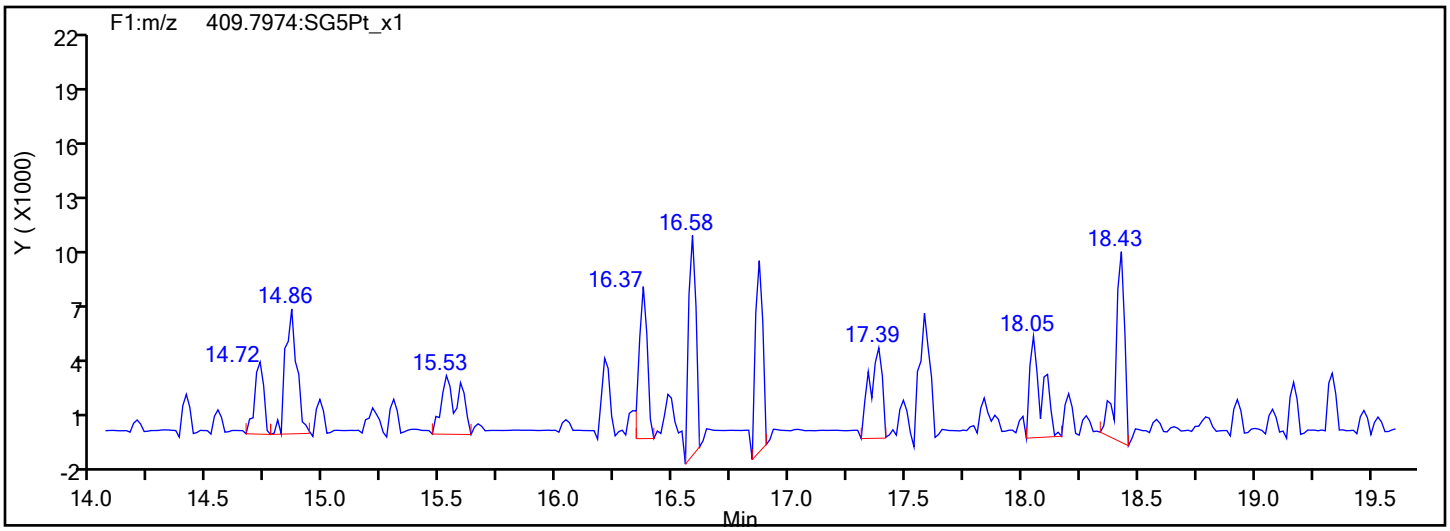

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Eurofins TestAmerica, Sacramento

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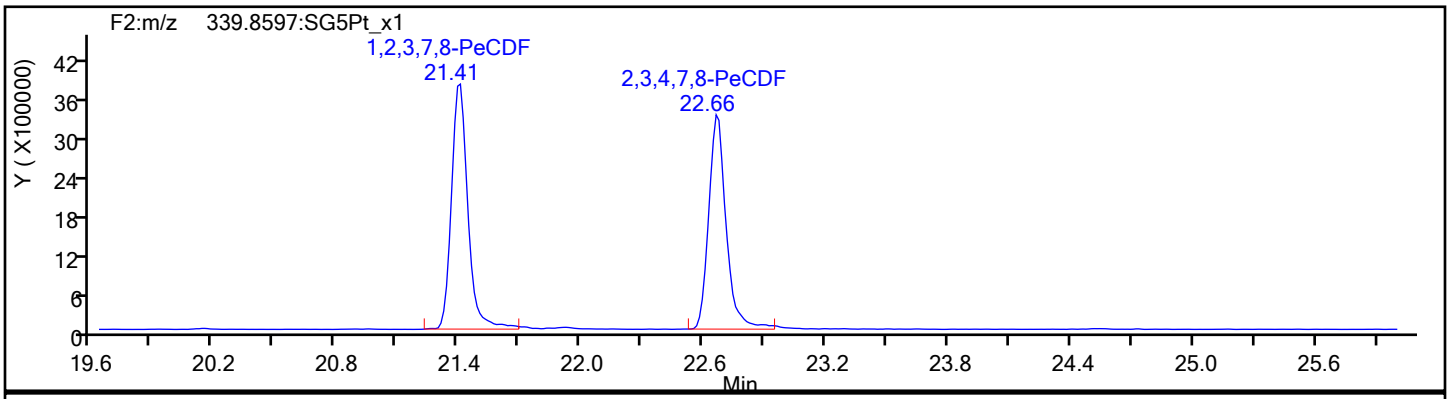

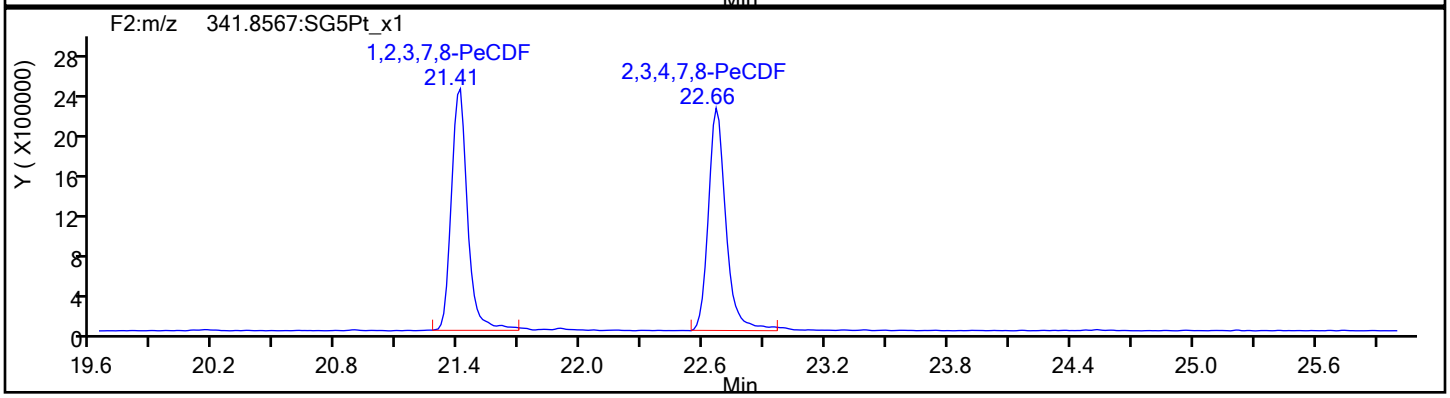

PeCDF Standards

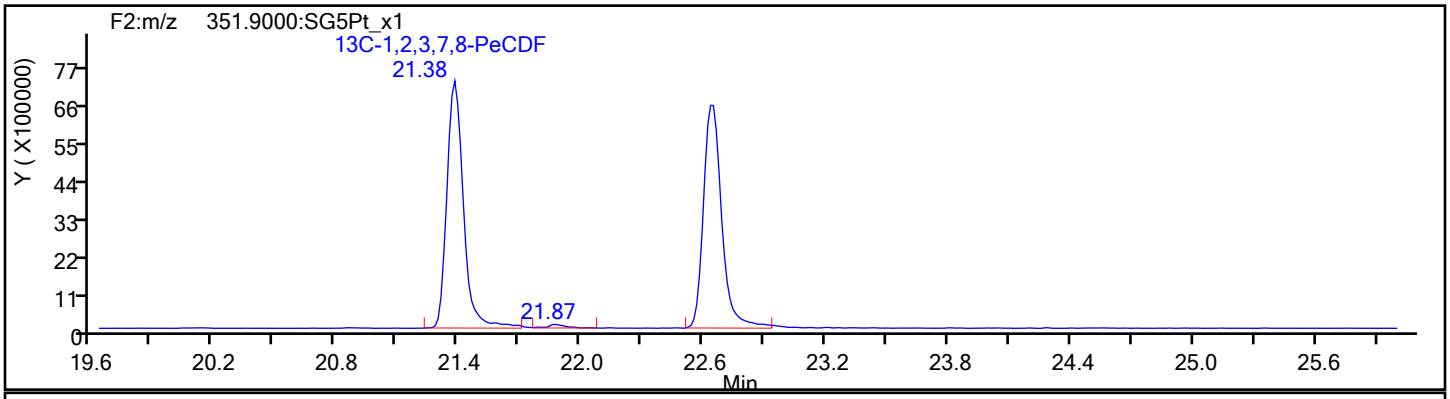

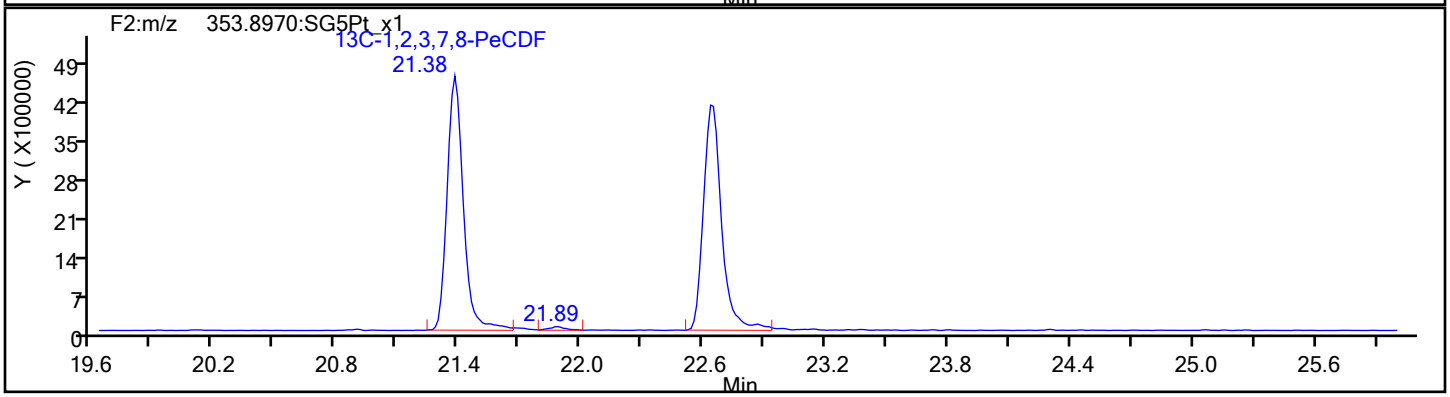

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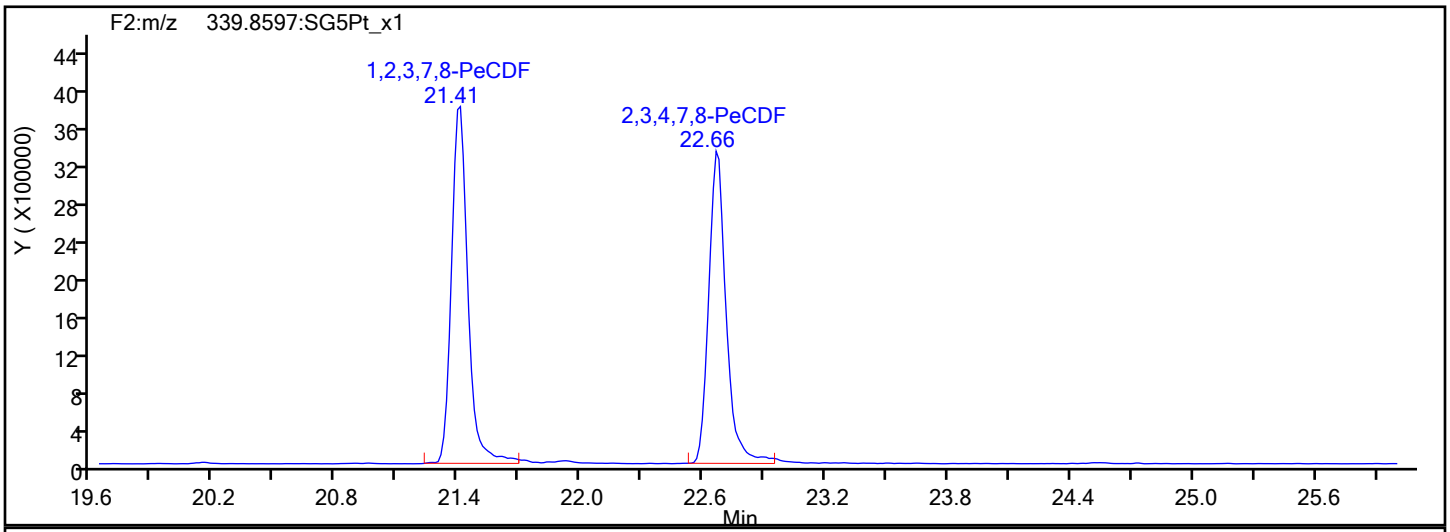

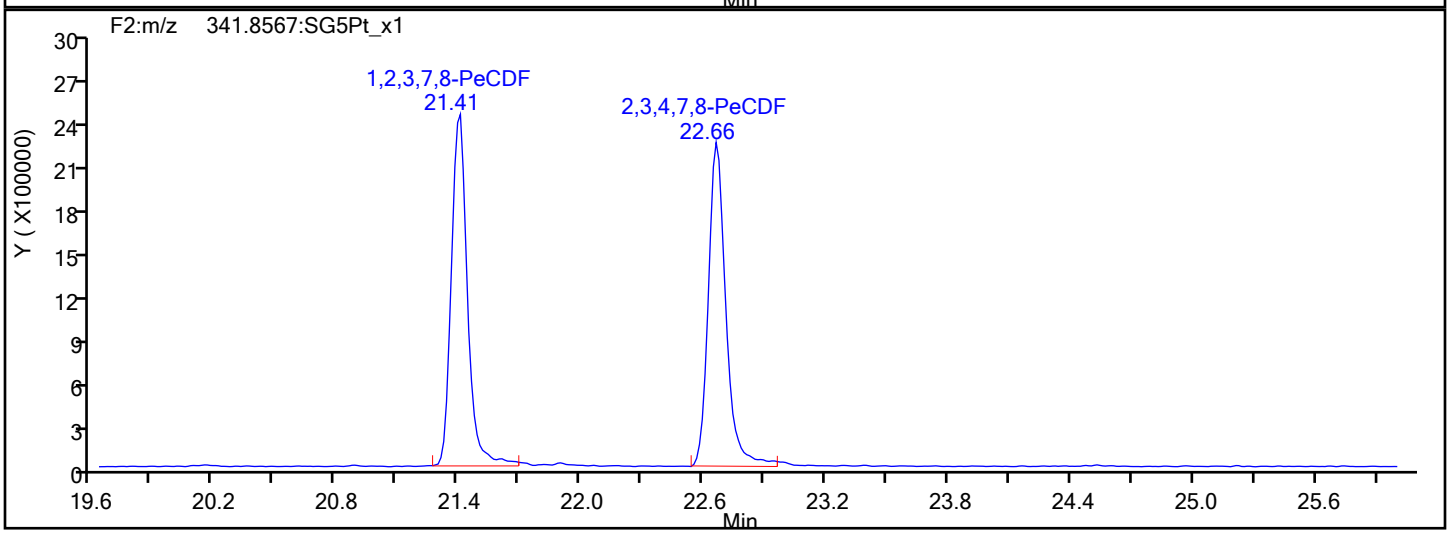

PeCDF Interference Mass

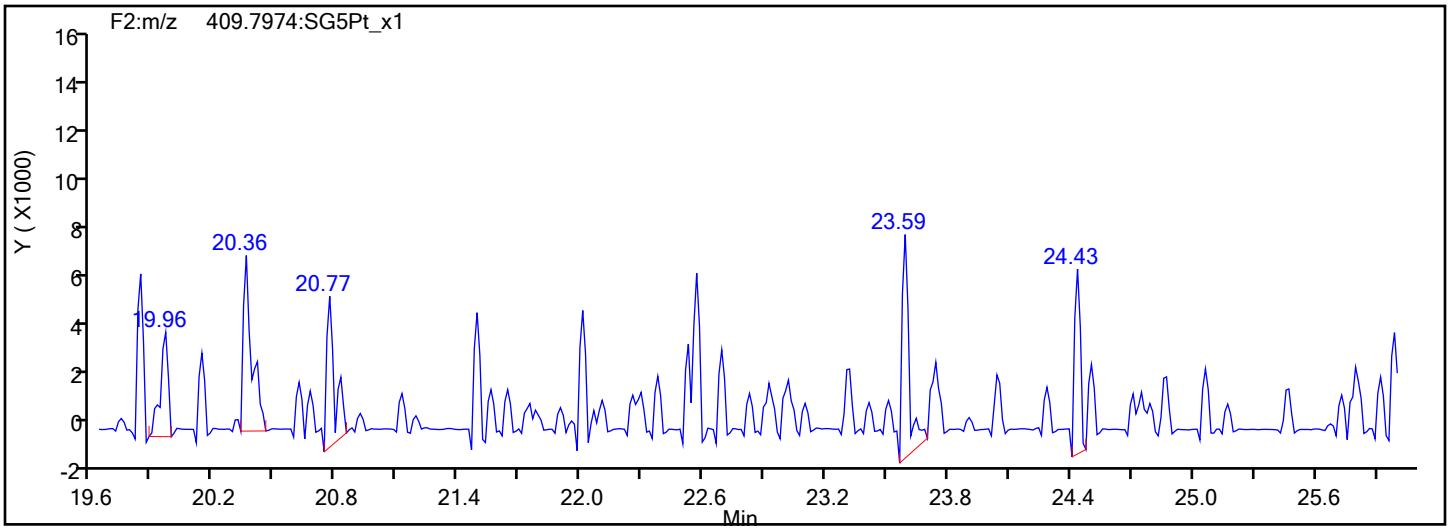

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Eurofins TestAmerica, Sacramento

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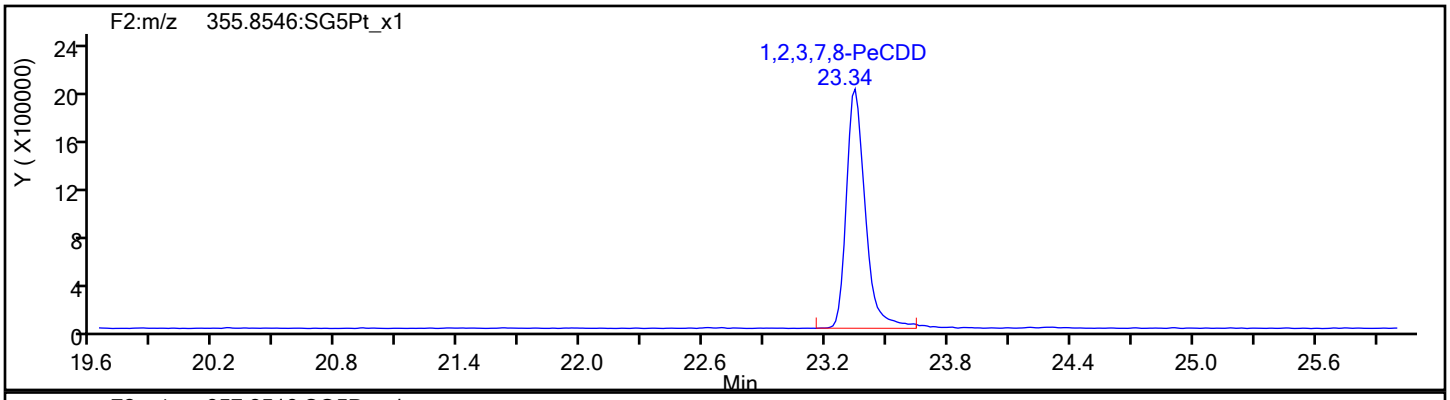

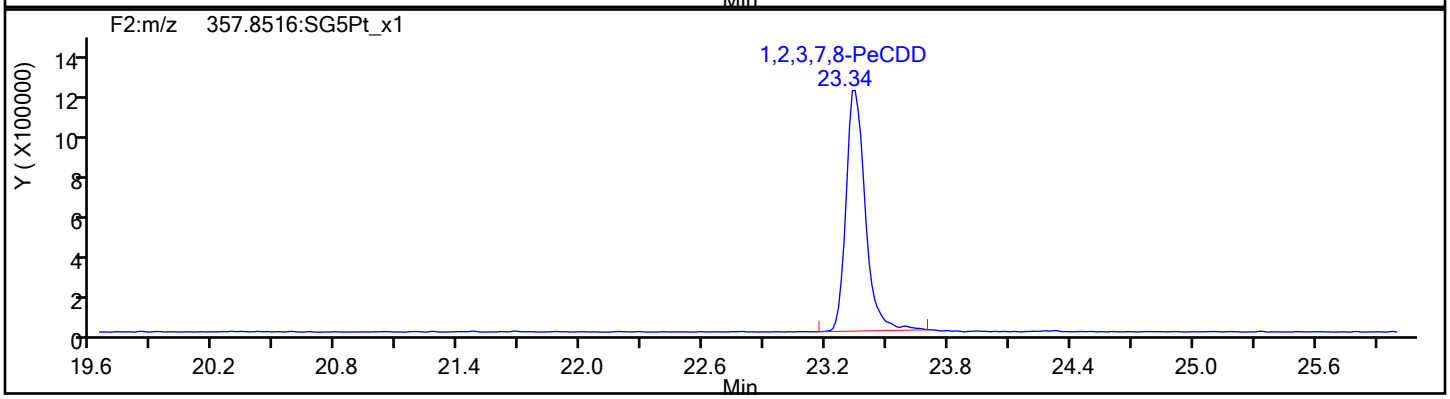

PeCDD Standards

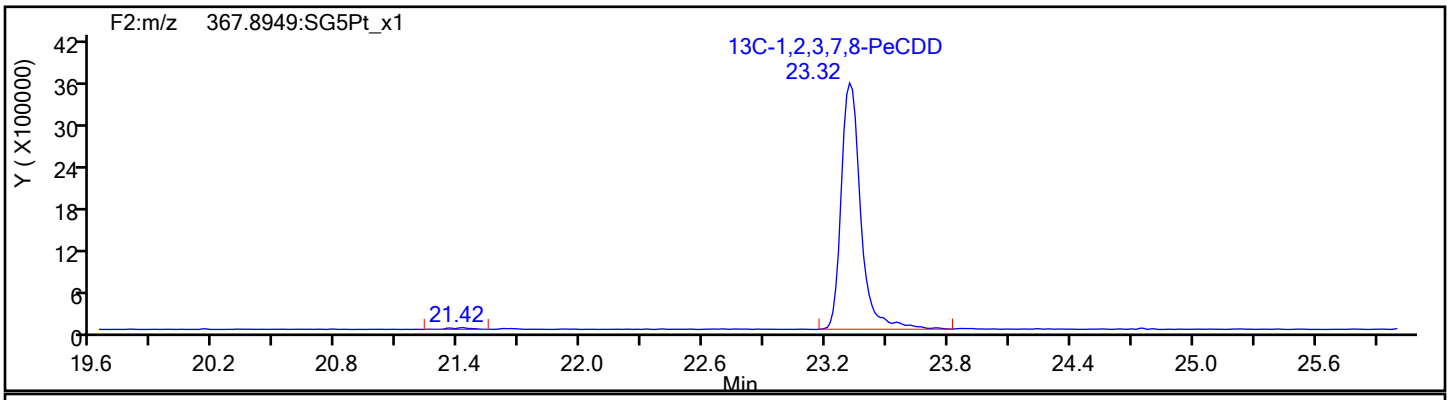

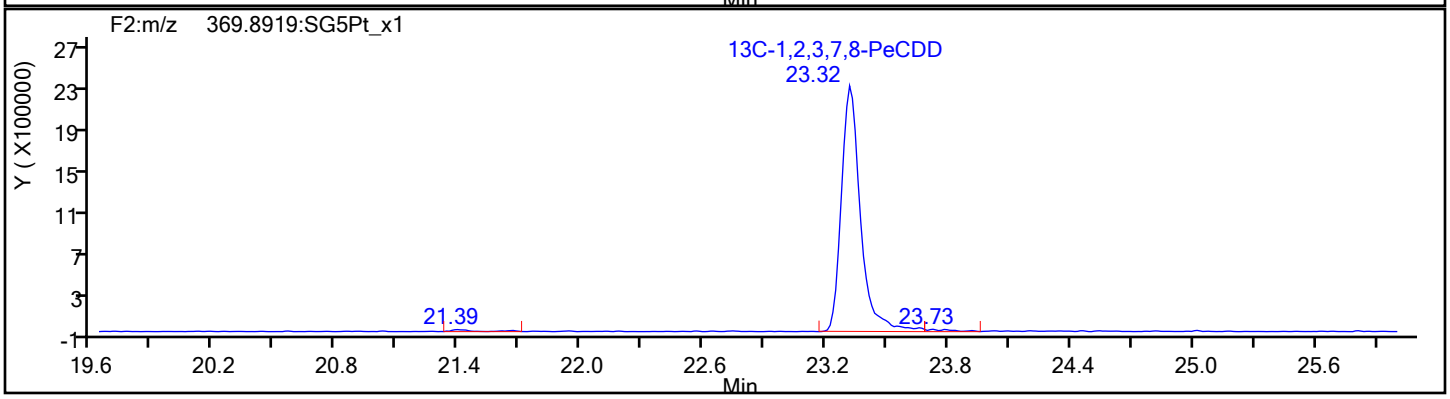

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Eurofins TestAmerica, Sacramento

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HxCDF

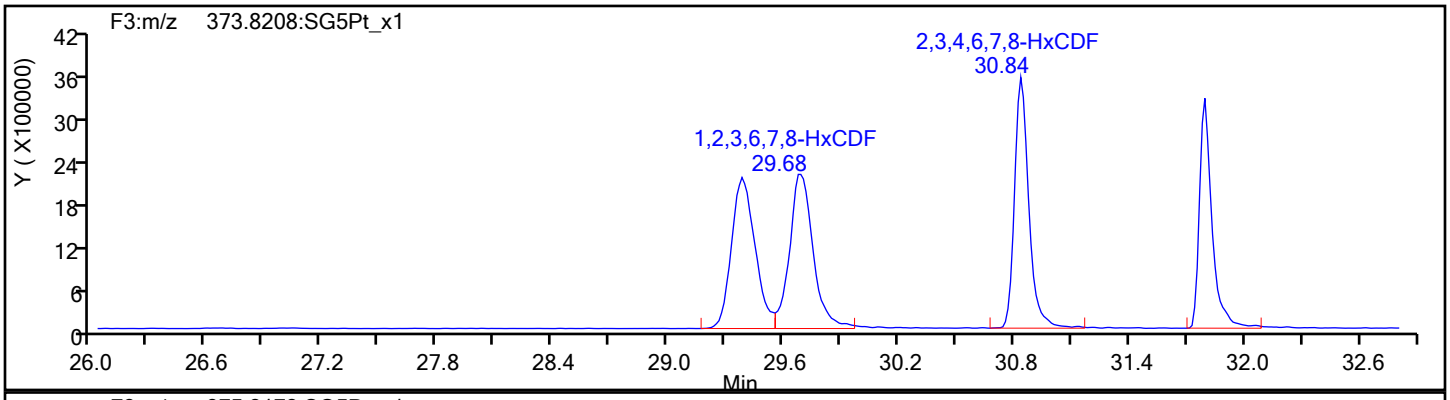

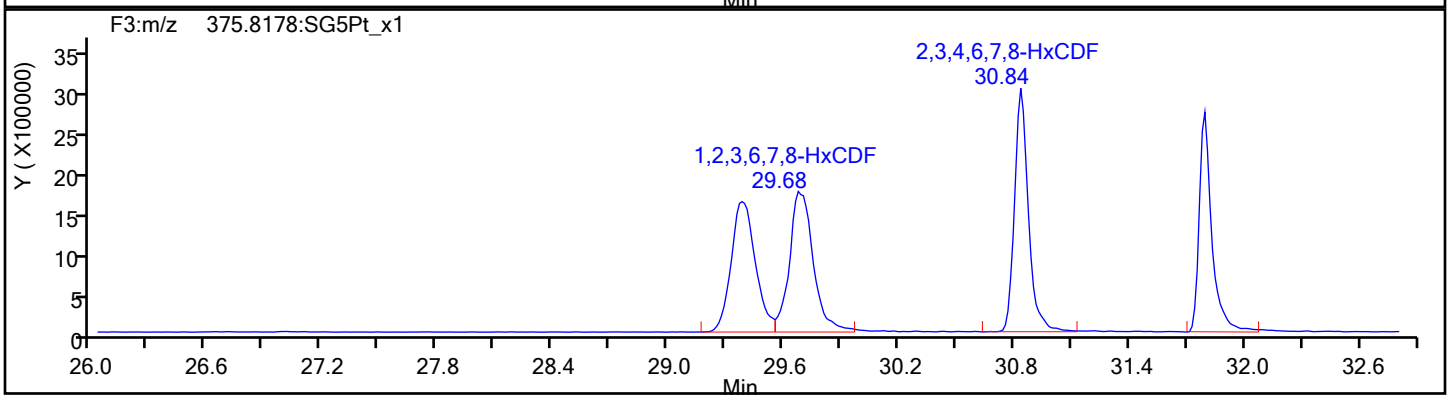

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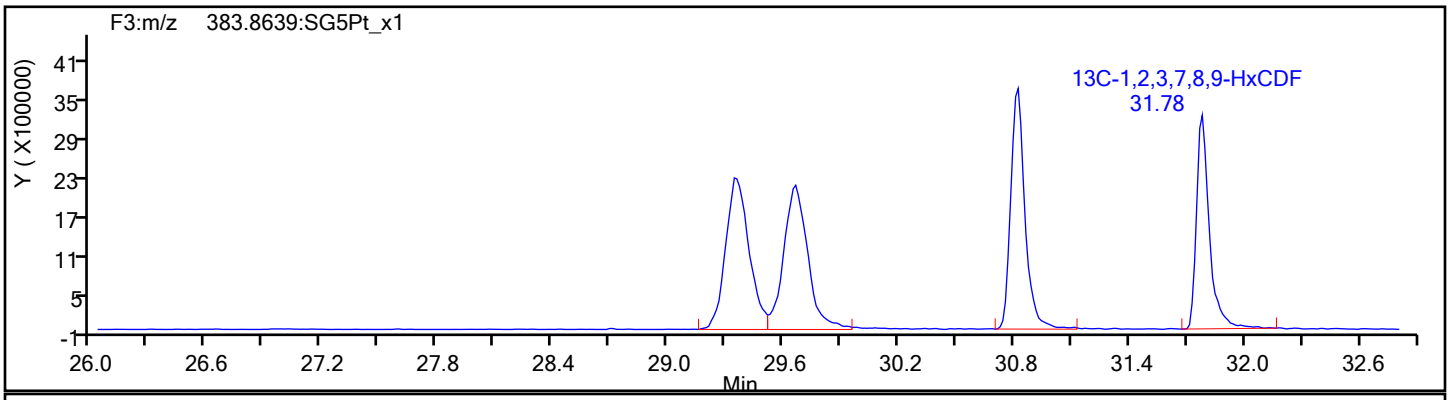

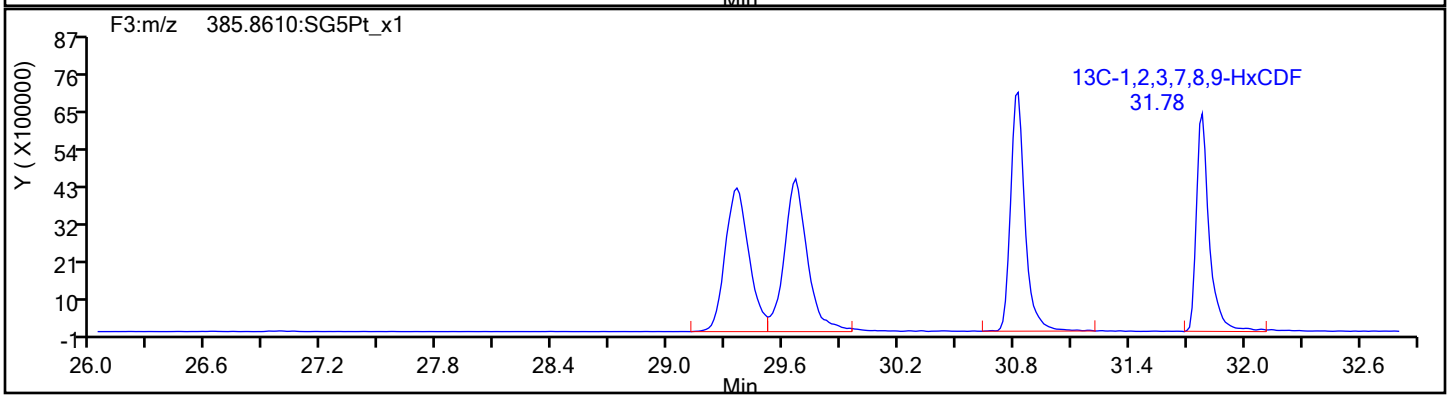

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Eurofins TestAmerica, Sacramento

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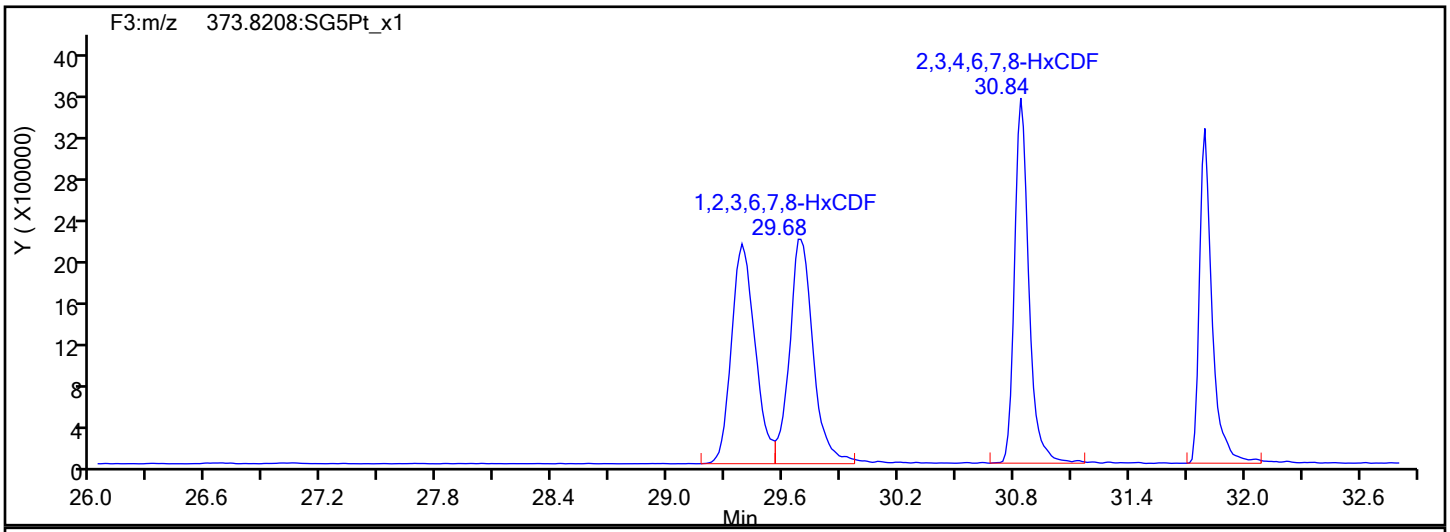

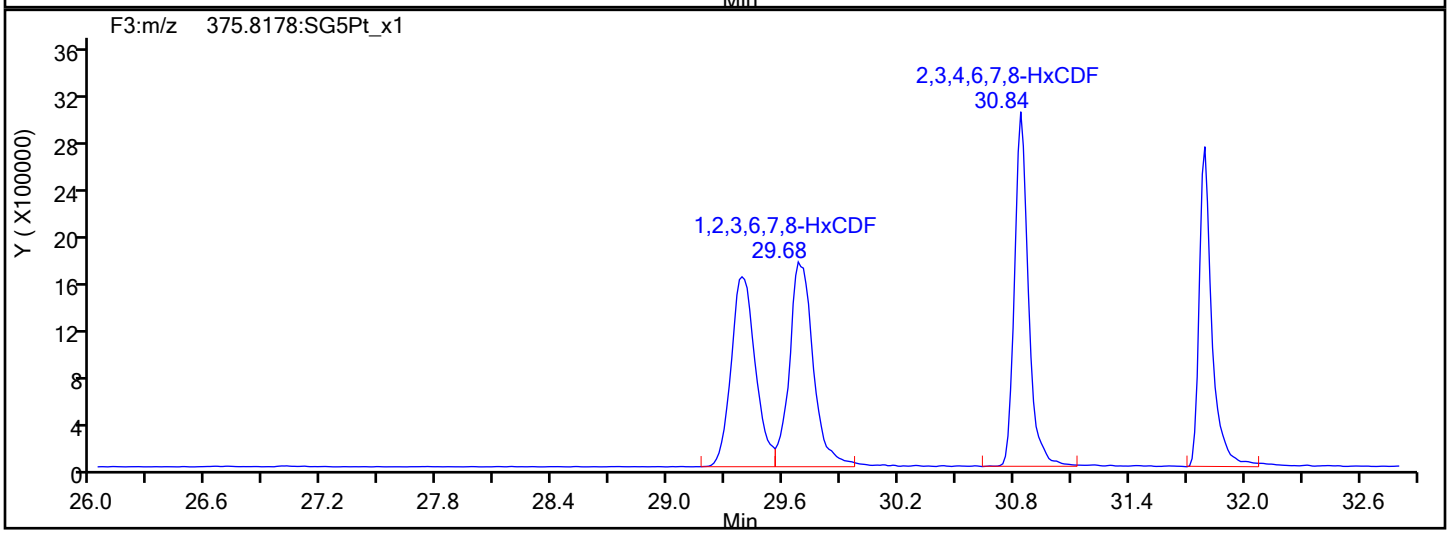

HxCDF Interference Mass

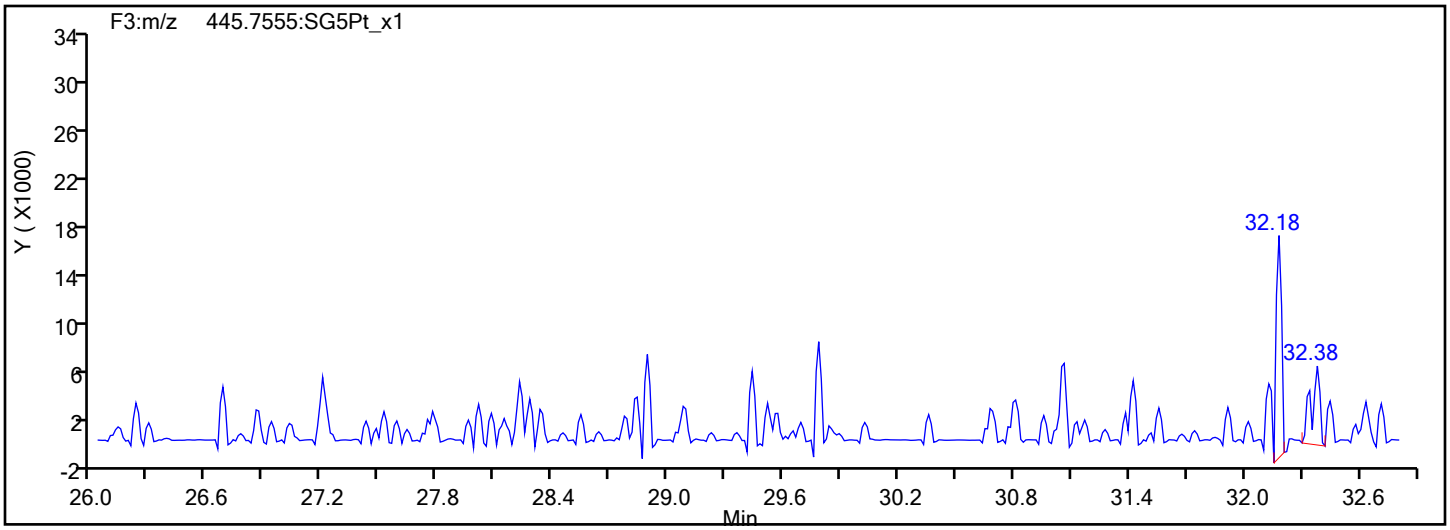

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Eurofins TestAmerica, Sacramento

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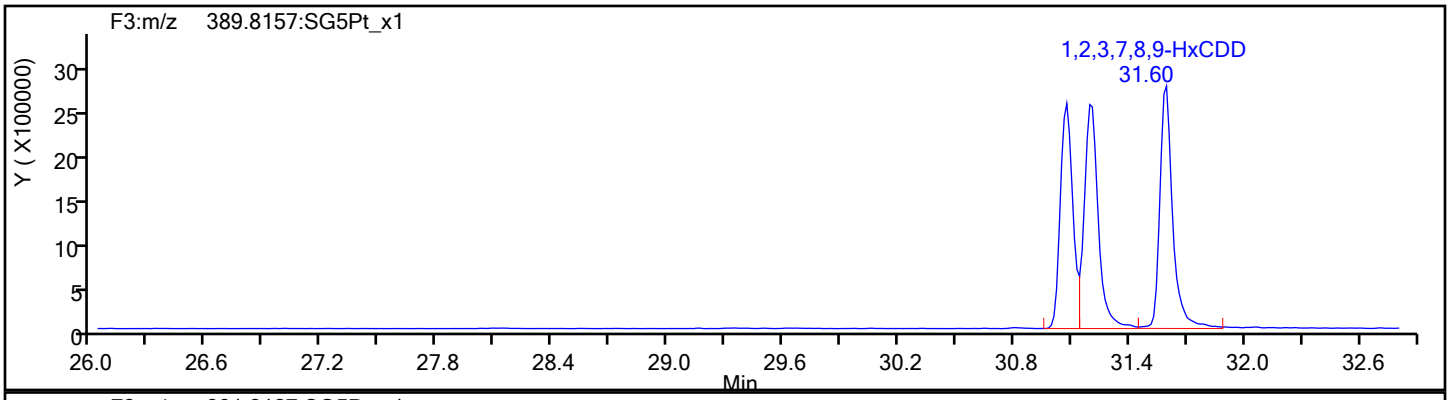

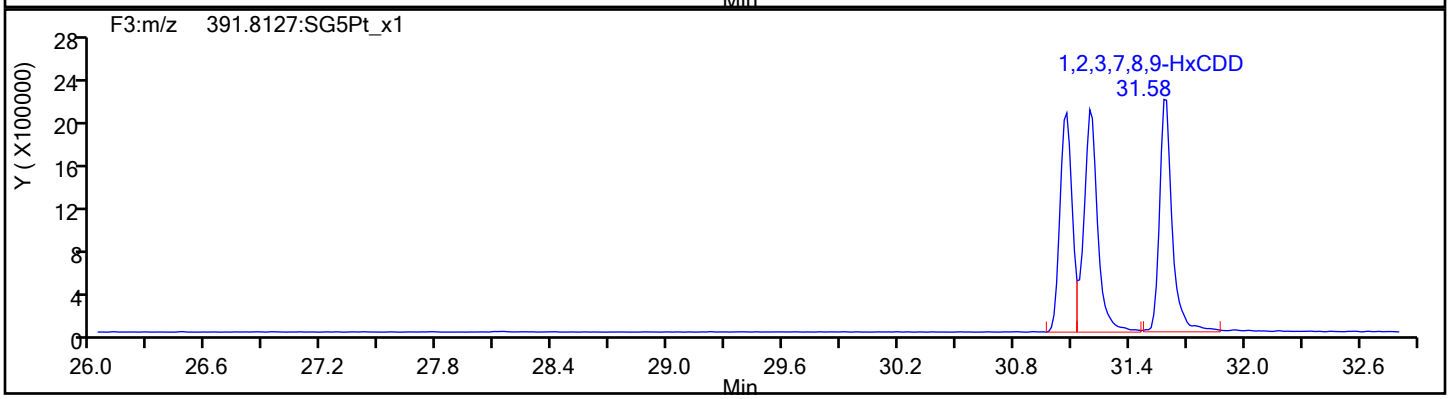

HxCDD Standards

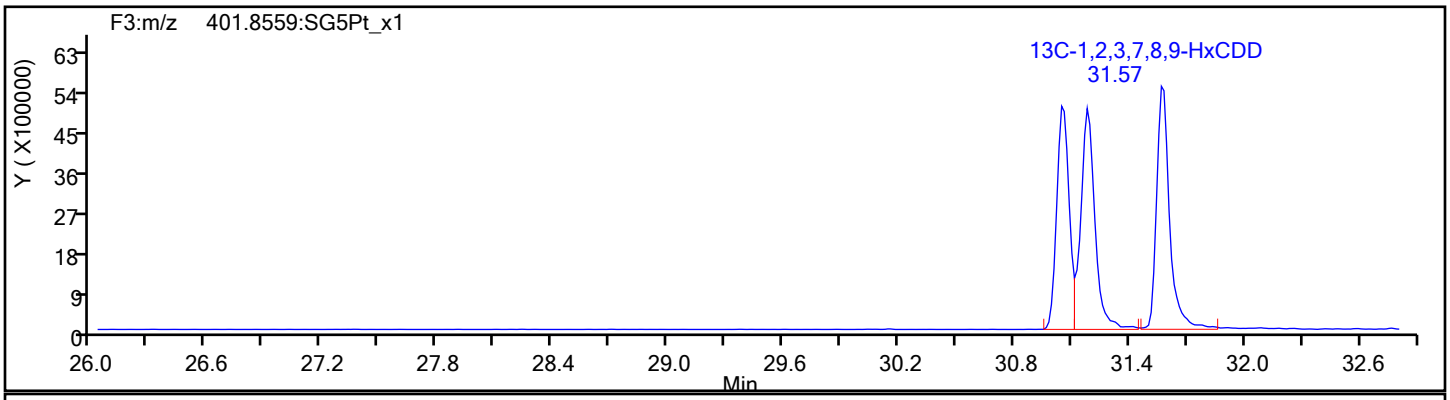

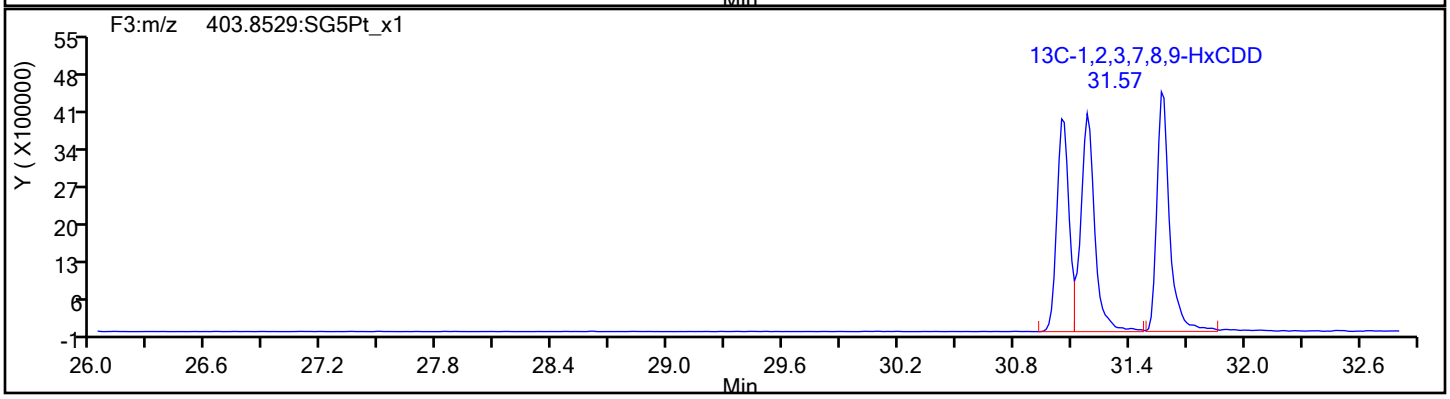

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Eurofins TestAmerica, Sacramento

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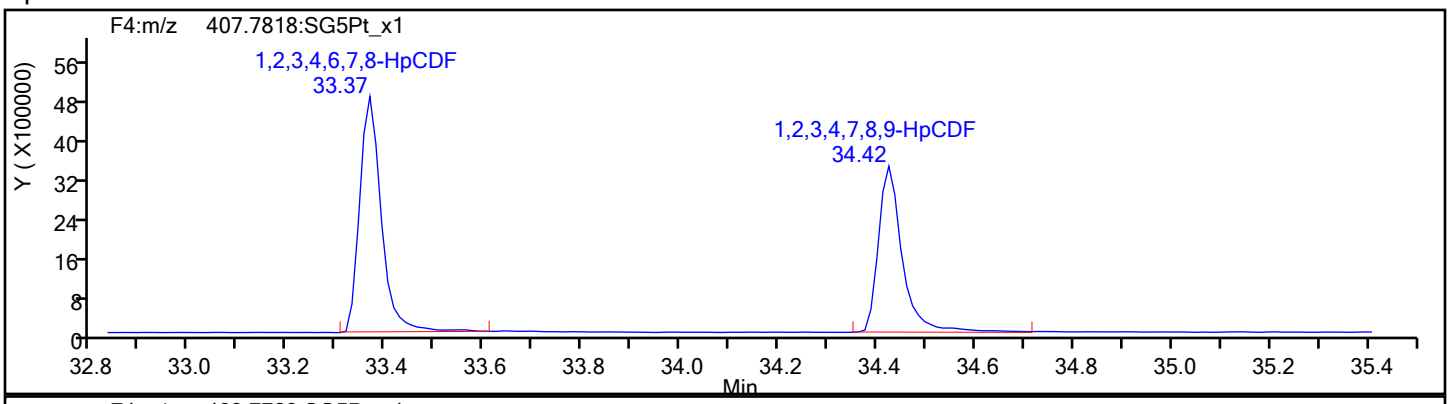

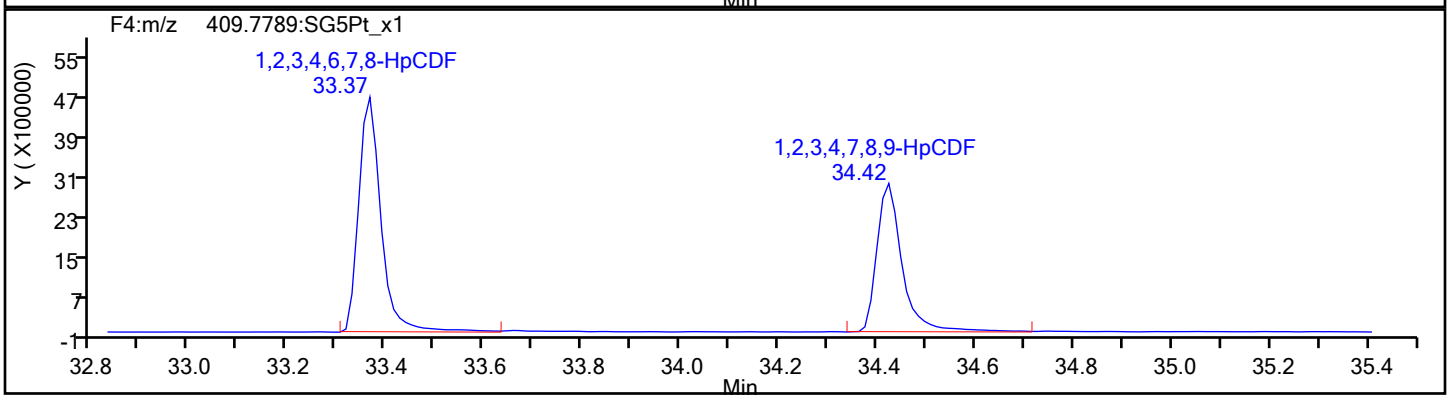

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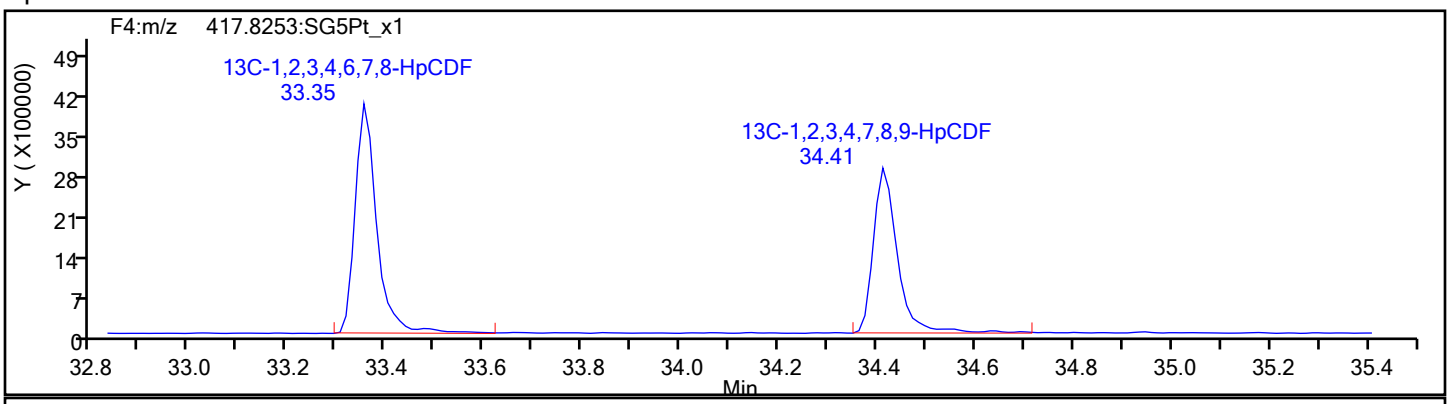

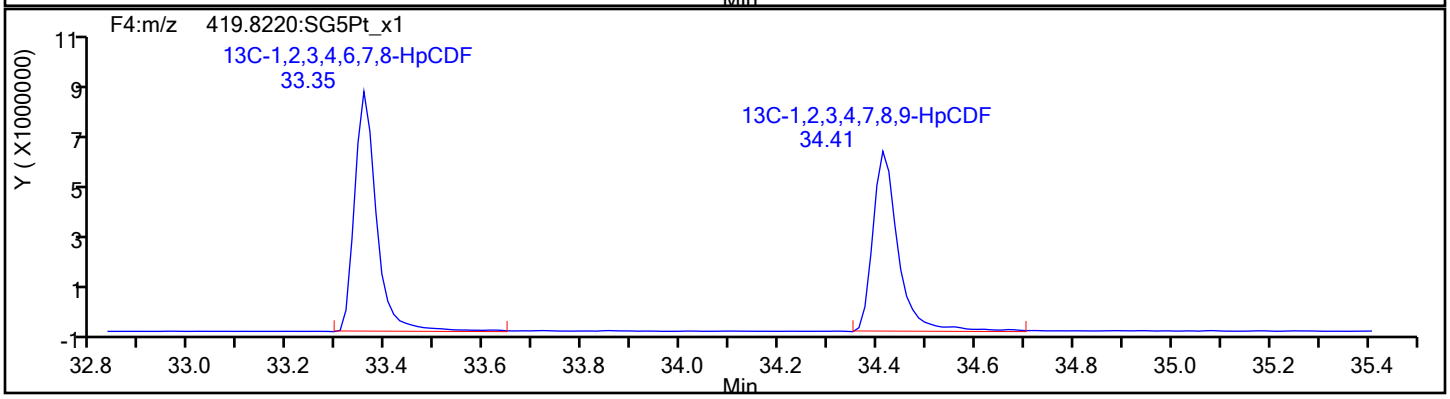

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Eurofins TestAmerica, Sacramento

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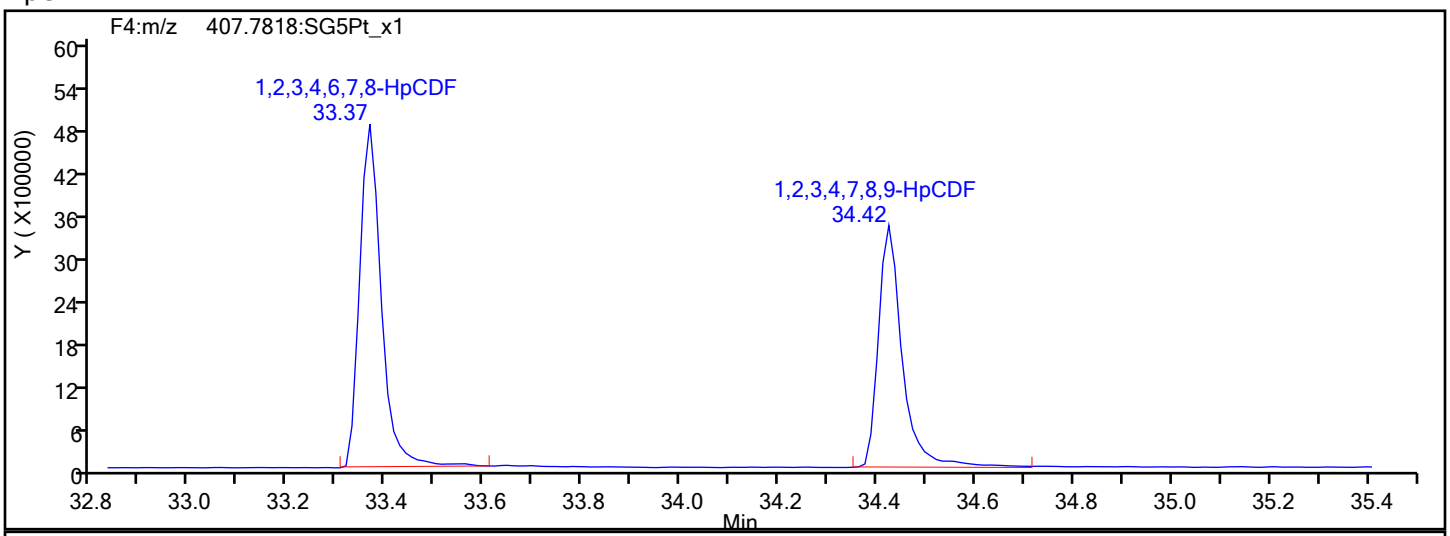

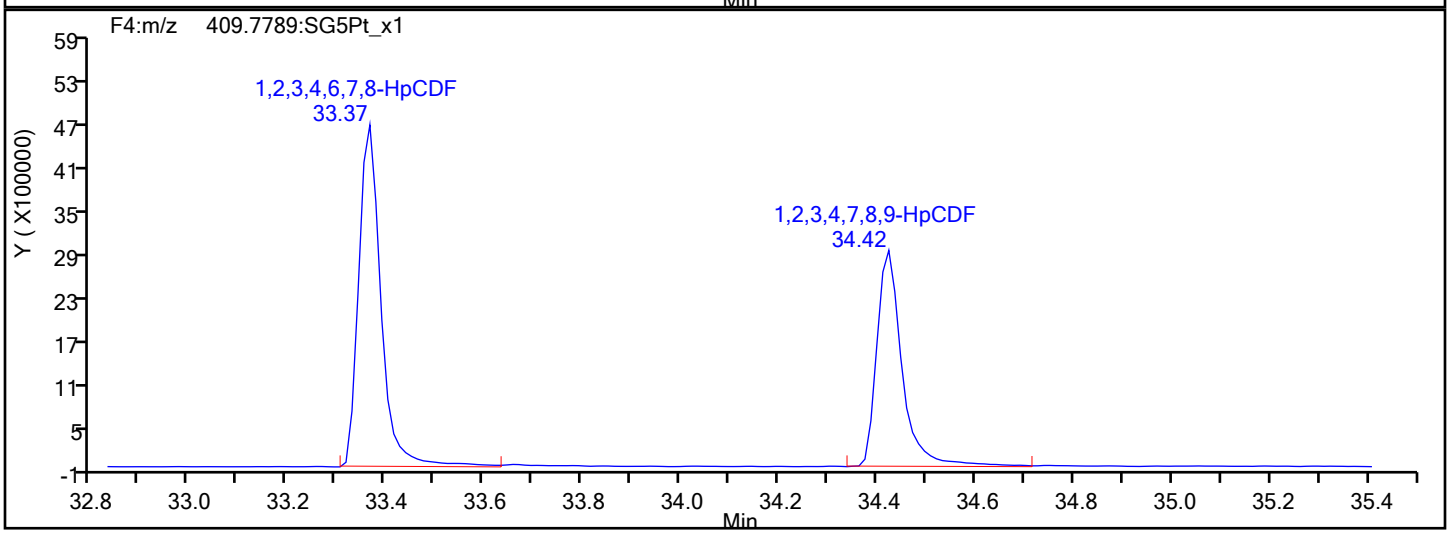

HpCDF Interference Mass

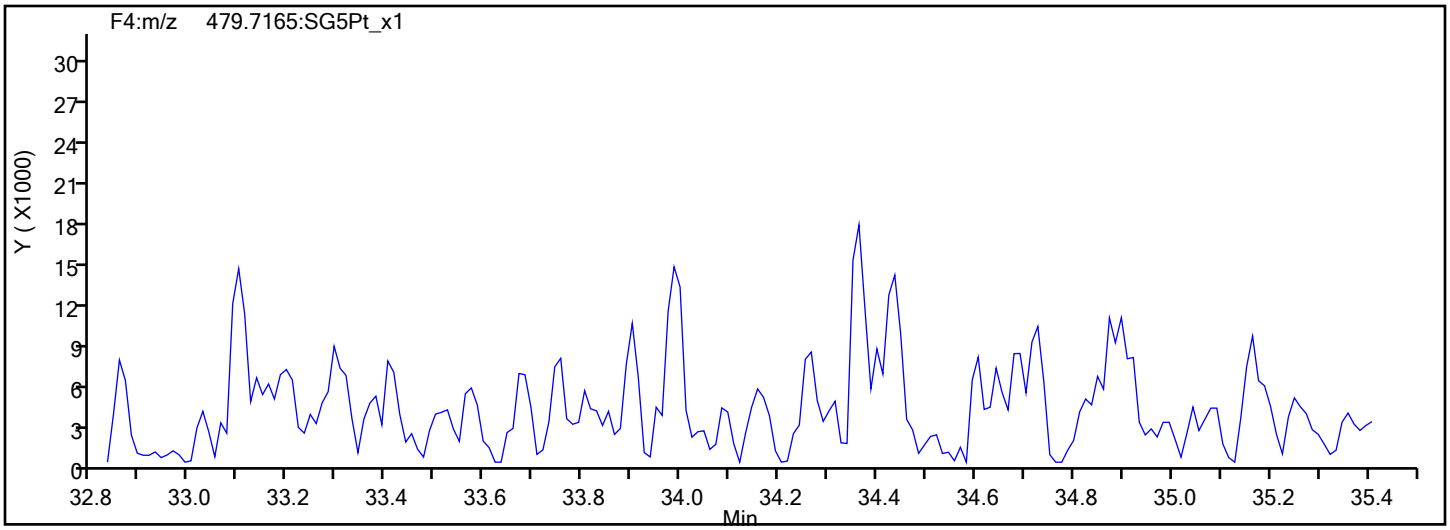

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Eurofins TestAmerica, Sacramento

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HpCDD

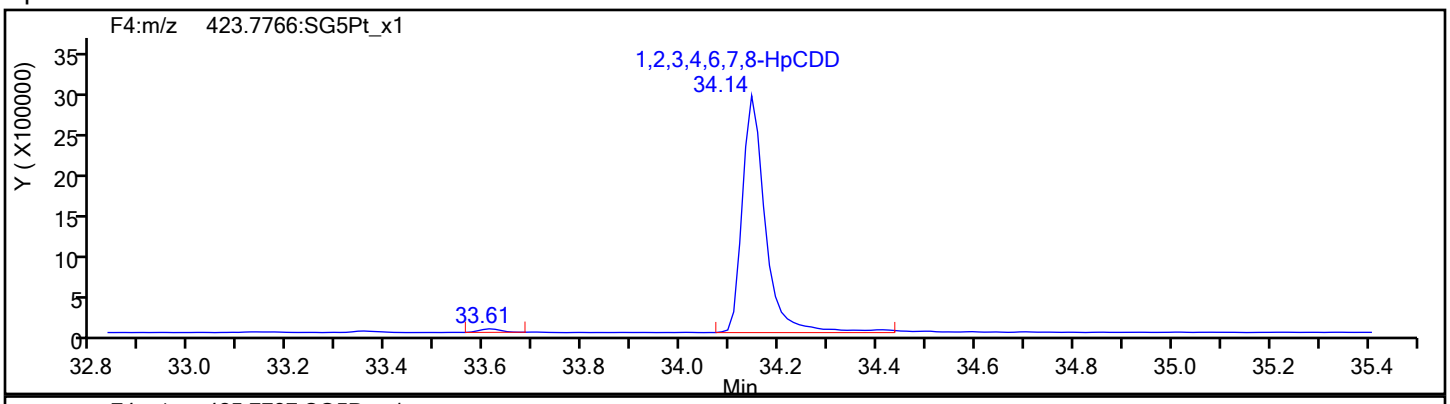

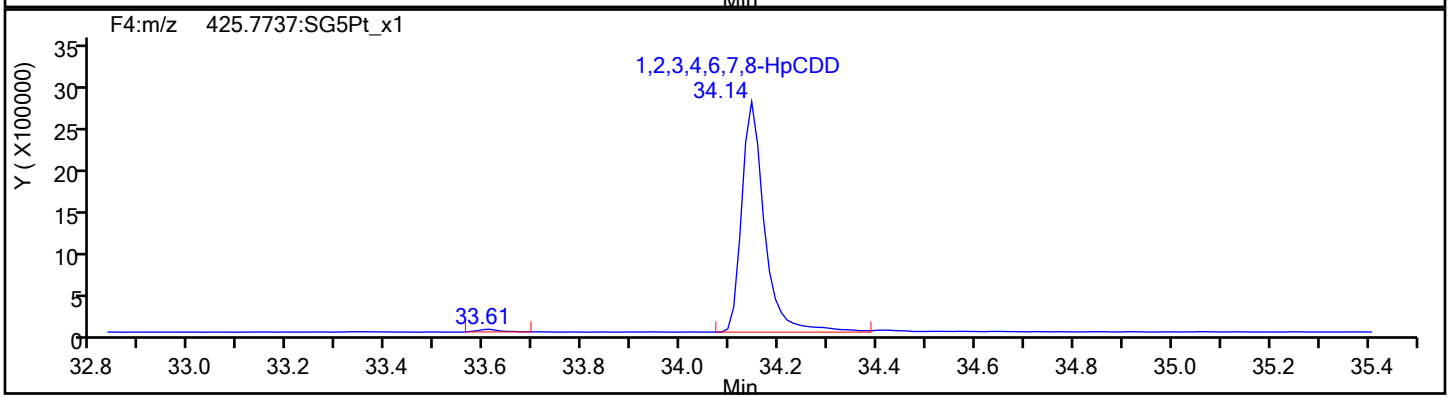

HpCDD Standards

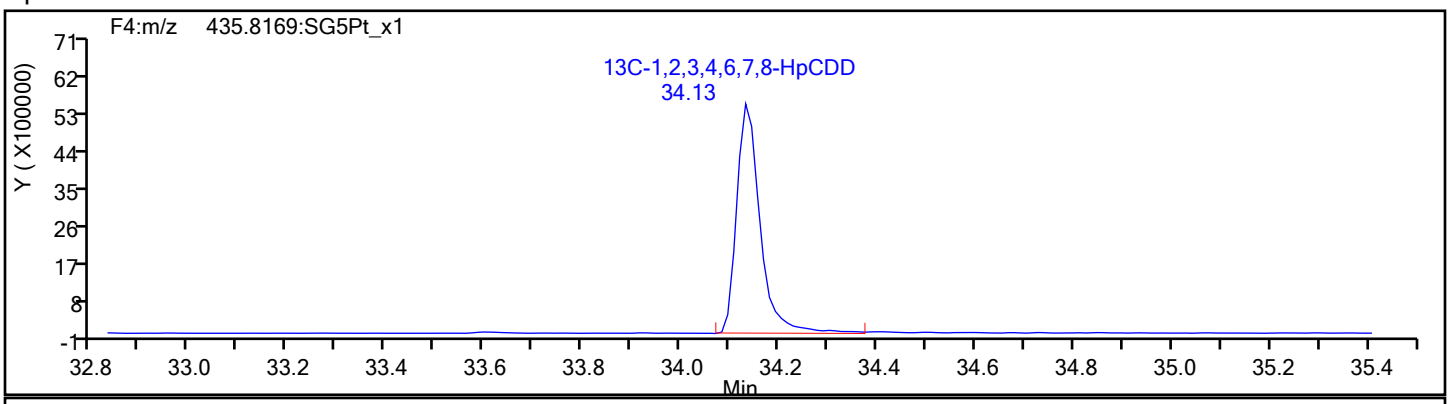

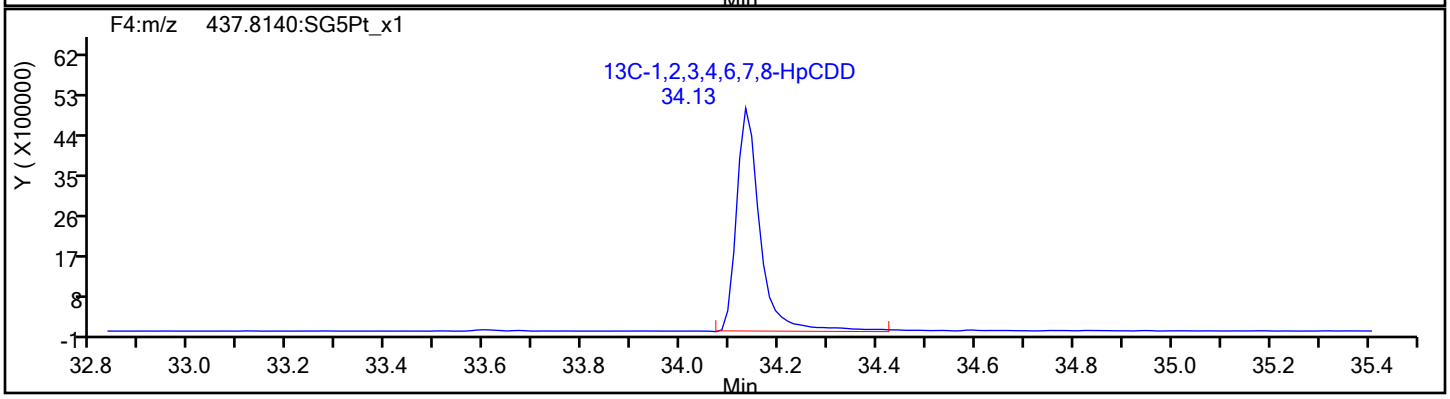

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Eurofins TestAmerica, Sacramento

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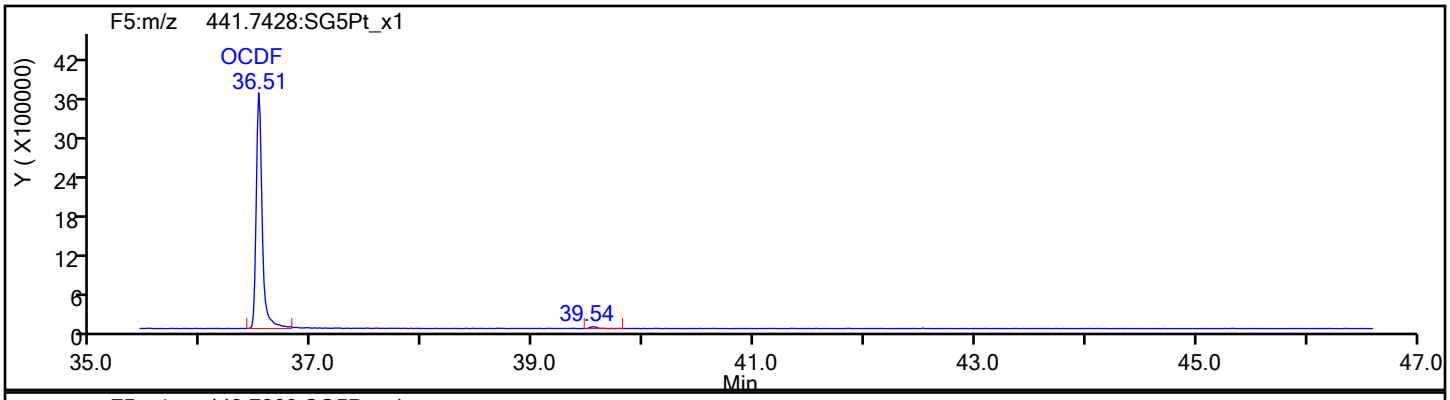

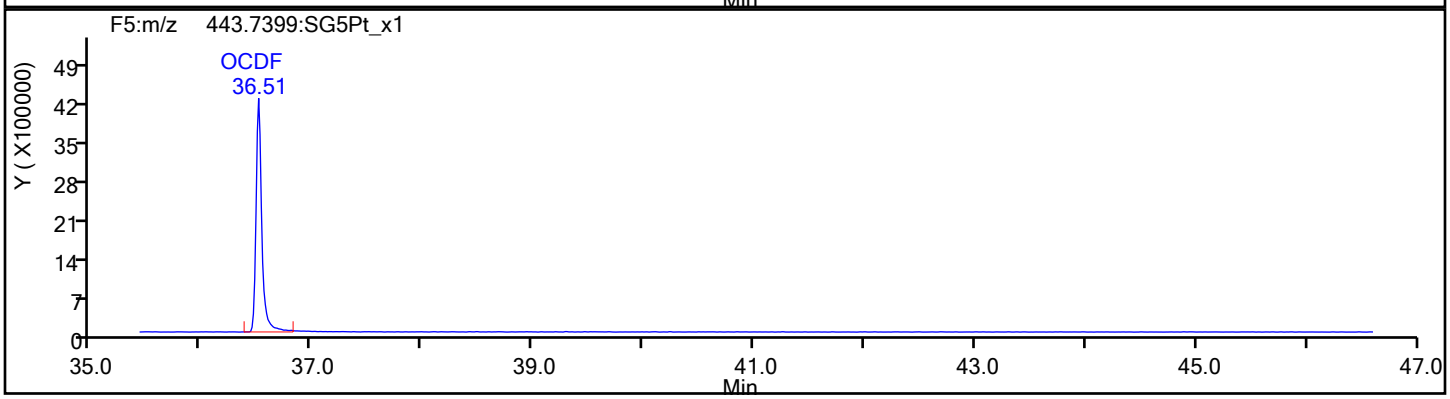

OCDF Standards

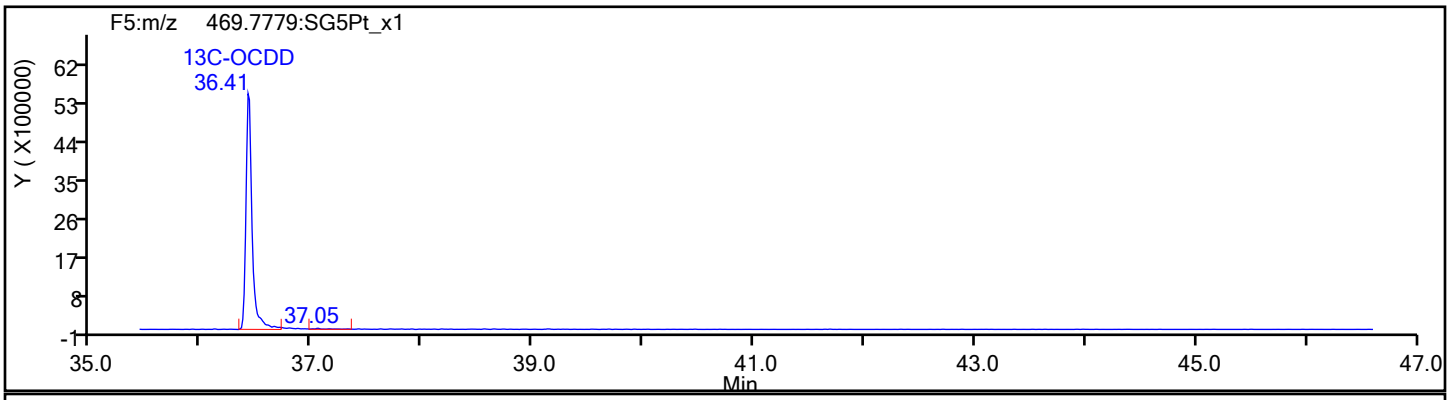

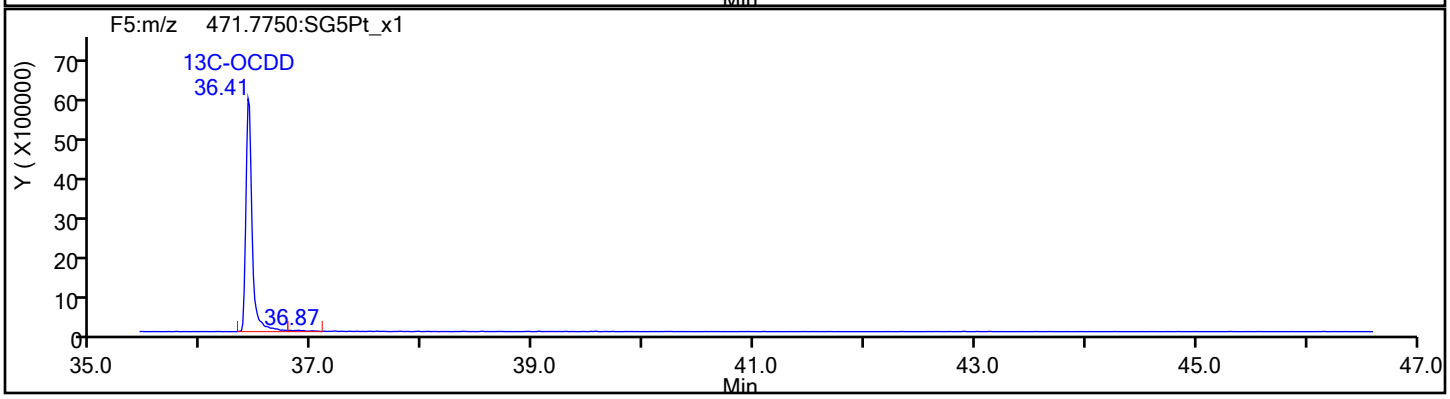

Report Date: 07-Jan-2020 11:21:58 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_2.d		
Injection Date:	06-Jan-2020 22:15:12	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	349283	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

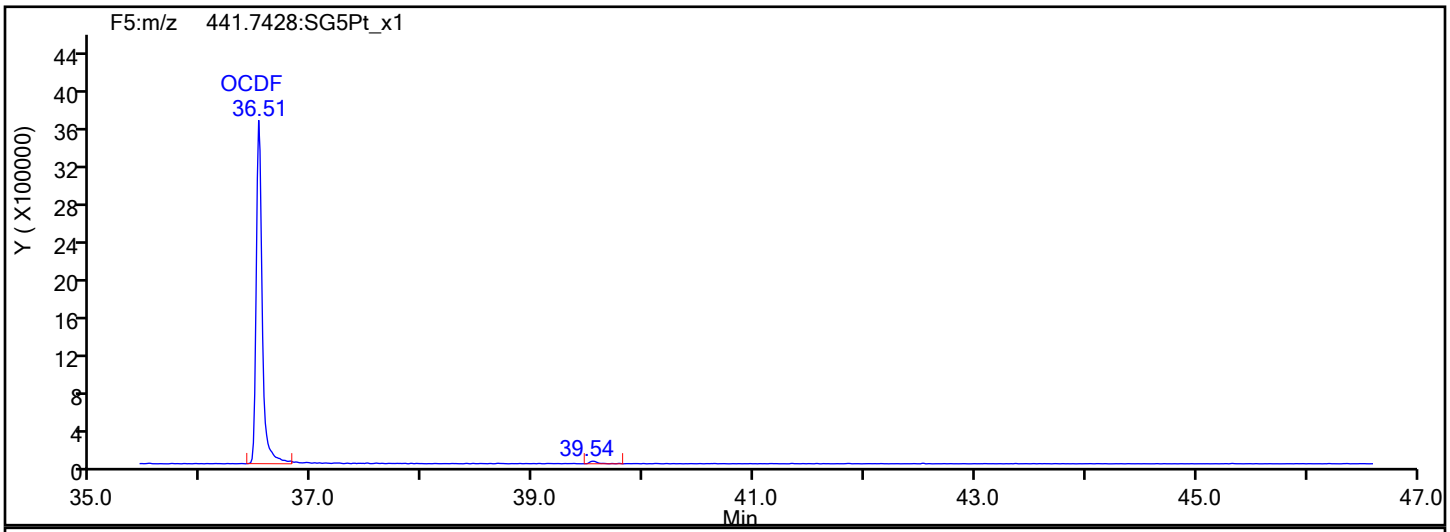

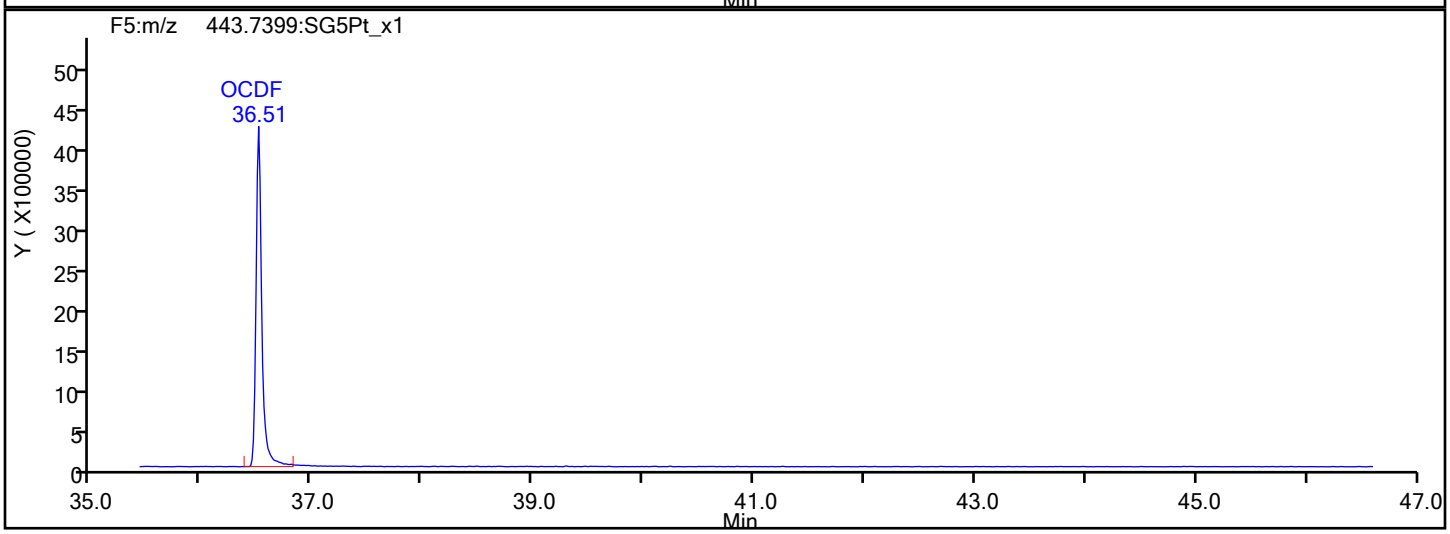

OCDF Interference Mass

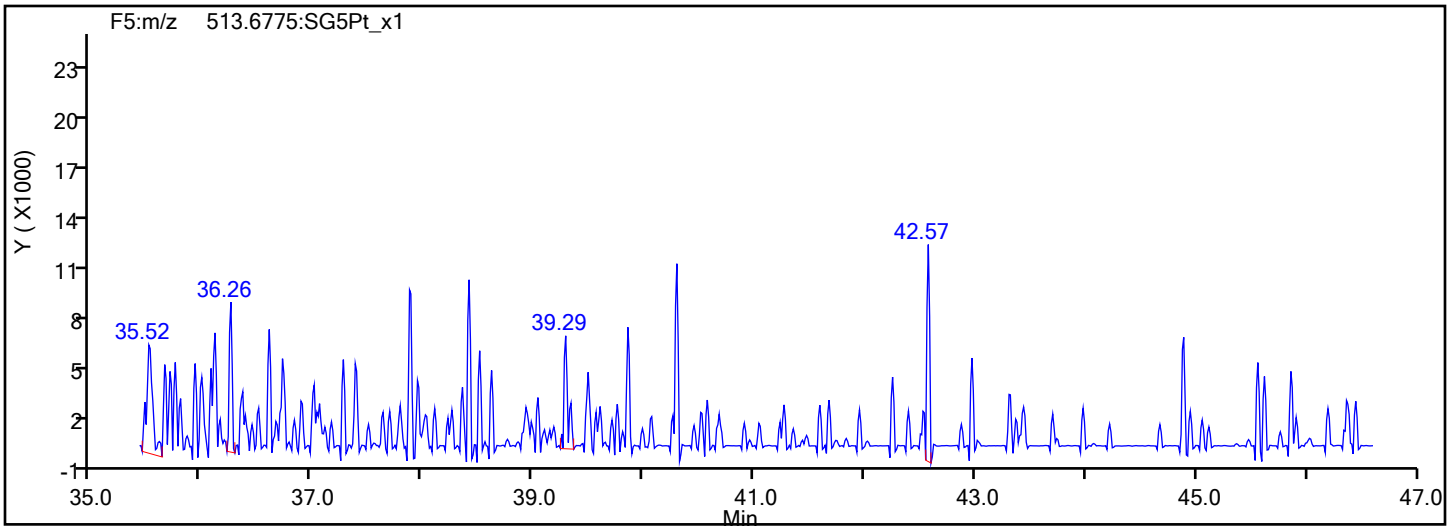

Report Date: 07-Jan-2020 11:21:58 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_2.d		
Injection Date:	06-Jan-2020 22:15:12	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	349283	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

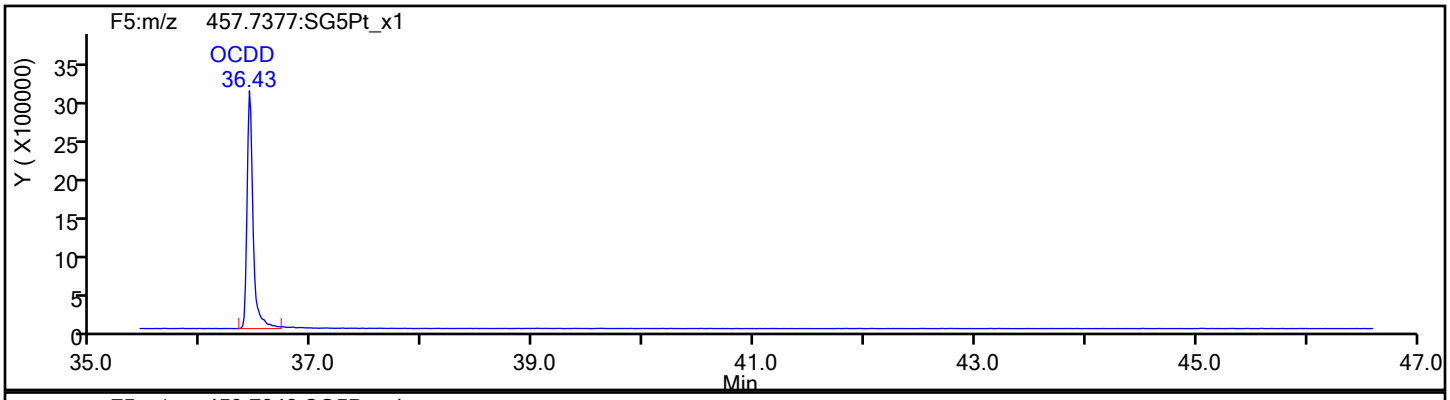

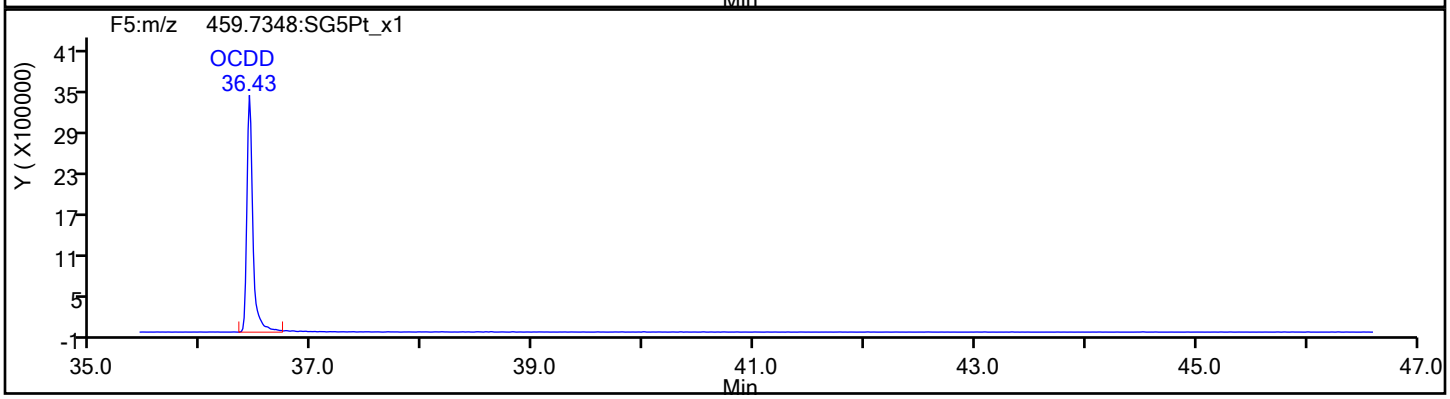

OCDD Standards

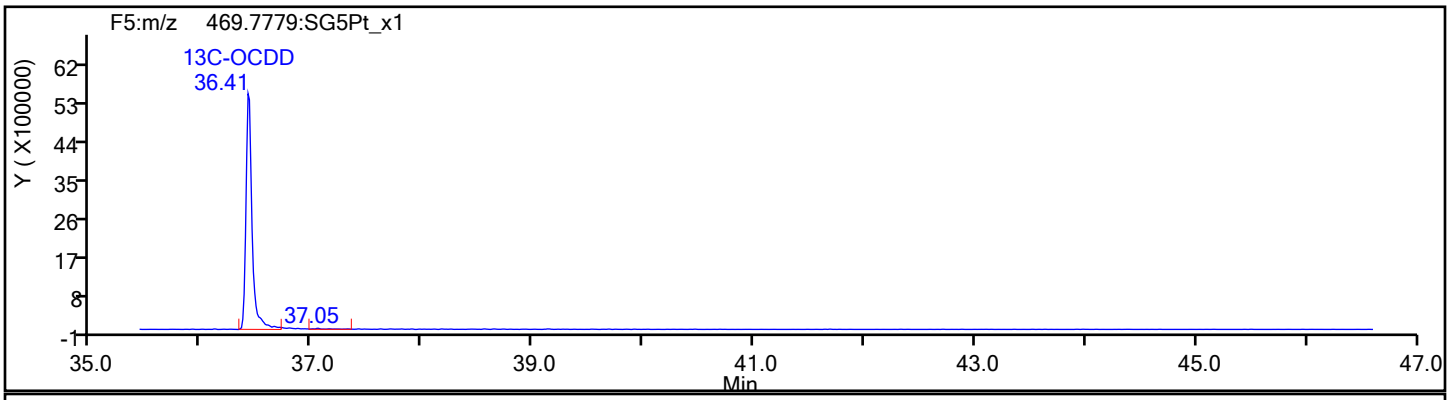

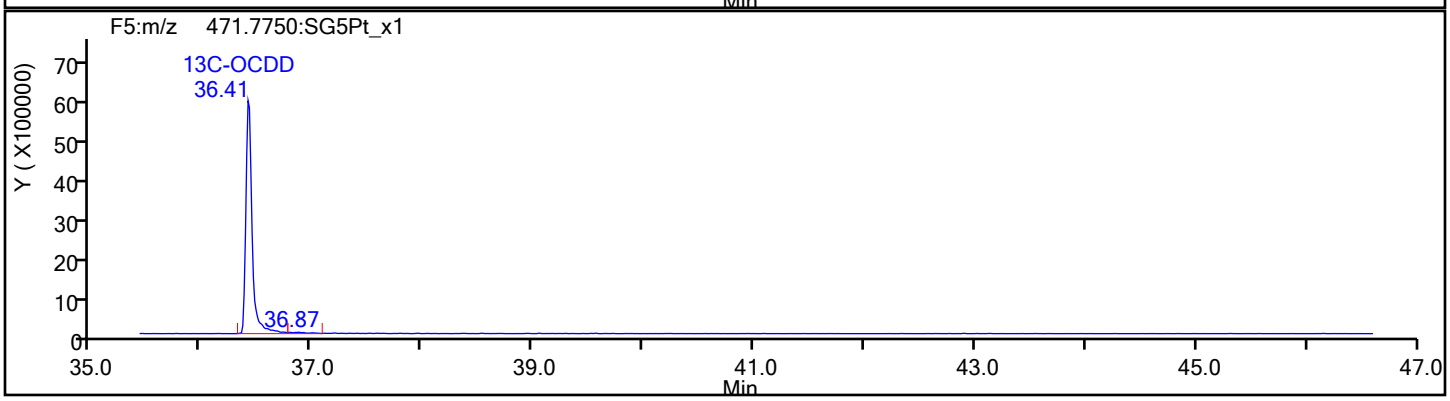

Report Date: 07-Jan-2020 11:21:58 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_2.d		
Injection Date:	06-Jan-2020 22:15:12	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	349283	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

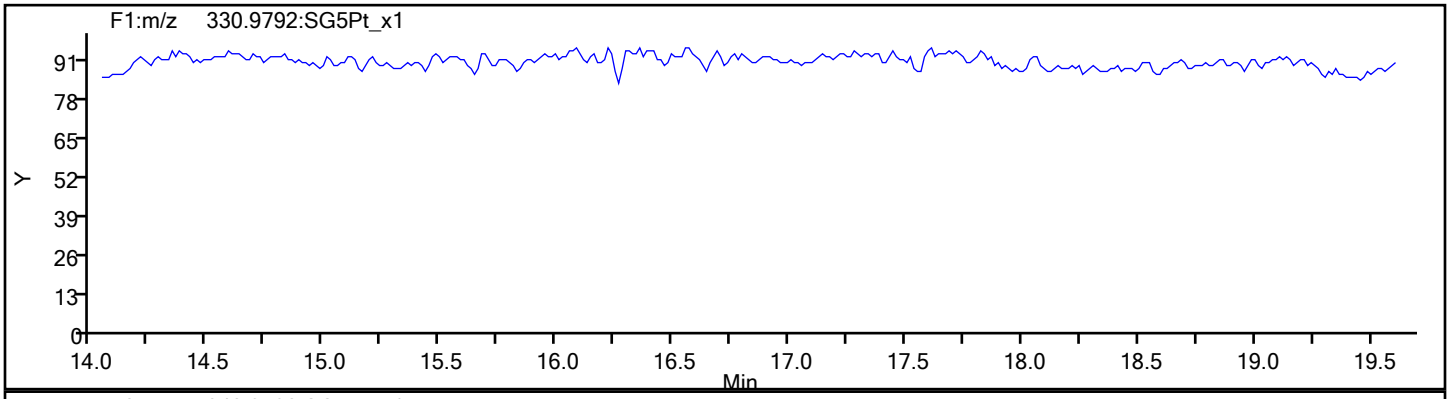

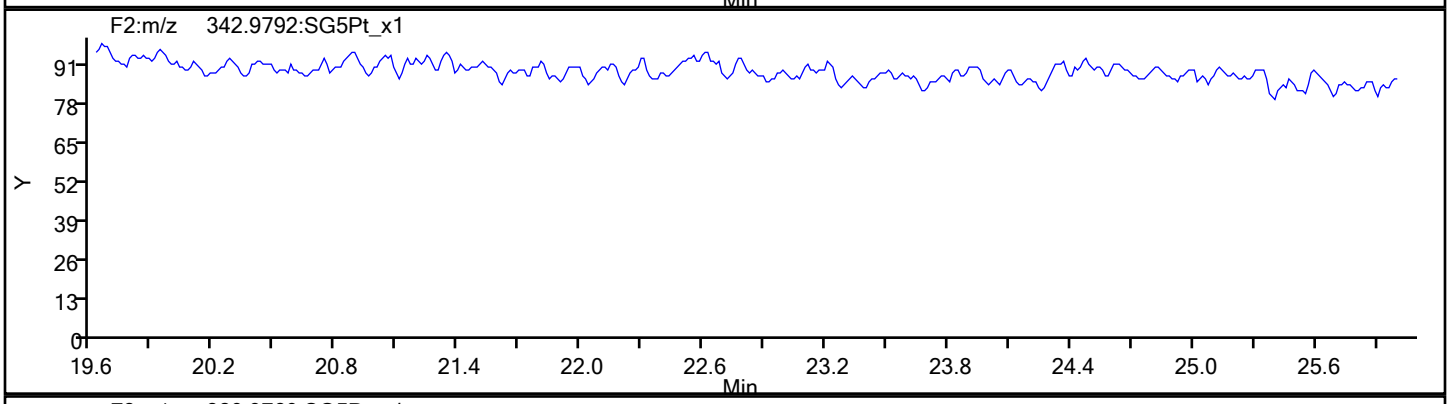

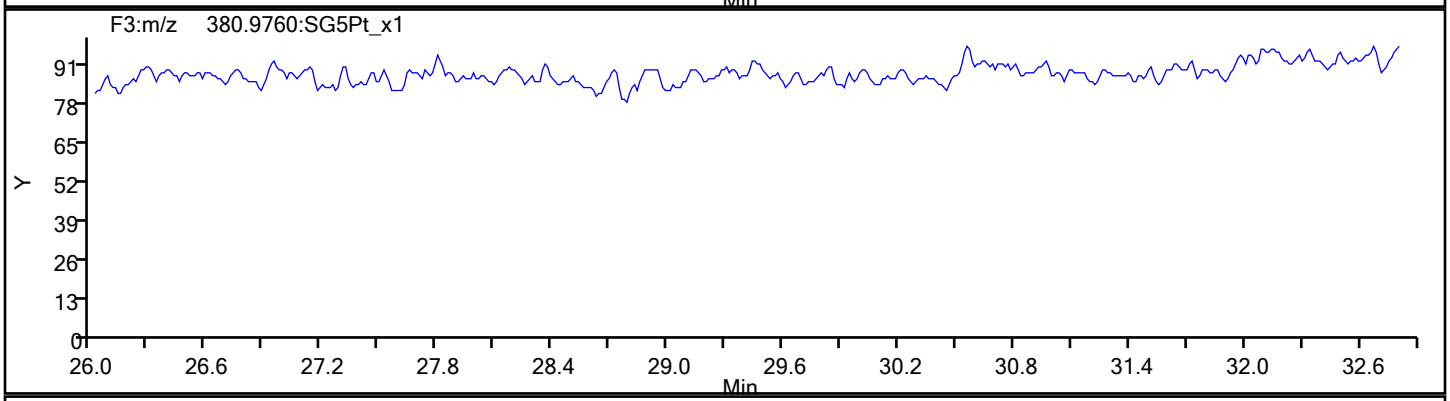

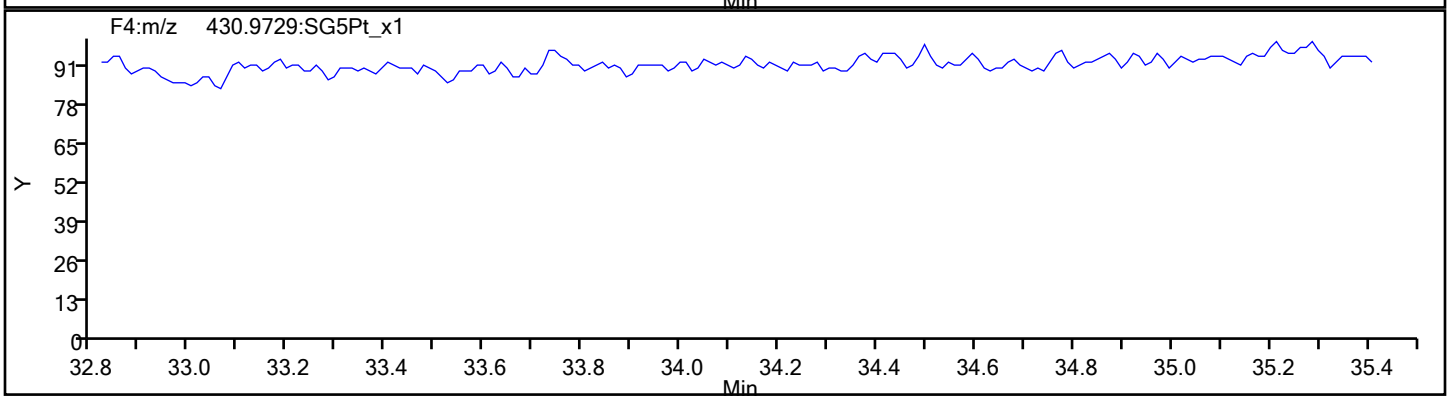

Report Date: 07-Jan-2020 11:21:58 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_2.d		
Injection Date:	06-Jan-2020 22:15:12	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	349283	Sample Line#:	2
Column Type:	DB-5	Column Dia:	0.32 mm

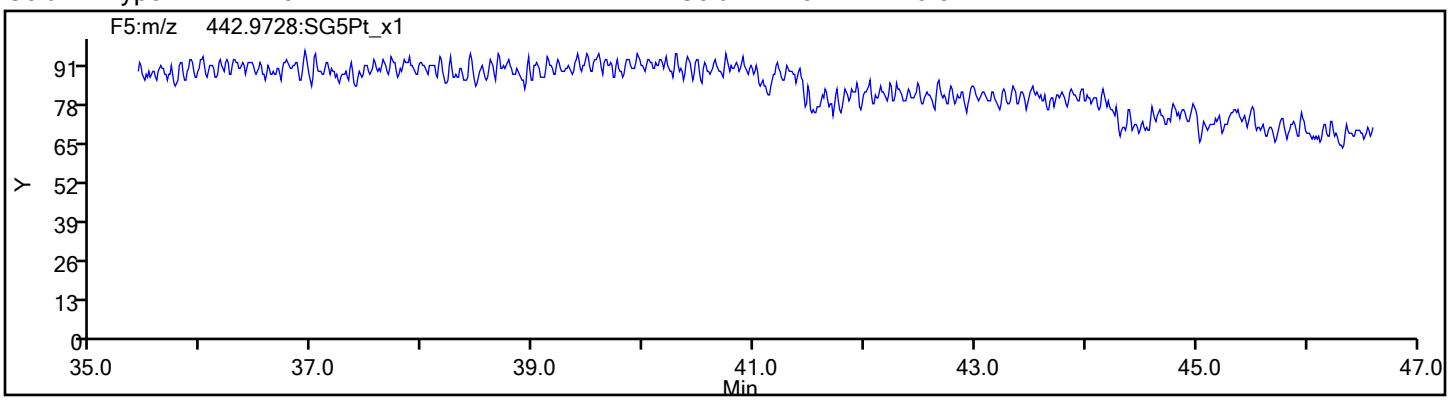

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_1.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 12-Dec-2019 09:53:45 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 121219 WDM HRDXNCP_00040
Misc. Info.: 12DE193D5
Operator ID: KSS Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 12-Dec-2019 16:14:37 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: stephensk Date: 12-Dec-2019 13:30:53

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	17.128	127262064	0.77	1.4157					0.00	
2,3,7,8-TCDF	17.158	263129063	0.79	0.9502	87.0	87.0	0.2769	0.2769		
A Non-2,3,7,8-sub-TCDF	16.841						0.2769	0.2769		
S Total TCDF					87.0	87.0	0.2769	0.2769		
D 13C-2,3,7,8-TCDD	17.823	83918301	0.81	0.9751					0.00	
2,3,7,8-TCDD	17.839	96063981	0.84	1.0477	43.7	43.7	0.1837	0.1837		
A Non-2,3,7,8-sub-TCDD	17.294						0.1837	0.1837		
S Total TCDD					43.7	43.7	0.1837	0.1837		
A F1 PeCDFs	19.797						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	22.906	699418	1.55	0.0000						RQ
S Total PeCDF										RQ
A Non-2,3,7,8-sub-PeCDD	23.055						0.0	0.0		
S Total PeCDD										
A Non-2,3,7,8-sub-HxCDF	29.954						0.0	0.0		
S Total HxCDF										
A Non-2,3,7,8-sub-HxCDD	30.606	975403	1.10	0.0000						
S Total HxCDD										
1,2,3,4,6,7,8-HpCDF	33.652	85575299	1.06	1.4804						
1,2,3,4,7,8,9-HpCDF	34.734	66049853	1.05	1.2933						
A Non-2,3,7,8-sub-HpCDF	34.193						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	34.442	56071825	1.05	1.0535						
A Non-2,3,7,8-sub-HpCDD	34.169						0.0	0.0		
S Total HpCDD										
1,3,6,8-TCDF	14.739	152729299	0.79							
1,3,6,8-TCDD	15.646	93181896	0.82							
2,3,4,7-TCDF	17.158	264257783	0.79							
1,2,3,7-TCDD	17.733	79509134	0.81							
1,2,3,9-TCDF	18.005	117218156	0.79							
1,2,3,9-TCDD	18.005	96743759	0.79							

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,8,9-TCDD	18.942	39950453								
1,2,8,9-TCDF	18.942	121282488	0.80							
1,3,4,6,8-PeCDF	19.215	113228104	1.55							
1,2,4,7,9-PeCDD	20.968	80076952	1.58							
1,2,3,8,9-PeCDD	25.141	77274517	1.55							
1,2,3,8,9-PeCDF	25.359	59233102								
1,2,3,4,6,8-HxCDF	27.610	106714677	1.23							
1,2,4,6,7,9-HxCDD	29.154	76434618	1.28							
1,2,3,4,6,7-HxCDD	31.964	74354267	1.24							
1,2,3,4,8,9-HxCDF	32.297	93711685	1.19							
1,2,3,4,6,7,9-HpCDD	33.895	64380977	1.07							

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNCP_00040 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_1.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 12-Dec-2019 09:53:45 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 121219 WDM HRDXNCP_00040
Misc. Info.: 12DE193D5
Operator ID: KSS Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 12-Dec-2019 16:14:37 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0325

First Level Reviewer: stephensk Date: 12-Dec-2019 13:30:53

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	17.128	17.128	0	1.000	55391571	14476889	26131	65327	554		
317.9389	17.128	17.128	0	1.000	71870493	18784490	16410	41025	1145	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	17.158	17.176	-1	1.002	116146866	26302637	39398	98495	668		
305.8987	17.158	17.176	-1	1.002	146982197	32817476	48110	120275	682	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.841						39398	98495			
305.8987	16.841						48110	120275			
13C-2,3,7,8-TCDD											
331.9368	17.823	17.823	0	1.000	37518186	9279196	19208	48020	483		
333.9339	17.823	17.823	0	1.000	46400115	11326582	8196	20490	1382	0.81(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.839	17.872	-2	1.001	43772044	10422211	17517	43792	595		
321.8936	17.839	17.872	-2	1.001	52291937	12390443	22141	55352	560	0.84(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	17.294						17517	43792			
321.8936	17.294						22141	55352			
A F1 PeCDFs											
339.8597	19.797						5477	13692			
341.8567	19.797						7870	19675			
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	22.128	22.906	-47	1.000	425137	57000	8590	21475	7		
341.8567	22.114	22.906	-47	1.000	338200	46155	8489	21222	5	1.26(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	23.055						11276	28190			
357.8516	23.055						5626	14065			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.954						13878	34695			
375.8178	29.954						12101	30252			
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.766	30.606	10	1.000	511512	109721	13941	34852	8		
391.8127	30.766	30.606	10	1.000	463891	93172	9728	24320	10	1.10(1.05-1.43)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.652	33.659	0	1.000	44070684	15770421	35193	87982	448		
409.7789	33.652	33.659	0	1.000	41504615	14258181	29457	73642	484	1.06(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.734	34.736	0	1.000	33851090	10387359	35193	87982	295		
409.7789	34.734	34.736	0	1.000	32198763	9789877	29457	73642	332	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	34.193						35193	87982			
409.7789	34.193						29457	73642			
1,2,3,4,6,7,8-HpCDD											
423.7766	34.442	34.449	0	1.000	28661323	9249103	22089	55222	419		
425.7737	34.442	34.449	0	1.000	27410502	8942138	26825	67062	333	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.169						22089	55222			
425.7737	34.169						26825	67062			
1,3,6,8-TCDF											
303.9016	14.739	14.739	0		67346174	20833360	39398	98495	529		
305.8987	14.739	14.739	0		85383125	26683564	48110	120275	555	0.79(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	15.646	15.646	0		41917759	12260823	17517	43792	700		
321.8936	15.646	15.646	0		51264137	15767472	22141	55352	712	0.82(0.65-0.89)	
2,3,4,7-TCDF											
303.9016	17.158	17.158	0		116632069	26335155	39398	98495	668		
305.8987	17.158	17.158	0		147625714	32857354	48110	120275	683	0.79(0.65-0.89)	
1,2,3,7-TCDD											
319.8965	17.733	17.733	0		35468173	9106870	17517	43792	520		
321.8936	17.733	17.733	0		44040961	11053343	22141	55352	499	0.81(0.65-0.89)	
1,2,3,9-TCDF											
303.9016	18.005	18.005	0		51564633	12704415	39398	98495	322		
305.8987	18.005	18.005	0		65653523	15836881	48110	120275	329	0.79(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	18.005	18.005	0		42573078	10058662	17517	43792	574		
321.8936	18.005	18.005	0		54170681	12706888	22141	55352	574	0.79(0.65-0.89)	
1,2,8,9-TCDD											
319.8965	18.942	18.942	0		39950453	9266410	17517	43792	529		
1,2,8,9-TCDF											
303.9016	18.942	18.942	0		53748413	12558434	39398	98495	319		
305.8987	18.942	18.942	0		67534075	16014900	48110	120275	333	0.80(0.65-0.89)	
1,3,4,6,8-PeCDF											
339.8597	19.215	19.215	0		68807915	15607029	5477	13692	2850		
341.8567	19.215	19.215	0		44420189	10153978	7870	19675	1290	1.55(1.32-1.78)	

Report Date: 12-Dec-2019 16:14:38 Chrom Revision: 2.3 02-Dec-2019 08:23:04
Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_1.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,4,7,9-PeCDD											
355.8546	20.968	20.968	0		49021885	8823043	11276	28190	782		
357.8516	20.968	20.968	0		31055067	5580555	5626	14065	992	1.58(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	25.141	25.141	0		46950877	6770234	11276	28190	600		
357.8516	25.141	25.141	0		30323640	4445979	5626	14065	790	1.55(1.32-1.78)	
1,2,3,8,9-PeCDF											
339.8597	25.359	25.359	0		59233102	8224157	8590	21475	957		
1,2,3,4,6,8-HxCDF											
373.8208	27.610	27.610	0		58886748	7619812	13878	34695	549		
375.8178	27.597	27.610	-1		47827929	6267357	12101	30252	518	1.23(1.05-1.43)	
1,2,4,6,7,9-HxCDD											
389.8157	29.154	29.154	0		42845579	5122739	13941	34852	367		
391.8127	29.154	29.154	0		33589039	4084048	9728	24320	420	1.28(1.05-1.43)	
1,2,3,4,6,7-HxCDD											
389.8157	31.964	31.964	0		41163973	11069026	13941	34852	794		
391.8127	31.964	31.964	0		33190294	8796454	9728	24320	904	1.24(1.05-1.43)	
1,2,3,4,8,9-HxCDF											
373.8208	32.297	32.297	0		50881816	13799129	13878	34695	994		
375.8178	32.284	32.297	-1		42829869	11639611	12101	30252	962	1.19(1.05-1.43)	
1,2,3,4,6,7,9-HpCDD											
423.7766	33.895	33.895	0		33226407	11501978	22089	55222	521		
425.7737	33.895	33.895	0		31154570	10694340	26825	67062	399	1.07(0.88-1.20)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Reagents:

HRDXNCP_00040 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_1.d
Lims ID: WDM
Client ID:
Inject. Date: 12-Dec-2019 09:53:45 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 3D5 Operator: KSS
Lims Batch ID: 345037 Lims Sample ID: 1

Non-2,3,7,8-sub-PeCDF, RT: 22.906

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.030				
2,3,4,7,8-PeCDF	1.041				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
22.128	425137	57000	338200	46155		1.26	R
Signal Totals:							
	425137	57000	338200	46155			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	763337	103155				1.26	RQ
	699418	93774					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (763337 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (699418 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_1.d
Lims ID: WDM
Client ID:
Inject. Date: 12-Dec-2019 09:53:45 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 3D5 Operator: KSS
Lims Batch ID: 345037 Lims Sample ID: 1

Non-2,3,7,8-sub-HxCDD, RT: 30.606

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.093				
1,2,3,6,7,8-HxCDD	1.043				
1,2,3,7,8,9-HxCDD	1.207				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
30.766	511512	109721	463891	93172		1.10	
Signal Totals:							
	511512	109721	463891	93172			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	975403	202893				1.10	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (975403 * 0.0) / (0 * 0.000)

Report Date: 12-Dec-2019 16:14:38 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_1.d		
Injection Date:	12-Dec-2019 09:53:45	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	345037	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

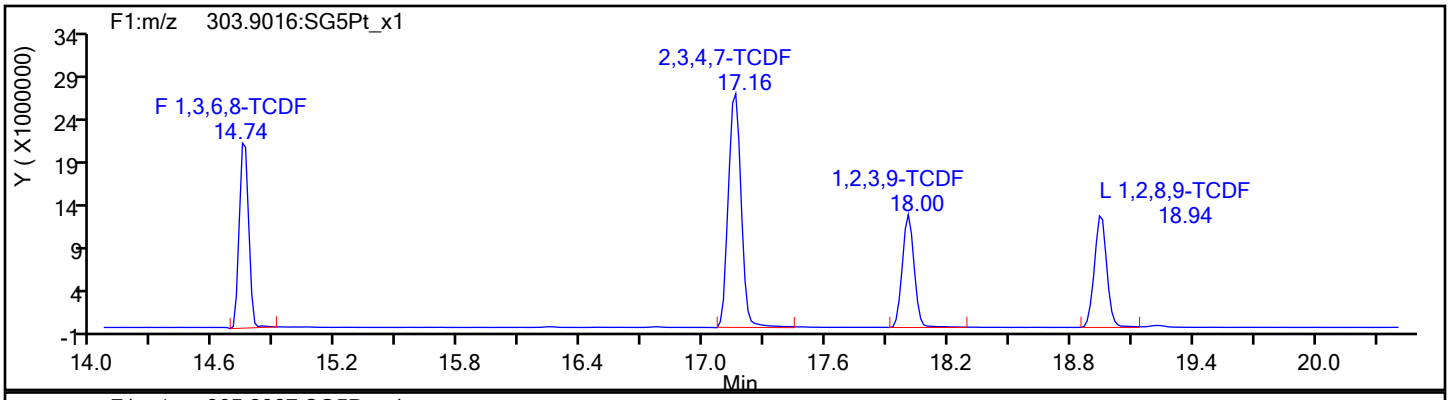

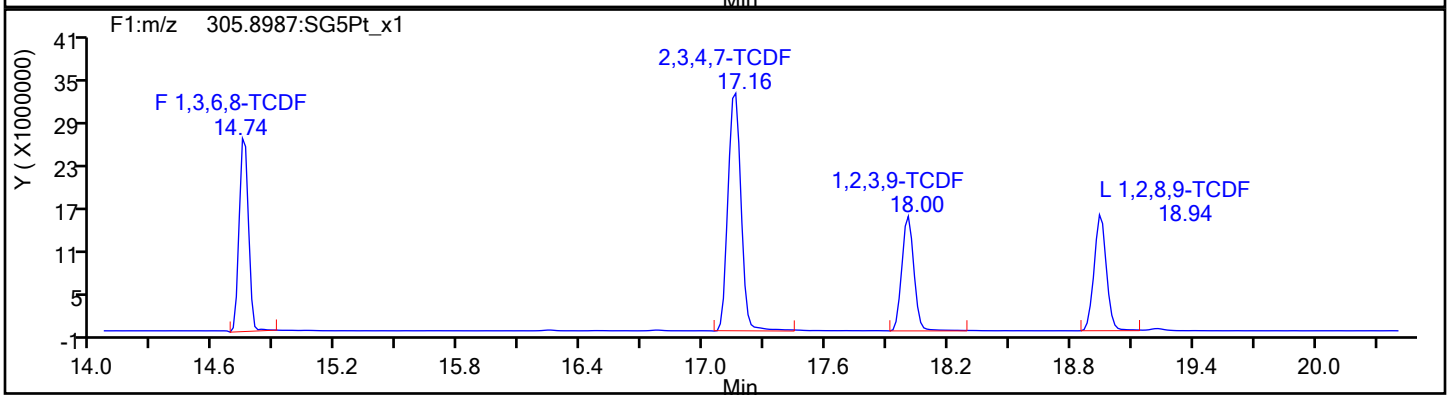

TCDF Standards

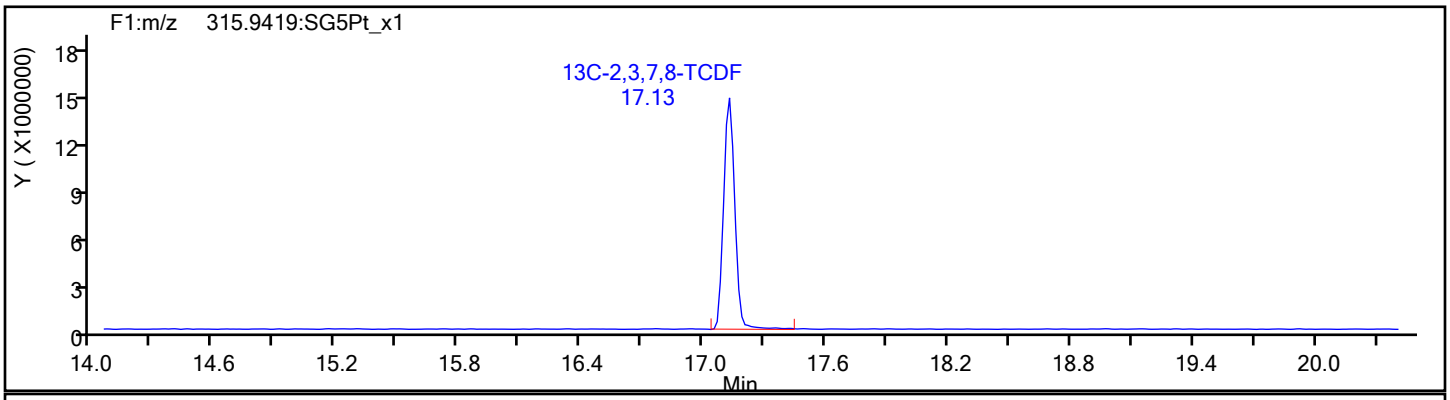

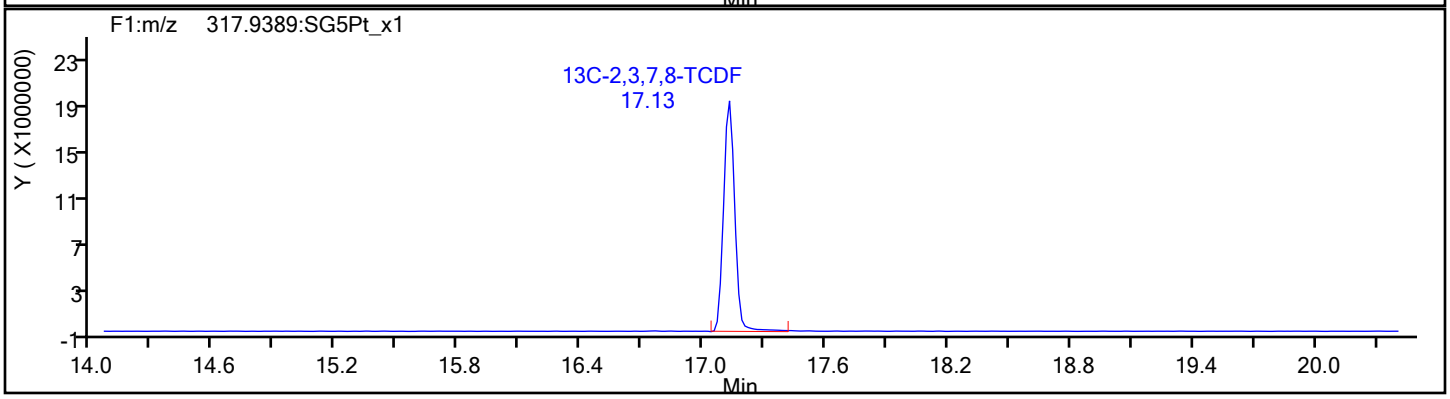

Report Date: 12-Dec-2019 16:14:38 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_1.d		
Injection Date:	12-Dec-2019 09:53:45	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	345037	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

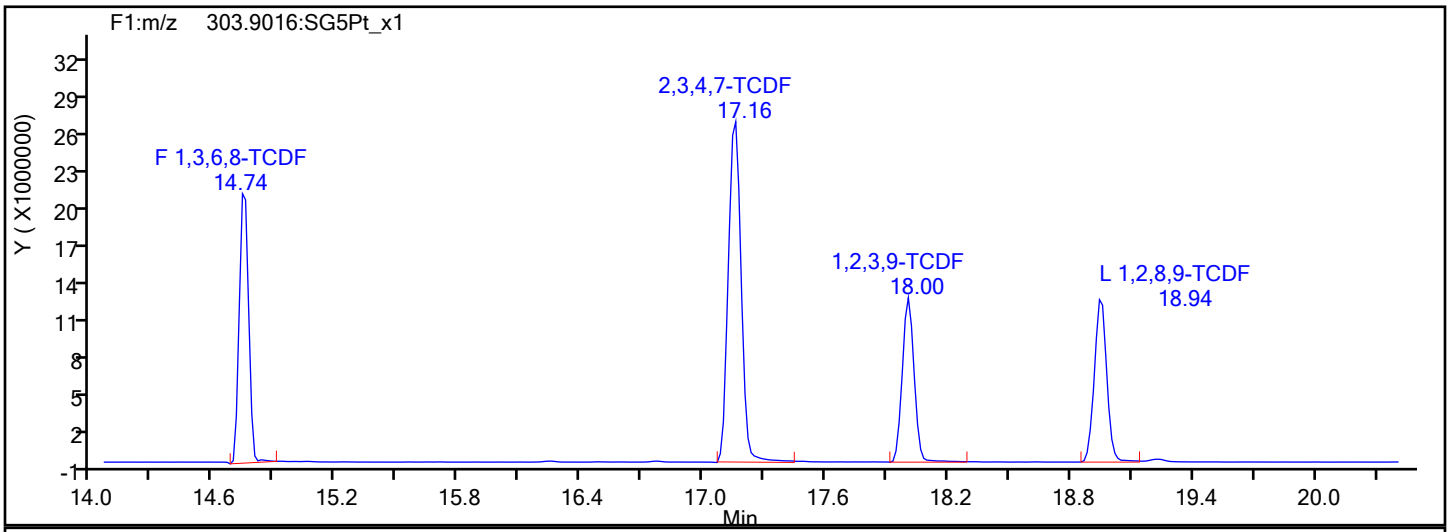

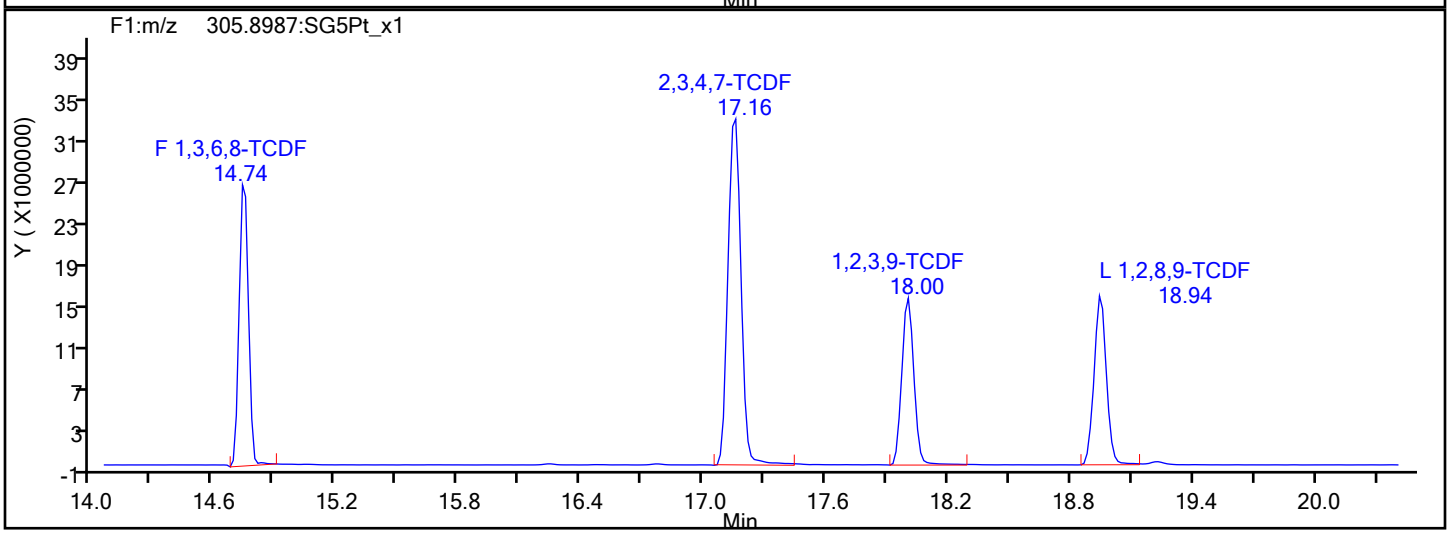

TCDF Interference Mass

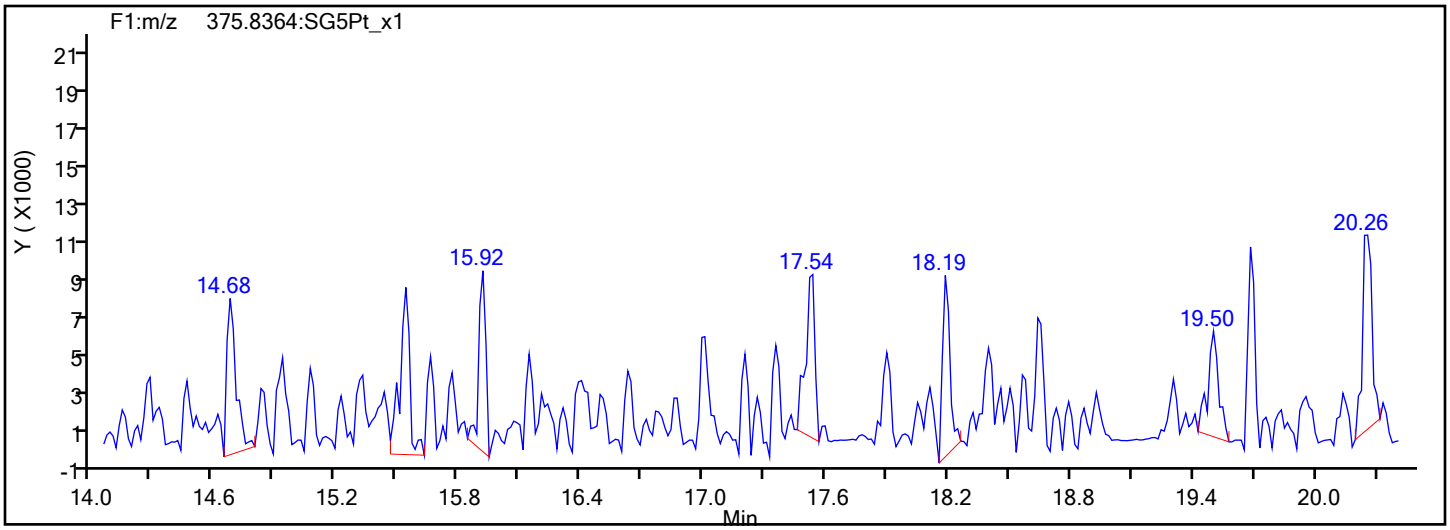

Report Date: 12-Dec-2019 16:14:38 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_1.d		
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Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

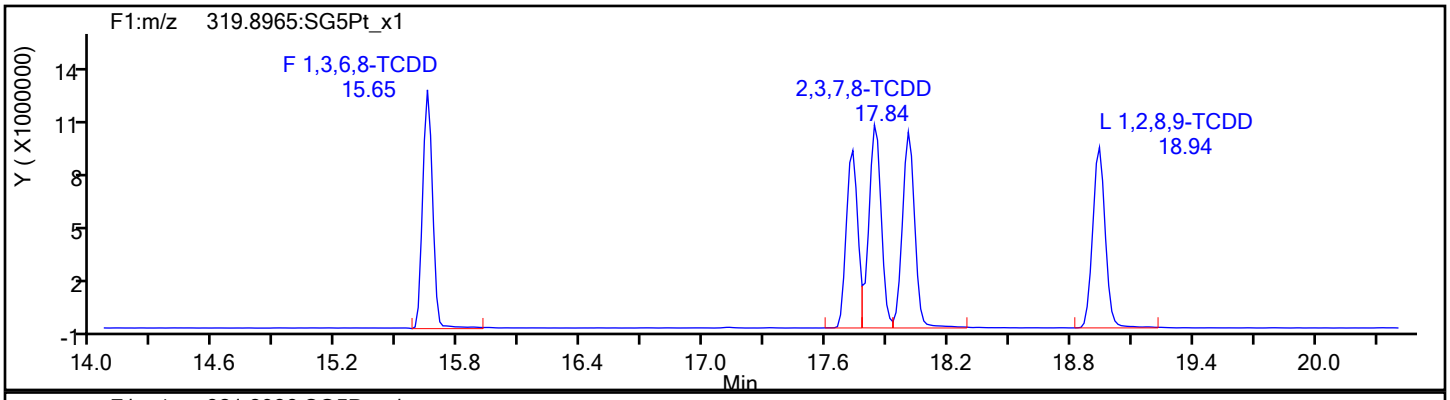

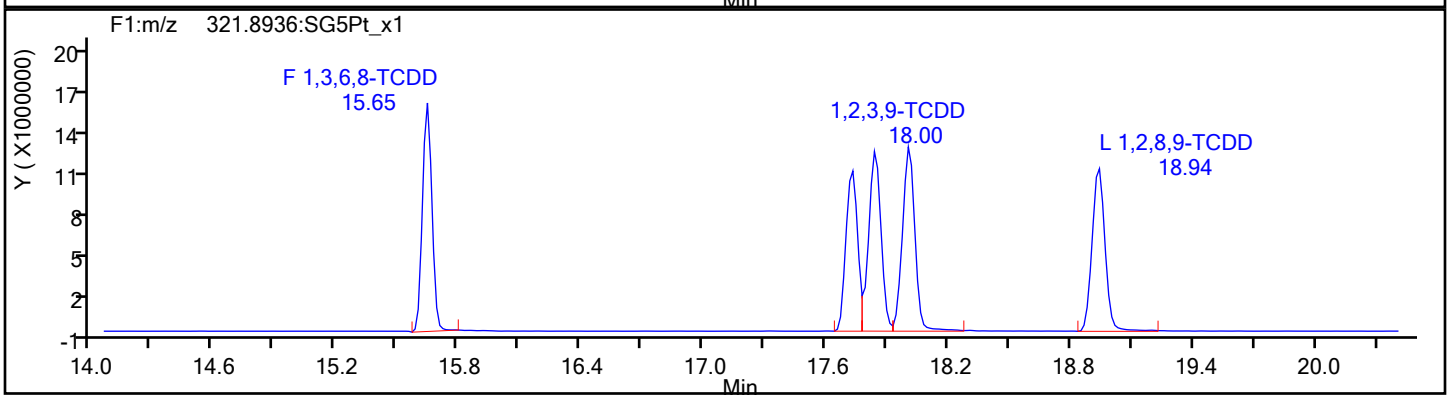

TCDD Standards

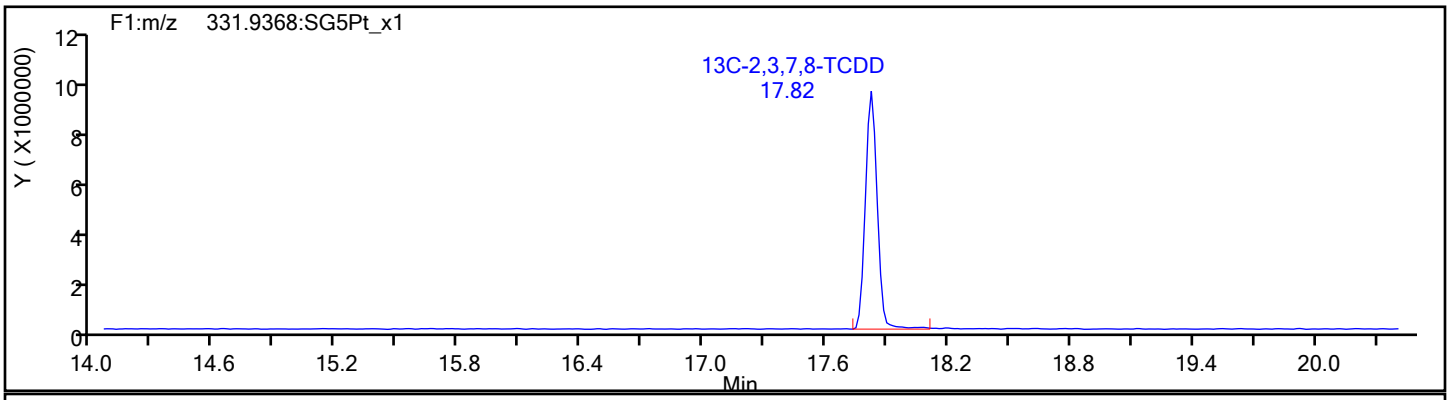

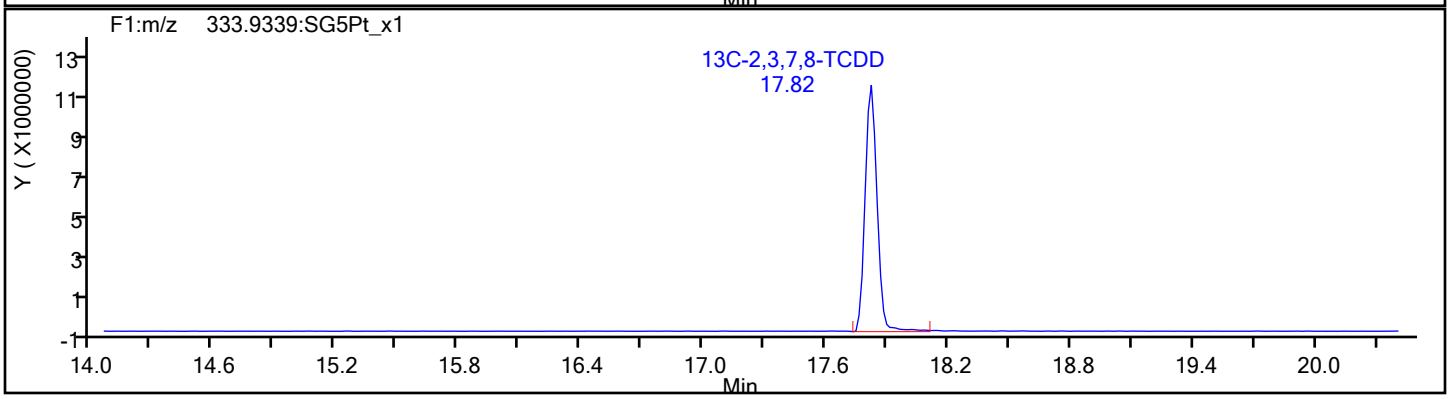

Report Date: 12-Dec-2019 16:14:38 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

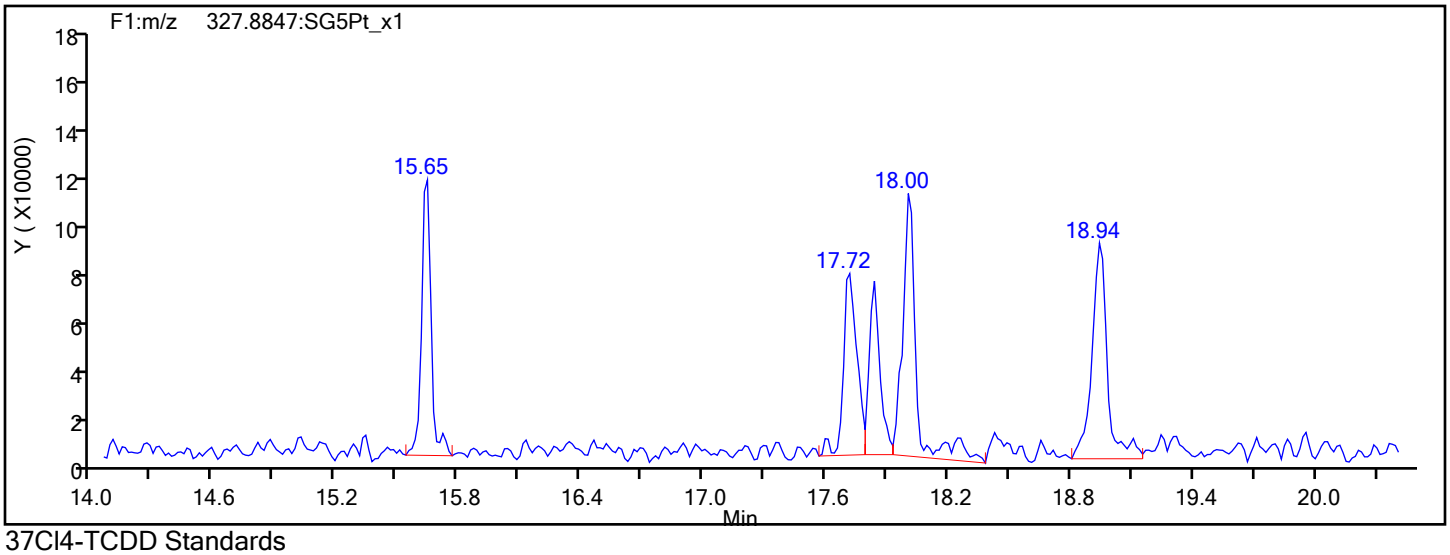

37Cl4-TCDD Standards

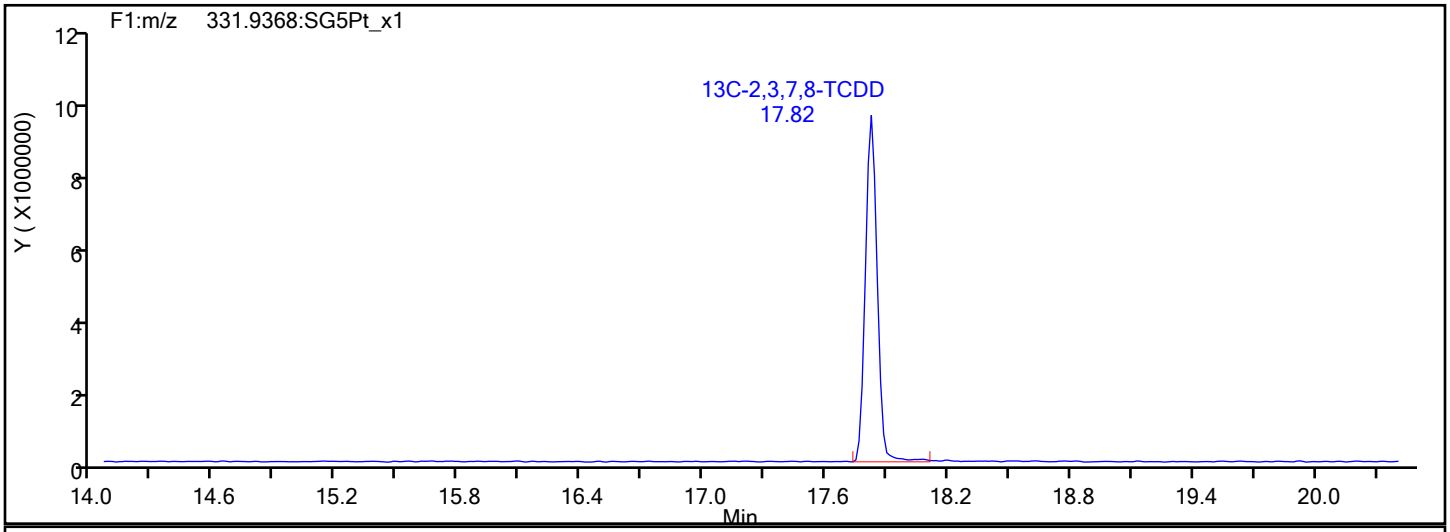

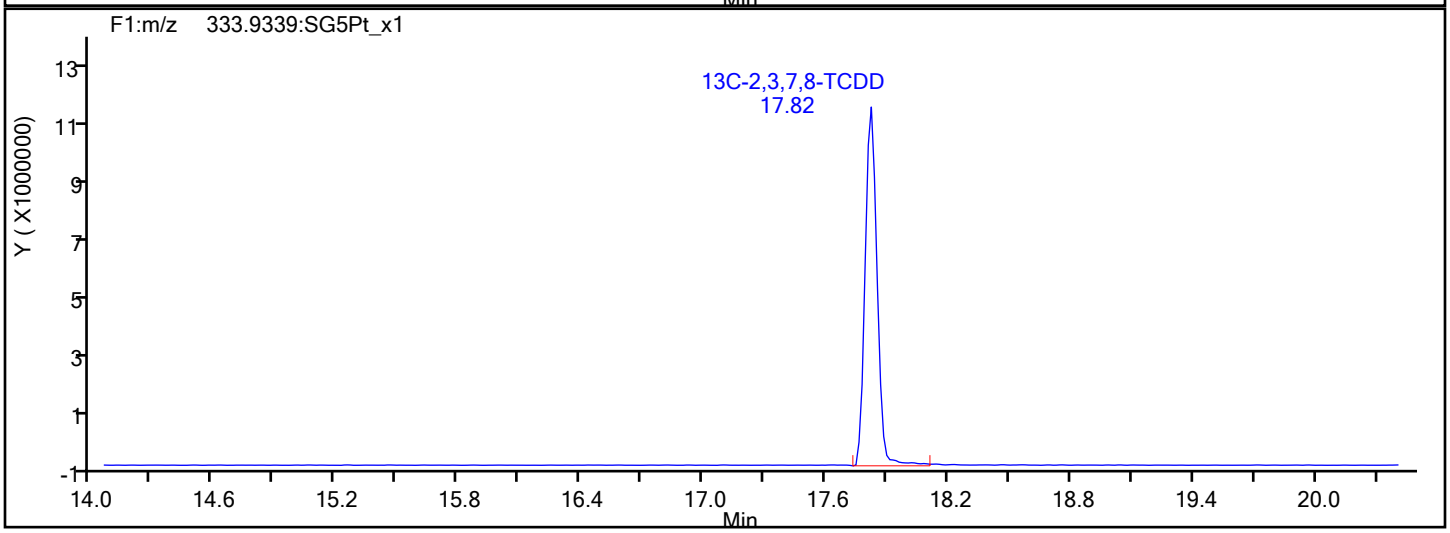

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Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

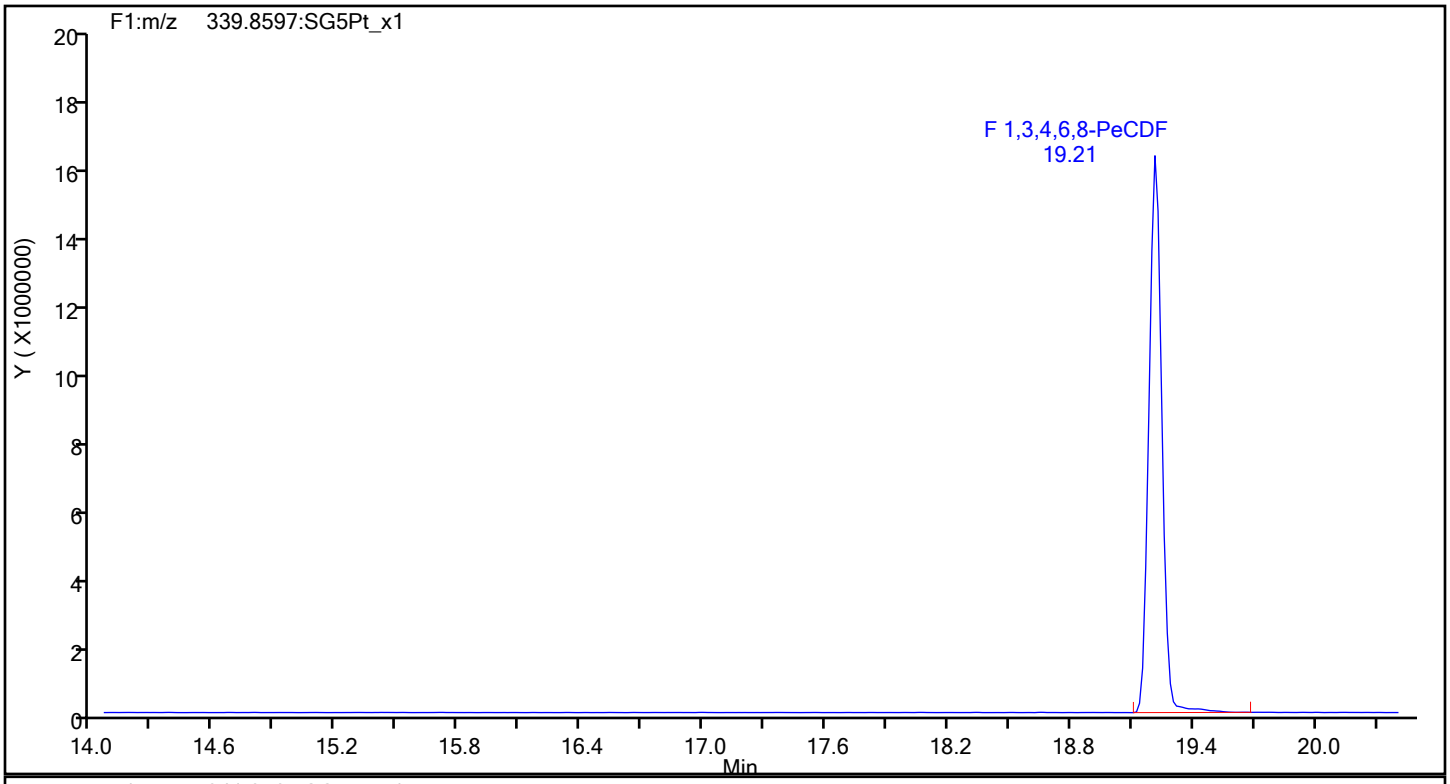

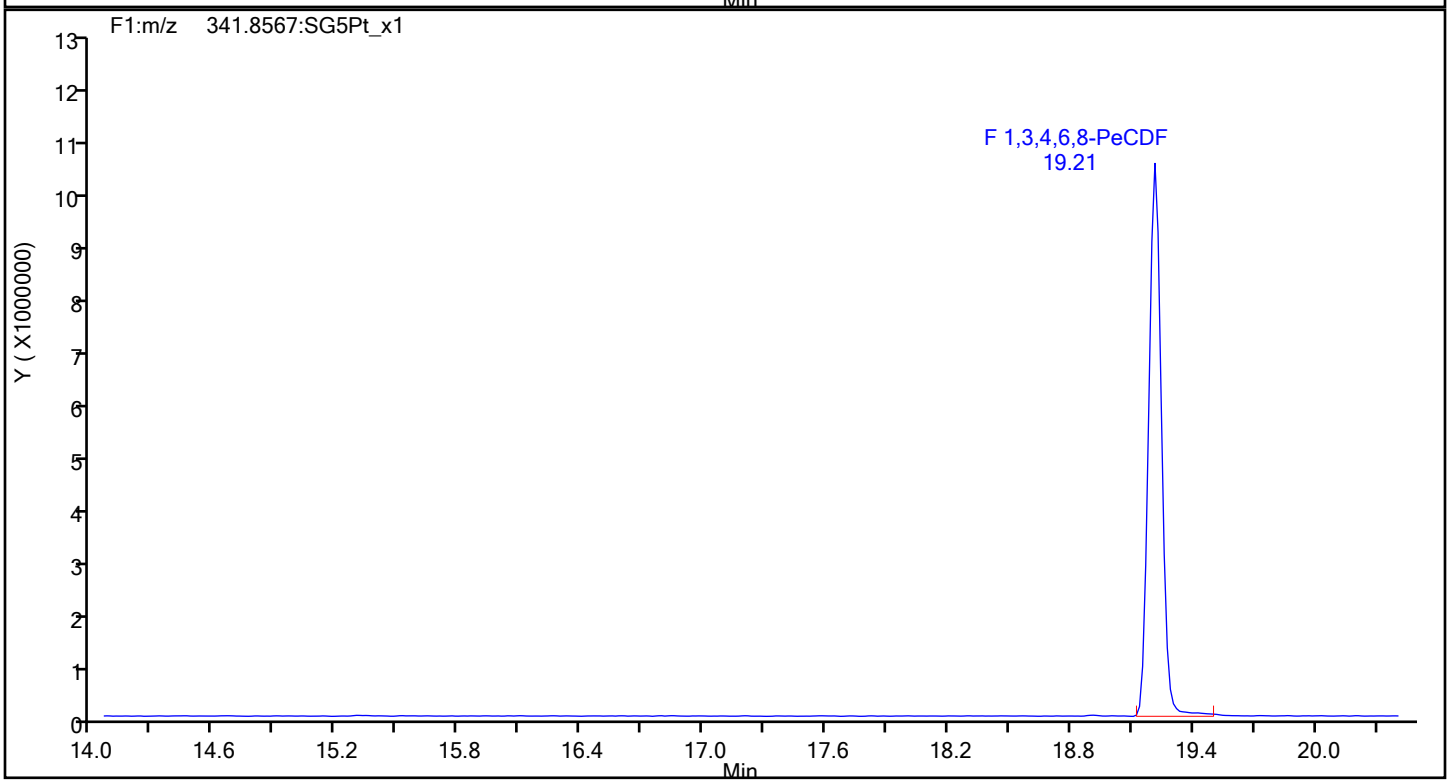

Report Date: 12-Dec-2019 16:14:38 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_1.d		
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F1 PeCDFs

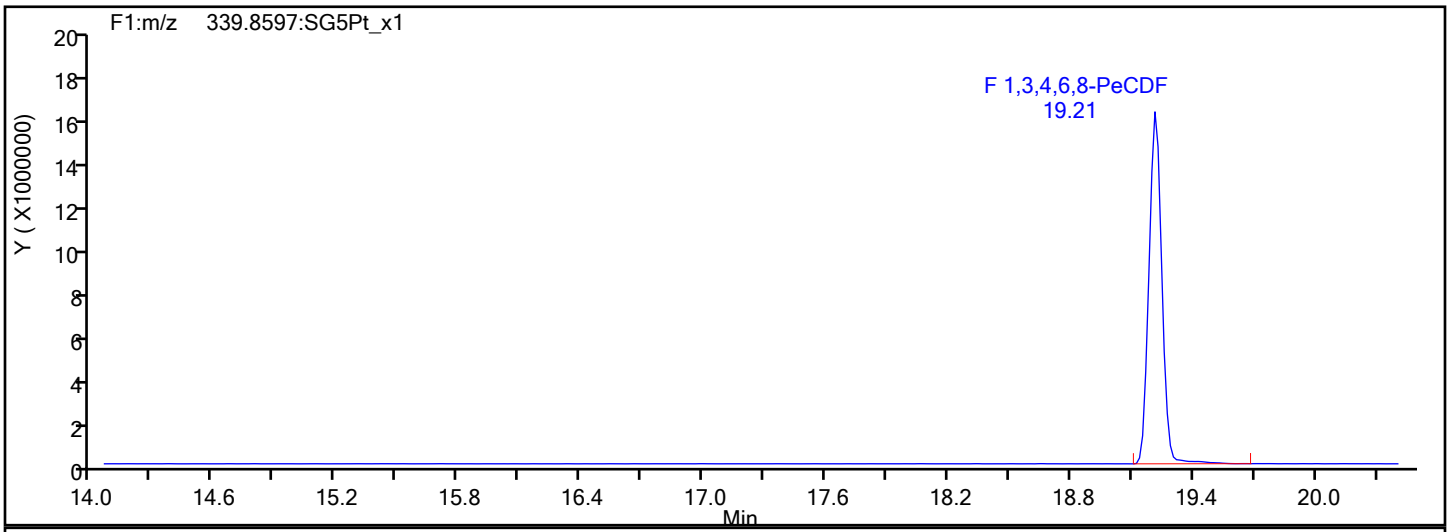

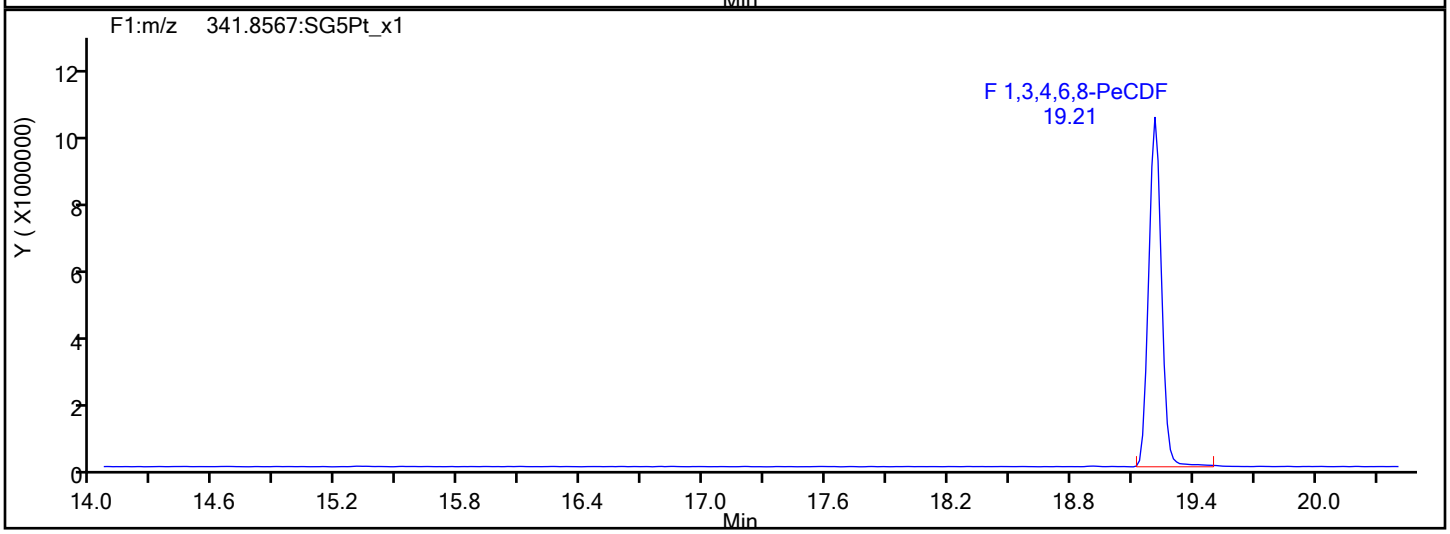

F1 PeCDFs Interference Mass

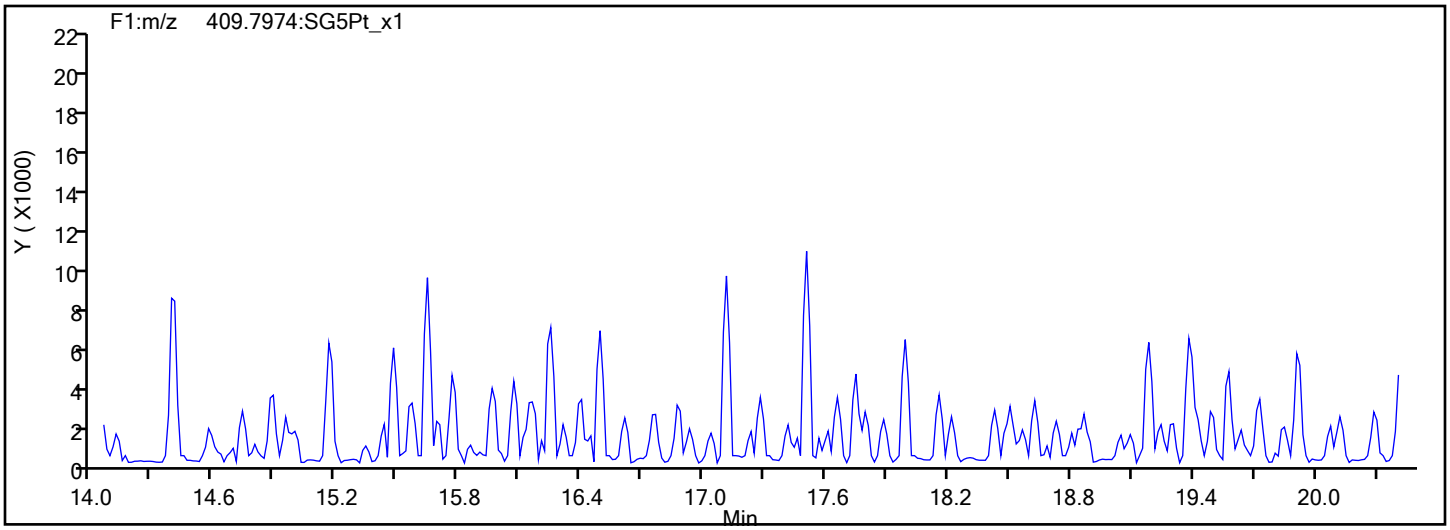

Report Date: 12-Dec-2019 16:14:38 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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PeCDF

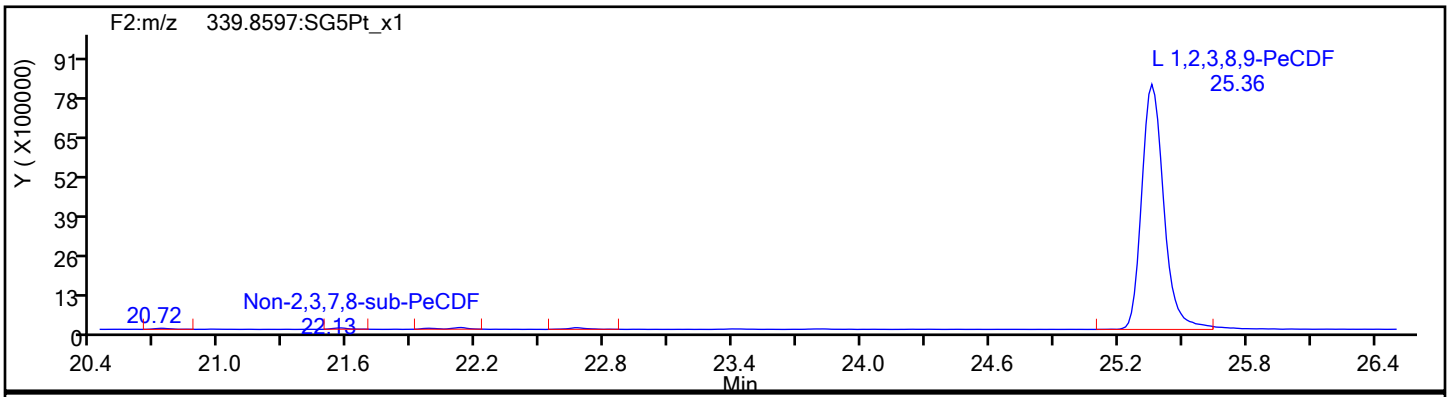

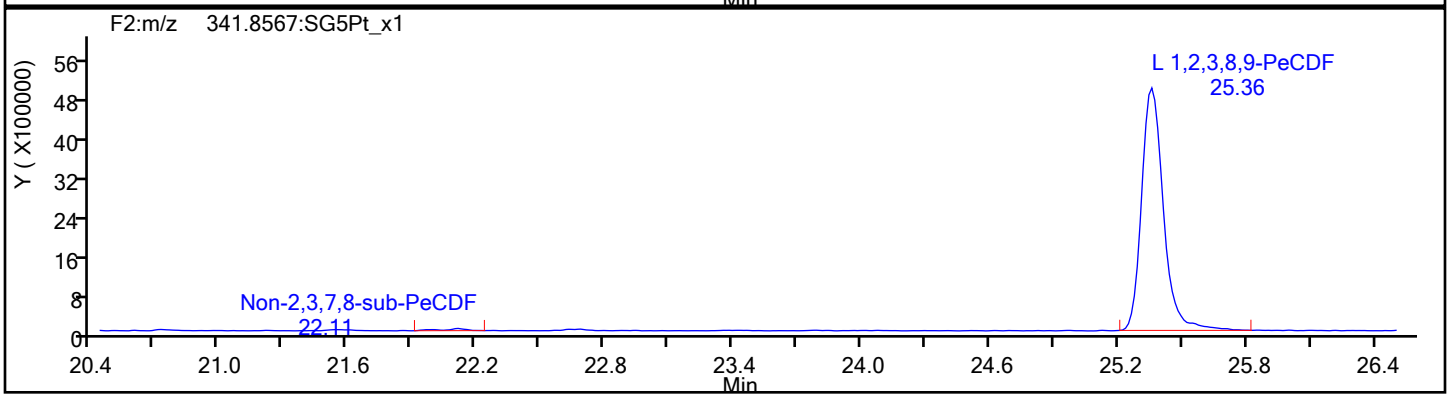

PeCDF Standards

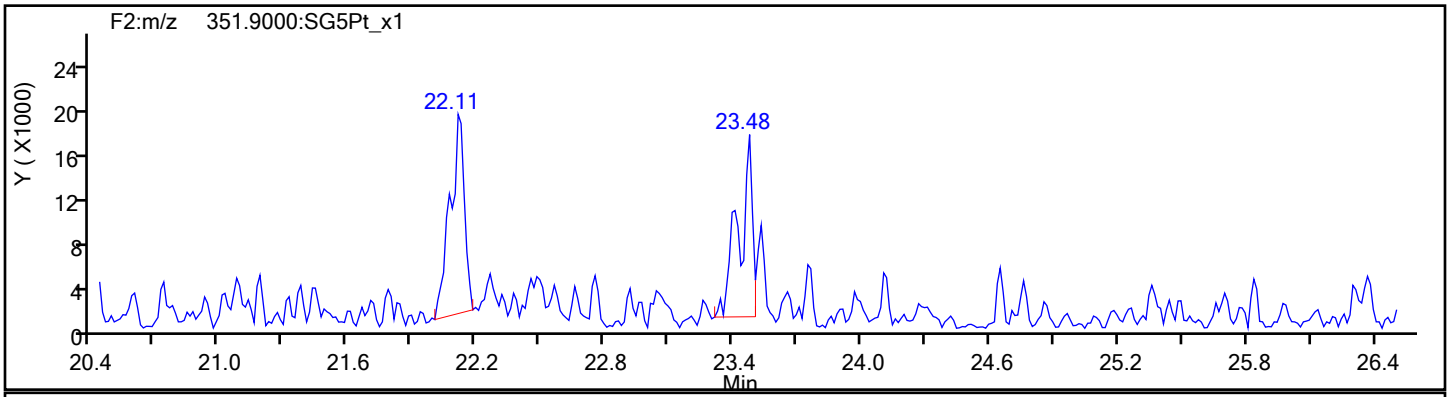

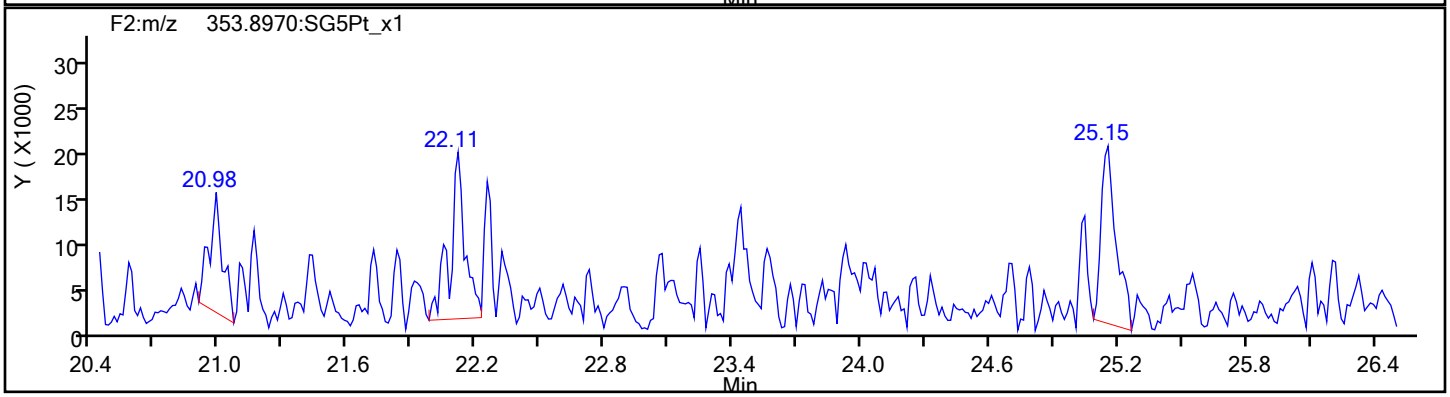

Report Date: 12-Dec-2019 16:14:38 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_1.d		
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Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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PeCDF

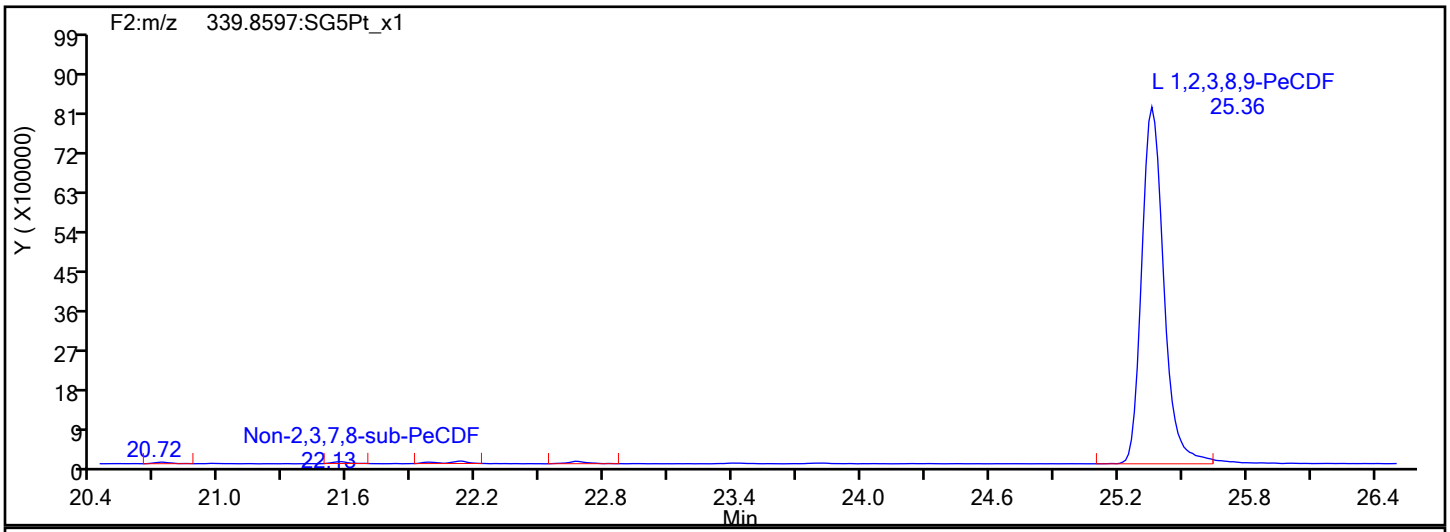

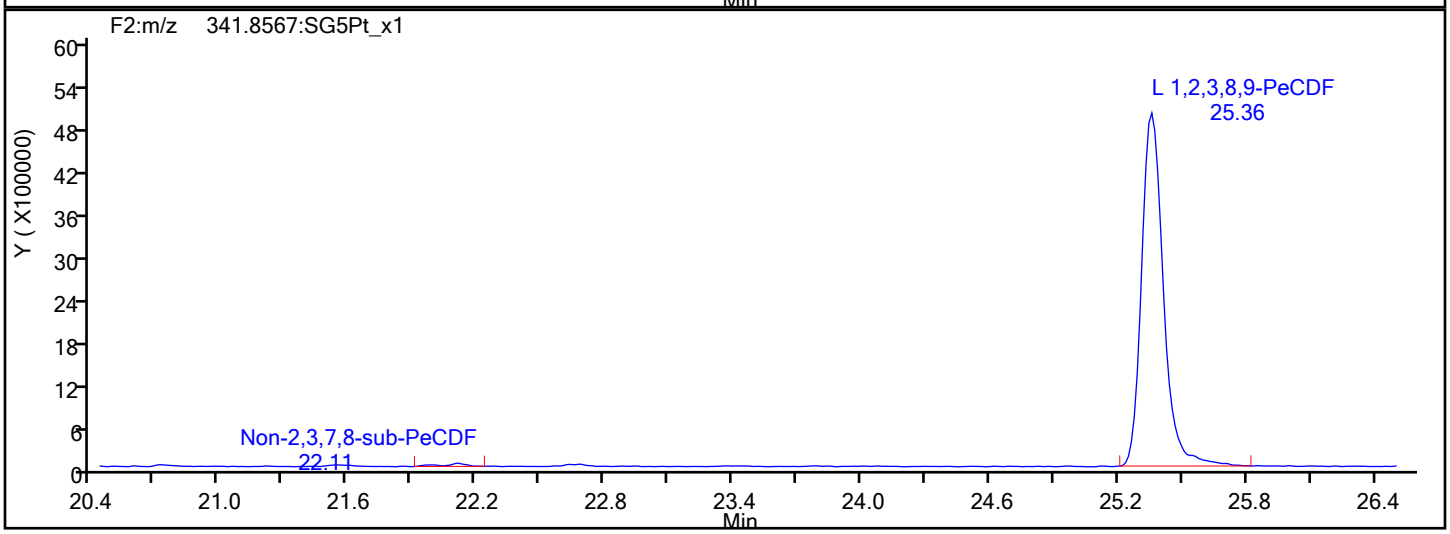

PeCDF Interference Mass

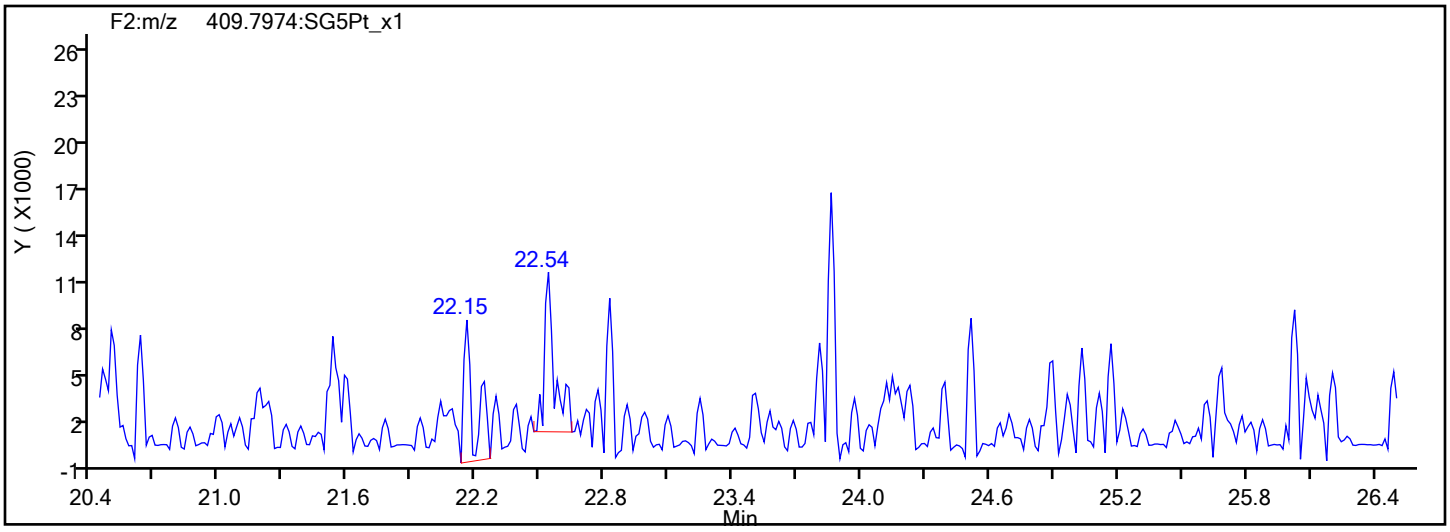

Report Date: 12-Dec-2019 16:14:38 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_1.d		
Injection Date:	12-Dec-2019 09:53:45	Injection Vol:	2.0 ul
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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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PeCDD

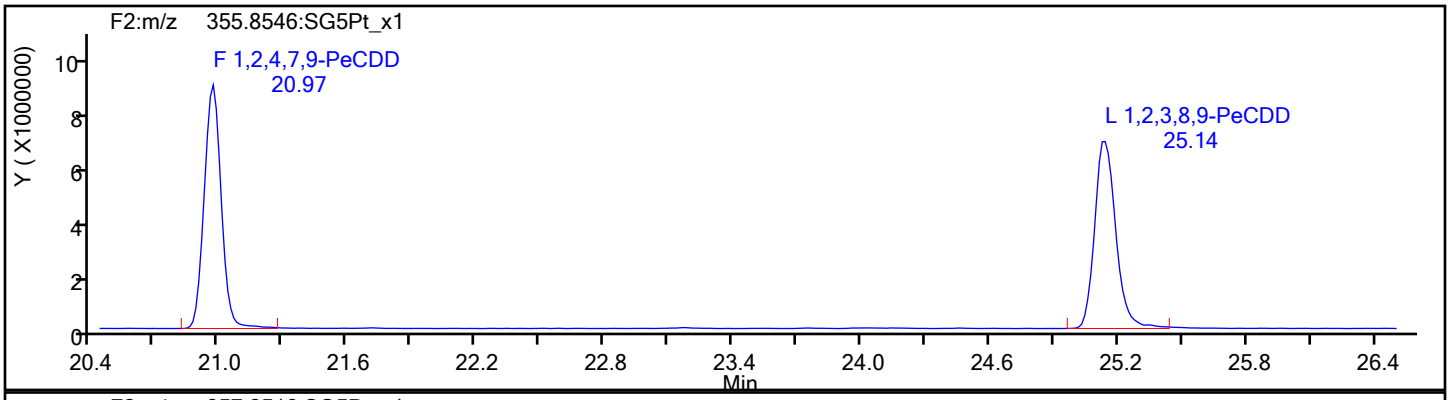

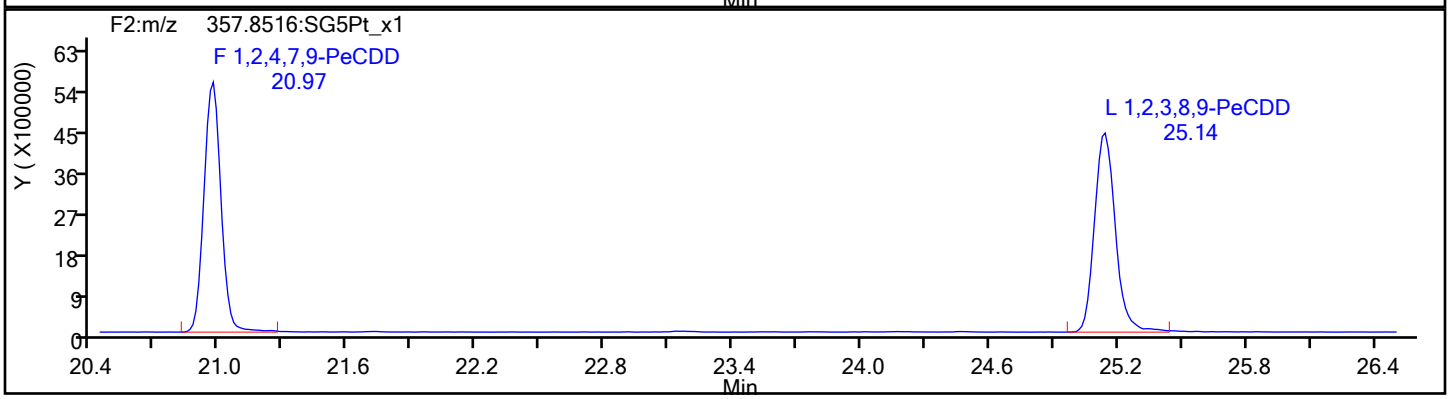

PeCDD Standards

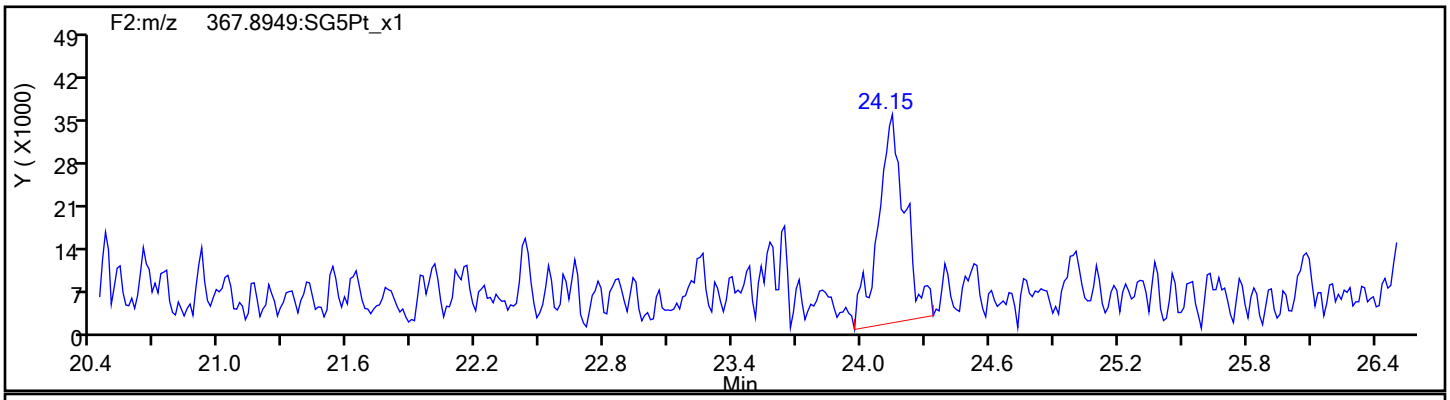

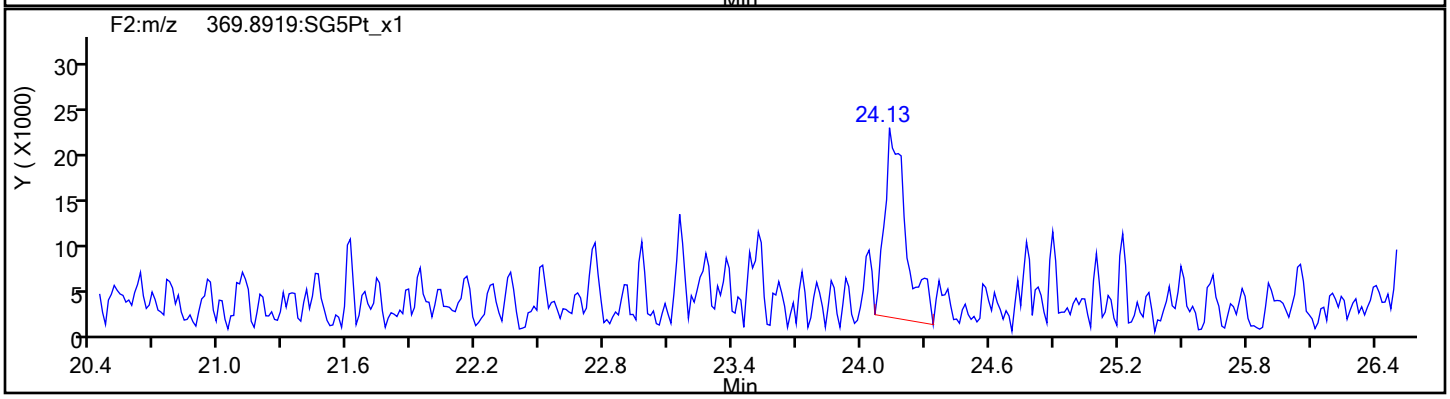

Report Date: 12-Dec-2019 16:14:39 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

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Injection Date:	12-Dec-2019 09:53:45	Injection Vol:	2.0 ul
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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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HxCDF

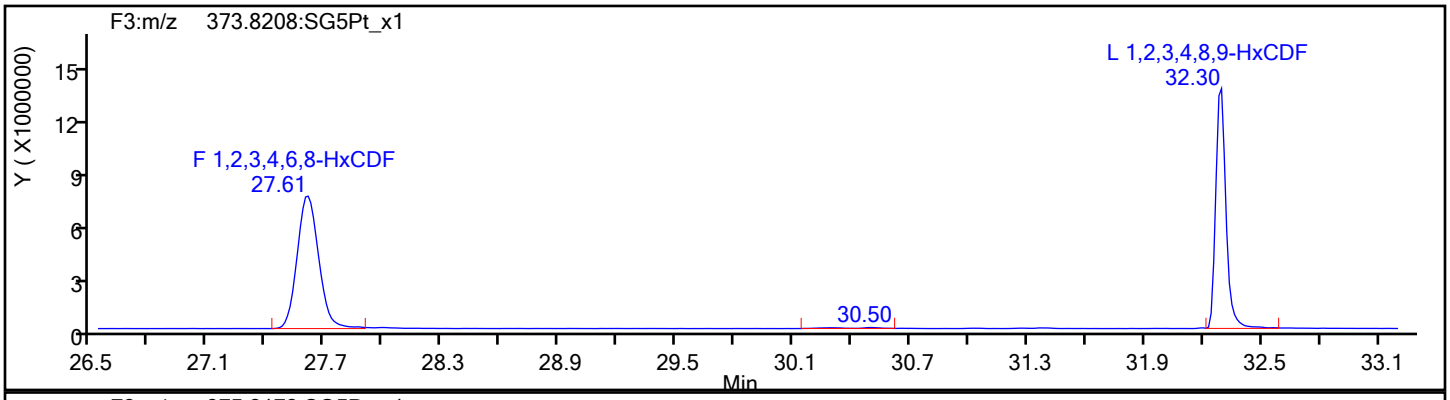

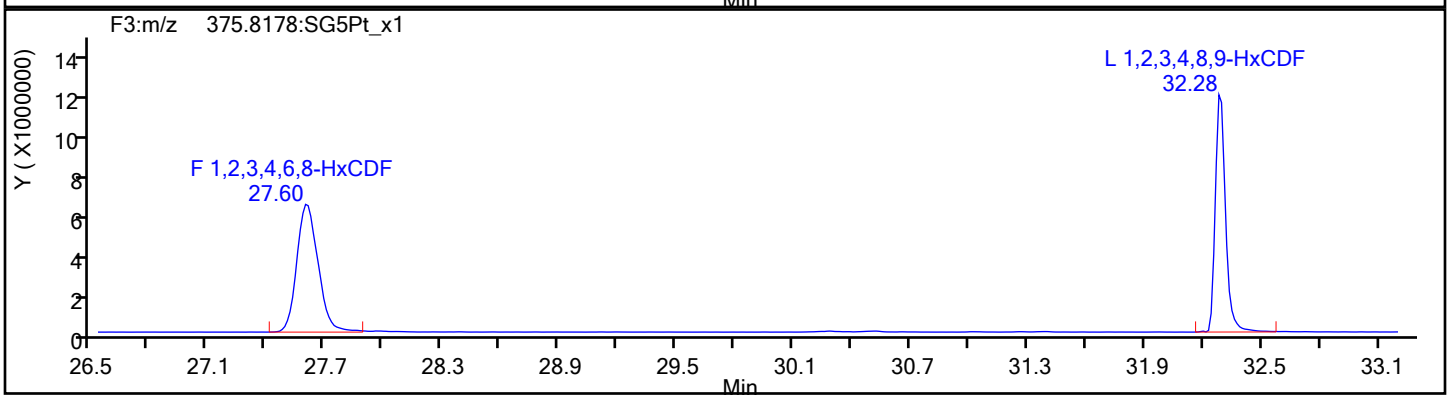

HxCDF Standards

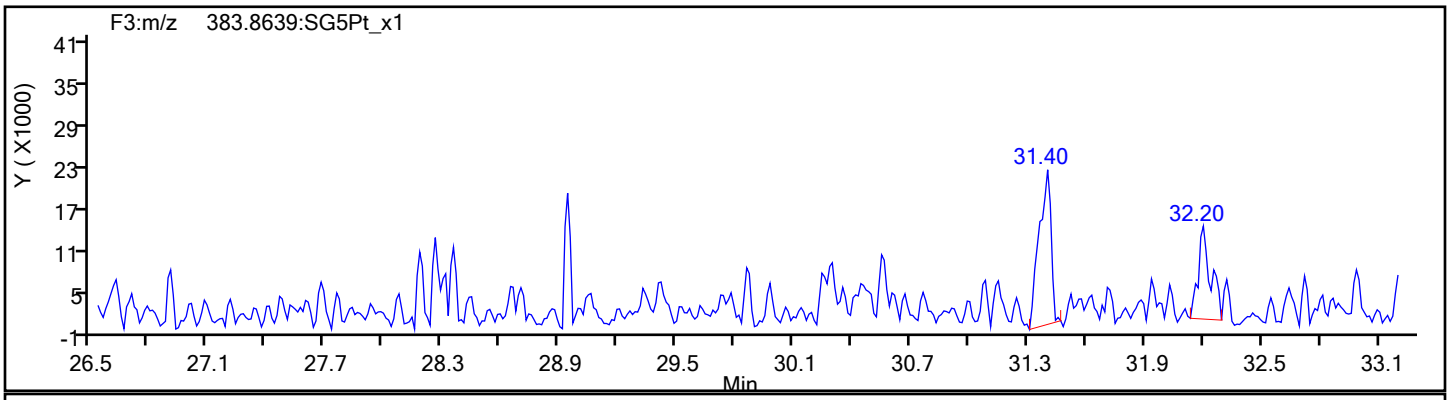

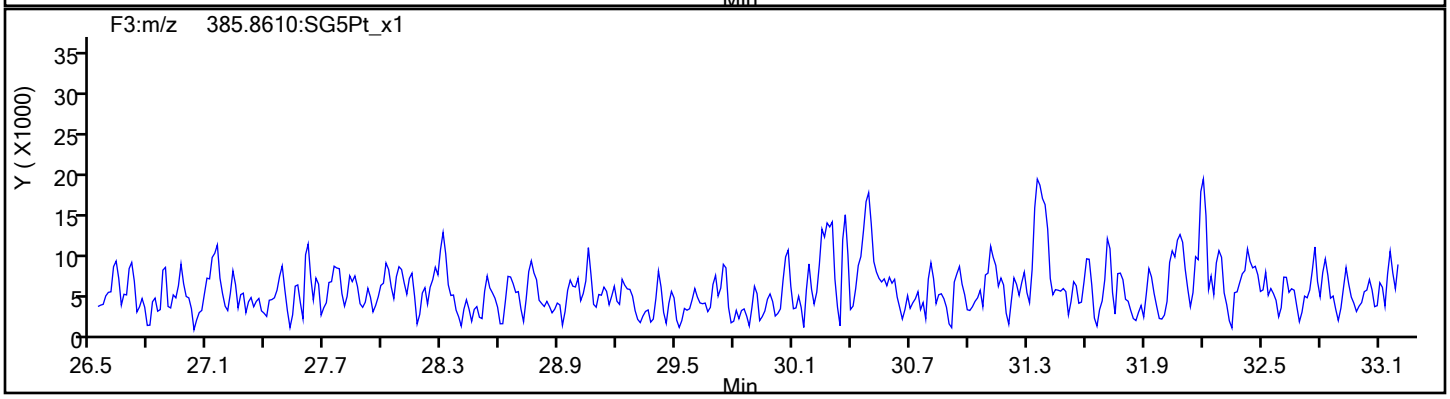

Report Date: 12-Dec-2019 16:14:39 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_1.d		
Injection Date:	12-Dec-2019 09:53:45	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	345037	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

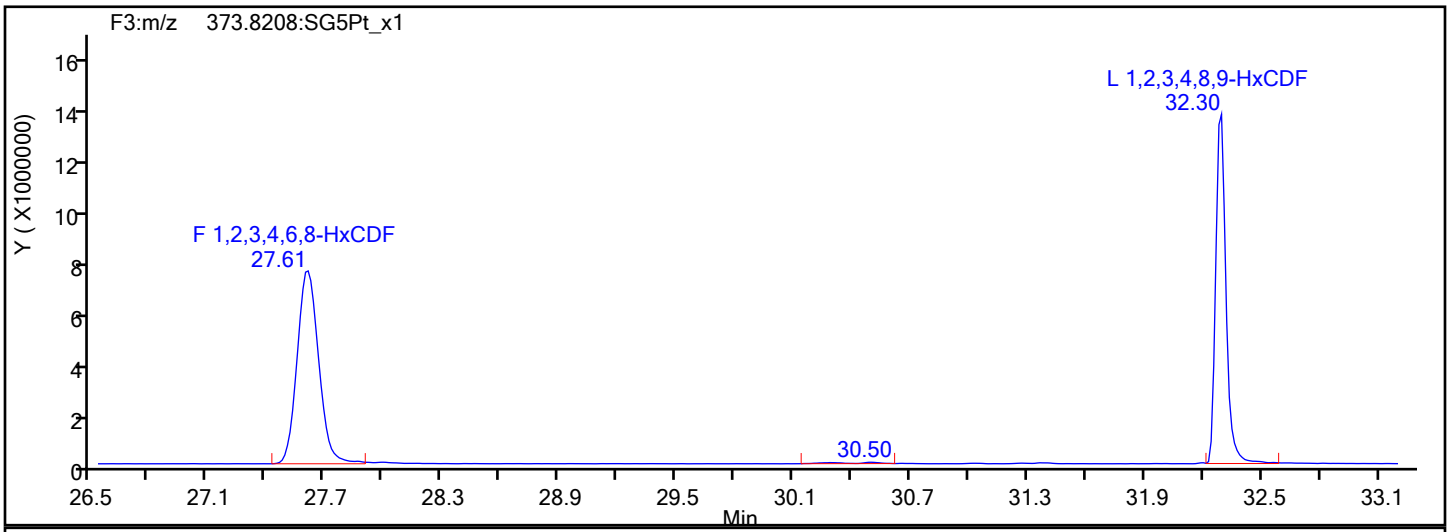

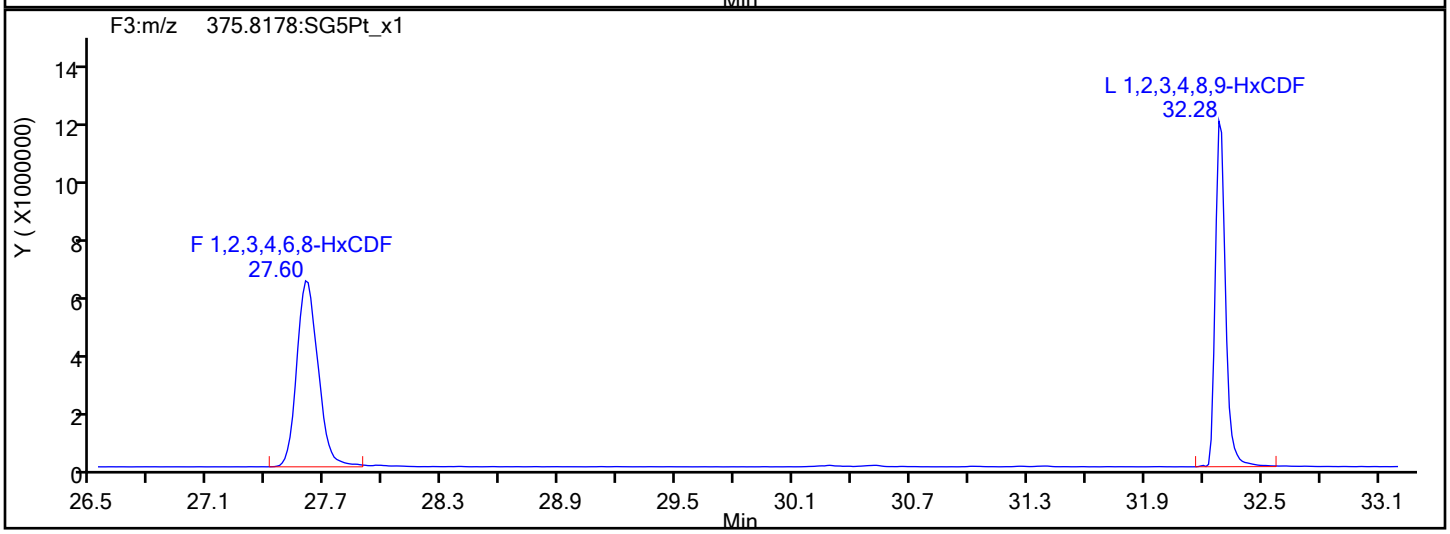

HxCDF Interference Mass

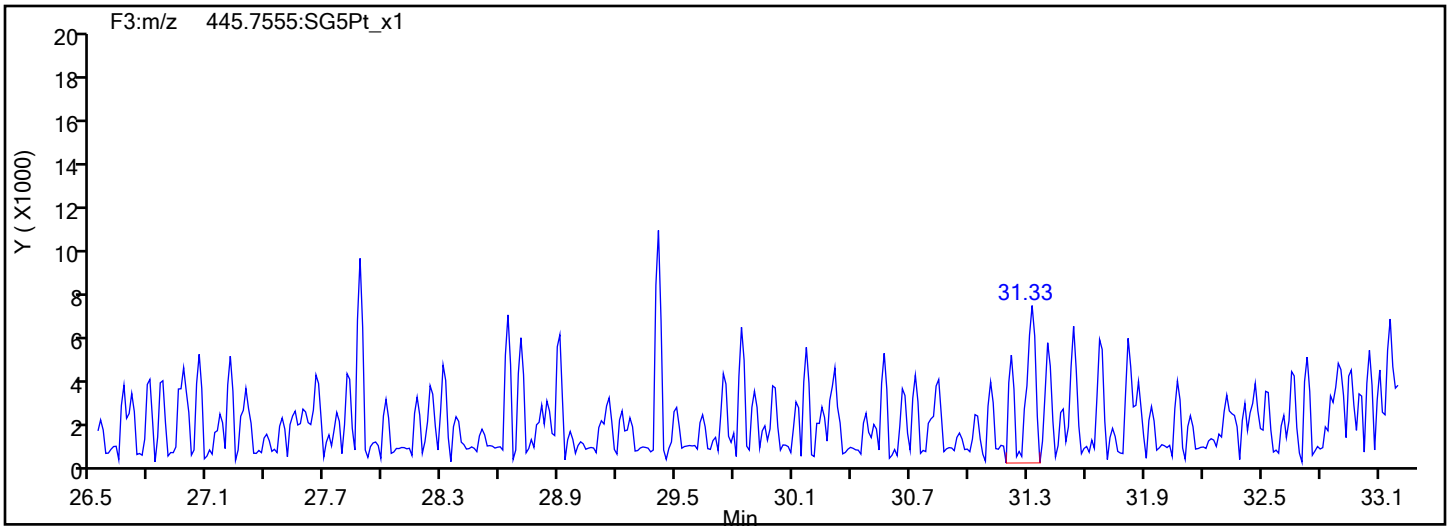

Report Date: 12-Dec-2019 16:14:39 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_1.d		
Injection Date:	12-Dec-2019 09:53:45	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	345037	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

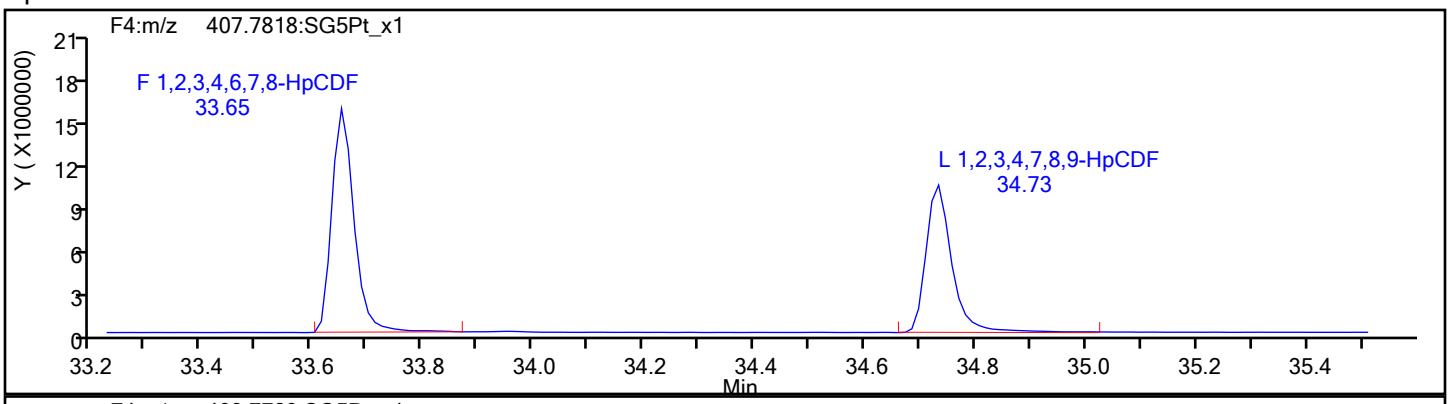

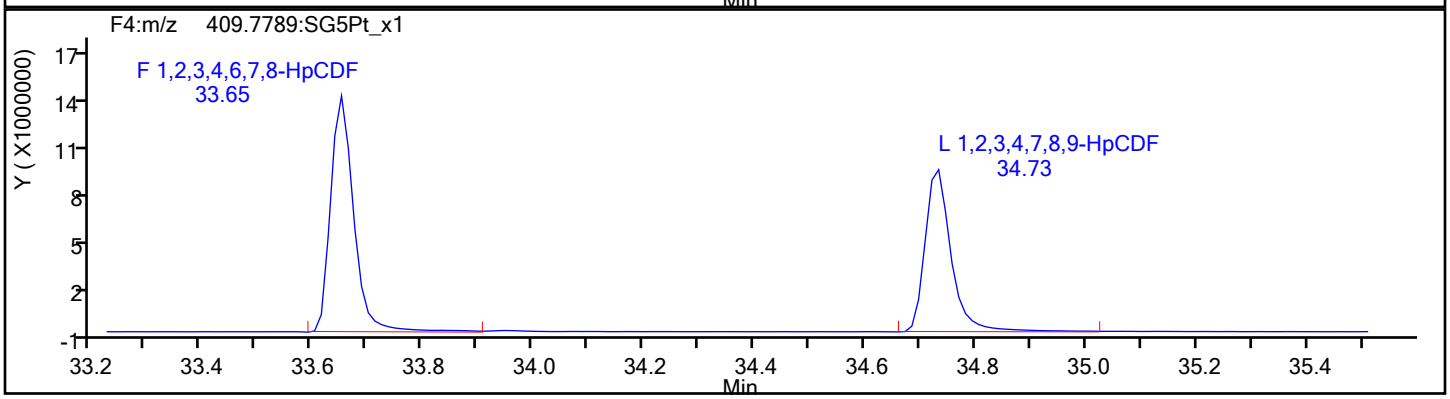

HpCDF Standards

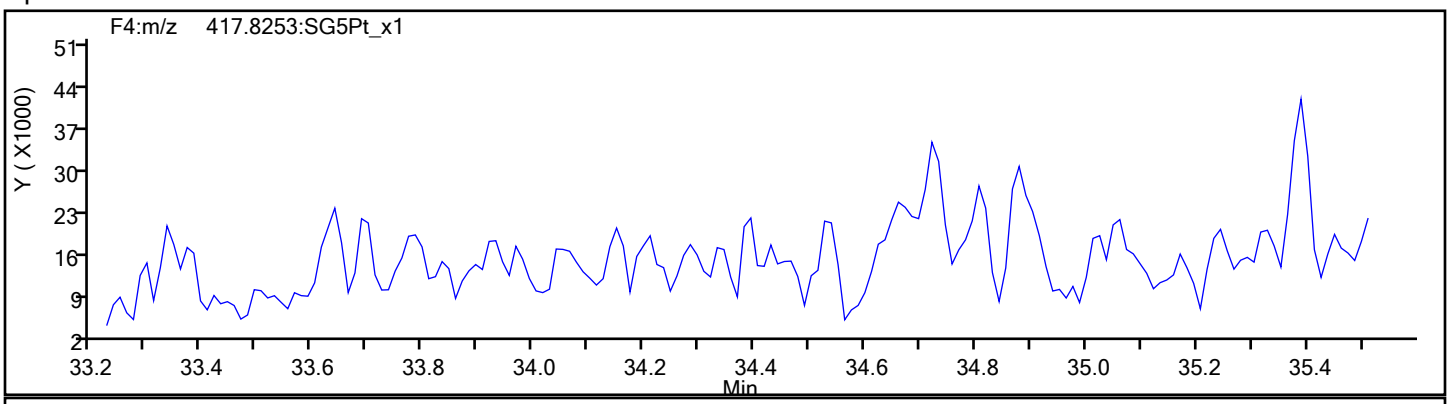

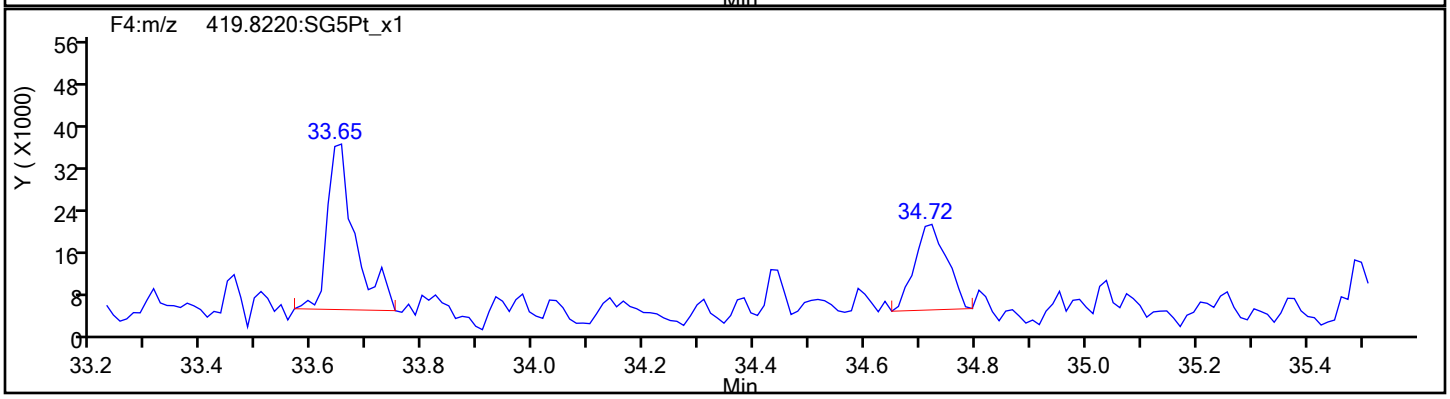

Report Date: 12-Dec-2019 16:14:39 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_1.d		
Injection Date:	12-Dec-2019 09:53:45	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	345037	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

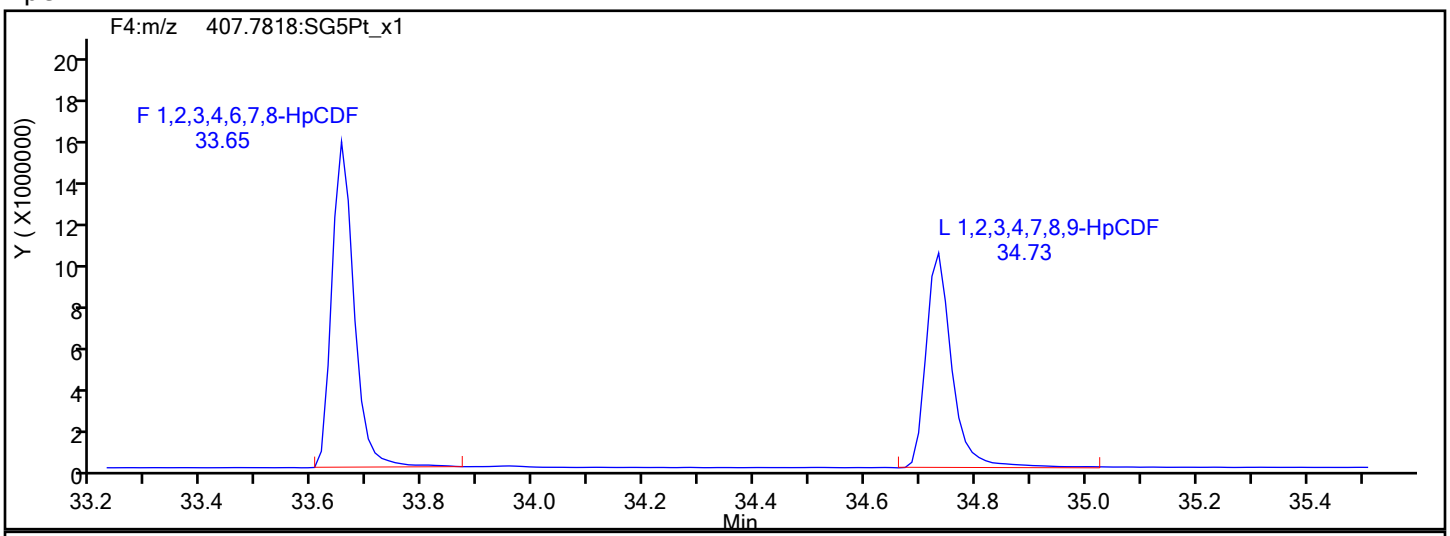

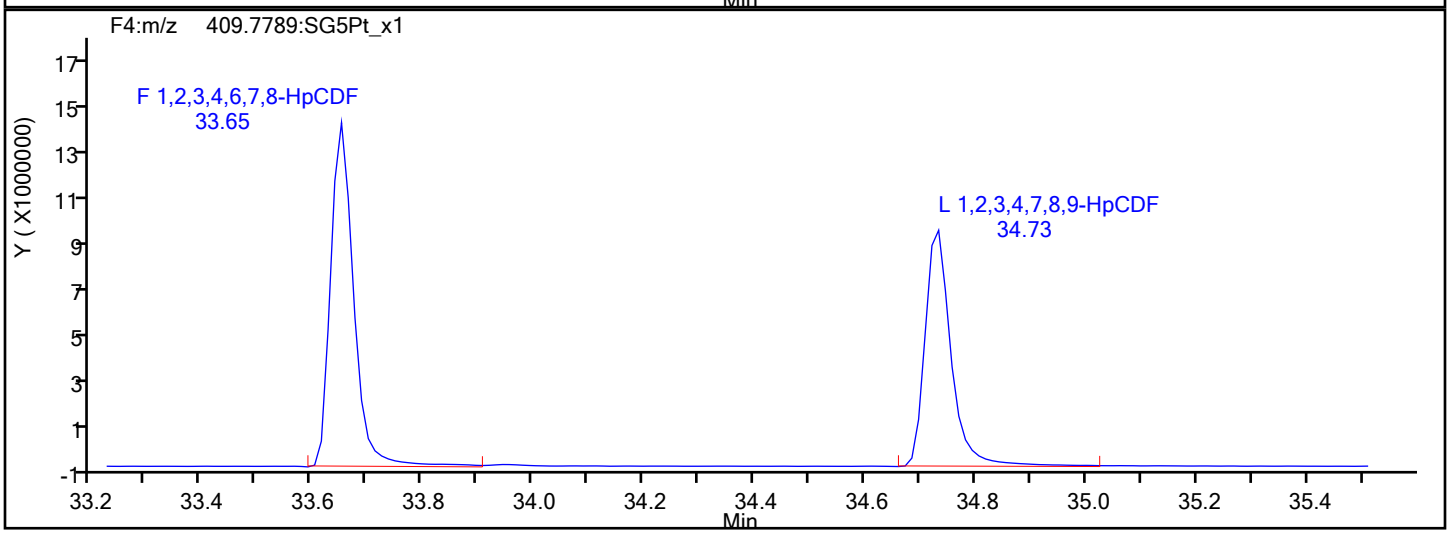

HpCDF Interference Mass

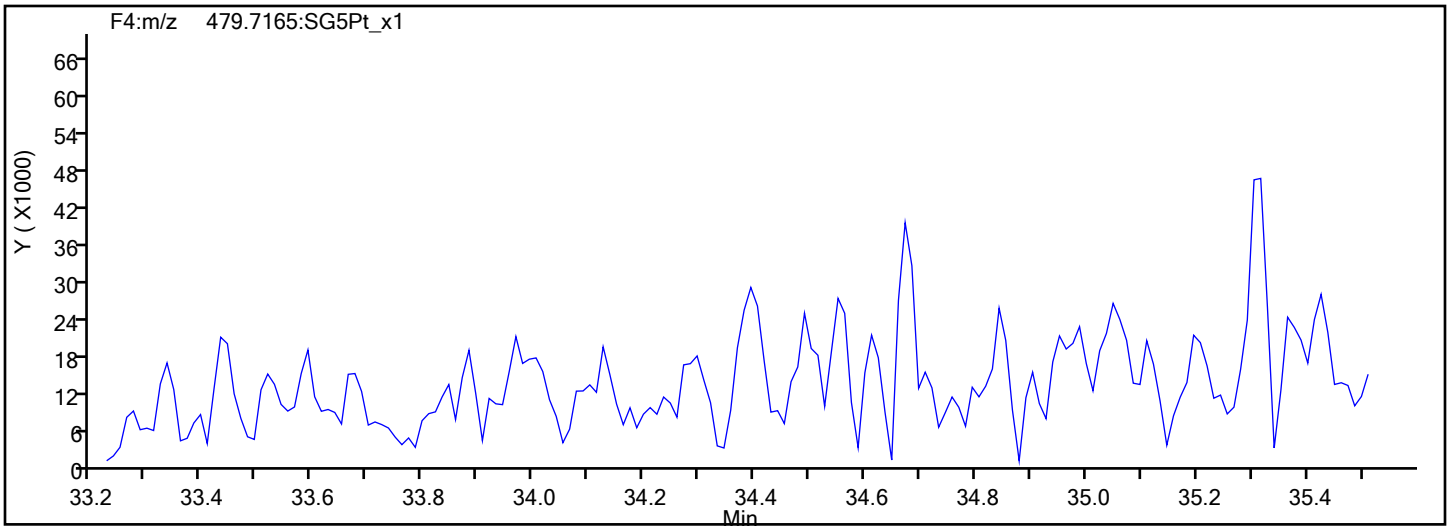

Report Date: 12-Dec-2019 16:14:39 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_1.d		
Injection Date:	12-Dec-2019 09:53:45	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	345037	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

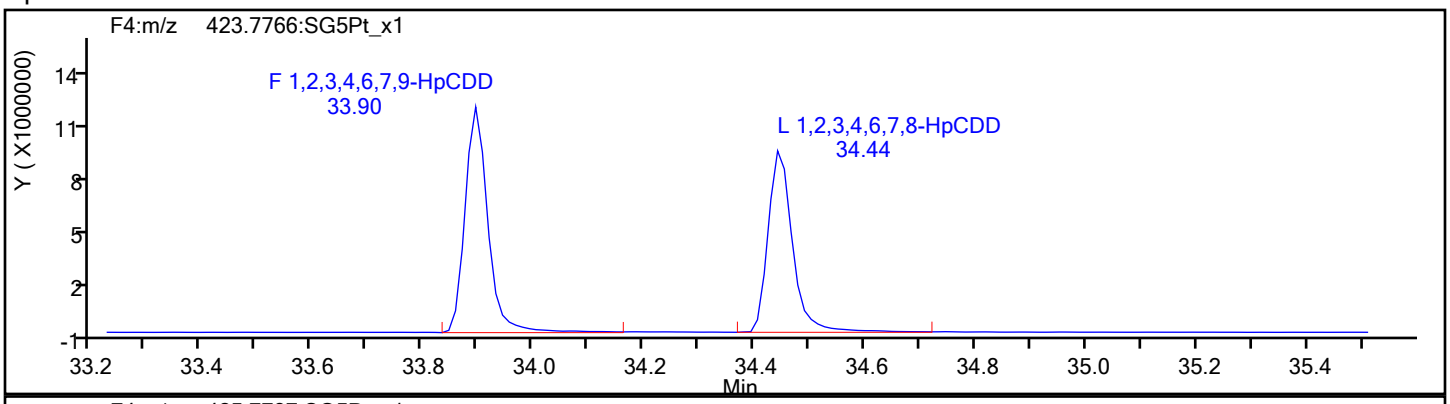

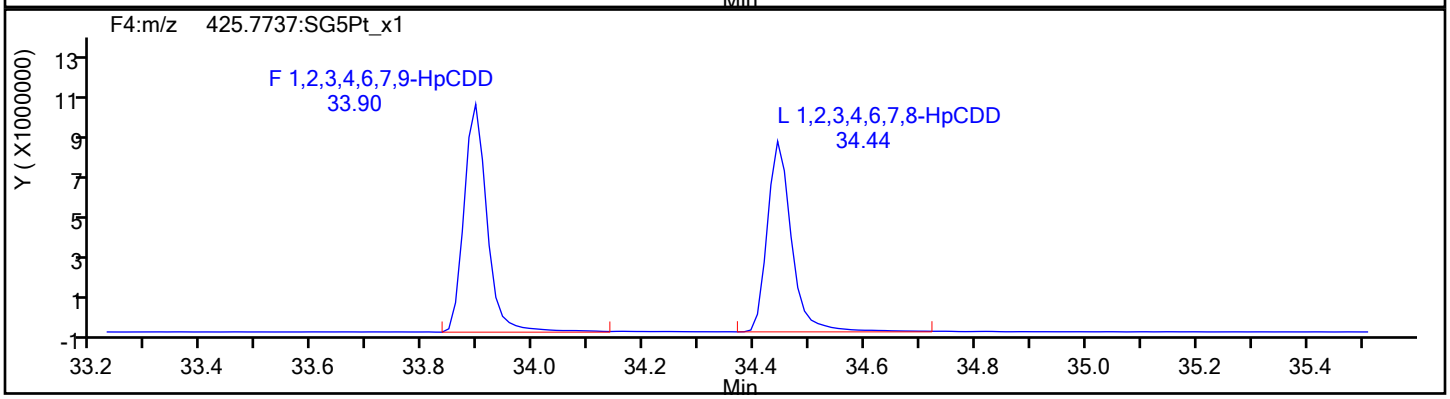

HpCDD Standards

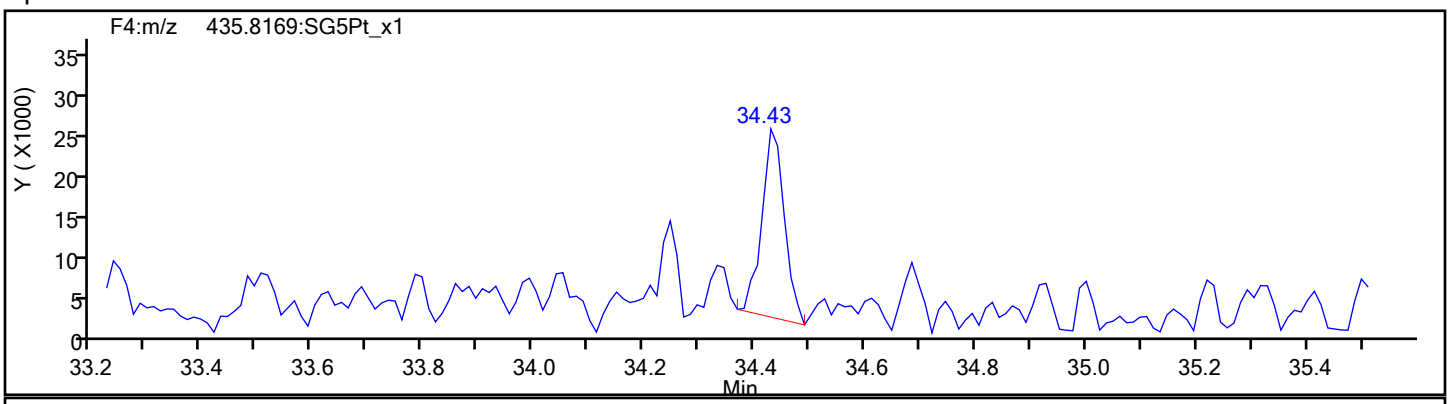

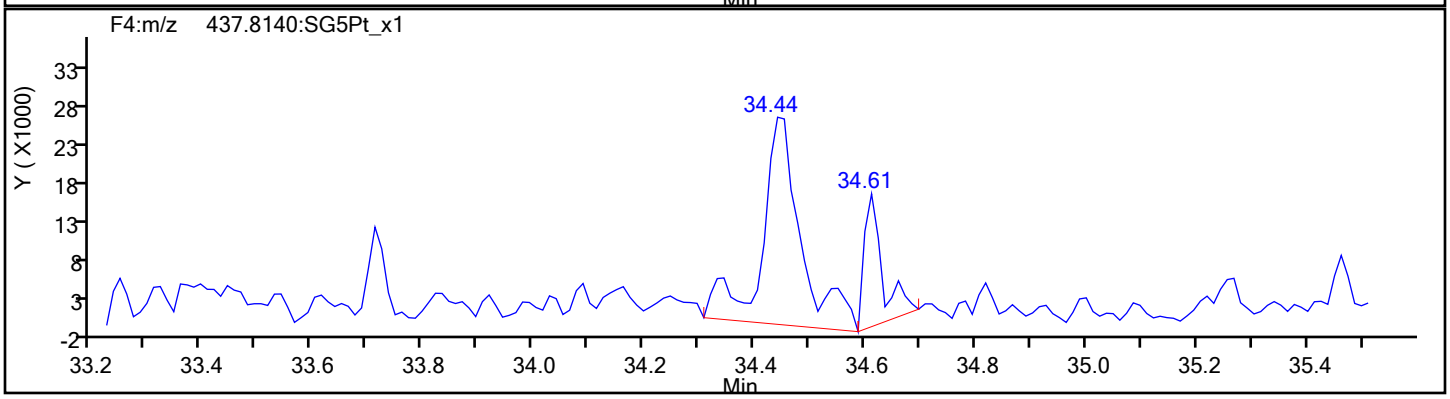

Report Date: 12-Dec-2019 16:14:39 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_1.d		
Injection Date:	12-Dec-2019 09:53:45	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	345037	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

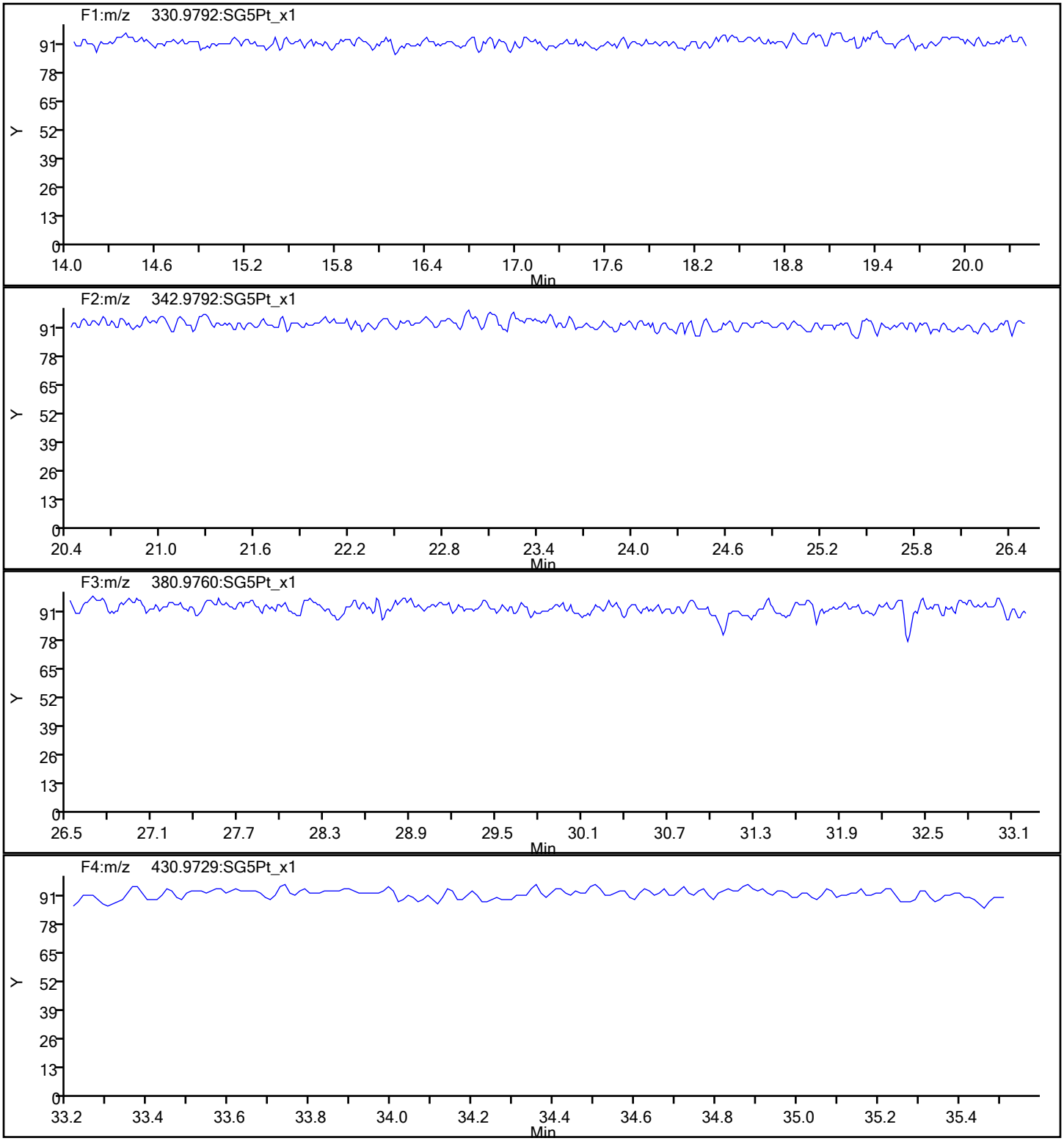

Report Date: 12-Dec-2019 16:14:39 Chrom Revision: 2.3 02-Dec-2019 08:23:04

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_1.d		
Injection Date:	12-Dec-2019 09:53:45	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	KSS
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	345037	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

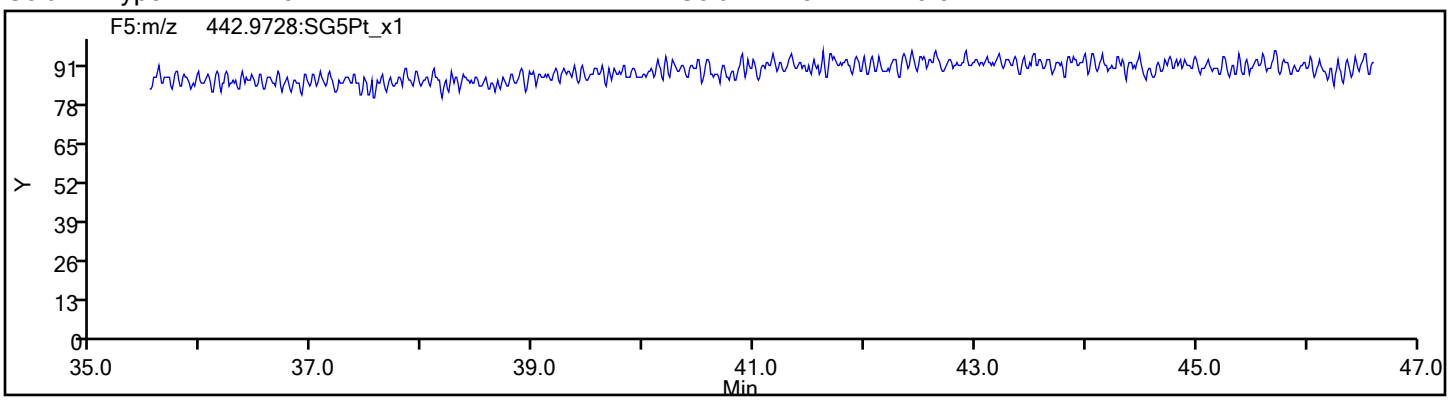

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_1.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 06-Jan-2020 21:27:34 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 010620A WDM HRDXNCP_00040
Misc. Info.: 06JA20A3D5
Operator ID: ALM Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 07-Jan-2020 11:22:00 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0317

First Level Reviewer: shardaa Date: 07-Jan-2020 10:36:29

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	16.659	45961785	0.77	1.4157					0.00	
2,3,7,8-TCDF	16.690	100305291	0.78	0.9502	91.9	91.9	0.4729	0.4729		
A Non-2,3,7,8-sub-TCDF	16.387						0.4729	0.4729		
S Total TCDF					91.9	91.9	0.4729	0.4729		
D 13C-2,3,7,8-TCDD	17.324	26160030	0.84	0.9751					0.00	
2,3,7,8-TCDD	17.340	31577292	0.79	1.0477	46.1	46.1	0.4498	0.4498		
A Non-2,3,7,8-sub-TCDD	16.818						0.4498	0.4498		
S Total TCDD					46.1	46.1	0.4498	0.4498		
A F1 PeCDFs	19.117						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	22.077						0.0	0.0		
S Total PeCDF										
A Non-2,3,7,8-sub-PeCDD	22.301						0.0	0.0		
S Total PeCDD										
A Non-2,3,7,8-sub-HxCDF	29.272						0.0	0.0		
S Total HxCDF										
A Non-2,3,7,8-sub-HxCDD	29.885						0.0	0.0		
S Total HxCDD										
1,2,3,4,6,7,8-HpCDF	33.379	29965297	1.04	1.4804						
1,2,3,4,7,8,9-HpCDF	34.436	17440532	1.06	1.2933						
A Non-2,3,7,8-sub-HpCDF	33.907						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	34.156	16421433	1.09	1.0535						
A Non-2,3,7,8-sub-HpCDD	33.883						0.0	0.0		
S Total HpCDD										
1,3,6,8-TCDF	14.391	58293631	0.79							
1,3,6,8-TCDD	15.253	35878590	0.77							
2,3,4,7-TCDF	16.690	100305291	0.78							
1,2,3,7-TCDD	17.234	27576600	0.86							
1,2,3,9-TCDF	17.491	41411812	0.78							
1,2,3,9-TCDD	17.491	35418707	0.78							

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,8,9-TCDD	18.383	14003653								
1,2,8,9-TCDF	18.383	43255561	0.79							
1,3,4,6,8-PeCDF	18.655	37438644	1.54							
1,2,4,7,9-PeCDD	20.317	28004742	1.63							
1,2,3,8,9-PeCDD	24.285	24343212	1.64							
1,2,3,8,9-PeCDF	24.503	18661654								
1,2,3,4,6,8-HxCDF	26.642	35967718	1.24							
1,2,4,6,7,9-HxCDD	28.121	25559851	1.28							
1,2,3,4,6,7-HxCDD	31.542	24215751	1.25							
1,2,3,4,8,9-HxCDF	31.902	30145474	1.20							
1,2,3,4,6,7,9-HpCDD	33.610	19490468	1.07							

Reagents:

HRDXNCP_00040 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_1.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 06-Jan-2020 21:27:34 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 010620A WDM HRDXNCP_00040
Misc. Info.: 06JA20A3D5
Operator ID: ALM Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 07-Jan-2020 11:22:00 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0317

First Level Reviewer: shardaa Date: 07-Jan-2020 10:36:29

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	16.659	16.659	0	1.000	20063942	5352778	15104	37760	354		
317.9389	16.659	16.659	0	1.000	25897843	6644097	8120	20300	818	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.690	16.690	0	1.002	43853068	10330621	22165	55412	466		
305.8987	16.690	16.690	0	1.002	56452223	13132272	31746	79365	414	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.387						22165	55412			
305.8987	16.387						31746	79365			
13C-2,3,7,8-TCDD											
331.9368	17.324	17.324	0	1.000	11947111	2961423	10881	27202	272		
333.9339	17.324	17.324	0	1.000	14212919	3579272	3816	9540	938	0.84(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.340	17.340	0	1.001	13900355	3581733	12750	31875	281		
321.8936	17.340	17.340	0	1.001	17676937	4227197	18071	45177	234	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	16.818						12750	31875			
321.8936	16.818						18071	45177			
A F1 PeCDFs											
339.8597	19.117						4375	10937			
341.8567	19.117						4210	10525			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.077						4657	11642			
341.8567	22.077						6117	15292			
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.301						6841	17102			
357.8516	22.301						4558	11395			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.272						7619	19047			
375.8178	29.272						4836	12090			
A Non-2,3,7,8-sub-HxCDD											
389.8157	29.885						4975	12437			
391.8127	29.885						4292	10730			
1,2,3,4,6,7,8-HpCDF											
407.7818	33.379	33.379	0	1.000	15258700	4688693	15440	38600	304		
409.7789	33.379	33.379	0	1.000	14706597	4353376	13458	33645	323	1.04(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.436	34.436	0	1.000	8961391	2334504	15440	38600	151		
409.7789	34.436	34.436	0	1.000	8479141	2227509	13458	33645	166	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.907						15440	38600			
409.7789	33.907						13458	33645			
1,2,3,4,6,7,8-HpCDD											
423.7766	34.156	34.156	0	1.000	8568089	2377788	11439	28597	208		
425.7737	34.156	34.156	0	1.000	7853344	2190153	10473	26182	209	1.09(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.883						11439	28597			
425.7737	33.883						10473	26182			
1,3,6,8-TCDF											
303.9016	14.391	14.391	0		25637853	7788773	22165	55412	351		
305.8987	14.376	14.391	-1		32655778	10055071	31746	79365	317	0.79(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	15.253	15.253	0		15617410	4294745	12750	31875	337		
321.8936	15.238	15.253	-1		20261180	5624414	18071	45177	311	0.77(0.65-0.89)	
2,3,4,7-TCDF											
303.9016	16.690	16.690	0		43853068	10330621	22165	55412	466		
305.8987	16.690	16.690	0		56452223	13132272	31746	79365	414	0.78(0.65-0.89)	
1,2,3,7-TCDD											
319.8965	17.234	17.234	0		12776571	3262199	12750	31875	256		
321.8936	17.234	17.234	0		14800029	3997209	18071	45177	221	0.86(0.65-0.89)	
1,2,3,9-TCDF											
303.9016	17.491	17.491	0		18097252	4415506	22165	55412	199		
305.8987	17.491	17.491	0		23314560	5692343	31746	79365	179	0.78(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	17.491	17.491	0		15532177	3610446	12750	31875	283		
321.8936	17.491	17.491	0		19886530	4738733	18071	45177	262	0.78(0.65-0.89)	
1,2,8,9-TCDD											
319.8965	18.383	18.383	0		14003653	3145517	12750	31875	247		
1,2,8,9-TCDF											
303.9016	18.383	18.383	0		19040543	4268163	22165	55412	193		
305.8987	18.383	18.383	0		24215018	5548801	31746	79365	175	0.79(0.65-0.89)	
1,3,4,6,8-PeCDF											
339.8597	18.655	18.655	0		22721094	5223322	4375	10937	1194		
341.8567	18.655	18.655	0		14717550	3348669	4210	10525	795	1.54(1.32-1.78)	

Report Date: 07-Jan-2020 11:22:03 Chrom Revision: 2.3 23-Dec-2019 10:12:06
Data File: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_1.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,4,7,9-PeCDD											
355.8546	20.317	20.317	0		17372878	3158727	6841	17102	462		
357.8516	20.317	20.317	0		10631864	1951582	4558	11395	428	1.63(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	24.285	24.285	0		15136891	2098164	6841	17102	307		
357.8516	24.285	24.285	0		9206321	1265404	4558	11395	278	1.64(1.32-1.78)	
1,2,3,8,9-PeCDF											
339.8597	24.503	24.503	0		18661654	2437968	4657	11642	524		
1,2,3,4,6,8-HxCDF											
373.8208	26.642	26.642	0		19920644	2737895	7619	19047	359		
375.8178	26.642	26.642	0		16047074	2080664	4836	12090	430	1.24(1.05-1.43)	
1,2,4,6,7,9-HxCDD											
389.8157	28.121	28.121	0		14327445	1754947	4975	12437	353		
391.8127	28.121	28.121	0		11232406	1349490	4292	10730	314	1.28(1.05-1.43)	
1,2,3,4,6,7-HxCDD											
389.8157	31.542	31.542	0		13476804	3023758	4975	12437	608		
391.8127	31.542	31.542	0		10738947	2509152	4292	10730	585	1.25(1.05-1.43)	
1,2,3,4,8,9-HxCDF											
373.8208	31.902	31.902	0		16457492	3734770	7619	19047	490		
375.8178	31.902	31.902	0		13687982	3149315	4836	12090	651	1.20(1.05-1.43)	
1,2,3,4,6,7,9-HpCDD											
423.7766	33.610	33.610	0		10079782	3107887	11439	28597	272		
425.7737	33.610	33.610	0		9410686	2951157	10473	26182	282	1.07(0.88-1.20)	

Reagents:

HRDXNCP_00040 Amount Added: 2.00 Units: uL

Report Date: 07-Jan-2020 11:22:03 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_1.d		
Injection Date:	06-Jan-2020 21:27:34	Injection Vol:	2.0 ul
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Client ID:			
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TCDF

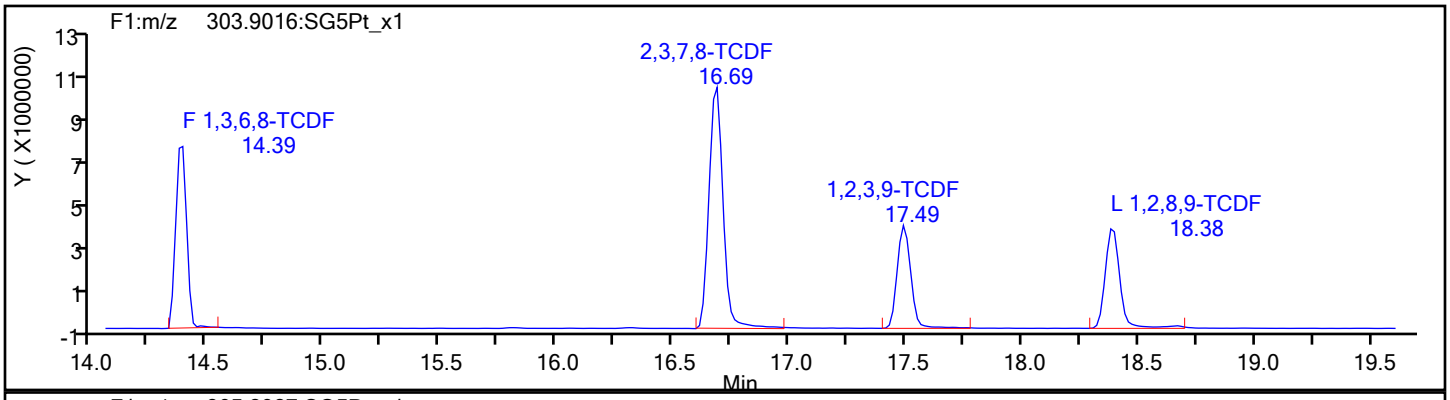

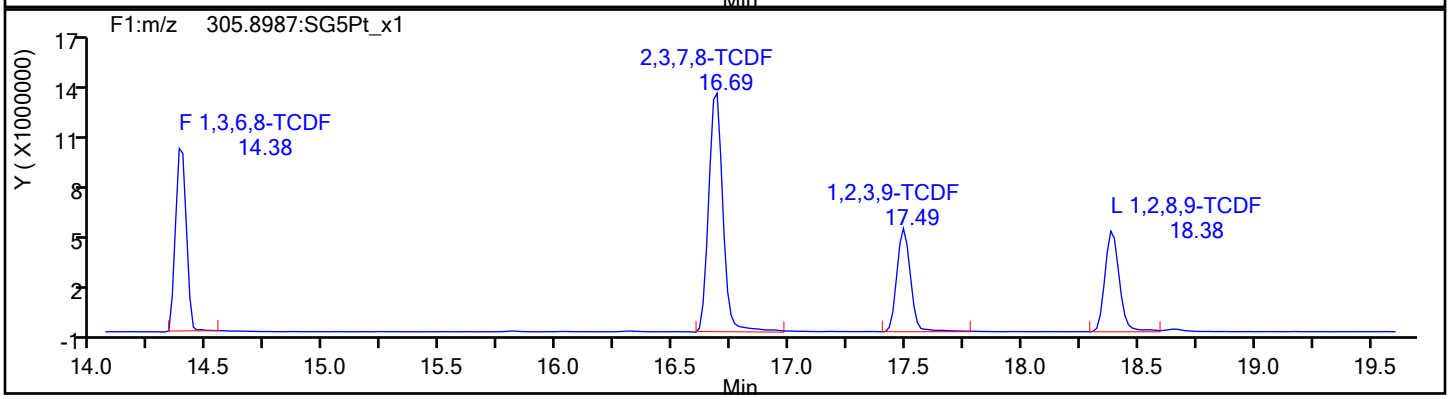

TCDF Standards

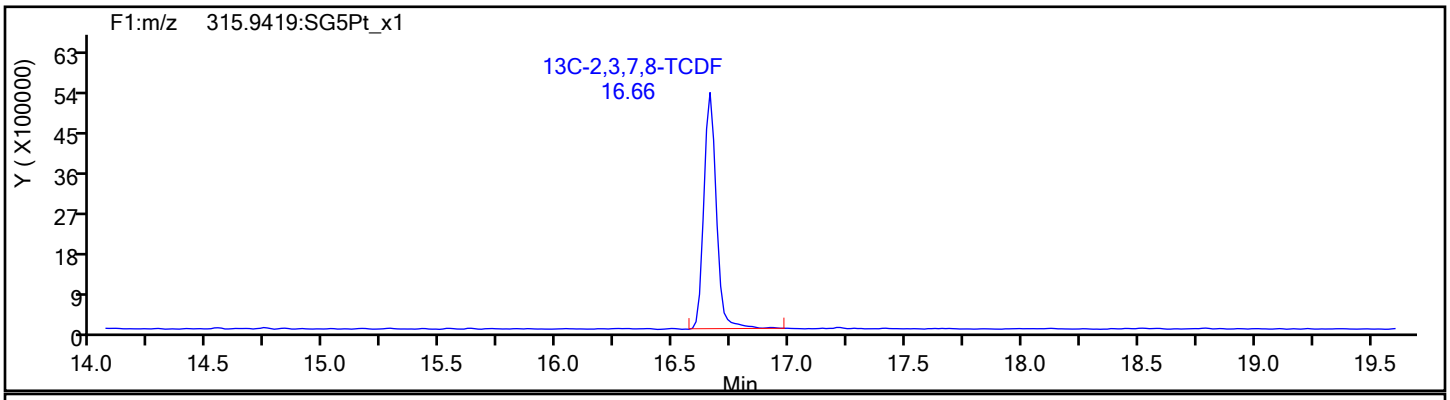

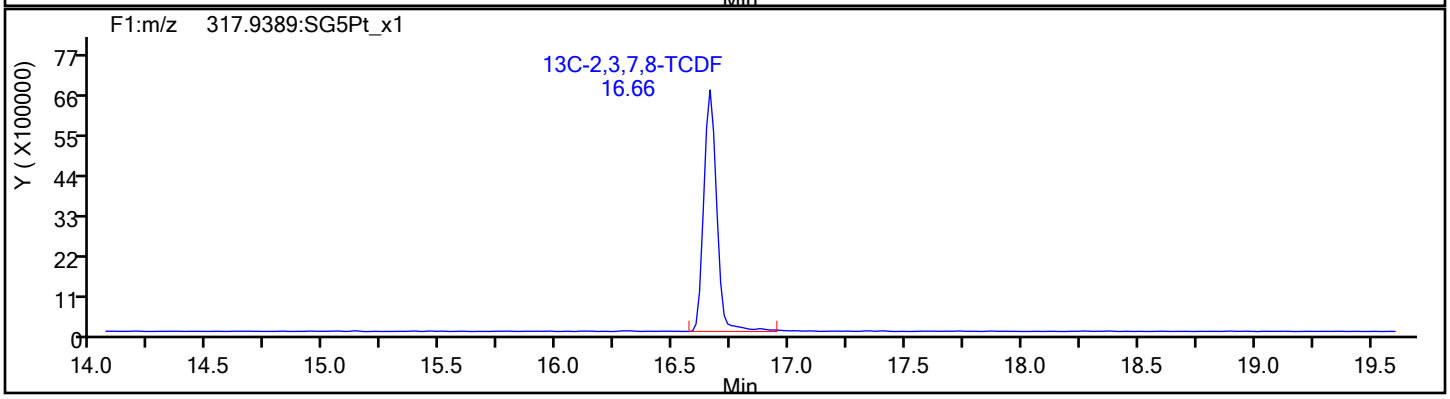

Report Date: 07-Jan-2020 11:22:03 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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TCDF

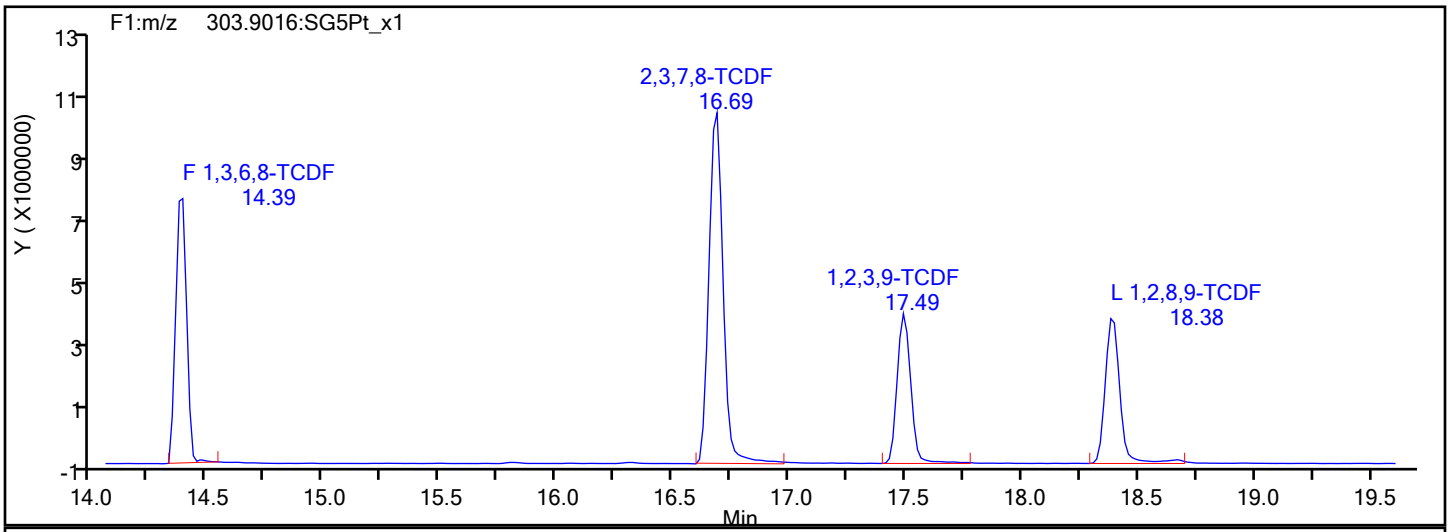

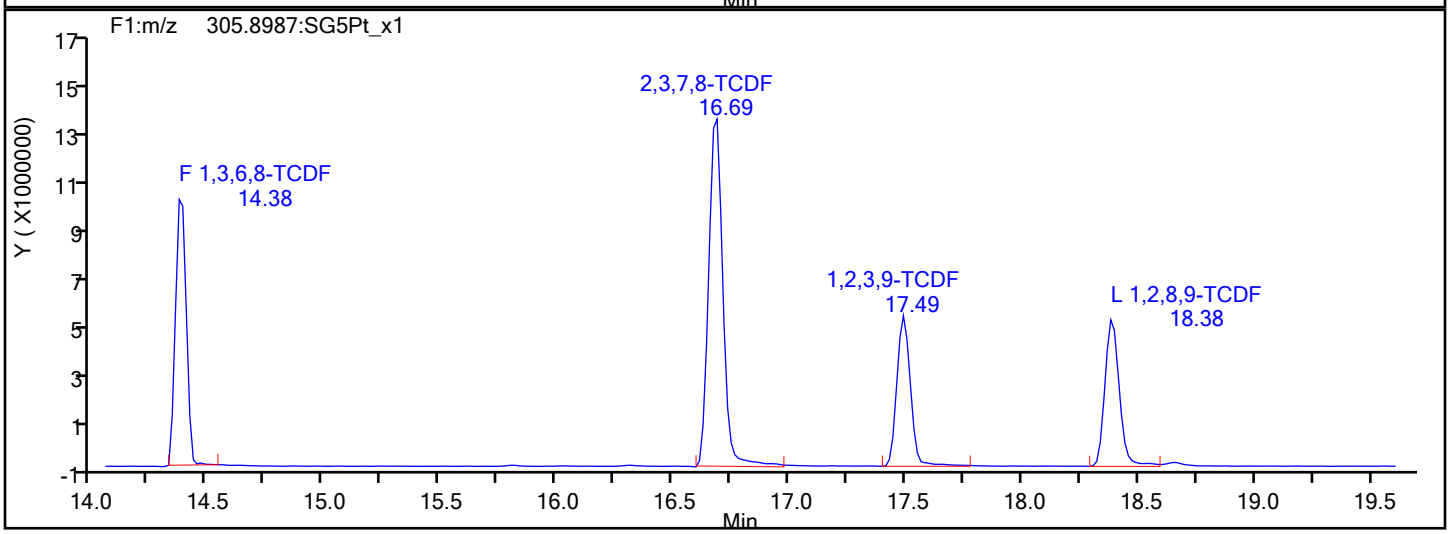

TCDF Interference Mass

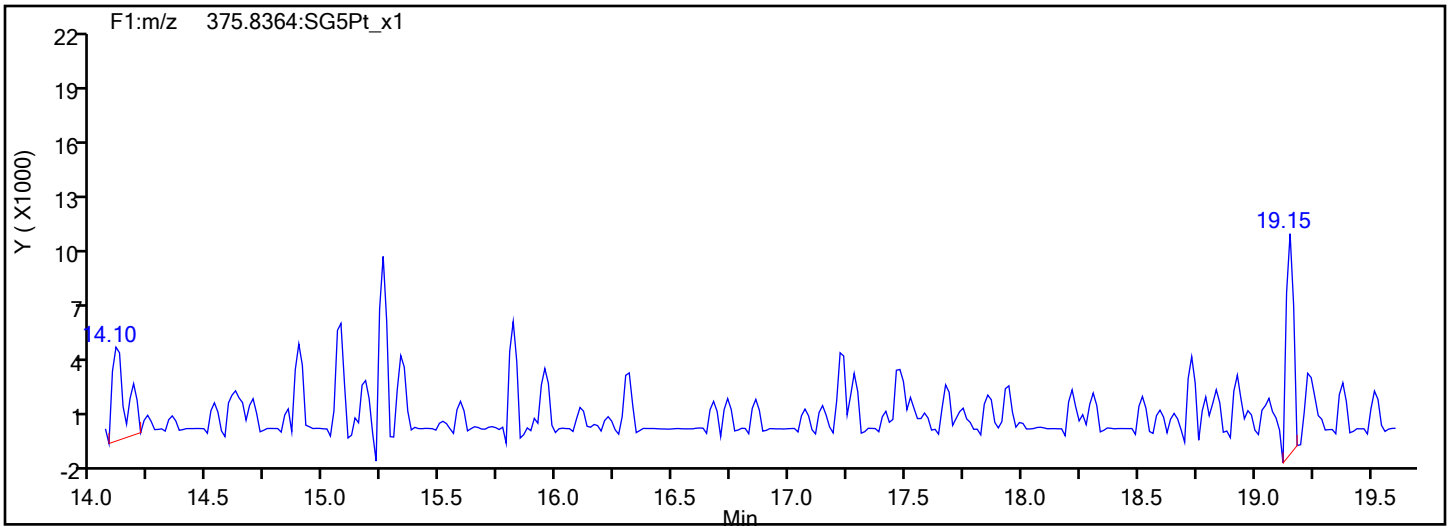

Report Date: 07-Jan-2020 11:22:03 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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TCDD

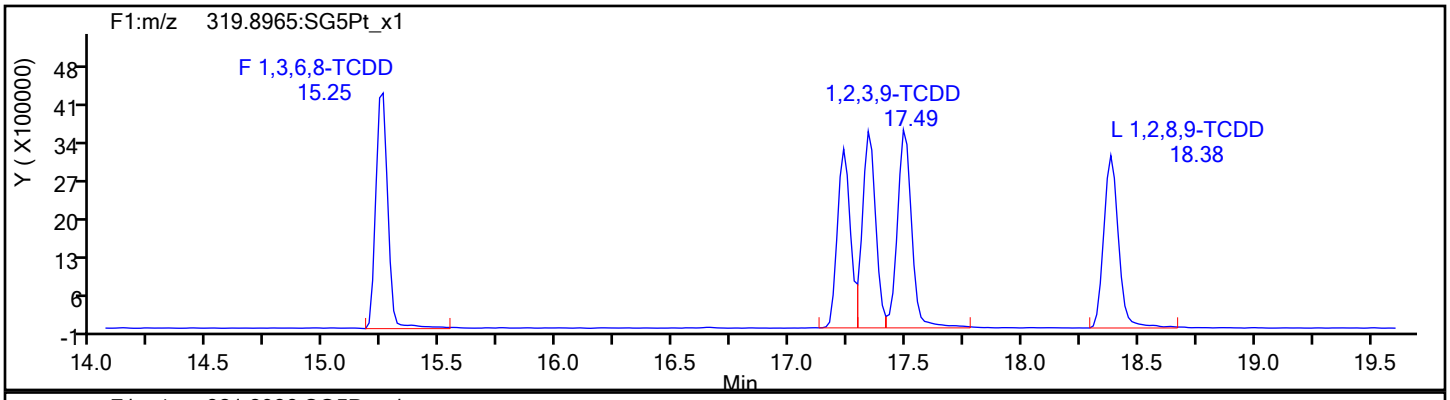

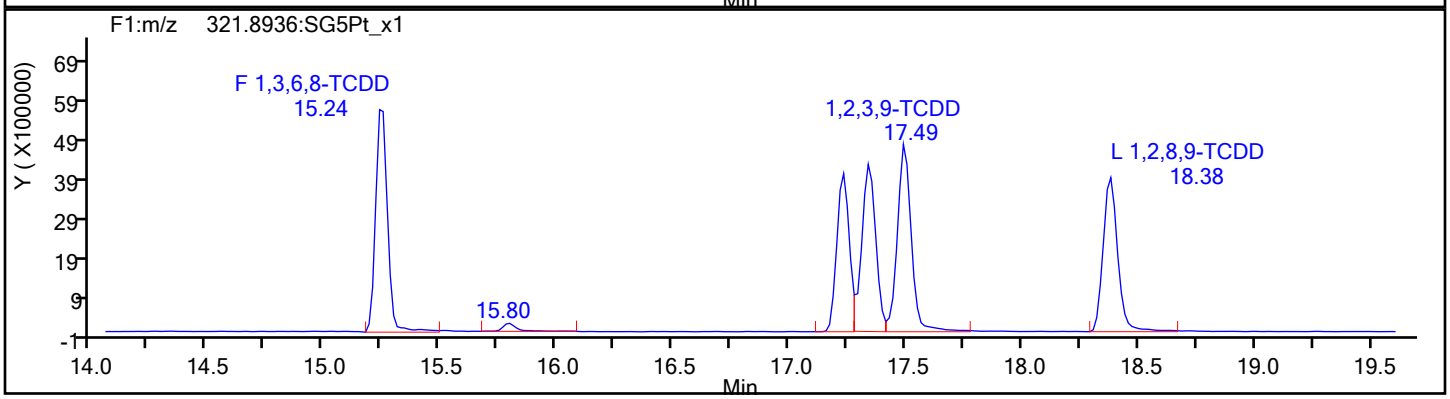

TCDD Standards

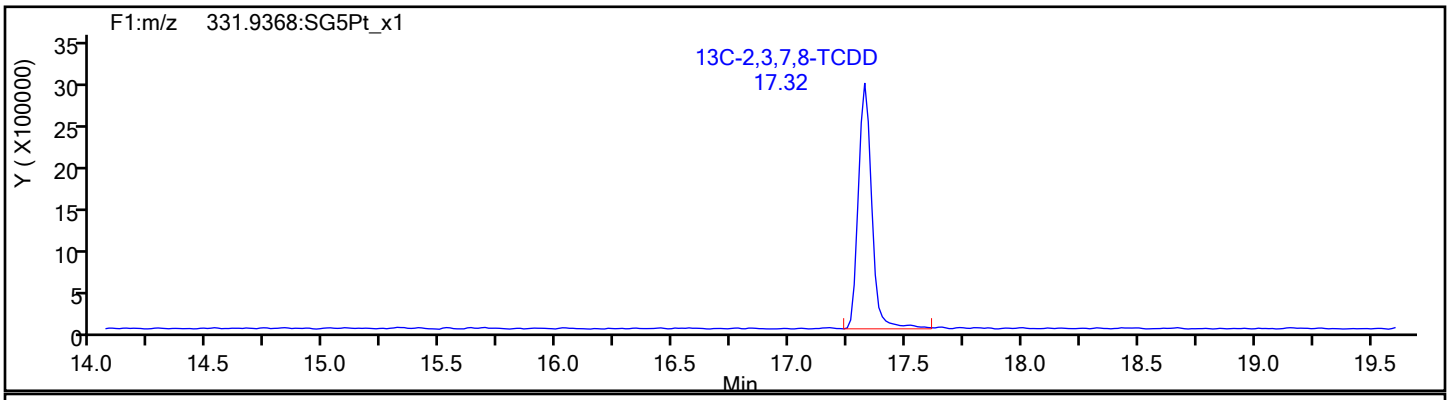

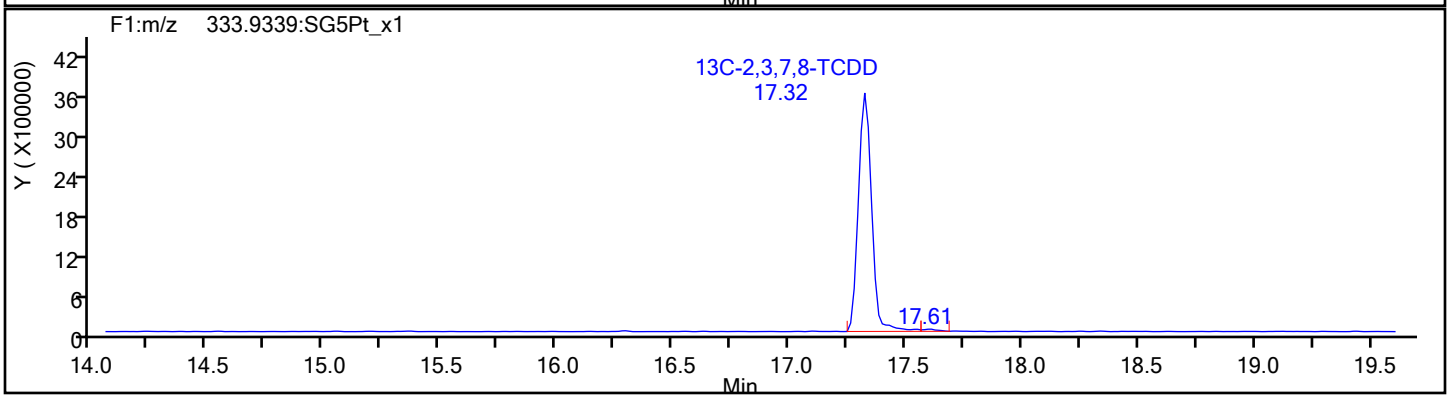

Report Date: 07-Jan-2020 11:22:03 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

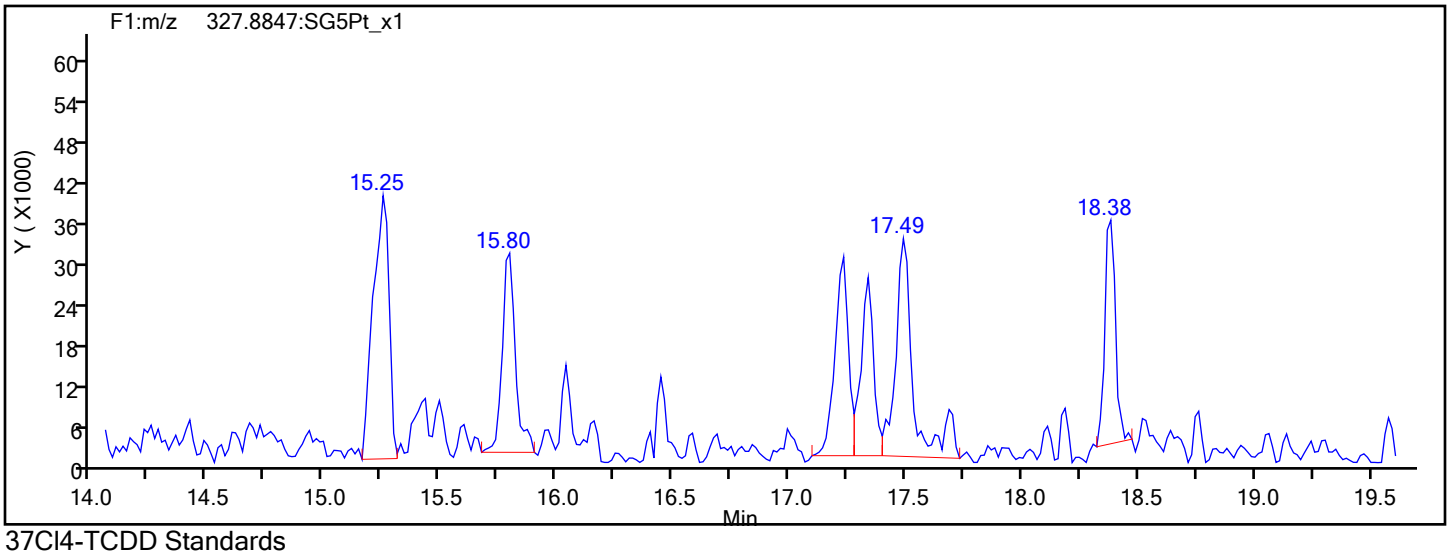

37Cl4-TCDD Standards

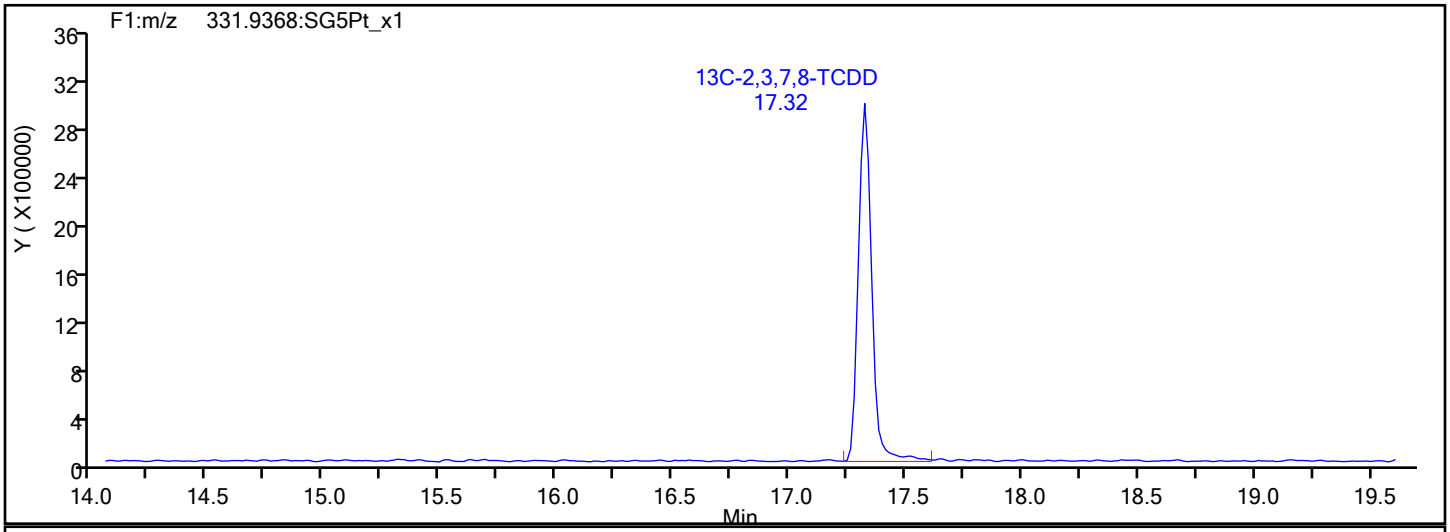

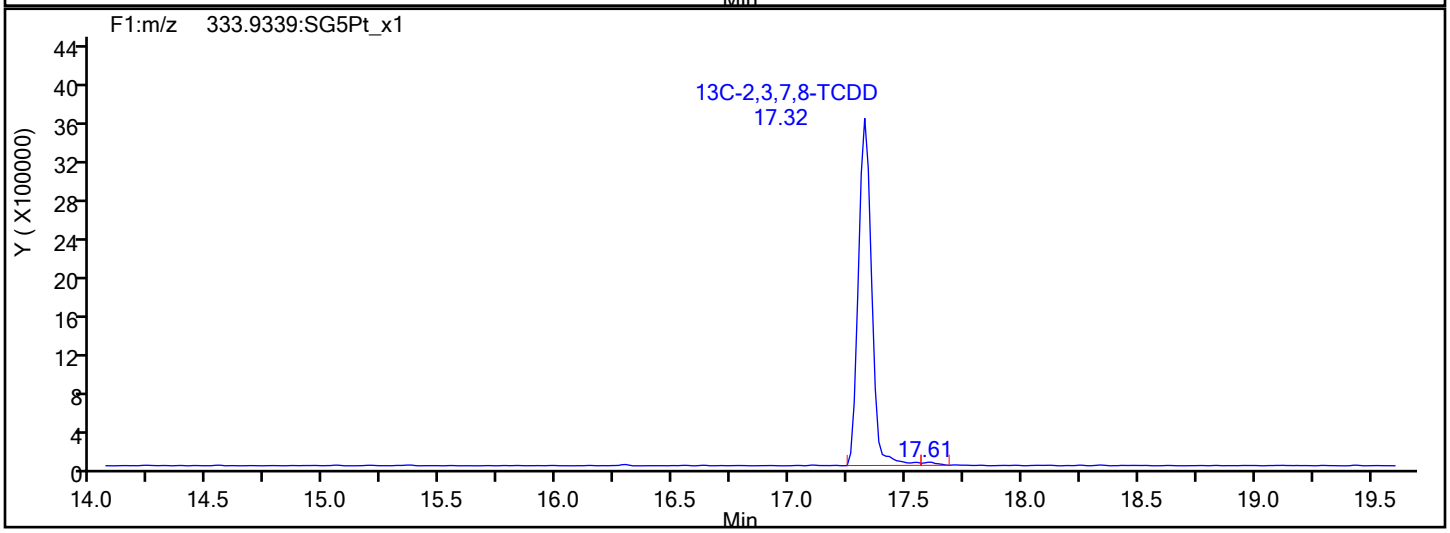

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

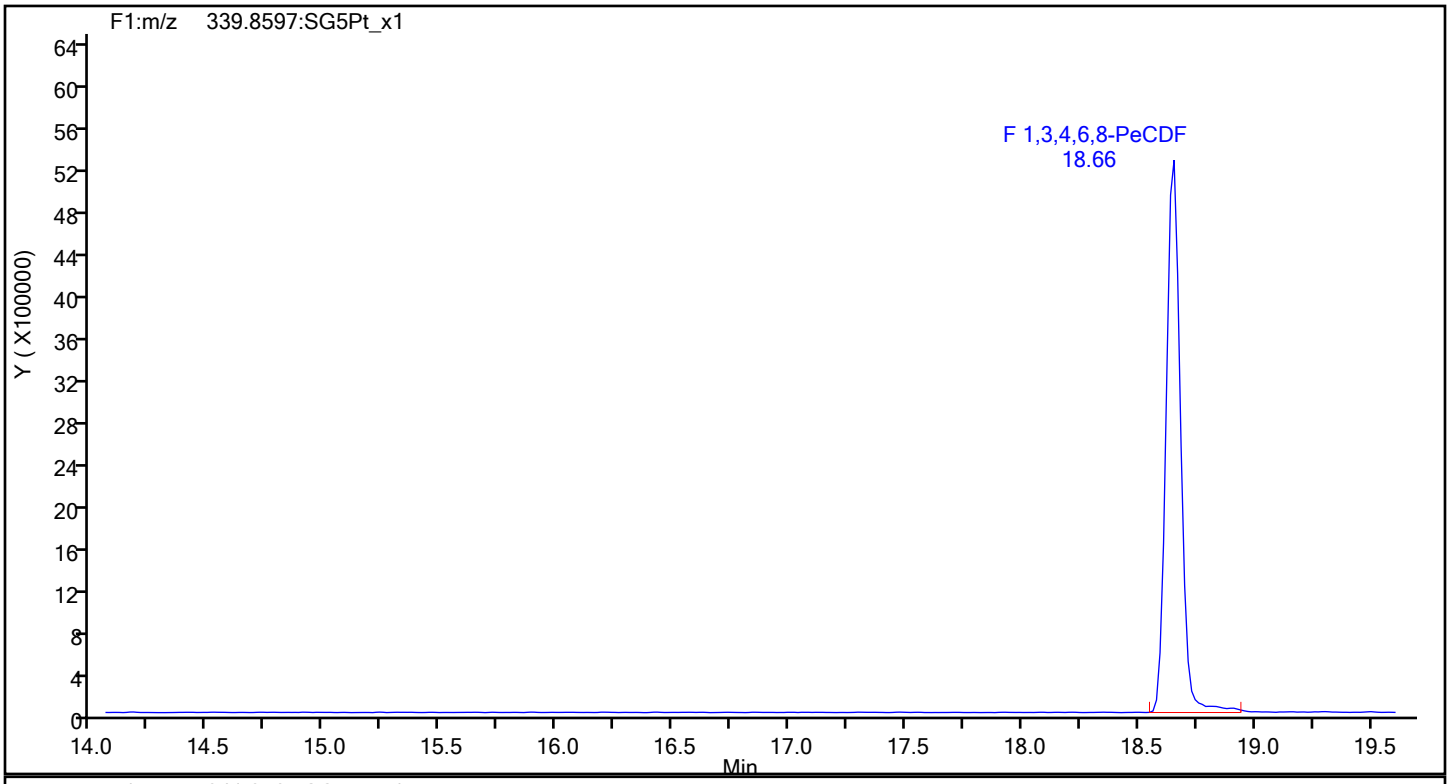

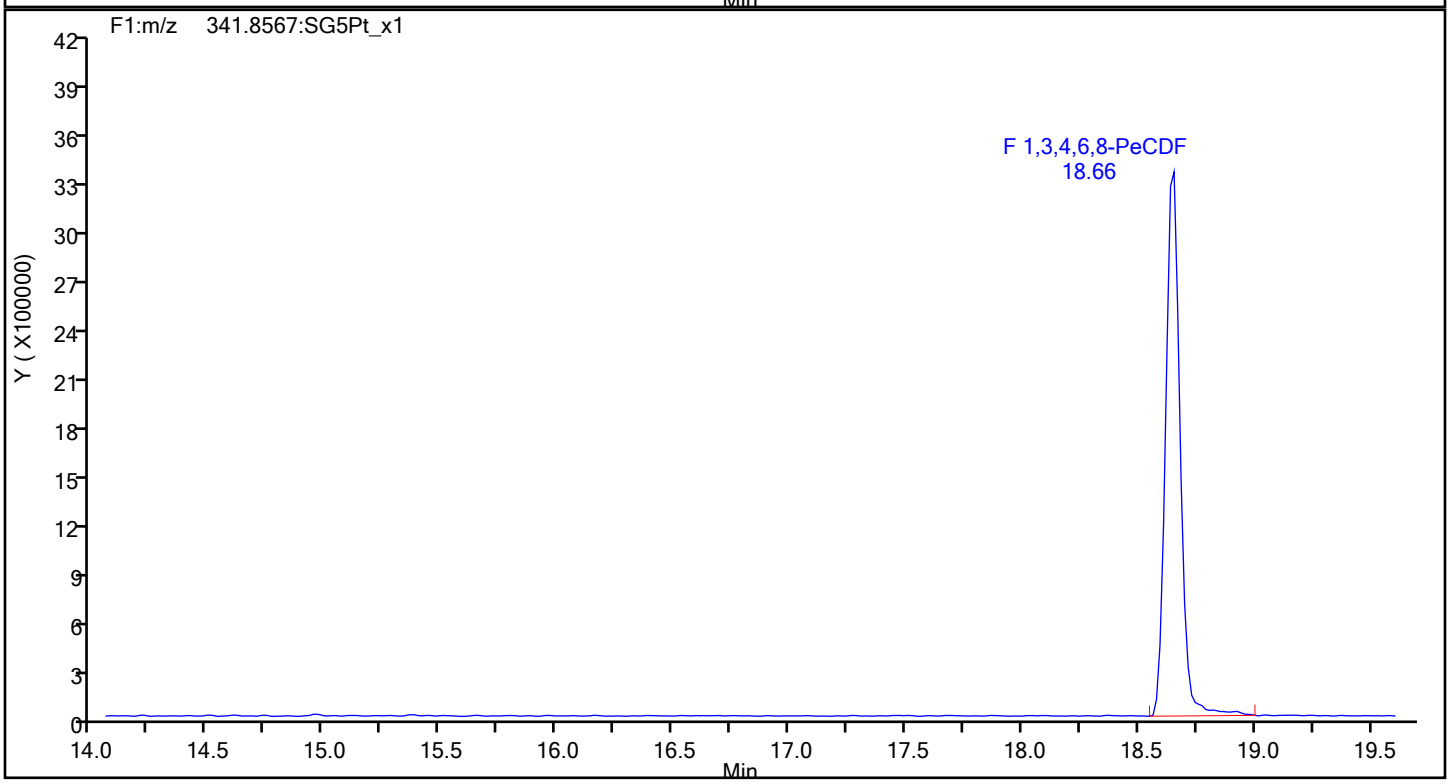

Report Date: 07-Jan-2020 11:22:03 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

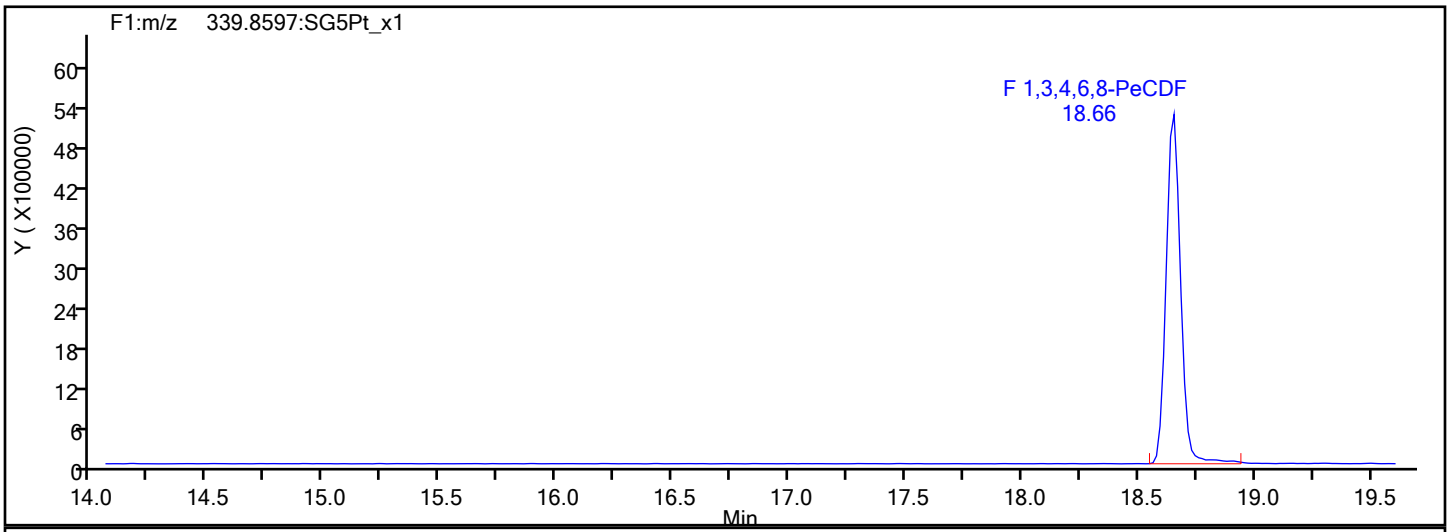

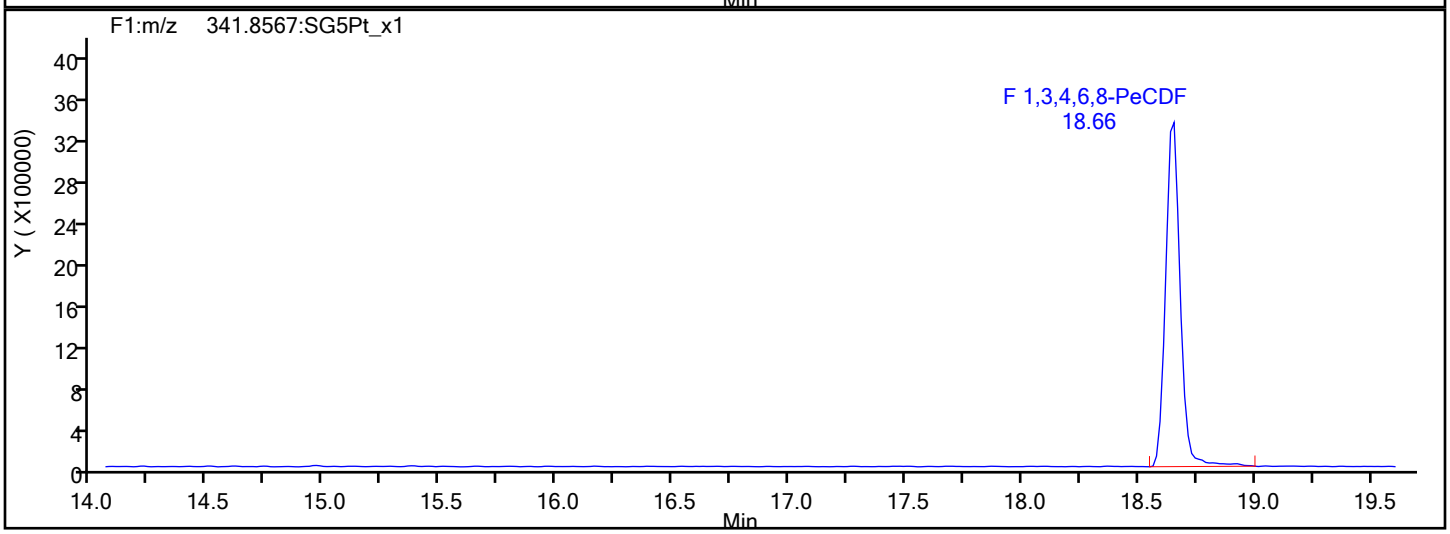

F1 PeCDFs Interference Mass

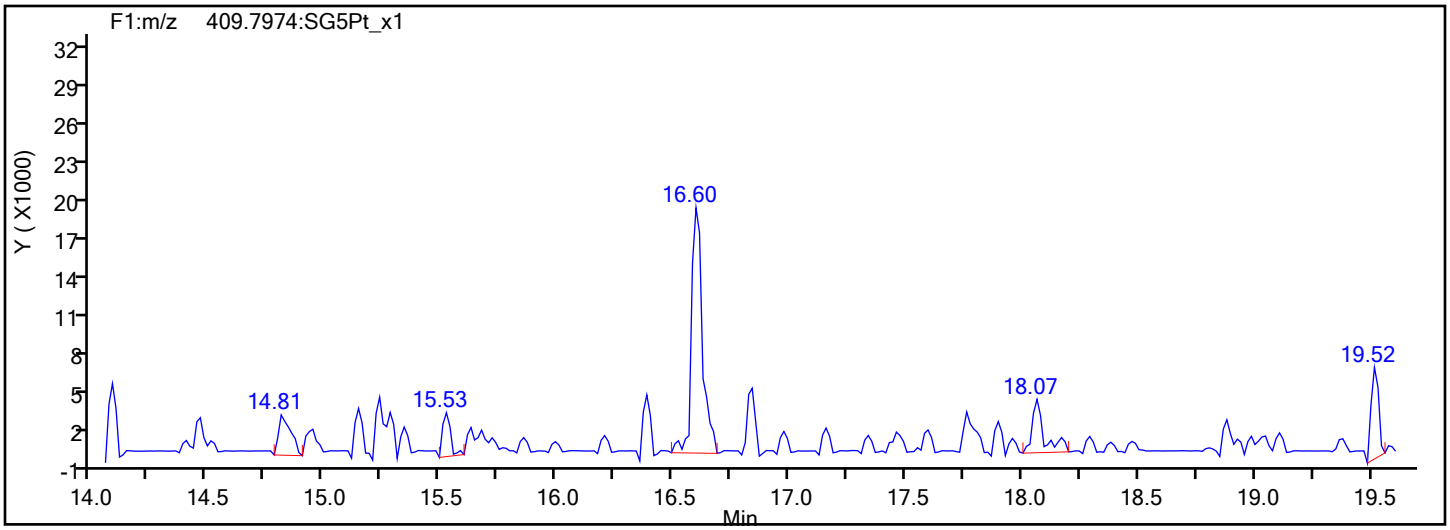

Report Date: 07-Jan-2020 11:22:03 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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PeCDF

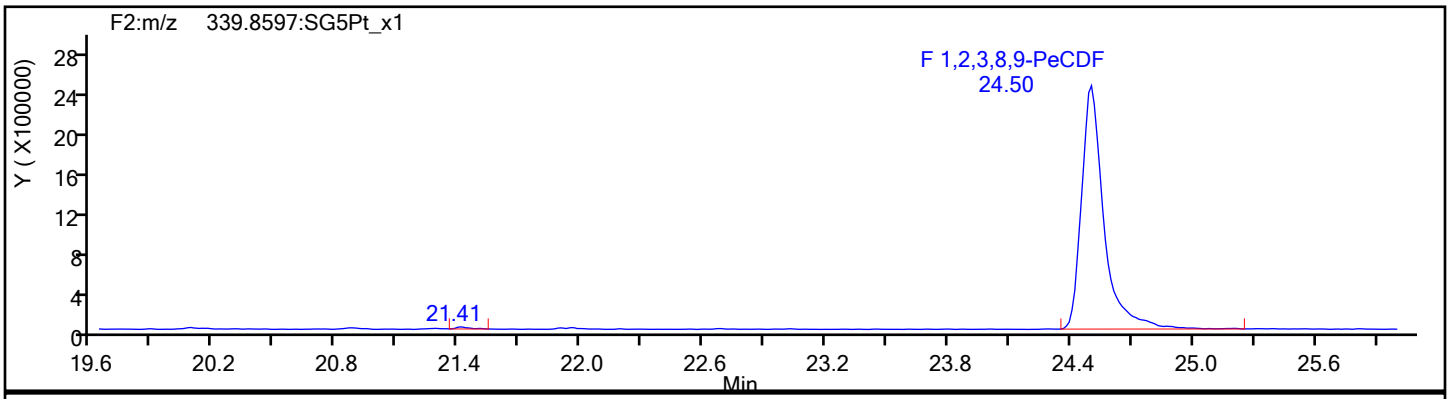

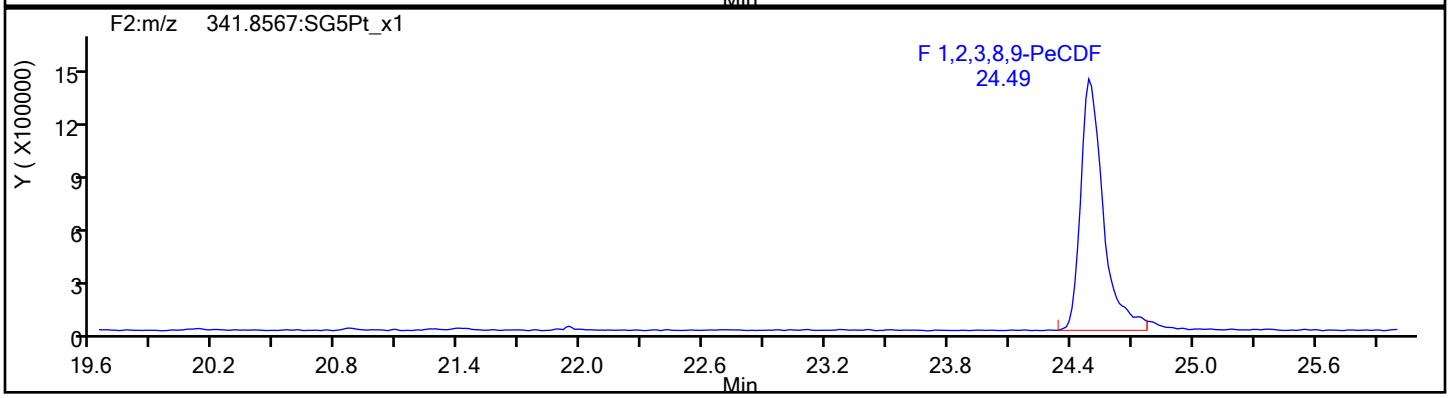

PeCDF Standards

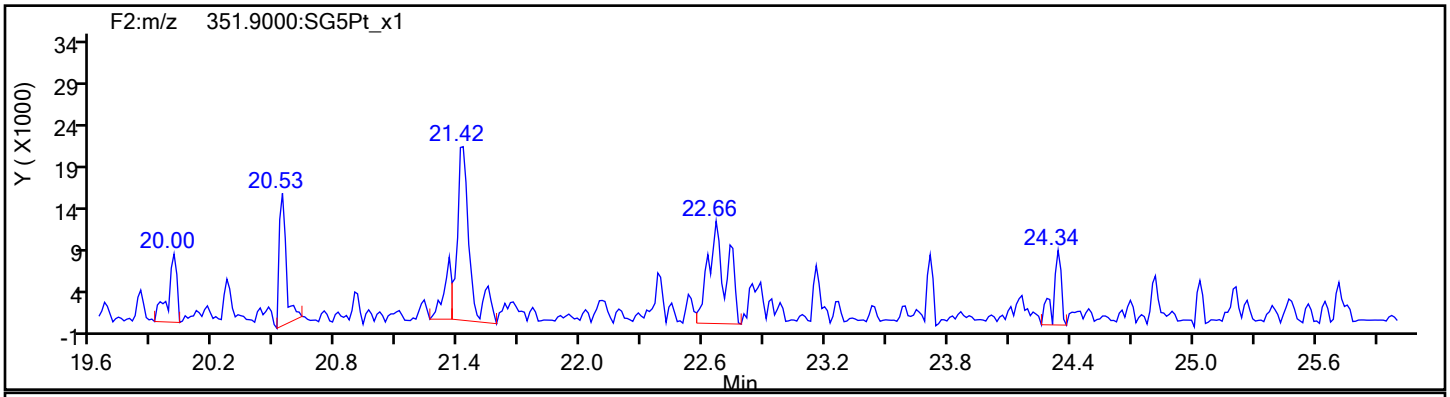

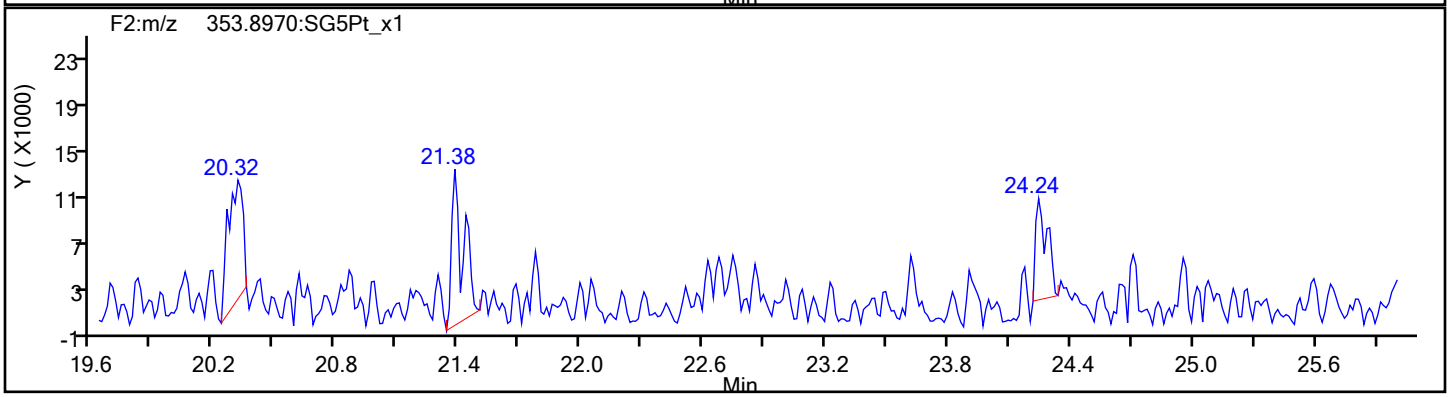

Report Date: 07-Jan-2020 11:22:03 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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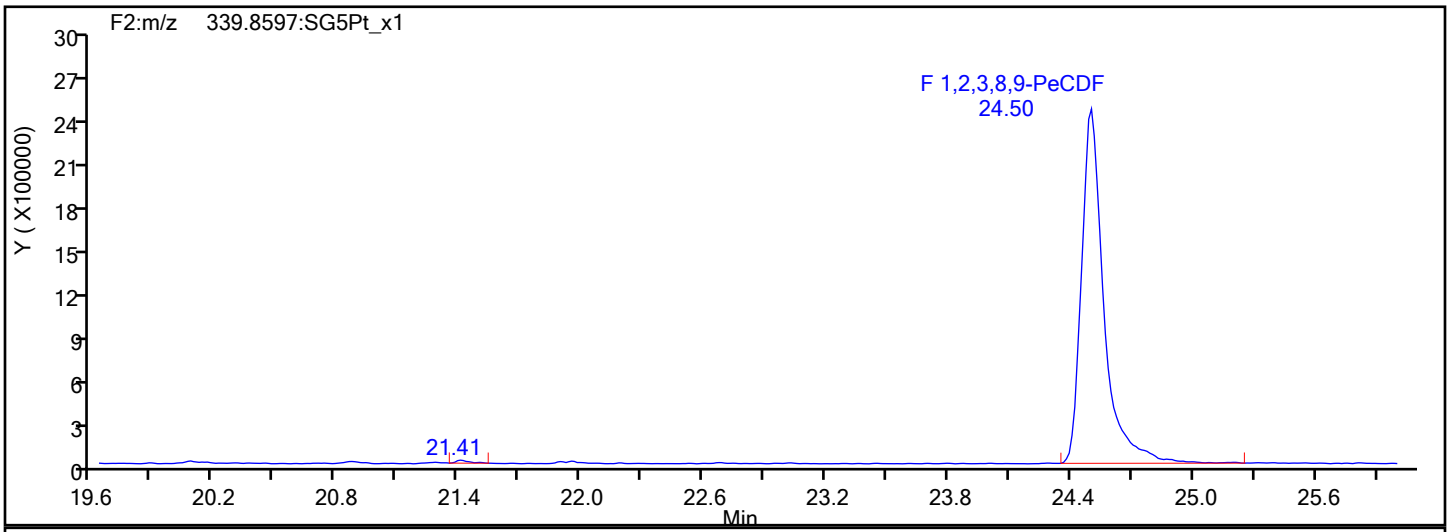

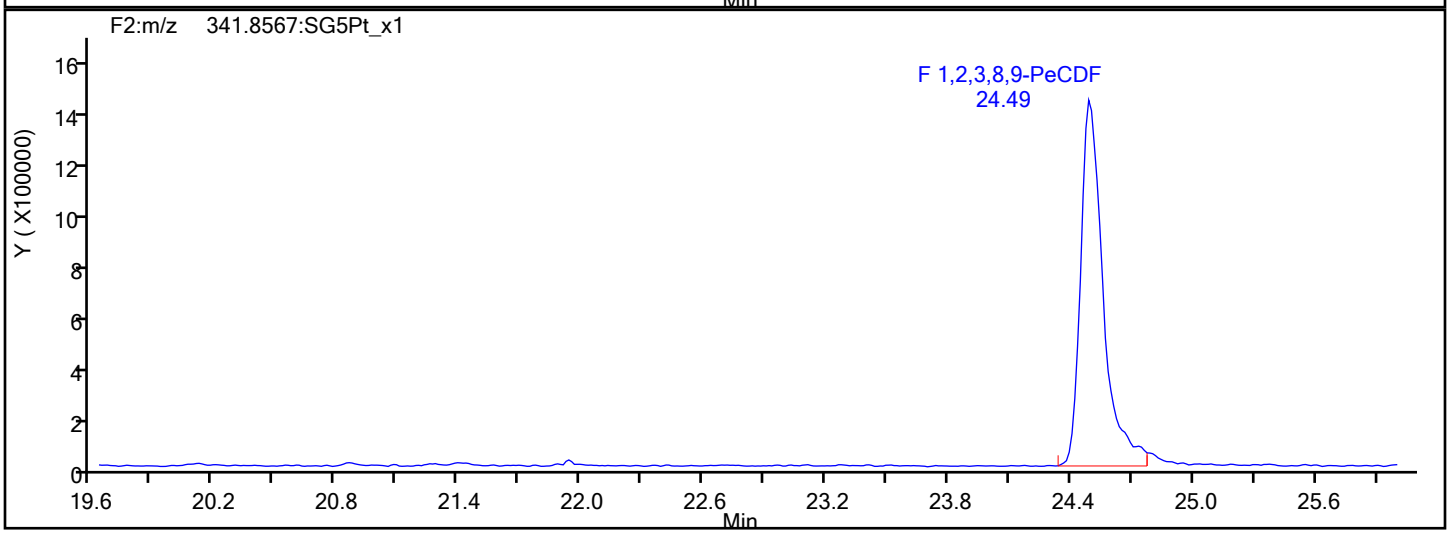

PeCDF Interference Mass

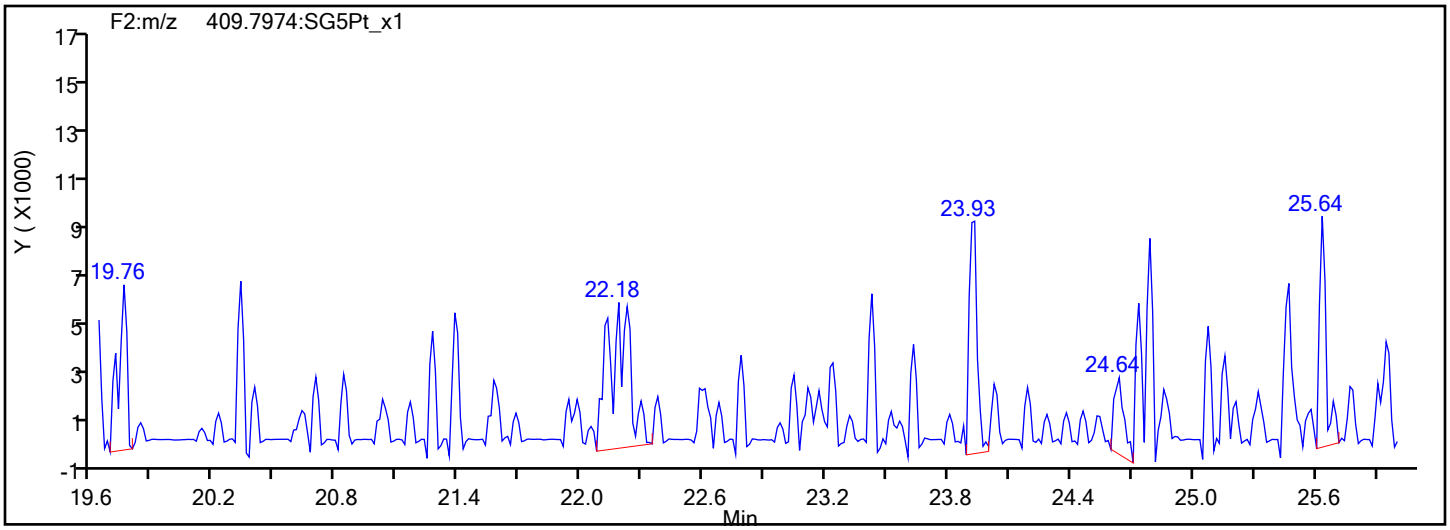

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Eurofins TestAmerica, Sacramento

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PeCDD

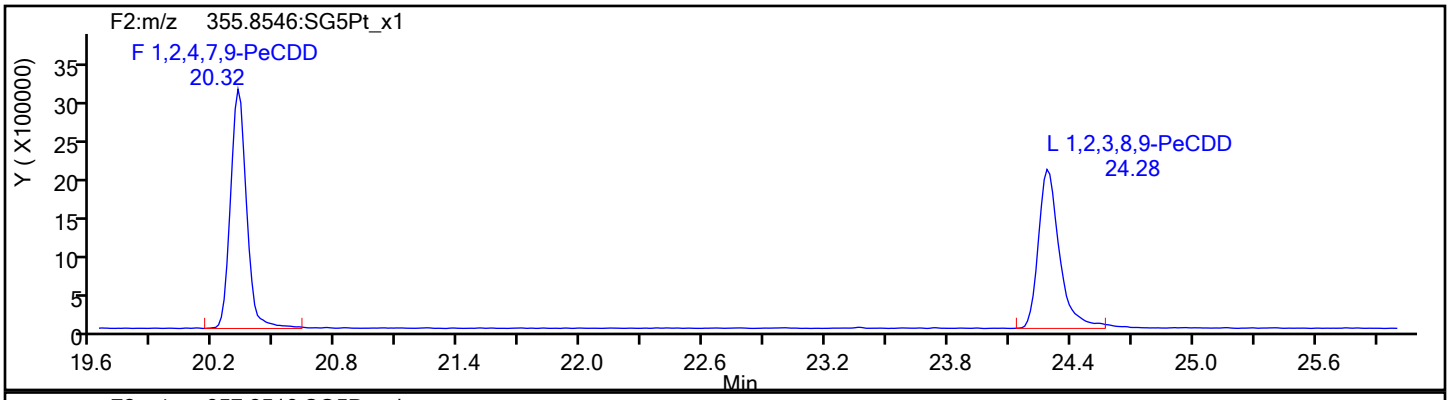

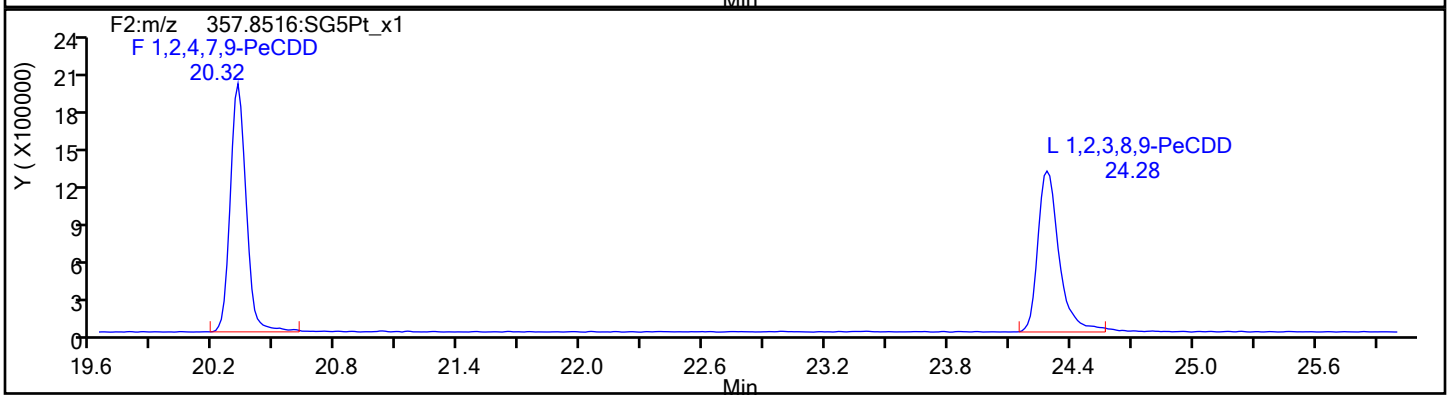

PeCDD Standards

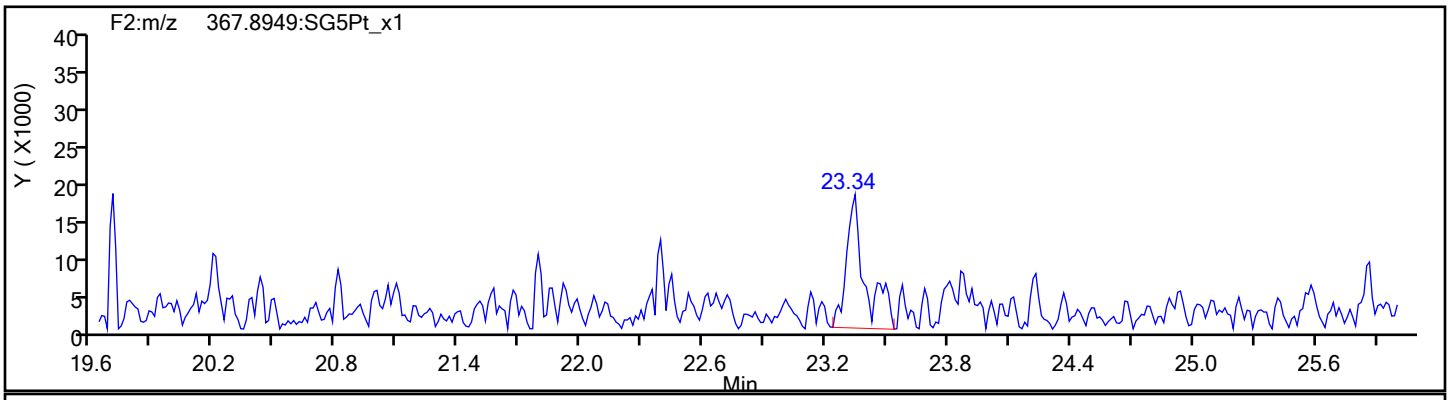

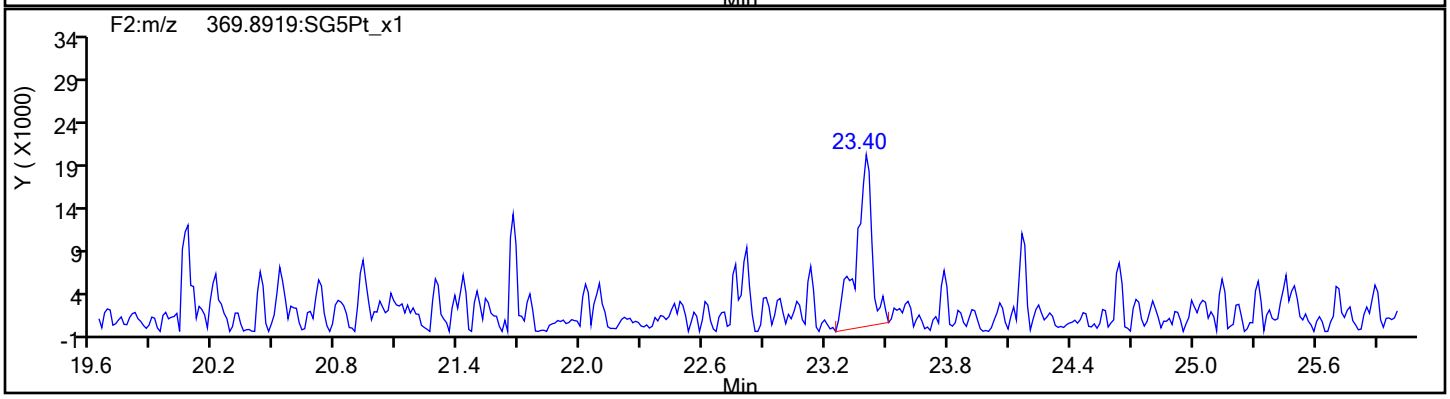

Report Date: 07-Jan-2020 11:22:04 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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HxCDF

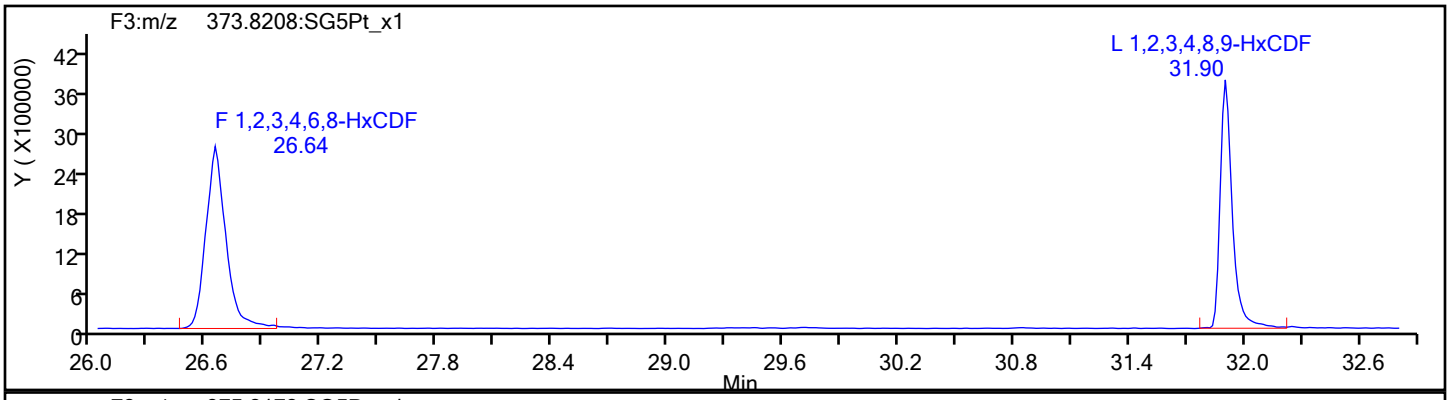

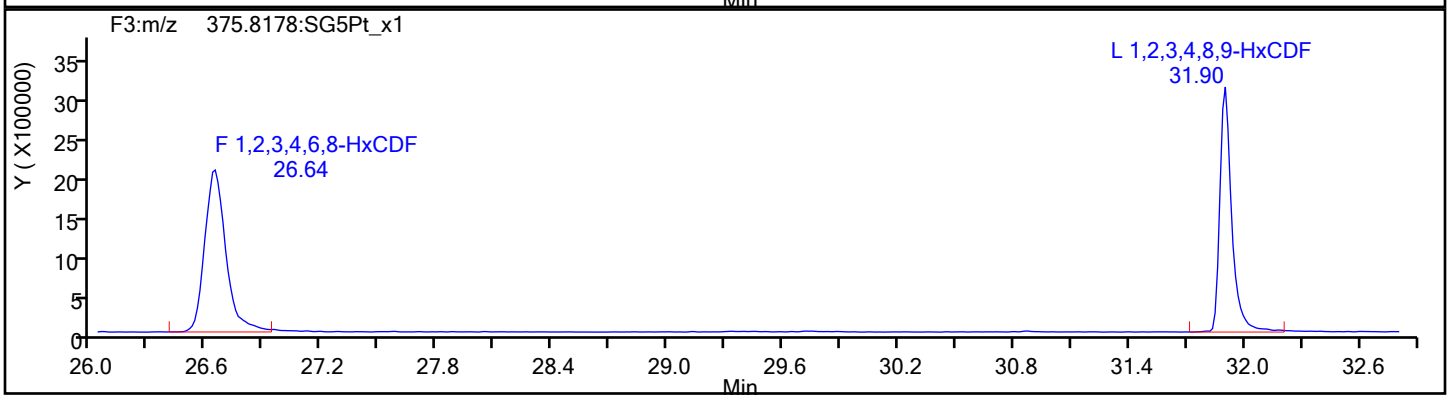

HxCDF Standards

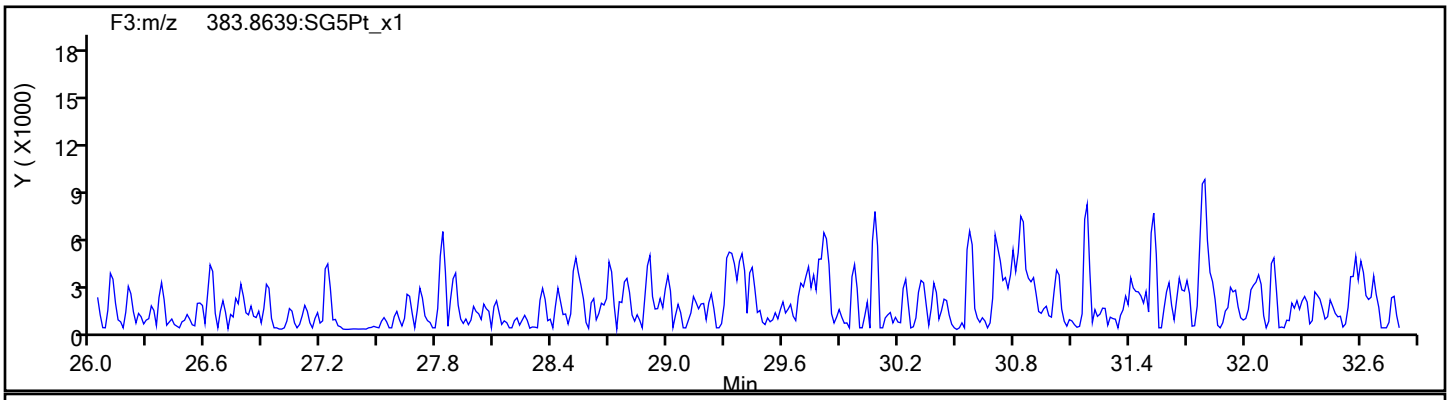

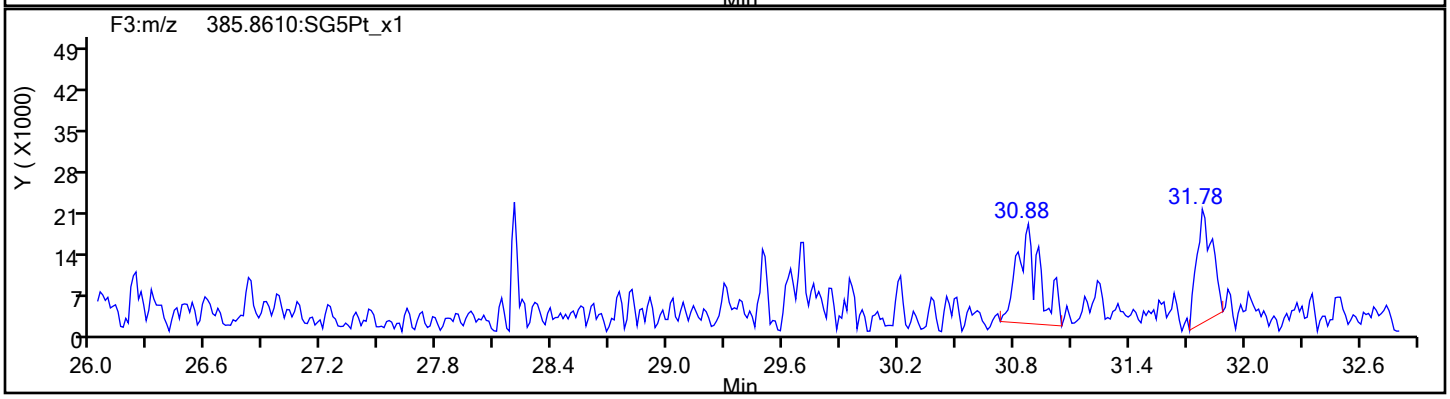

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Eurofins TestAmerica, Sacramento

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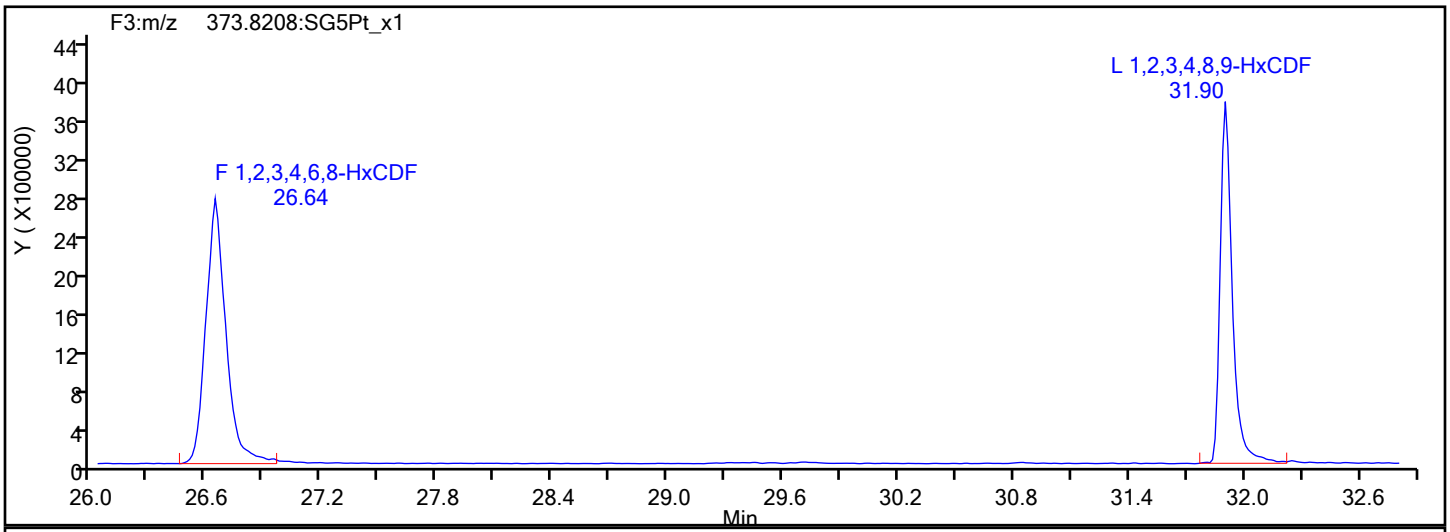

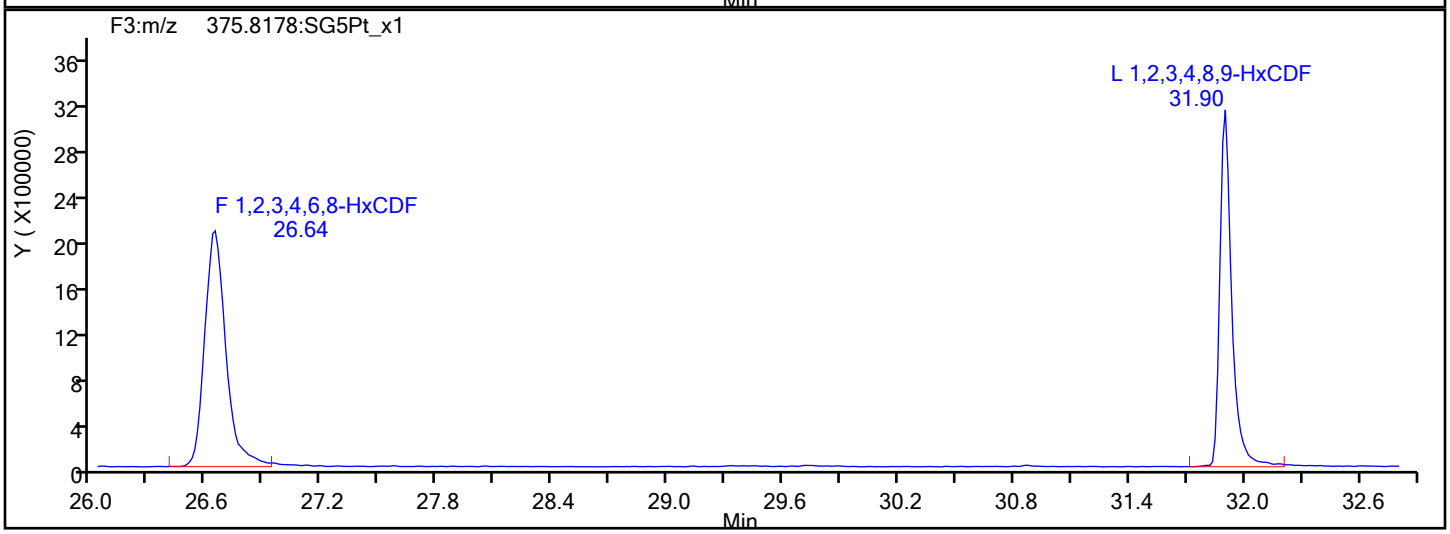

HxCDF Interference Mass

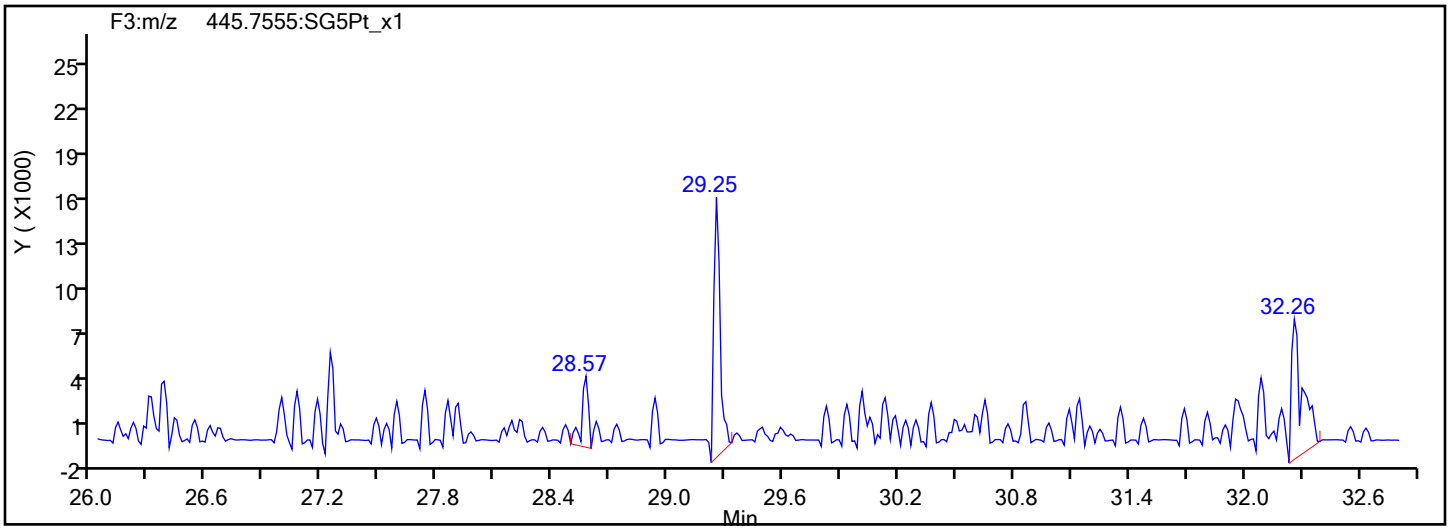

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Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

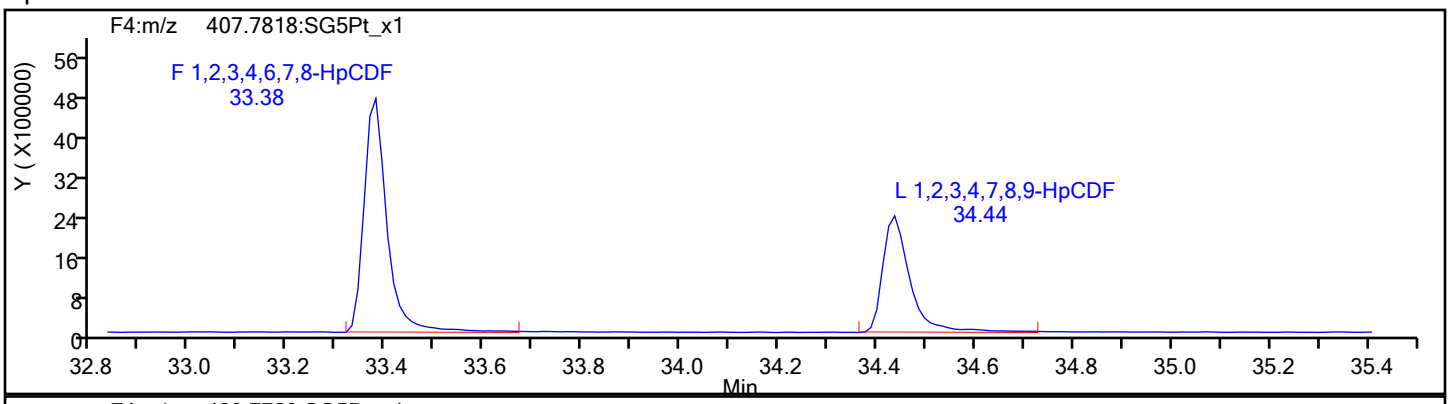

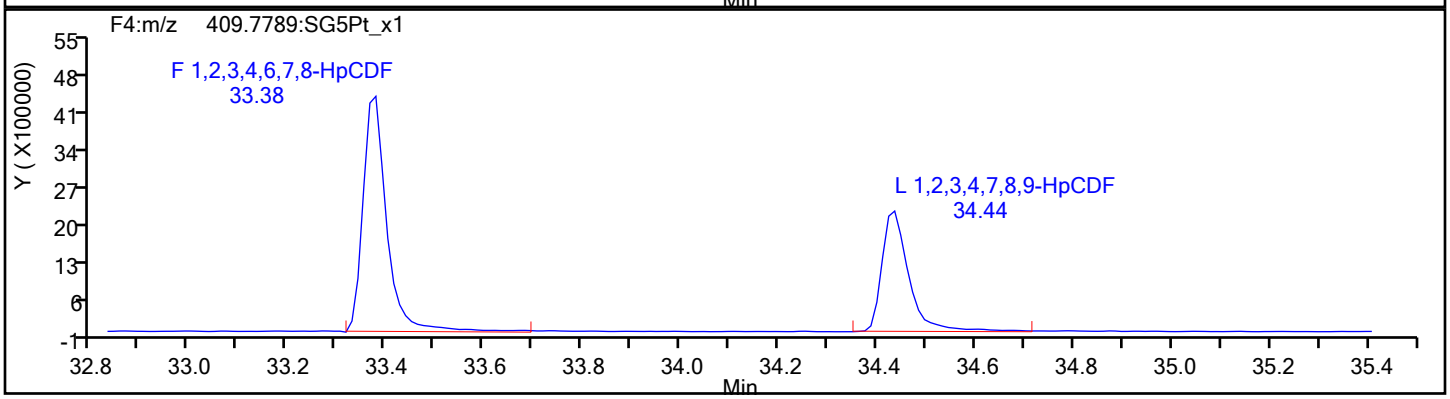

HpCDF Standards

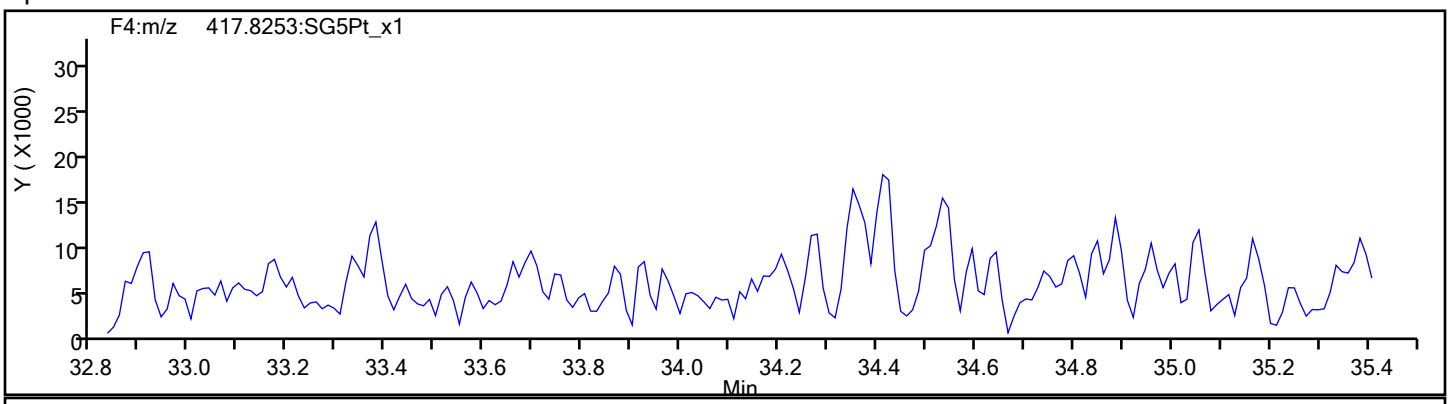

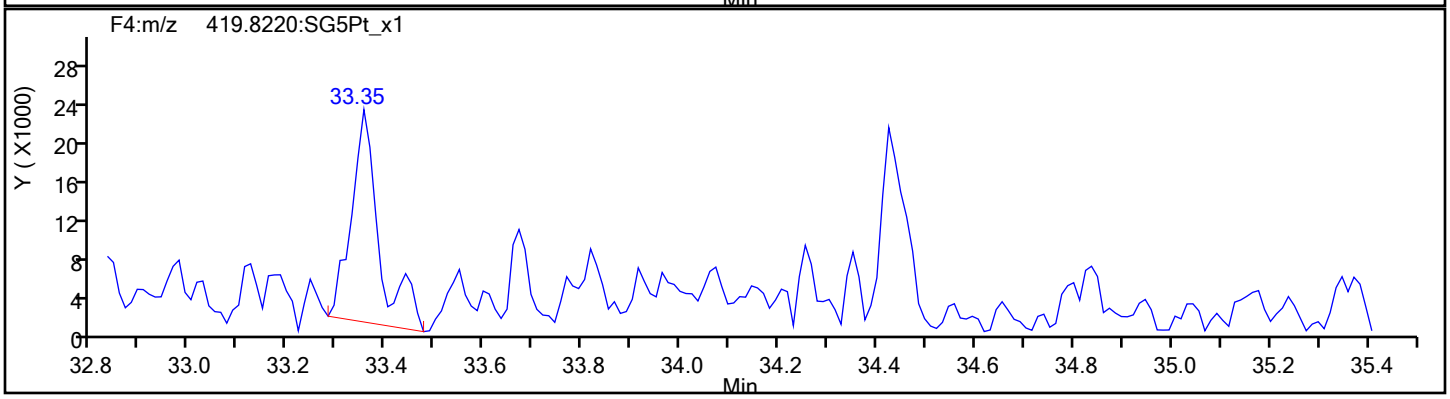

Report Date: 07-Jan-2020 11:22:04 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_1.d		
Injection Date:	06-Jan-2020 21:27:34	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	349283	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

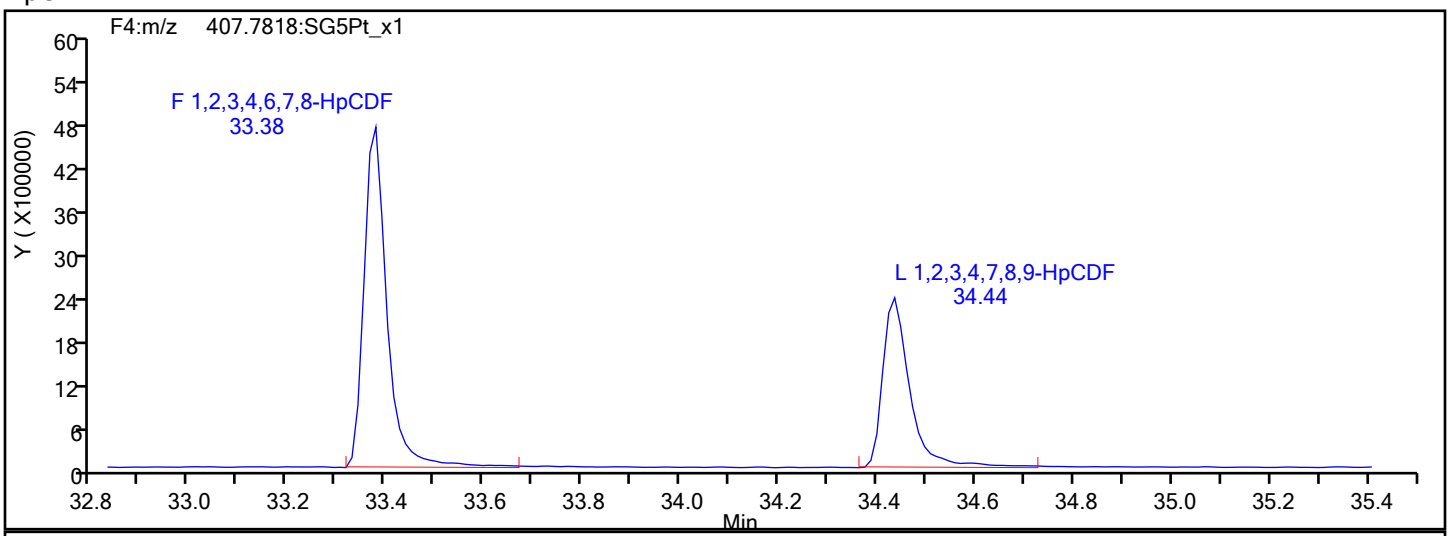

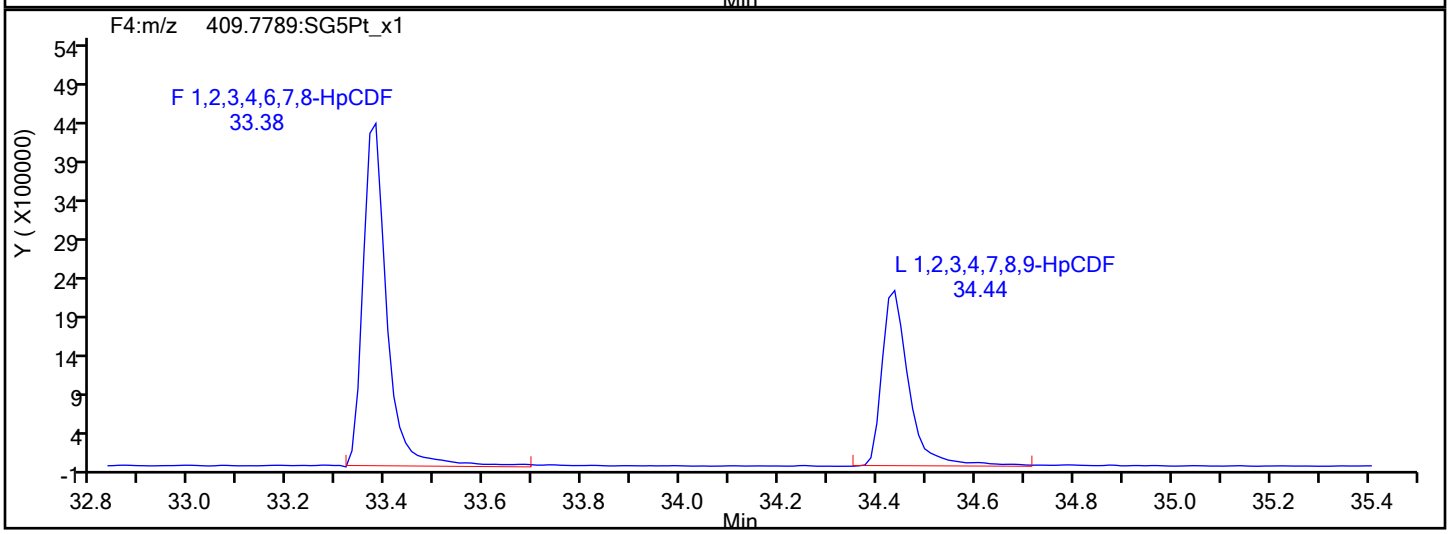

HpCDF Interference Mass

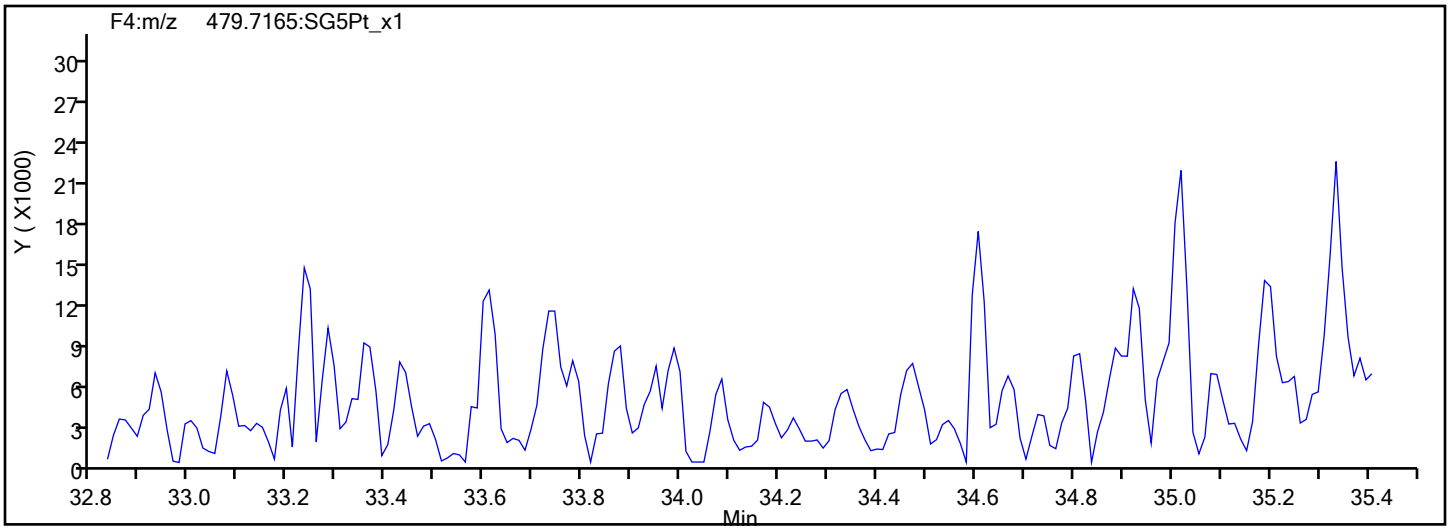

Report Date: 07-Jan-2020 11:22:04 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_1.d		
Injection Date:	06-Jan-2020 21:27:34	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	349283	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

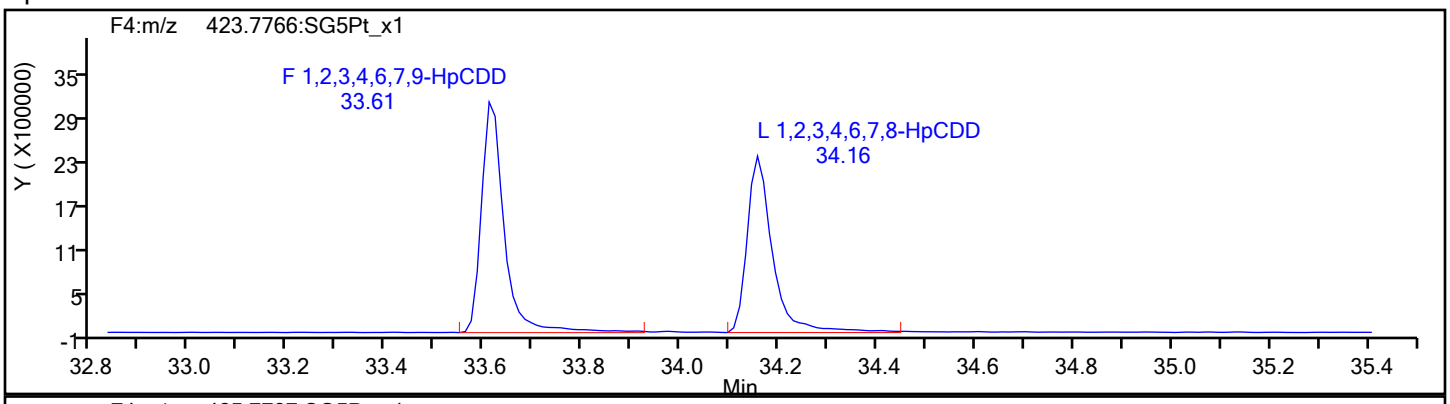

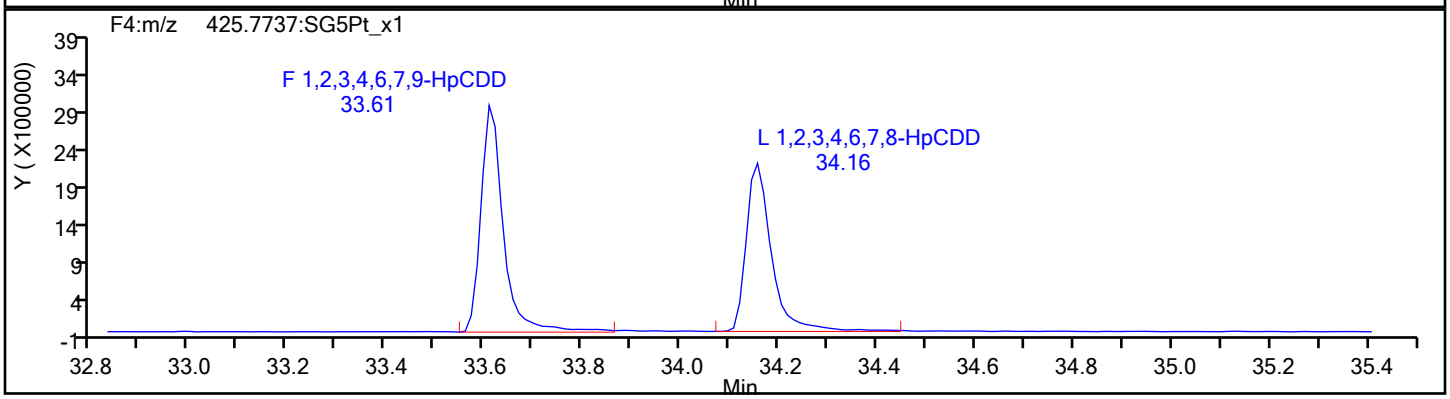

HpCDD Standards

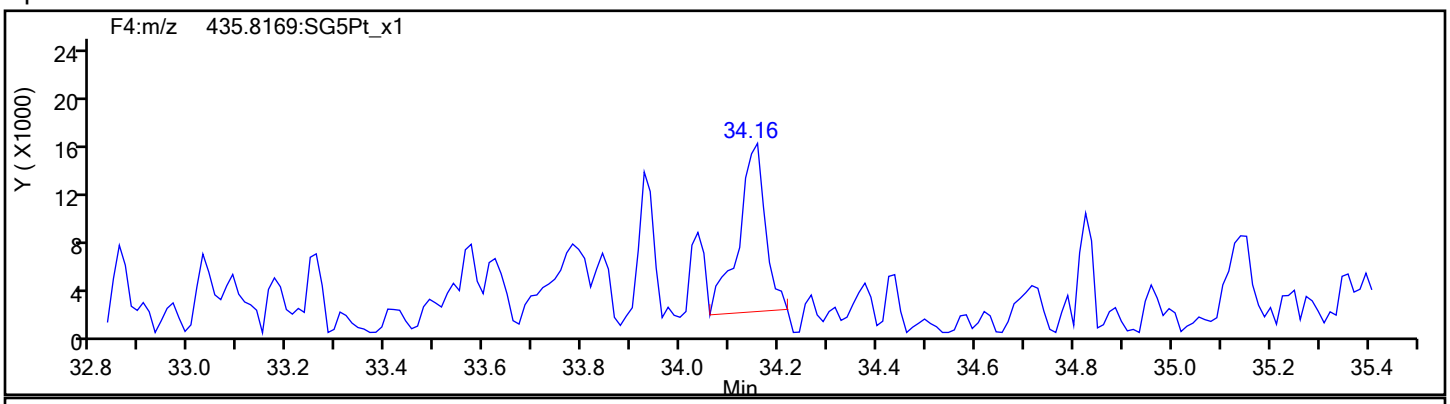

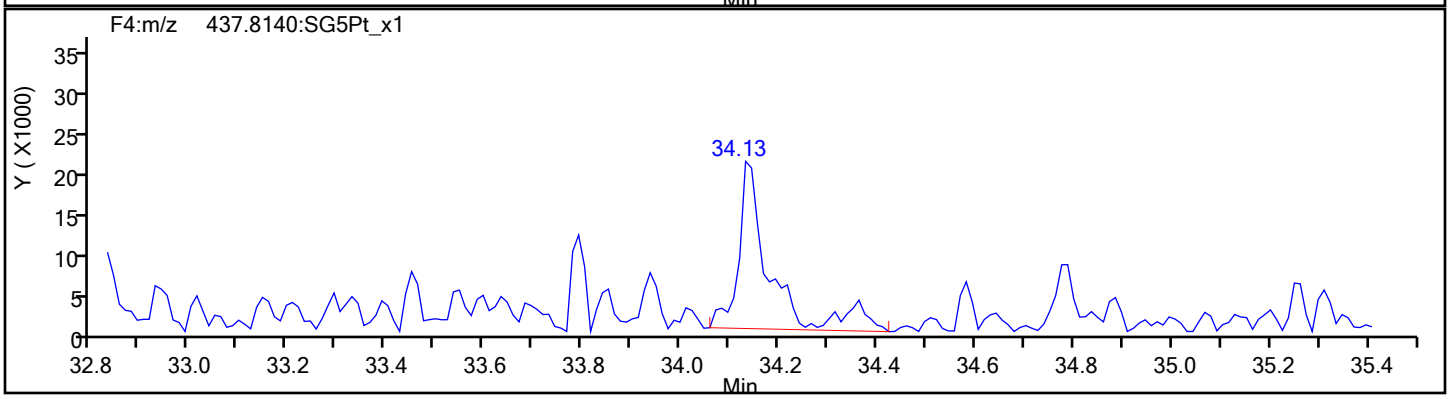

Report Date: 07-Jan-2020 11:22:04 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_1.d		
Injection Date:	06-Jan-2020 21:27:34	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	349283	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

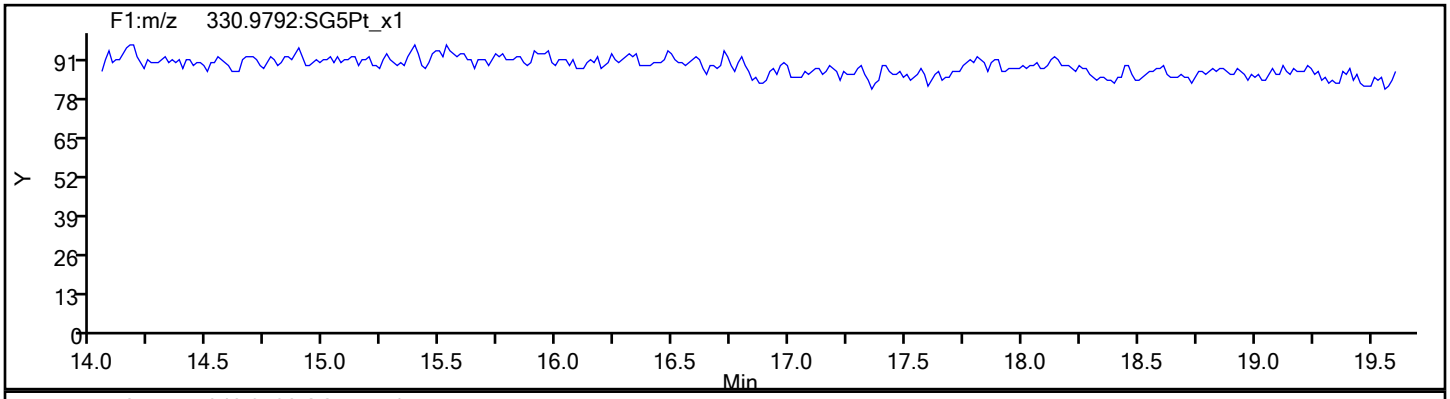

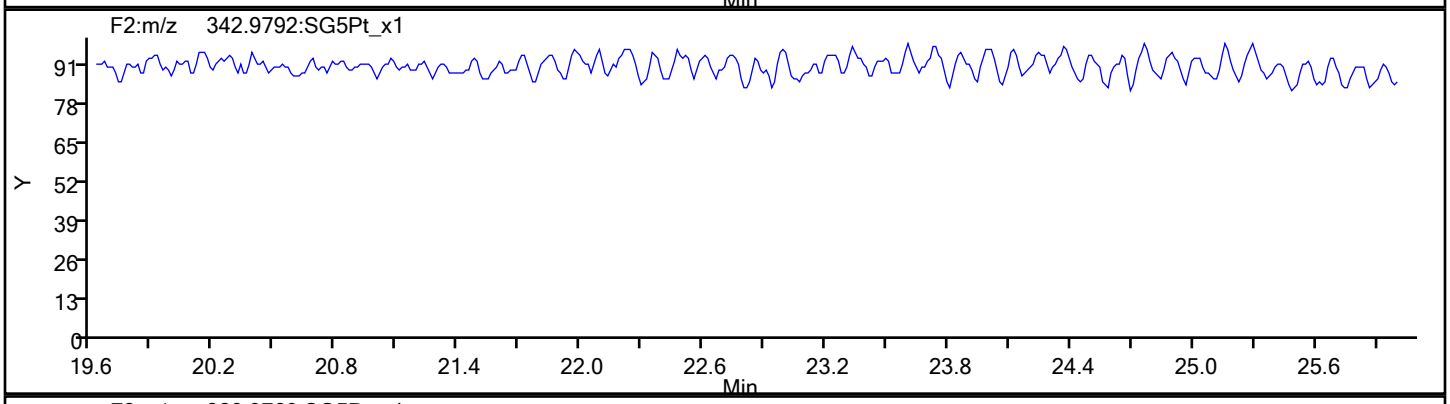

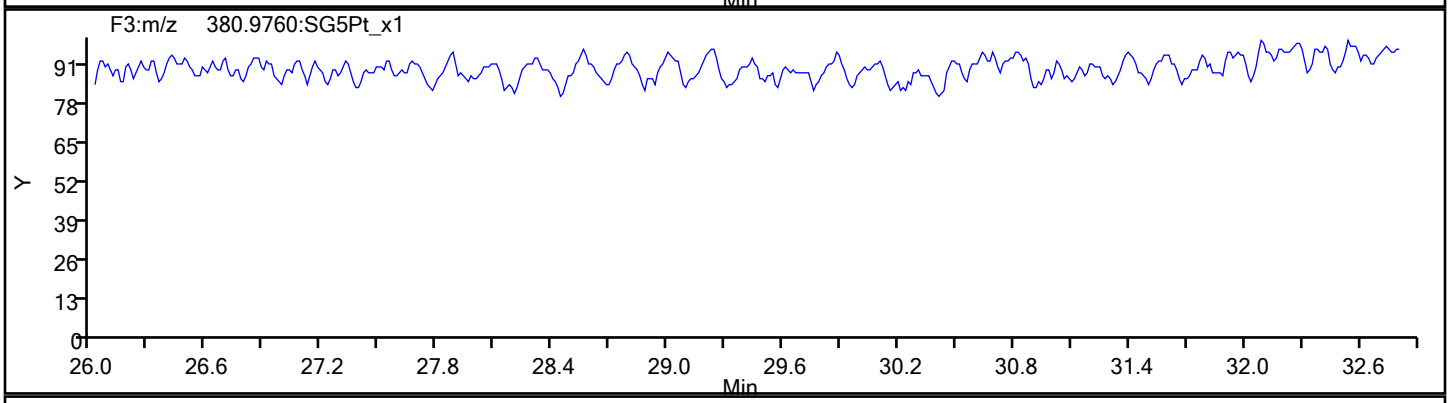

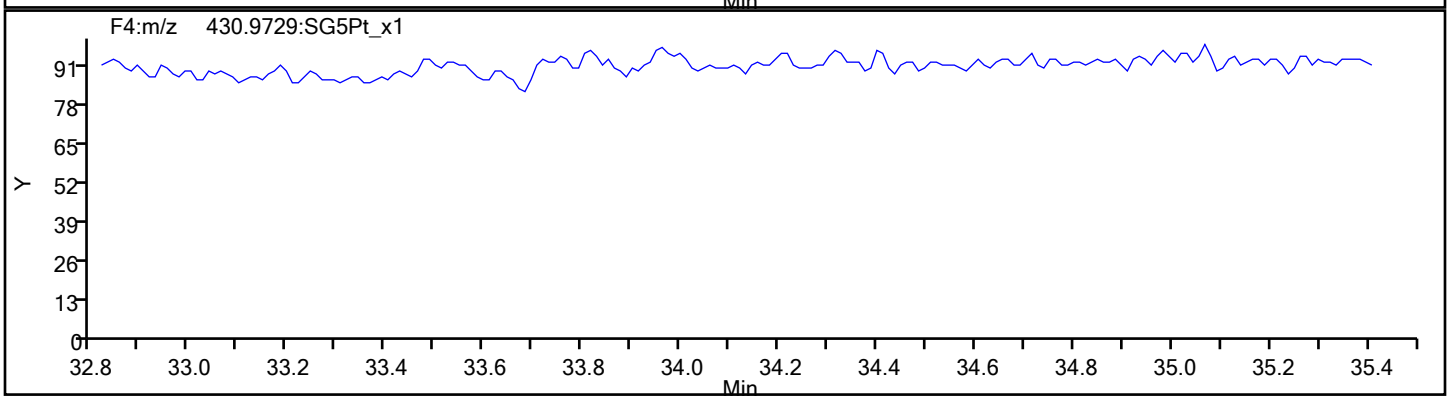

Report Date: 07-Jan-2020 11:22:04 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_1.d		
Injection Date:	06-Jan-2020 21:27:34	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	349283	Sample Line#:	1
Column Type:	DB-5	Column Dia:	0.32 mm

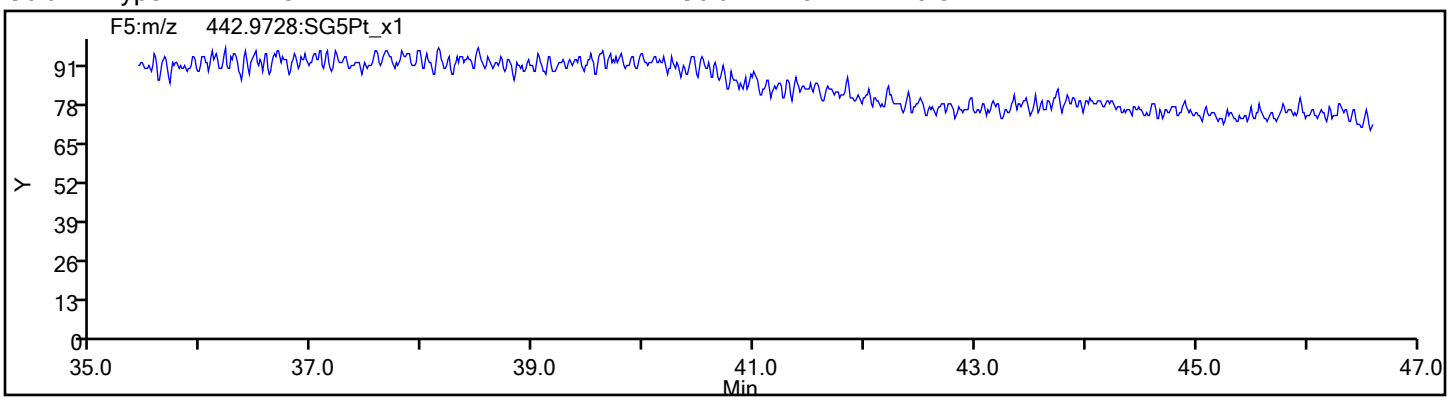

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 180-100205-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 320-348771/1-A
Matrix: Solid
Lab File ID: 06JA20A3D5_4.d
Analysis Method: 1613B
Date Collected:
Extract. Method: HRMS-Sep
Date Extracted: 12/31/2019 11:06
Sample wt/vol: 1000(mL)
Date Analyzed: 01/07/2020 00:06
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 349283
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		10	3.1
51207-31-9	2,3,7,8-TCDF	ND		10	1.7
40321-76-4	1,2,3,7,8-PeCDD	ND		50	4.2
57117-41-6	1,2,3,7,8-PeCDF	ND		50	2.0
57117-31-4	2,3,4,7,8-PeCDF	ND		50	2.1
39227-28-6	1,2,3,4,7,8-HxCDD	ND		50	1.8
57653-85-7	1,2,3,6,7,8-HxCDD	ND		50	1.9
19408-74-3	1,2,3,7,8,9-HxCDD	ND		50	1.6
70648-26-9	1,2,3,4,7,8-HxCDF	ND		50	3.0
57117-44-9	1,2,3,6,7,8-HxCDF	ND		50	2.9
72918-21-9	1,2,3,7,8,9-HxCDF	ND		50	2.1
60851-34-5	2,3,4,6,7,8-HxCDF	ND		50	2.0
35822-46-9	1,2,3,4,6,7,8-HpCDD	ND		50	2.3
67562-39-4	1,2,3,4,6,7,8-HpCDF	ND		50	2.2
55673-89-7	1,2,3,4,7,8,9-HpCDF	ND		50	3.1
3268-87-9	OCDD	ND		100	2.8
39001-02-0	OCDF	ND		100	5.5
41903-57-5	Total TCDD	ND		10	3.1
30402-14-3	Total TCDF	ND		10	1.7
36088-22-9	Total PeCDD	ND		50	4.2
30402-15-4	Total PeCDF	ND		50	2.1
34465-46-8	Total HxCDD	ND		50	1.9
55684-94-1	Total HxCDF	ND		50	3.0
37871-00-4	Total HpCDD	ND		50	2.3
38998-75-3	Total HpCDF	ND		50	3.1

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-100205-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 320-348771/1-A

Matrix: Solid Lab File ID: 06JA20A3D5_4.d

Analysis Method: 1613B Date Collected:

Extract. Method: HRMS-Sep Date Extracted: 12/31/2019 11:06

Sample wt/vol: 1000(mL) Date Analyzed: 01/07/2020 00:06

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 349283 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	74		25-164
89059-46-1	13C-2,3,7,8-TCDF	75		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	67		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	71		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	74		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	79		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	82		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	77		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	76		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	66		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	72		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	61		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	68		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	69		26-138
114423-97-1	13C-OCDD	50		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	114		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_4.d
Lims ID: MB 320-348771/1-A
Client ID:
Sample Type: MB
Inject. Date: 07-Jan-2020 00:06:38 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: MB 320-348771/1-A MB 320-348771/1-A
Misc. Info.: 06JA20A3D5
Operator ID: ALM Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 07-Jan-2020 12:39:11 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0314

First Level Reviewer: dadunj Date: 08-Jan-2020 09:01:46

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.143	71000684	0.80	2.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.659	75820198	0.77	1.4157	75.4	75.4	0.3622	0.3622	75.43	
2,3,7,8-TCDF	16.674						0.0844	0.0844		
A Non-2,3,7,8-sub-TCDF	16.387						0.0844	0.0844		
S Total TCDF							0.0844	0.0844		
D 13C-2,3,7,8-TCDD	17.324	51069585	0.84	0.9751	73.8	73.8	0.3330	0.3330	73.77	
2,3,7,8-TCDD	17.340						0.1569	0.1569		
$ 37Cl4-2,3,7,8-TCDD	17.340	43810954		1.3480	45.8	45.8	0.1138	0.1138	114	
A Non-2,3,7,8-sub-TCDD	16.818						0.1569	0.1569		
S Total TCDD							0.1569	0.1569		
D 13C-1,2,3,7,8-PeCDF	21.381	59308660	1.58	1.1786	70.9	70.9	0.3015	0.3015	70.88	
1,2,3,7,8-PeCDF	21.408						0.1016	0.1016		
D 13C-2,3,4,7,8-PeCDF	22.649	59783193	1.56	1.1308	74.5	74.5	0.3142	0.3142	74.46	
2,3,4,7,8-PeCDF	22.662						0.1060	0.1060		
A F1 PeCDFs	19.117						0.1001	0.1001		
A Non-2,3,7,8-sub-PeCDF	22.077						0.1038	0.1038		
S Total PeCDF							0.1060	0.1060		
D 13C-1,2,3,7,8-PeCDD	23.331	36185074	1.64	0.7572	67.3	67.3	0.2095	0.2095	67.31	
1,2,3,7,8-PeCDD	23.344						0.2089	0.2089		
A Non-2,3,7,8-sub-PeCDD	22.301						0.2089	0.2089		
S Total PeCDD							0.2089	0.2089		
D 13C-1,2,3,4,7,8-HxCDF	29.372	54219332	0.52	1.1043	77.4	77.4	0.4911	0.4911	77.42	
1,2,3,4,7,8-HxCDF	29.399						0.1478	0.1478		
D 13C-1,2,3,6,7,8-HxCDF	29.665	55560200	0.51	1.1470	76.4	76.4	0.4728	0.4728	76.37	
1,2,3,6,7,8-HxCDF	29.692						0.1429	0.1429		
D 13C-2,3,4,6,7,8-HxCDF	30.823	49243804	0.54	1.0769	72.1	72.1	0.5036	0.5036	72.10	
2,3,4,6,7,8-HxCDF	30.837						0.0996	0.0996		
D 13C-1,2,3,7,8,9-HxCDF	31.782	42266637	0.51	1.0115	65.9	65.9	0.5361	0.5361	65.89	
1,2,3,7,8,9-HxCDF	31.795						0.1038	0.1038		
A Non-2,3,7,8-sub-HxCDF	29.272						0.1199	0.1199		
S Total HxCDF							0.1478	0.1478		

Report Date: 08-Jan-2020 09:01:48 Chrom Revision: 2.3 23-Dec-2019 10:12:06
Data File: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_4.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.583	63421699	1.32	2.1E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.063	40041908	1.29	0.7962	79.3	79.3	0.4030	0.4030	79.30	
1,2,3,4,7,8-HxCDD	31.076						0.0883	0.0883		
D 13C-1,2,3,6,7,8-HxCDD	31.196	45108852	1.32	0.8720	81.6	81.6	0.3680	0.3680	81.57	
1,2,3,6,7,8-HxCDD	31.196						0.0931	0.0931		
1,2,3,7,8,9-HxCDD	31.596						0.0802	0.0802		
A Non-2,3,7,8-sub-HxCDD	29.885						0.0869	0.0869		
S Total HxCDD							0.0931	0.0931		
D 13C-1,2,3,4,6,7,8-HpCDF	33.354	32801727	0.42	0.7577	68.3	68.3	1.105	1.105	68.26	
1,2,3,4,6,7,8-HpCDF	33.367						0.1123	0.1123		
D 13C-1,2,3,4,7,8,9-HpCDF	34.412	30303787	0.43	0.6941	68.8	68.8	1.206	1.206	68.84	
1,2,3,4,7,8,9-HpCDF	34.424						0.1562	0.1562		
A Non-2,3,7,8-sub-HpCDF	33.907						0.1315	0.1315		
S Total HpCDF							0.1562	0.1562		
D 13C-1,2,3,4,6,7,8-HpCDD	34.132	27427128	1.09	0.7058	61.3	61.3	0.4386	0.4386	61.27	
1,2,3,4,6,7,8-HpCDD	34.144						0.1154	0.1154		
A Non-2,3,7,8-sub-HpCDD	33.883						0.1154	0.1154		
S Total HpCDD							0.1154	0.1154		
D 13C-OCDD	36.427	29347665	0.90	0.4603	100.5	100.5	0.3811	0.3811	50.27	
OCDF	36.511						0.2734	0.2734		
OCDD	36.427						0.1393	0.1393		

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_4.d
Lims ID: MB 320-348771/1-A
Client ID:
Sample Type: MB
Inject. Date: 07-Jan-2020 00:06:38 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: MB 320-348771/1-A MB 320-348771/1-A
Misc. Info.: 06JA20A3D5
Operator ID: ALM Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 07-Jan-2020 12:39:11 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0314

First Level Reviewer: dadunj Date: 08-Jan-2020 09:01:46

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.143	17.128	1		31452578	7815090	15239	38097	513		
333.9339	17.143	17.128	1		39548106	10230974	8197	20492	1248	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.659	16.659	0	0.972	33026512	8536967	22606	56515	378		
317.9389	16.659	16.659	0	0.972	42793686	11061384	14412	36030	768	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.674						2008	5020			
305.8987	16.674						4280	10700			
A Non-2,3,7,8-sub-TCDF											
303.9016	16.387						2008	5020			
305.8987	16.387						4280	10700			
13C-2,3,7,8-TCDD											
331.9368	17.324	17.324	0	1.011	23240458	5531143	15239	38097	363		
333.9339	17.324	17.324	0	1.011	27829127	6568919	8197	20492	801	0.84(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.340						4142	10355			
321.8936	17.340						3816	9540			
37Cl4-2,3,7,8-TCDD											
327.8847	17.340	17.340	0	1.011	43810954	10519373	11069	27672	950		
A Non-2,3,7,8-sub-TCDD											
319.8965	16.818						4142	10355			
321.8936	16.818						3816	9540			
13C-1,2,3,7,8-PeCDF											
351.9000	21.381	21.381	0	1.247	36333091	6286987	13844	34610	454		
353.8970	21.381	21.381	0	1.247	22975569	4054238	11802	29505	344	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	21.408						1702	4255			
341.8567	21.408						2629	6572			
13C-2,3,4,7,8-PeCDF											
351.9000	22.649	22.635	1	1.321	36428807	6004106	13844	34610	434		
353.8970	22.649	22.635	1	1.321	23354386	3805074	11802	29505	322	1.56(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.662						1702	4255			
341.8567	22.662						2629	6572			
A F1 PeCDFs											
339.8597	19.117						1346	3365			
341.8567	19.117						2830	7075			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.077						1702	4255			
341.8567	22.077						2629	6572			
13C-1,2,3,7,8-PeCDD											
367.8949	23.331	23.317	1	1.361	22500274	3294004	6097	15242	540		
369.8919	23.331	23.317	1	1.361	13684800	2111653	5353	13382	394	1.64(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.344						3324	8310			
357.8516	23.344						1579	3947			
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.301						3324	8310			
357.8516	22.301						1579	3947			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.372	29.346	2	0.930	18633248	2236077	10914	27285	205		
385.8610	29.372	29.346	2	0.930	35586084	3934555	17473	43682	225	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.399						2586	6465			
375.8178	29.399						1600	4000			
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.665	29.678	-1	0.939	18700612	2153476	10914	27285	197		
385.8610	29.678	29.678	0	0.940	36859588	4240180	17473	43682	243	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	29.692						2586	6465			
375.8178	29.692						1600	4000			
13C-2,3,4,6,7,8-HxCDF											
383.8639	30.823	30.810	1	0.976	17188816	3154364	10914	27285	289		
385.8610	30.823	30.810	1	0.976	32054988	5807648	17473	43682	332	0.54(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	30.837						2586	6465			
375.8178	30.837						1600	4000			
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.782	31.782	0	1.006	14324255	2956910	10914	27285	271		
385.8610	31.782	31.782	0	1.006	27942382	5645789	17473	43682	323	0.51(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	31.795						2586	6465			
375.8178	31.795						1600	4000			
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.272						2586	6465			
375.8178	29.272						1600	4000			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.583	31.569	1		36049470	7466048	8500	21250	878		
403.8529	31.583	31.569	1		27372229	5620208	8298	20745	677	1.32(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.063	31.050	1	0.984	22533781	5030069	8500	21250	592		
403.8529	31.063	31.050	1	0.984	17508127	3930748	8298	20745	474	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.063						1337	3342			
391.8127	31.063						2122	5305			
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.196	31.183	1	0.988	25688843	5101905	8500	21250	600		
403.8529	31.196	31.183	1	0.988	19420009	3801429	8298	20745	458	1.32(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.196						1337	3342			
391.8127	31.196						2122	5305			
1,2,3,7,8,9-HxCDD											
389.8157	31.583						1337	3342			
391.8127	31.583						2122	5305			
A Non-2,3,7,8-sub-HxCDD											
389.8157	29.885						1337	3342			
391.8127	29.885						2122	5305			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.354	33.354	0	1.056	9695721	3008724	16199	40497	186		
419.8220	33.354	33.354	0	1.056	23106006	7043946	27633	69082	255	0.42(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.367						4391	10977			
409.7789	33.367						2294	5735			
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.412	34.412	0	1.090	9167503	2601895	16199	40497	161		
419.8220	34.412	34.412	0	1.090	21136284	5668631	27633	69082	205	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.424						4391	10977			
409.7789	34.424						2294	5735			
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.907						4391	10977			
409.7789	33.907						2294	5735			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.132	34.132	0	1.081	14331500	3985314	8598	21495	464		
437.8140	34.132	34.132	0	1.081	13095628	3786659	7608	19020	498	1.09(0.88-1.20)	

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Data File: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_4.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.144						2384	5960			
425.7737	34.144						1395	3487			
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.883						2384	5960			
425.7737	33.883						1395	3487			
13C-OCDD											
469.7779	36.427	36.415	1	1.153	13938666	3580405	4821	12052	743		
471.7750	36.427	36.415	1	1.153	15408999	3852261	4360	10900	884	0.90(0.76-1.02)	
OCDF											
441.7428	36.511						2077	5192			
443.7399	36.511						3590	8975			
OCDD											
457.7377	36.427						1282	3205			
459.7348	36.427						1071	2677			

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Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

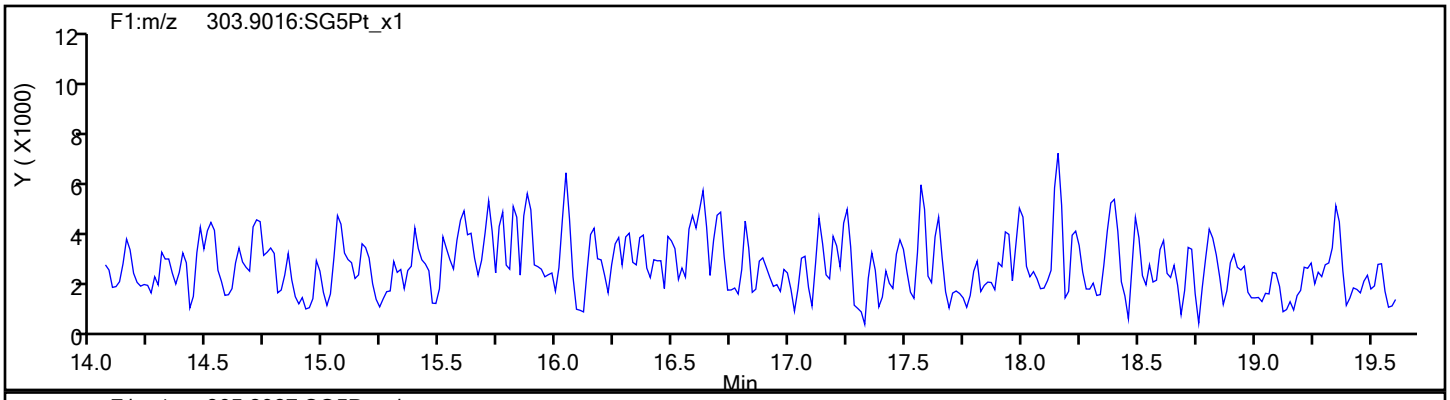

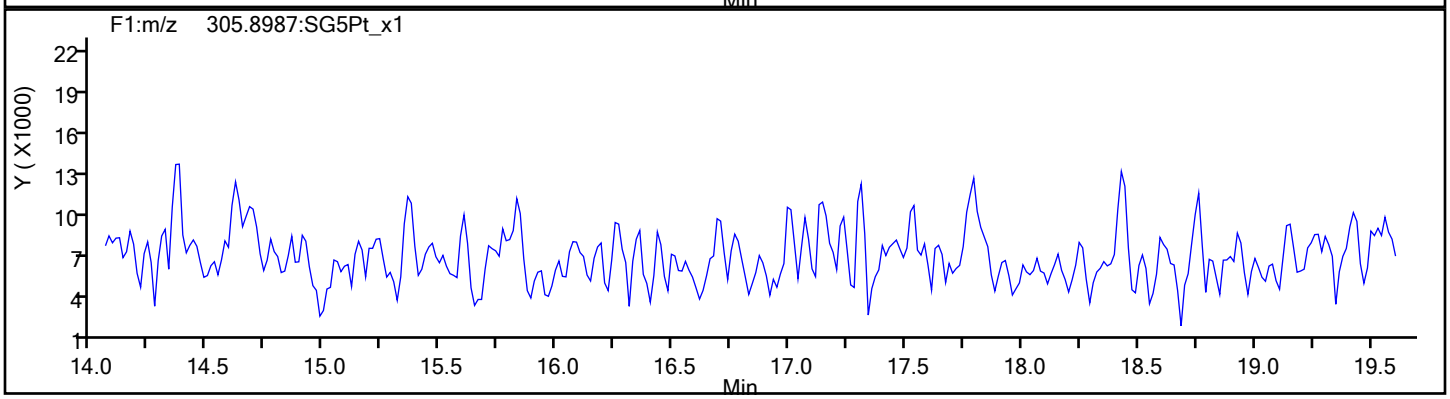

TCDF Standards

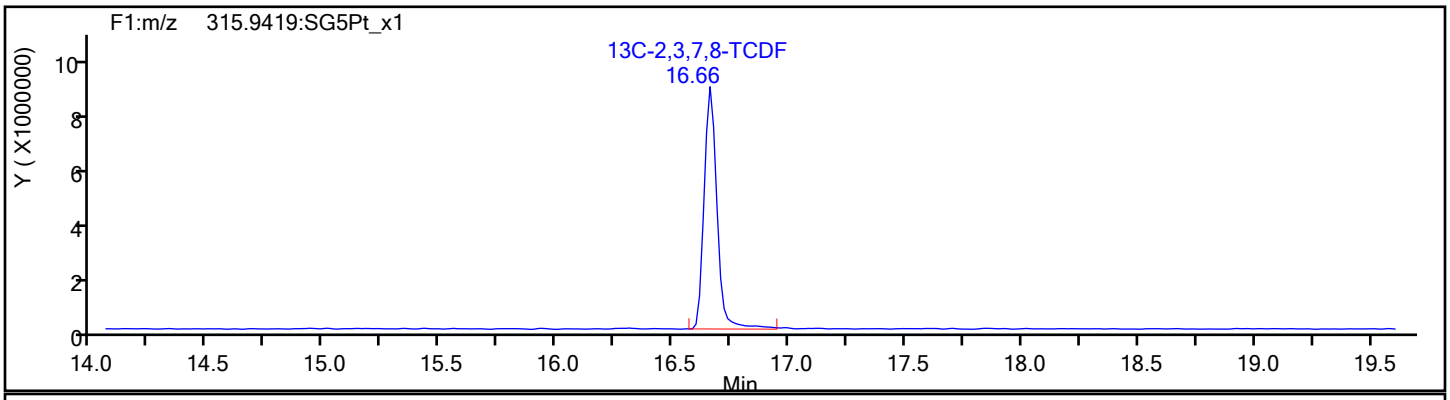

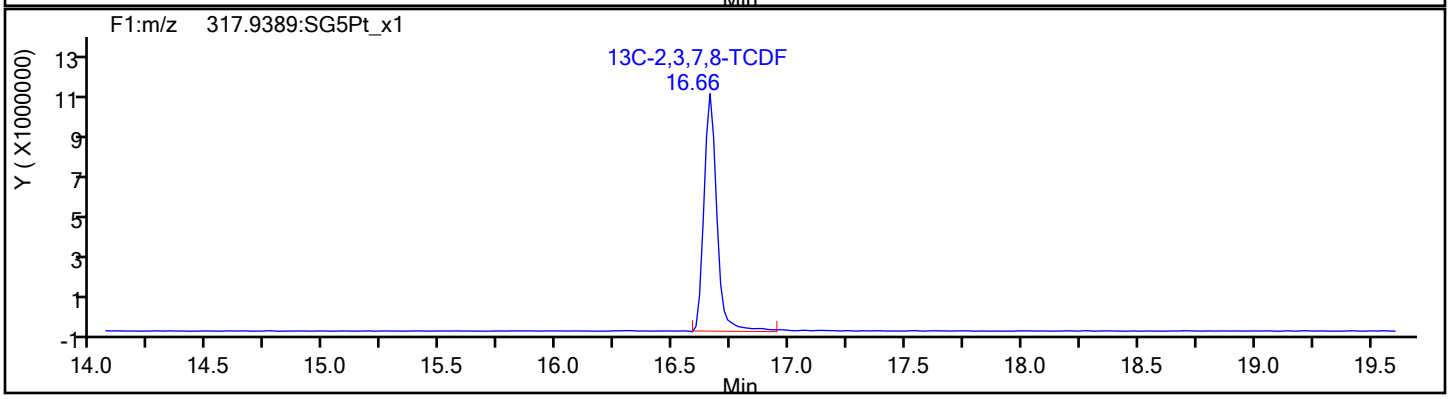

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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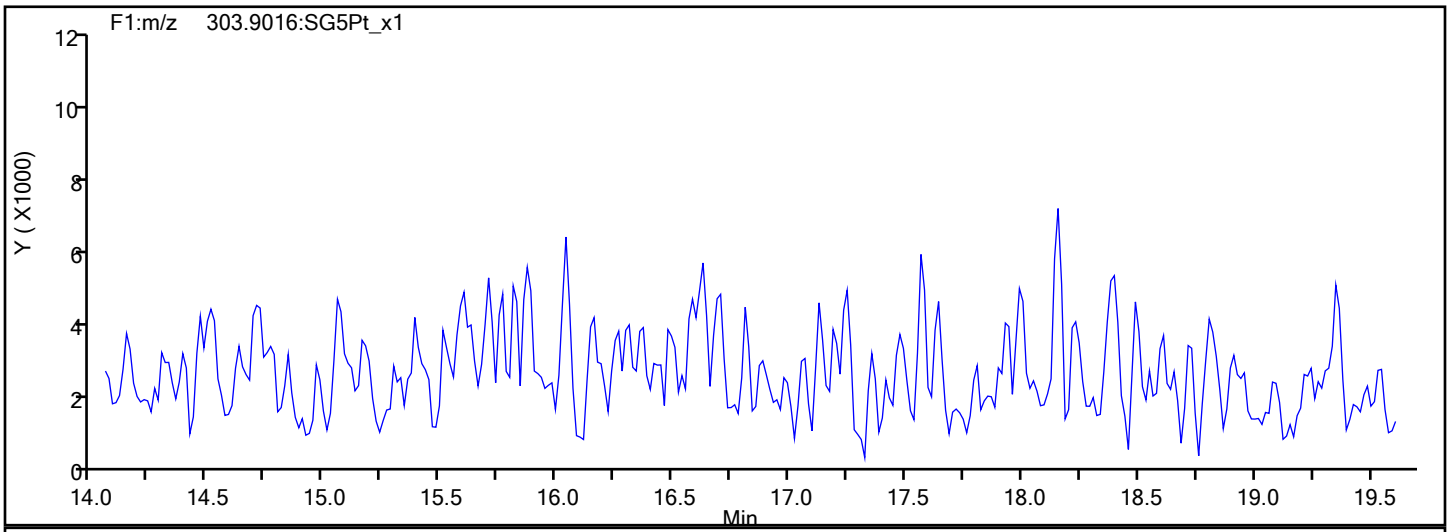

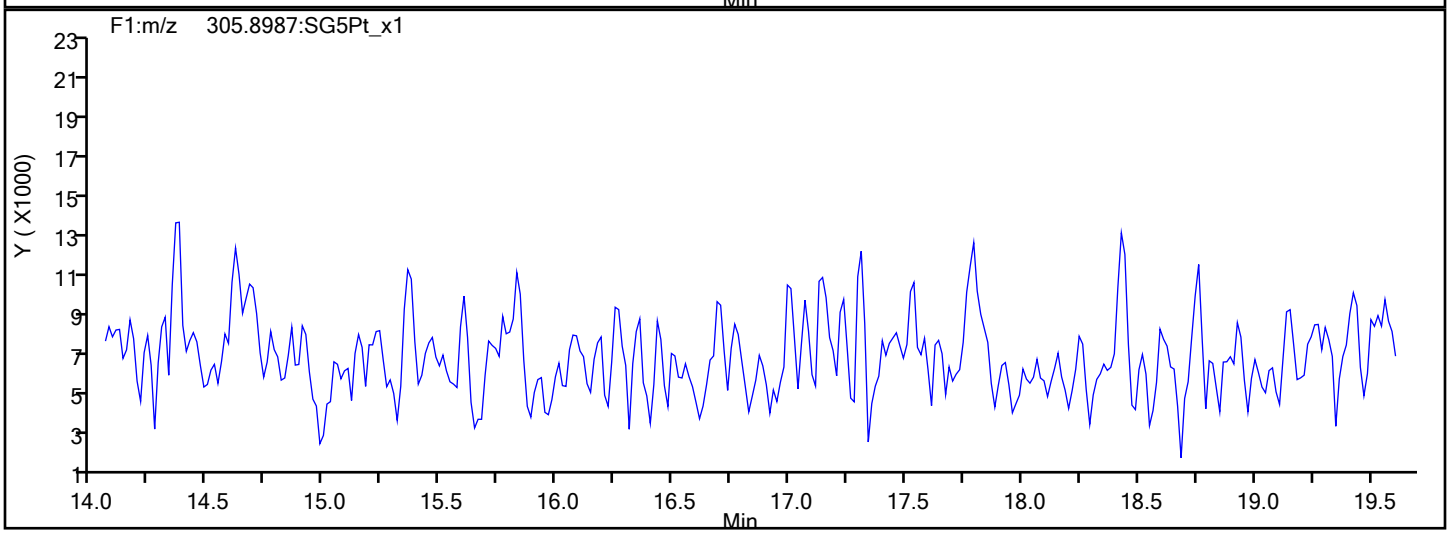

TCDF Interference Mass

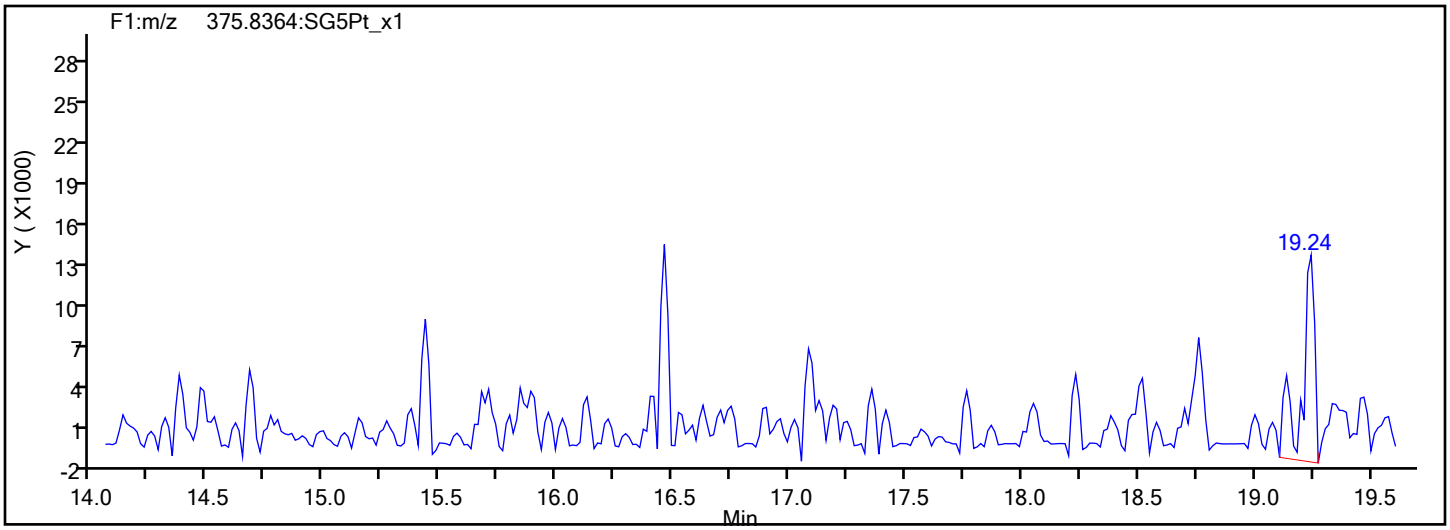

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Eurofins TestAmerica, Sacramento

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TCDD

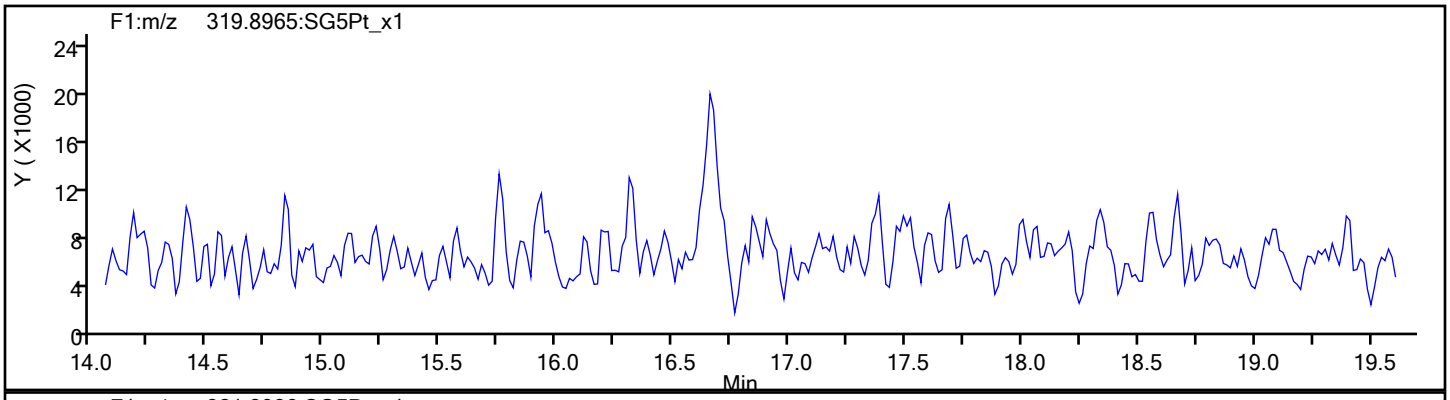

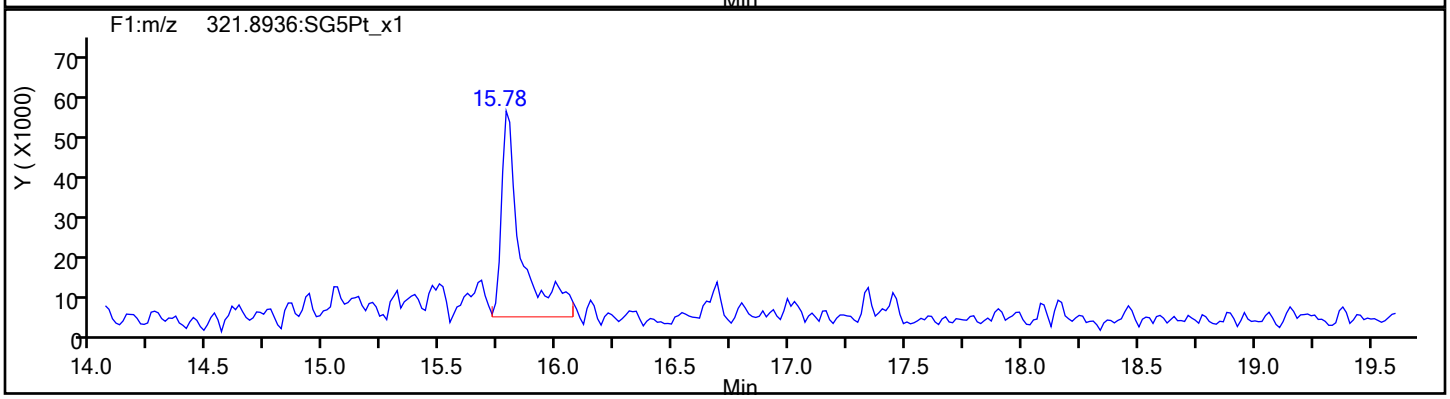

TCDD Standards

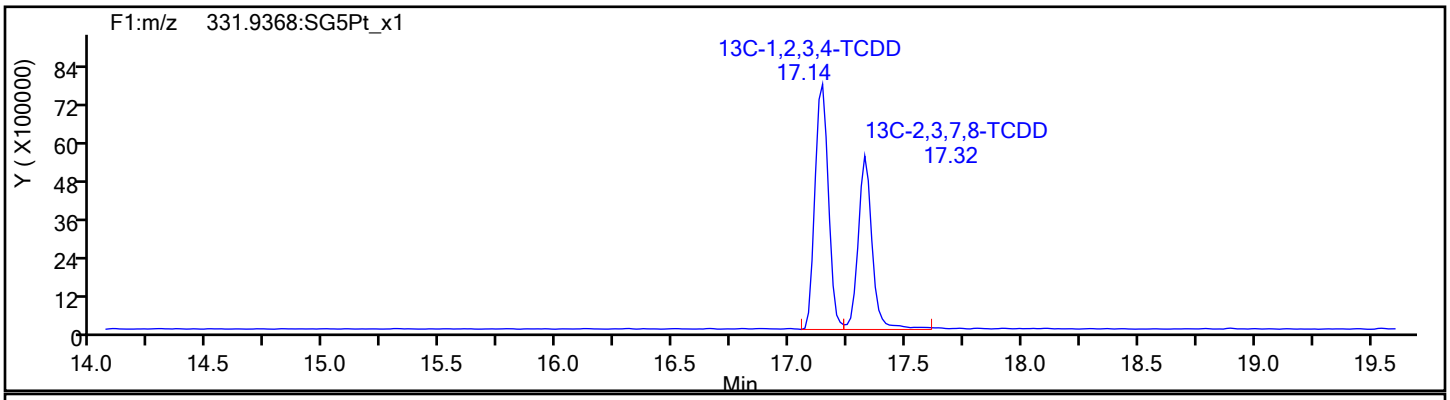

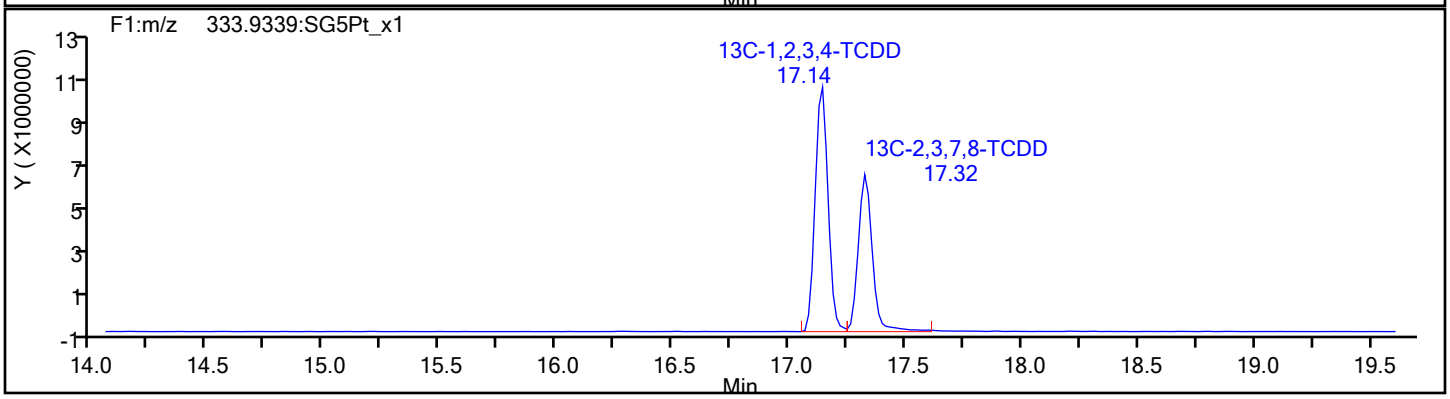

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Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

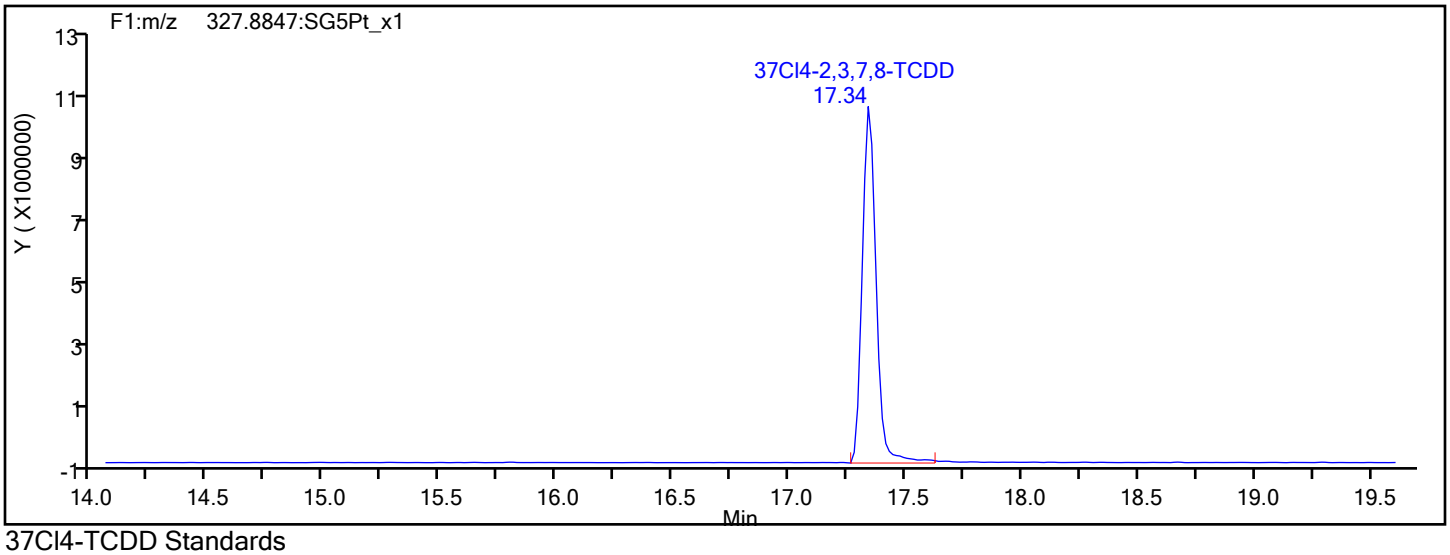

37Cl4-TCDD Standards

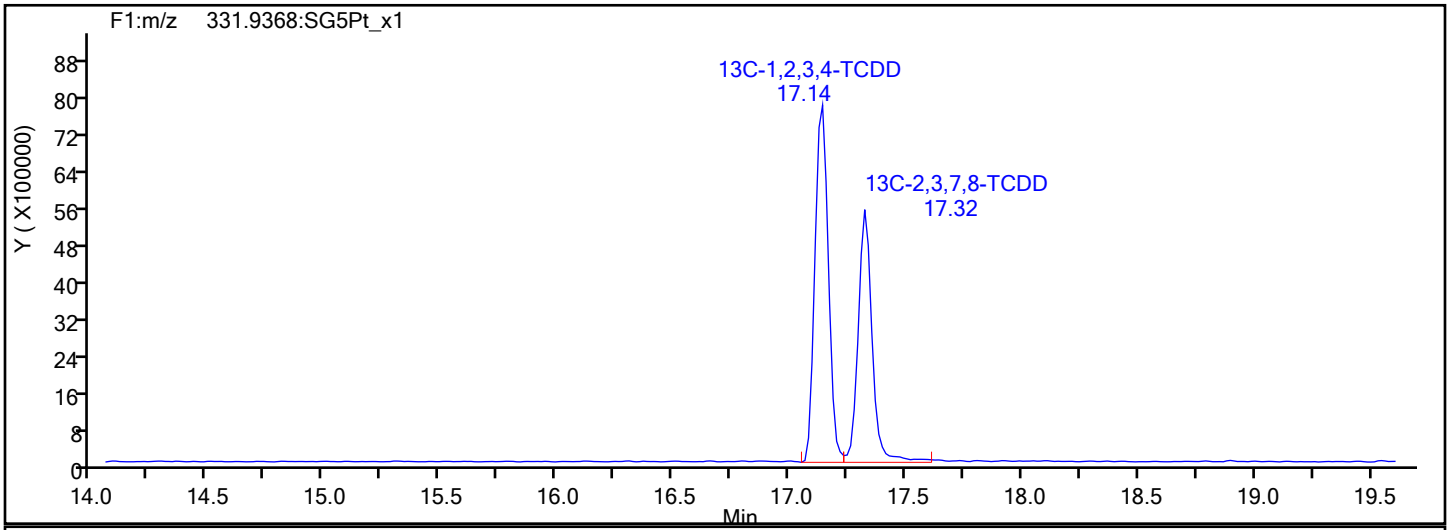

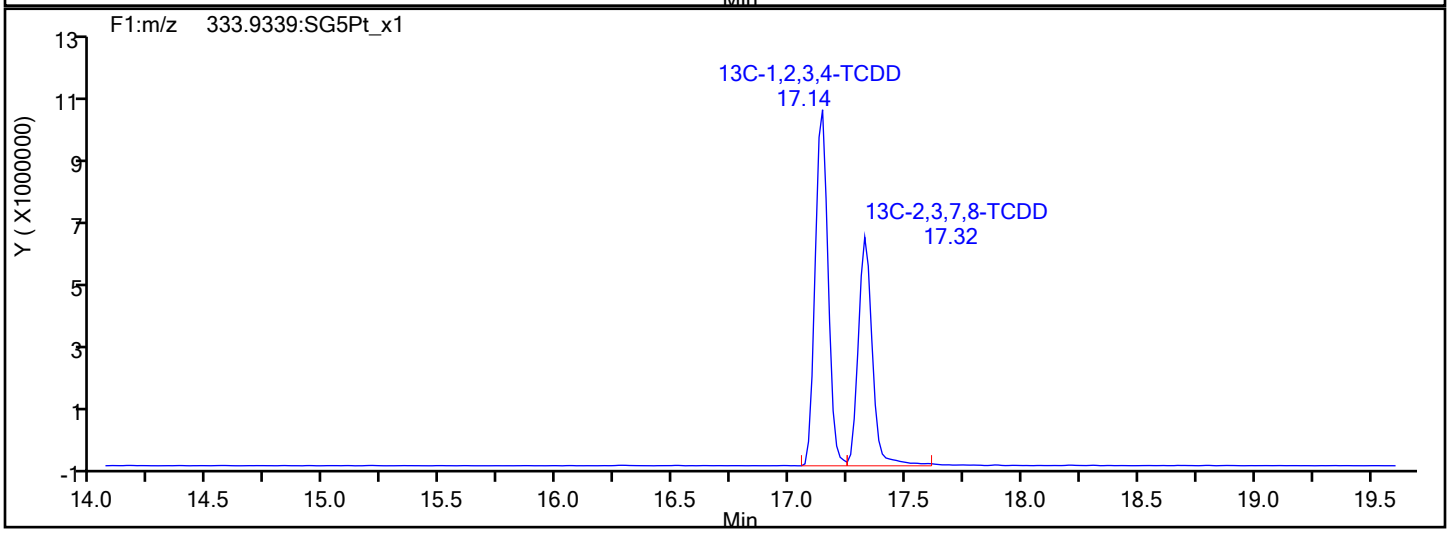

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F1 PeCDFs

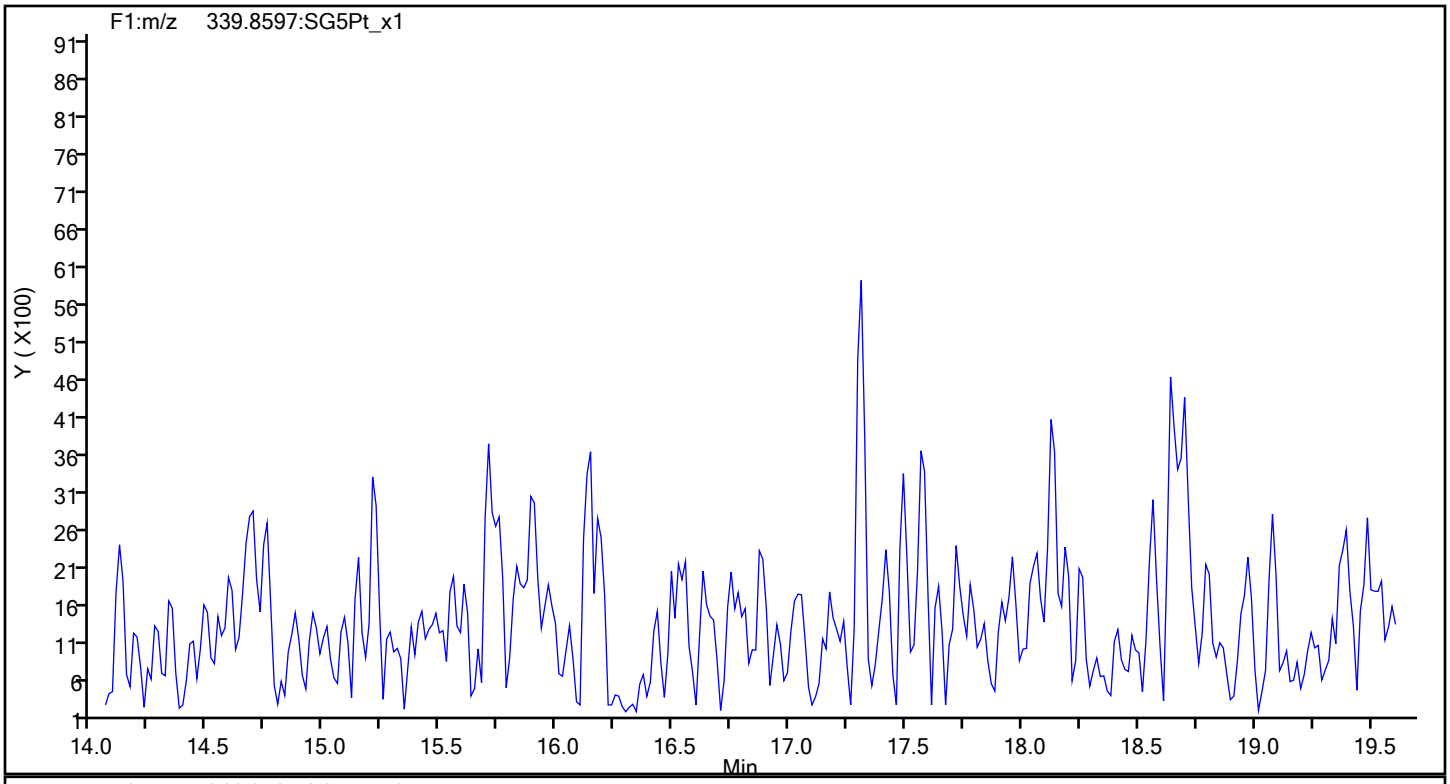

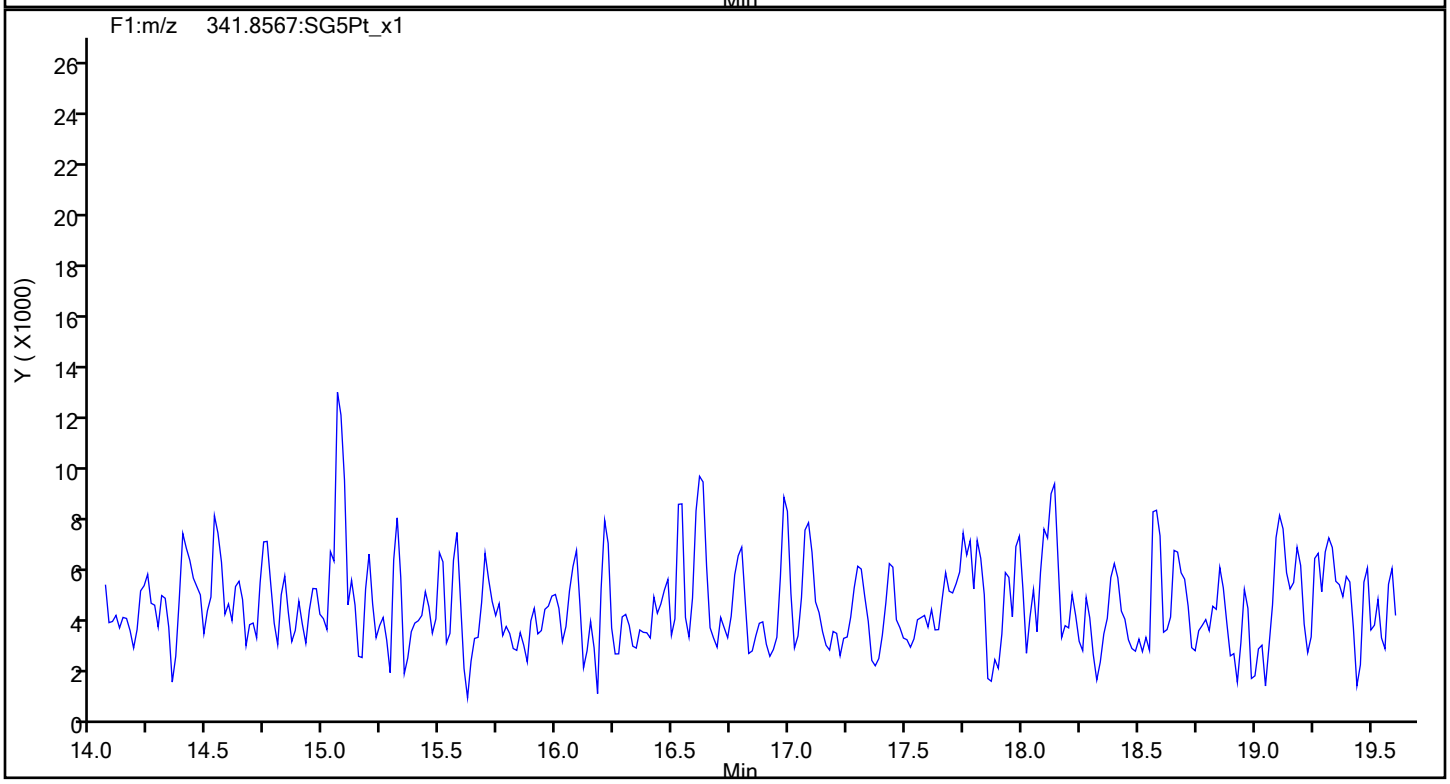

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

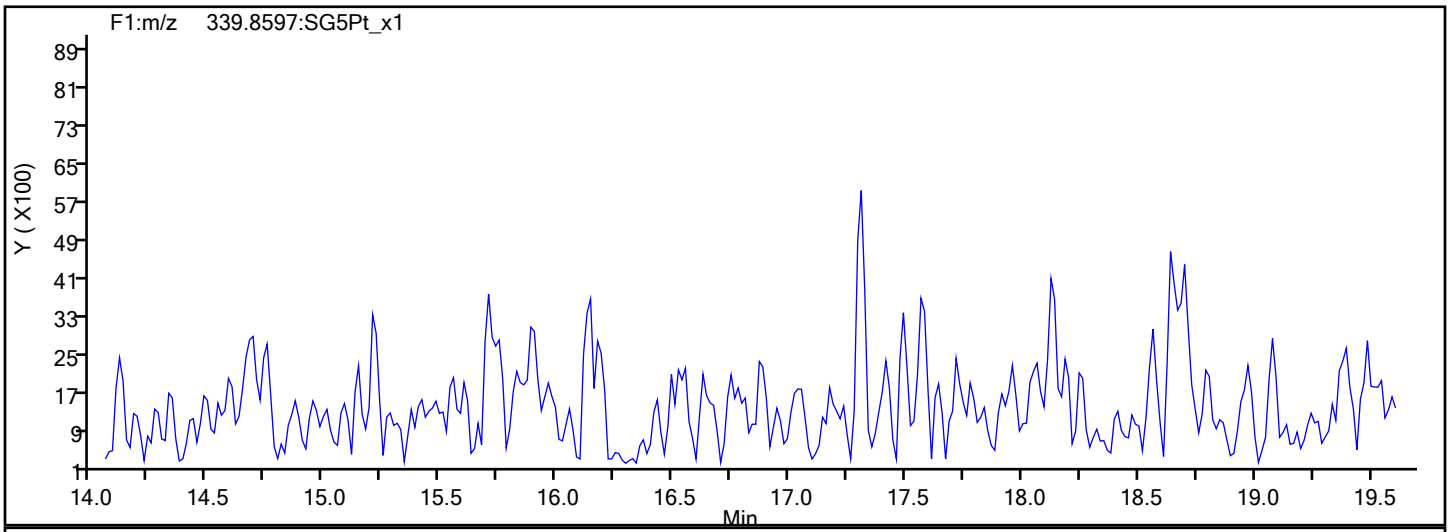

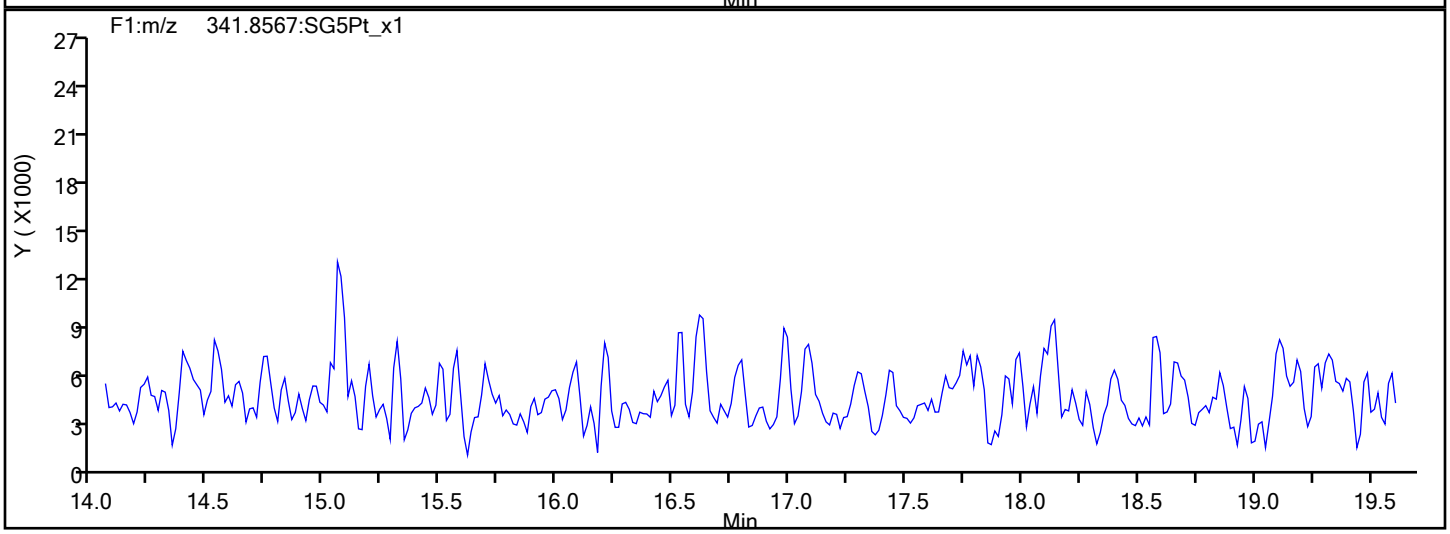

F1 PeCDFs Interference Mass

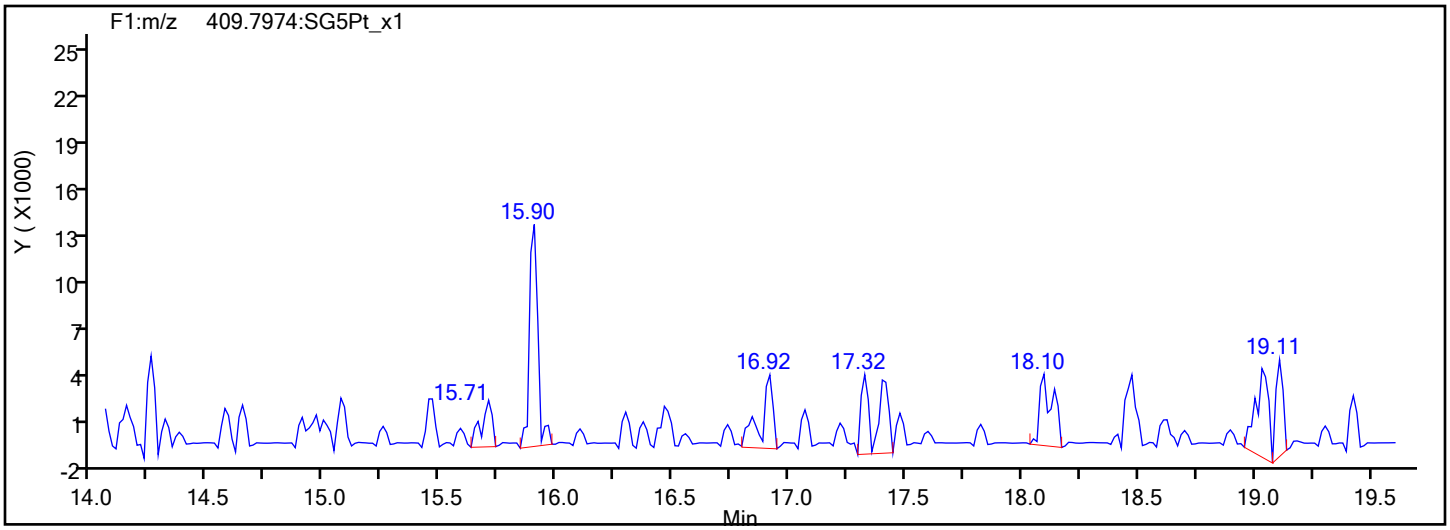

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

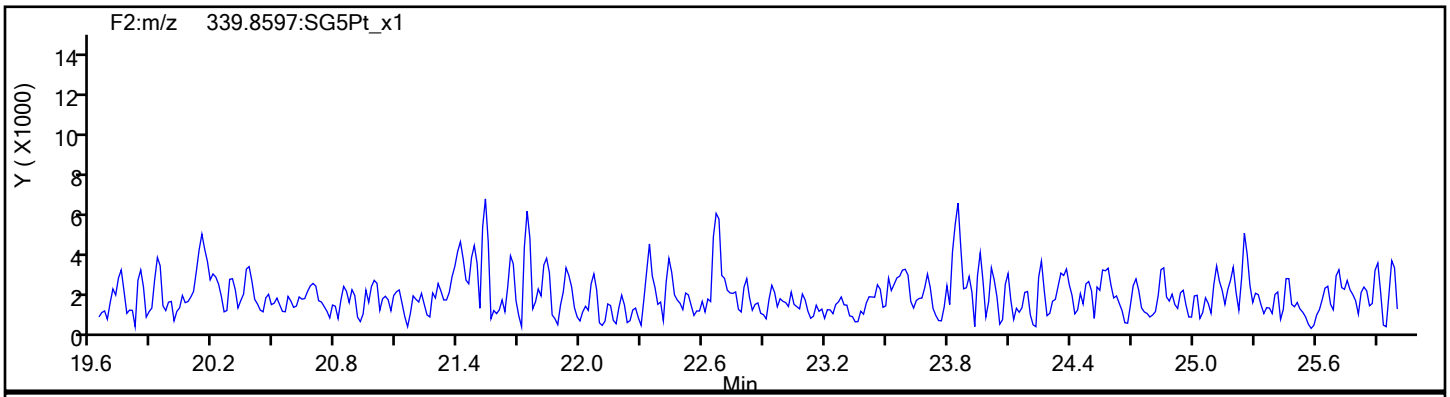

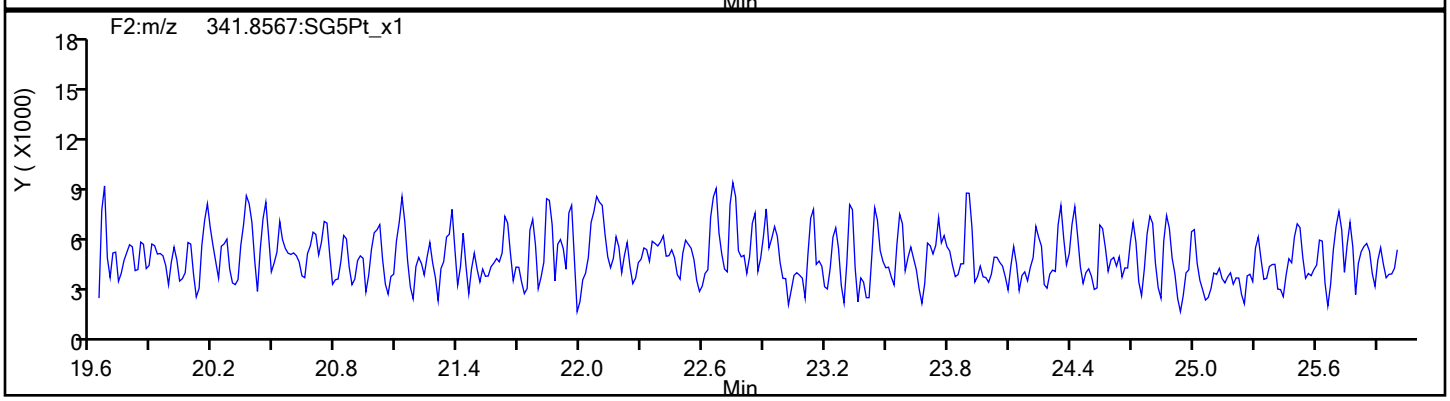

PeCDF Standards

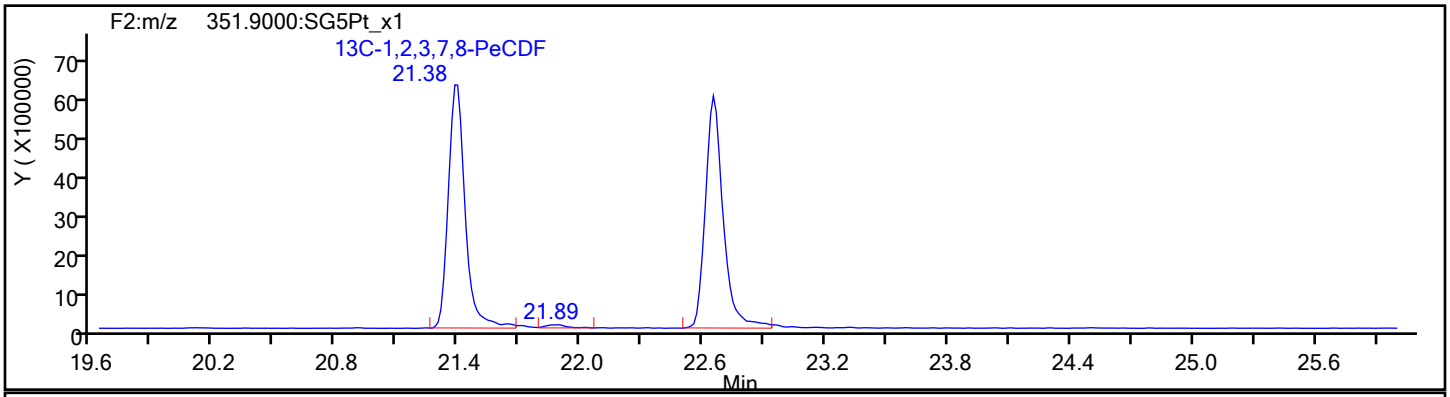

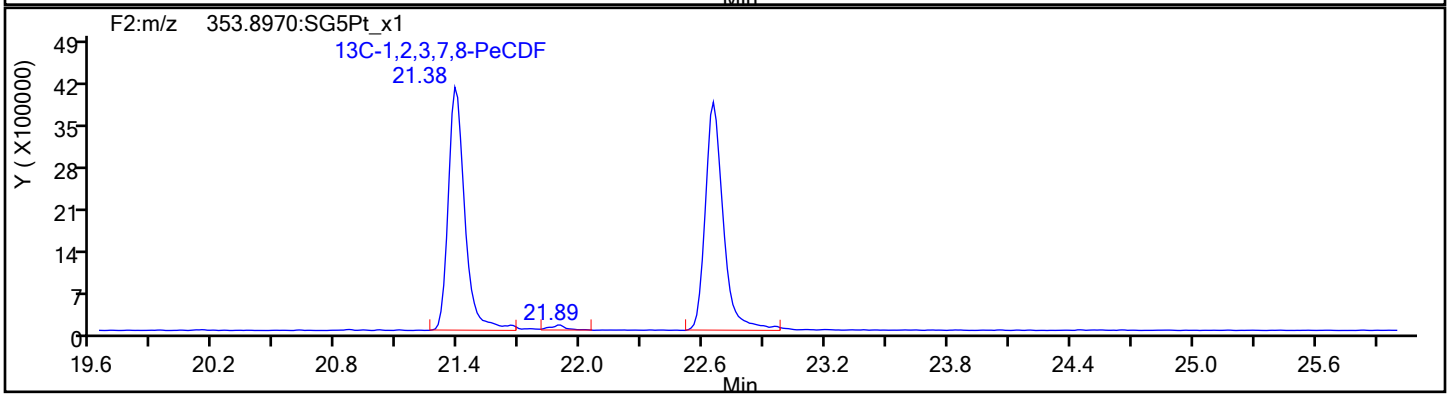

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	349283	Sample Line#:	4
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PeCDF

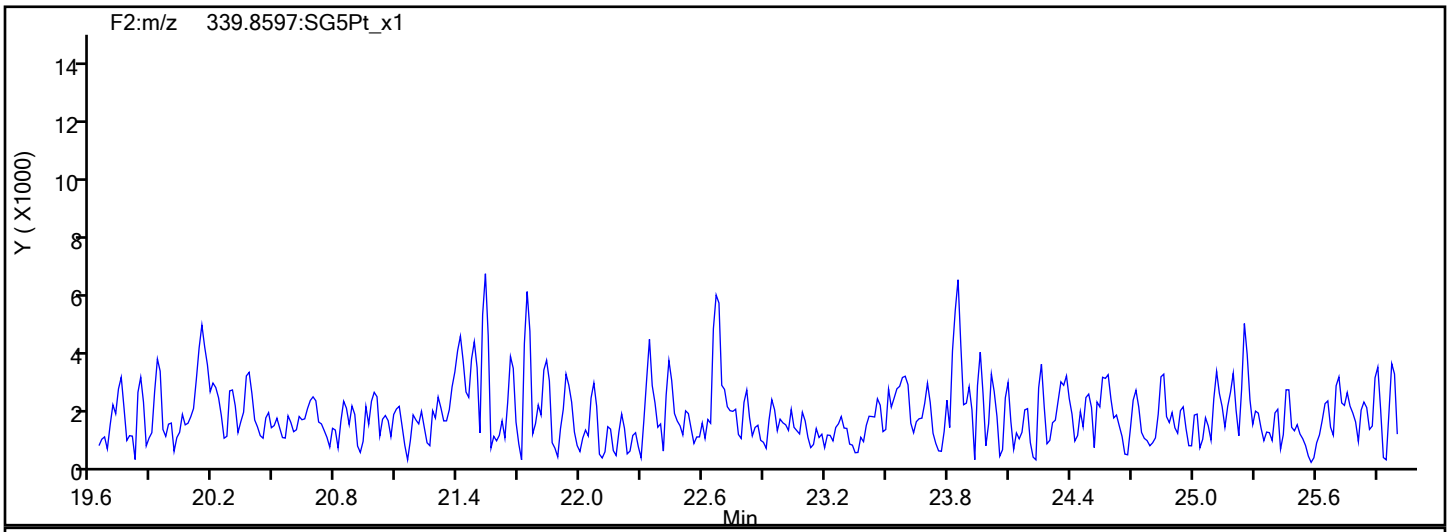

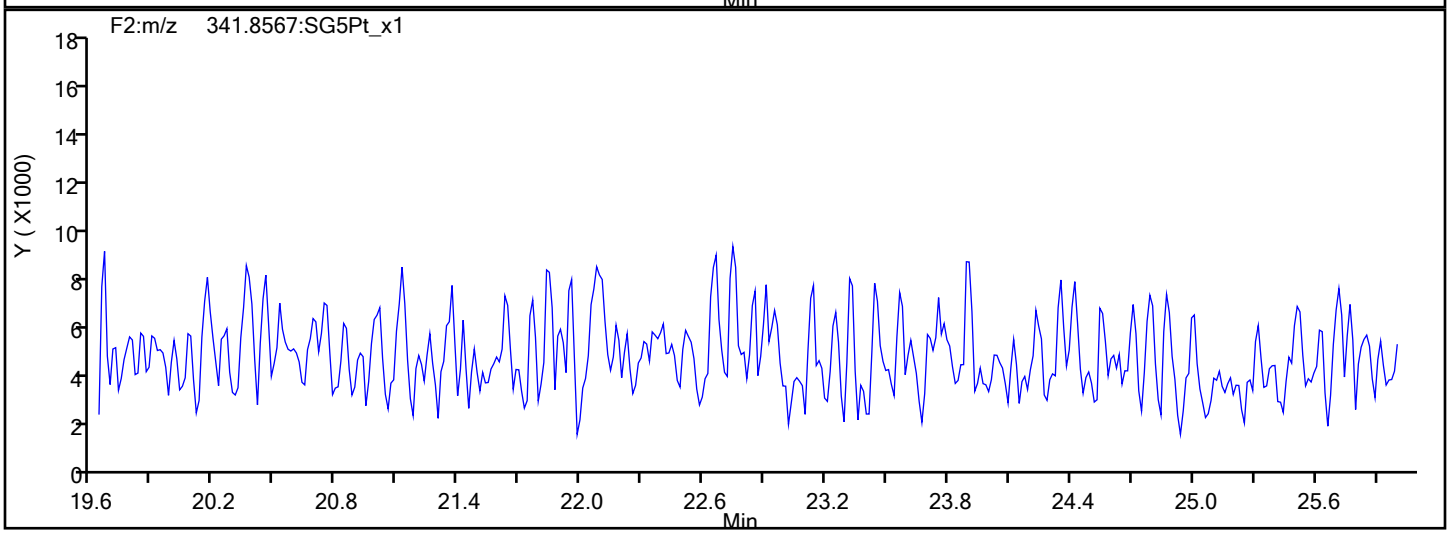

PeCDF Interference Mass

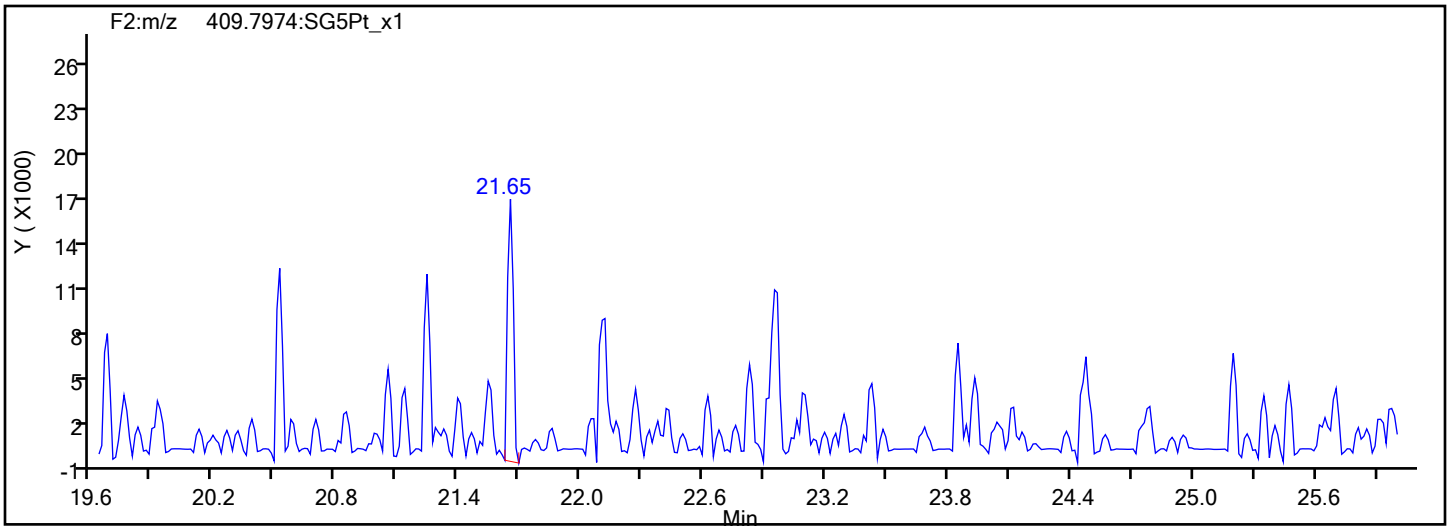

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Eurofins TestAmerica, Sacramento

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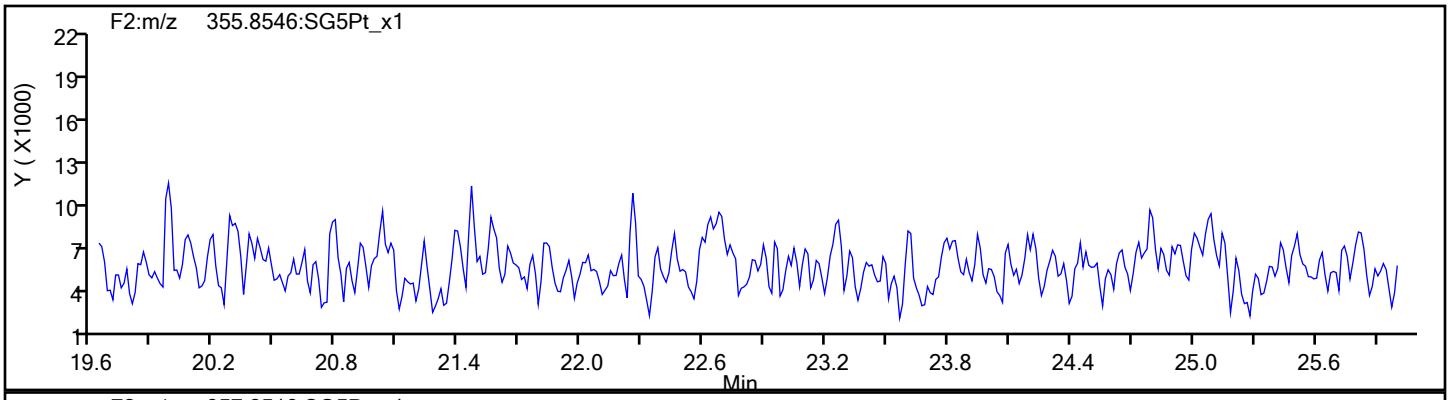

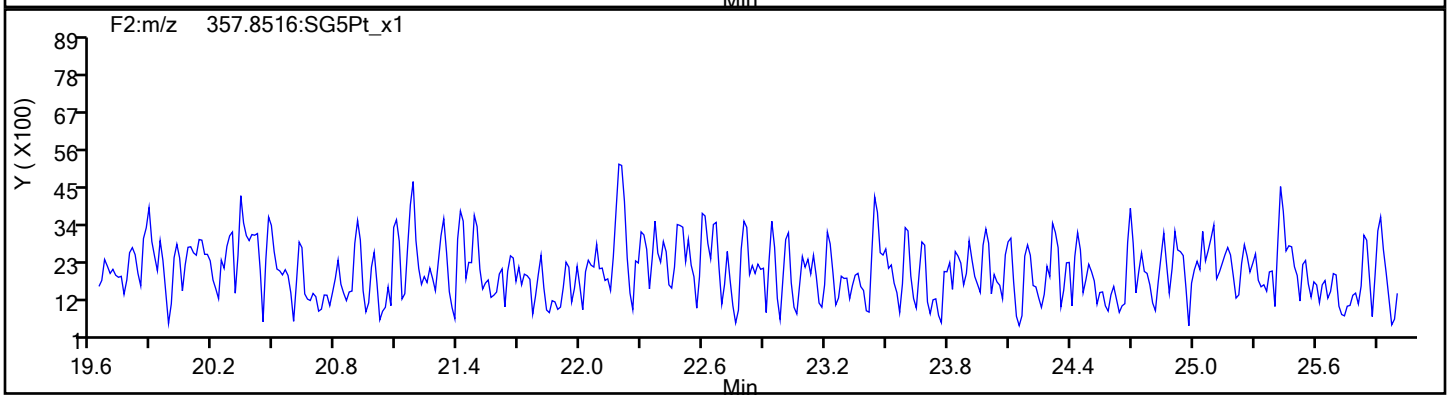

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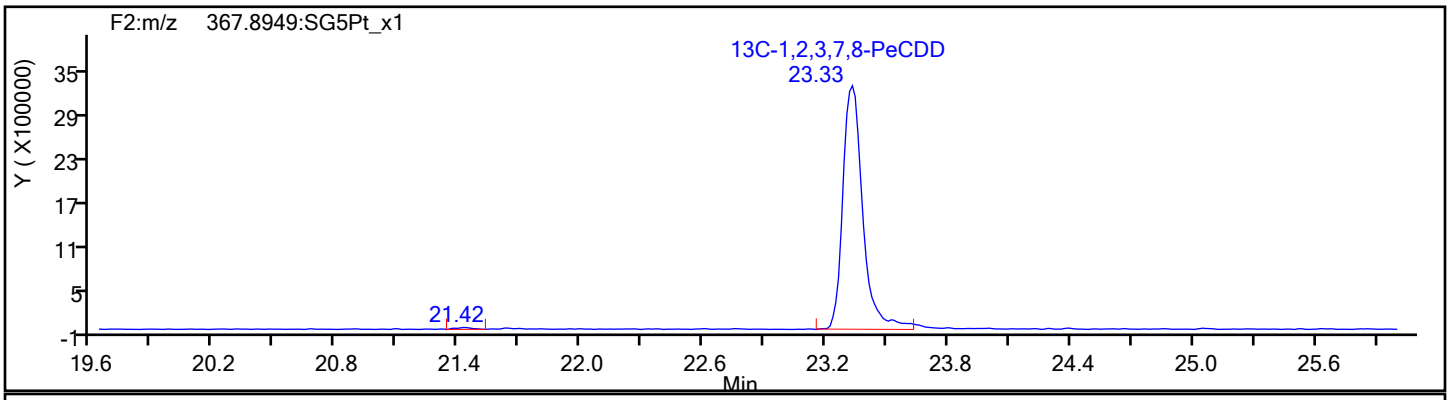

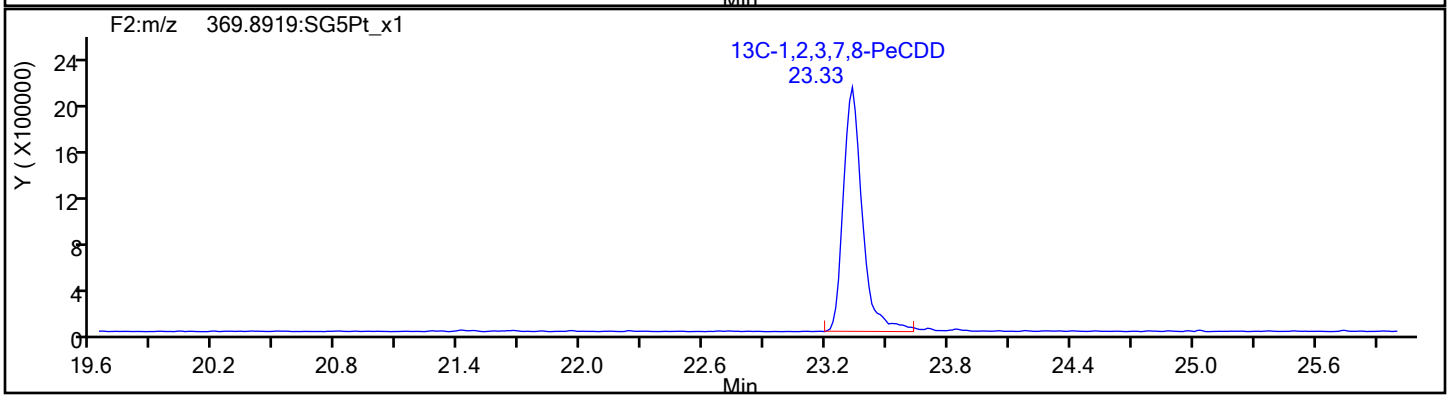

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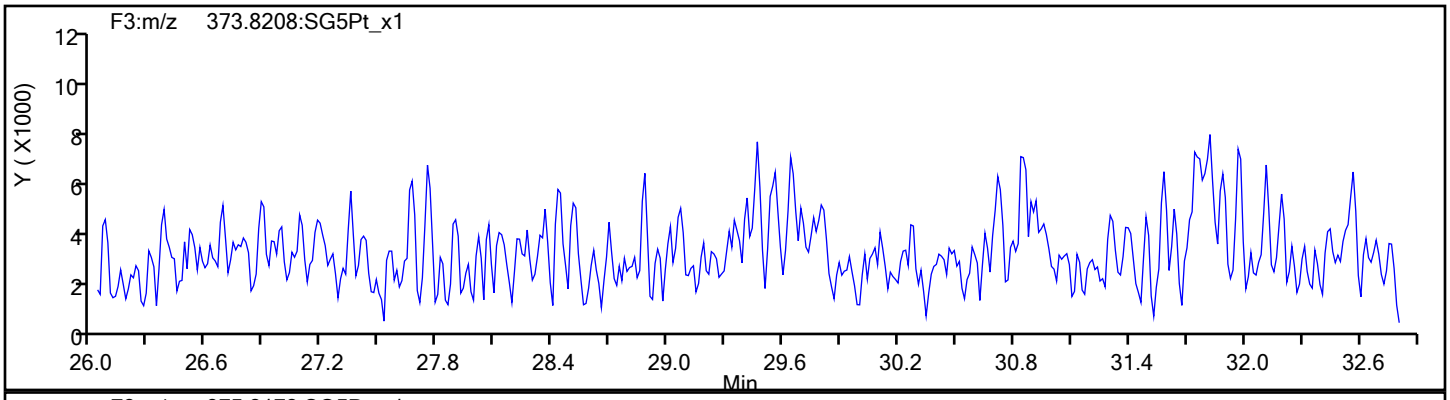

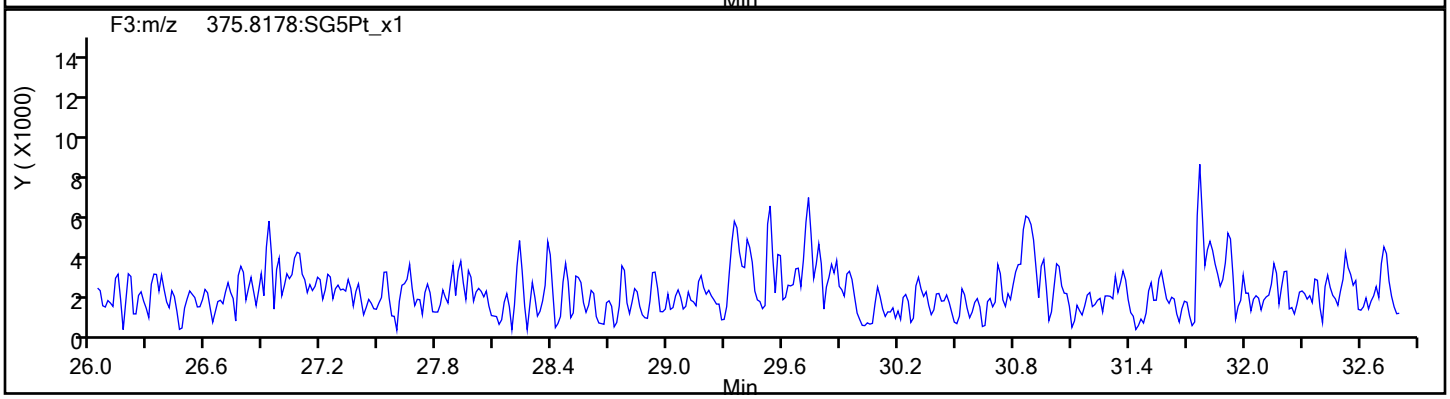

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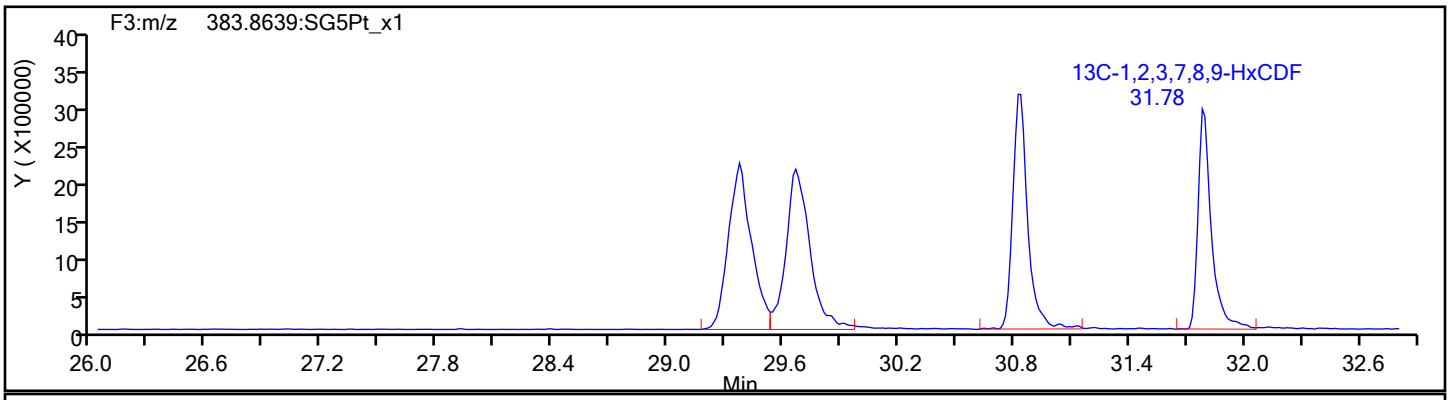

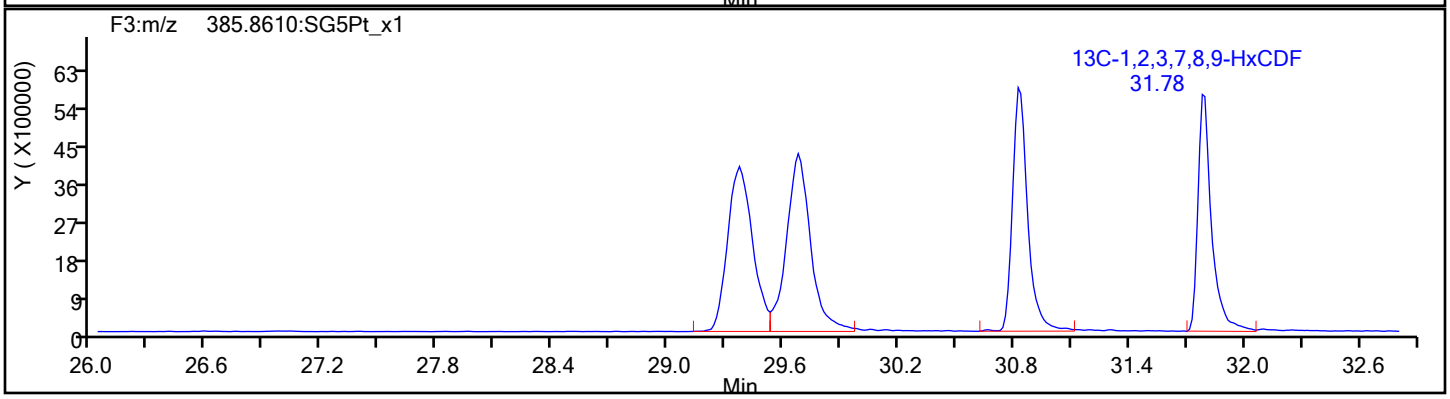

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Eurofins TestAmerica, Sacramento

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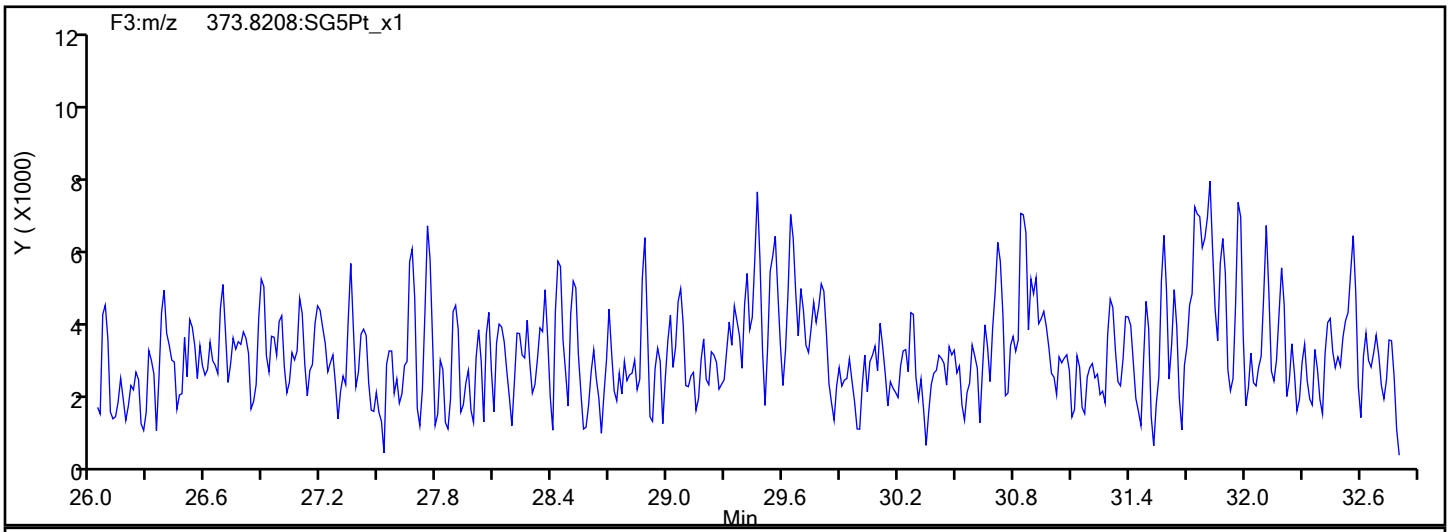

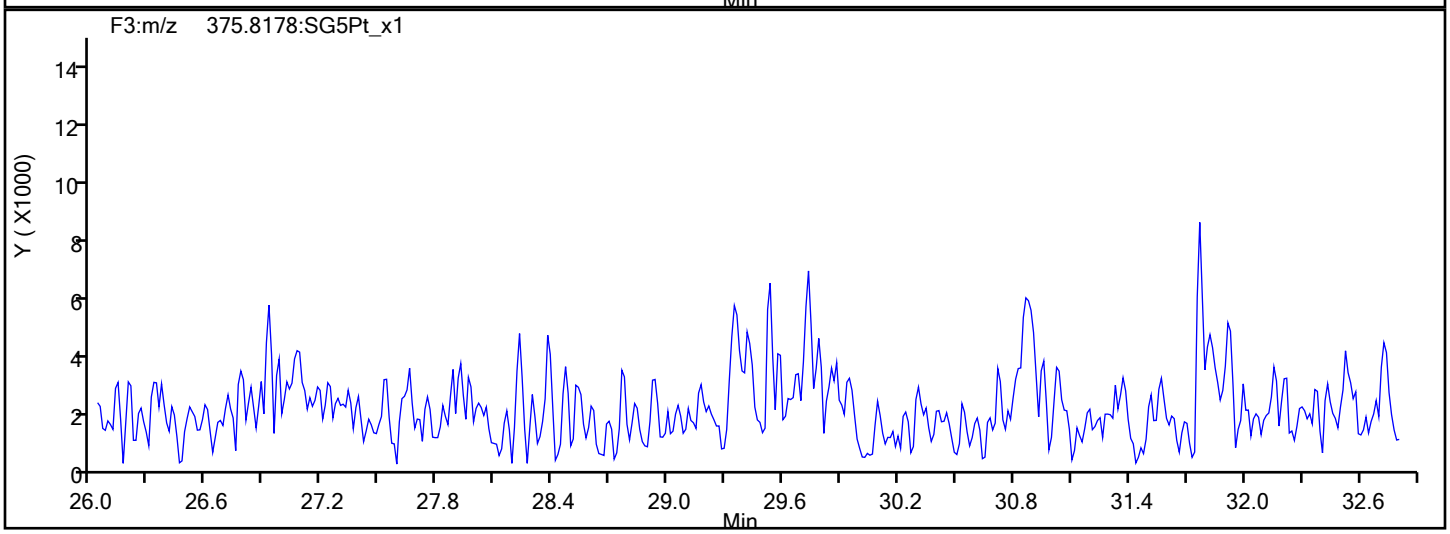

HxCDF Interference Mass

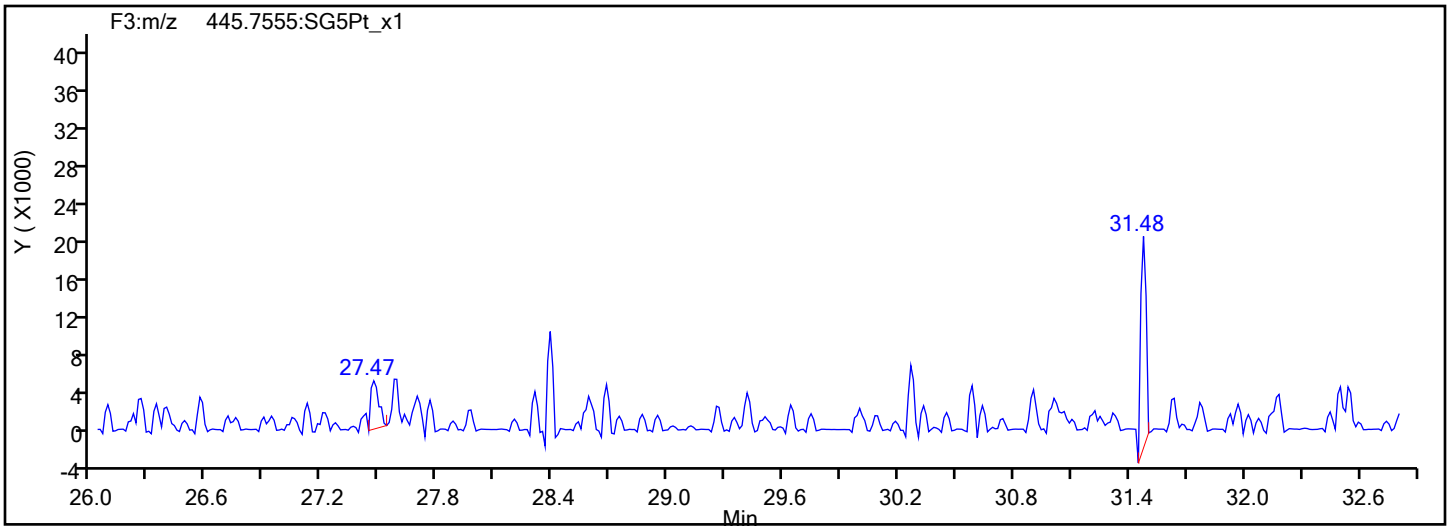

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Eurofins TestAmerica, Sacramento

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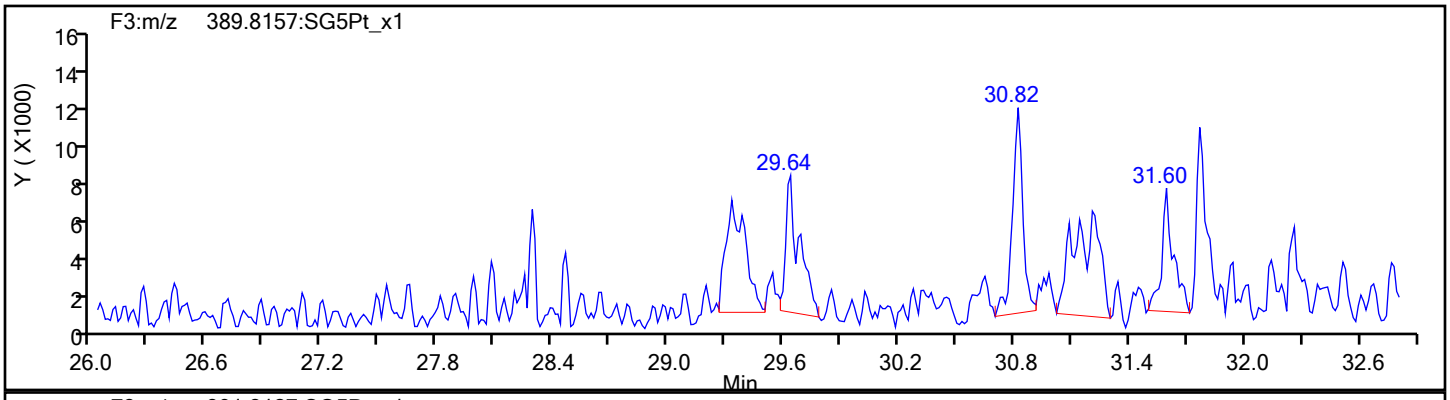

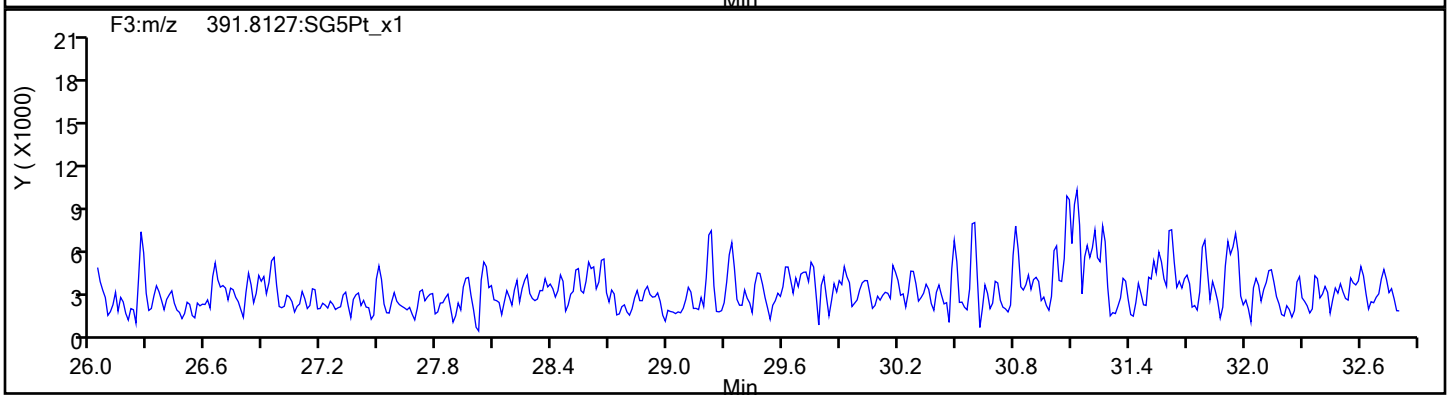

HxCDD Standards

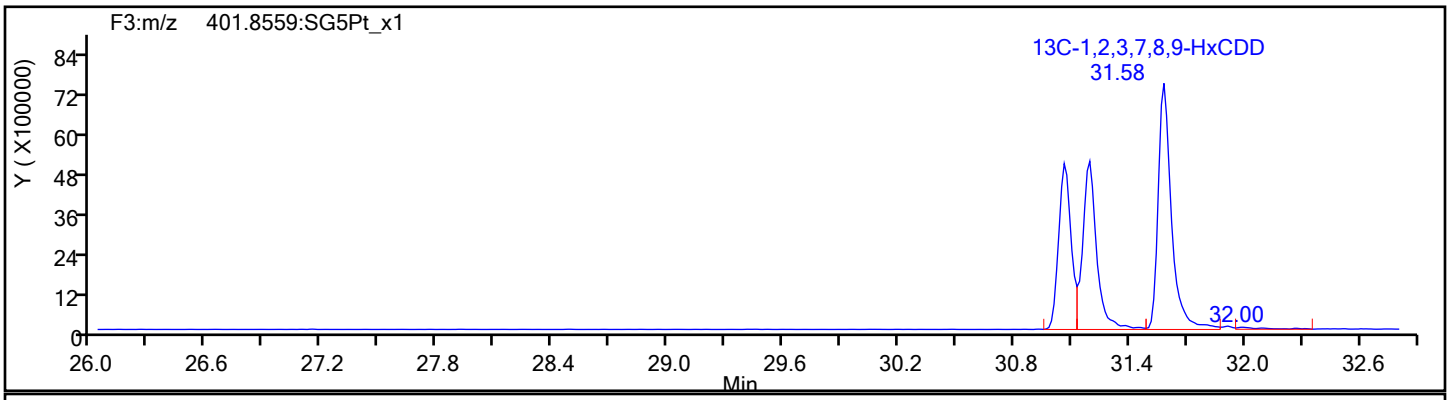

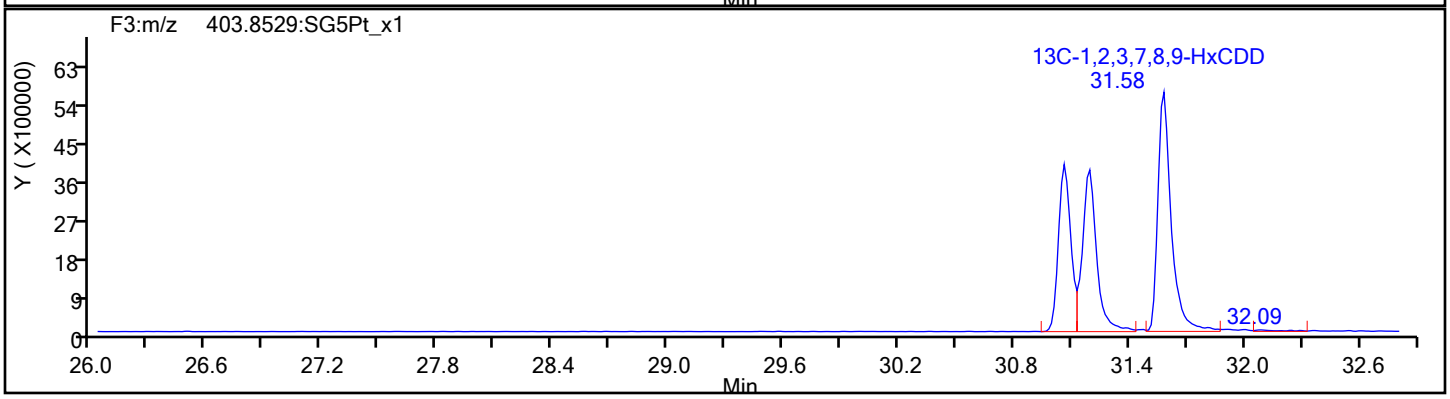

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Eurofins TestAmerica, Sacramento

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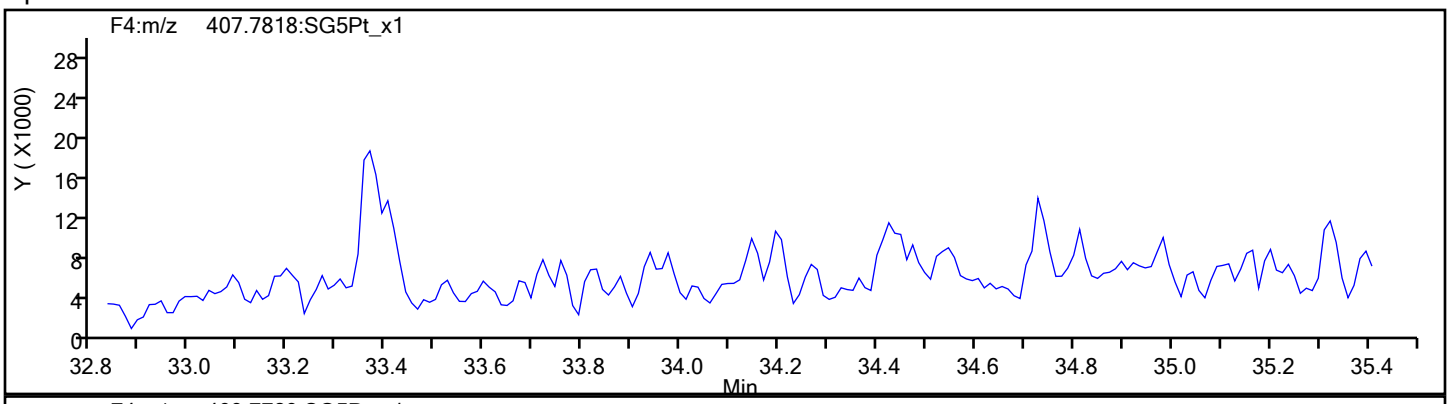

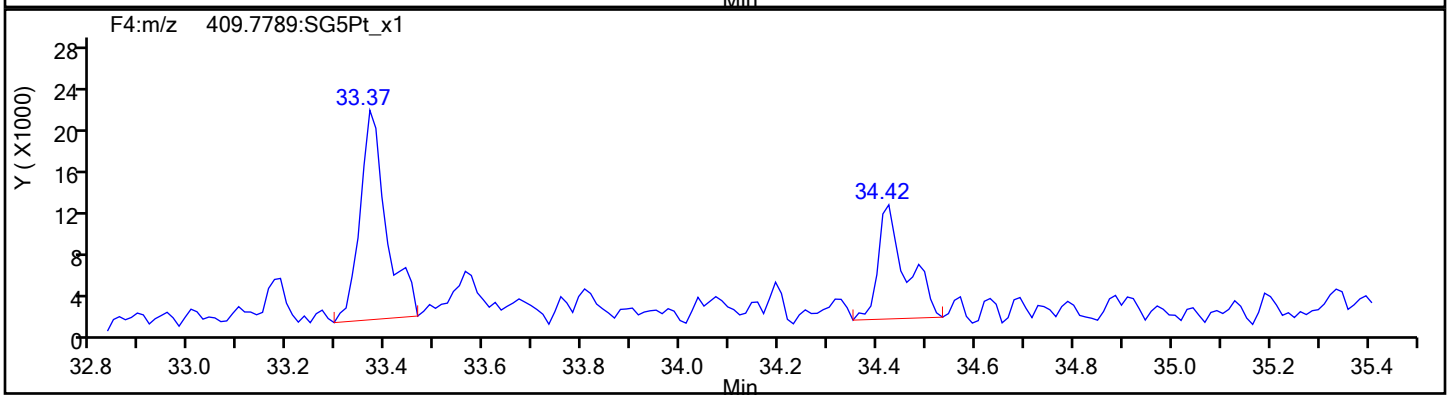

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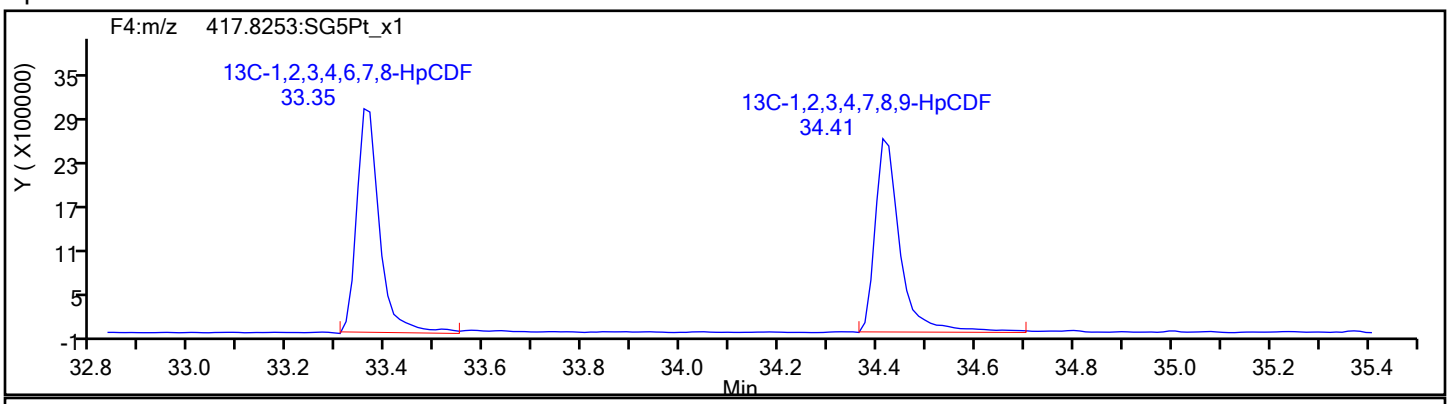

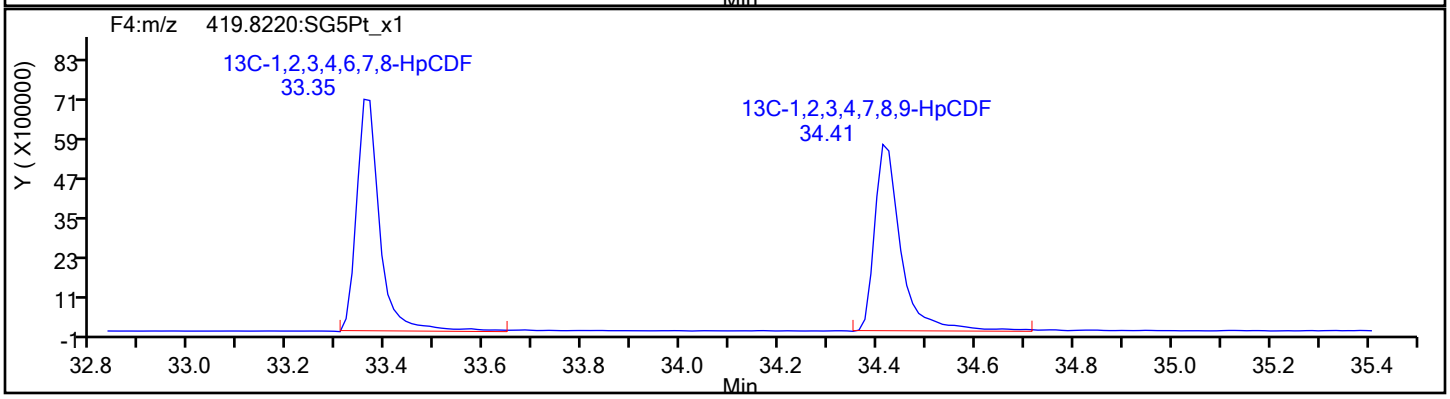

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Eurofins TestAmerica, Sacramento

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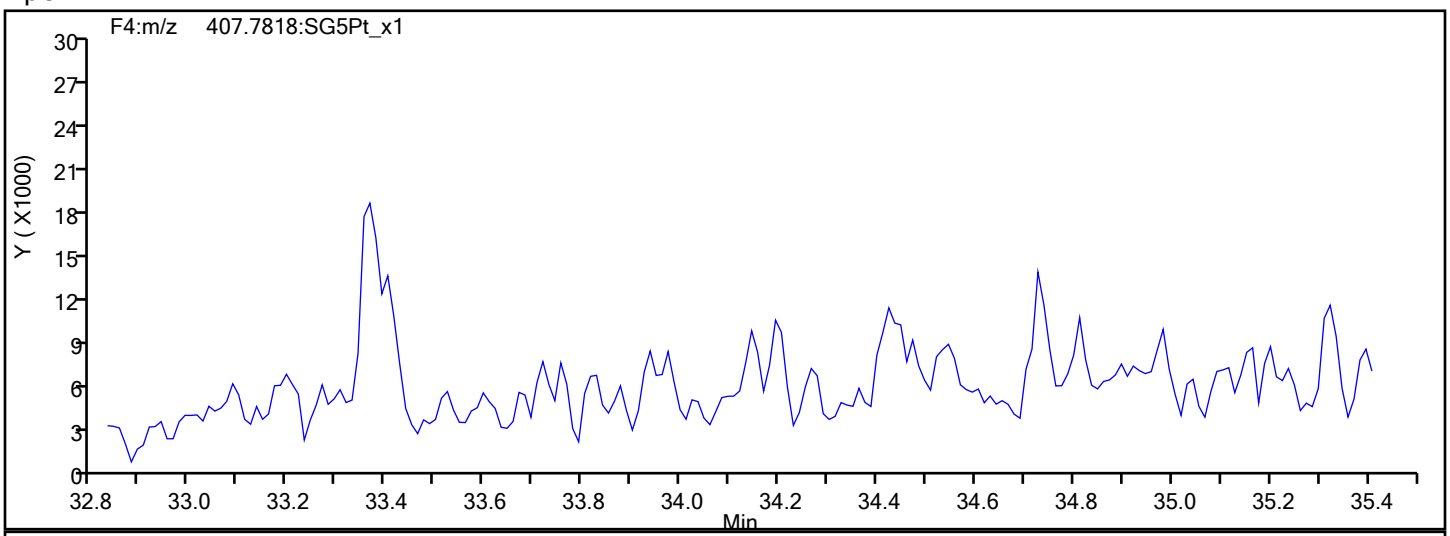

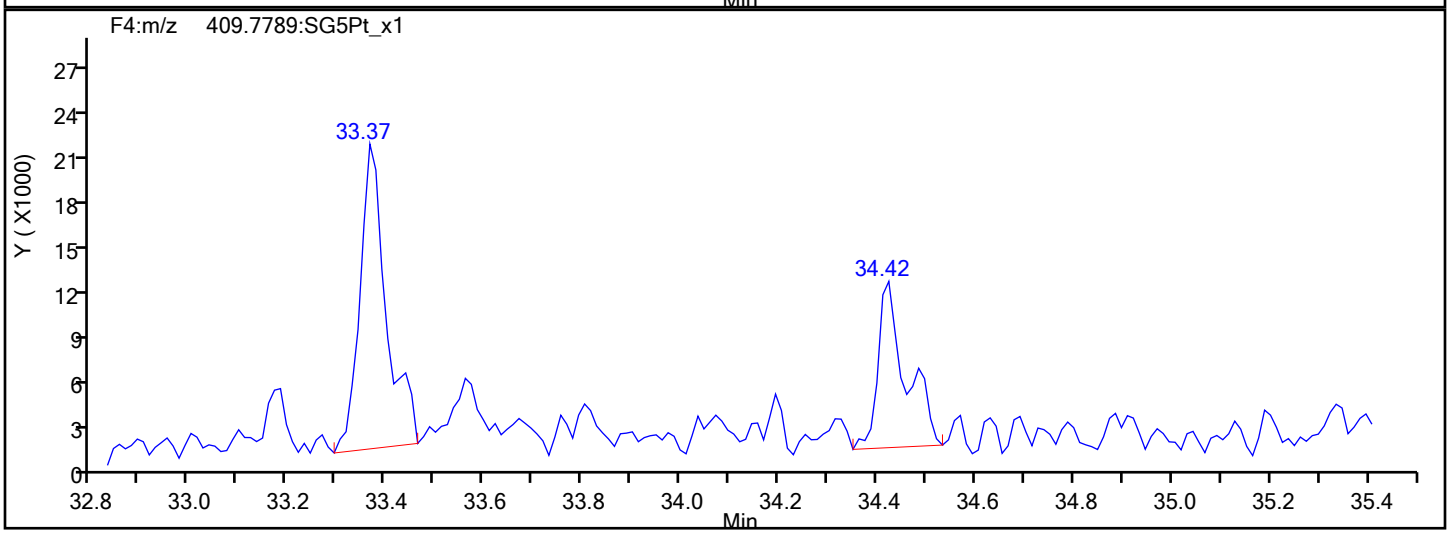

HpCDF Interference Mass

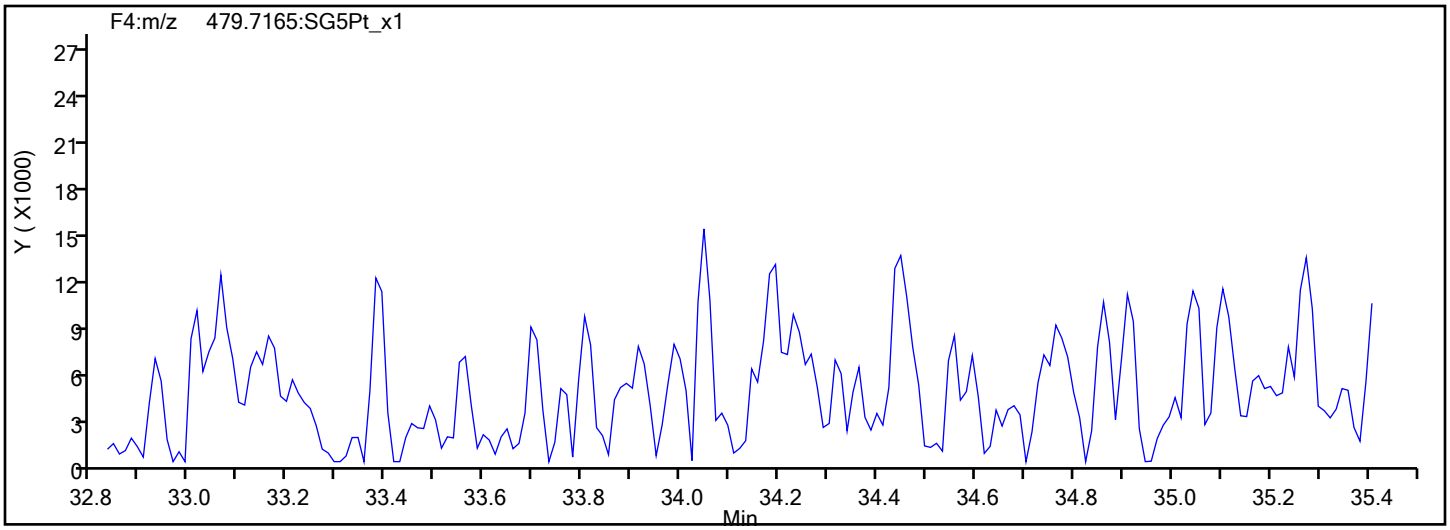

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Eurofins TestAmerica, Sacramento

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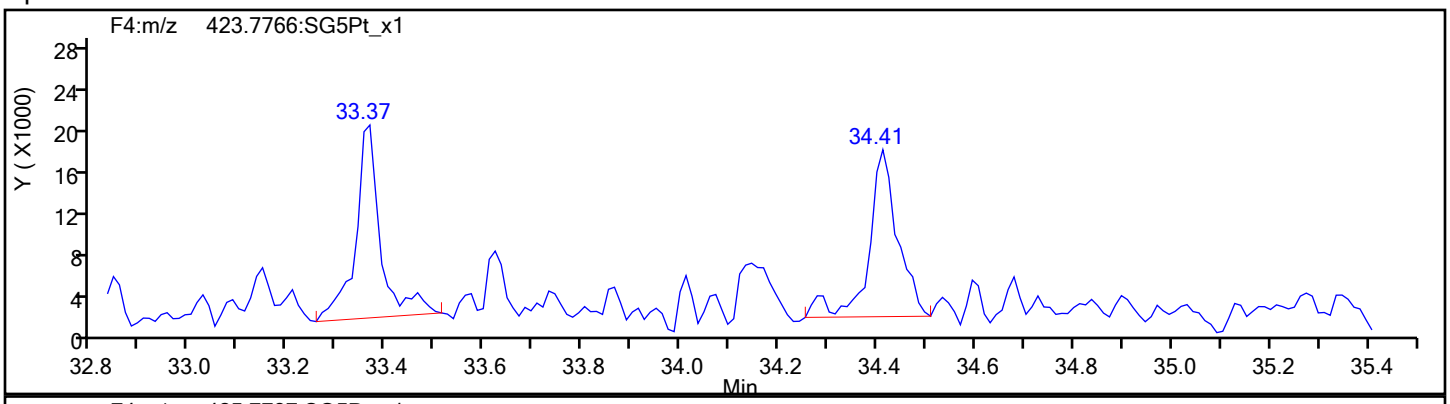

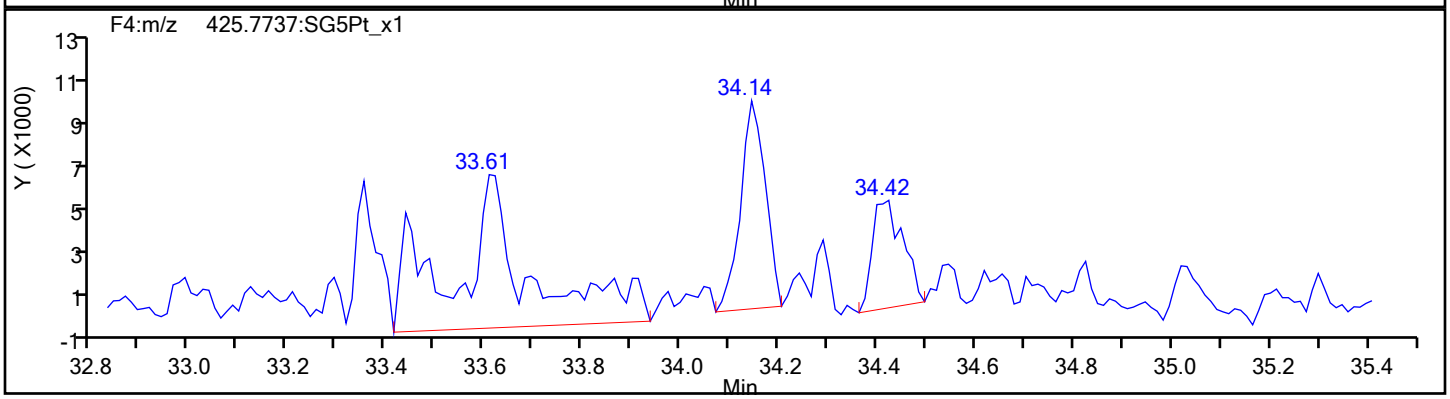

HpCDD Standards

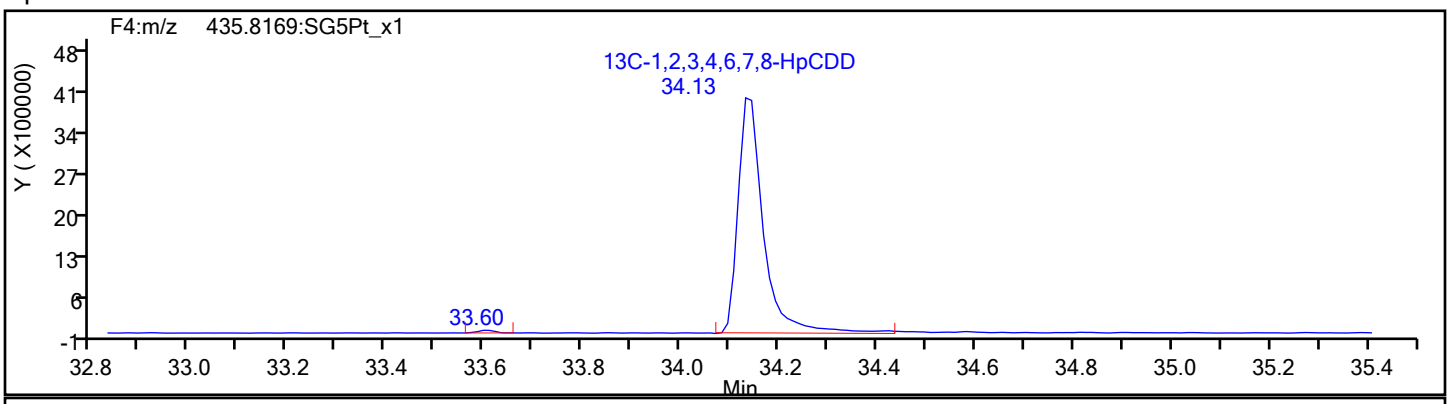

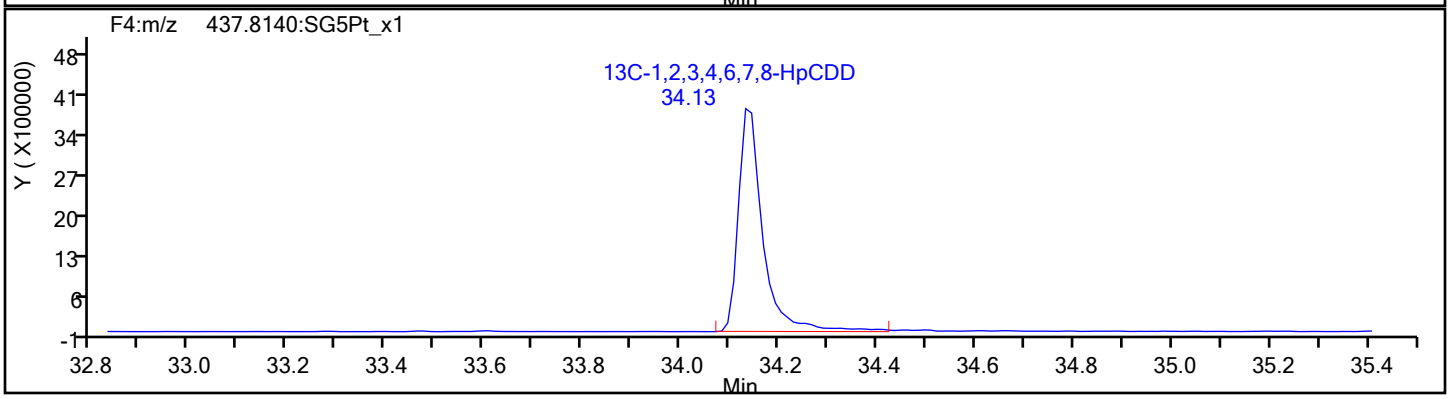

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Eurofins TestAmerica, Sacramento

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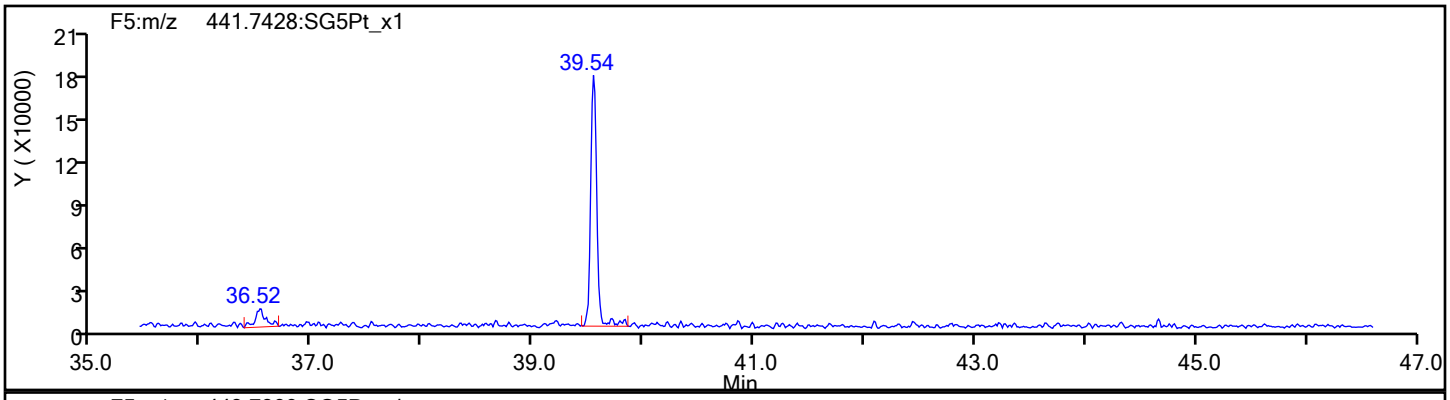

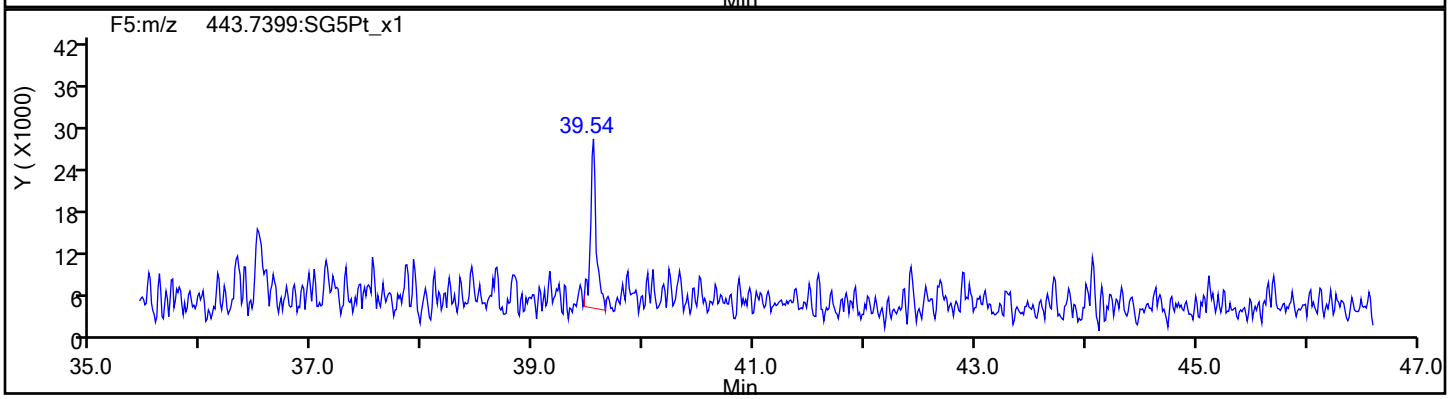

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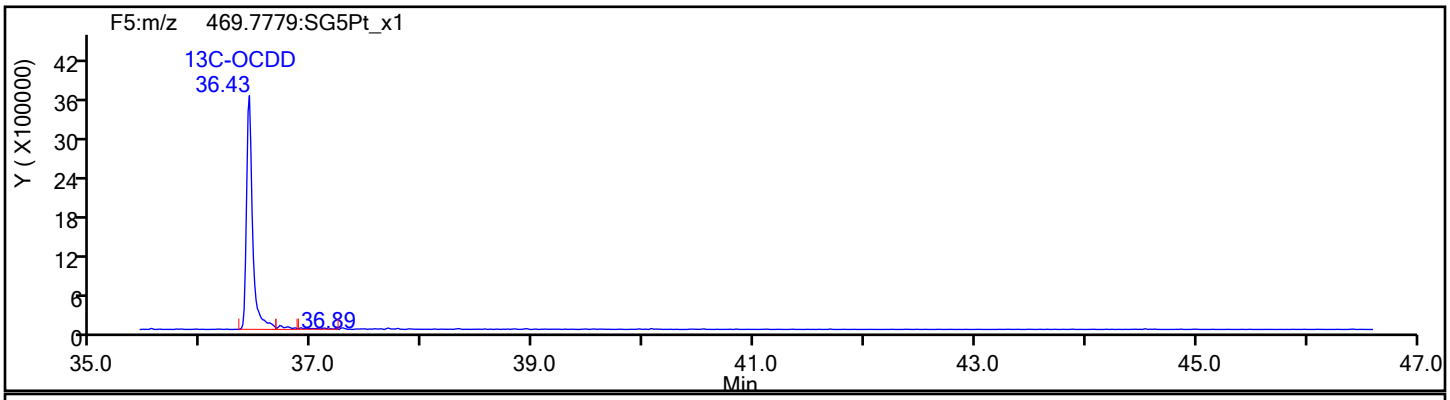

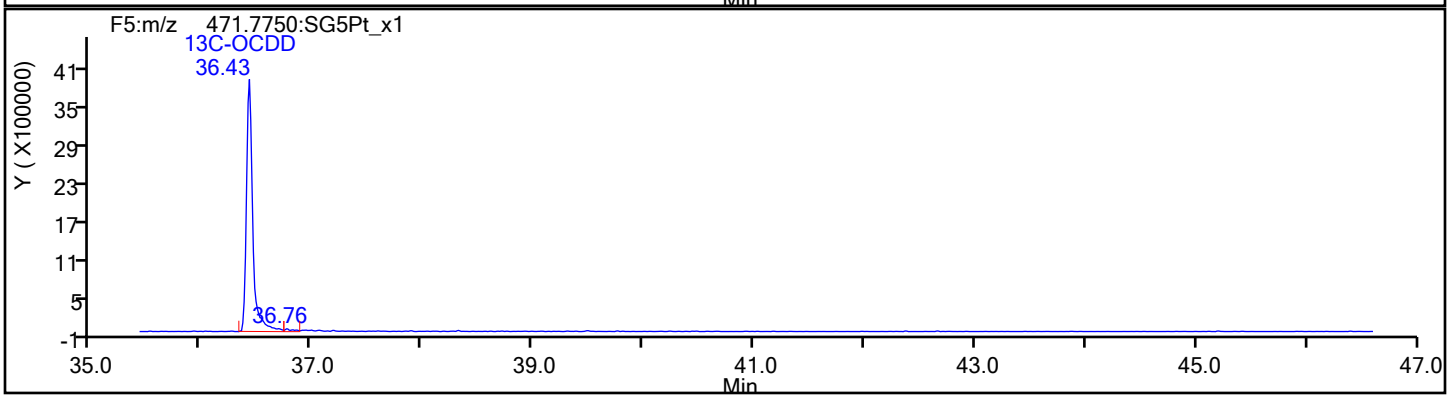

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Eurofins TestAmerica, Sacramento

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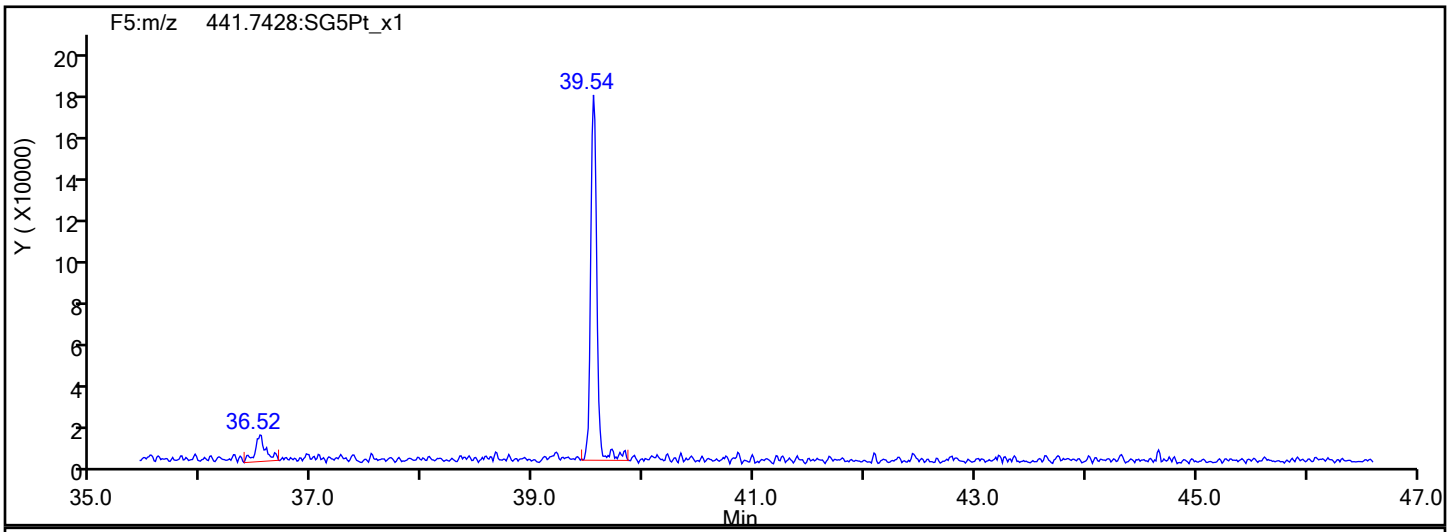

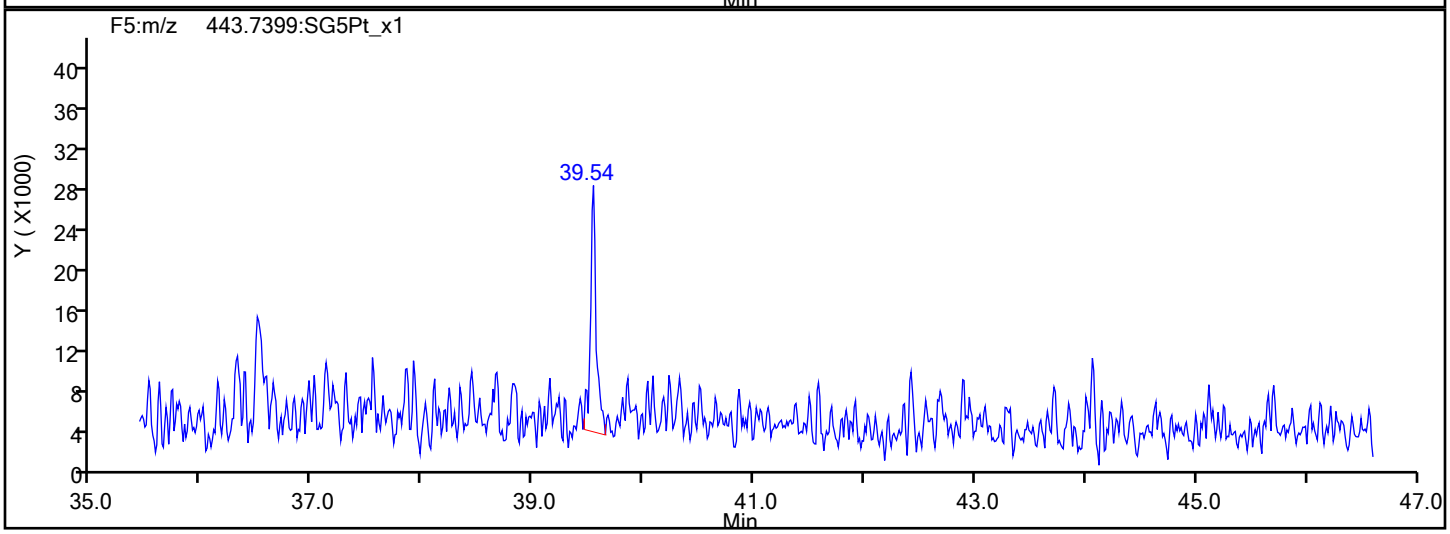

OCDF Interference Mass

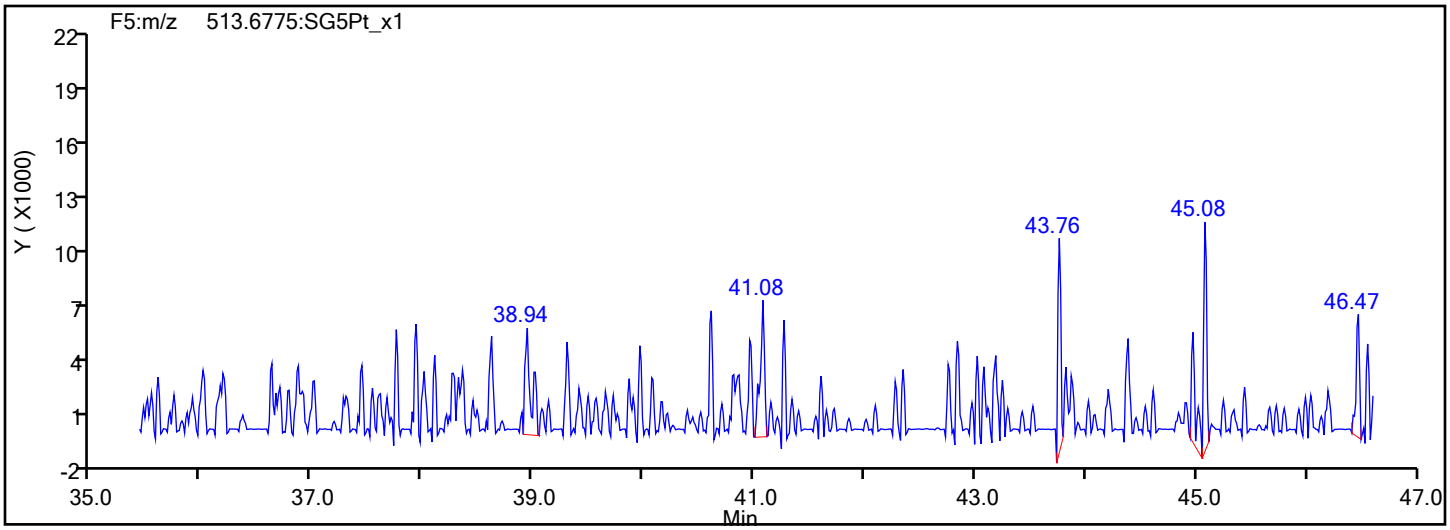

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Eurofins TestAmerica, Sacramento

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OCDD

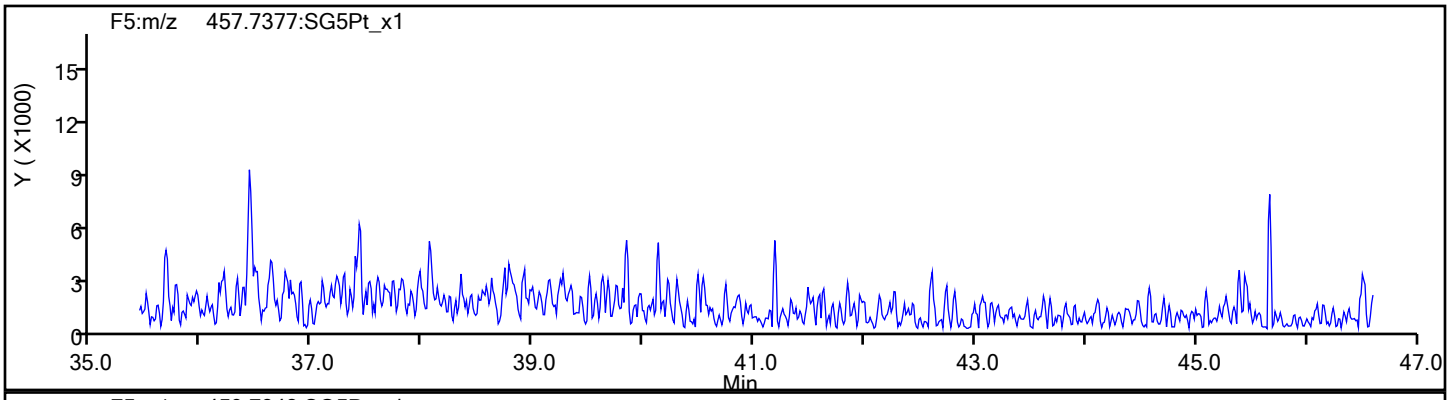

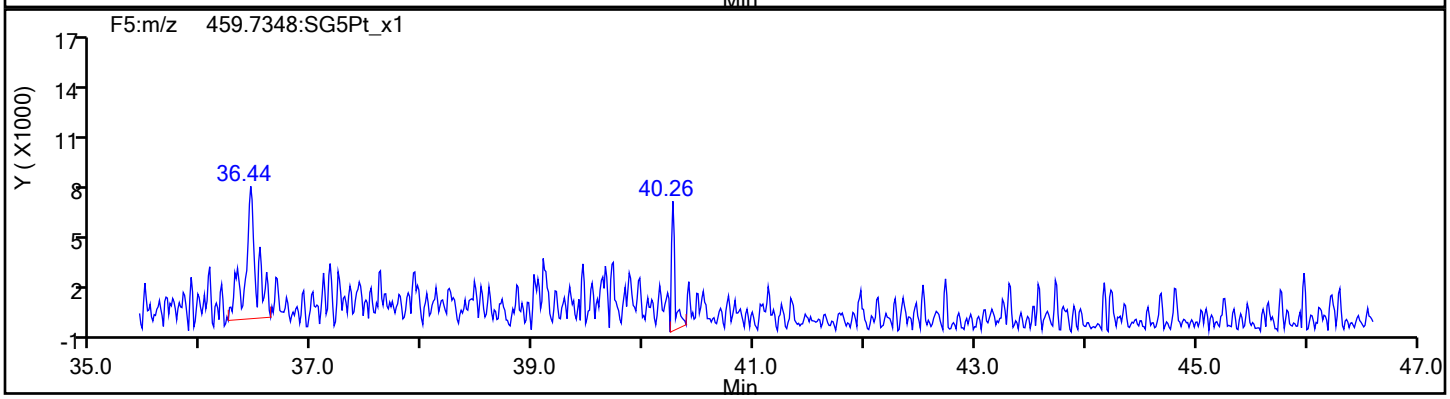

OCDD Standards

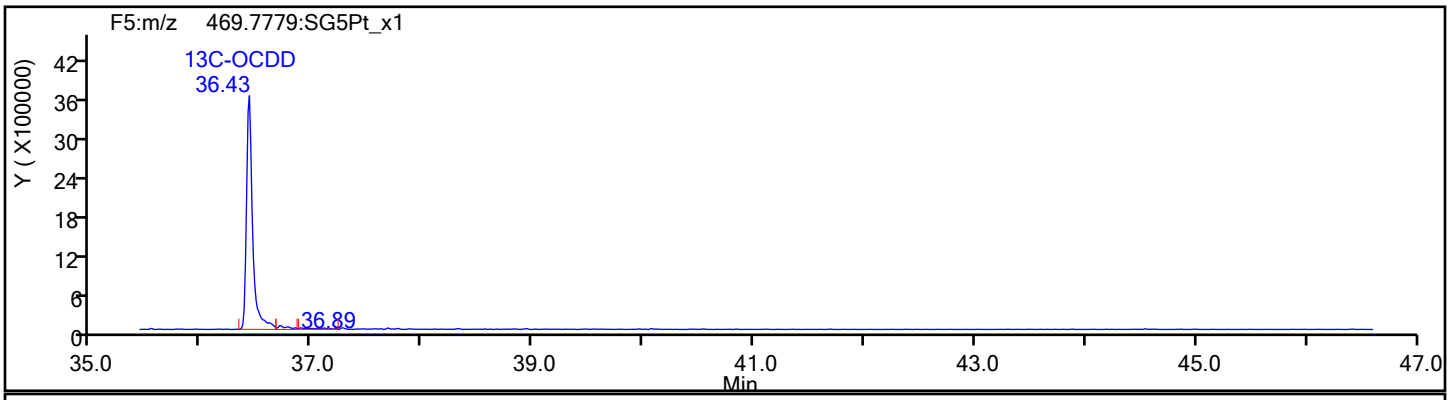

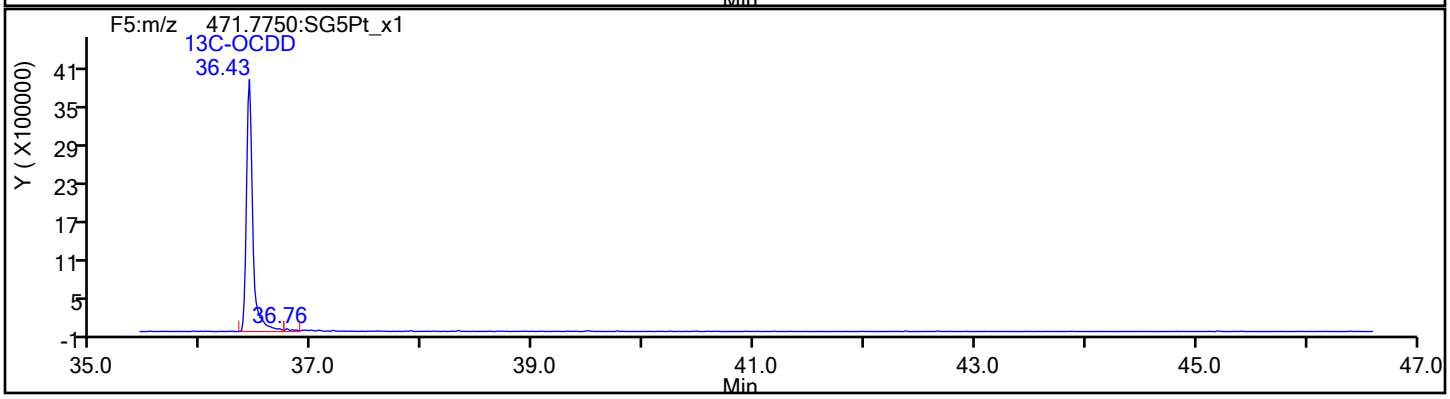

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Eurofins TestAmerica, Sacramento

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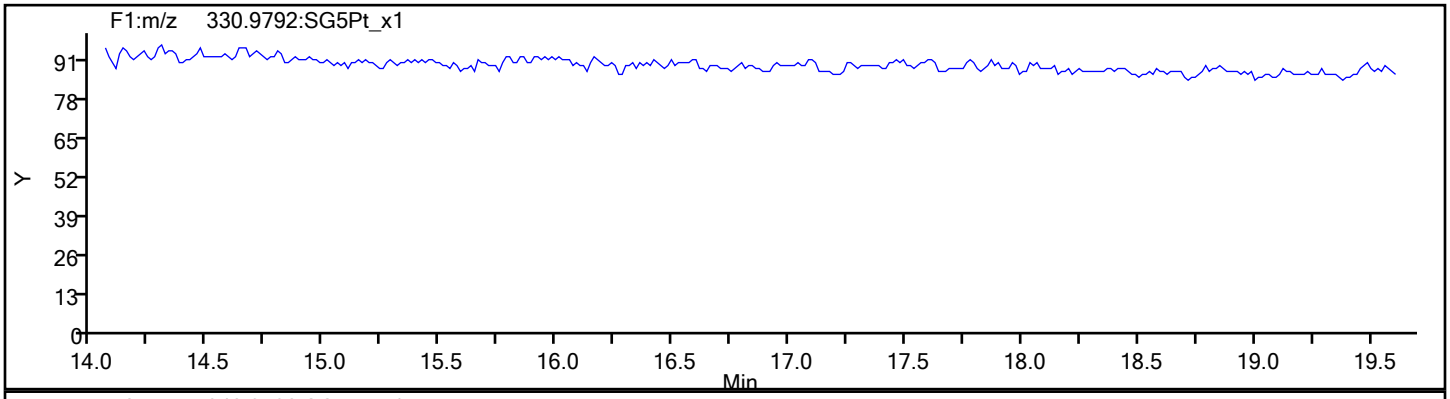

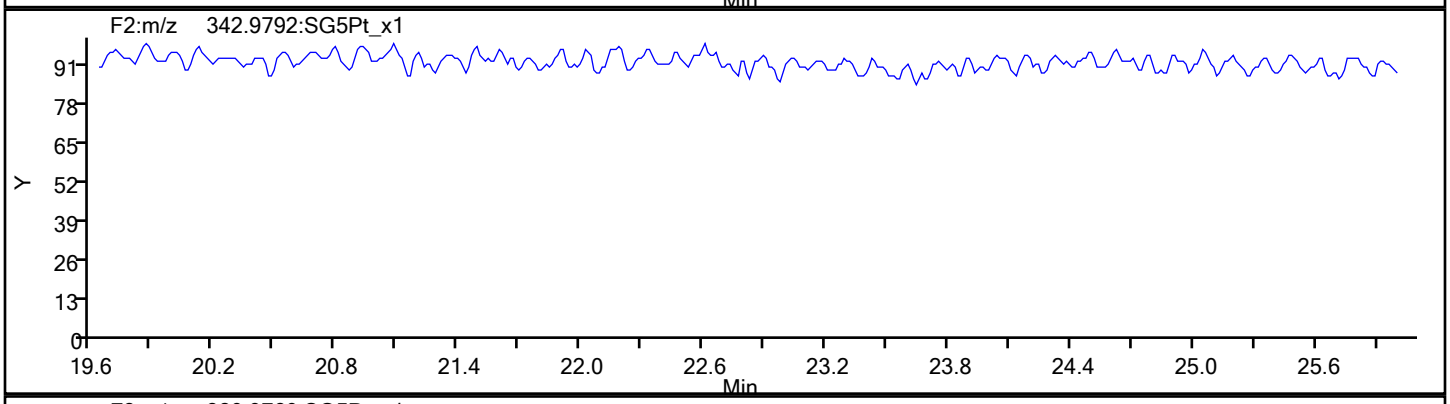

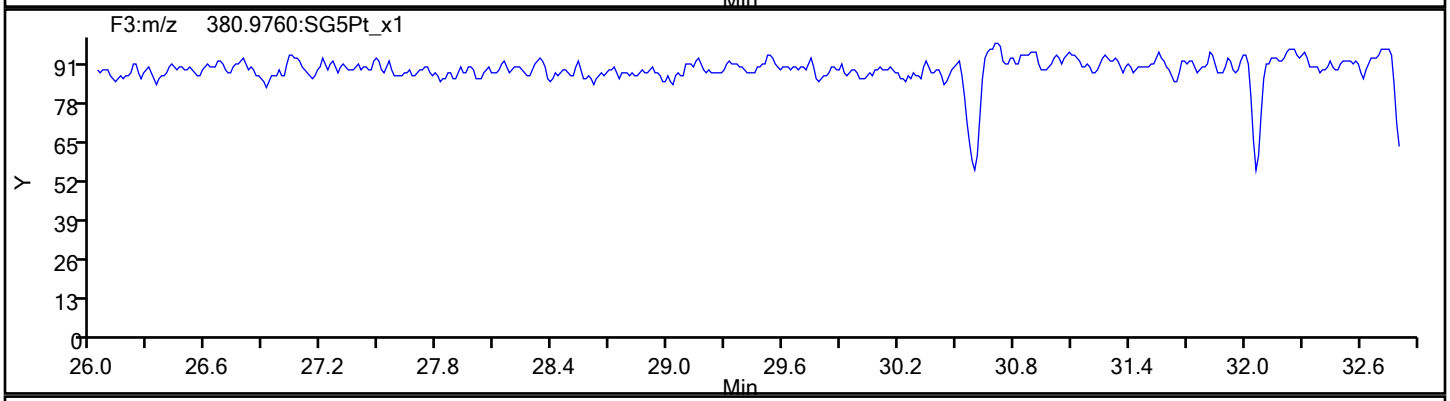

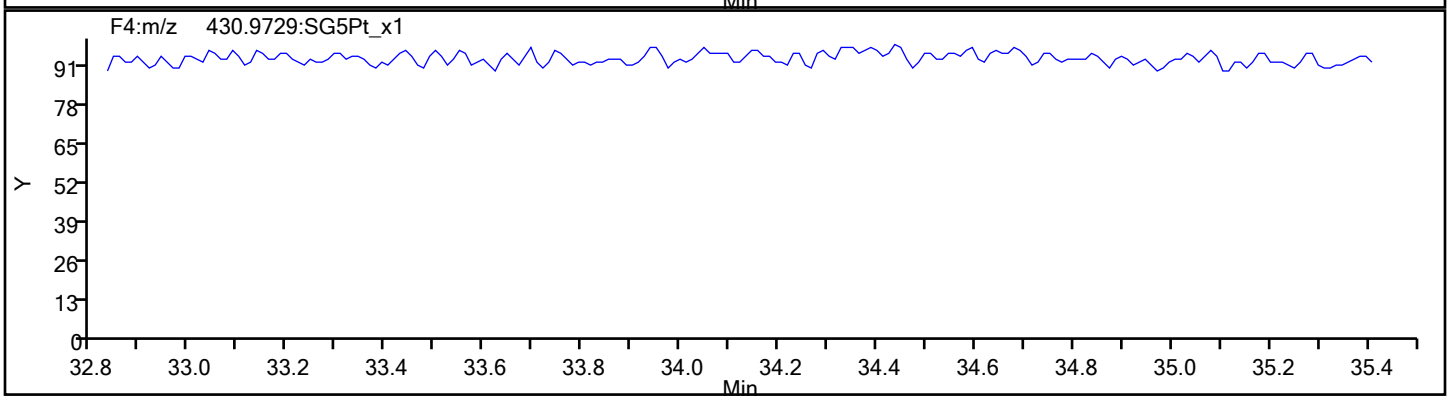

Report Date: 08-Jan-2020 09:01:49 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_4.d		
Injection Date:	07-Jan-2020 00:06:38	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	349283	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

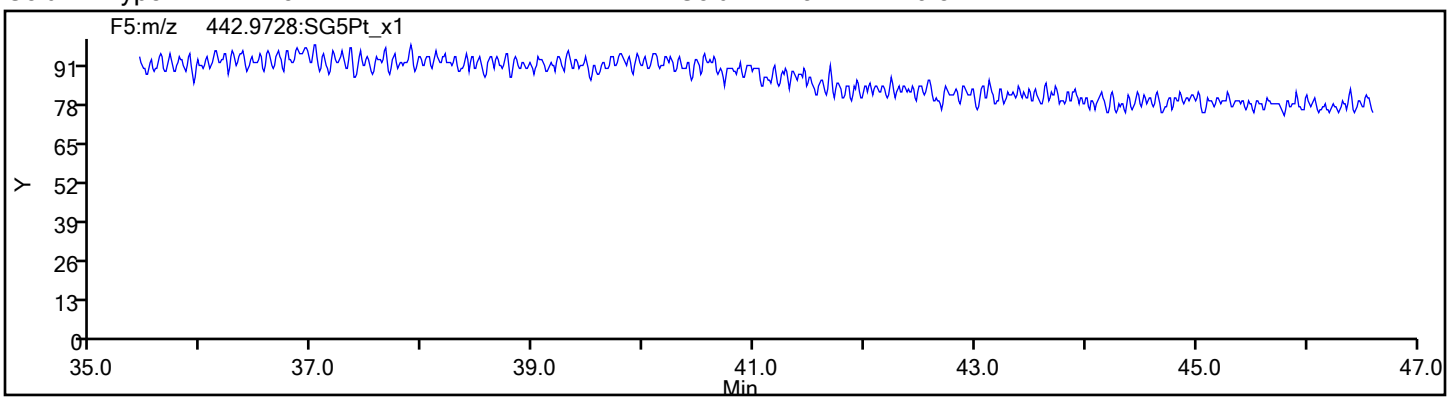

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 180-100205-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 320-348771/2-A
Matrix: Solid
Lab File ID: 06JA20A3D5_5.d
Analysis Method: 1613B
Date Collected:
Extract. Method: HRMS-Sep
Date Extracted: 12/31/2019 11:06
Sample wt/vol: 1000(mL)
Date Analyzed: 01/07/2020 01:00
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 349283
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	205		10	3.7
51207-31-9	2,3,7,8-TCDF	200		10	2.0
40321-76-4	1,2,3,7,8-PeCDD	1090		50	5.3
57117-41-6	1,2,3,7,8-PeCDF	1050		50	6.8
57117-31-4	2,3,4,7,8-PeCDF	974		50	6.9
39227-28-6	1,2,3,4,7,8-HxCDD	986		50	4.5
57653-85-7	1,2,3,6,7,8-HxCDD	1070		50	5.0
19408-74-3	1,2,3,7,8,9-HxCDD	870		50	4.2
70648-26-9	1,2,3,4,7,8-HxCDF	1020		50	11
57117-44-9	1,2,3,6,7,8-HxCDF	1070		50	11
72918-21-9	1,2,3,7,8,9-HxCDF	1100		50	7.2
60851-34-5	2,3,4,6,7,8-HxCDF	1100		50	7.6
35822-46-9	1,2,3,4,6,7,8-HpCDD	1050		50	6.1
67562-39-4	1,2,3,4,6,7,8-HpCDF	1120		50	12
55673-89-7	1,2,3,4,7,8,9-HpCDF	1040		50	16
3268-87-9	OCDD	2030		100	6.0
39001-02-0	OCDF	2630		100	7.7
41903-57-5	Total TCDD	205		10	3.7
30402-14-3	Total TCDF	200		10	2.0
36088-22-9	Total PeCDD	1090		50	5.3
30402-15-4	Total PeCDF	2020		50	6.8
34465-46-8	Total HxCDD	2920		50	4.6
55684-94-1	Total HxCDF	4290		50	9.1
37871-00-4	Total HpCDD	1050		50	6.1
38998-75-3	Total HpCDF	2160		50	14

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-100205-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 320-348771/2-A

Matrix: Solid Lab File ID: 06JA20A3D5_5.d

Analysis Method: 1613B Date Collected:

Extract. Method: HRMS-Sep Date Extracted: 12/31/2019 11:06

Sample wt/vol: 1000(mL) Date Analyzed: 01/07/2020 01:00

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 349283 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	76		20-175
89059-46-1	13C-2,3,7,8-TCDF	79		22-152
109719-79-1	13C-1,2,3,7,8-PeCDD	70		21-227
109719-77-9	13C-1,2,3,7,8-PeCDF	75		21-192
116843-02-8	13C-2,3,4,7,8-PeCDF	82		13-328
109719-80-4	13C-1,2,3,4,7,8-HxCDD	77		21-193
109719-81-5	13C-1,2,3,6,7,8-HxCDD	76		25-163
114423-98-2	13C-1,2,3,4,7,8-HxCDF	77		19-202
116843-03-9	13C-1,2,3,6,7,8-HxCDF	75		21-159
116843-04-0	13C-1,2,3,7,8,9-HxCDF	67		17-205
116843-05-1	13C-2,3,4,6,7,8-HxCDF	70		22-176
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	61		26-166
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	68		21-158
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	71		20-186
114423-97-1	13C-OCDD	46		13-199

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	116		31-191

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_5.d
Lims ID: LCS 320-348771/2-A
Client ID:
Sample Type: LCS
Inject. Date: 07-Jan-2020 01:00:26 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCS 320-348771/2-A LCS 320-348771/2-A
Misc. Info.: 06JA20A3D5
Operator ID: ALM Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 07-Jan-2020 12:39:11 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0314

First Level Reviewer: dadunj Date: 08-Jan-2020 09:02:37

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.143	72282772	0.82	2.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.659	81280226	0.81	1.4157	79.4	79.4	0.2705	0.2705	79.43	
2,3,7,8-TCDF	16.674	7739023	0.76	0.9502	10.0	10.0	0.0985	0.0985	100	
A Non-2,3,7,8-sub-TCDF	16.387						0.0985	0.0985		
S Total TCDF					10.0	10.0	0.0985	0.0985		
D 13C-2,3,7,8-TCDD	17.324	53822456	0.80	0.9751	76.4	76.4	0.3063	0.3063	76.36	
2,3,7,8-TCDD	17.340	5788812	0.78	1.0477	10.3	10.3	0.1827	0.1827	103	
$ 37Cl4-2,3,7,8-TCDD	17.340	45053851		1.3480	46.2	46.2	0.0809	0.0809	116	
A Non-2,3,7,8-sub-TCDD	16.818						0.1827	0.1827		
S Total TCDD					10.3	10.3	0.1827	0.1827		
D 13C-1,2,3,7,8-PeCDF	21.381	64294212	1.65	1.1786	75.5	75.5	0.2918	0.2918	75.47	
1,2,3,7,8-PeCDF	21.408	34671072	1.52	1.0302	52.3	52.3	0.3408	0.3408	105	
D 13C-2,3,4,7,8-PeCDF	22.649	66661422	1.63	1.1308	81.6	81.6	0.3041	0.3041	81.56	
2,3,4,7,8-PeCDF	22.676	33792133	1.52	1.0410	48.7	48.7	0.3440	0.3440	97.39	
A F1 PeCDFs	19.117						0.1043	0.1043		
A Non-2,3,7,8-sub-PeCDF	22.077						0.3424	0.3424		
S Total PeCDF					101.0	101.0	0.3424	0.3424		
D 13C-1,2,3,7,8-PeCDD	23.331	38317203	1.65	0.7572	70.0	70.0	0.2268	0.2268	70.01	
1,2,3,7,8-PeCDD	23.358	22642276	1.63	1.0855	54.4	54.4	0.2666	0.2666	109	
A Non-2,3,7,8-sub-PeCDD	22.301						0.2666	0.2666		
S Total PeCDD					54.4	54.4	0.2666	0.2666		
D 13C-1,2,3,4,7,8-HxCDF	29.399	57239623	0.50	1.1043	77.5	77.5	0.4981	0.4981	77.47	
1,2,3,4,7,8-HxCDF	29.412	33468712	1.27	1.1472	51.0	51.0	0.5606	0.5606	102	
D 13C-1,2,3,6,7,8-HxCDF	29.678	57430076	0.51	1.1470	74.8	74.8	0.4795	0.4795	74.83	
1,2,3,6,7,8-HxCDF	29.705	35171430	1.19	1.1450	53.5	53.5	0.5293	0.5293	107	
D 13C-2,3,4,6,7,8-HxCDF	30.823	50296373	0.51	1.0769	69.8	69.8	0.5107	0.5107	69.80	
2,3,4,6,7,8-HxCDF	30.850	32442129	1.21	1.1726	55.0	55.0	0.3797	0.3797	110	
D 13C-1,2,3,7,8,9-HxCDF	31.782	45621420	0.52	1.0115	67.4	67.4	0.5437	0.5437	67.41	
1,2,3,7,8,9-HxCDF	31.809	29337121	1.24	1.1717	54.9	54.9	0.3595	0.3595	110	
A Non-2,3,7,8-sub-HxCDF	29.272						0.4410	0.4410		
S Total HxCDF					214.3	214.3	0.4573	0.4573		

Report Date: 08-Jan-2020 09:02:39 Chrom Revision: 2.3 23-Dec-2019 10:12:06
Data File: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_5.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.583	66909300	1.30	2.1E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.063	41228705	1.28	0.7962	77.4	77.4	0.4080	0.4080	77.39	
1,2,3,4,7,8-HxCDD	31.090	22230522	1.29	1.0934	49.3	49.3	0.2268	0.2268	98.63	
D 13C-1,2,3,6,7,8-HxCDD	31.196	44407423	1.28	0.8720	76.1	76.1	0.3726	0.3726	76.11	
1,2,3,6,7,8-HxCDD	31.210	24716885	1.20	1.0429	53.4	53.4	0.2521	0.2521	107	
1,2,3,7,8,9-HxCDD	31.596	22481840	1.24	1.2073	43.5	43.5	0.2114	0.2114	86.98	
A Non-2,3,7,8-sub-HxCDD	29.885						0.2290	0.2290		
S Total HxCDD					146.2	146.2	0.2301	0.2301		
D 13C-1,2,3,4,6,7,8-HpCDF	33.367	34385736	0.46	0.7577	67.8	67.8	0.8533	0.8533	67.83	
1,2,3,4,6,7,8-HpCDF	33.367	28500665	1.11	1.4804	56.0	56.0	0.6049	0.6049	112	
D 13C-1,2,3,4,7,8,9-HpCDF	34.412	33179732	0.42	0.6941	71.4	71.4	0.9314	0.9314	71.44	
1,2,3,4,7,8,9-HpCDF	34.424	22403149	1.06	1.2933	52.2	52.2	0.7844	0.7844	104	
A Non-2,3,7,8-sub-HpCDF	33.907						0.6859	0.6859		
S Total HpCDF					108.2	108.2	0.6947	0.6947		
D 13C-1,2,3,4,6,7,8-HpCDD	34.132	28918664	1.08	0.7058	61.2	61.2	0.6134	0.6134	61.23	
1,2,3,4,6,7,8-HpCDD	34.144	16016811	1.02	1.0535	52.6	52.6	0.3026	0.3026	105	
A Non-2,3,7,8-sub-HpCDD	33.883						0.3026	0.3026		
S Total HpCDD					52.6	52.6	0.3026	0.3026		
D 13C-OCDD	36.427	28352203	0.87	0.4603	92.1	92.1	0.3123	0.3123	46.03	
OCDF	36.511	25970378	0.91	1.3945	131.4	131.4	0.3874	0.3874	131	
OCDD	36.427	16314379	0.91	1.1362	101.3	101.3	0.2998	0.2998	101	

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_5.d
Lims ID: LCS 320-348771/2-A
Client ID:
Sample Type: LCS
Inject. Date: 07-Jan-2020 01:00:26 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCS 320-348771/2-A LCS 320-348771/2-A
Misc. Info.: 06JA20A3D5
Operator ID: ALM Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 07-Jan-2020 12:39:11 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0314

First Level Reviewer: dadunj Date: 08-Jan-2020 09:02:37

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.143	17.128	1		32508906	8496314	14173	35432	599		
333.9339	17.143	17.128	1		39773866	10312292	8299	20747	1243	0.82(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.659	16.659	0	0.972	36285239	9054010	17045	42612	531		
317.9389	16.659	16.659	0	0.972	44994987	11272911	11763	29407	958	0.81(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.674	16.674	0	1.001	3332062	875479	2806	7015	312		
305.8987	16.674	16.674	0	1.001	4406961	1114941	4805	12012	232	0.76(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.387						2806	7015			
305.8987	16.387						4805	12012			
13C-2,3,7,8-TCDD											
331.9368	17.324	17.324	0	1.011	23866813	5620281	14173	35432	397		
333.9339	17.324	17.324	0	1.011	29955643	7001486	8299	20747	844	0.80(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.340	17.340	0	1.001	2536568	631211	4134	10335	153		
321.8936	17.340	17.340	0	1.001	3252244	808629	5533	13832	146	0.78(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.340	17.340	0	1.011	45053851	10927705	8208	20520	1331		
A Non-2,3,7,8-sub-TCDD											
319.8965	16.818						4134	10335			
321.8936	16.818						5533	13832			
13C-1,2,3,7,8-PeCDF											
351.9000	21.381	21.381	0	1.247	40072937	7036176	15000	37500	469		
353.8970	21.394	21.381	1	1.248	24221275	4226456	10873	27182	389	1.65(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	21.408	21.408	0	1.001	20899149	3896812	8384	20960	465		
341.8567	21.408	21.408	0	1.001	13771923	2517838	7435	18587	339	1.52(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	22.649	22.635	1	1.321	41306708	6858232	15000	37500	457		
353.8970	22.649	22.635	1	1.321	25354714	4186234	10873	27182	385	1.63(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.676	22.662	1	1.001	20359753	3377078	8384	20960	403		
341.8567	22.676	22.662	1	1.001	13432380	2266649	7435	18587	305	1.52(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.117						1181	2952			
341.8567	19.117						3638	9095			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.077						8384	20960			
341.8567	22.077						7435	18587			
13C-1,2,3,7,8-PeCDD											
367.8949	23.331	23.317	1	1.361	23841972	3730806	7764	19410	481		
369.8919	23.331	23.317	1	1.361	14475231	2254224	5154	12885	437	1.65(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.358	23.344	1	1.001	14046616	2229063	4631	11577	481		
357.8516	23.358	23.344	1	1.001	8595660	1353573	2298	5745	589	1.63(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.301						4631	11577			
357.8516	22.301						2298	5745			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.399	29.346	3	0.931	19059646	2096153	14917	37292	141		
385.8610	29.372	29.346	2	0.930	38179977	4277700	17084	42710	250	0.50(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.412	29.399	1	1.000	18751195	2189100	8992	22480	243		
375.8178	29.399	29.399	0	1.000	14717517	1665906	7405	18512	225	1.27(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.678	29.678	0	0.940	19508594	2329335	14917	37292	156		
385.8610	29.678	29.678	0	0.940	37921482	4434066	17084	42710	260	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	29.705	29.692	1	1.001	19128131	2286395	8992	22480	254		
375.8178	29.705	29.692	1	1.001	16043299	1856528	7405	18512	251	1.19(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	30.823	30.810	1	0.976	16908071	3129036	14917	37292	210		
385.8610	30.823	30.810	1	0.976	33388302	6077344	17084	42710	356	0.51(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	30.850	30.837	1	1.001	17766115	3448219	8992	22480	383		
375.8178	30.850	30.837	1	1.001	14676014	2703930	7405	18512	365	1.21(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.782	31.782	0	1.006	15655928	3298055	14917	37292	221		
385.8610	31.782	31.782	0	1.006	29965492	6433682	17084	42710	377	0.52(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	31.809	31.795	1	1.001	16244603	3324295	8992	22480	370		
375.8178	31.795	31.795	0	1.000	13092518	2795619	7405	18512	378	1.24(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.272						8992	22480			
375.8178	29.272						7405	18512			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.583	31.569	1		37828224	8206740	9253	23132	887		
403.8529	31.583	31.569	1		29081076	6339207	9649	24122	657	1.30(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.063	31.050	1	0.984	23139903	5146782	9253	23132	556		
403.8529	31.063	31.050	1	0.984	18088802	4109981	9649	24122	426	1.28(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.090	31.063	2	1.001	12512391	2762804	4134	10335	668		
391.8127	31.090	31.063	2	1.001	9718131	2287139	5046	12615	453	1.29(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.196	31.183	1	0.988	24926925	4916723	9253	23132	531		
403.8529	31.196	31.183	1	0.988	19480498	3811124	9649	24122	395	1.28(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.210	31.196	1	1.000	13479627	2720460	4134	10335	658		
391.8127	31.210	31.196	1	1.000	11237258	2222525	5046	12615	440	1.20(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.596	31.583	1	1.017	12446448	2765900	4134	10335	669		
391.8127	31.596	31.583	1	1.017	10035392	2187040	5046	12615	433	1.24(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	29.885						4134	10335			
391.8127	29.885						5046	12615			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.367	33.354	1	1.056	10850789	3353021	13834	34585	242		
419.8220	33.354	33.354	0	1.056	23534947	7232565	23782	59455	304	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.367	33.367	0	1.000	15014909	4856234	23516	58790	207		
409.7789	33.367	33.367	0	1.000	13485756	4325315	14402	36005	300	1.11(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.412	34.412	0	1.090	9795594	2807669	13834	34585	203		
419.8220	34.412	34.412	0	1.090	23384138	6536646	23782	59455	275	0.42(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.424	34.424	0	1.000	11518795	3442867	23516	58790	146		
409.7789	34.424	34.424	0	1.000	10884354	3346353	14402	36005	232	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.907						23516	58790			
409.7789	33.907						14402	36005			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.132	34.132	0	1.081	15045733	4449204	15457	38642	288		
437.8140	34.132	34.132	0	1.081	13872931	4182792	9732	24330	430	1.08(0.88-1.20)	

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Data File: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_5.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.144	34.144	0	1.000	8072647	2427251	6268	15670	387		
425.7737	34.144	34.144	0	1.000	7944164	2403117	4740	11850	507	1.02(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.883						6268	15670			
425.7737	33.883						4740	11850			
13C-OCDD											
469.7779	36.427	36.415	1	1.153	13223766	3339805	4263	10657	783		
471.7750	36.427	36.415	1	1.153	15128437	3856136	4100	10250	941	0.87(0.76-1.02)	
OCDF											
441.7428	36.511	36.511	0	1.002	12372015	3219890	3214	8035	1002		
443.7399	36.511	36.511	0	1.002	13598363	3545124	4561	11402	777	0.91(0.76-1.02)	
OCDD											
457.7377	36.427	36.427	0	1.000	7783946	1990509	2664	6660	747		
459.7348	36.427	36.427	0	1.000	8530433	2231405	2238	5595	997	0.91(0.76-1.02)	

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Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_5.d		
Injection Date:	07-Jan-2020 01:00:26	Injection Vol:	2.0 ul
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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	349283	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

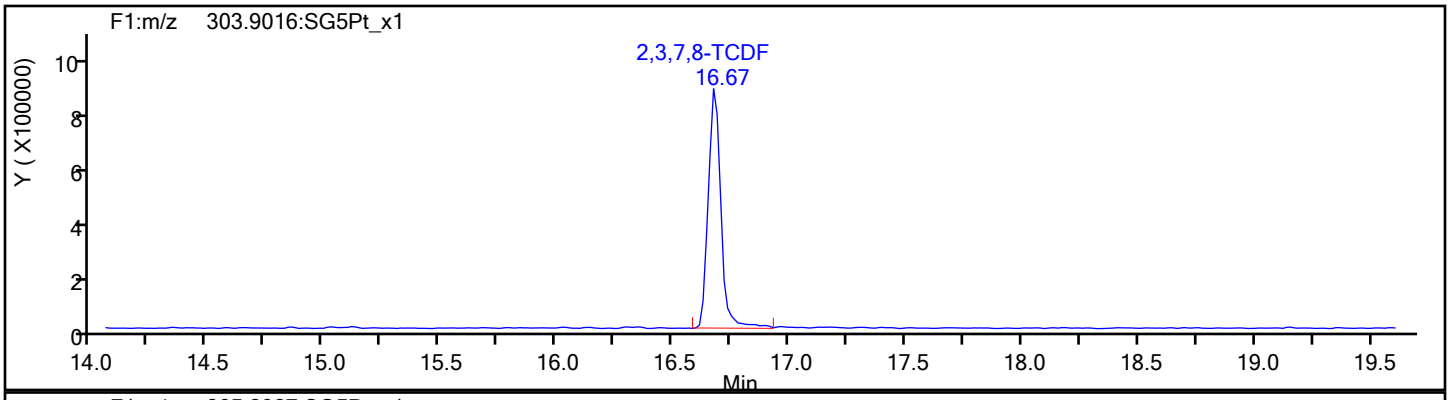

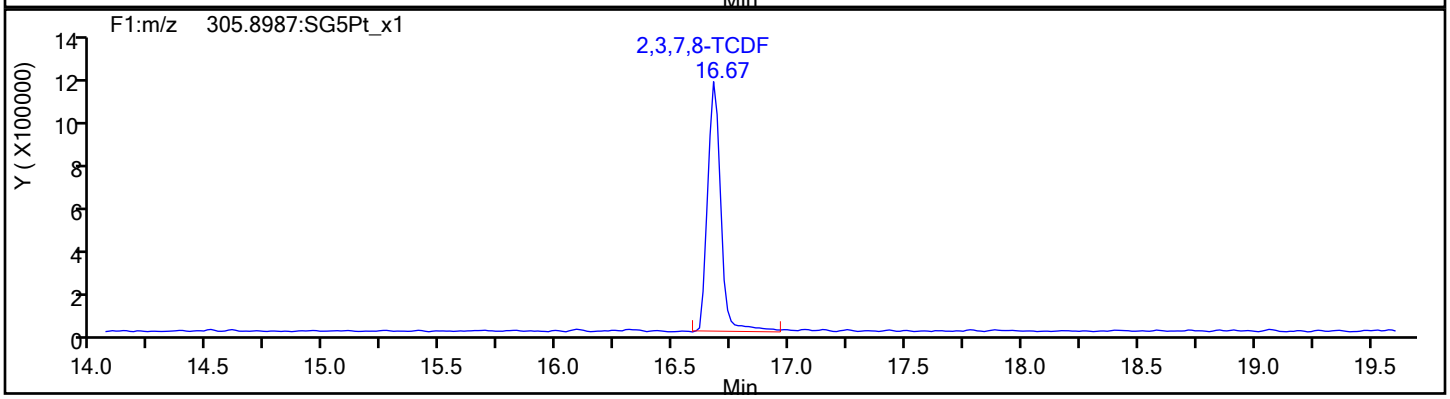

TCDF Standards

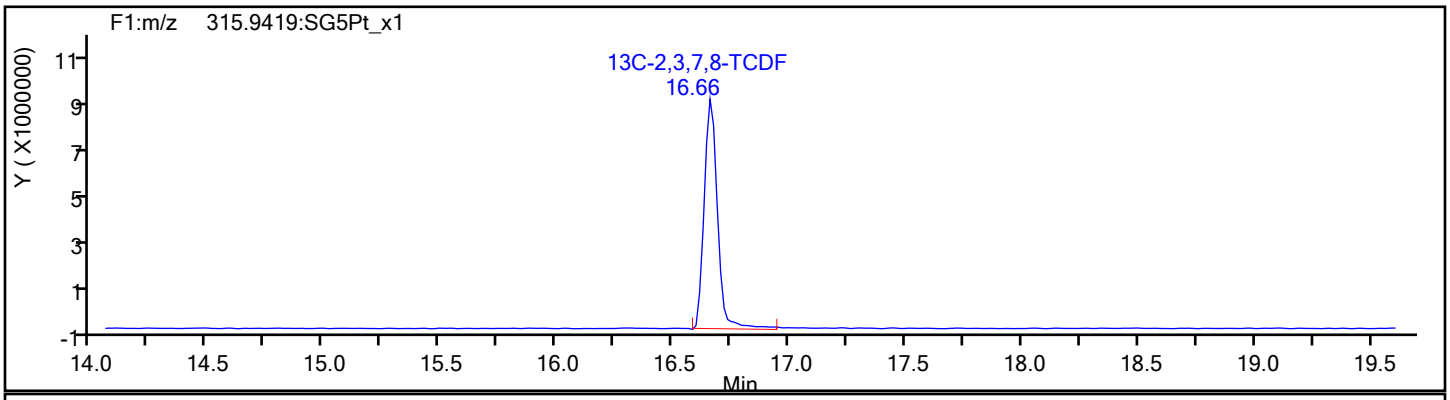

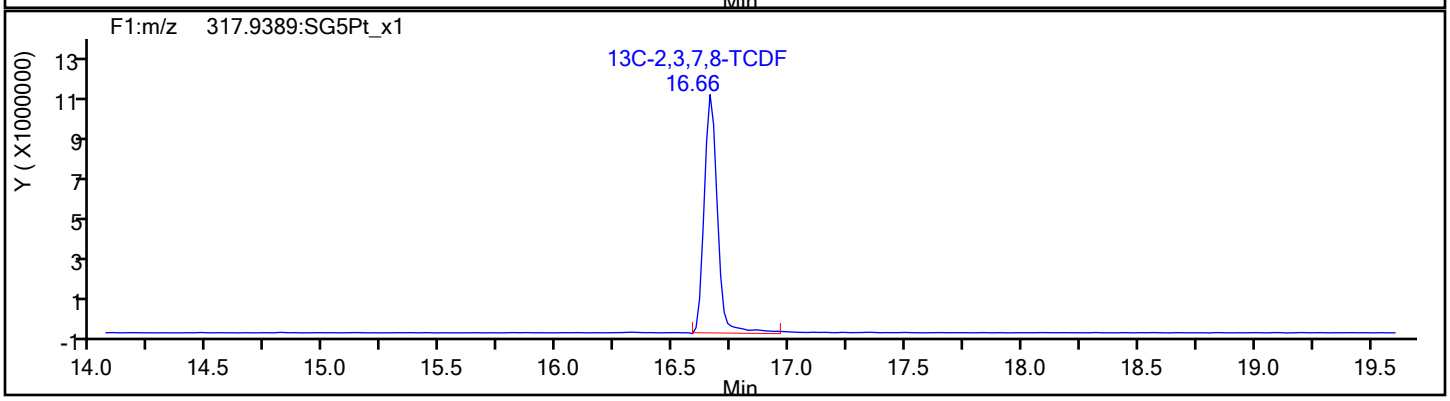

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	349283	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

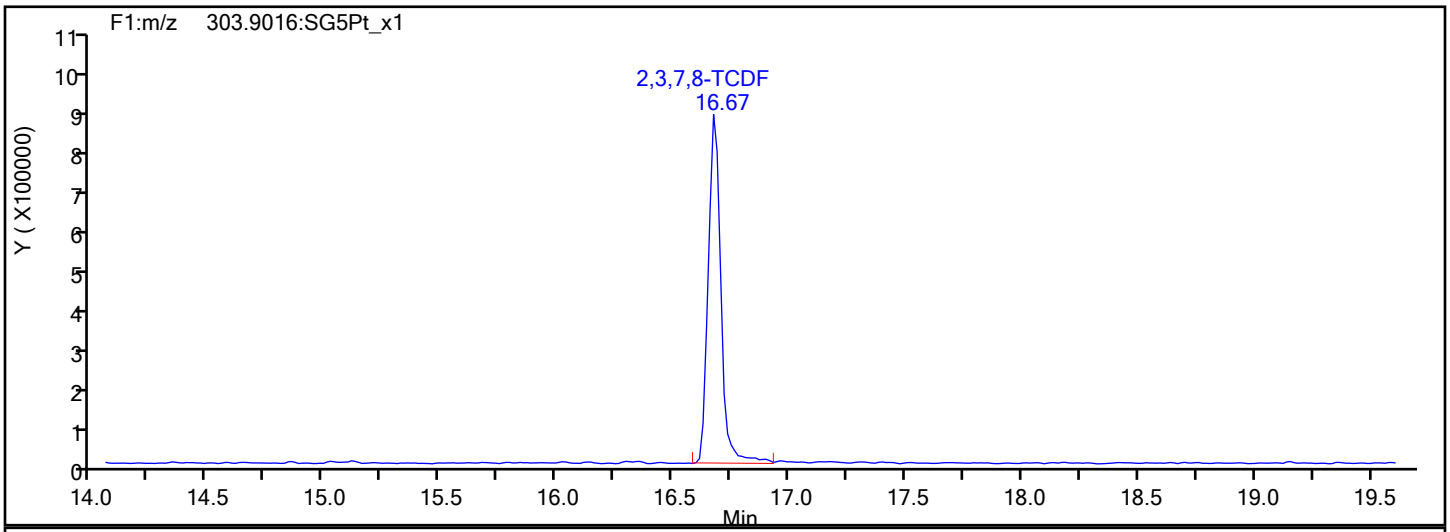

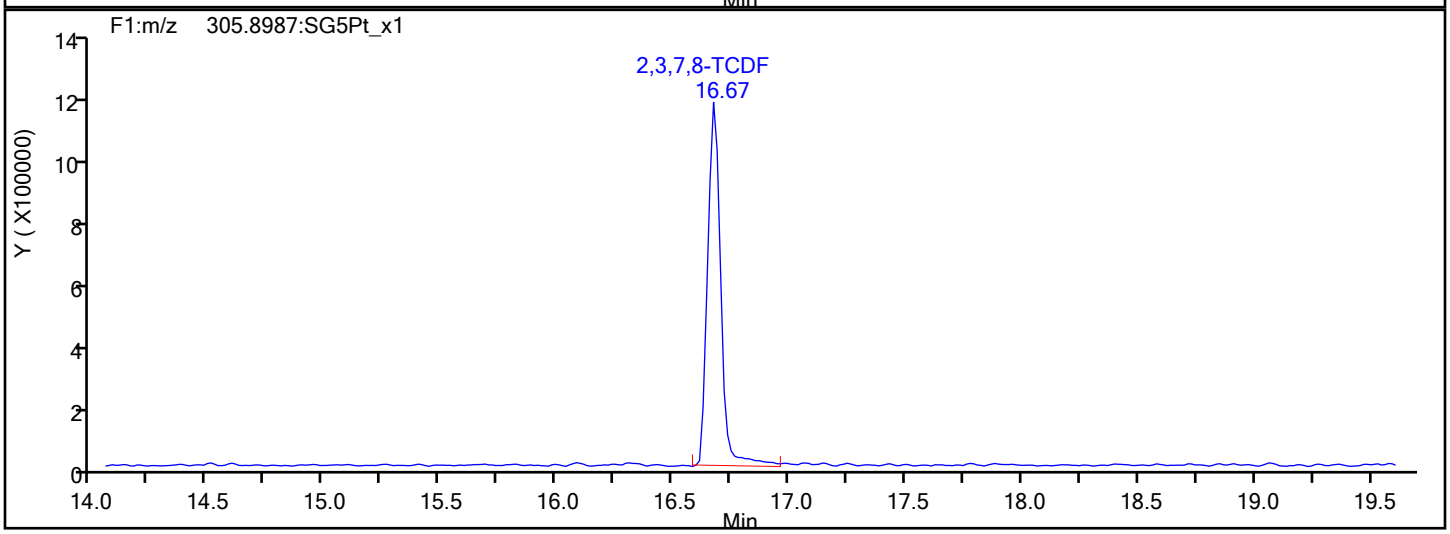

TCDF Interference Mass

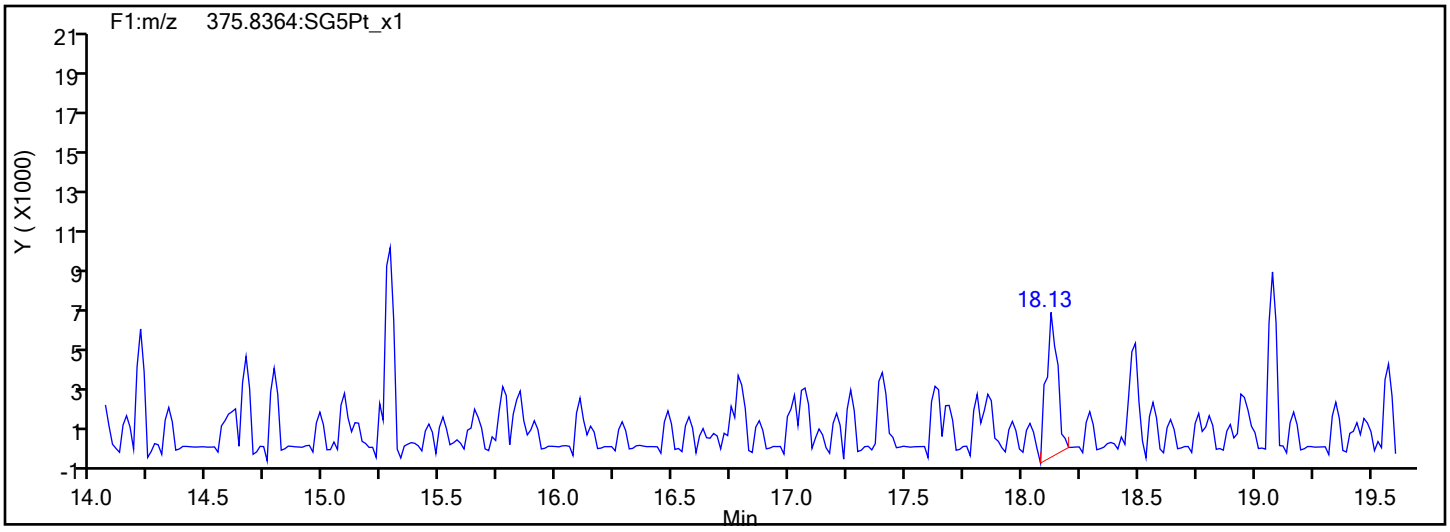

Report Date: 08-Jan-2020 09:02:39 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	349283	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

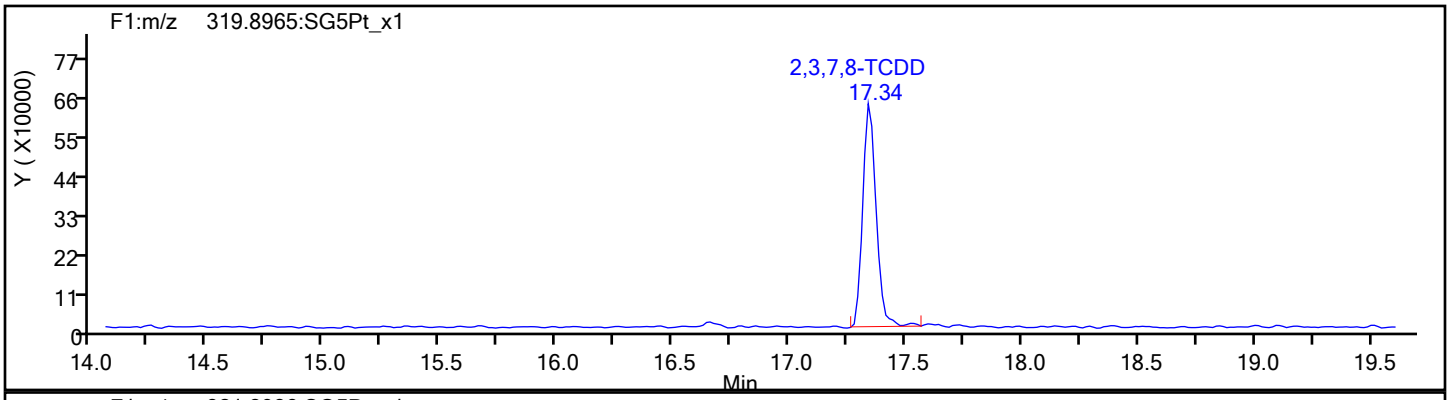

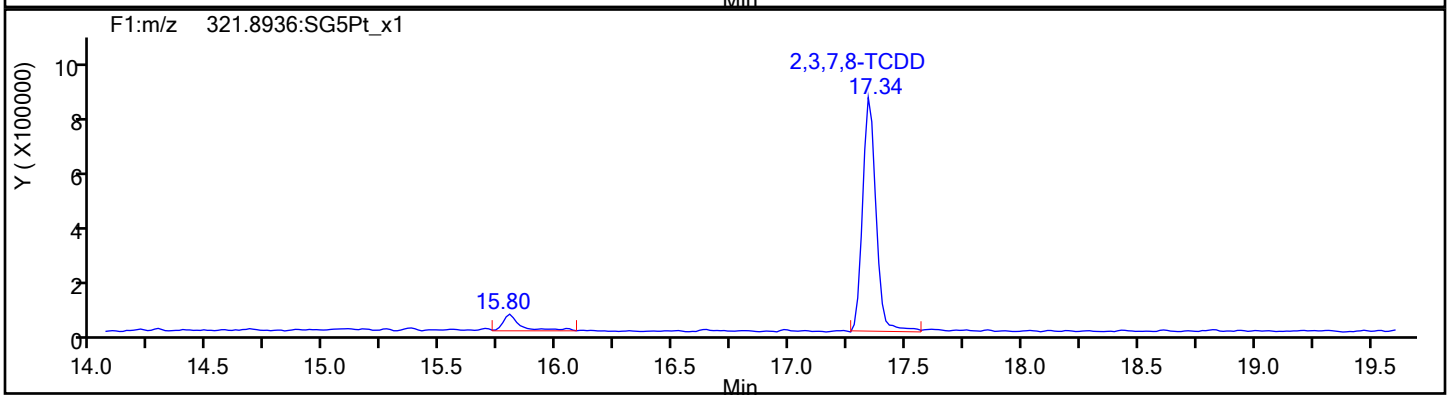

TCDD Standards

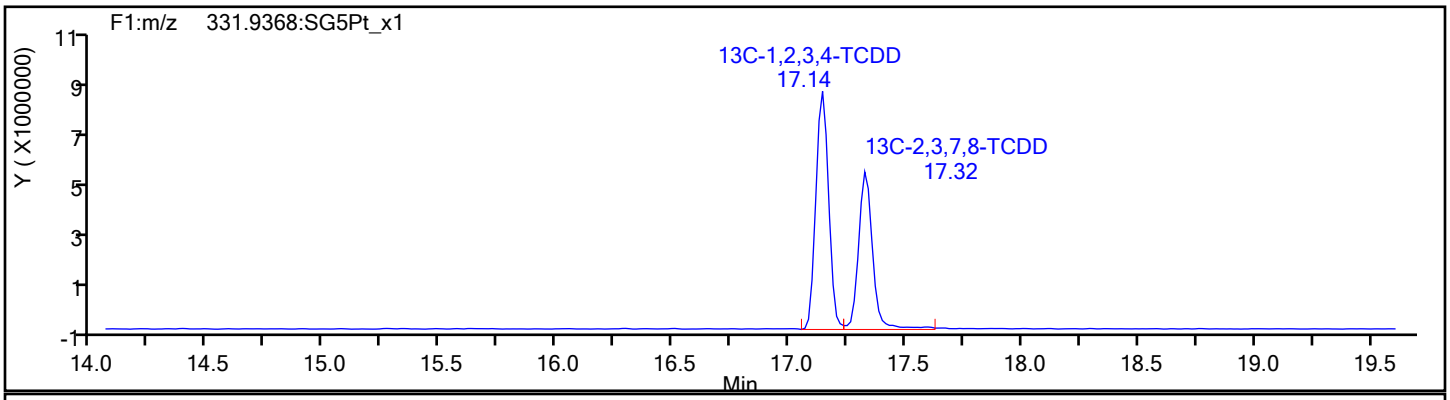

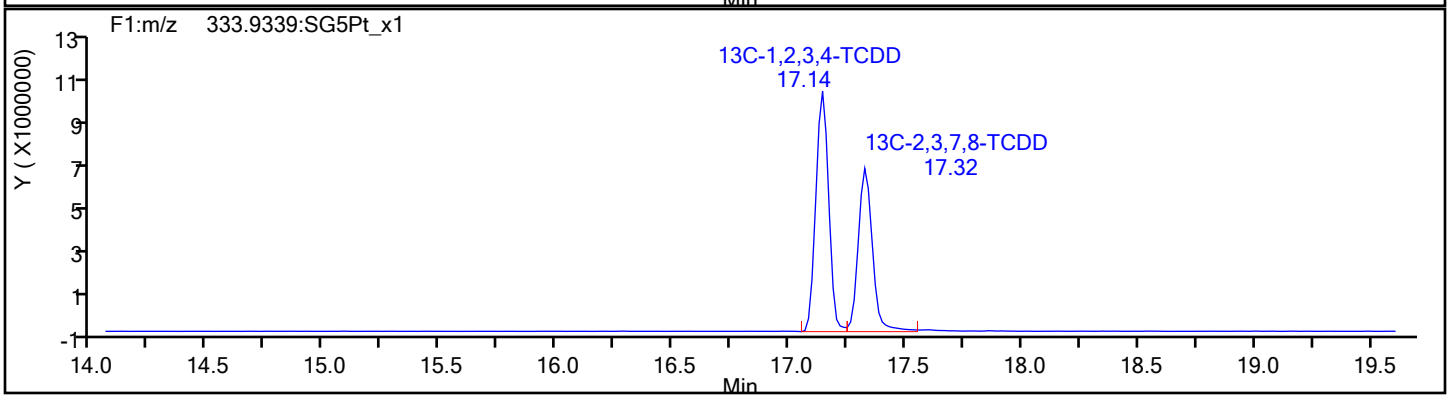

Report Date: 08-Jan-2020 09:02:39 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

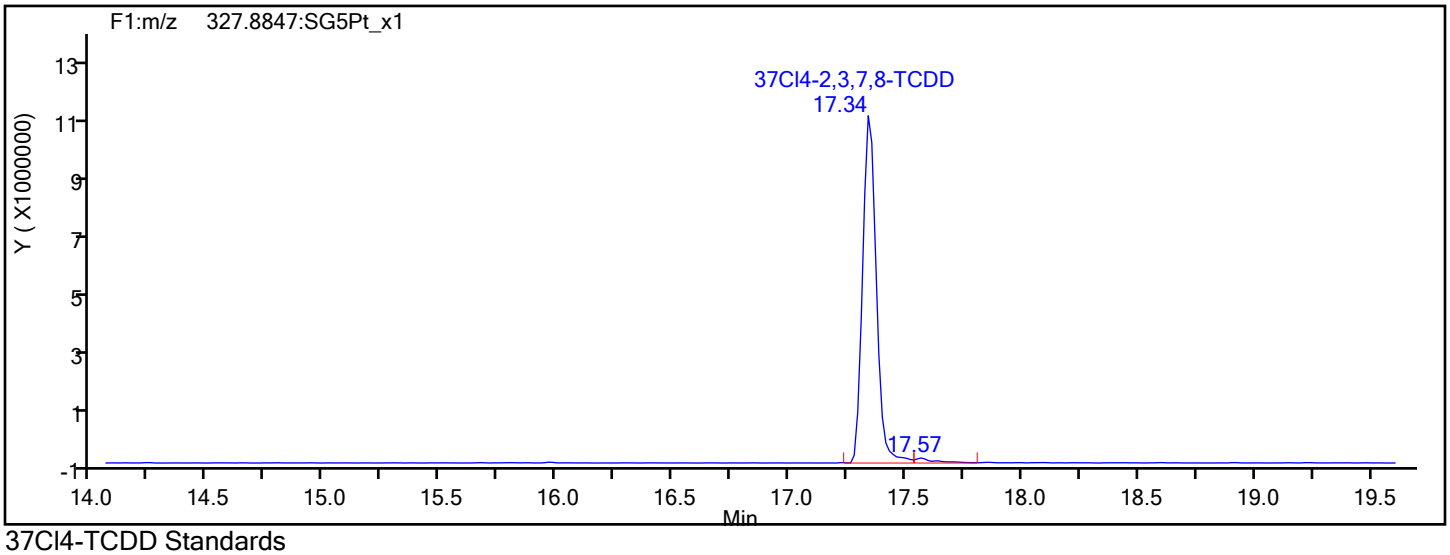

37Cl4-TCDD Standards

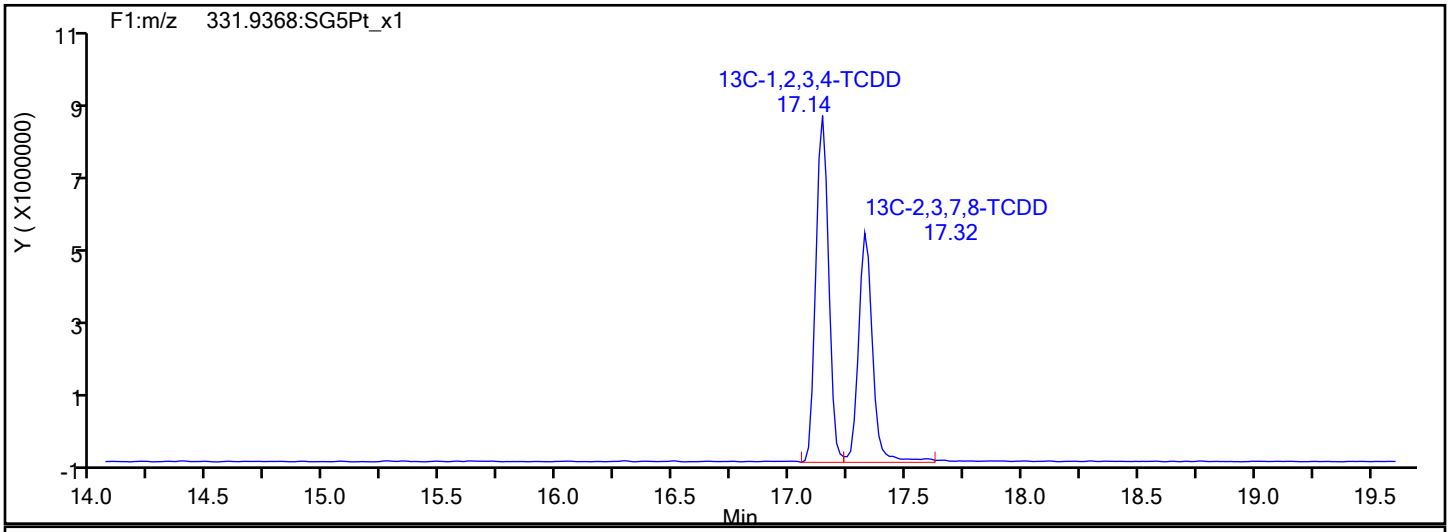

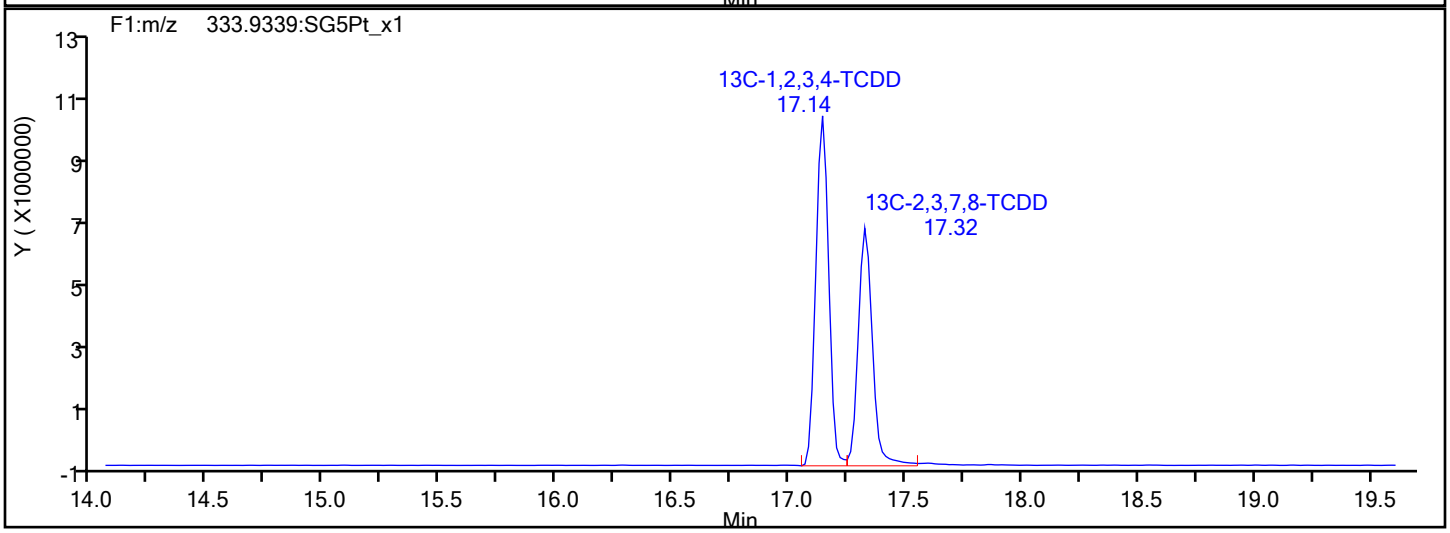

Report Date: 08-Jan-2020 09:02:39 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

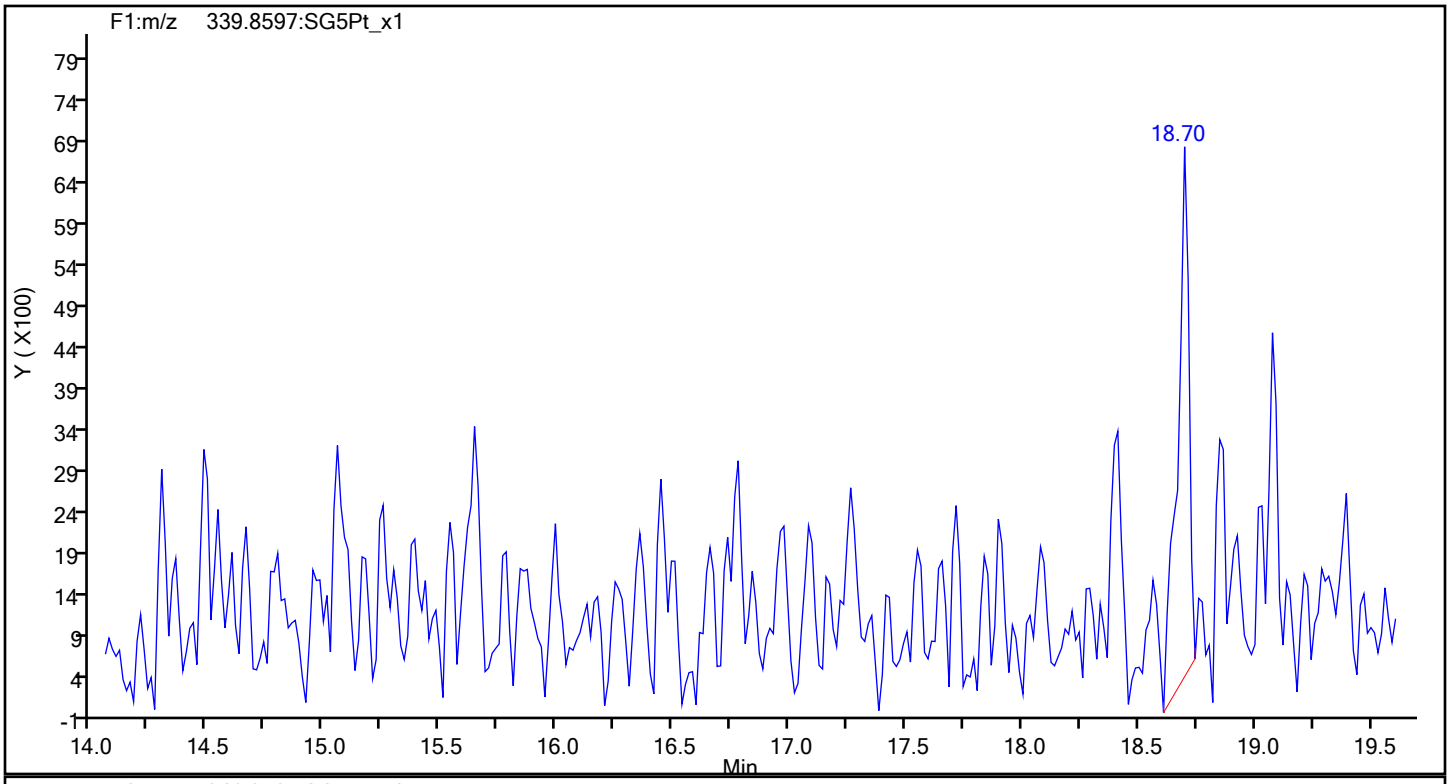

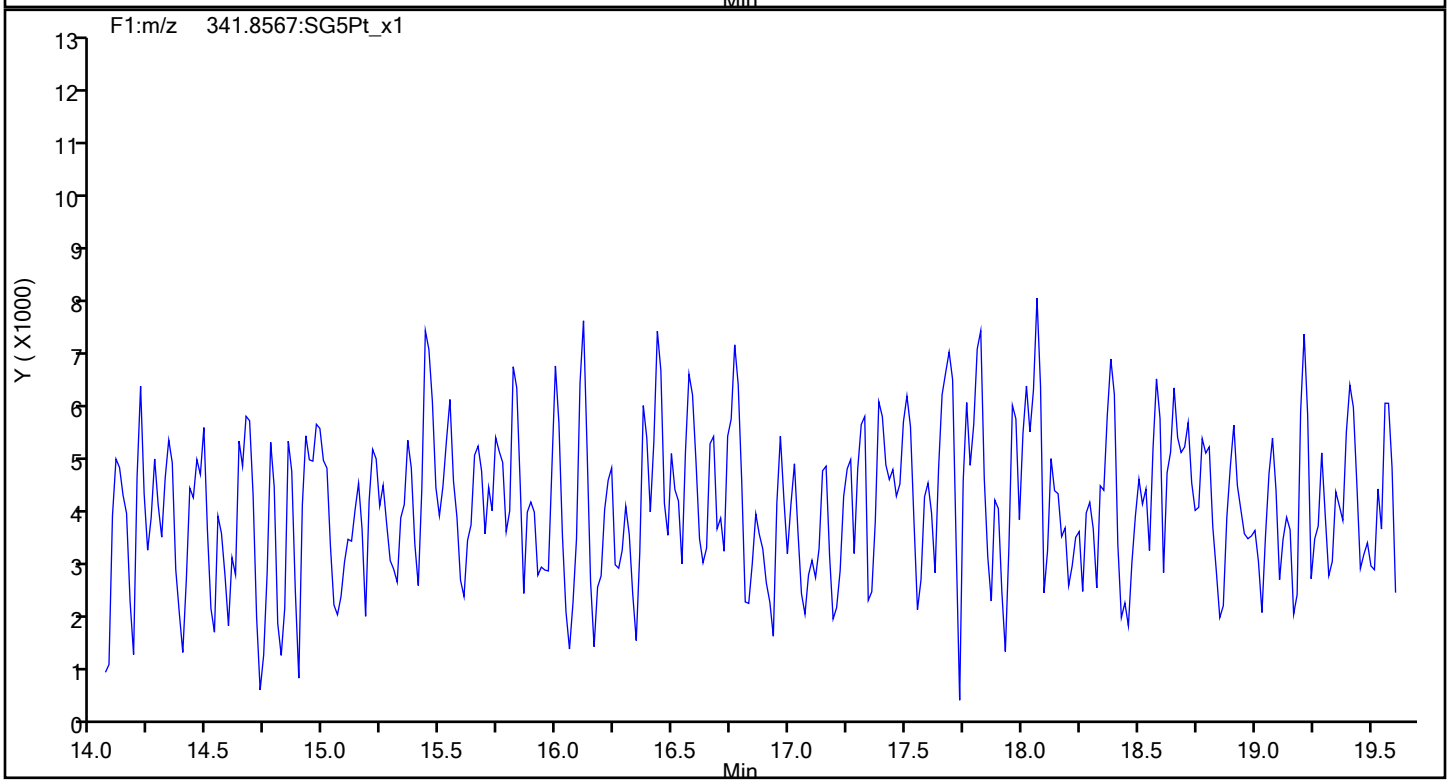

Report Date: 08-Jan-2020 09:02:39 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_5.d		
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Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	349283	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

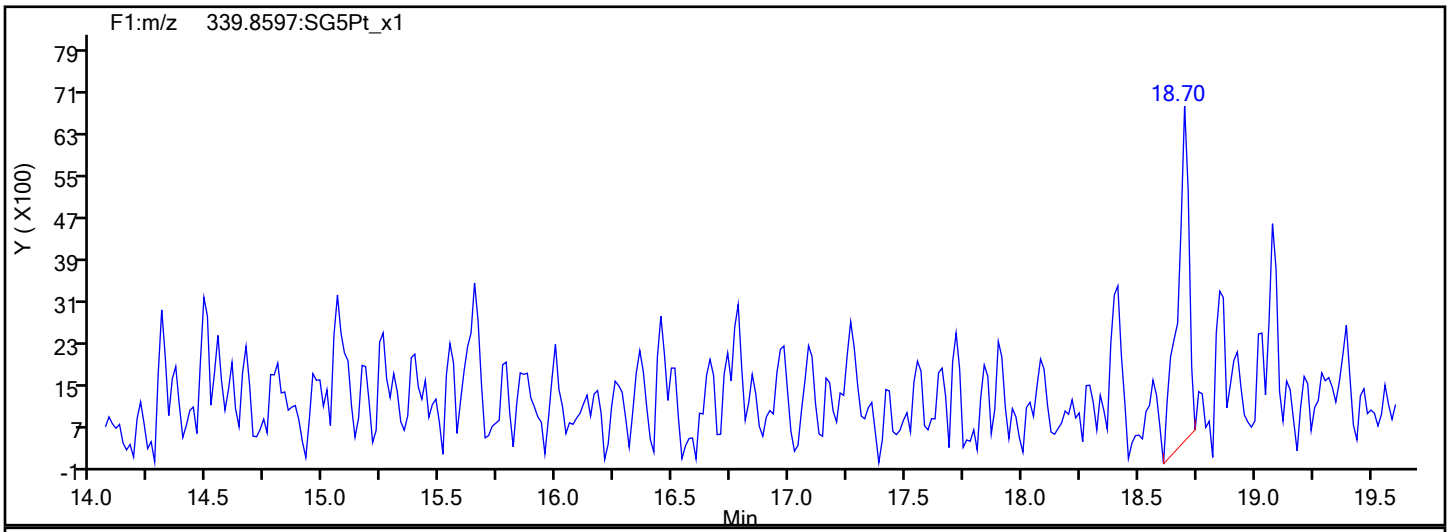

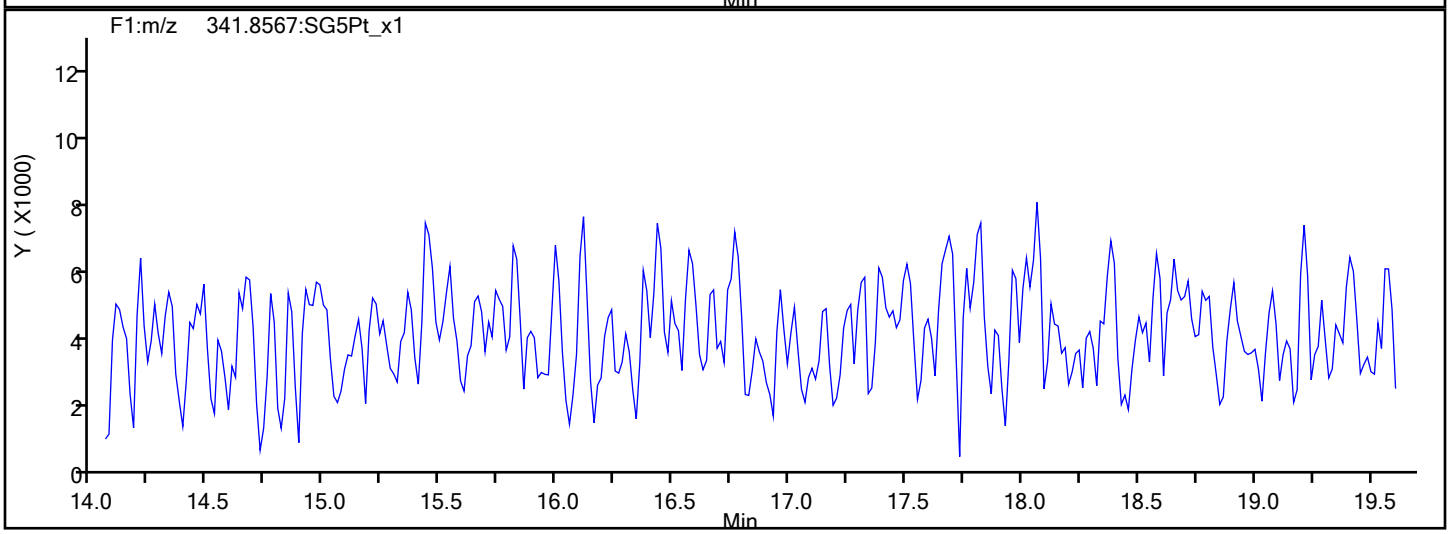

F1 PeCDFs Interference Mass

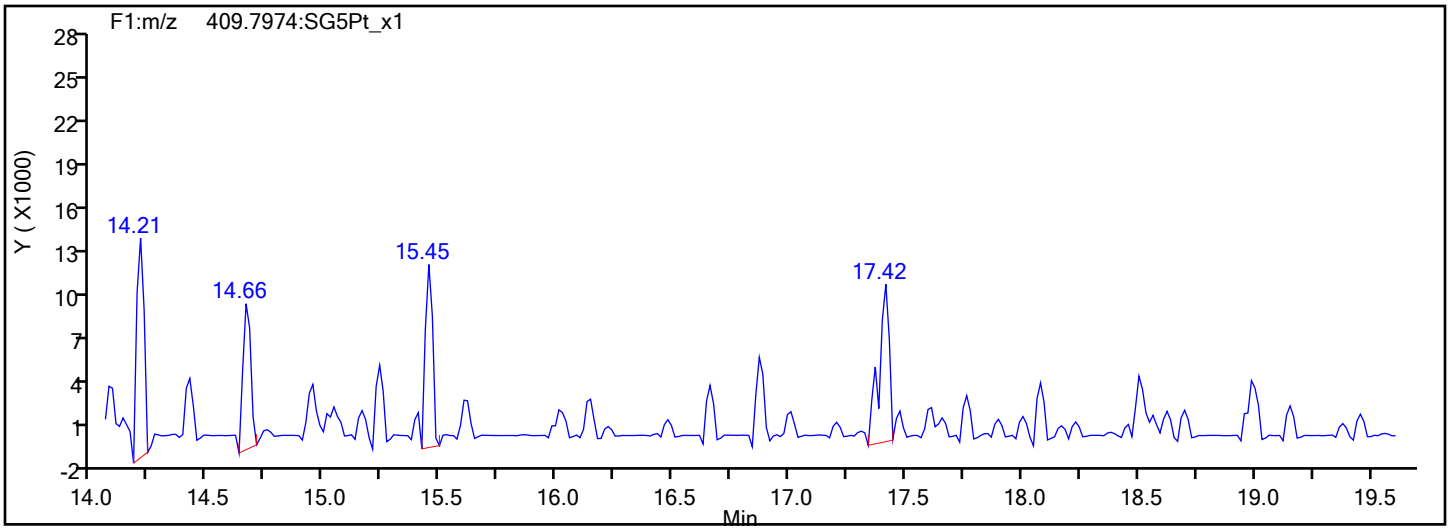

Report Date: 08-Jan-2020 09:02:39 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_5.d		
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Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	349283	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

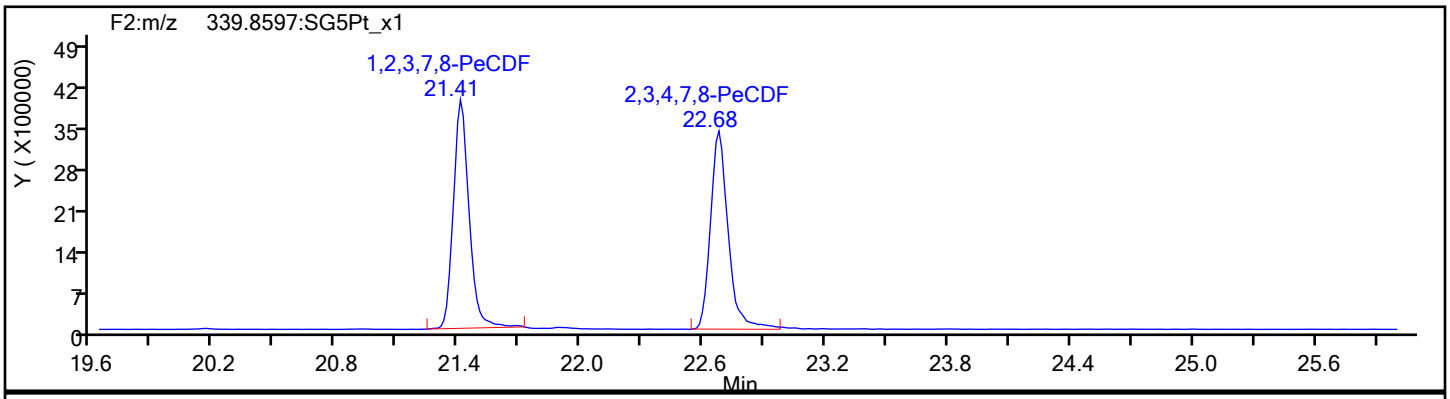

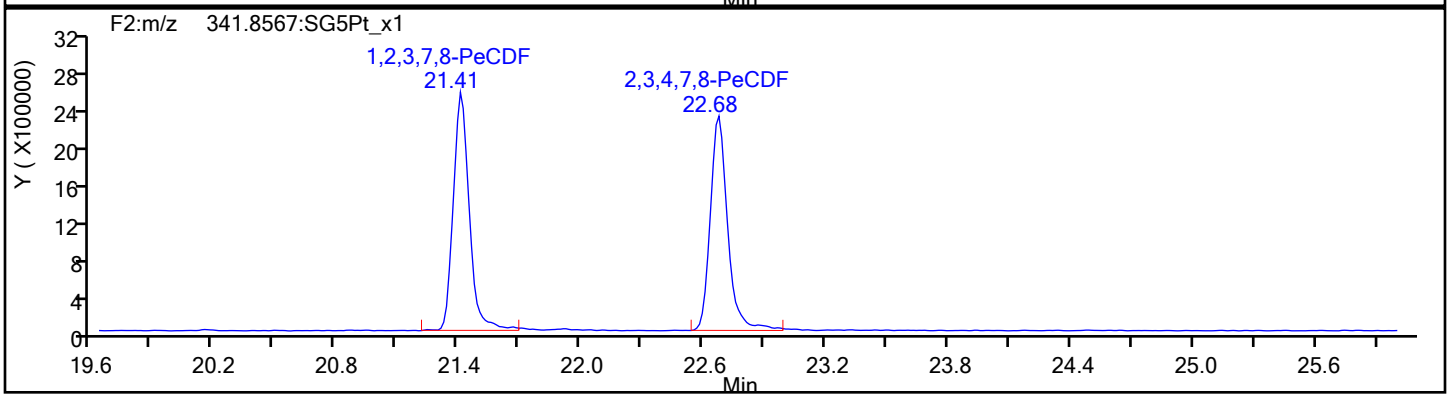

PeCDF Standards

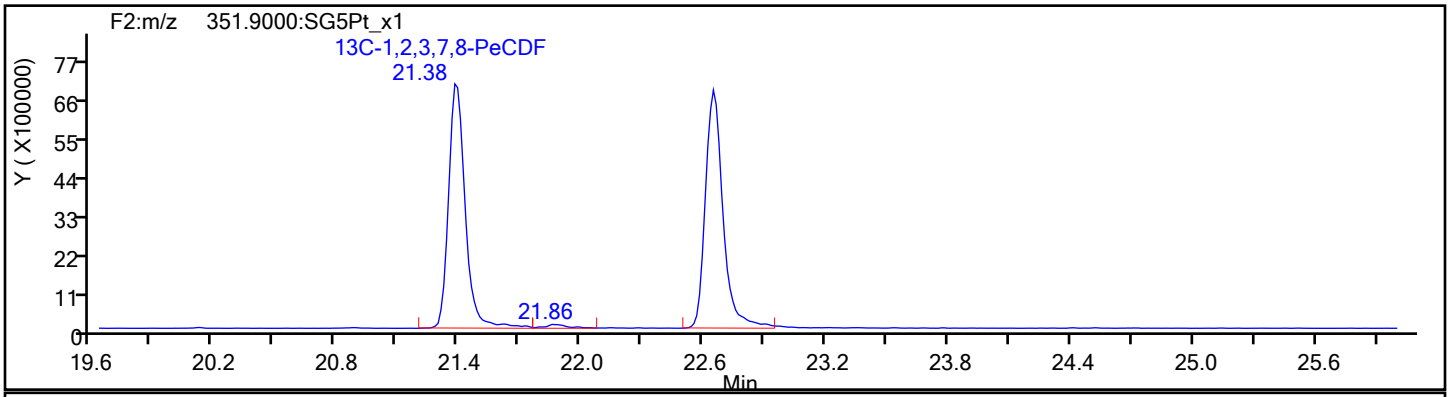

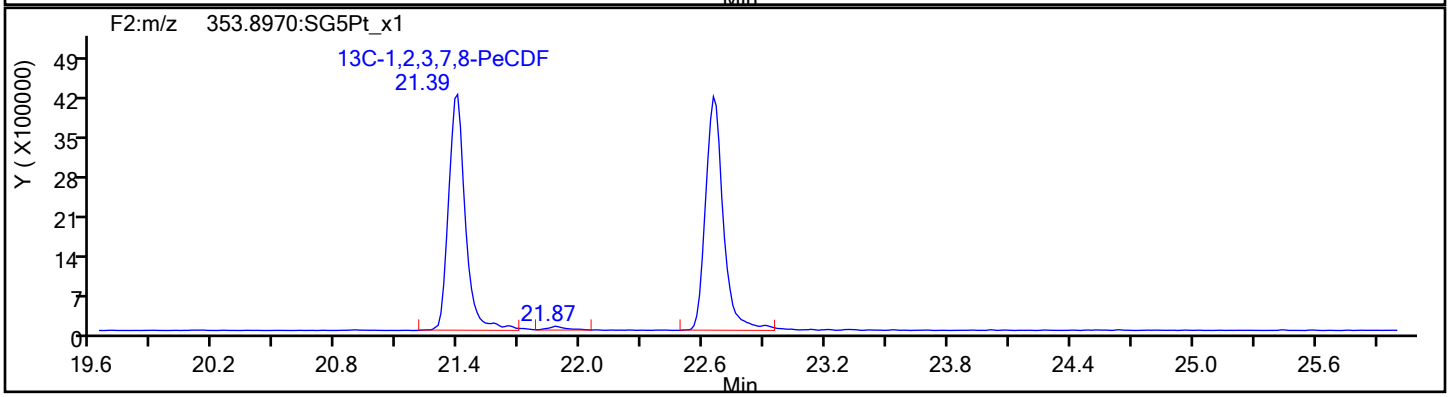

Report Date: 08-Jan-2020 09:02:39 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	349283	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

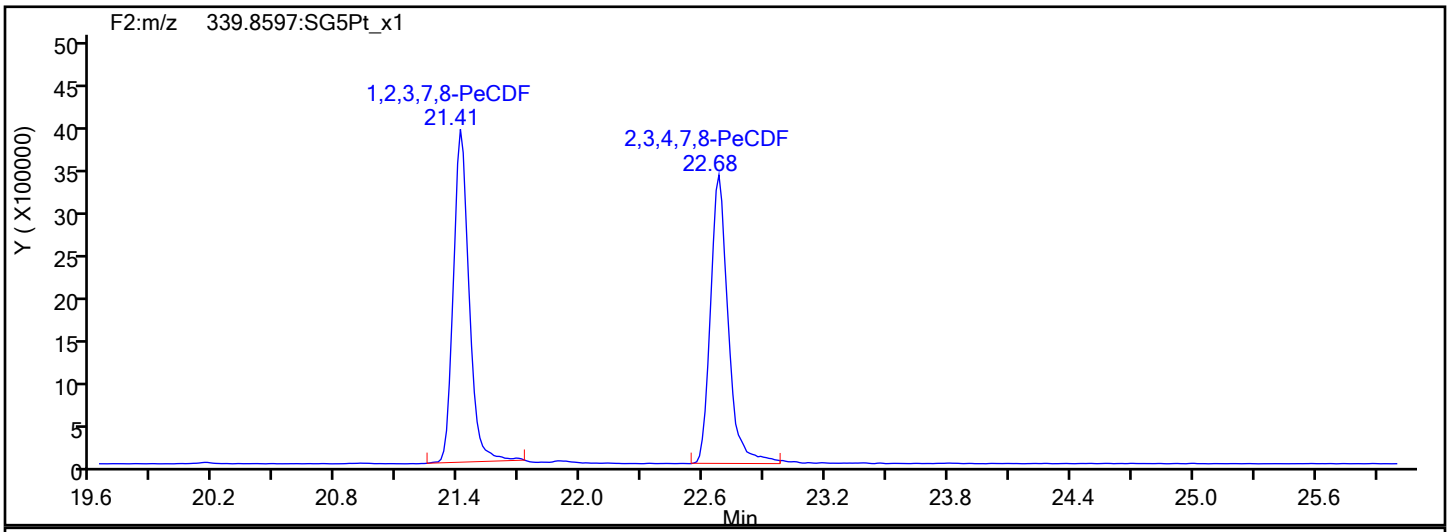

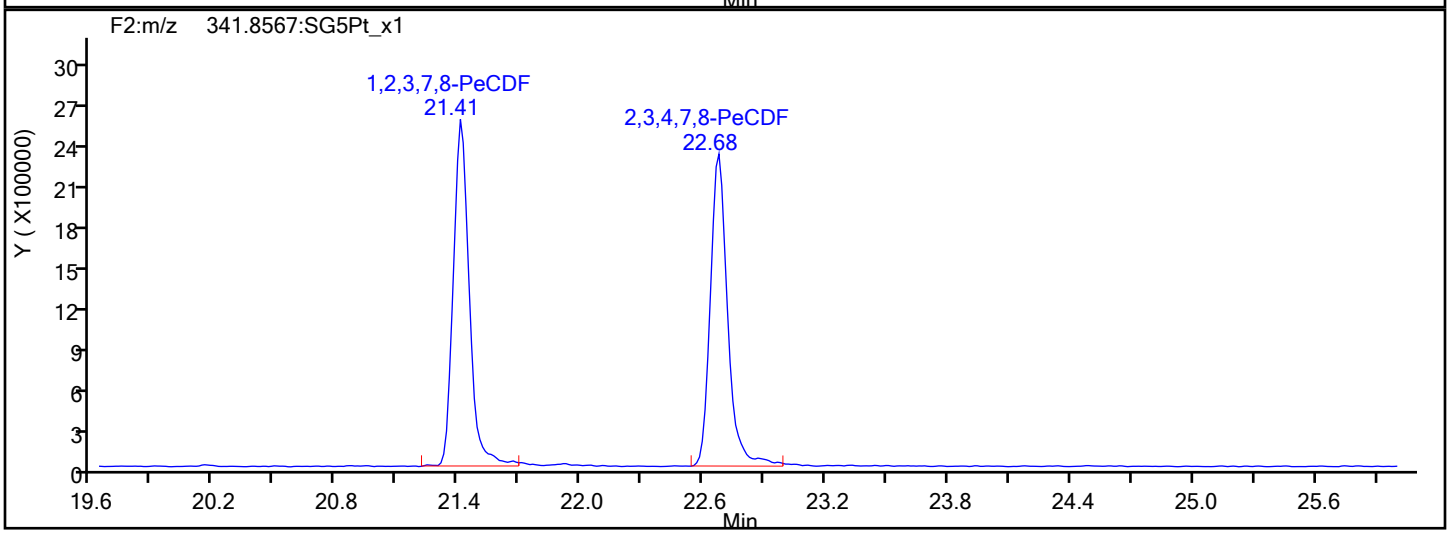

PeCDF Interference Mass

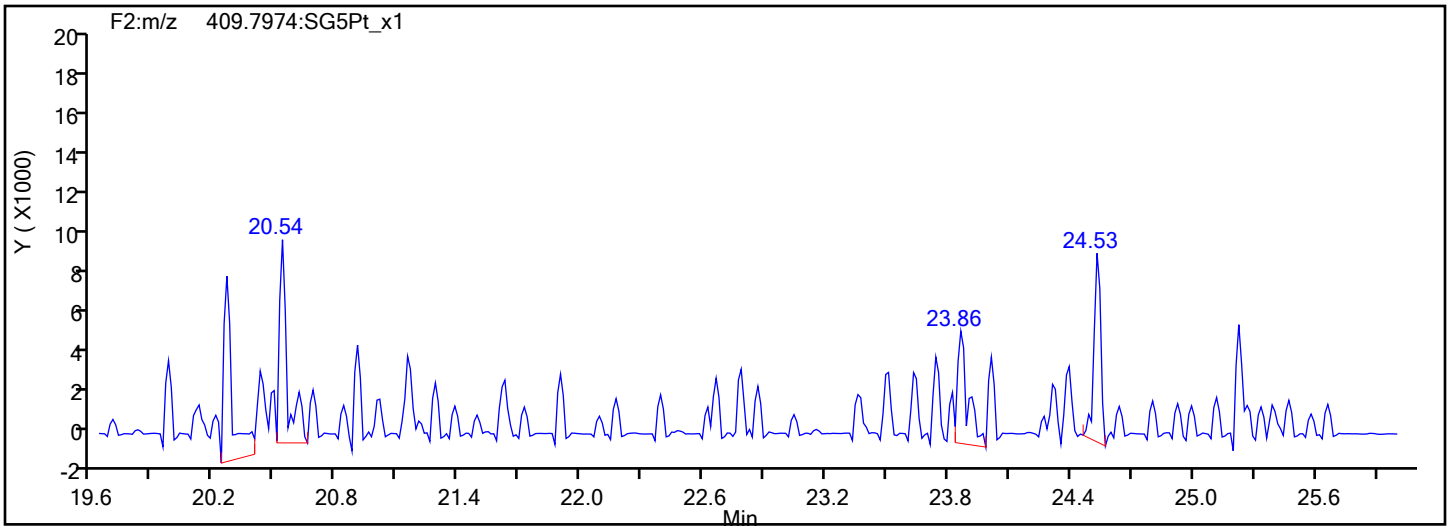

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Eurofins TestAmerica, Sacramento

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Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	349283	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

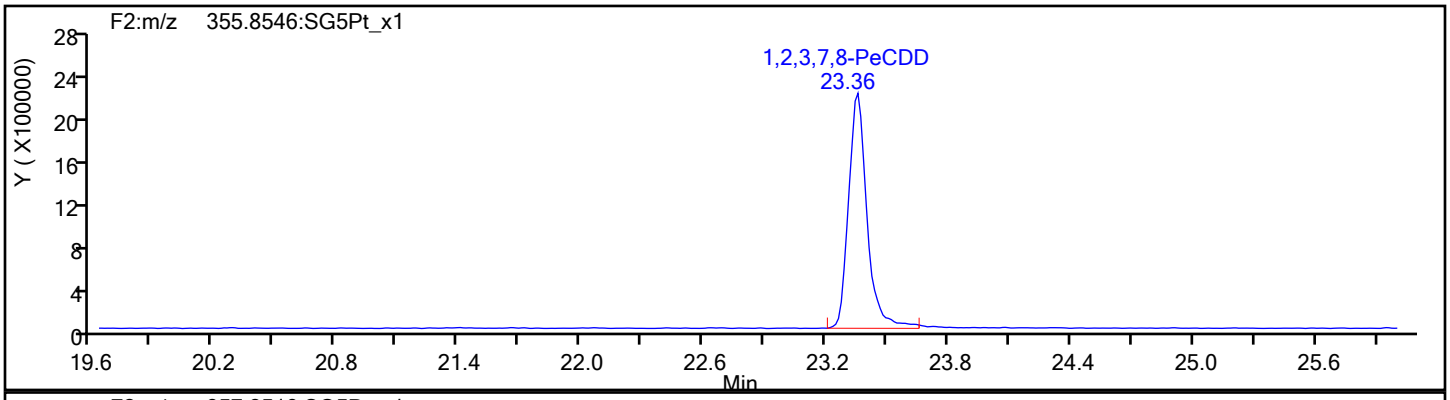

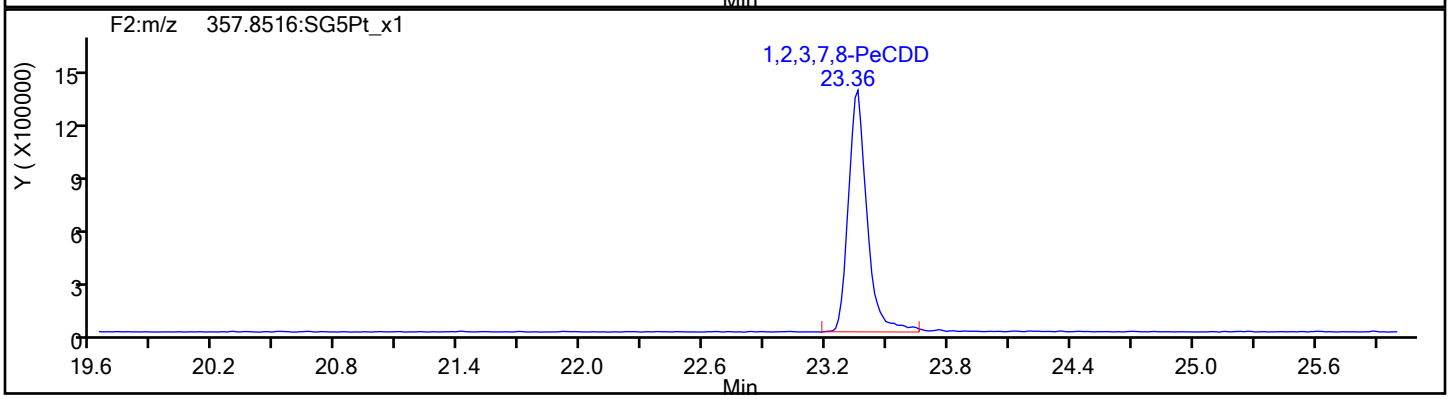

PeCDD Standards

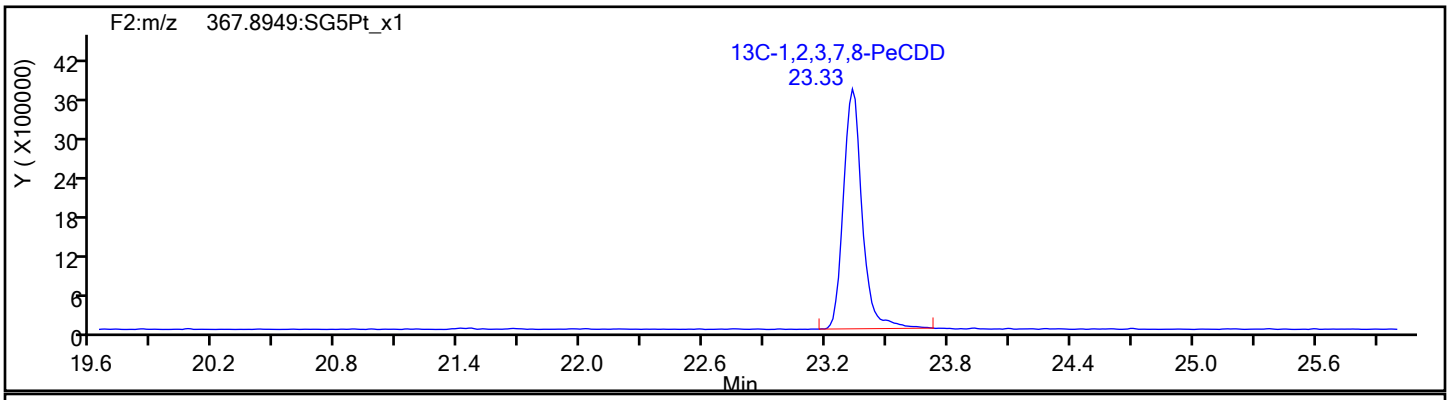

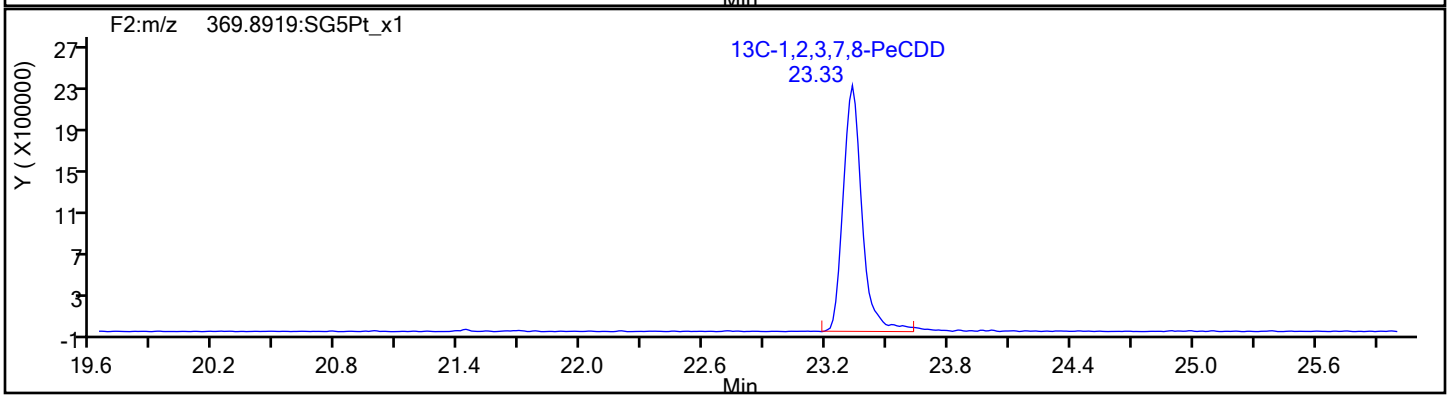

Report Date: 08-Jan-2020 09:02:39 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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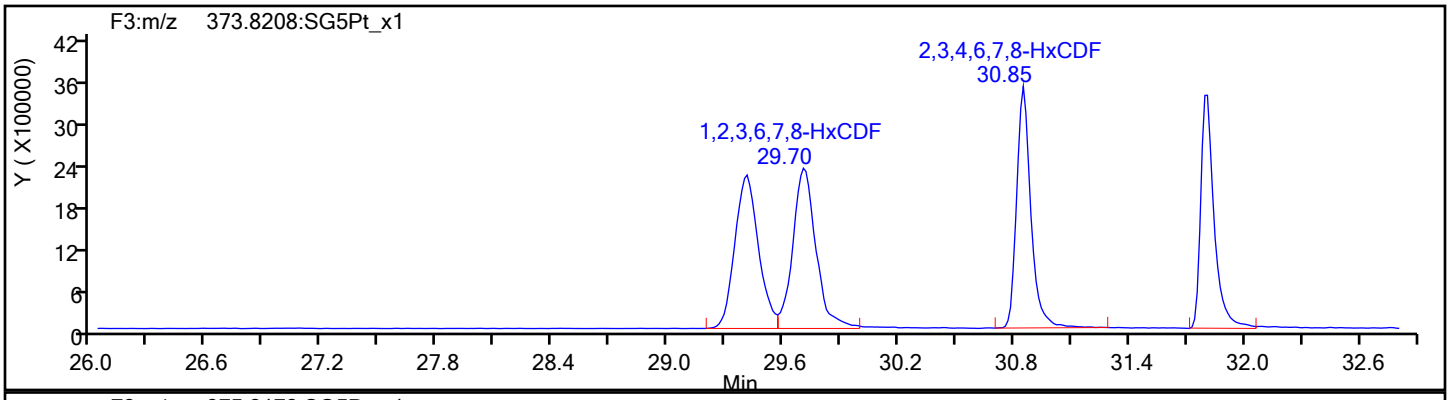

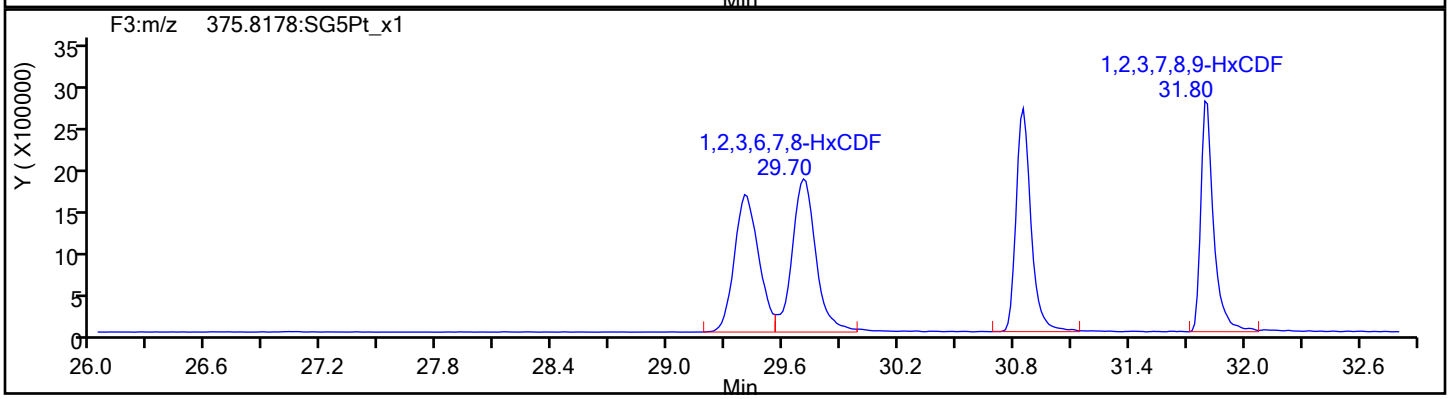

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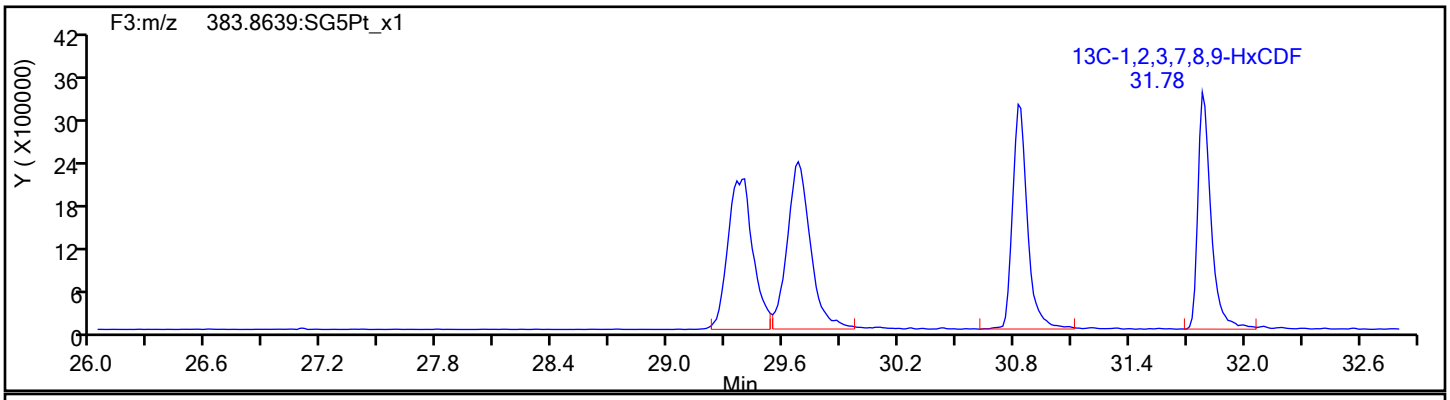

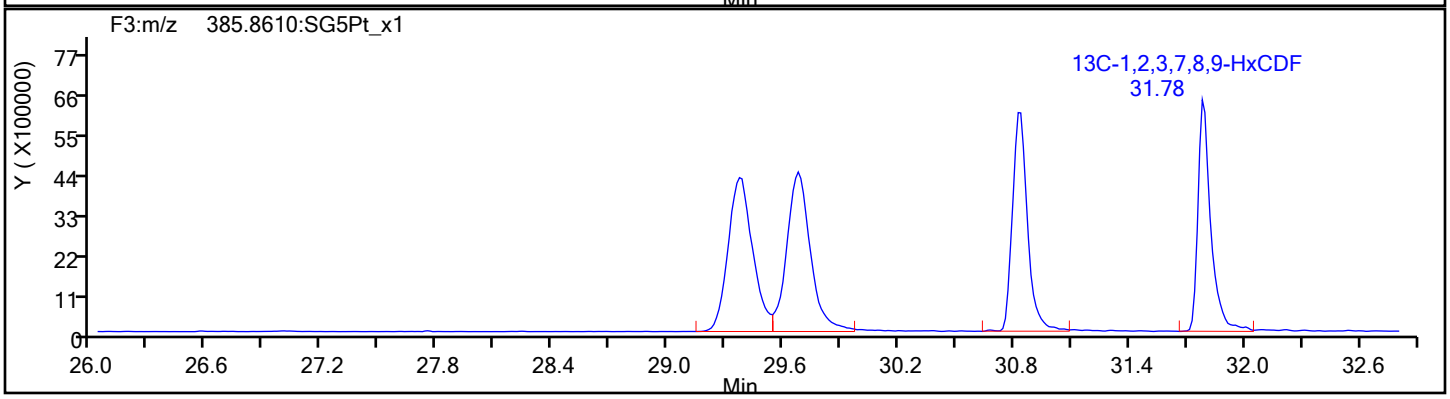

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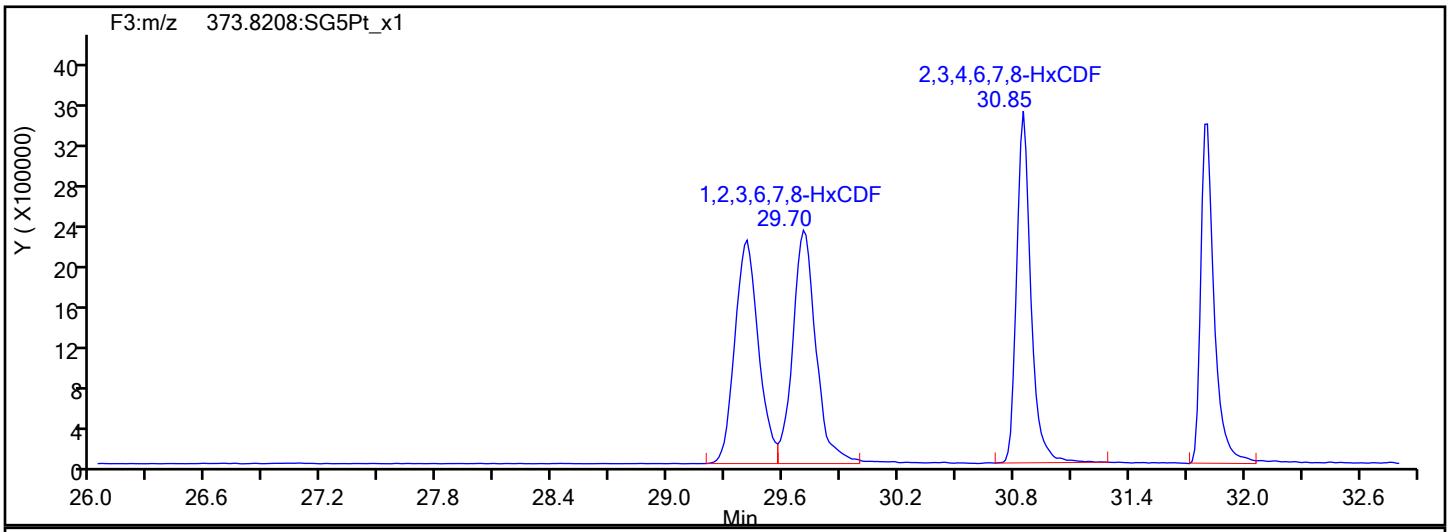

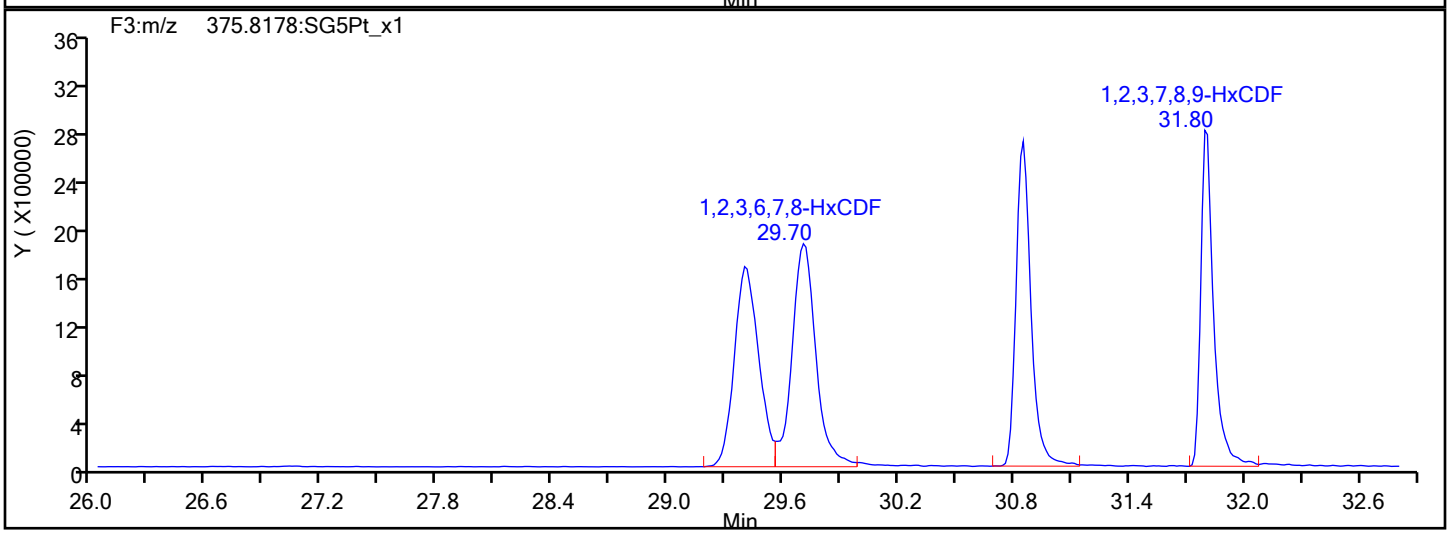

HxCDF Interference Mass

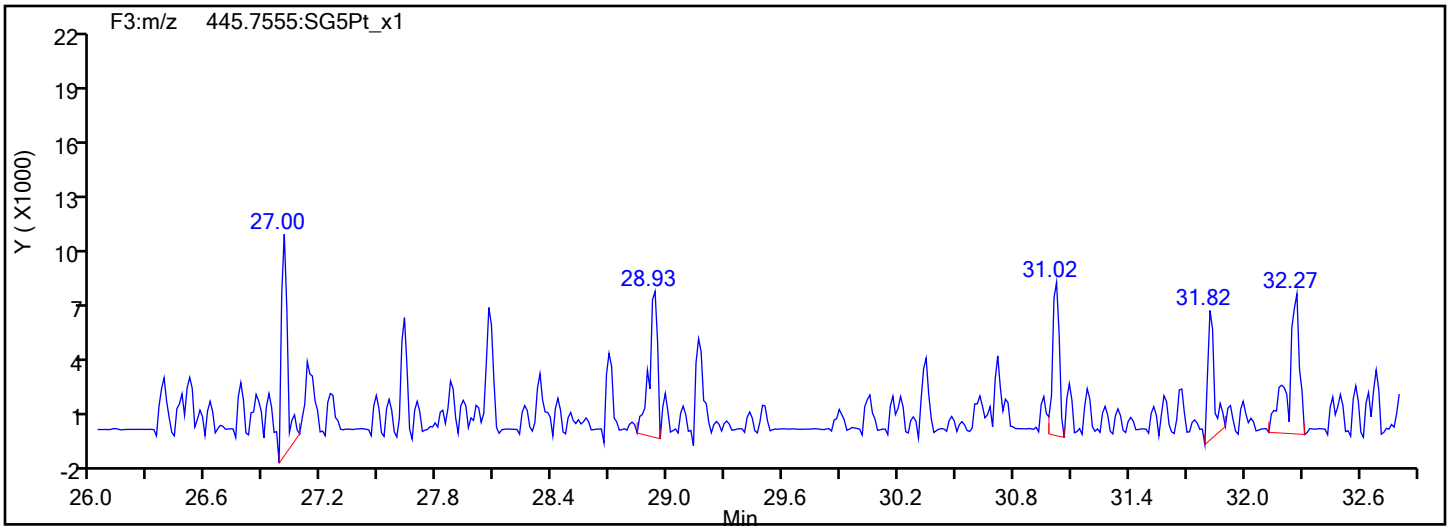

Report Date: 08-Jan-2020 09:02:40 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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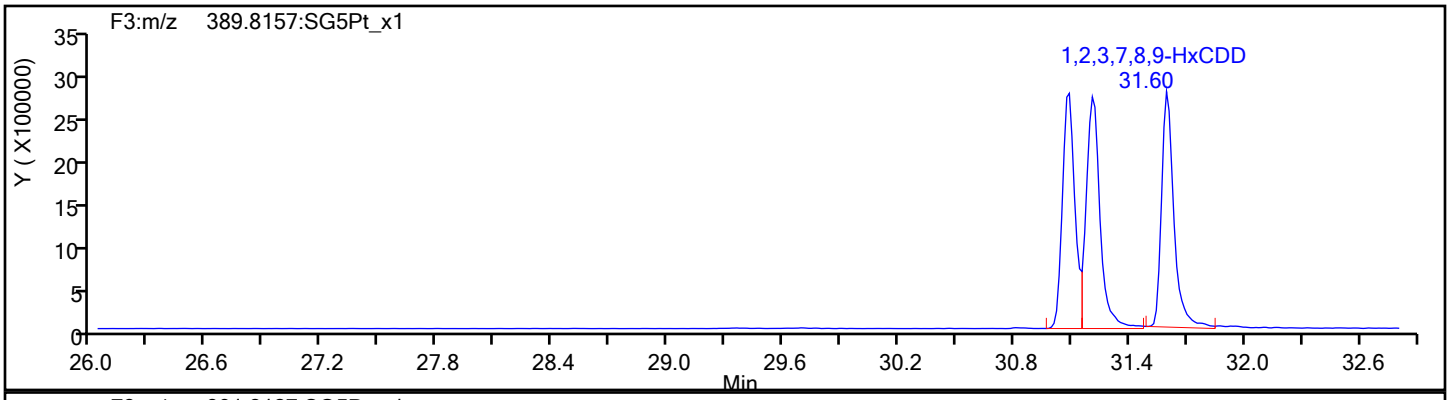

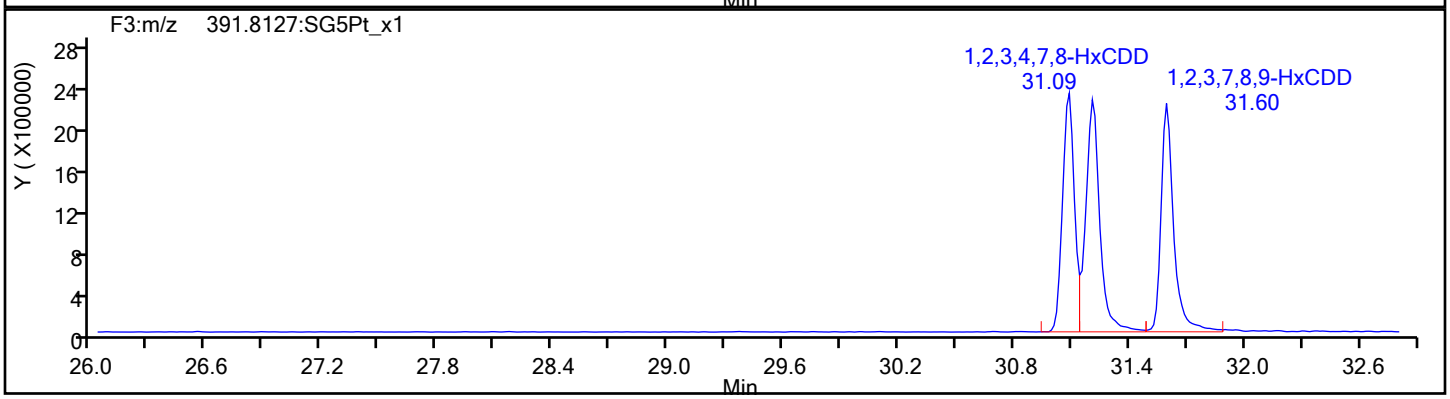

HxCDD Standards

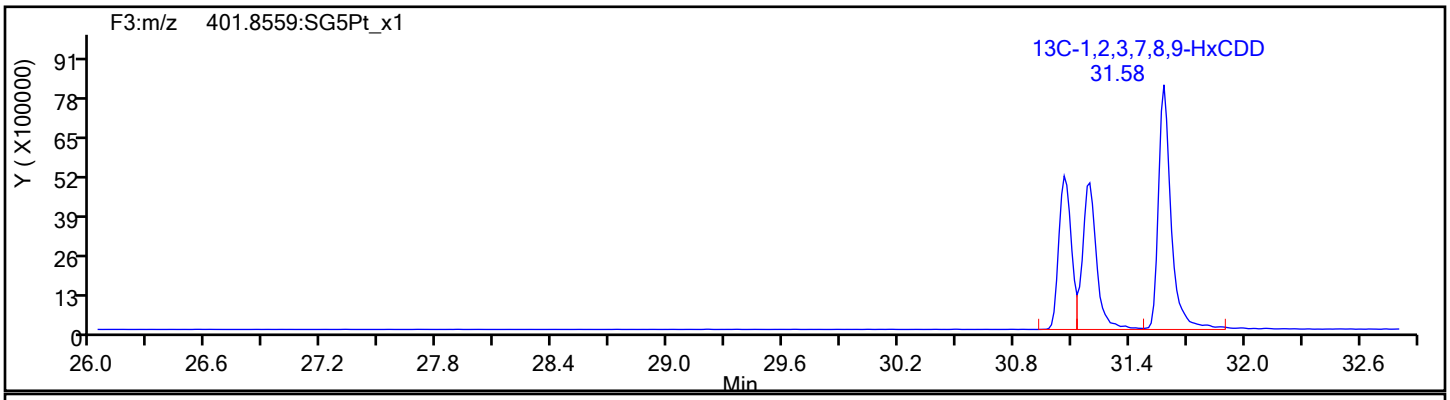

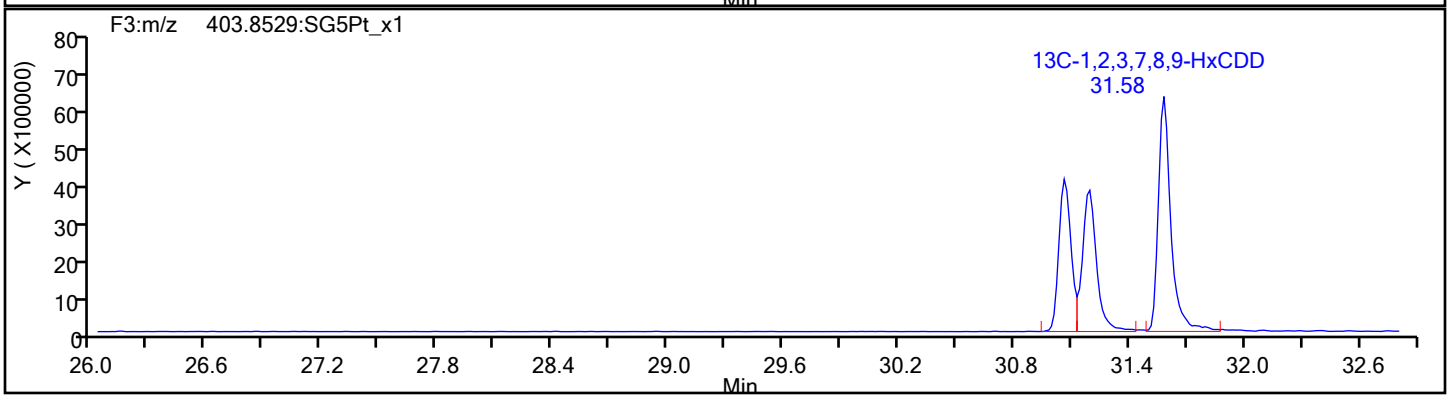

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Eurofins TestAmerica, Sacramento

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HpCDF

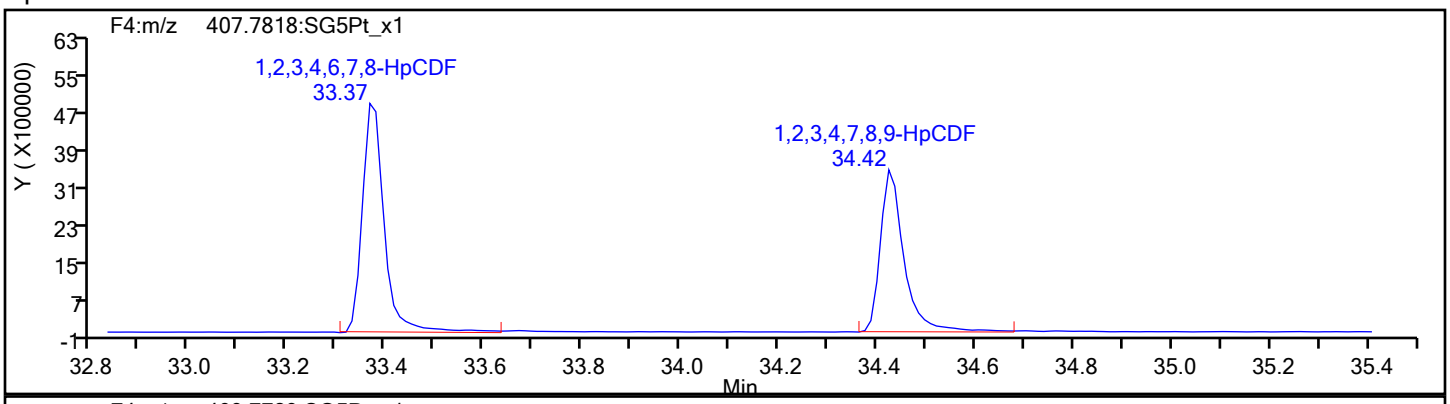

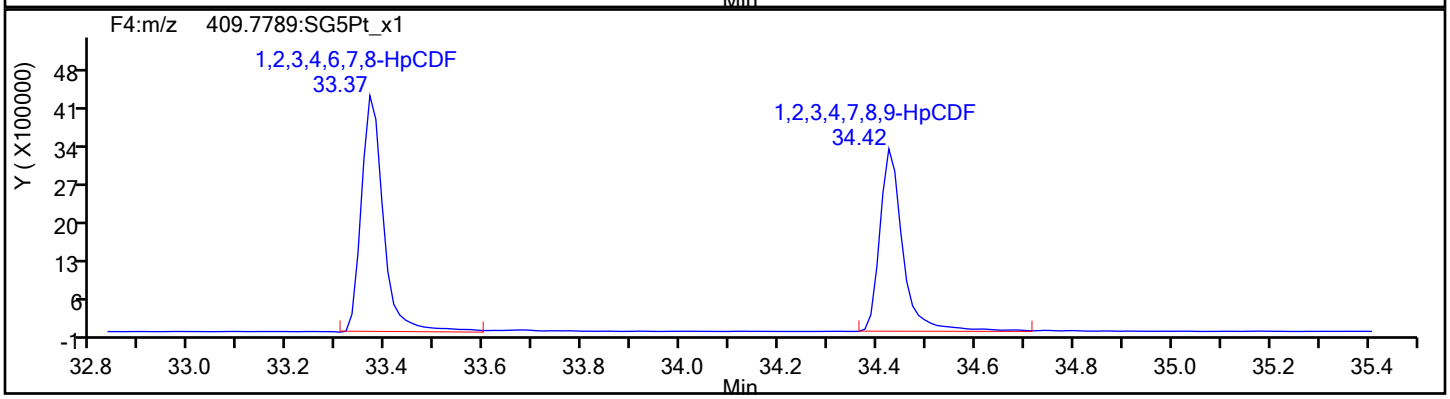

HpCDF Standards

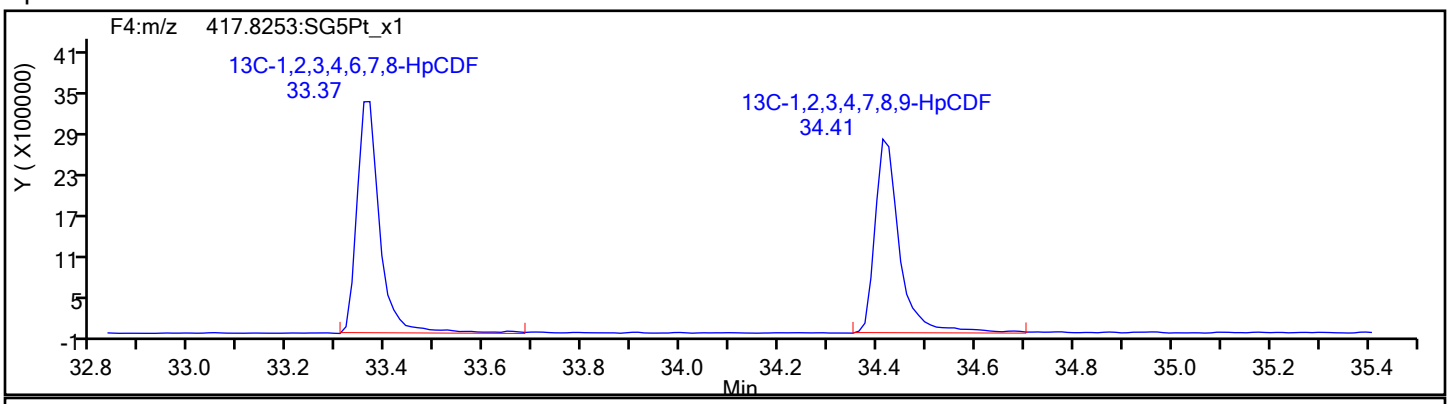

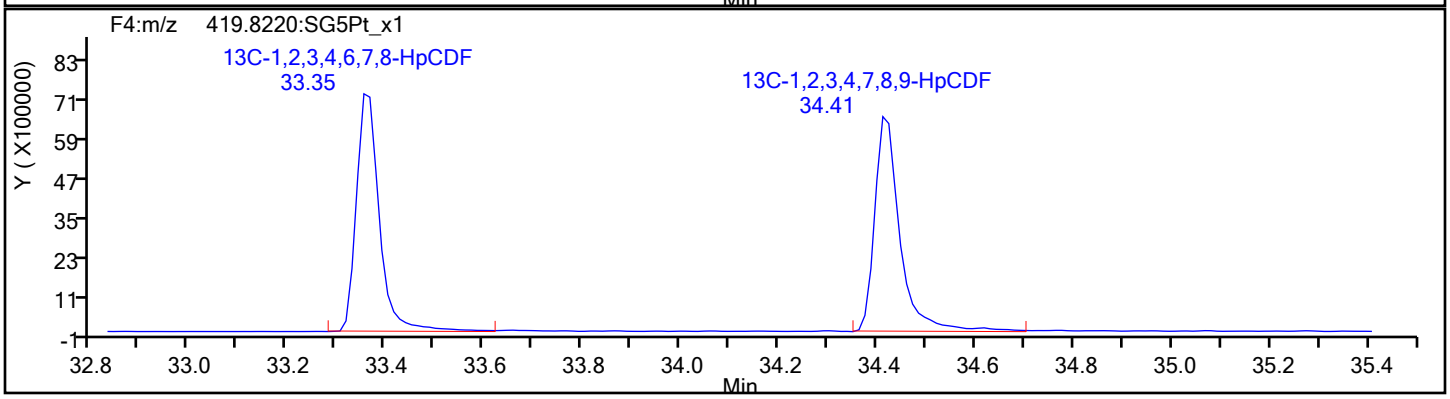

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Eurofins TestAmerica, Sacramento

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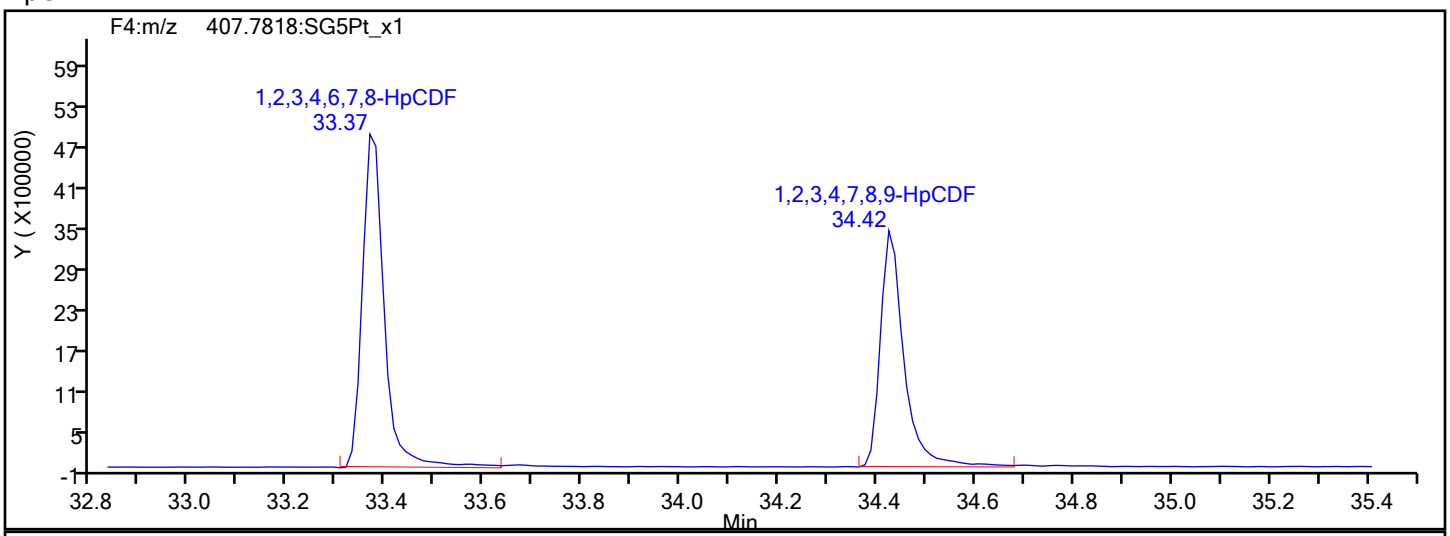

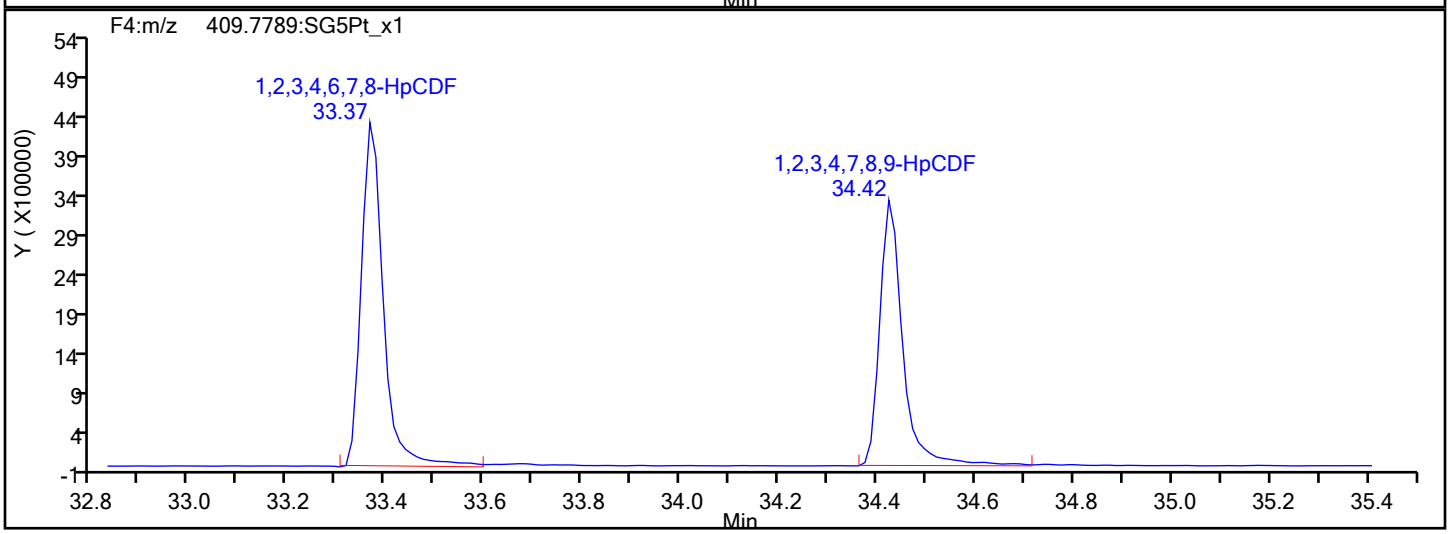

HpCDF Interference Mass

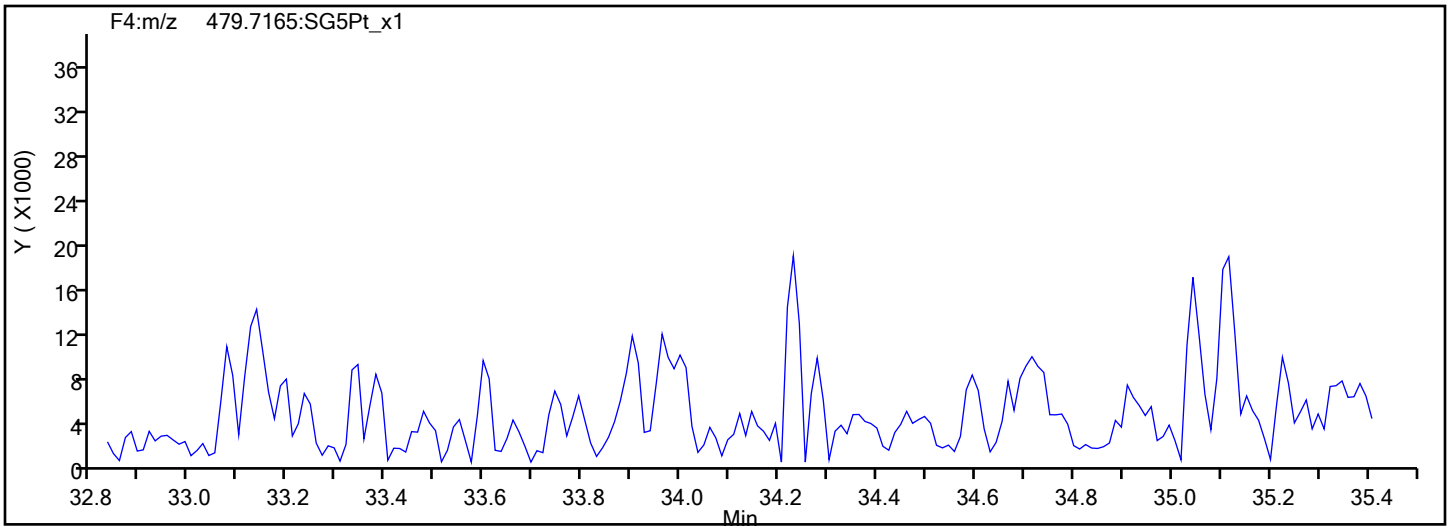

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Eurofins TestAmerica, Sacramento

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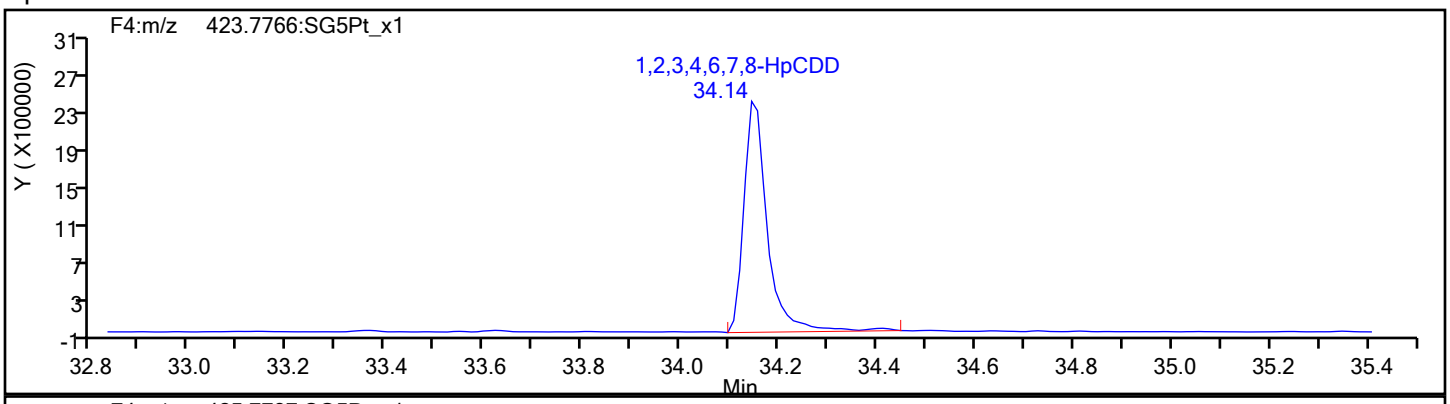

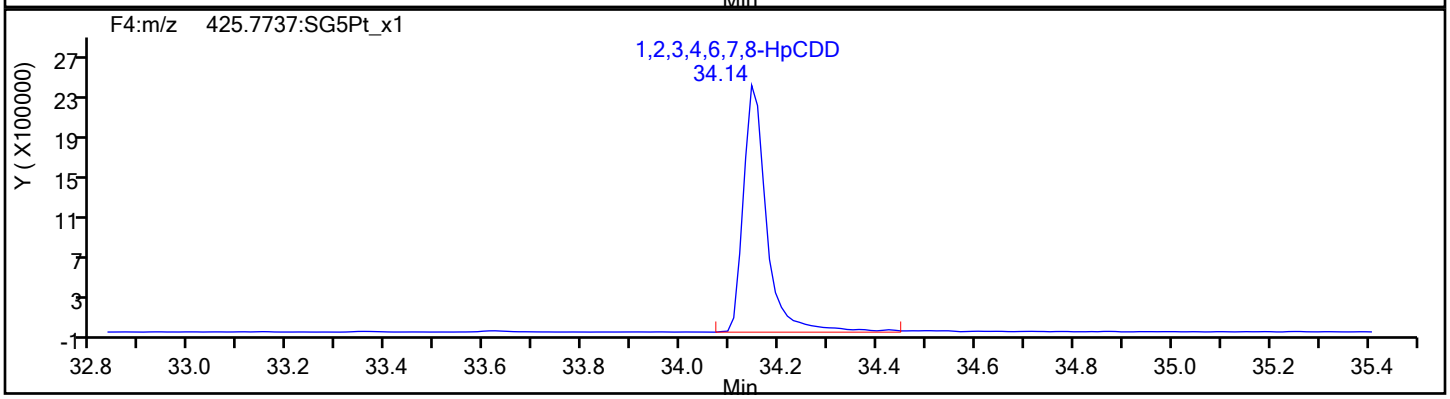

HpCDD Standards

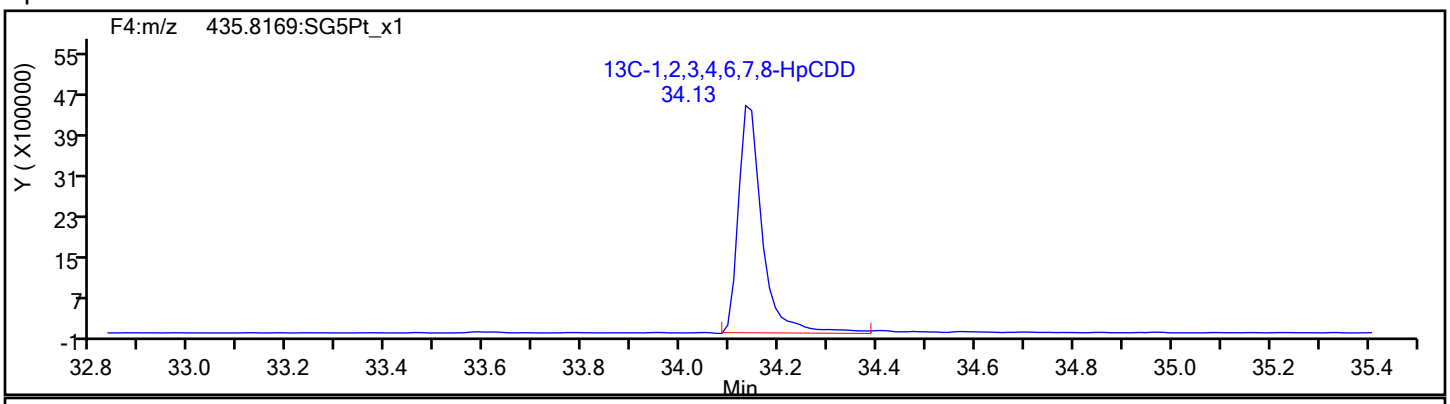

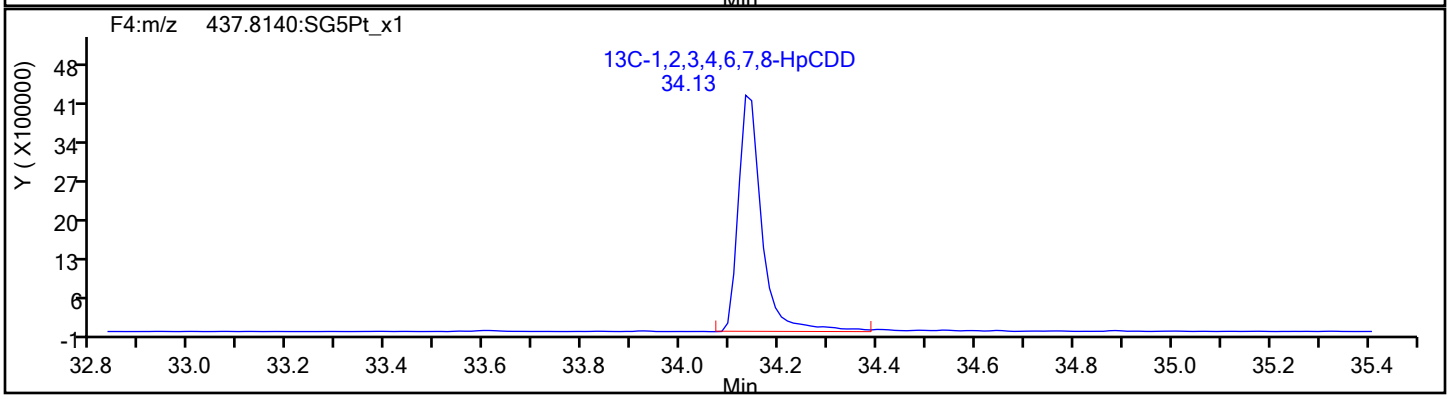

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Eurofins TestAmerica, Sacramento

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OCDF

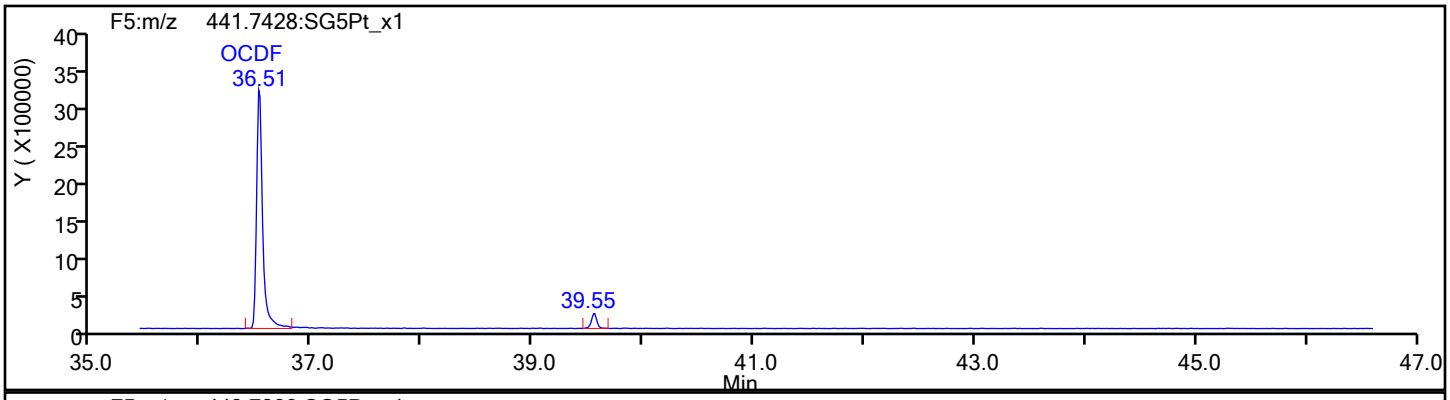

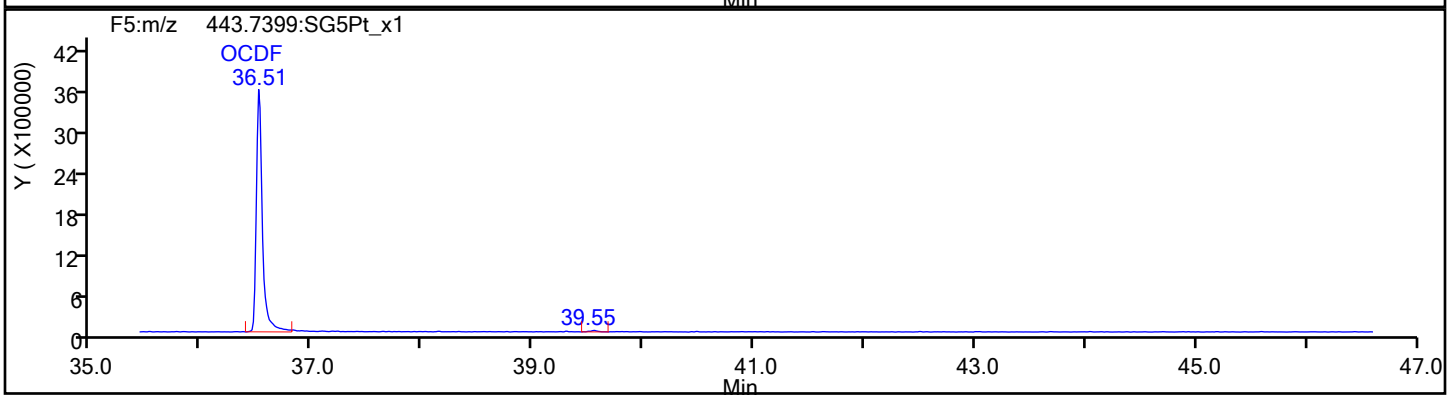

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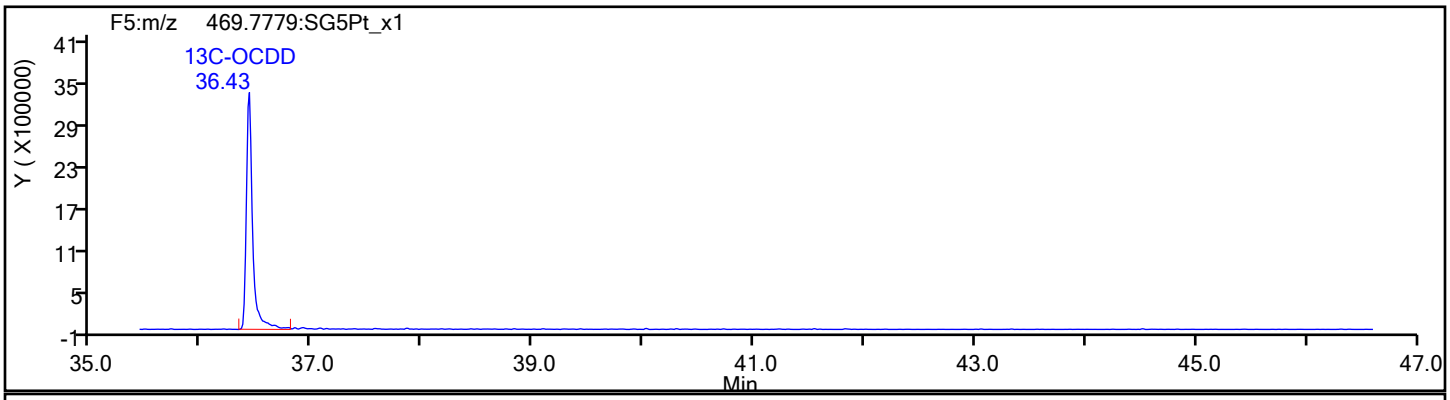

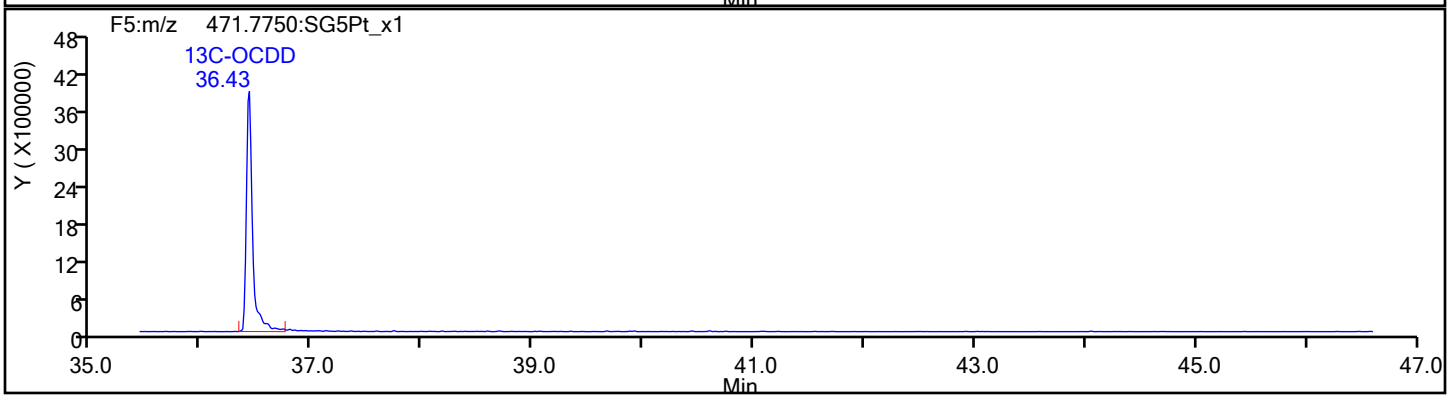

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Eurofins TestAmerica, Sacramento

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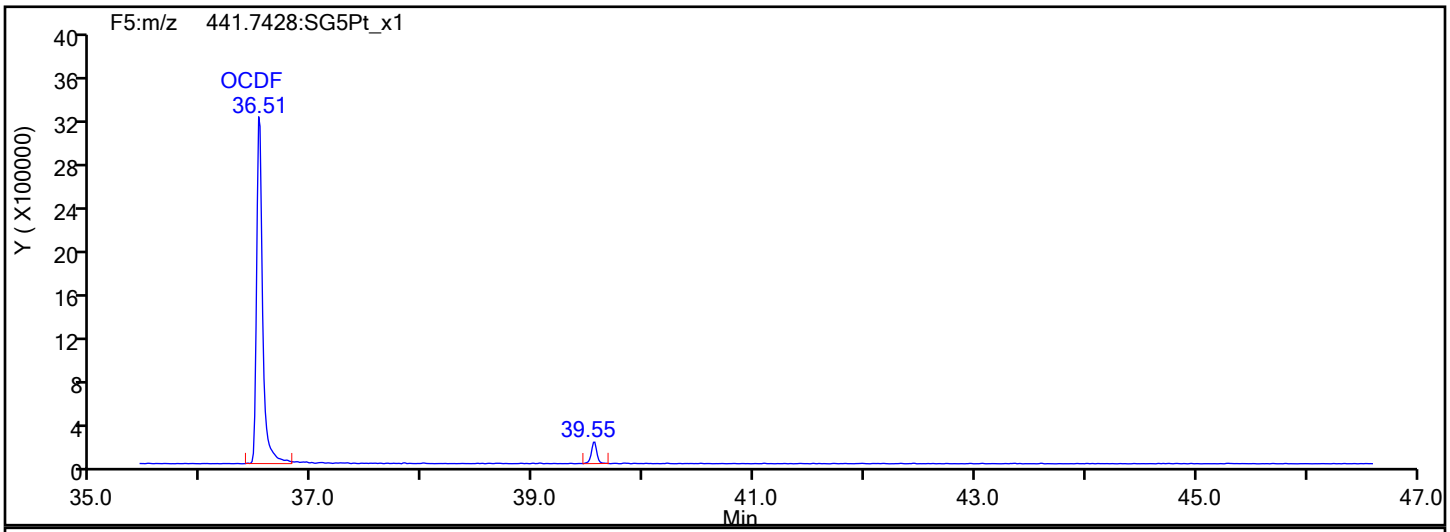

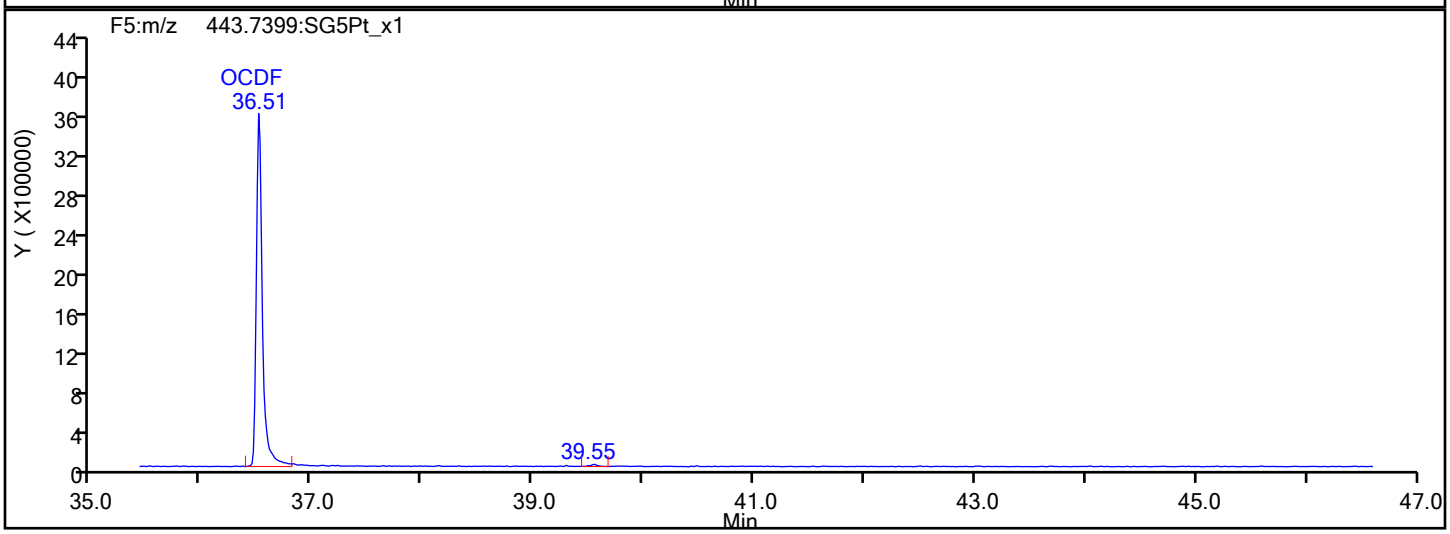

OCDF Interference Mass

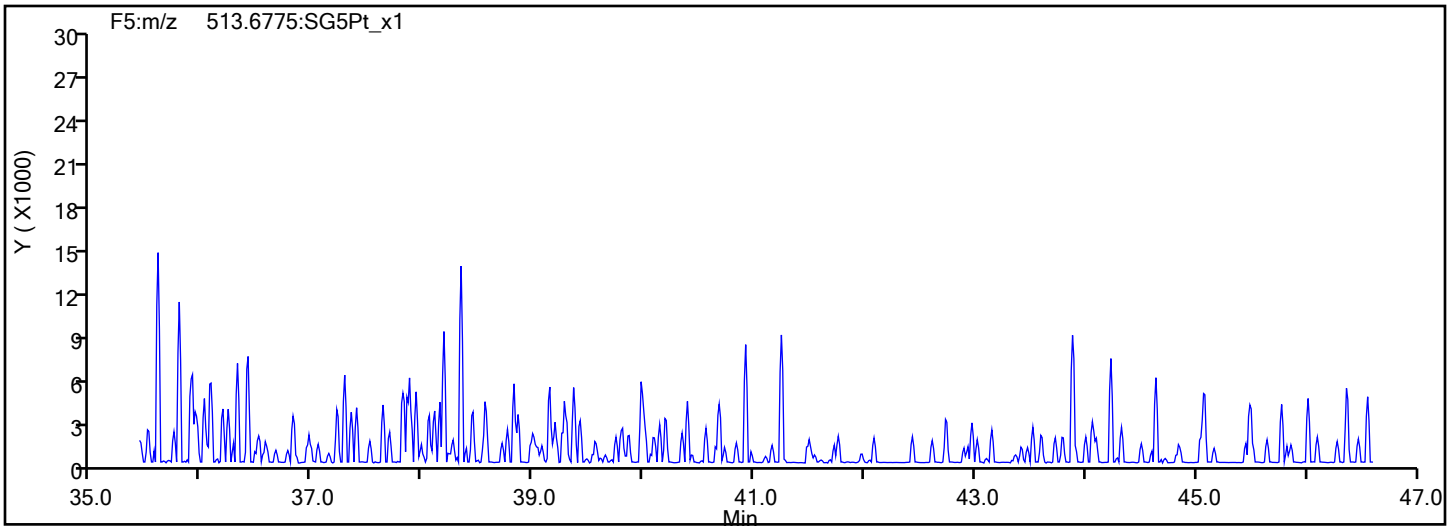

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Eurofins TestAmerica, Sacramento

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OCDD

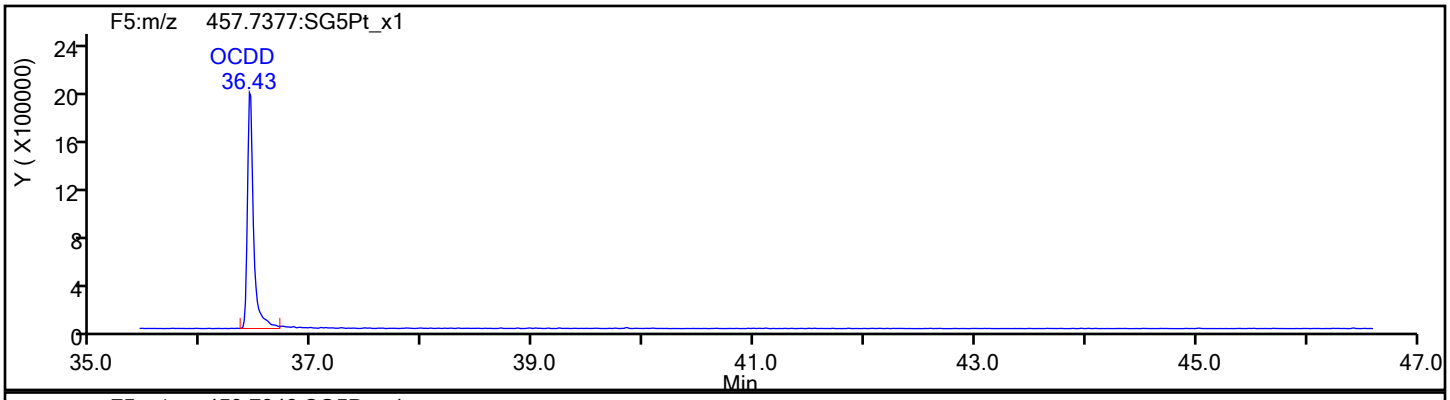

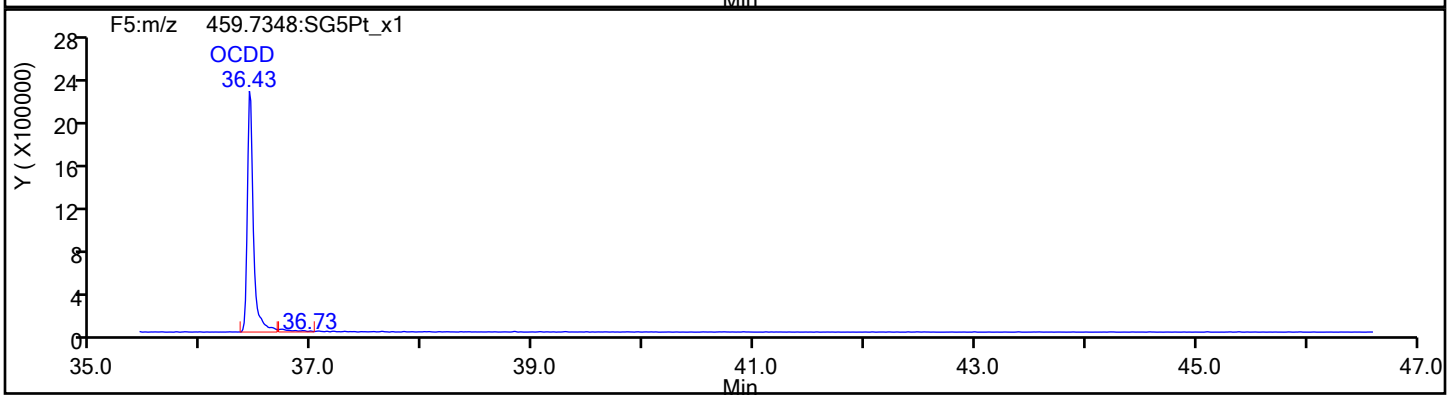

OCDD Standards

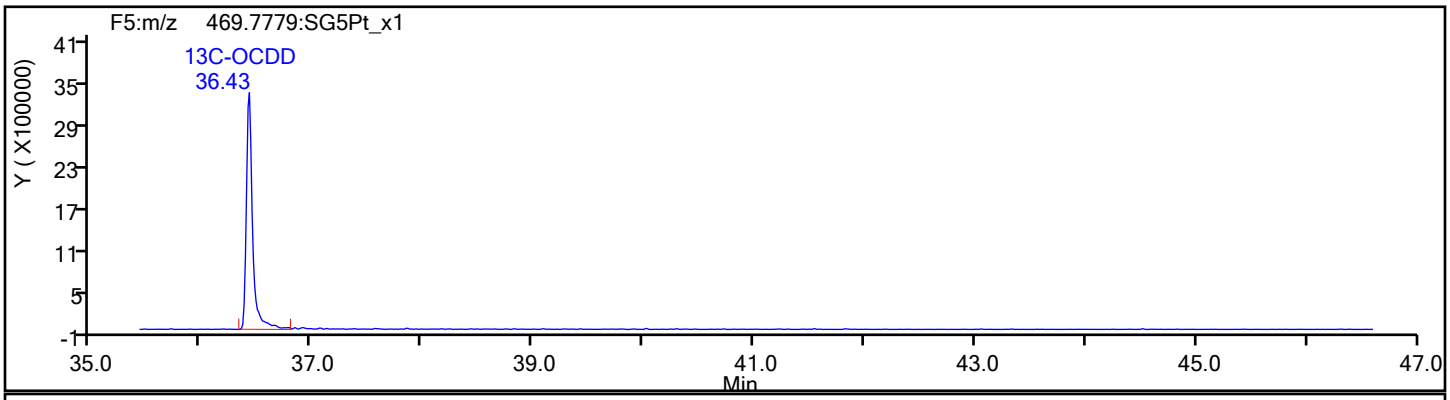

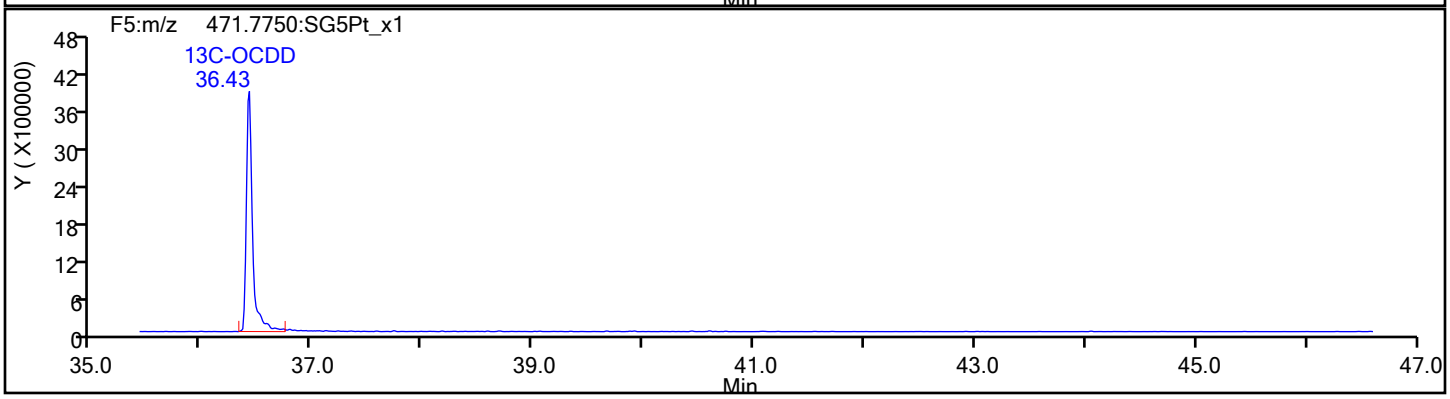

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Eurofins TestAmerica, Sacramento

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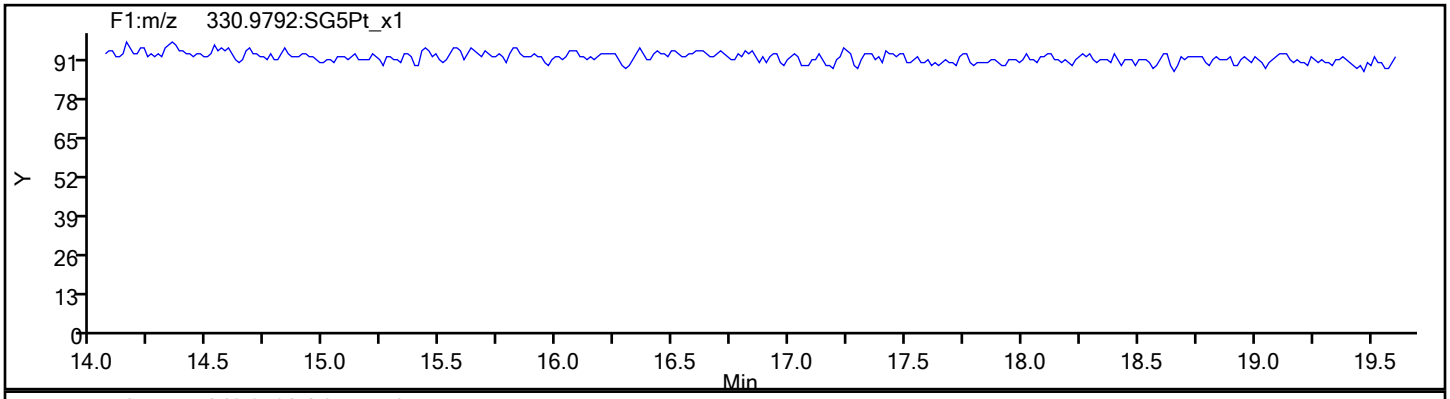

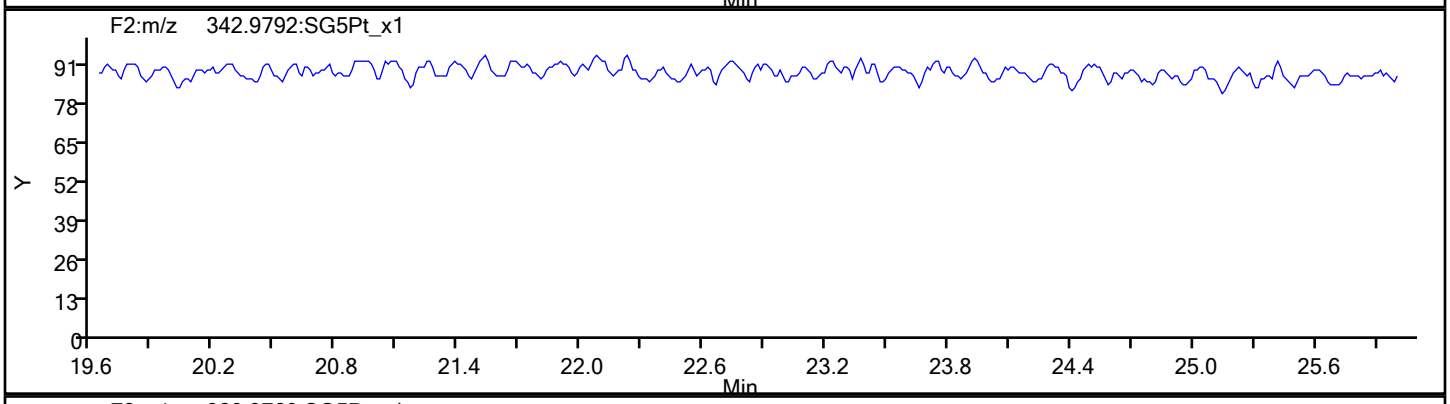

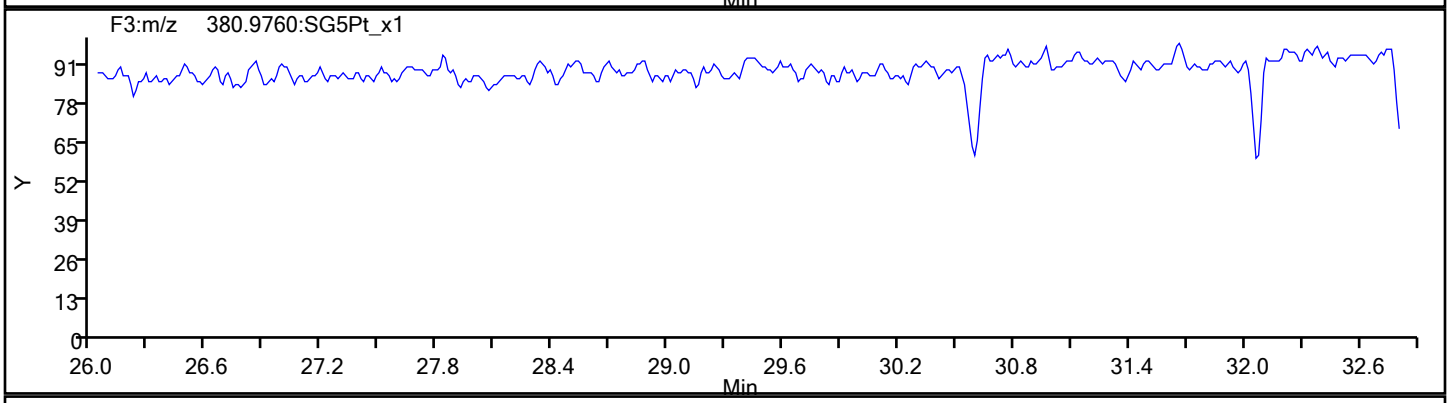

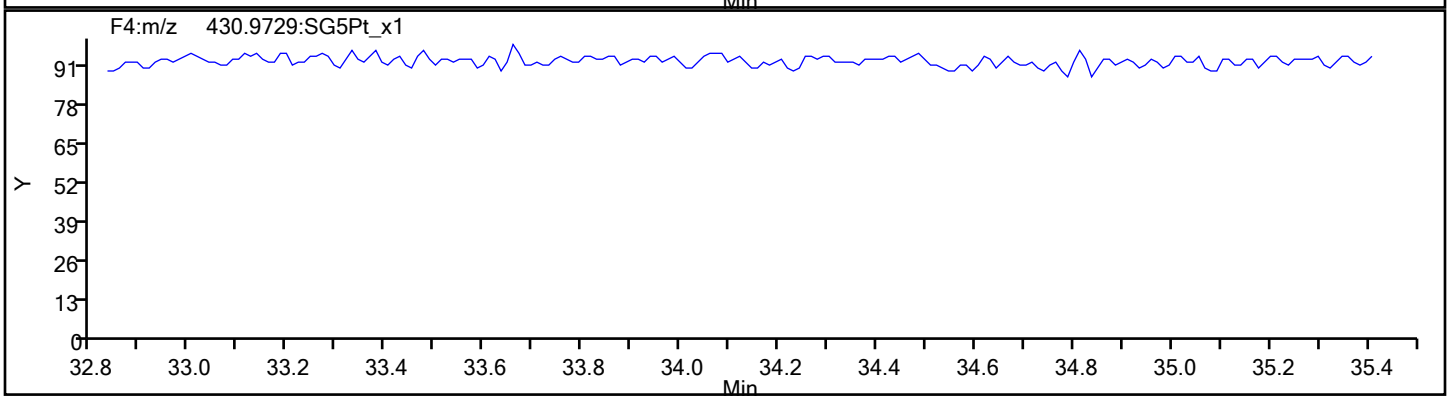

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Worklist#:	349283	Sample Line#:	5
Column Type:	DB-5	Column Dia:	0.32 mm

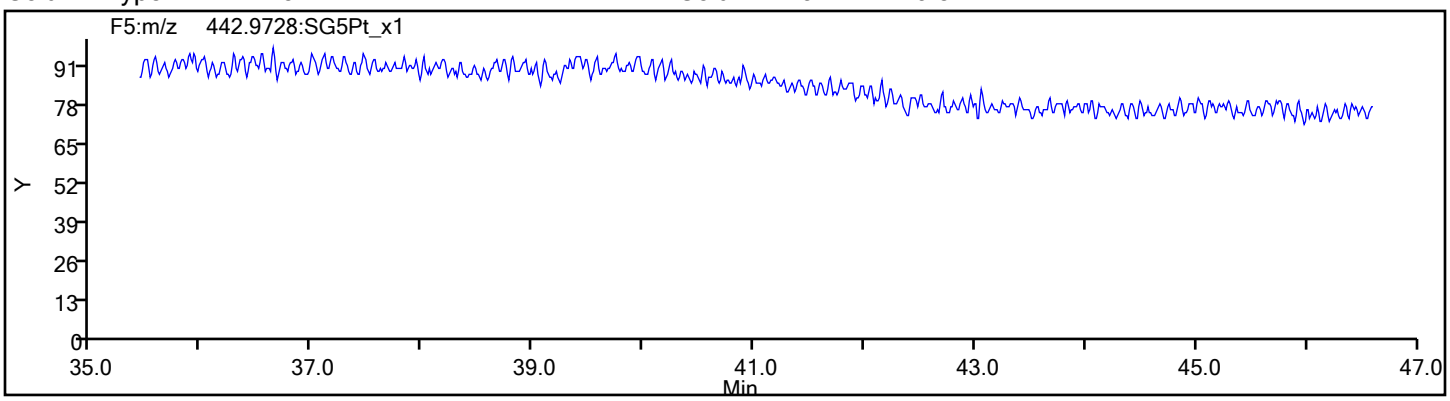

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 180-100205-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCSD 320-348771/3-A
Matrix: Solid
Lab File ID: 06JA20A3D5_6.d
Analysis Method: 1613B
Date Collected:
Extract. Method: HRMS-Sep
Date Extracted: 12/31/2019 11:06
Sample wt/vol: 1000(mL)
Date Analyzed: 01/07/2020 01:48
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 349283
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	199		10	3.1
51207-31-9	2,3,7,8-TCDF	202		10	2.1
40321-76-4	1,2,3,7,8-PeCDD	1070		50	7.1
57117-41-6	1,2,3,7,8-PeCDF	1020		50	6.3
57117-31-4	2,3,4,7,8-PeCDF	967		50	6.7
39227-28-6	1,2,3,4,7,8-HxCDD	964		50	4.5
57653-85-7	1,2,3,6,7,8-HxCDD	1040		50	4.8
19408-74-3	1,2,3,7,8,9-HxCDD	812		50	4.1
70648-26-9	1,2,3,4,7,8-HxCDF	1000		50	11
57117-44-9	1,2,3,6,7,8-HxCDF	1010		50	10
72918-21-9	1,2,3,7,8,9-HxCDF	1100		50	7.1
60851-34-5	2,3,4,6,7,8-HxCDF	1070		50	7.6
35822-46-9	1,2,3,4,6,7,8-HpCDD	1080		50	5.7
67562-39-4	1,2,3,4,6,7,8-HpCDF	1100		50	9.7
55673-89-7	1,2,3,4,7,8,9-HpCDF	983		50	12
3268-87-9	OCDD	2050		100	6.1
39001-02-0	OCDF	2780		100	9.2
41903-57-5	Total TCDD	199		10	3.1
30402-14-3	Total TCDF	202		10	2.1
36088-22-9	Total PeCDD	1070		50	7.1
30402-15-4	Total PeCDF	1990		50	6.5
34465-46-8	Total HxCDD	2820		50	4.5
55684-94-1	Total HxCDF	4190		50	8.9
37871-00-4	Total HpCDD	1080		50	5.7
38998-75-3	Total HpCDF	2090		50	11

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-100205-1

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 320-348771/3-A

Matrix: Solid Lab File ID: 06JA20A3D5_6.d

Analysis Method: 1613B Date Collected:

Extract. Method: HRMS-Sep Date Extracted: 12/31/2019 11:06

Sample wt/vol: 1000(mL) Date Analyzed: 01/07/2020 01:48

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 349283 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	65		20-175
89059-46-1	13C-2,3,7,8-TCDF	66		22-152
109719-79-1	13C-1,2,3,7,8-PeCDD	59		21-227
109719-77-9	13C-1,2,3,7,8-PeCDF	61		21-192
116843-02-8	13C-2,3,4,7,8-PeCDF	66		13-328
109719-80-4	13C-1,2,3,4,7,8-HxCDD	66		21-193
109719-81-5	13C-1,2,3,6,7,8-HxCDD	65		25-163
114423-98-2	13C-1,2,3,4,7,8-HxCDF	66		19-202
116843-03-9	13C-1,2,3,6,7,8-HxCDF	64		21-159
116843-04-0	13C-1,2,3,7,8,9-HxCDF	57		17-205
116843-05-1	13C-2,3,4,6,7,8-HxCDF	58		22-176
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	50		26-166
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	56		21-158
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	64		20-186
114423-97-1	13C-OCDD	37		13-199

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	113		31-191

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_6.d
Lims ID: LCSD 320-348771/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 07-Jan-2020 01:48:01 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 320-348771/3-A LCSD 320-348771/3-A
Misc. Info.: 06JA20A3D5
Operator ID: ALM Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 07-Jan-2020 12:39:11 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0314

First Level Reviewer: dadunj Date: 08-Jan-2020 09:03:10

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.143	72485265	0.82	2.2E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.674	68207336	0.79	1.4157	66.5	66.5	0.4613	0.4613	66.47	
2,3,7,8-TCDF	16.690	6547063	0.80	0.9502	10.1	10.1	0.1036	0.1036	101	
A Non-2,3,7,8-sub-TCDF	16.387						0.1036	0.1036		
S Total TCDF					10.1	10.1	0.1036	0.1036		
D 13C-2,3,7,8-TCDD	17.340	45718607	0.79	0.9751	64.7	64.7	0.3133	0.3133	64.68	
2,3,7,8-TCDD	17.355	4769135	0.81	1.0477	9.956	9.956	0.1533	0.1533	99.56	
$ 37Cl4-2,3,7,8-TCDD	17.355	44359169		1.3480	45.4	45.4	0.1142	0.1142	113	
A Non-2,3,7,8-sub-TCDD	16.818						0.1533	0.1533		
S Total TCDD					9.956	9.956	0.1533	0.1533		
D 13C-1,2,3,7,8-PeCDF	21.394	52241297	1.55	1.1786	61.2	61.2	0.2377	0.2377	61.15	
1,2,3,7,8-PeCDF	21.421	27531808	1.60	1.0302	51.2	51.2	0.3164	0.3164	102	
D 13C-2,3,4,7,8-PeCDF	22.662	53922375	1.57	1.1308	65.8	65.8	0.2478	0.2478	65.79	
2,3,4,7,8-PeCDF	22.690	27144602	1.63	1.0410	48.4	48.4	0.3369	0.3369	96.72	
A F1 PeCDFs	19.117						0.1010	0.1010		
A Non-2,3,7,8-sub-PeCDF	22.077						0.3263	0.3263		
S Total PeCDF					99.5	99.5	0.3267	0.3267		
D 13C-1,2,3,7,8-PeCDD	23.344	32645756	1.64	0.7572	59.5	59.5	0.1628	0.1628	59.48	
1,2,3,7,8-PeCDD	23.358	18888761	1.66	1.0855	53.3	53.3	0.3571	0.3571	107	
A Non-2,3,7,8-sub-PeCDD	22.301						0.3571	0.3571		
S Total PeCDD					53.3	53.3	0.3571	0.3571		
D 13C-1,2,3,4,7,8-HxCDF	29.385	47096456	0.50	1.1043	66.5	66.5	0.3704	0.3704	66.50	
1,2,3,4,7,8-HxCDF	29.412	27124475	1.23	1.1472	50.2	50.2	0.5325	0.5325	100	
D 13C-1,2,3,6,7,8-HxCDF	29.692	46782880	0.51	1.1470	63.6	63.6	0.3566	0.3566	63.59	
1,2,3,6,7,8-HxCDF	29.718	27152024	1.19	1.1450	50.7	50.7	0.5144	0.5144	101	
D 13C-2,3,4,6,7,8-HxCDF	30.837	40115537	0.50	1.0769	58.1	58.1	0.3799	0.3799	58.08	
2,3,4,6,7,8-HxCDF	30.850	25262698	1.20	1.1726	53.7	53.7	0.3786	0.3786	107	
D 13C-1,2,3,7,8,9-HxCDF	31.795	37096263	0.52	1.0115	57.2	57.2	0.4044	0.4044	57.18	
1,2,3,7,8,9-HxCDF	31.809	23812534	1.19	1.1717	54.8	54.8	0.3543	0.3543	110	
A Non-2,3,7,8-sub-HxCDF	29.272						0.4316	0.4316		
S Total HxCDF					209.4	209.4	0.4450	0.4450		

Report Date: 08-Jan-2020 09:03:13 Chrom Revision: 2.3 23-Dec-2019 10:12:06
Data File: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_6.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.583	64138929	1.30	2.1E+06	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.076	33501503	1.33	0.7962	65.6	65.6	0.3483	0.3483	65.60	
1,2,3,4,7,8-HxCDD	31.090	17655554	1.25	1.0934	48.2	48.2	0.2273	0.2273	96.40	
D 13C-1,2,3,6,7,8-HxCDD	31.196	36352398	1.23	0.8720	65.0	65.0	0.3180	0.3180	65.00	
1,2,3,6,7,8-HxCDD	31.223	19775395	1.29	1.0429	52.2	52.2	0.2392	0.2392	104	
1,2,3,7,8,9-HxCDD	31.609	17116514	1.26	1.2073	40.6	40.6	0.2062	0.2062	81.18	
A Non-2,3,7,8-sub-HxCDD	29.885						0.2234	0.2234		
S Total HxCDD					141.0	141.0	0.2242	0.2242		
D 13C-1,2,3,4,6,7,8-HpCDF	33.367	27419584	0.43	0.7577	56.4	56.4	0.8394	0.8394	56.42	
1,2,3,4,6,7,8-HpCDF	33.379	22362157	1.14	1.4804	55.1	55.1	0.4848	0.4848	110	
D 13C-1,2,3,4,7,8,9-HpCDF	34.424	28711898	0.43	0.6941	64.5	64.5	0.9162	0.9162	64.49	
1,2,3,4,7,8,9-HpCDF	34.436	18258455	1.08	1.2933	49.2	49.2	0.5959	0.5959	98.34	
A Non-2,3,7,8-sub-HpCDF	33.907						0.5359	0.5359		
S Total HpCDF					104.3	104.3	0.5404	0.5404		
D 13C-1,2,3,4,6,7,8-HpCDD	34.144	22833355	1.05	0.7058	50.4	50.4	0.3701	0.3701	50.44	
1,2,3,4,6,7,8-HpCDD	34.157	13013644	1.08	1.0535	54.1	54.1	0.2868	0.2868	108	
A Non-2,3,7,8-sub-HpCDD	33.883						0.2868	0.2868		
S Total HpCDD					54.1	54.1	0.2868	0.2868		
D 13C-OCDD	36.427	21860202	0.95	0.4603	74.1	74.1	0.2696	0.2696	37.03	
OCDF	36.523	21207769	0.89	1.3945	139.1	139.1	0.4581	0.4581	139	
OCDD	36.439	12753906	0.93	1.1362	102.7	102.7	0.3028	0.3028	103	

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_6.d
Lims ID: LCSD 320-348771/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 07-Jan-2020 01:48:01 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 320-348771/3-A LCSD 320-348771/3-A
Misc. Info.: 06JA20A3D5
Operator ID: ALM Instrument ID: 3D5

Method: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\Dioxin_3D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 07-Jan-2020 12:39:11 Calib Date: 12-Dec-2019 14:39:03
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\3D5\20191212-88180.b\12DE193D5_7.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0314

First Level Reviewer: dadunj Date: 08-Jan-2020 09:03:10

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.143	17.128	1		32612043	8299593	12644	31610	656		
333.9339	17.143	17.128	1		39873222	10094063	9832	24580	1027	0.82(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.674	16.659	1	0.973	30076219	7735358	16931	42327	457		
317.9389	16.674	16.659	1	0.973	38131117	9452971	31117	77792	304	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.690	16.674	1	1.001	2916739	720756	2296	5740	314		
305.8987	16.690	16.674	1	1.001	3630324	927772	4470	11175	208	0.80(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.387						2296	5740			
305.8987	16.387						4470	11175			
13C-2,3,7,8-TCDD											
331.9368	17.340	17.324	1	1.011	20240803	4802183	12644	31610	380		
333.9339	17.340	17.324	1	1.011	25477804	5940511	9832	24580	604	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.355	17.340	1	1.001	2141199	537137	3649	9122	147		
321.8936	17.355	17.340	1	1.001	2627936	637157	3254	8135	196	0.81(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.355	17.340	1	1.012	44359169	10672738	11331	28327	942		
A Non-2,3,7,8-sub-TCDD											
319.8965	16.818						3649	9122			
321.8936	16.818						3254	8135			
13C-1,2,3,7,8-PeCDF											
351.9000	21.394	21.381	1	1.248	31757362	5767002	11140	27850	518		
353.8970	21.394	21.381	1	1.248	20483935	3802081	9476	23690	401	1.55(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	21.421	21.408	1	1.001	16955905	2993537	6767	16917	442		
341.8567	21.421	21.408	1	1.001	10575903	1877427	5711	14277	329	1.60(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	22.662	22.635	2	1.322	32940695	5362313	11140	27850	481		
353.8970	22.662	22.635	2	1.322	20981680	3531518	9476	23690	373	1.57(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.690	22.662	2	1.001	16834124	2806466	6767	16917	415		
341.8567	22.676	22.662	1	1.001	10310478	1690698	5711	14277	296	1.63(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.117						1291	3227			
341.8567	19.117						2570	6425			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.077						6767	16917			
341.8567	22.077						5711	14277			
13C-1,2,3,7,8-PeCDD											
367.8949	23.344	23.317	2	1.362	20278100	3130196	5082	12705	616		
369.8919	23.344	23.317	2	1.362	12367656	1919819	3987	9967	482	1.64(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.358	23.344	1	1.001	11791459	1844953	5202	13005	355		
357.8516	23.358	23.344	1	1.001	7097302	1151202	2628	6570	438	1.66(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.301						5202	13005			
357.8516	22.301						2628	6570			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.385	29.346	2	0.930	15682122	1872539	7437	18592	252		
385.8610	29.385	29.346	2	0.930	31414334	3584599	14654	36635	245	0.50(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.412	29.399	1	1.001	14953302	1712627	7461	18652	230		
375.8178	29.426	29.399	2	1.001	12171173	1383270	5875	14687	235	1.23(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.692	29.678	1	0.940	15895385	1948759	7437	18592	262		
385.8610	29.692	29.678	1	0.940	30887495	3711186	14654	36635	253	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	29.718	29.692	2	1.001	14742891	1805440	7461	18652	242		
375.8178	29.718	29.692	2	1.001	12409133	1484013	5875	14687	253	1.19(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	30.837	30.810	2	0.976	13344110	2462326	7437	18592	331		
385.8610	30.837	30.810	2	0.976	26771427	5048651	14654	36635	345	0.50(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	30.850	30.837	1	1.000	13771393	2575895	7461	18652	345		
375.8178	30.864	30.837	2	1.001	11491305	2192064	5875	14687	373	1.20(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.795	31.782	1	1.007	12681334	2788512	7437	18592	375		
385.8610	31.795	31.782	1	1.007	24414929	5242668	14654	36635	358	0.52(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	31.809	31.795	1	1.000	12921489	2918947	7461	18652	391		
375.8178	31.809	31.795	1	1.000	10891045	2465344	5875	14687	420	1.19(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.272						7461	18652			
375.8178	29.272						5875	14687			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.583	31.569	1		36271791	7584738	7861	19652	965		
403.8529	31.583	31.569	1		27867138	5916095	7116	17790	831	1.30(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.076	31.050	2	0.984	19139960	4301505	7861	19652	547		
403.8529	31.076	31.050	2	0.984	14361543	3369786	7116	17790	474	1.33(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.090	31.063	2	1.000	9822392	2295633	3660	9150	627		
391.8127	31.090	31.063	2	1.000	7833162	1778863	3965	9912	449	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.196	31.183	1	0.988	20023440	4338021	7861	19652	552		
403.8529	31.196	31.183	1	0.988	16328958	3302342	7116	17790	464	1.23(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.223	31.196	2	1.001	11154984	2271325	3660	9150	621		
391.8127	31.210	31.196	1	1.000	8620411	1756516	3965	9912	443	1.29(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.609	31.583	2	1.017	9552710	1984664	3660	9150	542		
391.8127	31.609	31.583	2	1.017	7563804	1629834	3965	9912	411	1.26(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	29.885						3660	9150			
391.8127	29.885						3965	9912			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.367	33.354	1	1.056	8289335	2697205	13334	33335	202		
419.8220	33.367	33.354	1	1.056	19130249	6408754	21011	52527	305	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.379	33.367	1	1.000	11933811	3904130	14076	35190	277		
409.7789	33.379	33.367	1	1.000	10428346	3314633	12065	30162	275	1.14(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.424	34.412	1	1.090	8619754	2550630	13334	33335	191		
419.8220	34.424	34.412	1	1.090	20092144	5928899	21011	52527	282	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.436	34.424	1	1.000	9471240	2637888	14076	35190	187		
409.7789	34.436	34.424	1	1.000	8787215	2597916	12065	30162	215	1.08(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.907						14076	35190			
409.7789	33.907						12065	30162			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.144	34.132	1	1.081	11697766	3616642	7069	17672	512		
437.8140	34.144	34.132	1	1.081	11135589	3397677	7039	17597	483	1.05(0.88-1.20)	

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Data File: \\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_6.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.157	34.144	1	1.000	6771927	2073975	5130	12825	404		
425.7737	34.157	34.144	1	1.000	6241717	1888840	3347	8367	564	1.08(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	33.883						5130	12825			
425.7737	33.883						3347	8367			
13C-OCDD											
469.7779	36.427	36.415	1	1.153	10661162	2695856	3160	7900	853		
471.7750	36.427	36.415	1	1.153	11199040	2822454	3541	8852	797	0.95(0.76-1.02)	
OCDF											
441.7428	36.523	36.511	1	1.003	10008371	2658589	2955	7387	900		
443.7399	36.523	36.511	1	1.003	11199398	2967411	4096	10240	724	0.89(0.76-1.02)	
OCDD											
457.7377	36.439	36.427	1	1.000	6162727	1621339	1710	4275	948		
459.7348	36.439	36.427	1	1.000	6591179	1694819	2087	5217	812	0.93(0.76-1.02)	

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Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_6.d		
Injection Date:	07-Jan-2020 01:48:01	Injection Vol:	2.0 ul
Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	349283	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

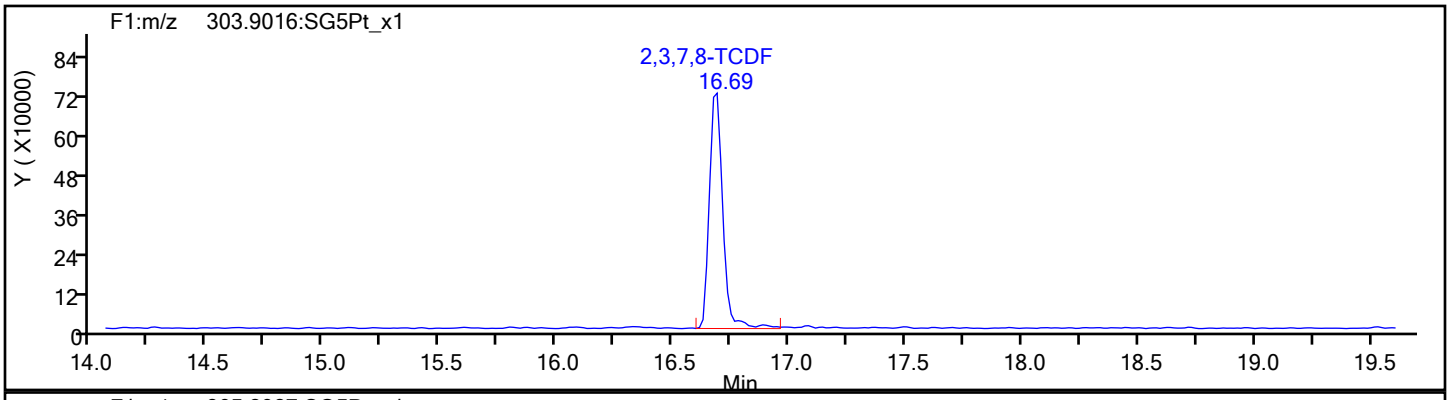

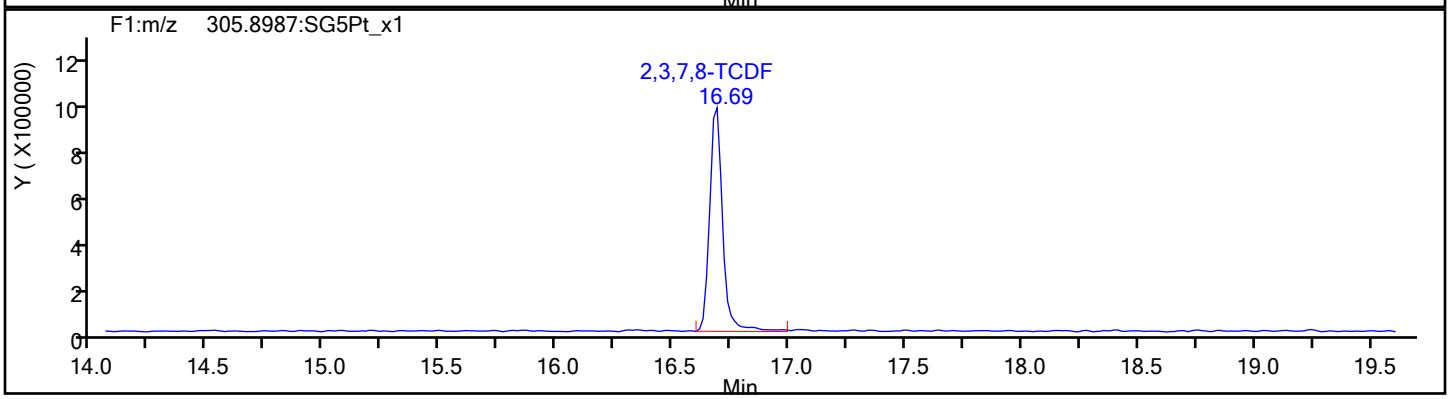

TCDF Standards

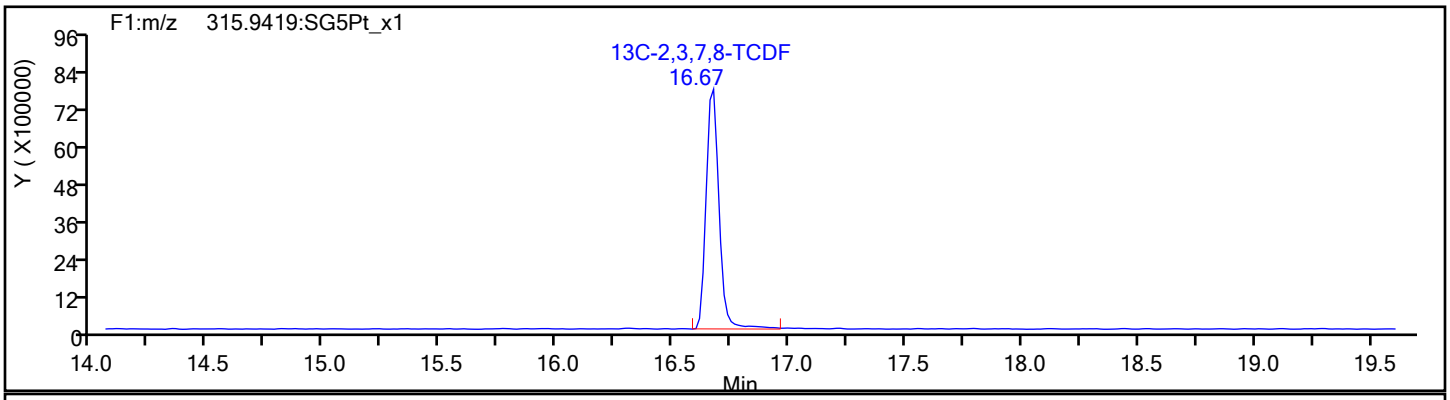

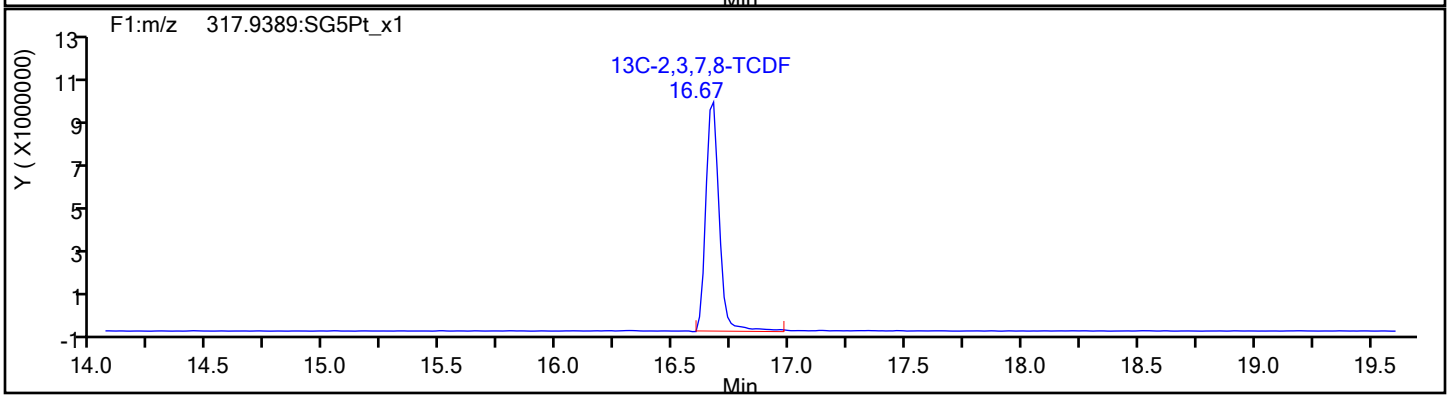

Report Date: 08-Jan-2020 09:03:13 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	349283	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

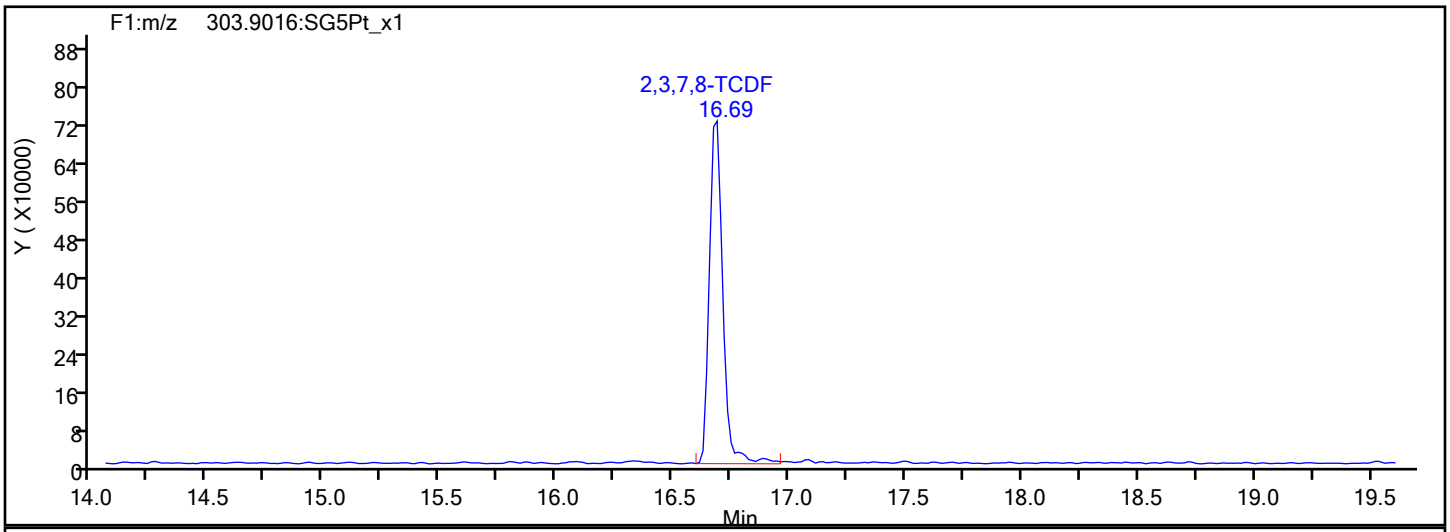

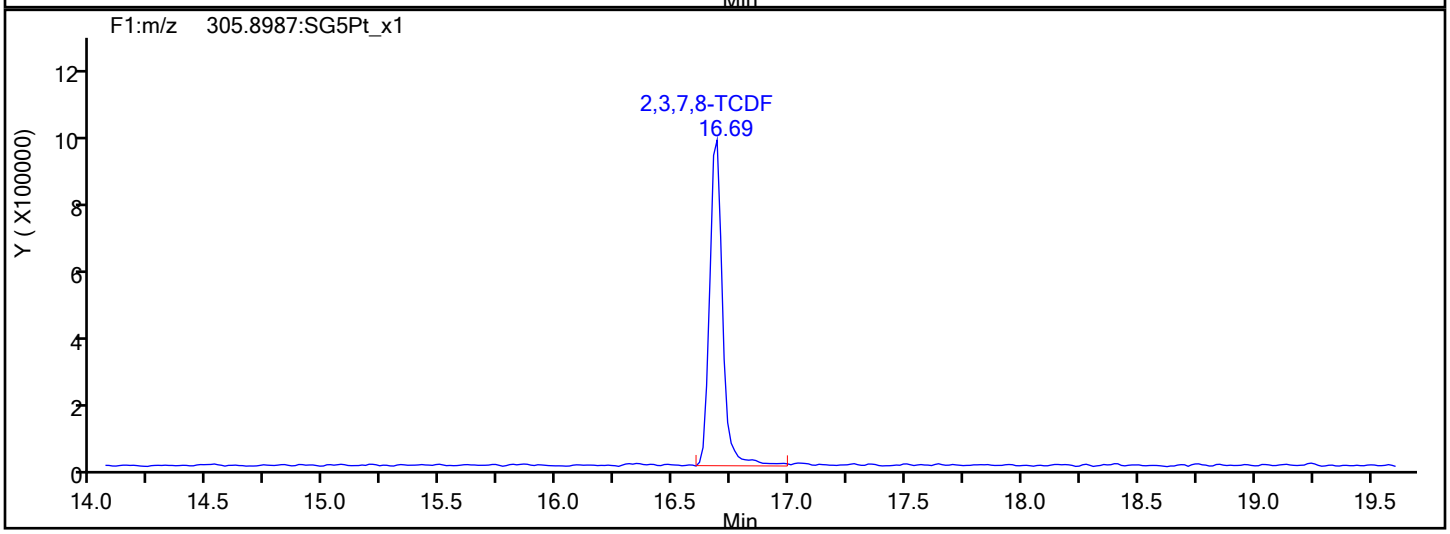

TCDF Interference Mass

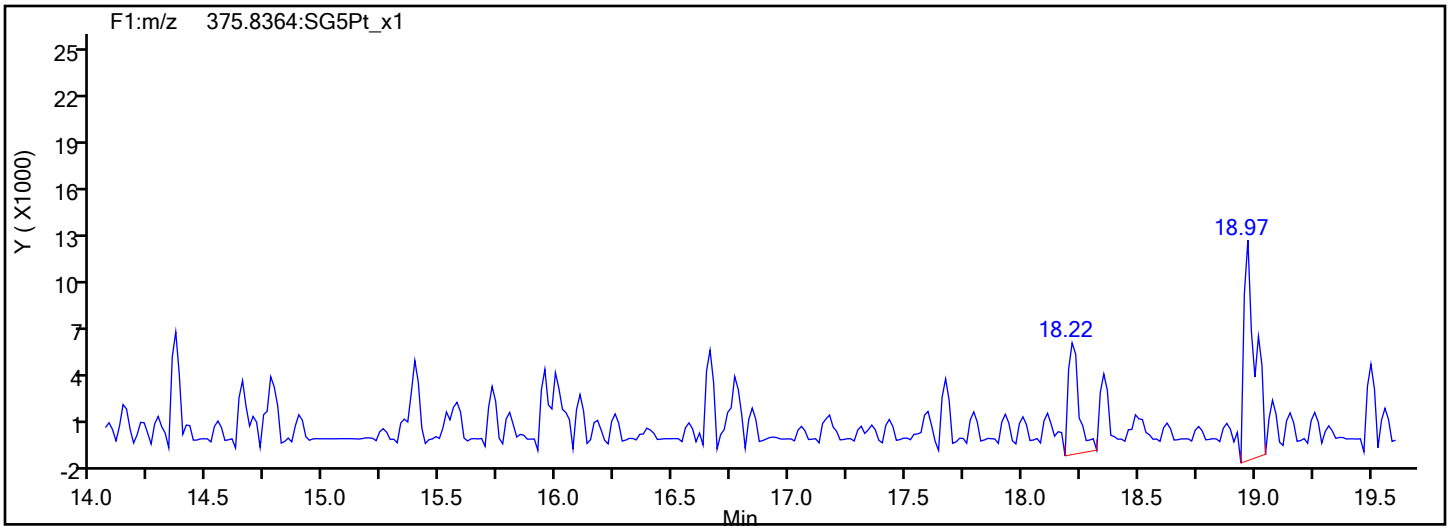

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

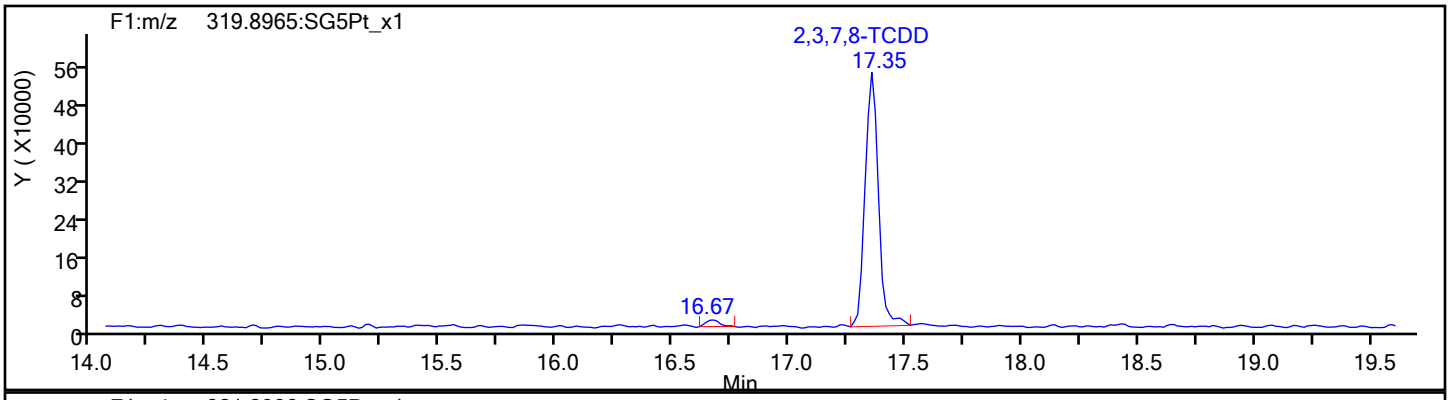

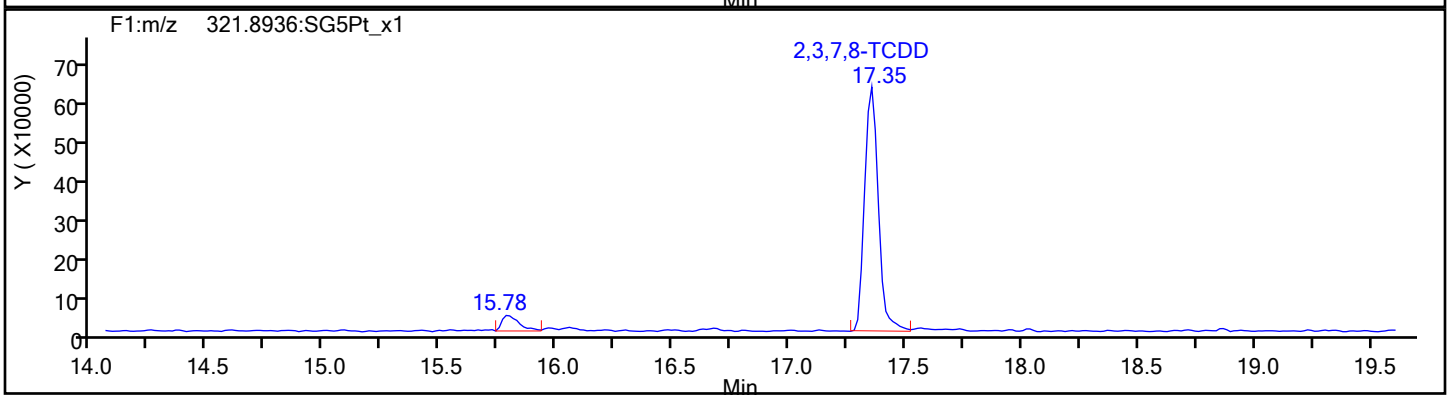

TCDD Standards

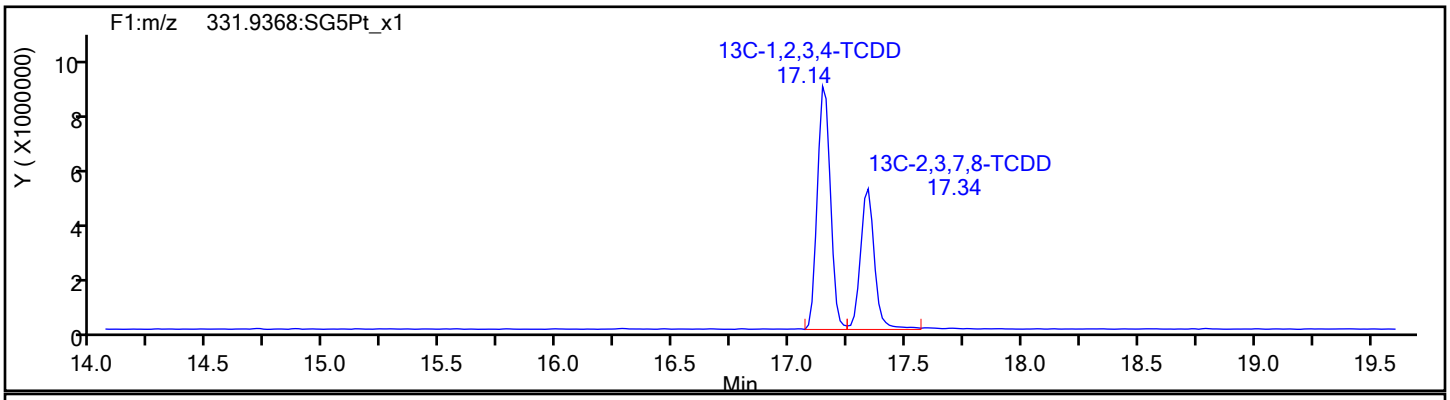

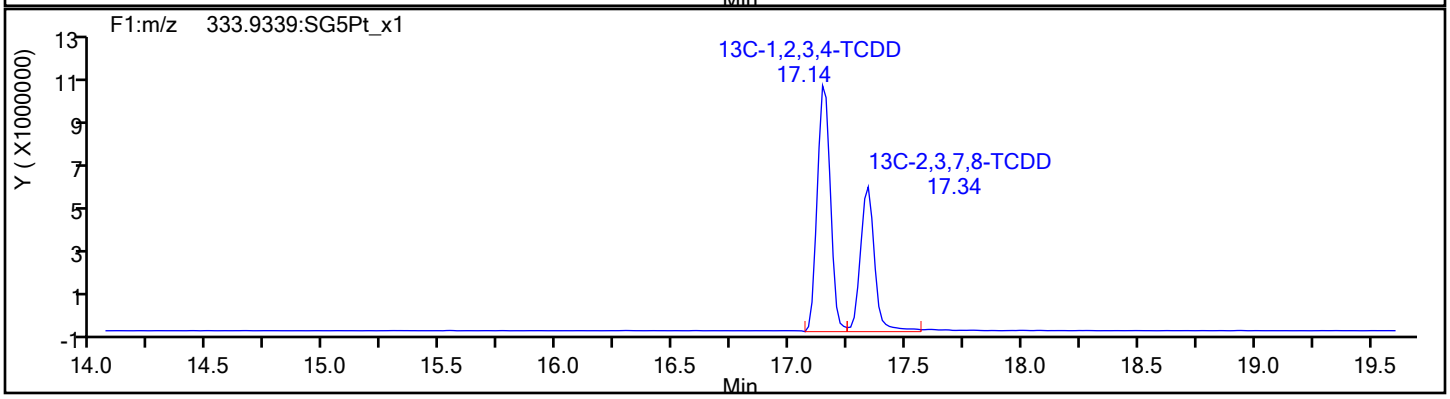

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Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

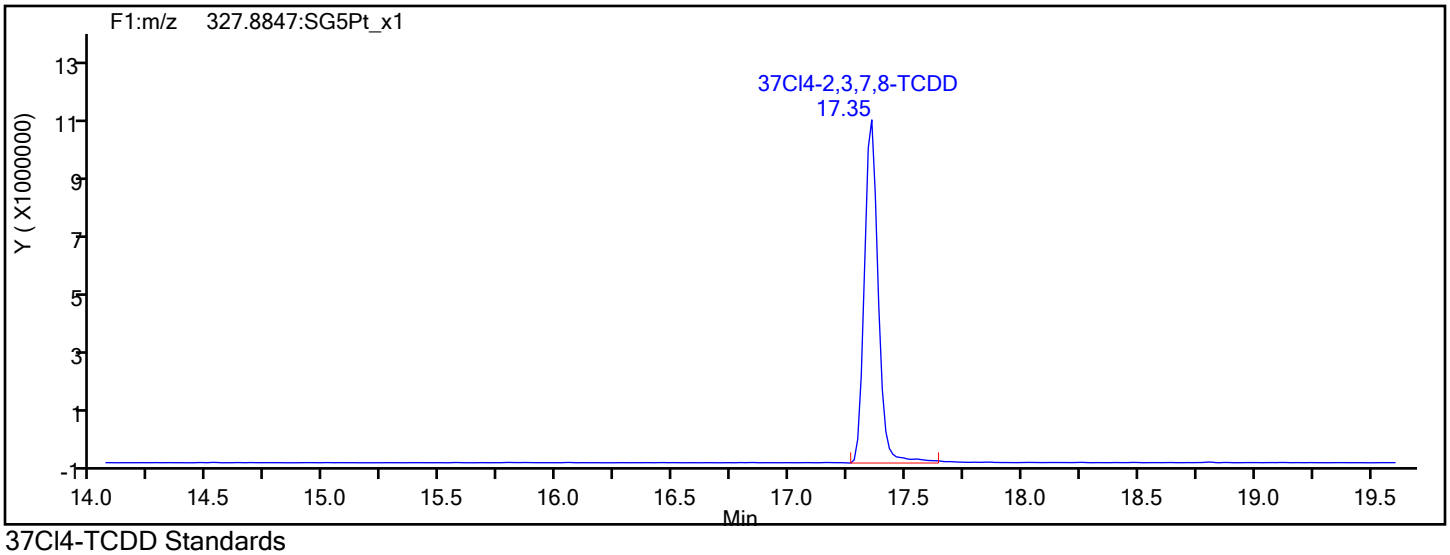

37Cl4-TCDD Standards

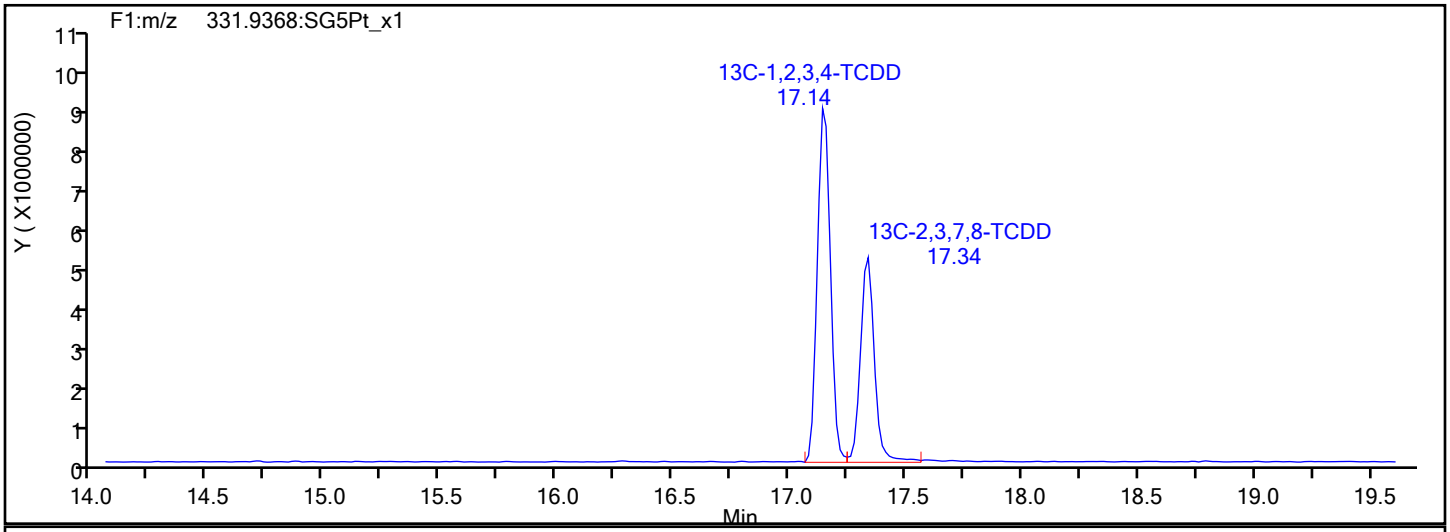

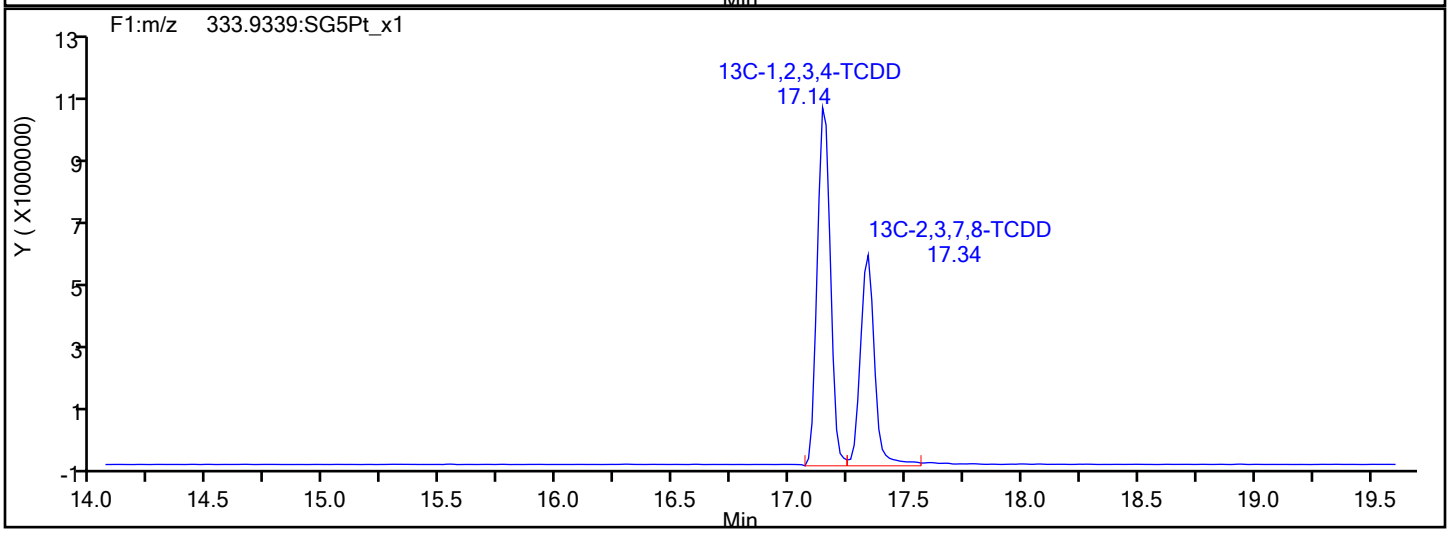

Report Date: 08-Jan-2020 09:03:13 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

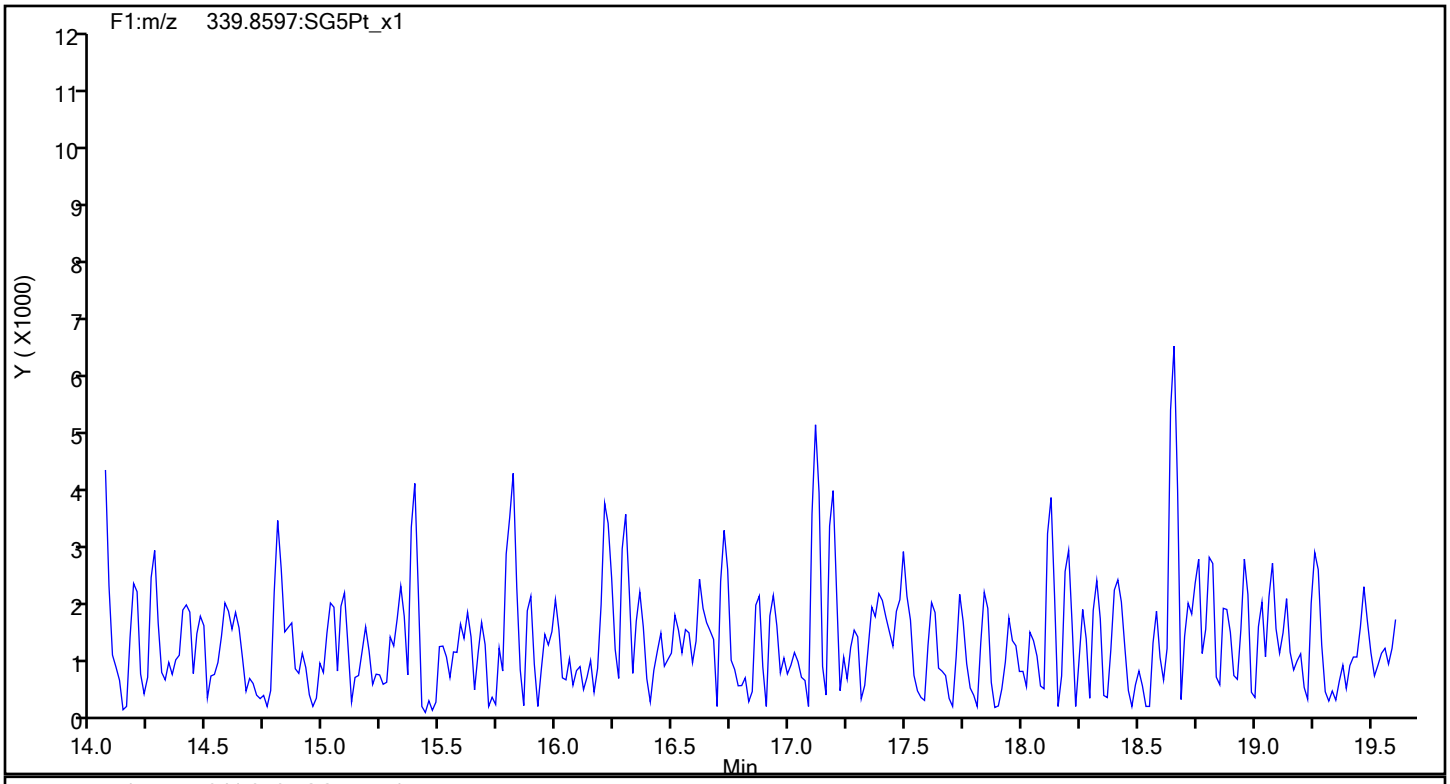

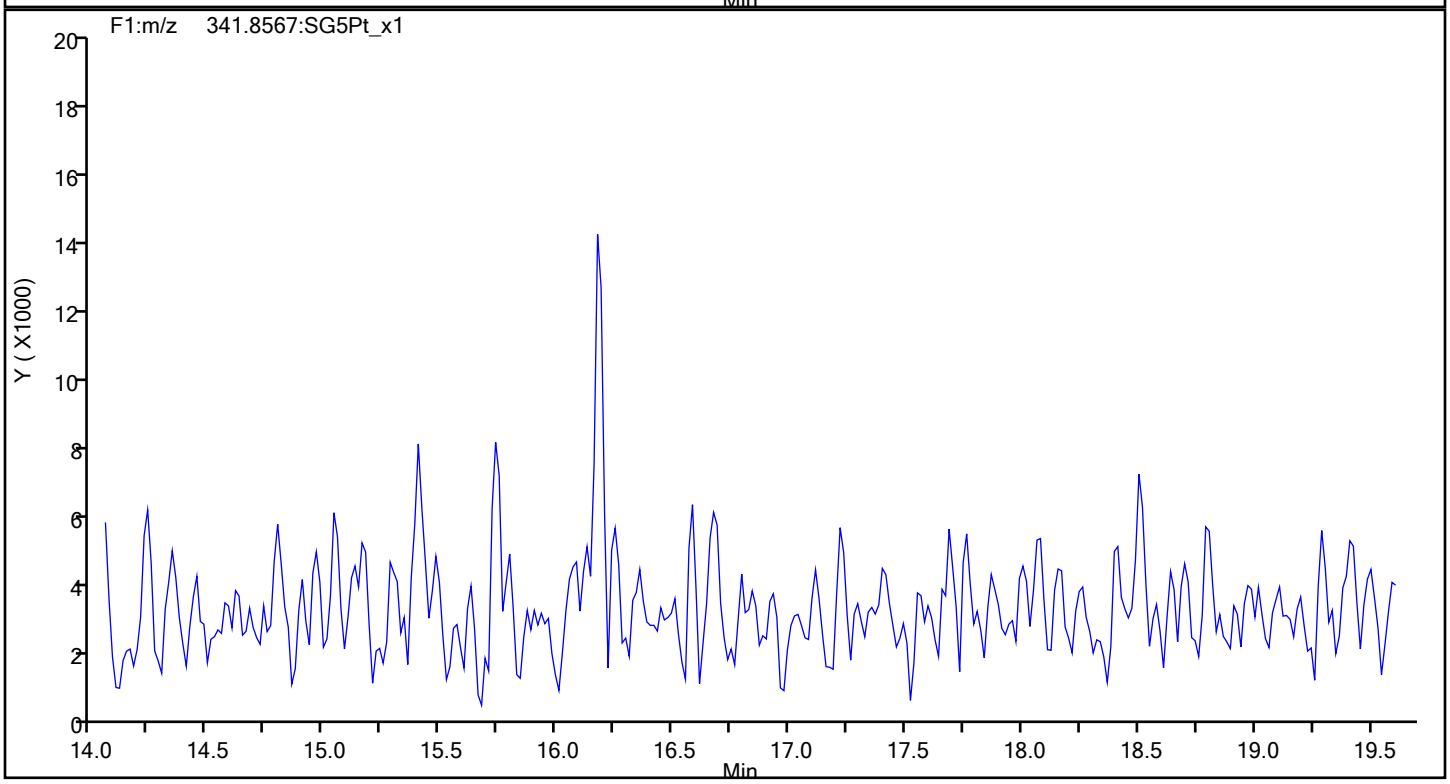

Report Date: 08-Jan-2020 09:03:13 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\3D5\20200107-89195.b\06JA20A3D5_6.d		
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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

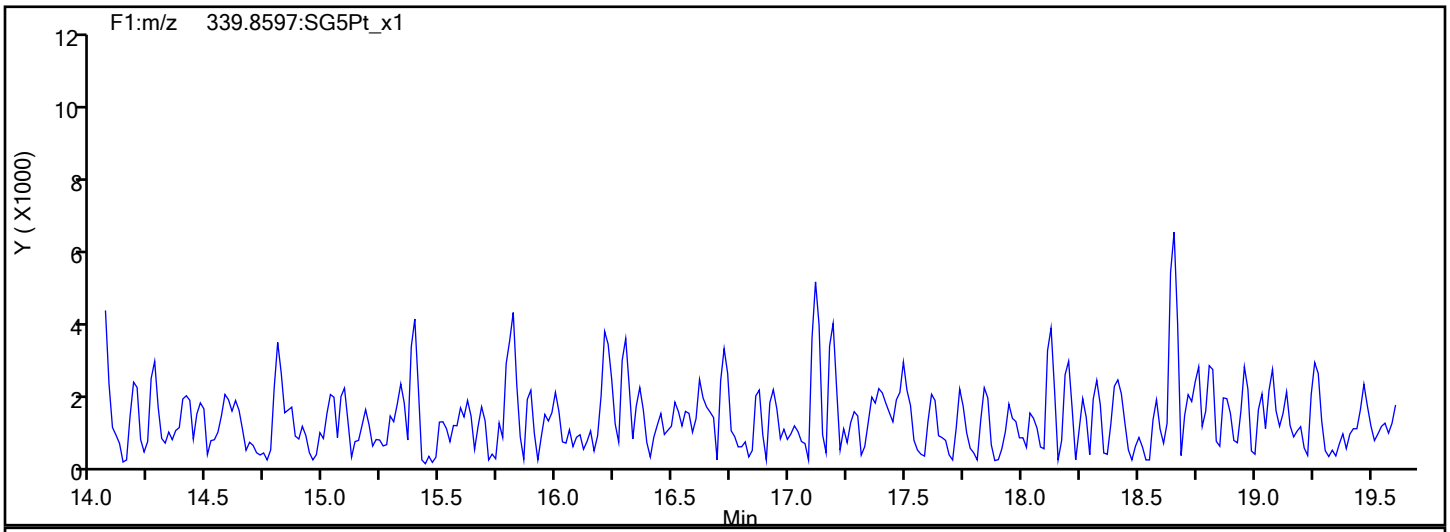

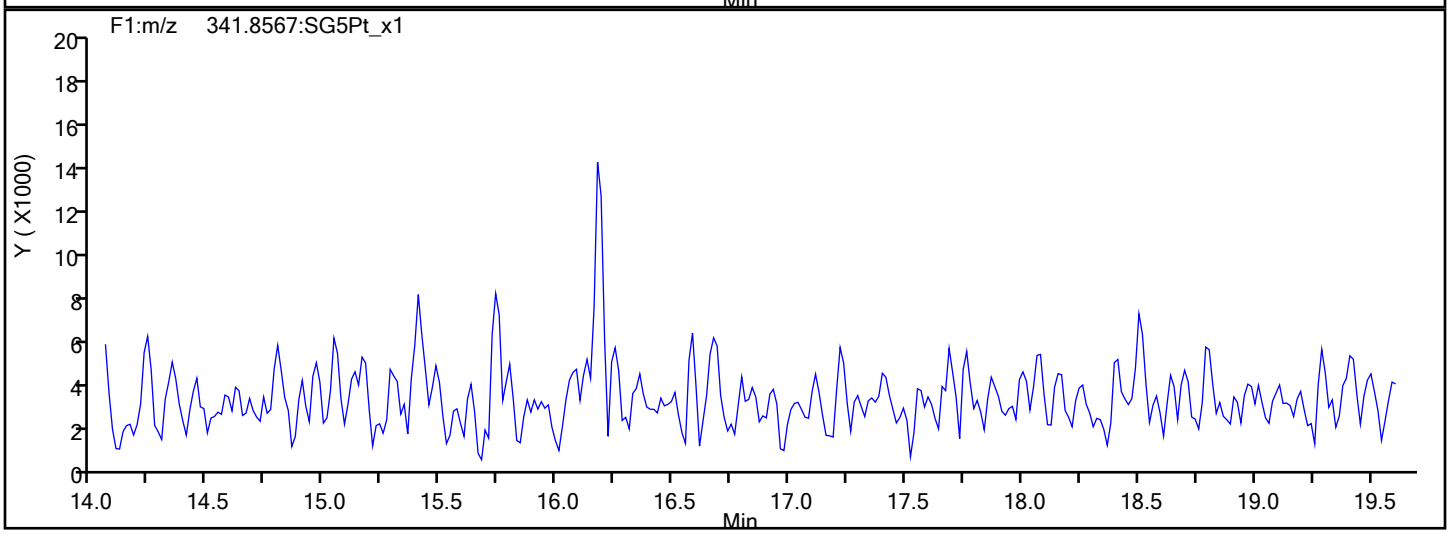

F1 PeCDFs Interference Mass

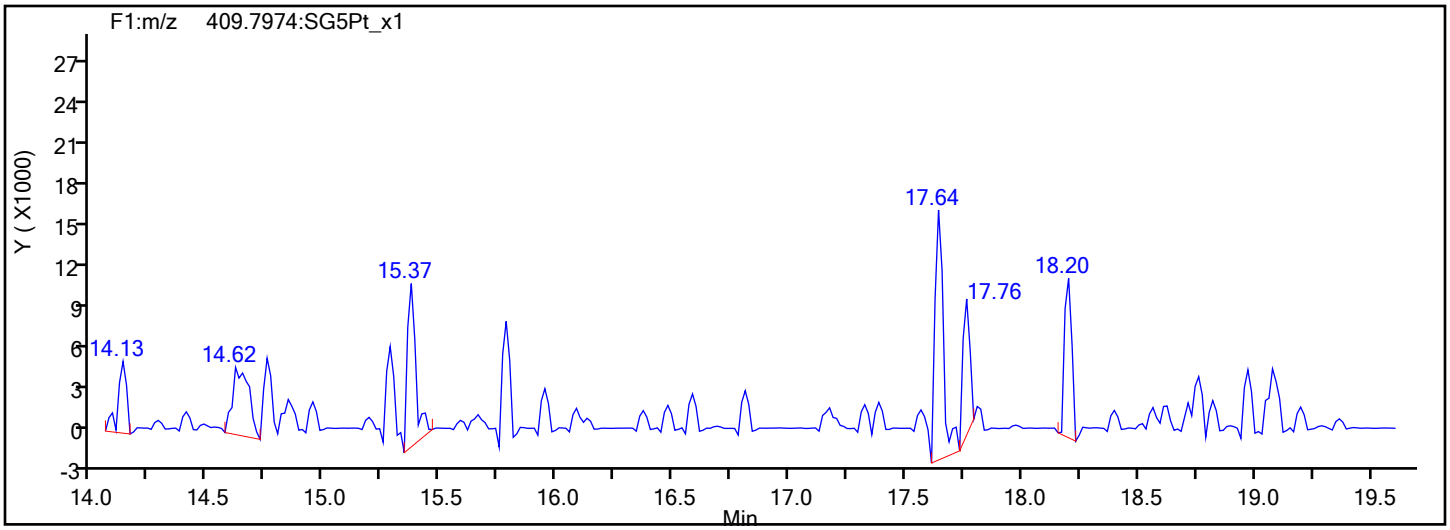

Report Date: 08-Jan-2020 09:03:13 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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Instrument ID:	3D5	Operator ID:	ALM
Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	349283	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

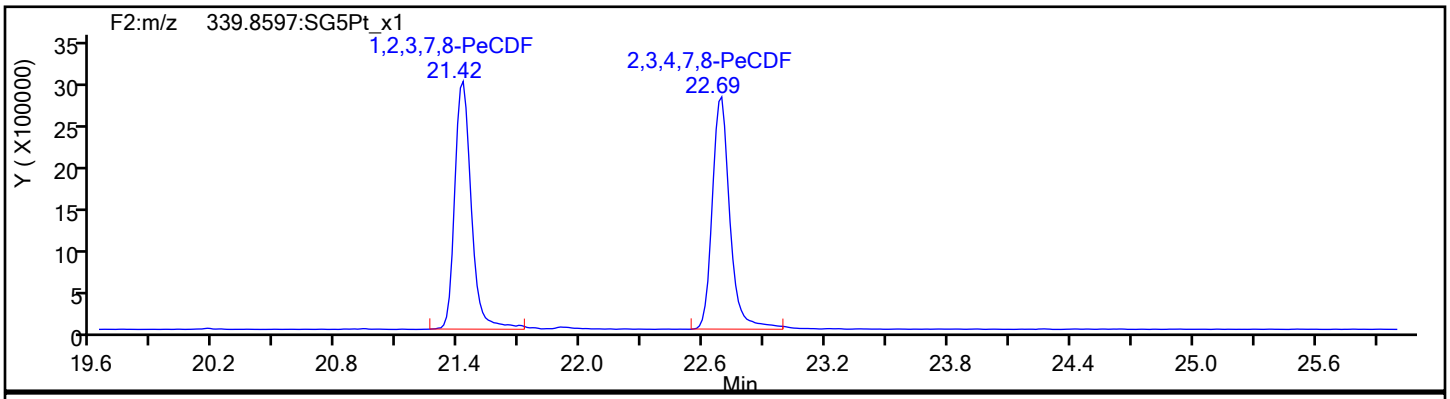

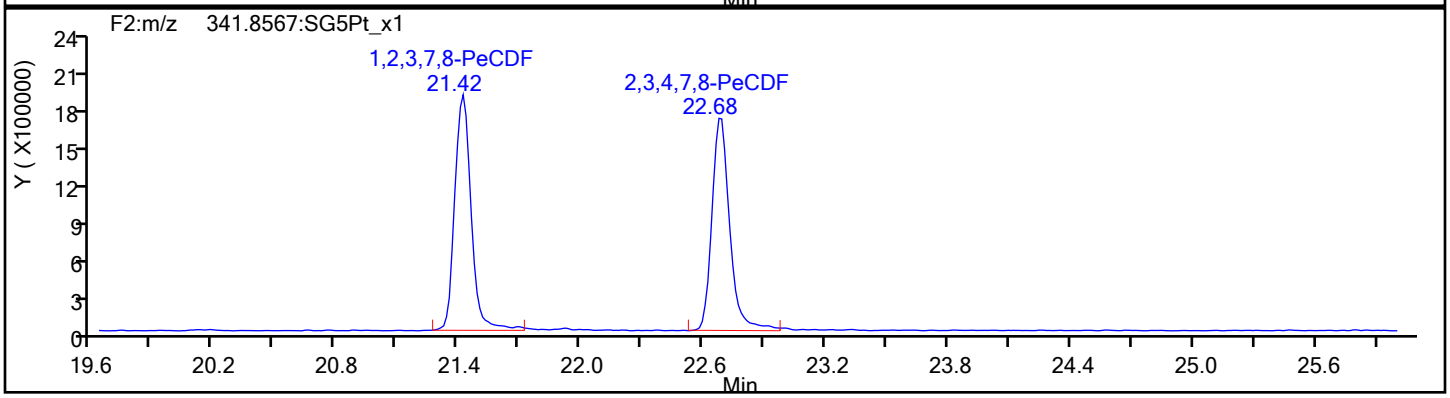

PeCDF Standards

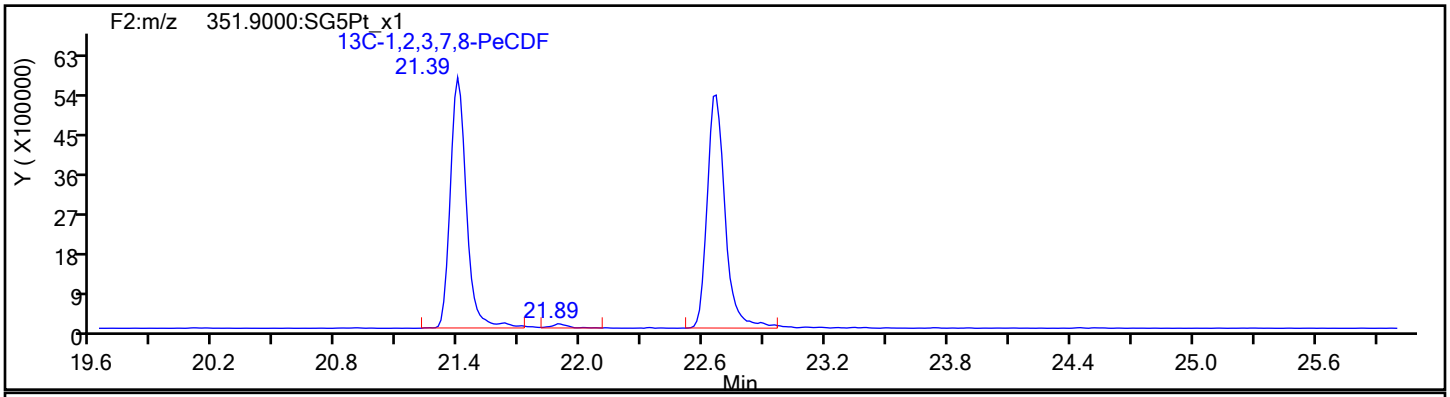

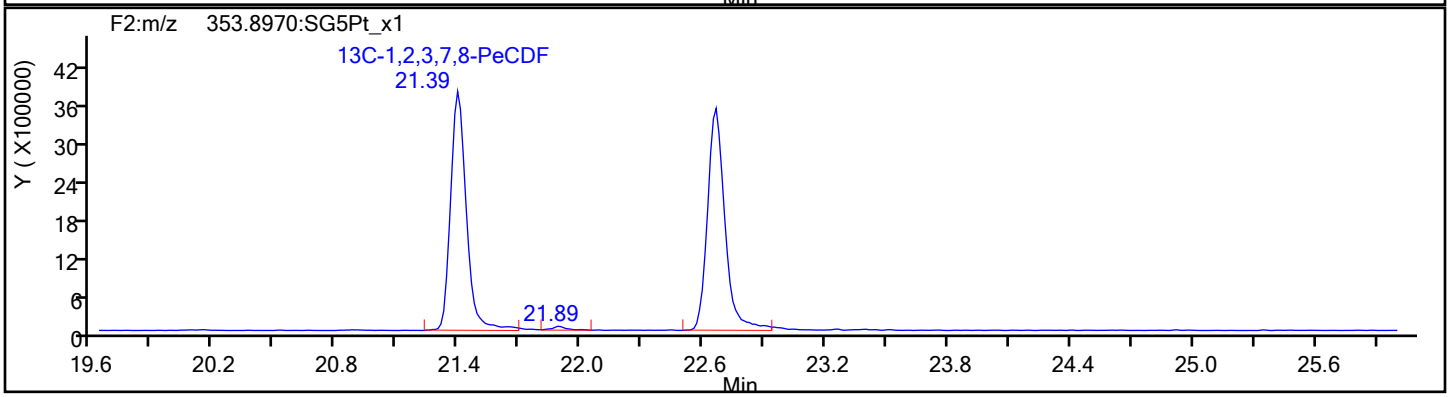

Report Date: 08-Jan-2020 09:03:13 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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PeCDF

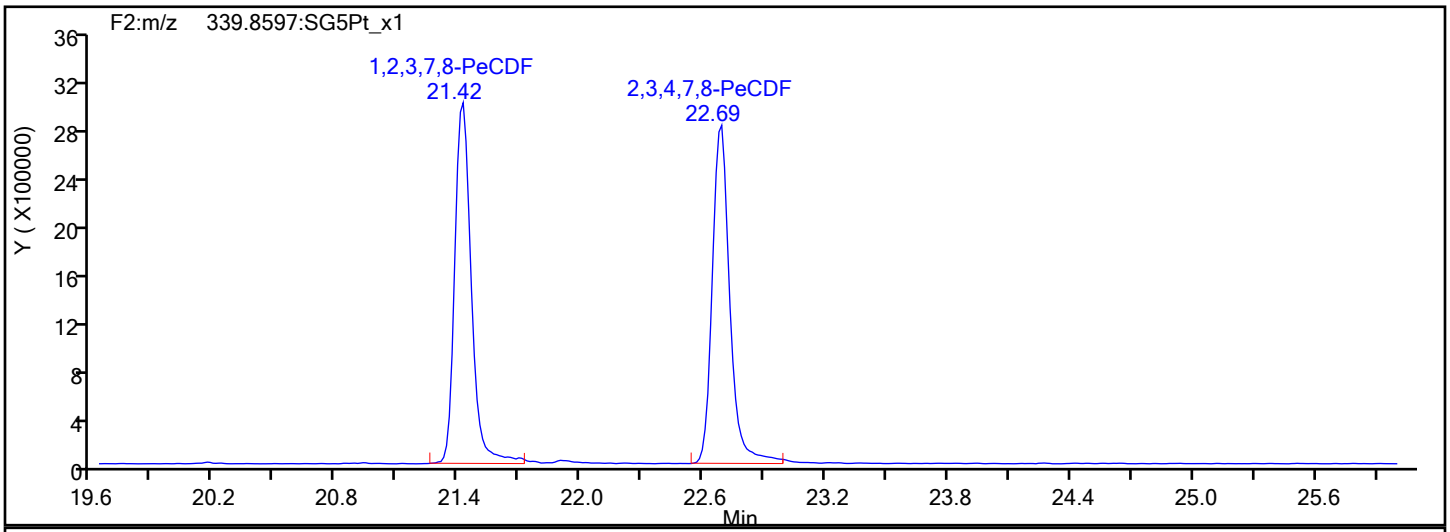

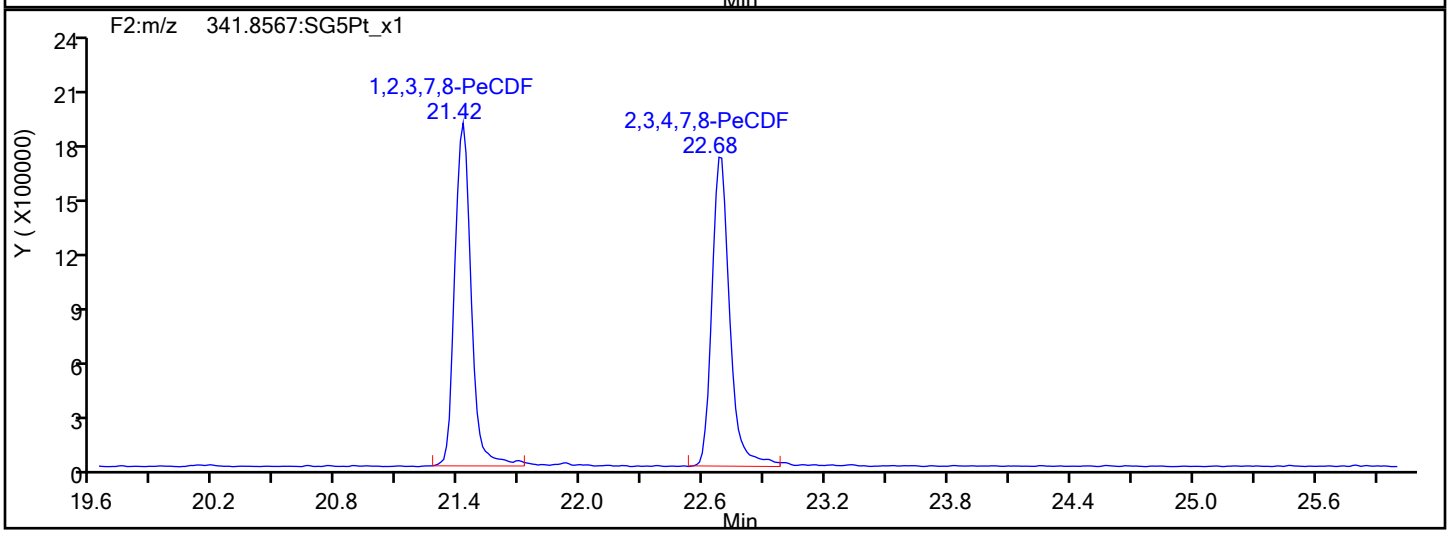

PeCDF Interference Mass

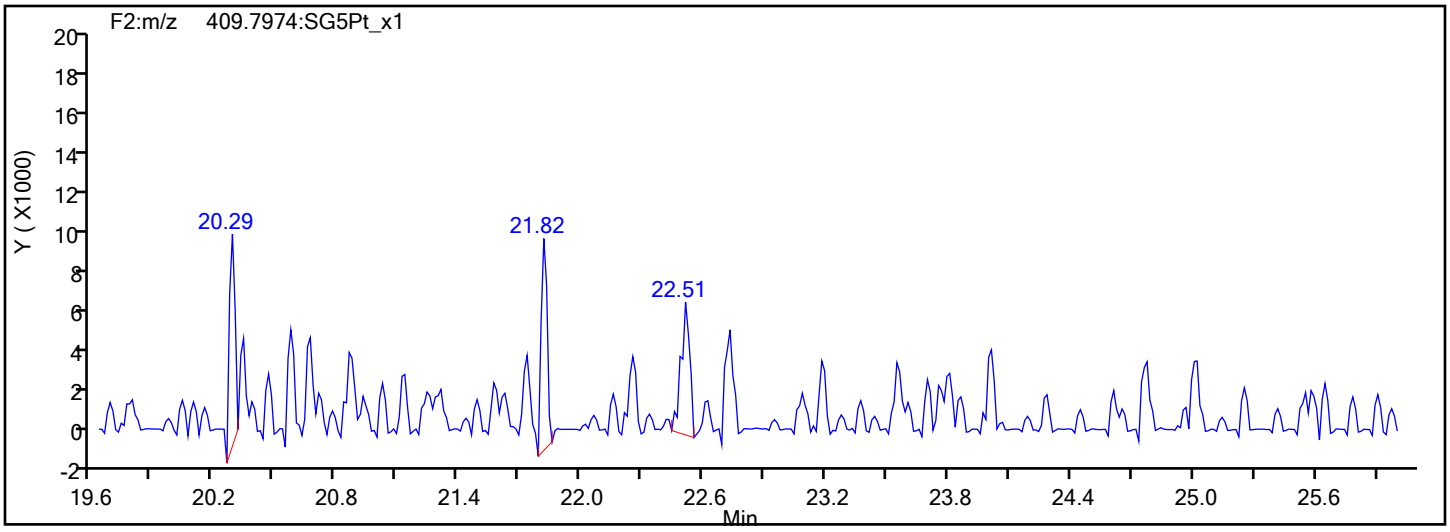

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

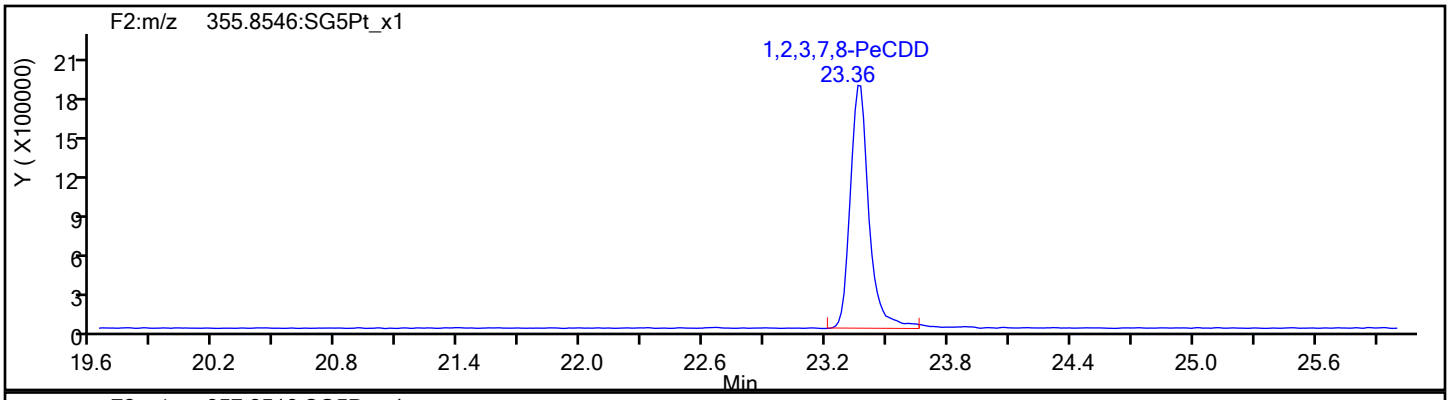

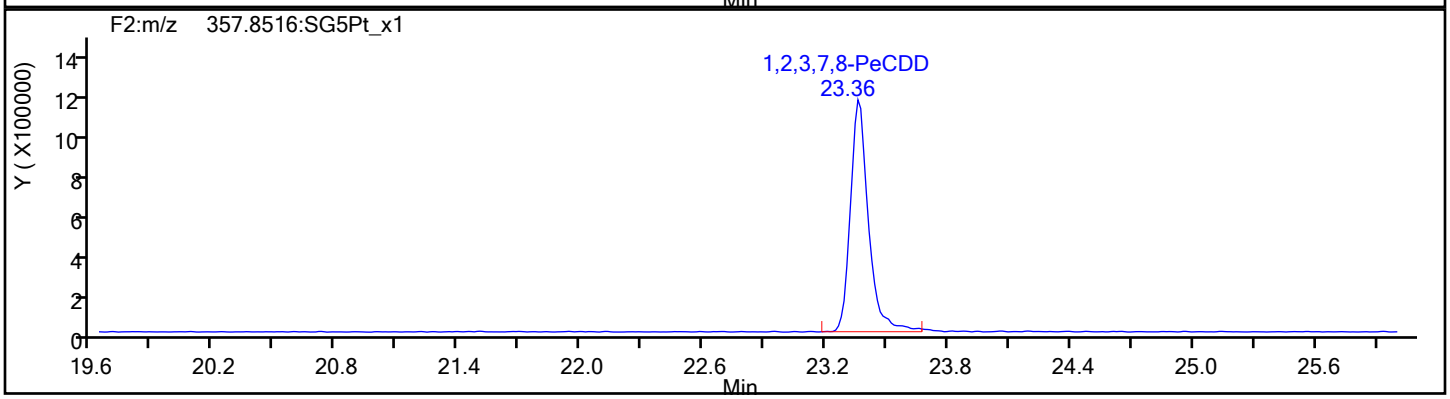

PeCDD Standards

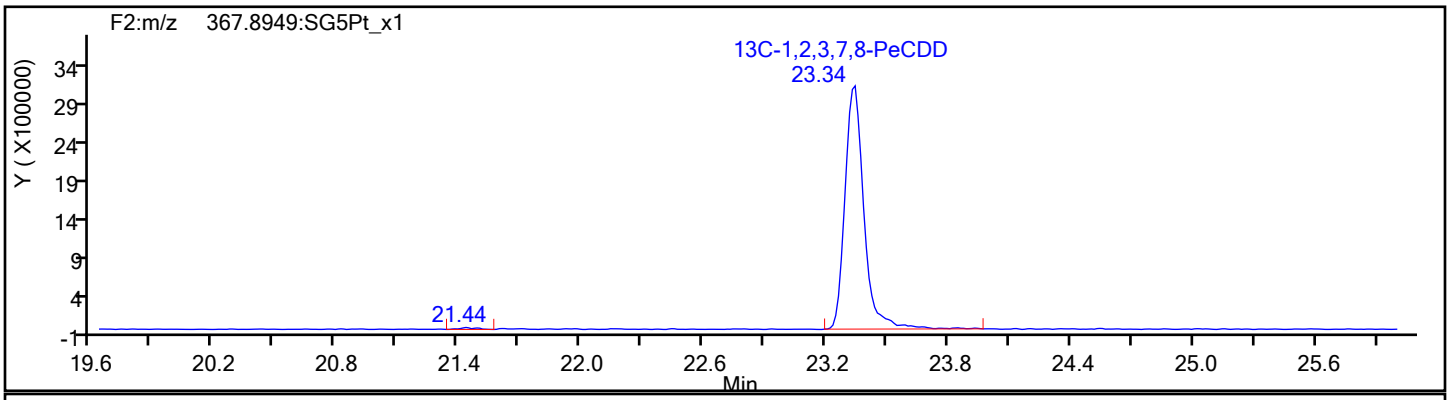

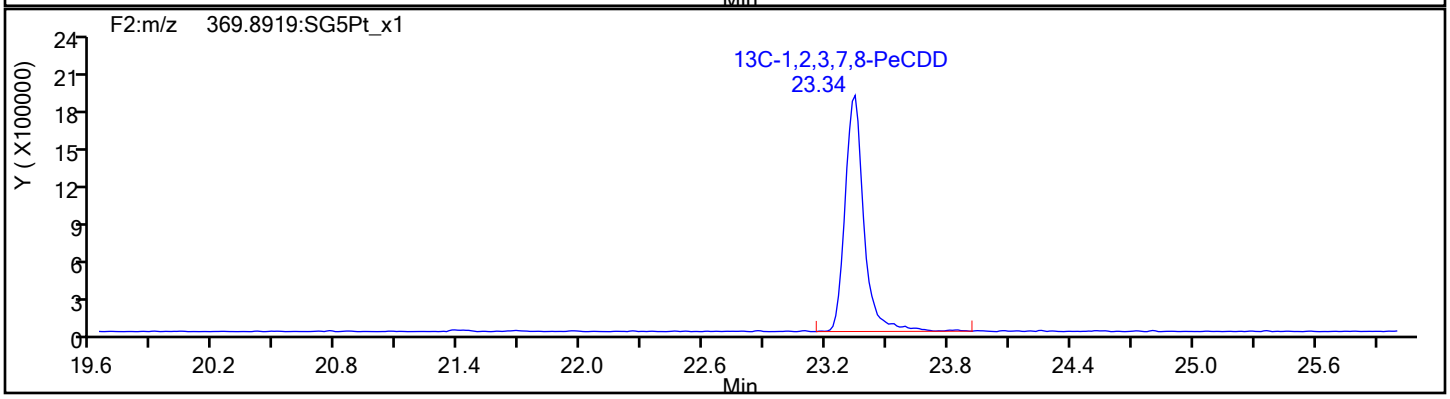

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	349283	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

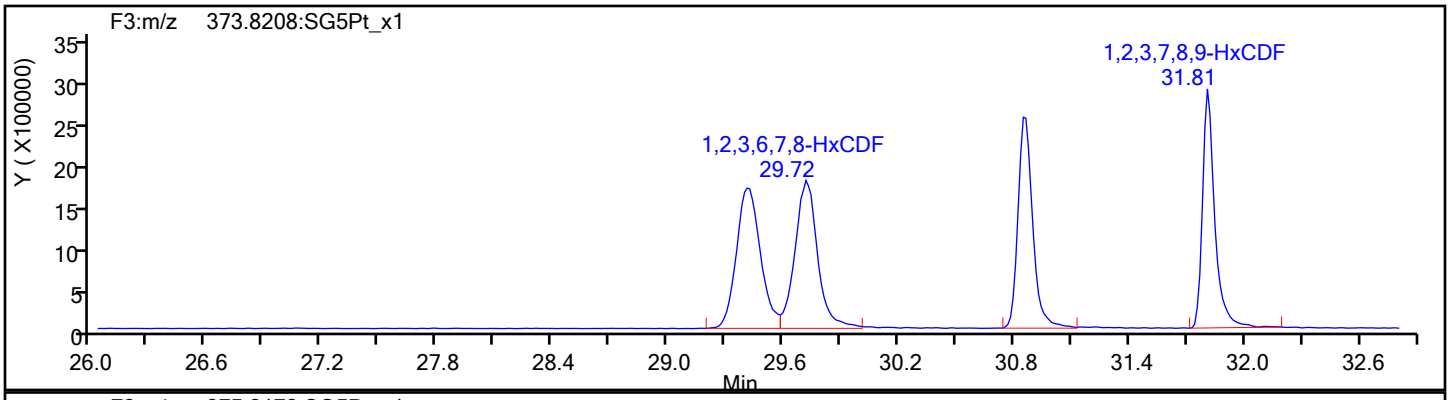

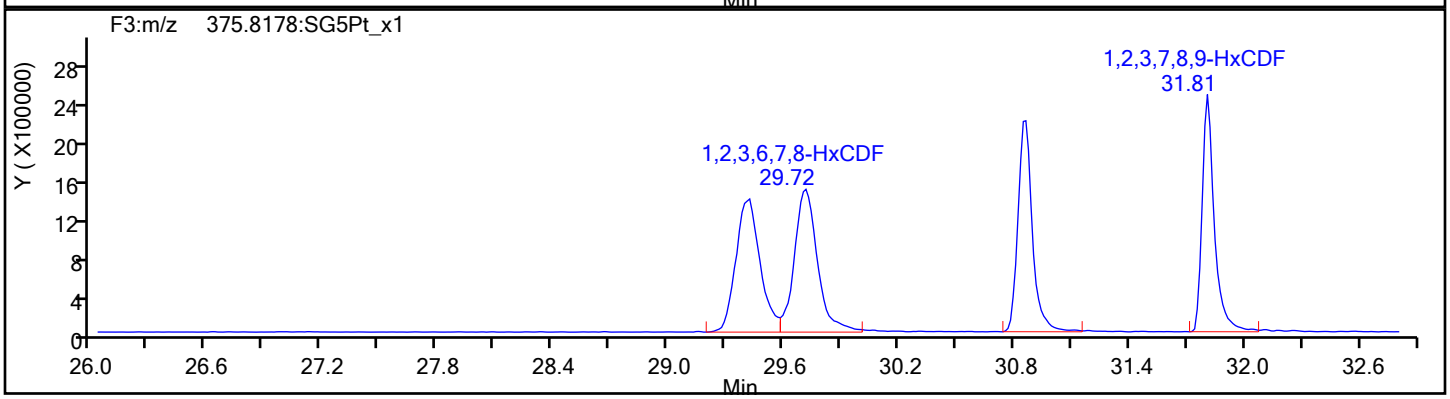

HxCDF Standards

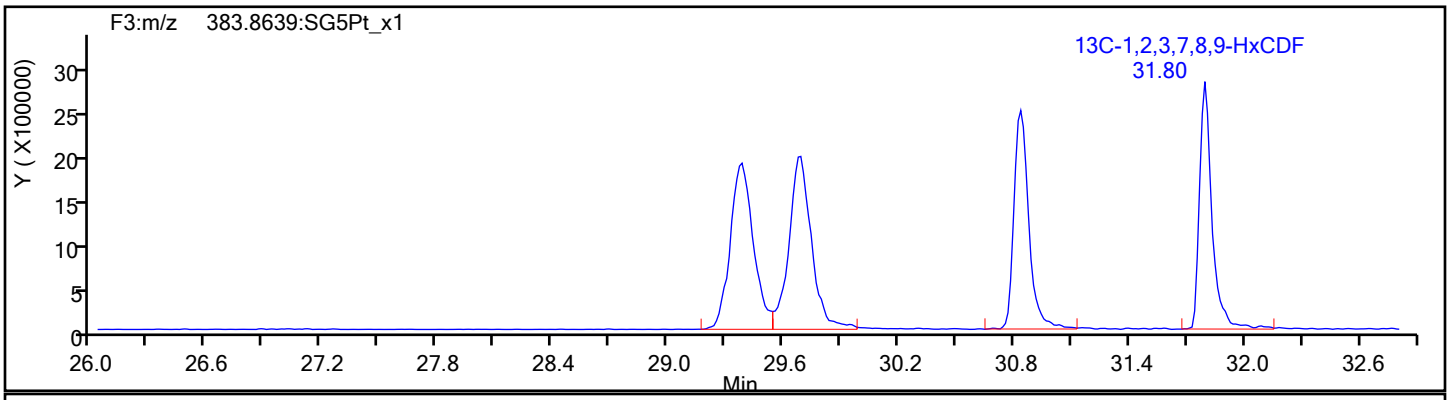

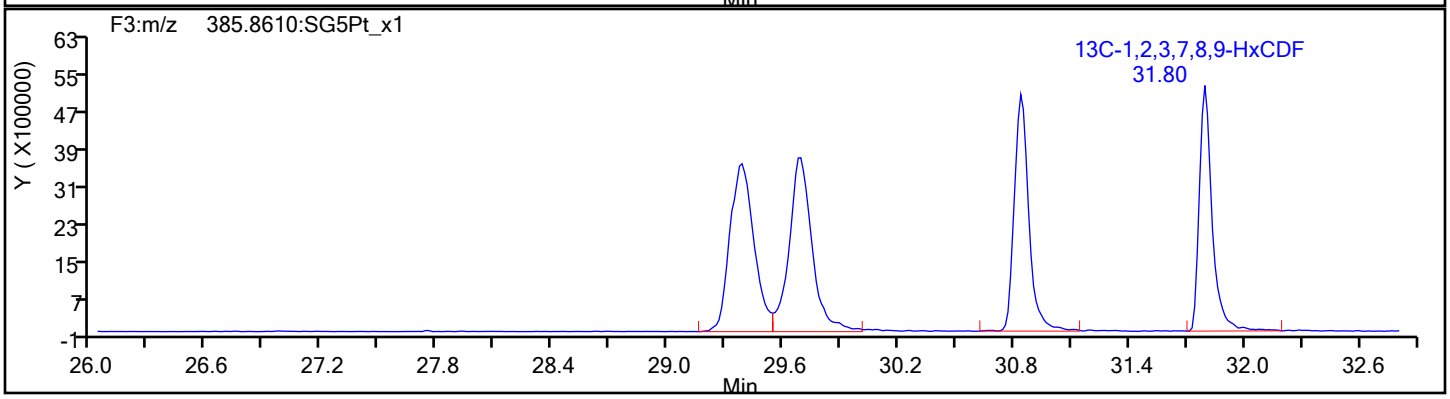

Report Date: 08-Jan-2020 09:03:14 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_3D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

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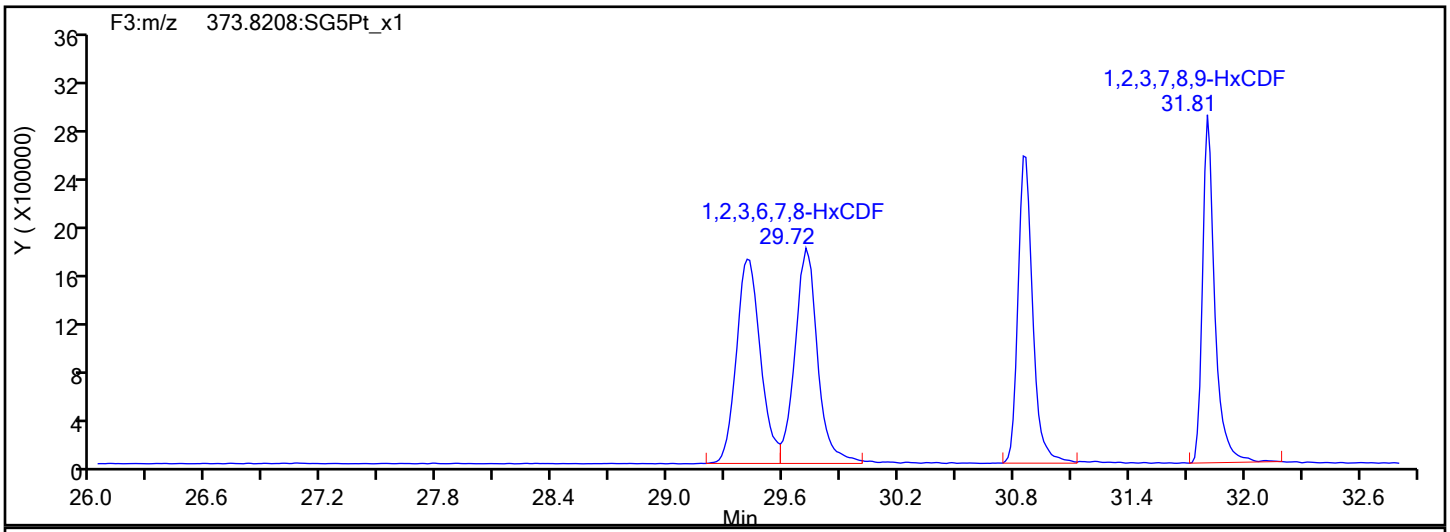

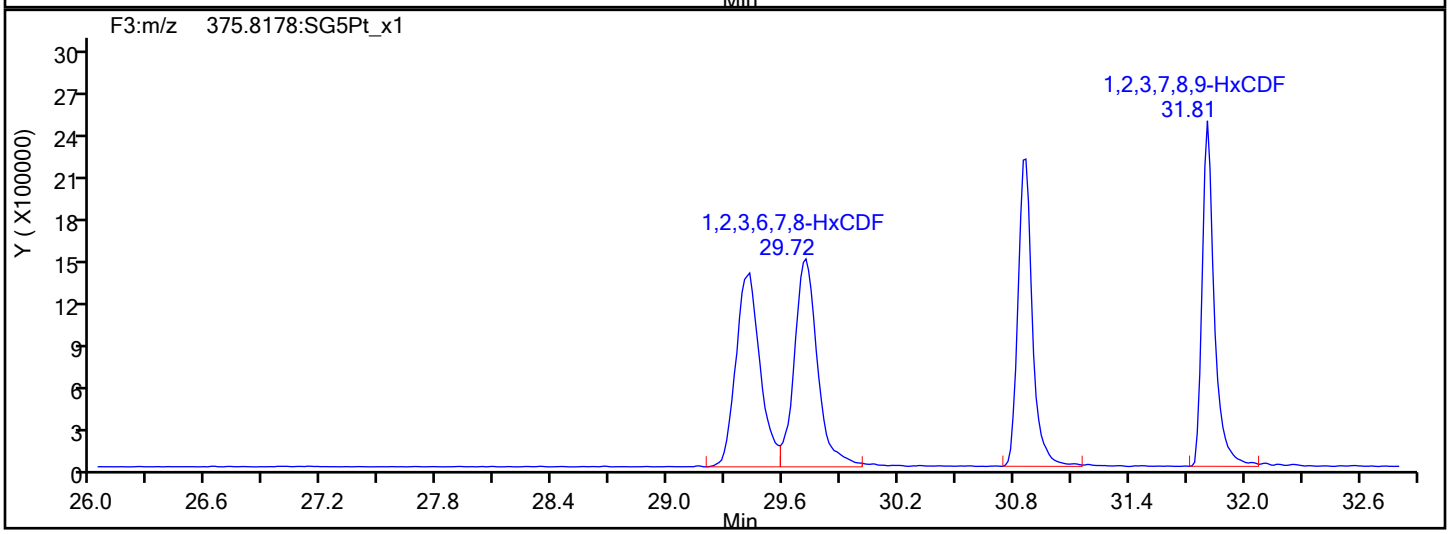

HxCDF Interference Mass

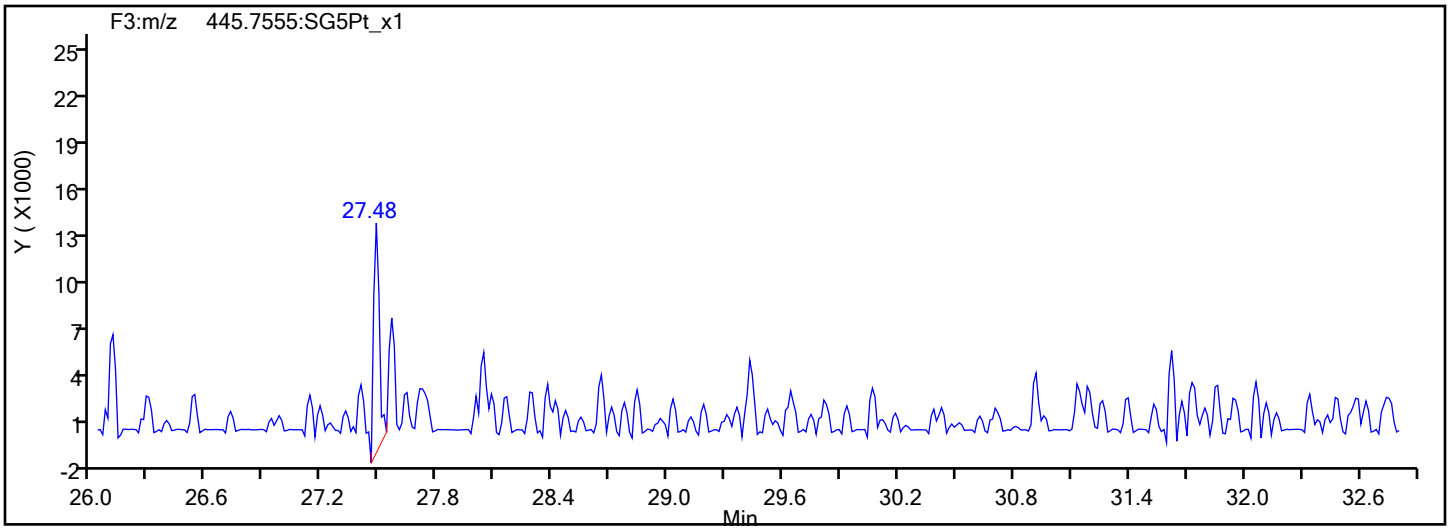

Report Date: 08-Jan-2020 09:03:14 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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HxCDD

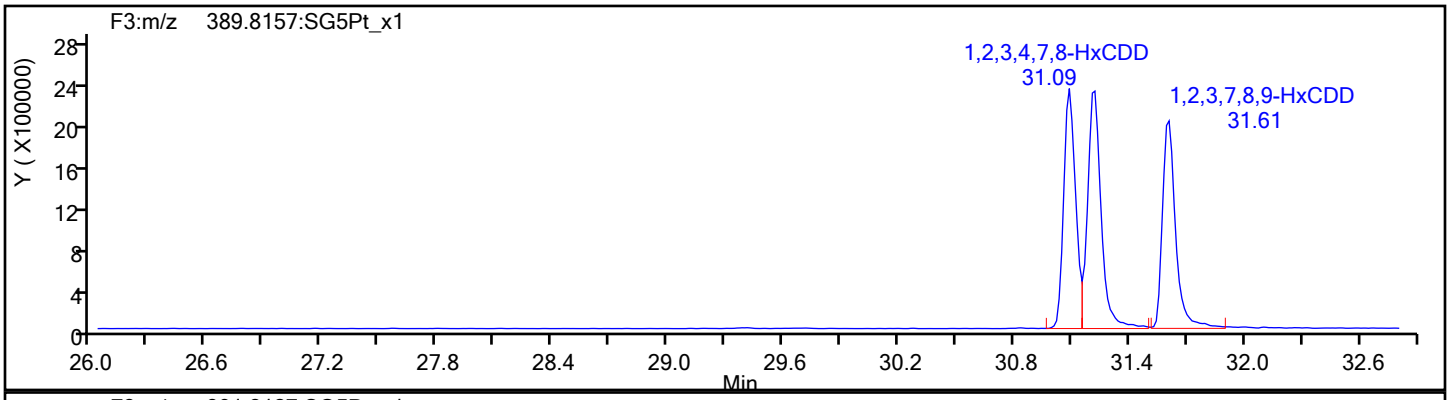

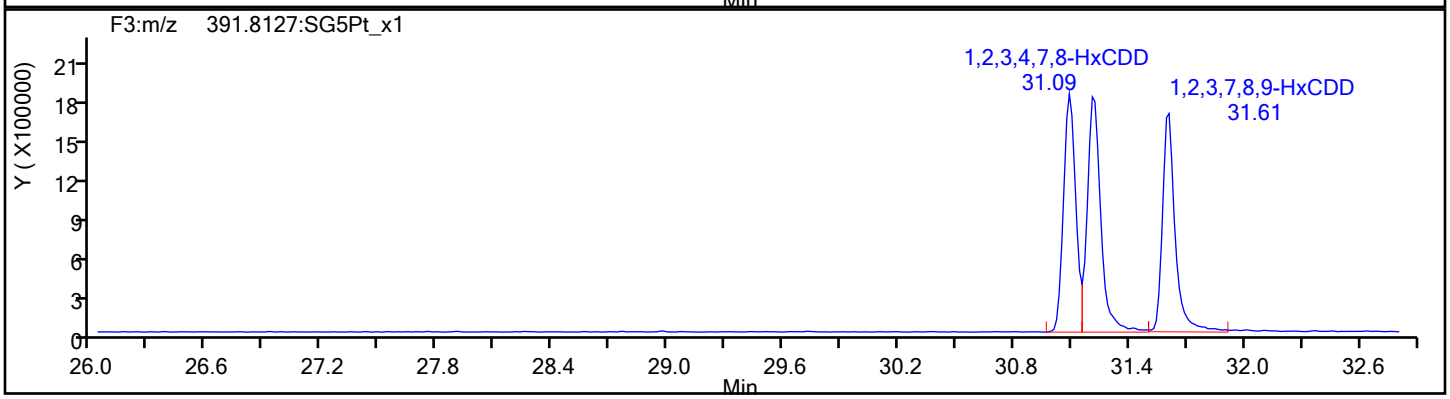

HxCDD Standards

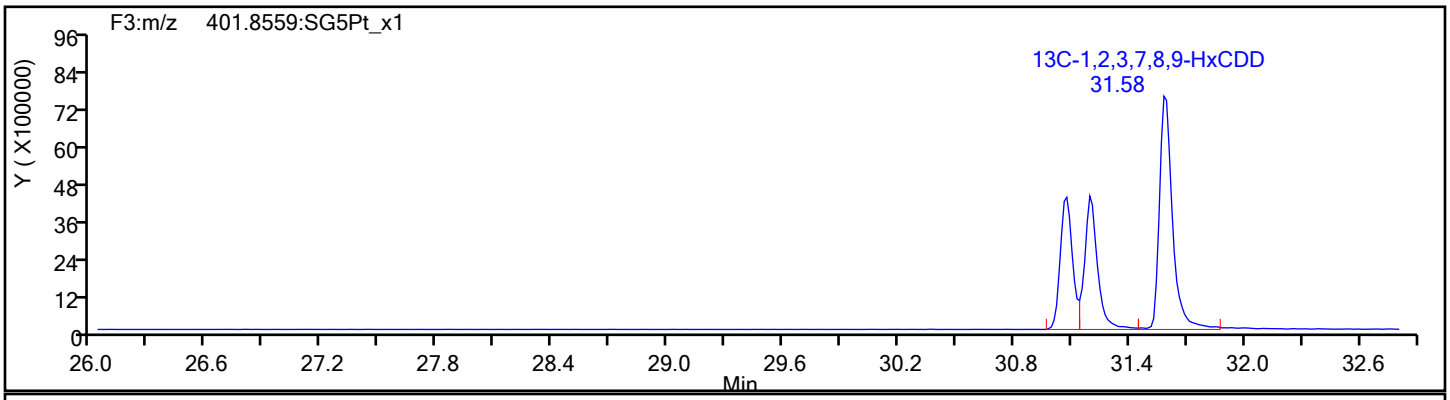

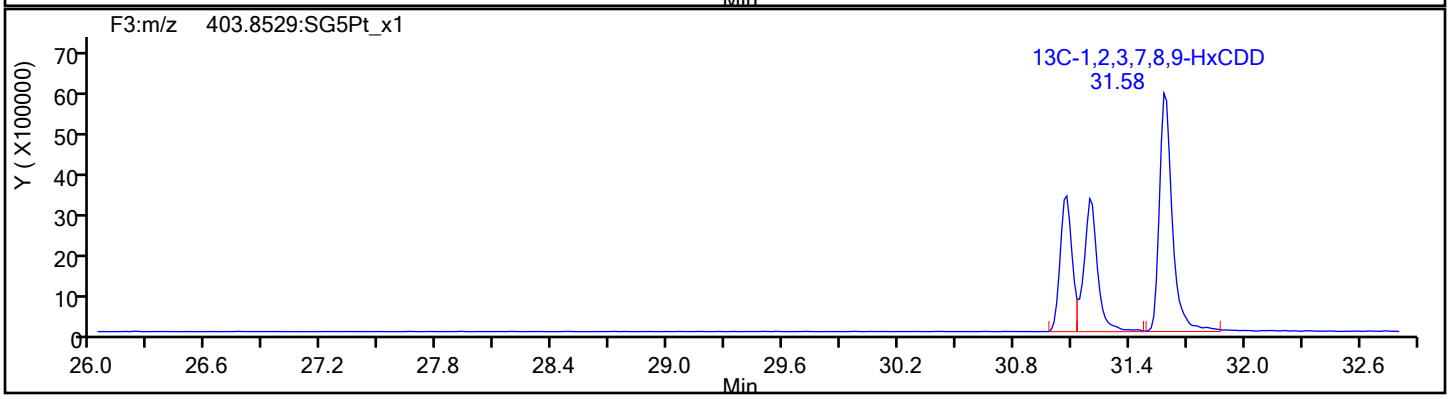

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Eurofins TestAmerica, Sacramento

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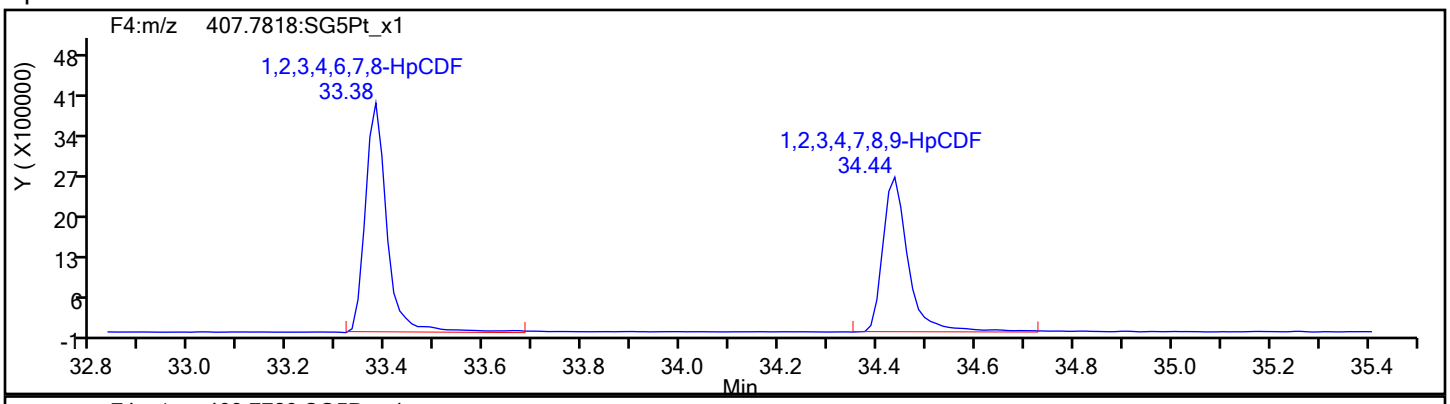

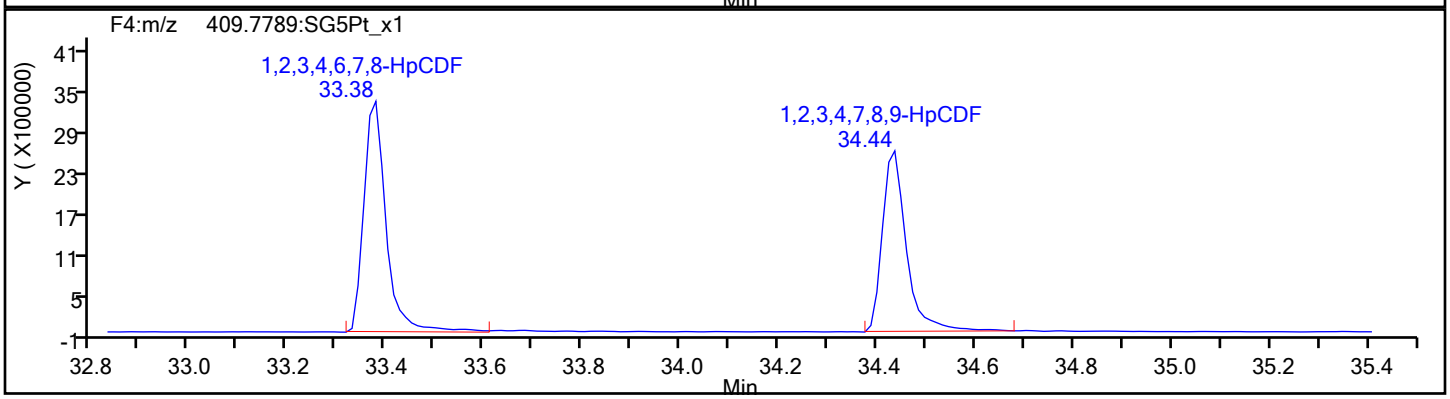

HpCDF Standards

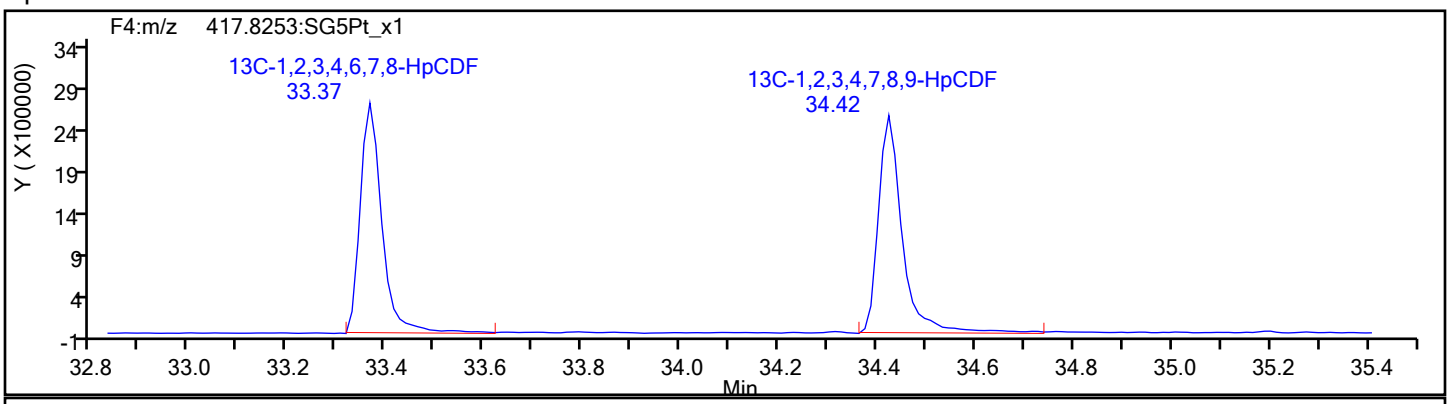

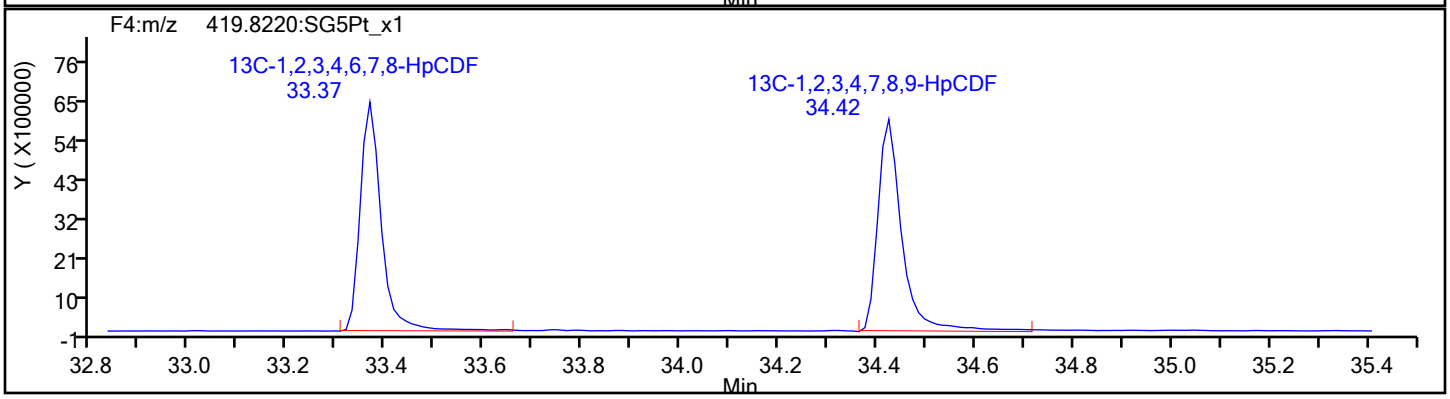

Report Date: 08-Jan-2020 09:03:14 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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HpCDF

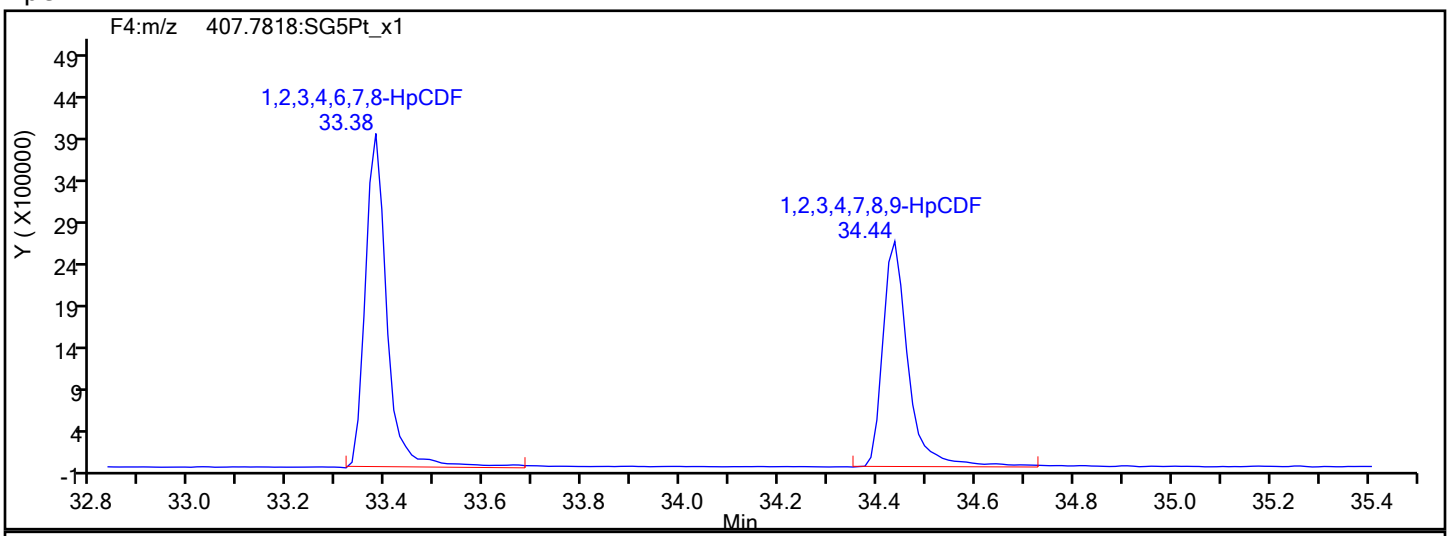

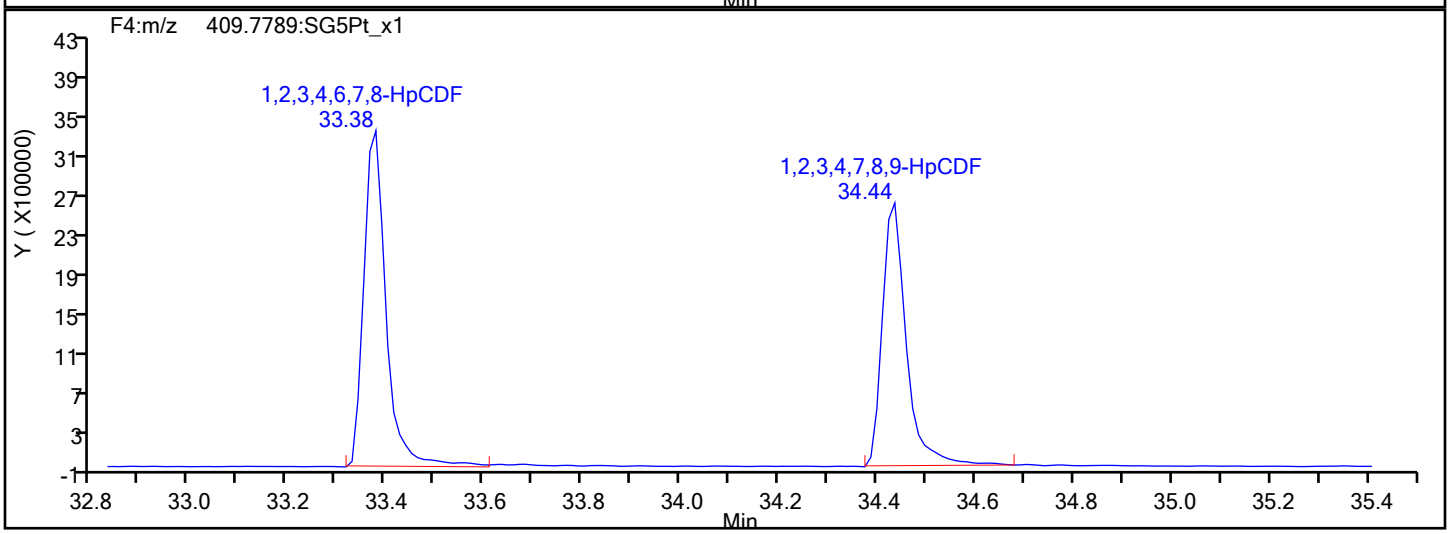

HpCDF Interference Mass

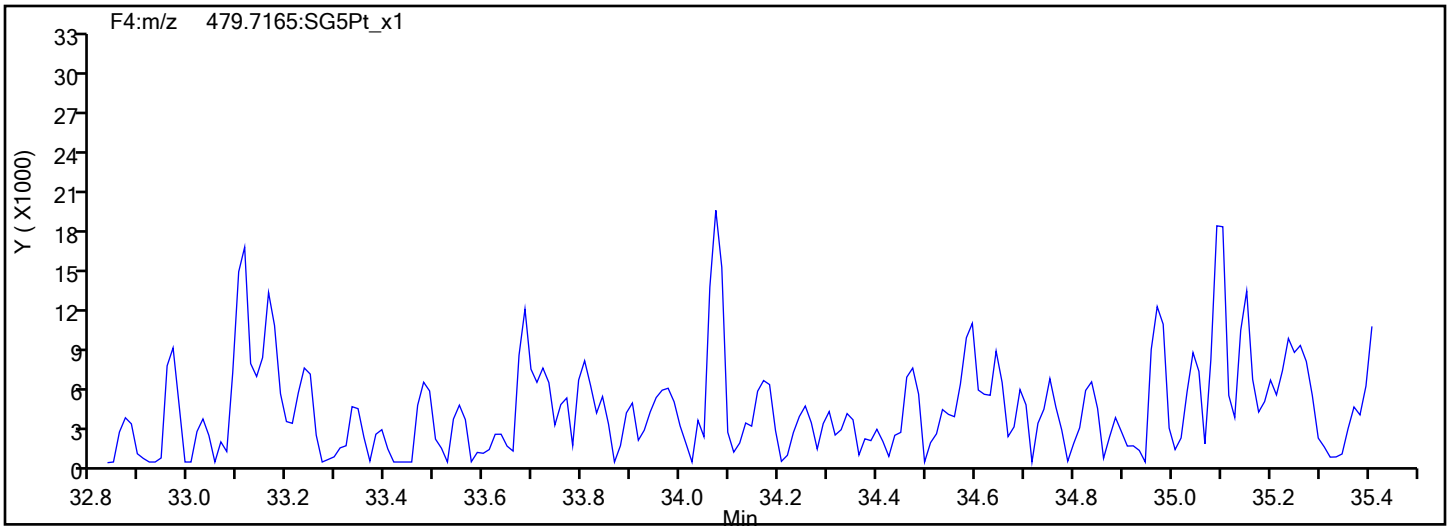

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Eurofins TestAmerica, Sacramento

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HpCDD

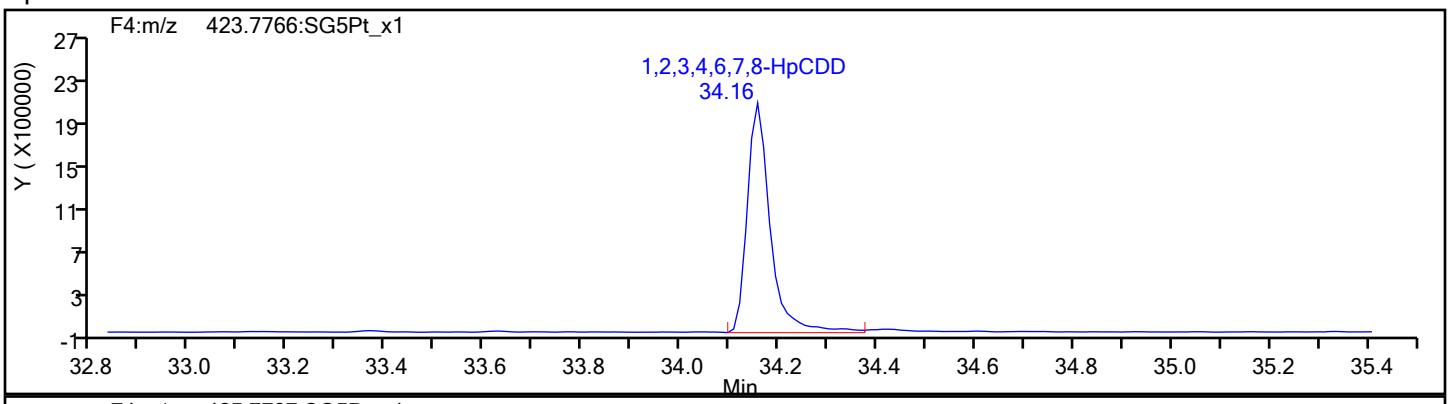

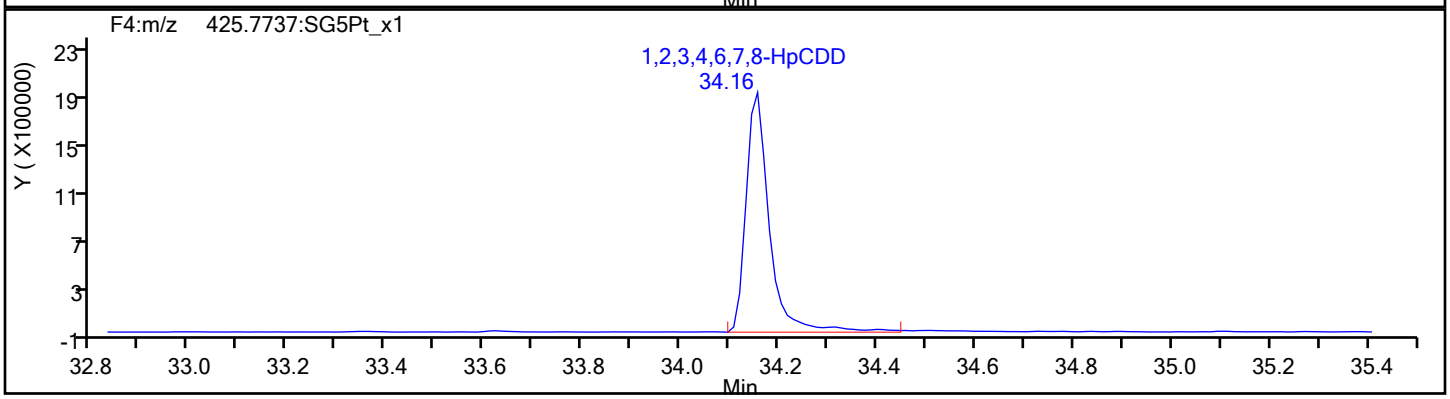

HpCDD Standards

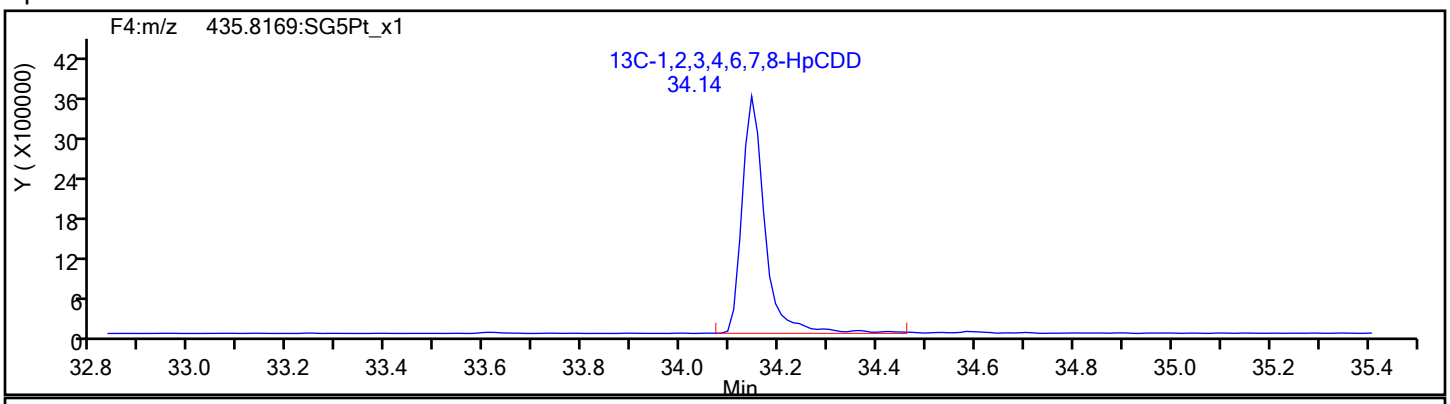

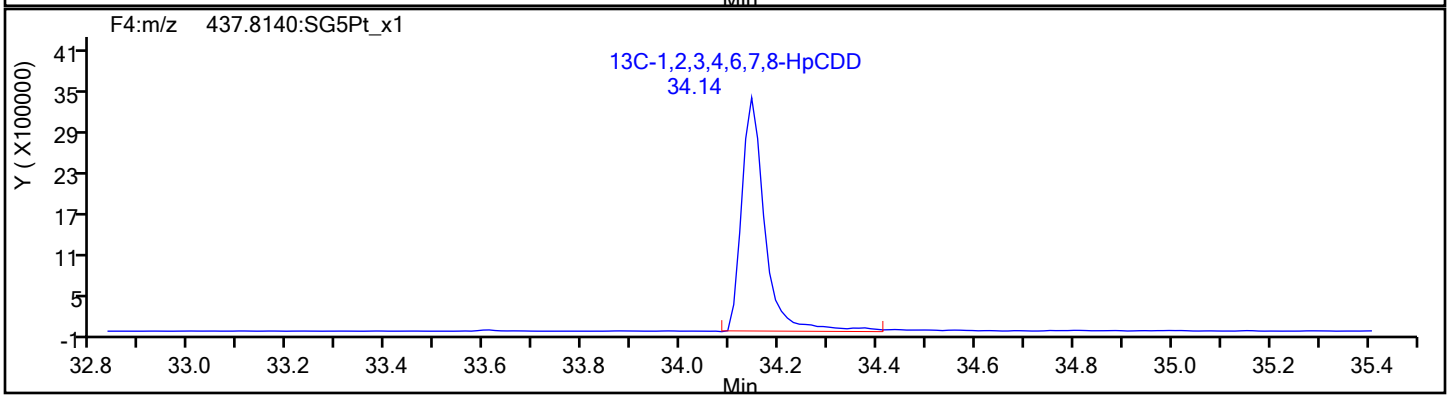

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Eurofins TestAmerica, Sacramento

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OCDF

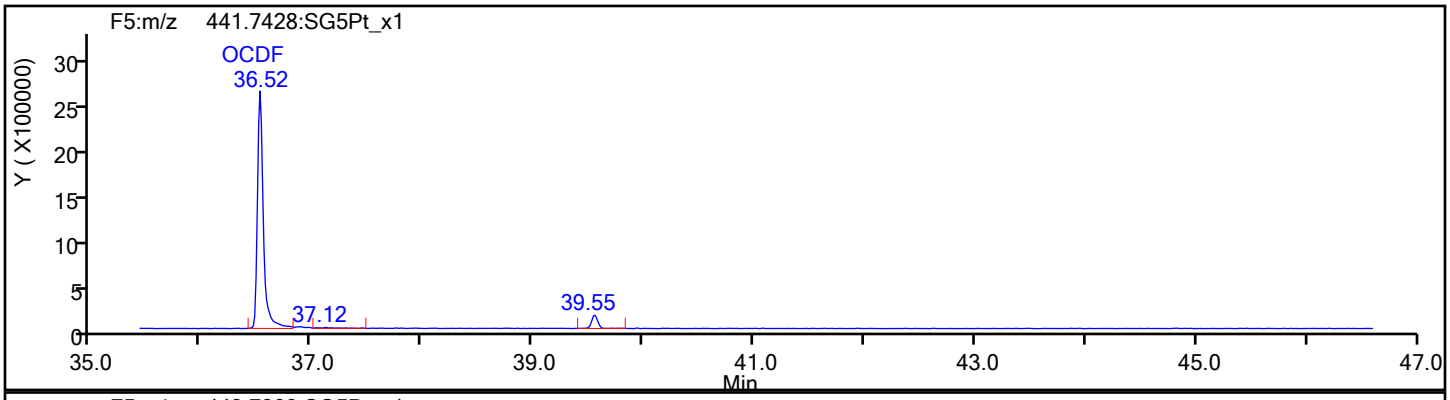

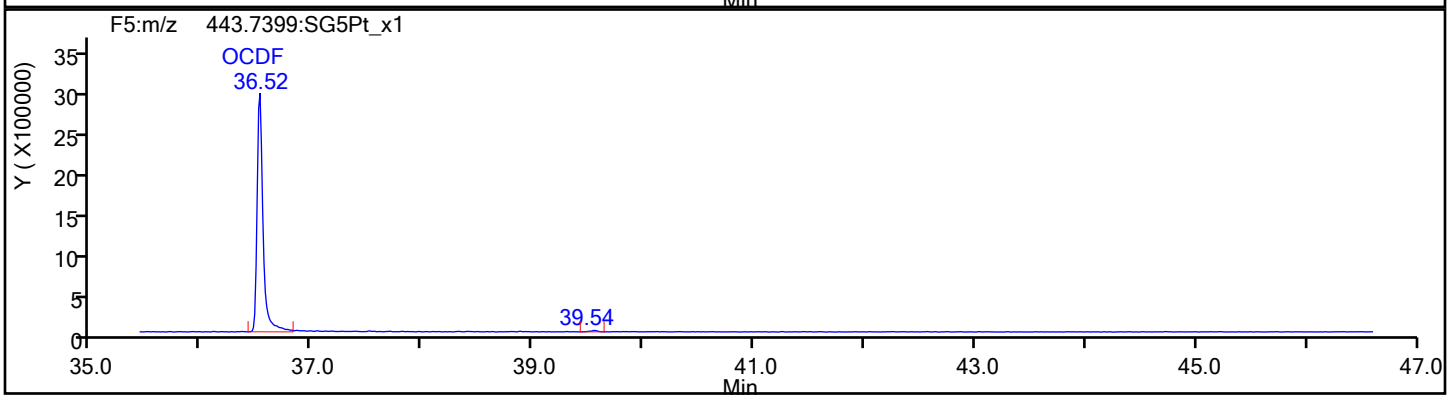

OCDF Standards

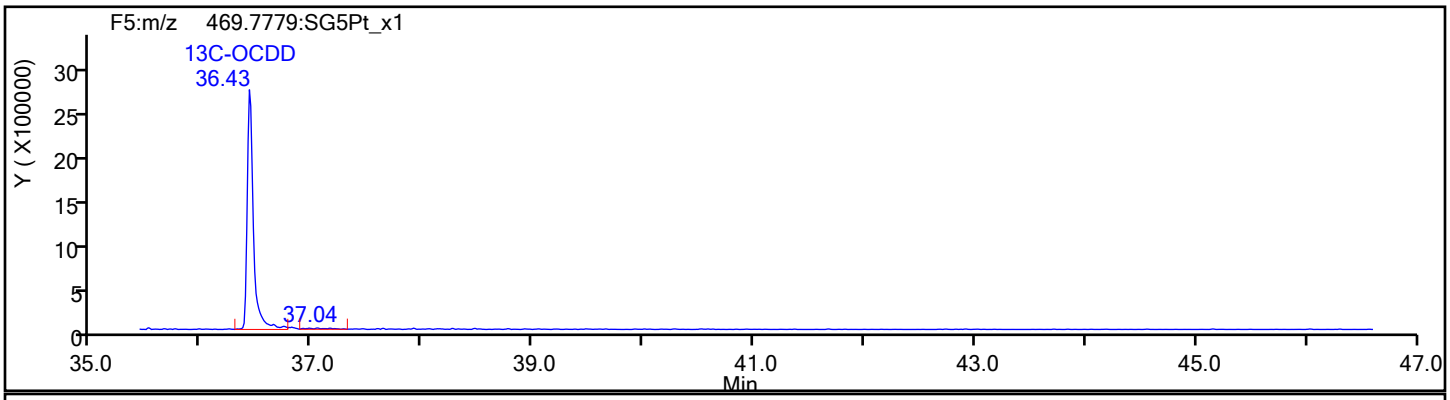

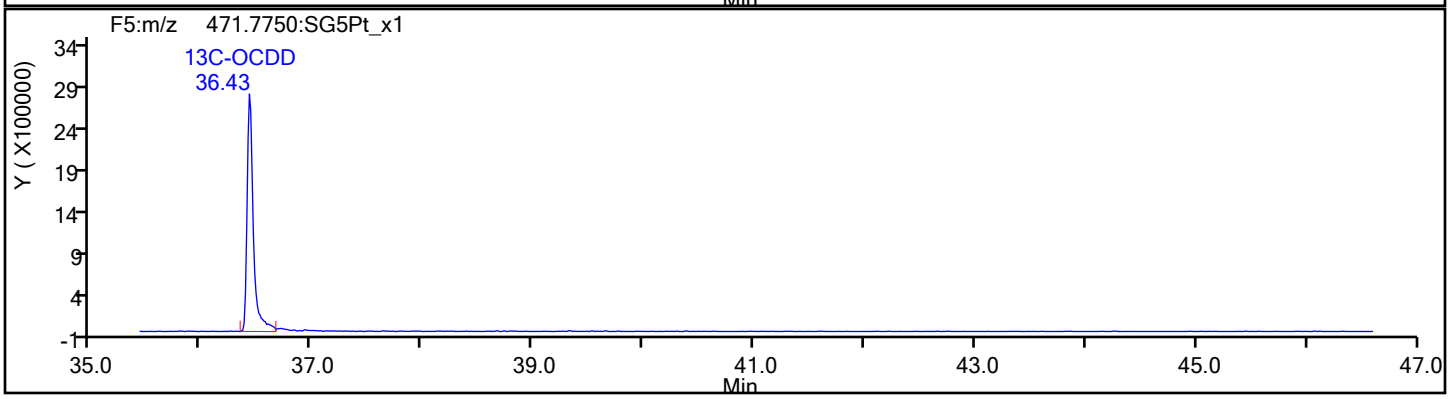

Report Date: 08-Jan-2020 09:03:14 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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OCDF

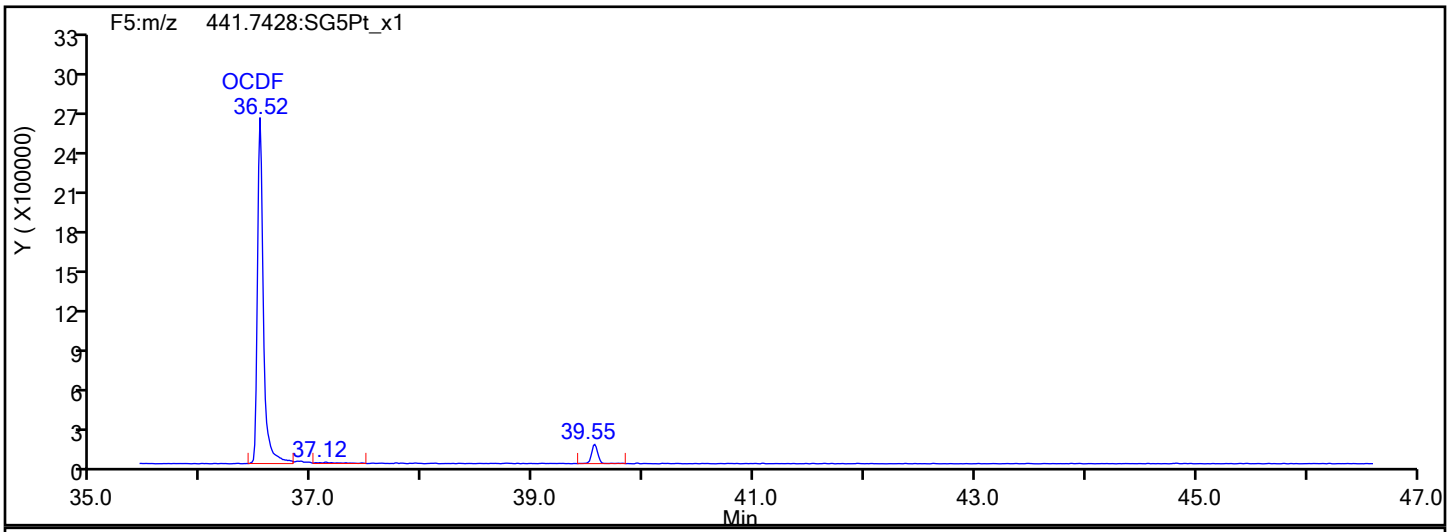

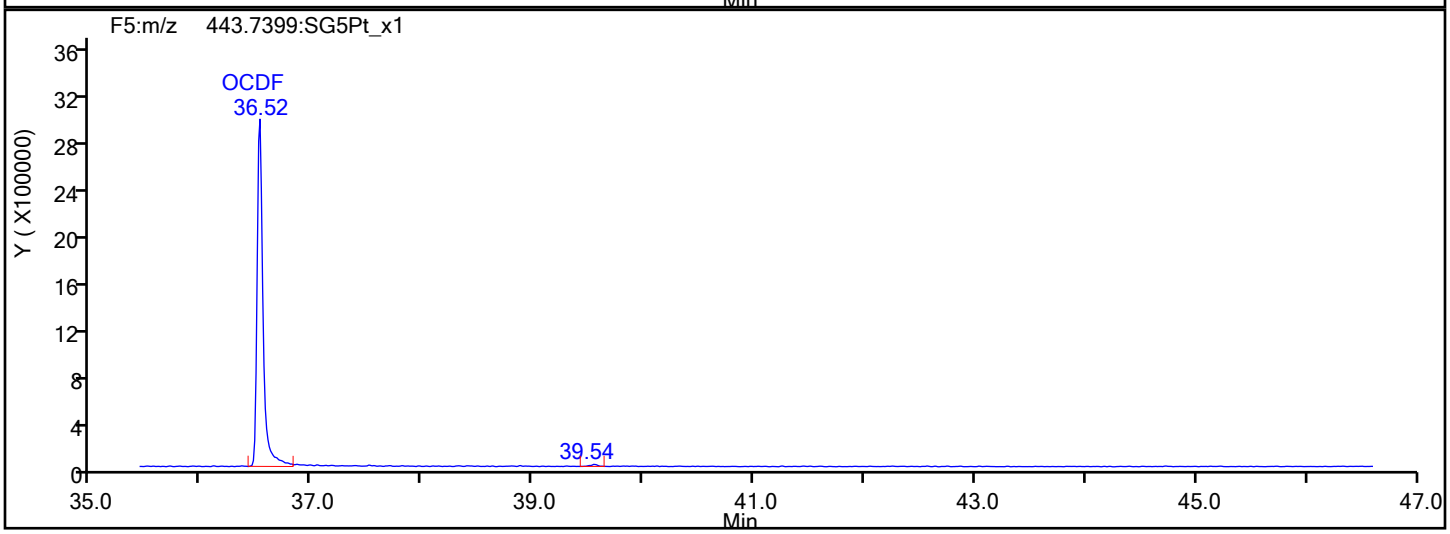

OCDF Interference Mass

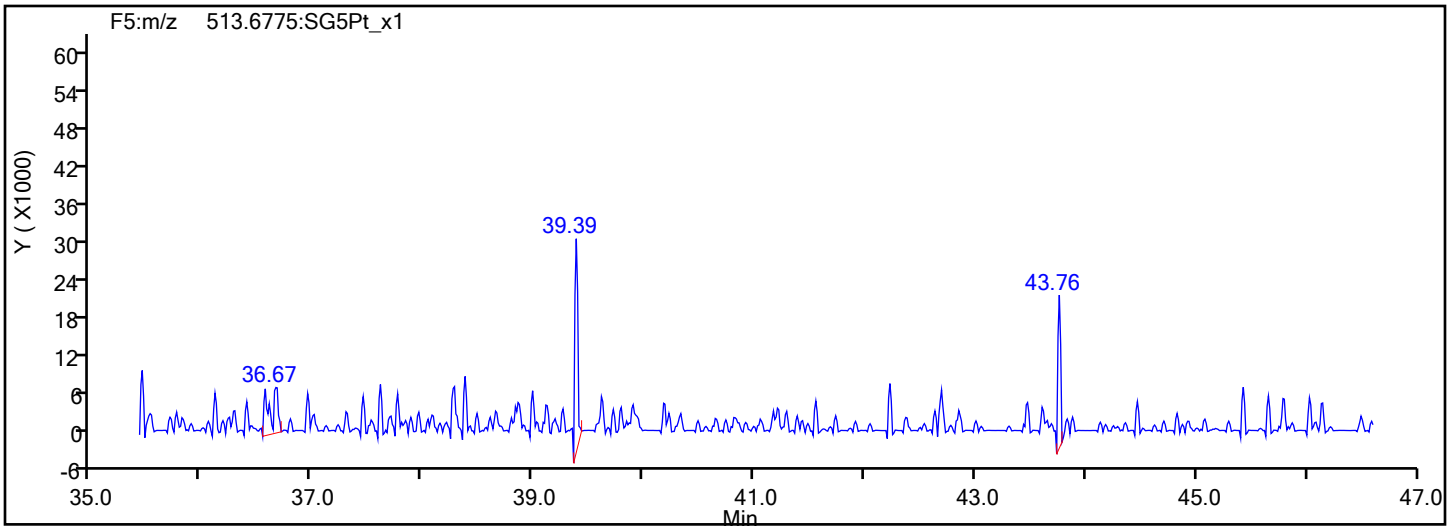

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Eurofins TestAmerica, Sacramento

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OCDD

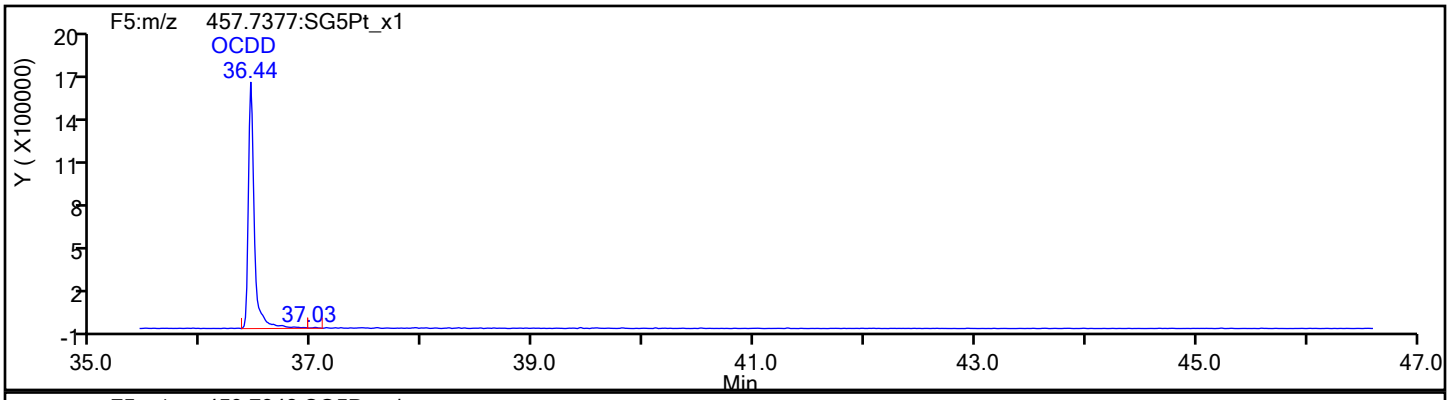

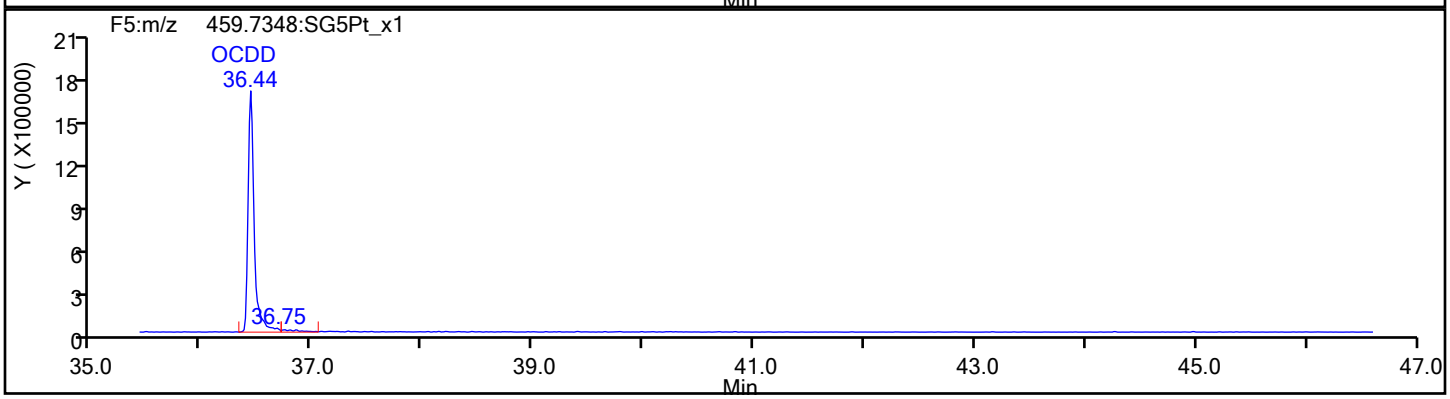

OCDD Standards

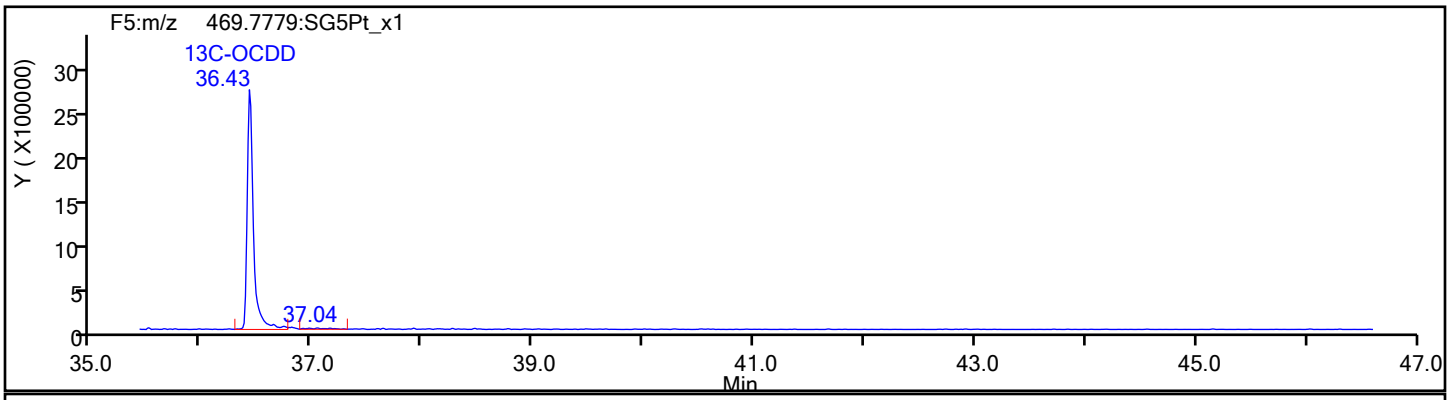

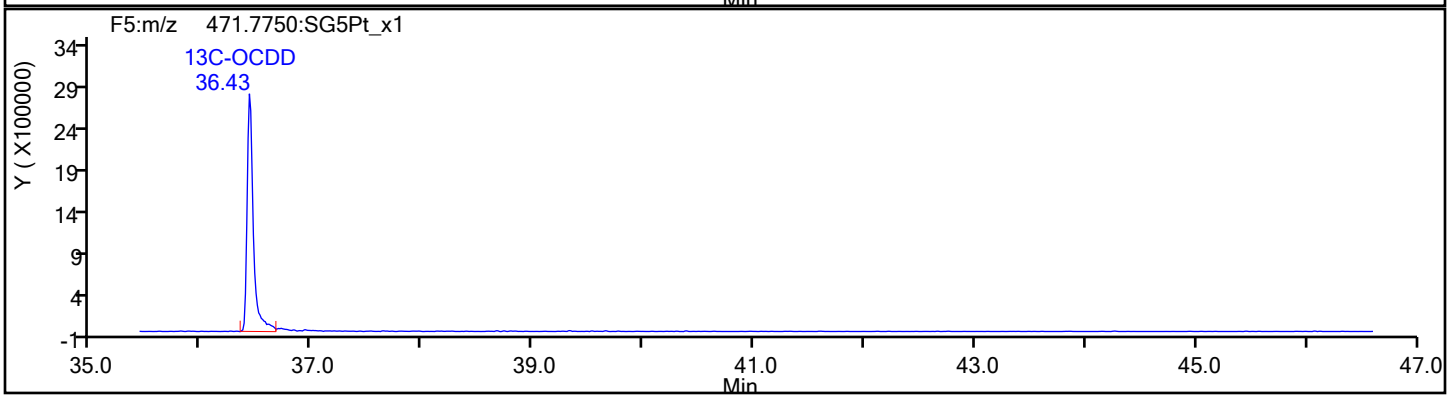

Report Date: 08-Jan-2020 09:03:14 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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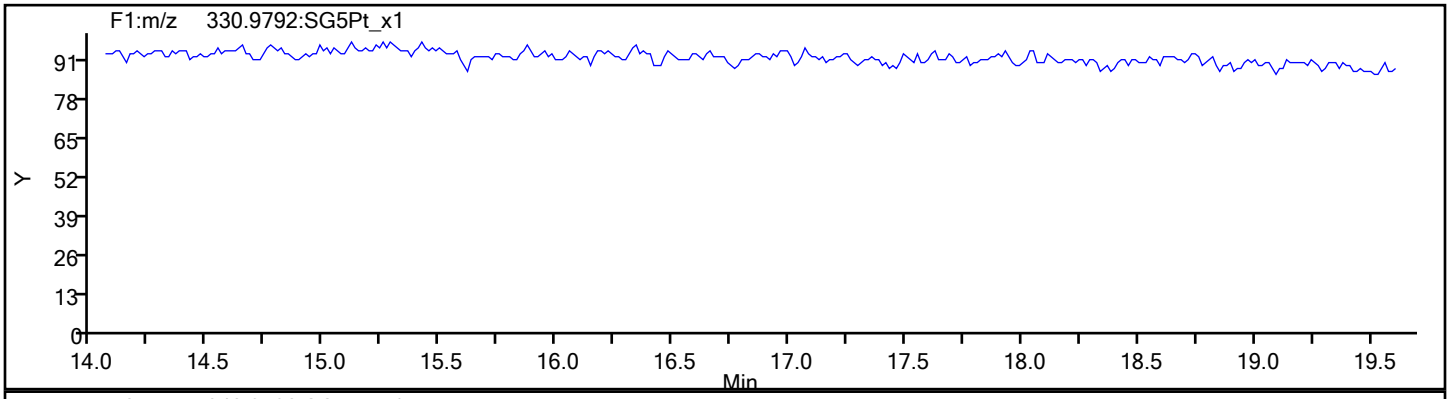

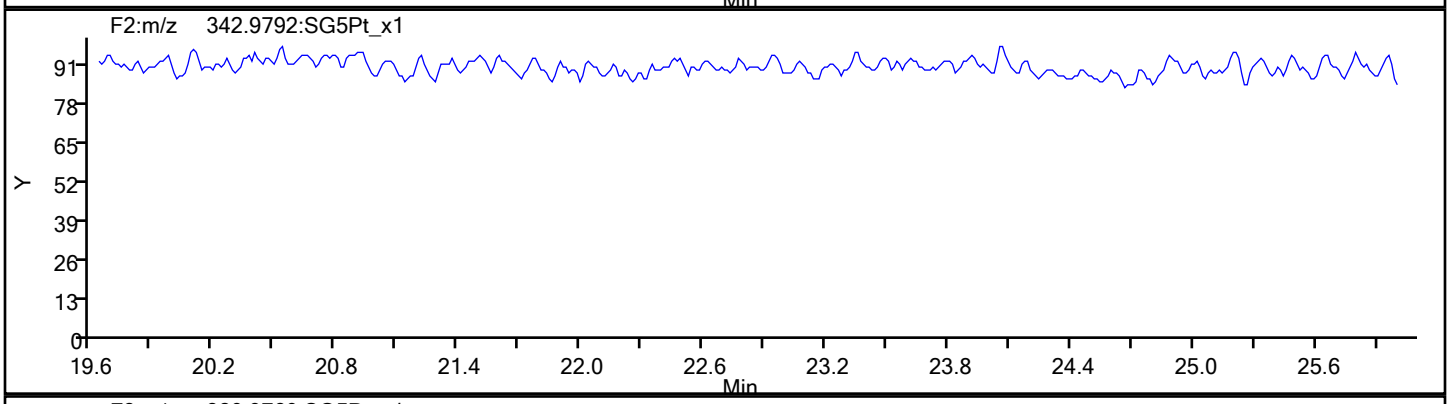

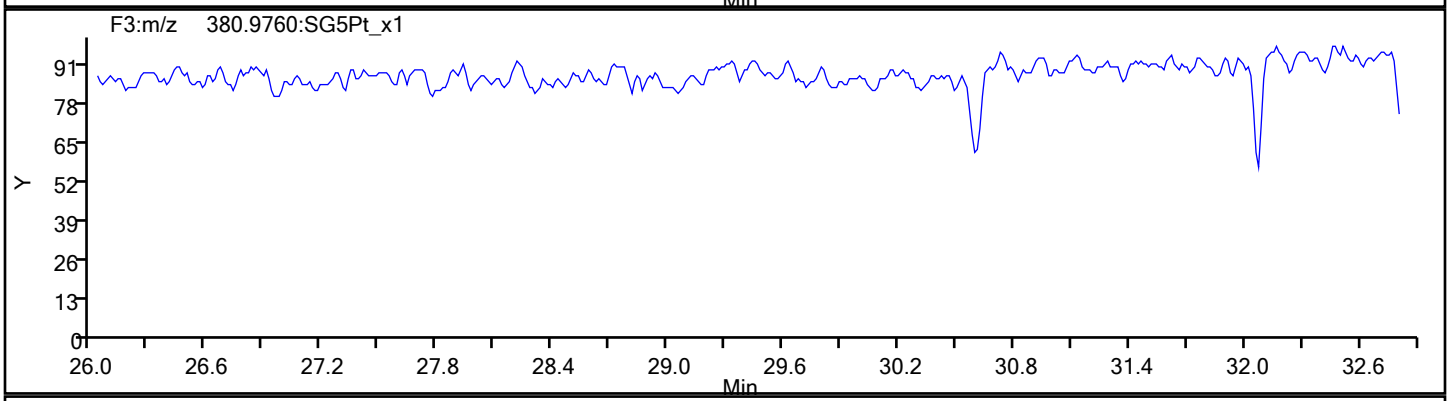

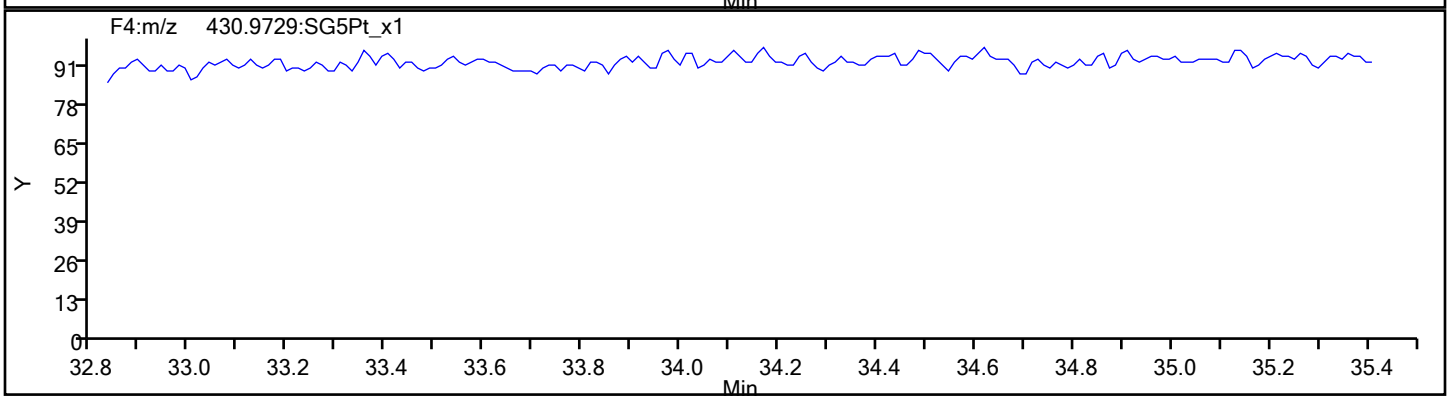

Report Date: 08-Jan-2020 09:03:14 Chrom Revision: 2.3 23-Dec-2019 10:12:06

Eurofins TestAmerica, Sacramento

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Instrument ID:	3D5	Operator ID:	ALM
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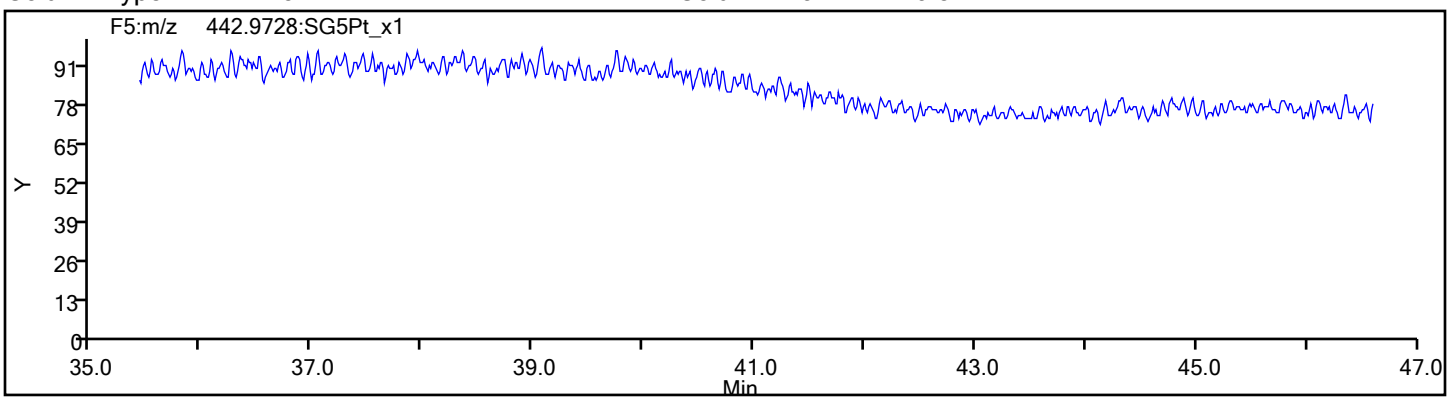

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-100205-1

SDG No.:

Instrument ID: 3D5 Start Date: 12/12/2019 09:53

Analysis Batch Number: 345037 End Date: 12/12/2019 16:24

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
WDM 320-345037/1		12/12/2019 09:53	1	12DE193D5_1.d	DB-5 0.32(mm)
IC 320-345037/3		12/12/2019 11:28	1	12DE193D5_3.d	DB-5 0.32(mm)
IC 320-345037/4		12/12/2019 12:16	1	12DE193D5_4.d	DB-5 0.32(mm)
IC 320-345037/5		12/12/2019 13:04	1	12DE193D5_5.d	DB-5 0.32(mm)
IC 320-345037/6		12/12/2019 13:51	1	12DE193D5_6.d	DB-5 0.32(mm)
IC 320-345037/7		12/12/2019 14:39	1	12DE193D5_7.d	DB-5 0.32(mm)
ICV 320-345037/9		12/12/2019 16:24	1	12DE193D5_9.d	DB-5 0.32(mm)

1613B

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 180-100205-1

SDG No.:

Instrument ID: 3D5 Start Date: 01/06/2020 21:27

Analysis Batch Number: 349283 End Date: 01/07/2020 07:40

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
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CCV 320-349283/2		01/06/2020 22:15	1	06JA20A3D5_2.d	DB-5 0.32(mm)
MB 320-348771/1-A		01/07/2020 00:06	1	06JA20A3D5_4.d	DB-5 0.32(mm)
LCS 320-348771/2-A		01/07/2020 01:00	1	06JA20A3D5_5.d	DB-5 0.32(mm)
LCSD 320-348771/3-A		01/07/2020 01:48	1	06JA20A3D5_6.d	DB-5 0.32(mm)
180-100205-1		01/07/2020 02:35	1	06JA20A3D5_7.d	DB-5 0.32(mm)
180-100205-3		01/07/2020 03:23	1	06JA20A3D5_8.d	DB-5 0.32(mm)
180-100205-5		01/07/2020 04:10	1	06JA20A3D5_9.d	DB-5 0.32(mm)
ZZZZZ		01/07/2020 07:40	1		DB-5 0.32(mm)

1613B

DIOXIN BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Sacramen Job No.: 180-100205-1

SDG No.:

Batch Number: 347820 Batch Start Date: 12/26/19 15:00 Batch Analyst: Melnik, Dmitry P

Batch Method: 1311 Batch End Date: 12/27/19 08:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount				
180-100205-C-1	11187072-N.TREATMENT AREA #2	1311, HRMS-Sep, 1613B	P	100.05 g	2000 mL				
180-100205-C-3	11187072-N.TREATMENT AREA #3	1311, HRMS-Sep, 1613B	P	100.47 g	2000 mL				
180-100205-C-5	11187072-N.TREATMENT AREA #4	1311, HRMS-Sep, 1613B	P	100.23 g	2000 mL				

Batch Notes	
1N HCl ID	1839455
Balance ID	QA-068
First End time	12/27/19 08:00
Filter ID	16951255
Hot Plate ID	TCLP HOTPLATE
Room Temperature Thermometer ID	181720340
Rotation Time for 10 Revolutions	20sec
First Start time	12/26/19 15:00
TCLP Fluid 1 ID	1854335
TCLP Fluid 1 pH	4.93
Maximum Temperature	23 Degrees C
Minimum Temperature	21 Degrees C
Thermometer ID	307069
Tumbler Rotations per Minute	30

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

DIOXIN BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Sacramen Job No.: 180-100205-1

SDG No.:

Batch Number: 348771 Batch Start Date: 12/31/19 11:06 Batch Analyst: Ruiz, Noe I

Batch Method: HRMS-Sep Batch End Date: 01/06/20 14:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	pH Check (7 - 9)	Turbidity Check	ResCL(<0.5)	RotoVapID
MB 320-348771/1		HRMS-Sep, 1613B		1000 mL	20 uL	N/A	N/A	N/A	8
LCS 320-348771/2		HRMS-Sep, 1613B		1000 mL	20 uL	N/A	N/A	N/A	6
LCSD 320-348771/3		HRMS-Sep, 1613B		1000 mL	20 uL	N/A	N/A	N/A	4
180-100205-C-1-A	11187072-N.TREATMENT AREA #2	HRMS-Sep, 1613B	P	200.99 g	20 uL	N/A	N/A	N/A	8
180-100205-C-3-A	11187072-N.TREATMENT AREA #3	HRMS-Sep, 1613B	P	200.56 g	20 uL	N/A	N/A	N/A	6
180-100205-C-5-A	11187072-N.TREATMENT AREA #4	HRMS-Sep, 1613B	P	211.15 g	20 uL	N/A	N/A	N/A	4

Lab Sample ID	Client Sample ID	Method Chain	Basis	HRDXNIDA 00406	HRDXNIS 00121	HRDXNSU 00223	HRDXNTA 00117		
MB 320-348771/1		HRMS-Sep, 1613B		1 mL	20 uL	1 mL			
LCS 320-348771/2		HRMS-Sep, 1613B		1 mL	20 uL	1 mL	50 uL		
LCSD 320-348771/3		HRMS-Sep, 1613B		1 mL	20 uL	1 mL	50 uL		
180-100205-C-1-A	11187072-N.TREATMENT AREA #2	HRMS-Sep, 1613B	P	1 mL	20 uL	1 mL			
180-100205-C-3-A	11187072-N.TREATMENT AREA #3	HRMS-Sep, 1613B	P	1 mL	20 uL	1 mL			
180-100205-C-5-A	11187072-N.TREATMENT AREA #4	HRMS-Sep, 1613B	P	1 mL	20 uL	1 mL			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

DIOXIN BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Sacramen Job No.: 180-100205-1

SDG No.:

Batch Number: 348771 Batch Start Date: 12/31/19 11:06 Batch Analyst: Ruiz, Noe I

Batch Method: HRMS-Sep Batch End Date: 01/06/20 14:00

Batch Notes	
20% DCM:Hexane ID	1801131 mL
65% DCM:Hexane ID	1831508 mL
Acid Silica Gel ID	1855428
Acid Alumina ID	28X
Balance ID	QA-070
Batch Comment	Leachate samples. No soxtherm extraction portion.
C14 ID	STBJ0716
Hexane ID	000234722 mL
MeCL2 ID	0000242956 mL
Na2SO4 ID	0000235304
Analyst ID - IDA Reagent Drop	NR 12/31/19 HRDXNIDA_00411 B 1/4 HD05018 1 mL
Analyst ID - IDA Reagent Drop Witness	SR 12/31/19
Analyst ID - IS Reagent Drop	TGL 01/06/20 20.0 uL HRDXNIS_00121 B 2/4 DB15270
Analyst ID - IS Reagent Drop Witness	FC 01/06/20
Analyst ID - SU Reagent Drop	TGL 01/06/19 1.0 mL HRDXNSU_00223 B 4/4 HD05018
Analyst ID - SU Reagent Drop Witness	JH 01/06/20
Analyst ID - TA Reagent Drop	NR 12/31/19 HRDXNTA_00117 B 9/10 DB15270 50uL
Analyst ID - TA Reagent Drop Witness	SR 12/31/19
Silica Gel ID	1845858
Storage Box ID	DXN-121

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS

COVER PAGE
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job Number: 180-100205-1

SDG No.:

Project: San Jacinto River Waste Pits Superfund

Client Sample ID	Lab Sample ID
11187072-N.TREATMENT AREA #2	180-100205-1
11187072-N.TREATMENT AREA #3	180-100205-3
11187072-N.TREATMENT AREA #4	180-100205-5

Comments:

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - TCLP

Client Sample ID: 11187072-N.TREATMENT AREA #2
Lab Sample ID: 180-100205-1
Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-100205-1
SDG ID.:
Matrix: Solid
Date Sampled: 12/18/2019 13:30
Reporting Basis: WET
Date Received: 12/19/2019 10:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-38-2	Arsenic	ND	0.50	0.041	mg/L			1	EPA 6010C
7440-39-3	Barium	0.53	2.0	0.026	mg/L	J		1	EPA 6010C
7440-43-9	Cadmium	ND	0.50	0.0028	mg/L			1	EPA 6010C
7440-47-3	Chromium	ND	0.50	0.0078	mg/L			1	EPA 6010C
7439-92-1	Lead	ND	0.50	0.029	mg/L			1	EPA 6010C
7782-49-2	Selenium	ND	0.50	0.036	mg/L			1	EPA 6010C
7440-22-4	Silver	ND	0.50	0.0085	mg/L			1	EPA 6010C
7439-97-6	Mercury	ND	0.00020	0.00010	mg/L			1	EPA 7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - TCLP

Client Sample ID: 11187072-N.TREATMENT AREA #3
Lab Sample ID: 180-100205-3
Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-100205-1
SDG ID.:
Matrix: Solid
Date Sampled: 12/18/2019 14:00
Reporting Basis: WET
Date Received: 12/19/2019 10:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-38-2	Arsenic	ND	0.50	0.041	mg/L			1	EPA 6010C
7440-39-3	Barium	0.44	2.0	0.026	mg/L	J		1	EPA 6010C
7440-43-9	Cadmium	ND	0.50	0.0028	mg/L			1	EPA 6010C
7440-47-3	Chromium	0.011	0.50	0.0078	mg/L	J		1	EPA 6010C
7439-92-1	Lead	ND	0.50	0.029	mg/L			1	EPA 6010C
7782-49-2	Selenium	ND	0.50	0.036	mg/L			1	EPA 6010C
7440-22-4	Silver	ND	0.50	0.0085	mg/L			1	EPA 6010C
7439-97-6	Mercury	ND	0.00020	0.00010	mg/L			1	EPA 7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - TCLP

Client Sample ID: 11187072-N.TREATMENT AREA #4
Lab Sample ID: 180-100205-5
Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-100205-1
SDG ID.:
Matrix: Solid
Date Sampled: 12/18/2019 14:30
Reporting Basis: WET
Date Received: 12/19/2019 10:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-38-2	Arsenic	ND	0.50	0.041	mg/L			1	EPA 6010C
7440-39-3	Barium	0.48	2.0	0.026	mg/L	J		1	EPA 6010C
7440-43-9	Cadmium	ND	0.50	0.0028	mg/L			1	EPA 6010C
7440-47-3	Chromium	ND	0.50	0.0078	mg/L			1	EPA 6010C
7439-92-1	Lead	ND	0.50	0.029	mg/L			1	EPA 6010C
7782-49-2	Selenium	ND	0.50	0.036	mg/L			1	EPA 6010C
7440-22-4	Silver	ND	0.50	0.0085	mg/L			1	EPA 6010C
7439-97-6	Mercury	ND	0.00020	0.00010	mg/L			1	EPA 7470A

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

ICV Source: M6500ICV_00008 Concentration Units: ug/L

CCV Source: M6500CCV_00039

Analyte	ICV 180-302329/4 12/23/2019 07:54				ICV 180-302329/5 12/23/2019 07:59				CCV 180-302329/10 12/23/2019 08:24			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Arsenic	261		250	104	257		250	103	513		500	103
Barium	985		1000	99	984		1000	98	1980		2000	99
Cadmium	252		250	101	251		250	101	505		500	101
Chromium	981		1000	98	975		1000	97	1970		2000	99
Lead	249		250	100	249		250	100	507		500	101
Selenium	252		250	101	251		250	100	511		500	102
Silver	493		500	99	489		500	98	1010		1000	101

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

ICV Source: M6500ICV_00008 Concentration Units: ug/L

CCV Source: M6500CCV_00039

Analyte	CCV 180-302329/22 12/23/2019 09:26				CCV 180-302329/34 12/23/2019 10:27				CCV 180-302329/45 12/23/2019 11:24			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Arsenic	510		500	102	514		500	103	522		500	104
Barium	1970		2000	99	1980		2000	99	2020		2000	101
Cadmium	505		500	101	506		500	101	511		500	102
Chromium	1960		2000	98	1980		2000	99	1970		2000	99
Lead	504		500	101	511		500	102	510		500	102
Selenium	513		500	103	520		500	104	534		500	107
Silver	1010		1000	101	1010		1000	101	1020		1000	102

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

ICV Source: MICVLCCVL_00014 Concentration Units: ug/L

CCV Source: MICVLCCVL_00014

Analyte	ICVL 180-302329/7 12/23/2019 08:09				CCVL 180-302329/47 12/23/2019 11:34							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Arsenic	8.63	J	10.0	86	11.1		10.0	111				
Barium	197	J	200	98	201		200	100				
Cadmium	4.94	J	5.00	99	4.96	J	5.00	99				
Chromium	5.12		5.00	102	4.88	J	5.00	98				
Lead	11.4		10.0	114	10.0		10.0	100				
Selenium	10.5		10.0	105	9.13	J	10.0	91				
Silver	5.01		5.00	100	5.12		5.00	102				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

ICV Source: MHgWorkingicv_02163 Concentration Units: ug/L

CCV Source: MHgworkingCal_02213

Analyte	ICV 180-302361/7-A 12/23/2019 15:09				CCV 180-302361/10-A 12/23/2019 15:12				CCV 180-302361/10-A 12/23/2019 15:36			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	2.54		2.50	102	5.08		5.00	102	5.07		5.00	101

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

ICV Source: MHgWorkingicv_02163 Concentration Units: ug/L

CCV Source: MHgworkingCal_02213

Analyte	CCV 180-302361/10-A 12/23/2019 15:49				CCV 180-302361/10-A 12/23/2019 16:04				CCV 180-302361/10-A 12/23/2019 16:17			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	5.09		5.00	102	5.12		5.00	102	5.14		5.00	103

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Method: EPA 7470A Instrument ID: HGZ

Lab Sample ID: CRA 180-302361/9-A Concentration Units: ug/L

CRQL Check Standard Source: MHgworkingCal_02213

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Mercury	0.200	0.186	J	93	70-130

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICBIS 180-302329/6 12/23/2019 08:04		CCB1 180-302329/11 12/23/2019 08:29		CCB2 180-302329/23 12/23/2019 09:30		CCB3 180-302329/35 12/23/2019 10:32	
		Found	C	Found	C	Found	C	Found	C
Arsenic	10	ND		ND		ND		ND	
Barium	200	ND		ND		ND		ND	
Cadmium	5.0	ND		ND		ND		ND	
Chromium	5.0	ND		ND		ND		ND	
Lead	10	ND		ND		ND		ND	
Selenium	10	ND		ND		ND		ND	
Silver	5.0	ND		ND		ND		ND	

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	CCB4 180-302329/46 12/23/2019 11:28							
		Found	C	Found	C	Found	C	Found	C
Arsenic	10	ND							
Barium	200	ND							
Cadmium	5.0	ND							
Chromium	5.0	ND							
Lead	10	ND							
Selenium	10	ND							
Silver	5.0	ND							

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 180-302361/8-A 12/23/2019 15:10		CCB 180-302361/11-A 12/23/2019 15:14		CCB 180-302361/11-A 12/23/2019 15:38		CCB 180-302361/11-A 12/23/2019 15:51	
		Found	C	Found	C	Found	C	Found	C
Mercury	0.20	ND		ND		ND		ND	

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	CCB 180-302361/11-A 12/23/2019 16:07		CCB 180-302361/11-A 12/23/2019 16:19					
		Found	C	Found	C	Found	C	Found	C
Mercury	0.20	ND		ND					

Italicized analytes were not requested for this sequence.

3-IN
METHOD BLANK
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Concentration Units: mg/L Lab Sample ID: MB 180-302194/1-A

Instrument Code: C Batch No.: 302329

CAS No.	Analyte	Concentration	C	Q	Method
7440-38-2	Arsenic	ND			6010C
7440-39-3	Barium	ND			6010C
7440-43-9	Cadmium	ND			6010C
7440-47-3	Chromium	ND			6010C
7439-92-1	Lead	ND			6010C
7782-49-2	Selenium	ND			6010C
7440-22-4	Silver	ND			6010C

FORM III-IN

3-IN
METHOD BLANK
METALS - TCLP

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Concentration Units: mg/L Lab Sample ID: LB 180-301984/1-C

Instrument Code: C Batch No.: 302329

CAS No.	Analyte	Concentration	C	Q	Method
7440-38-2	Arsenic	ND			6010C
7440-39-3	Barium	ND			6010C
7440-43-9	Cadmium	ND			6010C
7440-47-3	Chromium	ND			6010C
7439-92-1	Lead	ND			6010C
7782-49-2	Selenium	ND			6010C
7440-22-4	Silver	ND			6010C

FORM III-IN

3-IN
METHOD BLANK
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Concentration Units: mg/L Lab Sample ID: MB 180-302169/1-A

Instrument Code: HGZ Batch No.: 302379

CAS No.	Analyte	Concentration	C	Q	Method
7439-97-6	Mercury	ND			7470A

FORM III-IN

3-IN
METHOD BLANK
METALS - TCLP

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Concentration Units: mg/L Lab Sample ID: LB 180-301984/1-B

Instrument Code: HGZ Batch No.: 302379

CAS No.	Analyte	Concentration	C	Q	Method
7439-97-6	Mercury	ND			7470A

FORM III-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Pittsburg Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICSA 180-302329/8 Instrument ID: C

Lab File ID: C91223C1.asc ICS Source: MICSAICP_00093

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Arsenic		**-1.49**	
Barium		**1.07**	
Cadmium		**0.540**	
Chromium		**4.65**	
Lead		**-6.76**	
Selenium		**-0.920**	
Silver		**0.0300**	
Aluminum	*500000*	*510450*	*102*
Beryllium		*-0.0900*	
Boron		*-0.860*	
Calcium	*500000*	*477170*	*95*
Cobalt		*-0.0900*	
Copper		*6.43*	
Iron	*200000*	*190270*	*95*
Lithium		*8.43*	
Magnesium	*500000*	*523890*	*105*
Manganese		*1.01*	
Molybdenum		*-1.19*	
Nickel		*2.64*	
Potassium		*138*	
Silicon		*24.5*	
Sodium		*229*	
Strontium		*13.2*	
Thallium		*-1.92*	
Tin		*1.67*	
Titanium		*-0.0600*	
Vanadium		*-1.26*	
Zinc		*0.480*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Pittsburg Job No.: 180-100205-1

SDG No.:

Lab Sample ID: ICSAB 180-302329/9 Instrument ID: C

Lab File ID: C91223C1.asc ICS Source: MICSAB_00105

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Arsenic	**1000**	**1038**	**104**
Barium	**500**	**498**	**100**
Cadmium	**1000**	**1026**	**103**
Chromium	**500**	**484**	**97**
Lead	**1000**	**956**	**96**
Selenium	**1000**	**999**	**100**
Silver	**1000**	**1066**	**107**
Aluminum	*500000*	*509110*	*102*
Antimony	*1000*	*976*	*98*
Beryllium	*500*	*494*	*99*
Boron	*1000*	*991*	*99*
Calcium	*500000*	*477870*	*96*
Cobalt	*500*	*498*	*100*
Copper	*500*	*524*	*105*
Iron	*200000*	*188030*	*94*
Lithium	*1000*	*1051*	*105*
Magnesium	*500000*	*512970*	*103*
Manganese	*500*	*487*	*97*
Molybdenum	*1000*	*967*	*97*
Nickel	*1000*	*992*	*99*
Potassium	*10000*	*10677*	*107*
Silicon	*1000*	*1040*	*104*
Sodium	*10000*	*10779*	*108*
Strontium	*1000*	*948*	*95*
Thallium	*1000*	*912*	*91*
Tin	*1000*	*889*	*89*
Titanium	*1000*	*990*	*99*
Vanadium	*500*	*481*	*96*
Zinc	*1000*	*915*	*92*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 180-302194/2-A

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

Sample Matrix: Water LCS Source: TA-SPIKE1_00006

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Arsenic	1.00	1.19		119	80	120		EPA 6010C
Barium	1.00	1.12		112	80	120		EPA 6010C
Cadmium	0.500	0.580		116	80	120		EPA 6010C
Chromium	0.500	0.556		111	80	120		EPA 6010C
Lead	0.500	0.562		112	80	120		EPA 6010C
Selenium	1.00	1.20		120	80	120		EPA 6010C
Silver	0.250	0.287		115	80	120		EPA 6010C

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 180-302169/2-A

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

Sample Matrix: Water LCS Source: MHgworkingCal_02212

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Mercury	0.00250	0.00242		97	80	120		EPA 7470A

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

9-IN
DETECTION LIMITS
METALS - TCLP

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-100205-1

SDG Number:

Matrix: Solid Instrument ID: C

Method: EPA 6010C MDL Date: 10/07/2019 15:10

Prep Method: 3010A

Leach Method: EPA 1311

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Arsenic	189.042	0.05	0.00411
Barium	493.409	0.2	0.00255
Cadmium	226.502	0.05	0.000279
Chromium	267.716	0.05	0.000782
Lead	220.353	0.05	0.00285
Selenium	196.022	0.05	0.00363
Silver	328.068	0.05	0.00085

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - TCLP

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-100205-1

SDG Number:

Matrix: Solid Instrument ID: C

Method: EPA 6010C XMDL Date: 10/07/2019 15:11

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Arsenic	189.042	10	4.11
Barium	493.409	200	2.55
Cadmium	226.502	5	0.279
Chromium	267.716	5	0.782
Lead	220.353	10	2.85
Selenium	196.022	10	3.63
Silver	328.068	5	0.85

FORM IX - IN

9-IN
DETECTION LIMITS
METALS - TCLP

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-100205-1

SDG Number:

Matrix: Solid Instrument ID: HGZ

Method: EPA 7470A MDL Date: 01/18/2019 16:58

Prep Method: 7470A

Leach Method: EPA 1311

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Mercury	253.7	0.0002	0.000101

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - TCLP

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-100205-1

SDG Number:

Matrix: Solid Instrument ID: HGZ

Method: EPA 7470A XMDL Date: 01/18/2019 16:58

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Mercury	253.7	0.2	0.101

FORM IX - IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-100205-1

SDG No.:

ICP-AES Instrument ID: C Date: 12/23/2019

Analyte	Wave Length	Ag	Al	As	B	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Li
Aluminum	308.215														
Antimony	217.581		-0.000101										-0.000017		
Arsenic	189.042										0.001086				
Barium	455.403														
Beryllium	313.042														
Boron	182.641														
Cadmium	228.802			0.004629											
Calcium	317.933														
Chromium	267.716														
Cobalt	228.616														
Copper	327.396														
Iron	259.940														
Lead	220.353		-0.000098										0.000033		
Lithium	670.784														
Magnesium	279.079														
Manganese	257.610														
Molybdenum	202.030														
Nickel	231.604												0.000072		
Potassium	766.490														
Selenium	196.090														
Silicon	251.611														
Silver	328.068														
Sodium	589.592														
Strontium	346.446														
Thallium	190.856														
Tin	189.989														
Titanium	337.280														
Vanadium	290.882												0.000048		
Zinc	206.200										-0.000782				

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-100205-1

SDG No.:

ICP-AES Instrument ID: C Date: 12/23/2019

Analyte	Wave Length	Mg	Mn	Mo	Na	Ni	Pb	Sb	Se	Si	Sn	Sr	Ti	Tl	V
Aluminum	308.215			0.016022											0.013605
Antimony	217.581						-0.000570								0.002347
Arsenic	189.042		-0.000347	0.002696											
Barium	455.403														
Beryllium	313.042														0.000608
Boron	182.641														
Cadmium	228.802														
Calcium	317.933														
Chromium	267.716														
Cobalt	228.616												0.002290		
Copper	327.396														
Iron	259.940														
Lead	220.353														
Lithium	670.784														
Magnesium	279.079														
Manganese	257.610														
Molybdenum	202.030														
Nickel	231.604														
Potassium	766.490														
Selenium	196.090		0.000353												
Silicon	251.611														
Silver	328.068		0.000065												
Sodium	589.592														
Strontium	346.446														
Thallium	190.856		0.000812										-0.000838		-0.007341
Tin	189.989														
Titanium	337.280														
Vanadium	290.882														
Zinc	206.200														

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-100205-1

SDG No.:

ICP-AES Instrument ID: C Date: 12/23/2019

Analyte	Wave Length	Zn	Zr												
Aluminum	308.215														
Antimony	217.581														
Arsenic	189.042														
Barium	455.403														
Beryllium	313.042														
Boron	182.641														
Cadmium	228.802														
Calcium	317.933														
Chromium	267.716														
Cobalt	228.616														
Copper	327.396														
Iron	259.940														
Lead	220.353														
Lithium	670.784														
Magnesium	279.079														
Manganese	257.610														
Molybdenum	202.030														
Nickel	231.604														
Potassium	766.490														
Selenium	196.090														
Silicon	251.611														
Silver	328.068														
Sodium	589.592														
Strontium	346.446														
Thallium	190.856														
Tin	189.989														
Titanium	337.280														
Vanadium	290.882														
Zinc	206.200														

X-IN

11-IN
LINEAR RANGES
METALS

Lab Name: Eurofins TestAmerica, Pittsbur Job No: 180-100205-1

SDG No.:

Instrument ID: C Date: 12/17/2019 16:54

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Arsenic		10000	EPA 6010C
Barium		50000	EPA 6010C
Cadmium		5000	EPA 6010C
Chromium		25000	EPA 6010C
Lead		25000	EPA 6010C
Selenium		10000	EPA 6010C
Silver		2000	EPA 6010C

FORM XI - IN

12-IN
PREPARATION LOG
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Prep Method: 3010A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 180-302194/1-A	12/20/2019 19:27	302194		50	50
LCS 180-302194/2-A	12/20/2019 19:27	302194		50	50
LB 180-301984/1-C	12/20/2019 19:27	302194		5	50
180-100205-1	12/20/2019 19:27	302194		5	50
180-100205-3	12/20/2019 19:27	302194		5	50
180-100205-5	12/20/2019 19:27	302194		5	50

FORM XII-IN

12-IN
PREPARATION LOG
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Prep Method: 7470A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 180-302169/1-A	12/20/2019 14:15	302169		50	50
LCS 180-302169/2-A	12/20/2019 14:15	302169		50	50
LB 180-301984/1-B	12/20/2019 14:15	302169		50	50
180-100205-1	12/20/2019 14:15	302169		50	50
180-100205-3	12/20/2019 14:15	302169		50	50
180-100205-5	12/20/2019 14:15	302169		50	50

FORM XII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Instrument ID: C Analysis Method: EPA 6010C

Start Date: 12/23/2019 07:38 End Date: 12/23/2019 11:34

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	As	Ba	Cd	Cr	Pb	Se																		
STD1 180-302329/1 IC			07:38	X	X	X	X	X	X	X																		
STD2A 180-302329/2 IC			07:44	X	X	X	X	X	X	X																		
STD3 180-302329/3 IC			07:49	X	X	X	X	X	X	X																		
ICV 180-302329/4	1		07:54	X	X	X	X	X	X	X																		
ICV 180-302329/5	1		07:59	X	X	X	X	X	X	X																		
ICBIS 180-302329/6	1		08:04	X	X	X	X	X	X	X																		
ICVL 180-302329/7	1		08:09	X	X	X	X	X	X	X																		
ICSA 180-302329/8	1		08:14	X	X	X	X	X	X	X																		
ICSAB 180-302329/9	1		08:19	X	X	X	X	X	X	X																		
CCV 180-302329/10	1		08:24	X	X	X	X	X	X	X																		
CCB1 180-302329/11	1		08:29	X	X	X	X	X	X	X																		
ZZZZZZ			08:34																									
ZZZZZZ			08:39																									
ZZZZZZ			08:45																									
ZZZZZZ			08:50																									
ZZZZZZ			08:55																									
ZZZZZZ			09:00																									
MB 180-302194/1-A	1	T	09:05	X	X	X	X	X	X	X																		
LCS 180-302194/2-A	1	T	09:10	X	X	X	X	X	X	X																		
LB 180-301984/1-C	1	P	09:15	X	X	X	X	X	X	X																		
ZZZZZZ			09:20																									
CCV 180-302329/22	1		09:26	X	X	X	X	X	X	X																		
CCB2 180-302329/23	1		09:30	X	X	X	X	X	X	X																		
ZZZZZZ			09:36																									
ZZZZZZ			09:41																									
ZZZZZZ			09:46																									
ZZZZZZ			09:51																									
ZZZZZZ			09:56																									
ZZZZZZ			10:01																									
ZZZZZZ			10:06																									
ZZZZZZ			10:11																									
ZZZZZZ			10:17																									
ZZZZZZ			10:22																									
CCV 180-302329/34	1		10:27	X	X	X	X	X	X	X																		
CCB3 180-302329/35	1		10:32	X	X	X	X	X	X	X																		
ZZZZZZ			10:37																									
ZZZZZZ			10:42																									
180-100205-1	1	P	10:47	X	X	X	X	X	X	X																		
180-100205-3	1	P	10:52	X	X	X	X	X	X	X																		
180-100205-5	1	P	10:58	X	X	X	X	X	X	X																		
ZZZZZZ			11:03																									
ZZZZZZ			11:08																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Instrument ID: C Analysis Method: EPA 6010C

Start Date: 12/23/2019 07:38 End Date: 12/23/2019 11:34

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	As	Ba	Cd	Cr	Pb	Se																		
ZZZZZZ			11:13																									
ZZZZZZ			11:18																									
CCV 180-302329/45	1		11:24	X	X	X	X	X	X	X																		
CCB4 180-302329/46	1		11:28	X	X	X	X	X	X	X																		
CCVL 180-302329/47	1		11:34	X	X	X	X	X	X	X																		

Prep Types:
P = TCLP
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Instrument ID: HGZ Analysis Method: EPA 7470A

Start Date: 12/23/2019 15:00 End Date: 12/23/2019 16:36

Lab Sample Id	D/F	Type	Time	Analytes																							
				Hg																							
IC 180-302361/1-A			15:00	X																							
IC 180-302361/2-A			15:01	X																							
IC 180-302361/3-A			15:02	X																							
IC 180-302361/4-A			15:03	X																							
IC 180-302361/5-A			15:04	X																							
IC 180-302361/6-A			15:06	X																							
ICV 180-302361/7-A	1		15:09	X																							
ICB 180-302361/8-A	1		15:10	X																							
CRA 180-302361/9-A	1		15:11	X																							
CCV 180-302361/10-A	1		15:12	X																							
CCB 180-302361/11-A	1		15:14	X																							
ZZZZZZ			15:15																								
ZZZZZZ			15:16																								
ZZZZZZ			15:17																								
ZZZZZZ			15:18																								
ZZZZZZ			15:19																								
ZZZZZZ			15:20																								
ZZZZZZ			15:21																								
ZZZZZZ			15:22																								
CCV 180-302361/10-A			15:23																								
CCB 180-302361/11-A			15:25																								
ZZZZZZ			15:26																								
ZZZZZZ			15:27																								
ZZZZZZ			15:28																								
ZZZZZZ			15:29																								
ZZZZZZ			15:30																								
ZZZZZZ			15:31																								
ZZZZZZ			15:32																								
ZZZZZZ			15:33																								
ZZZZZZ			15:34																								
ZZZZZZ			15:35																								
CCV 180-302361/10-A	1		15:36	X																							
CCB 180-302361/11-A	1		15:38	X																							
ZZZZZZ			15:39																								
ZZZZZZ			15:40																								
ZZZZZZ			15:41																								
ZZZZZZ			15:42																								
ZZZZZZ			15:43																								
ZZZZZZ			15:44																								
ZZZZZZ			15:45																								
ZZZZZZ			15:46																								
MB 180-302169/1-A	1	T	15:47	X																							

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Instrument ID: HGZ Analysis Method: EPA 7470A

Start Date: 12/23/2019 15:00 End Date: 12/23/2019 16:36

Lab Sample Id	D/F	Type	Time	Analytes																							
				Hg																							
LCS 180-302169/2-A	1	T	15:48	X																							
CCV 180-302361/10-A	1		15:49	X																							
CCB 180-302361/11-A	1		15:51	X																							
LB 180-301984/1-B	1	P	15:52	X																							
ZZZZZZ			15:53																								
ZZZZZZ			15:54																								
ZZZZZZ			15:55																								
ZZZZZZ			15:56																								
ZZZZZZ			15:57																								
ZZZZZZ			15:58																								
ZZZZZZ			15:59																								
ZZZZZZ			16:01																								
ZZZZZZ			16:03																								
CCV 180-302361/10-A	1		16:04	X																							
CCB 180-302361/11-A	1		16:07	X																							
180-100205-1	1	P	16:08	X																							
180-100205-3	1	P	16:08	X																							
180-100205-5	1	P	16:09	X																							
ZZZZZZ			16:10																								
ZZZZZZ			16:11																								
ZZZZZZ			16:12																								
ZZZZZZ			16:13																								
ZZZZZZ			16:14																								
ZZZZZZ			16:15																								
ZZZZZZ			16:16																								
CCV 180-302361/10-A	1		16:17	X																							
CCB 180-302361/11-A	1		16:19	X																							
ZZZZZZ			16:20																								
ZZZZZZ			16:21																								
ZZZZZZ			16:22																								
ZZZZZZ			16:23																								
ZZZZZZ			16:24																								
ZZZZZZ			16:25																								
ZZZZZZ			16:26																								
ZZZZZZ			16:27																								
ZZZZZZ			16:28																								
CCV 180-302361/10-A			16:29																								
CCB 180-302361/11-A			16:30																								
ZZZZZZ			16:31																								
ZZZZZZ			16:32																								
ZZZZZZ			16:33																								
CRA 180-302361/9-A			16:34																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Instrument ID: HGZ Analysis Method: EPA 7470A

Start Date: 12/23/2019 15:00 End Date: 12/23/2019 16:36

Lab Sample Id	D/F	Type	Time	Analytes																							
				Hg																							
CCV 180-302361/10-A			16:35																								
CCB 180-302361/11-A			16:36																								

Prep Types:
P = TCLP
T = Total/NA

FORM XIII-IN

15-IN
ICP INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

ICP Instrument ID: C Start Date: 12/23/2019 End Date: 12/23/2019

Lab Sample ID	Time	Internal Standards %RI For:									
		Element In 230.606	Q	Element Y 224.306	Q	Element Y 360.073	Q	Element Y 371.030	Q	Element	Q
ICV 180-302329/4	07:54										
ICV 180-302329/5	07:59										
ICBIS 180-302329/6	08:04										
ICVL 180-302329/7	08:09	96		100		100		102			
ICSA 180-302329/8	08:14	72		87		84		96			
ICSAB 180-302329/9	08:19	71		86		84		96			
CCV 180-302329/10	08:24	80		94		91		98			
CCB1 180-302329/11	08:29	100		100		100		100			
MB 180-302194/1-A	09:05	102		103		102		104			
LCS 180-302194/2-A	09:10	89		98		96		102			
LB 180-301984/1-C	09:15	87		97		95		102			
CCV 180-302329/22	09:26	81		94		92		99			
CCB2 180-302329/23	09:30	101		101		101		101			
CCV 180-302329/34	10:27	81		94		91		99			
CCB3 180-302329/35	10:32	100		102		100		101			
180-100205-1	10:47	86		97		95		104			
180-100205-3	10:52	87		98		95		103			
180-100205-5	10:58	88		98		95		103			
CCV 180-302329/45	11:24	81		94		92		101			
CCB4 180-302329/46	11:28	100		102		101		102			
CCVL 180-302329/47	11:34	96		101		99		103			

FORM XV - IN

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 301984 Batch Start Date: 12/19/19 16:30 Batch Analyst: Stundon, Jeremy A

Batch Method: 1311 Batch End Date: 12/20/19 09:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	FiltCompDate	FiltCompTime	LeachatepH		
LB 180-301984/1		1311, 3010A, EPA 6010C		2000 mL	12/20/19	1200	4.93 SU		

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 301984 Batch Start Date: 12/19/19 16:30 Batch Analyst: Stundon, Jeremy A

Batch Method: 1311 Batch End Date: 12/20/19 09:30

Batch Notes	
Balance ID	AND-14577823
Batch Comment	pH Buffer 13: 3418512 and pH Buffer 7 (second source): 3494553
pH Buffer 1 ID	3519611
pH Buffer 2 ID	3468003
pH Buffer 3 ID	2923701
pH Buffer 4 ID	3505862
First End time	1200
Filter ID	3468050
Hot Plate ID	TCLP-2
pH Meter Calibration Slope	99.4/100.5
pH Meter ID	ACCUMET-XL-150
Probe ID	XT3-11598
Room Temperature Thermometer ID	FISHER-160719405 CF 0.0
Analyst ID - Spike Analyst	EPS
Analyst ID - Spike Witness Analyst	JAS
First Start time	1000
TCLP Fluid 1 ID	3473617
TCLP Fluid 1 pH	4.93
TCLP Fluid 2 ID	3509299
TCLP Fluid 2 pH	2.88
Maximum Temperature	23 Degrees C
Minimum Temperature	21 Degrees C
Thermometer ID	TCLP-2 CF 0.0
Tumbler Rotations per Minute	Tumbler 1: 31; Tumbler 4:30
Uncorrected Maximum Temperature	23 Degrees C
Uncorrected Minimum Temperature	21 Degrees C
Uncorrected Water Bath Temperature	50.0 Celsius
Water Bath ID	TCLP-2
Water Bath Temperature	50.0 Degrees C
Water Bath Thermometer ID	TCLP-2 CF 0.0

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 301984 Batch Start Date: 12/19/19 16:30 Batch Analyst: Stundon, Jeremy A

Batch Method: 1311 Batch End Date: 12/20/19 09:30

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 301984 Batch Start Date: 12/19/19 16:30 Batch Analyst: Stundon, Jeremy A

Batch Method: EPA 1311 Batch End Date: 12/20/19 09:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	EFD_SampleWeight	EFD_VolumeWaterAdd	EFD_InitialpH	EFD_AddHClpH>5
180-100205-A-1	11187072-N.TREATMENT AREA #2	EPA 1311, 3010A, EPA 6010C	P	100.00 g	2000 mL	5.00 g	96.5 mL	9.29 SU	3.50 mL
180-100205-A-3	11187072-N.TREATMENT AREA #3	EPA 1311, 3010A, EPA 6010C	P	100.00 g	2000 mL	5.00 g	96.5 mL	9.45 SU	3.50 mL
180-100205-A-5	11187072-N.TREATMENT AREA #4	EPA 1311, 3010A, EPA 6010C	P	100.00 g	2000 mL	5.00 g	96.5 mL	8.47 SU	3.50 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	EFD_HeatHeld	EFD_SecondpHCheck	FiltCompDate	FiltCompTime	LeachatepH	
180-100205-A-1	11187072-N.TREATMENT AREA #2	EPA 1311, 3010A, EPA 6010C	P	50.0 Deg. C	2.10 SU	12/20/19	1200	6.21 SU	
180-100205-A-3	11187072-N.TREATMENT AREA #3	EPA 1311, 3010A, EPA 6010C	P	50.0 Deg. C	1.80 SU	12/20/19	1200	5.03 SU	
180-100205-A-5	11187072-N.TREATMENT AREA #4	EPA 1311, 3010A, EPA 6010C	P	50.0 Deg. C	1.84 SU	12/20/19	1200	5.02 SU	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 301984 Batch Start Date: 12/19/19 16:30 Batch Analyst: Stundon, Jeremy A

Batch Method: EPA 1311 Batch End Date: 12/20/19 09:30

Batch Notes	
Balance ID	AND-14577823
Batch Comment	pH Buffer 13: 3418512 and pH Buffer 7 (second source): 3494553
pH Buffer 1 ID	3519611
pH Buffer 2 ID	3468003
pH Buffer 3 ID	2923701
pH Buffer 4 ID	3505862
First End time	1200
Filter ID	3468050
Hot Plate ID	TCLP-2
pH Meter Calibration Slope	99.4/100.5
pH Meter ID	ACCUMET-XL-150
Probe ID	XT3-11598
Room Temperature Thermometer ID	FISHER-160719405 CF 0.0
Analyst ID - Spike Analyst	EPS
Analyst ID - Spike Witness Analyst	JAS
First Start time	1000
TCLP Fluid 1 ID	3473617
TCLP Fluid 1 pH	4.93
TCLP Fluid 2 ID	3509299
TCLP Fluid 2 pH	2.88
Maximum Temperature	23 Degrees C
Minimum Temperature	21 Degrees C
Thermometer ID	TCLP-2 CF 0.0
Tumbler Rotations per Minute	Tumbler 1: 31; Tumbler 4:30
Uncorrected Maximum Temperature	23 Degrees C
Uncorrected Minimum Temperature	21 Degrees C
Uncorrected Water Bath Temperature	50.0 Celsius
Water Bath ID	TCLP-2
Water Bath Temperature	50.0 Degrees C
Water Bath Thermometer ID	TCLP-2 CF 0.0

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 301984 Batch Start Date: 12/19/19 16:30 Batch Analyst: Stundon, Jeremy A

Batch Method: EPA 1311 Batch End Date: 12/20/19 09:30

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 302194 Batch Start Date: 12/20/19 21:15 Batch Analyst: Wanyoike, Margaret W

Batch Method: 3010A Batch End Date: 12/21/19 01:15

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	BSbAgZn INT 00011	TA-SPIKE1 00006	TA-SPIKE2 00004	
MB 180-302194/1		3010A, EPA 6010C		50 mL	50 mL				
LCS 180-302194/2		3010A, EPA 6010C		50 mL	50 mL	0.25 mL	0.25 mL	0.25 mL	
LB 180-301984/1-A		3010A, EPA 6010C		5 mL	50 mL				
180-100205-A-1-B	11187072-N.TREATMENT AREA #2	3010A, EPA 6010C	P	5 mL	50 mL				
180-100205-A-3-B	11187072-N.TREATMENT AREA #3	3010A, EPA 6010C	P	5 mL	50 mL				
180-100205-A-5-B	11187072-N.TREATMENT AREA #4	3010A, EPA 6010C	P	5 mL	50 mL				

Batch Notes	
Batch Comment	METALS B5
Temperature - Corrected - End	95 Degrees C
Temperature - Corrected - Start	95 Degrees C
Digestion End Time	12/21/2019 01:15
Digestion Start Time	12/20/2019 21:15
Digestion Unit ID	HB1
Hydrochloric Acid ID	5.0mL 3495453
Nitric Acid ID	1.5mL 3500800
Pipette/Syringe/Dispenser ID	B912396809
Analyst ID - Spike Analyst	MWW
Analyst ID - Spike Witness Analyst	MWW
Sufficient Volume for Batch QC	YES
Thermometer ID	3112413 CF+1.0 B6
Digestion Tube/Cup ID	ENVEXPRESS 1902243
Temperature - Uncorrected - End	94 Degrees C
Temperature - Uncorrected - Start	94 Degrees C

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 301984 Batch Start Date: 12/19/19 16:30 Batch Analyst: Stundon, Jeremy A

Batch Method: 1311 Batch End Date: 12/20/19 09:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	FiltCompDate	FiltCompTime	LeachatepH		
LB 180-301984/1		1311, 7470A, EPA 7470A		2000 mL	12/20/19	1200	4.93 SU		

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 301984 Batch Start Date: 12/19/19 16:30 Batch Analyst: Stundon, Jeremy A

Batch Method: 1311 Batch End Date: 12/20/19 09:30

Batch Notes	
Balance ID	AND-14577823
Batch Comment	pH Buffer 13: 3418512 and pH Buffer 7 (second source): 3494553
pH Buffer 1 ID	3519611
pH Buffer 2 ID	3468003
pH Buffer 3 ID	2923701
pH Buffer 4 ID	3505862
First End time	1200
Filter ID	3468050
Hot Plate ID	TCLP-2
pH Meter Calibration Slope	99.4/100.5
pH Meter ID	ACCUMET-XL-150
Probe ID	XT3-11598
Room Temperature Thermometer ID	FISHER-160719405 CF 0.0
Analyst ID - Spike Analyst	EPS
Analyst ID - Spike Witness Analyst	JAS
First Start time	1000
TCLP Fluid 1 ID	3473617
TCLP Fluid 1 pH	4.93
TCLP Fluid 2 ID	3509299
TCLP Fluid 2 pH	2.88
Maximum Temperature	23 Degrees C
Minimum Temperature	21 Degrees C
Thermometer ID	TCLP-2 CF 0.0
Tumbler Rotations per Minute	Tumbler 1: 31; Tumbler 4:30
Uncorrected Maximum Temperature	23 Degrees C
Uncorrected Minimum Temperature	21 Degrees C
Uncorrected Water Bath Temperature	50.0 Celsius
Water Bath ID	TCLP-2
Water Bath Temperature	50.0 Degrees C
Water Bath Thermometer ID	TCLP-2 CF 0.0

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 301984 Batch Start Date: 12/19/19 16:30 Batch Analyst: Stundon, Jeremy A

Batch Method: 1311 Batch End Date: 12/20/19 09:30

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 301984 Batch Start Date: 12/19/19 16:30 Batch Analyst: Stundon, Jeremy A

Batch Method: EPA 1311 Batch End Date: 12/20/19 09:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	EFD_SampleWeight	EFD_VolumeWaterAdd	EFD_InitialpH	EFD_AddHClpH>5
180-100205-A-1	11187072-N.TREATMENT AREA #2	EPA 1311, 7470A, EPA 7470A	P	100.00 g	2000 mL	5.00 g	96.5 mL	9.29 SU	3.50 mL
180-100205-A-3	11187072-N.TREATMENT AREA #3	EPA 1311, 7470A, EPA 7470A	P	100.00 g	2000 mL	5.00 g	96.5 mL	9.45 SU	3.50 mL
180-100205-A-5	11187072-N.TREATMENT AREA #4	EPA 1311, 7470A, EPA 7470A	P	100.00 g	2000 mL	5.00 g	96.5 mL	8.47 SU	3.50 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	EFD_HeatHeld	EFD_SecondpHCheck	FiltCompDate	FiltCompTime	LeachatepH	
180-100205-A-1	11187072-N.TREATMENT AREA #2	EPA 1311, 7470A, EPA 7470A	P	50.0 Deg. C	2.10 SU	12/20/19	1200	6.21 SU	
180-100205-A-3	11187072-N.TREATMENT AREA #3	EPA 1311, 7470A, EPA 7470A	P	50.0 Deg. C	1.80 SU	12/20/19	1200	5.03 SU	
180-100205-A-5	11187072-N.TREATMENT AREA #4	EPA 1311, 7470A, EPA 7470A	P	50.0 Deg. C	1.84 SU	12/20/19	1200	5.02 SU	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 301984 Batch Start Date: 12/19/19 16:30 Batch Analyst: Stundon, Jeremy A

Batch Method: EPA 1311 Batch End Date: 12/20/19 09:30

Batch Notes	
Balance ID	AND-14577823
Batch Comment	pH Buffer 13: 3418512 and pH Buffer 7 (second source): 3494553
pH Buffer 1 ID	3519611
pH Buffer 2 ID	3468003
pH Buffer 3 ID	2923701
pH Buffer 4 ID	3505862
First End time	1200
Filter ID	3468050
Hot Plate ID	TCLP-2
pH Meter Calibration Slope	99.4/100.5
pH Meter ID	ACCUMET-XL-150
Probe ID	XT3-11598
Room Temperature Thermometer ID	FISHER-160719405 CF 0.0
Analyst ID - Spike Analyst	EPS
Analyst ID - Spike Witness Analyst	JAS
First Start time	1000
TCLP Fluid 1 ID	3473617
TCLP Fluid 1 pH	4.93
TCLP Fluid 2 ID	3509299
TCLP Fluid 2 pH	2.88
Maximum Temperature	23 Degrees C
Minimum Temperature	21 Degrees C
Thermometer ID	TCLP-2 CF 0.0
Tumbler Rotations per Minute	Tumbler 1: 31; Tumbler 4:30
Uncorrected Maximum Temperature	23 Degrees C
Uncorrected Minimum Temperature	21 Degrees C
Uncorrected Water Bath Temperature	50.0 Celsius
Water Bath ID	TCLP-2
Water Bath Temperature	50.0 Degrees C
Water Bath Thermometer ID	TCLP-2 CF 0.0

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 301984 Batch Start Date: 12/19/19 16:30 Batch Analyst: Stundon, Jeremy A

Batch Method: EPA 1311 Batch End Date: 12/20/19 09:30

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 302169 Batch Start Date: 12/20/19 15:00 Batch Analyst: Marfisi, Nicole A

Batch Method: 7470A Batch End Date: 12/20/19 17:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MHgworkingCal 02212			
MB 180-302169/1		7470A, EPA 7470A		50 mL	50 mL				
LCS 180-302169/2		7470A, EPA 7470A		50 mL	50 mL	1.25 mL			
LB 180-301984/1-A		7470A, EPA 7470A		50 mL	50 mL				
180-100205-A-1-B	11187072-N.TREATMENT AREA #2	7470A, EPA 7470A	P	50 mL	50 mL				
180-100205-A-3-B	11187072-N.TREATMENT AREA #3	7470A, EPA 7470A	P	50 mL	50 mL				
180-100205-A-5-B	11187072-N.TREATMENT AREA #4	7470A, EPA 7470A	P	50 mL	50 mL				

Batch Notes	
Batch Comment	HG-DISP-05C4676
Temperature - Corrected - End	95 Degrees C
Temperature - Corrected - Start	95 Degrees C
Digestion End Time	12/20/19 1700
Digestion Start Time	12/20/19 1500
Digestion Unit ID	HB4
Sulfuric Acid ID	2.5 mL 3507542 HG-DISP-7N8924
Nitric Acid ID	1.25 mL HG-DISP-N1 3507583
Hydroxylamine ID	3 mL 3514944 HG-DISP-C6
Potassium Persulfate ID	4 mL 3518692 HG-DISP-KS4
Potassium Permanganate ID	7.5 mL 3518683 HG-DISP-KMNO4
Pipette/Syringe/Dispenser ID	B912396809 B720115069
Analyst ID - Spike Analyst	NAM
Analyst ID - Spike Witness Analyst	NAM
Sufficient Volume for Batch QC	YES
Thermometer ID	3112832 CF0.0 A3
Digestion Tube/Cup ID	ENVEXPRESS 1906257
Temperature - Uncorrected - End	95 Degrees C
Temperature - Uncorrected - Start	95 Degrees C

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 302169 Batch Start Date: 12/20/19 15:00 Batch Analyst: Marfisi, Nicole A

Batch Method: 7470A Batch End Date: 12/20/19 17:00

Basis	Basis Description
P	TCLP

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 302361 Batch Start Date: 12/23/19 12:00 Batch Analyst: Marfisi, Nicole A

Batch Method: 7470A Batch End Date: 12/23/19 14:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MHgworkingCal 02213	MHgWorkingicv 02163		
ICV 180-302361/7		7470A, EPA 7470A		100 mL	100 mL		2.5 mL		
ICB 180-302361/8		7470A, EPA 7470A		100 mL	100 mL				
CRA 180-302361/9		7470A, EPA 7470A		100 mL	100 mL	0.2 mL			
CCV 180-302361/10		7470A, EPA 7470A		100 mL	100 mL	5 mL			
CCB 180-302361/11		7470A, EPA 7470A		100 mL	100 mL				

Batch Notes	
Batch Comment	HG-DISP-05C4676
Temperature - Corrected - End	96 Degrees C
Temperature - Corrected - Start	96 Degrees C
Digestion End Time	12/23/19 1400
Digestion Start Time	12/23/19 1200
Digestion Unit ID	HB3
Sulfuric Acid ID	5ML 3507542 HG-DISP-7N8924
Nitric Acid ID	2.50ML 3507583 HG-DISP-N1
Hydroxylamine ID	6ML 3514944 HG-DISP-C6
Potassium Persulfate ID	8ML 3518692 HG-DISP-KS4
Potassium Permanganate ID	15ML 3518683 HG-DISP-KMNO4
Pipette/Syringe/Dispenser ID	B912396809 B720115069
Analyst ID - Spike Analyst	NAM
Analyst ID - Spike Witness Analyst	NAM
Thermometer ID	3113246 CF0.0 B1
Digestion Tube/Cup ID	ENVEXPRESS 1904119
Temperature - Uncorrected - End	96 Degrees C
Temperature - Uncorrected - Start	96 Degrees C

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 302361 Batch Start Date: 12/23/19 12:00 Batch Analyst: Marfisi, Nicole A

Batch Method: 7470A Batch End Date: 12/23/19 14:00

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Sample Name: STD1 Acquired: 12/23/2019 7:38:54 Type: Cal
Method: PITT-6500ICP-2(v3963) Mode: IR Corr. Factor: 1.000000
User: RGood Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.00005	.00096	.00002	.00044	.00333	-.00429
Stddev	.00006	.00010	.00007	.00009	.00028	.00012
%RSD	126.11	10.728	302.93	20.941	8.5471	2.8378
#1	-.00011	.00086	.00007	.00051	.00358	-.00419
#2	.00001	.00095	.00006	.00047	.00338	-.00426
#3	-.00005	.00107	-.00006	.00034	.00302	-.00442

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00673	.00032	.00034	.00001	-.00154	.00029
Stddev	.00031	.00007	.00023	.00003	.00009	.00017
%RSD	4.6207	23.051	69.200	343.81	5.9809	57.129
#1	.00661	.00039	.00060	-.00002	-.00163	.00024
#2	.00709	.00034	.00016	.00002	-.00154	.00016
#3	.00651	.00024	.00025	.00003	-.00144	.00048

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00062	-.00325	-.00016	.00010	.00004	.00338
Stddev	.00072	.00066	.00006	.00003	.00007	.00098
%RSD	116.28	20.388	40.855	26.514	178.10	29.066
#1	.00025	-.00383	-.00015	.00007	.00007	.00412
#2	.00016	-.00253	-.00022	.00012	.00008	.00227
#3	.00144	-.00340	-.00010	.00010	-.00004	.00376

Sample Name: STD1 Acquired: 12/23/2019 7:38:54 Type: Cal
Method: PITT-6500ICP-2(v3963) Mode: IR Corr. Factor: 1.000000
User: RGood Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00177	-.00003	-.00027	-.00002	.00018	.00001
Stddev	.00040	.00053	.00005	.00006	.00005	.00016
%RSD	22.607	1538.0	17.392	240.64	28.169	1284.3
#1	.00174	-.00053	-.00031	.00003	.00017	.00003
#2	.00219	-.00009	-.00027	-.00002	.00024	-.00016
#3	.00139	.00052	-.00022	-.00008	.00014	.00016

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.00047	.00032	-.00063	-.00068	-.00030
Stddev	.00037	.00003	.00023	.00025	.00013
%RSD	78.497	9.9200	36.154	37.556	44.477
#1	-.00079	.00028	-.00037	-.00042	-.00015
#2	-.00007	.00034	-.00075	-.00093	-.00036
#3	-.00056	.00033	-.00077	-.00067	-.00040

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4156.3	6562.1	92880.	16778.
Stddev	7.2	11.5	125.	28.
%RSD	.17406	.17520	.13499	.16929
#1	4164.2	6567.0	92777.	16810.
#2	4150.0	6549.0	93020.	16767.
#3	4154.7	6570.3	92845.	16757.

Sample Name: STD2A Acquired: 12/23/2019 7:44:03 Type: Cal
Method: PITT-6500ICP-2(v3963) Mode: IR Corr. Factor: 1.000000
User: RGood Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag	As	B_	Ba	Be	Cd
Line	328.068 {103}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}	228.802 {447}
IS Ref	(Y_3600)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.50562	.06334	.93298	11.456	19.916	1.9455
Stddev	.00210	.00024	.00127	.028	.258	.0070
%RSD	.41598	.38634	.13609	.24753	1.2954	.35785
#1	.50748	.06343	.93401	11.452	20.209	1.9511
#2	.50334	.06307	.93156	11.486	19.820	1.9377
#3	.50605	.06353	.93335	11.429	19.720	1.9477

Elem	Co	Cr	Cu	Li	Mn	Mo
Line	228.616 {447}	267.716 {126}	327.396 {103}	670.784 { 50}	257.610 {131}	202.030 {467}
IS Ref	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)	(Y_3600)	(Y_2243)
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6.3737	.75108	.67414	3.1287	4.2296	2.3232
Stddev	.0061	.00199	.00186	.0145	.0127	.0079
%RSD	.09588	.26559	.27580	.46298	.30040	.34059
#1	6.3670	.75263	.67578	3.1440	4.2255	2.3292
#2	6.3750	.74883	.67212	3.1272	4.2439	2.3142
#3	6.3790	.75177	.67453	3.1151	4.2195	2.3263

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2.6227	.36115	.11231	.04922	.14940	.86180
Stddev	.0042	.00095	.00039	.00014	.00173	.00173
%RSD	.16161	.26363	.34908	.27838	1.1561	.20131
#1	2.6180	.36179	.11267	.04931	.15136	.86281
#2	2.6239	.36005	.11189	.04907	.14813	.85980
#3	2.6262	.36160	.11237	.04930	.14870	.86279

Sample Name: STD2A Acquired: 12/23/2019 7:44:03 Type: Cal
Method: PITT-6500ICP-2(v3963) Mode: IR Corr. Factor: 1.000000
User: RGood Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.44760	2.4424	.32729	.44350	3.5036
Stddev	.00340	.0035	.00025	.00172	.0071
%RSD	.75895	.14326	.07560	.38682	.20263
#1	.45114	2.4435	.32739	.44539	3.5061
#2	.44729	2.4385	.32701	.44307	3.4956
#3	.44437	2.4453	.32747	.44204	3.5091

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3875.6	6475.0	90830.	16837.
Stddev	6.2	10.1	81.	143.
%RSD	.15942	.15583	.08967	.84724
#1	3882.4	6470.5	90736.	16673.
#2	3870.3	6486.5	90874.	16927.
#3	3874.1	6467.9	90880.	16912.

Sample Name: STD3 Acquired: 12/23/2019 7:49:02 Type: Cal
Method: PITT-6500ICP-2(v3963) Mode: IR Corr. Factor: 1.000000
User: RGood Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Al	Ca	Fe	K_	Mg	Na
Line	308.215 {109}	317.933 {106}	259.940 {130}	766.490 { 44}	279.079 {121}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3710)
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.84063	12.919	5.4676	6.8714	1.2404	31.495
Stddev	.00067	.080	.0210	.0201	.0050	.238
%RSD	.07926	.61762	.38351	.29206	.40546	.75582
#1	.84015	12.906	5.4908	6.8934	1.2451	31.443
#2	.84034	13.004	5.4499	6.8666	1.2351	31.754
#3	.84139	12.846	5.4621	6.8541	1.2411	31.286

Int. Std.	Y_3710
Line	371.030 { 91}
Units	Cts/S
Avg	16141.
Stddev	39.
%RSD	.23981
#1	16099.
#2	16147.
#3	16176.

Sample Name: ICV 3517104 Acquired: 12/23/2019 7:54:27 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.49267	12.524	.26083	1.0169	.98507	1.0064
Stddev	.00083	.025	.00243	.0012	.00120	.0032
%RSD	.16830	.20049	.93126	.12083	.12218	.32250
#1	.49255	12.553	.26216	1.0162	.98405	1.0050
#2	.49190	12.509	.26230	1.0183	.98639	1.0101
#3	.49355	12.509	.25802	1.0162	.98476	1.0041
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.661	.25221	1.0100	.98142	.98536	12.708
Stddev	.018	.00061	.0027	.00128	.00359	.029
%RSD	.07061	.24184	.26621	.13070	.36395	.22814
#1	25.665	.25154	1.0071	.98153	.98699	12.692
#2	25.678	.25273	1.0124	.98008	.98124	12.741
#3	25.642	.25237	1.0105	.98263	.98784	12.690
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: ICV 3517104 Acquired: 12/23/2019 7:54:27 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	50.388	.99122	25.298	.99409	.98628	50.457
Stddev	.181	.00459	.101	.00095	.00163	.195
%RSD	.35912	.46274	.39933	.09546	.16484	.38639
#1	50.293	.98998	25.297	.99450	.98497	50.358
#2	50.596	.99629	25.399	.99476	.98810	50.682
#3	50.274	.98737	25.197	.99300	.98578	50.332
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.0079	.24901	.24832	.25241	1.0443	.96603
Stddev	.0028	.00190	.00236	.00410	.0103	.00113
%RSD	.27852	.76112	.95104	1.6232	.98261	.11695
#1	1.0047	.24691	.24607	.25582	1.0458	.96478
#2	1.0098	.25059	.24813	.25353	1.0334	.96696
#3	1.0092	.24954	.25078	.24786	1.0537	.96635
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: ICV 3517104 Acquired: 12/23/2019 7:54:27 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.98353	.99639	.50490	.99625	.98942
Stddev	.00987	.00162	.00219	.00313	.00114
%RSD	1.0034	.16279	.43335	.31388	.11509
#1	.97979	.99825	.50576	.99986	.98812
#2	.99472	.99568	.50652	.99435	.98996
#3	.97608	.99525	.50241	.99454	.99020
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3579.4	6270.1	87405.	16470.
Stddev	5.5	5.5	166.	56.
%RSD	.15332	.08733	.19042	.33984
#1	3585.3	6276.3	87360.	16480.
#2	3574.5	6265.8	87589.	16410.
#3	3578.3	6268.1	87265.	16521.

Sample Name: ICV 3517104 Acquired: 12/23/2019 7:59:16 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.48884	12.407	.25702	1.0126	.98411	1.0074
Stddev	.00142	.038	.00126	.0017	.00223	.0044
%RSD	.29018	.30594	.49094	.16267	.22701	.44041
#1	.48726	12.363	.25568	1.0145	.98154	1.0120
#2	.48923	12.423	.25819	1.0117	.98555	1.0032
#3	.49002	12.434	.25720	1.0116	.98524	1.0071
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.565	.25131	1.0058	.97482	.97616	12.711
Stddev	.024	.00066	.0034	.00208	.00220	.042
%RSD	.09552	.26071	.34323	.21388	.22533	.33069
#1	25.537	.25185	1.0064	.97395	.97711	12.750
#2	25.572	.25149	1.0088	.97720	.97773	12.667
#3	25.584	.25058	1.0020	.97330	.97365	12.717
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: ICV 3517104 Acquired: 12/23/2019 7:59:16 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	50.302	.98897	25.284	.99204	.98228	50.338
Stddev	.109	.00193	.079	.00153	.00125	.097
%RSD	.21645	.19552	.31252	.15432	.12708	.19359
#1	50.390	.98957	25.364	.99330	.98370	50.392
#2	50.180	.99053	25.206	.99034	.98136	50.226
#3	50.337	.98681	25.282	.99250	.98177	50.397
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.0045	.24912	.24656	.25082	1.0479	.96277
Stddev	.0039	.00147	.00068	.00130	.0057	.00243
%RSD	.39037	.58884	.27728	.51977	.54534	.25287
#1	1.0072	.24895	.24700	.25048	1.0519	.96518
#2	1.0063	.25067	.24690	.25226	1.0414	.96282
#3	.99999	.24775	.24577	.24972	1.0505	.96031
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: ICV 3517104 Acquired: 12/23/2019 7:59:16 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.97402	.99333	.50365	.98717	.98564
Stddev	.00402	.00053	.00267	.00308	.00140
%RSD	.41277	.05382	.52968	.31251	.14223
#1	.97057	.99291	.50464	.98407	.98698
#2	.97844	.99316	.50568	.99024	.98575
#3	.97305	.99393	.50062	.98719	.98418
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3582.1	6275.2	87455.	16469.
Stddev	9.3	8.5	75.	87.
%RSD	.25953	.13613	.08584	.52890
#1	3582.9	6271.8	87414.	16429.
#2	3572.4	6269.0	87542.	16569.
#3	3591.0	6285.0	87410.	16409.

Sample Name: ICBIS Acquired: 12/23/2019 8:04:06 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00020	-.00590	-.00061	-.00009	-.00003	-.00002
Stddev	.00038	.00789	.00181	.00055	.00005	.00002
%RSD	192.38	133.54	295.11	584.94	188.71	101.32
#1	-.00060	.00290	-.00263	.00034	.00003	-.00001
#2	-.00012	-.00829	-.00010	.00009	-.00004	-.00000
#3	.00014	-.01232	.00088	-.00072	-.00008	-.00004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00040	.00007	.00002	-.00001	.00058	-.00053
Stddev	.00158	.00012	.00005	.00040	.00070	.00190
%RSD	395.63	179.41	245.56	2969.3	120.15	354.62
#1	.00134	.00019	.00008	.00028	.00064	-.00029
#2	-.00174	.00008	-.00003	-.00047	-.00015	.00123
#3	-.00080	-.00006	.00001	.00015	.00124	-.00254
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: ICBIS Acquired: 12/23/2019 8:04:06 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.16103	.00268	-.00354	-.00002	.00035	.02526
Stddev	.01391	.00117	.02041	.00000	.00007	.00317
%RSD	8.6353	43.522	576.40	23.372	21.398	12.556
#1	.17193	.00135	-.02705	-.00002	.00030	.02163
#2	.14537	.00353	.00964	-.00001	.00031	.02750
#3	.16580	.00317	.00679	-.00001	.00043	.02665
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00014	.00047	-.00095	.00104	.00394	.00034
Stddev	.00043	.00048	.00051	.00286	.00539	.00026
%RSD	305.23	102.45	53.999	275.65	136.65	75.390
#1	.00064	-.00009	-.00083	-.00050	.00261	.00034
#2	-.00005	.00076	-.00051	-.00073	-.00065	.00060
#3	-.00016	.00073	-.00151	.00434	.00987	.00009
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: ICBIS Acquired: 12/23/2019 8:04:06 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00148	-.00006	.00031	.00050	.00008
Stddev	.00448	.00004	.00104	.00087	.00022
%RSD	303.27	61.177	334.61	172.11	263.30
#1	.00192	-.00006	-.00088	-.00049	-.00002
#2	-.00321	-.00010	.00104	.00111	.00033
#3	.00573	-.00003	.00076	.00089	-.00006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4149.8	6501.1	92461.	16552.
Stddev	1.6	3.6	297.	115.
%RSD	.03784	.05489	.32096	.69613
#1	4151.5	6505.0	92313.	16570.
#2	4148.4	6498.1	92803.	16428.
#3	4149.5	6500.1	92268.	16657.

Sample Name: ICVL 3507853 Acquired: 12/23/2019 8:09:18 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00501	.18306	.00863	.19970	.19664	.00405
Stddev	.00024	.00900	.00056	.00051	.00030	.00007
%RSD	4.7746	4.9179	6.5302	.25601	.15381	1.7620
#1	.00484	.18702	.00849	.19932	.19654	.00397
#2	.00491	.17275	.00926	.19950	.19640	.00409
#3	.00528	.18939	.00816	.20028	.19698	.00409
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.1396	.00494	.04819	.00512	.02449	.10265
Stddev	.0063	.00006	.00011	.00013	.00045	.00338
%RSD	.12351	1.1143	.22962	2.5643	1.8269	3.2954
#1	5.1336	.00489	.04807	.00519	.02480	.10047
#2	5.1388	.00500	.04828	.00520	.02398	.10094
#3	5.1463	.00493	.04822	.00497	.02470	.10655
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: ICVL 3507853 Acquired: 12/23/2019 8:09:18 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.0901**	**.05252**	**5.0804**	**.01507**	**.04061**	**5.0771**
Stddev	.0363	.00084	.0228	.00017	.00018	.0073
%RSD	.71256	1.6062	.44819	1.0962	.45000	.14287
#1	5.0833	.05159	5.0741	.01525	.04078	5.0710
#2	5.1293	.05322	5.0615	.01493	.04042	5.0752
#3	5.0577	.05276	5.1057	.01504	.04064	5.0851
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.03891**	**.01144**	**.00850**	**.01052**	**.49567**	**.10009**
Stddev	.00011	.00135	.00105	.00038	.00229	.00011
%RSD	.29203	11.767	12.310	3.6438	.46249	.10694
#1	.03901	.00989	.00970	.01045	.49332	.10020
#2	.03893	.01211	.00777	.01018	.49578	.09999
#3	.03879	.01231	.00804	.01094	.49790	.10007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: ICVL 3507853 Acquired: 12/23/2019 8:09:18 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.05001	.04974	.02019	.04770	.02011
Stddev	.00513	.00038	.00128	.00162	.00007
%RSD	10.265	.77389	6.3290	3.3934	.36183
#1	.04439	.05011	.01994	.04708	.02016
#2	.05445	.04934	.01906	.04648	.02003
#3	.05120	.04977	.02158	.04954	.02015
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3993.0	6501.7	92712.	16806.
Stddev	9.1	6.8	579.	34.
%RSD	.22784	.10498	.62497	.20452
#1	3995.8	6494.6	92058.	16784.
#2	4000.3	6508.2	92917.	16845.
#3	3982.8	6502.2	93161.	16788.

Sample Name: ICSA 3483419 Acquired: 12/23/2019 8:14:24 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00003	510.45	-.00149	-.00086	.00107	-.00009
Stddev	.00061	.54	.00399	.00010	.00024	.00003
%RSD	2229.1	.10523	268.52	11.774	22.333	31.996
#1	.00072	510.03	-.00416	-.00097	.00110	-.00006
#2	-.00044	511.06	-.00341	-.00083	.00130	-.00009
#3	-.00020	510.27	.00310	-.00077	.00082	-.00012
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	477.17	.00054	-.00009	.00465	.00643	190.27
Stddev	4.60	.00007	.00028	.00054	.00035	1.28
%RSD	.96339	12.361	325.71	11.546	5.4066	.67103
#1	481.24	.00062	.00002	.00407	.00678	189.90
#2	478.09	.00051	.00012	.00513	.00642	191.69
#3	472.18	.00050	-.00040	.00476	.00609	189.22
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: ICSA 3483419 Acquired: 12/23/2019 8:14:24 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.13839	.00843	523.89	.00101	-.00119	.22928
Stddev	.02877	.00047	3.82	.00002	.00034	.00934
%RSD	20.792	5.6148	.72868	1.9543	29.041	4.0755
#1	.16077	.00897	522.36	.00103	-.00133	.22108
#2	.10594	.00819	528.23	.00099	-.00144	.23945
#3	.14847	.00812	521.07	.00100	-.00079	.22731
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00264	-.00676	F -.02933	-.00092	.02453	.00167
Stddev	.00067	.00242	.00135	.00584	.00572	.00097
%RSD	25.421	35.842	4.6151	637.58	23.299	58.355
#1	.00216	-.00451	-.03071	.00274	.02347	.00220
#2	.00236	-.00933	-.02927	-.00765	.03070	.00227
#3	.00341	-.00645	-.02801	.00216	.01942	.00055
Check ?	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit			.02000			
Low Limit			-.02000			

Sample Name: ICSA 3483419 Acquired: 12/23/2019 8:14:24 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.01324	-.00006	-.00192	-.00126	.00048
Stddev	.00059	.00018	.00065	.00130	.00018
%RSD	4.4224	271.75	33.734	103.25	36.837
#1	.01323	.00008	-.00254	-.00083	.00028
#2	.01383	-.00026	-.00196	-.00023	.00058
#3	.01266	-.00002	-.00125	-.00273	.00060
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3003.0	5644.2	78014.	15921.
Stddev	4.0	3.7	262.	72.
%RSD	.13170	.06617	.33534	.45429
#1	3000.4	5640.4	77792.	15914.
#2	3001.0	5647.9	77947.	15852.
#3	3007.5	5644.2	78303.	15996.

Sample Name: ICSAB 3504631 Acquired: 12/23/2019 8:19:49 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.0663**	**509.11**	**1.0379**	**.99067**	**.49775**	**.49408**
Stddev	.0070	1.29	.0105	.00284	.00040	.00058
%RSD	.65563	.25388	1.0127	.28717	.07953	.11736
#1	1.0698	510.57	1.0479	.99328	.49809	.49356
#2	1.0709	508.13	1.0388	.99109	.49785	.49399
#3	1.0583	508.62	1.0270	.98764	.49732	.49471
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**477.87**	**1.0262**	**.49787**	**.48357**	**.52375**	**188.03**
Stddev	2.61	.0030	.00096	.00218	.00311	1.16
%RSD	.54544	.28866	.19248	.45064	.59386	.61689
#1	475.02	1.0294	.49834	.48421	.52700	187.95
#2	478.46	1.0257	.49851	.48535	.52346	186.92
#3	480.13	1.0236	.49677	.48114	.52080	189.23
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: ICSAB 3504631 Acquired: 12/23/2019 8:19:49 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.677	1.0509	512.97	.48743	.96723	10.779
Stddev	.045	.0035	.91	.00197	.00376	.010
%RSD	.42137	.33251	.17717	.40457	.38904	.09650
#1	10.713	1.0536	512.16	.48827	.97091	10.791
#2	10.691	1.0470	512.80	.48885	.96738	10.774
#3	10.626	1.0521	513.95	.48518	.96339	10.772
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.99227	.95595	.97640	.99914	1.0399	.88862
Stddev	.00107	.00154	.00723	.00249	.0056	.00460
%RSD	.10794	.16116	.74086	.24908	.54097	.51773
#1	.99169	.95473	.98111	1.0018	1.0400	.89236
#2	.99350	.95768	.98002	.99877	1.0342	.89000
#3	.99160	.95545	.96807	.99686	1.0454	.88348
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: ICSAB 3504631 Acquired: 12/23/2019 8:19:49 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.94802	.99039	.91178	.48096	.91516
Stddev	.00212	.00521	.00549	.00322	.00320
%RSD	.22318	.52631	.60265	.67043	.34993
#1	.94562	.99353	.91690	.48220	.91826
#2	.94882	.99326	.91247	.47730	.91534
#3	.94961	.98437	.90597	.48338	.91186
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2960.4	5594.9	77375.	15821.
Stddev	7.1	20.0	409.	23.
%RSD	.23850	.35665	.52806	.14816
#1	2952.3	5572.6	77326.	15838.
#2	2963.2	5601.1	76994.	15794.
#3	2965.6	5611.1	77806.	15830.

Sample Name: CCV 3515986 Acquired: 12/23/2019 8:24:50 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.0063	24.965	.51345	2.0401	1.9802	2.0410
Stddev	.0011	.022	.00338	.0025	.0046	.0036
%RSD	.10734	.08944	.65829	.12374	.23358	.17737
#1	1.0058	24.941	.51724	2.0392	1.9856	2.0378
#2	1.0055	24.971	.51235	2.0430	1.9772	2.0449
#3	1.0075	24.984	.51076	2.0382	1.9780	2.0403
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	51.132	.50533	2.0744	1.9700	1.9573	25.378
Stddev	.020	.00055	.0012	.0015	.0012	.047
%RSD	.03993	.10906	.05702	.07450	.06242	.18686
#1	51.155	.50471	2.0751	1.9714	1.9577	25.327
#2	51.128	.50549	2.0730	1.9685	1.9559	25.421
#3	51.114	.50577	2.0751	1.9700	1.9583	25.386
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3515986 Acquired: 12/23/2019 8:24:50 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	125.07	1.9796	50.219	1.9875	1.9889	125.82
Stddev	.09	.0008	.164	.0019	.0061	.13
%RSD	.07338	.04090	.32748	.09593	.30532	.10167
#1	124.99	1.9788	50.155	1.9854	1.9819	125.89
#2	125.17	1.9804	50.406	1.9881	1.9927	125.89
#3	125.05	1.9796	50.096	1.9890	1.9921	125.67
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.0754	.50681	.49725	.51116	2.0414	1.9127
Stddev	.0009	.00055	.00072	.00191	.0057	.0012
%RSD	.04207	.10802	.14438	.37420	.27947	.06273
#1	2.0764	.50618	.49687	.50945	2.0353	1.9113
#2	2.0750	.50719	.49680	.51081	2.0422	1.9132
#3	2.0748	.50706	.49807	.51323	2.0466	1.9136
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3515986 Acquired: 12/23/2019 8:24:50 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	1.9709	1.9998	.96706	1.9954	1.9853
Stddev	.0013	.0010	.00214	.0064	.0024
%RSD	.06346	.05088	.22150	.32262	.12359
#1	1.9714	2.0003	.96482	2.0013	1.9832
#2	1.9694	1.9986	.96728	1.9964	1.9847
#3	1.9718	2.0003	.96909	1.9885	1.9880
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3336.6	6085.2	84519.	16227.
Stddev	4.7	2.9	89.	9.
%RSD	.14144	.04697	.10563	.05791
#1	3332.5	6084.2	84482.	16235.
#2	3341.8	6088.4	84455.	16217.
#3	3335.6	6082.9	84621.	16231.

Sample Name: CCB1 Acquired: 12/23/2019 8:29:37 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00009	-.01085	-.00149	.00037	-.00003	.00003
Stddev	.00025	.00958	.00184	.00049	.00020	.00005
%RSD	271.50	88.333	123.54	134.27	782.73	164.56
#1	.00011	-.02143	-.00128	.00091	.00013	-.00001
#2	-.00017	-.00276	.00024	-.00004	-.00025	.00008
#3	.00033	-.00836	-.00343	.00023	.00004	.00002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00000	.00006	-.00014	.00014	.00041	-.00027
Stddev	.00266	.00008	.00025	.00029	.00036	.00019
%RSD	360030.	144.98	178.84	209.32	87.182	69.479
#1	-.00084	.00013	-.00020	-.00006	.00056	-.00029
#2	.00298	-.00003	.00014	.00046	.00068	-.00007
#3	-.00214	.00007	-.00036	.00001	.00000	-.00045
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB1 Acquired: 12/23/2019 8:29:37 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.16633	.00393	.00861	.00002	.00044	.02520
Stddev	.00453	.00154	.01092	.00001	.00006	.01152
%RSD	2.7206	39.095	126.88	49.627	14.858	45.717
#1	.17006	.00479	.00974	.00001	.00039	.03564
#2	.16764	.00485	.01892	.00002	.00051	.02712
#3	.16130	.00216	-.00283	.00003	.00041	.01284
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00005	-.00088	-.00038	.00105	-.00463	-.00006
Stddev	.00017	.00141	.00147	.00040	.00630	.00008
%RSD	363.48	159.85	387.23	37.881	135.95	124.15
#1	.00002	-.00104	.00132	.00137	-.00327	-.00004
#2	-.00011	.00060	-.00113	.00061	.00088	-.00015
#3	.00023	-.00220	-.00132	.00117	-.01150	-.00000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB1 Acquired: 12/23/2019 8:29:37 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00210	.00003	.00025	-.00068	.00002
Stddev	.00432	.00010	.00044	.00058	.00007
%RSD	205.93	331.78	173.99	86.526	402.04
#1	-.00170	.00014	.00075	-.00078	-.00006
#2	.00679	-.00003	.00009	-.00120	.00002
#3	.00120	-.00002	-.00008	-.00004	.00009
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4146.1	6525.8	92734.	16621.
Stddev	1.7	1.9	393.	69.
%RSD	.04100	.02968	.42377	.41404
#1	4148.0	6523.7	93186.	16547.
#2	4144.7	6527.6	92471.	16683.
#3	4145.6	6526.0	92545.	16633.

Sample Name: MB 180-302119/1-A Acquired: 12/23/2019 8:34:48 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00004	-.01983	-.00071	-.00066	-.00019	.00002
Stddev	.00022	.00482	.00139	.00031	.00004	.00007
%RSD	529.55	24.280	196.03	46.710	20.803	298.23
#1	-.00017	-.01802	-.00168	-.00075	-.00023	-.00002
#2	.00027	-.02529	-.00134	-.00031	-.00018	.00011
#3	.00003	-.01619	.00089	-.00090	-.00015	-.00002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00168	-.00011	.00021	.00018	.00045	.00213
Stddev	.00217	.00008	.00002	.00008	.00042	.00164
%RSD	128.79	70.577	9.4161	44.389	94.306	76.973
#1	-.00069	-.00017	.00021	.00022	.00017	.00402
#2	-.00019	-.00002	.00019	.00024	.00093	.00119
#3	-.00417	-.00014	.00022	.00009	.00024	.00118
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: MB 180-302119/1-A Acquired: 12/23/2019 8:34:48 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.09633	.00233	.00083	-.00002	-.00010	.00106
Stddev	.02586	.00157	.01158	.00002	.00013	.00482
%RSD	26.849	67.496	1398.6	82.337	129.44	456.84
#1	.12514	.00082	-.01096	-.00001	-.00013	.00533
#2	.08871	.00396	.00125	-.00001	-.00021	-.00417
#3	.07513	.00221	.01219	-.00004	.00004	.00201
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00005	.00032	.00013	-.00072	.00748	-.00022
Stddev	.00014	.00040	.00051	.00057	.01438	.00071
%RSD	316.37	127.83	401.26	80.154	192.35	325.17
#1	.00016	.00029	.00004	-.00111	-.00660	.00005
#2	-.00012	-.00007	.00068	-.00098	.00688	-.00102
#3	.00010	.00074	-.00033	-.00006	.02215	.00032
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: MB 180-302119/1-A Acquired: 12/23/2019 8:34:48 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	-.00009	-.00010	.00133	.00091	.00337
Stddev	.00220	.00012	.00058	.00098	.00002
%RSD	2545.5	131.01	43.432	107.79	.64440
#1	.00242	.00003	.00175	.00125	.00338
#2	-.00098	-.00022	.00156	.00167	.00338
#3	-.00170	-.00009	.00067	-.00020	.00334
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4355.2	6784.2	95995.	17246.
Stddev	7.3	6.1	453.	46.
%RSD	.16713	.08993	.47162	.26653
#1	4361.1	6790.9	96053.	17249.
#2	4347.1	6782.7	95516.	17290.
#3	4357.5	6779.0	96416.	17198.

Sample Name: 180-97542-A-1-B Acquired: 12/23/2019 8:39:57 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00257**	**.09230**	**.00427**	**.02522**	**.00500**	**.00208**
Stddev	.00015	.01927	.00124	.00045	.00016	.00004
%RSD	5.7763	20.876	29.009	1.7706	3.2654	2.1390
#1	.00265	.07010	.00300	.02561	.00505	.00204
#2	.00266	.10460	.00433	.02473	.00481	.00213
#3	.00240	.10222	.00548	.02533	.00513	.00207
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.10913**	**.00064**	**.00108**	**.00230**	**.01356**	**.01098**
Stddev	.00197	.00013	.00015	.00036	.00094	.00164
%RSD	1.8037	19.677	13.584	15.454	6.9528	14.948
#1	.10761	.00078	.00091	.00259	.01330	.00909
#2	.11135	.00056	.00119	.00191	.01460	.01206
#3	.10842	.00057	.00113	.00240	.01277	.01180
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97542-A-1-B Acquired: 12/23/2019 8:39:57 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.62684	.02959	2.5912	.00774	.02090	.82045
Stddev	.01198	.00096	.0207	.00006	.00019	.01092
%RSD	1.9113	3.2353	.79754	.76305	.90757	1.3306
#1	.62157	.02866	2.5691	.00767	.02076	.80889
#2	.61838	.03057	2.5944	.00778	.02112	.83058
#3	.64055	.02953	2.6100	.00777	.02082	.82188
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00760	.00446	.00495	.00399	.26127	.00899
Stddev	.00028	.00052	.00057	.00171	.00380	.00050
%RSD	3.7143	11.738	11.491	42.757	1.4530	5.5484
#1	.00761	.00386	.00479	.00579	.25689	.00841
#2	.00731	.00481	.00448	.00239	.26348	.00925
#3	.00788	.00471	.00559	.00380	.26345	.00930
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97542-A-1-B Acquired: 12/23/2019 8:39:57 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.02932	.02598	.01083	.02722	.01289
Stddev	.00348	.00011	.00063	.00183	.00009
%RSD	11.881	.42450	5.8103	6.7173	.73217
#1	.02621	.02603	.01109	.02771	.01298
#2	.02868	.02606	.01130	.02875	.01279
#3	.03309	.02586	.01012	.02519	.01290
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4136.3	6594.7	94163.	16841.
Stddev	10.8	17.8	900.	65.
%RSD	.26172	.27040	.95543	.38506
#1	4140.7	6613.7	93577.	16859.
#2	4144.3	6591.9	93712.	16769.
#3	4124.0	6578.4	95199.	16895.

Sample Name: 180-97542-A-2-B Acquired: 12/23/2019 8:45:04 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00261	.08820	.00527	.02469	.00496	.00199
Stddev	.00009	.00429	.00037	.00018	.00016	.00005
%RSD	3.3191	4.8664	7.0025	.73996	3.1386	2.7388
#1	.00271	.08757	.00486	.02455	.00511	.00202
#2	.00255	.08425	.00557	.02462	.00496	.00202
#3	.00258	.09277	.00539	.02489	.00480	.00192
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.10764	.00061	.00099	.00254	.01361	.01076
Stddev	.00107	.00004	.00001	.00018	.00043	.00052
%RSD	.99595	7.1138	1.2191	7.1206	3.1362	4.7913
#1	.10681	.00066	.00097	.00264	.01399	.01102
#2	.10885	.00057	.00099	.00233	.01315	.01110
#3	.10726	.00060	.00099	.00264	.01369	.01017
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97542-A-2-B Acquired: 12/23/2019 8:45:04 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.63755	.03032	2.5478	.00769	.02072	.80072
Stddev	.01924	.00041	.0187	.00002	.00024	.01543
%RSD	3.0175	1.3643	.73456	.25383	1.1651	1.9267
#1	.64755	.03016	2.5684	.00768	.02045	.80537
#2	.64972	.03079	2.5434	.00768	.02078	.78351
#3	.61537	.03001	2.5318	.00771	.02092	.81329
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00774	.00544	.00529	.00502	.25309	.00848
Stddev	.00005	.00123	.00082	.00407	.00451	.00051
%RSD	.60861	22.637	15.417	81.193	1.7827	5.9659
#1	.00772	.00571	.00555	.00697	.25408	.00836
#2	.00779	.00652	.00438	.00774	.25703	.00804
#3	.00770	.00410	.00595	.00033	.24817	.00903
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97542-A-2-B Acquired: 12/23/2019 8:45:04 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.02425	.02545	.00980	.02688	.01253
Stddev	.00155	.00007	.00107	.00104	.00004
%RSD	6.3886	.27680	10.885	3.8722	.34108
#1	.02421	.02544	.01094	.02569	.01257
#2	.02272	.02538	.00964	.02732	.01255
#3	.02582	.02552	.00883	.02763	.01249
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4137.5	6586.6	93854.	16930.
Stddev	.4	7.5	157.	33.
%RSD	.01081	.11396	.16767	.19551
#1	4137.1	6594.3	93902.	16905.
#2	4138.0	6586.3	93982.	16968.
#3	4137.5	6579.3	93679.	16918.

Sample Name: MB 180-302120/1-A Acquired: 12/23/2019 8:50:13 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00027	-.01949	-.00153	-.00039	-.00021	-.00003
Stddev	.00033	.00790	.00053	.00031	.00012	.00004
%RSD	123.77	40.553	34.729	79.838	58.068	120.85
#1	-.00010	-.01282	-.00177	-.00070	-.00033	.00001
#2	.00036	-.01742	-.00092	-.00040	-.00009	-.00005
#3	.00055	-.02822	-.00190	-.00008	-.00021	-.00006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00022	.00003	.00011	.00013	-.00031	.00219
Stddev	.00050	.00002	.00014	.00023	.00021	.00143
%RSD	230.01	67.617	129.00	175.36	67.193	65.227
#1	.00009	.00004	.00017	.00037	-.00055	.00104
#2	.00005	.00004	.00021	-.00009	-.00014	.00174
#3	-.00079	.00001	-.00005	.00012	-.00025	.00379
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: MB 180-302120/1-A Acquired: 12/23/2019 8:50:13 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.08707	.00247	.00656	-.00002	-.00009	.00259
Stddev	.02463	.00081	.01237	.00003	.00007	.00542
%RSD	28.283	32.923	188.50	110.08	72.153	209.62
#1	.11479	.00189	-.00734	-.00005	-.00007	.00056
#2	.07868	.00341	.01066	-.00000	-.00017	.00873
#3	.06773	.00213	.01636	-.00001	-.00004	-.00153
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00005	.00027	-.00088	-.00072	.00366	.00016
Stddev	.00023	.00169	.00223	.00243	.00149	.00055
%RSD	497.34	631.74	253.90	336.89	40.746	350.54
#1	.00001	.00220	.00136	.00183	.00361	.00079
#2	-.00016	-.00046	-.00311	-.00301	.00517	-.00014
#3	.00029	-.00094	-.00088	-.00099	.00219	-.00018
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: MB 180-302120/1-A Acquired: 12/23/2019 8:50:13 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00050	-.00016	.00187	.00168	.00309
Stddev	.00461	.00017	.00031	.00082	.00014
%RSD	919.24	102.65	16.723	49.046	4.5753
#1	.00572	-.00008	.00203	.00103	.00307
#2	-.00299	-.00005	.00207	.00140	.00295
#3	-.00123	-.00036	.00151	.00260	.00323
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4272.8	6729.1	95754.	17362.
Stddev	5.0	8.9	221.	63.
%RSD	.11645	.13171	.23094	.36198
#1	4274.1	6731.3	95641.	17289.
#2	4267.3	6719.4	96009.	17401.
#3	4277.1	6736.7	95613.	17395.

Sample Name: 180-97542-A-5-B Acquired: 12/23/2019 8:55:22 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00261	.16103	.00342	.02658	.00691	.00109
Stddev	.00008	.02991	.00197	.00033	.00017	.00002
%RSD	2.9156	18.577	57.637	1.2443	2.4018	1.9721
#1	.00270	.17484	.00494	.02695	.00707	.00111
#2	.00257	.18154	.00412	.02630	.00674	.00108
#3	.00257	.12670	.00119	.02651	.00690	.00107
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.60077	.00107	.00491	.00249	.01290	.07867
Stddev	.00380	.00008	.00012	.00020	.00051	.00002
%RSD	.63304	7.3443	2.5404	7.9192	3.9876	.02206
#1	.59919	.00111	.00490	.00272	.01232	.07865
#2	.60511	.00098	.00504	.00239	.01332	.07867
#3	.59801	.00112	.00479	.00237	.01305	.07868
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97542-A-5-B Acquired: 12/23/2019 8:55:22 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.61193	.03116	7.7648	.01011	.01061	.82327
Stddev	.02453	.00061	.0188	.00003	.00012	.00961
%RSD	4.0094	1.9613	.24280	.31464	1.1295	1.1674
#1	.58436	.03184	7.7437	.01008	.01066	.82086
#2	.63136	.03096	7.7705	.01011	.01047	.83386
#3	.62008	.03066	7.7801	.01015	.01069	.81510
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02108	.00590	.00352	.00838	.14459	.01789
Stddev	.00010	.00203	.00034	.00292	.00353	.00058
%RSD	.48105	34.360	9.6296	34.818	2.4400	3.2454
#1	.02096	.00357	.00391	.00511	.14818	.01806
#2	.02116	.00687	.00332	.00933	.14446	.01725
#3	.02111	.00726	.00332	.01071	.14112	.01837
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97542-A-5-B Acquired: 12/23/2019 8:55:22 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.02867	.01078	.01079	.02707	.01669
Stddev	.00256	.00011	.00078	.00066	.00009
%RSD	8.9147	1.0602	7.2035	2.4430	.51120
#1	.03161	.01078	.01053	.02654	.01678
#2	.02700	.01089	.01018	.02686	.01668
#3	.02740	.01066	.01167	.02781	.01661
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4005.0	6509.5	92188.	16919.
Stddev	9.2	10.1	77.	22.
%RSD	.22985	.15471	.08325	.13208
#1	3996.7	6499.0	92142.	16942.
#2	4003.5	6510.3	92146.	16898.
#3	4014.9	6519.1	92277.	16916.

Sample Name: 180-97542-A-6-B Acquired: 12/23/2019 9:00:29 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00246	.10134	.00489	.02647	.00619	.00104
Stddev	.00013	.01346	.00023	.00018	.00015	.00003
%RSD	5.4431	13.278	4.7452	.66643	2.4033	2.4756
#1	.00252	.09592	.00463	.02660	.00607	.00102
#2	.00230	.11666	.00499	.02627	.00636	.00107
#3	.00255	.09144	.00506	.02654	.00614	.00102
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.55579	.00111	.00490	.00257	.01326	.05394
Stddev	.00195	.00012	.00009	.00020	.00111	.00014
%RSD	.35036	10.324	1.8321	7.7793	8.4028	.25770
#1	.55664	.00125	.00486	.00277	.01371	.05410
#2	.55356	.00103	.00500	.00258	.01407	.05384
#3	.55717	.00107	.00484	.00237	.01199	.05388
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97542-A-6-B Acquired: 12/23/2019 9:00:29 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.58985	.03004	7.7896	.00780	.01078	.80374
Stddev	.01945	.00013	.0794	.00002	.00021	.00785
%RSD	3.2982	.41713	1.0194	.21976	1.9210	.97693
#1	.56753	.03016	7.7473	.00782	.01074	.79737
#2	.60325	.03005	7.8812	.00778	.01101	.81251
#3	.59876	.02991	7.7403	.00780	.01060	.80135
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02068	.00341	.00498	.00766	.13758	.01444
Stddev	.00022	.00023	.00147	.00080	.00459	.00030
%RSD	1.0628	6.7133	29.569	10.476	3.3388	2.0814
#1	.02058	.00350	.00504	.00783	.14162	.01419
#2	.02052	.00358	.00348	.00679	.13855	.01477
#3	.02093	.00315	.00643	.00837	.13258	.01435
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97542-A-6-B Acquired: 12/23/2019 9:00:29 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.02753	.01062	.00974	.02547	.01362
Stddev	.00185	.00001	.00028	.00080	.00014
%RSD	6.7238	.08662	2.8681	3.1282	.99531
#1	.02877	.01061	.00994	.02468	.01351
#2	.02540	.01061	.00942	.02627	.01377
#3	.02841	.01063	.00986	.02546	.01358
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4009.5	6499.7	92113.	16887.
Stddev	3.6	8.5	51.	89.
%RSD	.09058	.13070	.05508	.52786
#1	4005.4	6490.0	92057.	16956.
#2	4010.8	6503.1	92155.	16786.
#3	4012.3	6505.9	92128.	16918.

Sample Name: MB 180-302194/1-A Acquired: 12/23/2019 9:05:37 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00010	-.01425	-.00204	-.00074	-.00008	.00002
Stddev	.00036	.01725	.00101	.00065	.00007	.00005
%RSD	346.42	121.01	49.266	87.983	92.735	200.10
#1	-.00027	.00416	-.00304	-.00071	-.00004	.00007
#2	.00045	-.03003	-.00103	-.00010	-.00016	.00002
#3	.00013	-.01690	-.00205	-.00140	-.00003	-.00002
Check ?	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00110	-.00002	.00011	.00001	-.00047	.00129
Stddev	.00034	.00017	.00005	.00023	.00022	.00180
%RSD	30.561	1117.1	47.036	3101.8	47.391	139.79
#1	-.00073	-.00021	.00005	-.00013	-.00036	.00295
#2	-.00118	.00005	.00014	-.00012	-.00032	.00153
#3	-.00139	.00011	.00015	.00028	-.00072	-.00062
Check ?	None	Chk Pass	None	Chk Pass	Chk Pass	None
High Limit						
Low Limit						

Sample Name: MB 180-302194/1-A Acquired: 12/23/2019 9:05:37 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.07676	.00435	.00671	-.00005	.00003	-.00353
Stddev	.01924	.00061	.03514	.00003	.00006	.00392
%RSD	25.067	14.144	523.81	75.335	231.75	111.11
#1	.08487	.00500	-.03100	-.00007	-.00002	-.00216
#2	.09063	.00426	.03855	-.00006	.00001	-.00047
#3	.05479	.00378	.01258	-.00001	.00009	-.00794
Check ?	None	None	None	None	None	None
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00039	.00110	.00064	-.00134	.01335	-.00062
Stddev	.00012	.00001	.00090	.00107	.00491	.00015
%RSD	31.230	1.2864	141.52	79.881	36.795	23.932
#1	.00049	.00109	-.00040	-.00087	.01693	-.00079
#2	.00041	.00109	.00105	-.00059	.00775	-.00056
#3	.00025	.00112	.00126	-.00257	.01536	-.00051
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None
High Limit						
Low Limit						

Sample Name: MB 180-302194/1-A Acquired: 12/23/2019 9:05:37 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	**-.00170**	**-.00021**	**.00049**	**.00190**	**.00264**
Stddev	.00103	.00020	.00063	.00193	.00016
%RSD	60.660	93.502	128.33	101.55	6.2044
#1	-.00057	-.00027	.00052	.00062	.00281
#2	-.00193	-.00037	-.00015	.00413	.00263
#3	-.00259	.00001	.00109	.00096	.00248
Check ?	None	None	Chk Pass	None	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4245.7**	**6704.3**	**94354.**	**17181.**
Stddev	3.3	10.0	350.	37.
%RSD	.07668	.14964	.37062	.21419
#1	4248.4	6712.1	94364.	17156.
#2	4246.7	6707.7	93999.	17164.
#3	4242.1	6693.0	94698.	17223.

Sample Name: LCS 180-302194/2-A Acquired: 12/23/2019 9:10:48 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.28663	5.4766	1.1915	F 1.5670	1.1222	.57704
Stddev	.00110	.0216	.0084	.0051	.0010	.00270
%RSD	.38285	.39438	.70166	.32793	.08984	.46752
#1	.28590	5.4801	1.1821	1.5616	1.1233	.57920
#2	.28789	5.4535	1.1979	1.5718	1.1213	.57401
#3	.28610	5.4962	1.1947	1.5675	1.1222	.57790
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass
High Limit				1.5000		
Low Limit				1.0000		

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	27.898	.58026	.56330	.55557	.56635	5.5470
Stddev	.057	.00255	.00288	.00166	.00225	.0301
%RSD	.20265	.43997	.51180	.29869	.39734	.54250
#1	27.963	.57774	.56007	.55401	.56530	5.5796
#2	27.864	.58285	.56423	.55731	.56894	5.5204
#3	27.866	.58019	.56561	.55538	.56483	5.5409
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: LCS 180-302194/2-A Acquired: 12/23/2019 9:10:48 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	27.578	.56550	27.613	.56239	.56387	27.867
Stddev	.113	.00300	.194	.00084	.00175	.087
%RSD	.41125	.53033	.70324	.14865	.31116	.31066
#1	27.698	.56799	27.819	.56188	.56207	27.932
#2	27.473	.56217	27.433	.56193	.56557	27.769
#3	27.562	.56635	27.587	.56335	.56398	27.901
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.56627	.56237	F .30655	F 1.2036	1.1507	1.1060
Stddev	.00350	.00149	.00029	.0056	.0095	.0038
%RSD	.61794	.26579	.09503	.46728	.82600	.34600
#1	.56240	.56089	.30633	1.1971	1.1588	1.1021
#2	.56723	.56388	.30645	1.2065	1.1402	1.1098
#3	.56919	.56233	.30688	1.2072	1.1530	1.1061
Check ?	Chk Pass	Chk Pass	Chk Fail	Chk Fail	Chk Pass	Chk Pass
High Limit			.30000	1.2000		
Low Limit			.20000	.80000		

Sample Name: LCS 180-302194/2-A Acquired: 12/23/2019 9:10:48 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.55875	.56630	1.1334	.55775	F .30462
Stddev	.00645	.00035	.0060	.00278	.00079
%RSD	1.1538	.06154	.52662	.49841	.26044
#1	.56618	.56660	1.1270	.56095	.30383
#2	.55460	.56640	1.1388	.55593	.30541
#3	.55548	.56592	1.1345	.55637	.30462
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
High Limit					.30000
Low Limit					.20000

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3711.7	6403.5	89144.	16890.
Stddev	15.1	22.3	197.	86.
%RSD	.40741	.34816	.22079	.50870
#1	3729.1	6423.7	89334.	16791.
#2	3701.7	6379.6	89156.	16934.
#3	3704.3	6407.4	88941.	16946.

Sample Name: LB 180-301984/1-C Acquired: 12/23/2019 9:15:32 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00008	-.02247	.00022	-.00059	.00005	-.00002
Stddev	.00042	.01948	.00085	.00012	.00014	.00000
%RSD	533.55	86.727	387.53	20.740	300.98	10.643
#1	.00030	-.03780	.00083	-.00046	.00020	-.00001
#2	-.00053	-.02906	.00058	-.00061	-.00008	-.00002
#3	-.00000	-.00054	-.00076	-.00071	.00002	-.00002
Check ?	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00414	.00004	.00042	-.00001	-.00236	.00994
Stddev	.00110	.00012	.00017	.00017	.00106	.00125
%RSD	26.616	288.03	41.584	1673.2	44.966	12.532
#1	.00534	-.00007	.00023	.00016	-.00358	.00902
#2	.00318	.00002	.00045	-.00001	-.00186	.01136
#3	.00389	.00017	.00057	-.00018	-.00165	.00944
Check ?	None	Chk Pass	None	Chk Pass	Chk Pass	None
High Limit						
Low Limit						

Sample Name: LB 180-301984/1-C Acquired: 12/23/2019 9:15:32 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.10654	.00320	-.00389	.00001	.00005	158.28
Stddev	.02448	.00110	.01216	.00002	.00018	.63
%RSD	22.977	34.524	312.33	253.49	374.19	.39691
#1	.12767	.00435	.00192	.00002	.00026	158.62
#2	.07971	.00310	.00427	.00002	-.00006	158.66
#3	.11224	.00215	-.01787	-.00002	-.00005	157.55
Check ?	None	None	None	None	None	None
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00081	.00074	-.00046	.00198	.01265	-.00042
Stddev	.00038	.00136	.00251	.00525	.00430	.00053
%RSD	47.164	183.20	549.35	264.61	33.992	125.63
#1	.00098	-.00081	.00089	-.00362	.01027	-.00014
#2	.00037	.00131	-.00335	.00278	.01761	-.00103
#3	.00107	.00173	.00109	.00679	.01006	-.00009
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None
High Limit						
Low Limit						

Sample Name: LB 180-301984/1-C Acquired: 12/23/2019 9:15:32 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00401	-.00010	.00098	-.00076	.00402
Stddev	.00265	.00004	.00017	.00112	.00005
%RSD	66.070	36.612	17.323	147.84	1.3376
#1	.00230	-.00006	.00080	-.00060	.00399
#2	.00707	-.00012	.00100	-.00194	.00408
#3	.00267	-.00012	.00114	.00028	.00399
Check ?	None	None	Chk Pass	None	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3626.9	6313.0	87561.	16904.
Stddev	2.0	1.0	181.	30.
%RSD	.05631	.01625	.20687	.17973
#1	3627.1	6313.8	87362.	16875.
#2	3624.8	6311.8	87717.	16936.
#3	3628.9	6313.4	87604.	16902.

Sample Name: 180-100064-A-1-I Acquired: 12/23/2019 9:20:52 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00014	.07373	.00097	.04035	.01313	.00003
Stddev	.00024	.01240	.00050	.00048	.00011	.00003
%RSD	169.94	16.822	51.883	1.1955	.87124	100.10
#1	.00032	.05991	.00107	.03981	.01324	.00001
#2	-.00014	.08390	.00042	.04075	.01315	.00002
#3	.00025	.07736	.00142	.04049	.01301	.00006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.297	-.00006	.00115	.00142	.00165	4.8567
Stddev	.024	.00009	.00018	.00032	.00007	.0149
%RSD	.14573	133.92	15.866	22.784	4.3637	.30708
#1	16.273	-.00004	.00111	.00137	.00157	4.8708
#2	16.320	-.00016	.00135	.00176	.00171	4.8582
#3	16.298	.00001	.00099	.00112	.00168	4.8411
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-100064-A-1-I Acquired: 12/23/2019 9:20:52 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.28988	.00408	1.3260	.06264	.00017	148.10
Stddev	.04363	.00149	.0189	.00023	.00012	.87
%RSD	15.050	36.511	1.4278	.36454	70.993	.58509
#1	.26501	.00532	1.3460	.06290	.00003	147.12
#2	.26438	.00243	1.3084	.06252	.00026	148.77
#3	.34026	.00448	1.3237	.06248	.00021	148.41
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00220	.00132	-.00108	.00110	.77761	.00081
Stddev	.00016	.00063	.00195	.00053	.00692	.00037
%RSD	7.5006	48.159	180.41	47.714	.88953	45.944
#1	.00212	.00203	-.00328	.00112	.77686	.00089
#2	.00239	.00081	-.00040	.00057	.78487	.00040
#3	.00208	.00111	.00044	.00162	.77110	.00113
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-100064-A-1-I Acquired: 12/23/2019 9:20:52 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.02948	.00021	.00120	-.00118	.19541
Stddev	.00164	.00007	.00006	.00170	.00002
%RSD	5.5646	31.983	5.1304	143.58	.00932
#1	.03136	.00027	.00125	.00076	.19541
#2	.02872	.00014	.00113	-.00191	.19540
#3	.02835	.00022	.00122	-.00239	.19543
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3612.2	6316.2	87716.	16938.
Stddev	6.0	9.4	184.	58.
%RSD	.16573	.14922	.20990	.34219
#1	3614.1	6326.9	87912.	17002.
#2	3617.0	6312.3	87547.	16924.
#3	3605.5	6309.2	87687.	16888.

Sample Name: CCV 3515986 Acquired: 12/23/2019 9:26:09 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.0090	24.872	.50973	2.0310	1.9731	2.0346
Stddev	.0031	.079	.00179	.0020	.0003	.0087
%RSD	.30761	.31870	.35046	.10013	.01332	.42649
#1	1.0125	24.793	.50956	2.0288	1.9731	2.0292
#2	1.0078	24.871	.50803	2.0312	1.9734	2.0299
#3	1.0066	24.951	.51159	2.0329	1.9729	2.0446
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	50.927	.50544	2.0583	1.9631	1.9656	25.257
Stddev	.055	.00066	.0050	.0050	.0063	.120
%RSD	.10827	.13031	.24334	.25295	.31953	.47455
#1	50.886	.50477	2.0529	1.9660	1.9727	25.182
#2	50.904	.50609	2.0589	1.9660	1.9606	25.193
#3	50.989	.50546	2.0629	1.9574	1.9635	25.395
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3515986 Acquired: 12/23/2019 9:26:09 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	124.86	1.9782	49.897	1.9806	1.9810	125.52
Stddev	.36	.0059	.202	.0042	.0085	.43
%RSD	.28775	.29677	.40514	.21045	.42910	.34108
#1	124.72	1.9764	49.749	1.9796	1.9712	125.39
#2	124.59	1.9734	49.815	1.9852	1.9852	125.18
#3	125.27	1.9847	50.127	1.9770	1.9866	126.00
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.0605	.50393	.49742	.51253	2.0301	1.9061
Stddev	.0064	.00115	.00210	.00195	.0141	.0075
%RSD	.30909	.22850	.42235	.37993	.69530	.39282
#1	2.0547	.50274	.49559	.51211	2.0147	1.8983
#2	2.0595	.50504	.49971	.51083	2.0333	1.9069
#3	2.0673	.50400	.49696	.51465	2.0424	1.9132
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3515986 Acquired: 12/23/2019 9:26:09 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	1.9691	1.9938	.96607	1.9897	1.9738
Stddev	.0128	.0017	.00205	.0036	.0070
%RSD	.64855	.08371	.21269	.18126	.35616
#1	1.9703	1.9939	.96441	1.9935	1.9662
#2	1.9558	1.9955	.96837	1.9864	1.9751
#3	1.9812	1.9922	.96544	1.9891	1.9800
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3364.3	6126.5	84685.	16346.
Stddev	7.9	16.2	272.	56.
%RSD	.23428	.26413	.32091	.34322
#1	3372.9	6144.3	84696.	16369.
#2	3362.5	6122.6	84407.	16387.
#3	3357.5	6112.7	84951.	16282.

Sample Name: CCB2 Acquired: 12/23/2019 9:30:57 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00009	-.02503	-.00169	-.00048	-.00023	.00000
Stddev	.00041	.01411	.00242	.00040	.00008	.00002
%RSD	448.24	56.352	143.35	83.900	34.154	1182.0
#1	-.00024	-.02496	-.00386	-.00040	-.00032	-.00002
#2	-.00004	-.01096	-.00213	-.00092	-.00019	.00002
#3	.00055	-.03918	.00092	-.00012	-.00018	.00001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00043	.00007	.00001	.00005	.00039	.00038
Stddev	.00226	.00004	.00015	.00013	.00033	.00020
%RSD	530.92	57.797	1468.5	290.13	85.645	53.250
#1	.00141	.00006	.00008	.00020	.00075	.00015
#2	-.00216	.00003	.00011	-.00004	.00010	.00044
#3	.00203	.00011	-.00017	-.00002	.00032	.00054
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB2 Acquired: 12/23/2019 9:30:57 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.18102	.00390	.00234	-.00002	.00045	.03890
Stddev	.01858	.00075	.01666	.00004	.00010	.00433
%RSD	10.263	19.165	710.70	252.48	22.299	11.127
#1	.17928	.00325	.01696	-.00006	.00057	.03453
#2	.20040	.00472	-.01579	.00002	.00040	.04318
#3	.16337	.00372	.00586	-.00001	.00039	.03899
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00012	-.00062	-.00146	-.00093	-.00036	.00003
Stddev	.00031	.00103	.00088	.00265	.00537	.00023
%RSD	247.45	166.07	59.994	283.83	1504.3	814.81
#1	.00034	-.00149	-.00245	.00013	.00584	-.00003
#2	.00026	.00052	-.00118	-.00395	-.00362	-.00017
#3	-.00023	-.00088	-.00076	.00102	-.00330	.00029
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB2 Acquired: 12/23/2019 9:30:57 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00243	-.00011	-.00010	.00093	-.00001
Stddev	.00293	.00003	.00067	.00106	.00012
%RSD	120.45	27.670	678.13	114.34	916.57
#1	.00373	-.00013	.00039	.00107	-.00014
#2	-.00092	-.00008	-.00087	-.00020	.00010
#3	.00450	-.00013	.00017	.00191	.00000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4189.8	6592.5	93216.	16793.
Stddev	9.4	15.9	254.	46.
%RSD	.22540	.24055	.27238	.27213
#1	4200.7	6608.4	92973.	16845.
#2	4184.1	6576.7	93479.	16765.
#3	4184.6	6592.5	93195.	16768.

Sample Name: 180-100066-A-1-D Acquired: 12/23/2019 9:36:08 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00011	.04545	.00058	.03944	.00608	.00001
Stddev	.00011	.01001	.00182	.00029	.00007	.00002
%RSD	98.555	22.026	314.05	.72535	1.2083	272.82
#1	.00000	.03412	.00154	.03911	.00609	.00003
#2	.00011	.04914	-.00152	.03961	.00615	-.00002
#3	.00023	.05309	.00172	.03961	.00600	.00001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.6420	-.00008	.00074	.00082	.00137	.54459
Stddev	.0105	.00009	.00026	.00029	.00020	.00339
%RSD	.28803	101.54	34.915	34.706	14.983	.62333
#1	3.6486	-.00016	.00099	.00050	.00126	.54554
#2	3.6475	-.00010	.00074	.00105	.00160	.54741
#3	3.6299	.00001	.00048	.00092	.00123	.54082
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-100066-A-1-D Acquired: 12/23/2019 9:36:08 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20519	.00370	.05407	.01108	.00018	140.42
Stddev	.01481	.00102	.01195	.00007	.00014	.34
%RSD	7.2192	27.481	22.098	.66434	79.564	.24348
#1	.19006	.00435	.04058	.01116	.00019	140.59
#2	.21967	.00421	.06333	.01106	.00031	140.63
#3	.20586	.00253	.05830	.01102	.00003	140.02
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00105	.00169	.00089	.00195	.14752	-.00002
Stddev	.00044	.00090	.00059	.00187	.00257	.00031
%RSD	41.583	53.164	66.408	96.263	1.7413	1566.1
#1	.00088	.00170	.00129	.00110	.15003	-.00022
#2	.00072	.00078	.00021	.00410	.14764	.00033
#3	.00154	.00257	.00117	.00065	.14490	-.00017
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-100066-A-1-D Acquired: 12/23/2019 9:36:08 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00186	.00011	.00055	.00003	.01244
Stddev	.00047	.00002	.00066	.00063	.00025
%RSD	25.048	22.159	120.76	1818.9	2.0215
#1	.00233	.00008	.00109	.00007	.01225
#2	.00139	.00012	-.00019	-.00062	.01273
#3	.00187	.00012	.00076	.00065	.01236
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3668.4	6338.6	87832.	16830.
Stddev	4.0	7.3	87.	33.
%RSD	.10897	.11441	.09929	.19751
#1	3672.5	6344.8	87933.	16841.
#2	3664.5	6330.6	87778.	16793.
#3	3668.3	6340.5	87785.	16857.

Sample Name: 180-100133-A-1-C Acquired: 12/23/2019 9:41:19 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00001	.72299	.00145	.09204	.03968	.00010
Stddev	.00011	.01494	.00154	.00068	.00011	.00003
%RSD	773.10	2.0659	105.71	.73943	.27415	32.120
#1	-.00003	.73971	.00048	.09126	.03966	.00012
#2	-.00007	.71095	.00066	.09232	.03980	.00006
#3	.00014	.71833	.00323	.09254	.03959	.00011
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	57.765	.00038	.01047	.01380	.06525	1.3949
Stddev	.160	.00009	.00029	.00030	.00036	.0096
%RSD	.27661	22.901	2.7623	2.1476	.55625	.68822
#1	57.927	.00029	.01014	.01356	.06507	1.3950
#2	57.608	.00038	.01062	.01371	.06500	1.3853
#3	57.761	.00046	.01066	.01413	.06566	1.4045
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-100133-A-1-C Acquired: 12/23/2019 9:41:19 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.55075	.01629	2.2124	.52030	.00338	139.98
Stddev	.03250	.00043	.0267	.00037	.00034	.53
%RSD	5.9004	2.6700	1.2089	.07069	10.113	.37718
#1	.51352	.01625	2.2031	.52044	.00371	140.48
#2	.57340	.01588	2.1915	.51989	.00303	139.43
#3	.56534	.01675	2.2425	.52058	.00339	140.03
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02739	.00162	.00385	.00364	2.1545	.00005
Stddev	.00054	.00113	.00101	.00328	.0021	.00051
%RSD	1.9661	69.726	26.113	89.897	.09887	937.29
#1	.02718	.00203	.00432	.00300	2.1546	-.00054
#2	.02698	.00248	.00454	.00719	2.1523	.00035
#3	.02800	.00034	.00270	.00074	2.1566	.00035
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-100133-A-1-C Acquired: 12/23/2019 9:41:19 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.16801	-.00014	.00118	.00185	.46528
Stddev	.00574	.00009	.00138	.00188	.00352
%RSD	3.4180	66.595	117.09	101.91	.75671
#1	.16719	-.00006	.00011	.00112	.46312
#2	.16272	-.00024	.00069	.00398	.46337
#3	.17412	-.00013	.00275	.00043	.46934
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3558.7	6234.9	86860.	16667.
Stddev	17.2	32.6	245.	34.
%RSD	.48336	.52310	.28205	.20514
#1	3574.2	6259.5	87054.	16664.
#2	3561.7	6247.4	86941.	16703.
#3	3540.2	6197.9	86585.	16635.

Sample Name: 180-100135-A-1-D Acquired: 12/23/2019 9:46:25 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00004	.39201	.00118	.23918	.08509	.00003
Stddev	.00036	.01137	.00115	.00041	.00031	.00004
%RSD	942.83	2.9013	97.522	.17156	.36942	131.00
#1	-.00016	.39318	-.00002	.23913	.08473	-.00001
#2	.00045	.38009	.00227	.23879	.08532	.00003
#3	-.00018	.40275	.00128	.23961	.08522	.00006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.795	.02618	.01127	.00219	.06618	2.1085
Stddev	.035	.00008	.00021	.00011	.00039	.0110
%RSD	.18392	.29456	1.8706	5.1581	.58958	.52301
#1	18.768	.02610	.01131	.00226	.06582	2.0960
#2	18.834	.02618	.01146	.00225	.06659	2.1129
#3	18.783	.02625	.01104	.00206	.06613	2.1167
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-100135-A-1-D Acquired: 12/23/2019 9:46:25 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.3354	.01732	2.5733	.47047	.00017	147.14
Stddev	.0212	.00134	.0071	.00004	.00011	.81
%RSD	.63495	7.7169	.27621	.00800	62.792	.54862
#1	3.3379	.01871	2.5705	.47043	.00018	147.64
#2	3.3553	.01719	2.5814	.47050	.00006	147.57
#3	3.3131	.01604	2.5680	.47046	.00028	146.21
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.10003	.03777	.01571	.00284	.44409	.00012
Stddev	.00062	.00088	.00031	.00065	.00628	.00027
%RSD	.62426	2.3169	1.9795	22.723	1.4147	228.59
#1	.10016	.03740	.01595	.00281	.44836	.00043
#2	.09935	.03714	.01536	.00351	.43688	-.00005
#3	.10058	.03877	.01581	.00221	.44704	-.00003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-100135-A-1-D Acquired: 12/23/2019 9:46:25 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.06784	.00001	.00098	.00192	F 32.727
Stddev	.00198	.00014	.00098	.00029	.038
%RSD	2.9251	2370.5	100.12	15.021	.11703
#1	.06632	-.00007	.00005	.00224	32.706
#2	.07009	.00017	.00200	.00170	32.703
#3	.06712	-.00008	.00089	.00180	32.771
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
High Limit					25.000
Low Limit					-.02000

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3592.7	6286.1	87311.	16863.
Stddev	11.9	11.7	176.	48.
%RSD	.33213	.18682	.20134	.28621
#1	3602.4	6296.9	87277.	16916.
#2	3596.3	6287.8	87154.	16849.
#3	3579.3	6273.6	87501.	16822.

Sample Name: 180-100139-A-1-E Acquired: 12/23/2019 9:51:36 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00016	.01034	.00904	.02380	.02518	.00008
Stddev	.00032	.02220	.00093	.00046	.00030	.00006
%RSD	200.38	214.62	10.310	1.9513	1.1880	80.416
#1	.00023	.01431	.00812	.02405	.02553	.00002
#2	.00044	-.01357	.00998	.02327	.02503	.00007
#3	-.00019	.03029	.00901	.02410	.02498	.00014
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.1532	.00048	.00243	.00051	.00039	.01729
Stddev	.0430	.00001	.00031	.00029	.00026	.00091
%RSD	1.9990	1.9358	12.701	57.454	66.704	5.2573
#1	2.2029	.00047	.00238	.00020	.00023	.01734
#2	2.1275	.00048	.00276	.00056	.00069	.01818
#3	2.1291	.00049	.00215	.00078	.00025	.01636
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-100139-A-1-E Acquired: 12/23/2019 9:51:36 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.65690	.00505	1.3582	.14481	.00038	140.73
Stddev	.00722	.00178	.0335	.00020	.00008	2.89
%RSD	1.0996	35.216	2.4671	.13808	22.200	2.0552
#1	.66405	.00681	1.3967	.14483	.00046	144.04
#2	.65703	.00326	1.3420	.14461	.00039	138.68
#3	.64960	.00507	1.3359	.14501	.00029	139.47
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00458	.00606	.00150	.00119	.12692	.00016
Stddev	.00042	.00005	.00108	.00276	.00387	.00065
%RSD	9.2362	.90243	71.831	231.68	3.0452	399.93
#1	.00410	.00603	.00116	.00429	.13069	-.00055
#2	.00488	.00604	.00270	.00028	.12711	.00032
#3	.00478	.00613	.00063	-.00100	.12297	.00072
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-100139-A-1-E Acquired: 12/23/2019 9:51:36 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.02662	.00002	.00101	.00610	.16786
Stddev	.00192	.00007	.00114	.00129	.00048
%RSD	7.1958	333.92	113.39	21.100	.28642
#1	.02699	.00006	.00141	.00565	.16810
#2	.02833	-.00006	.00189	.00510	.16731
#3	.02455	.00006	-.00028	.00756	.16818
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3631.7	6278.7	87264.	16488.
Stddev	7.8	11.3	101.	334.
%RSD	.21427	.18017	.11574	2.0229
#1	3640.6	6286.7	87303.	16108.
#2	3627.7	6283.6	87339.	16735.
#3	3626.6	6265.8	87149.	16620.

Sample Name: 180-100139-A-2-Q Acquired: 12/23/2019 9:56:42 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00004	.00652	.00243	.05486	.04307	.00011
Stddev	.00044	.00863	.00187	.00100	.00018	.00000
%RSD	997.90	132.34	76.858	1.8276	.40936	.89160
#1	-.00047	-.00344	.00148	.05402	.04289	.00011
#2	.00035	.01142	.00123	.05459	.04308	.00011
#3	.00025	.01159	.00459	.05597	.04325	.00011
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.8981	.00436	.00193	.00087	.01330	.14952
Stddev	.0188	.00018	.00001	.00021	.00047	.00179
%RSD	.31963	4.1667	.75432	23.798	3.5602	1.1942
#1	5.9061	.00434	.00195	.00091	.01277	.15002
#2	5.9116	.00419	.00193	.00105	.01347	.15101
#3	5.8766	.00455	.00192	.00064	.01367	.14754
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-100139-A-2-Q Acquired: 12/23/2019 9:56:42 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.76656	.00449	2.1517	.27332	-.00003	139.63
Stddev	.02611	.00038	.0176	.00021	.00013	.15
%RSD	3.4064	8.4195	.81768	.07732	521.46	.10470
#1	.74085	.00416	2.1521	.27313	-.00016	139.63
#2	.76578	.00490	2.1691	.27329	.00011	139.78
#3	.79306	.00441	2.1339	.27355	-.00002	139.49
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00636	.00530	-.00055	-.00153	.25638	.00010
Stddev	.00014	.00138	.00157	.00132	.00471	.00021
%RSD	2.2631	25.960	286.95	86.577	1.8383	208.38
#1	.00620	.00533	.00103	-.00021	.25253	.00004
#2	.00640	.00666	-.00056	-.00286	.26164	.00033
#3	.00648	.00391	-.00210	-.00152	.25499	-.00007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-100139-A-2-Q Acquired: 12/23/2019 9:56:42 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.05266	.00007	.00241	.00005	.58839
Stddev	.00062	.00003	.00208	.00095	.00196
%RSD	1.1723	44.082	86.409	1997.9	.33318
#1	.05304	.00004	.00480	.00056	.58613
#2	.05195	.00010	.00096	.00063	.58961
#3	.05300	.00007	.00147	-.00105	.58943
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3649.5	6347.0	87789.	16829.
Stddev	4.4	8.8	109.	34.
%RSD	.12101	.13862	.12472	.19956
#1	3653.8	6356.8	87720.	16867.
#2	3649.7	6344.3	87916.	16803.
#3	3645.0	6339.8	87732.	16816.

Sample Name: 180-100139-A-2-QSD@5 Acquired: 12/23/2019 10:01:46 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00008	-.00487	-.00076	.00911	.00860	-.00005
Stddev	.00040	.00225	.00059	.00032	.00021	.00002
%RSD	476.17	46.142	77.743	3.4974	2.4813	34.709
#1	-.00038	-.00227	-.00107	.00925	.00883	-.00007
#2	.00037	-.00618	-.00008	.00875	.00841	-.00004
#3	-.00025	-.00615	-.00113	.00934	.00857	-.00004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.1990	.00082	.00041	.00017	.00266	.02985
Stddev	.0010	.00014	.00016	.00014	.00067	.00071
%RSD	.08052	16.589	37.972	78.194	25.167	2.3679
#1	1.1981	.00098	.00057	.00025	.00264	.02994
#2	1.2000	.00079	.00026	.00002	.00334	.03050
#3	1.1989	.00071	.00041	.00025	.00200	.02910
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-100139-A-2-QSD@5 Acquired: 12/23/2019 10:01:46 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.24952	.00313	.43315	.05545	-.00003	28.363
Stddev	.02436	.00112	.01248	.00015	.00022	.027
%RSD	9.7618	35.924	2.8813	.26427	774.33	.09591
#1	.23573	.00441	.42647	.05541	-.00028	28.394
#2	.27764	.00261	.44755	.05561	.00015	28.346
#3	.23518	.00235	.42543	.05532	.00004	28.348
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00148	.00177	.00040	.00044	.05114	.00063
Stddev	.00023	.00092	.00166	.00264	.00456	.00044
%RSD	15.708	52.198	419.01	600.14	8.9208	70.300
#1	.00175	.00153	.00176	.00172	.04988	.00112
#2	.00137	.00279	.00088	-.00260	.04733	.00025
#3	.00133	.00099	-.00145	.00220	.05619	.00053
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-100139-A-2-QSD@5 Acquired: 12/23/2019 10:01:46 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00989	-.00011	.00004	.00152	.11681
Stddev	.00374	.00009	.00036	.00110	.00033
%RSD	37.855	89.618	937.20	72.904	.28156
#1	.00761	-.00007	.00039	.00166	.11663
#2	.00785	-.00021	-.00032	.00034	.11719
#3	.01421	-.00004	.00005	.00254	.11661
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3913.0	6470.3	90532.	16698.
Stddev	6.2	5.9	155.	33.
%RSD	.15968	.09064	.17119	.19766
#1	3918.5	6477.0	90401.	16728.
#2	3906.2	6466.0	90492.	16702.
#3	3914.4	6468.0	90703.	16663.

Sample Name: 180-100139-A-2-R MS Acquired: 12/23/2019 10:06:52 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04105	.03634	.24224	.04340	2.3216	.00005
Stddev	.00052	.00407	.00104	.00039	.0051	.00003
%RSD	1.2549	11.200	.42805	.90933	.22140	64.345
#1	.04107	.04009	.24344	.04322	2.3273	.00001
#2	.04053	.03201	.24161	.04385	2.3199	.00007
#3	.04156	.03690	.24168	.04312	2.3175	.00006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.1647	.05216	.00154	.22689	.01359	.06161
Stddev	.0260	.00024	.00012	.00100	.00061	.00059
%RSD	.42177	.45999	8.1081	.43880	4.5184	.95118
#1	6.1771	.05199	.00168	.22701	.01424	.06157
#2	6.1822	.05243	.00149	.22585	.01303	.06221
#3	6.1348	.05206	.00145	.22783	.01350	.06104
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-100139-A-2-R MS Acquired: 12/23/2019 10:06:52 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.79343	.00382	2.2161	.28512	-.00013	143.60
Stddev	.00680	.00015	.0329	.00068	.00006	.82
%RSD	.85647	3.9664	1.4846	.23731	50.157	.57294
#1	.78649	.00393	2.2177	.28554	-.00016	143.34
#2	.79373	.00365	2.2482	.28434	-.00005	144.53
#3	.80007	.00390	2.1825	.28548	-.00016	142.95
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00666	.24030	-.00050	.05259	.24268	-.00021
Stddev	.00034	.00213	.00139	.00120	.00294	.00032
%RSD	5.1714	.88571	277.96	2.2863	1.2124	149.16
#1	.00635	.24267	-.00023	.05310	.24116	-.00051
#2	.00703	.23967	-.00200	.05122	.24607	-.00024
#3	.00660	.23855	.00074	.05346	.24080	.00012
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-100139-A-2-R MS Acquired: 12/23/2019 10:06:52 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.05979	.00004	.00114	.00122	.61205
Stddev	.00277	.00015	.00045	.00212	.00038
%RSD	4.6339	416.65	39.963	172.76	.06163
#1	.06104	.00020	.00152	-.00115	.61237
#2	.06171	.00000	.00063	.00291	.61163
#3	.05661	-.00009	.00125	.00191	.61216
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3619.4	6305.8	87050.	16687.
Stddev	10.8	15.5	310.	157.
%RSD	.29836	.24561	.35659	.94311
#1	3609.2	6292.1	86915.	16663.
#2	3618.4	6302.7	87405.	16543.
#3	3630.7	6322.6	86829.	16855.

Sample Name: 180-100139-A-2-S MSD Acquired: 12/23/2019 10:11:58 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.09540	.02795	.52250	.04456	4.9268	.00009
Stddev	.00040	.01729	.00190	.00072	.0095	.00005
%RSD	.41493	61.861	.36284	1.6206	.19195	51.720
#1	.09566	.01901	.52146	.04378	4.9377	.00009
#2	.09560	.01696	.52136	.04521	4.9212	.00014
#3	.09494	.04788	.52469	.04469	4.9214	.00004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.1925	.10749	.00106	.49562	.01335	.05872
Stddev	.0125	.00027	.00022	.00126	.00104	.00055
%RSD	.20235	.25350	21.252	.25485	7.7767	.94301
#1	6.1981	.10740	.00080	.49526	.01389	.05931
#2	6.2013	.10727	.00123	.49458	.01401	.05864
#3	6.1782	.10779	.00113	.49703	.01216	.05821
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-100139-A-2-S MSD Acquired: 12/23/2019 10:11:58 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.80182	.00361	2.2081	.28654	-.00020	144.36
Stddev	.03238	.00128	.0107	.00049	.00015	.58
%RSD	4.0385	35.612	.48403	.16958	76.237	.40326
#1	.77049	.00257	2.2094	.28710	-.00038	144.98
#2	.83516	.00504	2.2181	.28627	-.00011	143.82
#3	.79981	.00321	2.1968	.28624	-.00011	144.28
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00661	.50779	-.00021	.10996	.24522	-.00015
Stddev	.00021	.00044	.00057	.00348	.00847	.00057
%RSD	3.2261	.08610	269.45	3.1633	3.4535	381.33
#1	.00638	.50784	-.00073	.10994	.25153	.00038
#2	.00680	.50733	.00040	.11344	.24852	-.00076
#3	.00665	.50820	-.00030	.10648	.23559	-.00008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-100139-A-2-S MSD Acquired: 12/23/2019 10:11:58 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.05740	-.00004	.00126	.00224	.61111
Stddev	.00213	.00009	.00070	.00078	.00138
%RSD	3.7074	252.17	55.753	34.996	.22611
#1	.05784	-.00002	.00110	.00133	.60965
#2	.05927	-.00014	.00204	.00272	.61127
#3	.05508	.00005	.00065	.00265	.61239
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3613.2	6305.8	86712.	16686.
Stddev	2.8	9.1	44.	157.
%RSD	.07697	.14369	.05125	.94003
#1	3611.9	6316.1	86761.	16650.
#2	3611.2	6302.1	86673.	16550.
#3	3616.4	6299.1	86703.	16857.

Sample Name: 180-100139-A-2-T MS Acquired: 12/23/2019 10:17:05 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.06355	-.00406	.35651	.04241	3.4118	.00005
Stddev	.00060	.02164	.00035	.00029	.0047	.00004
%RSD	.95189	532.90	.09702	.68374	.13715	84.302
#1	.06420	-.02483	.35648	.04246	3.4156	.00001
#2	.06301	.01835	.35687	.04209	3.4065	.00010
#3	.06342	-.00570	.35619	.04267	3.4132	.00005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.0518	.07527	.00138	.33756	.01367	.05746
Stddev	.0316	.00006	.00019	.00059	.00044	.00103
%RSD	.52130	.07966	13.875	.17570	3.2078	1.7877
#1	6.0787	.07522	.00116	.33778	.01358	.05856
#2	6.0171	.07534	.00153	.33801	.01329	.05727
#3	6.0596	.07525	.00143	.33689	.01415	.05654
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-100139-A-2-T MS Acquired: 12/23/2019 10:17:05 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.81269	.00458	2.1688	.28162	-.00038	141.20
Stddev	.02040	.00055	.0428	.00069	.00005	1.79
%RSD	2.5108	11.995	1.9718	.24413	13.984	1.2707
#1	.79618	.00395	2.2124	.28219	-.00037	142.75
#2	.80640	.00482	2.1269	.28181	-.00034	139.24
#3	.83550	.00496	2.1670	.28085	-.00045	141.61
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00660	.35329	-.00126	.07444	.23643	-.00026
Stddev	.00048	.00201	.00082	.00400	.00191	.00047
%RSD	7.3440	.56806	65.133	5.3766	.80942	178.47
#1	.00707	.35531	-.00031	.07888	.23768	-.00066
#2	.00662	.35324	-.00177	.07333	.23423	-.00038
#3	.00610	.35130	-.00170	.07111	.23738	.00026
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-100139-A-2-T MS Acquired: 12/23/2019 10:17:05 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.05682	-.00000	.00133	.00232	.60242
Stddev	.00394	.00007	.00043	.00054	.00077
%RSD	6.9300	2783.0	32.354	23.231	.12829
#1	.05679	.00007	.00101	.00294	.60286
#2	.06077	-.00002	.00116	.00210	.60152
#3	.05290	-.00006	.00182	.00192	.60287
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3633.1	6343.5	87765.	17081.
Stddev	9.2	8.8	97.	215.
%RSD	.25339	.13851	.11003	1.2597
#1	3642.9	6353.5	87677.	16911.
#2	3631.7	6340.4	87752.	17323.
#3	3624.7	6336.7	87868.	17009.

Sample Name: 180-100139-A-2-U MSD Acquired: 12/23/2019 10:22:16 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.09462	.02439	.52000	.04472	4.8434	.00007
Stddev	.00069	.02201	.00052	.00068	.0938	.00002
%RSD	.73205	90.240	.09975	1.5172	1.9370	32.270
#1	.09540	.03417	.52024	.04469	4.7746	.00007
#2	.09410	.03981	.52036	.04405	4.8053	.00010
#3	.09434	-.00081	.51941	.04541	4.9503	.00005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.0995	.10753	.00106	.49164	.01344	.05788
Stddev	.0148	.00040	.00011	.00103	.00051	.00029
%RSD	.24227	.37392	10.451	.20986	3.7745	.49288
#1	6.0846	.10708	.00101	.49201	.01289	.05821
#2	6.1142	.10765	.00119	.49047	.01353	.05773
#3	6.0996	.10786	.00099	.49244	.01390	.05770
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-100139-A-2-U MSD Acquired: 12/23/2019 10:22:16 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.76912	.00387	2.1889	.28458	-.00008	142.88
Stddev	.01057	.00083	.0293	.00063	.00016	2.09
%RSD	1.3738	21.498	1.3383	.22054	209.29	1.4655
#1	.75692	.00406	2.1715	.28424	.00008	141.16
#2	.77489	.00458	2.1725	.28419	-.00025	142.26
#3	.77554	.00296	2.2227	.28530	-.00007	145.21
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00645	.50359	-.00052	.11059	.25074	.00043
Stddev	.00054	.00090	.00049	.00103	.00341	.00027
%RSD	8.3126	.17793	94.092	.93166	1.3587	64.080
#1	.00638	.50341	-.00107	.11137	.24761	.00062
#2	.00701	.50279	-.00038	.11098	.25025	.00011
#3	.00595	.50456	-.00011	.10943	.25437	.00054
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-100139-A-2-U MSD Acquired: 12/23/2019 10:22:16 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.05860	.00001	.00143	.00105	.60947
Stddev	.00505	.00015	.00103	.00375	.00077
%RSD	8.6200	1041.1	71.663	358.54	.12555
#1	.05287	-.00008	.00025	.00431	.60886
#2	.06244	.00018	.00193	-.00305	.60922
#3	.06048	-.00006	.00212	.00189	.61033
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3616.1	6309.8	86896.	16943.
Stddev	5.6	7.5	25.	174.
%RSD	.15442	.11824	.02906	1.0281
#1	3622.5	6318.2	86876.	17079.
#2	3613.3	6303.9	86925.	17004.
#3	3612.5	6307.3	86888.	16747.

Sample Name: CCV 3515986 Acquired: 12/23/2019 10:27:36 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.0116	24.935	.51406	2.0414	1.9772	2.0347
Stddev	.0025	.077	.00142	.0065	.0091	.0076
%RSD	.25123	.30828	.27658	.31690	.45891	.37110
#1	1.0125	24.938	.51263	2.0344	1.9760	2.0392
#2	1.0087	24.857	.51408	2.0427	1.9688	2.0259
#3	1.0136	25.011	.51547	2.0471	1.9869	2.0388
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	51.261	.50568	2.0779	1.9801	1.9615	25.262
Stddev	.254	.00130	.0051	.0020	.0022	.083
%RSD	.49498	.25653	.24442	.10180	.11403	.32923
#1	51.297	.50418	2.0723	1.9793	1.9640	25.324
#2	50.991	.50640	2.0823	1.9787	1.9597	25.168
#3	51.495	.50646	2.0790	1.9824	1.9608	25.295
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3515986 Acquired: 12/23/2019 10:27:36 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	125.12	1.9702	50.279	1.9987	1.9889	125.77
Stddev	.32	.0066	.254	.0018	.0049	.43
%RSD	.25454	.33350	.50456	.09163	.24727	.34268
#1	125.16	1.9732	50.406	1.9967	1.9832	125.80
#2	124.79	1.9627	49.987	1.9993	1.9911	125.33
#3	125.42	1.9747	50.444	2.0002	1.9923	126.19
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.0834	.51075	.50166	.51974	2.0374	1.9239
Stddev	.0070	.00025	.00106	.00215	.0111	.0053
%RSD	.33593	.04892	.21150	.41311	.54550	.27544
#1	2.0754	.51072	.50047	.51780	2.0490	1.9178
#2	2.0882	.51052	.50249	.52205	2.0268	1.9275
#3	2.0866	.51101	.50203	.51936	2.0363	1.9264
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3515986 Acquired: 12/23/2019 10:27:36 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	1.9839	2.0064	.97389	1.9911	1.9990
Stddev	.0070	.0009	.00202	.0132	.0053
%RSD	.35141	.04519	.20740	.66330	.26553
#1	1.9911	2.0061	.97294	1.9939	1.9934
#2	1.9772	2.0057	.97621	1.9767	2.0039
#3	1.9833	2.0074	.97252	2.0026	1.9998
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3355.9	6137.1	84292.	16306.
Stddev	2.9	3.3	183.	54.
%RSD	.08786	.05433	.21693	.32962
#1	3357.8	6140.0	84412.	16252.
#2	3352.5	6138.0	84384.	16359.
#3	3357.4	6133.5	84082.	16306.

Sample Name: CCB3 Acquired: 12/23/2019 10:32:24 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00003	-.00682	-.00098	-.00021	-.00007	.00007
Stddev	.00023	.01076	.00124	.00034	.00003	.00006
%RSD	761.45	157.64	126.82	161.47	46.113	83.637
#1	-.00025	-.00601	-.00194	.00011	-.00011	.00009
#2	-.00005	.00350	-.00142	-.00018	-.00004	.00012
#3	.00021	-.01797	.00042	-.00057	-.00007	.00001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00074	.00008	.00012	.00006	.00032	-.00067
Stddev	.00122	.00007	.00004	.00034	.00035	.00077
%RSD	165.79	87.263	32.654	578.51	107.96	113.77
#1	.00053	.00009	.00017	-.00030	.00017	-.00091
#2	-.00083	.00001	.00010	.00010	.00008	.00018
#3	-.00192	.00015	.00010	.00038	.00073	-.00129
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB3 Acquired: 12/23/2019 10:32:24 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.17071	.00225	.01115	-.00003	.00043	.04492
Stddev	.01216	.00060	.02069	.00007	.00006	.00774
%RSD	7.1244	26.481	185.61	276.29	14.356	17.230
#1	.18416	.00160	-.00838	.00000	.00046	.04867
#2	.16751	.00277	.03284	-.00011	.00036	.03602
#3	.16048	.00239	.00898	.00003	.00048	.05007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00052	.00030	.00055	-.00071	.00330	.00008
Stddev	.00006	.00072	.00243	.00088	.00431	.00053
%RSD	11.359	242.48	439.25	123.83	130.65	647.76
#1	.00054	-.00053	.00006	-.00032	-.00007	.00007
#2	.00056	.00065	-.00159	-.00171	.00815	-.00044
#3	.00045	.00076	.00319	-.00009	.00181	.00062
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB3 Acquired: 12/23/2019 10:32:24 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00136	-.00002	-.00002	.00012	.00006
Stddev	.00190	.00011	.00055	.00171	.00001
%RSD	139.47	561.15	2540.8	1396.2	20.259
#1	.00356	-.00013	.00044	-.00147	.00007
#2	.00029	.00009	.00012	.00193	.00007
#3	.00024	-.00002	-.00063	-.00009	.00005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4170.0	6602.6	92891.	16682.
Stddev	4.2	7.2	404.	64.
%RSD	.10010	.10898	.43506	.38488
#1	4172.2	6594.8	92811.	16659.
#2	4172.6	6609.0	93329.	16632.
#3	4165.2	6604.0	92533.	16754.

Sample Name: 180-100139-A-2-Q PDS Acquired: 12/23/2019 10:37:36 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.26313	5.2240	1.1178	1.4422	1.0654	.52901
Stddev	.00132	.0027	.0030	.0065	.0021	.00233
%RSD	.50084	.05202	.26554	.45258	.19800	.44109
#1	.26450	5.2271	1.1204	1.4485	1.0667	.52728
#2	.26302	5.2224	1.1185	1.4355	1.0629	.52809
#3	.26187	5.2224	1.1146	1.4425	1.0664	.53166
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	32.314	.53793	.53450	.51338	.52901	5.4160
Stddev	.042	.00190	.00140	.00141	.00185	.0189
%RSD	.12862	.35339	.26205	.27514	.35048	.34929
#1	32.278	.53988	.53528	.51498	.52982	5.3943
#2	32.304	.53608	.53288	.51288	.53032	5.4252
#3	32.359	.53782	.53533	.51229	.52689	5.4286
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-100139-A-2-Q PDS Acquired: 12/23/2019 10:37:36 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**27.015**	**.51376**	**28.338**	**.78316**	**.51709**	**165.44**
Stddev	.076	.00019	.136	.00034	.00176	1.85
%RSD	.28060	.03626	.47945	.04298	.34028	1.1196
#1	27.001	.51356	28.241	.78323	.51911	164.44
#2	26.947	.51393	28.279	.78279	.51590	164.31
#3	27.097	.51380	28.493	.78346	.51626	167.58
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.54138**	**.53363**	**.24966**	**1.1393**	**1.2974**	**1.0077**
Stddev	.00171	.00191	.00169	.0048	.0127	.0027
%RSD	.31564	.35750	.67771	.41801	.97580	.26429
#1	.54239	.53508	.25153	1.1379	1.2842	1.0095
#2	.53941	.53434	.24922	1.1354	1.2988	1.0047
#3	.54234	.53147	.24824	1.1446	1.3094	1.0089
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-100139-A-2-Q PDS Acquired: 12/23/2019 10:37:36 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.56831	.51949	1.0276	.51518	.83508
Stddev	.00777	.00056	.0046	.00196	.00324
%RSD	1.3679	.10727	.44338	.38116	.38742
#1	.56900	.51974	1.0325	.51315	.83622
#2	.56021	.51987	1.0235	.51706	.83143
#3	.57571	.51885	1.0267	.51533	.83760
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3504.9	6283.6	86787.	16758.
Stddev	11.8	13.1	169.	75.
%RSD	.33586	.20915	.19416	.44471
#1	3501.7	6276.1	86678.	16804.
#2	3517.9	6298.7	86702.	16799.
#3	3495.0	6275.9	86981.	16672.

Sample Name: 180-100141-A-1-N Acquired: 12/23/2019 10:42:28 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00010	.01431	.00095	.04593	.09192	.00004
Stddev	.00018	.00699	.00086	.00062	.00029	.00003
%RSD	171.34	48.842	90.453	1.3468	.31030	74.076
#1	-.00003	.02098	.00046	.04558	.09196	.00002
#2	.00003	.00704	.00195	.04664	.09218	.00007
#3	-.00030	.01491	.00046	.04556	.09161	.00002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	56.509	.00011	.00038	.00001	-.00095	.02127
Stddev	.125	.00013	.00014	.00038	.00046	.00143
%RSD	.22150	115.58	38.258	2643.8	48.263	6.7300
#1	56.539	.00001	.00046	-.00013	-.00132	.02244
#2	56.371	.00026	.00047	.00044	-.00110	.02169
#3	56.615	.00007	.00021	-.00027	-.00044	.01968
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-100141-A-1-N Acquired: 12/23/2019 10:42:28 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.46457	.00421	2.9068	.07334	-.00004	142.56
Stddev	.02398	.00113	.0192	.00034	.00031	.92
%RSD	5.1620	26.910	.66088	.45706	691.40	.64854
#1	.43751	.00350	2.9263	.07295	.00021	141.52
#2	.48319	.00551	2.8879	.07357	-.00038	142.89
#3	.47301	.00361	2.9062	.07349	.00004	143.27
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00219	.00020	-.00099	.00066	.27041	-.00035
Stddev	.00028	.00137	.00026	.00318	.00312	.00020
%RSD	12.730	700.31	26.842	484.18	1.1540	56.679
#1	.00240	.00082	-.00074	.00093	.27386	-.00019
#2	.00188	.00115	-.00095	-.00265	.26960	-.00057
#3	.00231	-.00138	-.00127	.00369	.26778	-.00029
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-100141-A-1-N Acquired: 12/23/2019 10:42:28 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.05009	.00034	.00095	.00030	.00753
Stddev	.00116	.00004	.00078	.00278	.00010
%RSD	2.3163	13.074	81.618	939.02	1.3398
#1	.04908	.00029	.00007	-.00288	.00742
#2	.04984	.00035	.00124	.00147	.00761
#3	.05136	.00037	.00155	.00229	.00757
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3566.5	6283.1	87027.	16832.
Stddev	.9	1.5	256.	85.
%RSD	.02481	.02318	.29358	.50757
#1	3567.1	6282.0	87303.	16803.
#2	3565.5	6282.6	86978.	16928.
#3	3566.9	6284.8	86800.	16765.

Sample Name: 180-100205-A-1-D Acquired: 12/23/2019 10:47:41 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00010	-.00374	.00101	.04485	.05270	-.00000
Stddev	.00057	.00951	.00124	.00043	.00023	.00004
%RSD	541.81	254.21	122.90	.95869	.44442	1885.6
#1	-.00031	-.00516	.00137	.04529	.05259	-.00003
#2	-.00013	.00640	.00203	.04484	.05255	-.00002
#3	.00075	-.01246	-.00037	.04443	.05297	.00004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	75.848	-.00001	.00083	.00020	.00000	.00461
Stddev	.081	.00002	.00028	.00009	.00038	.00138
%RSD	.10714	203.01	33.275	43.941	8804.8	29.947
#1	75.942	-.00000	.00113	.00010	.00042	.00531
#2	75.802	-.00004	.00058	.00024	-.00011	.00550
#3	75.801	.00001	.00078	.00027	-.00030	.00302
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-100205-A-1-D Acquired: 12/23/2019 10:47:41 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.46194	.00443	1.4454	.26551	.00024	142.79
Stddev	.00968	.00159	.0143	.00064	.00017	.70
%RSD	2.0965	35.776	.99081	.24120	69.752	.49370
#1	.45184	.00279	1.4594	.26620	.00015	143.09
#2	.46282	.00455	1.4308	.26493	.00014	143.29
#3	.47115	.00595	1.4462	.26541	.00043	141.98
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00204	-.00008	-.00131	.00040	.17596	-.00009
Stddev	.00010	.00061	.00086	.00183	.00413	.00044
%RSD	4.9706	719.57	65.886	453.56	2.3487	501.86
#1	.00207	-.00031	-.00069	.00028	.17736	.00034
#2	.00192	.00060	-.00230	-.00136	.17921	-.00008
#3	.00212	-.00054	-.00095	.00230	.17131	-.00053
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-100205-A-1-D Acquired: 12/23/2019 10:47:41 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.13126	-.00011	.00028	.00211	.01553
Stddev	.00659	.00001	.00127	.00148	.00016
%RSD	5.0197	10.266	455.09	70.317	1.0525
#1	.12971	-.00013	-.00118	.00084	.01571
#2	.12558	-.00011	.00089	.00176	.01551
#3	.13848	-.00011	.00113	.00374	.01538
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3564.4	6327.5	87626.	17134.
Stddev	6.9	13.2	194.	54.
%RSD	.19258	.20883	.22084	.31749
#1	3558.5	6323.9	87635.	17073.
#2	3571.9	6342.1	87428.	17177.
#3	3562.9	6316.5	87815.	17151.

Sample Name: 180-100205-A-3-D Acquired: 12/23/2019 10:52:58 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00004	.15121	.00047	.27072	.04360	.00007
Stddev	.00021	.00880	.00122	.00061	.00038	.00006
%RSD	538.84	5.8213	257.36	.22409	.86381	83.498
#1	.00010	.14366	-.00093	.27057	.04394	.00011
#2	-.00028	.14908	.00129	.27020	.04319	.00010
#3	.00006	.16088	.00105	.27139	.04366	.00000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.705	-.00002	.00343	.00113	-.00065	.09848
Stddev	.098	.00004	.00038	.00031	.00089	.00100
%RSD	.76809	180.64	11.098	27.676	138.04	1.0110
#1	12.757	.00003	.00384	.00133	-.00159	.09758
#2	12.592	-.00005	.00336	.00128	.00019	.09832
#3	12.765	-.00004	.00309	.00077	-.00054	.09955
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-100205-A-3-D Acquired: 12/23/2019 10:52:58 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.93154	.00406	2.7293	.14905	-.00001	145.53
Stddev	.03630	.00012	.0183	.00048	.00009	1.27
%RSD	3.8963	2.9328	.66993	.32014	866.81	.87089
#1	.89484	.00395	2.7422	.14940	-.00001	146.47
#2	.96741	.00419	2.7084	.14851	-.00010	144.08
#3	.93238	.00404	2.7373	.14925	.00008	146.03
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00206	.00215	-.00027	-.00108	.76800	.00000
Stddev	.00019	.00121	.00033	.00341	.00457	.00058
%RSD	9.2228	56.461	120.81	315.34	.59492	14152.
#1	.00210	.00075	-.00065	-.00435	.77253	-.00052
#2	.00223	.00297	-.00016	-.00135	.76808	-.00010
#3	.00186	.00271	-.00001	.00245	.76339	.00063
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-100205-A-3-D Acquired: 12/23/2019 10:52:58 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.03653	.00167	.00020	.00171	.01504
Stddev	.00087	.00007	.00063	.00098	.00002
%RSD	2.3790	4.4617	311.40	57.642	.13523
#1	.03641	.00162	.00091	.00061	.01505
#2	.03573	.00175	-.00001	.00250	.01506
#3	.03746	.00163	-.00029	.00202	.01502
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3610.4	6345.3	87394.	17033.
Stddev	5.1	10.0	330.	122.
%RSD	.14107	.15803	.37767	.71802
#1	3607.5	6342.4	87234.	17062.
#2	3607.4	6337.1	87774.	17138.
#3	3616.3	6356.5	87175.	16899.

Sample Name: 180-100205-A-5-D Acquired: 12/23/2019 10:58:15 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00001**	**-.00712**	**.00187**	**.08190**	**.04819**	**.00012**
Stddev	.00008	.01490	.00197	.00005	.00017	.00006
%RSD	1514.2	209.34	104.97	.06339	.34834	45.895
#1	-.00003	-.02054	.00407	.08184	.04832	.00018
#2	-.00007	.00891	.00127	.08192	.04825	.00012
#3	.00009	-.00972	.00028	.08194	.04800	.00007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.8119**	**.00002**	**.00335**	**.00029**	**-.00100**	**.04735**
Stddev	.0043	.00010	.00013	.00015	.00064	.00117
%RSD	.09049	557.14	3.9354	53.511	63.728	2.4686
#1	4.8069	.00001	.00320	.00015	-.00144	.04723
#2	4.8152	-.00008	.00345	.00045	-.00129	.04858
#3	4.8134	.00012	.00340	.00026	-.00027	.04625
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-100205-A-5-D Acquired: 12/23/2019 10:58:15 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.70389	.00317	2.0002	.18461	-.00011	143.61
Stddev	.01567	.00114	.0044	.00052	.00012	.18
%RSD	2.2261	36.086	.21948	.28163	116.73	.12297
#1	.69309	.00191	2.0053	.18500	-.00024	143.54
#2	.69672	.00413	1.9976	.18402	-.00006	143.48
#3	.72186	.00348	1.9977	.18481	-.00001	143.81
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00150	.00199	.00005	.00055	.29472	-.00007
Stddev	.00011	.00096	.00063	.00338	.00631	.00046
%RSD	7.4221	48.068	1351.5	609.36	2.1414	629.96
#1	.00142	.00270	-.00062	-.00231	.29008	-.00041
#2	.00146	.00235	.00012	-.00031	.30190	.00045
#3	.00163	.00090	.00064	.00428	.29216	-.00027
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-100205-A-5-D Acquired: 12/23/2019 10:58:15 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.01823	.00005	.00119	-.00030	.00828
Stddev	.00177	.00015	.00091	.00020	.00006
%RSD	9.7265	267.17	76.758	67.345	.71696
#1	.01685	.00020	.00218	-.00030	.00834
#2	.02023	.00005	.00100	-.00051	.00822
#3	.01760	-.00009	.00038	-.00010	.00828
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3638.9	6366.7	87830.	17065.
Stddev	5.2	13.7	283.	77.
%RSD	.14165	.21594	.32239	.44966
#1	3634.8	6358.6	87626.	17099.
#2	3637.2	6358.8	88154.	16977.
#3	3644.7	6382.5	87711.	17119.

Sample Name: 180-97542-A-5-B Acquired: 12/23/2019 11:03:27 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00280	.10750	.00383	.02669	.00690	.00112
Stddev	.00022	.00551	.00046	.00010	.00004	.00003
%RSD	8.0219	5.1225	11.959	.36385	.62230	2.6903
#1	.00254	.10871	.00409	.02678	.00695	.00113
#2	.00290	.10149	.00409	.02671	.00689	.00108
#3	.00295	.11230	.00330	.02658	.00686	.00114
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.59705	.00106	.00488	.00291	.01343	.07715
Stddev	.00057	.00011	.00018	.00013	.00034	.00110
%RSD	.09594	9.9658	3.6617	4.5666	2.5096	1.4316
#1	.59771	.00097	.00508	.00276	.01305	.07671
#2	.59669	.00117	.00473	.00301	.01369	.07841
#3	.59676	.00103	.00484	.00295	.01354	.07634
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97542-A-5-B Acquired: 12/23/2019 11:03:27 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.63162	.03023	7.6243	.01008	.01044	.87504
Stddev	.03256	.00094	.0231	.00002	.00011	.00823
%RSD	5.1552	3.1010	.30271	.22273	1.0201	.94059
#1	.60233	.02944	7.5990	.01010	.01053	.86755
#2	.66668	.03126	7.6441	.01008	.01046	.88385
#3	.62584	.02997	7.6298	.01005	.01032	.87371
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02126	.00483	.00455	.00935	.13754	.01820
Stddev	.00032	.00048	.00156	.00171	.00383	.00038
%RSD	1.4867	9.9767	34.219	18.347	2.7820	2.0724
#1	.02160	.00538	.00628	.00783	.13762	.01809
#2	.02120	.00445	.00327	.01121	.13367	.01861
#3	.02098	.00468	.00409	.00900	.14132	.01788
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97542-A-5-B Acquired: 12/23/2019 11:03:27 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.02567	.01074	.01107	.02647	.01643
Stddev	.00146	.00010	.00091	.00212	.00004
%RSD	5.6895	.94919	8.2254	8.0046	.27355
#1	.02659	.01084	.01155	.02608	.01646
#2	.02644	.01075	.01165	.02457	.01638
#3	.02399	.01064	.01002	.02875	.01645
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4025.5	6587.3	93188.	17442.
Stddev	14.7	27.1	235.	52.
%RSD	.36592	.41161	.25171	.29967
#1	4017.9	6574.2	92921.	17472.
#2	4016.2	6569.2	93358.	17381.
#3	4042.5	6618.5	93287.	17471.

Sample Name: MB 180-302236/1-A Acquired: 12/23/2019 11:08:33 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00020	-.02624	-.00182	-.00113	-.00003	.00009
Stddev	.00021	.01070	.00033	.00006	.00012	.00003
%RSD	106.17	40.776	18.331	5.1969	425.00	39.154
#1	.00008	-.03605	-.00144	-.00120	-.00015	.00009
#2	.00044	-.02784	-.00198	-.00109	.00008	.00012
#3	.00007	-.01483	-.00206	-.00110	-.00002	.00005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00064	-.00007	.00025	.00020	-.00003	-.00100
Stddev	.00146	.00009	.00028	.00015	.00057	.00133
%RSD	228.70	129.33	111.21	72.645	1675.1	133.15
#1	.00104	-.00009	.00005	.00014	-.00063	-.00248
#2	-.00158	.00003	.00013	.00010	.00049	-.00061
#3	-.00139	-.00016	.00057	.00037	.00005	.00010
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: MB 180-302236/1-A Acquired: 12/23/2019 11:08:33 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02495	.00199	.00574	-.00006	-.00018	.00984
Stddev	.01772	.00076	.01119	.00004	.00005	.00599
%RSD	71.014	38.208	194.97	80.298	28.575	60.816
#1	.02855	.00212	-.00718	-.00005	-.00012	.01384
#2	.04059	.00269	.01220	-.00010	-.00018	.00296
#3	.00571	.00118	.01220	-.00001	-.00022	.01273
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00008	.00083	.00046	-.00024	.00028	.00007
Stddev	.00018	.00041	.00071	.00365	.00419	.00031
%RSD	216.00	48.932	155.08	1505.8	1477.6	441.53
#1	-.00006	.00065	.00013	.00254	-.00414	-.00018
#2	.00029	.00129	-.00003	-.00437	.00419	.00042
#3	.00002	.00055	.00127	.00111	.00080	-.00003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: MB 180-302236/1-A Acquired: 12/23/2019 11:08:33 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	-.00005	-.00018	.00102	.00168	.00019
Stddev	.00238	.00005	.00034	.00089	.00010
%RSD	4944.1	25.590	33.976	53.033	50.016
#1	-.00079	-.00019	.00137	.00065	.00027
#2	.00261	-.00022	.00068	.00210	.00021
#3	-.00197	-.00013	.00100	.00227	.00009
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4398.1	6913.1	97261.	17707.
Stddev	18.7	21.0	291.	111.
%RSD	.42553	.30430	.29956	.62428
#1	4413.8	6924.4	97040.	17826.
#2	4403.1	6926.1	97591.	17685.
#3	4377.4	6888.8	97152.	17608.

Sample Name: 180-97542-A-1-C Acquired: 12/23/2019 11:13:41 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00009	-.01060	-.00114	-.00113	-.00020	.00005
Stddev	.00049	.00341	.00177	.00002	.00018	.00002
%RSD	529.10	32.214	155.27	2.1662	88.702	30.877
#1	-.00065	-.01238	-.00278	-.00111	-.00040	.00004
#2	.00014	-.01275	.00073	-.00116	-.00017	.00007
#3	.00024	-.00666	-.00136	-.00114	-.00004	.00004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00720	.00015	-.00007	.00023	-.00088	.00058
Stddev	.00214	.00011	.00011	.00022	.00011	.00055
%RSD	29.689	72.984	146.65	97.005	12.690	95.762
#1	.00525	.00011	-.00020	.00001	-.00087	.00045
#2	.00687	.00027	-.00003	.00023	-.00100	.00118
#3	.00949	.00006	.00001	.00046	-.00078	.00010
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97542-A-1-C Acquired: 12/23/2019 11:13:41 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.6244**	**.00256**	**.26130**	**-.00003**	**-.00012**	**.02429**
Stddev	.0098	.00063	.00999	.00003	.00009	.00254
%RSD	.60241	24.470	3.8234	89.194	77.318	10.463
#1	1.6357	.00315	.27012	-.00007	-.00018	.02651
#2	1.6182	.00264	.26331	-.00002	-.00001	.02483
#3	1.6193	.00190	.25045	-.00002	-.00016	.02152
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00033**	**.00072**	**-.00174**	**-.00172**	**.00536**	**.00030**
Stddev	.00013	.00023	.00216	.00102	.00229	.00024
%RSD	40.371	32.731	124.20	59.284	42.787	81.774
#1	-.00031	.00088	-.00199	-.00214	.00655	.00056
#2	-.00048	.00045	.00054	-.00056	.00681	.00023
#3	-.00021	.00082	-.00376	-.00247	.00271	.00009
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97542-A-1-C Acquired: 12/23/2019 11:13:41 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00009	-.00007	.00010	-.00184	.00071
Stddev	.00289	.00014	.00030	.00041	.00013
%RSD	3090.2	209.80	304.60	22.017	17.756
#1	.00244	.00000	.00043	-.00206	.00081
#2	.00098	.00003	.00004	-.00137	.00075
#3	-.00314	-.00023	-.00017	-.00209	.00057
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4127.5	6619.4	93897.	17187.
Stddev	12.1	14.8	45.	49.
%RSD	.29426	.22383	.04834	.28712
#1	4128.7	6619.6	93948.	17214.
#2	4139.0	6634.1	93862.	17130.
#3	4114.8	6604.5	93880.	17217.

Sample Name: 180-97542-A-2-C Acquired: 12/23/2019 11:18:50 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00005	-.02062	-.00135	-.00080	-.00029	.00004
Stddev	.00040	.00328	.00059	.00025	.00005	.00006
%RSD	740.73	15.917	43.886	31.555	18.866	158.38
#1	.00024	-.01697	-.00067	-.00094	-.00025	-.00003
#2	.00011	-.02157	-.00159	-.00095	-.00035	.00007
#3	-.00050	-.02333	-.00178	-.00051	-.00026	.00008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00825	.00005	.00003	.00024	-.00068	.00028
Stddev	.00235	.00014	.00008	.00020	.00060	.00169
%RSD	28.518	267.43	287.33	85.075	88.976	606.90
#1	.00668	.00011	-.00003	.00002	-.00106	-.00019
#2	.00711	-.00011	-.00000	.00043	.00002	.00215
#3	.01096	.00015	.00011	.00027	-.00099	-.00113
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97542-A-2-C Acquired: 12/23/2019 11:18:50 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.6605**	**.00330**	**.26267**	**-.00001**	**-.00001**	**.01916**
Stddev	.0069	.00073	.01462	.00004	.00011	.00640
%RSD	.41824	22.079	5.5654	477.95	1310.4	33.421
#1	1.6575	.00254	.24583	.00000	.00008	.01810
#2	1.6556	.00335	.27006	.00002	-.00014	.01335
#3	1.6685	.00399	.27212	-.00005	.00003	.02603
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00035**	**-.00023**	**-.00012**	**-.00015**	**.00415**	**-.00015**
Stddev	.00050	.00049	.00142	.00104	.00084	.00022
%RSD	144.61	211.59	1202.9	676.21	20.263	142.30
#1	.00092	-.00035	.00144	-.00042	.00329	.00010
#2	-.00002	-.00066	-.00047	.00099	.00417	-.00030
#3	.00015	.00031	-.00133	-.00103	.00497	-.00025
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 180-97542-A-2-C Acquired: 12/23/2019 11:18:50 Type: Unk
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00131	-.00008	.00022	.00060	.00058
Stddev	.00249	.00017	.00031	.00150	.00014
%RSD	190.85	208.23	140.59	249.39	24.270
#1	.00413	.00009	.00014	.00218	.00042
#2	.00040	-.00010	-.00004	.00045	.00066
#3	-.00061	-.00024	.00057	-.00082	.00066
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4140.1	6625.7	93733.	17230.
Stddev	4.7	9.9	91.	84.
%RSD	.11304	.14986	.09732	.48608
#1	4137.7	6615.6	93716.	17309.
#2	4145.5	6635.4	93651.	17142.
#3	4137.0	6626.2	93831.	17239.

Sample Name: CCV 3515986 Acquired: 12/23/2019 11:24:01 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.0197	25.092	.52160	2.0801	2.0155	2.0460
Stddev	.0017	.022	.00202	.0021	.0024	.0081
%RSD	.16686	.08882	.38786	.10065	.12125	.39838
#1	1.0197	25.079	.52341	2.0798	2.0182	2.0546
#2	1.0180	25.118	.51942	2.0781	2.0146	2.0451
#3	1.0214	25.080	.52199	2.0823	2.0136	2.0383
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	51.231	.51125	2.0970	1.9742	1.9856	25.171
Stddev	.067	.00058	.0015	.0050	.0069	.149
%RSD	.13155	.11293	.06966	.25206	.34853	.59336
#1	51.290	.51159	2.0969	1.9717	1.9908	25.341
#2	51.244	.51058	2.0955	1.9710	1.9777	25.108
#3	51.157	.51157	2.0984	1.9800	1.9882	25.063
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3515986 Acquired: 12/23/2019 11:24:01 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	125.44	1.9860	50.128	2.0085	1.9941	126.94
Stddev	.39	.0039	.191	.0040	.0061	.32
%RSD	.31427	.19838	.38103	.20164	.30397	.25451
#1	125.89	1.9876	50.333	2.0088	1.9949	127.20
#2	125.30	1.9888	50.097	2.0043	1.9877	127.05
#3	125.13	1.9815	49.955	2.0124	1.9998	126.58
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.1173	.50968	.50799	.53364	2.0489	1.9221
Stddev	.0026	.00247	.00179	.00132	.0074	.0060
%RSD	.12394	.48460	.35324	.24741	.35974	.31346
#1	2.1197	.50813	.50952	.53255	2.0493	1.9238
#2	2.1145	.51252	.50602	.53511	2.0560	1.9154
#3	2.1176	.50837	.50844	.53326	2.0413	1.9271
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV 3515986 Acquired: 12/23/2019 11:24:01 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	2.0116	2.0239	.97874	1.9927	2.0036
Stddev	.0181	.0064	.00016	.0044	.0028
%RSD	.90173	.31840	.01621	.22226	.14043
#1	2.0074	2.0279	.97880	1.9975	2.0047
#2	2.0314	2.0165	.97856	1.9917	2.0005
#3	1.9959	2.0274	.97886	1.9888	2.0058
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3342.1	6134.9	85014.	16717.
Stddev	5.4	16.6	112.	74.
%RSD	.16132	.27015	.13132	.44510
#1	3341.4	6124.8	85002.	16652.
#2	3347.8	6154.0	85131.	16701.
#3	3337.1	6125.7	84909.	16798.

Sample Name: CCB4 Acquired: 12/23/2019 11:28:48 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00017	-.01725	-.00220	-.00061	-.00014	.00005
Stddev	.00029	.01197	.00046	.00034	.00008	.00003
%RSD	166.51	69.400	21.083	56.255	60.521	57.256
#1	.00010	-.01260	-.00269	-.00069	-.00022	.00009
#2	-.00007	-.03086	-.00212	-.00024	-.00006	.00004
#3	.00049	-.00831	-.00178	-.00091	-.00013	.00003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00010	.00008	.00007	-.00039	-.00019	-.00084
Stddev	.00034	.00007	.00014	.00035	.00045	.00176
%RSD	351.28	80.846	202.34	89.880	232.98	209.34
#1	-.00006	.00014	-.00000	-.00009	-.00035	.00097
#2	-.00013	.00010	-.00002	-.00077	.00031	-.00095
#3	.00048	.00001	.00024	-.00030	-.00054	-.00254
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB4 Acquired: 12/23/2019 11:28:48 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.09900	.00317	.00009	-.00001	.00039	.03352
Stddev	.02389	.00081	.01354	.00001	.00020	.00359
%RSD	24.131	25.661	15726.	97.773	50.888	10.698
#1	.07551	.00383	.01544	-.00002	.00062	.03631
#2	.12327	.00226	-.00503	-.00003	.00031	.03478
#3	.09822	.00341	-.01015	.00000	.00025	.02948
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00026	-.00064	.00025	.00106	.00500	-.00020
Stddev	.00043	.00169	.00050	.00088	.00525	.00020
%RSD	163.21	264.42	200.18	82.935	104.96	96.926
#1	-.00020	.00087	.00083	.00083	.00737	.00001
#2	.00033	-.00032	.00003	.00032	-.00102	-.00038
#3	.00066	-.00247	-.00010	.00203	.00865	-.00024
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB4 Acquired: 12/23/2019 11:28:48 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.00042	-.00004	.00098	.00187	.00005
Stddev	.00389	.00019	.00131	.00199	.00004
%RSD	936.68	507.94	133.77	106.50	72.504
#1	-.00299	-.00003	.00249	.00405	.00001
#2	.00465	-.00023	.00012	.00142	.00008
#3	-.00041	.00015	.00033	.00014	.00007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4163.3	6612.2	93417.	16919.
Stddev	33.5	45.8	84.	48.
%RSD	.80549	.69302	.09015	.28206
#1	4124.8	6559.3	93514.	16893.
#2	4178.4	6639.5	93361.	16890.
#3	4186.6	6637.7	93377.	16974.

Sample Name: CCVL 3507853 Acquired: 12/23/2019 11:34:00 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Ag	Al	As	B_	Ba	Be
Line	328.068 {103}	308.215 {109}	189.042 {478}	182.641 {485}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00512	.17688	.01108	.20084	.20065	.00409
Stddev	.00002	.02733	.00128	.00086	.00034	.00002
%RSD	.44061	15.453	11.537	.42839	.16771	.42433
#1	.00512	.16930	.01176	.20116	.20078	.00409
#2	.00514	.15414	.01187	.20149	.20027	.00410
#3	.00509	.20720	.00960	.19986	.20090	.00407
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ca	Cd	Co	Cr	Cu	Fe
Line	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}	327.396 {103}	259.940 {130}
IS Ref	(Y_3710)	(Y_2243)	(In2306)	(Y_3600)	(Y_3600)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.1602	.00496	.04788	.00488	.02447	.10107
Stddev	.0134	.00009	.00043	.00023	.00053	.00032
%RSD	.25870	1.8127	.90622	4.7731	2.1515	.31490
#1	5.1547	.00489	.04779	.00487	.02490	.10143
#2	5.1504	.00492	.04835	.00466	.02388	.10095
#3	5.1754	.00506	.04749	.00513	.02464	.10082
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCVL 3507853 Acquired: 12/23/2019 11:34:00 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	K_	Li	Mg	Mn	Mo	Na
Line	766.490 { 44}	670.784 { 50}	279.079 {121}	257.610 {131}	202.030 {467}	589.592 { 57}
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.0934	.05321	5.0591	.01525	.04010	5.1436
Stddev	.0217	.00124	.0464	.00009	.00019	.0181
%RSD	.42544	2.3349	.91617	.60981	.46261	.35145
#1	5.0688	.05188	5.0573	.01527	.04008	5.1416
#2	5.1020	.05341	5.0137	.01533	.03993	5.1266
#3	5.1095	.05434	5.1063	.01515	.04030	5.1626
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ni	Pb	Sb	Se	Si	Sn
Line	231.604 {446}	220.353 {453}	217.581 {455}	196.090 {472}	251.611 {134}	189.989 {477}
IS Ref	(In2306)	(In2306)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.03929	.01000	.00946	.00913	.49793	.09840
Stddev	.00011	.00101	.00080	.00401	.01268	.00098
%RSD	.27902	10.074	8.4820	43.905	2.5456	.99134
#1	.03916	.00962	.01001	.00481	.49454	.09923
#2	.03936	.00923	.00982	.00983	.48729	.09865
#3	.03934	.01114	.00854	.01273	.51195	.09733
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCVL 3507853 Acquired: 12/23/2019 11:34:00 Type: QC
Method: PITT-6500ICP-2(v3963) Mode: CONC Corr. Factor: 1.000000
User: RGood Custom ID1: C91223C Custom ID2: 6500ICP2 Custom ID3: Int: 3514369
Comment: Eurofins TestAmerica Pittsburgh - 6010B, 6010C, 6010D, 200.7

Elem	Sr	Ti	Tl	V_	Zn
Line	346.446 { 97}	337.280 {100}	190.856 {477}	290.882 {116}	206.200 {463}
IS Ref	(Y_3710)	(Y_3600)	(In2306)	(Y_3710)	(Y_2243)
Units	ppm	ppm	ppm	ppm	ppm
Avg	.05231	.05025	.01899	.05176	.01978
Stddev	.00120	.00018	.00201	.00247	.00014
%RSD	2.2989	.34903	10.584	4.7645	.69230
#1	.05215	.05012	.02126	.05147	.01974
#2	.05119	.05045	.01743	.05436	.01993
#3	.05358	.05019	.01828	.04945	.01966
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Line	230.606 {446}	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3996.2	6560.2	91888.	16966.
Stddev	3.6	7.9	359.	115.
%RSD	.09034	.12040	.39072	.67938
#1	3999.4	6560.8	91756.	16876.
#2	3992.3	6552.0	91614.	17096.
#3	3996.9	6567.8	92295.	16927.

Report Generated By Teledyne Leeman QuickTrace

Analyst: pitbal02

Worksheet file: C:\Users\Public\Documents\Teledyne CETAC\QuickTrace\Worksheets\HGZ91223B.wszf

Creation Date: 12/23/2019 2:46:55 PM

Comment:

Results

Sample Name	Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Residual	Flags	% Recovery
Calibration Blank	STD	12/23/19 03:00:19 pm	0.000	231	7.24	-6.11		N/A
Standard #1 (0.2 ug/L)	STD	12/23/19 03:01:16 pm	0.200	2228	1.14	-5.91		N/A
Standard #2 (0.5 ug/L)	STD	12/23/19 03:02:14 pm	0.500	5035	1.01	-24.50		N/A
Standard #3 (1.0 ug/L)	STD	12/23/19 03:03:11 pm	1.000	10352	1.03	8.53		N/A
Standard #4 (5 ug/L)	STD	12/23/19 03:04:10 pm	5.000	50716	0.96	55.02		N/A
Standard #5 (10 ug/L)	STD	12/23/19 03:06:40 pm	10.000	99773	1.22	-27.02		N/A

Calibration

Equation: Abs = 9975.035x + 291.734

R2: 0.99994

SEE: 334.6593

Flags:

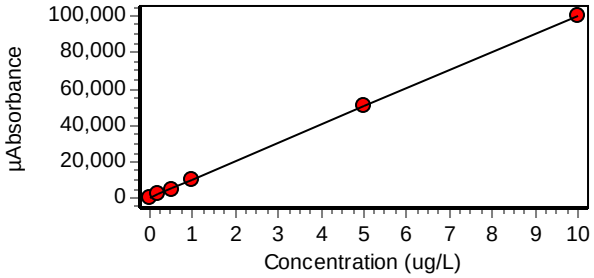

ICV 180-302361/7-A	ICV	12/23/19 03:09:43 pm	2.540	25632	1.33			101.62
ICB 180-302361/8-A	ICB	12/23/19 03:10:42 pm	-0.019	102	10.22			N/A
CRA 180-302361/9-A	CRDL	12/23/19 03:11:41 pm	0.185	2142	1.42			92.75
CCV 180-302361/10-A	CCV	12/23/19 03:12:40 pm	5.077	50940	1.07			101.55
CCB 180-302361/11-A	CCB	12/23/19 03:14:57 pm	-0.017	118	13.80			N/A
MB 180-302170/1-A	MB	12/23/19 03:15:53 pm	0.022	512	10.75			N/A
LCS 180-302170/2-A	LCS	12/23/19 03:16:50 pm	2.440	24631	0.73			97.60
180-95953-A-9-B	UNK	12/23/19 03:17:46 pm	0.048	775	2.41			N/A
180-97105-A-9-B	UNK	12/23/19 03:18:43 pm	0.063	919	2.92			N/A
180-97106-A-9-B	UNK	12/23/19 03:19:40 pm	0.058	871	2.91			N/A
180-97106-A-9-C MS	UNK	12/23/19 03:20:37 pm	1.026	10528	0.83			N/A
180-97106-A-9-D MSD	UNK	12/23/19 03:21:34 pm	1.030	10567	1.24			N/A
180-97106-A-12-B	UNK	12/23/19 03:22:31 pm	0.008	368	10.62			N/A
CCV 180-302361/10-A	CCV	12/23/19 03:23:30 pm	5.105	51213	1.17			102.10
CCB 180-302361/11-A	CCB	12/23/19 03:25:47 pm	-0.016	129	2.89			N/A
MB 180-302327/1-A	MB	12/23/19 03:26:44 pm	0.042	712	0.52			N/A
LCS 180-302327/2-A	LCS	12/23/19 03:27:42 pm	2.660	26822	1.28			106.39
LB 180-302157/1-C	UNK	12/23/19 03:28:39 pm	0.052	814	3.40			N/A
180-99707-A-2-C	UNK	12/23/19 03:29:37 pm	0.062	910	2.51			N/A
180-99707-A-3-C	UNK	12/23/19 03:30:33 pm	0.054	829	1.66			N/A
180-99707-A-4-C	UNK	12/23/19 03:31:30 pm	0.060	890	2.34			N/A
180-99707-A-9-G	UNK	12/23/19 03:32:26 pm	0.055	835	1.79			N/A

Sample Name	Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Residual	Flags	% Recovery
180-99707-A-9-H MS	UNK	12/23/19 03:33:23 pm	1.092	11188	1.26			N/A
180-99707-A-9-I MSD	UNK	12/23/19 03:34:20 pm	1.046	10726	1.57			N/A
180-99707-A-10-C	UNK	12/23/19 03:35:17 pm	0.048	766	3.42			N/A
CCV 180-302361/10-A	CCV	12/23/19 03:36:16 pm	5.068	50846	1.09			101.36
CCB 180-302361/11-A	CCB	12/23/19 03:38:33 pm	-0.010	195	22.46			N/A
180-99707-A-11-C	UNK	12/23/19 03:39:30 pm	0.058	874	2.62			N/A
180-99707-A-12-C	UNK	12/23/19 03:40:27 pm	0.060	891	1.38			N/A
180-99707-A-13-C	UNK	12/23/19 03:41:25 pm	0.059	882	4.39			N/A
180-99707-A-14-C	UNK	12/23/19 03:42:22 pm	0.067	964	1.98			N/A
180-99707-A-15-C	UNK	12/23/19 03:43:20 pm	0.059	882	2.08			N/A
180-99707-A-16-C	UNK	12/23/19 03:44:18 pm	0.059	885	1.72			N/A
180-99707-A-18-C	UNK	12/23/19 03:45:14 pm	0.059	877	2.58			N/A
180-99707-A-19-C	UNK	12/23/19 03:46:11 pm	0.055	841	3.86			N/A
MB 180-302169/1-A	MB	12/23/19 03:47:07 pm	0.043	718	2.35			N/A
LCS 180-302169/2-A	LCS	12/23/19 03:48:04 pm	2.421	24444	1.28			96.85
CCV 180-302361/10-A	CCV	12/23/19 03:49:03 pm	5.094	51107	1.01			101.89
CCB 180-302361/11-A	CCB	12/23/19 03:51:27 pm	-0.007	218	15.01			N/A
LB 180-301984/1-B	UNK	12/23/19 03:52:24 pm	0.049	781	2.91			N/A
180-100064-A-1-H	UNK	12/23/19 03:53:21 pm	-0.015	138	10.00			N/A
180-100066-A-1-C	UNK	12/23/19 03:54:18 pm	-0.022	73	7.62			N/A
180-100133-A-1-B	UNK	12/23/19 03:55:16 pm	-0.034	-52	1.68			N/A
180-100135-A-1-C	UNK	12/23/19 03:56:13 pm	0.045	744	3.81			N/A
180-100139-A-1-D	UNK	12/23/19 03:57:11 pm	0.062	913	3.33			N/A
180-100139-A-2-N	UNK	12/23/19 03:58:08 pm	0.062	910	1.41			N/A
180-100139-A-2-O MS	UNK	12/23/19 03:59:06 pm	4.987	50034	0.81			N/A
180-100139-A-2-P MSD	UNK	12/23/19 04:01:26 pm	5.054	50704	1.30			N/A
180-100141-A-1-M	UNK	12/23/19 04:03:42 pm	0.066	951	1.47			N/A
CCV 180-302361/10-A	CCV	12/23/19 04:04:41 pm	5.115	51319	0.97			102.31
CCB 180-302361/11-A	CCB	12/23/19 04:07:05 pm	-0.008	212	9.55			N/A
180-100205-A-1-C	UNK	12/23/19 04:08:02 pm	0.077	1062	1.73			N/A
180-100205-A-3-C	UNK	12/23/19 04:08:58 pm	0.060	885	3.06			N/A
180-100205-A-5-C	UNK	12/23/19 04:09:55 pm	0.040	689	2.95			N/A
LB 180-301963/1-C	UNK	12/23/19 04:10:52 pm	0.025	540	7.98			N/A
180-100117-A-1-F	UNK	12/23/19 04:11:49 pm	0.029	580	4.15			N/A
MB 180-302326/1-A	MB	12/23/19 04:12:46 pm	0.057	858	6.01			N/A
LCS 180-302326/2-A	LCS	12/23/19 04:13:44 pm	2.584	26064	0.81			103.35
LB 180-302254/1-B	UNK	12/23/19 04:14:41 pm	0.049	776	4.37			N/A
180-100161-A-1-C	UNK	12/23/19 04:15:39 pm	0.242	2708	1.07			N/A
180-100225-A-1-B	UNK	12/23/19 04:16:37 pm	0.058	868	0.82			N/A
CCV 180-302361/10-A	CCV	12/23/19 04:17:36 pm	5.137	51531	1.39			102.74
CCB 180-302361/11-A	CCB	12/23/19 04:19:58 pm	-0.008	212	13.20			N/A
180-100233-A-1-K	UNK	12/23/19 04:20:55 pm	0.066	954	1.97			N/A
180-100233-A-1-L MS	UNK	12/23/19 04:21:52 pm	4.953	49695	1.34			N/A

Sample Name	Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Residual	Flags	% Recovery
180-100233-A-1-M MSD	UNK	12/23/19 04:22:49 pm	4.908	49251	1.13			N/A
180-100233-A-2-C	UNK	12/23/19 04:23:46 pm	0.046	747	2.99			N/A
180-100234-A-1-C	UNK	12/23/19 04:24:43 pm	0.058	869	2.90			N/A
180-100234-A-2-C	UNK	12/23/19 04:25:40 pm	0.060	887	2.13			N/A
LB 180-302231/1-B	UNK	12/23/19 04:26:37 pm	0.058	870	2.84			N/A
180-100240-A-1-C	UNK	12/23/19 04:27:34 pm	0.032	609	2.75			N/A
180-100241-A-1-B	UNK	12/23/19 04:28:31 pm	0.039	682	0.72			N/A
CCV 180-302361/10-A	CCV	12/23/19 04:29:31 pm	4.676	46937	1.21			93.52
CCB 180-302361/11-A	CCB	12/23/19 04:30:30 pm	-0.022	72	8.50			N/A
180-100254-A-1-D	CCB	12/23/19 04:31:28 pm	0.059	882	1.79			N/A
180-100254-A-1-E MS	UNK	12/23/19 04:32:25 pm	1.002	10285	0.78			N/A
180-100254-A-1-F MSD	UNK	12/23/19 04:33:23 pm	0.983	10102	0.78			N/A
CRA 180-302361/9-A	CRDL	12/23/19 04:34:22 pm	0.191	2201	1.90			95.68
CCV 180-302361/10-A	CCV	12/23/19 04:35:21 pm	4.829	48462	1.07			96.58
CCB 180-302361/11-A	CCB	12/23/19 04:36:21 pm	-0.025	47	4.04			N/A

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job Number: 180-100205-1

SDG No.:

Project: San Jacinto River Waste Pits Superfund

Client Sample ID	Lab Sample ID
11187072-N.TREATMENT AREA #2	180-100205-1
11187072-N.TREATMENT AREA #3	180-100205-3
11187072-N.TREATMENT AREA #4	180-100205-5

Comments:

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: 11187072-N.TREATMENT AREA #2
Lab Sample ID: 180-100205-1
Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-100205-1
SDG ID.:
Matrix: Solid
Date Sampled: 12/18/2019 13:30
Reporting Basis: DRY
Date Received: 12/19/2019 10:00
% Solids: 71.4

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
57-12-5	Cyanide, Total	ND	0.68	0.37	mg/Kg			1	EPA 9014
18496-25-8	Sulfide	72	42	14	mg/Kg			1	EPA 9034

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: 11187072-N.TREATMENT AREA #2
Lab Sample ID: 180-100205-1
Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-100205-1
SDG ID.:
Matrix: Solid
Date Sampled: 12/18/2019 13:30
Reporting Basis: WET
Date Received: 12/19/2019 10:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Ignitability	>140			Degrees F			1	EPA 1020B
	pH	8.5	0.1	0.1	SU		HF	1	EPA 9045D
	Free Liquid	CNF			NONE			1	EPA 9095B

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: 11187072-N.TREATMENT AREA #3
Lab Sample ID: 180-100205-3
Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-100205-1
SDG ID.:
Matrix: Solid
Date Sampled: 12/18/2019 14:00
Reporting Basis: DRY
Date Received: 12/19/2019 10:00
% Solids: 67.4

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
57-12-5	Cyanide, Total	ND	0.74	0.40	mg/Kg			1	EPA 9014
18496-25-8	Sulfide	59	44	15	mg/Kg			1	EPA 9034

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: 11187072-N.TREATMENT AREA #3
Lab Sample ID: 180-100205-3
Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-100205-1
SDG ID.:
Matrix: Solid
Date Sampled: 12/18/2019 14:00
Reporting Basis: WET
Date Received: 12/19/2019 10:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Ignitability	>140			Degrees F			1	EPA 1020B
	pH	8.7	0.1	0.1	SU		HF	1	EPA 9045D
	Free Liquid	CNF			NONE			1	EPA 9095B

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: 11187072-N.TREATMENT AREA #4
Lab Sample ID: 180-100205-5
Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-100205-1
SDG ID.:
Matrix: Solid
Date Sampled: 12/18/2019 14:30
Reporting Basis: DRY
Date Received: 12/19/2019 10:00
% Solids: 66.7

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
57-12-5	Cyanide, Total	ND	0.74	0.40	mg/Kg			1	EPA 9014
18496-25-8	Sulfide	24	45	15	mg/Kg	J		1	EPA 9034

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: 11187072-N.TREATMENT AREA #4
Lab Sample ID: 180-100205-5
Lab Name: Eurofins TestAmerica, Pittsburgh
Job No.: 180-100205-1
SDG ID.:
Matrix: Solid
Date Sampled: 12/18/2019 14:30
Reporting Basis: WET
Date Received: 12/19/2019 10:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
	Ignitability	>140			Degrees F			1	EPA 1020B
	pH	7.9	0.1	0.1	SU		HF	1	EPA 9045D
	Free Liquid	CNF			NONE			1	EPA 9095B

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Analyst: BSH Batch Start Date: 12/23/2019

Reporting Units: ug/L Analytical Batch No.: 302414

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
9	ICV	20:33	Cyanide, Total	206	200	103	90-110		WCN0.2ICV_00819
10	ICB	20:35	Cyanide, Total	ND					
11	CCV	20:37	Cyanide, Total	96.8	100	97	90-110		WCN0.1L3_00530
12	CCB	20:38	Cyanide, Total	ND					
23	CCV	20:58	Cyanide, Total	100	100	100	90-110		WCN0.1L3_00530
24	CCB	20:59	Cyanide, Total	ND					
35	CCV	21:18	Cyanide, Total	102	100	102	90-110		WCN0.1L3_00530
36	CCB	21:20	Cyanide, Total	ND					
47	CCV	21:39	Cyanide, Total	102	100	102	90-110		WCN0.1L3_00530
48	CCB	21:41	Cyanide, Total	ND					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Analyst: CMR Batch Start Date: 12/23/2019

Reporting Units: mg/L Analytical Batch No.: 302491

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	ICV	14:15	Sulfide	14.1	14.8	95	85-115		WSULFSICVCCV_00720
2	ICB	14:17	Sulfide	ND					
13	CCV	14:41	Sulfide	14.3	14.8	97	85-115		WSULFSICVCCV_00720
14	CCB	14:43	Sulfide	ND					
24	CCV	15:05	Sulfide	14.1	14.8	96	85-115		WSULFSICVCCV_00720
25	CCB	15:07	Sulfide	ND					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Analyst: MTW Batch Start Date: 12/31/2019

Reporting Units: SU Analytical Batch No.: 302956

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
12	CCV	10:57	pH	7.0	7.00	100	99-101		WpHBuffer7P_00020

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 302414	Date: 12/23/2019 20:45	Prep Batch: 302344	Date: 12/23/2019 13:28				
EPA 9014	MB 180-302344/4-A	Cyanide, Total	ND		mg/Kg	0.50	1
Batch ID: 302491	Date: 12/23/2019 14:19	Prep Batch: 302260	Date: 12/23/2019 12:30				
EPA 9034	MB 180-302260/1-A	Sulfide	ND		mg/Kg	30	1

FORM III-IN

7A-IN
LAB CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Matrix: Solid

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 302414	Date: 12/23/2019 20:44		Prep Batch: 302344			Date: 12/23/2019 13:28					
						LCS Source: WCNSoilLCS_00025					
EPA 9014	LCS 180-302344/3-A	Cyanide, Total	120		mg/Kg	190	63	26-139			
Batch ID: 302491	Date: 12/23/2019 14:21		Prep Batch: 302260			Date: 12/23/2019 12:30					
						LCS Source: WSULFPSP_00720					
EPA 9034	LCS 180-302260/2-A	Sulfide	119		mg/Kg	134	89	85-115			
Batch ID: 302956	Date: 12/31/2019 10:46										
						LCS Source: WpHBuffer7CCV_00033					
EPA 9045D	LCS 180-302956/1	pH	7.0		SU	7.00	100	99-101			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

7A-IN
LOW LEVEL CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Matrix: Solid

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 302414	Date: 12/23/2019 20:40		Prep Batch: 302344			Date: 12/23/2019 13:28					
						LCS Source: WCN0.5L1_00982					
EPA 9014	LLCS 180-302344/1-A	Cyanide, Total	0.0503		mg/Kg	0.0500	101	90-110			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

7A-IN
HIGH LEVEL CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Matrix: Solid

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 302414	Date: 12/23/2019 20:42		Prep Batch: 302344			Date: 12/23/2019 13:28					
						LCS Source: WCN10Pi_00710					
EPA 9014	HLCS 180-302344/2-A	Cyanide, Total	0.242		mg/Kg	0.250	97	90-110			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-100205-1

SDG Number:

Matrix: Solid Instrument ID: SEAL2

Method: EPA 9014 MDL Date: 12/07/2017 11:54

Prep Method: 9010C

Analyte	Wavelength/ Mass	RL (mg/Kg)	MDL (mg/Kg)
Cyanide, Total		0.5	0.272

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-100205-1

SDG Number:

Matrix: Solid Instrument ID: SEAL2

Method: EPA 9014 XMDL Date: 11/19/2018 14:17

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Cyanide, Total		10	4.4

FORM IX - IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-100205-1

SDG Number:

Matrix: Solid Instrument ID: NOEQUIP

Method: 2540G RL Date: 01/31/2010 13:27

Analyte	Wavelength/ Mass	RL (%)	
Percent Moisture		0.1	
Percent Solids		0.1	

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-100205-1

SDG Number:

Matrix: Solid Instrument ID: NOEQUIP

Method: 2540G XRL Date: 01/31/2010 13:31

Analyte	Wavelength/ Mass	XRL (%)	
Percent Moisture		0.1	
Percent Solids		0.1	

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-100205-1

SDG Number:

Matrix: Solid Instrument ID: NOEQUIP

Method: EPA 1020B XRL Date: 01/07/2010 13:21

Analyte	Wavelength/ Mass	XRL (Degrees F)	
Ignitability		1	

FORM IX - IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-100205-1

SDG Number:

Matrix: Solid Instrument ID: NOEQUIP

Method: EPA 1020B MDL Date: 06/01/2014 00:00

Analyte	Wavelength/ Mass	RL (Degrees F)	MDL (Degrees F)
Ignitability		1	1

FORM IX - IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-100205-1

SDG Number:

Matrix: Solid Instrument ID: NOEQUIP

Method: EPA 9034 MDL Date: 03/01/2017 14:29

Prep Method: 9030B

Analyte	Wavelength/ Mass	RL (mg/Kg)	MDL (mg/Kg)
Sulfide		30	10

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-100205-1

SDG Number:

Matrix: Solid Instrument ID: NOEQUIP

Method: EPA 9034 XMDL Date: 01/07/2010 12:12

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Sulfide		3	0.5897

FORM IX - IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-100205-1

SDG Number:

Matrix: Solid Instrument ID: NOEQUIP

Method: EPA 9045D RL Date: 07/09/2019 10:56

Analyte	Wavelength/ Mass	RL (SU)	
pH		0.1	

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburg Job Number: 180-100205-1

SDG Number:

Matrix: Solid Instrument ID: NOEQUIP

Method: EPA 9045D XRL Date: 07/09/2019 10:57

Analyte	Wavelength/ Mass	XRL (SU)	
pH		0.1	

FORM IX - IN

12-IN
PREPARATION LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Prep Method: 9010C

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
LLCS 180-302344/1-A	12/23/2019 13:28	302344		50	50
HLCS 180-302344/2-A	12/23/2019 13:28	302344		50	50
LCS 180-302344/3-A	12/23/2019 13:28	302344	1.00		50
MB 180-302344/4-A	12/23/2019 13:28	302344	1.00		50
180-100205-1	12/23/2019 13:28	302344	1.03		50
180-100205-3	12/23/2019 13:28	302344	1.00		50
180-100205-5	12/23/2019 13:28	302344	1.02		50

FORM XII-IN

12-IN
PREPARATION LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Prep Method: 9030B

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight (g)	Initial Volume	Final Volume (mL)
MB 180-302260/1-A	12/23/2019 12:30	302260	5.00		50
LCS 180-302260/2-A	12/23/2019 12:30	302260	5.00		50
180-100205-1	12/23/2019 12:30	302260	5.05		50
180-100205-3	12/23/2019 12:30	302260	5.03		50
180-100205-5	12/23/2019 12:30	302260	5.01		50

FORM XII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Instrument ID: SEAL2 Analysis Method: EPA 9014

Start Date: 12/23/2019 20:19 End Date: 12/23/2019 22:34

Lab Sample Id	D/F	Type	Time	Analytes																							
				CN																							
ZZZZZZ			20:19																								
ZZZZZZ			20:21																								
ZZZZZZ			20:23																								
ZZZZZZ			20:24																								
ZZZZZZ			20:26																								
ZZZZZZ			20:28																								
ZZZZZZ			20:30																								
ZZZZZZ			20:31																								
ICV 180-302414/9	1		20:33	X																							
ICB 180-302414/10	1		20:35	X																							
CCV 180-302414/11	1		20:37	X																							
CCB 180-302414/12	1		20:38	X																							
LLCS 180-302344/1-A	1	T	20:40	X																							
HLCS 180-302344/2-A	1	T	20:42	X																							
LCS 180-302344/3-A	10	T	20:44	X																							
MB 180-302344/4-A	1	T	20:45	X																							
ZZZZZZ			20:47																								
ZZZZZZ			20:49																								
ZZZZZZ			20:51																								
ZZZZZZ			20:52																								
ZZZZZZ			20:54																								
ZZZZZZ			20:56																								
CCV 180-302414/23	1		20:58	X																							
CCB 180-302414/24	1		20:59	X																							
ZZZZZZ			21:01																								
ZZZZZZ			21:03																								
ZZZZZZ			21:05																								
ZZZZZZ			21:06																								
ZZZZZZ			21:08																								
ZZZZZZ			21:10																								
ZZZZZZ			21:12																								
ZZZZZZ			21:13																								
ZZZZZZ			21:15																								
ZZZZZZ			21:17																								
CCV 180-302414/35	1		21:18	X																							
CCB 180-302414/36	1		21:20	X																							
ZZZZZZ			21:22																								
ZZZZZZ			21:24																								
ZZZZZZ			21:25																								
180-100205-1	1	T	21:27	X																							
180-100205-3	1	T	21:29	X																							
180-100205-5	1	T	21:31	X																							

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Instrument ID: SEAL2 Analysis Method: EPA 9014

Start Date: 12/23/2019 20:19 End Date: 12/23/2019 22:34

Lab Sample Id	D/F	Type	Time	Analytes																							
				CN																							
ZZZZZZ			21:32																								
ZZZZZZ			21:34																								
ZZZZZZ			21:36																								
ZZZZZZ			21:38																								
CCV 180-302414/47	1		21:39	X																							
CCB 180-302414/48	1		21:41	X																							
ZZZZZZ			21:43																								
ZZZZZZ			21:45																								
ZZZZZZ			21:46																								
ZZZZZZ			21:48																								
ZZZZZZ			21:50																								
ZZZZZZ			21:52																								
ZZZZZZ			21:53																								
ZZZZZZ			21:55																								
ZZZZZZ			21:57																								
ZZZZZZ			21:59																								
CCV 180-302414/59			22:00																								
CCB 180-302414/60			22:02																								
ZZZZZZ			22:04																								
ZZZZZZ			22:06																								
ZZZZZZ			22:07																								
ZZZZZZ			22:09																								
ZZZZZZ			22:11																								
ZZZZZZ			22:13																								
ZZZZZZ			22:14																								
ZZZZZZ			22:16																								
ZZZZZZ			22:18																								
ZZZZZZ			22:20																								
CCV 180-302414/71			22:21																								
CCB 180-302414/72			22:23																								
ZZZZZZ			22:25																								
ZZZZZZ			22:26																								
ZZZZZZ			22:28																								
ZZZZZZ			22:30																								
ZZZZZZ			22:31																								
CCV 180-302414/78			22:33																								
CCB 180-302414/79			22:34																								

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: 2540G

Start Date: 12/24/2019 08:49 End Date: 12/24/2019 08:49

Lab Sample Id	D/F	Type	Time	Analytes																							
				% Sol	Moist																						
180-100205-3	1	T	08:49	X	X																						
180-100205-3 DU	1	T	08:49	X	X																						
180-100205-1	1	T	08:49	X	X																						
ZZZZZZ			08:49																								
ZZZZZZ			08:49																								
ZZZZZZ			08:49																								
ZZZZZZ			08:49																								
ZZZZZZ			08:49																								
ZZZZZZ			08:49																								
ZZZZZZ			08:49																								
ZZZZZZ			08:49																								
180-100205-5	1	T	08:49	X	X																						
180-100205-5 DU	1	T	08:49	X	X																						
ZZZZZZ			08:49																								
ZZZZZZ			08:49																								
ZZZZZZ			08:49																								
ZZZZZZ			08:49																								
ZZZZZZ			08:49																								
ZZZZZZ			08:49																								
ZZZZZZ			08:49																								
ZZZZZZ			08:49																								
ZZZZZZ			08:49																								

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: EPA 1020B

Start Date: 12/31/2019 09:37 End Date: 12/31/2019 09:37

Lab Sample Id	D/F	Type	Time	Analytes																							
				Ign																							
ZZZZZZ			09:37																								
ZZZZZZ			09:37																								
ZZZZZZ			09:37																								
180-100205-1	1	T	09:37	X																							
180-100205-3	1	T	09:37	X																							
180-100205-5	1	T	09:37	X																							
ZZZZZZ			09:37																								
ZZZZZZ			09:37																								
ZZZZZZ			09:37																								
ZZZZZZ			09:37																								
ZZZZZZ			09:37																								
ZZZZZZ			09:37																								
ZZZZZZ			09:37																								
ZZZZZZ			09:37																								

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: EPA 9034

Start Date: 12/23/2019 14:15 End Date: 12/23/2019 15:07

Lab Sample Id	D/F	Type	Time	Analytes																							
				S2																							
ICV 180-302491/1	1		14:15	X																							
ICB 180-302491/2	1		14:17	X																							
MB 180-302260/1-A	1	T	14:19	X																							
LCS 180-302260/2-A	1	T	14:21	X																							
ZZZZZZ			14:23																								
ZZZZZZ			14:26																								
ZZZZZZ			14:28																								
ZZZZZZ			14:30																								
ZZZZZZ			14:32																								
ZZZZZZ			14:34																								
ZZZZZZ			14:37																								
ZZZZZZ			14:39																								
CCV 180-302491/13	1		14:41	X																							
CCB 180-302491/14	1		14:43	X																							
ZZZZZZ			14:45																								
ZZZZZZ			14:48																								
180-100205-1	1	T	14:50	X																							
180-100205-3	1	T	14:52	X																							
180-100205-5	1	T	14:54	X																							
ZZZZZZ			14:56																								
ZZZZZZ			14:59																								
ZZZZZZ			15:01																								
ZZZZZZ			15:03																								
CCV 180-302491/24	1		15:05	X																							
CCB 180-302491/25	1		15:07	X																							

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: EPA 9045D

Start Date: 12/31/2019 10:46 End Date: 12/31/2019 11:11

Lab Sample Id	D/F	Type	Time	Analytes																							
				pH																							
LCS 180-302956/1	1	T	10:46	X																							
ZZZZZZ			10:47																								
ZZZZZZ			10:48																								
180-100205-1	1	T	10:49	X																							
180-100205-3	1	T	10:50	X																							
180-100205-5	1	T	10:51	X																							
ZZZZZZ			10:52																								
ZZZZZZ			10:53																								
ZZZZZZ			10:54																								
ZZZZZZ			10:55																								
ZZZZZZ			10:56																								
CCV 180-302956/12	1		10:57	X																							
ZZZZZZ			10:58																								
ZZZZZZ			10:59																								
ZZZZZZ			11:00																								
ZZZZZZ			11:01																								
ZZZZZZ			11:02																								
ZZZZZZ			11:03																								
ZZZZZZ			11:04																								
ZZZZZZ			11:05																								
ZZZZZZ			11:06																								
ZZZZZZ			11:07																								
CCV 180-302956/23			11:08																								
ZZZZZZ			11:09																								
ZZZZZZ			11:10																								
CCV 180-302956/26			11:11																								

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pittsburgh Job No.: 180-100205-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: EPA 9095B

Start Date: 12/31/2019 15:24 End Date: 12/31/2019 15:24

Lab Sample Id	D/F	Type	Time	Analytes																							
				PF																							
ZZZZZZ			15:24																								
ZZZZZZ			15:24																								
180-100205-1	1	T	15:24	X																							
180-100205-3	1	T	15:24	X																							
180-100205-5	1	T	15:24	X																							
ZZZZZZ			15:24																								
ZZZZZZ			15:24																								
ZZZZZZ			15:24																								
ZZZZZZ			15:24																								

Prep Types:
T = Total/NA

FORM XIII-IN

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 302344 Batch Start Date: 12/23/19 13:28 Batch Analyst: Hough, Brandon S

Batch Method: 9010C Batch End Date: 12/23/19 17:28

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	SulfideCheck	ChlorineCheck	NO3Screen	DistillpHCheck
LLCS 180-302344/1		9010C, EPA 9014		50 mL	50 mL	N	N	N	N/A
HLCS 180-302344/2		9010C, EPA 9014		50 mL	50 mL	N	N	N	N/A
LCS 180-302344/3		9010C, EPA 9014		1.00 g	50 mL	N	N	N	N/A
MB 180-302344/4		9010C, EPA 9014		1.00 g	50 mL	N	N	N	N/A
180-100205-A-1	11187072-N.TREATMENT AREA #2	9010C, EPA 9014	T	1.03 g	50 mL	N	N	N	N/A
180-100205-A-3	11187072-N.TREATMENT AREA #3	9010C, EPA 9014	T	1.00 g	50 mL	N	N	N	N/A
180-100205-A-5	11187072-N.TREATMENT AREA #4	9010C, EPA 9014	T	1.02 g	50 mL	N	N	N	N/A

Lab Sample ID	Client Sample ID	Method Chain	Basis	WCN0.5L1 00982	WCN10Pi 00710	WCNSoilLCS 00025			
LLCS 180-302344/1		9010C, EPA 9014		5 mL					
HLCS 180-302344/2		9010C, EPA 9014			1.25 mL				
LCS 180-302344/3		9010C, EPA 9014				1 g			
MB 180-302344/4		9010C, EPA 9014							
180-100205-A-1	11187072-N.TREATMENT AREA #2	9010C, EPA 9014	T						
180-100205-A-3	11187072-N.TREATMENT AREA #3	9010C, EPA 9014	T						
180-100205-A-5	11187072-N.TREATMENT AREA #4	9010C, EPA 9014	T						

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 302344 Batch Start Date: 12/23/19 13:28 Batch Analyst: Hough, Brandon S

Batch Method: 9010C Batch End Date: 12/23/19 17:28

Batch Notes	
Balance ID	SN1126472457
Batch Comment	PH STRIPS LOT # 564992
Distillation End Time	12/23/2019 17:28
Distillation Start Time	12/23/2019 15:58
Distillation Temperature	150 Degrees C
KI-Starch Paper Lot #	3120543
Lead Acetate Lot #	1276537
Magnesium Chloride Reagent ID Number	3438559
Sodium Hydroxide ID	3258303
Pipette/Syringe/Dispenser ID	B747014653
Sulfamic Acid ID	3273176
Sulfuric Acid Reagent ID Number	3268235
Uncorrected Distill Temperature	150 Degrees C

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 302414 Batch Start Date: 12/23/19 20:19 Batch Analyst: Hough, Brandon S

Batch Method: EPA 9014 Batch End Date: 12/23/19 22:34

Lab Sample ID	Client Sample ID	Method Chain	Basis	WCN0.1L3 00530	WCN0.2ICV 00819				
ICV 180-302414/9		EPA 9014			1 mL				
CCV 180-302414/11		EPA 9014		1 mL					
CCV 180-302414/23		EPA 9014		1 mL					
CCV 180-302414/35		EPA 9014		1 mL					
CCV 180-302414/47		EPA 9014		1 mL					

Batch Notes	
Buffer Reagent ID	3438921
Chloramine-T ID	3526709
First End time	12/23/2019 22:34
Sodium Hydroxide ID	3258303
Pipette/Syringe/Dispenser ID	B747014653, B747014865
Pyridine-Barbituric Acid ID	3518680
First Start time	12/23/2019 20:19

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 302416 Batch Start Date: 12/24/19 08:49 Batch Analyst: Hoelzle, Paloma M

Batch Method: 2540G Batch End Date: 12/26/19 16:51

Lab Sample ID	Client Sample ID	Method Chain	Basis	DISH#	DishWeight	SampleMassWet	SampleMassDry		
180-100205-A-3	11187072-N.TREATMENT AREA #3	2540G	T	F2sd2 0.1161	2.53 g	7.71 g	6.02 g		
180-100205-A-3 DU	11187072-N.TREATMENT AREA #3	2540G	T	F2sd1 0.1149	2.52 g	8.98 g	6.65 g		
180-100205-A-1	11187072-N.TREATMENT AREA #2	2540G	T	F2u1m 0.1182	2.51 g	9.85 g	7.75 g		
180-100205-A-5	11187072-N.TREATMENT AREA #4	2540G	T	F2ty3 0.1139	2.55 g	8.97 g	6.83 g		
180-100205-A-5 DU	11187072-N.TREATMENT AREA #4	2540G	T	F2ty4 0.1184	2.55 g	9.75 g	7.37 g		

Batch Notes	
Balance ID	1126472457
Batch Comment	COMPLETED BY: CMR
Date and Time Samples in Desiccator	12/26/2019 15:45
Date and Time Samples out of Desiccator	12/26/2019 16:45
Date samples were placed in the oven	12/24/2019
Oven Temp In	105 Degrees C
Time samples were place in the oven	09:14
Date samples were removed from oven	12/26/2019
Oven Temp Out	104 Degrees C
Time Samples were removed from oven	15:45
Oven ID	OVEN#3
Thermometer ID	WET-34 (WC) CF; 0
Temperature - Start - Uncorrected	105 Degrees C
Temperature - End - Uncorrected	104 Degrees C

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 302977 Batch Start Date: 12/31/19 09:37 Batch Analyst: Smith, Abbey V

Batch Method: EPA 1020B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	ObsFlash				
180-100205-A-1	11187072-N.TREATMENT AREA #2	EPA 1020B	T	1 g	>140 Degrees F				
180-100205-A-3	11187072-N.TREATMENT AREA #3	EPA 1020B	T	1 g	>140 Degrees F				
180-100205-A-5	11187072-N.TREATMENT AREA #4	EPA 1020B	T	1 g	>140 Degrees F				

Batch Notes	
Barometer ID	161018587
Barometric Pressure - Corrected	28.99 inHg
Barometric Pressure Correction Factor	0.0 Degrees F
Equipment ID	setaflash rapid tester
Thermometer Correction	0.0 Degrees F
Thermometer ID	seta-1
Barometric Pressure - Uncorrected	28.99 inHg
Uncorrected Temperature	140 Degrees F

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 302260 Batch Start Date: 12/23/19 12:30 Batch Analyst: Reagle, Carl M

Batch Method: 9030B Batch End Date: 12/23/19 14:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	DistillUnitPort	Initial pH	AcidVolAdded	WSULFPSP 00720
MB 180-302260/1		9030B, EPA 9034		5.00 g	50 mL	1	n/a SU	10 mL	
LCS 180-302260/2		9030B, EPA 9034		5.00 g	50 mL	2	n/a SU	10 mL	1 mL
180-100205-A-1	11187072-N.TREATMENT AREA #2	9030B, EPA 9034	T	5.05 g	50 mL	13	n/a SU	10 mL	
180-100205-A-3	11187072-N.TREATMENT AREA #3	9030B, EPA 9034	T	5.03 g	50 mL	14	n/a SU	10 mL	
180-100205-A-5	11187072-N.TREATMENT AREA #4	9030B, EPA 9034	T	5.01 g	50 mL	15	n/a SU	10 mL	

Batch Notes	
Balance ID	SN1126472457
Blank Matrix ID	3232375
Distillation End Time	12/23/2019 14:00
Distilliation Unit ID	12
Distillation Start Time	12/23/2019 12:30
Oven, Bath or Block Temperature 1	69 Degrees C
pH Indicator ID	HC412469
Pipette ID	B645274412
Pipette/Syringe/Dispenser ID	05J90870
Sulfuric Acid Reagent ID Number	3047790
Thermometer ID	122503737
Uncorrected Temperature	69 Degrees C
Zinc Acetate Buffer ID	3414131

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 302491 Batch Start Date: 12/23/19 14:15 Batch Analyst: Reagle, Carl M

Batch Method: EPA 9034 Batch End Date: 12/23/19 15:10

Lab Sample ID	Client Sample ID	Method Chain	Basis	BuretStart1	BuretStop1	IodineAmount	TitrantVolume1	FinalAmount	WSULFSICVCCV 00720
ICV 180-302491/1		EPA 9034		0 mL	8.25 mL	10 mL	8.25 mL	50 mL	1 mL
ICB 180-302491/2		EPA 9034		0 mL	10.02 mL	10 mL	10.02 mL	50 mL	
MB 180-302260/1-A		EPA 9034		0 mL	10.01 mL	10 mL	10.01 mL	50 mL	
LCS 180-302260/2-A		EPA 9034		0 mL	8.52 mL	10 mL	8.52 mL	50 mL	
CCV 180-302491/13		EPA 9034		0 mL	8.22 mL	10 mL	8.22 mL	50 mL	1 mL
CCB 180-302491/14		EPA 9034		0 mL	10.00 mL	10 mL	10 mL	50 mL	
180-100205-A-1-I	11187072-N.TREATMENT AREA #2	EPA 9034	T	0 mL	9.37 mL	10 mL	9.37 mL	50 mL	
180-100205-A-3-I	11187072-N.TREATMENT AREA #3	EPA 9034	T	0 mL	9.52 mL	10 mL	9.52 mL	50 mL	
180-100205-A-5-I	11187072-N.TREATMENT AREA #4	EPA 9034	T	0 mL	9.82 mL	10 mL	9.82 mL	50 mL	
CCV 180-302491/24		EPA 9034		0 mL	8.24 mL	10 mL	8.24 mL	50 mL	1 mL
CCB 180-302491/25		EPA 9034		0 mL	10.03 mL	10 mL	10.03 mL	50 mL	

Batch Notes	
Buret ID	07N25256
Hydrochloric Acid ID	3504411
Iodine ID	3439169
Normality of Iodine Solution	0.02489 N
Sodium Thiosulfate ID	3358763
Pipette/Syringe/Dispenser ID	B71182837
Starch Reagent ID	3267441
Normality of First Titrant	0.02484 N
Zinc Acetate Buffer ID	3414131

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 302956 Batch Start Date: 12/31/19 10:46 Batch Analyst: Wesoloski, Michael

Batch Method: EPA 9045D Batch End Date: 12/31/19 11:11

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	SampleTemp	WpHBuffer7CCV 00033	WpHBuffer7P 00020	
LCS 180-302956/1		EPA 9045D		20.0 mL	20 mL	21.5 Celsius	20 mL		
180-100205-A-1	11187072-N.TREATMENT AREA #2	EPA 9045D	T	20.0 g	20 mL	20.1 Celsius			
180-100205-A-3	11187072-N.TREATMENT AREA #3	EPA 9045D	T	20.0 g	20 mL	20.2 Celsius			
180-100205-A-5	11187072-N.TREATMENT AREA #4	EPA 9045D	T	20.0 g	20 mL	20.2 Celsius			
CCV 180-302956/12		EPA 9045D		20.0 mL	20 mL	20.8 Celsius		20 mL	

Batch Notes	
Balance ID	Sartorius Entris S/N 35007539
Batch Comment	Shake Start time 08:15 Shake end: 08:20 Settle time 08:20- 10:46
pH Buffer 1 ID	3410902 pH 2.00
pH Buffer 2 ID	3410905 pH 4.00
pH Buffer 3 ID	2923701 pH 7.00
pH Buffer 4 ID	3217943 pH 10.00
pH Buffer 5 ID	3523404 pH 13.00
pH Buffer 6 ID	2939079 pH 7.00 (Second Source / LCS)
Calibration Date and Time	12/31/2019 06:40
pH Meter Calibration Slope	99.5
pH Meter ID	Accumet AR20 (SN AR812106163)
Probe ID	XQ3-16731
Sufficient volume for sample dup	Yes
Thermometer ID	AR812106163

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pittsbur Job No.: 180-100205-1

SDG No.:

Batch Number: 303035 Batch Start Date: 12/31/19 15:24 Batch Analyst: Hoelzle, Paloma M

Batch Method: EPA 9095B Batch End Date: 12/31/19 15:50

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	FreeLiquid				
180-100205-A-1	11187072-N.TREATMENT AREA #2	EPA 9095B	T	100.15 g	0 mL				
180-100205-A-3	11187072-N.TREATMENT AREA #3	EPA 9095B	T	100.46 g	0 mL				
180-100205-A-5	11187072-N.TREATMENT AREA #4	EPA 9095B	T	100.10 g	0 mL				

Batch Notes	
Batch Comment	10 oz Thermo Scientific Snap Top Lot#191003
Filter ID	V#4394

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

AQ2 Report

SEAL Analytical

B-1 HJ
12/24/19

Software Version:	2.1.4
Report Requested By:	TestAmerica
Date & Time:	2019-12-24 08:41:40
Tray Number:	1
Tray Name:	122319CNA

CYANIDE 4500CNE, 335.4, 9012B, 9014

Calibration Chart

Type	Absorbance	Calc mg/L	Target mg/L	% Error
*1	-0.0057	-0.0002	0.0000	
S90	-0.0005	0.0046	0.0050	-7.37
S91	0.0045	0.0092	0.0100	-7.88
S92	0.0491	0.0503	0.0500	0.55
S93	0.1044	0.1012	0.1000	1.17
S94	0.2660	0.2499	0.2500	-0.04
S95	0.5375	0.4998	0.5000	-0.04
S0	-0.0061	-0.0006	0.0000	

Polynomial Order:	1
Correlation Coefficient:	1.0000
Carryover(%):	-0.1
Calibration equation:	y = bx + a
y =:	Concentration mg/L
x =:	Measured absorbance
a =:	5.048037E-003
b =:	9.204416E-001
Date & Time:	2019-12-23 20:31:49

Calibration Graph

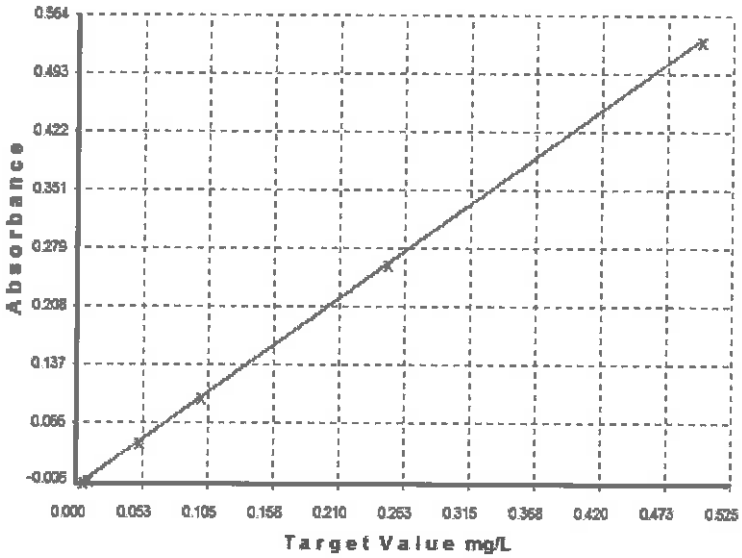

Reagents

Name	Batch	Prepared By	Expiry Date
CN-PHOS BUFFER	3438921	TestAmerica	2020-01-22 00:00:00
CN-CHLORAMINE T	3526709	TestAmerica	2019-12-30 00:00:00
CN-PYRIDINE_BAR	3518680	TestAmerica	2020-05-18 00:00:00

Cup	Type	ID	Result	Units	QC Pro	Raw Data	Auto Dil.	Man Dil.	User	Time/Date
	S1	Standard 1	-0.0057			-0.005703			TA	2019-12-23 20:19:33
	S90	Standard 90	-0.0005			-0.000452			TA	2019-12-23 20:21:20
	S91	Standard 91	0.0045			0.004524			TA	2019-12-23 20:23:04
	S92	Standard 92	0.0491			0.049137			TA	2019-12-23 20:24:47
	S93	Standard 93	0.1044			0.104433			TA	2019-12-23 20:26:34
	S94	Standard 94	0.2660			0.266018			TA	2019-12-23 20:28:21
	S95	Standard 95	0.5375			0.537523			TA	2019-12-23 20:30:05
	S0	Standard 0	-0.0061			-0.006108			TA	2019-12-23 20:31:49
1	ICV	ICV	0.2057	mg/L		0.217997			TA	2019-12-23 20:33:35
2	ICB	ICB	-0.0002	mg/L		-0.005703			TA	2019-12-23 20:35:20
	CCV	CCV	0.0968	mg/L		0.099695			TA	2019-12-23 20:37:04
	CCB	CCB	-0.0008	mg/L		-0.006356			TA	2019-12-23 20:38:48
3	U1	LLCS 180-3023441-A	0.0503	mg/L		0.049165			TA	2019-12-23 20:40:33
4	U2	HLCS 180-3023442-A	0.2417	mg/L		0.257157			TA	2019-12-23 20:42:17
5	U3	LCS 180-3023443-A	2.3941	mg/L		0.254619	x 10.000		TA	2019-12-23 20:44:02
6	U4	MB 180-3023444-A	0.0002	mg/L		-0.005272			TA	2019-12-23 20:45:46
7	U5	500-175008-D-12-A	0.0007	mg/L		-0.004775			TA	2019-12-23 20:47:33
8	U6	500-175008-D-12-B MS	0.0937	mg/L		0.096313			TA	2019-12-23 20:49:20
9	U7	500-175008-D-12-C MSD	0.0967	mg/L		0.099589			TA	2019-12-23 20:51:05
10	U8	500-175008-D-15-A	0.0007	mg/L		-0.004676			TA	2019-12-23 20:52:50

12/24/19

11	U9	500-175008-D-16-A	0.0006	mg/L	-0.004817		TA	2019-12-23 20:54:35
12	U10	500-175008-D-17-A	0.0002	mg/L	-0.005223		TA	2019-12-23 20:56:19
	CCV	CCV	0.1004	mg/L	0.103571		TA	2019-12-23 20:58:04
	CCB	CCB	-0.0005	mg/L	-0.006009		TA	2019-12-23 20:59:49
13	U11	500-175008-D-18-A	-0.0001	mg/L	-0.005620		TA	2019-12-23 21:01:34
14	U12	500-175008-D-19-A	0.0018	mg/L	-0.003505		TA	2019-12-23 21:03:18
15	U13	500-175008-D-20-A	0.0008	mg/L	-0.004576		TA	2019-12-23 21:05:02
16	U14	500-175008-D-21-A	0.0010	mg/L	-0.004344		TA	2019-12-23 21:06:45
17	U15	500-175008-D-22-A	0.0160	mg/L	0.011902		TA	2019-12-23 21:08:32
18	U16	500-175008-D-23-A	0.0010	mg/L	-0.004402		TA	2019-12-23 21:10:19
19	U17	500-175008-D-24-A	0.0090	mg/L	0.004320		TA	2019-12-23 21:12:03
20	U18	500-175008-D-25-A	0.0012	mg/L	-0.004178		TA	2019-12-23 21:13:46
21	U19	500-175008-D-26-A	0.0017	mg/L	-0.003622		TA	2019-12-23 21:15:30
22	U20	500-175008-D-27-A	-0.0001	mg/L	-0.005587		TA	2019-12-23 21:17:14
	CCV	CCV	0.1016	mg/L	0.104924		TA	2019-12-23 21:18:57
	CCB	CCB	0.0002	mg/L	-0.005306		TA	2019-12-23 21:20:42
23	U21	500-175008-D-28-A	0.0242	mg/L	0.020804		TA	2019-12-23 21:22:26
24	U22	180-100091-F-1-A	0.0216	mg/L	0.018008		TA	2019-12-23 21:24:09
25	U23	180-99222-A-4-B	0.0005	mg/L	-0.004949		TA	2019-12-23 21:25:56
26	U24	180-100205-A-1-J	0.0010	mg/L	-0.004411		TA	2019-12-23 21:27:39
27	U25	180-100205-A-3-J	0.0018	mg/L	-0.003555		TA	2019-12-23 21:29:26
28	U26	180-100205-A-5-J	0.0013	mg/L	-0.004045		TA	2019-12-23 21:31:13
29	U27	LLCS 180-3023451-A	0.0533	mg/L	0.052405		TA	2019-12-23 21:32:57
30	U28	HLCS 180-3023452-A	0.2512	mg/L	0.267443		TA	2019-12-23 21:34:40
31	U29	LCS 180-3023453-A	2.4726	mg/L	0.263152	x 10.000	TA	2019-12-23 21:36:24
32	U30	MB 180-3023454-A	0.0014	mg/L	-0.003962		TA	2019-12-23 21:38:07
	CCV	CCV	0.1019	mg/L	0.105233		TA	2019-12-23 21:39:51
	CCB	CCB	0.0001	mg/L	-0.005322		TA	2019-12-23 21:41:36
33	U31	180-100060-A-1-G	0.0999	mg/L	0.103028		TA	2019-12-23 21:43:21
34	U32	180-100060-A-1-H MS	0.0879	mg/L	0.089968		TA	2019-12-23 21:45:05
35	U33	180-100060-A-1-I MSD	0.0052	mg/L	0.000184		TA	2019-12-23 21:46:49
36	U34	240-122692-A-1-H	0.0016	mg/L	-0.003755		TA	2019-12-23 21:48:33
37	U35	240-122692-A-3-H	0.0029	mg/L	-0.002357		TA	2019-12-23 21:50:20
38	U36	240-122692-A-5-J	0.0165	mg/L	0.012454		TA	2019-12-23 21:52:07
39	U37	LLCS 180-3023821-A	0.0508	mg/L	0.049756		TA	2019-12-23 21:53:51
40	U38	HLCS 180-3023822-A	0.2435	mg/L	0.259024		TA	2019-12-23 21:55:35
41	U39	LCS 180-3023823-A	0.2114	mg/L	0.224145		TA	2019-12-23 21:57:19
42	U40	MB 180-3023824-A	0.0016	mg/L	-0.003780		TA	2019-12-23 21:59:03
	CCV	CCV	0.1005	mg/L	0.103688		TA	2019-12-23 22:00:47
	CCB	CCB	-0.0005	mg/L	-0.006000		TA	2019-12-23 22:02:33
43	U41	180-100263-I-4-C	0.0066	mg/L	0.001738		TA	2019-12-23 22:04:19
44	U42	180-100263-G-4-A MS	0.2119	mg/L	0.224778		TA	2019-12-23 22:06:03
45	U43	180-100263-I-4-D MSD	0.2168	mg/L	0.230069		TA	2019-12-23 22:07:48
46	U44	180-100309-A-2-B	0.0539	mg/L	0.053105		TA	2019-12-23 22:09:32
47	U45	180-100309-A-3-B	0.0100	mg/L	0.005405		TA	2019-12-23 22:11:19
48	U46	180-100263-I-10-A	0.0067	mg/L	0.001822		TA	2019-12-23 22:13:06
49	U47	180-100201-A-12-A	0.0067	mg/L	0.001848		TA	2019-12-23 22:14:51
50	U48	180-100195-D-2-A	0.0831	mg/L	0.084763		TA	2019-12-23 22:16:35
51	U49	180-100195-B-2-A DU	0.1208	mg/L	0.125730		TA	2019-12-23 22:18:20
52	U50	180-100195-C-2-A MS	0.2805	mg/L	0.299299		TA	2019-12-23 22:20:04
	CCV	CCV	0.1010	mg/L	0.104220		TA	2019-12-23 22:21:49
	CCB	CCB	-0.0004	mg/L	-0.005885		TA	2019-12-23 22:23:38
53	U51	180-100271-A-2-A	0.0086	mg/L	0.003872		TA	2019-12-23 22:25:27
54	U52	180-100276-A-1-A	0.0982	mg/L	0.101247		TA	2019-12-23 22:26:44
55	U53	180-100194-A-2-A	0.0045	mg/L	-0.000595		TA	2019-12-23 22:28:28
56	U54	180-100263-I-1-A	0.0060	mg/L	0.001032		TA	2019-12-23 22:30:05
57	U55	180-100263-I-2-A	0.0079	mg/L	0.003078		TA	2019-12-23 22:31:43
	CCV	CCV	0.0985	mg/L	0.101565		TA	2019-12-23 22:33:20
	CCB	CCB	-0.0000	mg/L	-0.005521		TA	2019-12-23 22:34:59

General Chemistry Worksheet

Batch Number: 180-302491
Method: 9034
Analyst: Reagle, Carl M

Date Open: Dec 23 2019 2:15PM
Batch End: Dec 23 2019 3:10PM

Lab ID	Client ID	Method Chain	Basis	First additional Buret Start volume	Amount of Iodine	Volume of Titrant One Added	Final weight/volume of sample	WSULFSICVCCV_0072 0
ICV~180-302491/1		9034_Calc		0 mL	10 mL	8.25 mL	50 mL	1 mL
ICB~180-302491/2		9034_Calc		0 mL	10 mL	10.02	50 mL	
MB~180-302260/1-A		9034_Calc		0 mL	10 mL	10.01	50 mL	
LCS~180-302260/2-A		9034_Calc		0 mL	10 mL	8.52	50 mL	
180-100060-A-1-F		9034_Calc	T	0 mL	10 mL	10.04	50 mL	
180-100081-E-1-G		9034_Calc	T	0 mL	20 mL	4.88	50 mL	
180-100081-E-2-G		9034_Calc	T	0 mL	30 mL	11.51	50 mL	
180-100081-E-4-G		9034_Calc	T	0 mL	20 mL	11.91	50 mL	
180-100081-E-7-L		9034_Calc	T	0 mL	20 mL	13.80	50 mL	
180-100091-D-1-A		9034_Calc	T	0 mL	10 mL	9.98	50 mL	
180-100139-E-1-A		9034_Calc	T	0 mL	10 mL	9.34	50 mL	
180-100139-E-2-A		9034_Calc	T	0 mL	20 mL	9.97	50 mL	
CCV~180-302491/13		9034_Calc		0 mL	10 mL	8.22	50 mL	1 mL
CCB~180-302491/14		9034_Calc		0 mL	10 mL	10.00	50 mL	
180-100139-E-2-B~MS		9034_Calc	T	0 mL	20 mL	7.11	50 mL	
180-100139-E-2-C~MSD		9034_Calc	T	0 mL	20 mL	8.36	50 mL	
180-100205-A-1-I		9034_Calc	T	0 mL	10 mL	9.37	50 mL	
180-100205-A-3-I		9034_Calc	T	0 mL	10 mL	9.52	50 mL	
180-100205-A-5-I		9034_Calc	T	0 mL	10 mL	9.82	50 mL	
180-100247-N-1-A		9034_Calc	T	0 mL	40 mL	12.49	50 mL	
180-100247-E-2-A		9034_Calc	T	0 mL	10 mL	9.68	50 mL	
180-100290-E-1-A		9034_Calc	T	0 mL	10 mL	9.81	50 mL	
180-100290-E-2-A		9034_Calc	T	0 mL	10 mL	9.69	50 mL	
CCV~180-302491/24		9034_Calc		0 mL	10 mL	8.24	50 mL	1 mL
CCB~180-302491/25		9034_Calc		0 mL	10 mL	10.03	50 mL	

Normality of First Titrant:	0.02484 N	Hydrochloric Acid ID:	3504411
Normality of Iodine Solution:	0.02489 N	Sodium Thiosulfate ID:	3358763
Buret ID:	07N25256	Starch Reagent ID:	3267441
Zinc Acetate Buffer ID:	3414131	Pipette/Syringe/Dispenser ID:	B71182837
Sodium Hydroxide ID:	N/A		
Filter ID:	N/A		
Iodine ID:	3439169		

eurofins | Environment Testing TestAmerica

Controlled

Worksheet No. PT-WC-1

Effective Date:

Sulfide Analysis Standardization Logsheet

Analyst: CMR **Date:** 12/23/2019

Standardization of Sodium Thiosulfate Titrant (A)				Reagent #:	3358763
Titrate 10mL of 0.025N Potassium Biiodate to clear endpoint					
$KH(IO_3)_2$ Lot #:	3492128	**KI Lot #:**	3026681	**1:4 H_2SO_4:**	3351623
Trial 1 mL:	10.03	**Trail 2 mL:**	10.06	**Trial 3 mL:**	10.1
Average mL (X):	10.06	**Normality of Titrant:**	0.02484		

N of $Na_2S_2O_3$ = (10mL $KH(IO_3)_2$)(0.025N) / XmL $Na_2S_2O_3$

Standardization of Iodine Solution (B)				Reagent #:	3439169
Titrate 20mL of Iodine solution to clear endpoint using the sodium thiosulfate titrant standardized ab					
Trial 1 mL:	20.04	**Trail 2 mL:**	20.06	**Trial 3 mL:**	20.01
Average mL (Y):	20.04	**Normality of Iodine:**	0.02489		

N of Iodine = (Y mL $Na_2S_2O_3$)(N of $Na_2S_2O_3$) / 20mL Iodine

Sulfide Spike Concentration Determination			
Titrate 1.0mL of Standard and 10mL Iodine Solution to a clear endpoint using the standardized sodium th titrant			
Primary Standard ID:	3527086	**Secondary Standard ID:**	3527087
mL Titrant to endpoint:	8.36	mL Titrant to endpoint:	8.25
Primary Stock Conc. (mg/L):	659.2	Second Stock Conc. (mg/L):	702.9

Std Conc. (mg/L) = {[(mL B*N B) - (mL A * N A)] x 16000}/mL Std

A is Sodium Thiosulfate titrant, B is Iodine Solution

TALS Reagent weight (g): Analyzed Conc / 534			
Primary Std:	1.234	Secondary Std:	1.316

Subcontract Data

Shipping and Receiving Documents

CHAIN OF CUSTODY RECORD

COC NO.: 59385

Address: 2055 Niagara Falls Blvd

Phone: 716-297-6150 Fax:

PAGE ___ OF ___

Project No/ Phase/Task Code: 11187072	Laboratory Name: Eurofins / TestAmerica	Lab Location: Pittsburgh	SSOW ID:
Project Name: San Jacinto	Lab Contact: Carrie Gamber / Beth Hitt		Cooler No:
Project Location: Texas			Carrier:
GHD Chemistry Contact: Debbie Brennan			Airbill No:
Sampler(s): Don Pope			Total # of Containers: 12

Item	Sample Identification (Containers for each sample may be combined on one line)	Date (mm/dd/yy)	Time (hh:mm)	Matrix Code (see back of COC)	Grab (G) or Comp (C)	Filtered (Y/N)	See SSOW											Total Containers/sample	MS/MSD Request	Comments/ Special Instructions:
	PRESERVATION - (SEE BACK OF COC FOR ABBREVIATIONS)																			
1	11187072-N. Treatment Area #2	12/18/19	13:30	SO			X											4		* See SSOW for Analyses
2	11187072-N. Treatment Area #3	12/18/19	14:00	SO			X											4		
3	11187072-N. Treatment Area #4	12/18/19	14:30	SO			X											4		
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				

180-100205 Chain of Custody

TAT Required in business days (use separate COCs for different TATs):

☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 1 Week ☐ 2 Week ☐ Other:

Notes/ Special Requirements:

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1. Don Pope	GHD	12/18/19	15:00	1. Dennis Watson TAPitt	TAPitt	12-19-19	10:00
2.				2.			
3.				3.			

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT – ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE – Fully Executed Copy (CRA) YELLOW – Receiving Laboratory Copy PINK – Shipper GOLDENROD – Sampling Crew

GHD Form: COC-10B (20110804)

ORIGIN ID:DKKA (716) 297-2160
BRITT GEBHARDT
GHD
2055 NIAGARA FALLS BLVD

NIAGARA FALLS, NY 14304
UNITED STATES US

SHIP DATE: 18DEC19
ACTWGT: 45.00 LB MAN
CAD: 68417/CAFE3211

BILL SENDER

TO SAMPLE CUSTODIAN
EUROFINS/TEST AMERICA
301 ALPHA DRIVE

PITTSBURGH PA 152381330
(412) 963-7058
REF: 11187072 – NI0402 GEB (POPE)

FedEx Express

TRK# 0201 4576 5884 7274

THU – 19 DEC 10:30A
PRIORITY OVERNIGHT

EK AGCA

15238
PA-US PIT

Uncorrected temp 1.6 C
Thermometer ID 10

CF 0 Initials JB

PT-WI-SR-001 effective 11/8/18

180-100205 Waybill

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrier L	Carrier Tracking No(s):	COC No: 180-381192.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com	State of Origin: Texas	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Texas		Job #: 180-100205-1
Address: 880 Riverside Parkway, ,	Due Date Requested: 1/3/2020			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: San Jacinto River Waste Pits Superfund	Project #: 18020662			
Site:	SSOW#:			

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1311_T Full List w/ Totals	Total_TEQ/Auto_Prep_TCLP	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
11187072-N.TREATMENT AREA #2 (180-100205-1)	12/18/19	13:30 Central		Solid			X	X	1	
11187072-N.TREATMENT AREA #3 (180-100205-3)	12/18/19	14:00 Central		Solid			X	X	1	
11187072-N.TREATMENT AREA #4 (180-100205-5)	12/18/19	14:30 Central		Solid			X	X	1	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 4	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Matthew Joel	12/19/19 1700	TA PIT	[illegible]	12/20/19 - 1055	ETA-SAC
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 5.1

Ver: 01/16/2019

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrier L	Carrier Tracking No(s):	COC No: 180-382049.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com	State of Origin: Texas	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Texas		Job #: 180-100205-1
Address: 10 Hazelwood Drive, ,	Due Date Requested: 1/3/2020			
City: Amherst	TAT Requested (days):			
State, Zip: NY, 14228-2298				
Phone: 716-691-2600(Tel) 716-691-7991(Fax)	PO #:			
Email:	WO #:			
Project Name: San Jacinto River Waste Pits Superfund	Project #: 18020662			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015D_DAI_G/8015_Dir_Inj_AP Glycols- Direct Injection (GC/FID)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
11187072-N.TREATMENT AREA #2 (180-100205-2)	1/7/20	09:00 Central		Water			X	3	
11187072-N.TREATMENT AREA #3 (180-100205-4)	1/7/20	09:00 Central		Water			X	3	
11187072-N.TREATMENT AREA #4 (180-100205-6)	1/7/20	09:00 Central		Water			X	3	
Leach Blank									

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 4	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Matthew Jordis	1/7/2020 1700	TA Pitt	[illegible]	1/8/20 0915	TAB
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: #1 3.9c

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 180-100205-1

Login Number: 100205
List Number: 1
Creator: Watson, Debbie

List Source: Eurofins TestAmerica, Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 180-100205-1

Login Number: 100205
List Number: 4
Creator: Hulbert, Michael J

List Source: Eurofins TestAmerica, Buffalo
List Creation: 01/08/20 02:28 PM

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.9 #1
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 180-100205-1

Login Number: 100205
List Number: 3
Creator: Bunzli, Eric K

List Source: Eurofins TestAmerica, Denver
List Creation: 12/21/19 09:07 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	no containers requiring zero headspace received
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Not requested

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 180-100205-1

Login Number: 100205
List Number: 2
Creator: Kintaudi, Pauline W

List Source: Eurofins TestAmerica, Sacramento
List Creation: 12/20/19 01:59 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Seal present with no number.
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.1c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

Job Number: 600-191956-1

Job Description: San Jacinto River Waste Pits Superfund

For:
GHD Services Inc.
5551 Corporate Boulevard
Suite 200
Baton Rouge, LA 70808

Attention: Janie Smith

Approved for release.
Carrie L Gamber
Senior Project Manager
5/27/2020 10:03 AM

Carrie L Gamber, Senior Project Manager
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2428
carrie.gamber@testamericainc.com
05/27/2020
Revision: 2

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of TestAmerica and its client. All questions regarding this report should be directed to the TestAmerica Project Manager or designee who has signed this report.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins TestAmerica Project Manager.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Eurofins TestAmerica, Houston
6310 Rothway Street, Houston, TX 77040
Tel (713) 690-4444 Fax (713) 690-5646 www.testamericainc.com

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Definitions/Glossary

Client: GHD Services Inc. Job ID: 600-191956-1
Project/Site: San Jacinto River Waste Pits Superfund

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
X	Surrogate recovery exceeds control limits

Dioxin

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE

Client: GHD Services Inc.

Project: San Jacinto River Waste Pits Superfund

Report Number: 600-191956-1 REVISED 1

NOTE: This report has been revised to move dissolved PCBs and Dioxins to a separate job.

NOTE: This report has been revised to report sample 11187072-091319-LL-EXC-1 (600-191956-2) and the Trip Blanks only and to remove the TEQ summaries per client request.

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 09/13/2019; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 0.9º C, 1.3º C and 1.8º C.

VOLATILES
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

SEMIVOLATILES
Internal Standard (ISTD) Chrysene-d12 and Perylene-d12 retention times for the following sample was outside the acceptance criteria of +/-0.5 minutes from the mid-point of the initial calibration: (CCVIS 600-274919/2). The continuing calibration verification (CCV) were within +/-0.5 minutes from the daily calibration verification; therefore, no corrective action was required per the laboratory's SOP. The spike recoveries associated with these Internal standard (ISTD) were within control limits; therefore, the data has been reported.

The following compounds were outside control limits in the continuing calibration verification (CCV) associated with batch 600-274919: Hexachlorobutadiene. The 8270D method requires at least 80% of analytes must have %D less than or equal 20%. The associated CCV meets this criteria; therefore, the data have been reported. The associated samples were non-detect for the affected analytes.

PESTICIDES
Elevated reporting limits are provided for the following samples due to insufficient sample provided for preparation: 11187072-091319-LL-EXC-1 (600-191956-2).

The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 600-275087 and analytical batch 600-275356 recovered outside control limits for the following analytes: Methoxychlor. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

The continuing calibration verification (CCV) associated with batch 600-275356 recovered above the upper control limit for Chlordane(23.8%). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample was impacted: (CCV 600-275356/10).

The continuing calibration verification (CCV) associated with batch 600-275356 recovered above the upper control limit for Toxaphene(41%). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample was impacted: (CCV 600-275356/11).

PCBS
Surrogate recovery for the following sample was outside control limits: 11187072-091319-LL-EXC-1 (600-191956-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

The surrogate recovery for the LCS/LCSD associated with preparation batch 600-275087 and analytical batch 600-275246 was outside the upper control limits.

Compound Tetrachloro-m-xylene eluted outside the retention time window on the RTX-CLPesticides 1 column for the following sample: (LCS 600-274969/2-A). This retention time shift was taken into account when reviewing the samples for target compounds.

CHLORINATED HERBICIDES
There were no issues.

METALS
The following samples were diluted to bring the concentration of target analytes within the calibration range: 11187072-091319-LL-EXC-1 (600-191956-2). Elevated reporting limits (RLs) are provided.

Barium, Calcium, Sodium and Zinc were detected in method blank MB 600-275139/1-B at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Barium, Tin and Zinc were detected in method blank MB 600-275026/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Mercury was detected in method blank MB 600-275328/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

GENERAL CHEMSITRY
The samples required dilution prior to analysis for several analytes. The reporting limits have been adjusted accordingly.

Chloride was detected in method blank MB 600-274705/35 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

The following sample was improperly preserved in the field for Sulfide: 11187072-091319-LL-EXC-1 (600-191956-2). A portion of the unpreserved sample was poured off into the correctly preserved bottle.

DIOXINS
Several analytes were detected in method blank MB 320-324498/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Several analytes were detected in method blank MB 320-324499/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

The laboratory control sample duplicate (LCSD) for preparation batch 320-324498 and analytical batch 320-324876 recovered outside control limits for the following analytes: 1,2,3,7,8-PeCDF, 1,2,3,7,8,9-HxCDF, 2,3,4,6,7,8-HxCDF, 1,2,3,6,7,8-HxCDD and 1,2,3,4,6,7,8-HpCDF. These analytes were biased high in the LCSD and one or more of these analytes were detected in the samples 600-191956-A-1-C and 600-19156-A-3-C. The high LCSD recoveries were confirmed by reanalysis. Data is reported with the high LCSD bias at the client's request.

The laboratory control sample (LCS 320-324499/2-A) has low recoveries for 1,2,3,4,6,7,8-HpCDF, 1,2,3,4,7,8,9-HpCDF, 1,2,3,6,7,8-HxCDF and OCDD. The laboratory control sample duplicate (LCSD 320-3244993-A) has low recoveries for 1,2,3,4,6,7,8-HpCDF and OCDD. The low LCS and LCSD recoveries were confirmed by reanalysis. Data is reported with this low bias at client's request. 11187072-091319-LL-EXC-1 (600-191956-2), (LCS 320-324499/2-A) and (LCSD 320-324499/3-A).

Detection Summary

Client: GHD Services Inc. Job ID: 600-191956-1
Project/Site: San Jacinto River Waste Pits Superfund

Client Sample ID: 11187072-091319-LL-EXC-1 Lab Sample ID: 600-191956-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bromide	9.9		0.40	0.10	mg/L	1		300.0	Total/NA
Chloride	4200		80	11	mg/L	200		300.0	Total/NA
Sulfate	6.5		0.50	0.096	mg/L	1		300.0	Total/NA
2,3,7,8-TCDD	61		9.8	1.5	pg/L	1		1613B	Total/NA
1,2,3,7,8-PeCDF	11	J *	49	0.99	pg/L	1		1613B	Total/NA
2,3,4,7,8-PeCDF	6.2	J	49	1.1	pg/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	19	J	49	1.2	pg/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	5.6	J * q	49	1.0	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	4.1	J B	49	0.68	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	6.9	J * B	49	0.65	pg/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	1.8	J B	49	0.78	pg/L	1		1613B	Total/NA
OCDD	90	J B	98	1.2	pg/L	1		1613B	Total/NA
OCDF	5.8	J B	98	1.4	pg/L	1		1613B	Total/NA
Total TCDD	66	q	9.8	1.5	pg/L	1		1613B	Total/NA
Total TCDF	390	q	9.8	1.8	pg/L	1		1613B	Total/NA
Total PeCDF	26	J q	49	1.0	pg/L	1		1613B	Total/NA
Total HxCDF	25	J B q	49	0.91	pg/L	1		1613B	Total/NA
Total HpCDD	10	J B	49	0.68	pg/L	1		1613B	Total/NA
Total HpCDF	11	J B	49	0.71	pg/L	1		1613B	Total/NA
2,3,7,8-TCDF - RA	220		9.8	1.2	pg/L	1		1613B	Total/NA
Arsenic	0.089		0.010	0.0029	mg/L	1		6010C	Total/NA
Barium	2.1	B	0.020	0.00053	mg/L	1		6010C	Total/NA
Boron	1.1		0.20	0.012	mg/L	1		6010C	Total/NA
Calcium	250		1.0	0.024	mg/L	1		6010C	Total/NA
Cadmium	0.00080	J	0.0050	0.00028	mg/L	1		6010C	Total/NA
Cobalt	0.0066	J	0.010	0.00031	mg/L	1		6010C	Total/NA
Chromium	0.0017	J	0.010	0.0016	mg/L	1		6010C	Total/NA
Iron	13		0.40	0.027	mg/L	1		6010C	Total/NA
Potassium	27		1.0	0.037	mg/L	1		6010C	Total/NA
Magnesium	250		1.0	0.056	mg/L	1		6010C	Total/NA
Manganese	2.7		0.010	0.00036	mg/L	1		6010C	Total/NA
Sodium	2400		20	0.43	mg/L	20		6010C	Total/NA
Nickel	0.0036	J	0.010	0.00080	mg/L	1		6010C	Total/NA
Molybdenum	0.0068	J	0.010	0.00054	mg/L	1		6010C	Total/NA
Zinc	0.031	B	0.030	0.0040	mg/L	1		6010C	Total/NA
Strontium	2.5		0.0050	0.00034	mg/L	1		6010C	Total/NA
Titanium	0.0077	J	0.010	0.00051	mg/L	1		6010C	Total/NA
Arsenic	0.037		0.010	0.0029	mg/L	1		6010C	Dissolved
Boron	1.1		0.20	0.012	mg/L	1		6010C	Dissolved
Barium	1.9	B	0.020	0.00053	mg/L	1		6010C	Dissolved
Calcium	240	B	1.0	0.024	mg/L	1		6010C	Dissolved
Cadmium	0.00080	J	0.0050	0.00028	mg/L	1		6010C	Dissolved
Cobalt	0.0064	J	0.010	0.00031	mg/L	1		6010C	Dissolved
Iron	0.12	J	0.40	0.027	mg/L	1		6010C	Dissolved
Potassium	27		1.0	0.037	mg/L	1		6010C	Dissolved
Magnesium	250		1.0	0.056	mg/L	1		6010C	Dissolved
Manganese	2.6		0.010	0.00036	mg/L	1		6010C	Dissolved
Molybdenum	0.011		0.010	0.00054	mg/L	1		6010C	Dissolved
Sodium	2400	B	20	0.43	mg/L	20		6010C	Dissolved
Nickel	0.0050	J	0.010	0.00080	mg/L	1		6010C	Dissolved
Tin	0.0014	J	0.010	0.00059	mg/L	1		6010C	Dissolved

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: GHD Services Inc.
Job ID: 600-191956-1
Project/Site: San Jacinto River Waste Pits Superfund

Client Sample ID: 11187072-091319-LL-EXC-1 (Continued) — Lab Sample ID: 600-191956-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Strontium	2.4		0.0050	0.00034	mg/L	1		6010C	Dissolved
Titanium	0.0022	J	0.010	0.00051	mg/L	1		6010C	Dissolved
Zinc	0.015	J B	0.030	0.0040	mg/L	1		6010C	Dissolved
Thallium	0.14	J	0.50	0.14	ug/L	1		6020A	Dissolved
Alkalinity	1000		20	20	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	1000		20	20	mg/L	1		2320B-1997	Total/NA
Total Dissolved Solids	8800		100	100	mg/L	1		2540 C-1997	Total/NA
Total Suspended Solids	240		10	10	mg/L	1		2540 D-1997	Total/NA
Ammonia	7.1		0.20	0.067	mg/L	1		350.1	Total/NA
Chemical Oxygen Demand	82		10	2.5	mg/L	1		8000	Total/NA
pH	6.9	HF	0.01	0.01	SU	1		9040B	Total/NA
TOC	24		2.0	1.1	mg/L	2		9060	Total/NA
Phosphorus as P	0.031	J	0.050	0.021	mg/L	1		SM4500 P E-1999	Total/NA
Phosphorus as PO4	0.095	J	0.15	0.065	mg/L	1		SM4500 P E-1999	Total/NA

Client Sample ID: TRIP BLANK — Lab Sample ID: 600-191956-4

No Detections.

Client Sample ID: TRIP BLANK — Lab Sample ID: 600-191956-5

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 600-191956-1

Client Sample ID: 11187072-091319-LL-EXC-1

Lab Sample ID: 600-191956-2

Date Collected: 09/13/19 08:00
Matrix: Water
Date Received: 09/13/19 12:55

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		5.0	0.76	ug/L			09/14/19 14:26	1
1,2-Dichloroethane	ND		5.0	1.0	ug/L			09/14/19 14:26	1
2-Butanone (MEK)	ND		10	1.6	ug/L			09/14/19 14:26	1
Benzene	ND		5.0	0.56	ug/L			09/14/19 14:26	1
Carbon disulfide	ND		10	1.7	ug/L			09/14/19 14:26	1
Carbon tetrachloride	ND		5.0	0.92	ug/L			09/14/19 14:26	1
Chlorobenzene	ND		5.0	0.82	ug/L			09/14/19 14:26	1
m-Xylene & p-Xylene	ND		5.0	1.3	ug/L			09/14/19 14:26	1
o-Xylene	ND		5.0	0.93	ug/L			09/14/19 14:26	1
Trichloroethene	ND		5.0	1.6	ug/L			09/14/19 14:26	1
Vinyl chloride	ND		5.0	0.85	ug/L			09/14/19 14:26	1
Xylenes, Total	ND		5.0	2.0	ug/L			09/14/19 14:26	1
Chloroform	ND		10	0.82	ug/L			09/14/19 14:26	1
1,4-Dichlorobenzene	ND		5.0	0.91	ug/L			09/14/19 14:26	1
Hexachlorobutadiene	ND		5.0	1.2	ug/L			09/14/19 14:26	1
Tetrachloroethene	ND		5.0	1.2	ug/L			09/14/19 14:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*83*		*50 - 134*		*09/14/19 14:26*	*1*
4-Bromofluorobenzene	*100*		*67 - 139*		*09/14/19 14:26*	*1*
Dibromofluoromethane	*81*		*62 - 130*		*09/14/19 14:26*	*1*
Toluene-d8 (Surr)	*77*		*70 - 130*		*09/14/19 14:26*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyridine	ND		10	2.3	ug/L		09/16/19 14:23	09/17/19 15:04	1
2,4,5-Trichlorophenol	ND		10	4.4	ug/L		09/16/19 14:23	09/17/19 15:04	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		09/16/19 14:23	09/17/19 15:04	1
2,4-Dinitrotoluene	ND		10	2.2	ug/L		09/16/19 14:23	09/17/19 15:04	1
2,6-Dinitrotoluene	ND		10	2.9	ug/L		09/16/19 14:23	09/17/19 15:04	1
2-Methylphenol	ND		10	1.5	ug/L		09/16/19 14:23	09/17/19 15:04	1
3 & 4 Methylphenol	ND		21	1.4	ug/L		09/16/19 14:23	09/17/19 15:04	1
Hexachlorobenzene	ND		10	3.4	ug/L		09/16/19 14:23	09/17/19 15:04	1
Hexachlorobutadiene	ND		10	2.7	ug/L		09/16/19 14:23	09/17/19 15:04	1
Hexachloroethane	ND		10	3.4	ug/L		09/16/19 14:23	09/17/19 15:04	1
Nitrobenzene	ND		10	2.7	ug/L		09/16/19 14:23	09/17/19 15:04	1
Pentachlorophenol	ND		52	3.3	ug/L		09/16/19 14:23	09/17/19 15:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*65*		*19 - 150*	*09/16/19 14:23*	*09/17/19 15:04*	*1*
2-Fluorobiphenyl	*61*		*38 - 133*	*09/16/19 14:23*	*09/17/19 15:04*	*1*
2-Fluorophenol (Surr)	*43*		*10 - 130*	*09/16/19 14:23*	*09/17/19 15:04*	*1*
Nitrobenzene-d5 (Surr)	*58*		*24 - 150*	*09/16/19 14:23*	*09/17/19 15:04*	*1*
Phenol-d5 (Surr)	*40*		*10 - 130*	*09/16/19 14:23*	*09/17/19 15:04*	*1*
Terphenyl-d14 (Surr)	*87*		*35 - 150*	*09/16/19 14:23*	*09/17/19 15:04*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-Chlordane	ND		0.10	0.10	ug/L		09/18/19 11:24	09/22/19 21:11	1
Chlordane (technical)	ND		0.21	0.13	ug/L		09/18/19 11:24	09/22/19 21:11	1

Client Sample ID: 11187072-091319-LL-EXC-1 Lab Sample ID: 600-191956-2

Date Collected: 09/13/19 08:00 **Matrix: Water**
Date Received: 09/13/19 12:55

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (trans)	ND		0.10	0.015	ug/L		09/18/19 11:24	09/22/19 21:11	1
Endrin	ND		0.21	0.015	ug/L		09/18/19 11:24	09/22/19 21:11	1
gamma-BHC (Lindane)	ND		0.10	0.013	ug/L		09/18/19 11:24	09/22/19 21:11	1
Heptachlor	ND		0.10	0.013	ug/L		09/18/19 11:24	09/22/19 21:11	1
Heptachlor epoxide	ND		0.10	0.015	ug/L		09/18/19 11:24	09/22/19 21:11	1
Methoxychlor	ND	*	1.0	0.019	ug/L		09/18/19 11:24	09/22/19 21:11	1
Toxaphene	ND		10	5.1	ug/L		09/18/19 11:24	09/22/19 21:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*66*		*36 - 144*	*09/18/19 11:24*	*09/22/19 21:11*	*1*
Tetrachloro-m-xylene	*72*		*32 - 143*	*09/18/19 11:24*	*09/22/19 21:11*	*1*

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		1.0	0.56	ug/L		09/18/19 11:24	09/19/19 22:01	1
PCB-1221	ND		1.0	0.46	ug/L		09/18/19 11:24	09/19/19 22:01	1
PCB-1232	ND		1.0	0.13	ug/L		09/18/19 11:24	09/19/19 22:01	1
PCB-1242	ND		1.0	0.17	ug/L		09/18/19 11:24	09/19/19 22:01	1
PCB-1248	ND		1.0	0.21	ug/L		09/18/19 11:24	09/19/19 22:01	1
PCB-1254	ND		1.0	0.15	ug/L		09/18/19 11:24	09/19/19 22:01	1
PCB-1260	ND		1.0	0.35	ug/L		09/18/19 11:24	09/19/19 22:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*85*		*32 - 150*	*09/18/19 11:24*	*09/19/19 22:01*	*1*
DCB Decachlorobiphenyl	*180*	*X*	*26 - 130*	*09/18/19 11:24*	*09/19/19 22:01*	*1*

Method: 8151 - Herbicides

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	ND		0.20	0.040	ug/L		09/17/19 08:07	09/19/19 11:50	1
Silvex (2,4,5-TP)	ND		0.20	0.020	ug/L		09/17/19 08:07	09/19/19 11:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*101*		*10 - 130*	*09/17/19 08:07*	*09/19/19 11:50*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	**9.9**		0.40	0.10	mg/L			09/13/19 21:14	1
Nitrate as N	ND		0.20	0.025	mg/L			09/13/19 21:14	1
Chloride	**4200**		80	11	mg/L			09/16/19 21:19	200
Nitrite as N	ND		0.20	0.030	mg/L			09/13/19 21:14	1
Sulfate	**6.5**		0.50	0.096	mg/L			09/13/19 21:14	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	**61**		9.8	1.5	pg/L		09/18/19 13:22	09/19/19 22:26	1
1,2,3,7,8-PeCDD	ND		49	1.1	pg/L		09/18/19 13:22	09/19/19 22:26	1
1,2,3,7,8-PeCDF	**11**	**J ***	49	0.99	pg/L		09/18/19 13:22	09/19/19 22:26	1
2,3,4,7,8-PeCDF	**6.2**	**J**	49	1.1	pg/L		09/18/19 13:22	09/19/19 22:26	1
1,2,3,4,7,8-HxCDD	ND		49	0.82	pg/L		09/18/19 13:22	09/19/19 22:26	1
1,2,3,6,7,8-HxCDD	ND	*	49	0.83	pg/L		09/18/19 13:22	09/19/19 22:26	1
1,2,3,7,8,9-HxCDD	ND		49	0.74	pg/L		09/18/19 13:22	09/19/19 22:26	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 600-191956-1

Client Sample ID: 11187072-091319-LL-EXC-1

Date Collected: 09/13/19 08:00
Date Received: 09/13/19 12:55

Lab Sample ID: 600-191956-2

Matrix: Water

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,7,8-HxCDF	**19**	**J**	49	1.2	pg/L		09/18/19 13:22	09/19/19 22:26	1
1,2,3,6,7,8-HxCDF	**5.6**	**J * q**	49	1.0	pg/L		09/18/19 13:22	09/19/19 22:26	1
1,2,3,7,8,9-HxCDF	ND	*	49	0.68	pg/L		09/18/19 13:22	09/19/19 22:26	1
2,3,4,6,7,8-HxCDF	ND		49	0.73	pg/L		09/18/19 13:22	09/19/19 22:26	1
1,2,3,4,6,7,8-HpCDD	**4.1**	**J B**	49	0.68	pg/L		09/18/19 13:22	09/19/19 22:26	1
1,2,3,4,6,7,8-HpCDF	**6.9**	**J * B**	49	0.65	pg/L		09/18/19 13:22	09/19/19 22:26	1
1,2,3,4,7,8,9-HpCDF	**1.8**	**J B**	49	0.78	pg/L		09/18/19 13:22	09/19/19 22:26	1
OCDD	**90**	**J B**	98	1.2	pg/L		09/18/19 13:22	09/19/19 22:26	1
OCDF	**5.8**	**J B**	98	1.4	pg/L		09/18/19 13:22	09/19/19 22:26	1
Total TCDD	**66**	**q**	9.8	1.5	pg/L		09/18/19 13:22	09/19/19 22:26	1
Total TCDF	**390**	**q**	9.8	1.8	pg/L		09/18/19 13:22	09/19/19 22:26	1
Total PeCDD	ND		49	1.1	pg/L		09/18/19 13:22	09/19/19 22:26	1
Total PeCDF	**26**	**J q**	49	1.0	pg/L		09/18/19 13:22	09/19/19 22:26	1
Total HxCDD	ND		49	0.83	pg/L		09/18/19 13:22	09/19/19 22:26	1
Total HxCDF	**25**	**J B q**	49	0.91	pg/L		09/18/19 13:22	09/19/19 22:26	1
Total HpCDD	**10**	**J B**	49	0.68	pg/L		09/18/19 13:22	09/19/19 22:26	1
Total HpCDF	**11**	**J B**	49	0.71	pg/L		09/18/19 13:22	09/19/19 22:26	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*57*		*25 - 164*	*09/18/19 13:22*	*09/19/19 22:26*	*1*
13C-2,3,7,8-TCDF	*58*		*24 - 169*	*09/18/19 13:22*	*09/19/19 22:26*	*1*
13C-1,2,3,7,8-PeCDD	*58*		*25 - 181*	*09/18/19 13:22*	*09/19/19 22:26*	*1*
13C-1,2,3,7,8-PeCDF	*56*		*24 - 185*	*09/18/19 13:22*	*09/19/19 22:26*	*1*
13C-2,3,4,7,8-PeCDF	*57*		*21 - 178*	*09/18/19 13:22*	*09/19/19 22:26*	*1*
13C-1,2,3,4,7,8-HxCDD	*59*		*32 - 141*	*09/18/19 13:22*	*09/19/19 22:26*	*1*
13C-1,2,3,6,7,8-HxCDD	*59*		*28 - 130*	*09/18/19 13:22*	*09/19/19 22:26*	*1*
13C-1,2,3,4,7,8-HxCDF	*57*		*26 - 152*	*09/18/19 13:22*	*09/19/19 22:26*	*1*
13C-1,2,3,6,7,8-HxCDF	*58*		*26 - 123*	*09/18/19 13:22*	*09/19/19 22:26*	*1*
13C-1,2,3,7,8,9-HxCDF	*58*		*29 - 147*	*09/18/19 13:22*	*09/19/19 22:26*	*1*
13C-2,3,4,6,7,8-HxCDF	*56*		*28 - 136*	*09/18/19 13:22*	*09/19/19 22:26*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*56*		*23 - 140*	*09/18/19 13:22*	*09/19/19 22:26*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*55*		*28 - 143*	*09/18/19 13:22*	*09/19/19 22:26*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*60*		*26 - 138*	*09/18/19 13:22*	*09/19/19 22:26*	*1*
13C-OCDD	*53*		*17 - 157*	*09/18/19 13:22*	*09/19/19 22:26*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*94*		*35 - 197*	*09/18/19 13:22*	*09/19/19 22:26*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	**220**		9.8	1.2	pg/L		09/18/19 13:22	09/20/19 12:28	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*64*		*24 - 169*	*09/18/19 13:22*	*09/20/19 12:28*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*100*		*35 - 197*	*09/18/19 13:22*	*09/20/19 12:28*	*1*

Method: 6010C - Inductively Coupled Plasma - Atomic Emission Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.010	0.0013	mg/L		09/17/19 16:24	09/19/19 08:39	1
Arsenic	**0.089**		0.010	0.0029	mg/L		09/17/19 16:24	09/19/19 08:39	1

Client Sample Results

Client: GHD Services Inc. Job ID: 600-191956-1
Project/Site: San Jacinto River Waste Pits Superfund

Client Sample ID: 11187072-091319-LL-EXC-1 Lab Sample ID: 600-191956-2

Date Collected: 09/13/19 08:00 **Matrix: Water**
Date Received: 09/13/19 12:55

Method: 6010C - Inductively Coupled Plasma - Atomic Emission Spectrometry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	2.1	B	0.020	0.00053	mg/L		09/17/19 16:24	09/19/19 08:39	1
Boron	1.1		0.20	0.012	mg/L		09/17/19 16:24	09/19/19 08:39	1
Beryllium	ND		0.0050	0.00042	mg/L		09/17/19 16:24	09/19/19 08:39	1
Calcium	250		1.0	0.024	mg/L		09/17/19 16:24	09/19/19 08:39	1
Cadmium	0.00080	J	0.0050	0.00028	mg/L		09/17/19 16:24	09/19/19 08:39	1
Cobalt	0.0066	J	0.010	0.00031	mg/L		09/17/19 16:24	09/19/19 08:39	1
Chromium	0.0017	J	0.010	0.0016	mg/L		09/17/19 16:24	09/19/19 08:39	1
Copper	ND		0.010	0.0081	mg/L		09/17/19 16:24	09/19/19 08:39	1
Iron	13		0.40	0.027	mg/L		09/17/19 16:24	09/19/19 08:39	1
Potassium	27		1.0	0.037	mg/L		09/17/19 16:24	09/19/19 08:39	1
Magnesium	250		1.0	0.056	mg/L		09/17/19 16:24	09/19/19 08:39	1
Manganese	2.7		0.010	0.00036	mg/L		09/17/19 16:24	09/19/19 08:39	1
Sodium	2400		20	0.43	mg/L		09/17/19 16:24	09/23/19 10:27	20
Nickel	0.0036	J	0.010	0.00080	mg/L		09/17/19 16:24	09/19/19 08:39	1
Lead	ND		0.010	0.0022	mg/L		09/17/19 16:24	09/19/19 08:39	1
Antimony	ND		0.050	0.0039	mg/L		09/17/19 16:24	09/19/19 08:39	1
Selenium	ND		0.040	0.0029	mg/L		09/17/19 16:24	09/24/19 10:09	1
Molybdenum	0.0068	J	0.010	0.00054	mg/L		09/17/19 16:24	09/24/19 10:09	1
Vanadium	ND		0.010	0.00047	mg/L		09/17/19 16:24	09/19/19 08:39	1
Zinc	0.031	B	0.030	0.0040	mg/L		09/17/19 16:24	09/19/19 08:39	1
Tin	ND		0.010	0.00059	mg/L		09/17/19 16:24	09/19/19 08:39	1
Strontium	2.5		0.0050	0.00034	mg/L		09/17/19 16:24	09/19/19 08:39	1
Titanium	0.0077	J	0.010	0.00051	mg/L		09/17/19 16:24	09/19/19 08:39	1

Method: 6010C - Inductively Coupled Plasma - Atomic Emission Spectrometry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.010	0.0013	mg/L		09/19/19 10:01	09/23/19 09:57	1
Arsenic	0.037		0.010	0.0029	mg/L		09/19/19 10:01	09/23/19 09:57	1
Boron	1.1		0.20	0.012	mg/L		09/19/19 10:01	09/23/19 09:57	1
Barium	1.9	B	0.020	0.00053	mg/L		09/19/19 10:01	09/23/19 09:57	1
Beryllium	ND		0.0050	0.00042	mg/L		09/19/19 10:01	09/23/19 09:57	1
Calcium	240	B	1.0	0.024	mg/L		09/19/19 10:01	09/23/19 09:57	1
Cadmium	0.00080	J	0.0050	0.00028	mg/L		09/19/19 10:01	09/23/19 09:57	1
Cobalt	0.0064	J	0.010	0.00031	mg/L		09/19/19 10:01	09/23/19 09:57	1
Chromium	ND		0.010	0.0016	mg/L		09/19/19 10:01	09/23/19 09:57	1
Copper	ND		0.010	0.0081	mg/L		09/19/19 10:01	09/23/19 09:57	1
Iron	0.12	J	0.40	0.027	mg/L		09/19/19 10:01	09/23/19 09:57	1
Potassium	27		1.0	0.037	mg/L		09/19/19 10:01	09/23/19 09:57	1
Magnesium	250		1.0	0.056	mg/L		09/19/19 10:01	09/23/19 09:57	1
Manganese	2.6		0.010	0.00036	mg/L		09/19/19 10:01	09/23/19 09:57	1
Molybdenum	0.011		0.010	0.00054	mg/L		09/19/19 10:01	09/24/19 09:34	1
Sodium	2400	B	20	0.43	mg/L		09/19/19 10:01	09/23/19 12:42	20
Nickel	0.0050	J	0.010	0.00080	mg/L		09/19/19 10:01	09/23/19 09:57	1
Lead	ND		0.010	0.0022	mg/L		09/19/19 10:01	09/23/19 09:57	1
Antimony	ND		0.050	0.0039	mg/L		09/19/19 10:01	09/23/19 09:57	1
Selenium	ND		0.040	0.0029	mg/L		09/19/19 10:01	09/24/19 09:34	1
Tin	0.0014	J	0.010	0.00059	mg/L		09/19/19 10:01	09/23/19 09:57	1
Strontium	2.4		0.0050	0.00034	mg/L		09/19/19 10:01	09/23/19 09:57	1
Titanium	0.0022	J	0.010	0.00051	mg/L		09/19/19 10:01	09/23/19 09:57	1
Vanadium	ND		0.010	0.00047	mg/L		09/19/19 10:01	09/23/19 09:57	1

Client Sample ID: 11187072-091319-LL-EXC-1 Lab Sample ID: 600-191956-2

Date Collected: 09/13/19 08:00 **Matrix: Water**
Date Received: 09/13/19 12:55

Method: 6010C - Inductively Coupled Plasma - Atomic Emission Spectrometry - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	**0.015**	**J B**	0.030	0.0040	mg/L		09/19/19 10:01	09/23/19 09:57	1

Method: 6020A - Inductively Coupled Plasma - Mass Spectrometry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	ND		0.50	0.14	ug/L		09/24/19 08:53	09/25/19 12:20	1

Method: 6020A - Inductively Coupled Plasma - Mass Spectrometry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	**0.14**	**J**	0.50	0.14	ug/L		09/24/19 10:03	09/25/19 12:54	1

Method: 7470A - Mercury in Liquid Waste (Manual Cold Vapor Technique)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.10	ug/L		09/20/19 14:32	09/23/19 13:01	1

Method: 7470A - Mercury in Liquid Waste (Manual Cold Vapor Technique) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.25	0.10	ug/L		09/20/19 14:32	09/23/19 13:03	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**1000**		20	20	mg/L			09/16/19 14:38	1
Bicarbonate Alkalinity as CaCO3	**1000**		20	20	mg/L			09/16/19 14:38	1
Carbonate Alkalinity as CaCO3	ND		20	20	mg/L			09/16/19 14:38	1
Total Dissolved Solids	**8800**		100	100	mg/L			09/16/19 13:50	1
Total Suspended Solids	**240**		10	10	mg/L			09/16/19 08:15	1
Ammonia	**7.1**		0.20	0.067	mg/L		09/17/19 07:21	09/17/19 11:34	1
Sulfide	ND		0.050	0.045	mg/L			09/18/19 09:13	5
Sulfide as H2S	ND		0.053	0.048	mg/L			09/18/19 09:13	5
Biochemical Oxygen Demand	ND		10	10	mg/L			09/13/19 11:00	1
Chemical Oxygen Demand	**82**		10	2.5	mg/L			09/16/19 10:08	1
Ferrous Iron	ND	HF	0.10	0.016	mg/L			09/20/19 12:52	1
Cyanide, Total	ND		10	3.1	ug/L		09/17/19 10:36	09/18/19 20:37	1
pH	**6.9**	**HF**	0.01	0.01	SU			09/17/19 15:27	1
TOC	**24**		2.0	1.1	mg/L			09/17/19 15:18	2
Phosphorus as P	**0.031**	**J**	0.050	0.021	mg/L		09/17/19 03:44	09/17/19 06:51	1
Phosphorus as PO4	**0.095**	**J**	0.15	0.065	mg/L		09/17/19 03:44	09/17/19 06:51	1

Client Sample ID: TRIP BLANK Lab Sample ID: 600-191956-4

Date Collected: 09/13/19 00:00 **Matrix: Water**
Date Received: 09/13/19 12:55

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		5.0	0.76	ug/L			09/16/19 15:09	1
1,2-Dichloroethane	ND		5.0	1.0	ug/L			09/16/19 15:09	1
2-Butanone (MEK)	ND		10	1.6	ug/L			09/16/19 15:09	1
Benzene	ND		5.0	0.56	ug/L			09/16/19 15:09	1
Carbon disulfide	ND		10	1.7	ug/L			09/16/19 15:09	1
Carbon tetrachloride	ND		5.0	0.92	ug/L			09/16/19 15:09	1
Chlorobenzene	ND		5.0	0.82	ug/L			09/16/19 15:09	1
m-Xylene & p-Xylene	ND		5.0	1.3	ug/L			09/16/19 15:09	1

Client Sample ID: TRIP BLANK — Lab Sample ID: 600-191956-4

Date Collected: 09/13/19 00:00 **Matrix: Water**
Date Received: 09/13/19 12:55

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.93	ug/L			09/16/19 15:09	1
Trichloroethene	ND		5.0	1.6	ug/L			09/16/19 15:09	1
Vinyl chloride	ND		5.0	0.85	ug/L			09/16/19 15:09	1
Xylenes, Total	ND		5.0	2.0	ug/L			09/16/19 15:09	1
Chloroform	ND		10	0.82	ug/L			09/16/19 15:09	1
1,4-Dichlorobenzene	ND		5.0	0.91	ug/L			09/16/19 15:09	1
Hexachlorobutadiene	ND		5.0	1.2	ug/L			09/16/19 15:09	1
Tetrachloroethene	ND		5.0	1.2	ug/L			09/16/19 15:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*81*		*50 - 134*		*09/16/19 15:09*	*1*
4-Bromofluorobenzene	*92*		*67 - 139*		*09/16/19 15:09*	*1*
Dibromofluoromethane	*77*		*62 - 130*		*09/16/19 15:09*	*1*
Toluene-d8 (Surr)	*76*		*70 - 130*		*09/16/19 15:09*	*1*

Client Sample ID: TRIP BLANK — Lab Sample ID: 600-191956-5

Date Collected: 09/13/19 00:00 **Matrix: Water**
Date Received: 09/13/19 12:55

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		5.0	0.76	ug/L			09/16/19 15:47	1
1,2-Dichloroethane	ND		5.0	1.0	ug/L			09/16/19 15:47	1
2-Butanone (MEK)	ND		10	1.6	ug/L			09/16/19 15:47	1
Benzene	ND		5.0	0.56	ug/L			09/16/19 15:47	1
Carbon disulfide	ND		10	1.7	ug/L			09/16/19 15:47	1
Carbon tetrachloride	ND		5.0	0.92	ug/L			09/16/19 15:47	1
Chlorobenzene	ND		5.0	0.82	ug/L			09/16/19 15:47	1
m-Xylene & p-Xylene	ND		5.0	1.3	ug/L			09/16/19 15:47	1
o-Xylene	ND		5.0	0.93	ug/L			09/16/19 15:47	1
Trichloroethene	ND		5.0	1.6	ug/L			09/16/19 15:47	1
Vinyl chloride	ND		5.0	0.85	ug/L			09/16/19 15:47	1
Xylenes, Total	ND		5.0	2.0	ug/L			09/16/19 15:47	1
Chloroform	ND		10	0.82	ug/L			09/16/19 15:47	1
1,4-Dichlorobenzene	ND		5.0	0.91	ug/L			09/16/19 15:47	1
Hexachlorobutadiene	ND		5.0	1.2	ug/L			09/16/19 15:47	1
Tetrachloroethene	ND		5.0	1.2	ug/L			09/16/19 15:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*79*		*50 - 134*		*09/16/19 15:47*	*1*
4-Bromofluorobenzene	*94*		*67 - 139*		*09/16/19 15:47*	*1*
Dibromofluoromethane	*77*		*62 - 130*		*09/16/19 15:47*	*1*
Toluene-d8 (Surr)	*77*		*70 - 130*		*09/16/19 15:47*	*1*

Default Detection Limits

Client: GHD Services Inc.
Job ID: 600-191956-1
Project/Site: San Jacinto River Waste Pits Superfund

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	RL	MDL	Units
1,1-Dichloroethene	5.0	0.76	ug/L
1,2-Dichloroethane	5.0	1.0	ug/L
1,4-Dichlorobenzene	5.0	0.91	ug/L
2-Butanone (MEK)	10	1.6	ug/L
Benzene	5.0	0.56	ug/L
Carbon disulfide	10	1.7	ug/L
Carbon tetrachloride	5.0	0.92	ug/L
Chlorobenzene	5.0	0.82	ug/L
Chloroform	10	0.82	ug/L
Hexachlorobutadiene	5.0	1.2	ug/L
m-Xylene & p-Xylene	5.0	1.3	ug/L
o-Xylene	5.0	0.93	ug/L
Tetrachloroethene	5.0	1.2	ug/L
Trichloroethene	5.0	1.6	ug/L
Vinyl chloride	5.0	0.85	ug/L
Xylenes, Total	5.0	2.0	ug/L

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Prep: 3510C LVI

Analyte	RL	MDL	Units
2,4,5-Trichlorophenol	10	4.2	ug/L
2,4,6-Trichlorophenol	10	3.3	ug/L
2,4-Dinitrotoluene	10	2.1	ug/L
2,6-Dinitrotoluene	10	2.8	ug/L
2-Methylphenol	10	1.4	ug/L
3 & 4 Methylphenol	20	1.4	ug/L
Hexachlorobenzene	10	3.3	ug/L
Hexachlorobutadiene	10	2.6	ug/L
Hexachloroethane	10	3.3	ug/L
Nitrobenzene	10	2.6	ug/L
Pentachlorophenol	50	3.2	ug/L
Pyridine	10	2.2	ug/L

Method: 8081B - Organochlorine Pesticides (GC)

Prep: 3510C

Analyte	RL	MDL	Units
Chlordane (technical)	0.10	0.060	ug/L
Chlordane (trans)	0.050	0.0070	ug/L
cis-Chlordane	0.050	0.050	ug/L
Endrin	0.10	0.0070	ug/L
gamma-BHC (Lindane)	0.050	0.0060	ug/L
Heptachlor	0.050	0.0060	ug/L
Heptachlor epoxide	0.050	0.0070	ug/L
Methoxychlor	0.50	0.0090	ug/L
Toxaphene	5.0	2.4	ug/L

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Prep: 3510C

Analyte	RL	MDL	Units
PCB-1016	0.50	0.27	ug/L
PCB-1221	0.50	0.22	ug/L
PCB-1232	0.50	0.060	ug/L

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Prep: 3510C

Analyte	RL	MDL	Units
PCB-1242	0.50	0.080	ug/L
PCB-1248	0.50	0.10	ug/L
PCB-1254	0.50	0.070	ug/L
PCB-1260	0.50	0.17	ug/L

Method: 8151 - Herbicides

Prep: 8151A

Analyte	RL	MDL	Units
2,4-D	0.20	0.040	ug/L
Silvex (2,4,5-TP)	0.20	0.020	ug/L

Method: 300.0 - Anions, Ion Chromatography

Analyte	RL	MDL	Units
Bromide	0.40	0.10	mg/L
Chloride	0.40	0.053	mg/L
Nitrate as N	0.20	0.025	mg/L
Nitrite as N	0.20	0.030	mg/L
Sulfate	0.50	0.096	mg/L

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Prep: 1613B

Analyte	RL		Units
1,2,3,4,6,7,8-HpCDD	50		pg/L
1,2,3,4,6,7,8-HpCDF	50		pg/L
1,2,3,4,7,8,9-HpCDF	50		pg/L
1,2,3,4,7,8-HxCDD	50		pg/L
1,2,3,4,7,8-HxCDF	50		pg/L
1,2,3,6,7,8-HxCDD	50		pg/L
1,2,3,6,7,8-HxCDF	50		pg/L
1,2,3,7,8,9-HxCDD	50		pg/L
1,2,3,7,8,9-HxCDF	50		pg/L
1,2,3,7,8-PeCDD	50		pg/L
1,2,3,7,8-PeCDF	50		pg/L
2,3,4,6,7,8-HxCDF	50		pg/L
2,3,4,7,8-PeCDF	50		pg/L
2,3,7,8-TCDD	10		pg/L
2,3,7,8-TCDF	10		pg/L
OCDD	100		pg/L
OCDF	100		pg/L
Total HpCDD	50		pg/L
Total HpCDF	50		pg/L
Total HxCDD	50		pg/L
Total HxCDF	50		pg/L
Total PeCDD	50		pg/L
Total PeCDF	50		pg/L
Total TCDD	10		pg/L
Total TCDF	10		pg/L

Method: 6010C - Inductively Coupled Plasma - Atomic Emission Spectrometry

Prep: 3010A

Default Detection Limits

Client: GHD Services Inc.
Job ID: 600-191956-1
Project/Site: San Jacinto River Waste Pits Superfund

Method: 6010C - Inductively Coupled Plasma - Atomic Emission Spectrometry

Prep: 3010A

Analyte	RL	MDL	Units
Antimony	0.050	0.0039	mg/L
Arsenic	0.010	0.0029	mg/L
Barium	0.020	0.00053	mg/L
Beryllium	0.0050	0.00042	mg/L
Boron	0.20	0.012	mg/L
Cadmium	0.0050	0.00028	mg/L
Calcium	1.0	0.024	mg/L
Chromium	0.010	0.0016	mg/L
Cobalt	0.010	0.00031	mg/L
Copper	0.010	0.0081	mg/L
Iron	0.40	0.027	mg/L
Lead	0.010	0.0022	mg/L
Magnesium	1.0	0.056	mg/L
Manganese	0.010	0.00036	mg/L
Molybdenum	0.010	0.00054	mg/L
Nickel	0.010	0.00080	mg/L
Potassium	1.0	0.037	mg/L
Selenium	0.040	0.0029	mg/L
Silver	0.010	0.0013	mg/L
Sodium	1.0	0.021	mg/L
Strontium	0.0050	0.00034	mg/L
Tin	0.010	0.00059	mg/L
Titanium	0.010	0.00051	mg/L
Vanadium	0.010	0.00047	mg/L
Zinc	0.030	0.0040	mg/L

Method: 6010C - Inductively Coupled Plasma - Atomic Emission Spectrometry - Dissolved

Prep: 3010A

Analyte	RL	MDL	Units
Antimony	0.050	0.0039	mg/L
Arsenic	0.010	0.0029	mg/L
Barium	0.020	0.00053	mg/L
Beryllium	0.0050	0.00042	mg/L
Boron	0.20	0.012	mg/L
Cadmium	0.0050	0.00028	mg/L
Calcium	1.0	0.024	mg/L
Chromium	0.010	0.0016	mg/L
Cobalt	0.010	0.00031	mg/L
Copper	0.010	0.0081	mg/L
Iron	0.40	0.027	mg/L
Lead	0.010	0.0022	mg/L
Magnesium	1.0	0.056	mg/L
Manganese	0.010	0.00036	mg/L
Molybdenum	0.010	0.00054	mg/L
Nickel	0.010	0.00080	mg/L
Potassium	1.0	0.037	mg/L
Selenium	0.040	0.0029	mg/L
Silver	0.010	0.0013	mg/L
Sodium	1.0	0.021	mg/L
Strontium	0.0050	0.00034	mg/L
Tin	0.010	0.00059	mg/L

Default Detection Limits

Client: GHD Services Inc.
Job ID: 600-191956-1
Project/Site: San Jacinto River Waste Pits Superfund

Method: 6010C - Inductively Coupled Plasma - Atomic Emission Spectrometry - Dissolved (Continu

Prep: 3010A

Analyte	RL	MDL	Units
Titanium	0.010	0.00051	mg/L
Vanadium	0.010	0.00047	mg/L
Zinc	0.030	0.0040	mg/L

Method: 6020A - Inductively Coupled Plasma - Mass Spectrometry

Prep: 3010A

Analyte	RL	MDL	Units
Thallium	0.50	0.14	ug/L

Method: 6020A - Inductively Coupled Plasma - Mass Spectrometry - Dissolved

Prep: 3010A

Analyte	RL	MDL	Units
Thallium	0.50	0.14	ug/L

Method: 7470A - Mercury in Liquid Waste (Manual Cold Vapor Technique)

Prep: 7470A

Analyte	RL	MDL	Units
Mercury	0.20	0.082	ug/L

Method: 7470A - Mercury in Liquid Waste (Manual Cold Vapor Technique) - Dissolved

Prep: 7470A

Analyte	RL	MDL	Units
Mercury	0.20	0.082	ug/L

General Chemistry

Analyte	RL	MDL	Units
Alkalinity	20	20	mg/L
Bicarbonate Alkalinity as CaCO3	20	20	mg/L
Carbonate Alkalinity as CaCO3	20	20	mg/L
Total Dissolved Solids	10	10	mg/L
Total Suspended Solids	2.0	2.0	mg/L
Sulfide	0.010	0.0090	mg/L
Sulfide as H2S	0.011	0.0095	mg/L
Biochemical Oxygen Demand	2.0	2.0	mg/L
Chemical Oxygen Demand	10	2.5	mg/L
Ferrous Iron	0.10	0.016	mg/L
pH	0.01	0.01	SU
TOC	1.0	0.56	mg/L

General Chemistry

Prep: 350.1

Analyte	RL	MDL	Units
Ammonia	0.20	0.067	mg/L

General Chemistry

Prep: 9012B

Analyte	RL	MDL	Units
Cyanide, Total	10	3.1	ug/L

General Chemistry

Default Detection Limits

Client: GHD Services Inc.
Job ID: 600-191956-1
Project/Site: San Jacinto River Waste Pits Superfund

General Chemistry

Prep: SM 4500 P B

Analyte	RL	MDL	Units
Phosphorus as P	0.050	0.021	mg/L
Phosphorus as PO4	0.15	0.065	mg/L

Surrogate Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 600-191956-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(50-134)	(67-139)	(62-130)	(70-130)
600-191956-2	11187072-091319-LL-EXC-1	83	100	81	77
600-191956-4	TRIP BLANK	81	92	77	76
600-191956-5	TRIP BLANK	79	94	77	77
LCS 600-274820/4	Lab Control Sample	113	97	106	90
LCSD 600-274820/5	Lab Control Sample Dup	110	99	102	91
MB 600-274820/7	Method Blank	80	95	80	78

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	PHL	TPHL
Lab Sample ID	Client Sample ID	(19-150)	(38-133)	(10-130)	(24-150)	(10-130)	(35-150)
600-191956-2	11187072-091319-LL-EXC-1	65	61	43	58	40	87

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)
FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPHL = Terphenyl-d14 (Surr)

Method: 8081B - Organochlorine Pesticides (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		DCBP1	TCX1
Lab Sample ID	Client Sample ID	(36-144)	(32-143)
600-191956-2	11187072-091319-LL-EXC-1	66	72

Surrogate Legend

DCBP = DCB Decachlorobiphenyl
TCX = Tetrachloro-m-xylene

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		TCX1	DCBP1
Lab Sample ID	Client Sample ID	(32-150)	(26-130)
600-191956-2	11187072-091319-LL-EXC-1	85	180 X

Surrogate Legend

TCX = Tetrachloro-m-xylene
DCBP = DCB Decachlorobiphenyl

Surrogate Summary

Client: GHD Services Inc.
Job ID: 600-191956-1
Project/Site: San Jacinto River Waste Pits Superfund

Method: 8151 - Herbicides

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	**Client Sample ID**	**DCPAA1 (10-130)**							
600-191956-2	11187072-091319-LL-EXC-1	101							

Surrogate Legend

DCPAA = 2,4-Dichlorophenylacetic acid

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	**Client Sample ID**	**37TCDD (35-197)**							
600-191956-2	11187072-091319-LL-EXC-1	94							
600-191956-2 - RA	11187072-091319-LL-EXC-1	100							

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: GHD Services Inc.
Job ID: 600-191956-1
Project/Site: San Jacinto River Waste Pits Superfund

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water
Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		TCDD	TCDF	PeCDD	PeCDF	PeCF	HxCDD	HxDD	HxCDF
Lab Sample ID	Client Sample ID	(25-164)	(24-169)	(25-181)	(24-185)	(21-178)	(32-141)	(28-130)	(26-152)
600-191956-2	11187072-091319-LL-EXC-1	57	58	58	56	57	59	59	57
600-191956-2 - RA	11187072-091319-LL-EXC-1		64						

		Percent Isotope Dilution Recovery (Acceptance Limits)						
		HxDF	HxCF	13CHxCF	HpCDD	HpCDF	HpCDF2	OCDD
Lab Sample ID	Client Sample ID	(26-123)	(29-147)	(28-136)	(23-140)	(28-143)	(26-138)	(17-157)
600-191956-2	11187072-091319-LL-EXC-1	58	58	56	56	55	60	53
600-191956-2 - RA	11187072-091319-LL-EXC-1							

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 600-274820/7 **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 274820

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		5.0	0.76	ug/L			09/16/19 11:33	1
1,2-Dichloroethane	ND		5.0	1.0	ug/L			09/16/19 11:33	1
2-Butanone (MEK)	ND		10	1.6	ug/L			09/16/19 11:33	1
Benzene	ND		5.0	0.56	ug/L			09/16/19 11:33	1
Carbon disulfide	ND		10	1.7	ug/L			09/16/19 11:33	1
Carbon tetrachloride	ND		5.0	0.92	ug/L			09/16/19 11:33	1
Chlorobenzene	ND		5.0	0.82	ug/L			09/16/19 11:33	1
m-Xylene & p-Xylene	ND		5.0	1.3	ug/L			09/16/19 11:33	1
o-Xylene	ND		5.0	0.93	ug/L			09/16/19 11:33	1
Trichloroethene	ND		5.0	1.6	ug/L			09/16/19 11:33	1
Vinyl chloride	ND		5.0	0.85	ug/L			09/16/19 11:33	1
Xylenes, Total	ND		5.0	2.0	ug/L			09/16/19 11:33	1
Chloroform	ND		10	0.82	ug/L			09/16/19 11:33	1
1,4-Dichlorobenzene	ND		5.0	0.91	ug/L			09/16/19 11:33	1
Hexachlorobutadiene	ND		5.0	1.2	ug/L			09/16/19 11:33	1
Tetrachloroethene	ND		5.0	1.2	ug/L			09/16/19 11:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*80*		*50 - 134*		*09/16/19 11:33*	*1*
4-Bromofluorobenzene	*95*		*67 - 139*		*09/16/19 11:33*	*1*
Dibromofluoromethane	*80*		*62 - 130*		*09/16/19 11:33*	*1*
Toluene-d8 (Surr)	*78*		*70 - 130*		*09/16/19 11:33*	*1*

Lab Sample ID: LCS 600-274820/4 **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 274820

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	50.0	61.0		ug/L		122	67 - 134
1,2-Dichloroethane	50.0	59.7		ug/L		119	62 - 144
2-Butanone (MEK)	100	118		ug/L		118	34 - 140
Benzene	50.0	56.9		ug/L		114	70 - 131
Carbon disulfide	50.0	57.4		ug/L		115	60 - 146
Carbon tetrachloride	50.0	53.1		ug/L		106	68 - 140
Chlorobenzene	50.0	44.3		ug/L		89	70 - 130
m-Xylene & p-Xylene	50.0	47.4		ug/L		95	70 - 130
o-Xylene	50.0	44.3		ug/L		89	69 - 130
Trichloroethene	50.0	48.6		ug/L		97	70 - 130
Vinyl chloride	50.0	54.8		ug/L		110	55 - 150
Xylenes, Total	100	91.7		ug/L		92	70 - 130
Chloroform	50.0	56.7		ug/L		113	70 - 131
1,4-Dichlorobenzene	50.0	47.0		ug/L		94	70 - 130
Hexachlorobutadiene	50.0	54.6		ug/L		109	31 - 150
Tetrachloroethene	50.0	46.9		ug/L		94	57 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*113*		*50 - 134*
4-Bromofluorobenzene	*97*		*67 - 139*

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 600-274820/4 **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 274820

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Dibromofluoromethane	*106*		*62 - 130*
Toluene-d8 (Surr)	*90*		*70 - 130*

Lab Sample ID: LCSD 600-274820/5 **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 274820

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	50.0	51.5		ug/L		103	67 - 134	17	20
1,2-Dichloroethane	50.0	56.0		ug/L		112	62 - 144	6	20
2-Butanone (MEK)	100	106		ug/L		106	34 - 140	11	20
Benzene	50.0	54.7		ug/L		109	70 - 131	4	20
Carbon disulfide	50.0	53.3		ug/L		107	60 - 146	8	20
Carbon tetrachloride	50.0	49.9		ug/L		100	68 - 140	6	20
Chlorobenzene	50.0	44.8		ug/L		90	70 - 130	1	20
m-Xylene & p-Xylene	50.0	47.9		ug/L		96	70 - 130	1	20
o-Xylene	50.0	45.4		ug/L		91	69 - 130	3	20
Trichloroethene	50.0	47.5		ug/L		95	70 - 130	2	20
Vinyl chloride	50.0	49.2		ug/L		98	55 - 150	11	20
Xylenes, Total	100	93.3		ug/L		93	70 - 130	2	20
Chloroform	50.0	54.8		ug/L		110	70 - 131	3	20
1,4-Dichlorobenzene	50.0	48.3		ug/L		97	70 - 130	3	20
Hexachlorobutadiene	50.0	63.4		ug/L		127	31 - 150	15	20
Tetrachloroethene	50.0	49.7		ug/L		99	57 - 130	6	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	*110*		*50 - 134*
4-Bromofluorobenzene	*99*		*67 - 139*
Dibromofluoromethane	*102*		*62 - 130*
Toluene-d8 (Surr)	*91*		*70 - 130*

Method: 6010C - Inductively Coupled Plasma - Atomic Emission Spectrometry

Lab Sample ID: MB 600-275026/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 275405 **Prep Batch: 275026**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	ND		1.0	0.021	mg/L		09/17/19 16:24	09/23/19 10:13	1

Lab Sample ID: LCS 600-275026/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 275405 **Prep Batch: 275026**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sodium	10.0	10.3		mg/L		103	80 - 120

QC Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 600-191956-1

Method: 8146 - Ferrous Iron

Lab Sample ID: MB 600-275313/9 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275313

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ferrous Iron	ND		0.10	0.016	mg/L			09/20/19 12:52	1

Lab Sample ID: LCS 600-275313/10 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275313

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ferrous Iron	0.500	0.537		mg/L		107	90 - 110

Lab Sample ID: 600-191956-2 MS — **Client Sample ID: 11187072-091319-LL-EXC-1**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275313

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ferrous Iron	ND	HF	0.500	0.595		mg/L		119	75 - 125

Lab Sample ID: 600-191956-2 MSD — **Client Sample ID: 11187072-091319-LL-EXC-1**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275313

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ferrous Iron	ND	HF	0.500	0.609		mg/L		122	75 - 125	2	20

Method: 9060 - Total Organic Carbon

Lab Sample ID: MB 600-275040/5 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275040

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC	ND		1.0	0.56	mg/L			09/17/19 11:03	1

Lab Sample ID: LCS 600-275040/6 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 275040

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
TOC	10.0	10.7		mg/L		107	85 - 115

QC Association Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 600-191956-1

GC/MS VOA

Analysis Batch: 274776

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Total/NA	Water	8260C	

Analysis Batch: 274820

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-4	TRIP BLANK	Total/NA	Water	8260C	
600-191956-5	TRIP BLANK	Total/NA	Water	8260C	
MB 600-274820/7	Method Blank	Total/NA	Water	8260C	
LCS 600-274820/4	Lab Control Sample	Total/NA	Water	8260C	
LCSD 600-274820/5	Lab Control Sample Dup	Total/NA	Water	8260C	

GC/MS Semi VOA

Prep Batch: 274889

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Total/NA	Water	3510C LVI	

Analysis Batch: 274919

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Total/NA	Water	8270D	274889

GC Semi VOA

Prep Batch: 274931

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Total/NA	Water	8151A	

Prep Batch: 275087

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Total/NA	Water	3510C	

Analysis Batch: 275199

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Total/NA	Water	8151	274931

Analysis Batch: 275246

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Total/NA	Water	8082	275087

Analysis Batch: 275356

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Total/NA	Water	8081B	275087

HPLC/IC

Analysis Batch: 274705

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Total/NA	Water	300.0	

Analysis Batch: 274706

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Total/NA	Water	300.0	

QC Association Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 600-191956-1

HPLC/IC

Analysis Batch: 274863

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Total/NA	Water	300.0	

Specialty Organics

Prep Batch: 324498

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Total/NA	Water	1613B	
600-191956-2 - RA	11187072-091319-LL-EXC-1	Total/NA	Water	1613B	

Analysis Batch: 324876

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Total/NA	Water	1613B	324498

Analysis Batch: 325151

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2 - RA	11187072-091319-LL-EXC-1	Total/NA	Water	1613B	324498

Metals

Prep Batch: 275026

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Total/NA	Water	3010A	
MB 600-275026/1-A	Method Blank	Total/NA	Water	3010A	
LCS 600-275026/2-A	Lab Control Sample	Total/NA	Water	3010A	

Filtration Batch: 275139

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Dissolved	Water	FILTRATION	

Prep Batch: 275211

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Dissolved	Water	3010A	275139

Analysis Batch: 275213

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Total/NA	Water	6010C	275026

Prep Batch: 275328

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Dissolved	Water	7470A	275139
600-191956-2	11187072-091319-LL-EXC-1	Total/NA	Water	7470A	

Analysis Batch: 275405

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Dissolved	Water	6010C	275211
600-191956-2	11187072-091319-LL-EXC-1	Dissolved	Water	6010C	275211
600-191956-2	11187072-091319-LL-EXC-1	Total/NA	Water	6010C	275026
MB 600-275026/1-A	Method Blank	Total/NA	Water	6010C	275026
LCS 600-275026/2-A	Lab Control Sample	Total/NA	Water	6010C	275026

QC Association Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 600-191956-1

Metals

Analysis Batch: 275463

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Dissolved	Water	7470A	275328
600-191956-2	11187072-091319-LL-EXC-1	Total/NA	Water	7470A	275328

Prep Batch: 275511

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Dissolved	Water	3010A	275519
600-191956-2	11187072-091319-LL-EXC-1	Total/NA	Water	3010A	

Filtration Batch: 275519

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Dissolved	Water	FILTRATION	

Analysis Batch: 275538

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Dissolved	Water	6010C	275211
600-191956-2	11187072-091319-LL-EXC-1	Total/NA	Water	6010C	275026

Analysis Batch: 275654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Dissolved	Water	6020A	275511
600-191956-2	11187072-091319-LL-EXC-1	Total/NA	Water	6020A	275511

General Chemistry

Analysis Batch: 274757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Total/NA	Water	5210B	

Analysis Batch: 274836

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Total/NA	Water	8000	

Analysis Batch: 274874

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Total/NA	Water	2540 D-1997	

Analysis Batch: 274884

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Total/NA	Water	2540 C-1997	

Analysis Batch: 274896

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Total/NA	Water	2320B-1997	

Prep Batch: 274916

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Total/NA	Water	SM 4500 P B	

Analysis Batch: 274925

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Total/NA	Water	SM4500 P E-1999	274916

QC Association Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 600-191956-1

General Chemistry

Prep Batch: 274926

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Total/NA	Water	350.1	

Prep Batch: 274977

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Total/NA	Water	9012B	

Analysis Batch: 274993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Total/NA	Water	350.1	274926

Analysis Batch: 275028

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Total/NA	Water	9040B	

Analysis Batch: 275040

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Total/NA	Water	9060	
MB 600-275040/5	Method Blank	Total/NA	Water	9060	
LCS 600-275040/6	Lab Control Sample	Total/NA	Water	9060	

Analysis Batch: 275067

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Total/NA	Water	4500 S2 D-2000	

Analysis Batch: 275153

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Total/NA	Water	9012B	274977

Analysis Batch: 275313

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Total/NA	Water	8146	
MB 600-275313/9	Method Blank	Total/NA	Water	8146	
LCS 600-275313/10	Lab Control Sample	Total/NA	Water	8146	
600-191956-2 MS	11187072-091319-LL-EXC-1	Total/NA	Water	8146	
600-191956-2 MSD	11187072-091319-LL-EXC-1	Total/NA	Water	8146	

Lab Chronicle

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 600-191956-1

Client Sample ID: 11187072-091319-LL-EXC-1

Date Collected: 09/13/19 08:00
Date Received: 09/13/19 12:55

Lab Sample ID: 600-191956-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	274776	09/14/19 14:26	PXS	TAL HOU
Total/NA	Prep	3510C LVI			274889	09/16/19 14:23	ARS	TAL HOU
Total/NA	Analysis	8270D		1	274919	09/17/19 15:04	TTD	TAL HOU
Total/NA	Prep	3510C			275087	09/18/19 11:24	LER	TAL HOU
Total/NA	Analysis	8081B		1	275356	09/22/19 21:11	JAL	TAL HOU
Total/NA	Prep	3510C			275087	09/18/19 11:24	LER	TAL HOU
Total/NA	Analysis	8082		1	275246	09/19/19 22:01	JAL	TAL HOU
Total/NA	Prep	8151A			274931	09/17/19 08:07	LER	TAL HOU
Total/NA	Analysis	8151		1	275199	09/19/19 11:50	JAL	TAL HOU
Total/NA	Analysis	300.0		1	274705	09/13/19 21:14	SKR	TAL HOU
Total/NA	Analysis	300.0		1	274706	09/13/19 21:14	SKR	TAL HOU
Total/NA	Analysis	300.0		200	274863	09/16/19 21:19	SKR	TAL HOU
Total/NA	Prep	1613B			324498	09/18/19 13:22	NR	TAL SAC
Total/NA	Analysis	1613B		1	324876	09/19/19 22:26	KSS	TAL SAC
Total/NA	Prep	1613B	RA		324498	09/18/19 13:22	NR	TAL SAC
Total/NA	Analysis	1613B	RA	1	325151	09/20/19 12:28	ALM	TAL SAC
Dissolved	Filtration	FILTRATION			275139	09/18/19 15:46	CLD	TAL HOU
Dissolved	Prep	3010A			275211	09/19/19 10:01	CLD	TAL HOU
Dissolved	Analysis	6010C		1	275405	09/23/19 09:57	KP1	TAL HOU
Dissolved	Filtration	FILTRATION			275139	09/18/19 15:46	CLD	TAL HOU
Dissolved	Prep	3010A			275211	09/19/19 10:01	CLD	TAL HOU
Dissolved	Analysis	6010C		20	275405	09/23/19 12:42	KP1	TAL HOU
Dissolved	Filtration	FILTRATION			275139	09/18/19 15:46	CLD	TAL HOU
Dissolved	Prep	3010A			275211	09/19/19 10:01	CLD	TAL HOU
Dissolved	Analysis	6010C		1	275538	09/24/19 09:34	KP1	TAL HOU
Total/NA	Prep	3010A			275026	09/17/19 16:24	PQJ	TAL HOU
Total/NA	Analysis	6010C		1	275213	09/19/19 08:39	KP1	TAL HOU
Total/NA	Prep	3010A			275026	09/17/19 16:24	PQJ	TAL HOU
Total/NA	Analysis	6010C		20	275405	09/23/19 10:27	KP1	TAL HOU
Total/NA	Prep	3010A			275026	09/17/19 16:24	PQJ	TAL HOU
Total/NA	Analysis	6010C		1	275538	09/24/19 10:09	KP1	TAL HOU
Dissolved	Filtration	FILTRATION			275519	09/24/19 09:10	DCL	TAL HOU
Dissolved	Prep	3010A			275511	09/24/19 10:03	DCL	TAL HOU
Dissolved	Analysis	6020A		1	275654	09/25/19 12:54	DCL	TAL HOU
Total/NA	Prep	3010A			275511	09/24/19 08:53	DCL	TAL HOU
Total/NA	Analysis	6020A		1	275654	09/25/19 12:20	DCL	TAL HOU
Dissolved	Filtration	FILTRATION			275139	09/18/19 15:46	CLD	TAL HOU
Dissolved	Prep	7470A			275328	09/20/19 14:32	SOT	TAL HOU
Dissolved	Analysis	7470A		1	275463	09/23/19 13:03	SOT	TAL HOU
Total/NA	Prep	7470A			275328	09/20/19 14:32	SOT	TAL HOU
Total/NA	Analysis	7470A		1	275463	09/23/19 13:01	SOT	TAL HOU
Total/NA	Analysis	2320B-1997		1	274896	09/16/19 14:38	DTN	TAL HOU
Total/NA	Analysis	2540 C-1997		1	274884	09/16/19 13:50	TNL	TAL HOU
Total/NA	Analysis	2540 D-1997		1	274874	09/16/19 08:15	TNL	TAL HOU

Lab Chronicle

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 600-191956-1

Client Sample ID: 11187072-091319-LL-EXC-1

Lab Sample ID: 600-191956-2

Date Collected: 09/13/19 08:00
Date Received: 09/13/19 12:55

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	350.1			274926	09/17/19 07:21	SC1	TAL HOU
Total/NA	Analysis	350.1		1	274993	09/17/19 11:34	SC1	TAL HOU
Total/NA	Analysis	4500 S2 D-2000		5	275067	09/18/19 09:13	DTN	TAL HOU
Total/NA	Analysis	5210B		1	274757		YHX	TAL HOU
					(Start)	09/13/19 11:00		
					(End)	09/18/19 00:00		
Total/NA	Analysis	8000		1	274836	09/16/19 10:08	DTN	TAL HOU
Total/NA	Analysis	8146		1	275313	09/20/19 12:52	KRD	TAL HOU
Total/NA	Prep	9012B			274977	09/17/19 10:36	AML	TAL HOU
Total/NA	Analysis	9012B		1	275153	09/18/19 20:37	AML	TAL HOU
Total/NA	Analysis	9040B		1	275028	09/17/19 15:27	KRD	TAL HOU
Total/NA	Analysis	9060		2	275040	09/17/19 15:18	KLR	TAL HOU
Total/NA	Prep	SM 4500 P B			274916	09/17/19 03:44	SC1	TAL HOU
Total/NA	Analysis	SM4500 P E-1999		1	274925	09/17/19 06:51	SC1	TAL HOU

Client Sample ID: TRIP BLANK

Lab Sample ID: 600-191956-4

Date Collected: 09/13/19 00:00
Date Received: 09/13/19 12:55

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	274820	09/16/19 15:09	PXS	TAL HOU

Client Sample ID: TRIP BLANK

Lab Sample ID: 600-191956-5

Date Collected: 09/13/19 00:00
Date Received: 09/13/19 12:55

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	274820	09/16/19 15:47	PXS	TAL HOU

Laboratory References:

TAL HOU = Eurofins TestAmerica, Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GHD Services Inc. Job ID: 600-191956-1
Project/Site: San Jacinto River Waste Pits Superfund

Laboratory: Eurofins TestAmerica, Houston

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704223-19-25	10-31-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
2320B-1997		Water	Bicarbonate Alkalinity as CaCO3
2320B-1997		Water	Carbonate Alkalinity as CaCO3
4500 S2 D-2000		Water	Sulfide as H2S
8146		Water	Ferrous Iron
SM4500 P E-1999	SM 4500 P B	Water	Phosphorus as PO4

Laboratory: Eurofins TestAmerica, Pittsburgh

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704528-15-2	03-31-20

Laboratory: Eurofins TestAmerica, Sacramento

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704399	05-31-20

Method Summary

Client: GHD Services Inc.
Job ID: 600-191956-1
Project/Site: San Jacinto River Waste Pits Superfund

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL HOU
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL HOU
8081B	Organochlorine Pesticides (GC)	SW846	TAL HOU
8082	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL HOU
8151	Herbicides	SW846	TAL HOU
300.0	Anions, Ion Chromatography	MCAWW	TAL HOU
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	TAL SAC
TEQ	Total TEQ Calculation	TAL SOP	TAL SAC
6010C	Inductively Coupled Plasma - Atomic Emission Spectrometry	SW846	TAL HOU
6020A	Inductively Coupled Plasma - Mass Spectrometry	SW846	TAL HOU
7470A	Mercury in Liquid Waste (Manual Cold Vapor Technique)	SW846	TAL HOU
2320B-1997	Alkalinity, Total - SM Online, 2011	SM-Online	TAL HOU
2540 C-1997	Total Dissolved Solids (Dried at 180 °C)	SM	TAL HOU
2540 D-1997	Solids, Total Suspended (TSS) - SM Online, 2011	SM-Online	TAL HOU
350.1	Nitrogen, Ammonia	MCAWW	TAL HOU
4500 S2 D-2000	Sulfide, Total	SM	TAL HOU
5210B	BOD-5	SM20	TAL HOU
8000	Chemical Oxygen Demand (COD) Colorimetric	Hach	TAL HOU
8146	Ferrous Iron	Hach	TAL HOU
9012B	Cyanide, Total andor Amenable	SW846	TAL HOU
9040B	pH	SW846	TAL HOU
9060	Total Organic Carbon	SW846	TAL HOU
SM4500 P E-1999	Phosphorus	SM	TAL HOU
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	TAL SAC
3010A	Acid Digestion of Aqueous Samples and Extracts for Total Metals	SW846	TAL HOU
350.1	Distillation, Ammonia	EPA	TAL HOU
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL HOU
3510C LVI	Liquid-Liquid Extraction (Separatory Funnel) LVI	SW846	TAL HOU
5030C	Purge and Trap	SW846	TAL HOU
7470A	Mercury in Liquid Waste (Manual Cold Vapor Technique)/Preparation	SW846	TAL HOU
8151A	Chlorinated Herbicides by GC - Aqueous Prep	SW846	TAL HOU
9012B	Cyanide, Total and/or Amenable, Distillation	SW846	TAL HOU
FILTRATION	Sample Filtration	None	TAL HOU
SM 4500 P B	Sample Preparation for Total and Ortho Phosphorus	SM	TAL HOU

Protocol References:

EPA = US Environmental Protection Agency
Hach = Hach Company
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
None = None
SM = "Standard Methods For The Examination Of Water And Wastewater"
SM20 = "Standard Methods For The Examination Of Water And Wastewater", 20th Edition."
SM-Online = Standard Methods Online
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

TAL HOU = Eurofins TestAmerica, Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444
TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GHD Services Inc.
Job ID: 600-191956-1
Project/Site: San Jacinto River Waste Pits Superfund

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
600-191956-2	11187072-091319-LL-EXC-1	Water	09/13/19 08:00	09/13/19 12:55	
600-191956-4	TRIP BLANK	Water	09/13/19 00:00	09/13/19 12:55	
600-191956-5	TRIP BLANK	Water	09/13/19 00:00	09/13/19 12:55	

Quantitation Limit Exceptions Summary

Client: GHD Services Inc. Job ID: 600-191956-1
Project/Site: San Jacinto River Waste Pits Superfund

The requested project specific reporting limits listed below were less than laboratory standard quantitation limits (PQL) but greater than or equal to the laboratory method detection limits (MDL). It must be noted that results reported below lab standard quantitation limits may result in false positive/false negative values and less accurate quantitation. Routine laboratory procedures do not indicate corrective action for detections below the laboratory's PQL.

Method	Analyte	Matrix	Prep Type	Unit	Client RL	Lab PQL
SM4500 P E-1999	Phosphorus as PO4	Water	Total/NA	mg/L	0.15	0.154

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-191956-1

SDG No.:

Instrument ID: CHVOAMS10 Analysis Batch Number: 273322

Lab Sample ID: IC 600-273322/4 Client Sample ID:

Date Analyzed: 08/29/19 13:40 Lab File ID: T41002.D GC Column: DB-VRX 60 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dichlorodifluoromethane	3.86	Assign Peak	tengd	08/29/19 14:39
Chloromethane	4.12	Assign Peak	tengd	08/29/19 14:40
Vinyl chloride	4.33	Assign Peak	tengd	08/29/19 14:40
Butadiene	4.40	Assign Peak	tengd	08/29/19 14:40
Ethylene oxide	4.67	Baseline	tengd	08/29/19 16:50
Chloroethane	4.94	Assign Peak	tengd	08/29/19 14:40
1,1,2-Trichloro-1,2,2-trifluoroethane	6.05	Assign Peak	tengd	08/29/19 14:41
Methylene Chloride	6.05	Assign Peak	tengd	08/29/19 14:41
Methyl-tert-butyl Ether (MTBE)	6.64	Assign Peak	tengd	08/29/19 14:42
Isopropyl ether	7.06	Assign Peak	tengd	08/29/19 14:42
Ethyl acetate	7.31	Assign Peak	tengd	08/29/19 14:39
n-Heptane	8.61	Assign Peak	tengd	08/29/19 16:55
Methylcyclohexane	9.18	Assign Peak	tengd	08/29/19 16:56
Tetrachloroethene	10.72	Assign Peak	tengd	08/29/19 16:56
Benzyl chloride	13.97	Assign Peak	tengd	08/29/19 14:39
Hexachlorobutadiene	16.62	Assign Peak	tengd	08/29/19 14:39

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-191956-1

SDG No.:

Instrument ID: CHVOAMS10 Analysis Batch Number: 273322

Lab Sample ID: IC 600-273322/5 Client Sample ID:

Date Analyzed: 08/29/19 14:11 Lab File ID: T41003.D GC Column: DB-VRX 60 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dichlorodifluoromethane	3.86	Assign Peak	tengd	08/29/19 14:38
Vinyl chloride	4.32	Assign Peak	tengd	08/29/19 14:38
Bromomethane	4.77	Assign Peak	tengd	08/29/19 14:34
Chloroethane	4.91	Assign Peak	tengd	08/29/19 14:38
Trichlorofluoromethane	5.44	Assign Peak	tengd	08/29/19 14:34
1,1-Dichloroethene	5.92	Assign Peak	tengd	08/29/19 14:34
Iodomethane	6.00	Assign Peak	tengd	08/29/19 14:35
1,1,2-Trichloro-1,2,2-trifluoroethane	6.04	Assign Peak	tengd	08/29/19 14:38
Methylene Chloride	6.06	Assign Peak	tengd	08/29/19 14:38
trans-1,2-Dichloroethene	6.57	Assign Peak	tengd	08/29/19 14:36
Isopropyl ether	7.06	Assign Peak	tengd	08/29/19 14:39
Ethyl acetate	7.31	Assign Peak	tengd	08/29/19 15:38
2,2-Dichloropropane	7.44	Assign Peak	tengd	08/29/19 14:36
1,2,3-Trichloropropane	12.41	Assign Peak	tengd	08/29/19 14:37
Benzyl chloride	13.97	Assign Peak	tengd	08/29/19 14:37
Hexachlorobutadiene	16.62	Assign Peak	tengd	08/29/19 14:39

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-191956-1

SDG No.:

Instrument ID: CHVOAMS10 Analysis Batch Number: 273322

Lab Sample ID: IC 600-273322/6 Client Sample ID:

Date Analyzed: 08/29/19 14:40 Lab File ID: T41004.D GC Column: DB-VRX 60 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloromethane	4.13	Assign Peak	tengd	08/29/19 15:37
Vinyl chloride	4.32	Assign Peak	tengd	08/29/19 15:37
Bromomethane	4.76	Assign Peak	tengd	08/29/19 15:37
Chloroethane	4.92	Assign Peak	tengd	08/29/19 15:37
Dichlorofluoromethane	4.95	Assign Peak	tengd	08/29/19 15:37
Trichlorofluoromethane	5.43	Incomplete Integration	tengd	08/29/19 16:52
1,1-Dichloroethene	5.92	Assign Peak	tengd	08/29/19 15:37
1,1,2-Trichloro-1,2,2-trifluoroethane	6.04	Incomplete Integration	tengd	08/29/19 16:54
Methylene Chloride	6.07	Assign Peak	tengd	08/29/19 15:37
Ethyl acetate	7.31	Assign Peak	tengd	08/29/19 15:37
Benzyl chloride	13.97	Assign Peak	tengd	08/29/19 15:36

Lab Sample ID: ICIS 600-273322/7 Client Sample ID:

Date Analyzed: 08/29/19 15:10 Lab File ID: T41005.D GC Column: DB-VRX 60 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromomethane	4.78	Assign Peak	tengd	08/29/19 15:34
Chloroethane	4.91	Assign Peak	tengd	08/29/19 15:35
Trichlorofluoromethane	5.44	Incomplete Integration	tengd	08/29/19 16:52
Iodomethane	5.99	Assign Peak	tengd	08/29/19 15:35
1,1,2-Trichloro-1,2,2-trifluoroethane	6.04	Incomplete Integration	tengd	08/29/19 16:53
Ethyl acetate	7.30	Assign Peak	tengd	08/29/19 15:35
1,2,3-Trichloropropane	12.41	Assign Peak	tengd	08/29/19 15:35
Benzyl chloride	13.97	Assign Peak	tengd	08/29/19 15:35
Hexachlorobutadiene	16.62	Assign Peak	tengd	08/29/19 15:35

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-191956-1

SDG No.:

Instrument ID: CHVOAMS10 Analysis Batch Number: 273322

Lab Sample ID: IC 600-273322/8 Client Sample ID:

Date Analyzed: 08/29/19 15:40 Lab File ID: T41006.D GC Column: DB-VRX 60 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dichlorodifluoromethane	3.86	Assign Peak	tengd	08/29/19 16:04
Chloromethane	4.12	Assign Peak	tengd	08/29/19 16:04
Butadiene	4.43	Baseline	tengd	08/29/19 16:49
Bromomethane	4.78	Assign Peak	tengd	08/29/19 16:04
Chloroethane	4.92	Assign Peak	tengd	08/29/19 16:04
Iodomethane	5.99	Assign Peak	tengd	08/29/19 16:04
Methylene Chloride	6.06	Assign Peak	tengd	08/29/19 16:04
Carbon disulfide	6.27	Assign Peak	tengd	08/29/19 16:04

Lab Sample ID: IC 600-273322/9 Client Sample ID:

Date Analyzed: 08/29/19 16:10 Lab File ID: T41007.D GC Column: DB-VRX 60 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dichlorodifluoromethane	3.86	Assign Peak	tengd	08/29/19 16:47
Chloromethane	4.12	Assign Peak	tengd	08/29/19 16:47
Chloroethane	4.91	Assign Peak	tengd	08/29/19 16:47
Trichlorofluoromethane	5.44	Assign Peak	tengd	08/29/19 16:47
Isopropyl ether	7.06	Assign Peak	tengd	08/29/19 16:47

Lab Sample ID: ICV 600-273322/1013 Client Sample ID:

Date Analyzed: 08/29/19 18:09 Lab File ID: T41011-ICV.d GC Column: DB-VRX 60 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	5.43	Assign Peak	tengd	08/29/19 18:29
Isopropyl ether	7.06	Assign Peak	tengd	08/29/19 18:29

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-191956-1

SDG No.:

Instrument ID: CHVOAMS10 Analysis Batch Number: 274776

Lab Sample ID: 600-191956-2 Client Sample ID: 11187072-091319-LL-EXC-1

Date Analyzed: 09/14/19 14:26 Lab File ID: T25712.D GC Column: DB-VRX 60 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon disulfide		Invalid Compound ID	somjitp	09/16/19 09:04

8260C

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-191956-1

SDG No.:

Instrument ID: CHVOAMS10 Analysis Batch Number: 274820

Lab Sample ID: CCVIS 600-274820/3 Client Sample ID:

Date Analyzed: 09/16/19 09:48 Lab File ID: T25901.D GC Column: DB-VRX 60 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloroethane	4.91	Assign Peak	tengd	09/16/19 10:08
1,1-Dichloroethene	5.92	Assign Peak	tengd	09/16/19 10:08
Hexachlorobutadiene	16.62	Assign Peak	tengd	09/16/19 10:09

Lab Sample ID: LCS 600-274820/4 Client Sample ID:

Date Analyzed: 09/16/19 10:14 Lab File ID: T25901A.D GC Column: DB-VRX 60 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,1-Dichloroethene	5.91	Incomplete Integration	tengd	09/16/19 10:50

Lab Sample ID: 600-191956-5 Client Sample ID: TRIP BLANK

Date Analyzed: 09/16/19 15:47 Lab File ID: T25913.D GC Column: DB-VRX 60 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2-Butanone (MEK)		Invalid Compound ID	somjitp	09/17/19 08:48

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-191956-1

SDG No.:

Instrument ID: CHSVMS09 Analysis Batch Number: 271015

Lab Sample ID: IC 600-271015/4 Client Sample ID:

Date Analyzed: 08/02/19 09:43 Lab File ID: 08021904.D GC Column: RXi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,3-Dinitrobenzene	8.36	Peak assignment corrected	dangt	08/02/19 10:28
4-Nitrophenol	8.74	Peak assignment corrected	dangt	08/02/19 10:28
2,3,4,6-Tetrachlorophenol	8.85	Peak assignment corrected	dangt	08/02/19 10:28
4-Nitroaniline	9.04	Peak assignment corrected	dangt	08/02/19 10:28
4-Bromophenyl phenyl ether	9.41	Assign Peak	dangt	08/02/19 10:29
Hexachlorobenzene	9.47	Peak assignment corrected	dangt	08/02/19 10:28
Di-n-butyl phthalate	10.24	Assign Peak	dangt	08/02/19 10:29
Benzo[b]fluoranthene	14.01	Peak assignment corrected	dangt	08/02/19 10:28
Benzo[k]fluoranthene	14.07	Assign Peak	dangt	08/02/19 10:29
Benzo[a]pyrene	14.75	Peak assignment corrected	dangt	08/02/19 10:28
Perylene-d12 (IS)	14.90	Peak assignment corrected	dangt	08/02/19 10:28
Indeno[1,2,3-cd]pyrene	17.10	Assign Peak	dangt	08/02/19 10:29
Dibenz(a,h)anthracene	17.17	Assign Peak	dangt	08/02/19 10:29
Benzo[g,h,i]perylene	17.71	Assign Peak	dangt	08/02/19 10:29

Lab Sample ID: IC 600-271015/5 Client Sample ID:

Date Analyzed: 08/02/19 10:10 Lab File ID: 08021905.D GC Column: RXi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Hexachlorobutadiene	7.23	Baseline	somjitp	08/05/19 11:05
Hexachlorocyclopentadiene	7.84	Baseline	somjitp	08/05/19 11:05
4-Bromophenyl phenyl ether	9.40	Baseline	somjitp	08/05/19 11:04
Hexachlorobenzene	9.47	Baseline	somjitp	08/05/19 11:04
Anthracene	9.84	Baseline	somjitp	08/05/19 11:04
Indeno[1,2,3-cd]pyrene	17.10	Baseline	somjitp	08/05/19 11:04

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-191956-1

SDG No.:

Instrument ID: CHSVMS09 Analysis Batch Number: 271015

Lab Sample ID: ICIS 600-271015/6 Client Sample ID:

Date Analyzed: 08/02/19 10:37 Lab File ID: 08021906.D GC Column: RXi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Indeno[1,2,3-cd]pyrene	17.10	Baseline	somjitp	08/05/19 11:07

Lab Sample ID: IC 600-271015/7 Client Sample ID:

Date Analyzed: 08/02/19 11:05 Lab File ID: 08021907.D GC Column: RXi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Hexachlorobutadiene	7.23	Baseline	somjitp	08/05/19 11:08
Hexachlorocyclopentadiene	7.84	Baseline	somjitp	08/05/19 11:08
Indeno[1,2,3-cd]pyrene	17.11	Assign Peak	dangt	08/05/19 06:05

Lab Sample ID: IC 600-271015/8 Client Sample ID:

Date Analyzed: 08/02/19 11:33 Lab File ID: 08021908.D GC Column: RXi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Hexachlorocyclopentadiene	7.84	Peak assignment corrected	somjitp	08/05/19 11:09
Indeno[1,2,3-cd]pyrene	17.12	Baseline	somjitp	08/05/19 11:10

Lab Sample ID: IC 600-271015/9 Client Sample ID:

Date Analyzed: 08/02/19 12:00 Lab File ID: 08021909.D GC Column: RXi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Hexachlorocyclopentadiene	7.84	Baseline	somjitp	08/05/19 11:10
Indeno[1,2,3-cd]pyrene	17.12	Baseline	somjitp	08/05/19 11:10

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-191956-1

SDG No.:

Instrument ID: CHSVMS09 Analysis Batch Number: 271015

Lab Sample ID: IC 600-271015/10 Client Sample ID:

Date Analyzed: 08/02/19 12:28 Lab File ID: 08021910.D GC Column: RXi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Hexachlorocyclopentadiene	7.84	Peak assignment corrected	somjitp	08/05/19 11:11
Indeno[1,2,3-cd]pyrene	17.13	Assign Peak	dangt	08/05/19 06:06

Lab Sample ID: IC 600-271015/11 Client Sample ID:

Date Analyzed: 08/02/19 12:56 Lab File ID: 08021911.D GC Column: RXi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Hexachlorocyclopentadiene	7.84	Baseline	somjitp	08/05/19 11:12
Indeno[1,2,3-cd]pyrene	17.13	Baseline	somjitp	08/05/19 11:12

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-191956-1

SDG No.:

Instrument ID: CHECD09 Analysis Batch Number: 247781

Lab Sample ID: ICRT 600-247781/13 Client Sample ID:

Date Analyzed: 09/19/18 16:08 Lab File ID: M19_013.d GC Column: RTX-CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	13.35	Baseline Smoothing	lamj	09/19/18 16:47
Toxaphene Peak 2	14.66	Baseline Smoothing	lamj	09/19/18 16:47
Toxaphene Peak 3	14.87	Baseline Smoothing	lamj	09/19/18 16:47
Toxaphene Peak 4	15.92	Baseline Smoothing	lamj	09/19/18 16:47
Toxaphene Peak 5	16.03	Baseline Smoothing	lamj	09/19/18 16:47

Lab Sample ID: IC 600-247781/15 Client Sample ID:

Date Analyzed: 09/19/18 17:04 Lab File ID: M19_015.d GC Column: RTX-CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toxaphene Peak 1	13.35	Baseline Smoothing	lamj	09/19/18 17:44
Toxaphene Peak 2	14.66	Baseline Smoothing	lamj	09/19/18 17:44
Toxaphene Peak 3	14.87	Baseline Smoothing	lamj	09/19/18 17:44
Toxaphene Peak 4	15.93	Baseline Smoothing	lamj	09/19/18 17:44
Toxaphene Peak 5	16.03	Baseline Smoothing	lamj	09/19/18 17:44

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-191956-1

SDG No.:

Instrument ID: CHECD09 Analysis Batch Number: 275356

Lab Sample ID: IC 600-275356/3 Client Sample ID:

Date Analyzed: 09/22/19 12:43 Lab File ID: L22_003.d GC Column: RTX-CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
4,4'-DDE	12.63	Baseline Smoothing	lamj	09/23/19 09:30
Endosulfan I	12.68	Baseline Smoothing	lamj	09/23/19 09:30

Lab Sample ID: IC 600-275356/4 Client Sample ID:

Date Analyzed: 09/22/19 13:11 Lab File ID: L22_004.d GC Column: RTX-CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
4,4'-DDE	12.62	Baseline Smoothing	lamj	09/23/19 09:30
Endosulfan I	12.68	Baseline Smoothing	lamj	09/23/19 09:30

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-191956-1

SDG No.:

Instrument ID: CHECD09 Analysis Batch Number: 275356

Lab Sample ID: IC 600-275356/5 Client Sample ID:

Date Analyzed: 09/22/19 13:40 Lab File ID: L22_005.d GC Column: RTX-CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Tetrachloro-m-xylene	7.98	Peak assignment corrected	lamj	09/22/19 14:36
alpha-BHC	9.09	Peak assignment corrected	lamj	09/22/19 14:36
gamma-BHC (Lindane)	9.69	Peak assignment corrected	lamj	09/22/19 14:36
beta-BHC	9.89	Peak assignment corrected	lamj	09/22/19 14:36
delta-BHC	10.20	Peak assignment corrected	lamj	09/22/19 14:36
Heptachlor	10.50	Peak assignment corrected	lamj	09/22/19 14:36
Aldrin	10.99	Peak assignment corrected	lamj	09/22/19 14:36
Heptachlor epoxide	11.98	Peak assignment corrected	lamj	09/22/19 14:36
Chlordane (trans)	12.20	Peak assignment corrected	lamj	09/22/19 14:36
cis-Chlordane	12.43	Peak assignment corrected	lamj	09/22/19 14:36
4,4'-DDE	12.63	Peak assignment corrected	lamj	09/22/19 14:36
Endosulfan I	12.67	Peak assignment corrected	lamj	09/22/19 14:36
Dieldrin	13.13	Peak assignment corrected	lamj	09/22/19 14:36
Endrin	13.56	Peak assignment corrected	lamj	09/22/19 14:37
4,4'-DDD	13.76	Peak assignment corrected	lamj	09/22/19 14:37
Endosulfan II	13.99	Peak assignment corrected	lamj	09/22/19 14:37
4,4'-DDT	14.27	Peak assignment corrected	lamj	09/22/19 14:37
Endrin aldehyde	14.78	Peak assignment corrected	lamj	09/22/19 14:37
Methoxychlor	15.21	Peak assignment corrected	lamj	09/22/19 14:37
Endosulfan sulfate	15.57	Peak assignment corrected	lamj	09/22/19 14:37
Endrin ketone	16.05	Peak assignment corrected	lamj	09/22/19 14:37

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-191956-1

SDG No.:

Instrument ID: CHECD09 Analysis Batch Number: 275356

Lab Sample ID: IC 600-275356/5 Client Sample ID:

Date Analyzed: 09/22/19 13:40 Lab File ID: L22_005.d GC Column: RTX-CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Tetrachloro-m-xylene	8.20	Peak assignment corrected	lamj	09/23/19 09:26
alpha-BHC	9.40	Peak assignment corrected	lamj	09/23/19 09:26
gamma-BHC (Lindane)	10.04	Peak assignment corrected	lamj	09/23/19 09:26
beta-BHC	10.23	Peak assignment corrected	lamj	09/23/19 09:26
delta-BHC	10.72	Peak assignment corrected	lamj	09/23/19 09:27
Heptachlor	10.76	Peak assignment corrected	lamj	09/23/19 09:28
Aldrin	11.28	Peak assignment corrected	lamj	09/23/19 09:28
Heptachlor epoxide	12.21	Peak assignment corrected	lamj	09/23/19 09:28
Chlordane (trans)	12.56	Peak assignment corrected	lamj	09/23/19 09:28
cis-Chlordane	12.83	Peak assignment corrected	lamj	09/23/19 09:28
Endosulfan I	12.93	Peak assignment corrected	lamj	09/23/19 09:28
4,4'-DDE	13.21	Peak assignment corrected	lamj	09/23/19 09:28
Dieldrin	13.44	Peak assignment corrected	lamj	09/23/19 09:29
Endrin	14.01	Peak assignment corrected	lamj	09/23/19 09:29
4,4'-DDD	14.30	Peak assignment corrected	lamj	09/23/19 09:29
Endosulfan II	14.41	Peak assignment corrected	lamj	09/23/19 09:29
4,4'-DDT	14.86	Peak assignment corrected	lamj	09/23/19 09:29
Endrin aldehyde	15.04	Peak assignment corrected	lamj	09/23/19 09:29
Endosulfan sulfate	15.55	Peak assignment corrected	lamj	09/23/19 09:29
Methoxychlor	16.13	Peak assignment corrected	lamj	09/23/19 09:29
Endrin ketone	16.43	Peak assignment corrected	lamj	09/23/19 09:30

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-191956-1

SDG No.:

Instrument ID: CHECD09 Analysis Batch Number: 275356

Lab Sample ID: IC 600-275356/7 Client Sample ID:

Date Analyzed: 09/22/19 14:36 Lab File ID: L22_007.d GC Column: RTX-CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Tetrachloro-m-xylene	7.98	Peak assignment corrected	lamj	09/23/19 09:20
alpha-BHC	9.09	Peak assignment corrected	lamj	09/23/19 09:20
gamma-BHC (Lindane)	9.68	Peak assignment corrected	lamj	09/23/19 09:20
beta-BHC	9.88	Peak assignment corrected	lamj	09/23/19 09:20
delta-BHC	10.19	Peak assignment corrected	lamj	09/23/19 09:20
Heptachlor	10.50	Peak assignment corrected	lamj	09/23/19 09:20
Aldrin	10.99	Peak assignment corrected	lamj	09/23/19 09:20
Heptachlor epoxide	11.98	Peak assignment corrected	lamj	09/23/19 09:21
Chlordane (trans)	12.19	Peak assignment corrected	lamj	09/23/19 09:21
cis-Chlordane	12.43	Peak assignment corrected	lamj	09/23/19 09:22
4,4'-DDE	12.62	Peak assignment corrected	lamj	09/23/19 09:22
Endosulfan I	12.67	Peak assignment corrected	lamj	09/23/19 09:22
Dieldrin	13.12	Peak assignment corrected	lamj	09/23/19 09:22
Endrin	13.56	Peak assignment corrected	lamj	09/23/19 09:22
4,4'-DDD	13.76	Peak assignment corrected	lamj	09/23/19 09:22
Endosulfan II	13.99	Peak assignment corrected	lamj	09/23/19 09:22
4,4'-DDT	14.27	Peak assignment corrected	lamj	09/23/19 09:22
Endrin aldehyde	14.77	Peak assignment corrected	lamj	09/23/19 09:23
Methoxychlor	15.21	Peak assignment corrected	lamj	09/23/19 09:23
Endosulfan sulfate	15.57	Peak assignment corrected	lamj	09/23/19 09:23
Endrin ketone	16.05	Peak assignment corrected	lamj	09/23/19 09:23

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-191956-1

SDG No.:

Instrument ID: CHECD09 Analysis Batch Number: 275356

Lab Sample ID: IC 600-275356/7 Client Sample ID:

Date Analyzed: 09/22/19 14:36 Lab File ID: L22_007.d GC Column: RTX-CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Tetrachloro-m-xylene	8.20	Peak assignment corrected	lamj	09/23/19 09:26
alpha-BHC	9.40	Peak assignment corrected	lamj	09/23/19 09:26
gamma-BHC (Lindane)	10.04	Peak assignment corrected	lamj	09/23/19 09:25
beta-BHC	10.23	Peak assignment corrected	lamj	09/23/19 09:25
delta-BHC	10.71	Peak assignment corrected	lamj	09/23/19 09:25
Heptachlor	10.76	Peak assignment corrected	lamj	09/23/19 09:25
Aldrin	11.27	Peak assignment corrected	lamj	09/23/19 09:25
Heptachlor epoxide	12.21	Peak assignment corrected	lamj	09/23/19 09:25
Chlordane (trans)	12.55	Peak assignment corrected	lamj	09/23/19 09:25
cis-Chlordane	12.83	Peak assignment corrected	lamj	09/23/19 09:24
Endosulfan I	12.92	Peak assignment corrected	lamj	09/23/19 09:24
4,4'-DDE	13.20	Peak assignment corrected	lamj	09/23/19 09:24
Dieldrin	13.44	Peak assignment corrected	lamj	09/23/19 09:24
Endrin	14.00	Peak assignment corrected	lamj	09/23/19 09:24
4,4'-DDD	14.29	Peak assignment corrected	lamj	09/23/19 09:24
Endosulfan II	14.41	Peak assignment corrected	lamj	09/23/19 09:24
4,4'-DDT	14.86	Peak assignment corrected	lamj	09/23/19 09:23
Endrin aldehyde	15.04	Peak assignment corrected	lamj	09/23/19 09:23
Endosulfan sulfate	15.54	Peak assignment corrected	lamj	09/23/19 09:23
Methoxychlor	16.12	Peak assignment corrected	lamj	09/23/19 09:23
Endrin ketone	16.43	Peak assignment corrected	lamj	09/23/19 09:23

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-191956-1

SDG No.:

Instrument ID: CHECD09 Analysis Batch Number: 275356

Lab Sample ID: ICV 600-275356/9 Client Sample ID:

Date Analyzed: 09/22/19 15:33 Lab File ID: L22_009.d GC Column: RTX-CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Tetrachloro-m-xylene	7.98	Baseline Smoothing	lamj	09/23/19 10:43
alpha-BHC	9.09	Peak assignment corrected	lamj	09/23/19 09:32
gamma-BHC (Lindane)	9.68	Peak assignment corrected	lamj	09/23/19 09:32
beta-BHC	9.89	Peak assignment corrected	lamj	09/23/19 09:32
delta-BHC	10.19	Peak assignment corrected	lamj	09/23/19 09:32
Heptachlor	10.50	Peak assignment corrected	lamj	09/23/19 09:32
Aldrin	10.99	Peak assignment corrected	lamj	09/23/19 09:33
Heptachlor epoxide	11.98	Peak assignment corrected	lamj	09/23/19 09:33
Chlordane (trans)	12.19	Peak assignment corrected	lamj	09/23/19 09:33
cis-Chlordane	12.43	Peak assignment corrected	lamj	09/23/19 09:33
4,4'-DDE	12.63	Baseline Smoothing	lamj	09/23/19 09:35
Endosulfan I	12.67	Peak assignment corrected	lamj	09/23/19 09:33
Dieldrin	13.13	Peak assignment corrected	lamj	09/23/19 09:33
Endrin	13.56	Baseline Smoothing	lamj	09/23/19 09:38
4,4'-DDD	13.77	Baseline Smoothing	lamj	09/23/19 09:38
Endosulfan II	13.99	Baseline Smoothing	lamj	09/23/19 09:38
4,4'-DDT	14.28	Baseline Smoothing	lamj	09/23/19 09:38
Endrin aldehyde	14.78	Peak assignment corrected	lamj	09/23/19 09:34
Endosulfan sulfate	15.57	Peak assignment corrected	lamj	09/23/19 09:34
Endrin ketone	16.05	Peak assignment corrected	lamj	09/23/19 09:34

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-191956-1

SDG No.:

Instrument ID: CHECD09 Analysis Batch Number: 275356

Lab Sample ID: ICV 600-275356/9 Client Sample ID:

Date Analyzed: 09/22/19 15:33 Lab File ID: L22_009.d GC Column: RTX-CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Tetrachloro-m-xylene	8.20	Peak assignment corrected	lamj	09/23/19 09:32
alpha-BHC	9.40	Peak assignment corrected	lamj	09/23/19 09:32
gamma-BHC (Lindane)	10.04	Peak assignment corrected	lamj	09/23/19 09:32
beta-BHC	10.23	Peak assignment corrected	lamj	09/23/19 09:32
delta-BHC	10.71	Peak assignment corrected	lamj	09/23/19 09:32
Heptachlor	10.76	Peak assignment corrected	lamj	09/23/19 09:32
Aldrin	11.27	Peak assignment corrected	lamj	09/23/19 09:32
Heptachlor epoxide	12.21	Peak assignment corrected	lamj	09/23/19 09:33
Chlordane (trans)	12.55	Peak assignment corrected	lamj	09/23/19 09:33
cis-Chlordane	12.83	Peak assignment corrected	lamj	09/23/19 09:33
Endosulfan I	12.92	Peak assignment corrected	lamj	09/23/19 09:33
4,4'-DDE	13.20	Baseline Smoothing	lamj	09/23/19 09:33
Dieldrin	13.44	Peak assignment corrected	lamj	09/23/19 09:33
Endrin	14.00	Baseline Smoothing	lamj	09/23/19 09:33
4,4'-DDD	14.30	Baseline Smoothing	lamj	09/23/19 09:33
Endosulfan II	14.41	Baseline Smoothing	lamj	09/23/19 09:34
4,4'-DDT	14.86	Baseline Smoothing	lamj	09/23/19 09:34
Endrin aldehyde	15.04	Peak assignment corrected	lamj	09/23/19 09:34
Endosulfan sulfate	15.55	Peak assignment corrected	lamj	09/23/19 09:34
Methoxychlor	16.13	Peak assignment corrected	lamj	09/23/19 09:34
Endrin ketone	16.43	Peak assignment corrected	lamj	09/23/19 09:34

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-191956-1

SDG No.:

Instrument ID: CHECD09 Analysis Batch Number: 275356

Lab Sample ID: 600-191956-2 Client Sample ID: 11187072-091319-LL-EXC-1

Date Analyzed: 09/22/19 21:11 Lab File ID: L22_021.d GC Column: RTX-CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chlordane (technical)		Unspecified		
Toxaphene		Unspecified		
1-Bromo-2-nitrobenzene	6.28	Baseline Smoothing	lamj	09/23/19 10:26
Chlordane (trans)		Invalid Compound ID	lamj	09/23/19 10:26
cis-Chlordane		Invalid Compound ID	lamj	09/23/19 10:26
Endrin		Invalid Compound ID	lamj	09/23/19 10:26
gamma-BHC (Lindane)		Invalid Compound ID	lamj	09/23/19 10:26
Heptachlor		Invalid Compound ID	lamj	09/23/19 10:26
Heptachlor epoxide		Invalid Compound ID	lamj	09/23/19 10:26
Methoxychlor		Invalid Compound ID	lamj	09/23/19 10:26
Toxaphene Peak 1		Invalid Compound ID	lamj	09/23/19 10:26
Toxaphene Peak 2		Invalid Compound ID	lamj	09/23/19 10:26
Toxaphene Peak 3		Invalid Compound ID	lamj	09/23/19 10:26
Toxaphene Peak 4		Invalid Compound ID	lamj	09/23/19 10:26
Toxaphene Peak 5		Invalid Compound ID	lamj	09/23/19 10:26

PESTICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-191956-1

SDG No.:

Instrument ID: CHECD09 Analysis Batch Number: 275356

Lab Sample ID: 600-191956-2 Client Sample ID: 11187072-091319-LL-EXC-1

Date Analyzed: 09/22/19 21:11 Lab File ID: L22_021.d GC Column: RTX-CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chlordane (technical)		Unspecified		
Toxaphene		Unspecified		
Chlordane (trans)		Unspecified		
cis-Chlordane		Unspecified		
Endrin		Unspecified		
gamma-BHC (Lindane)		Invalid Compound ID	lamj	09/23/19 10:26
Heptachlor		Invalid Compound ID	lamj	09/23/19 10:26
Heptachlor epoxide		Unspecified		
Methoxychlor		Invalid Compound ID	lamj	09/23/19 10:26
Toxaphene Peak 1		Unspecified		
Toxaphene Peak 2		Unspecified		
Toxaphene Peak 3		Unspecified		
Toxaphene Peak 4		Unspecified		
Toxaphene Peak 5		Unspecified		

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-191956-1

SDG No.:

Instrument ID: CHECD09 Analysis Batch Number: 270655

Lab Sample ID: IC 600-270655/3 Client Sample ID:

Date Analyzed: 07/29/19 19:42 Lab File ID: M29_003.d GC Column: RTX-CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1232 Peak 5	13.08	Peak assignment corrected	lamj	07/30/19 10:11

Lab Sample ID: IC 600-270655/4 Client Sample ID:

Date Analyzed: 07/29/19 20:10 Lab File ID: M29_004.d GC Column: RTX-CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1242 Peak 2	11.59	Baseline Smoothing	lamj	07/30/19 10:15
PCB-1242 Peak 3	11.71	Baseline Smoothing	lamj	07/30/19 10:15
PCB-1242 Peak 4	12.38	Baseline Smoothing	lamj	07/30/19 10:15
PCB-1242 Peak 5	13.08	Baseline Smoothing	lamj	07/30/19 10:15

Lab Sample ID: IC 600-270655/5 Client Sample ID:

Date Analyzed: 07/29/19 20:38 Lab File ID: M29_005.d GC Column: RTX-CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1248 Peak 2	12.55	Baseline Smoothing	lamj	07/30/19 10:12
PCB-1248 Peak 3	13.07	Baseline Smoothing	lamj	07/30/19 10:12

Lab Sample ID: IC 600-270655/16 Client Sample ID:

Date Analyzed: 07/30/19 01:47 Lab File ID: M29_016.d GC Column: RTX-CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
DCB Decachlorobiphenyl	19.33	Baseline Smoothing	lamj	07/30/19 10:21

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-191956-1

SDG No.:

Instrument ID: CHECD09 Analysis Batch Number: 270655

Lab Sample ID: IC 600-270655/16 Client Sample ID:

Date Analyzed: 07/30/19 01:47 Lab File ID: M29_016.d GC Column: RTX-CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
DCB Decachlorobiphenyl	20.44	Baseline Smoothing	lamj	07/30/19 10:21

Lab Sample ID: IC 600-270655/17 Client Sample ID:

Date Analyzed: 07/30/19 02:15 Lab File ID: M29_017.d GC Column: RTX-CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
DCB Decachlorobiphenyl	19.33	Baseline Smoothing	lamj	07/30/19 10:22

Lab Sample ID: IC 600-270655/17 Client Sample ID:

Date Analyzed: 07/30/19 02:15 Lab File ID: M29_017.d GC Column: RTX-CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
DCB Decachlorobiphenyl	20.45	Baseline Smoothing	lamj	07/30/19 10:22

Lab Sample ID: IC 600-270655/18 Client Sample ID:

Date Analyzed: 07/30/19 02:43 Lab File ID: M29_018.d GC Column: RTX-CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
DCB Decachlorobiphenyl	19.33	Baseline Smoothing	lamj	07/30/19 10:22

Lab Sample ID: IC 600-270655/18 Client Sample ID:

Date Analyzed: 07/30/19 02:43 Lab File ID: M29_018.d GC Column: RTX-CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
DCB Decachlorobiphenyl	20.44	Baseline Smoothing	lamj	07/30/19 10:22

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-191956-1

SDG No.:

Instrument ID: CHECD09 Analysis Batch Number: 270655

Lab Sample ID: ICIS 600-270655/19 Client Sample ID:

Date Analyzed: 07/30/19 03:11 Lab File ID: M29_019.d GC Column: RTX-CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
DCB Decachlorobiphenyl	19.33	Baseline Smoothing	lamj	07/30/19 10:23

Lab Sample ID: ICIS 600-270655/19 Client Sample ID:

Date Analyzed: 07/30/19 03:11 Lab File ID: M29_019.d GC Column: RTX-CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
DCB Decachlorobiphenyl	20.44	Baseline Smoothing	lamj	07/30/19 10:23

Lab Sample ID: IC 600-270655/20 Client Sample ID:

Date Analyzed: 07/30/19 03:39 Lab File ID: M29_020.d GC Column: RTX-CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
DCB Decachlorobiphenyl	19.33	Baseline Smoothing	lamj	07/30/19 10:23

Lab Sample ID: IC 600-270655/20 Client Sample ID:

Date Analyzed: 07/30/19 03:39 Lab File ID: M29_020.d GC Column: RTX-CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
DCB Decachlorobiphenyl	20.44	Baseline Smoothing	lamj	07/30/19 10:23

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-191956-1

SDG No.:

Instrument ID: CHECD09 Analysis Batch Number: 275246

Lab Sample ID: 600-191956-2 Client Sample ID: 11187072-091319-LL-EXC-1

Date Analyzed: 09/19/19 22:01 Lab File ID: L19_030.d GC Column: RTX-CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Tetrachloro-m-xylene	8.80	Peak assignment corrected	lamj	09/20/19 09:29
DCB Decachlorobiphenyl	19.26	Split Peak	lamj	09/20/19 10:42

Lab Sample ID: 600-191956-2 Client Sample ID: 11187072-091319-LL-EXC-1

Date Analyzed: 09/19/19 22:01 Lab File ID: L19_030.d GC Column: RTX-CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Tetrachloro-m-xylene	9.15	Peak assignment corrected	lamj	09/20/19 09:29
DCB Decachlorobiphenyl	20.33	Peak assignment corrected	lamj	09/20/19 09:30

8082

HERBICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-191956-1

SDG No.:

Instrument ID: CHECD08 Analysis Batch Number: 271997

Lab Sample ID: IC 600-271997/2 Client Sample ID:

Date Analyzed: 08/15/19 09:37 Lab File ID: L15_002.D GC Column: RTX-CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dalapon	2.75	Baseline Smoothing	lamj	08/15/19 11:22
2,4-D	13.67	Baseline Smoothing	lamj	08/15/19 11:22
Silvex (2,4,5-TP)	14.87	Baseline Smoothing	lamj	08/15/19 11:23
2,4,5-T	15.29	Baseline Smoothing	lamj	08/15/19 11:23
2,4-DB	16.03	Baseline Smoothing	lamj	08/15/19 11:23
Dinoseb	17.44	Baseline Smoothing	lamj	08/15/19 11:23

Lab Sample ID: IC 600-271997/2 Client Sample ID:

Date Analyzed: 08/15/19 09:37 Lab File ID: L15_002.D GC Column: RTX-CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dalapon	2.42	Baseline Smoothing	lamj	08/15/19 11:22

Lab Sample ID: IC 600-271997/3 Client Sample ID:

Date Analyzed: 08/15/19 10:02 Lab File ID: L15_003.D GC Column: RTX-CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dalapon	2.75	Baseline Smoothing	lamj	08/15/19 11:23
2,4,5-T	15.29	Baseline Smoothing	lamj	08/15/19 11:24

Lab Sample ID: IC 600-271997/3 Client Sample ID:

Date Analyzed: 08/15/19 10:02 Lab File ID: L15_003.D GC Column: RTX-CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dalapon	2.42	Baseline Smoothing	lamj	08/15/19 11:23

HERBICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-191956-1

SDG No.:

Instrument ID: CHECD08 Analysis Batch Number: 271997

Lab Sample ID: IC 600-271997/4 Client Sample ID:

Date Analyzed: 08/15/19 10:27 Lab File ID: L15_004.D GC Column: RTX-CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dalapon	2.75	Baseline Smoothing	lamj	08/15/19 11:24
2,4,5-T	15.28	Baseline Smoothing	lamj	08/15/19 11:24
Dinoseb	17.43	Baseline Smoothing	lamj	08/15/19 11:25

Lab Sample ID: IC 600-271997/4 Client Sample ID:

Date Analyzed: 08/15/19 10:27 Lab File ID: L15_004.D GC Column: RTX-CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dalapon	2.42	Baseline Smoothing	lamj	08/15/19 11:24

Lab Sample ID: ICRT 600-271997/5 Client Sample ID:

Date Analyzed: 08/15/19 10:52 Lab File ID: L15_005.D GC Column: RTX-CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dalapon	2.75	Baseline Smoothing	lamj	08/15/19 11:21

Lab Sample ID: ICRT 600-271997/5 Client Sample ID:

Date Analyzed: 08/15/19 10:52 Lab File ID: L15_005.D GC Column: RTX-CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dalapon	2.42	Baseline Smoothing	lamj	08/15/19 11:22

HERBICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-191956-1

SDG No.:

Instrument ID: CHECD08 Analysis Batch Number: 271997

Lab Sample ID: IC 600-271997/6 Client Sample ID:

Date Analyzed: 08/15/19 11:17 Lab File ID: L15_006.D GC Column: RTX-CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dalapon	2.75	Baseline Smoothing	lamj	08/15/19 11:42
Mecoprop	12.38	Baseline Smoothing	lamj	08/15/19 11:42
2,4,5-T	15.28	Baseline Smoothing	lamj	08/15/19 11:42

Lab Sample ID: IC 600-271997/6 Client Sample ID:

Date Analyzed: 08/15/19 11:17 Lab File ID: L15_006.D GC Column: RTX-CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dalapon	2.42	Baseline Smoothing	lamj	08/15/19 11:42

Lab Sample ID: IC 600-271997/7 Client Sample ID:

Date Analyzed: 08/15/19 11:42 Lab File ID: L15_007.D GC Column: RTX-CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dalapon	2.75	Baseline Smoothing	lamj	08/15/19 12:05

Lab Sample ID: IC 600-271997/7 Client Sample ID:

Date Analyzed: 08/15/19 11:42 Lab File ID: L15_007.D GC Column: RTX-CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dalapon	2.42	Baseline Smoothing	lamj	08/15/19 12:06

HERBICIDES MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-191956-1

SDG No.:

Instrument ID: CHECD08 Analysis Batch Number: 275199

Lab Sample ID: 600-191956-2 Client Sample ID: 11187072-091319-LL-EXC-1

Date Analyzed: 09/19/19 11:50 Lab File ID: L19_007.D GC Column: RTX-CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,4-D		Invalid Compound ID	lamj	09/19/19 12:58
Silvex (2,4,5-TP)		Invalid Compound ID	lamj	09/19/19 12:58

Lab Sample ID: 600-191956-2 Client Sample ID: 11187072-091319-LL-EXC-1

Date Analyzed: 09/19/19 11:50 Lab File ID: L19_007.D GC Column: RTX-CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,4-D		Unspecified		
Silvex (2,4,5-TP)		Invalid Compound ID	lamj	09/19/19 12:58

8151

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-191956-1

SDG No.:

Instrument ID: CHWC11 Analysis Batch Number: 271285

Lab Sample ID: IC 600-271285/6 Client Sample ID:

Date Analyzed: 08/06/19 13:54 Lab File ID: CAL080619-6.d GC Column: AS-18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloride	4.69	Incomplete Integration	patelk	08/07/19 12:50

300.0

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-191956-1

SDG No.:

Instrument ID: CHWC11 Analysis Batch Number: 274705

Lab Sample ID: 600-191956-2 Client Sample ID: 11187072-091319-LL-EXC-1

Date Analyzed: 09/13/19 21:14 Lab File ID: 091319-29.d GC Column: AS-18 ID:

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromide	7.96	Baseline Smoothing	reachs	09/16/19 10:33

300.0

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Sacram Job No.: 600-191956-1

SDG No.:

Instrument ID: 10D5 Analysis Batch Number: 324128

Lab Sample ID: IC 320-324128/3 Client Sample ID:

Date Analyzed: 09/17/19 13:03 Lab File ID: 17SE1910D5_3.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,7,8,9-HxCDD	31.76	Invalid Compound ID	shardaa	09/17/19 18:02

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Sacram Job No.: 600-191956-1

SDG No.:

Instrument ID: 10D5 Analysis Batch Number: 324876

Lab Sample ID: 600-191956-2 Client Sample ID: 11187072-091319-LL-EXC-1

Date Analyzed: 09/19/19 22:26 Lab File ID: 18SE1910D5_46.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,3,7,8-TCDD	17.48	Poor chromatography	stephensk	09/20/19 10:59
1,2,3,7,8-PeCDF	21.63	Poor chromatography	stephensk	09/20/19 11:01
2,3,4,7,8-PeCDF	22.89	Missed Peak	stephensk	09/20/19 11:01
1,2,3,6,7,8-HxCDF	29.98	Baseline	stephensk	09/20/19 11:04
1,2,3,4,6,7,8-HpCDD	34.20	Baseline	stephensk	09/20/19 11:06
1,2,3,4,7,8,9-HpCDF	34.48	Poor chromatography	stephensk	09/20/19 11:05
OCDF	36.54	Peak Tail	stephensk	09/20/19 11:07

1613B

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
AR1221STD4_00018	09/01/19	03/01/19	HEXANE, Lot EX_HEXANE_00037	10 mL	AR1221INTM_00019	500 uL	PCB-1221 Peak 1	0.5 ug/mL
							PCB-1221 Peak 2	0.5 ug/mL
							PCB-1221 Peak 3	0.5 ug/mL
.AR1221INTM_00019	09/01/19	03/01/19	HEXANE, Lot EX_HEXANE_00037	10 mL	PCB_AR1221_00005	100 uL	PCB-1221 Peak 1	10 ug/mL
							PCB-1221 Peak 2	10 ug/mL
							PCB-1221 Peak 3	10 ug/mL
..PCB_AR1221_00005	12/24/24	RESTEK, Lot A0141291			(Purchased Reagent)		PCB-1221 Peak 1	1000 ug/mL
							PCB-1221 Peak 2	1000 ug/mL
							PCB-1221 Peak 3	1000 ug/mL
AR1232STD4_00017	11/30/19	01/09/19	HEXANE, Lot EX_HEXANE_00034	10 mL	AR1232INTM_00018	500 uL	PCB-1232 Peak 1	0.5 ug/mL
							PCB-1232 Peak 2	0.5 ug/mL
							PCB-1232 Peak 3	0.5 ug/mL
							PCB-1232 Peak 4	0.5 ug/mL
							PCB-1232 Peak 5	0.5 ug/mL
.AR1232INTM_00018	11/30/19	01/09/19	HEXANE, Lot EX_Hexane_00034	10 mL	PCB_AR1232_00004	100 uL	PCB-1232 Peak 1	10 ug/mL
							PCB-1232 Peak 2	10 ug/mL
							PCB-1232 Peak 3	10 ug/mL
							PCB-1232 Peak 4	10 ug/mL
							PCB-1232 Peak 5	10 ug/mL
..PCB_AR1232_00004	11/30/19	RESTEK, Lot A090290			(Purchased Reagent)		PCB-1232 Peak 1	1000 ug/mL
							PCB-1232 Peak 2	1000 ug/mL
							PCB-1232 Peak 3	1000 ug/mL
							PCB-1232 Peak 4	1000 ug/mL
							PCB-1232 Peak 5	1000 ug/mL
AR1242STD4_00023	11/01/19	05/01/19	HEXANE, Lot EX_HEXANE_00037	10 mL	AR1242INTM_00022	500 uL	PCB-1242 Peak 1	0.5 ug/mL
							PCB-1242 Peak 2	0.5 ug/mL
							PCB-1242 Peak 3	0.5 ug/mL
							PCB-1242 Peak 4	0.5 ug/mL
							PCB-1242 Peak 5	0.5 ug/mL
.AR1242INTM_00022	11/01/19	05/01/19	HEXANE, Lot EX_Hexane_00037	10 mL	PCB_AR1242_00005	100 uL	PCB-1242 Peak 1	10 ug/mL
							PCB-1242 Peak 2	10 ug/mL
							PCB-1242 Peak 3	10 ug/mL
							PCB-1242 Peak 4	10 ug/mL
							PCB-1242 Peak 5	10 ug/mL
..PCB_AR1242_00005	12/31/24	RESTEK, Lot A0141840			(Purchased Reagent)		PCB-1242 Peak 1	1000 ug/mL
							PCB-1242 Peak 2	1000 ug/mL
							PCB-1242 Peak 3	1000 ug/mL
							PCB-1242 Peak 4	1000 ug/mL
							PCB-1242 Peak 5	1000 ug/mL
AR1248STD4_00019	11/01/19	05/01/19	HEXANE, Lot EX_HEXANE_00037	10 mL	AR1248INTM_00017	500 uL	PCB-1248 Peak 1	0.5 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

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Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1248 Peak 2	0.5 ug/mL
							PCB-1248 Peak 3	0.5 ug/mL
							PCB-1248 Peak 4	0.5 ug/mL
							PCB-1248 Peak 5	0.5 ug/mL
.AR1248INTM_00017	11/01/19	05/01/19	HEXANE, Lot EX_Hexane_00037	10 mL	PCB_AR1248_00005	100 uL	PCB-1248 Peak 1	10 ug/mL
							PCB-1248 Peak 2	10 ug/mL
							PCB-1248 Peak 3	10 ug/mL
							PCB-1248 Peak 4	10 ug/mL
							PCB-1248 Peak 5	10 ug/mL
..PCB_AR1248_00005	10/31/24	RESTEK, Lot A0139938			(Purchased Reagent)		PCB-1248 Peak 1	1000 ug/mL
							PCB-1248 Peak 2	1000 ug/mL
							PCB-1248 Peak 3	1000 ug/mL
							PCB-1248 Peak 4	1000 ug/mL
							PCB-1248 Peak 5	1000 ug/mL
AR1254STD4_00027	01/08/20	07/08/19	HEXANE, Lot EX_HEXANE_00037	10 mL	AR1254INTM_00024	500 uL	PCB-1254 Peak 1	0.5 ug/mL
							PCB-1254 Peak 2	0.5 ug/mL
							PCB-1254 Peak 3	0.5 ug/mL
							PCB-1254 Peak 4	0.5 ug/mL
							PCB-1254 Peak 5	0.5 ug/mL
.AR1254INTM_00024	01/08/20	07/08/19	HEXANE, Lot EX_Hexane_00037	10 mL	PCB_AR1254_00007	100 uL	PCB-1254 Peak 1	10 ug/mL
							PCB-1254 Peak 2	10 ug/mL
							PCB-1254 Peak 3	10 ug/mL
							PCB-1254 Peak 4	10 ug/mL
							PCB-1254 Peak 5	10 ug/mL
..PCB_AR1254_00007	02/28/20	RESTEK, Lot A078929			(Purchased Reagent)		PCB-1254 Peak 1	1000 ug/mL
							PCB-1254 Peak 2	1000 ug/mL
							PCB-1254 Peak 3	1000 ug/mL
							PCB-1254 Peak 4	1000 ug/mL
							PCB-1254 Peak 5	1000 ug/mL
BFB_00290							1,2-Dichloroethene, Total	
							1,3-Dichloropropene, Total	
							2,3-dichlorobutane	
							Tentatively Identified Compound	
							Total BTEX	
							Total Volatile Organic Compounds	
							Trihalomethanes, Total	
							Xylenes, Total	
					VOASBFB_00014	50 uL	BFB	25 ug/mL
.VOASBFB_00014	07/31/21	Restek, Lot A0120567			(Purchased Reagent)		BFB	2000 ug/mL
BFB_00291							1,2-Dichloroethene, Total	
							1,3-Dichloropropene, Total	
							2,3-dichlorobutane	

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SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Tentatively Identified Compound	
							Total BTEX	
							Total Volatile Organic Compounds	
							Trihalomethanes, Total	
							Xylenes, Total	
					VOASBFB_00014	50 uL	BFB	25 ug/mL
.VOASBFB_00014	07/31/21		Restek, Lot A0120567		(Purchased Reagent)		BFB	2000 ug/mL
CCV_00109	10/05/19	08/27/19	DI WATER, Lot NONE	500 mL	WETSICCBRO_00013	3.75 mL	Bromide	7.5 mg/L
					WETSICCCL_00024	10 mL	Chloride	20 mg/L
					WETSICCSO4_00015	10 mL	Sulfate	20 mg/L
.WETSICCBRO_00013	04/25/20		INORGANIC VENTURES, Lot N2-BR665239		(Purchased Reagent)		Bromide	1000 mg/L
.WETSICCCL_00024	12/26/19		INORGANIC-VENTURE, Lot N2-CL664868		(Purchased Reagent)		Chloride	1000 mg/L
.WETSICCSO4_00015	06/21/20		INORGANIC-VENTURE, Lot k2-sox01111		(Purchased Reagent)		Sulfate	1000 mg/L
EOxideStd_00159	09/11/19	08/28/19	Methanol, Lot V071019A	1 mL	MVETYLOIDE_00010	10 uL	Ethylene oxide	500 ug/mL
.MVETYLOIDE_00010	09/30/19		Sigma-Aldrich, Lot LRAB6887		(Purchased Reagent)		Ethylene oxide	50000 ug/mL
FERSCAL_00105	09/21/19	09/20/19	DI WATER, Lot NONE	1 L	WETDFAS_00012	0.702 g	Ferrous Iron	99.9753 mg/L
.WETDFAS_00012	05/31/20		Ricca, Lot 2506867		(Purchased Reagent)		Ferrous Iron	142415 mg/Kg
FERSLCS_00145	09/21/19	09/20/19	DI WATER, Lot NONE	1000 mL	WETDFAS_00012	0.702 g	Ferrous Iron	99.9753 mg/L
.WETDFAS_00012	05/31/20		Ricca, Lot 2506867		(Purchased Reagent)		Ferrous Iron	142415 mg/Kg
HEBSURR_00080	10/08/19	04/08/19	Methanol, Lot ex-methanol_00027	200 mL	HSURRDCAA_00021	1 mL	2,4-Dichlorophenylacetic acid	5 ug/mL
.HSURRDCAA_00021	03/31/20		RESTEK, Lot A0125771		(Purchased Reagent)		2,4-Dichlorophenylacetic acid	1000 ug/mL
HERBCURVE1_00034	11/30/19	07/11/19	HEXANE, Lot EX_HEXANE_00031	25 mL	HERBCURVE_00039	500 uL	2,4,5-T	0.04 ug/mL
							2,4-D	0.04 ug/mL
							2,4-DB	0.04 ug/mL
							Dalapon	0.04 ug/mL
							Dicamba	0.04 ug/mL
							Dichlorprop	0.04 ug/mL
							Dinoseb	0.04 ug/mL
							MCPA	4 ug/mL
							MCPP	4 ug/mL
							Silvex (2,4,5-TP)	0.04 ug/mL
							2,4-Dichlorophenylacetic acid	0.4 ug/mL
.HERBCURVE_00039	11/30/19	06/12/19	HEXANE, Lot Ex-hexane_00034	10 mL	HRBSCALR_00005	200 uL	2,4,5-T	2 ug/mL
							2,4-D	2 ug/mL
							2,4-DB	2 ug/mL
							Dalapon	2 ug/mL
							Dicamba	2 ug/mL
							Dichlorprop	2 ug/mL
							Dinoseb	2 ug/mL
							MCPA	200 ug/mL
							MCPP	200 ug/mL

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Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Silvex (2,4,5-TP)	2 ug/mL
					HSURRDCAA_00024	200 uL	2,4-Dichlorophenylacetic acid	20 ug/mL
..HRBSCALR_00005	04/13/20	ACCUSTANDARD, Lot 215041052-01			(Purchased Reagent)		2,4,5-T	100 ug/mL
							2,4-D	100 ug/mL
							2,4-DB	100 ug/mL
							Dalapon	100 ug/mL
							Dicamba	100 ug/mL
							Dichlorprop	100 ug/mL
							Dinoseb	100 ug/mL
							MCPA	10000 ug/mL
							MCPP	10000 ug/mL
							Silvex (2,4,5-TP)	100 ug/mL
..HSURRDCAA_00024	11/30/19	RESTEK, Lot A0132641			(Purchased Reagent)		2,4-Dichlorophenylacetic acid	1000 ug/mL
HERBCURVE2_00032	11/30/19	07/11/19	HEXANE, Lot EX_HEXANE_00031	25 mL	HERBCURVE_00039	1000 uL	2,4,5-T	0.08 ug/mL
							2,4-D	0.08 ug/mL
							2,4-DB	0.08 ug/mL
							Dalapon	0.08 ug/mL
							Dicamba	0.08 ug/mL
							Dichlorprop	0.08 ug/mL
							Dinoseb	0.08 ug/mL
							MCPA	8 ug/mL
							MCPP	8 ug/mL
							Silvex (2,4,5-TP)	0.08 ug/mL
							2,4-Dichlorophenylacetic acid	0.8 ug/mL
.HERBCURVE_00039	11/30/19	06/12/19	HEXANE, Lot Ex-hexane_00034	10 mL	HRBSCALR_00005	200 uL	2,4,5-T	2 ug/mL
							2,4-D	2 ug/mL
							2,4-DB	2 ug/mL
							Dalapon	2 ug/mL
							Dicamba	2 ug/mL
							Dichlorprop	2 ug/mL
							Dinoseb	2 ug/mL
							MCPA	200 ug/mL
							MCPP	200 ug/mL
							Silvex (2,4,5-TP)	2 ug/mL
					HSURRDCAA_00024	200 uL	2,4-Dichlorophenylacetic acid	20 ug/mL
..HRBSCALR_00005	04/13/20	ACCUSTANDARD, Lot 215041052-01			(Purchased Reagent)		2,4,5-T	100 ug/mL
							2,4-D	100 ug/mL
							2,4-DB	100 ug/mL
							Dalapon	100 ug/mL
							Dicamba	100 ug/mL
							Dichlorprop	100 ug/mL
							Dinoseb	100 ug/mL
							MCPA	10000 ug/mL
							MCPP	10000 ug/mL
							Silvex (2,4,5-TP)	100 ug/mL
..HSURRDCAA_00024	11/30/19	RESTEK, Lot A0132641			(Purchased Reagent)		2,4-Dichlorophenylacetic acid	1000 ug/mL

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Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
HERBCURVE3_00033	11/30/19	07/11/19	HEXANE, Lot EX_HEXANE_00031	25 mL	HERBCURVE_00039	1250 uL	2,4,5-T	0.1 ug/mL
							2,4-D	0.1 ug/mL
							2,4-DB	0.1 ug/mL
							Dalapon	0.1 ug/mL
							Dicamba	0.1 ug/mL
							Dichlorprop	0.1 ug/mL
							Dinoseb	0.1 ug/mL
							MCPA	10 ug/mL
							MCPP	10 ug/mL
							Silvex (2,4,5-TP)	0.1 ug/mL
							2,4-Dichlorophenylacetic acid	1 ug/mL
.HERBCURVE_00039	11/30/19	06/12/19	HEXANE, Lot Ex-hexane_00034	10 mL	HRBSCALR_00005	200 uL	2,4,5-T	2 ug/mL
							2,4-D	2 ug/mL
							2,4-DB	2 ug/mL
							Dalapon	2 ug/mL
							Dicamba	2 ug/mL
							Dichlorprop	2 ug/mL
							Dinoseb	2 ug/mL
							MCPA	200 ug/mL
							MCPP	200 ug/mL
							Silvex (2,4,5-TP)	2 ug/mL
					HSURRDCAA_00024	200 uL	2,4-Dichlorophenylacetic acid	20 ug/mL
..HRBSCALR_00005	04/13/20	ACCUSTANDARD, Lot 215041052-01			(Purchased Reagent)		2,4,5-T	100 ug/mL
							2,4-D	100 ug/mL
							2,4-DB	100 ug/mL
							Dalapon	100 ug/mL
							Dicamba	100 ug/mL
							Dichlorprop	100 ug/mL
							Dinoseb	100 ug/mL
							MCPA	10000 ug/mL
							MCPP	10000 ug/mL
							Silvex (2,4,5-TP)	100 ug/mL
..HSURRDCAA_00024	11/30/19	RESTEK, Lot A0132641			(Purchased Reagent)		2,4-Dichlorophenylacetic acid	1000 ug/mL
HERBCURVE4_00043	11/30/19	07/11/19	HEXANE, Lot EX_HEXANE_00031	25 mL	HERBCURVE_00039	1500 uL	2,4,5-T	0.12 ug/mL
							2,4-D	0.12 ug/mL
							2,4-DB	0.12 ug/mL
							Dalapon	0.12 ug/mL
							Dicamba	0.12 ug/mL
							Dichlorprop	0.12 ug/mL
							Dinoseb	0.12 ug/mL
							MCPA	12 ug/mL
							MCPP	12 ug/mL
							Silvex (2,4,5-TP)	0.12 ug/mL
							2,4-Dichlorophenylacetic acid	1.2 ug/mL

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Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.HERBCURVE_00039	11/30/19	06/12/19	HEXANE, Lot Ex-hexane_00034	10 mL	HRBSCALR_00005	200 uL	2,4,5-T	2 ug/mL
							2,4-D	2 ug/mL
							2,4-DB	2 ug/mL
							Dalapon	2 ug/mL
							Dicamba	2 ug/mL
							Dichlorprop	2 ug/mL
							Dinoseb	2 ug/mL
							MCPA	200 ug/mL
							MCPP	200 ug/mL
							Silvex (2,4,5-TP)	2 ug/mL
					HSURRDCAA_00024	200 uL	2,4-Dichlorophenylacetic acid	20 ug/mL
..HRBSCALR_00005	04/13/20	ACCUSTANDARD, Lot 215041052-01			(Purchased Reagent)		2,4,5-T	100 ug/mL
							2,4-D	100 ug/mL
							2,4-DB	100 ug/mL
							Dalapon	100 ug/mL
							Dicamba	100 ug/mL
							Dichlorprop	100 ug/mL
							Dinoseb	100 ug/mL
							MCPA	10000 ug/mL
							MCPP	10000 ug/mL
							Silvex (2,4,5-TP)	100 ug/mL
..HSURRDCAA_00024	11/30/19	RESTEK, Lot A0132641			(Purchased Reagent)		2,4-Dichlorophenylacetic acid	1000 ug/mL
HERBCURVE5_00032	11/30/19	07/11/19	HEXANE, Lot EX_HEXANE_00034	25 mL	HERBCURVE_00039	2000 uL	2,4,5-T	0.16 ug/mL
							2,4-D	0.16 ug/mL
							2,4-DB	0.16 ug/mL
							Dalapon	0.16 ug/mL
							Dicamba	0.16 ug/mL
							Dichlorprop	0.16 ug/mL
							Dinoseb	0.16 ug/mL
							MCPA	16 ug/mL
							MCPP	16 ug/mL
							Silvex (2,4,5-TP)	0.16 ug/mL
							2,4-Dichlorophenylacetic acid	1.6 ug/mL
.HERBCURVE_00039	11/30/19	06/12/19	HEXANE, Lot Ex-hexane_00034	10 mL	HRBSCALR_00005	200 uL	2,4,5-T	2 ug/mL
							2,4-D	2 ug/mL
							2,4-DB	2 ug/mL
							Dalapon	2 ug/mL
							Dicamba	2 ug/mL
							Dichlorprop	2 ug/mL
							Dinoseb	2 ug/mL
							MCPA	200 ug/mL
							MCPP	200 ug/mL
							Silvex (2,4,5-TP)	2 ug/mL
					HSURRDCAA_00024	200 uL	2,4-Dichlorophenylacetic acid	20 ug/mL
..HRBSCALR_00005	04/13/20	ACCUSTANDARD, Lot 215041052-01			(Purchased Reagent)		2,4,5-T	100 ug/mL

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Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,4-D	100 ug/mL
							2,4-DB	100 ug/mL
							Dalapon	100 ug/mL
							Dicamba	100 ug/mL
							Dichlorprop	100 ug/mL
							Dinoseb	100 ug/mL
							MCPA	10000 ug/mL
							MCPP	10000 ug/mL
							Silvex (2,4,5-TP)	100 ug/mL
..HSURRDCAA_00024	11/30/19	RESTEK, Lot A0132641			(Purchased Reagent)		2,4-Dichlorophenylacetic acid	1000 ug/mL
HERBCURVE6_00032	11/30/19	07/11/19	HEXANE, Lot EX_HEXANE_00031	25 mL	HERBCURVE_00039	2500 uL	2,4,5-T	0.2 ug/mL
							2,4-D	0.2 ug/mL
							2,4-DB	0.2 ug/mL
							Dalapon	0.2 ug/mL
							Dicamba	0.2 ug/mL
							Dichlorprop	0.2 ug/mL
							Dinoseb	0.2 ug/mL
							MCPA	20 ug/mL
							MCPP	20 ug/mL
							Silvex (2,4,5-TP)	0.2 ug/mL
							2,4-Dichlorophenylacetic acid	2 ug/mL
.HERBCURVE_00039	11/30/19	06/12/19	HEXANE, Lot Ex-hexane_00034	10 mL	HRBSCALR_00005	200 uL	2,4,5-T	2 ug/mL
							2,4-D	2 ug/mL
							2,4-DB	2 ug/mL
							Dalapon	2 ug/mL
							Dicamba	2 ug/mL
							Dichlorprop	2 ug/mL
							Dinoseb	2 ug/mL
							MCPA	200 ug/mL
							MCPP	200 ug/mL
							Silvex (2,4,5-TP)	2 ug/mL
					HSURRDCAA_00024	200 uL	2,4-Dichlorophenylacetic acid	20 ug/mL
..HRBSCALR_00005	04/13/20	ACCUSTANDARD, Lot 215041052-01			(Purchased Reagent)		2,4,5-T	100 ug/mL
							2,4-D	100 ug/mL
							2,4-DB	100 ug/mL
							Dalapon	100 ug/mL
							Dicamba	100 ug/mL
							Dichlorprop	100 ug/mL
							Dinoseb	100 ug/mL
							MCPA	10000 ug/mL
							MCPP	10000 ug/mL
							Silvex (2,4,5-TP)	100 ug/mL
..HSURRDCAA_00024	11/30/19	RESTEK, Lot A0132641			(Purchased Reagent)		2,4-Dichlorophenylacetic acid	1000 ug/mL
ICCALSTD2_00050	10/05/19	07/29/19	DI WATER, Lot NONE	100 mL	WETSICCBRO_00013	20 uL	Bromide	0.2 mg/L
					WETSICCCL_00024	40 uL	Chloride	0.4 mg/L

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Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					WETSICCFL_00013	20 uL	Fluoride	0.2 mg/L
					WETSICCNO3_00018	20 uL	Nitrate as N	0.2 mg/L
					WETSICCSO4_00016	40 uL	Sulfate	0.4 mg/L
					WETSNO2ICV_00029	20 uL	Nitrite as N	0.2 mg/L
.WETSICCBRO_00013	04/25/20	INORGANIC VENTURES, Lot N2-BR665239			(Purchased Reagent)		Bromide	1000 mg/L
.WETSICCCL_00024	12/26/19	INORGANIC-VENTURE, Lot N2-CL664868			(Purchased Reagent)		Chloride	1000 mg/L
.WETSICCFL_00013	10/05/19	INORGANIC VENTURES, Lot n2-f670705			(Purchased Reagent)		Fluoride	1000 mg/L
.WETSICCNO3_00018	03/31/21	INORGANIC VENTURES, Lot m2-nox656803			(Purchased Reagent)		Nitrate as N	1000 mg/L
.WETSICCSO4_00016	02/26/20	INORGANIC-VENTURE, Lot N2-SOX671919			(Purchased Reagent)		Sulfate	1000 mg/L
.WETSNO2ICV_00029	12/26/19	INORGANIC VENTURES, Lot N2-NOX668822			(Purchased Reagent)		Nitrite as N	1000 mg/L
ICCALSTD3_00043	10/05/19	07/29/19	DI WATER, Lot NONE	100 mL	WETSICCBRO_00013	50 uL	Bromide	0.5 mg/L
					WETSICCCL_00024	100 uL	Chloride	1 mg/L
					WETSICCFL_00013	50 uL	Fluoride	0.5 mg/L
					WETSICCNO3_00018	50 uL	Nitrate as N	0.5 mg/L
					WETSICCSO4_00016	100 uL	Sulfate	1 mg/L
					WETSNO2ICV_00029	50 uL	Nitrite as N	0.5 mg/L
.WETSICCBRO_00013	04/25/20	INORGANIC VENTURES, Lot N2-BR665239			(Purchased Reagent)		Bromide	1000 mg/L
.WETSICCCL_00024	12/26/19	INORGANIC-VENTURE, Lot N2-CL664868			(Purchased Reagent)		Chloride	1000 mg/L
.WETSICCFL_00013	10/05/19	INORGANIC VENTURES, Lot n2-f670705			(Purchased Reagent)		Fluoride	1000 mg/L
.WETSICCNO3_00018	03/31/21	INORGANIC VENTURES, Lot m2-nox656803			(Purchased Reagent)		Nitrate as N	1000 mg/L
.WETSICCSO4_00016	02/26/20	INORGANIC-VENTURE, Lot N2-SOX671919			(Purchased Reagent)		Sulfate	1000 mg/L
.WETSNO2ICV_00029	12/26/19	INORGANIC VENTURES, Lot N2-NOX668822			(Purchased Reagent)		Nitrite as N	1000 mg/L
ICCALSTD4_00042	10/05/19	07/29/19	DI WATER, Lot NONE	100 mL	WETSICCBRO_00013	100 uL	Bromide	1 mg/L
					WETSICCCL_00024	200 uL	Chloride	2 mg/L
					WETSICCFL_00013	100 uL	Fluoride	1 mg/L
					WETSICCNO3_00018	100 uL	Nitrate as N	1 mg/L
					WETSICCSO4_00016	200 uL	Sulfate	2 mg/L
					WETSNO2ICV_00029	100 uL	Nitrite as N	1 mg/L
.WETSICCBRO_00013	04/25/20	INORGANIC VENTURES, Lot N2-BR665239			(Purchased Reagent)		Bromide	1000 mg/L
.WETSICCCL_00024	12/26/19	INORGANIC-VENTURE, Lot N2-CL664868			(Purchased Reagent)		Chloride	1000 mg/L
.WETSICCFL_00013	10/05/19	INORGANIC VENTURES, Lot n2-f670705			(Purchased Reagent)		Fluoride	1000 mg/L
.WETSICCNO3_00018	03/31/21	INORGANIC VENTURES, Lot m2-nox656803			(Purchased Reagent)		Nitrate as N	1000 mg/L
.WETSICCSO4_00016	02/26/20	INORGANIC-VENTURE, Lot N2-SOX671919			(Purchased Reagent)		Sulfate	1000 mg/L
.WETSNO2ICV_00029	12/26/19	INORGANIC VENTURES, Lot N2-NOX668822			(Purchased Reagent)		Nitrite as N	1000 mg/L
ICCALSTD5_00043	10/05/19	07/29/19	DI WATER, Lot NONE	100 mL	WETSICCBRO_00013	200 uL	Bromide	2 mg/L
					WETSICCCL_00024	500 uL	Chloride	5 mg/L
					WETSICCFL_00013	200 uL	Fluoride	2 mg/L
					WETSICCNO3_00018	250 uL	Nitrate as N	2.5 mg/L
					WETSICCSO4_00016	500 uL	Sulfate	5 mg/L
					WETSNO2ICV_00029	250 uL	Nitrite as N	2.5 mg/L
.WETSICCBRO_00013	04/25/20	INORGANIC VENTURES, Lot N2-BR665239			(Purchased Reagent)		Bromide	1000 mg/L
.WETSICCCL_00024	12/26/19	INORGANIC-VENTURE, Lot N2-CL664868			(Purchased Reagent)		Chloride	1000 mg/L
.WETSICCFL_00013	10/05/19	INORGANIC VENTURES, Lot n2-f670705			(Purchased Reagent)		Fluoride	1000 mg/L
.WETSICCNO3_00018	03/31/21	INORGANIC VENTURES, Lot m2-nox656803			(Purchased Reagent)		Nitrate as N	1000 mg/L
.WETSICCSO4_00016	02/26/20	INORGANIC-VENTURE, Lot N2-SOX671919			(Purchased Reagent)		Sulfate	1000 mg/L
.WETSNO2ICV_00029	12/26/19	INORGANIC VENTURES, Lot N2-NOX668822			(Purchased Reagent)		Nitrite as N	1000 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
ICCALSTD6_00039	10/05/19	07/29/19	DI WATER, Lot NONE	100 mL	WETSICCBRO_00013	500 uL	Bromide	5 mg/L
					WETSICCCL_00024	1 mL	Chloride	10 mg/L
					WETSICCFL_00013	500 uL	Fluoride	5 mg/L
					WETSICCNO3_00018	500 uL	Nitrate as N	5 mg/L
					WETSICCSO4_00016	1 mL	Sulfate	10 mg/L
					WETSNO2ICV_00029	500 uL	Nitrite as N	5 mg/L
.WETSICCBRO_00013	04/25/20	INORGANIC VENTURES, Lot N2-BR665239			(Purchased Reagent)		Bromide	1000 mg/L
.WETSICCCL_00024	12/26/19	INORGANIC-VENTURE, Lot N2-CL664868			(Purchased Reagent)		Chloride	1000 mg/L
.WETSICCFL_00013	10/05/19	INORGANIC VENTURES, Lot n2-f670705			(Purchased Reagent)		Fluoride	1000 mg/L
.WETSICCNO3_00018	03/31/21	INORGANIC VENTURES, Lot m2-nox656803			(Purchased Reagent)		Nitrate as N	1000 mg/L
.WETSICCSO4_00016	02/26/20	INORGANIC-VENTURE, Lot N2-SOX671919			(Purchased Reagent)		Sulfate	1000 mg/L
.WETSNO2ICV_00029	12/26/19	INORGANIC VENTURES, Lot N2-NOX668822			(Purchased Reagent)		Nitrite as N	1000 mg/L
ICCALSTD7_00042	10/05/19	07/29/19	DI WATER, Lot NONE	100 mL	WETSICCBRO_00013	750 uL	Bromide	7.5 mg/L
					WETSICCCL_00024	2 mL	Chloride	20 mg/L
					WETSICCFL_00013	750 uL	Fluoride	7.5 mg/L
					WETSICCNO3_00018	1 mL	Nitrate as N	10 mg/L
					WETSICCSO4_00016	2 mL	Sulfate	20 mg/L
					WETSNO2ICV_00029	1 mL	Nitrite as N	10 mg/L
.WETSICCBRO_00013	04/25/20	INORGANIC VENTURES, Lot N2-BR665239			(Purchased Reagent)		Bromide	1000 mg/L
.WETSICCCL_00024	12/26/19	INORGANIC-VENTURE, Lot N2-CL664868			(Purchased Reagent)		Chloride	1000 mg/L
.WETSICCFL_00013	10/05/19	INORGANIC VENTURES, Lot n2-f670705			(Purchased Reagent)		Fluoride	1000 mg/L
.WETSICCNO3_00018	03/31/21	INORGANIC VENTURES, Lot m2-nox656803			(Purchased Reagent)		Nitrate as N	1000 mg/L
.WETSICCSO4_00016	02/26/20	INORGANIC-VENTURE, Lot N2-SOX671919			(Purchased Reagent)		Sulfate	1000 mg/L
.WETSNO2ICV_00029	12/26/19	INORGANIC VENTURES, Lot N2-NOX668822			(Purchased Reagent)		Nitrite as N	1000 mg/L
ICCALSTD8_00030	10/05/19	07/29/19	DI WATER, Lot NONE	100 mL	WETSICCBRO_00013	1 mL	Bromide	10 mg/L
					WETSICCCL_00024	4 mL	Chloride	40 mg/L
					WETSICCFL_00013	1 mL	Fluoride	10 mg/L
					WETSICCNO3_00018	2 mL	Nitrate as N	20 mg/L
					WETSICCSO4_00016	4 mL	Sulfate	40 mg/L
					WETSNO2ICV_00029	2 mL	Nitrite as N	20 mg/L
.WETSICCBRO_00013	04/25/20	INORGANIC VENTURES, Lot N2-BR665239			(Purchased Reagent)		Bromide	1000 mg/L
.WETSICCCL_00024	12/26/19	INORGANIC-VENTURE, Lot N2-CL664868			(Purchased Reagent)		Chloride	1000 mg/L
.WETSICCFL_00013	10/05/19	INORGANIC VENTURES, Lot n2-f670705			(Purchased Reagent)		Fluoride	1000 mg/L
.WETSICCNO3_00018	03/31/21	INORGANIC VENTURES, Lot m2-nox656803			(Purchased Reagent)		Nitrate as N	1000 mg/L
.WETSICCSO4_00016	02/26/20	INORGANIC-VENTURE, Lot N2-SOX671919			(Purchased Reagent)		Sulfate	1000 mg/L
.WETSNO2ICV_00029	12/26/19	INORGANIC VENTURES, Lot N2-NOX668822			(Purchased Reagent)		Nitrite as N	1000 mg/L
ICPMSCALMIX1_00002	12/26/20	CPI, Lot 1018875-1			(Purchased Reagent)		Antimony	100 mg/L
							Arsenic	100 mg/L
							Barium	100 mg/L
							Beryllium	100 mg/L
							Cadmium	100 mg/L
							Chromium	100 mg/L
							Cobalt	100 mg/L
							Copper	100 mg/L
							Lead	100 mg/L
							Li	100 mg/L
							Manganese	100 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Molybdenum	100 mg/L
							Nickel	100 mg/L
							Selenium	100 mg/L
							Si	1000 mg/L
							Strontium	100 mg/L
							Thallium	100 mg/L
							Tin	100 mg/L
							Titanium	100 mg/L
							Vanadium	100 mg/L
ICPMSCALMIX2S_00001	05/31/20	CPI, Lot 982735-2			(Purchased Reagent)		Al	2000 mg/L
							Calcium	2000 mg/L
							Iron	2000 mg/L
							Magnesium	2000 mg/L
							Potassium	2000 mg/L
							Sodium	2000 mg/L
ICPMSCALMIX3S_00001	03/20/20	CPI, Lot 982739-1			(Purchased Reagent)		Phosphorus as P	1000 mg/L
							Sulfur	1000 mg/L
							U	100 mg/L
							W	100 mg/L
ICPMSCALMIX4S_00002	01/15/21	CPI, Lot 10100318-2			(Purchased Reagent)		Antimony	100 mg/L
							Boron	100 mg/L
							Silver	50 mg/L
							Zinc	100 mg/L
MER0119HS_00023	09/30/19	09/16/19	DI WATER, Lot n/a	2000 mL	MERNACL_00010	240 g	Stock Chemical	0 ug/mL
					MERNH20H_00025	240 g	Stock Chemical	0 ug/mL
.MERNACL_00010	12/31/23	Fisher, Lot 188343			(Purchased Reagent)		Stock Chemical	0 %
.MERNH20H_00025	02/15/24	ACROS ORGANICS, Lot A0402858			(Purchased Reagent)		Stock Chemical	0 %
MER0119PP_00020	10/01/19	09/17/19	DI WATER, Lot n/a	2000 mL	MERK2S2O8_00013	100 g	Stock Chemical	0 ug/mL
.MERK2S2O8_00013	01/11/21	Acros Organics, Lot A0391673			(Purchased Reagent)		Stock Chemical	0 %
MER0219KM_00024	09/30/19	09/16/19	DI WATER, Lot n/a	2000 mL	MERKMNO4_00020	100 g	Stock Chemical	0 ug/mL
.MERKMNO4_00020	05/17/24	J.T.Baker, Lot 0000177909			(Purchased Reagent)		Stock Chemical	0 g
MERSUL0219_00013	01/15/24	MACRON, Lot 0000222813			(Purchased Reagent)		Stock Chemical	0 mL
MET0919CCVL_00002	03/17/20	09/17/19	DI WATER, Lot n/a	1000 mL	ICPMSCALMIX4_00002	200 uL	Antimony	0.05 mg/L
							Boron	0.2 mg/L
							Silver	0.01 mg/L
							Zinc	0.02 mg/L
					ICPMSPIKEMIX1_00002	100 uL	Arsenic	0.02 mg/L
							Barium	0.02 mg/L
							Beryllium	0.01 mg/L
							Cadmium	0.01 mg/L
							Chromium	0.01 mg/L
							Cobalt	0.01 mg/L
							Copper	0.01 mg/L
							Lead	0.01 mg/L
							Manganese	0.01 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Molybdenum	0.02 mg/L
							Nickel	0.01 mg/L
							Selenium	0.02 mg/L
							Strontium	0.01 mg/L
							Tin	0.02 mg/L
							Titanium	0.01 mg/L
							Vanadium	0.01 mg/L
					ICPMSPIKEMIX2_00001	200 uL	Calcium	1 mg/L
							Iron	0.2 mg/L
							Magnesium	1 mg/L
							Potassium	1 mg/L
							Sodium	1 mg/L
					METB_00013	180 uL	Boron	0.2 mg/L
					METMO_00012	10 uL	Molybdenum	0.02 mg/L
					METSB_00013	30 uL	Antimony	0.05 mg/L
.ICPMSCALMIX4_00002	01/15/21	CPI, Lot 10100318-1			(Purchased Reagent)		Antimony	100 mg/L
							Boron	100 mg/L
							Silver	50 mg/L
							Zinc	100 mg/L
.ICPMSPIKEMIX1_00002	05/19/20	CPI, Lot 982744-1			(Purchased Reagent)		Arsenic	200 mg/L
							Barium	200 mg/L
							Beryllium	100 mg/L
							Cadmium	100 mg/L
							Chromium	100 mg/L
							Cobalt	100 mg/L
							Copper	100 mg/L
							Lead	100 mg/L
							Manganese	100 mg/L
							Molybdenum	100 mg/L
							Nickel	100 mg/L
							Selenium	200 mg/L
							Strontium	100 mg/L
							Tin	200 mg/L
							Titanium	100 mg/L
							Vanadium	100 mg/L
.ICPMSPIKEMIX2_00001	05/19/20	CPI, Lot 982744-1			(Purchased Reagent)		Calcium	5000 mg/L
							Iron	1000 mg/L
							Magnesium	5000 mg/L
							Potassium	5000 mg/L
							Sodium	5000 mg/L
.METB_00013	12/04/20	CPI, Lot 982524-31			(Purchased Reagent)		Boron	1000 ug/mL
.METMO_00012	12/04/20	CPI, Lot 169424-57			(Purchased Reagent)		Molybdenum	1000 ug/mL
.METSB_00013	12/04/20	CPI, Lot 201251-11			(Purchased Reagent)		Antimony	1000 ug/mL
METHCL_00273	09/14/21	Macron, Lot 0000155130			(Purchased Reagent)		Stock Chemical	0 mL
METHCL_00274	12/12/23	Macron, Lot 0000221681			(Purchased Reagent)		Stock Chemical	0 mL
METHNO3_00323	11/01/23	Macron, Lot 0000216908			(Purchased Reagent)		Stock Chemical	0 mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
METHNO3_00324	11/01/23		Macron, Lot 0000216908		(Purchased Reagent)		Stock Chemical	0 mL
METICPCCV_00019	03/17/20	09/17/19	DI Water, Lot n/a	500 mL	ICPMSCALMIX1_00002	5 mL	Antimony	2 mg/L
							Arsenic	1 mg/L
							Barium	1 mg/L
							Beryllium	1 mg/L
							Cadmium	1 mg/L
							Chromium	1 mg/L
							Cobalt	1 mg/L
							Copper	1 mg/L
							Lead	1 mg/L
							Manganese	1 mg/L
							Molybdenum	1 mg/L
							Nickel	1 mg/L
							Selenium	1 mg/L
							Strontium	1 mg/L
							Tin	1 mg/L
							Titanium	1 mg/L
							Vanadium	1 mg/L
					ICPMSCALMIX2S_00002	5 mL	Calcium	20 mg/L
							Iron	20 mg/L
							Magnesium	20 mg/L
							Potassium	20 mg/L
							Sodium	20 mg/L
					ICPMSCALMIX4S_00003	5 mL	Antimony	2 mg/L
							Boron	1 mg/L
							Silver	0.5 mg/L
							Zinc	1 mg/L
.ICPMSCALMIX1_00002	12/26/20		CPI, Lot 1018875-1		(Purchased Reagent)		Antimony	100 mg/L
							Arsenic	100 mg/L
							Barium	100 mg/L
							Beryllium	100 mg/L
							Cadmium	100 mg/L
							Chromium	100 mg/L
							Cobalt	100 mg/L
							Copper	100 mg/L
							Lead	100 mg/L
							Manganese	100 mg/L
							Molybdenum	100 mg/L
							Nickel	100 mg/L
							Selenium	100 mg/L
							Strontium	100 mg/L
							Tin	100 mg/L
							Titanium	100 mg/L
							Vanadium	100 mg/L
.ICPMSCALMIX2S_00002	12/26/20		CPI, Lot 992740-2		(Purchased Reagent)		Calcium	2000 mg/L
							Iron	2000 mg/L
							Magnesium	2000 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Potassium	2000 mg/L
							Sodium	2000 mg/L
.ICPMSCALMIX4S_00003	09/17/20		CPI, Lot 10100318-4		(Purchased Reagent)		Antimony	100 mg/L
							Boron	100 mg/L
							Silver	50 mg/L
							Zinc	100 mg/L
PCBCURVE1I_00016	12/01/19	05/25/19	HEXANE, Lot EX_HEXANE_00037	25 mL	PCBCURVE_00029	62.5 uL	DCB Decachlorobiphenyl	0.005 ug/mL
							Tetrachloro-m-xylene	0.005 ug/mL
.PCBCURVE_00029	12/01/19	05/28/19	HEXANE, Lot EX_HEXANE_00031	25 mL	PSURRSRC_00008	250 uL	DCB Decachlorobiphenyl	2 ug/mL
							Tetrachloro-m-xylene	2 ug/mL
..PSURRSRC_00008	12/01/19		RESTEK, Lot A089210		(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
PCBCURVE2I_00017	12/01/19	05/28/19	HEXANE, Lot EX_HEXANE_00037	25 mL	PCBCURVE_00029	125 uL	DCB Decachlorobiphenyl	0.01 ug/mL
							Tetrachloro-m-xylene	0.01 ug/mL
.PCBCURVE_00029	12/01/19	05/28/19	HEXANE, Lot EX_HEXANE_00031	25 mL	PSURRSRC_00008	250 uL	DCB Decachlorobiphenyl	2 ug/mL
							Tetrachloro-m-xylene	2 ug/mL
..PSURRSRC_00008	12/01/19		RESTEK, Lot A089210		(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
PCBCURVE3I_00016	12/01/19	05/28/19	HEXANE, Lot EX_HEXANE_00037	25 mL	PCBCURVE_00029	312.5 uL	DCB Decachlorobiphenyl	0.025 ug/mL
							Tetrachloro-m-xylene	0.025 ug/mL
.PCBCURVE_00029	12/01/19	05/28/19	HEXANE, Lot EX_HEXANE_00031	25 mL	PSURRSRC_00008	250 uL	DCB Decachlorobiphenyl	2 ug/mL
							Tetrachloro-m-xylene	2 ug/mL
..PSURRSRC_00008	12/01/19		RESTEK, Lot A089210		(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
PCBCURVE4I_00022	12/01/19	05/28/19	HEXANE, Lot EX-HEXANE_00034	50 mL	PCBCURVE_00029	1250 uL	DCB Decachlorobiphenyl	0.05 ug/mL
							Tetrachloro-m-xylene	0.05 ug/mL
.PCBCURVE_00029	12/01/19	05/28/19	HEXANE, Lot EX_HEXANE_00031	25 mL	PSURRSRC_00008	250 uL	DCB Decachlorobiphenyl	2 ug/mL
							Tetrachloro-m-xylene	2 ug/mL
..PSURRSRC_00008	12/01/19		RESTEK, Lot A089210		(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
PCBCURVE5I_00017	12/01/19	05/28/19	HEXANE, Lot EX_HEXANE_00034	25 mL	PCBCURVE_00029	937.5 uL	DCB Decachlorobiphenyl	0.075 ug/mL
							Tetrachloro-m-xylene	0.075 ug/mL
.PCBCURVE_00029	12/01/19	05/28/19	HEXANE, Lot EX_HEXANE_00031	25 mL	PSURRSRC_00008	250 uL	DCB Decachlorobiphenyl	2 ug/mL
							Tetrachloro-m-xylene	2 ug/mL
..PSURRSRC_00008	12/01/19		RESTEK, Lot A089210		(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
PCBCURVE6I_00017	12/01/19	05/28/19	HEXANE, Lot EX_HEXANE_00037	25 mL	PCBCURVE_00029	1250 uL	DCB Decachlorobiphenyl	0.1 ug/mL
							Tetrachloro-m-xylene	0.1 ug/mL
.PCBCURVE_00029	12/01/19	05/28/19	HEXANE, Lot EX_HEXANE_00031	25 mL	PSURRSRC_00008	250 uL	DCB Decachlorobiphenyl	2 ug/mL
							Tetrachloro-m-xylene	2 ug/mL
..PSURRSRC_00008	12/01/19	RESTEK, Lot A089210			(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
PEST ICV_00027	12/01/19	09/18/19	HEXANE, Lot EX-HEXANE-00037	25 mL	PESTICVINT_00024	313 uL	Chlordane (trans)	0.05008 ug/mL
							cis-Chlordane	0.05008 ug/mL
							Endrin	0.05008 ug/mL
							gamma-BHC (Lindane)	0.05008 ug/mL
							Heptachlor	0.05008 ug/mL
							Heptachlor epoxide	0.05008 ug/mL
							Methoxychlor	0.05008 ug/mL
							DCB Decachlorobiphenyl	0.002504 ug/mL
							Tetrachloro-m-xylene	0.002504 ug/mL
.PESTICVINT_00024	12/01/19	09/18/19	HEXANE, Lot EX-HEXANE-00037	25 mL	PESTICVSRC_00004	50 uL	Chlordane (trans)	4 ug/mL
							cis-Chlordane	4 ug/mL
							Endrin	4 ug/mL
							gamma-BHC (Lindane)	4 ug/mL
							Heptachlor	4 ug/mL
							Heptachlor epoxide	4 ug/mL
							Methoxychlor	4 ug/mL
					PSURRSRC_00008	25 uL	DCB Decachlorobiphenyl	0.2 ug/mL
							Tetrachloro-m-xylene	0.2 ug/mL
..PESTICVSRC_00004	06/30/23	Restek, Lot A0146108			(Purchased Reagent)		Chlordane (trans)	2000 ug/mL
							cis-Chlordane	2000 ug/mL
							Endrin	2000 ug/mL
							gamma-BHC (Lindane)	2000 ug/mL
							Heptachlor	2000 ug/mL
							Heptachlor epoxide	2000 ug/mL
							Methoxychlor	2000 ug/mL
..PSURRSRC_00008	12/01/19	RESTEK, Lot A089210			(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
PESTCAL1_00031	09/30/19	07/05/19	HEXANE, Lot EX_HEXANE_00037	25 mL	PESTCALINT_00029	156.5 uL	4,4'-DDD	0.010016 ug/mL
							4,4'-DDE	0.010016 ug/mL
							4,4'-DDT	0.010016 ug/mL
							Aldrin	0.005008 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							alpha-BHC	0.005008 ug/mL
							beta-BHC	0.005008 ug/mL
							Chlordane (trans)	0.005008 ug/mL
							cis-Chlordane	0.005008 ug/mL
							delta-BHC	0.005008 ug/mL
							Dieldrin	0.010016 ug/mL
							Endosulfan I	0.005008 ug/mL
							Endosulfan II	0.010016 ug/mL
							Endosulfan sulfate	0.010016 ug/mL
							Endrin	0.010016 ug/mL
							Endrin aldehyde	0.010016 ug/mL
							Endrin ketone	0.010016 ug/mL
							gamma-BHC (Lindane)	0.005008 ug/mL
							Heptachlor	0.005008 ug/mL
							Heptachlor epoxide	0.005008 ug/mL
							Methoxychlor	0.05008 ug/mL
							DCB Decachlorobiphenyl	0.010016 ug/mL
							Tetrachloro-m-xylene	0.010016 ug/mL
.PESTCALINT_00029	09/30/19	07/05/19	HEXANE, Lot EX_HEXANE_00037	10 mL	PSCALSRC_00009	1000 uL	4,4'-DDD	1.6 ug/mL
							4,4'-DDE	1.6 ug/mL
							4,4'-DDT	1.6 ug/mL
							Aldrin	0.8 ug/mL
							alpha-BHC	0.8 ug/mL
							beta-BHC	0.8 ug/mL
							Chlordane (trans)	0.8 ug/mL
							cis-Chlordane	0.8 ug/mL
							delta-BHC	0.8 ug/mL
							Dieldrin	1.6 ug/mL
							Endosulfan I	0.8 ug/mL
							Endosulfan II	1.6 ug/mL
							Endosulfan sulfate	1.6 ug/mL
							Endrin	1.6 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Endrin aldehyde	1.6 ug/mL
							Endrin ketone	1.6 ug/mL
							gamma-BHC (Lindane)	0.8 ug/mL
							Heptachlor	0.8 ug/mL
							Heptachlor epoxide	0.8 ug/mL
							Methoxychlor	8 ug/mL
					PSURRSRC_00008	80 uL	DCB Decachlorobiphenyl	1.6 ug/mL
							Tetrachloro-m-xylene	1.6 ug/mL
..PSCALSRC_00009	09/30/19	Restek, Lot A0114294			(Purchased Reagent)		4,4'-DDD	16 ug/mL
							4,4'-DDE	16 ug/mL
							4,4'-DDT	16 ug/mL
							Aldrin	8 ug/mL
							alpha-BHC	8 ug/mL
							beta-BHC	8 ug/mL
							Chlordane (trans)	8 ug/mL
							cis-Chlordane	8 ug/mL
							delta-BHC	8 ug/mL
							Dieldrin	16 ug/mL
							Endosulfan I	8 ug/mL
							Endosulfan II	16 ug/mL
							Endosulfan sulfate	16 ug/mL
							Endrin	16 ug/mL
							Endrin aldehyde	16 ug/mL
							Endrin ketone	16 ug/mL
							gamma-BHC (Lindane)	8 ug/mL
							Heptachlor	8 ug/mL
							Heptachlor epoxide	8 ug/mL
							Methoxychlor	80 ug/mL
..PSURRSRC_00008	12/01/19	RESTEK, Lot A089210			(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
PESTCAL2_00027	09/30/19	07/05/19	HEXANE, Lot EX_HEXANE_00037	25 mL	PESTCALINT_00029	312.5 uL	4,4'-DDD	0.02 ug/mL
							4,4'-DDE	0.02 ug/mL
							4,4'-DDT	0.02 ug/mL
							Aldrin	0.01 ug/mL
							alpha-BHC	0.01 ug/mL
							beta-BHC	0.01 ug/mL
							Chlordane (trans)	0.01 ug/mL
							cis-Chlordane	0.01 ug/mL
							delta-BHC	0.01 ug/mL
							Dieldrin	0.02 ug/mL
							Endosulfan I	0.01 ug/mL
							Endosulfan II	0.02 ug/mL
							Endosulfan sulfate	0.02 ug/mL
							Endrin	0.02 ug/mL
							Endrin aldehyde	0.02 ug/mL
							Endrin ketone	0.02 ug/mL
							gamma-BHC (Lindane)	0.01 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Heptachlor	0.01 ug/mL
							Heptachlor epoxide	0.01 ug/mL
							Methoxychlor	0.1 ug/mL
							DCB Decachlorobiphenyl	0.02 ug/mL
							Tetrachloro-m-xylene	0.02 ug/mL
.PESTCALINT_00029	09/30/19	07/05/19	HEXANE, Lot EX_HEXANE_00037	10 mL	PSCALSRC_00009	1000 uL	4,4'-DDD	1.6 ug/mL
							4,4'-DDE	1.6 ug/mL
							4,4'-DDT	1.6 ug/mL
							Aldrin	0.8 ug/mL
							alpha-BHC	0.8 ug/mL
							beta-BHC	0.8 ug/mL
							Chlordane (trans)	0.8 ug/mL
							cis-Chlordane	0.8 ug/mL
							delta-BHC	0.8 ug/mL
							Dieldrin	1.6 ug/mL
							Endosulfan I	0.8 ug/mL
							Endosulfan II	1.6 ug/mL
							Endosulfan sulfate	1.6 ug/mL
							Endrin	1.6 ug/mL
							Endrin aldehyde	1.6 ug/mL
							Endrin ketone	1.6 ug/mL
							gamma-BHC (Lindane)	0.8 ug/mL
							Heptachlor	0.8 ug/mL
							Heptachlor epoxide	0.8 ug/mL
							Methoxychlor	8 ug/mL
					PSURRSRC_00008	80 uL	DCB Decachlorobiphenyl	1.6 ug/mL
							Tetrachloro-m-xylene	1.6 ug/mL
..PSCALSRC_00009	09/30/19	Restek, Lot A0114294			(Purchased Reagent)		4,4'-DDD	16 ug/mL
							4,4'-DDE	16 ug/mL
							4,4'-DDT	16 ug/mL
							Aldrin	8 ug/mL
							alpha-BHC	8 ug/mL
							beta-BHC	8 ug/mL
							Chlordane (trans)	8 ug/mL
							cis-Chlordane	8 ug/mL
							delta-BHC	8 ug/mL
							Dieldrin	16 ug/mL
							Endosulfan I	8 ug/mL
							Endosulfan II	16 ug/mL
							Endosulfan sulfate	16 ug/mL
							Endrin	16 ug/mL
							Endrin aldehyde	16 ug/mL
							Endrin ketone	16 ug/mL
							gamma-BHC (Lindane)	8 ug/mL
							Heptachlor	8 ug/mL
							Heptachlor epoxide	8 ug/mL
							Methoxychlor	80 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..PSURRSRC_00008	12/01/19		RESTEK, Lot A089210		(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
PESTCAL3_00027	09/30/19	07/05/19	HEXANE, Lot EX_HEXANE_00037	25 mL	PESTCALINT_00029	625 uL	4,4'-DDD	0.04 ug/mL
							4,4'-DDE	0.04 ug/mL
							4,4'-DDT	0.04 ug/mL
							Aldrin	0.02 ug/mL
							alpha-BHC	0.02 ug/mL
							beta-BHC	0.02 ug/mL
							Chlordane (trans)	0.02 ug/mL
							cis-Chlordane	0.02 ug/mL
							delta-BHC	0.02 ug/mL
							Dieldrin	0.04 ug/mL
							Endosulfan I	0.02 ug/mL
							Endosulfan II	0.04 ug/mL
							Endosulfan sulfate	0.04 ug/mL
							Endrin	0.04 ug/mL
							Endrin aldehyde	0.04 ug/mL
							Endrin ketone	0.04 ug/mL
							gamma-BHC (Lindane)	0.02 ug/mL
							Heptachlor	0.02 ug/mL
							Heptachlor epoxide	0.02 ug/mL
							Methoxychlor	0.2 ug/mL
							DCB Decachlorobiphenyl	0.04 ug/mL
							Tetrachloro-m-xylene	0.04 ug/mL
.PESTCALINT_00029	09/30/19	07/05/19	HEXANE, Lot EX_HEXANE_00037	10 mL	PSCALSRC_00009	1000 uL	4,4'-DDD	1.6 ug/mL
							4,4'-DDE	1.6 ug/mL
							4,4'-DDT	1.6 ug/mL
							Aldrin	0.8 ug/mL
							alpha-BHC	0.8 ug/mL
							beta-BHC	0.8 ug/mL
							Chlordane (trans)	0.8 ug/mL
							cis-Chlordane	0.8 ug/mL
							delta-BHC	0.8 ug/mL
							Dieldrin	1.6 ug/mL
							Endosulfan I	0.8 ug/mL
							Endosulfan II	1.6 ug/mL
							Endosulfan sulfate	1.6 ug/mL
							Endrin	1.6 ug/mL
							Endrin aldehyde	1.6 ug/mL
							Endrin ketone	1.6 ug/mL
							gamma-BHC (Lindane)	0.8 ug/mL
							Heptachlor	0.8 ug/mL
							Heptachlor epoxide	0.8 ug/mL
							Methoxychlor	8 ug/mL
					PSURRSRC_00008	80 uL	DCB Decachlorobiphenyl	1.6 ug/mL
							Tetrachloro-m-xylene	1.6 ug/mL

REAGENT TRACEABILITY SUMMARY

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SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..PSCALSRC_00009	09/30/19		Restek, Lot A0114294		(Purchased Reagent)		4,4'-DDD	16 ug/mL
							4,4'-DDE	16 ug/mL
							4,4'-DDT	16 ug/mL
							Aldrin	8 ug/mL
							alpha-BHC	8 ug/mL
							beta-BHC	8 ug/mL
							Chlordane (trans)	8 ug/mL
							cis-Chlordane	8 ug/mL
							delta-BHC	8 ug/mL
							Dieldrin	16 ug/mL
							Endosulfan I	8 ug/mL
							Endosulfan II	16 ug/mL
							Endosulfan sulfate	16 ug/mL
							Endrin	16 ug/mL
							Endrin aldehyde	16 ug/mL
							Endrin ketone	16 ug/mL
							gamma-BHC (Lindane)	8 ug/mL
							Heptachlor	8 ug/mL
							Heptachlor epoxide	8 ug/mL
							Methoxychlor	80 ug/mL
..PSURRSRC_00008	12/01/19		RESTEK, Lot A089210		(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
PESTCAL4_00027	09/30/19	07/05/19	HEXANE, Lot EX_HEXANE_00031	25 mL	PESTCALINT_00029	1250 uL	4,4'-DDD	0.08 ug/mL
							4,4'-DDE	0.08 ug/mL
							4,4'-DDT	0.08 ug/mL
							Aldrin	0.04 ug/mL
							alpha-BHC	0.04 ug/mL
							beta-BHC	0.04 ug/mL
							Chlordane (trans)	0.04 ug/mL
							cis-Chlordane	0.04 ug/mL
							delta-BHC	0.04 ug/mL
							Dieldrin	0.08 ug/mL
							Endosulfan I	0.04 ug/mL
							Endosulfan II	0.08 ug/mL
							Endosulfan sulfate	0.08 ug/mL
							Endrin	0.08 ug/mL
							Endrin aldehyde	0.08 ug/mL
							Endrin ketone	0.08 ug/mL
							gamma-BHC (Lindane)	0.04 ug/mL
							Heptachlor	0.04 ug/mL
							Heptachlor epoxide	0.04 ug/mL
							Methoxychlor	0.4 ug/mL
							DCB Decachlorobiphenyl	0.08 ug/mL
							Tetrachloro-m-xylene	0.08 ug/mL
.PESTCALINT_00029	09/30/19	07/05/19	HEXANE, Lot EX_HEXANE_00037	10 mL	PSCALSRC_00009	1000 uL	4,4'-DDD	1.6 ug/mL
							4,4'-DDE	1.6 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4,4'-DDT	1.6 ug/mL
							Aldrin	0.8 ug/mL
							alpha-BHC	0.8 ug/mL
							beta-BHC	0.8 ug/mL
							Chlordane (trans)	0.8 ug/mL
							cis-Chlordane	0.8 ug/mL
							delta-BHC	0.8 ug/mL
							Dieldrin	1.6 ug/mL
							Endosulfan I	0.8 ug/mL
							Endosulfan II	1.6 ug/mL
							Endosulfan sulfate	1.6 ug/mL
							Endrin	1.6 ug/mL
							Endrin aldehyde	1.6 ug/mL
							Endrin ketone	1.6 ug/mL
							gamma-BHC (Lindane)	0.8 ug/mL
							Heptachlor	0.8 ug/mL
							Heptachlor epoxide	0.8 ug/mL
							Methoxychlor	8 ug/mL
					PSURRSRC_00008	80 uL	DCB Decachlorobiphenyl	1.6 ug/mL
							Tetrachloro-m-xylene	1.6 ug/mL
..PSCALSRC_00009	09/30/19		Restek, Lot A0114294		(Purchased Reagent)		4,4'-DDD	16 ug/mL
							4,4'-DDE	16 ug/mL
							4,4'-DDT	16 ug/mL
							Aldrin	8 ug/mL
							alpha-BHC	8 ug/mL
							beta-BHC	8 ug/mL
							Chlordane (trans)	8 ug/mL
							cis-Chlordane	8 ug/mL
							delta-BHC	8 ug/mL
							Dieldrin	16 ug/mL
							Endosulfan I	8 ug/mL
							Endosulfan II	16 ug/mL
							Endosulfan sulfate	16 ug/mL
							Endrin	16 ug/mL
							Endrin aldehyde	16 ug/mL
							Endrin ketone	16 ug/mL
							gamma-BHC (Lindane)	8 ug/mL
							Heptachlor	8 ug/mL
							Heptachlor epoxide	8 ug/mL
							Methoxychlor	80 ug/mL
..PSURRSRC_00008	12/01/19		RESTEK, Lot A089210		(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
PESTCAL5_00026	09/30/19	07/05/19	HEXANE, Lot EX_HEXANE_00037	25 mL	PESTCALINT_00029	1875 uL	4,4'-DDD	0.12 ug/mL
							4,4'-DDE	0.12 ug/mL
							4,4'-DDT	0.12 ug/mL
							Aldrin	0.06 ug/mL
							alpha-BHC	0.06 ug/mL

REAGENT TRACEABILITY SUMMARY

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SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							beta-BHC	0.06 ug/mL
							Chlordane (trans)	0.06 ug/mL
							cis-Chlordane	0.06 ug/mL
							delta-BHC	0.06 ug/mL
							Dieldrin	0.12 ug/mL
							Endosulfan I	0.06 ug/mL
							Endosulfan II	0.12 ug/mL
							Endosulfan sulfate	0.12 ug/mL
							Endrin	0.12 ug/mL
							Endrin aldehyde	0.12 ug/mL
							Endrin ketone	0.12 ug/mL
							gamma-BHC (Lindane)	0.06 ug/mL
							Heptachlor	0.06 ug/mL
							Heptachlor epoxide	0.06 ug/mL
							Methoxychlor	0.6 ug/mL
							DCB Decachlorobiphenyl	0.12 ug/mL
							Tetrachloro-m-xylene	0.12 ug/mL
.PESTCALINT_00029	09/30/19	07/05/19	HEXANE, Lot EX_HEXANE_00037	10 mL	PSCALSRC_00009	1000 uL	4,4'-DDD	1.6 ug/mL
							4,4'-DDE	1.6 ug/mL
							4,4'-DDT	1.6 ug/mL
							Aldrin	0.8 ug/mL
							alpha-BHC	0.8 ug/mL
							beta-BHC	0.8 ug/mL
							Chlordane (trans)	0.8 ug/mL
							cis-Chlordane	0.8 ug/mL
							delta-BHC	0.8 ug/mL
							Dieldrin	1.6 ug/mL
							Endosulfan I	0.8 ug/mL
							Endosulfan II	1.6 ug/mL
							Endosulfan sulfate	1.6 ug/mL
							Endrin	1.6 ug/mL
							Endrin aldehyde	1.6 ug/mL
							Endrin ketone	1.6 ug/mL
							gamma-BHC (Lindane)	0.8 ug/mL
							Heptachlor	0.8 ug/mL
							Heptachlor epoxide	0.8 ug/mL
							Methoxychlor	8 ug/mL
					PSURRSRC_00008	80 uL	DCB Decachlorobiphenyl	1.6 ug/mL
							Tetrachloro-m-xylene	1.6 ug/mL
..PSCALSRC_00009	09/30/19	Restek, Lot A0114294			(Purchased Reagent)		4,4'-DDD	16 ug/mL
							4,4'-DDE	16 ug/mL
							4,4'-DDT	16 ug/mL
							Aldrin	8 ug/mL
							alpha-BHC	8 ug/mL
							beta-BHC	8 ug/mL
							Chlordane (trans)	8 ug/mL
							cis-Chlordane	8 ug/mL

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Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							delta-BHC	8 ug/mL
							Dieldrin	16 ug/mL
							Endosulfan I	8 ug/mL
							Endosulfan II	16 ug/mL
							Endosulfan sulfate	16 ug/mL
							Endrin	16 ug/mL
							Endrin aldehyde	16 ug/mL
							Endrin ketone	16 ug/mL
							gamma-BHC (Lindane)	8 ug/mL
							Heptachlor	8 ug/mL
							Heptachlor epoxide	8 ug/mL
							Methoxychlor	80 ug/mL
..PSURRSRC_00008	12/01/19		RESTEK, Lot A089210		(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
PESTCAL6_00026	09/30/19	07/05/19	HEXANE, Lot EX_HEXANE_00037	25 mL	PESTCALINT_00029	2500 uL	4,4'-DDD	0.16 ug/mL
							4,4'-DDE	0.16 ug/mL
							4,4'-DDT	0.16 ug/mL
							Aldrin	0.08 ug/mL
							alpha-BHC	0.08 ug/mL
							beta-BHC	0.08 ug/mL
							Chlordane (trans)	0.08 ug/mL
							cis-Chlordane	0.08 ug/mL
							delta-BHC	0.08 ug/mL
							Dieldrin	0.16 ug/mL
							Endosulfan I	0.08 ug/mL
							Endosulfan II	0.16 ug/mL
							Endosulfan sulfate	0.16 ug/mL
							Endrin	0.16 ug/mL
							Endrin aldehyde	0.16 ug/mL
							Endrin ketone	0.16 ug/mL
							gamma-BHC (Lindane)	0.08 ug/mL
							Heptachlor	0.08 ug/mL
							Heptachlor epoxide	0.08 ug/mL
							Methoxychlor	0.8 ug/mL
							DCB Decachlorobiphenyl	0.16 ug/mL
							Tetrachloro-m-xylene	0.16 ug/mL
.PESTCALINT_00029	09/30/19	07/05/19	HEXANE, Lot EX_HEXANE_00037	10 mL	PSCALSRC_00009	1000 uL	4,4'-DDD	1.6 ug/mL
							4,4'-DDE	1.6 ug/mL
							4,4'-DDT	1.6 ug/mL
							Aldrin	0.8 ug/mL
							alpha-BHC	0.8 ug/mL
							beta-BHC	0.8 ug/mL
							Chlordane (trans)	0.8 ug/mL
							cis-Chlordane	0.8 ug/mL
							delta-BHC	0.8 ug/mL
							Dieldrin	1.6 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Endosulfan I	0.8 ug/mL
							Endosulfan II	1.6 ug/mL
							Endosulfan sulfate	1.6 ug/mL
							Endrin	1.6 ug/mL
							Endrin aldehyde	1.6 ug/mL
							Endrin ketone	1.6 ug/mL
							gamma-BHC (Lindane)	0.8 ug/mL
							Heptachlor	0.8 ug/mL
							Heptachlor epoxide	0.8 ug/mL
							Methoxychlor	8 ug/mL
					PSURRSRC_00008	80 uL	DCB Decachlorobiphenyl	1.6 ug/mL
							Tetrachloro-m-xylene	1.6 ug/mL
..PSCALSRC_00009	09/30/19	Restek, Lot A0114294			(Purchased Reagent)		4,4'-DDD	16 ug/mL
							4,4'-DDE	16 ug/mL
							4,4'-DDT	16 ug/mL
							Aldrin	8 ug/mL
							alpha-BHC	8 ug/mL
							beta-BHC	8 ug/mL
							Chlordane (trans)	8 ug/mL
							cis-Chlordane	8 ug/mL
							delta-BHC	8 ug/mL
							Dieldrin	16 ug/mL
							Endosulfan I	8 ug/mL
							Endosulfan II	16 ug/mL
							Endosulfan sulfate	16 ug/mL
							Endrin	16 ug/mL
							Endrin aldehyde	16 ug/mL
							Endrin ketone	16 ug/mL
							gamma-BHC (Lindane)	8 ug/mL
							Heptachlor	8 ug/mL
							Heptachlor epoxide	8 ug/mL
							Methoxychlor	80 ug/mL
..PSURRSRC_00008	12/01/19	RESTEK, Lot A089210			(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
PST_IS 2_00060	12/08/18	06/08/18	HEXANE, Lot EX-HEXANE 00031	1 mL	PST_IS_2_00003	50 uL	1-Bromo-2-nitrobenzene	50 ug/mL
.PST_IS_2_00003	10/15/19	Accustandard, Lot 2091101166			(Purchased Reagent)		1-Bromo-2-nitrobenzene	1000 ug/mL
PST_IS 2_00063	10/15/19	07/11/19	HEXANE, Lot EX-HEXANE 00037	1 mL	PST_IS_2_00003	50 uL	1-Bromo-2-nitrobenzene	50 ug/mL
.PST_IS_2_00003	10/15/19	Accustandard, Lot 2091101166			(Purchased Reagent)		1-Bromo-2-nitrobenzene	1000 ug/mL
PST_TOXCAL1_00009	10/27/18	04/27/18	HEXANE, Lot EX_HEXANE_00031	1 mL	PST_TOX_00025	20 uL	Toxaphene Peak 1	0.2 ug/mL
							Toxaphene Peak 2	0.2 ug/mL
							Toxaphene Peak 3	0.2 ug/mL
							Toxaphene Peak 4	0.2 ug/mL
							Toxaphene Peak 5	0.2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

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Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.PST_TOX_00025	10/27/18	04/27/18	HEXANE, Lot EX_HEXANE_00031	10 mL	PST_TOX_CAL_00002	100 uL	Toxaphene Peak 1	10 ug/mL
							Toxaphene Peak 2	10 ug/mL
							Toxaphene Peak 3	10 ug/mL
							Toxaphene Peak 4	10 ug/mL
							Toxaphene Peak 5	10 ug/mL
..PST_TOX_CAL_00002	10/31/19	Restek, Lot A0112488			(Purchased Reagent)		Toxaphene Peak 1	1000 ug/mL
							Toxaphene Peak 2	1000 ug/mL
							Toxaphene Peak 3	1000 ug/mL
							Toxaphene Peak 4	1000 ug/mL
							Toxaphene Peak 5	1000 ug/mL
PST_TOXCAL2_00009	10/27/18	04/27/18	HEXANE, Lot EX_HEXANE_00031	1 mL	PST_TOX_00025	40 uL	Toxaphene Peak 1	0.4 ug/mL
							Toxaphene Peak 2	0.4 ug/mL
							Toxaphene Peak 3	0.4 ug/mL
							Toxaphene Peak 4	0.4 ug/mL
							Toxaphene Peak 5	0.4 ug/mL
.PST_TOX_00025	10/27/18	04/27/18	HEXANE, Lot EX_HEXANE_00031	10 mL	PST_TOX_CAL_00002	100 uL	Toxaphene Peak 1	10 ug/mL
							Toxaphene Peak 2	10 ug/mL
							Toxaphene Peak 3	10 ug/mL
							Toxaphene Peak 4	10 ug/mL
							Toxaphene Peak 5	10 ug/mL
..PST_TOX_CAL_00002	10/31/19	Restek, Lot A0112488			(Purchased Reagent)		Toxaphene Peak 1	1000 ug/mL
							Toxaphene Peak 2	1000 ug/mL
							Toxaphene Peak 3	1000 ug/mL
							Toxaphene Peak 4	1000 ug/mL
							Toxaphene Peak 5	1000 ug/mL
PST_TOXCAL3_00009	10/27/18	04/27/18	HEXANE, Lot EX_HEXANE_00031	1 mL	PST_TOX_00025	80 uL	Toxaphene Peak 1	0.8 ug/mL
							Toxaphene Peak 2	0.8 ug/mL
							Toxaphene Peak 3	0.8 ug/mL
							Toxaphene Peak 4	0.8 ug/mL
							Toxaphene Peak 5	0.8 ug/mL
.PST_TOX_00025	10/27/18	04/27/18	HEXANE, Lot EX_HEXANE_00031	10 mL	PST_TOX_CAL_00002	100 uL	Toxaphene Peak 1	10 ug/mL
							Toxaphene Peak 2	10 ug/mL
							Toxaphene Peak 3	10 ug/mL
							Toxaphene Peak 4	10 ug/mL
							Toxaphene Peak 5	10 ug/mL
..PST_TOX_CAL_00002	10/31/19	Restek, Lot A0112488			(Purchased Reagent)		Toxaphene Peak 1	1000 ug/mL
							Toxaphene Peak 2	1000 ug/mL
							Toxaphene Peak 3	1000 ug/mL
							Toxaphene Peak 4	1000 ug/mL
							Toxaphene Peak 5	1000 ug/mL
PST_TOXCAL4_00012	10/27/18	04/27/18	HEXANE, Lot EX_HEXANE_00031	1 mL	PST_TOX_00025	160 uL	Toxaphene Peak 1	1.6 ug/mL
							Toxaphene Peak 2	1.6 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Toxaphene Peak 3	1.6 ug/mL
							Toxaphene Peak 4	1.6 ug/mL
							Toxaphene Peak 5	1.6 ug/mL
.PST_TOX_00025	10/27/18	04/27/18	HEXANE, Lot EX_HEXANE_00031	10 mL	PST_TOX_CAL_00002	100 uL	Toxaphene Peak 1	10 ug/mL
							Toxaphene Peak 2	10 ug/mL
							Toxaphene Peak 3	10 ug/mL
							Toxaphene Peak 4	10 ug/mL
							Toxaphene Peak 5	10 ug/mL
..PST_TOX_CAL_00002	10/31/19	Restek, Lot A0112488			(Purchased Reagent)		Toxaphene Peak 1	1000 ug/mL
							Toxaphene Peak 2	1000 ug/mL
							Toxaphene Peak 3	1000 ug/mL
							Toxaphene Peak 4	1000 ug/mL
							Toxaphene Peak 5	1000 ug/mL
PST_TOXCAL5_00009	10/27/18	04/27/18	HEXANE, Lot EX_HEXANE_00031	1 mL	PST_TOX_00025	320 uL	Toxaphene Peak 1	3.2 ug/mL
							Toxaphene Peak 2	3.2 ug/mL
							Toxaphene Peak 3	3.2 ug/mL
							Toxaphene Peak 4	3.2 ug/mL
							Toxaphene Peak 5	3.2 ug/mL
.PST_TOX_00025	10/27/18	04/27/18	HEXANE, Lot EX_HEXANE_00031	10 mL	PST_TOX_CAL_00002	100 uL	Toxaphene Peak 1	10 ug/mL
							Toxaphene Peak 2	10 ug/mL
							Toxaphene Peak 3	10 ug/mL
							Toxaphene Peak 4	10 ug/mL
							Toxaphene Peak 5	10 ug/mL
..PST_TOX_CAL_00002	10/31/19	Restek, Lot A0112488			(Purchased Reagent)		Toxaphene Peak 1	1000 ug/mL
							Toxaphene Peak 2	1000 ug/mL
							Toxaphene Peak 3	1000 ug/mL
							Toxaphene Peak 4	1000 ug/mL
							Toxaphene Peak 5	1000 ug/mL
PST_TOXCAL6_00009	10/27/18	04/27/18	HEXANE, Lot EX_HEXANE_00031	1 mL	PST_TOX_00025	400 uL	Toxaphene Peak 1	4 ug/mL
							Toxaphene Peak 2	4 ug/mL
							Toxaphene Peak 3	4 ug/mL
							Toxaphene Peak 4	4 ug/mL
							Toxaphene Peak 5	4 ug/mL
.PST_TOX_00025	10/27/18	04/27/18	HEXANE, Lot EX_HEXANE_00031	10 mL	PST_TOX_CAL_00002	100 uL	Toxaphene Peak 1	10 ug/mL
							Toxaphene Peak 2	10 ug/mL
							Toxaphene Peak 3	10 ug/mL
							Toxaphene Peak 4	10 ug/mL
							Toxaphene Peak 5	10 ug/mL
..PST_TOX_CAL_00002	10/31/19	Restek, Lot A0112488			(Purchased Reagent)		Toxaphene Peak 1	1000 ug/mL
							Toxaphene Peak 2	1000 ug/mL
							Toxaphene Peak 3	1000 ug/mL
							Toxaphene Peak 4	1000 ug/mL
							Toxaphene Peak 5	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
PSURR_00053	12/01/19	08/13/19	ACETONE, Lot 13010015	500 mL	PSURRSRC_00008	500 uL	DCB Decachlorobiphenyl	0.2 ug/mL
							Tetrachloro-m-xylene	0.2 ug/mL
.PSURRSRC_00008	12/01/19	RESTEK, Lot A089210			(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
SV_DFTPPTune_00048							Aramite, Total	
							Diallate	
							Famphur	
							Isosafrole	
							Methyl Phenols,Total	
							Tentatively Identified Compound	
							Total Cresols	
							Total Cresols, TCEQ Definition	
					SVDFTPP_00022	1250 uL	4,4'-DDD	50 ug/mL
							4,4'-DDE	50 ug/mL
							4,4'-DDT	50 ug/mL
							Benzidine_T	50 ug/mL
							DFTPP	50 ug/mL
							Pentachlorophenol_T	50 ug/mL
.SVDFTPP_00022	09/30/21	RESTEK, Lot A0141339			(Purchased Reagent)		4,4'-DDD	1000 ug/mL
							4,4'-DDE	1000 ug/mL
							4,4'-DDT	1000 ug/mL
							Benzidine_T	1000 ug/mL
							DFTPP	1000 ug/mL
							Pentachlorophenol_T	1000 ug/mL
SV_INSTD_LVI_00020	06/30/23	05/01/19	METHYLENE CHLORIDE, Lot EX-METHY-CHLO_0214	10 ug/mL	SV_8270ISTD_00019	2 mL	1,4-Dichlorobenzene-d4	400 ug/mL
							Acenaphthene-d10	400 ug/mL
							Chrysene-d12	400 ug/mL
							Naphthalene-d8	400 ug/mL
							Perylene-d12	400 ug/mL
							Phenanthrene-d10	400 ug/mL
.SV_8270ISTD_00019	06/30/23	Restek, Lot A0139031			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
SV_REGICAL_00027	08/31/19	06/04/19	METHYLENE CHLORIDE, Lot EX-METHY-CHLO_0223	5 mL	SV_12DNB_00017	100 uL	1,2-Dinitrobenzene	200 ug/mL
					SV_26DMP_INT_00019	100 uL	2,6-Dimethylphenol	200 ug/mL
					SV_8270L1ST10_00011	500 uL	Benzoic acid	200 ug/mL
							Indene	200 ug/mL
					SV_8270L1STD1_00005	1000 uL	1,1'-Biphenyl	200 ug/mL
							1,2,4,5-Tetrachlorobenzene	200 ug/mL
							1,2,4-Trichlorobenzene	200 ug/mL
							1,2-Dichlorobenzene	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2-Diphenylhydrazine	200 ug/mL
							1,3-Dichlorobenzene	200 ug/mL
							1,3-Dinitrobenzene	200 ug/mL
							1,4-Dichlorobenzene	200 ug/mL
							1-Methylnaphthalene	200 ug/mL
							2,2'-oxybis[1-chloropropane]	200 ug/mL
							2,3,4,6-Tetrachlorophenol	200 ug/mL
							2,4,5-Trichlorophenol	200 ug/mL
							2,4,6-Trichlorophenol	200 ug/mL
							2,4-Dichlorophenol	200 ug/mL
							2,4-Dimethylphenol	200 ug/mL
							2,4-Dinitrophenol	400 ug/mL
							2,4-Dinitrotoluene	200 ug/mL
							2,6-Dichlorophenol	200 ug/mL
							2,6-Dinitrotoluene	200 ug/mL
							2-Chloronaphthalene	200 ug/mL
							2-Chlorophenol	200 ug/mL
							2-Methylnaphthalene	200 ug/mL
							2-Methylphenol	200 ug/mL
							2-Nitroaniline	200 ug/mL
							2-Nitrophenol	200 ug/mL
							3 & 4 Methylphenol	200 ug/mL
							3-Nitroaniline	200 ug/mL
							4,6-Dinitro-2-methylphenol	400 ug/mL
							4-Bromophenyl phenyl ether	200 ug/mL
							4-Chloro-3-methylphenol	200 ug/mL
							4-Chloroaniline	200 ug/mL
							4-Chlorophenyl phenyl ether	200 ug/mL
							4-Nitroaniline	200 ug/mL
							4-Nitrophenol	400 ug/mL
							Acenaphthene	200 ug/mL
							Acenaphthylene	200 ug/mL
							Acetophenone	200 ug/mL
							Aniline	200 ug/mL
							Anthracene	200 ug/mL
							Azobenzene	200 ug/mL
							Benzo[a]anthracene	200 ug/mL
							Benzo[a]pyrene	200 ug/mL
							Benzo[b]fluoranthene	200 ug/mL
							Benzo[g,h,i]perylene	200 ug/mL
							Benzo[k]fluoranthene	200 ug/mL
							Benzyl alcohol	200 ug/mL
							Bis(2-chloroethoxy)methane	200 ug/mL
							Bis(2-chloroethyl)ether	200 ug/mL
							Bis(2-ethylhexyl) phthalate	200 ug/mL
							Butyl benzyl phthalate	200 ug/mL
							Carbazole	200 ug/mL
							Chrysene	200 ug/mL

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Di-n-butyl phthalate	200 ug/mL
							Di-n-octyl phthalate	200 ug/mL
							Dibenz(a,h)anthracene	200 ug/mL
							Dibenzofuran	200 ug/mL
							Diethyl phthalate	200 ug/mL
							Dimethyl phthalate	200 ug/mL
							Diphenylamine	170 ug/mL
							Fluoranthene	200 ug/mL
							Fluorene	200 ug/mL
							Hexachlorobenzene	200 ug/mL
							Hexachlorobutadiene	200 ug/mL
							Hexachlorocyclopentadiene	200 ug/mL
							Hexachloroethane	200 ug/mL
							Hexadecane	200 ug/mL
							Indeno[1,2,3-cd]pyrene	200 ug/mL
							Isophorone	200 ug/mL
							n-Decane	200 ug/mL
							N-Nitrosodi-n-propylamine	200 ug/mL
							N-Nitrosodimethylamine	200 ug/mL
							N-Nitrosodiphenylamine	200 ug/mL
							n-Octadecane	200 ug/mL
							Naphthalene	200 ug/mL
							Nitrobenzene	200 ug/mL
							Pentachlorophenol	400 ug/mL
							Phenanthrene	200 ug/mL
							Phenol	200 ug/mL
							Pyrene	200 ug/mL
							Pyridine	400 ug/mL
					SV_8270SURR_00009	200 uL	2,4,6-Tribromophenol (Surr)	200 ug/mL
							2-Fluorobiphenyl	200 ug/mL
							2-Fluorophenol (Surr)	200 ug/mL
							Nitrobenzene-d5 (Surr)	200 ug/mL
							Phenol-d5 (Surr)	200 ug/mL
							Terphenyl-d14 (Surr)	200 ug/mL
.SV_12DNB_00017	05/30/20	05/28/19	METHYLENE CHLORIDE, Lot EX-METHYL-CHLO 223	10 mL	SV_12DNB_N_00004	0.1 g	1,2-Dinitrobenzene	10000 ug/mL
..SV_12DNB_N_00004	05/30/20	Chem Service, Lot 2074700			(Purchased Reagent)		1,2-Dinitrobenzene	1 g/g
.SV_26DMP_INT_00019	08/31/19	02/27/19	METHYLENE CHLORIDE, Lot EX-METHYL-CHLO 09	10 mL	SV_26DMP_NEAT_00003	0.1 g	2,6-Dimethylphenol	10000 ug/mL
..SV_26DMP_NEAT_00003	06/30/22	CHEMSERVICE, Lot 7493500			(Purchased Reagent)		2,6-Dimethylphenol	1 g/g
.SV_8270L1ST10_00011	10/31/19	Restek, Lot A0136865			(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
.SV_8270L1STD1_00005	05/31/20	Restek, Lot A0143135			(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

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SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	850 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
.SV_8270SURR_00009	12/31/22	RESTEK, Lot A0133251			(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
SVREGSURR_00137	02/13/20	08/13/19	Methanol, Lot EX-METHANOL_046	500 mL	SV_8270SURR_00009	5 mL	2,4,6-Tribromophenol (Surr)	50 ug/mL
							2-Fluorobiphenyl	50 ug/mL
							2-Fluorophenol (Surr)	50 ug/mL
							Nitrobenzene-d5 (Surr)	50 ug/mL
							Phenol-d5 (Surr)	50 ug/mL
							Terphenyl-d14 (Surr)	50 ug/mL
.SV_8270SURR_00009	12/31/22	RESTEK, Lot A0133251			(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
TOCISCAL_00450	10/17/19	09/17/19	DI WATER, Lot NONE	1000 mL	WETSTOCCAL_00023	10 mL	TOC	10 ppm
.WETSTOCCAL_00023	05/31/20	RICCA, Lot 1906641			(Purchased Reagent)		TOC	1000 mg/L

REAGENT TRACEABILITY SUMMARY

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SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
TOCSLCS_00271	10/17/19	09/17/19	DI WATER, Lot NONE	1000 mL	WETSTOCICV_00035	10 mL	TOC	10 ppm
.WETSTOCICV_00035	05/11/19		LABCHEM, Lot G131-05		(Purchased Reagent)		TOC	1000 mg/L
VOAIS250PPM_00134	09/11/19	08/28/19	Methanol, Lot V071019A	1 mL	VOA3IS_00031	100 uL	1,4-Dichlorobenzene-d4	250 ug/mL
							Chlorobenzene-d5	250 ug/mL
							Fluorobenzene	250 ug/mL
.VOA3IS_00031	06/30/23		Restek, Lot A0138856		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2500 ug/mL
							Chlorobenzene-d5	2500 ug/mL
							Fluorobenzene	2500 ug/mL
VOAIS250PPM_00135	09/25/19	09/11/19	Methanol, Lot V071019A	1 mL	VOA3IS_00031	100 uL	1,4-Dichlorobenzene-d4	250 ug/mL
							Chlorobenzene-d5	250 ug/mL
							Fluorobenzene	250 ug/mL
.VOA3IS_00031	06/30/23		Restek, Lot A0138856		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2500 ug/mL
							Chlorobenzene-d5	2500 ug/mL
							Fluorobenzene	2500 ug/mL
VOALCSGASPT_00341	09/04/19	08/28/19	Methanol, Lot V071019A	1 mL	VOARGASLCS_00008	20 uL	Vinyl chloride	50 ug/mL
.VOARGASLCS_00008	06/30/20		RESTEK, Lot A0128832		(Purchased Reagent)		Vinyl chloride	2500 ug/mL
VOALCSGASPT_00343	09/18/19	09/11/19	Methanol, Lot V071019A	1 mL	VOARGASLCS_00008	20 uL	Vinyl chloride	50 ug/mL
.VOARGASLCS_00008	06/30/20		RESTEK, Lot A0128832		(Purchased Reagent)		Vinyl chloride	2500 ug/mL
VOALCSPT2_00147	09/11/19	08/28/19	Methanol, Lot V071019A	1 mL	VOALMegMi2017_00004	20 uL	1,1-Dichloroethene	50 ug/mL
							1,2-Dichloroethane	50 ug/mL
							1,4-Dichlorobenzene	50 ug/mL
							Benzene	50 ug/mL
							Carbon disulfide	50 ug/mL
							Carbon tetrachloride	50 ug/mL
							Chlorobenzene	50 ug/mL
							Chloroform	50 ug/mL
							Hexachlorobutadiene	50 ug/mL
							m-Xylene & p-Xylene	50 ug/mL
							o-Xylene	50 ug/mL
							Tetrachloroethene	50 ug/mL
							Trichloroethene	50 ug/mL
							Xylenes, Total	100 ug/mL
					VOARKETONLCS_00005	8 uL	2-Butanone (MEK)	100 ug/mL
.VOALMegMi2017_00004	06/30/21		Restek, Lot A0144202		(Purchased Reagent)		1,1-Dichloroethene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,4-Dichlorobenzene	2500 ug/mL
							Benzene	2500 ug/mL
							Carbon disulfide	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chloroform	2500 ug/mL
							Hexachlorobutadiene	2500 ug/mL
							m-Xylene & p-Xylene	2500 ug/mL
							o-Xylene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Trichloroethene	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Xylenes, Total	5000 ug/mL
.VOARKETONLCS_00005	01/31/20	Restek, Lot A0123880			(Purchased Reagent)		2-Butanone (MEK)	12500 ug/mL
VOALCSPT2_00148	09/25/19	09/11/19	Methanol, Lot V071019A	1 mL	VOALMegMi2017_00004	20 uL	1,1-Dichloroethene	50 ug/mL
							1,2-Dichloroethane	50 ug/mL
							1,4-Dichlorobenzene	50 ug/mL
							Benzene	50 ug/mL
							Carbon disulfide	50 ug/mL
							Carbon tetrachloride	50 ug/mL
							Chlorobenzene	50 ug/mL
							Chloroform	50 ug/mL
							Hexachlorobutadiene	50 ug/mL
							m-Xylene & p-Xylene	50 ug/mL
							o-Xylene	50 ug/mL
							Tetrachloroethene	50 ug/mL
							Trichloroethene	50 ug/mL
							Xylenes, Total	100 ug/mL
					VOARKETONLCS_00005	8 uL	2-Butanone (MEK)	100 ug/mL
.VOALMegMi2017_00004	06/30/21	Restek, Lot A0144202			(Purchased Reagent)		1,1-Dichloroethene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,4-Dichlorobenzene	2500 ug/mL
							Benzene	2500 ug/mL
							Carbon disulfide	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chloroform	2500 ug/mL
							Hexachlorobutadiene	2500 ug/mL
							m-Xylene & p-Xylene	2500 ug/mL
							o-Xylene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Trichloroethene	2500 ug/mL
							Xylenes, Total	5000 ug/mL
.VOARKETONLCS_00005	01/31/20	Restek, Lot A0123880			(Purchased Reagent)		2-Butanone (MEK)	12500 ug/mL
VOASS250PPM_00111	09/11/19	08/28/19	Methanol, Lot V071019A	1 mL	VOARSS_00012	100 uL	1,2-Dichloroethane-d4 (Surr)	250 ug/mL
							4-Bromofluorobenzene	250 ug/mL
							Dibromofluoromethane	250 ug/mL
							Toluene-d8 (Surr)	250 ug/mL
.VOARSS_00012	12/31/20	Restek, Lot A0115812			(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene	2500 ug/mL
							Dibromofluoromethane	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
VOASS250PPM_00112	09/25/19	09/11/19	Methanol, Lot V071019A	1 mL	VOARSS_00012	100 uL	1,2-Dichloroethane-d4 (Surr)	250 ug/mL
							4-Bromofluorobenzene	250 ug/mL
							Dibromofluoromethane	250 ug/mL
							Toluene-d8 (Surr)	250 ug/mL
.VOARSS_00012	12/31/20	Restek, Lot A0115812			(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene	2500 ug/mL
							Dibromofluoromethane	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Toluene-d8 (Surr)	2500 ug/mL
VOASTDGASPT_00341	09/04/19	08/28/19	Methanol, Lot V071019A	1 mL	VOARGAS_00014	20 uL	Bromomethane	50 ug/mL
							Butadiene	50 ug/mL
							Chloroethane	50 ug/mL
							Chloromethane	50 ug/mL
							Dichlorodifluoromethane	50 ug/mL
							Dichlorofluoromethane	50 ug/mL
							Trichlorofluoromethane	50 ug/mL
							Vinyl chloride	50 ug/mL
.VOARGAS_00014	10/31/20	Restek, Lot A0131502			(Purchased Reagent)		Bromomethane	2500 ug/mL
							Butadiene	2500 ug/mL
							Chloroethane	2500 ug/mL
							Chloromethane	2500 ug/mL
							Dichlorodifluoromethane	2500 ug/mL
							Dichlorofluoromethane	2500 ug/mL
							Trichlorofluoromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
VOASTDGASPT_00343	09/18/19	09/11/19	Methanol, Lot V071019A	1 mL	VOARGAS_00014	20 uL	Vinyl chloride	50 ug/mL
.VOARGAS_00014	10/31/20	Restek, Lot A0131502			(Purchased Reagent)		Vinyl chloride	2500 ug/mL
VOASTDPT2_00147	09/11/19	08/28/19	Methanol, Lot V071019A	1 mL	VOAMegMix2017_00006	20 uL	1,1,1,2-Tetrachloroethane	50 ug/mL
							1,1,1-Trichloroethane	50 ug/mL
							1,1,2,2-Tetrachloroethane	50 ug/mL
							1,1,2-Trichloro-1,2,2-trifluor oethane	50 ug/mL
							1,1,2-Trichloroethane	50 ug/mL
							1,1-Dichloroethane	50 ug/mL
							1,1-Dichloroethene	50 ug/mL
							1,1-Dichloropropene	50 ug/mL
							1,2,3-Trichlorobenzene	50 ug/mL
							1,2,3-Trichloropropane	50 ug/mL
							1,2,4-Trichlorobenzene	50 ug/mL
							1,2,4-Trimethylbenzene	50 ug/mL
							1,2-Dibromo-3-Chloropropane	50 ug/mL
							1,2-Dichlorobenzene	50 ug/mL
							1,2-Dichloroethane	50 ug/mL
							1,2-Dichloropropane	50 ug/mL
							1,3,5-Trimethylbenzene	50 ug/mL
							1,3-Dichlorobenzene	50 ug/mL
							1,3-Dichloropropane	50 ug/mL
							1,4-Dichlorobenzene	50 ug/mL
							1,4-Dioxane	1000 ug/mL
							2,2-Dichloropropane	50 ug/mL
							2-Chlorotoluene	50 ug/mL
							2-Methyl-2-propanol	500 ug/mL
							3-Chloro-1-propene	50 ug/mL
							4-Chlorotoluene	50 ug/mL
							4-Isopropyltoluene	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Acrylonitrile	500 ug/mL
							Benzene	50 ug/mL
							Bromobenzene	50 ug/mL
							Bromoform	50 ug/mL
							Carbon disulfide	50 ug/mL
							Carbon tetrachloride	50 ug/mL
							Chlorobenzene	50 ug/mL
							Chlorobromomethane	50 ug/mL
							Chlorodibromomethane	50 ug/mL
							Chloroform	50 ug/mL
							cis-1,2-Dichloroethene	50 ug/mL
							cis-1,3-Dichloropropene	50 ug/mL
							Cyclohexane	50 ug/mL
							Dibromomethane	50 ug/mL
							Dichlorobromomethane	50 ug/mL
							Ethyl ether	50 ug/mL
							Ethyl methacrylate	50 ug/mL
							Ethylbenzene	50 ug/mL
							Ethylene Dibromide	50 ug/mL
							Hexachlorobutadiene	50 ug/mL
							Hexane	50 ug/mL
							Iodomethane	50 ug/mL
							Isobutyl alcohol	1250 ug/mL
							Isopropylbenzene	50 ug/mL
							m-Xylene & p-Xylene	50 ug/mL
							Methyl acetate	100 ug/mL
							Methyl tert-butyl ether	50 ug/mL
							Methylcyclohexane	50 ug/mL
							Methylene Chloride	50 ug/mL
							n-Butylbenzene	50 ug/mL
							n-Heptane	50 ug/mL
							N-Propylbenzene	50 ug/mL
							Naphthalene	50 ug/mL
							o-Xylene	50 ug/mL
							sec-Butylbenzene	50 ug/mL
							Styrene	50 ug/mL
							tert-Butylbenzene	50 ug/mL
							Tetrachloroethene	50 ug/mL
							Tetrahydrofuran	100 ug/mL
							Toluene	50 ug/mL
							trans-1,2-Dichloroethene	50 ug/mL
							trans-1,3-Dichloropropene	50 ug/mL
							trans-1,4-Dichloro-2-butene	50 ug/mL
							Trichloroethene	50 ug/mL
					VOAR2CEVE_00014	40 uL	2-Chloroethyl vinyl ether	100 ug/mL
					VOARAcroleinS_00005	12.5 uL	Acrolein	250 ug/mL
					VOARADD4COM_00006	20 uL	Ethyl acetate	100 ug/mL
							Ethyl acrylate	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Methyl methacrylate	100 ug/mL
							n-Butyl acetate	50 ug/mL
					VOARADDCOM_00014	20 uL	1,2,3-Trimethylbenzene	50 ug/mL
							1,3,5-Trichlorobenzene	50 ug/mL
							1-Chlorohexane	50 ug/mL
							2-Chloro-1,3-butadiene	50 ug/mL
							2-Nitropropane	100 ug/mL
							Benzyl chloride	50 ug/mL
							Isooctane	50 ug/mL
							Isopropyl alcohol	500 ug/mL
							Methacrylonitrile	500 ug/mL
							n-Butanol	1250 ug/mL
					VOARCYCHONE_00027	100 uL	Cyclohexanone	2500 ug/mL
					VOARKETONDup_00002	8 uL	2-Butanone (MEK)	100 ug/mL
							2-Hexanone	100 ug/mL
							4-Methyl-2-pentanone (MIBK)	100 ug/mL
							Acetone	100 ug/mL
					VOARPOLADD_00013	20 uL	Acetonitrile	500 ug/mL
							Isopropyl ether	50 ug/mL
							Propionitrile	500 ug/mL
							Tert-amyl methyl ether	50 ug/mL
							Tert-butyl ethyl ether	50 ug/mL
					VOARSS_00012	20 uL	1,2-Dichloroethane-d4 (Surr)	50 ug/mL
							4-Bromofluorobenzene	50 ug/mL
							Dibromofluoromethane	50 ug/mL
							Toluene-d8 (Surr)	50 ug/mL
					VOARVASTD_00004	20 uL	Vinyl acetate	100 ug/mL
.VOAMegMix2017_00006	06/30/21		Restek, Lot A0143774		(Purchased Reagent)		1,1,1,2-Tetrachloroethane	2500 ug/mL
							1,1,1-Trichloroethane	2500 ug/mL
							1,1,2,2-Tetrachloroethane	2500 ug/mL
							1,1,2-Trichloro-1,2,2-trifluor oethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,1-Dichloropropene	2500 ug/mL
							1,2,3-Trichlorobenzene	2500 ug/mL
							1,2,3-Trichloropropane	2500 ug/mL
							1,2,4-Trichlorobenzene	2500 ug/mL
							1,2,4-Trimethylbenzene	2500 ug/mL
							1,2-Dibromo-3-Chloropropane	2500 ug/mL
							1,2-Dichlorobenzene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,2-Dichloropropane	2500 ug/mL
							1,3,5-Trimethylbenzene	2500 ug/mL
							1,3-Dichlorobenzene	2500 ug/mL
							1,3-Dichloropropane	2500 ug/mL
							1,4-Dichlorobenzene	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,4-Dioxane	50000 ug/mL
							2,2-Dichloropropane	2500 ug/mL
							2-Chlorotoluene	2500 ug/mL
							2-Methyl-2-propanol	25000 ug/mL
							3-Chloro-1-propene	2500 ug/mL
							4-Chlorotoluene	2500 ug/mL
							4-Isopropyltoluene	2500 ug/mL
							Acrylonitrile	25000 ug/mL
							Benzene	2500 ug/mL
							Bromobenzene	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon disulfide	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chlorobromomethane	2500 ug/mL
							Chlorodibromomethane	2500 ug/mL
							Chloroform	2500 ug/mL
							cis-1,2-Dichloroethene	2500 ug/mL
							cis-1,3-Dichloropropene	2500 ug/mL
							Cyclohexane	2500 ug/mL
							Dibromomethane	2500 ug/mL
							Dichlorobromomethane	2500 ug/mL
							Ethyl ether	2500 ug/mL
							Ethyl methacrylate	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Ethylene Dibromide	2500 ug/mL
							Hexachlorobutadiene	2500 ug/mL
							Hexane	2500 ug/mL
							Iodomethane	2500 ug/mL
							Isobutyl alcohol	62500 ug/mL
							Isopropylbenzene	2500 ug/mL
							m-Xylene & p-Xylene	2500 ug/mL
							Methyl acetate	5000 ug/mL
							Methyl tert-butyl ether	2500 ug/mL
							Methylcyclohexane	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							n-Butylbenzene	2500 ug/mL
							n-Heptane	2500 ug/mL
							N-Propylbenzene	2500 ug/mL
							Naphthalene	2500 ug/mL
							o-Xylene	2500 ug/mL
							sec-Butylbenzene	2500 ug/mL
							Styrene	2500 ug/mL
							tert-Butylbenzene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Tetrahydrofuran	5000 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethene	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							trans-1,3-Dichloropropene	2500 ug/mL
							trans-1,4-Dichloro-2-butene	2500 ug/mL
							Trichloroethene	2500 ug/mL
.VOAR2CEVE_00014	12/31/20		Restek, Lot A0133302		(Purchased Reagent)		2-Chloroethyl vinyl ether	2500 ug/mL
.VOARAcroleinS_00005	10/31/19		Restek, Lot A0147676		(Purchased Reagent)		Acrolein	20000 ug/mL
.VOARADD4COM_00006	08/31/19		Restek, Lot A0135442		(Purchased Reagent)		Ethyl acetate	5000 ug/mL
							Ethyl acrylate	2500 ug/mL
							Methyl methacrylate	5000 ug/mL
							n-Butyl acetate	2500 ug/mL
.VOARADDCOM_00014	09/30/19		Restek, Lot A0135915		(Purchased Reagent)		1,2,3-Trimethylbenzene	2500 ug/mL
							1,3,5-Trichlorobenzene	2500 ug/mL
							1-Chlorohexane	2500 ug/mL
							2-Chloro-1,3-butadiene	2500 ug/mL
							2-Nitropropane	5000 ug/mL
							Benzyl chloride	2500 ug/mL
							Isooctane	2500 ug/mL
							Isopropyl alcohol	25000 ug/mL
							Methacrylonitrile	25000 ug/mL
							n-Butanol	62500 ug/mL
.VOARCYCHONE_00027	12/31/20		Restek, Lot A0133136		(Purchased Reagent)		Cyclohexanone	25000 ug/mL
.VOARKETONDup_00002	01/31/20		RESTEK, Lot A0123890		(Purchased Reagent)		2-Butanone (MEK)	12500 ug/mL
							2-Hexanone	12500 ug/mL
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL
							Acetone	12500 ug/mL
.VOARPOLADD_00013	07/31/20		Restek, Lot A0139911		(Purchased Reagent)		Acetonitrile	25000 ug/mL
							Isopropyl ether	2500 ug/mL
							Propionitrile	25000 ug/mL
							Tert-amyl methyl ether	2500 ug/mL
							Tert-butyl ethyl ether	2500 ug/mL
.VOARSS_00012	12/31/20		Restek, Lot A0115812		(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene	2500 ug/mL
							Dibromofluoromethane	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
.VOARVASTD_00004	08/31/19		Restek, Lot A0145775		(Purchased Reagent)		Vinyl acetate	5000 ug/mL
VOASTDPT2_00148	09/25/19	09/11/19	Methanol, Lot V071019A	1 mL	VOAMegMix2017_00006	20 uL	1,1-Dichloroethene	50 ug/mL
							1,2-Dichloroethane	50 ug/mL
							1,4-Dichlorobenzene	50 ug/mL
							Benzene	50 ug/mL
							Carbon disulfide	50 ug/mL
							Carbon tetrachloride	50 ug/mL
							Chlorobenzene	50 ug/mL
							Chloroform	50 ug/mL
							Hexachlorobutadiene	50 ug/mL
							m-Xylene & p-Xylene	50 ug/mL
							o-Xylene	50 ug/mL
							Tetrachloroethene	50 ug/mL
							Trichloroethene	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Xylenes, Total	100 ug/mL
					VOARKETONDup_00002	8 uL	2-Butanone (MEK)	100 ug/mL
					VOARSS_00012	20 uL	1,2-Dichloroethane-d4 (Surr)	50 ug/mL
							4-Bromofluorobenzene	50 ug/mL
							Dibromofluoromethane	50 ug/mL
							Toluene-d8 (Surr)	50 ug/mL
.VOAMegMix2017_00006	06/30/21	Restek, Lot A0143774			(Purchased Reagent)		1,1-Dichloroethene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,4-Dichlorobenzene	2500 ug/mL
							Benzene	2500 ug/mL
							Carbon disulfide	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chloroform	2500 ug/mL
							Hexachlorobutadiene	2500 ug/mL
							m-Xylene & p-Xylene	2500 ug/mL
							o-Xylene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Trichloroethene	2500 ug/mL
							Xylenes, Total	5000 ug/mL
.VOARKETONDup_00002	01/31/20	RESTEK, Lot A0123890			(Purchased Reagent)		2-Butanone (MEK)	12500 ug/mL
.VOARSS_00012	12/31/20	Restek, Lot A0115812			(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene	2500 ug/mL
							Dibromofluoromethane	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
WETSCODCAL_00032	02/28/20	HACH, Lot A9031			(Purchased Reagent)		Chemical Oxygen Demand	1000 mg/L
WETSMETBSU_00024	10/30/19	AQUA SOLUTIONS, Lot 8101846			(Purchased Reagent)		Sulfide	15 mg/L
WETSPHOSCS_00030	09/30/19	RICCA, Lot 2809a43			(Purchased Reagent)		Phosphorus as P	50 mg/L
							Phosphorus as PO4	153.325 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
HRDXNIDA_00389	08/26/20	08/26/19	Acetone, Lot 0000236139	500 mL	HRDXNIDA_00364	5 mL	13C-1,2,3,4,6,7,8-HpCDD	2 pg/uL
							13C-1,2,3,4,6,7,8-HpCDF	2 pg/uL
							13C-2,3,7,8-TCDF	2 pg/uL
							13C-2,3,7,8-TCDD	2 pg/uL
							13C-1,2,3,6,7,8-HxCDF	2 pg/uL
							13C-1,2,3,7,8,9-HxCDF	2 pg/uL
							13C-2,3,4,6,7,8-HxCDF	2 pg/uL
							13C-1,2,3,7,8-PeCDD	2 pg/uL
							13C-1,2,3,7,8-PeCDF	2 pg/uL
							13C-1,2,3,6,7,8-HxCDD	2 pg/uL
							13C-OCDD	4 pg/uL
					HRDXNIDA_00379	2.5 mL	13C-1,2,3,4,7,8,9-HpCDF	2 pg/uL
							13C-2,3,4,7,8-PeCDF	2 pg/uL
							13C-1,2,3,4,7,8-HxCDD	2 pg/uL
							13C-1,2,3,4,7,8-HxCDF	2 pg/uL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIDA_00379	04/11/26	04/11/19	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00375	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00376	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00377	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00378	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00375	05/31/26	CIL, Lot ER04251601			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00376	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00377	06/30/26	CIL, Lot ER04211601			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00378	07/31/27	CIL, Lot ER04211701			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
.HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
..HRDXNIS_00110	09/30/26	CIL, Lot ER08221601			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
..HRDXNIS_00111	01/31/27	CIL, Lot ER11081602			(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
HRDXNL2_00027	04/29/20	07/02/19	C14, Lot STBH7678	1 mL	HRDXNIDA_00303	0.25 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.5 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIS_00117	1 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00217	0.625 mL	37Cl4-2,3,7,8-TCDD	0.5 ng/mL
					HRDXNTA_00113	0.125 mL	1,2,3,4,6,7,8-HpCDD	2.5 ng/mL
							1,2,3,4,6,7,8-HpCDF	2.5 ng/mL
							1,2,3,4,7,8,9-HpCDF	2.5 ng/mL
							1,2,3,4,7,8-HxCDD	2.5 ng/mL
							1,2,3,4,7,8-HxCDF	2.5 ng/mL
							1,2,3,6,7,8-HxCDD	2.5 ng/mL
							1,2,3,6,7,8-HxCDF	2.5 ng/mL
							1,2,3,7,8,9-HxCDD	2.5 ng/mL
							1,2,3,7,8,9-HxCDF	2.5 ng/mL
							1,2,3,7,8-PeCDD	2.5 ng/mL
							1,2,3,7,8-PeCDF	2.5 ng/mL
							2,3,4,6,7,8-HxCDF	2.5 ng/mL
							2,3,4,7,8-PeCDF	2.5 ng/mL
							2,3,7,8-TCDD	0.5 ng/mL
							2,3,7,8-TCDF	0.5 ng/mL
							OCDD	5 ng/mL
							OCDF	5 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNIDA_00297	01/31/27		CIL, Lot ER01061701		(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21		CIL, Lot ER102711-01		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20		CIL, Lot ER072810-02		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20		CIL, Lot ER111010-01		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24		CIL, Lot ER08101404		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26		CIL, Lot ER09131601		(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26		CIL, Lot ER03031601		(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26		CIL, Lot ER02241603		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20		CIL, Lot ER100610-01		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20		CIL, Lot ER100610-02		(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21		CIL, Lot ER012111-01		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28		CIL, Lot ER03151801		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27		CIL, Lot ER04051701		(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26		CIL, Lot ER08221601		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27		CIL, Lot ER11081602		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00217	07/01/20	07/01/19	Isooctane, Lot 0000201867	500 mL	HRDXNSU_00196	1000 uL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
..HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
...HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
....HRDXNSU_00187	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00113	05/29/20	05/29/19	Acetone, Lot 00000197752	25 mL	HRDXNTA_00092	0.25 mL	1,2,3,4,6,7,8-HpCDD	20 ng/mL
							1,2,3,4,6,7,8-HpCDF	20 ng/mL
							1,2,3,4,7,8,9-HpCDF	20 ng/mL
							1,2,3,4,7,8-HxCDD	20 ng/mL
							1,2,3,4,7,8-HxCDF	20 ng/mL
							1,2,3,6,7,8-HxCDD	20 ng/mL
							1,2,3,6,7,8-HxCDF	20 ng/mL
							1,2,3,7,8,9-HxCDD	20 ng/mL

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,7,8,9-HxCDF	20 ng/mL
							1,2,3,7,8-PeCDD	20 ng/mL
							1,2,3,7,8-PeCDF	20 ng/mL
							2,3,4,6,7,8-HxCDF	20 ng/mL
							2,3,4,7,8-PeCDF	20 ng/mL
							2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL
							OCDD	40 ng/mL
							OCDF	40 ng/mL
..HRDXNTA_00092	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL3_00025	04/29/20	07/02/19	C14, Lot STBH7678	0.5 mL	HRDXNIDA_00303	0.125 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.25 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIS_00117	0.5 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00217	1.25 mL	37Cl4-2,3,7,8-TCDD	2 ng/mL
					HRDXNTA_00113	0.25 mL	1,2,3,4,6,7,8-HpCDD	10 ng/mL
							1,2,3,4,6,7,8-HpCDF	10 ng/mL
							1,2,3,4,7,8,9-HpCDF	10 ng/mL

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,4,7,8-HxCDD	10 ng/mL
							1,2,3,4,7,8-HxCDF	10 ng/mL
							1,2,3,6,7,8-HxCDD	10 ng/mL
							1,2,3,6,7,8-HxCDF	10 ng/mL
							1,2,3,7,8,9-HxCDD	10 ng/mL
							1,2,3,7,8,9-HxCDF	10 ng/mL
							1,2,3,7,8-PeCDD	10 ng/mL
							1,2,3,7,8-PeCDF	10 ng/mL
							2,3,4,6,7,8-HxCDF	10 ng/mL
							2,3,4,7,8-PeCDF	10 ng/mL
							2,3,7,8-TCDD	2 ng/mL
							2,3,7,8-TCDF	2 ng/mL
							OCDD	20 ng/mL
							OCDF	20 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26		CIL, Lot ER053107-02		(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27		CIL, Lot ER01061701		(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21		CIL, Lot ER102711-01		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20		CIL, Lot ER072810-02		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20		CIL, Lot ER111010-01		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24		CIL, Lot ER08101404		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26		CIL, Lot ER09131601		(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26		CIL, Lot ER03031601		(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26		CIL, Lot ER02241603		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20		CIL, Lot ER100610-01		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20		CIL, Lot ER100610-02		(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21		CIL, Lot ER012111-01		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28		CIL, Lot ER03151801		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27		CIL, Lot ER04051701		(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26	CIL, Lot ER08221601			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27	CIL, Lot ER11081602			(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00217	07/01/20	07/01/19	Isooctane, Lot 0000201867	500 mL	HRDXNSU_00196	1000 uL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
..HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
...HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
....HRDXNSU_00187	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00113	05/29/20	05/29/19	Acetone, Lot 00000197752	25 mL	HRDXNTA_00092	0.25 mL	1,2,3,4,6,7,8-HpCDD	20 ng/mL
							1,2,3,4,6,7,8-HpCDF	20 ng/mL
							1,2,3,4,7,8,9-HpCDF	20 ng/mL
							1,2,3,4,7,8-HxCDD	20 ng/mL
							1,2,3,4,7,8-HxCDF	20 ng/mL
							1,2,3,6,7,8-HxCDD	20 ng/mL
							1,2,3,6,7,8-HxCDF	20 ng/mL
							1,2,3,7,8,9-HxCDD	20 ng/mL
							1,2,3,7,8,9-HxCDF	20 ng/mL
							1,2,3,7,8-PeCDD	20 ng/mL
							1,2,3,7,8-PeCDF	20 ng/mL
							2,3,4,6,7,8-HxCDF	20 ng/mL
							2,3,4,7,8-PeCDF	20 ng/mL
							2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL
							OCDD	40 ng/mL
							OCDF	40 ng/mL
..HRDXNTA_00092	04/30/26	CIL, Lot ER02241602			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL4_00084	04/29/20	07/11/19	C14, Lot STBH7678	1 mL	HRDXNIDA_00364	0.5 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIDA_00379	0.25 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIS_00117	1 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00196	0.02 mL	37Cl4-2,3,7,8-TCDD	8 ng/mL
					HRDXNTA_00093	0.025 mL	1,2,3,4,6,7,8-HpCDD	50 ng/mL
							1,2,3,4,6,7,8-HpCDF	50 ng/mL
							1,2,3,4,7,8,9-HpCDF	50 ng/mL
							1,2,3,4,7,8-HxCDD	50 ng/mL
							1,2,3,4,7,8-HxCDF	50 ng/mL
							1,2,3,6,7,8-HxCDD	50 ng/mL
							1,2,3,6,7,8-HxCDF	50 ng/mL
							1,2,3,7,8,9-HxCDD	50 ng/mL
							1,2,3,7,8,9-HxCDF	50 ng/mL
							1,2,3,7,8-PeCDD	50 ng/mL
							1,2,3,7,8-PeCDF	50 ng/mL
							2,3,4,6,7,8-HxCDF	50 ng/mL
							2,3,4,7,8-PeCDF	50 ng/mL
							2,3,7,8-TCDD	10 ng/mL
							2,3,7,8-TCDF	10 ng/mL
							OCDD	100 ng/mL
							OCDF	100 ng/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNIDA_00354	09/30/26		CIL, Lot ER09131601		(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26		CIL, Lot ER03031601		(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26		CIL, Lot ER02241603		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20		CIL, Lot ER100610-01		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20		CIL, Lot ER100610-02		(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21		CIL, Lot ER012111-01		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28		CIL, Lot ER03151801		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27		CIL, Lot ER04051701		(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIDA_00379	04/11/26	04/11/19	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00375	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00376	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00377	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00378	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00375	05/31/26		CIL, Lot ER04251601		(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00376	01/31/27		CIL, Lot ER01061701		(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00377	06/30/26		CIL, Lot ER04211601		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00378	07/31/27		CIL, Lot ER04211701		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26		CIL, Lot ER08221601		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27		CIL, Lot ER11081602		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00093	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL5_00028	04/29/20	07/02/19	C14, Lot STBH7678	0.2 mL	HRDXNIDA_00303	0.05 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.1 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIS_00117	0.2 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00196	0.02 mL	37Cl4-2,3,7,8-TCDD	40 ng/mL
					HRDXNTA_00093	0.02 mL	1,2,3,4,6,7,8-HpCDD	200 ng/mL
							1,2,3,4,6,7,8-HpCDF	200 ng/mL
							1,2,3,4,7,8,9-HpCDF	200 ng/mL
							1,2,3,4,7,8-HxCDD	200 ng/mL
							1,2,3,4,7,8-HxCDF	200 ng/mL
							1,2,3,6,7,8-HxCDD	200 ng/mL
							1,2,3,6,7,8-HxCDF	200 ng/mL
							1,2,3,7,8,9-HxCDD	200 ng/mL
							1,2,3,7,8,9-HxCDF	200 ng/mL
							1,2,3,7,8-PeCDD	200 ng/mL
							1,2,3,7,8-PeCDF	200 ng/mL
							2,3,4,6,7,8-HxCDF	200 ng/mL
							2,3,4,7,8-PeCDF	200 ng/mL
							2,3,7,8-TCDD	40 ng/mL
							2,3,7,8-TCDF	40 ng/mL
							OCDD	400 ng/mL
							OCDF	400 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-1

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Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20		CIL, Lot ER111010-01		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24		CIL, Lot ER08101404		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26		CIL, Lot ER09131601		(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26		CIL, Lot ER03031601		(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26		CIL, Lot ER02241603		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20		CIL, Lot ER100610-01		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20		CIL, Lot ER100610-02		(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21		CIL, Lot ER012111-01		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28		CIL, Lot ER03151801		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27		CIL, Lot ER04051701		(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26		CIL, Lot ER08221601		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27		CIL, Lot ER11081602		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00093	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL6_00024	04/29/20	07/02/19	C14, Lot STBH7678	0.2 mL	HRDXNIDA_00303	0.05 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.1 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIS_00117	0.2 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00196	0.1 mL	37Cl4-2,3,7,8-TCDD	200 ng/mL
					HRDXNTA_00093	0.1 mL	1,2,3,4,6,7,8-HpCDD	1000 ng/mL
							1,2,3,4,6,7,8-HpCDF	1000 ng/mL
							1,2,3,4,7,8,9-HpCDF	1000 ng/mL
							1,2,3,4,7,8-HxCDD	1000 ng/mL
							1,2,3,4,7,8-HxCDF	1000 ng/mL
							1,2,3,6,7,8-HxCDD	1000 ng/mL
							1,2,3,6,7,8-HxCDF	1000 ng/mL
							1,2,3,7,8,9-HxCDD	1000 ng/mL
							1,2,3,7,8,9-HxCDF	1000 ng/mL
							1,2,3,7,8-PeCDD	1000 ng/mL
							1,2,3,7,8-PeCDF	1000 ng/mL
							2,3,4,6,7,8-HxCDF	1000 ng/mL
							2,3,4,7,8-PeCDF	1000 ng/mL
							2,3,7,8-TCDD	200 ng/mL
							2,3,7,8-TCDF	200 ng/mL
							OCDD	2000 ng/mL
							OCDF	2000 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26	CIL, Lot ER08221601			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27	CIL, Lot ER11081602			(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00093	04/30/26	CIL, Lot ER02241602			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
HRDXNSU_00219	08/26/20	08/26/19	Isooctane, Lot 0000201867	500 mL	HRDXNSU_00196	1000 uL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL

Reagent

HRBSCALR_00005

125 Market Street
New Haven, CT 06513
USA

AccuStandard® Inc.

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

CERTIFICATE OF ANALYSIS

Catalog No: M-8150
Description: Methyl Derivatives of Chlorinated Herbicides
Lot: 215041052-01
Solvent: Methanol
Hazards: *Refer to SDS for complete safety information*

Signal Word: Danger

Date Certified: Apr 13, 2017
Expiration: Apr 13, 2020
Sample Size: 1 mL
Components: 10
Storage Condition: Ambient (>5 °C)

Included on ISO/IEC 17025 Scope of Accreditation: Yes

Included on ISO Guide 34 Scope of Accreditation: Yes

Component	CAS #	Purity % (GC/MS)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
2,4-D Methyl ester	1928-38-7	99.3	101 0	100.3
Dalapon methyl ester	17640-02-7	86.8	115 7*	100.4
2,4-DB methyl ester	18625-12-2	100.0	101.6	101.6
Dicamba methyl ester	6597-78-0	100.0	101.7	101.7
Dichlorprop methyl ester	57153-17-0	95.1	107 2*	101.9
Dinoseb methyl ether	6099-79-2	96.1	104.1*	100.0
MCPA methyl ester	2436-73-9	99 3	10026	9956
MCPP methyl ester	23844-56-6	99 2	10015	9934
2,4,5-T methyl ester	1928-37-6	97 1	103.4*	100.4
2,4,5-TP methyl ester	4841-20-7	100.0	100.0	100.0

2613033
ID: HRBSCALR_00005
Exp: 04/13/20 Prpd: JAL
METHYL DERIVATIVES (

Recd
7/10/17

* Weight compensated to 100% purity

A product with a suffix (-1A, -2B, etc or -01, -02, etc) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] All weights are traceable through NIST, Test No. 822-275872-11

[2] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the gravimetric values reported on this certificate is ±0.24%. This value is the expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker

See reverse side for additional information

Certified By: Larry Decker, Organic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001

CERTIFICATION REPORT

1. **Quality Documentation:** This certificate is designed in accordance with ISO Guide 31 (Reference Materials - Contents of Certificates and Labels) and ISO Guide 35 (Reference Materials – General and Statistical Principles for Certification).

2. **Quality Standards:**

   ISO Guide 34 - General Requirements for the Competence of Reference Material Producers ANAB Certificate Number AR-1463

   ISO/IEC 17025 - General Requirements for the Competence of Testing and Calibration Laboratories ANAB Certificate Number AT-1339

   ISO 9001 - Quality Management System - Requirements Eagle Registrations Certificate Number 3774

3. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 11. If dilution is required, use only Class A glassware and diluent compatible with all certified analytes in this preparation. All solutions should be thoroughly mixed prior to use.

4. **Raw Materials:** Reference standards are prepared from the highest quality starting materials with defined purities. All analytes and solvents are obtained from pre-qualified vendors and then analyzed or evaluated prior to use.

5. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards and calibrated using an in-house procedure. Good Laboratory Practices have been used throughout the preparation of this CRM.

6. **Homogeneity Assessment:** Homogeneity of the finished product is assessed by analyzing sample batches or by other methods consistent with the intended use of the product and by procedures that comply with the appropriate Quality System requirements, and ISO Guide 35.

7. **Stability Assessment:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label. To ensure a uniform solution, mix the contents of the sealed container thoroughly prior to use. Care should be taken not to contaminate the contents of the original container.

8. **Analytical Quality Control:** Products are tested by validated analytical methods specified in the manufacturer's quality system.

9. **Uncertainty Statistics and Confidence Limits:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_m = \sqrt{(u(P))^2 + (u(m))^2 + (u(V))^2}$. The expanded uncertainty, U_{CRM} assumes a normal distribution and a coverage factor of k=2 is chosen using approximately a 95% confidence level. The U_{CRM} for organic products is ±5%, the U_{CRM} for inorganic products is ±2%.

10. **Warranties:** The manufacturer warrants that its products shall conform to the description of such products as provided in its catalog or on the specific product label. This warranty is exclusive, and the manufacturer makes no other warranty, express or implied, including any implied warranty of merchantability or fitness for any particular purpose.

11. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. Due to the hazardous nature, only trained personnel should handle this product. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

Reagent

HSURRDCAA_00024

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited Reference Material Producer Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567804 **Lot No.:** A0132641

Description : DCAA Standard

DCAA Standard 1,000µg/mL, Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2019 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	2,4-dichlorophenylacetic acid	1,000.8 µg/mL	+/- 5.8733 µg/mL	Gravimetric
	CAS # 19719-28-9 (Lot S30618V)		+/- 53.2353 µg/mL	Unstressed
	Purity 99%		+/- 53.3244 µg/mL	Stressed

Solvent: Methanol
CAS # 67-56-1
Purity 99%

9/26/18

Column:
150mm x 4.6mm
Allure C18 Cat.(#9164565)

Flow Rate:
1.0 ml/min.

Mobile Phase A:
0.14% H3PO4 in water

Mobile Phase B:
acetonitrile

Mobile Phase Composition:
90%B isocratic

Det. Type:
Wavelength: 220 & 254 nm

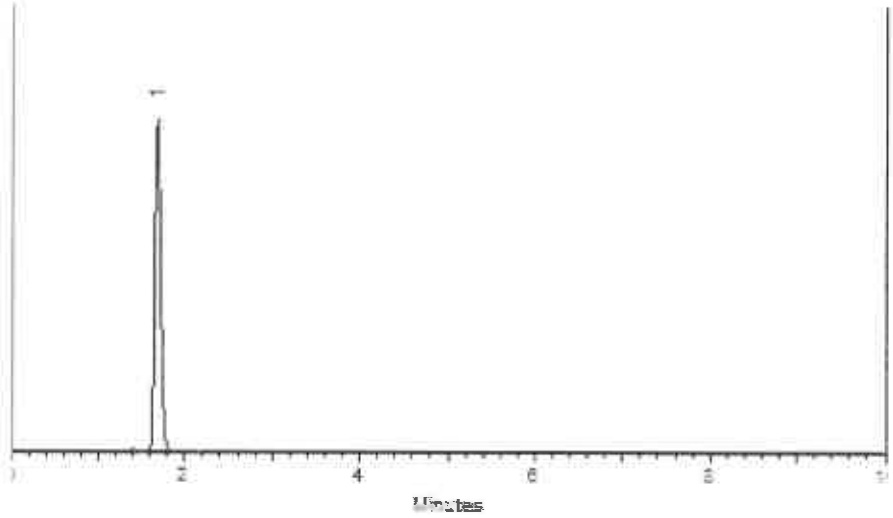

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cydnei L. Crust
Cydnei L. Crust - Mix Technician

Date Mixed: 21-Nov-2017 **Balance:** B442140311

Jennifer L Pollino
Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 27-Nov-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

Reagent

ICPMSPIKEMIX2_00001

3012437

ID: ICPMSPIKEMIX2_00001
Exp: 05/19/20 Prpd: KP1
ICPMSSPIKEMIX#2

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

Product #: TA-SPIKE2

Spike Mix # 2

Lot #: 982744-1

Matrix: 5% HNO_3

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
Al	1000 ± 5 mg/L	Fe	1000 ± 5 mg/L	Mg	5000 ± 25 mg/L
Ca	5000 ± 25 mg/L	K	5000 ± 25 mg/L	Na	5000 ± 25 mg/L

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to the certified concentrations shown above by gravimetric methods, using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to **NIST SRMs (see reverse side)**. The solution was stabilized using high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentrations were determined based upon gravimetric procedures. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against **NIST SRMs (see reverse side)**. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

November 19, 2018
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
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F: 707.545.7901

Europe
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1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

Reagent

MVETYLOIDE_00010

Certificate of Analysis

ETHYLENE OXIDE,1X1ML,50MG/ML,METHANOL

Certified Reference Material

Product ID 48838
Lot LRAB6887
Expiration Date September 30, 2019
Storage Conditions REFRIGERATE
Solvent/Matrix METHANOL

Analyte	*Units*	*Certified Value* [1,4]	*k* [5]	
ETHYLENE OXIDE	mg/mL	42.9 ± 2.7	2.00	75-21-8

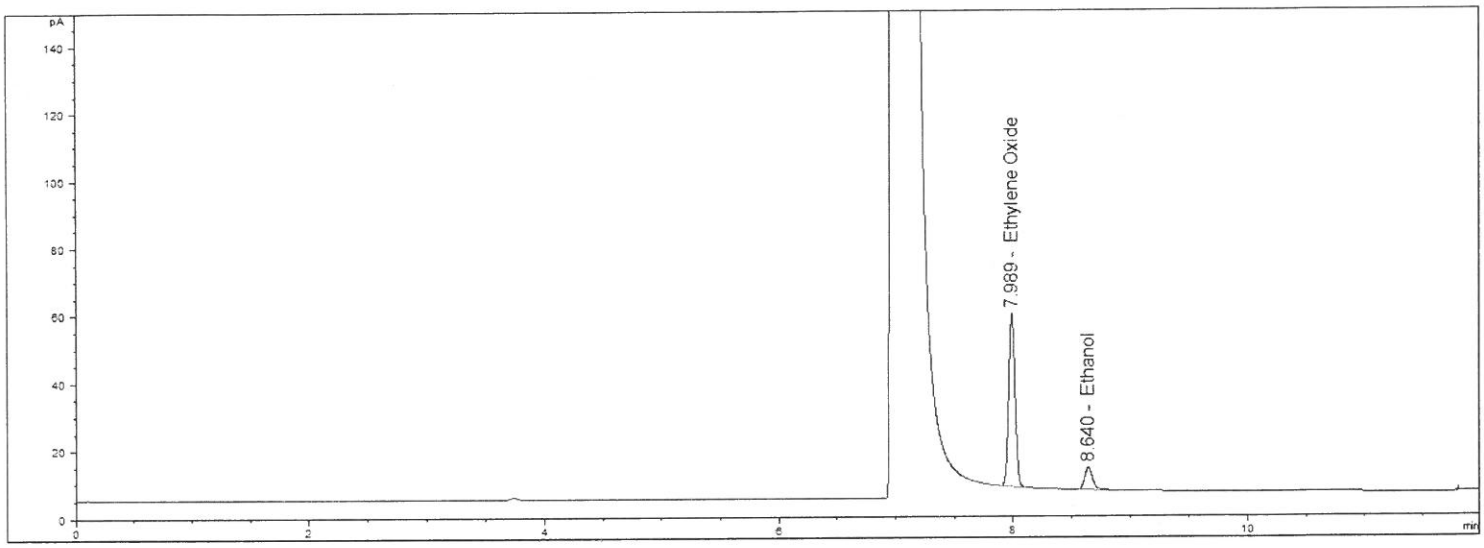

1 Certified value - based on the robust mean of round robin, interlaboratory study and analytically verified by RTC with associated uncertainties from the preparation and analytical procedures.
2 The standard deviation is the robust statistical standard deviation from the round robin interlaboratory study.
3 Acceptance limits are based on Interlaboratory Study Results. These ranges are recommendations only.
4 Ucrm - Uncertainty values in this document are expressed as Expanded Uncertainty (Ucrm) corresponding to the 95% confidence interval. Ucrm is derived from the combined standard uncertainty multiplied by the coverage factor k, which is obtained from a *t*-distribution and degrees of freedom. The components of combined standard uncertainty include the uncertainties due to characterization, homogeneity, long term stability, and short term stability (transport). The components due to stability are generally considered to be negligible unless otherwise indicated by stability studies. The mathematical representation of the Ucrm calculation is as follows:

$$u_{CRM} = \sqrt{u^2_{char} + u^2_{homogeneity} + u^2_{stability}}$$

5 ***k***: Coverage factor derived from a t-distribution table, based on the degrees of freedom of the data set. **Confidence interval = 95%**

Traceability: The standard was manufactured under an ISO/IEC 17025:2005 certified quality system. The balance used to weigh raw materials is accurate to +/- 0.0001g and calibrated regularly using mass standards traceable to NIST. All dilutions were preformed gravimetrically. Additionally, individual analytes are traceable to NIST SRMs where available and specified above.

Homogeneity: Homogeneity was assessed in accordance with ISO Guide 35. Completed units were sampled using a random stratified sampling protocol. The results of chemical analysis were then compared using a one-way analysis of variance approach as described by TNI EL-V3-2009 Appendix A.2. See Instructions for minimum sub-sample size.

THIS PRODUCT WAS DESIGNED, PRODUCED AND VERIFIED FOR ACCURACY AND STABILITY IN ACCORDANCE WITH ISO/IEC 17025:2005 (ANAB Cert AT-1467) and ISO GUIDE 34:2009 (ANAB Cert AR-1470).

Robert O'Brien - QC Supervisor

Mark Pooler - QA Supervisor

Certification Date September 21, 2017
Version 29591-9212017

ANAB ACCREDITED ISO GUIDE 34 REFERENCE MATERIAL PRODUCER

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

SIGMA-ALDRICH®
2931 Soldier Springs Rd. Laramie, Wyoming 82070 USA
307-742-5452
rtctechgroup@sial.com www.sigma-aldrich.com

Reagent

PCB_AR1221_00005

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

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ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

JE
Rec'd
1/23/19

Catalog No. : 32007 **Lot No.:** A0141291

Description : Aroclor® 1221 Standard

Aroclor® 1221 Standard 1,000 µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : December 31, 2024 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1221		999.3 µg/mL	+/- 5.9357	µg/mL	Gravimetric
	CAS # 11104-28-2	(Lot 6009900)		+/- 31.6861	µg/mL	Unstressed
	Purity —%			+/- 41.3854	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

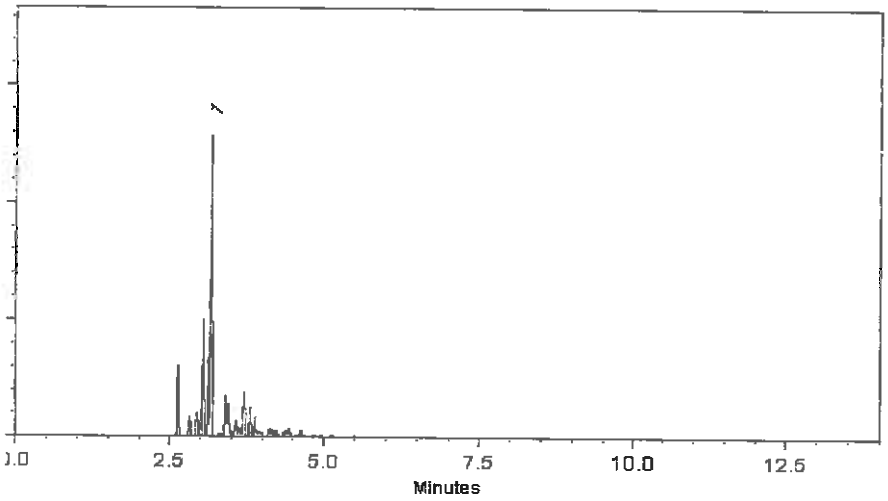

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cydnei L. Crust
Cydnei L. Crust - Mix Technician

Date Mixed: 05-Sep-2018 **Balance:** B251644995

Jennifer Pollino
Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 07-Sep-2018

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

Reagent

PCB_AR1242_00005

RESTEK® CERTIFIED REFERENCE MATERIAL

110 Benner Circle
Bellefonte, PA 16823-8812
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Certificate of Analysis

ACCREDITED ISO 17034 Accredited Reference Material Producer Certificate #3222.01

ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

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Je
Rec'd
1/28/19

Catalog No. : 32009 **Lot No.:** A0141840

Description : Aroclor® 1242 Standard

Aroclor® 1242 Standard 1,000 µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : December 31, 2024 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1242		1,000.7 µg/mL	+/-	5.9437	µg/mL	Gravimetric
	CAS # 53469-21-9	(Lot 01141-A)		+/-	31.7284	µg/mL	Unstressed
	Purity —%			+/-	41.4406	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

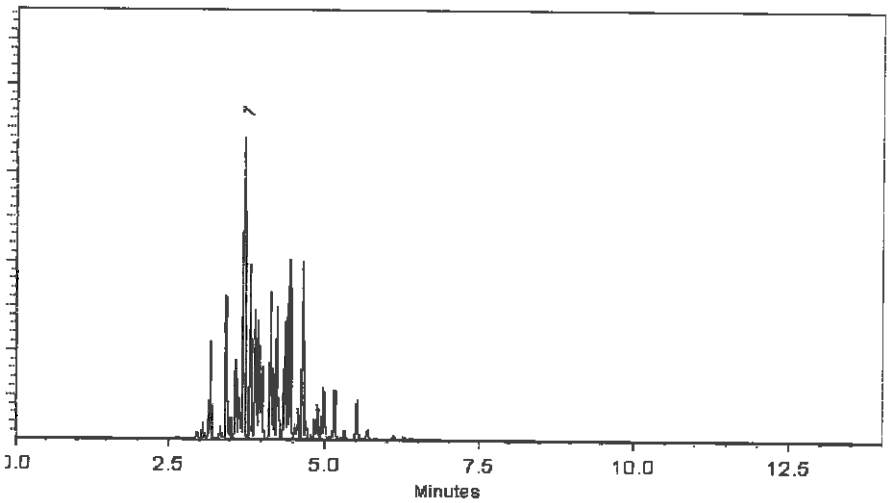

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

F. Joseph Tallon - Mix Technician

Date Mixed: 25-Sep-2018 **Balance:** B251644995

Amanda Miller - Operations Tech-ARM QC

Date Passed: 27-Sep-2018

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

Reagent

PCB_AR1248_00005

110 Benner Circle
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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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Testing Laboratory
Certificate 43222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Je
Rec'd
1/28/19

Catalog No. : 32010 **Lot No.:** A0139938

Description : Aroclor® 1248 Standard

Aroclor® 1248 Standard 1,000µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : October 31, 2024 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1248 **CAS #** 12672-29-6 (Lot W-108-07) **Purity** ---%	1,004.8 µg/mL	+/- 5.8967	µg/mL	Gravimetric
			+/- 31.8461	µg/mL	Unstressed
			+/- 41.6016	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

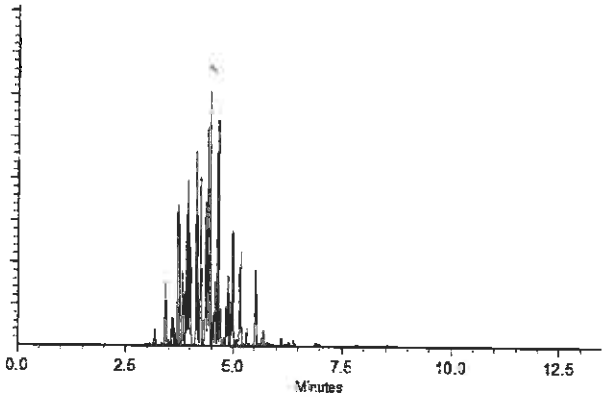

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Dawn Brownson - Mix Technician

Date Mixed: 24-Jul-2018 **Balance:** 1128360905

Justine Albertson - Operations Tech-ARM QE

Date Passed: 26-Jul-2018

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

Reagent

PESTICVSRC_00004

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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Reference Material Producer
Certificate #3222.01

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Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Rec'd 2/27/19

Catalog No. : 32415.SEC **Lot No.:** A0146108

Description : Organochlorine Pesticide Mix AB #3

Organochlorine Pesticide Mix AB #3 2,000µg/mL, Hexane/Toluene (50:50), 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2023 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	alpha-BHC **CAS #** 319-84-6.SEC **Purity** 99%	(Lot 1623900)	2,002.0 µg/mL	+/- 11.7489 +/- 91.1896 +/- 131.6653	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	gamma-BHC (Lindane) **CAS #** 58-89-9.SEC **Purity** 99%	(Lot LC00563V)	2,012.5 µg/mL	+/- 11.8105 +/- 91.6678 +/- 132.3559	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
3	beta-BHC **CAS #** 319-85-7.SEC **Purity** 98%	(Lot 3403300)	2,002.1 µg/mL	+/- 11.7497 +/- 91.1959 +/- 131.6745	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
4	delta-BHC **CAS #** 319-86-8.SEC **Purity** 99%	(Lot 1303100)	2,013.5 µg/mL	+/- 11.8163 +/- 91.7134 +/- 132.4217	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
5	Heptachlor **CAS #** 76-44-8.SEC **Purity** 99%	(Lot 4964700)	2,009.0 µg/mL	+/- 11.7899 +/- 91.5084 +/- 132.1257	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
6	Aldrin **CAS #** 309-00-2.SEC **Purity** 99%	(Lot ER062311-01)	2,002.5 µg/mL	+/- 11.7518 +/- 91.2123 +/- 131.6982	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
7	Heptachlor epoxide (isomer B) **CAS #** 1024-57-3 * **Purity** 99%	(Lot 7805400)	2,002.0 µg/mL	+/- 11.7489 +/- 91.1896 +/- 131.6653	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

8	trans-Chlordane **CAS #** 5103-74-2.SEC **Purity** 99%	(Lot LC12388V)	2,011.0	µg/mL	+/-	11.8017 91.5995 132.2572	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
9	cis-Chlordane **CAS #** 5103-71-9.SEC **Purity** 99%	(Lot 21320)	2,001.5	µg/mL	+/-	11.7459 91.1668 131.6325	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
10	Endosulfan I **CAS #** 959-98-8.SEC **Purity** 99%	(Lot 3440200)	2,002.0	µg/mL	+/-	11.7489 91.1896 131.6653	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
11	4,4'-DDE **CAS #** 72-55-9.SEC **Purity** 99%	(Lot 3497600)	2,001.5	µg/mL	+/-	11.7459 91.1668 131.6325	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
12	Dieldrin **CAS #** 60-57-1.SEC **Purity** 96%	(Lot 91453)	2,007.4	µg/mL	+/-	11.7803 91.4337 132.0179	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
13	Endrin **CAS #** 72-20-8 * **Purity** 98%	(Lot 8063500)	2,000.7	µg/mL	+/-	11.7411 91.1290 131.5779	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
14	4,4'-DDD **CAS #** 72-54-8.SEC **Purity** 99%	(Lot 8046400)	2,000.6	µg/mL	+/-	11.7406 91.1258 131.5733	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
15	Endosulfan II **CAS #** 33213-65-9.SEC **Purity** 99%	(Lot 96498)	2,016.5	µg/mL	+/-	11.8340 91.8500 132.6190	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
16	Endrin aldehyde **CAS #** 7421-93-4.SEC **Purity** 99%	(Lot 21752)	2,018.5	µg/mL	+/-	11.8457 91.9411 132.7505	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
17	4,4'-DDT **CAS #** 50-29-3.SEC **Purity** 99%	(Lot 7917700)	2,002.5	µg/mL	+/-	11.7518 91.2123 131.6982	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
18	Endosulfan sulfate **CAS #** 1031-07-8.SEC **Purity** 99%	(Lot 8005800)	2,013.5	µg/mL	+/-	11.8163 91.7134 132.4217	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
19	Methoxychlor **CAS #** 72-43-5.SEC **Purity** 99%	(Lot LC09014V)	2,007.0	µg/mL	+/-	11.7782 91.4173 131.9942	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
20	Endrin ketone **CAS #** 53494-70-5.SEC **Purity** 99%	(Lot 091307RD)	2,016.0	µg/mL	+/-	11.8310 91.8272 132.5861	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Hexane/Toluene (50:50)
CAS # 110-54-3/108-88-3
Purity 99%

*** Restek is unable to identify a reliable and/or acceptable second source for this material - the same batch of neat material may have been used to produce both the primary and secondary standard. The primary and secondary standards were prepared using different equipment and personnel.**

Reagent

PSCALSRC_00009

RESTEK® CERTIFIED REFERENCE MATERIAL

110 Benner Circle
Bellefonte, PA 16823-8812
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Certificate of Analysis

ACCREDITED
ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

JL
Rec'd
9/20/16

Catalog No. : 32292 **Lot No.:** A0114294

Description : Organochlorine Pesticide Mix AB # 2

Organochlorine Pesticide Mix AB # 2 8-80 µg/mL, Hexane/Toluene(1:1), 1mL/ampul

Container Size : **Pkg Amt:**

Expiration Date : September 30, 2019 **Storage:** 10°C or colder

2538628
ID: PSCALSRC_00009
Exp: 09/30/19 Prpd: JAL
PST Organochlorine Pes

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	alpha-BHC **CAS #** 319-84-6 **Purity** 99%	(Lot 0911942)	8.0 µg/mL	+/- 0.0697 µg/mL +/- 0.3680 µg/mL +/- 0.5287 µg/mL		Gravimetric Unstressed Stressed
2	gamma-BHC (Lindane) **CAS #** 58-89-9 **Purity** 99%	(Lot 3895100)	8.0 µg/mL	+/- 0.0697 µg/mL +/- 0.3680 µg/mL +/- 0.5287 µg/mL		Gravimetric Unstressed Stressed
3	beta-BHC **CAS #** 319-85-7 **Purity** 98%	(Lot SZBD116XV)	8.1 µg/mL	+/- 0.0703 µg/mL +/- 0.3710 µg/mL +/- 0.5330 µg/mL		Gravimetric Unstressed Stressed
4	delta-BHC **CAS #** 319-86-8 **Purity** 98%	(Lot ER02101401)	8.0 µg/mL	+/- 0.0700 µg/mL +/- 0.3697 µg/mL +/- 0.5310 µg/mL		Gravimetric Unstressed Stressed
5	Heptachlor **CAS #** 76-44-8 **Purity** 99%	(Lot NT051244)	8.1 µg/mL	+/- 0.0701 µg/mL +/- 0.3703 µg/mL +/- 0.5320 µg/mL		Gravimetric Unstressed Stressed
6	Aldrin **CAS #** 309-00-2 **Purity** 99%	(Lot 3959700)	8.0 µg/mL	+/- 0.0697 µg/mL +/- 0.3680 µg/mL +/- 0.5287 µg/mL		Gravimetric Unstressed Stressed
7	Heptachlor epoxide (isomer B) **CAS #** 1024-57-3 **Purity** 99%	(Lot ER121511-01)	8.0 µg/mL	+/- 0.0697 µg/mL +/- 0.3680 µg/mL +/- 0.5287 µg/mL		Gravimetric Unstressed Stressed

8	trans-Chlordane **CAS #** 5103-74-2 **Purity** 99%	(Lot ER061906-04)	8.0	µg/mL	+/-	0.0697	µg/mL	Gravimetric
					+/-	0.3680	µg/mL	Unstressed
					+/-	0.5287	µg/mL	Stressed
9	cis-Chlordane **CAS #** 5103-71-9 **Purity** 99%	(Lot ER062410-01)	8.1	µg/mL	+/-	0.0701	µg/mL	Gravimetric
					+/-	0.3703	µg/mL	Unstressed
					+/-	0.5320	µg/mL	Stressed
10	Endosulfan I **CAS #** 959-98-8 **Purity** 98%	(Lot ER012105-02)	8.0	µg/mL	+/-	0.0700	µg/mL	Gravimetric
					+/-	0.3697	µg/mL	Unstressed
					+/-	0.5310	µg/mL	Stressed
11	4,4'-DDE **CAS #** 72-55-9 **Purity** 99%	(Lot ER011106-01)	16.1	µg/mL	+/-	0.1403	µg/mL	Gravimetric
					+/-	0.7406	µg/mL	Unstressed
					+/-	1.0639	µg/mL	Stressed
12	Dieldrin **CAS #** 60-57-1 **Purity** 98%	(Lot ER030105-03)	16.1	µg/mL	+/-	0.1400	µg/mL	Gravimetric
					+/-	0.7393	µg/mL	Unstressed
					+/-	1.0621	µg/mL	Stressed
13	Endrin **CAS #** 72-20-8 **Purity** 99%	(Lot LC06045V)	16.0	µg/mL	+/-	0.1394	µg/mL	Gravimetric
					+/-	0.7360	µg/mL	Unstressed
					+/-	1.0573	µg/mL	Stressed
14	4,4'-DDD **CAS #** 72-54-8 **Purity** 97%	(Lot ER061207-01)	16.0	µg/mL	+/-	0.1395	µg/mL	Gravimetric
					+/-	0.7363	µg/mL	Unstressed
					+/-	1.0576	µg/mL	Stressed
15	Endosulfan II **CAS #** 33213-65-9 **Purity** 99%	(Lot ER102407-02)	16.1	µg/mL	+/-	0.1398	µg/mL	Gravimetric
					+/-	0.7383	µg/mL	Unstressed
					+/-	1.0606	µg/mL	Stressed
16	4,4'-DDT **CAS #** 50-29-3 **Purity** 99%	(Lot S37912V)	16.0	µg/mL	+/-	0.1394	µg/mL	Gravimetric
					+/-	0.7360	µg/mL	Unstressed
					+/-	1.0573	µg/mL	Stressed
17	Endrin aldehyde **CAS #** 7421-93-4 **Purity** 98%	(Lot ER082306-01)	16.0	µg/mL	+/-	0.1395	µg/mL	Gravimetric
					+/-	0.7364	µg/mL	Unstressed
					+/-	1.0579	µg/mL	Stressed
18	Endosulfan sulfate **CAS #** 1031-07-8 **Purity** 96%	(Lot SZBC213XV)	16.1	µg/mL	+/-	0.1401	µg/mL	Gravimetric
					+/-	0.7397	µg/mL	Unstressed
					+/-	1.0626	µg/mL	Stressed
19	Methoxychlor **CAS #** 72-43-5 **Purity** 99%	(Lot 3875500)	80.4	µg/mL	+/-	0.6271	µg/mL	Gravimetric
					+/-	3.6832	µg/mL	Unstressed
					+/-	5.3005	µg/mL	Stressed
20	Endrin ketone **CAS #** 53494-70-5 **Purity** 99%	(Lot 3959800)	16.0	µg/mL	+/-	0.1394	µg/mL	Gravimetric
					+/-	0.7360	µg/mL	Unstressed
					+/-	1.0573	µg/mL	Stressed

Solvent: Hexane/Toluene (1:1)
CAS # 110-54-3/108-88-3
Purity

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
150°C to 300°C
@ 4°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
300°C

Det. Type:
ECD

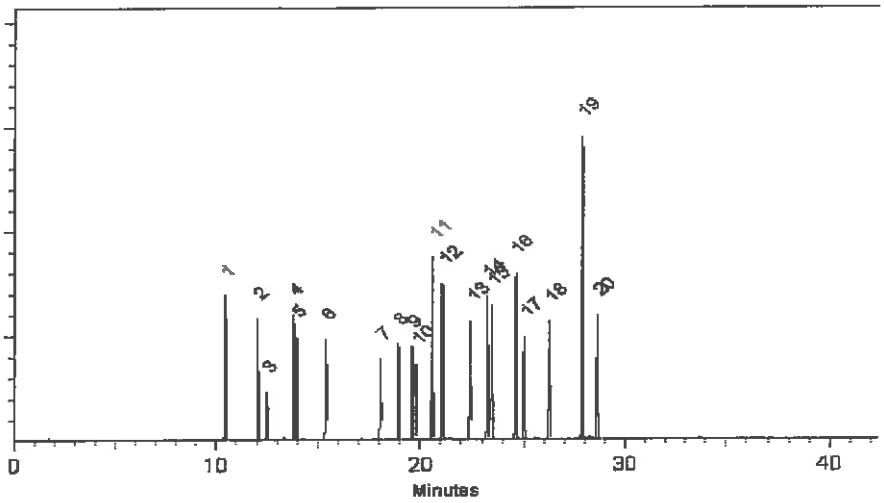

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Connor Flannery - Mix Technician

Date Mixed: 24-Sep-2015 **Balance:** B442140311

Diane Shaffer - QA Analyst

Date Passed: 09-Oct-2015

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

PST_TOX_CAL_00002

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CERTIFIED REFERENCE MATERIAL

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ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Rec'd 1/12/16

2120702
ID: PST_TOX_CAL_
Exp: 10/31/19
PST TOXAPHENE MIX

Catalog No. : 32005 **Lot No.:** A0112488

Description : Toxaphene Standard

toxaphene 1000µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : October 31, 2019 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Toxaphene		1,000.0 µg/mL	+/- 5.8686	µg/mL	Gravimetric
	CAS # 8001-35-2	(Lot NT051408)		+/- 31.1223	µg/mL	Unstressed
	Purity —-%			+/- 41.3992	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

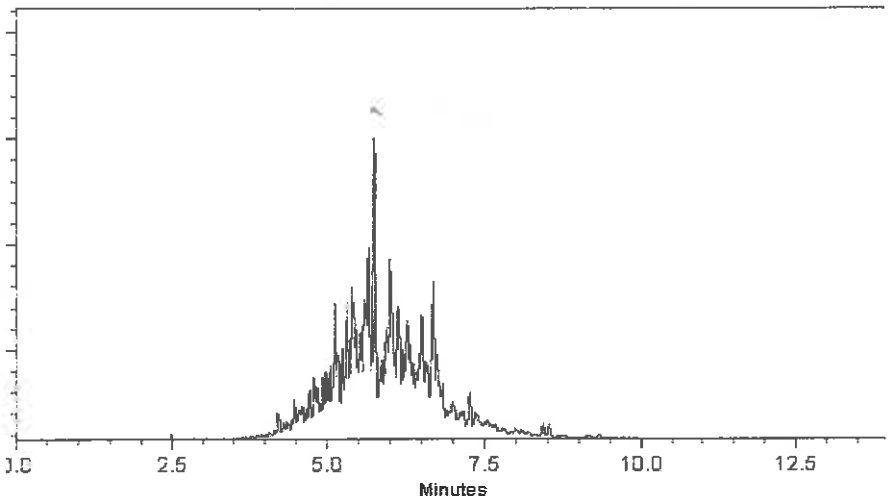

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

F. Joseph Fallon - Mix Technician

Date Mixed: 11-Jul-2015 **Balance:** B251644995

Diane Shaffer

Diane Shaffer - GAA Analyst

Date Passed: 20-Jul-2015

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

SV_8270SURR_00009

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ISO Guide 34 Accredited Reference Material Producer Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567685 **Lot No.:** A0133251

Description : 8270 Surrogate Standard

8270 Surrogate Standard 5,000µg/mL, Methylene chloride, 5mL/ampul

2828189
ID: SV_8270SURR_00009
Exp: 12/31/22 Prpd: TTD
8270 SURR @5000PPM

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : December 31, 2022 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

Rec'd 9/18/18 TW

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2-Fluorophenol **CAS #** 367-12-4 **Purity** 99%	(Lot STBD7945V)	5,038.1 µg/mL	+/- 29.2918 µg/mL +/- 147.0277 µg/mL +/- 178.4124 µg/mL		Gravimetric Unstressed Stressed
2	Phenol-d5 **CAS #** 4165-62-2 **Purity** 99%	(Lot X-479)	5,031.4 µg/mL	+/- 29.2530 µg/mL +/- 146.8331 µg/mL +/- 178.1763 µg/mL		Gravimetric Unstressed Stressed
3	Nitrobenzene-d5 **CAS #** 4165-60-0 **Purity** 99%	(Lot PR-25462)	5,017.5 µg/mL	+/- 29.1720 µg/mL +/- 146.4265 µg/mL +/- 177.6829 µg/mL		Gravimetric Unstressed Stressed
4	2-Fluorobiphenyl **CAS #** 321-60-8 **Purity** 99%	(Lot Z20C043)	5,017.5 µg/mL	+/- 29.1720 µg/mL +/- 146.4265 µg/mL +/- 177.6829 µg/mL		Gravimetric Unstressed Stressed
5	2,4,6-Tribromophenol **CAS #** 118-79-6 **Purity** 99%	(Lot 29699MJV)	5,043.2 µg/mL	+/- 29.3216 µg/mL +/- 147.1775 µg/mL +/- 178.5942 µg/mL		Gravimetric Unstressed Stressed
6	p-Terphenyl-d14 **CAS #** 1718-51-0 **Purity** 99%	(Lot PR-27278)	5,030.3 µg/mL	+/- 29.2464 µg/mL +/- 146.8000 µg/mL +/- 178.1362 µg/mL		Gravimetric Unstressed Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Tech Tips:
Due to the limited solubility of p-terphenyl-d14 in methanol, we do not recommend that this mixture be diluted in methanol.

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID

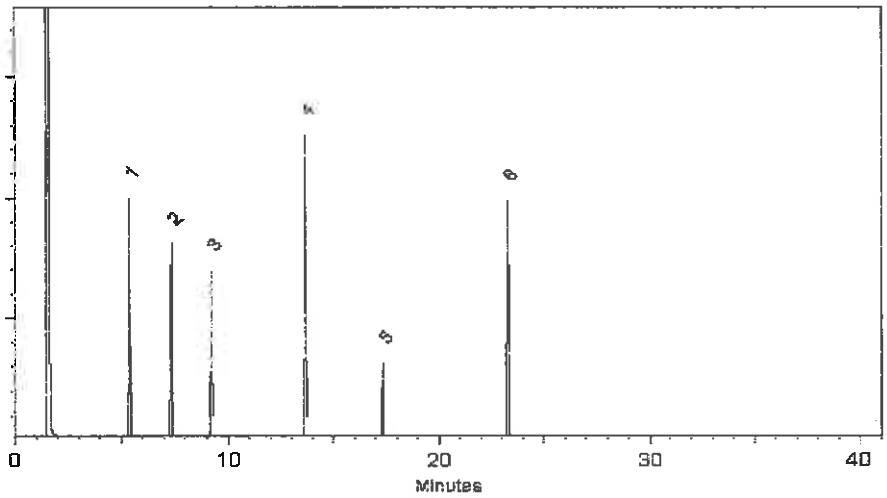

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Matt Fragassi - Mix Technician

Date Mixed: 12-Dec-2017 **Balance:** B442140311

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 14-Dec-2017

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

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  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
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- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
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0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

VOA3IS_00031

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Certificate #3222.01

ilac-MRA

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Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 30241 **Lot No.:** A0138856

Description : 8260A Internal Standard Mix

8260A Internal Standard Mix 2,500 µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2023 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Fluorobenzene **CAS #** 462-06-6 **Purity** 99%	(Lot BCBK8171V)	2,519.8 µg/mL	+/- 14.6503 µg/mL +/- 141.2827 µg/mL +/- 144.5885 µg/mL		Gravimetric Unstressed Stressed
2	Chlorobenzene-d5 **CAS #** 3114-55-4 **Purity** 99%	(Lot PR-23926)	2,506.4 µg/mL	+/- 14.5724 µg/mL +/- 140.5314 µg/mL +/- 143.8196 µg/mL		Gravimetric Unstressed Stressed
3	1,4-Dichlorobenzene-d4 **CAS #** 3855-82-1 **Purity** 99%	(Lot PR-18488)	2,516.5 µg/mL	+/- 14.6311 µg/mL +/- 141.0977 µg/mL +/- 144.3992 µg/mL		Gravimetric Unstressed Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Reagent

VOALMegMi2017_00004

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Testing Laboratory
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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571992.SEC **Lot No.:** A0144202

Description : 8260 List 1 / Std #1 MegaMix (2017)

8260 List 1 / Std #1 MegaMix (2017) 1,250-62,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2021 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Diethyl ether (ethyl ether)	2,517.0 µg/mL	+/- 14.6339	µg/mL	Gravimetric
	CAS # 60-29-7.SEC (Lot F23X068)		+/- 151.8598	µg/mL	Unstressed
	Purity 98%		+/- 152.2203	µg/mL	Stressed
2	1,1,2-Trichlorotrifluoroethane (CFC-113)	2,506.7 µg/mL	+/- 14.5740	µg/mL	Gravimetric
	CAS # 76-13-1.SEC (Lot 18342)		+/- 151.2383	µg/mL	Unstressed
	Purity 99%		+/- 151.5974	µg/mL	Stressed
3	1,1-Dichloroethene	2,503.3 µg/mL	+/- 14.5546	µg/mL	Gravimetric
	CAS # 75-35-4.SEC (Lot 7692300)		+/- 151.0372	µg/mL	Unstressed
	Purity 99%		+/- 151.3958	µg/mL	Stressed
4	tert-Butanol (TBA)	25,000.8 µg/mL	+/- 145.3491	µg/mL	Gravimetric
	CAS # 75-65-0.SEC (Lot XYXDO)		+/- 1,508.4071	µg/mL	Unstressed
	Purity 98%		+/- 1,511.9883	µg/mL	Stressed
5	Methyl acetate	5,002.3 µg/mL	+/- 29.0840	µg/mL	Gravimetric
	CAS # 79-20-9.SEC (Lot UCNEL)		+/- 301.8129	µg/mL	Unstressed
	Purity 99%		+/- 302.5295	µg/mL	Stressed
6	Iodomethane (methyl iodide)	2,503.5 µg/mL	+/- 14.5556	µg/mL	Gravimetric
	CAS # 74-88-4.SEC (Lot Y25A027)		+/- 151.0472	µg/mL	Unstressed
	Purity 99%		+/- 151.4059	µg/mL	Stressed
7	Allyl chloride (3-chloropropene)	2,511.7 µg/mL	+/- 14.6030	µg/mL	Gravimetric
	CAS # 107-05-1.SEC (Lot H3HGC)		+/- 151.5400	µg/mL	Unstressed
	Purity 99%		+/- 151.8998	µg/mL	Stressed

24	Carbon tetrachloride			2,510.3	µg/mL	+/-	14.5953	µg/mL	Gravimetric
	CAS #	56-23-5.SEC	(Lot 11466)			+/-	151.4595	µg/mL	Unstressed
	Purity	99%				+/-	151.8191	µg/mL	Stressed
25	n-Heptane (C7)			2,511.8	µg/mL	+/-	14.6040	µg/mL	Gravimetric
	CAS #	142-82-5.SEC	(Lot TFHUC)			+/-	151.5500	µg/mL	Unstressed
	Purity	99%				+/-	151.9098	µg/mL	Stressed
26	1,2-Dichloroethane			2,501.3	µg/mL	+/-	14.5430	µg/mL	Gravimetric
	CAS #	107-06-2.SEC	(Lot FO6PK)			+/-	150.9165	µg/mL	Unstressed
	Purity	99%				+/-	151.2748	µg/mL	Stressed
27	Benzene			2,504.8	µg/mL	+/-	14.5633	µg/mL	Gravimetric
	CAS #	71-43-2.SEC	(Lot B28Y008)			+/-	151.1277	µg/mL	Unstressed
	Purity	99%				+/-	151.4865	µg/mL	Stressed
28	Trichloroethene			2,508.7	µg/mL	+/-	14.5856	µg/mL	Gravimetric
	CAS #	79-01-6.SEC	(Lot H04X050)			+/-	151.3590	µg/mL	Unstressed
	Purity	99%				+/-	151.7183	µg/mL	Stressed
29	Methylcyclohexane			2,504.5	µg/mL	+/-	14.5614	µg/mL	Gravimetric
	CAS #	108-87-2.SEC	(Lot Q02QG)			+/-	151.1076	µg/mL	Unstressed
	Purity	99%				+/-	151.4663	µg/mL	Stressed
30	1,2-Dichloropropane			2,504.0	µg/mL	+/-	14.5585	µg/mL	Gravimetric
	CAS #	78-87-5.SEC	(Lot ERRBI-RH)			+/-	151.0774	µg/mL	Unstressed
	Purity	99%				+/-	151.4361	µg/mL	Stressed
31	1,4-Dioxane			50,008.0	µg/mL	+/-	290.7356	µg/mL	Gravimetric
	CAS #	123-91-1.SEC	(Lot YVP2C)			+/-	3,017.2028	µg/mL	Unstressed
	Purity	99%				+/-	3,024.3661	µg/mL	Stressed
32	Dibromomethane			2,509.5	µg/mL	+/-	14.5904	µg/mL	Gravimetric
	CAS #	74-95-3.SEC	(Lot FGI01-OICH)			+/-	151.4093	µg/mL	Unstressed
	Purity	99%				+/-	151.7687	µg/mL	Stressed
33	cis-1,3-Dichloropropene			2,502.0	µg/mL	+/-	14.5468	µg/mL	Gravimetric
	CAS #	10061-01-5.SEC	(Lot 487OA)			+/-	150.9567	µg/mL	Unstressed
	Purity	99%				+/-	151.3151	µg/mL	Stressed
34	Toluene			2,501.5	µg/mL	+/-	14.5439	µg/mL	Gravimetric
	CAS #	108-88-3.SEC	(Lot YND2B-BD)			+/-	150.9266	µg/mL	Unstressed
	Purity	99%				+/-	151.2849	µg/mL	Stressed
35	Ethyl methacrylate			2,508.8	µg/mL	+/-	14.5866	µg/mL	Gravimetric
	CAS #	97-63-2.SEC	(Lot MLWYK-LS)			+/-	151.3690	µg/mL	Unstressed
	Purity	99%				+/-	151.7284	µg/mL	Stressed
36	trans-1,3-Dichloropropene			2,502.9	µg/mL	+/-	14.5520	µg/mL	Gravimetric
	CAS #	10061-02-6.SEC	(Lot ZDMSL)			+/-	151.0098	µg/mL	Unstressed
	Purity	96%				+/-	151.3684	µg/mL	Stressed
37	1,1,2-Trichloroethane			2,502.5	µg/mL	+/-	14.5498	µg/mL	Gravimetric
	CAS #	79-00-5.SEC	(Lot 7871500)			+/-	150.9869	µg/mL	Unstressed
	Purity	99%				+/-	151.3454	µg/mL	Stressed
38	1,3-Dichloropropane			2,502.7	µg/mL	+/-	14.5507	µg/mL	Gravimetric
	CAS #	142-28-9.SEC	(Lot AGN01-EFPC)			+/-	150.9970	µg/mL	Unstressed
	Purity	99%				+/-	151.3555	µg/mL	Stressed
39	Tetrachloroethene			2,505.0	µg/mL	+/-	14.5643	µg/mL	Gravimetric
	CAS #	127-18-4.SEC	(Lot F09W014)			+/-	151.1378	µg/mL	Unstressed
	Purity	99%				+/-	151.4966	µg/mL	Stressed

56	Bromobenzene			2,506.2	µg/mL	+/-	14.5711	µg/mL	Gravimetric
	CAS #	108-86-1.SEC	(Lot 2FUHG-EM)			+/-	151.2081	µg/mL	Unstressed
	Purity	99%				+/-	151.5671	µg/mL	Stressed
57	1,3,5-Trimethylbenzene			2,510.0	µg/mL	+/-	14.5934	µg/mL	Gravimetric
	CAS #	108-67-8.SEC	(Lot FGH02-CMLN)			+/-	151.4394	µg/mL	Unstressed
	Purity	99%				+/-	151.7990	µg/mL	Stressed
58	2-Chlorotoluene			2,504.7	µg/mL	+/-	14.5623	µg/mL	Gravimetric
	CAS #	95-49-8.SEC	(Lot SW8QG-AO)			+/-	151.1176	µg/mL	Unstressed
	Purity	99%				+/-	151.4764	µg/mL	Stressed
59	4-Chlorotoluene			2,509.2	µg/mL	+/-	14.5885	µg/mL	Gravimetric
	CAS #	106-43-4.SEC	(Lot P4XHJ-AO)			+/-	151.3891	µg/mL	Unstressed
	Purity	99%				+/-	151.7486	µg/mL	Stressed
60	tert-Butylbenzene			2,505.8	µg/mL	+/-	14.5691	µg/mL	Gravimetric
	CAS #	98-06-6.SEC	(Lot D6OHC)			+/-	151.1880	µg/mL	Unstressed
	Purity	99%				+/-	151.5470	µg/mL	Stressed
61	1,2,4-Trimethylbenzene			2,508.7	µg/mL	+/-	14.5856	µg/mL	Gravimetric
	CAS #	95-63-6.SEC	(Lot JMIYD)			+/-	151.3590	µg/mL	Unstressed
	Purity	99%				+/-	151.7183	µg/mL	Stressed
62	sec-Butylbenzene			2,504.7	µg/mL	+/-	14.5623	µg/mL	Gravimetric
	CAS #	135-98-8.SEC	(Lot OGN01-IMA)			+/-	151.1176	µg/mL	Unstressed
	Purity	99%				+/-	151.4764	µg/mL	Stressed
63	4-Isopropyltoluene (p-cymene)			2,500.3	µg/mL	+/-	14.5372	µg/mL	Gravimetric
	CAS #	99-87-6.SEC	(Lot 6628200)			+/-	150.8562	µg/mL	Unstressed
	Purity	99%				+/-	151.2143	µg/mL	Stressed
64	1,3-Dichlorobenzene			2,506.3	µg/mL	+/-	14.5720	µg/mL	Gravimetric
	CAS #	541-73-1.SEC	(Lot FMDFD)			+/-	151.2182	µg/mL	Unstressed
	Purity	99%				+/-	151.5772	µg/mL	Stressed
65	1,4-Dichlorobenzene			2,509.8	µg/mL	+/-	14.5924	µg/mL	Gravimetric
	CAS #	106-46-7.SEC	(Lot 4Y5DC)			+/-	151.4294	µg/mL	Unstressed
	Purity	99%				+/-	151.7889	µg/mL	Stressed
66	n-Butylbenzene			2,513.7	µg/mL	+/-	14.6147	µg/mL	Gravimetric
	CAS #	104-51-8.SEC	(Lot MMPGA)			+/-	151.6607	µg/mL	Unstressed
	Purity	99%				+/-	152.0207	µg/mL	Stressed
67	1,2-Dichlorobenzene			2,501.8	µg/mL	+/-	14.5459	µg/mL	Gravimetric
	CAS #	95-50-1.SEC	(Lot R6QDM)			+/-	150.9467	µg/mL	Unstressed
	Purity	99%				+/-	151.3051	µg/mL	Stressed
68	1,2-Dibromo-3-chloropropane			2,508.5	µg/mL	+/-	14.5845	µg/mL	Gravimetric
	CAS #	96-12-8.SEC	(Lot LC00408V)			+/-	151.3473	µg/mL	Unstressed
	Purity	98%				+/-	151.7066	µg/mL	Stressed
69	1,2,4-Trichlorobenzene			2,503.3	µg/mL	+/-	14.5546	µg/mL	Gravimetric
	CAS #	120-82-1.SEC	(Lot 3LYYC)			+/-	151.0372	µg/mL	Unstressed
	Purity	99%				+/-	151.3958	µg/mL	Stressed
70	Hexachlorobutadiene			2,504.4	µg/mL	+/-	14.5607	µg/mL	Gravimetric
	CAS #	87-68-3.SEC	(Lot 5526800)			+/-	151.1002	µg/mL	Unstressed
	Purity	97%				+/-	151.4590	µg/mL	Stressed
71	Naphthalene			2,503.3	µg/mL	+/-	14.5546	µg/mL	Gravimetric
	CAS #	91-20-3.SEC	(Lot 4KW3H-OO)			+/-	151.0372	µg/mL	Unstressed
	Purity	99%				+/-	151.3958	µg/mL	Stressed

8	Methylene chloride (dichloromethane)			2,506.7	µg/mL	+/-	14.5740	µg/mL	Gravimetric
	CAS #	75-09-2.SEC	(Lot FGM02)			+/-	151.2383	µg/mL	Unstressed
	Purity	99%				+/-	151.5974	µg/mL	Stressed
9	Carbon disulfide			2,500.7	µg/mL	+/-	14.5391	µg/mL	Gravimetric
	CAS #	75-15-0.SEC	(Lot MKBL1376V)			+/-	150.8763	µg/mL	Unstressed
	Purity	99%				+/-	151.2345	µg/mL	Stressed
10	Acrylonitrile			25,001.2	µg/mL	+/-	145.3513	µg/mL	Gravimetric
	CAS #	107-13-1.SEC	(Lot UERIL)			+/-	1,508.4304	µg/mL	Unstressed
	Purity	99%				+/-	1,512.0117	µg/mL	Stressed
11	Methyl-tert-butyl ether (MTBE)			2,501.5	µg/mL	+/-	14.5439	µg/mL	Gravimetric
	CAS #	1634-04-4.SEC	(Lot ZHKYA)			+/-	150.9266	µg/mL	Unstressed
	Purity	99%				+/-	151.2849	µg/mL	Stressed
12	cis-1,2-Dichloroethene			2,501.3	µg/mL	+/-	14.5427	µg/mL	Gravimetric
	CAS #	156-59-2.SEC	(Lot HGC01-BLKT)			+/-	150.9137	µg/mL	Unstressed
	Purity	98%				+/-	151.2720	µg/mL	Stressed
13	n-Hexane (C6)			2,503.2	µg/mL	+/-	14.5541	µg/mL	Gravimetric
	CAS #	110-54-3.SEC	(Lot K24W001)			+/-	151.0320	µg/mL	Unstressed
	Purity	97%				+/-	151.3905	µg/mL	Stressed
14	1,1-Dichloroethane			2,502.0	µg/mL	+/-	14.5468	µg/mL	Gravimetric
	CAS #	75-34-3.SEC	(Lot 5379000)			+/-	150.9567	µg/mL	Unstressed
	Purity	99%				+/-	151.3151	µg/mL	Stressed
15	2,2-Dichloropropane			2,503.2	µg/mL	+/-	14.5541	µg/mL	Gravimetric
	CAS #	594-20-7.SEC	(Lot I7E8E)			+/-	151.0320	µg/mL	Unstressed
	Purity	98%				+/-	151.3905	µg/mL	Stressed
16	trans-1,2-Dichloroethene			2,501.0	µg/mL	+/-	14.5409	µg/mL	Gravimetric
	CAS #	156-60-5.SEC	(Lot TS5UB)			+/-	150.8954	µg/mL	Unstressed
	Purity	97%				+/-	151.2537	µg/mL	Stressed
17	Isobutanol (2-Methyl-1-propanol)			62,508.3	µg/mL	+/-	363.4098	µg/mL	Gravimetric
	CAS #	78-83-1.SEC	(Lot PH2XK)			+/-	3,771.4029	µg/mL	Unstressed
	Purity	99%				+/-	3,780.3569	µg/mL	Stressed
18	Chloroform			2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
	CAS #	67-66-3.SEC	(Lot 1297547)			+/-	150.8662	µg/mL	Unstressed
	Purity	99%				+/-	151.2244	µg/mL	Stressed
19	Bromochloromethane			2,507.0	µg/mL	+/-	14.5759	µg/mL	Gravimetric
	CAS #	74-97-5.SEC	(Lot 5670200)			+/-	151.2584	µg/mL	Unstressed
	Purity	99%				+/-	151.6175	µg/mL	Stressed
20	Tetrahydrofuran			5,006.7	µg/mL	+/-	29.1092	µg/mL	Gravimetric
	CAS #	109-99-9.SEC	(Lot 8DAOJ)			+/-	302.0744	µg/mL	Unstressed
	Purity	99%				+/-	302.7916	µg/mL	Stressed
21	1,1,1-Trichloroethane			2,507.7	µg/mL	+/-	14.5798	µg/mL	Gravimetric
	CAS #	71-55-6.SEC	(Lot 7998000)			+/-	151.2986	µg/mL	Unstressed
	Purity	99%				+/-	151.6579	µg/mL	Stressed
22	Cyclohexane			2,508.0	µg/mL	+/-	14.5817	µg/mL	Gravimetric
	CAS #	110-82-7.SEC	(Lot YADRA)			+/-	151.3188	µg/mL	Unstressed
	Purity	99%				+/-	151.6780	µg/mL	Stressed
23	1,1-Dichloropropene			2,502.4	µg/mL	+/-	14.5492	µg/mL	Gravimetric
	CAS #	563-58-6.SEC	(Lot 5221100)			+/-	150.9809	µg/mL	Unstressed
	Purity	96%				+/-	151.3393	µg/mL	Stressed

40	Dibromochloromethane			2,502.4	µg/mL	+/-	14.5494	µg/mL	Gravimetric
	CAS # 124-48-1.SEC	(Lot 10206360)				+/-	150.9832	µg/mL	Unstressed
	Purity 97%					+/-	151.3417	µg/mL	Stressed
41	1,2-Dibromoethane (EDB)			2,503.3	µg/mL	+/-	14.5546	µg/mL	Gravimetric
	CAS # 106-93-4.SEC	(Lot 3505900)				+/-	151.0372	µg/mL	Unstressed
	Purity 99%					+/-	151.3958	µg/mL	Stressed
42	Chlorobenzene			2,504.8	µg/mL	+/-	14.5633	µg/mL	Gravimetric
	CAS # 108-90-7.SEC	(Lot 1161936)				+/-	151.1277	µg/mL	Unstressed
	Purity 99%					+/-	151.4865	µg/mL	Stressed
43	m-Xylene			1,251.7	µg/mL	+/-	7.2941	µg/mL	Gravimetric
	CAS # 108-38-3.SEC	(Lot OUKMG-GB)				+/-	75.5202	µg/mL	Unstressed
	Purity 99%					+/-	75.6995	µg/mL	Stressed
44	p-Xylene			1,253.7	µg/mL	+/-	7.3058	µg/mL	Gravimetric
	CAS # 106-42-3.SEC	(Lot GM01)				+/-	75.6409	µg/mL	Unstressed
	Purity 99%					+/-	75.8205	µg/mL	Stressed
45	Ethylbenzene			2,503.5	µg/mL	+/-	14.5556	µg/mL	Gravimetric
	CAS # 100-41-4.SEC	(Lot PI4SE)				+/-	151.0472	µg/mL	Unstressed
	Purity 99%					+/-	151.4059	µg/mL	Stressed
46	1,1,1,2-Tetrachloroethane			2,506.7	µg/mL	+/-	14.5740	µg/mL	Gravimetric
	CAS # 630-20-6.SEC	(Lot GC01)				+/-	151.2383	µg/mL	Unstressed
	Purity 99%					+/-	151.5974	µg/mL	Stressed
47	o-Xylene			2,504.2	µg/mL	+/-	14.5594	µg/mL	Gravimetric
	CAS # 95-47-6.SEC	(Lot FGL01)				+/-	151.0875	µg/mL	Unstressed
	Purity 99%					+/-	151.4462	µg/mL	Stressed
48	Styrene			2,507.2	µg/mL	+/-	14.5769	µg/mL	Gravimetric
	CAS # 100-42-5.SEC	(Lot OFIOL-IA)				+/-	151.2685	µg/mL	Unstressed
	Purity 99%					+/-	151.6276	µg/mL	Stressed
49	Isopropylbenzene (cumene)			2,505.2	µg/mL	+/-	14.5653	µg/mL	Gravimetric
	CAS # 98-82-8.SEC	(Lot 2PHXG-IH)				+/-	151.1478	µg/mL	Unstressed
	Purity 99%					+/-	151.5067	µg/mL	Stressed
50	Bromoform			2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
	CAS # 75-25-2.SEC	(Lot 5461400)				+/-	150.8661	µg/mL	Unstressed
	Purity 97%					+/-	151.2243	µg/mL	Stressed
51	Bromodichloromethane			2,501.3	µg/mL	+/-	14.5427	µg/mL	Gravimetric
	CAS # 75-27-4.SEC	(Lot 13780)				+/-	150.9137	µg/mL	Unstressed
	Purity 98%					+/-	151.2720	µg/mL	Stressed
52	1,1,2,2-Tetrachloroethane			2,502.0	µg/mL	+/-	14.5468	µg/mL	Gravimetric
	CAS # 79-34-5.SEC	(Lot CFA4D-AQ)				+/-	150.9567	µg/mL	Unstressed
	Purity 99%					+/-	151.3151	µg/mL	Stressed
53	1,2,3-Trichloropropane			2,505.7	µg/mL	+/-	14.5682	µg/mL	Gravimetric
	CAS # 96-18-4.SEC	(Lot GUHZN)				+/-	151.1780	µg/mL	Unstressed
	Purity 99%					+/-	151.5369	µg/mL	Stressed
54	trans-1,4-Dichloro-2-butene			2,514.2	µg/mL	+/-	14.6177	µg/mL	Gravimetric
	CAS # 110-57-6.SEC	(Lot 100700-3)				+/-	151.6922	µg/mL	Unstressed
	Purity 98%					+/-	152.0524	µg/mL	Stressed
55	n-Propylbenzene			2,503.7	µg/mL	+/-	14.5565	µg/mL	Gravimetric
	CAS # 103-65-1.SEC	(Lot T2HFC)				+/-	151.0573	µg/mL	Unstressed
	Purity 99%					+/-	151.4159	µg/mL	Stressed

72	1,2,3-Trichlorobenzene		2,512.2	µg/mL	+/-	14.6063	µg/mL	Gravimetric
	CAS # 87-61-6.SEC	(Lot A0043055)			+/-	151.5740	µg/mL	Unstressed
	Purity 98%				+/-	151.9338	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
40°C (hold 6 min.) to 240°C
@ 6°C/min. (hold 10 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD

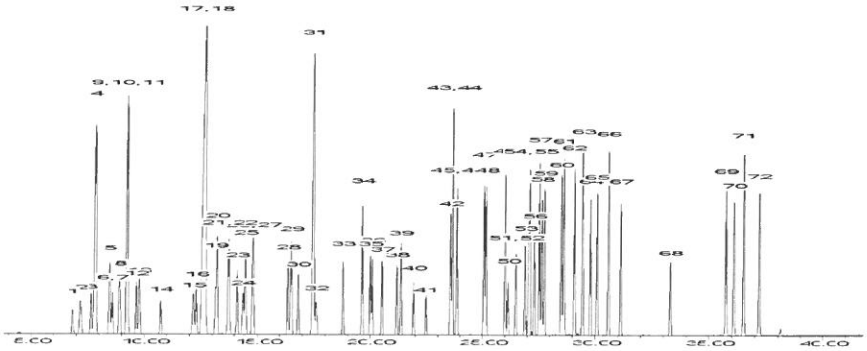

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Brandon Reish - Mix Technician **Date Mixed:** 17-Dec-2018 **Balance:** 1127510105

Diane Shaffer - Operations Tech-ARM QC **Date Passed:** 21-Dec-2018

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

Reagent

VOAMegMix2017_00006

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110 Benner Circle
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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571992 **Lot No.:** A0143774

Description : 8260 List 1 / Std #1 MegaMix (2017)

8260 List 1 / Std #1 MegaMix (2017) 1,250-62,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2021 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Diethyl ether (ethyl ether) **CAS #** 60-29-7 (Lot SHBJ5713) **Purity** 99%	2,500.6 µg/mL	+/- 14.5388 µg/mL +/- 150.8738 µg/mL +/- 151.2320 µg/mL		Gravimetric Unstressed Stressed
2	1,1,2-Trichlorotrifluoroethane (CFC-113) **CAS #** 76-13-1 (Lot 00009482) **Purity** 99%	2,501.6 µg/mL	+/- 14.5447 µg/mL +/- 150.9341 µg/mL +/- 151.2925 µg/mL		Gravimetric Unstressed Stressed
3	1,1-dichloroethene **CAS #** 75-35-4 (Lot SHBG8609V) **Purity** 99%	2,501.9 µg/mL	+/- 14.5461 µg/mL +/- 150.9492 µg/mL +/- 151.3076 µg/mL		Gravimetric Unstressed Stressed
4	tert-Butanol (TBA) **CAS #** 75-65-0 (Lot SHBJ9404) **Purity** 99%	25,008.1 µg/mL	+/- 145.3918 µg/mL +/- 1,508.8503 µg/mL +/- 1,512.4325 µg/mL		Gravimetric Unstressed Stressed
5	Methyl acetate **CAS #** 79-20-9 (Lot SHBG4345V) **Purity** 99%	5,000.8 µg/mL	+/- 29.0748 µg/mL +/- 301.7174 µg/mL +/- 302.4337 µg/mL		Gravimetric Unstressed Stressed
6	Iodomethane (methyl iodide) **CAS #** 74-88-4 (Lot SHBH4362V) **Purity** 99%	2,500.6 µg/mL	+/- 14.5388 µg/mL +/- 150.8738 µg/mL +/- 151.2320 µg/mL		Gravimetric Unstressed Stressed
7	Allyl chloride (3-chloropropene) **CAS #** 107-05-1 (Lot WXBB7852V) **Purity** 99%	2,502.0 µg/mL	+/- 14.5468 µg/mL +/- 150.9567 µg/mL +/- 151.3151 µg/mL		Gravimetric Unstressed Stressed

24	carbon tetrachloride **CAS #** 56-23-5 **Purity** 99%	(Lot SHBJ2110)	2,501.1	µg/mL	+/- +/- +/-	14.5418 150.9040 151.2622	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
25	n-Heptane (C7) **CAS #** 142-82-5 **Purity** 99%	(Lot SHBJ2424)	2,501.6	µg/mL	+/- +/- +/-	14.5447 150.9341 151.2925	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
26	1,2-Dichloroethane **CAS #** 107-06-2 **Purity** 99%	(Lot SHBJ0707)	2,501.3	µg/mL	+/- +/- +/-	14.5425 150.9115 151.2698	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
27	Benzene **CAS #** 71-43-2 **Purity** 99%	(Lot SHBJ5344)	2,500.9	µg/mL	+/- +/- +/-	14.5403 150.8889 151.2471	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
28	Trichloroethene **CAS #** 79-01-6 **Purity** 99%	(Lot SHBH1955V)	2,500.5	µg/mL	+/- +/- +/-	14.5381 150.8662 151.2244	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
29	Methylcyclohexane **CAS #** 108-87-2 **Purity** 99%	(Lot SHBJ0457)	2,501.6	µg/mL	+/- +/- +/-	14.5447 150.9341 151.2925	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
30	1,2-Dichloropropane **CAS #** 78-87-5 **Purity** 99%	(Lot BCBR0882V)	2,500.5	µg/mL	+/- +/- +/-	14.5381 150.8662 151.2244	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
31	1,4-Dioxane **CAS #** 123-91-1 **Purity** 99%	(Lot SHBJ7415)	50,001.1	µg/mL	+/- +/- +/-	290.6957 3,016.7880 3,023.9503	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
32	Dibromomethane **CAS #** 74-95-3 **Purity** 99%	(Lot 10201030)	2,502.0	µg/mL	+/- +/- +/-	14.5468 150.9567 151.3151	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
33	cis-1,3-Dichloropropene **CAS #** 10061-01-5 **Purity** 99%	(Lot 25076)	2,501.4	µg/mL	+/- +/- +/-	14.5432 150.9190 151.2773	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
34	Toluene **CAS #** 108-88-3 **Purity** 99%	(Lot SHBJ5659)	2,500.1	µg/mL	+/- +/- +/-	14.5359 150.8436 151.2017	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
35	Ethyl methacrylate **CAS #** 97-63-2 **Purity** 99%	(Lot 69796APV)	2,502.8	µg/mL	+/- +/- +/-	14.5512 151.0020 151.3605	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
36	trans-1,3-Dichloropropene **CAS #** 10061-02-6 **Purity** 98%	(Lot C797620)	2,500.6	µg/mL	+/- +/- +/-	14.5387 150.8718 151.2300	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
37	1,1,2-Trichloroethane **CAS #** 79-00-5 **Purity** 99%	(Lot FGB01)	2,500.4	µg/mL	+/- +/- +/-	14.5374 150.8587 151.2169	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
38	1,3-Dichloropropane **CAS #** 142-28-9 **Purity** 99%	(Lot BCBG2162V)	2,500.9	µg/mL	+/- +/- +/-	14.5403 150.8889 151.2471	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
39	Tetrachloroethene **CAS #** 127-18-4 **Purity** 99%	(Lot SHBH9691)	2,501.0	µg/mL	+/- +/- +/-	14.5410 150.8964 151.2547	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

56	Bromobenzene		2,500.1	µg/mL	+/-	14.5359	µg/mL	Gravimetric
	CAS # 108-86-1	(Lot WXBC5147V)			+/-	150.8436	µg/mL	Unstressed
	Purity 99%				+/-	151.2017	µg/mL	Stressed
57	1,3,5-Trimethylbenzene		2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
	CAS # 108-67-8	(Lot BCBS7648V)			+/-	150.8662	µg/mL	Unstressed
	Purity 99%				+/-	151.2244	µg/mL	Stressed
58	2-Chlorotoluene		2,500.1	µg/mL	+/-	14.5359	µg/mL	Gravimetric
	CAS # 95-49-8	(Lot MKBW5554V)			+/-	150.8436	µg/mL	Unstressed
	Purity 99%				+/-	151.2017	µg/mL	Stressed
59	4-Chlorotoluene		2,500.9	µg/mL	+/-	14.5403	µg/mL	Gravimetric
	CAS # 106-43-4	(Lot MKBL7753V)			+/-	150.8889	µg/mL	Unstressed
	Purity 99%				+/-	151.2471	µg/mL	Stressed
60	tert-Butylbenzene		2,500.1	µg/mL	+/-	14.5359	µg/mL	Gravimetric
	CAS # 98-06-6	(Lot STBD6954V)			+/-	150.8436	µg/mL	Unstressed
	Purity 99%				+/-	151.2017	µg/mL	Stressed
61	1,2,4-Trimethylbenzene		2,499.9	µg/mL	+/-	14.5348	µg/mL	Gravimetric
	CAS # 95-63-6	(Lot MKBH5027V)			+/-	150.8320	µg/mL	Unstressed
	Purity 97%				+/-	151.1901	µg/mL	Stressed
62	sec-Butylbenzene		2,501.1	µg/mL	+/-	14.5418	µg/mL	Gravimetric
	CAS # 135-98-8	(Lot MKBR9260V)			+/-	150.9040	µg/mL	Unstressed
	Purity 99%				+/-	151.2622	µg/mL	Stressed
63	p-Isopropyltoluene (p-Cymene)		2,501.1	µg/mL	+/-	14.5418	µg/mL	Gravimetric
	CAS # 99-87-6	(Lot MKBV3556V)			+/-	150.9040	µg/mL	Unstressed
	Purity 99%				+/-	151.2622	µg/mL	Stressed
64	1,3-Dichlorobenzene		2,501.4	µg/mL	+/-	14.5432	µg/mL	Gravimetric
	CAS # 541-73-1	(Lot BCBQ7100V)			+/-	150.9190	µg/mL	Unstressed
	Purity 99%				+/-	151.2773	µg/mL	Stressed
65	1,4-Dichlorobenzene		2,501.5	µg/mL	+/-	14.5439	µg/mL	Gravimetric
	CAS # 106-46-7	(Lot MKBS4401V)			+/-	150.9266	µg/mL	Unstressed
	Purity 99%				+/-	151.2849	µg/mL	Stressed
66	n-Butylbenzene		2,501.0	µg/mL	+/-	14.5410	µg/mL	Gravimetric
	CAS # 104-51-8	(Lot 09804AE)			+/-	150.8964	µg/mL	Unstressed
	Purity 99%				+/-	151.2547	µg/mL	Stressed
67	1,2-Dichlorobenzene		2,502.9	µg/mL	+/-	14.5519	µg/mL	Gravimetric
	CAS # 95-50-1	(Lot SHBG3111V)			+/-	151.0095	µg/mL	Unstressed
	Purity 99%				+/-	151.3681	µg/mL	Stressed
68	1,2-Dibromo-3-chloropropane		2,502.0	µg/mL	+/-	14.5468	µg/mL	Gravimetric
	CAS # 96-12-8	(Lot FBL01)			+/-	150.9567	µg/mL	Unstressed
	Purity 99%				+/-	151.3151	µg/mL	Stressed
69	1,2,4-Trichlorobenzene		2,502.1	µg/mL	+/-	14.5476	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBJ9215)			+/-	150.9643	µg/mL	Unstressed
	Purity 99%				+/-	151.3227	µg/mL	Stressed
70	Hexachlorobutadiene		2,501.5	µg/mL	+/-	14.5439	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot J31X013)			+/-	150.9266	µg/mL	Unstressed
	Purity 99%				+/-	151.2849	µg/mL	Stressed
71	Naphthalene		2,502.8	µg/mL	+/-	14.5512	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBZ8680V)			+/-	151.0020	µg/mL	Unstressed
	Purity 99%				+/-	151.3605	µg/mL	Stressed

8	Methylene chloride (dichloromethane)			2,500.8	µg/mL	+/-	14.5396	µg/mL	Gravimetric
	CAS #	75-09-2	(Lot SHBK5095)			+/-	150.8813	µg/mL	Unstressed
	Purity	99%				+/-	151.2395	µg/mL	Stressed
9	Carbon disulfide			2,501.1	µg/mL	+/-	14.5418	µg/mL	Gravimetric
	CAS #	75-15-0	(Lot U22D706)			+/-	150.9040	µg/mL	Unstressed
	Purity	99%				+/-	151.2622	µg/mL	Stressed
10	Acrylonitrile			25,010.4	µg/mL	+/-	145.4049	µg/mL	Gravimetric
	CAS #	107-13-1	(Lot R15D047)			+/-	1,508.9860	µg/mL	Unstressed
	Purity	99%				+/-	1,512.5686	µg/mL	Stressed
11	Methyl-tert-butyl ether (MTBE)			2,500.3	µg/mL	+/-	14.5367	µg/mL	Gravimetric
	CAS #	1634-04-4	(Lot SHBH9526)			+/-	150.8512	µg/mL	Unstressed
	Purity	99%				+/-	151.2093	µg/mL	Stressed
12	cis-1,2-Dichloroethene			2,501.3	µg/mL	+/-	14.5425	µg/mL	Gravimetric
	CAS #	156-59-2	(Lot MKBX5945V)			+/-	150.9115	µg/mL	Unstressed
	Purity	99%				+/-	151.2698	µg/mL	Stressed
13	n-Hexane (C6)			2,500.8	µg/mL	+/-	14.5396	µg/mL	Gravimetric
	CAS #	110-54-3	(Lot SHBH8106)			+/-	150.8813	µg/mL	Unstressed
	Purity	99%				+/-	151.2395	µg/mL	Stressed
14	1,1-Dichloroethane			2,500.4	µg/mL	+/-	14.5374	µg/mL	Gravimetric
	CAS #	75-34-3	(Lot 462600)			+/-	150.8587	µg/mL	Unstressed
	Purity	99%				+/-	151.2169	µg/mL	Stressed
15	2,2-Dichloropropane			2,500.9	µg/mL	+/-	14.5403	µg/mL	Gravimetric
	CAS #	594-20-7	(Lot BCBT5124)			+/-	150.8889	µg/mL	Unstressed
	Purity	99%				+/-	151.2471	µg/mL	Stressed
16	trans-1,2-Dichloroethene			2,500.3	µg/mL	+/-	14.5367	µg/mL	Gravimetric
	CAS #	156-60-5	(Lot MKBH9850V)			+/-	150.8512	µg/mL	Unstressed
	Purity	99%				+/-	151.2093	µg/mL	Stressed
17	Isobutanol (2-Methyl-1-propanol)			62,500.9	µg/mL	+/-	363.3665	µg/mL	Gravimetric
	CAS #	78-83-1	(Lot SHBK0551)			+/-	3,770.9529	µg/mL	Unstressed
	Purity	99%				+/-	3,779.9058	µg/mL	Stressed
18	chloroform			2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
	CAS #	67-66-3	(Lot SHBJ9076)			+/-	150.8662	µg/mL	Unstressed
	Purity	99%				+/-	151.2244	µg/mL	Stressed
19	Bromochloromethane			2,500.6	µg/mL	+/-	14.5387	µg/mL	Gravimetric
	CAS #	74-97-5	(Lot 00008541)			+/-	150.8718	µg/mL	Unstressed
	Purity	98%				+/-	151.2300	µg/mL	Stressed
20	Tetrahydrofuran			5,000.6	µg/mL	+/-	29.0741	µg/mL	Gravimetric
	CAS #	109-99-9	(Lot SHBJ6179)			+/-	301.7099	µg/mL	Unstressed
	Purity	99%				+/-	302.4262	µg/mL	Stressed
21	1,1,1-trichloroethane			2,500.8	µg/mL	+/-	14.5396	µg/mL	Gravimetric
	CAS #	71-55-6	(Lot B15W12061)			+/-	150.8813	µg/mL	Unstressed
	Purity	99%				+/-	151.2395	µg/mL	Stressed
22	Cyclohexane			2,500.9	µg/mL	+/-	14.5403	µg/mL	Gravimetric
	CAS #	110-82-7	(Lot MKCC9660)			+/-	150.8889	µg/mL	Unstressed
	Purity	99%				+/-	151.2471	µg/mL	Stressed
23	1,1-Dichloropropene			2,500.6	µg/mL	+/-	14.5388	µg/mL	Gravimetric
	CAS #	563-58-6	(Lot 180531JLM)			+/-	150.8738	µg/mL	Unstressed
	Purity	99%				+/-	151.2320	µg/mL	Stressed

40	dibromochloromethane		2,502.4	µg/mL	+/-	14.5493	µg/mL	Gravimetric
	CAS # 124-48-1	(Lot MKCC0877)			+/-	150.9827	µg/mL	Unstressed
	Purity 98%				+/-	151.3411	µg/mL	Stressed
41	1,2-Dibromoethane (EDB)		2,500.4	µg/mL	+/-	14.5374	µg/mL	Gravimetric
	CAS # 106-93-4	(Lot BCBH3877V)			+/-	150.8587	µg/mL	Unstressed
	Purity 99%				+/-	151.2169	µg/mL	Stressed
42	Chlorobenzene		2,501.1	µg/mL	+/-	14.5418	µg/mL	Gravimetric
	CAS # 108-90-7	(Lot SHBH4459V)			+/-	150.9040	µg/mL	Unstressed
	Purity 99%				+/-	151.2622	µg/mL	Stressed
43	m-Xylene		1,251.5	µg/mL	+/-	7.2763	µg/mL	Gravimetric
	CAS # 108-38-3	(Lot SHBJ2338)			+/-	75.5085	µg/mL	Unstressed
	Purity 99%				+/-	75.6878	µg/mL	Stressed
44	p-Xylene		1,250.1	µg/mL	+/-	7.2683	µg/mL	Gravimetric
	CAS # 106-42-3	(Lot SHBJ0052)			+/-	75.4256	µg/mL	Unstressed
	Purity 99%				+/-	75.6047	µg/mL	Stressed
45	Ethylbenzene		2,500.0	µg/mL	+/-	14.5352	µg/mL	Gravimetric
	CAS # 100-41-4	(Lot SHBJ3183)			+/-	150.8361	µg/mL	Unstressed
	Purity 99%				+/-	151.1942	µg/mL	Stressed
46	1,1,1,2-Tetrachloroethane		2,500.0	µg/mL	+/-	14.5352	µg/mL	Gravimetric
	CAS # 630-20-6	(Lot MKBS3769V)			+/-	150.8361	µg/mL	Unstressed
	Purity 99%				+/-	151.1942	µg/mL	Stressed
47	o-Xylene		2,500.8	µg/mL	+/-	14.5396	µg/mL	Gravimetric
	CAS # 95-47-6	(Lot SHBH7231)			+/-	150.8813	µg/mL	Unstressed
	Purity 99%				+/-	151.2395	µg/mL	Stressed
48	Styrene		2,500.0	µg/mL	+/-	14.5352	µg/mL	Gravimetric
	CAS # 100-42-5	(Lot MKCC9766)			+/-	150.8361	µg/mL	Unstressed
	Purity 99%				+/-	151.1942	µg/mL	Stressed
49	Isopropylbenzene (cumene)		2,500.1	µg/mL	+/-	14.5359	µg/mL	Gravimetric
	CAS # 98-82-8	(Lot 10185056)			+/-	150.8436	µg/mL	Unstressed
	Purity 99%				+/-	151.2017	µg/mL	Stressed
50	bromoform		2,501.0	µg/mL	+/-	14.5410	µg/mL	Gravimetric
	CAS # 75-25-2	(Lot SHBG3138V)			+/-	150.8964	µg/mL	Unstressed
	Purity 99%				+/-	151.2547	µg/mL	Stressed
51	bromodichloromethane		2,501.6	µg/mL	+/-	14.5447	µg/mL	Gravimetric
	CAS # 75-27-4	(Lot MKCF8470)			+/-	150.9341	µg/mL	Unstressed
	Purity 99%				+/-	151.2925	µg/mL	Stressed
52	1,1,2,2-Tetrachloroethane		2,500.5	µg/mL	+/-	14.5381	µg/mL	Gravimetric
	CAS # 79-34-5	(Lot CFA4D)			+/-	150.8662	µg/mL	Unstressed
	Purity 99%				+/-	151.2244	µg/mL	Stressed
53	1,2,3-Trichloropropane		2,501.3	µg/mL	+/-	14.5425	µg/mL	Gravimetric
	CAS # 96-18-4	(Lot BCBH8722V)			+/-	150.9115	µg/mL	Unstressed
	Purity 99%				+/-	151.2698	µg/mL	Stressed
54	trans-1,4-dichloro-2-butene		2,500.0	µg/mL	+/-	14.5355	µg/mL	Gravimetric
	CAS # 110-57-6	(Lot MKBX7788V)			+/-	150.8389	µg/mL	Unstressed
	Purity 94%				+/-	151.1971	µg/mL	Stressed
55	n-Propylbenzene		2,500.0	µg/mL	+/-	14.5352	µg/mL	Gravimetric
	CAS # 103-65-1	(Lot WXBC3346V)			+/-	150.8361	µg/mL	Unstressed
	Purity 99%				+/-	151.1942	µg/mL	Stressed

72	1,2,3-Trichlorobenzene **CAS #** 87-61-6 **Purity** 99%	(Lot MKBX7627V)	2,502.5	µg/mL	+/-	14.5498	µg/mL	Gravimetric
					+/-	150.9869	µg/mL	Unstressed
					+/-	151.3454	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
40°C (hold 6 min.) to 240°C
@ 6°C/min. (hold 10 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD

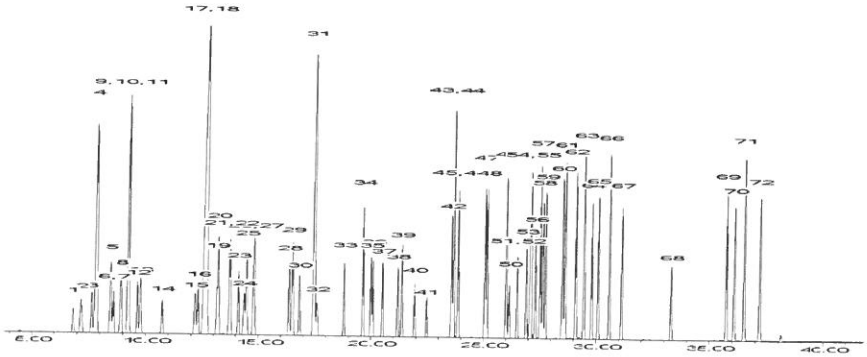

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

F. Joseph Tallon - Mix Technician

Date Mixed: 05-Dec-2018 **Balance:** B251644995

Diane Shaffer - Operations Tech-ARM QC

Date Passed: 21-Dec-2018

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

Reagent

VOAR2CEVE_00014

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569723 **Lot No.:** A0133302

Description : 8260 List 1 / Std #4 2-CEVE (2015)

8260 List 1 / Std #4 2-CEVE (2015) 2,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : December 31, 2020 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2-Chloroethyl vinyl ether **CAS #** 110-75-8 (Lot MKBS6526V) **Purity** 98%	2,511.5 µg/mL	+/- 14.7391	µg/mL	Gravimetric
			+/- 53.8098	µg/mL	Unstressed
			+/- 55.3720	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Tech Tips:

Degradation of tetrachloroethylene to pentachloroethane may occur if solutions containing 2-chloroethyl vinyl ether are combined with solutions that contain tetrachloroethylene.

Reagent

VOARAcroleinS_00005

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 568720 **Lot No.:** A0147676

Description : 8260 List 1/Std #5 Acrolein High

8260 List 1/Std #5 Acrolein High 19,750µg/mL, Water, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : October 31, 2019 **Storage:** 0°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound			Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)			
1	Acrolein			19,822.0	µg/mL	+/-	116.0622	µg/mL	Gravimetric
	CAS #	107-02-8	(Lot 0012014-D0218)			+/-	635.5556	µg/mL	Unstressed
	Purity	99%				+/-	738.7639	µg/mL	Stressed

Solvent: Water
CAS # 7732-18-5
Purity 99%

Reagent

VOARADD4COM_00006

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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 570809 **Lot No.:** A0135442

Description : 8260 List 2 / Std #7

8260 List 2 / Std #7 2,500-5,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2019 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Ethyl acetate **CAS #** 141-78-6 **Purity** 99%	(Lot SHBH7407)	5,048.8 µg/mL	+/- 29.5618 µg/mL +/- 304.6366 µg/mL +/- 305.3597 µg/mL		Gravimetric Unstressed Stressed
2	Ethyl acrylate **CAS #** 140-88-5 **Purity** 99%	(Lot 10129902)	2,522.8 µg/mL	+/- 14.8052 µg/mL +/- 152.2250 µg/mL +/- 152.5864 µg/mL		Gravimetric Unstressed Stressed
3	Methyl methacrylate **CAS #** 80-62-6 **Purity** 99%	(Lot MKBH4379V)	5,048.0 µg/mL	+/- 29.5572 µg/mL +/- 304.5883 µg/mL +/- 305.3113 µg/mL		Gravimetric Unstressed Stressed
4	Butyl acetate **CAS #** 123-86-4 **Purity** 99%	(Lot SHBH0056V)	2,522.0 µg/mL	+/- 14.8005 µg/mL +/- 152.1767 µg/mL +/- 152.5380 µg/mL		Gravimetric Unstressed Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Reagent

VOARADDCOM_00014

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Catalog No. : 570808 **Lot No.:** A0135915

Description : 8260 List 2 / Std #6

8260 List 2 / Std #6 2,500-62,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2019 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	2-Propanol (isopropanol) **CAS #** 67-63-0 (Lot SHBG4888V) **Purity** 99%	25,201.5 µg/mL	+/- 147.5603 µg/mL +/- 1,246.7862 µg/mL +/- 1,277.7827 µg/mL	Gravimetric Unstressed Stressed
2	Chloroprene (2-chloro-1,3-butadiene) **CAS #** 126-99-8 (Lot 180302JLM) **Purity** 99%	2,510.0 µg/mL	+/- 14.7301 µg/mL +/- 124.1804 µg/mL +/- 127.2675 µg/mL	Gravimetric Unstressed Stressed
3	Methacrylonitrile **CAS #** 126-98-7 (Lot 1012014) **Purity** 99%	25,081.5 µg/mL	+/- 146.8577 µg/mL +/- 1,240.8495 µg/mL +/- 1,271.6983 µg/mL	Gravimetric Unstressed Stressed
4	2,2,4-Trimethylpentane (isooctane) **CAS #** 540-84-1 (Lot SHBD2922V) **Purity** 99%	2,523.0 µg/mL	+/- 14.8064 µg/mL +/- 124.8236 µg/mL +/- 127.9267 µg/mL	Gravimetric Unstressed Stressed
5	1-Butanol **CAS #** 71-36-3 (Lot SHBH9510) **Purity** 99%	62,543.5 µg/mL	+/- 366.1871 µg/mL +/- 3,094.1935 µg/mL +/- 3,171.1186 µg/mL	Gravimetric Unstressed Stressed
6	2-Nitropropane **CAS #** 79-46-9 (Lot BCBL0537V) **Purity** 98%	5,026.4 µg/mL	+/- 29.4308 µg/mL +/- 248.6706 µg/mL +/- 254.8528 µg/mL	Gravimetric Unstressed Stressed
7	1-Chlorohexane **CAS #** 544-10-5 (Lot 05107LK) **Purity** 98%	2,519.1 µg/mL	+/- 14.7834 µg/mL +/- 124.6302 µg/mL +/- 127.7284 µg/mL	Gravimetric Unstressed Stressed

8	1,2,3-Trimethylbenzene		2,502.6	µg/mL	+/-	14.6867	µg/mL	Gravimetric
	CAS # 526-73-8	(Lot 877605-13)			+/-	123.8143	µg/mL	Unstressed
	Purity 97%				+/-	126.8923	µg/mL	Stressed
9	Benzyl chloride		2,513.5	µg/mL	+/-	14.7506	µg/mL	Gravimetric
	CAS # 100-44-7	(Lot SHBB7346V)			+/-	124.3536	µg/mL	Unstressed
	Purity 99%				+/-	127.4450	µg/mL	Stressed
10	1,3,5-Trichlorobenzene		2,501.5	µg/mL	+/-	14.6802	µg/mL	Gravimetric
	CAS # 108-70-3	(Lot 11319AS)			+/-	123.7599	µg/mL	Unstressed
	Purity 99%				+/-	126.8365	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

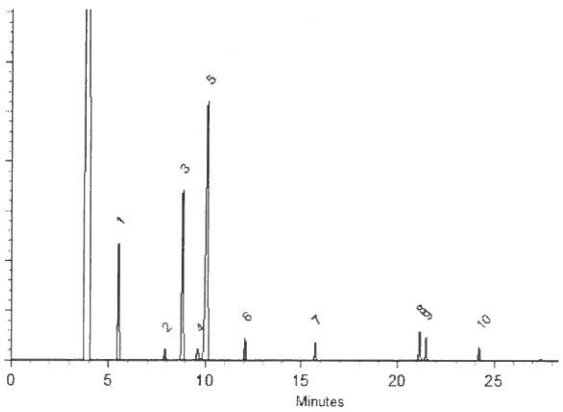

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cydnei L. Crust
Cydnei L. Crust - Mix Technician

Date Mixed: 06-Mar-2018 **Balance:** B707717271

Justine Albertson - Operations Tech-ARM QC

Date Passed: 08-Mar-2018

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

Reagent

VOARCYCHONE_00027

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Catalog No. : 569727 **Lot No.:** A0133136

Description : 8260 List 2/ Std #3 Cyclohexanone (2015)

8260 List 2/ Std #3 Cyclohexanone (2015) 25,000µg/mL, Water, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : December 31, 2020 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Cyclohexanone **CAS #** 108-94-1 (Lot MKBS1864V) **Purity** 99%	25,002.0 µg/mL	+/- 146.3922 µg/mL +/- 1,508.5809 µg/mL +/- 1,512.1621 µg/mL	Gravimetric Unstressed Stressed

Solvent: Water
CAS # 7732-18-5
Purity 99%

Reagent

VOARGAS_00014

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Catalog No. : 569722 **Lot No.:** A0131502

Description : 8260 List 1 / Std #3 Gases (2015)

8260 List 1 / Std #3 Gases (2015) 2,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : October 31, 2020 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Dichlorodifluoromethane (CFC-12) **CAS #** 75-71-8 (Lot Q167-08) **Purity** 99%	2,501.3 µg/mL	+/- 20.2137 µg/mL +/- 140.9452 µg/mL +/- 144.2108 µg/mL		Gravimetric Unstressed Stressed
2	Chloromethane (methyl chloride) **CAS #** 74-87-3 (Lot SHBG9707V) **Purity** 99%	2,504.9 µg/mL	+/- 24.8531 µg/mL +/- 141.8827 µg/mL +/- 145.1364 µg/mL		Gravimetric Unstressed Stressed
3	Vinyl chloride **CAS #** 75-01-4 (Lot 1026101231B1) **Purity** 99%	2,498.3 µg/mL	+/- 21.7258 µg/mL +/- 141.0069 µg/mL +/- 144.2635 µg/mL		Gravimetric Unstressed Stressed
4	1,3-Butadiene **CAS #** 106-99-0 (Lot SHBH7966) **Purity** 99%	2,499.9 µg/mL	+/- 19.8572 µg/mL +/- 140.8167 µg/mL +/- 144.0816 µg/mL		Gravimetric Unstressed Stressed
5	Bromomethane (methyl bromide) **CAS #** 74-83-9 (Lot 101604) **Purity** 99%	2,500.4 µg/mL	+/- 24.9675 µg/mL +/- 141.6590 µg/mL +/- 144.9064 µg/mL		Gravimetric Unstressed Stressed
6	Chloroethane (ethyl chloride) **CAS #** 75-00-3 (Lot 23593) **Purity** 99%	2,500.1 µg/mL	+/- 25.2649 µg/mL +/- 141.6931 µg/mL +/- 144.9388 µg/mL		Gravimetric Unstressed Stressed
7	Dichlorofluoromethane (CFC-21) **CAS #** 75-43-4 (Lot 4938100) **Purity** 99%	2,500.0 µg/mL	+/- 16.7114 µg/mL +/- 140.4149 µg/mL +/- 143.6892 µg/mL		Gravimetric Unstressed Stressed

Reagent

VOARGASLCS_00008

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ilac-MRA

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569722.SEC **Lot No.:** A0128832

Description : 8260 List 1 / Std #3 Gases (2015)

8260 List 1 / Std #3 Gases (2015) 2,500 ug/ml, P&T Methanol, 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2020 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Dichlorodifluoromethane (CFC-12) **CAS #** 75-71-8.SEC (Lot 23586) **Purity** 99%	2,505.9 µg/mL	+/- 22.3986	µg/mL	Gravimetric
			+/- 141.5312	µg/mL	Unstressed
			+/- 144.7955	µg/mL	Stressed
2	Chloromethane (methyl chloride) **CAS #** 74-87-3.SEC (Lot 18343) **Purity** 99%	2,503.7 µg/mL	+/- 24.8413	µg/mL	Gravimetric
			+/- 141.8153	µg/mL	Unstressed
			+/- 145.0675	µg/mL	Stressed
3	Vinyl chloride **CAS #** 75-01-4.SEC (Lot MKBK6872V) **Purity** 99%	2,503.2 µg/mL	+/- 25.9197	µg/mL	Gravimetric
			+/- 141.9813	µg/mL	Unstressed
			+/- 145.2285	µg/mL	Stressed
4	1,3-Butadiene **CAS #** 106-99-0.SEC (Lot 24033) **Purity** 99%	2,508.9 µg/mL	+/- 20.6969	µg/mL	Gravimetric
			+/- 141.4379	µg/mL	Unstressed
			+/- 144.7121	µg/mL	Stressed
5	Bromomethane (methyl bromide) **CAS #** 74-83-9.SEC (Lot Q119-46) **Purity** 99%	2,502.6 µg/mL	+/- 26.2540	µg/mL	Gravimetric
			+/- 142.0076	µg/mL	Unstressed
			+/- 145.2526	µg/mL	Stressed
6	Chloroethane (ethyl chloride) **CAS #** 75-00-3.SEC (Lot 00004202) **Purity** 99%	2,510.6 µg/mL	+/- 24.9094	µg/mL	Gravimetric
			+/- 142.2038	µg/mL	Unstressed
			+/- 145.4650	µg/mL	Stressed
7	Dichlorofluoromethane (CFC-21) **CAS #** 75-43-4.SEC (Lot SHBC0858V) **Purity** 99%	2,510.9 µg/mL	+/- 25.6719	µg/mL	Gravimetric
			+/- 142.3575	µg/mL	Unstressed
			+/- 145.6160	µg/mL	Stressed

8	Trichlorofluoromethane (CFC-11) **CAS #** 75-69-4.SEC **Purity** 99%	(Lot 253600)	2,504.9	µg/mL	+/- +/- +/-	18.9312 140.9660 144.2404	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

Carrier Gas:
helium-constant flow 2.0 mL/min.

Temp. Program:
40°C (hold 6 min.) to 100°C
@ 6°C/min.

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD

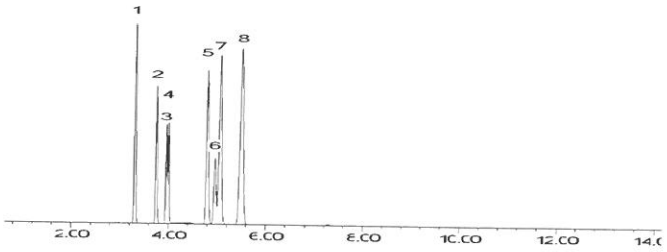

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Brandon Reish - Mix Technician **Date Mixed:** 29-Jun-2017 **Balance:** 1127510105

Jennifer Pollino - Operations Tech-ARM QC **Date Passed:** 24-Jul-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

Reagent

VOARKETONDup_00002

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569721 **Lot No.:** A0123890

Description : 8260 List 1/ Std #2 Ketones (2015)

8260 List 1/ Std #2 Ketones (2015) 12,500 µg/ml, P&T Methanol/Water (90:10), 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2020 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Acetone **CAS #** 67-64-1 **Purity** 99%	(Lot SHBH0922V)	12,517.5 µg/mL	+/- 72.7778 µg/mL +/- 755.2362 µg/mL +/- 757.0293 µg/mL		Gravimetric Unstressed Stressed
2	2-Butanone (MEK) **CAS #** 78-93-3 **Purity** 99%	(Lot SHBF2461V)	12,521.8 µg/mL	+/- 72.8025 µg/mL +/- 755.4927 µg/mL +/- 757.2863 µg/mL		Gravimetric Unstressed Stressed
3	4-Methyl-2-pentanone (MIBK) **CAS #** 108-10-1 **Purity** 99%	(Lot SHBG3630V)	12,519.8 µg/mL	+/- 72.7909 µg/mL +/- 755.3720 µg/mL +/- 757.1654 µg/mL		Gravimetric Unstressed Stressed
4	2-Hexanone **CAS #** 591-78-6 **Purity** 99%	(Lot MKBW0198V)	12,508.5 µg/mL	+/- 72.7255 µg/mL +/- 754.6932 µg/mL +/- 756.4850 µg/mL		Gravimetric Unstressed Stressed

Solvent: P&T Methanol/Water (90:10)
CAS # 67-56-1/7732-18-5
Purity 99%

Reagent

VOARKETONLCS_00005

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569721.sec **Lot No.:** A0123880

Description : 8260 List 1/ Std #2 Ketones (2015)

8260 List 1/ Std #2 Ketones (2015) 12,500 µg/ml, P&T Methanol/Water (90:10), 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2020 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Acetone **CAS #** 67-64-1.SEC (Lot P14A572) **Purity** 99%	12,501.6 µg/mL	+/- 73.1996 +/- 754.3267 +/- 756.1173	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	2-Butanone (MEK) **CAS #** 78-93-3.SEC (Lot RA58J) **Purity** 99%	12,503.6 µg/mL	+/- 73.2113 +/- 754.4473 +/- 756.2383	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
3	4-Methyl-2-pentanone (MIBK) **CAS #** 108-10-1.SEC (Lot E29T040) **Purity** 99%	12,506.0 µg/mL	+/- 73.2254 +/- 754.5921 +/- 756.3834	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
4	2-Hexanone **CAS #** 591-78-6.SEC (Lot V3NRA) **Purity** 99%	12,504.0 µg/mL	+/- 73.2137 +/- 754.4715 +/- 756.2625	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol/Water (90:10)
CAS # 67-56-1/7732-18-5
Purity 99%

Reagent

VOARPOLADD_00013

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571993 **Lot No.:** A0139911

Description : 8260 List 3/ Std#1 Polar Additions (2017)

8260 List 3/ Std#1 Polar Additions (2017) 2,500-25,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : July 31, 2020 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Acetonitrile		25,212.5 µg/mL	+/- 147.6247	µg/mL	Gravimetric
	CAS # 75-05-8	(Lot SHBH6233)		+/- 1,247.3304	µg/mL	Unstressed
	Purity 99%			+/- 1,278.3404	µg/mL	Stressed
2	Diisopropyl ether (DIPE)		2,525.0 µg/mL	+/- 14.8181	µg/mL	Gravimetric
	CAS # 108-20-3	(Lot SHBC0391V)		+/- 124.9226	µg/mL	Unstressed
	Purity 99%			+/- 128.0281	µg/mL	Stressed
3	Ethyl-tert-butyl ether (ETBE)		2,518.5 µg/mL	+/- 14.7800	µg/mL	Gravimetric
	CAS # 637-92-3	(Lot MKCC2702)		+/- 124.6010	µg/mL	Unstressed
	Purity 99%			+/- 127.6985	µg/mL	Stressed
4	Propionitrile		25,227.5 µg/mL	+/- 147.7126	µg/mL	Gravimetric
	CAS # 107-12-0	(Lot BCBV8545)		+/- 1,248.0725	µg/mL	Unstressed
	Purity 99%			+/- 1,279.1009	µg/mL	Stressed
5	tert-Amyl alcohol		25,152.5 µg/mL	+/- 147.2734	µg/mL	Gravimetric
	CAS # 75-85-4	(Lot STBB1898V)		+/- 1,244.3621	µg/mL	Unstressed
	Purity 99%			+/- 1,275.2982	µg/mL	Stressed
6	tert-Amyl methyl ether (TAME)		2,525.0 µg/mL	+/- 14.8181	µg/mL	Gravimetric
	CAS # 994-05-8	(Lot HMBF8365V)		+/- 124.9226	µg/mL	Unstressed
	Purity 99%			+/- 128.0281	µg/mL	Stressed

Reagent

VOARSS_00012

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567650 **Lot No.:** A0115812

Description : 8260 Surrogate Standard

8260 Surrogate Standard 2,500 ug/ml, P&T Methanol, 5 ml/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : December 31, 2020 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Dibromofluoromethane		2,503.1 µg/mL	+/- 14.5534	µg/mL	Gravimetric
	CAS # 1868-53-7	(Lot 022012)		+/- 140.3482	µg/mL	Unstressed
	Purity 99%			+/- 143.6322	µg/mL	Stressed
2	1,2-Dichloroethane-d4		2,500.1 µg/mL	+/- 14.5360	µg/mL	Gravimetric
	CAS # 17060-07-0	(Lot 14C-191)		+/- 140.1800	µg/mL	Unstressed
	Purity 99%			+/- 143.4600	µg/mL	Stressed
3	Toluene-d8		2,505.0 µg/mL	+/- 14.5643	µg/mL	Gravimetric
	CAS # 2037-26-5	(Lot PR-26282)		+/- 140.4529	µg/mL	Unstressed
	Purity 99%			+/- 143.7393	µg/mL	Stressed
4	1-Bromo-4-fluorobenzene (BFB)		2,501.1 µg/mL	+/- 14.5418	µg/mL	Gravimetric
	CAS # 460-00-4	(Lot 20401KOV)		+/- 140.2361	µg/mL	Unstressed
	Purity 99%			+/- 143.5174	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

V100516 G

Reagent

VOARVASTD_00004

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569724 **Lot No.:** A0145775

Description : 8260 List 1 / Std #6 Vinyl Acetate (2015)

8260 List 1 / Std #6 Vinyl Acetate (2015) 5,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2019 **Storage:** 0°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Vinyl acetate CAS # 108-05-4 (Lot STBD7333V) Purity 99%	5,030.0 µg/mL	+/- 29.5189 µg/mL		Gravimetric
			+/- 303.5087 µg/mL		Unstressed
			+/- 304.2292 µg/mL		Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Tech Tips:

Vinyl acetate is a volatile organic ester included in the target lists of several US EPA and other methods . Under acidic conditions, esters react with alcohols to form new esters (transesterification). Methanol-based mixes containing halogenated compounds are slightly acidic, so it is important to minimize exposure of vinyl acetate to mixes of halogenated compounds in methanol. For this reason, we offer vinyl acetate in individual solution, and suggest that it be introduced into the working level calibration solution immediately before use. This will minimize problems and ensure more consistent results.

Reagent

VOASBFB_00014

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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 30026 **Lot No.:** A0120567

Description : 4-Bromofluorobenzene Mixture

4-Bromofluorobenzene 2000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : July 31, 2021 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1-Bromo-4-fluorobenzene (BFB) **CAS #** 460-00-4 (Lot 20401KOV) **Purity** 99%	2,019.3 µg/mL	+/- 11.8506	µg/mL	Gravimetric
			+/- 113.2335	µg/mL	Unstressed
			+/- 115.8825	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

V0308173

Reagent

WETSCODCAL_00032

Certificate of Analysis List

For request number 1094245

Catalog Number Entered	Lot Number Entered	Related Catalog Number	Related Lot Code	Description
2253929	9031	N/A	N/A	Chemical Oxygen Demand Standard Solution 1000 mg/l COD

Total Enclosures: 1

HACH COMPANY

P.O.Box 389
Loveland, CO 80539
(970) 669-3050

An ISO 9001 Certified Company

Certificate of Analysis

COMMODITY:**Chemical Oxygen Demand Standard Solution 1000 mg/l COD**
COMMODITY NUMBER: **2253929** MANUFACTURE DATE: DATE OF ANALYSIS:
LOT NUMBER: **A9031** **2/17/2019** **2/18/2019**

TEST	*SPECIFICATIONS*	*RESULTS*
COD Concentration	950 to 1050 ppm	995.5 ppm

The expiration date is Feb 2020

The item 2253929 is traceable to NIST standards SRM 84L Potassium Hydrogen Phthalate LOT N/A.

Certified by _____

Scott Als
Analytical Services Chemist

Reagent

WETSICCNO3_00018

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Ion Chromatography Solution
Catalog Number:	ICNNO31
Lot Number:	M2-NOX656803
Matrix:	H2O
Value / Analyte(s):	1 000 µg/mL ea: Nitrate as N
Starting Material:	Sodium Nitrate
Starting Material Lot#:	1571
Starting Material Purity:	100.0000%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 998 ± 4 µg/mL

Certified Density: 1.002 g/mL (measured at 20 ± 1 ºC)

Assay Information:

Assay Method #1 **997 ± 3 µg/mL**
IC Assay NIST SRM 3185 Lot Number: 050517

Assay Method #2 **1000 ± 4 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 CHROMATOGRAM

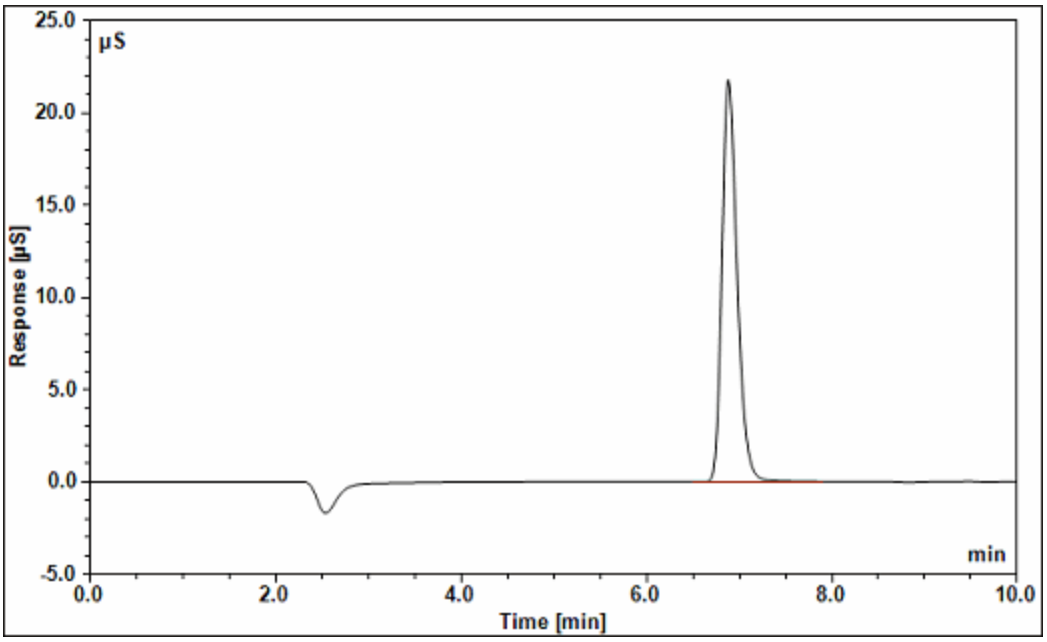

Dionex ICS-1000 Ion Chromatograph

Analytical Column:	IonPac AS22 4 x 250 mm	**Eluent:**	4.5mM Na2CO3 / 1.4mM NaHCO3
Guard Column:	IonPac AG22 4 x 50 mm	**Eluent Flow Rate:**	1.2 mL/min
Anion Self Regen Suppressor/ Chemical Suppression:	AERS 500 4 mm	**Column Temp:**	35ºC
		Cell Temp:	35ºC
Cation Self Regen Suppressor/ Chemical Suppression:	N/A	**Scale X-Axis:**	minutes
		Scale Y-Axis:	25 µS/cm
		Concentration:	20 µg/g
Suppressor Current/ Chemical Suppressant:	31 mA		

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 31, 2017

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **March 31, 2021**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year from the date of removal from the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled and stored in accordance with the instructions given in Sec 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Brenda Francis
Product Documentation Technician

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Reagent

WETSICCSO4_00015

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED
Testing Laboratory
Certificate 883.01

ACCREDITED
Reference Material Producer
Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Ion Chromatography Solution
Catalog Number:	ICSO41
Lot Number:	K2-SOX01111
Matrix:	H2O
Value / Analyte(s):	1 000 µg/mL ea: Sulfate
Starting Material:	Potassium Sulfate
Starting Material Lot#:	1637, 1477
Starting Material Purity:	99.1000%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value:	1002 ± 4 µg/mL
Certified Density:	1.000 g/mL (measured at 20 ± 1 ºC)

Assay Information:

Assay Method #1	**1002 ± 1 µg/mL** IC Assay NIST SRM 3181 Lot Number: 080603
Assay Method #2	**1000 ± 4 µg/mL** Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM by one method

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 CHROMATOGRAM

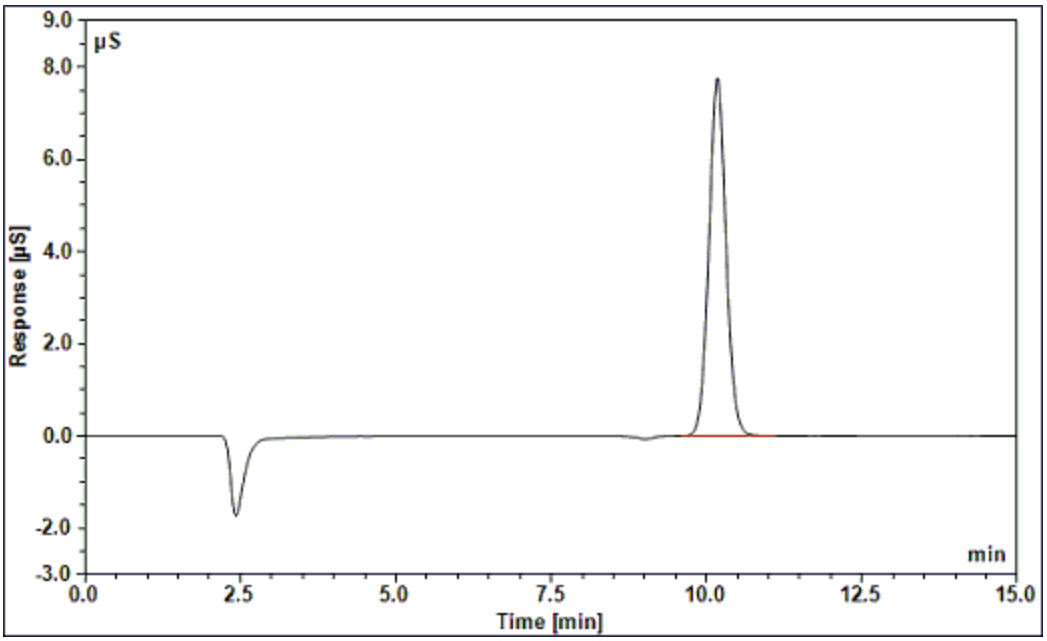

Dionex ICS-1000 Ion Chromatograph

Analytical Column:	IonPac AS22 4 x 250 mm	**Eluent:**	4.5/1.4 mM Na2CO3/NaHCO3
Guard Column:	IonPac AG22 4 x 50 mm	**Eluent Flow Rate:**	1.2 mL/min
Anion Self-Regenerating Suppressor:	AERS 500 4 mm	**Column Temp:**	N/A
		Cell Temp:	35 °C
Cation Self-Regenerating Suppressor:	N/A	**Scale X-Axis:**	minutes
		Scale Y-Axis:	9 µS
Suppressor Current:	31 mA	**Concentration:**	10 µg/g

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4° C. Do not pippette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.4 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

June 21, 2016

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **June 21, 2020**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year from the date of removal from the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being handled and stored in accordance with the instructions given in Sec 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

James King Jr
Product Documentation Supervisor

Certificate Approved By:

Michael Booth
QC Supervisor

Certifying Officer:

Paul Gaines
PhD., Senior Technical Director

Reagent

WETSICCSO4_00016

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Ion Chromatography Solution
Catalog Number:	ICSO41
Lot Number:	N2-SOX671919
Matrix:	H2O
Value / Analyte(s):	1 000 µg/mL ea: Sulfate
Starting Material:	Sulfuric acid
Starting Material Lot#:	1637 & 05013BA
Starting Material Purity:	100.0000%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 999 ± 4 µg/mL

Density: 1.000 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **1000 ± 4 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

Assay Method #2 **999 ± 3 µg/mL**
IC Assay NIST SRM 3181 Lot Number: 080603

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM by two independent methods **Characterization of CRM by one method**

Characterization of CRM/RM by Two Methods

Certified Value, $X_{CRM/RM}$, where two methods of characterization are used is the weighted mean of the two results:

$X_{CRM/RM} = [(w_a)(X_a) + (w_b)(X_b)]$

X_a = mean of Assay Method A with standard uncertainty $u_{char\ a}$

X_b = mean of Assay Method B with standard uncertainty $u_{char\ b}$

w_a and w_b = the weighting factors for each method calculated using the inverse square of the variance:

$w_a = (1/u_{char\ a})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

$w_b = (1/u_{char\ b})^2 / ((1/u_{char\ a})^2 + (1/u_{char\ b})^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a\&b} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a\&b} = [(w_a)^2 (u_{char\ a})^2 + (w_b)^2 (u_{char\ b})^2]^{1/2}$ where $u_{char\ a}$ and $u_{char\ b}$ are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM}$ = mean of Assay Method A with standard uncertainty $u_{char\ a}$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2 in all cases at Inorganic Ventures

$u_{char\ a}$ = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 CHROMATOGRAM

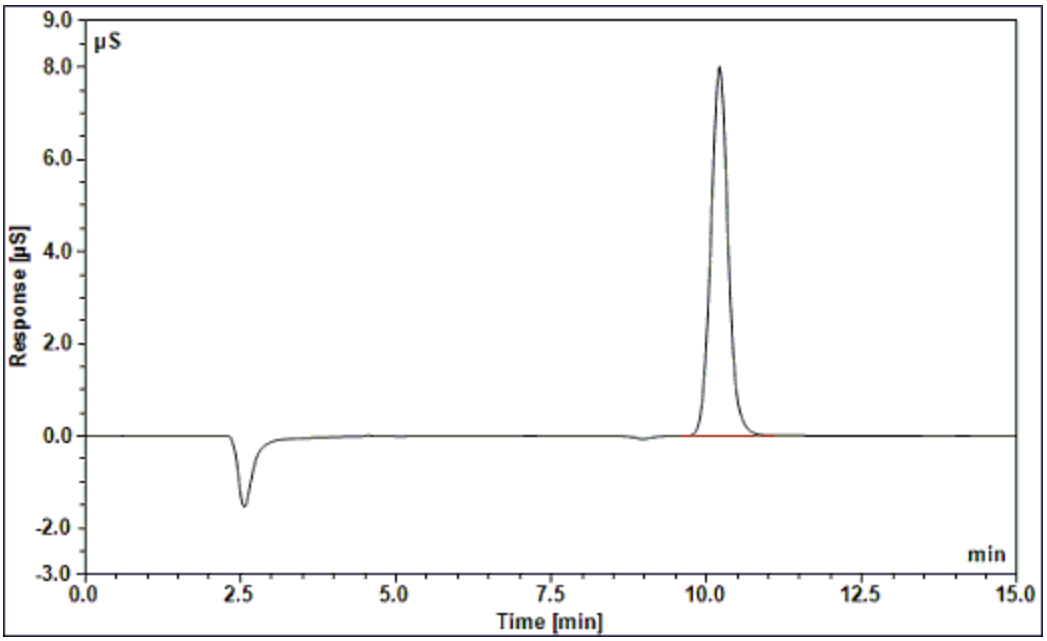

Dionex ICS-1000 Ion Chromatograph

Analytical Column:	IonPac AS22 4 x 250 mm	**Eluent:**	4.5mM Na2CO3 / 1.4mM NaHCO3
Guard Column:	IonPac AG22 4 x 50 mm	**Eluent Flow Rate:**	1.2 mL/min
Anion Self Regen Suppressor/ Chemical Suppression:	AERS 500 4 mm	**Column Temp:**	20°C
		Cell Temp:	35°C
Cation Self Regen Suppressor/ Chemical Suppression:	N/A	**Scale X-Axis:**	minutes
		Scale Y-Axis:	9 µS/cm
		Concentration:	10 µg/g
Suppressor Current/ Chemical Suppressant:	31mA		

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

October 19, 2018

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **October 19, 2022**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Product Documentation Supervisor

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Reagent

WETSMETBSU_00024

Aqua Solutions, Inc.
6913 Highway 225
Deer Park, TX, 77536
281/479-2569
Certificate of Analysis / QC Results

Customer: FIS010 / FISHER SCIENTIFIC*

Packaged Product: 5810-100ML
METHYLENE BLUE SOLUTION II (100ML)

Lot # 8101846

Chemical Product: 5810
METHYLENE BLUE SOLUTION II

Test	Target/UOM	Range	Result
PREPARED TO FORMULATION ON FILE	YES		YES
APPEARANCE AND COLOR	DARK BLUE LIQUID APPEARANCE		PASS
INSTRUMENTS USED DURING PREPARATION	LAB EQUIPMENT INSTRUMENT		M53,EF500-4
GPL METHYLENE BLUE	0.1000 GPL	0.0995 - 0.1005	0.1008

Made 10/18/18

This is to certify that the product listed above has been prepared according to the agreed upon formulation. The solutions producer has a Quality Management System which governs each step of the manufacturing process to insure the production of a consistent product. Traceability from the producer's lot numbers to the original manufacturer's lot number is maintained. Certificates of Analysis for the raw materials used to prepare this product are available upon request.

The weights and/or volumes used to prepare this product are N.I.S.T. Traceable. All balances used in the preparation of product are calibrated daily against N.I.S.T. Traceable weights. The balances are maintained and serviced on a regular basis by an outside certified company. All volumetric glassware used is N.I.S.T. Traceable and certified as meeting Class A specifications.

Unless otherwise agreed to, all chemicals used in the preparation of this product are Reagent ACS grade.

Aqua Solutions' Quality System has been found to conform to Quality Management System Standard ISO9001:2015 by DNV Certificate Number 51119-2009-AQ-USA-ANAB.

Richard Bost

Quality Manager
Aqua Solutions, Inc.

2979523
ID: WETSMETBSU_00024
Desc: METHYLENE BLUE SLN (CAL) FOR SULFIDES
Exp: 10/30/2019 Prpd/Rcvd: 10/31/2018
Sol: Prpd: danielk Op: 10/31/2018
METHYLENE BLUE SLN (CAL) FOR SULFIDES

2979522
ID: WETSMETBSU_00024
Desc: METHYLENE BLUE SLN (CAL) FOR SULFIDES
Exp: 10/30/2019 Prpd/Rcvd: 10/31/2018
Sol: Prpd: danielk Op: 10/31/2018
METHYLENE BLUE SLN (CAL) FOR SULFIDES

Reagent

HRDXNIDA_00075

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-$^{13}C_{12}$

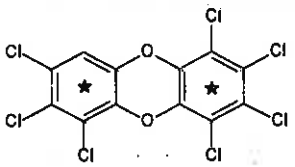

Catalog Number:	ED-972
Solution Lot:	ER111010-01
Expiration Date:	November 2020
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature Do not store cold
Intended Use:	For laboratory use only Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-$^{13}C_{12}$	98.9%	50.03 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER111010-01	50.5	± 5%	0.5	≤ 3%
Previous Lot	ER011807-01	47.4	± 5%	1.8	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

January 15, 2016
Date

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}HO_2Cl_7$
Compound Lot:	ER100110-01	**CAS Number:**	NA
		Molecular Weight:	437.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.9%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.10% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		98.91%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

Spectral and Physical Data

GC/FID

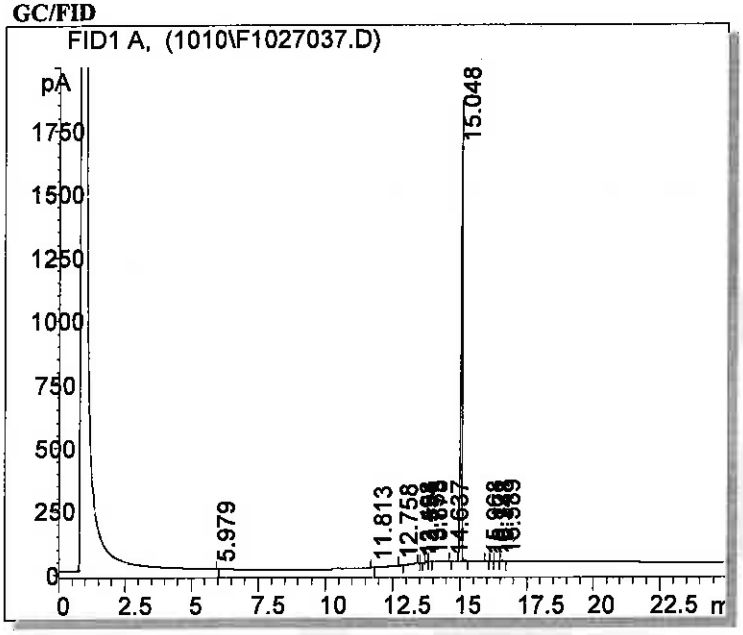

Column:	DB-5ms, 30m x 0.53mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-column
Detector Temp:	325°C
Data File Name:	S:\GC\GC6\2010\1010\F1027037.D
Instrument:	GC#6
Sample Name:	ER100110-01
Acquired:	October 28, 2010

Peak #	Ret Time	Area	Height	Area %
1	5.98	0.34	0.18	0.00
2	11.81	1.00	0.08	0.01
3	12.76	10.96	2.89	0.16
4	13.50	1.19	0.32	0.02
5	13.55	2.63	0.80	0.04
6	13.75	13.39	3.28	0.19
7	13.88	7.04	1.81	0.10
8	14.64	0.86	0.28	0.01
9	15.05	6900.70	1812.09	98.81
10	15.97	3.15	0.73	0.05
11	16.17	2.25	0.55	0.03
12	16.35	5.12	1.10	0.07
13	16.59	18.93	4.26	0.27
14	26.99	15.17	0.35	0.22
15	35.58	0.06	0.21	0.00
16	41.80	0.77	0.13	0.01

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-13C
Lab Number : [illegible]
Instrument : Agilent 5973N MSD/5890N GC
Operator-Inst ID : [illegible] - 010106
Date Reported : Wed Oct 27 [illegible] 2010
Column Type : [illegible], 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 300°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 290°C

Scan Range : 50-550

Total Ion Chromatogram

Mass Spectrum

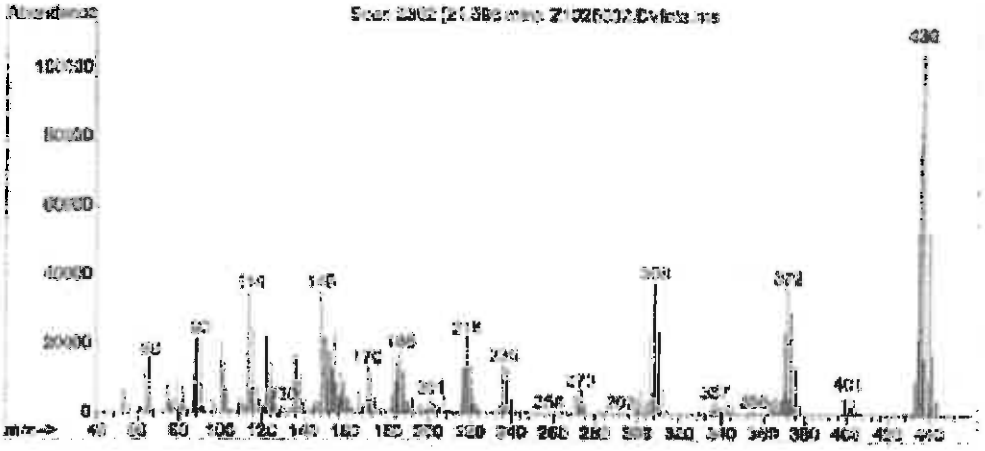

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

COA Revision History

Revision No.	Date	Reason for Revision
00	November 24, 2010	Initial version
01	January 15, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

Reagent

HRDXNIDA_00247

Received 8-17-16

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$

HpCDF

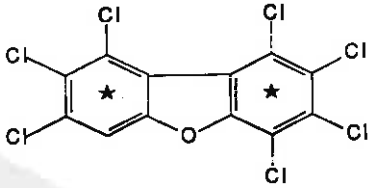

Catalog Number:	EF-988
Solution Lot:	ER04251601
Expiration Date:	March 2026
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	99.1%	49.99 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04251601	49.11	± 5%	0.2	≤ 3%
Previous Lot	ER053107-02	50.58	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

June 21, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}HCl_7O$
Compound Lot:	ER04041602	**CAS Number:**	109719-94-0
		Molecular Weight:	421.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.1%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS SIM	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.16% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.10%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data (cont.)

GC/FID

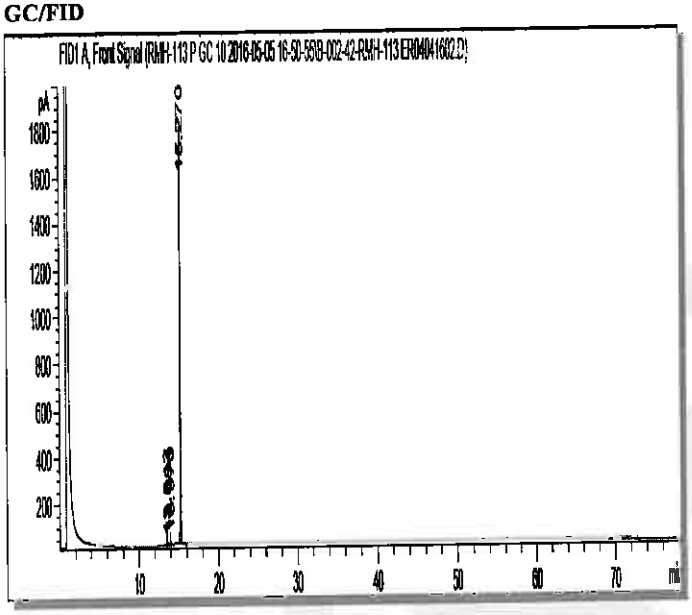

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Data File Name:	RMH-113 P GC 10 2016-05-05 16-50-55\B-002-42.D
Instrument:	GC#10
Sample Name:	ER04041602
Acquired:	May 05, 2016

Peak #	Ret Time	Area	Height	Area %
1	13.51	8.76	2.52	0.12
2	13.68	17.42	7.45	0.24
3	13.97	39.65	15.48	0.54
4	15.27	7226.95	1798.33	99.10

Spectral and Physical Data (cont.)

GC/MS

```
Compound Name          : 1,2,3,4,7,8,9-Heptachlorodibenzofuran-13C12
Lot Number             : ER04041602
Instrument             : Agilent GCMS
Operator               : ECM(SGIUFFRE)
Date Reported          : Wed May 04 15:34:28 2016
Column Type            : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program          : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.         : Cool on-column
Carrier Gas            : Helium
Flow Rate (mL\min)     : 0.80 mL/min
Transfer Line Temp.    : 280°C
Scan Range             : 50-550
```

Total Ion Chromatogram

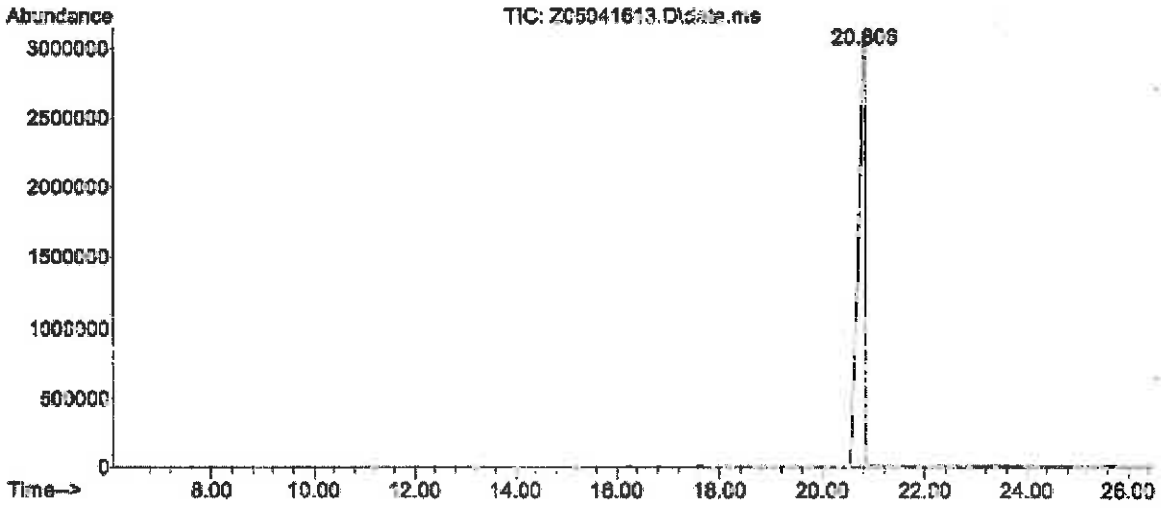

Mass Spectrum

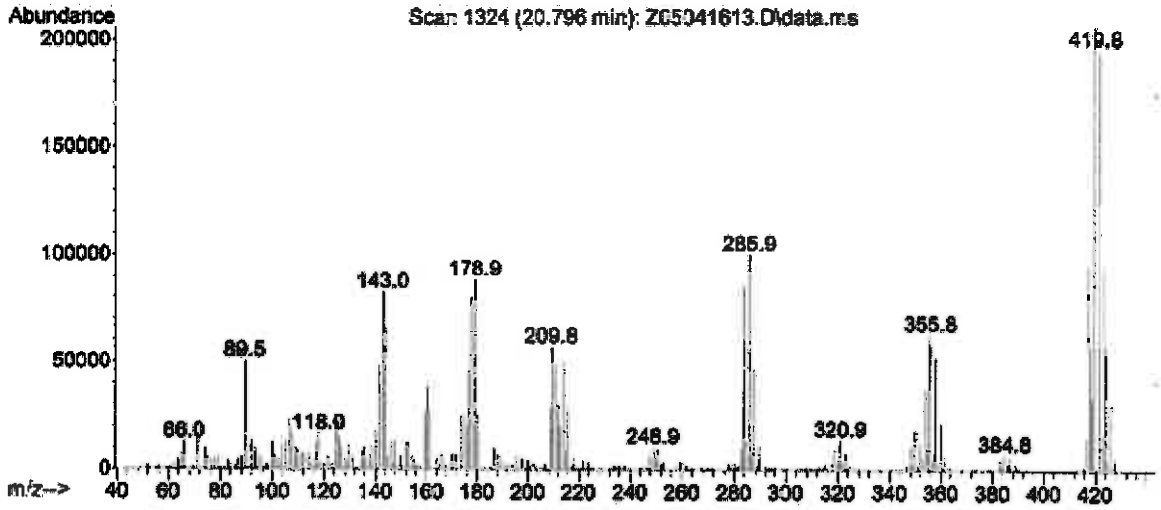

COA Revision History

Revision No.	Date	Reason for Revision
00	June 21, 2016	Initial version

Reagent

HRDXNIDA_00297

r: 9/28/17 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

1042065
ID: HRDXNIDA_00297
Exp: 01/31/27 Prpd: SKV
13C-2,3,4,7,8-PeCDF [50ug

CIL

Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$

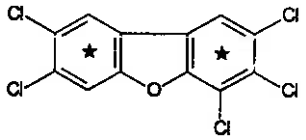

Catalog Number: EF-958
Solution Lot: ER01061701
Expiration Date: January 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	97.9%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s); measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER01061701	50.51	± 5%	0.1	≤ 3%
Previous Lot	ER11041601	49.56	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

January 27, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3Cl_5O$
Compound Lot:	ER11101601	**CAS Number:**	116843-02-8
		Molecular Weight:	352.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0102	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.02% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 0.5%
Mass Balance Purity Factor		98.33%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

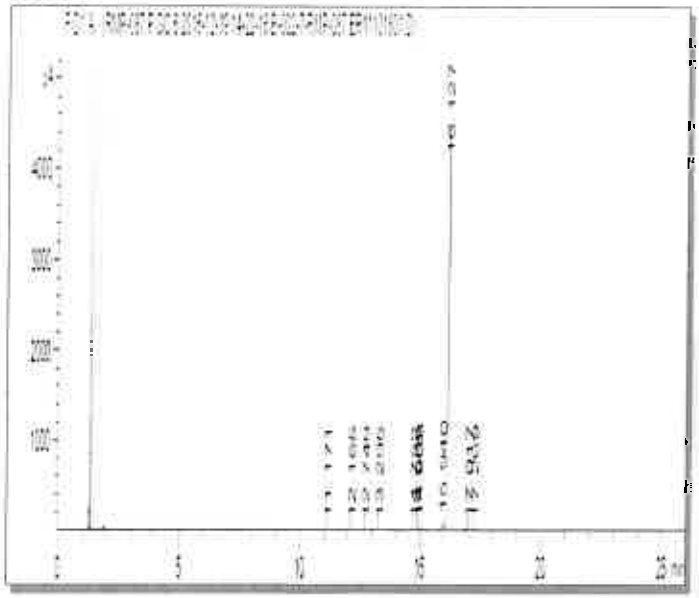

Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 100°C to 300°C at 15°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: RMP-087 P GC 6 2016-12-19 14-22-16\B-002-7.D
Instrument: GC#6
Sample Name: ER11101601
Acquired: December 19, 2016

Peak #	Ret Time	Area	Height	Area %
1	11.17	0.94	0.40	0.01
2	12.17	1.30	0.39	0.01
3	12.75	0.47	0.20	0.00
4	13.30	0.90	0.35	0.01
5	14.75	1.70	0.87	0.02
6	14.91	1.09	0.56	0.01
7	14.97	32.24	17.54	0.29
8	15.94	124.38	64.36	1.13
9	16.13	10866.60	4688.80	98.41
10	17.02	6.31	2.46	0.06
11	17.27	6.76	2.34	0.06

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 2,3,4,7,8-Pentachlorodibenzofuran-13C12
Lot Number	: ER11101601
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRS)
Date Reported	: Tue Dec 20 12:19:55 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.50 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

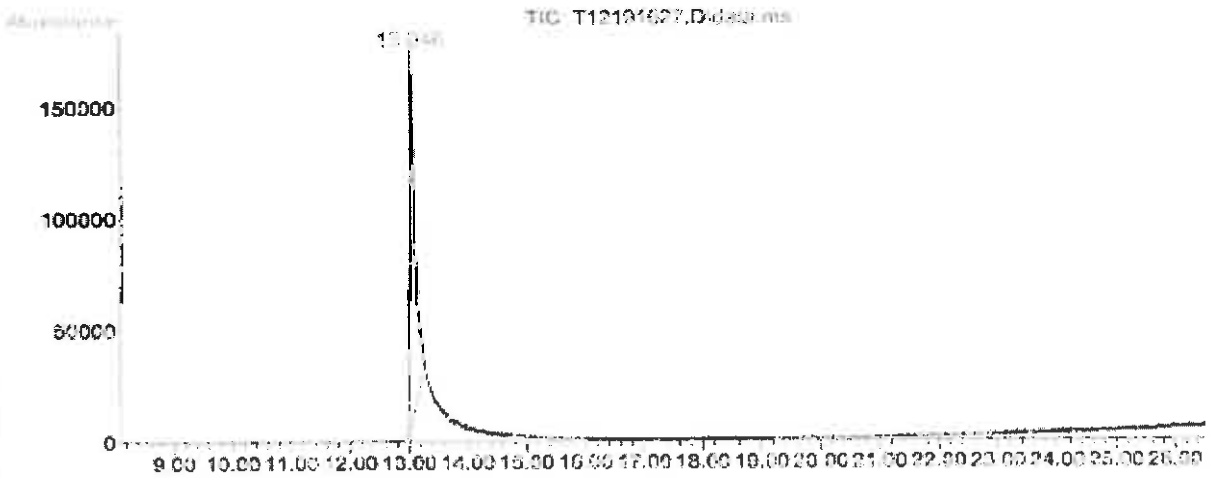

Mass Spectrum

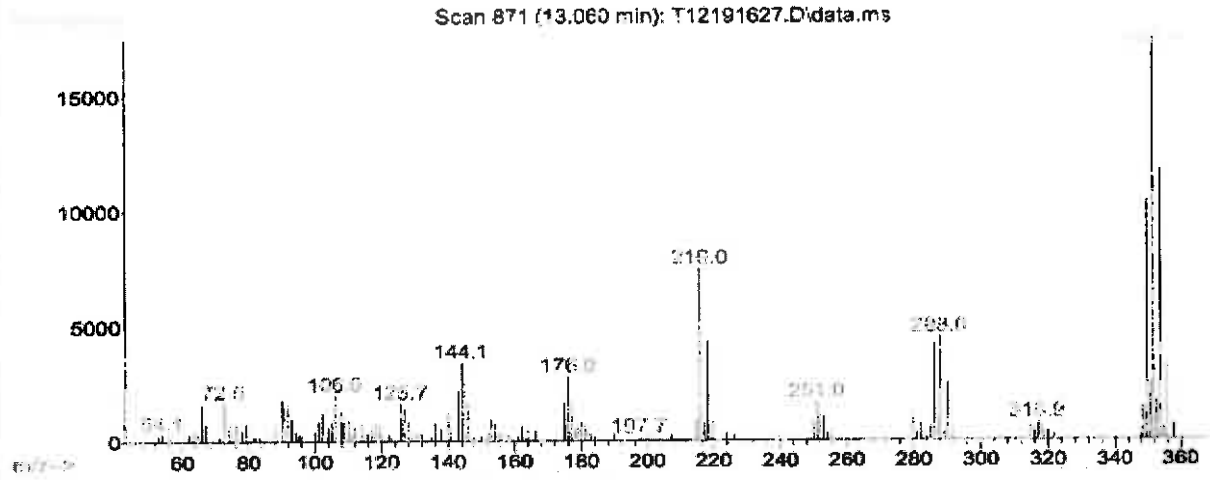

Reagent

HRDXNIDA_00301

n: 9/20/17 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

1042073
ID: HRDXNIDA_00301
Exp: 10/31/21 Prpd: SKV
13C-1,2,3,4,7,8-HxCDD [50

CIL

Certificate of Analysis

Certificate Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 9001
GMP/GLP

1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

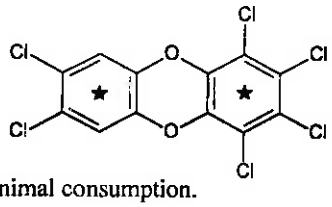

Catalog Number: ED-946
Solution Lot: ER102711-01
Expiration Date: October 2021
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.0%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER102711-01	48.2	± 5%	0.2	≤ 3%
Previous Lot	ER012208-01	49.6	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS ACCREDITED
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

September 17, 2015
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O_2$
Compound Lot:	ER011008-01	**CAS Number:**	109719-80-4
		Molecular Weight:	402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.2%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.08% $^{13}C_0$ vs $^{13}C_{12}$
		0.19% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.19%

- Chromatographic purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

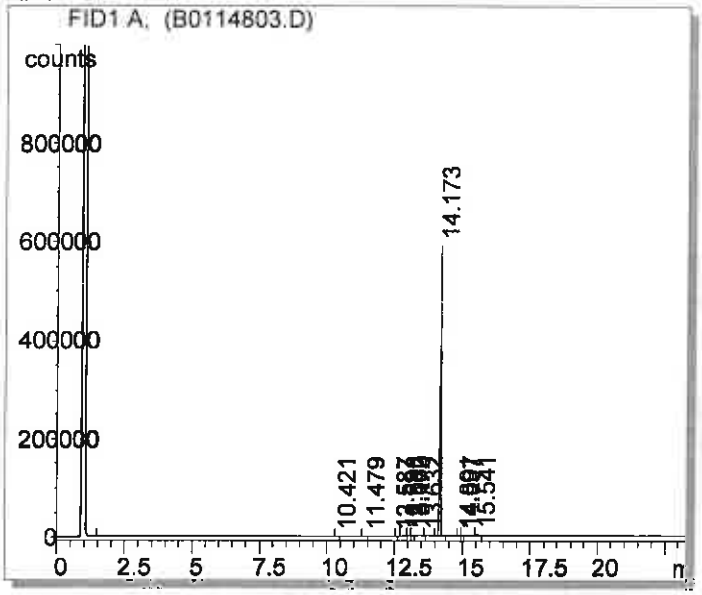

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0114803.D
Instrument:	GC#2
Sample Name:	ER011008-01
Acquired:	January 14, 2008

Peak #	Ret Time	Area	Height	Area %
1	10.42	287.44	132.33	0.02
2	11.48	242.24	92.03	0.01
3	12.59	389.12	196.33	0.02
4	12.90	3015.36	1199.07	0.17
5	13.06	2243.36	788.13	0.13
6	13.17	2243.90	754.45	0.13
7	13.63	2349.03	134.07	0.02
8	14.17	427.02	588610.00	99.20
9	14.89	1731980.00	110.79	0.03
10	15.00	512.26	86.41	0.02
11	15.54	4077.63	1008.44	0.23

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

Compound Name : 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-13C12
Lot Number : [illegible]-01
Instrument : Agilent 5973N MSD/6890N GC
Operator-Inst ID : REC - C1010E
Date Reported : Wed Jan 16 11:15:58 2008
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 300°C@6°C/min (5 min)
Injection Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 280°C

Scan Range : 50-550

Total Ion Chromatogram

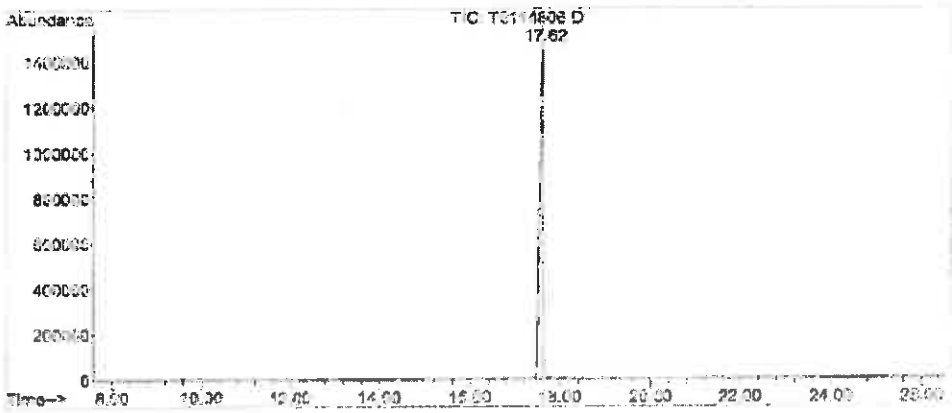

Mass Spectrum

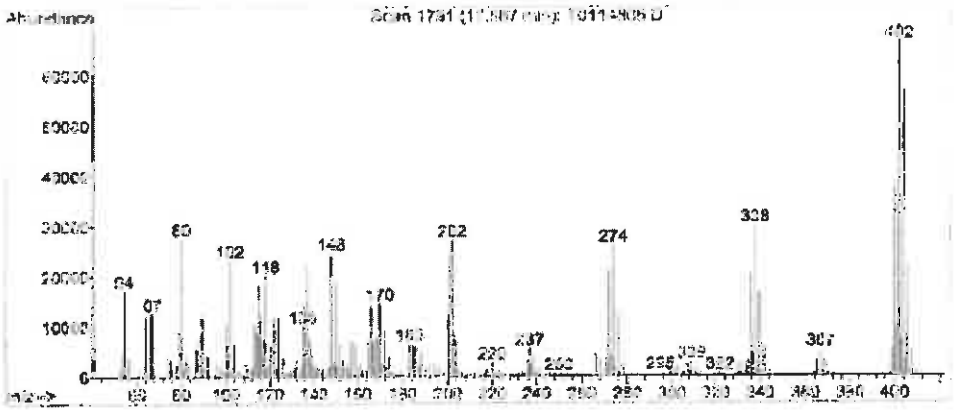

COA Revision History

Revision No.	Date	Reason for Revision
00	November 12, 2011	Initial version
01	September 17, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet"

Reagent

HRDXNIDA_00302

r: 9/20/17 SKV

1042074
ID: HRDXNIDA_00302
Exp: 07/31/20 Prpd: SKV
13C-1,2,3,4,7,8-HxCDF [50

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

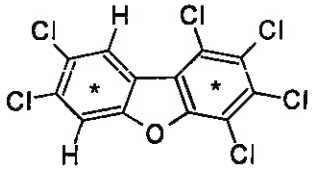

Catalog Number:	EF-963
Solution Lot:	ER072810-02
Expiration Date:	July 2020
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Protect from air and light, store at room temperature. Do not store cold.
Intended Use:	For laboratory use only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration.

Component	Chromatographic Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.6%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Acceptance Criteria	%RSD - Homogeneity Actual Results	Acceptance Criteria
New Lot	ER072810-02	47.4	± 5%	0.3	≤ 3%
Previous Lot	LR011907-01	46.6	—	1.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

November 15, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$
Compound Lot:	35135-45

Chemical Formula:	$^{13}C_{12}H_2OCl_6$
CAS Number:	114423-98-2
Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.6%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% C_0 vs C_{12}
		0.13% C_6 vs C_{12}
Purity Factor		99.57%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

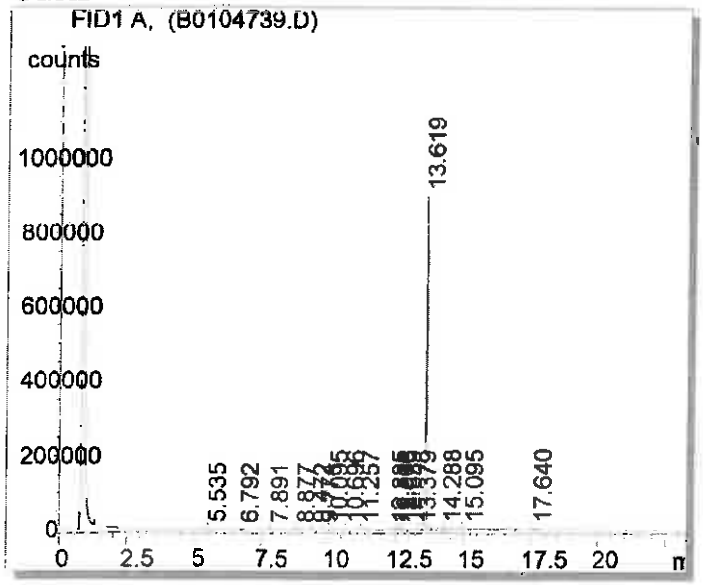

Column:	DB-5ms, 30m x 0.53mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0104739.D
Instrument:	GC#2
Sample Name:	35135-45
Acquired:	January 05, 2007

Peak #	Ret Time	Area	Height	Area %
1	4.21	615.24	161.26	0.02
2	5.21	1024.94	292.85	0.04
3	6.09	326.05	83.67	0.01
4	7.10	301.83	31.69	0.01
5	7.75	169.71	40.31	0.01
6	8.38	136.91	47.17	0.01
7	8.97	123.76	38.29	0.00
8	12.30	2684.80	1153.73	0.10
9	12.48	1162.83	467.42	0.04
10	12.56	1893.94	719.41	0.07
11	12.68	466.69	180.24	0.02
12	12.86	690.32	301.63	0.03
13	13.62	2651450.00	979725.00	99.58
14	14.34	274.11	82.01	0.01
15	15.17	1208.09	320.67	0.05
16	19.00	166.44	32.66	0.01

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

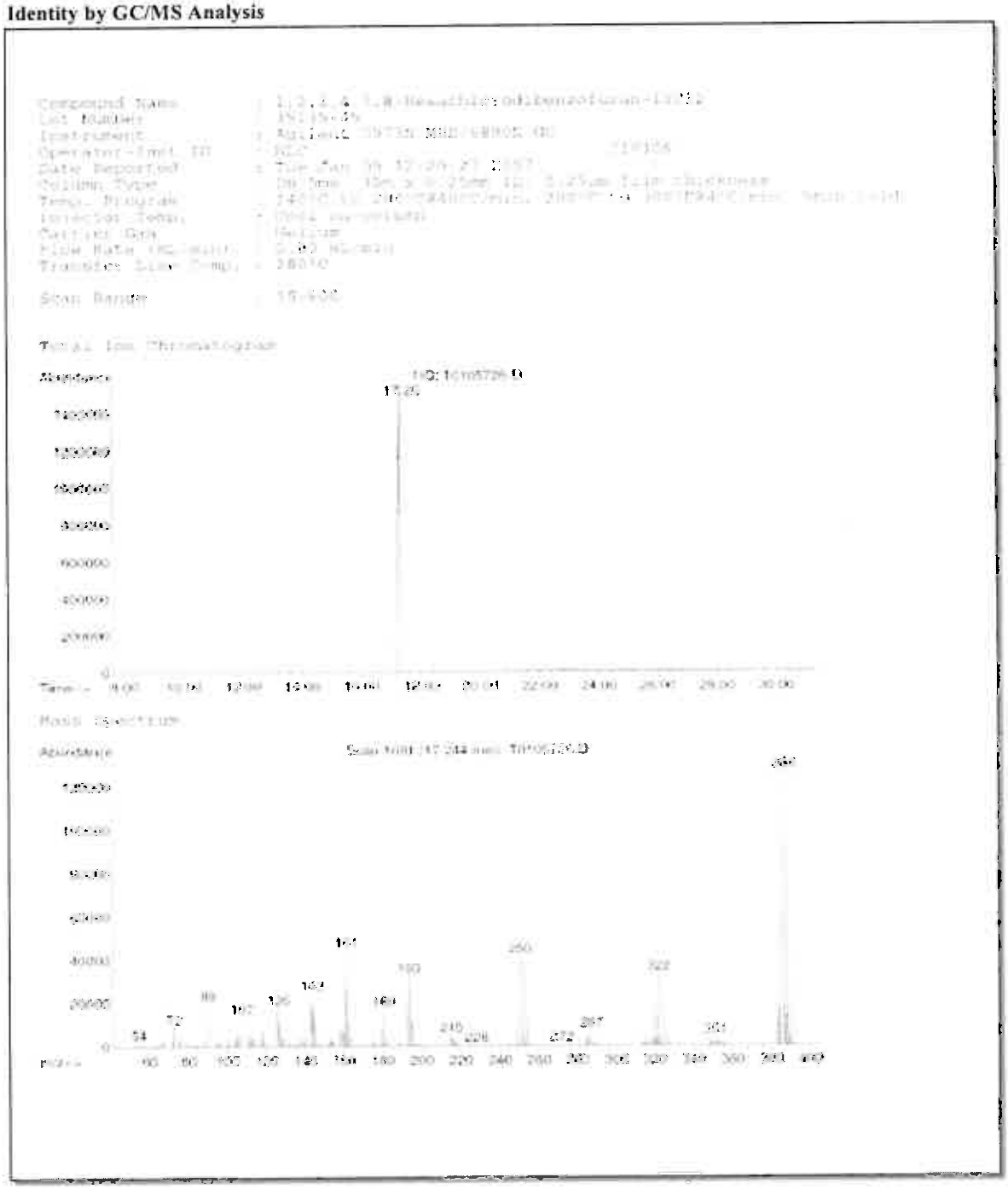

COA Revision History

Revision No.	Date	Reason for Revision
00	September 22, 2010	Initial version
01	September 22, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet"
02	November 15, 2016	Corrected Molecular Weight from 368.77 to 386.77

Reagent

HRDXNIDA_00353

r: 11/28/18 SKV

Cerilliant Analytical Reference Standards
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CIL

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Certificate of Analysis

1,2,3,4,6,7,8-Heptachlorodibenzofuran-$^{13}C_{12}$

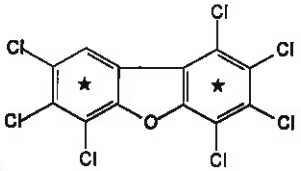

Catalog Number: EF-974
Solution Lot: ER08101404
Expiration Date: November 2024
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,6,7,8-Heptachlorodibenzofuran-$^{13}C_{12}$	98.3%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER08101404	48.75	± 5%	0.3	≤ 3%
Previous Lot	ER102711-02	51.49	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

December 03, 2015
Date

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 60°C to 300°C at 40°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 4
Linearity (r): 1.000

Neat Material Data

Compound Name: 1,2,3,4,6,7,8-Heptachlorodibenzofuran-$^{13}C_{12}$
Compound Lot: ER020507-02

Chemical Formula: $^{13}C_{12}HCl_7O$
CAS Number: 109719-84-8
Molecular Weight: 421.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	98.7%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.16% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS	SP10-0105	Pass
		no single DD/DF impurity ≥1.0%
Purity Factor		98.69%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

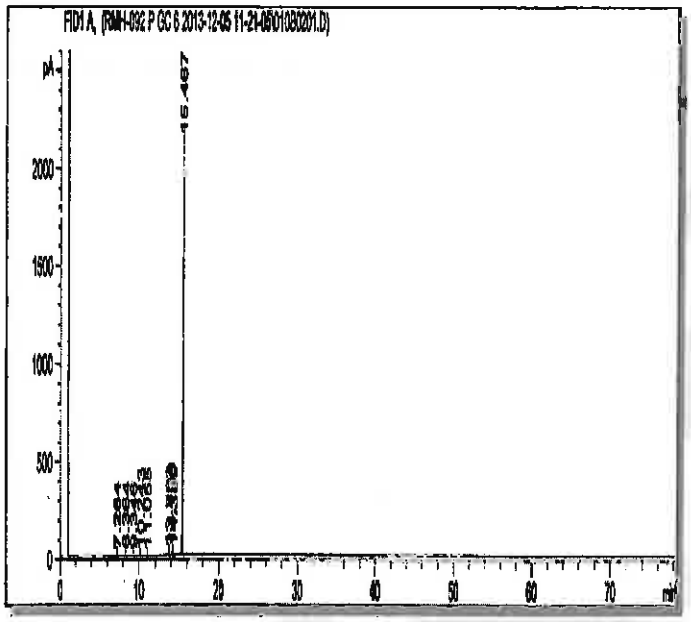

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-092 P GC 6 2013-12-05 11-21-05\010B0201.D
Instrument:	GC#6
Sample Name:	ER020507-02
Acquired:	December 05, 2013

Peak #	Ret Time	Area	Height	Area %
1	7.26	4.41	2.08	0.05
2	8.36	11.76	5.45	0.12
3	9.35	5.20	2.32	0.05
4	10.24	1.47	0.62	0.02
5	11.06	0.34	0.17	0.00
6	13.75	8.81	4.38	0.09
7	13.80	23.67	9.98	0.25
8	14.13	43.07	16.42	0.45
9	14.20	21.73	8.77	0.23
10	14.39	4.79	1.81	0.05
11	15.47	9349.36	2200.33	98.68

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 1,2,3,4,6,7,8-Heptachlorodibenzofuran-13C12
Lot Number : ER020507-02
Instrument : Agilent GCMS
Operator : ECM(BRYAN_DOCKERY)
Date Reported : Tue Dec 17 09:08:58 2013
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL\min) : 0.80 mL/min
Transfer Line Temp. : 280°C
Scan Range : 50-550

Total Ion Chromatogram

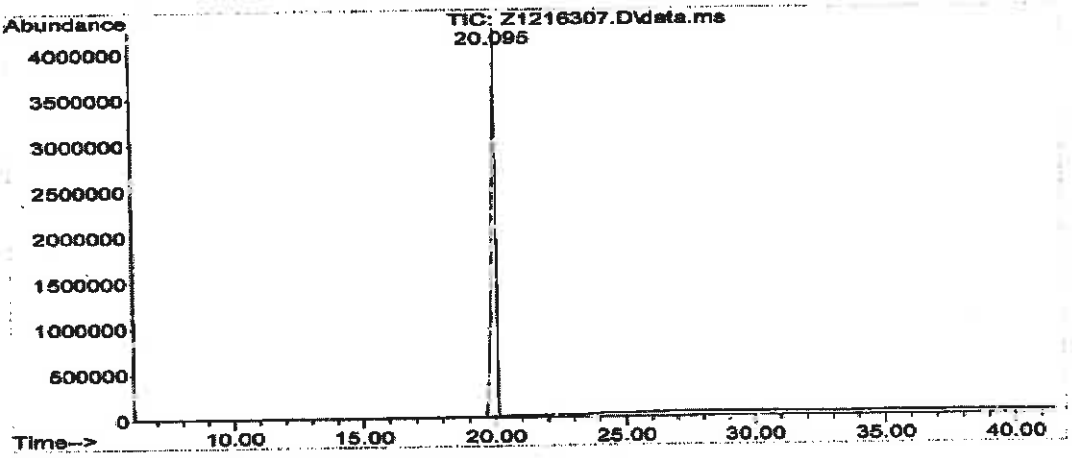

Mass Spectrum

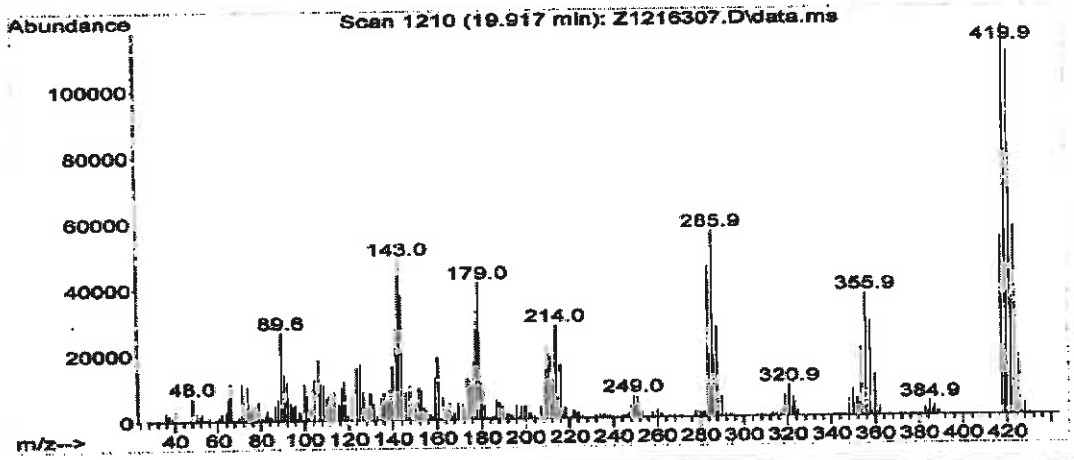

COA Revision History

Revision No.	Date	Reason for Revision
00	January 19, 2015	Initial version
01	December 04, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet"

Reagent

HRDXNIDA_00354

Rec: 11/28/18 SKV

Cerilliant Analytical Reference Standards
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CIL

Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$

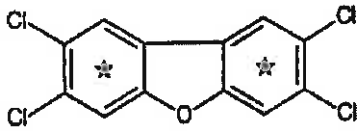

Catalog Number: EF-904
Solution Lot: ER09131601
Expiration Date: September 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	99.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER09131601	49.91	± 5%	0.2	≤ 3%
Previous Lot	ER12101304	51.13	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

November 02, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_4Cl_4O$
Compound Lot:	ER01161401	**CAS Number:**	89059-46-1
		Molecular Weight:	317.88

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.2%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS SIM	SP10-0105	No single DD/DF ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.00% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.24%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

GC/FID

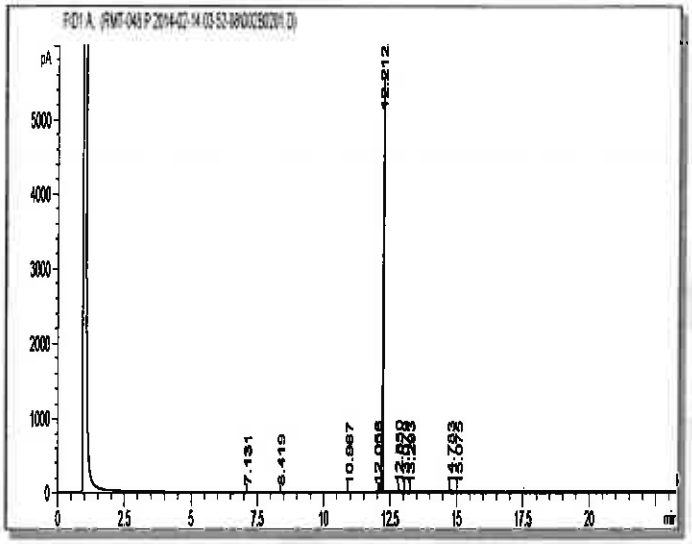

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMT-048 P 2014-02-14 03-52-08\002B0201.D
Instrument:	GC#10
Sample Name:	ER01161401
Acquired:	February 14, 2014

Peak #	Ret Time	Area	Height	Area %
1	7.13	1.19	0.61	0.01
2	8.42	3.23	1.42	0.03
3	10.97	3.57	1.04	0.03
4	12.06	20.86	12.47	0.18
5	12.21	11764.70	5466.96	99.29
6	12.85	30.72	15.48	0.26
7	13.08	7.62	4.03	0.06
8	13.29	5.47	2.91	0.05
9	14.78	7.62	2.76	0.06
10	15.08	3.87	1.33	0.03

GC/MS

Compound Name	: 2,3,7,8-Tetrachlorodibenzofuran-13C12
Lot Number	: ER01161401
Instrument	: Agilent GCMS
Operator	: ECM(SAMUEL_GIUFFRE)
Date Reported	: Thu Feb 13 11:57:07 2014
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

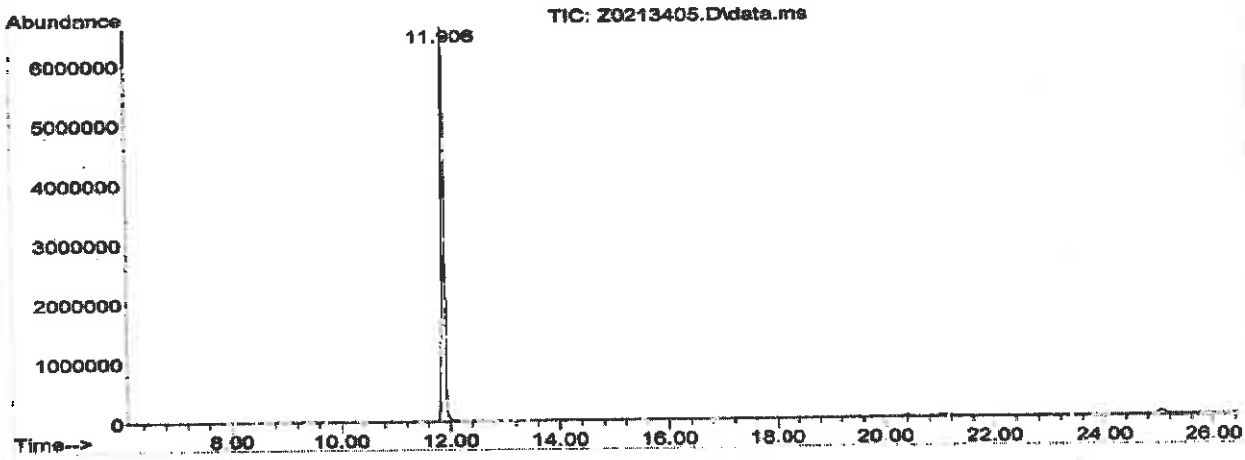

Mass Spectrum

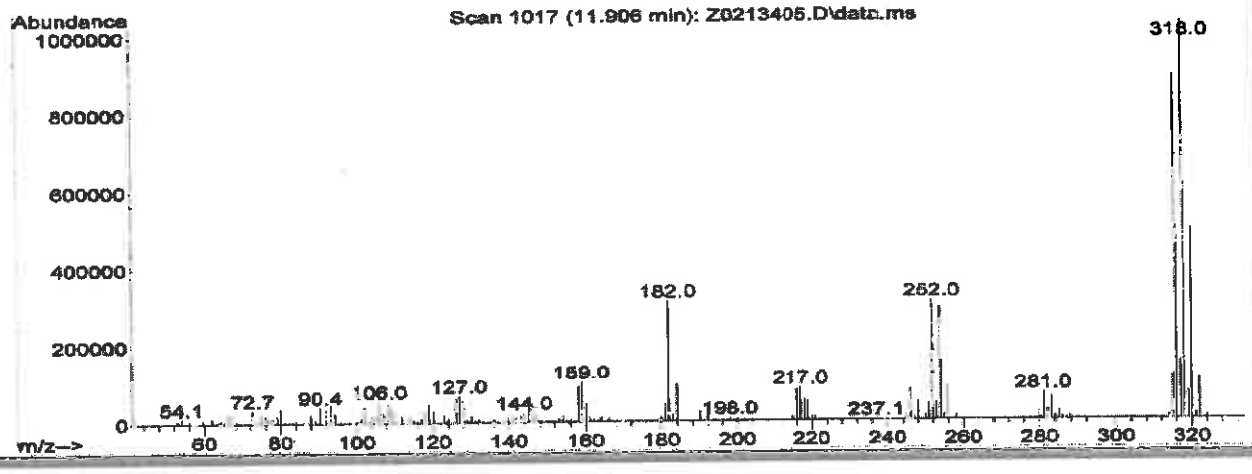

COA Revision History

Revision No.	Date	Reason for Revision
00	November 02, 2016	Initial version

Reagent

HRDXNIDA_00355

Rec: 11/28/18 SJV

Cerilliant Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$

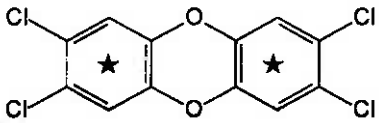

Catalog Number:	ED-900
Solution Lot:	ER03031601
Expiration Date:	March 2026
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.4%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution, and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER03031601	52.66	± 5%	0.3	≤ 3%
Previous Lot	ER01031401	49.83	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

March 24, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-35ms 30 m x 0.53 mm ID, 1.0 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_4Cl_4O_2$
Compound Lot:	ER01201405	**CAS Number:**	76523-40-5
		Molecular Weight:	333.88

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity and Distribution by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.05% $^{13}C_6$ vs $^{13}C_{12}$
Impurities by GC/MS SIM Analysis	SP10-0105	no single DD/DF impurity $\geq$0.5%
Mass Balance Purity Factor		99.34%

- The primary chromatographic purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Mass Balance Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

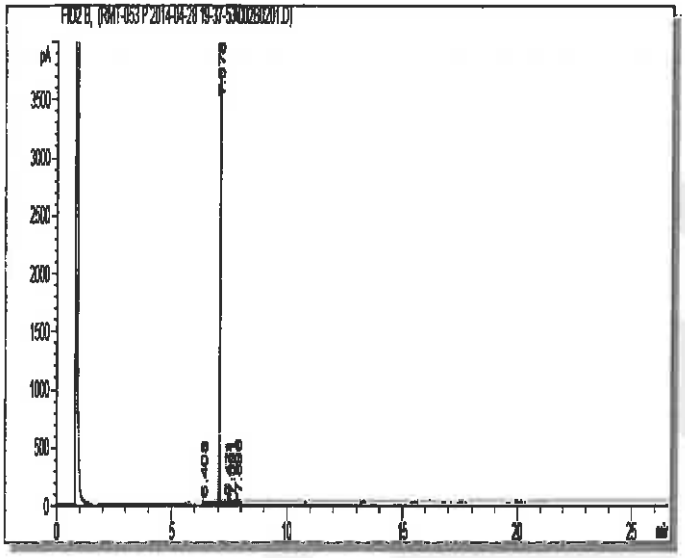

Column:	DB-35ms, 30 m x 0.53 mm ID, 1.0 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMT-053 P 2014-04-28 19-37-53\002B0201.D
Instrument:	GC#6
Sample Name:	ER01201405
Acquired:	April 28, 2014

Peak #	Ret Time	Area	Height	Area %
1	6.41	4 36	2.80	0.08
2	7 08	5225 21	3678.99	99.32
3	7 47	5 29	3.00	0.10
4	7 59	9 11	4.81	0.17
5	7.90	17 05	9.22	0.32

GC/MS

Compound Name	: 2,3,7,8-Tetrachlorodibenzo-p-dioxin-13C12
Lot Number	: ERD1201405
Instrument	: Agilent GCMS
Operator	: ECM(SAMUEL_GIUITRE)
Date Reported	: Tue May 06 09:30:26 2014
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 220°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

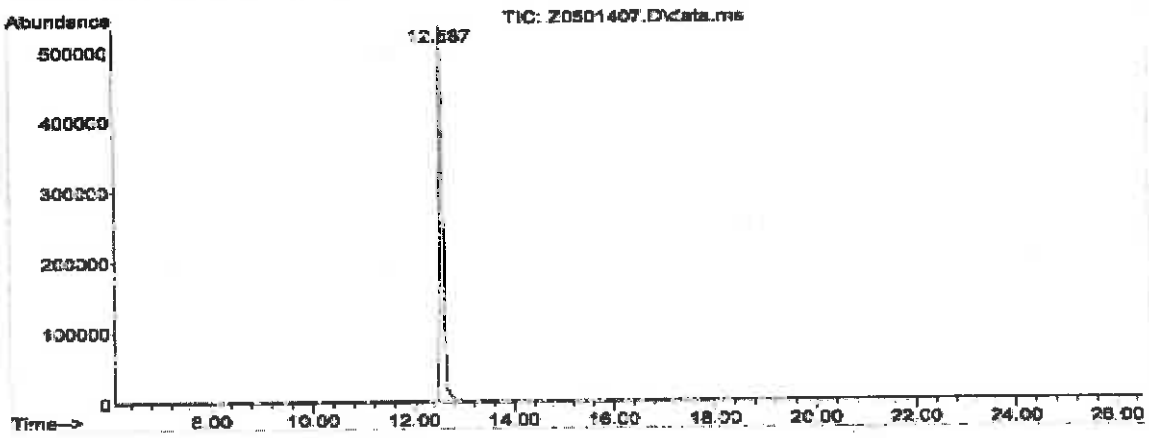

Mass Spectrum

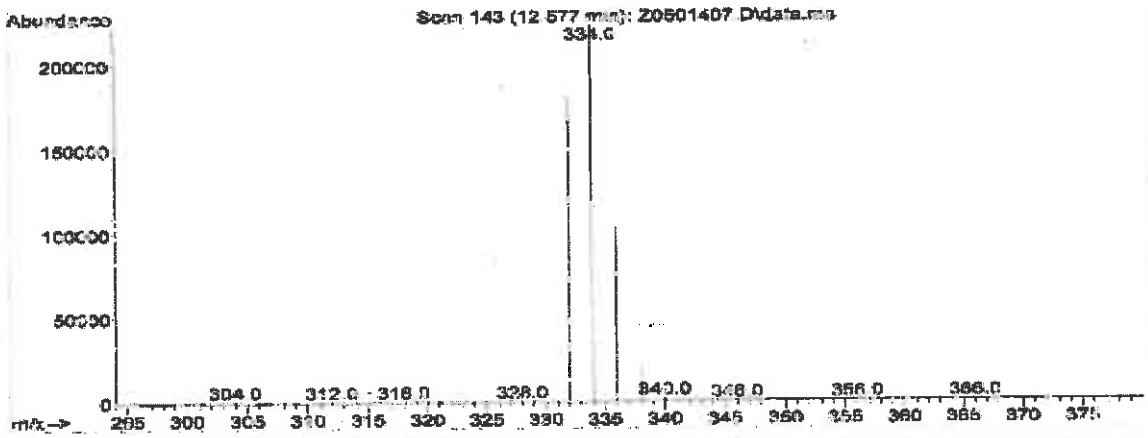

Reagent

HRDXNIDA_00357

r: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
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CIL

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Certificate of Analysis

1,2,3,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

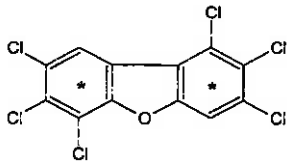

Catalog Number: EF-985
Solution Lot: ER02241603
Expiration Date: April 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.6%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER02241603	50.09	± 5%	0.4	≤ 3%
Previous Lot	ER053107-03	50.81	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

May 04, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O$
Compound Lot:	ER051607-01	**CAS Number:**	116843-03-9
		Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.06% $^{13}C_6$ vs $^{13}C_{12}$
Impurities by GC/MS SIM Analysis	SP10-0105	no single DD/DF impurity ≥ 0.5%
Mass Balance Purity Factor		99.01%

- The chromatographic purity is calculated as the average of two independently performed analyses utilizing two different methods Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Mass Balance Purity Factor
- Mass Balance Purity Factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

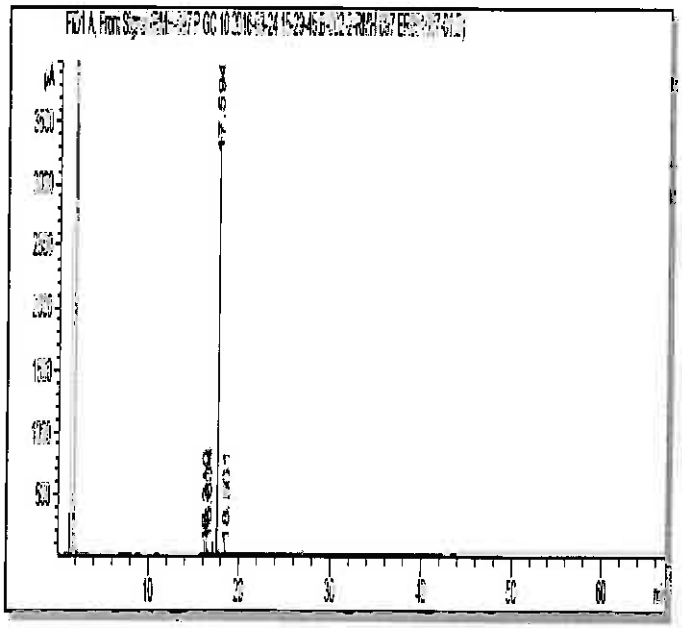

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	40°C to 300°C at 15°C/min hold 50 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-097 P GC 10 2016-03-24 15-29-45\B-002-2.D
Instrument:	GC#10
Sample Name:	ER051607-01
Acquired:	March 24, 2016

Peak #	Ret Time	Area	Height	Area %
1	16.31	6.97	3.21	0.08
2	16.60	77.08	33.51	0.83
3	17.59	9156.82	3458.38	99.00
4	18.56	8.48	2.69	0.09

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 1,2,3,6,7,8-Hexachlorodibenzofuran-13C12
Lot Number	: ER051607-01
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Fri Mar 18 07:08:54 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

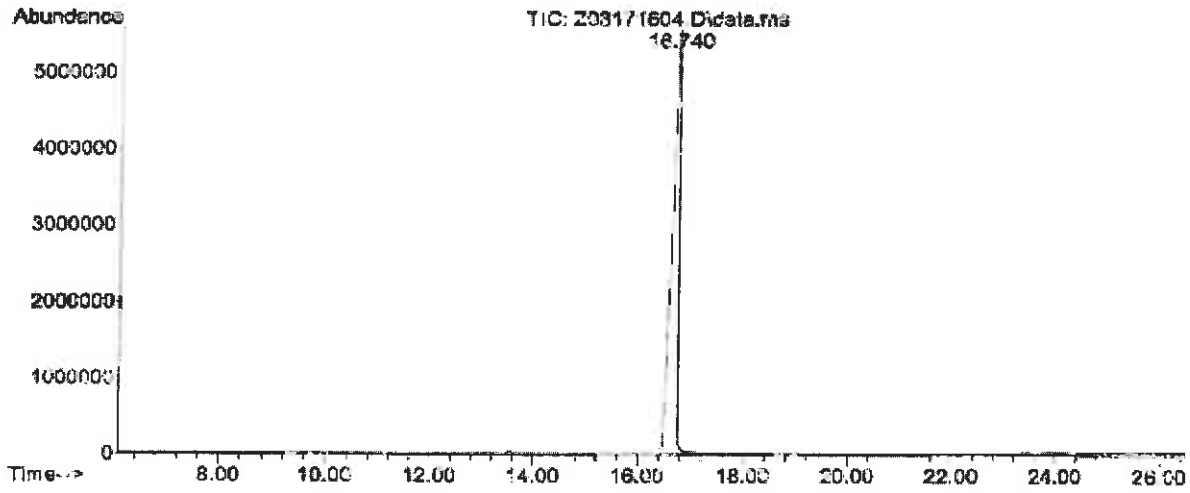

Mass Spectrum

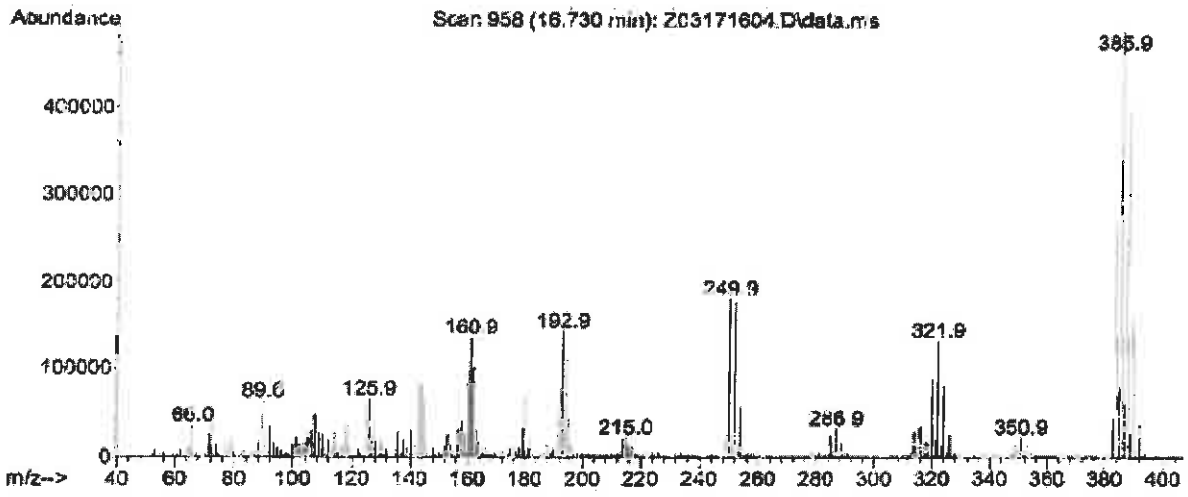

COA Revision History

Revision No.	Date	Reason for Revision
00	May 04, 2016	Initial version

Reagent

HRDXNIDA_00358

r: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,7,8,9-Hexachlorodibenzofuran-$^{13}C_{12}$

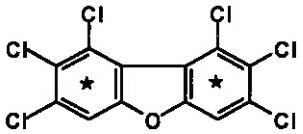

Catalog Number: EF-986
Solution Lot: ER100610-01
Expiration Date: December 2020
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For laboratory use only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
1,2,3,7,8,9-Hexachlorodibenzofuran-$^{13}C_{12}$	99.5%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER100610-01	51.2	± 5%	0.4	≤ 3%
Previous Lot	ER100107-01	49.9	± 5%	1.4	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

February 14, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2OCl_6$
Compound Lot:	ER080108-03	**CAS Number:**	116843-04-0
		Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.5%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.03% $^{13}C_0$ vs $^{13}C_{12}$
		0.09% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.49%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

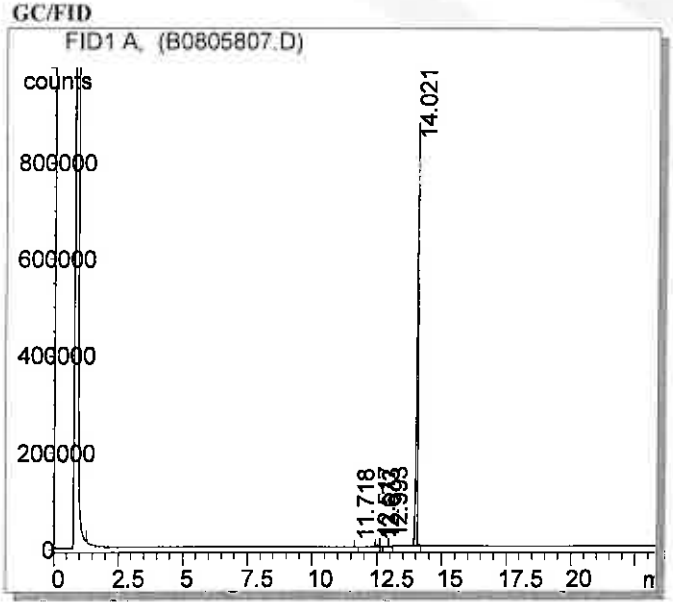

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0805807.D
Instrument:	GC#2
Sample Name:	ER080108-03
Acquired:	August 05, 2008

Peak #	Ret Time	Area	Height	Area %
1	11.72	318.47	152.10	0.01
2	12.52	8294.54	2994.64	0.30
3	12.67	155.17	67.29	0.01
4	12.99	4248.66	1646.53	0.16
5	14.02	2708910.00	880320.00	99.52

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

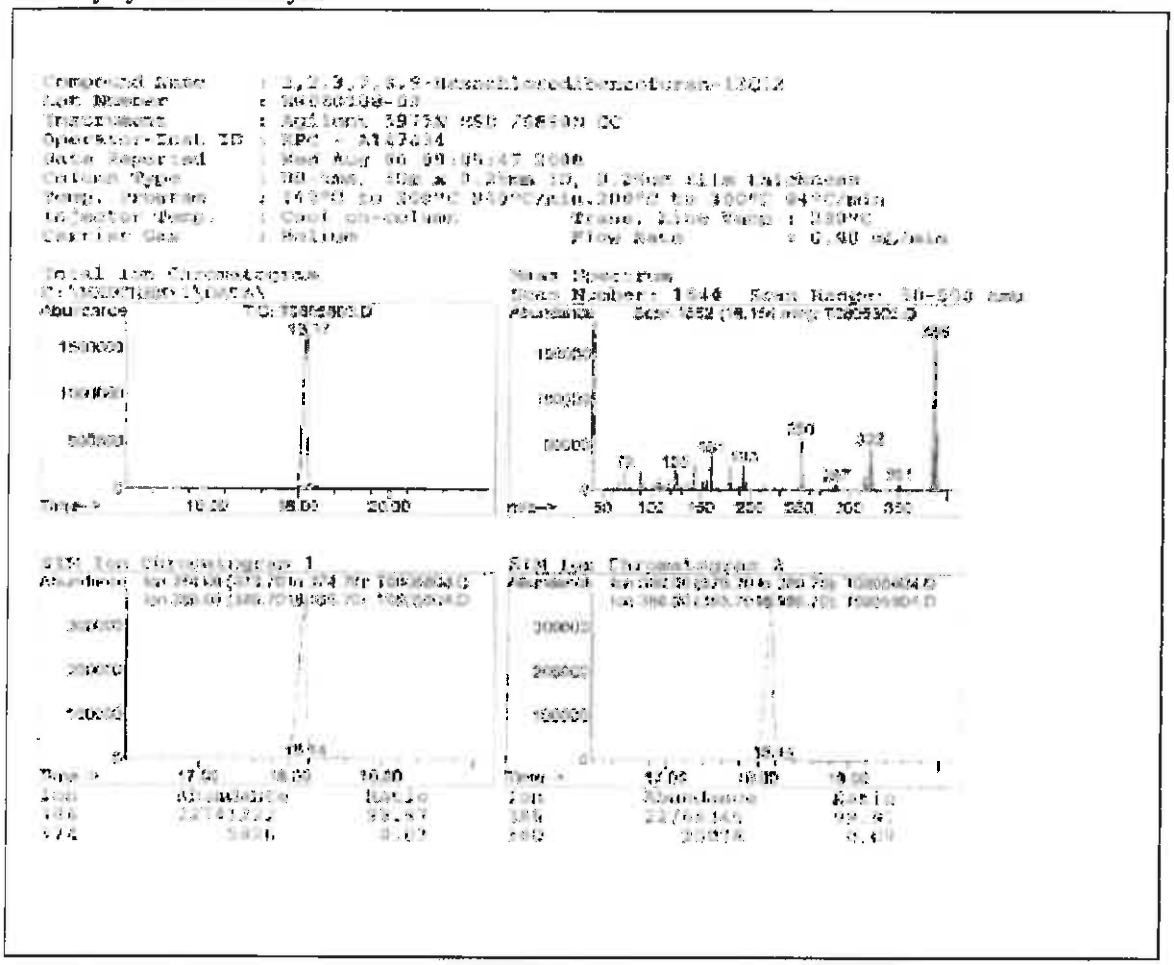

COA Revision History

Revision No.	Date	Reason for Revision
00	January 12, 2011	Initial version
01	November 05, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".
02	February 14, 2017	Corrected Isotopic Purity by GC/MS SIM from C to ^{13}C.

Reagent

HRDXNIDA_00359

r: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
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CIL

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

2,3,4,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

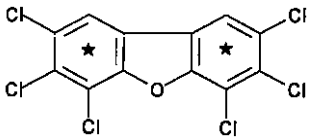

Catalog Number: EF-987
Solution Lot: ER100610-02
Expiration Date: December 2020
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For laboratory use only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
2,3,4,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.4%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER100610-02	50.9	± 5%	0.6	≤ 3%
Previous Lot	ER031507-03	50.3	± 5%	1.8	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

January 15, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,4,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O$
Compound Lot:	ER061906-02	**CAS Number:**	116843-05-1
		Molecular Weight:	386.73

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.4%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.04% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.40%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

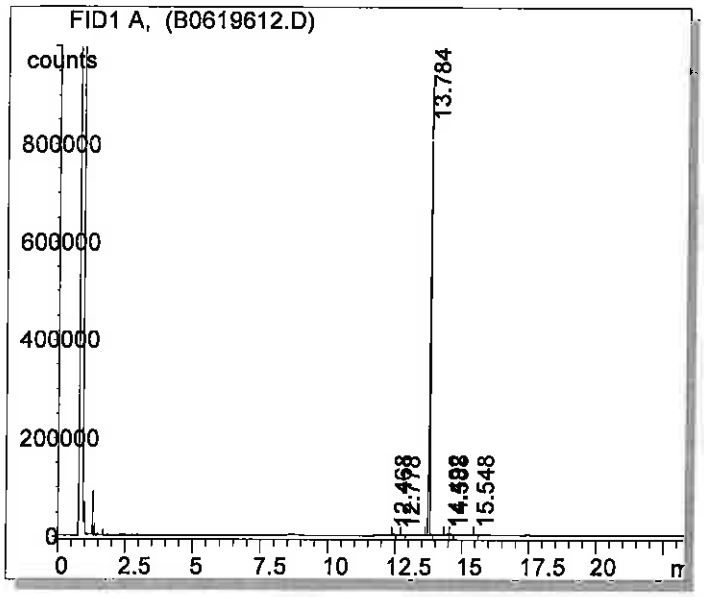

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0619612.D
Instrument:	GC#2
Sample Name:	ER061906-02
Acquired:	June 19, 2006

Peak #	Ret Time	Area	Height	Area %
1	12.47	4458	1822	0.18
2	12.78	3496	1304	0.14
3	13.78	2443150	925399	99.39
4	14.49	1528	387	0.06
5	14.59	4236	1332	0.17
6	15.55	1361	348	0.06

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 2,3,4,6,7,8-Hexachlorodibenzofuran-13C12
Lab Number : ZR061906-02
Instrument : Agilent 5975N MSD /6890N GC
Operator Inst ID : RPC - A147434
Date Reported : Tue Jun 20 08:44:12 2006
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 290°C 8.0°C/min,200°C to 330°C @4°C/min
Injector Temp. : Cool on-column Trans. Line Temp : 280°C
Carrier Gas : Helium Flow Rate : 0.80 mL/min

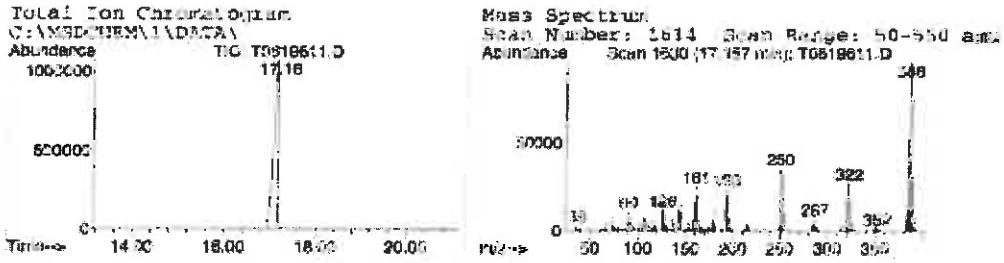

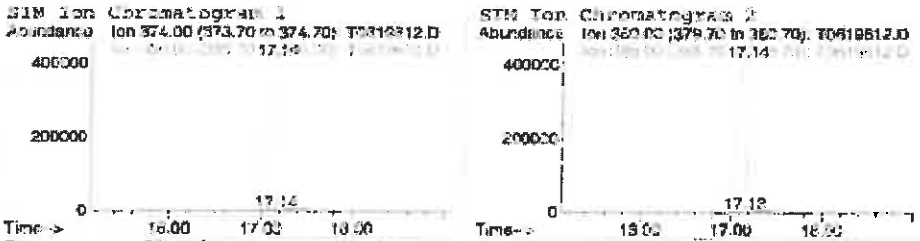

COA Revision History

Revision No.	Date	Reason for Revision
00	January 04, 2011	Initial version
01	January 15, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Reagent

HRDXNIDA_00360

r: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

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Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,7,8-Pentachlorodibenzo-p-dioxin-$^{13}C_{12}$

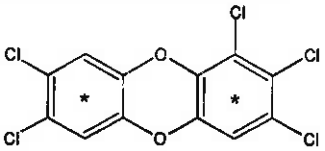

Catalog Number: ED-955
Solution Lot: ER08041401
Expiration Date: August 2024
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,7,8-Pentachlorodibenzo-p-dioxin-$^{13}C_{12}$	98.2%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER08041401	48.80	± 5%	0.3	≤ 3%
Previous Lot	ER030907-02	49.84	± 5%	0.4	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

February 10, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,7,8-Pentachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3Cl_5O_2$
Compound Lot:	ER06241403	**CAS Number:**	109719-79-1
		Molecular Weight:	368.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.9%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS-SIM Analysis	SP10-0105	0.07% $^{13}C_0$ vs $^{13}C_{12}$
		0.14% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS	SP10-0105	No single DD/DF $\geq$ 0.5%
Mass Balance Purity Factor		98.90%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

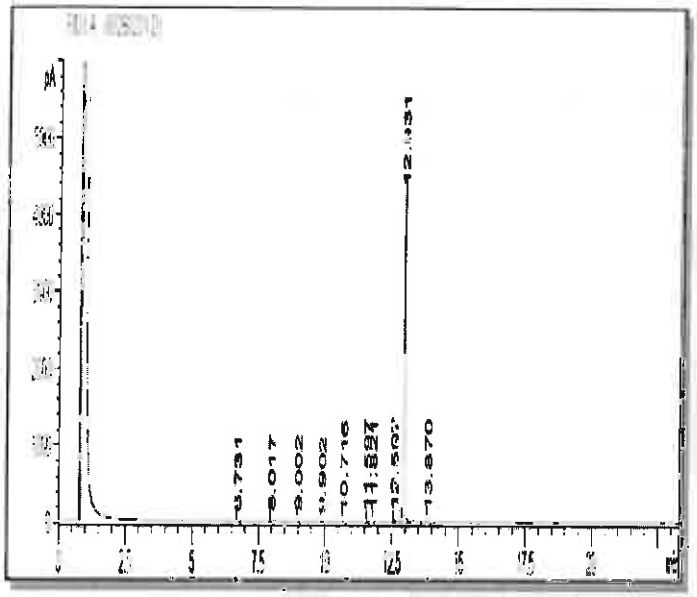

Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 100°C to 300°C at 15°C/min, hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: RMP-085 P GC 6 2014-07-30 18-11-11\002B0201.D
Instrument: GC#6
Sample Name: ER06241403
Acquired: July 30, 2014

Peak #	Ret Time	Area	Height	Area %
1	6.73	7.32	3.42	0.07
2	8.02	3.79	1.60	0.04
3	9.00	8.74	3.64	0.08
4	9.90	3.38	1.35	0.03
5	10.72	1.31	0.45	0.01
6	11.60	14.46	6.69	0.14
7	11.82	2.21	1.11	0.02
8	12.60	68.05	28.10	0.64
9	12.93	10594.10	4235.85	98.91
10	13.87	7.09	2.57	0.07

Spectral and Physical Data (cont.)

GC/MS

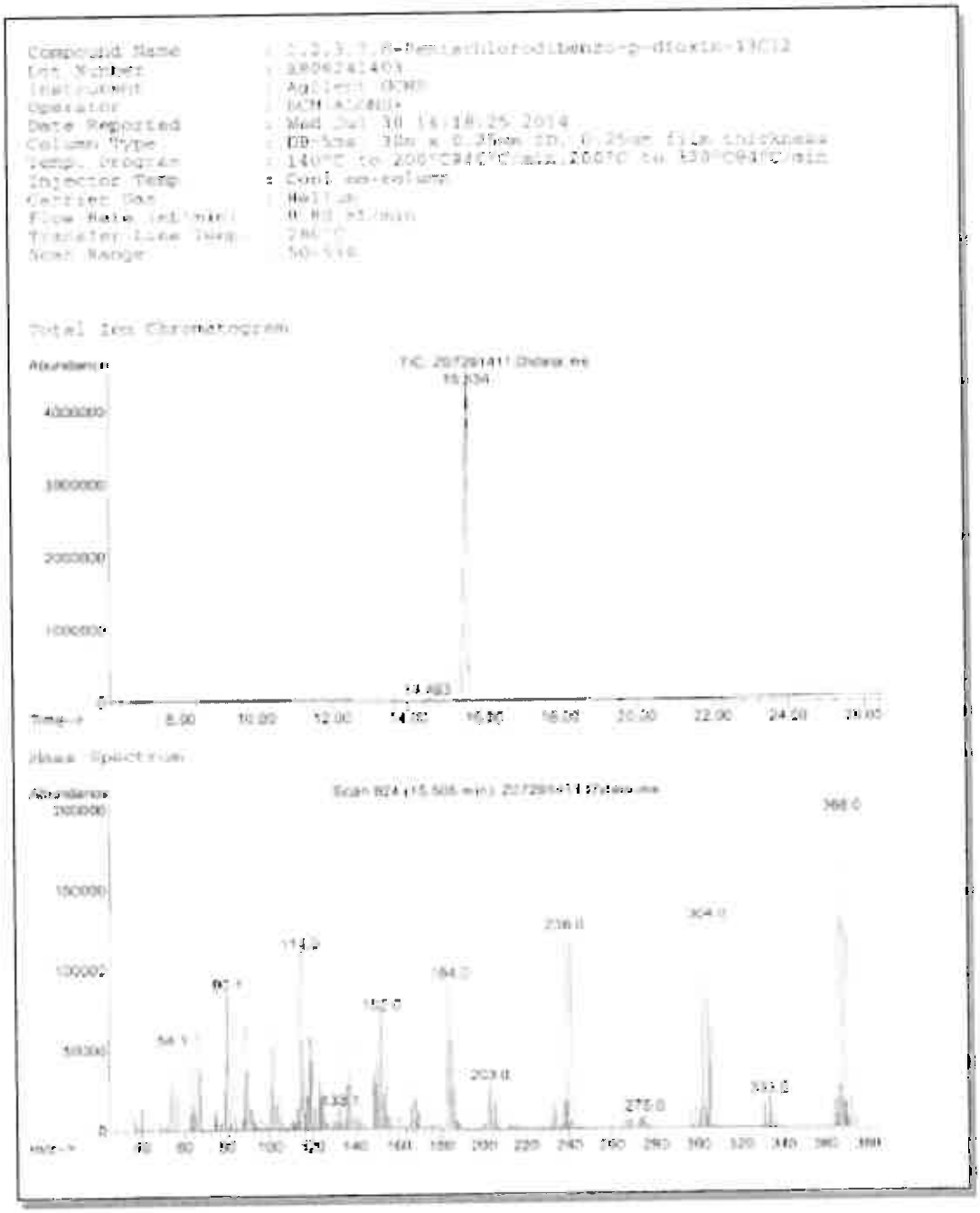

COA Revision History

Revision No.	Date	Reason for Revision
00	September 24, 2014	Initial version
01	February 10, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Reagent

HRDXNIDA_00361

r: 1/15/19 SKV

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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$

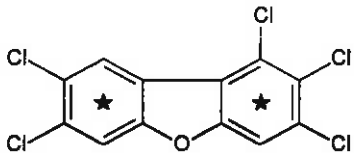

Catalog Number: EF-952
Solution Lot: ER012111-01
Expiration Date: January 2021
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For laboratory use only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
1,2,3,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	99.2%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER012111-01	50.7	± 5%	0.4	≤ 3%
Previous Lot	ER0100407-02	51.0	± 5%	0.5	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

February 15, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3OCl_5$
Compound Lot:	ER090110-01	**CAS Number:**	109719-77-9
		Molecular Weight:	352.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.2%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.03% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.17%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

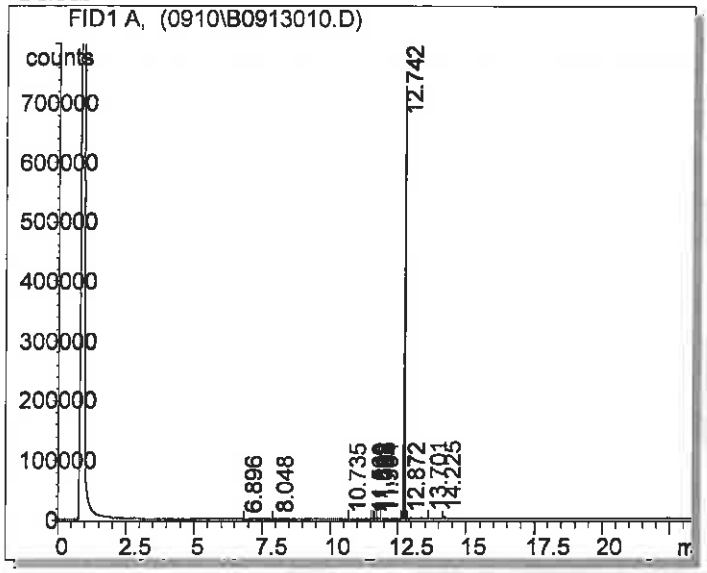

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	S:\GC\GC2\2010\0910\B0913010.D
Instrument:	GC#2
Sample Name:	ER090110-01
Acquired:	September 13, 2010

Peak #	Ret Time	Area	Height	Area %
1	6.90	618.64	296.84	0.04
2	8.05	254 50	102.70	0.01
3	10.74	162 25	70.86	0.01
4	11 57	145 03	82.11	0.01
5	11 62	468 46	216.27	0.03
6	11 69	1863 76	870.51	0.11
7	11.79	1631 76	576.35	0.10
8	11.90	421 31	184.81	0.02
9	12.74	1702290 00	729831.00	99.20
10	12.87	308 15	147.54	0.02
11	13.70	3743 55	1299.40	0.22
12	14.23	4032 24	1491.01	0.23

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

Compound Name : 1,2,3,7,8-Pentachlorodibenzofuran-13C12
Lot Number : ER090110-01
Instrument : Agilent 5973N MSD/6890N GC
Operator-Inst ID : RPC - CI0106
Date Reported : Tue Sep 14 11:05:33 2010
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 280°C

Scan Range : 50-550

Total Ion Chromatogram

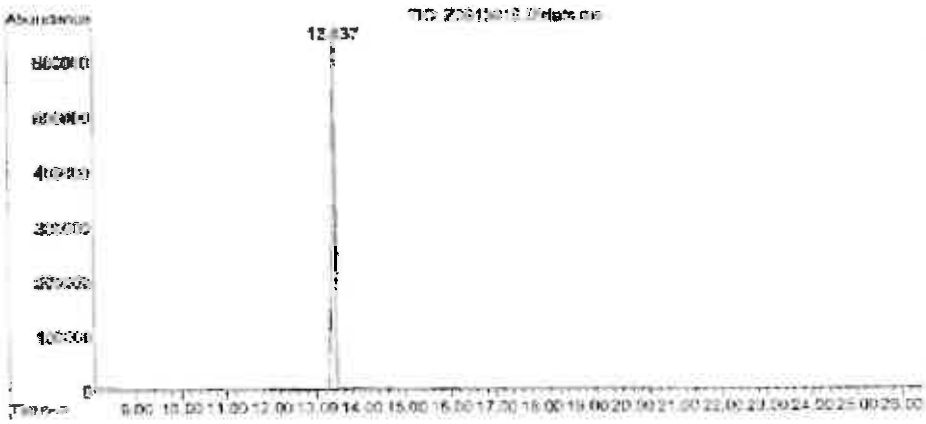

Mass Spectrum

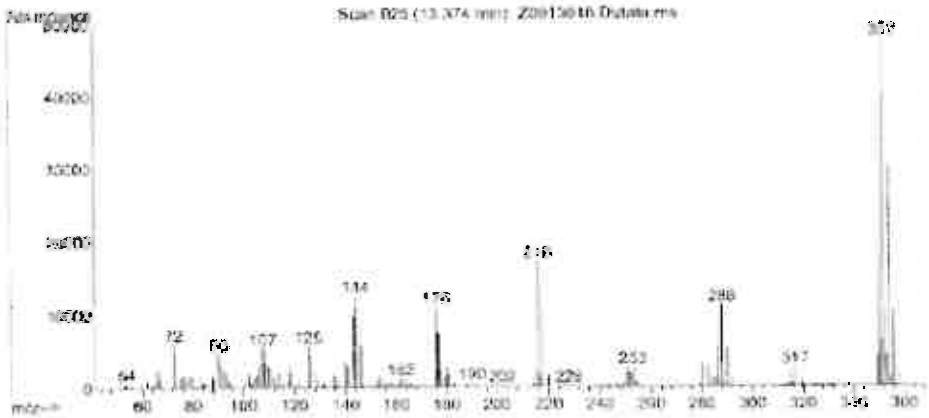

COA Revision History

Revision No.	Date	Reason for Revision
00	February 11, 2011	Initial version
01	March 01, 2011	Corrected typographical error: Chemical Structure
02	February 15, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Reagent

HRDXNIDA_00362

P: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

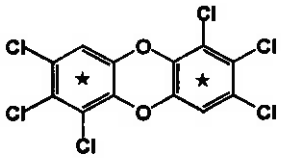

Catalog Number:	ED-966
Solution Lot:	ER03151801
Expiration Date:	March 2028
Solvent:	n-Nonane:Toluene (80:20) (v/v)
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	> 99.9%	50.03 ± 0.28 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER03151801	52.29	± 5%	0.2	≤ 3%
Previous Lot	ER010209-01	48.05	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using balances that have been qualified and calibrated to ISO 17025 requirements. All calibrations utilize NIST traceable weights which are calibrated externally by a qualified ISO 17025 accredited calibration laboratory to NIST standards. Qualification of each balance includes the assignment of a minimum weighing by a qualified and ISO 17025 accredited calibration vendor taking into consideration the balance and installed environmental conditions to ensure compliance with USP tolerances of NMT 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

April 19, 2018
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O_2$
Compound Lot:	FN01151802	**CAS Number:**	109719-81-5
		Molecular Weight:	402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.04% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 1.0%
Mass Balance Purity Factor		98.96%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

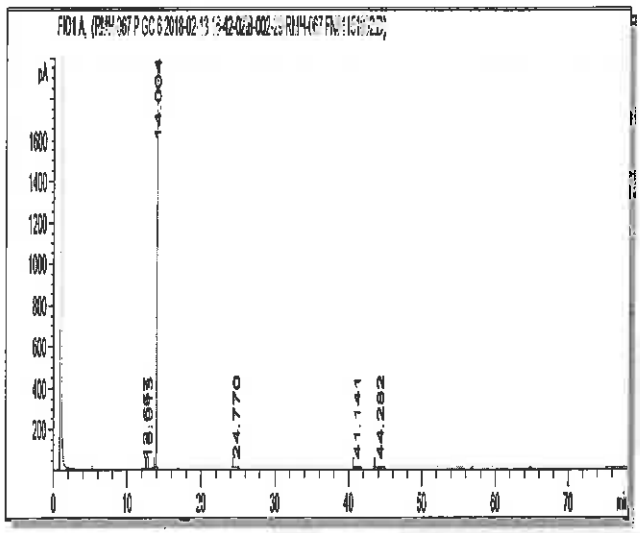

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-067 P GC 6 2018-02-13 16-42-02\B-002-29.D
Instrument:	GC#6
Sample Name:	FN01151802
Acquired:	February 13, 2018

Peak #	Ret Time	Area	Height	Area %
1	12.66	1 69	0.62	0.03
2	13.01	1 96	0.53	0.03
3	14 00	5617 62	1952.76	98.87
4	24 77	5.26	0.34	0.09
5	41 14	10.58	0.38	0.19
6	44 28	44.69	1.49	0.79

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-13C12
Lot Number	: FN01151802
Instrument	: Agilent GCMS
Operator	: FCM(SGIUFTRE)
Date Reported	: Mon Mar 05 10:17:32 2018
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

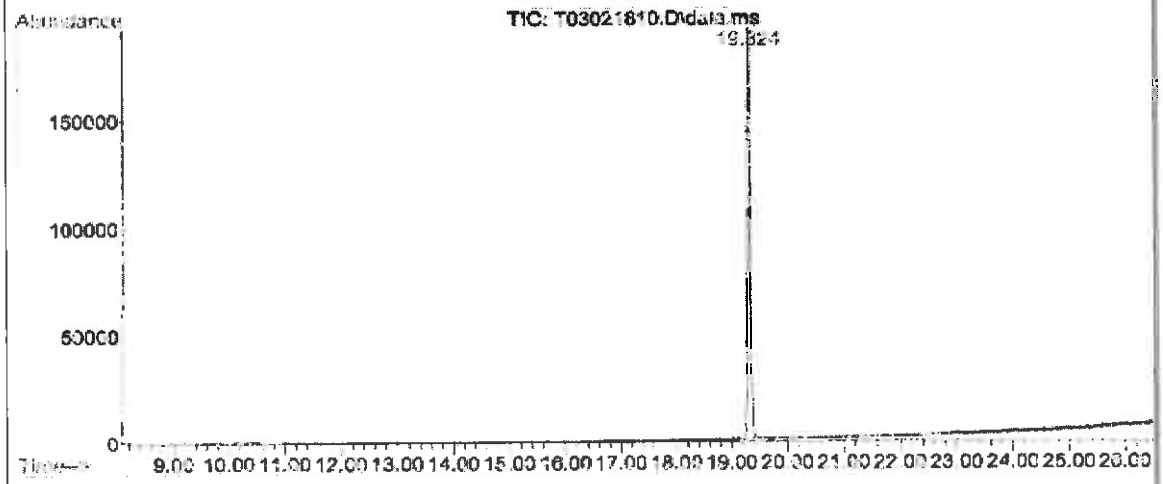

Mass Spectrum

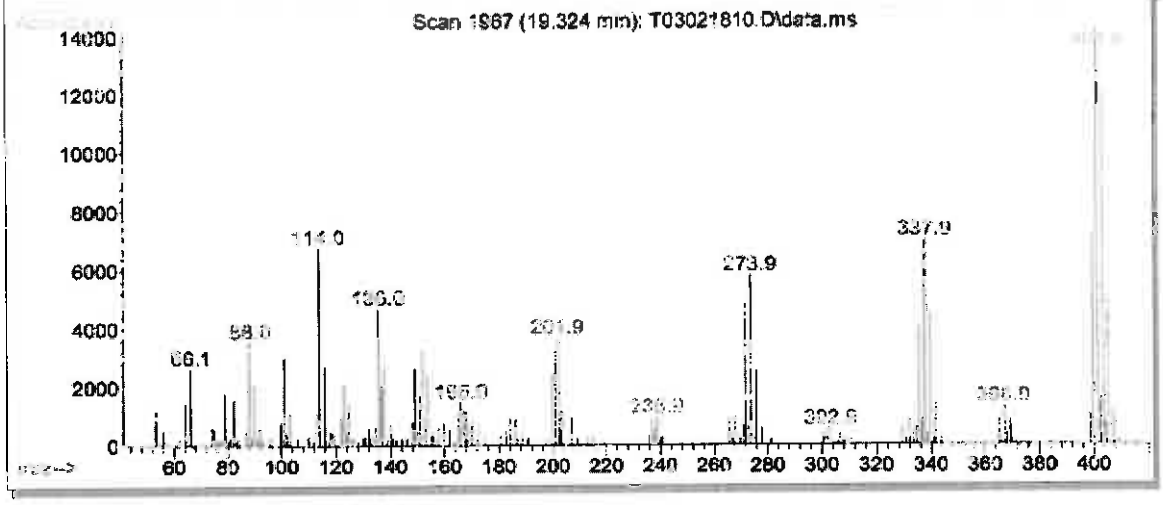

Reagent

HRDXNIDA_00365

Rec 11/28/18 SKV

1450145
ID: HRDXNIDA_00347
Exp: 04/30/27 Prpd: SKV
13C-OCDD [10 ug/mL]

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Octachlorodibenzo-p-dioxin-$^{13}C_{12}$

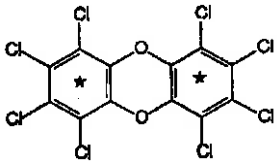

Catalog Number: ED-981-1.2
Solution Lot: ER04051701
Expiration Date: April 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
Octachlorodibenzo-p-dioxin-$^{13}C_{12}$	> 99.9%	10.00 ± 0.05 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04057101	10.22	± 5%	1.1	≤ 5%
Previous Lot	ER06061601	10.17	± 5%	0 8	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB Accredited ISO 17034 Reference Material Producer

Darron Ellsworth, Quality Assurance Manager

May 19, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.25 mm ID, 0.25 µm film thickness
Temp Program:	70°C to 200°C at 40°C/min 200°C to 280°C at 10°C/min hold 15 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	3
Linearity (r):	0.997

Neat Material Data

Compound Name:	Octachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}Cl_8O_2$
Compound Lot:	ER04041601	**CAS Number:**	114423-97-1
		Molecular Weight:	471.66

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.1%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.07% $^{13}C_0$ vs $^{13}C_{12}$
		0.96% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.15%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

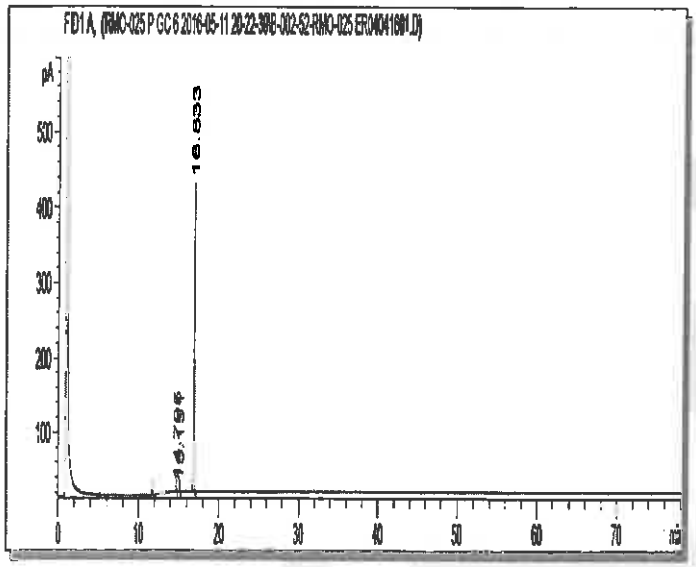

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMO-025 P GC 6 2016-05-11 20-22-39\B-002-52.D
Instrument:	GC#6
Sample Name:	ER04041601
Acquired:	May 11, 2016

Peak #	Ret Time	Area	Height	Area %
1	14.80	12.12	3.62	0.61
2	15.15	4.72	1.32	0.24
3	16.83	1980.56	409.54	99.16

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: Octachlorodibenzo-p-dioxin-13C12
Lot Number	: ERC4041601
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Wed May 04 13:45:40 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

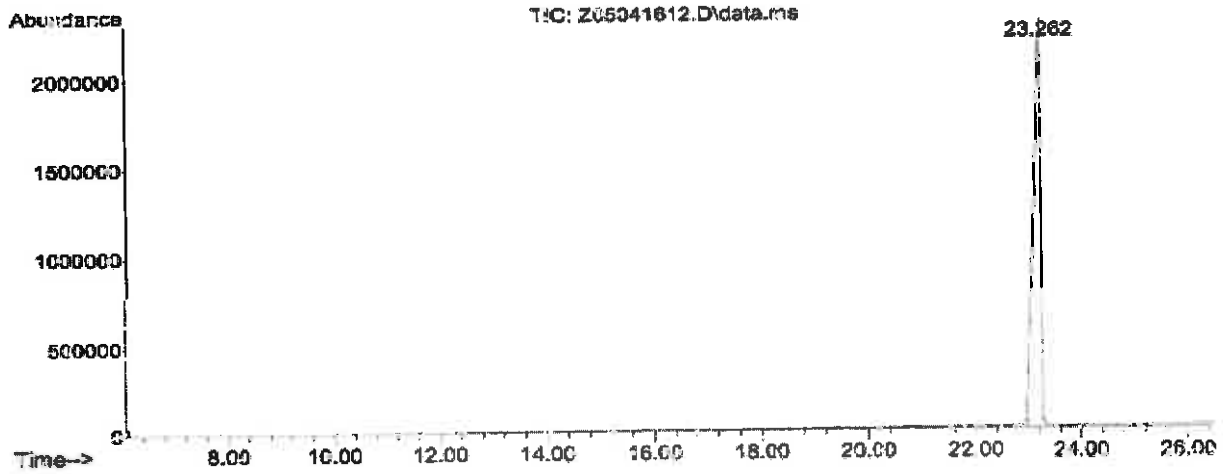

Mass Spectrum

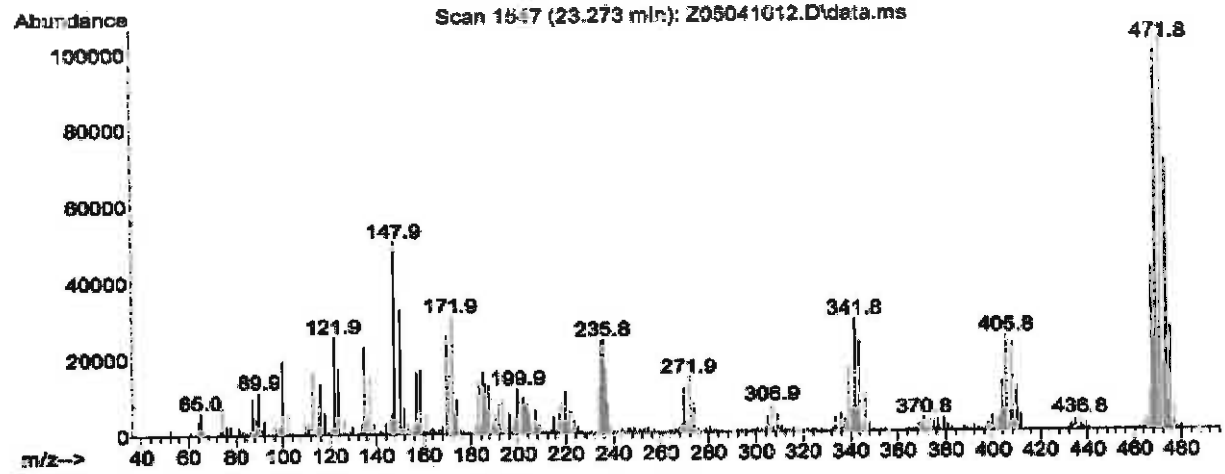

Reagent

HRDXNIDA_00375

nr: 4/8/19 BW

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Analytical Reference Standards
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CIL

Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$

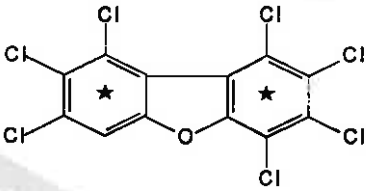

Catalog Number: EF-988
Solution Lot: ER04251601
Expiration Date: May 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	99.1%	49.99 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass, Purity Factor of the analyte(s), measured mass of the solution, and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04251601	49.11	± 5%	0.2	≤ 3%
Previous Lot	ER053107-02	50.58	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

November 09, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}HCl_7O$
Compound Lot:	ER04041602	**CAS Number:**	109719-94-0
		Molecular Weight:	421.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.1%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS SIM	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.16% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.10%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data (cont.)

GC/FID

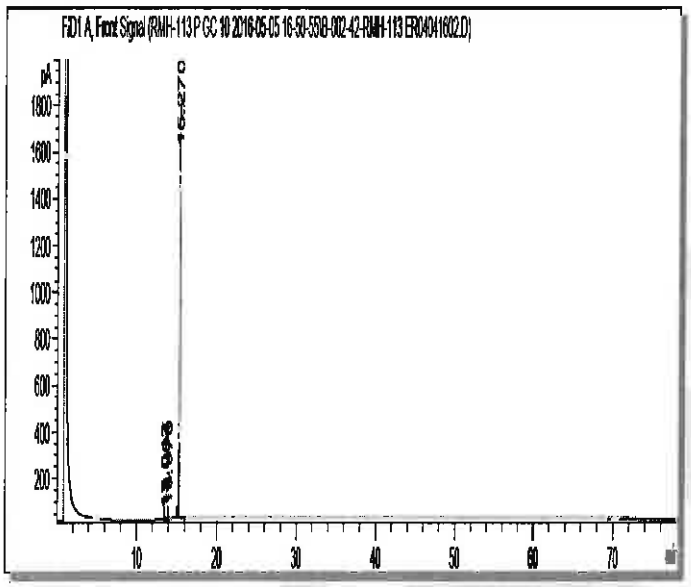

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-113 P GC 10 2016-05-05 16-50-55\B-002-42.D
Instrument:	GC#10
Sample Name:	ER04041602
Acquired:	May 05, 2016

Peak #	Ret Time	Area	Height	Area %
1	13.51	8.76	2.52	0.12
2	13.68	17.42	7.45	0.24
3	13.97	39.65	15.48	0.54
4	15.27	7226.95	1798.33	99.10

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 1,2,3,4,7,8,9-Heptachlorodibenzofuran-13C12
Lot Number	: ER04041602
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Wed May 04 15:34:28 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

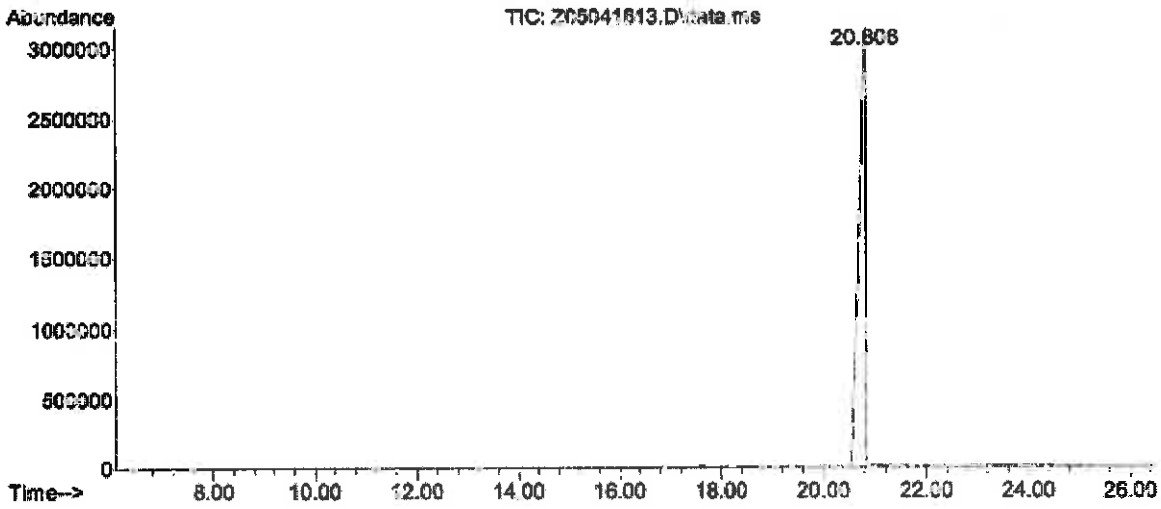

Mass Spectrum

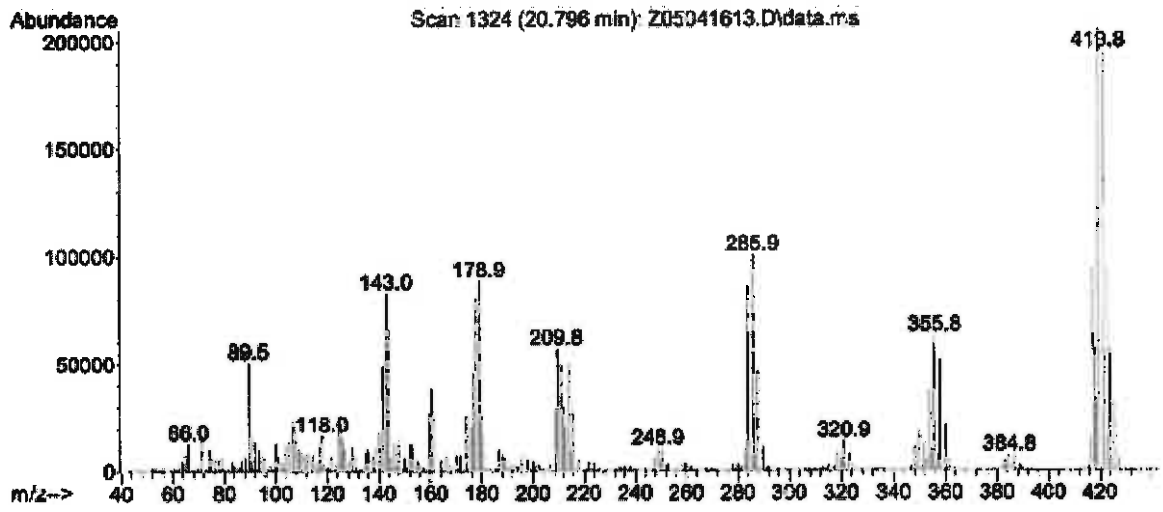

COA Revision History

Revision No.	Date	Reason for Revision
00	June 21, 2016	Initial version
01	November 09, 2016	Corrected Expiration Date from March 2026 to May 2026.

Reagent

HRDXNIDA_00376

N: 4/8/19 SW

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Analytical Reference Standards
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CIL

Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$

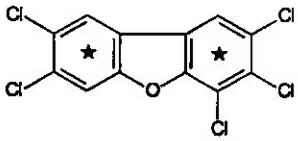

Catalog Number: EF-958
Solution Lot: ER01061701
Expiration Date: January 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	97.9%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass, Purity Factor of the analyte(s), measured mass of the solution, and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Acceptance Criteria	%RSD - Homogeneity Actual Results	Acceptance Criteria
New Lot	ER01061701	50.51	± 5%	0.1	≤ 3%
Previous Lot	ER11041601	49.56	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

January 27, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3Cl_5O$
Compound Lot:	ER11101601	**CAS Number:**	116843-02-8
		Molecular Weight:	352.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0102	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.02% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 0.5%
Mass Balance Purity Factor		**98.33%**

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

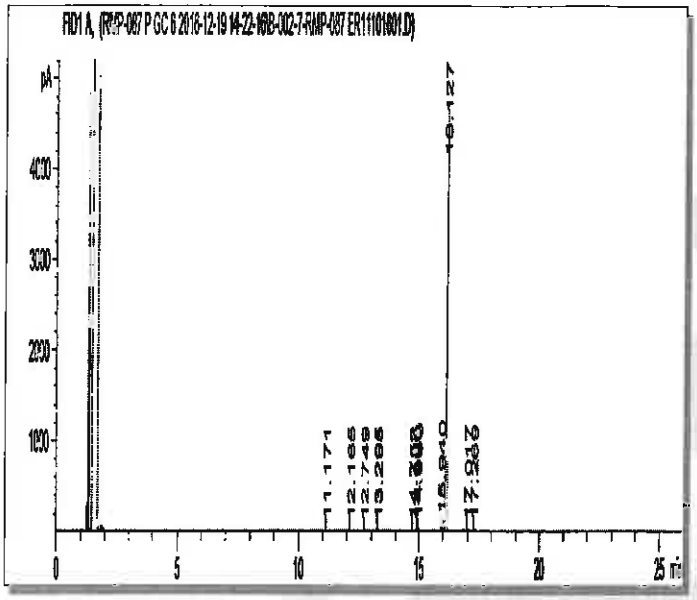

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMP-087 P GC 6 2016-12-19 14-22-16\B-002-7.D
Instrument:	GC#6
Sample Name:	ER11101601
Acquired:	December 19, 2016

Peak #	Ret Time	Area	Height	Area %
1	11.17	0.94	0.40	0.01
2	12.17	1.30	0.39	0.01
3	12.75	0.47	0.20	0.00
4	13.30	0.90	0.35	0.01
5	14.75	1.70	0.87	0.02
6	14.91	1.09	0.56	0.01
7	14.97	32.24	17.54	0.29
8	15.94	124.38	64.36	1.13
9	16.13	10866.60	4688.80	98.41
10	17.02	6.31	2.46	0.06
11	17.27	6.76	2.34	0.06

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 2,3,4,7,8-Pentachlorodibenzofuran-13C12
Lot Number	: ER11101601
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Tue Dec 20 12:19:55 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

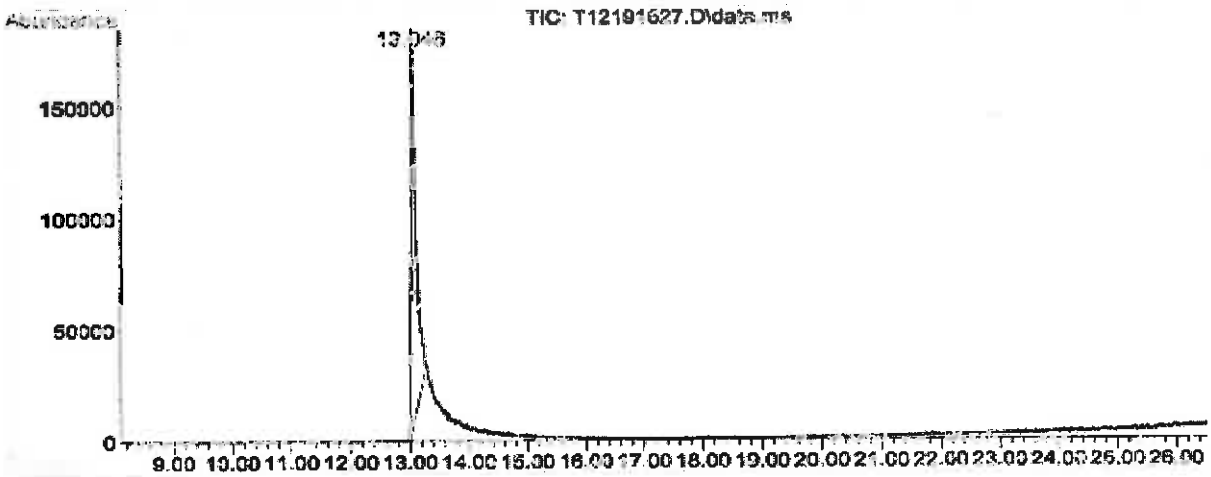

Mass Spectrum

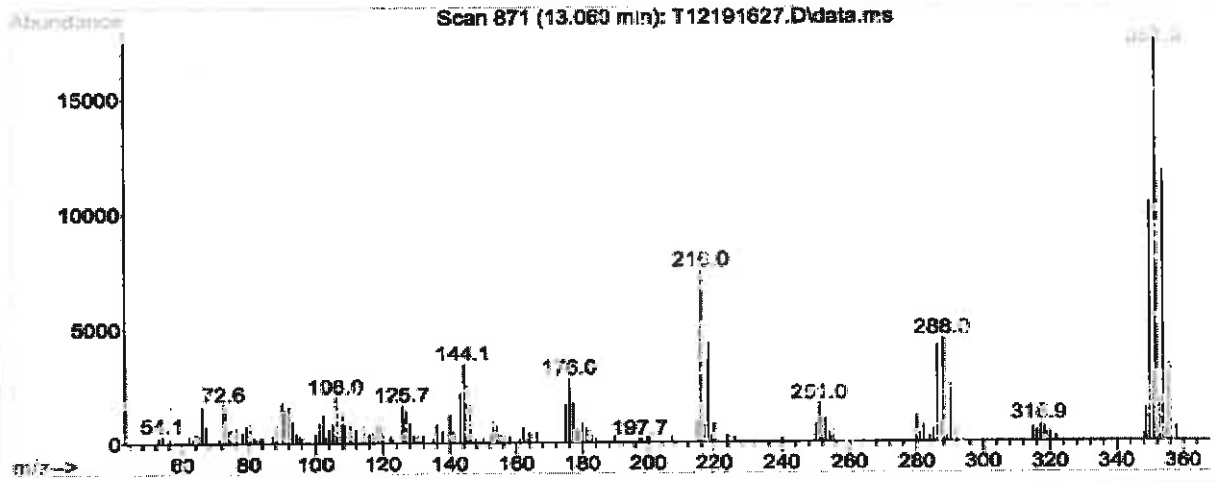

Reagent

HRDXNIDA_00377

r: 4/8/16 SKJ

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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

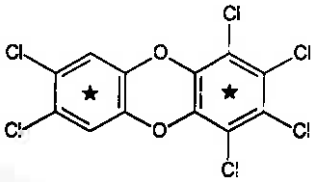

Catalog Number:	ED-946
Solution Lot:	ER04211601
Expiration Date:	June 2026
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.3%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04211601	49.24	± 5%	0.4	≤ 3%
Previous Lot	ER102711-01	49.69	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

August 11, 2016
Date

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 60°C to 300°C at 40°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 4
Linearity (r): 1.000

Neat Material Data

Compound Name: 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$
Compound Lot: ER011008-01

Chemical Formula: $^{13}C_{12}H_2Cl_6O_2$
CAS Number: 109719-80-4
Molecular Weight: 402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.08% $^{13}C_0$ vs $^{13}C_{12}$
		0.21% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.26%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

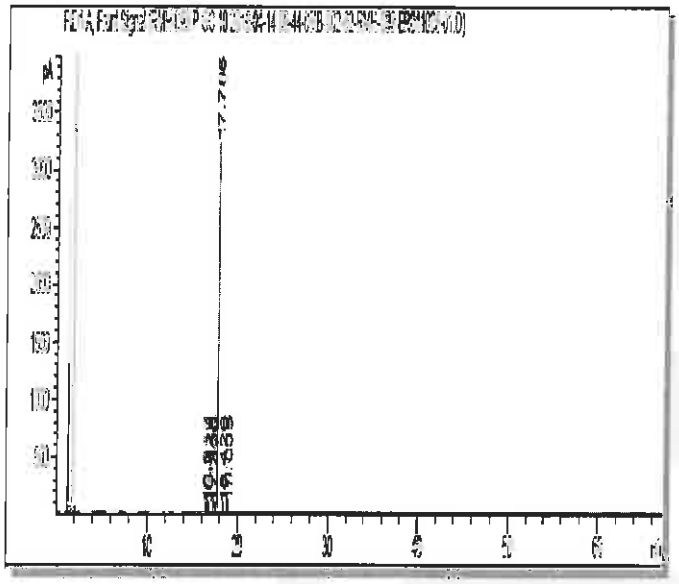

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	40°C to 300°C at 15°C/min hold 50 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-098 P GC 10 2016-04-14 08-44-08\B-002-62.D
Instrument:	GC#10
Sample Name:	ER011008-01
Acquired:	April 14, 2016

Peak #	Ret Time	Area	Height	Area %
1	16.56	16.58	7.74	0.19
2	16.72	11.25	5.08	0.13
3	16.83	8.45	4.05	0.10
4	17.30	1.81	0.71	0.02
5	17.48	1.07	0.50	0.01
6	17.79	8682.22	3203.58	99.29
7	18.43	1.99	0.68	0.02
8	19.01	20.62	6.08	0.24

Spectral and Physical Data (cont.)

GC/MS

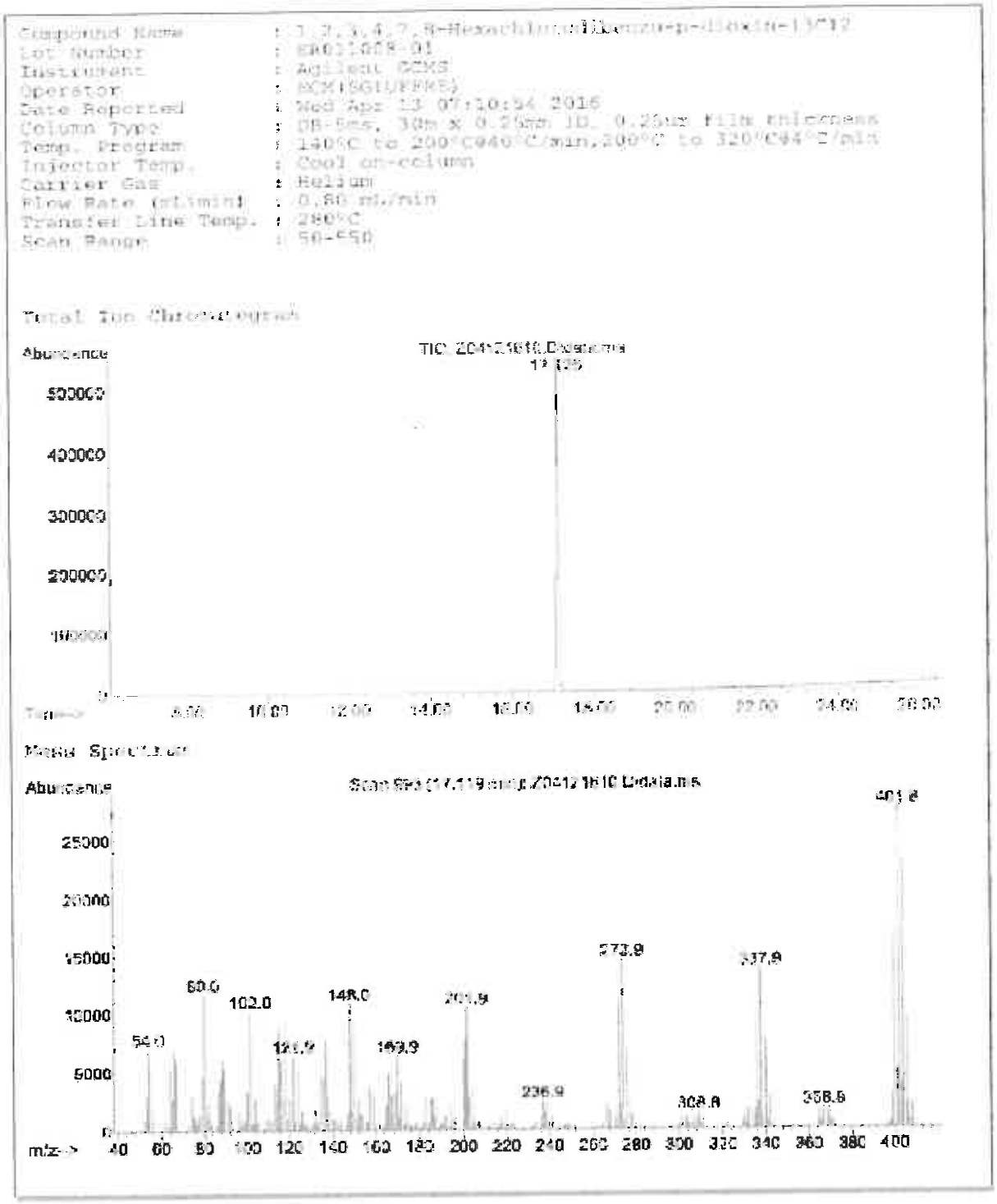

Reagent

HRDXNIDA_00378

r: 4/8/19 SKJ

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Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

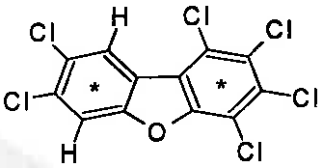

Catalog Number:	EF-963
Solution Lot:	ER04211701
Expiration Date:	July 2027
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.4%	50.00 ± 0.28 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04211701	49.47	± 5%	0.2	≤ 3%
Previous Lot	ER072810-02	45.87	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release

Traceability

- Gravemetrically prepared using balances that have been qualified and calibrated to ISO 17025 requirements. All calibrations utilize NIST traceable weights which are calibrated externally by a qualified ISO 17025 accredited calibration laboratory to NIST standards. Qualification of each balance includes the assignment of a minimum weighing by a qualified and ISO 17025 accredited calibration vendor taking into consideration the balance and installed environmental conditions to ensure compliance with USP tolerances of NMT 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

September 11, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}Cl_6H_2O$
Compound Lot:	ER11281601	**CAS Number:**	114423-98-2
		Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0102	99.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.06% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 0.5%
Mass Balance Purity Factor		99.31%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

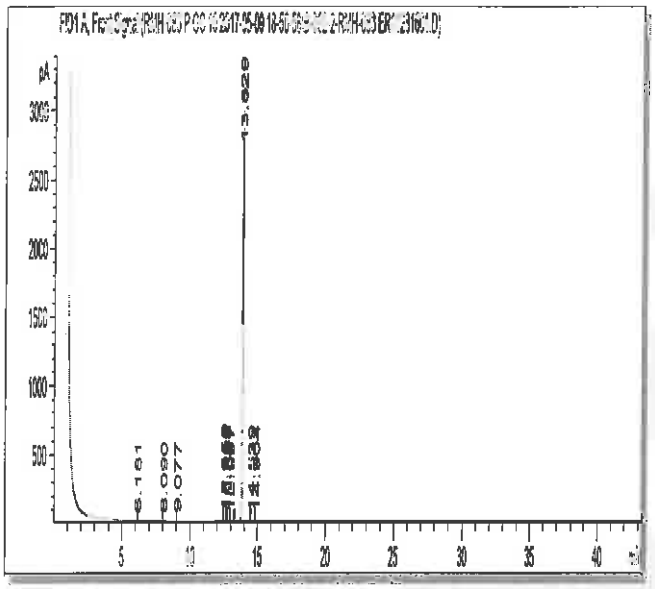

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 30 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-083 P GC 10 2017-05-09 18-50-58\B-002-2.D
Instrument:	GC#10
Sample Name:	ER11281601
Acquired:	May 09, 2017

Peak #	Ret Time	Area	Height	Area %
1	6.18	1.10	0.64	0.01
2	8.09	2.00	0.70	0.02
3	9.08	1.17	0.48	0.01
4	12.55	14.76	7.25	0.16
5	12.73	32.67	11.32	0.36
6	12.84	5.45	2.50	0.06
7	13.00	2.51	1.30	0.03
8	13.83	8993.56	3122.16	99.30
9	14.54	1.11	0.20	0.01
10	14.90	2.71	0.86	0.03

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 1,2,3,4,7,8-hexachlorodibenzofuran-13C12
Lot Number : SRI128160[illegible]
Instrument : Agilent GCMS
Operator : ECM(SGIDEFKE)
Date Reported : Mon May 08 09:30:09 2017
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@60°C/min,200°C to 320°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL\min) : 0.80 mL/min
Transfer Line Temp. : 280°C
Scan Range : 50-550

Total Ion Chromatogram

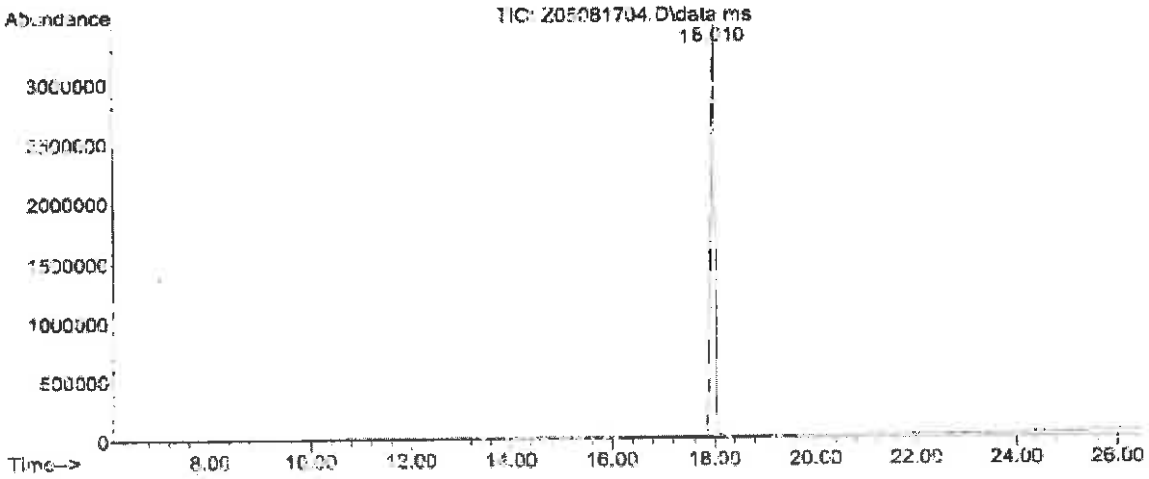

Mass Spectrum

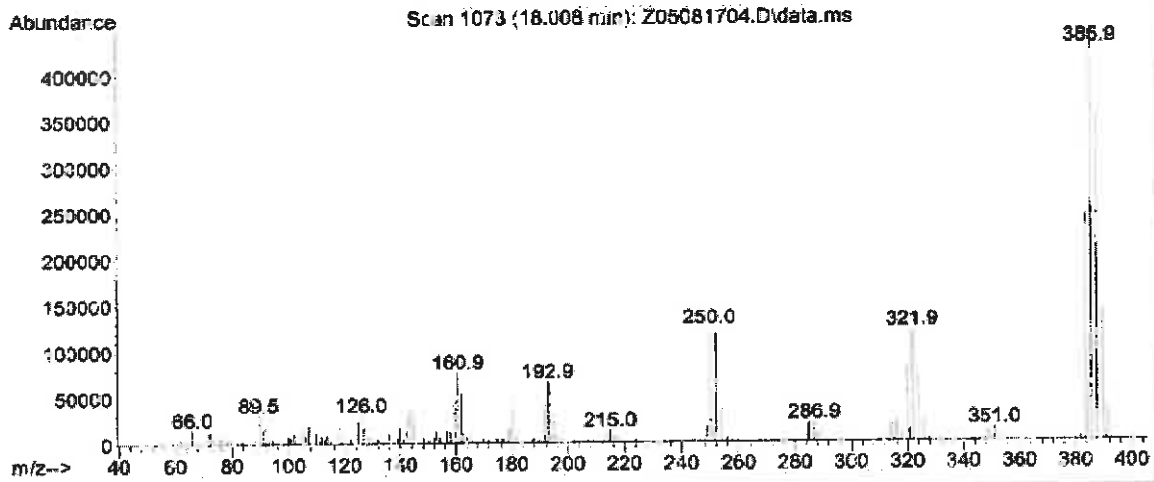

Reagent

HRDXNIS_00110

r: 9/4/18 SKV

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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

Catalog Number: ED-996
Solution Lot: ER08221601
Expiration Date: September 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER08221601	49.20	± 5%	0.3	≤ 3%
Previous Lot	ER021313-01	49.56	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

September 28, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O_2$
Compound Lot:	ER110510-01	**CAS Number:**	109719-82-6
		Molecular Weight:	402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.04% $^{13}C_0$ vs $^{13}C_{12}$
		0.27% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.02%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

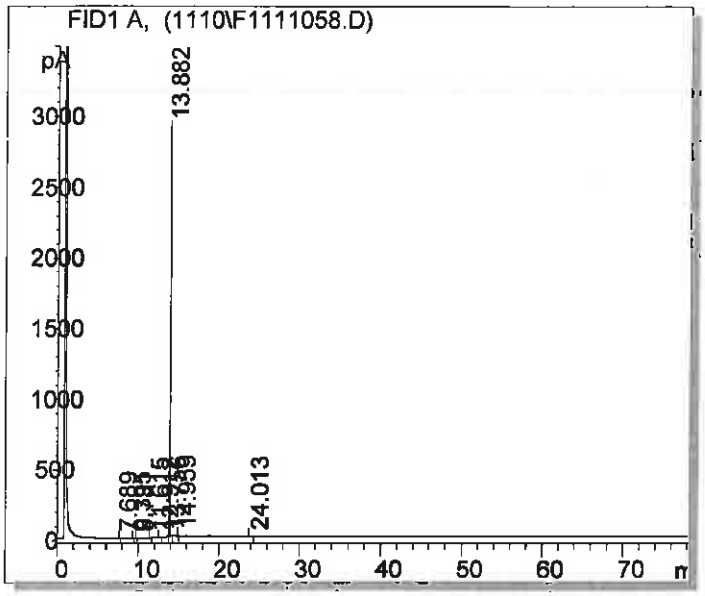

Column:	DB-5ms 30m x 0.53mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-column
Detector Temp:	325°C
Data File Name:	S:\GC\GC6\2010\1110\F1111058.D
Instrument:	GC#6
Sample Name:	ER110510-01
Acquired:	November 12, 2010

Peak #	Ret Time	Area	Height	Area %
1	4 69	0.45	0.10	0.01
2	9.40	0 72	0.14	0.01
3	9.78	0 80	0.13	0.01
4	11 62	7.34	2.54	0.09
5	12 91	2.59	0.23	0.03
6	13 76	1.91	1.00	0.02
7	13 88	8026.07	2938.74	99.11
8	14.96	36.82	11.38	0.45
9	24.01	21.08	1.62	0.26

Spectral and Physical Data (cont.)

GC/MS

```
Compound Name      : 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-13C12
Lot Number         : ER110510-01
Instrument         : Agilent 5973N MSD /6890N GC
Operator-Inst ID   : RPC - A147434
Date Reported      : Fri Nov 12 16:41:14 2010
Column Type        : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program      : 140°C to 200°C @40°C/min,200°C to 320°C @4°C/min
Injector Temp.     : Cool on-column          Trans. Line Temp : 280°C
Carrier Gas        : Helium                  Flow Rate        : 0.80 mL/min
```

Total Ion Chromatogram
S:\GCMS\GCMS2\2010\1110\

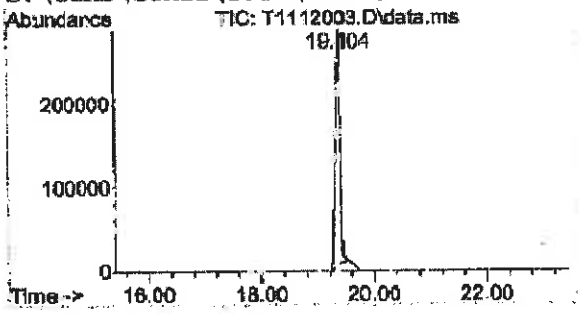

Mass Spectrum
Scan Number: 1976 Scan Range: 50-550 amu

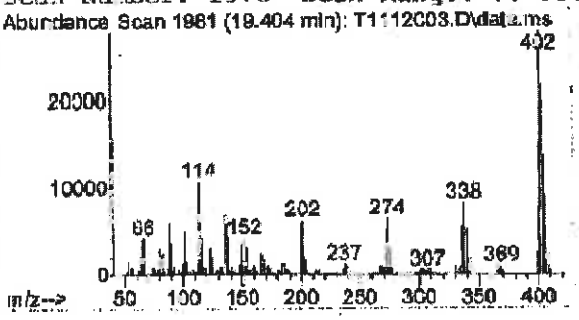

SIM Ion Chromatogram 1

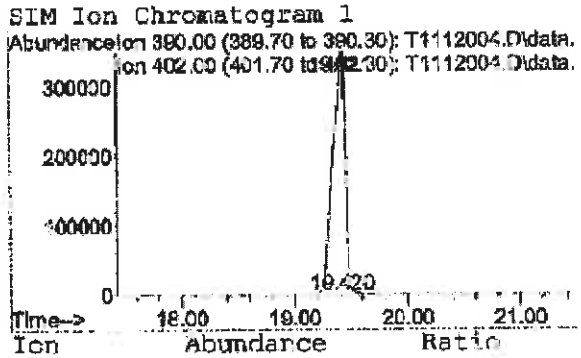

Ion	Abundance	Ratio
402	26368380	99.96
390	9776	0.04

SIM Ion Chromatogram 2

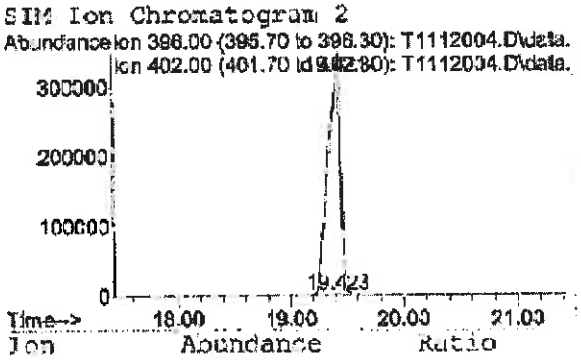

Ion	Abundance	Ratio
402	26368380	99.73
396	71626	0.27

Reagent

HRDXNIS_00111

Rec: 9/4/18 SKV

Cerilliant
Analytical Reference Standards
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Certificate of Analysis

1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$

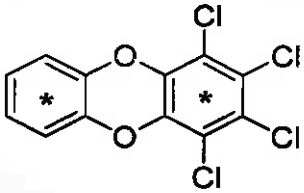

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number: ED-911
Solution Lot: ER11081602
Expiration Date: January 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.7%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER11081602	51.01	± 10%	0.1	≤ 3%
Previous Lot	ER060710-01	50.59	± 10%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

January 23, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$
Compound Lot:	ER02021602

Chemical Formula:	$^{13}C_{12}H_4Cl_4O_2$
CAS Number:	114423-99-3
Molecular Weight:	333.88

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS	SP10-0105	no single DD/DF impurity ≥ 1.0%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.03% $^{13}C_0$ vs $^{13}C_{12}$
		0.01% $^{13}C_6$ vs $^{13}C_{12}$
Identity by ^{1}H-NMR Analysis	USP <761>, SP10-0116	Consistent with Structure
Residual Solvent by ^{1}H-NMR Analysis	USP <761>, SP10-0116	0.31% Dichloromethane
Mass Balance Purity Factor		98.71%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

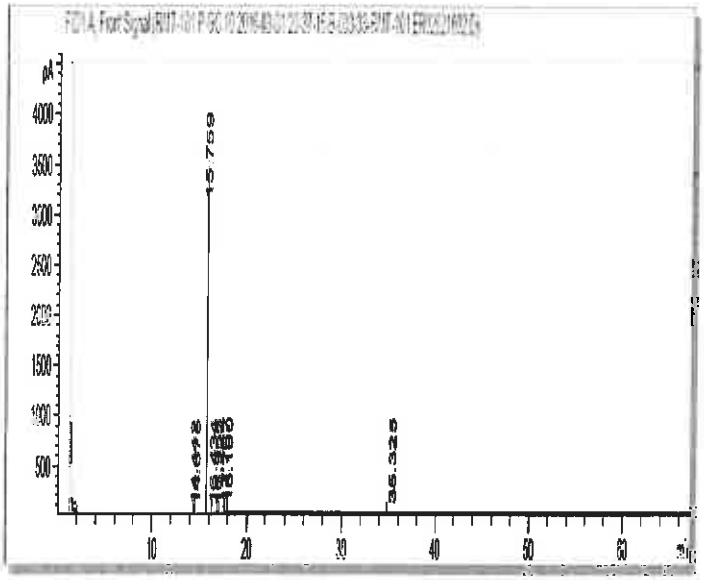

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	40°C to 300°C at 15°C/min hold 50 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMT-101 P GC 10 2016-03-01 20-37-15\B-003-33.D
Instrument:	GC#10
Sample Name:	ER02021602
Acquired:	March 01, 2016

Peak #	Ret Time	Area	Height	Area %
1	14.44	1.34	0.53	0.02
2	14.68	3.60	0.58	0.05
3	15.76	7522.29	3054.11	99.22
4	16.43	3.51	0.80	0.05
5	16.96	2.38	1.09	0.03
6	17.13	4.79	2.26	0.06
7	17.77	8.72	3.38	0.11
8	18.10	1.68	0.54	0.02
9	35.33	32.94	1.28	0.43

^{1}H NMR

Instrument:	JEOL ECS 400
Solvent:	Chloroform-D

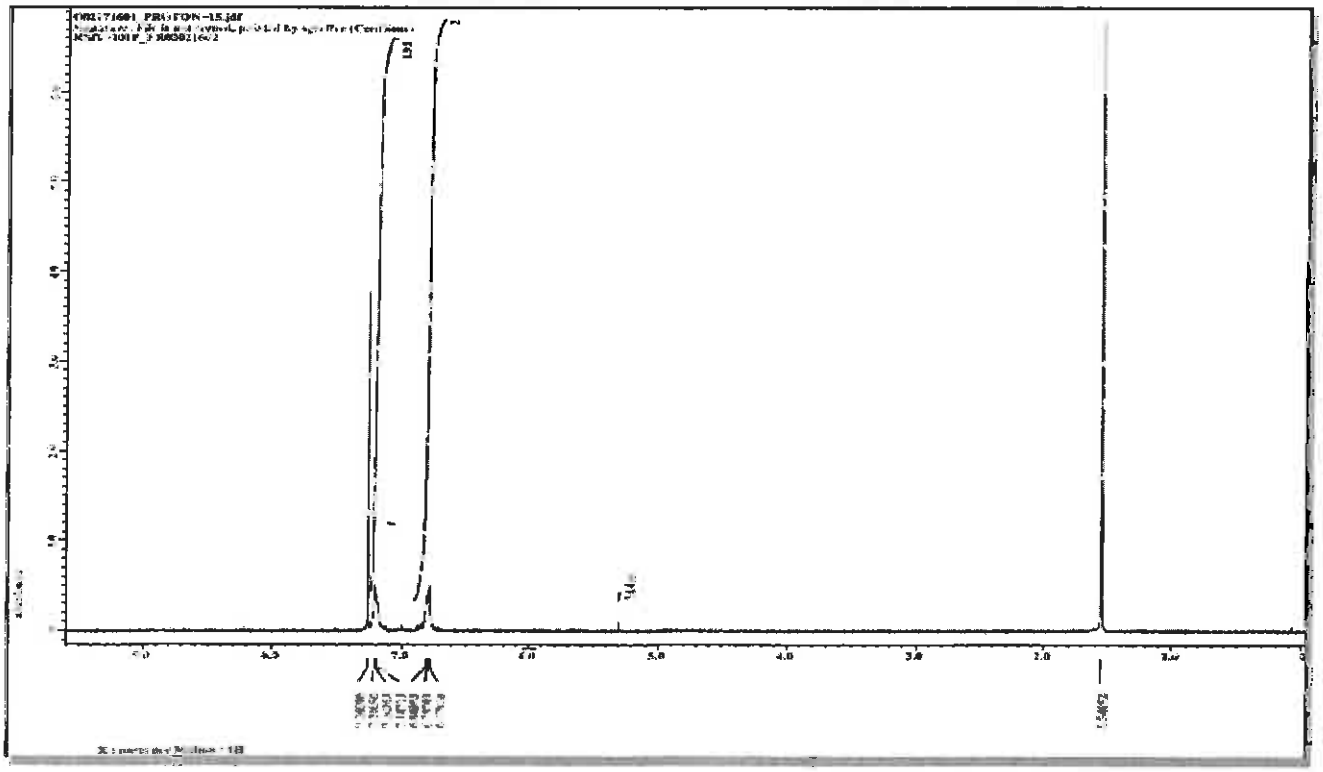

Spectral and Physical Data (cont.)

GC/MS

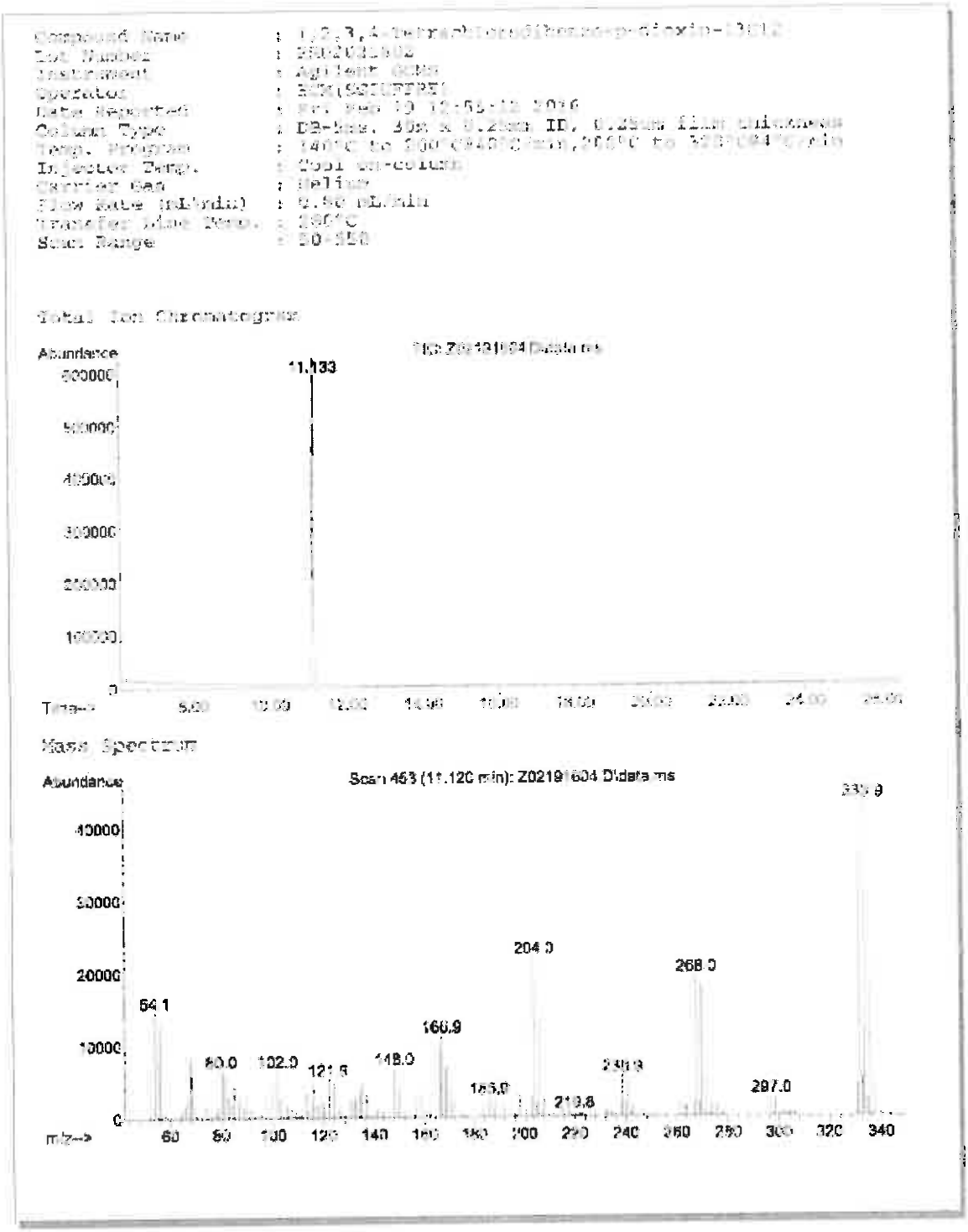

Reagent

HRDXNSU_00187

r: 7/30/18 SKJ

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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$

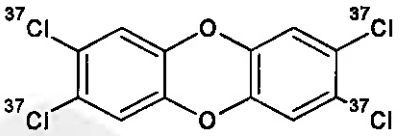

Catalog Number:	ED-907
Solution Lot:	ER05211501
Expiration Date:	July 2025
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold
Shipping:	Ambient.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Instructions for Use:	Sonicate before use.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration
- For MS Applications, we advise laboratories not to mix lots during a single sequence.

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$	98.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Acceptance Criteria	%RSD - Homogeneity Actual Results	Acceptance Criteria
New Lot	ER05211501	50.60	± 10%	0.2	≤ 5%
Previous Lot	ER052010-02	49.73	± 10%	0.5	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after

ACLASS ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

August 03, 2015
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$	**Chemical Formula:**	$C_{12}H_4O_2{}^{37}Cl_4$
Compound Lot:	ER040510-01	**CAS Number**	85508-50-5
		Molecular Weight	328.02

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{37}Cl_0$ vs $^{37}Cl_4$
Identity by ^{1}H-NMR Analysis	USP <761>, SP10-0116	Consistent with Structure
Residual Solvent Analysis by ^{1}H-NMR	USP <761>, SP10-0116	1.2% Chloroform
Purity Factor		97.14%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

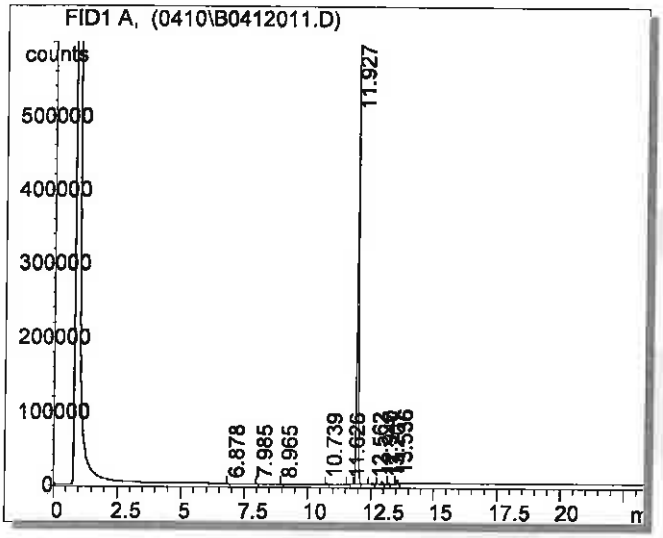

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	S:\GC\GC2\2010\0410\B0412011.D
Instrument:	GC#2
Sample Name:	ER040510-01
Acquired:	April 13, 2010

Peak #	Ret Time	Area	Height	Area %
1	6.88	245.58	89.37	0.01
2	7.99	304.03	131.27	0.01
3	8.97	233.91	72.32	0.01
4	10.74	931.14	265.29	0.04
5	11.63	127.86	46.74	0.01
6	11.93	2261830.00	580792.00	98.34
7	12.56	6435.54	1838.17	0.28
8	12.94	13336.80	4373.86	0.58
9	13.20	2178.30	729.98	0.09
10	13.54	14483.80	5038.43	0.63

^{1}H NMR

Instrument:	JEOL ECS 400
Solvent:	Toluene-D_8

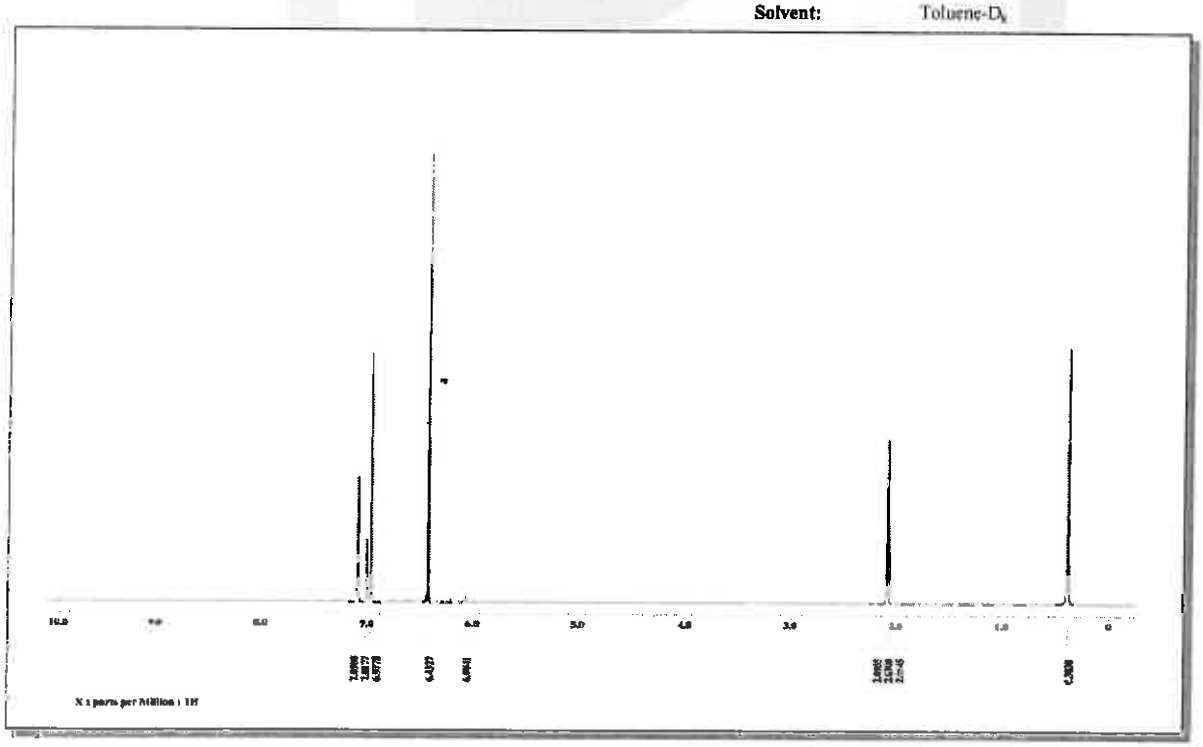

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

Compound Name : 2,3,7,8-Tetrachlorodibenzo-p-dioxin-37C14
Lot Number : KR060510-02
Instrument : Agilent 5973N MSD/6890N GC
Operator-Inst ID : RPC - C10106
Date Acquired : Mon Apr 19 23:23:00 2010
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 320°C@10°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 280°C

Scan Range : 50-550

Total Ion Chromatogram

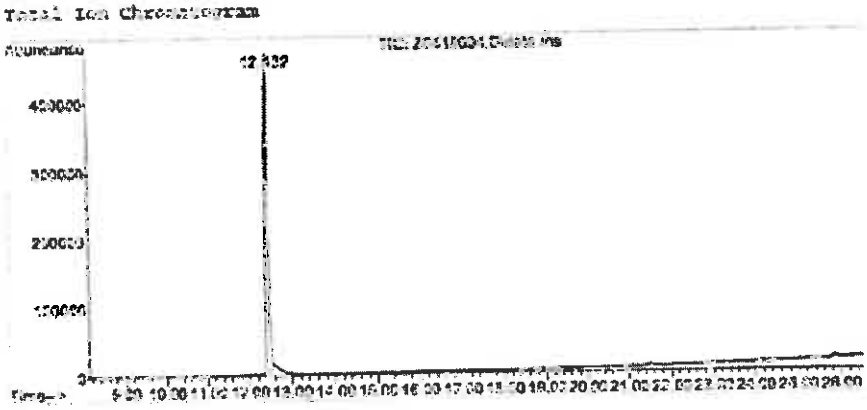

Mass Spectrum

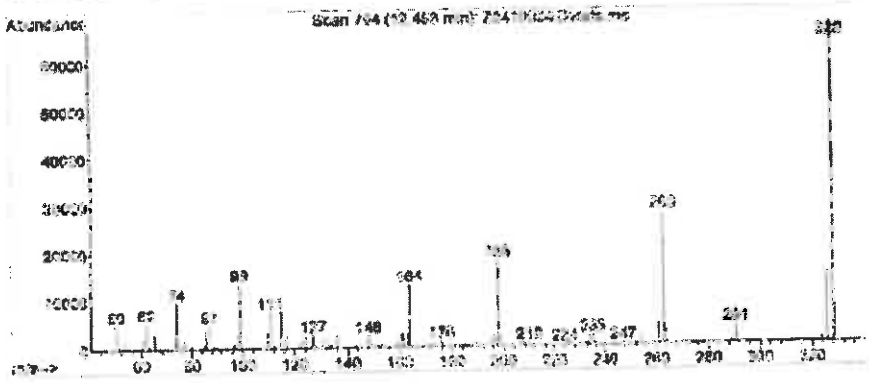

Reagent

HRDXNTA_00092

R: 7/6/18 SKJ

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Certificate of Analysis

Method 1613 PAR Stock Solution

Certificate Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number: EDF-7999-10X
Solution Lot: ER02241602
Expiration Date: April 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/ analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 volume. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Lot Number	CAS Number	Chemical Formula	Molecular Weight	Chromatographic Purity	Concentration
2,3,7,8-TeCDD	ER04271502	1746-01-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%	399.9 ± 4.0 ng/mL
2,3,7,8-TeCDF	ER101211-02	51207-31-9	$C_{12}H_4Cl_4O$	305.97	99.4%	399.9 ± 4.0 ng/mL
1,2,3,7,8-PeCDD	ER110909-02	40321-76-4	$C_{12}H_3Cl_5O_2$	356.42	99.2%	2000 ± 20 ng/mL
1,2,3,7,8-PeCDF	ER03121401	57117-41-6	$C_{12}H_3Cl_5O$	340.42	99.5%	1999 ± 20 ng/mL
2,3,4,7,8-PeCDF	ER070710-01	57117-31-4	$C_{12}H_3Cl_5O$	340.42	99.4%	1999 ± 20 ng/mL
1,2,3,4,7,8-HxCDD	ER080108-02	39227-28-6	$C_{12}H_2Cl_6O_2$	390.86	98.6%	2000 ± 20 ng/mL
1,2,3,6,7,8-HxCDD	ER03231501	57653-85-7	$C_{12}H_2Cl_6O_2$	390.86	99.6%	2000 ± 20 ng/mL
1,2,3,7,8,9-HxCDD	ER02041601	19408-74-3	$C_{12}H_2Cl_6O_2$	390.86	99.2%	2000 ± 20 ng/mL
1,2,3,4,7,8-HxCDF	ER021110-01	70648-26-9	$C_{12}H_2Cl_6O$	374.86	99.0%	2000 ± 20 ng/mL
1,2,3,6,7,8-HxCDF	ER04161501	57117-44-9	$C_{12}H_2Cl_6O$	374.86	99.8%	2000 ± 20 ng/mL
1,2,3,7,8,9-HxCDF	ER060107-01	72918-21-9	$C_{12}H_2Cl_6O$	374.86	97.5%	1999 ± 20 ng/mL
2,3,4,6,7,8-HxCDF	ER02041602	60851-34-5	$C_{12}H_2Cl_6O$	374.86	99.1%	2001 ± 20 ng/mL
1,2,3,4,6,7,8-HpCDD	ER01201504	35822-46-9	$C_{12}HCl_7O_2$	425.31	98.5%	1999 ± 20 ng/mL
1,2,3,4,6,7,8-HpCDF	ER02281403	67562-39-4	$C_{12}HCl_7O$	409.31	98.9%	1999 ± 20 ng/mL
1,2,3,4,7,8,9-HpCDF	ER01121503	55673-89-7	$C_{12}HCl_7O$	409.31	99.1%	1999 ± 20 ng/mL
OCDD	ER05221301	3268-87-9	$C_{12}Cl_8O_2$	459.75	99.9%	3999 ± 40 ng/mL
OCDF	ER040811-01	39001-02-0	$C_{12}Cl_8O$	443.75	98.9%	4000 ± 40 ng/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Stock solution concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

April 28, 2016
Date

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.

Standard Solution Assay Parameters

Analysis Method: GC/ECD
Column: DB-5ms, 30 m x 0.25 mm ID, 0 25 µm film thickness
Temp Program: 140°C to 200°C at 40°C/min, 200°C to 300°C at 4°C/min hold 3 min
Injector Temp: Cool on-column
Detector Temp: 280°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 1

Solution Standard Verification and Homogeneity

Compound	Verified Concentration ng/mL	Acceptance Criteria	%RSD - Homogeneity %	Acceptance Criteria
2,3,7,8-TeCDD	397 1	± 10%	0.7	≤ 5%
2,3,7,8-TeCDF	386 6	± 10%	0.7	≤ 5%
1,2,3,7,8-PeCDD	1937	± 10%	0 8	≤ 5%
1,2,3,7,8-PeCDF	1919	± 10%	0.8	≤ 5%
2,3,4,7,8-PeCDF	1941	± 10%	0.8	≤ 5%
1,2,3,4,7,8-HxCDD	1932	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDD	1987	± 10%	0 8	≤ 5%
1,2,3,7,8,9-HxCDD	1943	± 10%	0 7	≤ 5%
1,2,3,4,7,8-HxCDF	1933	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDF	1909	± 10%	0.9	≤ 5%
1,2,3,7,8,9-HxCDF	1942	± 10%	0.7	≤ 5%
2,3,4,6,7,8-HxCDF	1950	± 10%	0.8	≤ 5%
1.2.3.4.6.7.8-HpCDD	1930	± 10%	0.9	≤ 5%
1,2,3,4,6,7,8-HpCDF	1919	± 10%	0.9	≤ 5%
1,2,3,4,7,8,9-HpCDF	1943	± 10%	1.0	≤ 5%
OCDD	3844	± 10%	1.0	≤ 5%
OCDF	3906	± 10%	0.9	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The %RSD of samples pulled from across the lot demonstrate homogeneity.
- Product is compared to prior lot and meets acceptance criteria of ± 10%.

Product Analysis

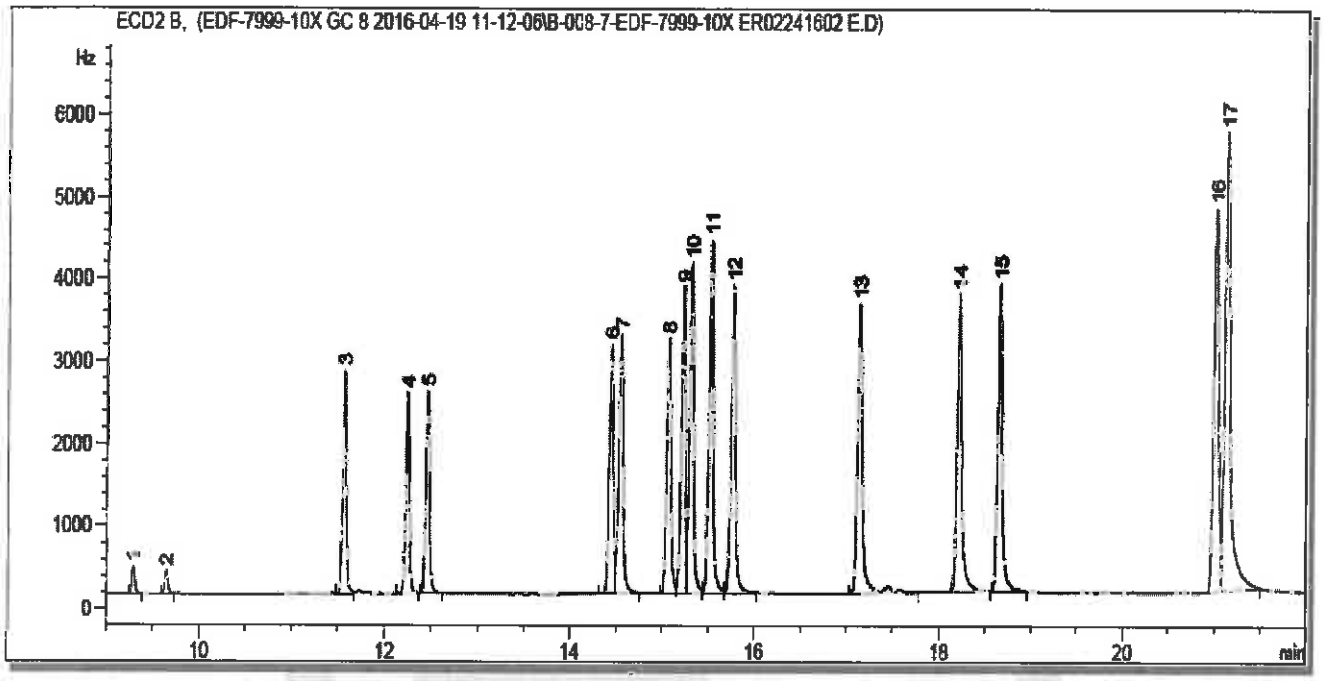

Peak:	Analyte:
1	2,3,7,8-Tetrachlorodibenzofuran
2	2,3,7,8-Tetrachloro-p-dioxin
3	1,2,3,7,8-Pentachlorodibenzofuran
4	2,3,4,7,8-Pentachlorodibenzofuran
5	1,2,3,7,8-Pentachlorodibenzo-p-dioxin
6	1,2,3,4,7,8-Hexachlorodibenzofuran
7	1,2,3,6,7,8-Hexachlorodibenzofuran
8	2,3,4,6,7,8-Hexachlorodibenzofuran
9	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin
10	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin
11	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin
12	1,2,3,7,8,9-Hexachlorodibenzofuran
13	1,2,3,4,6,7,8-Heptachlorodibenzofuran
14	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin
15	1,2,3,4,7,8,9-Heptachlorodibenzofuran
16	Octachlorodibenzo-p-dioxin
17	Octachlorodibenzofuran

COA Revision History

Revision No.	Date	Reason for Revision
00	April 28, 2016	Initial version

Reagent

HRDXNTA_00093

R: 7/6/18 SKJ

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Method 1613 PAR Stock Solution

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number: EDF-7999-10X
Solution Lot: ER02241602
Expiration Date: April 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/ analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 volume. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Lot Number	CAS Number	Chemical Formula	Molecular Weight	Chromatographic Purity	Concentration
2,3,7,8-TeCDD	ER04271502	1746-01-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%	399.9 ± 4.0 ng/mL
2,3,7,8-TeCDF	ER101211-02	51207-31-9	$C_{12}H_4Cl_4O$	305.97	99.4%	399.9 ± 4.0 ng/mL
1,2,3,7,8-PeCDD	ER110909-02	40321-76-4	$C_{12}H_3Cl_5O_2$	356.42	99.2%	2000 ± 20 ng/mL
1,2,3,7,8-PeCDF	ER03121401	57117-41-6	$C_{12}H_3Cl_5O$	340.42	99.5%	1999 ± 20 ng/mL
2,3,4,7,8-PeCDF	ER070710-01	57117-31-4	$C_{12}H_3Cl_5O$	340.42	99.4%	1999 ± 20 ng/mL
1,2,3,4,7,8-HxCDD	ER080108-02	39227-28-6	$C_{12}H_2Cl_6O_2$	390.86	98.6%	2000 ± 20 ng/mL
1,2,3,6,7,8-HxCDD	ER03231501	57653-85-7	$C_{12}H_2Cl_6O_2$	390.86	99.6%	2000 ± 20 ng/mL
1,2,3,7,8,9-HxCDD	ER02041601	19408-74-3	$C_{12}H_2Cl_6O_2$	390.86	99.2%	2000 ± 20 ng/mL
1,2,3,4,7,8-HxCDF	ER021110-01	70648-26-9	$C_{12}H_2Cl_6O$	374.86	99.0%	2000 ± 20 ng/mL
1,2,3,6,7,8-HxCDF	ER04161501	57117-44-9	$C_{12}H_2Cl_6O$	374.86	99.8%	2000 ± 20 ng/mL
1,2,3,7,8,9-HxCDF	ER060107-01	72918-21-9	$C_{12}H_2Cl_6O$	374.86	97.5%	1999 ± 20 ng/mL
2,3,4,6,7,8-HxCDF	ER02041602	60851-34-5	$C_{12}H_2Cl_6O$	374.86	99.1%	2001 ± 20 ng/mL
1,2,3,4,6,7,8-HpCDD	ER01201504	35822-46-9	$C_{12}HCl_7O_2$	425.31	98.5%	1999 ± 20 ng/mL
1,2,3,4,6,7,8-HpCDF	ER02281403	67562-39-4	$C_{12}HCl_7O$	409.31	98.9%	1999 ± 20 ng/mL
1,2,3,4,7,8,9-HpCDF	ER01121503	55673-89-7	$C_{12}HCl_7O$	409.31	99.1%	1999 ± 20 ng/mL
OCDD	ER05221301	3268-87-9	$C_{12}Cl_8O_2$	459.75	99.9%	3999 ± 40 ng/mL
OCDF	ER040811-01	39001-02-0	$C_{12}Cl_8O$	443.75	98.9%	4000 ± 40 ng/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Stock solution concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

April 28, 2016
Date

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.

Standard Solution Assay Parameters

Analysis Method: GC/ECD
Column: DB-5ms, 30 m x 0.25 mm ID, 0 25 µm film thickness
Temp Program: 140°C to 200°C at 40°C/min, 200°C to 300°C at 4°C/min hold 3 min
Injector Temp: Cool on-column
Detector Temp: 280°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 1

Solution Standard Verification and Homogeneity

Compound	Verified Concentration ng/mL	Acceptance Criteria	%RSD - Homogeneity %	Acceptance Criteria
2,3,7,8-TeCDD	397 1	± 10%	0.7	≤ 5%
2,3,7,8-TeCDF	386 6	± 10%	0.7	≤ 5%
1,2,3,7,8-PeCDD	1937	± 10%	0 8	≤ 5%
1,2,3,7,8-PeCDF	1919	± 10%	0.8	≤ 5%
2,3,4,7,8-PeCDF	1941	± 10%	0.8	≤ 5%
1,2,3,4,7,8-HxCDD	1932	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDD	1987	± 10%	0 8	≤ 5%
1,2,3,7,8,9-HxCDD	1943	± 10%	0 7	≤ 5%
1,2,3,4,7,8-HxCDF	1933	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDF	1909	± 10%	0.9	≤ 5%
1,2,3,7,8,9-HxCDF	1942	± 10%	0.7	≤ 5%
2,3,4,6,7,8-HxCDF	1950	± 10%	0.8	≤ 5%
1.2.3.4.6.7.8-HpCDD	1930	± 10%	0.9	≤ 5%
1,2,3,4,6,7,8-HpCDF	1919	± 10%	0.9	≤ 5%
1,2,3,4,7,8,9-HpCDF	1943	± 10%	1.0	≤ 5%
OCDD	3844	± 10%	1.0	≤ 5%
OCDF	3906	± 10%	0.9	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The %RSD of samples pulled from across the lot demonstrate homogeneity.
- Product is compared to prior lot and meets acceptance criteria of ± 10%.

Product Analysis

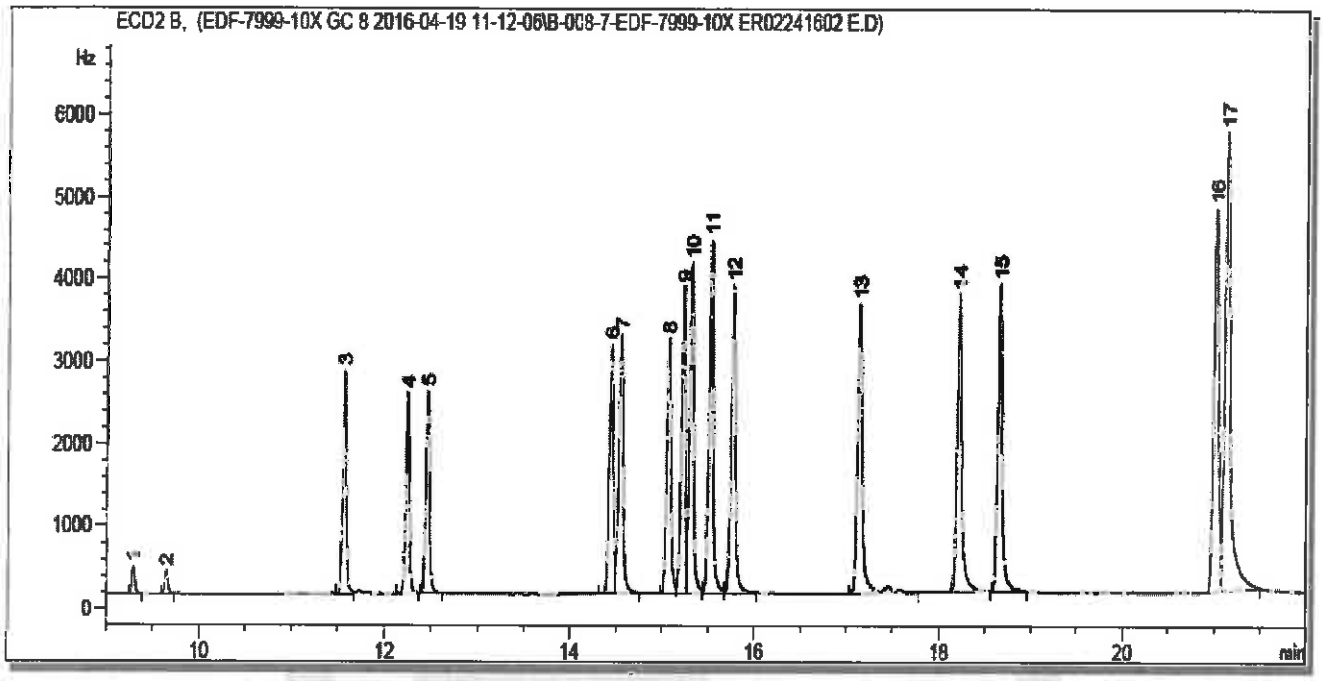

Peak:	Analyte:
1	2,3,7,8-Tetrachlorodibenzofuran
2	2,3,7,8-Tetrachloro-p-dioxin
3	1,2,3,7,8-Pentachlorodibenzofuran
4	2,3,4,7,8-Pentachlorodibenzofuran
5	1,2,3,7,8-Pentachlorodibenzo-p-dioxin
6	1,2,3,4,7,8-Hexachlorodibenzofuran
7	1,2,3,6,7,8-Hexachlorodibenzofuran
8	2,3,4,6,7,8-Hexachlorodibenzofuran
9	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin
10	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin
11	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin
12	1,2,3,7,8,9-Hexachlorodibenzofuran
13	1,2,3,4,6,7,8-Heptachlorodibenzofuran
14	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin
15	1,2,3,4,7,8,9-Heptachlorodibenzofuran
16	Octachlorodibenzo-p-dioxin
17	Octachlorodibenzofuran

COA Revision History

Revision No.	Date	Reason for Revision
00	April 28, 2016	Initial version

Method 8260C

Volatile Organic Compounds (GC/MS) by Method 8260C

FORM II
GC/MS VOA SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-VRX 60 ID: 0.25(mm)

Client Sample ID	Lab Sample ID	DBFM #	DCA #	TOL #	BFB #
11187072-091319-LL -EXC-1	600-191956-2	81	83	77	100
TRIP BLANK	600-191956-4	77	81	76	92
TRIP BLANK	600-191956-5	77	79	77	94
	MB 600-274820/7	80	80	78	95
	LCS 600-274820/4	106	113	90	97
	LCSD 600-274820/5	102	110	91	99

	QC LIMITS
DBFM = Dibromofluoromethane	62-130
DCA = 1,2-Dichloroethane-d4 (Surr)	50-134
TOL = Toluene-d8 (Surr)	70-130
BFB = 4-Bromofluorobenzene	67-139

Column to be used to flag recovery values

FORM II 8260C

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Matrix: Water Level: Low Lab File ID: T25901A.D

Lab ID: LCS 600-274820/4 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,1-Dichloroethene	50.0	61.0	122	67-134	
1,2-Dichloroethane	50.0	59.7	119	62-144	
2-Butanone (MEK)	100	118	118	34-140	
Benzene	50.0	56.9	114	70-131	
Carbon disulfide	50.0	57.4	115	60-146	
Carbon tetrachloride	50.0	53.1	106	68-140	
Chlorobenzene	50.0	44.3	89	70-130	
m-Xylene & p-Xylene	50.0	47.4	95	70-130	
o-Xylene	50.0	44.3	89	69-130	
Trichloroethene	50.0	48.6	97	70-130	
Vinyl chloride	50.0	54.8	110	55-150	
Xylenes, Total	100	91.7	92	70-130	
Chloroform	50.0	56.7	113	70-131	
1,4-Dichlorobenzene	50.0	47.0	94	70-130	
Hexachlorobutadiene	50.0	54.6	109	31-150	
Tetrachloroethene	50.0	46.9	94	57-130	

Column to be used to flag recovery and RPD values

FORM III 8260C

FORM III
GC/MS VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Matrix: Water Level: Low Lab File ID: T25902.D

Lab ID: LCSD 600-274820/5 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
1,1-Dichloroethene	50.0	51.5	103	17	20	67-134	
1,2-Dichloroethane	50.0	56.0	112	6	20	62-144	
2-Butanone (MEK)	100	106	106	11	20	34-140	
Benzene	50.0	54.7	109	4	20	70-131	
Carbon disulfide	50.0	53.3	107	8	20	60-146	
Carbon tetrachloride	50.0	49.9	100	6	20	68-140	
Chlorobenzene	50.0	44.8	90	1	20	70-130	
m-Xylene & p-Xylene	50.0	47.9	96	1	20	70-130	
o-Xylene	50.0	45.4	91	3	20	69-130	
Trichloroethene	50.0	47.5	95	2	20	70-130	
Vinyl chloride	50.0	49.2	98	11	20	55-150	
Xylenes, Total	100	93.3	93	2	20	70-130	
Chloroform	50.0	54.8	110	3	20	70-131	
1,4-Dichlorobenzene	50.0	48.3	97	3	20	70-130	
Hexachlorobutadiene	50.0	63.4	127	15	20	31-150	
Tetrachloroethene	50.0	49.7	99	6	20	57-130	

Column to be used to flag recovery and RPD values

FORM III 8260C

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab File ID: T25905.D Lab Sample ID: MB 600-274820/7

Matrix: Water Heated Purge:(Y/N) N

Instrument ID: CHVOAMS10 Date Analyzed: 09/16/2019 11:33

GC Column: DB-VRX 60 ID: 0.25(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 600-274820/4	T25901A.D	09/16/2019 10:14
	LCSD 600-274820/5	T25902.D	09/16/2019 10:40
TRIP BLANK	600-191956-4	T25912.D	09/16/2019 15:09
TRIP BLANK	600-191956-5	T25913.D	09/16/2019 15:47

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab File ID: BFB Injection Date:

Instrument ID: BFB Injection Time:

Lab File ID: DFTPP Injection Date:

Instrument ID: DFTPP Injection Time:

Analysis Batch No.:

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
11187072-091319-LL-EXC-1	600-191956-2	T25712.D	09/14/2019	14:26

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab File ID: T24100.D BFB Injection Date: 08/29/2019

Instrument ID: CHVOAMS10 BFB Injection Time: 12:40

Analysis Batch No.: 273322

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	30.5	
75	30.0 - 60.0 % of mass 95	44.4	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	5.8	
173	Less than 2.0 % of mass 174	1.4	(1.7) 1
174	50.0 - 120.00 % of mass 95	80.4	
175	5.0 - 9.0 % of mass 174	7.0	(8.7) 1
176	95.0 - 101.0 % of mass 174	80.2	(99.8) 1
177	5.0 - 9.0 % of mass 176	5.4	(6.7) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	IC 600-273322/4	T41002.D	08/29/2019	13:40
	IC 600-273322/5	T41003.D	08/29/2019	14:11
	IC 600-273322/6	T41004.D	08/29/2019	14:40
	ICIS 600-273322/7	T41005.D	08/29/2019	15:10
	IC 600-273322/8	T41006.D	08/29/2019	15:40
	IC 600-273322/9	T41007.D	08/29/2019	16:10
	ICV 600-273322/1013	T41011-ICV.d	08/29/2019	18:09

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab File ID: T25900B.D BFB Injection Date: 09/16/2019

Instrument ID: CHVOAMS10 BFB Injection Time: 09:22

Analysis Batch No.: 274820

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	33.4	
75	30.0 - 60.0 % of mass 95	51.4	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.8	
173	Less than 2.0 % of mass 174	0.7	(0.8) 1
174	50.0 - 120.00 % of mass 95	89.2	
175	5.0 - 9.0 % of mass 174	7.8	(8.7) 1
176	95.0 - 101.0 % of mass 174	86.7	(97.2) 1
177	5.0 - 9.0 % of mass 176	5.9	(6.8) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCVIS 600-274820/3	T25901.D	09/16/2019	9:48
	LCS 600-274820/4	T25901A.D	09/16/2019	10:14
	LCSD 600-274820/5	T25902.D	09/16/2019	10:40
	MB 600-274820/7	T25905.D	09/16/2019	11:33
TRIP BLANK	600-191956-4	T25912.D	09/16/2019	15:09
TRIP BLANK	600-191956-5	T25913.D	09/16/2019	15:47

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Sample No.: ICIS 600-273322/7 Date Analyzed: 08/29/2019 15:10

Instrument ID: CHVOAMS10 GC Column: DB-VRX 60 ID: 0.25(mm)

Lab File ID (Standard): T41005.D Heated Purge: (Y/N) N

Calibration ID: 16503

		FB		CBNZd5		DCBd4	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		390296	8.41	149589	11.38	121595	14.01
UPPER LIMIT		780592	8.91	299178	11.88	243190	14.51
LOWER LIMIT		195148	7.91	74795	10.88	60798	13.51
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 600-273322/1013		357642	8.41	147464	11.39	122380	14.01
CCVIS 600-274820/3		247710	8.41	104428	11.38	82515	14.00

FB = Fluorobenzene
CBNZd5 = Chlorobenzene-d5
DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8260C

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Sample No.: CCVIS 600-274820/3 Date Analyzed: 09/16/2019 09:48

Instrument ID: CHVOAMS10 GC Column: DB-VRX 60 ID: 0.25(mm)

Lab File ID (Standard): T25901.D Heated Purge: (Y/N) N

Calibration ID: 16606

		FB		CBNZd5		DCBd4	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		247710	8.41	104428	11.38	82515	14.00
UPPER LIMIT		495420	8.91	208856	11.88	165030	14.50
LOWER LIMIT		123855	7.91	52214	10.88	41258	13.50
LAB SAMPLE ID	CLIENT SAMPLE ID						
LCS 600-274820/4		252014	8.40	112648	11.38	83991	14.00
LCSD 600-274820/5		269240	8.41	114503	11.38	85216	14.01
MB 600-274820/7		245436	8.40	103398	11.39	78448	14.01
600-191956-4	TRIP BLANK	224612	8.41	97471	11.39	75118	14.01
600-191956-5	TRIP BLANK	226623	8.41	96866	11.38	73416	14.01

FB = Fluorobenzene
CBNZd5 = Chlorobenzene-d5
DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8260C

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Client Sample ID: 11187072-091319-LL-EXC-1 Lab Sample ID: 600-191956-2

Matrix: Water Lab File ID: T25712.D

Analysis Method: 8260C Date Collected: 09/13/2019 08:00

Sample wt/vol: 5(mL) Date Analyzed: 09/14/2019 14:26

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-VRX 60 ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 274776 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-35-4	1,1-Dichloroethene	ND		5.0	0.76
107-06-2	1,2-Dichloroethane	ND		5.0	1.0
78-93-3	2-Butanone (MEK)	ND		10	1.6
71-43-2	Benzene	ND		5.0	0.56
75-15-0	Carbon disulfide	ND		10	1.7
56-23-5	Carbon tetrachloride	ND		5.0	0.92
108-90-7	Chlorobenzene	ND		5.0	0.82
179601-23-1	m-Xylene & p-Xylene	ND		5.0	1.3
95-47-6	o-Xylene	ND		5.0	0.93
79-01-6	Trichloroethene	ND		5.0	1.6
75-01-4	Vinyl chloride	ND		5.0	0.85
1330-20-7	Xylenes, Total	ND		5.0	2.0
67-66-3	Chloroform	ND		10	0.82
106-46-7	1,4-Dichlorobenzene	ND		5.0	0.91
87-68-3	Hexachlorobutadiene	ND		5.0	1.2
127-18-4	Tetrachloroethene	ND		5.0	1.2

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	83		50-134
460-00-4	4-Bromofluorobenzene	100		67-139
1868-53-7	Dibromofluoromethane	81		62-130
2037-26-5	Toluene-d8 (Surr)	77		70-130

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHVOAMS10\20190914-31097.b\T25712.D
Lims ID: 600-191956-AB-2
Client ID: 11187072-091319-LL-EXC-1
Sample Type: Client
Inject. Date: 14-Sep-2019 14:26:30 ALS Bottle#: 12 Worklist Smp#: 14
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 600-191956-AB-2
Misc. Info.: 600-0031097-014
Operator ID: dt Instrument ID: CHVOAMS10

Method: \\chromna\Houston\ChromData\CHVOAMS10\20190914-31097.b\8260w5_10.m
Limit Group: VOA - 8260C_8260CLL
Last Update: 16-Sep-2019 11:33:14 Calib Date: 13-Sep-2019 13:01:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHVOAMS10\20190913-31078.b\T25609.D

Column 1 : Det: MS SCAN
Process Host: CTX0310

First Level Reviewer: somjitp Date: 16-Sep-2019 09:04:59

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.405	8.407	-0.002	96	236683	50.0	
4 Vinyl chloride	62		4.326				ND	
20 1,1-Dichloroethene	96		5.924				ND	
22 Carbon disulfide	76		6.267				ND	U
56 2-Butanone (MEK)	72		7.076				ND	
48 Chloroform	83		7.371				ND	
$ 52 Dibromofluoromethane	113	7.462	7.466	-0.005	92	51140	40.4	
$ 64 1,2-Dichloroethane-d4 (Sur	65	7.815	7.812	0.001	0	76992	41.6	
65 1,2-Dichloroethane	62		7.878				ND	
54 Carbon tetrachloride	119		8.241				ND	
63 Benzene	78		8.263				ND	
70 Trichloroethene	130		8.744				ND	
* 85 Chlorobenzene-d5	82	11.389	11.388	0.001	94	102661	50.0	
$ 93 Toluene-d8 (Surr)	98	9.913	9.911	0.001	96	193100	38.4	
98 Tetrachloroethene	164		10.718				ND	
S 104 Xylenes, Total	106		10.900				ND	
109 Chlorobenzene	112		11.421				ND	
111 m-Xylene & p-Xylene	91		11.790				ND	
112 o-Xylene	106		12.232				ND	
* 117 1,4-Dichlorobenzene-d4	152	14.008	14.007	0.001	94	74999	50.0	
$ 122 4-Bromofluorobenzene	95	12.692	12.690	0.001	86	75634	49.8	
140 1,4-Dichlorobenzene	146		14.032				ND	
148 Hexachlorobutadiene	190		16.622				ND	

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

VOAIS250PPM_00135	Amount Added:	1.00	Units: uL	Run Reagent
VOASS250PPM_00112	Amount Added:	1.00	Units: uL	Run Reagent

Report Date: 17-Sep-2019 08:54:53 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190914-31097.b\T25712.D				
Injection Date:	14-Sep-2019 14:26:30	Instrument ID:	CHVOAMS10	Operator ID:	dt
Lims ID:	600-191956-AB-2	Lab Sample ID:	600-191956-2	Worklist Smp#:	14
Client ID:	11187072-091319-LL-EXC-1				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		

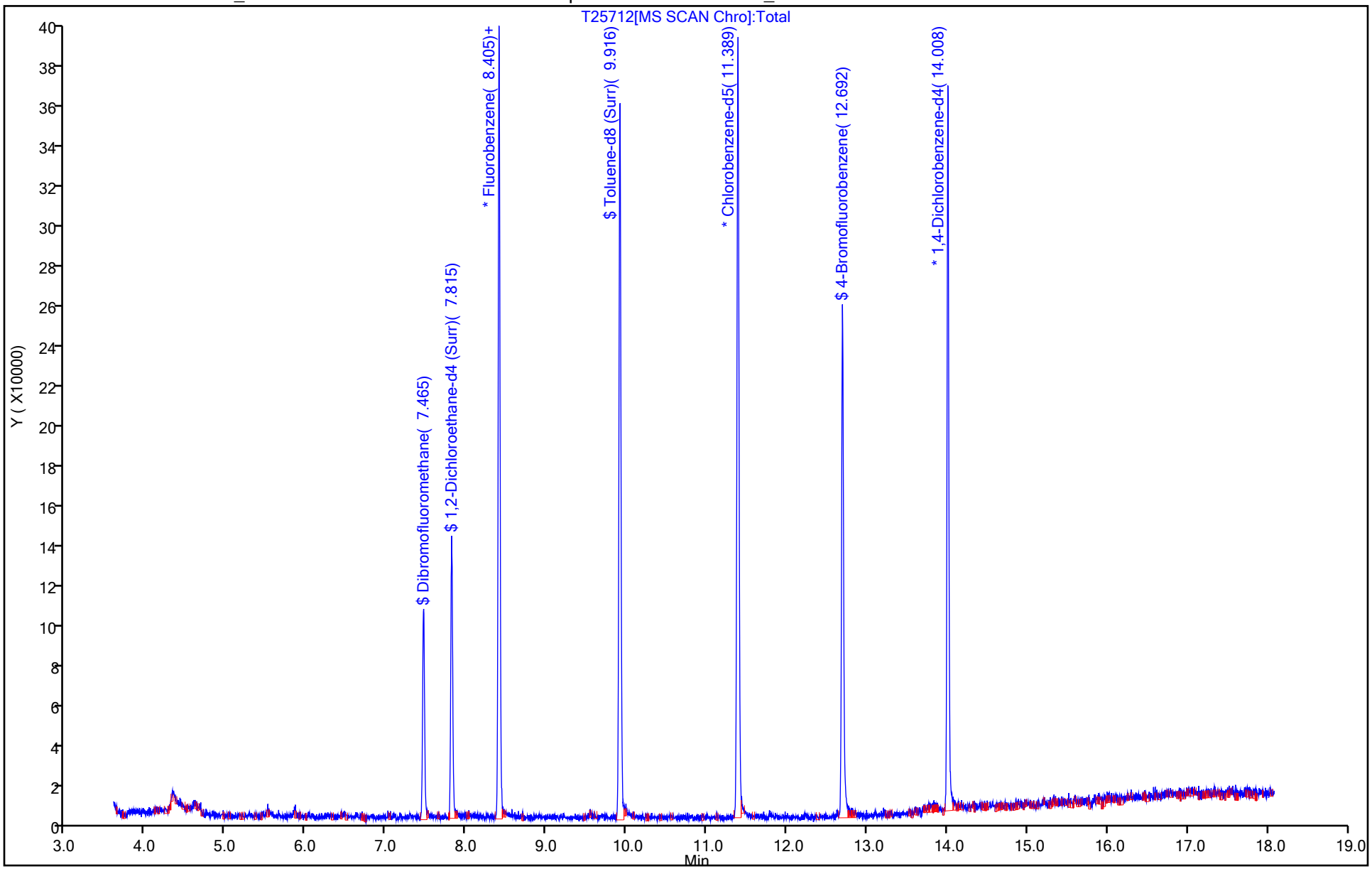

Eurofins TestAmerica, Houston
Recovery Report

Data File: \\chromna\Houston\ChromData\CHVOAMS10\20190914-31097.b\T25712.D
Lims ID: 600-191956-AB-2
Client ID: 11187072-091319-LL-EXC-1
Sample Type: Client
Inject. Date: 14-Sep-2019 14:26:30 ALS Bottle#: 12 Worklist Smp#: 14
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 600-191956-AB-2
Misc. Info.: 600-0031097-014
Operator ID: dt Instrument ID: CHVOAMS10

Method: \\chromna\Houston\ChromData\CHVOAMS10\20190914-31097.b\8260w5_10.m
Limit Group: VOA - 8260C_8260CLL
Last Update: 16-Sep-2019 11:33:14 Calib Date: 13-Sep-2019 13:01:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHVOAMS10\20190913-31078.b\T25609.D

Column 1 : Det: MS SCAN
Process Host: CTX0310

First Level Reviewer: somjitp Date: 16-Sep-2019 09:04:59

Compound	Amount Added	Amount Recovered	% Rec.
$ 52 Dibromofluoromethane	50.0	40.4	80.81
$ 64 1,2-Dichloroethane-d4 (Surr)	50.0	41.6	83.20
$ 93 Toluene-d8 (Surr)	50.0	38.4	76.86
$ 122 4-Bromofluorobenzene	50.0	49.8	99.52

Report Date: 17-Sep-2019 08:54:53 Chrom Revision: 2.3 22-Aug-2019 12:55:36

User Disabled Compound Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190914-31097.b\T25712.D				
Injection Date:	14-Sep-2019 14:26:30	Instrument ID:	CHVOAMS10		
Lims ID:	600-191956-AB-2	Lab Sample ID:	600-191956-2		
Client ID:	11187072-091319-LL-EXC-1				
Operator ID:	dt	ALS Bottle#:	12	Worklist Smp#:	14
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

22 Carbon disulfide, CAS: 75-15-0

Processing Results

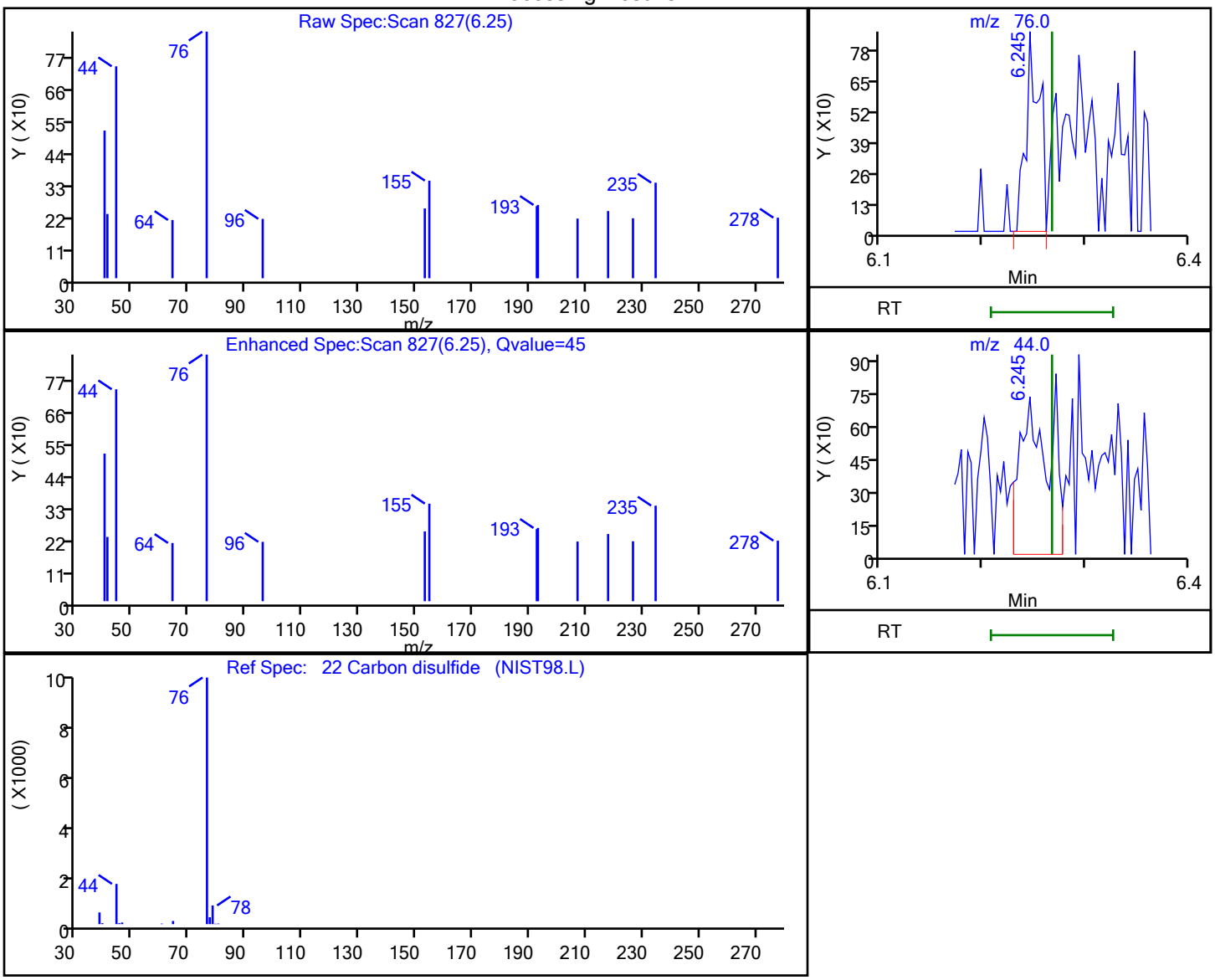

RT	Mass	Response	Amount
6.25	76.00	778	0.287350
6.25	44.00	1480	

Reviewer: somjitp, 16-Sep-2019 09:04:58

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Client Sample ID: TRIP BLANK Lab Sample ID: 600-191956-4

Matrix: Water Lab File ID: T25912.D

Analysis Method: 8260C Date Collected: 09/13/2019 00:00

Sample wt/vol: 5(mL) Date Analyzed: 09/16/2019 15:09

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-VRX 60 ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 274820 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-35-4	1,1-Dichloroethene	ND		5.0	0.76
107-06-2	1,2-Dichloroethane	ND		5.0	1.0
78-93-3	2-Butanone (MEK)	ND		10	1.6
71-43-2	Benzene	ND		5.0	0.56
75-15-0	Carbon disulfide	ND		10	1.7
56-23-5	Carbon tetrachloride	ND		5.0	0.92
108-90-7	Chlorobenzene	ND		5.0	0.82
179601-23-1	m-Xylene & p-Xylene	ND		5.0	1.3
95-47-6	o-Xylene	ND		5.0	0.93
79-01-6	Trichloroethene	ND		5.0	1.6
75-01-4	Vinyl chloride	ND		5.0	0.85
1330-20-7	Xylenes, Total	ND		5.0	2.0
67-66-3	Chloroform	ND		10	0.82
106-46-7	1,4-Dichlorobenzene	ND		5.0	0.91
87-68-3	Hexachlorobutadiene	ND		5.0	1.2
127-18-4	Tetrachloroethene	ND		5.0	1.2

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	81		50-134
460-00-4	4-Bromofluorobenzene	92		67-139
1868-53-7	Dibromofluoromethane	77		62-130
2037-26-5	Toluene-d8 (Surr)	76		70-130

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHVOAMS10\20190916-31110.b\T25912.D
Lims ID: 600-191956-A-4
Client ID: TRIP BLANK
Sample Type: Client
Inject. Date: 16-Sep-2019 15:09:30 ALS Bottle#: 12 Worklist Smp#: 14
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 600-191956-A-4
Misc. Info.: 600-0031110-014
Operator ID: dt Instrument ID: CHVOAMS10

Method: \\chromna\Houston\ChromData\CHVOAMS10\20190916-31110.b\8260w5_10.m
Limit Group: VOA - 8260C_8260CLL
Last Update: 17-Sep-2019 08:47:14 Calib Date: 13-Sep-2019 13:01:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHVOAMS10\20190913-31078.b\T25609.D

Column 1 : Det: MS SCAN
Process Host: CTX0328

First Level Reviewer: somjitp Date: 17-Sep-2019 08:48:19

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.411	8.405	0.006	96	224612	50.0	
4 Vinyl chloride	62		4.326				ND	
20 1,1-Dichloroethene	96		5.921				ND	
22 Carbon disulfide	76		6.261				ND	
56 2-Butanone (MEK)	72		7.070				ND	
48 Chloroform	83		7.365				ND	
$ 52 Dibromofluoromethane	113	7.464	7.469	0.000	91	46314	38.6	
$ 64 1,2-Dichloroethane-d4 (Sur	65	7.817	7.819	0.003	0	71265	40.6	
65 1,2-Dichloroethane	62		7.872				ND	
54 Carbon tetrachloride	119		8.235				ND	
63 Benzene	78		8.257				ND	
70 Trichloroethene	130		8.741				ND	
* 85 Chlorobenzene-d5	82	11.385	11.382	0.003	94	97471	50.0	
$ 93 Toluene-d8 (Surr)	98	9.916	9.917	0.003	96	181437	38.0	
98 Tetrachloroethene	164		10.718				ND	
S 104 Xylenes, Total	106		10.900				ND	
109 Chlorobenzene	112		11.418				ND	
111 m-Xylene & p-Xylene	91		11.783				ND	
112 o-Xylene	106		12.226				ND	
* 117 1,4-Dichlorobenzene-d4	152	14.007	14.004	0.003	95	75118	50.0	
$ 122 4-Bromofluorobenzene	95	12.691	12.687	0.006	87	70152	46.1	
140 1,4-Dichlorobenzene	146		14.030				ND	
148 Hexachlorobutadiene	190		16.616				ND	

Reagents:

VOAIS250PPM_00135 Amount Added: 1.00 Units: uL Run Reagent
VOASS250PPM_00112 Amount Added: 1.00 Units: uL Run Reagent

Report Date: 17-Sep-2019 08:48:20 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190916-31110.b\T25912.D				
Injection Date:	16-Sep-2019 15:09:30	Instrument ID:	CHVOAMS10	Operator ID:	dt
Lims ID:	600-191956-A-4	Lab Sample ID:	600-191956-4	Worklist Smp#:	14
Client ID:	TRIP BLANK				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		

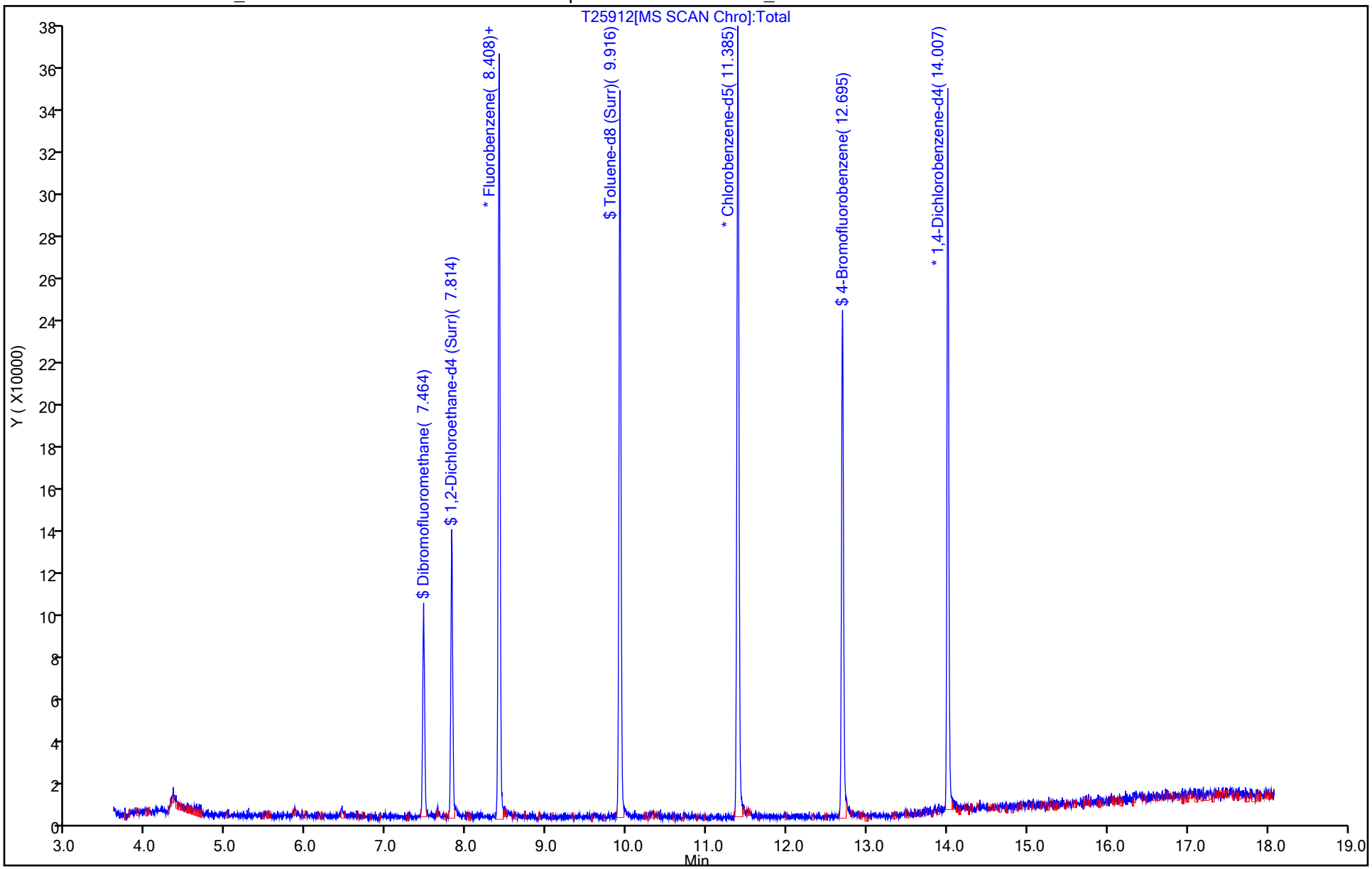

Eurofins TestAmerica, Houston
Recovery Report

Data File: \\chromna\Houston\ChromData\CHVOAMS10\20190916-31110.b\T25912.D
Lims ID: 600-191956-A-4
Client ID: TRIP BLANK
Sample Type: Client
Inject. Date: 16-Sep-2019 15:09:30 ALS Bottle#: 12 Worklist Smp#: 14
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 600-191956-A-4
Misc. Info.: 600-0031110-014
Operator ID: dt Instrument ID: CHVOAMS10

Method: \\chromna\Houston\ChromData\CHVOAMS10\20190916-31110.b\8260w5_10.m
Limit Group: VOA - 8260C_8260CLL
Last Update: 17-Sep-2019 08:47:14 Calib Date: 13-Sep-2019 13:01:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHVOAMS10\20190913-31078.b\T25609.D

Column 1 : Det: MS SCAN
Process Host: CTX0328

First Level Reviewer: somjitp Date: 17-Sep-2019 08:48:19

Compound	Amount Added	Amount Recovered	% Rec.
$ 52 Dibromofluoromethane	50.0	38.6	77.11
$ 64 1,2-Dichloroethane-d4 (Surr)	50.0	40.6	81.15
$ 93 Toluene-d8 (Surr)	50.0	38.0	76.07
$ 122 4-Bromofluorobenzene	50.0	46.1	92.16

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Client Sample ID: TRIP BLANK Lab Sample ID: 600-191956-5

Matrix: Water Lab File ID: T25913.D

Analysis Method: 8260C Date Collected: 09/13/2019 00:00

Sample wt/vol: 5(mL) Date Analyzed: 09/16/2019 15:47

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: DB-VRX 60 ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 274820 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-35-4	1,1-Dichloroethene	ND		5.0	0.76
107-06-2	1,2-Dichloroethane	ND		5.0	1.0
78-93-3	2-Butanone (MEK)	ND		10	1.6
71-43-2	Benzene	ND		5.0	0.56
75-15-0	Carbon disulfide	ND		10	1.7
56-23-5	Carbon tetrachloride	ND		5.0	0.92
108-90-7	Chlorobenzene	ND		5.0	0.82
179601-23-1	m-Xylene & p-Xylene	ND		5.0	1.3
95-47-6	o-Xylene	ND		5.0	0.93
79-01-6	Trichloroethene	ND		5.0	1.6
75-01-4	Vinyl chloride	ND		5.0	0.85
1330-20-7	Xylenes, Total	ND		5.0	2.0
67-66-3	Chloroform	ND		10	0.82
106-46-7	1,4-Dichlorobenzene	ND		5.0	0.91
87-68-3	Hexachlorobutadiene	ND		5.0	1.2
127-18-4	Tetrachloroethene	ND		5.0	1.2

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	79		50-134
460-00-4	4-Bromofluorobenzene	94		67-139
1868-53-7	Dibromofluoromethane	77		62-130
2037-26-5	Toluene-d8 (Surr)	77		70-130

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHVOAMS10\20190916-31110.b\T25913.D
Lims ID: 600-191956-A-5
Client ID: TRIP BLANK
Sample Type: Client
Inject. Date: 16-Sep-2019 15:47:30 ALS Bottle#: 13 Worklist Smp#: 15
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 600-191956-A-5
Misc. Info.: 600-0031110-015
Operator ID: dt Instrument ID: CHVOAMS10

Method: \\chromna\Houston\ChromData\CHVOAMS10\20190916-31110.b\8260w5_10.m
Limit Group: VOA - 8260C_8260CLL
Last Update: 17-Sep-2019 08:48:39 Calib Date: 13-Sep-2019 13:01:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHVOAMS10\20190913-31078.b\T25609.D

Column 1 : Det: MS SCAN
Process Host: CTX0328

First Level Reviewer: somjitp Date: 17-Sep-2019 08:48:39

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.407	8.405	0.002	96	226623	50.0	
4 Vinyl chloride	62		4.326				ND	
20 1,1-Dichloroethene	96		5.921				ND	
22 Carbon disulfide	76		6.261				ND	
56 2-Butanone (MEK)	72		7.070				ND	U
48 Chloroform	83		7.365				ND	
$ 52 Dibromofluoromethane	113	7.463	7.469	-0.001	91	46792	38.6	
$ 64 1,2-Dichloroethane-d4 (Sur	65	7.813	7.819	-0.001	0	70351	39.7	
65 1,2-Dichloroethane	62		7.872				ND	
54 Carbon tetrachloride	119		8.235				ND	
63 Benzene	78		8.257				ND	
70 Trichloroethene	130		8.741				ND	
* 85 Chlorobenzene-d5	82	11.381	11.382	-0.001	93	96866	50.0	
$ 93 Toluene-d8 (Surr)	98	9.912	9.917	-0.001	95	182282	38.4	
98 Tetrachloroethene	164		10.718				ND	
S 104 Xylenes, Total	106		10.900				ND	
109 Chlorobenzene	112		11.418				ND	
111 m-Xylene & p-Xylene	91		11.783				ND	
112 o-Xylene	106		12.226				ND	
* 117 1,4-Dichlorobenzene-d4	152	14.009	14.004	0.005	95	73416	50.0	
$ 122 4-Bromofluorobenzene	95	12.691	12.687	0.006	87	70206	47.2	
140 1,4-Dichlorobenzene	146		14.030				ND	
148 Hexachlorobutadiene	190		16.616				ND	

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

VOAIS250PPM_00135	Amount Added:	1.00	Units: uL	Run Reagent
VOASS250PPM_00112	Amount Added:	1.00	Units: uL	Run Reagent

Report Date: 17-Sep-2019 08:48:39 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190916-31110.b\T25913.D				
Injection Date:	16-Sep-2019 15:47:30	Instrument ID:	CHVOAMS10	Operator ID:	dt
Lims ID:	600-191956-A-5	Lab Sample ID:	600-191956-5	Worklist Smp#:	15
Client ID:	TRIP BLANK				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		

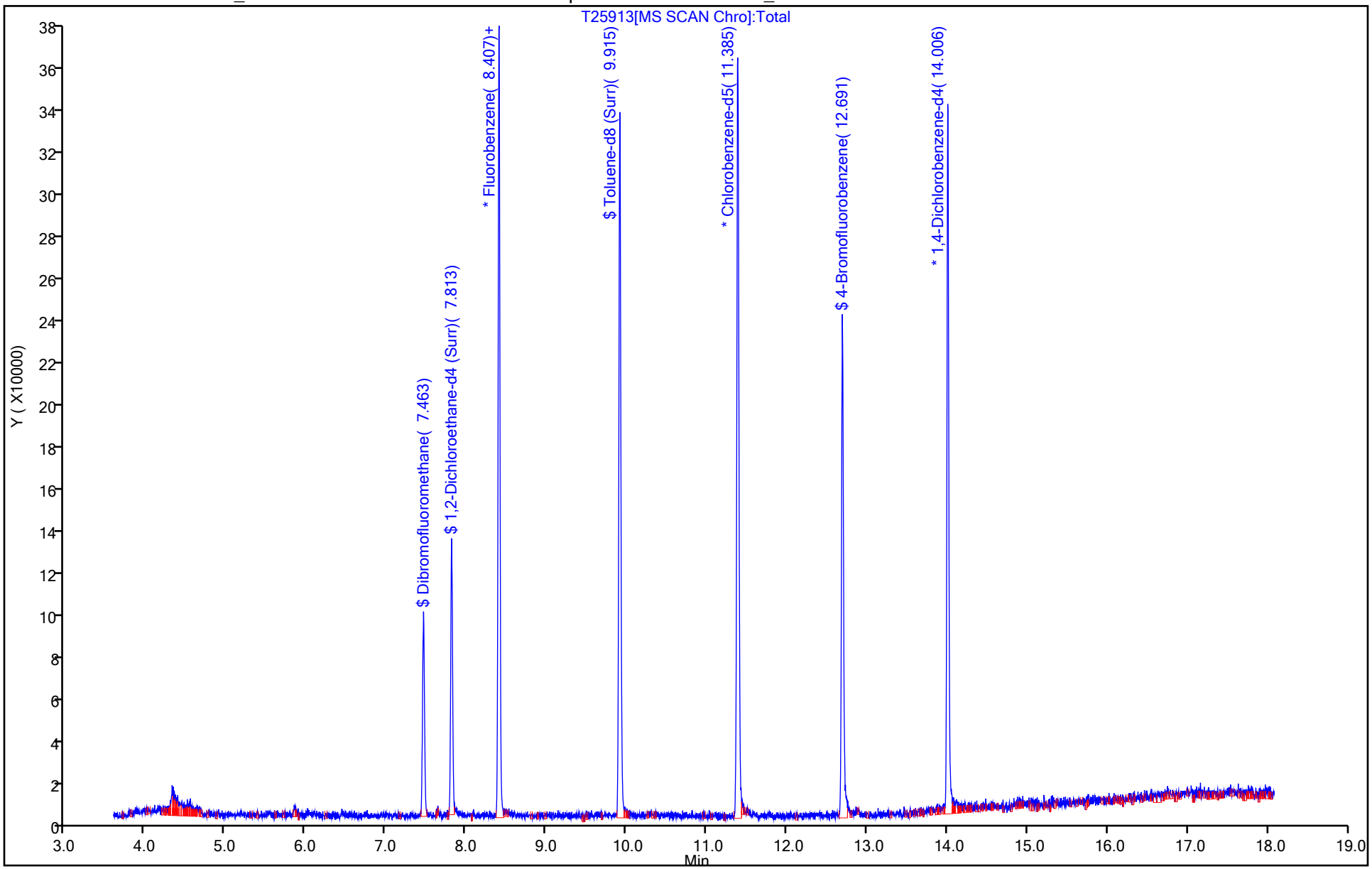

Eurofins TestAmerica, Houston
Recovery Report

Data File: \\chromna\Houston\ChromData\CHVOAMS10\20190916-31110.b\T25913.D
Lims ID: 600-191956-A-5
Client ID: TRIP BLANK
Sample Type: Client
Inject. Date: 16-Sep-2019 15:47:30 ALS Bottle#: 13 Worklist Smp#: 15
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 600-191956-A-5
Misc. Info.: 600-0031110-015
Operator ID: dt Instrument ID: CHVOAMS10

Method: \\chromna\Houston\ChromData\CHVOAMS10\20190916-31110.b\8260w5_10.m
Limit Group: VOA - 8260C_8260CLL
Last Update: 17-Sep-2019 08:48:39 Calib Date: 13-Sep-2019 13:01:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHVOAMS10\20190913-31078.b\T25609.D

Column 1 : Det: MS SCAN
Process Host: CTX0328

First Level Reviewer: somjitp Date: 17-Sep-2019 08:48:39

Compound	Amount Added	Amount Recovered	% Rec.
$ 52 Dibromofluoromethane	50.0	38.6	77.22
$ 64 1,2-Dichloroethane-d4 (Surr)	50.0	39.7	79.40
$ 93 Toluene-d8 (Surr)	50.0	38.4	76.90
$ 122 4-Bromofluorobenzene	50.0	47.2	94.37

Report Date: 17-Sep-2019 08:48:39 Chrom Revision: 2.3 22-Aug-2019 12:55:36

User Disabled Compound Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190916-31110.b\T25913.D				
Injection Date:	16-Sep-2019 15:47:30	Instrument ID:	CHVOAMS10		
Lims ID:	600-191956-A-5	Lab Sample ID:	600-191956-5		
Client ID:	TRIP BLANK				
Operator ID:	dt	ALS Bottle#:	13	Worklist Smp#:	15
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

56 2-Butanone (MEK), CAS: 78-93-3

Processing Results

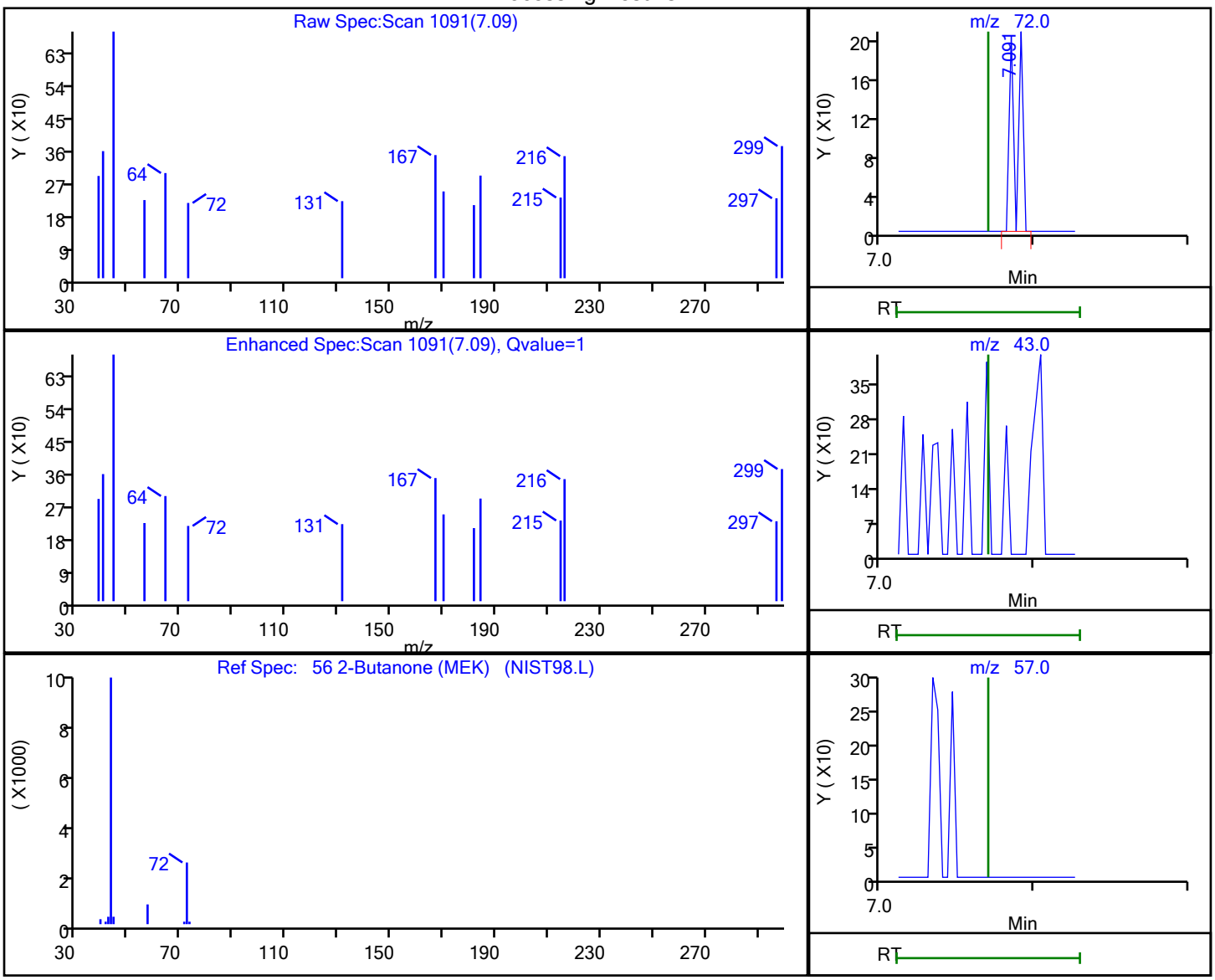

RT	Mass	Response	Amount
7.09	72.00	80	0.375871
7.07	43.00	0	
7.07	57.00	0	

Reviewer: somjitp, 17-Sep-2019 08:48:31

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 273322

SDG No.:

Instrument ID: CHVOAMS10 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/29/2019 13:40 Calibration End Date: 08/29/2019 16:10 Calibration ID: 16503

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-273322/4	T41002.D
Level 2	IC 600-273322/5	T41003.D
Level 3	IC 600-273322/6	T41004.D
Level 4	ICIS 600-273322/7	T41005.D
Level 5	IC 600-273322/8	T41006.D
Level 6	IC 600-273322/9	T41007.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Dichlorodifluoromethane	0.1530 0.1654	0.1595	0.1600	0.1616	0.1653	Ave		0.1608				2.9		20.0			
Chloromethane	0.4887 0.4790	0.4938	0.5002	0.4628	0.5032	Ave		0.4879			0.1000	3.1		20.0			
Vinyl chloride	0.2736 0.2948	0.3002	0.2960	0.2853	0.3031	Ave		0.2921				3.7		20.0			
Butadiene	0.6693 0.4185	0.3665	0.4498	0.3709	0.4131	Qua	0.6574	0.3782	0.0001889						0.9990		0.9900
Ethylene oxide	0.0611 0.0681	0.0536	0.0663	0.0504	0.0673	Ave		0.0611				12.4		20.0			
Bromomethane	0.1429 0.1428	0.1437	0.1406	0.1344	0.1475	Ave		0.1420				3.0		20.0			
Chloroethane	0.1301 0.1550	0.1499	0.1623	0.1453	0.1595	Ave		0.1503				7.8		20.0			
Dichlorofluoromethane	0.3193 0.3275	0.3110	0.3368	0.3240	0.3424	Ave		0.3268				3.5		20.0			
Acrolein	0.0425 0.0402	0.0431	0.0400	0.0391	0.0411	Ave		0.0410				3.8		20.0			
Acetonitrile	0.0398 0.0383	0.0339	0.0400	0.0374	0.0315	Ave		0.0368				9.3		20.0			
Trichlorofluoromethane	0.2343 0.3057	0.2825	0.2810	0.2703	0.2705	Ave		0.2741				8.5		20.0			
Isopropyl alcohol	0.0379 0.0278	0.0338	0.0315	0.0268	0.0275	Ave		0.0309				14.2		20.0			
Acetone	0.2204 0.1485	0.1793	0.1742	0.1586	0.1440	Ave		0.1708				16.4		20.0			
Ethyl ether	0.3173 0.2811	0.3087	0.3135	0.3061	0.2889	Ave		0.3026				4.8		20.0			
2-Methyl-2-propanol	0.0546 0.0553	0.0529	0.0577	0.0508	0.0550	Ave		0.0544				4.3		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 273322

SDG No.:

Instrument ID: CHVOAMS10 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/29/2019 13:40 Calibration End Date: 08/29/2019 16:10 Calibration ID: 16503

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,1-Dichloroethene	0.1040 0.1717	0.1467	0.1800	0.1497	0.1611	Ave		0.1522				17.6		20.0			
Acrylonitrile	0.1804 0.1790	0.1799	0.1868	0.1751	0.1805	Ave		0.1803				2.1		20.0			
Iodomethane	0.2306 0.3142	0.2609	0.2928	0.2863	0.3022	Ave		0.2812				10.9		20.0			
Methyl acetate	0.5750 0.5940	0.5594	0.5707	0.5484	0.5794	Ave		0.5712				2.8		20.0			
1,1,2-Trichloro-1,2,2-trifluoroethane	0.0783 0.1217	0.0755	0.0913	0.1010	0.1203	Lin1	-0.356	0.1208							0.9960		0.9900
Methylene Chloride	0.3203 0.1993	0.2414	0.2210	0.1998	0.2009	Lin2	0.6189	0.1907							0.9980		0.9900
3-Chloro-1-propene	0.1010 0.0766	0.0837	0.0913	0.0794	0.0712	Ave		0.0839				12.9		20.0			
Carbon disulfide	0.5968 0.5915	0.5849	0.5724	0.5527	0.5335	Ave		0.5720				4.3		20.0			
trans-1,2-Dichloroethene	0.2159 0.2136	0.1881	0.1980	0.2206	0.1857	Ave		0.2036				7.4		20.0			
Methyl-tert-butyl Ether (MTBE)	0.4276 0.4728	0.4391	0.4465	0.4322	0.4577	Ave		0.4460				3.8		20.0			
Propionitrile	0.0788 0.0802	0.0815	0.0831	0.0758	0.0788	Ave		0.0797				3.1		20.0			
1,1-Dichloroethane	0.5607 0.5213	0.5095	0.5527	0.5281	0.5267	Ave		0.5332			0.1000	3.7		20.0			
Vinyl acetate	1.0228 1.1325	1.0020	1.0733	1.0719	1.1335	Ave		1.0727				5.1		20.0			
2-Chloro-1,3-butadiene	0.6355 0.7138	0.6254	0.6573	0.6479	0.6418	Ave		0.6536				4.8		20.0			
Hexane	0.4203 0.4665	0.4094	0.4147	0.3944	0.4116	Ave		0.4195				5.9		20.0			
Isopropyl ether	1.4840 1.5142	1.3518	1.4371	1.3979	1.4327	Ave		1.4363				4.1		20.0			
2-Butanone (MEK)	0.0484 0.0460	0.0489	0.0484	0.0440	0.0460	Ave		0.0470				4.1		20.0			
Methacrylonitrile	0.0653 0.0664	0.0609	0.0647	0.0633	0.0645	Ave		0.0642				3.0		20.0			
cis-1,2-Dichloroethene	0.2981 0.2793	0.2837	0.2902	0.2789	0.2742	Ave		0.2841				3.1		20.0			
Ethyl acetate	0.7122 0.7939	0.6917	0.7497	0.7267	0.7663	Ave		0.7401				5.0		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 273322

SDG No.:

Instrument ID: CHVOAMS10 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/29/2019 13:40 Calibration End Date: 08/29/2019 16:10 Calibration ID: 16503

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Bromochloromethane	0.1646 0.1561	0.1577	0.1640	0.1537	0.1581	Ave		0.1590				2.7		20.0			
Chloroform	0.4668 0.4665	0.4598	0.4801	0.4606	0.4490	Ave		0.4638				2.2		20.0			
Ethyl tert-Butyl Ether (ETBE)	0.5158 0.6203	0.5318	0.5368	0.5376	0.5623	Ave		0.5508				6.8		20.0			
Isobutyl alcohol	0.0321 0.0335	0.0287	0.0265	0.0283	0.0282	Ave		0.0295				9.0		20.0			
2,2-Dichloropropane	0.2117 0.1776	0.1967	0.1987	0.1905	0.1802	Ave		0.1926				6.6		20.0			
Tetrahydrofuran	0.1973 0.2264	0.2173	0.2269	0.2162	0.2220	Ave		0.2177				5.0		20.0			
1,2-Dichloroethane	0.5300 0.5146	0.5039	0.5277	0.5108	0.5189	Ave		0.5176				1.9		20.0			
1,1,1-Trichloroethane	0.3687 0.3431	0.3257	0.3553	0.3329	0.3281	Ave		0.3423				4.9		20.0			
n-Butanol	0.0156 0.0157	0.0128	0.0137	0.0133	0.0158	Ave		0.0145				9.3		20.0			
1,1-Dichloropropene	0.3149 0.3484	0.3259	0.3359	0.3256	0.3167	Ave		0.3279				3.8		20.0			
Cyclohexane	0.1900 0.1813	0.1951	0.1898	0.1838	0.1745	Ave		0.1857				4.0		20.0			
Carbon tetrachloride	0.3161 0.3387	0.3177	0.3266	0.3009	0.2814	Ave		0.3136				6.4		20.0			
Benzene	1.0132 1.0396	1.0066	1.0470	0.9983	0.9975	Ave		1.0170				2.1		20.0			
tert-Amyl methyl ether (TAME)	0.3569 0.3397	0.3214	0.3368	0.3191	0.3278	Ave		0.3336				4.2		20.0			
Isooctane	0.3215 0.2703	0.2996	0.2885	0.2566	0.2541	Ave		0.2818				9.4		20.0			
Ethyl acrylate	0.9356 1.0079	0.9146	0.9582	0.9345	1.0009	Ave		0.9586				4.0		20.0			
n-Heptane	0.3425 0.4033	0.3435	0.3421	0.3241	0.3568	Ave		0.3520				7.7		20.0			
Dibromomethane	0.2148 0.1911	0.1921	0.1981	0.1920	0.1916	Ave		0.1966				4.7		20.0			
1,2-Dichloropropane	0.3506 0.3527	0.3469	0.3589	0.3508	0.3447	Ave		0.3508				1.4		20.0			
2-Nitropropane	0.2780 0.2681	0.2566	0.2856	0.2702	0.2813	Ave		0.2733				3.8		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 273322

SDG No.:

Instrument ID: CHVOAMS10 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/29/2019 13:40 Calibration End Date: 08/29/2019 16:10 Calibration ID: 16503

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Trichloroethene	0.2828 0.3007	0.2877	0.2983	0.2846	0.2792	Ave		0.2889				3.0		20.0			
Bromodichloromethane	0.3917 0.3709	0.3671	0.3912	0.3757	0.3734	Ave		0.3783				2.8		20.0			
Methyl methacrylate	0.6055 0.6693	0.5999	0.6547	0.6349	0.6689	Ave		0.6389				4.8		20.0			
1,4-Dioxane	0.0029 0.0028	0.0024	0.0026	0.0023	0.0029	Ave		0.0026				10.1		20.0			
2-Chloroethyl vinyl ether	0.5125 0.4911	0.4673	0.4620	0.4856	0.4911	Ave		0.4849				3.8		20.0			
Methylcyclohexane	0.2239 0.2092	0.2144	0.2225	0.2079	0.2045	Ave		0.2137				3.7		20.0			
cis-1,3-Dichloropropene	1.1473 1.2164	1.1108	1.0910	1.1415	1.1970	Ave		1.1507				4.2		20.0			
4-Methyl-2-pentanone (MIBK)	0.7229 0.7380	0.7042	0.7540	0.7028	0.7565	Ave		0.7297				3.2		20.0			
trans-1,3-Dichloropropene	1.1062 1.1871	1.0613	1.1066	1.1257	1.1901	Ave		1.1295				4.5		20.0			
1,1,2-Trichloroethane	0.6888 0.6983	0.6814	0.6566	0.6951	0.7167	Ave		0.6895				2.9		20.0			
Ethyl methacrylate	1.1167 1.2276	1.0346	1.1230	1.1626	1.2111	Ave		1.1459				6.2		20.0			
Toluene	1.7085 1.8086	1.5735	1.6023	1.6372	1.6931	Ave		1.6705				5.1		20.0			
1,3-Dichloropropane	1.1769 1.1528	0.9679	1.0741	1.1091	1.0855	Ave		1.0944				6.7		20.0			
2-Hexanone	1.2522 1.5818	1.2330	1.3014	1.3918	1.5486	Ave		1.3848				10.9		20.0			
Dibromochloromethane	0.8674 0.8714	0.7953	0.8196	0.8405	0.8866	Ave		0.8468				4.1		20.0			
n-Butyl acetate	2.6435 3.1714	2.4707	2.5910	2.8397	3.0927	Ave		2.8015				10.1		20.0			
1,2-Dibromoethane (EDB)	0.7386 0.7986	0.7014	0.7385	0.7808	0.8076	Ave		0.7609				5.4		20.0			
Tetrachloroethene	0.5011 0.5453	0.4642	0.4843	0.5076	0.5104	Ave		0.5022				5.4		20.0			
1-Chlorohexane	0.8744 0.8711	0.8490	0.8064	0.8297	0.8055	Ave		0.8393				3.6		20.0			
1,1,1,2-Tetrachloroethane	0.6433 0.6998	0.6669	0.6743	0.7005	0.6911	Ave		0.6793				3.3		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 273322

SDG No.:

Instrument ID: CHVOAMS10 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/29/2019 13:40 Calibration End Date: 08/29/2019 16:10 Calibration ID: 16503

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Chlorobenzene	1.8529 1.8416	1.7823	1.7773	1.7965	1.8160	Ave		1.8111			0.3000	1.7		20.0			
Ethylbenzene	0.9409 0.9609	0.9058	0.9170	0.9556	0.9284	Ave		0.9348				2.3		20.0			
m-Xylene & p-Xylene	2.3523 2.3017	2.2122	2.2367	2.2378	2.2394	Ave		2.2634				2.3		20.0			
Bromoform	0.6377 0.6609	0.6732	0.6924	0.6592	0.6626	Ave		0.6643			0.1000	2.7		20.0			
Styrene	1.8256 1.8686	1.7590	1.8085	1.8301	1.8680	Ave		1.8266				2.2		20.0			
Cyclohexanone	0.0530 0.0473	0.0414	0.0419	0.0366	0.0440	Ave		0.0440				12.8		20.0			
o-Xylene	1.2015 1.0816	1.0935	1.0828	1.0964	1.0797	Ave		1.1059				4.3		20.0			
1,1,2,2-Tetrachloroethane	1.2571 1.1603	1.1991	1.2437	1.1314	1.1463	Ave		1.1896			0.3000	4.4		20.0			
trans-1,4-Dichloro-2-butene	0.3722 0.5991	0.3961	0.4408	0.4886	0.5608	Ave		0.4763				19.0		20.0			
1,2,3-Trichloropropane	0.3809 0.3433	0.3659	0.3875	0.3592	0.3492	Ave		0.3644				4.8		20.0			
Isopropylbenzene	3.0906 2.8938	3.1159	3.1460	3.0414	2.8168	Ave		3.0174				4.4		20.0			
Bromobenzene	0.8689 0.8641	0.8708	0.9164	0.8771	0.8670	Ave		0.8774				2.2		20.0			
N-Propylbenzene	0.7947 0.7340	0.8008	0.8215	0.7932	0.7339	Ave		0.7797				4.7		20.0			
2-Chlorotoluene	0.8021 0.7454	0.7278	0.8229	0.7834	0.7240	Ave		0.7676				5.4		20.0			
4-Chlorotoluene	2.3392 2.1627	2.2346	2.3549	2.2442	2.1491	Ave		2.2474				3.8		20.0			
1,3,5-Trimethylbenzene	2.3900 2.1427	2.3223	2.4186	2.3072	2.1043	Ave		2.2809				5.7		20.0			
tert-Butylbenzene	1.8280 1.5555	1.7273	1.7581	1.6906	1.5050	Ave		1.6774				7.4		20.0			
1,2,4-Trimethylbenzene	2.4763 2.2476	2.3516	2.4806	2.3942	2.2267	Ave		2.3628				4.6		20.0			
sec-Butylbenzene	2.3259 1.9776	2.3623	2.3193	2.1877	1.9634	Ave		2.1894				8.2		20.0			
Benzyl chloride	2.2130 2.4124	2.0076	2.2207	2.1191	2.2749	Ave		2.2079				6.2		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 273322

SDG No.:

Instrument ID: CHVOAMS10 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/29/2019 13:40 Calibration End Date: 08/29/2019 16:10 Calibration ID: 16503

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,3-Dichlorobenzene	1.4251 1.3765	1.3536	1.4324	1.3739	1.3400	Ave		1.3836				2.7		20.0			
4-Isopropyltoluene	1.9311 1.7582	1.9931	1.9886	1.9274	1.7144	Ave		1.8855				6.3		20.0			
1,4-Dichlorobenzene	1.5045 1.4473	1.4257	1.4552	1.4431	1.4164	Ave		1.4487				2.1		20.0			
1,2,3-Trimethylbenzene	2.4301 2.3391	2.3124	2.4955	2.3831	2.2829	Ave		2.3738				3.3		20.0			
1,2-Dichlorobenzene	1.4636 1.3829	1.3054	1.3733	1.3221	1.3368	Ave		1.3640				4.2		20.0			
n-Butylbenzene	1.5890 1.3119	1.4906	1.5164	1.4466	1.2816	Ave		1.4393				8.3		20.0			
1,2-Dibromo-3-Chloropropane	0.2456 0.2659	0.2298	0.2443	0.2216	0.2484	Ave		0.2426				6.4		20.0			
1,3,5-Trichlorobenzene	0.6901 0.6033	0.6906	0.7079	0.6713	0.6016	Ave		0.6608				7.1		20.0			
1,2,4-Trichlorobenzene	0.7493 0.5933	0.6636	0.6923	0.6676	0.6146	Ave		0.6635				8.4		20.0			
Naphthalene	2.9317 2.5959	2.4794	2.6159	2.5373	2.6232	Ave		2.6306				6.0		20.0			
Hexachlorobutadiene	0.1160 0.0729	0.0971	0.1029	0.0877	0.0721	Ave		0.0915				18.9		20.0			
1,2,3-Trichlorobenzene	0.6285 0.5348	0.6123	0.6411	0.5833	0.5623	Ave		0.5937				6.9		20.0			
Dibromofluoromethane	0.2778 0.2713	0.2612	0.2705	0.2622	0.2613	Ave		0.2674				2.6		20.0			
1,2-Dichloroethane-d4 (Surr)	0.4055 0.3851	0.3817	0.4014	0.3859	0.3862	Ave		0.3910				2.5		20.0			
Toluene-d8 (Surr)	2.5744 2.6355	2.3024	2.2762	2.4252	2.4691	Ave		2.4471				5.9		20.0			
4-Bromofluorobenzene	1.0513 0.9445	1.0119	1.0712	1.0216	0.9794	Ave		1.0133				4.6		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 273322

SDG No.:

Instrument ID: CHVOAMS10 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/29/2019 13:40 Calibration End Date: 08/29/2019 16:10 Calibration ID: 16503

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-273322/4	T41002.D
Level 2	IC 600-273322/5	T41003.D
Level 3	IC 600-273322/6	T41004.D
Level 4	ICIS 600-273322/7	T41005.D
Level 5	IC 600-273322/8	T41006.D
Level 6	IC 600-273322/9	T41007.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Dichlorodifluoromethane	FB	Ave	5611 259644	12057	23769	63085	126094	5.00 200	10.0	20.0	50.0	100
Chloromethane	FB	Ave	17928 751954	37326	74306	180633	383915	5.00 200	10.0	20.0	50.0	100
Vinyl chloride	FB	Ave	10038 462738	22692	43967	111346	231221	5.00 200	10.0	20.0	50.0	100
Butadiene	FB	Qua	24552 656994	27701	66821	144749	315149	5.00 200	10.0	20.0	50.0	100
Ethylene oxide	FB	Ave	22421 1069026	40532	98459	196661	513785	50.0 2000	100	200	500	1000
Bromomethane	FB	Ave	5243 224249	10859	20889	52475	112558	5.00 200	10.0	20.0	50.0	100
Chloroethane	FB	Ave	4772 243310	11330	24106	56699	121715	5.00 200	10.0	20.0	50.0	100
Dichlorofluoromethane	FB	Ave	11713 514135	23512	50031	126467	261207	5.00 200	10.0	20.0	50.0	100
Acrolein	FB	Ave	7804 315388	16274	29680	76367	156733	25.0 1000	50.0	100	250	500
Acetonitrile	FB	Ave	14618 601303	25613	59407	146036	240648	50.0 2000	100	200	500	1000
Trichlorofluoromethane	FB	Ave	8595 479962	21354	41738	105513	206394	5.00 200	10.0	20.0	50.0	100
Isopropyl alcohol	FB	Ave	13896 436364	25562	46740	104571	209507	50.0 2000	100	200	500	1000
Acetone	FB	Ave	16172 466132	27105	51743	123819	219767	10.0 400	20.0	40.0	100	200
Ethyl ether	FB	Ave	11640 441266	23335	46572	119488	220396	5.00 200	10.0	20.0	50.0	100
2-Methyl-2-propanol	FB	Ave	20047 868826	39968	85702	198123	419938	50.0 2000	100	200	500	1000
1,1-Dichloroethene	FB	Ave	3816 269620	11092	26742	58424	122906	5.00 200	10.0	20.0	50.0	100

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 273322

SDG No.:

Instrument ID: CHVOAMS10 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/29/2019 13:40 Calibration End Date: 08/29/2019 16:10 Calibration ID: 16503

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Acrylonitrile	FB	Ave	66182 2810469	136018	277458	683387	1377258	50.0 2000	100	200	500	1000
Iodomethane	FB	Ave	8460 493233	19724	43499	111758	230549	5.00 200	10.0	20.0	50.0	100
Methyl acetate	FB	Ave	42187 1865170	84575	169559	428097	884070	10.0 400	20.0	40.0	100	200
1,1,2-Trichloro-1,2,2-trifluoroetha ne	FB	Lin1	2873 191034	5710	13556	39418	91812	5.00 200	10.0	20.0	50.0	100
Methylene Chloride	FB	Lin2	11750 312851	18245	32827	77976	153304	5.00 200	10.0	20.0	50.0	100
3-Chloro-1-propene	FB	Ave	3706 120250	6325	13556	30981	54319	5.00 200	10.0	20.0	50.0	100
Carbon disulfide	FB	Ave	21893 928611	44213	85036	215721	407034	5.00 200	10.0	20.0	50.0	100
trans-1,2-Dichloroethene	FB	Ave	7919 335367	14220	29417	86081	141659	5.00 200	10.0	20.0	50.0	100
Methyl-tert-butyl Ether (MTBE)	FB	Ave	15687 742194	33188	66327	168690	349204	5.00 200	10.0	20.0	50.0	100
Propionitrile	FB	Ave	28924 1258421	61596	123449	296018	601508	50.0 2000	100	200	500	1000
1,1-Dichloroethane	FB	Ave	20569 818423	38512	82109	206125	401833	5.00 200	10.0	20.0	50.0	100
Vinyl acetate	FB	Ave	75040 3555813	151484	318905	836748	1729674	10.0 400	20.0	40.0	100	200
2-Chloro-1,3-butadiene	FB	Ave	23313 1120617	47275	97651	252890	489652	5.00 200	10.0	20.0	50.0	100
Hexane	FB	Ave	15419 732324	30944	61605	153930	314042	5.00 200	10.0	20.0	50.0	100
Isopropyl ether	FB	Ave	54442 2377160	102182	213497	545604	1093112	5.00 200	10.0	20.0	50.0	100
2-Butanone (MEK)	FB	Ave	3551 144574	7399	14369	34371	70153	10.0 400	20.0	40.0	100	200
Methacrylonitrile	FB	Ave	23947 1042696	46037	96128	247221	492033	50.0 2000	100	200	500	1000
cis-1,2-Dichloroethene	FB	Ave	10935 438524	21446	43108	108839	209221	5.00 200	10.0	20.0	50.0	100
Ethyl acetate	FB	Ave	52251 2492786	104577	222752	567270	1169322	10.0 400	20.0	40.0	100	200
Bromochloromethane	FB	Ave	6037 245061	11922	24359	59997	120629	5.00 200	10.0	20.0	50.0	100
Chloroform	FB	Ave	17123 732307	34759	71321	179757	342568	5.00 200	10.0	20.0	50.0	100

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 273322

SDG No.:

Instrument ID: CHVOAMS10 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/29/2019 13:40 Calibration End Date: 08/29/2019 16:10 Calibration ID: 16503

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Ethyl tert-Butyl Ether (ETBE)	FB	Ave	18924 973808	40200	79744	209818	428996	5.00 200	10.0	20.0	50.0	100
Isobutyl alcohol	FB	Ave	29434 1315298	54153	98506	276214	537253	125 5000	250	500	1250	2500
2,2-Dichloropropane	FB	Ave	7768 278822	14869	29525	74364	137512	5.00 200	10.0	20.0	50.0	100
Tetrahydrofuran	FB	Ave	14475 710873	32857	67414	168782	338750	10.0 400	20.0	40.0	100	200
1,2-Dichloroethane	FB	Ave	19442 807926	38086	78388	199349	395902	5.00 200	10.0	20.0	50.0	100
1,1,1-Trichloroethane	FB	Ave	13525 538684	24623	52788	129940	250316	5.00 200	10.0	20.0	50.0	100
n-Butanol	FB	Ave	14288 616171	24264	51030	129700	300751	125 5000	250	500	1250	2500
1,1-Dichloropropene	FB	Ave	11553 546884	24637	49902	127084	241672	5.00 200	10.0	20.0	50.0	100
Cyclohexane	FB	Ave	6969 284638	14747	28198	71740	133103	5.00 200	10.0	20.0	50.0	100
Carbon tetrachloride	FB	Ave	11595 531723	24014	48523	117440	214698	5.00 200	10.0	20.0	50.0	100
Benzene	FB	Ave	37170 1632103	76090	155536	389627	761085	5.00 200	10.0	20.0	50.0	100
tert-Amyl methyl ether (TAME)	FB	Ave	13093 533328	24297	50032	124533	250138	5.00 200	10.0	20.0	50.0	100
Isooctane	FB	Ave	11795 424402	22647	42859	100143	193842	5.00 200	10.0	20.0	50.0	100
Ethyl acrylate	FB	Ave	34322 1582242	69136	142347	364740	763696	5.00 200	10.0	20.0	50.0	100
n-Heptane	FB	Ave	12563 633189	25963	50824	126476	272207	5.00 200	10.0	20.0	50.0	100
Dibromomethane	FB	Ave	7879 300039	14522	29432	74934	146180	5.00 200	10.0	20.0	50.0	100
1,2-Dichloropropane	FB	Ave	12860 553765	26221	53319	136897	262993	5.00 200	10.0	20.0	50.0	100
2-Nitropropane	FB	Ave	20399 841719	38796	84852	210891	429255	10.0 400	20.0	40.0	100	200
Trichloroethene	FB	Ave	10373 472110	21747	44313	111089	213047	5.00 200	10.0	20.0	50.0	100
Bromodichloromethane	FB	Ave	14368 582306	27750	58120	146641	284884	5.00 200	10.0	20.0	50.0	100
Methyl methacrylate	FB	Ave	44425 2101520	90697	194506	495629	1020757	10.0 400	20.0	40.0	100	200

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 273322

SDG No.:

Instrument ID: CHVOAMS10 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/29/2019 13:40 Calibration End Date: 08/29/2019 16:10 Calibration ID: 16503

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
1,4-Dioxane	FB	Ave	2140 87336	3554	7792	17841	43629	100 4000	200	400	1000	2000
2-Chloroethyl vinyl ether	CBNZ d5	Ave	14470 549093	27664	56076	145269	277797	10.0 400	20.0	40.0	100	200
Methylcyclohexane	FB	Ave	8212 328372	16207	33052	81144	156043	5.00 200	10.0	20.0	50.0	100
cis-1,3-Dichloropropene	CBNZ d5	Ave	16198 680018	32879	66216	170757	338549	5.00 200	10.0	20.0	50.0	100
4-Methyl-2-pentanone (MIBK)	FB	Ave	53040 2317202	106459	224025	548575	1154399	10.0 400	20.0	40.0	100	200
trans-1,3-Dichloropropene	CBNZ d5	Ave	15617 663614	31412	67163	168386	336589	5.00 200	10.0	20.0	50.0	100
1,1,2-Trichloroethane	CBNZ d5	Ave	9724 390373	20167	39851	103982	202699	5.00 200	10.0	20.0	50.0	100
Ethyl methacrylate	CBNZ d5	Ave	15765 686252	30622	68157	173917	342540	5.00 200	10.0	20.0	50.0	100
Toluene	CBNZ d5	Ave	24120 1011060	46572	97247	244913	478867	5.00 200	10.0	20.0	50.0	100
1,3-Dichloropropane	CBNZ d5	Ave	16615 644426	28647	65190	165913	307000	5.00 200	10.0	20.0	50.0	100
2-Hexanone	CBNZ d5	Ave	35357 1768461	72989	157975	416393	875963	10.0 400	20.0	40.0	100	200
Dibromochloromethane	CBNZ d5	Ave	12246 487125	23541	49745	125730	250745	5.00 200	10.0	20.0	50.0	100
n-Butyl acetate	CBNZ d5	Ave	37321 1772891	73128	157257	424789	874689	5.00 200	10.0	20.0	50.0	100
1,2-Dibromoethane (EDB)	CBNZ d5	Ave	10428 446449	20761	44823	116797	228411	5.00 200	10.0	20.0	50.0	100
Tetrachloroethene	CBNZ d5	Ave	7075 304860	13739	29391	75938	144366	5.00 200	10.0	20.0	50.0	100
1-Chlorohexane	CBNZ d5	Ave	12345 486950	25128	48940	124120	227810	5.00 200	10.0	20.0	50.0	100
1,1,1,2-Tetrachloroethane	CBNZ d5	Ave	9082 391220	19740	40923	104787	195455	5.00 200	10.0	20.0	50.0	100
Chlorobenzene	CBNZ d5	Ave	26159 1029517	52753	107872	268733	513620	5.00 200	10.0	20.0	50.0	100
Ethylbenzene	CBNZ d5	Ave	13284 537135	26811	55655	142953	262567	5.00 200	10.0	20.0	50.0	100
m-Xylene & p-Xylene	CBNZ d5	Ave	33209 1286693	65479	135755	334752	633363	5.00 200	10.0	20.0	50.0	100
Bromoform	DCBd 4	Ave	7280 310907	15899	32584	80160	159556	5.00 200	10.0	20.0	50.0	100

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 273322

SDG No.:

Instrument ID: CHVOAMS10 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/29/2019 13:40 Calibration End Date: 08/29/2019 16:10 Calibration ID: 16503

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Styrene	CBNZ d5	Ave	25773 1044610	52063	109762	273768	528321	5.00 200	10.0	20.0	50.0	100
Cyclohexanone	CBNZ d5	Ave	37434 1322936	61339	127072	273812	621535	250 10000	500	1000	2500	5000
o-Xylene	CBNZ d5	Ave	16963 604645	32367	65720	164005	305370	5.00 200	10.0	20.0	50.0	100
1,1,2,2-Tetrachloroethane	DCBd 4	Ave	14352 545804	28320	58523	137568	276022	5.00 200	10.0	20.0	50.0	100
trans-1,4-Dichloro-2-butene	DCBd 4	Ave	4249 281843	9354	20742	59413	135042	5.00 200	10.0	20.0	50.0	100
1,2,3-Trichloropropane	DCBd 4	Ave	4349 161499	8642	18237	43676	84088	5.00 200	10.0	20.0	50.0	100
Isopropylbenzene	DCBd 4	Ave	35284 1361282	73589	148040	369823	678280	5.00 200	10.0	20.0	50.0	100
Bromobenzene	DCBd 4	Ave	9920 406486	20567	43122	106651	208774	5.00 200	10.0	20.0	50.0	100
N-Propylbenzene	DCBd 4	Ave	9073 345259	18913	38656	96444	176726	5.00 200	10.0	20.0	50.0	100
2-Chlorotoluene	DCBd 4	Ave	9157 350624	17188	38722	95256	174330	5.00 200	10.0	20.0	50.0	100
4-Chlorotoluene	DCBd 4	Ave	26705 1017332	52776	110815	272881	517497	5.00 200	10.0	20.0	50.0	100
1,3,5-Trimethylbenzene	DCBd 4	Ave	27285 1007954	54847	113813	280544	506729	5.00 200	10.0	20.0	50.0	100
tert-Butylbenzene	DCBd 4	Ave	20869 731715	40793	82729	205567	362411	5.00 200	10.0	20.0	50.0	100
1,2,4-Trimethylbenzene	DCBd 4	Ave	28271 1057278	55539	116728	291124	536201	5.00 200	10.0	20.0	50.0	100
sec-Butylbenzene	DCBd 4	Ave	26554 930272	55791	109142	266013	472795	5.00 200	10.0	20.0	50.0	100
Benzyl chloride	DCBd 4	Ave	25265 1134804	47413	104498	257669	547789	5.00 200	10.0	20.0	50.0	100
1,3-Dichlorobenzene	DCBd 4	Ave	16270 647503	31968	67406	167061	322666	5.00 200	10.0	20.0	50.0	100
4-Isopropyltoluene	DCBd 4	Ave	22046 827080	47071	93580	234360	412835	5.00 200	10.0	20.0	50.0	100
1,4-Dichlorobenzene	DCBd 4	Ave	17176 680829	33670	68478	175475	341069	5.00 200	10.0	20.0	50.0	100
1,2,3-Trimethylbenzene	DCBd 4	Ave	27743 1100344	54613	117430	289772	549726	5.00 200	10.0	20.0	50.0	100
1,2-Dichlorobenzene	DCBd 4	Ave	16709 650536	30831	64625	160762	321903	5.00 200	10.0	20.0	50.0	100

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 273322

SDG No.:

Instrument ID: CHVOAMS10 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/29/2019 13:40 Calibration End Date: 08/29/2019 16:10 Calibration ID: 16503

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
n-Butylbenzene	DCBd 4	Ave	18141 617107	35203	71359	175896	308609	5.00 200	10.0	20.0	50.0	100
1,2-Dibromo-3-Chloropropane	DCBd 4	Ave	2804 125094	5428	11496	26940	59827	5.00 200	10.0	20.0	50.0	100
1,3,5-Trichlorobenzene	DCBd 4	Ave	7878 283785	16310	33314	81621	144857	5.00 200	10.0	20.0	50.0	100
1,2,4-Trichlorobenzene	DCBd 4	Ave	8554 279116	15673	32580	81175	147992	5.00 200	10.0	20.0	50.0	100
Naphthalene	DCBd 4	Ave	33470 1221137	58556	123098	308526	631662	5.00 200	10.0	20.0	50.0	100
Hexachlorobutadiene	DCBd 4	Ave	1324 34313	2294	4840	10665	17360	5.00 200	10.0	20.0	50.0	100
1,2,3-Trichlorobenzene	DCBd 4	Ave	7175 251594	14461	30168	70931	135404	5.00 200	10.0	20.0	50.0	100
Dibromofluoromethane	FB	Ave	10192 425968	19746	40186	102327	199360	5.00 200	10.0	20.0	50.0	100
1,2-Dichloroethane-d4 (Surr)	FB	Ave	14874 604592	28853	59638	150601	294633	5.00 200	10.0	20.0	50.0	100
Toluene-d8 (Surr)	CBNZ d5	Ave	36345 1473313	68146	138152	362786	698321	5.00 200	10.0	20.0	50.0	100
4-Bromofluorobenzene	DCBd 4	Ave	12002 444314	23899	50406	124216	235841	5.00 200	10.0	20.0	50.0	100

Curve Type Legend:

Ave = Average ISTD
Lin1 = Linear 1/conc ISTD
Lin2 = Linear 1/conc^2 ISTD
Qua = Quadratic ISTD

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 273322

SDG No.:

Instrument ID: CHVOAMS10 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/29/2019 13:40 Calibration End Date: 08/29/2019 16:10 Calibration ID: 16503

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-273322/4	T41002.D
Level 2	IC 600-273322/5	T41003.D
Level 3	IC 600-273322/6	T41004.D
Level 4	ICIS 600-273322/7	T41005.D
Level 5	IC 600-273322/8	T41006.D
Level 6	IC 600-273322/9	T41007.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
1,1,2-Trichloro-1,2,2-trifluoroethane	23.7						30					
Methylene Chloride	3.0						30					

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41002.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 29-Aug-2019 13:40:30 ALS Bottle#: 2 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: ic
Misc. Info.: 600-0030818-004
Operator ID: dt Instrument ID: CHVOAMS10
Sublist: chrom-8260w5_10*sub37

Method: \\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\8260w5_10.m
Limit Group: VOA - 8260C_8260CLL
Last Update: 06-Sep-2019 14:07:48 Calib Date: 29-Aug-2019 16:10:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41007.D

Column 1 : Det: MS SCAN
Process Host: CTX0307

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.410	8.406	0.004	97	366851	50.0	50.0	
2 Dichlorodifluoromethane	85	3.860	3.853	0.007	23	5611	5.00	4.76	a
3 Chloromethane	50	4.120	4.123	-0.003	82	17928	5.00	5.01	a
4 Vinyl chloride	62	4.328	4.318	0.010	35	10038	5.00	4.68	a
5 Butadiene	39	4.399	4.437	-0.038	76	24552	5.00	7.09	a
10 Ethylene oxide	44	4.672	4.684	-0.012	97	22421	50.0	50.0	M
7 Bromomethane	94	4.771	4.784	-0.013	66	5243	5.00	5.03	
11 Chloroethane	64	4.938	4.912	0.026	44	4772	5.00	4.33	a
13 Dichlorofluoromethane	67	4.954	4.944	0.010	37	11713	5.00	4.88	
24 Acrolein	56	5.410	5.406	0.004	85	7804	25.0	25.9	
16 Acetonitrile	41	5.426	5.422	0.004	99	14618	50.0	54.1	
12 Trichlorofluoromethane	101	5.455	5.435	0.020	45	8595	5.00	4.27	
19 Isopropyl alcohol	45	5.461	5.458	0.003	75	13896	50.0	61.4	
27 Acetone	43	5.525	5.522	0.003	96	16172	10.0	12.9	
15 Ethyl ether	59	5.612	5.608	0.004	94	11640	5.00	5.24	
31 2-Methyl-2-propanol	59	5.907	5.897	0.010	92	20047	50.0	50.2	
20 1,1-Dichloroethene	96	5.917	5.913	0.004	31	3816	5.00	3.42	
37 Acrylonitrile	52	5.933	5.929	0.004	99	66182	50.0	50.0	
23 Iodomethane	142	5.987	5.990	-0.003	75	8460	5.00	4.10	
28 Methyl acetate	43	6.032	6.029	0.003	100	42187	10.0	10.1	
21 1,1,2-Trichloro-1,2,2-trif	151	6.048	6.038	0.010	41	2873	5.00	6.18	a
26 Methylene Chloride	84	6.051	6.054	-0.003	87	11750	5.00	5.15	a
25 3-Chloro-1-propene	76	6.093	6.080	0.013	84	3706	5.00	6.02	
22 Carbon disulfide	76	6.263	6.266	-0.003	98	21893	5.00	5.22	
29 trans-1,2-Dichloroethene	96	6.562	6.561	0.001	90	7919	5.00	5.30	
30 Methyl tert-butyl ether	73	6.639	6.629	0.010	95	15687	5.00	4.79	a
35 Propionitrile	54	6.760	6.757	0.003	98	28924	50.0	49.5	
34 1,1-Dichloroethane	63	6.760	6.764	-0.004	78	20569	5.00	5.26	
40 Vinyl acetate	43	6.825	6.821	0.004	97	75040	10.0	9.53	
36 2-Chloro-1,3-butadiene	53	7.046	7.040	0.006	91	23313	5.00	4.86	
58 Hexane	57	7.053	7.043	0.009	65	15419	5.00	5.01	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
32 Isopropyl ether	45	7.059	7.059	0.000	98	54442	5.00	5.17	a
56 2-Butanone (MEK)	72	7.085	7.072	0.013	98	3551	10.0	10.3	
61 Methacrylonitrile	66	7.162	7.161	0.001	97	23947	50.0	50.8	
44 cis-1,2-Dichloroethene	96	7.216	7.210	0.006	87	10935	5.00	5.25	
33 Ethyl acetate	43	7.306	7.303	0.003	99	52251	10.0	9.62	a
47 Chlorobromomethane	128	7.348	7.344	0.004	90	6037	5.00	5.17	
41 Tert-butyl ethyl ether	59	7.370	7.367	0.003	91	18924	5.00	4.68	
48 Chloroform	83	7.370	7.370	0.000	92	17123	5.00	5.03	
39 Isobutyl alcohol	43	7.412	7.409	0.003	96	29434	125.0	135.8	
46 2,2-Dichloropropane	77	7.434	7.428	0.006	79	7768	5.00	5.50	
$ 52 Dibromofluoromethane	113	7.470	7.466	0.004	91	10192	5.00	5.20	
S 43 1,2-Dichloroethene, Total	96				0		10.0	10.5	
53 Tetrahydrofuran	42	7.630	7.633	-0.003	93	14475	10.0	9.06	
$ 64 1,2-Dichloroethane-d4 (Sur	65	7.816	7.819	-0.003	0	14874	5.00	5.19	
65 1,2-Dichloroethane	62	7.877	7.877	0.000	94	19442	5.00	5.12	
55 1,1,1-Trichloroethane	97	7.951	7.951	0.000	94	13525	5.00	5.39	
38 n-Butanol	56	7.967	7.964	0.003	90	14288	125.0	134.4	
57 1,1-Dichloropropene	75	8.086	8.082	0.004	83	11553	5.00	4.80	
69 Cyclohexane	84	8.179	8.175	0.004	93	6969	5.00	5.11	
54 Carbon tetrachloride	119	8.237	8.236	0.001	95	11595	5.00	5.04	
63 Benzene	78	8.262	8.262	0.000	94	37170	5.00	4.98	
62 Tert-amyl methyl ether	73	8.339	8.342	-0.003	87	13093	5.00	5.35	
59 Isooctane	57	8.548	8.551	-0.003	96	11795	5.00	5.71	
72 Ethyl acrylate	55	8.599	8.599	0.000	97	34322	5.00	4.88	
60 n-Heptane	43	8.606	8.605	0.001	61	12563	5.00	4.86	a
73 Dibromomethane	93	8.715	8.711	0.004	83	7879	5.00	5.46	
79 1,2-Dichloropropane	63	8.724	8.721	0.003	87	12860	5.00	5.00	
66 2-Nitropropane	43	8.744	8.737	0.007	98	20399	10.0	10.2	
70 Trichloroethene	130	8.750	8.747	0.003	93	10373	5.00	4.89	
75 Dichlorobromomethane	83	8.798	8.798	0.000	95	14368	5.00	5.18	
77 Methyl methacrylate	41	8.840	8.840	0.000	87	44425	10.0	9.48	
78 1,4-Dioxane	58	8.872	8.865	0.007	42	2140	100.0	110.6	
71 Methylcyclohexane	83	9.177	9.170	0.007	95	8212	5.00	5.24	a
80 4-Methyl-2-pentanone (MIBK	43	9.360	9.356	0.004	99	53040	10.0	9.91	
* 85 Chlorobenzene-d5	82	11.391	11.384	0.007	90	141179	50.0	50.0	
89 2-Chloroethyl vinyl ether	63	9.074	9.074	0.000	90	14470	10.0	10.6	
90 cis-1,3-Dichloropropene	75	9.299	9.292	0.007	83	16198	5.00	4.99	
96 trans-1,3-Dichloropropene	75	9.658	9.655	0.003	87	15617	5.00	4.90	
100 1,1,2-Trichloroethane	97	9.825	9.818	0.007	92	9724	5.00	4.99	
$ 93 Toluene-d8 (Surr)	98	9.918	9.915	0.003	95	36345	5.00	5.26	
97 Ethyl methacrylate	69	9.973	9.969	0.003	86	15765	5.00	4.87	
94 Toluene	92	9.985	9.982	0.003	96	24120	5.00	5.11	
102 1,3-Dichloropropane	76	10.037	10.033	0.004	87	16615	5.00	5.38	
106 2-Hexanone	43	10.127	10.123	0.004	98	35357	10.0	9.04	
101 Chlorodibromomethane	129	10.329	10.335	-0.006	88	12246	5.00	5.12	
103 n-Butyl acetate	43	10.402	10.399	0.003	96	37321	5.00	4.72	
105 Ethylene Dibromide	107	10.585	10.585	0.000	99	10428	5.00	4.85	
98 Tetrachloroethene	164	10.720	10.723	-0.003	88	7075	5.00	4.99	a
S 104 Xylenes, Total	106				0		10.0	10.6	
113 1-Chlorohexane	55	11.275	11.275	0.000	78	12345	5.00	5.21	
110 1,1,1,2-Tetrachloroethane	131	11.339	11.339	0.000	84	9082	5.00	4.73	
109 Chlorobenzene	112	11.423	11.426	-0.003	93	26159	5.00	5.12	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
108 Ethylbenzene	106	11.596	11.596	0.000	98	13284	5.00	5.03	
111 m-Xylene & p-Xylene	91	11.792	11.789	0.003	0	33209	5.00	5.20	
114 Styrene	104	12.158	12.154	0.004	91	25773	5.00	5.00	
116 Cyclohexanone	55	12.219	12.219	0.001	94	37434	250.0	301.0	
112 o-Xylene	106	12.238	12.231	0.007	96	16963	5.00	5.43	
* 117 1,4-Dichlorobenzene-d4	152	14.009	14.006	0.003	96	114165	50.0	50.0	
119 Bromoform	173	11.994	11.991	0.003	93	7280	5.00	4.80	
124 1,1,2,2-Tetrachloroethane	83	12.251	12.247	0.004	70	14352	5.00	5.28	
129 trans-1,4-Dichloro-2-buten	53	12.408	12.398	0.010	68	4249	5.00	3.91	
128 1,2,3-Trichloropropane	110	12.414	12.411	0.003	94	4349	5.00	5.23	
121 Isopropylbenzene	105	12.623	12.623	0.000	97	35284	5.00	5.12	
$ 122 4-Bromofluorobenzene	95	12.690	12.693	-0.003	87	12002	5.00	5.19	
125 Bromobenzene	156	12.937	12.934	0.003	89	9920	5.00	4.95	
123 N-Propylbenzene	120	13.085	13.091	-0.006	99	9073	5.00	5.10	
127 2-Chlorotoluene	126	13.210	13.210	0.000	96	9157	5.00	5.22	
130 4-Chlorotoluene	91	13.287	13.284	0.003	97	26705	5.00	5.20	
126 1,3,5-Trimethylbenzene	105	13.361	13.361	0.000	95	27285	5.00	5.24	
131 tert-Butylbenzene	119	13.659	13.662	-0.003	94	20869	5.00	5.45	
133 1,2,4-Trimethylbenzene	105	13.762	13.759	0.003	98	28271	5.00	5.24	
135 sec-Butylbenzene	105	13.874	13.871	0.003	95	26554	5.00	5.31	
143 Benzyl chloride	91	13.967	13.971	-0.004	97	25265	5.00	5.01	a
137 1,3-Dichlorobenzene	146	13.974	13.974	0.000	81	16270	5.00	5.15	
136 4-Isopropyltoluene	119	14.035	14.035	0.000	96	22046	5.00	5.12	
140 1,4-Dichlorobenzene	146	14.035	14.035	0.000	86	17176	5.00	5.19	
139 1,2,3-Trimethylbenzene	105	14.182	14.186	-0.004	97	27743	5.00	5.12	
144 1,2-Dichlorobenzene	146	14.388	14.391	-0.003	96	16709	5.00	5.36	
142 n-Butylbenzene	91	14.439	14.439	0.000	98	18141	5.00	5.52	
146 1,2-Dibromo-3-Chloropropan	157	14.866	14.866	0.000	76	2804	5.00	5.06	
147 1,3,5-Trichlorobenzene	180	15.700	15.703	-0.003	94	7878	5.00	5.22	
149 1,2,4-Trichlorobenzene	180	16.300	16.297	0.003	93	8554	5.00	5.65	
150 Naphthalene	128	16.599	16.599	0.000	97	33470	5.00	5.57	
148 Hexachlorobutadiene	190	16.621	16.624	-0.003	76	1324	5.00	6.34	a
151 1,2,3-Trichlorobenzene	180	16.836	16.833	0.003	90	7175	5.00	5.29	
S 162 Trihalomethanes, Total	1				0			20.1	
S 159 1,3-Dichloropropene, Total	1				0			9.88	
S 182 Total BTEX	1				0			25.8	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

VOAIS250PPM_00134	Amount Added:	1.00	Units: uL
VOASTDPT2_00147	Amount Added:	0.50	Units: uL
EOxideStd_00159	Amount Added:	0.50	Units: uL
VOASTDGASPT_00341	Amount Added:	0.50	Units: uL

Report Date: 06-Sep-2019 14:07:51 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41002.D				
Injection Date:	29-Aug-2019 13:40:30	Instrument ID:	CHVOAMS10	Operator ID:	dt
Lims ID:	ic			Worklist Smp#:	4
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		

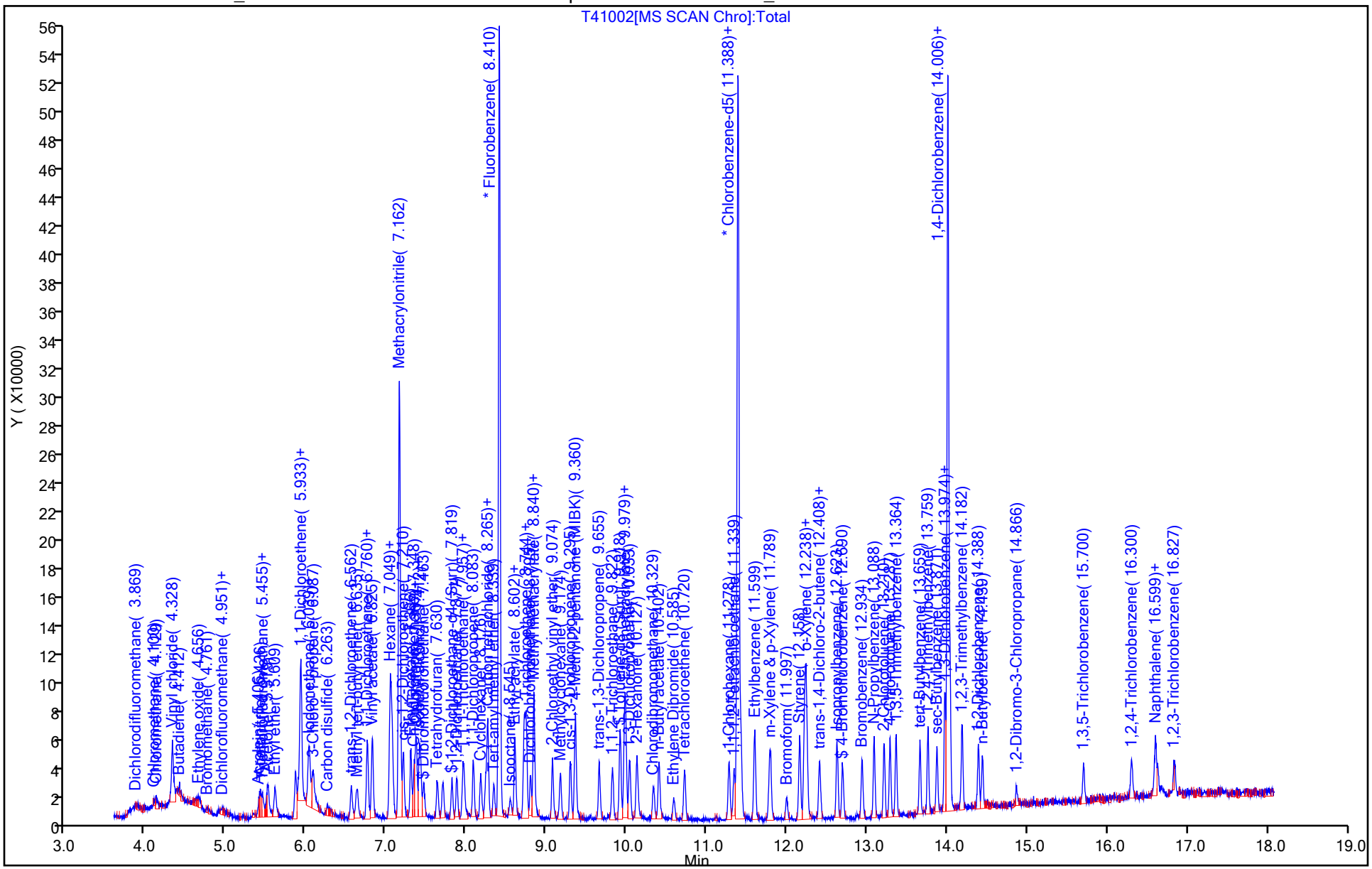

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41002.D				
Injection Date:	29-Aug-2019 13:40:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	2	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

2 Dichlorodifluoromethane, CAS: 75-71-8

Signal: 1

Not Detected
Expected RT: 3.85

Processing Integration Results

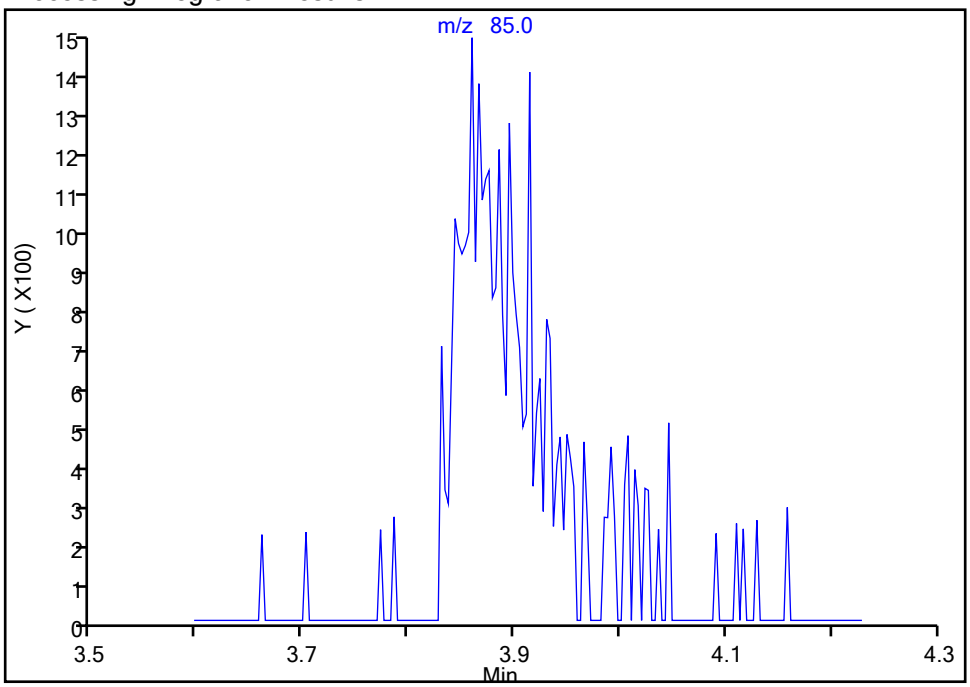

RT: 3.86
Area: 5611
Amount: 4.756196
Amount Units: ug/l

Manual Integration Results

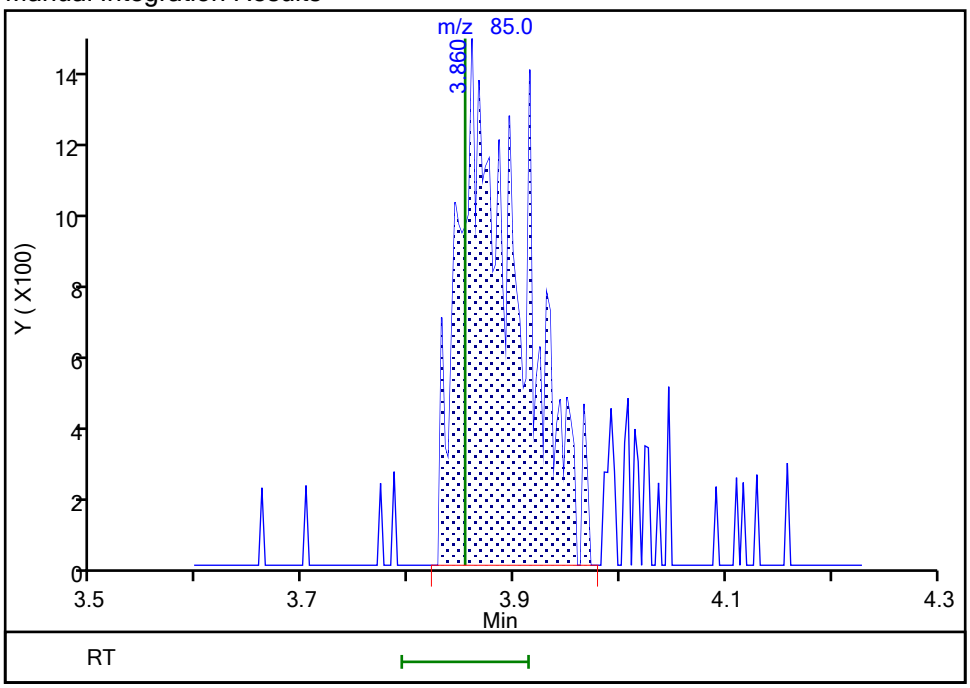

Reviewer: tengd, 29-Aug-2019 14:39:55
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41002.D				
Injection Date:	29-Aug-2019 13:40:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	2	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

3 Chloromethane, CAS: 74-87-3

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 4.12

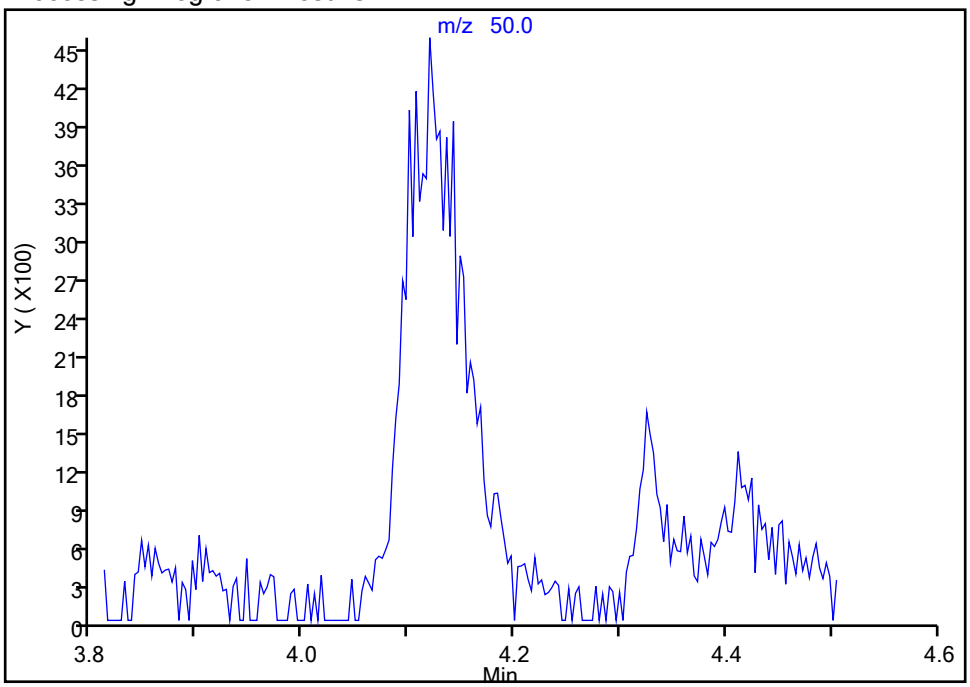

Manual Integration Results

RT: 4.12
Area: 17928
Amount: 5.007759
Amount Units: ug/l

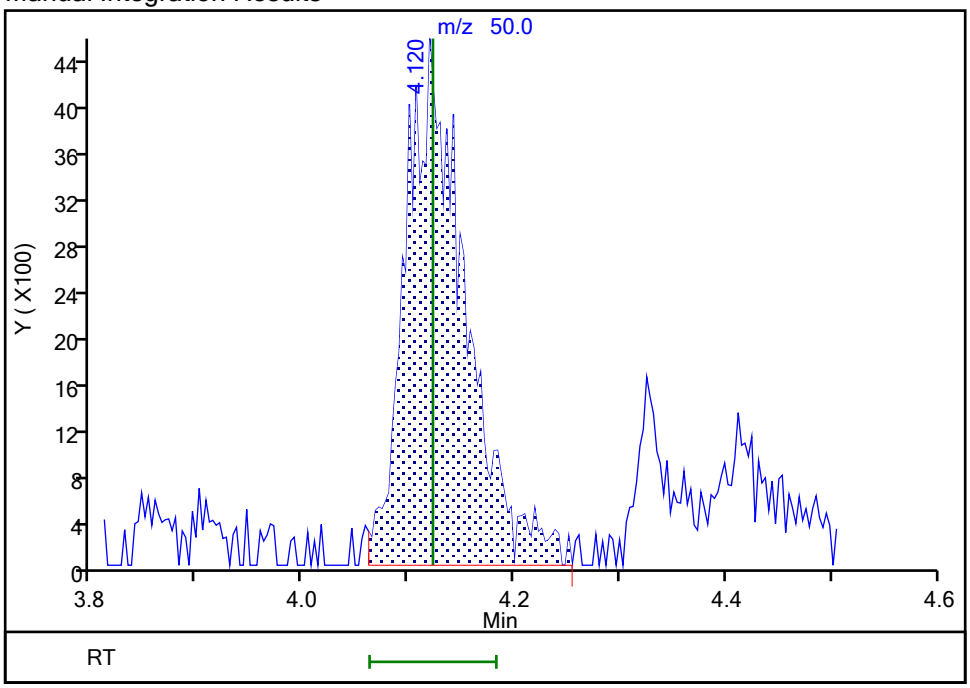

Reviewer: tengd, 29-Aug-2019 14:40:11
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41002.D				
Injection Date:	29-Aug-2019 13:40:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	2	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

4 Vinyl chloride, CAS: 75-01-4

Signal: 1

Not Detected
Expected RT: 4.32

Processing Integration Results

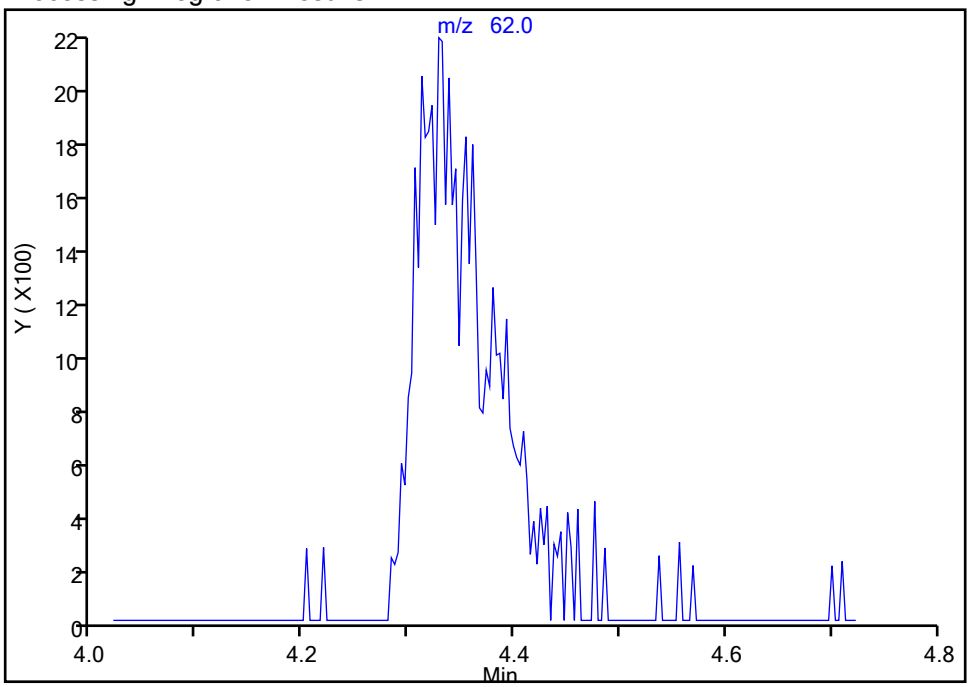

Manual Integration Results

RT: 4.33
Area: 10038
Amount: 4.683026
Amount Units: ug/l

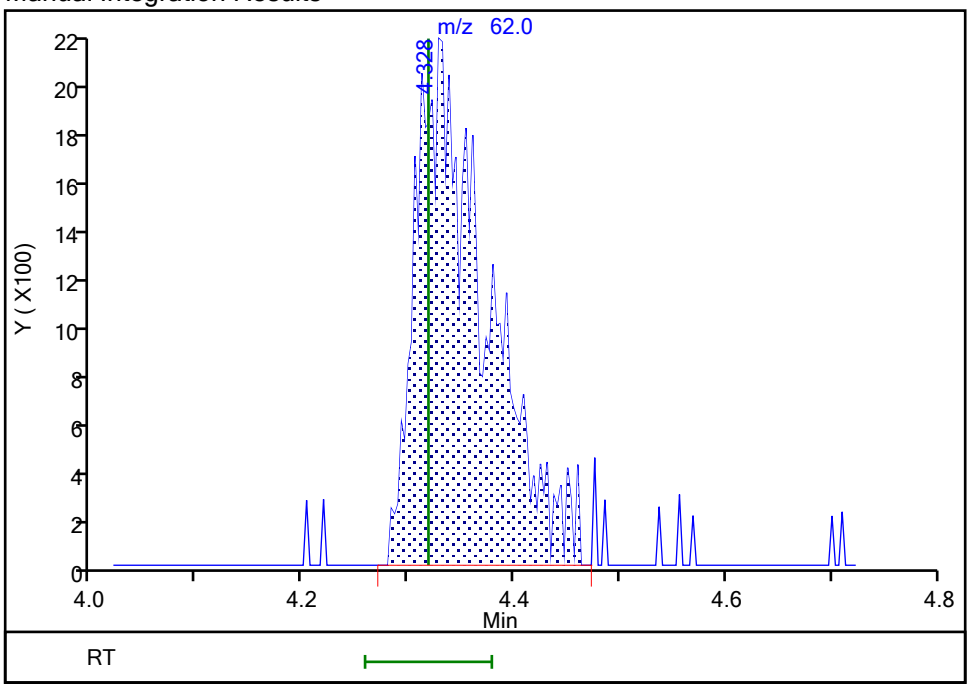

Reviewer: tengd, 29-Aug-2019 14:40:36
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41002.D				
Injection Date:	29-Aug-2019 13:40:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	2	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

5 Butadiene, CAS: 106-99-0

Signal: 1

Not Detected
Expected RT: 4.44

Processing Integration Results

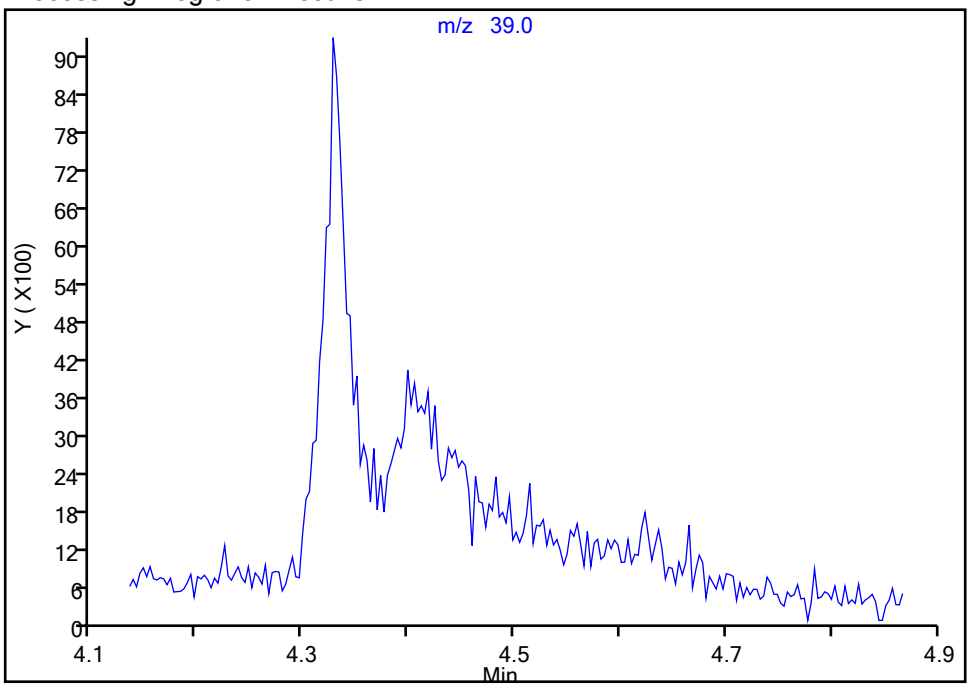

Manual Integration Results

RT: 4.40
Area: 24552
Amount: 7.085312
Amount Units: ug/l

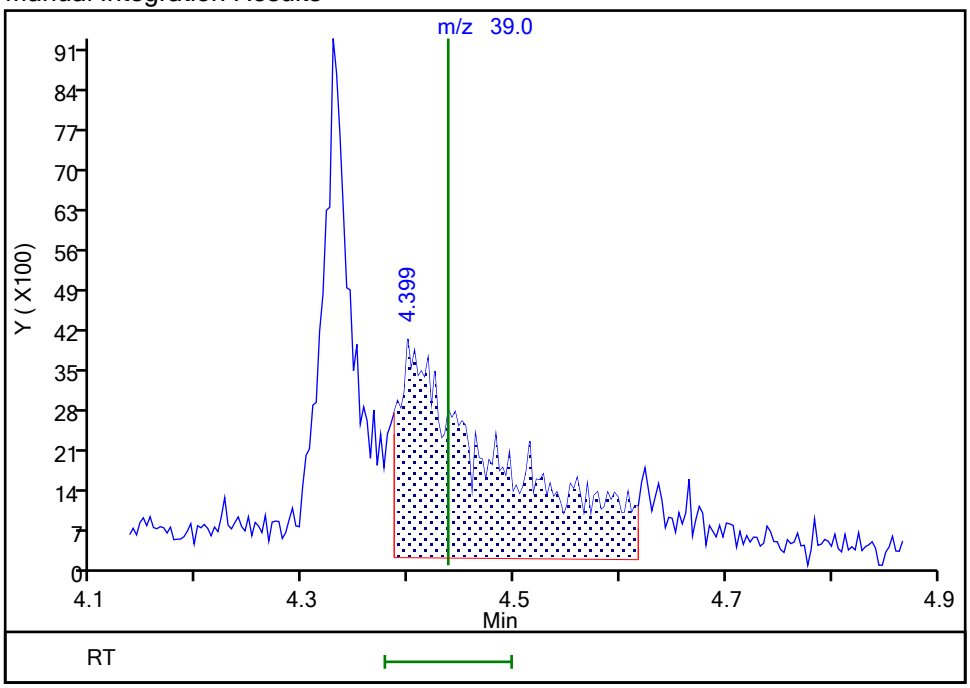

Reviewer: tengd, 29-Aug-2019 14:40:45
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41002.D				
Injection Date:	29-Aug-2019 13:40:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	2	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

10 Ethylene oxide, CAS: 75-21-8

Signal: 1

Processing Integration Results

RT: 4.67
Area: 28432
Amount: 88.440941
Amount Units: ug/l

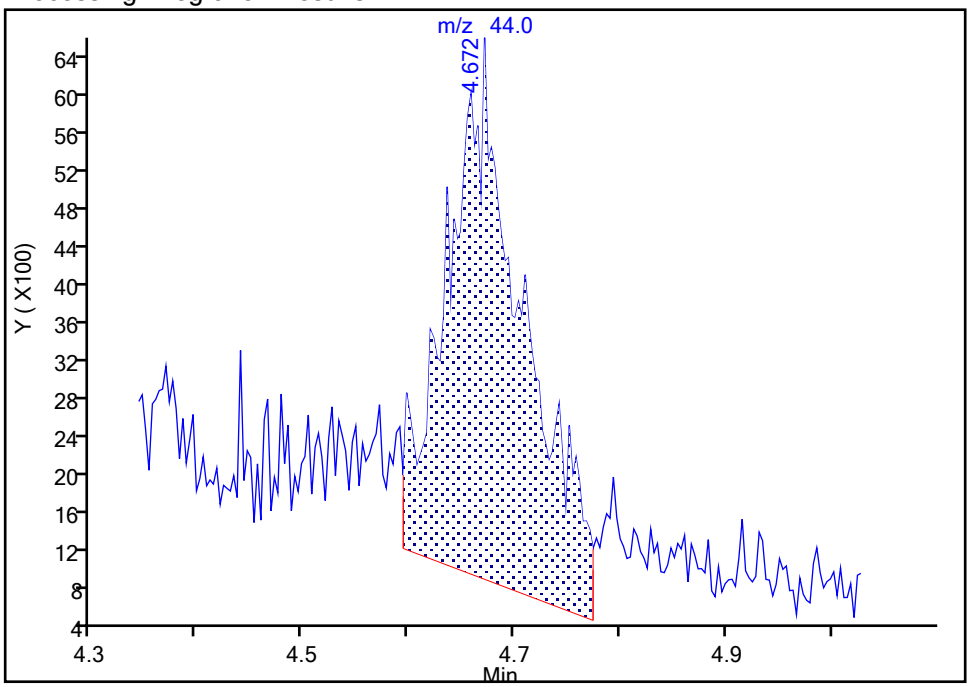

Manual Integration Results

RT: 4.67
Area: 22421
Amount: 49.981862
Amount Units: ug/l

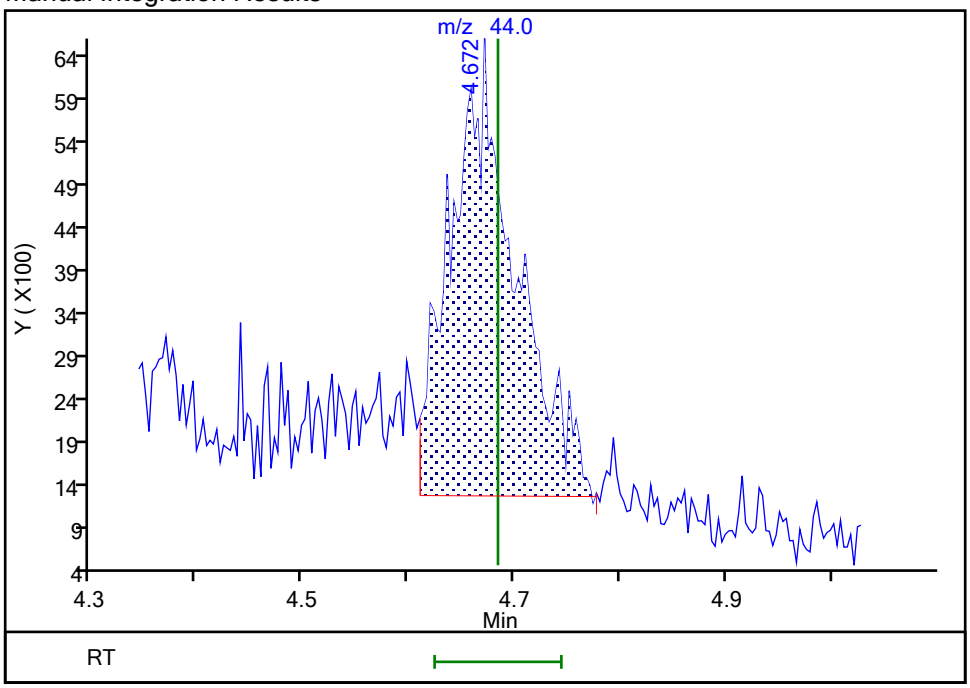

Reviewer: tengd, 29-Aug-2019 16:50:48
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41002.D				
Injection Date:	29-Aug-2019 13:40:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	2	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

11 Chloroethane, CAS: 75-00-3

Signal: 1

Not Detected
Expected RT: 4.91

Processing Integration Results

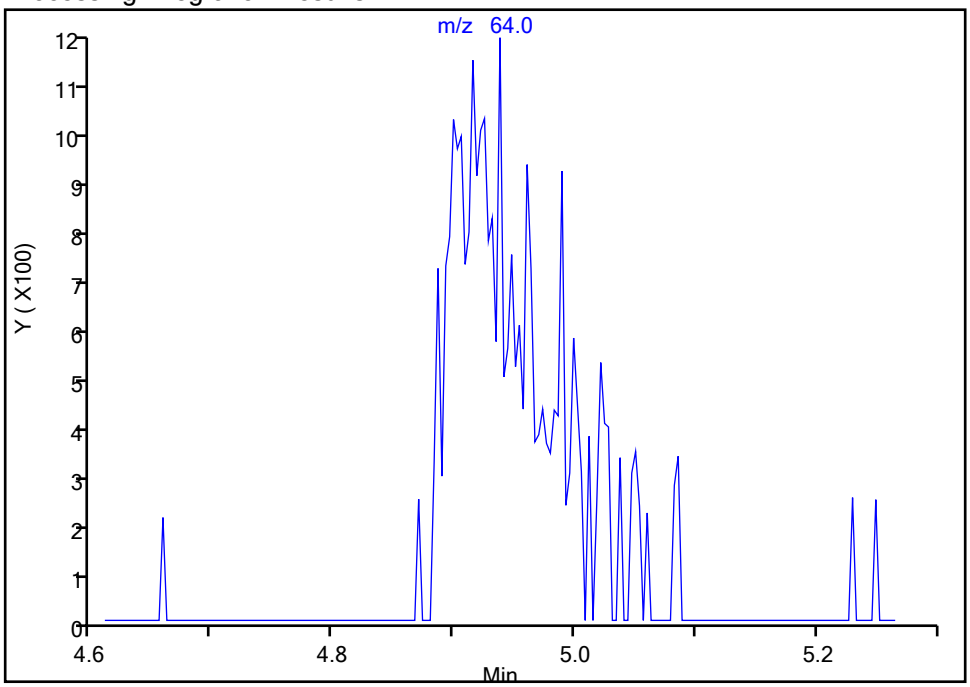

RT: 4.94
Area: 4772
Amount: 4.326298
Amount Units: ug/l

Manual Integration Results

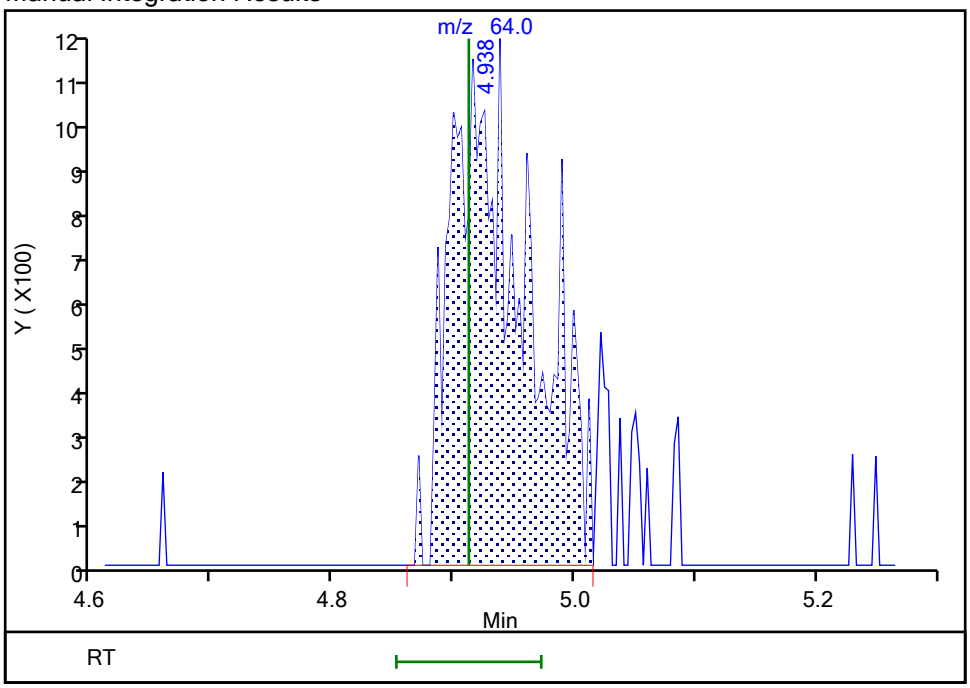

Reviewer: tengd, 29-Aug-2019 14:40:53
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41002.D				
Injection Date:	29-Aug-2019 13:40:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	2	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

21 1,1,2-Trichloro-1,2,2-trifluoroethane, CAS: 76-13-1

Signal: 1

Not Detected
Expected RT: 6.04

Processing Integration Results

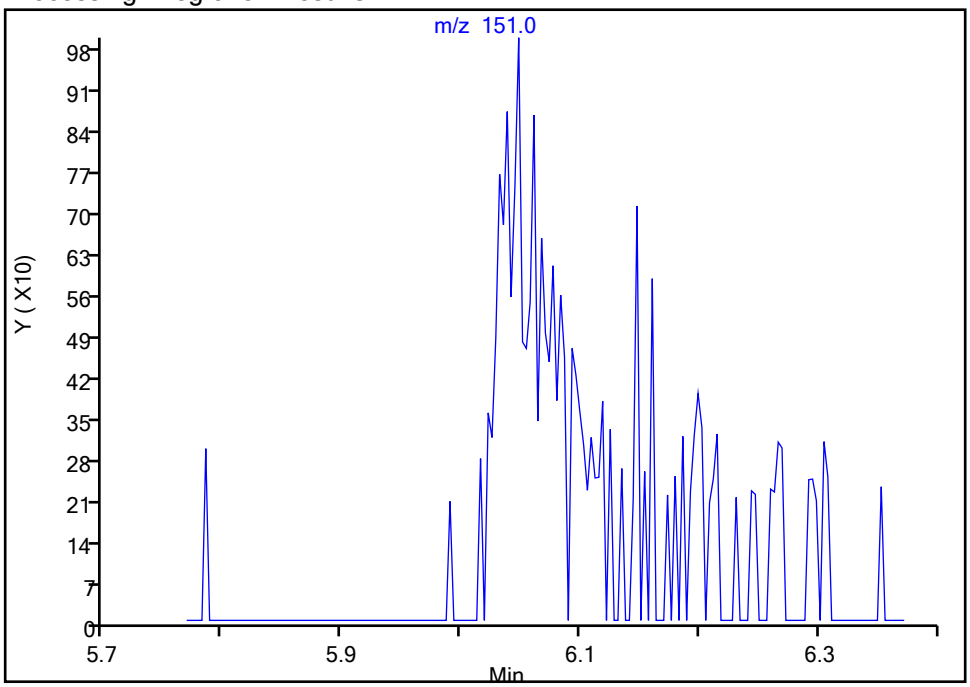

Manual Integration Results

RT: 6.05
Area: 2873
Amount: 6.184167
Amount Units: ug/l

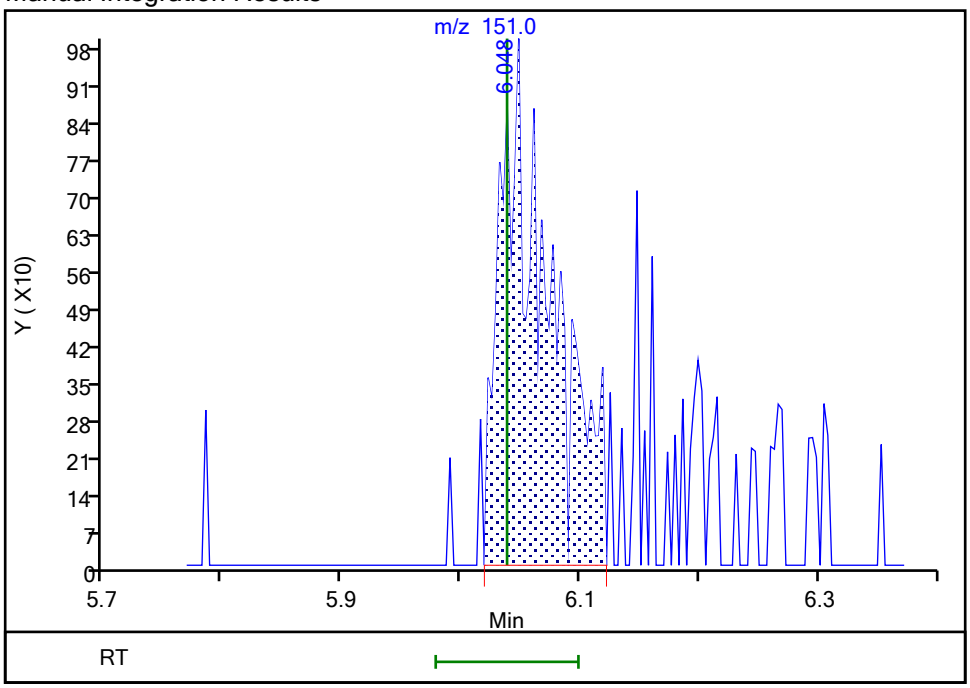

Reviewer: tengd, 29-Aug-2019 14:41:47
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41002.D				
Injection Date:	29-Aug-2019 13:40:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	2	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

26 Methylene Chloride, CAS: 75-09-2

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 6.05

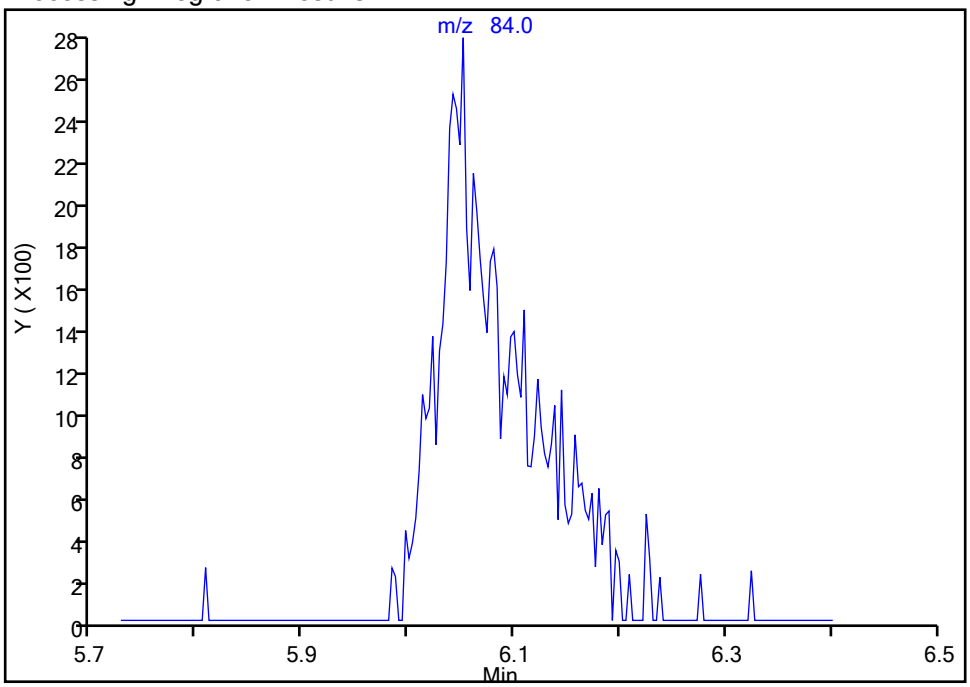

Manual Integration Results

RT: 6.05
Area: 11750
Amount: 5.151837
Amount Units: ug/l

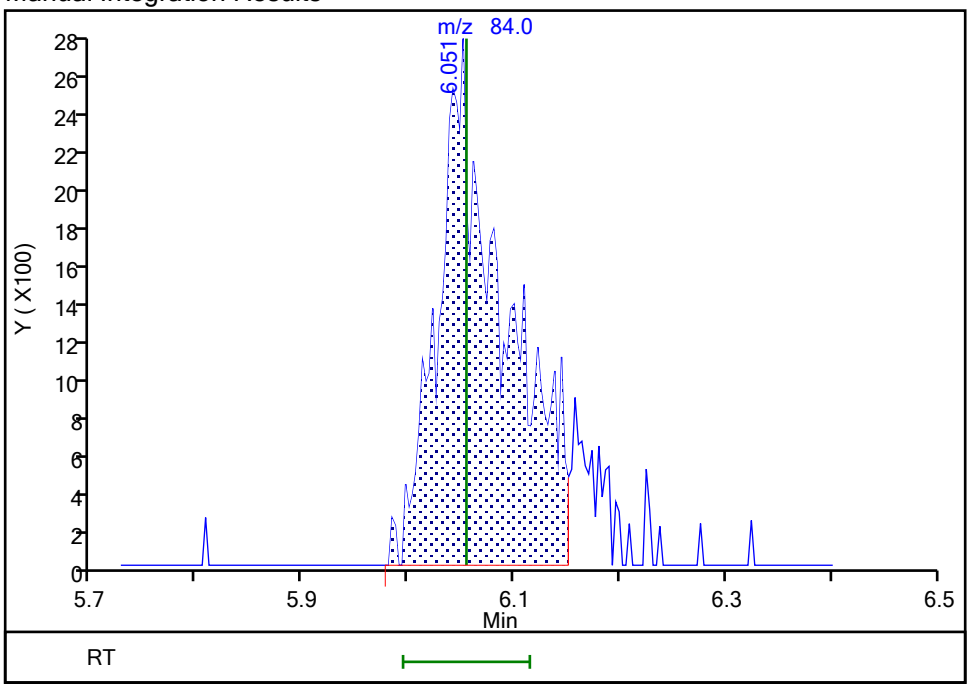

Reviewer: tengd, 29-Aug-2019 14:41:52
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41002.D				
Injection Date:	29-Aug-2019 13:40:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	2	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

30 Methyl tert-butyl ether, CAS: 1634-04-4

Signal: 1

Not Detected
Expected RT: 6.63

Processing Integration Results

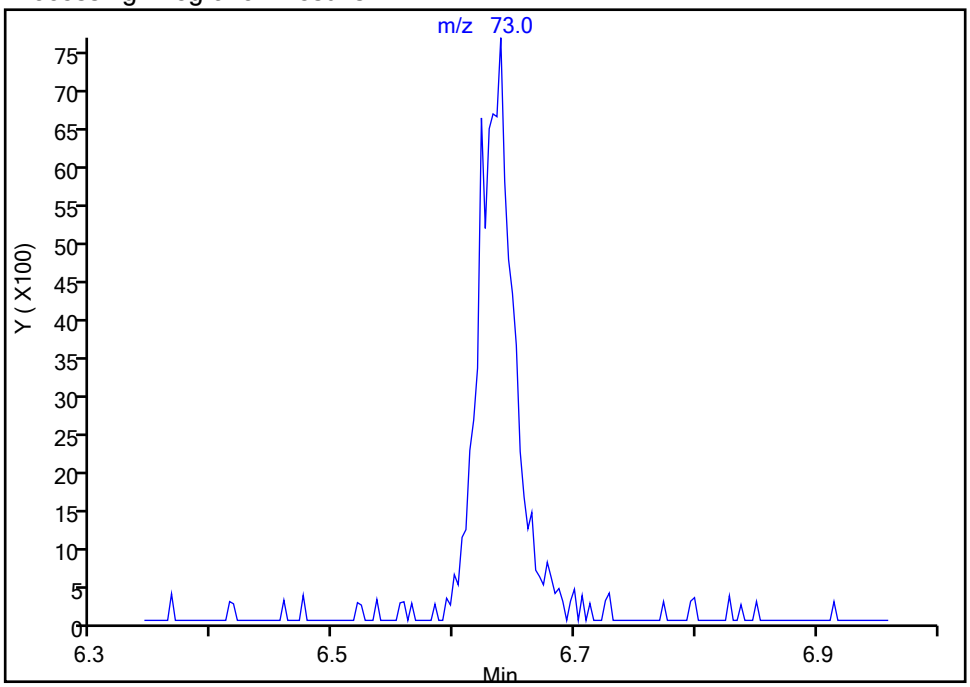

RT: 6.64
Area: 15687
Amount: 4.794211
Amount Units: ug/l

Manual Integration Results

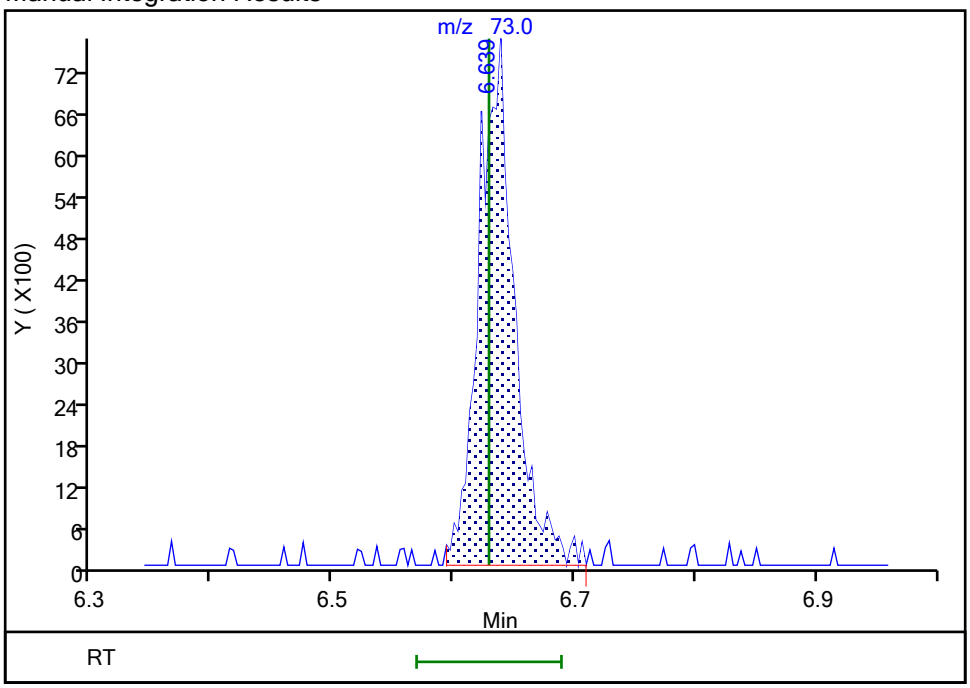

Reviewer: tengd, 29-Aug-2019 14:42:08
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41002.D				
Injection Date:	29-Aug-2019 13:40:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	2	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

32 Isopropyl ether, CAS: 108-20-3

Signal: 1

Not Detected
Expected RT: 7.06

Processing Integration Results

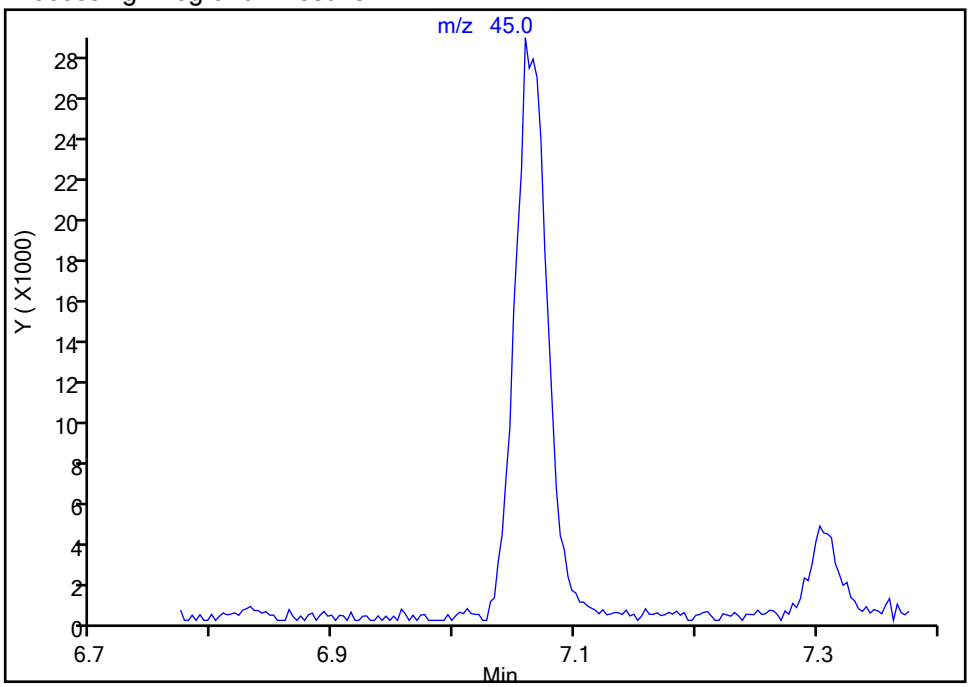

Manual Integration Results

RT: 7.06
Area: 54442
Amount: 5.166175
Amount Units: ug/l

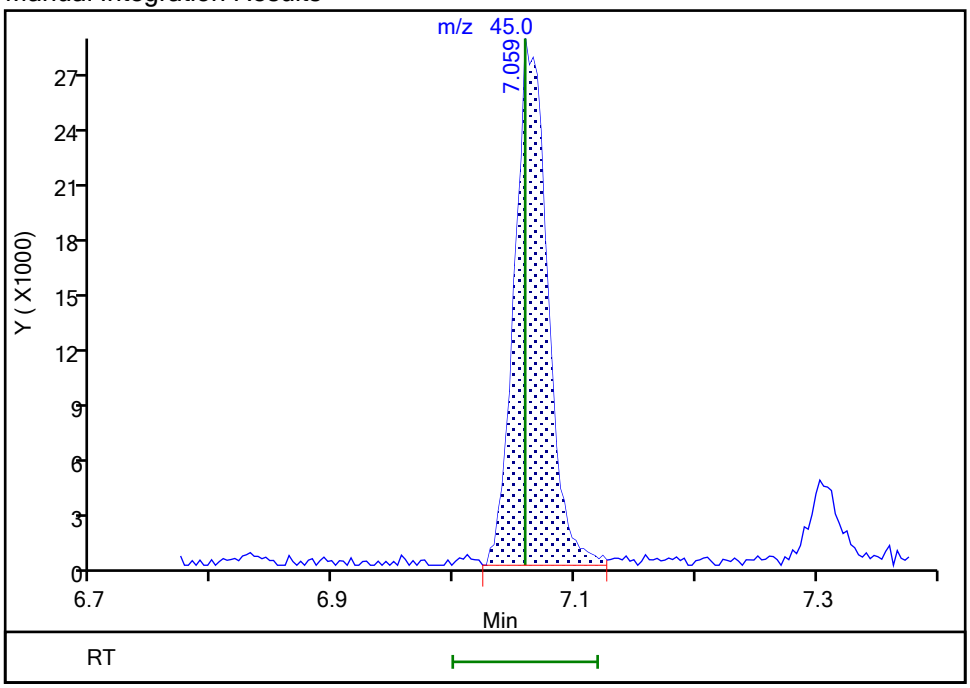

Reviewer: tengd, 29-Aug-2019 14:42:18
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41002.D				
Injection Date:	29-Aug-2019 13:40:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	2	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

33 Ethyl acetate, CAS: 141-78-6

Signal: 1

Not Detected
Expected RT: 7.30

Processing Integration Results

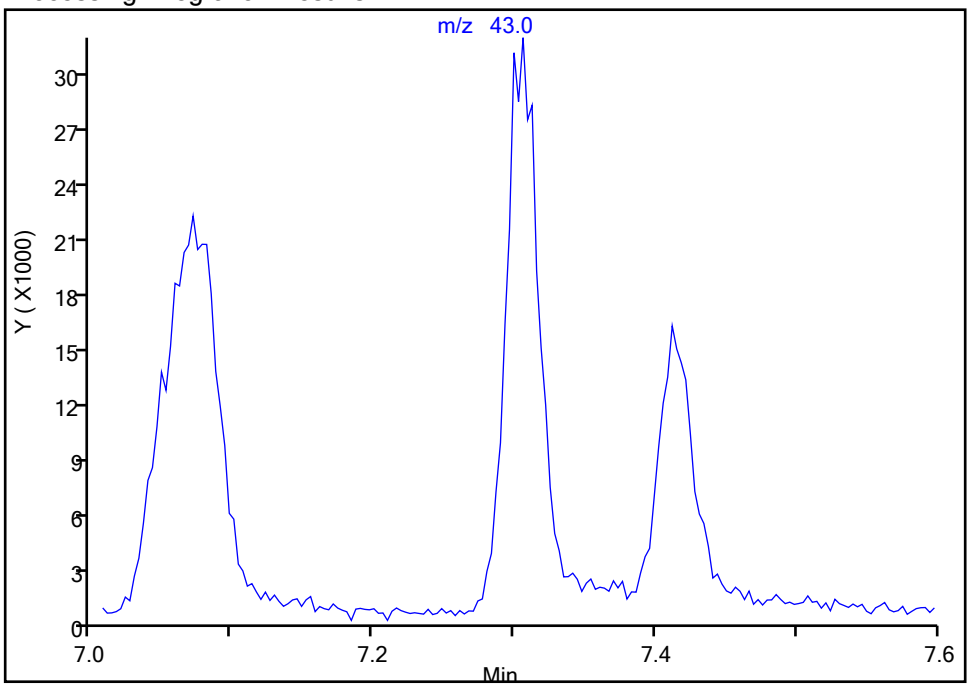

RT: 7.31
Area: 52251
Amount: 9.622522
Amount Units: ug/l

Manual Integration Results

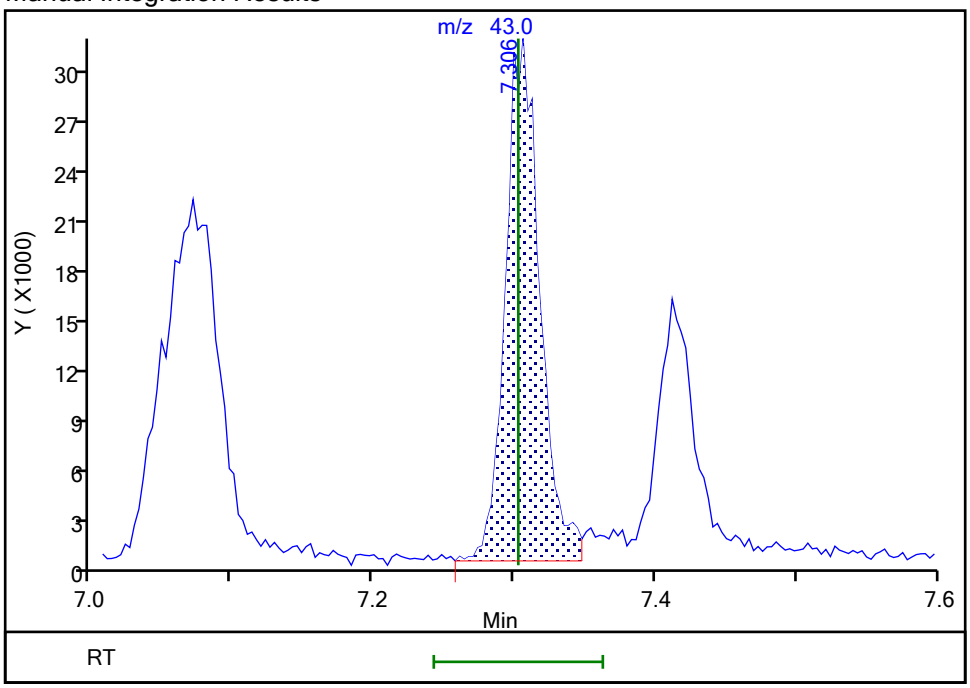

Reviewer: tengd, 29-Aug-2019 14:39:44
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41002.D				
Injection Date:	29-Aug-2019 13:40:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	2	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

60 n-Heptane, CAS: 142-82-5

Signal: 1

Not Detected
Expected RT: 8.61

Processing Integration Results

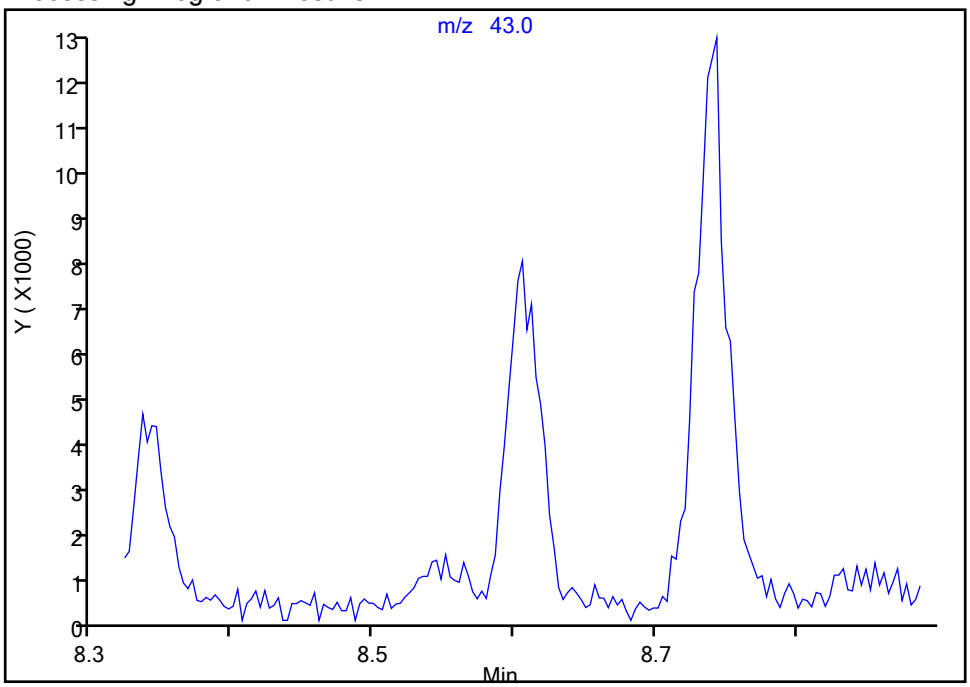

Manual Integration Results

RT: 8.61
Area: 12563
Amount: 4.863963
Amount Units: ug/l

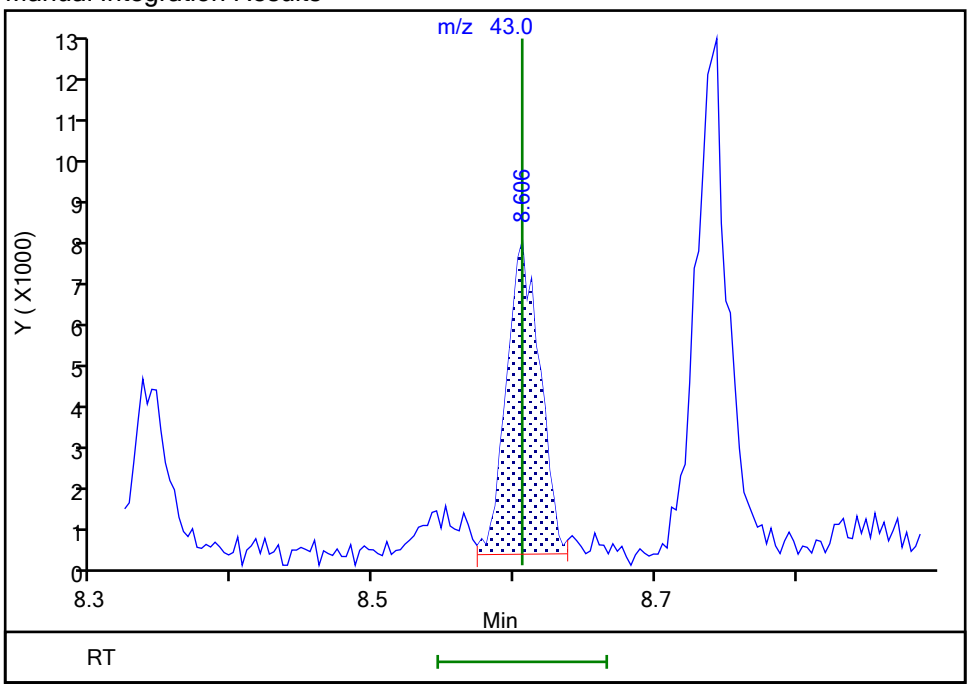

Reviewer: tengd, 29-Aug-2019 16:55:45
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41002.D				
Injection Date:	29-Aug-2019 13:40:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	2	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

71 Methylcyclohexane, CAS: 108-87-2

Signal: 1

Not Detected
Expected RT: 9.17

Processing Integration Results

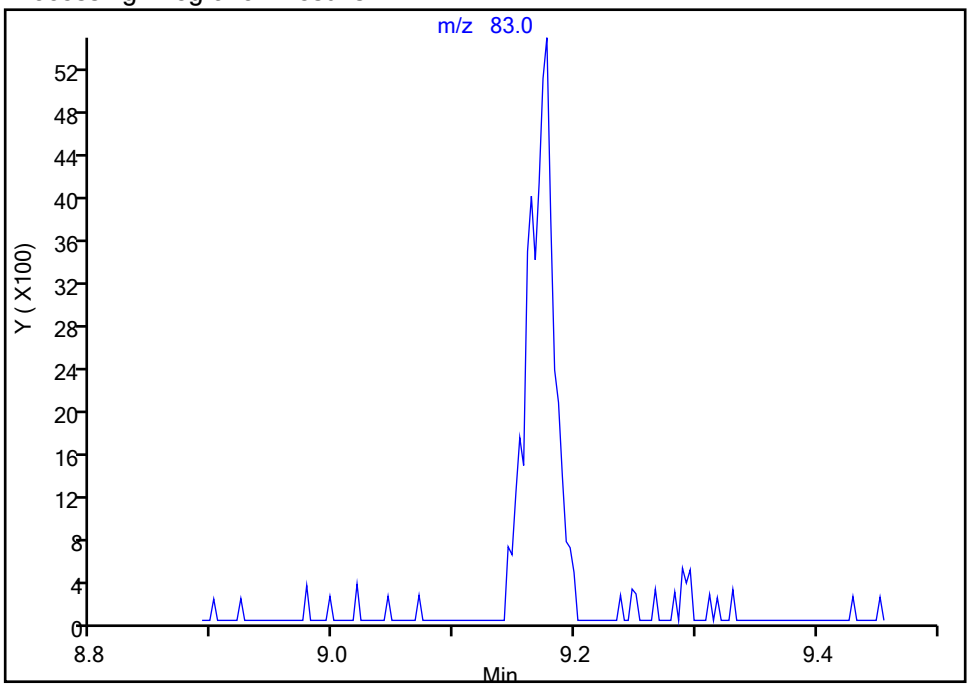

Manual Integration Results

RT: 9.18
Area: 8212
Amount: 5.236954
Amount Units: ug/l

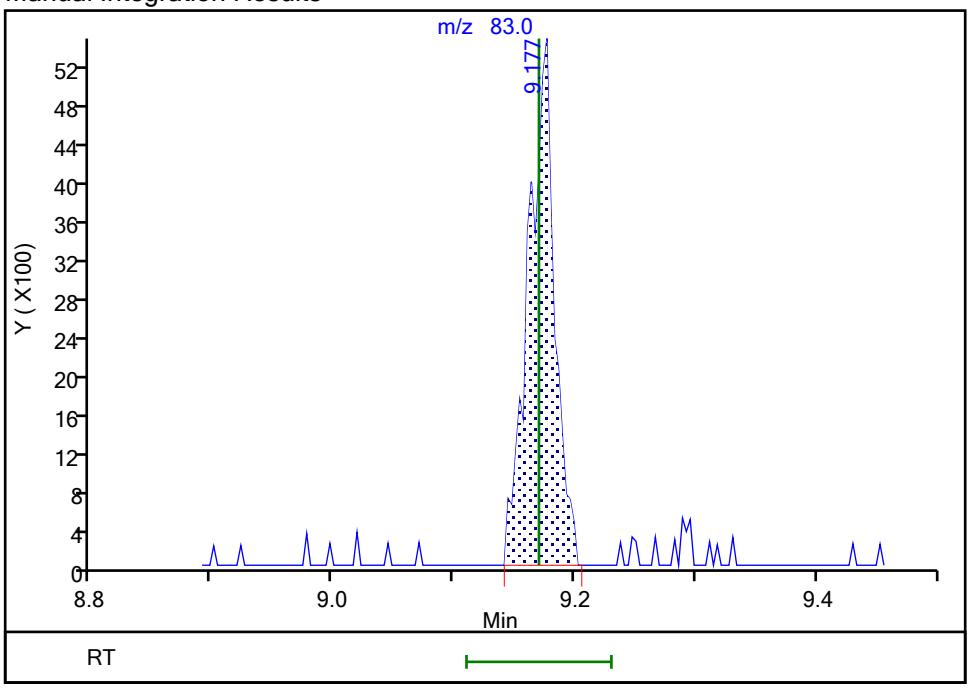

Reviewer: tengd, 29-Aug-2019 16:56:35
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41002.D				
Injection Date:	29-Aug-2019 13:40:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	2	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

98 Tetrachloroethene, CAS: 127-18-4

Signal: 1

Not Detected
Expected RT: 10.72

Processing Integration Results

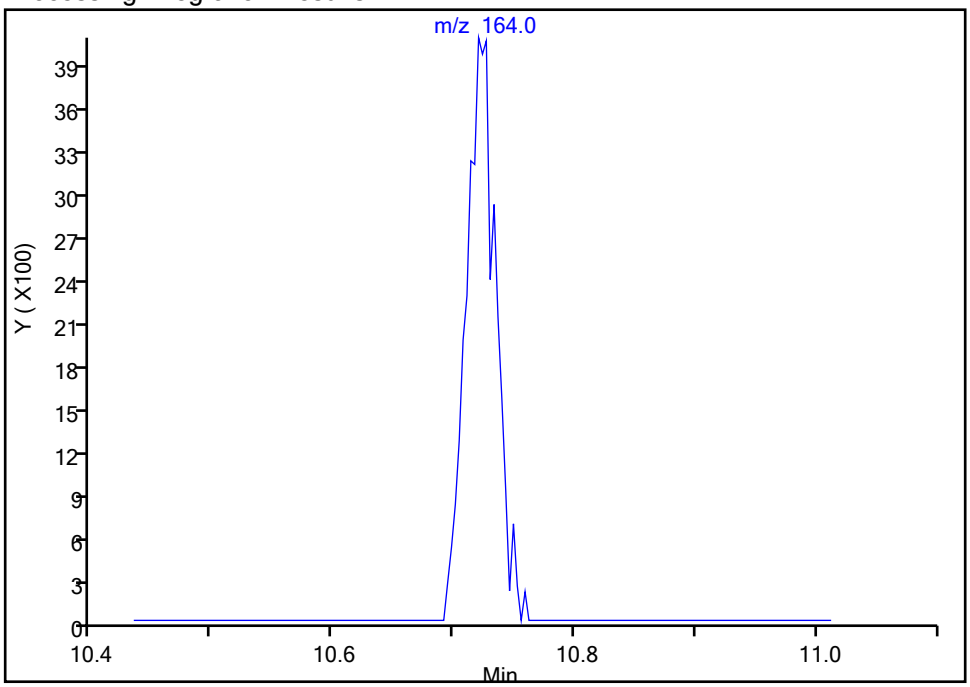

Manual Integration Results

RT: 10.72
Area: 7075
Amount: 4.989744
Amount Units: ug/l

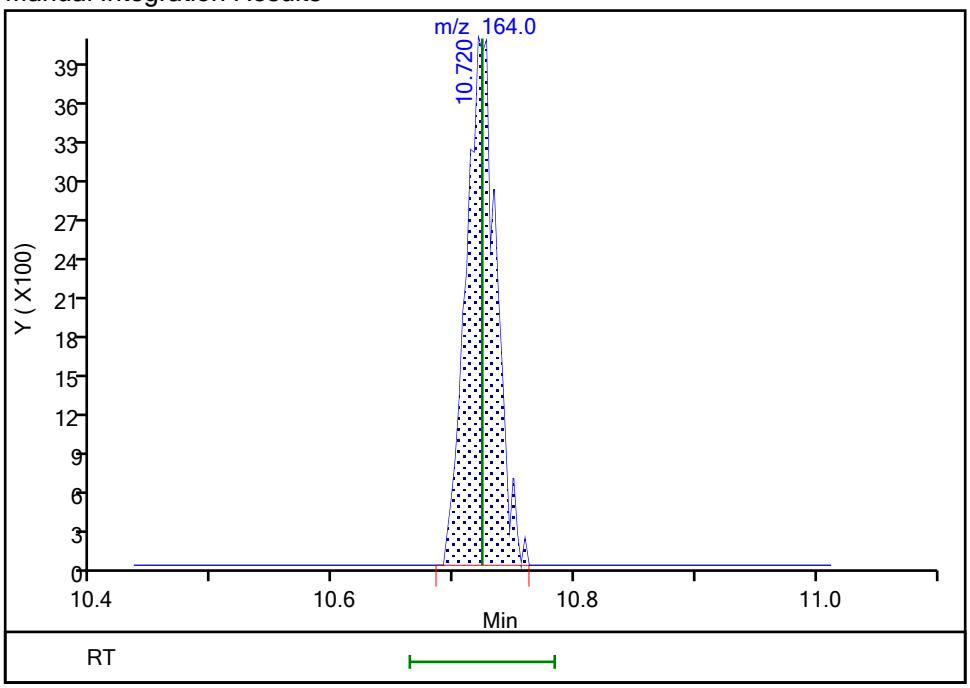

Reviewer: tengd, 29-Aug-2019 16:56:30
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41002.D				
Injection Date:	29-Aug-2019 13:40:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	2	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

143 Benzyl chloride, CAS: 100-44-7

Signal: 1

Not Detected
Expected RT: 13.97

Processing Integration Results

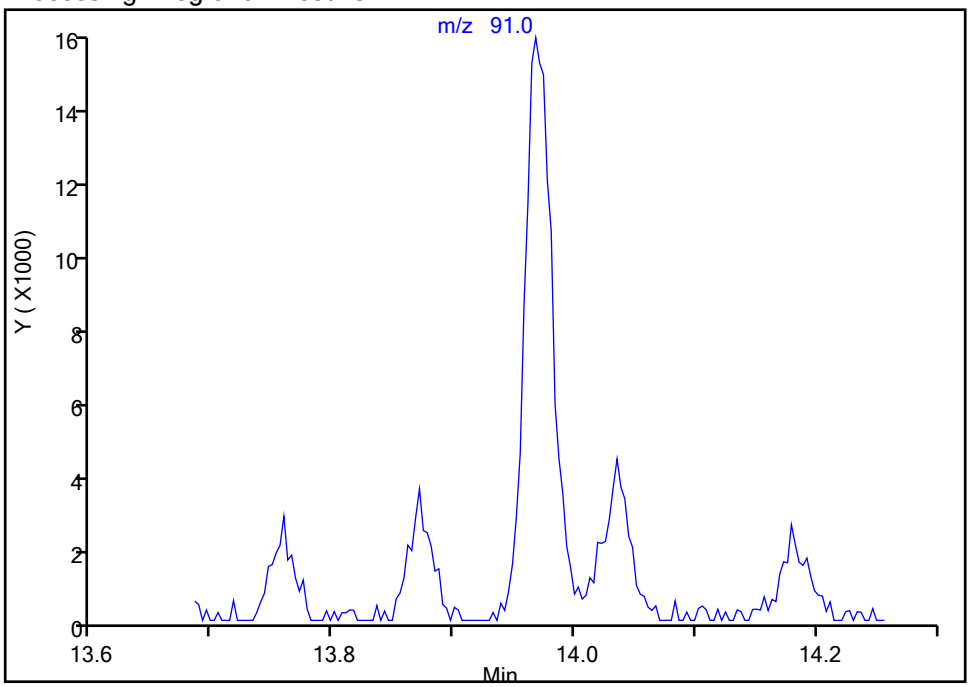

RT: 13.97
Area: 25265
Amount: 5.011547
Amount Units: ug/l

Manual Integration Results

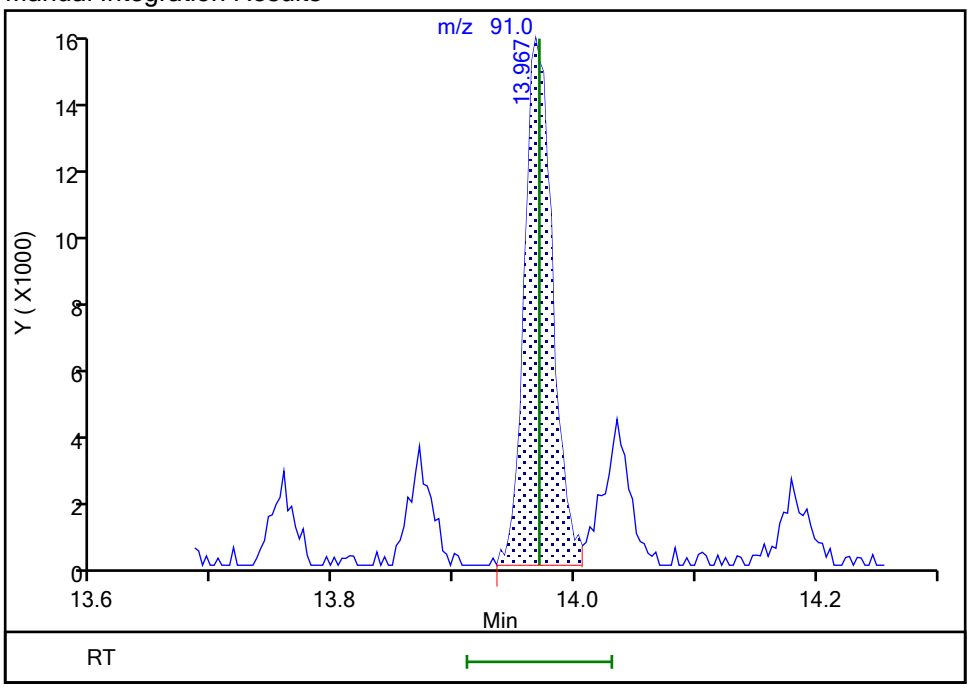

Reviewer: tengd, 29-Aug-2019 14:39:35
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41002.D				
Injection Date:	29-Aug-2019 13:40:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	2	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

148 Hexachlorobutadiene, CAS: 87-68-3

Signal: 1

Not Detected
Expected RT: 16.62

Processing Integration Results

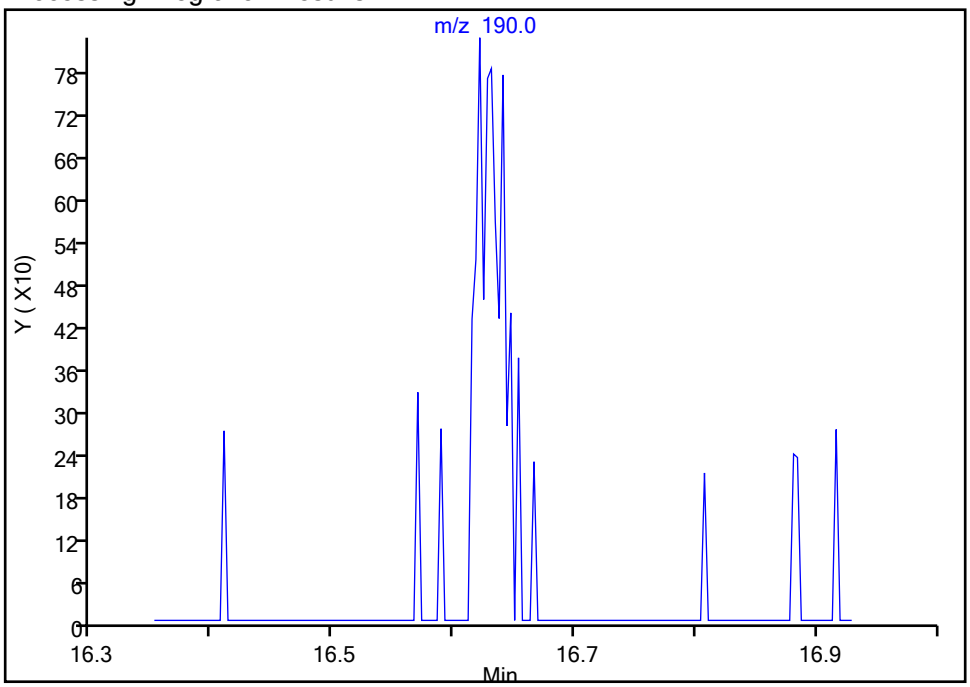

Manual Integration Results

RT: 16.62
Area: 1324
Amount: 6.340721
Amount Units: ug/l

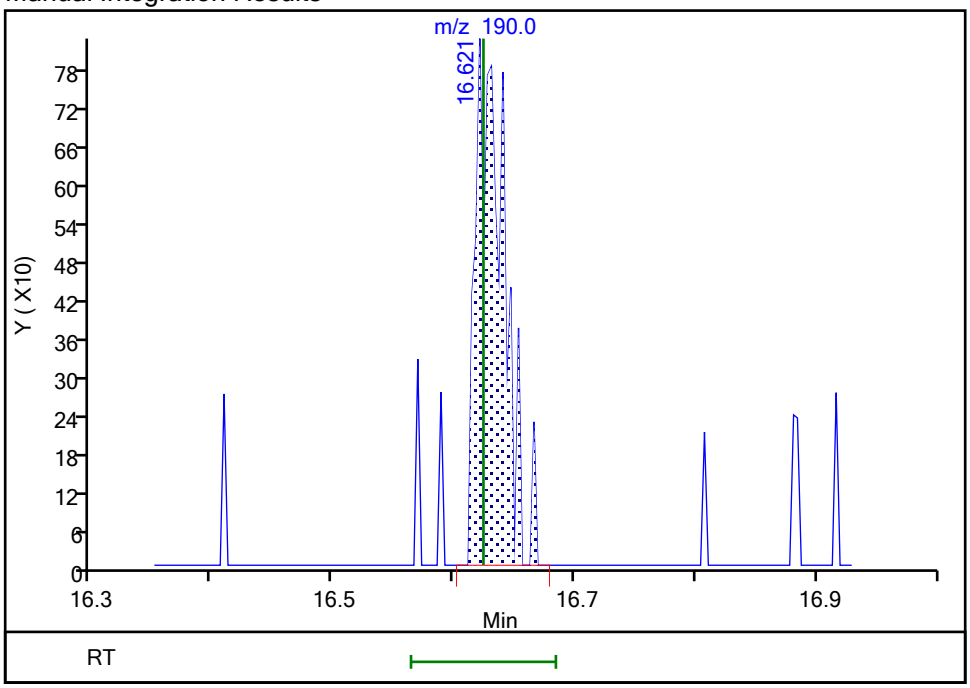

Reviewer: tengd, 29-Aug-2019 14:39:30
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41003.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 29-Aug-2019 14:11:30 ALS Bottle#: 3 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: ic
Misc. Info.: 600-0030818-005
Operator ID: dt Instrument ID: CHVOAMS10
Sublist: chrom-8260w5_10*sub37

Method: \\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\8260w5_10.m
Limit Group: VOA - 8260C_8260CLL
Last Update: 06-Sep-2019 14:07:58 Calib Date: 29-Aug-2019 16:10:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41007.D

Column 1 : Det: MS SCAN
Process Host: CTX0307

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.409	8.406	0.003	97	377947	50.0	50.0	
2 Dichlorodifluoromethane	85	3.862	3.853	0.009	80	12057	10.0	9.92	a
3 Chloromethane	50	4.128	4.123	0.005	99	37326	10.0	10.1	
4 Vinyl chloride	62	4.321	4.318	0.003	91	22692	10.0	10.3	a
5 Butadiene	39	4.411	4.437	-0.026	88	27701	10.0	7.92	
10 Ethylene oxide	44	4.693	4.684	0.009	97	40532	100.0	87.7	
7 Bromomethane	94	4.767	4.784	-0.017	60	10859	10.0	10.1	a
11 Chloroethane	64	4.914	4.912	0.002	64	11330	10.0	9.97	a
13 Dichlorofluoromethane	67	4.940	4.944	-0.004	50	23512	10.0	9.52	
24 Acrolein	56	5.405	5.406	-0.001	89	16274	50.0	52.5	
16 Acetonitrile	41	5.428	5.422	0.006	98	25613	100.0	92.0	
12 Trichlorofluoromethane	101	5.438	5.435	0.003	44	21354	10.0	10.3	a
19 Isopropyl alcohol	45	5.463	5.458	0.005	80	25562	100.0	109.6	
27 Acetone	43	5.527	5.522	0.005	94	27105	20.0	21.0	
15 Ethyl ether	59	5.608	5.608	0.000	96	23335	10.0	10.2	
31 2-Methyl-2-propanol	59	5.893	5.897	-0.004	97	39968	100.0	97.2	
20 1,1-Dichloroethene	96	5.916	5.913	0.003	63	11092	10.0	9.64	a
37 Acrylonitrile	52	5.928	5.929	-0.001	97	136018	100.0	99.8	
23 Iodomethane	142	5.996	5.990	0.006	27	19724	10.0	9.28	a
28 Methyl acetate	43	6.031	6.029	0.002	99	84575	20.0	19.6	
21 1,1,2-Trichloro-1,2,2-trif	151	6.041	6.038	0.003	39	5710	10.0	9.19	a
26 Methylene Chloride	84	6.060	6.054	0.006	83	18245	10.0	9.41	a
25 3-Chloro-1-propene	76	6.082	6.080	0.002	85	6325	10.0	9.98	
22 Carbon disulfide	76	6.272	6.266	0.006	99	44213	10.0	10.2	
29 trans-1,2-Dichloroethene	96	6.567	6.561	0.006	91	14220	10.0	9.24	a
30 Methyl tert-butyl ether	73	6.631	6.629	0.002	93	33188	10.0	9.85	
35 Propionitrile	54	6.760	6.757	0.003	99	61596	100.0	102.2	
34 1,1-Dichloroethane	63	6.763	6.764	-0.001	78	38512	10.0	9.56	
40 Vinyl acetate	43	6.824	6.821	0.003	97	151484	20.0	18.7	
36 2-Chloro-1,3-butadiene	53	7.045	7.040	0.005	93	47275	10.0	9.57	
58 Hexane	57	7.045	7.043	0.002	74	30944	10.0	9.76	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
32 Isopropyl ether	45	7.061	7.059	0.002	96	102182	10.0	9.41	a
56 2-Butanone (MEK)	72	7.074	7.072	0.002	95	7399	20.0	20.8	
61 Methacrylonitrile	66	7.164	7.161	0.003	98	46037	100.0	94.9	
44 cis-1,2-Dichloroethene	96	7.209	7.210	-0.001	85	21446	10.0	9.99	
33 Ethyl acetate	43	7.305	7.303	0.002	99	104577	20.0	18.7	a
47 Chlorobromomethane	128	7.340	7.344	-0.004	80	11922	10.0	9.92	
41 Tert-butyl ethyl ether	59	7.369	7.367	0.002	94	40200	10.0	9.66	
48 Chloroform	83	7.369	7.370	-0.001	93	34759	10.0	9.91	
39 Isobutyl alcohol	43	7.411	7.409	0.002	89	54153	250.0	242.5	
46 2,2-Dichloropropane	77	7.437	7.428	0.009	76	14869	10.0	10.2	a
$ 52 Dibromofluoromethane	113	7.465	7.466	-0.001	91	19746	10.0	9.77	
S 43 1,2-Dichloroethene, Total	96				0		20.0	19.2	
53 Tetrahydrofuran	42	7.632	7.633	-0.001	92	32857	20.0	20.0	
$ 64 1,2-Dichloroethane-d4 (Sur	65	7.815	7.819	-0.004	0	28853	10.0	9.76	
65 1,2-Dichloroethane	62	7.876	7.877	-0.001	95	38086	10.0	9.73	
55 1,1,1-Trichloroethane	97	7.953	7.951	0.002	96	24623	10.0	9.52	
38 n-Butanol	56	7.966	7.964	0.002	95	24264	250.0	221.6	
57 1,1-Dichloropropene	75	8.085	8.082	0.003	83	24637	10.0	9.94	
69 Cyclohexane	84	8.171	8.175	-0.004	94	14747	10.0	10.5	
54 Carbon tetrachloride	119	8.242	8.236	0.006	94	24014	10.0	10.1	
63 Benzene	78	8.261	8.262	-0.001	94	76090	10.0	9.90	
62 Tert-amyl methyl ether	73	8.338	8.342	-0.004	88	24297	10.0	9.63	
59 Isooctane	57	8.550	8.551	-0.001	96	22647	10.0	10.6	
72 Ethyl acrylate	55	8.601	8.599	0.002	93	69136	10.0	9.54	
60 n-Heptane	43	8.608	8.605	0.003	59	25963	10.0	9.76	
73 Dibromomethane	93	8.710	8.711	-0.001	91	14522	10.0	9.77	
79 1,2-Dichloropropane	63	8.720	8.721	-0.001	87	26221	10.0	9.89	
66 2-Nitropropane	43	8.736	8.737	-0.001	97	38796	20.0	18.8	
70 Trichloroethene	130	8.749	8.747	0.002	87	21747	10.0	9.96	
75 Dichlorobromomethane	83	8.797	8.798	-0.001	94	27750	10.0	9.70	
77 Methyl methacrylate	41	8.839	8.840	-0.001	87	90697	20.0	18.8	
78 1,4-Dioxane	58	8.861	8.865	-0.004	87	3554	200.0	178.4	
71 Methylcyclohexane	83	9.173	9.170	0.003	94	16207	10.0	10.0	
80 4-Methyl-2-pentanone (MIBK	43	9.355	9.356	-0.001	99	106459	20.0	19.3	
* 85 Chlorobenzene-d5	82	11.390	11.384	0.006	90	147992	50.0	50.0	
89 2-Chloroethyl vinyl ether	63	9.073	9.074	-0.001	89	27664	20.0	19.3	
90 cis-1,3-Dichloropropene	75	9.298	9.292	0.006	82	32879	10.0	9.65	
96 trans-1,3-Dichloropropene	75	9.654	9.655	-0.001	87	31412	10.0	9.40	
100 1,1,2-Trichloroethane	97	9.818	9.818	0.000	94	20167	10.0	9.88	
$ 93 Toluene-d8 (Surr)	98	9.917	9.915	0.002	96	68146	10.0	9.41	
97 Ethyl methacrylate	69	9.968	9.969	-0.001	86	30622	10.0	9.03	
94 Toluene	92	9.984	9.982	0.002	95	46572	10.0	9.42	
102 1,3-Dichloropropane	76	10.033	10.033	0.000	85	28647	10.0	8.84	
106 2-Hexanone	43	10.126	10.123	0.003	97	72989	20.0	17.8	
101 Chlorodibromomethane	129	10.331	10.335	-0.004	90	23541	10.0	9.39	
103 n-Butyl acetate	43	10.398	10.399	-0.001	96	73128	10.0	8.82	
105 Ethylene Dibromide	107	10.581	10.585	-0.004	98	20761	10.0	9.22	
98 Tetrachloroethene	164	10.722	10.723	-0.001	90	13739	10.0	9.24	
S 104 Xylenes, Total	106				0		20.0	19.7	
113 1-Chlorohexane	55	11.278	11.275	0.003	77	25128	10.0	10.1	
110 1,1,1,2-Tetrachloroethane	131	11.339	11.339	-0.001	88	19740	10.0	9.82	
109 Chlorobenzene	112	11.425	11.426	-0.001	93	52753	10.0	9.84	

Report Date: 06-Sep-2019 14:08:02 Chrom Revision: 2.3 22-Aug-2019 12:55:36
Data File: \\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41003.D

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
108 Ethylbenzene	106	11.592	11.596	-0.004	98	26811	10.0	9.69	
111 m-Xylene & p-Xylene	91	11.788	11.789	-0.001	0	65479	10.0	9.77	
114 Styrene	104	12.157	12.154	0.003	92	52063	10.0	9.63	
116 Cyclohexanone	55	12.221	12.219	0.003	94	61339	500.0	470.6	
112 o-Xylene	106	12.234	12.231	0.003	97	32367	10.0	9.89	
* 117 1,4-Dichlorobenzene-d4	152	14.008	14.006	0.002	95	118086	50.0	50.0	
119 Bromoform	173	11.996	11.991	0.005	92	15899	10.0	10.1	
124 1,1,2,2-Tetrachloroethane	83	12.247	12.247	0.000	96	28320	10.0	10.1	
129 trans-1,4-Dichloro-2-buten	53	12.397	12.398	-0.001	71	9354	10.0	8.32	
128 1,2,3-Trichloropropane	110	12.413	12.411	0.002	95	8642	10.0	10.0	a
121 Isopropylbenzene	105	12.628	12.623	0.005	96	73589	10.0	10.3	
$ 122 4-Bromofluorobenzene	95	12.689	12.693	-0.004	87	23899	10.0	9.99	
125 Bromobenzene	156	12.936	12.934	0.002	86	20567	10.0	9.93	
123 N-Propylbenzene	120	13.084	13.091	-0.007	99	18913	10.0	10.3	
127 2-Chlorotoluene	126	13.212	13.210	0.002	95	17188	10.0	9.48	
130 4-Chlorotoluene	91	13.286	13.284	0.002	97	52776	10.0	9.94	
126 1,3,5-Trimethylbenzene	105	13.360	13.361	-0.001	95	54847	10.0	10.2	
131 tert-Butylbenzene	119	13.658	13.662	-0.004	95	40793	10.0	10.3	
133 1,2,4-Trimethylbenzene	105	13.758	13.759	-0.001	98	55539	10.0	9.95	
135 sec-Butylbenzene	105	13.873	13.871	0.002	95	55791	10.0	10.8	
143 Benzyl chloride	91	13.970	13.971	-0.001	96	47413	10.0	9.09	a
137 1,3-Dichlorobenzene	146	13.976	13.974	0.002	86	31968	10.0	9.78	
136 4-Isopropyltoluene	119	14.034	14.035	-0.001	97	47071	10.0	10.6	
140 1,4-Dichlorobenzene	146	14.037	14.035	0.002	80	33670	10.0	9.84	
139 1,2,3-Trimethylbenzene	105	14.185	14.186	-0.001	99	54613	10.0	9.74	
144 1,2-Dichlorobenzene	146	14.390	14.391	-0.001	95	30831	10.0	9.57	
142 n-Butylbenzene	91	14.441	14.439	0.002	97	35203	10.0	10.4	
146 1,2-Dibromo-3-Chloropropan	157	14.868	14.866	0.002	79	5428	10.0	9.47	
147 1,3,5-Trichlorobenzene	180	15.702	15.703	-0.001	96	16310	10.0	10.5	
149 1,2,4-Trichlorobenzene	180	16.303	16.297	0.005	94	15673	10.0	10.0	
150 Naphthalene	128	16.598	16.599	-0.001	98	58556	10.0	9.43	
148 Hexachlorobutadiene	190	16.620	16.624	-0.004	49	2294	10.0	10.6	a
151 1,2,3-Trichlorobenzene	180	16.838	16.833	0.005	95	14461	10.0	10.3	
S 162 Trihalomethanes, Total	1				0			39.1	
S 159 1,3-Dichloropropene, Total	1				0			19.0	
S 182 Total BTEX	1				0			48.7	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

VOAIS250PPM_00134	Amount Added:	1.00	Units: uL
VOASTDPT2_00147	Amount Added:	1.00	Units: uL
EOxideStd_00159	Amount Added:	1.00	Units: uL
VOASTDGASPT_00341	Amount Added:	1.00	Units: uL

Report Date: 06-Sep-2019 14:08:02 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41003.D				
Injection Date:	29-Aug-2019 14:11:30	Instrument ID:	CHVOAMS10	Operator ID:	dt
Lims ID:	ic			Worklist Smp#:	5
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		

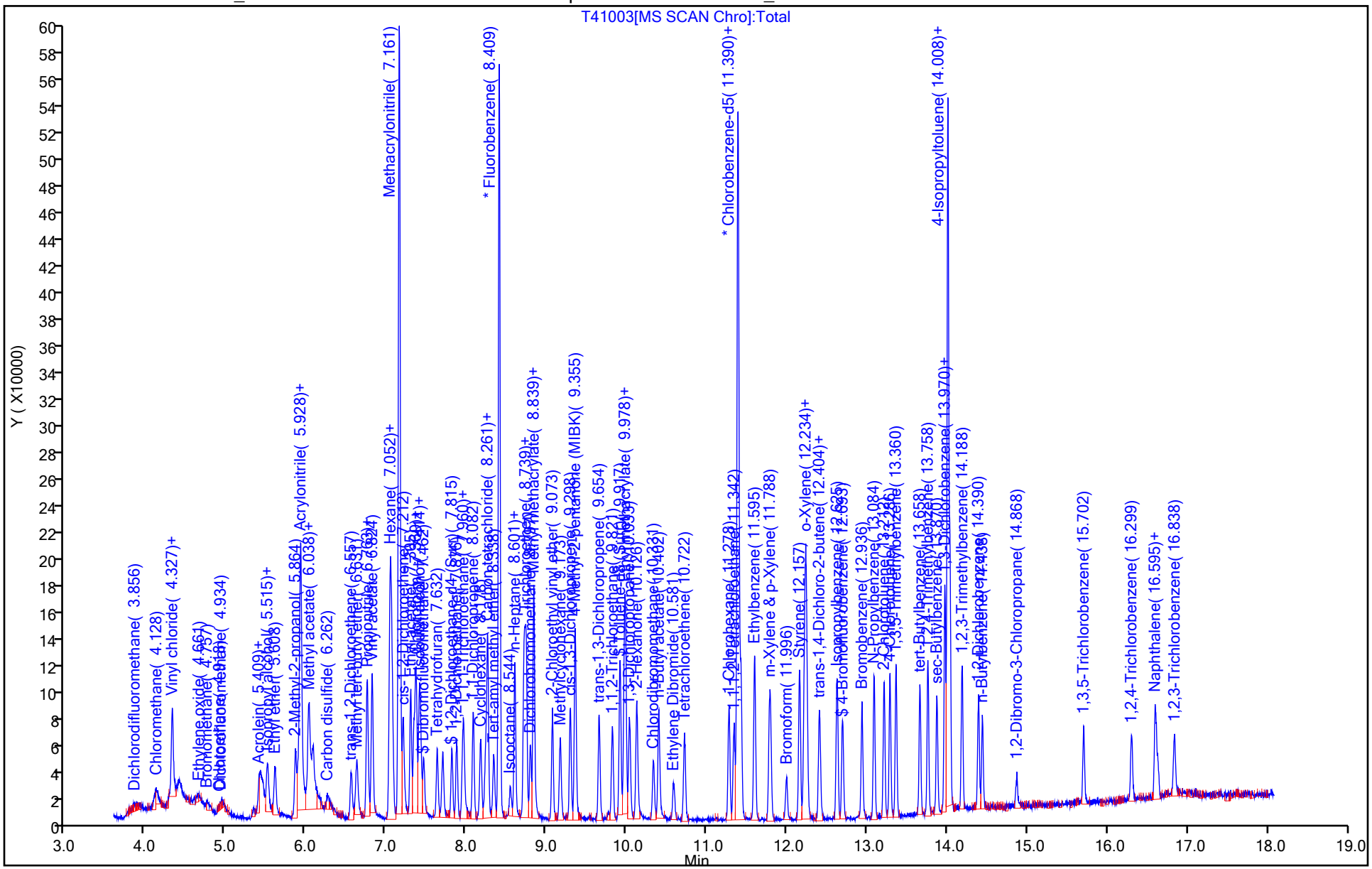

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41003.D				
Injection Date:	29-Aug-2019 14:11:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	3	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

2 Dichlorodifluoromethane, CAS: 75-71-8

Signal: 1

Not Detected
Expected RT: 3.85

Processing Integration Results

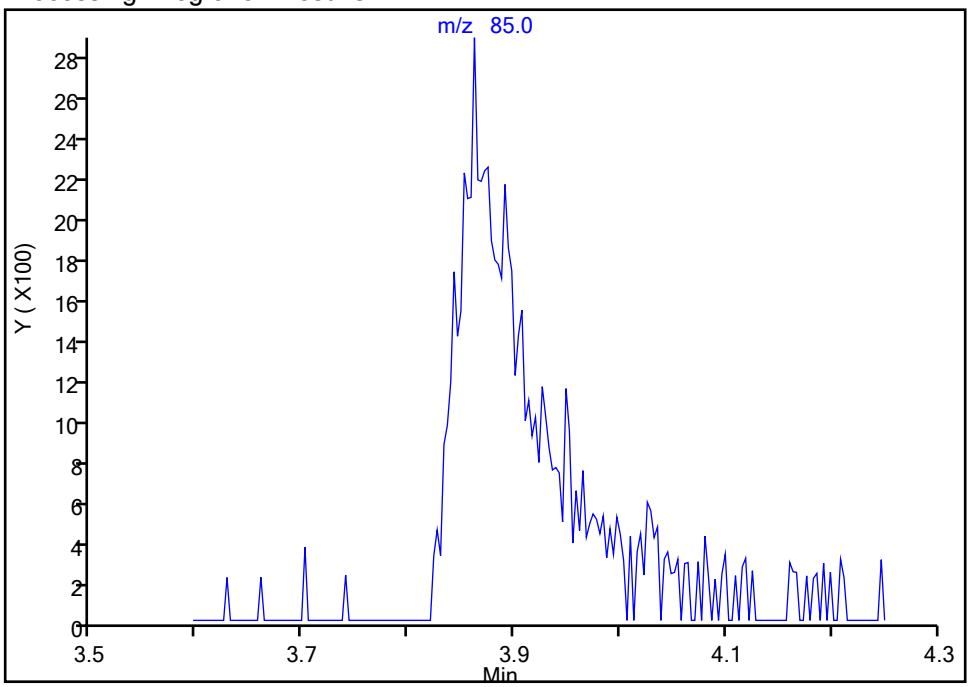

Manual Integration Results

RT: 3.86
Area: 12057
Amount: 9.920133
Amount Units: ug/l

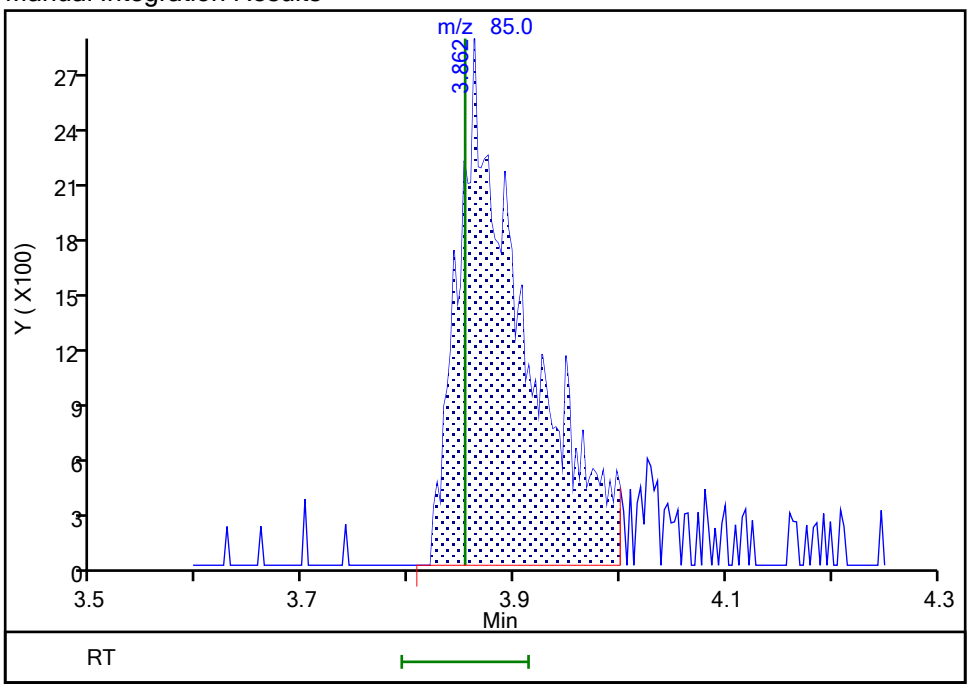

Reviewer: tengd, 29-Aug-2019 14:38:31
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41003.D				
Injection Date:	29-Aug-2019 14:11:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	3	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

4 Vinyl chloride, CAS: 75-01-4

Signal: 1

Not Detected
Expected RT: 4.32

Processing Integration Results

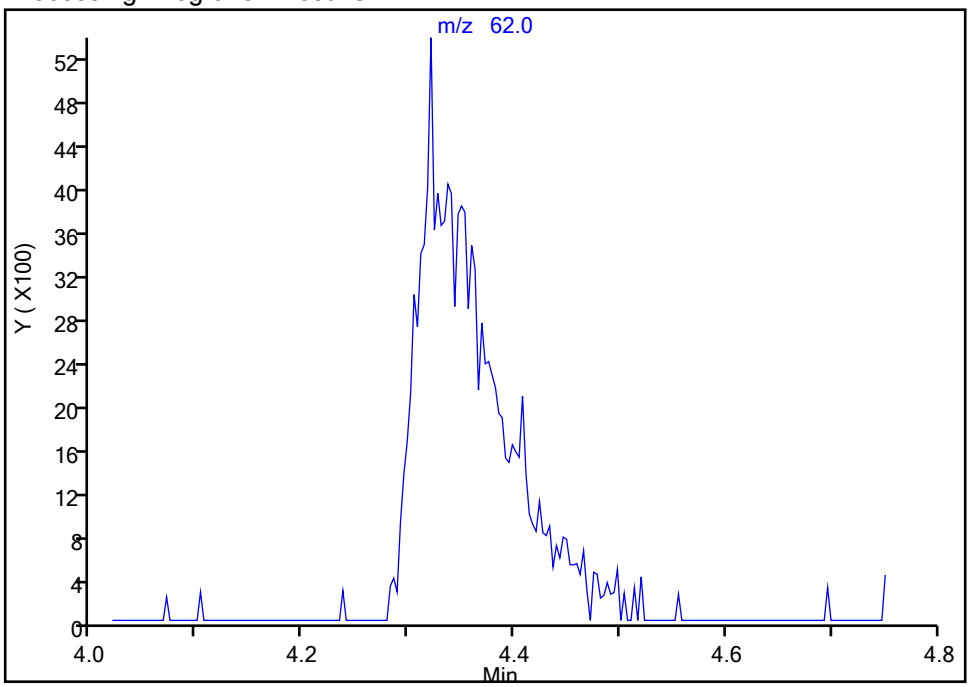

Manual Integration Results

RT: 4.32
Area: 22692
Amount: 10.275688
Amount Units: ug/l

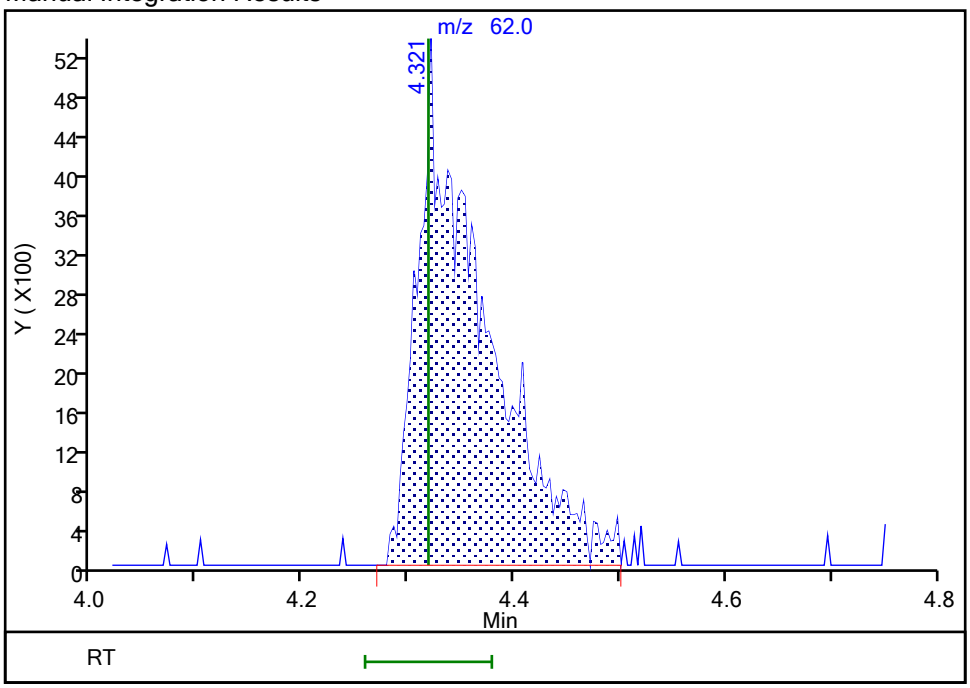

Reviewer: tengd, 29-Aug-2019 14:38:12
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41003.D				
Injection Date:	29-Aug-2019 14:11:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	3	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

7 Bromomethane, CAS: 74-83-9

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 4.78

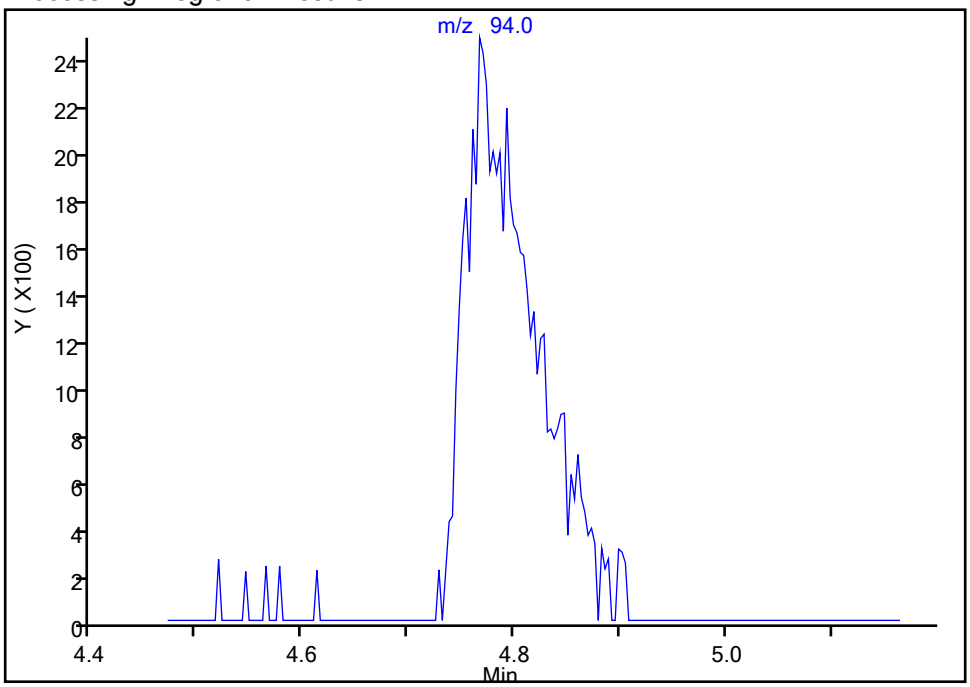

Manual Integration Results

RT: 4.77
Area: 10859
Amount: 10.116669
Amount Units: ug/l

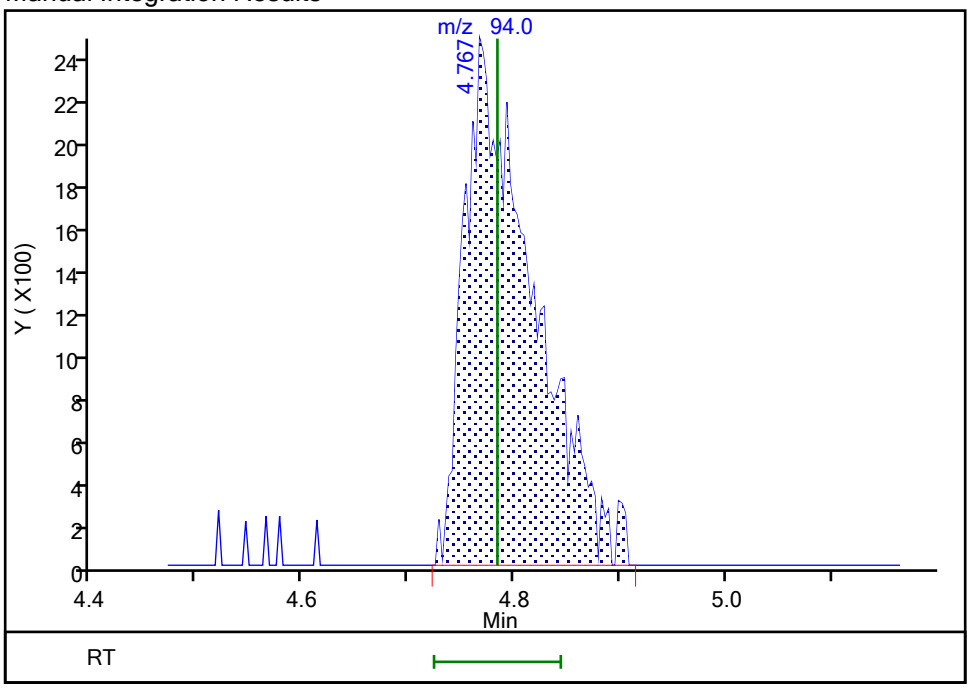

Reviewer: tengd, 29-Aug-2019 14:34:29
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41003.D				
Injection Date:	29-Aug-2019 14:11:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	3	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

11 Chloroethane, CAS: 75-00-3

Signal: 1

Not Detected
Expected RT: 4.91

Processing Integration Results

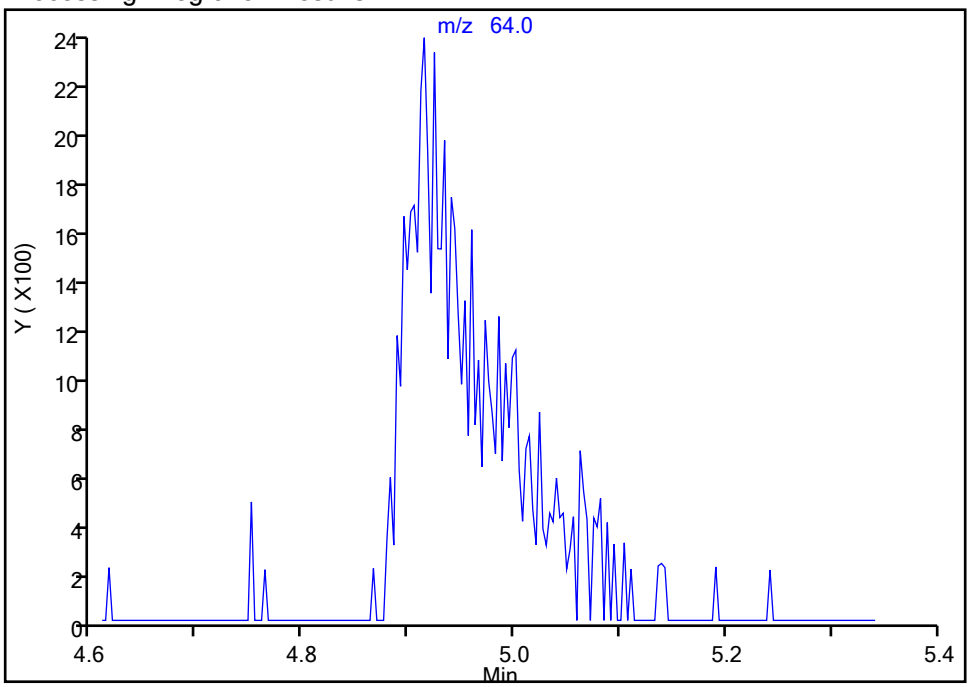

Manual Integration Results

RT: 4.91
Area: 11330
Amount: 9.970219
Amount Units: ug/l

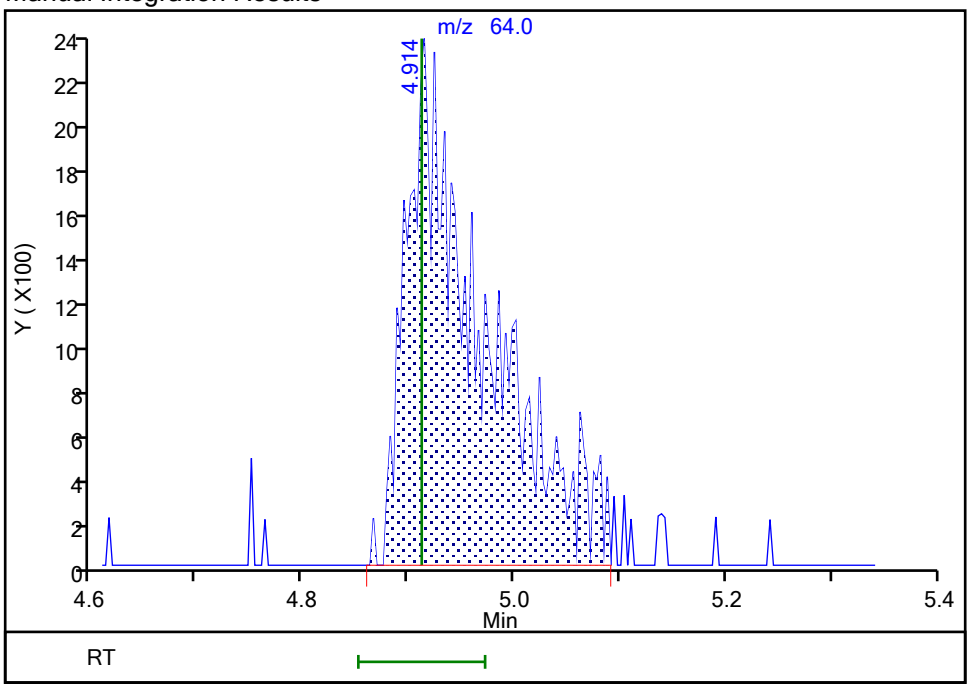

Reviewer: tengd, 29-Aug-2019 14:38:39
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41003.D				
Injection Date:	29-Aug-2019 14:11:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	3	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

12 Trichlorofluoromethane, CAS: 75-69-4

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 5.44

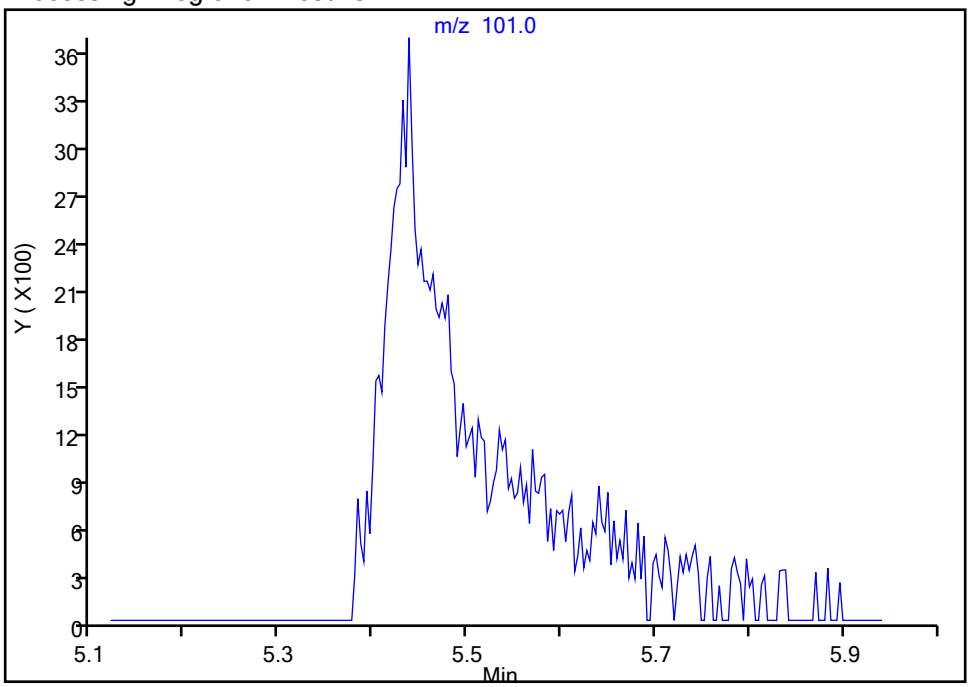

Manual Integration Results

RT: 5.44
Area: 21354
Amount: 10.308167
Amount Units: ug/l

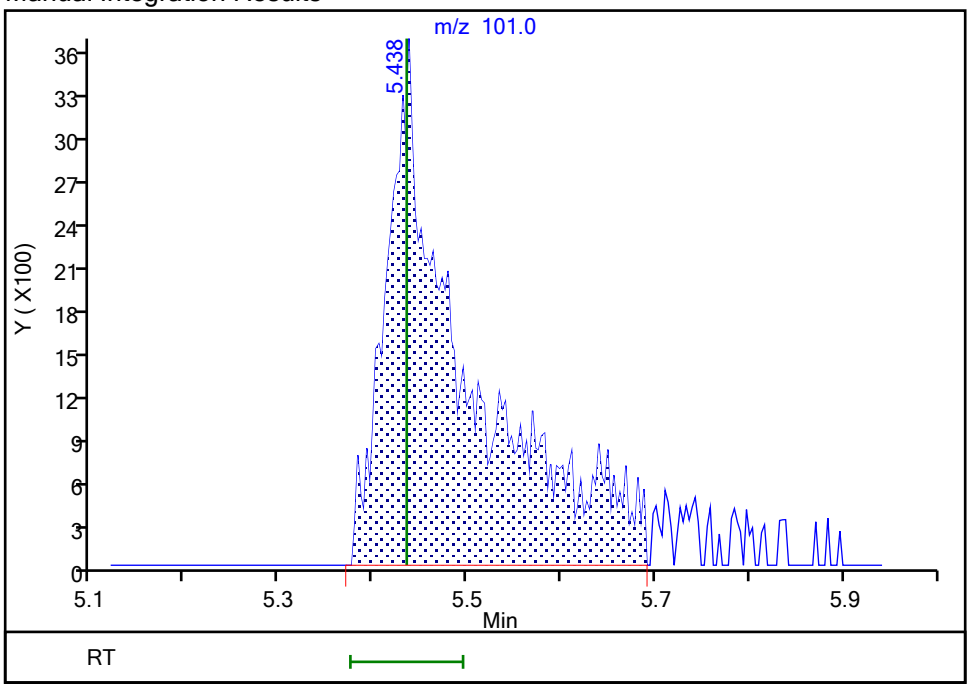

Reviewer: tengd, 29-Aug-2019 14:34:43
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41003.D				
Injection Date:	29-Aug-2019 14:11:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	3	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

20 1,1-Dichloroethene, CAS: 75-35-4

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 5.91

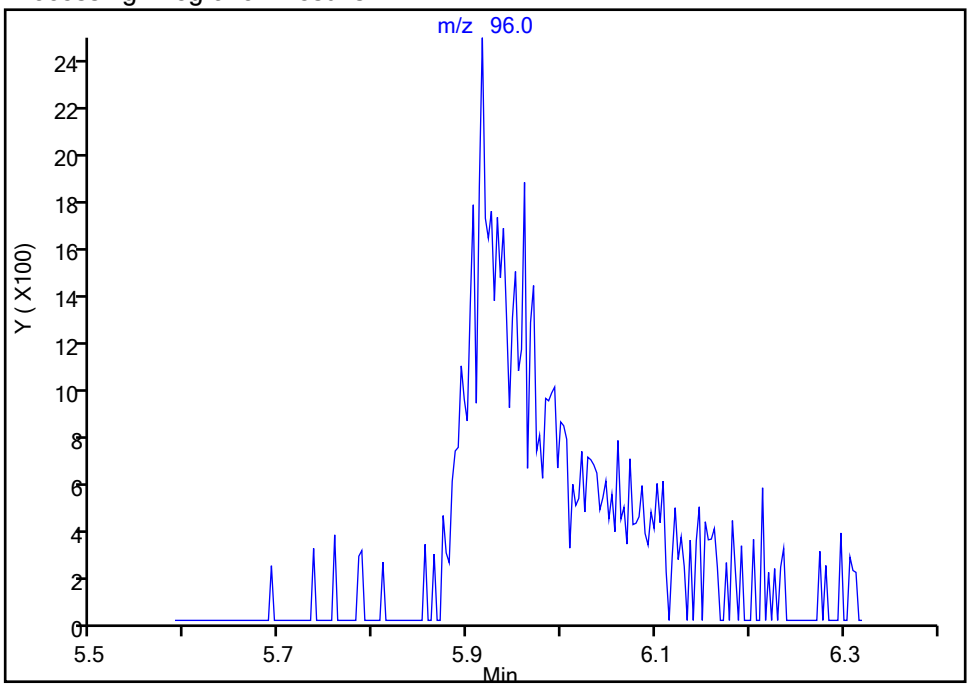

Manual Integration Results

RT: 5.92
Area: 11092
Amount: 9.640276
Amount Units: ug/l

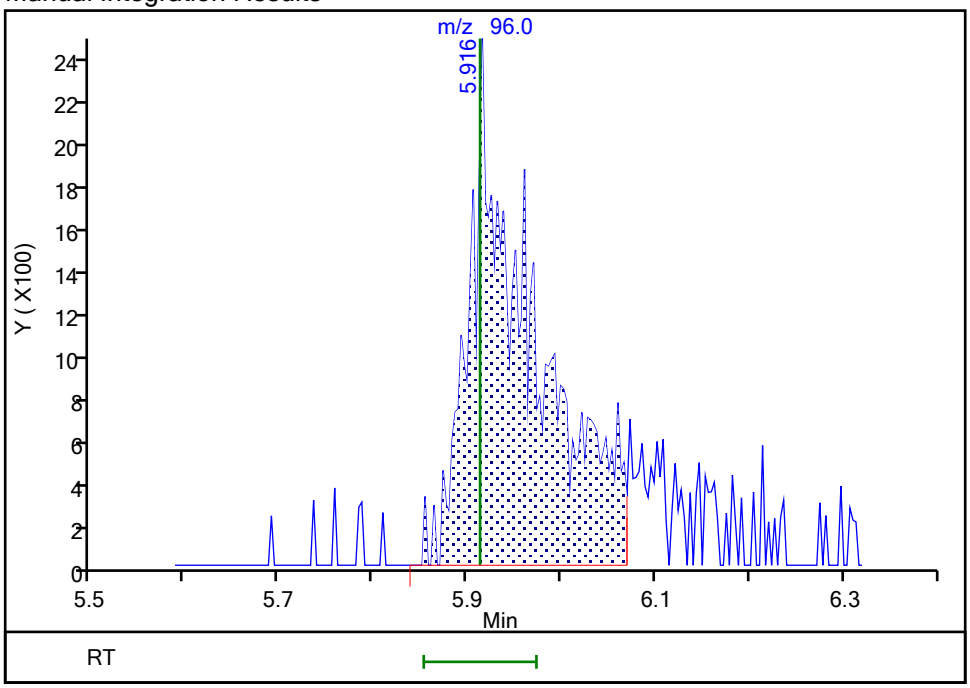

Reviewer: tengd, 29-Aug-2019 14:34:52
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41003.D				
Injection Date:	29-Aug-2019 14:11:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	3	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

23 Iodomethane, CAS: 74-88-4

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 5.99

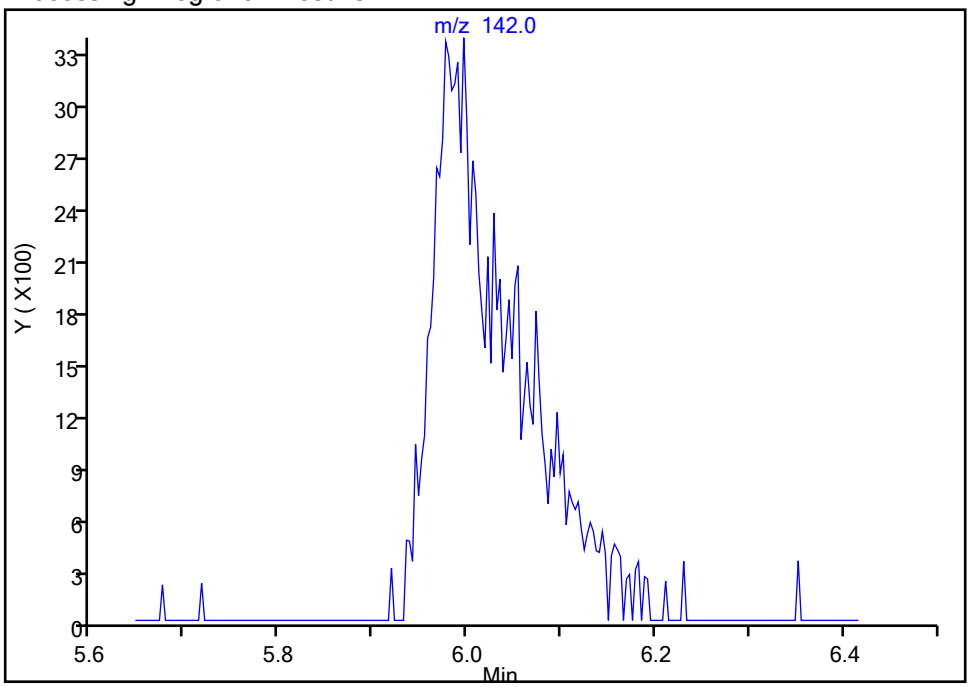

Manual Integration Results

RT: 6.00
Area: 19724
Amount: 9.280202
Amount Units: ug/l

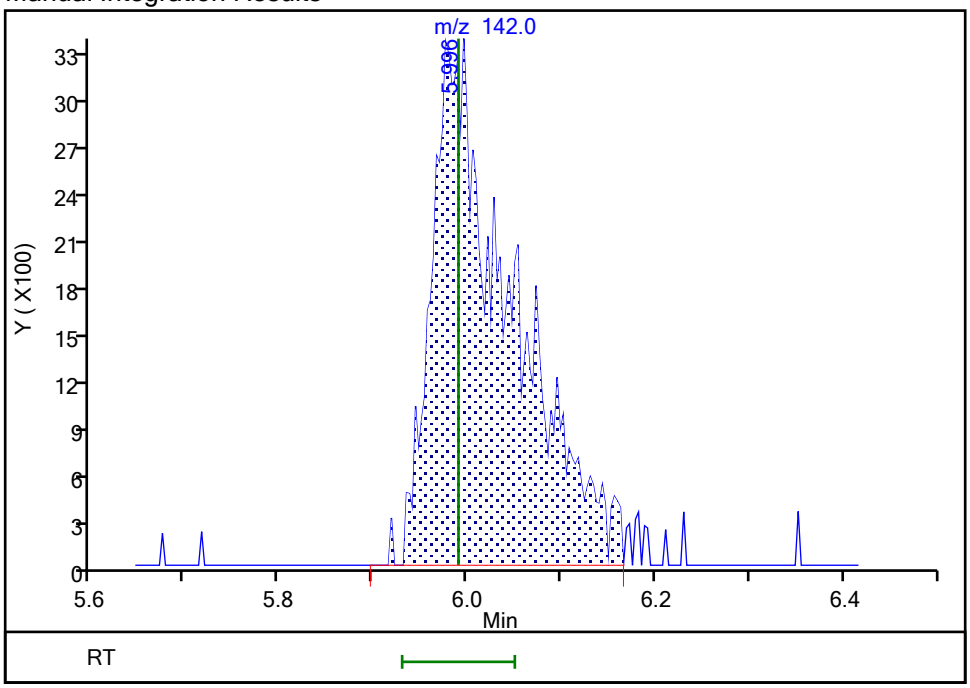

Reviewer: tengd, 29-Aug-2019 14:35:40
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41003.D				
Injection Date:	29-Aug-2019 14:11:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	3	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

21 1,1,2-Trichloro-1,2,2-trifluoroethane, CAS: 76-13-1

Signal: 1

Not Detected
Expected RT: 6.04

Processing Integration Results

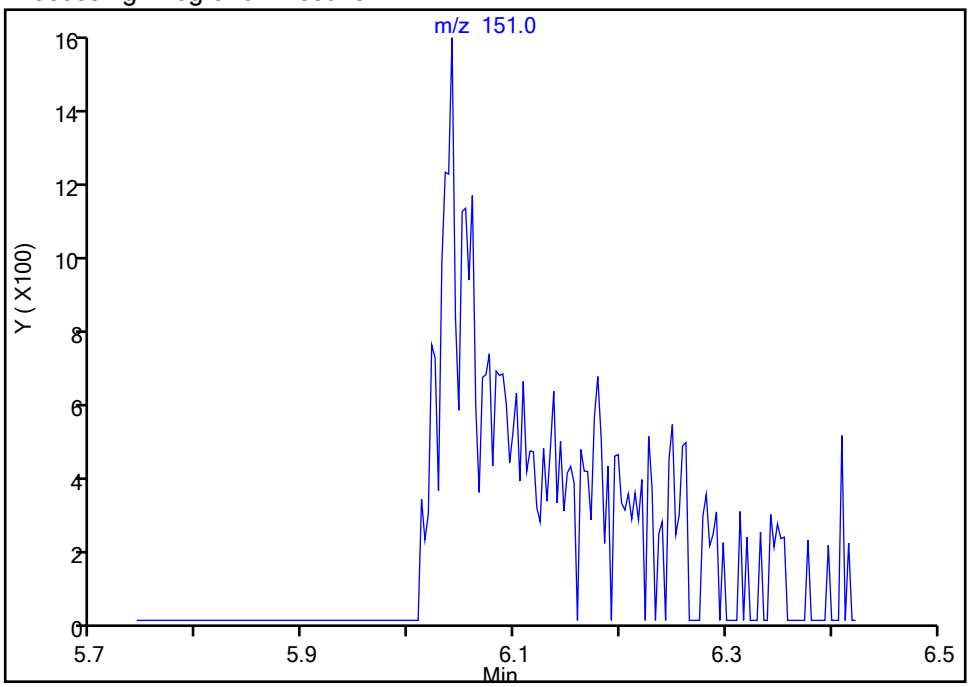

RT: 6.04
Area: 5710
Amount: 9.194714
Amount Units: ug/l

Manual Integration Results

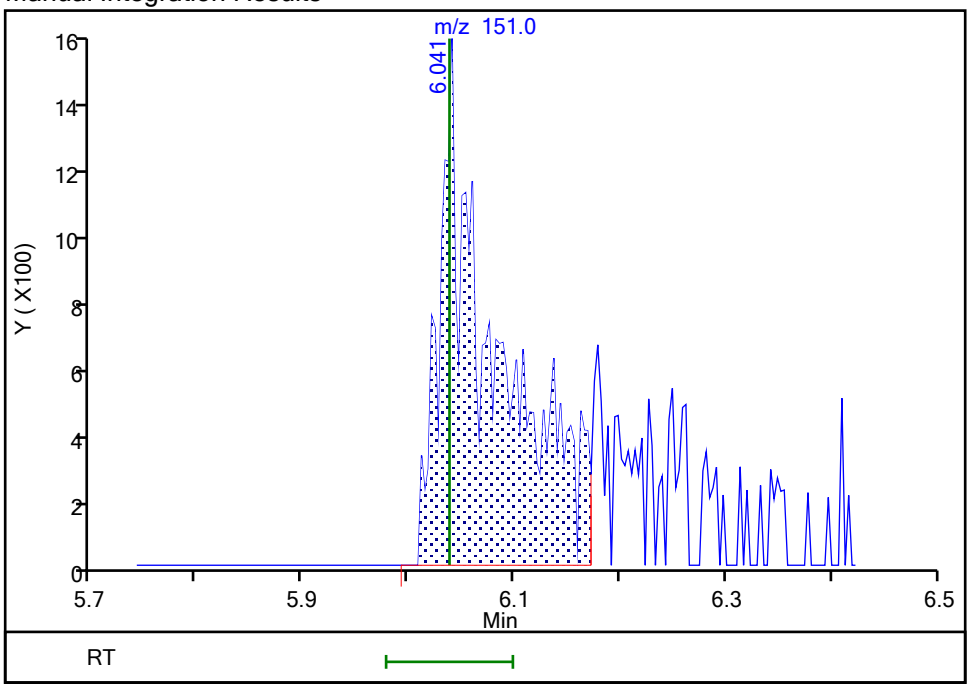

Reviewer: tengd, 29-Aug-2019 14:38:46
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41003.D				
Injection Date:	29-Aug-2019 14:11:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	3	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

26 Methylene Chloride, CAS: 75-09-2

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 6.05

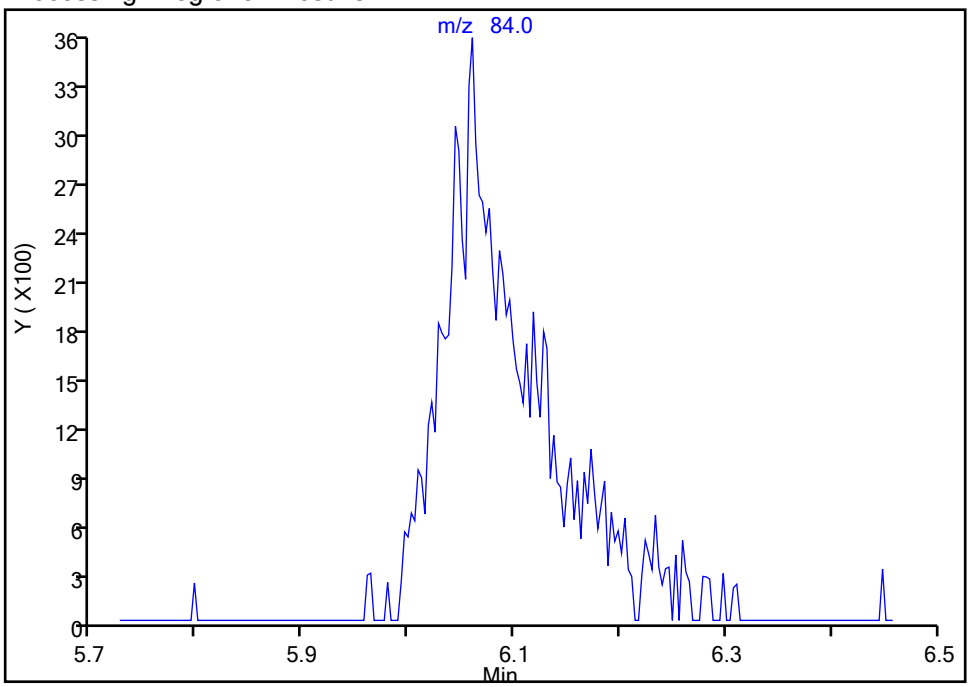

Manual Integration Results

RT: 6.06
Area: 18245
Amount: 9.410420
Amount Units: ug/l

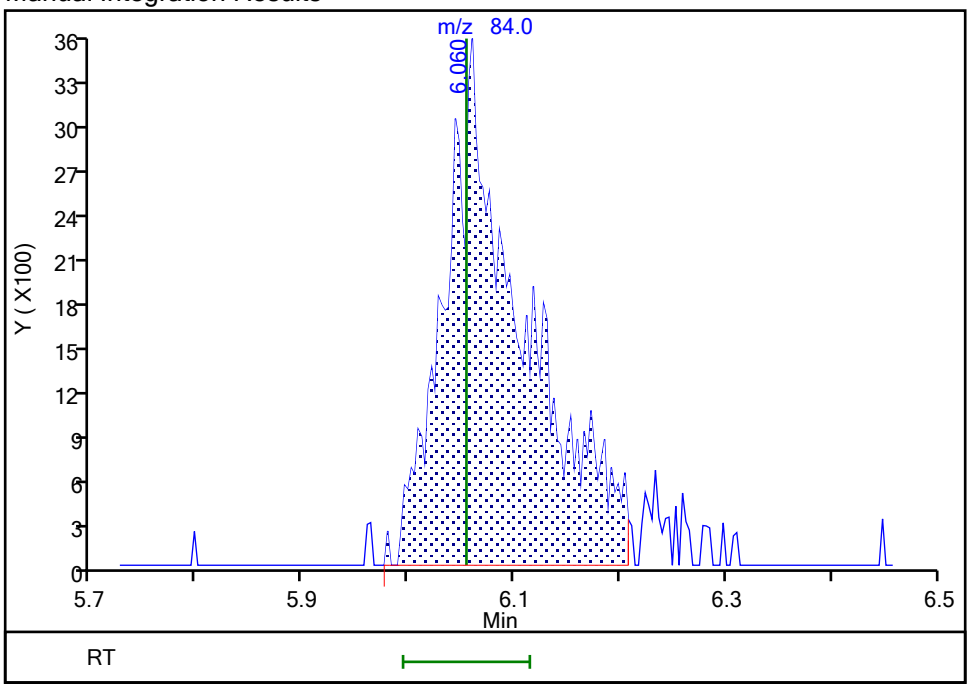

Reviewer: tengd, 29-Aug-2019 14:38:54
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41003.D				
Injection Date:	29-Aug-2019 14:11:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	3	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

29 trans-1,2-Dichloroethene, CAS: 156-60-5

Signal: 1

Not Detected
Expected RT: 6.56

Processing Integration Results

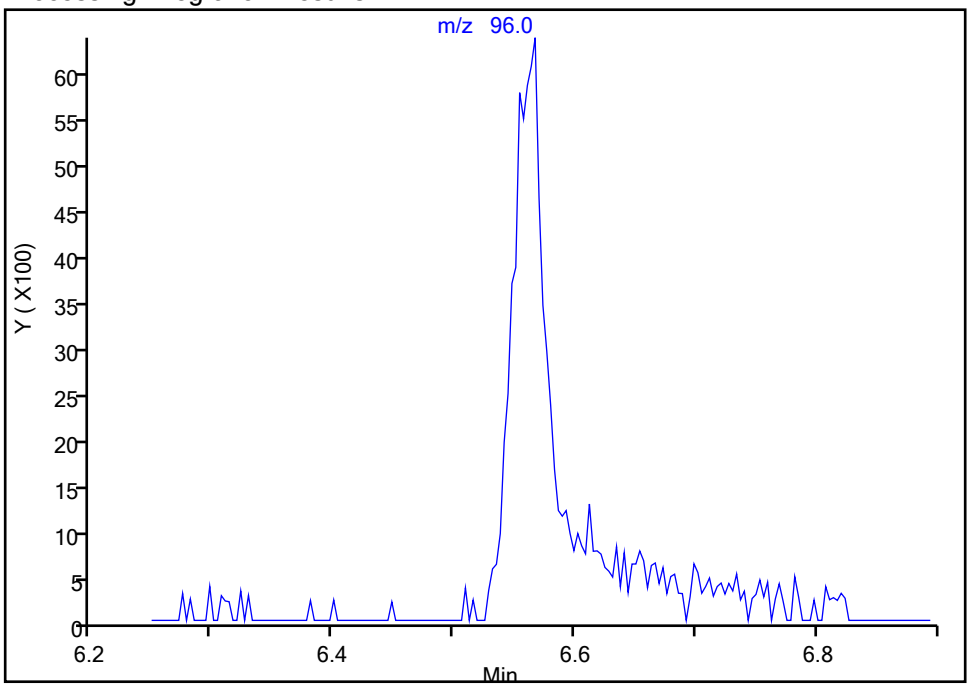

RT: 6.57
Area: 14220
Amount: 9.237905
Amount Units: ug/l

Manual Integration Results

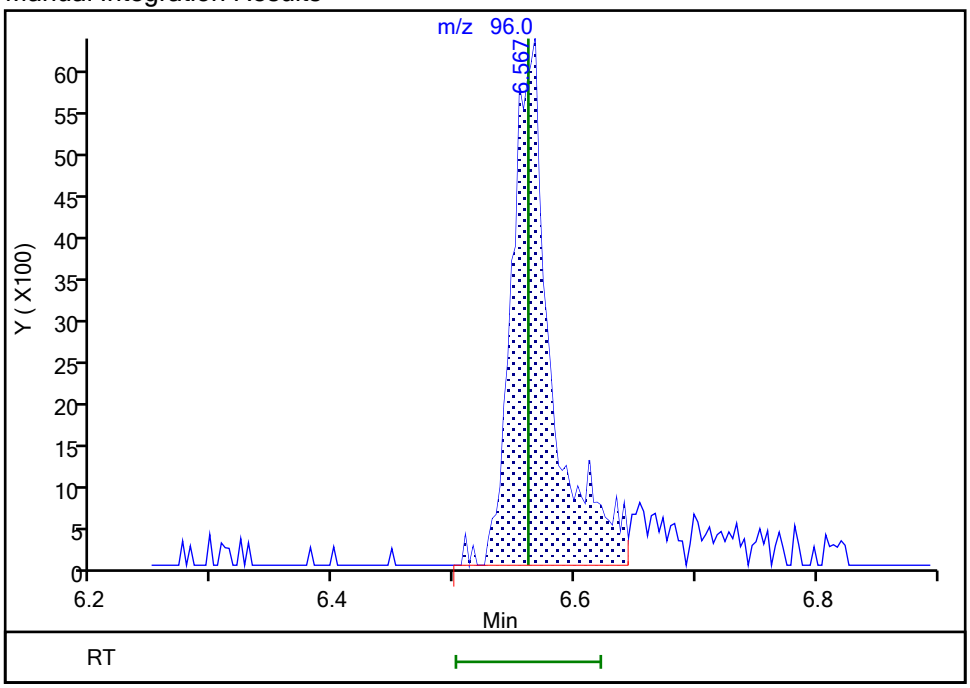

Reviewer: tengd, 29-Aug-2019 14:36:22
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41003.D				
Injection Date:	29-Aug-2019 14:11:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	3	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

32 Isopropyl ether, CAS: 108-20-3

Signal: 1

Not Detected
Expected RT: 7.06

Processing Integration Results

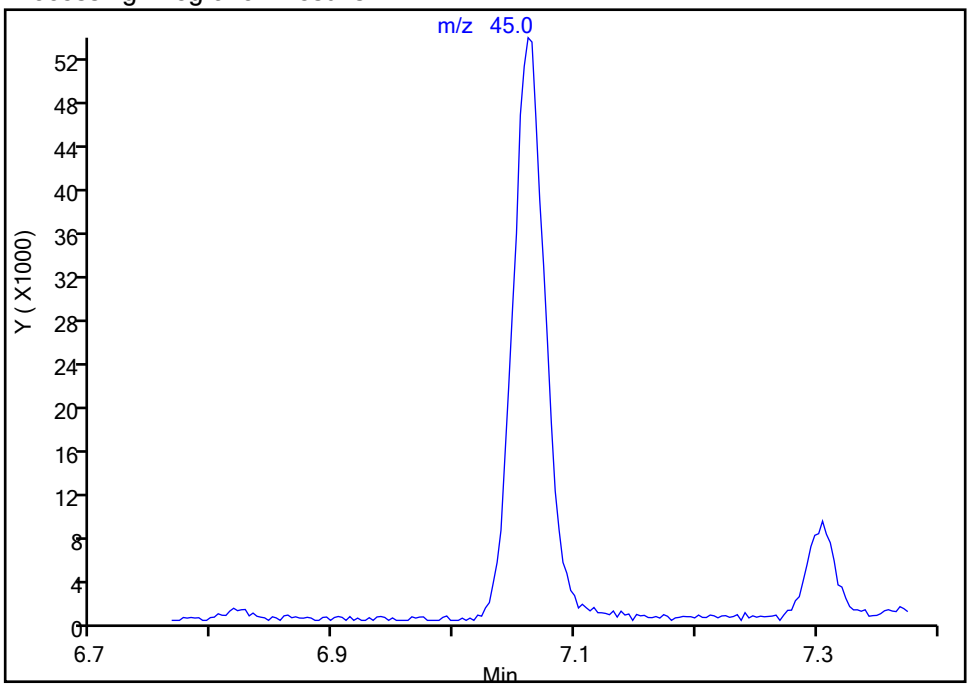

Manual Integration Results

RT: 7.06
Area: 102182
Amount: 9.411704
Amount Units: ug/l

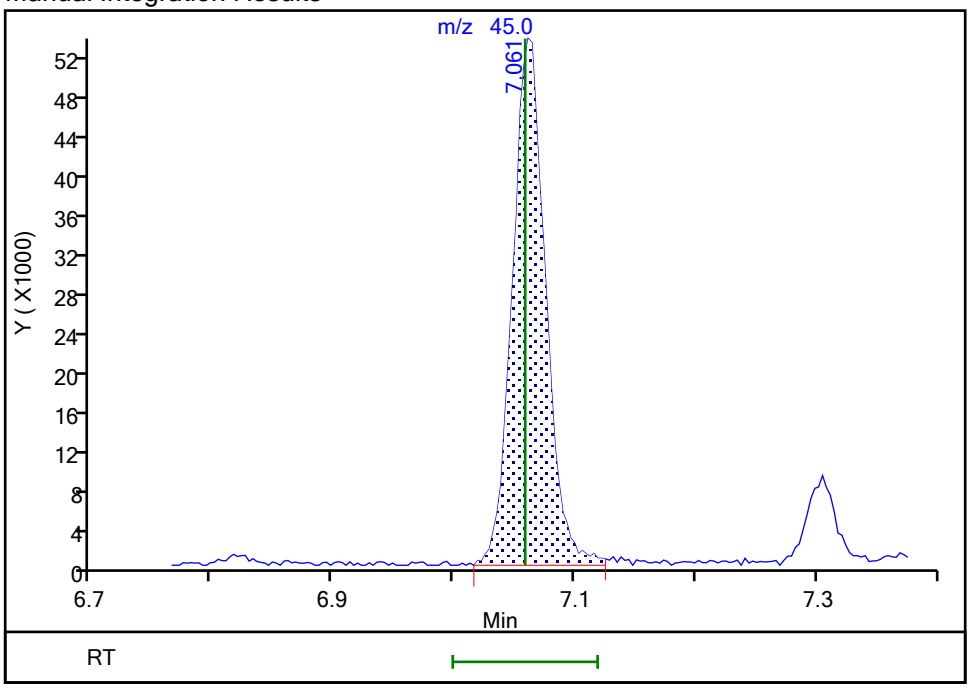

Reviewer: tengd, 29-Aug-2019 14:39:01
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41003.D				
Injection Date:	29-Aug-2019 14:11:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	3	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

33 Ethyl acetate, CAS: 141-78-6

Signal: 1

Not Detected
Expected RT: 7.30

Processing Integration Results

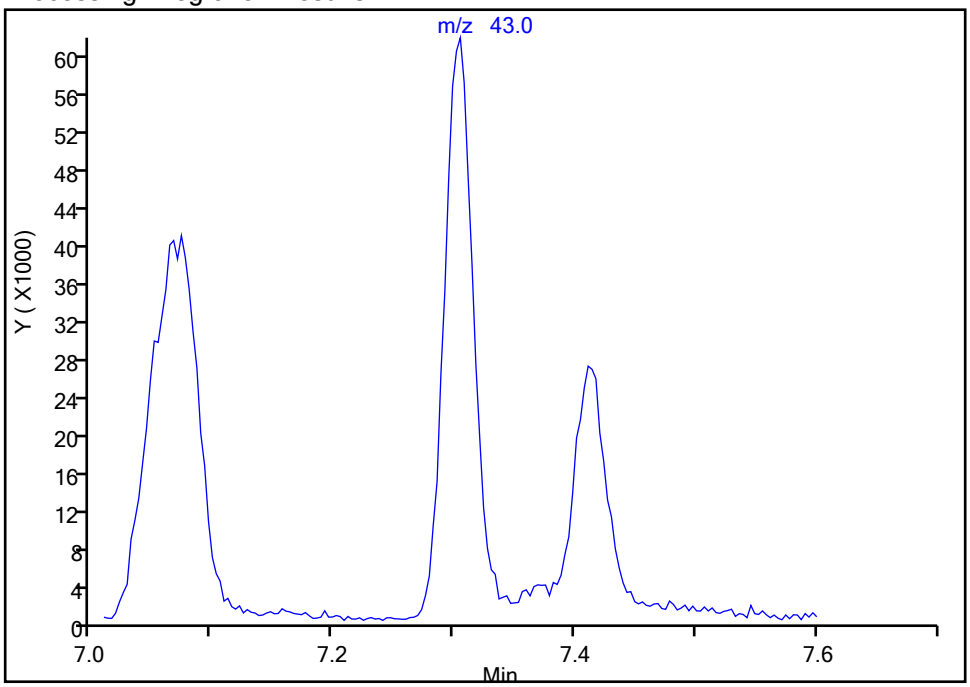

RT: 7.31
Area: 104577
Amount: 18.693444
Amount Units: ug/l

Manual Integration Results

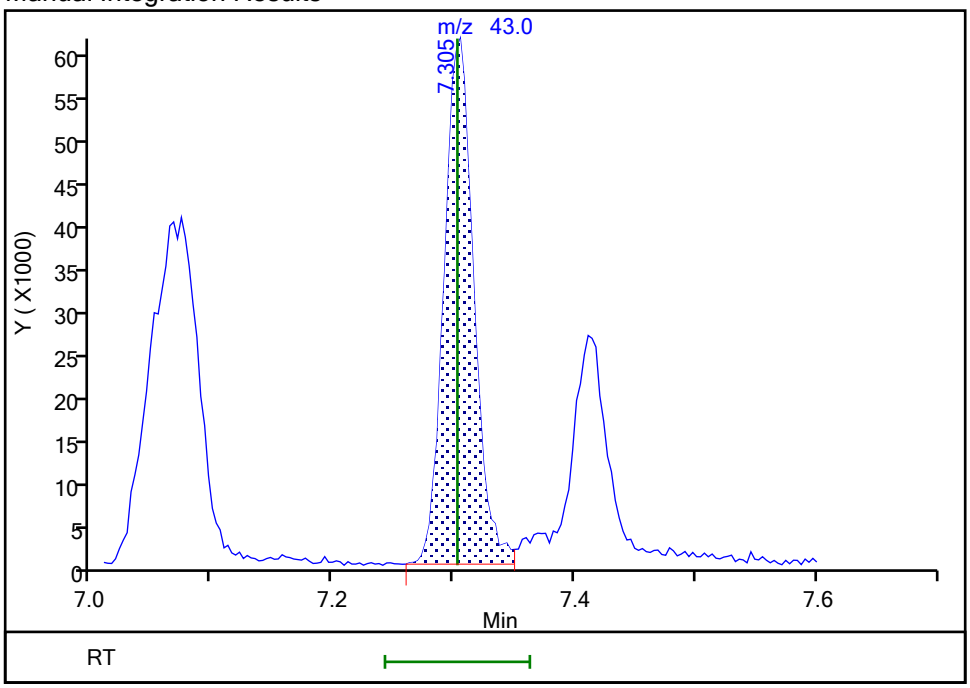

Reviewer: tengd, 29-Aug-2019 15:38:51
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41003.D				
Injection Date:	29-Aug-2019 14:11:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	3	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

46 2,2-Dichloropropane, CAS: 594-20-7

Signal: 1

Not Detected
Expected RT: 7.43

Processing Integration Results

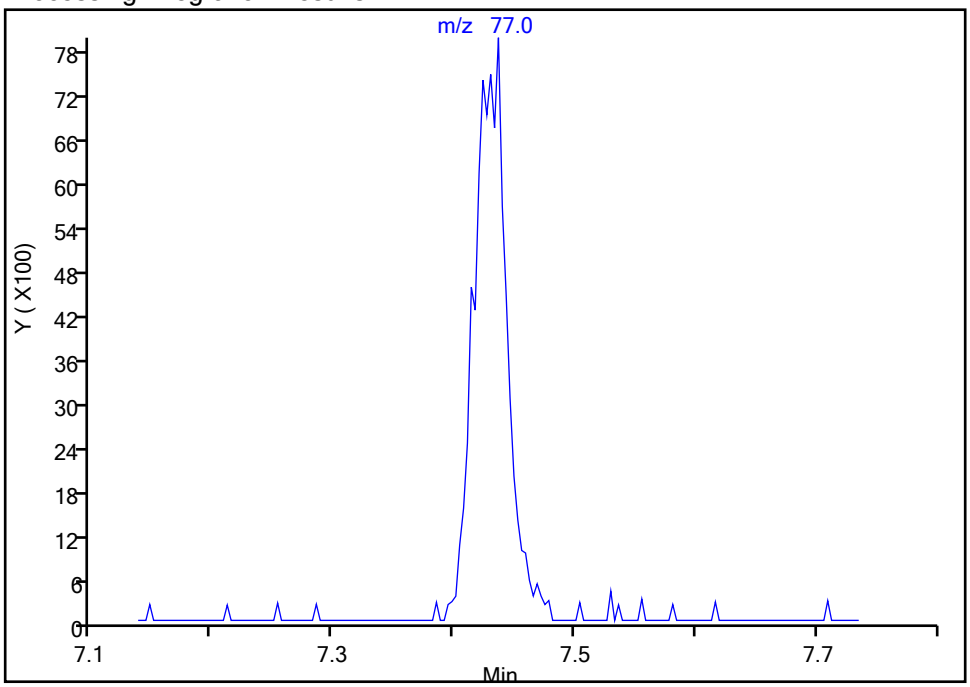

RT: 7.44
Area: 14869
Amount: 10.213543
Amount Units: ug/l

Manual Integration Results

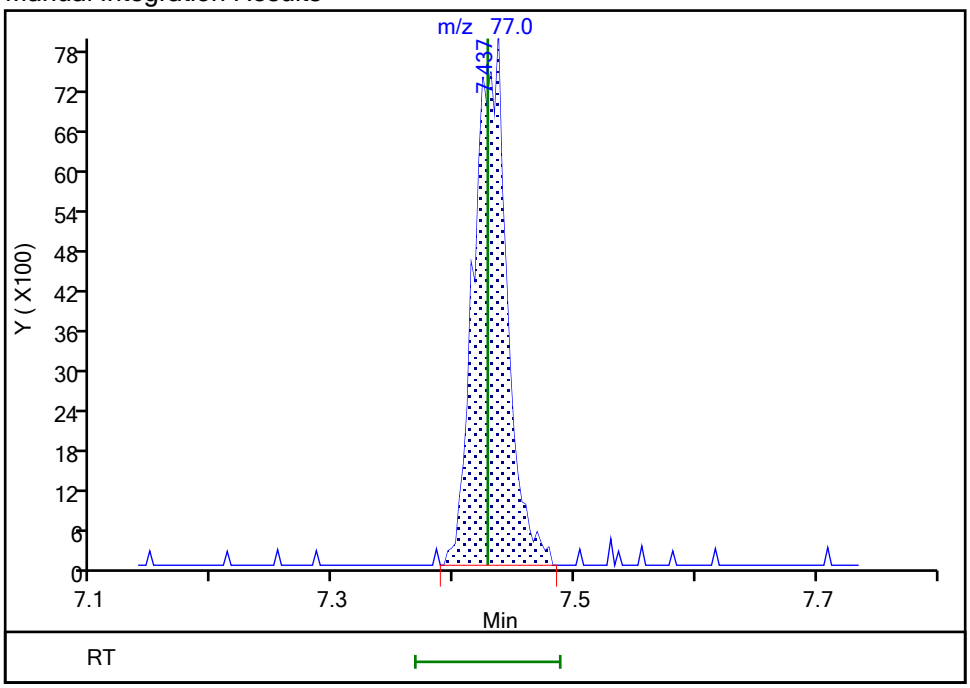

Reviewer: tengd, 29-Aug-2019 14:36:36
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41003.D				
Injection Date:	29-Aug-2019 14:11:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	3	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

128 1,2,3-Trichloropropane, CAS: 96-18-4

Signal: 1

Not Detected
Expected RT: 12.41

Processing Integration Results

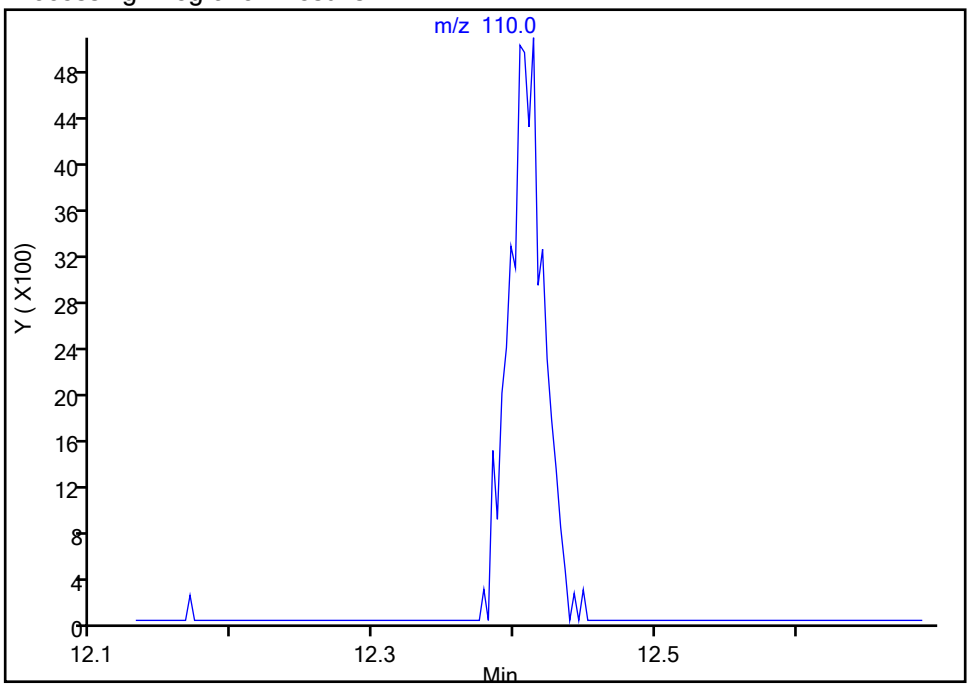

Manual Integration Results

RT: 12.41
Area: 8642
Amount: 10.043000
Amount Units: ug/l

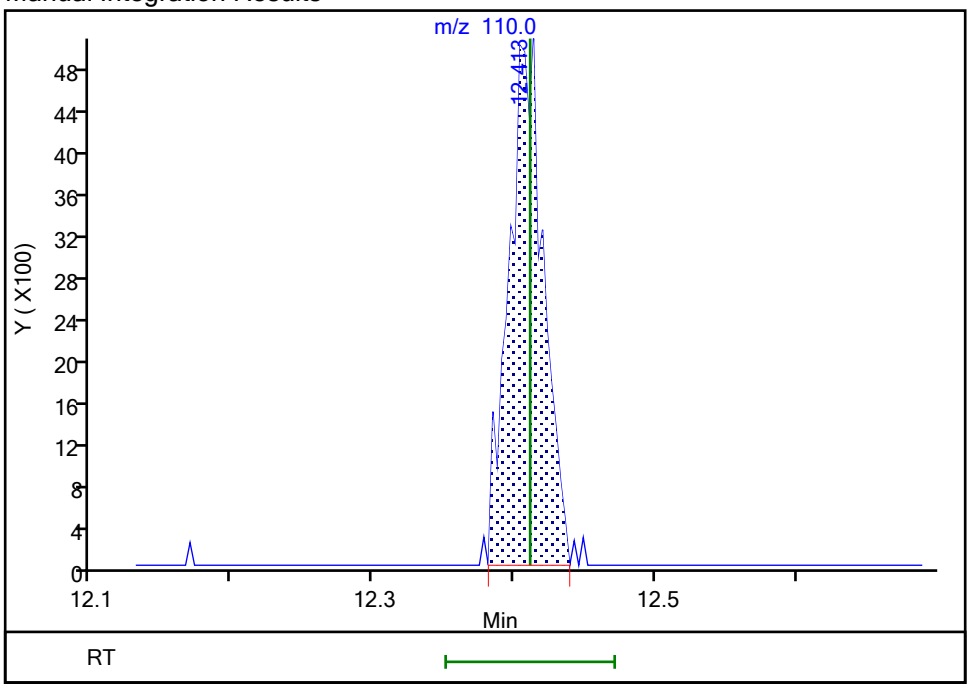

Reviewer: tengd, 29-Aug-2019 14:37:20
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41003.D				
Injection Date:	29-Aug-2019 14:11:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	3	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

143 Benzyl chloride, CAS: 100-44-7

Signal: 1

Processing Integration Results

RT: 14.03
Area: 11615
Amount: 10.000000
Amount Units: ug/l

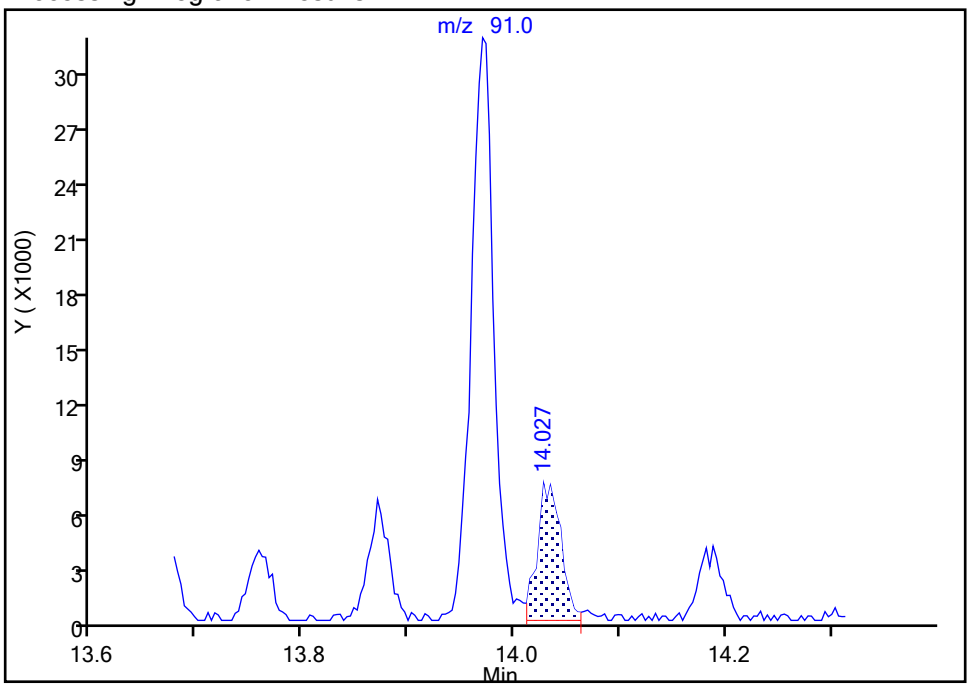

Manual Integration Results

RT: 13.97
Area: 47413
Amount: 9.092525
Amount Units: ug/l

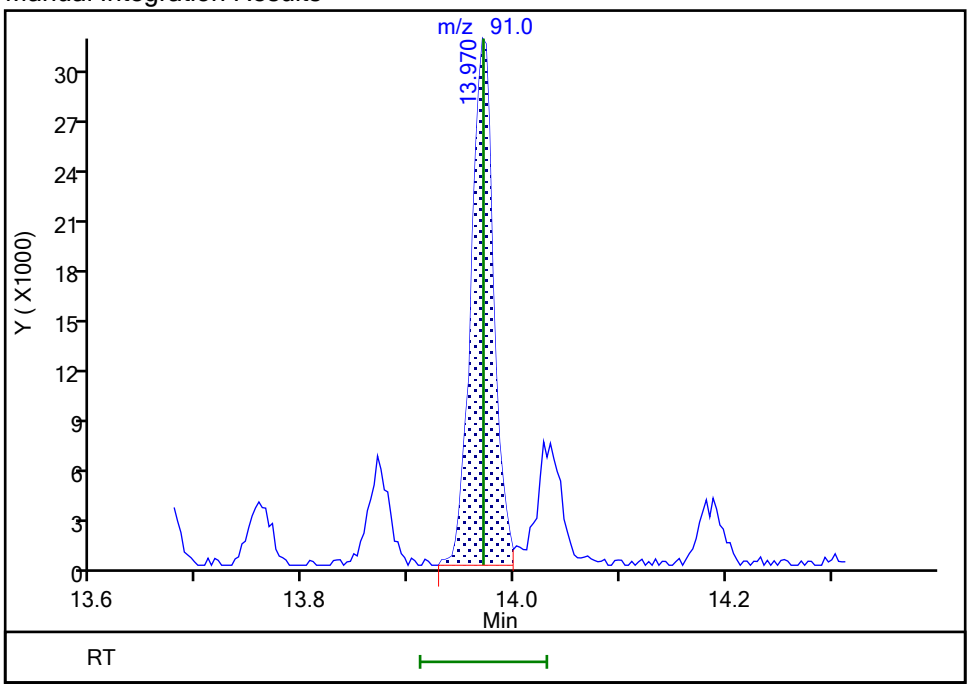

Reviewer: tengd, 29-Aug-2019 14:37:40
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41003.D				
Injection Date:	29-Aug-2019 14:11:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	3	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

148 Hexachlorobutadiene, CAS: 87-68-3

Signal: 1

Not Detected
Expected RT: 16.62

Processing Integration Results

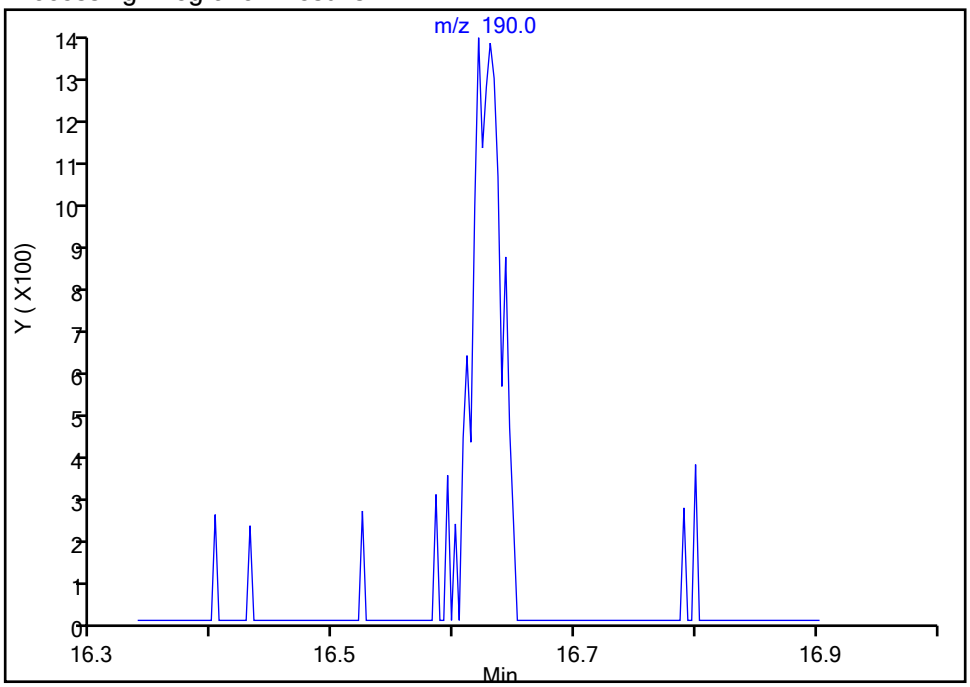

Manual Integration Results

RT: 16.62
Area: 2294
Amount: 10.621324
Amount Units: ug/l

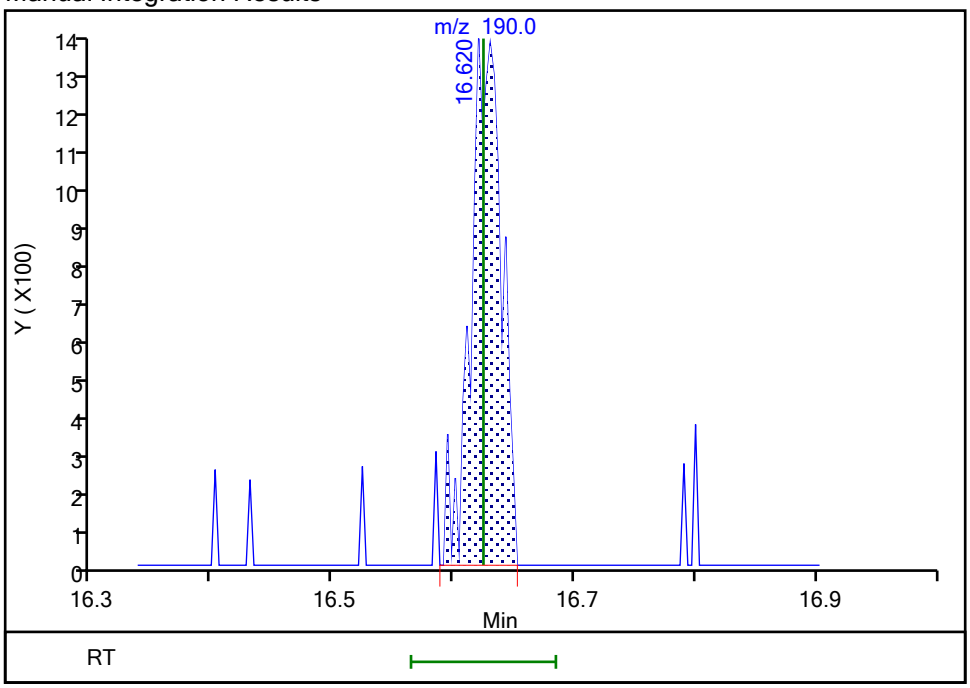

Reviewer: tengd, 29-Aug-2019 14:39:08
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41004.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 29-Aug-2019 14:40:30 ALS Bottle#: 4 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: ic
Misc. Info.: 600-0030818-006
Operator ID: dt Instrument ID: CHVOAMS10
Sublist: chrom-8260w5_10*sub37

Method: \\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\8260w5_10.m
Limit Group: VOA - 8260C_8260CLL
Last Update: 06-Sep-2019 14:08:09 Calib Date: 29-Aug-2019 16:10:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41007.D

Column 1 : Det: MS SCAN
Process Host: CTX0307

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.408	8.406	0.002	97	371392	50.0	50.0	
2 Dichlorodifluoromethane	85	3.868	3.853	0.015	96	23769	20.0	19.9	
3 Chloromethane	50	4.125	4.123	0.002	99	74306	20.0	20.5	a
4 Vinyl chloride	62	4.317	4.318	-0.001	94	43967	20.0	20.3	a
5 Butadiene	39	4.442	4.437	0.005	89	66821	20.0	21.8	
10 Ethylene oxide	44	4.670	4.684	-0.014	97	98459	200.0	216.8	
7 Bromomethane	94	4.763	4.784	-0.021	69	20889	20.0	19.8	a
11 Chloroethane	64	4.917	4.912	0.005	34	24106	20.0	21.6	a
13 Dichlorofluoromethane	67	4.949	4.944	0.005	94	50031	20.0	20.6	a
24 Acrolein	56	5.408	5.406	0.002	93	29680	100.0	97.5	
16 Acetonitrile	41	5.431	5.422	0.009	100	59407	200.0	217.2	
12 Trichlorofluoromethane	101	5.431	5.435	-0.004	95	41738	20.0	20.5	Ma
19 Isopropyl alcohol	45	5.456	5.458	-0.002	99	46740	200.0	203.9	
27 Acetone	43	5.527	5.522	0.005	96	51743	40.0	40.8	
15 Ethyl ether	59	5.610	5.608	0.002	96	46572	20.0	20.7	
31 2-Methyl-2-propanol	59	5.902	5.897	0.005	96	85702	200.0	212.1	
20 1,1-Dichloroethene	96	5.918	5.913	0.005	81	26742	20.0	23.7	a
37 Acrylonitrile	52	5.934	5.929	0.005	98	277458	200.0	207.2	
23 Iodomethane	142	5.989	5.990	-0.001	97	43499	20.0	20.8	
28 Methyl acetate	43	6.031	6.029	0.002	99	169559	40.0	40.0	
21 1,1,2-Trichloro-1,2,2-trif	151	6.040	6.038	0.002	43	13556	20.0	18.0	M
26 Methylene Chloride	84	6.069	6.054	0.015	69	32827	20.0	19.9	a
25 3-Chloro-1-propene	76	6.088	6.080	0.008	85	13556	20.0	21.8	
22 Carbon disulfide	76	6.271	6.266	0.005	95	85036	20.0	20.0	
29 trans-1,2-Dichloroethene	96	6.563	6.561	0.002	91	29417	20.0	19.4	
30 Methyl tert-butyl ether	73	6.634	6.629	0.005	92	66327	20.0	20.0	
35 Propionitrile	54	6.762	6.757	0.005	99	123449	200.0	208.5	
34 1,1-Dichloroethane	63	6.759	6.764	-0.005	78	82109	20.0	20.7	
40 Vinyl acetate	43	6.823	6.821	0.002	97	318905	40.0	40.0	
36 2-Chloro-1,3-butadiene	53	7.045	7.040	0.005	92	97651	20.0	20.1	
58 Hexane	57	7.045	7.043	0.002	72	61605	20.0	19.8	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
32 Isopropyl ether	45	7.064	7.059	0.005	94	213497	20.0	20.0	
56 2-Butanone (MEK)	72	7.077	7.072	0.005	94	14369	40.0	41.2	
61 Methacrylonitrile	66	7.163	7.161	0.002	98	96128	200.0	201.6	
44 cis-1,2-Dichloroethene	96	7.215	7.210	0.005	86	43108	20.0	20.4	
33 Ethyl acetate	43	7.305	7.303	0.002	99	222752	40.0	40.5	a
47 Chlorobromomethane	128	7.346	7.344	0.002	88	24359	20.0	20.6	
41 Tert-butyl ethyl ether	59	7.372	7.367	0.005	95	79744	20.0	19.5	
48 Chloroform	83	7.369	7.370	-0.001	92	71321	20.0	20.7	
39 Isobutyl alcohol	43	7.411	7.409	0.001	90	98506	500.0	448.9	
46 2,2-Dichloropropane	77	7.433	7.428	0.005	92	29525	20.0	20.6	
$ 52 Dibromofluoromethane	113	7.465	7.466	-0.001	93	40186	20.0	20.2	
S 43 1,2-Dichloroethene, Total	96				0		40.0	39.9	
53 Tetrahydrofuran	42	7.635	7.633	0.002	91	67414	40.0	41.7	
$ 64 1,2-Dichloroethane-d4 (Sur	65	7.815	7.819	-0.004	0	59638	20.0	20.5	
65 1,2-Dichloroethane	62	7.879	7.877	0.002	95	78388	20.0	20.4	
55 1,1,1-Trichloroethane	97	7.953	7.951	0.002	96	52788	20.0	20.8	
38 n-Butanol	56	7.966	7.964	0.002	95	51030	500.0	474.2	
57 1,1-Dichloropropene	75	8.084	8.082	0.002	83	49902	20.0	20.5	
69 Cyclohexane	84	8.177	8.175	0.002	92	28198	20.0	20.4	
54 Carbon tetrachloride	119	8.238	8.236	0.002	95	48523	20.0	20.8	
63 Benzene	78	8.264	8.262	0.002	94	155536	20.0	20.6	
62 Tert-amyl methyl ether	73	8.341	8.342	-0.001	86	50032	20.0	20.2	
59 Isooctane	57	8.546	8.551	-0.005	97	42859	20.0	20.5	
72 Ethyl acrylate	55	8.601	8.599	0.002	94	142347	20.0	20.0	
60 n-Heptane	43	8.604	8.605	-0.001	51	50824	20.0	19.4	
73 Dibromomethane	93	8.713	8.711	0.002	93	29432	20.0	20.2	
79 1,2-Dichloropropane	63	8.723	8.721	0.002	94	53319	20.0	20.5	
66 2-Nitropropane	43	8.739	8.737	0.002	98	84852	40.0	41.8	
70 Trichloroethene	130	8.749	8.747	0.002	89	44313	20.0	20.7	
75 Dichlorobromomethane	83	8.803	8.798	0.005	95	58120	20.0	20.7	
77 Methyl methacrylate	41	8.838	8.840	-0.002	87	194506	40.0	41.0	
78 1,4-Dioxane	58	8.864	8.865	-0.001	47	7792	400.0	398.0	
71 Methylcyclohexane	83	9.169	9.170	-0.001	93	33052	20.0	20.8	
80 4-Methyl-2-pentanone (MIBK	43	9.358	9.356	0.002	99	224025	40.0	41.3	
* 85 Chlorobenzene-d5	82	11.389	11.384	0.005	90	151733	50.0	50.0	
89 2-Chloroethyl vinyl ether	63	9.073	9.074	-0.001	88	56076	40.0	38.1	
90 cis-1,3-Dichloropropene	75	9.297	9.292	0.005	83	66216	20.0	19.0	
96 trans-1,3-Dichloropropene	75	9.657	9.655	0.002	89	67163	20.0	19.6	
100 1,1,2-Trichloroethane	97	9.820	9.818	0.002	94	39851	20.0	19.0	
$ 93 Toluene-d8 (Surr)	98	9.920	9.915	0.005	96	138152	20.0	18.6	
97 Ethyl methacrylate	69	9.968	9.969	-0.001	85	68157	20.0	19.6	
94 Toluene	92	9.981	9.982	-0.001	95	97247	20.0	19.2	
102 1,3-Dichloropropane	76	10.039	10.033	0.005	87	65190	20.0	19.6	
106 2-Hexanone	43	10.125	10.123	0.002	98	157975	40.0	37.6	
101 Chlorodibromomethane	129	10.337	10.335	0.002	90	49745	20.0	19.4	
103 n-Butyl acetate	43	10.398	10.399	-0.001	96	157257	20.0	18.5	
105 Ethylene Dibromide	107	10.584	10.585	-0.001	97	44823	20.0	19.4	
98 Tetrachloroethene	164	10.722	10.723	-0.001	90	29391	20.0	19.3	
S 104 Xylenes, Total	106				0		40.0	39.3	
113 1-Chlorohexane	55	11.280	11.275	0.005	78	48940	20.0	19.2	
110 1,1,1,2-Tetrachloroethane	131	11.341	11.339	0.002	91	40923	20.0	19.9	
109 Chlorobenzene	112	11.421	11.426	-0.005	93	107872	20.0	19.6	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
108 Ethylbenzene	106	11.598	11.596	0.002	97	55655	20.0	19.6	
111 m-Xylene & p-Xylene	91	11.787	11.789	-0.002	0	135755	20.0	19.8	
114 Styrene	104	12.160	12.154	0.006	92	109762	20.0	19.8	
116 Cyclohexanone	55	12.217	12.219	-0.001	92	127072	1000.0	950.8	
112 o-Xylene	106	12.233	12.231	0.002	97	65720	20.0	19.6	
* 117 1,4-Dichlorobenzene-d4	152	14.008	14.006	0.002	96	117643	50.0	50.0	
119 Bromoform	173	11.996	11.991	0.005	94	32584	20.0	20.8	
124 1,1,2,2-Tetrachloroethane	83	12.249	12.247	0.002	96	58523	20.0	20.9	
129 trans-1,4-Dichloro-2-buten	53	12.394	12.398	-0.004	75	20742	20.0	18.5	
128 1,2,3-Trichloropropane	110	12.410	12.411	-0.001	95	18237	20.0	21.3	
121 Isopropylbenzene	105	12.625	12.623	0.002	97	148040	20.0	20.9	
$ 122 4-Bromofluorobenzene	95	12.695	12.693	0.002	87	50406	20.0	21.1	
125 Bromobenzene	156	12.939	12.934	0.005	89	43122	20.0	20.9	
123 N-Propylbenzene	120	13.090	13.091	-0.001	99	38656	20.0	21.1	
127 2-Chlorotoluene	126	13.212	13.210	0.002	96	38722	20.0	21.4	
130 4-Chlorotoluene	91	13.286	13.284	0.002	98	110815	20.0	21.0	
126 1,3,5-Trimethylbenzene	105	13.360	13.361	-0.001	95	113813	20.0	21.2	
131 tert-Butylbenzene	119	13.661	13.662	-0.001	95	82729	20.0	21.0	
133 1,2,4-Trimethylbenzene	105	13.758	13.759	-0.001	98	116728	20.0	21.0	
135 sec-Butylbenzene	105	13.873	13.871	0.002	95	109142	20.0	21.2	
143 Benzyl chloride	91	13.966	13.971	-0.005	96	104498	20.0	20.1	a
137 1,3-Dichlorobenzene	146	13.969	13.974	-0.005	80	67406	20.0	20.7	
136 4-Isopropyltoluene	119	14.033	14.035	-0.002	96	93580	20.0	21.1	
140 1,4-Dichlorobenzene	146	14.037	14.035	0.002	84	68478	20.0	20.1	
139 1,2,3-Trimethylbenzene	105	14.187	14.186	0.001	99	117430	20.0	21.0	
144 1,2-Dichlorobenzene	146	14.393	14.391	0.002	97	64625	20.0	20.1	
142 n-Butylbenzene	91	14.438	14.439	-0.001	97	71359	20.0	21.1	
146 1,2-Dibromo-3-Chloropropan	157	14.865	14.866	-0.001	77	11496	20.0	20.1	
147 1,3,5-Trichlorobenzene	180	15.702	15.703	-0.001	97	33314	20.0	21.4	
149 1,2,4-Trichlorobenzene	180	16.299	16.297	0.002	95	32580	20.0	20.9	
150 Naphthalene	128	16.600	16.599	0.001	98	123098	20.0	19.9	
148 Hexachlorobutadiene	190	16.633	16.624	0.009	80	4840	20.0	22.5	
151 1,2,3-Trichlorobenzene	180	16.835	16.833	0.002	96	30168	20.0	21.6	
S 162 Trihalomethanes, Total	1				0			81.6	
S 159 1,3-Dichloropropene, Total	1				0			38.6	
S 182 Total BTEX	1				0			98.7	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

VOAIS250PPM_00134	Amount Added:	1.00	Units: uL
VOASTDPT2_00147	Amount Added:	2.00	Units: uL
EOxideStd_00159	Amount Added:	2.00	Units: uL
VOASTDGASPT_00341	Amount Added:	2.00	Units: uL

Report Date: 06-Sep-2019 14:08:12 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41004.D				
Injection Date:	29-Aug-2019 14:40:30	Instrument ID:	CHVOAMS10	Operator ID:	dt
Lims ID:	ic			Worklist Smp#:	6
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		

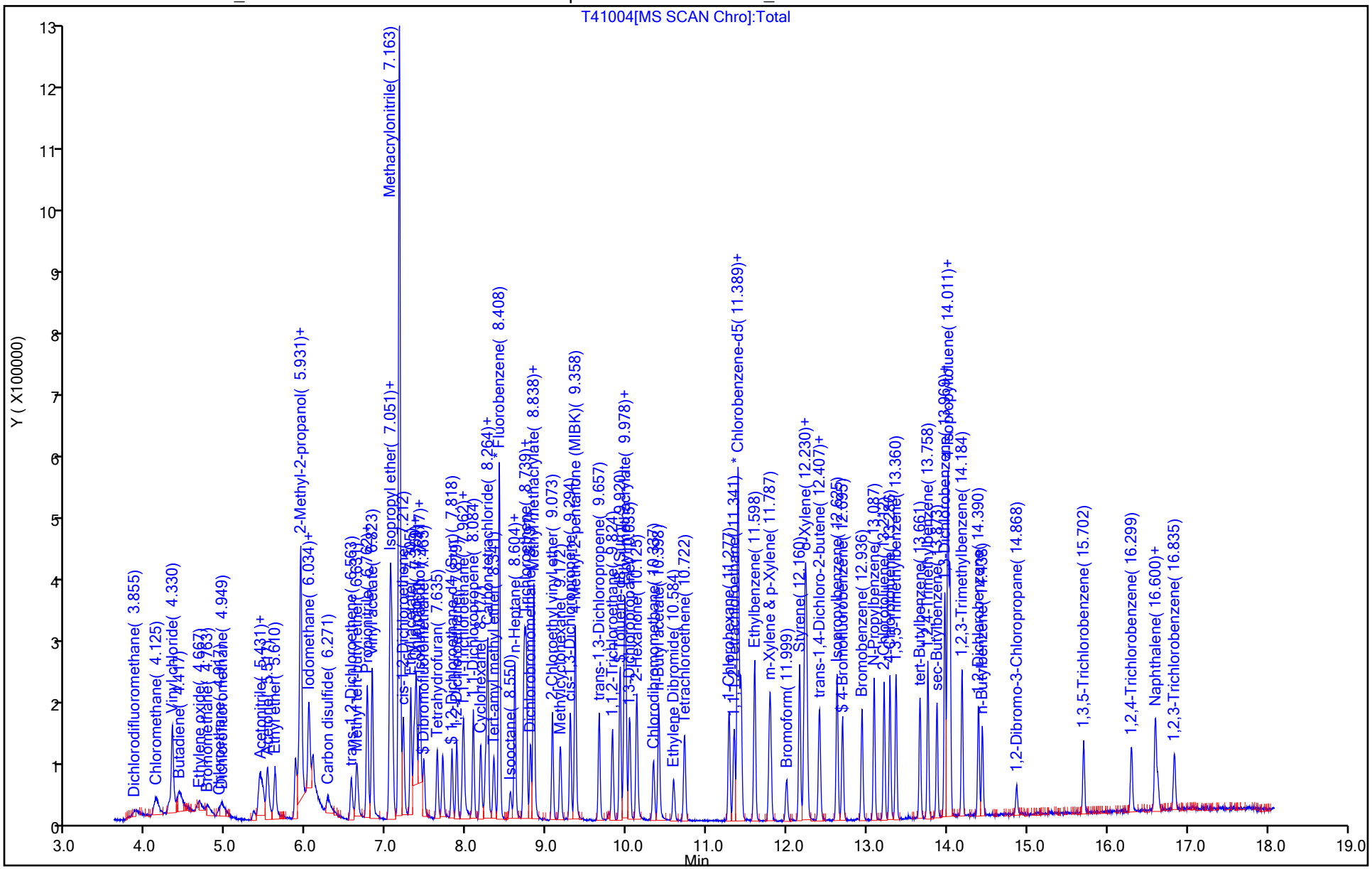

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41004.D				
Injection Date:	29-Aug-2019 14:40:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	4	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

3 Chloromethane, CAS: 74-87-3

Signal: 1

Not Detected
Expected RT: 4.12

Processing Integration Results

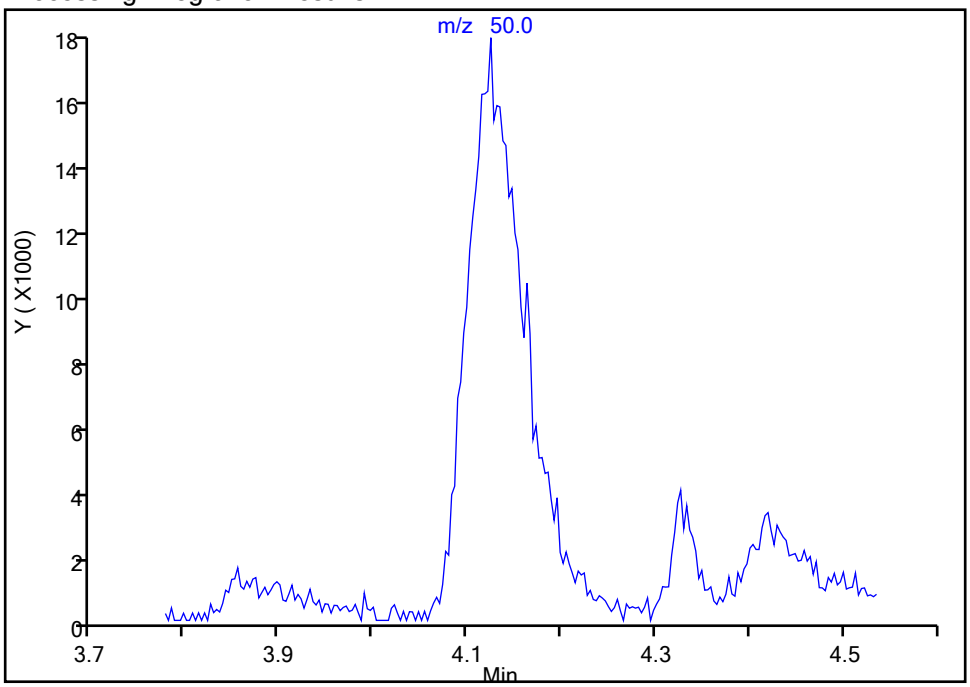

RT: 4.12
Area: 74306
Amount: 20.501828
Amount Units: ug/l

Manual Integration Results

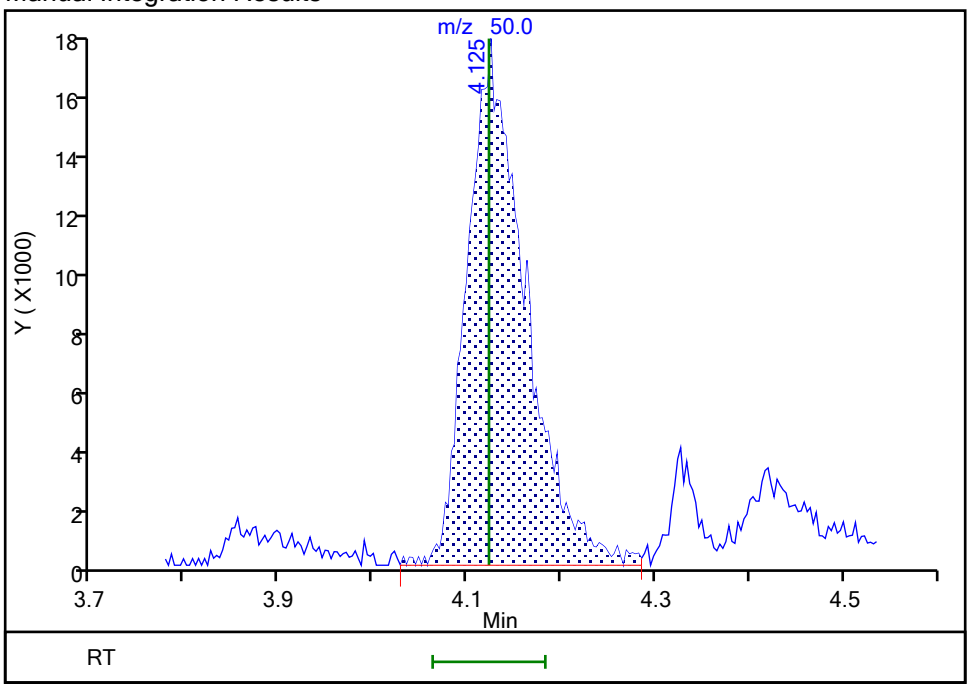

Reviewer: tengd, 29-Aug-2019 15:37:04
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41004.D				
Injection Date:	29-Aug-2019 14:40:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	4	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

4 Vinyl chloride, CAS: 75-01-4

Signal: 1

Not Detected
Expected RT: 4.32

Processing Integration Results

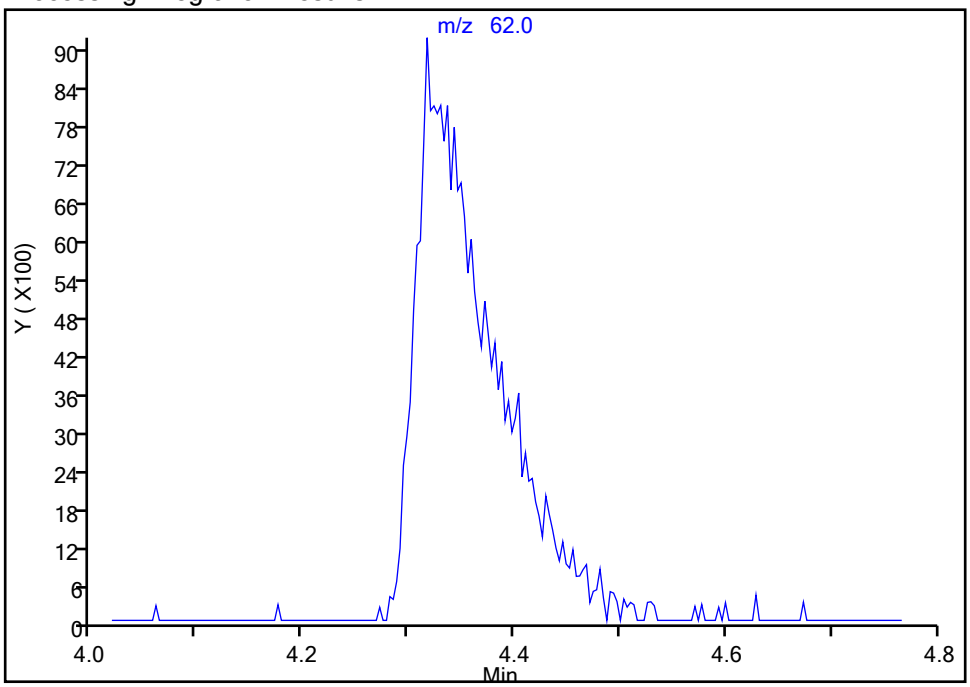

Manual Integration Results

RT: 4.32
Area: 43967
Amount: 20.261115
Amount Units: ug/l

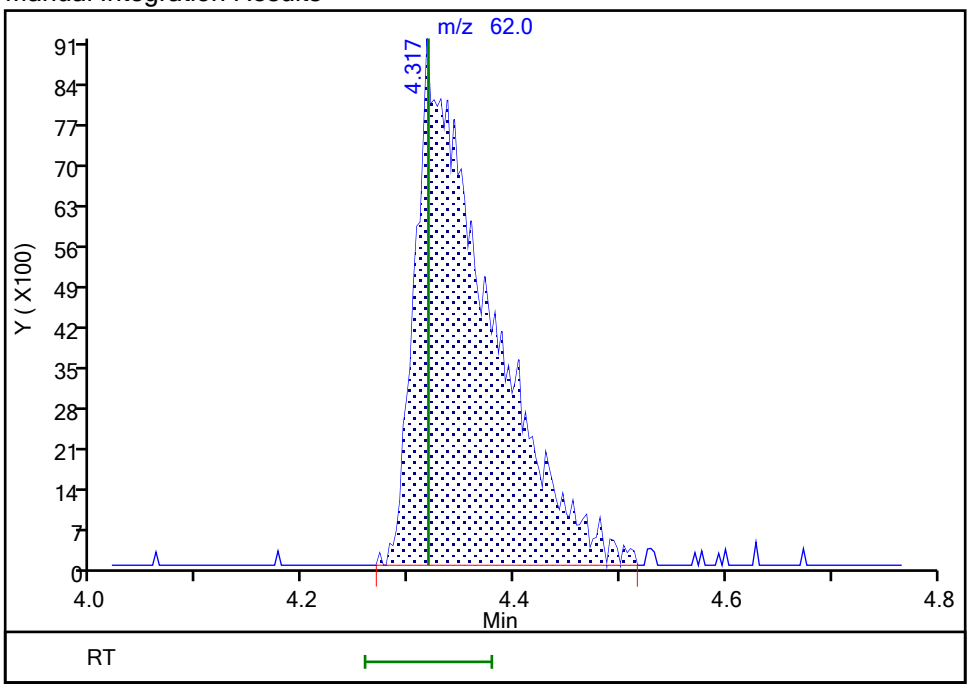

Reviewer: tengd, 29-Aug-2019 15:37:13
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41004.D				
Injection Date:	29-Aug-2019 14:40:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	4	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

7 Bromomethane, CAS: 74-83-9

Signal: 1

Not Detected
Expected RT: 4.78

Processing Integration Results

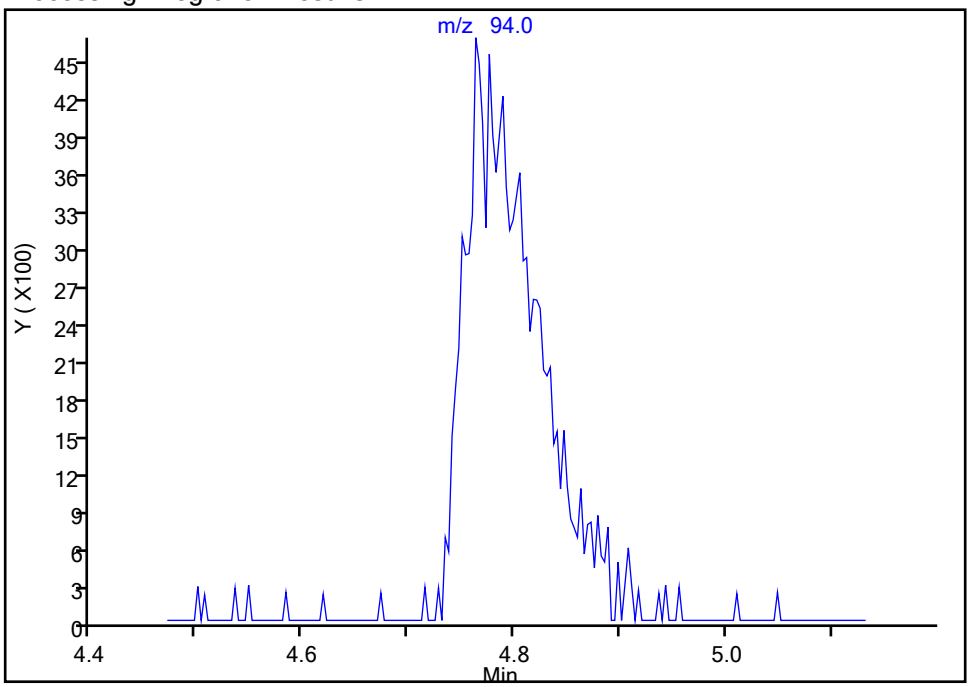

Manual Integration Results

RT: 4.76
Area: 20889
Amount: 19.804493
Amount Units: ug/l

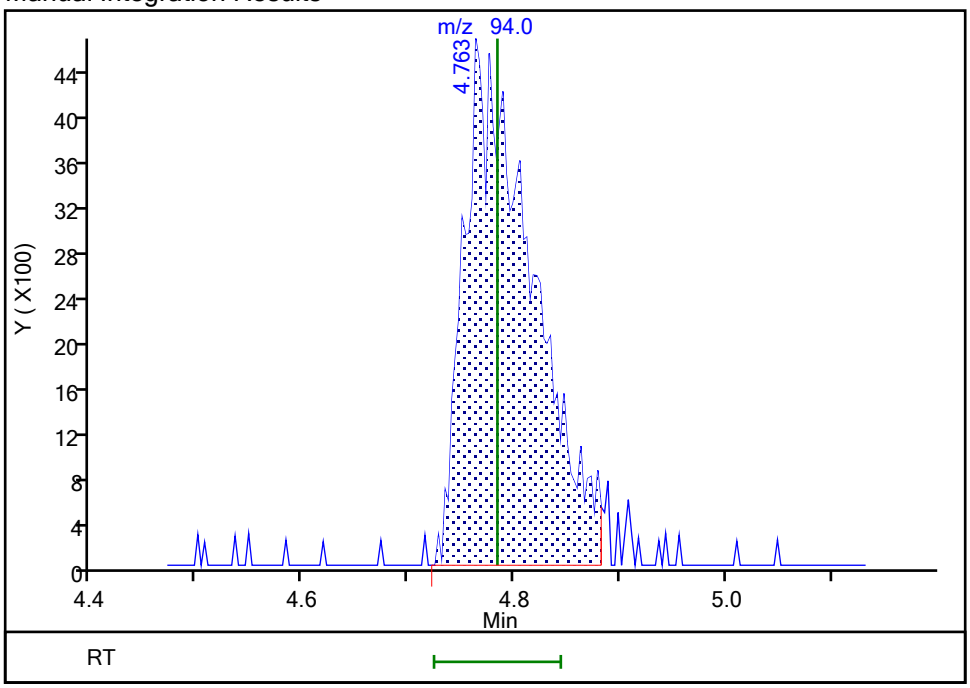

Reviewer: tengd, 29-Aug-2019 15:37:21
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41004.D				
Injection Date:	29-Aug-2019 14:40:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	4	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

11 Chloroethane, CAS: 75-00-3

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 4.91

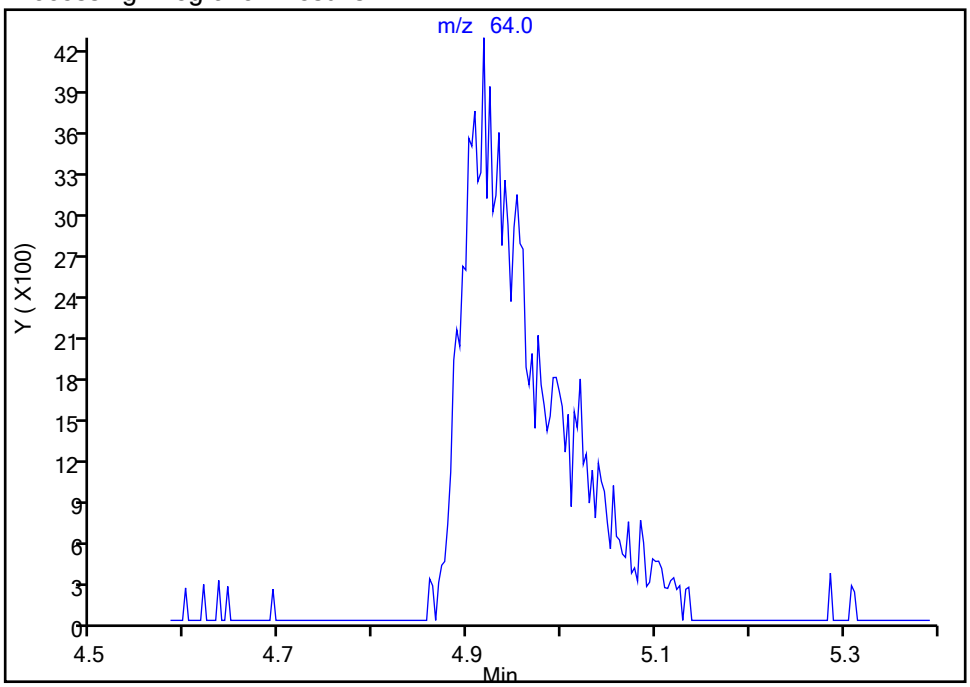

Manual Integration Results

RT: 4.92
Area: 24106
Amount: 21.587299
Amount Units: ug/l

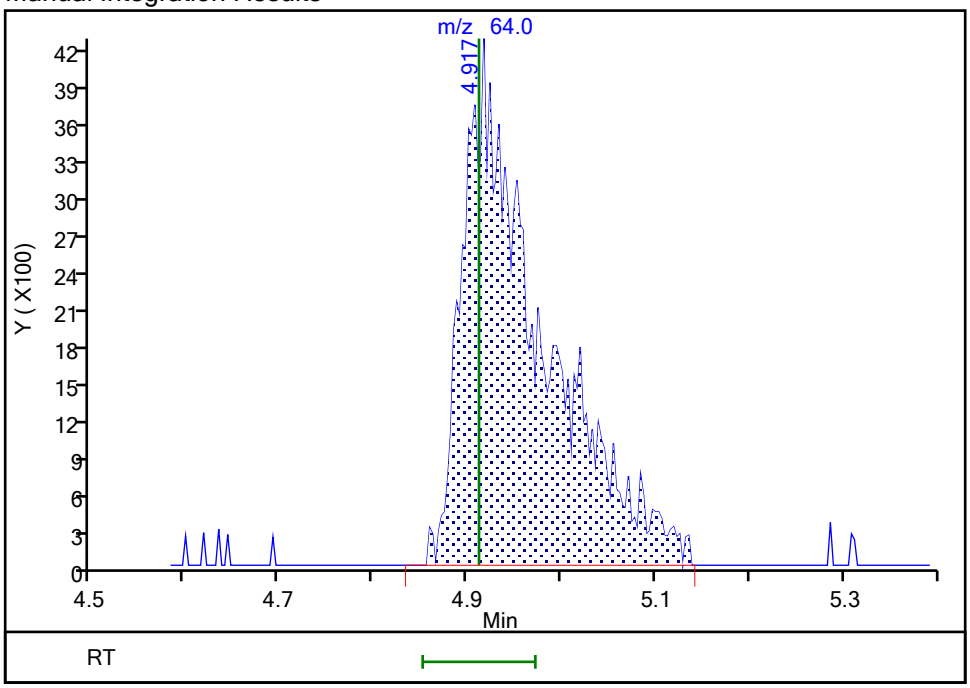

Reviewer: tengd, 29-Aug-2019 15:37:26
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41004.D				
Injection Date:	29-Aug-2019 14:40:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	4	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

13 Dichlorofluoromethane, CAS: 75-43-4

Signal: 1

Not Detected
Expected RT: 4.94

Processing Integration Results

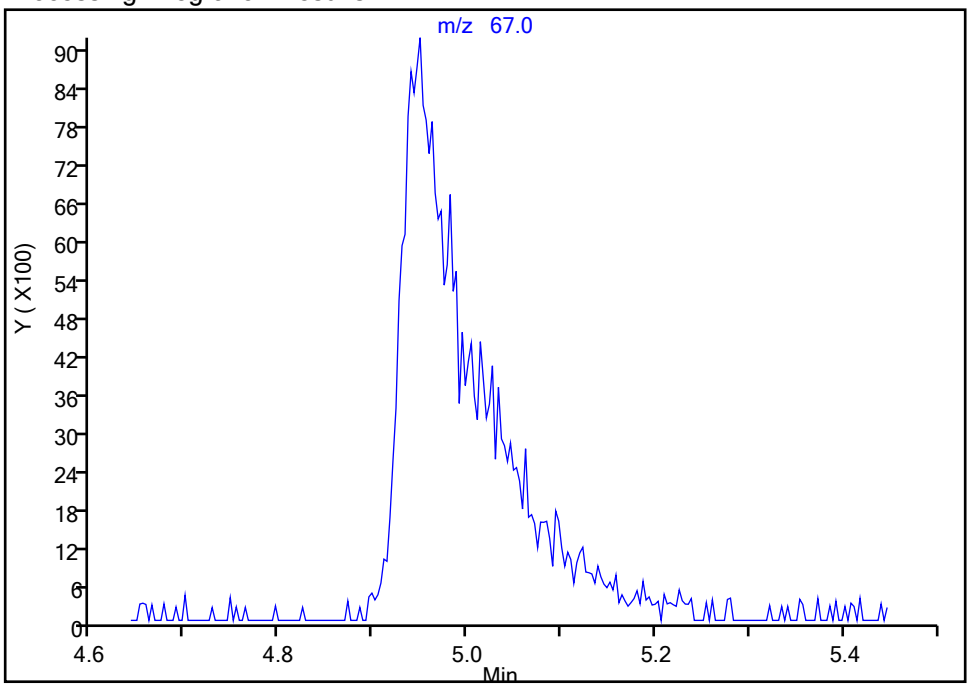

Manual Integration Results

RT: 4.95
Area: 50031
Amount: 20.608801
Amount Units: ug/l

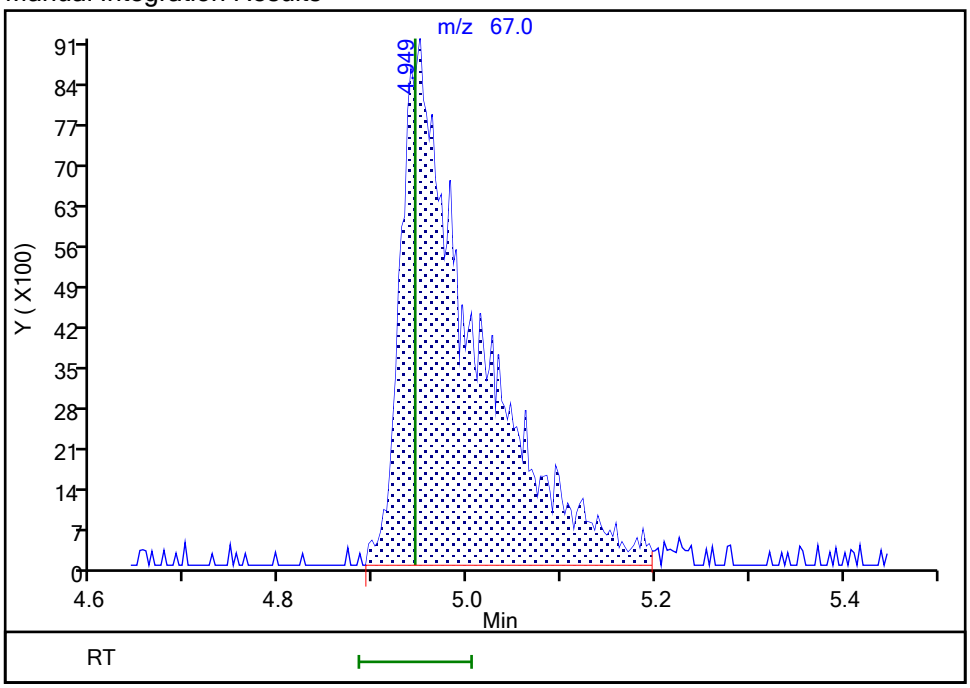

Reviewer: tengd, 29-Aug-2019 15:37:31
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41004.D				
Injection Date:	29-Aug-2019 14:40:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	4	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

12 Trichlorofluoromethane, CAS: 75-69-4

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 5.44

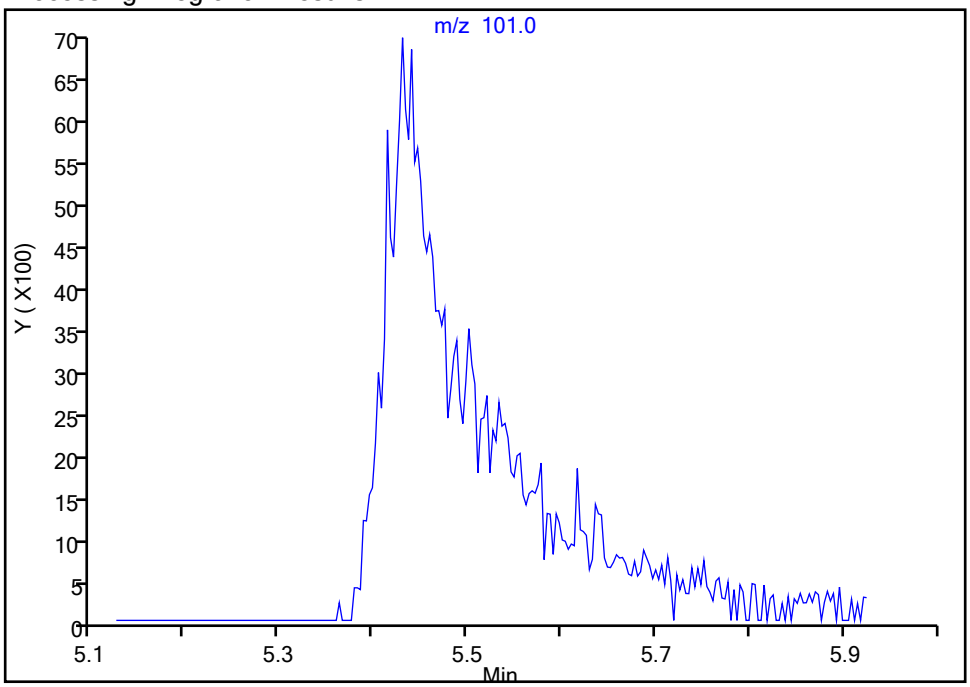

Manual Integration Results

RT: 5.43
Area: 41738
Amount: 20.503699
Amount Units: ug/l

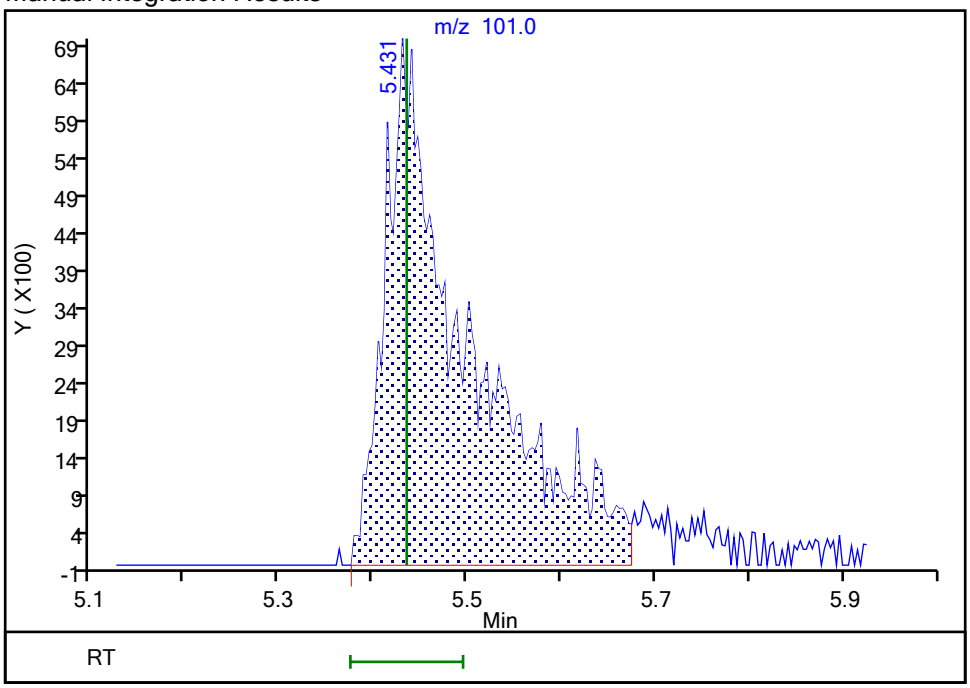

Reviewer: tengd, 29-Aug-2019 16:52:00
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41004.D				
Injection Date:	29-Aug-2019 14:40:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	4	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

20 1,1-Dichloroethene, CAS: 75-35-4

Signal: 1

Not Detected
Expected RT: 5.91

Processing Integration Results

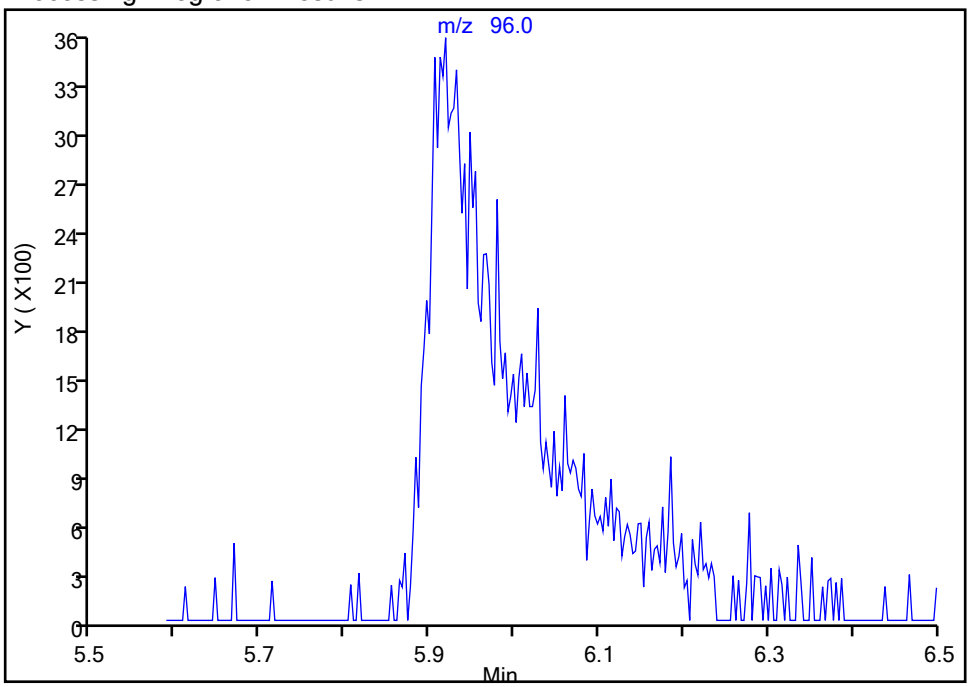

RT: 5.92
Area: 26742
Amount: 23.652218
Amount Units: ug/l

Manual Integration Results

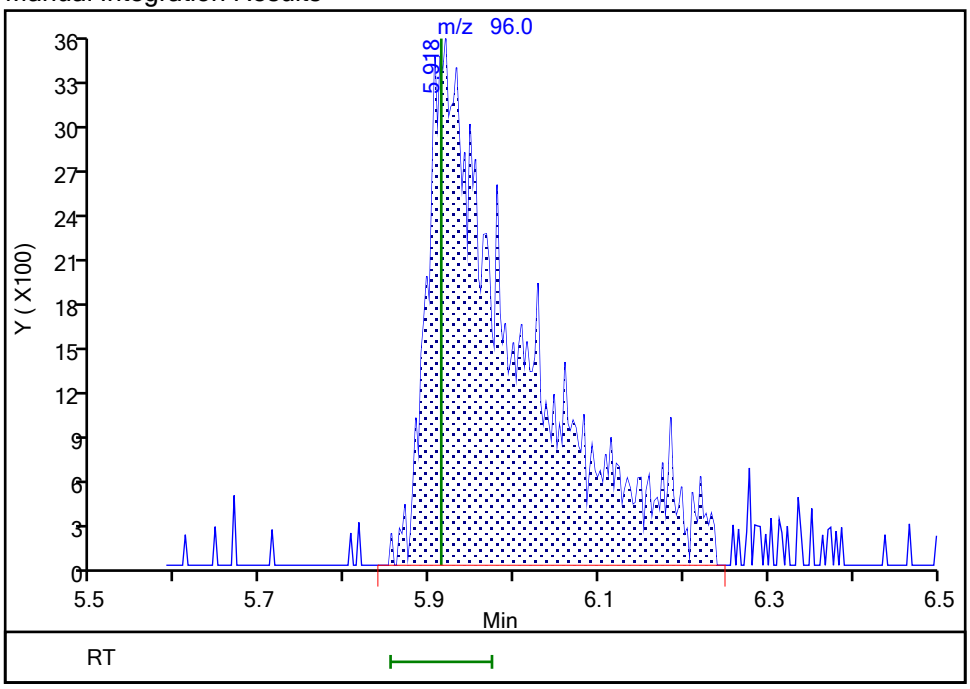

Reviewer: tengd, 29-Aug-2019 15:37:52
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41004.D				
Injection Date:	29-Aug-2019 14:40:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	4	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

21 1,1,2-Trichloro-1,2,2-trifluoroethane, CAS: 76-13-1

Signal: 1

Processing Integration Results

RT: 6.04
Area: 10405
Amount: 14.989688
Amount Units: ug/l

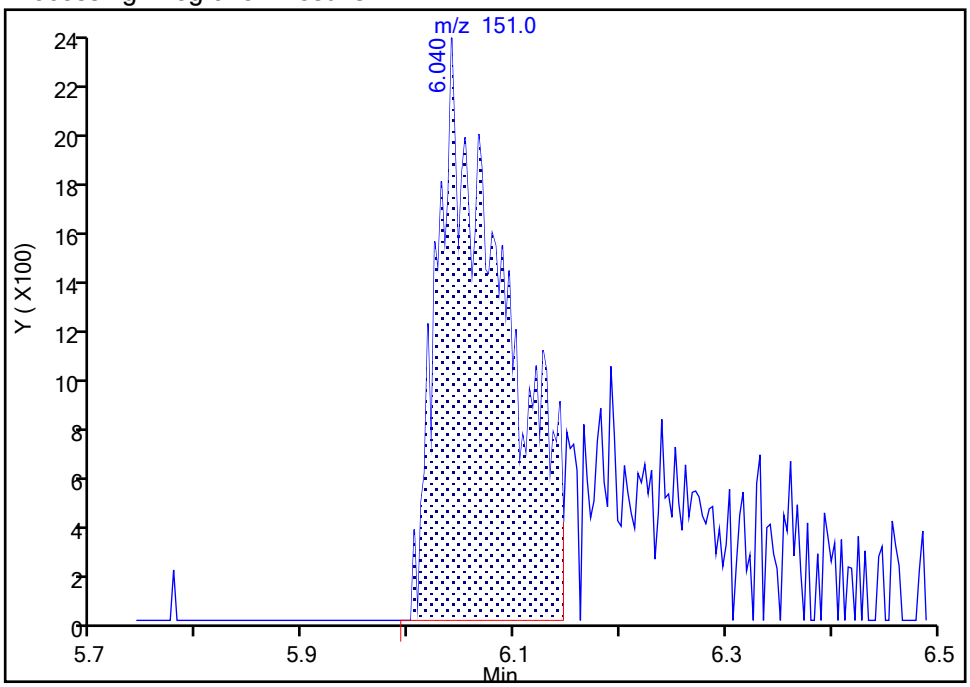

Manual Integration Results

RT: 6.04
Area: 13556
Amount: 18.045680
Amount Units: ug/l

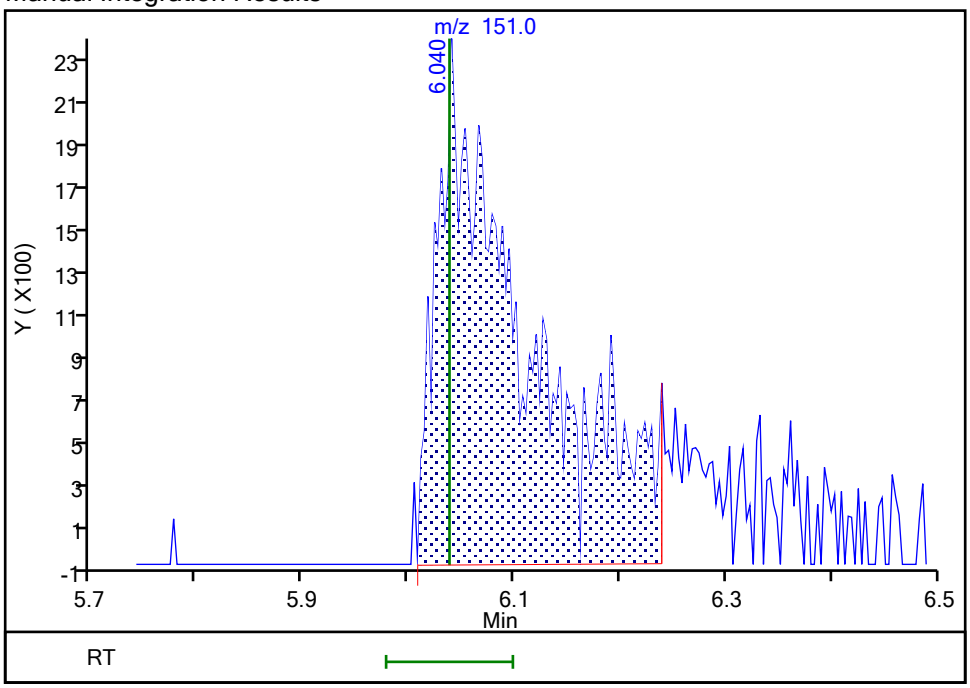

Reviewer: tengd, 29-Aug-2019 16:54:30

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41004.D				
Injection Date:	29-Aug-2019 14:40:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	4	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

26 Methylene Chloride, CAS: 75-09-2

Signal: 1

Not Detected
Expected RT: 6.05

Processing Integration Results

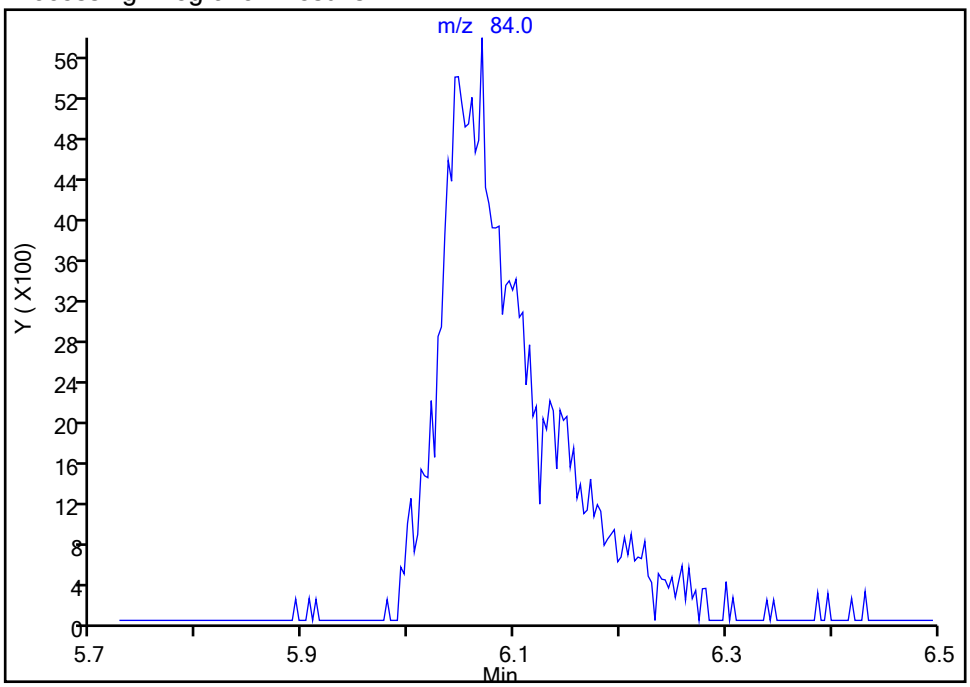

Manual Integration Results

RT: 6.07
Area: 32827
Amount: 19.926745
Amount Units: ug/l

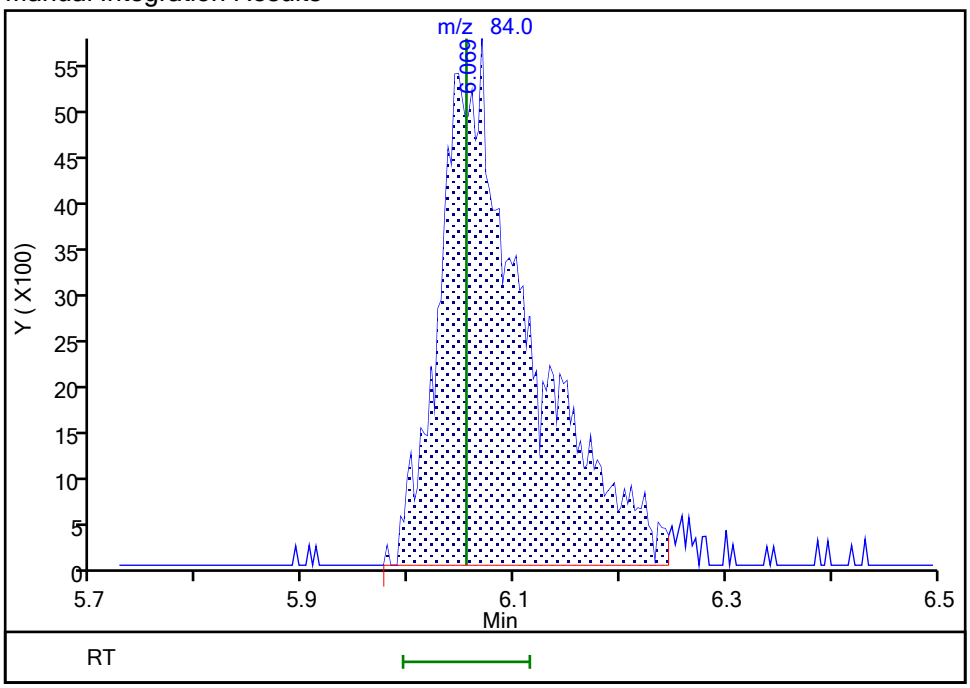

Reviewer: tengd, 29-Aug-2019 15:37:46
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41004.D				
Injection Date:	29-Aug-2019 14:40:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	4	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

33 Ethyl acetate, CAS: 141-78-6

Signal: 1

Not Detected
Expected RT: 7.30

Processing Integration Results

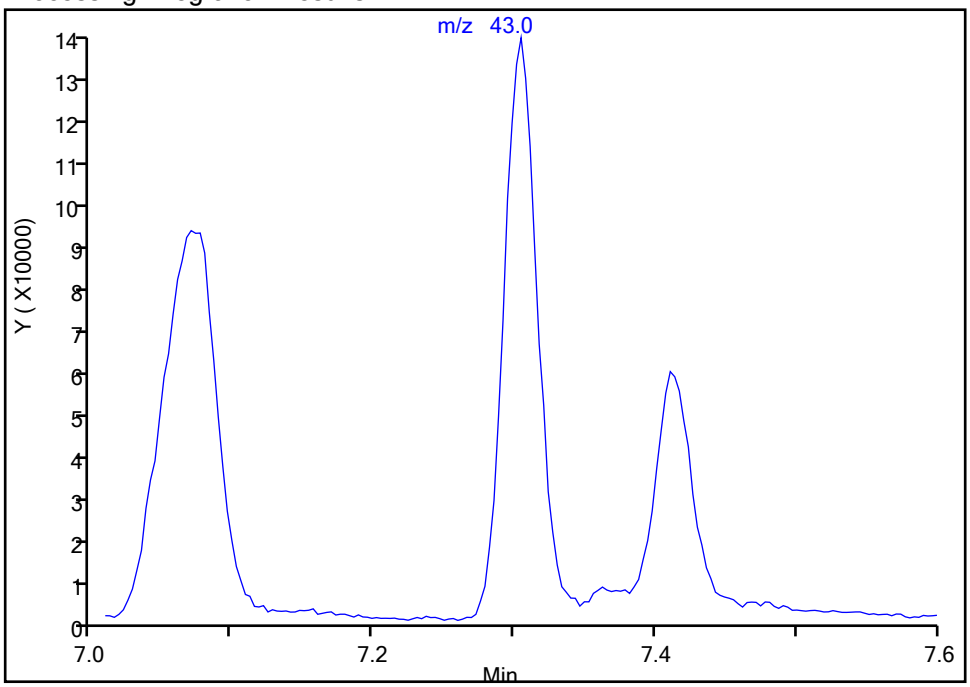

Manual Integration Results

RT: 7.30
Area: 222752
Amount: 40.520342
Amount Units: ug/l

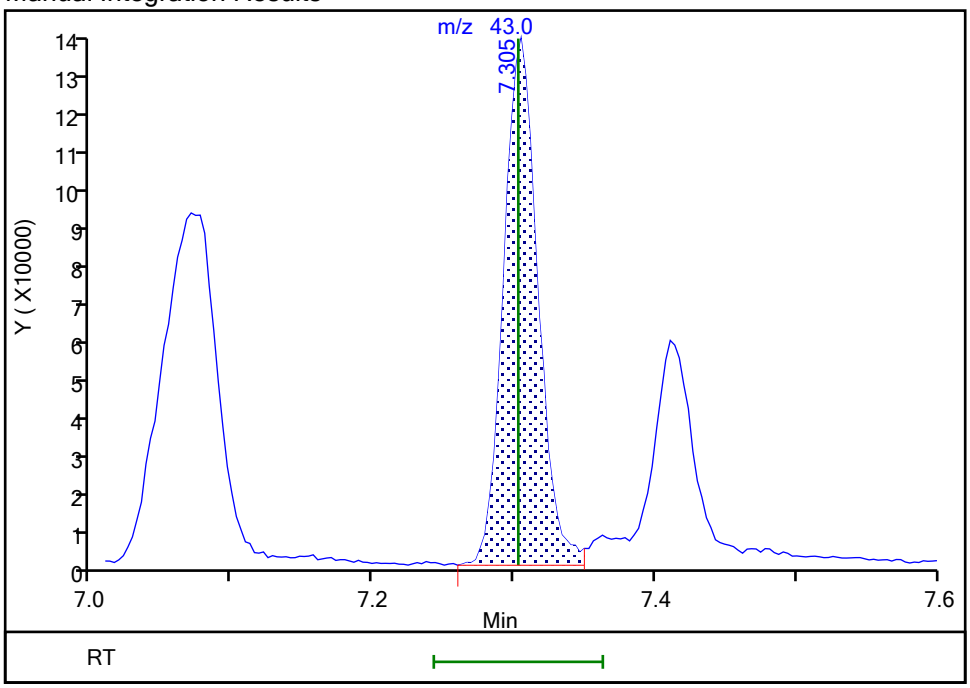

Reviewer: tengd, 29-Aug-2019 15:37:56
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41004.D				
Injection Date:	29-Aug-2019 14:40:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	4	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

143 Benzyl chloride, CAS: 100-44-7

Signal: 1

Not Detected
Expected RT: 13.97

Processing Integration Results

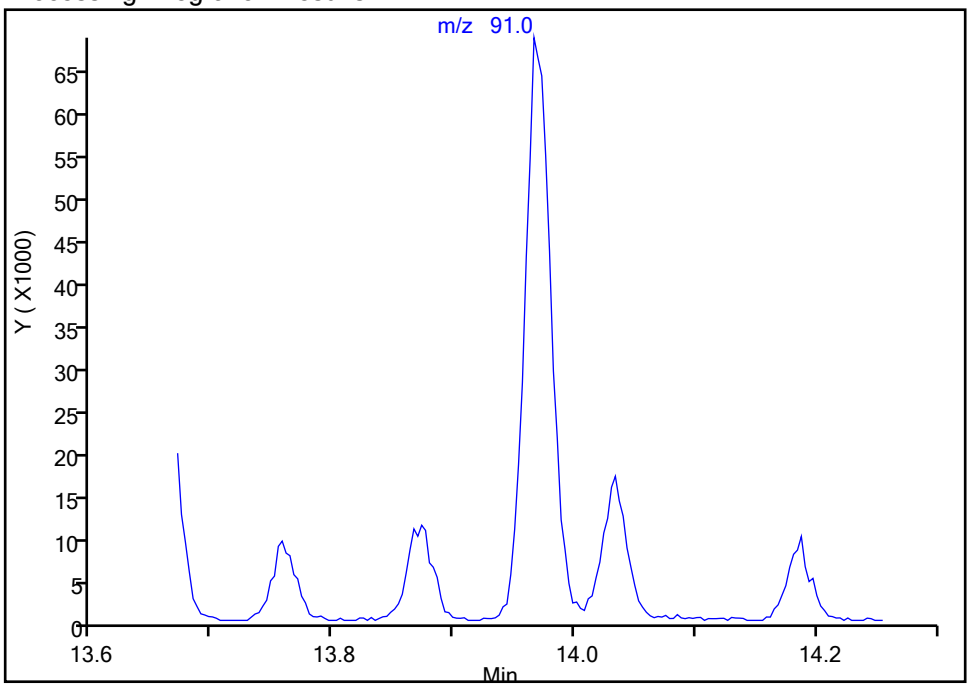

RT: 13.97
Area: 104498
Amount: 20.115339
Amount Units: ug/l

Manual Integration Results

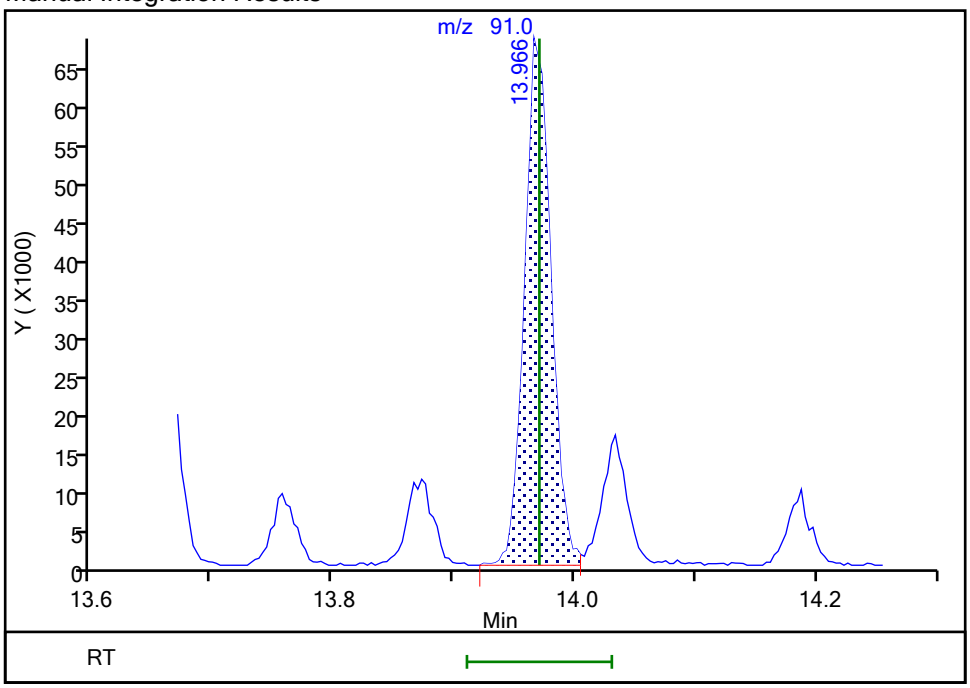

Reviewer: tengd, 29-Aug-2019 15:36:53
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41005.D
Lims ID: icis
Client ID:
Sample Type: ICIS Calib Level: 4
Inject. Date: 29-Aug-2019 15:10:30 ALS Bottle#: 5 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: icis
Misc. Info.: 600-0030818-007
Operator ID: dt Instrument ID: CHVOAMS10
Sublist: chrom-8260w5_10*sub37

Method: \\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\8260w5_10.m
Limit Group: VOA - 8260C_8260CLL
Last Update: 06-Sep-2019 15:46:48 Calib Date: 29-Aug-2019 16:10:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41007.D

Column 1 : Det: MS SCAN
Process Host: CTX0327

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.406	8.406	0.000	97	390296	50.0	50.0	
2 Dichlorodifluoromethane	85	3.853	3.853	0.000	96	63085	50.0	50.3	
3 Chloromethane	50	4.123	4.123	0.000	99	180633	50.0	47.4	
4 Vinyl chloride	62	4.318	4.318	0.000	35	111346	50.0	48.8	
5 Butadiene	39	4.437	4.437	0.000	97	144749	50.0	46.2	
10 Ethylene oxide	44	4.684	4.684	0.000	97	196661	500.0	412.1	
7 Bromomethane	94	4.784	4.784	0.000	91	52475	50.0	47.3	a
11 Chloroethane	64	4.912	4.912	0.000	94	56699	50.0	48.3	a
13 Dichlorofluoromethane	67	4.944	4.944	0.000	97	126467	50.0	49.6	
24 Acrolein	56	5.406	5.406	0.000	97	76367	250.0	238.7	
16 Acetonitrile	41	5.422	5.422	0.000	99	146036	500.0	508.0	
12 Trichlorofluoromethane	101	5.435	5.435	0.000	87	105513	50.0	49.3	M
19 Isopropyl alcohol	45	5.458	5.458	0.000	98	104571	500.0	434.0	
27 Acetone	43	5.522	5.522	0.000	97	123819	100.0	92.9	
15 Ethyl ether	59	5.608	5.608	0.000	94	119488	50.0	50.6	
31 2-Methyl-2-propanol	59	5.897	5.897	0.000	98	198123	500.0	466.6	
20 1,1-Dichloroethene	96	5.913	5.913	0.000	88	58424	50.0	49.2	
37 Acrylonitrile	52	5.929	5.929	0.000	97	683387	500.0	485.6	
23 Iodomethane	142	5.990	5.990	0.000	98	111758	50.0	50.9	a
28 Methyl acetate	43	6.029	6.029	0.000	99	428097	100.0	96.0	
21 1,1,2-Trichloro-1,2,2-trif	151	6.038	6.038	0.000	61	39418	50.0	44.7	M
26 Methylene Chloride	84	6.054	6.054	0.000	95	77976	50.0	49.1	
25 3-Chloro-1-propene	76	6.080	6.080	0.000	84	30981	50.0	47.3	
22 Carbon disulfide	76	6.266	6.266	0.000	97	215721	50.0	48.3	
29 trans-1,2-Dichloroethene	96	6.561	6.561	0.000	89	86081	50.0	54.2	
30 Methyl tert-butyl ether	73	6.629	6.629	0.000	92	168690	50.0	48.5	
35 Propionitrile	54	6.757	6.757	0.000	99	296018	500.0	475.7	
34 1,1-Dichloroethane	63	6.764	6.764	0.000	95	206125	50.0	49.5	
40 Vinyl acetate	43	6.821	6.821	0.000	97	836748	100.0	99.9	
36 2-Chloro-1,3-butadiene	53	7.040	7.040	0.000	93	252890	50.0	49.6	
58 Hexane	57	7.043	7.043	0.000	77	153930	50.0	47.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
32 Isopropyl ether	45	7.059	7.059	0.000	93	545604	50.0	48.7	
56 2-Butanone (MEK)	72	7.072	7.072	0.000	94	34371	100.0	93.8	
61 Methacrylonitrile	66	7.161	7.161	0.000	97	247221	500.0	493.4	
44 cis-1,2-Dichloroethene	96	7.210	7.210	0.000	87	108839	50.0	49.1	
33 Ethyl acetate	43	7.303	7.303	0.000	98	567270	100.0	98.2	a
47 Chlorobromomethane	128	7.344	7.344	0.000	87	59997	50.0	48.3	
41 Tert-butyl ethyl ether	59	7.367	7.367	0.000	98	209818	50.0	48.8	
48 Chloroform	83	7.370	7.370	0.000	93	179757	50.0	49.7	
39 Isobutyl alcohol	43	7.409	7.409	0.000	93	276214	1250.0	1197.7	
46 2,2-Dichloropropane	77	7.428	7.428	0.000	86	74364	50.0	49.5	
$ 52 Dibromofluoromethane	113	7.466	7.466	0.000	92	102327	50.0	49.0	
S 43 1,2-Dichloroethene, Total	96				0		100.0	103.2	
53 Tetrahydrofuran	42	7.633	7.633	0.000	91	168782	100.0	99.3	
$ 64 1,2-Dichloroethane-d4 (Sur	65	7.819	7.819	0.000	0	150601	50.0	49.3	
65 1,2-Dichloroethane	62	7.877	7.877	0.000	95	199349	50.0	49.3	
55 1,1,1-Trichloroethane	97	7.951	7.951	0.000	95	129940	50.0	48.6	
38 n-Butanol	56	7.964	7.964	0.000	93	129700	1250.0	1147.0	
57 1,1-Dichloropropene	75	8.082	8.082	0.000	83	127084	50.0	49.6	
69 Cyclohexane	84	8.175	8.175	0.000	93	71740	50.0	49.5	
54 Carbon tetrachloride	119	8.236	8.236	0.000	96	117440	50.0	48.0	
63 Benzene	78	8.262	8.262	0.000	94	389627	50.0	49.1	
62 Tert-amyl methyl ether	73	8.342	8.342	0.000	86	124533	50.0	47.8	
59 Isooctane	57	8.551	8.551	0.000	98	100143	50.0	45.5	
72 Ethyl acrylate	55	8.599	8.599	0.000	96	364740	50.0	48.7	
60 n-Heptane	43	8.605	8.605	0.000	94	126476	50.0	46.0	
73 Dibromomethane	93	8.711	8.711	0.000	89	74934	50.0	48.8	
79 1,2-Dichloropropane	63	8.721	8.721	0.000	89	136897	50.0	50.0	
66 2-Nitropropane	43	8.737	8.737	0.000	98	210891	100.0	98.9	
70 Trichloroethene	130	8.747	8.747	0.000	93	111089	50.0	49.3	
75 Dichlorobromomethane	83	8.798	8.798	0.000	94	146641	50.0	49.7	
77 Methyl methacrylate	41	8.840	8.840	0.000	86	495629	100.0	99.4	
78 1,4-Dioxane	58	8.865	8.865	0.000	88	17841	1000.0	867.0	
71 Methylcyclohexane	83	9.170	9.170	0.000	93	81144	50.0	48.6	
80 4-Methyl-2-pentanone (MIBK	43	9.356	9.356	0.000	99	548575	100.0	96.3	
* 85 Chlorobenzene-d5	82	11.384	11.384	0.000	90	149589	50.0	50.0	
89 2-Chloroethyl vinyl ether	63	9.074	9.074	0.000	88	145269	100.0	100.1	
90 cis-1,3-Dichloropropene	75	9.292	9.292	0.000	81	170757	50.0	49.6	
96 trans-1,3-Dichloropropene	75	9.655	9.655	0.000	88	168386	50.0	49.8	
100 1,1,2-Trichloroethane	97	9.818	9.818	0.000	95	103982	50.0	50.4	
$ 93 Toluene-d8 (Surr)	98	9.915	9.915	0.000	95	362786	50.0	49.6	
97 Ethyl methacrylate	69	9.969	9.969	0.000	86	173917	50.0	50.7	
94 Toluene	92	9.982	9.982	0.000	96	244913	50.0	49.0	
102 1,3-Dichloropropane	76	10.033	10.033	0.000	89	165913	50.0	50.7	
106 2-Hexanone	43	10.123	10.123	0.000	97	416393	100.0	100.5	
101 Chlorodibromomethane	129	10.335	10.335	0.000	90	125730	50.0	49.6	
103 n-Butyl acetate	43	10.399	10.399	0.000	96	424789	50.0	50.7	
105 Ethylene Dibromide	107	10.585	10.585	0.000	99	116797	50.0	51.3	
98 Tetrachloroethene	164	10.723	10.723	0.000	94	75938	50.0	50.5	
S 104 Xylenes, Total	106				0		100.0	99.0	
113 1-Chlorohexane	55	11.275	11.275	0.000	77	124120	50.0	49.4	
110 1,1,1,2-Tetrachloroethane	131	11.339	11.339	0.000	91	104787	50.0	51.6	
109 Chlorobenzene	112	11.426	11.426	0.000	93	268733	50.0	49.6	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
108 Ethylbenzene	106	11.596	11.596	0.000	98	142953	50.0	51.1	
111 m-Xylene & p-Xylene	91	11.789	11.789	0.000	0	334752	50.0	49.4	
114 Styrene	104	12.154	12.154	0.000	92	273768	50.0	50.1	
116 Cyclohexanone	55	12.219	12.219	0.000	95	273812	2500.0	2078.1	
112 o-Xylene	106	12.231	12.231	0.000	97	164005	50.0	49.6	
* 117 1,4-Dichlorobenzene-d4	152	14.006	14.006	0.000	96	121595	50.0	50.0	
119 Bromoform	173	11.991	11.991	0.000	94	80160	50.0	49.6	
124 1,1,2,2-Tetrachloroethane	83	12.247	12.247	0.000	96	137568	50.0	47.6	
129 trans-1,4-Dichloro-2-buten	53	12.398	12.398	0.000	80	59413	50.0	51.3	
128 1,2,3-Trichloropropane	110	12.411	12.411	0.000	95	43676	50.0	49.3	a
121 Isopropylbenzene	105	12.623	12.623	0.000	97	369823	50.0	50.4	
$ 122 4-Bromofluorobenzene	95	12.693	12.693	0.000	87	124216	50.0	50.4	
125 Bromobenzene	156	12.934	12.934	0.000	89	106651	50.0	50.0	
123 N-Propylbenzene	120	13.091	13.091	0.000	99	96444	50.0	50.9	
127 2-Chlorotoluene	126	13.210	13.210	0.000	95	95256	50.0	51.0	
130 4-Chlorotoluene	91	13.284	13.284	0.000	98	272881	50.0	49.9	
126 1,3,5-Trimethylbenzene	105	13.361	13.361	0.000	95	280544	50.0	50.6	
131 tert-Butylbenzene	119	13.662	13.662	0.000	95	205567	50.0	50.4	
133 1,2,4-Trimethylbenzene	105	13.759	13.759	0.000	98	291124	50.0	50.7	
135 sec-Butylbenzene	105	13.871	13.871	0.000	95	266013	50.0	50.0	
143 Benzyl chloride	91	13.971	13.971	0.000	96	257669	50.0	48.0	a
137 1,3-Dichlorobenzene	146	13.974	13.974	0.000	84	167061	50.0	49.7	
136 4-Isopropyltoluene	119	14.035	14.035	0.000	97	234360	50.0	51.1	
140 1,4-Dichlorobenzene	146	14.035	14.035	0.000	91	175475	50.0	49.8	
139 1,2,3-Trimethylbenzene	105	14.186	14.186	0.000	99	289772	50.0	50.2	
144 1,2-Dichlorobenzene	146	14.391	14.391	0.000	96	160762	50.0	48.5	
142 n-Butylbenzene	91	14.439	14.439	0.000	98	175896	50.0	50.3	
146 1,2-Dibromo-3-Chloropropan	157	14.866	14.866	0.000	77	26940	50.0	45.7	
147 1,3,5-Trichlorobenzene	180	15.703	15.703	0.000	97	81621	50.0	50.8	
149 1,2,4-Trichlorobenzene	180	16.297	16.297	0.000	95	81175	50.0	50.3	
150 Naphthalene	128	16.599	16.599	0.000	98	308526	50.0	48.2	
148 Hexachlorobutadiene	190	16.624	16.624	0.000	87	10665	50.0	48.0	a
151 1,2,3-Trichlorobenzene	180	16.833	16.833	0.000	96	70931	50.0	49.1	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

VOAIS250PPM_00134	Amount Added:	1.00	Units: uL
VOASTDPT2_00147	Amount Added:	5.00	Units: uL
EOxideStd_00159	Amount Added:	5.00	Units: uL
VOASTDGASPT_00341	Amount Added:	5.00	Units: uL

Report Date: 06-Sep-2019 15:46:56 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41005.D				
Injection Date:	29-Aug-2019 15:10:30	Instrument ID:	CHVOAMS10	Operator ID:	dt
Lims ID:	icis			Worklist Smp#:	7
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		

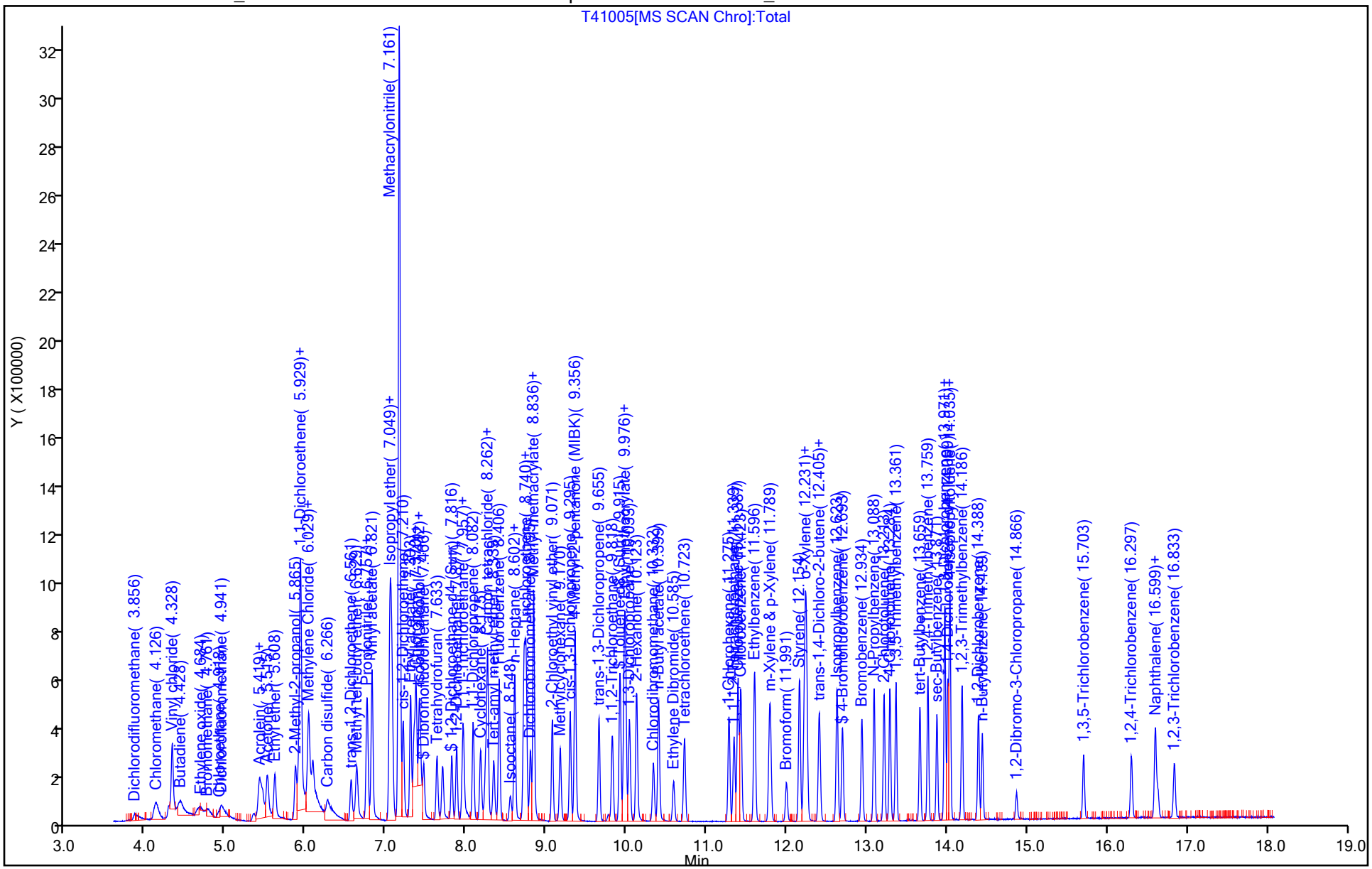

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41005.D				
Injection Date:	29-Aug-2019 15:10:30	Instrument ID:	CHVOAMS10		
Lims ID:	icis				
Client ID:					
Operator ID:	dt	ALS Bottle#:	5	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

7 Bromomethane, CAS: 74-83-9

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 4.78

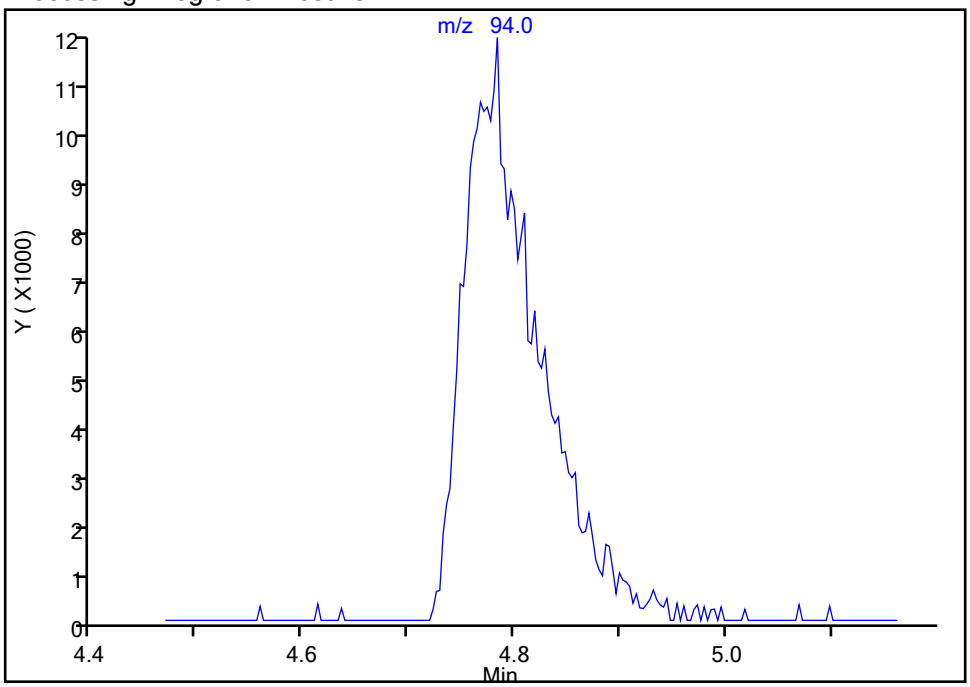

Manual Integration Results

RT: 4.78
Area: 52475
Amount: 47.340951
Amount Units: ug/l

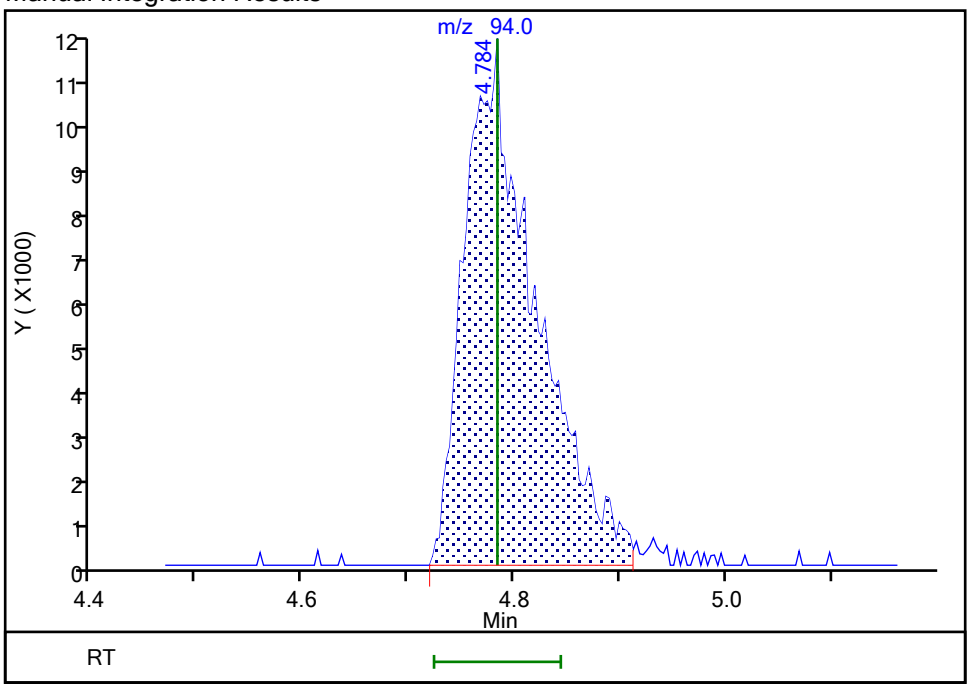

Reviewer: tengd, 29-Aug-2019 15:34:49
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41005.D				
Injection Date:	29-Aug-2019 15:10:30	Instrument ID:	CHVOAMS10		
Lims ID:	icis				
Client ID:					
Operator ID:	dt	ALS Bottle#:	5	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

11 Chloroethane, CAS: 75-00-3

Signal: 1

Not Detected
Expected RT: 4.91

Processing Integration Results

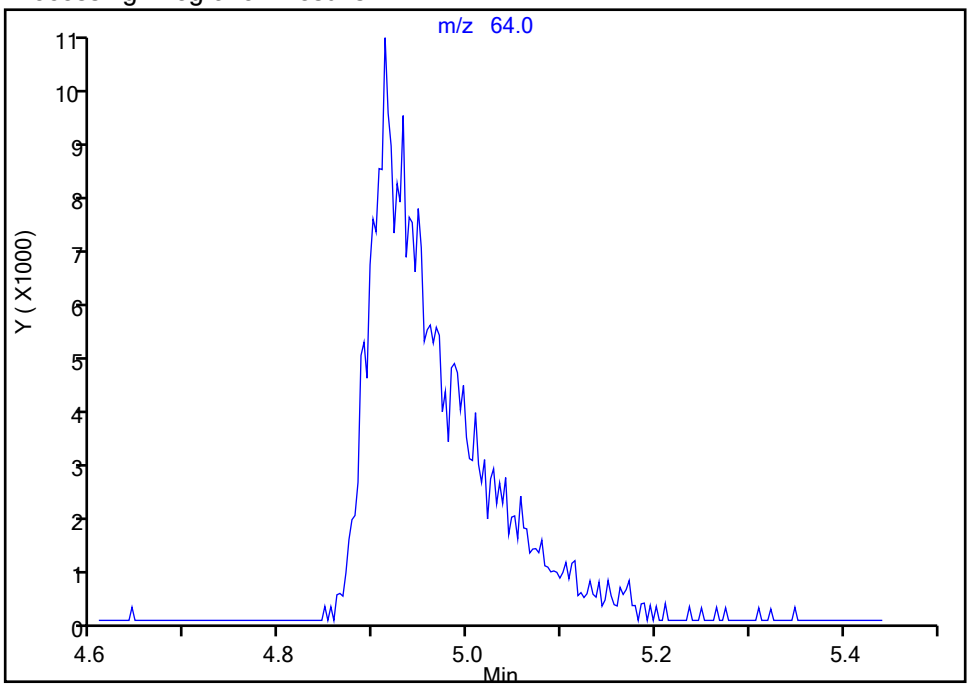

Manual Integration Results

RT: 4.91
Area: 56699
Amount: 48.315558
Amount Units: ug/l

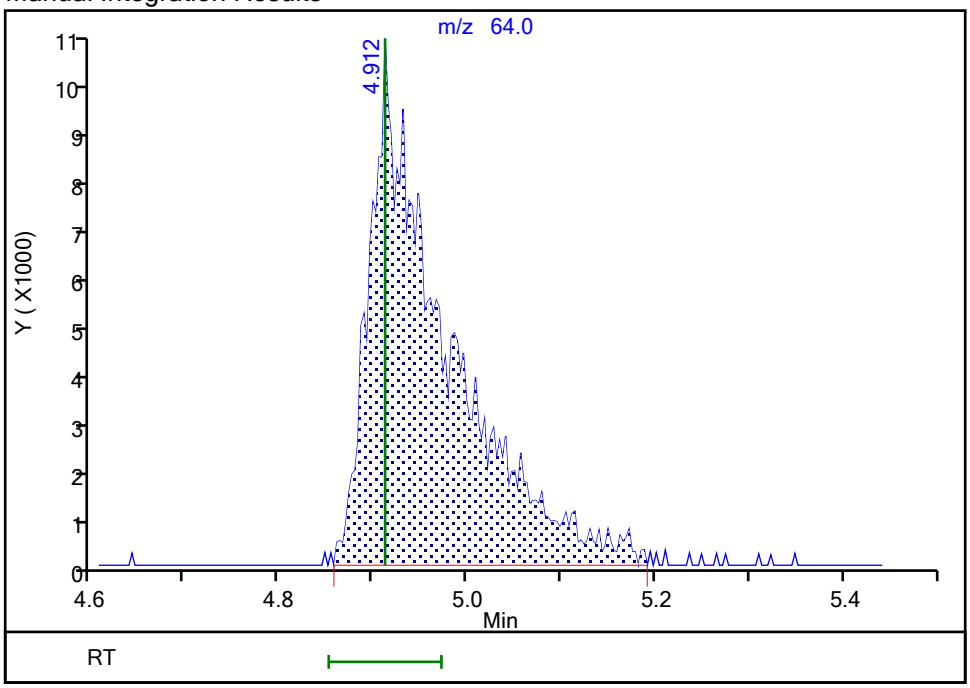

Reviewer: tengd, 29-Aug-2019 15:35:00
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

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Injection Date:	29-Aug-2019 15:10:30	Instrument ID:	CHVOAMS10		
Lims ID:	icis				
Client ID:					
Operator ID:	dt	ALS Bottle#:	5	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

12 Trichlorofluoromethane, CAS: 75-69-4

Signal: 1

Processing Integration Results

RT: 5.44
Area: 92297
Amount: 44.051771
Amount Units: ug/l

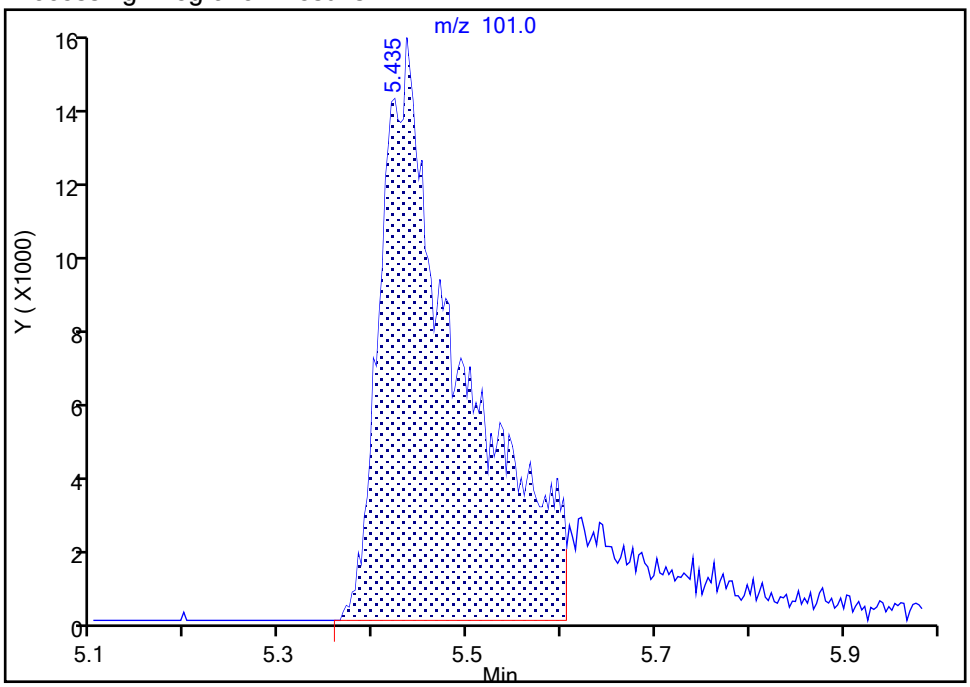

Manual Integration Results

RT: 5.44
Area: 105513
Amount: 49.322491
Amount Units: ug/l

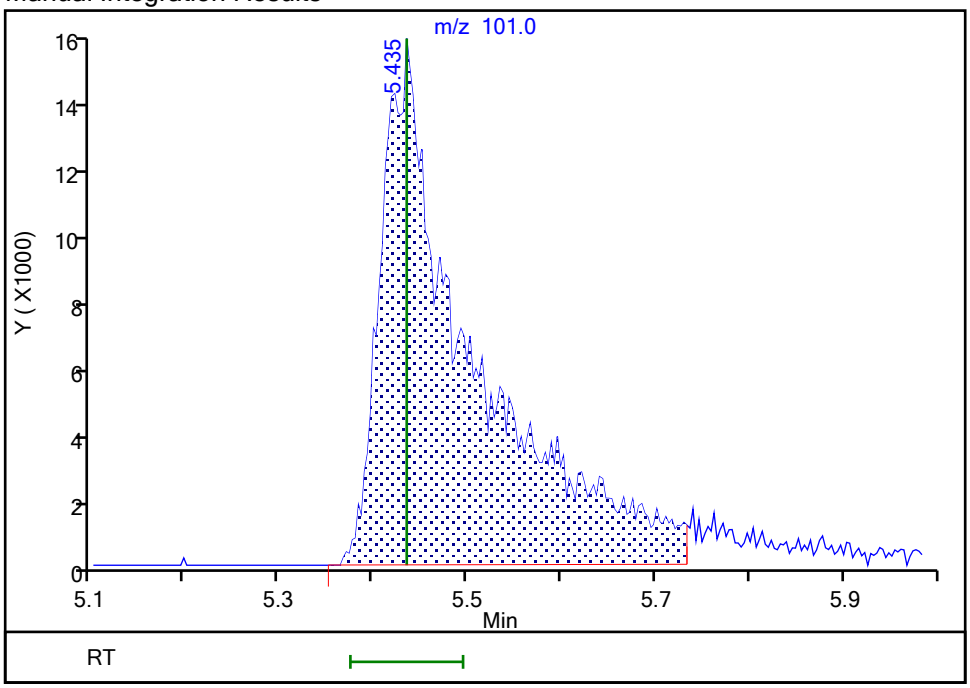

Reviewer: tengd, 29-Aug-2019 16:52:51

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41005.D				
Injection Date:	29-Aug-2019 15:10:30	Instrument ID:	CHVOAMS10		
Lims ID:	icis				
Client ID:					
Operator ID:	dt	ALS Bottle#:	5	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

23 Iodomethane, CAS: 74-88-4

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 5.99

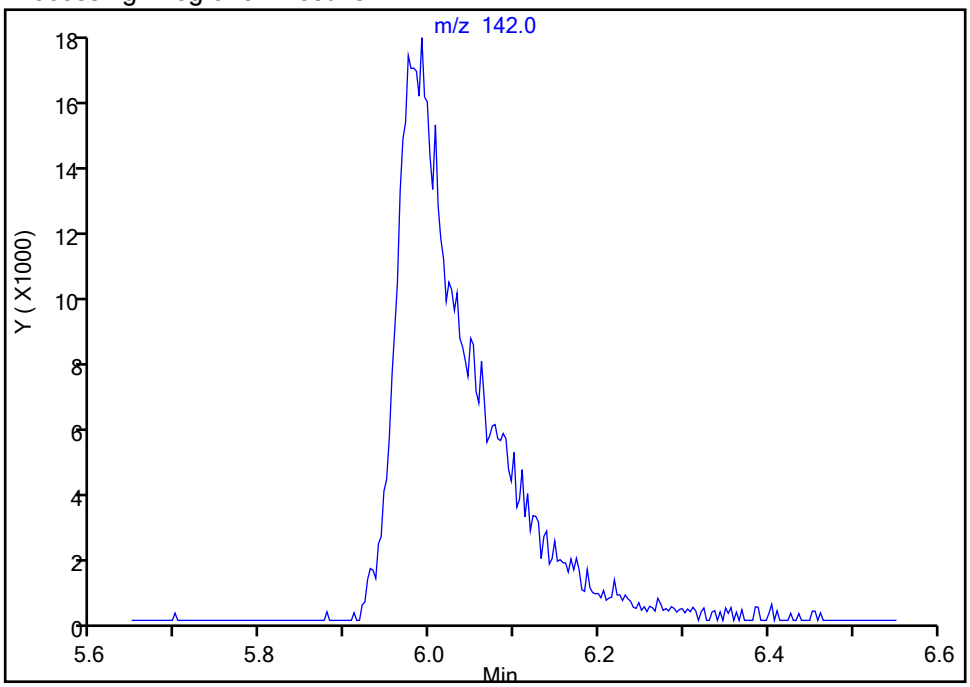

Manual Integration Results

RT: 5.99
Area: 111758
Amount: 50.918764
Amount Units: ug/l

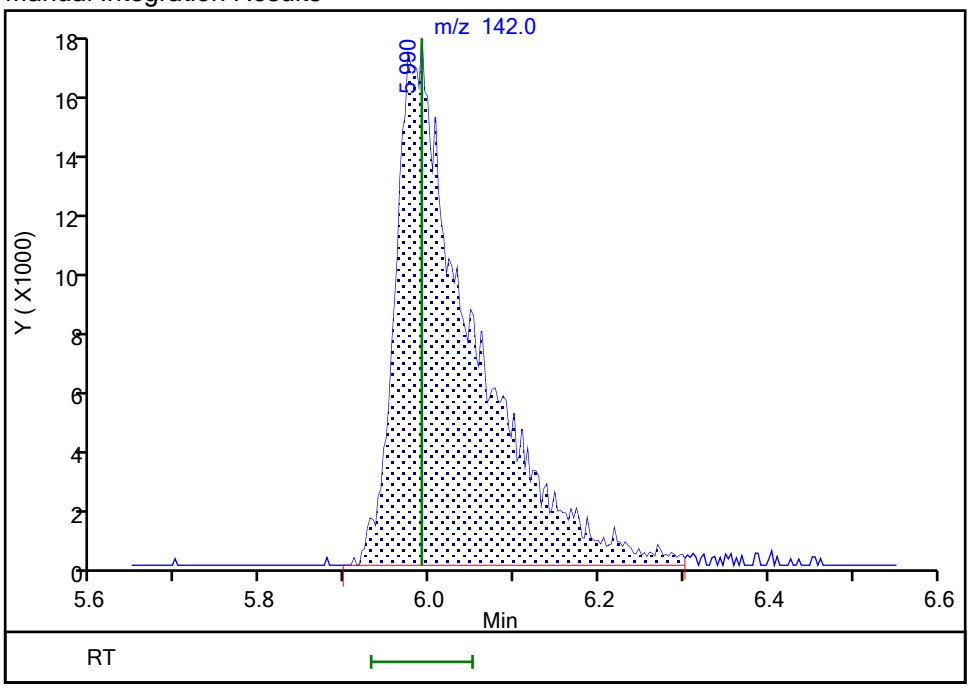

Reviewer: tengd, 29-Aug-2019 15:35:04
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41005.D				
Injection Date:	29-Aug-2019 15:10:30	Instrument ID:	CHVOAMS10		
Lims ID:	icis				
Client ID:					
Operator ID:	dt	ALS Bottle#:	5	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

21 1,1,2-Trichloro-1,2,2-trifluoroethane, CAS: 76-13-1

Signal: 1

Processing Integration Results

RT: 6.04
Area: 25363
Amount: 35.699111
Amount Units: ug/l

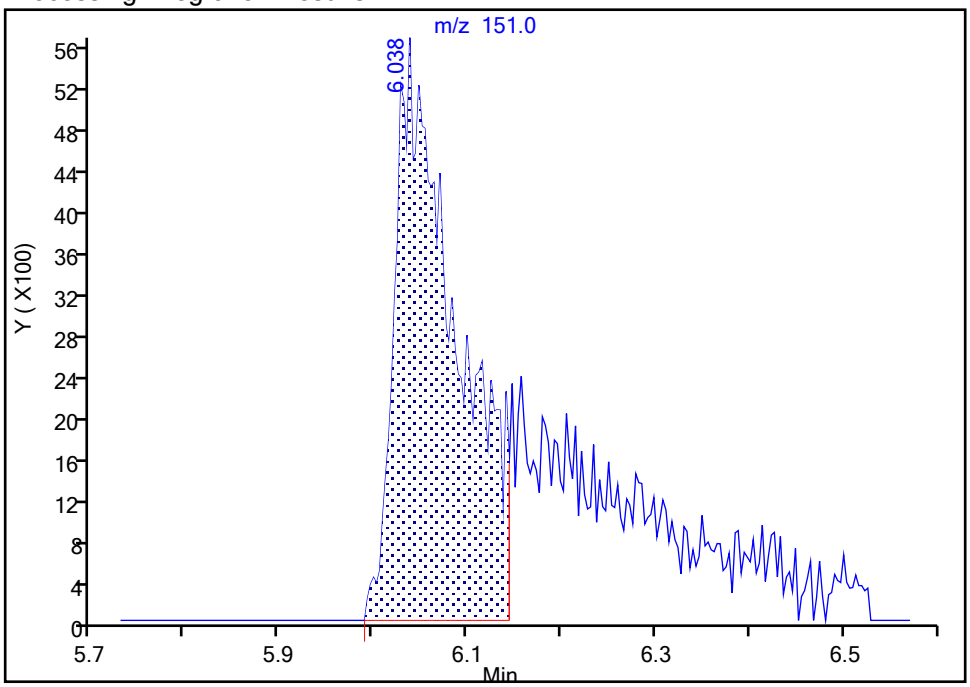

Manual Integration Results

RT: 6.04
Area: 39418
Amount: 44.729688
Amount Units: ug/l

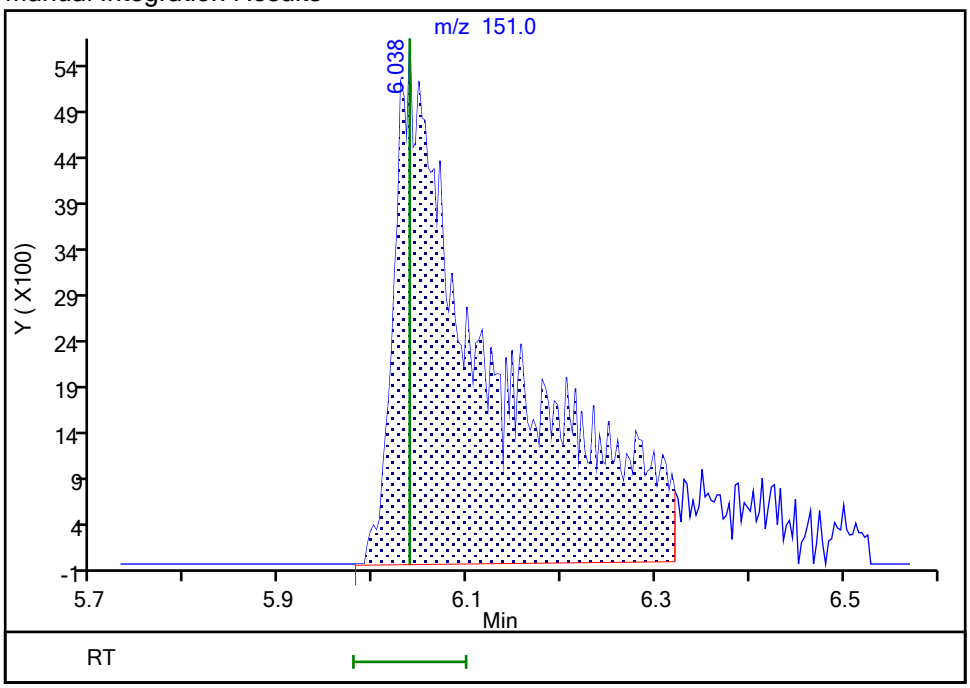

Reviewer: tengd, 29-Aug-2019 16:53:44

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41005.D				
Injection Date:	29-Aug-2019 15:10:30	Instrument ID:	CHVOAMS10		
Lims ID:	icis				
Client ID:					
Operator ID:	dt	ALS Bottle#:	5	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

33 Ethyl acetate, CAS: 141-78-6

Signal: 1

Not Detected
Expected RT: 7.30

Processing Integration Results

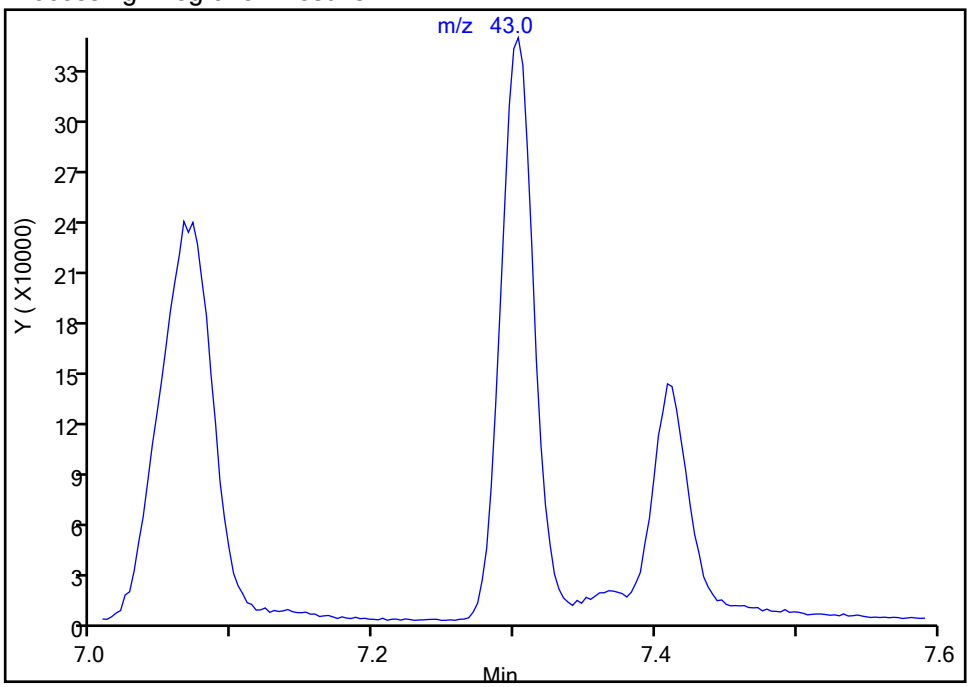

RT: 7.30
Area: 567270
Amount: 98.192824
Amount Units: ug/l

Manual Integration Results

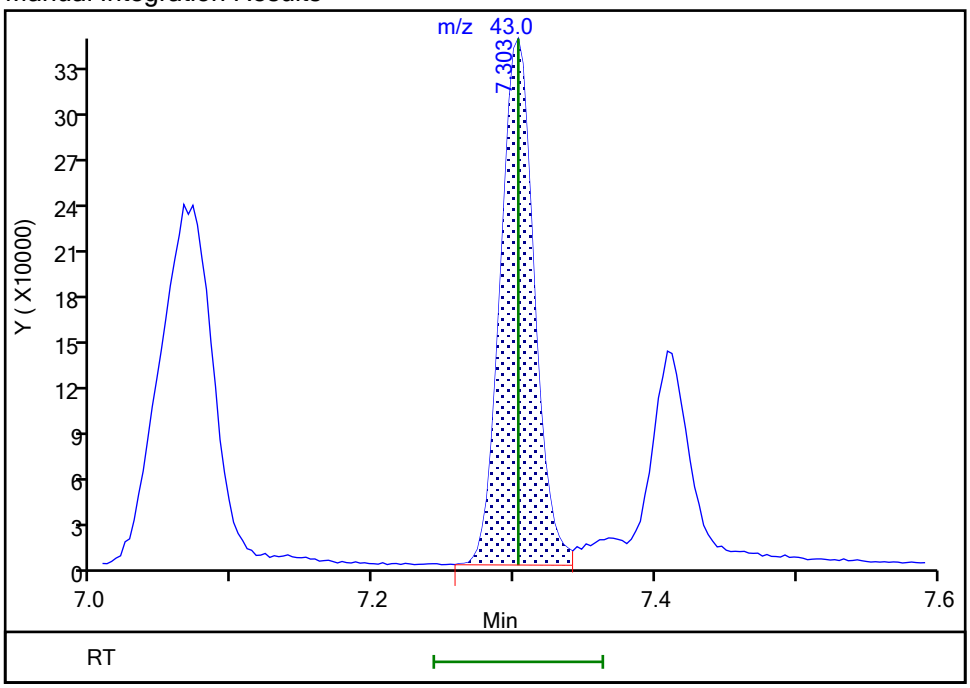

Reviewer: tengd, 29-Aug-2019 15:35:12
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41005.D				
Injection Date:	29-Aug-2019 15:10:30	Instrument ID:	CHVOAMS10		
Lims ID:	icis				
Client ID:					
Operator ID:	dt	ALS Bottle#:	5	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

128 1,2,3-Trichloropropane, CAS: 96-18-4

Signal: 1

Not Detected
Expected RT: 12.41

Processing Integration Results

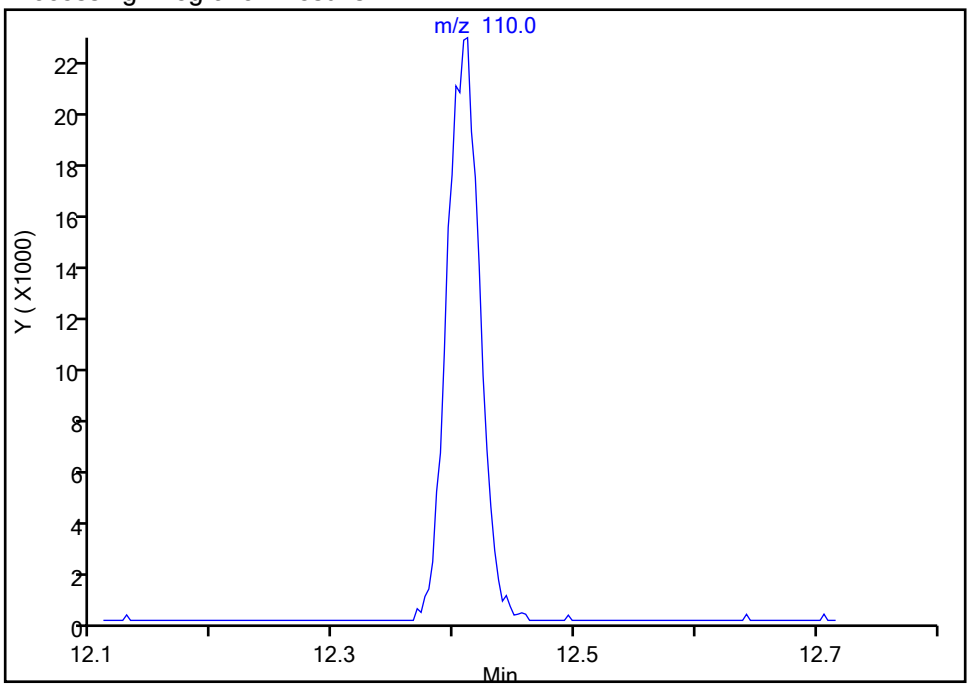

Manual Integration Results

RT: 12.41
Area: 43676
Amount: 49.291807
Amount Units: ug/l

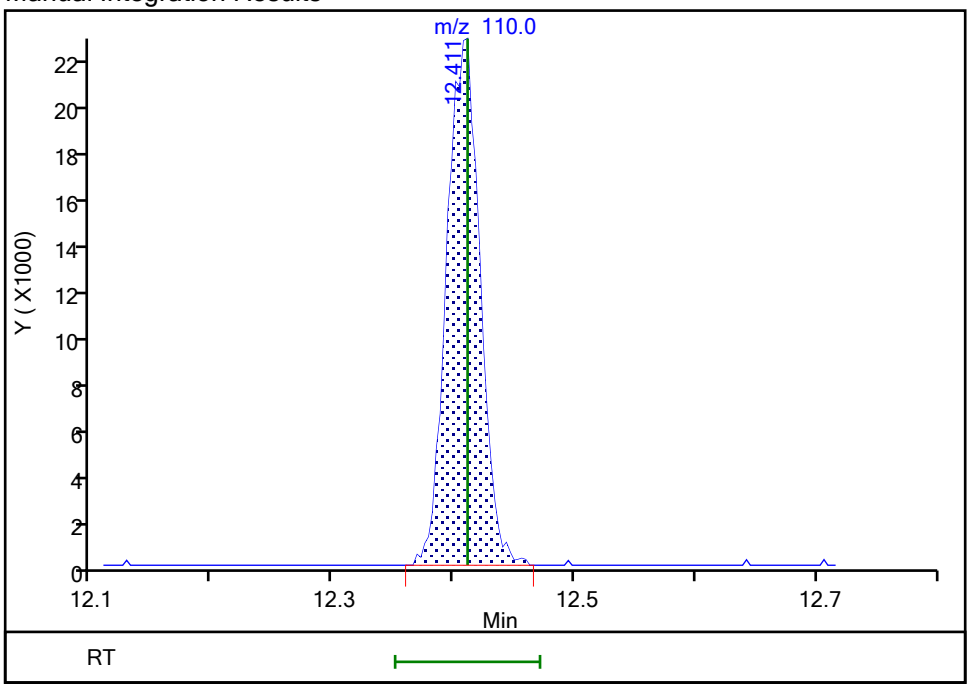

Reviewer: tengd, 29-Aug-2019 15:35:23
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41005.D				
Injection Date:	29-Aug-2019 15:10:30	Instrument ID:	CHVOAMS10		
Lims ID:	icis				
Client ID:					
Operator ID:	dt	ALS Bottle#:	5	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

143 Benzyl chloride, CAS: 100-44-7

Signal: 1

Processing Integration Results

RT: 14.03
Area: 56349
Amount: 17.822461
Amount Units: ug/l

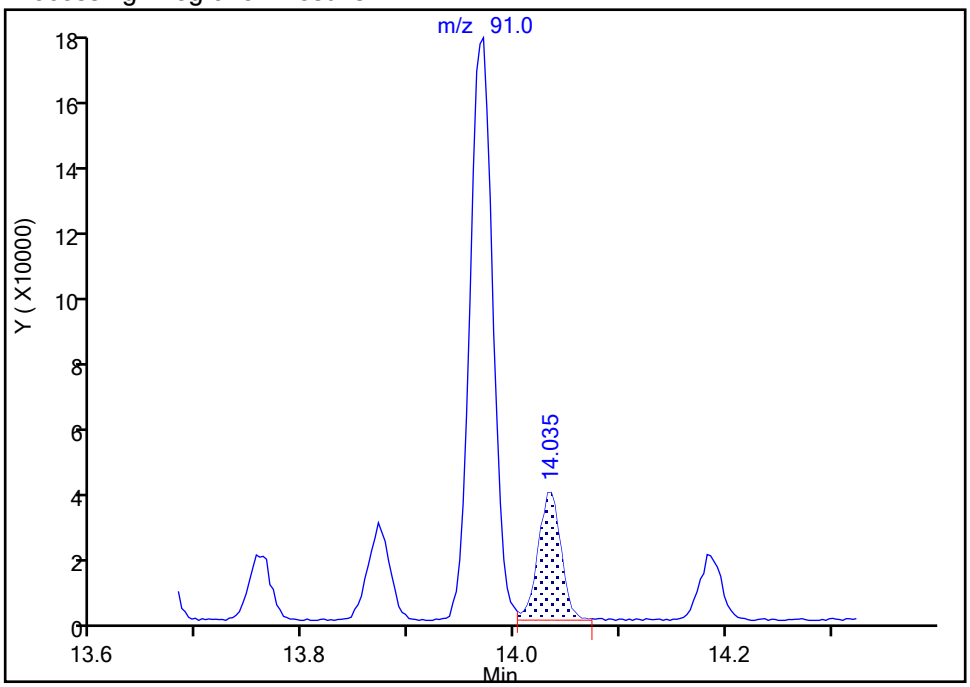

Manual Integration Results

RT: 13.97
Area: 257669
Amount: 47.987919
Amount Units: ug/l

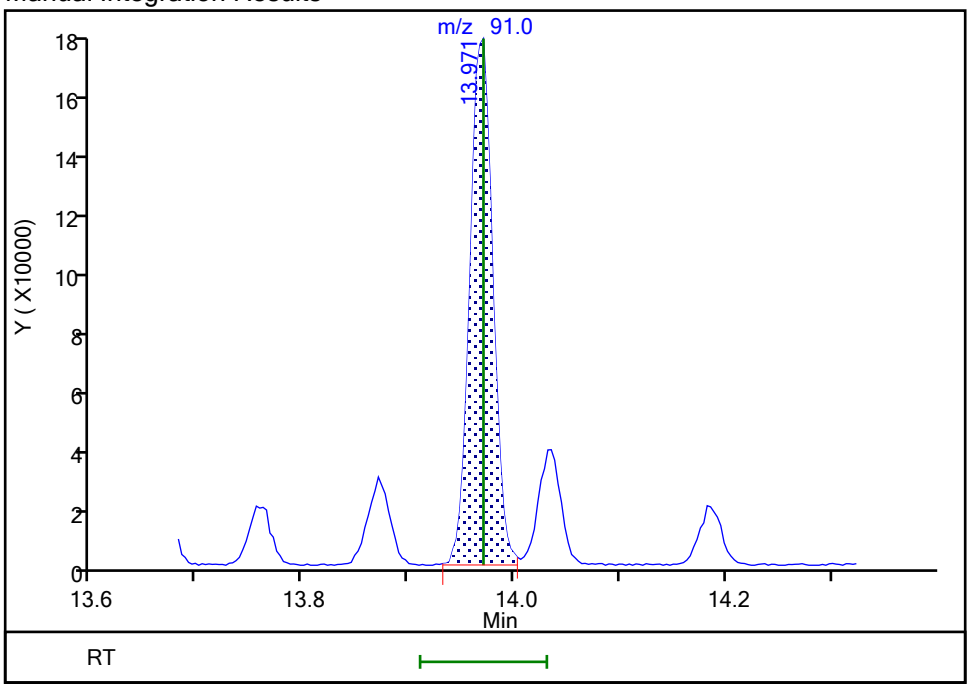

Reviewer: tengd, 29-Aug-2019 15:35:36
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41005.D				
Injection Date:	29-Aug-2019 15:10:30	Instrument ID:	CHVOAMS10		
Lims ID:	icis				
Client ID:					
Operator ID:	dt	ALS Bottle#:	5	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

148 Hexachlorobutadiene, CAS: 87-68-3

Signal: 1

Not Detected
Expected RT: 16.62

Processing Integration Results

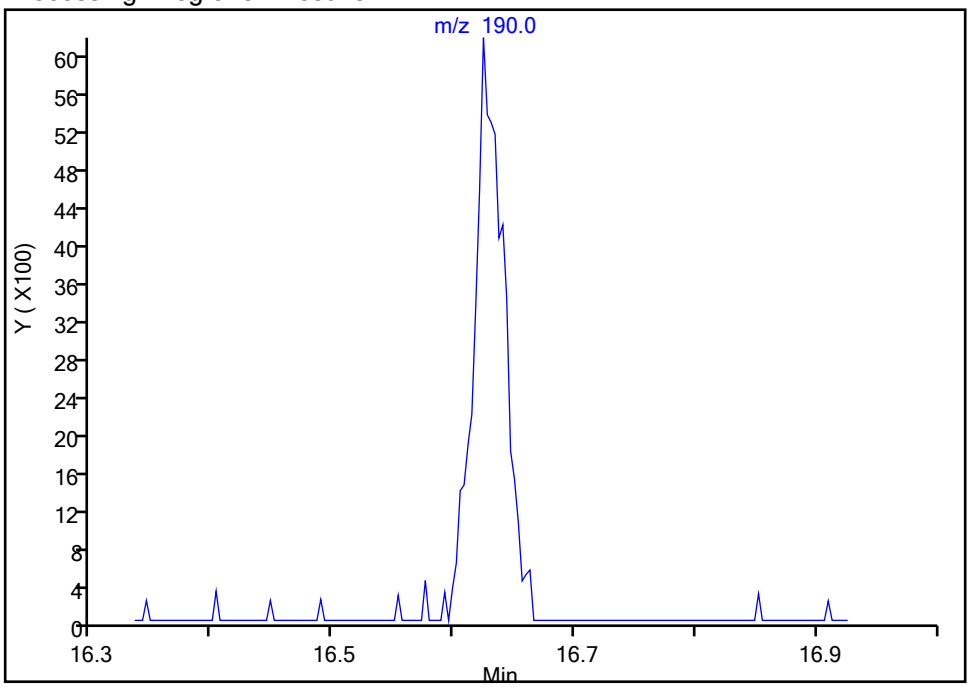

Manual Integration Results

RT: 16.62
Area: 10665
Amount: 47.954438
Amount Units: ug/l

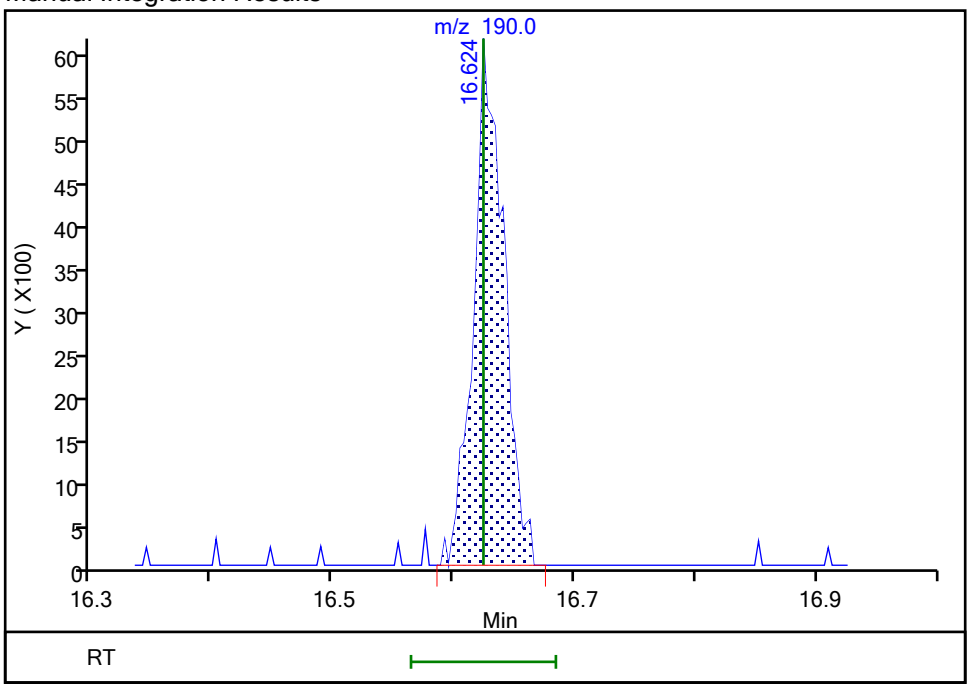

Reviewer: tengd, 29-Aug-2019 15:35:48
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41006.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 29-Aug-2019 15:40:30 ALS Bottle#: 6 Worklist Smp#: 8
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: ic
Misc. Info.: 600-0030818-008
Operator ID: dt Instrument ID: CHVOAMS10
Sublist: chrom-8260w5_10*sub37

Method: \\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\8260w5_10.m
Limit Group: VOA - 8260C_8260CLL
Last Update: 06-Sep-2019 14:08:29 Calib Date: 29-Aug-2019 16:10:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41007.D

Column 1 : Det: MS SCAN
Process Host: CTX0307

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.409	8.406	0.003	98	381489	50.0	50.0	
2 Dichlorodifluoromethane	85	3.856	3.853	0.003	97	126094	100.0	102.8	a
3 Chloromethane	50	4.122	4.123	-0.001	99	383915	100.0	103.1	a
4 Vinyl chloride	62	4.318	4.318	0.000	52	231221	100.0	103.7	
5 Butadiene	39	4.430	4.437	-0.007	95	315149	100.0	102.3	M
10 Ethylene oxide	44	4.671	4.684	-0.013	99	513785	1000.0	1101.4	
7 Bromomethane	94	4.780	4.784	-0.004	92	112558	100.0	103.9	a
11 Chloroethane	64	4.918	4.912	0.006	93	121715	100.0	106.1	a
13 Dichlorofluoromethane	67	4.944	4.944	0.000	97	261207	100.0	104.7	
24 Acrolein	56	5.409	5.406	0.003	96	156733	500.0	501.1	
16 Acetonitrile	41	5.425	5.422	0.003	99	240648	1000.0	856.4	
12 Trichlorofluoromethane	101	5.431	5.435	-0.004	45	206394	100.0	98.7	
19 Isopropyl alcohol	45	5.457	5.458	-0.001	98	209507	1000.0	889.6	
27 Acetone	43	5.518	5.522	-0.004	97	219767	200.0	168.6	
15 Ethyl ether	59	5.608	5.608	0.000	95	220396	100.0	95.5	
31 2-Methyl-2-propanol	59	5.906	5.897	0.009	97	419938	1000.0	1011.9	
20 1,1-Dichloroethene	96	5.913	5.913	0.000	89	122906	100.0	105.8	
37 Acrylonitrile	52	5.932	5.929	0.003	98	1377258	1000.0	1001.2	
23 Iodomethane	142	5.990	5.990	0.000	100	230549	100.0	107.5	a
28 Methyl acetate	43	6.032	6.029	0.003	99	884070	200.0	202.9	
21 1,1,2-Trichloro-1,2,2-trif	151	6.041	6.038	0.003	52	91812	100.0	102.5	
26 Methylene Chloride	84	6.057	6.054	0.003	87	153304	100.0	102.1	a
25 3-Chloro-1-propene	76	6.089	6.080	0.009	84	54319	100.0	84.9	
22 Carbon disulfide	76	6.269	6.266	0.003	98	407034	100.0	93.3	a
29 trans-1,2-Dichloroethene	96	6.561	6.561	0.000	89	141659	100.0	91.2	
30 Methyl tert-butyl ether	73	6.635	6.629	0.006	92	349204	100.0	102.6	
35 Propionitrile	54	6.760	6.757	0.003	99	601508	1000.0	989.0	
34 1,1-Dichloroethane	63	6.763	6.764	-0.001	75	401833	100.0	98.8	
40 Vinyl acetate	43	6.821	6.821	0.000	97	1729674	200.0	211.3	
36 2-Chloro-1,3-butadiene	53	7.042	7.040	0.002	92	489652	100.0	98.2	
58 Hexane	57	7.046	7.043	0.003	77	314042	100.0	98.1	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
32 Isopropyl ether	45	7.065	7.059	0.006	94	1093112	100.0	99.7	
56 2-Butanone (MEK)	72	7.078	7.072	0.006	94	70153	200.0	195.8	
61 Methacrylonitrile	66	7.164	7.161	0.003	97	492033	1000.0	1004.7	
44 cis-1,2-Dichloroethene	96	7.212	7.210	0.002	86	209221	100.0	96.5	
33 Ethyl acetate	43	7.302	7.303	-0.001	99	1169322	200.0	207.1	
47 Chlorobromomethane	128	7.344	7.344	0.000	87	120629	100.0	99.4	
41 Tert-butyl ethyl ether	59	7.373	7.367	0.006	95	428996	100.0	102.1	
48 Chloroform	83	7.373	7.370	0.003	92	342568	100.0	96.8	
39 Isobutyl alcohol	43	7.411	7.409	0.002	93	537253	2500.0	2383.4	
46 2,2-Dichloropropane	77	7.431	7.428	0.003	84	137512	100.0	93.6	
$ 52 Dibromofluoromethane	113	7.466	7.466	0.000	93	199360	100.0	97.7	
S 43 1,2-Dichloroethene, Total	96				0		200.0	187.7	
53 Tetrahydrofuran	42	7.633	7.633	0.000	91	338750	200.0	204.0	
$ 64 1,2-Dichloroethane-d4 (Sur	65	7.819	7.819	0.000	0	294633	100.0	98.8	
65 1,2-Dichloroethane	62	7.880	7.877	0.003	95	395902	100.0	100.2	
55 1,1,1-Trichloroethane	97	7.954	7.951	0.003	97	250316	100.0	95.8	
38 n-Butanol	56	7.963	7.964	-0.001	92	300751	2500.0	2721.0	
57 1,1-Dichloropropene	75	8.082	8.082	0.000	83	241672	100.0	96.6	
69 Cyclohexane	84	8.178	8.175	0.003	94	133103	100.0	93.9	
54 Carbon tetrachloride	119	8.239	8.236	0.003	95	214698	100.0	89.7	
63 Benzene	78	8.265	8.262	0.003	94	761085	100.0	98.1	
62 Tert-amyl methyl ether	73	8.342	8.342	0.000	86	250138	100.0	98.3	
59 Isooctane	57	8.547	8.551	-0.004	99	193842	100.0	90.2	
72 Ethyl acrylate	55	8.602	8.599	0.003	97	763696	100.0	104.4	
60 n-Heptane	43	8.605	8.605	0.000	94	272207	100.0	101.3	
73 Dibromomethane	93	8.714	8.711	0.003	92	146180	100.0	97.4	
79 1,2-Dichloropropane	63	8.724	8.721	0.003	85	262993	100.0	98.3	
66 2-Nitropropane	43	8.740	8.737	0.003	98	429255	200.0	205.9	
70 Trichloroethene	130	8.746	8.747	-0.001	90	213047	100.0	96.7	
75 Dichlorobromomethane	83	8.798	8.798	0.000	95	284884	100.0	98.7	
77 Methyl methacrylate	41	8.839	8.840	-0.001	86	1020757	200.0	209.4	
78 1,4-Dioxane	58	8.865	8.865	0.000	89	43629	2000.0	2169.2	
71 Methylcyclohexane	83	9.170	9.170	0.000	92	156043	100.0	95.7	
80 4-Methyl-2-pentanone (MIBK	43	9.356	9.356	0.000	98	1154399	200.0	207.3	
* 85 Chlorobenzene-d5	82	11.390	11.384	0.006	89	141414	50.0	50.0	
89 2-Chloroethyl vinyl ether	63	9.070	9.074	-0.004	87	277797	200.0	202.5	
90 cis-1,3-Dichloropropene	75	9.295	9.292	0.003	82	338549	100.0	104.0	
96 trans-1,3-Dichloropropene	75	9.654	9.655	-0.001	88	336589	100.0	105.4	
100 1,1,2-Trichloroethane	97	9.821	9.818	0.003	94	202699	100.0	103.9	
$ 93 Toluene-d8 (Surr)	98	9.914	9.915	-0.001	96	698321	100.0	100.9	
97 Ethyl methacrylate	69	9.969	9.969	0.000	86	342540	100.0	105.7	
94 Toluene	92	9.985	9.982	0.003	96	478867	100.0	101.4	
102 1,3-Dichloropropane	76	10.033	10.033	0.000	87	307000	100.0	99.2	
106 2-Hexanone	43	10.123	10.123	0.000	97	875963	200.0	223.7	
101 Chlorodibromomethane	129	10.331	10.335	-0.004	90	250745	100.0	104.7	
103 n-Butyl acetate	43	10.399	10.399	0.000	96	874689	100.0	110.4	
105 Ethylene Dibromide	107	10.585	10.585	0.000	98	228411	100.0	106.1	
98 Tetrachloroethene	164	10.723	10.723	0.000	92	144366	100.0	101.6	
S 104 Xylenes, Total	106				0		200.0	196.6	
113 1-Chlorohexane	55	11.275	11.275	0.000	77	227810	100.0	96.0	
110 1,1,1,2-Tetrachloroethane	131	11.339	11.339	0.000	91	195455	100.0	101.7	
109 Chlorobenzene	112	11.422	11.426	-0.004	92	513620	100.0	100.3	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
108 Ethylbenzene	106	11.596	11.596	0.000	98	262567	100.0	99.3	
111 m-Xylene & p-Xylene	91	11.788	11.789	-0.001	0	633363	100.0	98.9	
114 Styrene	104	12.157	12.154	0.003	93	528321	100.0	102.3	
116 Cyclohexanone	55	12.218	12.219	0.000	94	621535	5000.0	4989.9	
112 o-Xylene	106	12.237	12.231	0.006	97	305370	100.0	97.6	
* 117 1,4-Dichlorobenzene-d4	152	14.009	14.006	0.003	96	120401	50.0	50.0	
119 Bromoform	173	11.993	11.991	0.002	95	159556	100.0	99.7	
124 1,1,2,2-Tetrachloroethane	83	12.250	12.247	0.003	96	276022	100.0	96.4	
129 trans-1,4-Dichloro-2-buten	53	12.398	12.398	0.000	85	135042	100.0	117.7	
128 1,2,3-Trichloropropane	110	12.407	12.411	-0.004	94	84088	100.0	95.8	
121 Isopropylbenzene	105	12.626	12.623	0.003	96	678280	100.0	93.3	
$ 122 4-Bromofluorobenzene	95	12.693	12.693	0.000	87	235841	100.0	96.7	
125 Bromobenzene	156	12.937	12.934	0.003	88	208774	100.0	98.8	
123 N-Propylbenzene	120	13.088	13.091	-0.003	99	176726	100.0	94.1	
127 2-Chlorotoluene	126	13.213	13.210	0.003	96	174330	100.0	94.3	
130 4-Chlorotoluene	91	13.283	13.284	-0.001	97	517497	100.0	95.6	
126 1,3,5-Trimethylbenzene	105	13.360	13.361	-0.001	95	506729	100.0	92.3	
131 tert-Butylbenzene	119	13.662	13.662	0.000	96	362411	100.0	89.7	
133 1,2,4-Trimethylbenzene	105	13.758	13.759	-0.001	98	536201	100.0	94.2	
135 sec-Butylbenzene	105	13.871	13.871	0.000	95	472795	100.0	89.7	
143 Benzyl chloride	91	13.970	13.971	-0.001	98	547789	100.0	103.0	
137 1,3-Dichlorobenzene	146	13.973	13.974	-0.001	98	322666	100.0	96.8	
136 4-Isopropyltoluene	119	14.034	14.035	-0.001	96	412835	100.0	90.9	
140 1,4-Dichlorobenzene	146	14.034	14.035	-0.001	87	341069	100.0	97.8	
139 1,2,3-Trimethylbenzene	105	14.185	14.186	-0.001	99	549726	100.0	96.2	
144 1,2-Dichlorobenzene	146	14.390	14.391	-0.001	96	321903	100.0	98.0	
142 n-Butylbenzene	91	14.439	14.439	0.000	97	308609	100.0	89.0	
146 1,2-Dibromo-3-Chloropropan	157	14.865	14.866	-0.001	78	59827	100.0	102.4	
147 1,3,5-Trichlorobenzene	180	15.700	15.703	-0.003	97	144857	100.0	91.0	
149 1,2,4-Trichlorobenzene	180	16.296	16.297	-0.001	94	147992	100.0	92.6	
150 Naphthalene	128	16.598	16.599	-0.001	98	631662	100.0	99.7	
148 Hexachlorobutadiene	190	16.630	16.624	0.006	96	17360	100.0	78.8	
151 1,2,3-Trichlorobenzene	180	16.836	16.833	0.003	96	135404	100.0	94.7	
S 162 Trihalomethanes, Total	1				0			399.9	
S 159 1,3-Dichloropropene, Total	1				0			209.4	
S 182 Total BTEX	1				0			495.3	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

VOAIS250PPM_00134	Amount Added: 1.00	Units: uL
VOASTDPT2_00147	Amount Added: 10.00	Units: uL
EOxideStd_00159	Amount Added: 10.00	Units: uL
VOASTDGASPT_00341	Amount Added: 10.00	Units: uL

Report Date: 06-Sep-2019 14:08:33 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41006.D				
Injection Date:	29-Aug-2019 15:40:30	Instrument ID:	CHVOAMS10	Operator ID:	dt
Lims ID:	ic			Worklist Smp#:	8
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		

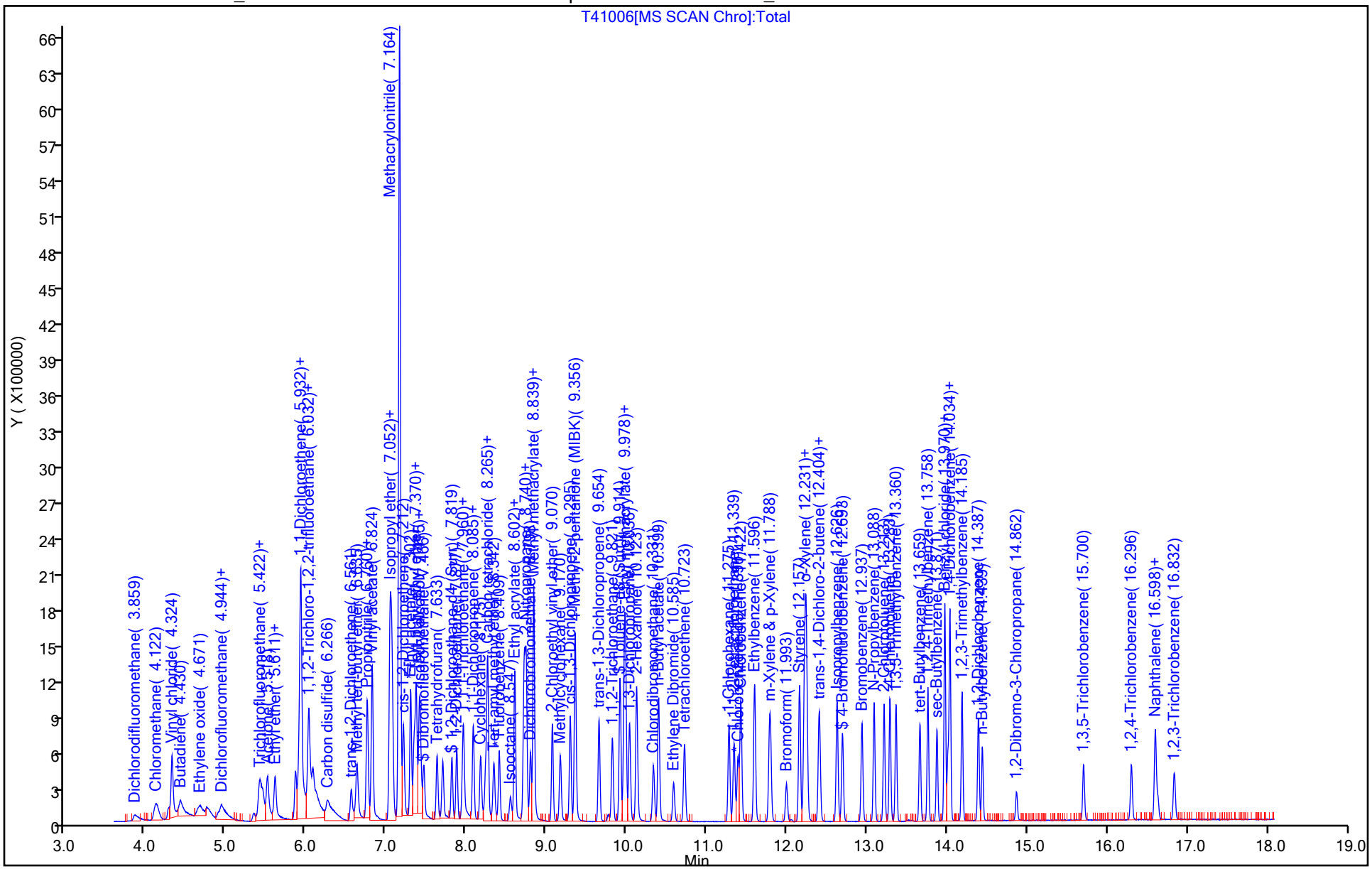

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41006.D				
Injection Date:	29-Aug-2019 15:40:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	6	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

2 Dichlorodifluoromethane, CAS: 75-71-8

Signal: 1

Not Detected
Expected RT: 3.85

Processing Integration Results

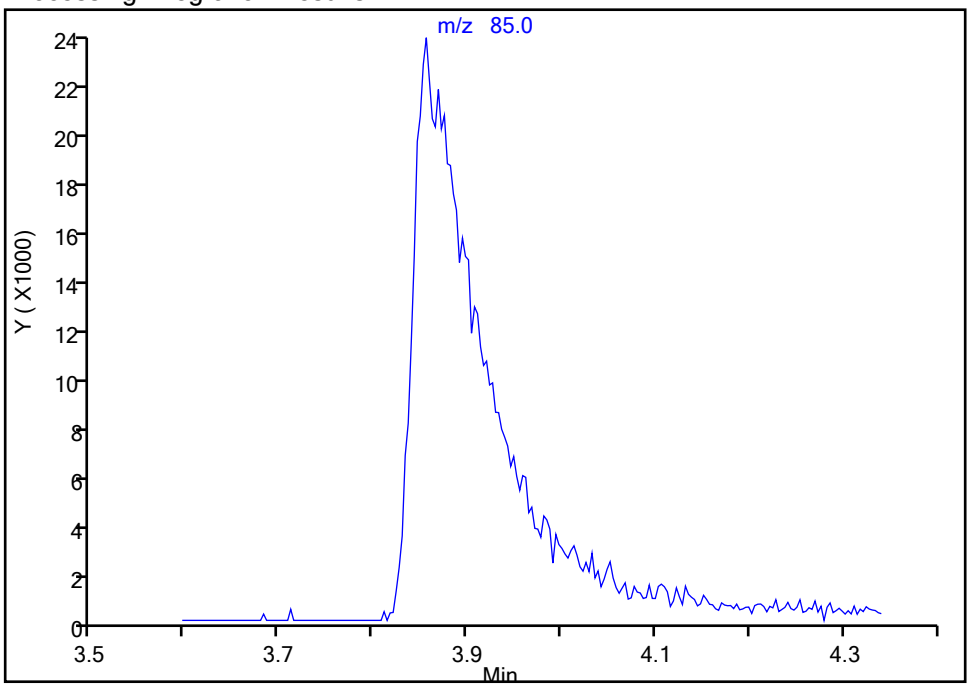

Manual Integration Results

RT: 3.86
Area: 126094
Amount: 102.7831
Amount Units: ug/l

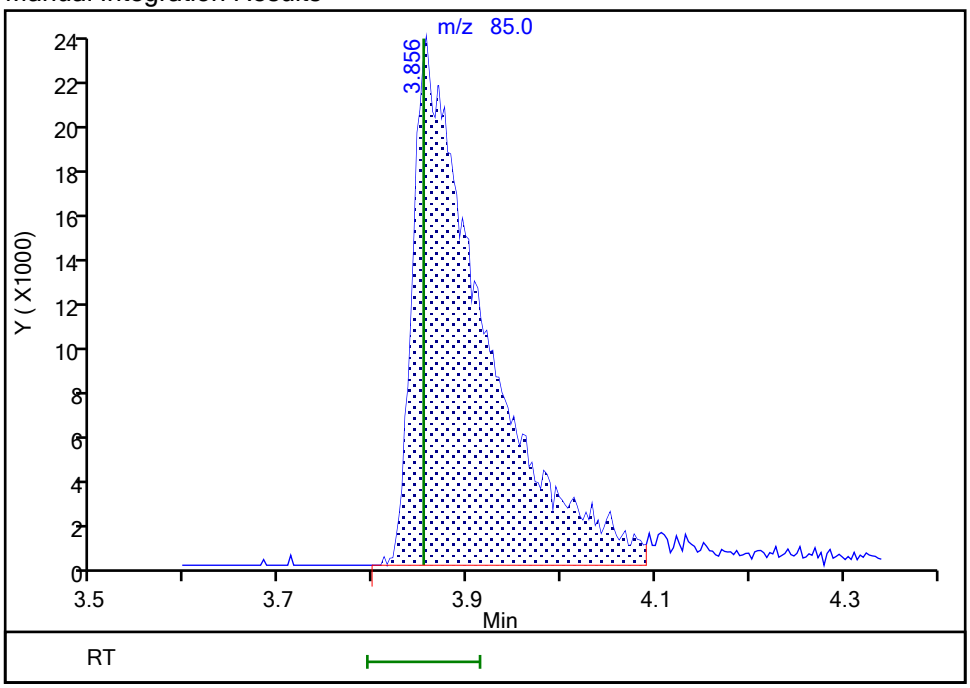

Reviewer: tengd, 29-Aug-2019 16:04:05
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41006.D				
Injection Date:	29-Aug-2019 15:40:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	6	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

3 Chloromethane, CAS: 74-87-3

Signal: 1

Not Detected
Expected RT: 4.12

Processing Integration Results

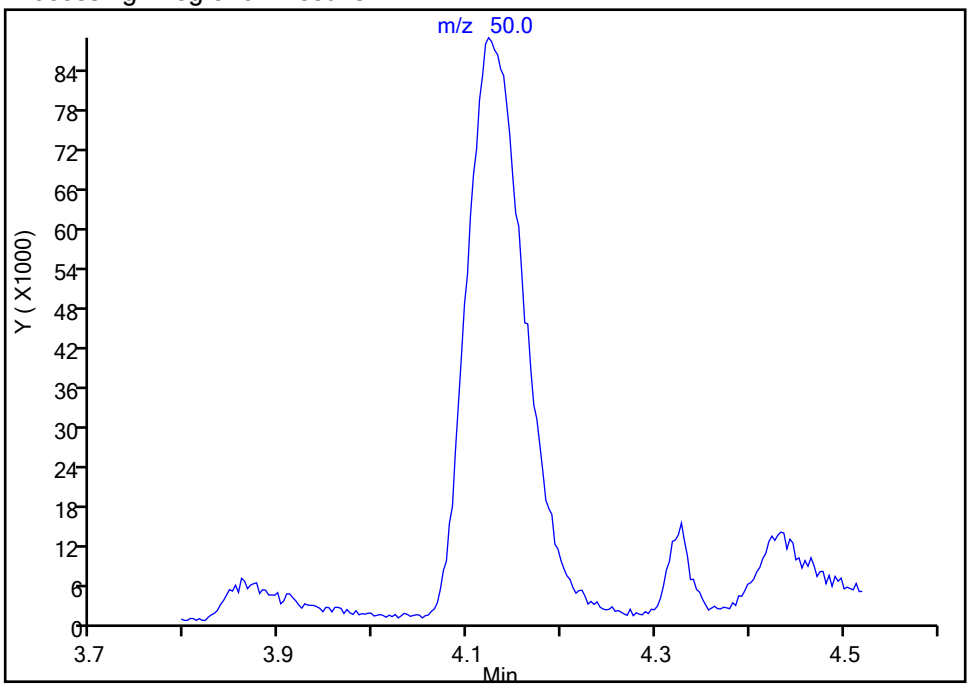

Manual Integration Results

RT: 4.12
Area: 383915
Amount: 103.1227
Amount Units: ug/l

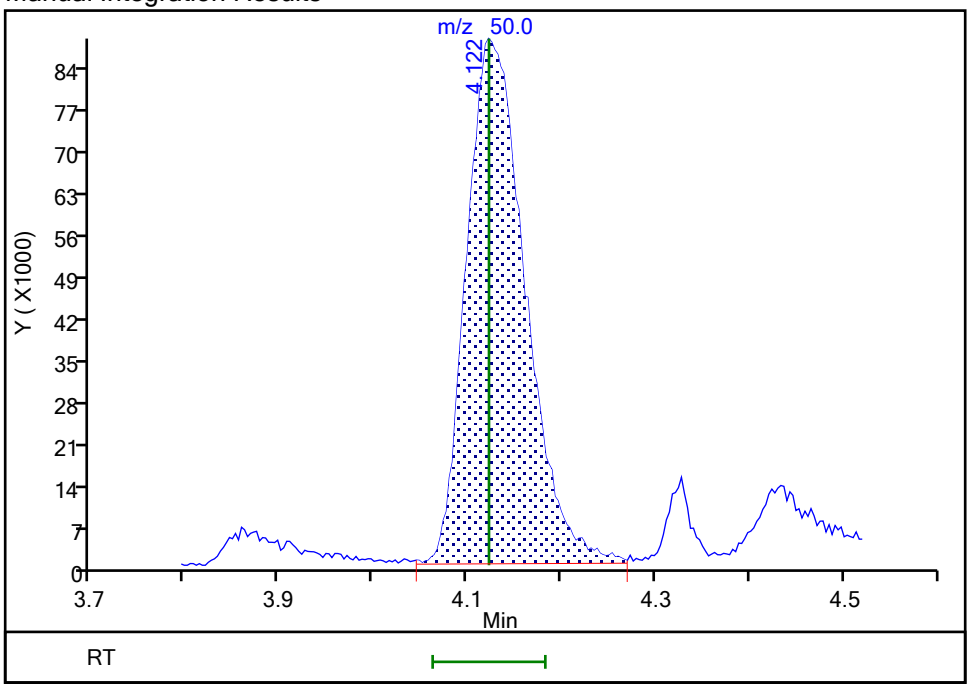

Reviewer: tengd, 29-Aug-2019 16:04:11
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41006.D				
Injection Date:	29-Aug-2019 15:40:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	6	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

5 Butadiene, CAS: 106-99-0

Signal: 1

Processing Integration Results

RT: 4.43
Area: 244265
Amount: 95.098002
Amount Units: ug/l

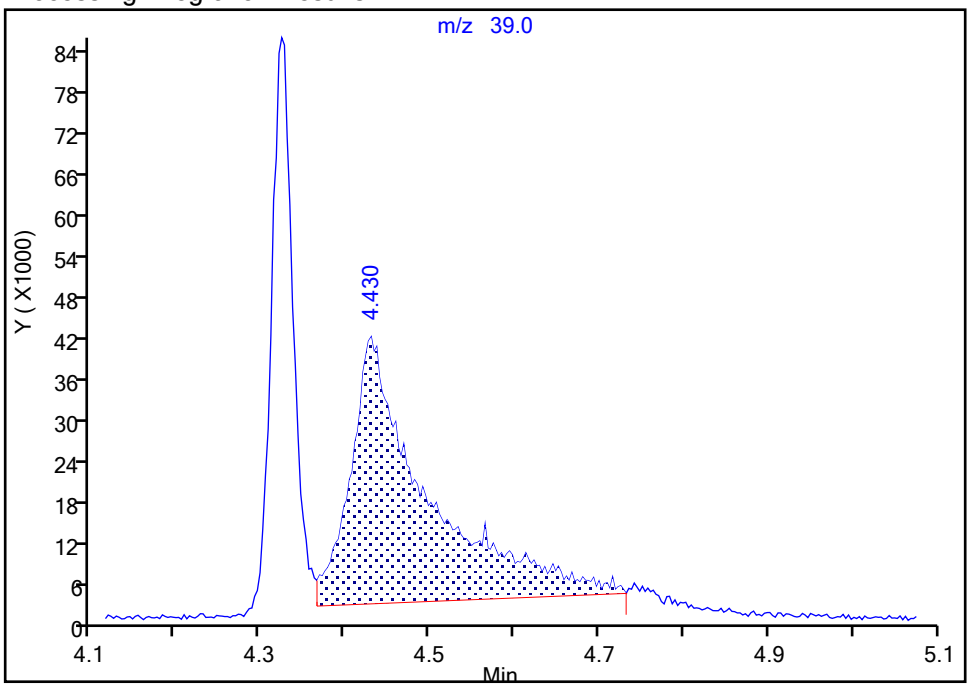

Manual Integration Results

RT: 4.43
Area: 315149
Amount: 102.2630
Amount Units: ug/l

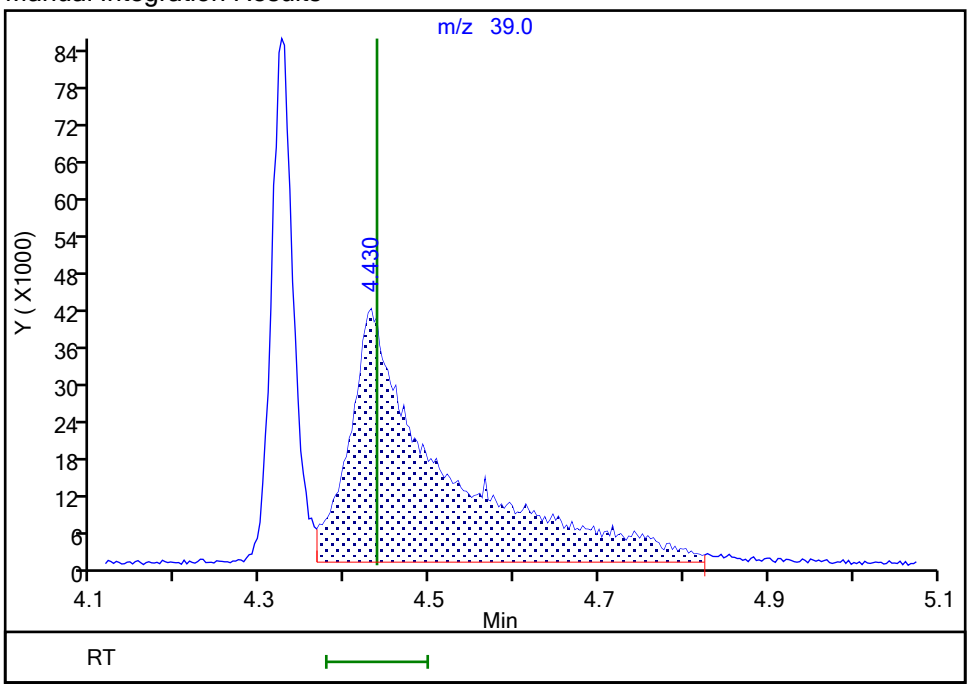

Reviewer: tengd, 29-Aug-2019 16:49:29

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41006.D				
Injection Date:	29-Aug-2019 15:40:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	6	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

7 Bromomethane, CAS: 74-83-9

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 4.78

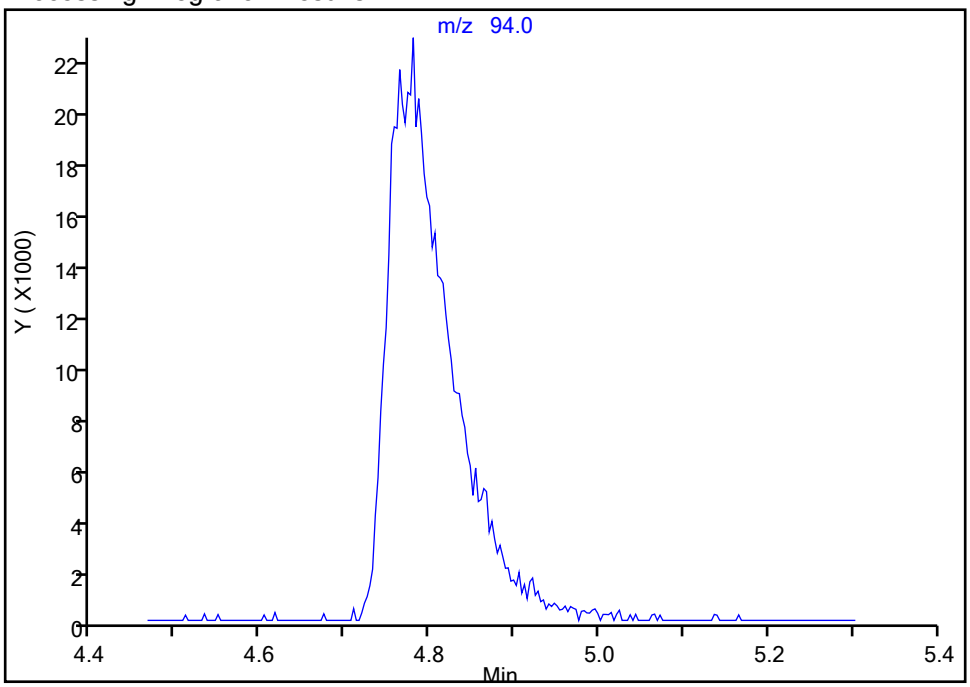

Manual Integration Results

RT: 4.78
Area: 112558
Amount: 103.8898
Amount Units: ug/l

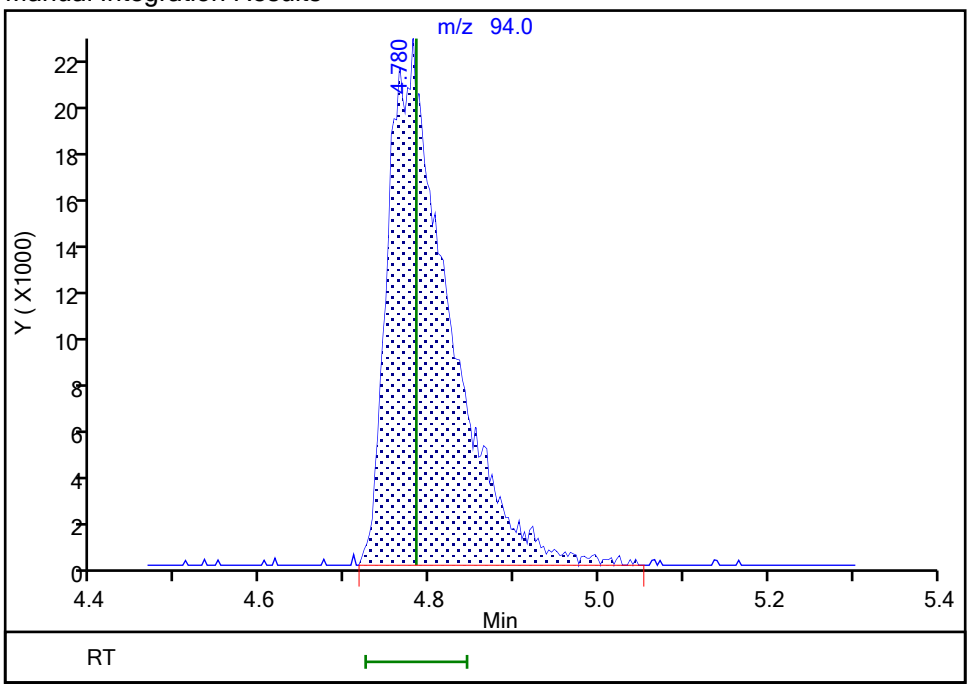

Reviewer: tengd, 29-Aug-2019 16:04:22
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41006.D				
Injection Date:	29-Aug-2019 15:40:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	6	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

11 Chloroethane, CAS: 75-00-3

Signal: 1

Not Detected
Expected RT: 4.91

Processing Integration Results

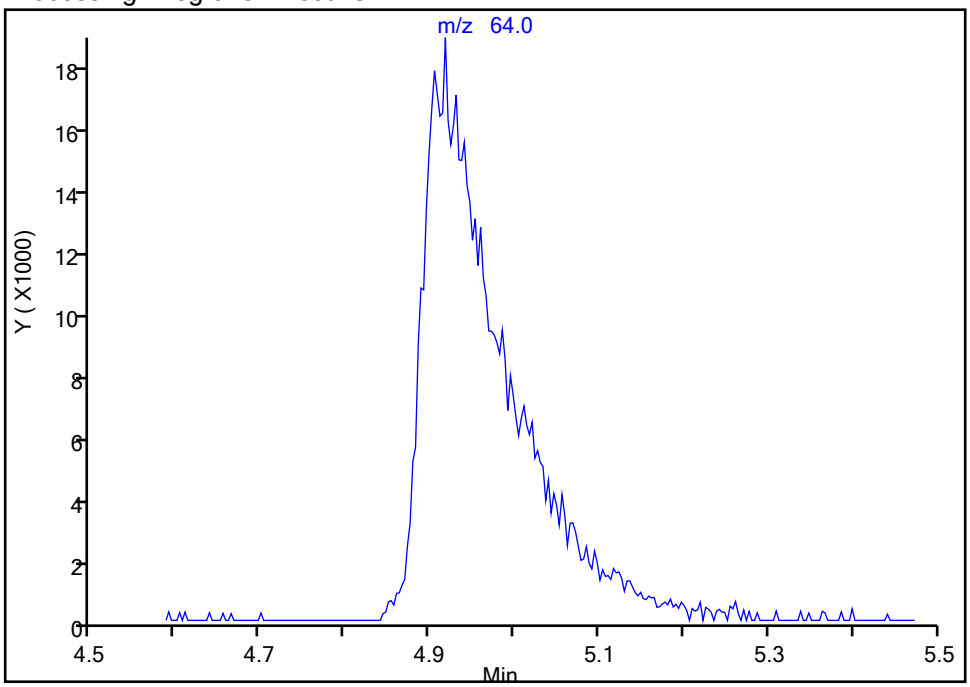

Manual Integration Results

RT: 4.92
Area: 121715
Amount: 106.1128
Amount Units: ug/l

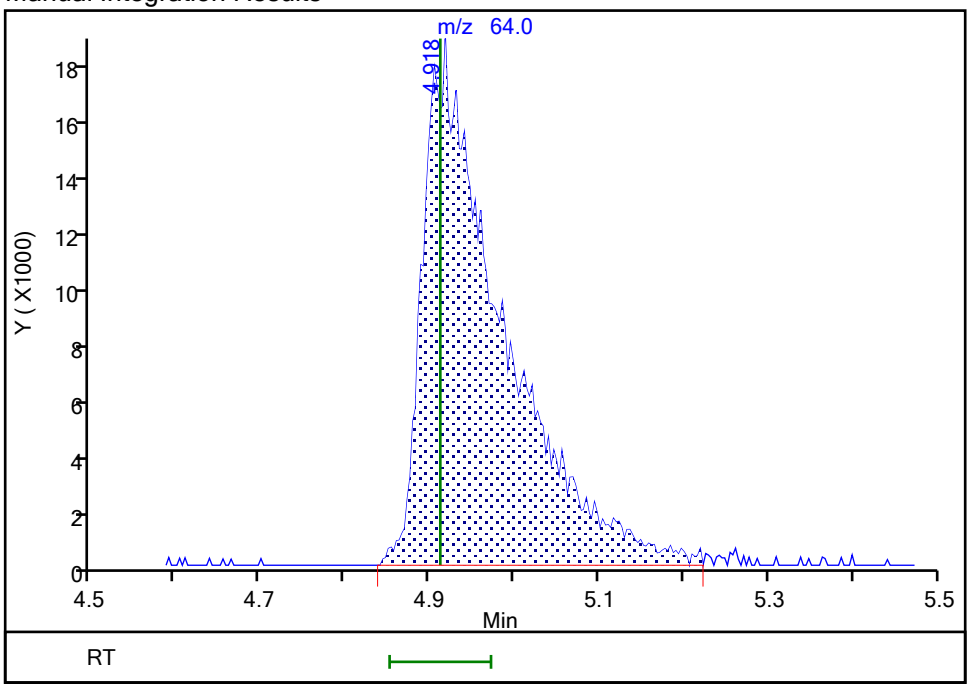

Reviewer: tengd, 29-Aug-2019 16:04:27
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41006.D				
Injection Date:	29-Aug-2019 15:40:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	6	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

23 Iodomethane, CAS: 74-88-4

Signal: 1

Not Detected
Expected RT: 5.99

Processing Integration Results

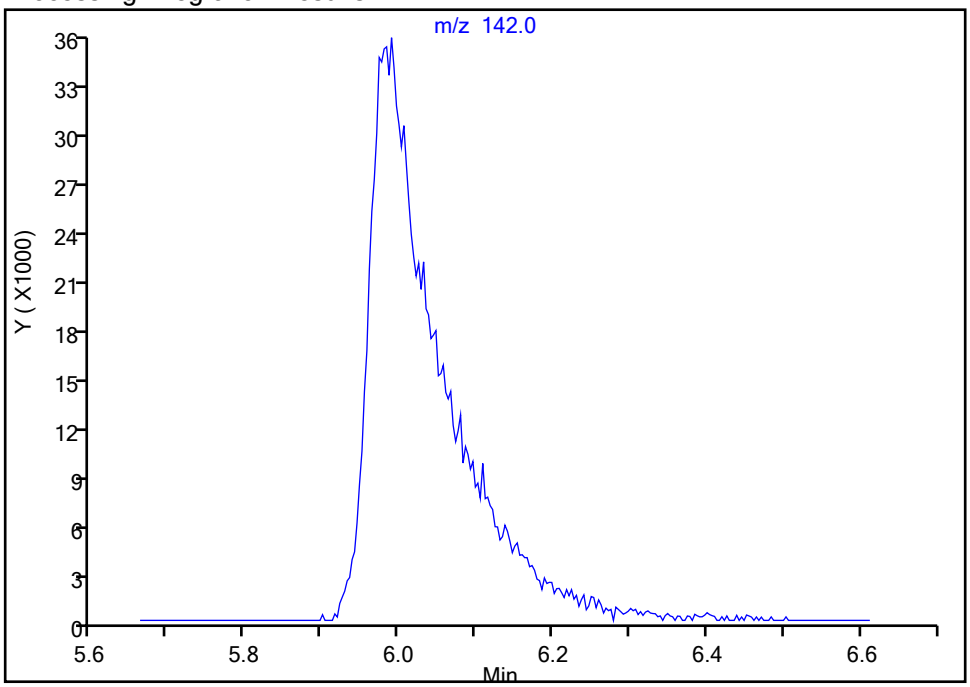

RT: 5.99
Area: 230549
Amount: 107.4669
Amount Units: ug/l

Manual Integration Results

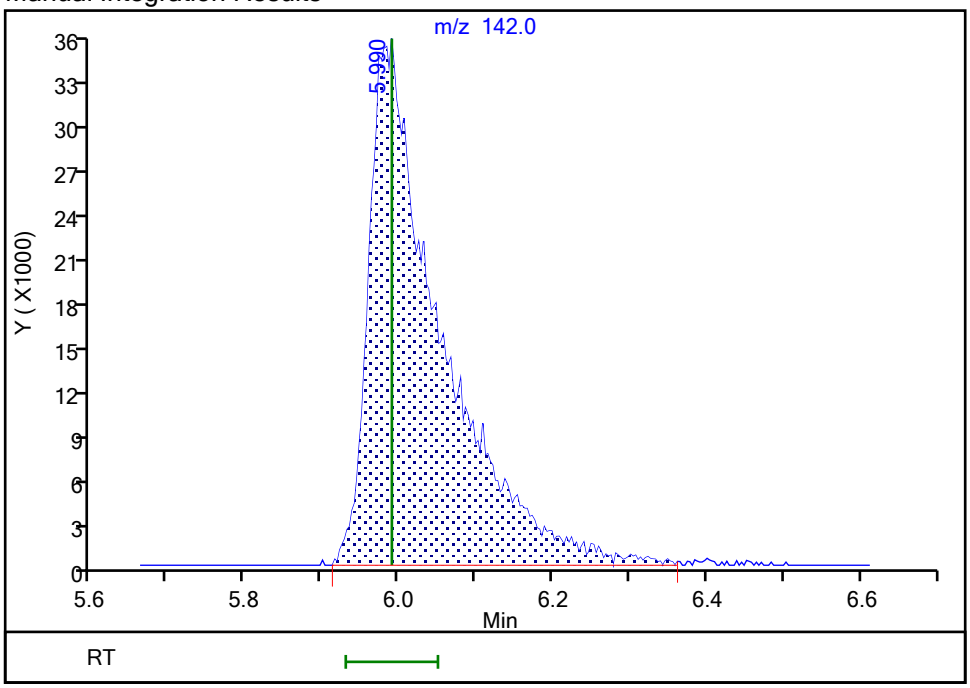

Reviewer: tengd, 29-Aug-2019 16:04:36
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41006.D				
Injection Date:	29-Aug-2019 15:40:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	6	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

26 Methylene Chloride, CAS: 75-09-2

Signal: 1

Not Detected
Expected RT: 6.05

Processing Integration Results

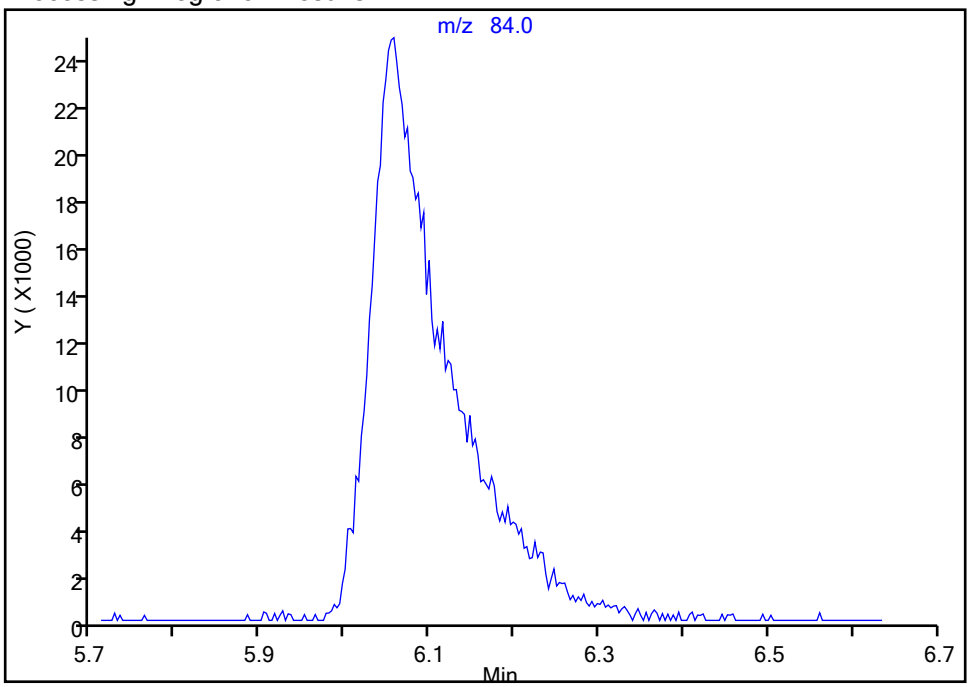

RT: 6.06
Area: 153304
Amount: 102.1035
Amount Units: ug/l

Manual Integration Results

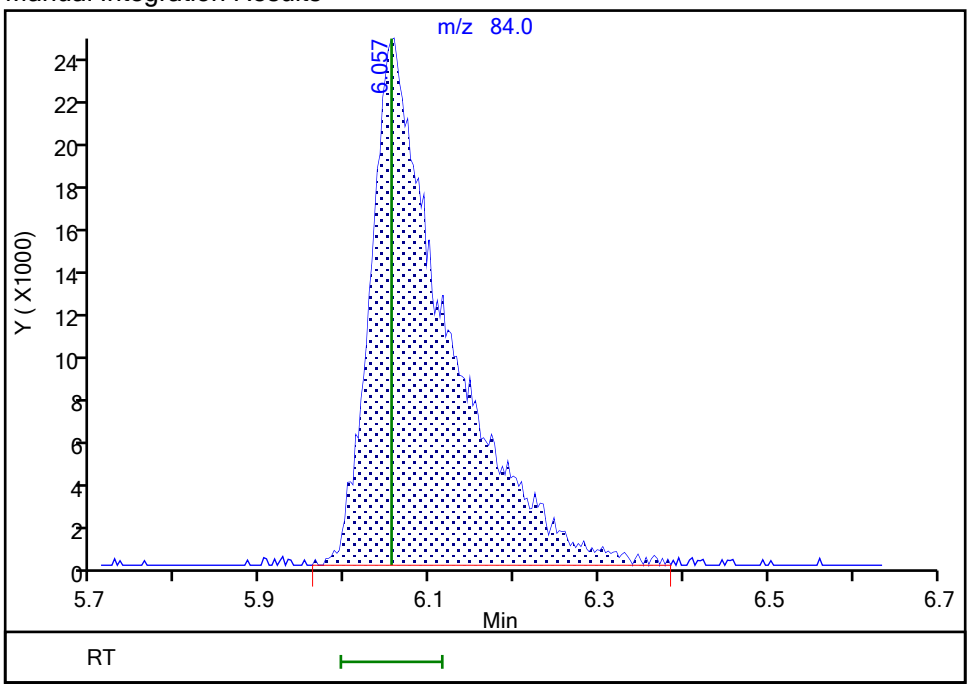

Reviewer: tengd, 29-Aug-2019 16:04:44
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41006.D				
Injection Date:	29-Aug-2019 15:40:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	6	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

22 Carbon disulfide, CAS: 75-15-0

Signal: 1

Not Detected
Expected RT: 6.27

Processing Integration Results

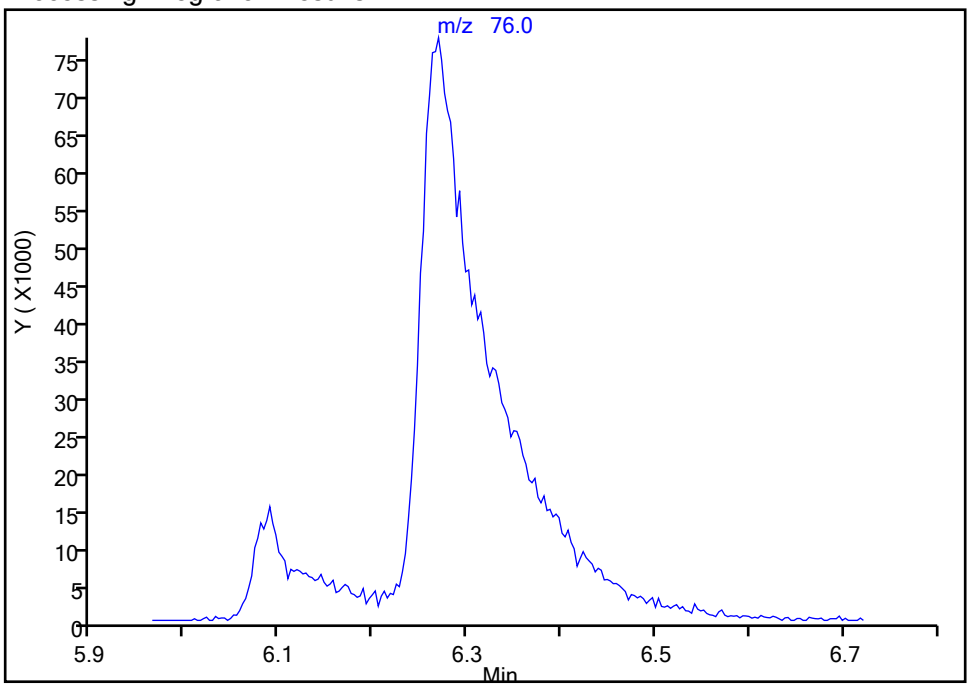

Manual Integration Results

RT: 6.27
Area: 407034
Amount: 93.271121
Amount Units: ug/l

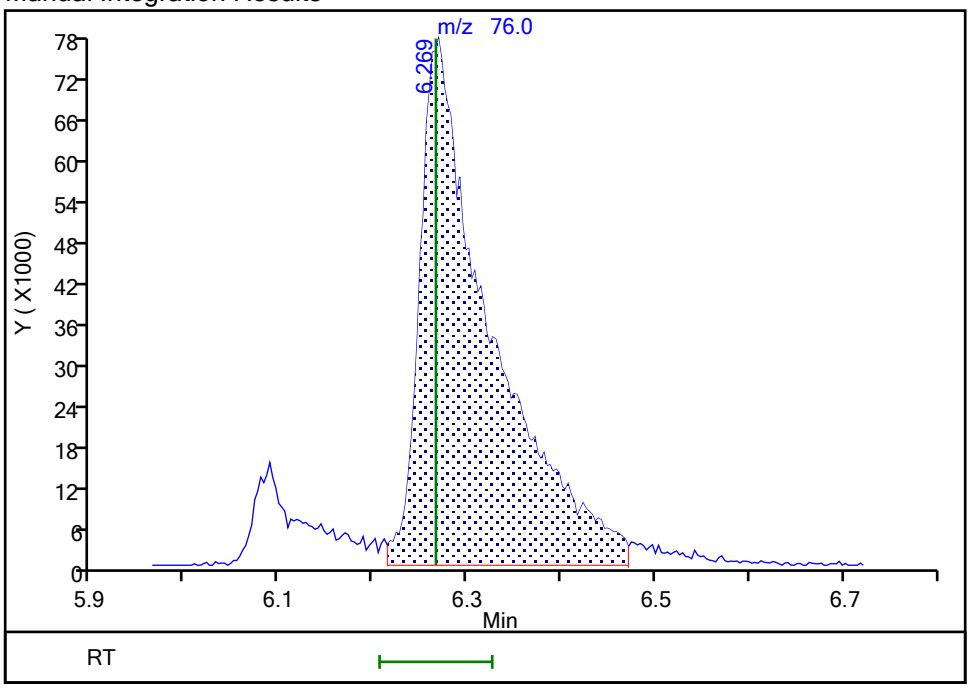

Reviewer: tengd, 29-Aug-2019 16:04:53
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41007.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 29-Aug-2019 16:10:30 ALS Bottle#: 7 Worklist Smp#: 9
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: ic
Misc. Info.: 600-0030818-009
Operator ID: dt Instrument ID: CHVOAMS10
Sublist: chrom-8260w5_10*sub37

Method: \\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\8260w5_10.m
Limit Group: VOA - 8260C_8260CLL
Last Update: 06-Sep-2019 14:08:49 Calib Date: 29-Aug-2019 16:10:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41007.D

Column 1 : Det: MS SCAN
Process Host: CTX0307

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.407	8.406	0.001	98	392476	50.0	50.0	
2 Dichlorodifluoromethane	85	3.860	3.853	0.007	96	259644	200.0	205.7	a
3 Chloromethane	50	4.123	4.123	0.000	100	751954	200.0	196.3	a
4 Vinyl chloride	62	4.313	4.318	-0.005	96	462738	200.0	201.8	
5 Butadiene	39	4.428	4.437	-0.009	96	656994	200.0	199.7	
10 Ethylene oxide	44	4.679	4.684	-0.005	99	1069026	2000.0	2227.5	
7 Bromomethane	94	4.772	4.784	-0.012	93	224249	200.0	201.2	
11 Chloroethane	64	4.910	4.912	-0.002	96	243310	200.0	206.2	a
13 Dichlorofluoromethane	67	4.942	4.944	-0.002	96	514135	200.0	200.4	
24 Acrolein	56	5.407	5.406	0.001	97	315388	1000.0	980.1	
16 Acetonitrile	41	5.423	5.422	0.001	99	601303	2000.0	2079.9	
12 Trichlorofluoromethane	101	5.436	5.435	0.001	87	479962	200.0	223.1	a
19 Isopropyl alcohol	45	5.458	5.458	0.000	99	436364	2000.0	1800.9	
27 Acetone	43	5.522	5.522	0.000	97	466132	400.0	347.6	
15 Ethyl ether	59	5.606	5.608	-0.002	93	441266	200.0	185.8	
31 2-Methyl-2-propanol	59	5.904	5.897	0.007	98	868826	2000.0	2034.9	
20 1,1-Dichloroethene	96	5.917	5.913	0.004	87	269620	200.0	225.7	
37 Acrylonitrile	52	5.933	5.929	0.004	97	2810469	2000.0	1985.9	
23 Iodomethane	142	5.985	5.990	-0.005	100	493233	200.0	223.5	
28 Methyl acetate	43	6.029	6.029	0.000	99	1865170	400.0	416.0	
21 1,1,2-Trichloro-1,2,2-trif	151	6.046	6.038	0.008	72	191034	200.0	204.3	
26 Methylene Chloride	84	6.049	6.054	-0.005	86	312851	200.0	205.7	
25 3-Chloro-1-propene	76	6.081	6.080	0.001	84	120250	200.0	182.7	
22 Carbon disulfide	76	6.267	6.266	0.001	97	928611	200.0	206.8	
29 trans-1,2-Dichloroethene	96	6.562	6.561	0.001	89	335367	200.0	209.8	
30 Methyl tert-butyl ether	73	6.633	6.629	0.004	93	742194	200.0	212.0	
35 Propionitrile	54	6.761	6.757	0.004	99	1258421	2000.0	2011.2	
34 1,1-Dichloroethane	63	6.758	6.764	-0.006	74	818423	200.0	195.6	
40 Vinyl acetate	43	6.822	6.821	0.001	97	3555813	400.0	422.3	
36 2-Chloro-1,3-butadiene	53	7.043	7.040	0.003	91	1120617	200.0	218.4	
58 Hexane	57	7.047	7.043	0.004	93	732324	200.0	222.4	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
32 Isopropyl ether	45	7.063	7.059	0.004	96	2377160	200.0	210.8	a
56 2-Butanone (MEK)	72	7.082	7.072	0.010	99	144574	400.0	392.2	
61 Methacrylonitrile	66	7.169	7.161	0.008	87	1042696	2000.0	2069.4	
44 cis-1,2-Dichloroethene	96	7.214	7.210	0.004	86	438524	200.0	196.7	
33 Ethyl acetate	43	7.303	7.303	0.000	99	2492786	400.0	429.1	
47 Chlorobromomethane	128	7.345	7.344	0.001	87	245061	200.0	196.3	
41 Tert-butyl ethyl ether	59	7.374	7.367	0.007	99	973808	200.0	225.2	
48 Chloroform	83	7.371	7.370	0.001	90	732307	200.0	201.2	
39 Isobutyl alcohol	43	7.412	7.409	0.003	94	1315298	5000.0	5671.8	
46 2,2-Dichloropropane	77	7.432	7.428	0.004	83	278822	200.0	184.4	
$ 52 Dibromofluoromethane	113	7.467	7.466	0.001	93	425968	200.0	202.9	
S 43 1,2-Dichloroethene, Total	96				0		400.0	406.5	
53 Tetrahydrofuran	42	7.631	7.633	-0.002	91	710873	400.0	416.0	
$ 64 1,2-Dichloroethane-d4 (Sur	65	7.817	7.819	-0.002	0	604592	200.0	197.0	
65 1,2-Dichloroethane	62	7.878	7.877	0.001	95	807926	200.0	198.8	
55 1,1,1-Trichloroethane	97	7.952	7.951	0.001	97	538684	200.0	200.5	
38 n-Butanol	56	7.964	7.964	0.000	94	616171	5000.0	5418.7	
57 1,1-Dichloropropene	75	8.083	8.082	0.001	83	546884	200.0	212.5	
69 Cyclohexane	84	8.176	8.175	0.001	92	284638	200.0	195.2	
54 Carbon tetrachloride	119	8.237	8.236	0.001	95	531723	200.0	216.0	
63 Benzene	78	8.263	8.262	0.001	94	1632103	200.0	204.4	
62 Tert-amyl methyl ether	73	8.340	8.342	-0.002	86	533328	200.0	203.7	
59 Isooctane	57	8.552	8.551	0.001	98	424402	200.0	191.9	
72 Ethyl acrylate	55	8.600	8.599	0.001	97	1582242	200.0	210.3	
60 n-Heptane	43	8.606	8.605	0.001	95	633189	200.0	229.1	
73 Dibromomethane	93	8.712	8.711	0.001	91	300039	200.0	194.4	
79 1,2-Dichloropropane	63	8.722	8.721	0.001	89	553765	200.0	201.1	
66 2-Nitropropane	43	8.741	8.737	0.004	96	841719	400.0	392.4	
70 Trichloroethene	130	8.747	8.747	0.000	83	472110	200.0	208.2	
75 Dichlorobromomethane	83	8.799	8.798	0.001	95	582306	200.0	196.1	
77 Methyl methacrylate	41	8.837	8.840	-0.003	86	2101520	400.0	419.1	
78 1,4-Dioxane	58	8.866	8.865	0.001	91	87336	4000.0	4220.8	
71 Methylcyclohexane	83	9.171	9.170	0.001	92	328372	200.0	195.7	
80 4-Methyl-2-pentanone (MIBK	43	9.357	9.356	0.001	98	2317202	400.0	404.5	
* 85 Chlorobenzene-d5	82	11.388	11.384	0.004	88	139755	50.0	50.0	
89 2-Chloroethyl vinyl ether	63	9.071	9.074	-0.003	87	549093	400.0	405.1	
90 cis-1,3-Dichloropropene	75	9.296	9.292	0.004	82	680018	200.0	211.4	
96 trans-1,3-Dichloropropene	75	9.652	9.655	-0.003	89	663614	200.0	210.2	
100 1,1,2-Trichloroethane	97	9.822	9.818	0.004	94	390373	200.0	202.6	
$ 93 Toluene-d8 (Surr)	98	9.915	9.915	0.000	96	1473313	200.0	215.4	
97 Ethyl methacrylate	69	9.970	9.969	0.001	85	686252	200.0	214.3	
94 Toluene	92	9.983	9.982	0.001	96	1011060	200.0	216.5	
102 1,3-Dichloropropane	76	10.034	10.033	0.001	87	644426	200.0	210.7	
106 2-Hexanone	43	10.124	10.123	0.001	98	1768461	400.0	456.9	
101 Chlorodibromomethane	129	10.336	10.335	0.001	90	487125	200.0	205.8	
103 n-Butyl acetate	43	10.397	10.399	-0.002	95	1772891	200.0	226.4	
105 Ethylene Dibromide	107	10.586	10.585	0.001	98	446449	200.0	209.9	
98 Tetrachloroethene	164	10.721	10.723	-0.002	92	304860	200.0	217.2	
S 104 Xylenes, Total	106				0		400.0	399.0	
113 1-Chlorohexane	55	11.276	11.275	0.001	77	486950	200.0	207.6	
110 1,1,1,2-Tetrachloroethane	131	11.340	11.339	0.001	92	391220	200.0	206.0	
109 Chlorobenzene	112	11.423	11.426	-0.003	92	1029517	200.0	203.4	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
108 Ethylbenzene	106	11.597	11.596	0.001	98	537135	200.0	205.6	
111 m-Xylene & p-Xylene	91	11.789	11.789	0.000	0	1286693	200.0	203.4	
114 Styrene	104	12.155	12.154	0.001	93	1044610	200.0	204.6	
116 Cyclohexanone	55	12.219	12.219	0.001	94	1322936	10000	10747	
112 o-Xylene	106	12.235	12.231	0.004	98	604645	200.0	195.6	
* 117 1,4-Dichlorobenzene-d4	152	14.007	14.006	0.001	95	117602	50.0	50.0	
119 Bromoform	173	11.995	11.991	0.004	95	310907	200.0	199.0	
124 1,1,2,2-Tetrachloroethane	83	12.251	12.247	0.004	96	545804	200.0	195.1	
129 trans-1,4-Dichloro-2-buten	53	12.396	12.398	-0.002	84	281843	200.0	251.6	
128 1,2,3-Trichloropropane	110	12.405	12.411	-0.006	95	161499	200.0	188.5	
121 Isopropylbenzene	105	12.627	12.623	0.004	96	1361282	200.0	191.8	
$ 122 4-Bromofluorobenzene	95	12.694	12.693	0.001	89	444314	200.0	186.4	
125 Bromobenzene	156	12.938	12.934	0.004	88	406486	200.0	197.0	
123 N-Propylbenzene	120	13.086	13.091	-0.005	99	345259	200.0	188.3	
127 2-Chlorotoluene	126	13.211	13.210	0.001	95	350624	200.0	194.2	
130 4-Chlorotoluene	91	13.285	13.284	0.001	97	1017332	200.0	192.5	
126 1,3,5-Trimethylbenzene	105	13.362	13.361	0.001	95	1007954	200.0	187.9	
131 tert-Butylbenzene	119	13.660	13.662	-0.002	95	731715	200.0	185.5	
133 1,2,4-Trimethylbenzene	105	13.759	13.759	0.000	99	1057278	200.0	190.2	
135 sec-Butylbenzene	105	13.872	13.871	0.001	95	930272	200.0	180.7	
143 Benzyl chloride	91	13.968	13.971	-0.003	98	1134804	200.0	218.5	
137 1,3-Dichlorobenzene	146	13.971	13.974	-0.003	99	647503	200.0	199.0	
136 4-Isopropyltoluene	119	14.032	14.035	-0.003	98	827080	200.0	186.5	
140 1,4-Dichlorobenzene	146	14.035	14.035	0.000	93	680829	200.0	199.8	
139 1,2,3-Trimethylbenzene	105	14.186	14.186	0.000	99	1100344	200.0	197.1	
144 1,2-Dichlorobenzene	146	14.392	14.391	0.001	97	650536	200.0	202.8	
142 n-Butylbenzene	91	14.437	14.439	-0.002	97	617107	200.0	182.3	
146 1,2-Dibromo-3-Chloropropan	157	14.863	14.866	-0.003	81	125094	200.0	219.2	
147 1,3,5-Trichlorobenzene	180	15.701	15.703	-0.002	97	283785	200.0	182.6	
149 1,2,4-Trichlorobenzene	180	16.298	16.297	0.001	95	279116	200.0	178.9	
150 Naphthalene	128	16.596	16.599	-0.003	98	1221137	200.0	197.4	
148 Hexachlorobutadiene	190	16.631	16.624	0.007	96	34313	200.0	159.5	
151 1,2,3-Trichlorobenzene	180	16.834	16.833	0.001	95	251594	200.0	180.2	
S 162 Trihalomethanes, Total	1				0			802.0	
S 159 1,3-Dichloropropene, Total	1				0			421.6	
S 182 Total BTEX	1				0			1025.5	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

VOAIS250PPM_00134	Amount Added: 1.00	Units: uL
VOASTDPT2_00147	Amount Added: 20.00	Units: uL
EOxideStd_00159	Amount Added: 20.00	Units: uL
VOASTDGASPT_00341	Amount Added: 20.00	Units: uL

Report Date: 06-Sep-2019 14:08:52 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41007.D				
Injection Date:	29-Aug-2019 16:10:30	Instrument ID:	CHVOAMS10	Operator ID:	dt
Lims ID:	ic			Worklist Smp#:	9
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		

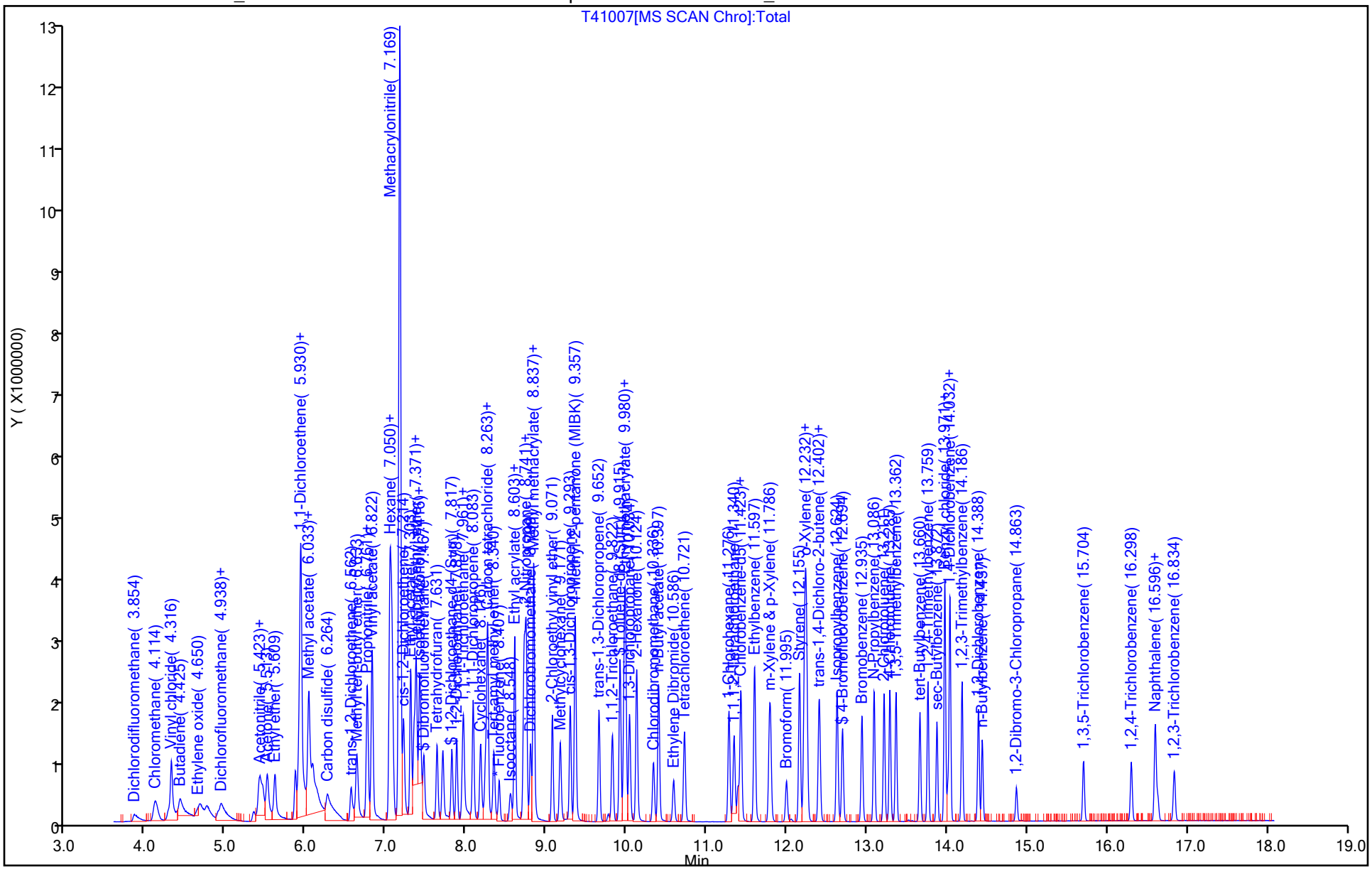

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41007.D				
Injection Date:	29-Aug-2019 16:10:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	7	Worklist Smp#:	9
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

2 Dichlorodifluoromethane, CAS: 75-71-8

Signal: 1

Not Detected
Expected RT: 3.85

Processing Integration Results

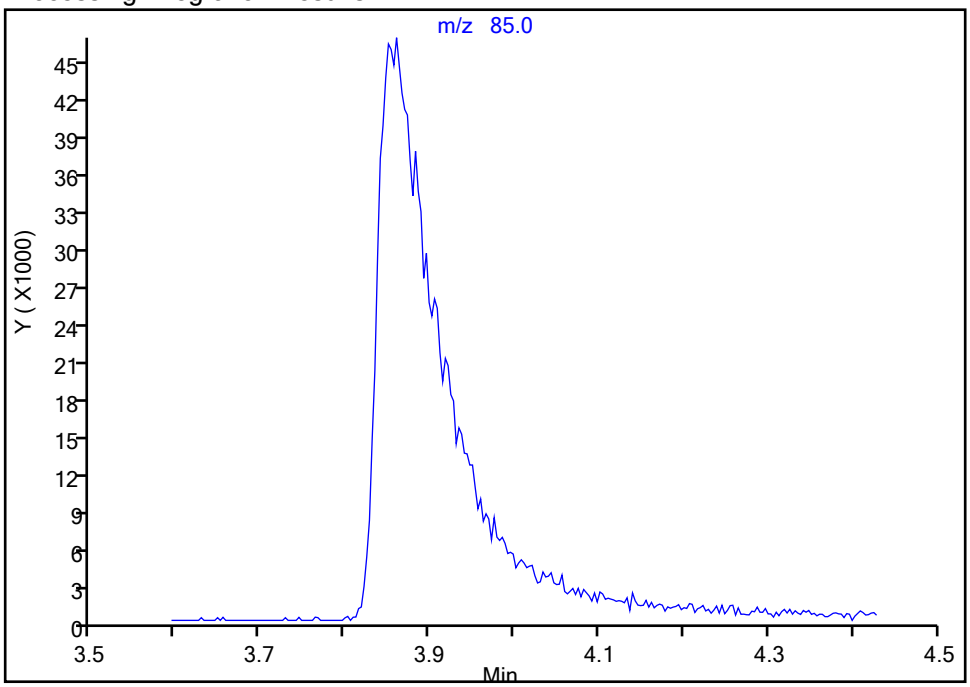

Manual Integration Results

RT: 3.86
Area: 259644
Amount: 205.7190
Amount Units: ug/l

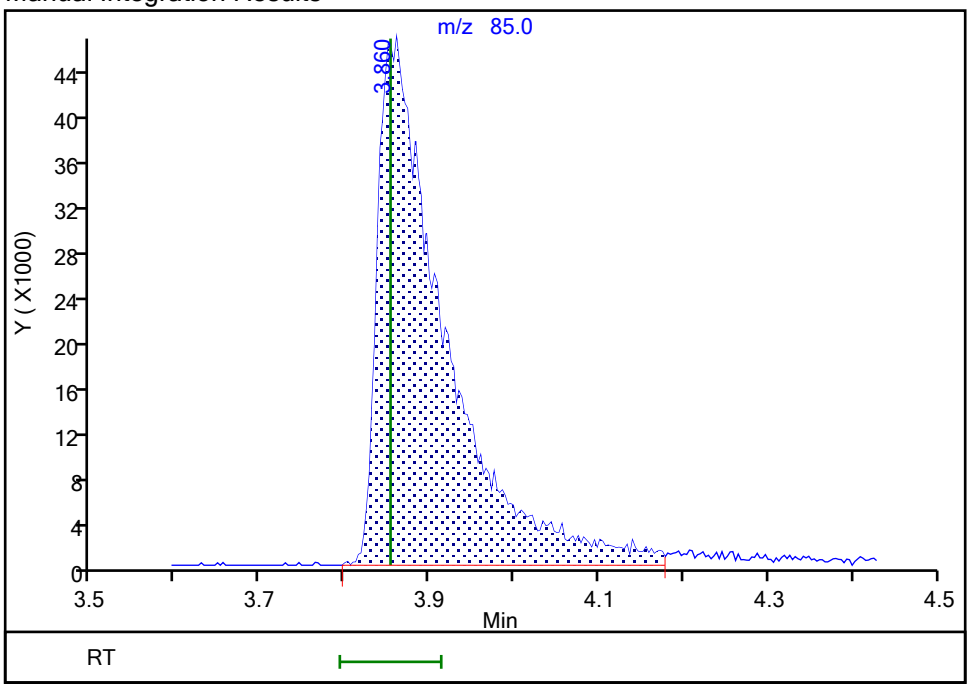

Reviewer: tengd, 29-Aug-2019 16:47:01
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41007.D				
Injection Date:	29-Aug-2019 16:10:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	7	Worklist Smp#:	9
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

3 Chloromethane, CAS: 74-87-3

Signal: 1

Not Detected
Expected RT: 4.12

Processing Integration Results

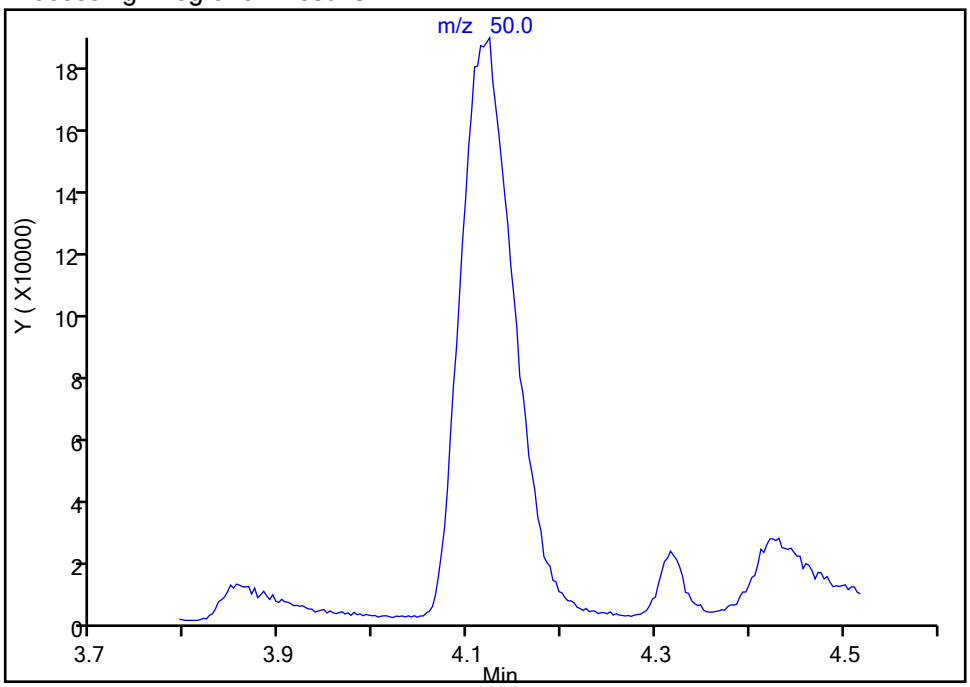

Manual Integration Results

RT: 4.12
Area: 751954
Amount: 196.3267
Amount Units: ug/l

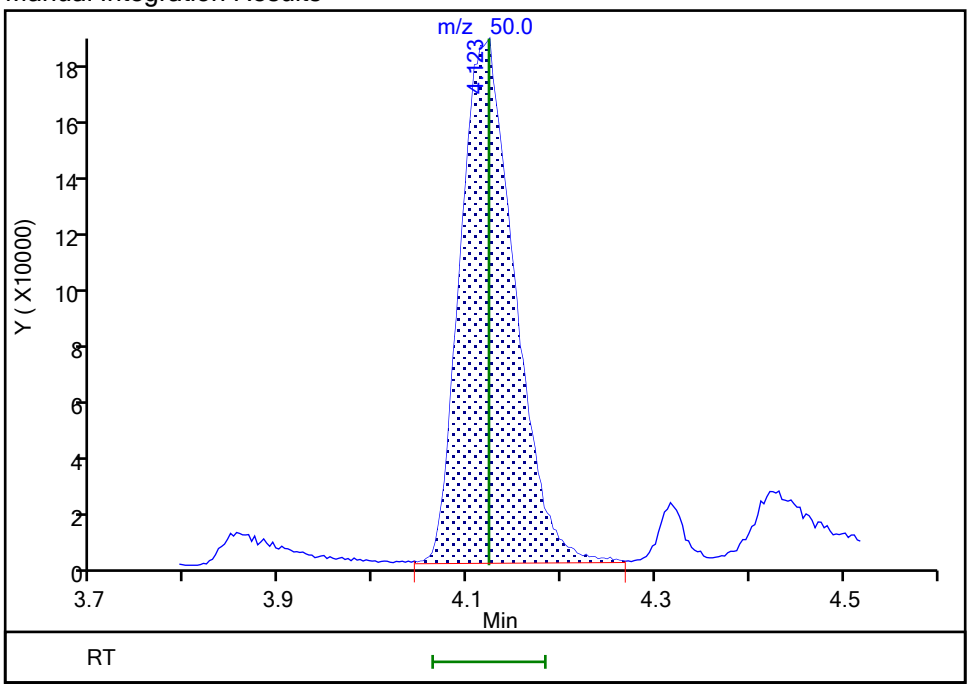

Reviewer: tengd, 29-Aug-2019 16:47:06
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41007.D				
Injection Date:	29-Aug-2019 16:10:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	7	Worklist Smp#:	9
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

11 Chloroethane, CAS: 75-00-3

Signal: 1

Not Detected
Expected RT: 4.91

Processing Integration Results

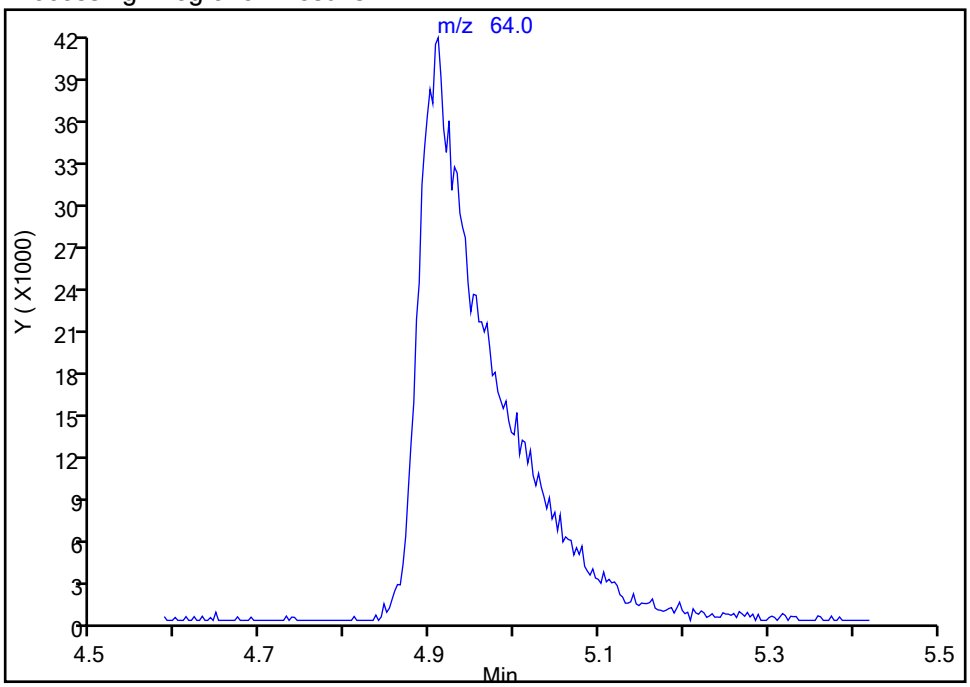

Manual Integration Results

RT: 4.91
Area: 243310
Amount: 206.1829
Amount Units: ug/l

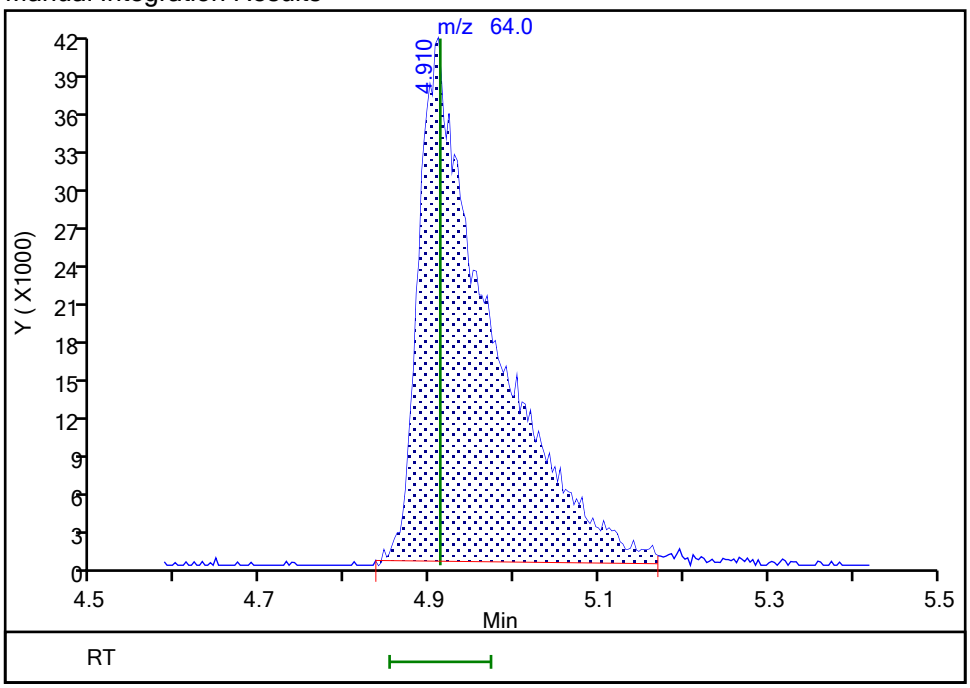

Reviewer: tengd, 29-Aug-2019 16:47:13
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41007.D				
Injection Date:	29-Aug-2019 16:10:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	7	Worklist Smp#:	9
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

12 Trichlorofluoromethane, CAS: 75-69-4

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 5.44

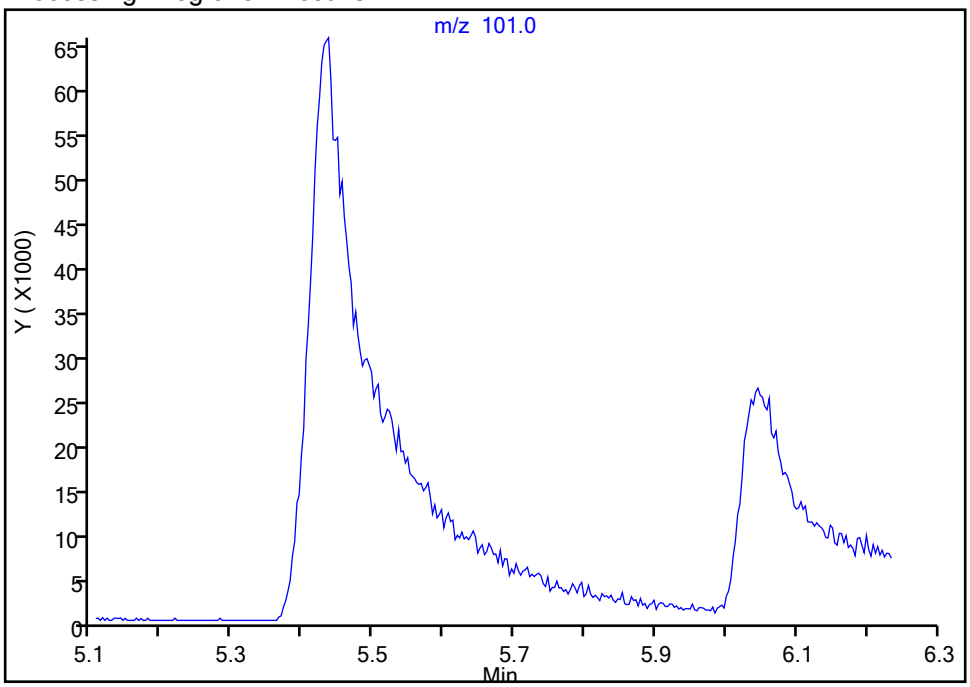

Manual Integration Results

RT: 5.44
Area: 479962
Amount: 223.1140
Amount Units: ug/l

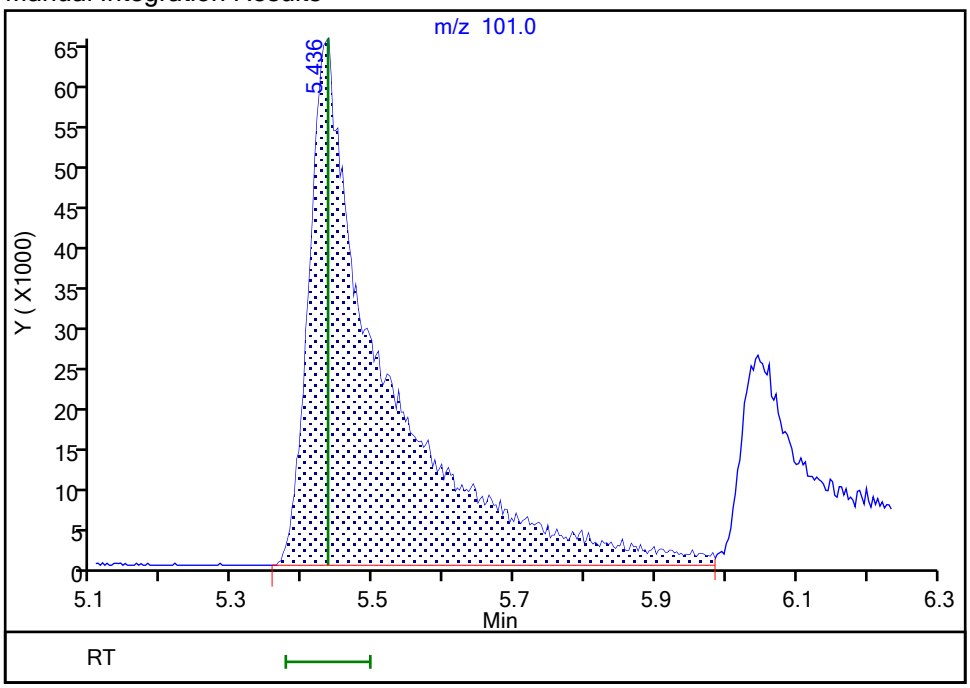

Reviewer: tengd, 29-Aug-2019 16:47:19
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41007.D				
Injection Date:	29-Aug-2019 16:10:30	Instrument ID:	CHVOAMS10		
Lims ID:	ic				
Client ID:					
Operator ID:	dt	ALS Bottle#:	7	Worklist Smp#:	9
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

32 Isopropyl ether, CAS: 108-20-3

Signal: 1

Not Detected
Expected RT: 7.06

Processing Integration Results

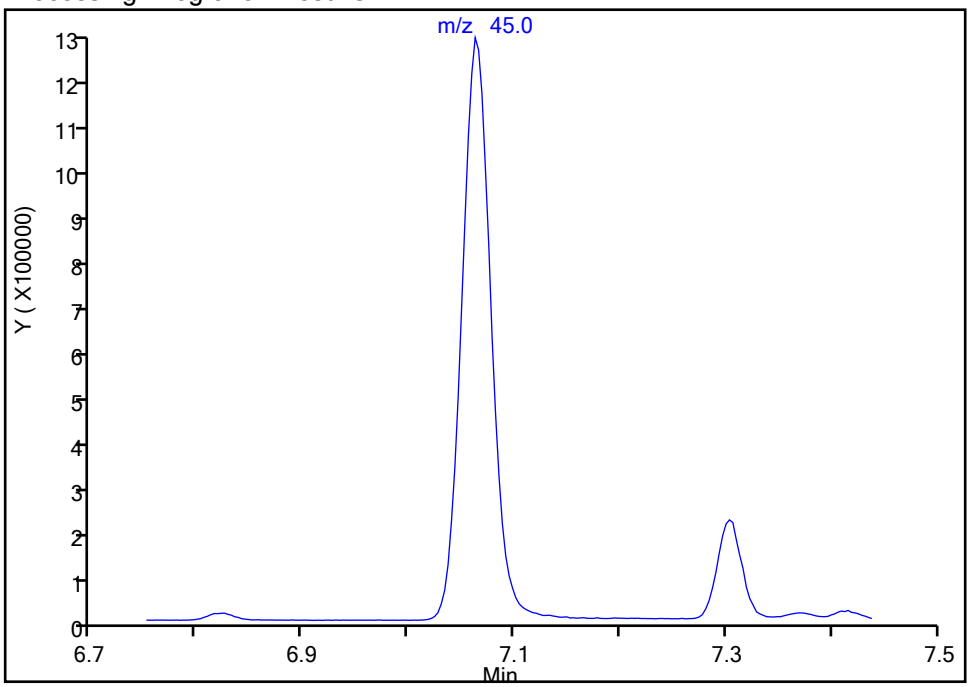

Manual Integration Results

RT: 7.06
Area: 2377160
Amount: 210.8483
Amount Units: ug/l

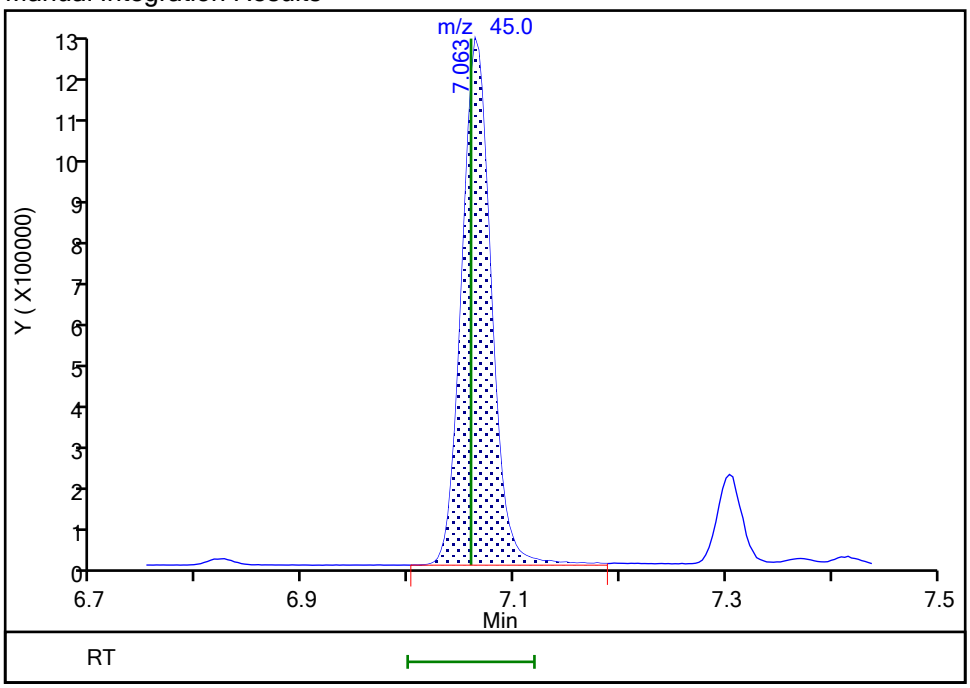

Reviewer: tengd, 29-Aug-2019 16:47:28
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab Sample ID: ICV 600-273322/1013 Calibration Date: 08/29/2019 18:09

Instrument ID: CHVOAMS10 Calib Start Date: 08/29/2019 13:40

GC Column: DB-VRX 60 ID: 0.25(mm) Calib End Date: 08/29/2019 16:10

Lab File ID: T41011-ICV.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.1608	0.1694		52.7	50.0	5.4	30.0
Chloromethane	Ave	0.4879	0.4781	0.1000	49.0	50.0	-2.0	30.0
Vinyl chloride	Ave	0.2921	0.2988		51.1	50.0	2.3	30.0
Butadiene	Qua		0.4198		52.4	50.0	4.8	50.0
Ethylene oxide	Ave	0.0611	0.0627		513	500	2.5	30.0
Bromomethane	Ave	0.1420	0.1434		50.5	50.0	1.0	30.0
Chloroethane	Ave	0.1503	0.1576		52.4	50.0	4.8	30.0
Dichlorofluoromethane	Ave	0.3268	0.3312		50.7	50.0	1.3	30.0
Acrolein	Ave	0.0410	0.0405		247	250	-1.2	30.0
Acetonitrile	Ave	0.0368	0.0362		491	500	-1.8	30.0
Trichlorofluoromethane	Ave	0.2741	0.2654		48.4	50.0	-3.2	30.0
Isopropyl alcohol	Ave	0.0309	0.0321		520	500	3.9	30.0
Acetone	Ave	0.1708	0.1484		86.9	100	-13.1	30.0
Ethyl ether	Ave	0.3026	0.2866		47.4	50.0	-5.3	30.0
2-Methyl-2-propanol	Ave	0.0544	0.0562		517	500	3.4	30.0
1,1-Dichloroethene	Ave	0.1522	0.1296		42.6	50.0	-14.9	30.0
Acrylonitrile	Ave	0.1803	0.1711		475	500	-5.1	30.0
Iodomethane	Ave	0.2812	0.2971		52.8	50.0	5.7	30.0
Methyl acetate	Ave	0.5712	0.5438		95.2	100	-4.8	30.0
Methylene Chloride	Lin2		0.1997		49.1	50.0	-1.8	50.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Lin1		0.0808		36.4	50.0	-27.3	30.0
3-Chloro-1-propene	Ave	0.0839	0.0739		44.1	50.0	-11.9	30.0
Carbon disulfide	Ave	0.5720	0.5551		48.5	50.0	-2.9	30.0
trans-1,2-Dichloroethene	Ave	0.2036	0.2114		51.9	50.0	3.8	30.0
Methyl-tert-butyl Ether (MTBE)	Ave	0.4460	0.4365		48.9	50.0	-2.1	30.0
1,1-Dichloroethane	Ave	0.5332	0.5208	0.1000	48.8	50.0	-2.3	30.0
Propionitrile	Ave	0.0797	0.0772		484	500	-3.1	30.0
Vinyl acetate	Ave	1.073	1.060		98.9	100	-1.1	30.0
2-Chloro-1,3-butadiene	Ave	0.6536	0.6423		49.1	50.0	-1.7	30.0
Hexane	Ave	0.4195	0.3974		47.4	50.0	-5.3	30.0
Isopropyl ether	Ave	1.436	1.378		48.0	50.0	-4.1	30.0
2-Butanone (MEK)	Ave	0.0470	0.0459		97.8	100	-2.2	30.0
Methacrylonitrile	Ave	0.0642	0.0630		491	500	-1.8	30.0
cis-1,2-Dichloroethene	Ave	0.2841	0.2685		47.3	50.0	-5.5	30.0
Ethyl acetate	Ave	0.7401	0.7082		95.7	100	-4.3	30.0
Bromochloromethane	Ave	0.1590	0.1556		48.9	50.0	-2.1	30.0
Chloroform	Ave	0.4638	0.4359		47.0	50.0	-6.0	30.0
Ethyl tert-Butyl Ether (ETBE)	Ave	0.5508	0.5183		47.1	50.0	-5.9	30.0
Isobutyl alcohol	Ave	0.0295	0.0287		1210	1250	-2.9	30.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab Sample ID: ICV 600-273322/1013 Calibration Date: 08/29/2019 18:09

Instrument ID: CHVOAMS10 Calib Start Date: 08/29/2019 13:40

GC Column: DB-VRX 60 ID: 0.25(mm) Calib End Date: 08/29/2019 16:10

Lab File ID: T41011-ICV.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,2-Dichloropropane	Ave	0.1926	0.1841		47.8	50.0	-4.4	30.0
Tetrahydrofuran	Ave	0.2177	0.2138		98.2	100	-1.8	30.0
1,2-Dichloroethane	Ave	0.5176	0.4930		47.6	50.0	-4.8	30.0
1,1,1-Trichloroethane	Ave	0.3423	0.3200		46.7	50.0	-6.5	30.0
n-Butanol	Ave	0.0145	0.0161		1390	1250	10.9	30.0
1,1-Dichloropropene	Ave	0.3279	0.3072		46.8	50.0	-6.3	30.0
Cyclohexane	Ave	0.1857	0.1753		47.2	50.0	-5.6	30.0
Carbon tetrachloride	Ave	0.3136	0.2903		46.3	50.0	-7.4	30.0
Benzene	Ave	1.017	0.9341		45.9	50.0	-8.2	30.0
tert-Amyl methyl ether (TAME)	Ave	0.3336	0.2962		44.4	50.0	-11.2	30.0
Isooctane	Ave	0.2818	0.2582		45.8	50.0	-8.4	30.0
Ethyl acrylate	Ave	0.9586	0.9399		49.0	50.0	-2.0	30.0
n-Heptane	Ave	0.3520	0.3344			50.0	-5.0	30.0
Dibromomethane	Ave	0.1966	0.1836		46.7	50.0	-6.6	30.0
1,2-Dichloropropane	Ave	0.3508	0.3347		47.7	50.0	-4.6	30.0
2-Nitropropane	Ave	0.2733	0.2701		98.8	100	-1.2	30.0
Trichloroethene	Ave	0.2889	0.2749		47.6	50.0	-4.8	30.0
Bromodichloromethane	Ave	0.3783	0.3687		48.7	50.0	-2.6	30.0
Methyl methacrylate	Ave	0.6389	0.6413		100	100	0.4	30.0
1,4-Dioxane	Ave	0.0026	0.0036		1380	1000	38.0*	30.0
2-Chloroethyl vinyl ether	Ave	0.4849	0.4362		89.9	100	-10.1	30.0
Methylcyclohexane	Ave	0.2137	0.2085		48.8	50.0	-2.4	30.0
cis-1,3-Dichloropropene	Ave	1.151	1.059		46.0	50.0	-8.0	30.0
4-Methyl-2-pentanone (MIBK)	Ave	0.7297	0.7192		98.6	100	-1.4	30.0
trans-1,3-Dichloropropene	Ave	1.129	1.063		47.1	50.0	-5.9	30.0
1,1,2-Trichloroethane	Ave	0.6895	0.6411		46.5	50.0	-7.0	30.0
Ethyl methacrylate	Ave	1.146	1.058		46.1	50.0	-7.7	30.0
Toluene	Ave	1.671	1.528		45.7	50.0	-8.5	30.0
1,3-Dichloropropane	Ave	1.094	1.015		46.4	50.0	-7.2	30.0
2-Hexanone	Ave	1.385	1.324		95.6	100	-4.4	30.0
Dibromochloromethane	Ave	0.8468	0.7737		45.7	50.0	-8.6	30.0
n-Butyl acetate	Ave	2.802	2.679		47.8	50.0	-4.4	30.0
1,2-Dibromoethane (EDB)	Ave	0.7609	0.7199		47.3	50.0	-5.4	30.0
Tetrachloroethene	Ave	0.5022	0.4707		46.9	50.0	-6.3	30.0
1-Chlorohexane	Ave	0.8393	0.7974		47.5	50.0	-5.0	30.0
1,1,1,2-Tetrachloroethane	Ave	0.6793	0.6285		46.3	50.0	-7.5	30.0
Chlorobenzene	Ave	1.811	1.658	0.3000	45.8	50.0	-8.4	30.0
Ethylbenzene	Ave	0.9348	0.8834		47.3	50.0	-5.5	30.0
m-Xylene & p-Xylene	Ave	2.263	2.104		46.5	50.0	-7.1	30.0
Bromoform	Ave	0.6643	0.5892	0.1000	44.3	50.0	-11.3	30.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab Sample ID: ICV 600-273322/1013 Calibration Date: 08/29/2019 18:09

Instrument ID: CHVOAMS10 Calib Start Date: 08/29/2019 13:40

GC Column: DB-VRX 60 ID: 0.25(mm) Calib End Date: 08/29/2019 16:10

Lab File ID: T41011-ICV.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Styrene	Ave	1.827	1.691		46.3	50.0	-7.4	30.0
Cyclohexanone	Ave	0.0440	0.0463		2630	2500	5.2	30.0
o-Xylene	Ave	1.106	1.019		46.1	50.0	-7.9	30.0
1,1,2,2-Tetrachloroethane	Ave	1.190	1.098	0.3000	46.1	50.0	-7.7	30.0
trans-1,4-Dichloro-2-butene	Ave	0.4763	0.4601		48.3	50.0	-3.4	30.0
1,2,3-Trichloropropane	Ave	0.3644	0.3335		45.8	50.0	-8.5	30.0
Isopropylbenzene	Ave	3.017	2.806		46.5	50.0	-7.0	30.0
Bromobenzene	Ave	0.8774	0.8095		46.1	50.0	-7.7	30.0
N-Propylbenzene	Ave	0.7797	0.7168		46.0	50.0	-8.1	30.0
2-Chlorotoluene	Ave	0.7676	0.6939		45.2	50.0	-9.6	30.0
4-Chlorotoluene	Ave	2.247	2.042		45.4	50.0	-9.1	30.0
1,3,5-Trimethylbenzene	Ave	2.281	2.117		46.4	50.0	-7.2	30.0
tert-Butylbenzene	Ave	1.677	1.539		45.9	50.0	-8.2	30.0
1,2,4-Trimethylbenzene	Ave	2.363	2.186		46.2	50.0	-7.5	30.0
sec-Butylbenzene	Ave	2.189	2.037		46.5	50.0	-7.0	30.0
1,3-Dichlorobenzene	Ave	1.384	1.267		45.8	50.0	-8.4	30.0
Benzyl chloride	Ave	2.208	1.974		44.7	50.0	-10.6	30.0
4-Isopropyltoluene	Ave	1.885	1.810		48.0	50.0	-4.0	30.0
1,4-Dichlorobenzene	Ave	1.449	1.316		45.4	50.0	-9.2	30.0
1,2,3-Trimethylbenzene	Ave	2.374	2.234		47.1	50.0	-5.9	30.0
1,2-Dichlorobenzene	Ave	1.364	1.246		45.7	50.0	-8.7	30.0
n-Butylbenzene	Ave	1.439	1.362		47.3	50.0	-5.4	30.0
1,2-Dibromo-3-Chloropropane	Ave	0.2426	0.2272		46.8	50.0	-6.4	30.0
1,3,5-Trichlorobenzene	Ave	0.6608	0.6615		50.1	50.0	0.1	30.0
1,2,4-Trichlorobenzene	Ave	0.6635	0.6427		48.4	50.0	-3.1	30.0
Naphthalene	Ave	2.631	2.572		48.9	50.0	-2.2	30.0
Hexachlorobutadiene	Ave	0.0915	0.0874		47.8	50.0	-4.4	30.0
1,2,3-Trichlorobenzene	Ave	0.5937	0.6017		50.7	50.0	1.3	30.0
Dibromofluoromethane	Ave	0.2674	0.2576		48.2	50.0	-3.7	30.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3910	0.3697		47.3	50.0	-5.4	30.0
Toluene-d8 (Surr)	Ave	2.447	2.195		44.8	50.0	-10.3	30.0
4-Bromofluorobenzene	Ave	1.013	0.9168		45.2	50.0	-9.5	30.0

TestAmerica Laboratories
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41011-ICV.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 29-Aug-2019 18:09:30 ALS Bottle#: 11 Worklist Smp#: 1013
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: lcsd
Misc. Info.: 600-0030818-013
Operator ID: dt Instrument ID: CHVOAMS10
Sublist:

Method: \\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\8260w5_10.m
Limit Group: VOA - 8260C_8260CLL
Last Update: 06-Sep-2019 16:08:20 Calib Date: 29-Aug-2019 16:10:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41007.D

Column 1 : Det: MS SCAN
Process Host: CTX0340

First Level Reviewer: tengd Date: 29-Aug-2019 18:31:09

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.411	8.406	0.005	97	357642	50.0	50.0	
2 Dichlorodifluoromethane	85	3.861	3.853	0.008	98	60591	50.0	52.7	
3 Chloromethane	50	4.128	4.123	0.005	98	170982	50.0	49.0	
4 Vinyl chloride	62	4.317	4.318	-0.001	96	106862	50.0	51.1	
5 Butadiene	39	4.426	4.437	-0.011	97	150152	50.0	52.4	
10 Ethylene oxide	44	4.670	4.684	-0.014	99	224137	500.0	512.5	
7 Bromomethane	94	4.763	4.784	-0.021	92	51269	50.0	50.5	
11 Chloroethane	64	4.911	4.912	-0.001	94	56371	50.0	52.4	
13 Dichlorofluoromethane	67	4.943	4.944	-0.001	95	118460	50.0	50.7	
24 Acrolein	56	5.408	5.406	0.002	98	72402	250.0	246.9	
16 Acetonitrile	41	5.424	5.422	0.002	99	129406	500.0	491.2	
12 Trichlorofluoromethane	101	5.431	5.435	-0.004	74	94900	50.0	48.4	a
19 Isopropyl alcohol	45	5.456	5.458	-0.002	98	114746	500.0	519.7	
27 Acetone	43	5.524	5.522	0.002	97	106148	100.0	86.9	
15 Ethyl ether	59	5.610	5.608	0.002	94	102493	50.0	47.4	
31 2-Methyl-2-propanol	59	5.899	5.897	0.002	97	201127	500.0	517.0	
20 1,1-Dichloroethene	96	5.918	5.913	0.005	79	46331	50.0	42.6	
37 Acrylonitrile	52	5.931	5.929	0.002	97	611920	500.0	474.5	
23 Iodomethane	142	5.973	5.990	-0.017	98	106269	50.0	52.8	
28 Methyl acetate	43	6.027	6.029	-0.002	99	388962	100.0	95.2	
21 1,1,2-Trichloro-1,2,2-trif	151	6.050	6.038	0.012	57	28881	50.0	36.4	
26 Methylene Chloride	84	6.047	6.054	-0.007	91	71411	50.0	49.1	
25 3-Chloro-1-propene	76	6.088	6.080	0.008	85	26427	50.0	44.1	
22 Carbon disulfide	76	6.268	6.266	0.002	100	198529	50.0	48.5	
29 trans-1,2-Dichloroethene	96	6.557	6.561	-0.004	90	75598	50.0	51.9	
30 Methyl tert-butyl ether	73	6.634	6.629	0.005	91	156124	50.0	48.9	
35 Propionitrile	54	6.762	6.757	0.005	98	276157	500.0	484.3	
34 1,1-Dichloroethane	63	6.762	6.764	-0.002	77	186273	50.0	48.8	
40 Vinyl acetate	43	6.823	6.821	0.002	97	758496	100.0	98.9	
36 2-Chloro-1,3-butadiene	53	7.045	7.040	0.005	93	229715	50.0	49.1	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
58 Hexane	57	7.048	7.043	0.005	77	142125	50.0	47.4	
32 Isopropyl ether	45	7.064	7.059	0.005	95	492816	50.0	48.0	a
56 2-Butanone (MEK)	72	7.077	7.072	0.005	94	32844	100.0	97.8	
61 Methacrylonitrile	66	7.163	7.161	0.002	97	225350	500.0	490.8	
44 cis-1,2-Dichloroethene	96	7.211	7.210	0.001	86	96013	50.0	47.3	
33 Ethyl acetate	43	7.301	7.303	-0.002	99	506559	100.0	95.7	
47 Chlorobromomethane	128	7.343	7.344	-0.001	89	55660	50.0	48.9	
41 Tert-butyl ethyl ether	59	7.375	7.367	0.008	97	185367	50.0	47.1	
48 Chloroform	83	7.372	7.370	0.002	93	155909	50.0	47.0	
39 Isobutyl alcohol	43	7.414	7.409	0.005	91	256469	1250.0	1213.7	
46 2,2-Dichloropropane	77	7.426	7.428	-0.002	92	65857	50.0	47.8	
$ 52 Dibromofluoromethane	113	7.468	7.466	0.002	92	92129	50.0	48.2	
S 43 1,2-Dichloroethene, Total	96				0		100.0	99.2	
53 Tetrahydrofuran	42	7.632	7.633	-0.001	91	152924	100.0	98.2	
$ 64 1,2-Dichloroethane-d4 (Sur	65	7.818	7.819	-0.001	0	132226	50.0	47.3	
65 1,2-Dichloroethane	62	7.879	7.877	0.002	95	176322	50.0	47.6	
55 1,1,1-Trichloroethane	97	7.949	7.951	-0.002	97	114432	50.0	46.7	
38 n-Butanol	56	7.962	7.964	-0.002	94	143621	1250.0	1386.0	
57 1,1-Dichloropropene	75	8.084	8.082	0.002	82	109858	50.0	46.8	
69 Cyclohexane	84	8.177	8.175	0.002	92	62690	50.0	47.2	
54 Carbon tetrachloride	119	8.241	8.236	0.005	95	103825	50.0	46.3	
63 Benzene	78	8.261	8.262	-0.001	93	334060	50.0	45.9	
62 Tert-amyl methyl ether	73	8.344	8.342	0.002	86	105941	50.0	44.4	
59 Isooctane	57	8.549	8.551	-0.002	97	92337	50.0	45.8	
72 Ethyl acrylate	55	8.601	8.599	0.002	96	336142	50.0	49.0	
60 n-Heptane	43	8.607	8.605	0.002	94	119599	50.0	47.5	
73 Dibromomethane	93	8.716	8.711	0.005	91	65657	50.0	46.7	
79 1,2-Dichloropropane	63	8.723	8.721	0.002	87	119708	50.0	47.7	
66 2-Nitropropane	43	8.739	8.737	0.002	95	193204	100.0	98.8	
70 Trichloroethene	130	8.745	8.747	-0.002	92	98329	50.0	47.6	
75 Dichlorobromomethane	83	8.800	8.798	0.002	94	131858	50.0	48.7	
77 Methyl methacrylate	41	8.838	8.840	-0.002	86	458718	100.0	100.4	
78 1,4-Dioxane	58	8.864	8.865	-0.001	91	26026	1000.0	1380.3	
71 Methylcyclohexane	83	9.169	9.170	-0.001	93	74584	50.0	48.8	
80 4-Methyl-2-pentanone (MIBK	43	9.355	9.356	-0.001	98	514430	100.0	98.6	
* 85 Chlorobenzene-d5	82	11.386	11.384	0.002	89	147464	50.0	50.0	
89 2-Chloroethyl vinyl ether	63	9.073	9.074	-0.002	87	128632	100.0	89.9	
90 cis-1,3-Dichloropropene	75	9.297	9.292	0.005	82	156151	50.0	46.0	
96 trans-1,3-Dichloropropene	75	9.653	9.655	-0.002	89	156798	50.0	47.1	
100 1,1,2-Trichloroethane	97	9.823	9.818	0.005	95	94532	50.0	46.5	
$ 93 Toluene-d8 (Surr)	98	9.916	9.915	0.001	96	323690	50.0	44.8	
97 Ethyl methacrylate	69	9.971	9.969	0.002	87	155970	50.0	46.1	
94 Toluene	92	9.984	9.982	0.002	96	225324	50.0	45.7	
102 1,3-Dichloropropane	76	10.035	10.033	0.002	87	149736	50.0	46.4	
106 2-Hexanone	43	10.125	10.123	0.002	97	390369	100.0	95.6	
101 Chlorodibromomethane	129	10.337	10.335	0.002	89	114090	50.0	45.7	
103 n-Butyl acetate	43	10.401	10.399	0.002	96	395108	50.0	47.8	
105 Ethylene Dibromide	107	10.584	10.585	-0.001	98	106153	50.0	47.3	
98 Tetrachloroethene	164	10.719	10.723	-0.004	92	69416	50.0	46.9	
S 104 Xylenes, Total	106				0		100.0	92.5	
113 1-Chlorohexane	55	11.274	11.275	-0.001	77	117587	50.0	47.5	
110 1,1,1,2-Tetrachloroethane	131	11.341	11.339	0.002	90	92687	50.0	46.3	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
109 Chlorobenzene	112	11.425	11.426	-0.001	92	244529	50.0	45.8	
108 Ethylbenzene	106	11.595	11.596	-0.001	98	130268	50.0	47.3	
111 m-Xylene & p-Xylene	91	11.787	11.789	-0.002	0	310205	50.0	46.5	
114 Styrene	104	12.156	12.154	0.002	93	249325	50.0	46.3	
116 Cyclohexanone	55	12.217	12.219	-0.001	94	341637	2500.0	2630.3	
112 o-Xylene	106	12.233	12.231	0.002	97	150216	50.0	46.1	
* 117 1,4-Dichlorobenzene-d4	152	14.008	14.006	0.002	96	122380	50.0	50.0	
119 Bromoform	173	11.993	11.991	0.001	93	72100	50.0	44.3	
124 1,1,2,2-Tetrachloroethane	83	12.246	12.247	-0.001	96	134341	50.0	46.1	
129 trans-1,4-Dichloro-2-buten	53	12.394	12.398	-0.004	80	56302	50.0	48.3	
128 1,2,3-Trichloropropane	110	12.410	12.411	-0.001	93	40815	50.0	45.8	
121 Isopropylbenzene	105	12.625	12.623	0.002	97	343393	50.0	46.5	
$ 122 4-Bromofluorobenzene	95	12.692	12.693	-0.001	88	112197	50.0	45.2	
125 Bromobenzene	156	12.936	12.934	0.002	88	99067	50.0	46.1	
123 N-Propylbenzene	120	13.090	13.091	-0.001	99	87717	50.0	46.0	
127 2-Chlorotoluene	126	13.209	13.210	-0.001	95	84917	50.0	45.2	
130 4-Chlorotoluene	91	13.286	13.284	0.002	97	249937	50.0	45.4	
126 1,3,5-Trimethylbenzene	105	13.359	13.361	-0.002	95	259081	50.0	46.4	
131 tert-Butylbenzene	119	13.661	13.662	-0.001	95	188353	50.0	45.9	
133 1,2,4-Trimethylbenzene	105	13.757	13.759	-0.002	98	267470	50.0	46.2	
135 sec-Butylbenzene	105	13.873	13.871	0.002	95	249244	50.0	46.5	
143 Benzyl chloride	91	13.969	13.971	-0.002	98	241579	50.0	44.7	
137 1,3-Dichlorobenzene	146	13.969	13.974	-0.005	94	155053	50.0	45.8	
136 4-Isopropyltoluene	119	14.033	14.035	-0.002	97	221465	50.0	48.0	
140 1,4-Dichlorobenzene	146	14.037	14.035	0.002	92	161060	50.0	45.4	
139 1,2,3-Trimethylbenzene	105	14.187	14.186	0.001	99	273433	50.0	47.1	
144 1,2-Dichlorobenzene	146	14.389	14.391	-0.002	96	152432	50.0	45.7	
142 n-Butylbenzene	91	14.438	14.439	-0.001	97	166683	50.0	47.3	
146 1,2-Dibromo-3-Chloropropan	157	14.868	14.866	0.002	81	27800	50.0	46.8	
147 1,3,5-Trichlorobenzene	180	15.702	15.703	-0.001	95	80956	50.0	50.1	
149 1,2,4-Trichlorobenzene	180	16.299	16.297	0.002	94	78648	50.0	48.4	
150 Naphthalene	128	16.600	16.599	0.001	98	314721	50.0	48.9	
148 Hexachlorobutadiene	190	16.629	16.624	0.005	92	10700	50.0	47.8	
151 1,2,3-Trichlorobenzene	180	16.838	16.833	0.005	95	73633	50.0	50.7	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

VOALCSPT2_00147	Amount Added:	5.00	Units: uL	
EOxideLcs_00159	Amount Added:	5.00	Units: uL	
VOALCSGASPT_00341	Amount Added:	5.00	Units: uL	
VOAIS250PPM_00134	Amount Added:	1.00	Units: uL	Run Reagent
VOASS250PPM_00111	Amount Added:	1.00	Units: uL	Run Reagent

Report Date: 06-Sep-2019 16:09:42 Chrom Revision: 2.3 22-Aug-2019 12:55:36

TestAmerica Laboratories

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41011-ICV.d				
Injection Date:	29-Aug-2019 18:09:30	Instrument ID:	CHVOAMS10	Operator ID:	dt
Lims ID:	ICV			Worklist Smp#:	1013
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		

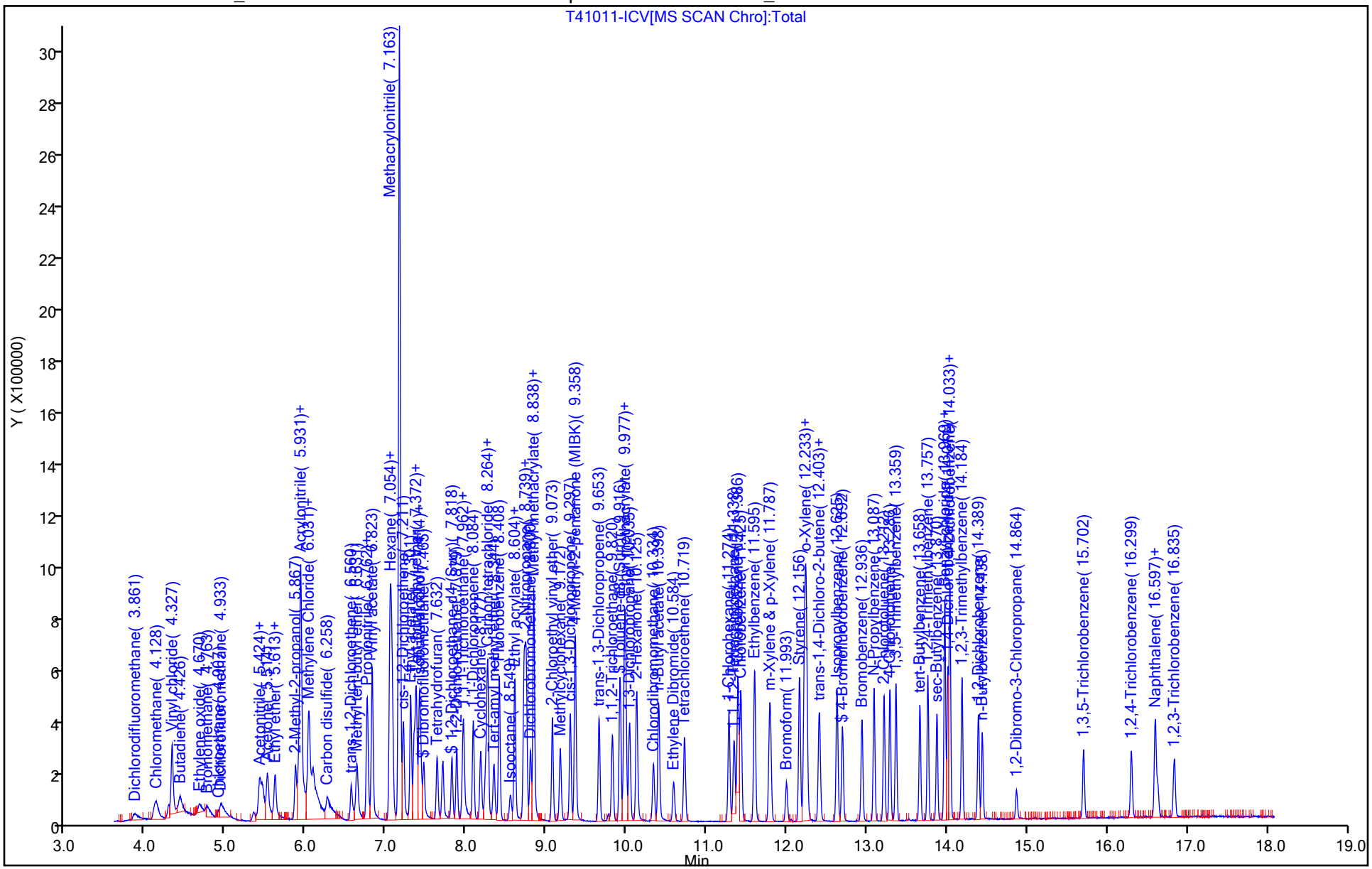

Manual Integration/User Assign Peak Report

TestAmerica Laboratories

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41011-ICV.d				
Injection Date:	29-Aug-2019 18:09:30	Instrument ID:	CHVOAMS10		
Lims ID:	ICV				
Client ID:					
Operator ID:	dt	ALS Bottle#:	11	Worklist Smp#:	1013
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

12 Trichlorofluoromethane, CAS: 75-69-4

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 5.44

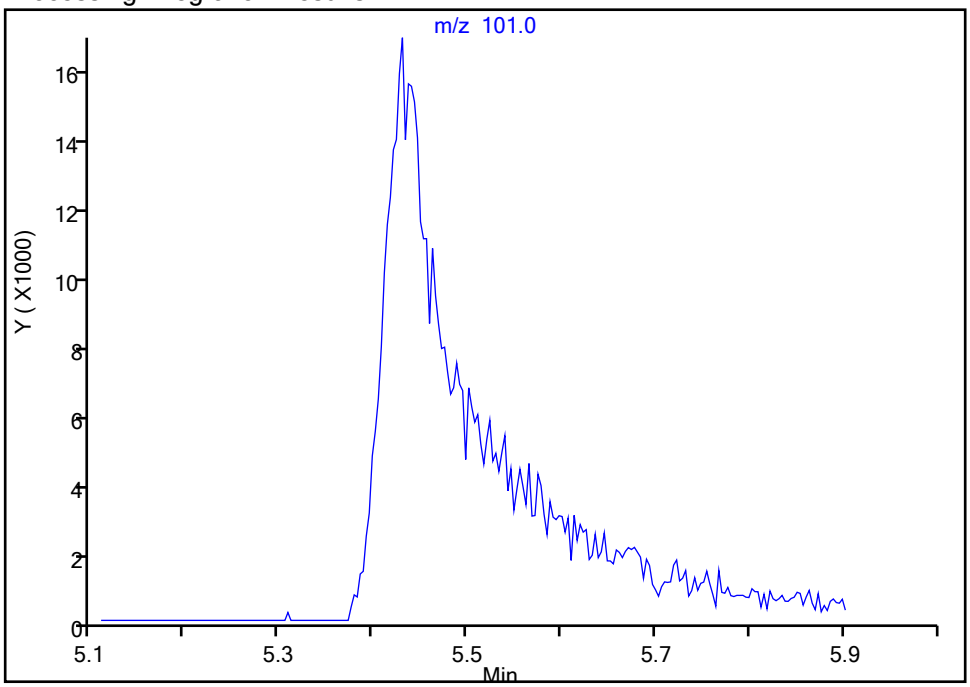

Manual Integration Results

RT: 5.43
Area: 94900
Amount: 48.411755
Amount Units: ug/l

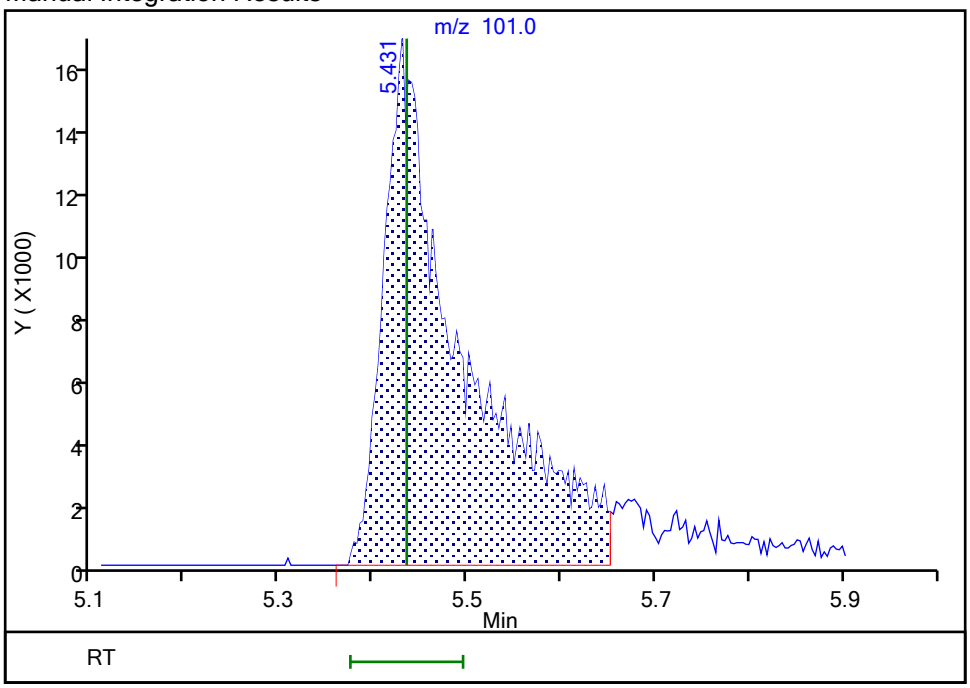

Reviewer: tengd, 29-Aug-2019 18:29:55
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

TestAmerica Laboratories

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41011-ICV.d				
Injection Date:	29-Aug-2019 18:09:30	Instrument ID:	CHVOAMS10		
Lims ID:	ICV				
Client ID:					
Operator ID:	dt	ALS Bottle#:	11	Worklist Smp#:	1013
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

32 Isopropyl ether, CAS: 108-20-3

Signal: 1

Not Detected
Expected RT: 7.06

Processing Integration Results

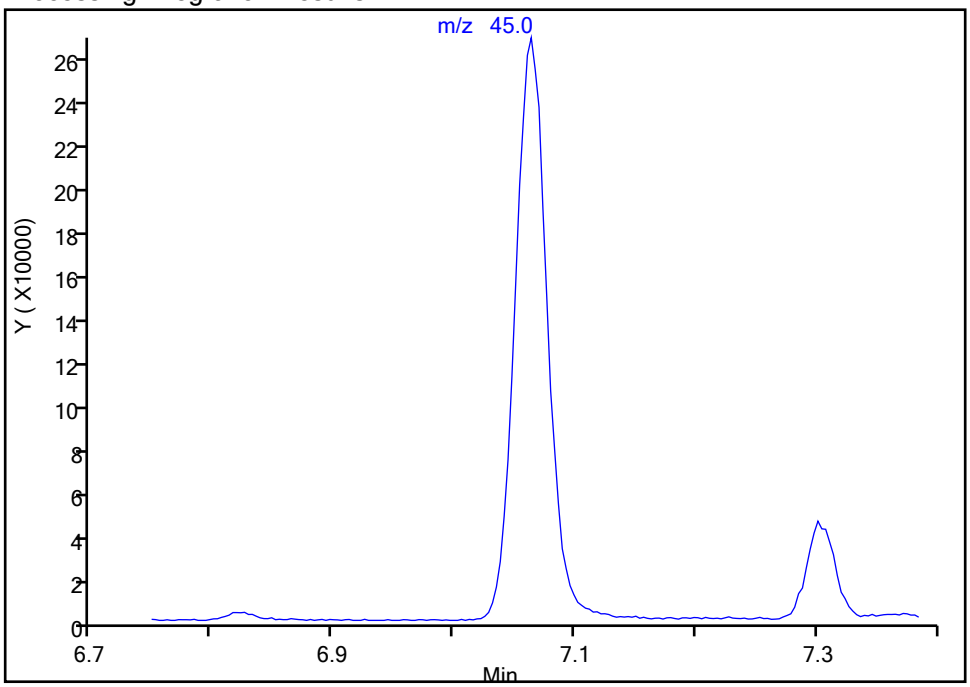

Manual Integration Results

RT: 7.06
Area: 492816
Amount: 47.969041
Amount Units: ug/l

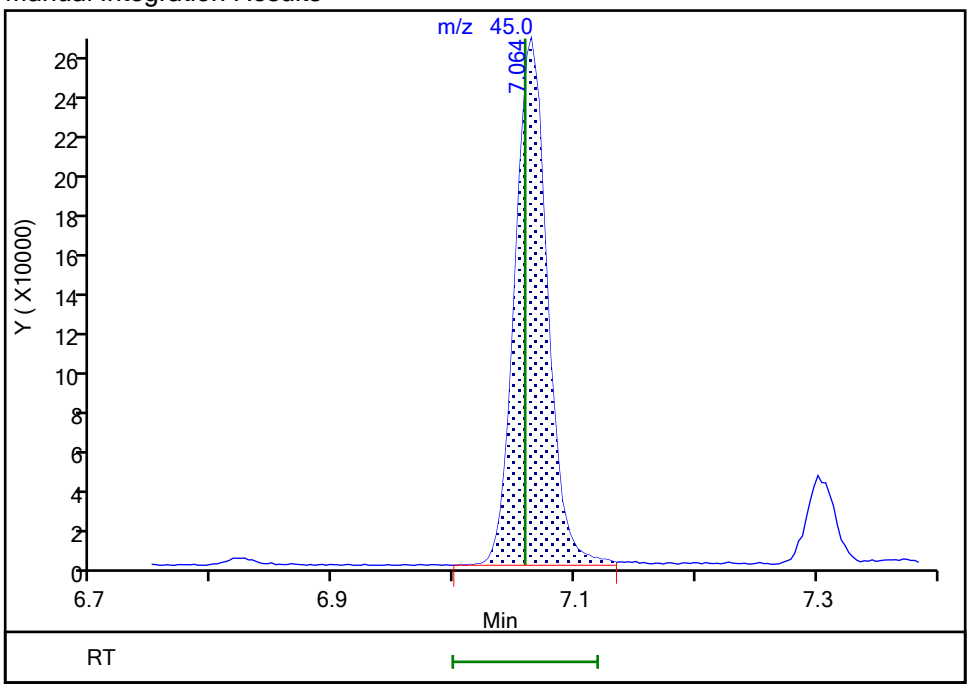

Reviewer: tengd, 29-Aug-2019 18:29:59
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab Sample ID: CCVIS 600-274820/3 Calibration Date: 09/16/2019 09:48

Instrument ID: CHVOAMS10 Calib Start Date: 08/29/2019 13:40

GC Column: DB-VRX 60 ID: 0.25(mm) Calib End Date: 08/29/2019 16:10

Lab File ID: T25901.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.1608	0.1723		53.6	50.0	7.1	20.0
Chloromethane	Ave	0.4879	0.5787	0.1000	59.3	50.0	18.6	20.0
Vinyl chloride	Ave	0.2921	0.3456		59.1	50.0	18.3	20.0
Butadiene	Qua		0.4859		60.7	50.0	21.3*	20.0
Ethylene oxide	Ave	0.0611	0.0566		463	500	-7.4	20.0
Bromomethane	Ave	0.1420	0.1439		50.7	50.0	1.3	20.0
Chloroethane	Ave	0.1503	0.1677		55.8	50.0	11.6	20.0
Dichlorofluoromethane	Ave	0.3268	0.3476		53.2	50.0	6.3	20.0
Acrolein	Ave	0.0410	0.0434		265	250	5.8	20.0
Acetonitrile	Ave	0.0368	0.0624		847	500	69.5*	20.0
Trichlorofluoromethane	Ave	0.2741	0.1906		34.8	50.0	-30.5*	20.0
Isopropyl alcohol	Ave	0.0309	0.0462		749	500	49.7*	20.0
Acetone	Ave	0.1708	0.2021		118	100	18.3	20.0
Ethyl ether	Ave	0.3026	0.3570		59.0	50.0	18.0	20.0
2-Methyl-2-propanol	Ave	0.0544	0.0697		641	500	28.2*	20.0
1,1-Dichloroethene	Ave	0.1522	0.1789		58.8	50.0	17.6	20.0
Acrylonitrile	Ave	0.1803	0.2289		635	500	27.0*	20.0
Iodomethane	Ave	0.2812	0.2781		49.5	50.0	-1.1	20.0
Methyl acetate	Ave	0.5712	0.7297		128	100	27.8*	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Lin1		0.1151		50.6	50.0	1.1	20.0
Methylene Chloride	Lin2		0.2223		55.0	50.0	10.1	20.0
3-Chloro-1-propene	Ave	0.0839	0.0806		48.0	50.0	-3.9	20.0
Carbon disulfide	Ave	0.5720	0.6613		57.8	50.0	15.6	20.0
trans-1,2-Dichloroethene	Ave	0.2036	0.2292		56.3	50.0	12.6	20.0
Methyl-tert-butyl Ether (MTBE)	Ave	0.4460	0.5086		57.0	50.0	14.0	20.0
Propionitrile	Ave	0.0797	0.1018		638	500	27.7*	20.0
1,1-Dichloroethane	Ave	0.5332	0.6507	0.1000	61.0	50.0	22.0*	20.0
Vinyl acetate	Ave	1.073	1.256		117	100	17.1	20.0
2-Chloro-1,3-butadiene	Ave	0.6536	0.8557		65.5	50.0	30.9*	20.0
Hexane	Ave	0.4195	0.5280		62.9	50.0	25.9*	20.0
Isopropyl ether	Ave	1.436	1.814		63.2	50.0	26.3*	20.0
2-Butanone (MEK)	Ave	0.0470	0.0527		112	100	12.2	20.0
Methacrylonitrile	Ave	0.0642	0.0723		563	500	12.6	20.0
cis-1,2-Dichloroethene	Ave	0.2841	0.3059		53.8	50.0	7.7	20.0
Ethyl acetate	Ave	0.7401	0.9116		123	100	23.2*	20.0
Bromochloromethane	Ave	0.1590	0.1480		46.5	50.0	-7.0	20.0
Chloroform	Ave	0.4638	0.5160		55.6	50.0	11.3	20.0
Ethyl tert-Butyl Ether (ETBE)	Ave	0.5508	0.6539		59.4	50.0	18.7	20.0
Isobutyl alcohol	Ave	0.0295	0.0420		1780	1250	42.1*	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab Sample ID: CCVIS 600-274820/3 Calibration Date: 09/16/2019 09:48

Instrument ID: CHVOAMS10 Calib Start Date: 08/29/2019 13:40

GC Column: DB-VRX 60 ID: 0.25(mm) Calib End Date: 08/29/2019 16:10

Lab File ID: T25901.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,2-Dichloropropane	Ave	0.1926	0.2222		57.7	50.0	15.4	20.0
Tetrahydrofuran	Ave	0.2177	0.2925		134	100	34.4*	20.0
1,2-Dichloroethane	Ave	0.5176	0.6079		58.7	50.0	17.4	20.0
1,1,1-Trichloroethane	Ave	0.3423	0.3698		54.0	50.0	8.0	20.0
n-Butanol	Ave	0.0145	0.0195		1680	1250	34.5*	20.0
1,1-Dichloropropene	Ave	0.3279	0.4142		63.2	50.0	26.3*	20.0
Cyclohexane	Ave	0.1857	0.2138		57.6	50.0	15.1	20.0
Carbon tetrachloride	Ave	0.3136	0.3560		56.8	50.0	13.5	20.0
Benzene	Ave	1.017	1.166		57.3	50.0	14.7	20.0
tert-Amyl methyl ether (TAME)	Ave	0.3336	0.3678		55.1	50.0	10.3	20.0
Isooctane	Ave	0.2818	0.3501		62.1	50.0	24.3*	20.0
Ethyl acrylate	Ave	0.9586	1.072		55.9	50.0	11.9	20.0
n-Heptane	Ave	0.3520	0.4703		66.8	50.0	33.6*	20.0
Dibromomethane	Ave	0.1966	0.2118		53.9	50.0	7.7	20.0
1,2-Dichloropropane	Ave	0.3508	0.4184		59.6	50.0	19.3	20.0
2-Nitropropane	Ave	0.2733	0.2994		110	100	9.6	20.0
Trichloroethene	Ave	0.2889	0.2919		50.5	50.0	1.0	20.0
Bromodichloromethane	Ave	0.3783	0.4186		55.3	50.0	10.6	20.0
Methyl methacrylate	Ave	0.6389	0.7803		122	100	22.1*	20.0
1,4-Dioxane	Ave	0.0026	0.0034		1290	1000	28.8*	20.0
2-Chloroethyl vinyl ether	Ave	0.4849	0.5202		107	100	7.3	20.0
Methylcyclohexane	Ave	0.2137	0.2575		60.2	50.0	20.5*	20.0
cis-1,3-Dichloropropene	Ave	1.151	1.204		52.3	50.0	4.7	20.0
4-Methyl-2-pentanone (MIBK)	Ave	0.7297	0.8898		122	100	21.9*	20.0
trans-1,3-Dichloropropene	Ave	1.129	1.184		52.4	50.0	4.8	20.0
1,1,2-Trichloroethane	Ave	0.6895	0.6451		46.8	50.0	-6.4	20.0
Ethyl methacrylate	Ave	1.146	1.180		51.5	50.0	3.0	20.0
Toluene	Ave	1.671	1.717		51.4	50.0	2.8	20.0
1,3-Dichloropropane	Ave	1.094	1.116		51.0	50.0	2.0	20.0
2-Hexanone	Ave	1.385	1.577		114	100	13.9	20.0
Dibromochloromethane	Ave	0.8468	0.7211		42.6	50.0	-14.8	20.0
n-Butyl acetate	Ave	2.802	3.151		56.2	50.0	12.5	20.0
1,2-Dibromoethane (EDB)	Ave	0.7609	0.6947		45.6	50.0	-8.7	20.0
Tetrachloroethene	Ave	0.5022	0.5370		53.5	50.0	6.9	20.0
1-Chlorohexane	Ave	0.8393	1.023		61.0	50.0	21.9*	20.0
1,1,1,2-Tetrachloroethane	Ave	0.6793	0.5885		43.3	50.0	-13.4	20.0
Chlorobenzene	Ave	1.811	1.751	0.3000	48.3	50.0	-3.3	20.0
Ethylbenzene	Ave	0.9348	0.9364		50.1	50.0	0.2	20.0
m-Xylene & p-Xylene	Ave	2.263	2.322		51.3	50.0	2.6	20.0
Bromoform	Ave	0.6643	0.6494	0.1000	48.9	50.0	-2.2	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab Sample ID: CCVIS 600-274820/3 Calibration Date: 09/16/2019 09:48

Instrument ID: CHVOAMS10 Calib Start Date: 08/29/2019 13:40

GC Column: DB-VRX 60 ID: 0.25(mm) Calib End Date: 08/29/2019 16:10

Lab File ID: T25901.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Styrene	Ave	1.827	1.818		49.8	50.0	-0.5	20.0
Cyclohexanone	Ave	0.0440	0.0556		3160	2500	26.2*	20.0
o-Xylene	Ave	1.106	1.076		48.7	50.0	-2.7	20.0
1,1,2,2-Tetrachloroethane	Ave	1.190	1.217	0.3000	51.1	50.0	2.3	20.0
trans-1,4-Dichloro-2-butene	Ave	0.4763	0.5268		55.3	50.0	10.6	20.0
1,2,3-Trichloropropane	Ave	0.3644	0.3256		44.7	50.0	-10.6	20.0
Isopropylbenzene	Ave	3.017	3.188		52.8	50.0	5.7	20.0
Bromobenzene	Ave	0.8774	0.8448		48.1	50.0	-3.7	20.0
N-Propylbenzene	Ave	0.7797	0.8185		52.5	50.0	5.0	20.0
2-Chlorotoluene	Ave	0.7676	0.7463		48.6	50.0	-2.8	20.0
4-Chlorotoluene	Ave	2.247	2.317		51.5	50.0	3.1	20.0
1,3,5-Trimethylbenzene	Ave	2.281	2.347		51.4	50.0	2.9	20.0
tert-Butylbenzene	Ave	1.677	1.776		53.0	50.0	5.9	20.0
1,2,4-Trimethylbenzene	Ave	2.363	2.414		51.1	50.0	2.2	20.0
sec-Butylbenzene	Ave	2.189	2.365		54.0	50.0	8.0	20.0
Benzyl chloride	Ave	2.208	1.989		45.1	50.0	-9.9	20.0
1,3-Dichlorobenzene	Ave	1.384	1.352		48.8	50.0	-2.3	20.0
4-Isopropyltoluene	Ave	1.885	2.082		55.2	50.0	10.4	20.0
1,4-Dichlorobenzene	Ave	1.449	1.397		48.2	50.0	-3.5	20.0
1,2,3-Trimethylbenzene	Ave	2.374	2.358		49.7	50.0	-0.7	20.0
1,2-Dichlorobenzene	Ave	1.364	1.315		48.2	50.0	-3.6	20.0
n-Butylbenzene	Ave	1.439	1.658		57.6	50.0	15.2	20.0
1,2-Dibromo-3-Chloropropane	Ave	0.2426	0.2034		41.9	50.0	-16.1	20.0
1,3,5-Trichlorobenzene	Ave	0.6608	0.7065		53.5	50.0	6.9	20.0
1,2,4-Trichlorobenzene	Ave	0.6635	0.6504		49.0	50.0	-2.0	20.0
Naphthalene	Ave	2.631	2.096		39.8	50.0	-20.3*	20.0
Hexachlorobutadiene	Ave	0.0915	0.0981		53.6	50.0	7.2	20.0
1,2,3-Trichlorobenzene	Ave	0.5937	0.5167		43.5	50.0	-13.0	20.0
Dibromofluoromethane	Ave	0.2674	0.2863		53.5	50.0	7.1	20.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3910	0.4293		54.9	50.0	9.8	20.0
Toluene-d8 (Surr)	Ave	2.447	2.418		49.4	50.0	-1.2	20.0
4-Bromofluorobenzene	Ave	1.013	1.000		49.4	50.0	-1.3	20.0

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHVOAMS10\20190916-31110.b\T25901.D
Lims ID: ccvis
Client ID:
Sample Type: CCVIS
Inject. Date: 16-Sep-2019 09:48:30 ALS Bottle#: 1 Worklist Smp#: 3
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: ccvis
Misc. Info.: 600-0031110-003
Operator ID: dt Instrument ID: CHVOAMS10
Sublist: chrom-8260w5_10*sub37

Method: \\chromna\Houston\ChromData\CHVOAMS10\20190916-31110.b\8260w5_10.m
Limit Group: VOA - 8260C_8260CLL
Last Update: 16-Sep-2019 14:55:18 Calib Date: 13-Sep-2019 13:01:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHVOAMS10\20190913-31078.b\T25609.D

Column 1 : Det: MS SCAN
Process Host: CTX0308

First Level Reviewer: tengd Date: 16-Sep-2019 10:16:57

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.405	8.405	0.000	96	247710	50.0	50.0	
2 Dichlorodifluoromethane	85	3.851	3.851	0.000	97	42676	50.0	53.6	
3 Chloromethane	50	4.121	4.121	0.000	99	143341	50.0	59.3	
4 Vinyl chloride	62	4.326	4.326	0.000	45	85600	50.0	59.1	
5 Butadiene	39	4.426	4.426	0.000	97	120373	50.0	60.7	
10 Ethylene oxide	44	4.653	4.653	0.000	98	140304	500.0	463.2	
7 Bromomethane	94	4.772	4.772	0.000	84	35642	50.0	50.7	
11 Chloroethane	64	4.907	4.907	0.000	92	41548	50.0	55.8	a
13 Dichlorofluoromethane	67	4.952	4.952	0.000	94	86094	50.0	53.2	
24 Acrolein	56	5.404	5.404	0.000	96	53721	250.0	264.5	
16 Acetonitrile	41	5.417	5.417	0.000	100	154604	500.0	847.3	
12 Trichlorofluoromethane	101	5.427	5.427	0.000	44	47205	50.0	34.8	
19 Isopropyl alcohol	45	5.456	5.456	0.000	98	114476	500.0	748.6	
27 Acetone	43	5.517	5.517	0.000	92	100132	100.0	118.3	
15 Ethyl ether	59	5.607	5.607	0.000	91	88438	50.0	59.0	
31 2-Methyl-2-propanol	59	5.895	5.895	0.000	96	172706	500.0	640.9	
20 1,1-Dichloroethene	96	5.921	5.921	0.000	38	44324	50.0	58.8	a
37 Acrylonitrile	52	5.924	5.924	0.000	98	567082	500.0	634.9	
23 Iodomethane	142	5.979	5.979	0.000	99	68895	50.0	49.5	
28 Methyl acetate	43	6.027	6.027	0.000	99	361526	100.0	127.8	
21 1,1,2-Trichloro-1,2,2-trif	151	6.033	6.033	0.000	45	28511	50.0	50.6	
26 Methylene Chloride	84	6.046	6.046	0.000	73	55073	50.0	55.0	
25 3-Chloro-1-propene	76	6.081	6.081	0.000	84	19961	50.0	48.0	
22 Carbon disulfide	76	6.261	6.261	0.000	96	163802	50.0	57.8	
29 trans-1,2-Dichloroethene	96	6.556	6.556	0.000	87	56777	50.0	56.3	
30 Methyl tert-butyl ether	73	6.627	6.627	0.000	90	125974	50.0	57.0	
35 Propionitrile	54	6.752	6.752	0.000	98	252141	500.0	638.5	
34 1,1-Dichloroethane	63	6.755	6.755	0.000	88	161183	50.0	61.0	
40 Vinyl acetate	43	6.819	6.819	0.000	97	622282	100.0	117.1	
36 2-Chloro-1,3-butadiene	53	7.038	7.038	0.000	92	211968	50.0	65.5	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
58 Hexane	57	7.044	7.044	0.000	74	130786	50.0	62.9	
32 Isopropyl ether	45	7.057	7.057	0.000	93	449381	50.0	63.2	
56 2-Butanone (MEK)	72	7.070	7.070	0.000	95	26092	100.0	112.2	
61 Methacrylonitrile	66	7.156	7.156	0.000	96	179079	500.0	563.1	
44 cis-1,2-Dichloroethene	96	7.208	7.208	0.000	88	75765	50.0	53.8	
33 Ethyl acetate	43	7.298	7.298	0.000	98	451600	100.0	123.2	
47 Chlorobromomethane	128	7.339	7.339	0.000	81	36654	50.0	46.5	
48 Chloroform	83	7.365	7.365	0.000	90	127817	50.0	55.6	
41 Tert-butyl ethyl ether	59	7.365	7.365	0.000	96	161979	50.0	59.4	
39 Isobutyl alcohol	43	7.407	7.407	0.000	91	259986	1250.0	1776.3	
46 2,2-Dichloropropane	77	7.423	7.423	0.000	88	55034	50.0	57.7	
$ 52 Dibromofluoromethane	113	7.464	7.464	0.000	92	70909	50.0	53.5	
S 43 1,2-Dichloroethene, Total	96				0		100.0	110.1	
53 Tetrahydrofuran	42	7.625	7.625	0.000	90	144907	100.0	134.4	
$ 64 1,2-Dichloroethane-d4 (Sur	65	7.814	7.814	0.000	0	106351	50.0	54.9	
65 1,2-Dichloroethane	62	7.872	7.872	0.000	94	150584	50.0	58.7	
55 1,1,1-Trichloroethane	97	7.946	7.946	0.000	93	91596	50.0	54.0	
38 n-Butanol	56	7.959	7.959	0.000	99	120623	1250.0	1680.7	
57 1,1-Dichloropropene	75	8.080	8.080	0.000	79	102609	50.0	63.2	
69 Cyclohexane	84	8.174	8.174	0.000	93	52971	50.0	57.6	
54 Carbon tetrachloride	119	8.235	8.235	0.000	93	88185	50.0	56.8	
63 Benzene	78	8.257	8.257	0.000	92	288842	50.0	57.3	
62 Tert-amyl methyl ether	73	8.337	8.337	0.000	86	91116	50.0	55.1	
59 Isooctane	57	8.543	8.543	0.000	97	86732	50.0	62.1	
72 Ethyl acrylate	55	8.594	8.594	0.000	93	265666	50.0	55.9	
60 n-Heptane	43	8.600	8.600	0.000	91	116489	50.0	66.8	
73 Dibromomethane	93	8.706	8.706	0.000	83	52467	50.0	53.9	
79 1,2-Dichloropropane	63	8.716	8.716	0.000	86	103629	50.0	59.6	
66 2-Nitropropane	43	8.732	8.732	0.000	98	148340	100.0	109.6	
70 Trichloroethene	130	8.741	8.741	0.000	90	72299	50.0	50.5	
75 Dichlorobromomethane	83	8.796	8.796	0.000	93	103697	50.0	55.3	
77 Methyl methacrylate	41	8.835	8.835	0.000	85	386576	100.0	122.1	
78 1,4-Dioxane	58	8.857	8.857	0.000	91	16822	1000.0	1288.1	
71 Methylcyclohexane	83	9.165	9.165	0.000	89	63784	50.0	60.2	
80 4-Methyl-2-pentanone (MIBK	43	9.351	9.351	0.000	97	440837	100.0	121.9	
* 85 Chlorobenzene-d5	82	11.382	11.382	0.000	92	104428	50.0	50.0	
89 2-Chloroethyl vinyl ether	63	9.066	9.066	0.000	86	108649	100.0	107.3	
90 cis-1,3-Dichloropropene	75	9.287	9.287	0.000	78	125778	50.0	52.3	
96 trans-1,3-Dichloropropene	75	9.650	9.650	0.000	87	123607	50.0	52.4	
100 1,1,2-Trichloroethane	97	9.816	9.816	0.000	92	67363	50.0	46.8	
$ 93 Toluene-d8 (Surr)	98	9.913	9.913	0.000	95	252500	50.0	49.4	
97 Ethyl methacrylate	69	9.961	9.961	0.000	83	123224	50.0	51.5	
94 Toluene	92	9.980	9.980	0.000	95	179251	50.0	51.4	
102 1,3-Dichloropropane	76	10.031	10.031	0.000	84	116580	50.0	51.0	
106 2-Hexanone	43	10.118	10.118	0.000	96	329312	100.0	113.9	
101 Chlorodibromomethane	129	10.327	10.327	0.000	87	75304	50.0	42.6	
103 n-Butyl acetate	43	10.394	10.394	0.000	95	329078	50.0	56.2	
105 Ethylene Dibromide	107	10.580	10.580	0.000	98	72549	50.0	45.6	
98 Tetrachloroethene	164	10.718	10.718	0.000	88	56074	50.0	53.5	
S 104 Xylenes, Total	106				0		100.0	100.0	
113 1-Chlorohexane	55	11.273	11.273	0.000	73	106870	50.0	61.0	
110 1,1,1,2-Tetrachloroethane	131	11.337	11.337	0.000	89	61458	50.0	43.3	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
109 Chlorobenzene	112	11.418	11.418	0.000	88	182883	50.0	48.3	
108 Ethylbenzene	106	11.594	11.594	0.000	98	97782	50.0	50.1	
111 m-Xylene & p-Xylene	91	11.783	11.783	0.000	0	242439	50.0	51.3	
114 Styrene	104	12.152	12.152	0.000	91	189808	50.0	49.8	
116 Cyclohexanone	55	12.213	12.213	0.000	95	290275	2500.0	3155.8	
112 o-Xylene	106	12.226	12.226	0.000	97	112412	50.0	48.7	
* 117 1,4-Dichlorobenzene-d4	152	14.004	14.004	0.000	93	82515	50.0	50.0	
119 Bromoform	173	11.989	11.989	0.000	94	53588	50.0	48.9	
124 1,1,2,2-Tetrachloroethane	83	12.246	12.246	0.000	77	100416	50.0	51.1	
129 trans-1,4-Dichloro-2-buten	53	12.393	12.393	0.000	77	43467	50.0	55.3	
128 1,2,3-Trichloropropane	110	12.403	12.403	0.000	95	26870	50.0	44.7	
121 Isopropylbenzene	105	12.621	12.621	0.000	97	263055	50.0	52.8	
$ 122 4-Bromofluorobenzene	95	12.685	12.685	0.000	87	82530	50.0	49.4	
125 Bromobenzene	156	12.935	12.935	0.000	87	69709	50.0	48.1	
123 N-Propylbenzene	120	13.086	13.086	0.000	99	67537	50.0	52.5	
127 2-Chlorotoluene	126	13.208	13.208	0.000	94	61584	50.0	48.6	
130 4-Chlorotoluene	91	13.279	13.279	0.000	97	191189	50.0	51.5	
126 1,3,5-Trimethylbenzene	105	13.356	13.356	0.000	94	193649	50.0	51.4	
131 tert-Butylbenzene	119	13.657	13.657	0.000	96	146585	50.0	53.0	
133 1,2,4-Trimethylbenzene	105	13.757	13.757	0.000	98	199218	50.0	51.1	
135 sec-Butylbenzene	105	13.869	13.869	0.000	96	195117	50.0	54.0	
143 Benzyl chloride	91	13.965	13.965	0.000	94	164161	50.0	45.1	
137 1,3-Dichlorobenzene	146	13.969	13.969	0.000	84	111520	50.0	48.8	
136 4-Isopropyltoluene	119	14.026	14.026	0.000	96	171799	50.0	55.2	
140 1,4-Dichlorobenzene	146	14.030	14.030	0.000	86	115311	50.0	48.2	
139 1,2,3-Trimethylbenzene	105	14.184	14.184	0.000	98	194530	50.0	49.7	
144 1,2-Dichlorobenzene	146	14.386	14.386	0.000	95	108519	50.0	48.2	
142 n-Butylbenzene	91	14.434	14.434	0.000	97	136796	50.0	57.6	
146 1,2-Dibromo-3-Chloropropan	157	14.857	14.857	0.000	75	16787	50.0	41.9	
147 1,3,5-Trichlorobenzene	180	15.701	15.701	0.000	96	58299	50.0	53.5	
149 1,2,4-Trichlorobenzene	180	16.298	16.298	0.000	94	53669	50.0	49.0	
150 Naphthalene	128	16.593	16.593	0.000	98	172945	50.0	39.8	
148 Hexachlorobutadiene	190	16.616	16.616	0.000	48	8092	50.0	53.6	a
151 1,2,3-Trichlorobenzene	180	16.831	16.831	0.000	93	42639	50.0	43.5	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

VOAIS250PPM_00135	Amount Added:	1.00	Units: uL
VOASTDPT2_00148	Amount Added:	5.00	Units: uL
EOxideStd_00160	Amount Added:	5.00	Units: uL
VOASTDGASPT_00343	Amount Added:	5.00	Units: uL

Report Date: 16-Sep-2019 14:55:24 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190916-31110.b\T25901.D				
Injection Date:	16-Sep-2019 09:48:30	Instrument ID:	CHVOAMS10	Operator ID:	dt
Lims ID:	ccvis			Worklist Smp#:	3
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		

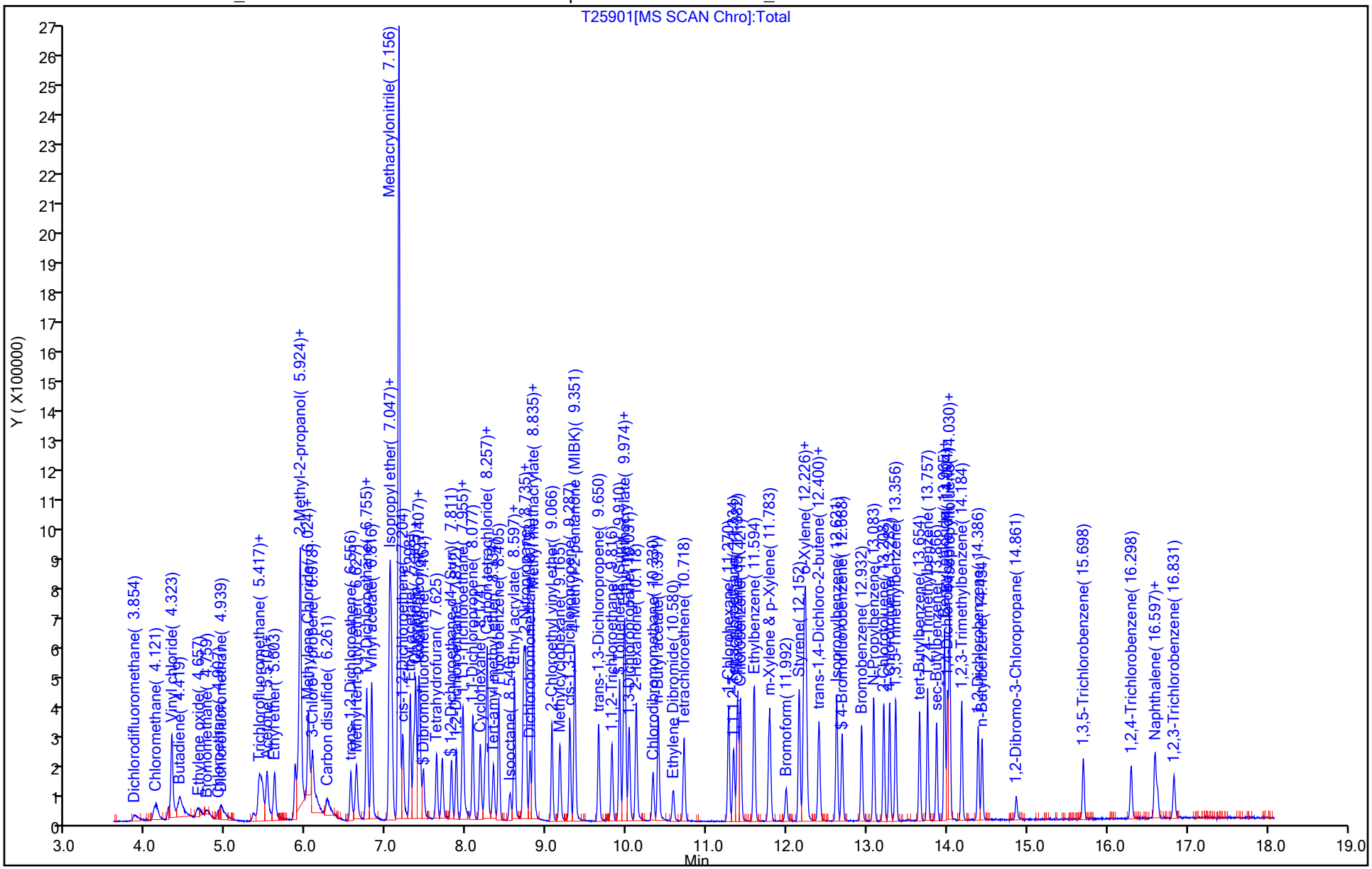

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190916-31110.b\T25901.D				
Injection Date:	16-Sep-2019 09:48:30	Instrument ID:	CHVOAMS10		
Lims ID:	ccvis				
Client ID:					
Operator ID:	dt	ALS Bottle#:	1	Worklist Smp#:	3
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

11 Chloroethane, CAS: 75-00-3

Signal: 1

Not Detected
Expected RT: 4.91

Processing Integration Results

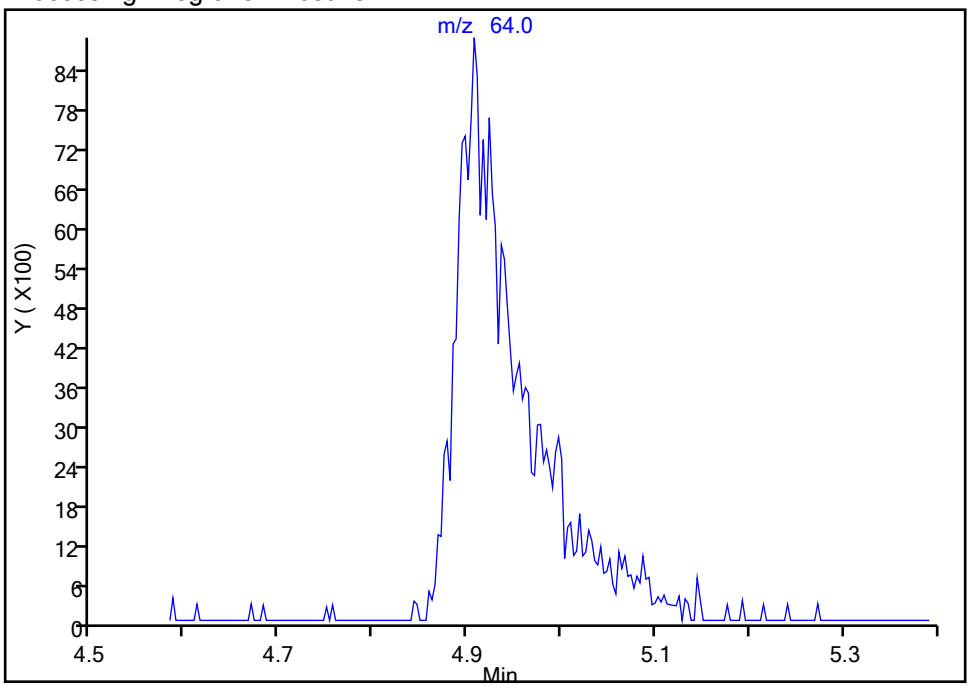

Manual Integration Results

RT: 4.91
Area: 41548
Amount: 55.784339
Amount Units: ug/l

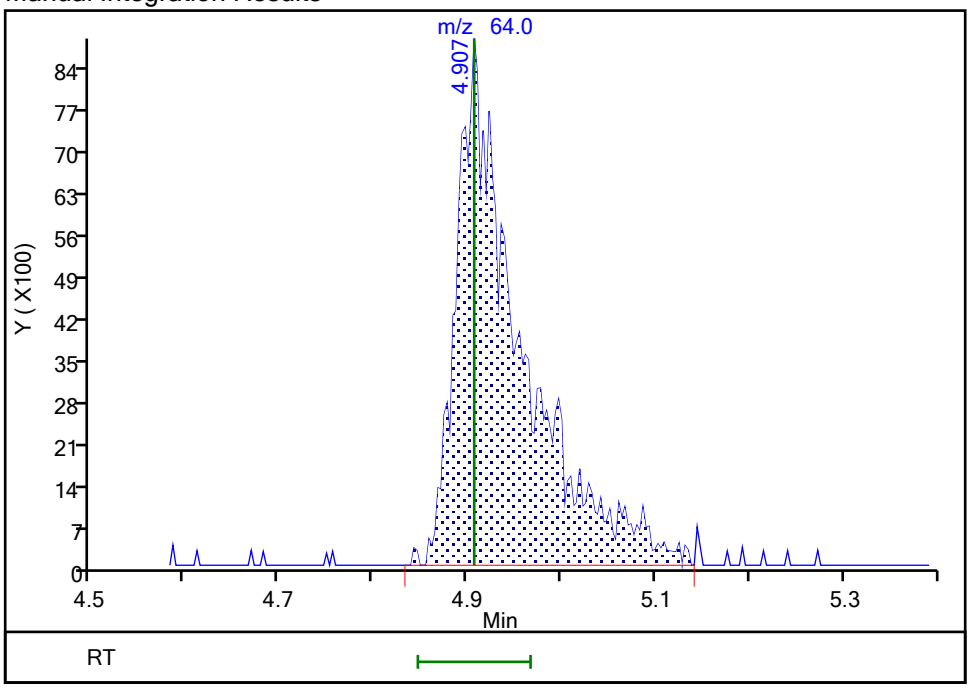

Reviewer: tengd, 16-Sep-2019 10:08:48
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190916-31110.b\T25901.D				
Injection Date:	16-Sep-2019 09:48:30	Instrument ID:	CHVOAMS10		
Lims ID:	ccvis				
Client ID:					
Operator ID:	dt	ALS Bottle#:	1	Worklist Smp#:	3
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

20 1,1-Dichloroethene, CAS: 75-35-4

Signal: 1

Not Detected
Expected RT: 5.92

Processing Integration Results

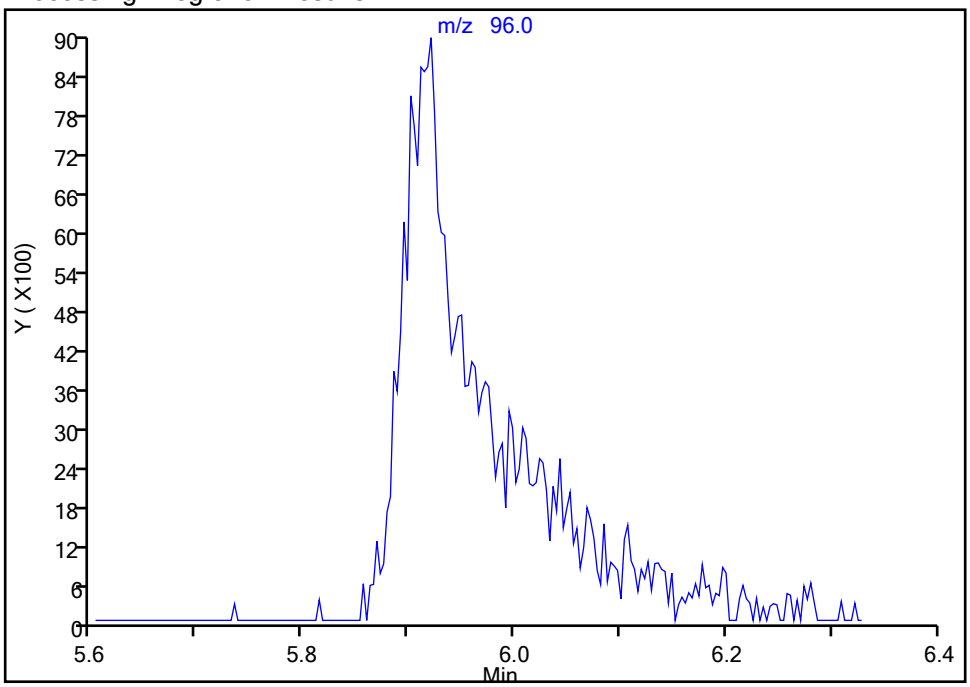

Manual Integration Results

RT: 5.92
Area: 44324
Amount: 58.776800
Amount Units: ug/l

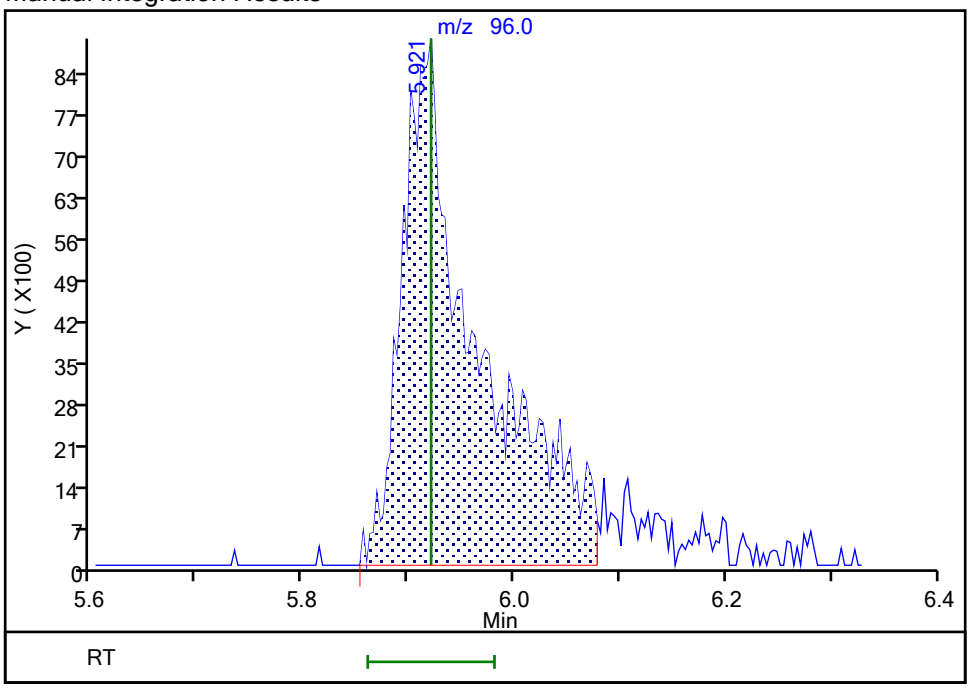

Reviewer: tengd, 16-Sep-2019 10:08:53
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190916-31110.b\T25901.D				
Injection Date:	16-Sep-2019 09:48:30	Instrument ID:	CHVOAMS10		
Lims ID:	ccvis				
Client ID:					
Operator ID:	dt	ALS Bottle#:	1	Worklist Smp#:	3
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

148 Hexachlorobutadiene, CAS: 87-68-3

Signal: 1

Not Detected
Expected RT: 16.62

Processing Integration Results

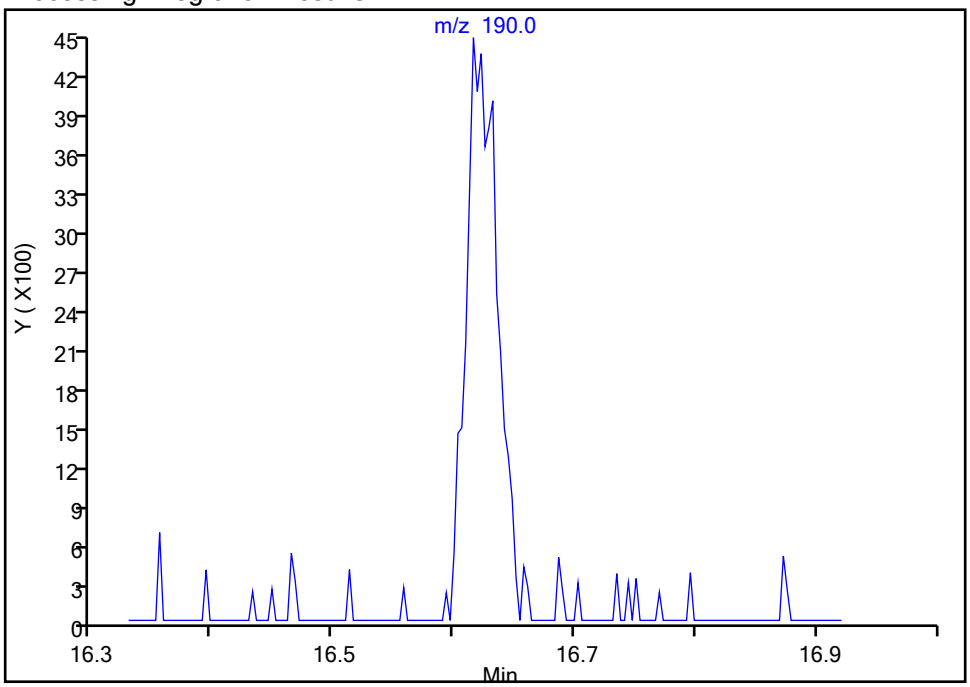

Manual Integration Results

RT: 16.62
Area: 8092
Amount: 53.617509
Amount Units: ug/l

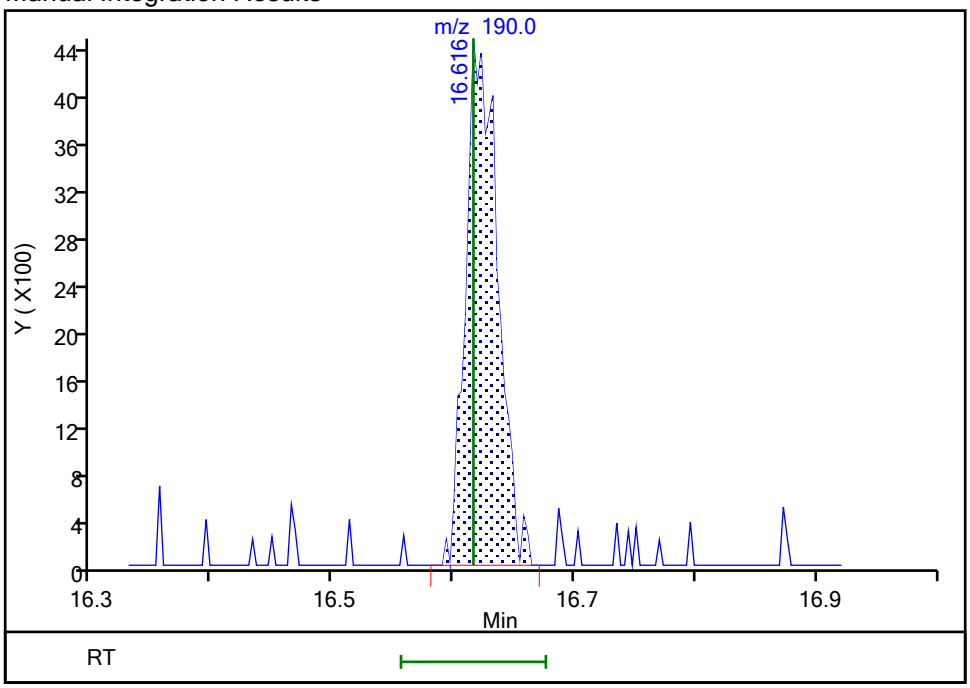

Reviewer: tengd, 16-Sep-2019 10:09:17
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T24100.D
Lims ID: bfb
Client ID:
Sample Type: BFB
Inject. Date: 29-Aug-2019 12:40:30 ALS Bottle#: 52 Worklist Smp#: 2
Injection Vol: 5.0 mL Dil. Factor: 1.0000
Sample Info: bfb
Misc. Info.: 600-0030818-002
Operator ID: dt Instrument ID: CHVOAMS10

Method: \\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\8260w5_10.m
Limit Group: VOA - 8260C_8260CLL
Last Update: 06-Sep-2019 16:08:20 Calib Date: 29-Aug-2019 16:10:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T41007.D

Column 1 : Det: MS SCAN
Process Host: CTX0340

First Level Reviewer: tengd Date: 29-Aug-2019 13:39:57

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 173 BFB	95	6.117	6.117	0.000	0	44231	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

BFB_00290 Amount Added: 2.00 Units: uL

Report Date: 06-Sep-2019 16:08:21 Chrom Revision: 2.3 22-Aug-2019 12:55:36

MS Tune Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T24100.D				
Injection Date:	29-Aug-2019 12:40:30	Instrument ID:	CHVOAMS10		
Lims ID:	bfb				
Client ID:					
Operator ID:	dt	ALS Bottle#:	52	Worklist Smp#:	2
Injection Vol:	5.0 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Tune Method:	BFB Method 8260				

$ 173 BFB

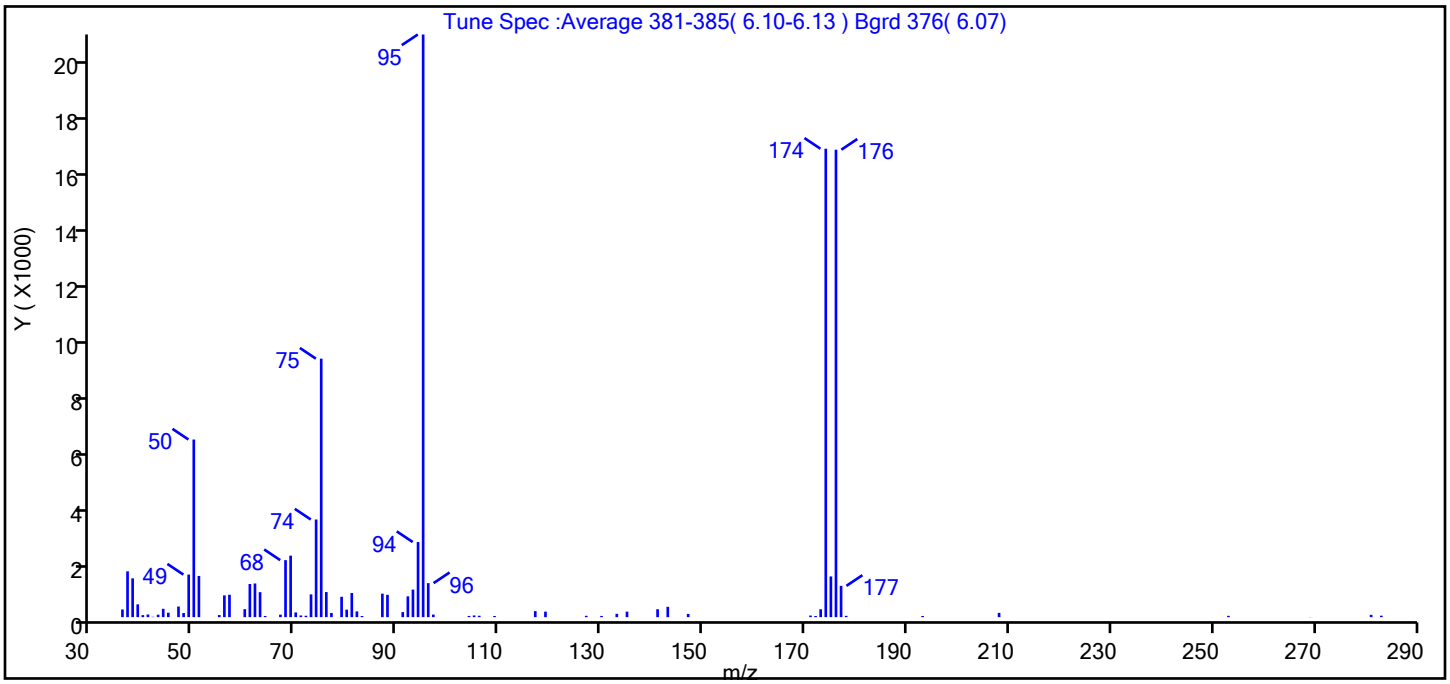

m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	30.5
75	30 to 60% of m/z 95	44.4
96	5 to 9% of m/z 95	5.8
173	Less than 2% of m/z 174	1.4 (1.7)
174	50 to 120% of m/z 95	80.4
175	5 to 9% of m/z 174	7.0 (8.7)
176	Greater than 95% but less than 101% of m/z 174	80.2 (99.8)
177	5 to 9% of m/z 176	5.4 (6.7)

Report Date: 06-Sep-2019 16:08:21 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Data File: \\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T24100.D\8260w5_10.rslt\spectra.d
Injection Date: 29-Aug-2019 12:40:30
Spectrum: Tune Spec :Average 381-385(6.10-6.13) Bgrd 376(6.07)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 75

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	268	61.00	1158	83.00	40	135.00	192
37.00	1601	62.00	1177	87.00	821	141.00	277
38.00	1357	63.00	873	88.00	780	143.00	361
39.00	447	64.00	41	91.00	176	147.00	113
40.00	70	67.00	87	92.00	727	171.00	56
41.00	93	68.00	1993	93.00	963	172.00	40
42.00	12	69.00	2150	94.00	2626	173.00	275
43.00	86	70.00	165	95.00	20368	174.00	16374
44.00	292	71.00	59	96.00	1189	175.00	1423
45.00	155	72.00	49	97.00	90	176.00	16340
47.00	371	73.00	796	104.00	42	177.00	1094
48.00	144	74.00	3413	105.00	59	178.00	46
49.00	1488	75.00	9036	106.00	49	193.00	41
50.00	6209	76.00	877	109.00	40	208.00	149
51.00	1440	77.00	146	117.00	210	253.00	46
55.00	73	79.00	712	119.00	193	269.00	5
56.00	760	80.00	262	127.00	47	281.00	81
57.00	784	81.00	845	130.00	42	283.00	51
60.00	279	82.00	201	133.00	117		

Report Date: 06-Sep-2019 16:08:21 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190829-30818.b\T24100.D				
Injection Date:	29-Aug-2019 12:40:30	Instrument ID:	CHVOAMS10	Operator ID:	dt
Lims ID:	bfb			Worklist Smp#:	2
Client ID:					
Injection Vol:	5.0 mL	Dil. Factor:	1.0000	ALS Bottle#:	52
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		

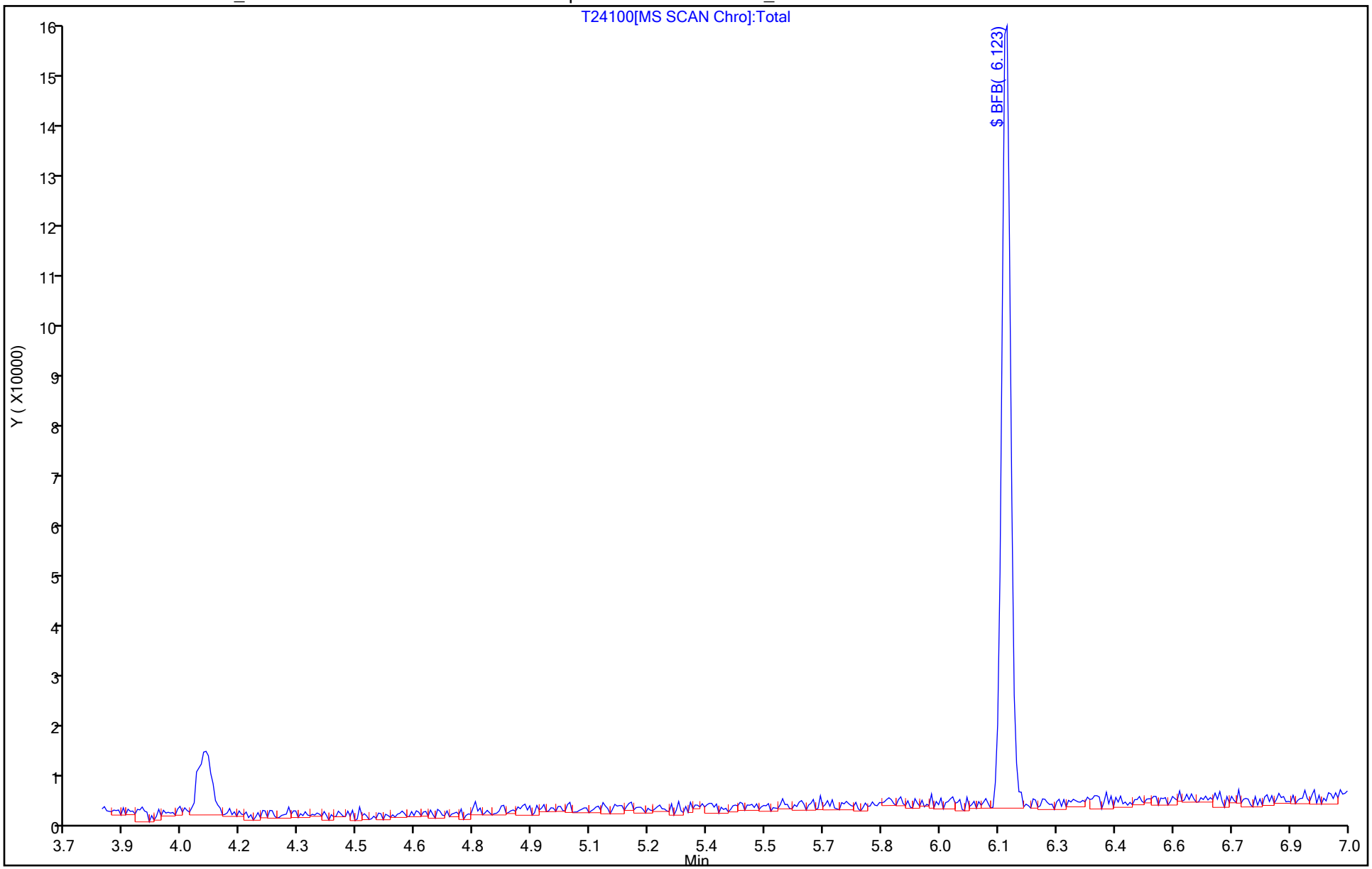

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHVOAMS10\20190916-31110.b\T25900B.D
Lims ID: bfb
Client ID:
Sample Type: BFB
Inject. Date: 16-Sep-2019 09:22:30 ALS Bottle#: 3 Worklist Smp#: 2
Injection Vol: 5.0 mL Dil. Factor: 1.0000
Sample Info: bfb
Misc. Info.: 600-0031110-002
Operator ID: dt Instrument ID: CHVOAMS10

Method: \\chromna\Houston\ChromData\CHVOAMS10\20190916-31110.b\8260w5_10.m
Limit Group: VOA - 8260C_8260CLL
Last Update: 16-Sep-2019 14:55:15 Calib Date: 13-Sep-2019 13:01:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHVOAMS10\20190913-31078.b\T25609.D

Column 1 : Det: MS SCAN
Process Host: CTX0308

First Level Reviewer: tengd Date: 16-Sep-2019 10:17:38

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 173 BFB	95	6.186	6.186	0.000	0	248406	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

BFB_00291 Amount Added: 2.00 Units: uL

Report Date: 16-Sep-2019 14:55:16 Chrom Revision: 2.3 22-Aug-2019 12:55:36

MS Tune Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190916-31110.b\T25900B.D				
Injection Date:	16-Sep-2019 09:22:30	Instrument ID:	CHVOAMS10		
Lims ID:	bfb				
Client ID:					
Operator ID:	dt	ALS Bottle#:	3	Worklist Smp#:	2
Injection Vol:	5.0 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Tune Method:	BFB Method 8260				

$ 173 BFB

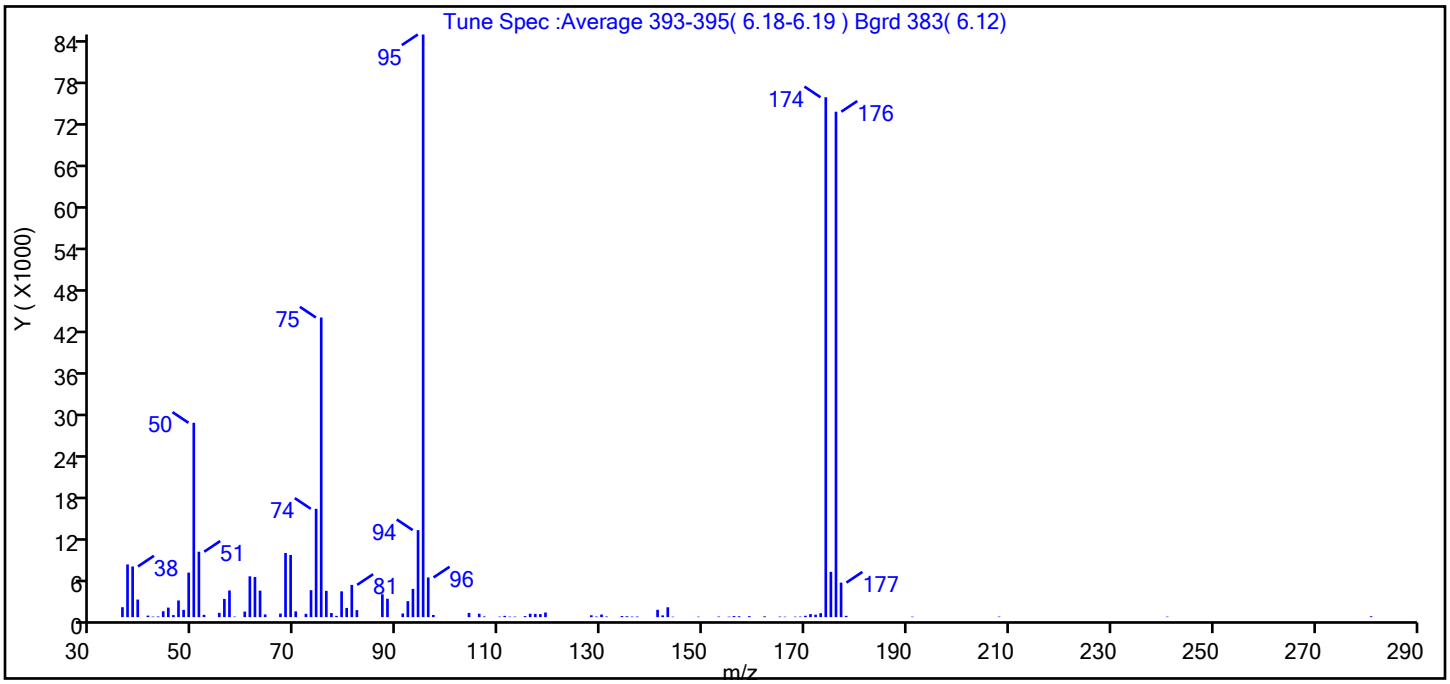

m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	33.4
75	30 to 60% of m/z 95	51.4
96	5 to 9% of m/z 95	6.8
173	Less than 2% of m/z 174	0.7 (0.8)
174	50 to 120% of m/z 95	89.2
175	5 to 9% of m/z 174	7.8 (8.7)
176	Greater than 95% but less than 101% of m/z 174	86.7 (97.2)
177	5 to 9% of m/z 176	5.9 (6.8)

Report Date: 16-Sep-2019 14:55:16 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Data File: \\chromna\Houston\ChromData\CHVOAMS10\20190916-31110.b\T25900B.D\8260w5_10.rslt\spectra.d
Injection Date: 16-Sep-2019 09:22:30
Spectrum: Tune Spec :Average 393-395(6.18-6.19) Bgrd 383(6.12)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 98

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	1439	67.00	517	106.00	496	155.00	70
37.00	7627	68.00	9291	107.00	101	156.00	154
38.00	7338	69.00	9007	110.00	72	157.00	130
39.00	2547	70.00	837	111.00	187	159.00	139
41.00	223	72.00	485	112.00	76	162.00	121
42.00	76	73.00	3903	113.00	77	165.00	81
43.00	97	74.00	15689	115.00	156	166.00	67
44.00	856	75.00	43392	116.00	499	168.00	72
45.00	1381	76.00	3805	117.00	471	169.00	78
46.00	298	77.00	598	118.00	438	170.00	196
47.00	2413	78.00	187	119.00	670	171.00	440
48.00	1055	79.00	3738	128.00	268	172.00	352
49.00	6450	80.00	1335	129.00	87	173.00	574
50.00	28144	81.00	4672	130.00	374	174.00	75288
51.00	9476	82.00	1016	131.00	91	175.00	6564
52.00	335	87.00	3310	134.00	161	176.00	73192
55.00	621	88.00	2666	135.00	131	177.00	5002
56.00	2636	91.00	528	136.00	78	178.00	189
57.00	3862	92.00	2318	137.00	89	191.00	68
58.00	81	93.00	4090	141.00	1063	207.00	1
60.00	806	94.00	12603	142.00	251	208.00	77
61.00	5914	95.00	84376	143.00	1429	241.00	70
62.00	5810	96.00	5749	144.00	67	281.00	124
63.00	3842	97.00	312	149.00	69		
64.00	391	104.00	616	153.00	84		

Report Date: 16-Sep-2019 14:55:16 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190916-31110.b\T25900B.D				
Injection Date:	16-Sep-2019 09:22:30	Instrument ID:	CHVOAMS10	Operator ID:	dt
Lims ID:	bfb			Worklist Smp#:	2
Client ID:					
Injection Vol:	5.0 mL	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		

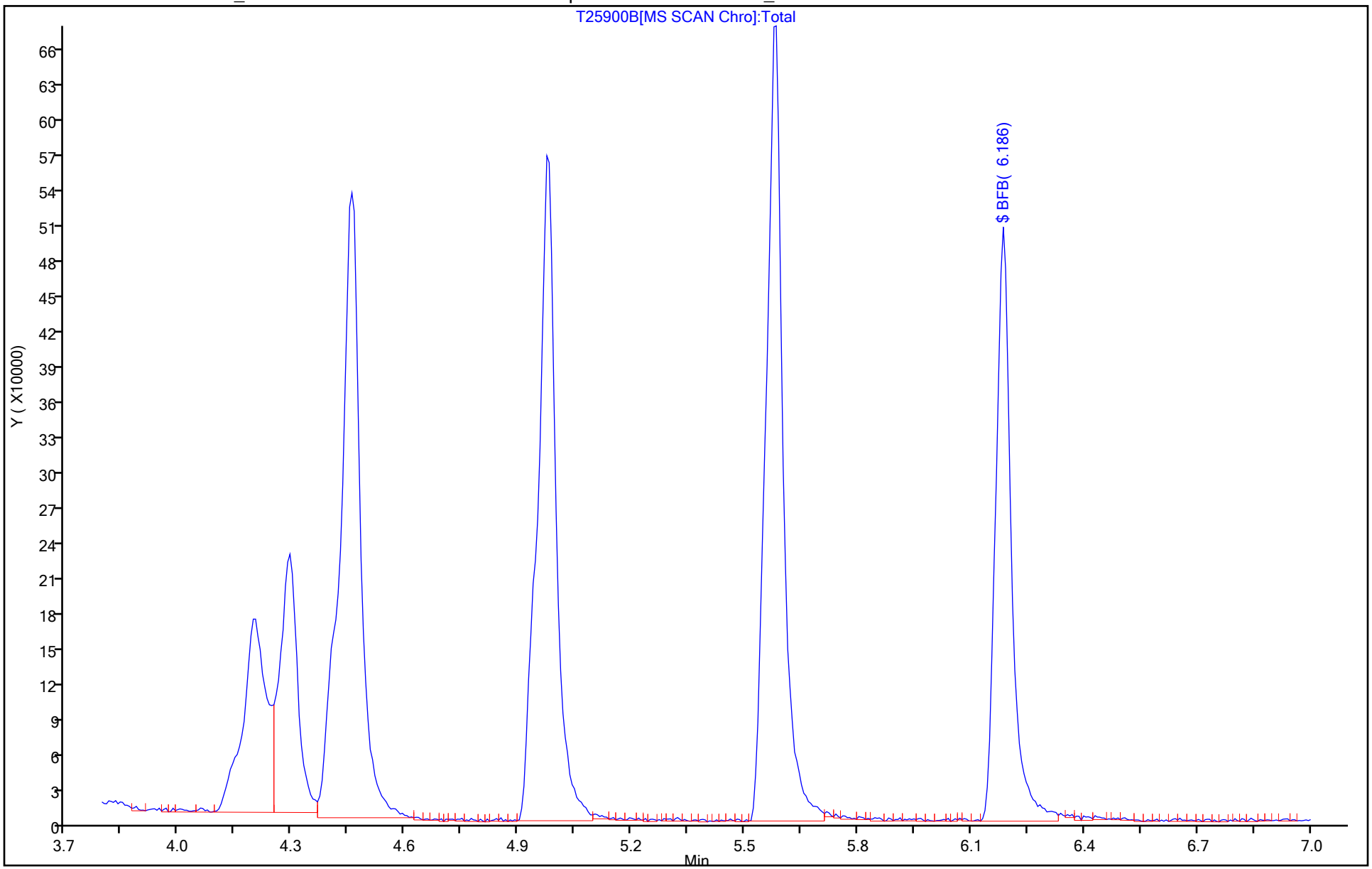

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-191956-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 600-274820/7
Matrix: Water
Lab File ID: T25905.D
Analysis Method: 8260C
Date Collected:
Sample wt/vol: 5(mL)
Date Analyzed: 09/16/2019 11:33
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: DB-VRX 60 ID: 0.25(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 274820
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-35-4	1,1-Dichloroethene	ND		5.0	0.76
107-06-2	1,2-Dichloroethane	ND		5.0	1.0
78-93-3	2-Butanone (MEK)	ND		10	1.6
71-43-2	Benzene	ND		5.0	0.56
75-15-0	Carbon disulfide	ND		10	1.7
56-23-5	Carbon tetrachloride	ND		5.0	0.92
108-90-7	Chlorobenzene	ND		5.0	0.82
179601-23-1	m-Xylene & p-Xylene	ND		5.0	1.3
95-47-6	o-Xylene	ND		5.0	0.93
79-01-6	Trichloroethene	ND		5.0	1.6
75-01-4	Vinyl chloride	ND		5.0	0.85
1330-20-7	Xylenes, Total	ND		5.0	2.0
67-66-3	Chloroform	ND		10	0.82
106-46-7	1,4-Dichlorobenzene	ND		5.0	0.91
87-68-3	Hexachlorobutadiene	ND		5.0	1.2
127-18-4	Tetrachloroethene	ND		5.0	1.2

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	80		50-134
460-00-4	4-Bromofluorobenzene	95		67-139
1868-53-7	Dibromofluoromethane	80		62-130
2037-26-5	Toluene-d8 (Surr)	78		70-130

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHVOAMS10\20190916-31110.b\T25905.D
Lims ID: mb
Client ID:
Sample Type: MB
Inject. Date: 16-Sep-2019 11:33:30 ALS Bottle#: 5 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: mb
Misc. Info.: 600-0031110-007
Operator ID: dt Instrument ID: CHVOAMS10

Method: \\chromna\Houston\ChromData\CHVOAMS10\20190916-31110.b\8260w5_10.m
Limit Group: VOA - 8260C_8260CLL
Last Update: 16-Sep-2019 19:35:39 Calib Date: 13-Sep-2019 13:01:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHVOAMS10\20190913-31078.b\T25609.D

Column 1 : Det: MS SCAN
Process Host: CTX0328

First Level Reviewer: somjitp Date: 17-Sep-2019 08:42:07

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.404	8.405	-0.001	96	245436	50.0	50.0	
2 Dichlorodifluoromethane	85		3.851					ND	
3 Chloromethane	50		4.121					ND	
4 Vinyl chloride	62		4.326					ND	
5 Butadiene	39		4.426					ND	U
10 Ethylene oxide	44		4.653					ND	U
7 Bromomethane	94		4.772					ND	
11 Chloroethane	64		4.907					ND	
13 Dichlorofluoromethane	67		4.952					ND	
9 Vinyl bromide	106		5.162					ND	U
24 Acrolein	56		5.404					ND	
16 Acetonitrile	41		5.417					ND	
6 Acetaldehyde	44		5.423					ND	U
12 Trichlorofluoromethane	101		5.427					ND	
19 Isopropyl alcohol	45		5.456					ND	
18 Propionaldehyde	58		5.497					ND	
27 Acetone	43		5.517					ND	U
15 Ethyl ether	59		5.607					ND	
17 Propene oxide	58		5.708					ND	
31 2-Methyl-2-propanol	59		5.895					ND	
20 1,1-Dichloroethene	96		5.921					ND	
37 Acrylonitrile	52		5.924					ND	
23 Iodomethane	142		5.979					ND	
28 Methyl acetate	43		6.027					ND	
21 1,1,2-Trichloro-1,2,2-trif	151		6.033					ND	
26 Methylene Chloride	84		6.046					ND	
25 3-Chloro-1-propene	76		6.081					ND	
22 Carbon disulfide	76		6.261					ND	
29 trans-1,2-Dichloroethene	96		6.556					ND	
30 Methyl tert-butyl ether	73		6.627					ND	
35 Propionitrile	54		6.752					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
34 1,1-Dichloroethane	63		6.755					ND	
40 Vinyl acetate	43		6.819					ND	
36 2-Chloro-1,3-butadiene	53		7.038					ND	
58 Hexane	57		7.044					ND	
32 Isopropyl ether	45		7.057					ND	
56 2-Butanone (MEK)	72		7.070					ND	
61 Methacrylonitrile	66		7.156					ND	
44 cis-1,2-Dichloroethene	96		7.208					ND	
33 Ethyl acetate	43		7.298					ND	
47 Chlorobromomethane	128		7.339					ND	
48 Chloroform	83		7.365					ND	
41 Tert-butyl ethyl ether	59		7.365					ND	
45 Methyl acrylate	55		7.367					ND	
39 Isobutyl alcohol	43		7.407					ND	
46 2,2-Dichloropropane	77		7.423					ND	
$ 52 Dibromofluoromethane	113	7.464	7.469	0.000	91	52695	50.0	40.1	
S 43 1,2-Dichloroethene, Total	96		7.590					ND	
53 Tetrahydrofuran	42		7.625					ND	
$ 64 1,2-Dichloroethane-d4 (Sur	65	7.814	7.819	0.000	0	76972	50.0	40.1	
65 1,2-Dichloroethane	62		7.872					ND	
55 1,1,1-Trichloroethane	97		7.946					ND	
38 n-Butanol	56		7.959					ND	
68 Isopropyl acetate	43		8.032					ND	
57 1,1-Dichloropropene	75		8.080					ND	
69 Cyclohexane	84		8.174					ND	
54 Carbon tetrachloride	119		8.235					ND	
63 Benzene	78		8.257					ND	
62 Tert-amyl methyl ether	73		8.337					ND	
67 2-Methyltetrahydrofuran	71		8.503					ND	U
59 Isooctane	57		8.543					ND	
72 Ethyl acrylate	55		8.594					ND	
60 n-Heptane	43		8.600					ND	
73 Dibromomethane	93		8.706					ND	
79 1,2-Dichloropropane	63		8.716					ND	
66 2-Nitropropane	43		8.732					ND	
70 Trichloroethene	130		8.741					ND	
75 Dichlorobromomethane	83		8.796					ND	
76 n-Propyl acetate	43		8.818					ND	
77 Methyl methacrylate	41		8.835					ND	
78 1,4-Dioxane	58		8.857					ND	
74 Tetrahydropyran	41		9.110					ND	U
71 Methylcyclohexane	83		9.165					ND	
80 4-Methyl-2-pentanone (MIBK	43		9.351					ND	
* 85 Chlorobenzene-d5	82	11.385	11.382	0.003	94	103398	50.0	50.0	
89 2-Chloroethyl vinyl ether	63		9.066					ND	
90 cis-1,3-Dichloropropene	75		9.287					ND	
96 trans-1,3-Dichloropropene	75		9.650					ND	
91 2-Methyltetrahydropyran	85		9.739					ND	U
S 92 2,3-dichlorobutane	63		9.800					ND	
100 1,1,2-Trichloroethane	97		9.816					ND	
$ 93 Toluene-d8 (Surr)	98	9.916	9.917	0.003	94	198140	50.0	39.2	
97 Ethyl methacrylate	69		9.961					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
94 Toluene	92		9.980					ND	
102 1,3-Dichloropropane	76		10.031					ND	
95 trans 2,3-dichlorobutane	63		10.095					ND	U
106 2-Hexanone	43		10.118					ND	
101 Chlorodibromomethane	129		10.327					ND	
99 cis 2,3-dichlorobutane	63		10.387					ND	U
103 n-Butyl acetate	43		10.394					ND	
105 Ethylene Dibromide	107		10.580					ND	
107 Tetrahydrothiophene	60		10.640					ND	
98 Tetrachloroethene	164		10.718					ND	
S 104 Xylenes, Total	106		10.900					ND	
113 1-Chlorohexane	55		11.273					ND	
110 1,1,1,2-Tetrachloroethane	131		11.337					ND	
109 Chlorobenzene	112		11.418					ND	
108 Ethylbenzene	106		11.594					ND	
111 m-Xylene & p-Xylene	91		11.783					ND	
115 Amyl acetate (mixed isomer	43		12.046					ND	
114 Styrene	104		12.152					ND	
116 Cyclohexanone	55		12.213					ND	
112 o-Xylene	106		12.226					ND	
* 117 1,4-Dichlorobenzene-d4	152	14.007	14.004	0.003	95	78448	50.0	50.0	
120 n-Butyl acrylate	55		11.799					ND	
119 Bromoform	173		11.989					ND	
124 1,1,2,2-Tetrachloroethane	83		12.246					ND	
129 trans-1,4-Dichloro-2-buten	53		12.393					ND	
128 1,2,3-Trichloropropane	110		12.403					ND	
121 Isopropylbenzene	105		12.621					ND	
$ 122 4-Bromofluorobenzene	95	12.691	12.687	0.006	88	75260	50.0	47.3	
125 Bromobenzene	156		12.935					ND	
123 N-Propylbenzene	120		13.086					ND	
134 Butyl Methacrylate	69		13.121					ND	
127 2-Chlorotoluene	126		13.208					ND	
130 4-Chlorotoluene	91		13.279					ND	
126 1,3,5-Trimethylbenzene	105		13.356					ND	
131 tert-Butylbenzene	119		13.657					ND	
133 1,2,4-Trimethylbenzene	105		13.757					ND	
138 2-Ethyl-2-hexenal	55		13.833					ND	U
135 sec-Butylbenzene	105		13.869					ND	
141 2-Ethyl-1-Hexanol	57		13.936					ND	U
143 Benzyl chloride	91		13.965					ND	
137 1,3-Dichlorobenzene	146		13.969					ND	
136 4-Isopropyltoluene	119		14.026					ND	
140 1,4-Dichlorobenzene	146		14.030					ND	
139 1,2,3-Trimethylbenzene	105		14.184					ND	
144 1,2-Dichlorobenzene	146		14.386					ND	
142 n-Butylbenzene	91		14.434					ND	
145 2,6-Dimethyltetrahydropyra	128		14.500					ND	U
146 1,2-Dibromo-3-Chloropropan	157		14.857					ND	
147 1,3,5-Trichlorobenzene	180		15.701					ND	
149 1,2,4-Trichlorobenzene	180		16.298					ND	
150 Naphthalene	128		16.593					ND	
148 Hexachlorobutadiene	190		16.616					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
151 1,2,3-Trichlorobenzene	180		16.831					ND	
S 159 1,3-Dichloropropene, Total	1		0.000					ND	
166 2-Methyl-1,3-butadiene	1		0.000					ND	U
S 162 Trihalomethanes, Total	1		0.000					ND	
S 160 Total Volatile Organic Com	1		0.000					ND	
S 182 Total BTEX	1		0.000					ND	
183 Alpha Methyl Styrene	1		0.000					ND	U

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

VOAIS250PPM_00135	Amount Added:	1.00	Units: uL	Run Reagent
VOASS250PPM_00112	Amount Added:	1.00	Units: uL	Run Reagent

Report Date: 17-Sep-2019 08:42:10 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190916-31110.b\T25905.D				
Injection Date:	16-Sep-2019 11:33:30	Instrument ID:	CHVOAMS10	Operator ID:	dt
Lims ID:	mb			Worklist Smp#:	7
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		

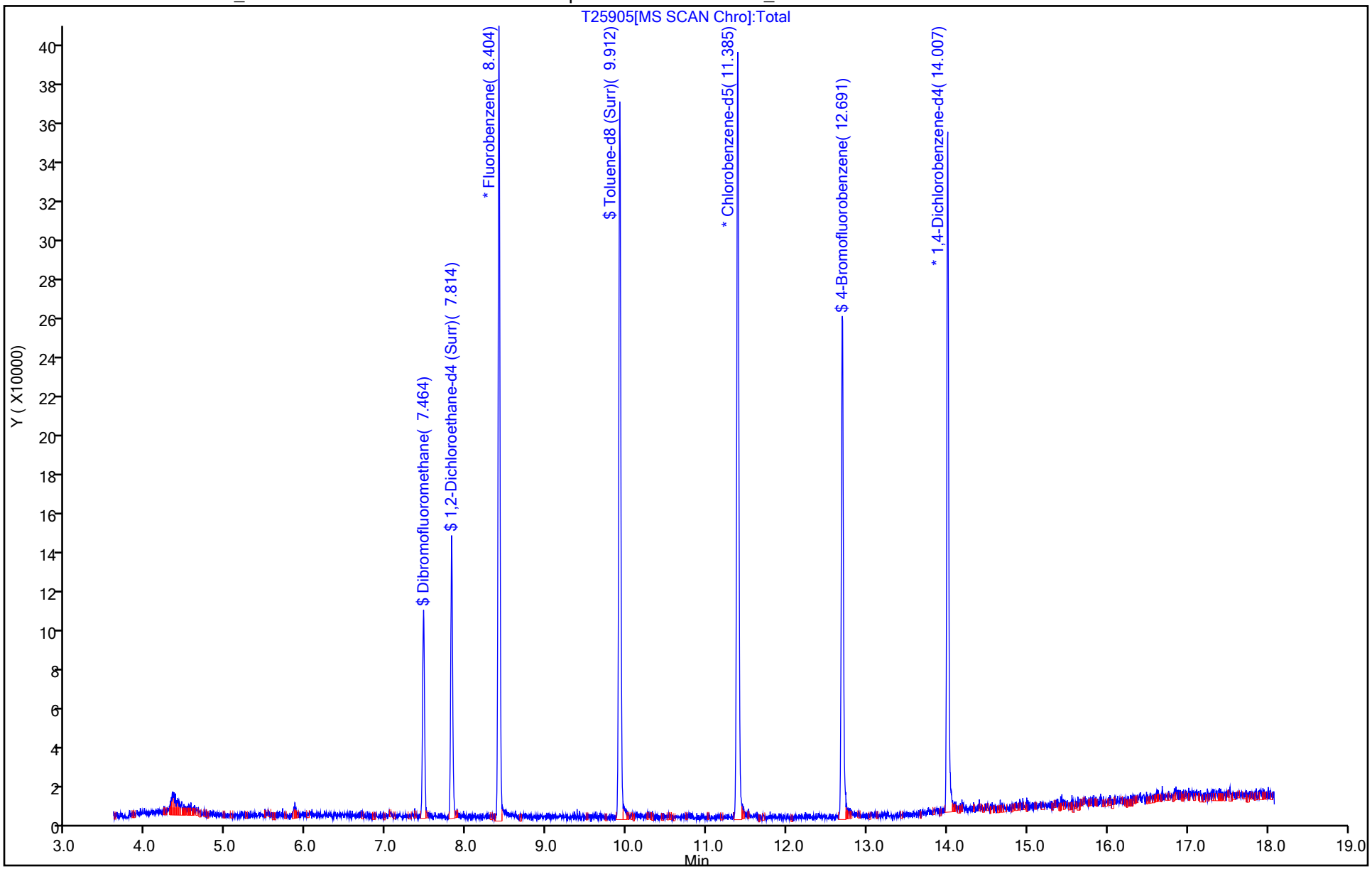

Eurofins TestAmerica, Houston
Recovery Report

Data File: \\chromna\Houston\ChromData\CHVOAMS10\20190916-31110.b\T25905.D
Lims ID: mb
Client ID:
Sample Type: MB
Inject. Date: 16-Sep-2019 11:33:30 ALS Bottle#: 5 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: mb
Misc. Info.: 600-0031110-007
Operator ID: dt Instrument ID: CHVOAMS10

Method: \\chromna\Houston\ChromData\CHVOAMS10\20190916-31110.b\8260w5_10.m
Limit Group: VOA - 8260C_8260CLL
Last Update: 16-Sep-2019 19:35:39 Calib Date: 13-Sep-2019 13:01:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHVOAMS10\20190913-31078.b\T25609.D

Column 1 : Det: MS SCAN
Process Host: CTX0328

First Level Reviewer: somjitp Date: 17-Sep-2019 08:42:07

Compound	Amount Added	Amount Recovered	% Rec.
$ 52 Dibromofluoromethane	50.0	40.1	80.29
$ 64 1,2-Dichloroethane-d4 (Surr)	50.0	40.1	80.22
$ 93 Toluene-d8 (Surr)	50.0	39.2	78.31
$ 122 4-Bromofluorobenzene	50.0	47.3	94.68

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-191956-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 600-274820/4
Matrix: Water
Lab File ID: T25901A.D
Analysis Method: 8260C
Date Collected:
Sample wt/vol: 5(mL)
Date Analyzed: 09/16/2019 10:14
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: DB-VRX 60 ID: 0.25(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 274820
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-35-4	1,1-Dichloroethene	61.0		5.0	0.76
107-06-2	1,2-Dichloroethane	59.7		5.0	1.0
78-93-3	2-Butanone (MEK)	118		10	1.6
71-43-2	Benzene	56.9		5.0	0.56
75-15-0	Carbon disulfide	57.4		10	1.7
56-23-5	Carbon tetrachloride	53.1		5.0	0.92
108-90-7	Chlorobenzene	44.3		5.0	0.82
179601-23-1	m-Xylene & p-Xylene	47.4		5.0	1.3
95-47-6	o-Xylene	44.3		5.0	0.93
79-01-6	Trichloroethene	48.6		5.0	1.6
75-01-4	Vinyl chloride	54.8		5.0	0.85
1330-20-7	Xylenes, Total	91.7		5.0	2.0
67-66-3	Chloroform	56.7		10	0.82
106-46-7	1,4-Dichlorobenzene	47.0		5.0	0.91
87-68-3	Hexachlorobutadiene	54.6		5.0	1.2
127-18-4	Tetrachloroethene	46.9		5.0	1.2

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	113		50-134
460-00-4	4-Bromofluorobenzene	97		67-139
1868-53-7	Dibromofluoromethane	106		62-130
2037-26-5	Toluene-d8 (Surr)	90		70-130

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHVOAMS10\20190916-31110.b\T25901A.D
Lims ID: lcs
Client ID:
Sample Type: LCS
Inject. Date: 16-Sep-2019 10:14:30 ALS Bottle#: 1 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: lcs
Misc. Info.: 600-0031110-003
Operator ID: dt Instrument ID: CHVOAMS10

Method: \\chromna\Houston\ChromData\CHVOAMS10\20190916-31110.b\8260w5_10.m
Limit Group: VOA - 8260C_8260CLL
Last Update: 17-Sep-2019 10:30:01 Calib Date: 13-Sep-2019 13:01:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHVOAMS10\20190913-31078.b\T25609.D

Column 1 : Det: MS SCAN
Process Host: CTX0310

First Level Reviewer: tengd Date: 17-Sep-2019 10:30:53

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.403	8.405	-0.002	96	252014	50.0	50.0	
2 Dichlorodifluoromethane	85	3.863	3.853	0.012	98	40443	50.0	49.9	a
3 Chloromethane	50	4.113	4.123	-0.008	98	131157	50.0	53.3	a
4 Vinyl chloride	62	4.322	4.329	-0.004	35	80678	50.0	54.8	
5 Butadiene	39	4.431	4.430	0.005	97	119623	50.0	59.3	
10 Ethylene oxide	44	4.646	4.656	-0.007	97	181499	500.0	589.0	
7 Bromomethane	94	4.774	4.775	0.002	90	34061	50.0	47.6	a
11 Chloroethane	64	4.909	4.910	0.002	87	40217	50.0	53.1	a
13 Dichlorofluoromethane	67	4.938	4.955	-0.014	96	84754	50.0	51.4	a
24 Acrolein	56	5.410	5.407	0.006	94	53195	250.0	257.5	
16 Acetonitrile	41	5.426	5.420	0.009	99	158622	500.0	854.5	
12 Trichlorofluoromethane	101	5.419	5.430	-0.008	42	55475	50.0	40.2	a
19 Isopropyl alcohol	45	5.448	5.459	-0.008	98	111671	500.0	717.8	
27 Acetone	43	5.516	5.520	-0.001	98	101315	100.0	117.7	
15 Ethyl ether	59	5.609	5.610	0.003	93	91098	50.0	59.7	
31 2-Methyl-2-propanol	59	5.897	5.899	0.002	96	175324	500.0	639.5	
20 1,1-Dichloroethene	96	5.913	5.922	-0.008	47	46832	50.0	61.0	M
37 Acrylonitrile	52	5.923	5.927	-0.001	97	589034	500.0	648.2	
23 Iodomethane	142	5.978	5.982	-0.001	98	72963	50.0	51.5	a
28 Methyl acetate	43	6.026	6.030	-0.001	99	373752	100.0	129.8	
21 1,1,2-Trichloro-1,2,2-trif	151	6.032	6.037	-0.001	45	26044	50.0	45.7	M
26 Methylene Chloride	84	6.055	6.049	0.009	87	57629	50.0	56.7	a
25 3-Chloro-1-propene	76	6.080	6.085	-0.001	84	27882	50.0	66.0	
22 Carbon disulfide	76	6.257	6.265	-0.004	95	165579	50.0	57.4	
29 trans-1,2-Dichloroethene	96	6.555	6.560	-0.001	87	47044	50.0	45.8	
30 Methyl tert-butyl ether	73	6.629	6.631	0.002	91	127384	50.0	56.7	
35 Propionitrile	54	6.754	6.756	0.002	98	262601	500.0	653.6	
34 1,1-Dichloroethane	63	6.757	6.759	0.002	78	165151	50.0	61.5	
40 Vinyl acetate	43	6.818	6.823	-0.001	97	648431	100.0	119.9	
36 2-Chloro-1,3-butadiene	53	7.040	7.041	0.002	93	199267	50.0	60.5	
58 Hexane	57	7.046	7.048	0.002	66	123226	50.0	58.3	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
32 Isopropyl ether	45	7.059	7.061	0.002	92	454916	50.0	62.8	
56 2-Butanone (MEK)	72	7.075	7.074	0.005	95	27896	100.0	117.9	
61 Methacrylonitrile	66	7.158	7.160	0.002	96	185614	500.0	573.7	
44 cis-1,2-Dichloroethene	96	7.207	7.212	-0.001	94	73452	50.0	51.3	
33 Ethyl acetate	43	7.296	7.302	-0.002	98	465634	100.0	124.8	
47 Chlorobromomethane	128	7.338	7.343	-0.001	82	39450	50.0	49.2	
48 Chloroform	83	7.367	7.369	0.002	90	132536	50.0	56.7	
41 Tert-butyl ethyl ether	59	7.367	7.369	0.002	97	157976	50.0	56.9	
39 Isobutyl alcohol	43	7.406	7.411	-0.001	92	266533	1250.0	1789.9	
46 2,2-Dichloropropane	77	7.425	7.427	0.002	89	55987	50.0	57.7	
$ 52 Dibromofluoromethane	113	7.460	7.468	-0.004	91	71545	50.0	53.1	
S 43 1,2-Dichloroethene, Total	96				0		100.0	97.1	
53 Tetrahydrofuran	42	7.624	7.629	-0.001	91	146051	100.0	133.1	
$ 64 1,2-Dichloroethane-d4 (Sur	65	7.810	7.818	-0.004	0	111503	50.0	56.6	
65 1,2-Dichloroethane	62	7.874	7.876	0.002	93	155672	50.0	59.7	
55 1,1,1-Trichloroethane	97	7.951	7.950	0.005	94	90149	50.0	52.2	
38 n-Butanol	56	7.957	7.963	-0.002	96	135562	1250.0	1856.6	
57 1,1-Dichloropropene	75	8.079	8.085	-0.001	80	100654	50.0	60.9	
69 Cyclohexane	84	8.169	8.178	-0.005	93	53723	50.0	57.4	
54 Carbon tetrachloride	119	8.233	8.239	-0.001	94	83950	50.0	53.1	
63 Benzene	78	8.262	8.261	0.005	92	291536	50.0	56.9	
62 Tert-amyl methyl ether	73	8.339	8.342	0.002	86	85825	50.0	51.0	
59 Isooctane	57	8.548	8.546	0.005	98	84705	50.0	59.6	
72 Ethyl acrylate	55	8.596	8.599	0.002	94	273936	50.0	56.7	
60 n-Heptane	43	8.599	8.605	-0.001	57	110364	50.0	62.2	
73 Dibromomethane	93	8.708	8.711	0.002	72	55145	50.0	55.6	
79 1,2-Dichloropropane	63	8.718	8.721	0.002	85	103619	50.0	58.6	
66 2-Nitropropane	43	8.734	8.737	0.002	98	157884	100.0	114.6	
70 Trichloroethene	130	8.744	8.746	0.003	91	70793	50.0	48.6	
75 Dichlorobromomethane	83	8.795	8.801	-0.001	93	100777	50.0	52.8	
77 Methyl methacrylate	41	8.833	8.839	-0.002	85	399012	100.0	123.9	
78 1,4-Dioxane	58	8.853	8.853	-0.004	93	17487	1000.0	1316.1	Ma
71 Methylcyclohexane	83	9.167	9.170	0.002	90	62243	50.0	57.8	
80 4-Methyl-2-pentanone (MIBK	43	9.350	9.356	-0.001	97	465666	100.0	126.6	
* 85 Chlorobenzene-d5	82	11.384	11.382	0.002	92	112648	50.0	50.0	
89 2-Chloroethyl vinyl ether	63	9.068	9.069	0.002	85	104161	100.0	95.3	
90 cis-1,3-Dichloropropene	75	9.292	9.291	0.005	77	126236	50.0	48.7	
96 trans-1,3-Dichloropropene	75	9.648	9.653	-0.002	85	120571	50.0	47.4	
100 1,1,2-Trichloroethane	97	9.819	9.820	0.003	92	69709	50.0	44.9	
$ 93 Toluene-d8 (Surr)	98	9.912	9.917	-0.001	96	249073	50.0	45.2	
97 Ethyl methacrylate	69	9.960	9.965	-0.001	91	123539	50.0	47.9	
94 Toluene	92	9.979	9.984	-0.001	96	186202	50.0	49.5	
102 1,3-Dichloropropane	76	10.030	10.035	-0.001	84	122539	50.0	49.7	
106 2-Hexanone	43	10.117	10.122	-0.001	96	345958	100.0	110.9	
101 Chlorodibromomethane	129	10.332	10.331	0.005	87	79290	50.0	41.6	
103 n-Butyl acetate	43	10.396	10.398	0.002	95	342742	50.0	54.3	
105 Ethylene Dibromide	107	10.582	10.584	0.002	96	75145	50.0	43.8	
98 Tetrachloroethene	164	10.717	10.722	-0.001	92	53044	50.0	46.9	
S 104 Xylenes, Total	106				0		100.0	91.7	
113 1-Chlorohexane	55	11.272	11.278	-0.001	75	102878	50.0	54.4	
110 1,1,1,2-Tetrachloroethane	131	11.333	11.342	-0.004	89	62115	50.0	40.6	
109 Chlorobenzene	112	11.420	11.422	0.002	89	180573	50.0	44.3	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
108 Ethylbenzene	106	11.593	11.599	-0.001	98	97469	50.0	46.3	
111 m-Xylene & p-Xylene	91	11.786	11.788	0.003	0	241787	50.0	47.4	
114 Styrene	104	12.155	12.157	0.003	90	191311	50.0	46.5	
116 Cyclohexanone	55	12.212	12.218	-0.001	95	306325	2500.0	3087.3	
112 o-Xylene	106	12.232	12.231	0.006	97	110288	50.0	44.3	
* 117 1,4-Dichlorobenzene-d4	152	14.003	14.004	-0.001	94	83991	50.0	50.0	
119 Bromoform	173	11.994	11.993	0.005	93	54514	50.0	48.8	
124 1,1,2,2-Tetrachloroethane	83	12.238	12.250	-0.008	95	100996	50.0	50.5	
129 trans-1,4-Dichloro-2-buten	53	12.395	12.397	0.002	72	42425	50.0	53.0	
128 1,2,3-Trichloropropane	110	12.405	12.407	0.002	94	28510	50.0	46.6	
121 Isopropylbenzene	105	12.620	12.625	-0.001	97	259422	50.0	51.2	
$ 122 4-Bromofluorobenzene	95	12.687	12.689	0.002	88	82137	50.0	48.3	
125 Bromobenzene	156	12.931	12.940	-0.004	91	70127	50.0	47.6	
123 N-Propylbenzene	120	13.085	13.090	-0.001	99	68989	50.0	52.7	
127 2-Chlorotoluene	126	13.210	13.212	0.002	93	58639	50.0	45.5	
130 4-Chlorotoluene	91	13.281	13.283	0.002	98	192847	50.0	51.1	
126 1,3,5-Trimethylbenzene	105	13.355	13.360	-0.001	94	190748	50.0	49.8	
131 tert-Butylbenzene	119	13.659	13.662	0.002	95	140118	50.0	49.7	
133 1,2,4-Trimethylbenzene	105	13.756	13.761	-0.001	98	192038	50.0	48.4	
135 sec-Butylbenzene	105	13.868	13.874	-0.001	96	188468	50.0	51.2	
143 Benzyl chloride	91	13.968	13.970	0.003	95	164376	50.0	44.3	
137 1,3-Dichlorobenzene	146	13.971	13.973	0.002	90	110451	50.0	47.5	
136 4-Isopropyltoluene	119	14.032	14.031	0.006	96	165404	50.0	52.2	
140 1,4-Dichlorobenzene	146	14.029	14.034	-0.002	80	114257	50.0	47.0	
139 1,2,3-Trimethylbenzene	105	14.183	14.188	-0.001	98	192124	50.0	48.2	
144 1,2-Dichlorobenzene	146	14.388	14.390	0.002	94	108548	50.0	47.4	
142 n-Butylbenzene	91	14.436	14.439	0.002	98	133194	50.0	55.1	
146 1,2-Dibromo-3-Chloropropan	157	14.866	14.862	0.009	71	18464	50.0	45.3	
147 1,3,5-Trichlorobenzene	180	15.700	15.707	-0.001	94	58358	50.0	52.6	
149 1,2,4-Trichlorobenzene	180	16.291	16.304	-0.007	93	56824	50.0	51.0	
150 Naphthalene	128	16.596	16.599	0.003	97	187944	50.0	42.5	
148 Hexachlorobutadiene	190	16.621	16.621	0.005	79	8383	50.0	54.6	
151 1,2,3-Trichlorobenzene	180	16.836	16.836	0.005	93	50880	50.0	51.0	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

VOALCSPT2_00148	Amount Added:	5.00	Units: uL	
EOxideLcs_00160	Amount Added:	5.00	Units: uL	
VOALCSGASPT_00343	Amount Added:	5.00	Units: uL	
VOAIS250PPM_00135	Amount Added:	1.00	Units: uL	Run Reagent
VOASS250PPM_00112	Amount Added:	1.00	Units: uL	Run Reagent

Report Date: 17-Sep-2019 10:30:59 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190916-31110.b\T25901A.D				
Injection Date:	16-Sep-2019 10:14:30	Instrument ID:	CHVOAMS10	Operator ID:	dt
Lims ID:	lcs			Worklist Smp#:	4
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		

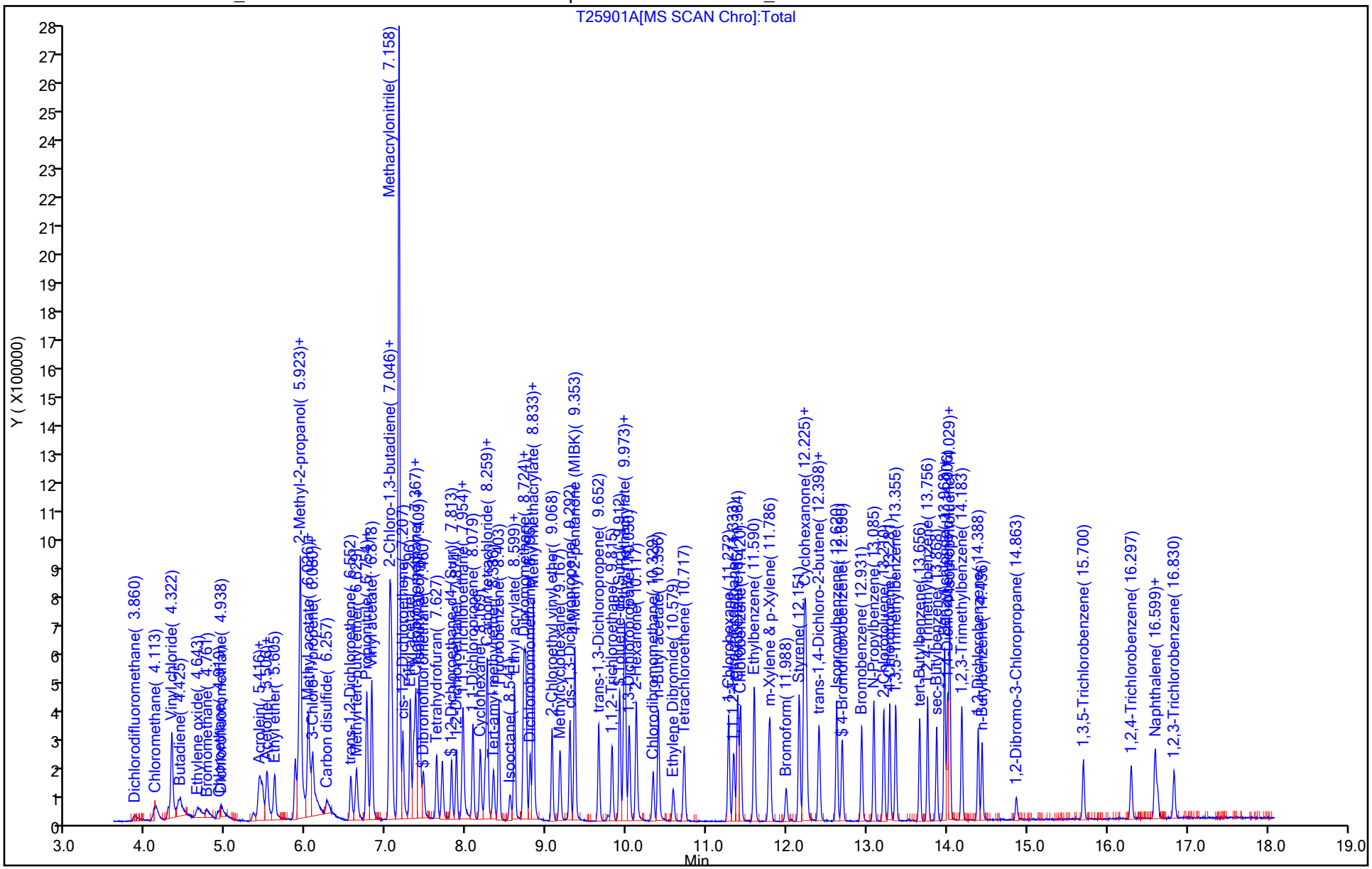

Eurofins TestAmerica, Houston
Recovery Report

Data File: \\chromna\Houston\ChromData\CHVOAMS10\20190916-31110.b\T25901A.D
Lims ID: lcs
Client ID:
Sample Type: LCS
Inject. Date: 16-Sep-2019 10:14:30 ALS Bottle#: 1 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: lcs
Misc. Info.: 600-0031110-003
Operator ID: dt Instrument ID: CHVOAMS10

Method: \\chromna\Houston\ChromData\CHVOAMS10\20190916-31110.b\8260w5_10.m
Limit Group: VOA - 8260C_8260CLL
Last Update: 17-Sep-2019 10:30:01 Calib Date: 13-Sep-2019 13:01:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHVOAMS10\20190913-31078.b\T25609.D

Column 1 : Det: MS SCAN
Process Host: CTX0310

First Level Reviewer: tengd Date: 17-Sep-2019 10:30:53

Compound	Amount Added	Amount Recovered	% Rec.
$ 52 Dibromofluoromethane	50.0	53.1	106.17
$ 64 1,2-Dichloroethane-d4 (Surr)	50.0	56.6	113.17
$ 93 Toluene-d8 (Surr)	50.0	45.2	90.35
$ 122 4-Bromofluorobenzene	50.0	48.3	96.51

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190916-31110.b\T25901A.D				
Injection Date:	16-Sep-2019 10:14:30	Instrument ID:	CHVOAMS10		
Lims ID:	lcs				
Client ID:					
Operator ID:	dt	ALS Bottle#:	1	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		
Column:		Detector	MS SCAN		

20 1,1-Dichloroethene, CAS: 75-35-4

Signal: 1

Processing Integration Results

RT: 5.91
Area: 31967
Amount: 38.688120
Amount Units: ug/l

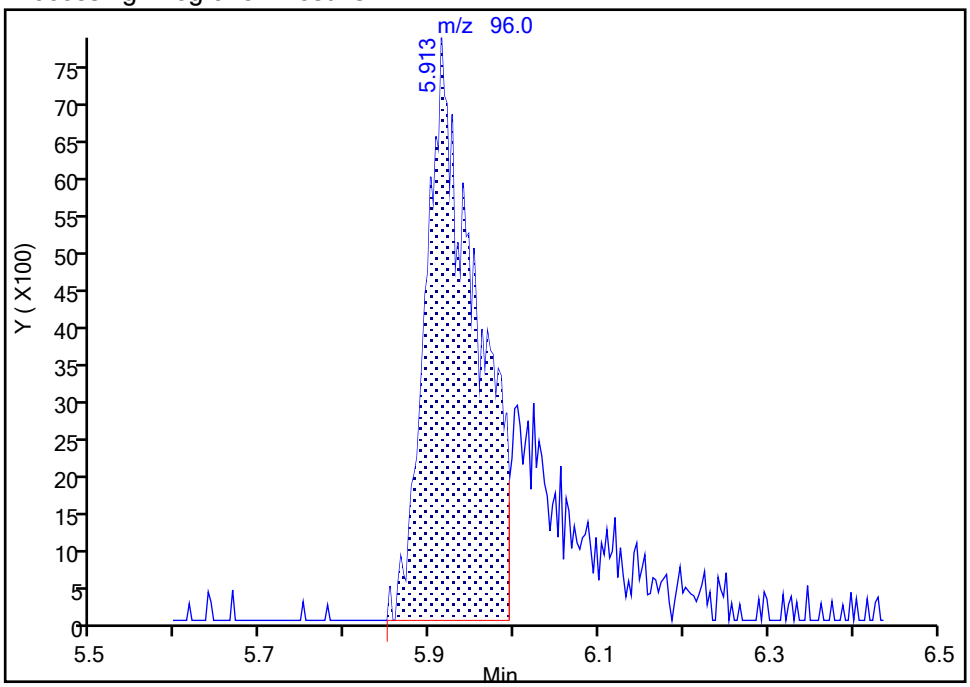

Manual Integration Results

RT: 5.91
Area: 46832
Amount: 61.041974
Amount Units: ug/l

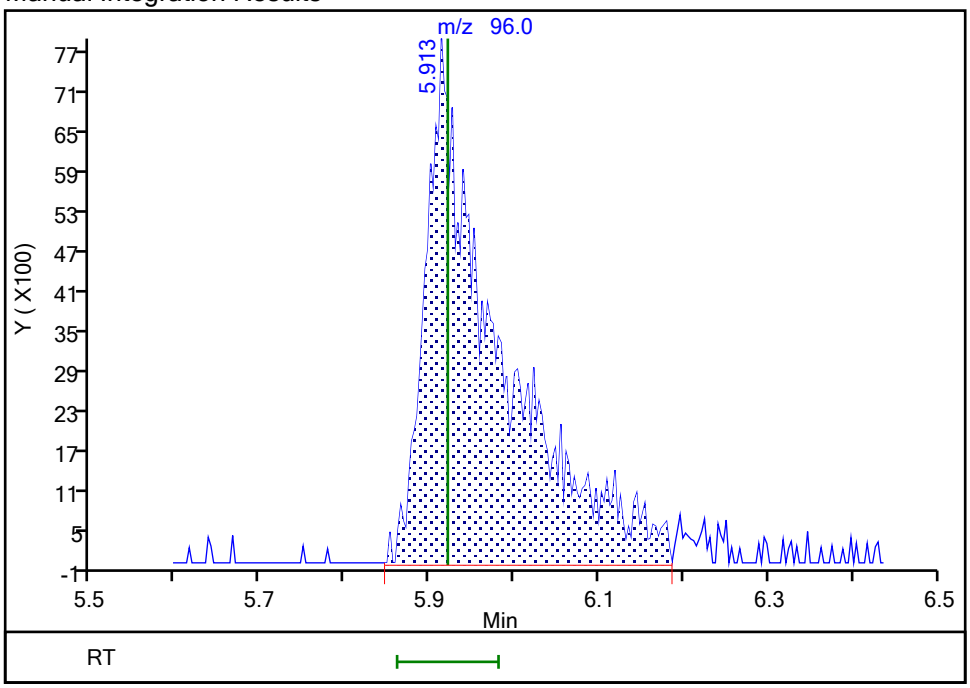

Reviewer: tengd, 16-Sep-2019 10:50:04

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-191956-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCSD 600-274820/5
Matrix: Water
Lab File ID: T25902.D
Analysis Method: 8260C
Date Collected:
Sample wt/vol: 5(mL)
Date Analyzed: 09/16/2019 10:40
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: DB-VRX 60 ID: 0.25(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 274820
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-35-4	1,1-Dichloroethene	51.5		5.0	0.76
107-06-2	1,2-Dichloroethane	56.0		5.0	1.0
78-93-3	2-Butanone (MEK)	106		10	1.6
71-43-2	Benzene	54.7		5.0	0.56
75-15-0	Carbon disulfide	53.3		10	1.7
56-23-5	Carbon tetrachloride	49.9		5.0	0.92
108-90-7	Chlorobenzene	44.8		5.0	0.82
179601-23-1	m-Xylene & p-Xylene	47.9		5.0	1.3
95-47-6	o-Xylene	45.4		5.0	0.93
79-01-6	Trichloroethene	47.5		5.0	1.6
75-01-4	Vinyl chloride	49.2		5.0	0.85
1330-20-7	Xylenes, Total	93.3		5.0	2.0
67-66-3	Chloroform	54.8		10	0.82
106-46-7	1,4-Dichlorobenzene	48.3		5.0	0.91
87-68-3	Hexachlorobutadiene	63.4		5.0	1.2
127-18-4	Tetrachloroethene	49.7		5.0	1.2

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	110		50-134
460-00-4	4-Bromofluorobenzene	99		67-139
1868-53-7	Dibromofluoromethane	102		62-130
2037-26-5	Toluene-d8 (Surr)	91		70-130

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHVOAMS10\20190916-31110.b\T25902.D
Lims ID: lcsd
Client ID:
Sample Type: LCSD
Inject. Date: 16-Sep-2019 10:40:30 ALS Bottle#: 2 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: lcsd
Misc. Info.: 600-0031110-004
Operator ID: dt Instrument ID: CHVOAMS10

Method: \\chromna\Houston\ChromData\CHVOAMS10\20190916-31110.b\8260w5_10.m
Limit Group: VOA - 8260C_8260CLL
Last Update: 17-Sep-2019 10:30:01 Calib Date: 13-Sep-2019 13:01:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHVOAMS10\20190913-31078.b\T25609.D

Column 1 : Det: MS SCAN
Process Host: CTX0310

First Level Reviewer: tengd Date: 16-Sep-2019 11:52:32

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.405	8.405	0.000	96	269240	50.0	50.0	
2 Dichlorodifluoromethane	85	3.855	3.853	0.004	95	39016	50.0	45.1	
3 Chloromethane	50	4.122	4.123	0.001	99	135265	50.0	51.5	
4 Vinyl chloride	62	4.317	4.329	-0.009	95	77361	50.0	49.2	
5 Butadiene	39	4.430	4.430	0.004	89	128602	50.0	59.6	M
10 Ethylene oxide	44	4.654	4.656	0.001	99	178154	500.0	541.1	
7 Bromomethane	94	4.760	4.775	-0.012	88	34807	50.0	45.5	
11 Chloroethane	64	4.911	4.910	0.004	93	40154	50.0	49.6	a
13 Dichlorofluoromethane	67	4.943	4.955	-0.009	96	74470	50.0	42.3	a
24 Acrolein	56	5.408	5.407	0.004	71	55465	250.0	251.3	
16 Acetonitrile	41	5.421	5.420	0.004	99	157664	500.0	795.0	
12 Trichlorofluoromethane	101	5.437	5.430	0.010	42	62727	50.0	42.5	
19 Isopropyl alcohol	45	5.457	5.459	0.000	98	115334	500.0	693.9	
27 Acetone	43	5.521	5.520	0.004	95	103834	100.0	112.9	
15 Ethyl ether	59	5.611	5.610	0.005	93	97452	50.0	59.8	
31 2-Methyl-2-propanol	59	5.896	5.899	0.001	97	181881	500.0	621.0	
20 1,1-Dichloroethene	96	5.915	5.922	-0.006	88	42200	50.0	51.5	
37 Acrylonitrile	52	5.928	5.927	0.004	97	602170	500.0	620.3	
23 Iodomethane	142	5.986	5.982	0.007	98	70864	50.0	46.8	a
28 Methyl acetate	43	6.024	6.030	-0.003	99	382636	100.0	124.4	
21 1,1,2-Trichloro-1,2,2-trif	151	6.037	6.037	0.004	66	22634	50.0	37.7	
26 Methylene Chloride	84	6.041	6.049	-0.006	77	55835	50.0	51.1	
25 3-Chloro-1-propene	76	6.089	6.085	0.008	82	18535	50.0	41.0	
22 Carbon disulfide	76	6.265	6.265	0.004	97	164046	50.0	53.3	
29 trans-1,2-Dichloroethene	96	6.560	6.560	0.004	85	56633	50.0	51.6	
30 Methyl tert-butyl ether	73	6.625	6.631	-0.003	88	129623	50.0	54.0	
35 Propionitrile	54	6.753	6.756	0.001	98	255561	500.0	595.4	
34 1,1-Dichloroethane	63	6.762	6.759	0.007	75	157173	50.0	54.7	
40 Vinyl acetate	43	6.817	6.823	-0.002	97	641552	100.0	111.1	
36 2-Chloro-1,3-butadiene	53	7.038	7.041	0.000	93	202856	50.0	57.6	
58 Hexane	57	7.042	7.048	-0.002	80	115510	50.0	51.1	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
32 Isopropyl ether	45	7.058	7.061	0.001	94	457766	50.0	59.2	
56 2-Butanone (MEK)	72	7.074	7.074	0.004	95	26752	100.0	105.8	
61 Methacrylonitrile	66	7.157	7.160	0.001	96	184354	500.0	533.4	
44 cis-1,2-Dichloroethene	96	7.209	7.212	0.000	88	79747	50.0	52.1	
33 Ethyl acetate	43	7.298	7.302	0.000	98	482990	100.0	121.2	
47 Chlorobromomethane	128	7.343	7.343	0.004	82	38068	50.0	44.5	
48 Chloroform	83	7.369	7.369	0.004	89	136951	50.0	54.8	
41 Tert-butyl ethyl ether	59	7.369	7.369	0.004	96	166840	50.0	56.3	
39 Isobutyl alcohol	43	7.407	7.411	0.000	93	280339	1250.0	1762.2	
46 2,2-Dichloropropane	77	7.427	7.427	0.004	90	55818	50.0	53.8	
$ 52 Dibromofluoromethane	113	7.462	7.468	-0.002	92	73232	50.0	50.9	
S 43 1,2-Dichloroethene, Total	96				0		100.0	103.8	
53 Tetrahydrofuran	42	7.626	7.629	0.001	91	150305	100.0	128.2	
$ 64 1,2-Dichloroethane-d4 (Sur	65	7.812	7.818	-0.002	0	115620	50.0	54.9	
65 1,2-Dichloroethane	62	7.876	7.876	0.004	93	156130	50.0	56.0	
55 1,1,1-Trichloroethane	97	7.953	7.950	0.007	94	97583	50.0	52.9	
38 n-Butanol	56	7.959	7.963	0.000	97	127553	1250.0	1635.2	
57 1,1-Dichloropropene	75	8.078	8.085	-0.002	79	99276	50.0	56.2	
69 Cyclohexane	84	8.171	8.178	-0.003	92	56660	50.0	56.6	
54 Carbon tetrachloride	119	8.235	8.239	0.001	94	84230	50.0	49.9	
63 Benzene	78	8.258	8.261	0.001	92	299650	50.0	54.7	
62 Tert-amyl methyl ether	73	8.338	8.342	0.001	86	98788	50.0	55.0	
59 Isooctane	57	8.543	8.546	0.000	98	86258	50.0	56.9	
72 Ethyl acrylate	55	8.595	8.599	0.001	96	279779	50.0	54.2	
60 n-Heptane	43	8.601	8.605	0.001	94	115596	50.0	61.0	
73 Dibromomethane	93	8.707	8.711	0.001	87	56909	50.0	53.8	
79 1,2-Dichloropropane	63	8.720	8.721	0.004	93	107141	50.0	56.7	
66 2-Nitropropane	43	8.733	8.737	0.001	99	164381	100.0	111.7	
70 Trichloroethene	130	8.742	8.746	0.001	87	73825	50.0	47.5	
75 Dichlorobromomethane	83	8.797	8.801	0.001	92	108662	50.0	53.3	
77 Methyl methacrylate	41	8.835	8.839	0.000	84	412725	100.0	120.0	
78 1,4-Dioxane	58	8.864	8.853	0.007	90	17720	1000.0	1248.4	M
71 Methylcyclohexane	83	9.169	9.170	0.004	89	63741	50.0	55.4	
80 4-Methyl-2-pentanone (MIBK	43	9.352	9.356	0.001	97	476474	100.0	121.3	
* 85 Chlorobenzene-d5	82	11.383	11.382	0.001	92	114503	50.0	50.0	
89 2-Chloroethyl vinyl ether	63	9.066	9.069	0.000	86	111334	100.0	100.3	
90 cis-1,3-Dichloropropene	75	9.291	9.291	0.004	78	133022	50.0	50.5	
96 trans-1,3-Dichloropropene	75	9.650	9.653	0.000	84	125531	50.0	48.5	
100 1,1,2-Trichloroethane	97	9.814	9.820	-0.002	91	71190	50.0	45.1	
$ 93 Toluene-d8 (Surr)	98	9.910	9.917	-0.003	96	255610	50.0	45.6	
97 Ethyl methacrylate	69	9.965	9.965	0.004	82	129428	50.0	49.3	
94 Toluene	92	9.978	9.984	-0.002	95	183501	50.0	48.0	
102 1,3-Dichloropropane	76	10.029	10.035	-0.002	84	127779	50.0	51.0	
106 2-Hexanone	43	10.119	10.122	0.001	96	352543	100.0	111.2	
101 Chlorodibromomethane	129	10.327	10.331	0.000	90	79349	50.0	40.9	
103 n-Butyl acetate	43	10.395	10.398	0.001	95	347059	50.0	54.1	
105 Ethylene Dibromide	107	10.581	10.584	0.001	97	79897	50.0	45.8	
98 Tetrachloroethene	164	10.716	10.722	-0.002	90	57113	50.0	49.7	
S 104 Xylenes, Total	106				0		100.0	93.3	
113 1-Chlorohexane	55	11.274	11.278	0.001	72	103378	50.0	53.8	
110 1,1,1,2-Tetrachloroethane	131	11.338	11.342	0.001	88	66012	50.0	42.4	
109 Chlorobenzene	112	11.425	11.422	0.007	88	185809	50.0	44.8	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
108 Ethylbenzene	106	11.592	11.599	-0.002	98	99525	50.0	46.5	
111 m-Xylene & p-Xylene	91	11.784	11.788	0.001	0	248055	50.0	47.9	
114 Styrene	104	12.150	12.157	-0.002	91	199349	50.0	47.7	
116 Cyclohexanone	55	12.214	12.218	0.001	95	311237	2500.0	3086.0	
112 o-Xylene	106	12.230	12.231	0.004	97	115078	50.0	45.4	
* 117 1,4-Dichlorobenzene-d4	152	14.008	14.004	0.004	95	85216	50.0	50.0	
119 Bromoform	173	11.993	11.993	0.004	93	56481	50.0	49.9	
124 1,1,2,2-Tetrachloroethane	83	12.246	12.250	0.000	93	104486	50.0	51.5	
129 trans-1,4-Dichloro-2-buten	53	12.391	12.397	-0.002	76	45246	50.0	55.7	
128 1,2,3-Trichloropropane	110	12.400	12.407	-0.003	95	29563	50.0	47.6	
121 Isopropylbenzene	105	12.622	12.625	0.001	97	264213	50.0	51.4	
$ 122 4-Bromofluorobenzene	95	12.689	12.689	0.004	88	85264	50.0	49.4	
125 Bromobenzene	156	12.930	12.940	-0.005	90	70414	50.0	47.1	
123 N-Propylbenzene	120	13.087	13.090	0.001	99	66600	50.0	50.1	
127 2-Chlorotoluene	126	13.209	13.212	0.001	93	62039	50.0	47.4	
130 4-Chlorotoluene	91	13.283	13.283	0.004	97	197093	50.0	51.5	
126 1,3,5-Trimethylbenzene	105	13.360	13.360	0.004	95	192950	50.0	49.6	
131 tert-Butylbenzene	119	13.658	13.662	0.001	94	144564	50.0	50.6	
133 1,2,4-Trimethylbenzene	105	13.758	13.761	0.001	98	198570	50.0	49.3	
135 sec-Butylbenzene	105	13.870	13.874	0.001	96	196093	50.0	52.6	
143 Benzyl chloride	91	13.966	13.970	0.001	94	158258	50.0	42.1	
137 1,3-Dichlorobenzene	146	13.966	13.973	-0.003	83	115524	50.0	49.0	
136 4-Isopropyltoluene	119	14.030	14.031	0.004	96	167229	50.0	52.0	
140 1,4-Dichlorobenzene	146	14.030	14.034	0.000	83	119167	50.0	48.3	
139 1,2,3-Trimethylbenzene	105	14.181	14.188	-0.003	99	200129	50.0	49.5	
144 1,2-Dichlorobenzene	146	14.387	14.390	0.001	94	110181	50.0	47.4	
142 n-Butylbenzene	91	14.438	14.439	0.004	98	135471	50.0	55.2	
146 1,2-Dibromo-3-Chloropropan	157	14.858	14.862	0.001	77	17927	50.0	43.4	
147 1,3,5-Trichlorobenzene	180	15.699	15.707	-0.002	95	57077	50.0	50.7	
149 1,2,4-Trichlorobenzene	180	16.299	16.304	0.001	94	55911	50.0	49.4	a
150 Naphthalene	128	16.594	16.599	0.001	97	189063	50.0	42.2	
148 Hexachlorobutadiene	190	16.620	16.621	0.004	85	9889	50.0	63.4	
151 1,2,3-Trichlorobenzene	180	16.828	16.836	-0.003	93	51627	50.0	51.0	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

VOALCSPT2_00148	Amount Added:	5.00	Units: uL	
EOxideLcs_00160	Amount Added:	5.00	Units: uL	
VOALCSGASPT_00343	Amount Added:	5.00	Units: uL	
VOAIS250PPM_00135	Amount Added:	1.00	Units: uL	Run Reagent
VOASS250PPM_00112	Amount Added:	1.00	Units: uL	Run Reagent

Report Date: 17-Sep-2019 10:31:32 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHVOAMS10\20190916-31110.b\T25902.D				
Injection Date:	16-Sep-2019 10:40:30	Instrument ID:	CHVOAMS10	Operator ID:	dt
Lims ID:	lcsd			Worklist Smp#:	5
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	8260w5_10	Limit Group:	VOA - 8260C_8260CLL		

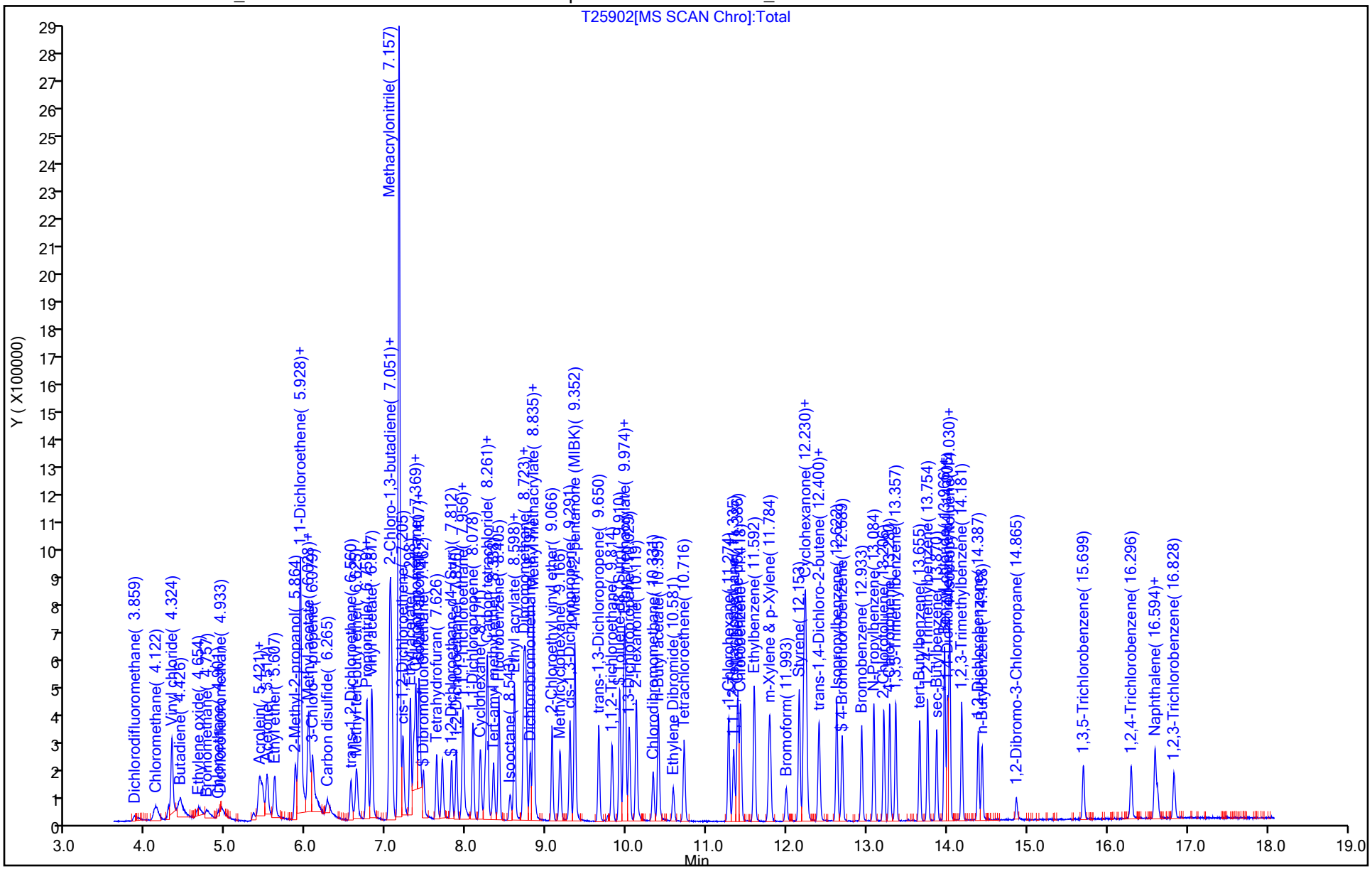

Eurofins TestAmerica, Houston
Recovery Report

Data File: \\chromna\Houston\ChromData\CHVOAMS10\20190916-31110.b\T25902.D
Lims ID: lcsd
Client ID:
Sample Type: LCSD
Inject. Date: 16-Sep-2019 10:40:30 ALS Bottle#: 2 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: lcsd
Misc. Info.: 600-0031110-004
Operator ID: dt Instrument ID: CHVOAMS10

Method: \\chromna\Houston\ChromData\CHVOAMS10\20190916-31110.b\8260w5_10.m
Limit Group: VOA - 8260C_8260CLL
Last Update: 17-Sep-2019 10:30:01 Calib Date: 13-Sep-2019 13:01:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHVOAMS10\20190913-31078.b\T25609.D

Column 1 : Det: MS SCAN
Process Host: CTX0310

First Level Reviewer: tengd Date: 16-Sep-2019 11:52:32

Compound	Amount Added	Amount Recovered	% Rec.
$ 52 Dibromofluoromethane	50.0	50.9	101.72
$ 64 1,2-Dichloroethane-d4 (Surr)	50.0	54.9	109.84
$ 93 Toluene-d8 (Surr)	50.0	45.6	91.22
$ 122 4-Bromofluorobenzene	50.0	49.4	98.74

GC/MS VOA ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: CHVOAMS10 Start Date: 08/29/2019 12:40

Analysis Batch Number: 273322 End Date: 08/29/2019 19:09

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 600-273322/2		08/29/2019 12:40	1	T24100.D	DB-VRX 60 0.25(mm)
IC 600-273322/4		08/29/2019 13:40	1	T41002.D	DB-VRX 60 0.25(mm)
IC 600-273322/5		08/29/2019 14:11	1	T41003.D	DB-VRX 60 0.25(mm)
IC 600-273322/6		08/29/2019 14:40	1	T41004.D	DB-VRX 60 0.25(mm)
ICIS 600-273322/7		08/29/2019 15:10	1	T41005.D	DB-VRX 60 0.25(mm)
IC 600-273322/8		08/29/2019 15:40	1	T41006.D	DB-VRX 60 0.25(mm)
IC 600-273322/9		08/29/2019 16:10	1	T41007.D	DB-VRX 60 0.25(mm)
ZZZZZ		08/29/2019 17:39	1		DB-VRX 60 0.25(mm)
ZZZZZ		08/29/2019 18:09	1		DB-VRX 60 0.25(mm)
ICV 600-273322/1013		08/29/2019 18:09	1	T41011-ICV.d	DB-VRX 60 0.25(mm)
ZZZZZ		08/29/2019 19:09	1		DB-VRX 60 0.25(mm)

8260C

GC/MS VOA ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: CHVOAMS10 Start Date: 09/14/2019 07:58

Analysis Batch Number: 274776 End Date: 09/14/2019 15:00

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 600-274776/2		09/14/2019 07:58	1		DB-VRX 60 0.25(mm)
CCVIS 600-274776/3		09/14/2019 08:51	1		DB-VRX 60 0.25(mm)
ZZZZZ		09/14/2019 09:19	1		DB-VRX 60 0.25(mm)
ZZZZZ		09/14/2019 09:48	1		DB-VRX 60 0.25(mm)
ZZZZZ		09/14/2019 10:46	1		DB-VRX 60 0.25(mm)
ZZZZZ		09/14/2019 13:54	1		DB-VRX 60 0.25(mm)
600-191956-2		09/14/2019 14:26	1	T25712.D	DB-VRX 60 0.25(mm)
ZZZZZ		09/14/2019 15:00	1		DB-VRX 60 0.25(mm)

8260C

GC/MS VOA ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: CHVOAMS10 Start Date: 09/16/2019 09:22

Analysis Batch Number: 274820 End Date: 09/16/2019 15:47

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 600-274820/2		09/16/2019 09:22	1	T25900B.D	DB-VRX 60 0.25(mm)
CCVIS 600-274820/3		09/16/2019 09:48	1	T25901.D	DB-VRX 60 0.25(mm)
LCS 600-274820/4		09/16/2019 10:14	1	T25901A.D	DB-VRX 60 0.25(mm)
LCSD 600-274820/5		09/16/2019 10:40	1	T25902.D	DB-VRX 60 0.25(mm)
MB 600-274820/7		09/16/2019 11:33	1	T25905.D	DB-VRX 60 0.25(mm)
600-191956-4		09/16/2019 15:09	1	T25912.D	DB-VRX 60 0.25(mm)
600-191956-5		09/16/2019 15:47	1	T25913.D	DB-VRX 60 0.25(mm)

8260C

GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Batch Number: 273322 Batch Start Date: 08/29/19 12:40 Batch Analyst: Teng, Danica

Batch Method: 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	BFB 00290	EOxideLcs 00159	EOxideStd 00159	VOAIS250PPM 00134
BFB 600-273322/2		8260C		5 mL	5 mL	2 uL			
IC 600-273322/4		8260C		5 mL	5 mL			0.5 uL	1 uL
IC 600-273322/5		8260C		5 mL	5 mL			1 uL	1 uL
IC 600-273322/6		8260C		5 mL	5 mL			2 uL	1 uL
ICIS 600-273322/7		8260C		5 mL	5 mL			5 uL	1 uL
IC 600-273322/8		8260C		5 mL	5 mL			10 uL	1 uL
IC 600-273322/9		8260C		5 mL	5 mL			20 uL	1 uL
ICV 600-273322/1013		8260C		5 mL	5 mL		5 uL		1 uL

Lab Sample ID	Client Sample ID	Method Chain	Basis	VOALCSGASPT 00341	VOALCSPT2 00147	VOASS250PPM 00111	VOASTDGASPT 00341	VOASTDPT2 00147	
BFB 600-273322/2		8260C							
IC 600-273322/4		8260C					0.5 uL	0.5 uL	
IC 600-273322/5		8260C					1 uL	1 uL	
IC 600-273322/6		8260C					2 uL	2 uL	
ICIS 600-273322/7		8260C					5 uL	5 uL	
IC 600-273322/8		8260C					10 uL	10 uL	
IC 600-273322/9		8260C					20 uL	20 uL	
ICV 600-273322/1013		8260C		5 uL	5 uL	1 uL			

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Batch Number: 274776 Batch Start Date: 09/14/19 07:58 Batch Analyst: Somjit, Phanthawat

Batch Method: 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	VOAIS250PPM 00135	VOASS250PPM 00112	
600-191956-AB-2	11187072-091319-LL-EXC-1	8260C	T	5 mL	5 mL	2 SU	1 uL	1 uL	

Batch Notes	

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Batch Number: 274820 Batch Start Date: 09/16/19 09:22 Batch Analyst: Somjit, Phanthawat

Batch Method: 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	BFB 00291	EOxideLcs 00160	EOxideStd 00160
BFB 600-274820/2		8260C		5 mL	5 mL		2 uL		
CCVIS 600-274820/3		8260C		5 mL	5 mL				5 uL
LCS 600-274820/4		8260C		5 mL	5 mL			5 uL	
LCSD 600-274820/5		8260C		5 mL	5 mL			5 uL	
MB 600-274820/7		8260C		5 mL	5 mL				
600-191956-A-4	TRIP BLANK	8260C	T	5 mL	5 mL	2 SU			
600-191956-A-5	TRIP BLANK	8260C	T	5 mL	5 mL	2 SU			

Lab Sample ID	Client Sample ID	Method Chain	Basis	VOAIS250PPM 00135	VOALCSGASPT 00343	VOALCSPT2 00148	VOASS250PPM 00112	VOASTDGASPT 00343	VOASTDPT2 00148
BFB 600-274820/2		8260C							
CCVIS 600-274820/3		8260C		1 uL				5 uL	5 uL
LCS 600-274820/4		8260C		1 uL	5 uL	5 uL	1 uL		
LCSD 600-274820/5		8260C		1 uL	5 uL	5 uL	1 uL		
MB 600-274820/7		8260C		1 uL			1 uL		
600-191956-A-4	TRIP BLANK	8260C	T	1 uL			1 uL		
600-191956-A-5	TRIP BLANK	8260C	T	1 uL			1 uL		

Batch Notes	

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Method 8270D

Semivolatile Organic Compounds (GC/MS) by Method 8270D

FORM II
GC/MS SEMI VOA SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): RXi-5Sil MS ID: 0.25(mm)

Client Sample ID	Lab Sample ID	2FP #	PHL #	NBZ #	FBP #	TBP #	TPHL #
11187072-091319-LL -EXC-1	600-191956-2	43	40	58	61	65	87

	QC LIMITS
2FP = 2-Fluorophenol (Surr)	10-130
PHL = Phenol-d5 (Surr)	10-130
NBZ = Nitrobenzene-d5 (Surr)	24-150
FBP = 2-Fluorobiphenyl	38-133
TBP = 2,4,6-Tribromophenol (Surr)	19-150
TPHL = Terphenyl-d14 (Surr)	35-150

Column to be used to flag recovery values

FORM II 8270D

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab File ID: BFB Injection Date:

Instrument ID: BFB Injection Time:

Lab File ID: DFTPP Injection Date:

Instrument ID: DFTPP Injection Time:

Analysis Batch No.:

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
11187072-091319-LL-EXC-1	600-191956-2	09171922.D	09/17/2019	15:04

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab File ID: 08021901.D DFTPP Injection Date: 08/02/2019

Instrument ID: CHSVMS09 DFTPP Injection Time: 08:31

Analysis Batch No.: 271015

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0 - 60.0 % of mass 198	30.7	
68	Less than 2.0 % of mass 69	0.0	(0.0) 1
69	Mass 69 relative abundance	29.5	
70	Less than 2.0 % of mass 69	0.2	(0.5) 1
127	40.0 - 60.0 % of mass 198	46.1	
197	Less than 1.0 % of mass 198	0.0	
198	Base Peak, 100 % relative abundance	100.0	
199	5.0- 9.0 % of mass 198	9.0	
275	10.0 - 30.0 % of mass 198	26.9	
365	Greater than 1.0 % of mass 198	2.1	
441	Present but less than mass 443	8.3	(72.2) 3
442	Greater than 40.0 % of mass 198	51.8	
443	17.0 - 23.0 % of mass 442	11.5	(22.2) 2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	IC 600-271015/4	08021904.D	08/02/2019	9:43
	IC 600-271015/5	08021905.D	08/02/2019	10:10
	ICIS 600-271015/6	08021906.D	08/02/2019	10:37
	IC 600-271015/7	08021907.D	08/02/2019	11:05
	IC 600-271015/8	08021908.D	08/02/2019	11:33
	IC 600-271015/9	08021909.D	08/02/2019	12:00
	IC 600-271015/10	08021910.D	08/02/2019	12:28
	IC 600-271015/11	08021911.D	08/02/2019	12:56

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-191956-1
SDG No.:
Client Sample ID: 11187072-091319-LL-EXC-1
Lab Sample ID: 600-191956-2
Matrix: Water
Lab File ID: 09171922.D
Analysis Method: 8270D
Date Collected: 09/13/2019 08:00
Extract. Method: 3510C LVI
Date Extracted: 09/16/2019 14:23
Sample wt/vol: 240(mL)
Date Analyzed: 09/17/2019 15:04
Con. Extract Vol.: 1(mL)
Dilution Factor: 1
Injection Volume: 5(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 274919
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
110-86-1	Pyridine	ND		10	2.3
95-95-4	2,4,5-Trichlorophenol	ND		10	4.4
88-06-2	2,4,6-Trichlorophenol	ND		10	3.5
121-14-2	2,4-Dinitrotoluene	ND		10	2.2
606-20-2	2,6-Dinitrotoluene	ND		10	2.9
95-48-7	2-Methylphenol	ND		10	1.5
15831-10-4	3 & 4 Methylphenol	ND		21	1.4
118-74-1	Hexachlorobenzene	ND		10	3.4
87-68-3	Hexachlorobutadiene	ND		10	2.7
67-72-1	Hexachloroethane	ND		10	3.4
98-95-3	Nitrobenzene	ND		10	2.7
87-86-5	Pentachlorophenol	ND		52	3.3

CAS NO.	SURROGATE	%REC	Q	LIMITS
118-79-6	2,4,6-Tribromophenol (Surr)	65		19-150
321-60-8	2-Fluorobiphenyl	61		38-133
367-12-4	2-Fluorophenol (Surr)	43		10-130
4165-60-0	Nitrobenzene-d5 (Surr)	58		24-150
4165-62-2	Phenol-d5 (Surr)	40		10-130
1718-51-0	Terphenyl-d14 (Surr)	87		35-150

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHSVMS09\20190917-31128.b\09171922.D
Lims ID: 600-191956-M-2-A
Client ID: 11187072-091319-LL-EXC-1
Sample Type: Client
Inject. Date: 17-Sep-2019 15:04:30 ALS Bottle#: 22 Worklist Smp#: 22
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-191956-M-2-A
Misc. Info.: 600-0031128-022
Operator ID: Instrument ID: CHSVMS09

Method: \\chromna\Houston\ChromData\CHSVMS09\20190917-31128.b\8270LVI_9.m
Limit Group: SV - 8270D_8270DLL
Last Update: 18-Sep-2019 08:26:56 Calib Date: 02-Aug-2019 17:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021920.D

Column 1 : Det: MS SCAN
Process Host: CTX0314

First Level Reviewer: lel Date: 17-Sep-2019 16:00:36

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
2 Pyridine	79		2.263				ND	
$ 7 2-Fluorophenol	112	4.440	4.607	0.038	90	100279	4.28	
$ 10 Phenol-d5	99	5.433	5.476	0.045	69	104448	4.00	
* 21 1,4-Dichlorobenzene-d4	152	5.574	5.576	-0.002	95	162557	8.00	
25 2-Methylphenol	108		5.911				ND	
34 Hexachloroethane	117		6.029				ND	
30 3 & 4 Methylphenol	108		6.058				ND	
$ 35 Nitrobenzene-d5	82	6.085	6.082	-0.002	90	117095	5.82	
36 Nitrobenzene	77		6.105				ND	
* 50 Naphthalene-d8	136	6.701	6.704	-0.003	99	507101	8.00	
55 Hexachlorobutadiene	225		6.839				ND	
69 2,4,6-Trichlorophenol	196		7.574				ND	
$ 72 2-Fluorobiphenyl	172	7.612	7.615	-0.003	99	271003	6.05	
71 2,4,5-Trichlorophenol	196		7.632				ND	
86 2,6-Dinitrotoluene	165		8.003				ND	
* 90 Acenaphthene-d10	164	8.164	8.167	-0.003	93	308481	8.00	
95 2,4-Dinitrotoluene	165		8.337				ND	
$ 113 2,4,6-Tribromophenol	330	8.828	8.831	0.003	86	26015	6.50	
122 Hexachlorobenzene	284		9.072				ND	
127 Pentachlorophenol	266		9.260				ND	
* 131 Phenanthrene-d10	188	9.380	9.383	-0.003	98	474303	8.00	
$ 149 Terphenyl-d14	244	10.678	10.681	-0.003	99	350482	8.66	
* 160 Chrysene-d12	240	11.654	11.656	-0.002	97	419356	8.00	
* 169 Perylene-d12	264	13.868	13.865	0.003	98	454432	8.00	

Reagents:

SV_INSTD_LVI_00020 Amount Added: 20.00 Units: uL Run Reagent

Report Date: 18-Sep-2019 08:27:24 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190917-31128.b\09171922.D				
Injection Date:	17-Sep-2019 15:04:30	Instrument ID:	CHSVMS09	Operator ID:	
Lims ID:	600-191956-M-2-A	Lab Sample ID:	600-191956-2	Worklist Smp#:	22
Client ID:	11187072-091319-LL-EXC-1				
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	22
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		

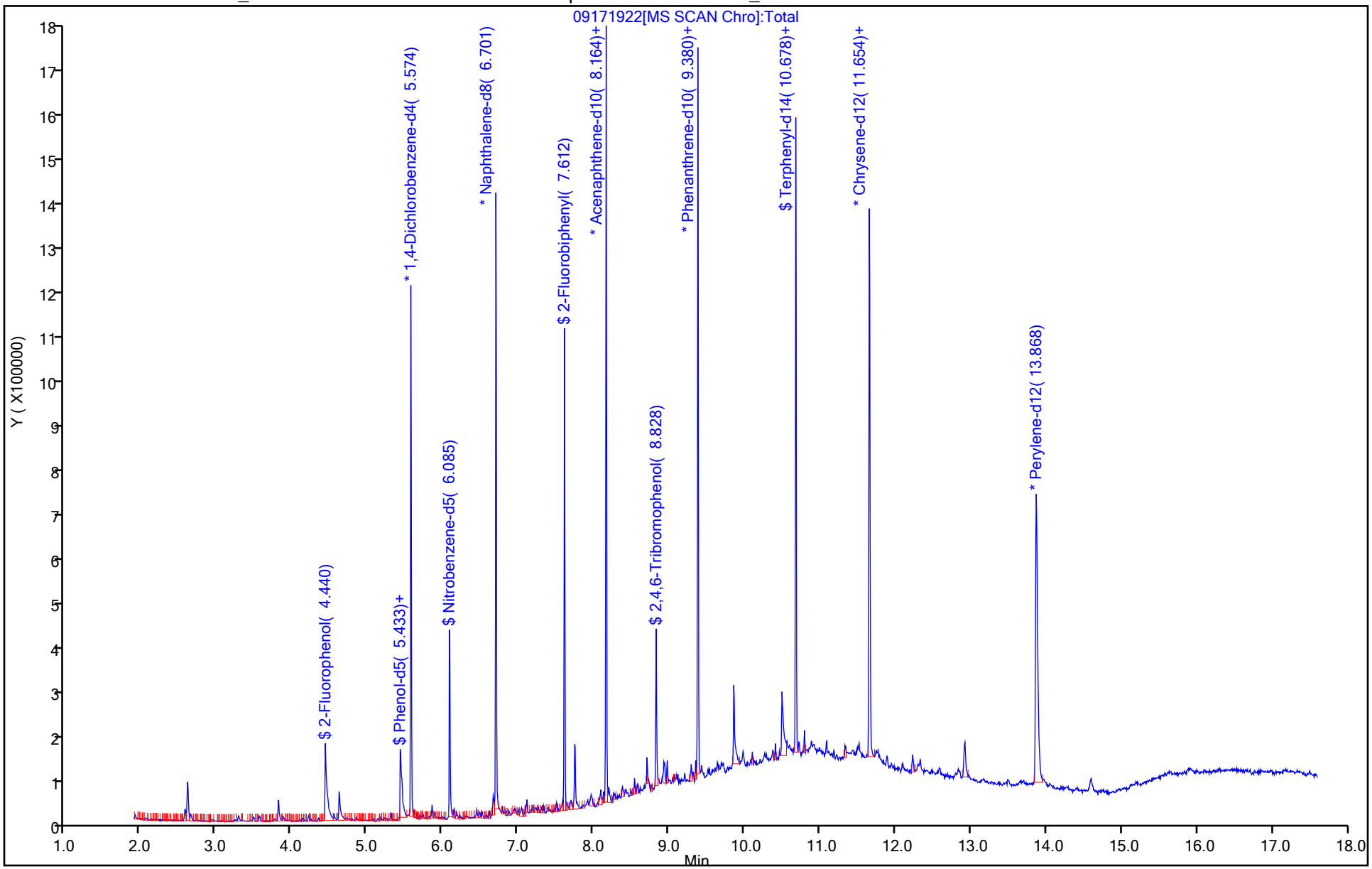

Eurofins TestAmerica, Houston
Recovery Report

Data File: \\chromna\Houston\ChromData\CHSVMS09\20190917-31128.b\09171922.D
Lims ID: 600-191956-M-2-A
Client ID: 11187072-091319-LL-EXC-1
Sample Type: Client
Inject. Date: 17-Sep-2019 15:04:30 ALS Bottle#: 22 Worklist Smp#: 22
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-191956-M-2-A
Misc. Info.: 600-0031128-022
Operator ID: Instrument ID: CHSVMS09

Method: \\chromna\Houston\ChromData\CHSVMS09\20190917-31128.b\8270LVI_9.m
Limit Group: SV - 8270D_8270DLL
Last Update: 18-Sep-2019 08:26:56 Calib Date: 02-Aug-2019 17:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021920.D

Column 1 : Det: MS SCAN
Process Host: CTX0314

First Level Reviewer: lel Date: 17-Sep-2019 16:00:36

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	10.0	4.28	42.76
$ 10 Phenol-d5	10.0	4.00	39.99
$ 35 Nitrobenzene-d5	10.0	5.82	58.17
$ 72 2-Fluorobiphenyl	10.0	6.05	60.55
$ 113 2,4,6-Tribromophenol	10.0	6.50	65.00
$ 149 Terphenyl-d14	10.0	8.66	86.64

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 271015

SDG No.:

Instrument ID: CHSVMS09 GC Column: RXi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/02/2019 09:43 Calibration End Date: 08/02/2019 12:56 Calibration ID: 16407

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-271015/4	08021904.D
Level 2	IC 600-271015/5	08021905.D
Level 3	ICIS 600-271015/6	08021906.D
Level 4	IC 600-271015/7	08021907.D
Level 5	IC 600-271015/8	08021908.D
Level 6	IC 600-271015/9	08021909.D
Level 7	IC 600-271015/10	08021910.D
Level 8	IC 600-271015/11	08021911.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
N-Nitrosodimethylamine	0.7711 0.7448	0.7965 0.7082	0.7240 0.6776	0.7447	0.7443	Ave		0.7389			0.0100	5.0		20.0			
Pyridine	1.2195 1.0096	1.2269 0.9550	1.0782 0.8798	1.0786	1.0206	Ave		1.0585			0.0100	11.4		20.0			
Aniline	1.9473 1.4917	2.0099 1.3826	1.7448 1.2476	1.6179	1.5240	Ave		1.6207			0.0100	16.4		20.0			
Bis(2-chloroethyl)ether	1.4404 1.0238	1.4053 0.9535	1.2093 0.8694	1.0899	1.0570	Ave		1.1311			0.7000	18.2		20.0			
Phenol	1.6483 1.1924	1.6782 1.1201	1.3982 1.0030	1.3079	1.2436	Ave		1.3240			0.8000	18.2		20.0			
2-Chlorophenol	1.4052 1.0499	1.4374 0.9673	1.2015 0.8811	1.1065	1.0741	Ave		1.1404			0.8000	17.3		20.0			
n-Decane	1.5862 1.0352	1.5381 0.9380	1.2899 0.8497	1.1687	1.0731	Qua	0.3521	1.3198	-0.019488		0.0100				1.0000		0.9900
1,3-Dichlorobenzene	1.6739 1.1539	1.6776 1.0632	1.3594 0.9567	1.2371	1.1983	Qua	0.2562	1.4408	-0.019620		0.0100				0.9990		0.9900
1,4-Dichlorobenzene	1.6763 1.1371	1.5916 1.0460	1.3456 0.9408	1.2176	1.1695	Qua	0.2369	1.4150	-0.019182		0.0100				1.0000		0.9900
1,2-Dichlorobenzene	1.5871 1.0709	1.5804 0.9846	1.3123 0.8944	1.1730	1.0885	Qua	0.3949	1.3095	-0.017198		0.0100				1.0000		0.9900
Benzyl alcohol	0.5393 0.5936	0.6651 0.5713	0.5997 0.5692	0.6064	0.6075	Ave		0.5940			0.0100	6.2		20.0			
Indene	2.4187 1.5747	2.3537 1.4366	2.0093 1.2885	1.7914	1.6331	Qua	0.5662	2.0234	-0.030411		0.0100				1.0000		0.9900
2,2'-oxybis[1-chloropropane]	1.7277 1.2194	1.6760 1.1225	1.4655 1.0228	1.3237	1.2479	Ave		1.3507			0.0100	18.8		20.0			
2-Methylphenol	1.1676 0.9066	1.1850 0.8643	1.0147 0.7831	0.9551	0.9313	Ave		0.9760			0.7000	14.4		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 271015

SDG No.:

Instrument ID: CHSVMS09 GC Column: RXi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/02/2019 09:43 Calibration End Date: 08/02/2019 12:56 Calibration ID: 16407

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Acetophenone	0.5803 0.3982	0.5771 0.3661	0.4785 0.3359	0.4200	0.4045	Qua	0.1422	0.4737	-0.005703		0.0100				0.9990		0.9900
N-Nitrosodi-n-propylamine	0.8570 0.6629	0.8796 0.6297	0.7759 0.5808	0.7063	0.6716	Ave		0.7205			0.5000	14.9		20.0			
3 & 4 Methylphenol	1.1853 0.9953	1.2308 0.9255	1.1037 0.8525	1.0173	1.0036	Ave		1.0393			0.6000	12.3		20.0			
Hexachloroethane	0.5399 0.4352	0.5251 0.4031	0.4835 0.3689	0.4449	0.4401	Ave		0.4551			0.3000	12.8		20.0			
Nitrobenzene	0.3735 0.3001	0.3825 0.2814	0.3342 0.2616	0.3172	0.3020	Ave		0.3191			0.2000	13.3		20.0			
2,6-Dimethylphenol	0.4560 0.3284	0.4395 0.2997	0.3655 0.2790	0.3362	0.3267	Ave		0.3539			0.0100	17.9		20.0			
Isophorone	0.8138 0.5695	0.8025 0.5116	0.6832 0.4519	0.6077	0.5822	Qua	0.0752	0.7329	-0.011267		0.4000				0.9990		0.9900
2-Nitrophenol	0.1668 0.1980	0.1810 0.1890	0.1726 0.1791	0.1871	0.1987	Ave		0.1840			0.1000	6.2		20.0			
2,4-Dimethylphenol	0.3973 0.3143	0.4074 0.2921	0.3429 0.2667	0.3214	0.3182	Ave		0.3325			0.2000	14.6		20.0			
Bis(2-chloroethoxy)methane	0.5414 0.3660	0.5285 0.3339	0.4383 0.3054	0.3905	0.3701	Qua	0.1242	0.4408	-0.005593		0.3000				0.9990		0.9900
Benzoic acid	0.0991 0.2153	0.1099 0.2207	0.1336 0.2189	0.1866	0.1969	Lin1	-0.185	0.2205			0.0100				0.9940		0.9900
2,4-Dichlorophenol	0.3882 0.3329	0.3999 0.3075	0.3506 0.2796	0.3312	0.3313	Ave		0.3401			0.2000	11.6		20.0			
1,2,4-Trichlorobenzene	0.5145 0.3420	0.5083 0.3099	0.4045 0.2818	0.3596	0.3439	Qua	0.1240	0.4103	-0.005294		0.0100				0.9990		0.9900
Naphthalene	1.3403 0.7306	1.2902 0.6497	1.0337 0.5692	0.8430	0.7569	Qua	0.5848	0.9444	-0.015999		0.7000				1.0000		0.9900
4-Chloroaniline	0.5650 0.4013	0.5651 0.3703	0.4725 0.3329	0.4301	0.4100	Ave		0.4434			0.0100	19.3		20.0			
2,6-Dichlorophenol	0.4108 0.3045	0.4209 0.2803	0.3404 0.2563	0.3112	0.3067	Ave		0.3289			0.0100	17.9		20.0			
Hexachlorobutadiene	0.2916 0.2172	0.2903 0.2000	0.2389 0.1800	0.2180	0.2172	Ave		0.2316			0.0100	17.4		20.0			
4-Chloro-3-methylphenol	0.3037 0.2983	0.3323 0.2888	0.2923 0.2674	0.2927	0.3098	Ave		0.2982			0.2000	6.2		20.0			
2-Methylnaphthalene	1.0682 0.6213	1.0406 0.5505	0.8378 0.4902	0.6947	0.6356	Qua	0.4147	0.7842	-0.012459		0.4000				0.9990		0.9900
1-Methylnaphthalene	0.9548 0.5803	0.9527 0.5229	0.7687 0.4595	0.6371	0.5967	Qua	0.3238	0.7356	-0.011496		0.0100				0.9990		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 271015

SDG No.:

Instrument ID: CHSVMS09 GC Column: RXi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/02/2019 09:43 Calibration End Date: 08/02/2019 12:56 Calibration ID: 16407

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Hexachlorocyclopentadiene	0.3775 0.3146	0.3761 0.2873	0.3264 0.2636	0.3100	0.3242	Ave		0.3225			0.0500	12.2		20.0			
1,2,4,5-Tetrachlorobenzene	0.8210 0.5016	0.7927 0.4427	0.6489 0.3968	0.5392	0.5167	Qua	0.2499	0.6306	-0.009755		0.0100				0.9990		0.9900
2,4,6-Trichlorophenol	0.4250 0.3883	0.4621 0.3581	0.3995 0.3234	0.3762	0.3860	Ave		0.3898			0.2000	10.7		20.0			
2,4,5-Trichlorophenol	0.4110 0.3514	0.4617 0.3173	0.3942 0.2891	0.3526	0.3562	Ave		0.3667			0.2000	14.8		20.0			
1,1'-Biphenyl	1.8351 0.9896	1.7438 0.8596	1.4205 0.7648	1.1236	1.0371	Qua	0.8167	1.2792	-0.022099		0.0100				0.9990		0.9900
2-Chloronaphthalene	1.4149 0.8252	1.3614 0.7403	1.0963 0.6663	0.8969	0.8464	Qua	0.5620	1.0096	-0.014627		0.8000				0.9990		0.9900
2-Nitroaniline	0.2059 0.2695	0.2551 0.2635	0.2623 0.2446	0.2583	0.2702	Ave		0.2537			0.0100	8.3		20.0			
Dimethyl phthalate	1.5546 0.9701	1.5372 0.8877	1.2768 0.8015	1.0487	0.9974	Qua	0.5716	1.1777	-0.015906		0.0100				0.9990		0.9900
1,3-Dinitrobenzene	0.1388 0.2272	0.1630 0.2238	0.1761 0.2141	0.1994	0.2215	Ave		0.1955			0.0100	16.7		20.0			
2,6-Dinitrotoluene	0.2473 0.2907	0.2963 0.2774	0.2896 0.2581	0.2775	0.2923	Ave		0.2786			0.2000	6.3		20.0			
1,2-Dinitrobenzene	0.1306 0.1689	0.1497 0.1610	0.1518 0.1459	0.1603	0.1693	Ave		0.1547			0.0100	8.4		20.0			
Acenaphthylene	2.1203 1.1537	2.0561 1.0135	1.6852 0.8812	1.3310	1.2150	Qua	0.9172	1.5300	-0.027566		0.9000				0.9990		0.9900
3-Nitroaniline	0.2703 0.3103	0.3200 0.2974	0.3003 0.2776	0.2952	0.3096	Ave		0.2976			0.0100	5.6		20.0			
Acenaphthene	1.4056 0.8109	1.3424 0.7359	1.0770 0.6473	0.8937	0.8475	Qua	0.4867	1.0296	-0.015981		0.9000				0.9990		0.9900
2,4-Dinitrophenol	0.0618 0.1562	0.0808 0.1559	0.0913 0.1494	0.1290	0.1437	Lin1	-0.266	0.1555			0.0100				0.9940		0.9900
2,4-Dinitrotoluene	0.2705 0.3725	0.3478 0.3548	0.3581 0.3255	0.3573	0.3701	Ave		0.3446			0.2000	9.7		20.0			
Dibenzofuran	2.1211 1.0855	2.0397 0.9579	1.6565 0.8318	1.2632	1.1484	Qua	1.0918	1.4239	-0.025578		0.8000				0.9990		0.9900
4-Nitrophenol	0.1134 0.1274	0.1231 0.1245	0.1246 0.1148	0.1170	0.1272	Ave		0.1215			0.0100	4.6		20.0			
2,3,4,6-Tetrachlorophenol	0.3000 0.3344	0.3313 0.3166	0.3127 0.2929	0.3155	0.3281	Ave		0.3164			0.0100	4.7		20.0			
Diethyl phthalate	1.5158 0.8992	1.5057 0.8039	1.2484 0.7117	0.9991	0.9331	Qua	0.5991	1.1435	-0.018251		0.0100				0.9990		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 271015

SDG No.:

Instrument ID: CHSVMS09 GC Column: RXi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/02/2019 09:43 Calibration End Date: 08/02/2019 12:56 Calibration ID: 16407

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Hexadecane	0.8992 0.5514	0.8892 0.4801	0.7648 0.4229	0.6324	0.5778	Qua	0.2695	0.7419	-0.013306		0.0100				0.9990		0.9900
4-Chlorophenyl phenyl ether	0.9618 0.5609	0.9213 0.5041	0.7557 0.4432	0.6217	0.5827	Qua	0.3328	0.7175	-0.011472		0.4000				1.0000		0.9900
Fluorene	1.7057 0.8891	1.6325 0.7863	1.2984 0.6826	1.0257	0.9264	Qua	0.8115	1.1554	-0.020265		0.9000				0.9990		0.9900
4-Nitroaniline	0.3231 0.2883	0.3438 0.2702	0.3152 0.2453	0.2920	0.2898	Ave		0.2960			0.0100	10.5		20.0			
4,6-Dinitro-2-methylphenol	0.0719 0.1226	0.0960 0.1149	0.1008 0.1086	0.1119	0.1196	Ave		0.1058			0.0100	15.4		20.0			
Diphenylamine	0.8967 0.5298	0.8672 0.4713	0.6974 0.4205	0.5719	0.5460	Qua	0.2698	0.6610	-0.011891		0.0100				0.9990		0.9900
N-Nitrosodiphenylamine	0.7622 0.4503	0.7371 0.4006	0.5927 0.3575	0.4861	0.4641	Qua	0.2698	0.5618	-0.008591		0.0100				0.9990		0.9900
1,2-Diphenylhydrazine	0.7650 0.4561	0.7346 0.4073	0.6128 0.3652	0.4976	0.4640	Qua	0.2913	0.5628	-0.008371		0.0100				0.9990		0.9900
Azobenzene	0.7650 0.4561	0.7346 0.4073	0.6128 0.3652	0.4976	0.4640	Qua	0.2913	0.5628	-0.008371		0.0100				0.9990		0.9900
4-Bromophenyl phenyl ether	0.2769 0.2119	0.2987 0.1947	0.2454 0.1773	0.2134	0.2143	Qua	0.0424	0.2514	-0.002977		0.1000				0.9980		0.9900
Hexachlorobenzene	0.2413 0.1683	0.2477 0.1515	0.1953 0.1359	0.1655	0.1701	Qua	0.0435	0.2016	-0.002638		0.0100				0.9970		0.9900
Pentachlorophenol	0.0744 0.1036	0.1021 0.0964	0.1053 0.0897	0.1100	0.1030	Ave		0.0981			0.0500	11.6		20.0			
n-Octadecane	0.5044 0.3292	0.5152 0.2855	0.4513 0.2553	0.3673	0.3373	Qua	0.1556	0.4286	-0.007246		0.0100				0.9990		0.9900
Phenanthrene	1.4821 0.7058	1.3975 0.6138	1.0931 0.5358	0.8119	0.7403	Qua	0.8582	0.9027	-0.016159		0.7000				0.9990		0.9900
Anthracene	+++++ 0.7210	1.4290 0.6324	1.1244 0.5540	0.8442	0.7643	Qua	1.1557	0.8901	-0.015377		0.7000				1.0000		0.9900
Carbazole	1.3685 0.7121	1.3177 0.6257	1.0686 0.5487	0.8149	0.7509	Qua	0.6919	0.9221	-0.016148		0.0100				0.9990		0.9900
Di-n-butyl phthalate	1.3210 0.7662	1.3763 0.6653	1.1401 0.5806	0.8759	0.8043	Qua	0.6000	1.0176	-0.018576		0.0100				0.9990		0.9900
Fluoranthene	+++++ 0.8437	1.6486 0.7320	1.3049 0.6339	0.9816	0.8901	Qua	1.2432	1.0646	-0.019287		0.6000				0.9990		0.9900
Pyrene	1.7614 0.9847	1.6764 0.8901	1.3438 0.8253	1.0691	1.0352	Qua	0.8498	1.1659	-0.015143		0.6000				0.9990		0.9900
Butyl benzyl phthalate	0.5190 0.5468	0.5658 0.5210	0.5312 0.4963	0.5181	0.5418	Ave		0.5300			0.0100	4.0		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 271015

SDG No.:

Instrument ID: CHSVMS09 GC Column: RXi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/02/2019 09:43 Calibration End Date: 08/02/2019 12:56 Calibration ID: 16407

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Benzo[a]anthracene	1.4613 1.1223	1.4951 1.0379	1.2448 0.9619	1.1144	1.1424	Ave		1.1975			0.8000	16.0		20.0			
Bis(2-ethylhexyl) phthalate	0.6436 0.6759	0.7054 0.6401	0.6626 0.6099	0.6288	0.6775	Ave		0.6555			0.0100	4.7		20.0			
Chrysene	1.6698 0.9946	1.7030 0.9693	1.3358 0.8944	1.0895	1.0961	Qua	0.7987	1.1661	-0.012110		0.7000				0.9980		0.9900
Di-n-octyl phthalate	0.7261 1.2896	0.9508 1.2661	1.0254 1.2101	1.1775	1.2747	Ave		1.1150			0.0100	17.9		20.0			
Benzo[b]fluoranthene	1.2045 0.9550	1.2744 0.9065	0.9763 0.8096	1.0011	0.9877	Ave		1.0144			0.7000	15.1		20.0			
Benzo[k]fluoranthene	1.3083 0.9812	1.4754 1.0060	1.1868 0.8468	1.1027	1.0204	Qua	0.1719	1.2467	-0.015496		0.7000				0.9950		0.9900
Benzo[a]pyrene	0.9135 0.9270	1.0399 0.8655	0.9181 0.8056	0.9025	0.9421	Ave		0.9143			0.7000	7.3		20.0			
Indeno[1,2,3-cd]pyrene	0.9114 0.9413	1.0407 0.9076	0.8766 0.8425	0.9276	0.9539	Ave		0.9252			0.5000	6.3		20.0			
Dibenz(a,h)anthracene	0.7790 0.7549	0.8472 0.7176	0.7129 0.6448	0.7281	0.7816	Ave		0.7458			0.4000	8.0		20.0			
Benzo[g,h,i]perylene	0.9018 0.7814	0.9258 0.7338	0.7769 0.6758	0.7762	0.7861	Ave		0.7947			0.5000	10.4		20.0			
2-Fluorophenol (Surr)	1.2881 1.1289	1.2997 1.0594	1.1813 0.9808	1.1539	1.1400	Ave		1.1540			0.0100	9.2		20.0			
Phenol-d5 (Surr)	1.5630 1.1775	1.6191 1.0911	1.3827 0.9872	1.2658	1.1973	Ave		1.2855			0.0100	17.3		20.0			
Nitrobenzene-d5 (Surr)	0.3440 0.3168	0.3612 0.2947	0.3191 0.2771	0.3136	0.3141	Ave		0.3176			0.0100	8.2		20.0			
2-Fluorobiphenyl	+++++ 0.9238	1.7302 +++++	1.3646 +++++	1.0801	0.9861	Lin2	1.7770	0.8673			0.0100				0.9950		0.9900
2,4,6-Tribromophenol (Surr)	0.1024 0.1097	0.1069 0.1041	0.1011 0.0978	0.1014	0.1069	Ave		0.1038			0.0100	3.7		20.0			
Terphenyl-d14 (Surr)	+++++ 0.7421	1.1559 0.6854	0.9298 0.6292	0.7651	0.7695	Lin2	1.0344	0.6523			0.0100				0.9950		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 271015

SDG No.:

Instrument ID: CHSVMS09 GC Column: RXi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/02/2019 09:43 Calibration End Date: 08/02/2019 12:56 Calibration ID: 16407

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-271015/4	08021904.D
Level 2	IC 600-271015/5	08021905.D
Level 3	ICIS 600-271015/6	08021906.D
Level 4	IC 600-271015/7	08021907.D
Level 5	IC 600-271015/8	08021908.D
Level 6	IC 600-271015/9	08021909.D
Level 7	IC 600-271015/10	08021910.D
Level 8	IC 600-271015/11	08021911.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
N-Nitrosodimethylamine	DCBd 4	Ave	22853 345388	48119 407635	81510 492653	203083	303102	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Pyridine	DCBd 4	Ave	72283 936418	148231 1099422	242769 1279435	588261	831149	2.00 32.0	4.00 40.0	8.00 50.0	20.0	28.0
Aniline	DCBd 4	Ave	57713 691762	121418 795840	196441 907096	441176	620580	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Bis(2-chloroethyl)ether	DCBd 4	Ave	42690 474780	84891 548846	136154 632098	297219	430419	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Phenol	DCBd 4	Ave	48851 553002	101380 644743	157411 729267	356664	506404	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
2-Chlorophenol	DCBd 4	Ave	41646 486881	86835 556756	135275 640594	301721	437376	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
n-Decane	DCBd 4	Qua	47009 480076	92918 539884	145218 617769	318684	436956	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
1,3-Dichlorobenzene	DCBd 4	Qua	49611 535109	101341 611945	153048 695566	337335	487965	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
1,4-Dichlorobenzene	DCBd 4	Qua	49682 527323	96150 602066	151496 684009	332037	476234	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
1,2-Dichlorobenzene	DCBd 4	Qua	47038 496621	95471 566753	147742 650304	319866	443234	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Benzyl alcohol	DCBd 4	Ave	15982 275265	40179 328855	67522 413833	165366	247362	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Indene	DCBd 4	Qua	71682 730271	142183 826871	226218 936868	488511	665022	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
2,2'-oxybis[1-chloropropane]	DCBd 4	Ave	51203 565485	101249 646093	164997 743669	360950	508144	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
2-Methylphenol	DCBd 4	Ave	34603 420445	71587 497481	114238 569358	260457	379231	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Acetophenone	NPT	Qua	51776 559310	103782 646137	164305 743801	354921	499098	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 271015

SDG No.:

Instrument ID: CHSVMS09 GC Column: RXi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/02/2019 09:43 Calibration End Date: 08/02/2019 12:56 Calibration ID: 16407

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
N-Nitrosodi-n-propylamine	DCBd 4	Ave	25400 307404	53136 362441	87353 422282	192606	273480	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
3 & 4 Methylphenol	DCBd 4	Ave	35128 461591	74349 532698	124265 619829	277422	408681	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Hexachloroethane	DCBd 4	Ave	16001 201813	31722 231999	54440 268219	121311	179201	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Nitrobenzene	NPT	Ave	33327 421495	68776 496687	114748 579290	268004	372627	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
2,6-Dimethylphenol	NPT	Ave	40681 461157	79043 529021	125509 617788	284079	403099	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Isophorone	NPT	Qua	72613 799863	144308 902950	234573 1000496	513459	718439	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
2-Nitrophenol	NPT	Ave	14879 278091	32546 333552	59259 396633	158138	245173	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
2,4-Dimethylphenol	NPT	Ave	35447 441390	73264 515563	117754 590489	271582	392707	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Bis(2-chloroethoxy)methane	NPT	Qua	48304 514084	95046 589336	150491 676160	329925	456676	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Benzoic acid	NPT	Lin1	8842 302353	19759 389502	45870 484705	157682	243002	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
2,4-Dichlorophenol	NPT	Ave	34632 467501	71915 542673	120368 619144	279859	408765	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
1,2,4-Trichlorobenzene	NPT	Qua	45909 480273	91416 547002	138883 623879	303829	424428	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Naphthalene	NPT	Qua	119589 1026112	232018 1146653	354944 1260265	712288	933977	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
4-Chloroaniline	NPT	Ave	50413 563616	101618 653610	162231 737069	363397	505984	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
2,6-Dichlorophenol	NPT	Ave	36652 427704	75687 494626	116883 567561	262974	378495	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Hexachlorobutadiene	NPT	Ave	26014 305079	52196 352947	82036 398502	184220	268039	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
4-Chloro-3-methylphenol	NPT	Ave	27100 418985	59753 509769	100381 592058	247320	382245	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
2-Methylnaphthalene	NPT	Qua	95307 872555	187127 971616	287675 1085462	586996	784338	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
1-Methylnaphthalene	NPT	Qua	85188 815040	171328 922920	263943 1017399	538354	736312	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Hexachlorocyclopentadiene	ANT	Ave	23169 305739	47532 353936	77790 400985	184798	274618	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
1,2,4,5-Tetrachlorobenzene	ANT	Qua	50391 487531	100189 545279	154644 603661	321402	437712	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 271015

SDG No.:

Instrument ID: CHSVMS09 GC Column: RXi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/02/2019 09:43 Calibration End Date: 08/02/2019 12:56 Calibration ID: 16407

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
2,4,6-Trichlorophenol	ANT	Ave	26087 377392	58404 441091	95208 491982	224267	327018	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
2,4,5-Trichlorophenol	ANT	Ave	25226 341565	58357 390876	93945 439816	210163	301772	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
1,1'-Biphenyl	ANT	Qua	112640 961870	220404 1058789	338507 1163349	669795	878593	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
2-Chloronaphthalene	ANT	Qua	86845 802027	172075 911814	261258 1013532	534641	717060	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
2-Nitroaniline	ANT	Ave	12636 261896	32237 324603	62498 372138	153952	228924	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Dimethyl phthalate	ANT	Qua	95422 942916	194295 1093390	304267 1219221	625139	844984	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
1,3-Dinitrobenzene	ANT	Ave	8517 220872	20599 275691	41972 325748	118873	187663	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
2,6-Dinitrotoluene	ANT	Ave	15177 282533	37454 341671	69009 392610	165391	247600	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
1,2-Dinitrobenzene	ANT	Ave	8015 164125	18918 198293	36179 221887	95544	143436	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Acenaphthylene	ANT	Qua	130147 1121331	259873 1248421	401592 1340379	793419	1029269	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
3-Nitroaniline	ANT	Ave	16592 301585	40441 366326	71553 422228	175982	262260	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Acenaphthene	ANT	Qua	86275 788144	169664 906488	256649 984631	532713	718001	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
2,4-Dinitrophenol	ANT	Lin1	7585 303695	20420 384054	43531 454567	153770	243505	2.00 32.0	4.00 40.0	8.00 50.0	20.0	28.0
2,4-Dinitrotoluene	ANT	Ave	16604 362089	43960 436975	85342 495177	212977	313505	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Dibenzofuran	ANT	Qua	130192 1055066	257805 1179827	394761 1265359	753001	972863	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
4-Nitrophenol	ANT	Ave	13924 247561	31105 306703	59393 349161	139514	215550	2.00 32.0	4.00 40.0	8.00 50.0	20.0	28.0
2,3,4,6-Tetrachlorophenol	ANT	Ave	18413 325050	41873 389976	74519 445616	188068	277979	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Diethyl phthalate	ANT	Qua	93044 873940	190310 990155	297506 1082690	595555	790454	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Hexadecane	ANT	Qua	55192 535884	112388 591389	182266 643250	376986	489453	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
4-Chlorophenyl phenyl ether	ANT	Qua	59035 545167	116441 620908	180091 674193	370608	493638	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Fluorene	ANT	Qua	104699 864159	206337 968490	309422 1038344	611381	784820	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 271015

SDG No.:

Instrument ID: CHSVMS09 GC Column: RXi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/02/2019 09:43 Calibration End Date: 08/02/2019 12:56 Calibration ID: 16407

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
4-Nitroaniline	ANT	Ave	19835 280221	43458 332767	75105 373126	174061	245529	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
4,6-Dinitro-2-methylphenol	PHN	Ave	15366 421206	41952 506903	85640 590676	239721	357202	2.00 32.0	4.00 40.0	8.00 50.0	20.0	28.0
Diphenylamine	PHN	Qua	81396 773636	161046 883739	251716 971977	520477	693183	0.850 13.6	1.70 17.0	3.40 21.3	8.50	11.9
N-Nitrosodiphenylamine	PHN	Qua	81396 773636	161046 883739	251716 971977	520477	693183	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
1,2-Diphenylhydrazine	PHN	Qua	81701 783580	160513 898606	260218 993044	532763	693078	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Azobenzene	PHN	Qua	81701 783580	160513 898606	260218 993044	532763	693078	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
4-Bromophenyl phenyl ether	PHN	Qua	29575 363946	65265 429571	104214 482183	228506	320119	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Hexachlorobenzene	PHN	Qua	25769 289052	54112 334242	82944 369617	177217	254108	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Pentachlorophenol	PHN	Ave	15884 356023	44620 425449	89420 487897	235563	307708	2.00 32.0	4.00 40.0	8.00 50.0	20.0	28.0
n-Octadecane	PHN	Qua	53862 565545	112574 629724	191657 694157	393243	503855	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Phenanthrene	PHN	Qua	158278 1212510	305350 1353988	464188 1456886	869271	1105748	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Anthracene	PHN	Qua	+++++ 1238636	312223 1395146	477469 1506316	903886	1141630	+++++ 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Carbazole	PHN	Qua	146147 1223320	287903 1380390	453779 1491893	872479	1121683	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Di-n-butyl phthalate	PHN	Qua	141074 1316228	300712 1467607	484164 1578865	937782	1201446	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Fluoranthene	PHN	Qua	+++++ 1449369	360206 1614815	554138 1723632	1051003	1329485	+++++ 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Pyrene	CRY	Qua	190596 1479605	373807 1652381	586787 1777628	1090494	1366625	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Butyl benzyl phthalate	CRY	Ave	56165 821591	126158 967108	231929 1068864	528463	715223	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Benzo[a]anthracene	CRY	Ave	158126 1686432	333380 1926756	543542 2071772	1136629	1508237	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Bis(2-ethylhexyl) phthalate	CRY	Ave	69644 1015548	157293 1188233	289334 1313694	641353	894431	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Chrysene	CRY	Qua	180688 1494438	379743 1799346	583275 1926420	1111226	1447077	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Di-n-octyl phthalate	CRY	Ave	78573 1937799	212017 2350279	447726 2606281	1200987	1682863	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 271015

SDG No.:

Instrument ID: CHSVMS09 GC Column: RXi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/02/2019 09:43 Calibration End Date: 08/02/2019 12:56 Calibration ID: 16407

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Benzo[b]fluoranthene	PRY	Ave	135024 1650427	297548 2004438	451531 2164877	1113302	1463445	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Benzo[k]fluoranthene	PRY	Qua	146657 1695671	344492 2224515	548868 2264514	1226327	1511881	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Benzo[a]pyrene	PRY	Ave	102407 1601972	242792 1913725	424606 2154143	1003640	1395887	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Indeno[1,2,3-cd]pyrene	PRY	Ave	102174 1626827	242983 2006814	405437 2252857	1031565	1413364	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Dibenz(a,h)anthracene	PRY	Ave	87321 1304666	197802 1586625	329700 1724358	809695	1158125	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Benzo[g,h,i]perylene	PRY	Ave	101097 1350404	216156 1622565	359305 1807150	863199	1164822	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
2-Fluorophenol (Surr)	DCBd 4	Ave	38176 523548	78517 609760	132997 713147	314670	464215	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Phenol-d5 (Surr)	DCBd 4	Ave	46323 546058	97810 628031	155673 717792	345166	487531	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Nitrobenzene-d5 (Surr)	NPT	Ave	30696 444893	64963 520075	109556 613530	264960	387596	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
2-Fluorobiphenyl	ANT	Lin2	+++++ 897910	218681 +++++	325185 +++++	643814	835397	+++++ 16.0	2.00 +++++	4.00 +++++	10.0	14.0
2,4,6-Tribromophenol (Surr)	ANT	Ave	6288 106655	13511 128206	24084 148719	60471	90565	1.00 16.0	2.00 20.0	4.00 25.0	10.0	14.0
Terphenyl-d14 (Surr)	CRY	Lin2	+++++ 1115070	257734 1272391	406011 1355202	780332	1015823	+++++ 16.0	2.00 20.0	4.00 25.0	10.0	14.0

Curve Type Legend:

Ave = Average ISTD
Lin1 = Linear 1/conc ISTD
Lin2 = Linear 1/conc^2 ISTD
Qua = Quadratic ISTD

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 271015

SDG No.:

Instrument ID: CHSVMS09 GC Column: RXi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/02/2019 09:43 Calibration End Date: 08/02/2019 12:56 Calibration ID: 16407

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-271015/4	08021904.D
Level 2	IC 600-271015/5	08021905.D
Level 3	ICIS 600-271015/6	08021906.D
Level 4	IC 600-271015/7	08021907.D
Level 5	IC 600-271015/8	08021908.D
Level 6	IC 600-271015/9	08021909.D
Level 7	IC 600-271015/10	08021910.D
Level 8	IC 600-271015/11	08021911.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
N-Nitrosodimethylamine	4.4 -4.2	7.8 -8.3	-2.0	0.8	0.7	0.8	50 30	30 30	30	30	30	30
Pyridine	15.2 -9.8	15.9 -16.9	1.9	1.9	-3.6	-4.6	50 30	30 30	30	30	30	30
Aniline	20.2 -14.7	24.0 -23.0	7.7	-0.2	-6.0	-8.0	50 30	30 30	30	30	30	30
Bis(2-chloroethyl)ether	27.3 -15.7	24.2 -23.1	6.9	-3.6	-6.5	-9.5	50 30	30 30	30	30	30	30
Phenol	24.5 -15.4	26.8 -24.2	5.6	-1.2	-6.1	-9.9	50 30	30 30	30	30	30	30
2-Chlorophenol	23.2 -15.2	26.1 -22.7	5.4	-3.0	-5.8	-7.9	50 30	30 30	30	30	30	30
n-Decane	-5.2 -1.8	6.6 0.9	-3.4	0.9	0.1	0.8	30 30	30 30	30	30	30	30
1,3-Dichlorobenzene	-0.3 0.3	10.9 -0.8	-5.2	-3.1	1.6	1.3	30 30	30 30	30	30	30	30
1,4-Dichlorobenzene	3.2 0.4	7.2 -0.9	-4.1	-2.8	0.7	1.8	30 30	30 30	30	30	30	30
1,2-Dichlorobenzene	-7.8 -0.1	8.7 -0.2	-2.3	-0.4	-1.0	1.6	30 30	30 30	30	30	30	30
Benzyl alcohol	-9.2 -3.8	12.0 -4.2	1.0	2.1	2.3	-0.1	50 30	30 30	30	30	30	30
Indene	-7.2 -0.8	5.7 0.6	-1.9	1.1	-0.4	0.2	30 30	30 30	30	30	30	30
2,2'-oxybis[1-chloropropane]	27.9 -16.9	24.1 -24.3	8.5	-2.0	-7.6	-9.7	50 30	30 30	30	30	30	30
2-Methylphenol	19.6 -11.4	21.4 -19.8	4.0	-2.1	-4.6	-7.1	50 30	30 30	30	30	30	30
Acetophenone	-6.5 -0.3	9.7 -0.5	-1.8	-3.0	0.1	2.4	30 30	30 30	30	30	30	30

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 271015

SDG No.:

Instrument ID: CHSVMS09 GC Column: RXi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/02/2019 09:43 Calibration End Date: 08/02/2019 12:56 Calibration ID: 16407

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
N-Nitrosodi-n-propylamine	19.0 -12.6	22.1 -19.4	7.7	-2.0	-6.8	-8.0	50 30	30 30	30	30	30	30
3 & 4 Methylphenol	14.1 -10.9	18.4 -18.0	6.2	-2.1	-3.4	-4.2	50 30	30 30	30	30	30	30
Hexachloroethane	18.6 -11.4	15.4 -18.9	6.3	-2.2	-3.3	-4.4	50 30	30 30	30	30	30	30
Nitrobenzene	17.1 -11.8	19.9 -18.0	4.7	-0.6	-5.4	-5.9	50 30	30 30	30	30	30	30
2,6-Dimethylphenol	28.8 -15.3	24.2 -21.2	3.3	-5.0	-7.7	-7.2	50 30	30 30	30	30	30	30
Isophorone	2.4 0.1	8.0 -1.3	-3.6	-3.9	0.4	3.3	30 30	30 30	30	30	30	30
2-Nitrophenol	-9.4 2.7	-1.7 -2.7	-6.2	1.7	8.0	7.6	50 30	30 30	30	30	30	30
2,4-Dimethylphenol	19.5 -12.2	22.5 -19.8	3.1	-3.4	-4.3	-5.5	50 30	30 30	30	30	30	30
Bis(2-chloroethoxy)methane	-4.2 -0.6	8.8 -0.3	-2.8	-2.1	-0.4	2.7	30 30	30 30	30	30	30	30
Benzoic acid	28.7 4.3	-8.3 2.6	-18.5	-7.0	-4.7	2.9	30 30	30 30	30	30	30	30
2,4-Dichlorophenol	14.1 -9.6	17.6 -17.8	3.1	-2.6	-2.6	-2.1	50 30	30 30	30	30	30	30
1,2,4-Trichlorobenzene	-3.6 -0.3	12.0 -0.7	-4.2	-3.3	-0.4	3.6	30 30	30 30	30	30	30	30
Naphthalene	-18.9 -1.3	9.7 1.0	0.9	0.0	-1.1	1.3	30 30	30 30	30	30	30	30
4-Chloroaniline	27.4 -16.5	27.4 -24.9	6.6	-3.0	-7.5	-9.5	50 30	30 30	30	30	30	30
2,6-Dichlorophenol	24.9 -14.8	28.0 -22.1	3.5	-5.4	-6.7	-7.4	50 30	30 30	30	30	30	30
Hexachlorobutadiene	25.9 -13.7	25.3 -22.3	3.1	-5.9	-6.2	-6.2	50 30	30 30	30	30	30	30
4-Chloro-3-methylphenol	1.9 -3.1	11.4 -10.3	-2.0	-1.8	3.9	0.1	50 30	30 30	30	30	30	30
2-Methylnaphthalene	-15.5 -1.8	10.1 0.6	0.0	-1.2	-0.9	2.8	30 30	30 30	30	30	30	30
1-Methylnaphthalene	-13.0 0.4	11.4 -1.0	-0.3	-3.1	-0.3	2.3	30 30	30 30	30	30	30	30
Hexachlorocyclopentadiene	17.1 -10.9	16.6 -18.3	1.2	-3.9	0.5	-2.4	50 30	30 30	30	30	30	30
1,2,4,5-Tetrachlorobenzene	-8.1 -2.2	9.6 0.1	-0.9	-4.3	1.3	3.7	30 30	30 30	30	30	30	30

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 271015

SDG No.:

Instrument ID: CHSVMS09 GC Column: RXi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/02/2019 09:43 Calibration End Date: 08/02/2019 12:56 Calibration ID: 16407

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
2,4,6-Trichlorophenol	9.0 -8.1	18.5 -17.0	2.5	-3.5	-1.0	-0.4	50 30	30 30	30	30	30	30
2,4,5-Trichlorophenol	12.1 -13.5	25.9 -21.2	7.5	-3.9	-2.9	-4.2	50 30	30 30	30	30	30	30
1,1'-Biphenyl	-19.3 -4.5	8.5 3.5	2.3	-1.9	1.4	2.3	30 30	30 30	30	30	30	30
2-Chloronaphthalene	-14.5 -1.1	10.6 -0.1	0.5	-3.1	0.2	2.7	30 30	30 30	30	30	30	30
2-Nitroaniline	-18.8 3.9	0.5 -3.6	3.4	1.8	6.5	6.2	50 30	30 30	30	30	30	30
Dimethyl phthalate	-15.6 -0.1	9.5 -0.4	1.9	-3.1	0.2	1.7	30 30	30 30	30	30	30	30
1,3-Dinitrobenzene	-29.0 14.5	-16.6 9.5	-9.9	2.0	13.3	16.2	50 30	30 30	30	30	30	30
2,6-Dinitrotoluene	-11.3 -0.4	6.4 -7.4	3.9	-0.4	4.9	4.3	50 30	30 30	30	30	30	30
1,2-Dinitrobenzene	-15.6 4.1	-3.2 -5.7	-1.8	3.6	9.5	9.2	50 30	30 30	30	30	30	30
Acenaphthylene	-20.2 -2.5	8.7 2.7	2.8	-1.5	0.7	1.1	30 30	30 30	30	30	30	30
3-Nitroaniline	-9.2 -0.1	7.5 -6.7	0.9	-0.8	4.0	4.3	50 30	30 30	30	30	30	30
Acenaphthene	-9.5 0.4	10.5 -0.9	-1.1	-3.5	1.2	1.3	30 30	30 30	30	30	30	30
2,4-Dinitrophenol	25.3 4.5	-5.3 -0.5	-19.9	-8.5	-1.5	5.8	30 30	30 30	30	30	30	30
2,4-Dinitrotoluene	-21.5 3.0	0.9 -5.5	3.9	3.7	7.4	8.1	50 30	30 30	30	30	30	30
Dibenzofuran	-26.8 -2.2	9.2 3.0	5.1	-1.5	0.7	0.4	30 30	30 30	30	30	30	30
4-Nitrophenol	-6.6 2.5	1.3 -5.5	2.6	-3.7	4.7	4.8	50 30	30 30	30	30	30	30
2,3,4,6-Tetrachlorophenol	-5.2 0.0	4.7 -7.4	-1.2	-0.3	3.7	5.7	50 30	30 30	30	30	30	30
Diethyl phthalate	-18.8 -1.1	9.3 0.2	2.8	-2.8	0.4	1.8	30 30	30 30	30	30	30	30
Hexadecane	-13.8 -4.1	5.7 4.7	1.4	-0.7	0.8	1.8	30 30	30 30	30	30	30	30
4-Chlorophenyl phenyl ether	-11.1 -0.2	9.0 -0.5	0.1	-2.9	0.5	1.8	30 30	30 30	30	30	30	30
Fluorene	-21.5 -1.3	10.5 1.0	2.1	-1.1	-0.6	1.4	30 30	30 30	30	30	30	30

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 271015

SDG No.:

Instrument ID: CHSVMS09 GC Column: RXi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/02/2019 09:43 Calibration End Date: 08/02/2019 12:56 Calibration ID: 16407

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
4-Nitroaniline	9.2 -8.7	16.2 -17.1	6.5	-1.3	-2.1	-2.6	50 30	30 30	30	30	30	30
4,6-Dinitro-2-methylphenol	-32.0 8.6	-9.3 2.7	-4.7	5.8	13.0	15.9	50 30	30 30	30	30	30	30
Diphenylamine	-11.2 -1.3	10.9 -0.3	-0.4	-4.3	1.0	3.2	30 30	30 30	30	30	30	30
N-Nitrosodiphenylamine	-11.2 -1.3	10.9 -0.3	-0.4	-4.3	1.0	3.2	30 30	30 30	30	30	30	30
1,2-Diphenylhydrazine	-14.8 -1.1	8.1 0.0	2.1	-2.7	-0.7	3.1	30 30	30 30	30	30	30	30
Azobenzene	-14.8 -1.1	8.1 0.0	2.1	-2.7	-0.7	3.1	30 30	30 30	30	30	30	30
4-Bromophenyl phenyl ether	-5.6 0.6	13.4 -1.3	-2.0	-6.4	0.9	3.5	30 30	30 30	30	30	30	30
Hexachlorobenzene	-0.6 0.6	15.6 -2.0	-3.6	-9.3	1.9	5.4	30 30	30 30	30	30	30	30
Pentachlorophenol	-24.2 -1.7	4.1 -8.5	7.4	12.2	5.0	5.7	50 30	30 30	30	30	30	30
n-Octadecane	-17.5 -4.1	5.9 2.7	3.5	-1.5	-0.4	3.6	30 30	30 30	30	30	30	30
Phenanthrene	-30.0 -3.3	11.7 3.3	5.3	-2.6	0.5	2.1	30 30	30 30	30	30	30	30
Anthracene	+++++ -2.8	-1.0 1.8	0.9	-1.3	1.5	1.2	 30	30 30	30	30	30	30
Carbazole	-25.7 -2.8	9.6 2.5	4.8	-2.5	1.2	1.3	30 30	30 30	30	30	30	30
Di-n-butyl phthalate	-28.2 -3.7	10.2 5.4	5.4	-2.5	0.8	2.0	30 30	30 30	30	30	30	30
Fluoranthene	+++++ -3.0	0.1 1.9	0.7	-2.1	1.3	2.3	 30	30 30	30	30	30	30
Pyrene	-21.0 -2.7	10.5 1.0	2.5	-3.5	2.8	1.2	30 30	30 30	30	30	30	30
Butyl benzyl phthalate	-2.1 -1.7	6.8 -6.4	0.2	-2.2	2.2	3.2	50 30	30 30	30	30	30	30
Benzo[a]anthracene	22.0 -13.3	24.9 -19.7	3.9	-6.9	-4.6	-6.3	50 30	30 30	30	30	30	30
Bis(2-ethylhexyl) phthalate	-1.8 -2.3	7.6 -6.9	1.1	-4.1	3.4	3.1	50 30	30 30	30	30	30	30
Chrysene	-24.7 0.8	14.5 -0.2	1.7	-3.8	5.2	-3.5	30 30	30 30	30	30	30	30
Di-n-octyl phthalate	-34.9 13.5	-14.7 8.5	-8.0	5.6	14.3	15.7	50 30	30 30	30	30	30	30

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 271015

SDG No.:

Instrument ID: CHSVMS09 GC Column: RXi-5Sil MS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/02/2019 09:43 Calibration End Date: 08/02/2019 12:56 Calibration ID: 16407

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
Benzo[b]fluoranthene	18.7 -10.6	25.6 -20.2	-3.8	-1.3	-2.6	-5.9	50 30	30 30	30	30	30	30
Benzo[k]fluoranthene	-7.8 10.2	14.7 -4.0	-3.6	-0.7	-2.6	-3.7	30 30	30 30	30	30	30	30
Benzo[a]pyrene	-0.1 -5.3	13.7 -11.9	0.4	-1.3	3.0	1.4	50 30	30 30	30	30	30	30
Indeno[1,2,3-cd]pyrene	-1.5 -1.9	12.5 -8.9	-5.2	0.3	3.1	1.7	50 30	30 30	30	30	30	30
Dibenz(a,h)anthracene	4.5 -3.8	13.6 -13.5	-4.4	-2.4	4.8	1.2	50 30	30 30	30	30	30	30
Benzo[g,h,i]perylene	13.5 -7.7	16.5 -15.0	-2.2	-2.3	-1.1	-1.7	50 30	30 30	30	30	30	30
2-Fluorophenol (Surr)	11.6 -8.2	12.6 -15.0	2.4	0.0	-1.2	-2.2	50 30	30 30	30	30	30	30
Phenol-d5 (Surr)	21.6 -15.1	26.0 -23.2	7.6	-1.5	-6.9	-8.4	50 30	30 30	30	30	30	30
Nitrobenzene-d5 (Surr)	8.3 -7.2	13.8 -12.7	0.5	-1.3	-1.1	-0.3	50 30	30 30	30	30	30	30
2-Fluorobiphenyl	+++++ +++++	-2.9 +++++	6.1	4.0	-0.9	-6.3		30	30	30	30	30
2,4,6-Tribromophenol (Surr)	-1.3 0.3	3.0 -5.8	-2.6	-2.3	3.0	5.7	50 30	30 30	30	30	30	30
Terphenyl-d14 (Surr)	+++++ -2.8	-2.1 -9.9	2.9	1.4	6.6	3.9	 30	30 30	30	30	30	30

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021904.D
Lims ID: IC REG LVI L1
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 02-Aug-2019 09:43:30 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: IC REG LVI L1
Misc. Info.: 600-0030361-004
Operator ID: Instrument ID: CHSVMS09
Sublist: chrom-8270LVI_9*sub33

Method: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\8270LVI_9.m
Limit Group: SV - 8270D_8270DLL
Last Update: 05-Aug-2019 12:07:18 Calib Date: 02-Aug-2019 17:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021920.D

Column 1 : Det: MS SCAN
Process Host: CTX0303

First Level Reviewer: dangt Date: 02-Aug-2019 11:34:13

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 N-Nitrosodimethylamine	74	3.051	3.048	0.003	92	22853	1.00	1.04	
2 Pyridine	79	3.110	3.101	0.009	96	72283	2.00	2.30	
$ 7 2-Fluorophenol	112	4.837	4.839	-0.002	91	38176	1.00	1.12	
12 Aniline	93	5.707	5.709	-0.002	98	57713	1.00	1.20	
16 Bis(2-chloroethyl)ether	93	5.759	5.756	0.003	97	42690	1.00	1.27	
$ 10 Phenol-d5	99	5.771	5.768	0.003	68	46323	1.00	1.22	
11 Phenol	94	5.783	5.779	0.004	96	48851	1.00	1.24	
17 2-Chlorophenol	128	5.842	5.838	0.004	94	41646	1.00	1.23	
18 n-Decane	57	5.865	5.867	-0.002	87	47009	1.00	0.9483	
20 1,3-Dichlorobenzene	146	5.942	5.944	-0.002	97	49611	1.00	1.00	
* 21 1,4-Dichlorobenzene-d4	152	5.994	5.991	0.003	93	237097	8.00	8.00	
22 1,4-Dichlorobenzene	146	6.006	6.008	-0.002	96	49682	1.00	1.03	
24 1,2-Dichlorobenzene	146	6.147	6.144	0.003	98	47038	1.00	0.9216	
23 Benzyl alcohol	108	6.141	6.144	-0.003	55	15982	1.00	0.9078	
26 Indene	115	6.224	6.226	-0.002	89	71682	1.00	0.9285	
27 2,2'-oxybis[1-chloropropan	45	6.241	6.243	-0.002	96	51203	1.00	1.28	
25 2-Methylphenol	108	6.288	6.285	0.004	92	34603	1.00	1.20	
29 Acetophenone	105	6.347	6.349	-0.002	97	51776	1.00	0.9353	
31 N-Nitrosodi-n-propylamine	70	6.353	6.355	-0.002	88	25400	1.00	1.19	
30 3 & 4 Methylphenol	108	6.429	6.425	0.004	96	35128	1.00	1.14	
34 Hexachloroethane	117	6.441	6.443	-0.002	89	16001	1.00	1.19	
$ 35 Nitrobenzene-d5	82	6.482	6.478	0.004	87	30696	1.00	1.08	
36 Nitrobenzene	77	6.494	6.496	-0.002	86	33327	1.00	1.17	
39 2,6-Dimethylphenol	122	6.617	6.619	-0.002	92	40681	1.00	1.29	
41 Isophorone	82	6.699	6.707	-0.008	98	72613	1.00	1.02	
42 2-Nitrophenol	139	6.776	6.778	-0.002	86	14879	1.00	0.9061	
43 2,4-Dimethylphenol	107	6.858	6.854	0.004	90	35447	1.00	1.19	
46 Bis(2-chloroethoxy)methane	93	6.887	6.890	-0.003	99	48304	1.00	0.9582	
47 Benzoic acid	122	6.946	6.978	-0.032	88	8842	1.00	1.29	
48 2,4-Dichlorophenol	162	7.022	7.019	0.003	89	34632	1.00	1.14	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
49 1,2,4-Trichlorobenzene	180	7.052	7.054	-0.002	92	45909	1.00	0.9641	
* 50 Naphthalene-d8	136	7.099	7.095	0.004	99	713779	8.00	8.00	
51 Naphthalene	128	7.116	7.113	0.003	97	119589	1.00	0.8112	
52 4-Chloroaniline	127	7.175	7.177	-0.002	97	50413	1.00	1.27	
53 2,6-Dichlorophenol	162	7.187	7.189	-0.002	96	36652	1.00	1.25	
55 Hexachlorobutadiene	225	7.228	7.230	-0.002	92	26014	1.00	1.26	
60 4-Chloro-3-methylphenol	107	7.627	7.624	0.003	94	27100	1.00	1.02	
62 2-Methylnaphthalene	142	7.692	7.694	-0.002	94	95307	1.00	0.8446	
63 1-Methylnaphthalene	142	7.780	7.777	0.003	93	85188	1.00	0.8696	
66 Hexachlorocyclopentadiene	237	7.833	7.835	-0.002	92	23169	1.00	1.17	
65 1,2,4,5-Tetrachlorobenzene	216	7.839	7.841	-0.002	95	50391	1.00	0.9187	
69 2,4,6-Trichlorophenol	196	7.956	7.953	0.003	88	26087	1.00	1.09	
$ 72 2-Fluorobiphenyl	172	7.998	8.000	-0.002	99	111382	1.00	0.0434	
71 2,4,5-Trichlorophenol	196	8.009	8.006	0.003	94	25226	1.00	1.12	
77 1,1'-Biphenyl	154	8.080	8.082	-0.002	94	112640	1.00	0.8074	
78 2-Chloronaphthalene	162	8.097	8.100	-0.003	94	86845	1.00	0.8553	
81 2-Nitroaniline	65	8.197	8.200	-0.003	91	12636	1.00	0.8116	
84 Dimethyl phthalate	163	8.332	8.335	-0.003	99	95422	1.00	0.8443	
85 1,3-Dinitrobenzene	168	8.356	8.358	-0.002	95	8517	1.00	0.7097	a
86 2,6-Dinitrotoluene	165	8.379	8.382	-0.003	93	15177	1.00	0.8874	
87 1,2-Dinitrobenzene	168	8.432	8.435	-0.003	93	8015	1.00	0.8442	
88 Acenaphthylene	152	8.444	8.446	-0.002	98	130147	1.00	0.7978	
89 3-Nitroaniline	138	8.538	8.546	-0.008	94	16592	1.00	0.9084	
* 90 Acenaphthene-d10	164	8.562	8.558	0.004	94	491046	8.00	8.00	
91 Acenaphthene	153	8.585	8.587	-0.002	93	86275	1.00	0.9052	
92 2,4-Dinitrophenol	184	8.614	8.617	-0.003	83	7585	2.00	2.51	
95 2,4-Dinitrotoluene	165	8.714	8.717	-0.002	94	16604	1.00	0.7850	
96 Dibenzofuran	168	8.726	8.728	-0.002	98	130192	1.00	0.7325	
93 4-Nitrophenol	109	8.744	8.740	0.004	84	13924	2.00	1.87	a
99 2,3,4,6-Tetrachlorophenol	232	8.849	8.852	-0.003	69	18413	1.00	0.9480	a
101 Diethyl phthalate	149	8.908	8.910	-0.002	99	93044	1.00	0.8122	
102 Hexadecane	57	8.920	8.922	-0.002	90	55192	1.00	0.8620	
105 4-Chlorophenyl phenyl ethe	204	9.002	9.004	-0.002	85	59035	1.00	0.8893	
104 Fluorene	166	9.008	9.010	-0.002	96	104699	1.00	0.7848	
107 4-Nitroaniline	138	9.043	9.051	-0.008	93	19835	1.00	1.09	a
108 4,6-Dinitro-2-methylphenol	198	9.049	9.057	-0.008	91	15366	2.00	1.36	
109 Diphenylamine	169	9.102	9.104	-0.002	95	81396	0.8500	0.7552	
110 N-Nitrosodiphenylamine	169	9.102	9.104	-0.002	59	81396	1.00	0.8885	
112 1,2-Diphenylhydrazine	77	9.131	9.134	-0.003	41	81701	1.00	0.8525	
111 Azobenzene	77	9.131	9.134	-0.003	96	81701	1.00	0.8525	
$ 113 2,4,6-Tribromophenol	330	9.219	9.222	-0.003	83	6288	1.00	0.9870	
118 4-Bromophenyl phenyl ether	248	9.407	9.410	-0.003	61	29575	1.00	0.9437	Ma
122 Hexachlorobenzene	284	9.472	9.474	-0.002	91	25769	1.00	0.99	a
127 Pentachlorophenol	266	9.648	9.645	0.003	0	15884	2.00	1.52	
130 n-Octadecane	57	9.678	9.674	0.004	93	53862	1.00	0.8252	
* 131 Phenanthrene-d10	188	9.783	9.780	0.003	98	854354	8.00	8.00	
132 Phenanthrene	178	9.801	9.803	-0.002	96	158278	1.00	0.6999	
134 Anthracene	178	9.842	9.844	-0.002	97	150026	1.00	0.2812	
135 Carbazole	167	9.983	9.985	-0.002	96	146147	1.00	0.7434	
137 Di-n-butyl phthalate	149	10.242	10.244	-0.002	99	141074	1.00	0.7179	a
143 Fluoranthene	202	10.776	10.778	-0.002	97	178159	1.00	0.4021	
146 Pyrene	202	10.964	10.966	-0.002	98	190596	1.00	0.7900	

Report Date: 05-Aug-2019 12:07:21 Chrom Revision: 2.3 15-Jul-2019 06:58:08
Data File: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021904.D

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
$ 149 Terphenyl-d14	244	11.088	11.090	-0.002	100	128160	1.00	0.2299	
154 Butyl benzyl phthalate	149	11.546	11.548	-0.002	94	56165	1.00	0.9793	
159 Benzo[a]anthracene	228	12.210	12.212	-0.002	97	158126	1.00	1.22	
* 160 Chrysene-d12	240	12.221	12.224	-0.003	97	865680	8.00	8.00	
162 Bis(2-ethylhexyl) phthalat	149	12.233	12.229	0.004	93	69644	1.00	0.9819	
161 Chrysene	228	12.257	12.259	-0.003	96	180688	1.00	0.7529	
164 Di-n-octyl phthalate	149	13.279	13.281	-0.002	99	78573	1.00	0.6512	
165 Benzo[b]fluoranthene	252	14.013	14.021	-0.008	97	135024	1.00	1.19	a
167 Benzo[k]fluoranthene	252	14.072	14.080	-0.008	99	146657	1.00	0.9221	a
168 Benzo[a]pyrene	252	14.747	14.761	-0.014	77	102407	1.00	1.00	a
* 169 Perylene-d12	264	14.900	14.902	-0.002	97	896806	8.00	8.00	a
172 Indeno[1,2,3-cd]pyrene	276	17.097	17.105	-0.008	97	102174	1.00	0.9851	a
173 Dibenz(a,h)anthracene	278	17.168	17.176	-0.008	93	87321	1.00	1.04	a
174 Benzo[g,h,i]perylene	276	17.714	17.728	-0.014	96	101097	1.00	1.13	a
S 188 Total Cresols	1				0			2.34	
S 187 Methyl Phenols,Total	1				0			2.34	
S 189 Total Cresols, TCEQ Defini	1				0			3.52	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

SV_REGICAL_00027 Amount Added: 5.00 Units: uL

SV_INSTD_LVI_00020 Amount Added: 20.00 Units: uL Run Reagent

Report Date: 05-Aug-2019 12:07:21 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021904.D				
Injection Date:	02-Aug-2019 09:43:30	Instrument ID:	CHSVMS09	Operator ID:	
Lims ID:	IC REG LVI L1			Worklist Smp#:	4
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		

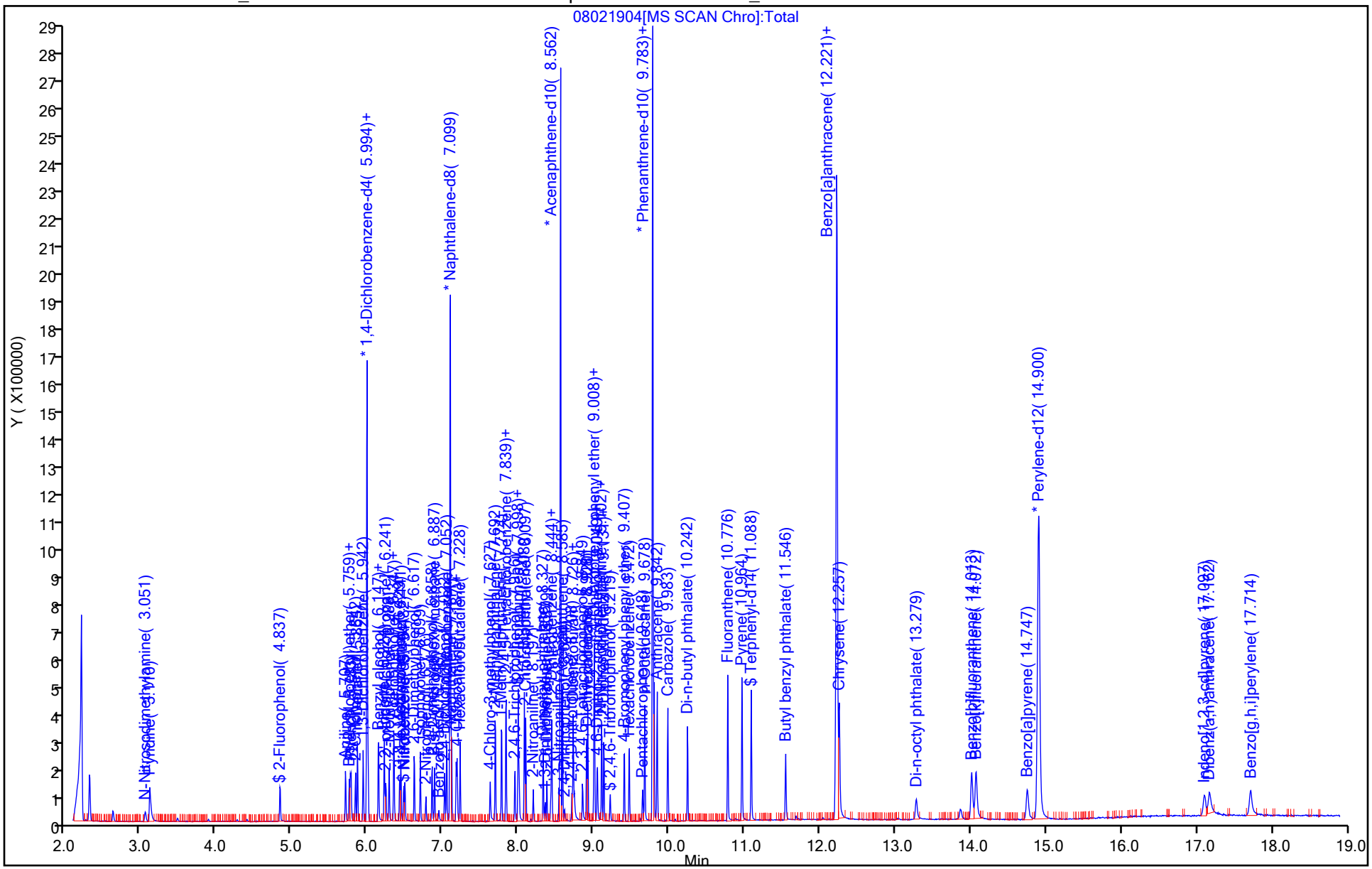

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021904.D				
Injection Date:	02-Aug-2019 09:43:30	Instrument ID:	CHSVMS09		
Lims ID:	IC REG LVI L1				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		
Column:		Detector	MS SCAN		

85 1,3-Dinitrobenzene, CAS: 99-65-0

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 8.36

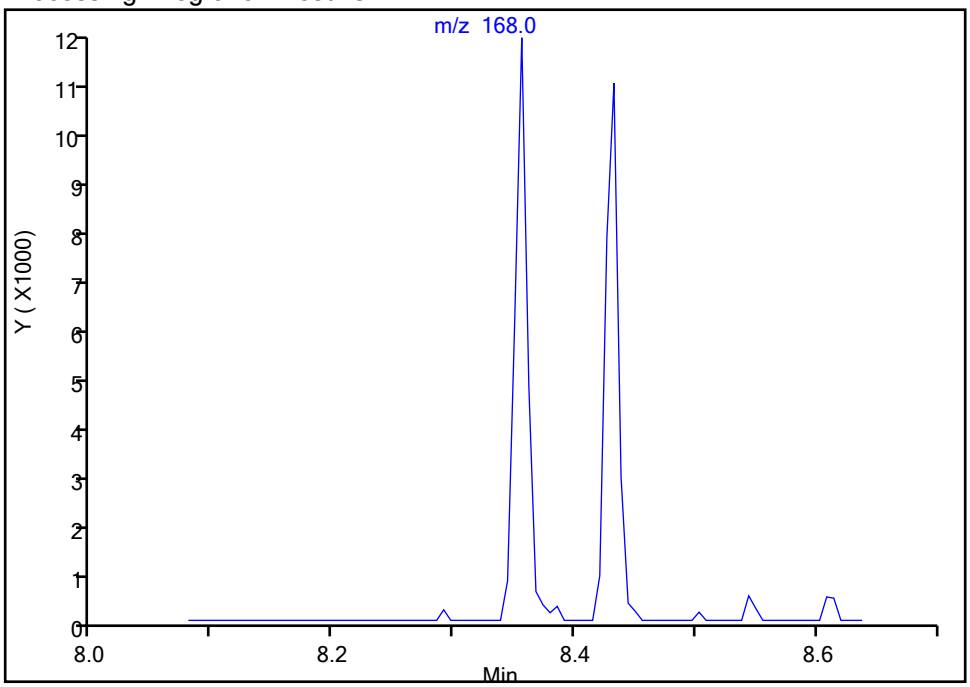

Manual Integration Results

RT: 8.36
Area: 8517
Amount: 0.709746
Amount Units: ug/ml

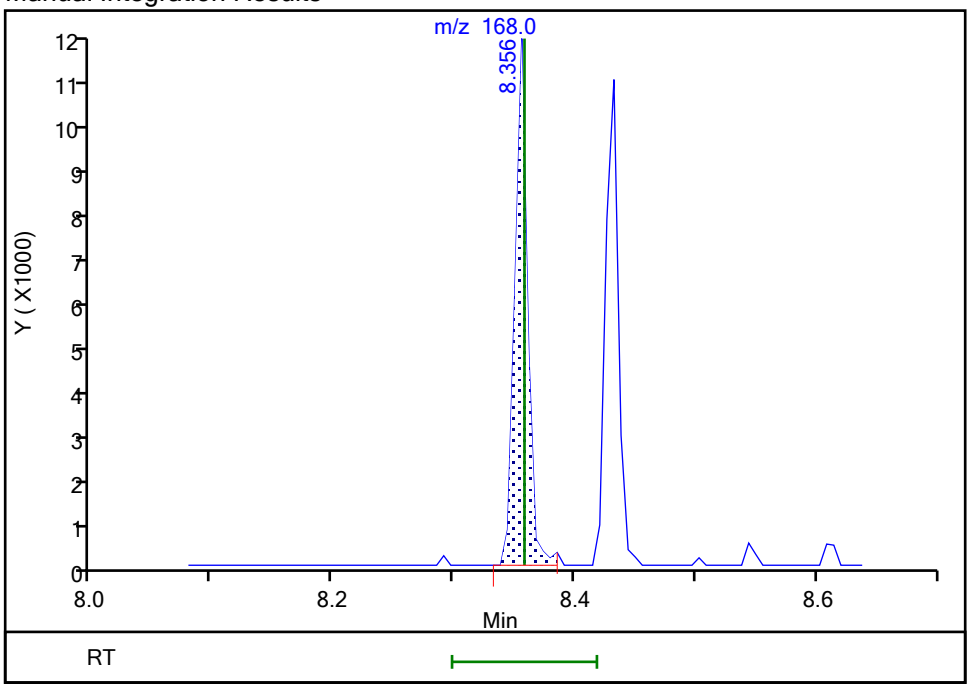

Reviewer: dangt, 02-Aug-2019 10:28:23
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021904.D				
Injection Date:	02-Aug-2019 09:43:30	Instrument ID:	CHSVMS09		
Lims ID:	IC REG LVI L1				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		
Column:		Detector	MS SCAN		

93 4-Nitrophenol, CAS: 100-02-7

Signal: 1

Not Detected
Expected RT: 8.74

Processing Integration Results

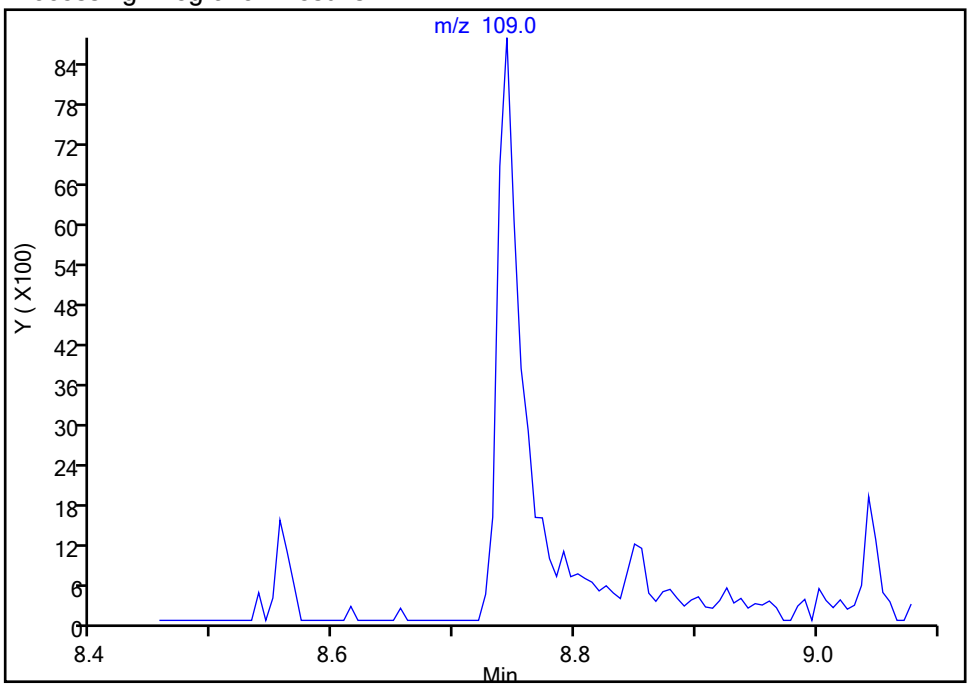

Manual Integration Results

RT: 8.74
Area: 13924
Amount: 1.867139
Amount Units: ug/ml

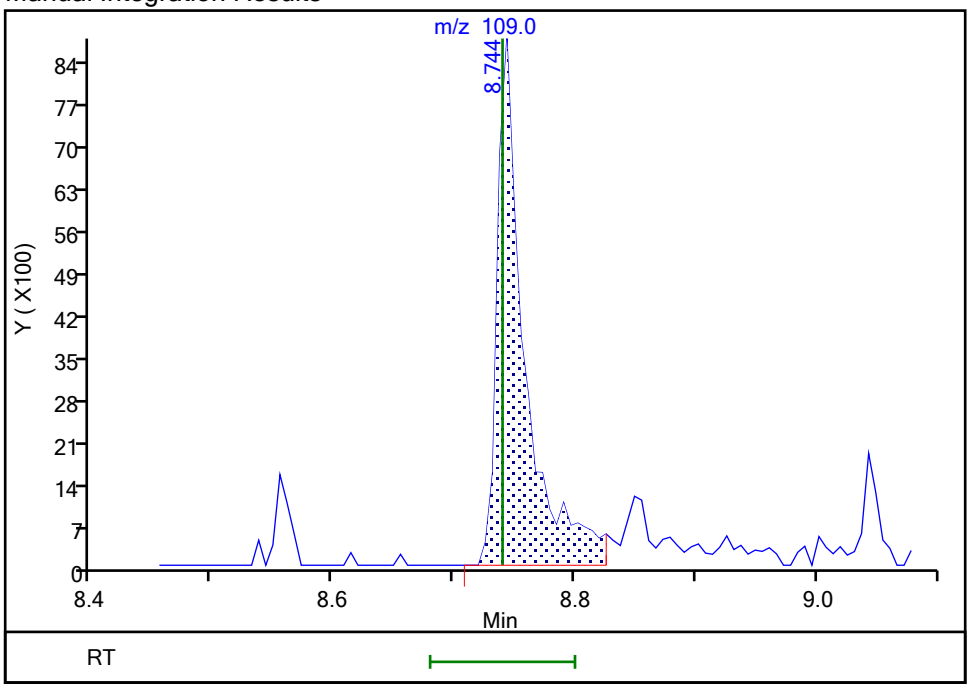

Reviewer: dangt, 02-Aug-2019 10:28:28
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021904.D				
Injection Date:	02-Aug-2019 09:43:30	Instrument ID:	CHSVMS09		
Lims ID:	IC REG LVI L1				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		
Column:		Detector	MS SCAN		

99 2,3,4,6-Tetrachlorophenol, CAS: 58-90-2

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 8.85

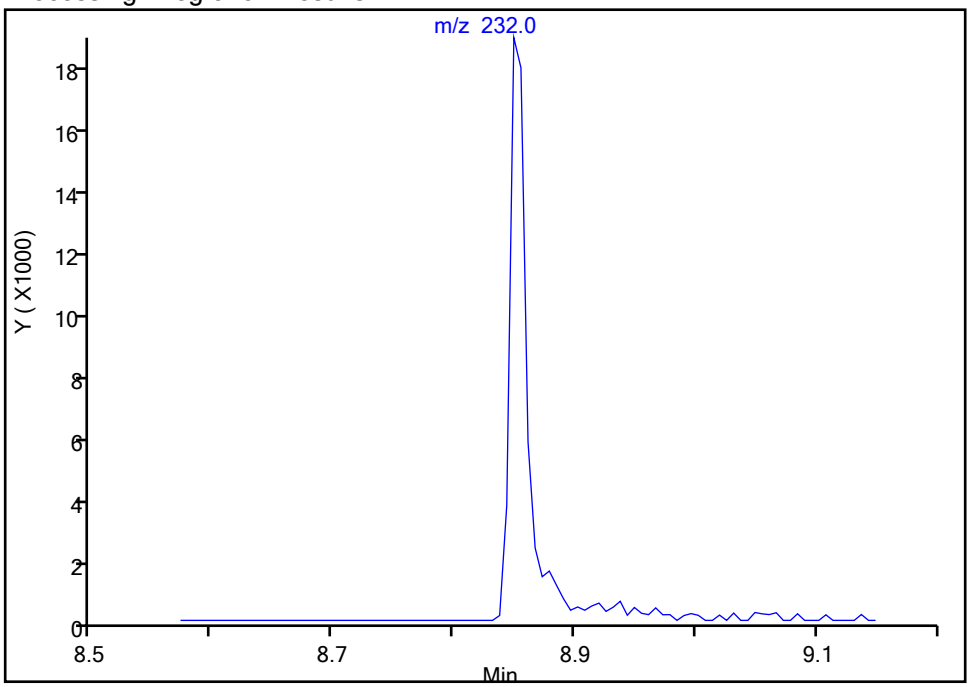

Manual Integration Results

RT: 8.85
Area: 18413
Amount: 0.947956
Amount Units: ug/ml

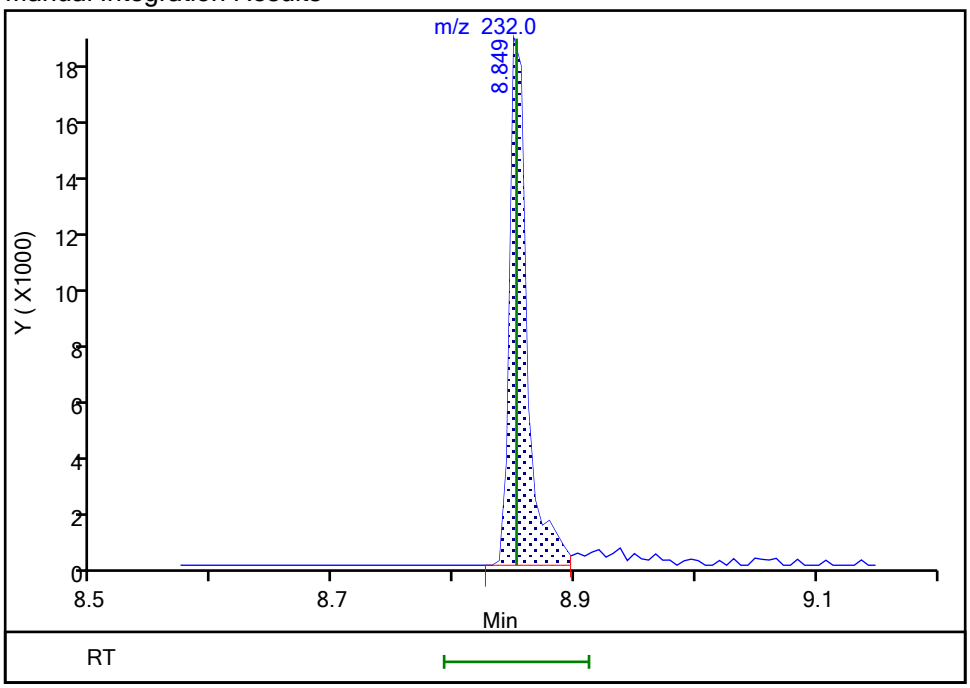

Reviewer: dangt, 02-Aug-2019 10:28:33
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021904.D				
Injection Date:	02-Aug-2019 09:43:30	Instrument ID:	CHSVMS09		
Lims ID:	IC REG LVI L1				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		
Column:		Detector	MS SCAN		

107 4-Nitroaniline, CAS: 100-01-6

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 9.05

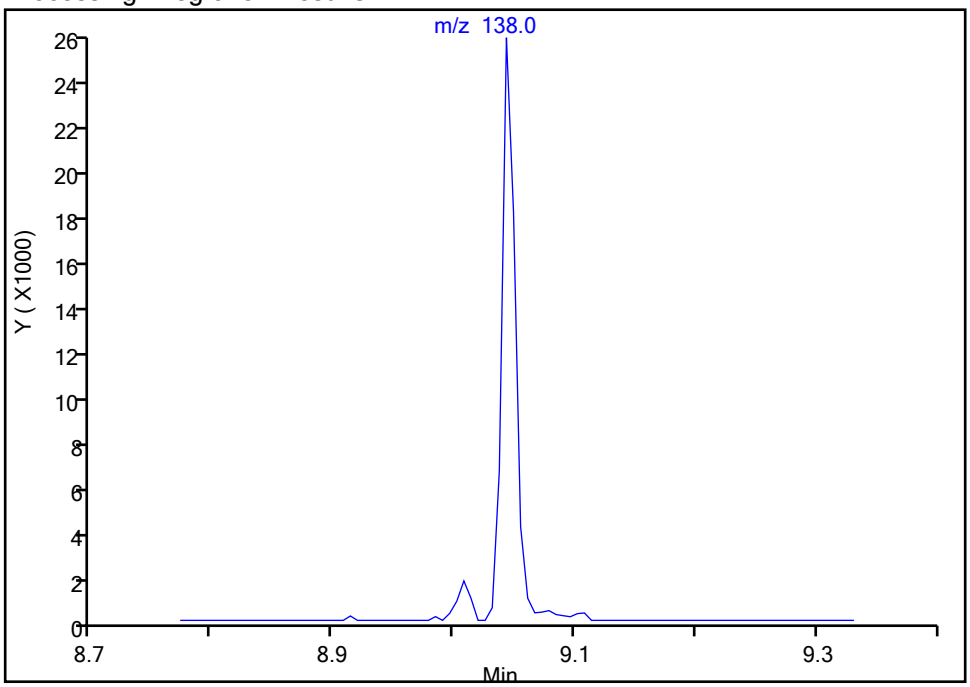

Manual Integration Results

RT: 9.04
Area: 19835
Amount: 1.091835
Amount Units: ug/ml

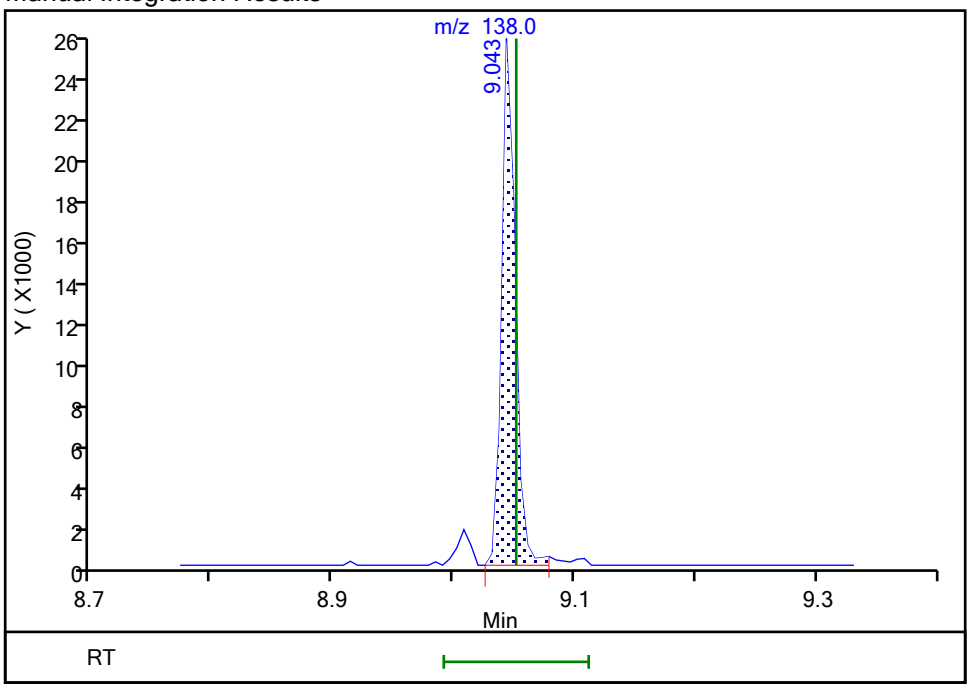

Reviewer: dangt, 02-Aug-2019 10:28:39
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021904.D				
Injection Date:	02-Aug-2019 09:43:30	Instrument ID:	CHSVMS09		
Lims ID:	IC REG LVI L1				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		
Column:		Detector	MS SCAN		

118 4-Bromophenyl phenyl ether, CAS: 101-55-3

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 9.41

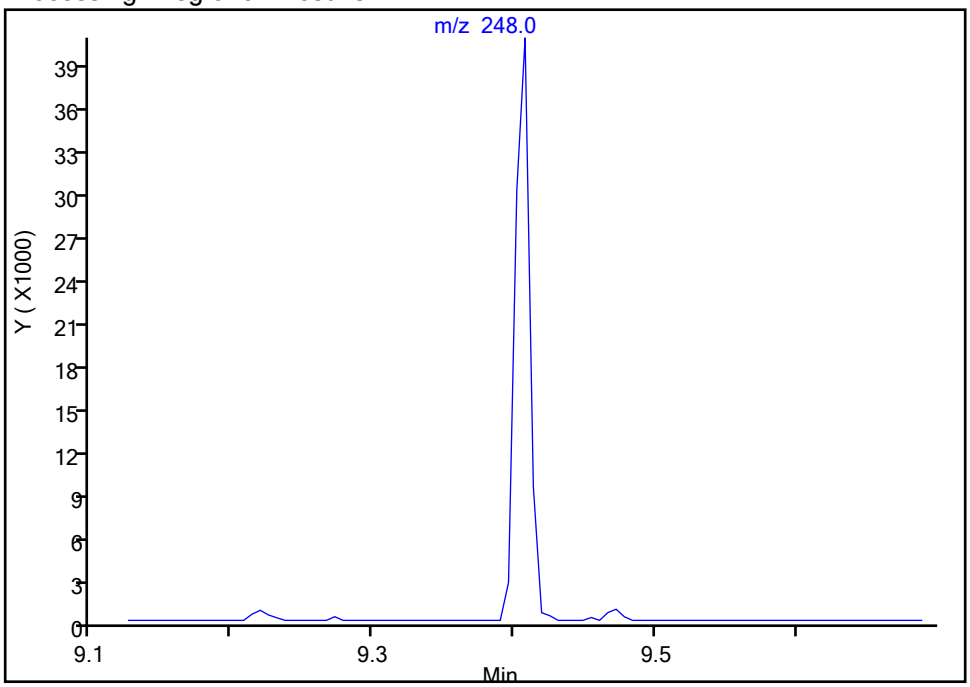

Manual Integration Results

RT: 9.41
Area: 29575
Amount: 0.943656
Amount Units: ug/ml

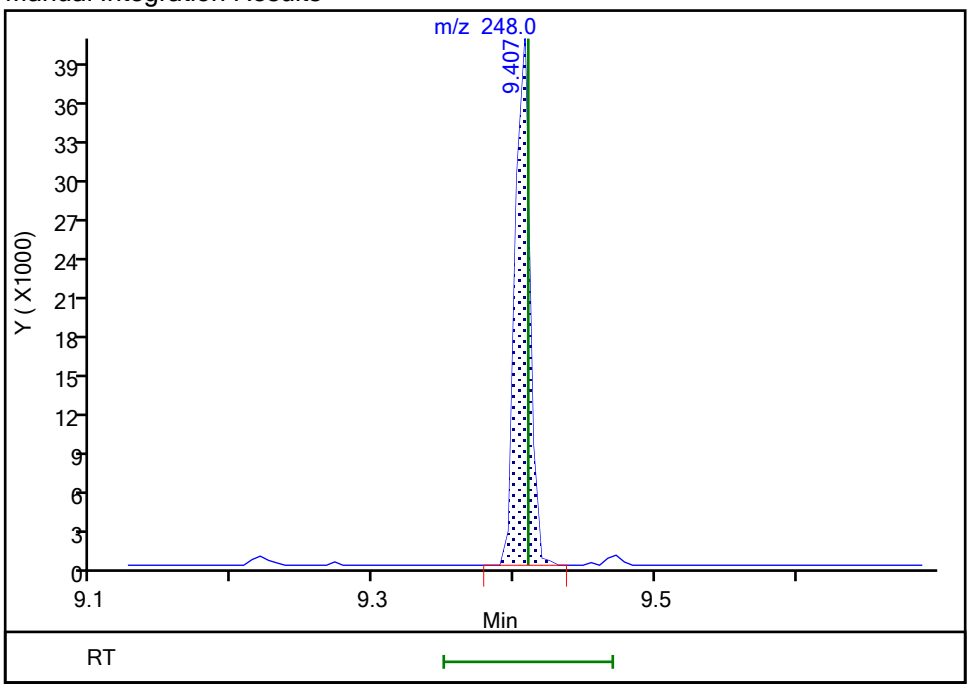

Reviewer: dangt, 02-Aug-2019 10:29:05
Audit Action: Manually Integrated Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021904.D				
Injection Date:	02-Aug-2019 09:43:30	Instrument ID:	CHSVMS09		
Lims ID:	IC REG LVI L1				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		
Column:		Detector	MS SCAN		

122 Hexachlorobenzene, CAS: 118-74-1

Signal: 1

Not Detected
Expected RT: 9.47

Processing Integration Results

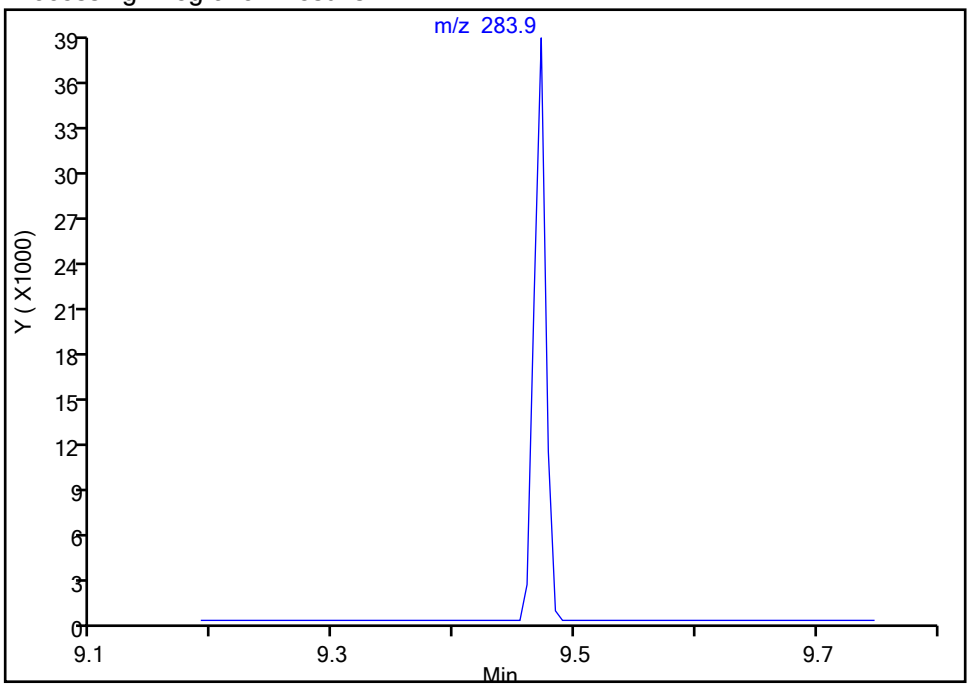

Manual Integration Results

RT: 9.47
Area: 25769
Amount: 0.994380
Amount Units: ug/ml

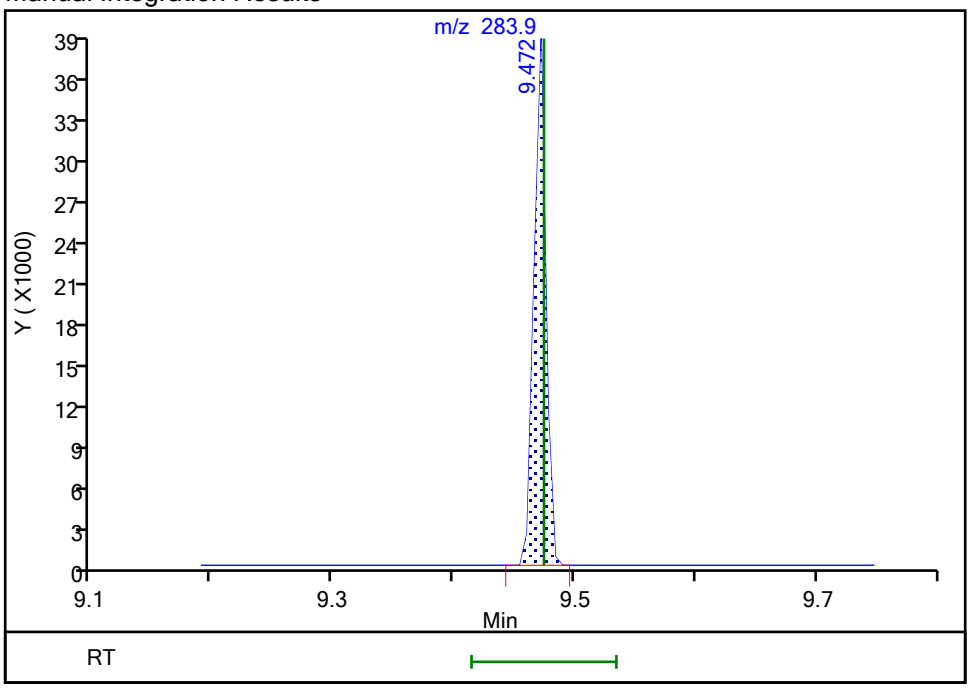

Reviewer: dangt, 02-Aug-2019 10:28:49
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021904.D				
Injection Date:	02-Aug-2019 09:43:30	Instrument ID:	CHSVMS09		
Lims ID:	IC REG LVI L1				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		
Column:		Detector	MS SCAN		

137 Di-n-butyl phthalate, CAS: 84-74-2

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 10.24

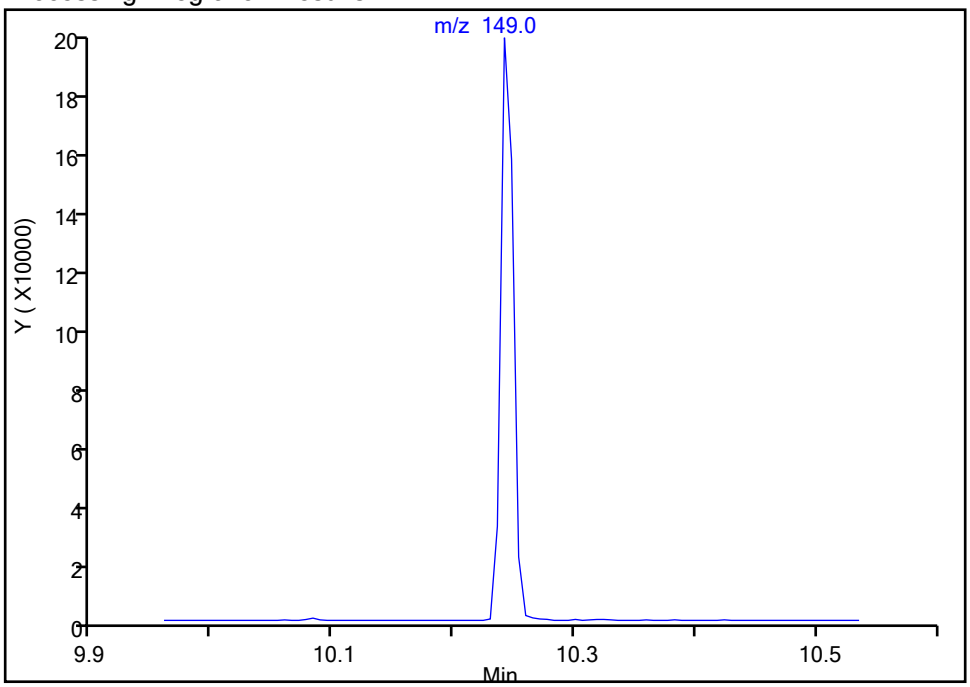

Manual Integration Results

RT: 10.24
Area: 141074
Amount: 0.717885
Amount Units: ug/ml

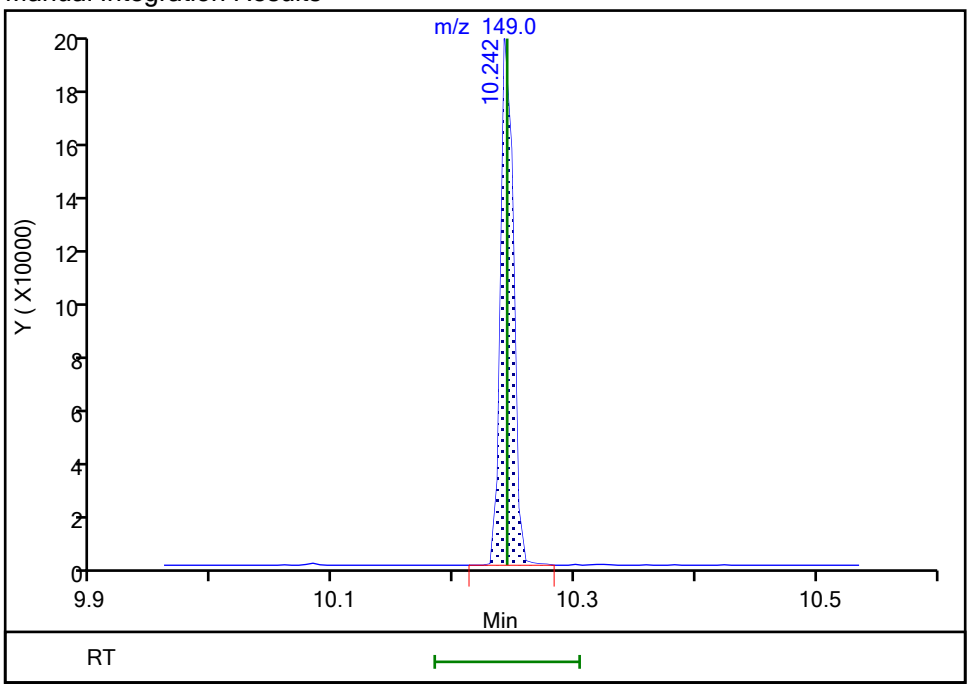

Reviewer: dangt, 02-Aug-2019 10:29:12
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021904.D				
Injection Date:	02-Aug-2019 09:43:30	Instrument ID:	CHSVMS09		
Lims ID:	IC REG LVI L1				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		
Column:		Detector	MS SCAN		

165 Benzo[b]fluoranthene, CAS: 205-99-2

Signal: 1

Processing Integration Results

RT: 14.07
Area: 163888
Amount: 0
Amount Units: ug/ml

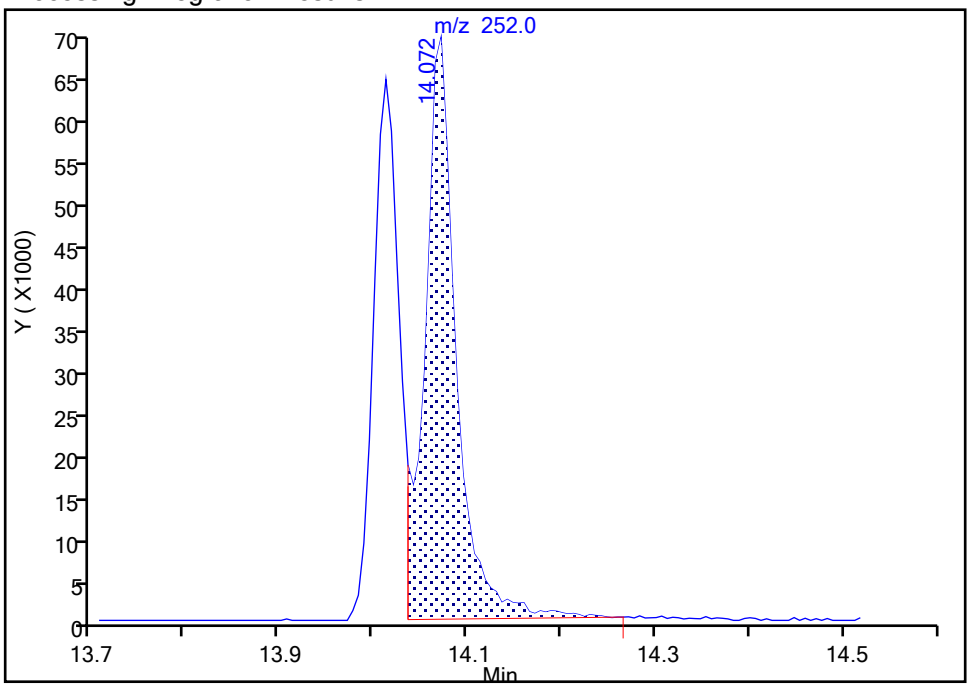

Manual Integration Results

RT: 14.01
Area: 135024
Amount: 1.187419
Amount Units: ug/ml

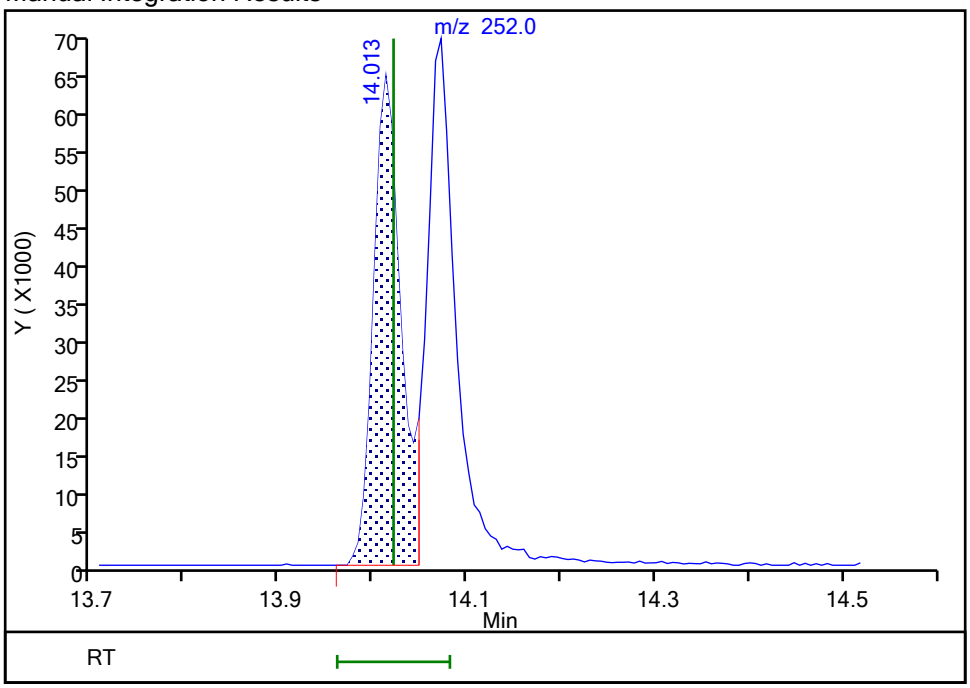

Reviewer: dangt, 02-Aug-2019 10:28:02
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021904.D				
Injection Date:	02-Aug-2019 09:43:30	Instrument ID:	CHSVMS09		
Lims ID:	IC REG LVI L1				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		
Column:		Detector	MS SCAN		

167 Benzo[k]fluoranthene, CAS: 207-08-9

Signal: 1

Not Detected
Expected RT: 14.08

Processing Integration Results

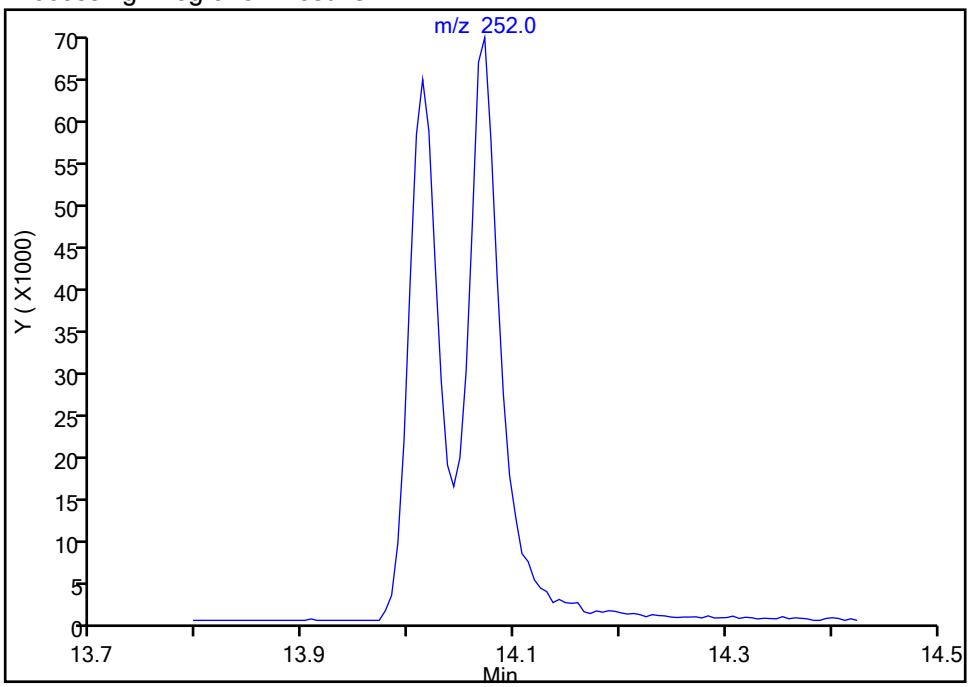

Manual Integration Results

RT: 14.07
Area: 146657
Amount: 0.922076
Amount Units: ug/ml

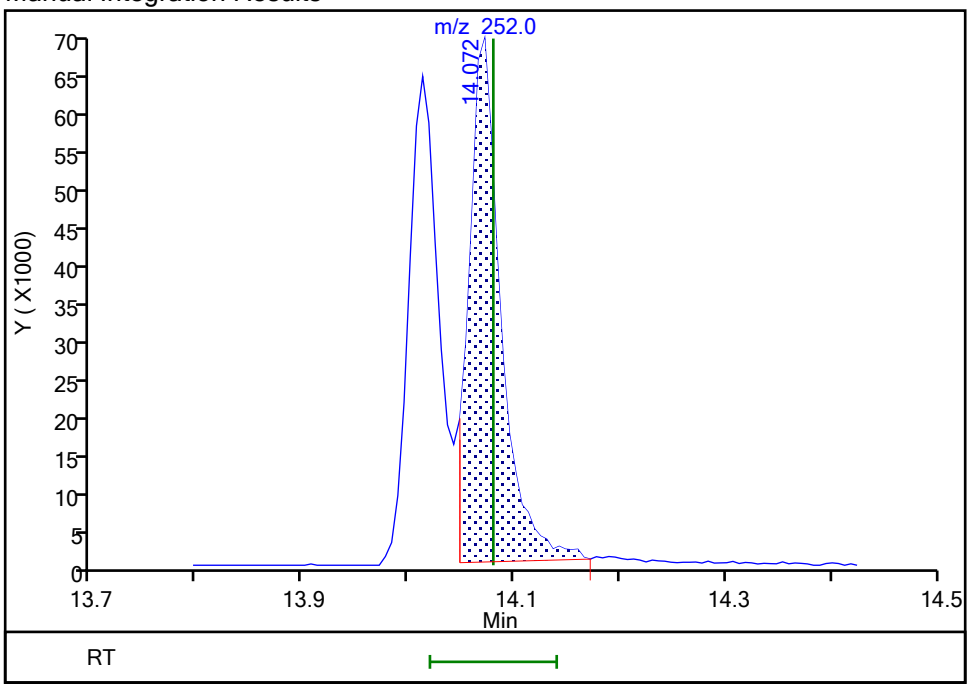

Reviewer: dangt, 02-Aug-2019 10:29:37
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021904.D				
Injection Date:	02-Aug-2019 09:43:30	Instrument ID:	CHSVMS09		
Lims ID:	IC REG LVI L1				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		
Column:		Detector	MS SCAN		

168 Benzo[a]pyrene, CAS: 50-32-8

Signal: 1

Processing Integration Results

RT: 14.89
Area: 8146
Amount: 0
Amount Units: ug/ml

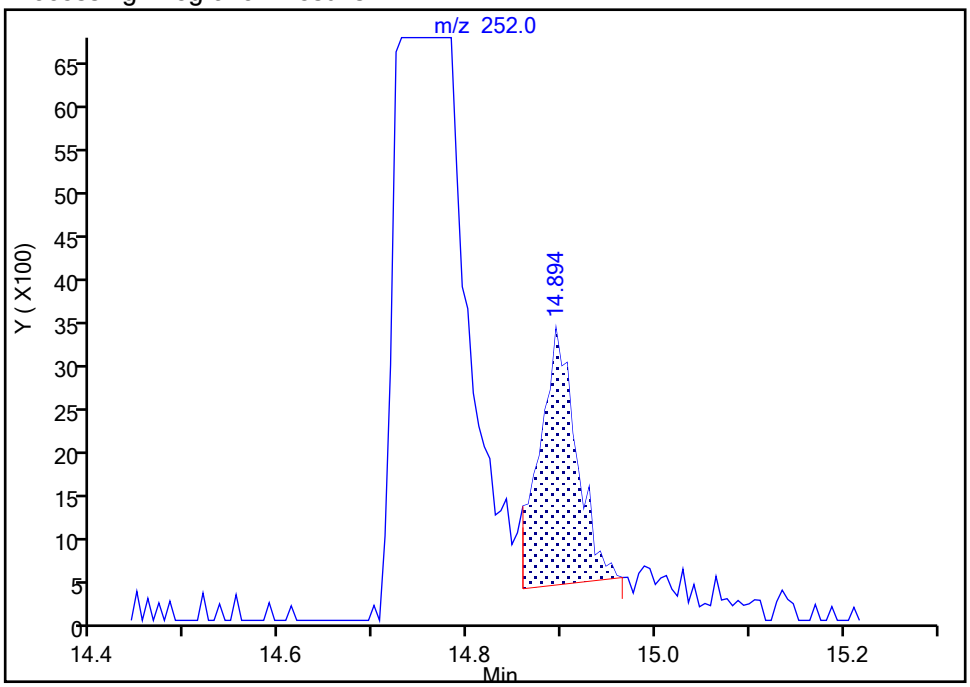

Manual Integration Results

RT: 14.75
Area: 102407
Amount: 0.999206
Amount Units: ug/ml

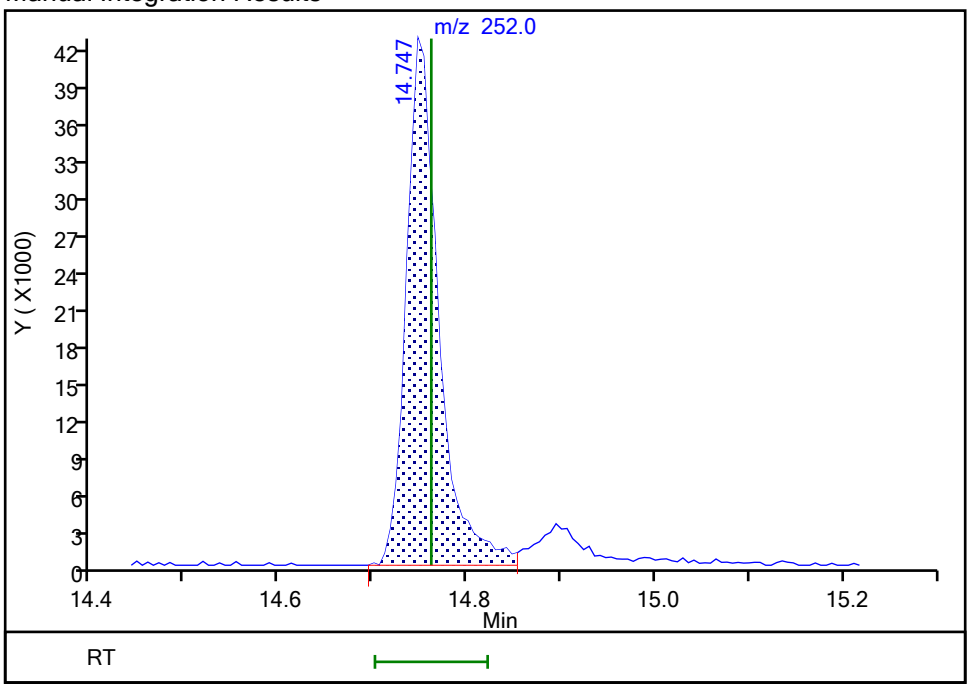

Reviewer: dangt, 02-Aug-2019 10:28:07

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021904.D				
Injection Date:	02-Aug-2019 09:43:30	Instrument ID:	CHSVMS09		
Lims ID:	IC REG LVI L1				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		
Column:		Detector	MS SCAN		

* 169 Perylene-d12, CAS: 1520-96-3

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 14.90

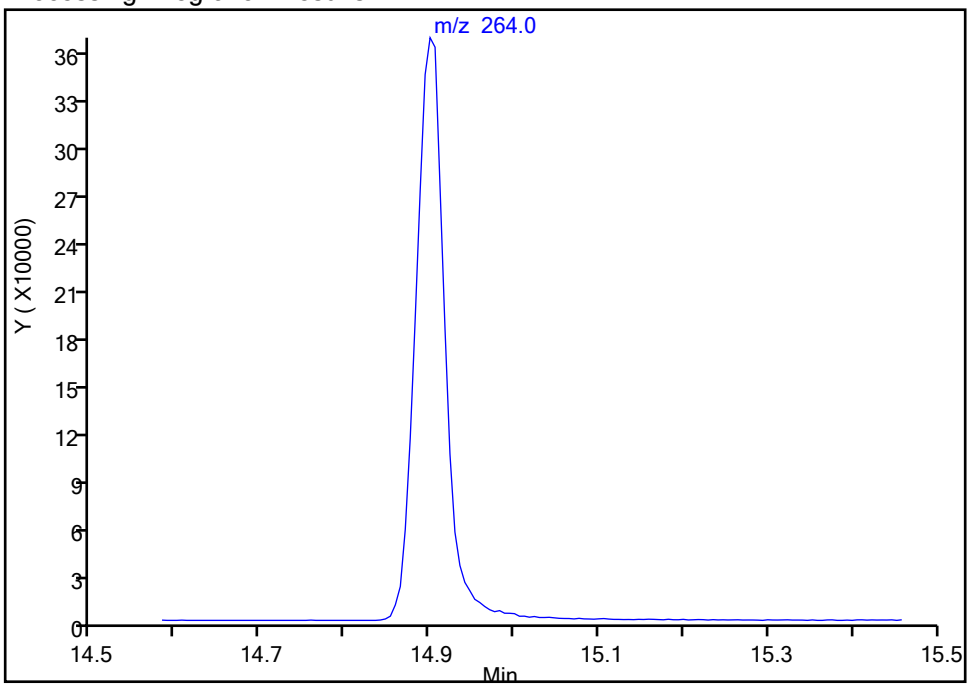

Manual Integration Results

RT:	14.90
Area:	896806
Amount:	8.000000
Amount Units:	ug/ml

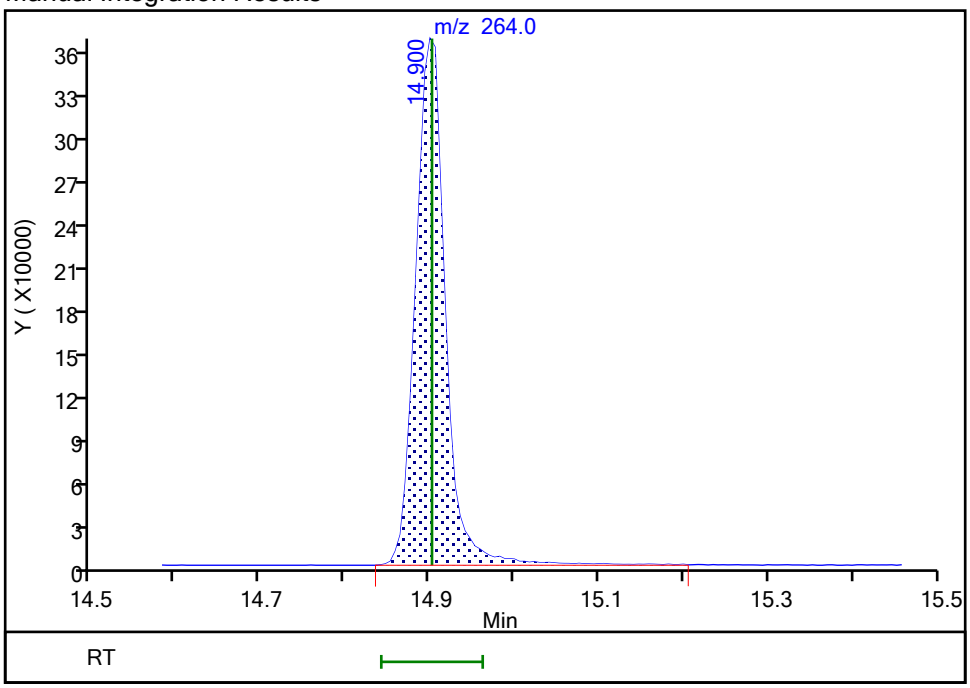

Reviewer: dangt, 02-Aug-2019 10:28:11
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021904.D				
Injection Date:	02-Aug-2019 09:43:30	Instrument ID:	CHSVMS09		
Lims ID:	IC REG LVI L1				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		
Column:		Detector	MS SCAN		

172 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

Signal: 1

Not Detected
Expected RT: 17.11

Processing Integration Results

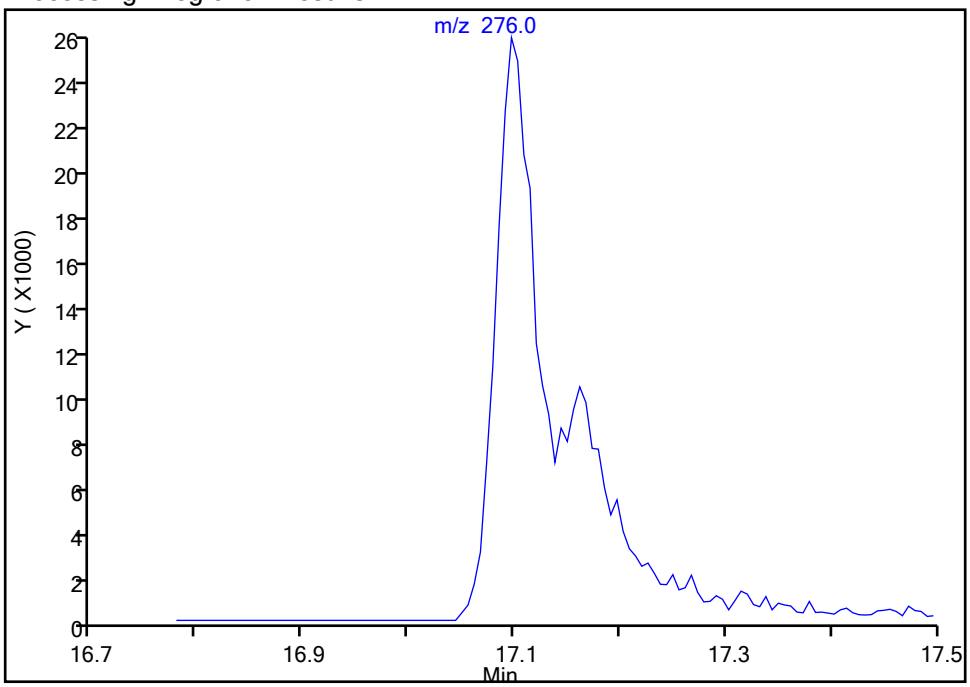

Manual Integration Results

RT: 17.10
Area: 102174
Amount: 0.985134
Amount Units: ug/ml

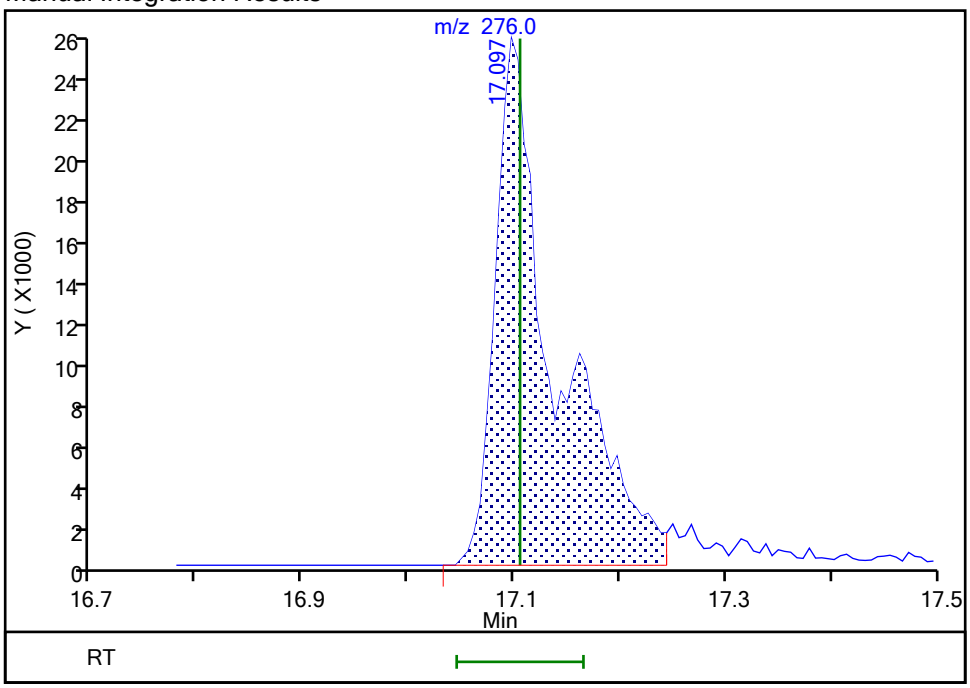

Reviewer: dangt, 02-Aug-2019 10:29:25
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021904.D				
Injection Date:	02-Aug-2019 09:43:30	Instrument ID:	CHSVMS09		
Lims ID:	IC REG LVI L1				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		
Column:		Detector	MS SCAN		

173 Dibenz(a,h)anthracene, CAS: 53-70-3

Signal: 1

Not Detected
Expected RT: 17.18

Processing Integration Results

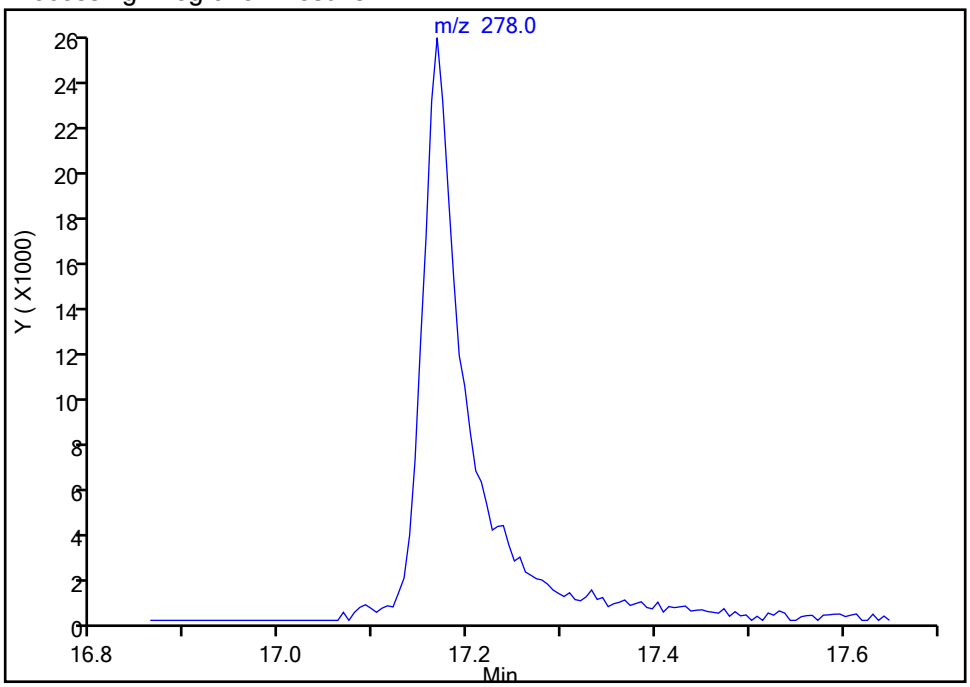

Manual Integration Results

RT: 17.17
Area: 87321
Amount: 1.044519
Amount Units: ug/ml

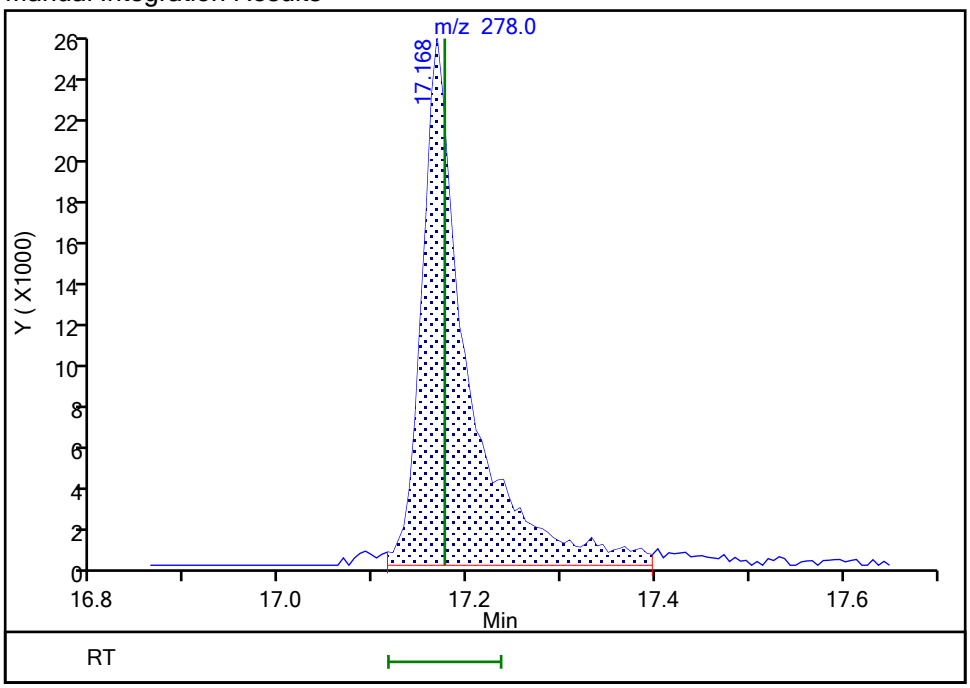

Reviewer: dangt, 02-Aug-2019 10:29:31
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021904.D				
Injection Date:	02-Aug-2019 09:43:30	Instrument ID:	CHSVMS09		
Lims ID:	IC REG LVI L1				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		
Column:		Detector	MS SCAN		

174 Benzo[g,h,i]perylene, CAS: 191-24-2

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 17.73

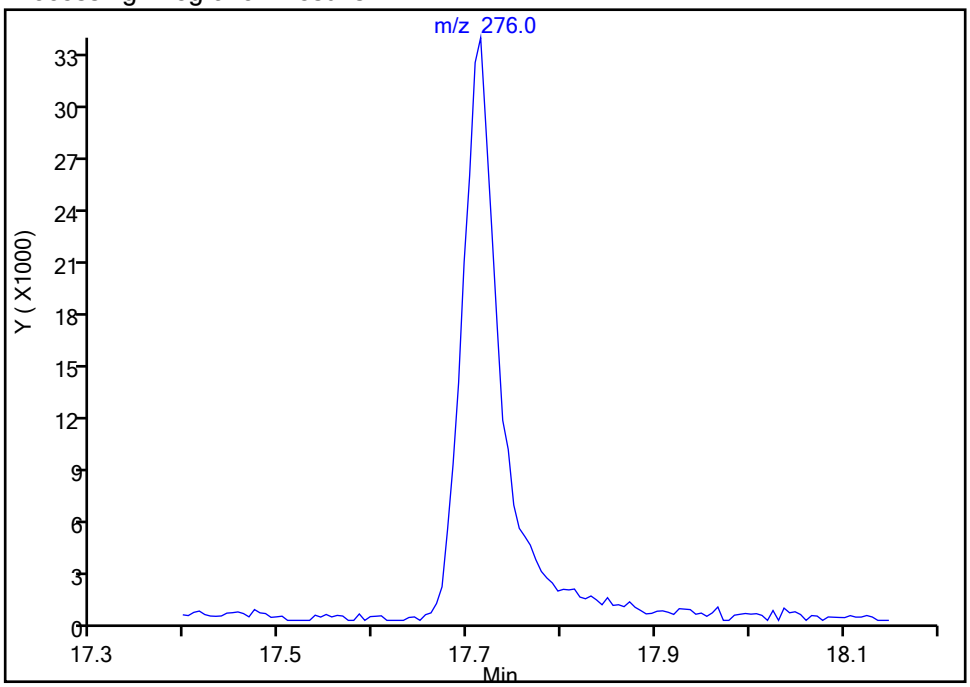

Manual Integration Results

RT: 17.71
Area: 101097
Amount: 1.134778
Amount Units: ug/ml

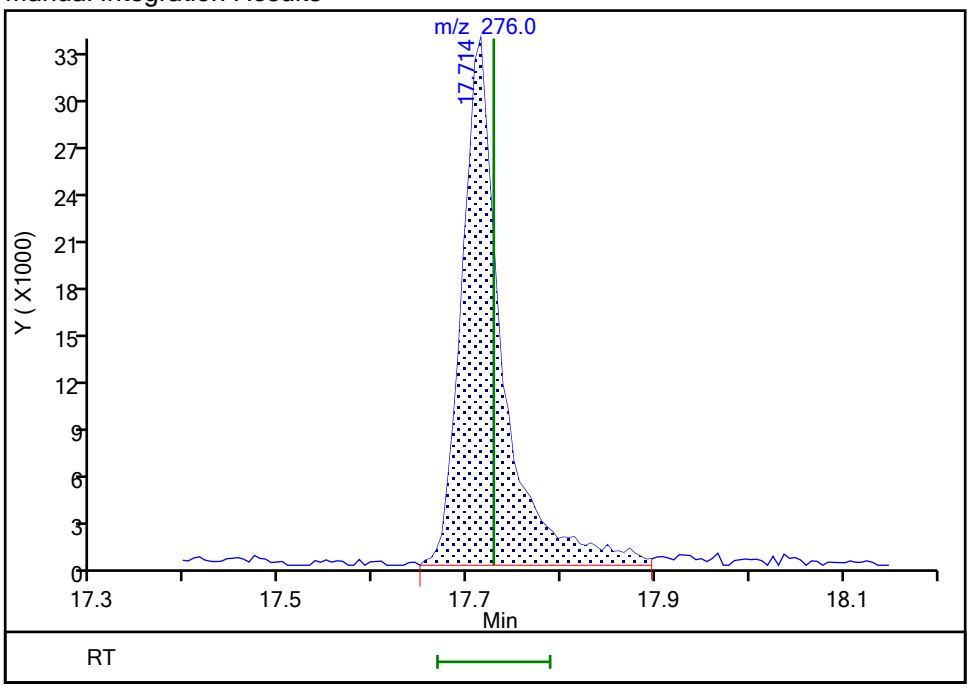

Reviewer: dangt, 02-Aug-2019 10:29:43
Audit Action: Assigned Compound ID Audit Reason: Assign Peak

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021905.D
Lims ID: IC REG LVI L2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 02-Aug-2019 10:10:30 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: IC REG LVI L2
Misc. Info.: 600-0030361-005
Operator ID: Instrument ID: CHSVMS09
Sublist: chrom-8270LVI_9*sub33

Method: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\8270LVI_9.m
Limit Group: SV - 8270D_8270DLL
Last Update: 05-Aug-2019 12:07:26 Calib Date: 02-Aug-2019 17:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021920.D

Column 1 : Det: MS SCAN
Process Host: CTX0303

First Level Reviewer: somjitp Date: 05-Aug-2019 11:05:51

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 N-Nitrosodimethylamine	74	3.053	3.048	0.005	93	48119	2.00	2.16	
2 Pyridine	79	3.106	3.101	0.005	95	148231	4.00	4.64	
$ 7 2-Fluorophenol	112	4.839	4.839	0.000	89	78517	2.00	2.25	
12 Aniline	93	5.708	5.709	-0.001	98	121418	2.00	2.48	
16 Bis(2-chloroethyl)ether	93	5.755	5.756	-0.001	98	84891	2.00	2.48	
$ 10 Phenol-d5	99	5.773	5.768	0.005	73	97810	2.00	2.52	
11 Phenol	94	5.784	5.779	0.005	94	101380	2.00	2.54	
17 2-Chlorophenol	128	5.843	5.838	0.005	95	86835	2.00	2.52	
18 n-Decane	57	5.867	5.867	0.000	87	92918	2.00	2.13	
20 1,3-Dichlorobenzene	146	5.943	5.944	-0.001	98	101341	2.00	2.22	
* 21 1,4-Dichlorobenzene-d4	152	5.996	5.991	0.005	92	241638	8.00	8.00	
22 1,4-Dichlorobenzene	146	6.008	6.008	0.000	96	96150	2.00	2.14	
23 Benzyl alcohol	108	6.143	6.144	-0.001	96	40179	2.00	2.24	
24 1,2-Dichlorobenzene	146	6.143	6.144	-0.001	99	95471	2.00	2.17	
26 Indene	115	6.225	6.226	-0.001	91	142183	2.00	2.11	
27 2,2'-oxybis[1-chloropropan	45	6.243	6.243	0.000	96	101249	2.00	2.48	
25 2-Methylphenol	108	6.284	6.285	0.000	93	71587	2.00	2.43	
29 Acetophenone	105	6.348	6.349	-0.001	96	103782	2.00	2.19	
31 N-Nitrosodi-n-propylamine	70	6.354	6.355	-0.001	86	53136	2.00	2.44	
30 3 & 4 Methylphenol	108	6.425	6.425	0.000	96	74349	2.00	2.37	
34 Hexachloroethane	117	6.442	6.443	-0.001	87	31722	2.00	2.31	
$ 35 Nitrobenzene-d5	82	6.478	6.478	0.000	87	64963	2.00	2.28	
36 Nitrobenzene	77	6.495	6.496	-0.001	85	68776	2.00	2.40	
39 2,6-Dimethylphenol	122	6.619	6.619	0.000	94	79043	2.00	2.48	
41 Isophorone	82	6.701	6.707	-0.006	98	144308	2.00	2.16	
42 2-Nitrophenol	139	6.777	6.778	-0.001	88	32546	2.00	1.97	
43 2,4-Dimethylphenol	107	6.854	6.854	0.000	92	73264	2.00	2.45	
46 Bis(2-chloroethoxy)methane	93	6.889	6.890	-0.001	98	95046	2.00	2.18	
47 Benzoic acid	122	6.953	6.978	-0.025	89	19759	2.00	1.83	
48 2,4-Dichlorophenol	162	7.024	7.019	0.005	89	71915	2.00	2.35	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
49 1,2,4-Trichlorobenzene	180	7.047	7.054	-0.007	92	91416	2.00	2.24	
* 50 Naphthalene-d8	136	7.094	7.095	-0.001	99	719320	8.00	8.00	
51 Naphthalene	128	7.112	7.113	-0.001	97	232018	2.00	2.19	
52 4-Chloroaniline	127	7.177	7.177	0.000	98	101618	2.00	2.55	
53 2,6-Dichlorophenol	162	7.188	7.189	-0.001	95	75687	2.00	2.56	
55 Hexachlorobutadiene	225	7.230	7.230	0.000	92	52196	2.00	2.51	a
60 4-Chloro-3-methylphenol	107	7.623	7.624	-0.001	93	59753	2.00	2.23	
62 2-Methylnaphthalene	142	7.694	7.694	0.000	93	187127	2.00	2.20	
63 1-Methylnaphthalene	142	7.776	7.777	-0.001	93	171328	2.00	2.23	
66 Hexachlorocyclopentadiene	237	7.835	7.835	0.000	93	47532	2.00	2.33	a
65 1,2,4,5-Tetrachlorobenzene	216	7.841	7.841	0.000	94	100189	2.00	2.19	
69 2,4,6-Trichlorophenol	196	7.952	7.953	-0.001	88	58404	2.00	2.37	
$ 72 2-Fluorobiphenyl	172	7.999	8.000	-0.001	99	218681	2.00	1.94	
71 2,4,5-Trichlorophenol	196	8.011	8.006	0.005	93	58357	2.00	2.52	
77 1,1'-Biphenyl	154	8.081	8.082	-0.001	94	220404	2.00	2.17	
78 2-Chloronaphthalene	162	8.099	8.100	-0.001	94	172075	2.00	2.21	
81 2-Nitroaniline	65	8.199	8.200	-0.001	90	32237	2.00	2.01	
84 Dimethyl phthalate	163	8.328	8.335	-0.007	99	194295	2.00	2.19	
85 1,3-Dinitrobenzene	168	8.357	8.358	-0.001	96	20599	2.00	1.67	
86 2,6-Dinitrotoluene	165	8.381	8.382	-0.001	92	37454	2.00	2.13	
87 1,2-Dinitrobenzene	168	8.428	8.435	-0.007	94	18918	2.00	1.94	
88 Acenaphthylene	152	8.440	8.446	-0.006	97	259873	2.00	2.17	
89 3-Nitroaniline	138	8.540	8.546	-0.006	96	40441	2.00	2.15	
* 90 Acenaphthene-d10	164	8.557	8.558	-0.001	94	505566	8.00	8.00	
91 Acenaphthene	153	8.587	8.587	0.000	93	169664	2.00	2.21	
92 2,4-Dinitrophenol	184	8.610	8.617	-0.007	86	20420	4.00	3.79	
95 2,4-Dinitrotoluene	165	8.710	8.717	-0.006	95	43960	2.00	2.02	
96 Dibenzofuran	168	8.728	8.728	0.000	98	257805	2.00	2.18	
93 4-Nitrophenol	109	8.739	8.740	-0.001	85	31105	4.00	4.05	
99 2,3,4,6-Tetrachlorophenol	232	8.851	8.852	-0.001	68	41873	2.00	2.09	
101 Diethyl phthalate	149	8.904	8.910	-0.006	100	190310	2.00	2.19	
102 Hexadecane	57	8.921	8.922	-0.001	89	112388	2.00	2.11	
105 4-Chlorophenyl phenyl ethe	204	9.004	9.004	0.000	85	116441	2.00	2.18	
104 Fluorene	166	9.010	9.010	0.000	96	206337	2.00	2.21	
107 4-Nitroaniline	138	9.045	9.051	-0.006	92	43458	2.00	2.32	
108 4,6-Dinitro-2-methylphenol	198	9.051	9.057	-0.006	94	41952	4.00	3.63	
109 Diphenylamine	169	9.104	9.104	0.000	94	161046	1.70	1.89	
110 N-Nitrosodiphenylamine	169	9.104	9.104	0.000	60	161046	2.00	2.22	
112 1,2-Diphenylhydrazine	77	9.133	9.134	-0.001	41	160513	2.00	2.16	
111 Azobenzene	77	9.133	9.134	-0.001	94	160513	2.00	2.16	
$ 113 2,4,6-Tribromophenol	330	9.221	9.222	-0.001	86	13511	2.00	2.06	
118 4-Bromophenyl phenyl ether	248	9.403	9.410	-0.007	62	65265	2.00	2.27	a
122 Hexachlorobenzene	284	9.468	9.474	-0.006	92	54112	2.00	2.31	a
127 Pentachlorophenol	266	9.644	9.645	-0.001	0	44620	4.00	4.16	
130 n-Octadecane	57	9.673	9.674	-0.001	94	112574	2.00	2.12	
* 131 Phenanthrene-d10	188	9.779	9.780	-0.001	98	873962	8.00	8.00	
132 Phenanthrene	178	9.797	9.803	-0.006	97	305350	2.00	2.23	
134 Anthracene	178	9.844	9.844	0.000	97	312223	2.00	1.98	a
135 Carbazole	167	9.985	9.985	0.000	96	287903	2.00	2.19	
137 Di-n-butyl phthalate	149	10.243	10.244	-0.001	99	300712	2.00	2.20	
143 Fluoranthene	202	10.778	10.778	0.000	97	360206	2.00	2.00	
146 Pyrene	202	10.966	10.966	0.000	97	373807	2.00	2.21	

Report Date: 05-Aug-2019 12:07:29 Chrom Revision: 2.3 15-Jul-2019 06:58:08
Data File: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021905.D

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
$ 149 Terphenyl-d14	244	11.089	11.090	-0.001	100	257734	2.00	1.96	
154 Butyl benzyl phthalate	149	11.541	11.548	-0.007	95	126158	2.00	2.14	
159 Benzo[a]anthracene	228	12.205	12.212	-0.007	97	333380	2.00	2.50	
* 160 Chrysene-d12	240	12.223	12.224	-0.001	97	891922	8.00	8.00	
162 Bis(2-ethylhexyl) phthalat	149	12.229	12.229	0.000	95	157293	2.00	2.15	
161 Chrysene	228	12.258	12.259	-0.001	95	379743	2.00	2.29	
164 Di-n-octyl phthalate	149	13.280	13.281	-0.001	98	212017	2.00	1.71	
165 Benzo[b]fluoranthene	252	14.015	14.021	-0.006	97	297548	2.00	2.51	
167 Benzo[k]fluoranthene	252	14.067	14.080	-0.013	99	344492	2.00	2.29	
168 Benzo[a]pyrene	252	14.749	14.761	-0.012	77	242792	2.00	2.27	
* 169 Perylene-d12	264	14.896	14.902	-0.006	97	933940	8.00	8.00	
172 Indeno[1,2,3-cd]pyrene	276	17.099	17.105	-0.006	97	242983	2.00	2.25	M
173 Dibenz(a,h)anthracene	278	17.163	17.176	-0.013	94	197802	2.00	2.27	
174 Benzo[g,h,i]perylene	276	17.710	17.728	-0.018	96	216156	2.00	2.33	
S 189 Total Cresols, TCEQ Defini	1				0			8.23	
S 187 Methyl Phenols,Total	1				0			4.80	
S 188 Total Cresols	1				0			4.80	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

SV_REGICAL_00027 Amount Added: 10.00 Units: uL

SV_INSTD_LVI_00020 Amount Added: 20.00 Units: uL Run Reagent

Report Date: 05-Aug-2019 12:07:29 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021905.D				
Injection Date:	02-Aug-2019 10:10:30	Instrument ID:	CHSVMS09	Operator ID:	
Lims ID:	IC REG LVI L2			Worklist Smp#:	5
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		

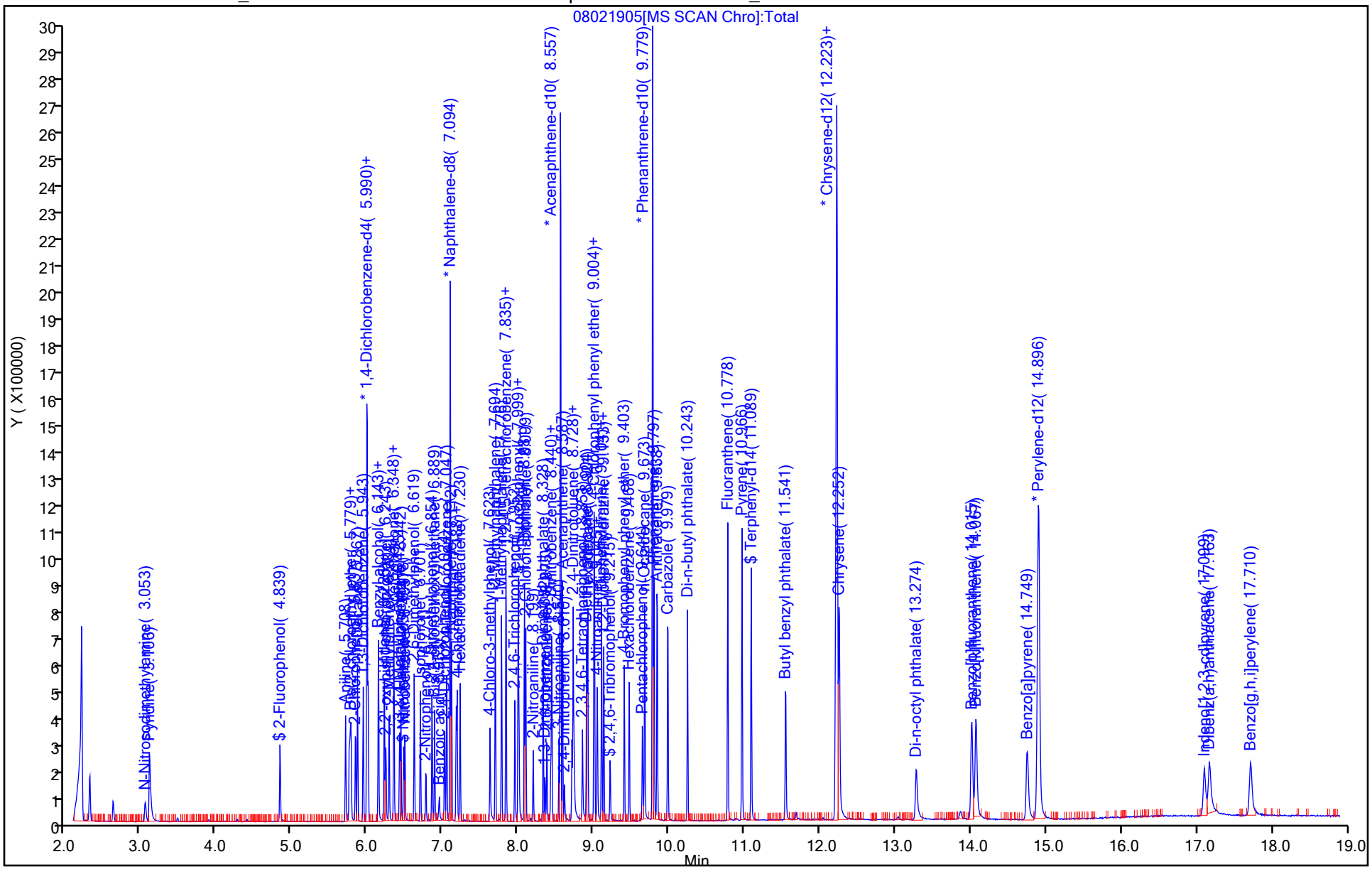

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021905.D				
Injection Date:	02-Aug-2019 10:10:30	Instrument ID:	CHSVMS09		
Lims ID:	IC REG LVI L2				
Client ID:					
Operator ID:		ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		
Column:		Detector	MS SCAN		

55 Hexachlorobutadiene, CAS: 87-68-3

Signal: 1

Not Detected
Expected RT: 7.23

Processing Integration Results

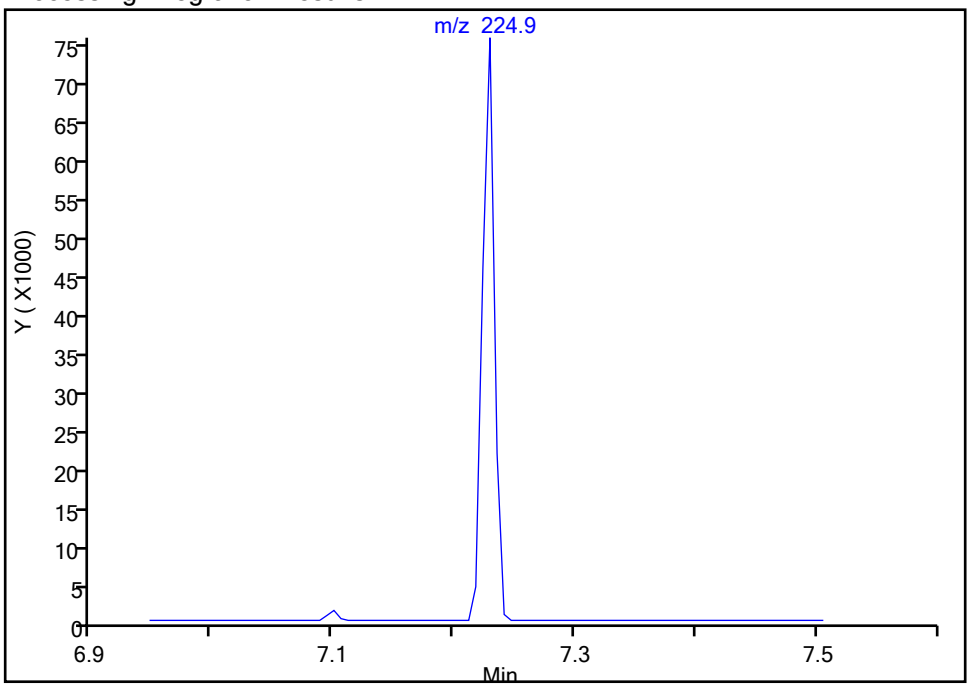

Manual Integration Results

RT: 7.23
Area: 52196
Amount: 2.506010
Amount Units: ug/ml

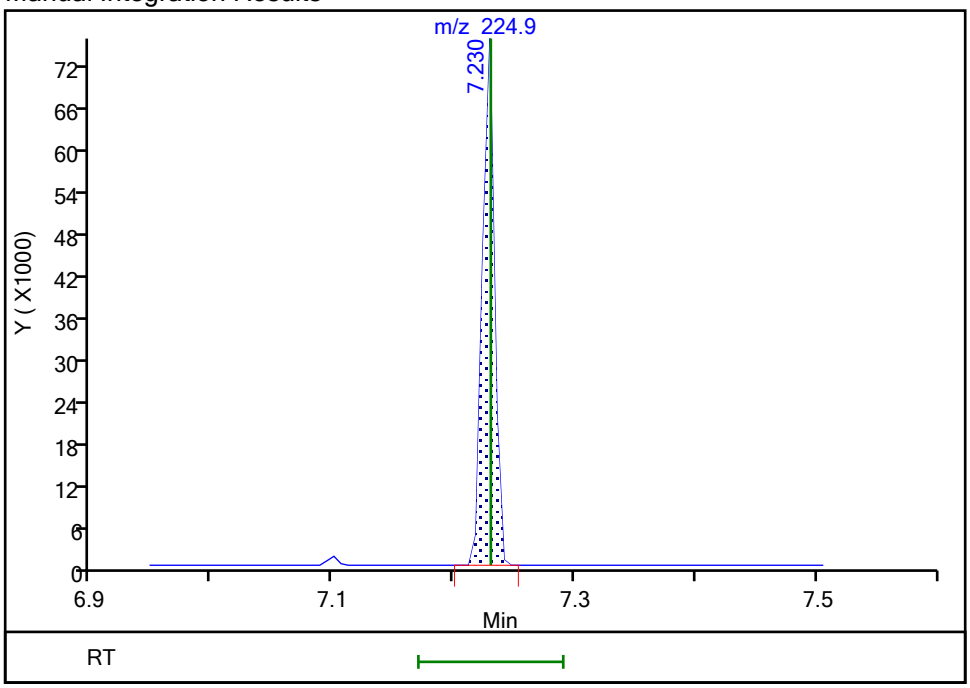

Reviewer: somjitp, 05-Aug-2019 11:05:33
Audit Action: Assigned Compound ID Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021905.D				
Injection Date:	02-Aug-2019 10:10:30	Instrument ID:	CHSVMS09		
Lims ID:	IC REG LVI L2				
Client ID:					
Operator ID:		ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		
Column:		Detector	MS SCAN		

66 Hexachlorocyclopentadiene, CAS: 77-47-4

Signal: 1

Not Detected
Expected RT: 7.84

Processing Integration Results

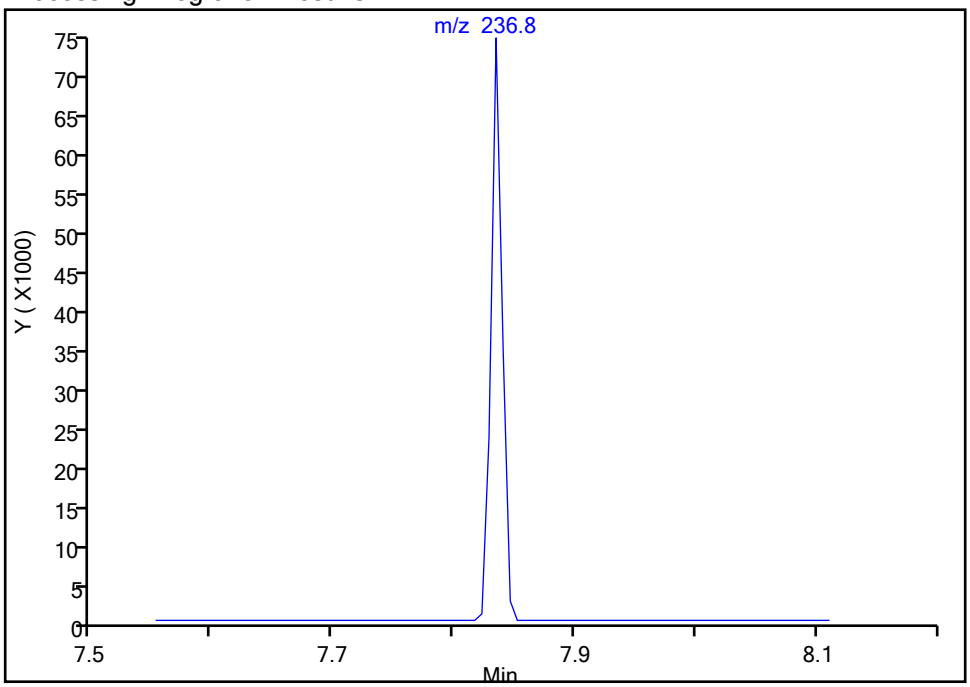

Manual Integration Results

RT: 7.83
Area: 47532
Amount: 2.332525
Amount Units: ug/ml

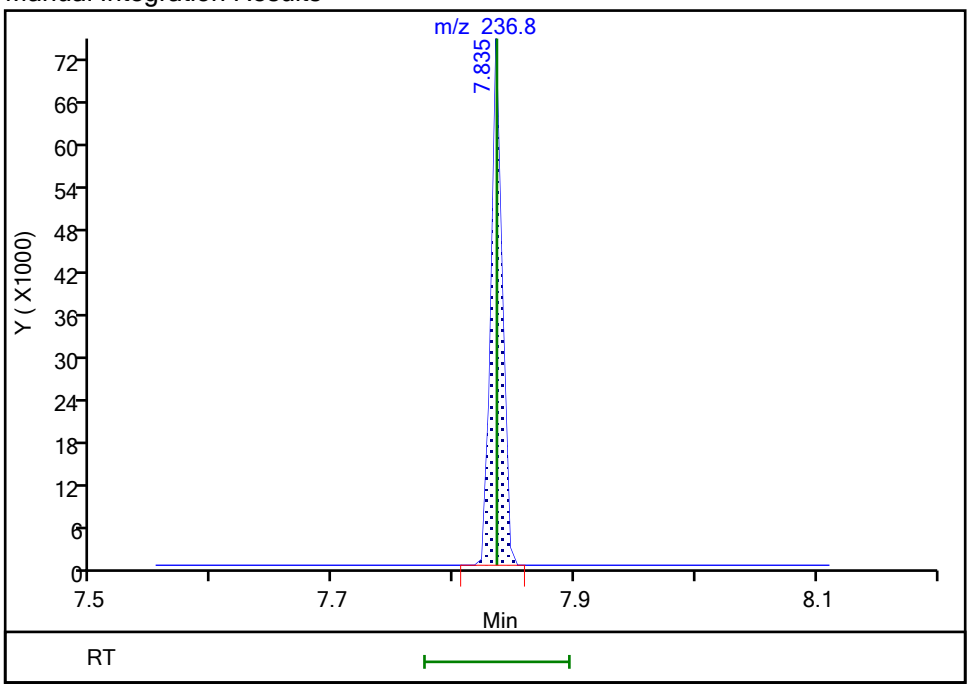

Reviewer: somjitp, 05-Aug-2019 11:05:26
Audit Action: Assigned Compound ID Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021905.D				
Injection Date:	02-Aug-2019 10:10:30	Instrument ID:	CHSVMS09		
Lims ID:	IC REG LVI L2				
Client ID:					
Operator ID:		ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		
Column:		Detector	MS SCAN		

118 4-Bromophenyl phenyl ether, CAS: 101-55-3

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 9.41

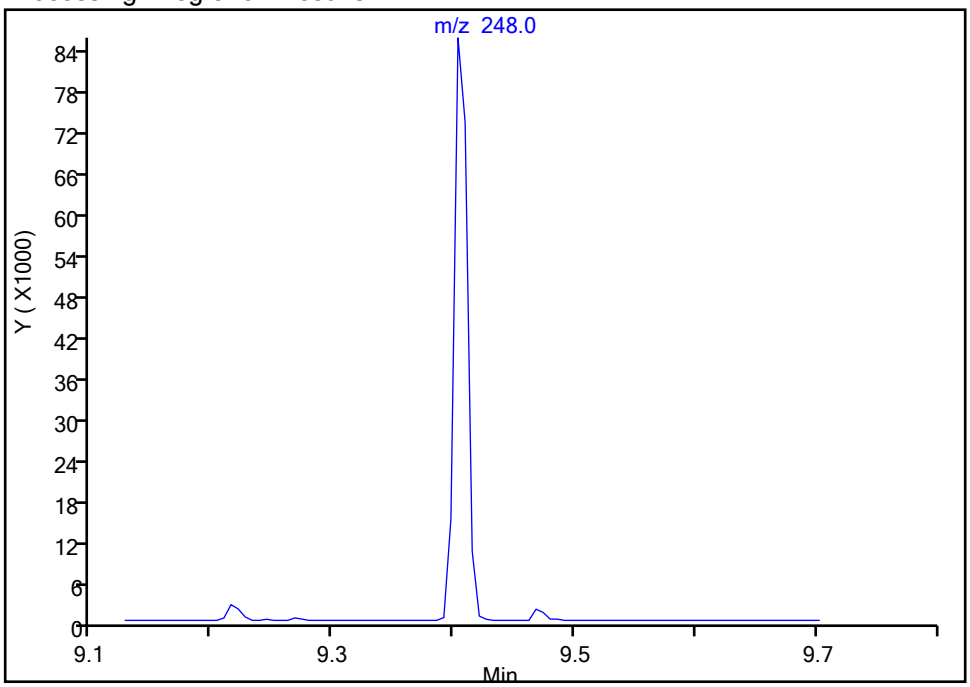

Manual Integration Results

RT: 9.40
Area: 65265
Amount: 2.268986
Amount Units: ug/ml

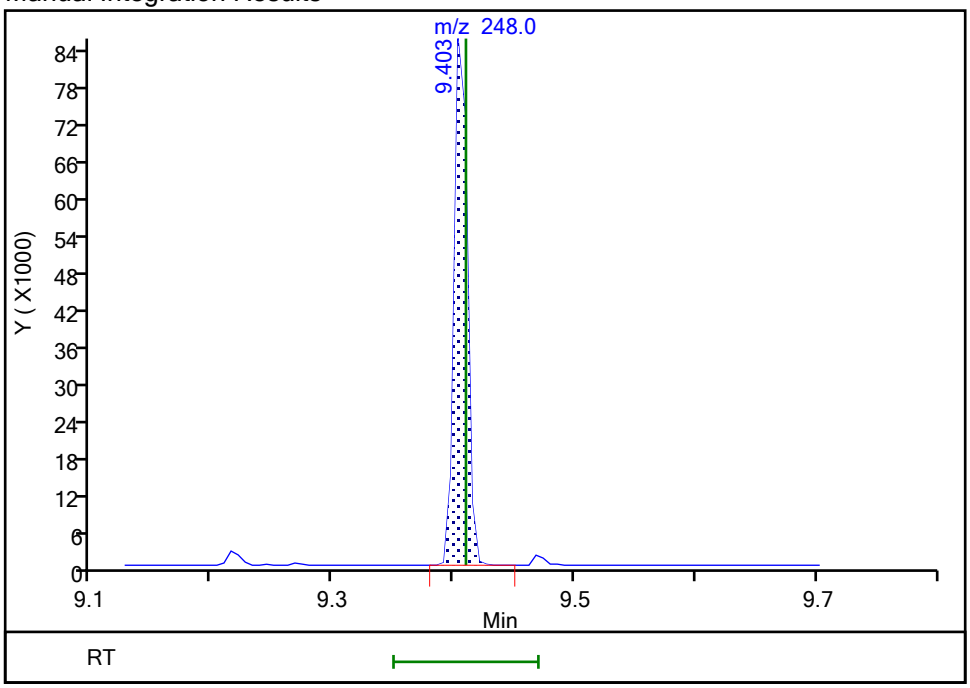

Reviewer: somjitp, 05-Aug-2019 11:04:51
Audit Action: Assigned Compound ID Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021905.D				
Injection Date:	02-Aug-2019 10:10:30	Instrument ID:	CHSVMS09		
Lims ID:	IC REG LVI L2				
Client ID:					
Operator ID:		ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		
Column:		Detector	MS SCAN		

122 Hexachlorobenzene, CAS: 118-74-1

Signal: 1

Not Detected
Expected RT: 9.47

Processing Integration Results

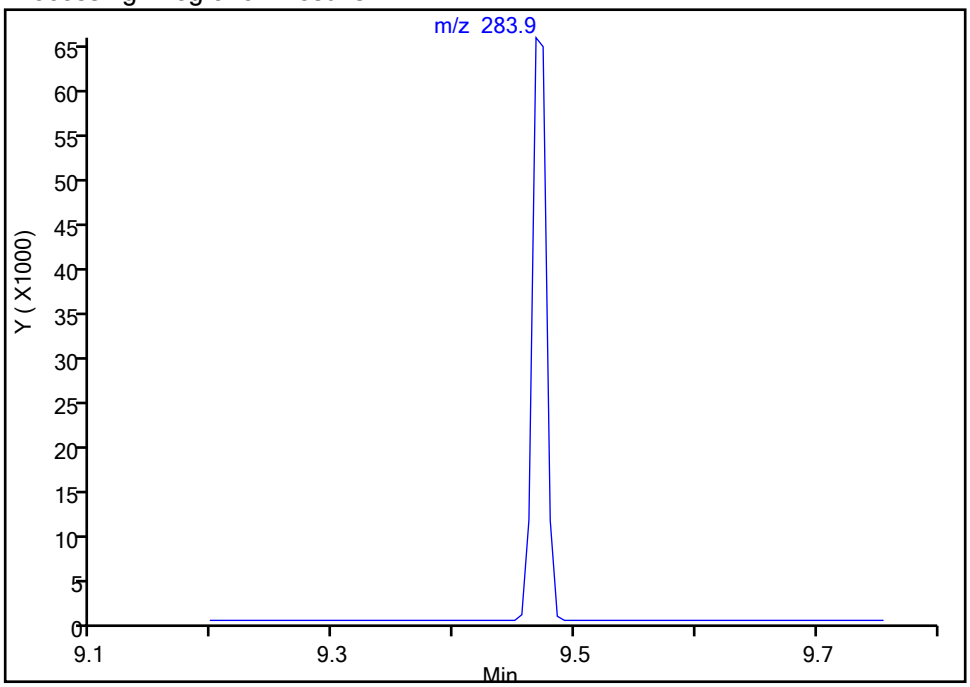

Manual Integration Results

RT: 9.47
Area: 54112
Amount: 2.311727
Amount Units: ug/ml

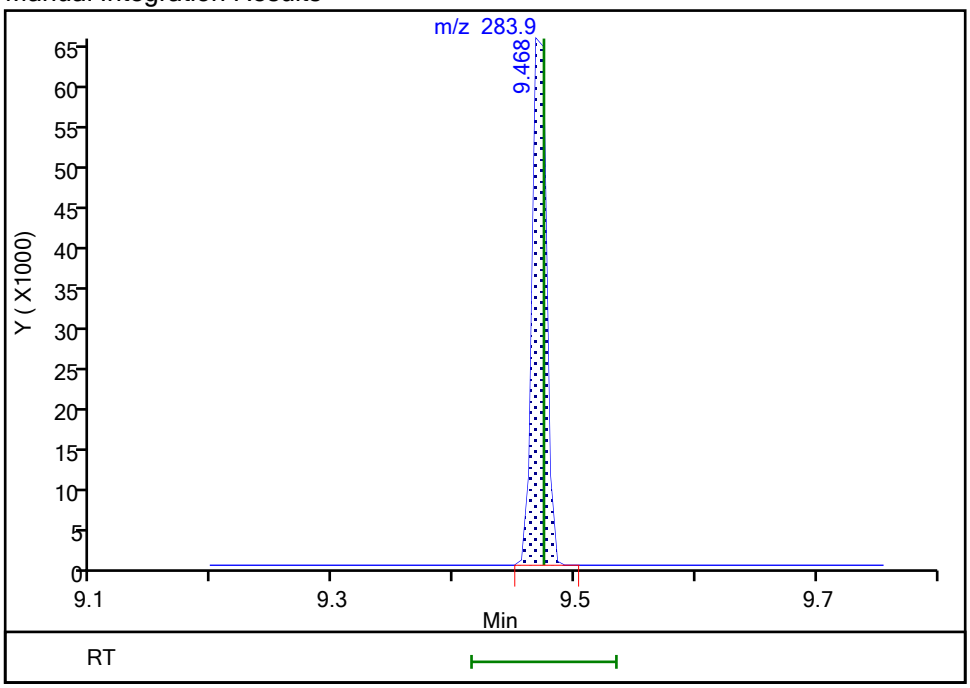

Reviewer: somjitp, 05-Aug-2019 11:04:48
Audit Action: Assigned Compound ID Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021905.D				
Injection Date:	02-Aug-2019 10:10:30	Instrument ID:	CHSVMS09		
Lims ID:	IC REG LVI L2				
Client ID:					
Operator ID:		ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		
Column:		Detector	MS SCAN		

134 Anthracene, CAS: 120-12-7

Signal: 1

Not Detected
Expected RT: 9.84

Processing Integration Results

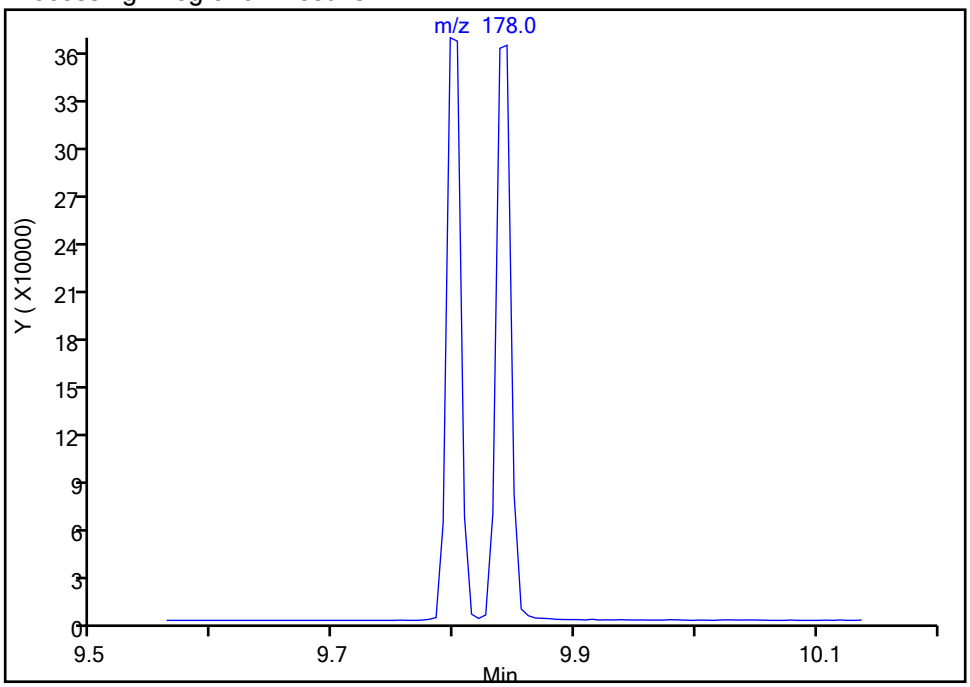

Manual Integration Results

RT: 9.84
Area: 312223
Amount: 1.980193
Amount Units: ug/ml

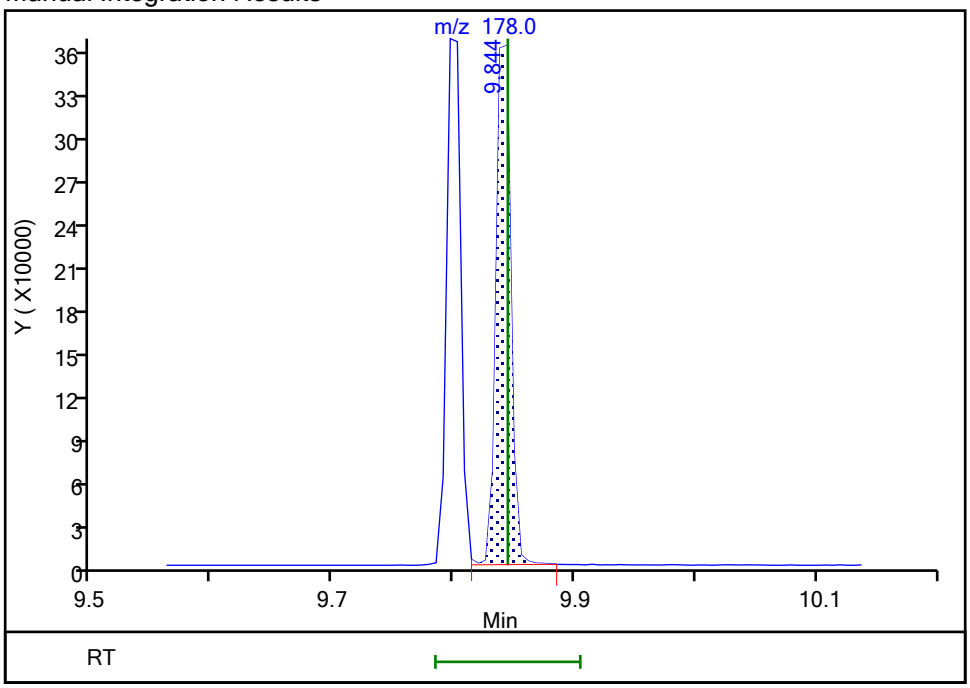

Reviewer: somjitp, 05-Aug-2019 11:04:40
Audit Action: Assigned Compound ID Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021905.D				
Injection Date:	02-Aug-2019 10:10:30	Instrument ID:	CHSVMS09		
Lims ID:	IC REG LVI L2				
Client ID:					
Operator ID:		ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		
Column:		Detector	MS SCAN		

172 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

Signal: 1

Processing Integration Results

RT: 17.10
Area: 172466
Amount: 2.010440
Amount Units: ug/ml

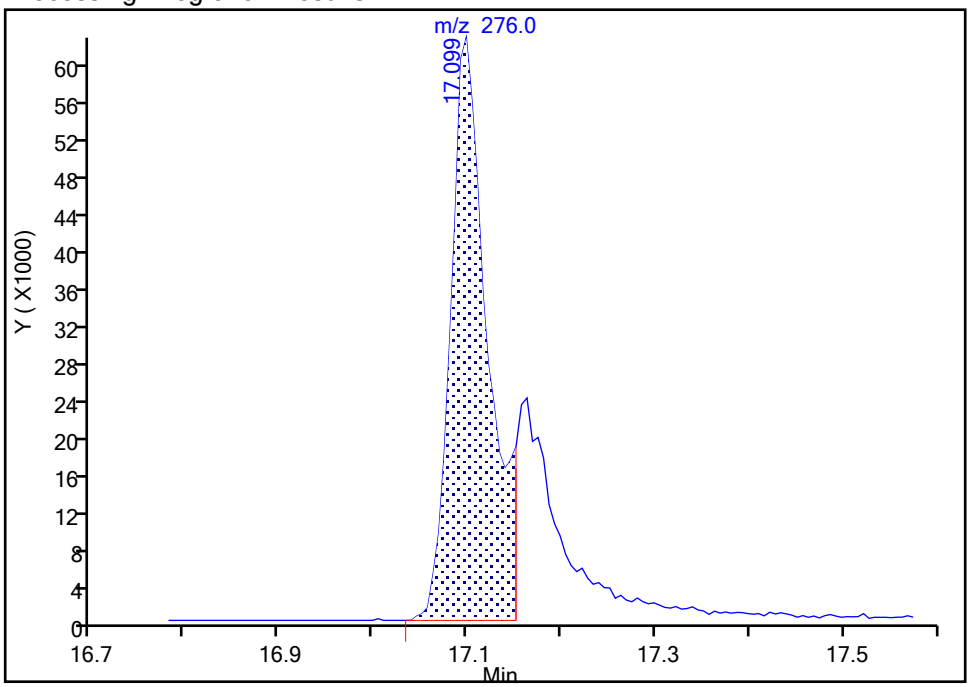

Manual Integration Results

RT: 17.10
Area: 242983
Amount: 2.249626
Amount Units: ug/ml

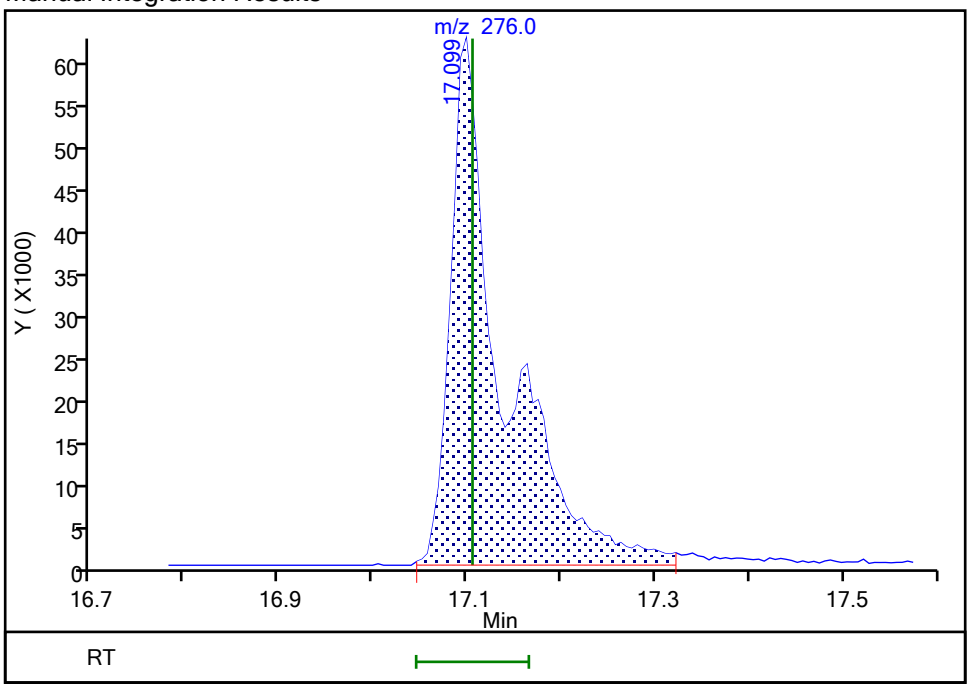

Reviewer: somjitp, 05-Aug-2019 11:04:16

Audit Action: Manually Integrated Audit Reason: Baseline

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021906.D
Lims ID: ICIS REG LVI L3
Client ID:
Sample Type: ICIS Calib Level: 3
Inject. Date: 02-Aug-2019 10:37:30 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: ICIS REG LVI L3
Misc. Info.: 600-0030361-006
Operator ID: Instrument ID: CHSVMS09
Sublist: chrom-8270LVI_9*sub33

Method: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\8270LVI_9.m
Limit Group: SV - 8270D_8270DLL
Last Update: 05-Aug-2019 12:07:34 Calib Date: 02-Aug-2019 17:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021920.D

Column 1 : Det: MS SCAN
Process Host: CTX0303

First Level Reviewer: somjitp Date: 05-Aug-2019 11:07:41

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 N-Nitrosodimethylamine	74	3.046	3.046	0.000	92	81510	4.00	3.92	
2 Pyridine	79	3.098	3.098	0.000	96	242769	8.00	8.15	
$ 7 2-Fluorophenol	112	4.837	4.837	0.000	90	132997	4.00	4.09	
12 Aniline	93	5.707	5.707	0.000	98	196441	4.00	4.31	
16 Bis(2-chloroethyl)ether	93	5.760	5.760	0.000	98	136154	4.00	4.28	
$ 10 Phenol-d5	99	5.771	5.771	0.000	73	155673	4.00	4.30	
11 Phenol	94	5.777	5.777	0.000	96	157411	4.00	4.22	
17 2-Chlorophenol	128	5.842	5.842	0.000	95	135275	4.00	4.21	
18 n-Decane	57	5.865	5.865	0.000	88	145218	4.00	3.86	
20 1,3-Dichlorobenzene	146	5.942	5.942	0.000	98	153048	4.00	3.79	
* 21 1,4-Dichlorobenzene-d4	152	5.995	5.995	0.000	92	225170	8.00	8.00	
22 1,4-Dichlorobenzene	146	6.006	6.006	0.000	95	151496	4.00	3.84	
24 1,2-Dichlorobenzene	146	6.147	6.147	0.000	98	147742	4.00	3.91	
23 Benzyl alcohol	108	6.141	6.141	0.000	95	67522	4.00	4.04	
26 Indene	115	6.224	6.224	0.000	90	226218	4.00	3.92	
27 2,2'-oxybis[1-chloropropan	45	6.241	6.241	0.000	95	164997	4.00	4.34	
25 2-Methylphenol	108	6.288	6.288	0.000	93	114238	4.00	4.16	
29 Acetophenone	105	6.347	6.347	0.000	96	164305	4.00	3.93	
31 N-Nitrosodi-n-propylamine	70	6.353	6.353	0.000	87	87353	4.00	4.31	
30 3 & 4 Methylphenol	108	6.423	6.423	0.000	96	124265	4.00	4.25	
34 Hexachloroethane	117	6.441	6.441	0.000	89	54440	4.00	4.25	
$ 35 Nitrobenzene-d5	82	6.482	6.482	0.000	87	109556	4.00	4.02	
36 Nitrobenzene	77	6.494	6.494	0.000	86	114748	4.00	4.19	
39 2,6-Dimethylphenol	122	6.617	6.617	0.000	94	125509	4.00	4.13	
41 Isophorone	82	6.699	6.699	0.000	98	234573	4.00	3.85	
42 2-Nitrophenol	139	6.776	6.776	0.000	87	59259	4.00	3.75	
43 2,4-Dimethylphenol	107	6.852	6.852	0.000	92	117754	4.00	4.13	
46 Bis(2-chloroethoxy)methane	93	6.887	6.887	0.000	99	150491	4.00	3.89	
47 Benzoic acid	122	6.958	6.958	0.000	88	45870	4.00	3.26	
48 2,4-Dichlorophenol	162	7.023	7.023	0.000	89	120368	4.00	4.12	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
49 1,2,4-Trichlorobenzene	180	7.052	7.052	0.000	94	138883	4.00	3.83	
* 50 Naphthalene-d8	136	7.099	7.099	0.000	99	686723	8.00	8.00	
51 Naphthalene	128	7.117	7.117	0.000	97	354944	4.00	4.04	
52 4-Chloroaniline	127	7.175	7.175	0.000	97	162231	4.00	4.26	
53 2,6-Dichlorophenol	162	7.187	7.187	0.000	97	116883	4.00	4.14	
55 Hexachlorobutadiene	225	7.228	7.228	0.000	92	82036	4.00	4.13	
60 4-Chloro-3-methylphenol	107	7.622	7.622	0.000	93	100381	4.00	3.92	
62 2-Methylnaphthalene	142	7.692	7.692	0.000	92	287675	4.00	4.00	
63 1-Methylnaphthalene	142	7.774	7.774	0.000	93	263943	4.00	3.99	
66 Hexachlorocyclopentadiene	237	7.833	7.833	0.000	93	77790	4.00	4.05	
65 1,2,4,5-Tetrachlorobenzene	216	7.839	7.839	0.000	95	154644	4.00	3.96	
69 2,4,6-Trichlorophenol	196	7.951	7.951	0.000	89	95208	4.00	4.10	
$ 72 2-Fluorobiphenyl	172	7.998	7.998	0.000	99	325185	4.00	4.24	
71 2,4,5-Trichlorophenol	196	8.009	8.009	0.000	94	93945	4.00	4.30	
77 1,1'-Biphenyl	154	8.080	8.080	0.000	95	338507	4.00	4.09	
78 2-Chloronaphthalene	162	8.098	8.098	0.000	96	261258	4.00	4.02	
81 2-Nitroaniline	65	8.197	8.197	0.000	90	62498	4.00	4.14	
84 Dimethyl phthalate	163	8.333	8.333	0.000	100	304267	4.00	4.08	
85 1,3-Dinitrobenzene	168	8.356	8.356	0.000	95	41972	4.00	3.60	
86 2,6-Dinitrotoluene	165	8.380	8.380	0.000	92	69009	4.00	4.16	
87 1,2-Dinitrobenzene	168	8.432	8.432	0.000	95	36179	4.00	3.93	
88 Acenaphthylene	152	8.444	8.444	0.000	97	401592	4.00	4.11	
89 3-Nitroaniline	138	8.538	8.538	0.000	96	71553	4.00	4.04	
* 90 Acenaphthene-d10	164	8.562	8.562	0.000	94	476618	8.00	8.00	
91 Acenaphthene	153	8.585	8.585	0.000	93	256649	4.00	3.95	
92 2,4-Dinitrophenol	184	8.615	8.615	0.000	86	43531	8.00	6.41	
95 2,4-Dinitrotoluene	165	8.714	8.714	0.000	92	85342	4.00	4.16	
96 Dibenzofuran	168	8.726	8.726	0.000	98	394761	4.00	4.20	
93 4-Nitrophenol	109	8.738	8.738	0.000	91	59393	8.00	8.21	
99 2,3,4,6-Tetrachlorophenol	232	8.849	8.849	0.000	69	74519	4.00	3.95	
101 Diethyl phthalate	149	8.908	8.908	0.000	100	297506	4.00	4.11	
102 Hexadecane	57	8.920	8.920	0.000	90	182266	4.00	4.06	
105 4-Chlorophenyl phenyl ethe	204	9.002	9.002	0.000	88	180091	4.00	4.01	
104 Fluorene	166	9.008	9.008	0.000	97	309422	4.00	4.09	
107 4-Nitroaniline	138	9.043	9.043	0.000	92	75105	4.00	4.26	
108 4,6-Dinitro-2-methylphenol	198	9.049	9.049	0.000	93	85640	8.00	7.62	
109 Diphenylamine	169	9.102	9.102	0.000	93	251716	3.40	3.39	
110 N-Nitrosodiphenylamine	169	9.102	9.102	0.000	61	251716	4.00	3.98	
112 1,2-Diphenylhydrazine	77	9.131	9.131	0.000	41	260218	4.00	4.09	
111 Azobenzene	77	9.131	9.131	0.000	95	260218	4.00	4.09	
$ 113 2,4,6-Tribromophenol	330	9.220	9.220	0.000	89	24084	4.00	3.89	
118 4-Bromophenyl phenyl ether	248	9.408	9.408	0.000	61	104214	4.00	3.92	
122 Hexachlorobenzene	284	9.472	9.472	0.000	92	82944	4.00	3.86	
127 Pentachlorophenol	266	9.648	9.648	0.000	0	89420	8.00	8.59	
130 n-Octadecane	57	9.678	9.678	0.000	93	191657	4.00	4.14	
* 131 Phenanthrene-d10	188	9.784	9.784	0.000	97	849317	8.00	8.00	
132 Phenanthrene	178	9.801	9.801	0.000	96	464188	4.00	4.21	
134 Anthracene	178	9.842	9.842	0.000	97	477469	4.00	4.04	
135 Carbazole	167	9.983	9.983	0.000	97	453779	4.00	4.19	
137 Di-n-butyl phthalate	149	10.242	10.242	0.000	99	484164	4.00	4.22	
143 Fluoranthene	202	10.776	10.776	0.000	97	554138	4.00	4.03	
146 Pyrene	202	10.964	10.964	0.000	96	586787	4.00	4.10	

Report Date: 05-Aug-2019 12:07:38 Chrom Revision: 2.3 15-Jul-2019 06:58:08
Data File: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021906.D

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
$ 149 Terphenyl-d14	244	11.088	11.088	0.000	99	406011	4.00	4.12	
154 Butyl benzyl phthalate	149	11.546	11.546	0.000	94	231929	4.00	4.01	
159 Benzo[a]anthracene	228	12.210	12.210	0.000	98	543542	4.00	4.16	
* 160 Chrysene-d12	240	12.221	12.221	0.000	97	873294	8.00	8.00	
162 Bis(2-ethylhexyl) phthalat	149	12.227	12.227	0.000	94	289334	4.00	4.04	
161 Chrysene	228	12.257	12.257	0.000	95	583275	4.00	4.07	
164 Di-n-octyl phthalate	149	13.279	13.279	0.000	98	447726	4.00	3.68	
165 Benzo[b]fluoranthene	252	14.013	14.013	0.000	97	451531	4.00	3.85	
167 Benzo[k]fluoranthene	252	14.072	14.072	0.000	99	548868	4.00	3.85	
168 Benzo[a]pyrene	252	14.753	14.753	0.000	77	424606	4.00	4.02	
* 169 Perylene-d12	264	14.900	14.900	0.000	97	924989	8.00	8.00	
172 Indeno[1,2,3-cd]pyrene	276	17.097	17.097	0.000	98	405437	4.00	3.79	M
173 Dibenz(a,h)anthracene	278	17.168	17.168	0.000	94	329700	4.00	3.82	
174 Benzo[g,h,i]perylene	276	17.714	17.714	0.000	96	359305	4.00	3.91	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

SV_REGICAL_00027 Amount Added: 20.00 Units: uL

SV_INSTD_LVI_00020 Amount Added: 20.00 Units: uL Run Reagent

Report Date: 05-Aug-2019 12:07:38 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021906.D				
Injection Date:	02-Aug-2019 10:37:30	Instrument ID:	CHSVMS09	Operator ID:	
Lims ID:	ICIS REG LVI L3			Worklist Smp#:	6
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		

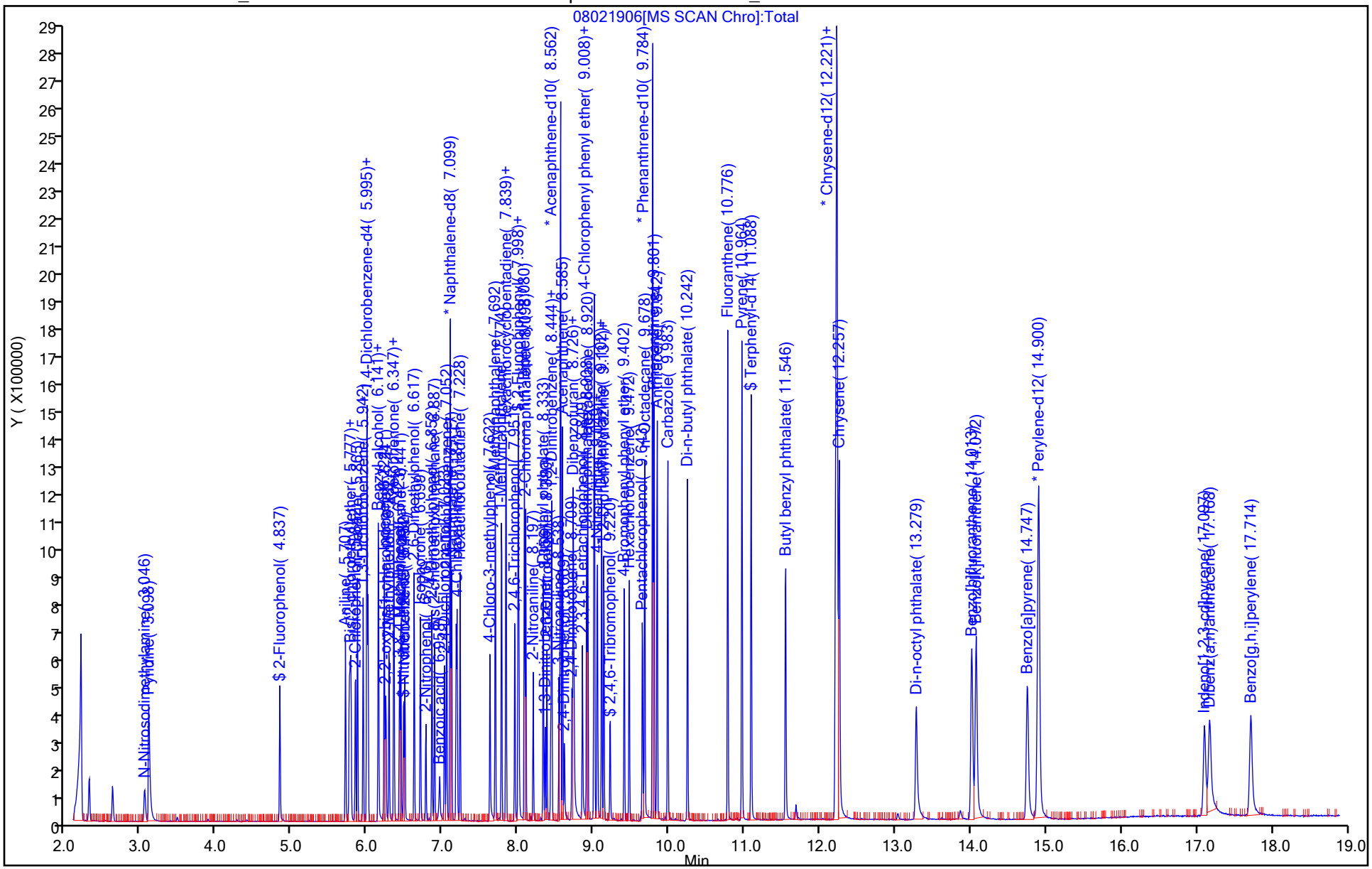

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021906.D				
Injection Date:	02-Aug-2019 10:37:30	Instrument ID:	CHSVMS09		
Lims ID:	ICIS REG LVI L3				
Client ID:					
Operator ID:		ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		
Column:		Detector	MS SCAN		

172 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

Signal: 1

Processing Integration Results

RT: 17.10
Area: 305622
Amount: 3.428918
Amount Units: ug/ml

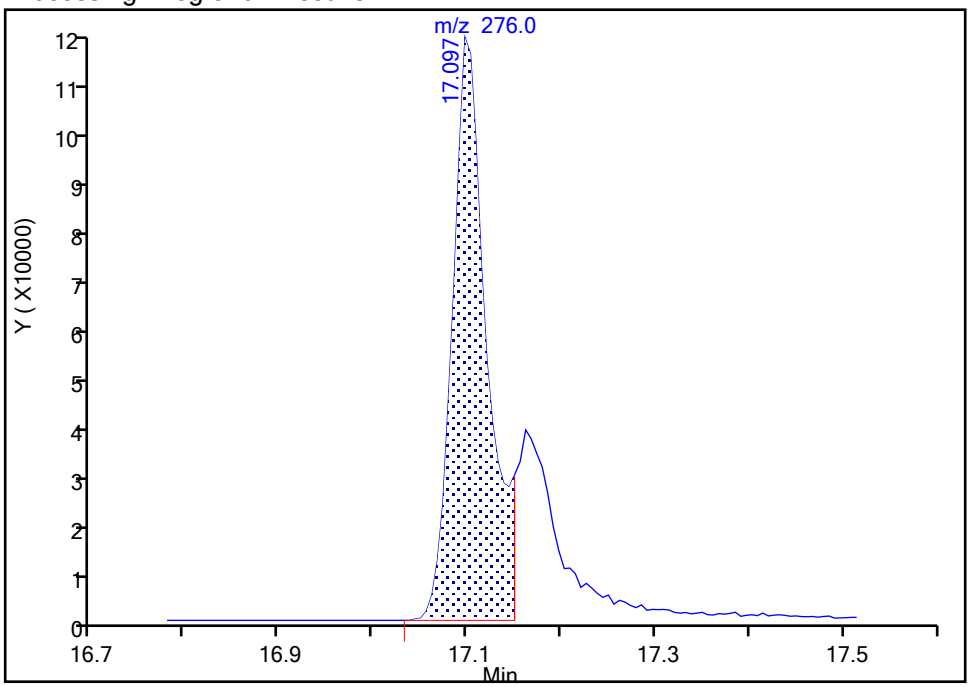

Manual Integration Results

RT: 17.10
Area: 405437
Amount: 3.790009
Amount Units: ug/ml

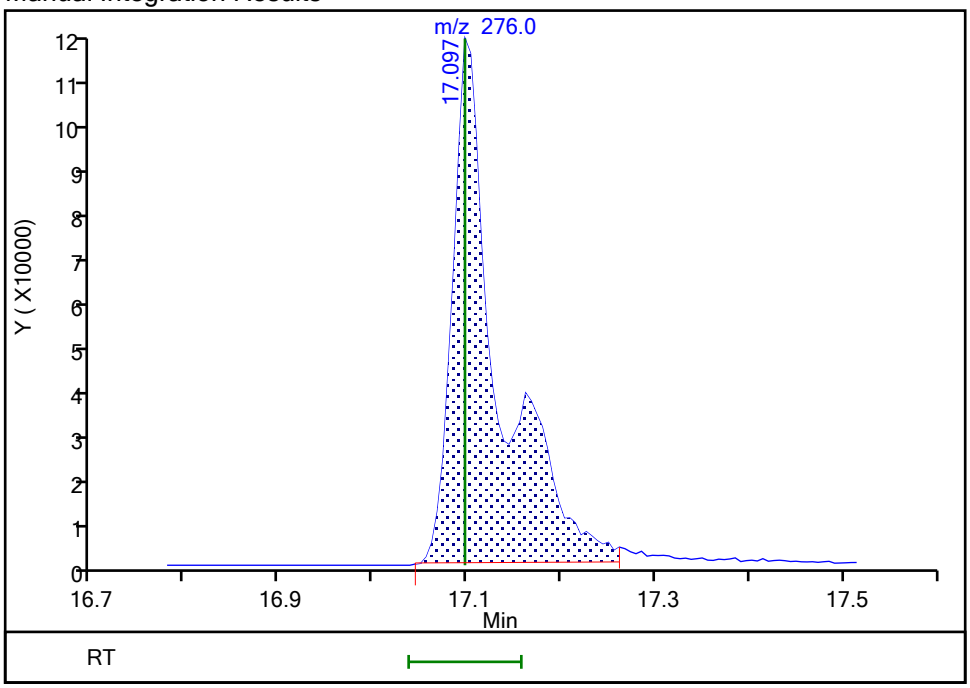

Reviewer: somjitp, 05-Aug-2019 11:07:36

Audit Action: Manually Integrated Audit Reason: Baseline

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021907.D
Lims ID: IC REG LVI L4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 02-Aug-2019 11:05:30 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: IC REG LVI L4
Misc. Info.: 600-0030361-007
Operator ID: Instrument ID: CHSVMS09
Sublist: chrom-8270LVI_9*sub33

Method: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\8270LVI_9.m
Limit Group: SV - 8270D_8270DLL
Last Update: 05-Aug-2019 12:07:42 Calib Date: 02-Aug-2019 17:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021920.D

Column 1 : Det: MS SCAN
Process Host: CTX0303

First Level Reviewer: somjitp Date: 05-Aug-2019 11:09:09

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 N-Nitrosodimethylamine	74	3.048	3.048	0.000	93	203083	10.0	10.1	
2 Pyridine	79	3.101	3.101	0.000	94	588261	20.0	20.4	
$ 7 2-Fluorophenol	112	4.839	4.839	0.000	91	314670	10.0	10.0	
12 Aniline	93	5.709	5.709	0.000	92	441176	10.0	9.98	
16 Bis(2-chloroethyl)ether	93	5.756	5.756	0.000	97	297219	10.0	9.64	
$ 10 Phenol-d5	99	5.768	5.768	0.000	69	345166	10.0	9.85	
11 Phenol	94	5.779	5.779	0.000	98	356664	10.0	9.88	
17 2-Chlorophenol	128	5.838	5.838	0.000	96	301721	10.0	9.70	
18 n-Decane	57	5.867	5.867	0.000	86	318684	10.0	10.1	
20 1,3-Dichlorobenzene	146	5.944	5.944	0.000	97	337335	10.0	9.69	
* 21 1,4-Dichlorobenzene-d4	152	5.991	5.991	0.000	95	218154	8.00	8.00	
22 1,4-Dichlorobenzene	146	6.008	6.008	0.000	93	332037	10.0	9.72	
23 Benzyl alcohol	108	6.144	6.144	0.000	70	165366	10.0	10.2	
24 1,2-Dichlorobenzene	146	6.144	6.144	0.000	96	319866	10.0	9.96	
26 Indene	115	6.226	6.226	0.000	90	488511	10.0	10.1	
27 2,2'-oxybis[1-chloropropan	45	6.243	6.243	0.000	94	360950	10.0	9.80	
25 2-Methylphenol	108	6.285	6.285	0.000	94	260457	10.0	9.79	
29 Acetophenone	105	6.349	6.349	0.000	95	354921	10.0	9.70	
31 N-Nitrosodi-n-propylamine	70	6.355	6.355	0.000	86	192606	10.0	9.80	
30 3 & 4 Methylphenol	108	6.425	6.425	0.000	95	277422	10.0	9.79	
34 Hexachloroethane	117	6.443	6.443	0.000	89	121311	10.0	9.78	
$ 35 Nitrobenzene-d5	82	6.478	6.478	0.000	89	264960	10.0	9.87	
36 Nitrobenzene	77	6.496	6.496	0.000	87	268004	10.0	9.94	
39 2,6-Dimethylphenol	122	6.619	6.619	0.000	94	284079	10.0	9.50	
41 Isophorone	82	6.707	6.707	0.000	97	513459	10.0	9.61	
42 2-Nitrophenol	139	6.778	6.778	0.000	88	158138	10.0	10.2	
43 2,4-Dimethylphenol	107	6.854	6.854	0.000	91	271582	10.0	9.66	
46 Bis(2-chloroethoxy)methane	93	6.890	6.890	0.000	98	329925	10.0	9.79	
47 Benzoic acid	122	6.978	6.978	0.000	88	157682	10.0	9.30	
48 2,4-Dichlorophenol	162	7.019	7.019	0.000	91	279859	10.0	9.74	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
49 1,2,4-Trichlorobenzene	180	7.054	7.054	0.000	95	303829	10.0	9.67	
* 50 Naphthalene-d8	136	7.095	7.095	0.000	99	675984	8.00	8.00	
51 Naphthalene	128	7.113	7.113	0.000	98	712288	10.0	10.0	
52 4-Chloroaniline	127	7.177	7.177	0.000	97	363397	10.0	9.70	
53 2,6-Dichlorophenol	162	7.189	7.189	0.000	97	262974	10.0	9.46	
55 Hexachlorobutadiene	225	7.230	7.230	0.000	87	184220	10.0	9.41	M
60 4-Chloro-3-methylphenol	107	7.624	7.624	0.000	92	247320	10.0	9.82	
62 2-Methylnaphthalene	142	7.694	7.694	0.000	91	586996	10.0	9.88	
63 1-Methylnaphthalene	142	7.777	7.777	0.000	92	538354	10.0	9.69	
66 Hexachlorocyclopentadiene	237	7.835	7.835	0.000	94	184798	10.0	9.61	Ma
65 1,2,4,5-Tetrachlorobenzene	216	7.841	7.841	0.000	95	321402	10.0	9.57	
69 2,4,6-Trichlorophenol	196	7.953	7.953	0.000	89	224267	10.0	9.65	
$ 72 2-Fluorobiphenyl	172	8.000	8.000	0.000	97	643814	10.0	10.4	
71 2,4,5-Trichlorophenol	196	8.006	8.006	0.000	95	210163	10.0	9.61	
77 1,1'-Biphenyl	154	8.082	8.082	0.000	97	669795	10.0	9.81	
78 2-Chloronaphthalene	162	8.100	8.100	0.000	96	534641	10.0	9.69	
81 2-Nitroaniline	65	8.200	8.200	0.000	90	153952	10.0	10.2	
84 Dimethyl phthalate	163	8.335	8.335	0.000	98	625139	10.0	9.69	
85 1,3-Dinitrobenzene	168	8.358	8.358	0.000	98	118873	10.0	10.2	
86 2,6-Dinitrotoluene	165	8.382	8.382	0.000	95	165391	10.0	9.96	
87 1,2-Dinitrobenzene	168	8.435	8.435	0.000	93	95544	10.0	10.4	
88 Acenaphthylene	152	8.446	8.446	0.000	96	793419	10.0	9.85	
89 3-Nitroaniline	138	8.546	8.546	0.000	97	175982	10.0	9.92	
* 90 Acenaphthene-d10	164	8.558	8.558	0.000	94	476872	8.00	8.00	
91 Acenaphthene	153	8.587	8.587	0.000	93	532713	10.0	9.65	
92 2,4-Dinitrophenol	184	8.617	8.617	0.000	86	153770	20.0	18.3	
95 2,4-Dinitrotoluene	165	8.717	8.717	0.000	92	212977	10.0	10.4	
96 Dibenzofuran	168	8.728	8.728	0.000	96	753001	10.0	9.85	
93 4-Nitrophenol	109	8.740	8.740	0.000	84	139514	20.0	19.3	
99 2,3,4,6-Tetrachlorophenol	232	8.852	8.852	0.000	70	188068	10.0	9.97	
101 Diethyl phthalate	149	8.910	8.910	0.000	97	595555	10.0	9.72	
102 Hexadecane	57	8.922	8.922	0.000	91	376986	10.0	9.93	
105 4-Chlorophenyl phenyl ethe	204	9.004	9.004	0.000	86	370608	10.0	9.71	
104 Fluorene	166	9.010	9.010	0.000	94	611381	10.0	9.89	
107 4-Nitroaniline	138	9.051	9.051	0.000	89	174061	10.0	9.87	
108 4,6-Dinitro-2-methylphenol	198	9.057	9.057	0.000	92	239721	20.0	21.2	
109 Diphenylamine	169	9.104	9.104	0.000	92	520477	8.50	8.14	
110 N-Nitrosodiphenylamine	169	9.104	9.104	0.000	66	520477	10.0	9.57	
112 1,2-Diphenylhydrazine	77	9.134	9.134	0.000	41	532763	10.0	9.73	
111 Azobenzene	77	9.134	9.134	0.000	93	532763	10.0	9.73	
$ 113 2,4,6-Tribromophenol	330	9.222	9.222	0.000	89	60471	10.0	9.77	
118 4-Bromophenyl phenyl ether	248	9.410	9.410	0.000	62	228506	10.0	9.36	
122 Hexachlorobenzene	284	9.474	9.474	0.000	91	177217	10.0	9.07	
127 Pentachlorophenol	266	9.645	9.645	0.000	0	235563	20.0	22.4	
130 n-Octadecane	57	9.674	9.674	0.000	95	393243	10.0	9.85	
* 131 Phenanthrene-d10	188	9.780	9.780	0.000	97	856538	8.00	8.00	
132 Phenanthrene	178	9.803	9.803	0.000	96	869271	10.0	9.74	
134 Anthracene	178	9.844	9.844	0.000	97	903886	10.0	9.87	
135 Carbazole	167	9.985	9.985	0.000	98	872479	10.0	9.75	
137 Di-n-butyl phthalate	149	10.244	10.244	0.000	99	937782	10.0	9.75	
143 Fluoranthene	202	10.778	10.778	0.000	96	1051003	10.0	9.79	
146 Pyrene	202	10.966	10.966	0.000	92	1090494	10.0	9.65	

Report Date: 05-Aug-2019 12:07:45 Chrom Revision: 2.3 15-Jul-2019 06:58:08
Data File: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021907.D

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
$ 149 Terphenyl-d14	244	11.090	11.090	0.000	97	780332	10.0	10.1	
154 Butyl benzyl phthalate	149	11.548	11.548	0.000	95	528463	10.0	9.78	
159 Benzo[a]anthracene	228	12.212	12.212	0.000	96	1136629	10.0	9.31	
* 160 Chrysene-d12	240	12.224	12.224	0.000	97	815977	8.00	8.00	
162 Bis(2-ethylhexyl) phthalat	149	12.229	12.229	0.000	94	641353	10.0	9.59	
161 Chrysene	228	12.259	12.259	0.000	94	1111226	10.0	9.62	
164 Di-n-octyl phthalate	149	13.281	13.281	0.000	99	1200987	10.0	10.6	
165 Benzo[b]fluoranthene	252	14.021	14.021	0.000	97	1113302	10.0	9.87	
167 Benzo[k]fluoranthene	252	14.080	14.080	0.000	98	1226327	10.0	9.93	
168 Benzo[a]pyrene	252	14.761	14.761	0.000	78	1003640	10.0	9.87	
* 169 Perylene-d12	264	14.902	14.902	0.000	97	889676	8.00	8.00	
172 Indeno[1,2,3-cd]pyrene	276	17.105	17.105	0.000	97	1031565	10.0	10.0	M
173 Dibenz(a,h)anthracene	278	17.176	17.176	0.000	94	809695	10.0	9.76	
174 Benzo[g,h,i]perylene	276	17.728	17.728	0.000	95	863199	10.0	9.77	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

SV_REGICAL_00027 Amount Added: 50.00 Units: uL

SV_INSTD_LVI_00020 Amount Added: 20.00 Units: uL Run Reagent

Report Date: 05-Aug-2019 12:07:45 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021907.D				
Injection Date:	02-Aug-2019 11:05:30	Instrument ID:	CHSVMS09	Operator ID:	
Lims ID:	IC REG LVI L4			Worklist Smp#:	7
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		

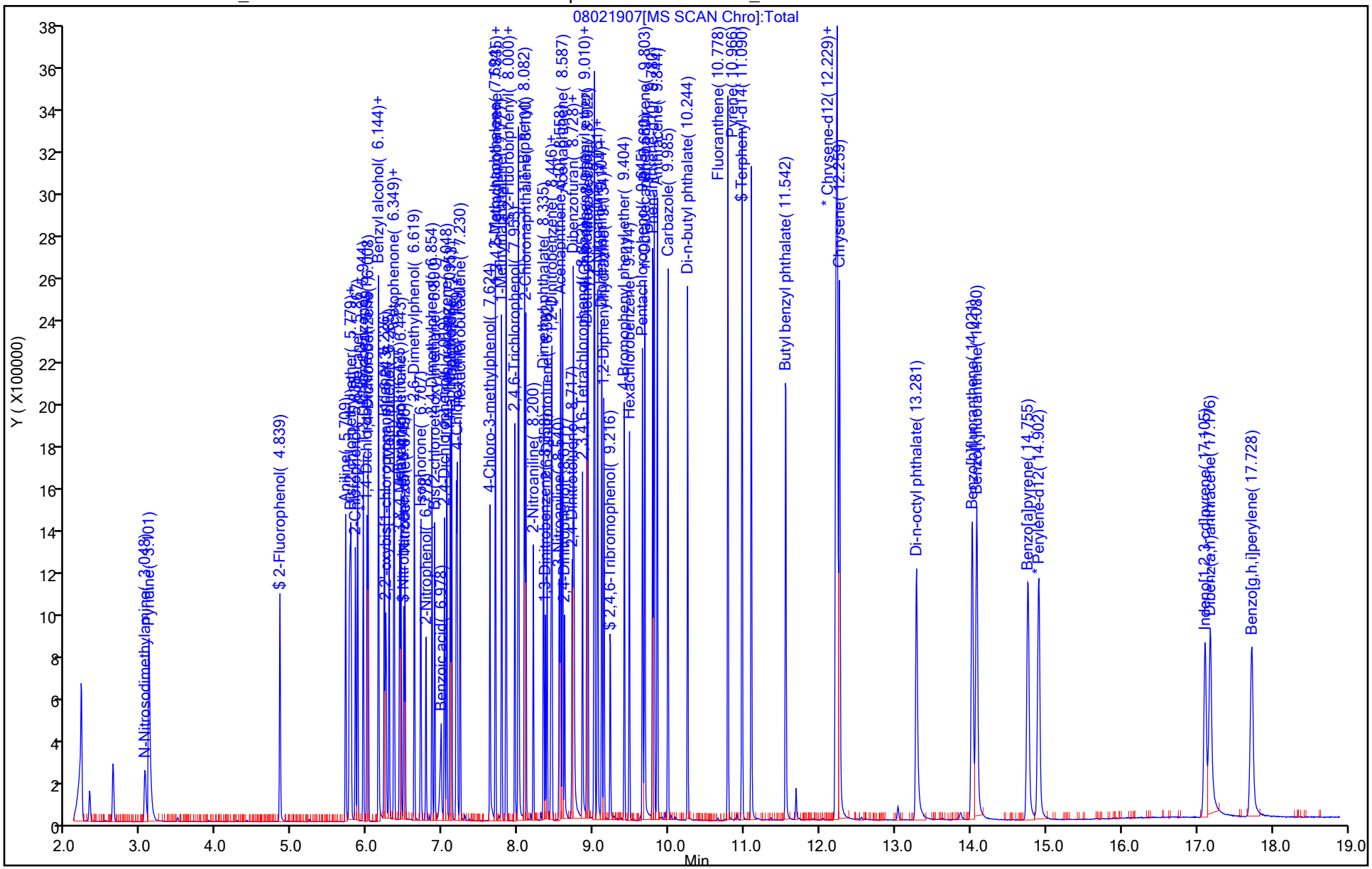

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021907.D				
Injection Date:	02-Aug-2019 11:05:30	Instrument ID:	CHSVMS09		
Lims ID:	IC REG LVI L4				
Client ID:					
Operator ID:		ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		
Column:		Detector	MS SCAN		

55 Hexachlorobutadiene, CAS: 87-68-3

Signal: 1

Not Detected
Expected RT: 7.23

Processing Integration Results

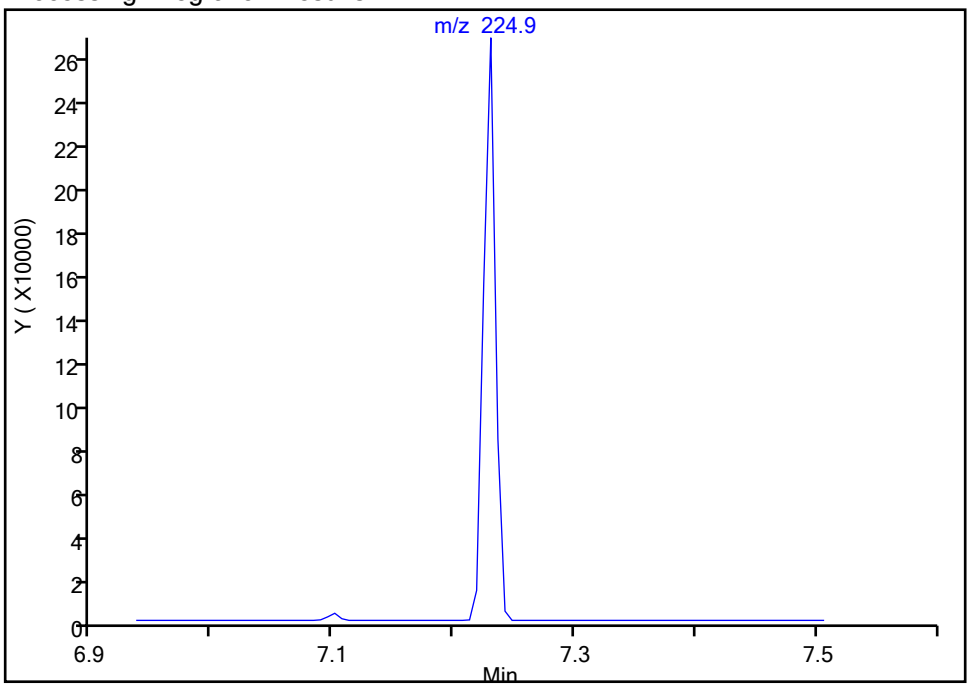

RT: 7.23
Area: 184220
Amount: 9.411698
Amount Units: ug/ml

Manual Integration Results

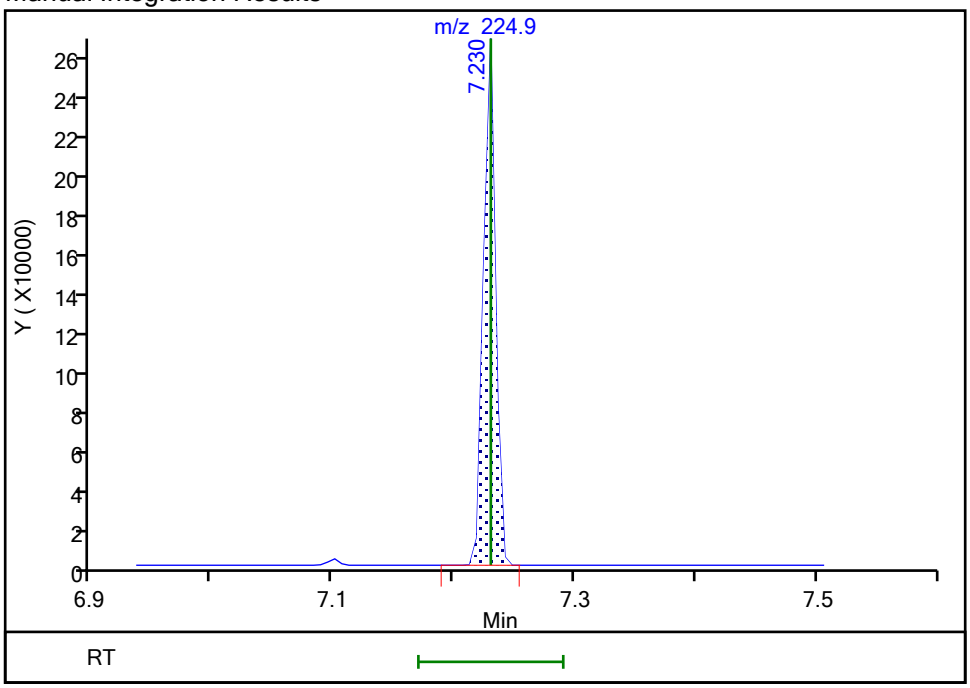

Reviewer: somjitp, 05-Aug-2019 11:08:58
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021907.D				
Injection Date:	02-Aug-2019 11:05:30	Instrument ID:	CHSVMS09		
Lims ID:	IC REG LVI L4				
Client ID:					
Operator ID:		ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		
Column:		Detector	MS SCAN		

66 Hexachlorocyclopentadiene, CAS: 77-47-4

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 7.84

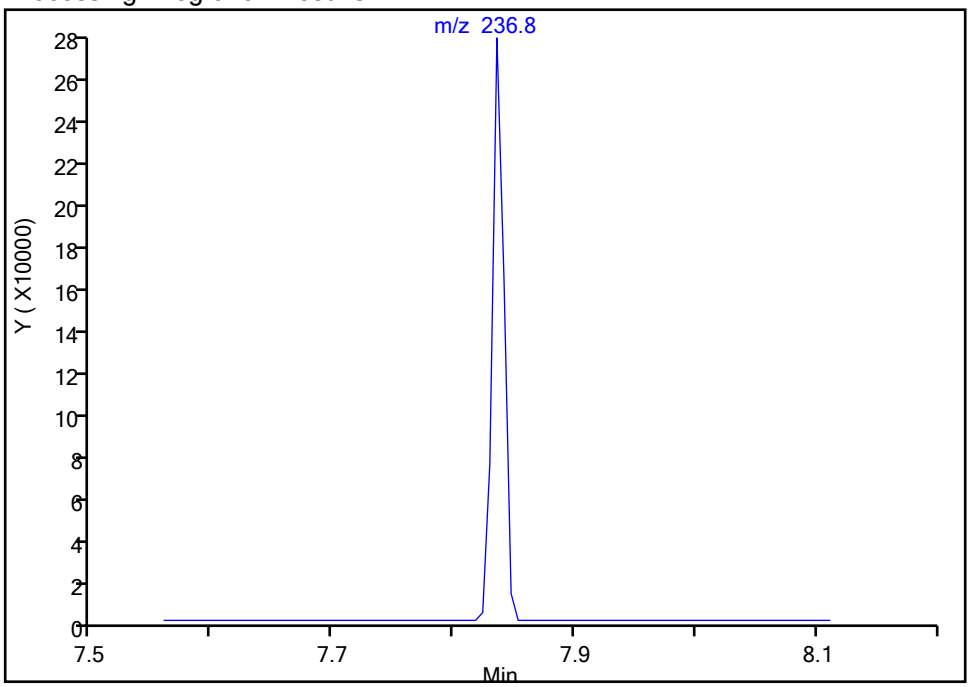

Manual Integration Results

RT: 7.84
Area: 184798
Amount: 9.614207
Amount Units: ug/ml

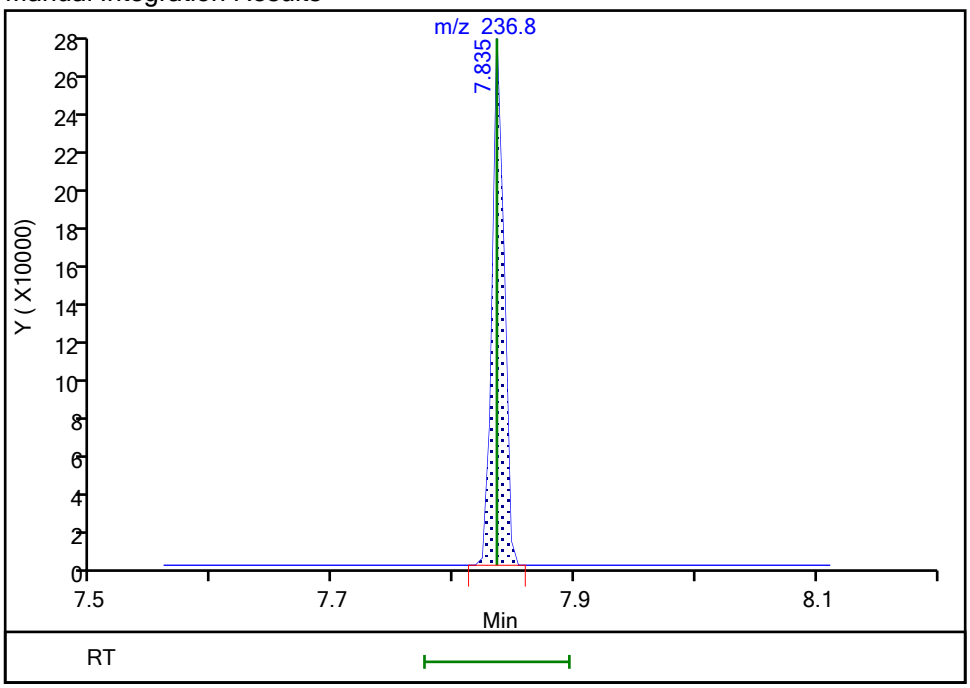

Reviewer: somjitp, 05-Aug-2019 11:08:52
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021907.D				
Injection Date:	02-Aug-2019 11:05:30	Instrument ID:	CHSVMS09		
Lims ID:	IC REG LVI L4				
Client ID:					
Operator ID:		ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		
Column:		Detector	MS SCAN		

172 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

Signal: 1

Processing Integration Results

RT: 17.11
Area: 772994
Amount: 7.986656
Amount Units: ug/ml

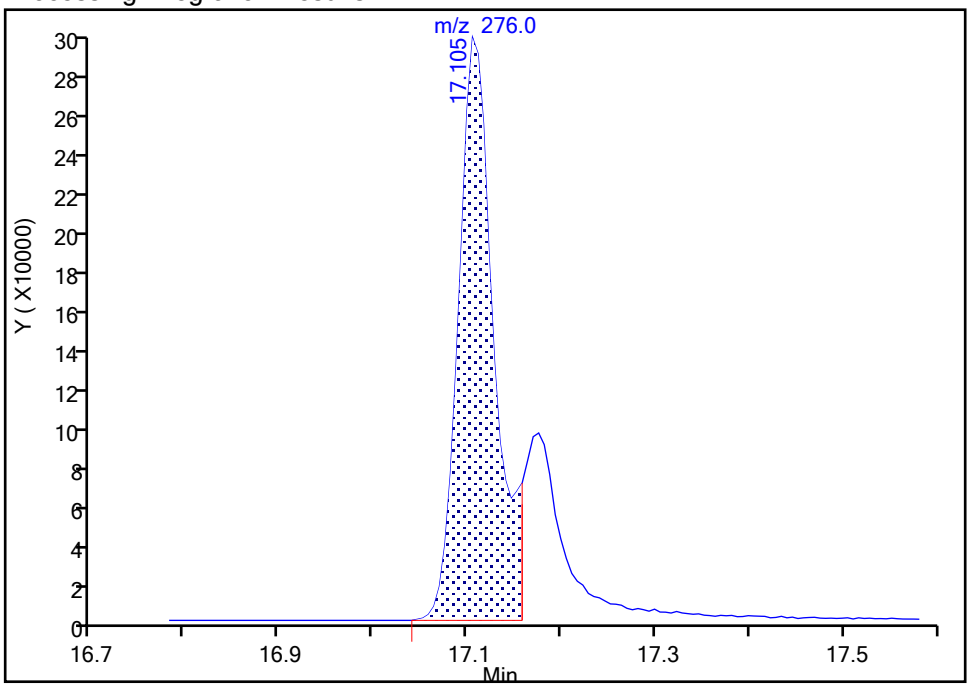

Manual Integration Results

RT: 17.11
Area: 1031565
Amount: 10.025781
Amount Units: ug/ml

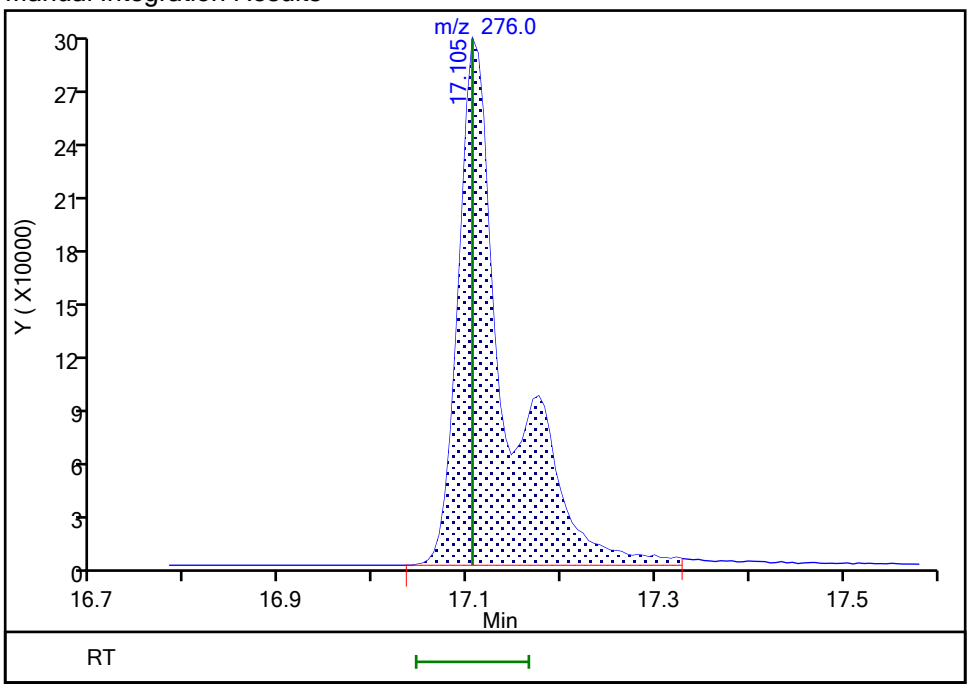

Reviewer: dangt, 05-Aug-2019 06:05:49

Audit Action: Manually Integrated Audit Reason: Assign Peak

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021908.D
Lims ID: IC REG LVI L5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 02-Aug-2019 11:33:30 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: IC REG LVI L5
Misc. Info.: 600-0030361-008
Operator ID: Instrument ID: CHSVMS09
Sublist: chrom-8270LVI_9*sub33

Method: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\8270LVI_9.m
Limit Group: SV - 8270D_8270DLL
Last Update: 05-Aug-2019 12:07:49 Calib Date: 02-Aug-2019 17:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021920.D

Column 1 : Det: MS SCAN
Process Host: CTX0303

First Level Reviewer: somjitp Date: 05-Aug-2019 11:10:06

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 N-Nitrosodimethylamine	74	3.051	3.048	0.003	93	303102	14.0	14.1	
2 Pyridine	79	3.098	3.101	-0.003	93	831149	28.0	27.0	
$ 7 2-Fluorophenol	112	4.837	4.839	-0.002	92	464215	14.0	13.8	
12 Aniline	93	5.712	5.709	0.003	96	620580	14.0	13.2	
16 Bis(2-chloroethyl)ether	93	5.759	5.756	0.003	97	430419	14.0	13.1	
$ 10 Phenol-d5	99	5.771	5.768	0.003	75	487531	14.0	13.0	
11 Phenol	94	5.783	5.779	0.004	97	506404	14.0	13.2	
17 2-Chlorophenol	128	5.842	5.838	0.004	96	437376	14.0	13.2	
18 n-Decane	57	5.871	5.867	0.004	85	436956	14.0	14.0	
20 1,3-Dichlorobenzene	146	5.942	5.944	-0.002	97	487965	14.0	14.2	
* 21 1,4-Dichlorobenzene-d4	152	5.994	5.991	0.003	93	232688	8.00	8.00	
22 1,4-Dichlorobenzene	146	6.006	6.008	-0.002	93	476234	14.0	14.1	
23 Benzyl alcohol	108	6.147	6.144	0.003	96	247362	14.0	14.3	
24 1,2-Dichlorobenzene	146	6.147	6.144	0.003	96	443234	14.0	13.9	
26 Indene	115	6.224	6.226	-0.002	91	665022	14.0	13.9	
27 2,2'-oxybis[1-chloropropan	45	6.241	6.243	-0.002	93	508144	14.0	12.9	
25 2-Methylphenol	108	6.288	6.285	0.004	95	379231	14.0	13.4	
29 Acetophenone	105	6.353	6.349	0.004	95	499098	14.0	14.0	
31 N-Nitrosodi-n-propylamine	70	6.359	6.355	0.004	83	273480	14.0	13.1	
30 3 & 4 Methylphenol	108	6.429	6.425	0.004	93	408681	14.0	13.5	
34 Hexachloroethane	117	6.441	6.443	-0.002	91	179201	14.0	13.5	
$ 35 Nitrobenzene-d5	82	6.482	6.478	0.004	88	387596	14.0	13.8	
36 Nitrobenzene	77	6.500	6.496	0.004	86	372627	14.0	13.3	
39 2,6-Dimethylphenol	122	6.623	6.619	0.004	94	403099	14.0	12.9	
41 Isophorone	82	6.711	6.707	0.004	96	718439	14.0	14.1	
42 2-Nitrophenol	139	6.776	6.778	-0.002	90	245173	14.0	15.1	
43 2,4-Dimethylphenol	107	6.858	6.854	0.004	92	392707	14.0	13.4	
46 Bis(2-chloroethoxy)methane	93	6.893	6.890	0.003	98	456676	14.0	13.9	
47 Benzoic acid	122	6.987	6.978	0.009	87	243002	14.0	13.3	
48 2,4-Dichlorophenol	162	7.022	7.019	0.003	90	408765	14.0	13.6	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
49 1,2,4-Trichlorobenzene	180	7.052	7.054	-0.002	95	424428	14.0	13.9	
* 50 Naphthalene-d8	136	7.099	7.095	0.004	99	705133	8.00	8.00	
51 Naphthalene	128	7.116	7.113	0.003	99	933977	14.0	13.9	
52 4-Chloroaniline	127	7.175	7.177	-0.002	96	505984	14.0	12.9	
53 2,6-Dichlorophenol	162	7.187	7.189	-0.002	96	378495	14.0	13.1	
55 Hexachlorobutadiene	225	7.228	7.230	-0.002	94	268039	14.0	13.1	
60 4-Chloro-3-methylphenol	107	7.622	7.624	-0.002	93	382245	14.0	14.5	
62 2-Methylnaphthalene	142	7.698	7.694	0.004	90	784338	14.0	13.9	
63 1-Methylnaphthalene	142	7.780	7.777	0.003	92	736312	14.0	14.0	
66 Hexachlorocyclopentadiene	237	7.839	7.835	0.004	94	274618	14.0	14.1	a
65 1,2,4,5-Tetrachlorobenzene	216	7.839	7.841	-0.002	95	437712	14.0	14.2	
69 2,4,6-Trichlorophenol	196	7.956	7.953	0.003	89	327018	14.0	13.9	
$ 72 2-Fluorobiphenyl	172	7.998	8.000	-0.002	96	835397	14.0	13.9	
71 2,4,5-Trichlorophenol	196	8.003	8.006	-0.003	95	301772	14.0	13.6	
77 1,1'-Biphenyl	154	8.080	8.082	-0.002	97	878593	14.0	14.2	
78 2-Chloronaphthalene	162	8.103	8.100	0.003	96	717060	14.0	14.0	
81 2-Nitroaniline	65	8.197	8.200	-0.003	90	228924	14.0	14.9	
84 Dimethyl phthalate	163	8.338	8.335	0.003	98	844984	14.0	14.0	
85 1,3-Dinitrobenzene	168	8.362	8.358	0.004	95	187663	14.0	15.9	
86 2,6-Dinitrotoluene	165	8.385	8.382	0.003	92	247600	14.0	14.7	
87 1,2-Dinitrobenzene	168	8.432	8.435	-0.003	95	143436	14.0	15.3	
88 Acenaphthylene	152	8.444	8.446	-0.002	96	1029269	14.0	14.1	
89 3-Nitroaniline	138	8.544	8.546	-0.002	95	262260	14.0	14.6	
* 90 Acenaphthene-d10	164	8.562	8.558	0.004	93	484089	8.00	8.00	
91 Acenaphthene	153	8.591	8.587	0.004	92	718001	14.0	14.2	
92 2,4-Dinitrophenol	184	8.614	8.617	-0.003	86	243505	28.0	27.6	
95 2,4-Dinitrotoluene	165	8.714	8.717	-0.002	94	313505	14.0	15.0	
96 Dibenzofuran	168	8.732	8.728	0.004	95	972863	14.0	14.1	
93 4-Nitrophenol	109	8.738	8.740	-0.002	87	215550	28.0	29.3	
99 2,3,4,6-Tetrachlorophenol	232	8.849	8.852	-0.003	70	277979	14.0	14.5	
101 Diethyl phthalate	149	8.908	8.910	-0.002	96	790454	14.0	14.0	
102 Hexadecane	57	8.920	8.922	-0.002	92	489453	14.0	14.1	
105 4-Chlorophenyl phenyl ethe	204	9.008	9.004	0.004	86	493638	14.0	14.1	
104 Fluorene	166	9.014	9.010	0.004	93	784820	14.0	13.9	
107 4-Nitroaniline	138	9.049	9.051	-0.002	90	245529	14.0	13.7	
108 4,6-Dinitro-2-methylphenol	198	9.055	9.057	-0.002	92	357202	28.0	31.6	
109 Diphenylamine	169	9.108	9.104	0.004	91	693183	11.9	12.0	
110 N-Nitrosodiphenylamine	169	9.108	9.104	0.004	64	693183	14.0	14.1	
112 1,2-Diphenylhydrazine	77	9.137	9.134	0.003	44	693078	14.0	13.9	
111 Azobenzene	77	9.137	9.134	0.003	92	693078	14.0	13.9	
$ 113 2,4,6-Tribromophenol	330	9.219	9.222	-0.003	83	90565	14.0	14.4	
118 4-Bromophenyl phenyl ether	248	9.407	9.410	-0.003	62	320119	14.0	14.1	
122 Hexachlorobenzene	284	9.472	9.474	-0.002	90	254108	14.0	14.3	
127 Pentachlorophenol	266	9.648	9.645	0.003	0	307708	28.0	29.4	
130 n-Octadecane	57	9.678	9.674	0.004	96	503855	14.0	13.9	
* 131 Phenanthrene-d10	188	9.783	9.780	0.003	97	853551	8.00	8.00	
132 Phenanthrene	178	9.801	9.803	-0.002	95	1105748	14.0	14.1	
134 Anthracene	178	9.842	9.844	-0.002	96	1141630	14.0	14.2	
135 Carbazole	167	9.983	9.985	-0.002	98	1121683	14.0	14.2	
137 Di-n-butyl phthalate	149	10.247	10.244	0.003	98	1201446	14.0	14.1	
143 Fluoranthene	202	10.782	10.778	0.004	95	1329485	14.0	14.2	
146 Pyrene	202	10.970	10.966	0.004	90	1366625	14.0	14.4	

Report Date: 05-Aug-2019 12:07:52 Chrom Revision: 2.3 15-Jul-2019 06:58:08
Data File: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021908.D

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
$ 149 Terphenyl-d14	244	11.093	11.090	0.003	96	1015823	14.0	14.9	
154 Butyl benzyl phthalate	149	11.552	11.548	0.004	95	715223	14.0	14.3	
159 Benzo[a]anthracene	228	12.215	12.212	0.003	98	1508237	14.0	13.4	
* 160 Chrysene-d12	240	12.233	12.224	0.009	98	754394	8.00	8.00	
162 Bis(2-ethylhexyl) phthalat	149	12.239	12.229	0.010	94	894431	14.0	14.5	
161 Chrysene	228	12.268	12.259	0.009	93	1447077	14.0	14.7	
164 Di-n-octyl phthalate	149	13.285	13.281	0.004	99	1682863	14.0	16.0	
165 Benzo[b]fluoranthene	252	14.031	14.021	0.010	96	1463445	14.0	13.6	
167 Benzo[k]fluoranthene	252	14.089	14.080	0.009	98	1511881	14.0	13.6	
168 Benzo[a]pyrene	252	14.765	14.761	0.004	78	1395887	14.0	14.4	
* 169 Perylene-d12	264	14.906	14.902	0.004	97	846696	8.00	8.00	
172 Indeno[1,2,3-cd]pyrene	276	17.121	17.105	0.016	96	1413364	14.0	14.4	M
173 Dibenz(a,h)anthracene	278	17.191	17.176	0.015	94	1158125	14.0	14.7	
174 Benzo[g,h,i]perylene	276	17.737	17.728	0.009	95	1164822	14.0	13.8	
S 188 Total Cresols	1				0			26.9	
S 187 Methyl Phenols,Total	1				0			26.9	
S 189 Total Cresols, TCEQ Defini	1				0			59.7	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

SV_REGICAL_00027 Amount Added: 70.00 Units: uL

SV_INSTD_LVI_00020 Amount Added: 20.00 Units: uL Run Reagent

Report Date: 05-Aug-2019 12:07:52 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021908.D				
Injection Date:	02-Aug-2019 11:33:30	Instrument ID:	CHSVMS09	Operator ID:	
Lims ID:	IC REG LVI L5			Worklist Smp#:	8
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		

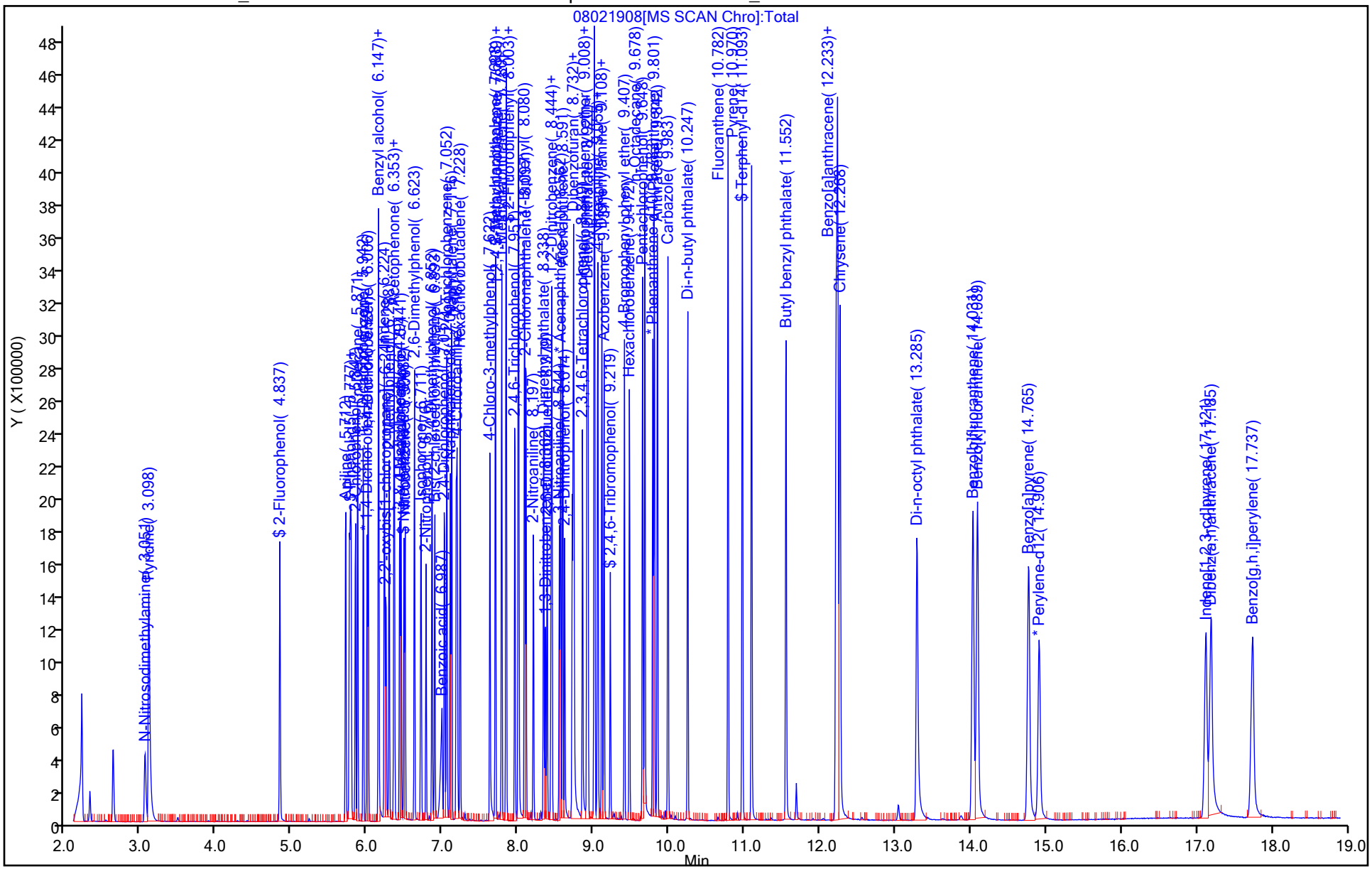

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021908.D				
Injection Date:	02-Aug-2019 11:33:30	Instrument ID:	CHSVMS09		
Lims ID:	IC REG LVI L5				
Client ID:					
Operator ID:		ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		
Column:		Detector	MS SCAN		

66 Hexachlorocyclopentadiene, CAS: 77-47-4

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 7.84

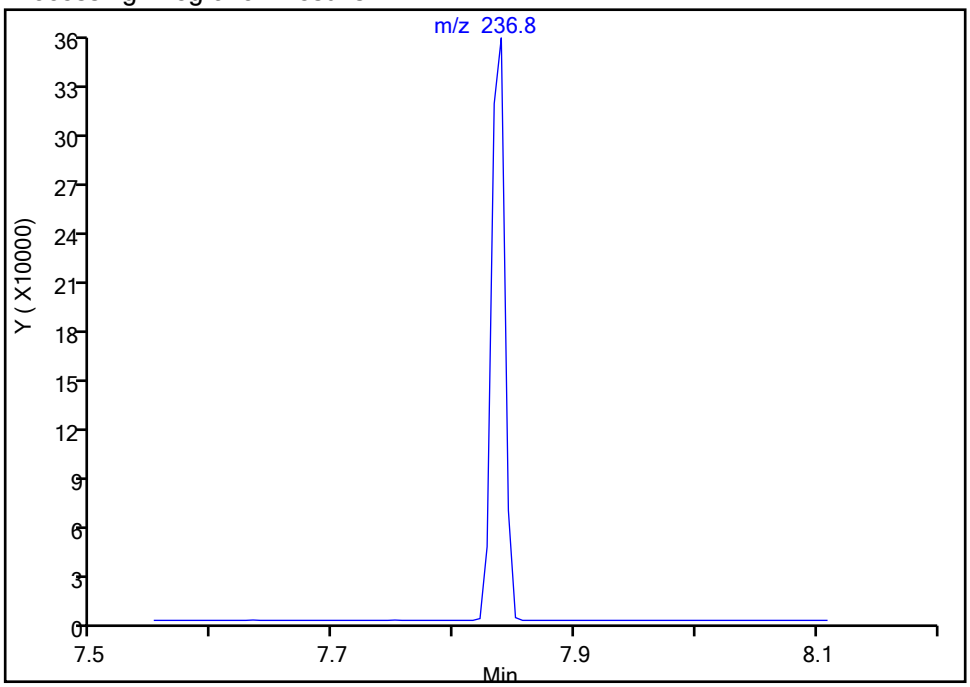

Manual Integration Results

RT: 7.84
Area: 274618
Amount: 14.074138
Amount Units: ug/ml

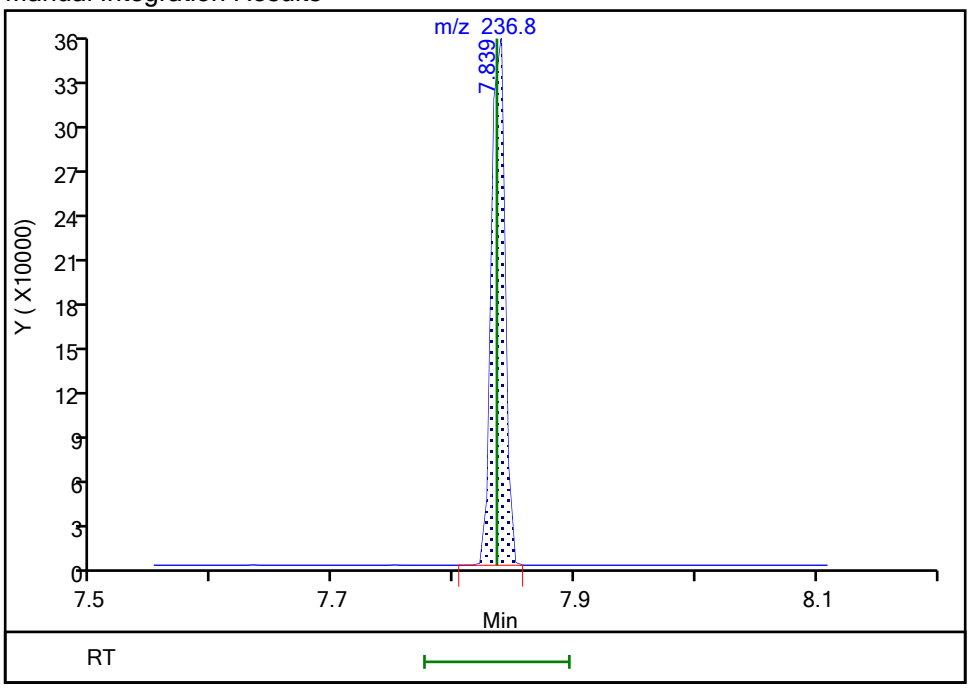

Reviewer: somjitp, 05-Aug-2019 11:09:32
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021908.D				
Injection Date:	02-Aug-2019 11:33:30	Instrument ID:	CHSVMS09		
Lims ID:	IC REG LVI L5				
Client ID:					
Operator ID:		ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		
Column:		Detector	MS SCAN		

172 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

Signal: 1

Processing Integration Results

RT: 17.12
Area: 1001787
Amount: 13.525443
Amount Units: ug/ml

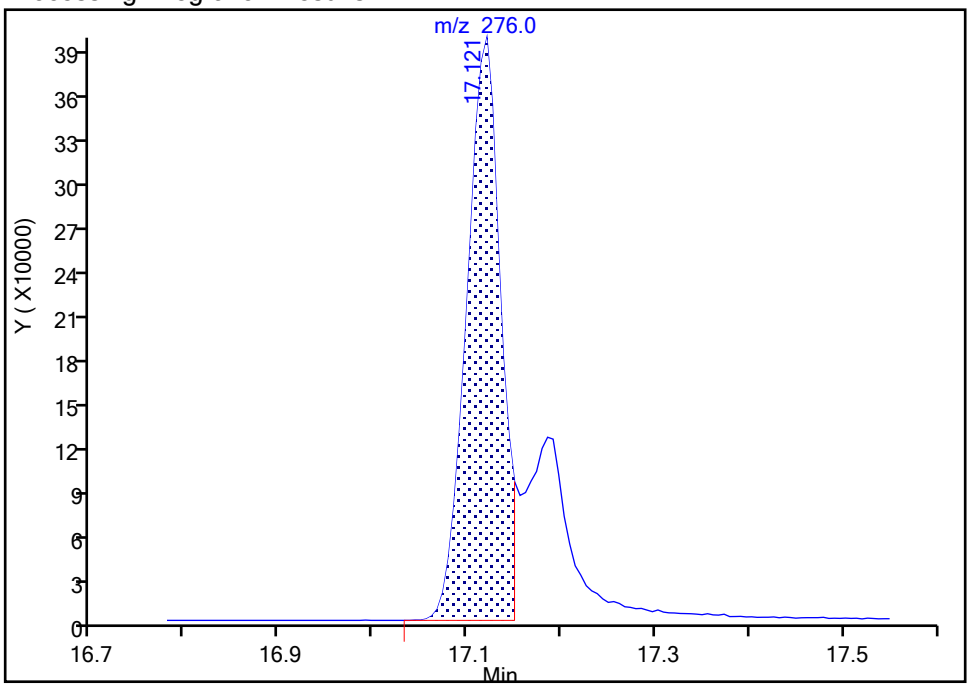

Manual Integration Results

RT: 17.12
Area: 1413364
Amount: 14.433777
Amount Units: ug/ml

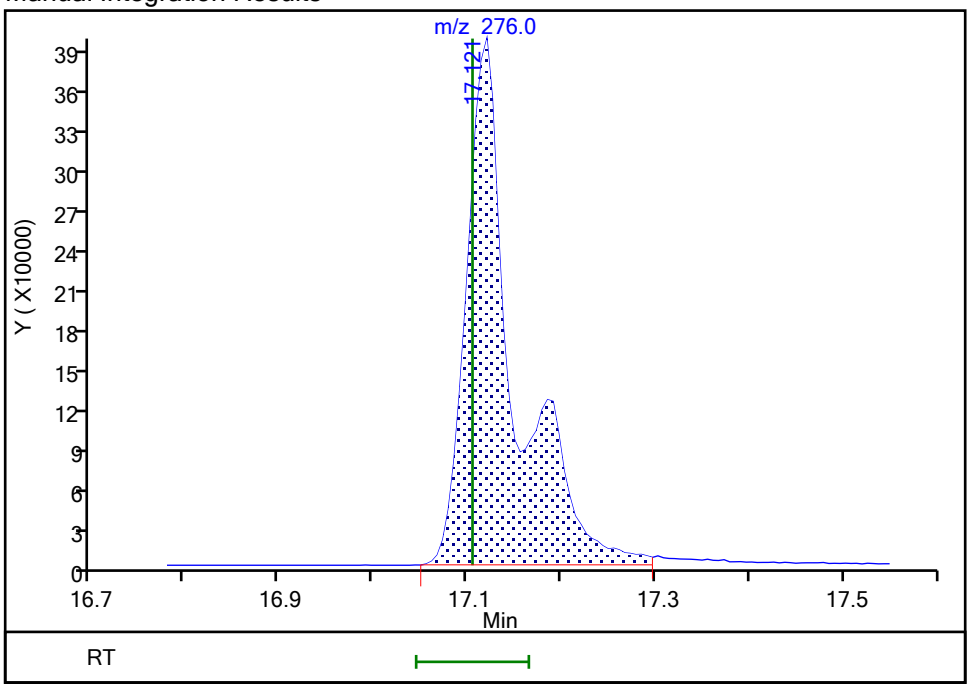

Reviewer: somjitp, 05-Aug-2019 11:10:00
Audit Action: Manually Integrated Audit Reason: Baseline

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021909.D
Lims ID: IC REG LVI L6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 02-Aug-2019 12:00:30 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: IC REG LVI L6
Misc. Info.: 600-0030361-009
Operator ID: Instrument ID: CHSVMS09
Sublist: chrom-8270LVI_9*sub33

Method: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\8270LVI_9.m
Limit Group: SV - 8270D_8270DLL
Last Update: 05-Aug-2019 12:07:56 Calib Date: 02-Aug-2019 17:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021920.D

Column 1 : Det: MS SCAN
Process Host: CTX0303

First Level Reviewer: somjitp Date: 05-Aug-2019 11:11:00

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 N-Nitrosodimethylamine	74	3.050	3.048	0.002	94	345388	16.0	16.1	
2 Pyridine	79	3.097	3.101	-0.004	93	936418	32.0	30.5	
$ 7 2-Fluorophenol	112	4.836	4.839	-0.003	93	523548	16.0	15.7	
12 Aniline	93	5.711	5.709	0.002	95	691762	16.0	14.7	
16 Bis(2-chloroethyl)ether	93	5.758	5.756	0.002	97	474780	16.0	14.5	
$ 10 Phenol-d5	99	5.770	5.768	0.002	69	546058	16.0	14.7	
11 Phenol	94	5.782	5.779	0.003	98	553002	16.0	14.4	
17 2-Chlorophenol	128	5.840	5.838	0.002	95	486881	16.0	14.7	
18 n-Decane	57	5.870	5.867	0.003	85	480076	16.0	16.1	
20 1,3-Dichlorobenzene	146	5.946	5.944	0.002	97	535109	16.0	16.2	
* 21 1,4-Dichlorobenzene-d4	152	5.993	5.991	0.002	94	231878	8.00	8.00	
22 1,4-Dichlorobenzene	146	6.011	6.008	0.003	93	527323	16.0	16.3	
24 1,2-Dichlorobenzene	146	6.146	6.144	0.002	95	496621	16.0	16.3	
23 Benzyl alcohol	108	6.152	6.144	0.008	97	275265	16.0	16.0	
26 Indene	115	6.222	6.226	-0.004	91	730271	16.0	16.0	
27 2,2'-oxybis[1-chloropropan	45	6.246	6.243	0.003	92	565485	16.0	14.4	
25 2-Methylphenol	108	6.287	6.285	0.003	95	420445	16.0	14.9	
29 Acetophenone	105	6.352	6.349	0.003	95	559310	16.0	16.4	
31 N-Nitrosodi-n-propylamine	70	6.357	6.355	0.002	84	307404	16.0	14.7	
30 3 & 4 Methylphenol	108	6.428	6.425	0.003	95	461591	16.0	15.3	
34 Hexachloroethane	117	6.446	6.443	0.003	88	201813	16.0	15.3	
$ 35 Nitrobenzene-d5	82	6.481	6.478	0.003	88	444893	16.0	16.0	
36 Nitrobenzene	77	6.498	6.496	0.002	87	421495	16.0	15.0	
39 2,6-Dimethylphenol	122	6.622	6.619	0.003	94	461157	16.0	14.8	
41 Isophorone	82	6.710	6.707	0.003	96	799863	16.0	16.5	
42 2-Nitrophenol	139	6.774	6.778	-0.004	92	278091	16.0	17.2	
43 2,4-Dimethylphenol	107	6.857	6.854	0.003	92	441390	16.0	15.1	
46 Bis(2-chloroethoxy)methane	93	6.892	6.890	0.002	97	514084	16.0	16.4	
47 Benzoic acid	122	6.992	6.978	0.014	88	302353	16.0	16.5	
48 2,4-Dichlorophenol	162	7.021	7.019	0.002	90	467501	16.0	15.7	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
49 1,2,4-Trichlorobenzene	180	7.051	7.054	-0.003	95	480273	16.0	16.6	
* 50 Naphthalene-d8	136	7.098	7.095	0.003	99	702223	8.00	8.00	
51 Naphthalene	128	7.115	7.113	0.002	98	1026112	16.0	16.2	
52 4-Chloroaniline	127	7.180	7.177	0.003	95	563616	16.0	14.5	
53 2,6-Dichlorophenol	162	7.192	7.189	0.003	97	427704	16.0	14.8	
55 Hexachlorobutadiene	225	7.227	7.230	-0.003	94	305079	16.0	15.0	
60 4-Chloro-3-methylphenol	107	7.620	7.624	-0.004	93	418985	16.0	16.0	
62 2-Methylnaphthalene	142	7.697	7.694	0.003	90	872555	16.0	16.4	
63 1-Methylnaphthalene	142	7.779	7.777	0.002	91	815040	16.0	16.4	
66 Hexachlorocyclopentadiene	237	7.838	7.835	0.003	95	305739	16.0	15.6	a
65 1,2,4,5-Tetrachlorobenzene	216	7.844	7.841	0.003	95	487531	16.0	16.6	
69 2,4,6-Trichlorophenol	196	7.955	7.953	0.002	89	377392	16.0	15.9	
$ 72 2-Fluorobiphenyl	172	8.002	8.000	0.002	95	897910	16.0	15.0	
71 2,4,5-Trichlorophenol	196	8.008	8.006	0.002	95	341565	16.0	15.3	
77 1,1'-Biphenyl	154	8.084	8.082	0.002	95	961870	16.0	16.4	
78 2-Chloronaphthalene	162	8.102	8.100	0.002	97	802027	16.0	16.4	
81 2-Nitroaniline	65	8.202	8.200	0.002	90	261896	16.0	17.0	
84 Dimethyl phthalate	163	8.337	8.335	0.002	97	942916	16.0	16.3	
85 1,3-Dinitrobenzene	168	8.361	8.358	0.003	98	220872	16.0	18.6	
86 2,6-Dinitrotoluene	165	8.384	8.382	0.002	94	282533	16.0	16.7	
87 1,2-Dinitrobenzene	168	8.437	8.435	0.002	92	164125	16.0	17.5	
88 Acenaphthylene	152	8.443	8.446	-0.003	95	1121331	16.0	16.2	
89 3-Nitroaniline	138	8.549	8.546	0.003	96	301585	16.0	16.7	
* 90 Acenaphthene-d10	164	8.560	8.558	0.002	93	485969	8.00	8.00	
91 Acenaphthene	153	8.590	8.587	0.003	92	788144	16.0	16.2	
92 2,4-Dinitrophenol	184	8.613	8.617	-0.004	86	303695	32.0	33.9	
95 2,4-Dinitrotoluene	165	8.719	8.717	0.003	93	362089	16.0	17.3	
96 Dibenzofuran	168	8.731	8.728	0.003	94	1055066	16.0	16.1	
93 4-Nitrophenol	109	8.737	8.740	-0.003	79	247561	32.0	33.5	
99 2,3,4,6-Tetrachlorophenol	232	8.854	8.852	0.002	69	325050	16.0	16.9	
101 Diethyl phthalate	149	8.913	8.910	0.003	95	873940	16.0	16.3	
102 Hexadecane	57	8.925	8.922	0.003	92	535884	16.0	16.3	
105 4-Chlorophenyl phenyl ethe	204	9.007	9.004	0.003	87	545167	16.0	16.3	
104 Fluorene	166	9.013	9.010	0.003	95	864159	16.0	16.2	
107 4-Nitroaniline	138	9.054	9.051	0.003	89	280221	16.0	15.6	
108 4,6-Dinitro-2-methylphenol	198	9.060	9.057	0.003	95	421206	32.0	37.1	
109 Diphenylamine	169	9.107	9.104	0.003	91	773636	13.6	14.0	
110 N-Nitrosodiphenylamine	169	9.107	9.104	0.003	64	773636	16.0	16.5	
112 1,2-Diphenylhydrazine	77	9.136	9.134	0.002	41	783580	16.0	16.5	
111 Azobenzene	77	9.136	9.134	0.002	91	783580	16.0	16.5	
$ 113 2,4,6-Tribromophenol	330	9.218	9.222	-0.004	84	106655	16.0	16.9	
118 4-Bromophenyl phenyl ether	248	9.406	9.410	-0.004	61	363946	16.0	16.6	
122 Hexachlorobenzene	284	9.477	9.474	0.003	92	289052	16.0	16.9	
127 Pentachlorophenol	266	9.647	9.645	0.002	0	356023	32.0	33.8	
130 n-Octadecane	57	9.676	9.674	0.002	97	565545	16.0	16.6	
* 131 Phenanthrene-d10	188	9.782	9.780	0.002	98	858953	8.00	8.00	
132 Phenanthrene	178	9.806	9.803	0.003	94	1212510	16.0	16.3	
134 Anthracene	178	9.847	9.844	0.003	95	1238636	16.0	16.2	
135 Carbazole	167	9.988	9.985	0.003	97	1223320	16.0	16.2	
137 Di-n-butyl phthalate	149	10.246	10.244	0.002	98	1316228	16.0	16.3	
143 Fluoranthene	202	10.781	10.778	0.003	94	1449369	16.0	16.4	
146 Pyrene	202	10.969	10.966	0.003	90	1479605	16.0	16.2	

Report Date: 05-Aug-2019 12:07:59 Chrom Revision: 2.3 15-Jul-2019 06:58:08
Data File: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021909.D

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
$ 149 Terphenyl-d14	244	11.092	11.090	0.002	95	1115070	16.0	16.6	
154 Butyl benzyl phthalate	149	11.550	11.548	0.002	95	821591	16.0	16.5	
159 Benzo[a]anthracene	228	12.214	12.212	0.002	95	1686432	16.0	15.0	
* 160 Chrysene-d12	240	12.232	12.224	0.008	97	751311	8.00	8.00	
162 Bis(2-ethylhexyl) phthalat	149	12.238	12.229	0.009	94	1015548	16.0	16.5	
161 Chrysene	228	12.267	12.259	0.008	93	1494438	16.0	15.4	
164 Di-n-octyl phthalate	149	13.283	13.281	0.002	99	1937799	16.0	18.5	
165 Benzo[b]fluoranthene	252	14.029	14.021	0.008	97	1650427	16.0	15.1	
167 Benzo[k]fluoranthene	252	14.088	14.080	0.008	97	1695671	16.0	15.4	
168 Benzo[a]pyrene	252	14.770	14.761	0.009	78	1601972	16.0	16.2	
* 169 Perylene-d12	264	14.905	14.902	0.003	97	864097	8.00	8.00	
172 Indeno[1,2,3-cd]pyrene	276	17.119	17.105	0.014	96	1626827	16.0	16.3	M
173 Dibenz(a,h)anthracene	278	17.190	17.176	0.014	94	1304666	16.0	16.2	
174 Benzo[g,h,i]perylene	276	17.742	17.728	0.014	94	1350404	16.0	15.7	
S 189 Total Cresols, TCEQ Defini	1				0			68.4	
S 187 Methyl Phenols,Total	1				0			30.2	
S 188 Total Cresols	1				0			30.2	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

SV_REGICAL_00027	Amount Added: 80.00	Units: uL	
SV_INSTD_LVI_00020	Amount Added: 20.00	Units: uL	Run Reagent

Report Date: 05-Aug-2019 12:07:59 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021909.D				
Injection Date:	02-Aug-2019 12:00:30	Instrument ID:	CHSVMS09	Operator ID:	
Lims ID:	IC REG LVI L6			Worklist Smp#:	9
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		

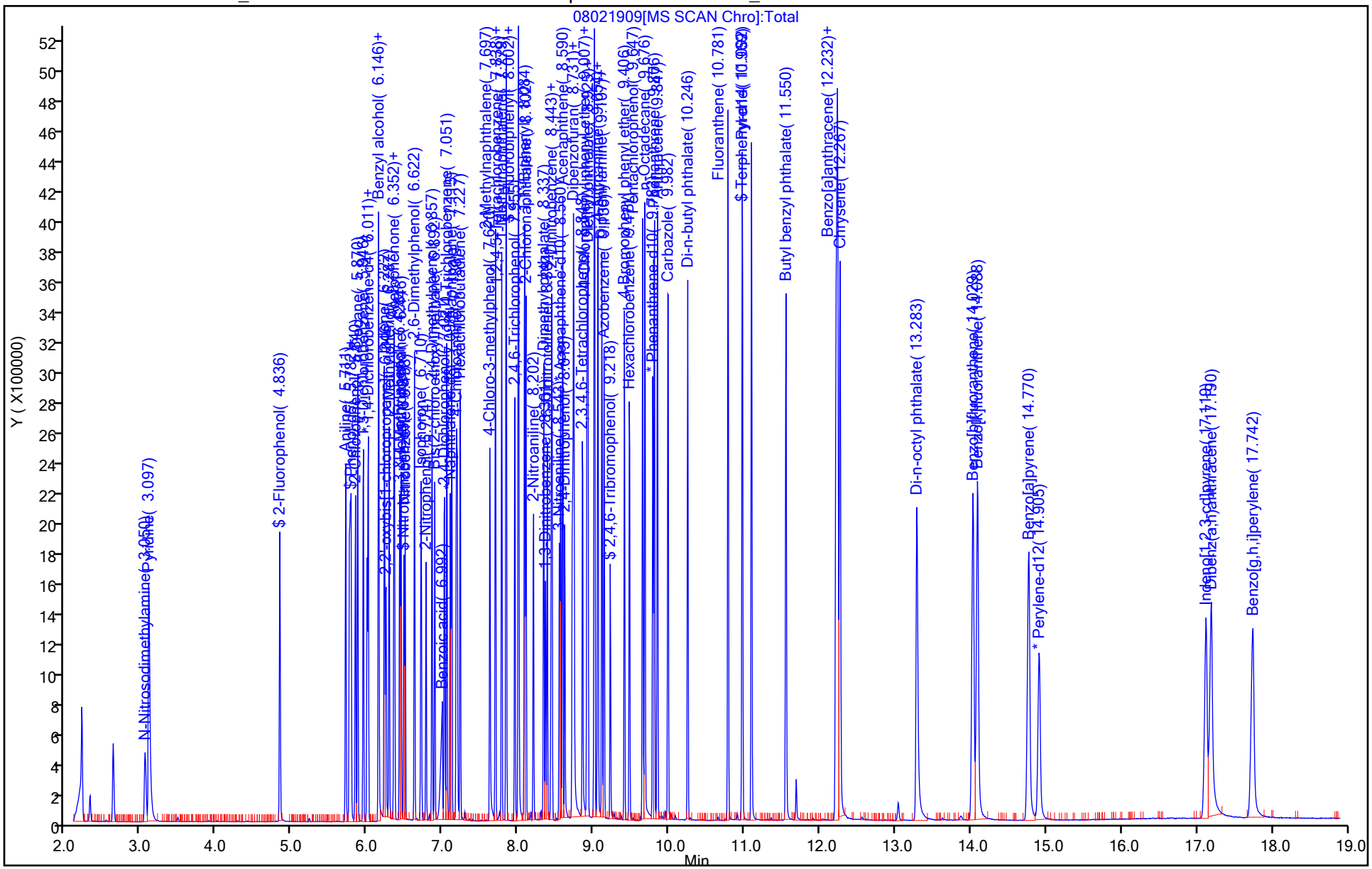

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021909.D				
Injection Date:	02-Aug-2019 12:00:30	Instrument ID:	CHSVMS09		
Lims ID:	IC REG LVI L6				
Client ID:					
Operator ID:		ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		
Column:		Detector	MS SCAN		

66 Hexachlorocyclopentadiene, CAS: 77-47-4

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 7.84

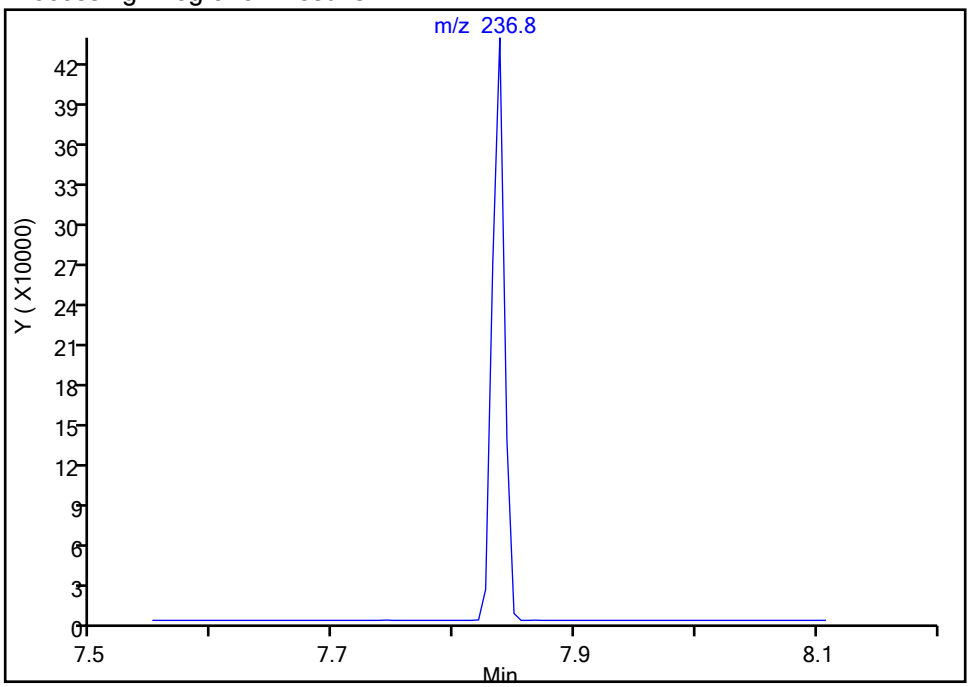

Manual Integration Results

RT: 7.84
Area: 305739
Amount: 15.608469
Amount Units: ug/ml

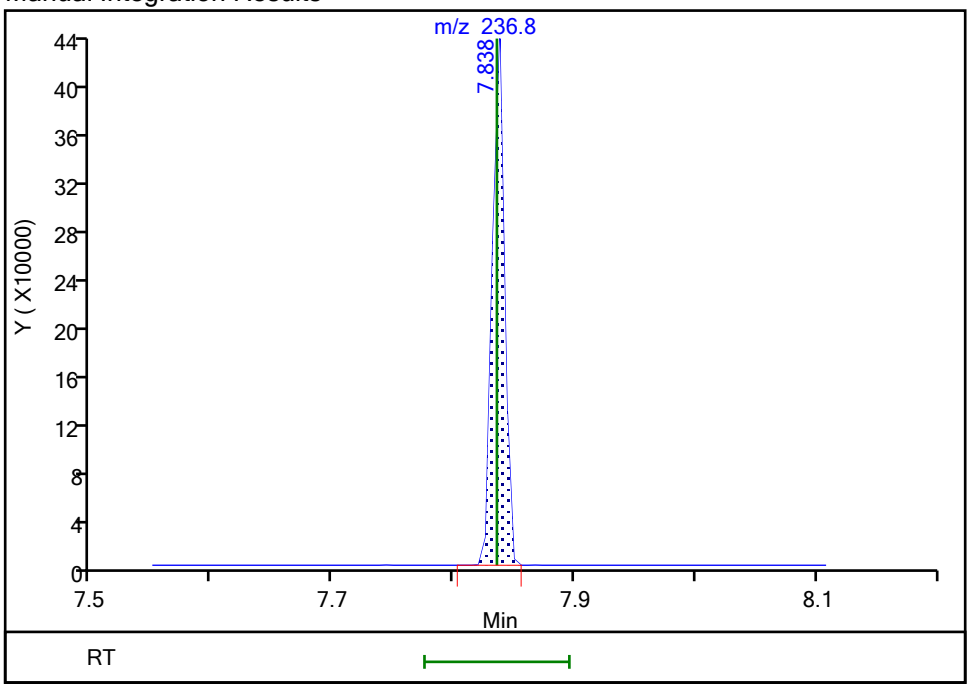

Reviewer: somjitp, 05-Aug-2019 11:10:48
Audit Action: Assigned Compound ID Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021909.D				
Injection Date:	02-Aug-2019 12:00:30	Instrument ID:	CHSVMS09		
Lims ID:	IC REG LVI L6				
Client ID:					
Operator ID:		ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		
Column:		Detector	MS SCAN		

172 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

Signal: 1

Processing Integration Results

RT: 17.12
Area: 1256442
Amount: 14.184914
Amount Units: ug/ml

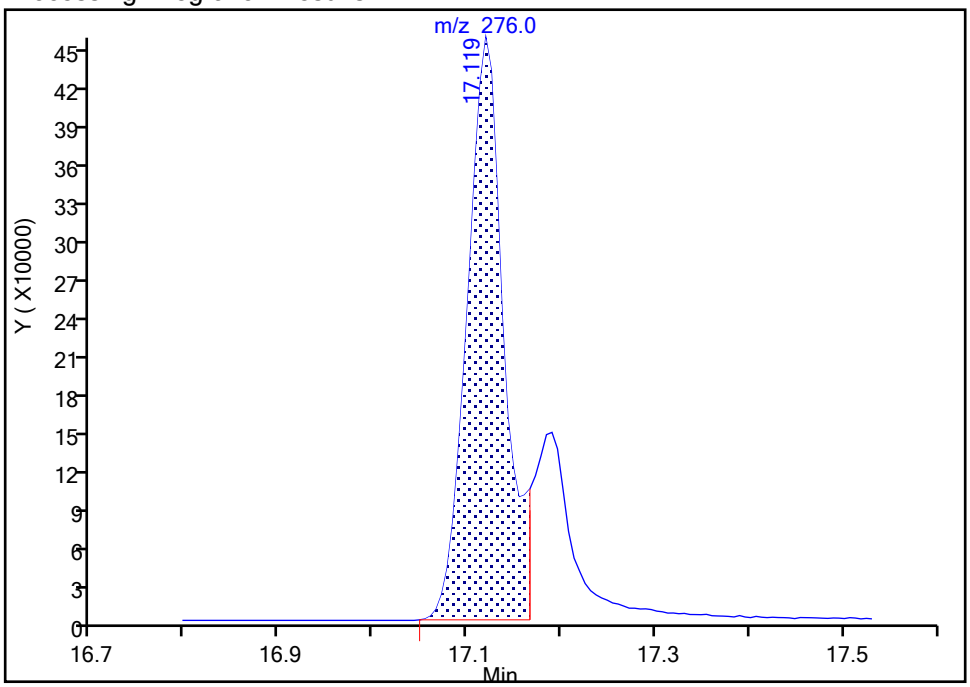

Manual Integration Results

RT: 17.12
Area: 1626827
Amount: 16.279173
Amount Units: ug/ml

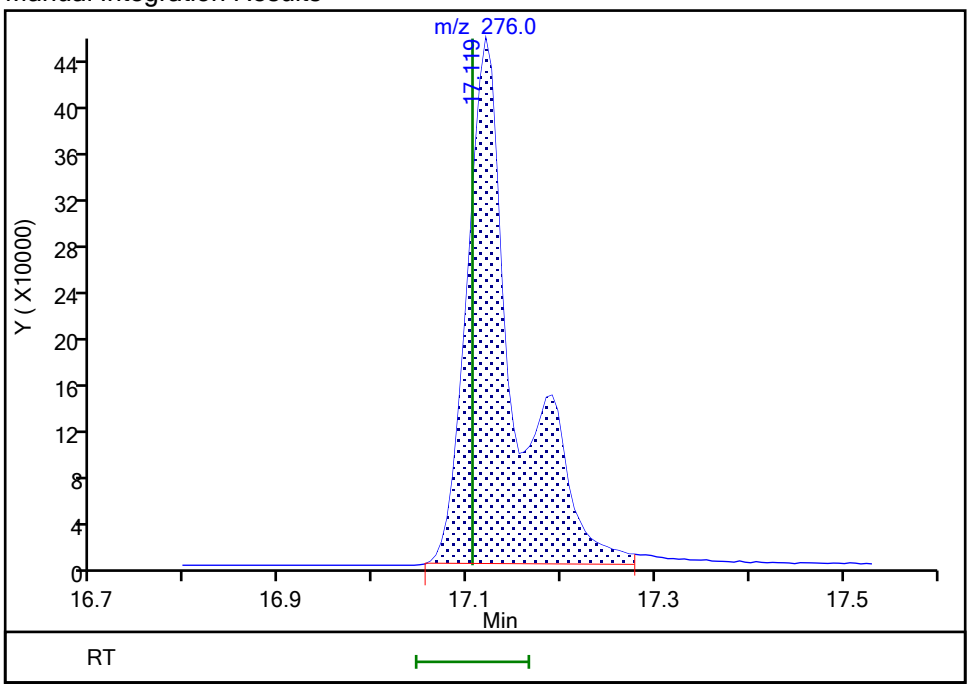

Reviewer: somjitp, 05-Aug-2019 11:10:25

Audit Action: Manually Integrated Audit Reason: Baseline

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021910.D
Lims ID: IC REG LVI L7
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 02-Aug-2019 12:28:30 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: IC REG LVI L7
Misc. Info.: 600-0030361-010
Operator ID: Instrument ID: CHSVMS09
Sublist: chrom-8270LVI_9*sub33

Method: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\8270LVI_9.m
Limit Group: SV - 8270D_8270DLL
Last Update: 05-Aug-2019 12:08:04 Calib Date: 02-Aug-2019 17:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021920.D

Column 1 : Det: MS SCAN
Process Host: CTX0303

First Level Reviewer: somjitp Date: 05-Aug-2019 11:11:42

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 N-Nitrosodimethylamine	74	3.045	3.048	-0.003	93	407635	20.0	19.2	
2 Pyridine	79	3.092	3.101	-0.009	92	1099422	40.0	36.1	
$ 7 2-Fluorophenol	112	4.837	4.839	-0.002	92	609760	20.0	18.4	
12 Aniline	93	5.712	5.709	0.003	95	795840	20.0	17.1	
16 Bis(2-chloroethyl)ether	93	5.759	5.756	0.003	95	548846	20.0	16.9	
$ 10 Phenol-d5	99	5.771	5.768	0.003	72	628031	20.0	17.0	
11 Phenol	94	5.783	5.779	0.004	98	644743	20.0	16.9	
17 2-Chlorophenol	128	5.842	5.838	0.004	95	556756	20.0	17.0	
18 n-Decane	57	5.871	5.867	0.004	85	539884	20.0	19.6	
20 1,3-Dichlorobenzene	146	5.941	5.944	-0.003	96	611945	20.0	20.1	
* 21 1,4-Dichlorobenzene-d4	152	5.994	5.991	0.003	93	230237	8.00	8.00	
22 1,4-Dichlorobenzene	146	6.006	6.008	-0.002	92	602066	20.0	20.1	
23 Benzyl alcohol	108	6.153	6.144	0.009	96	328855	20.0	19.2	
24 1,2-Dichlorobenzene	146	6.147	6.144	0.003	95	566753	20.0	20.0	
26 Indene	115	6.223	6.226	-0.003	91	826871	20.0	19.8	
27 2,2'-oxybis[1-chloropropan	45	6.241	6.243	-0.002	91	646093	20.0	16.6	
25 2-Methylphenol	108	6.288	6.285	0.004	95	497481	20.0	17.7	
29 Acetophenone	105	6.353	6.349	0.004	94	646137	20.0	19.9	
31 N-Nitrosodi-n-propylamine	70	6.359	6.355	0.004	84	362441	20.0	17.5	
30 3 & 4 Methylphenol	108	6.429	6.425	0.004	94	532698	20.0	17.8	
34 Hexachloroethane	117	6.441	6.443	-0.002	88	231999	20.0	17.7	
$ 35 Nitrobenzene-d5	82	6.482	6.478	0.004	88	520075	20.0	18.6	
36 Nitrobenzene	77	6.500	6.496	0.004	87	496687	20.0	17.6	
39 2,6-Dimethylphenol	122	6.623	6.619	0.004	94	529021	20.0	16.9	
41 Isophorone	82	6.711	6.707	0.004	96	902950	20.0	20.0	
42 2-Nitrophenol	139	6.776	6.778	-0.002	92	333552	20.0	20.5	
43 2,4-Dimethylphenol	107	6.858	6.854	0.004	92	515563	20.0	17.6	
46 Bis(2-chloroethoxy)methane	93	6.893	6.890	0.003	97	589336	20.0	19.9	
47 Benzoic acid	122	6.999	6.978	0.021	87	389502	20.0	20.9	
48 2,4-Dichlorophenol	162	7.016	7.019	-0.003	90	542673	20.0	18.1	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
49 1,2,4-Trichlorobenzene	180	7.052	7.054	-0.002	95	547002	20.0	19.9	
* 50 Naphthalene-d8	136	7.099	7.095	0.004	99	705953	8.00	8.00	
51 Naphthalene	128	7.116	7.113	0.003	98	1146653	20.0	19.7	
52 4-Chloroaniline	127	7.181	7.177	0.004	94	653610	20.0	16.7	
53 2,6-Dichlorophenol	162	7.193	7.189	0.004	97	494626	20.0	17.0	
55 Hexachlorobutadiene	225	7.228	7.230	-0.002	94	352947	20.0	17.3	
60 4-Chloro-3-methylphenol	107	7.622	7.624	-0.002	92	509769	20.0	19.4	
62 2-Methylnaphthalene	142	7.698	7.694	0.004	89	971616	20.0	19.6	
63 1-Methylnaphthalene	142	7.780	7.777	0.003	91	922920	20.0	20.1	
66 Hexachlorocyclopentadiene	237	7.839	7.835	0.004	95	353936	20.0	17.8	a
65 1,2,4,5-Tetrachlorobenzene	216	7.845	7.841	0.004	95	545279	20.0	19.6	
69 2,4,6-Trichlorophenol	196	7.956	7.953	0.003	89	441091	20.0	18.4	
$ 72 2-Fluorobiphenyl	172	7.998	8.000	-0.002	98	997851	20.0	16.6	
71 2,4,5-Trichlorophenol	196	8.009	8.006	0.003	95	390876	20.0	17.3	
77 1,1'-Biphenyl	154	8.086	8.082	0.004	95	1058789	20.0	19.1	
78 2-Chloronaphthalene	162	8.103	8.100	0.003	97	911814	20.0	19.8	
81 2-Nitroaniline	65	8.203	8.200	0.003	89	324603	20.0	20.8	
84 Dimethyl phthalate	163	8.338	8.335	0.003	96	1093390	20.0	20.0	
85 1,3-Dinitrobenzene	168	8.362	8.358	0.004	98	275691	20.0	22.9	
86 2,6-Dinitrotoluene	165	8.385	8.382	0.003	95	341671	20.0	19.9	
87 1,2-Dinitrobenzene	168	8.438	8.435	0.003	95	198293	20.0	20.8	
88 Acenaphthylene	152	8.444	8.446	-0.002	95	1248421	20.0	19.5	
89 3-Nitroaniline	138	8.550	8.546	0.004	96	366326	20.0	20.0	
* 90 Acenaphthene-d10	164	8.561	8.558	0.003	93	492694	8.00	8.00	
91 Acenaphthene	153	8.591	8.587	0.004	92	906488	20.0	20.1	
92 2,4-Dinitrophenol	184	8.620	8.617	0.003	86	384054	40.0	41.8	
95 2,4-Dinitrotoluene	165	8.720	8.717	0.004	94	436975	20.0	20.6	
96 Dibenzofuran	168	8.732	8.728	0.004	94	1179827	20.0	19.6	
93 4-Nitrophenol	109	8.744	8.740	0.004	86	306703	40.0	41.0	
99 2,3,4,6-Tetrachlorophenol	232	8.849	8.852	-0.003	71	389976	20.0	20.0	
101 Diethyl phthalate	149	8.914	8.910	0.004	94	990155	20.0	19.8	
102 Hexadecane	57	8.926	8.922	0.004	92	591389	20.0	19.2	
105 4-Chlorophenyl phenyl ethe	204	9.008	9.004	0.004	87	620908	20.0	20.0	
104 Fluorene	166	9.014	9.010	0.004	92	968490	20.0	19.7	
107 4-Nitroaniline	138	9.055	9.051	0.004	89	332767	20.0	18.3	
108 4,6-Dinitro-2-methylphenol	198	9.061	9.057	0.004	91	506903	40.0	43.4	
109 Diphenylamine	169	9.108	9.104	0.004	90	883739	17.0	16.8	
110 N-Nitrosodiphenylamine	169	9.108	9.104	0.004	65	883739	20.0	19.7	
112 1,2-Diphenylhydrazine	77	9.137	9.134	0.003	40	898606	20.0	19.8	
111 Azobenzene	77	9.137	9.134	0.003	90	898606	20.0	19.8	
$ 113 2,4,6-Tribromophenol	330	9.219	9.222	-0.003	84	128206	20.0	20.1	
118 4-Bromophenyl phenyl ether	248	9.407	9.410	-0.003	61	429571	20.0	20.1	
122 Hexachlorobenzene	284	9.478	9.474	0.004	90	334242	20.0	20.1	
127 Pentachlorophenol	266	9.648	9.645	0.003	0	425449	40.0	39.3	
130 n-Octadecane	57	9.678	9.674	0.004	96	629724	20.0	19.2	
* 131 Phenanthrene-d10	188	9.783	9.780	0.003	98	882419	8.00	8.00	
132 Phenanthrene	178	9.807	9.803	0.004	94	1353988	20.0	19.3	
134 Anthracene	178	9.848	9.844	0.004	94	1395146	20.0	19.4	
135 Carbazole	167	9.983	9.985	-0.002	96	1380390	20.0	19.4	
137 Di-n-butyl phthalate	149	10.247	10.244	0.003	97	1467607	20.0	19.3	
143 Fluoranthene	202	10.782	10.778	0.004	93	1614815	20.0	19.4	
146 Pyrene	202	10.970	10.966	0.004	90	1652381	20.0	19.5	

Report Date: 05-Aug-2019 12:08:07 Chrom Revision: 2.3 15-Jul-2019 06:58:08
Data File: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021910.D

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
$ 149 Terphenyl-d14	244	11.093	11.090	0.003	94	1272391	20.0	19.4	
154 Butyl benzyl phthalate	149	11.552	11.548	0.004	95	967108	20.0	19.7	
159 Benzo[a]anthracene	228	12.215	12.212	0.003	95	1926756	20.0	17.3	
* 160 Chrysene-d12	240	12.233	12.224	0.009	97	742527	8.00	8.00	
162 Bis(2-ethylhexyl) phthalat	149	12.239	12.229	0.010	94	1188233	20.0	19.5	
161 Chrysene	228	12.268	12.259	0.009	92	1799346	20.0	20.2	
164 Di-n-octyl phthalate	149	13.290	13.281	0.009	99	2350279	20.0	22.7	
165 Benzo[b]fluoranthene	252	14.036	14.021	0.015	96	2004438	20.0	17.9	
167 Benzo[k]fluoranthene	252	14.095	14.080	0.015	97	2224515	20.0	22.0	
168 Benzo[a]pyrene	252	14.777	14.761	0.016	79	1913725	20.0	18.9	
* 169 Perylene-d12	264	14.912	14.902	0.010	97	884461	8.00	8.00	
172 Indeno[1,2,3-cd]pyrene	276	17.126	17.105	0.021	95	2006814	20.0	19.6	M
173 Dibenz(a,h)anthracene	278	17.197	17.176	0.021	95	1586625	20.0	19.2	
174 Benzo[g,h,i]perylene	276	17.749	17.728	0.021	94	1622565	20.0	18.5	
S 188 Total Cresols	1				0			35.5	
S 187 Methyl Phenols,Total	1				0			35.5	
S 189 Total Cresols, TCEQ Defini	1				0			80.6	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

SV_REGICAL_00027 Amount Added: 100.00 Units: uL

SV_INSTD_LVI_00020 Amount Added: 20.00 Units: uL Run Reagent

Report Date: 05-Aug-2019 12:08:07 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021910.D				
Injection Date:	02-Aug-2019 12:28:30	Instrument ID:	CHSVMS09	Operator ID:	
Lims ID:	IC REG LVI L7			Worklist Smp#:	10
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		

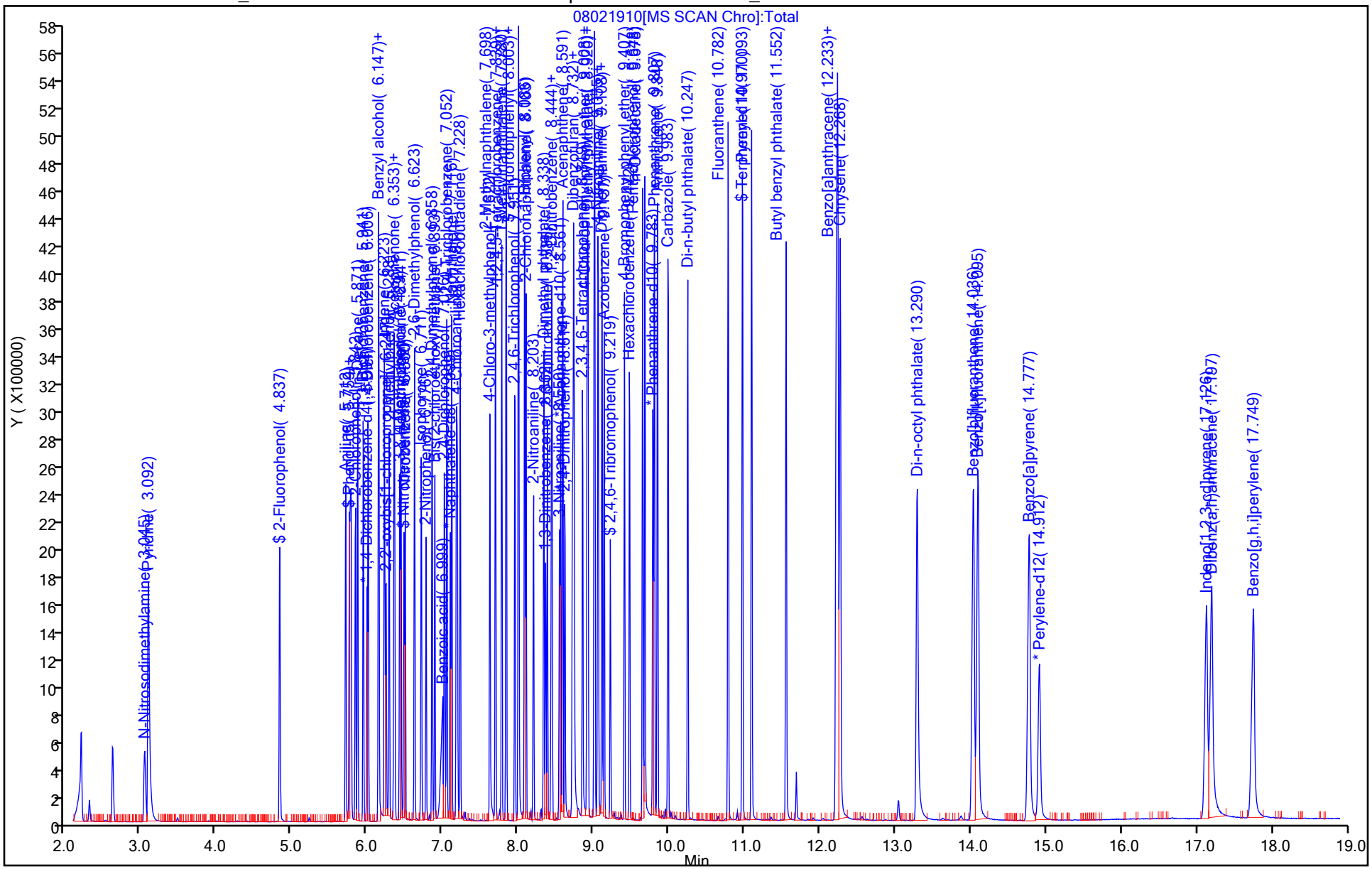

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021910.D				
Injection Date:	02-Aug-2019 12:28:30	Instrument ID:	CHSVMS09		
Lims ID:	IC REG LVI L7				
Client ID:					
Operator ID:		ALS Bottle#:	10	Worklist Smp#:	10
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		
Column:		Detector	MS SCAN		

66 Hexachlorocyclopentadiene, CAS: 77-47-4

Signal: 1

Not Detected
Expected RT: 7.84

Processing Integration Results

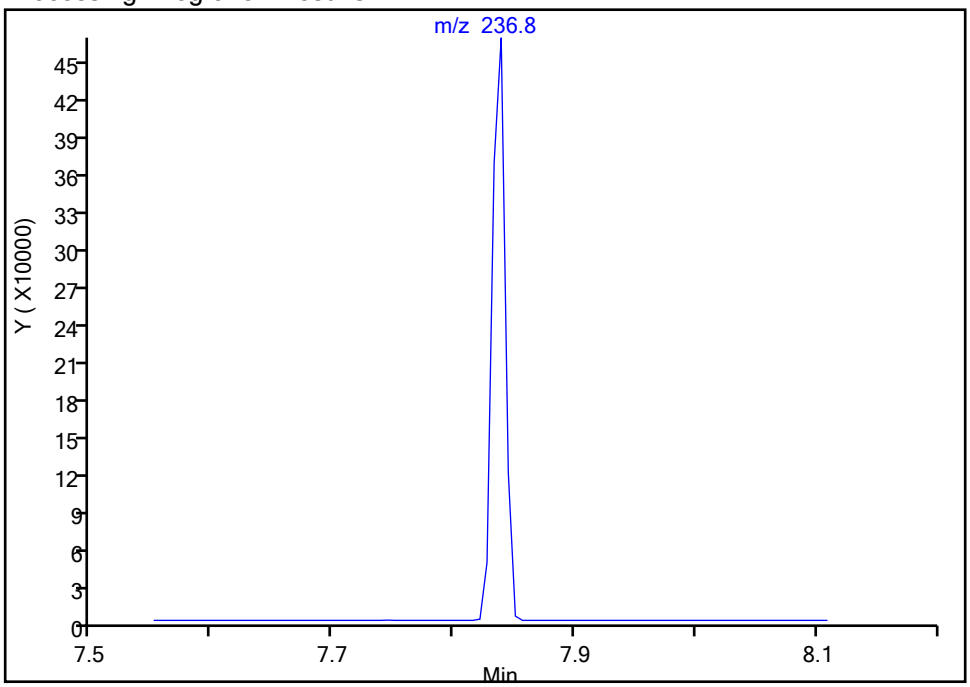

Manual Integration Results

RT: 7.84
Area: 353936
Amount: 17.822371
Amount Units: ug/ml

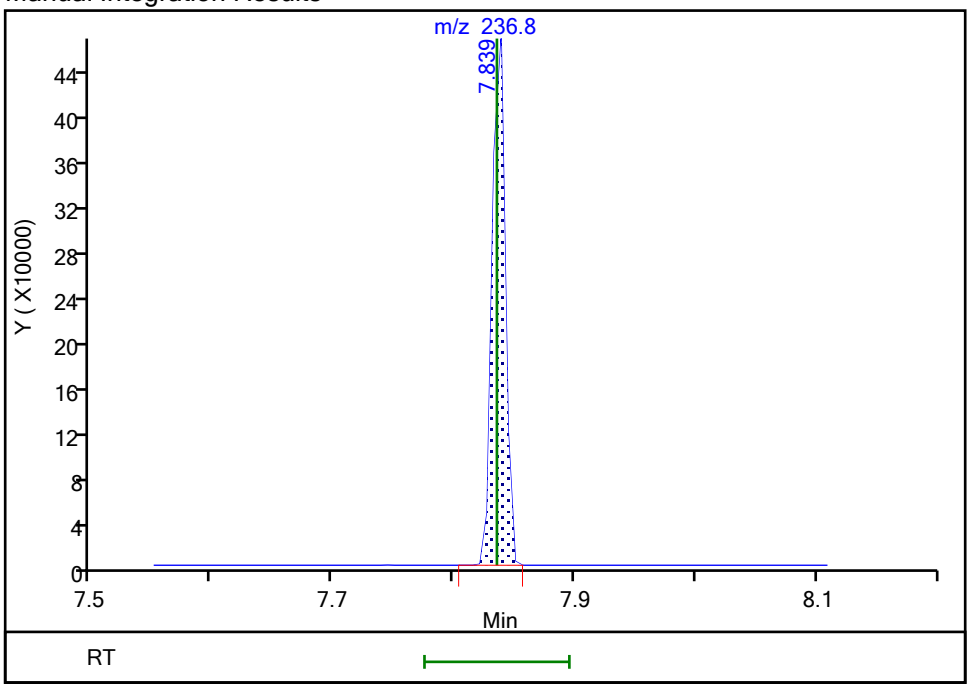

Reviewer: somjitp, 05-Aug-2019 11:11:22
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021910.D				
Injection Date:	02-Aug-2019 12:28:30	Instrument ID:	CHSVMS09		
Lims ID:	IC REG LVI L7				
Client ID:					
Operator ID:		ALS Bottle#:	10	Worklist Smp#:	10
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		
Column:		Detector	MS SCAN		

172 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

Signal: 1

Processing Integration Results

RT: 17.13
Area: 1549763
Amount: 15.586229
Amount Units: ug/ml

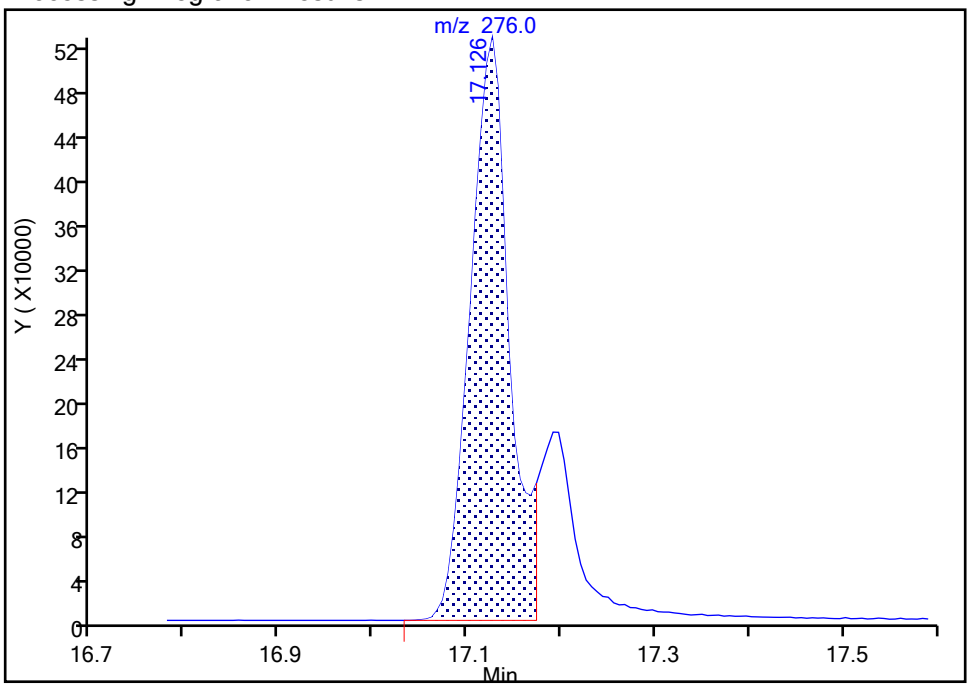

Manual Integration Results

RT: 17.13
Area: 2006814
Amount: 19.619228
Amount Units: ug/ml

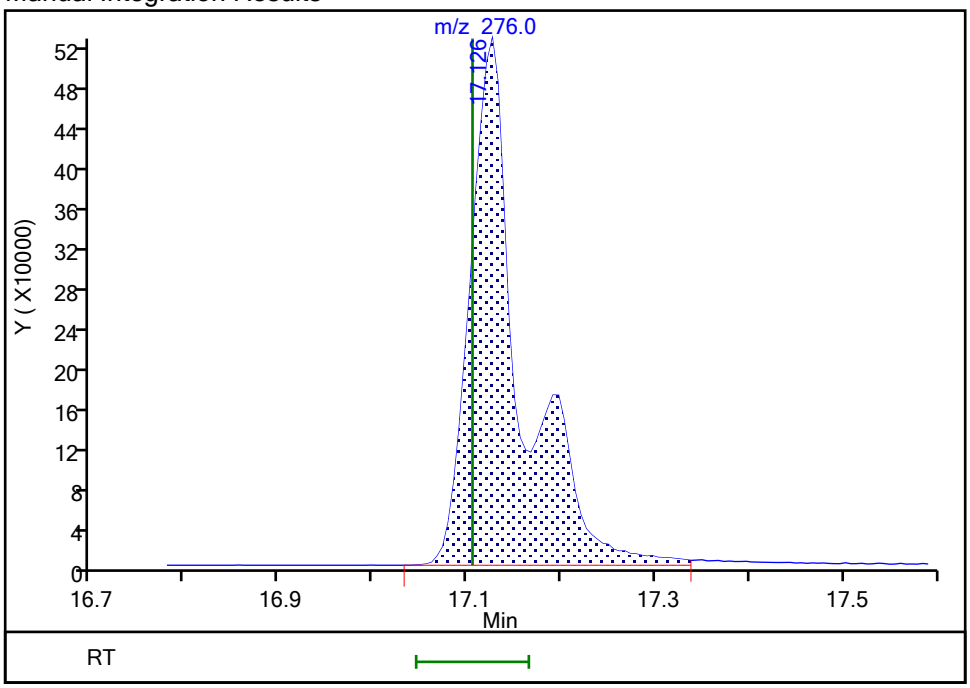

Reviewer: dangt, 05-Aug-2019 06:06:32

Audit Action: Manually Integrated Audit Reason: Assign Peak

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021911.D
Lims ID: IC REG LVI L8
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 02-Aug-2019 12:56:30 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: IC REG LVI L8
Misc. Info.: 600-0030361-011
Operator ID: Instrument ID: CHSVMS09
Sublist: chrom-8270LVI_9*sub33

Method: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\8270LVI_9.m
Limit Group: SV - 8270D_8270DLL
Last Update: 05-Aug-2019 12:08:10 Calib Date: 02-Aug-2019 17:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021920.D

Column 1 : Det: MS SCAN
Process Host: CTX0303

First Level Reviewer: somjitp Date: 05-Aug-2019 11:12:45

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 N-Nitrosodimethylamine	74	3.051	3.048	0.003	93	492653	25.0	22.9	
2 Pyridine	79	3.098	3.101	-0.003	92	1279435	50.0	41.6	
$ 7 2-Fluorophenol	112	4.837	4.839	-0.002	93	713147	25.0	21.2	
12 Aniline	93	5.712	5.709	0.003	94	907096	25.0	19.2	
16 Bis(2-chloroethyl)ether	93	5.759	5.756	0.003	96	632098	25.0	19.2	
$ 10 Phenol-d5	99	5.771	5.768	0.003	70	717792	25.0	19.2	
11 Phenol	94	5.782	5.779	0.003	97	729267	25.0	18.9	
17 2-Chlorophenol	128	5.841	5.838	0.003	95	640594	25.0	19.3	
18 n-Decane	57	5.871	5.867	0.004	85	617769	25.0	25.2	
20 1,3-Dichlorobenzene	146	5.947	5.944	0.003	95	695566	25.0	24.8	
* 21 1,4-Dichlorobenzene-d4	152	5.994	5.991	0.003	94	232665	8.00	8.00	
22 1,4-Dichlorobenzene	146	6.012	6.008	0.004	91	684009	25.0	24.8	
24 1,2-Dichlorobenzene	146	6.147	6.144	0.003	94	650304	25.0	24.9	
23 Benzyl alcohol	108	6.153	6.144	0.009	95	413833	25.0	24.0	
26 Indene	115	6.223	6.226	-0.003	91	936868	25.0	25.1	
27 2,2'-oxybis[1-chloropropan	45	6.247	6.243	0.004	90	743669	25.0	18.9	
25 2-Methylphenol	108	6.288	6.285	0.004	96	569358	25.0	20.1	
29 Acetophenone	105	6.352	6.349	0.003	94	743801	25.0	24.9	
31 N-Nitrosodi-n-propylamine	70	6.364	6.355	0.009	82	422282	25.0	20.2	
30 3 & 4 Methylphenol	108	6.429	6.425	0.004	94	619829	25.0	20.5	
34 Hexachloroethane	117	6.446	6.443	0.003	88	268219	25.0	20.3	
$ 35 Nitrobenzene-d5	82	6.487	6.478	0.009	87	613530	25.0	21.8	
36 Nitrobenzene	77	6.499	6.496	0.003	87	579290	25.0	20.5	
39 2,6-Dimethylphenol	122	6.623	6.619	0.004	94	617788	25.0	19.7	
41 Isophorone	82	6.717	6.707	0.009	95	1000496	25.0	24.7	
42 2-Nitrophenol	139	6.775	6.778	-0.003	93	396633	25.0	24.3	
43 2,4-Dimethylphenol	107	6.857	6.854	0.003	92	590489	25.0	20.0	
46 Bis(2-chloroethoxy)methane	93	6.893	6.890	0.003	96	676160	25.0	24.9	
47 Benzoic acid	122	7.004	6.978	0.026	85	484705	25.0	25.7	
48 2,4-Dichlorophenol	162	7.022	7.019	0.003	91	619144	25.0	20.6	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
49 1,2,4-Trichlorobenzene	180	7.051	7.054	-0.003	95	623879	25.0	24.8	
* 50 Naphthalene-d8	136	7.098	7.095	0.003	99	708514	8.00	8.00	
51 Naphthalene	128	7.116	7.113	0.003	97	1260265	25.0	25.2	
52 4-Chloroaniline	127	7.181	7.177	0.004	94	737069	25.0	18.8	
53 2,6-Dichlorophenol	162	7.192	7.189	0.003	97	567561	25.0	19.5	
55 Hexachlorobutadiene	225	7.228	7.230	-0.002	95	398502	25.0	19.4	
60 4-Chloro-3-methylphenol	107	7.621	7.624	-0.003	92	592058	25.0	22.4	
62 2-Methylnaphthalene	142	7.698	7.694	0.004	89	1085462	25.0	25.1	
63 1-Methylnaphthalene	142	7.780	7.777	0.003	90	1017399	25.0	24.8	
66 Hexachlorocyclopentadiene	237	7.839	7.835	0.004	95	400985	25.0	20.4	a
65 1,2,4,5-Tetrachlorobenzene	216	7.844	7.841	0.003	95	603661	25.0	25.0	
69 2,4,6-Trichlorophenol	196	7.956	7.953	0.003	89	491982	25.0	20.7	
$ 72 2-Fluorobiphenyl	172	8.003	8.000	0.003	94	1082984	25.0	18.5	
71 2,4,5-Trichlorophenol	196	8.009	8.006	0.003	95	439816	25.0	19.7	
77 1,1'-Biphenyl	154	8.085	8.082	0.003	94	1163349	25.0	25.9	
78 2-Chloronaphthalene	162	8.103	8.100	0.003	96	1013532	25.0	25.0	
81 2-Nitroaniline	65	8.203	8.200	0.003	88	372138	25.0	24.1	
84 Dimethyl phthalate	163	8.338	8.335	0.003	96	1219221	25.0	24.9	
85 1,3-Dinitrobenzene	168	8.367	8.358	0.009	94	325748	25.0	27.4	
86 2,6-Dinitrotoluene	165	8.385	8.382	0.003	94	392610	25.0	23.2	
87 1,2-Dinitrobenzene	168	8.438	8.435	0.003	95	221887	25.0	23.6	
88 Acenaphthylene	152	8.449	8.446	0.003	94	1340379	25.0	25.7	
89 3-Nitroaniline	138	8.549	8.546	0.003	96	422228	25.0	23.3	
* 90 Acenaphthene-d10	164	8.561	8.558	0.003	93	486774	8.00	8.00	
91 Acenaphthene	153	8.590	8.587	0.003	92	984631	25.0	24.8	
92 2,4-Dinitrophenol	184	8.620	8.617	0.003	87	454567	50.0	49.7	
95 2,4-Dinitrotoluene	165	8.720	8.717	0.004	94	495177	25.0	23.6	
96 Dibenzofuran	168	8.731	8.728	0.003	96	1265359	25.0	25.7	
93 4-Nitrophenol	109	8.743	8.740	0.003	86	349161	50.0	47.2	
99 2,3,4,6-Tetrachlorophenol	232	8.855	8.852	0.003	70	445616	25.0	23.1	
101 Diethyl phthalate	149	8.914	8.910	0.004	94	1082690	25.0	25.1	
102 Hexadecane	57	8.925	8.922	0.003	92	643250	25.0	26.2	
105 4-Chlorophenyl phenyl ethe	204	9.008	9.004	0.004	88	674193	25.0	24.9	
104 Fluorene	166	9.013	9.010	0.003	91	1038344	25.0	25.2	
107 4-Nitroaniline	138	9.060	9.051	0.009	87	373126	25.0	20.7	
108 4,6-Dinitro-2-methylphenol	198	9.060	9.057	0.003	91	590676	50.0	51.3	
109 Diphenylamine	169	9.113	9.104	0.009	90	971977	21.3	21.2	
110 N-Nitrosodiphenylamine	169	9.113	9.104	0.009	85	971977	25.0	24.9	
112 1,2-Diphenylhydrazine	77	9.137	9.134	0.003	46	993044	25.0	25.0	
111 Azobenzene	77	9.137	9.134	0.003	89	993044	25.0	25.0	
$ 113 2,4,6-Tribromophenol	330	9.225	9.222	0.003	90	148719	25.0	23.5	
118 4-Bromophenyl phenyl ether	248	9.407	9.410	-0.003	61	482183	25.0	24.7	
122 Hexachlorobenzene	284	9.477	9.474	0.003	89	369617	25.0	24.5	
127 Pentachlorophenol	266	9.648	9.645	0.003	0	487897	50.0	45.7	
130 n-Octadecane	57	9.677	9.674	0.003	96	694157	25.0	25.7	
* 131 Phenanthrene-d10	188	9.783	9.780	0.003	98	870135	8.00	8.00	
132 Phenanthrene	178	9.806	9.803	0.003	93	1456886	25.0	25.8	
134 Anthracene	178	9.848	9.844	0.004	94	1506316	25.0	25.5	
135 Carbazole	167	9.989	9.985	0.004	95	1491893	25.0	25.6	
137 Di-n-butyl phthalate	149	10.247	10.244	0.003	96	1578865	25.0	26.4	
143 Fluoranthene	202	10.782	10.778	0.004	92	1723632	25.0	25.5	
146 Pyrene	202	10.970	10.966	0.004	91	1777628	25.0	25.2	

Report Date: 05-Aug-2019 12:08:13 Chrom Revision: 2.3 15-Jul-2019 06:58:08
Data File: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021911.D

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
$ 149 Terphenyl-d14	244	11.093	11.090	0.003	94	1355202	25.0	22.5	
154 Butyl benzyl phthalate	149	11.551	11.548	0.003	95	1068864	25.0	23.4	
159 Benzo[a]anthracene	228	12.215	12.212	0.003	97	2071772	25.0	20.1	
* 160 Chrysene-d12	240	12.233	12.224	0.009	97	689234	8.00	8.00	
162 Bis(2-ethylhexyl) phthalat	149	12.233	12.229	0.004	94	1313694	25.0	23.3	
161 Chrysene	228	12.268	12.259	0.009	92	1926420	25.0	25.0	
164 Di-n-octyl phthalate	149	13.284	13.281	0.003	99	2606281	25.0	27.1	
165 Benzo[b]fluoranthene	252	14.036	14.021	0.015	96	2164877	25.0	20.0	
167 Benzo[k]fluoranthene	252	14.095	14.080	0.015	96	2264514	25.0	24.0	
168 Benzo[a]pyrene	252	14.776	14.761	0.015	79	2154143	25.0	22.0	
* 169 Perylene-d12	264	14.905	14.902	0.003	97	855716	8.00	8.00	
172 Indeno[1,2,3-cd]pyrene	276	17.126	17.105	0.021	96	2252857	25.0	22.8	M
173 Dibenz(a,h)anthracene	278	17.196	17.176	0.020	96	1724358	25.0	21.6	
174 Benzo[g,h,i]perylene	276	17.749	17.728	0.021	94	1807150	25.0	21.3	
S 189 Total Cresols, TCEQ Defini	1				0			94.3	
S 187 Methyl Phenols,Total	1				0			40.6	
S 188 Total Cresols	1				0			40.6	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

SV_REGICAL_00027	Amount Added: 125.00	Units: uL	
SV_INSTD_LVI_00020	Amount Added: 20.00	Units: uL	Run Reagent

Report Date: 05-Aug-2019 12:08:13 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021911.D				
Injection Date:	02-Aug-2019 12:56:30	Instrument ID:	CHSVMS09	Operator ID:	
Lims ID:	IC REG LVI L8			Worklist Smp#:	11
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		

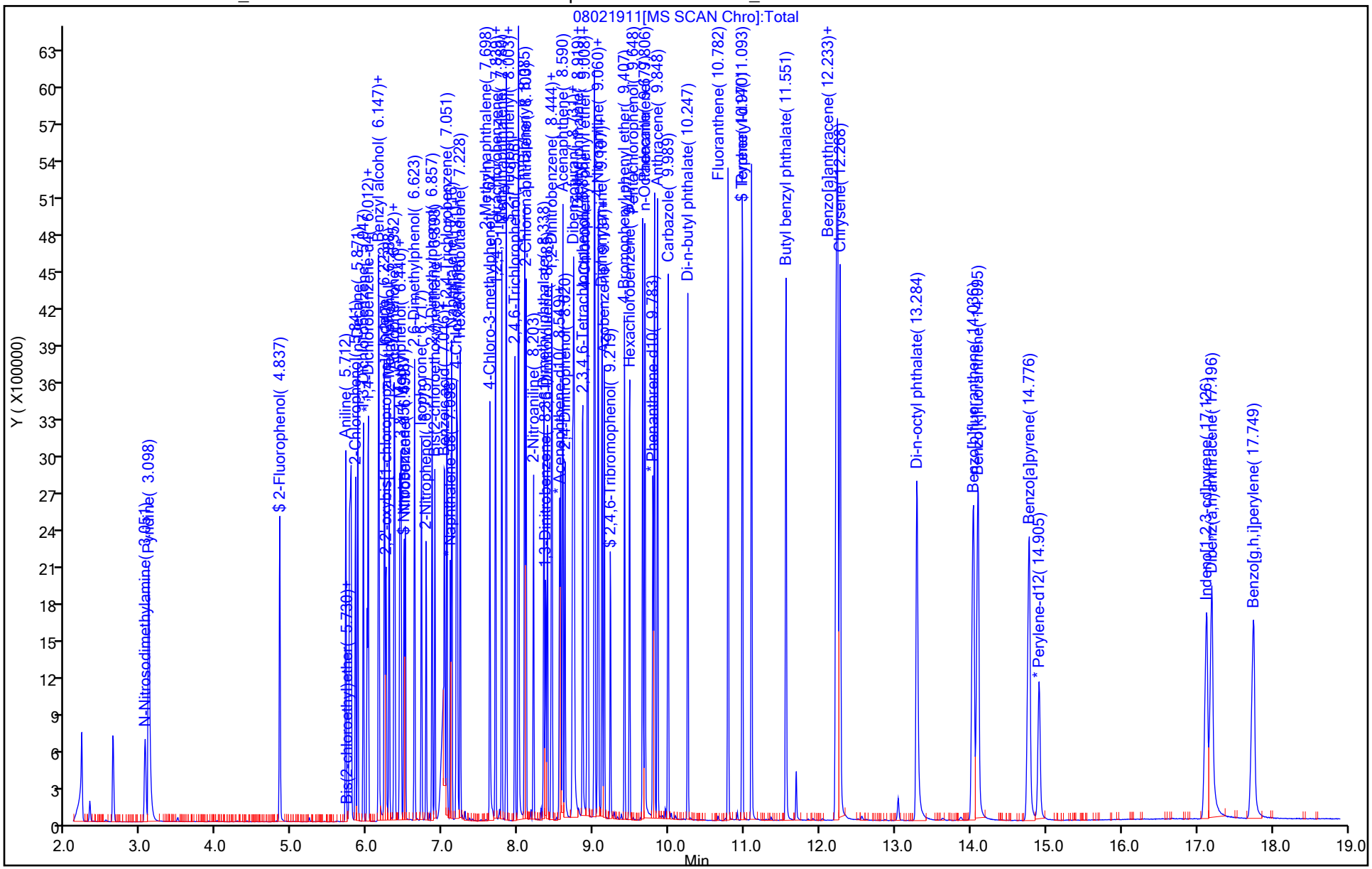

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021911.D				
Injection Date:	02-Aug-2019 12:56:30	Instrument ID:	CHSVMS09		
Lims ID:	IC REG LVI L8				
Client ID:					
Operator ID:		ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		
Column:		Detector	MS SCAN		

66 Hexachlorocyclopentadiene, CAS: 77-47-4

Signal: 1

Not Detected
Expected RT: 7.84

Processing Integration Results

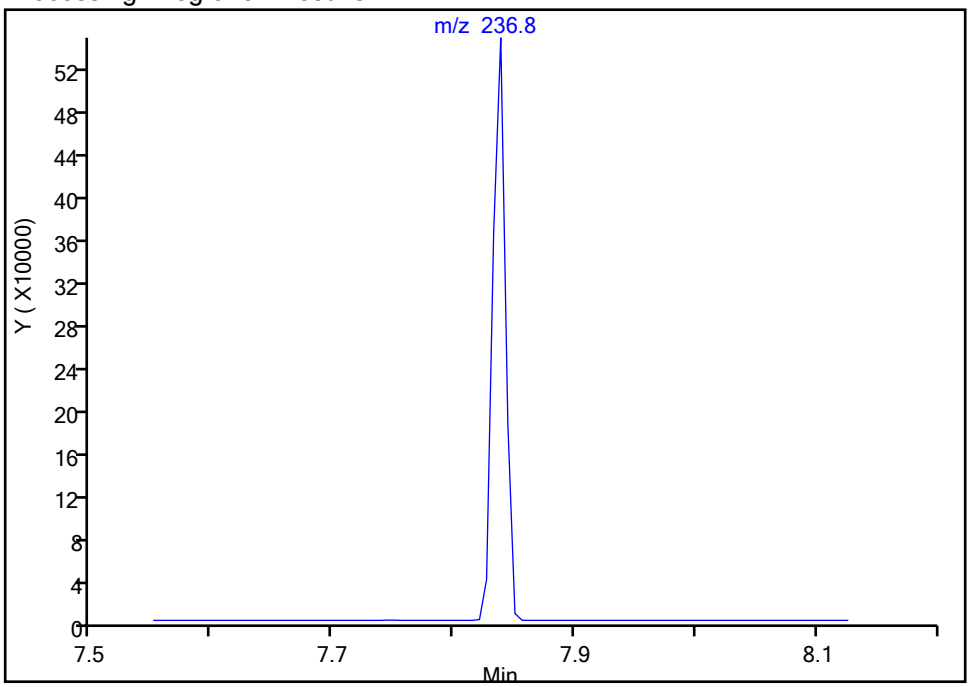

Manual Integration Results

RT: 7.84
Area: 400985
Amount: 20.437077
Amount Units: ug/ml

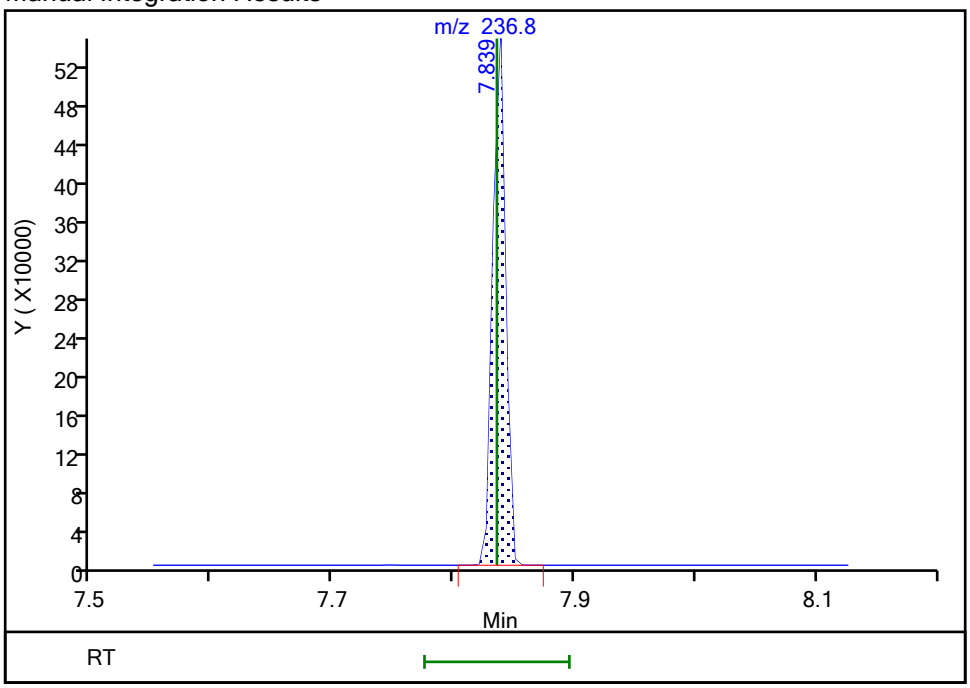

Reviewer: somjitp, 05-Aug-2019 11:12:32
Audit Action: Assigned Compound ID Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021911.D				
Injection Date:	02-Aug-2019 12:56:30	Instrument ID:	CHSVMS09		
Lims ID:	IC REG LVI L8				
Client ID:					
Operator ID:		ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		
Column:		Detector	MS SCAN		

172 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

Signal: 1

Processing Integration Results

RT: 17.13
Area: 1751082
Amount: 19.331373
Amount Units: ug/ml

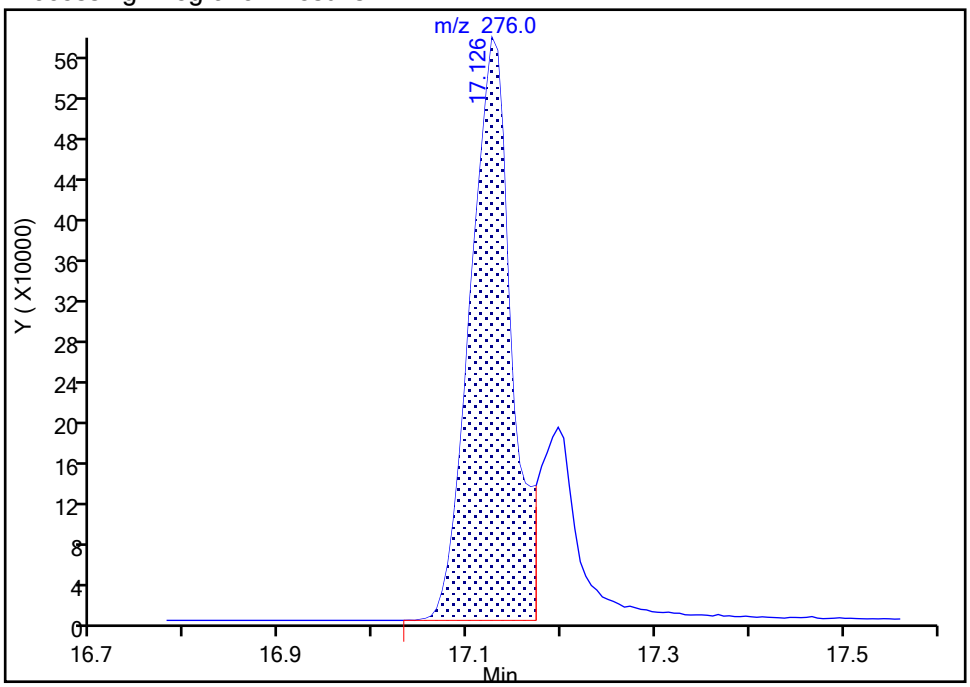

Manual Integration Results

RT: 17.13
Area: 2252857
Amount: 22.764465
Amount Units: ug/ml

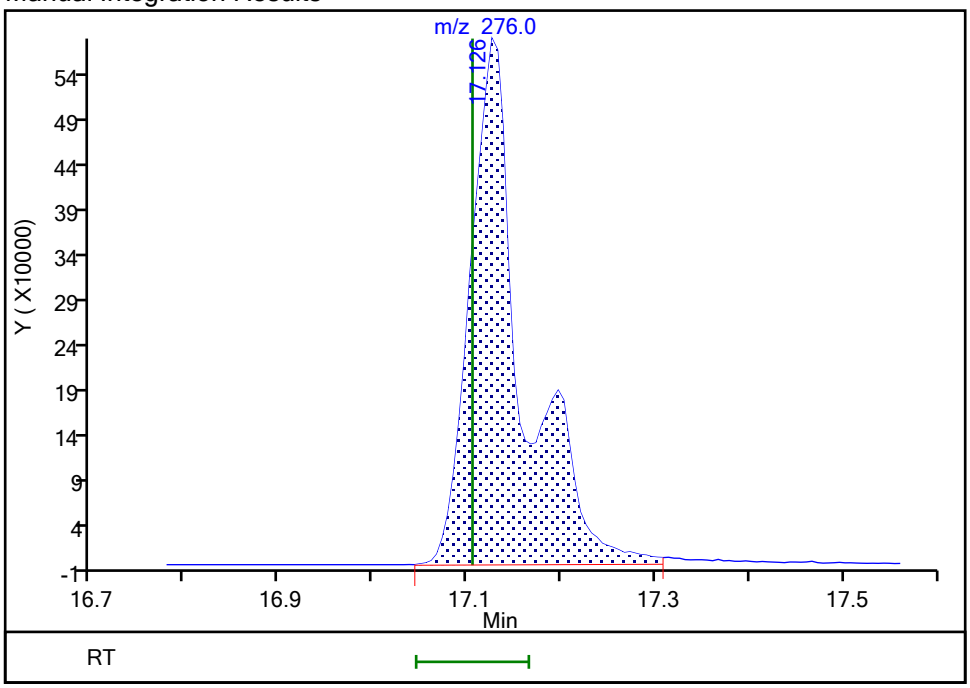

Reviewer: somjitp, 05-Aug-2019 11:12:05

Audit Action: Manually Integrated Audit Reason: Baseline

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab Sample ID: ICV 600-271015/12 Calibration Date: 08/02/2019 13:24

Instrument ID: CHSVMS09 Calib Start Date: 08/02/2019 09:43

GC Column: RXi-5Sil MS ID: 0.25(mm) Calib End Date: 08/02/2019 12:56

Lab File ID: 08021912.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
N-Nitrosodimethylamine	Ave	0.7389	0.7657		4150	4000	3.6	30.0
Pyridine	Ave	1.059	1.153		8710	8000	8.9	30.0
Aniline	Ave	1.621	1.810		4470	4000	11.7	30.0
Bis(2-chloroethyl)ether	Ave	1.131	1.259		4450	4000	11.3	30.0
Phenol	Ave	1.324	1.511		4570	4000	14.1	30.0
2-Chlorophenol	Ave	1.140	1.259		4420	4000	10.4	30.0
1,3-Dichlorobenzene	Qua		1.465		4120	4000	3.0	30.0
1,4-Dichlorobenzene	Qua		1.437		4130	4000	3.2	30.0
Benzyl alcohol	Ave	0.5940	0.6468		4360	4000	8.9	30.0
1,2-Dichlorobenzene	Qua		1.376		4130	4000	3.1	30.0
2,2'-oxybis[1-chloropropane]	Ave	1.351	1.467		4340	4000	8.6	30.0
2-Methylphenol	Ave	0.9760	1.080		4430	4000	10.7	30.0
Acetophenone	Qua		0.5221		4330	4000	8.4	30.0
N-Nitrosodi-n-propylamine	Ave	0.7205	0.7988	0.0500	4440	4000	10.9	30.0
3 & 4 Methylphenol	Ave	1.039	1.137		4380	4000	9.4	30.0
Hexachloroethane	Ave	0.4551	0.4986		4380	4000	9.6	30.0
Nitrobenzene	Ave	0.3191	0.3699		4640	4000	15.9	30.0
2,6-Dimethylphenol	Ave	0.3539	0.4004			4000	13.1	30.0
Isophorone	Qua		0.7224		4100	4000	2.5	30.0
2-Nitrophenol	Ave	0.1840	0.2221		4830	4000	20.7	30.0
2,4-Dimethylphenol	Ave	0.3325	0.3852		4630	4000	15.8	30.0
Bis(2-chloroethoxy)methane	Qua		0.4659		4170	4000	4.2	30.0
2,4-Dichlorophenol	Ave	0.3401	0.3813		4480	4000	12.1	30.0
1,2,4-Trichlorobenzene	Qua		0.4389		4210	4000	5.1	30.0
Naphthalene	Qua		1.113		4430	4000	10.7	30.0
4-Chloroaniline	Ave	0.4434	0.5064		4570	4000	14.2	30.0
2,6-Dichlorophenol	Ave	0.3289	0.3715		4520	4000	12.9	30.0
Hexachlorobutadiene	Ave	0.2316	0.2645		4570	4000	14.2	30.0
4-Chloro-3-methylphenol	Ave	0.2982	0.3468		4650	4000	16.3	30.0
2-Methylnaphthalene	Qua		0.8903		4310	4000	7.7	30.0
1-Methylnaphthalene	Qua		0.8105		4250	4000	6.2	30.0
1,2,4,5-Tetrachlorobenzene	Qua		0.6799		4190	4000	4.7	30.0
Hexachlorocyclopentadiene	Ave	0.3225	0.3696	0.0500	4580	4000	14.6	30.0
2,4,6-Trichlorophenol	Ave	0.3898	0.4395		4510	4000	12.8	30.0
2,4,5-Trichlorophenol	Ave	0.3667	0.4333		4730	4000	18.2	30.0
1,1'-Biphenyl	Qua		1.491		4350	4000	8.7	30.0
2-Chloronaphthalene	Qua		1.184		4420	4000	10.4	30.0
2-Nitroaniline	Ave	0.2537	0.2992		4720	4000	17.9	30.0
Dimethyl phthalate	Qua		1.341		4320	4000	8.0	30.0
1,3-Dinitrobenzene	Ave	0.1955	0.2288		4680	4000	17.0	30.0
2,6-Dinitrotoluene	Ave	0.2786	0.3284		4710	4000	17.9	30.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab Sample ID: ICV 600-271015/12 Calibration Date: 08/02/2019 13:24

Instrument ID: CHSVMS09 Calib Start Date: 08/02/2019 09:43

GC Column: RXi-5Sil MS ID: 0.25(mm) Calib End Date: 08/02/2019 12:56

Lab File ID: 08021912.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2-Dinitrobenzene	Ave	0.1547	0.1880		4860	4000	21.6	30.0
Acenaphthylene	Qua		1.806		4480	4000	12.1	30.0
3-Nitroaniline	Ave	0.2976	0.3412		4590	4000	14.7	30.0
Acenaphthene	Qua		1.160		4320	4000	8.1	30.0
2,4-Dinitrophenol	Lin1		0.1252	0.0500	8150	8000	1.9	30.0
2,4-Dinitrotoluene	Ave	0.3446	0.4302		4990	4000	24.8	30.0
Dibenzofuran	Qua		1.747		4510	4000	12.7	30.0
4-Nitrophenol	Ave	0.1215	0.1359	0.0500	8950	8000	11.9	30.0
2,3,4,6-Tetrachlorophenol	Ave	0.3164	0.3541		4480	4000	11.9	30.0
Diethyl phthalate	Qua		1.317		4390	4000	9.8	30.0
4-Chlorophenyl phenyl ether	Qua		0.7972		4270	4000	6.8	30.0
Fluorene	Qua		1.388		4450	4000	11.2	30.0
4-Nitroaniline	Ave	0.2960	0.3582		4840	4000	21.0	30.0
4,6-Dinitro-2-methylphenol	Ave	0.1058	0.1314		9930	8000	24.1	30.0
Diphenylamine	Qua		0.7395		3640	3400	6.9	30.0
N-Nitrosodiphenylamine	Qua		0.6319		4280	3980	7.4	30.0
1,2-Diphenylhydrazine	Qua		0.6544		4420	4000	10.6	30.0
Azobenzene	Qua		0.6544		4420	4000	10.6	30.0
4-Bromophenyl phenyl ether	Qua		0.2647		4260	4000	6.5	30.0
Hexachlorobenzene	Qua		0.2072		4120	4000	2.9	30.0
Pentachlorophenol	Ave	0.0981	0.1209		9860	8000	23.3	30.0
Phenanthrene	Qua		1.151		4510	4000	12.8	30.0
Anthracene	Qua		1.182		4340	4000	8.5	30.0
Carbazole	Qua		1.129		4500	4000	12.6	30.0
Di-n-butyl phthalate	Qua		1.224		4610	4000	15.3	30.0
Fluoranthene	Qua		1.413		4510	4000	12.7	30.0
Pyrene	Qua		1.420		4400	4000	9.9	30.0
Butyl benzyl phthalate	Ave	0.5300	0.5735		4330	4000	8.2	30.0
Benzo[a]anthracene	Ave	1.198	1.359		4540	4000	13.5	30.0
Bis(2-ethylhexyl) phthalate	Ave	0.6555	0.7249		4420	4000	10.6	30.0
Chrysene	Qua		1.406		4330	4000	8.3	30.0
Di-n-octyl phthalate	Ave	1.115	1.195		4290	4000	7.2	30.0
Benzo[b]fluoranthene	Ave	1.014	1.050		4140	4000	3.5	30.0
Benzo[k]fluoranthene	Qua		1.305		4280	4000	6.9	30.0
Benzo[a]pyrene	Ave	0.9143	1.017		4450	4000	11.2	30.0
Indeno[1,2,3-cd]pyrene	Ave	0.9252	0.9927		4290	4000	7.3	30.0
Dibenz(a,h)anthracene	Ave	0.7458	0.8150		4370	4000	9.3	30.0
Benzo[g,h,i]perylene	Ave	0.7947	0.8420		4240	4000	6.0	30.0

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021912.D
Lims ID: ICV REG LVI
Client ID:
Sample Type: ICV
Inject. Date: 02-Aug-2019 13:24:30 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: ICV REG LVI
Misc. Info.: 600-0030361-012
Operator ID: Instrument ID: CHSVMS09
Sublist:

Method: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\8270LVI_9.m
Limit Group: SV - 8270D_8270DLL
Last Update: 05-Aug-2019 12:39:01 Calib Date: 02-Aug-2019 17:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021920.D

Column 1 : Det: MS SCAN
Process Host: CTX0303

First Level Reviewer: dangt Date: 05-Aug-2019 12:39:01

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 N-Nitrosodimethylamine	74	3.051	3.048	0.003	93	94159	4.00	4.15	
2 Pyridine	79	3.104	3.101	0.003	96	283565	8.00	8.71	
12 Aniline	93	5.712	5.709	0.003	98	222556	4.00	4.47	
16 Bis(2-chloroethyl)ether	93	5.759	5.756	0.003	97	154764	4.00	4.45	
11 Phenol	94	5.783	5.779	0.004	95	185812	4.00	4.57	
17 2-Chlorophenol	128	5.842	5.838	0.004	95	154847	4.00	4.42	
18 n-Decane	57	5.871	5.867	0.004	86	166495	4.00	4.08	
20 1,3-Dichlorobenzene	146	5.947	5.944	0.003	98	180091	4.00	4.12	
* 21 1,4-Dichlorobenzene-d4	152	5.994	5.991	0.003	93	245928	8.00	8.00	s
22 1,4-Dichlorobenzene	146	6.012	6.008	0.004	96	176752	4.00	4.13	
23 Benzyl alcohol	108	6.141	6.144	-0.003	95	79535	4.00	4.36	
24 1,2-Dichlorobenzene	146	6.147	6.144	0.003	98	169226	4.00	4.13	
27 2,2'-oxybis[1-chloropropan	45	6.241	6.243	-0.002	95	180385	4.00	4.34	
25 2-Methylphenol	108	6.288	6.285	0.004	91	132818	4.00	4.43	
29 Acetophenone	105	6.347	6.349	-0.002	96	190442	4.00	4.33	
31 N-Nitrosodi-n-propylamine	70	6.353	6.355	-0.002	86	98227	4.00	4.44	
30 3 & 4 Methylphenol	108	6.429	6.425	0.004	95	139776	4.00	4.38	
34 Hexachloroethane	117	6.447	6.443	0.004	89	61311	4.00	4.38	a
36 Nitrobenzene	77	6.499	6.496	0.003	85	134923	4.00	4.64	
39 2,6-Dimethylphenol	122	6.623	6.619	0.004	93	146036	4.00	4.53	
41 Isophorone	82	6.705	6.707	-0.002	97	263524	4.00	4.10	
42 2-Nitrophenol	139	6.776	6.778	-0.002	88	81029	4.00	4.83	
43 2,4-Dimethylphenol	107	6.858	6.854	0.004	92	140506	4.00	4.63	
46 Bis(2-chloroethoxy)methane	93	6.893	6.890	0.003	99	169931	4.00	4.17	
48 2,4-Dichlorophenol	162	7.022	7.019	0.003	89	139097	4.00	4.48	
49 1,2,4-Trichlorobenzene	180	7.052	7.054	-0.002	94	160104	4.00	4.21	
* 50 Naphthalene-d8	136	7.099	7.095	0.004	99	729549	8.00	8.00	s
51 Naphthalene	128	7.116	7.113	0.003	98	406039	4.00	4.43	
52 4-Chloroaniline	127	7.175	7.177	-0.002	96	184709	4.00	4.57	
53 2,6-Dichlorophenol	162	7.187	7.189	-0.002	98	135503	4.00	4.52	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
55 Hexachlorobutadiene	225	7.228	7.230	-0.002	93	96464	4.00	4.57	
60 4-Chloro-3-methylphenol	107	7.621	7.624	-0.003	93	126490	4.00	4.65	
62 2-Methylnaphthalene	142	7.698	7.694	0.004	92	324744	4.00	4.31	
63 1-Methylnaphthalene	142	7.780	7.777	0.003	93	295637	4.00	4.25	
66 Hexachlorocyclopentadiene	237	7.839	7.835	0.004	74	93464	4.00	4.58	a
65 1,2,4,5-Tetrachlorobenzene	216	7.839	7.841	-0.002	95	171957	4.00	4.19	
69 2,4,6-Trichlorophenol	196	7.956	7.953	0.003	88	111167	4.00	4.51	
71 2,4,5-Trichlorophenol	196	8.009	8.006	0.003	95	109595	4.00	4.73	
77 1,1'-Biphenyl	154	8.080	8.082	-0.002	96	377007	4.00	4.35	
78 2-Chloronaphthalene	162	8.103	8.100	0.003	94	299470	4.00	4.42	
81 2-Nitroaniline	65	8.197	8.200	-0.003	90	75668	4.00	4.72	
84 Dimethyl phthalate	163	8.332	8.335	-0.003	99	339104	4.00	4.32	
85 1,3-Dinitrobenzene	168	8.356	8.358	-0.002	98	57867	4.00	4.68	
86 2,6-Dinitrotoluene	165	8.379	8.382	-0.003	94	83057	4.00	4.71	
87 1,2-Dinitrobenzene	168	8.432	8.435	-0.003	93	47555	4.00	4.86	
88 Acenaphthylene	152	8.444	8.446	-0.002	96	456808	4.00	4.48	
89 3-Nitroaniline	138	8.544	8.546	-0.002	97	86298	4.00	4.59	
* 90 Acenaphthene-d10	164	8.561	8.558	0.003	94	505830	8.00	8.00	s
91 Acenaphthene	153	8.585	8.587	-0.002	93	293383	4.00	4.32	
92 2,4-Dinitrophenol	184	8.614	8.617	-0.003	84	63341	8.00	8.15	
95 2,4-Dinitrotoluene	165	8.714	8.717	-0.002	90	108802	4.00	4.99	
96 Dibenzofuran	168	8.732	8.728	0.004	97	441879	4.00	4.51	
93 4-Nitrophenol	109	8.738	8.740	-0.002	84	68749	8.00	8.95	
99 2,3,4,6-Tetrachlorophenol	232	8.849	8.852	-0.003	69	89558	4.00	4.48	
101 Diethyl phthalate	149	8.908	8.910	-0.002	99	333093	4.00	4.39	
102 Hexadecane	57	8.920	8.922	-0.002	91	199516	4.00	4.21	
105 4-Chlorophenyl phenyl ethe	204	9.008	9.004	0.004	87	201632	4.00	4.27	
104 Fluorene	166	9.014	9.010	0.004	95	351010	4.00	4.45	
107 4-Nitroaniline	138	9.049	9.051	-0.002	91	90603	4.00	4.84	
108 4,6-Dinitro-2-methylphenol	198	9.055	9.057	-0.002	94	116390	8.00	9.93	
109 Diphenylamine	169	9.108	9.104	0.004	93	278826	3.40	3.64	
110 N-Nitrosodiphenylamine	169	9.108	9.104	0.004	62	278826	3.98	4.28	
112 1,2-Diphenylhydrazine	77	9.137	9.134	0.003	41	289923	4.00	4.42	
111 Azobenzene	77	9.137	9.134	0.003	93	289923	4.00	4.42	
118 4-Bromophenyl phenyl ether	248	9.407	9.410	-0.003	61	117273	4.00	4.26	
122 Hexachlorobenzene	284	9.472	9.474	-0.002	90	91780	4.00	4.12	
127 Pentachlorophenol	266	9.648	9.645	0.003	0	107132	8.00	9.86	
130 n-Octadecane	57	9.678	9.674	0.004	95	208415	4.00	4.35	
* 131 Phenanthrene-d10	188	9.783	9.780	0.003	97	886113	8.00	8.00	
132 Phenanthrene	178	9.801	9.803	-0.002	97	509772	4.00	4.51	
134 Anthracene	178	9.842	9.844	-0.002	97	523747	4.00	4.34	
135 Carbazole	167	9.983	9.985	-0.002	97	500367	4.00	4.50	
137 Di-n-butyl phthalate	149	10.247	10.244	0.003	99	542400	4.00	4.61	
143 Fluoranthene	202	10.782	10.778	0.004	97	625840	4.00	4.51	
146 Pyrene	202	10.976	10.966	0.010	96	636590	4.00	4.40	
154 Butyl benzyl phthalate	149	11.551	11.548	0.003	95	257040	4.00	4.33	
159 Benzo[a]anthracene	228	12.221	12.212	0.009	98	609113	4.00	4.54	
* 160 Chrysene-d12	240	12.233	12.224	0.009	98	896347	8.00	8.00	s
162 Bis(2-ethylhexyl) phthalat	149	12.245	12.229	0.016	94	324890	4.00	4.42	
161 Chrysene	228	12.268	12.259	0.009	95	629942	4.00	4.33	
164 Di-n-octyl phthalate	149	13.290	13.281	0.009	99	535556	4.00	4.29	
165 Benzo[b]fluoranthene	252	14.030	14.021	0.009	97	494654	4.00	4.14	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
167 Benzo[k]fluoranthene	252	14.089	14.080	0.009	98	614680	4.00	4.28	
168 Benzo[a]pyrene	252	14.771	14.761	0.010	78	478800	4.00	4.45	
* 169 Perylene-d12	264	14.917	14.902	0.015	98	941924	8.00	8.00	s
172 Indeno[1,2,3-cd]pyrene	276	17.115	17.105	0.009	98	467534	4.00	4.29	M
173 Dibenz(a,h)anthracene	278	17.185	17.176	0.009	94	383847	4.00	4.37	
174 Benzo[g,h,i]perylene	276	17.731	17.728	0.003	96	396563	4.00	4.24	

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

SV_REG ICV_00021 Amount Added: 80.00 Units: uL

SV_INSTD_LVI_00020 Amount Added: 20.00 Units: uL Run Reagent

Report Date: 05-Aug-2019 12:39:03 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021912.D				
Injection Date:	02-Aug-2019 13:24:30	Instrument ID:	CHSVMS09	Operator ID:	
Lims ID:	ICV REG LVI			Worklist Smp#:	12
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		

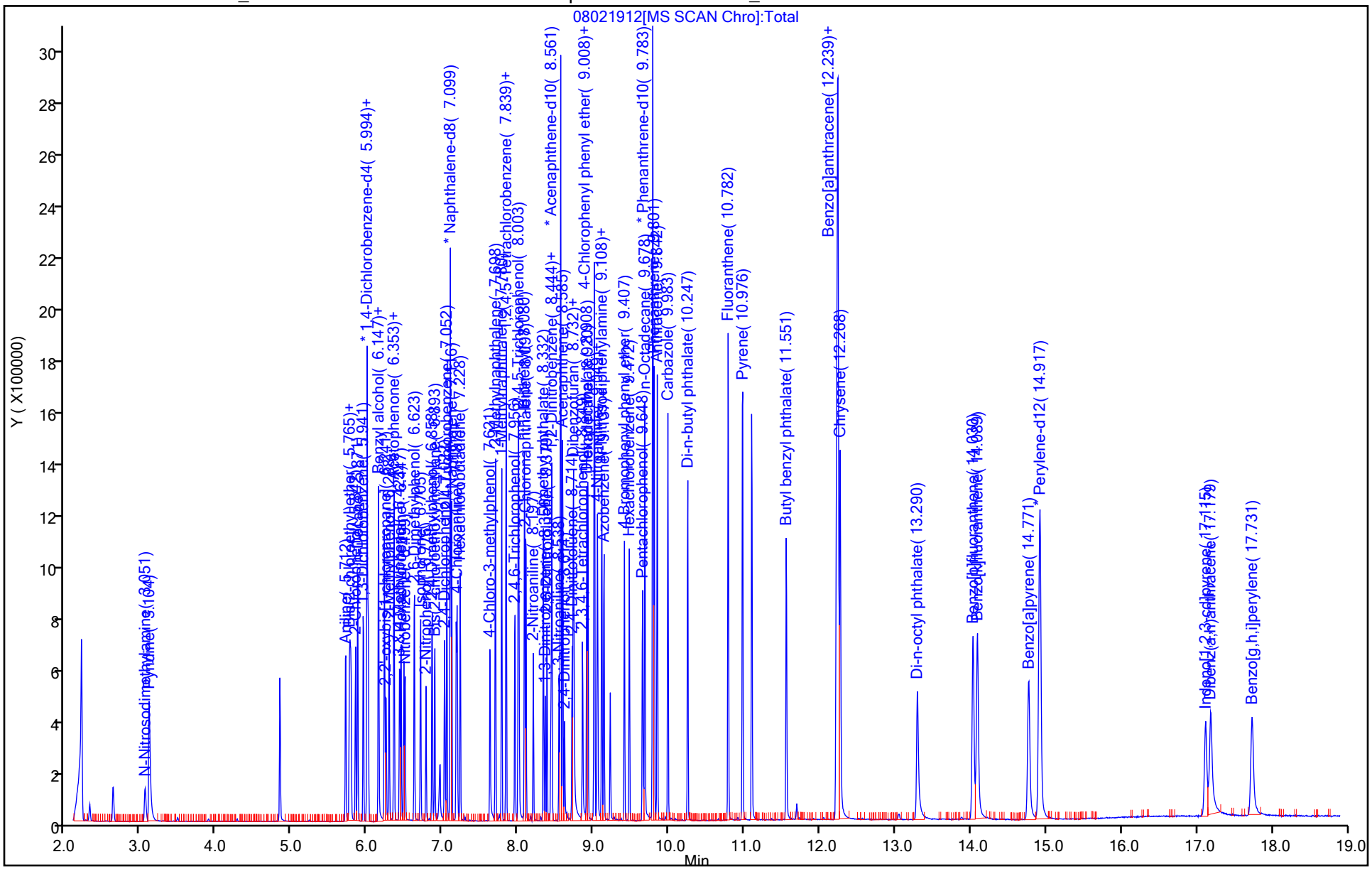

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021912.D				
Injection Date:	02-Aug-2019 13:24:30	Instrument ID:	CHSVMS09		
Lims ID:	ICV REG LVI				
Client ID:					
Operator ID:		ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		
Column:		Detector	MS SCAN		

34 Hexachloroethane, CAS: 67-72-1

Signal: 1

Not Detected
Expected RT: 6.44

Processing Integration Results

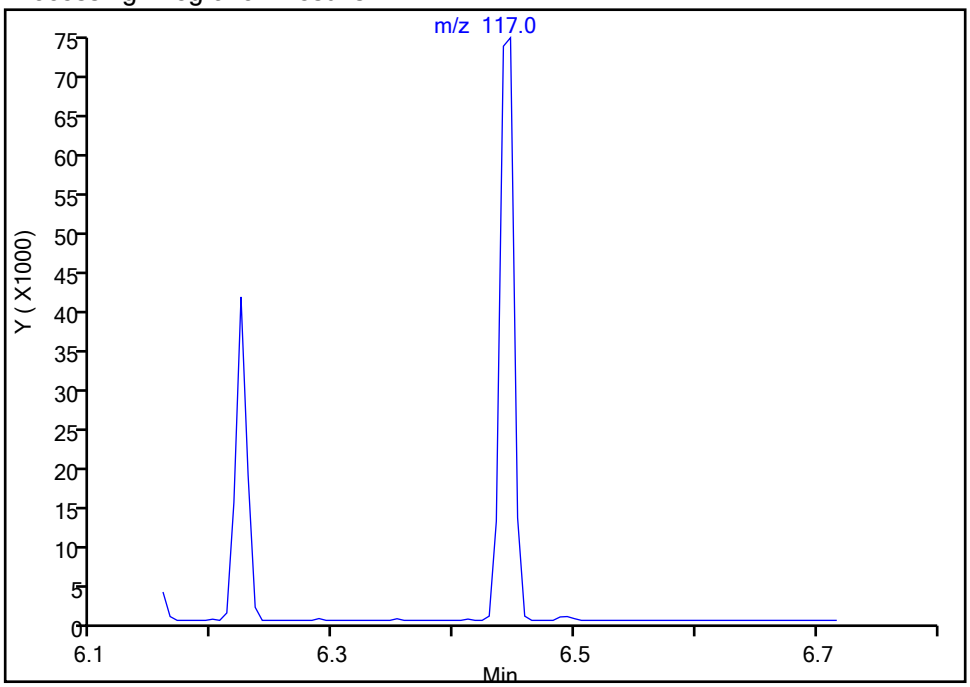

Manual Integration Results

RT: 6.45
Area: 61311
Amount: 4.382619
Amount Units: ug/ml

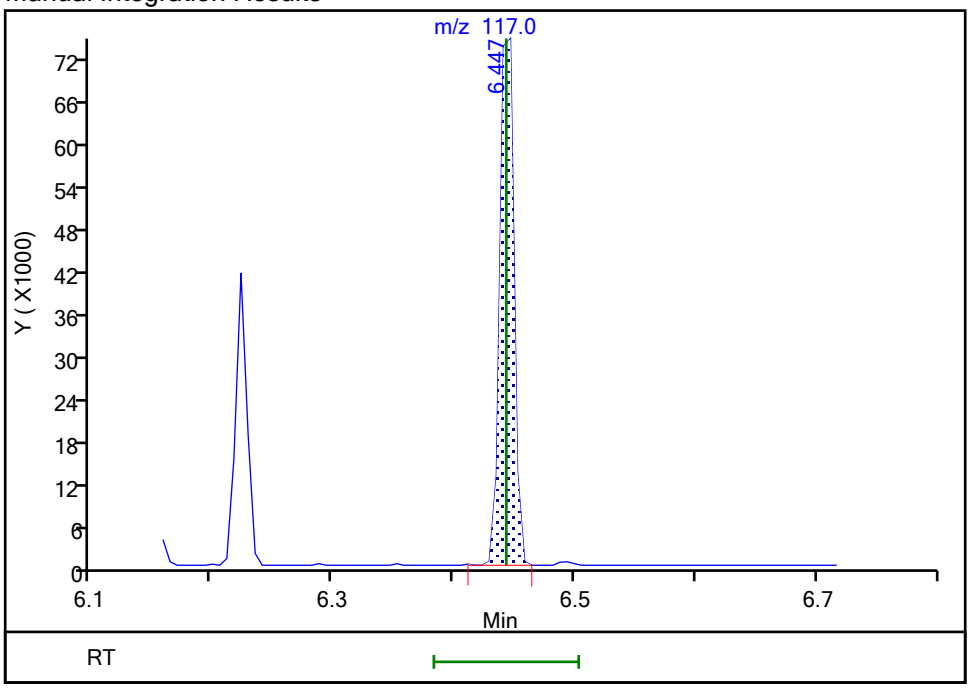

Reviewer: somjitp, 05-Aug-2019 11:13:05
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021912.D				
Injection Date:	02-Aug-2019 13:24:30	Instrument ID:	CHSVMS09		
Lims ID:	ICV REG LVI				
Client ID:					
Operator ID:		ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		
Column:		Detector	MS SCAN		

66 Hexachlorocyclopentadiene, CAS: 77-47-4

Signal: 1

Not Detected
Expected RT: 7.84

Processing Integration Results

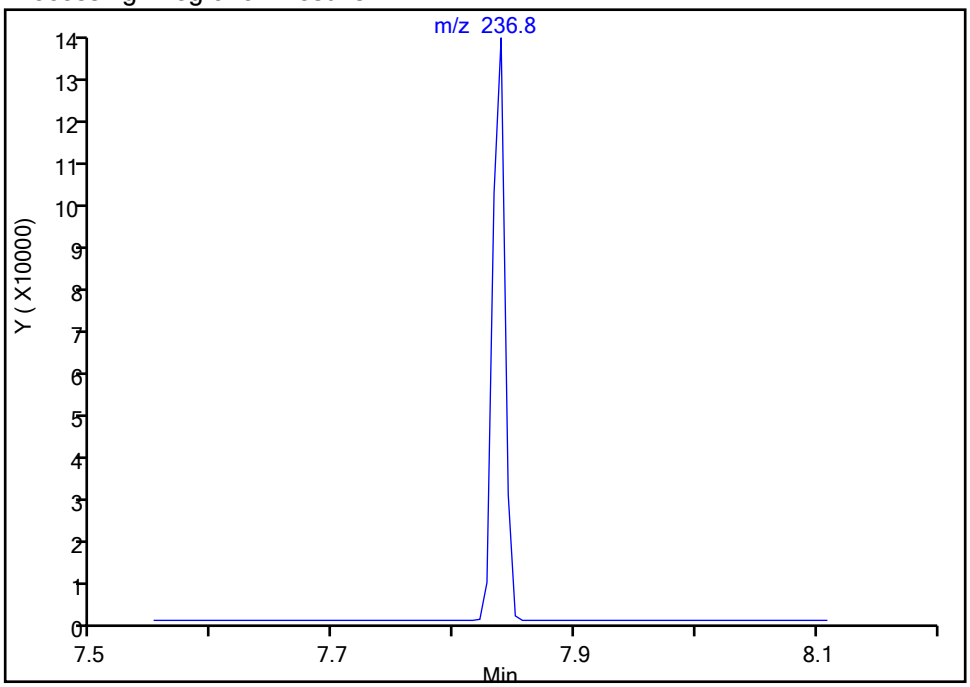

RT: 7.84
Area: 93464
Amount: 4.584139
Amount Units: ug/ml

Manual Integration Results

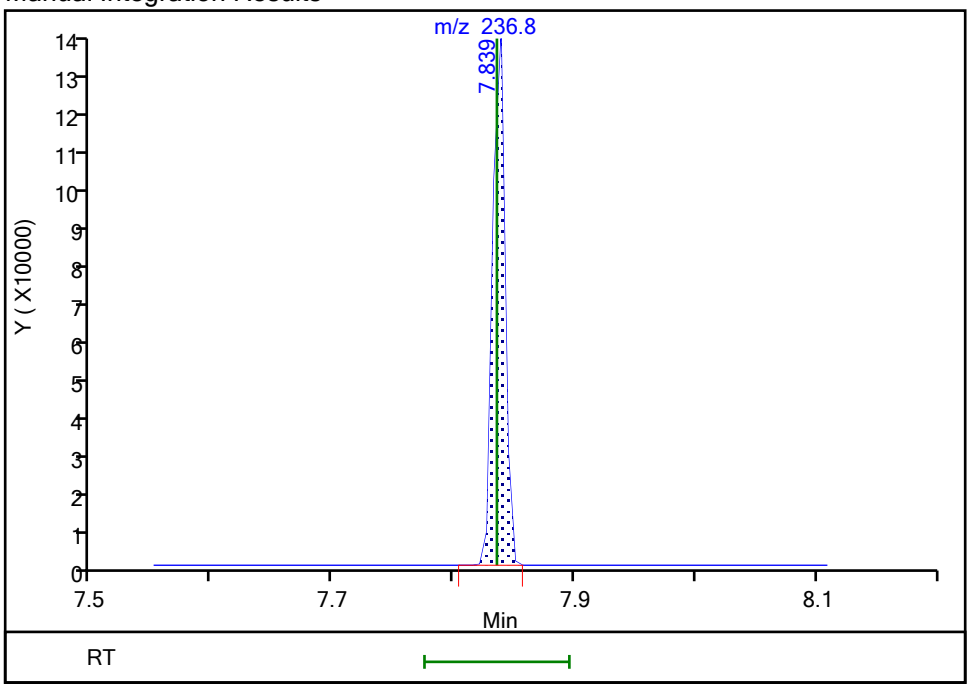

Reviewer: somjitp, 05-Aug-2019 11:13:16
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021912.D				
Injection Date:	02-Aug-2019 13:24:30	Instrument ID:	CHSVMS09		
Lims ID:	ICV REG LVI				
Client ID:					
Operator ID:		ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		
Column:		Detector	MS SCAN		

172 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

Signal: 1

Processing Integration Results

RT: 17.11
Area: 313289
Amount: 3.057384
Amount Units: ug/ml

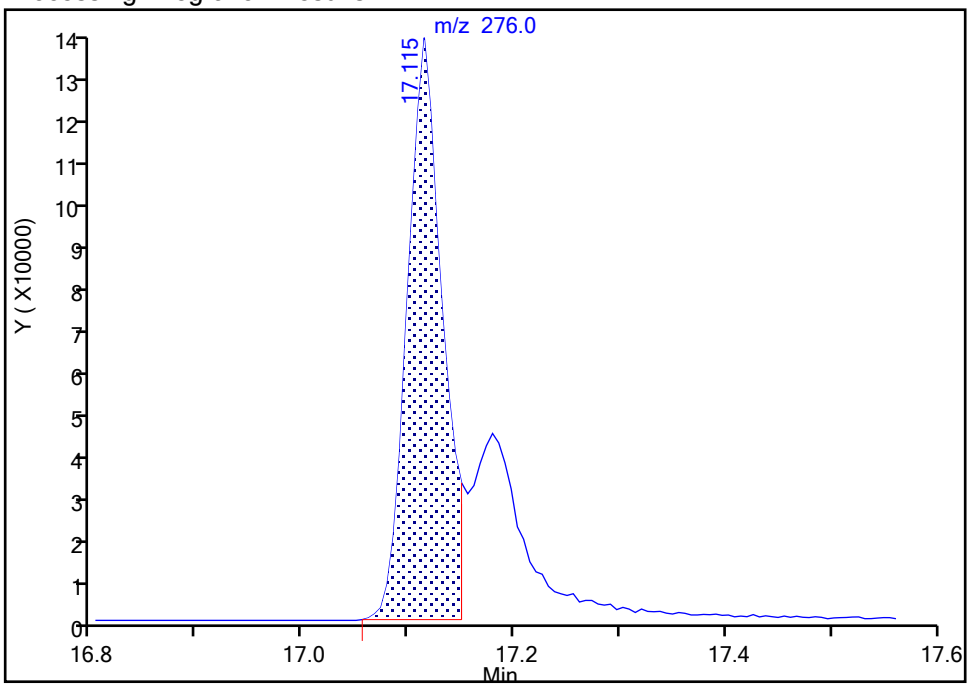

Manual Integration Results

RT: 17.11
Area: 467534
Amount: 4.291912
Amount Units: ug/ml

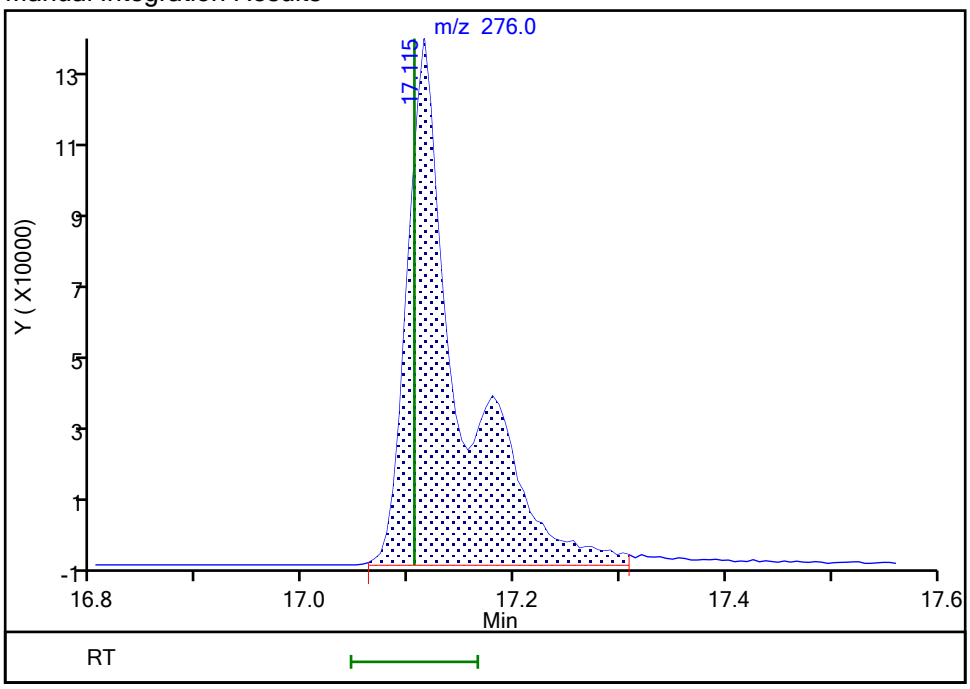

Reviewer: somjitp, 05-Aug-2019 11:13:48

Audit Action: Manually Integrated Audit Reason: Baseline

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab Sample ID: CCVIS 600-274919/2 Calibration Date: 09/17/2019 06:34

Instrument ID: CHSVMS09 Calib Start Date: 08/02/2019 09:43

GC Column: RXi-5Sil MS ID: 0.25(mm) Calib End Date: 08/02/2019 12:56

Lab File ID: 09171902.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
N-Nitrosodimethylamine	Ave	0.7389	0.6513		8810	10000	-11.9	20.0
Pyridine	Ave	1.059	0.9621		18200	20000	-9.1	20.0
Aniline	Ave	1.621	1.424		8790	10000	-12.1	20.0
Bis(2-chloroethyl)ether	Ave	1.131	1.035		9150	10000	-8.5	20.0
Phenol	Ave	1.324	1.287		9720	10000	-2.8	20.0
2-Chlorophenol	Ave	1.140	1.118		9800	10000	-2.0	20.0
1,3-Dichlorobenzene	Qua		1.247		9780	10000	-2.2	20.0
1,4-Dichlorobenzene	Qua		1.222		9760	10000	-2.4	20.0
1,2-Dichlorobenzene	Qua		1.188		10100	10000	1.1	20.0
Benzyl alcohol	Ave	0.5940	0.4178		7030	10000	-29.7*	20.0
2,2'-oxybis[1-chloropropane]	Ave	1.351	1.275		9440	10000	-5.6	20.0
2-Methylphenol	Ave	0.9760	0.9743		9980	10000	-0.2	20.0
Acetophenone	Qua		0.3983		9110	10000	-8.9	20.0
N-Nitrosodi-n-propylamine	Ave	0.7205	0.6550	0.0500	9090	10000	-9.1	20.0
Hexachloroethane	Ave	0.4551	0.4741		10400	10000	4.2	20.0
3 & 4 Methylphenol	Ave	1.039	0.9611		9250	10000	-7.5	20.0
Nitrobenzene	Ave	0.3191	0.3182		9970	10000	-0.3	20.0
2,6-Dimethylphenol	Ave	0.3539	0.2791		7890	10000	-21.1*	20.0
Isophorone	Qua		0.5146		7870	10000	-21.3*	20.0
2-Nitrophenol	Ave	0.1840	0.1969		10700	10000	7.0	20.0
2,4-Dimethylphenol	Ave	0.3325	0.2754		8280	10000	-17.2	20.0
Bis(2-chloroethoxy)methane	Qua		0.3315		8060	10000	-19.4	20.0
2,4-Dichlorophenol	Ave	0.3401	0.2962		8710	10000	-12.9	20.0
Benzoic acid	Lin1		0.1340		6920	10000	-30.8*	20.0
1,2,4-Trichlorobenzene	Qua		0.3107		8120	10000	-18.8	20.0
Naphthalene	Qua		0.7967		9270	10000	-7.3	20.0
4-Chloroaniline	Ave	0.4434	0.3556		8020	10000	-19.8	20.0
2,6-Dichlorophenol	Ave	0.3289	0.2756		8380	10000	-16.2	20.0
Hexachlorobutadiene	Ave	0.2316	0.1806		7800	10000	-22.0*	20.0
4-Chloro-3-methylphenol	Ave	0.2982	0.2787		9350	10000	-6.5	20.0
2-Methylnaphthalene	Qua		0.6567		9190	10000	-8.1	20.0
1-Methylnaphthalene	Qua		0.5627		8280	10000	-17.2	20.0
Hexachlorocyclopentadiene	Ave	0.3225	0.1741	0.0500	5400	10000	-46.0*	20.0
1,2,4,5-Tetrachlorobenzene	Qua		0.4875		8430	10000	-15.7	20.0
2,4,6-Trichlorophenol	Ave	0.3898	0.3281		8420	10000	-15.8	20.0
2,4,5-Trichlorophenol	Ave	0.3667	0.2965		8090	10000	-19.1	20.0
1,1'-Biphenyl	Qua		1.124		9810	10000	-1.9	20.0
2-Chloronaphthalene	Qua		0.9164		9960	10000	-0.4	20.0
2-Nitroaniline	Ave	0.2537	0.2660		10500	10000	4.8	20.0
Dimethyl phthalate	Qua		1.001		9150	10000	-8.5	20.0
1,3-Dinitrobenzene	Ave	0.1955	0.2099		10700	10000	7.4	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab Sample ID: CCVIS 600-274919/2 Calibration Date: 09/17/2019 06:34

Instrument ID: CHSVMS09 Calib Start Date: 08/02/2019 09:43

GC Column: RXi-5Sil MS ID: 0.25(mm) Calib End Date: 08/02/2019 12:56

Lab File ID: 09171902.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,6-Dinitrotoluene	Ave	0.2786	0.2730		9800	10000	-2.0	20.0
1,2-Dinitrobenzene	Ave	0.1547	0.1327		8580	10000	-14.2	20.0
Acenaphthylene	Qua		1.314		9680	10000	-3.2	20.0
3-Nitroaniline	Ave	0.2976	0.2651		8910	10000	-10.9	20.0
Acenaphthene	Qua		0.8799		9460	10000	-5.4	20.0
2,4-Dinitrophenol	Lin1		0.1119	0.0500	16100	20000	-19.5	20.0
2,4-Dinitrotoluene	Ave	0.3446	0.3332		9670	10000	-3.3	20.0
Dibenzofuran	Qua		1.197		9140	10000	-8.6	20.0
2,3,4,6-Tetrachlorophenol	Ave	0.3164	0.2273		7180	10000	-28.2*	20.0
Diethyl phthalate	Qua		0.9685		9340	10000	-6.6	20.0
4-Chlorophenyl phenyl ether	Qua		0.4758		6940	10000	-30.6*	20.0
Fluorene	Qua		0.9420		8810	10000	-11.9	20.0
4-Nitroaniline	Ave	0.2960	0.2647		8940	10000	-10.6	20.0
Diphenylamine	Qua		0.5644		8000	8500	-5.9	20.0
N-Nitrosodiphenylamine	Qua		0.4798		9410	10000	-5.9	20.0
1,2-Diphenylhydrazine	Qua		0.5292		10500	10000	5.4	20.0
Azobenzene	Qua		0.5292		10500	10000	5.4	20.0
4-Bromophenyl phenyl ether	Qua		0.1957		8470	10000	-15.3	20.0
Hexachlorobenzene	Qua		0.1759		9760	10000	-2.4	20.0
Pentachlorophenol	Ave	0.0981	0.1117		22800	20000	13.9	20.0
Phenanthrene	Qua		0.8720		10800	10000	7.9	20.0
Anthracene	Qua		0.8835		10600	10000	5.5	20.0
Carbazole	Qua		0.8455		10300	10000	2.6	20.0
Di-n-butyl phthalate	Qua		0.9037		10200	10000	1.9	20.0
Fluoranthene	Qua		0.9481		9310	10000	-6.9	20.0
Pyrene	Qua		1.093		9920	10000	-0.8	20.0
Butyl benzyl phthalate	Ave	0.5300	0.5128		9680	10000	-3.2	20.0
Benzo[a]anthracene	Ave	1.198	1.038		8670	10000	-13.3	20.0
Bis(2-ethylhexyl) phthalate	Ave	0.6555	0.6075		9270	10000	-7.3	20.0
Chrysene	Qua		1.119		9930	10000	-0.7	20.0
Di-n-octyl phthalate	Ave	1.115	1.124		10100	10000	0.8	20.0
Benzo[b]fluoranthene	Ave	1.014	0.8141		8030	10000	-19.7	20.0
Benzo[k]fluoranthene	Qua		1.027		9130	10000	-8.7	20.0
Benzo[a]pyrene	Ave	0.9143	0.9163		10000	10000	0.2	20.0
Indeno[1,2,3-cd]pyrene	Ave	0.9252	0.9870		10700	10000	6.7	20.0
Dibenz(a,h)anthracene	Ave	0.7458	0.7671		10300	10000	2.9	20.0
Benzo[g,h,i]perylene	Ave	0.7947	0.8438		10600	10000	6.2	20.0
2-Fluorophenol (Surr)	Ave	1.154	1.152		9990	10000	-0.1	20.0
Phenol-d5 (Surr)	Ave	1.285	1.101		8570	10000	-14.3	20.0
Nitrobenzene-d5 (Surr)	Ave	0.3176	0.3134		9870	10000	-1.3	20.0
2-Fluorobiphenyl	Lin2		1.082		10400	10000	4.3	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab Sample ID: CCVIS 600-274919/2 Calibration Date: 09/17/2019 06:34

Instrument ID: CHSVMS09 Calib Start Date: 08/02/2019 09:43

GC Column: RXi-5Sil MS ID: 0.25(mm) Calib End Date: 08/02/2019 12:56

Lab File ID: 09171902.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,4,6-Tribromophenol (Surr)	Ave	0.1038	0.1066		10300	10000	2.7	20.0
Terphenyl-d14 (Surr)	Lin2		0.7318		9630	10000	-3.7	20.0

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHSVMS09\20190917-31128.b\09171902.D
Lims ID: CCVIS REGLVI
Client ID:
Sample Type: CCVIS
Inject. Date: 17-Sep-2019 06:34:30 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: CCVIS REGLVI
Misc. Info.: 600-0031128-002
Operator ID: Instrument ID: CHSVMS09
Sublist: chrom-8270LVI_9*sub33

Method: \\chromna\Houston\ChromData\CHSVMS09\20190917-31128.b\8270LVI_9.m
Limit Group: SV - 8270D_8270DLL
Last Update: 18-Sep-2019 09:31:30 Calib Date: 02-Aug-2019 17:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021920.D

Column 1 : Det: MS SCAN
Process Host: CTX0314

First Level Reviewer: dangt Date: 17-Sep-2019 06:56:34

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 N-Nitrosodimethylamine	74	2.234	2.234	0.000	94	134348	10.0	8.81	
2 Pyridine	79	2.263	2.263	0.000	90	396895	20.0	18.2	
$ 7 2-Fluorophenol	112	4.402	4.402	0.000	92	237705	10.0	9.99	
12 Aniline	93	5.289	5.289	0.000	97	293743	10.0	8.79	
16 Bis(2-chloroethyl)ether	93	5.347	5.347	0.000	96	213399	10.0	9.15	
$ 10 Phenol-d5	99	5.388	5.388	0.000	69	227189	10.0	8.57	
11 Phenol	94	5.400	5.400	0.000	99	265509	10.0	9.72	a
17 2-Chlorophenol	128	5.435	5.435	0.000	95	230610	10.0	9.80	
18 n-Decane	57	5.459	5.459	0.000	87	225836	10.0	9.31	
20 1,3-Dichlorobenzene	146	5.524	5.524	0.000	98	257227	10.0	9.78	
* 21 1,4-Dichlorobenzene-d4	152	5.576	5.576	0.000	95	165012	8.00	8.00	
22 1,4-Dichlorobenzene	146	5.594	5.594	0.000	94	252084	10.0	9.76	
24 1,2-Dichlorobenzene	146	5.729	5.729	0.000	98	245032	10.0	10.1	
23 Benzyl alcohol	108	5.764	5.764	0.000	96	86181	10.0	7.03	
26 Indene	115	5.811	5.811	0.000	90	354792	10.0	9.61	
27 2,2'-oxybis[1-chloropropan	45	5.847	5.847	0.000	94	263006	10.0	9.44	
25 2-Methylphenol	108	5.911	5.911	0.000	96	200963	10.0	9.98	
29 Acetophenone	105	5.958	5.958	0.000	97	260859	10.0	9.11	
31 N-Nitrosodi-n-propylamine	70	5.970	5.970	0.000	86	135093	10.0	9.09	
34 Hexachloroethane	117	6.029	6.029	0.000	93	97793	10.0	10.4	
30 3 & 4 Methylphenol	108	6.058	6.058	0.000	97	198241	10.0	9.25	
$ 35 Nitrobenzene-d5	82	6.087	6.087	0.000	88	205249	10.0	9.87	
36 Nitrobenzene	77	6.105	6.105	0.000	88	208391	10.0	9.97	
39 2,6-Dimethylphenol	122	6.234	6.234	0.000	94	182802	10.0	7.89	
41 Isophorone	82	6.317	6.317	0.000	97	336994	10.0	7.87	
42 2-Nitrophenol	139	6.387	6.387	0.000	91	128962	10.0	10.7	
43 2,4-Dimethylphenol	107	6.481	6.481	0.000	93	180352	10.0	8.28	
46 Bis(2-chloroethoxy)methane	93	6.510	6.510	0.000	99	217066	10.0	8.06	
48 2,4-Dichlorophenol	162	6.646	6.646	0.000	92	193986	10.0	8.71	
47 Benzoic acid	122	6.651	6.651	0.000	86	87771	10.0	6.92	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
49 1,2,4-Trichlorobenzene	180	6.663	6.663	0.000	94	203451	10.0	8.12	
* 50 Naphthalene-d8	136	6.704	6.704	0.000	99	523896	8.00	8.00	
51 Naphthalene	128	6.722	6.722	0.000	98	521727	10.0	9.27	
52 4-Chloroaniline	127	6.792	6.792	0.000	97	232850	10.0	8.02	
53 2,6-Dichlorophenol	162	6.804	6.804	0.000	98	180455	10.0	8.38	
55 Hexachlorobutadiene	225	6.839	6.839	0.000	96	118293	10.0	7.80	
60 4-Chloro-3-methylphenol	107	7.256	7.256	0.000	96	182495	10.0	9.35	
62 2-Methylnaphthalene	142	7.309	7.309	0.000	91	430030	10.0	9.19	
63 1-Methylnaphthalene	142	7.386	7.386	0.000	93	368516	10.0	8.28	
66 Hexachlorocyclopentadiene	237	7.444	7.444	0.000	96	69079	10.0	5.40	a
65 1,2,4,5-Tetrachlorobenzene	216	7.450	7.450	0.000	97	193453	10.0	8.43	
69 2,4,6-Trichlorophenol	196	7.574	7.574	0.000	90	130184	10.0	8.42	
$ 72 2-Fluorobiphenyl	172	7.615	7.615	0.000	98	429482	10.0	10.4	
71 2,4,5-Trichlorophenol	196	7.632	7.632	0.000	96	117673	10.0	8.09	
77 1,1'-Biphenyl	154	7.691	7.691	0.000	96	445883	10.0	9.81	
78 2-Chloronaphthalene	162	7.709	7.709	0.000	96	363676	10.0	9.96	
81 2-Nitroaniline	65	7.815	7.815	0.000	89	105542	10.0	10.5	
84 Dimethyl phthalate	163	7.956	7.956	0.000	99	397351	10.0	9.15	
85 1,3-Dinitrobenzene	168	7.985	7.985	0.000	98	83298	10.0	10.7	
86 2,6-Dinitrotoluene	165	8.003	8.003	0.000	93	108331	10.0	9.80	
88 Acenaphthylene	152	8.050	8.050	0.000	97	521584	10.0	9.68	
87 1,2-Dinitrobenzene	168	8.050	8.050	0.000	47	52655	10.0	8.58	
89 3-Nitroaniline	138	8.155	8.155	0.000	96	105212	10.0	8.91	
* 90 Acenaphthene-d10	164	8.167	8.167	0.000	96	317477	8.00	8.00	
91 Acenaphthene	153	8.191	8.191	0.000	93	349202	10.0	9.46	
92 2,4-Dinitrophenol	184	8.255	8.255	0.000	88	88788	20.0	16.1	
95 2,4-Dinitrotoluene	165	8.337	8.337	0.000	64	132210	10.0	9.67	
96 Dibenzofuran	168	8.337	8.337	0.000	94	474966	10.0	9.14	
93 4-Nitrophenol	109	8.420	8.420	0.000	89	70509	20.0	14.6	
99 2,3,4,6-Tetrachlorophenol	232	8.467	8.467	0.000	71	90218	10.0	7.18	
101 Diethyl phthalate	149	8.531	8.531	0.000	99	384348	10.0	9.34	
102 Hexadecane	57	8.543	8.543	0.000	91	233641	10.0	9.04	
105 4-Chlorophenyl phenyl ethe	204	8.613	8.613	0.000	90	188818	10.0	6.94	
104 Fluorene	166	8.613	8.613	0.000	94	373811	10.0	8.81	
107 4-Nitroaniline	138	8.666	8.666	0.000	89	105028	10.0	8.94	
108 4,6-Dinitro-2-methylphenol	198	8.678	8.678	0.000	93	160176	20.0	24.2	
109 Diphenylamine	169	8.713	8.713	0.000	93	300429	8.50	8.00	
110 N-Nitrosodiphenylamine	169	8.713	8.713	0.000	75	300429	10.0	9.41	
112 1,2-Diphenylhydrazine	77	8.743	8.743	0.000	41	331406	10.0	10.5	
111 Azobenzene	77	8.743	8.743	0.000	96	331406	10.0	10.5	
$ 113 2,4,6-Tribromophenol	330	8.825	8.825	0.000	90	42312	10.0	10.3	
118 4-Bromophenyl phenyl ether	248	9.013	9.013	0.000	62	122578	10.0	8.47	
122 Hexachlorobenzene	284	9.072	9.072	0.000	91	110148	10.0	9.76	
127 Pentachlorophenol	266	9.260	9.260	0.000	0	139838	20.0	22.8	
130 n-Octadecane	57	9.295	9.295	0.000	95	230073	10.0	9.85	
* 131 Phenanthrene-d10	188	9.383	9.383	0.000	98	500978	8.00	8.00	
132 Phenanthrene	178	9.401	9.401	0.000	97	546054	10.0	10.8	
134 Anthracene	178	9.442	9.442	0.000	97	553291	10.0	10.6	
135 Carbazole	167	9.589	9.589	0.000	98	529475	10.0	10.3	
137 Di-n-butyl phthalate	149	9.859	9.859	0.000	99	565941	10.0	10.2	
143 Fluoranthene	202	10.376	10.376	0.000	97	593711	10.0	9.31	
146 Pyrene	202	10.558	10.558	0.000	95	609732	10.0	9.92	

Report Date: 18-Sep-2019 09:31:34 Chrom Revision: 2.3 22-Aug-2019 12:55:36
Data File: \\chromna\Houston\ChromData\CHSVMS09\20190917-31128.b\09171902.D

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
$ 149 Terphenyl-d14	244	10.681	10.681	0.000	99	408398	10.0	9.63	
154 Butyl benzyl phthalate	149	11.087	11.087	0.000	95	286186	10.0	9.68	
159 Benzo[a]anthracene	228	11.645	11.645	0.000	97	579123	10.0	8.67	
* 160 Chrysene-d12	240	11.656	11.656	0.000	97	446453	8.00	8.00	s
162 Bis(2-ethylhexyl) phthalat	149	11.662	11.662	0.000	95	339032	10.0	9.27	
161 Chrysene	228	11.686	11.686	0.000	95	624202	10.0	9.93	
164 Di-n-octyl phthalate	149	12.514	12.514	0.000	99	626990	10.0	10.1	
165 Benzo[b]fluoranthene	252	13.149	13.149	0.000	97	528851	10.0	8.03	
167 Benzo[k]fluoranthene	252	13.196	13.196	0.000	98	666973	10.0	9.13	
168 Benzo[a]pyrene	252	13.754	13.754	0.000	79	595304	10.0	10.0	
* 169 Perylene-d12	264	13.865	13.865	0.000	98	519723	8.00	8.00	s
172 Indeno[1,2,3-cd]pyrene	276	16.127	16.127	0.000	98	641182	10.0	10.7	
173 Dibenz(a,h)anthracene	278	16.156	16.156	0.000	89	498373	10.0	10.3	
174 Benzo[g,h,i]perylene	276	16.638	16.638	0.000	97	548172	10.0	10.6	

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

Review Flags

a - User Assigned ID

Reagents:

SV_REGICAL_00028	Amount Added: 50.00	Units: uL	
SV_INSTD_LVI_00020	Amount Added: 20.00	Units: uL	Run Reagent

Report Date: 18-Sep-2019 09:31:34 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190917-31128.b\09171902.D				
Injection Date:	17-Sep-2019 06:34:30	Instrument ID:	CHSVMS09	Operator ID:	
Lims ID:	CCVIS REGLVI			Worklist Smp#:	2
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		

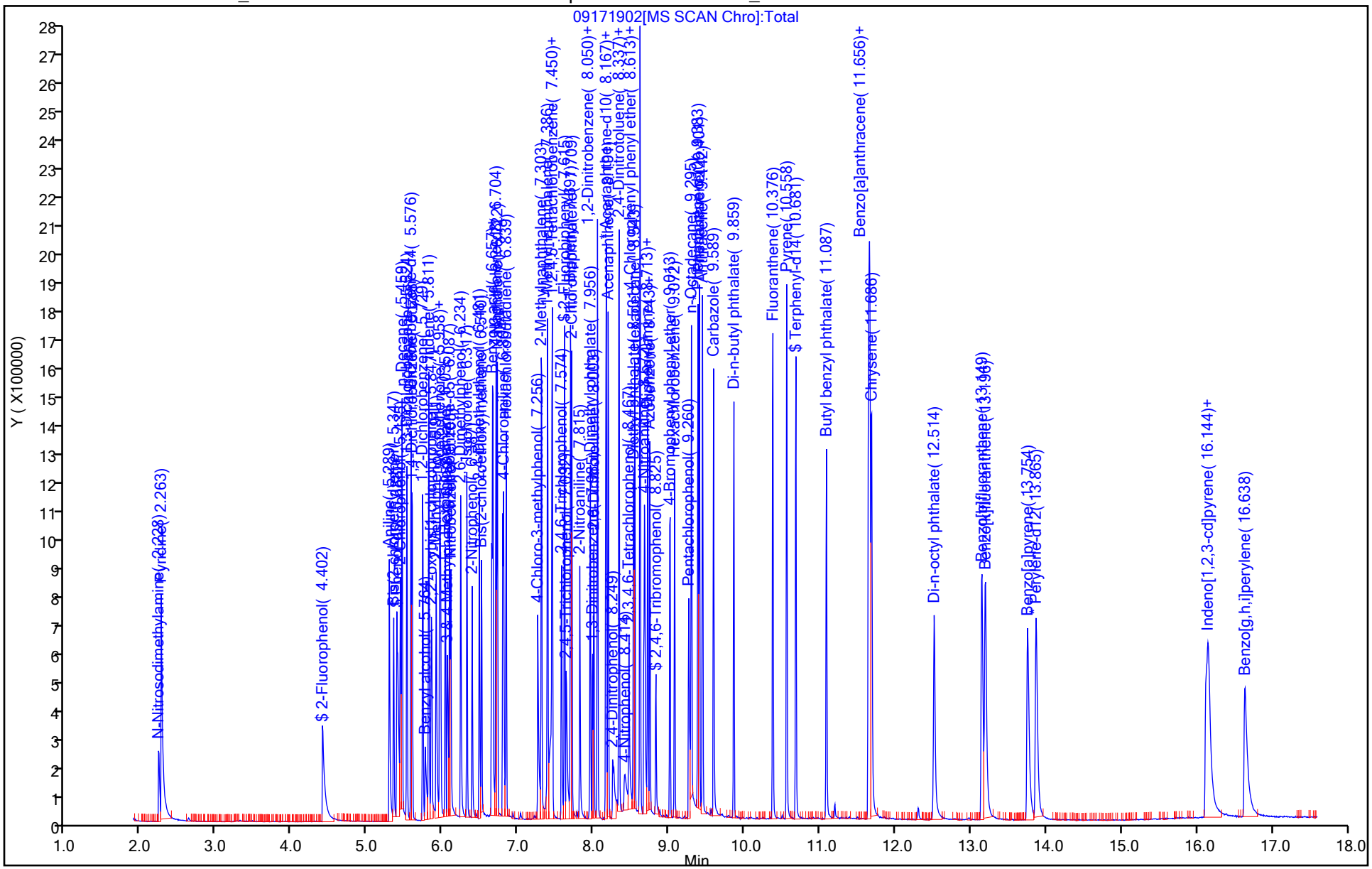

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190917-31128.b\09171902.D				
Injection Date:	17-Sep-2019 06:34:30	Instrument ID:	CHSVMS09		
Lims ID:	CCVIS REGLVI				
Client ID:					
Operator ID:		ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		
Column:		Detector	MS SCAN		

11 Phenol, CAS: 108-95-2

Signal: 1

Not Detected
Expected RT: 5.40

Processing Integration Results

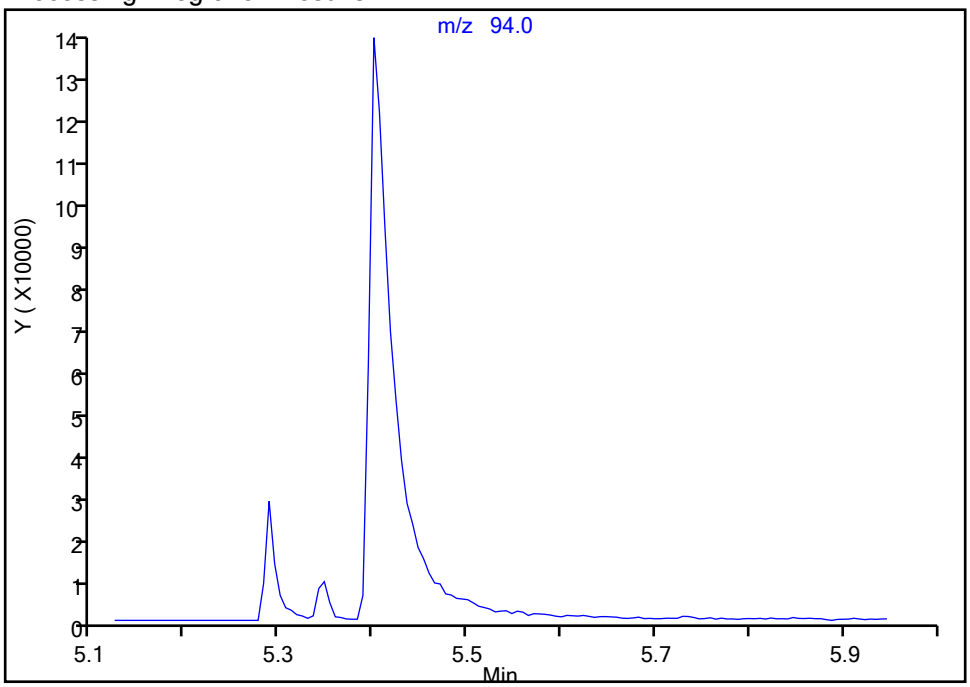

Manual Integration Results

RT: 5.40
Area: 265509
Amount: 9.722403
Amount Units: ug/ml

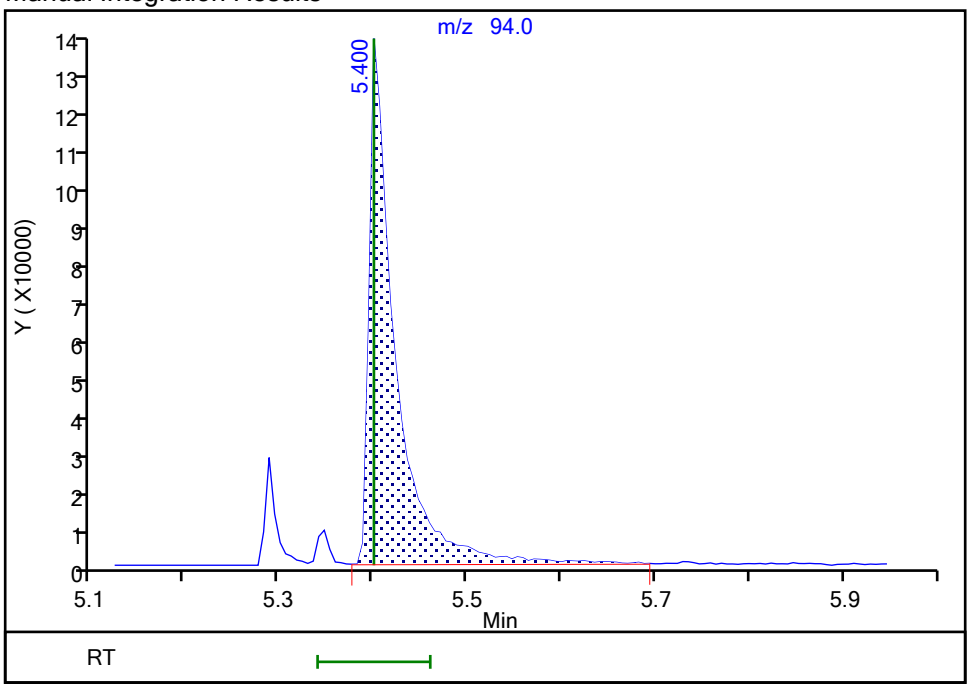

Reviewer: dangt, 17-Sep-2019 06:56:19
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190917-31128.b\09171902.D				
Injection Date:	17-Sep-2019 06:34:30	Instrument ID:	CHSVMS09		
Lims ID:	CCVIS REGLVI				
Client ID:					
Operator ID:		ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		
Column:		Detector	MS SCAN		

66 Hexachlorocyclopentadiene, CAS: 77-47-4

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 7.44

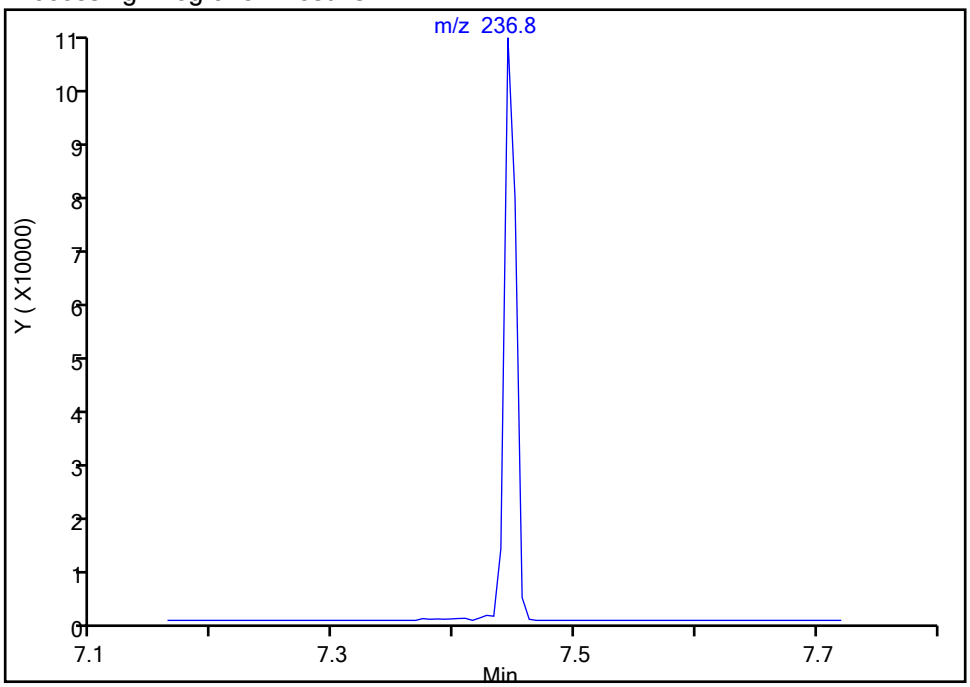

Manual Integration Results

RT: 7.44
Area: 69079
Amount: 5.398235
Amount Units: ug/ml

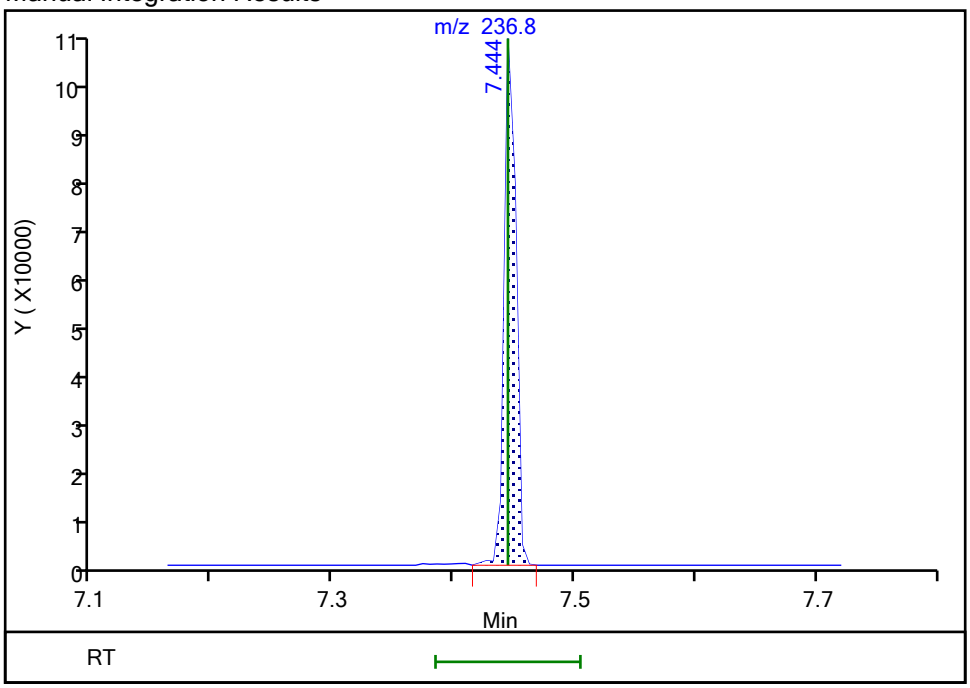

Reviewer: dangt, 17-Sep-2019 06:56:28
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021901.D
Lims ID: DFTPP
Client ID:
Sample Type: DFTPP
Inject. Date: 02-Aug-2019 08:31:30 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: DFTPP
Operator ID: Instrument ID: CHSVMS09

Method: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\8270LVI_9.m
Limit Group: SV - 8270D_8270DLL
Last Update: 05-Aug-2019 11:47:03 Calib Date: 02-Aug-2019 17:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021920.D

Column 1 : Det: MS SCAN
Process Host: CTX0303

First Level Reviewer: dangt Date: 05-Aug-2019 11:47:03

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
190 Pentachlorophenol_T	266	4.511	4.511	0.000	87	1400124	NR	NR	
191 DFTPP									
193 4,4'-DDE	246		4.868				ND	ND	
192 Benzidine_T	184	5.755	5.755	0.000	96	4083269	NR	NR	
194 4,4'-DDD	235	6.289	6.289	0.000	84	30636	NR	NR	
196 4,4'-DDT	235	6.610	6.610	0.000	93	2375191	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard
ND - Not Detected or Marked ND

Reagents:

SV_DFTPPTune_00048 Amount Added: 1.00 Units: uL

MS Tune Report

Eurofins TestAmerica, Houston

Data File: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021901.D
Injection Date: 02-Aug-2019 08:31:30 Instrument ID: CHSVMS09
Lims ID: DFTPP
Client ID:
Operator ID: ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Method: 8270LVI_9 Limit Group: SV - 8270D_8270DLL
Tune Method: DFTPP Method 8270

191 DFTPP

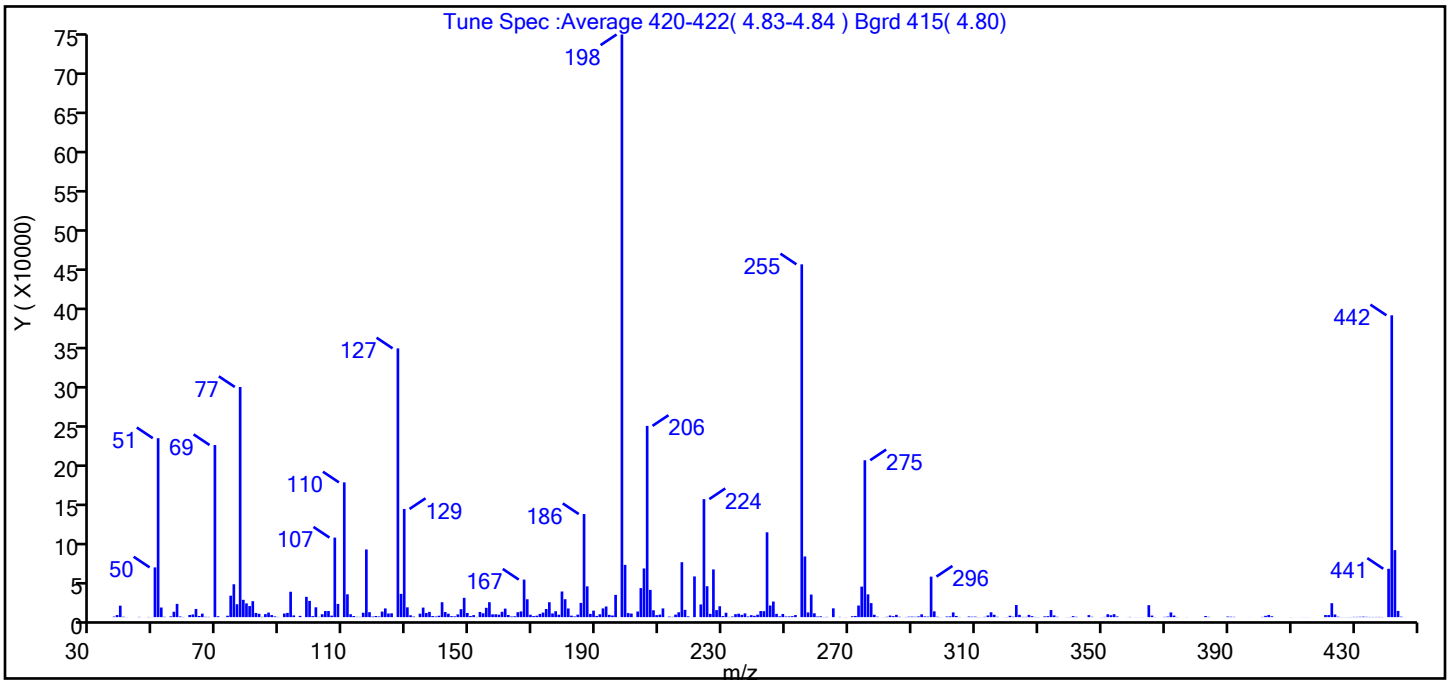

m/z	Ion Abundance Criteria	% Relative Abundance
198	Base peak, 100% relative abundance	100.0
51	30-60% of mass 198	30.7
68	<2% of mass 69	0.0 (0.0)
69	Present	29.5
70	<2% of mass 69	0.2 (0.5)
127	40-60% of mass 198	46.1
197	<1% of mass 198	0.0
199	5-9% of mass 198	9.0
275	10-30% of mass 198	26.9
365	>1% of mass 198	2.1
441	Present but less than mass 443	8.3 (72.2)
442	>40% of mass 198	51.8
443	17-23% of mass 442	11.5 (22.2)

Data File: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021901.D\8270LVI_9.rslt\spectra.d
Injection Date: 02-Aug-2019 08:31:30
Spectrum: Tune Spec :Average 420-422(4.83-4.84) Bgrd 415(4.80)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 340

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	738	135.00	12271	225.00	39728	319.00	78
38.00	2659	136.00	5366	226.00	4254	320.00	203
39.00	14764	137.00	6773	227.00	61368	321.00	1758
40.00	560	138.00	1376	228.00	9051	322.00	540
41.00	108	139.00	849	229.00	14020	323.00	15619
45.00	338	140.00	1828	230.00	1388	324.00	2925
48.00	268	141.00	19184	231.00	5681	325.00	338
49.00	83	142.00	6591	232.00	328	326.00	347
50.00	63952	143.00	4380	233.00	862	327.00	2906
51.00	230080	144.00	1252	234.00	3825	328.00	1284
52.00	12378	145.00	1014	235.00	4429	329.00	267
53.00	458	146.00	3547	236.00	2921	330.00	196
55.00	1000	147.00	10259	237.00	4836	332.00	1002
56.00	6915	148.00	24840	238.00	856	333.00	1290
57.00	17088	149.00	5384	239.00	2512	334.00	9077
58.00	832	150.00	1501	240.00	1735	335.00	2235
59.00	249	151.00	2641	241.00	3133	336.00	437
61.00	2775	152.00	296	242.00	7856	339.00	114
62.00	3453	153.00	6615	243.00	7687	340.00	205
63.00	10536	154.00	4956	244.00	109064	341.00	1324
64.00	1492	155.00	11974	245.00	14954	342.00	469
65.00	4494	156.00	19184	246.00	20056	346.00	2611
66.00	423	157.00	3635	247.00	4240	347.00	462
67.00	350	158.00	3634	248.00	1066	350.00	124
69.00	221248	159.00	3201	249.00	4092	351.00	270
70.00	1155	160.00	6868	250.00	821	352.00	3743
71.00	42	161.00	10957	251.00	957	353.00	2475
72.00	65	162.00	2788	252.00	1237	354.00	3778
73.00	1820	163.00	831	253.00	2670	355.00	859
74.00	27600	164.00	1124	255.00	453568	358.00	58
75.00	42272	165.00	6330	256.00	77992	359.00	297
76.00	16600	166.00	7354	257.00	6047	361.00	152
77.00	295872	167.00	48256	258.00	29040	362.00	59

Report Date: 05-Aug-2019 11:47:05 Chrom Revision: 2.3 15-Jul-2019 06:58:08
Data File: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021901.D\8270LVI_9.rslt\spectra.d
Injection Date: 02-Aug-2019 08:31:30
Spectrum: Tune Spec :Average 420-422(4.83-4.84) Bgrd 415(4.80)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 340

m/z	Y	m/z	Y	m/z	Y	m/z	Y
78.00	22264	168.00	22984	259.00	4945	363.00	100
79.00	17696	169.00	3054	260.00	829	365.00	15369
80.00	14264	170.00	1407	261.00	1055	366.00	2041
81.00	20528	171.00	1887	262.00	181	367.00	179
82.00	5404	172.00	4138	263.00	347	370.00	387
83.00	4327	173.00	5874	265.00	11348	371.00	739
84.00	396	174.00	10447	267.00	327	372.00	6094
85.00	3903	175.00	19176	269.00	164	373.00	2006
86.00	5865	176.00	4806	271.00	1166	374.00	203
87.00	2649	177.00	7628	272.00	1527	377.00	130
88.00	975	178.00	3141	273.00	14934	383.00	1489
89.00	286	179.00	32976	274.00	39240	384.00	423
90.00	56	180.00	23056	275.00	201728	390.00	775
91.00	4631	181.00	11153	276.00	29264	391.00	546
92.00	5450	182.00	1909	277.00	18016	392.00	381
93.00	32640	183.00	905	278.00	3038	397.00	73
94.00	2203	184.00	3207	279.00	573	401.00	328
96.00	1642	185.00	18312	281.00	134	402.00	1671
98.00	26080	186.00	132544	282.00	422	403.00	2770
99.00	20912	187.00	39584	283.00	2109	404.00	1136
100.00	1291	188.00	4146	284.00	1275	405.00	66
101.00	12665	189.00	8342	285.00	2965	410.00	123
102.00	342	190.00	1574	286.00	522	411.00	55
103.00	3748	191.00	3671	287.00	64	413.00	63
104.00	7862	192.00	11241	288.00	258	414.00	65
105.00	7816	193.00	13693	289.00	615	415.00	107
106.00	1943	194.00	2923	290.00	680	416.00	53
107.00	102256	195.00	2095	291.00	444	421.00	2704
108.00	17008	196.00	28608	292.00	988	422.00	2644
110.00	173248	198.00	749056	293.00	3623	423.00	17928
111.00	29376	199.00	67200	294.00	910	424.00	3451
112.00	3728	200.00	5227	295.00	678	425.00	586
113.00	1410	201.00	4636	296.00	52096	426.00	142
114.00	425	203.00	7228	297.00	7454	427.00	127

Report Date: 05-Aug-2019 11:47:05 Chrom Revision: 2.3 15-Jul-2019 06:58:08
Data File: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021901.D\8270LVI_9.rslt\spectra.d
Injection Date: 02-Aug-2019 08:31:30
Spectrum: Tune Spec :Average 420-422(4.83-4.84) Bgrd 415(4.80)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 340

m/z	Y	m/z	Y	m/z	Y	m/z	Y
115.00	352	204.00	37336	298.00	551	428.00	150
116.00	5671	205.00	62584	299.00	177	429.00	181
117.00	87016	206.00	245888	301.00	813	430.00	353
118.00	6398	207.00	35072	302.00	975	431.00	379
119.00	728	208.00	8834	303.00	6087	432.00	501
120.00	1456	209.00	2598	304.00	1528	433.00	648
121.00	850	210.00	3272	305.00	253	434.00	407
122.00	7148	211.00	11216	307.00	56	435.00	276
123.00	11218	213.00	750	308.00	842	436.00	257
124.00	4691	214.00	370	309.00	568	437.00	303
125.00	4939	215.00	3273	310.00	653	438.00	323
127.00	345536	216.00	6254	311.00	180	439.00	223
128.00	29936	217.00	70616	312.00	127	441.00	62176
129.00	139072	218.00	9386	313.00	388	442.00	388032
130.00	12591	219.00	1025	314.00	2182	443.00	86176
131.00	2401	221.00	52352	315.00	6245	444.00	7992
132.00	763	223.00	16311	316.00	3016	445.00	595
134.00	4416	224.00	151744	317.00	466	446.00	79

Report Date: 05-Aug-2019 11:47:05 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021901.D				
Injection Date:	02-Aug-2019 08:31:30	Instrument ID:	CHSVMS09	Operator ID:	
Lims ID:	DFTPP			Worklist Smp#:	1
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		

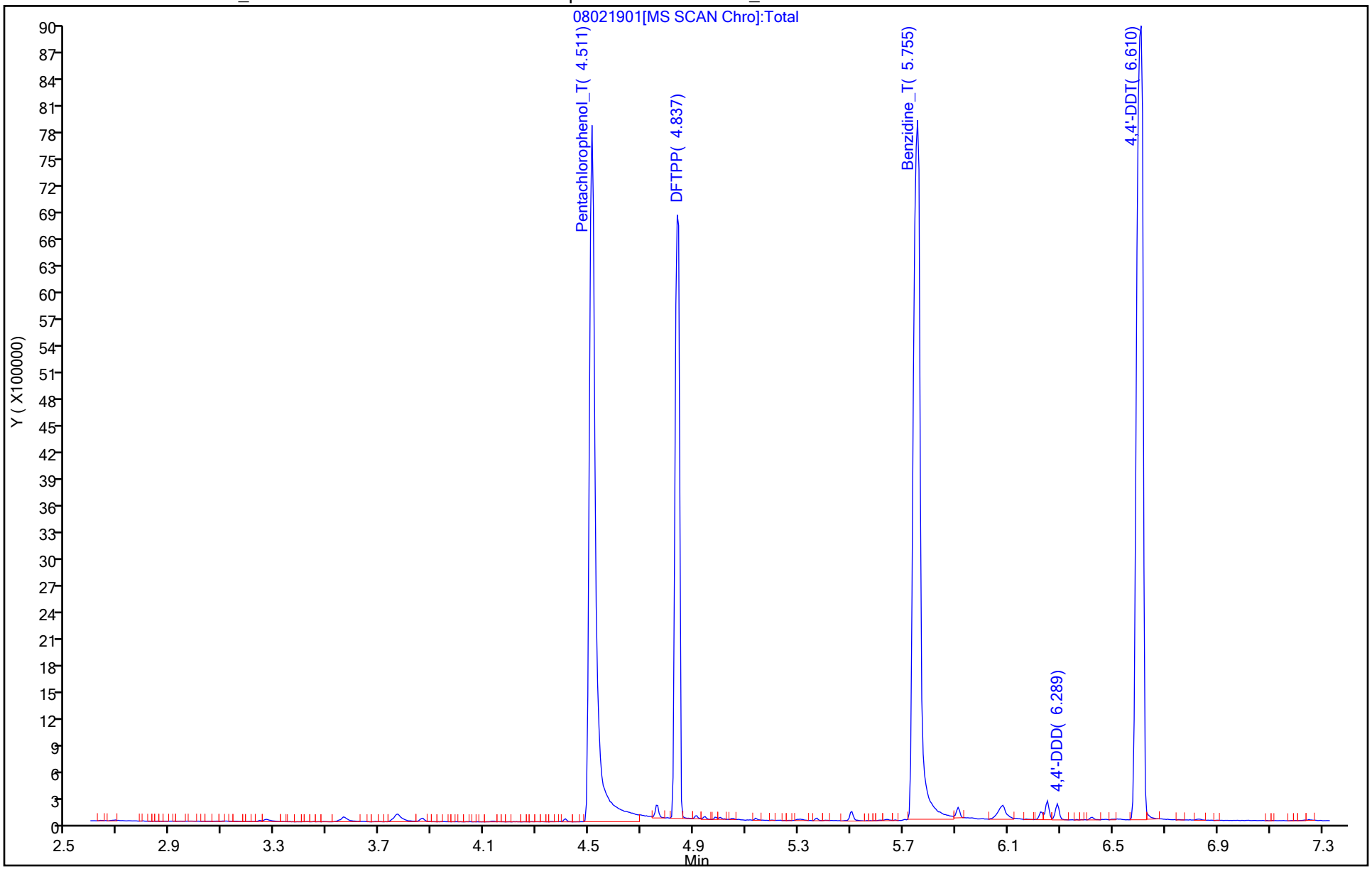

Report Date: 05-Aug-2019 11:47:05 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Breakdown Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021901.D				
Injection Date:	02-Aug-2019 08:31:30	Instrument ID:	CHSVMS09		
Lims ID:	DFTPP				
Client ID:					
Operator ID:		ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		

196 4,4'-DDT, Detector: MS SCAN

SW-846 Method

%Breakdown =
(Area Breakdown Cpnds/
Total Area Breakdown Cpnds) * 100

196 4,4'-DDT, Area = 2375191
193 4,4'-DDE, Area = 0
194 4,4'-DDD, Area = 30636

%Breakdown: 1.27%, <= 20.00%
Passed

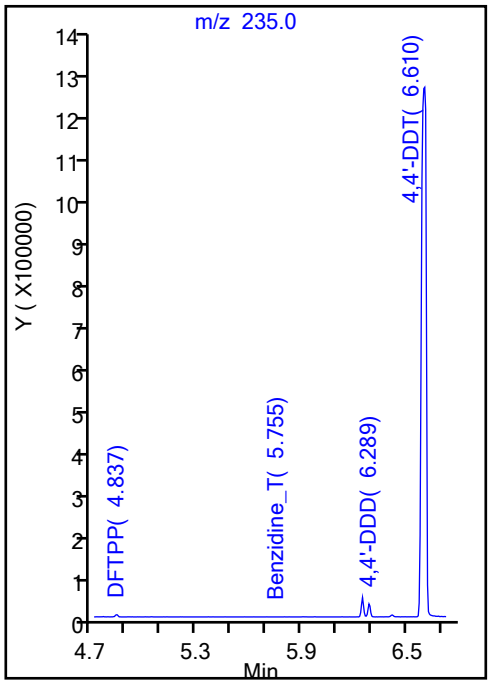

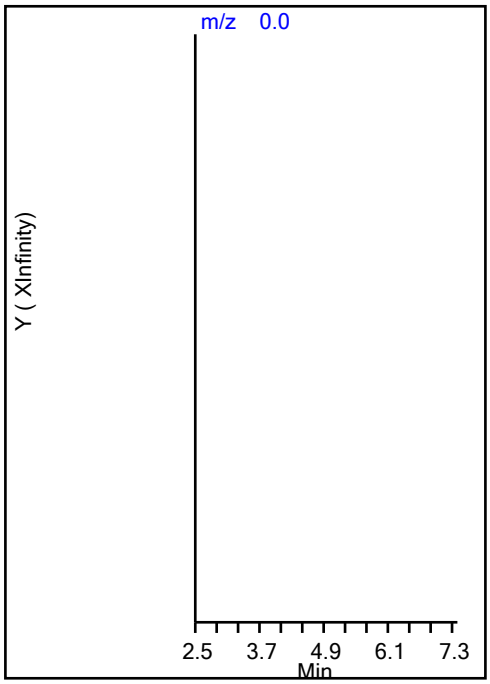

Report Date: 05-Aug-2019 11:47:05 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Peak Tailing Report

Eurofins TestAmerica, Houston

Data File: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021901.D
Injection Date: 02-Aug-2019 08:31:30 Instrument ID: CHSVMS09
Lims ID: DFTPP
Client ID:
Operator ID: ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Method: 8270LVI_9 Limit Group: SV - 8270D_8270DLL

192 Benzidine_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.031 (min.)
Front Width = 0.028 (min.)

Tailing Factor = 1.1, Max. Tailing < 3.00
Passed

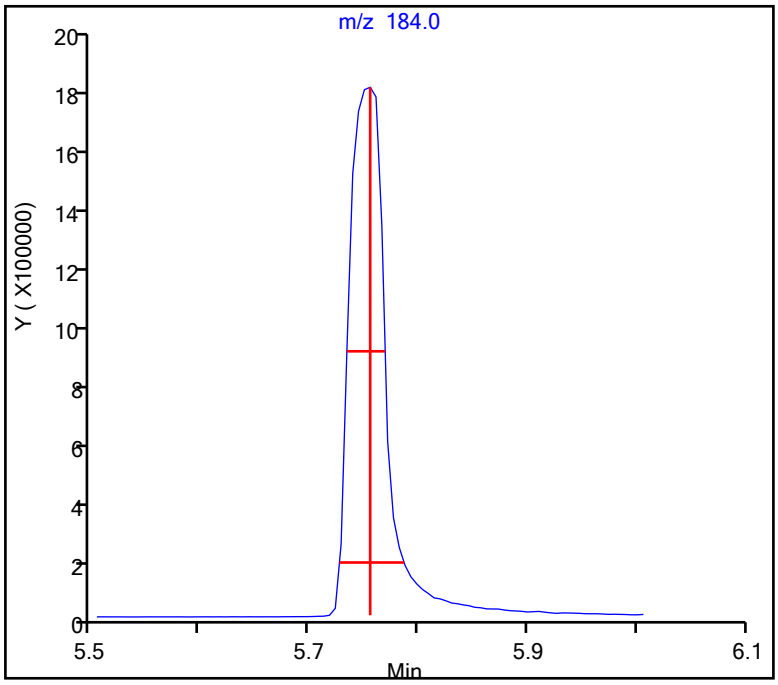

Report Date: 05-Aug-2019 11:47:05 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Peak Tailing Report

Eurofins TestAmerica, Houston

Data File: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021901.D
Injection Date: 02-Aug-2019 08:31:30 Instrument ID: CHSVMS09
Lims ID: DFTPP
Client ID:
Operator ID: ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Method: 8270LVI_9 Limit Group: SV - 8270D_8270DLL

190 Pentachlorophenol_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.034 (min.)
Front Width = 0.018 (min.)

Tailing Factor = 1.9, Max. Tailing < 5.00
Passed

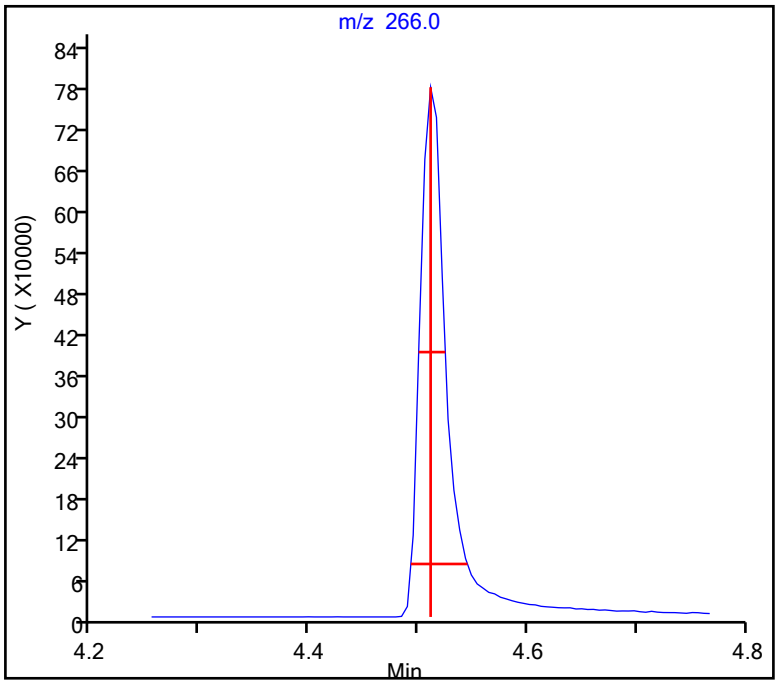

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-191956-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 600-274889/1-A
Matrix: Water
Lab File ID: 09171905.D
Analysis Method: 8270D
Date Collected:
Extract. Method: 3510C LVI
Date Extracted: 09/16/2019 14:22
Sample wt/vol: 250(mL)
Date Analyzed: 09/17/2019 07:40
Con. Extract Vol.: 1(mL)
Dilution Factor: 1
Injection Volume: 5(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 274919
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
110-86-1	Pyridine	ND		10	2.2
95-95-4	2,4,5-Trichlorophenol	ND		10	4.2
88-06-2	2,4,6-Trichlorophenol	ND		10	3.3
121-14-2	2,4-Dinitrotoluene	ND		10	2.1
606-20-2	2,6-Dinitrotoluene	ND		10	2.8
95-48-7	2-Methylphenol	ND		10	1.4
15831-10-4	3 & 4 Methylphenol	ND		20	1.4
118-74-1	Hexachlorobenzene	ND		10	3.3
87-68-3	Hexachlorobutadiene	ND		10	2.6
67-72-1	Hexachloroethane	ND		10	3.3
98-95-3	Nitrobenzene	ND		10	2.6
87-86-5	Pentachlorophenol	ND		50	3.2

CAS NO.	SURROGATE	%REC	Q	LIMITS
118-79-6	2,4,6-Tribromophenol (Surr)	47		19-150
321-60-8	2-Fluorobiphenyl	46		38-133
367-12-4	2-Fluorophenol (Surr)	34		10-130
4165-60-0	Nitrobenzene-d5 (Surr)	45		24-150
4165-62-2	Phenol-d5 (Surr)	29		10-130
1718-51-0	Terphenyl-d14 (Surr)	80		35-150

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHSVMS09\20190917-31128.b\09171905.D
Lims ID: MB 600-274889/1-A
Client ID:
Sample Type: MB
Inject. Date: 17-Sep-2019 07:40:30 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: MB 600-274889/1-A
Misc. Info.: 600-0031128-005
Operator ID: Instrument ID: CHSVMS09

Method: \\chromna\Houston\ChromData\CHSVMS09\20190917-31128.b\8270LVI_9.m
Limit Group: SV - 8270D_8270DLL
Last Update: 18-Sep-2019 09:31:44 Calib Date: 02-Aug-2019 17:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021920.D

Column 1 : Det: MS SCAN
Process Host: CTX0314

First Level Reviewer: dangt Date: 17-Sep-2019 08:37:43

	Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 N-Nitrosodimethylamine	74		2.234					ND	
	2 Pyridine	79		2.263					ND	
	3 2-Picoline	93		3.470					ND	
	4 N-Nitrosomethylethylamine	88		3.670					ND	
	5 Methyl methanesulfonate	80		4.093					ND	
	6 Acrylamide	71		4.346					ND	
$	7 2-Fluorophenol	112	4.432	4.402	0.030	92	76118	10.0	3.36	
	8 N-Nitrosodiethylamine	102		4.516					ND	
	9 Ethyl methanesulfonate	79		4.880					ND	
	13 Benzaldehyde	77		5.177					ND	
	12 Aniline	93		5.289					ND	
	15 Pentachloroethane	167		5.321					ND	
	16 Bis(2-chloroethyl)ether	93		5.347					ND	
$	10 Phenol-d5	99	5.419	5.388	0.031	69	72580	10.0	2.88	
	11 Phenol	94		5.400					ND	
	17 2-Chlorophenol	128		5.435					ND	
	18 n-Decane	57		5.459					ND	
	20 1,3-Dichlorobenzene	146		5.524					ND	
*	21 1,4-Dichlorobenzene-d4	152	5.577	5.576	0.001	94	157046	8.00	8.00	
	22 1,4-Dichlorobenzene	146		5.594					ND	
	24 1,2-Dichlorobenzene	146		5.729					ND	
	23 Benzyl alcohol	108		5.764					ND	
	26 Indene	115		5.811					ND	
	27 2,2'-oxybis[1-chloropropan	45		5.847					ND	
	25 2-Methylphenol	108		5.911					ND	
	28 N-Nitrosopyrrolidine	100		5.949					ND	
	29 Acetophenone	105		5.958					ND	
	31 N-Nitrosodi-n-propylamine	70		5.970					ND	
	32 N-Nitrosomorpholine	56		5.979					ND	
	33 2-Toluidine	106		6.008					ND	
	34 Hexachloroethane	117		6.029					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
30 3 & 4 Methylphenol	108		6.058					ND	
$ 35 Nitrobenzene-d5	82	6.088	6.087	0.001	89	88720	10.0	4.54	
36 Nitrobenzene	77		6.105					ND	
37 n,n'-Dimethylaniline	120		6.120					ND	
39 2,6-Dimethylphenol	122		6.234					ND	
40 N-Nitrosopiperidine	55		6.237					ND	
41 Isophorone	82		6.317					ND	
42 2-Nitrophenol	139		6.387					ND	
14 Phenylmercaptan	110		6.471					ND	
43 2,4-Dimethylphenol	107		6.481					ND	
45 o,o',o''-Triethylphosphoro	65		6.502					ND	
46 Bis(2-chloroethoxy)methane	93		6.510					ND	
48 2,4-Dichlorophenol	162		6.646					ND	
47 Benzoic acid	122		6.651					ND	
49 1,2,4-Trichlorobenzene	180		6.663					ND	
* 50 Naphthalene-d8	136	6.699	6.704	-0.005	100	492442	8.00	8.00	
51 Naphthalene	128		6.722					ND	
52 4-Chloroaniline	127		6.792					ND	
53 2,6-Dichlorophenol	162		6.804					ND	
54 Hexachloropropene	213		6.813					ND	
55 Hexachlorobutadiene	225		6.839					ND	
56 Quinoline	129		7.019					ND	
57 N-Nitrosodi-n-butylamine	84		7.077					ND	U
59 Caprolactam	113		7.098					ND	U
58 p-Phenylene diamine	108		7.107					ND	
61 Safrole, Total	162		7.248					ND	
60 4-Chloro-3-methylphenol	107		7.256					ND	
62 2-Methylnaphthalene	142		7.309					ND	
63 1-Methylnaphthalene	142		7.386					ND	
66 Hexachlorocyclopentadiene	237		7.444					ND	
65 1,2,4,5-Tetrachlorobenzene	216		7.450					ND	
74 Isosafrole Peak 1	162		7.494					ND	
69 2,4,6-Trichlorophenol	196		7.574					ND	
$ 72 2-Fluorobiphenyl	172	7.610	7.615	-0.005	99	207371	10.0	4.55	
71 2,4,5-Trichlorophenol	196		7.632					ND	
73 Isosafrole Peak 2	162		7.677					ND	
77 1,1'-Biphenyl	154		7.691					ND	
78 2-Chloronaphthalene	162		7.709					ND	
79 1-Chloronaphthalene	162		7.735					ND	
183 Toluene diamine (2,4- + 2,	122		7.778					ND	
80 Phenyl ether	170		7.788					ND	U
81 2-Nitroaniline	65		7.815					ND	
68 2,4-Toluene diamine	121		7.826					ND	
70 3,4-Dichloroaniline	161		7.861					ND	
82 1,4-Naphthoquinone	158		7.870					ND	
19 Dicyclopentadiene	66		7.904					ND	
83 1,4-Dinitrobenzene	168		7.926					ND	
84 Dimethyl phthalate	163		7.956					ND	
85 1,3-Dinitrobenzene	168		7.985					ND	
86 2,6-Dinitrotoluene	165		8.003					ND	
88 Acenaphthylene	152		8.050					ND	
87 1,2-Dinitrobenzene	168		8.050					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
89 3-Nitroaniline	138		8.155					ND	
* 90 Acenaphthene-d10	164	8.162	8.167	-0.005	95	289745	8.00	8.00	
91 Acenaphthene	153		8.191					ND	
92 2,4-Dinitrophenol	184		8.255					ND	
38 4-Methylbenzenamine	106		8.308					ND	
94 Pentachlorobenzene	250		8.317					ND	
95 2,4-Dinitrotoluene	165		8.337					ND	
96 Dibenzofuran	168		8.337					ND	
97 1-Naphthylamine	143		8.417					ND	
93 4-Nitrophenol	109		8.420					ND	
98 2,3,5,6-Tetrachlorophenol	232		8.446					ND	
99 2,3,4,6-Tetrachlorophenol	232		8.467					ND	
100 2-Naphthylamine	143		8.481					ND	
101 Diethyl phthalate	149		8.531					ND	
102 Hexadecane	57		8.543					ND	U
103 Thionazin	97		8.599					ND	
105 4-Chlorophenyl phenyl ethe	204		8.613					ND	
104 Fluorene	166		8.613					ND	
106 N-Nitro-o-toluidine	152		8.652					ND	
107 4-Nitroaniline	138		8.666					ND	
108 4,6-Dinitro-2-methylphenol	198		8.678					ND	
109 Diphenylamine	169		8.713					ND	
110 N-Nitrosodiphenylamine	169		8.713					ND	
112 1,2-Diphenylhydrazine	77		8.743					ND	
111 Azobenzene	77		8.743					ND	
$ 113 2,4,6-Tribromophenol	330	8.826	8.825	0.001	87	17844	10.0	4.75	
114 Sulfotepp	322		8.851					ND	
120 Diallate Peak 1	86		8.957					ND	
116 Phorate	75		8.963					ND	
115 1,3,5-Trinitrobenzene	75		8.963					ND	
117 Phenacetin	108		8.998					ND	
118 4-Bromophenyl phenyl ether	248		9.013					ND	
119 Diallate Peak 2	86		9.028					ND	
122 Hexachlorobenzene	284		9.072					ND	
123 Dimethoate	87		9.110					ND	
124 Atrazine	200		9.165					ND	
44 m-Nitrotoluene	91		9.196					ND	
126 4-Aminobiphenyl	169		9.239					ND	
128 Pentachloronitrobenzene	237		9.251					ND	
127 Pentachlorophenol	266		9.260					ND	
130 n-Octadecane	57		9.295					ND	U
129 Pronamide	173		9.298					ND	
* 131 Phenanthrene-d10	188	9.378	9.383	-0.005	98	449396	8.00	8.00	
133 Disulfoton	88		9.386					ND	
132 Phenanthrene	178		9.401					ND	
125 Dinoseb	211		9.404					ND	
134 Anthracene	178		9.442					ND	
135 Carbazole	167		9.589					ND	
238 Propanil	161		9.592					ND	
136 Methyl parathion	109		9.697					ND	
64 1,3-phenylenediamine	108		9.798					ND	
137 Di-n-butyl phthalate	149		9.859					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
138 Ethyl Parathion	97		10.015					ND	
141 Methapyrilene	97		10.103					ND	
142 Isodrin	193		10.250					ND	
67 Toluene-2,6-Diisocyanate	174		10.288					ND	
139 4-Nitroquinoline-1-oxide	190		10.341					ND	
143 Fluoranthene	202		10.376					ND	
144 Benzidine	184		10.505					ND	
140 Toluene 2,4-diisocyanate	174		10.528					ND	
146 Pyrene	202		10.558					ND	
S 75 Isosafrole	162		10.665					ND	
148 Aramite Peak 1	185		10.673					ND	
$ 149 Terphenyl-d14	244	10.682	10.681	0.001	99	285229	10.0	7.99	
76 2,6-Diaminotoluene	122		10.695					ND	
150 Aramite Peak 2	185		10.731					ND	
151 p-Dimethylamino azobenzene	120		10.808					ND	
152 Chlorobenzilate	139		10.843					ND	
147 Bisphenol-A	213		10.884					ND	
154 Butyl benzyl phthalate	149		11.087					ND	
153 3,3'-Dimethylbenzidine	212		11.095					ND	
156 2-Acetylaminofluorene	181		11.348					ND	
158 4,4'-Methylene bis(2-chlor	231		11.624					ND	
157 3,3'-Dichlorobenzidine	252		11.627					ND	U
159 Benzo[a]anthracene	228		11.645					ND	
* 160 Chrysene-d12	240	11.651	11.656	-0.005	97	365152	8.00	8.00	
162 Bis(2-ethylhexyl) phthalat	149		11.662					ND	
161 Chrysene	228		11.686					ND	
163 6-Methylchrysene	242		12.253					ND	
164 Di-n-octyl phthalate	149		12.514					ND	
166 7,12-Dimethylbenz(a)anthra	256		13.128					ND	
165 Benzo[b]fluoranthene	252		13.149					ND	
167 Benzo[k]fluoranthene	252		13.196					ND	
S 121 Diallate	86		13.359					ND	
168 Benzo[a]pyrene	252		13.754					ND	
* 169 Perylene-d12	264	13.866	13.865	0.001	98	399916	8.00	8.00	
170 3-Methylcholanthrene	268		14.567					ND	
171 Dibenz[a,h]acridine	279		15.719					ND	
230 Dibenz[a,j]acridine	279		15.824					ND	
172 Indeno[1,2,3-cd]pyrene	276		16.127					ND	
173 Dibenz(a,h)anthracene	278		16.156					ND	
S 145 Aramite, Total	185		16.252					ND	
174 Benzo[g,h,i]perylene	276		16.638					ND	
198 Famphur	218		17.350					ND	
155 Kepone	272		17.717					ND	
176 Triethyl amine	100		30.000					ND	
239 Benzyl dichloride	1		0.000					ND	
236 EPTC	1		0.000					ND	
235 1-Methyl-2-pyrrilidinone	1		0.000					ND	
233 Sulfuric acid, diethyl est	1		0.000					ND	
237 Molinate	1		0.000					ND	
S 188 Total Cresols	1		0.000					ND	
S 187 Methyl Phenols,Total	1		0.000					ND	
231 Benzotrichloride	1		0.000					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
S 189 Total Cresols, TCEQ Defini	1		0.000					ND	
185 1,2-Dibromo-3-Chloropropan	157		0.000					ND	
184 3,3'-Dimethoxybenzidine	1		0.000					ND	
232 Dimethyl sulfate	1		0.000					ND	
177 Methyl chrysenes (Mixed Is	1		0.000					ND	
179 2,3-Dichlorophenol	1		0.000					ND	
195 o-Nitrotoluene	120		8.881					ND	
197 p-Nitrotoluene	91		9.265					ND	

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

SV_INSTD_LVI_00020 Amount Added: 20.00 Units: uL Run Reagent

Report Date: 18-Sep-2019 09:31:55 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Houston

Data File: \\chromna\Houston\ChromData\CHSVMS09\20190917-31128.b\09171905.D

Injection Date: 17-Sep-2019 07:40:30 Instrument ID: CHSVMS09 Operator ID:

Lims ID: MB 600-274889/1-A Worklist Smp#: 5

Client ID:

Injection Vol: 5.0 ul Dil. Factor: 1.0000 ALS Bottle#: 5

Method: 8270LVI_9 Limit Group: SV - 8270D_8270DLL

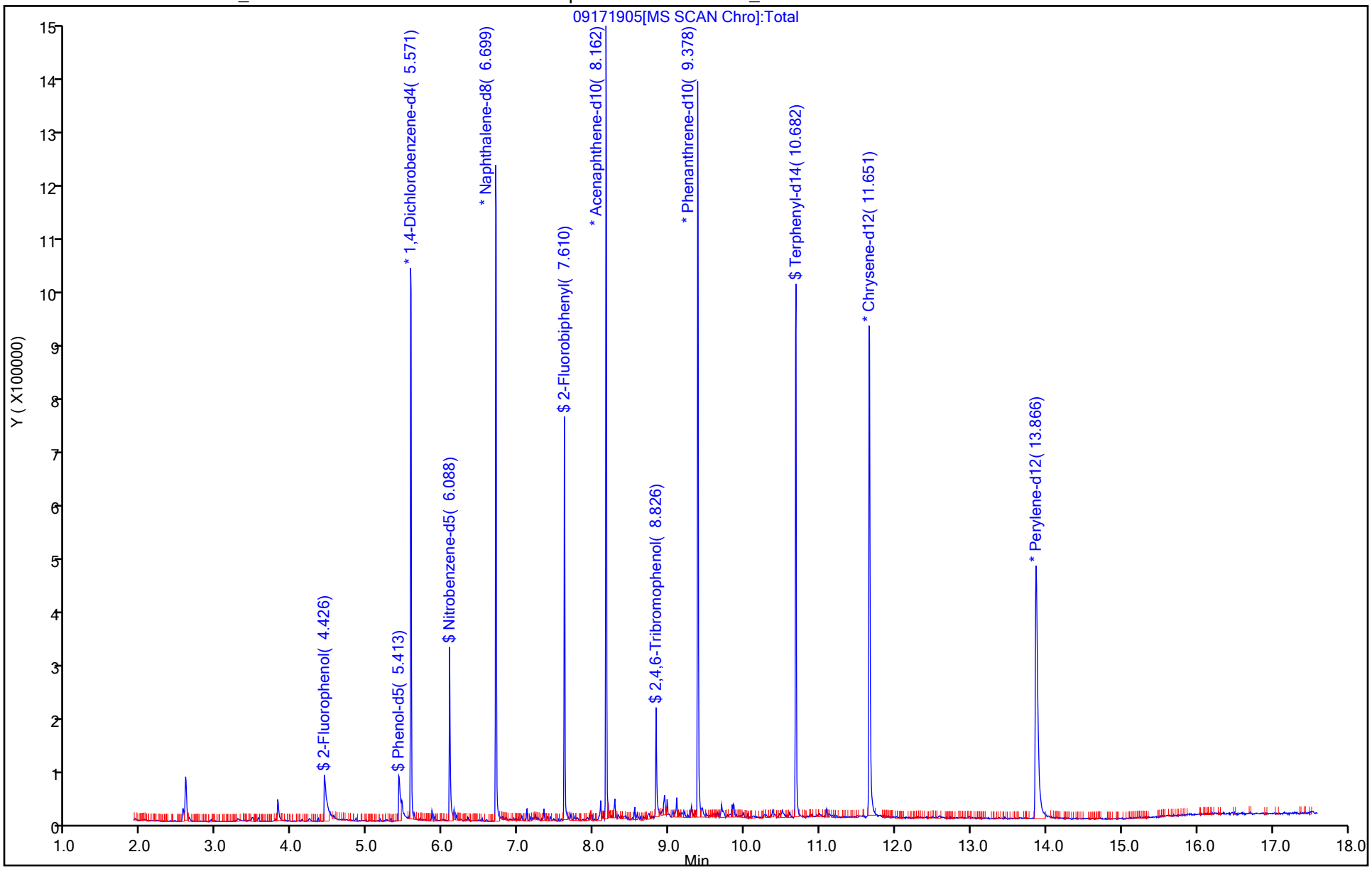

Eurofins TestAmerica, Houston
Recovery Report

Data File: \\chromna\Houston\ChromData\CHSVMS09\20190917-31128.b\09171905.D
Lims ID: MB 600-274889/1-A
Client ID:
Sample Type: MB
Inject. Date: 17-Sep-2019 07:40:30 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: MB 600-274889/1-A
Misc. Info.: 600-0031128-005
Operator ID: Instrument ID: CHSVMS09

Method: \\chromna\Houston\ChromData\CHSVMS09\20190917-31128.b\8270LVI_9.m
Limit Group: SV - 8270D_8270DLL
Last Update: 18-Sep-2019 09:31:44 Calib Date: 02-Aug-2019 17:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021920.D

Column 1 : Det: MS SCAN
Process Host: CTX0314

First Level Reviewer: dangt Date: 17-Sep-2019 08:37:43

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	10.0	3.36	33.60
$ 10 Phenol-d5	10.0	2.88	28.76
$ 35 Nitrobenzene-d5	10.0	4.54	45.39
$ 72 2-Fluorobiphenyl	10.0	4.55	45.53
$ 113 2,4,6-Tribromophenol	10.0	4.75	47.47
$ 149 Terphenyl-d14	10.0	7.99	79.94

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-191956-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 600-274889/2-A
Matrix: Water
Lab File ID: 09171906.D
Analysis Method: 8270D
Date Collected:
Extract. Method: 3510C LVI
Date Extracted: 09/16/2019 14:22
Sample wt/vol: 250(mL)
Date Analyzed: 09/17/2019 08:06
Con. Extract Vol.: 1(mL)
Dilution Factor: 1
Injection Volume: 5(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 274919
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
110-86-1	Pyridine	51.7		10	2.2
95-95-4	2,4,5-Trichlorophenol	23.0		10	4.2
88-06-2	2,4,6-Trichlorophenol	22.2		10	3.3
121-14-2	2,4-Dinitrotoluene	29.9		10	2.1
606-20-2	2,6-Dinitrotoluene	29.2		10	2.8
95-48-7	2-Methylphenol	25.2		10	1.4
15831-10-4	3 & 4 Methylphenol	26.5		20	1.4
118-74-1	Hexachlorobenzene	28.2		10	3.3
87-68-3	Hexachlorobutadiene	17.4		10	2.6
67-72-1	Hexachloroethane	21.0		10	3.3
98-95-3	Nitrobenzene	22.5		10	2.6
87-86-5	Pentachlorophenol	30.9	J	50	3.2

CAS NO.	SURROGATE	%REC	Q	LIMITS
118-79-6	2,4,6-Tribromophenol (Surr)	63		19-150
321-60-8	2-Fluorobiphenyl	61		38-133
367-12-4	2-Fluorophenol (Surr)	41		10-130
4165-60-0	Nitrobenzene-d5 (Surr)	52		24-150
4165-62-2	Phenol-d5 (Surr)	37		10-130
1718-51-0	Terphenyl-d14 (Surr)	79		35-150

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHSVMS09\20190917-31128.b\09171906.D
Lims ID: LCS 600-274889/2-A
Client ID:
Sample Type: LCS
Inject. Date: 17-Sep-2019 08:06:30 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: LCS 600-274889/2-A
Misc. Info.: 600-0031128-006
Operator ID: Instrument ID: CHSVMS09

Method: \\chromna\Houston\ChromData\CHSVMS09\20190917-31128.b\8270LVI_9.m
Limit Group: SV - 8270D_8270DLL
Last Update: 18-Sep-2019 09:31:44 Calib Date: 02-Aug-2019 17:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021920.D

Column 1 : Det: MS SCAN
Process Host: CTX0314

First Level Reviewer: dangt Date: 17-Sep-2019 08:42:24

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 N-Nitrosodimethylamine	74	2.250	2.234	0.016	94	70518	10.0	5.35	
2 Pyridine	79	2.279	2.263	0.016	90	244105	20.0	12.9	
$ 7 2-Fluorophenol	112	4.429	4.402	0.027	91	85123	10.0	4.14	
13 Benzaldehyde	77	5.163	5.214	-0.014	92	58934	10.0	1.83	
12 Aniline	93	5.287	5.289	-0.002	97	226053	10.0	7.82	
16 Bis(2-chloroethyl)ether	93	5.345	5.347	-0.002	97	105710	10.0	5.24	
$ 10 Phenol-d5	99	5.404	5.388	0.016	72	85418	10.0	3.73	
11 Phenol	94	5.416	5.400	0.016	97	101392	10.0	4.29	
17 2-Chlorophenol	128	5.439	5.435	0.004	94	113680	10.0	5.59	
18 n-Decane	57	5.457	5.459	-0.002	90	101431	10.0	4.32	
20 1,3-Dichlorobenzene	146	5.522	5.524	-0.002	98	117860	10.0	4.71	
* 21 1,4-Dichlorobenzene-d4	152	5.574	5.576	-0.002	95	142655	8.00	8.00	
22 1,4-Dichlorobenzene	146	5.592	5.594	-0.002	96	115942	10.0	4.73	
24 1,2-Dichlorobenzene	146	5.733	5.729	0.004	99	114643	10.0	4.93	
23 Benzyl alcohol	108	5.786	5.764	0.022	93	25451	10.0	2.40	
26 Indene	115	5.815	5.811	0.004	90	170503	10.0	4.79	
27 2,2'-oxybis[1-chloropropan	45	5.845	5.847	-0.002	94	130386	10.0	5.41	
25 2-Methylphenol	108	5.909	5.911	-0.002	95	109547	10.0	6.29	
29 Acetophenone	105	5.956	5.958	-0.002	98	134873	10.0	5.00	
31 N-Nitrosodi-n-propylamine	70	5.968	5.970	-0.002	88	71288	10.0	5.55	
34 Hexachloroethane	117	6.033	6.029	0.004	91	42513	10.0	5.24	
30 3 & 4 Methylphenol	108	6.062	6.058	0.004	97	122858	10.0	6.63	
$ 35 Nitrobenzene-d5	82	6.086	6.087	-0.001	90	93290	10.0	5.16	
36 Nitrobenzene	77	6.103	6.105	-0.002	86	102288	10.0	5.63	
39 2,6-Dimethylphenol	122	6.238	6.234	0.004	94	88976	10.0	4.42	
41 Isophorone	82	6.315	6.317	-0.002	98	186190	10.0	4.70	
42 2-Nitrophenol	139	6.391	6.387	0.004	88	63946	10.0	6.10	
43 2,4-Dimethylphenol	107	6.485	6.481	0.004	92	98388	10.0	5.20	
46 Bis(2-chloroethoxy)methane	93	6.514	6.510	0.004	98	122317	10.0	4.90	
48 2,4-Dichlorophenol	162	6.649	6.646	0.003	90	109506	10.0	5.66	
47 Benzoic acid	122	6.667	6.651	0.016	32	27656	10.0	3.04	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
49 1,2,4-Trichlorobenzene	180	6.661	6.663	-0.002	94	104092	10.0	4.41	
* 50 Naphthalene-d8	136	6.702	6.704	-0.002	99	455383	8.00	8.00	
51 Naphthalene	128	6.720	6.722	-0.002	98	286964	10.0	5.17	
52 4-Chloroaniline	127	6.790	6.792	-0.002	97	186993	10.0	7.41	
53 2,6-Dichlorophenol	162	6.808	6.804	0.004	96	100560	10.0	5.37	
55 Hexachlorobutadiene	225	6.837	6.839	-0.002	95	57260	10.0	4.34	
59 Caprolactam	113	7.084	7.091	-0.014	81	28915	10.0	2.37	
60 4-Chloro-3-methylphenol	107	7.260	7.256	0.004	95	106194	10.0	6.26	
62 2-Methylnaphthalene	142	7.307	7.309	-0.002	92	249727	10.0	5.56	
63 1-Methylnaphthalene	142	7.390	7.386	0.004	93	200139	10.0	4.68	
66 Hexachlorocyclopentadiene	237	7.448	7.444	0.004	96	37598	10.0	3.52	a
65 1,2,4,5-Tetrachlorobenzene	216	7.448	7.450	-0.002	97	106608	10.0	5.11	
69 2,4,6-Trichlorophenol	196	7.572	7.574	-0.002	90	71695	10.0	5.56	
$ 72 2-Fluorobiphenyl	172	7.613	7.615	-0.002	99	233372	10.0	6.08	
71 2,4,5-Trichlorophenol	196	7.642	7.632	0.010	95	69918	10.0	5.76	
77 1,1'-Biphenyl	154	7.695	7.691	0.004	94	262410	10.0	6.23	
78 2-Chloronaphthalene	162	7.707	7.709	-0.002	96	208078	10.0	6.23	
81 2-Nitroaniline	65	7.813	7.815	-0.002	89	64384	10.0	7.67	
83 1,4-Dinitrobenzene	168	7.912	7.925	-0.014	95	43541	10.0	8.01	
84 Dimethyl phthalate	163	7.954	7.956	-0.002	99	267163	10.0	7.04	
85 1,3-Dinitrobenzene	168	7.983	7.985	-0.002	98	50195	10.0	7.76	
86 2,6-Dinitrotoluene	165	8.001	8.003	-0.002	91	67230	10.0	7.29	
88 Acenaphthylene	152	8.048	8.050	-0.002	98	314282	10.0	6.33	
87 1,2-Dinitrobenzene	168	8.048	8.050	-0.002	45	32298	10.0	6.31	
89 3-Nitroaniline	138	8.159	8.155	0.004	97	78207	10.0	7.94	
* 90 Acenaphthene-d10	164	8.165	8.167	-0.002	94	264855	8.00	8.00	
91 Acenaphthene	153	8.189	8.191	-0.002	93	204599	10.0	6.11	
92 2,4-Dinitrophenol	184	8.271	8.255	0.016	87	26288	20.0	6.82	
95 2,4-Dinitrotoluene	165	8.335	8.337	-0.002	64	85362	10.0	7.48	
96 Dibenzofuran	168	8.335	8.337	-0.002	94	302905	10.0	6.39	
93 4-Nitrophenol	109	8.465	8.420	0.045	82	23294	20.0	5.79	
99 2,3,4,6-Tetrachlorophenol	232	8.471	8.467	0.004	70	44049	10.0	4.20	a
101 Diethyl phthalate	149	8.523	8.531	-0.008	99	259281	10.0	7.14	
102 Hexadecane	57	8.541	8.543	-0.002	90	151902	10.0	6.60	
105 4-Chlorophenyl phenyl ethe	204	8.612	8.613	-0.001	90	121144	10.0	5.04	
104 Fluorene	166	8.617	8.613	0.004	94	245917	10.0	6.46	
107 4-Nitroaniline	138	8.664	8.666	-0.002	93	78807	10.0	8.04	
108 4,6-Dinitro-2-methylphenol	198	8.676	8.678	-0.002	92	103044	20.0	18.8	
109 Diphenylamine	169	8.717	8.713	0.004	94	190643	8.50	5.75	
110 N-Nitrosodiphenylamine	169	8.717	8.713	0.004	61	190643	10.0	6.76	
112 1,2-Diphenylhydrazine	77	8.741	8.743	-0.002	44	206697	10.0	7.37	
111 Azobenzene	77	8.741	8.743	-0.002	97	206697	10.0	7.37	
$ 113 2,4,6-Tribromophenol	330	8.823	8.825	-0.002	85	21555	10.0	6.27	
118 4-Bromophenyl phenyl ether	248	9.011	9.013	-0.002	62	79090	10.0	6.38	
122 Hexachlorobenzene	284	9.070	9.072	-0.002	91	69202	10.0	7.06	
124 Atrazine	200	9.158	9.165	-0.007	96	71284	10.0	4.65	
127 Pentachlorophenol	266	9.269	9.260	0.009	0	39325	20.0	7.73	M
130 n-Octadecane	57	9.293	9.295	-0.002	94	154370	10.0	7.55	
* 131 Phenanthrene-d10	188	9.381	9.383	-0.002	97	414797	8.00	8.00	
132 Phenanthrene	178	9.399	9.401	-0.002	97	372937	10.0	8.23	
134 Anthracene	178	9.440	9.442	-0.002	97	377520	10.0	7.98	
135 Carbazole	167	9.587	9.589	-0.002	97	365728	10.0	8.03	

Report Date: 18-Sep-2019 09:32:07 Chrom Revision: 2.3 22-Aug-2019 12:55:36
Data File: \\chromna\Houston\ChromData\CHSVMS09\20190917-31128.b\09171906.D

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
137 Di-n-butyl phthalate	149	9.857	9.859	-0.002	100	414647	10.0	8.63	
143 Fluoranthene	202	10.374	10.376	-0.002	97	418675	10.0	7.41	
144 Benzidine	184	10.491	10.504	-0.014	0	448930	20.0	15.9	
146 Pyrene	202	10.556	10.558	-0.002	97	428602	10.0	8.76	
$ 149 Terphenyl-d14	244	10.679	10.681	-0.002	99	268626	10.0	7.93	
154 Butyl benzyl phthalate	149	11.085	11.087	-0.002	95	203926	10.0	8.89	
157 3,3'-Dichlorobenzidine	252	11.613	11.626	-0.014	74	217487	10.0	10.4	
159 Benzo[a]anthracene	228	11.643	11.645	-0.002	97	398905	10.0	7.70	
* 160 Chrysene-d12	240	11.654	11.656	-0.002	98	346285	8.00	8.00	
162 Bis(2-ethylhexyl) phthalat	149	11.660	11.662	-0.002	95	232967	10.0	8.21	
161 Chrysene	228	11.684	11.686	-0.002	95	430315	10.0	8.61	
164 Di-n-octyl phthalate	149	12.512	12.514	-0.002	99	425205	10.0	8.81	
165 Benzo[b]fluoranthene	252	13.147	13.149	-0.002	97	409955	10.0	8.17	
167 Benzo[k]fluoranthene	252	13.194	13.196	-0.002	98	495839	10.0	8.89	
168 Benzo[a]pyrene	252	13.752	13.754	-0.002	77	409667	10.0	9.06	
* 169 Perylene-d12	264	13.869	13.865	0.004	98	395523	8.00	8.00	
172 Indeno[1,2,3-cd]pyrene	276	16.125	16.127	-0.002	98	435037	10.0	9.51	
173 Dibenz(a,h)anthracene	278	16.160	16.156	0.004	87	336543	10.0	9.13	
174 Benzo[g,h,i]perylene	276	16.642	16.638	0.004	96	379754	10.0	9.66	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

SV_INSTD_LVI_00020 Amount Added: 20.00 Units: uL Run Reagent

Report Date: 18-Sep-2019 09:32:07 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190917-31128.b\09171906.D				
Injection Date:	17-Sep-2019 08:06:30	Instrument ID:	CHSVMS09	Operator ID:	
Lims ID:	LCS 600-274889/2-A			Worklist Smp#:	6
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		

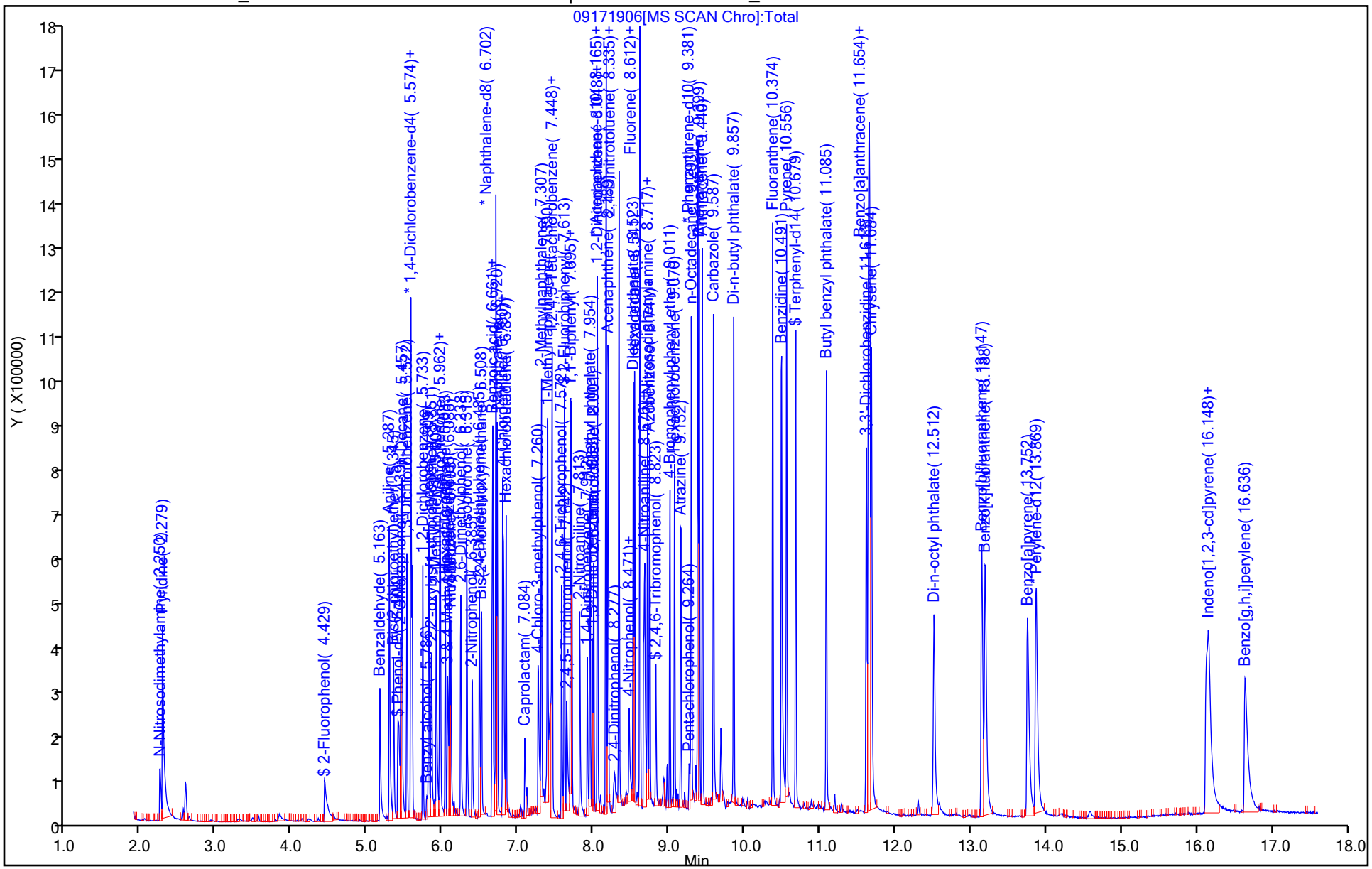

Eurofins TestAmerica, Houston
Recovery Report

Data File: \\chromna\Houston\ChromData\CHSVMS09\20190917-31128.b\09171906.D
Lims ID: LCS 600-274889/2-A
Client ID:
Sample Type: LCS
Inject. Date: 17-Sep-2019 08:06:30 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: LCS 600-274889/2-A
Misc. Info.: 600-0031128-006
Operator ID: Instrument ID: CHSVMS09

Method: \\chromna\Houston\ChromData\CHSVMS09\20190917-31128.b\8270LVI_9.m
Limit Group: SV - 8270D_8270DLL
Last Update: 18-Sep-2019 09:31:44 Calib Date: 02-Aug-2019 17:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHSVMS09\20190802-30361.b\08021920.D

Column 1 : Det: MS SCAN
Process Host: CTX0314

First Level Reviewer: dangt Date: 17-Sep-2019 08:42:24

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	10.0	4.14	41.37
$ 10 Phenol-d5	10.0	3.73	37.26
$ 35 Nitrobenzene-d5	10.0	5.16	51.61
$ 72 2-Fluorobiphenyl	10.0	6.08	60.79
$ 113 2,4,6-Tribromophenol	10.0	6.27	62.73
$ 149 Terphenyl-d14	10.0	7.93	79.28

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHSVMS09\20190917-31128.b\09171906.D				
Injection Date:	17-Sep-2019 08:06:30	Instrument ID:	CHSVMS09		
Lims ID:	LCS 600-274889/2-A				
Client ID:					
Operator ID:		ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	8270LVI_9	Limit Group:	SV - 8270D_8270DLL		
Column:		Detector	MS SCAN		

127 Pentachlorophenol, CAS: 87-86-5

Signal: 1

Processing Integration Results

RT: 9.27
Area: 30811
Amount: 6.059530
Amount Units: ug/ml

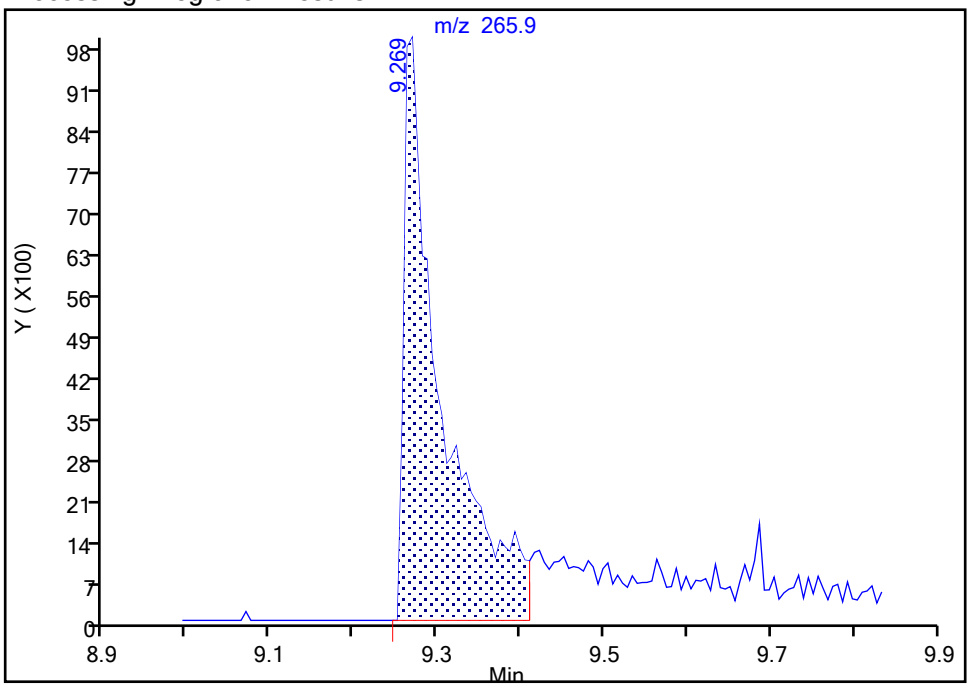

Manual Integration Results

RT: 9.27
Area: 39325
Amount: 7.733960
Amount Units: ug/ml

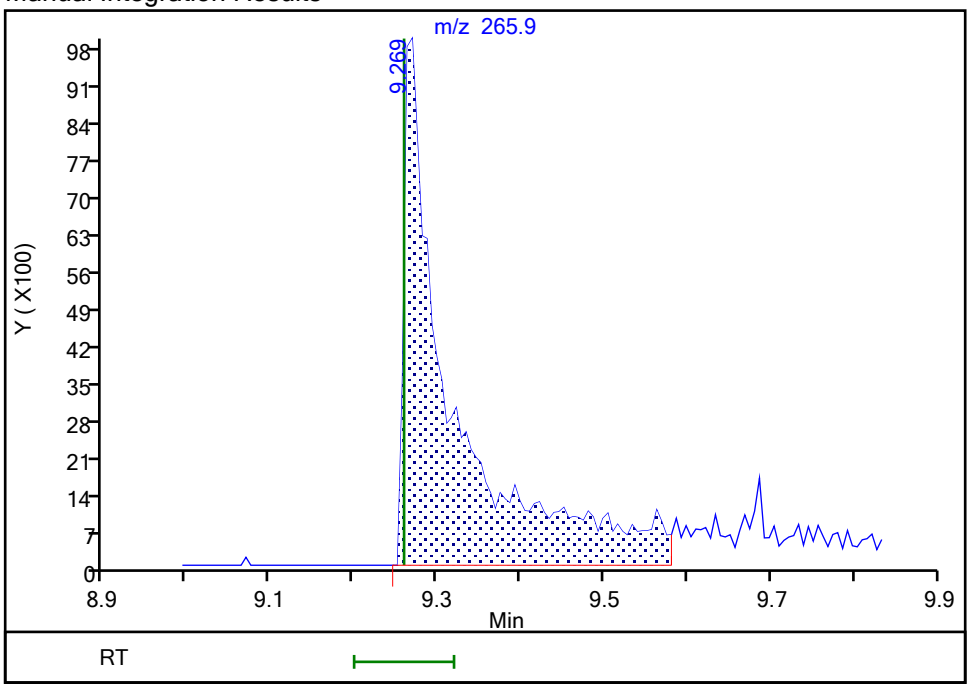

Reviewer: dangt, 17-Sep-2019 08:42:19
Audit Action: Split an Integrated Peak Audit Reason: Assign Peak

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: CHSVMS09 Start Date: 08/02/2019 08:31

Analysis Batch Number: 271015 End Date: 08/02/2019 17:34

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 600-271015/1		08/02/2019 08:31	1	08021901.D	RXi-5Sil MS 0.25(mm)
IC 600-271015/4		08/02/2019 09:43	1	08021904.D	RXi-5Sil MS 0.25(mm)
IC 600-271015/5		08/02/2019 10:10	1	08021905.D	RXi-5Sil MS 0.25(mm)
ICIS 600-271015/6		08/02/2019 10:37	1	08021906.D	RXi-5Sil MS 0.25(mm)
IC 600-271015/7		08/02/2019 11:05	1	08021907.D	RXi-5Sil MS 0.25(mm)
IC 600-271015/8		08/02/2019 11:33	1	08021908.D	RXi-5Sil MS 0.25(mm)
IC 600-271015/9		08/02/2019 12:00	1	08021909.D	RXi-5Sil MS 0.25(mm)
IC 600-271015/10		08/02/2019 12:28	1	08021910.D	RXi-5Sil MS 0.25(mm)
IC 600-271015/11		08/02/2019 12:56	1	08021911.D	RXi-5Sil MS 0.25(mm)
ICV 600-271015/12		08/02/2019 13:24	1		RXi-5Sil MS 0.25(mm)
IC 600-271015/13		08/02/2019 13:52	1		RXi-5Sil MS 0.25(mm)
IC 600-271015/14		08/02/2019 14:20	1		RXi-5Sil MS 0.25(mm)
IC 600-271015/15		08/02/2019 14:48	1		RXi-5Sil MS 0.25(mm)
IC 600-271015/16		08/02/2019 15:15	1		RXi-5Sil MS 0.25(mm)
IC 600-271015/17		08/02/2019 15:43	1		RXi-5Sil MS 0.25(mm)
IC 600-271015/18		08/02/2019 16:11	1		RXi-5Sil MS 0.25(mm)
IC 600-271015/19		08/02/2019 16:39	1		RXi-5Sil MS 0.25(mm)
IC 600-271015/20		08/02/2019 17:06	1		RXi-5Sil MS 0.25(mm)
ZZZZZ		08/02/2019 17:34	1		RXi-5Sil MS 0.25(mm)

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: CHSVMS09 Start Date: 09/17/2019 04:56

Analysis Batch Number: 274919 End Date: 09/17/2019 15:31

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 600-274919/1		09/17/2019 04:56	1		RXi-5Sil MS 0.25(mm)
CCVIS 600-274919/2		09/17/2019 06:34	1		RXi-5Sil MS 0.25(mm)
CCV 600-274919/3		09/17/2019 07:00	1		RXi-5Sil MS 0.25(mm)
ZZZZZ		09/17/2019 07:40	1		RXi-5Sil MS 0.25(mm)
ZZZZZ		09/17/2019 08:06	1		RXi-5Sil MS 0.25(mm)
ZZZZZ		09/17/2019 08:32	1		RXi-5Sil MS 0.25(mm)
ZZZZZ		09/17/2019 14:38	1		RXi-5Sil MS 0.25(mm)
600-191956-2		09/17/2019 15:04	1	09171922.D	RXi-5Sil MS 0.25(mm)
ZZZZZ		09/17/2019 15:31	1		RXi-5Sil MS 0.25(mm)

8270D

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Batch Number: 274889 Batch Start Date: 09/16/19 14:22 Batch Analyst: Steen, Acacia R

Batch Method: 3510C LVI Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ReceivedpH	FirstAdjustpH	SecondAdjustpH	SVREGSURR 00137
600-191956-M-2	11187072-091319-LL-EXC-1	3510C LVI, 8270D	T	240 mL	1 mL	6 SU	<2 SU	>12 SU	0.2 mL

Batch Notes	
Acid Used for pH Adjustment ID	EX_SULF-ACID2_00022
Base Used to Adjust pH ID	EX-SODIUM-HYD_00037
Batch Comment	Vialed By: acaciasteen
Analyst ID - Concentration	433261
Concentration 1 Corrected Temperature	45.5/ 45.4 Degrees C
Concentration 2 Corrected Temperature	46.3 Degrees C
Equipment ID - Concentration 1	TVAP1/ TVAP2
Equipment ID - Concentration 2	TVAP 3
Analyst ID - Extraction	433261
Method/Fraction	3510LVI/8270
Na2SO4 ID	EX-BAKSODSULF_00023-J
pH Indicator ID	HC991818
Pipette/Syringe/Dispenser ID	SVSURR/SVSPK
Prep Solvent ID	EX-METHY-CHLO_00256
Prep Solvent Volume Used	180 plus rinses mL
Analyst ID - Spike Analyst	433261
Analyst ID - Spike Witness Analyst	433261
Sufficient Volume for Batch QC	NO
Thermometer ID - Concentration 1	#610
Thermometer ID - Concentration 2	#610
Concentration 1 Uncorrected Temperature	45.1/ 45.0 Degrees C
Concentration 2 Uncorrected Temperature	45.9 Degrees C
Vial Lot Number	24153643
Reagent Water ID	DI

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Batch Number: 274889 Batch Start Date: 09/16/19 14:22 Batch Analyst: Steen, Acacia R

Batch Method: 3510C LVI Batch End Date:

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Method 8081B

Organochlorine Pesticides (GC) by Method 8081B

FORM II
PESTICIDES SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): RTX-CLP1 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCX1 #	DCBP1 #
11187072-091319-LL -EXC-1	600-191956-2	72	66

	QC LIMITS
TCX = Tetrachloro-m-xylene	32-143
DCBP = DCB Decachlorobiphenyl	36-144

Column to be used to flag recovery values

FORM II 8081B

FORM VIII
PESTICIDES INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Sample No.: ICIS 600-275356/6 Date Analyzed: 09/22/2019 14:08

Instrument ID: CHECD09 GC Column: RTX-CLP1 ID: 0.32(mm)

Lab File ID (Standard): L22_006.d Heated Purge: (Y/N) N

Calibration ID: 16744

		BNB					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		3747067346	6.28				
UPPER LIMIT		7494134692	6.78				
LOWER LIMIT		1873533673	5.78				
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 600-275356/9		4718828518	6.28				
600-191956-2	11187072-091319-LL-EX C-1	3887315423	6.28				

BNB = 1-Bromo-2-nitrobenzene

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8081B

FORM VIII
PESTICIDES INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Sample No.: ICIS 600-275356/6 Date Analyzed: 09/22/2019 14:08

Instrument ID: CHECD09 GC Column: RTX-CLP2 ID: 0.32(mm)

Lab File ID (Standard): L22_006.d Heated Purge: (Y/N) N

Calibration ID: 16745

		BNB					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		2394518220	6.26				
UPPER LIMIT		4789036440	6.76				
LOWER LIMIT		1197259110	5.76				
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 600-275356/9		3016302570	6.27				
600-191956-2	11187072-091319-LL-EX C-1	2400416191	6.26				

BNB = 1-Bromo-2-nitrobenzene

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8081B

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Client Sample ID: 11187072-091319-LL-EXC-1 Lab Sample ID: 600-191956-2

Matrix: Water Lab File ID: L22_021.d

Analysis Method: 8081B Date Collected: 09/13/2019 08:00

Extraction Method: 3510C LVI Date Extracted: 09/18/2019 11:24

Sample wt/vol: 240(mL) Date Analyzed: 09/22/2019 21:11

Con. Extract Vol.: 5.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: RTX-CLP1 ID: 0.32(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 275356 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
5103-71-9	cis-Chlordane	ND		0.10	0.10
12789-03-6	Chlordane (technical)	ND		0.21	0.13
5103-74-2	Chlordane (trans)	ND		0.10	0.015
72-20-8	Endrin	ND		0.21	0.015
58-89-9	gamma-BHC (Lindane)	ND		0.10	0.013
76-44-8	Heptachlor	ND		0.10	0.013
1024-57-3	Heptachlor epoxide	ND		0.10	0.015
72-43-5	Methoxychlor	ND	*	1.0	0.019
8001-35-2	Toxaphene	ND		10	5.1

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl	66		36-144
877-09-8	Tetrachloro-m-xylene	72		32-143

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_021.d
Lims ID: 600-191956-L-2-A
Client ID: 11187072-091319-LL-EXC-1
Sample Type: Client
Inject. Date: 22-Sep-2019 21:11:39 ALS Bottle#: 21 Worklist Smp#: 21
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031217-021
Operator ID: JL Instrument ID: CHECD09

Method: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\LVI_PEST_CHECD09.m
Limit Group: GCSV - 8081A
Last Update: 23-Sep-2019 10:30:59 Calib Date: 22-Sep-2019 15:04:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_008.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0327

First Level Reviewer: lamj Date: 23-Sep-2019 10:26:50

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene						M
1	6.279	6.276	0.003	3887315423	50.0	M
2	6.258	6.257	0.001	2400416191	50.0	
					RPD = 0.00	
$ 2 Tetrachloro-m-xylene						
1	7.984	7.984	0.000	128363410	0.0144	
2	8.173	8.175	-0.002	77293166	0.0140	
					RPD = 2.75	
$ 28 DCB Decachlorobiphenyl						
1	17.539	17.546	-0.007	90934787	0.0133	
2	18.058	18.064	-0.006	72213257	0.0151	
					RPD = 12.71	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

PST_IS 2_00063 Amount Added: 1.00 Units: mL Run Reagent

Report Date: 23-Sep-2019 10:31:34 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_021.d				
Injection Date:	22-Sep-2019 21:11:39	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	600-191956-L-2-A	Lab Sample ID:	600-191956-2	Worklist Smp#:	21
Client ID:	11187072-091319-LL-EXC-1				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	21
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		

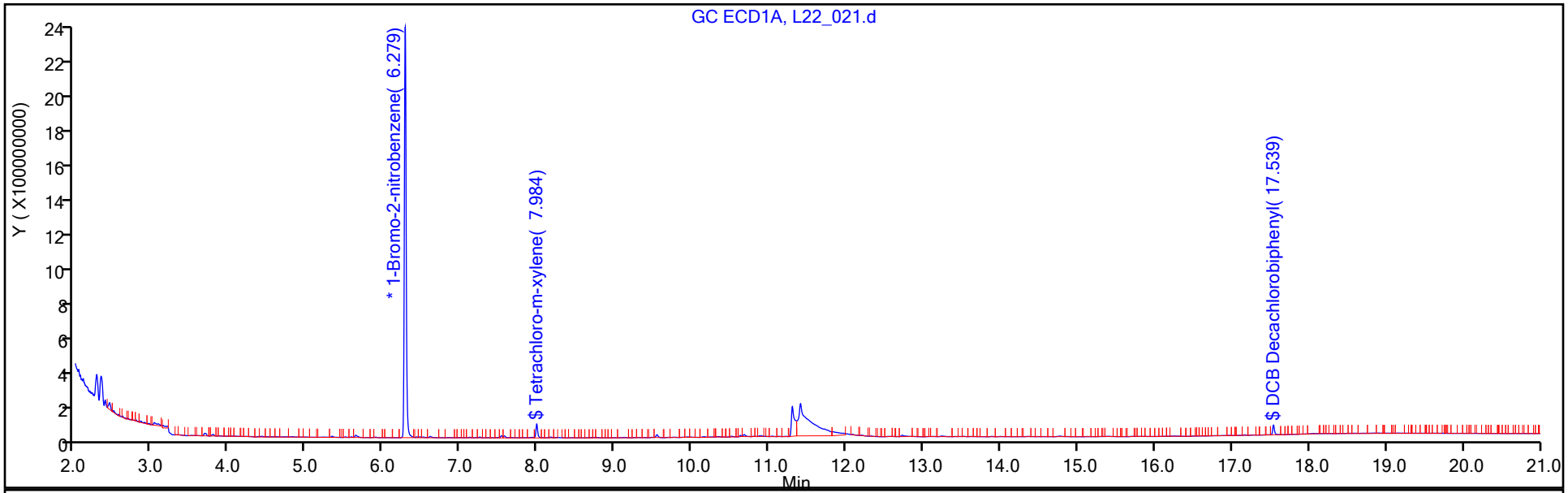

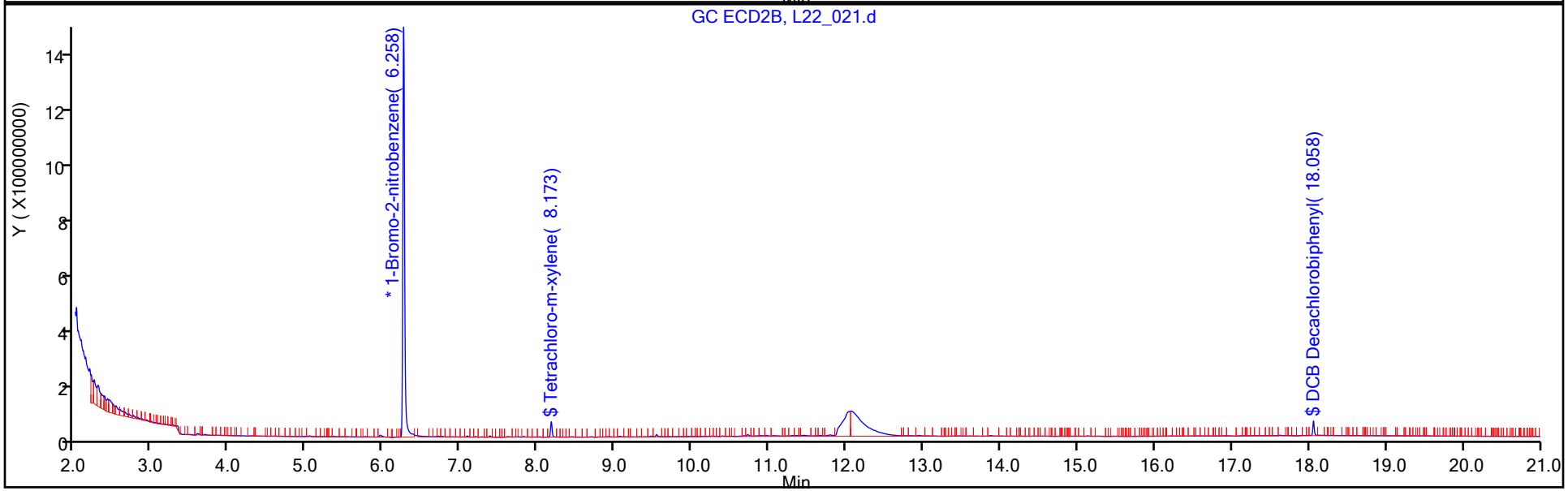

Eurofins TestAmerica, Houston
Recovery Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_021.d
Lims ID: 600-191956-L-2-A
Client ID: 11187072-091319-LL-EXC-1
Sample Type: Client
Inject. Date: 22-Sep-2019 21:11:39 ALS Bottle#: 21 Worklist Smp#: 21
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031217-021
Operator ID: JL Instrument ID: CHECD09

Method: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\LVI_PEST_CHECD09.m
Limit Group: GCSV - 8081A
Last Update: 23-Sep-2019 10:30:59 Calib Date: 22-Sep-2019 15:04:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_008.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0327

First Level Reviewer: lamj Date: 23-Sep-2019 10:26:50

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0144	72.13
$ 28 DCB Decachlorobiphenyl	0.0200	0.0133	66.40

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0140	70.17
$ 28 DCB Decachlorobiphenyl	0.0200	0.0151	75.41

User Disabled Compound Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_021.d				
Injection Date:	22-Sep-2019 21:11:39	Instrument ID:	CHECD09		
Lims ID:	600-191956-L-2-A	Lab Sample ID:	600-191956-2		
Client ID:	11187072-091319-LL-EXC-1				
Operator ID:	JL	ALS Bottle#:	21	Worklist Smp#:	21
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

4 gamma-BHC (Lindane), CAS: 58-89-9, Signal: 1

RT: 9.69
Response: 2571477
Amount: 0.000247

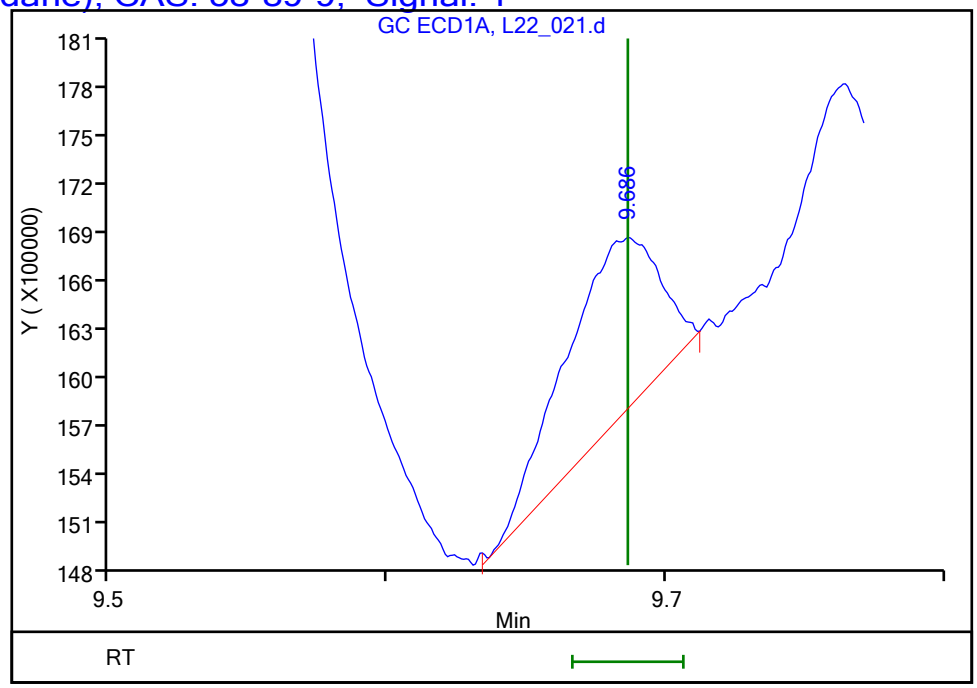

Column:		Detector	GC ECD2B

4 gamma-BHC (Lindane), CAS: 58-89-9, Signal: 2

RT: 10.01
Response: 247065
Amount: 0.000038

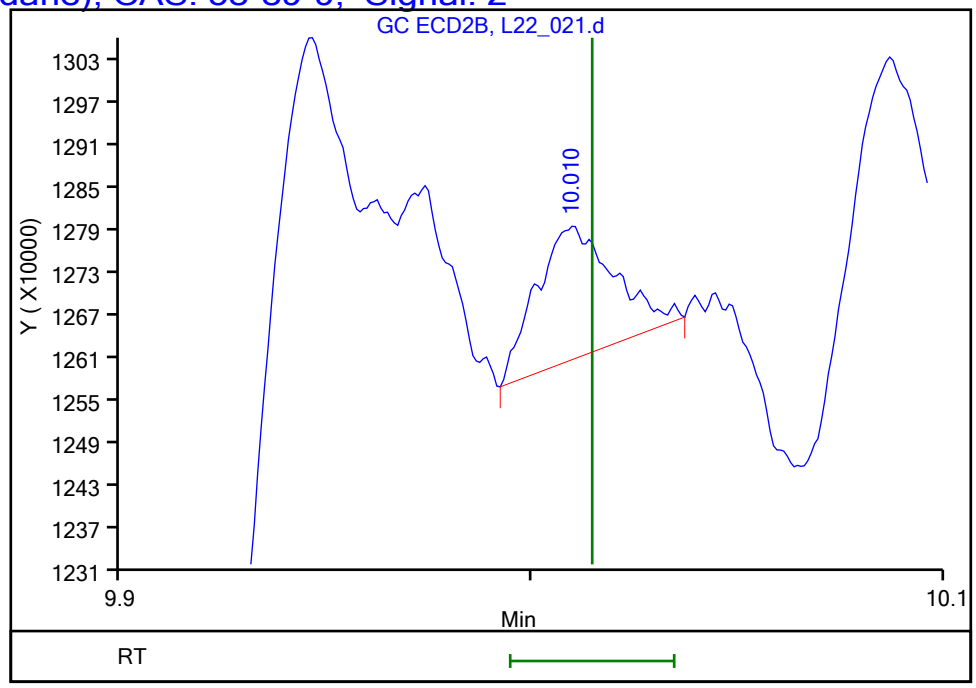

Reviewer: lamj, 23-Sep-2019 10:26:50
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_021.d				
Injection Date:	22-Sep-2019 21:11:39	Instrument ID:	CHECD09		
Lims ID:	600-191956-L-2-A	Lab Sample ID:	600-191956-2		
Client ID:	11187072-091319-LL-EXC-1				
Operator ID:	JL	ALS Bottle#:	21	Worklist Smp#:	21
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

9 Heptachlor, CAS: 76-44-8, Signal: 1

RT: 10.51
Response: 8332074
Amount: 0.000756

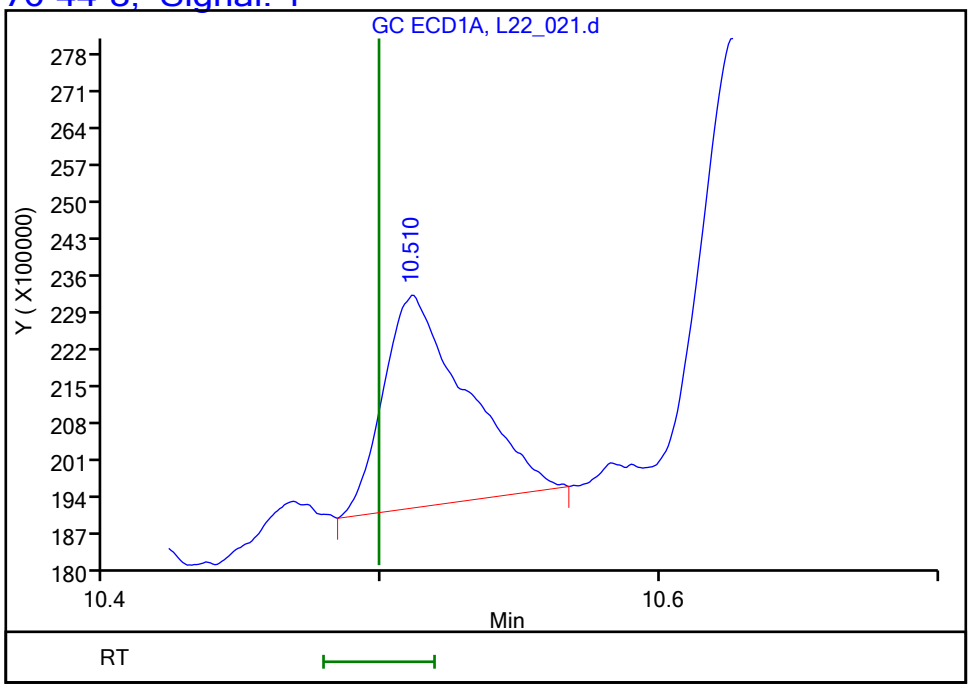

Column:		Detector	GC ECD2B

9 Heptachlor, CAS: 76-44-8, Signal: 2

RT: 10.72
Response: 13837465
Amount: 0.001990

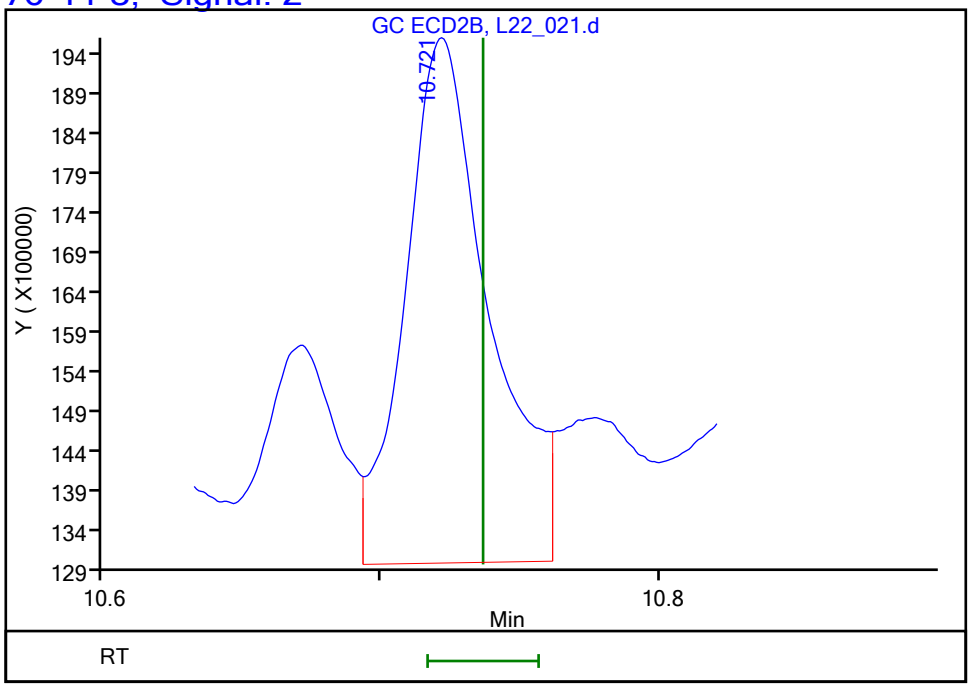

Reviewer: lamj, 23-Sep-2019 10:26:50
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_021.d				
Injection Date:	22-Sep-2019 21:11:39	Instrument ID:	CHECD09		
Lims ID:	600-191956-L-2-A	Lab Sample ID:	600-191956-2		
Client ID:	11187072-091319-LL-EXC-1				
Operator ID:	JL	ALS Bottle#:	21	Worklist Smp#:	21
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

25 Methoxychlor, CAS: 72-43-5, Signal: 1

RT: 15.20
Response: 751559
Amount: 0.000247

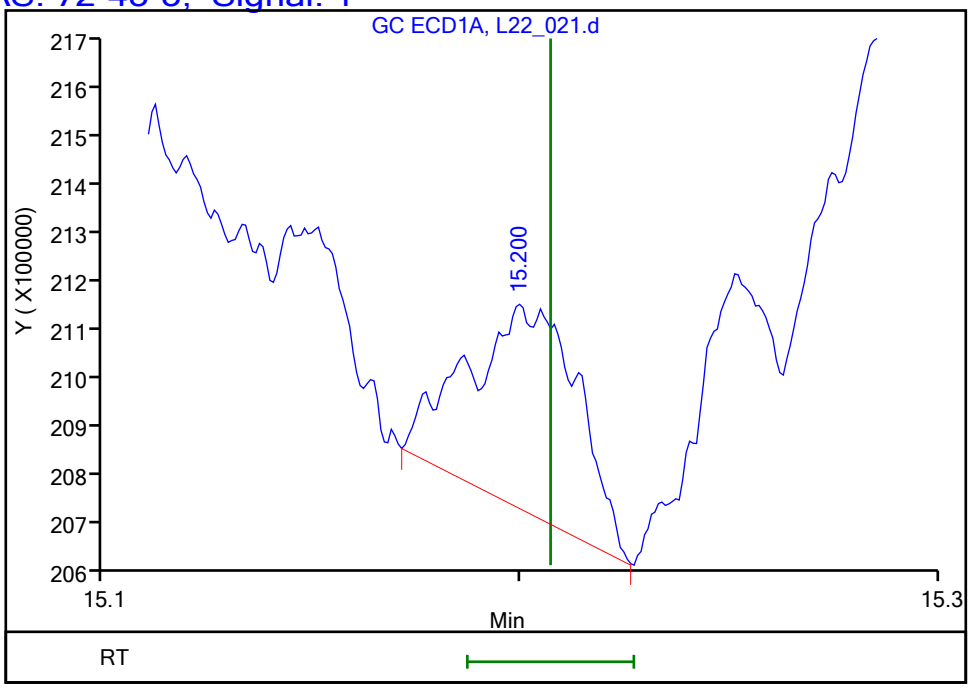

Column:		Detector	GC ECD2B

25 Methoxychlor, CAS: 72-43-5, Signal: 2

RT: 16.09
Response: 789801
Amount: 0.000609

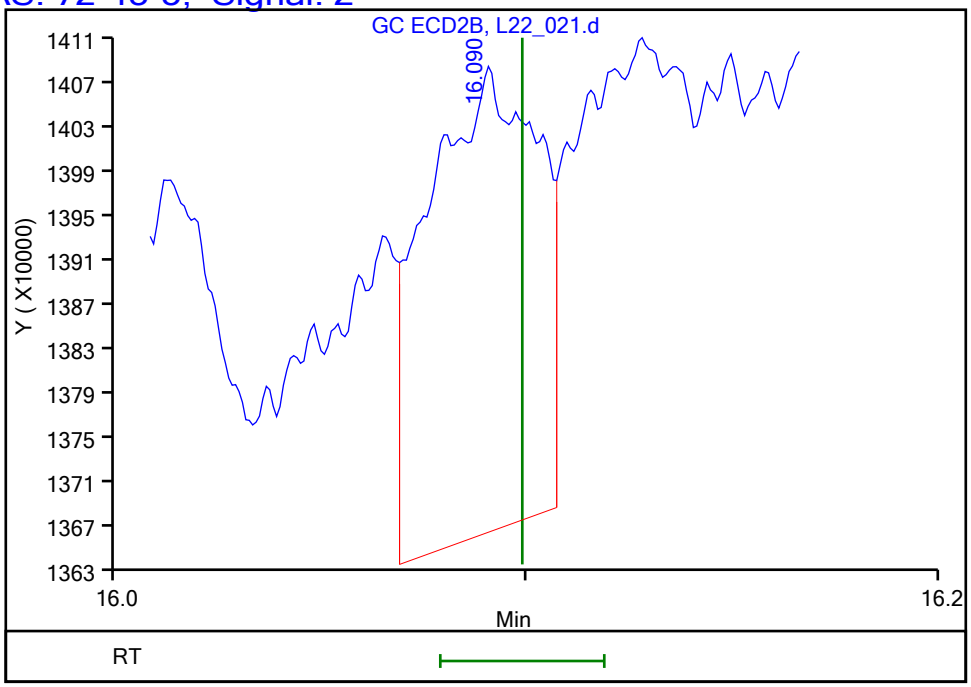

Reviewer: lamj, 23-Sep-2019 10:26:50
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_021.d				
Injection Date:	22-Sep-2019 21:11:39	Instrument ID:	CHECD09		
Lims ID:	600-191956-L-2-A	Lab Sample ID:	600-191956-2		
Client ID:	11187072-091319-LL-EXC-1				
Operator ID:	JL	ALS Bottle#:	21	Worklist Smp#:	21
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

* 1 1-Bromo-2-nitrobenzene, CAS: 577-19-5

Signal: 1

Processing Integration Results

RT: 6.28
Area: 1898746623
Amount: 50.000000
Amount Units: ug/ml

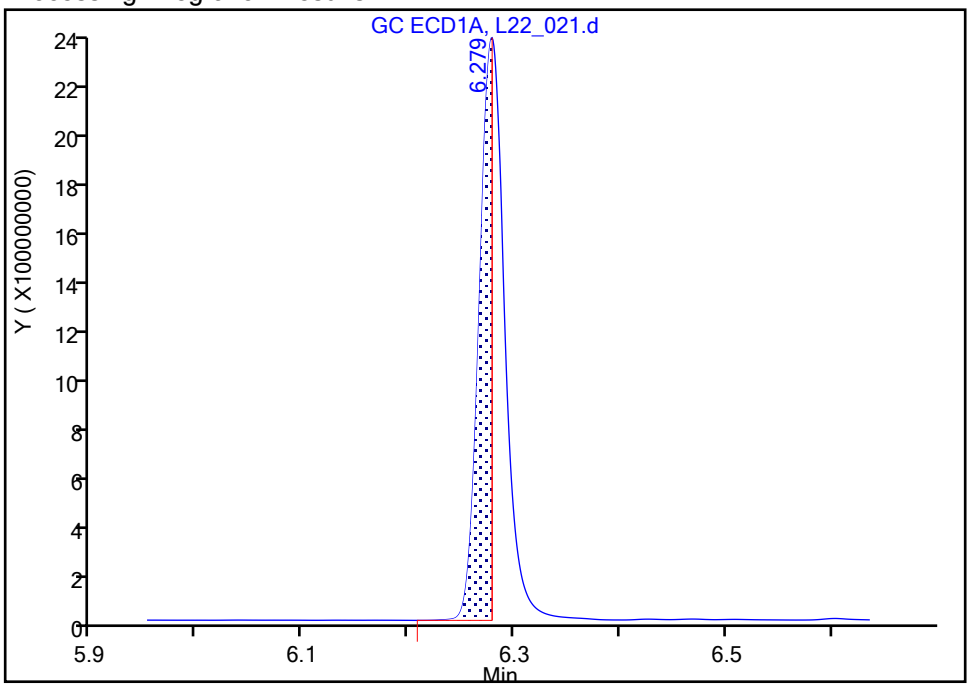

Manual Integration Results

RT: 6.28
Area: 3887315423
Amount: 50.000000
Amount Units: ug/ml

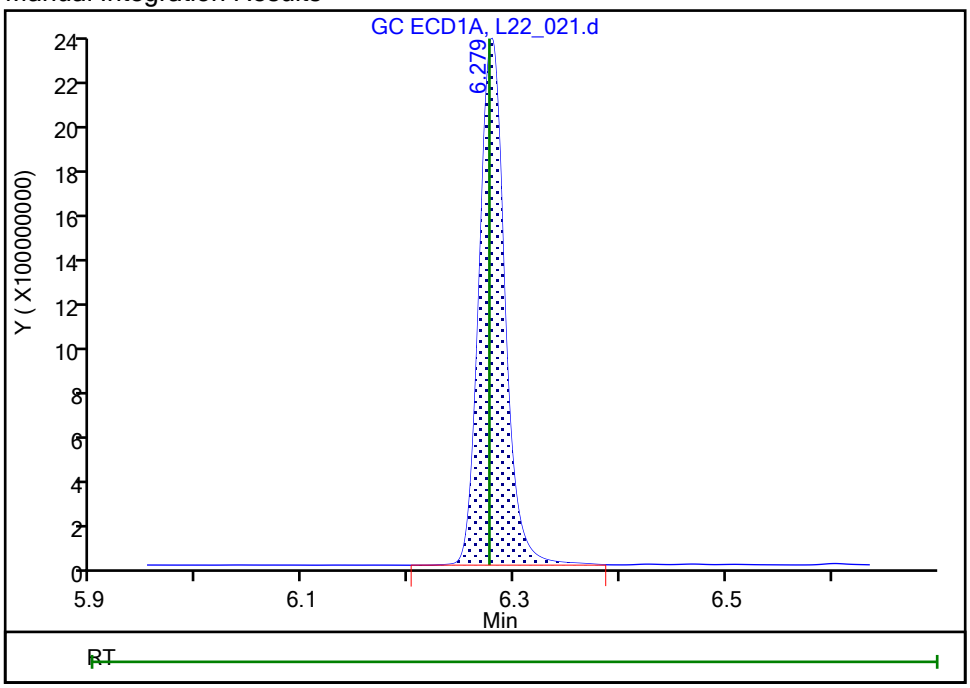

Reviewer: lamj, 23-Sep-2019 10:26:23

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 247781

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/19/2018 14:45 Calibration End Date: 09/19/2018 17:04 Calibration ID: 14530

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-247781/10	M19_010.d
Level 2	IC 600-247781/11	M19_011.d
Level 3	IC 600-247781/12	M19_012.d
Level 4	ICRT 600-247781/13	M19_013.d
Level 5	IC 600-247781/14	M19_014.d
Level 6	IC 600-247781/15	M19_015.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Toxaphene Peak 1	2.5530 3.0533	2.6773	3.2761	2.3579	2.8565	Ave		2.7957				12.0		20.0			
Toxaphene Peak 2	3.5419 4.7407	3.9315	5.0468	3.6780	4.2983	Ave		4.2062				14.3		20.0			
Toxaphene Peak 3	2.6998 2.9987	2.7826	3.3414	2.3987	2.8054	Ave		2.8378				11.1		20.0			
Toxaphene Peak 4	1.9633 2.3865	1.7946	2.4984	1.5810	2.1370	Ave		2.0601				17.0		20.0			
Toxaphene Peak 5	1.5358 1.9130	1.3733	1.9290	1.2119	1.7116	Ave		1.6124				18.1		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 247781

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/19/2018 14:45 Calibration End Date: 09/19/2018 17:04 Calibration ID: 14530

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-247781/10	M19_010.d
Level 2	IC 600-247781/11	M19_011.d
Level 3	IC 600-247781/12	M19_012.d
Level 4	ICRT 600-247781/13	M19_013.d
Level 5	IC 600-247781/14	M19_014.d
Level 6	IC 600-247781/15	M19_015.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Toxaphene Peak 1	BNB	Ave	19204239 453050930	41182571	117921069	175161894	577016785	0.200 4.00	0.400	0.800	1.60	3.20
Toxaphene Peak 2	BNB	Ave	26642617 703431418	60474155	181655873	273220346	868248276	0.200 4.00	0.400	0.800	1.60	3.20
Toxaphene Peak 3	BNB	Ave	20308627 444956743	42801590	120272618	178193250	566685561	0.200 4.00	0.400	0.800	1.60	3.20
Toxaphene Peak 4	BNB	Ave	14767938 354112569	27604167	89929259	117444368	431682266	0.200 4.00	0.400	0.800	1.60	3.20
Toxaphene Peak 5	BNB	Ave	11552380 283859988	21124351	69431805	90026466	345736057	0.200 4.00	0.400	0.800	1.60	3.20

Curve Type Legend:

Ave = Average ISTD

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\M19_010.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 19-Sep-2018 14:45:26 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0025411-010
Operator ID: MANAGER Instrument ID: CHECD09
Sublist: chrom-LVI_PEST_CHECD09*sub2

Method: \\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\LVI_PEST_CHECD09.m
Limit Group: GCSV - 8081A
Last Update: 20-Sep-2018 09:09:08 Calib Date: 19-Sep-2018 20:19:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\M19_022.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: XAWRK012

First Level Reviewer: lamj Date: 19-Sep-2018 16:47:05

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.297	6.296	0.001	1880539041	50.0	50.0	
2	6.203	6.202	0.001	1619698840	50.0	50.0	
						RPD = 0.00	
23 Toxaphene							
1	13.503	13.499	0.004	19204239	0.2000	0.1826	
1	14.130	14.128	0.002	26642617	0.2000	0.1684	
1	14.230	14.228	0.002	20308627	0.2000	0.1903	
1	16.040	16.038	0.002	14767938	0.2000	0.1906	
1	16.300	16.297	0.003	11552380	0.2000	0.1905	
		Average of Peak Amounts =				0.1845	
2	13.353	13.353	0.000	7856777	0.2000	0.2129	
2	14.660	14.660	0.000	8490264	0.2000	0.1933	
2	14.867	14.867	0.000	10157587	0.2000	0.2015	
2	15.925	15.924	0.001	20277757	0.2000	0.2009	
2	16.029	16.028	0.001	14260804	0.2000	0.1874	
		Average of Peak Amounts =				0.1992	
						RPD = 7.67	

Reagents:

PST_TOXCAL1_00009 Amount Added: 1.00 Units: mL
PST_IS 2_00060 Amount Added: 1.00 Units: mL Run Reagent

Report Date: 20-Sep-2018 09:09:09 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\M19_010.d				
Injection Date:	19-Sep-2018 14:45:26	Instrument ID:	CHECD09	Operator ID:	MANAGER
Lims ID:	ic			Worklist Smp#:	10
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		

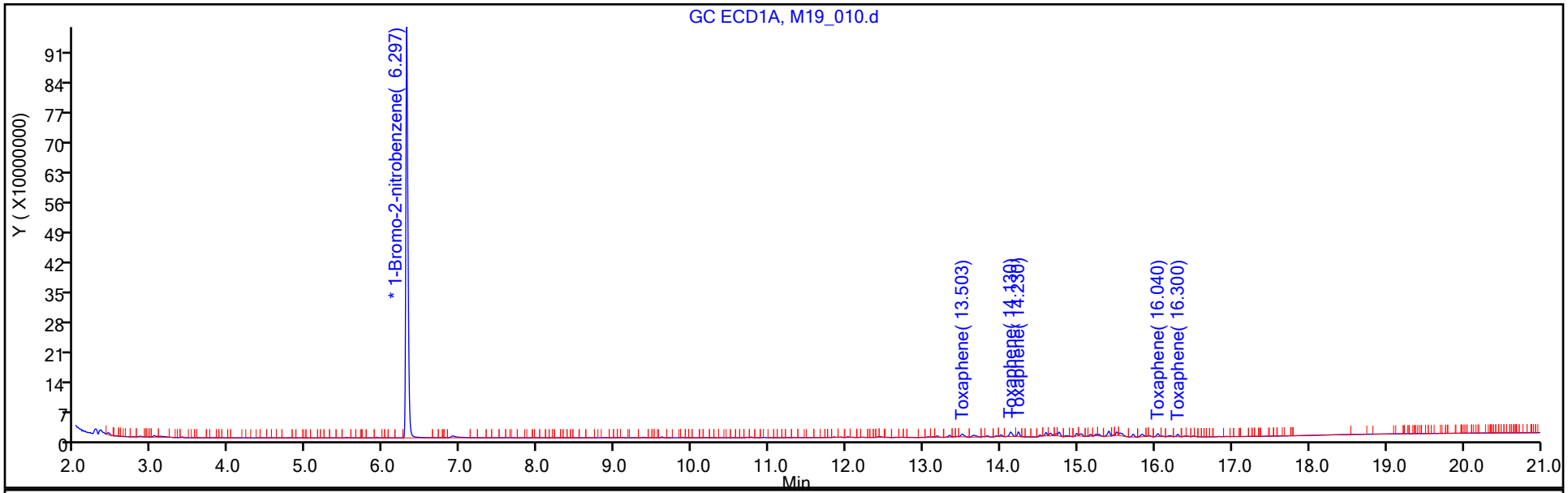

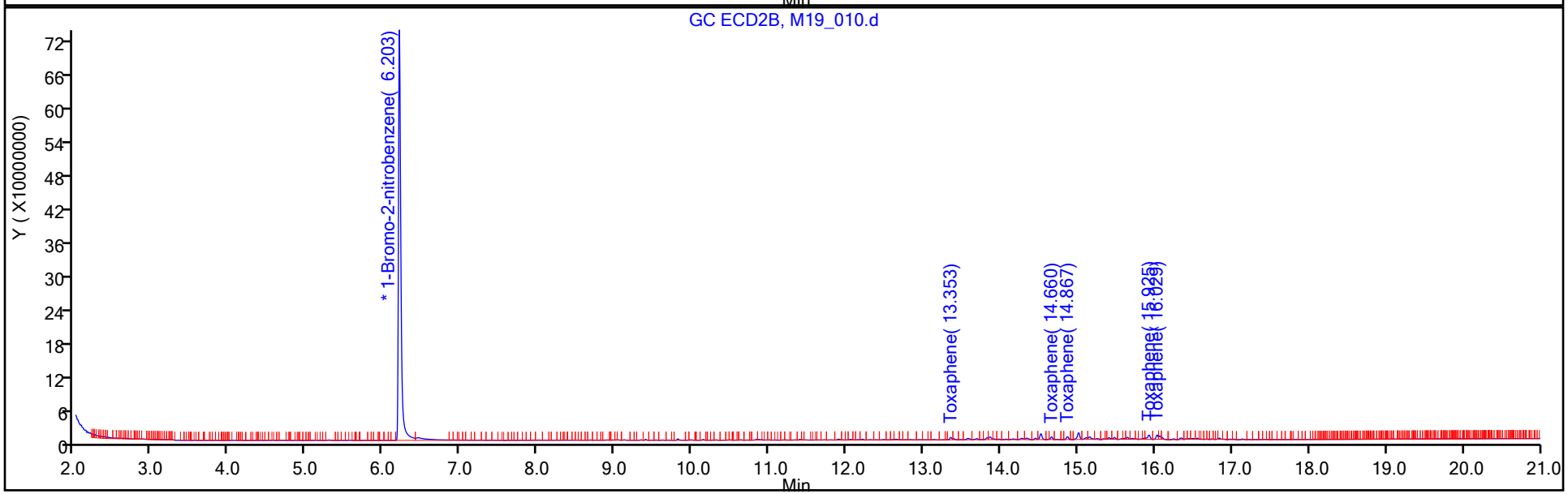

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\M19_011.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 19-Sep-2018 15:13:14 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0025411-011
Operator ID: MANAGER Instrument ID: CHECD09
Sublist: chrom-LVI_PEST_CHECD09*sub2

Method: \\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\LVI_PEST_CHECD09.m
Limit Group: GCSV - 8081A
Last Update: 20-Sep-2018 09:09:12 Calib Date: 19-Sep-2018 20:19:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\M19_022.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: XAWRK012

First Level Reviewer: lamj Date: 19-Sep-2018 16:47:16

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.297	6.296	0.001	1922738501	50.0	50.0	
2	6.204	6.202	0.002	1659168008	50.0	50.0	
						RPD = 0.00	
23 Toxaphene							
1	13.503	13.499	0.004	41182571	0.4000	0.3831	
1	14.131	14.128	0.003	60474155	0.4000	0.3739	
1	14.231	14.228	0.003	42801590	0.4000	0.3922	
1	16.039	16.038	0.001	27604167	0.4000	0.3484	
1	16.299	16.297	0.002	21124351	0.4000	0.3407	
		Average of Peak Amounts =				0.3677	
2	13.354	13.353	0.001	14423979	0.4000	0.3815	
2	14.661	14.660	0.001	15949025	0.4000	0.3545	
2	14.869	14.867	0.002	18656090	0.4000	0.3613	
2	15.926	15.924	0.002	42772984	0.4000	0.4137	
2	16.029	16.028	0.001	30984061	0.4000	0.3974	
		Average of Peak Amounts =				0.3817	
						RPD = 3.74	

Reagents:

PST_TOXCAL2_00009 Amount Added: 1.00 Units: mL
PST_IS 2_00060 Amount Added: 1.00 Units: mL Run Reagent

Report Date: 20-Sep-2018 09:09:13 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\M19_011.d				
Injection Date:	19-Sep-2018 15:13:14	Instrument ID:	CHECD09	Operator ID:	MANAGER
Lims ID:	ic			Worklist Smp#:	11
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		

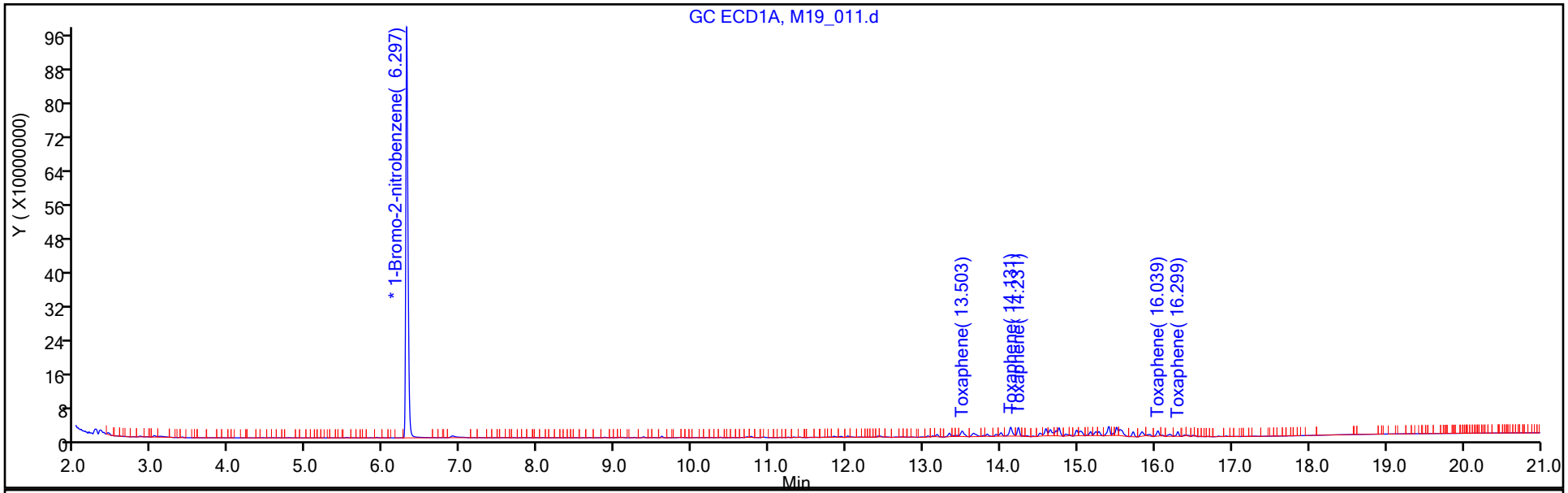

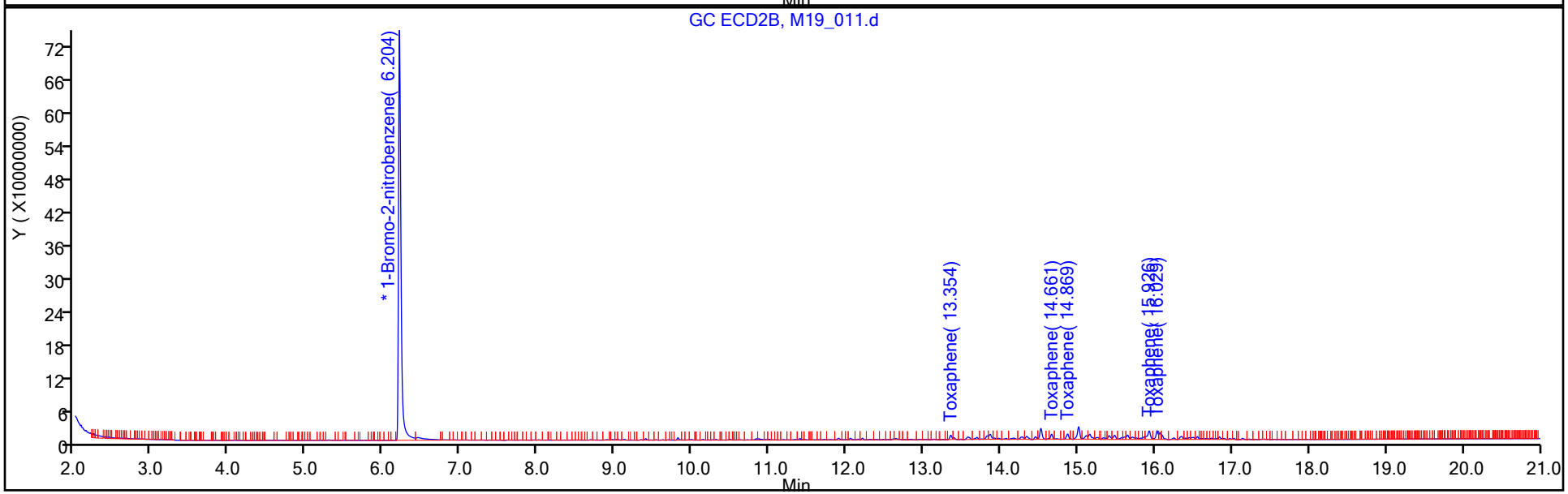

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\M19_012.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 19-Sep-2018 15:41:00 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0025411-012
Operator ID: MANAGER Instrument ID: CHECD09
Sublist: chrom-LVI_PEST_CHECD09*sub2

Method: \\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\LVI_PEST_CHECD09.m
Limit Group: GCSV - 8081A
Last Update: 20-Sep-2018 09:09:16 Calib Date: 19-Sep-2018 20:19:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\M19_022.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: XAWRK012

First Level Reviewer: lamj Date: 19-Sep-2018 16:46:52

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.296	6.296	0.000	2249649978	50.0	50.0	
2	6.203	6.202	0.001	1934203035	50.0	50.0	
						RPD = 0.00	
23 Toxaphene							
1	13.501	13.499	0.002	117921069	0.8000	0.9375	
1	14.127	14.128	-0.001	181655873	0.8000	0.9599	
1	14.229	14.228	0.001	120272618	0.8000	0.9420	
1	16.035	16.038	-0.003	89929259	0.8000	0.9702	
1	16.296	16.297	-0.001	69431805	0.8000	0.9570	
		Average of Peak Amounts =				0.9533	
2	13.353	13.353	0.000	38009465	0.8000	0.8624	
2	14.660	14.660	0.000	48622836	0.8000	0.9271	
2	14.867	14.867	0.000	56581603	0.8000	0.9400	
2	15.924	15.924	0.000	111993249	0.8000	0.9291	
2	16.028	16.028	0.000	82030853	0.8000	0.9026	
		Average of Peak Amounts =				0.9122	
						RPD = 4.41	

Reagents:

PST_TOXCAL3_00009 Amount Added: 1.00 Units: mL
PST_IS 2_00060 Amount Added: 1.00 Units: mL Run Reagent

Report Date: 20-Sep-2018 09:09:16 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\M19_012.d				
Injection Date:	19-Sep-2018 15:41:00	Instrument ID:	CHECD09	Operator ID:	MANAGER
Lims ID:	ic			Worklist Smp#:	12
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		

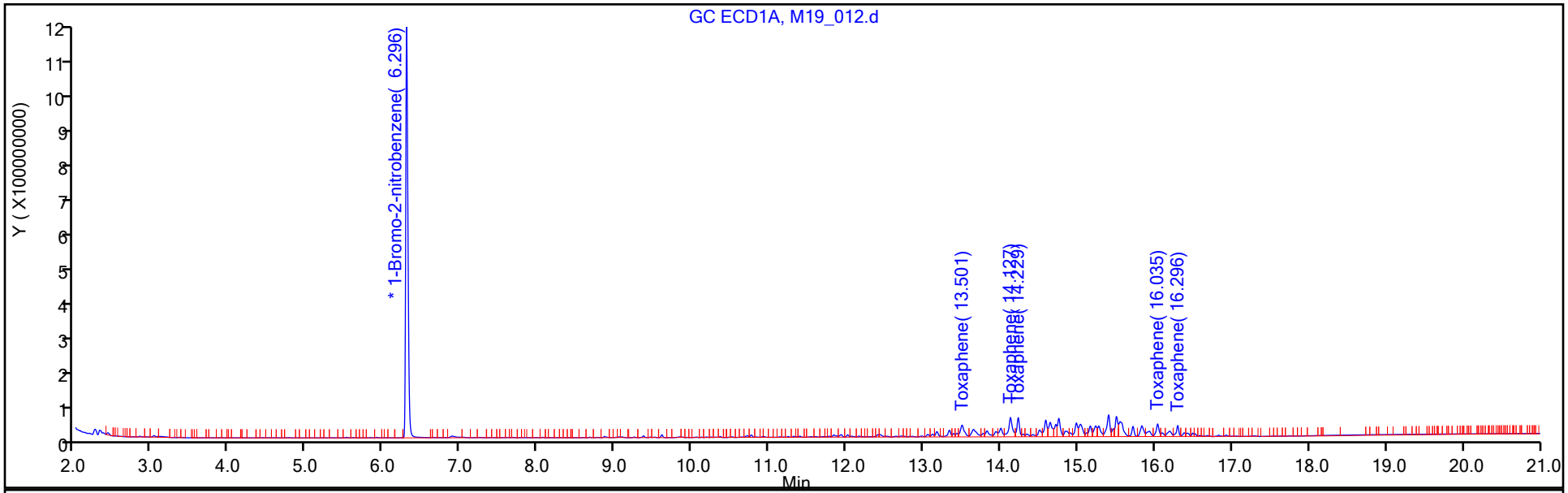

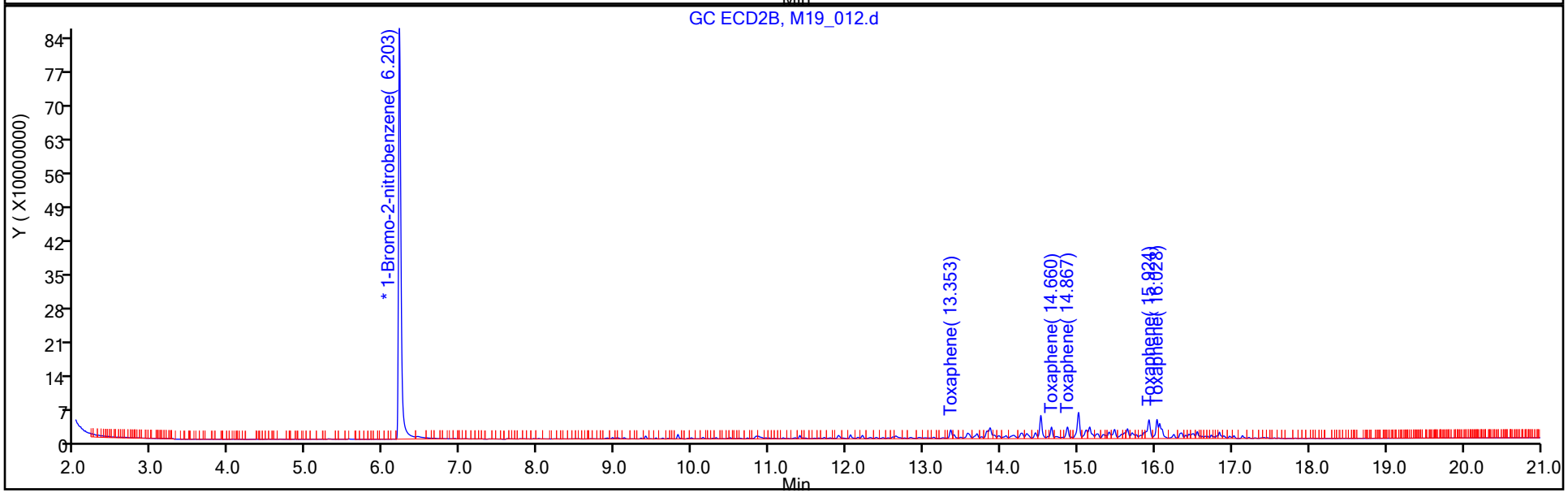

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\M19_013.d
Lims ID: icrt
Client ID:
Sample Type: ICRT Calib Level: 4
Inject. Date: 19-Sep-2018 16:08:52 ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0025411-013
Operator ID: MANAGER Instrument ID: CHECD09
Sublist: chrom-LVI_PEST_CHECD09*sub2

Method: \\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\LVI_PEST_CHECD09.m
Limit Group: GCSV - 8081A
Last Update: 20-Sep-2018 09:09:20 Calib Date: 19-Sep-2018 20:19:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\M19_022.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: XAWRK012

First Level Reviewer: lamj Date: 19-Sep-2018 16:46:41

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.296	6.296	0.000	2321437819	50.0	50.0	
2	6.203	6.203	0.000	2033340324	50.0	50.0	
						RPD = 0.00	
23 Toxaphene							M
1	13.499	13.499	0.000	175161894	1.60	1.35	
1	14.128	14.128	0.000	273220346	1.60	1.40	
1	14.228	14.228	0.000	178193250	1.60	1.35	
1	16.038	16.038	0.000	117444368	1.60	1.23	
1	16.297	16.297	0.000	90026466	1.60	1.20	
		Average of Peak Amounts =				1.31	
2	13.353	13.353	0.000	60356140	1.60	1.30	M
2	14.660	14.660	0.000	77765743	1.60	1.41	M
2	14.867	14.867	0.000	88272271	1.60	1.40	M
2	15.924	15.924	0.000	145447934	1.60	1.15	M
2	16.028	16.028	0.000	130706651	1.60	1.37	M
		Average of Peak Amounts =				1.32	
						RPD = 1.41	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

PST_TOXCAL4_00012 Amount Added: 1.00 Units: mL
PST_IS 2_00060 Amount Added: 1.00 Units: mL Run Reagent

Report Date: 20-Sep-2018 09:09:21 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\M19_013.d				
Injection Date:	19-Sep-2018 16:08:52	Instrument ID:	CHECD09	Operator ID:	MANAGER
Lims ID:	icrt			Worklist Smp#:	13
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		

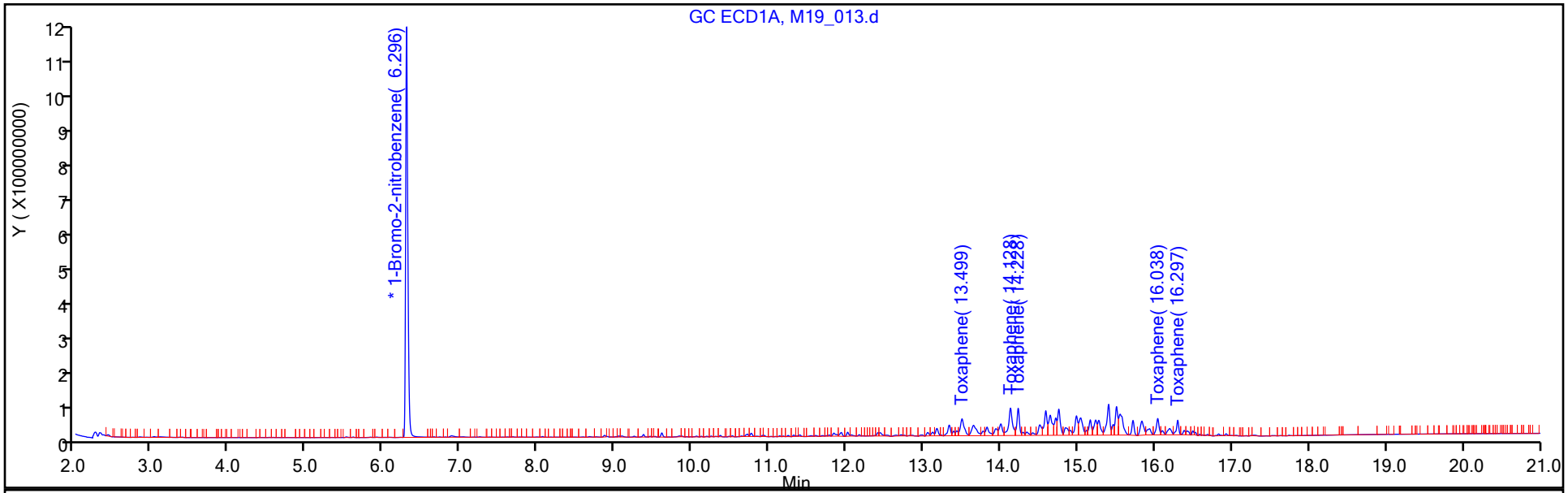

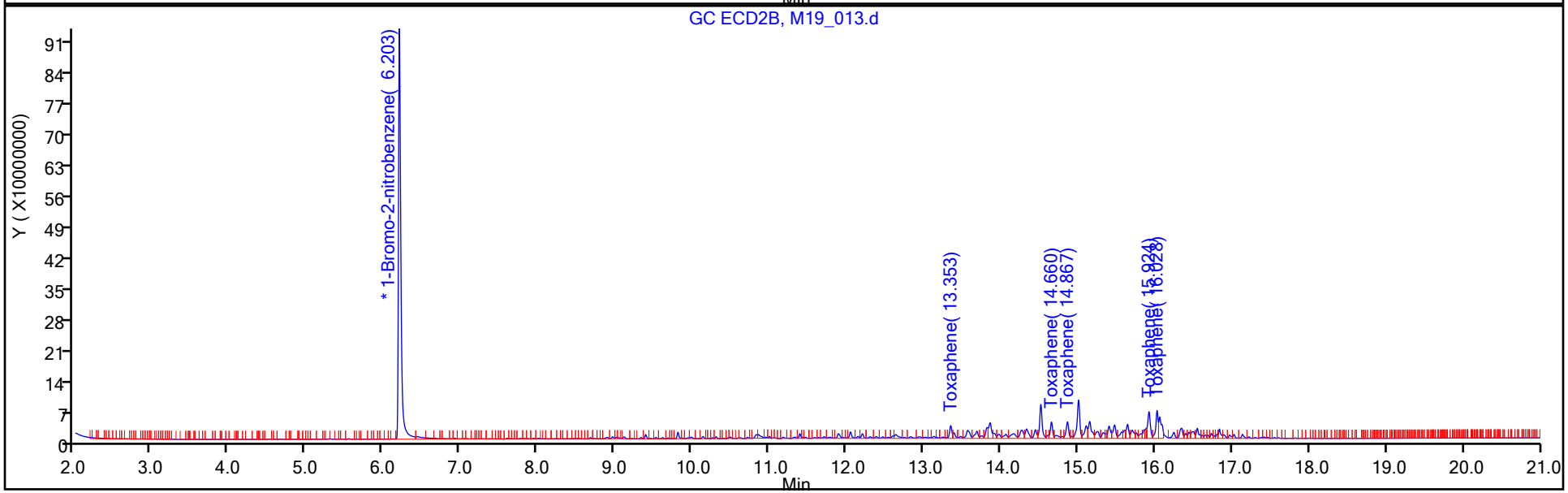

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\M19_014.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 19-Sep-2018 16:36:39 ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0025411-014
Operator ID: MANAGER Instrument ID: CHECD09
Sublist: chrom-LVI_PEST_CHECD09*sub2

Method: \\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\LVI_PEST_CHECD09.m
Limit Group: GCSV - 8081A
Last Update: 20-Sep-2018 09:09:25 Calib Date: 19-Sep-2018 20:19:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\M19_022.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: XAWRK012

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.298	6.296	0.002	3156243196	50.0	50.0	
2	6.205	6.203	0.002	2843601105	50.0	50.0	
						RPD = 0.00	
23 Toxaphene							
1	13.498	13.499	-0.001	577016785	3.20	3.27	
1	14.126	14.128	-0.002	868248276	3.20	3.27	
1	14.226	14.228	-0.002	566685561	3.20	3.16	
1	16.037	16.038	-0.001	431682266	3.20	3.32	
1	16.296	16.297	-0.001	345736057	3.20	3.40	
		Average of Peak Amounts =				3.28	
2	13.353	13.353	0.000	211187960	3.20	3.26	
2	14.660	14.660	0.000	241293645	3.20	3.13	
2	14.868	14.867	0.001	266991101	3.20	3.02	
2	15.925	15.924	0.001	546975497	3.20	3.09	
2	16.030	16.028	0.002	413025532	3.20	3.09	
		Average of Peak Amounts =				3.12	
						RPD = 5.23	

Reagents:

PST_TOXCAL5_00009 Amount Added: 1.00 Units: mL
PST_IS 2_00060 Amount Added: 1.00 Units: mL Run Reagent

Report Date: 20-Sep-2018 09:09:25 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\M19_014.d				
Injection Date:	19-Sep-2018 16:36:39	Instrument ID:	CHECD09	Operator ID:	MANAGER
Lims ID:	ic			Worklist Smp#:	14
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		

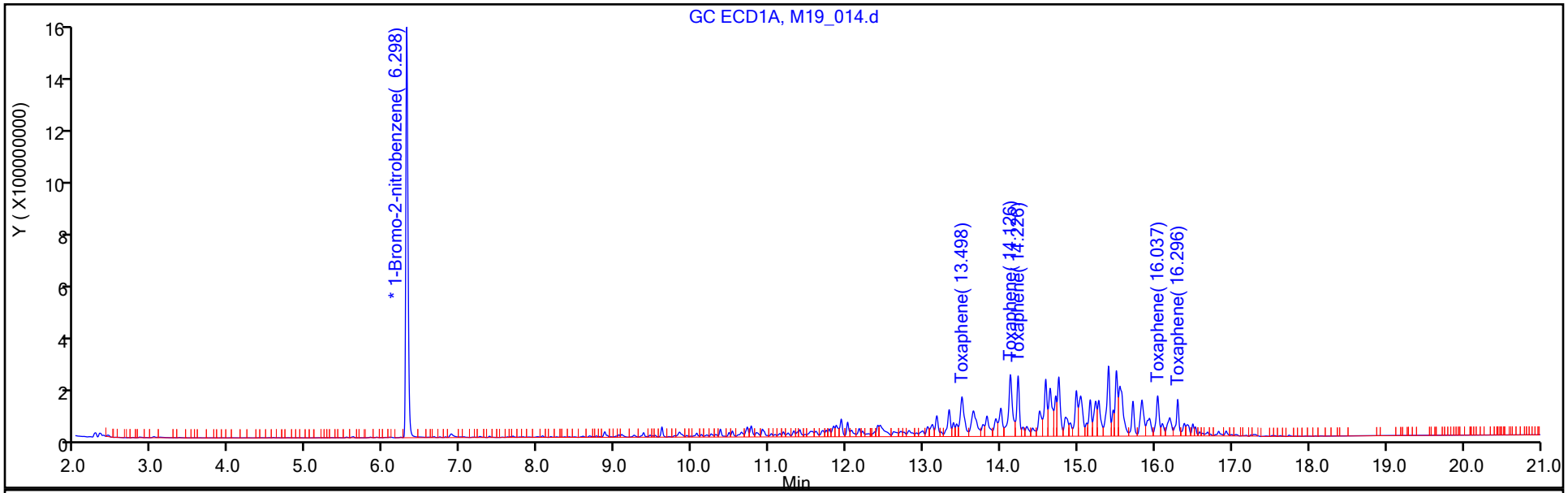

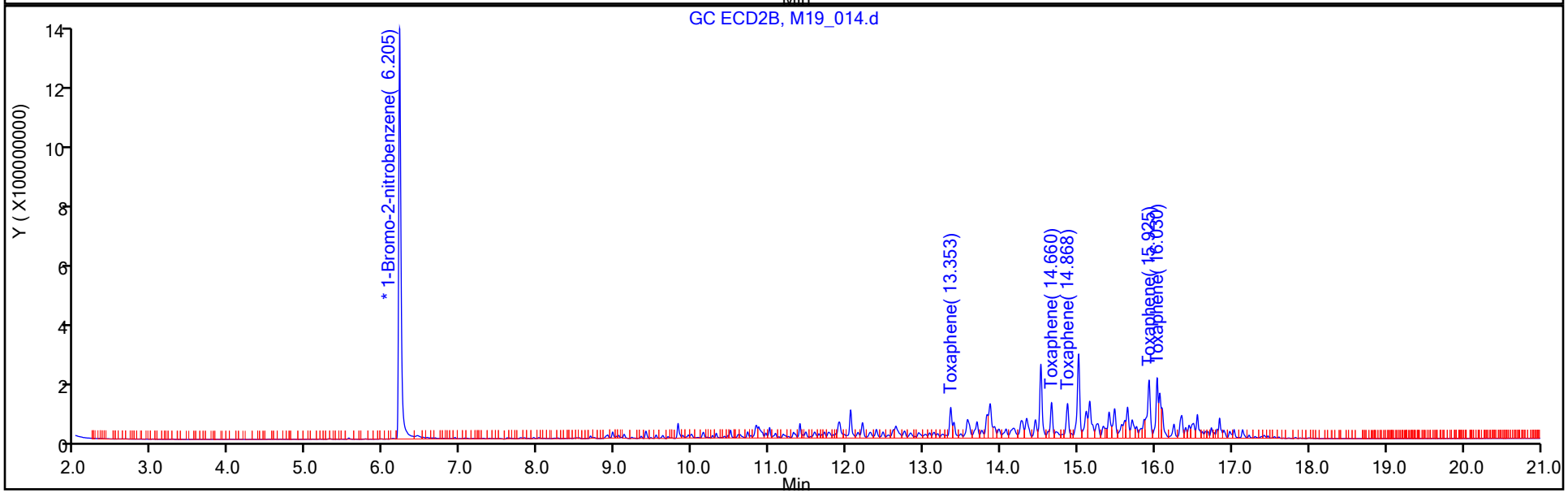

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\M19_015.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 19-Sep-2018 17:04:26 ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0025411-015
Operator ID: MANAGER Instrument ID: CHECD09
Sublist: chrom-LVI_PEST_CHECD09*sub2

Method: \\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\LVI_PEST_CHECD09.m
Limit Group: GCSV - 8081A
Last Update: 20-Sep-2018 09:09:28 Calib Date: 19-Sep-2018 20:19:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\M19_022.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: XAWRK012

First Level Reviewer: lamj Date: 19-Sep-2018 17:44:57

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.295	6.296	-0.001	1854768191	50.0	50.0	
2	6.204	6.203	0.001	1616605185	50.0	50.0	
						RPD = 0.00	
23 Toxaphene							M
1	13.500	13.499	0.001	453050930	4.00	4.37	
1	14.125	14.128	-0.003	703431418	4.00	4.51	
1	14.228	14.228	0.000	444956743	4.00	4.23	
1	16.037	16.038	-0.001	354112569	4.00	4.63	
1	16.297	16.297	0.000	283859988	4.00	4.75	
		Average of Peak Amounts =				4.50	
2	13.354	13.353	0.001	157877143	4.00	4.29	M
2	14.660	14.660	0.000	197928716	4.00	4.52	M
2	14.868	14.867	0.001	221186905	4.00	4.40	M
2	15.925	15.924	0.001	450645534	4.00	4.47	M
2	16.029	16.028	0.001	340441687	4.00	4.48	M
		Average of Peak Amounts =				4.43	
						RPD = 1.48	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

PST_TOXCAL6_00009 Amount Added: 1.00 Units: mL
PST_IS 2_00060 Amount Added: 1.00 Units: mL Run Reagent

Report Date: 20-Sep-2018 09:09:29 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\M19_015.d				
Injection Date:	19-Sep-2018 17:04:26	Instrument ID:	CHECD09	Operator ID:	MANAGER
Lims ID:	ic			Worklist Smp#:	15
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	15
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		

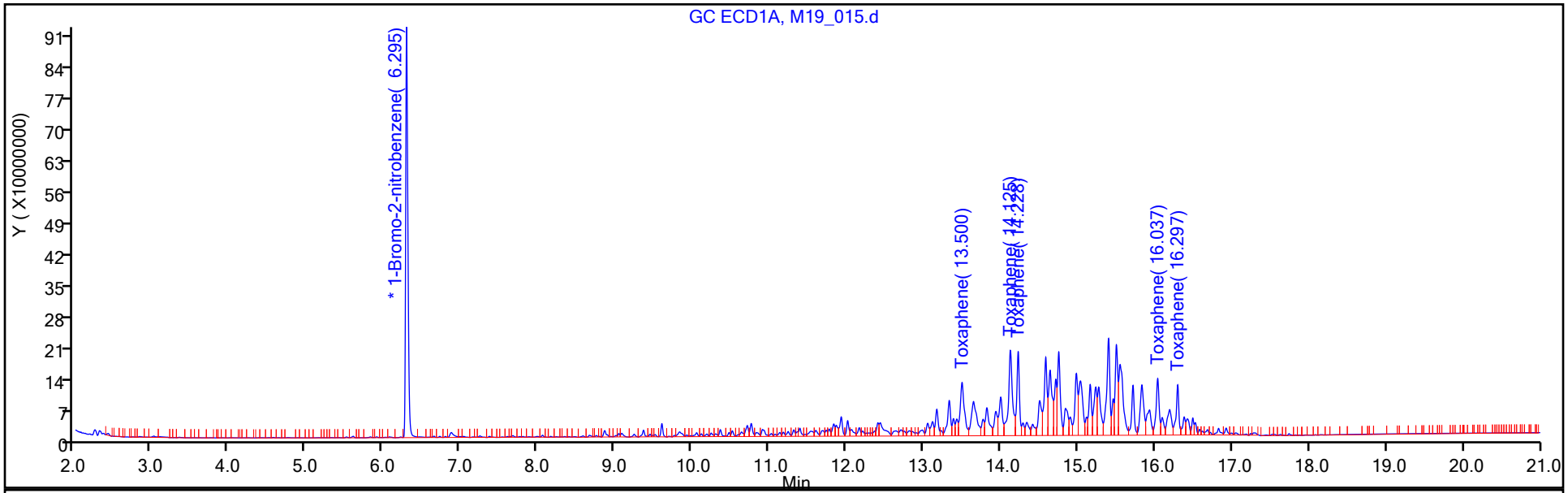

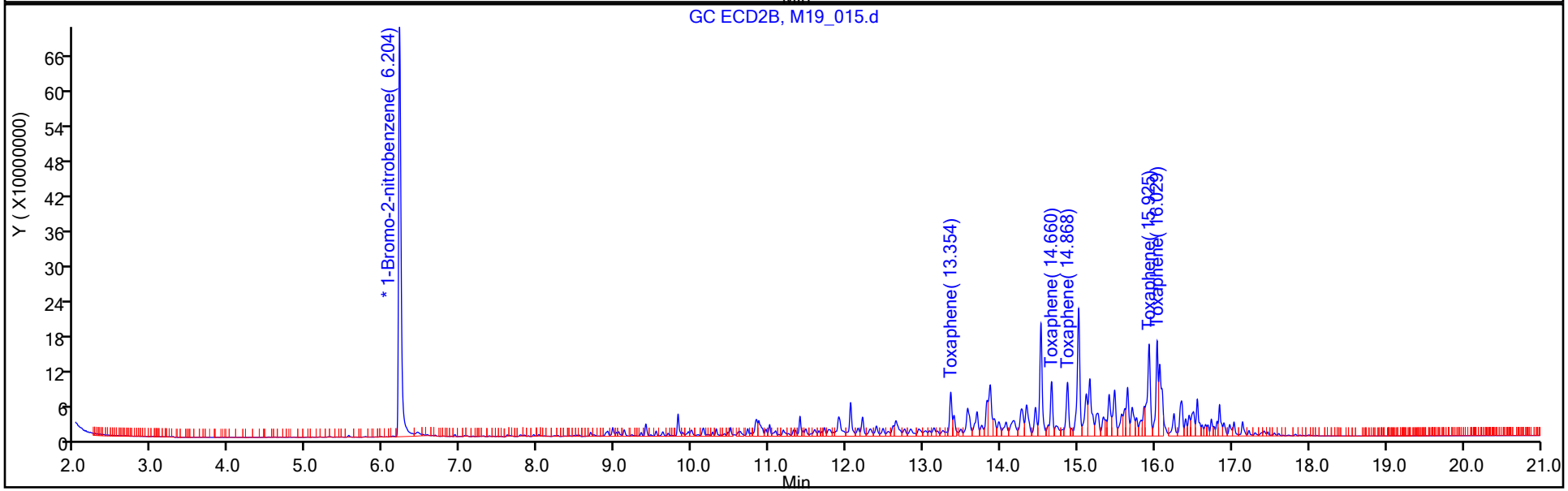

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 247781

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/19/2018 14:45 Calibration End Date: 09/19/2018 17:04 Calibration ID: 14531

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-247781/10	M19_010.d
Level 2	IC 600-247781/11	M19_011.d
Level 3	IC 600-247781/12	M19_012.d
Level 4	ICRT 600-247781/13	M19_013.d
Level 5	IC 600-247781/14	M19_014.d
Level 6	IC 600-247781/15	M19_015.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Toxaphene Peak 1	1.2127 1.2207	1.0867	1.2282	0.9276	1.1604	Ave		1.1394				10.2		20.0			
Toxaphene Peak 2	1.3105 1.5304	1.2016	1.5712	1.1952	1.3259	Ave		1.3558				11.9		20.0			
Toxaphene Peak 3	1.5678 1.7103	1.4055	1.8283	1.3566	1.4671	Ave		1.5559				11.8		20.0			
Toxaphene Peak 4	3.1299 3.4845	3.2225	3.6188	2.2354	3.0055	Ave		3.1161				15.6		20.0			
Toxaphene Peak 5	2.2012 2.6324	2.3343	2.6507	2.0088	2.2695	Ave		2.3495				10.7		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 247781

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/19/2018 14:45 Calibration End Date: 09/19/2018 17:04 Calibration ID: 14531

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-247781/10	M19_010.d
Level 2	IC 600-247781/11	M19_011.d
Level 3	IC 600-247781/12	M19_012.d
Level 4	ICRT 600-247781/13	M19_013.d
Level 5	IC 600-247781/14	M19_014.d
Level 6	IC 600-247781/15	M19_015.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Toxaphene Peak 1	BNB	Ave	7856777 157877143	14423979	38009465	60356140	211187960	0.200 4.00	0.400	0.800	1.60	3.20
Toxaphene Peak 2	BNB	Ave	8490264 197928716	15949025	48622836	77765743	241293645	0.200 4.00	0.400	0.800	1.60	3.20
Toxaphene Peak 3	BNB	Ave	10157587 221186905	18656090	56581603	88272271	266991101	0.200 4.00	0.400	0.800	1.60	3.20
Toxaphene Peak 4	BNB	Ave	20277757 450645534	42772984	111993249	145447934	546975497	0.200 4.00	0.400	0.800	1.60	3.20
Toxaphene Peak 5	BNB	Ave	14260804 340441687	30984061	82030853	130706651	413025532	0.200 4.00	0.400	0.800	1.60	3.20

Curve Type Legend:
Ave = Average ISTD

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\M19_010.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 19-Sep-2018 14:45:26 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0025411-010
Operator ID: MANAGER Instrument ID: CHECD09
Sublist: chrom-LVI_PEST_CHECD09*sub2

Method: \\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\LVI_PEST_CHECD09.m
Limit Group: GCSV - 8081A
Last Update: 20-Sep-2018 09:09:08 Calib Date: 19-Sep-2018 20:19:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\M19_022.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: XAWRK012

First Level Reviewer: lamj Date: 19-Sep-2018 16:47:05

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.297	6.296	0.001	1880539041	50.0	50.0	
2	6.203	6.202	0.001	1619698840	50.0	50.0	
						RPD = 0.00	
23 Toxaphene							
1	13.503	13.499	0.004	19204239	0.2000	0.1826	
1	14.130	14.128	0.002	26642617	0.2000	0.1684	
1	14.230	14.228	0.002	20308627	0.2000	0.1903	
1	16.040	16.038	0.002	14767938	0.2000	0.1906	
1	16.300	16.297	0.003	11552380	0.2000	0.1905	
		Average of Peak Amounts =				0.1845	
2	13.353	13.353	0.000	7856777	0.2000	0.2129	
2	14.660	14.660	0.000	8490264	0.2000	0.1933	
2	14.867	14.867	0.000	10157587	0.2000	0.2015	
2	15.925	15.924	0.001	20277757	0.2000	0.2009	
2	16.029	16.028	0.001	14260804	0.2000	0.1874	
		Average of Peak Amounts =				0.1992	
						RPD = 7.67	

Reagents:

PST_TOXCAL1_00009 Amount Added: 1.00 Units: mL
PST_IS 2_00060 Amount Added: 1.00 Units: mL Run Reagent

Report Date: 20-Sep-2018 09:09:09 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\M19_010.d				
Injection Date:	19-Sep-2018 14:45:26	Instrument ID:	CHECD09	Operator ID:	MANAGER
Lims ID:	ic			Worklist Smp#:	10
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		

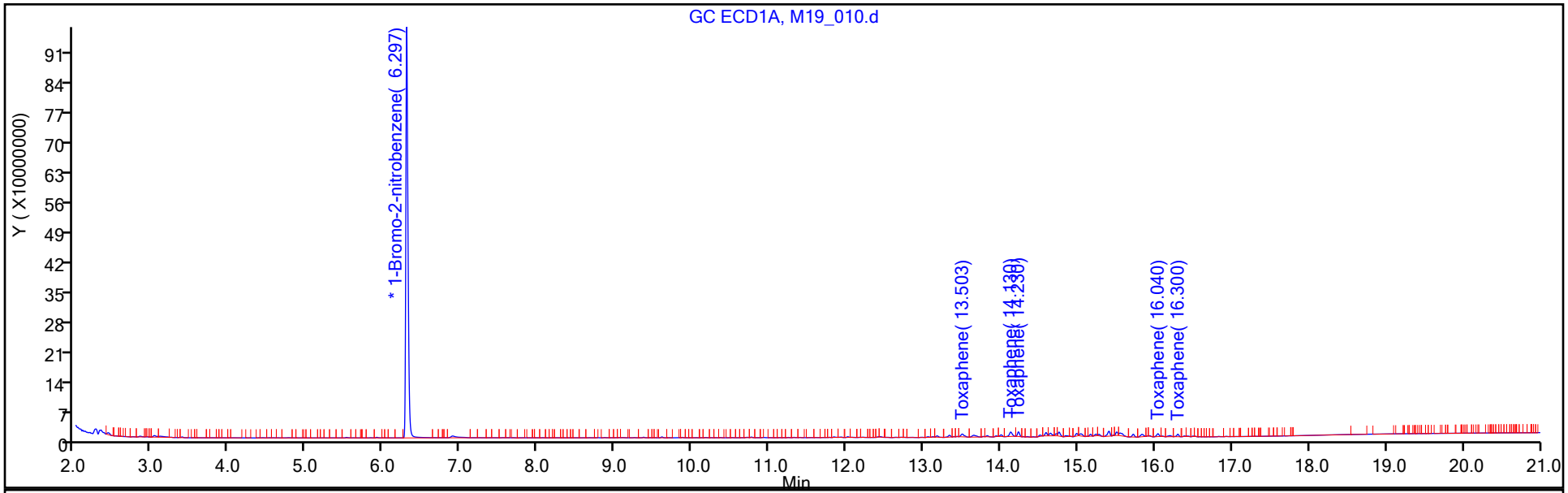

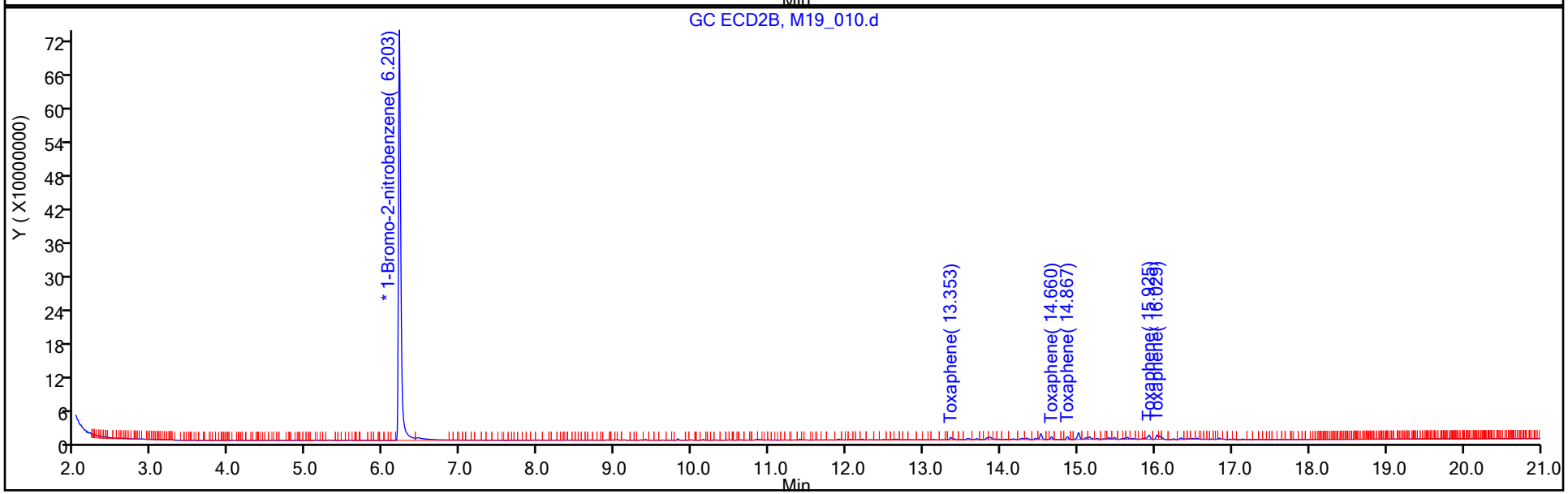

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\M19_011.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 19-Sep-2018 15:13:14 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0025411-011
Operator ID: MANAGER Instrument ID: CHECD09
Sublist: chrom-LVI_PEST_CHECD09*sub2

Method: \\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\LVI_PEST_CHECD09.m
Limit Group: GCSV - 8081A
Last Update: 20-Sep-2018 09:09:12 Calib Date: 19-Sep-2018 20:19:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\M19_022.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: XAWRK012

First Level Reviewer: lamj Date: 19-Sep-2018 16:47:16

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.297	6.296	0.001	1922738501	50.0	50.0	
2	6.204	6.202	0.002	1659168008	50.0	50.0	
						RPD = 0.00	
23 Toxaphene							
1	13.503	13.499	0.004	41182571	0.4000	0.3831	
1	14.131	14.128	0.003	60474155	0.4000	0.3739	
1	14.231	14.228	0.003	42801590	0.4000	0.3922	
1	16.039	16.038	0.001	27604167	0.4000	0.3484	
1	16.299	16.297	0.002	21124351	0.4000	0.3407	
		Average of Peak Amounts =				0.3677	
2	13.354	13.353	0.001	14423979	0.4000	0.3815	
2	14.661	14.660	0.001	15949025	0.4000	0.3545	
2	14.869	14.867	0.002	18656090	0.4000	0.3613	
2	15.926	15.924	0.002	42772984	0.4000	0.4137	
2	16.029	16.028	0.001	30984061	0.4000	0.3974	
		Average of Peak Amounts =				0.3817	
						RPD = 3.74	

Reagents:

PST_TOXCAL2_00009 Amount Added: 1.00 Units: mL
PST_IS 2_00060 Amount Added: 1.00 Units: mL Run Reagent

Report Date: 20-Sep-2018 09:09:13 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\M19_011.d				
Injection Date:	19-Sep-2018 15:13:14	Instrument ID:	CHECD09	Operator ID:	MANAGER
Lims ID:	ic			Worklist Smp#:	11
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		

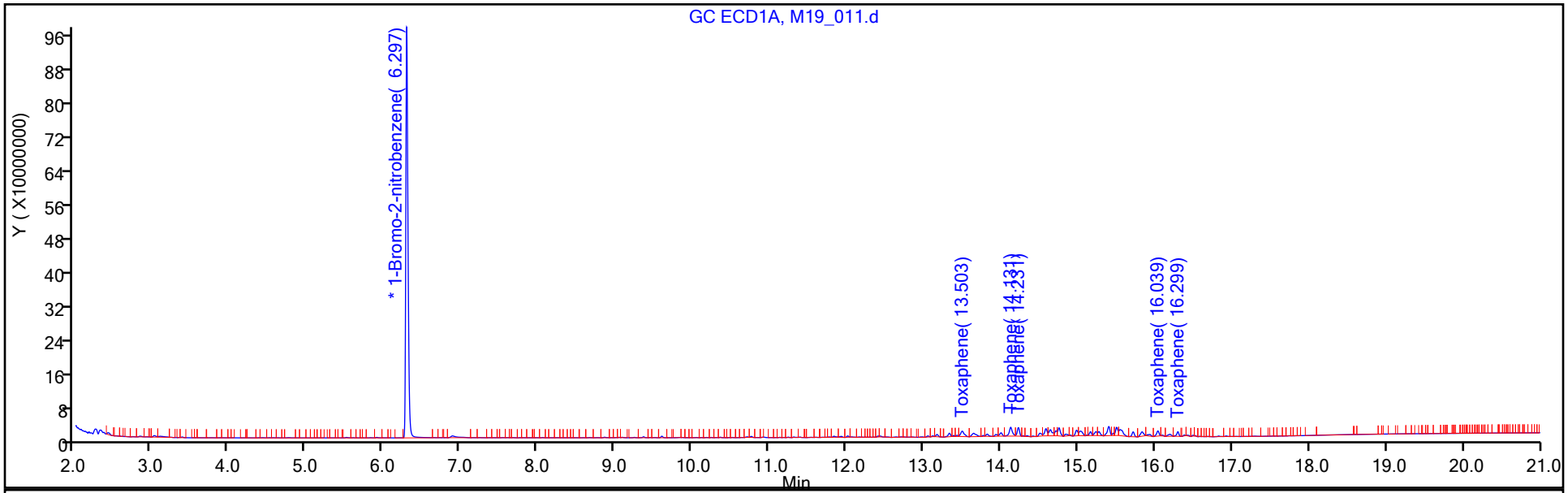

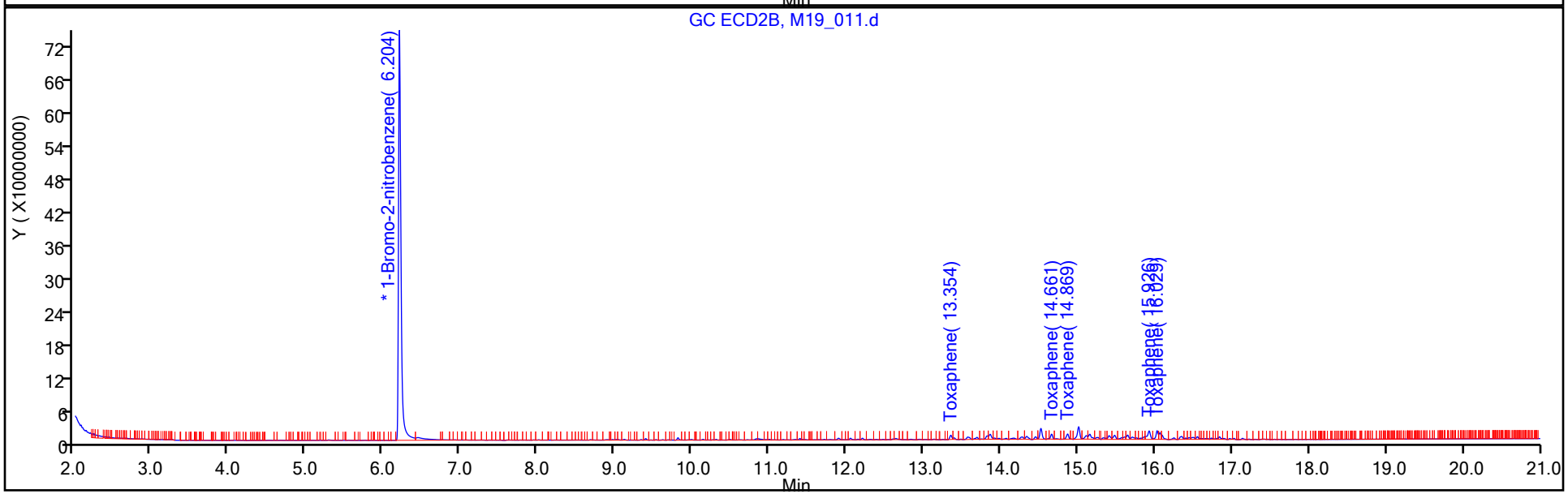

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\M19_012.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 19-Sep-2018 15:41:00 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0025411-012
Operator ID: MANAGER Instrument ID: CHECD09
Sublist: chrom-LVI_PEST_CHECD09*sub2

Method: \\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\LVI_PEST_CHECD09.m
Limit Group: GCSV - 8081A
Last Update: 20-Sep-2018 09:09:16 Calib Date: 19-Sep-2018 20:19:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\M19_022.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: XAWRK012

First Level Reviewer: lamj Date: 19-Sep-2018 16:46:52

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.296	6.296	0.000	2249649978	50.0	50.0	
2	6.203	6.202	0.001	1934203035	50.0	50.0	
						RPD = 0.00	
23 Toxaphene							
1	13.501	13.499	0.002	117921069	0.8000	0.9375	
1	14.127	14.128	-0.001	181655873	0.8000	0.9599	
1	14.229	14.228	0.001	120272618	0.8000	0.9420	
1	16.035	16.038	-0.003	89929259	0.8000	0.9702	
1	16.296	16.297	-0.001	69431805	0.8000	0.9570	
		Average of Peak Amounts =				0.9533	
2	13.353	13.353	0.000	38009465	0.8000	0.8624	
2	14.660	14.660	0.000	48622836	0.8000	0.9271	
2	14.867	14.867	0.000	56581603	0.8000	0.9400	
2	15.924	15.924	0.000	111993249	0.8000	0.9291	
2	16.028	16.028	0.000	82030853	0.8000	0.9026	
		Average of Peak Amounts =				0.9122	
						RPD = 4.41	

Reagents:

PST_TOXCAL3_00009 Amount Added: 1.00 Units: mL
PST_IS 2_00060 Amount Added: 1.00 Units: mL Run Reagent

Report Date: 20-Sep-2018 09:09:17 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\M19_012.d				
Injection Date:	19-Sep-2018 15:41:00	Instrument ID:	CHECD09	Operator ID:	MANAGER
Lims ID:	ic			Worklist Smp#:	12
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		

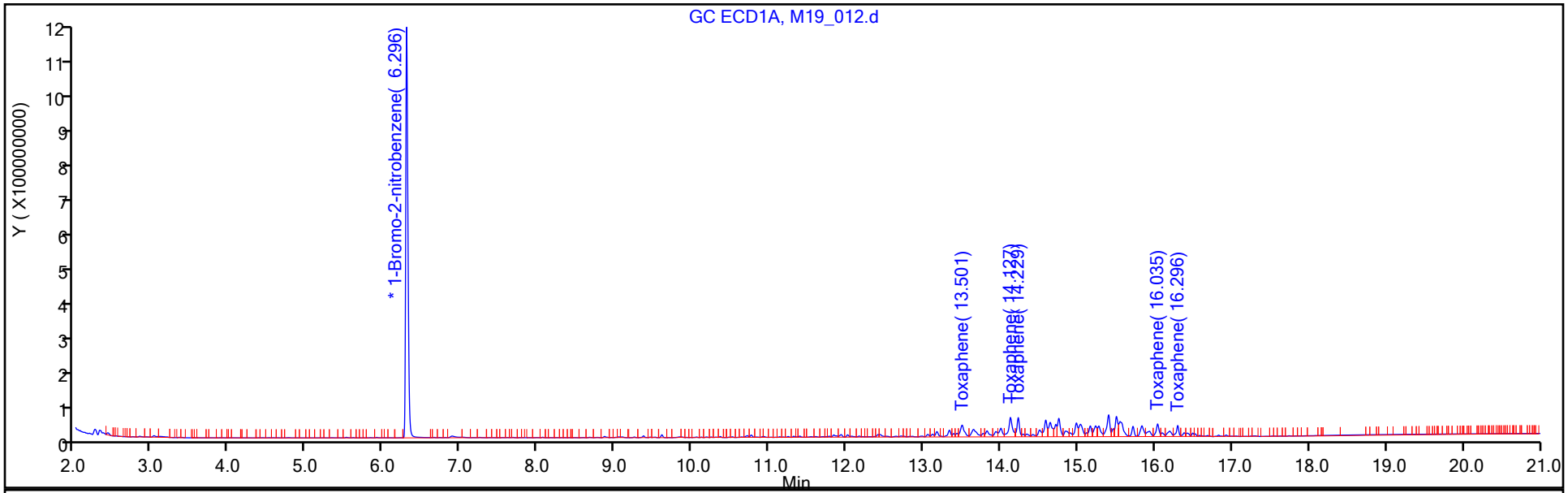

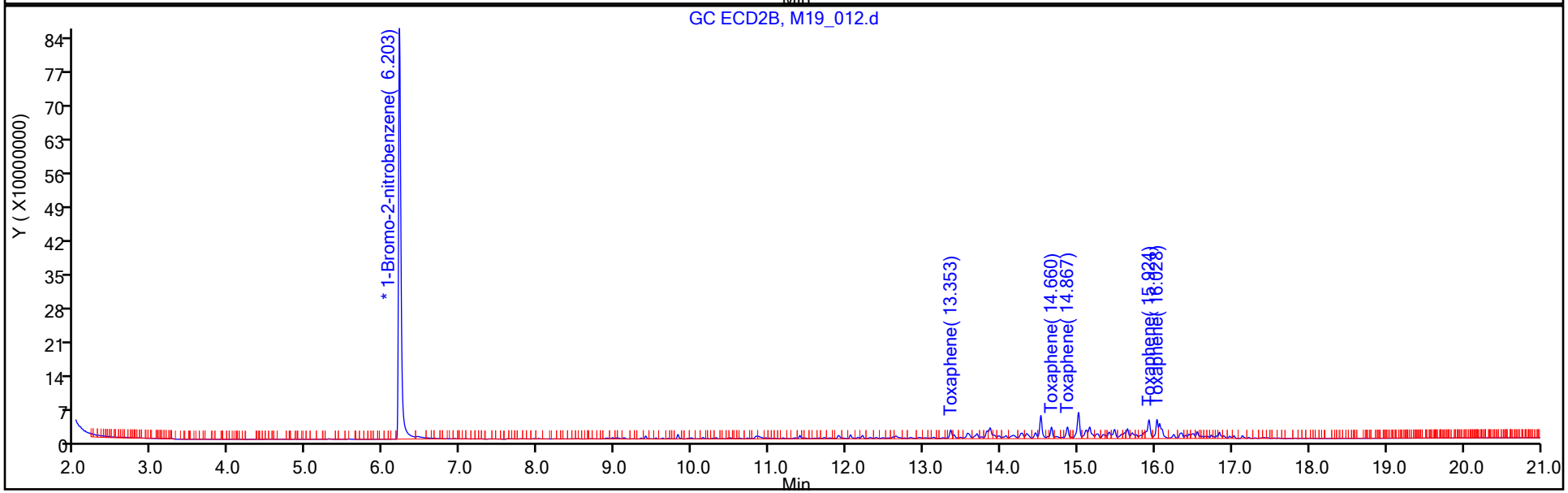

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\M19_013.d
Lims ID: icrt
Client ID:
Sample Type: ICRT Calib Level: 4
Inject. Date: 19-Sep-2018 16:08:52 ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0025411-013
Operator ID: MANAGER Instrument ID: CHECD09
Sublist: chrom-LVI_PEST_CHECD09*sub2

Method: \\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\LVI_PEST_CHECD09.m
Limit Group: GCSV - 8081A
Last Update: 20-Sep-2018 09:09:20 Calib Date: 19-Sep-2018 20:19:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\M19_022.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: XAWRK012

First Level Reviewer: lamj Date: 19-Sep-2018 16:46:41

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.296	6.296	0.000	2321437819	50.0	50.0	
2	6.203	6.203	0.000	2033340324	50.0	50.0	
						RPD = 0.00	
23 Toxaphene							M
1	13.499	13.499	0.000	175161894	1.60	1.35	
1	14.128	14.128	0.000	273220346	1.60	1.40	
1	14.228	14.228	0.000	178193250	1.60	1.35	
1	16.038	16.038	0.000	117444368	1.60	1.23	
1	16.297	16.297	0.000	90026466	1.60	1.20	
		Average of Peak Amounts =				1.31	
2	13.353	13.353	0.000	60356140	1.60	1.30	M
2	14.660	14.660	0.000	77765743	1.60	1.41	M
2	14.867	14.867	0.000	88272271	1.60	1.40	M
2	15.924	15.924	0.000	145447934	1.60	1.15	M
2	16.028	16.028	0.000	130706651	1.60	1.37	M
		Average of Peak Amounts =				1.32	
						RPD = 1.41	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

PST_TOXCAL4_00012 Amount Added: 1.00 Units: mL
PST_IS 2_00060 Amount Added: 1.00 Units: mL Run Reagent

Report Date: 20-Sep-2018 09:09:22 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\M19_013.d				
Injection Date:	19-Sep-2018 16:08:52	Instrument ID:	CHECD09	Operator ID:	MANAGER
Lims ID:	icrt			Worklist Smp#:	13
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		

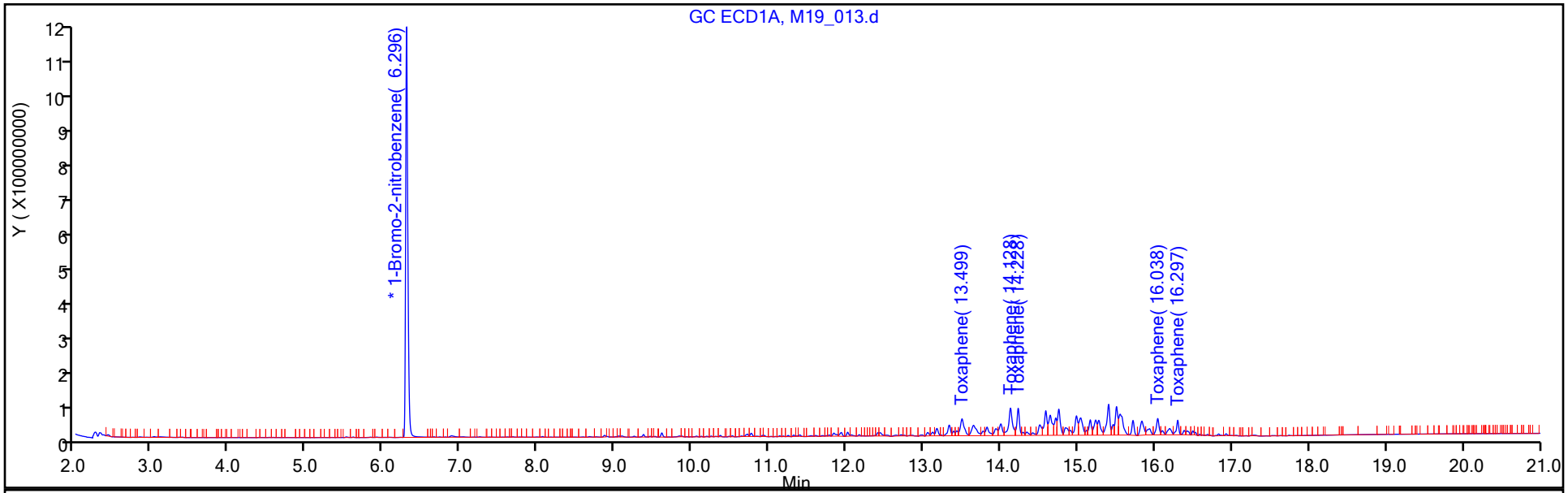

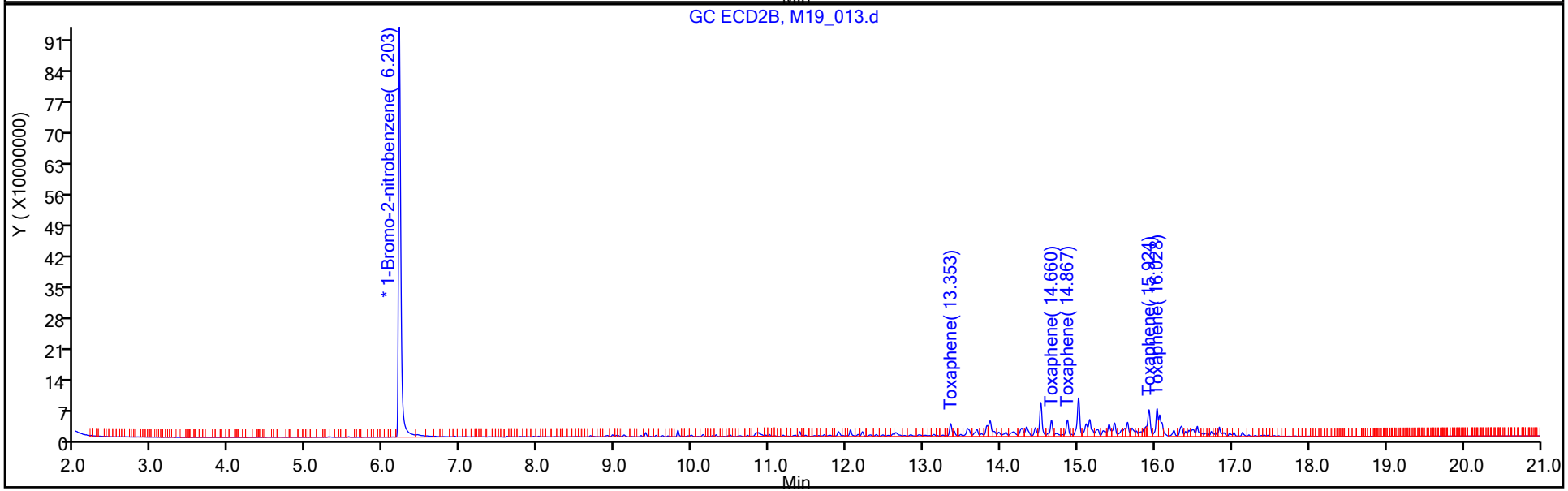

Report Date: 20-Sep-2018 09:09:22 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Houston

Data File: \\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\M19_013.d

Injection Date: 19-Sep-2018 16:08:52 Instrument ID: CHECD09

Lims ID: icrt

Client ID:

Operator ID: MANAGER ALS Bottle#: 13 Worklist Smp#: 13

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: LVI_PEST_CHECD09 Limit Group: GCSV - 8081A

Column: Detector GC ECD2B

23 Toxaphene, CAS: 8001-35-2

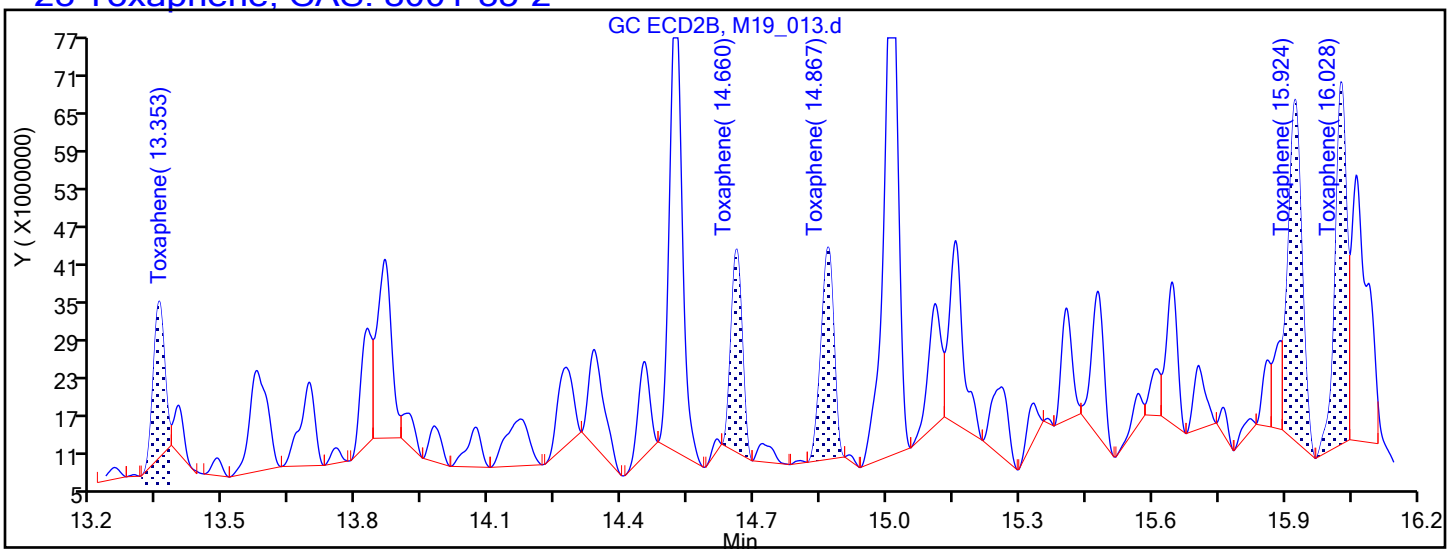

Processing Integration Results

13.353	Response = 44021779
14.660	Response = 56120896
14.867	Response = 67307666
15.924	Response = 116114460
16.028	Response = 103974754

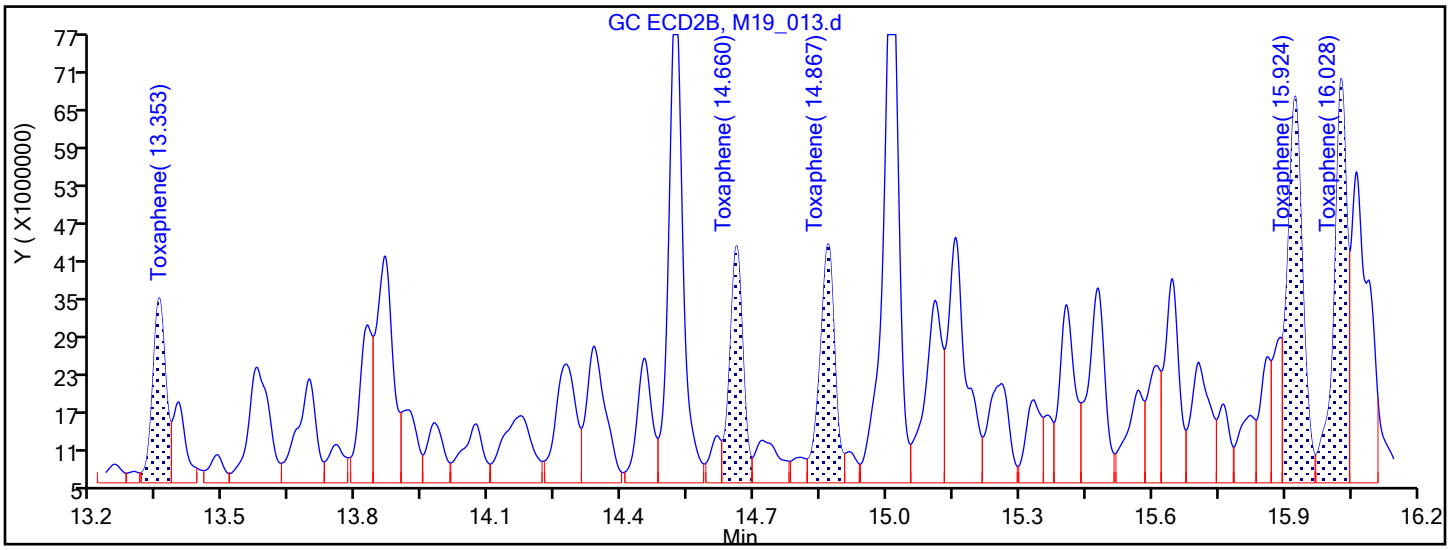

Manual Integration Results

13.353	Response = 60356140	M
14.660	Response = 77765743	M
14.867	Response = 88272271	M
15.924	Response = 145447934	M
16.028	Response = 130706651	M

Reviewer: lamj, 19-Sep-2018 16:47:45

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\M19_014.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 19-Sep-2018 16:36:39 ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0025411-014
Operator ID: MANAGER Instrument ID: CHECD09
Sublist: chrom-LVI_PEST_CHECD09*sub2

Method: \\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\LVI_PEST_CHECD09.m
Limit Group: GCSV - 8081A
Last Update: 20-Sep-2018 09:09:25 Calib Date: 19-Sep-2018 20:19:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\M19_022.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: XAWRK012

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.298	6.296	0.002	3156243196	50.0	50.0	
2	6.205	6.203	0.002	2843601105	50.0	50.0	
						RPD = 0.00	
23 Toxaphene							
1	13.498	13.499	-0.001	577016785	3.20	3.27	
1	14.126	14.128	-0.002	868248276	3.20	3.27	
1	14.226	14.228	-0.002	566685561	3.20	3.16	
1	16.037	16.038	-0.001	431682266	3.20	3.32	
1	16.296	16.297	-0.001	345736057	3.20	3.40	
		Average of Peak Amounts =				3.28	
2	13.353	13.353	0.000	211187960	3.20	3.26	
2	14.660	14.660	0.000	241293645	3.20	3.13	
2	14.868	14.867	0.001	266991101	3.20	3.02	
2	15.925	15.924	0.001	546975497	3.20	3.09	
2	16.030	16.028	0.002	413025532	3.20	3.09	
		Average of Peak Amounts =				3.12	
						RPD = 5.23	

Reagents:

PST_TOXCAL5_00009 Amount Added: 1.00 Units: mL
PST_IS 2_00060 Amount Added: 1.00 Units: mL Run Reagent

Report Date: 20-Sep-2018 09:09:26 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\M19_014.d				
Injection Date:	19-Sep-2018 16:36:39	Instrument ID:	CHECD09	Operator ID:	MANAGER
Lims ID:	ic			Worklist Smp#:	14
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		

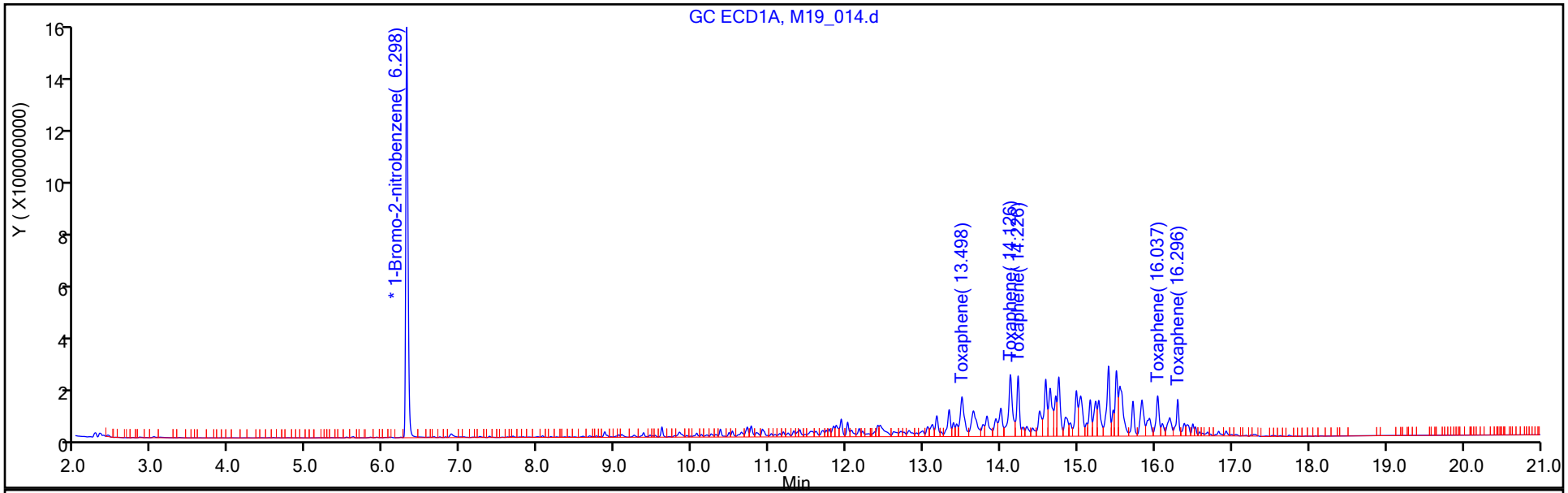

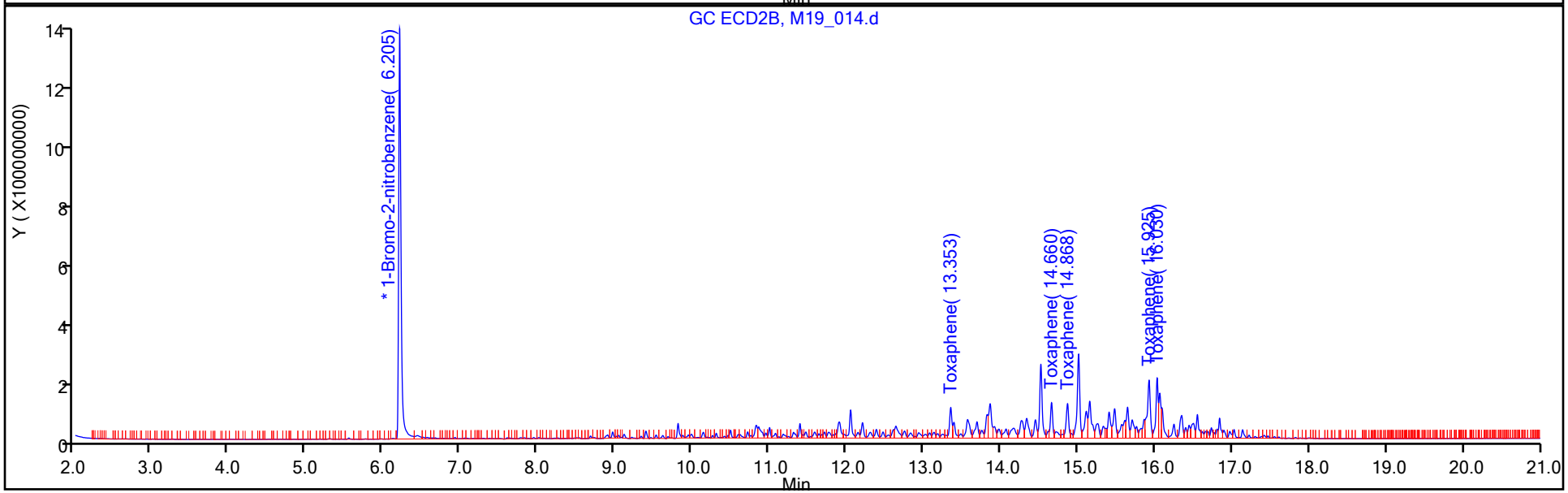

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\M19_015.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 19-Sep-2018 17:04:26 ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0025411-015
Operator ID: MANAGER Instrument ID: CHECD09
Sublist: chrom-LVI_PEST_CHECD09*sub2

Method: \\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\LVI_PEST_CHECD09.m
Limit Group: GCSV - 8081A
Last Update: 20-Sep-2018 09:09:28 Calib Date: 19-Sep-2018 20:19:06
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\M19_022.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: XAWRK012

First Level Reviewer: lamj Date: 19-Sep-2018 17:44:57

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.295	6.296	-0.001	1854768191	50.0	50.0	
2	6.204	6.203	0.001	1616605185	50.0	50.0	
						RPD = 0.00	
23 Toxaphene							M
1	13.500	13.499	0.001	453050930	4.00	4.37	
1	14.125	14.128	-0.003	703431418	4.00	4.51	
1	14.228	14.228	0.000	444956743	4.00	4.23	
1	16.037	16.038	-0.001	354112569	4.00	4.63	
1	16.297	16.297	0.000	283859988	4.00	4.75	
		Average of Peak Amounts =				4.50	
2	13.354	13.353	0.001	157877143	4.00	4.29	M
2	14.660	14.660	0.000	197928716	4.00	4.52	M
2	14.868	14.867	0.001	221186905	4.00	4.40	M
2	15.925	15.924	0.001	450645534	4.00	4.47	M
2	16.029	16.028	0.001	340441687	4.00	4.48	M
		Average of Peak Amounts =				4.43	
						RPD = 1.48	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

PST_TOXCAL6_00009 Amount Added: 1.00 Units: mL
PST_IS 2_00060 Amount Added: 1.00 Units: mL Run Reagent

Report Date: 20-Sep-2018 09:09:30 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\M19_015.d				
Injection Date:	19-Sep-2018 17:04:26	Instrument ID:	CHECD09	Operator ID:	MANAGER
Lims ID:	ic			Worklist Smp#:	15
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	15
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		

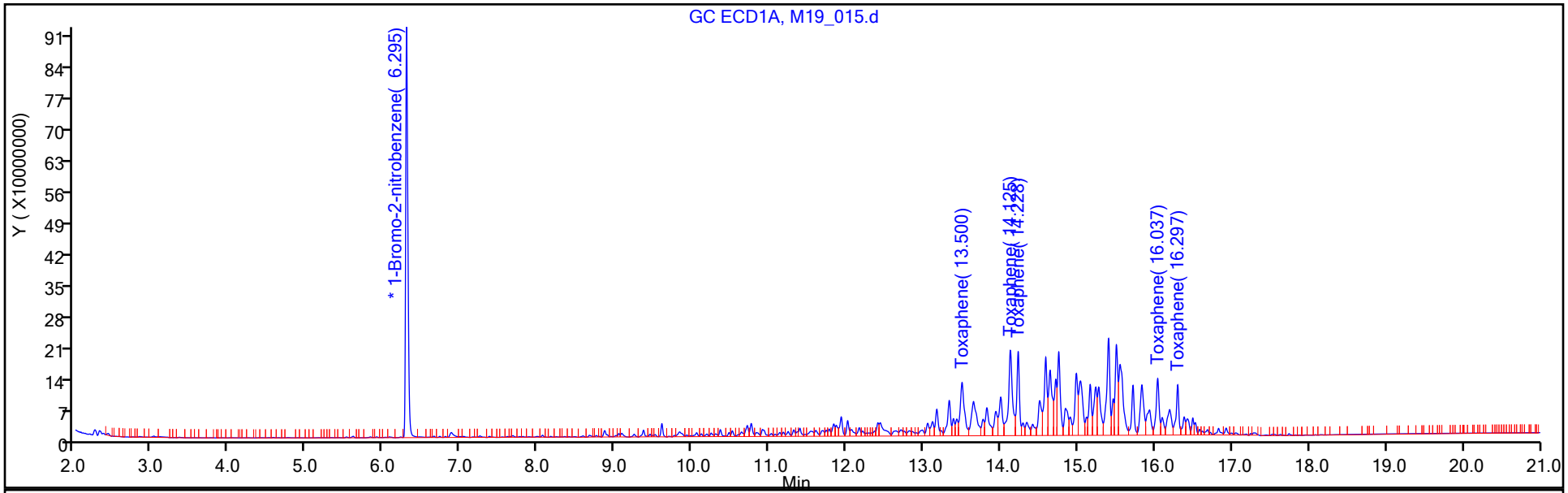

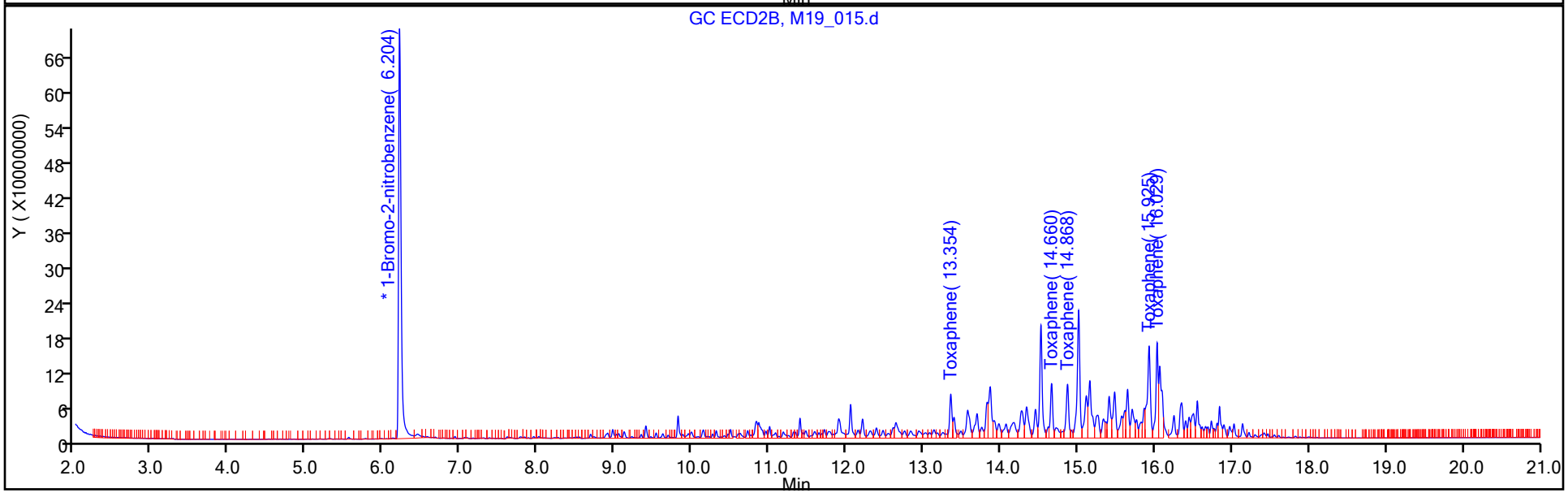

Report Date: 20-Sep-2018 09:09:30 Chrom Revision: 2.3 19-Jul-2018 15:14:50

TestAmerica Houston

Data File: \\ChromNA\Houston\ChromData\CHECD09\20180919-25411.b\M19_015.d

Injection Date: 19-Sep-2018 17:04:26 Instrument ID: CHECD09

Lims ID: ic

Client ID:

Operator ID: MANAGER ALS Bottle#: 15 Worklist Smp#: 15

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: LVI_PEST_CHECD09 Limit Group: GCSV - 8081A

Column: Detector GC ECD2B

23 Toxaphene, CAS: 8001-35-2

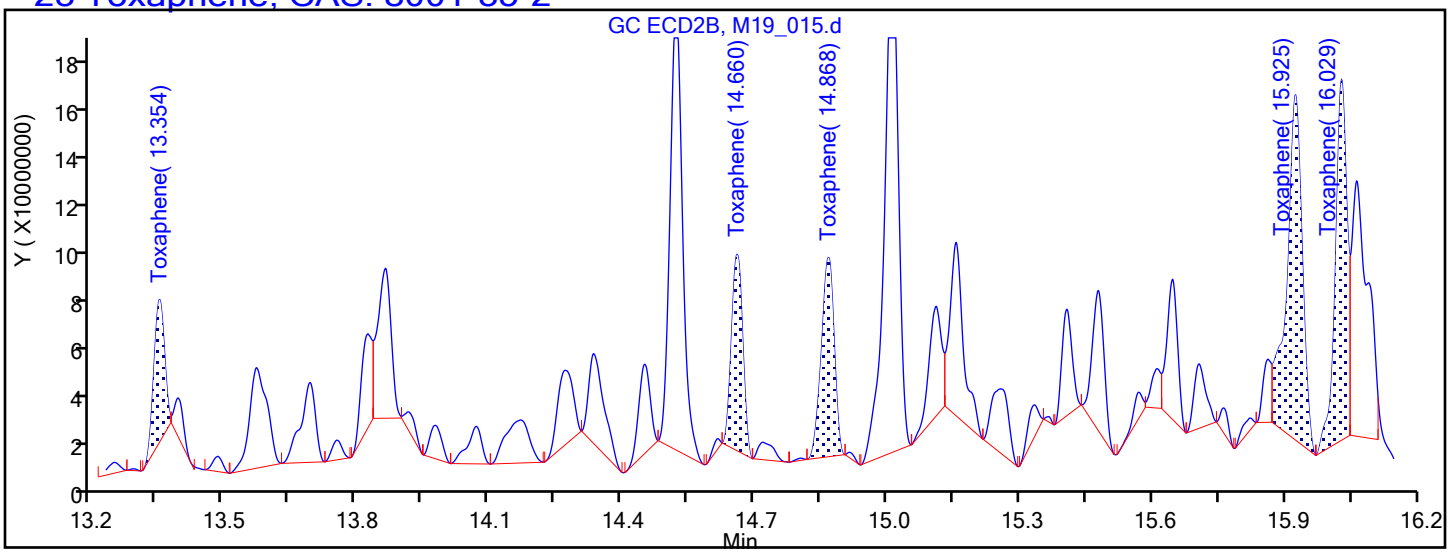

Processing Integration Results

13.354	Response = 96484182
14.660	Response = 139884610
14.868	Response = 161240264
15.925	Response = 338981302
16.029	Response = 265458694

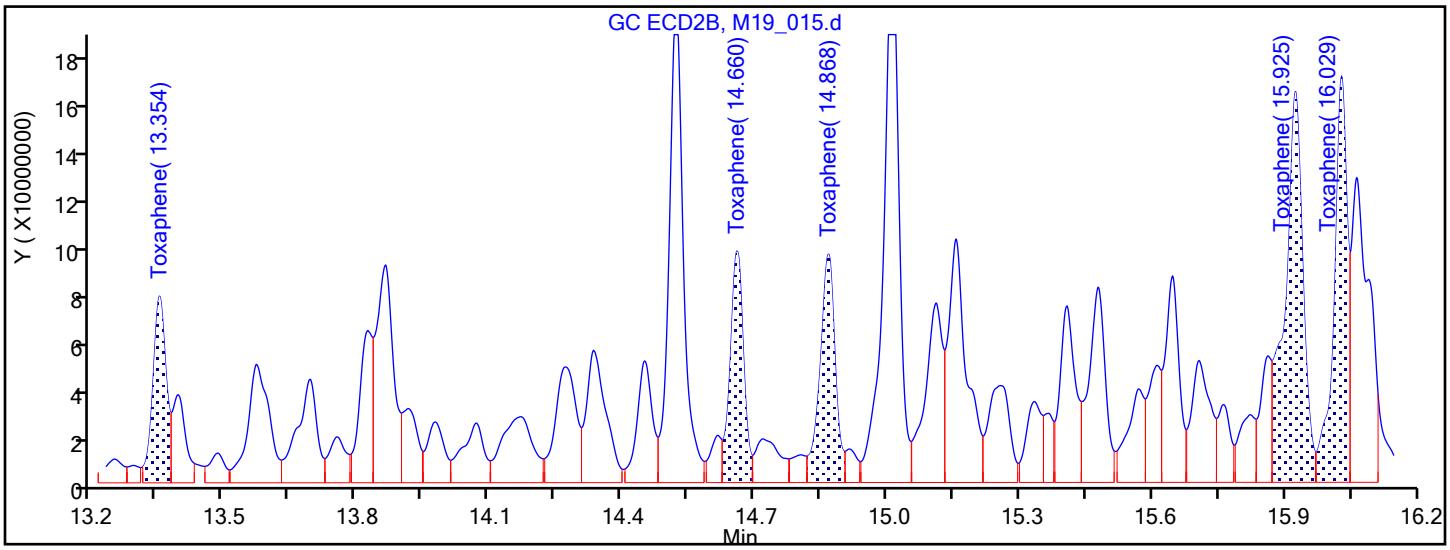

Manual Integration Results

13.354	Response = 157877143	M
14.660	Response = 197928716	M
14.868	Response = 221186905	M
15.925	Response = 450645534	M
16.029	Response = 340441687	M

Reviewer: lamj, 19-Sep-2018 17:44:50

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 275356

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/22/2019 12:43 Calibration End Date: 09/22/2019 15:04 Calibration ID: 16744

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-275356/3	L22_003.d
Level 2	IC 600-275356/4	L22_004.d
Level 3	IC 600-275356/5	L22_005.d
Level 4	ICIS 600-275356/6	L22_006.d
Level 5	IC 600-275356/7	L22_007.d
Level 6	IC 600-275356/8	L22_008.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
alpha-BHC	164.36 175.77	160.58	160.79	175.03	149.95	Ave		164.41				6.0		20.0			
gamma-BHC (Lindane)	128.89 147.74	126.80	128.86	148.80	121.44	Ave		133.76				8.7		20.0			
beta-BHC	49.971 63.310	49.952	52.450	64.227	49.674	Ave		54.931				12.6		20.0			
delta-BHC	125.68 154.90	126.58	128.99	150.75	126.03	Ave		135.49				10.0		20.0			
Heptachlor	140.81 149.18	138.58	139.78	154.88	126.84	Ave		141.68				6.8		20.0			
Aldrin	140.35 147.99	129.28	132.27	143.67	123.83	Ave		136.23				6.8		20.0			
Heptachlor epoxide	127.41 125.73	117.68	118.37	123.06	105.80	Ave		119.67				6.5		20.0			
Chlordane (trans)	126.84 135.62	117.48	119.76	126.81	111.70	Ave		123.03				6.9		20.0			
cis-Chlordane	119.46 127.17	108.82	112.31	118.42	105.03	Ave		115.20				7.0		20.0			
4,4'-DDE	78.384 95.776	77.844	72.239	83.172	73.781	Ave		80.199				10.7		20.0			
Endosulfan I	177.96 160.59	149.71	163.43	161.46	144.43	Lin	0.0450	155.15							0.9930		0.9900
Dieldrin	130.26 126.97	117.87	120.18	119.68	106.24	Ave		120.20				6.9		20.0			
Endrin	93.211 86.698	85.273	81.853	82.981	73.325	Ave		83.890				7.8		20.0			
4,4'-DDD	80.786 94.184	74.852	79.132	82.228	78.065	Ave		81.541				8.2		20.0			
Endosulfan II	107.04 102.38	96.081	99.346	99.982	90.691	Ave		99.253				5.6		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 275356

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/22/2019 12:43 Calibration End Date: 09/22/2019 15:04 Calibration ID: 16744

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
4,4'-DDT	97.989 107.03	88.015	92.632	90.612	87.449	Ave		93.954				7.9		20.0			
Endrin aldehyde	80.704 82.806	70.109	76.323	72.512	69.488	Ave		75.324				7.4		20.0			
Methoxychlor	44.499 41.864	37.753	39.250	35.862	35.255	Ave		39.081				9.1		20.0			
Endosulfan sulfate	98.091 97.092	86.886	90.096	87.166	81.636	Ave		90.161				7.1		20.0			
Endrin ketone	120.81 118.53	105.57	111.40	106.30	99.954	Ave		110.43				7.3		20.0			
Tetrachloro-m-xylene	117.98 123.58	111.00	110.29	122.12	101.76	Ave		114.45				7.3		20.0			
DCB Decachlorobiphenyl	88.543 101.96	76.188	93.723	83.943	84.081	Ave		88.074				10.1		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 275356

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/22/2019 12:43 Calibration End Date: 09/22/2019 15:04 Calibration ID: 16744

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-275356/3	L22_003.d
Level 2	IC 600-275356/4	L22_004.d
Level 3	IC 600-275356/5	L22_005.d
Level 4	ICIS 600-275356/6	L22_006.d
Level 5	IC 600-275356/7	L22_007.d
Level 6	IC 600-275356/8	L22_008.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
alpha-BHC	BNB	Ave	73837418 1059233362	142861417	277374482	524675164	817390948	0.00501 0.0800	0.0100	0.0200	0.0400	0.0600
gamma-BHC (Lindane)	BNB	Ave	57902751 890316763	112805103	222291095	446044852	661996779	0.00501 0.0800	0.0100	0.0200	0.0400	0.0600
beta-BHC	BNB	Ave	22448986 381524338	44439953	90477797	192530499	270774845	0.00501 0.0800	0.0100	0.0200	0.0400	0.0600
delta-BHC	BNB	Ave	56461910 933464618	112612487	222511069	451883493	686977941	0.00501 0.0800	0.0100	0.0200	0.0400	0.0600
Heptachlor	BNB	Ave	63259084 898986687	123284565	241131983	464282133	691441398	0.00501 0.0800	0.0100	0.0200	0.0400	0.0600
Aldrin	BNB	Ave	63051150 891796312	115016746	228170583	430672768	675006223	0.00501 0.0800	0.0100	0.0200	0.0400	0.0600
Heptachlor epoxide	BNB	Ave	57235383 757699447	104691310	204183088	368886113	576712609	0.00501 0.0800	0.0100	0.0200	0.0400	0.0600
Chlordane (trans)	BNB	Ave	56980251 817268636	104516724	206586614	380118265	608860678	0.00501 0.0800	0.0100	0.0200	0.0400	0.0600
cis-Chlordane	BNB	Ave	53668108 766384723	96811055	193741417	354988207	572510751	0.00501 0.0800	0.0100	0.0200	0.0400	0.0600
4,4'-DDE	BNB	Ave	70426164 1154341692	138508997	249229847	498641658	804367509	0.0100 0.160	0.0200	0.0400	0.0800	0.120
Endosulfan I	BNB	Lin	79945207 967756192	133192645	281916720	484000222	787312414	0.00501 0.0800	0.0100	0.0200	0.0400	0.0600
Dieldrin	BNB	Ave	117031765 1530276894	209719791	414613531	717518272	1158246665	0.0100 0.160	0.0200	0.0400	0.0800	0.120
Endrin	BNB	Ave	83748183 1044930648	151726911	282397584	497497126	799403842	0.0100 0.160	0.0200	0.0400	0.0800	0.120
4,4'-DDD	BNB	Ave	72584205 1135150103	133184619	273009323	492980909	851080434	0.0100 0.160	0.0200	0.0400	0.0800	0.120
Endosulfan II	BNB	Ave	96171815 1233911061	170958193	342750424	599420894	988728050	0.0100 0.160	0.0200	0.0400	0.0800	0.120
4,4'-DDT	BNB	Ave	88040820 1289924499	156605868	319583801	543248102	953383997	0.0100 0.160	0.0200	0.0400	0.0800	0.120

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 275356

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/22/2019 12:43 Calibration End Date: 09/22/2019 15:04 Calibration ID: 16744

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Endrin aldehyde	BNB	Ave	72510928 998023404	124745675	263319580	434732803	757568743	0.0100 0.160	0.0200	0.0400	0.0800	0.120
Methoxychlor	BNB	Ave	199907119 2522837586	335870301	677080731	1075004067	1921795858	0.0501 0.800	0.100	0.200	0.400	0.600
Endosulfan sulfate	BNB	Ave	88132247 1170205795	154596739	310834483	522588809	890014647	0.0100 0.160	0.0200	0.0400	0.0800	0.120
Endrin ketone	BNB	Ave	108547054 1428623331	187843686	384326211	637294044	1089713283	0.0100 0.160	0.0200	0.0400	0.0800	0.120
Tetrachloro-m-xylene	BNB	Ave	106005275 1489395520	197509682	380491204	732131280	1109353004	0.0100 0.160	0.0200	0.0400	0.0800	0.120
DCB Decachlorobiphenyl	BNB	Ave	79553466 1228927123	135560911	323348493	503263801	916661859	0.0100 0.160	0.0200	0.0400	0.0800	0.120

Curve Type Legend:

Ave = Average ISTD
Lin = Linear ISTD

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_003.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 22-Sep-2019 12:43:34 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031217-003
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVI_PEST_CHECD09*sub3

Method: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\LVI_PEST_CHECD09.m
Limit Group: GCSV - 8081A
Last Update: 23-Sep-2019 09:47:02 Calib Date: 22-Sep-2019 15:04:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_008.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0327

First Level Reviewer: lamj Date: 22-Sep-2019 14:34:26

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.275	6.276	-0.001	4485206230	50.0	50.0	
2	6.254	6.257	-0.003	2798782966	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	7.984	7.984	0.000	106005275	0.0100	0.0103	
2	8.172	8.175	-0.003	61844555	0.0100	0.009631	
						RPD = 6.95	
3 alpha-BHC							
1	9.093	9.093	0.000	73837418	0.005008	0.005006	
2	9.370	9.374	-0.004	39796364	0.005008	0.004513	
						RPD = 10.36	
4 gamma-BHC (Lindane)							
1	9.689	9.686	0.003	57902751	0.005008	0.004826	
2	10.011	10.014	-0.003	34520457	0.005008	0.004598	
						RPD = 4.83	
5 beta-BHC							
1	9.901	9.887	0.014	22448986	0.005008	0.004556	
2	10.208	10.201	0.007	15639805	0.005008	0.005079	
						RPD = 10.85	
7 delta-BHC							
1	10.203	10.189	0.014	56461910	0.005008	0.004646	
2	10.689	10.684	0.005	20468083	0.005008	0.003904	
						RPD = 17.35	
9 Heptachlor							
1	10.501	10.499	0.002	63259084	0.005008	0.004977	
2	10.733	10.736	-0.003	39705821	0.005008	0.004898	
						RPD = 1.61	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 Aldrin							
1	10.992	10.990	0.002	63051150	0.005008	0.005159	
2	11.245	11.248	-0.003	38101175	0.005008	0.004953	
						RPD = 4.07	
11 Heptachlor epoxide							
1	11.983	11.979	0.004	57235383	0.005008	0.005332	
2	12.179	12.181	-0.002	33730163	0.005008	0.005170	
						RPD = 3.07	
12 trans-Chlordane							
1	12.202	12.194	0.008	56980251	0.005008	0.005163	
2	12.519	12.522	-0.003	34513216	0.005008	0.005044	
						RPD = 2.34	
13 cis-Chlordane							
1	12.434	12.429	0.005	53668108	0.005008	0.005193	
2	12.796	12.798	-0.002	32221323	0.005008	0.005080	
						RPD = 2.20	
14 4,4'-DDE							M
1	12.630	12.620	0.010	70426164	0.0100	0.009789	M
2	13.169	13.169	0.000	58718964	0.0100	0.0100	
						RPD = 1.74	
15 Endosulfan I							M
1	12.677	12.670	0.007	79945207	0.005008	0.005454	M
2	12.888	12.890	-0.002	34726365	0.005008	0.005353	
						RPD = 1.87	
16 Dieldrin							
1	13.134	13.128	0.006	117031765	0.0100	0.0109	
2	13.408	13.409	-0.001	67680993	0.0100	0.0105	
						RPD = 3.31	
18 Endrin							
1	13.565	13.561	0.004	83748183	0.0100	0.0111	
2	13.969	13.971	-0.002	43714152	0.0100	0.0111	
						RPD = 0.54	
19 4,4'-DDD							
1	13.768	13.759	0.009	72584205	0.0100	0.0099	
2	14.263	14.259	0.004	38025265	0.0100	0.009740	
						RPD = 1.86	
20 Endosulfan II							
1	13.997	13.992	0.005	96171815	0.0100	0.0108	
2	14.379	14.380	-0.001	68585276	0.0100	0.0112	
						RPD = 3.94	
21 4,4'-DDT							
1	14.279	14.272	0.007	88040820	0.0100	0.0104	
2	14.828	14.829	-0.001	34071659	0.0100	0.009382	
						RPD = 10.73	
24 Endrin aldehyde							
1	14.781	14.774	0.007	72510928	0.0100	0.0107	
2	15.009	15.009	0.000	44238058	0.0100	0.0107	
						RPD = 0.50	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
25 Methoxychlor							
1	15.214	15.207	0.007	199907119	0.0501	0.0570	
2	16.098	16.099	-0.001	79646403	0.0501	0.0527	
						RPD = 7.92	
26 Endosulfan sulfate							
1	15.579	15.571	0.008	88132247	0.0100	0.0109	
2	15.516	15.517	-0.001	54724366	0.0100	0.0107	
						RPD = 1.38	
27 Endrin ketone							
1	16.055	16.051	0.004	108547054	0.0100	0.0110	
2	16.399	16.401	-0.002	66460871	0.0100	0.0109	
						RPD = 0.09	
$ 28 DCB Decachlorobiphenyl							
1	17.546	17.546	0.000	79553466	0.0100	0.0101	
2	18.061	18.064	-0.003	62419316	0.0100	0.0112	
						RPD = 10.46	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

PESTCAL1_00031	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 23-Sep-2019 09:47:03 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_003.d				
Injection Date:	22-Sep-2019 12:43:34	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		

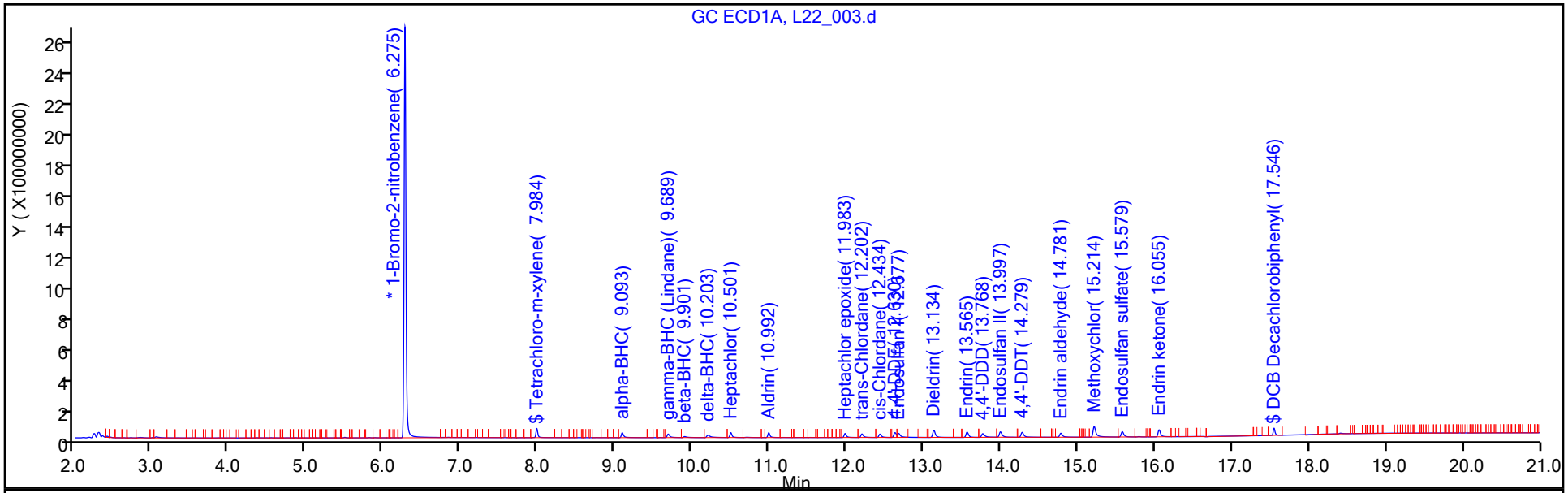

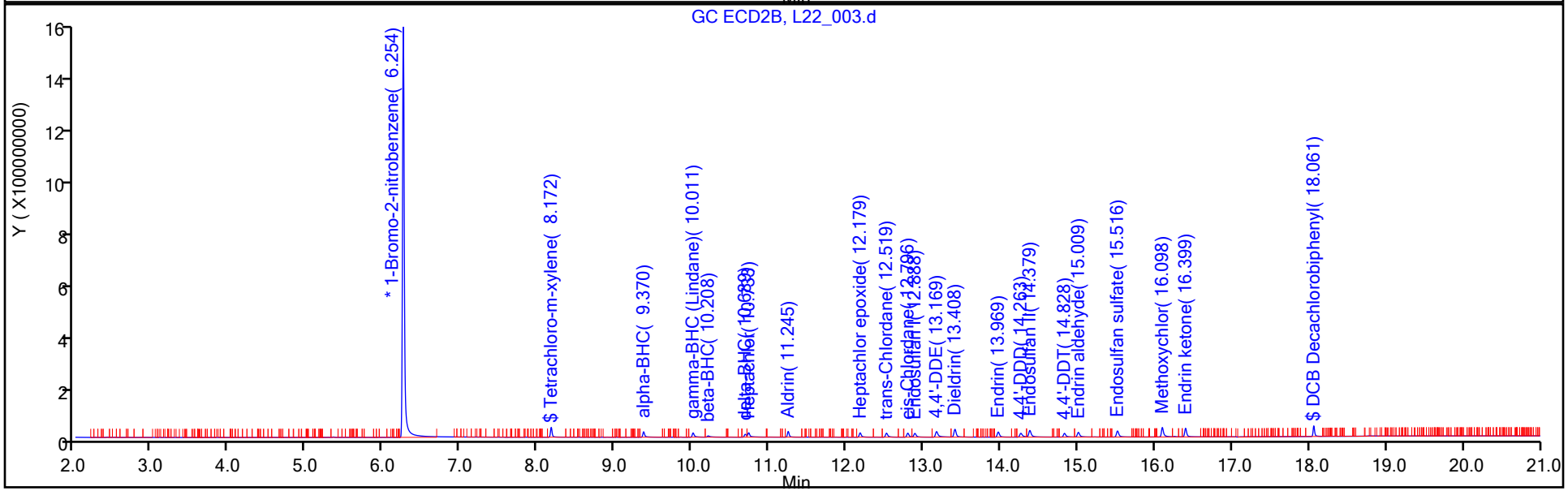

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_003.d				
Injection Date:	22-Sep-2019 12:43:34	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

14 4,4'-DDE, CAS: 72-55-9

Signal: 1

Processing Integration Results

RT: 12.63
Area: 55443349
Amount: 0.008178
Amount Units: ug/ml

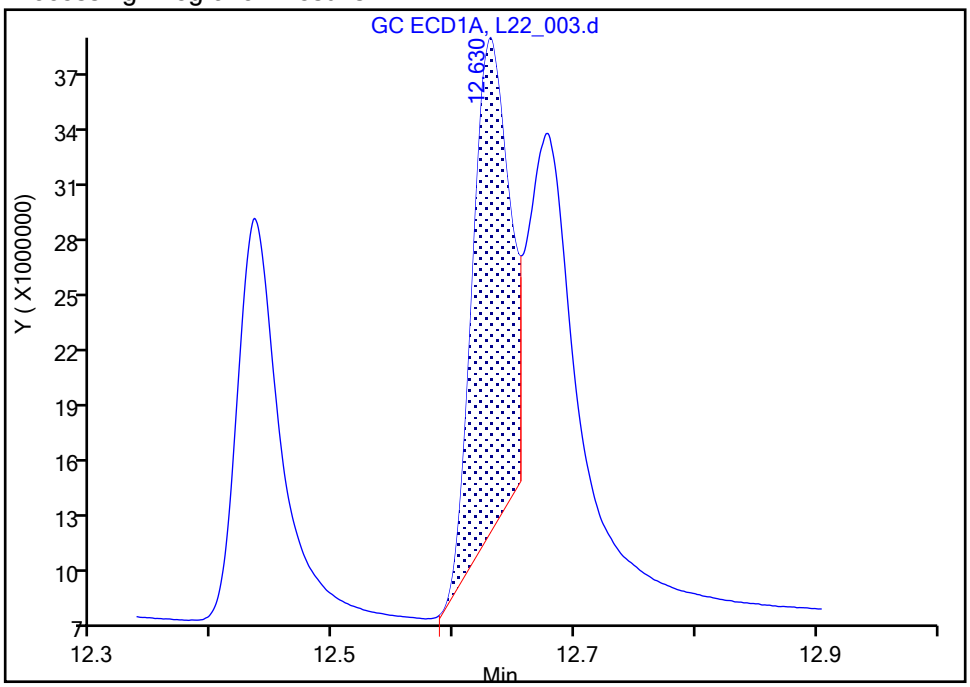

Manual Integration Results

RT: 12.63
Area: 70426164
Amount: 0.009789
Amount Units: ug/ml

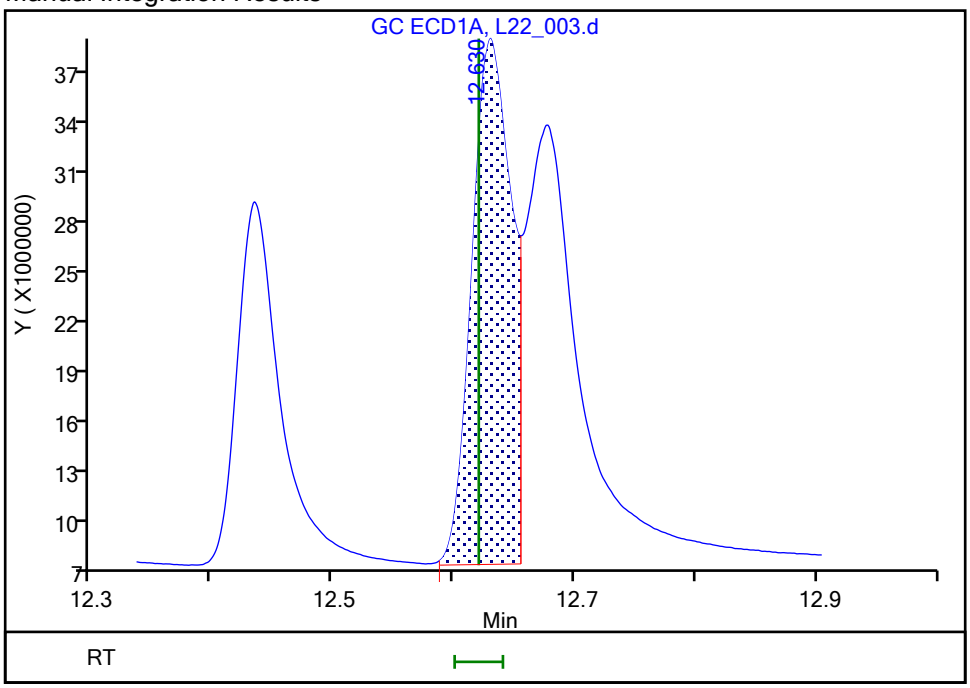

Reviewer: lamj, 23-Sep-2019 09:30:30
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_003.d				
Injection Date:	22-Sep-2019 12:43:34	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

15 Endosulfan I, CAS: 959-98-8

Signal: 1

Processing Integration Results

RT: 12.68
Area: 47273377
Amount: 0.005073
Amount Units: ug/ml

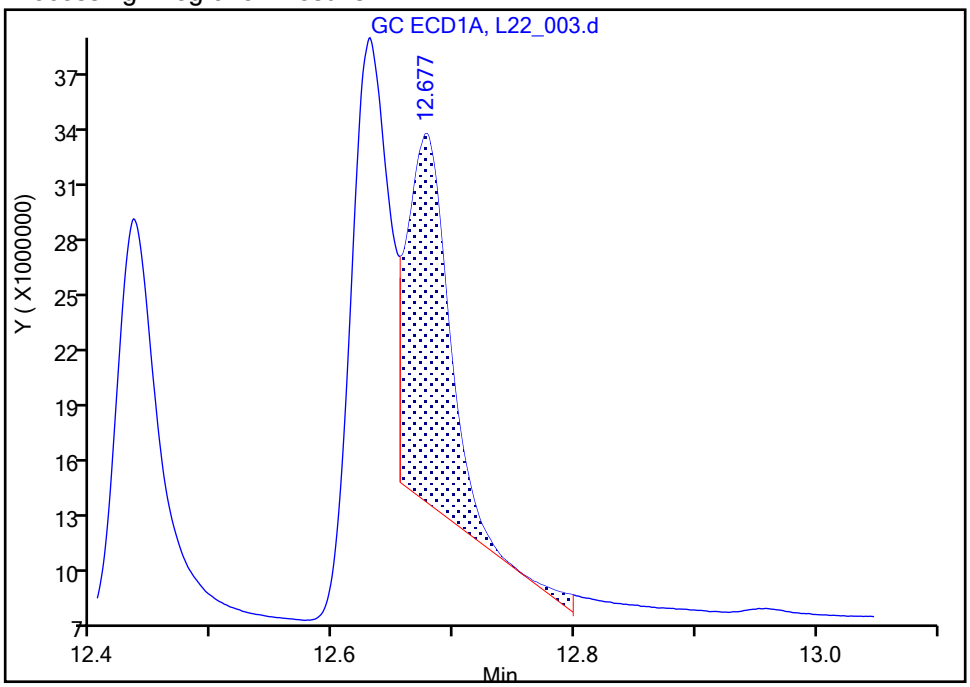

Manual Integration Results

RT: 12.68
Area: 79945207
Amount: 0.005454
Amount Units: ug/ml

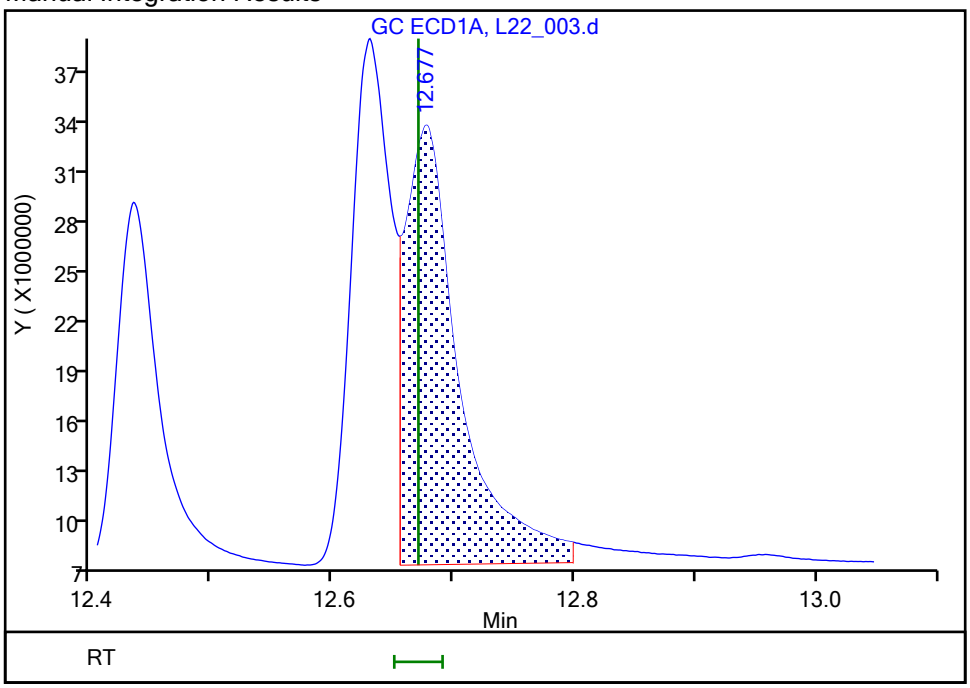

Reviewer: lamj, 23-Sep-2019 09:30:30
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_004.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 22-Sep-2019 13:11:44 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031217-004
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVI_PEST_CHECD09*sub3

Method: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\LVI_PEST_CHECD09.m
Limit Group: GCSV - 8081A
Last Update: 23-Sep-2019 09:47:18 Calib Date: 22-Sep-2019 15:04:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_008.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0327

First Level Reviewer: lamj Date: 22-Sep-2019 14:35:31

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.278	6.276	0.002	4448261910	50.0	50.0	
2	6.256	6.257	-0.001	2802804681	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	7.985	7.984	0.001	197509682	0.0200	0.0194	
2	8.173	8.175	-0.002	121859669	0.0200	0.0189	
						RPD = 2.33	
3 alpha-BHC							
1	9.094	9.093	0.001	142861417	0.0100	0.009767	
2	9.371	9.374	-0.003	81231537	0.0100	0.009199	
						RPD = 5.99	
4 gamma-BHC (Lindane)							
1	9.690	9.686	0.004	112805103	0.0100	0.009480	
2	10.012	10.014	-0.002	70290004	0.0100	0.009349	
						RPD = 1.38	
5 beta-BHC							
1	9.894	9.887	0.007	44439953	0.0100	0.009094	
2	10.204	10.201	0.003	29134517	0.0100	0.009447	
						RPD = 3.81	
7 delta-BHC							
1	10.195	10.189	0.006	112612487	0.0100	0.009343	
2	10.684	10.684	0.000	48420006	0.0100	0.009222	
						RPD = 1.29	
9 Heptachlor							
1	10.501	10.499	0.002	123284565	0.0100	0.009781	
2	10.734	10.736	-0.002	76064163	0.0100	0.009370	
						RPD = 4.29	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 Aldrin							
1	10.992	10.990	0.002	115016746	0.0100	0.009490	
2	11.245	11.248	-0.003	72564177	0.0100	0.009420	
						RPD = 0.73	
11 Heptachlor epoxide							
1	11.981	11.979	0.002	104691310	0.0100	0.009833	
2	12.178	12.181	-0.003	63271975	0.0100	0.009685	
						RPD = 1.52	
12 trans-Chlordane							
1	12.198	12.194	0.004	104516724	0.0100	0.009549	
2	12.519	12.522	-0.003	64215127	0.0100	0.009371	
						RPD = 1.88	
13 cis-Chlordane							
1	12.432	12.429	0.003	96811055	0.0100	0.009446	
2	12.795	12.798	-0.003	60192010	0.0100	0.009477	
						RPD = 0.33	
14 4,4'-DDE							M
1	12.623	12.620	0.003	138508997	0.0200	0.0194	M
2	13.165	13.169	-0.004	110056211	0.0200	0.0186	
						RPD = 4.05	
15 Endosulfan I							M
1	12.675	12.670	0.005	133192645	0.0100	0.009359	M
2	12.887	12.890	-0.003	63336510	0.0100	0.009749	
						RPD = 4.08	
16 Dieldrin							
1	13.131	13.128	0.003	209719791	0.0200	0.0196	
2	13.406	13.409	-0.003	125329219	0.0200	0.0194	
						RPD = 1.00	
18 Endrin							
1	13.564	13.561	0.003	151726911	0.0200	0.0203	
2	13.969	13.971	-0.002	81376887	0.0200	0.0206	
						RPD = 1.21	
19 4,4'-DDD							
1	13.762	13.759	0.003	133184619	0.0200	0.0184	
2	14.257	14.259	-0.002	72305652	0.0200	0.0185	
						RPD = 0.73	
20 Endosulfan II							
1	13.994	13.992	0.002	170958193	0.0200	0.0194	
2	14.377	14.380	-0.003	119793107	0.0200	0.0196	
						RPD = 1.21	
21 4,4'-DDT							
1	14.274	14.272	0.002	156605868	0.0200	0.0187	
2	14.827	14.829	-0.002	64492371	0.0200	0.0177	
						RPD = 5.50	
24 Endrin aldehyde							
1	14.777	14.774	0.003	124745675	0.0200	0.0186	
2	15.006	15.009	-0.003	77649580	0.0200	0.0187	
						RPD = 0.54	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
25 Methoxychlor							
1	15.209	15.207	0.002	335870301	0.1000	0.0966	
2	16.096	16.099	-0.003	140475447	0.1000	0.0928	
						RPD = 4.03	
26 Endosulfan sulfate							
1	15.576	15.571	0.005	154596739	0.0200	0.0193	
2	15.514	15.517	-0.003	99164372	0.0200	0.0194	
						RPD = 0.90	
27 Endrin ketone							
1	16.054	16.051	0.003	187843686	0.0200	0.0191	
2	16.398	16.401	-0.003	118378529	0.0200	0.0195	
						RPD = 1.83	
$ 28 DCB Decachlorobiphenyl							
1	17.546	17.546	0.000	135560911	0.0200	0.0173	
2	18.061	18.064	-0.003	99616825	0.0200	0.0178	
						RPD = 2.95	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

PESTCAL2_00027	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 23-Sep-2019 09:47:20 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_004.d				
Injection Date:	22-Sep-2019 13:11:44	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		

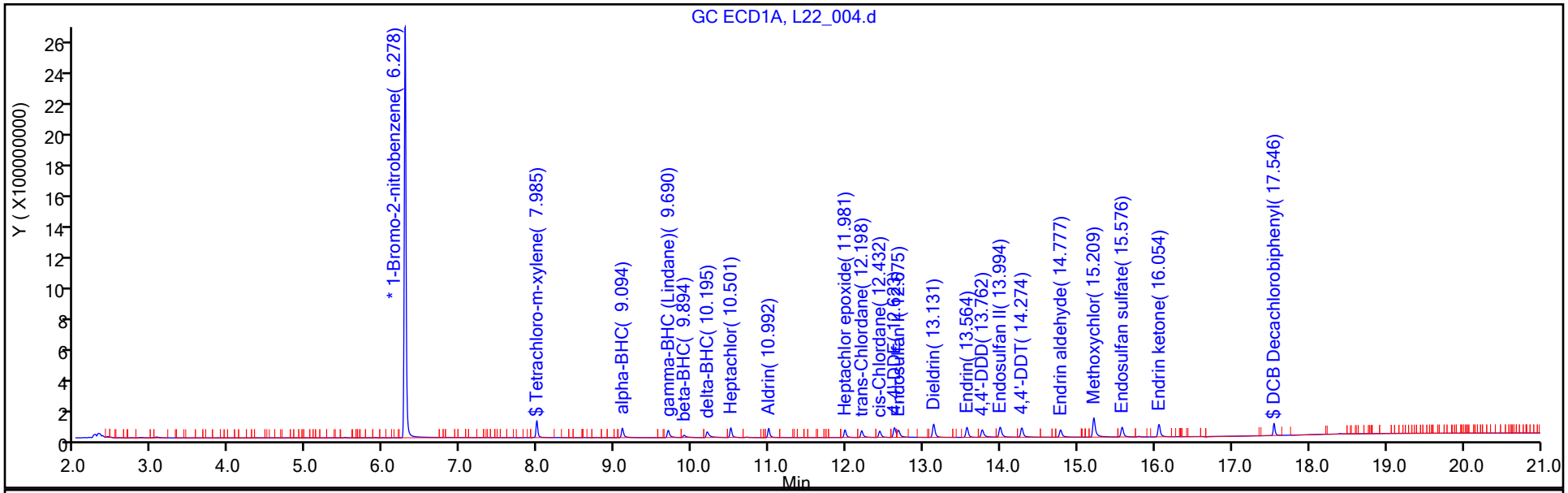

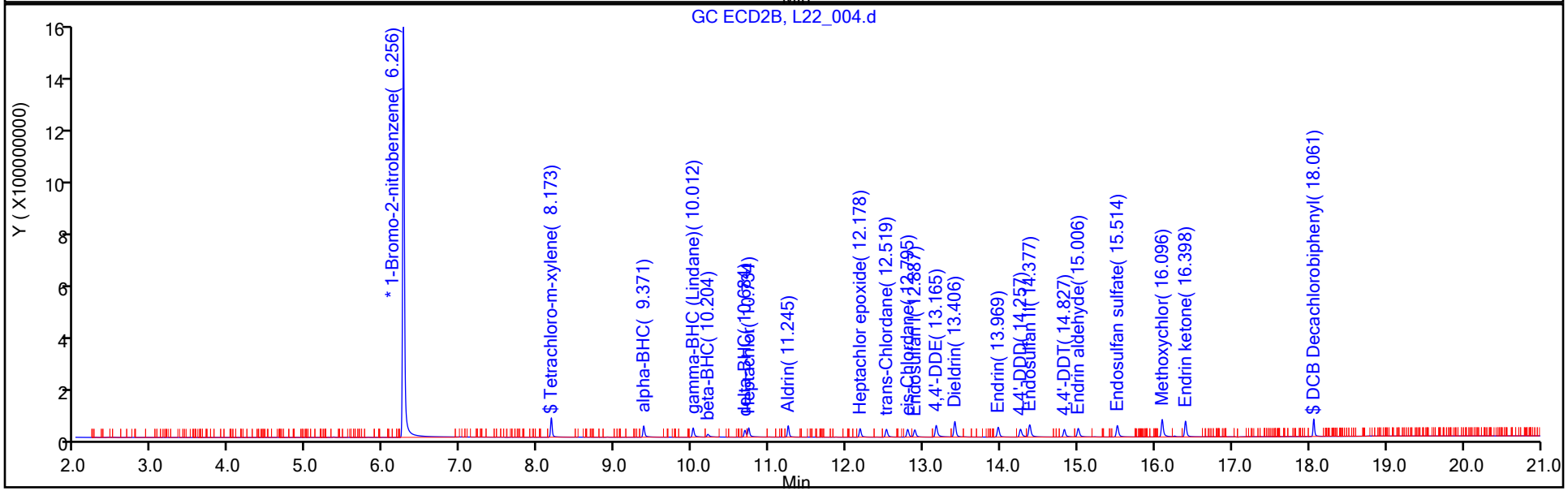

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_004.d				
Injection Date:	22-Sep-2019 13:11:44	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

14 4,4'-DDE, CAS: 72-55-9

Signal: 1

Processing Integration Results

RT: 12.62
Area: 118872136
Amount: 0.017052
Amount Units: ug/ml

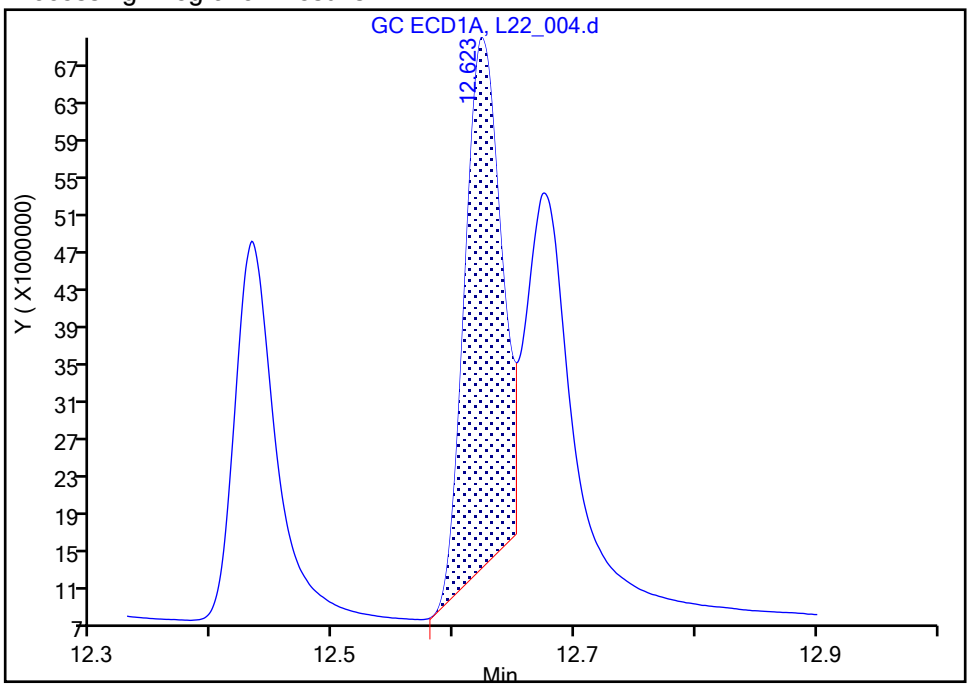

Manual Integration Results

RT: 12.62
Area: 138508997
Amount: 0.019413
Amount Units: ug/ml

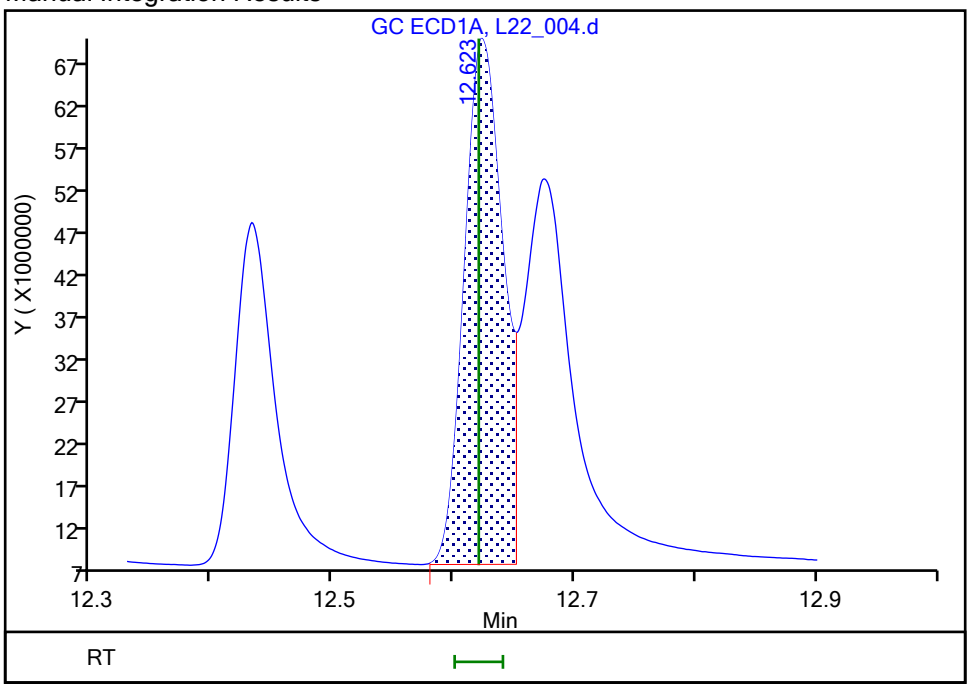

Reviewer: lamj, 23-Sep-2019 09:30:50
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_004.d				
Injection Date:	22-Sep-2019 13:11:44	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

15 Endosulfan I, CAS: 959-98-8

Signal: 1

Processing Integration Results

RT: 12.67
Area: 90486646
Amount: 0.007297
Amount Units: ug/ml

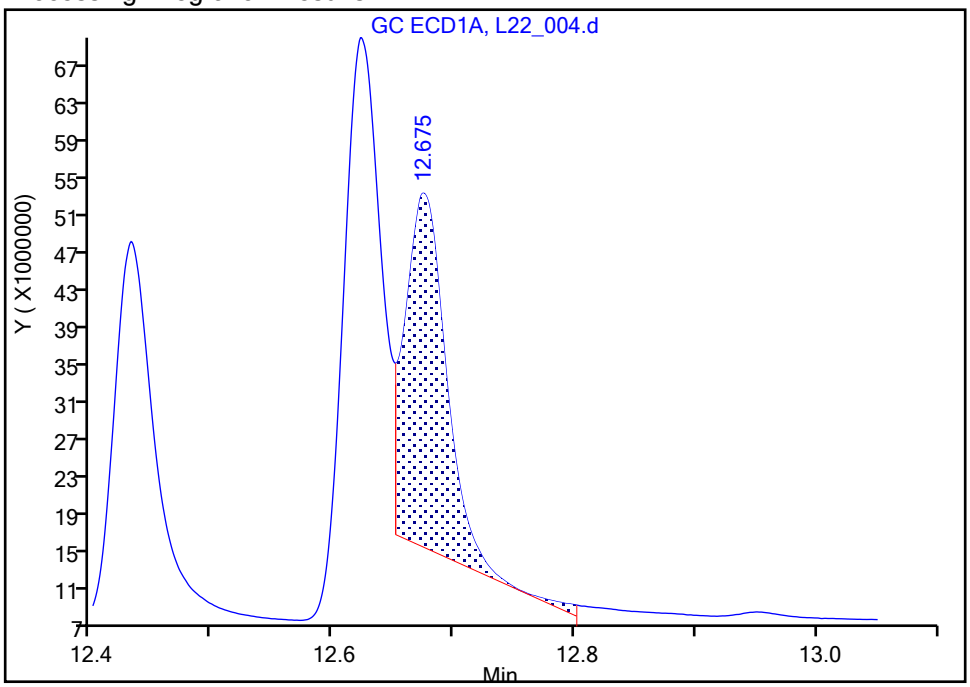

Manual Integration Results

RT: 12.67
Area: 133192645
Amount: 0.009359
Amount Units: ug/ml

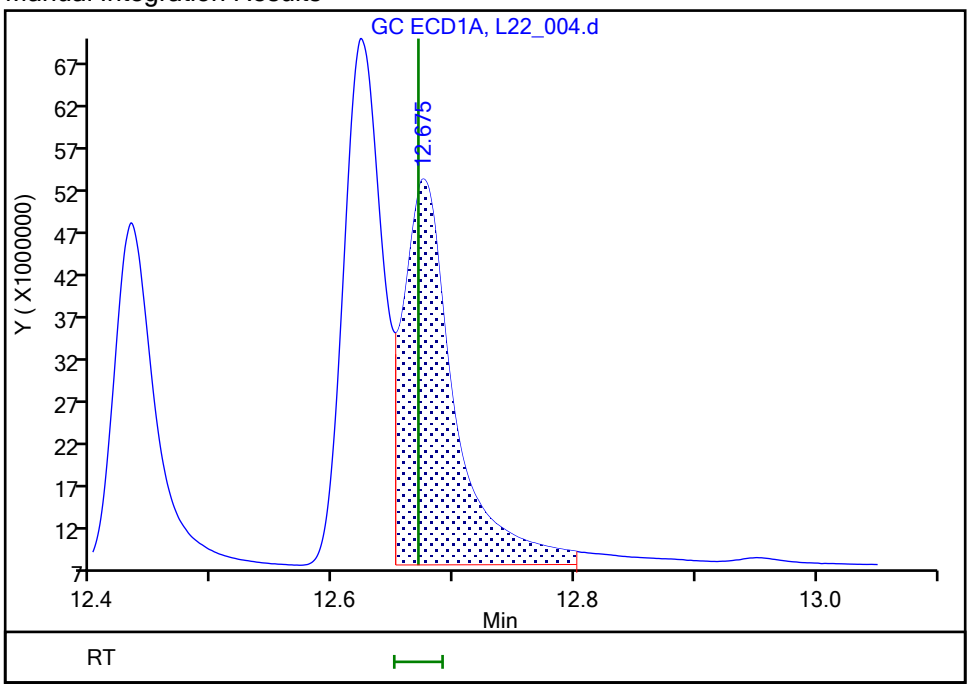

Reviewer: lamj, 23-Sep-2019 09:30:50
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 22-Sep-2019 13:40:04 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031217-005
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVI_PEST_CHECD09*sub3

Method: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\LVI_PEST_CHECD09.m
Limit Group: GCSV - 8081A
Last Update: 23-Sep-2019 09:47:35 Calib Date: 22-Sep-2019 15:04:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_008.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0327

First Level Reviewer: lamj Date: 22-Sep-2019 14:35:57

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.275	6.276	-0.001	4312563242	50.0	50.0	
2	6.277	6.257	0.020	2756361272	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							a
1	7.984	7.984	0.000	380491204	0.0400	0.0385	a
2	8.200	8.175	0.025	240636415	0.0400	0.0381	a
						RPD = 1.29	
3 alpha-BHC							a
1	9.092	9.093	-0.001	277374482	0.0200	0.0196	a
2	9.400	9.374	0.026	163615084	0.0200	0.0188	a
						RPD = 3.74	
4 gamma-BHC (Lindane)							a
1	9.687	9.686	0.001	222291095	0.0200	0.0193	a
2	10.041	10.014	0.027	138303995	0.0200	0.0187	a
						RPD = 2.96	
5 beta-BHC							a
1	9.894	9.887	0.007	90477797	0.0200	0.0191	a
2	10.233	10.201	0.032	62709711	0.0200	0.0207	a
						RPD = 7.95	
7 delta-BHC							a
1	10.196	10.189	0.007	222511069	0.0200	0.0190	a
2	10.715	10.684	0.031	89368532	0.0200	0.0173	a
						RPD = 9.53	
9 Heptachlor							a
1	10.499	10.499	0.000	241131983	0.0200	0.0197	a
2	10.763	10.736	0.027	157844448	0.0200	0.0198	a
						RPD = 0.20	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 Aldrin							a
1	10.990	10.990	0.000	228170583	0.0200	0.0194	a
2	11.275	11.248	0.027	141113663	0.0200	0.0186	a
						RPD = 4.15	
11 Heptachlor epoxide							a
1	11.979	11.979	0.000	204183088	0.0200	0.0198	a
2	12.211	12.181	0.030	118682473	0.0200	0.0185	a
						RPD = 6.84	
12 trans-Chlordane							a
1	12.196	12.194	0.002	206586614	0.0200	0.0195	a
2	12.556	12.522	0.034	121773017	0.0200	0.0181	a
						RPD = 7.45	
13 cis-Chlordane							a
1	12.429	12.429	0.000	193741417	0.0200	0.0195	a
2	12.833	12.798	0.035	111540324	0.0200	0.0179	a
						RPD = 8.78	
14 4,4'-DDE							a
1	12.625	12.620	0.005	249229847	0.0400	0.0360	a
2	13.205	13.169	0.036	206155522	0.0400	0.0355	a
						RPD = 1.45	
15 Endosulfan I							a
1	12.671	12.670	0.001	281916720	0.0200	0.0208	a
2	12.925	12.890	0.035	116818393	0.0200	0.0183	a
						RPD = 12.76	
16 Dieldrin							a
1	13.129	13.128	0.001	414613531	0.0400	0.0400	a
2	13.444	13.409	0.035	231903335	0.0400	0.0365	a
						RPD = 9.04	
18 Endrin							a
1	13.560	13.561	-0.001	282397584	0.0400	0.0390	a
2	14.005	13.971	0.034	139444350	0.0400	0.0359	a
						RPD = 8.48	
19 4,4'-DDD							a
1	13.764	13.759	0.005	273009323	0.0400	0.0388	a
2	14.295	14.259	0.036	133892850	0.0400	0.0348	a
						RPD = 10.85	
20 Endosulfan II							a
1	13.992	13.992	0.000	342750424	0.0400	0.0400	a
2	14.413	14.380	0.033	217321291	0.0400	0.0362	a
						RPD = 10.20	
21 4,4'-DDT							a
1	14.274	14.272	0.002	319583801	0.0400	0.0394	a
2	14.863	14.829	0.034	127558118	0.0400	0.0357	a
						RPD = 10.04	
24 Endrin aldehyde							a
1	14.775	14.774	0.001	263319580	0.0400	0.0405	a
2	15.042	15.009	0.033	149308563	0.0400	0.0366	a
						RPD = 10.21	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
25 Methoxychlor							a
1	15.210	15.207	0.003	677080731	0.2000	0.2009	a
2	16.125	16.099	0.026	269606419	0.2000	0.1811	a
						RPD = 10.37	
26 Endosulfan sulfate							a
1	15.574	15.571	0.003	310834483	0.0400	0.0400	a
2	15.549	15.517	0.032	180186078	0.0400	0.0359	a
						RPD = 10.64	
27 Endrin ketone							a
1	16.053	16.051	0.002	384326211	0.0400	0.0404	a
2	16.426	16.401	0.025	216720960	0.0400	0.0363	a
						RPD = 10.71	
$ 28 DCB Decachlorobiphenyl							
1	17.546	17.546	0.000	323348493	0.0400	0.0426	
2	18.073	18.064	0.009	214171278	0.0400	0.0390	
						RPD = 8.86	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

PESTCAL3_00027	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 23-Sep-2019 09:47:36 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		

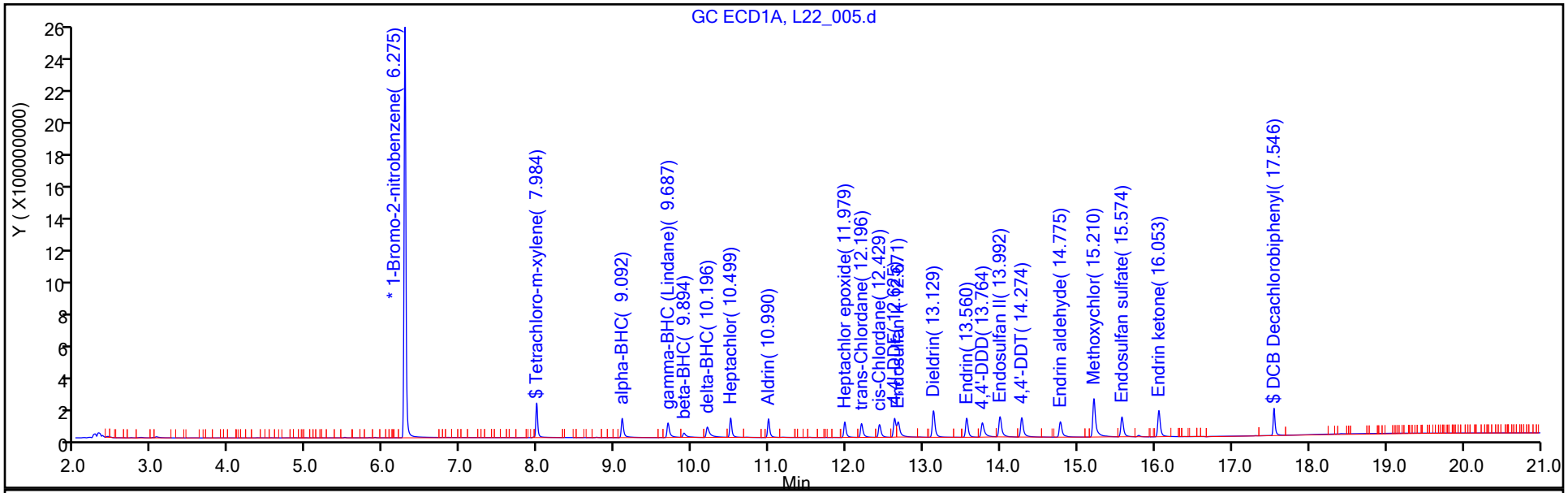

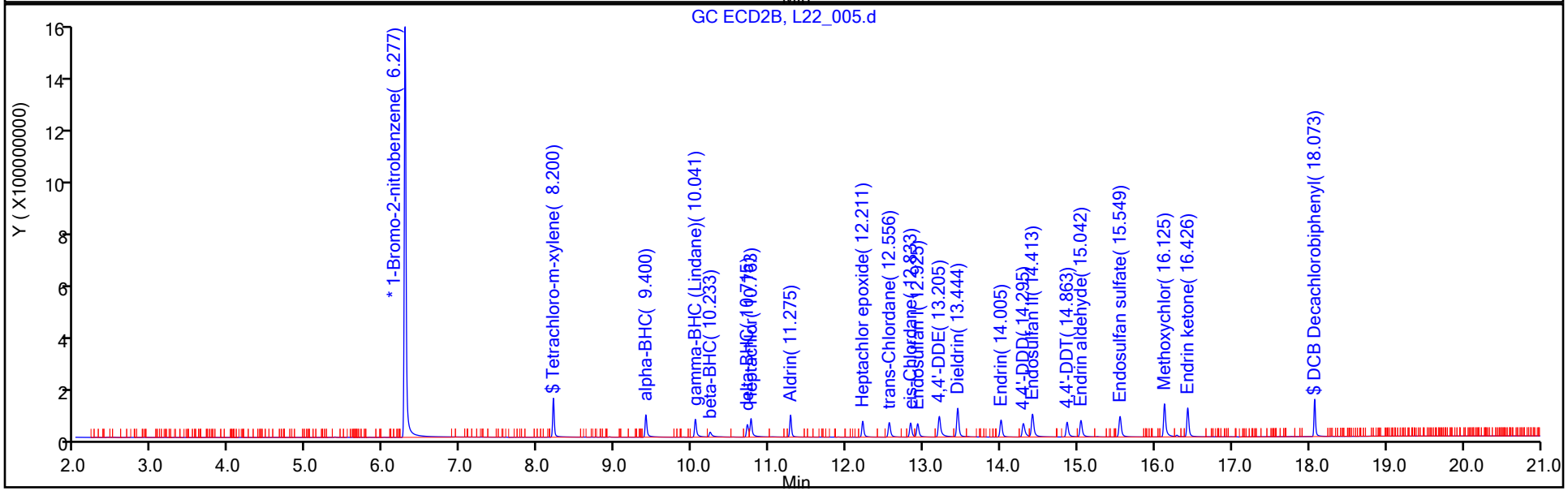

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

$ 2 Tetrachloro-m-xylene, CAS: 877-09-8

Signal: 1

Not Detected
Expected RT: 7.98

Processing Integration Results

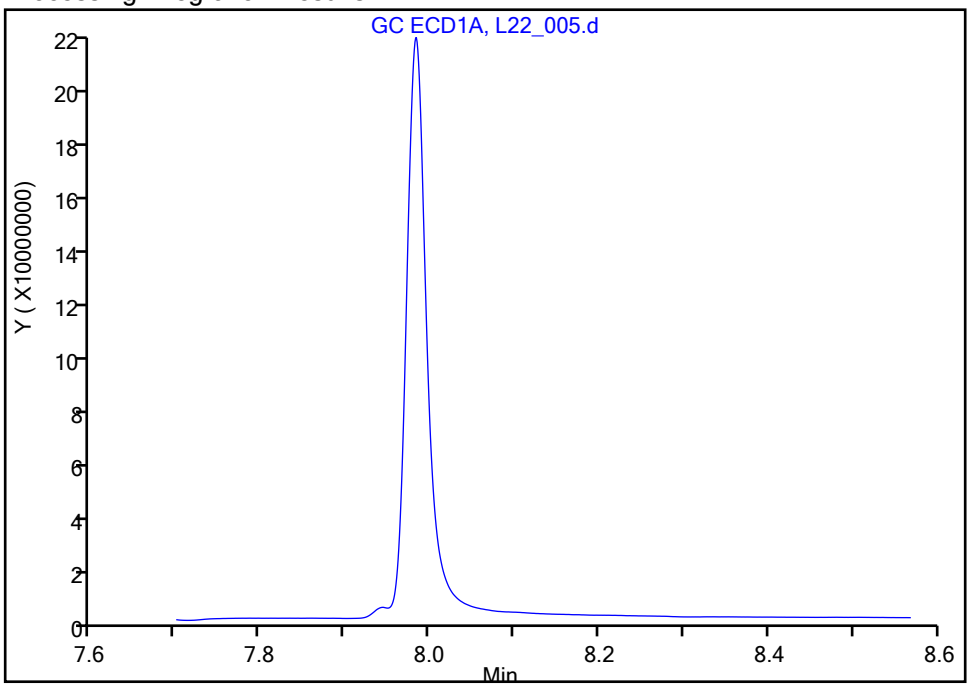

RT: 7.98
Area: 380491204
Amount: 0.038543
Amount Units: ug/ml

Manual Integration Results

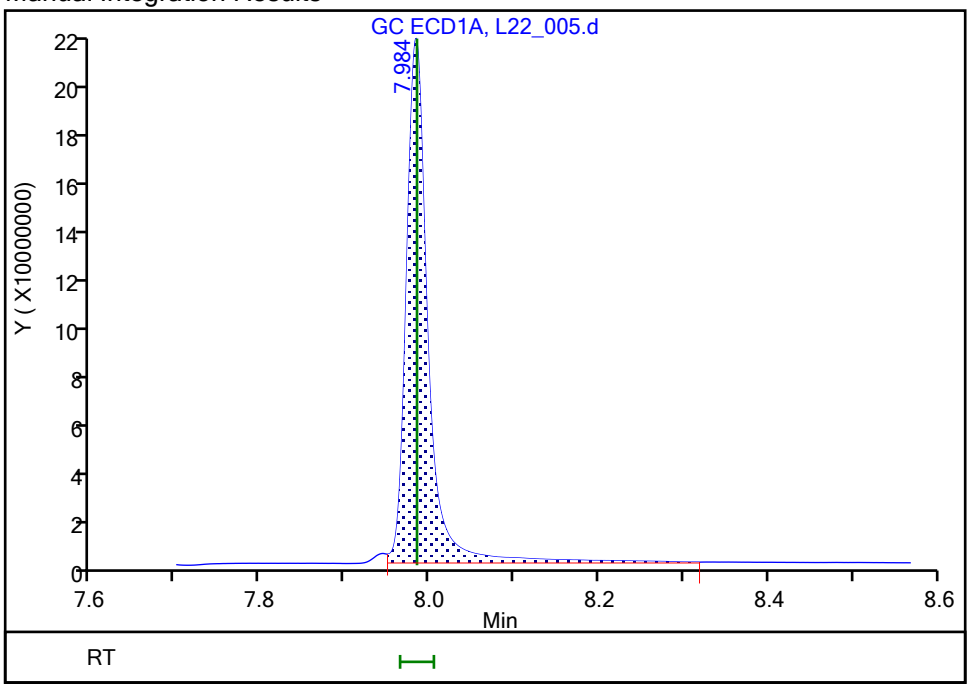

Reviewer: lamj, 22-Sep-2019 14:36:11
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

3 alpha-BHC, CAS: 319-84-6

Signal: 1

Not Detected
Expected RT: 9.09

Processing Integration Results

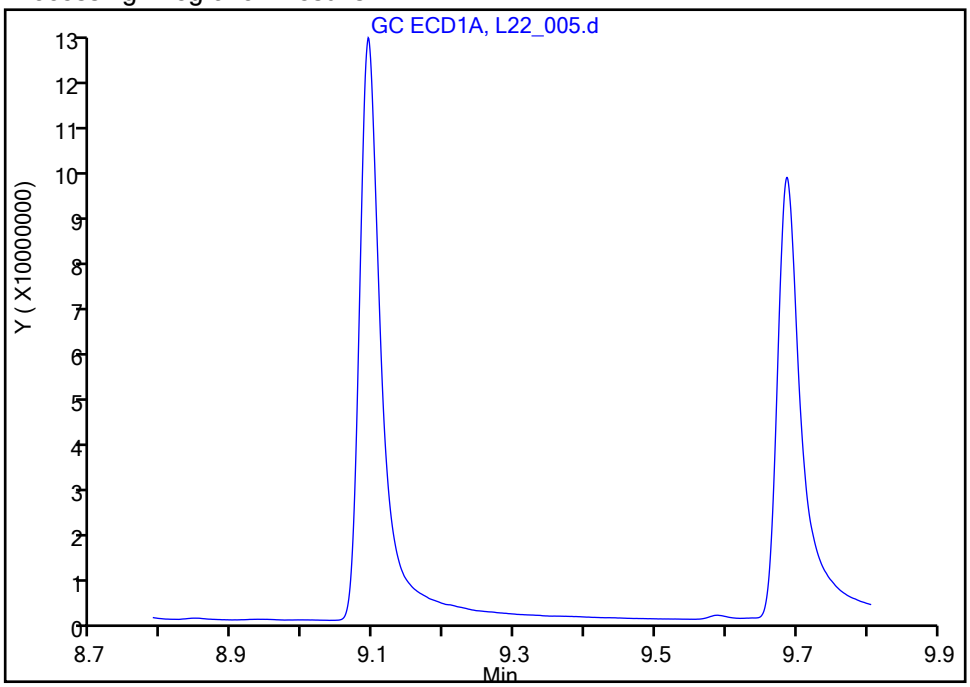

Manual Integration Results

RT:	9.09
Area:	277374482
Amount:	0.019560
Amount Units:	ug/ml

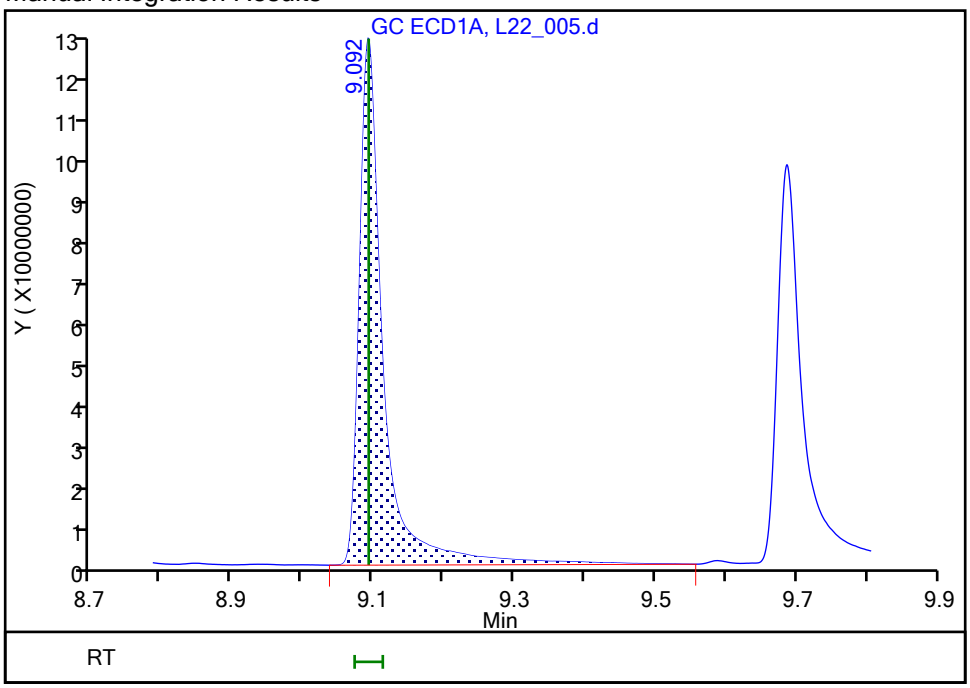

Reviewer: lamj, 22-Sep-2019 14:36:15
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

4 gamma-BHC (Lindane), CAS: 58-89-9

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 9.69

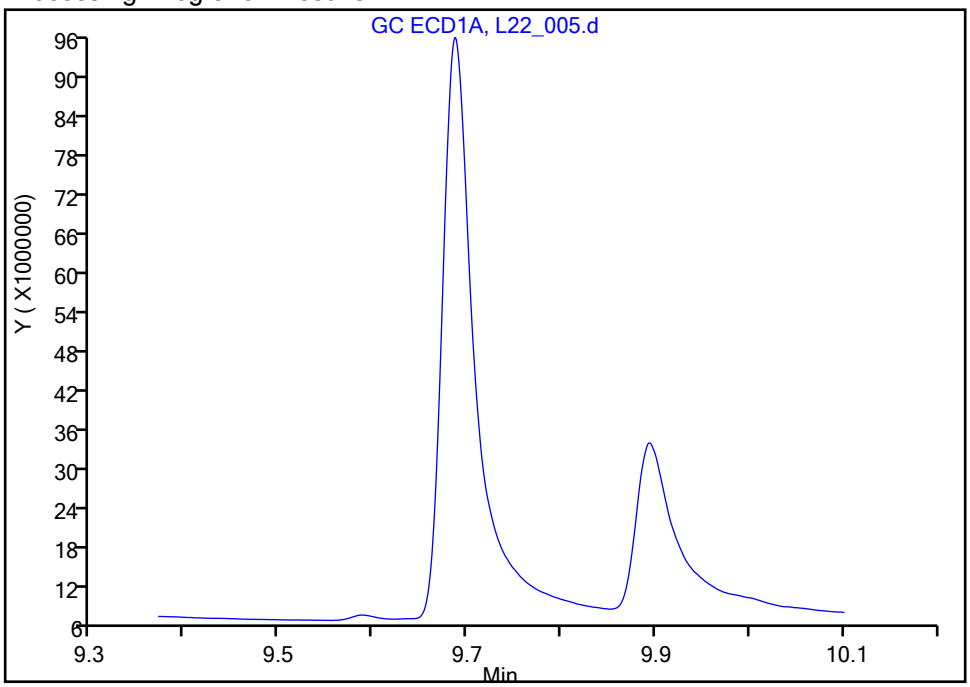

Manual Integration Results

RT:	9.69
Area:	222291095
Amount:	0.019268
Amount Units:	ug/ml

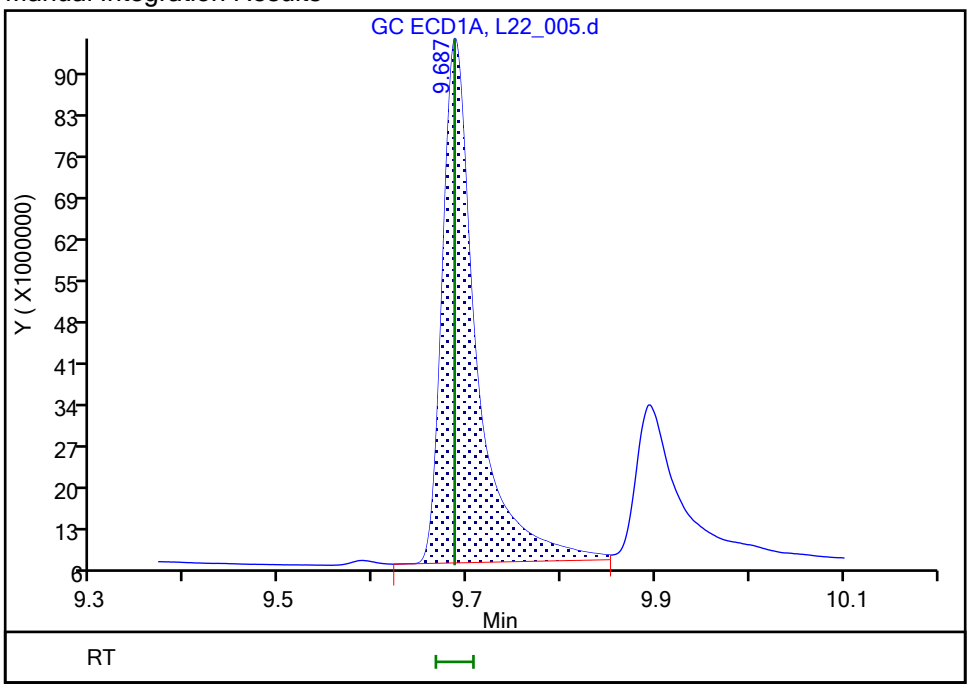

Reviewer: lamj, 22-Sep-2019 14:36:19
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

5 beta-BHC, CAS: 319-85-7

Signal: 1

Not Detected
Expected RT: 9.89

Processing Integration Results

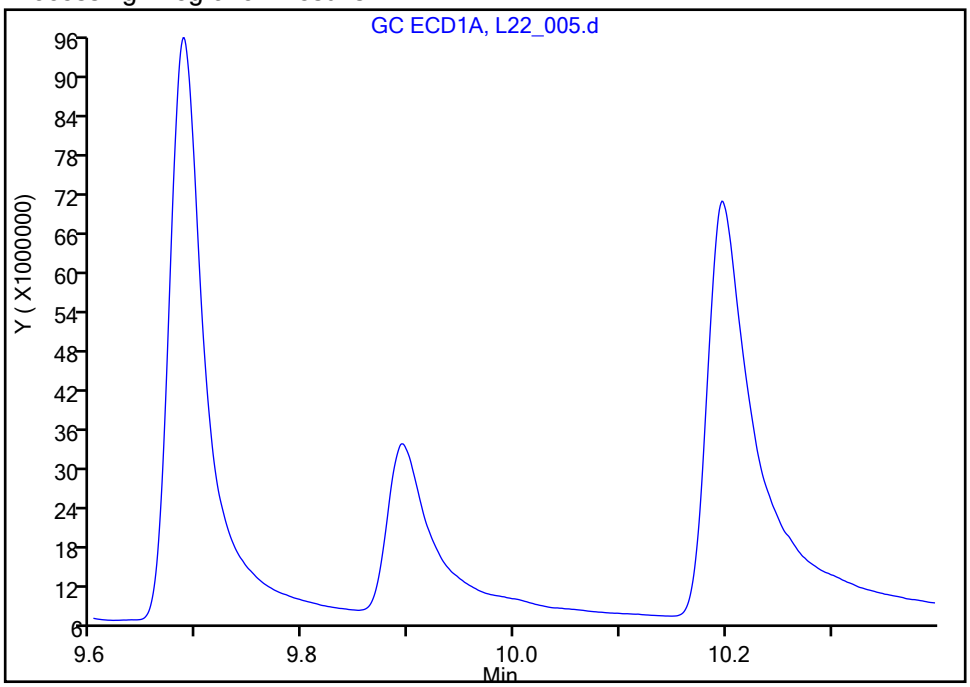

RT: 9.89
Area: 90477797
Amount: 0.019097
Amount Units: ug/ml

Manual Integration Results

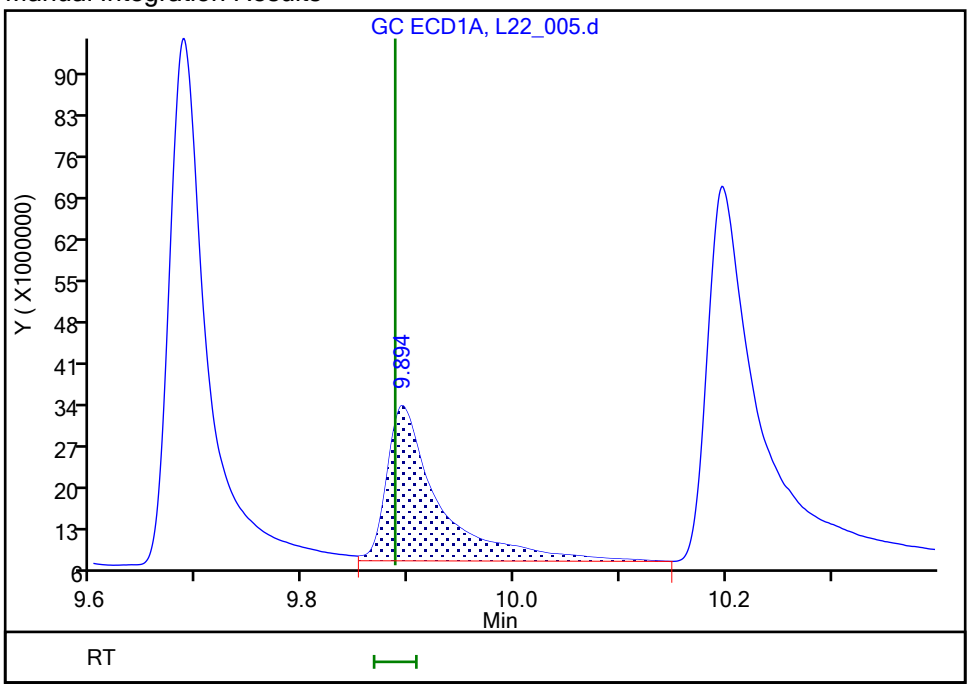

Reviewer: lamj, 22-Sep-2019 14:36:23
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

7 delta-BHC, CAS: 319-86-8

Signal: 1

Not Detected
Expected RT: 10.19

Processing Integration Results

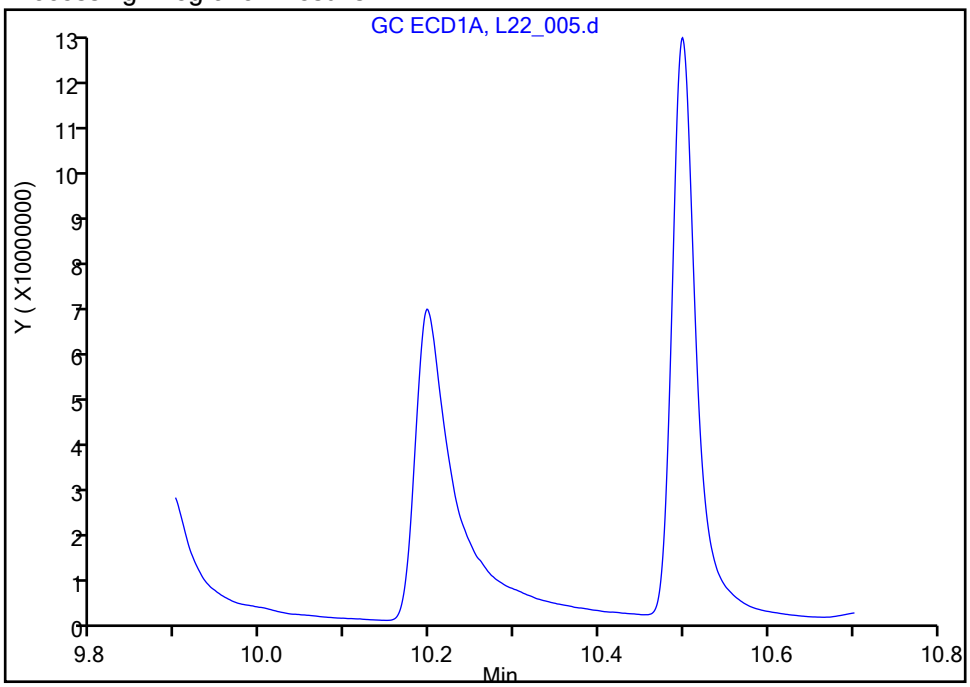

Manual Integration Results

RT:	10.20
Area:	222511069
Amount:	0.019041
Amount Units:	ug/ml

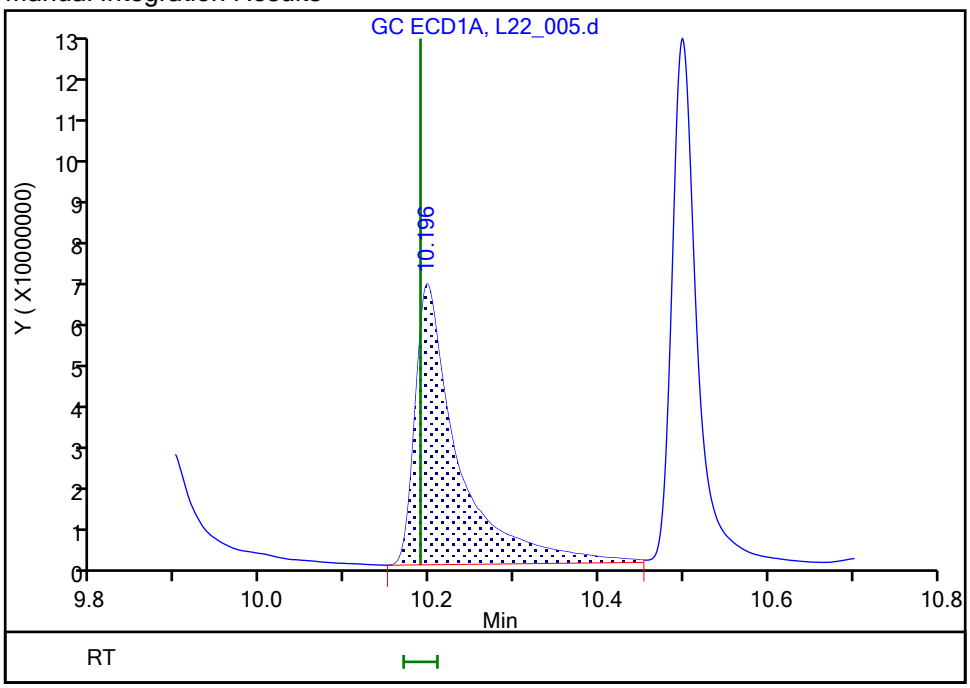

Reviewer: lamj, 22-Sep-2019 14:36:27
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

9 Heptachlor, CAS: 76-44-8

Signal: 1

Not Detected
Expected RT: 10.50

Processing Integration Results

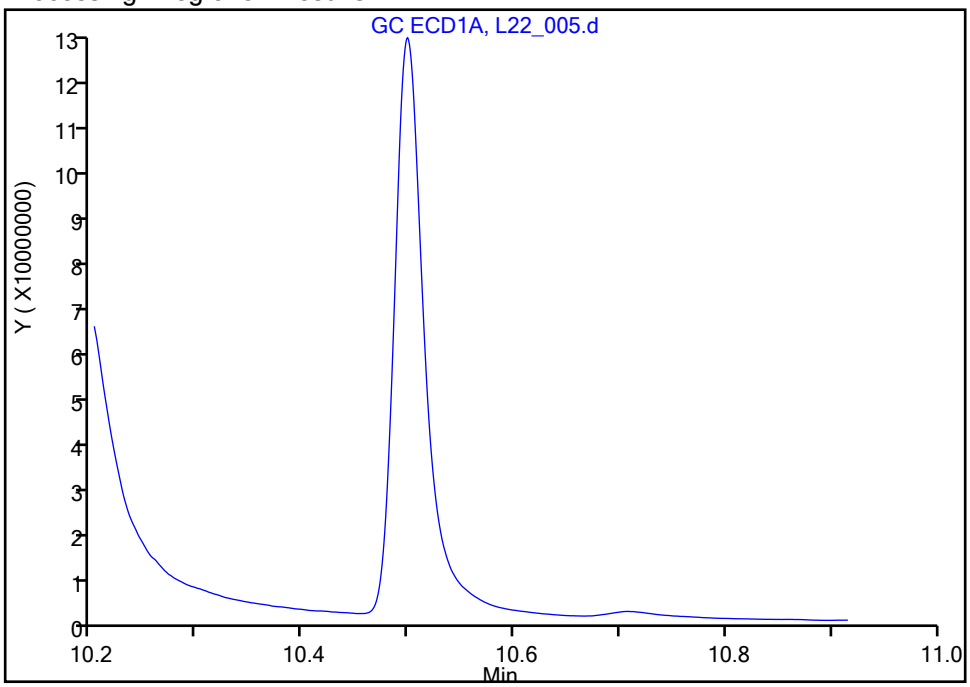

Manual Integration Results

RT:	10.50
Area:	241131983
Amount:	0.019732
Amount Units:	ug/ml

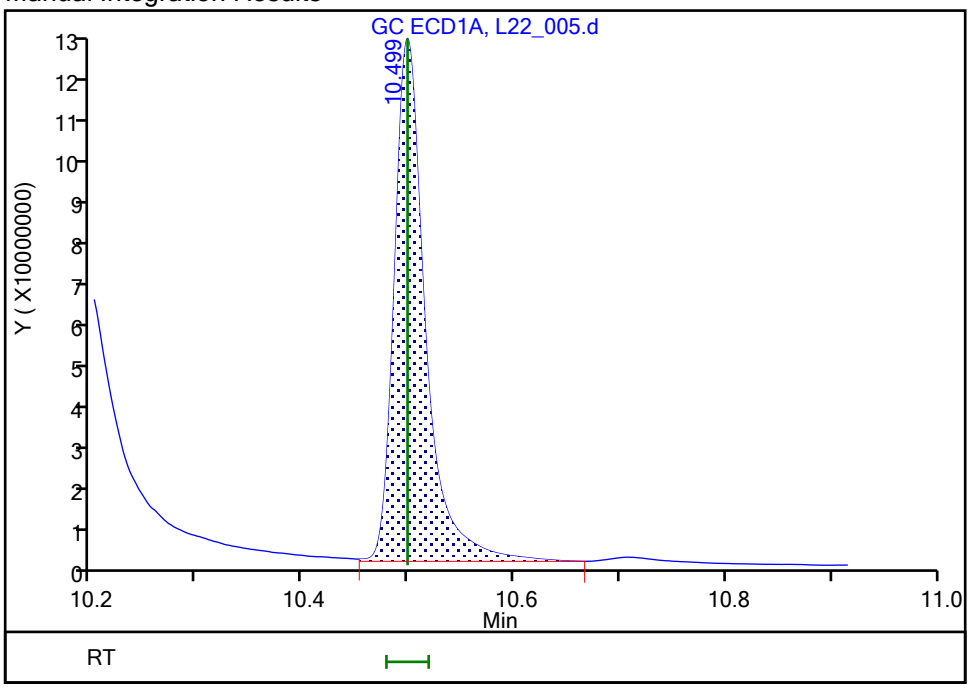

Reviewer: lamj, 22-Sep-2019 14:36:30
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

10 Aldrin, CAS: 309-00-2

Signal: 1

Not Detected
Expected RT: 10.99

Processing Integration Results

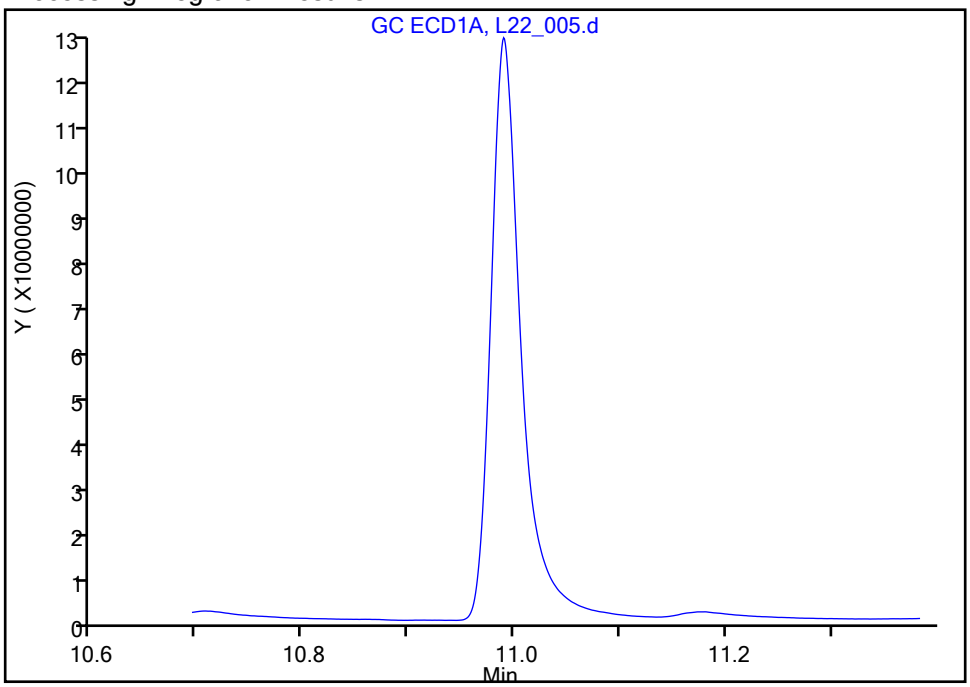

Manual Integration Results

RT:	10.99
Area:	228170583
Amount:	0.019419
Amount Units:	ug/ml

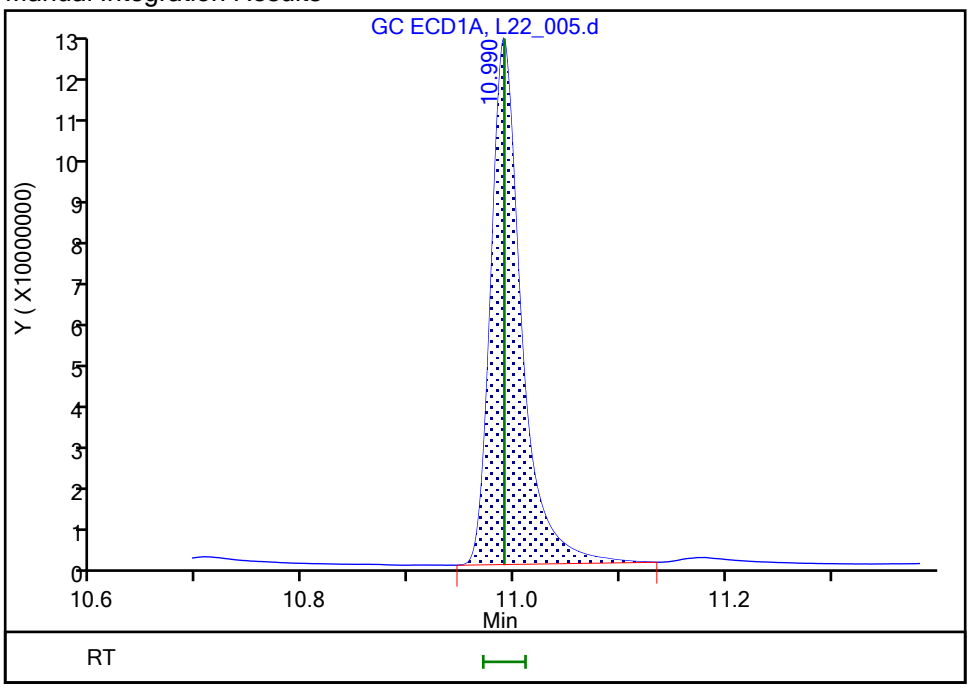

Reviewer: lamj, 22-Sep-2019 14:36:34
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

11 Heptachlor epoxide, CAS: 1024-57-3

Signal: 1

Not Detected
Expected RT: 11.98

Processing Integration Results

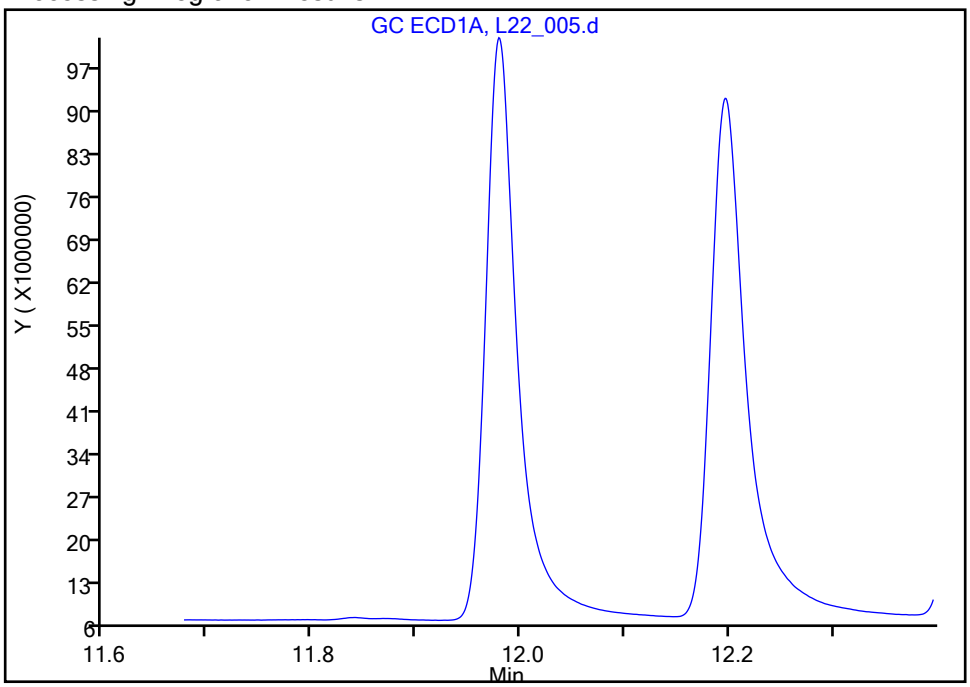

Manual Integration Results

RT:	11.98
Area:	204183088
Amount:	0.019781
Amount Units:	ug/ml

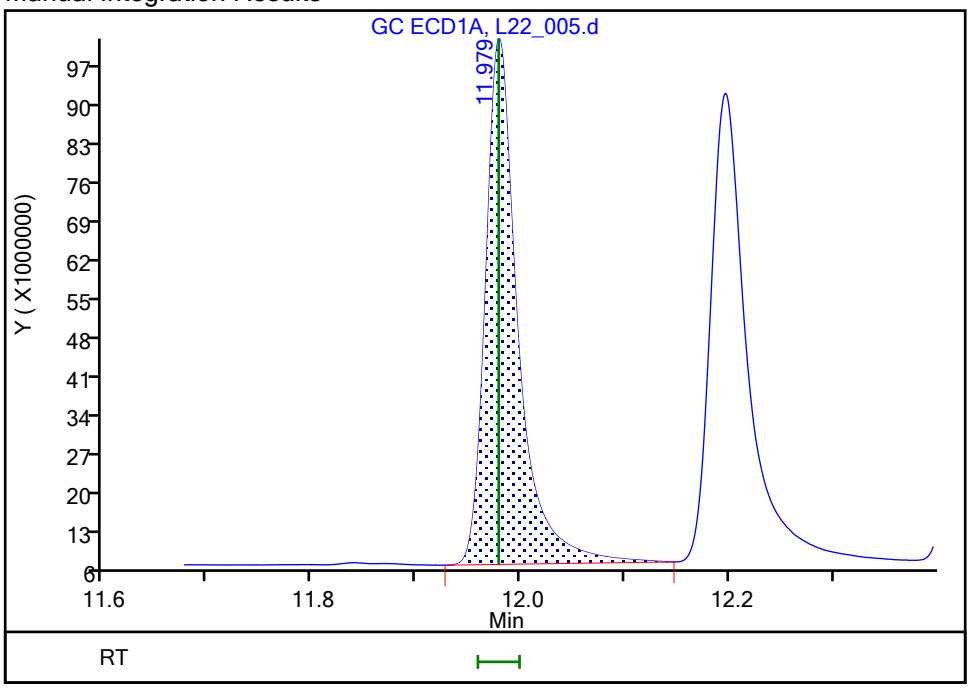

Reviewer: lamj, 22-Sep-2019 14:36:38
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

12 trans-Chlordane, CAS: 5103-74-2

Signal: 1

Not Detected
Expected RT: 12.19

Processing Integration Results

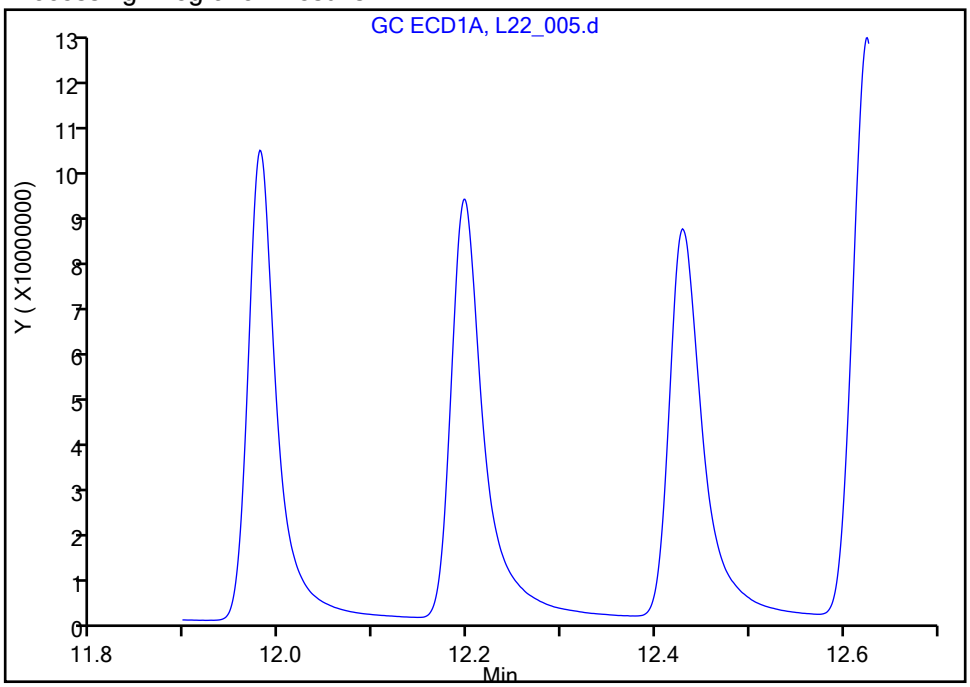

RT: 12.20
Area: 206586614
Amount: 0.019468
Amount Units: ug/ml

Manual Integration Results

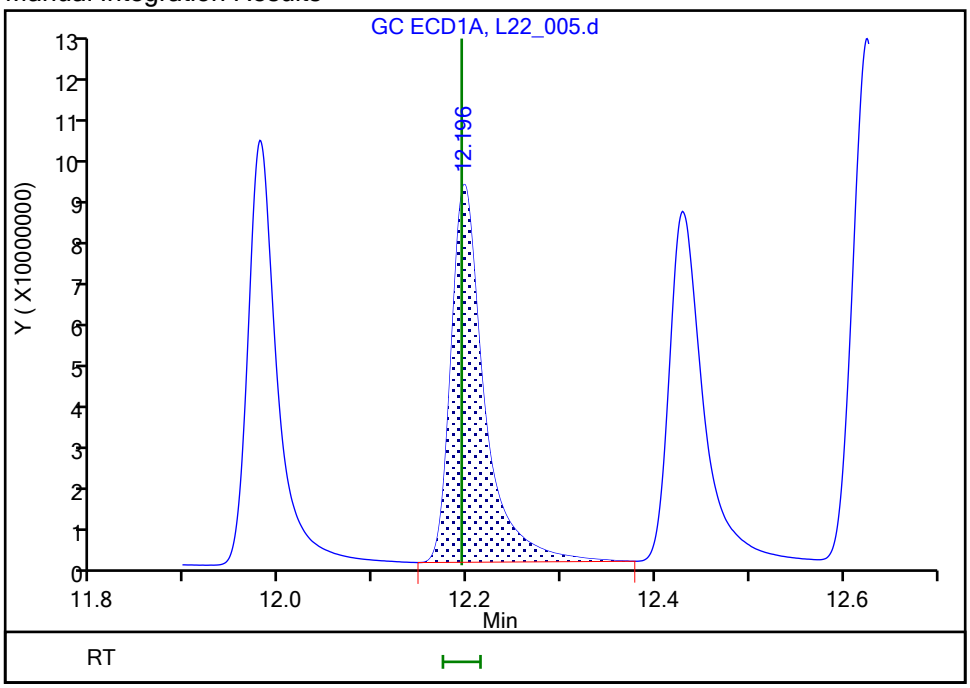

Reviewer: lamj, 22-Sep-2019 14:36:41
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

13 cis-Chlordane, CAS: 5103-71-9

Signal: 1

Not Detected
Expected RT: 12.43

Processing Integration Results

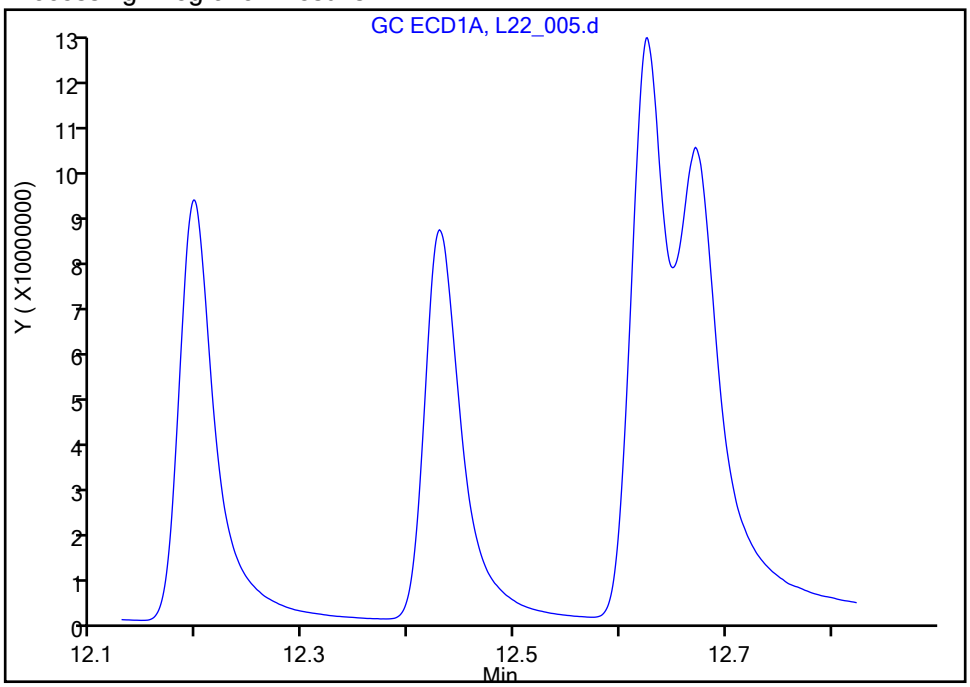

Manual Integration Results

RT: 12.43
Area: 193741417
Amount: 0.019498
Amount Units: ug/ml

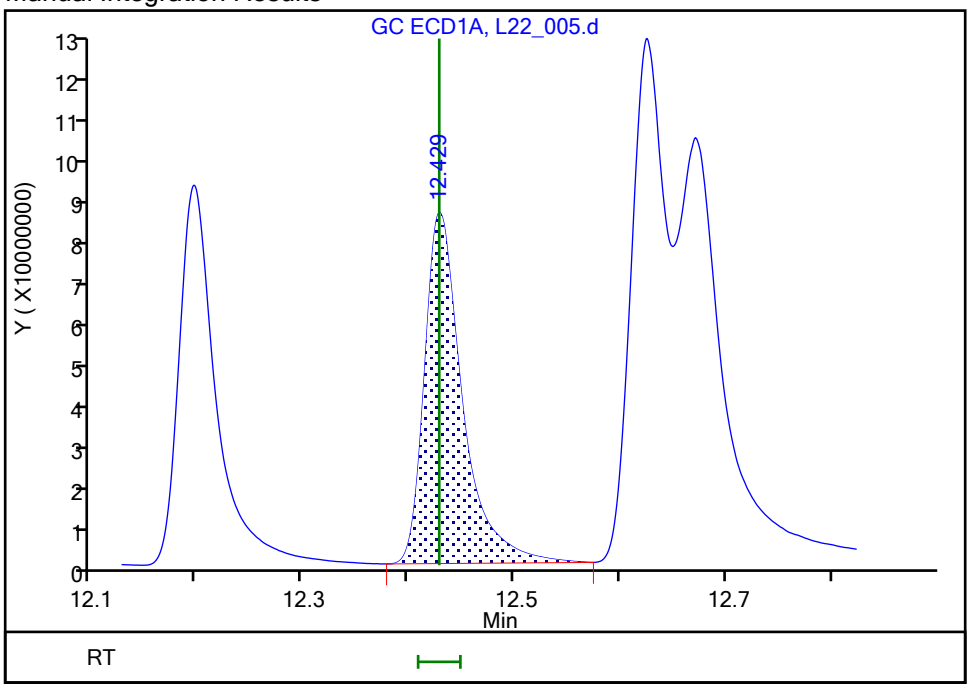

Reviewer: lamj, 22-Sep-2019 14:36:45
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

14 4,4'-DDE, CAS: 72-55-9

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 12.62

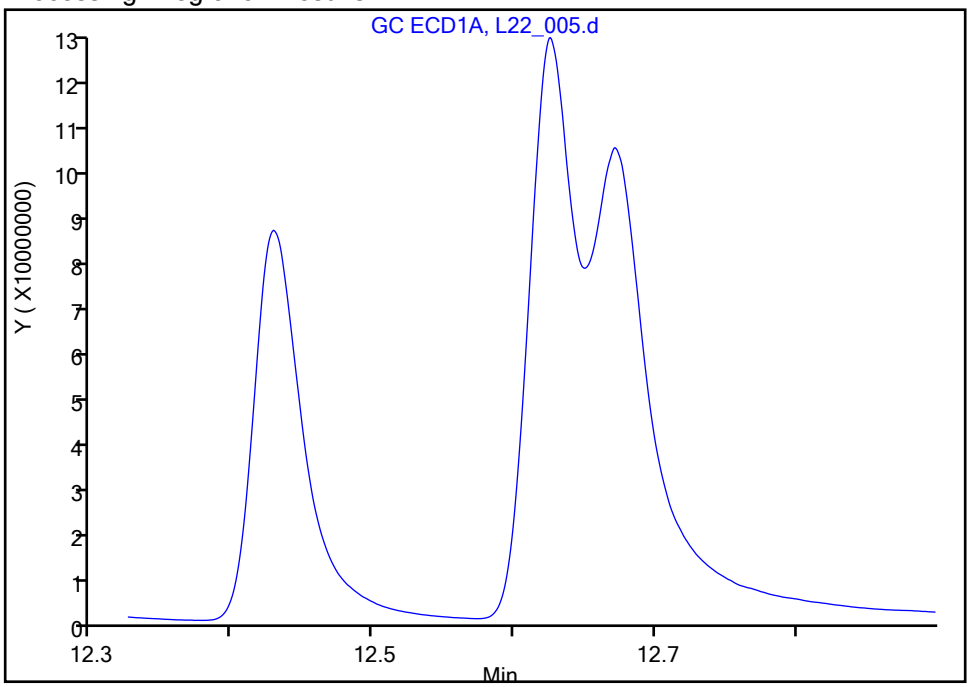

Manual Integration Results

RT: 12.63
Area: 249229847
Amount: 0.036030
Amount Units: ug/ml

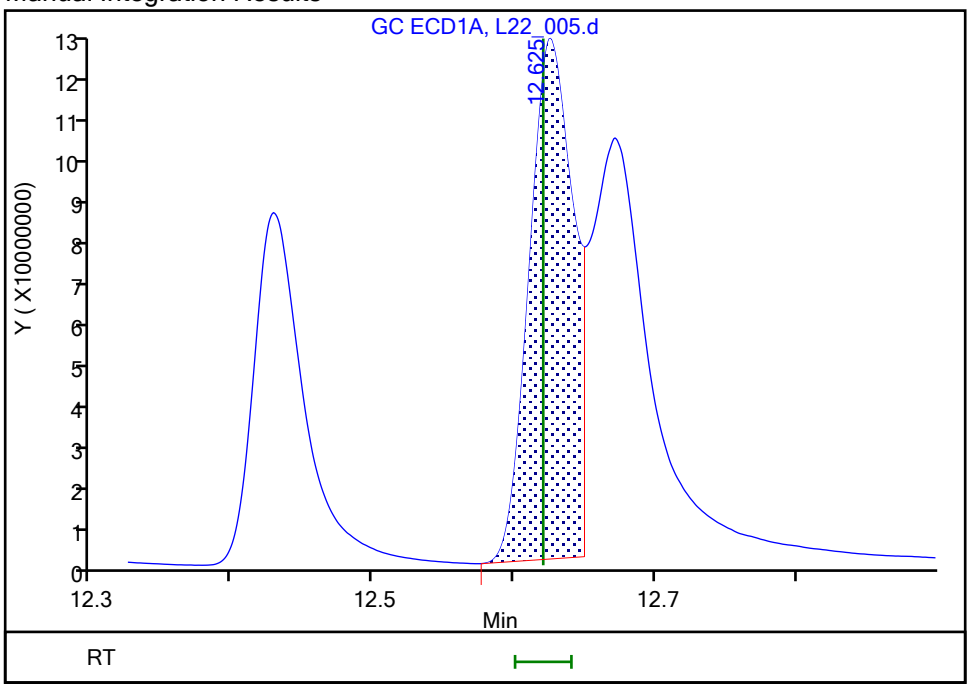

Reviewer: lamj, 22-Sep-2019 14:36:49
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

15 Endosulfan I, CAS: 959-98-8

Signal: 1

Not Detected
Expected RT: 12.67

Processing Integration Results

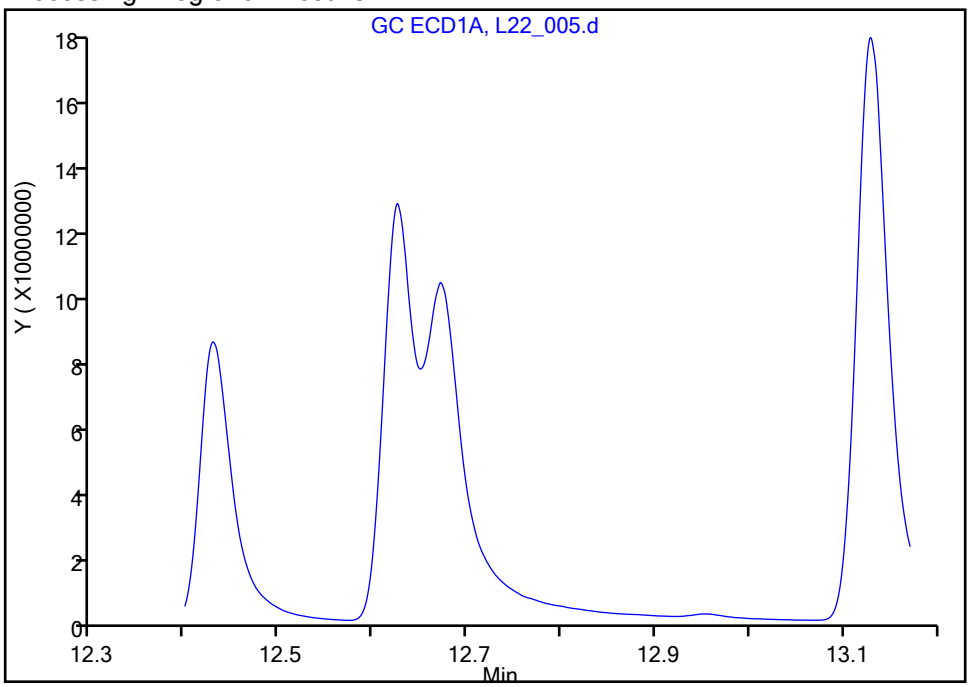

Manual Integration Results

RT:	12.67
Area:	281916720
Amount:	0.020777
Amount Units:	ug/ml

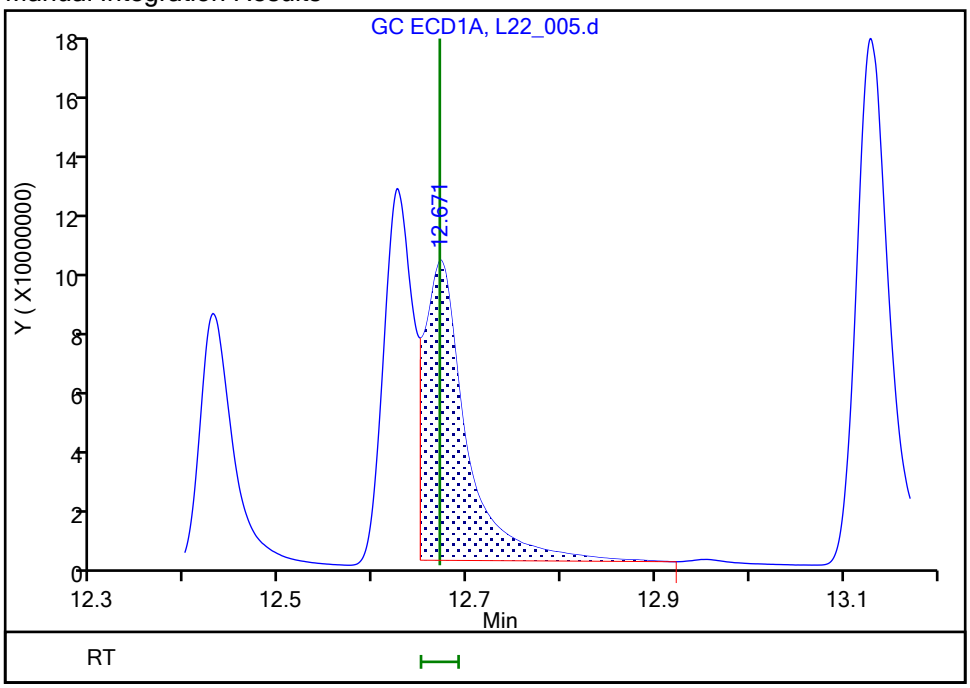

Reviewer: lamj, 22-Sep-2019 14:36:53
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

16 Dieldrin, CAS: 60-57-1

Signal: 1

Not Detected
Expected RT: 13.13

Processing Integration Results

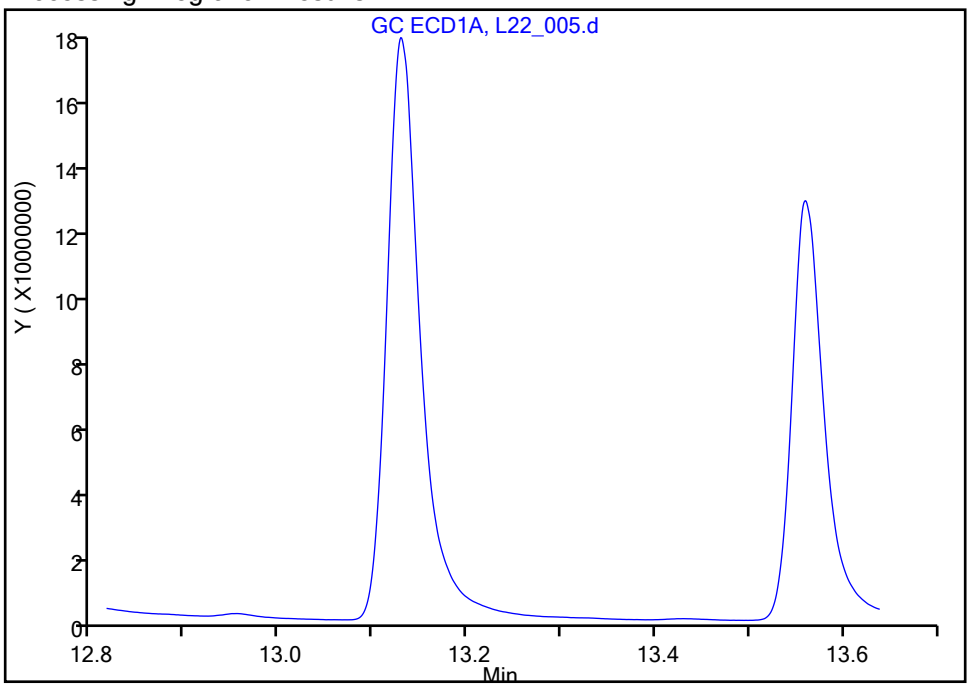

Manual Integration Results

RT: 13.13
Area: 414613531
Amount: 0.039993
Amount Units: ug/ml

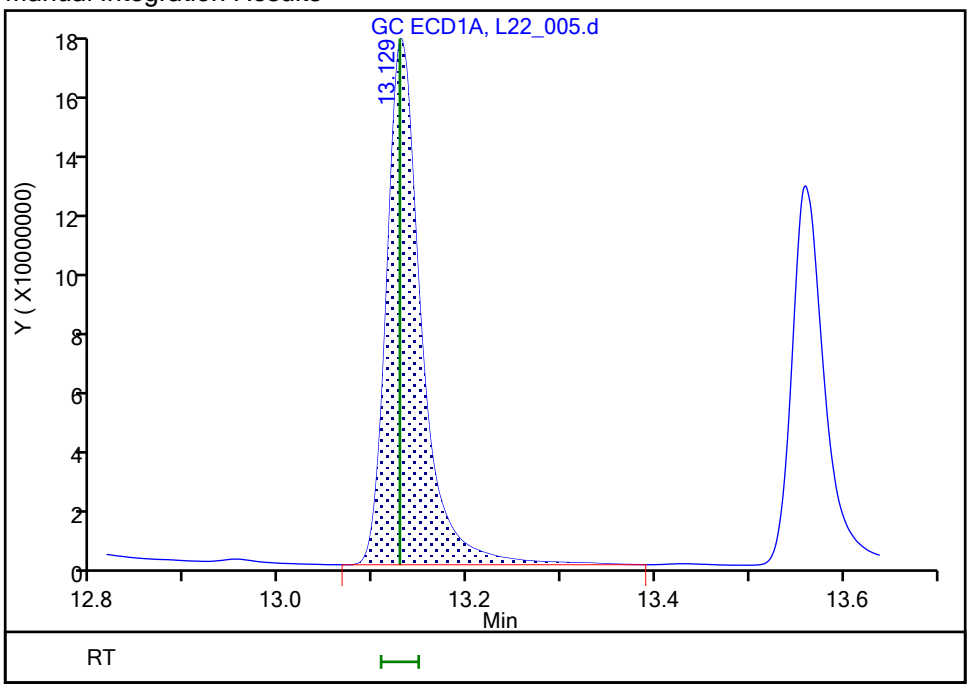

Reviewer: lamj, 22-Sep-2019 14:36:57
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

18 Endrin, CAS: 72-20-8

Signal: 1

Not Detected
Expected RT: 13.56

Processing Integration Results

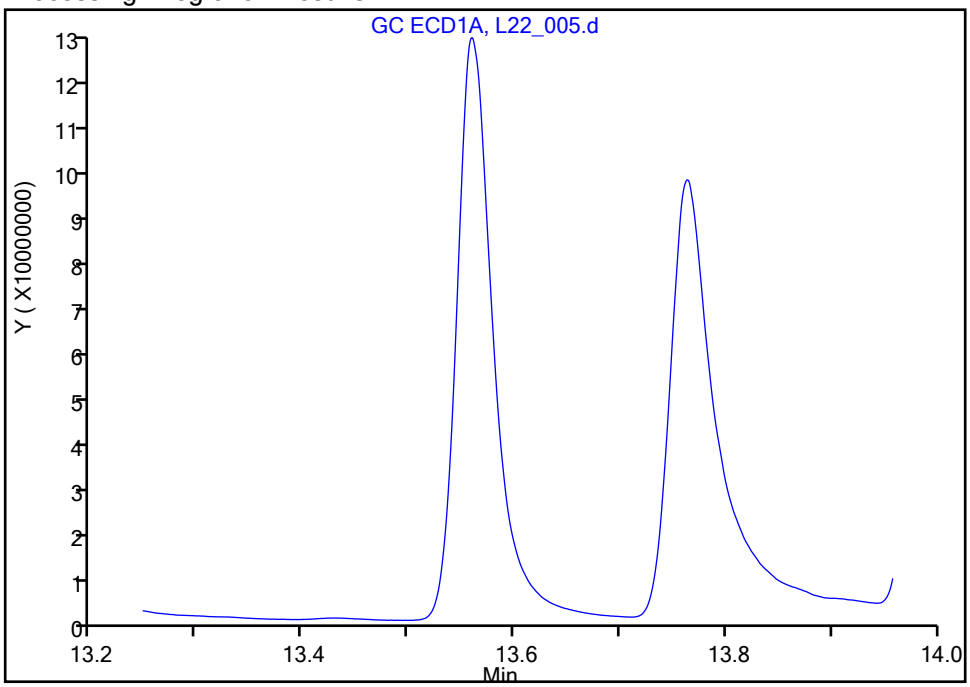

Manual Integration Results

RT:	13.56
Area:	282397584
Amount:	0.039029
Amount Units:	ug/ml

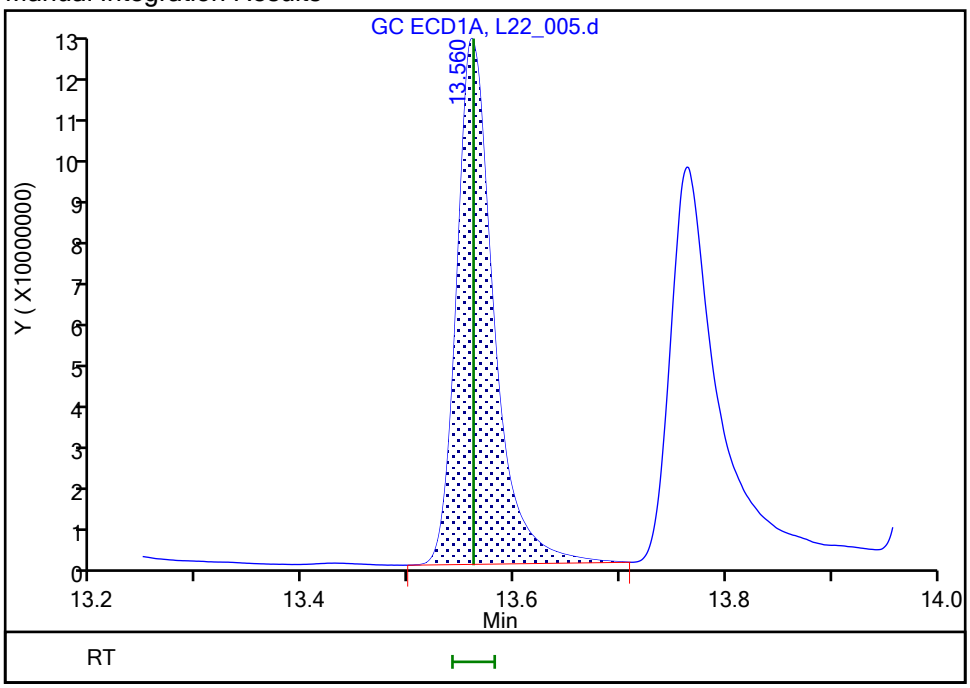

Reviewer: lamj, 22-Sep-2019 14:37:00
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

19 4,4'-DDD, CAS: 72-54-8

Signal: 1

Not Detected
Expected RT: 13.76

Processing Integration Results

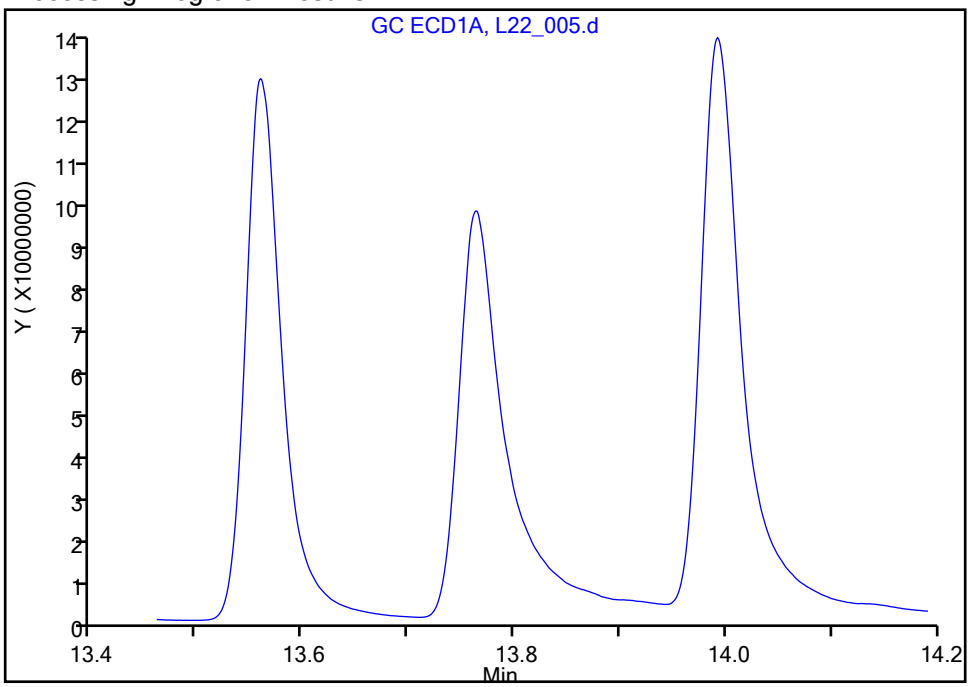

RT: 13.76
Area: 273009323
Amount: 0.038818
Amount Units: ug/ml

Manual Integration Results

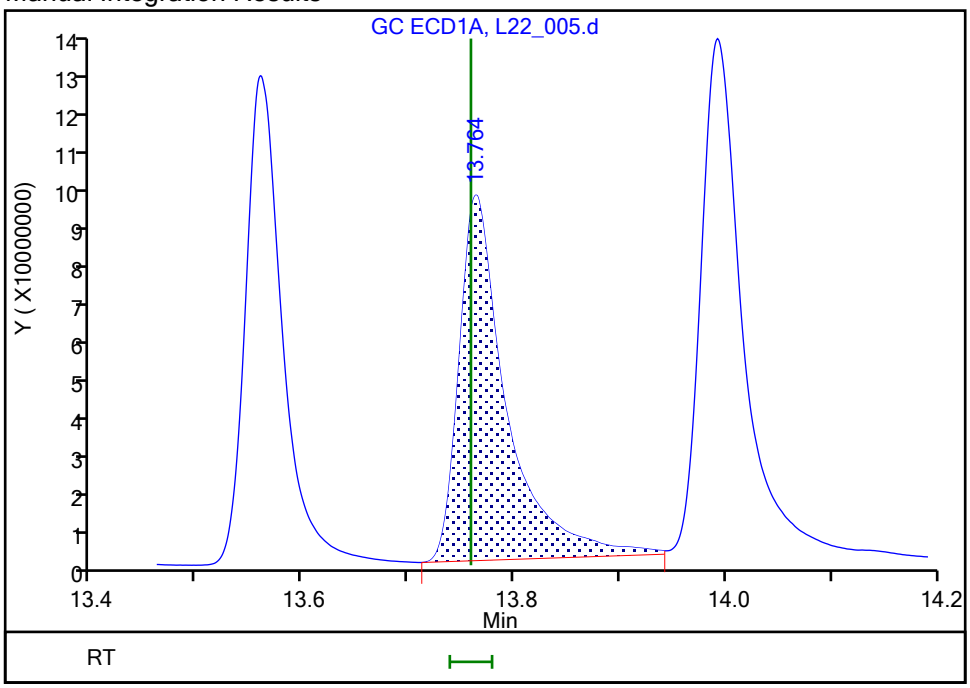

Reviewer: lamj, 22-Sep-2019 14:37:04
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

20 Endosulfan II, CAS: 33213-65-9

Signal: 1

Not Detected
Expected RT: 13.99

Processing Integration Results

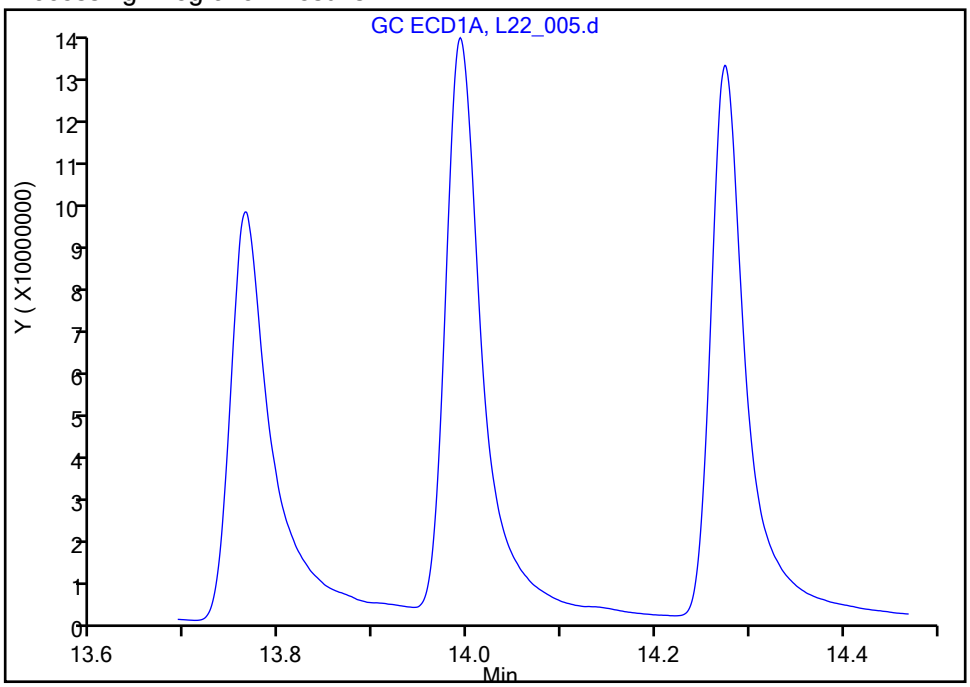

Manual Integration Results

RT:	13.99
Area:	342750424
Amount:	0.040038
Amount Units:	ug/ml

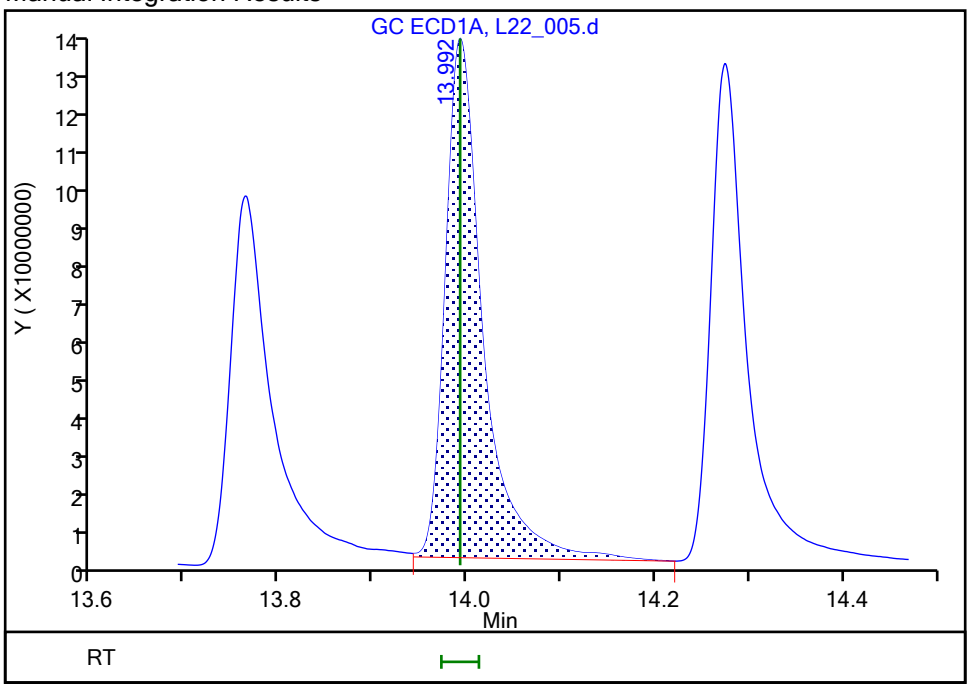

Reviewer: lamj, 22-Sep-2019 14:37:08
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

21 4,4'-DDT, CAS: 50-29-3

Signal: 1

Not Detected
Expected RT: 14.27

Processing Integration Results

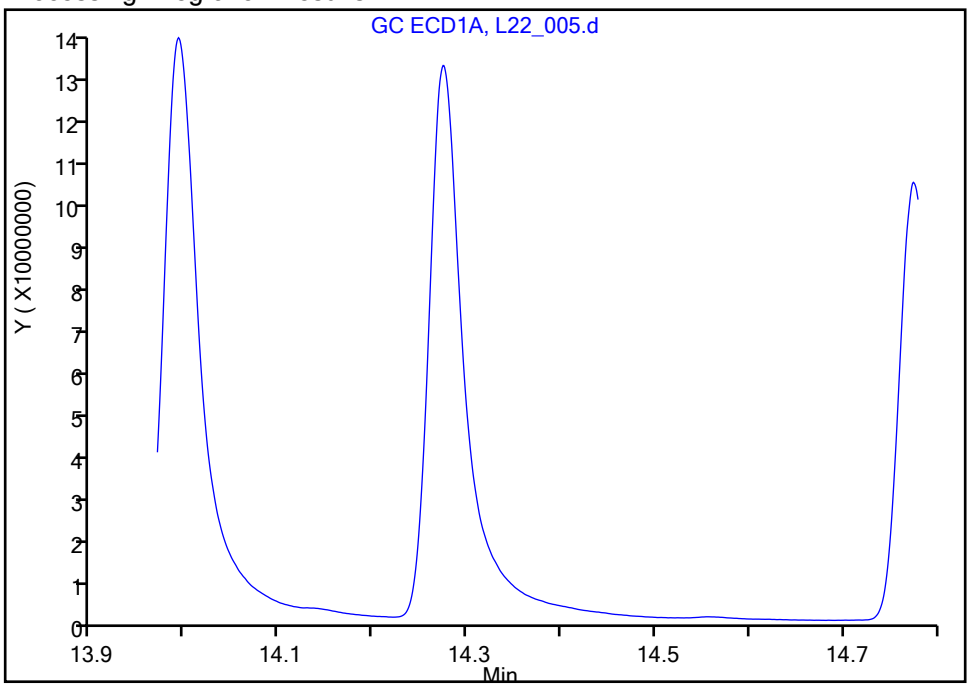

Manual Integration Results

RT: 14.27
Area: 319583801
Amount: 0.039437
Amount Units: ug/ml

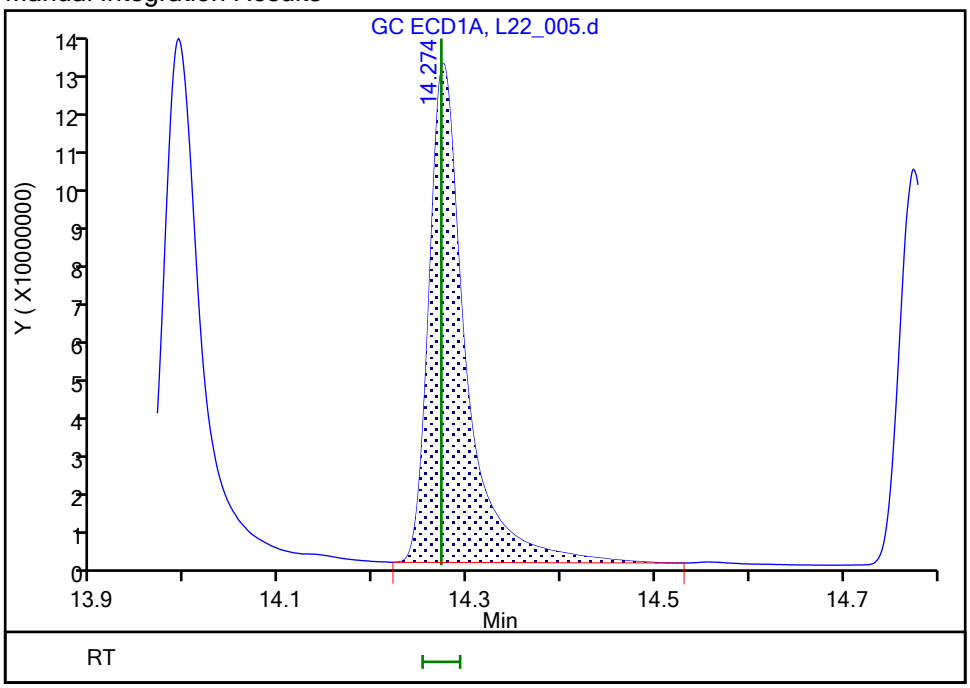

Reviewer: lamj, 22-Sep-2019 14:37:12
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

24 Endrin aldehyde, CAS: 7421-93-4

Signal: 1

Not Detected
Expected RT: 14.77

Processing Integration Results

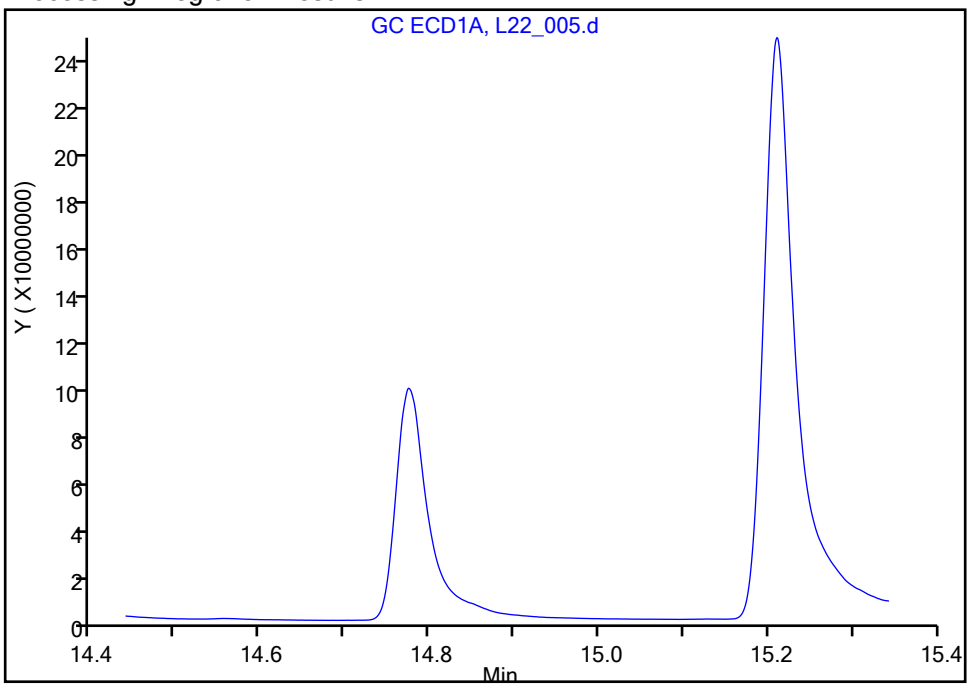

Manual Integration Results

RT:	14.77
Area:	263319580
Amount:	0.040531
Amount Units:	ug/ml

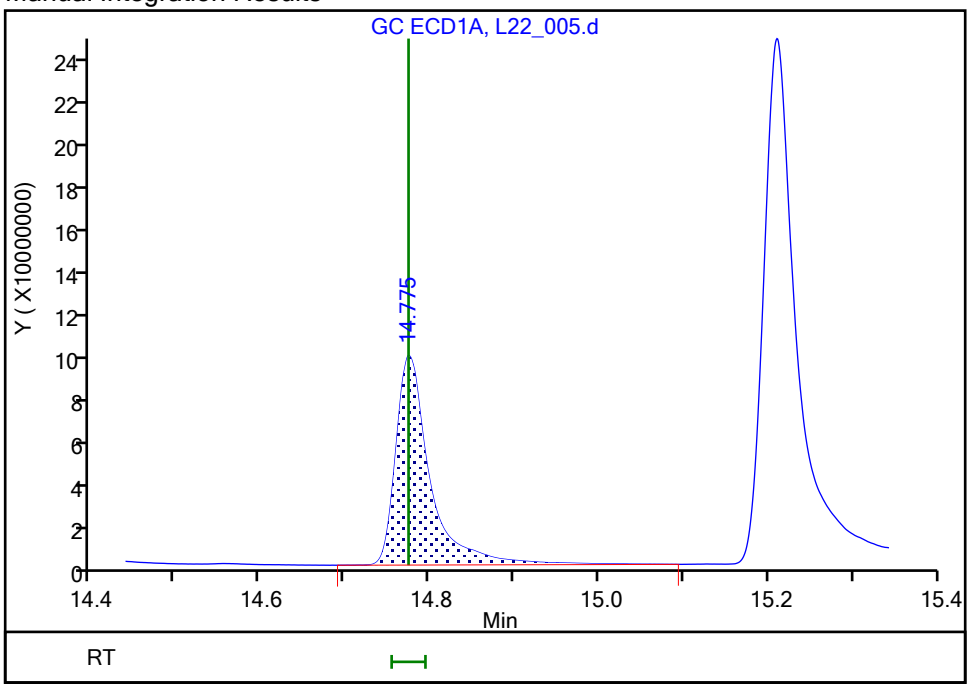

Reviewer: lamj, 22-Sep-2019 14:37:16
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

25 Methoxychlor, CAS: 72-43-5

Signal: 1

Not Detected
Expected RT: 15.21

Processing Integration Results

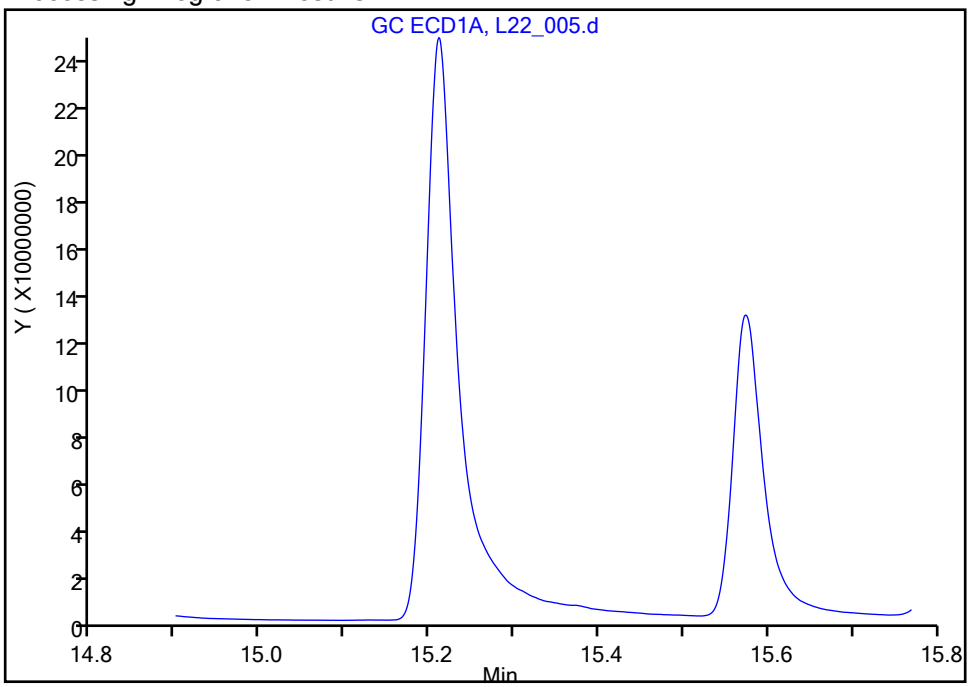

Manual Integration Results

RT:	15.21
Area:	677080731
Amount:	0.200869
Amount Units:	ug/ml

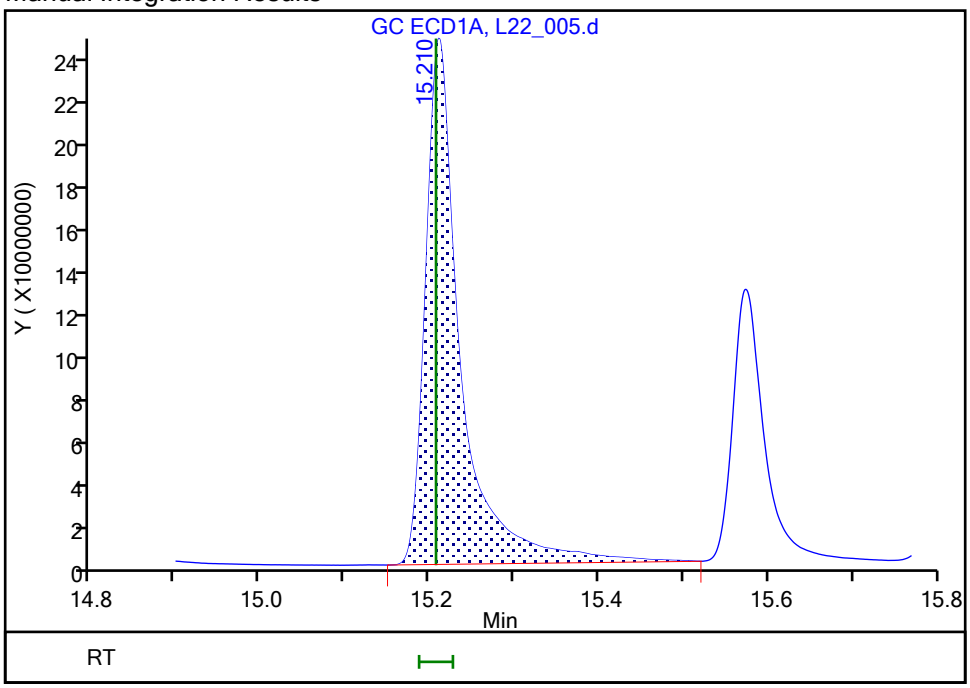

Reviewer: lamj, 22-Sep-2019 14:37:20
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

26 Endosulfan sulfate, CAS: 1031-07-8

Signal: 1

Not Detected
Expected RT: 15.57

Processing Integration Results

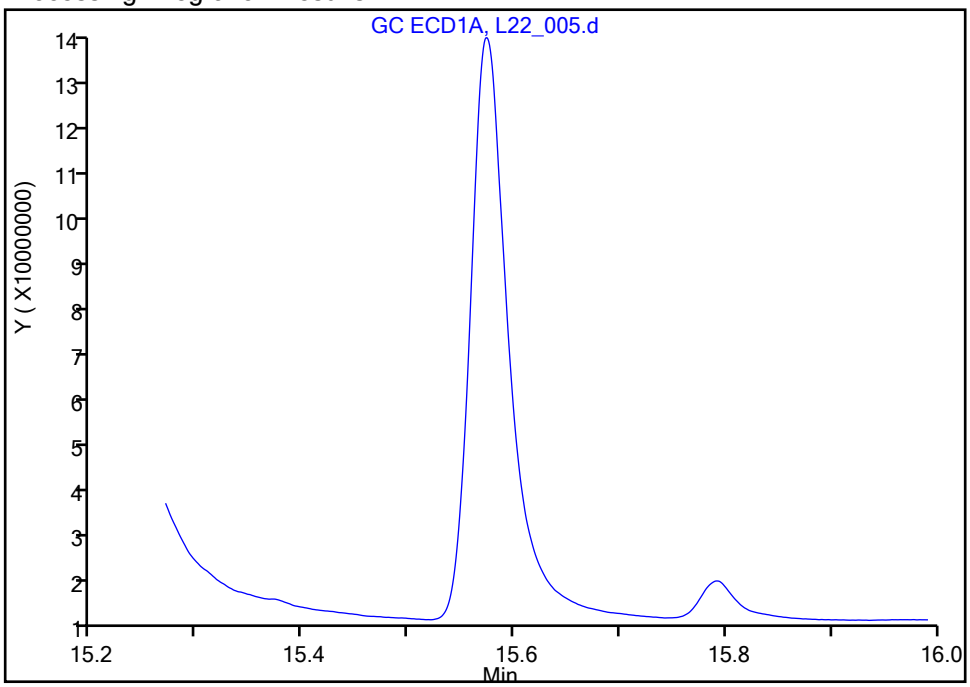

RT: 15.57
Area: 310834483
Amount: 0.039971
Amount Units: ug/ml

Manual Integration Results

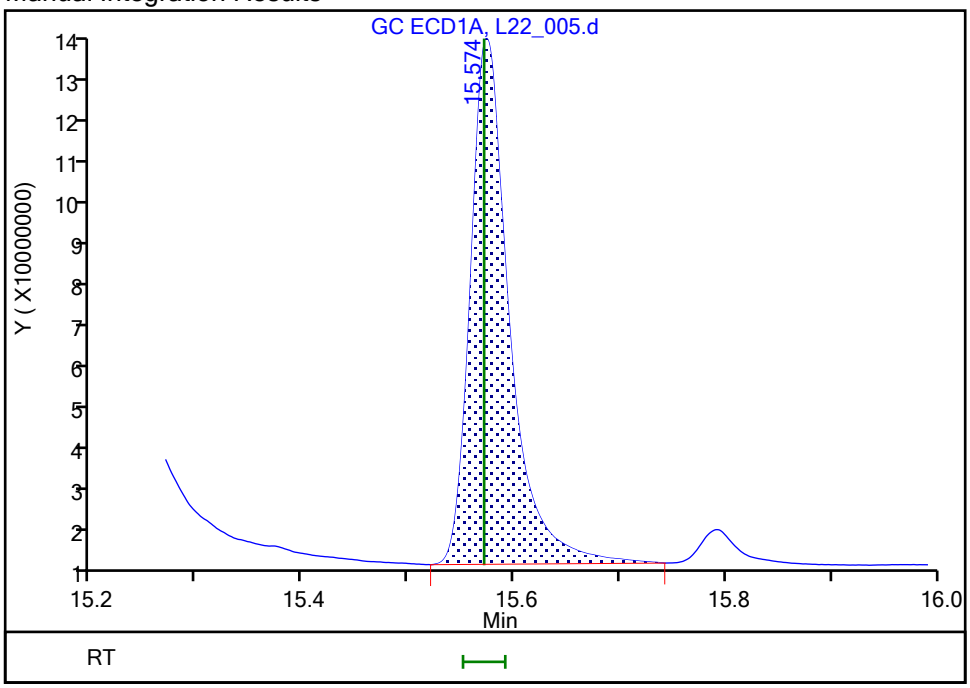

Reviewer: lamj, 22-Sep-2019 14:37:24
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

27 Endrin ketone, CAS: 53494-70-5

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 16.05

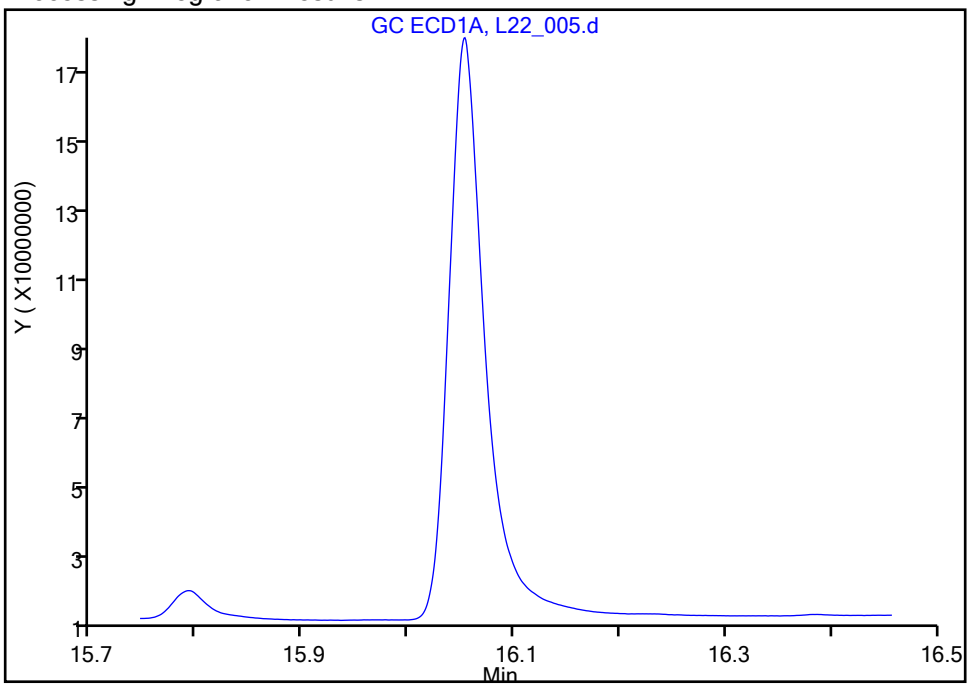

Manual Integration Results

RT: 16.05
Area: 384326211
Amount: 0.040351
Amount Units: ug/ml

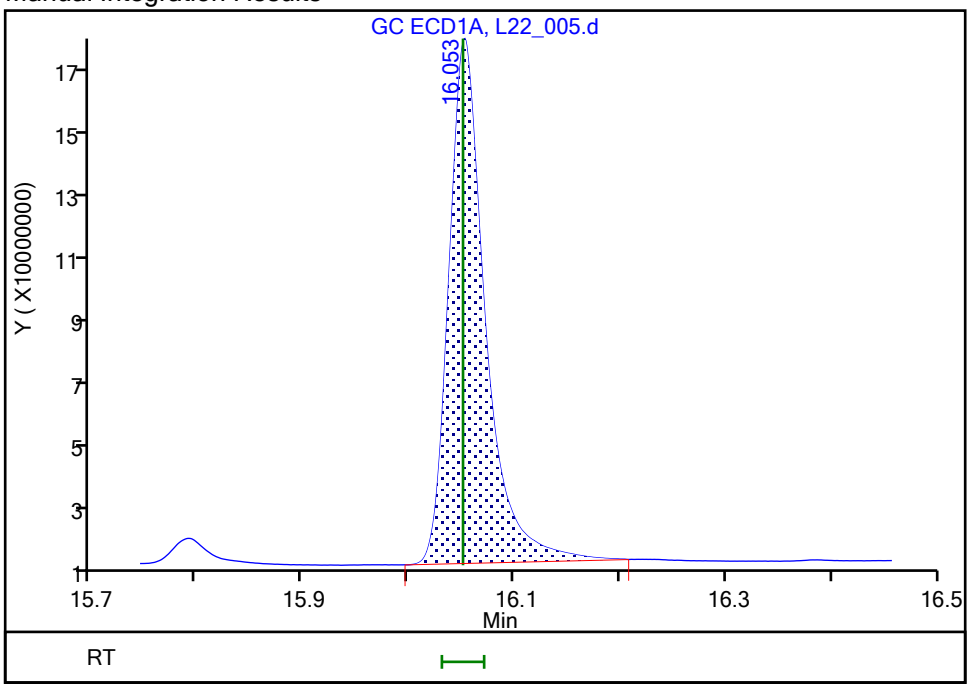

Reviewer: lamj, 22-Sep-2019 14:37:29
Audit Action: Assigned Compound ID Audit Reason:

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_006.d
Lims ID: icis
Client ID:
Sample Type: ICIS Calib Level: 4
Inject. Date: 22-Sep-2019 14:08:17 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031217-006
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVI_PEST_CHECD09*sub3

Method: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\LVI_PEST_CHECD09.m
Limit Group: GCSV - 8081A
Last Update: 23-Sep-2019 09:48:04 Calib Date: 22-Sep-2019 15:04:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_008.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0327

First Level Reviewer: lamj Date: 22-Sep-2019 14:34:52

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.276	6.276	0.000	3747067346	50.0	50.0	
2	6.257	6.257	0.000	2394518220	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	7.984	7.984	0.000	732131280	0.0800	0.0854	
2	8.175	8.175	0.000	470692278	0.0800	0.0857	
						RPD = 0.37	
3 alpha-BHC							
1	9.093	9.093	0.000	524675164	0.0400	0.0426	
2	9.374	9.374	0.000	335129385	0.0400	0.0444	
						RPD = 4.23	
4 gamma-BHC (Lindane)							
1	9.686	9.686	0.000	446044852	0.0400	0.0445	
2	10.014	10.014	0.000	287158310	0.0400	0.0447	
						RPD = 0.47	
5 beta-BHC							
1	9.887	9.887	0.000	192530499	0.0400	0.0468	
2	10.201	10.201	0.000	112323039	0.0400	0.0426	
						RPD = 9.25	
7 delta-BHC							
1	10.189	10.189	0.000	451883493	0.0400	0.0445	
2	10.684	10.684	0.000	210162271	0.0400	0.0469	
						RPD = 5.14	
9 Heptachlor							
1	10.499	10.499	0.000	464282133	0.0400	0.0437	
2	10.736	10.736	0.000	308474215	0.0400	0.0445	
						RPD = 1.70	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 Aldrin							
1	10.990	10.990	0.000	430672768	0.0400	0.0422	
2	11.248	11.248	0.000	289414392	0.0400	0.0440	
						RPD = 4.17	
11 Heptachlor epoxide							
1	11.979	11.979	0.000	368886113	0.0400	0.0411	
2	12.181	12.181	0.000	240462691	0.0400	0.0431	
						RPD = 4.63	
12 trans-Chlordane							
1	12.194	12.194	0.000	380118265	0.0400	0.0412	
2	12.522	12.522	0.000	252428131	0.0400	0.0431	
						RPD = 4.48	
13 cis-Chlordane							
1	12.429	12.429	0.000	354988207	0.0400	0.0411	
2	12.798	12.798	0.000	232048452	0.0400	0.0428	
						RPD = 3.93	
14 4,4'-DDE							
1	12.620	12.620	0.000	498641658	0.0800	0.0830	
2	13.169	13.169	0.000	426516207	0.0800	0.0846	
						RPD = 1.91	
15 Endosulfan I							
1	12.670	12.670	0.000	484000222	0.0400	0.0413	
2	12.890	12.890	0.000	238112111	0.0400	0.0429	
						RPD = 3.72	
16 Dieldrin							
1	13.128	13.128	0.000	717518272	0.0800	0.0797	
2	13.409	13.409	0.000	465399961	0.0800	0.0844	
						RPD = 5.78	
18 Endrin							
1	13.561	13.561	0.000	497497126	0.0800	0.0791	
2	13.971	13.971	0.000	278843573	0.0800	0.0825	
						RPD = 4.20	
19 4,4'-DDD							
1	13.759	13.759	0.000	492980909	0.0800	0.0807	
2	14.259	14.259	0.000	278277101	0.0800	0.0833	
						RPD = 3.22	
20 Endosulfan II							
1	13.992	13.992	0.000	599420894	0.0800	0.0806	
2	14.380	14.380	0.000	433937821	0.0800	0.0831	
						RPD = 3.06	
21 4,4'-DDT							
1	14.272	14.272	0.000	543248102	0.0800	0.0772	
2	14.829	14.829	0.000	257208793	0.0800	0.0828	
						RPD = 7.04	
24 Endrin aldehyde							
1	14.774	14.774	0.000	434732803	0.0800	0.0770	
2	15.009	15.009	0.000	289129542	0.0800	0.0816	
						RPD = 5.75	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
25 Methoxychlor							
1	15.207	15.207	0.000	1075004067	0.4000	0.3671	
2	16.099	16.099	0.000	507804029	0.4000	0.3926	
						RPD = 6.72	
26 Endosulfan sulfate							
1	15.571	15.571	0.000	522588809	0.0800	0.0773	
2	15.517	15.517	0.000	358935796	0.0800	0.0824	
						RPD = 6.32	
27 Endrin ketone							
1	16.051	16.051	0.000	637294044	0.0800	0.0770	
2	16.401	16.401	0.000	425626422	0.0800	0.0820	
						RPD = 6.22	
$ 28 DCB Decachlorobiphenyl							
1	17.546	17.546	0.000	503263801	0.0800	0.0762	
2	18.064	18.064	0.000	354689813	0.0800	0.0743	
						RPD = 2.64	

Reagents:

PESTCAL4_00027 Amount Added: 1.00 Units: mL
PST_IS 2_00063 Amount Added: 1.00 Units: mL Run Reagent

Report Date: 23-Sep-2019 09:48:06 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_006.d				
Injection Date:	22-Sep-2019 14:08:17	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	icis			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		

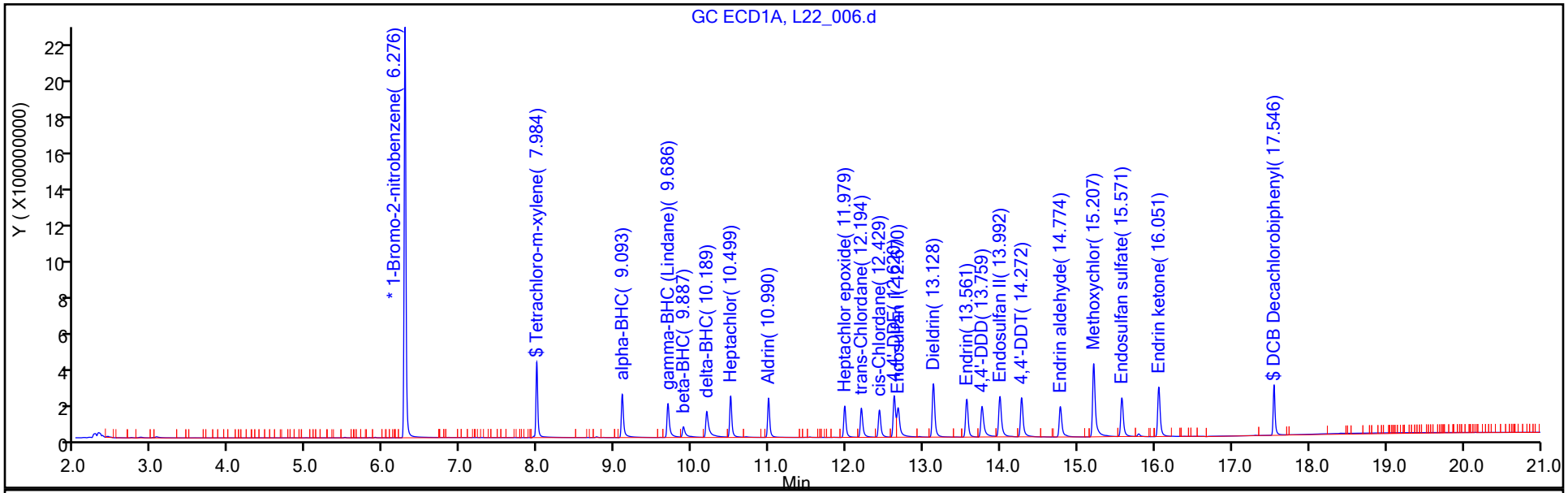

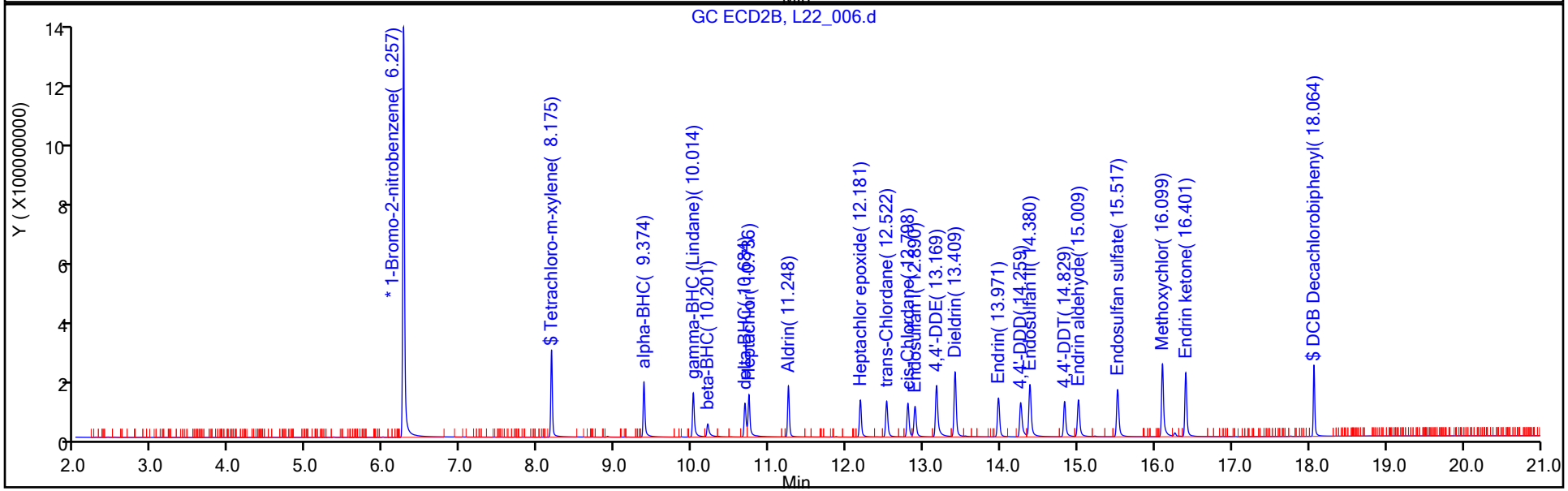

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 22-Sep-2019 14:36:29 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031217-007
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVI_PEST_CHECD09*sub3

Method: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\LVI_PEST_CHECD09.m
Limit Group: GCSV - 8081A
Last Update: 23-Sep-2019 09:48:36 Calib Date: 22-Sep-2019 15:04:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_008.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0327

First Level Reviewer: lamj Date: 23-Sep-2019 09:26:11

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.275	6.276	-0.001	4542570063	50.0	50.0	
2	6.275	6.257	0.018	2894135131	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							a
1	7.982	7.984	-0.002	1109353004	0.1200	0.1067	a
2	8.198	8.175	0.023	740208177	0.1200	0.1115	a
						RPD = 4.39	
3 alpha-BHC							a
1	9.091	9.093	-0.002	817390948	0.0600	0.0547	a
2	9.398	9.374	0.024	519100232	0.0600	0.0569	a
						RPD = 3.96	
4 gamma-BHC (Lindane)							a
1	9.683	9.686	-0.003	661996779	0.0600	0.0545	a
2	10.039	10.014	0.025	434871081	0.0600	0.0560	a
						RPD = 2.79	
5 beta-BHC							a
1	9.883	9.887	-0.004	270774845	0.0600	0.0543	a
2	10.225	10.201	0.024	162637204	0.0600	0.0511	a
						RPD = 6.05	
7 delta-BHC							a
1	10.186	10.189	-0.003	686977941	0.0600	0.0558	a
2	10.707	10.684	0.023	313622427	0.0600	0.0579	a
						RPD = 3.59	
9 Heptachlor							a
1	10.497	10.499	-0.002	691441398	0.0600	0.0537	a
2	10.760	10.736	0.024	455861442	0.0600	0.0544	a
						RPD = 1.23	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 Aldrin							a
1	10.988	10.990	-0.002	675006223	0.0600	0.0545	a
2	11.272	11.248	0.024	427110823	0.0600	0.0537	a
						RPD = 1.55	
11 Heptachlor epoxide							a
1	11.975	11.979	-0.004	576712609	0.0600	0.0530	a
2	12.207	12.181	0.026	353344708	0.0600	0.0524	a
						RPD = 1.26	
12 trans-Chlordane							a
1	12.191	12.194	-0.003	608860678	0.0600	0.0545	a
2	12.550	12.522	0.028	377085294	0.0600	0.0533	a
						RPD = 2.19	
13 cis-Chlordane							a
1	12.425	12.429	-0.004	572510751	0.0600	0.0547	a
2	12.827	12.798	0.029	347372116	0.0600	0.0530	a
						RPD = 3.22	
14 4,4'-DDE							a
1	12.618	12.620	-0.002	804367509	0.1200	0.1104	a
2	13.198	13.169	0.029	653998970	0.1200	0.1073	a
						RPD = 2.86	
15 Endosulfan I							a
1	12.665	12.670	-0.005	787312414	0.0600	0.0556	a
2	12.919	12.890	0.029	340826031	0.0600	0.0508	a
						RPD = 8.95	
16 Dieldrin							a
1	13.124	13.128	-0.004	1158246665	0.1200	0.1061	a
2	13.439	13.409	0.030	693928171	0.1200	0.1041	a
						RPD = 1.86	
18 Endrin							a
1	13.557	13.561	-0.004	799403842	0.1200	0.1049	a
2	14.001	13.971	0.030	413157535	0.1200	0.1012	a
						RPD = 3.60	
19 4,4'-DDD							a
1	13.755	13.759	-0.004	851080434	0.1200	0.1149	a
2	14.289	14.259	0.030	440723928	0.1200	0.1092	a
						RPD = 5.10	
20 Endosulfan II							a
1	13.986	13.992	-0.006	988728050	0.1200	0.1096	a
2	14.408	14.380	0.028	628656958	0.1200	0.0996	a
						RPD = 9.61	
21 4,4'-DDT							a
1	14.269	14.272	-0.003	953383997	0.1200	0.1117	a
2	14.856	14.829	0.027	425553609	0.1200	0.1133	a
						RPD = 1.45	
24 Endrin aldehyde							a
1	14.770	14.774	-0.004	757568743	0.1200	0.1107	a
2	15.036	15.009	0.027	452543084	0.1200	0.1056	a
						RPD = 4.69	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
25 Methoxychlor							a
1	15.205	15.207	-0.002	1921795858	0.6000	0.5413	a
2	16.123	16.099	0.024	843712416	0.6000	0.5397	a
						RPD = 0.29	
26 Endosulfan sulfate							a
1	15.567	15.571	-0.004	890014647	0.1200	0.1087	a
2	15.544	15.517	0.027	542364345	0.1200	0.1030	a
						RPD = 5.34	
27 Endrin ketone							a
1	16.048	16.051	-0.003	1089713283	0.1200	0.1086	a
2	16.425	16.401	0.024	634306061	0.1200	0.1010	a
						RPD = 7.22	
$ 28 DCB Decachlorobiphenyl							
1	17.545	17.546	-0.001	916661859	0.1200	0.1146	
2	18.073	18.064	0.009	641921293	0.1200	0.1112	
						RPD = 2.98	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

PESTCAL5_00026	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 23-Sep-2019 09:48:38 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		

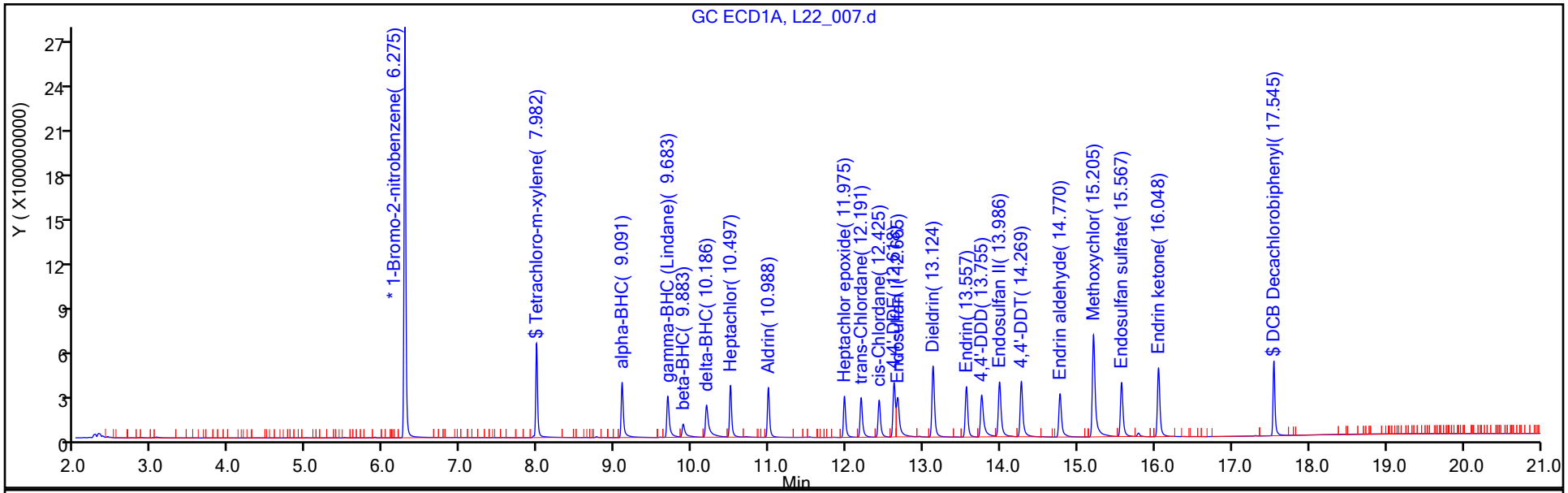

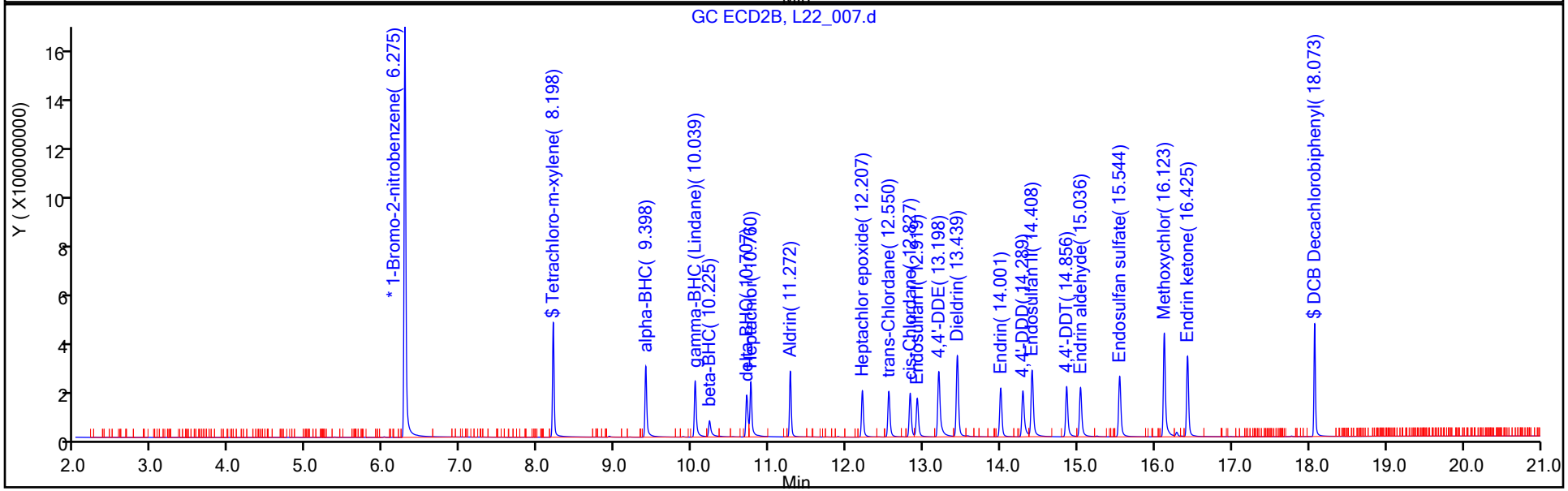

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

$ 2 Tetrachloro-m-xylene, CAS: 877-09-8

Signal: 1

Not Detected
Expected RT: 7.98

Processing Integration Results

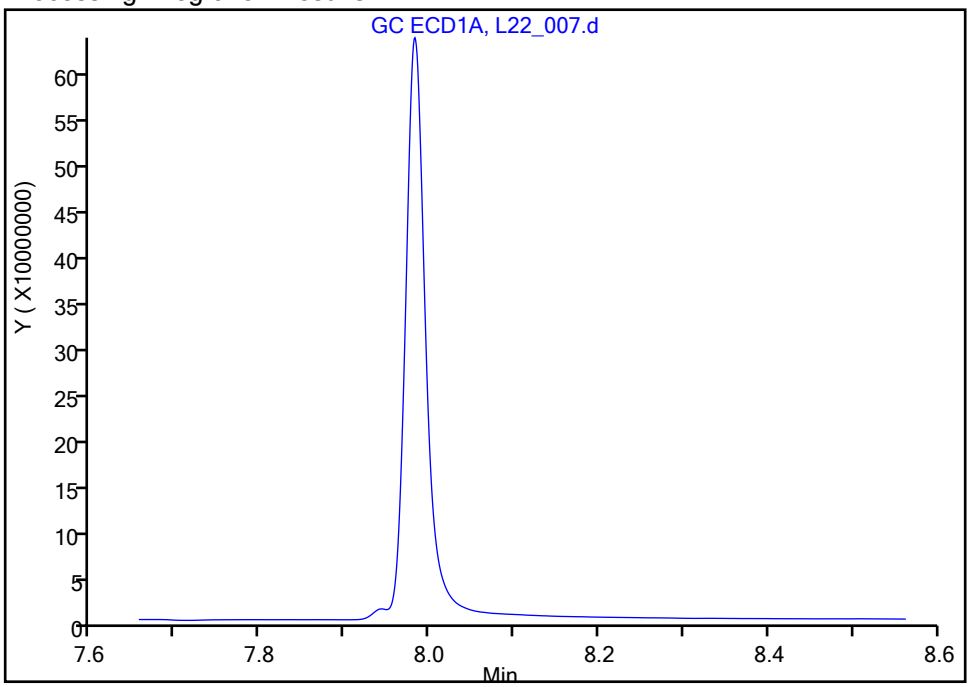

RT: 7.98
Area: 1109353004
Amount: 0.106686
Amount Units: ug/ml

Manual Integration Results

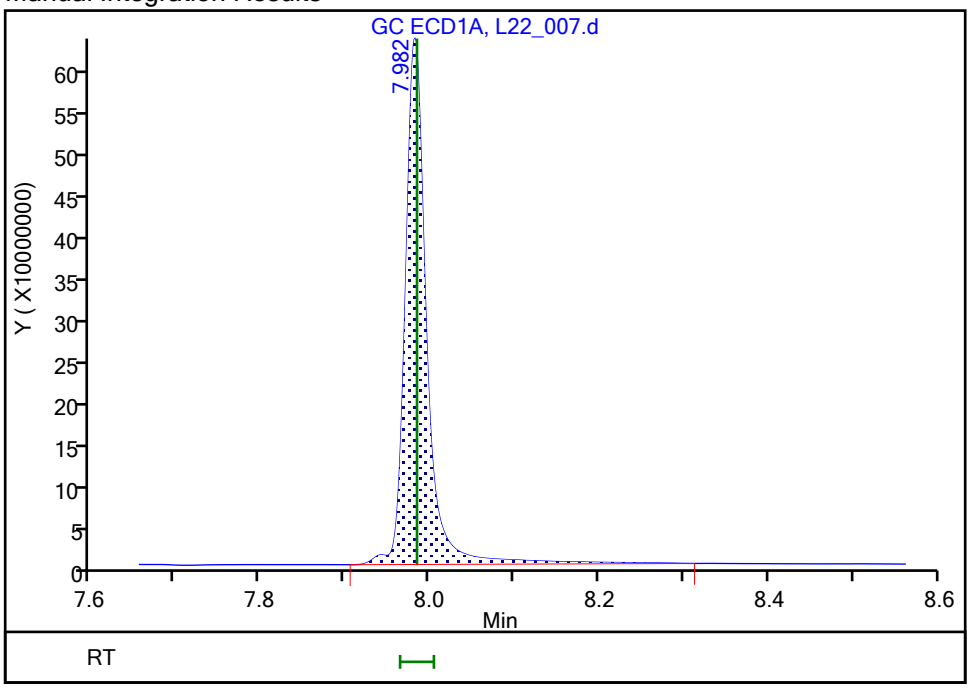

Reviewer: lamj, 23-Sep-2019 09:20:36
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

3 alpha-BHC, CAS: 319-84-6

Signal: 1

Not Detected
Expected RT: 9.09

Processing Integration Results

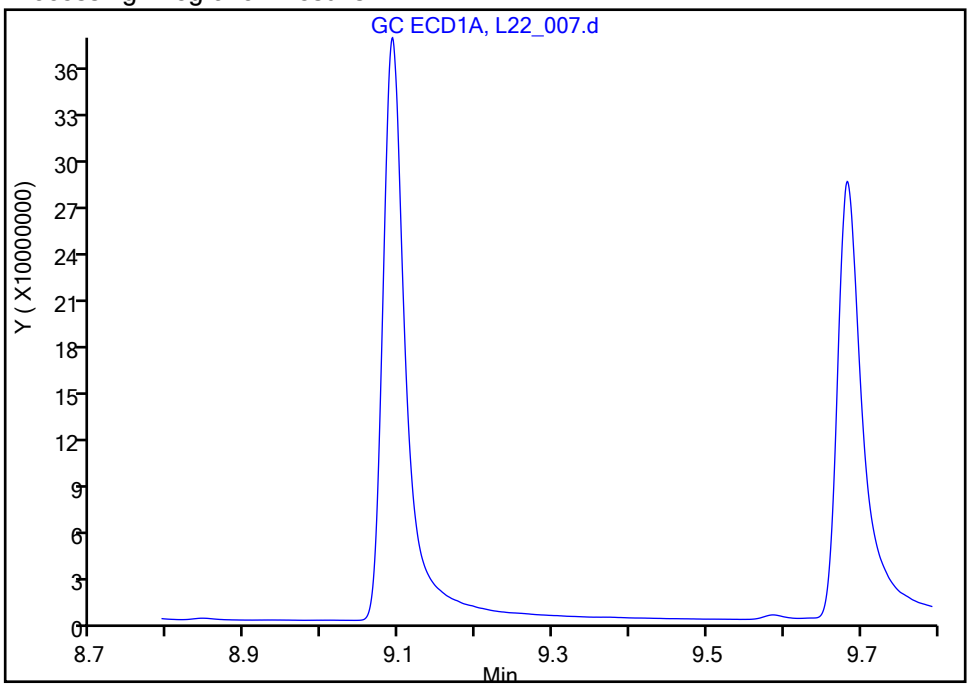

RT: 9.09
Area: 817390948
Amount: 0.054722
Amount Units: ug/ml

Manual Integration Results

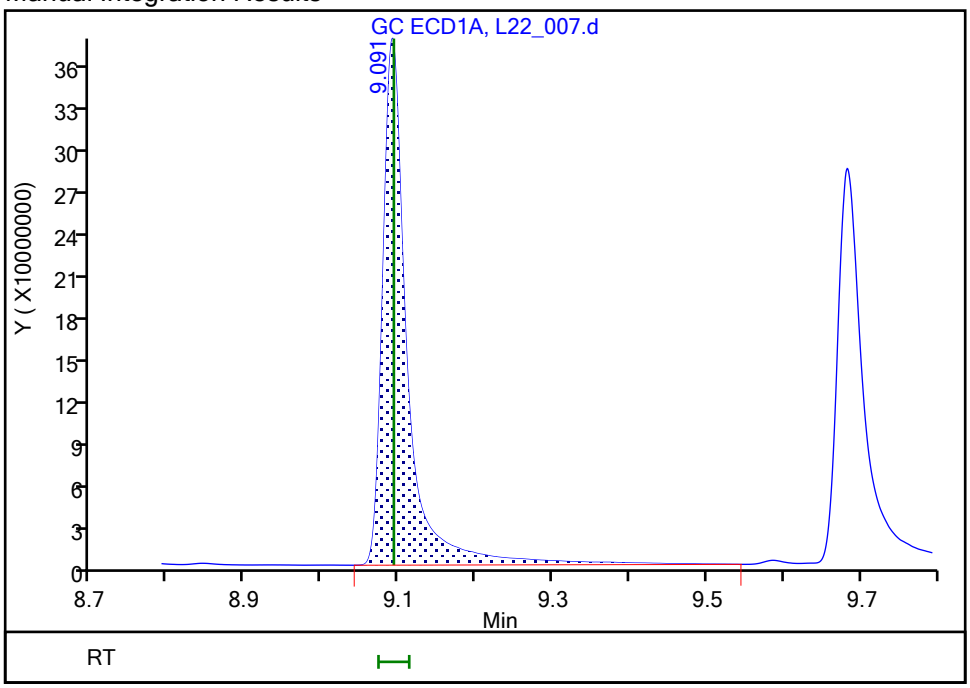

Reviewer: lamj, 23-Sep-2019 09:20:40
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

4 gamma-BHC (Lindane), CAS: 58-89-9

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 9.69

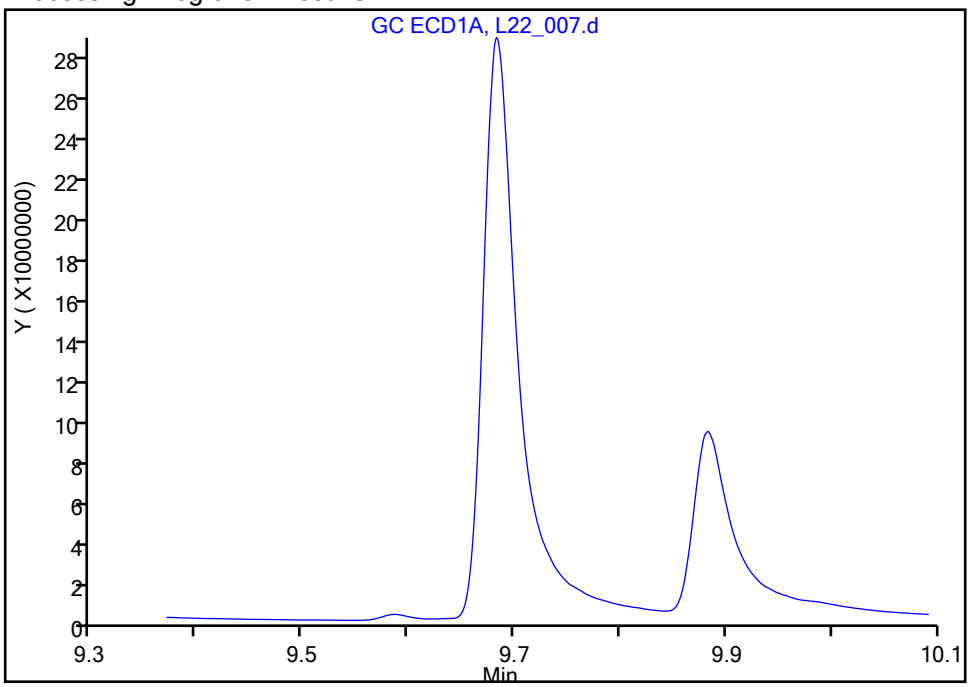

Manual Integration Results

RT: 9.68
Area: 661996779
Amount: 0.054477
Amount Units: ug/ml

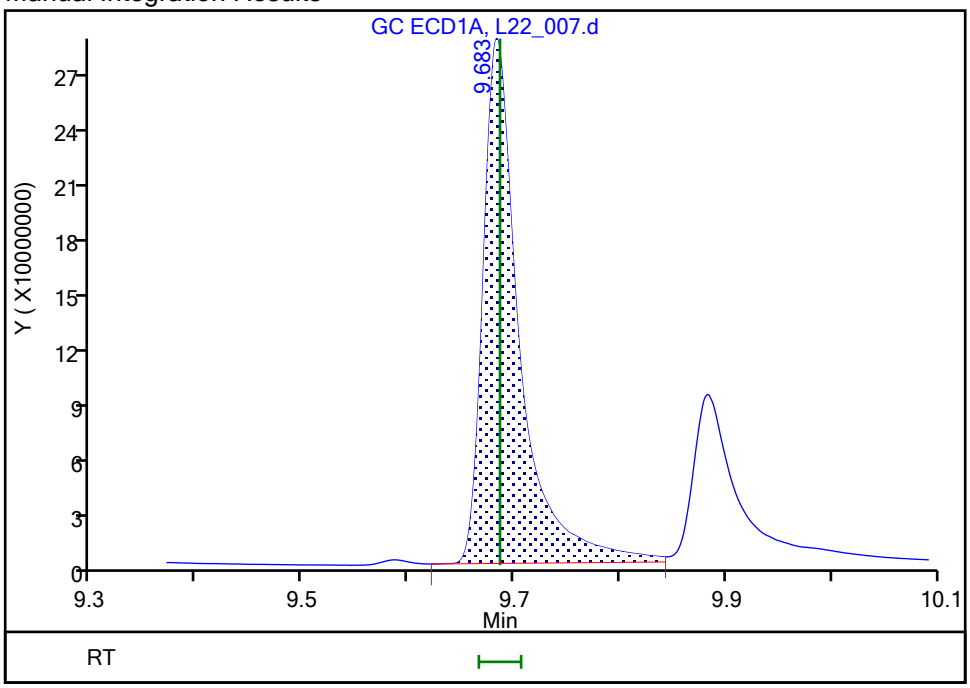

Reviewer: lamj, 23-Sep-2019 09:20:43
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

5 beta-BHC, CAS: 319-85-7

Signal: 1

Not Detected
Expected RT: 9.89

Processing Integration Results

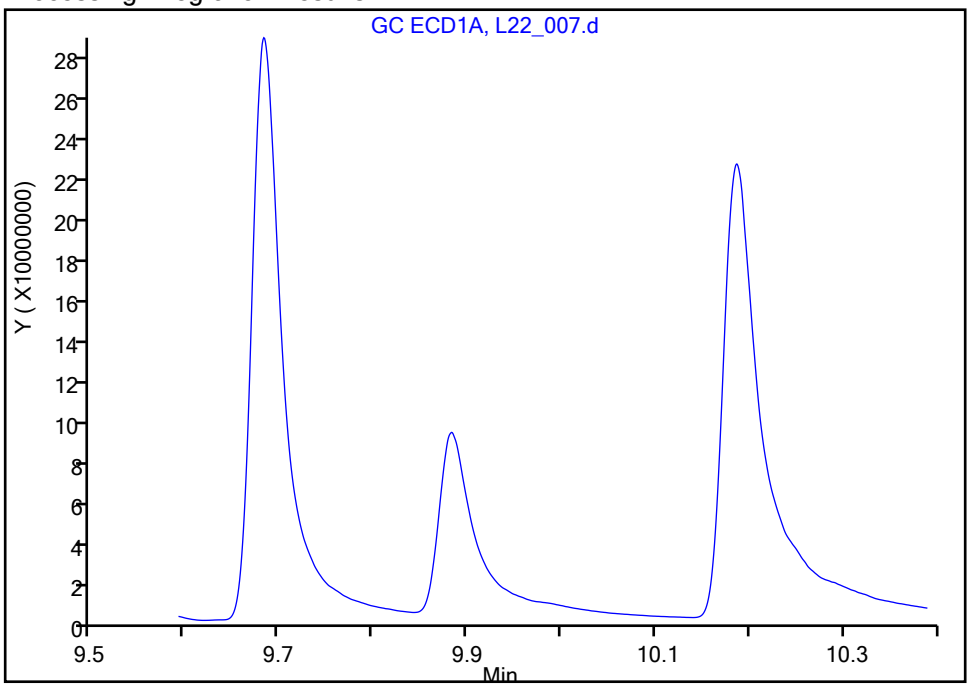

RT: 9.88
Area: 270774845
Amount: 0.054258
Amount Units: ug/ml

Manual Integration Results

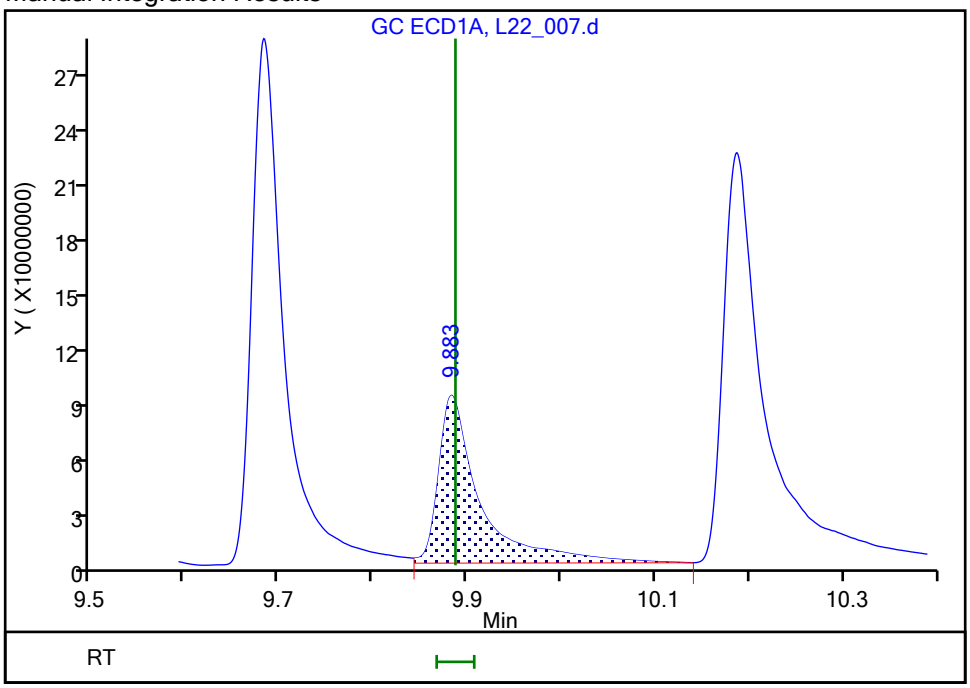

Reviewer: lamj, 23-Sep-2019 09:20:47
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

7 delta-BHC, CAS: 319-86-8

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 10.19

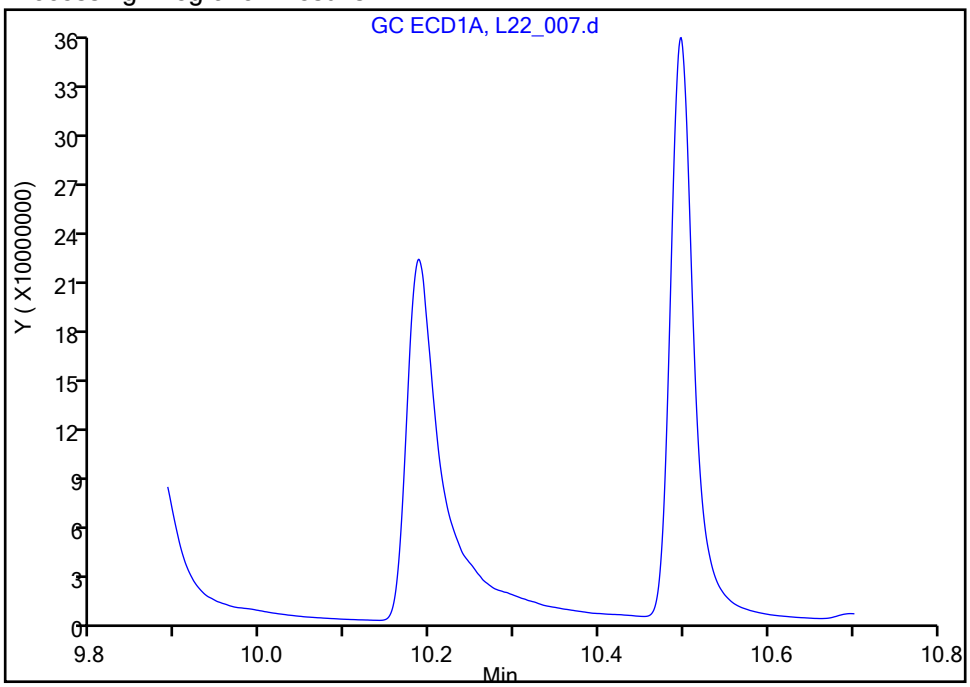

Manual Integration Results

RT: 10.19
Area: 686977941
Amount: 0.055810
Amount Units: ug/ml

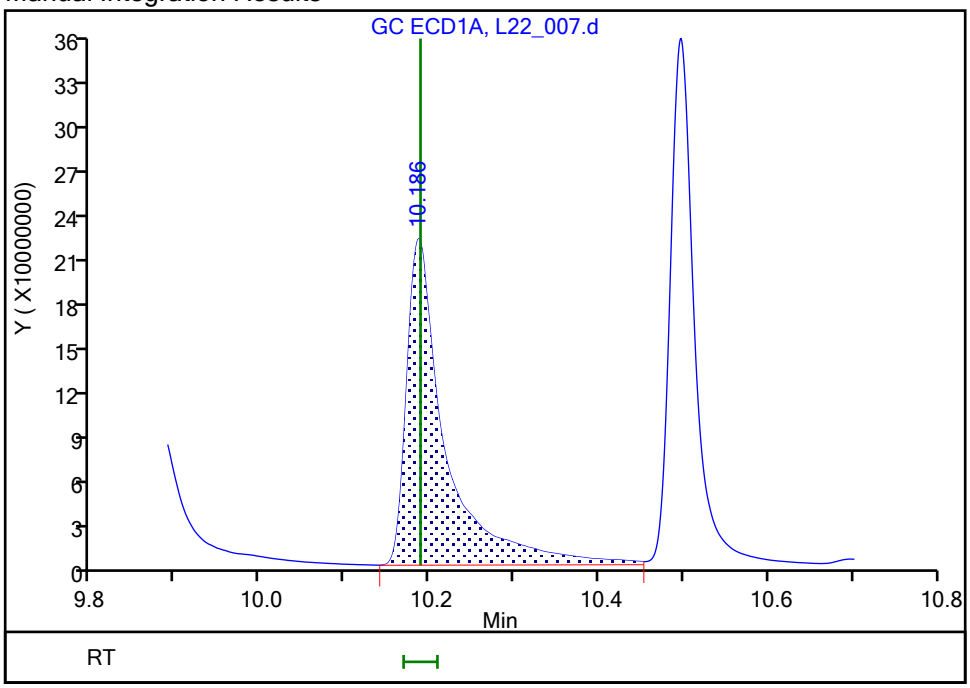

Reviewer: lamj, 23-Sep-2019 09:20:51
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

9 Heptachlor, CAS: 76-44-8

Signal: 1

Not Detected
Expected RT: 10.50

Processing Integration Results

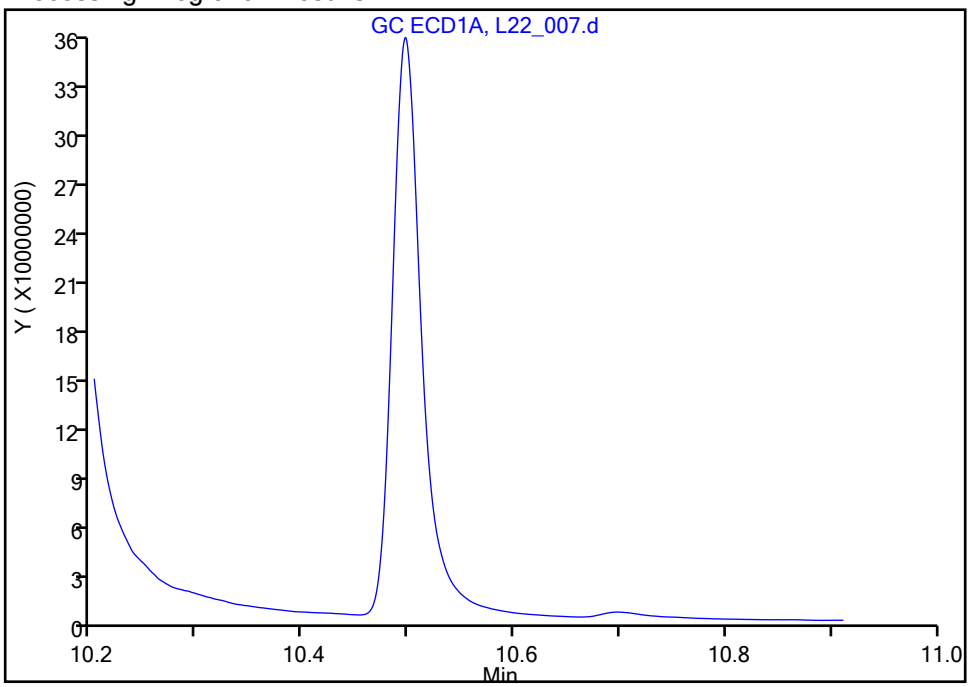

Manual Integration Results

RT:	10.50
Area:	691441398
Amount:	0.053717
Amount Units:	ug/ml

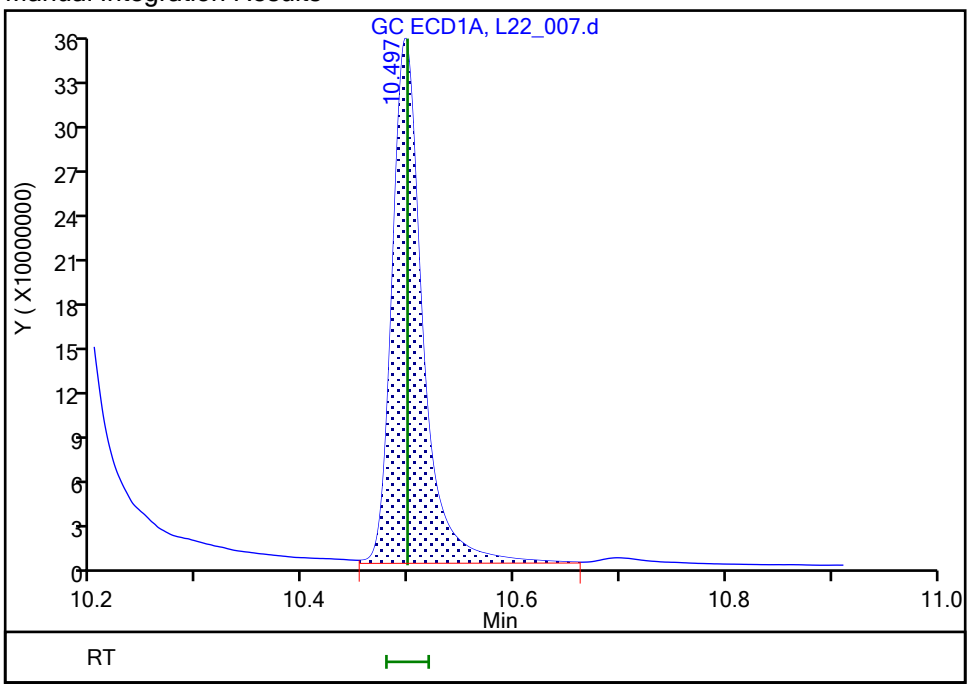

Reviewer: lamj, 23-Sep-2019 09:20:54
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

10 Aldrin, CAS: 309-00-2

Signal: 1

Not Detected
Expected RT: 10.99

Processing Integration Results

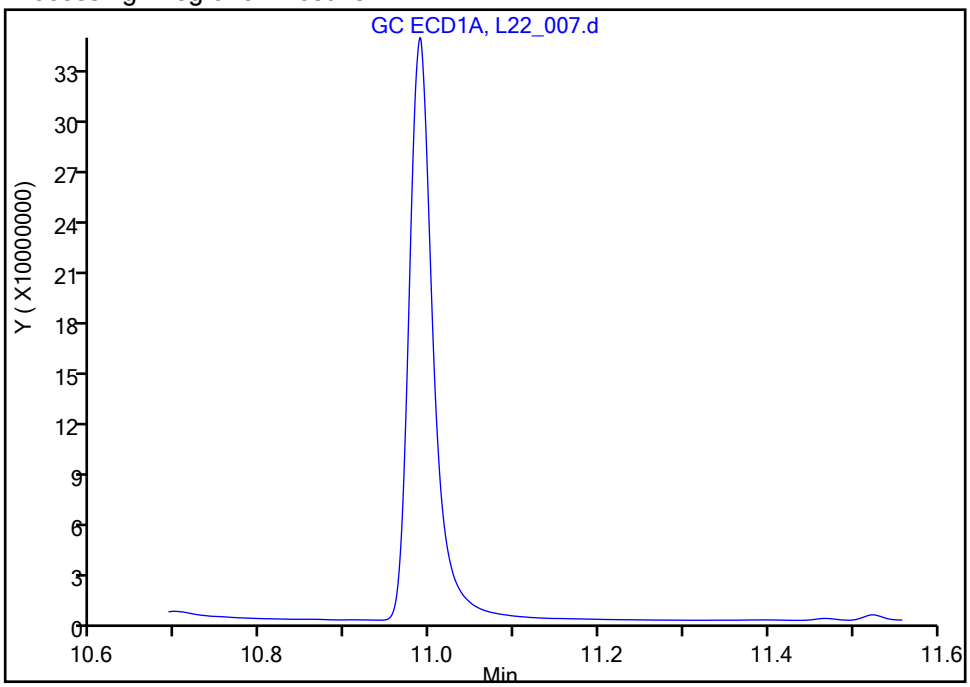

Manual Integration Results

RT:	10.99
Area:	675006223
Amount:	0.054538
Amount Units:	ug/ml

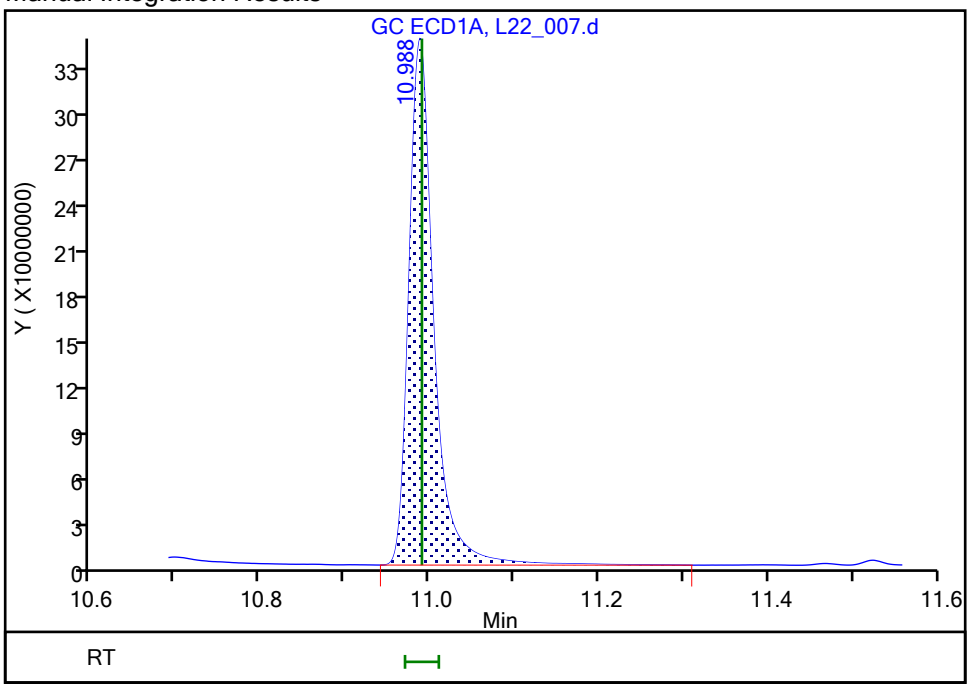

Reviewer: lamj, 23-Sep-2019 09:20:59
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

11 Heptachlor epoxide, CAS: 1024-57-3

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 11.98

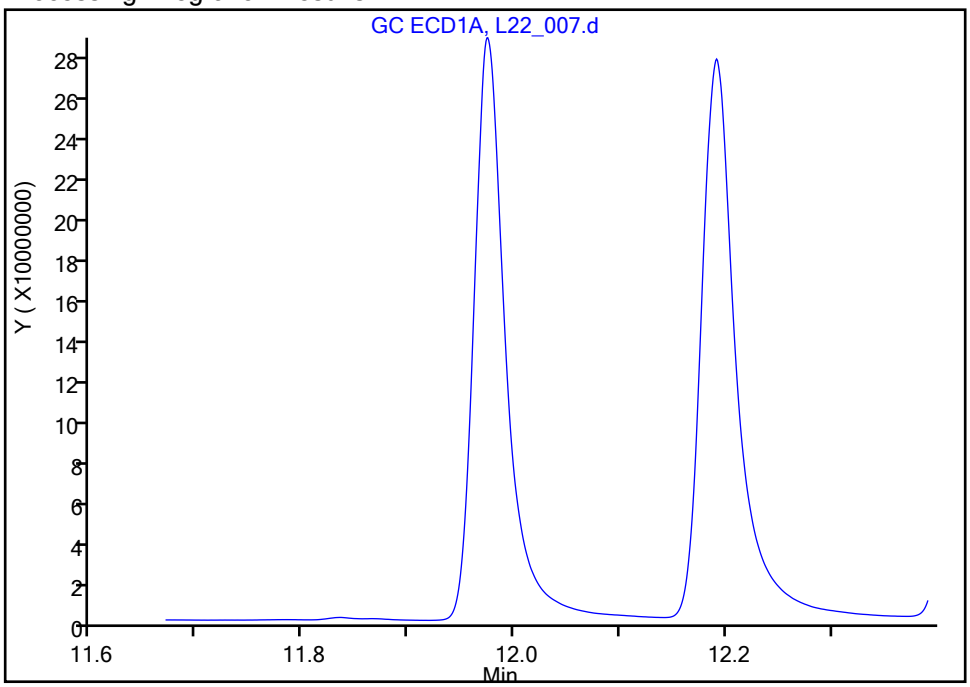

Manual Integration Results

RT: 11.97
Area: 576712609
Amount: 0.053044
Amount Units: ug/ml

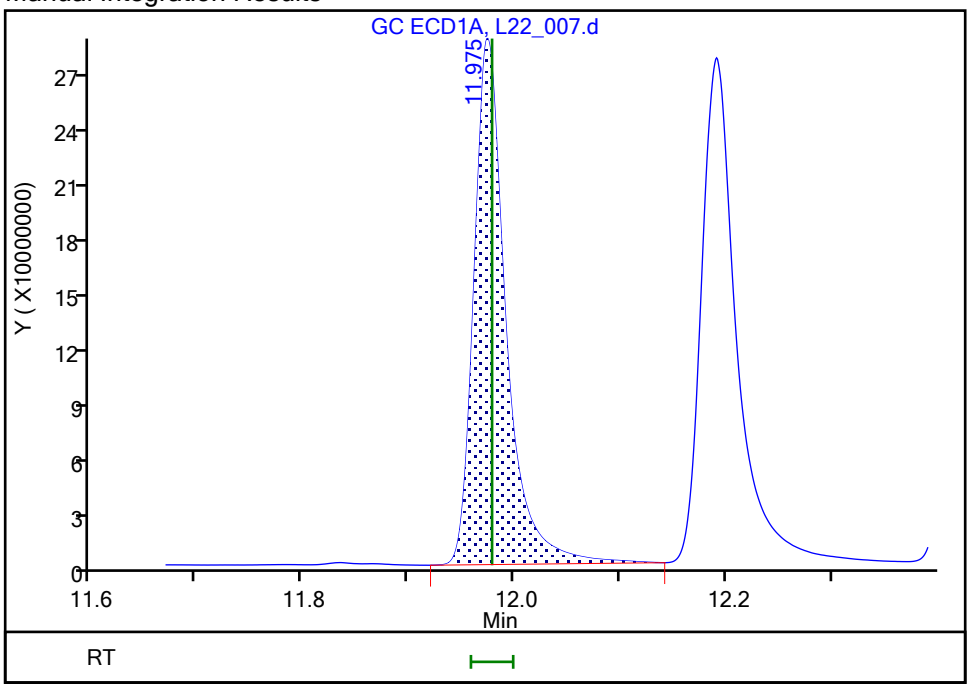

Reviewer: lamj, 23-Sep-2019 09:21:06
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

12 trans-Chlordane, CAS: 5103-74-2

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 12.19

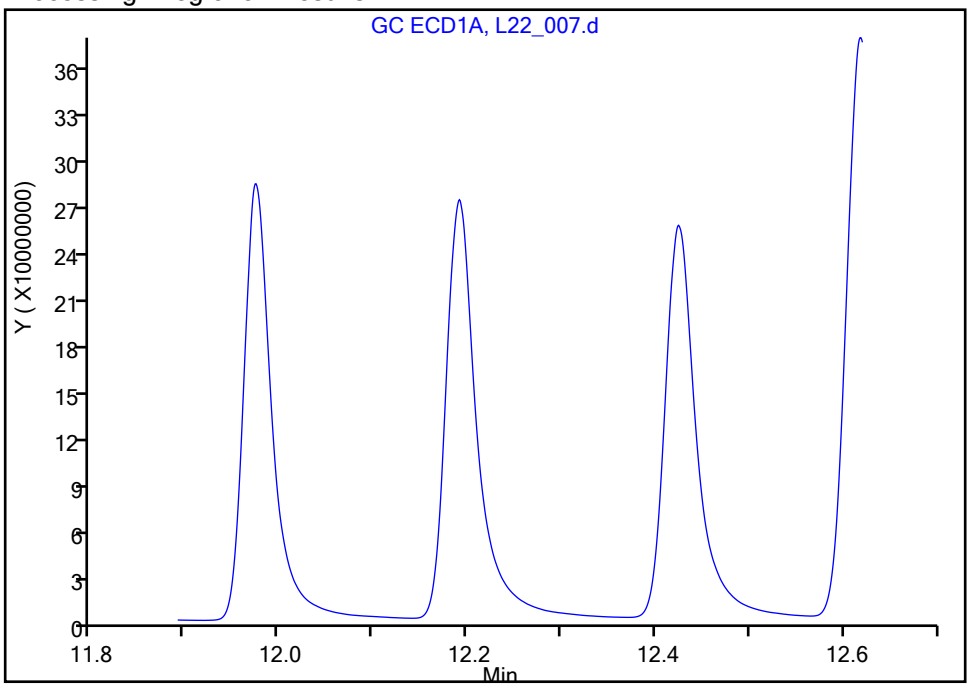

Manual Integration Results

RT: 12.19
Area: 608860678
Amount: 0.054471
Amount Units: ug/ml

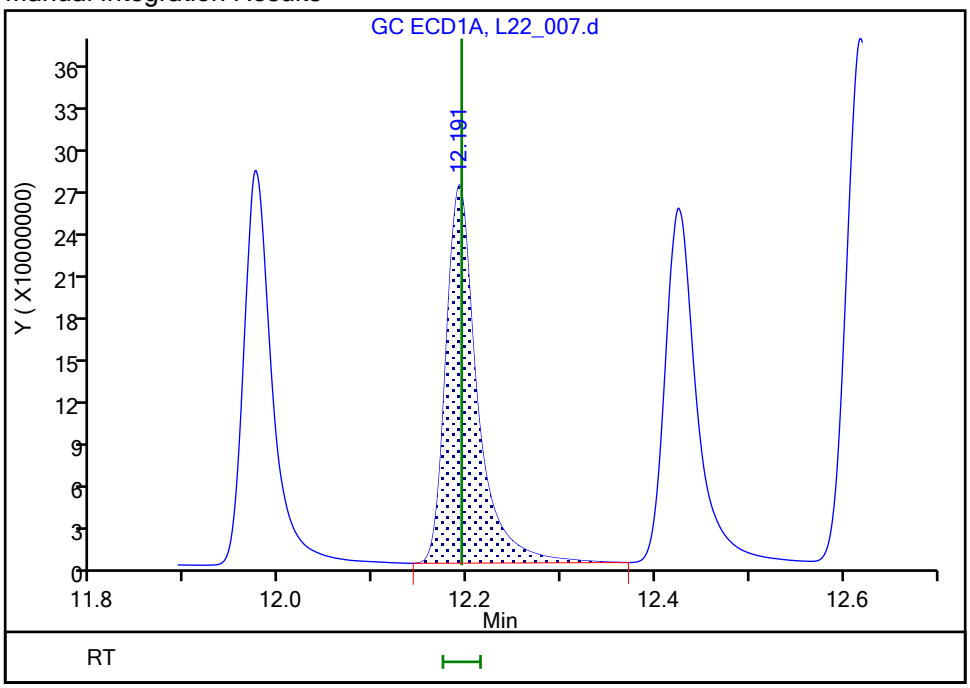

Reviewer: lamj, 23-Sep-2019 09:21:10
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

13 cis-Chlordane, CAS: 5103-71-9

Signal: 1

Not Detected
Expected RT: 12.43

Processing Integration Results

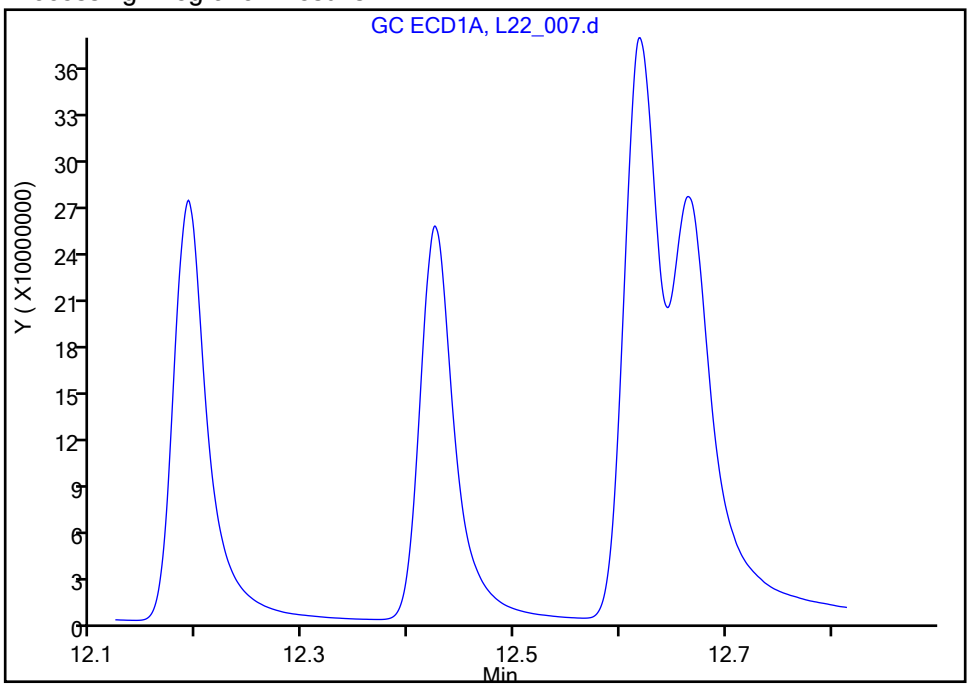

Manual Integration Results

RT:	12.42
Area:	572510751
Amount:	0.054700
Amount Units:	ug/ml

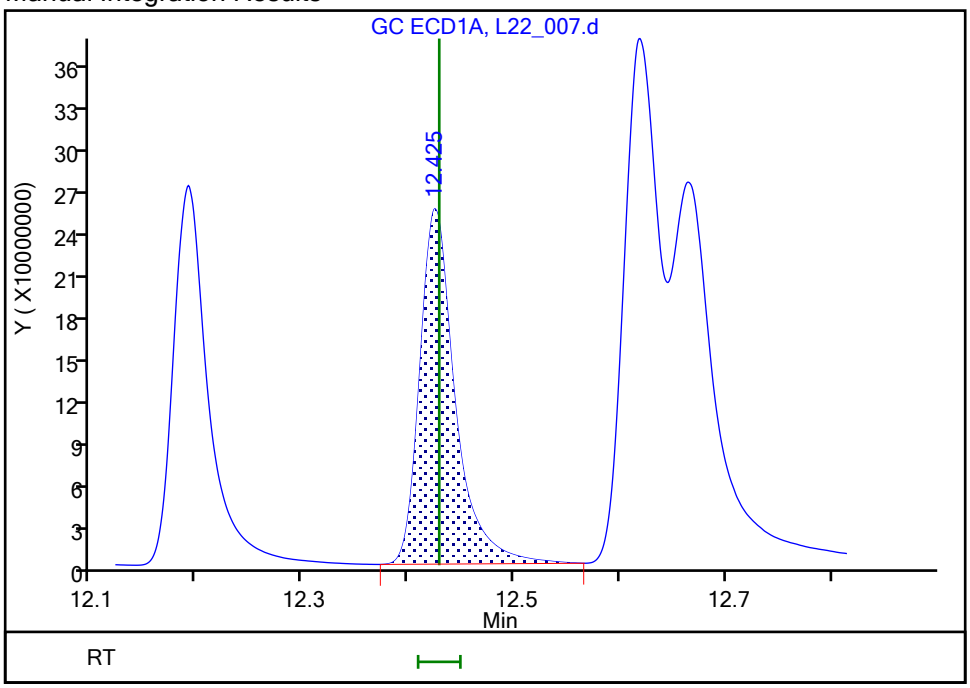

Reviewer: lamj, 23-Sep-2019 09:22:27
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

14 4,4'-DDE, CAS: 72-55-9

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 12.62

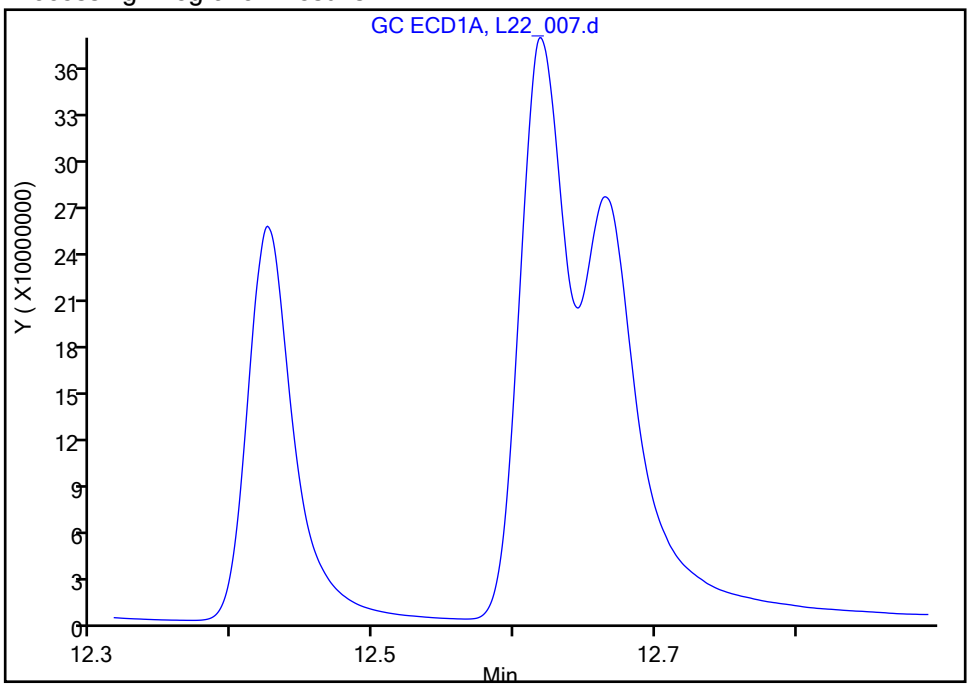

Manual Integration Results

RT:	12.62
Area:	804367509
Amount:	0.110396
Amount Units:	ug/ml

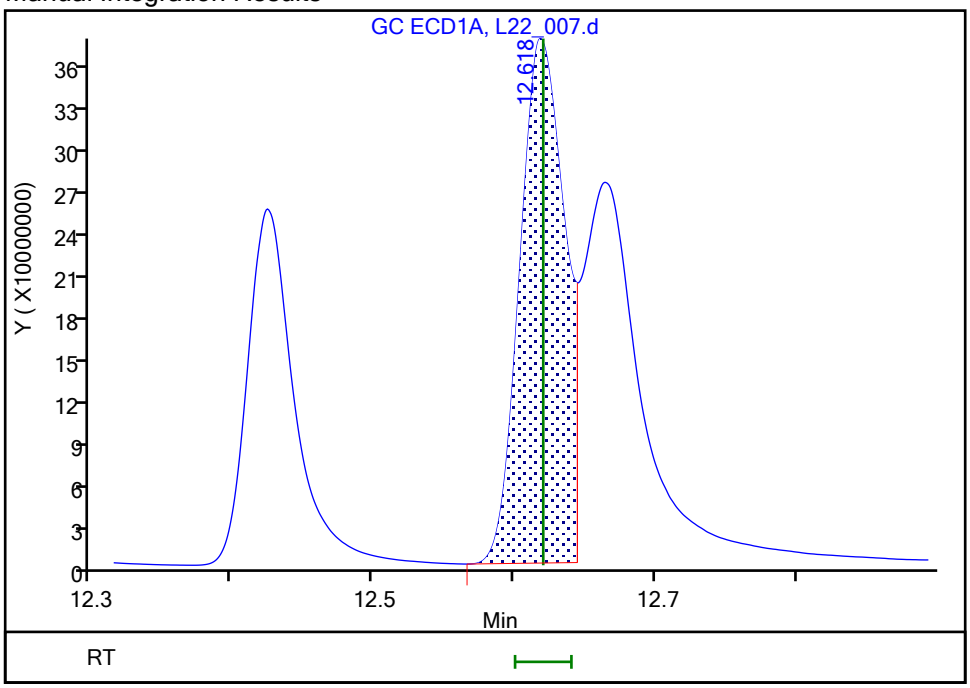

Reviewer: lamj, 23-Sep-2019 09:22:31
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

15 Endosulfan I, CAS: 959-98-8

Signal: 1

Not Detected
Expected RT: 12.67

Processing Integration Results

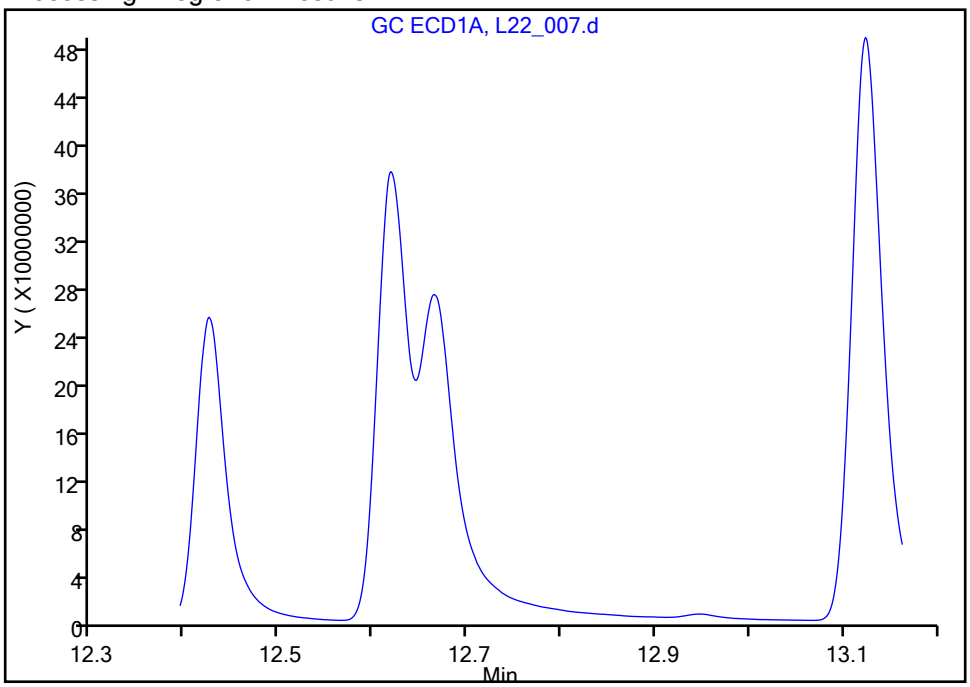

Manual Integration Results

RT:	12.66
Area:	787312414
Amount:	0.055565
Amount Units:	ug/ml

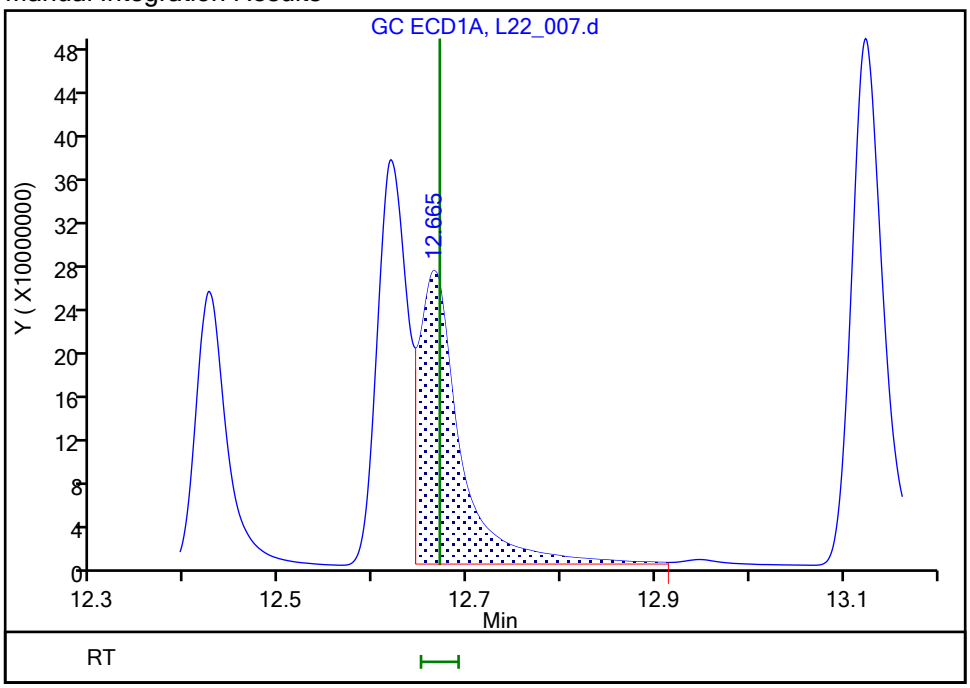

Reviewer: lamj, 23-Sep-2019 09:22:34
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

16 Dieldrin, CAS: 60-57-1

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 13.13

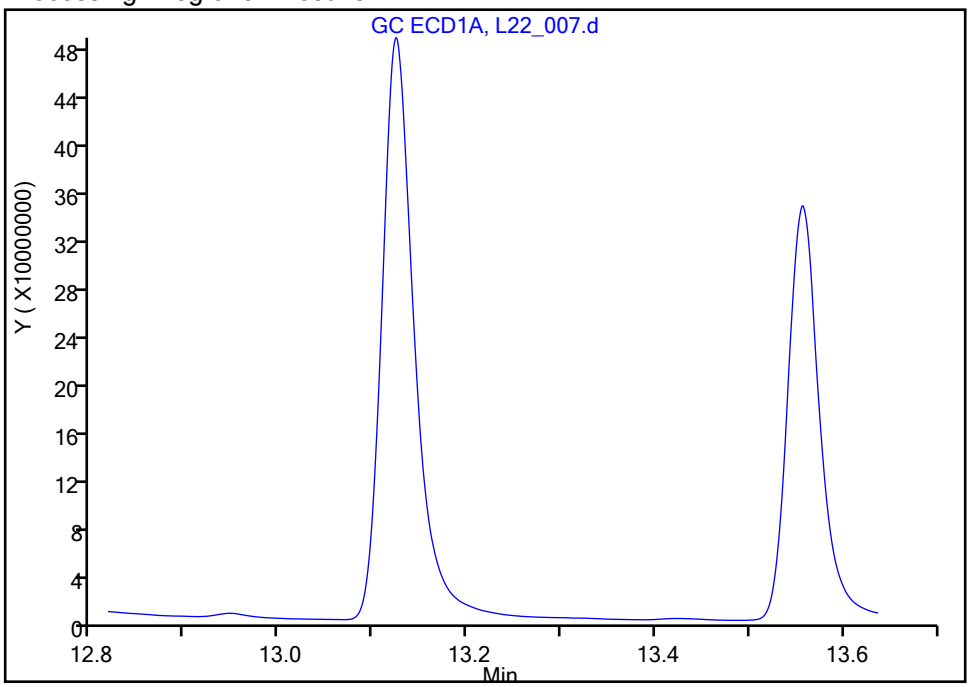

Manual Integration Results

RT: 13.12
Area: 1158246665
Amount: 0.106065
Amount Units: ug/ml

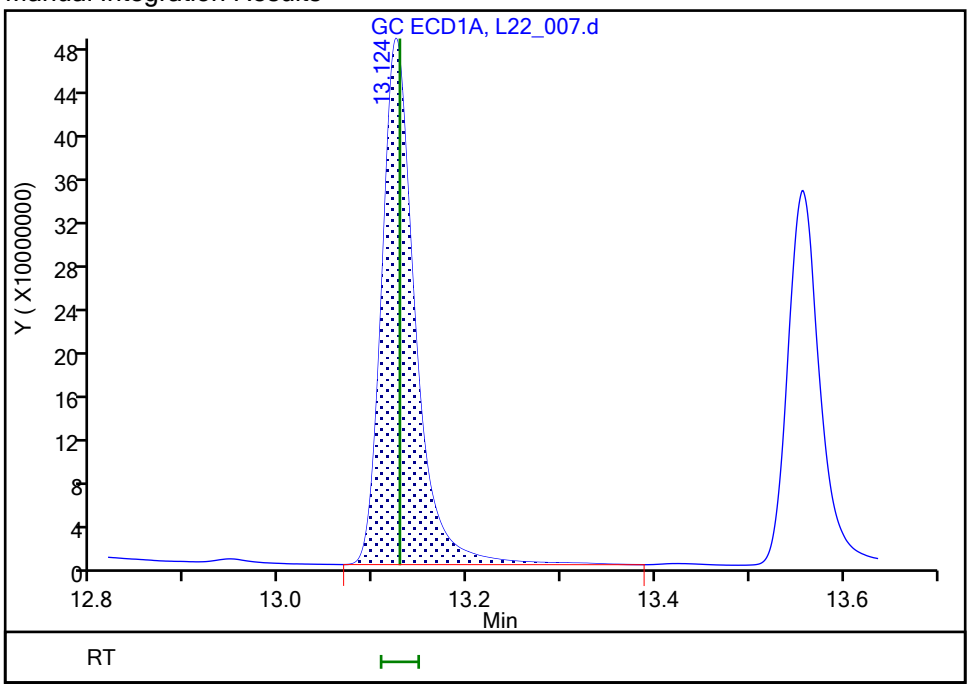

Reviewer: lamj, 23-Sep-2019 09:22:38
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

18 Endrin, CAS: 72-20-8

Signal: 1

Not Detected
Expected RT: 13.56

Processing Integration Results

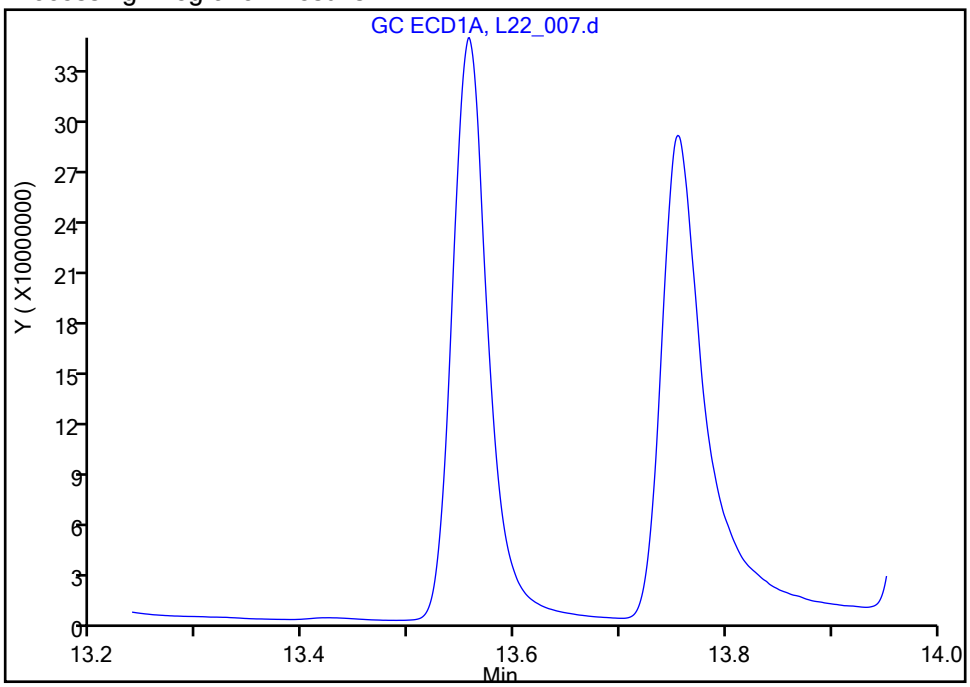

Manual Integration Results

RT: 13.56
Area: 799403842
Amount: 0.104887
Amount Units: ug/ml

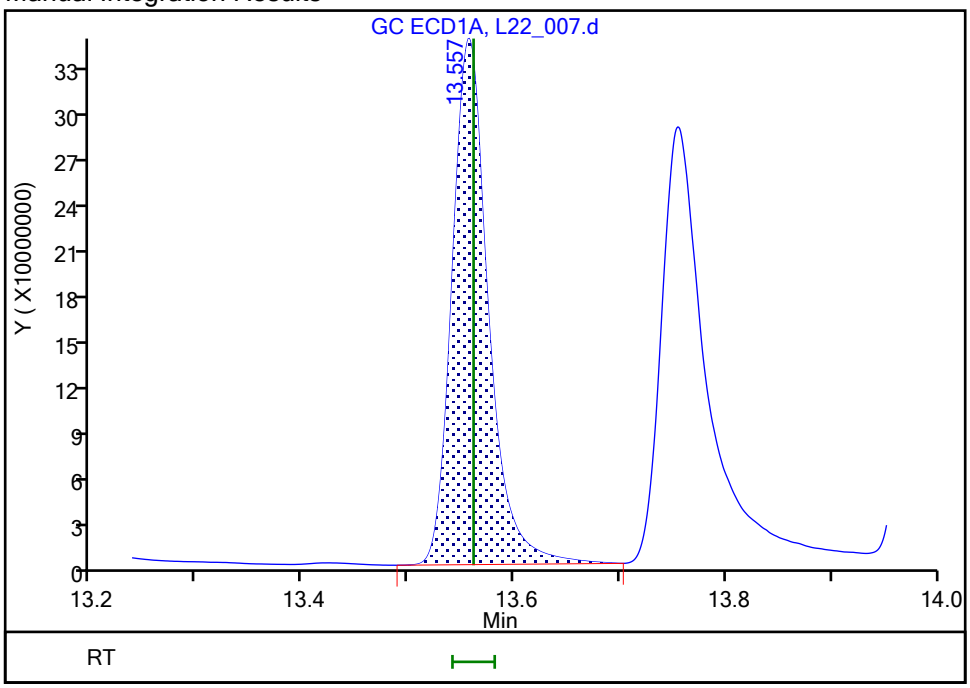

Reviewer: lamj, 23-Sep-2019 09:22:42
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

19 4,4'-DDD, CAS: 72-54-8

Signal: 1

Not Detected
Expected RT: 13.76

Processing Integration Results

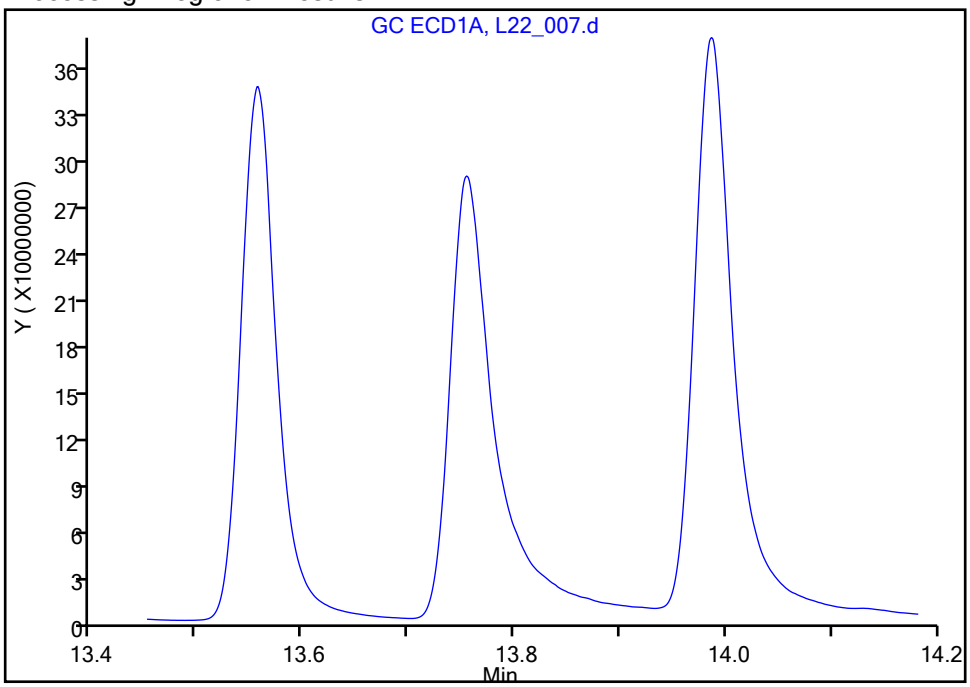

Manual Integration Results

RT:	13.75
Area:	851080434
Amount:	0.114885
Amount Units:	ug/ml

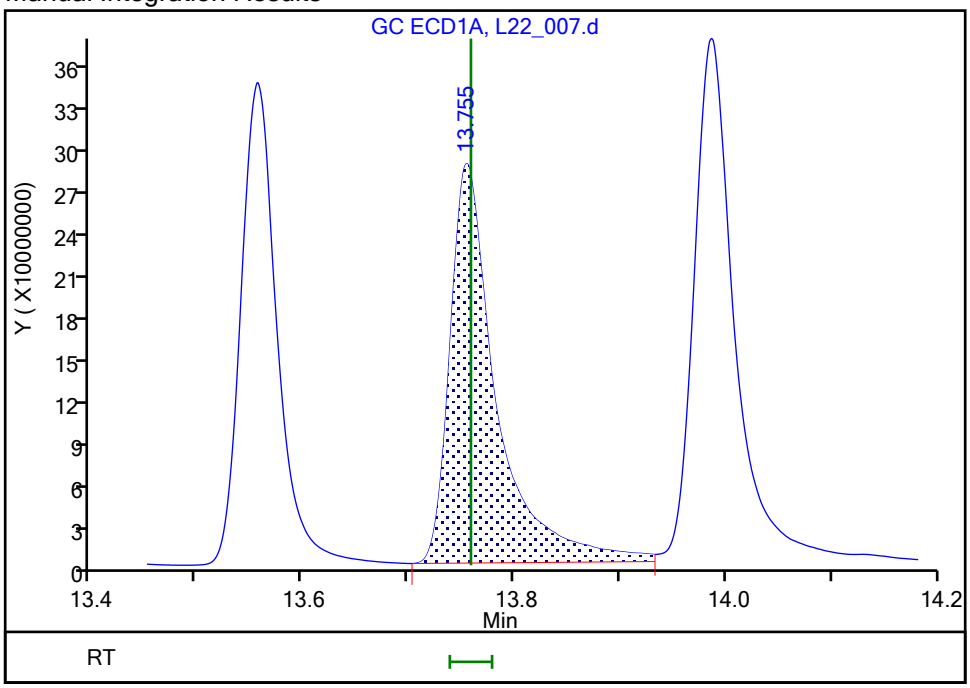

Reviewer: lamj, 23-Sep-2019 09:22:45
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

20 Endosulfan II, CAS: 33213-65-9

Signal: 1

Not Detected
Expected RT: 13.99

Processing Integration Results

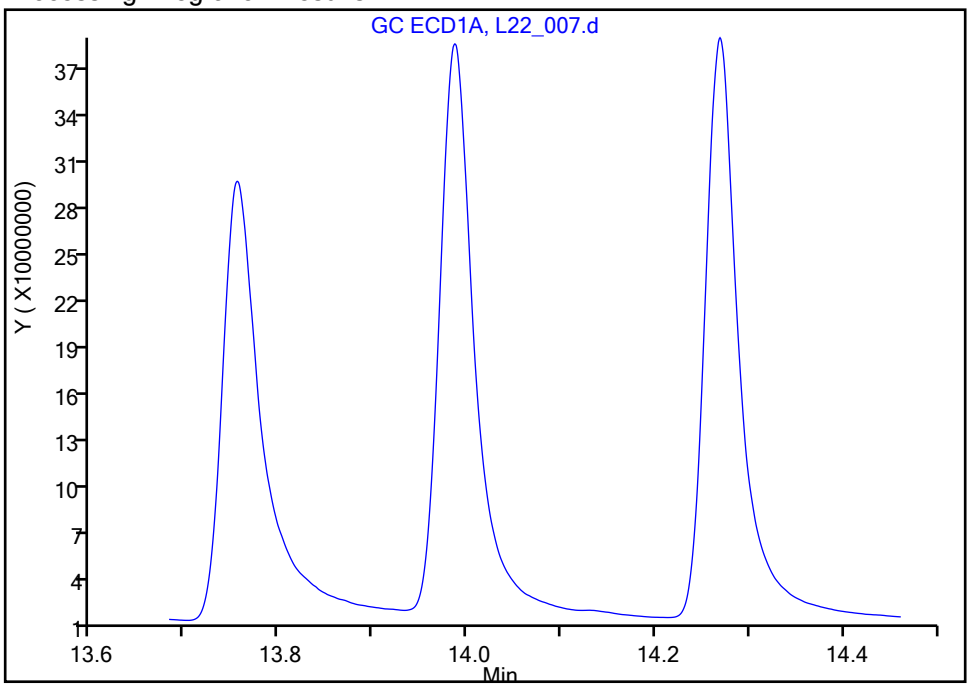

Manual Integration Results

RT:	13.99
Area:	988728050
Amount:	0.109648
Amount Units:	ug/ml

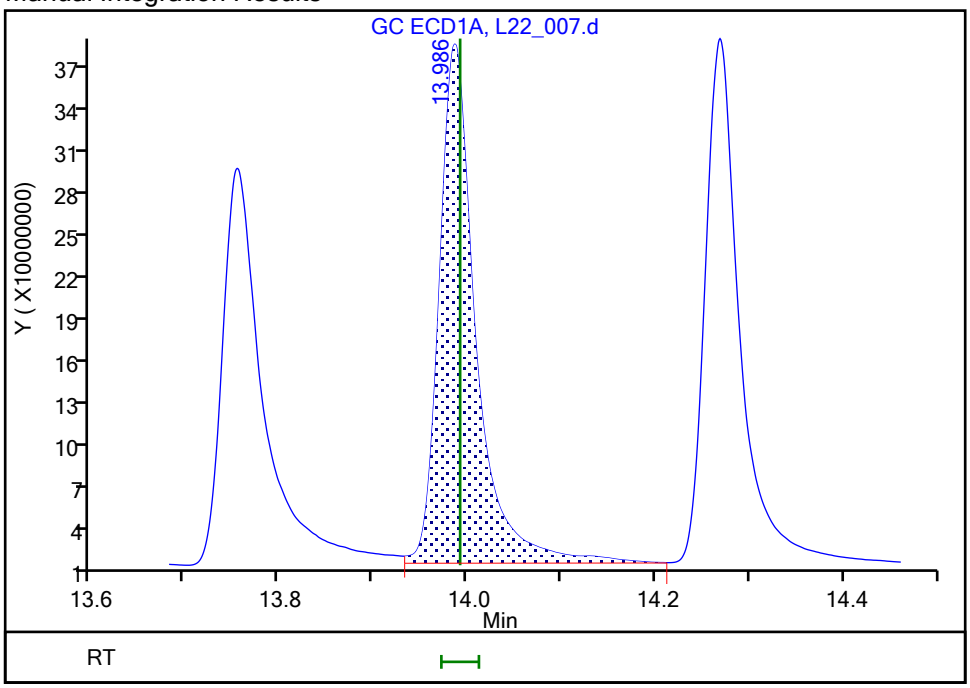

Reviewer: lamj, 23-Sep-2019 09:22:52
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

21 4,4'-DDT, CAS: 50-29-3

Signal: 1

Not Detected
Expected RT: 14.27

Processing Integration Results

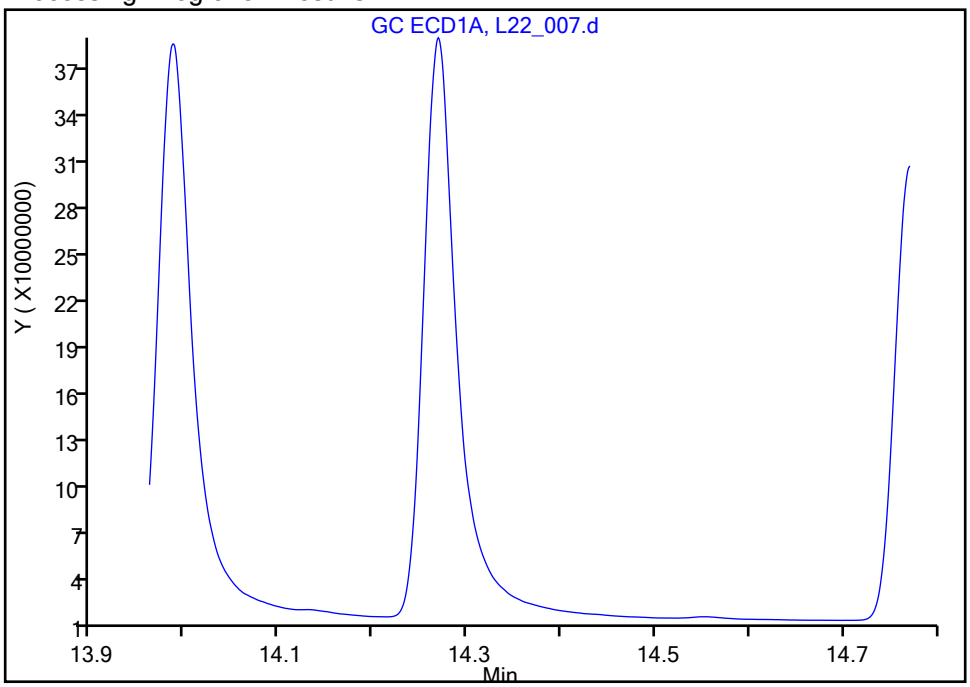

Manual Integration Results

RT: 14.27
Area: 953383997
Amount: 0.111692
Amount Units: ug/ml

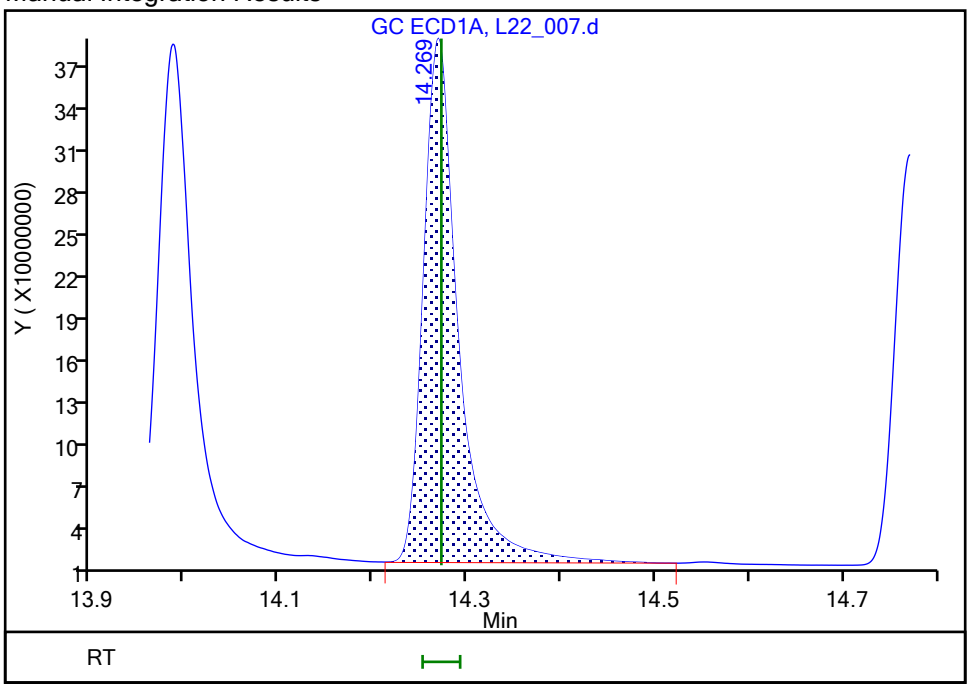

Reviewer: lamj, 23-Sep-2019 09:22:56
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

24 Endrin aldehyde, CAS: 7421-93-4

Signal: 1

Not Detected
Expected RT: 14.77

Processing Integration Results

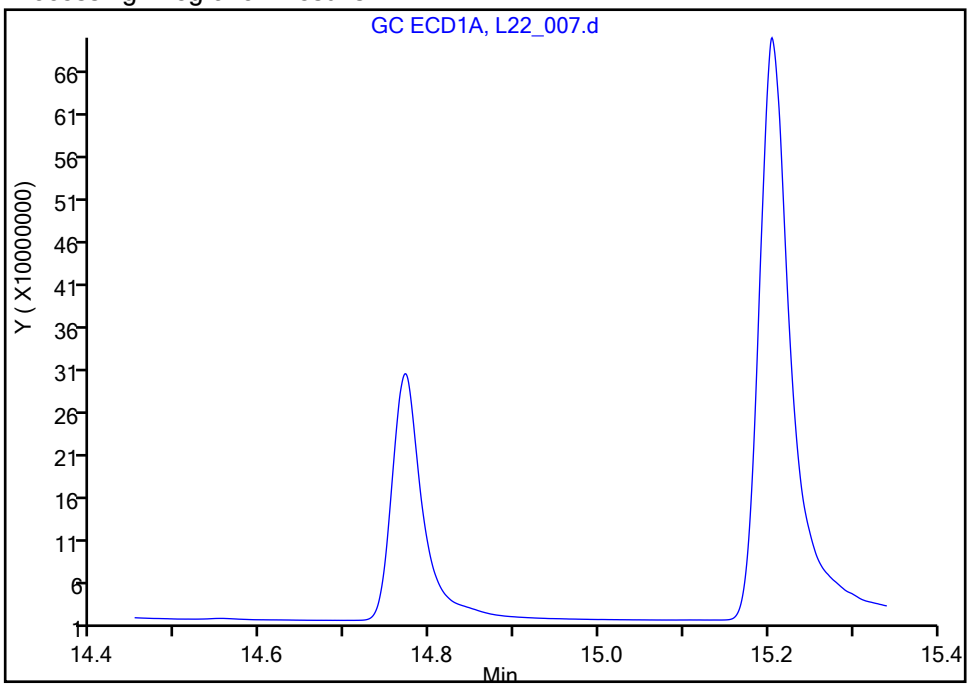

Manual Integration Results

RT:	14.77
Area:	757568743
Amount:	0.110703
Amount Units:	ug/ml

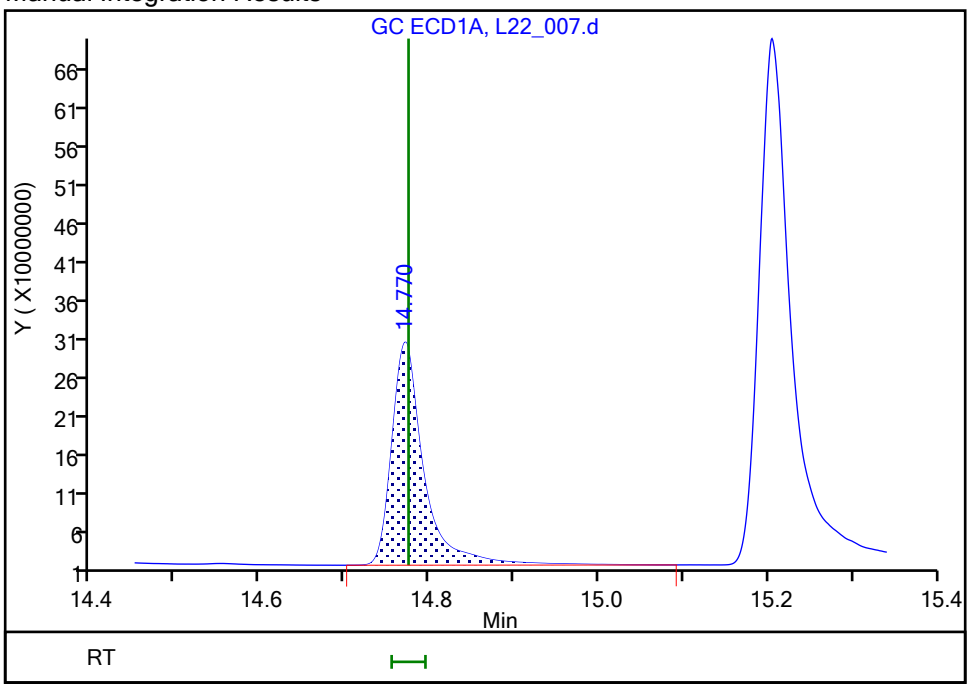

Reviewer: lamj, 23-Sep-2019 09:23:00
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

25 Methoxychlor, CAS: 72-43-5

Signal: 1

Not Detected
Expected RT: 15.21

Processing Integration Results

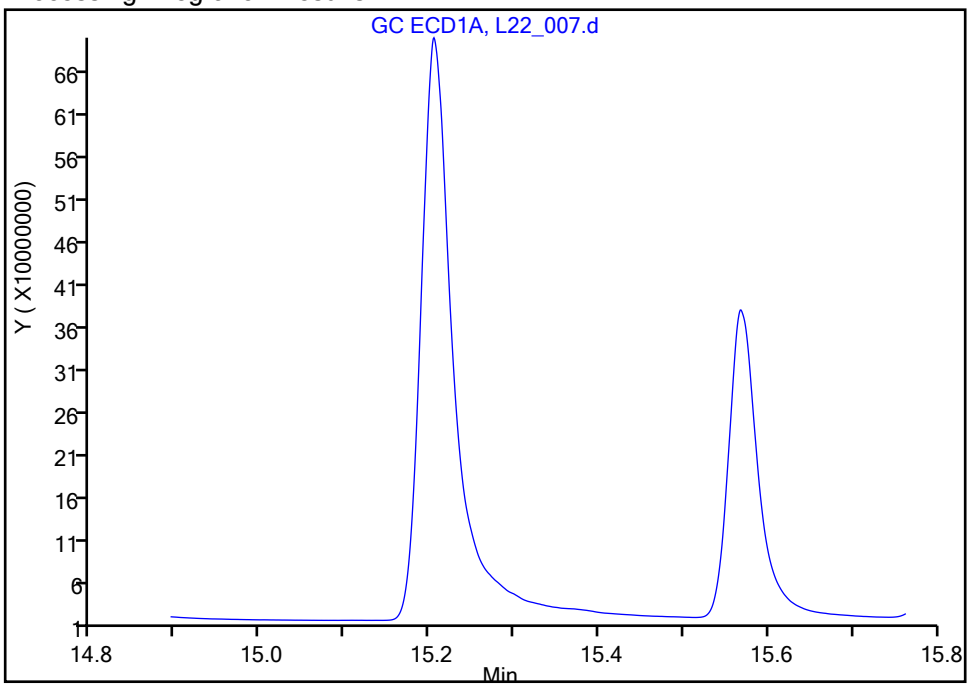

RT: 15.20
Area: 1921795858
Amount: 0.541271
Amount Units: ug/ml

Manual Integration Results

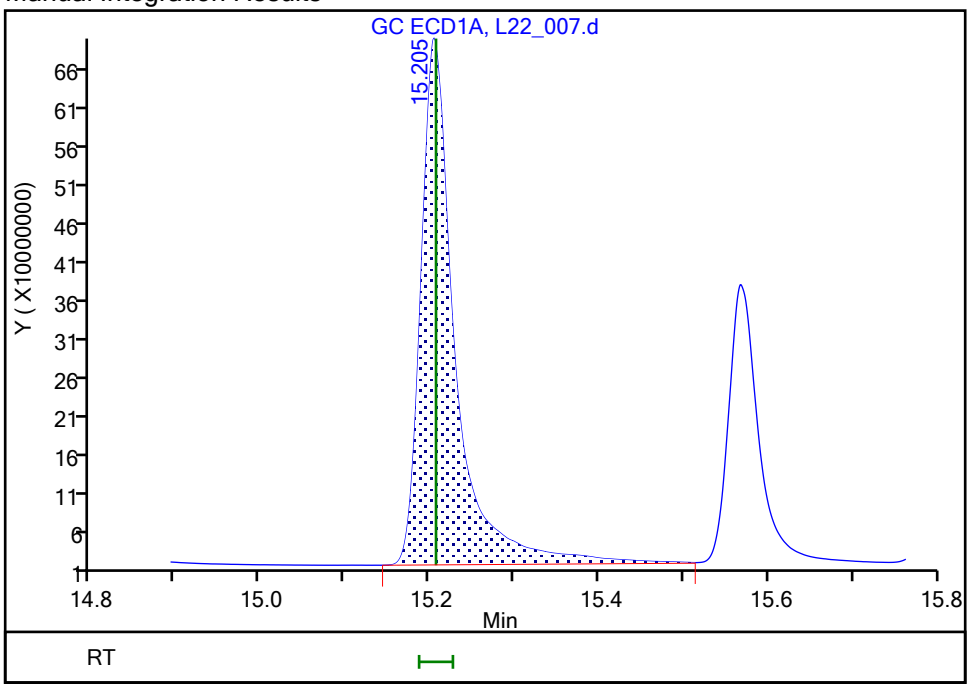

Reviewer: lamj, 23-Sep-2019 09:23:04
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

26 Endosulfan sulfate, CAS: 1031-07-8

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 15.57

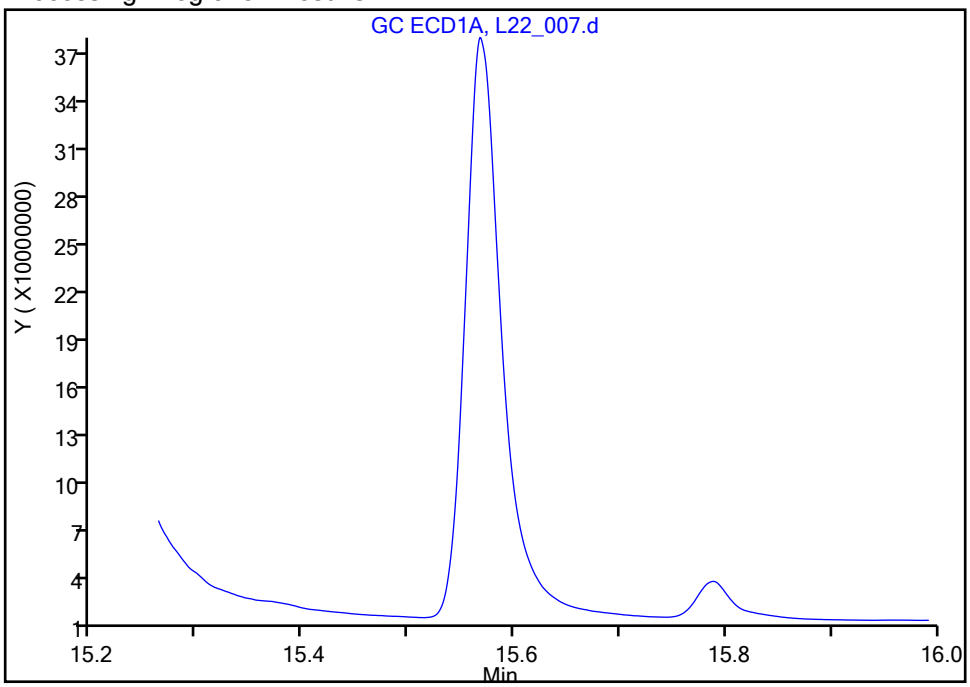

Manual Integration Results

RT: 15.57
Area: 890014647
Amount: 0.108654
Amount Units: ug/ml

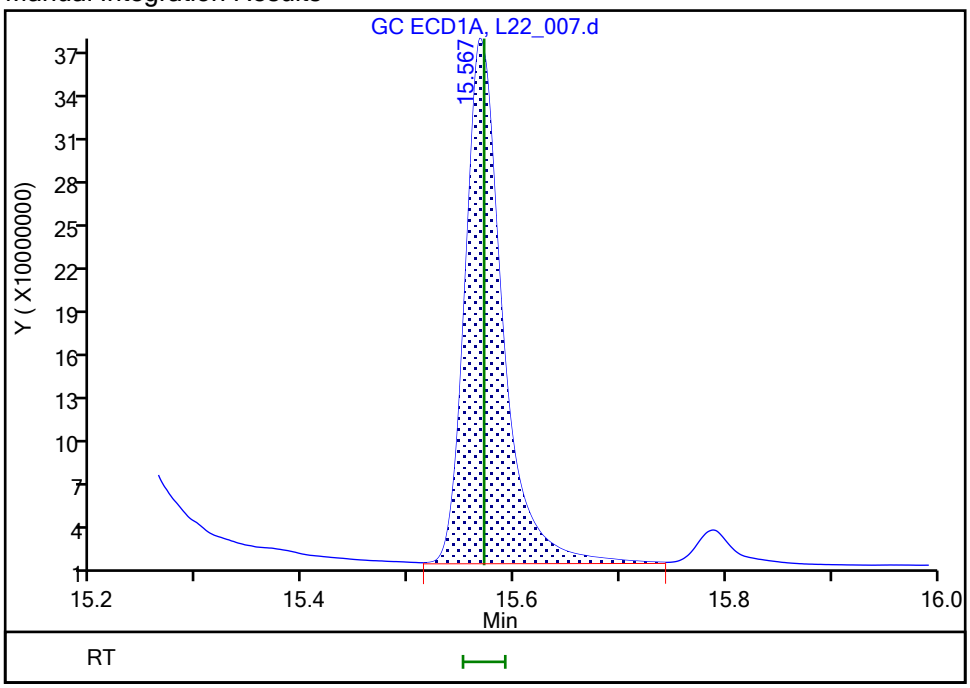

Reviewer: lamj, 23-Sep-2019 09:23:08
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

27 Endrin ketone, CAS: 53494-70-5

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 16.05

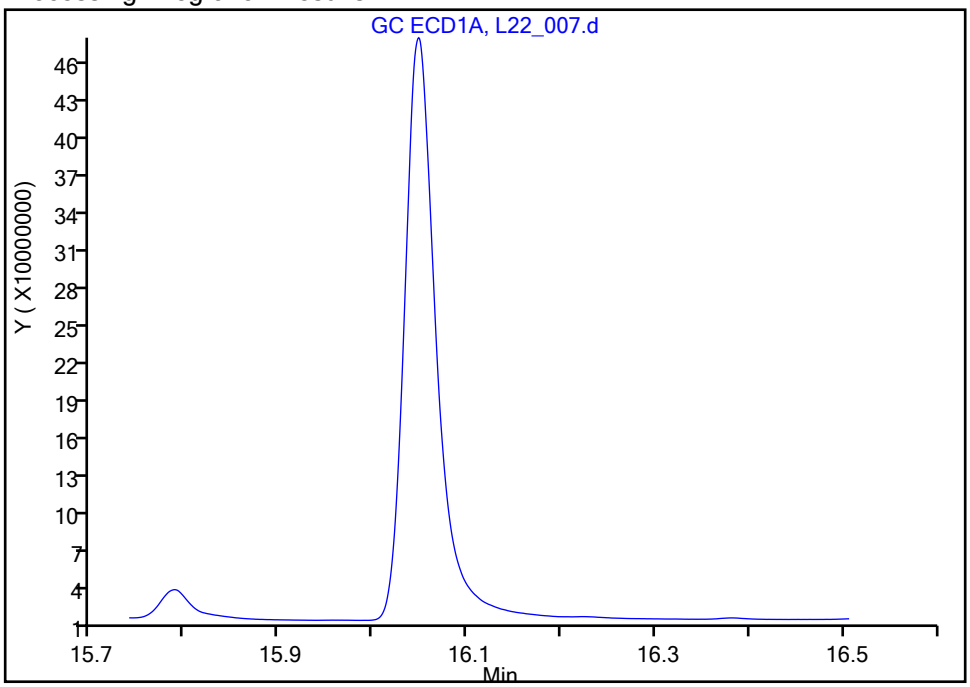

Manual Integration Results

RT: 16.05
Area: 1089713283
Amount: 0.108618
Amount Units: ug/ml

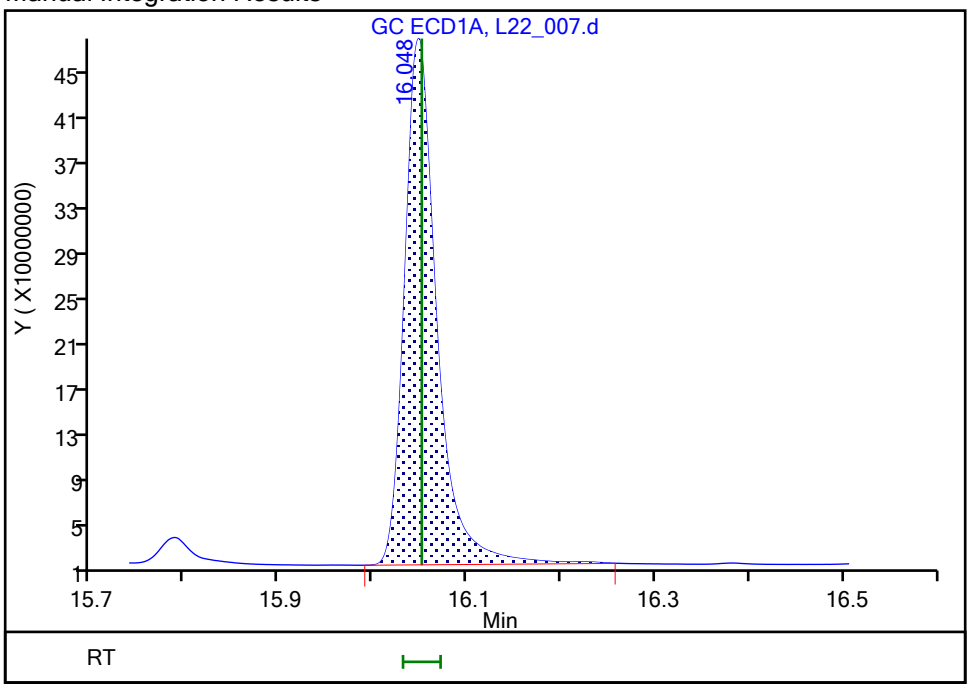

Reviewer: lamj, 23-Sep-2019 09:23:12
Audit Action: Assigned Compound ID Audit Reason:

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_008.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 22-Sep-2019 15:04:48 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031217-008
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVI_PEST_CHECD09*sub3

Method: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\LVI_PEST_CHECD09.m
Limit Group: GCSV - 8081A
Last Update: 23-Sep-2019 09:48:49 Calib Date: 22-Sep-2019 15:04:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_008.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0327

First Level Reviewer: lamj Date: 23-Sep-2019 09:26:23

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.275	6.276	-0.001	3766408684	50.0	50.0	
2	6.255	6.257	-0.002	2424829010	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	7.984	7.984	0.000	1489395520	0.1600	0.1728	
2	8.175	8.175	0.000	1014586670	0.1600	0.1824	
						RPD = 5.41	
3 alpha-BHC							
1	9.092	9.093	-0.001	1059233362	0.0800	0.0855	
2	9.373	9.374	-0.001	719551549	0.0800	0.0942	
						RPD = 9.64	
4 gamma-BHC (Lindane)							
1	9.685	9.686	-0.001	890316763	0.0800	0.0884	
2	10.013	10.014	-0.001	603705735	0.0800	0.0928	
						RPD = 4.92	
5 beta-BHC							
1	9.880	9.887	-0.007	381524338	0.0800	0.0922	
2	10.197	10.201	-0.004	232710656	0.0800	0.0872	
						RPD = 5.55	
7 delta-BHC							
1	10.183	10.189	-0.006	933464618	0.0800	0.0915	
2	10.679	10.684	-0.005	471372723	0.0800	0.1038	
						RPD = 12.61	
9 Heptachlor							
1	10.497	10.499	-0.002	898986687	0.0800	0.0842	
2	10.734	10.736	-0.002	605735312	0.0800	0.0862	
						RPD = 2.36	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 Aldrin							
1	10.988	10.990	-0.002	891796312	0.0800	0.0869	
2	11.246	11.248	-0.002	609347814	0.0800	0.0914	
						RPD = 5.09	
11 Heptachlor epoxide							
1	11.976	11.979	-0.003	757699447	0.0800	0.0841	
2	12.178	12.181	-0.003	508902264	0.0800	0.0900	
						RPD = 6.88	
12 trans-Chlordane							
1	12.191	12.194	-0.003	817268636	0.0800	0.0882	
2	12.518	12.522	-0.004	562634393	0.0800	0.0949	
						RPD = 7.34	
13 cis-Chlordane							
1	12.424	12.429	-0.005	766384723	0.0800	0.0883	
2	12.794	12.798	-0.004	524430142	0.0800	0.0954	
						RPD = 7.76	
14 4,4'-DDE							
1	12.618	12.620	-0.002	1154341692	0.1600	0.1911	
2	13.164	13.169	-0.005	1008793646	0.1600	0.1975	
						RPD = 3.32	
15 Endosulfan I							
1	12.665	12.670	-0.005	967756192	0.0800	0.0825	
2	12.885	12.890	-0.005	504763799	0.0800	0.0898	
						RPD = 8.46	
16 Dieldrin							
1	13.124	13.128	-0.004	1530276894	0.1600	0.1690	
2	13.404	13.409	-0.005	1022931571	0.1600	0.1832	
						RPD = 8.05	
18 Endrin							
1	13.557	13.561	-0.004	1044930648	0.1600	0.1654	
2	13.968	13.971	-0.003	599399688	0.1600	0.1752	
						RPD = 5.77	
19 4,4'-DDD							
1	13.753	13.759	-0.006	1135150103	0.1600	0.1848	
2	14.254	14.259	-0.005	693264383	0.1600	0.2050	
						RPD = 10.34	
20 Endosulfan II							
1	13.984	13.992	-0.008	1233911061	0.1600	0.1650	
2	14.374	14.380	-0.006	952729547	0.1600	0.1802	
						RPD = 8.76	
21 4,4'-DDT							
1	14.266	14.272	-0.006	1289924499	0.1600	0.1823	
2	14.824	14.829	-0.005	657387801	0.1600	0.2089	
						RPD = 13.64	
24 Endrin aldehyde							
1	14.770	14.774	-0.004	998023404	0.1600	0.1759	
2	15.005	15.009	-0.004	679613961	0.1600	0.1893	
						RPD = 7.36	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
25 Methoxychlor							
1	15.203	15.207	-0.004	2522837586	0.8000	0.8570	
2	16.095	16.099	-0.004	1292968883	0.8000	0.9871	
						RPD = 14.11	
26 Endosulfan sulfate							
1	15.569	15.571	-0.002	1170205795	0.1600	0.1723	
2	15.512	15.517	-0.005	824438707	0.1600	0.1869	
						RPD = 8.12	
27 Endrin ketone							
1	16.048	16.051	-0.003	1428623331	0.1600	0.1717	
2	16.397	16.401	-0.004	976562592	0.1600	0.1857	
						RPD = 7.80	
$ 28 DCB Decachlorobiphenyl							
1	17.545	17.546	-0.001	1228927123	0.1600	0.1852	
2	18.063	18.064	-0.001	900790323	0.1600	0.1862	
						RPD = 0.54	

Reagents:

PESTCAL6_00026	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 23-Sep-2019 09:48:51 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_008.d				
Injection Date:	22-Sep-2019 15:04:48	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		

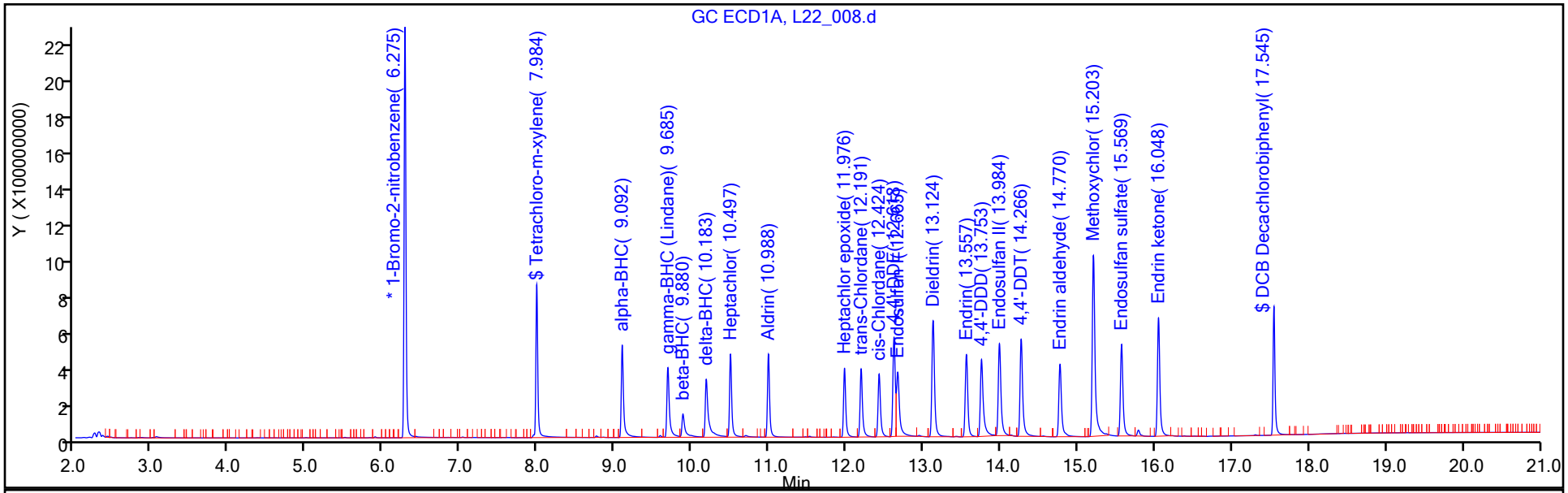

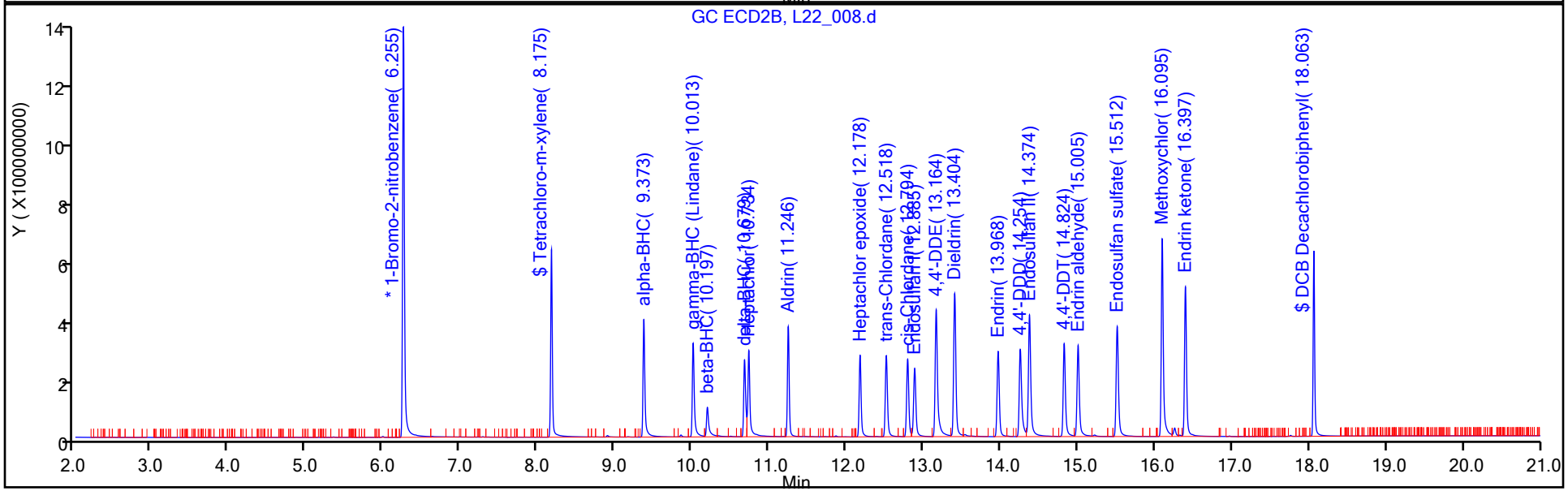

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 275356

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/22/2019 12:43 Calibration End Date: 09/22/2019 15:04 Calibration ID: 16745

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-275356/3	L22_003.d
Level 2	IC 600-275356/4	L22_004.d
Level 3	IC 600-275356/5	L22_005.d
Level 4	ICIS 600-275356/6	L22_006.d
Level 5	IC 600-275356/7	L22_007.d
Level 6	IC 600-275356/8	L22_008.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
alpha-BHC	141.96 185.46	144.91	148.40	174.95	149.47	Ave		157.53				11.5		20.0			
gamma-BHC (Lindane)	123.14 155.61	125.39	125.44	149.90	125.22	Ave		134.12				10.9		20.0			
beta-BHC	55.791 59.981	51.974	56.877	58.636	46.830	Ave		55.015				8.8		20.0			
delta-BHC	73.015 121.50	86.378	81.057	109.71	90.304	Ave		93.660				19.6		20.0			
Heptachlor	141.64 156.13	135.69	143.16	161.03	131.26	Ave		144.82				8.0		20.0			
Aldrin	135.92 157.06	129.45	127.99	151.08	122.98	Ave		137.41				10.0		20.0			
Heptachlor epoxide	120.32 131.17	112.87	107.64	125.53	101.74	Ave		116.55				9.6		20.0			
Chlordane (trans)	123.12 145.02	114.56	110.45	131.77	108.58	Ave		122.25				11.5		20.0			
cis-Chlordane	114.94 135.17	107.38	101.17	121.14	100.02	Ave		113.30				11.8		20.0			
Endosulfan I	123.88 130.10	112.99	105.95	124.30	98.137	Ave		115.89				10.6		20.0			
4,4'-DDE	104.73 130.01	98.166	93.491	111.33	94.156	Ave		105.31				13.2		20.0			
Dieldrin	120.72 131.83	111.79	105.17	121.48	99.904	Ave		115.15				10.2		20.0			
Endrin	77.970 77.248	72.585	63.238	72.782	59.482	Ave		70.551				10.7		20.0			
4,4'-DDD	67.823 89.344	64.494	60.720	72.634	63.451	Ave		69.744				15.0		20.0			
Endosulfan II	122.33 122.78	106.85	98.554	113.26	90.507	Ave		109.05				11.9		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 275356

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/22/2019 12:43 Calibration End Date: 09/22/2019 15:04 Calibration ID: 16745

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
4,4'-DDT	60.771 84.721	57.525	57.847	67.135	61.267	Ave		64.878				15.9		20.0			
Endrin aldehyde	78.905 87.585	69.261	67.711	75.467	65.152	Ave		74.013				11.3		20.0			
Endosulfan sulfate	97.608 106.25	88.451	81.714	93.687	78.084	Ave		90.966				11.5		20.0			
Methoxychlor	28.412 33.326	25.060	24.453	26.509	24.294	Ave		27.009				12.8		20.0			
Endrin ketone	118.54 125.85	105.59	98.282	111.09	91.321	Ave		108.45				11.8		20.0			
Tetrachloro-m-xylene	110.31 130.75	108.69	109.13	122.86	106.57	Ave		114.72				8.5		20.0			
DCB Decachlorobiphenyl	111.33 116.09	88.855	97.126	92.579	92.417	Ave		99.733				11.3		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 275356

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/22/2019 12:43 Calibration End Date: 09/22/2019 15:04 Calibration ID: 16745

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-275356/3	L22_003.d
Level 2	IC 600-275356/4	L22_004.d
Level 3	IC 600-275356/5	L22_005.d
Level 4	ICIS 600-275356/6	L22_006.d
Level 5	IC 600-275356/7	L22_007.d
Level 6	IC 600-275356/8	L22_008.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
alpha-BHC	BNB	Ave	39796364 719551549	81231537	163615084	335129385	519100232	0.00501 0.0800	0.0100	0.0200	0.0400	0.0600
gamma-BHC (Lindane)	BNB	Ave	34520457 603705735	70290004	138303995	287158310	434871081	0.00501 0.0800	0.0100	0.0200	0.0400	0.0600
beta-BHC	BNB	Ave	15639805 232710656	29134517	62709711	112323039	162637204	0.00501 0.0800	0.0100	0.0200	0.0400	0.0600
delta-BHC	BNB	Ave	20468083 471372723	48420006	89368532	210162271	313622427	0.00501 0.0800	0.0100	0.0200	0.0400	0.0600
Heptachlor	BNB	Ave	39705821 605735312	76064163	157844448	308474215	455861442	0.00501 0.0800	0.0100	0.0200	0.0400	0.0600
Aldrin	BNB	Ave	38101175 609347814	72564177	141113663	289414392	427110823	0.00501 0.0800	0.0100	0.0200	0.0400	0.0600
Heptachlor epoxide	BNB	Ave	33730163 508902264	63271975	118682473	240462691	353344708	0.00501 0.0800	0.0100	0.0200	0.0400	0.0600
Chlordane (trans)	BNB	Ave	34513216 562634393	64215127	121773017	252428131	377085294	0.00501 0.0800	0.0100	0.0200	0.0400	0.0600
cis-Chlordane	BNB	Ave	32221323 524430142	60192010	111540324	232048452	347372116	0.00501 0.0800	0.0100	0.0200	0.0400	0.0600
Endosulfan I	BNB	Ave	34726365 504763799	63336510	116818393	238112111	340826031	0.00501 0.0800	0.0100	0.0200	0.0400	0.0600
4,4'-DDE	BNB	Ave	58718964 1008793646	110056211	206155522	426516207	653998970	0.0100 0.160	0.0200	0.0400	0.0800	0.120
Dieldrin	BNB	Ave	67680993 1022931571	125329219	231903335	465399961	693928171	0.0100 0.160	0.0200	0.0400	0.0800	0.120
Endrin	BNB	Ave	43714152 599399688	81376887	139444350	278843573	413157535	0.0100 0.160	0.0200	0.0400	0.0800	0.120
4,4'-DDD	BNB	Ave	38025265 693264383	72305652	133892850	278277101	440723928	0.0100 0.160	0.0200	0.0400	0.0800	0.120
Endosulfan II	BNB	Ave	68585276 952729547	119793107	217321291	433937821	628656958	0.0100 0.160	0.0200	0.0400	0.0800	0.120
4,4'-DDT	BNB	Ave	34071659 657387801	64492371	127558118	257208793	425553609	0.0100 0.160	0.0200	0.0400	0.0800	0.120

FORM VI
PESTICIDES BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 275356

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/22/2019 12:43 Calibration End Date: 09/22/2019 15:04 Calibration ID: 16745

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Endrin aldehyde	BNB	Ave	44238058 679613961	77649580	149308563	289129542	452543084	0.0100 0.160	0.0200	0.0400	0.0800	0.120
Endosulfan sulfate	BNB	Ave	54724366 824438707	99164372	180186078	358935796	542364345	0.0100 0.160	0.0200	0.0400	0.0800	0.120
Methoxychlor	BNB	Ave	79646403 1292968883	140475447	269606419	507804029	843712416	0.0501 0.800	0.100	0.200	0.400	0.600
Endrin ketone	BNB	Ave	66460871 976562592	118378529	216720960	425626422	634306061	0.0100 0.160	0.0200	0.0400	0.0800	0.120
Tetrachloro-m-xylene	BNB	Ave	61844555 1014586670	121859669	240636415	470692278	740208177	0.0100 0.160	0.0200	0.0400	0.0800	0.120
DCB Decachlorobiphenyl	BNB	Ave	62419316 900790323	99616825	214171278	354689813	641921293	0.0100 0.160	0.0200	0.0400	0.0800	0.120

Curve Type Legend:
Ave = Average ISTD

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_003.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 22-Sep-2019 12:43:34 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031217-003
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVI_PEST_CHECD09*sub3

Method: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\LVI_PEST_CHECD09.m
Limit Group: GCSV - 8081A
Last Update: 23-Sep-2019 09:47:02 Calib Date: 22-Sep-2019 15:04:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_008.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0327

First Level Reviewer: lamj Date: 22-Sep-2019 14:34:26

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.275	6.276	-0.001	4485206230	50.0	50.0	
2	6.254	6.257	-0.003	2798782966	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	7.984	7.984	0.000	106005275	0.0100	0.0103	
2	8.172	8.175	-0.003	61844555	0.0100	0.009631	
						RPD = 6.95	
3 alpha-BHC							
1	9.093	9.093	0.000	73837418	0.005008	0.005006	
2	9.370	9.374	-0.004	39796364	0.005008	0.004513	
						RPD = 10.36	
4 gamma-BHC (Lindane)							
1	9.689	9.686	0.003	57902751	0.005008	0.004826	
2	10.011	10.014	-0.003	34520457	0.005008	0.004598	
						RPD = 4.83	
5 beta-BHC							
1	9.901	9.887	0.014	22448986	0.005008	0.004556	
2	10.208	10.201	0.007	15639805	0.005008	0.005079	
						RPD = 10.85	
7 delta-BHC							
1	10.203	10.189	0.014	56461910	0.005008	0.004646	
2	10.689	10.684	0.005	20468083	0.005008	0.003904	
						RPD = 17.35	
9 Heptachlor							
1	10.501	10.499	0.002	63259084	0.005008	0.004977	
2	10.733	10.736	-0.003	39705821	0.005008	0.004898	
						RPD = 1.61	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 Aldrin							
1	10.992	10.990	0.002	63051150	0.005008	0.005159	
2	11.245	11.248	-0.003	38101175	0.005008	0.004953	
						RPD = 4.07	
11 Heptachlor epoxide							
1	11.983	11.979	0.004	57235383	0.005008	0.005332	
2	12.179	12.181	-0.002	33730163	0.005008	0.005170	
						RPD = 3.07	
12 trans-Chlordane							
1	12.202	12.194	0.008	56980251	0.005008	0.005163	
2	12.519	12.522	-0.003	34513216	0.005008	0.005044	
						RPD = 2.34	
13 cis-Chlordane							
1	12.434	12.429	0.005	53668108	0.005008	0.005193	
2	12.796	12.798	-0.002	32221323	0.005008	0.005080	
						RPD = 2.20	
14 4,4'-DDE							M
1	12.630	12.620	0.010	70426164	0.0100	0.009789	M
2	13.169	13.169	0.000	58718964	0.0100	0.0100	
						RPD = 1.74	
15 Endosulfan I							M
1	12.677	12.670	0.007	79945207	0.005008	0.005454	M
2	12.888	12.890	-0.002	34726365	0.005008	0.005353	
						RPD = 1.87	
16 Dieldrin							
1	13.134	13.128	0.006	117031765	0.0100	0.0109	
2	13.408	13.409	-0.001	67680993	0.0100	0.0105	
						RPD = 3.31	
18 Endrin							
1	13.565	13.561	0.004	83748183	0.0100	0.0111	
2	13.969	13.971	-0.002	43714152	0.0100	0.0111	
						RPD = 0.54	
19 4,4'-DDD							
1	13.768	13.759	0.009	72584205	0.0100	0.0099	
2	14.263	14.259	0.004	38025265	0.0100	0.009740	
						RPD = 1.86	
20 Endosulfan II							
1	13.997	13.992	0.005	96171815	0.0100	0.0108	
2	14.379	14.380	-0.001	68585276	0.0100	0.0112	
						RPD = 3.94	
21 4,4'-DDT							
1	14.279	14.272	0.007	88040820	0.0100	0.0104	
2	14.828	14.829	-0.001	34071659	0.0100	0.009382	
						RPD = 10.73	
24 Endrin aldehyde							
1	14.781	14.774	0.007	72510928	0.0100	0.0107	
2	15.009	15.009	0.000	44238058	0.0100	0.0107	
						RPD = 0.50	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
25 Methoxychlor							
1	15.214	15.207	0.007	199907119	0.0501	0.0570	
2	16.098	16.099	-0.001	79646403	0.0501	0.0527	
						RPD = 7.92	
26 Endosulfan sulfate							
1	15.579	15.571	0.008	88132247	0.0100	0.0109	
2	15.516	15.517	-0.001	54724366	0.0100	0.0107	
						RPD = 1.38	
27 Endrin ketone							
1	16.055	16.051	0.004	108547054	0.0100	0.0110	
2	16.399	16.401	-0.002	66460871	0.0100	0.0109	
						RPD = 0.09	
$ 28 DCB Decachlorobiphenyl							
1	17.546	17.546	0.000	79553466	0.0100	0.0101	
2	18.061	18.064	-0.003	62419316	0.0100	0.0112	
						RPD = 10.46	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

PESTCAL1_00031	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 23-Sep-2019 09:47:03 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_003.d				
Injection Date:	22-Sep-2019 12:43:34	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		

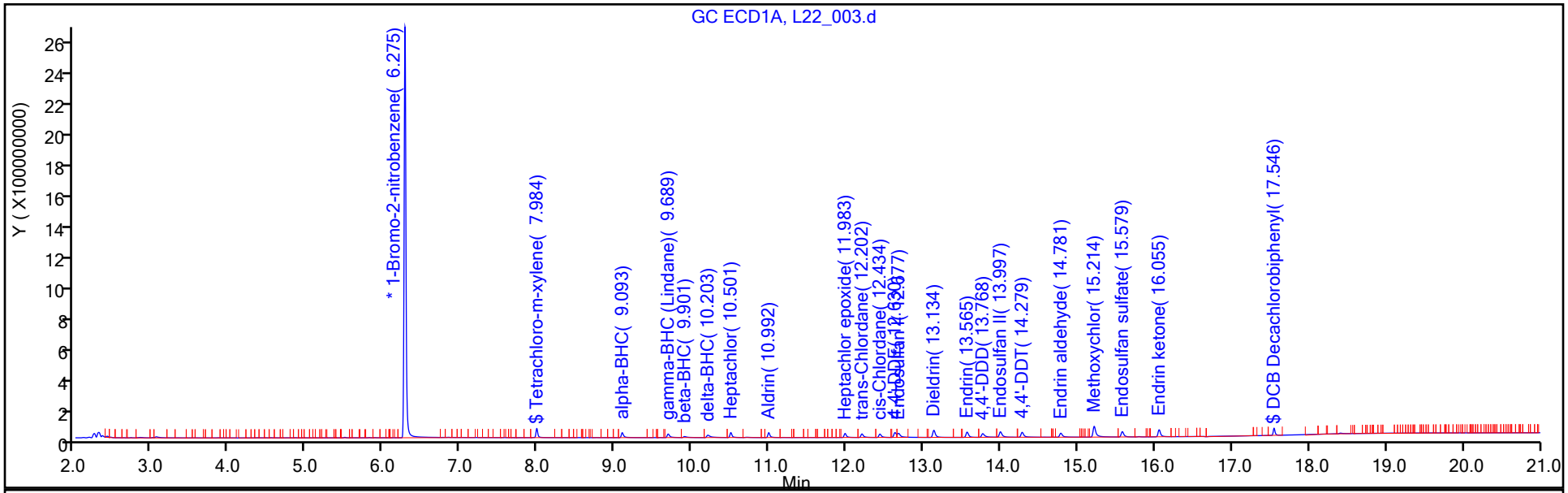

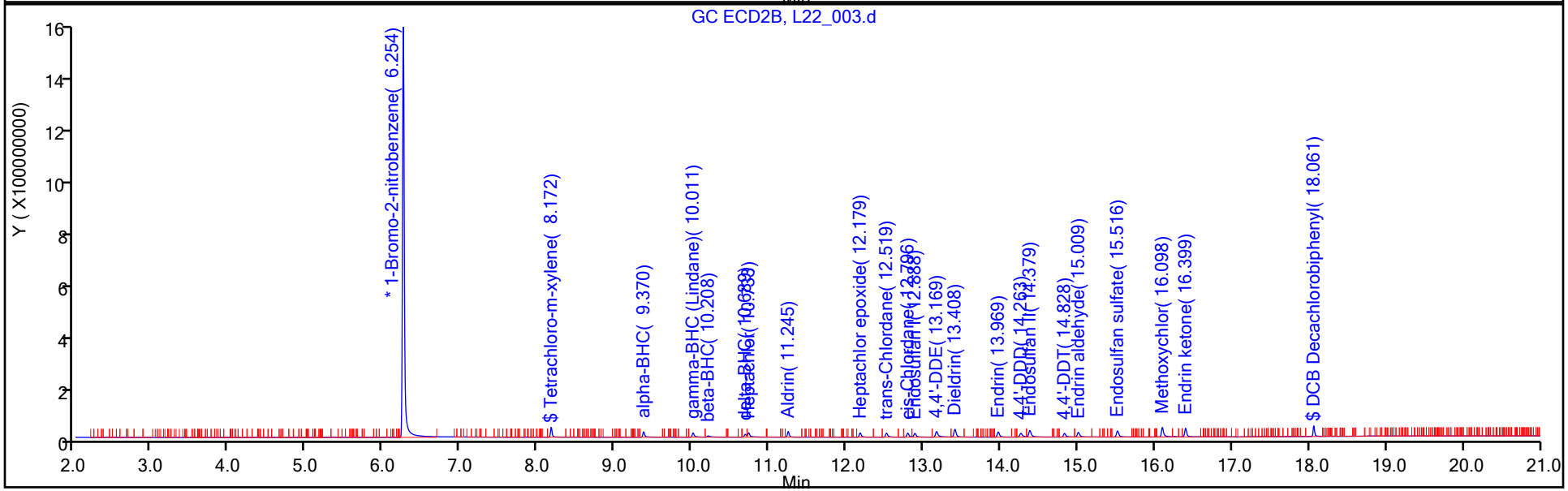

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_004.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 22-Sep-2019 13:11:44 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031217-004
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVI_PEST_CHECD09*sub3

Method: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\LVI_PEST_CHECD09.m
Limit Group: GCSV - 8081A
Last Update: 23-Sep-2019 09:47:18 Calib Date: 22-Sep-2019 15:04:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_008.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0327

First Level Reviewer: lamj Date: 22-Sep-2019 14:35:31

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.278	6.276	0.002	4448261910	50.0	50.0	
2	6.256	6.257	-0.001	2802804681	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	7.985	7.984	0.001	197509682	0.0200	0.0194	
2	8.173	8.175	-0.002	121859669	0.0200	0.0189	
						RPD = 2.33	
3 alpha-BHC							
1	9.094	9.093	0.001	142861417	0.0100	0.009767	
2	9.371	9.374	-0.003	81231537	0.0100	0.009199	
						RPD = 5.99	
4 gamma-BHC (Lindane)							
1	9.690	9.686	0.004	112805103	0.0100	0.009480	
2	10.012	10.014	-0.002	70290004	0.0100	0.009349	
						RPD = 1.38	
5 beta-BHC							
1	9.894	9.887	0.007	44439953	0.0100	0.009094	
2	10.204	10.201	0.003	29134517	0.0100	0.009447	
						RPD = 3.81	
7 delta-BHC							
1	10.195	10.189	0.006	112612487	0.0100	0.009343	
2	10.684	10.684	0.000	48420006	0.0100	0.009222	
						RPD = 1.29	
9 Heptachlor							
1	10.501	10.499	0.002	123284565	0.0100	0.009781	
2	10.734	10.736	-0.002	76064163	0.0100	0.009370	
						RPD = 4.29	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 Aldrin							
1	10.992	10.990	0.002	115016746	0.0100	0.009490	
2	11.245	11.248	-0.003	72564177	0.0100	0.009420	
						RPD = 0.73	
11 Heptachlor epoxide							
1	11.981	11.979	0.002	104691310	0.0100	0.009833	
2	12.178	12.181	-0.003	63271975	0.0100	0.009685	
						RPD = 1.52	
12 trans-Chlordane							
1	12.198	12.194	0.004	104516724	0.0100	0.009549	
2	12.519	12.522	-0.003	64215127	0.0100	0.009371	
						RPD = 1.88	
13 cis-Chlordane							
1	12.432	12.429	0.003	96811055	0.0100	0.009446	
2	12.795	12.798	-0.003	60192010	0.0100	0.009477	
						RPD = 0.33	
14 4,4'-DDE							M
1	12.623	12.620	0.003	138508997	0.0200	0.0194	M
2	13.165	13.169	-0.004	110056211	0.0200	0.0186	
						RPD = 4.05	
15 Endosulfan I							M
1	12.675	12.670	0.005	133192645	0.0100	0.009359	M
2	12.887	12.890	-0.003	63336510	0.0100	0.009749	
						RPD = 4.08	
16 Dieldrin							
1	13.131	13.128	0.003	209719791	0.0200	0.0196	
2	13.406	13.409	-0.003	125329219	0.0200	0.0194	
						RPD = 1.00	
18 Endrin							
1	13.564	13.561	0.003	151726911	0.0200	0.0203	
2	13.969	13.971	-0.002	81376887	0.0200	0.0206	
						RPD = 1.21	
19 4,4'-DDD							
1	13.762	13.759	0.003	133184619	0.0200	0.0184	
2	14.257	14.259	-0.002	72305652	0.0200	0.0185	
						RPD = 0.73	
20 Endosulfan II							
1	13.994	13.992	0.002	170958193	0.0200	0.0194	
2	14.377	14.380	-0.003	119793107	0.0200	0.0196	
						RPD = 1.21	
21 4,4'-DDT							
1	14.274	14.272	0.002	156605868	0.0200	0.0187	
2	14.827	14.829	-0.002	64492371	0.0200	0.0177	
						RPD = 5.50	
24 Endrin aldehyde							
1	14.777	14.774	0.003	124745675	0.0200	0.0186	
2	15.006	15.009	-0.003	77649580	0.0200	0.0187	
						RPD = 0.54	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
25 Methoxychlor							
1	15.209	15.207	0.002	335870301	0.1000	0.0966	
2	16.096	16.099	-0.003	140475447	0.1000	0.0928	
						RPD = 4.03	
26 Endosulfan sulfate							
1	15.576	15.571	0.005	154596739	0.0200	0.0193	
2	15.514	15.517	-0.003	99164372	0.0200	0.0194	
						RPD = 0.90	
27 Endrin ketone							
1	16.054	16.051	0.003	187843686	0.0200	0.0191	
2	16.398	16.401	-0.003	118378529	0.0200	0.0195	
						RPD = 1.83	
$ 28 DCB Decachlorobiphenyl							
1	17.546	17.546	0.000	135560911	0.0200	0.0173	
2	18.061	18.064	-0.003	99616825	0.0200	0.0178	
						RPD = 2.95	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

PESTCAL2_00027	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 23-Sep-2019 09:47:20 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_004.d				
Injection Date:	22-Sep-2019 13:11:44	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		

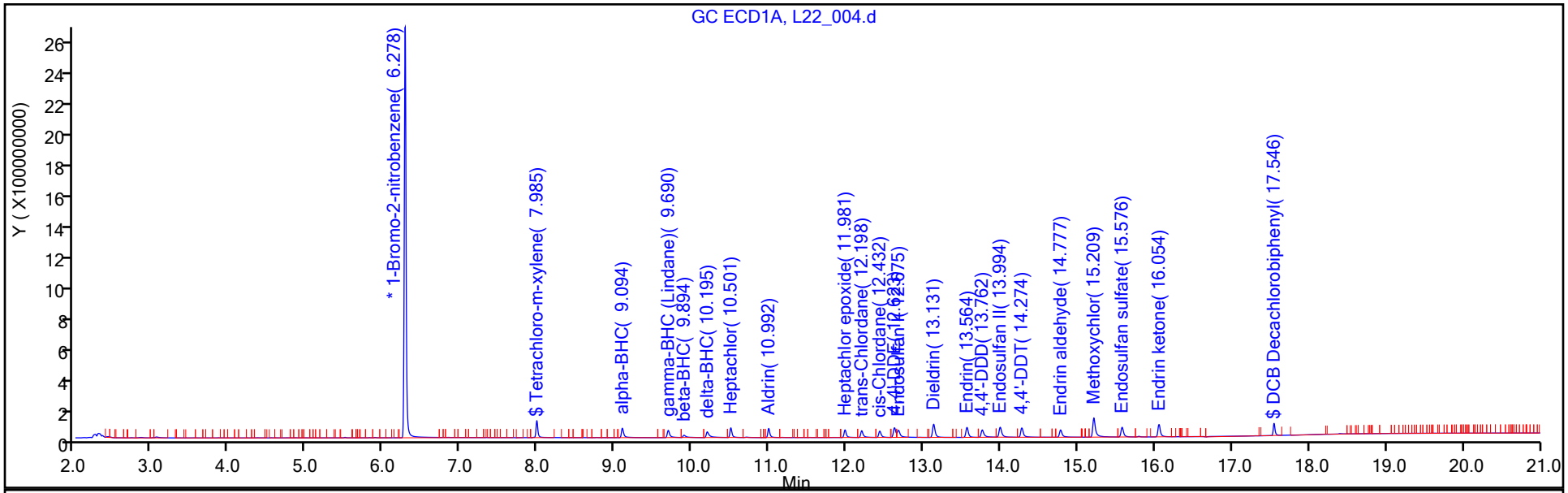

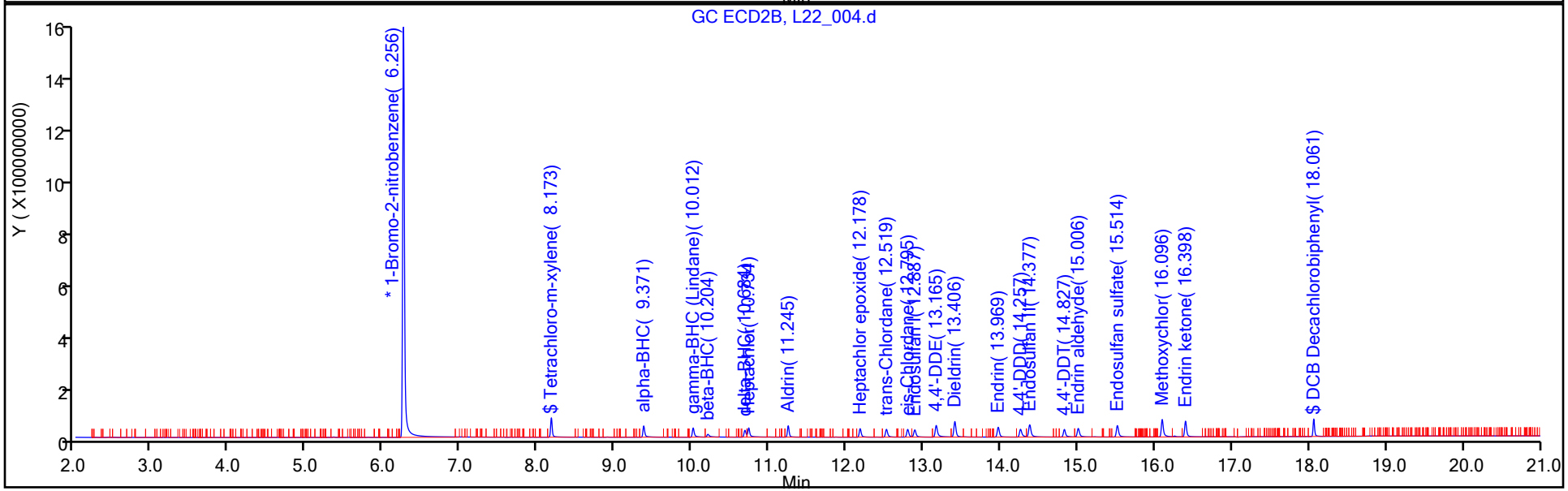

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 22-Sep-2019 13:40:04 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031217-005
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVI_PEST_CHECD09*sub3

Method: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\LVI_PEST_CHECD09.m
Limit Group: GCSV - 8081A
Last Update: 23-Sep-2019 09:47:35 Calib Date: 22-Sep-2019 15:04:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_008.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0327

First Level Reviewer: lamj Date: 22-Sep-2019 14:35:57

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.275	6.276	-0.001	4312563242	50.0	50.0	
2	6.277	6.257	0.020	2756361272	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							a
1	7.984	7.984	0.000	380491204	0.0400	0.0385	a
2	8.200	8.175	0.025	240636415	0.0400	0.0381	a
						RPD = 1.29	
3 alpha-BHC							a
1	9.092	9.093	-0.001	277374482	0.0200	0.0196	a
2	9.400	9.374	0.026	163615084	0.0200	0.0188	a
						RPD = 3.74	
4 gamma-BHC (Lindane)							a
1	9.687	9.686	0.001	222291095	0.0200	0.0193	a
2	10.041	10.014	0.027	138303995	0.0200	0.0187	a
						RPD = 2.96	
5 beta-BHC							a
1	9.894	9.887	0.007	90477797	0.0200	0.0191	a
2	10.233	10.201	0.032	62709711	0.0200	0.0207	a
						RPD = 7.95	
7 delta-BHC							a
1	10.196	10.189	0.007	222511069	0.0200	0.0190	a
2	10.715	10.684	0.031	89368532	0.0200	0.0173	a
						RPD = 9.53	
9 Heptachlor							a
1	10.499	10.499	0.000	241131983	0.0200	0.0197	a
2	10.763	10.736	0.027	157844448	0.0200	0.0198	a
						RPD = 0.20	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 Aldrin							a
1	10.990	10.990	0.000	228170583	0.0200	0.0194	a
2	11.275	11.248	0.027	141113663	0.0200	0.0186	a
						RPD = 4.15	
11 Heptachlor epoxide							a
1	11.979	11.979	0.000	204183088	0.0200	0.0198	a
2	12.211	12.181	0.030	118682473	0.0200	0.0185	a
						RPD = 6.84	
12 trans-Chlordane							a
1	12.196	12.194	0.002	206586614	0.0200	0.0195	a
2	12.556	12.522	0.034	121773017	0.0200	0.0181	a
						RPD = 7.45	
13 cis-Chlordane							a
1	12.429	12.429	0.000	193741417	0.0200	0.0195	a
2	12.833	12.798	0.035	111540324	0.0200	0.0179	a
						RPD = 8.78	
14 4,4'-DDE							a
1	12.625	12.620	0.005	249229847	0.0400	0.0360	a
2	13.205	13.169	0.036	206155522	0.0400	0.0355	a
						RPD = 1.45	
15 Endosulfan I							a
1	12.671	12.670	0.001	281916720	0.0200	0.0208	a
2	12.925	12.890	0.035	116818393	0.0200	0.0183	a
						RPD = 12.76	
16 Dieldrin							a
1	13.129	13.128	0.001	414613531	0.0400	0.0400	a
2	13.444	13.409	0.035	231903335	0.0400	0.0365	a
						RPD = 9.04	
18 Endrin							a
1	13.560	13.561	-0.001	282397584	0.0400	0.0390	a
2	14.005	13.971	0.034	139444350	0.0400	0.0359	a
						RPD = 8.48	
19 4,4'-DDD							a
1	13.764	13.759	0.005	273009323	0.0400	0.0388	a
2	14.295	14.259	0.036	133892850	0.0400	0.0348	a
						RPD = 10.85	
20 Endosulfan II							a
1	13.992	13.992	0.000	342750424	0.0400	0.0400	a
2	14.413	14.380	0.033	217321291	0.0400	0.0362	a
						RPD = 10.20	
21 4,4'-DDT							a
1	14.274	14.272	0.002	319583801	0.0400	0.0394	a
2	14.863	14.829	0.034	127558118	0.0400	0.0357	a
						RPD = 10.04	
24 Endrin aldehyde							a
1	14.775	14.774	0.001	263319580	0.0400	0.0405	a
2	15.042	15.009	0.033	149308563	0.0400	0.0366	a
						RPD = 10.21	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
25 Methoxychlor							a
1	15.210	15.207	0.003	677080731	0.2000	0.2009	a
2	16.125	16.099	0.026	269606419	0.2000	0.1811	a
						RPD = 10.37	
26 Endosulfan sulfate							a
1	15.574	15.571	0.003	310834483	0.0400	0.0400	a
2	15.549	15.517	0.032	180186078	0.0400	0.0359	a
						RPD = 10.64	
27 Endrin ketone							a
1	16.053	16.051	0.002	384326211	0.0400	0.0404	a
2	16.426	16.401	0.025	216720960	0.0400	0.0363	a
						RPD = 10.71	
$ 28 DCB Decachlorobiphenyl							
1	17.546	17.546	0.000	323348493	0.0400	0.0426	
2	18.073	18.064	0.009	214171278	0.0400	0.0390	
						RPD = 8.86	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

PESTCAL3_00027	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 23-Sep-2019 09:47:37 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		

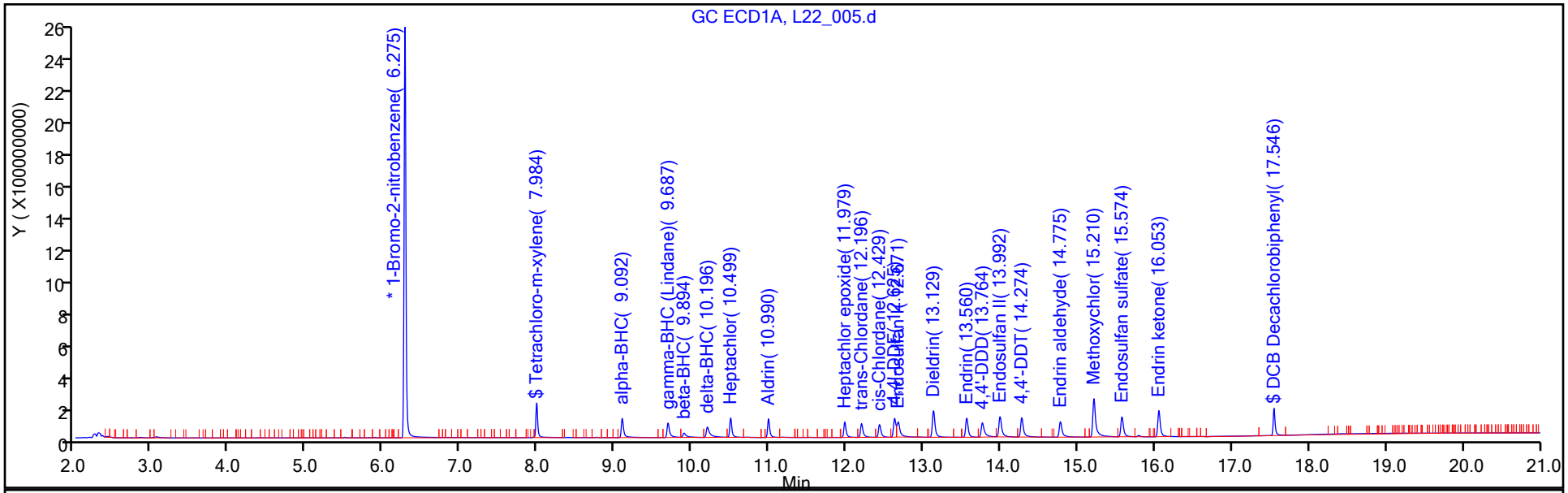

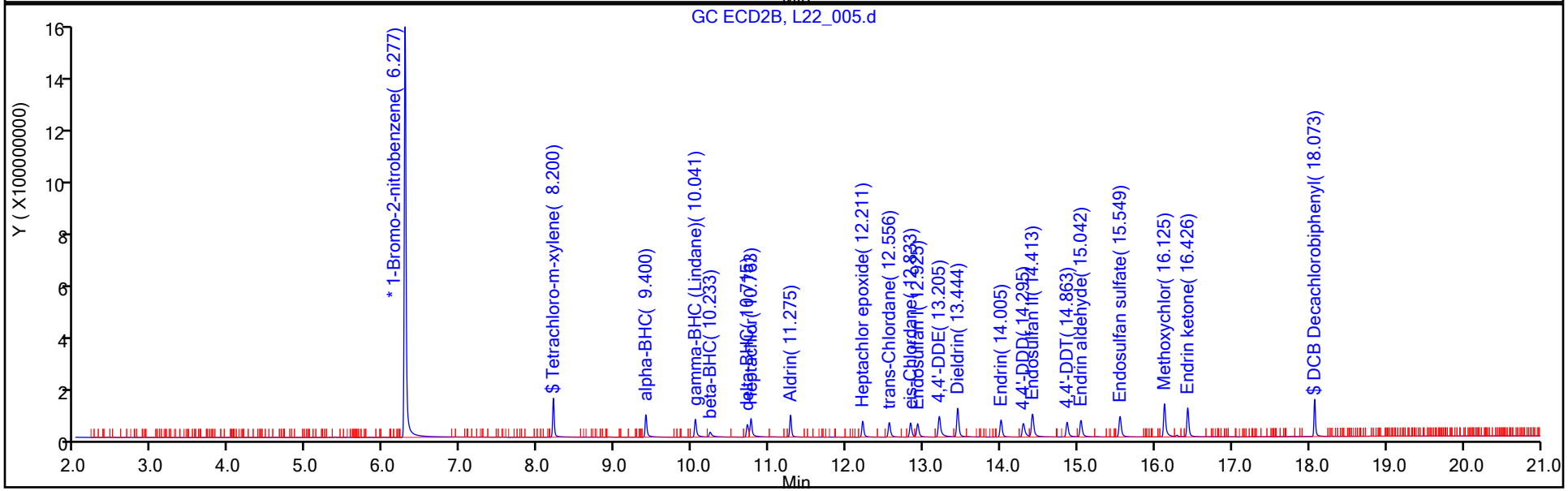

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

$ 2 Tetrachloro-m-xylene, CAS: 877-09-8

Signal: 2

Not Detected
Expected RT: 8.18

Processing Integration Results

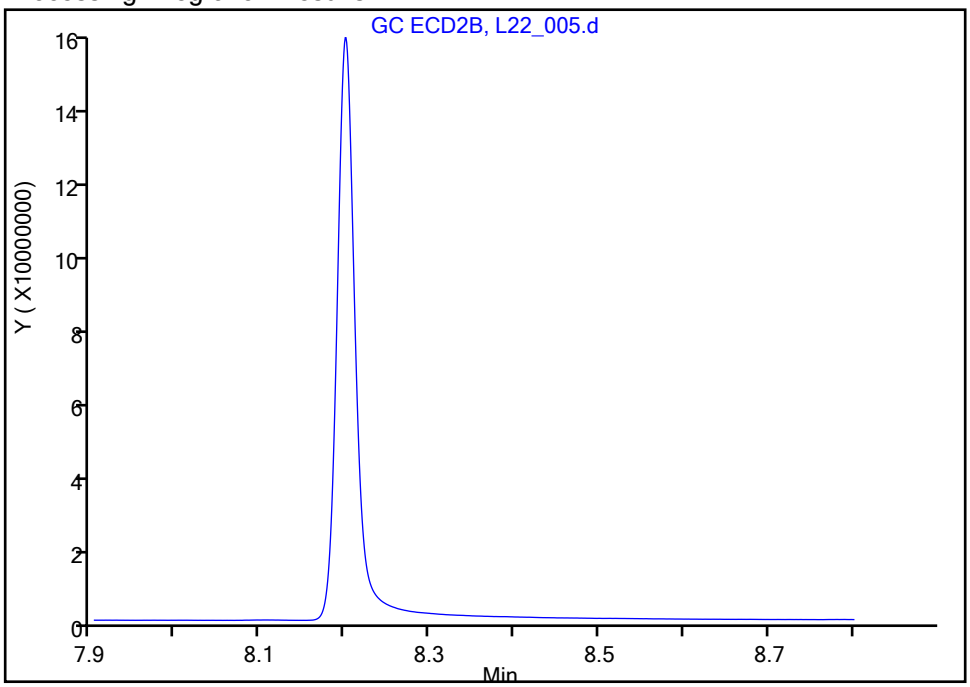

RT: 8.20
Area: 240636415
Amount: 0.038051
Amount Units: ug/ml

Manual Integration Results

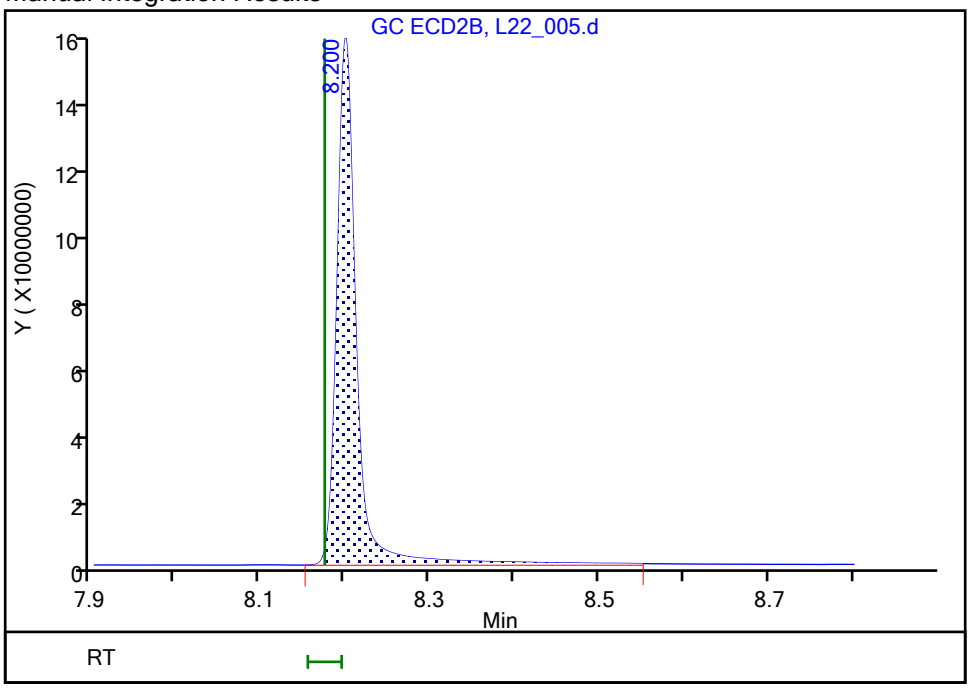

Reviewer: lamj, 23-Sep-2019 09:26:38
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

3 alpha-BHC, CAS: 319-84-6

Signal: 2

Not Detected
Expected RT: 9.37

Processing Integration Results

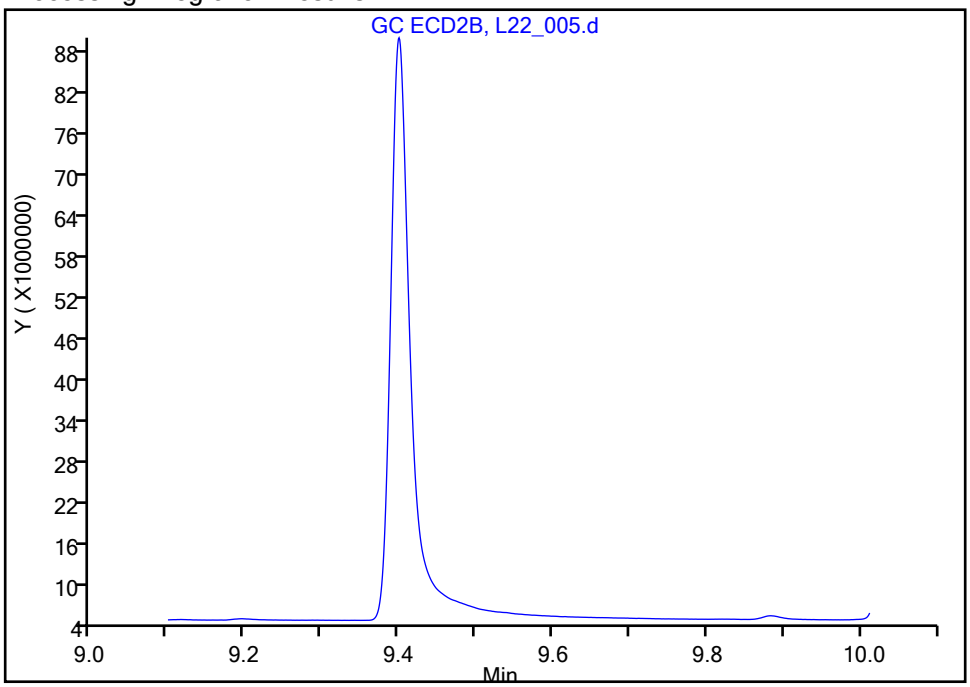

RT: 9.40
Area: 163615084
Amount: 0.018841
Amount Units: ug/ml

Manual Integration Results

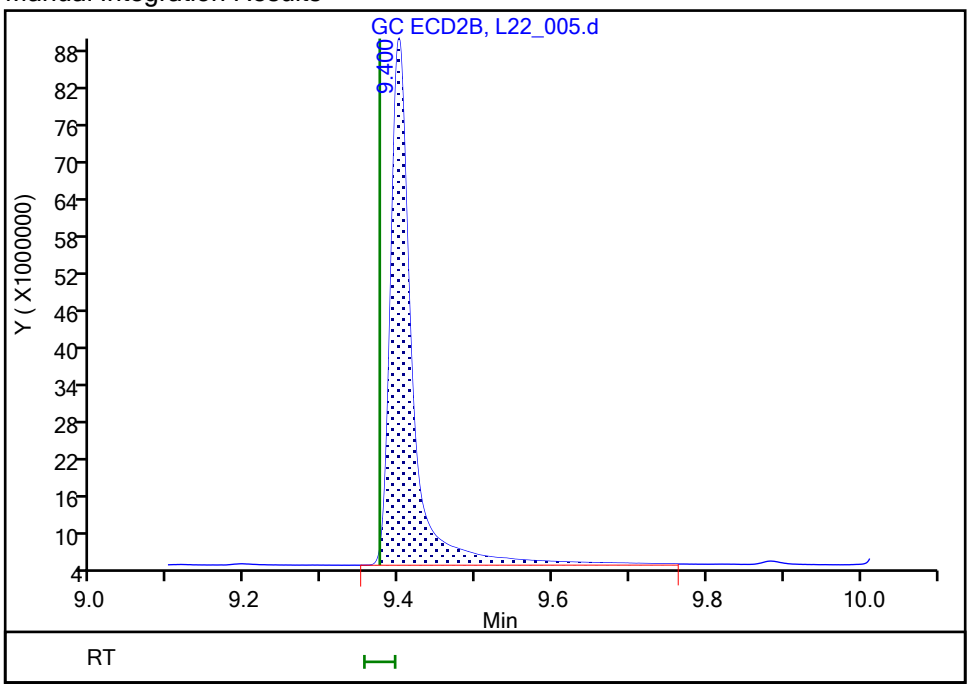

Reviewer: lamj, 23-Sep-2019 09:26:45
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

4 gamma-BHC (Lindane), CAS: 58-89-9

Signal: 2

Processing Integration Results

Not Detected
Expected RT: 10.01

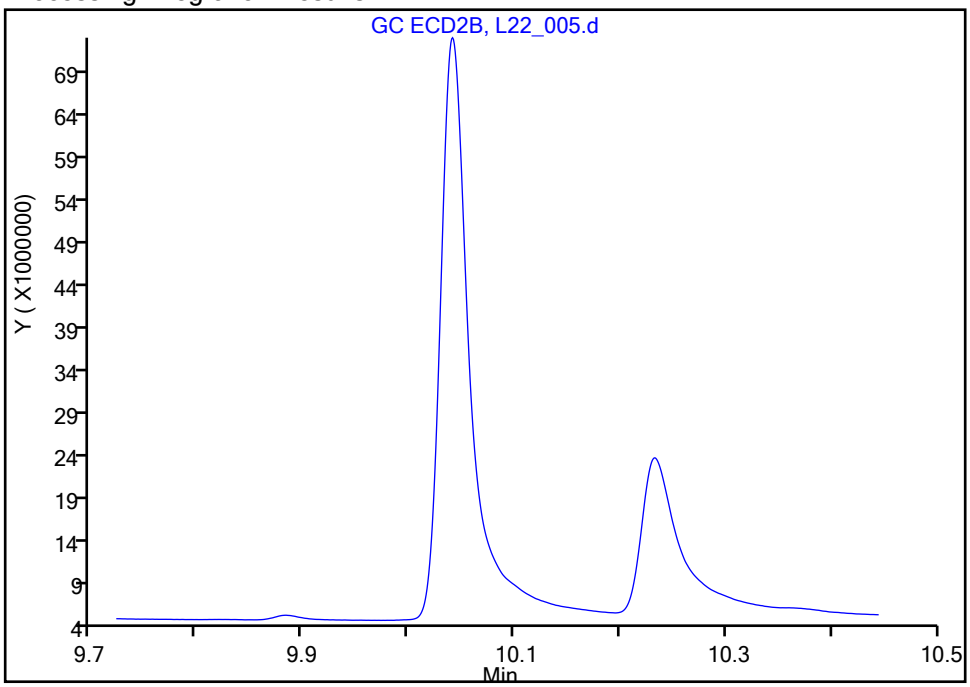

Manual Integration Results

RT: 10.04
Area: 138303995
Amount: 0.018706
Amount Units: ug/ml

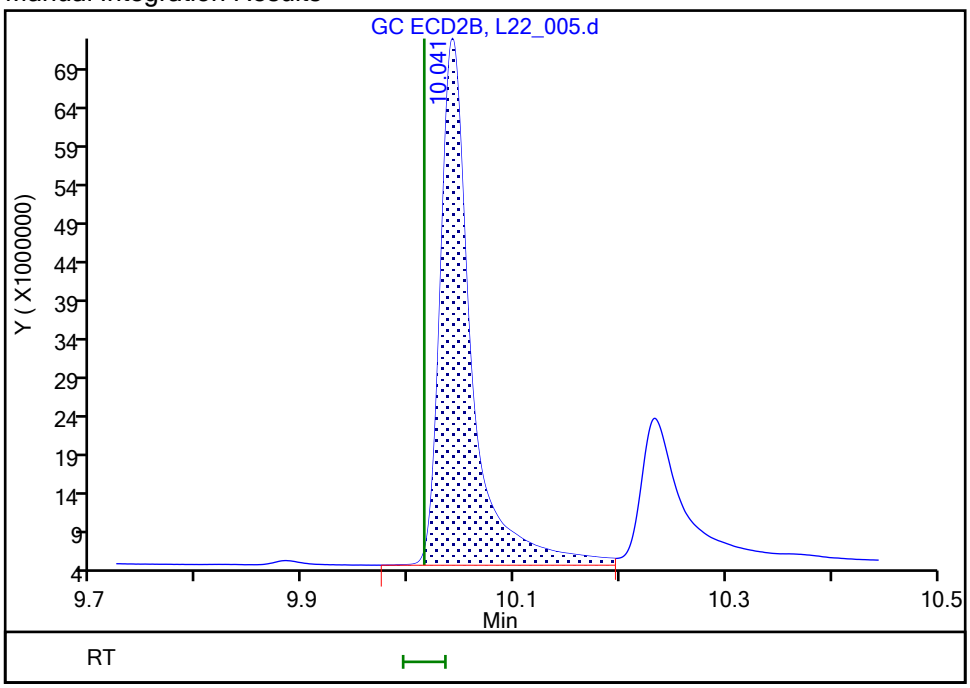

Reviewer: lamj, 23-Sep-2019 09:26:52
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

5 beta-BHC, CAS: 319-85-7

Signal: 2

Not Detected
Expected RT: 10.20

Processing Integration Results

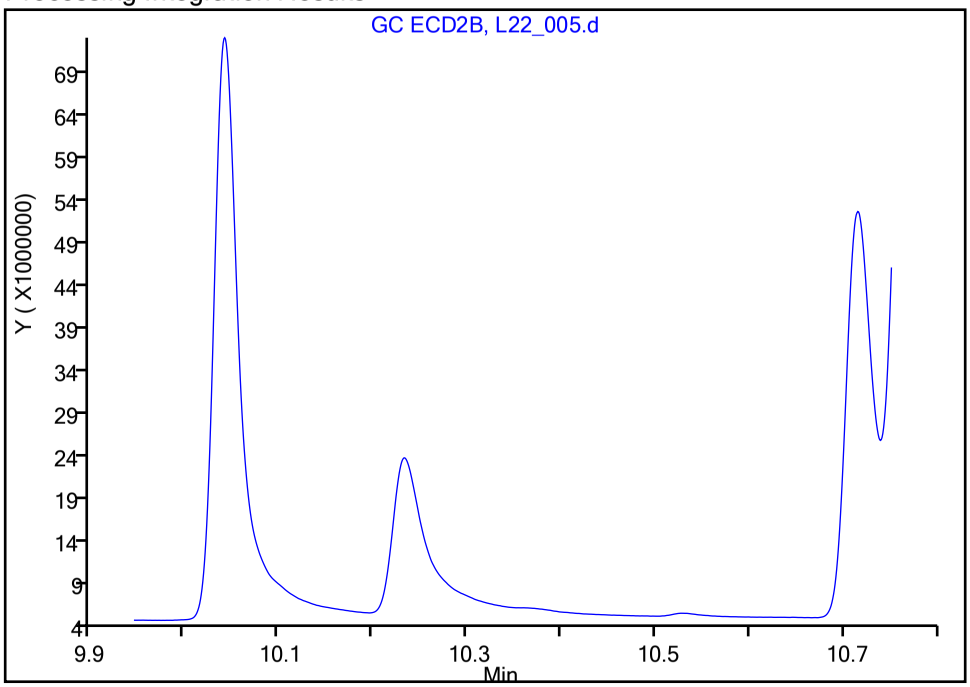

RT: 10.23
Area: 62709711
Amount: 0.020677
Amount Units: ug/ml

Manual Integration Results

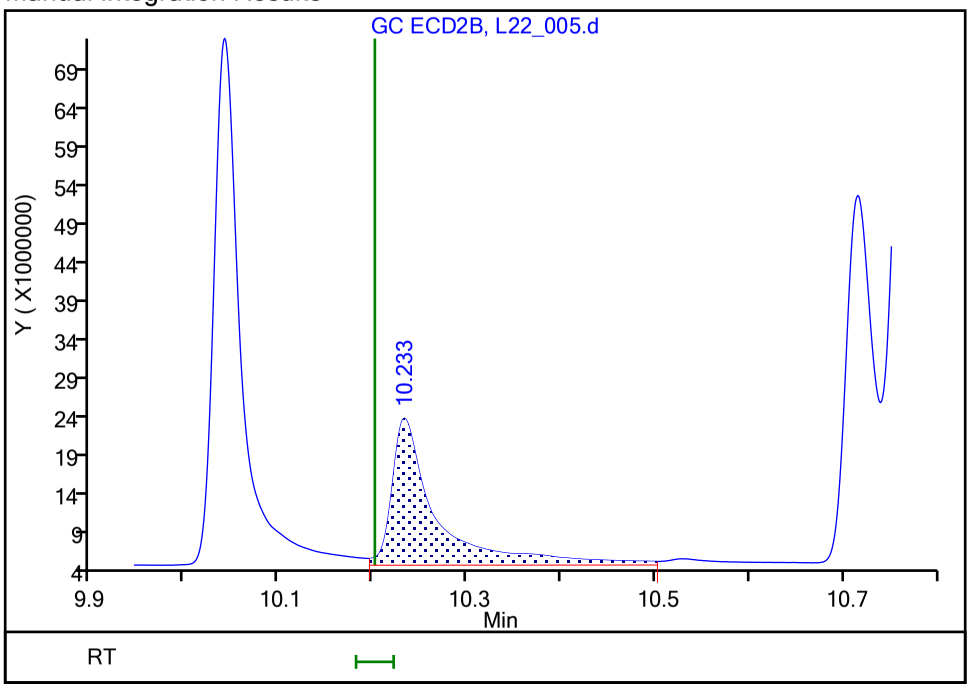

Reviewer: lamj, 23-Sep-2019 09:26:59
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

7 delta-BHC, CAS: 319-86-8

Signal: 2

Not Detected
Expected RT: 10.68

Processing Integration Results

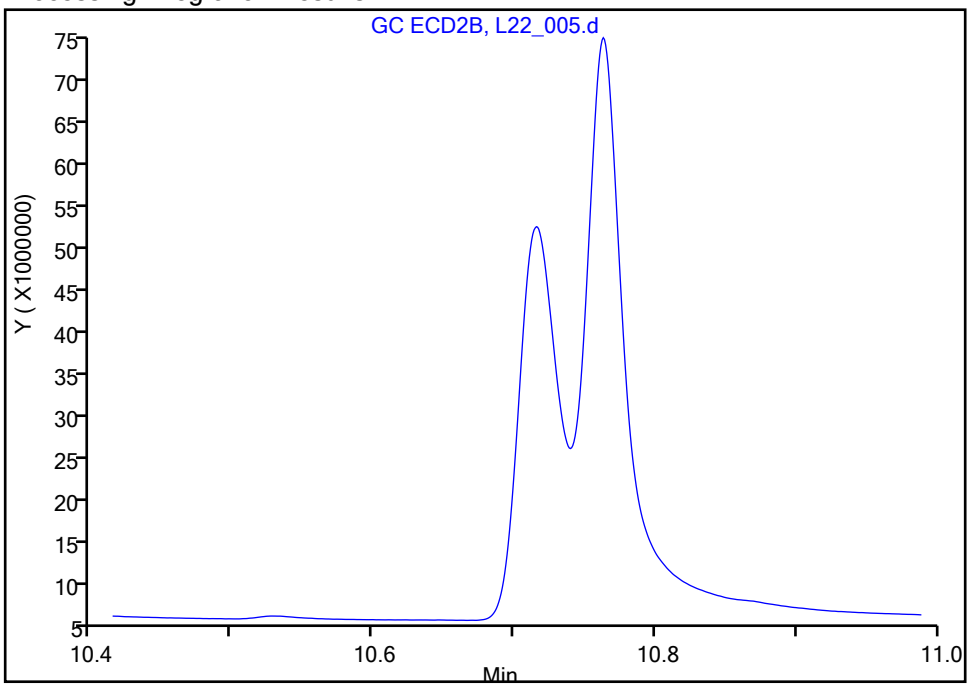

RT: 10.72
Area: 89368532
Amount: 0.017309
Amount Units: ug/ml

Manual Integration Results

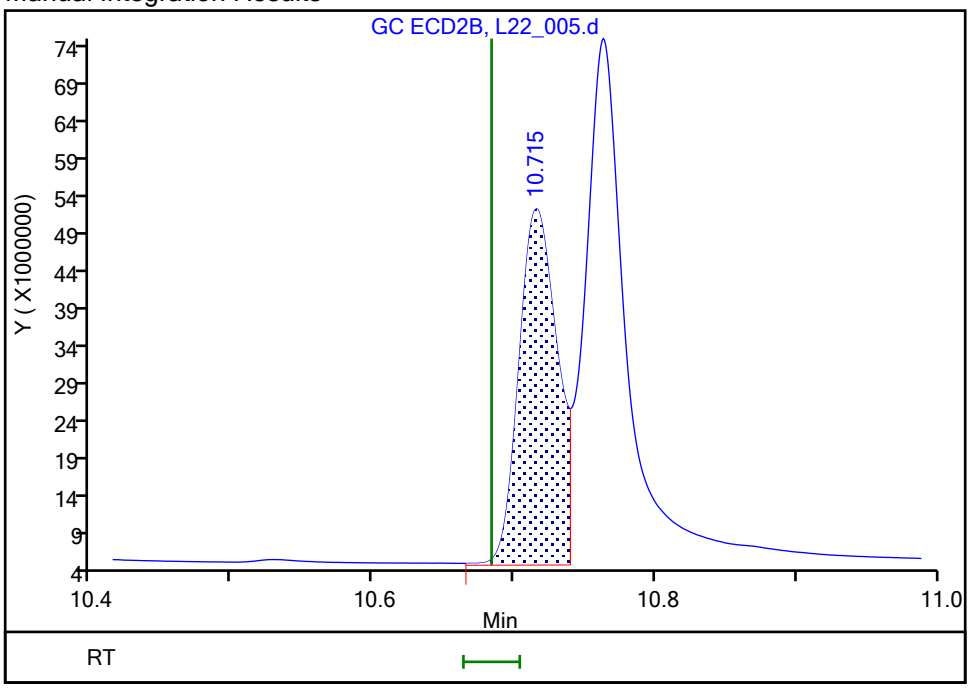

Reviewer: lamj, 23-Sep-2019 09:27:07
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

9 Heptachlor, CAS: 76-44-8

Signal: 2

Not Detected
Expected RT: 10.74

Processing Integration Results

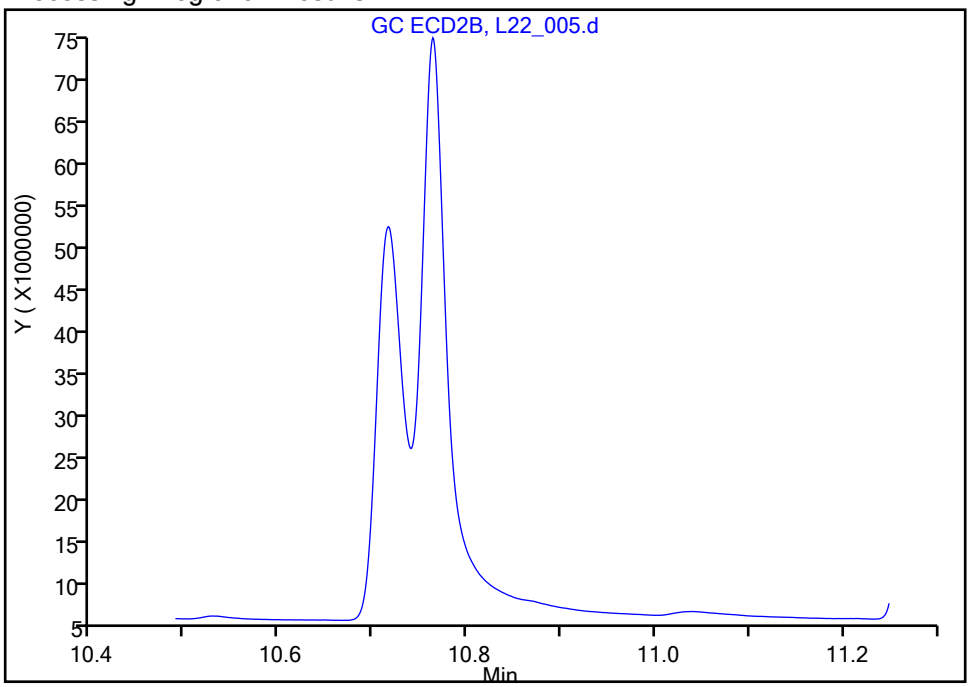

RT: 10.76
Area: 157844448
Amount: 0.019771
Amount Units: ug/ml

Manual Integration Results

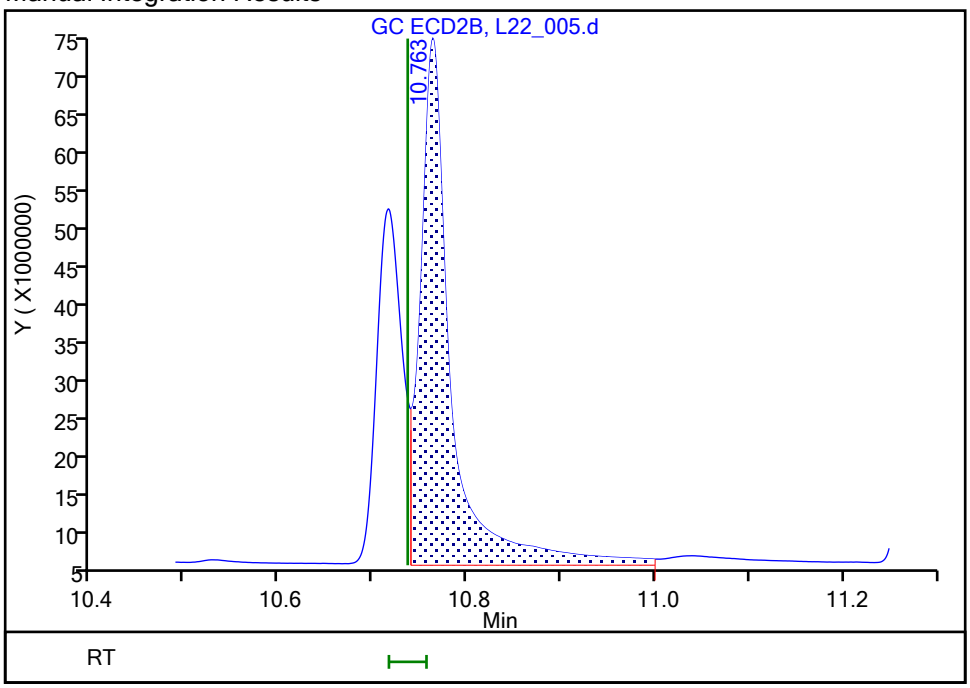

Reviewer: lamj, 23-Sep-2019 09:28:12
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

10 Aldrin, CAS: 309-00-2

Signal: 2

Not Detected
Expected RT: 11.25

Processing Integration Results

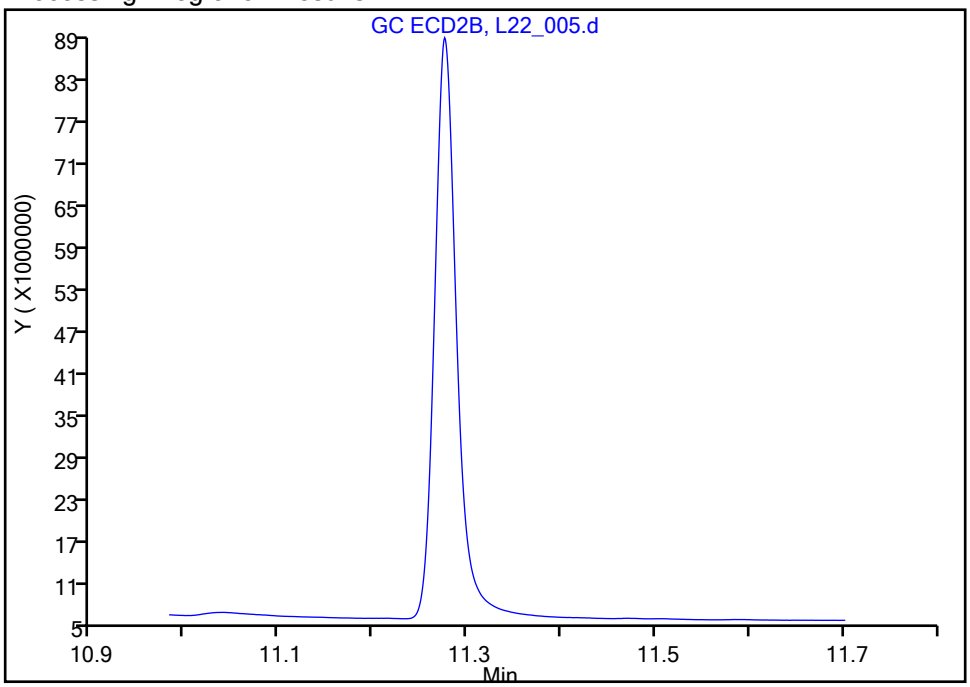

RT: 11.28
Area: 141113663
Amount: 0.018628
Amount Units: ug/ml

Manual Integration Results

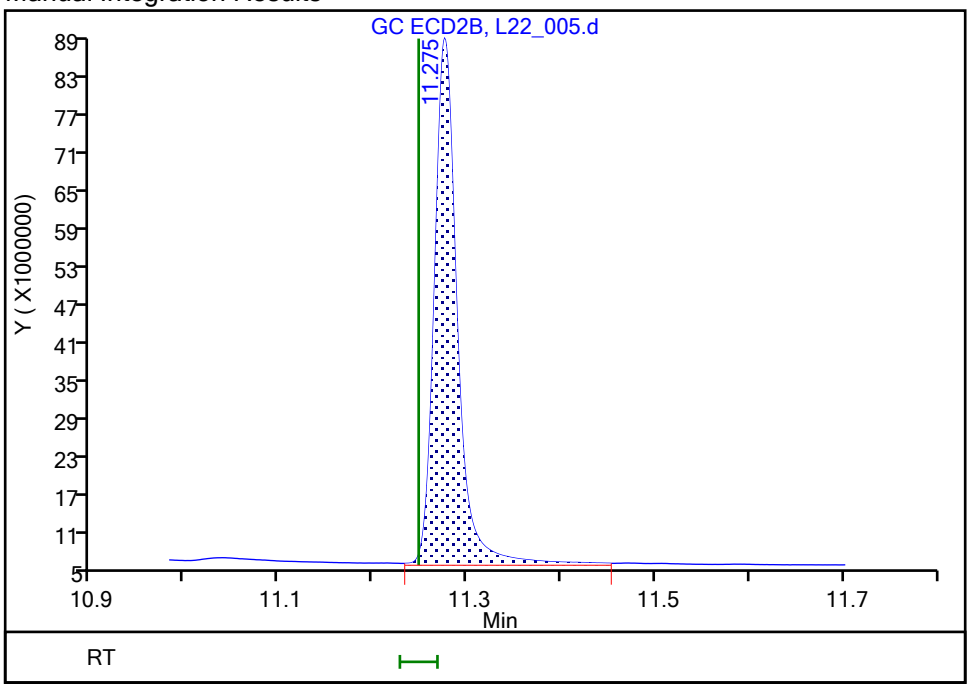

Reviewer: lamj, 23-Sep-2019 09:28:19
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

11 Heptachlor epoxide, CAS: 1024-57-3

Signal: 2

Not Detected
Expected RT: 12.18

Processing Integration Results

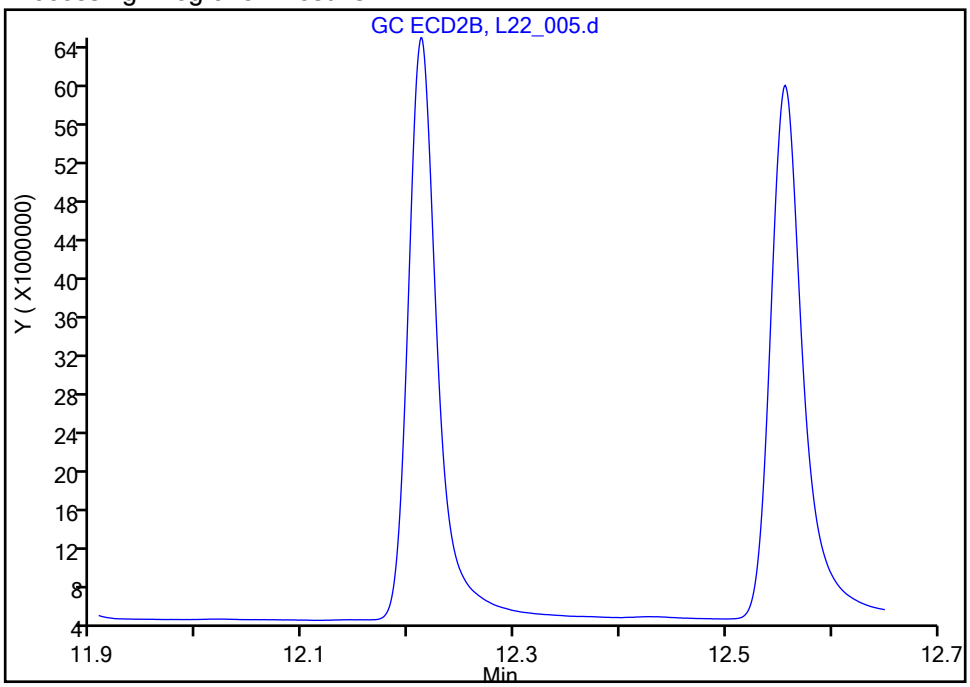

RT: 12.21
Area: 118682473
Amount: 0.018472
Amount Units: ug/ml

Manual Integration Results

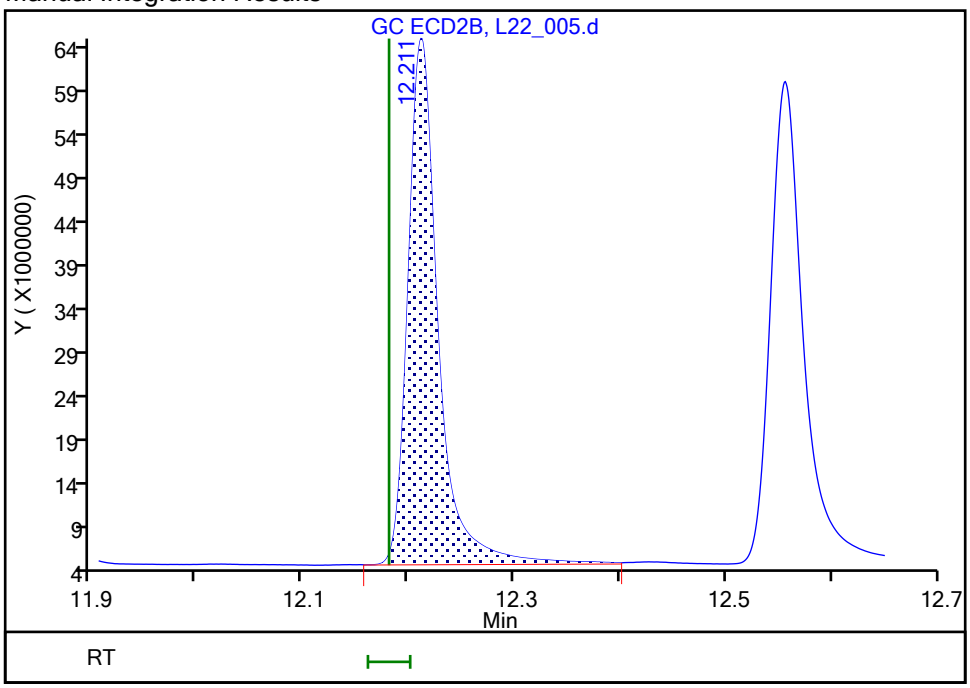

Reviewer: lamj, 23-Sep-2019 09:28:27
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

12 trans-Chlordane, CAS: 5103-74-2

Signal: 2

Processing Integration Results

Not Detected
Expected RT: 12.52

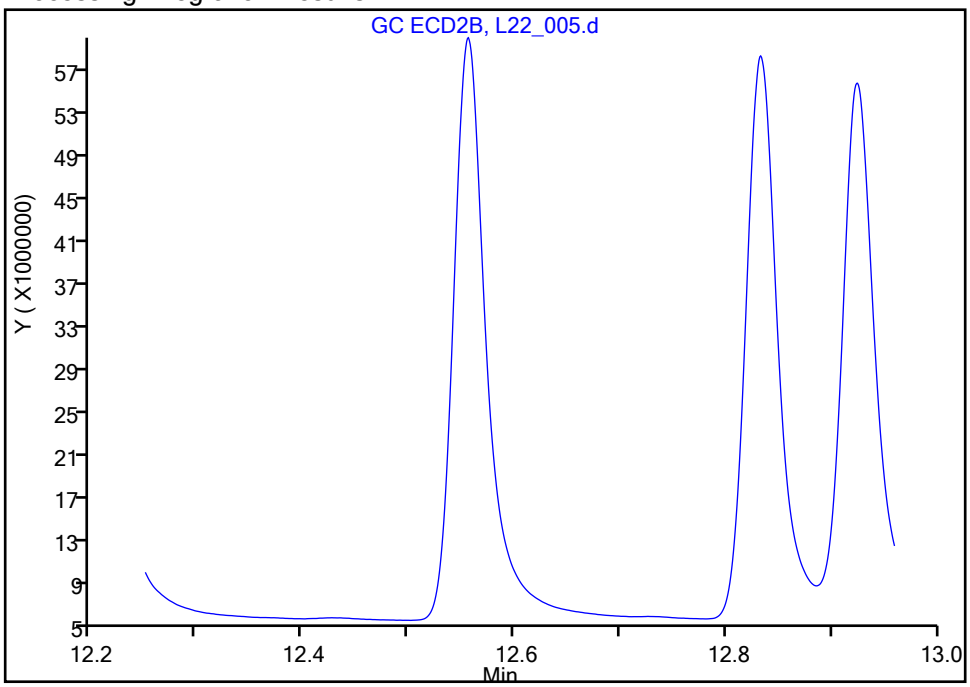

Manual Integration Results

RT: 12.56
Area: 121773017
Amount: 0.018069
Amount Units: ug/ml

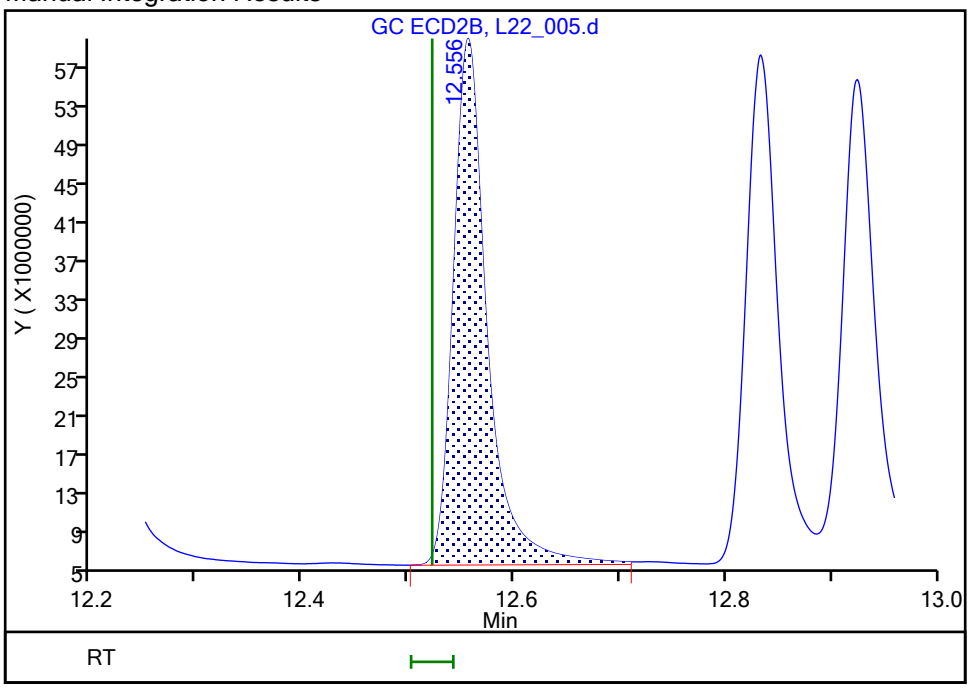

Reviewer: lamj, 23-Sep-2019 09:28:34
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

13 cis-Chlordane, CAS: 5103-71-9

Signal: 2

Not Detected
Expected RT: 12.80

Processing Integration Results

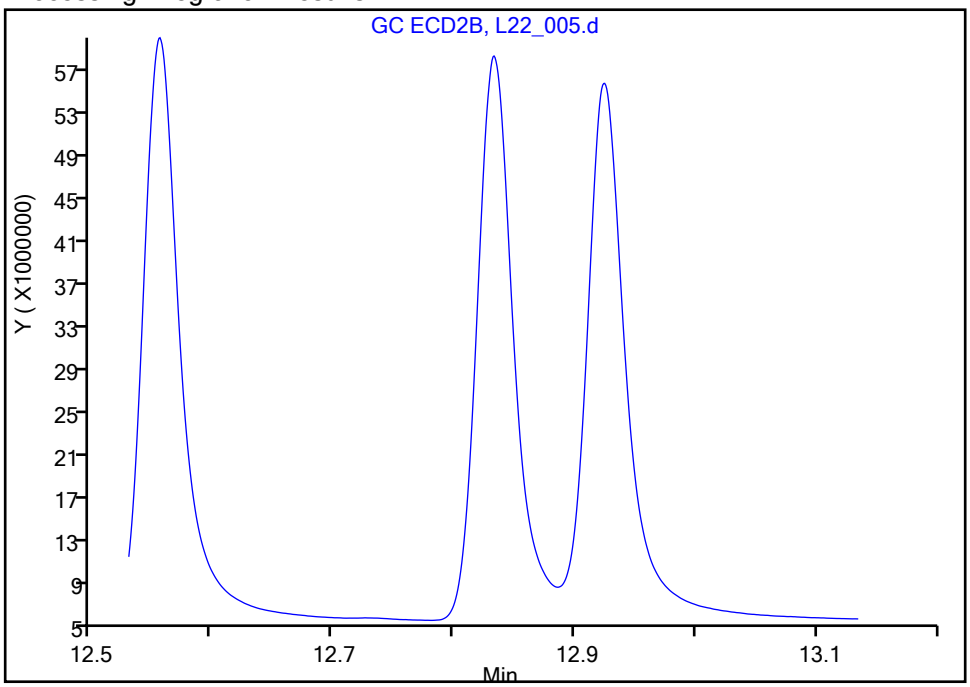

RT: 12.83
Area: 111540324
Amount: 0.017858
Amount Units: ug/ml

Manual Integration Results

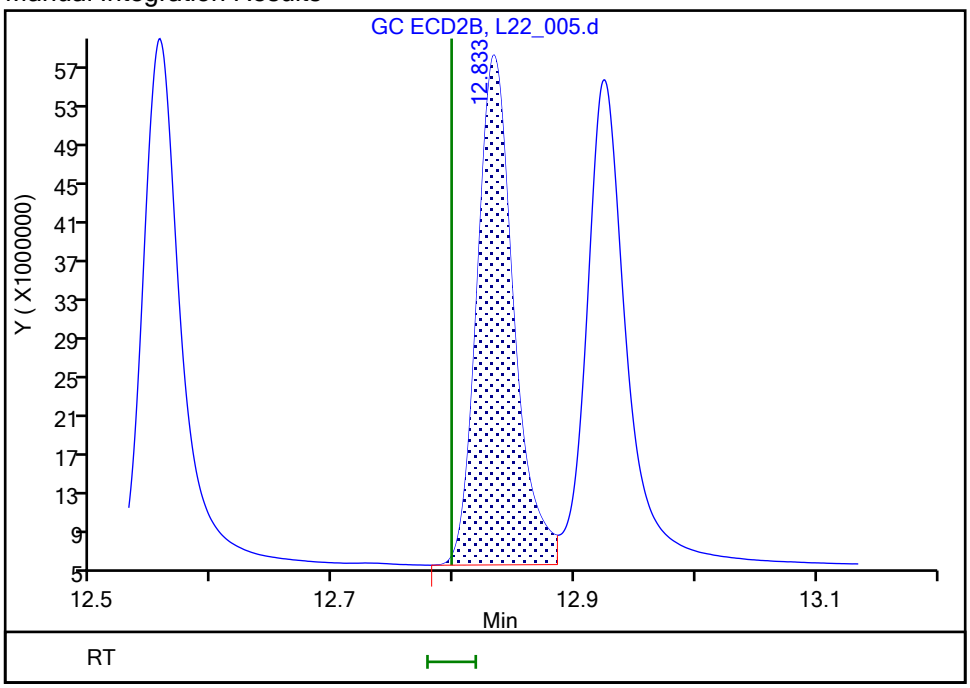

Reviewer: lamj, 23-Sep-2019 09:28:41
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

15 Endosulfan I, CAS: 959-98-8

Signal: 2

Not Detected
Expected RT: 12.89

Processing Integration Results

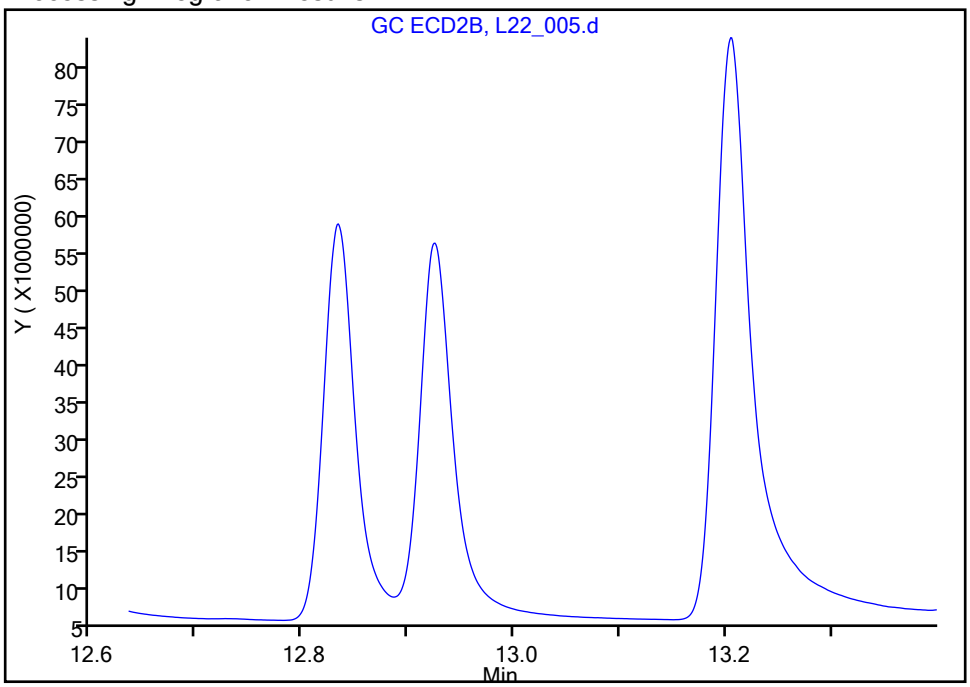

RT: 12.92
Area: 116818393
Amount: 0.018285
Amount Units: ug/ml

Manual Integration Results

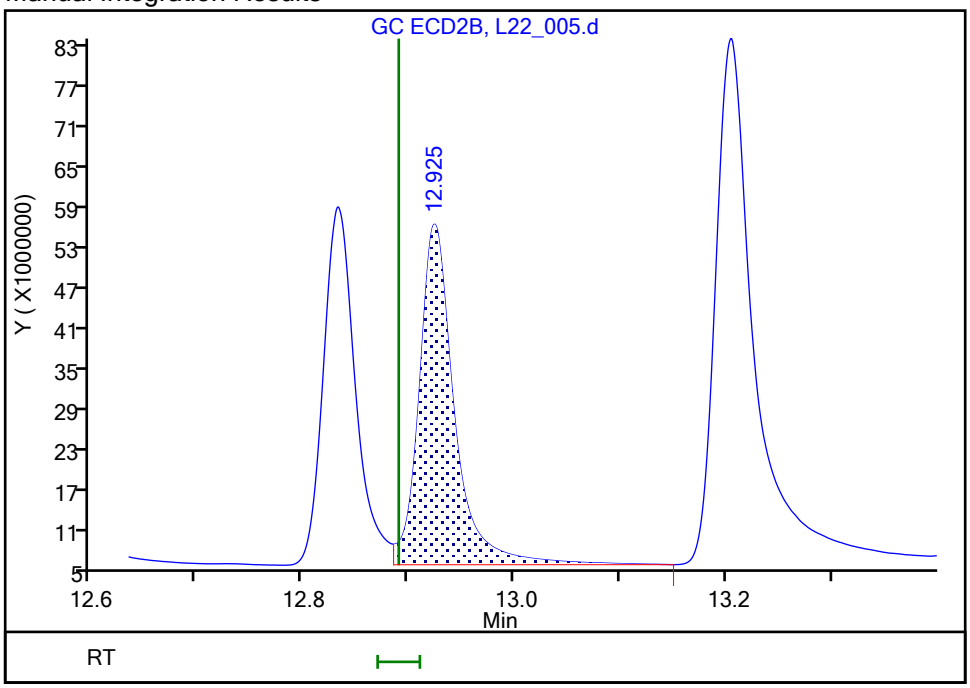

Reviewer: lamj, 23-Sep-2019 09:28:57
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

14 4,4'-DDE, CAS: 72-55-9

Signal: 2

Processing Integration Results

Not Detected
Expected RT: 13.17

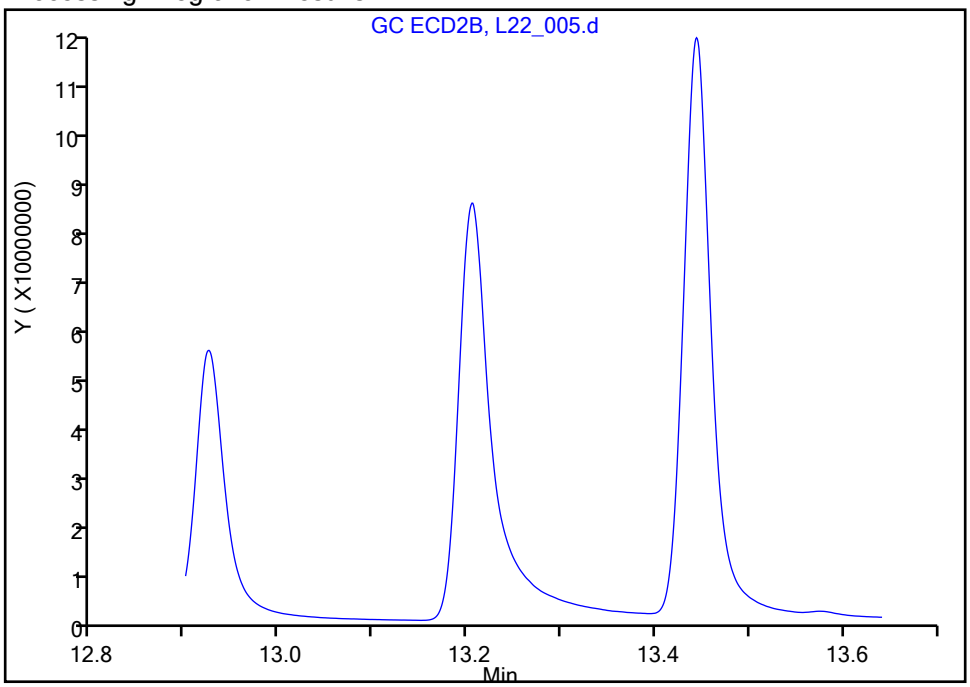

Manual Integration Results

RT:	13.20
Area:	206155522
Amount:	0.035510
Amount Units:	ug/ml

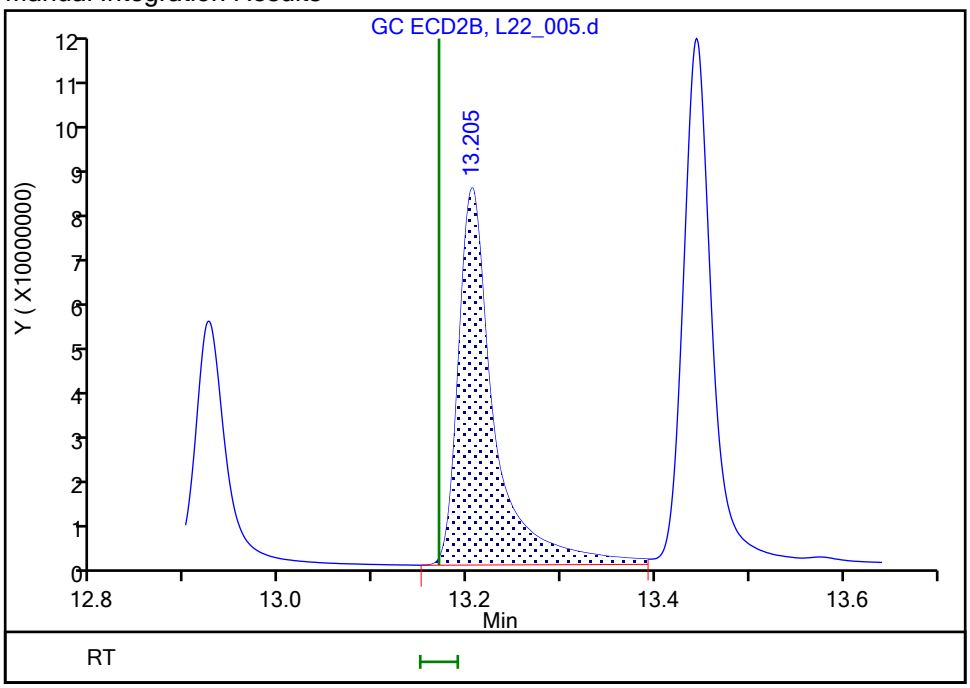

Reviewer: lamj, 23-Sep-2019 09:28:49
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

16 Dieldrin, CAS: 60-57-1

Signal: 2

Not Detected
Expected RT: 13.41

Processing Integration Results

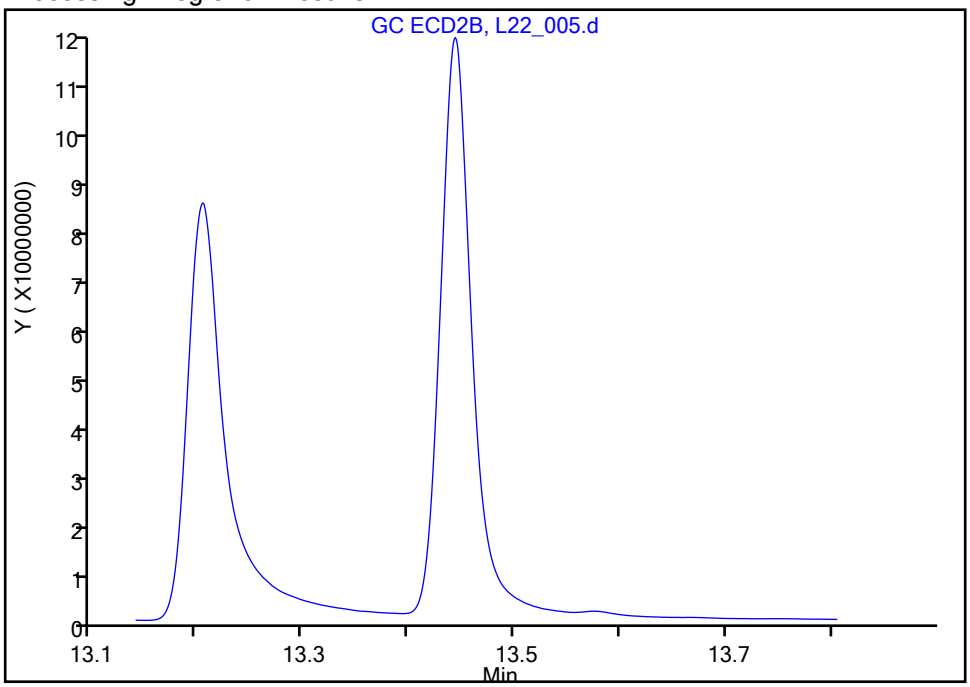

RT: 13.44
Area: 231903335
Amount: 0.036533
Amount Units: ug/ml

Manual Integration Results

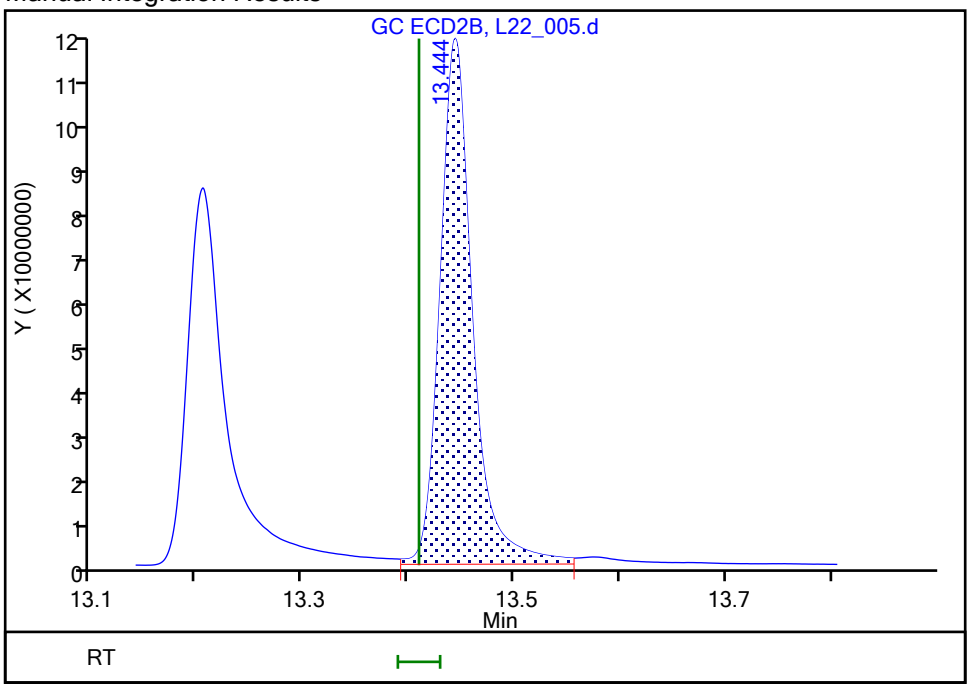

Reviewer: lamj, 23-Sep-2019 09:29:04
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

18 Endrin, CAS: 72-20-8

Signal: 2

Not Detected
Expected RT: 13.97

Processing Integration Results

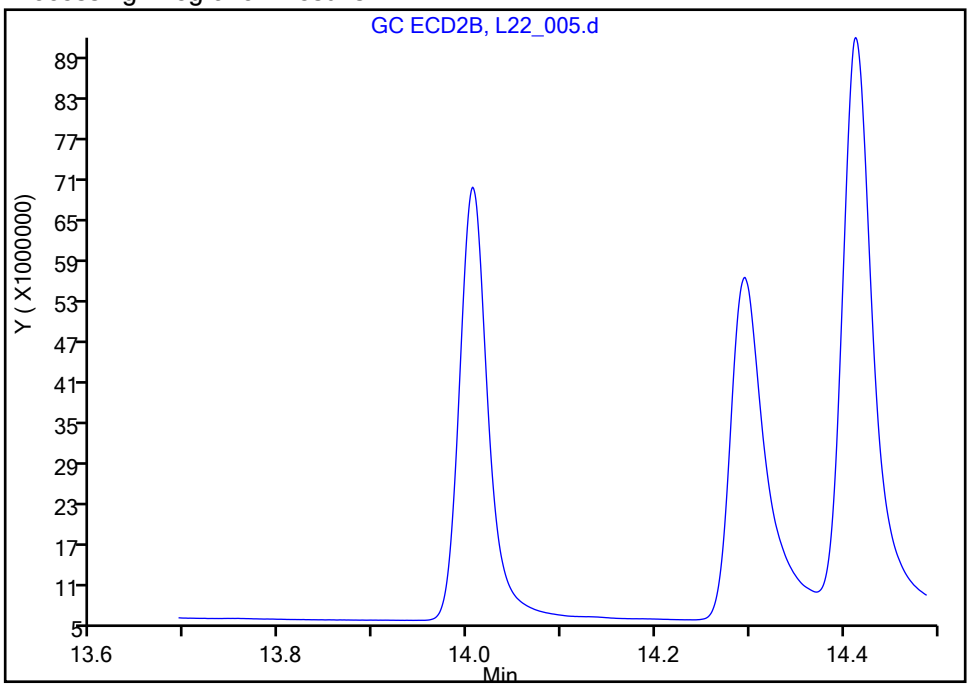

RT: 14.01
Area: 139444350
Amount: 0.035854
Amount Units: ug/ml

Manual Integration Results

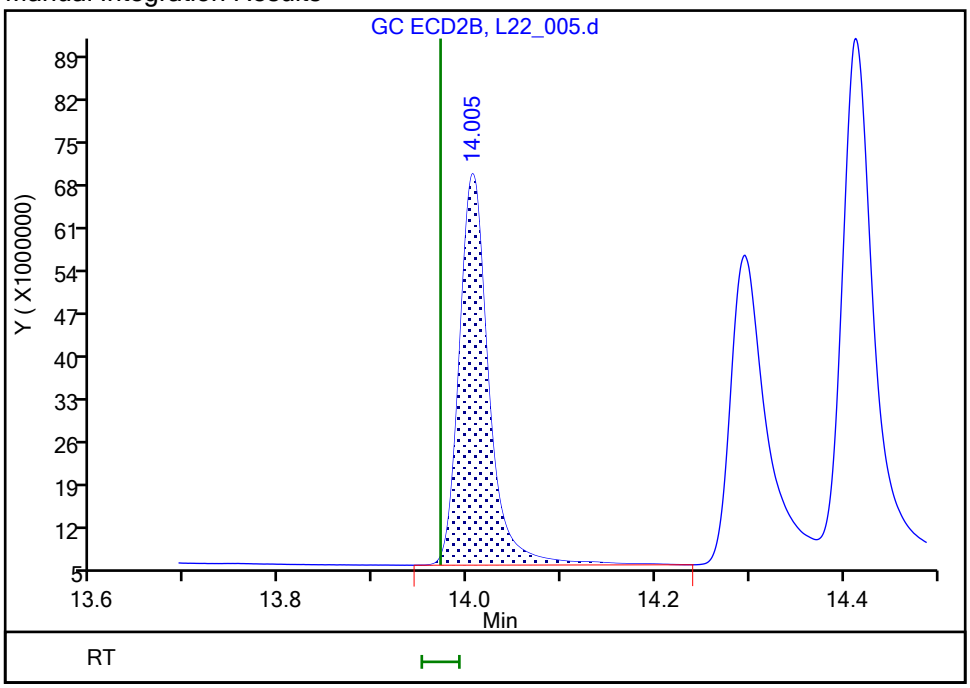

Reviewer: lamj, 23-Sep-2019 09:29:12
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

19 4,4'-DDD, CAS: 72-54-8

Signal: 2

Not Detected
Expected RT: 14.26

Processing Integration Results

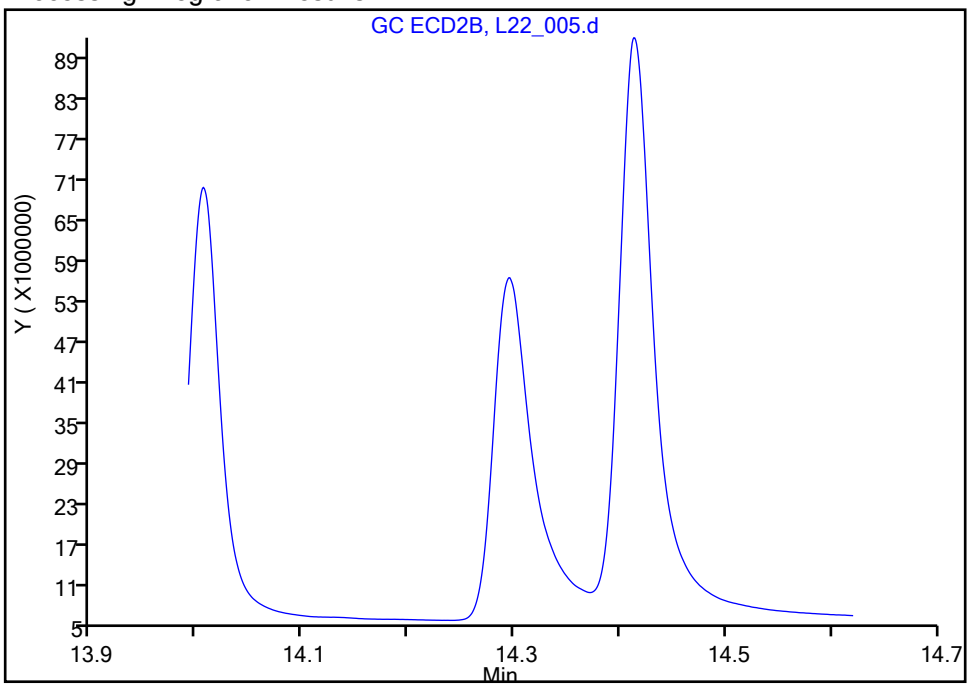

RT: 14.29
Area: 133892850
Amount: 0.034824
Amount Units: ug/ml

Manual Integration Results

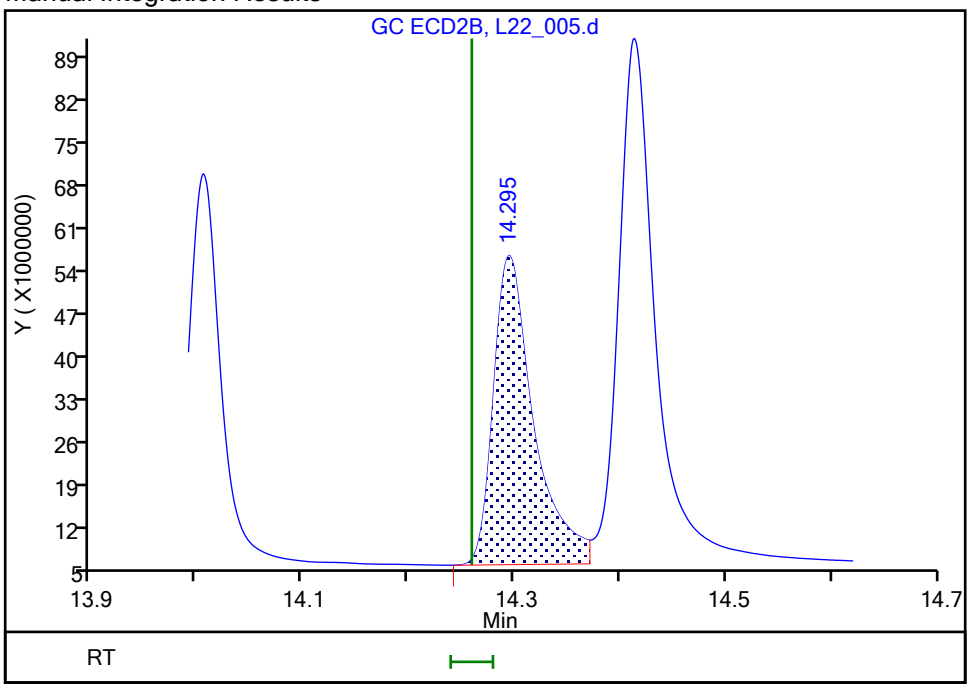

Reviewer: lamj, 23-Sep-2019 09:29:20
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

20 Endosulfan II, CAS: 33213-65-9

Signal: 2

Not Detected
Expected RT: 14.38

Processing Integration Results

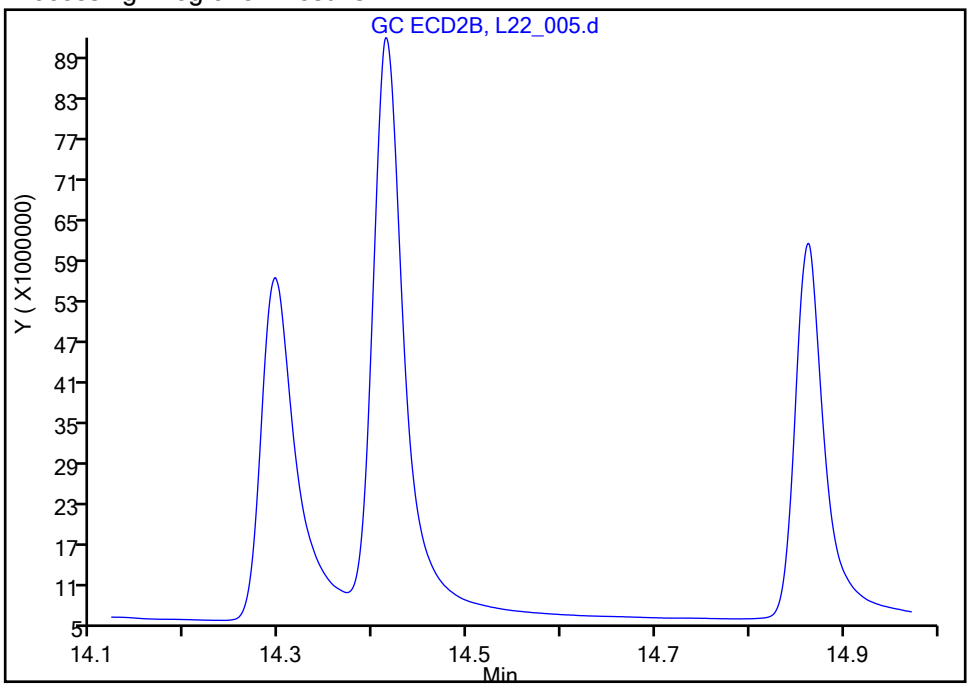

RT: 14.41
Area: 217321291
Amount: 0.036151
Amount Units: ug/ml

Manual Integration Results

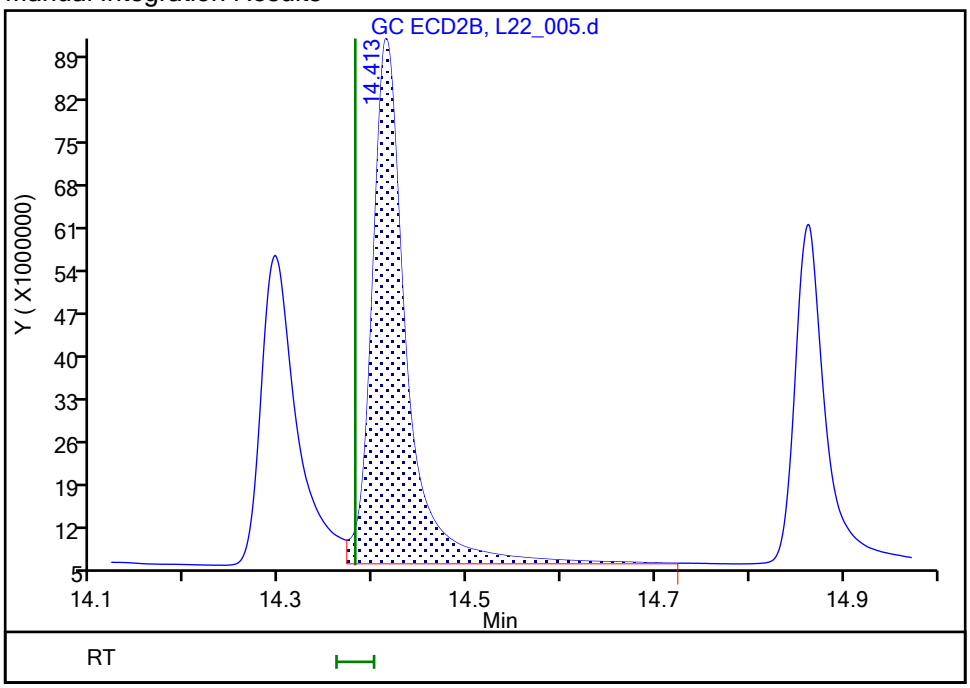

Reviewer: lamj, 23-Sep-2019 09:29:27
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

21 4,4'-DDT, CAS: 50-29-3

Signal: 2

Not Detected
Expected RT: 14.83

Processing Integration Results

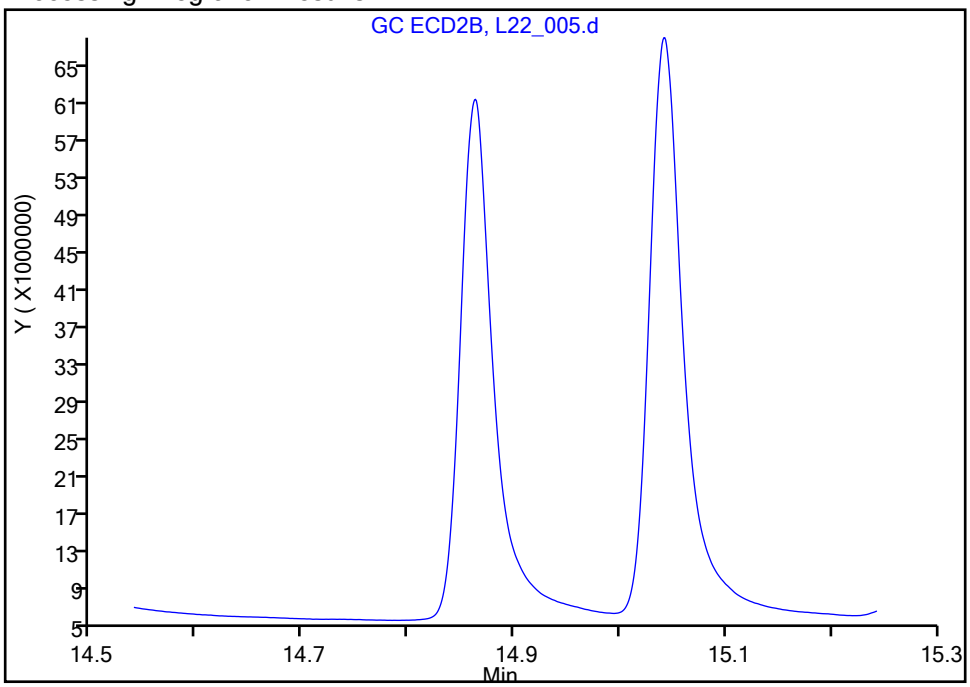

RT: 14.86
Area: 127558118
Amount: 0.035665
Amount Units: ug/ml

Manual Integration Results

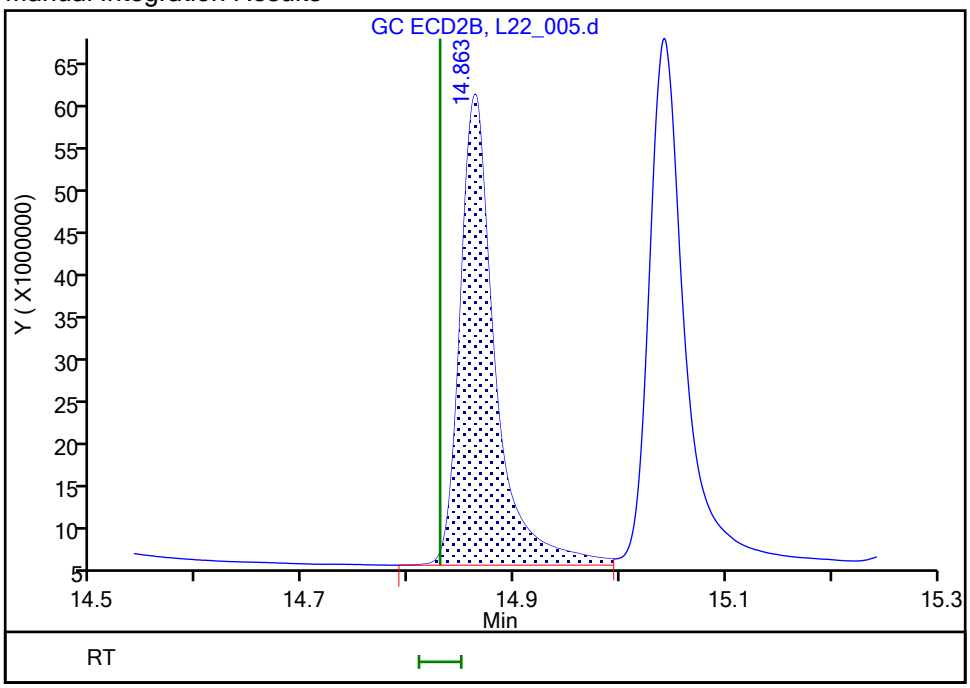

Reviewer: lamj, 23-Sep-2019 09:29:35
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

24 Endrin aldehyde, CAS: 7421-93-4

Signal: 2

Not Detected
Expected RT: 15.01

Processing Integration Results

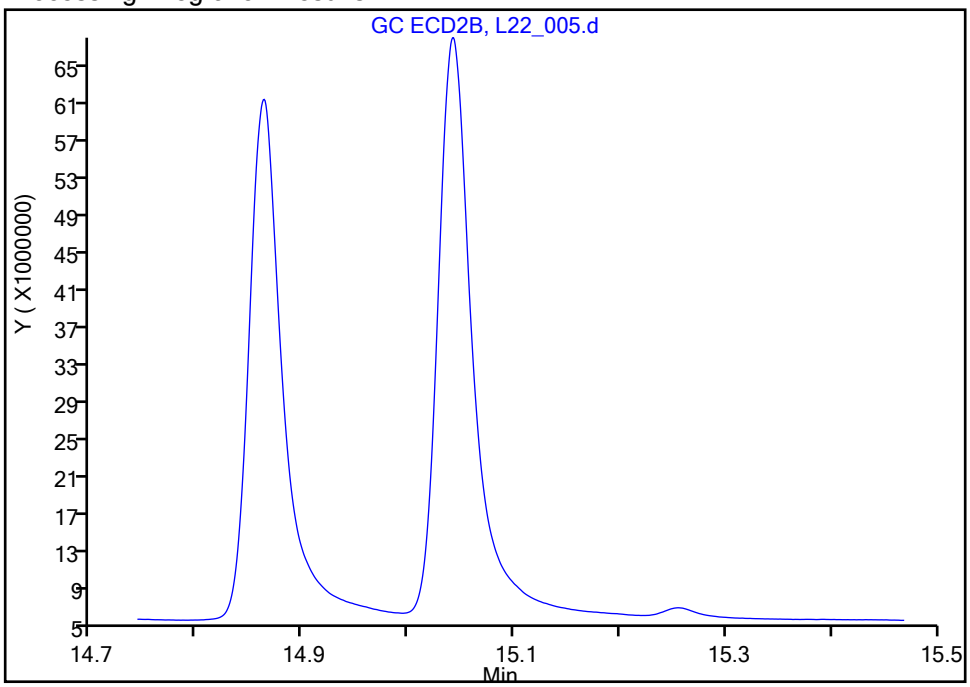

RT: 15.04
Area: 149308563
Amount: 0.036594
Amount Units: ug/ml

Manual Integration Results

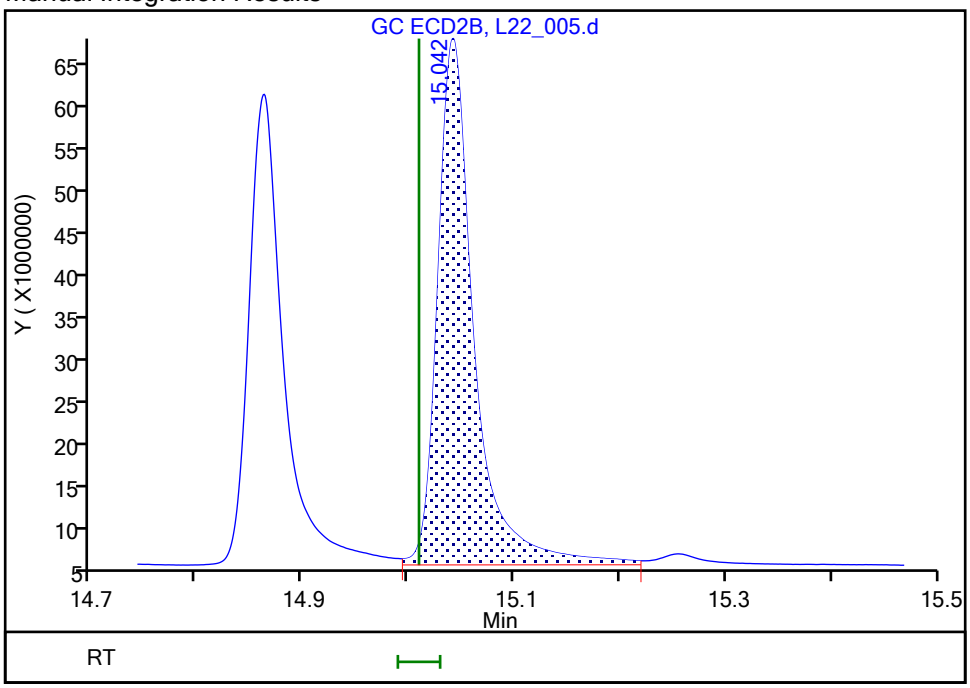

Reviewer: lamj, 23-Sep-2019 09:29:42
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

26 Endosulfan sulfate, CAS: 1031-07-8

Signal: 2

Not Detected
Expected RT: 15.52

Processing Integration Results

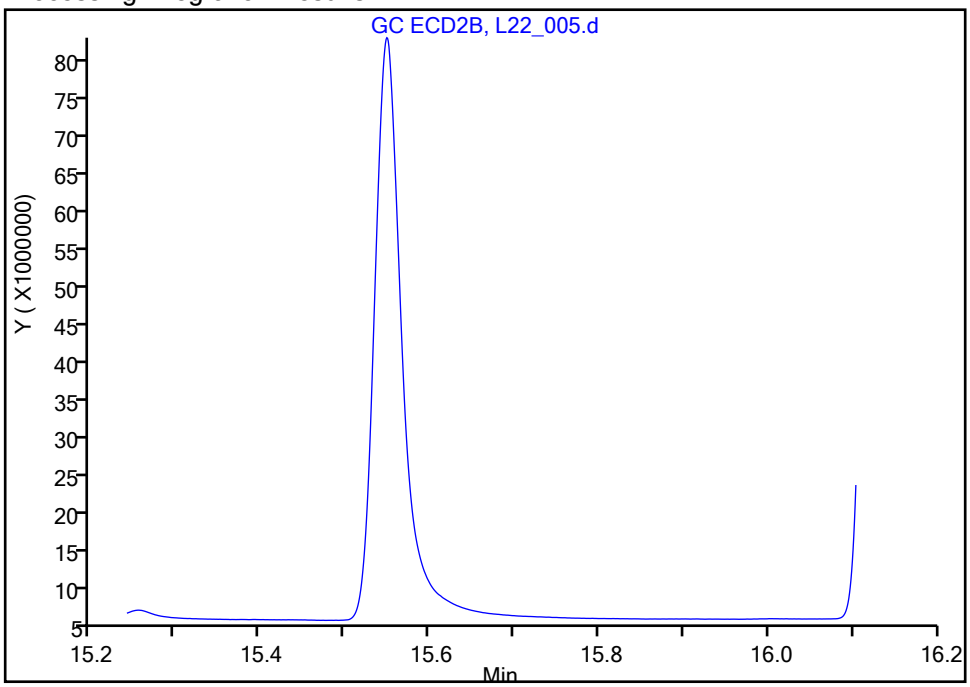

RT: 15.55
Area: 180186078
Amount: 0.035932
Amount Units: ug/ml

Manual Integration Results

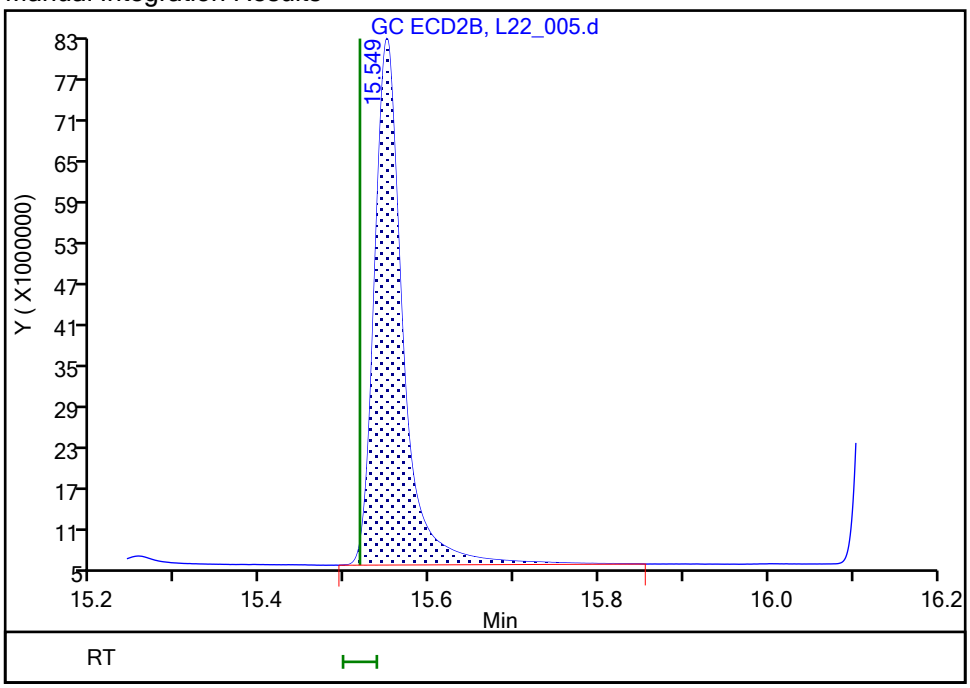

Reviewer: lamj, 23-Sep-2019 09:29:57
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

25 Methoxychlor, CAS: 72-43-5

Signal: 2

Not Detected
Expected RT: 16.10

Processing Integration Results

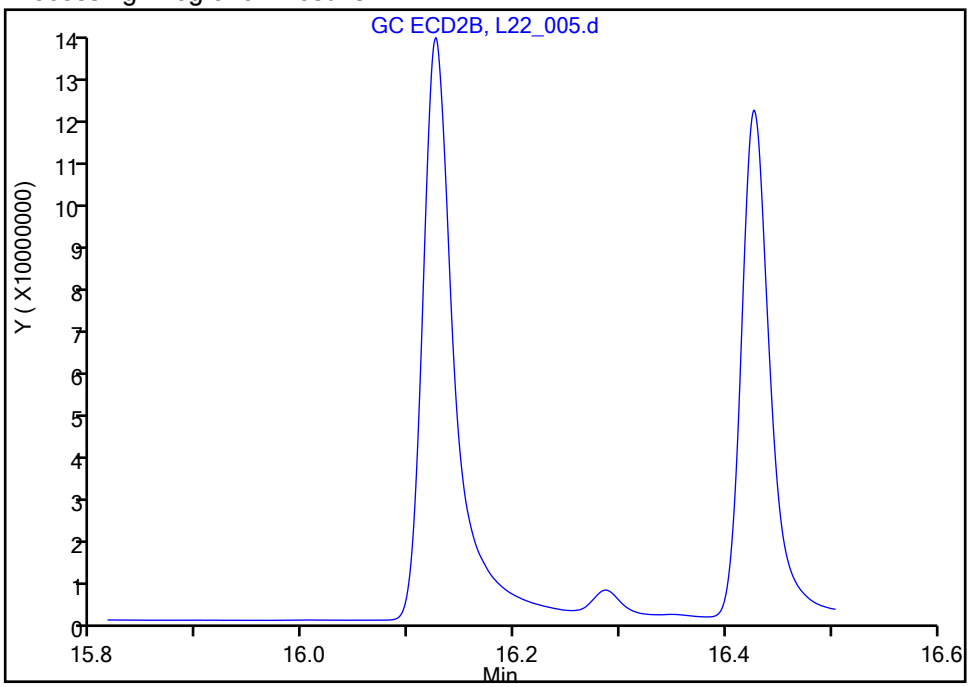

RT: 16.13
Area: 269606419
Amount: 0.181074
Amount Units: ug/ml

Manual Integration Results

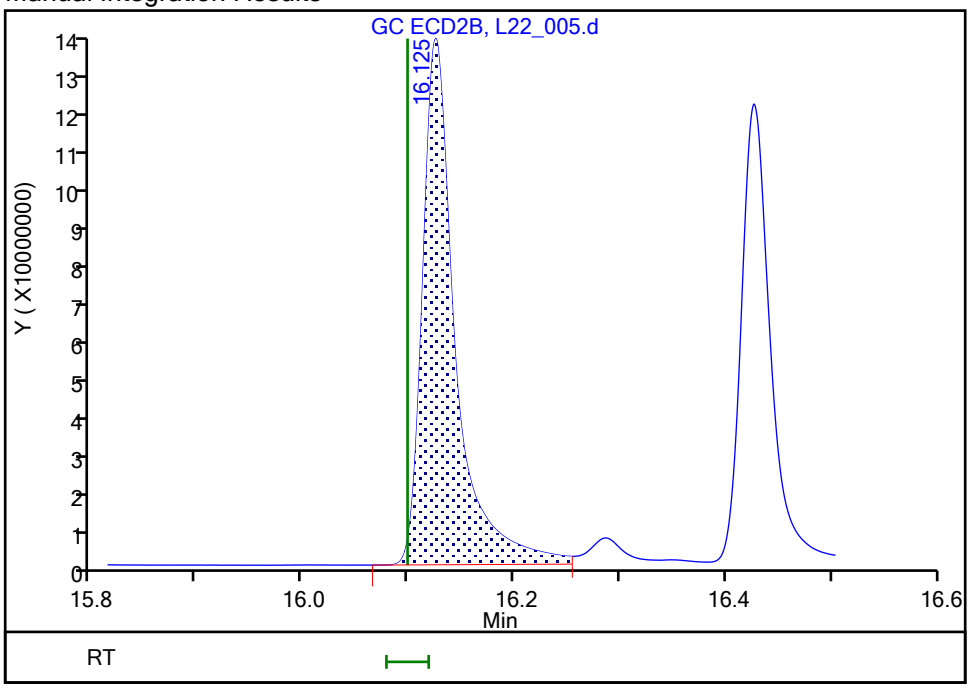

Reviewer: lamj, 23-Sep-2019 09:29:50
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_005.d				
Injection Date:	22-Sep-2019 13:40:04	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

27 Endrin ketone, CAS: 53494-70-5

Signal: 2

Processing Integration Results

Not Detected
Expected RT: 16.40

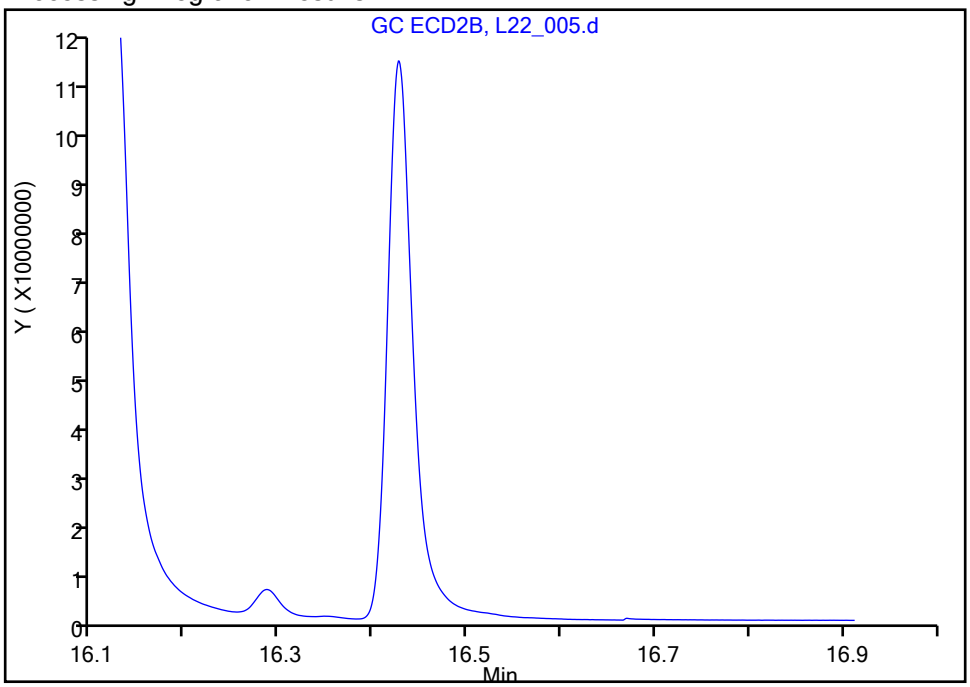

Manual Integration Results

RT: 16.43
Area: 216720960
Amount: 0.036251
Amount Units: ug/ml

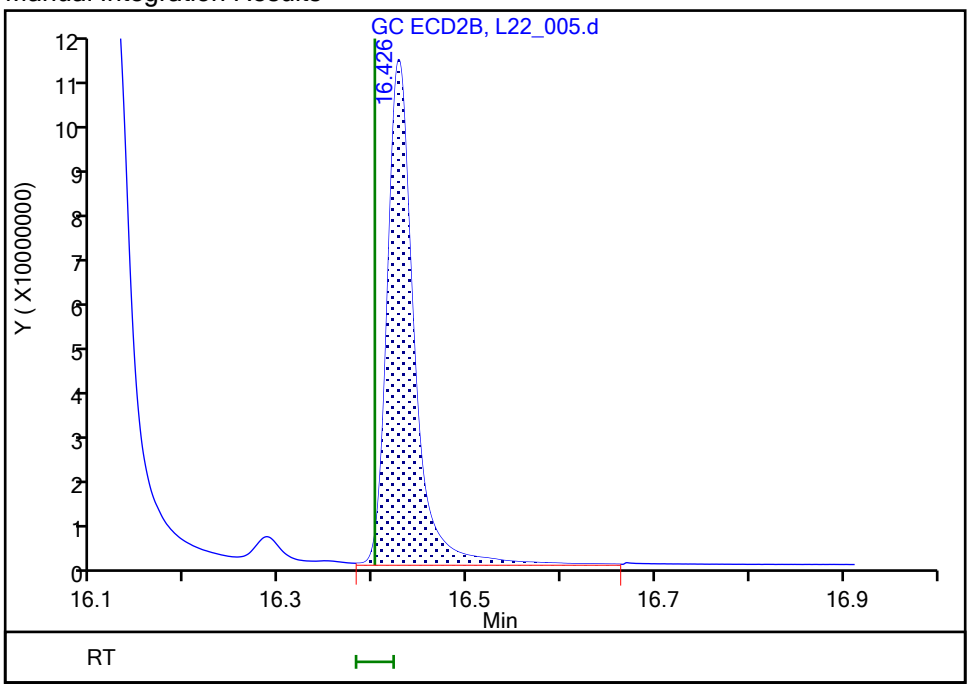

Reviewer: lamj, 23-Sep-2019 09:30:05
Audit Action: Assigned Compound ID Audit Reason:

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_006.d
Lims ID: icis
Client ID:
Sample Type: ICIS Calib Level: 4
Inject. Date: 22-Sep-2019 14:08:17 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031217-006
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVI_PEST_CHECD09*sub3

Method: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\LVI_PEST_CHECD09.m
Limit Group: GCSV - 8081A
Last Update: 23-Sep-2019 09:48:04 Calib Date: 22-Sep-2019 15:04:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_008.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0327

First Level Reviewer: lamj Date: 22-Sep-2019 14:34:52

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.276	6.276	0.000	3747067346	50.0	50.0	
2	6.257	6.257	0.000	2394518220	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	7.984	7.984	0.000	732131280	0.0800	0.0854	
2	8.175	8.175	0.000	470692278	0.0800	0.0857	
						RPD = 0.37	
3 alpha-BHC							
1	9.093	9.093	0.000	524675164	0.0400	0.0426	
2	9.374	9.374	0.000	335129385	0.0400	0.0444	
						RPD = 4.23	
4 gamma-BHC (Lindane)							
1	9.686	9.686	0.000	446044852	0.0400	0.0445	
2	10.014	10.014	0.000	287158310	0.0400	0.0447	
						RPD = 0.47	
5 beta-BHC							
1	9.887	9.887	0.000	192530499	0.0400	0.0468	
2	10.201	10.201	0.000	112323039	0.0400	0.0426	
						RPD = 9.25	
7 delta-BHC							
1	10.189	10.189	0.000	451883493	0.0400	0.0445	
2	10.684	10.684	0.000	210162271	0.0400	0.0469	
						RPD = 5.14	
9 Heptachlor							
1	10.499	10.499	0.000	464282133	0.0400	0.0437	
2	10.736	10.736	0.000	308474215	0.0400	0.0445	
						RPD = 1.70	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 Aldrin							
1	10.990	10.990	0.000	430672768	0.0400	0.0422	
2	11.248	11.248	0.000	289414392	0.0400	0.0440	
						RPD = 4.17	
11 Heptachlor epoxide							
1	11.979	11.979	0.000	368886113	0.0400	0.0411	
2	12.181	12.181	0.000	240462691	0.0400	0.0431	
						RPD = 4.63	
12 trans-Chlordane							
1	12.194	12.194	0.000	380118265	0.0400	0.0412	
2	12.522	12.522	0.000	252428131	0.0400	0.0431	
						RPD = 4.48	
13 cis-Chlordane							
1	12.429	12.429	0.000	354988207	0.0400	0.0411	
2	12.798	12.798	0.000	232048452	0.0400	0.0428	
						RPD = 3.93	
14 4,4'-DDE							
1	12.620	12.620	0.000	498641658	0.0800	0.0830	
2	13.169	13.169	0.000	426516207	0.0800	0.0846	
						RPD = 1.91	
15 Endosulfan I							
1	12.670	12.670	0.000	484000222	0.0400	0.0413	
2	12.890	12.890	0.000	238112111	0.0400	0.0429	
						RPD = 3.72	
16 Dieldrin							
1	13.128	13.128	0.000	717518272	0.0800	0.0797	
2	13.409	13.409	0.000	465399961	0.0800	0.0844	
						RPD = 5.78	
18 Endrin							
1	13.561	13.561	0.000	497497126	0.0800	0.0791	
2	13.971	13.971	0.000	278843573	0.0800	0.0825	
						RPD = 4.20	
19 4,4'-DDD							
1	13.759	13.759	0.000	492980909	0.0800	0.0807	
2	14.259	14.259	0.000	278277101	0.0800	0.0833	
						RPD = 3.22	
20 Endosulfan II							
1	13.992	13.992	0.000	599420894	0.0800	0.0806	
2	14.380	14.380	0.000	433937821	0.0800	0.0831	
						RPD = 3.06	
21 4,4'-DDT							
1	14.272	14.272	0.000	543248102	0.0800	0.0772	
2	14.829	14.829	0.000	257208793	0.0800	0.0828	
						RPD = 7.04	
24 Endrin aldehyde							
1	14.774	14.774	0.000	434732803	0.0800	0.0770	
2	15.009	15.009	0.000	289129542	0.0800	0.0816	
						RPD = 5.75	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
25 Methoxychlor							
1	15.207	15.207	0.000	1075004067	0.4000	0.3671	
2	16.099	16.099	0.000	507804029	0.4000	0.3926	
						RPD = 6.72	
26 Endosulfan sulfate							
1	15.571	15.571	0.000	522588809	0.0800	0.0773	
2	15.517	15.517	0.000	358935796	0.0800	0.0824	
						RPD = 6.32	
27 Endrin ketone							
1	16.051	16.051	0.000	637294044	0.0800	0.0770	
2	16.401	16.401	0.000	425626422	0.0800	0.0820	
						RPD = 6.22	
$ 28 DCB Decachlorobiphenyl							
1	17.546	17.546	0.000	503263801	0.0800	0.0762	
2	18.064	18.064	0.000	354689813	0.0800	0.0743	
						RPD = 2.64	

Reagents:

PESTCAL4_00027 Amount Added: 1.00 Units: mL
PST_IS 2_00063 Amount Added: 1.00 Units: mL Run Reagent

Report Date: 23-Sep-2019 09:48:06 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_006.d				
Injection Date:	22-Sep-2019 14:08:17	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	icis			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		

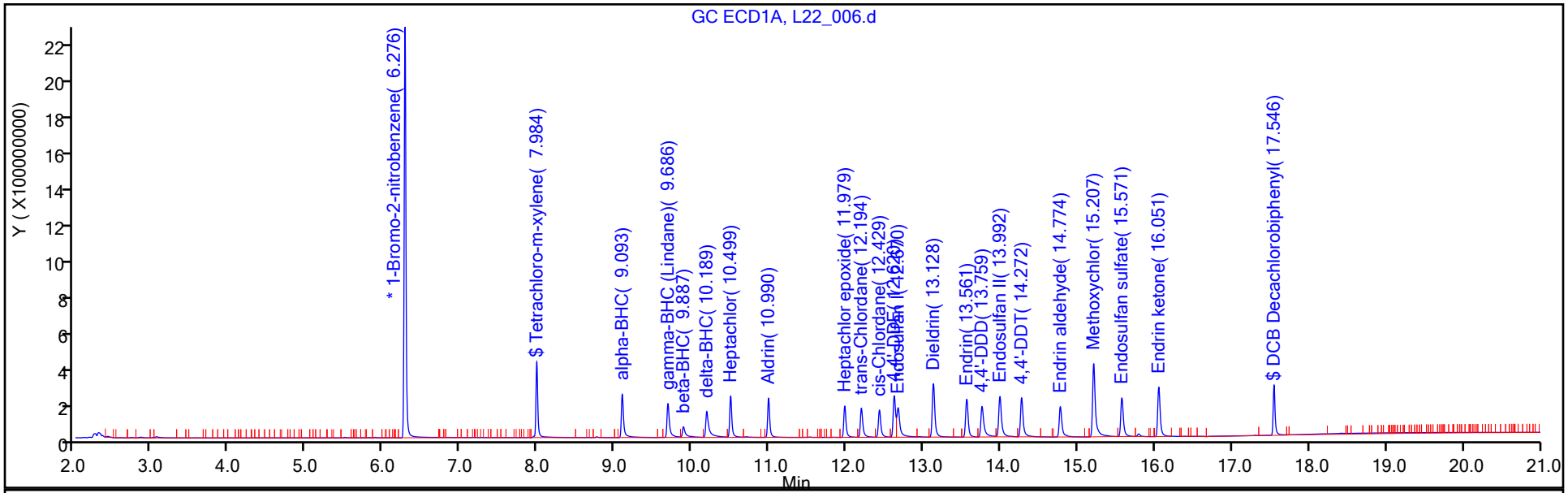

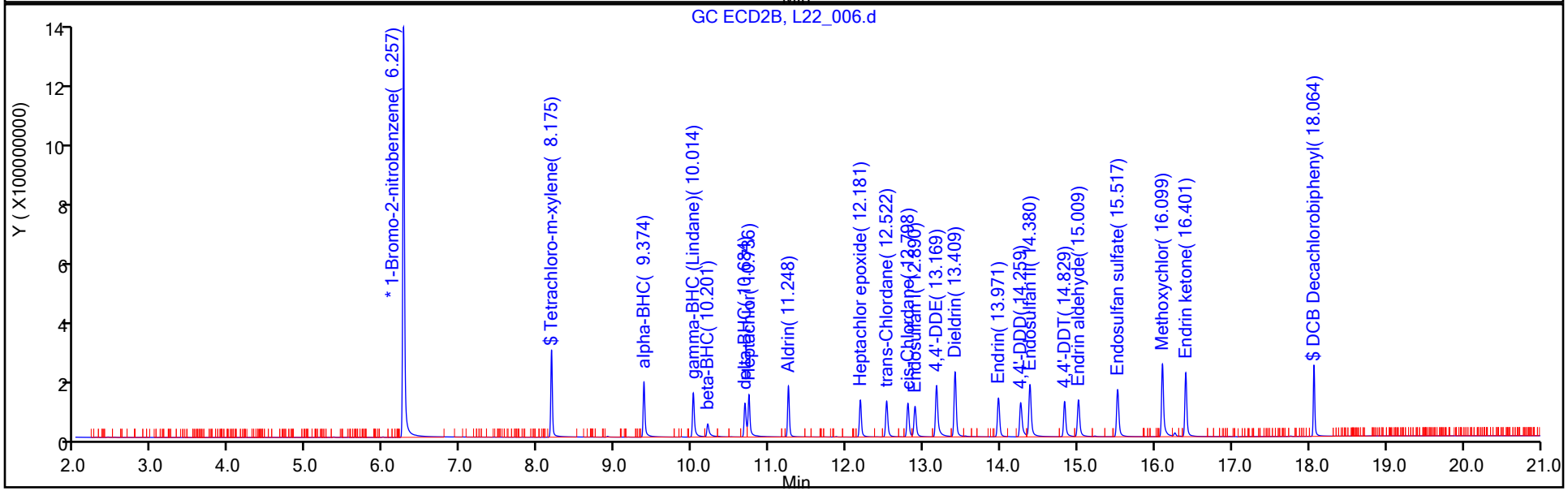

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 22-Sep-2019 14:36:29 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031217-007
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVI_PEST_CHECD09*sub3

Method: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\LVI_PEST_CHECD09.m
Limit Group: GCSV - 8081A
Last Update: 23-Sep-2019 09:48:36 Calib Date: 22-Sep-2019 15:04:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_008.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0327

First Level Reviewer: lamj Date: 23-Sep-2019 09:26:11

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.275	6.276	-0.001	4542570063	50.0	50.0	
2	6.275	6.257	0.018	2894135131	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							a
1	7.982	7.984	-0.002	1109353004	0.1200	0.1067	a
2	8.198	8.175	0.023	740208177	0.1200	0.1115	a
						RPD = 4.39	
3 alpha-BHC							a
1	9.091	9.093	-0.002	817390948	0.0600	0.0547	a
2	9.398	9.374	0.024	519100232	0.0600	0.0569	a
						RPD = 3.96	
4 gamma-BHC (Lindane)							a
1	9.683	9.686	-0.003	661996779	0.0600	0.0545	a
2	10.039	10.014	0.025	434871081	0.0600	0.0560	a
						RPD = 2.79	
5 beta-BHC							a
1	9.883	9.887	-0.004	270774845	0.0600	0.0543	a
2	10.225	10.201	0.024	162637204	0.0600	0.0511	a
						RPD = 6.05	
7 delta-BHC							a
1	10.186	10.189	-0.003	686977941	0.0600	0.0558	a
2	10.707	10.684	0.023	313622427	0.0600	0.0579	a
						RPD = 3.59	
9 Heptachlor							a
1	10.497	10.499	-0.002	691441398	0.0600	0.0537	a
2	10.760	10.736	0.024	455861442	0.0600	0.0544	a
						RPD = 1.23	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 Aldrin							a
1	10.988	10.990	-0.002	675006223	0.0600	0.0545	a
2	11.272	11.248	0.024	427110823	0.0600	0.0537	a
						RPD = 1.55	
11 Heptachlor epoxide							a
1	11.975	11.979	-0.004	576712609	0.0600	0.0530	a
2	12.207	12.181	0.026	353344708	0.0600	0.0524	a
						RPD = 1.26	
12 trans-Chlordane							a
1	12.191	12.194	-0.003	608860678	0.0600	0.0545	a
2	12.550	12.522	0.028	377085294	0.0600	0.0533	a
						RPD = 2.19	
13 cis-Chlordane							a
1	12.425	12.429	-0.004	572510751	0.0600	0.0547	a
2	12.827	12.798	0.029	347372116	0.0600	0.0530	a
						RPD = 3.22	
14 4,4'-DDE							a
1	12.618	12.620	-0.002	804367509	0.1200	0.1104	a
2	13.198	13.169	0.029	653998970	0.1200	0.1073	a
						RPD = 2.86	
15 Endosulfan I							a
1	12.665	12.670	-0.005	787312414	0.0600	0.0556	a
2	12.919	12.890	0.029	340826031	0.0600	0.0508	a
						RPD = 8.95	
16 Dieldrin							a
1	13.124	13.128	-0.004	1158246665	0.1200	0.1061	a
2	13.439	13.409	0.030	693928171	0.1200	0.1041	a
						RPD = 1.86	
18 Endrin							a
1	13.557	13.561	-0.004	799403842	0.1200	0.1049	a
2	14.001	13.971	0.030	413157535	0.1200	0.1012	a
						RPD = 3.60	
19 4,4'-DDD							a
1	13.755	13.759	-0.004	851080434	0.1200	0.1149	a
2	14.289	14.259	0.030	440723928	0.1200	0.1092	a
						RPD = 5.10	
20 Endosulfan II							a
1	13.986	13.992	-0.006	988728050	0.1200	0.1096	a
2	14.408	14.380	0.028	628656958	0.1200	0.0996	a
						RPD = 9.61	
21 4,4'-DDT							a
1	14.269	14.272	-0.003	953383997	0.1200	0.1117	a
2	14.856	14.829	0.027	425553609	0.1200	0.1133	a
						RPD = 1.45	
24 Endrin aldehyde							a
1	14.770	14.774	-0.004	757568743	0.1200	0.1107	a
2	15.036	15.009	0.027	452543084	0.1200	0.1056	a
						RPD = 4.69	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
25 Methoxychlor							a
1	15.205	15.207	-0.002	1921795858	0.6000	0.5413	a
2	16.123	16.099	0.024	843712416	0.6000	0.5397	a
						RPD = 0.29	
26 Endosulfan sulfate							a
1	15.567	15.571	-0.004	890014647	0.1200	0.1087	a
2	15.544	15.517	0.027	542364345	0.1200	0.1030	a
						RPD = 5.34	
27 Endrin ketone							a
1	16.048	16.051	-0.003	1089713283	0.1200	0.1086	a
2	16.425	16.401	0.024	634306061	0.1200	0.1010	a
						RPD = 7.22	
$ 28 DCB Decachlorobiphenyl							
1	17.545	17.546	-0.001	916661859	0.1200	0.1146	
2	18.073	18.064	0.009	641921293	0.1200	0.1112	
						RPD = 2.98	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

PESTCAL5_00026	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 23-Sep-2019 09:48:39 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		

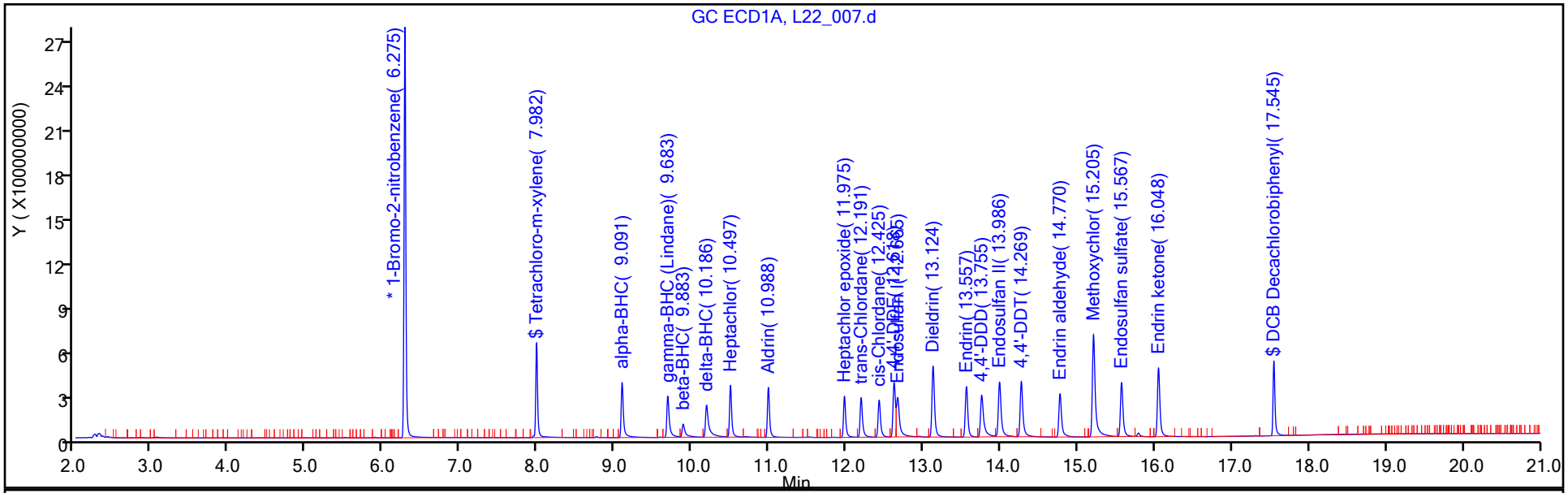

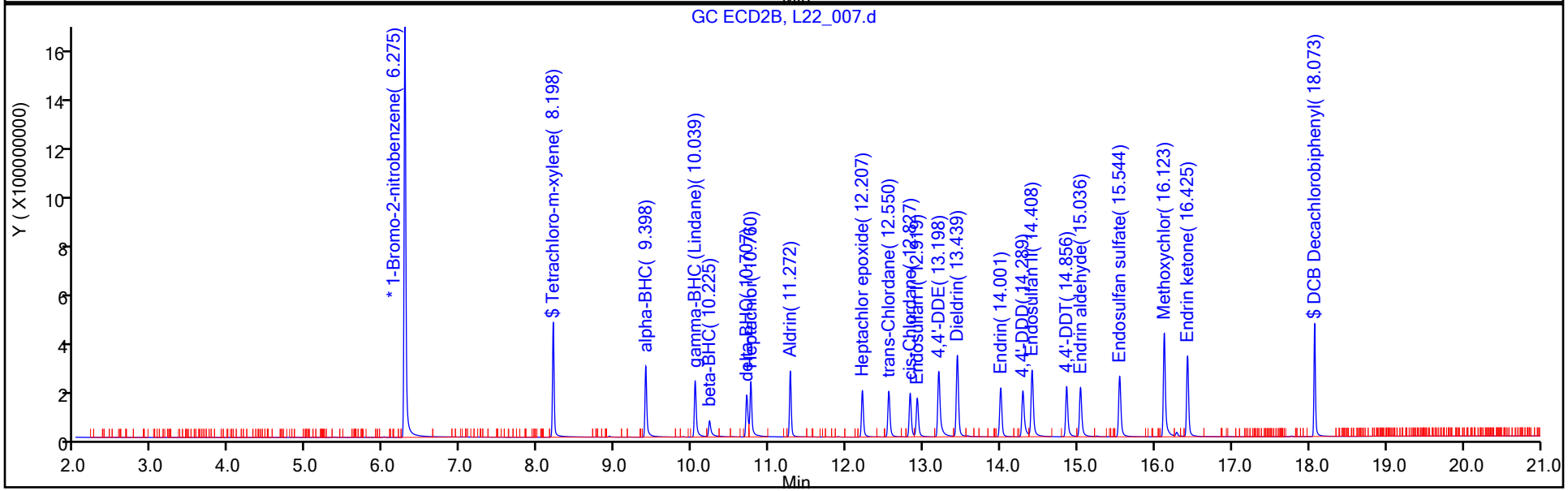

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

$ 2 Tetrachloro-m-xylene, CAS: 877-09-8

Signal: 2

Processing Integration Results

Not Detected
Expected RT: 8.18

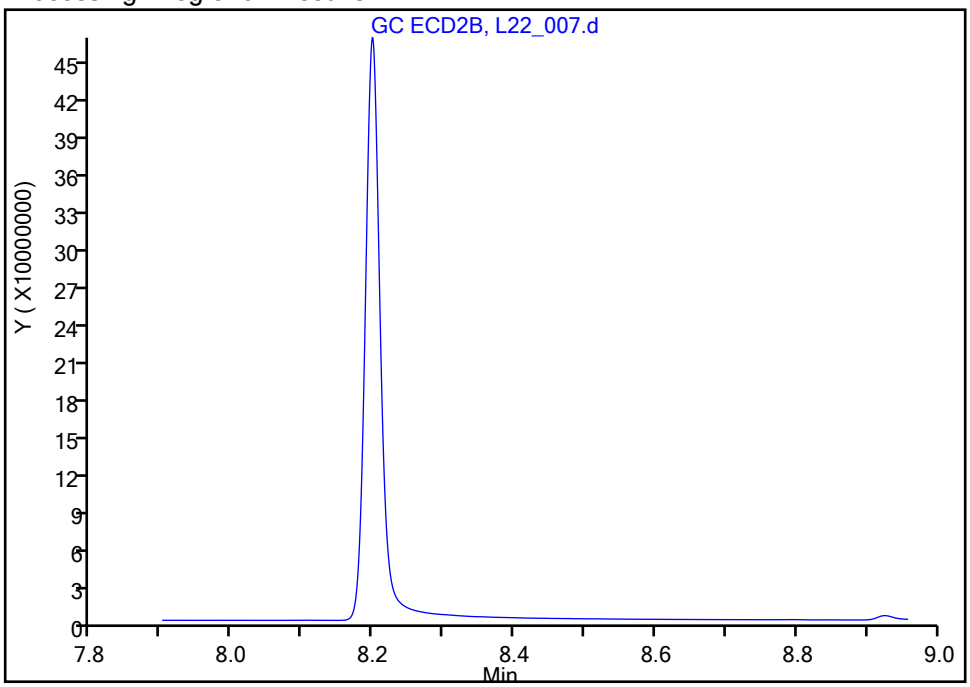

Manual Integration Results

RT: 8.20
Area: 740208177
Amount: 0.111474
Amount Units: ug/ml

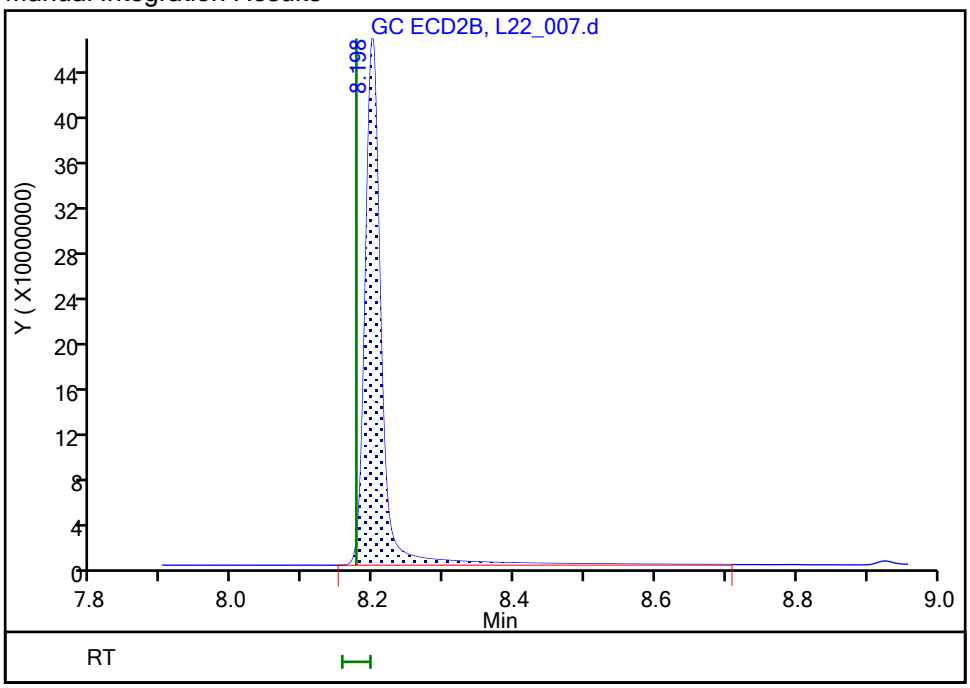

Reviewer: lamj, 23-Sep-2019 09:26:07
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

3 alpha-BHC, CAS: 319-84-6

Signal: 2

Not Detected
Expected RT: 9.37

Processing Integration Results

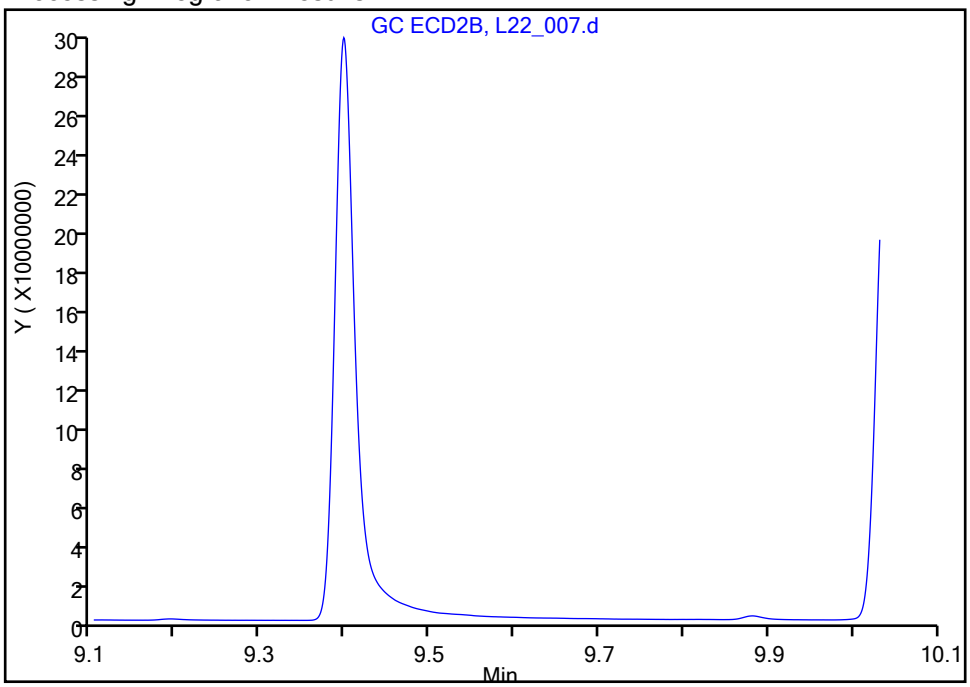

RT: 9.40
Area: 519100232
Amount: 0.056931
Amount Units: ug/ml

Manual Integration Results

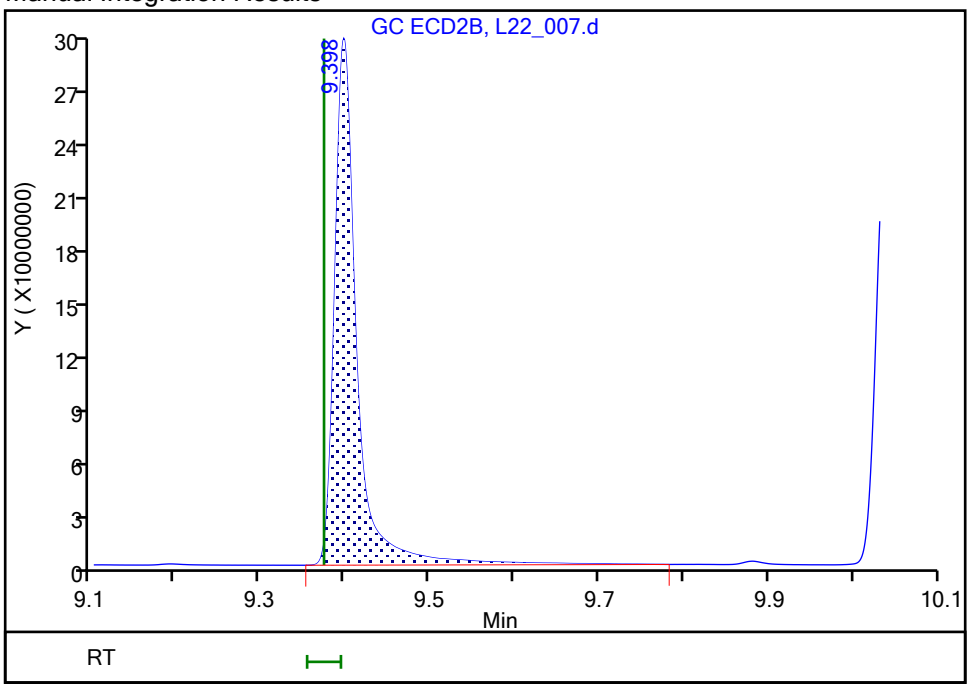

Reviewer: lamj, 23-Sep-2019 09:26:00
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

4 gamma-BHC (Lindane), CAS: 58-89-9

Signal: 2

Processing Integration Results

Not Detected
Expected RT: 10.01

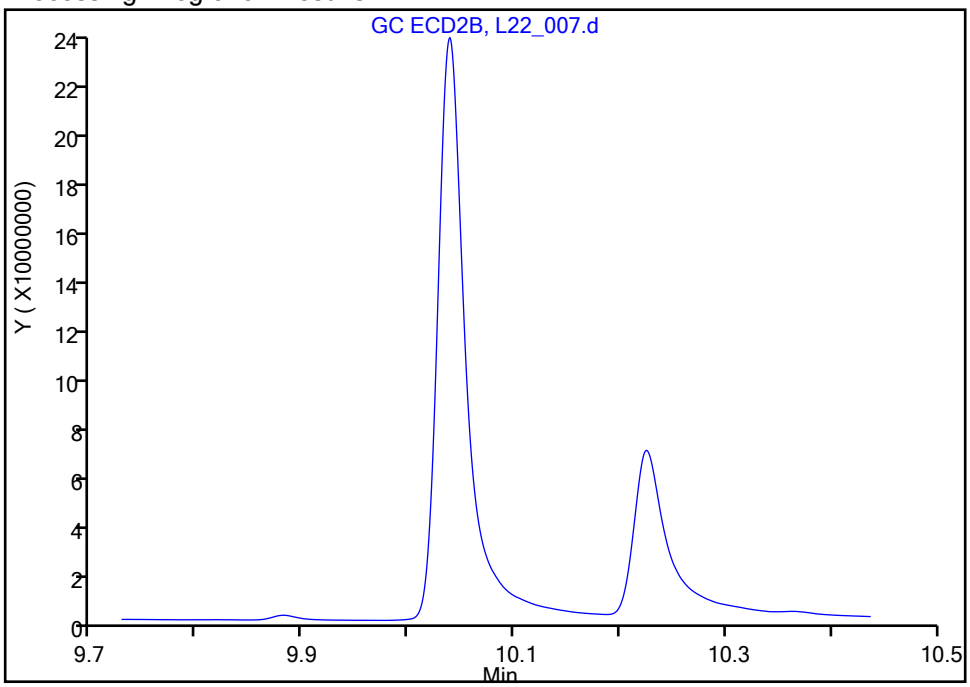

Manual Integration Results

RT: 10.04
Area: 434871081
Amount: 0.056018
Amount Units: ug/ml

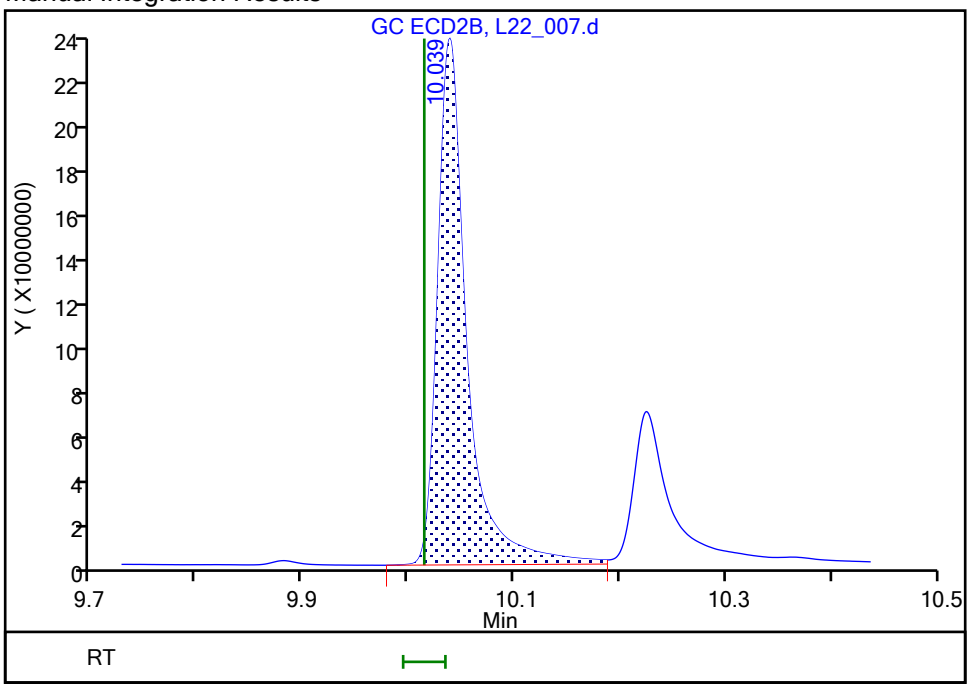

Reviewer: lamj, 23-Sep-2019 09:25:51
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

5 beta-BHC, CAS: 319-85-7

Signal: 2

Not Detected
Expected RT: 10.20

Processing Integration Results

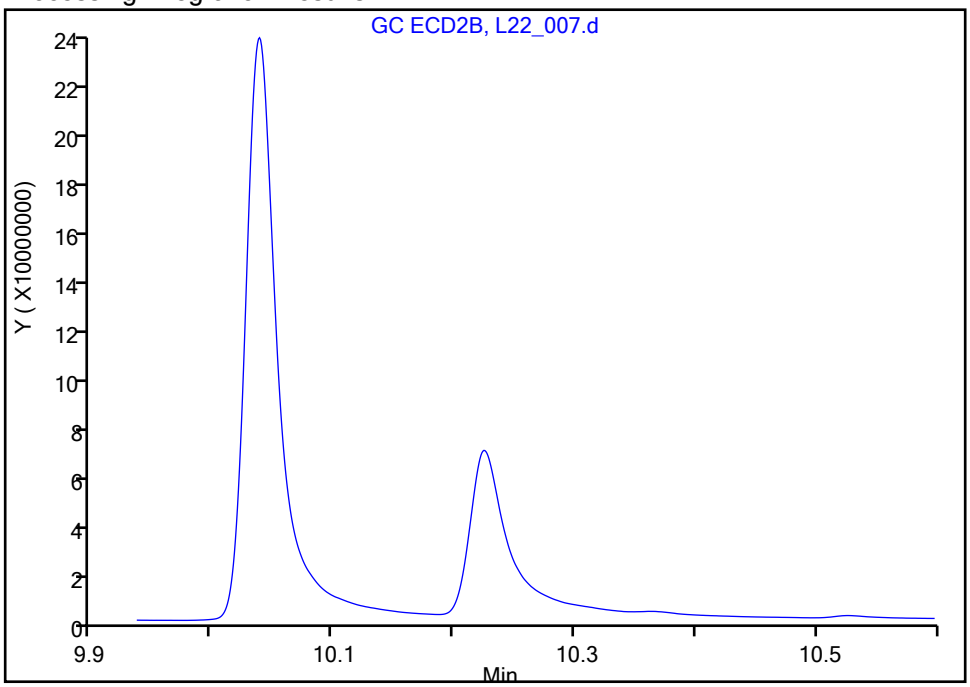

RT: 10.22
Area: 162637204
Amount: 0.051073
Amount Units: ug/ml

Manual Integration Results

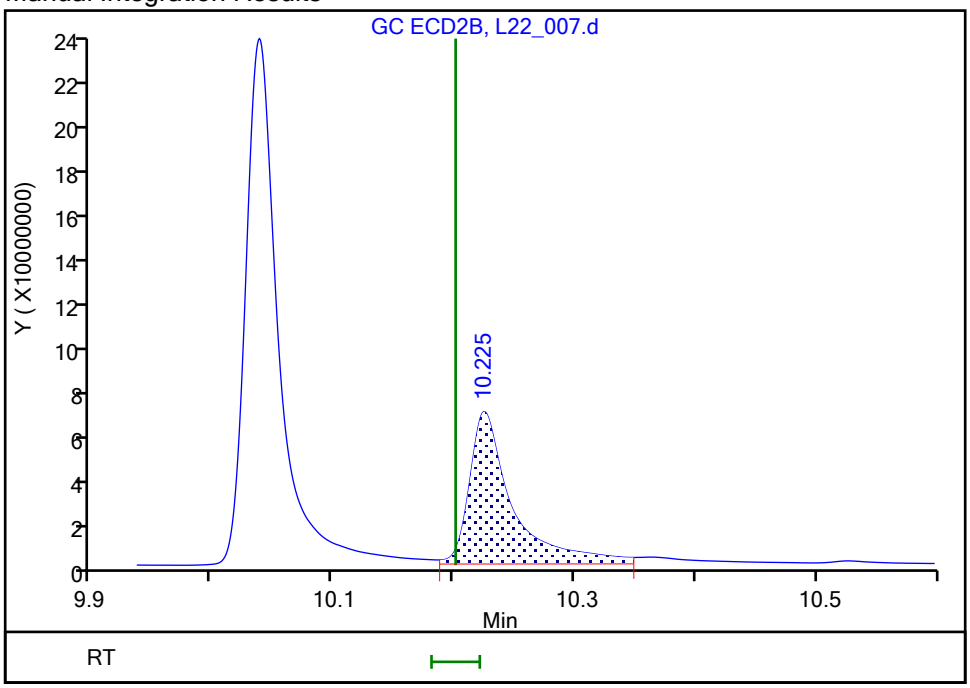

Reviewer: lamj, 23-Sep-2019 09:25:43
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

7 delta-BHC, CAS: 319-86-8

Signal: 2

Not Detected
Expected RT: 10.68

Processing Integration Results

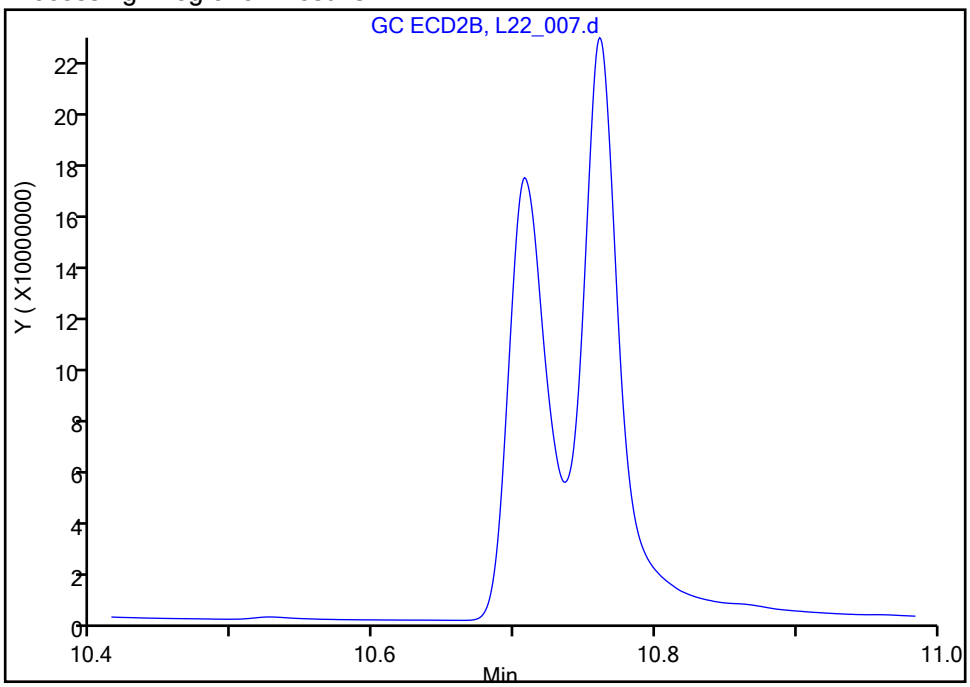

RT: 10.71
Area: 313622427
Amount: 0.057850
Amount Units: ug/ml

Manual Integration Results

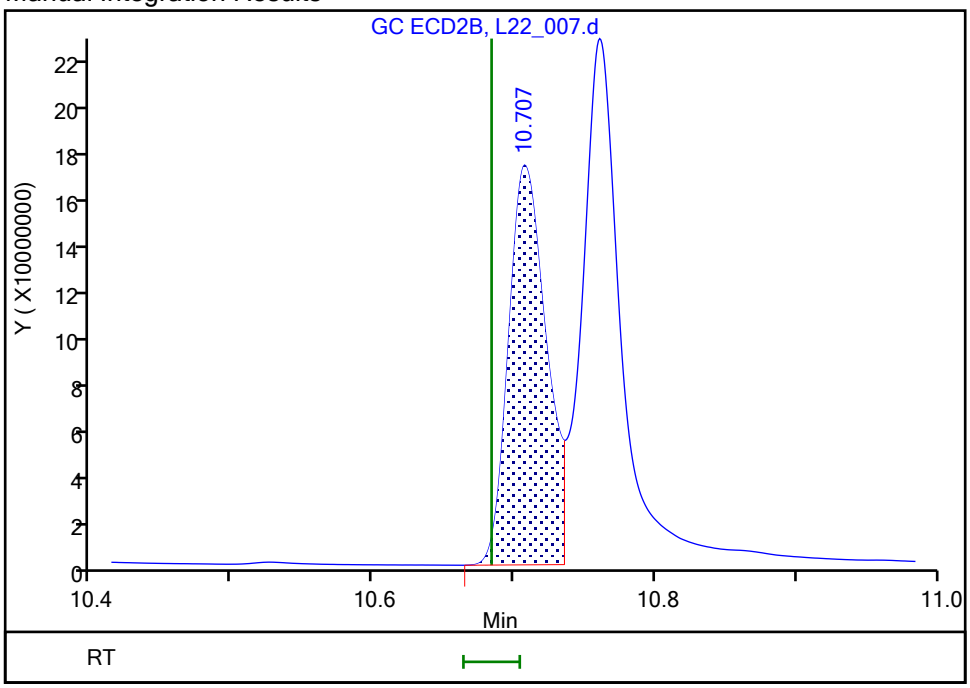

Reviewer: lamj, 23-Sep-2019 09:25:35
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

9 Heptachlor, CAS: 76-44-8

Signal: 2

Not Detected
Expected RT: 10.74

Processing Integration Results

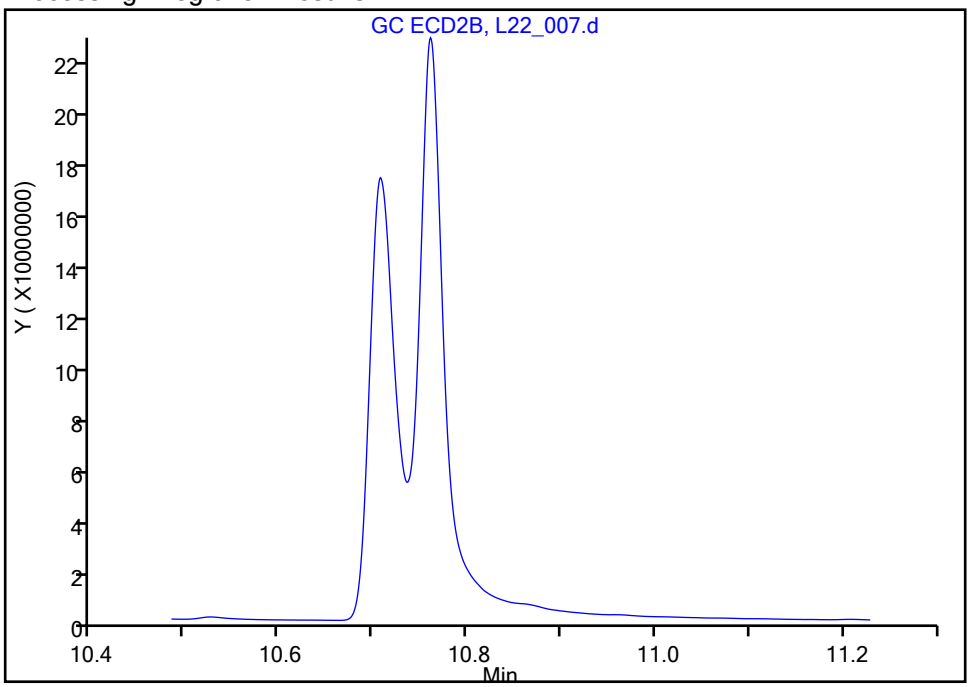

Manual Integration Results

RT: 10.76
Area: 455861442
Amount: 0.054382
Amount Units: ug/ml

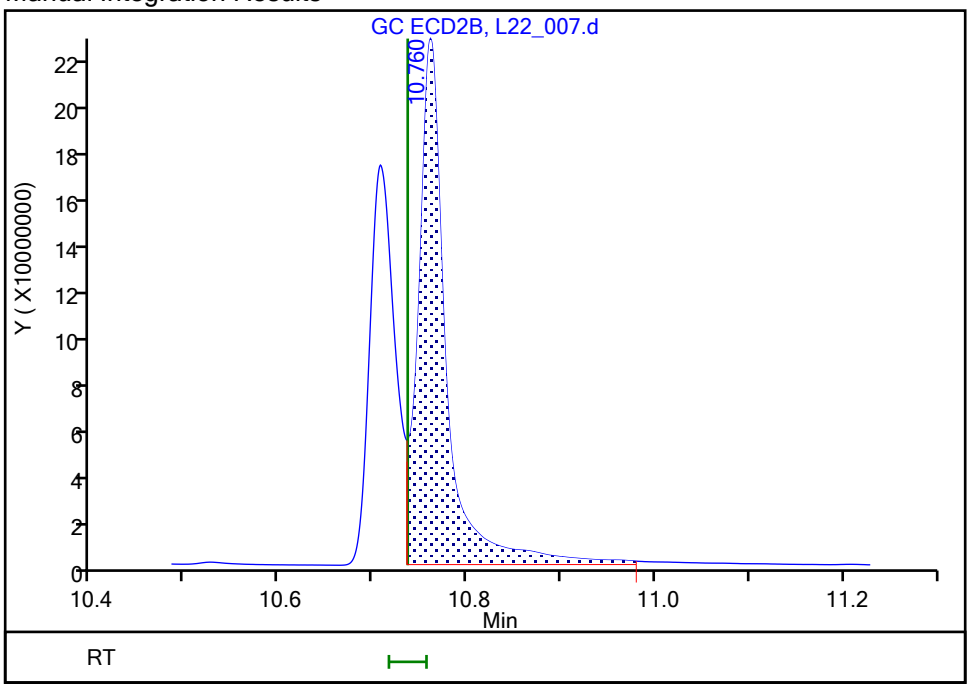

Reviewer: lamj, 23-Sep-2019 09:25:25
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

10 Aldrin, CAS: 309-00-2

Signal: 2

Processing Integration Results

Not Detected
Expected RT: 11.25

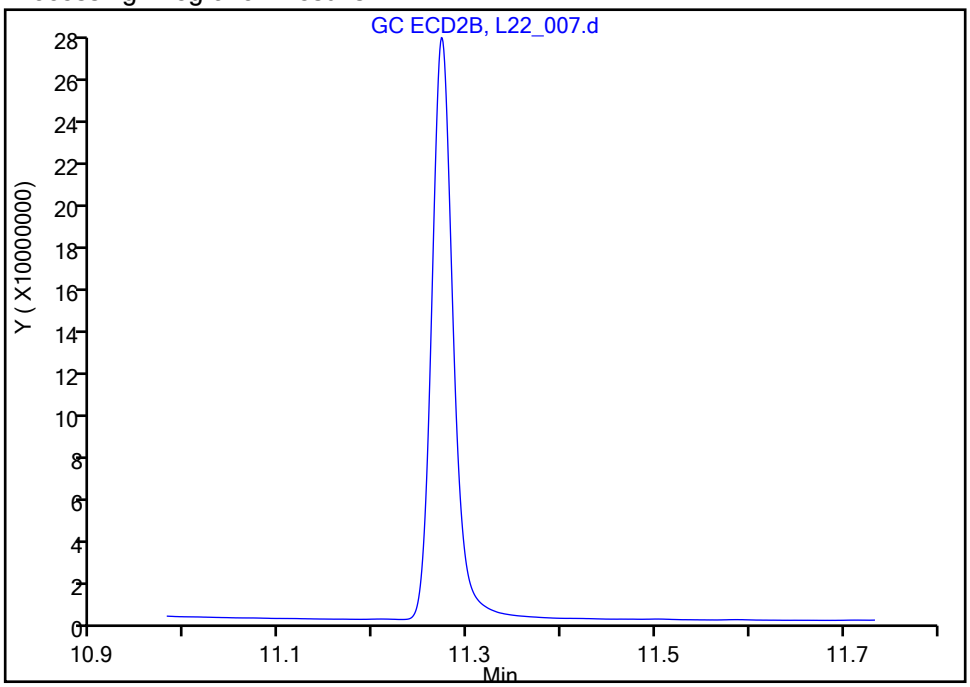

Manual Integration Results

RT: 11.27
Area: 427110823
Amount: 0.053699
Amount Units: ug/ml

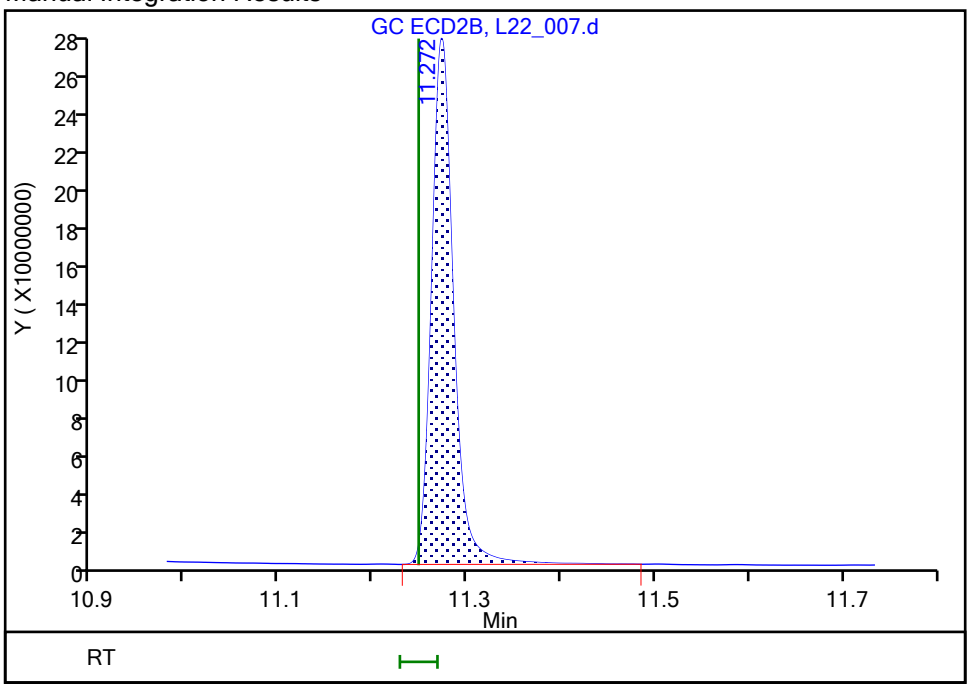

Reviewer: lamj, 23-Sep-2019 09:25:17
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

11 Heptachlor epoxide, CAS: 1024-57-3

Signal: 2

Not Detected
Expected RT: 12.18

Processing Integration Results

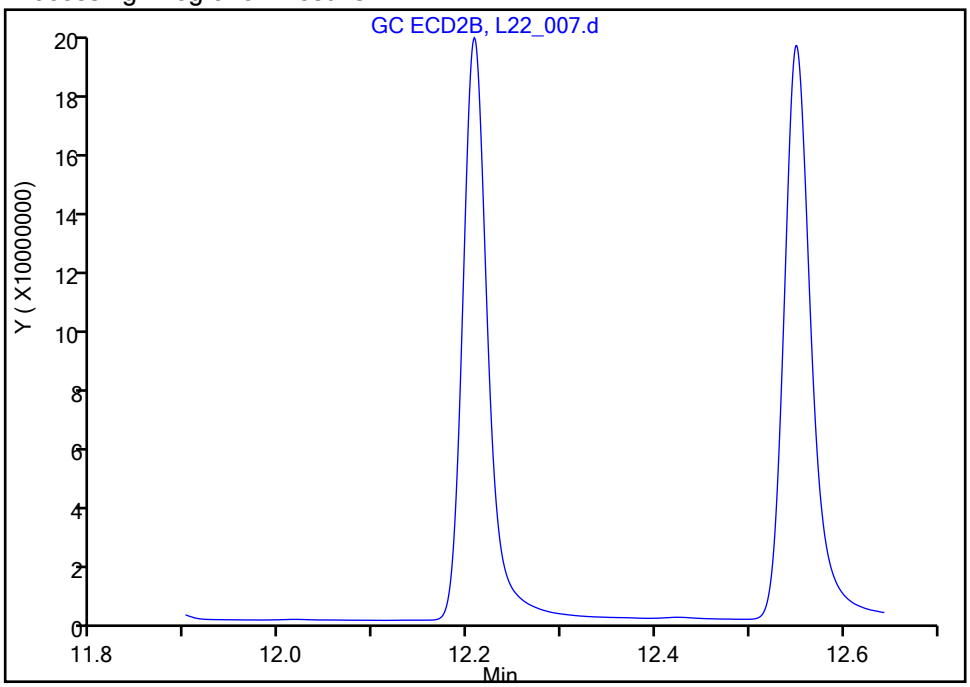

Manual Integration Results

RT: 12.21
Area: 353344708
Amount: 0.052378
Amount Units: ug/ml

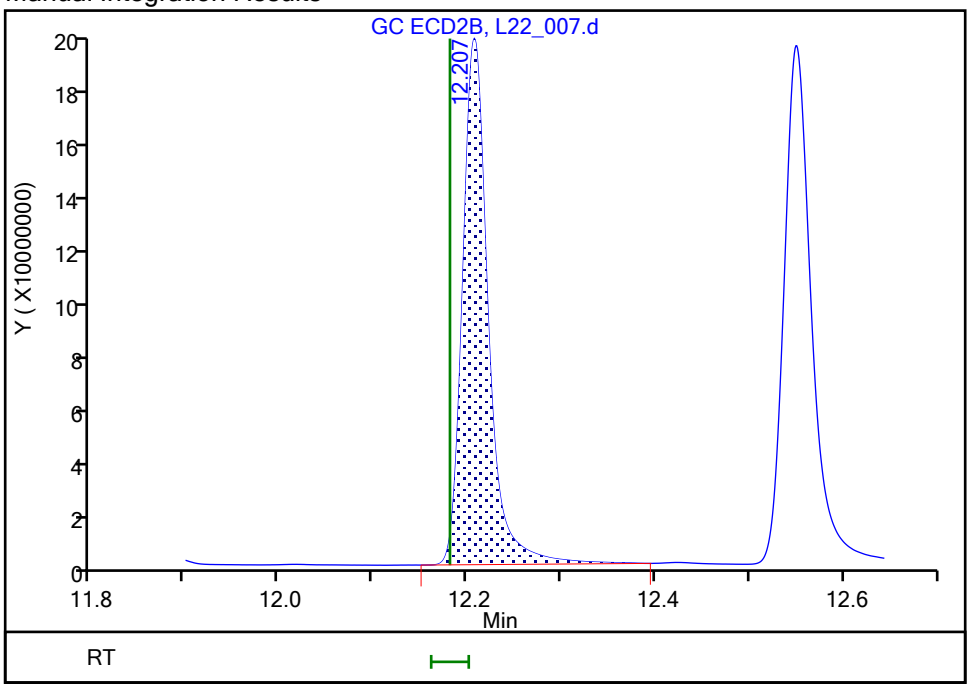

Reviewer: lamj, 23-Sep-2019 09:25:09
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

12 trans-Chlordane, CAS: 5103-74-2

Signal: 2

Not Detected
Expected RT: 12.52

Processing Integration Results

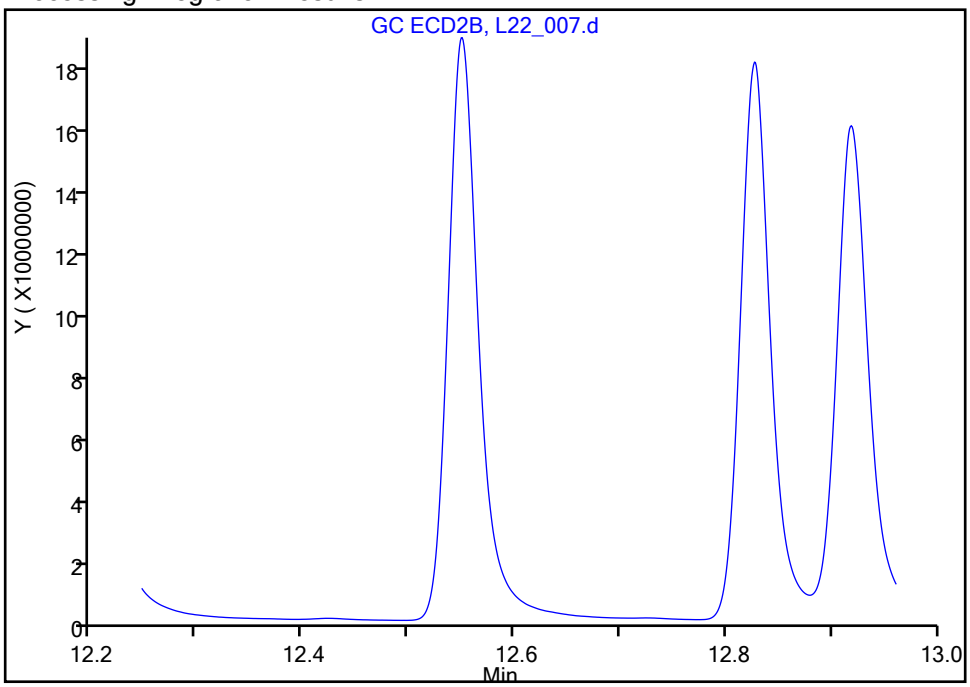

RT: 12.55
Area: 377085294
Amount: 0.053290
Amount Units: ug/ml

Manual Integration Results

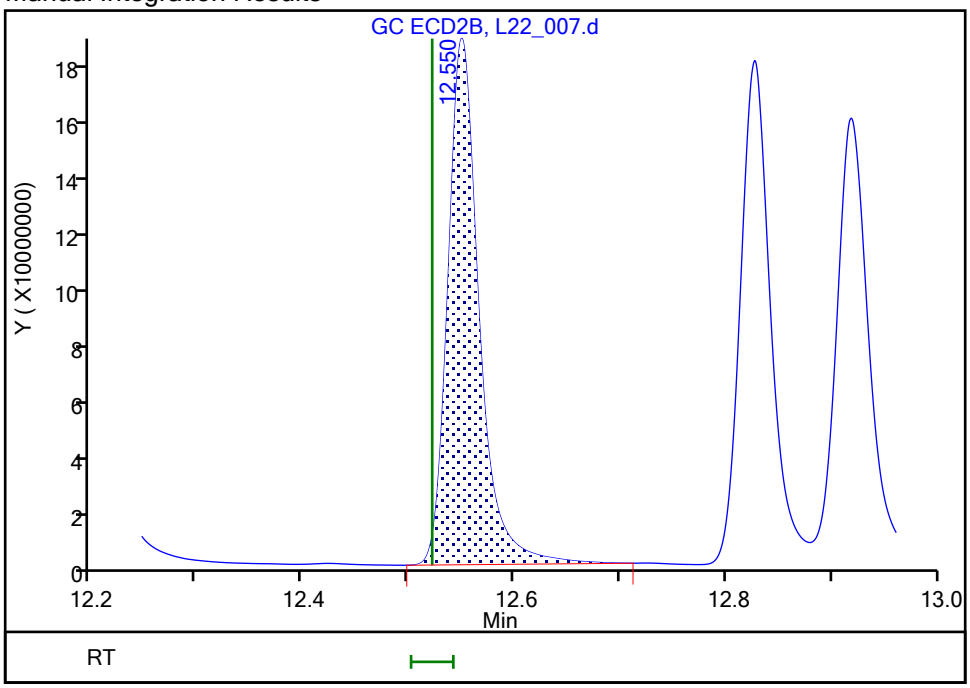

Reviewer: lamj, 23-Sep-2019 09:25:01
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

13 cis-Chlordane, CAS: 5103-71-9

Signal: 2

Not Detected
Expected RT: 12.80

Processing Integration Results

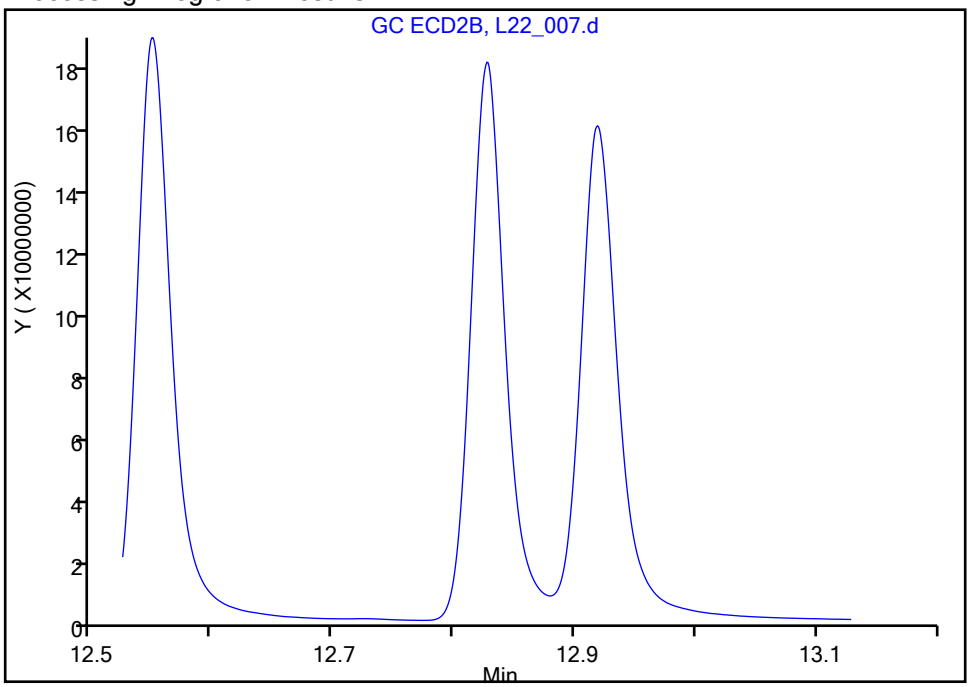

RT: 12.83
Area: 347372116
Amount: 0.052967
Amount Units: ug/ml

Manual Integration Results

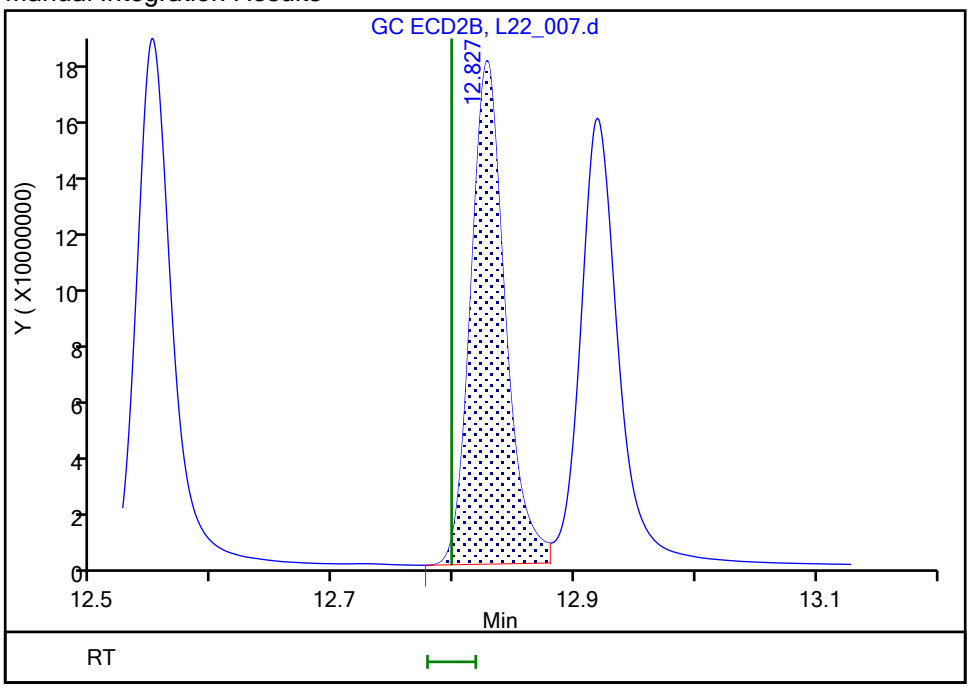

Reviewer: lamj, 23-Sep-2019 09:24:53
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

15 Endosulfan I, CAS: 959-98-8

Signal: 2

Not Detected
Expected RT: 12.89

Processing Integration Results

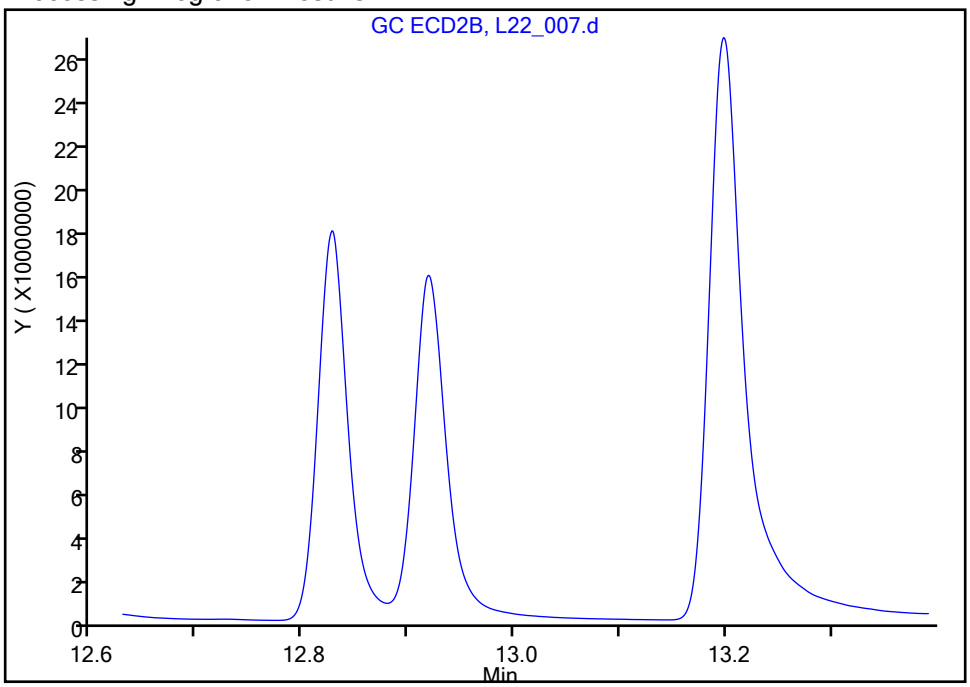

RT: 12.92
Area: 340826031
Amount: 0.050807
Amount Units: ug/ml

Manual Integration Results

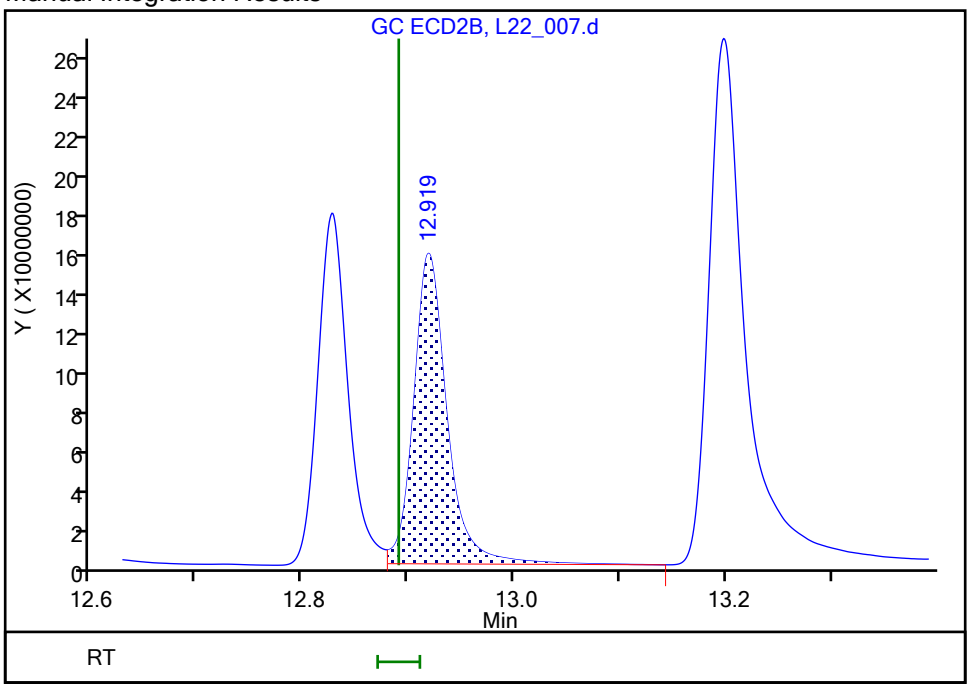

Reviewer: lamj, 23-Sep-2019 09:24:35
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

14 4,4'-DDE, CAS: 72-55-9

Signal: 2

Processing Integration Results

Not Detected
Expected RT: 13.17

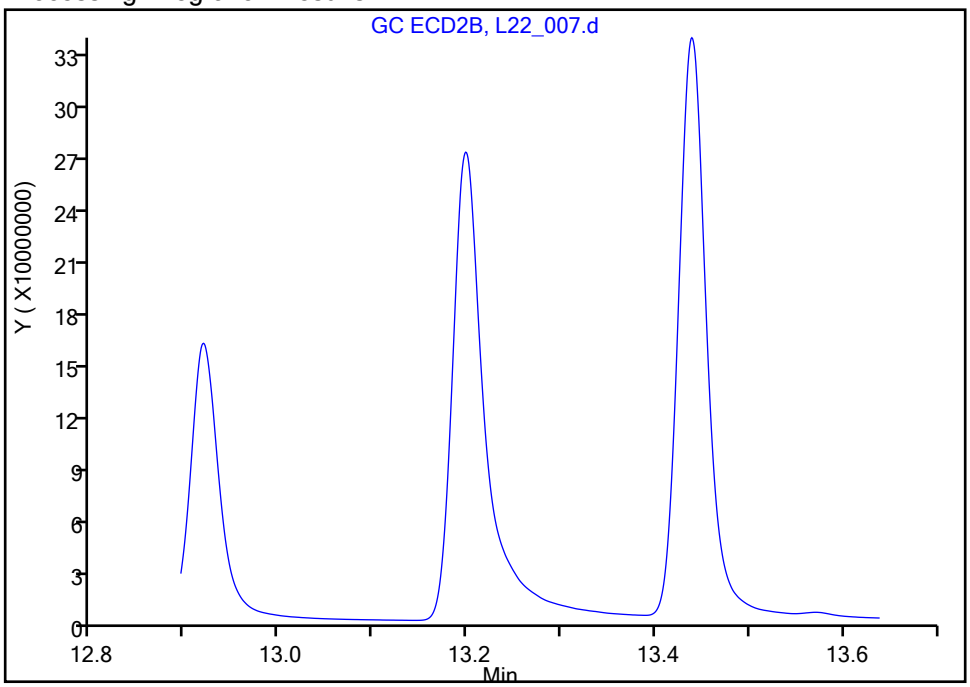

Manual Integration Results

RT: 13.20
Area: 653998970
Amount: 0.107286
Amount Units: ug/ml

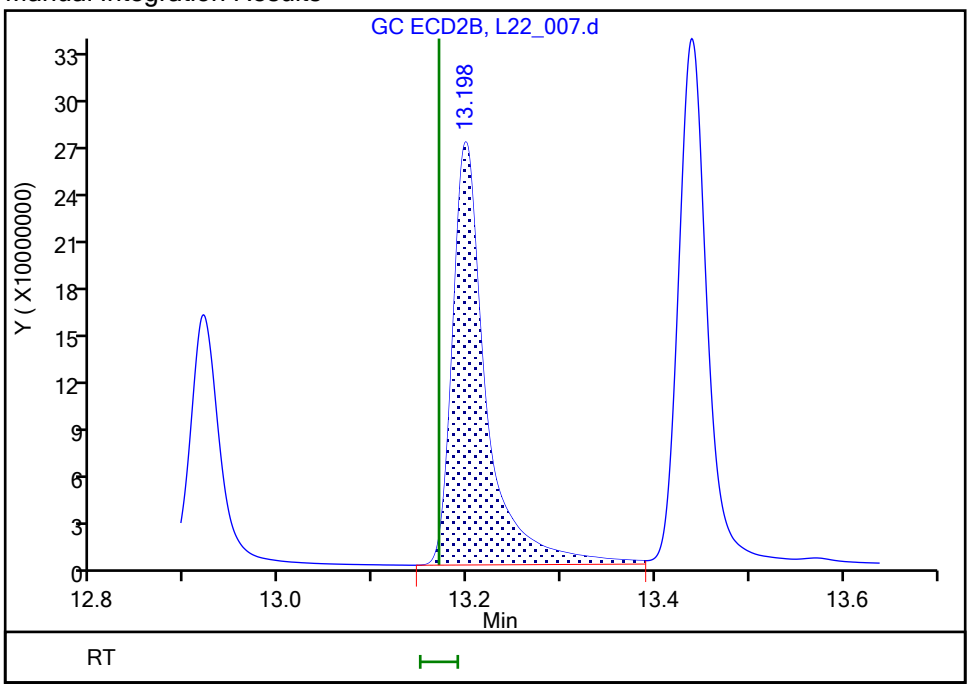

Reviewer: lamj, 23-Sep-2019 09:24:46
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

16 Dieldrin, CAS: 60-57-1

Signal: 2

Not Detected
Expected RT: 13.41

Processing Integration Results

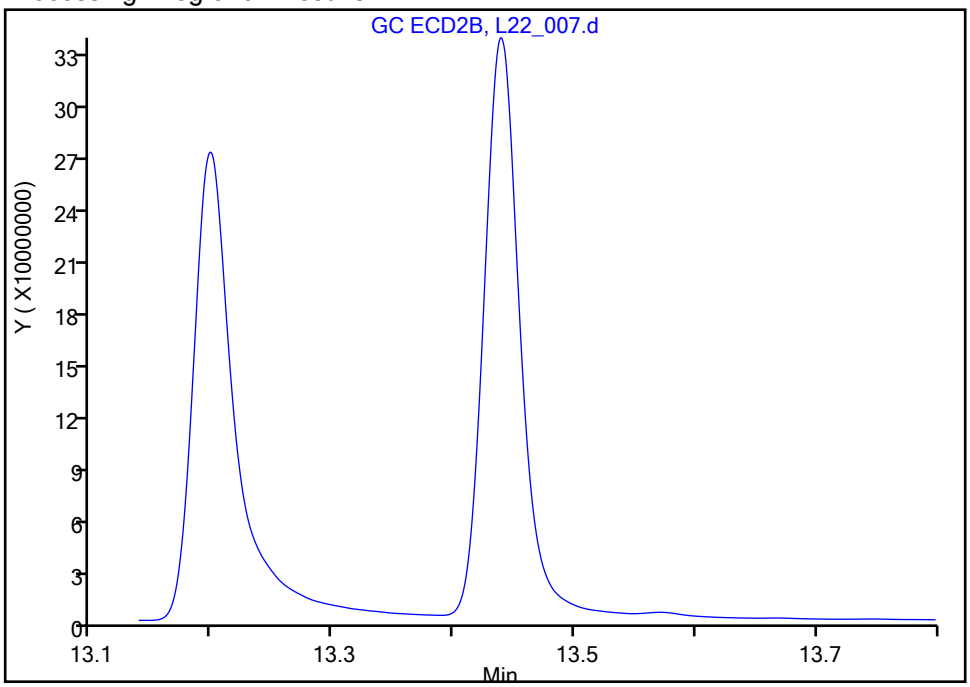

Manual Integration Results

RT:	13.44
Area:	693928171
Amount:	0.104115
Amount Units:	ug/ml

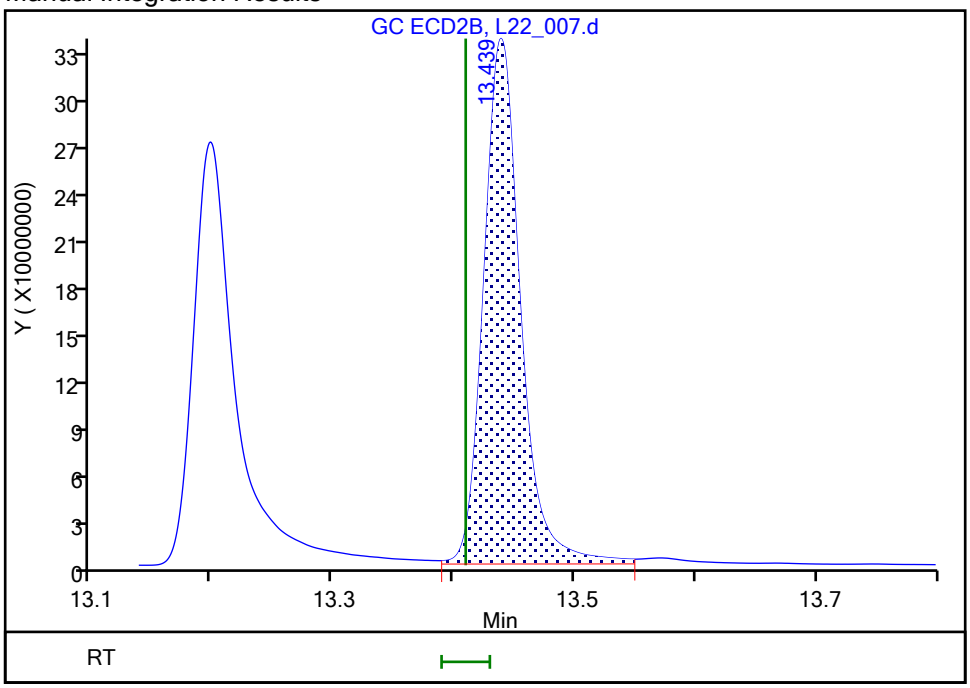

Reviewer: lamj, 23-Sep-2019 09:24:27
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

18 Endrin, CAS: 72-20-8

Signal: 2

Not Detected
Expected RT: 13.97

Processing Integration Results

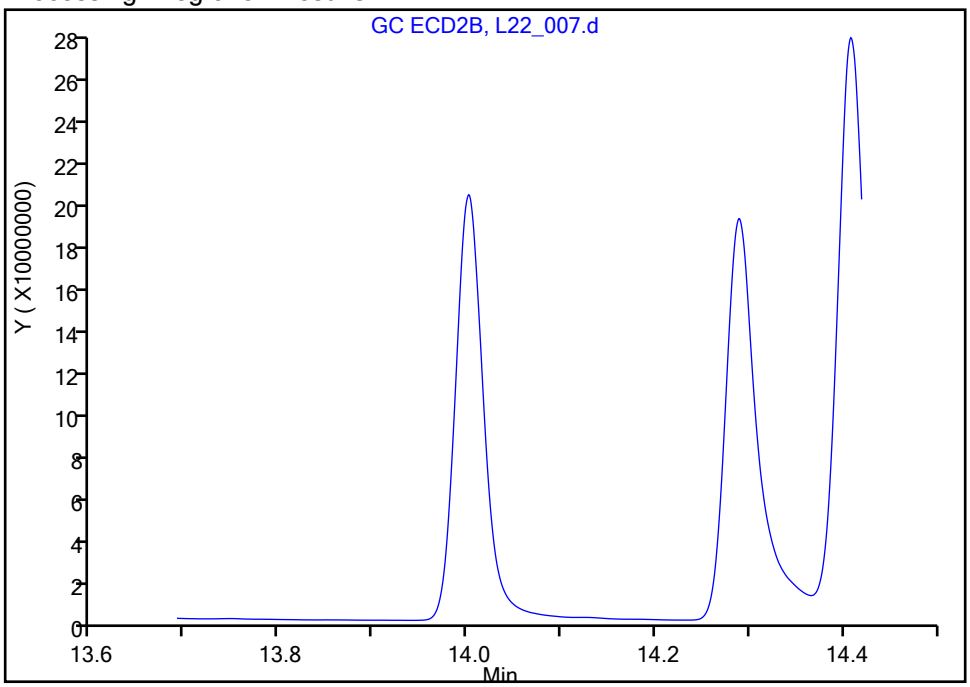

Manual Integration Results

RT:	14.00
Area:	413157535
Amount:	0.101173
Amount Units:	ug/ml

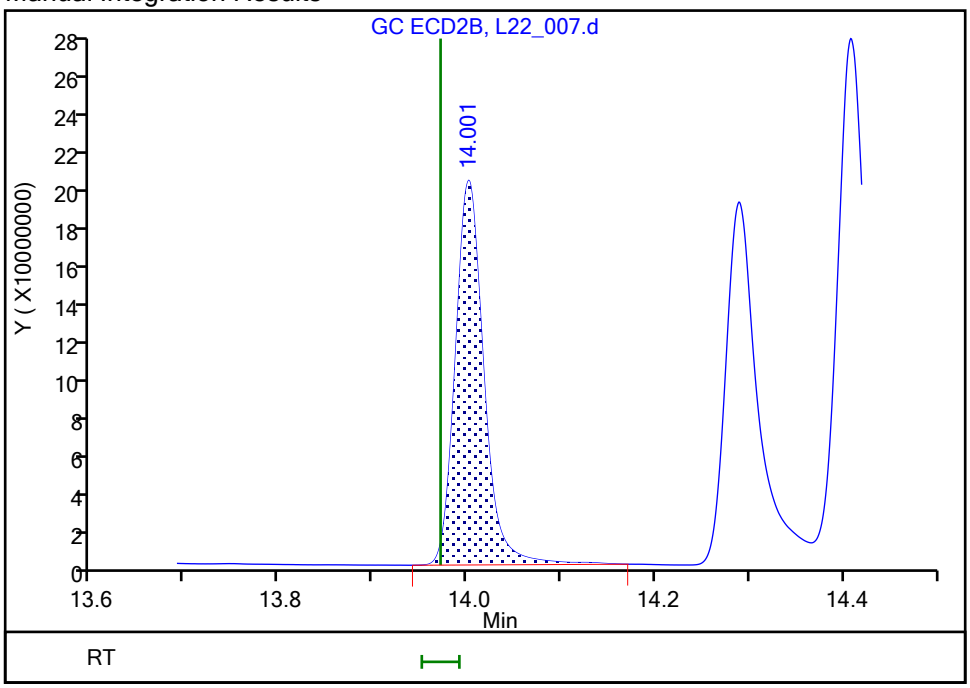

Reviewer: lamj, 23-Sep-2019 09:24:18
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

19 4,4'-DDD, CAS: 72-54-8

Signal: 2

Not Detected
Expected RT: 14.26

Processing Integration Results

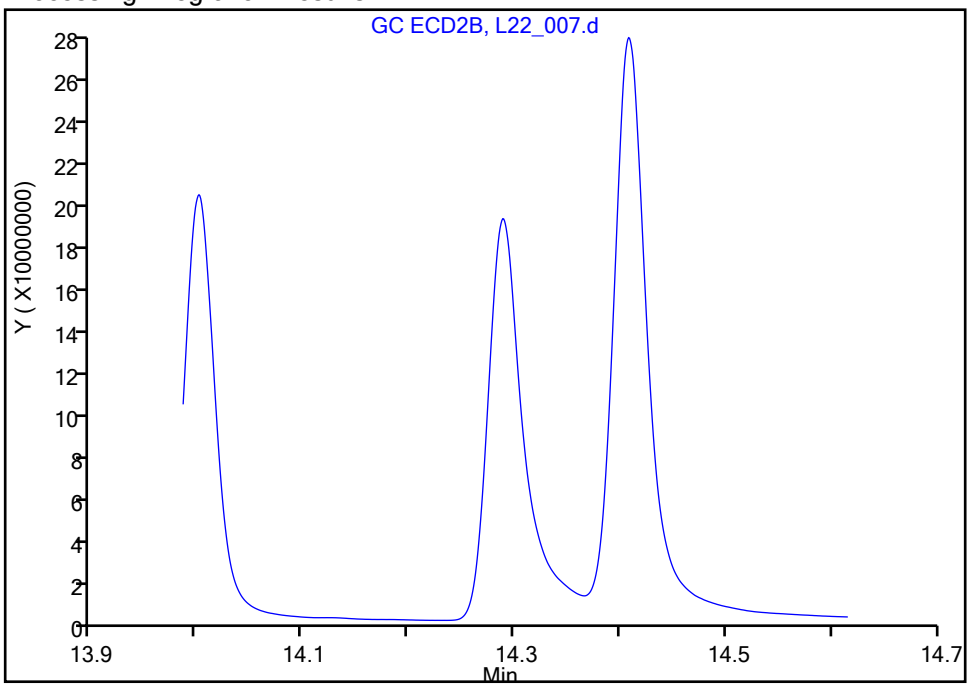

RT: 14.29
Area: 440723928
Amount: 0.109171
Amount Units: ug/ml

Manual Integration Results

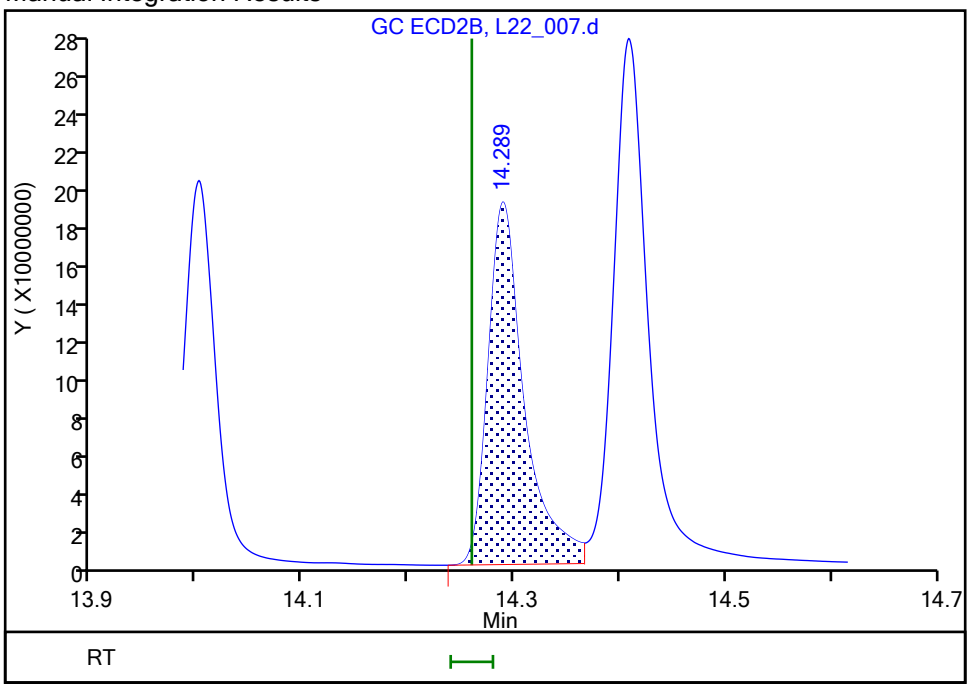

Reviewer: lamj, 23-Sep-2019 09:24:10
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

20 Endosulfan II, CAS: 33213-65-9

Signal: 2

Not Detected
Expected RT: 14.38

Processing Integration Results

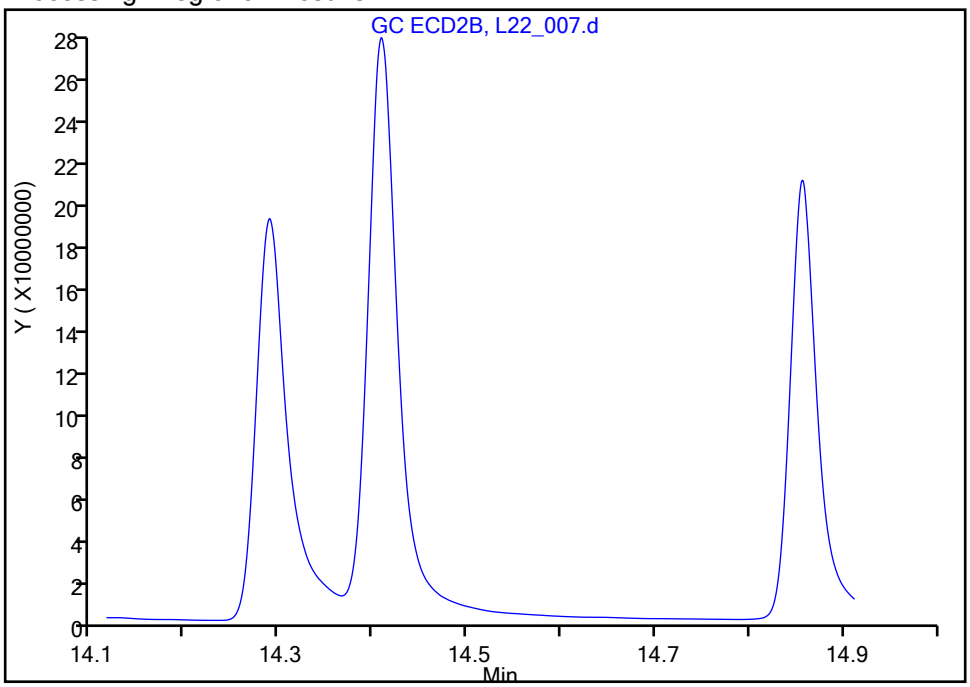

RT: 14.41
Area: 628656958
Amount: 0.099597
Amount Units: ug/ml

Manual Integration Results

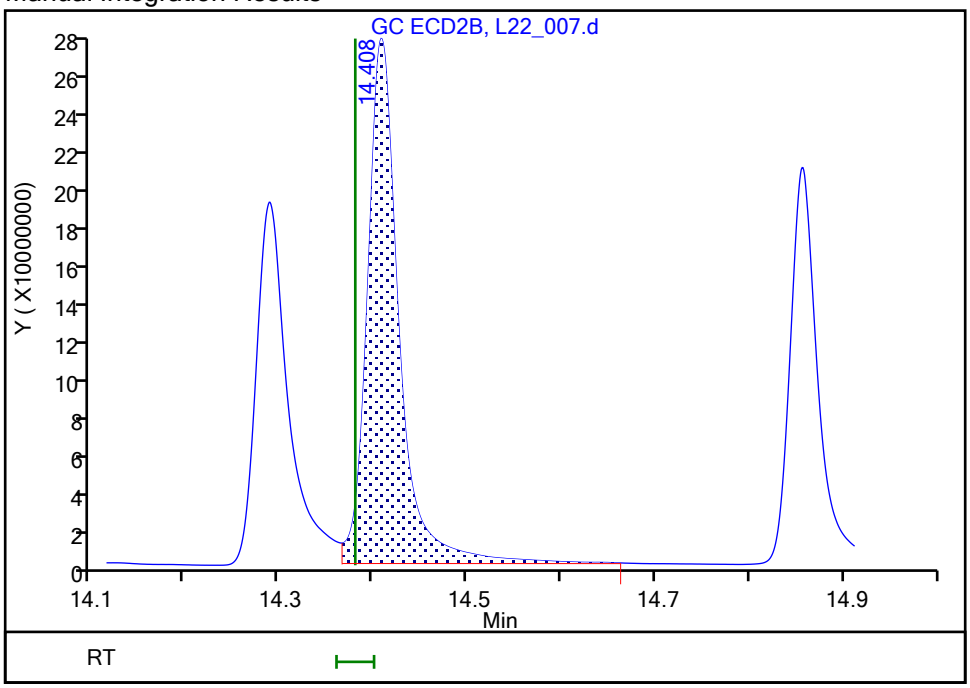

Reviewer: lamj, 23-Sep-2019 09:24:03
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

21 4,4'-DDT, CAS: 50-29-3

Signal: 2

Processing Integration Results

Not Detected
Expected RT: 14.83

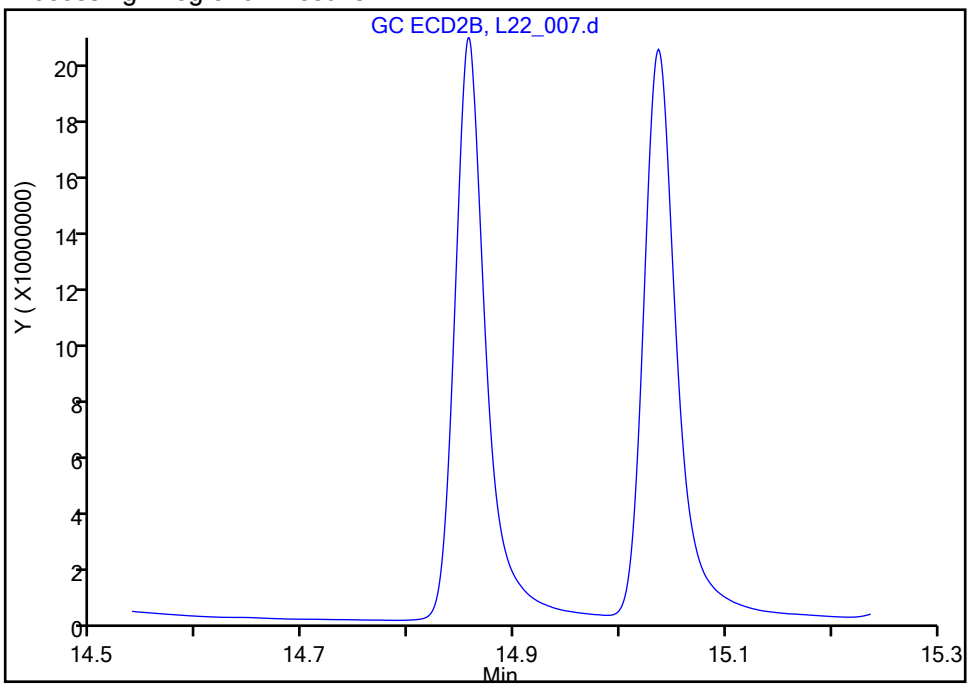

Manual Integration Results

RT: 14.86
Area: 425553609
Amount: 0.113321
Amount Units: ug/ml

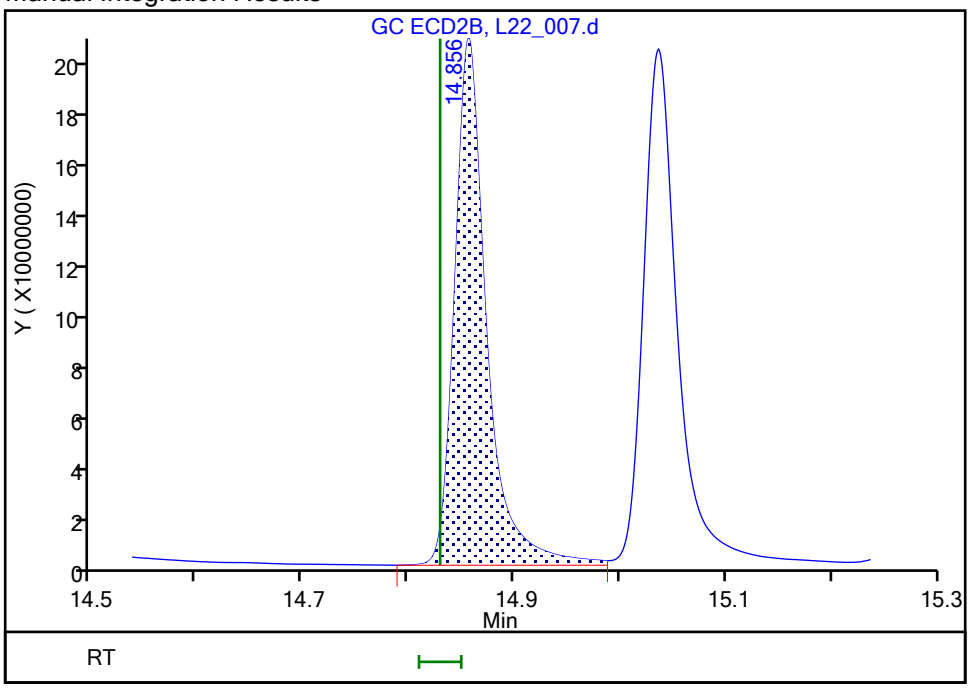

Reviewer: lamj, 23-Sep-2019 09:23:55
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

24 Endrin aldehyde, CAS: 7421-93-4

Signal: 2

Processing Integration Results

Not Detected
Expected RT: 15.01

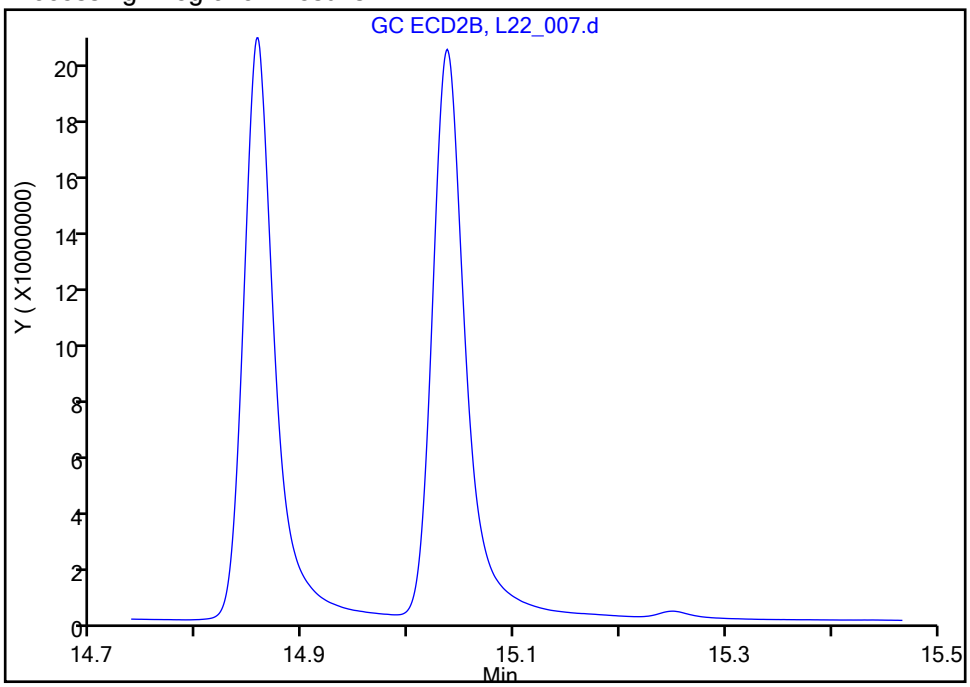

Manual Integration Results

RT: 15.04
Area: 452543084
Amount: 0.105633
Amount Units: ug/ml

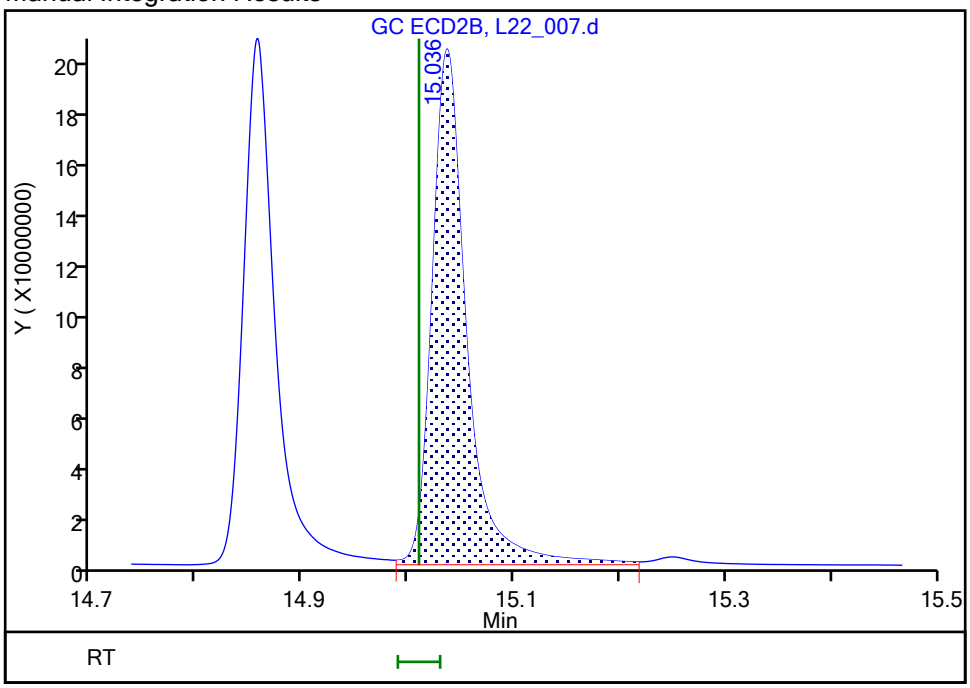

Reviewer: lamj, 23-Sep-2019 09:23:47
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

26 Endosulfan sulfate, CAS: 1031-07-8

Signal: 2

Not Detected
Expected RT: 15.52

Processing Integration Results

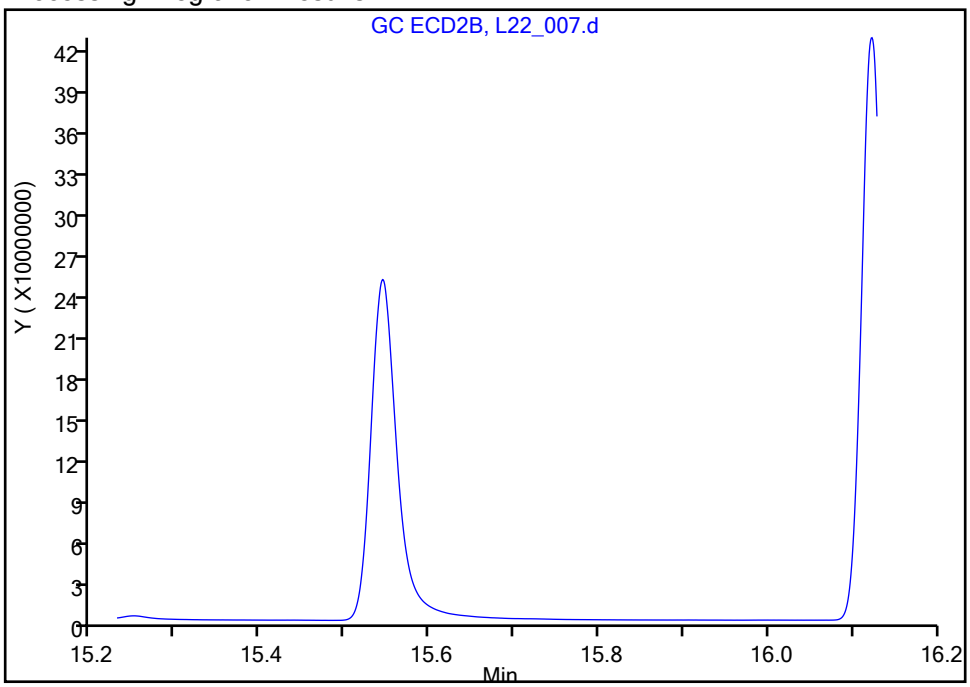

RT: 15.54
Area: 542364345
Amount: 0.103007
Amount Units: ug/ml

Manual Integration Results

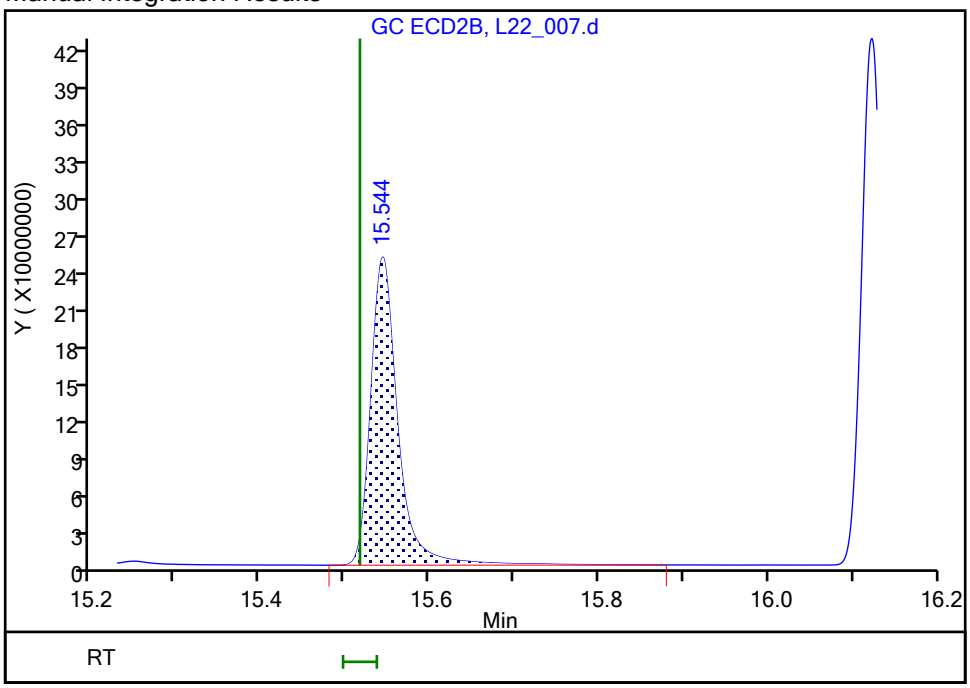

Reviewer: lamj, 23-Sep-2019 09:23:32
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

25 Methoxychlor, CAS: 72-43-5

Signal: 2

Processing Integration Results

Not Detected
Expected RT: 16.10

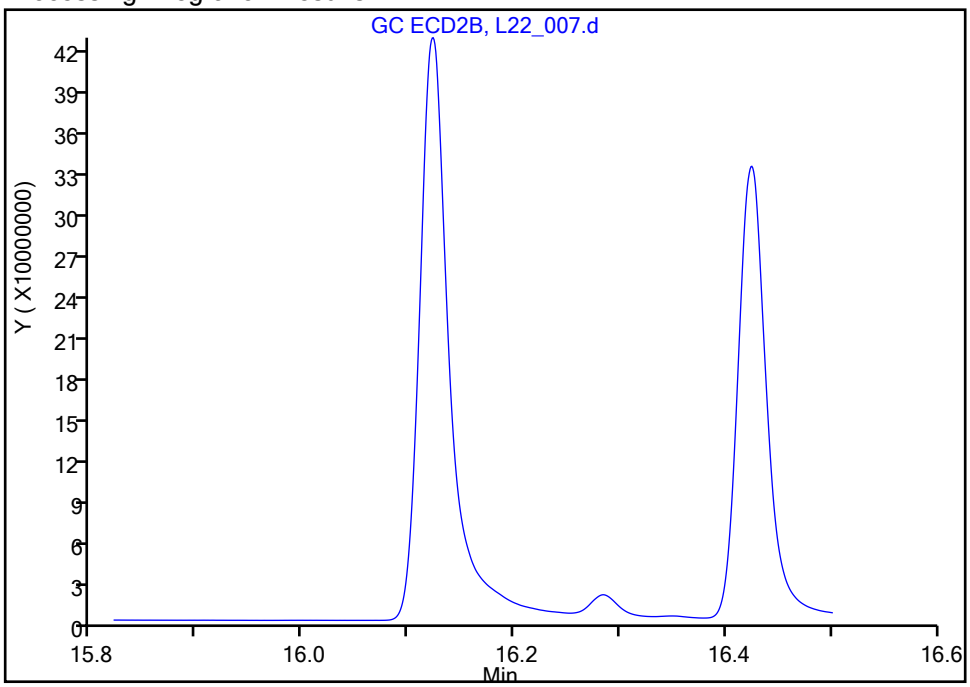

Manual Integration Results

RT: 16.12
Area: 843712416
Amount: 0.539682
Amount Units: ug/ml

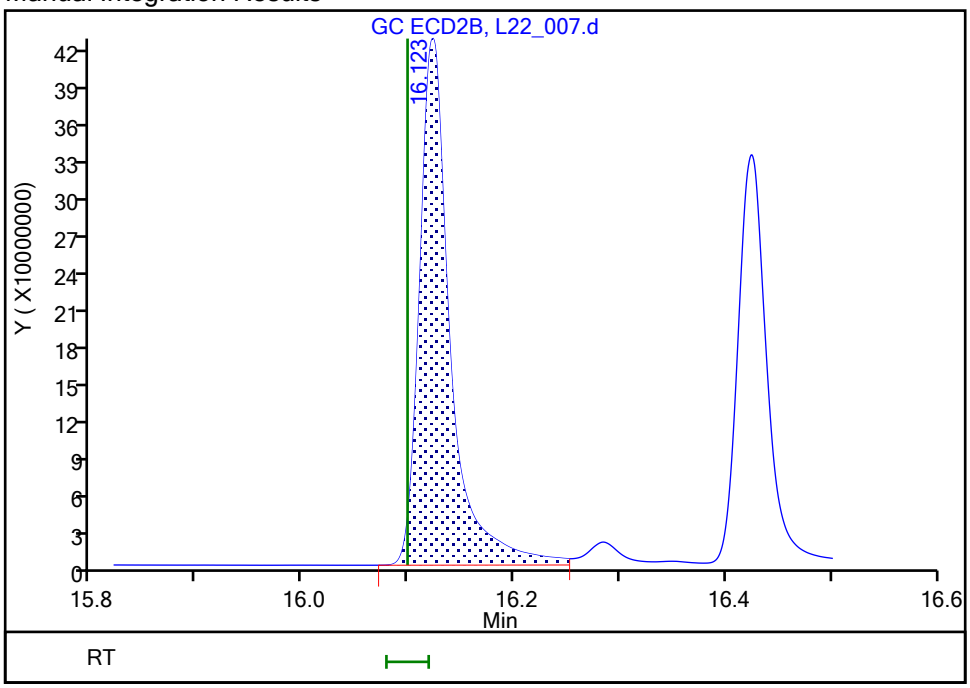

Reviewer: lamj, 23-Sep-2019 09:23:39
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_007.d				
Injection Date:	22-Sep-2019 14:36:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

27 Endrin ketone, CAS: 53494-70-5

Signal: 2

Processing Integration Results

Not Detected
Expected RT: 16.40

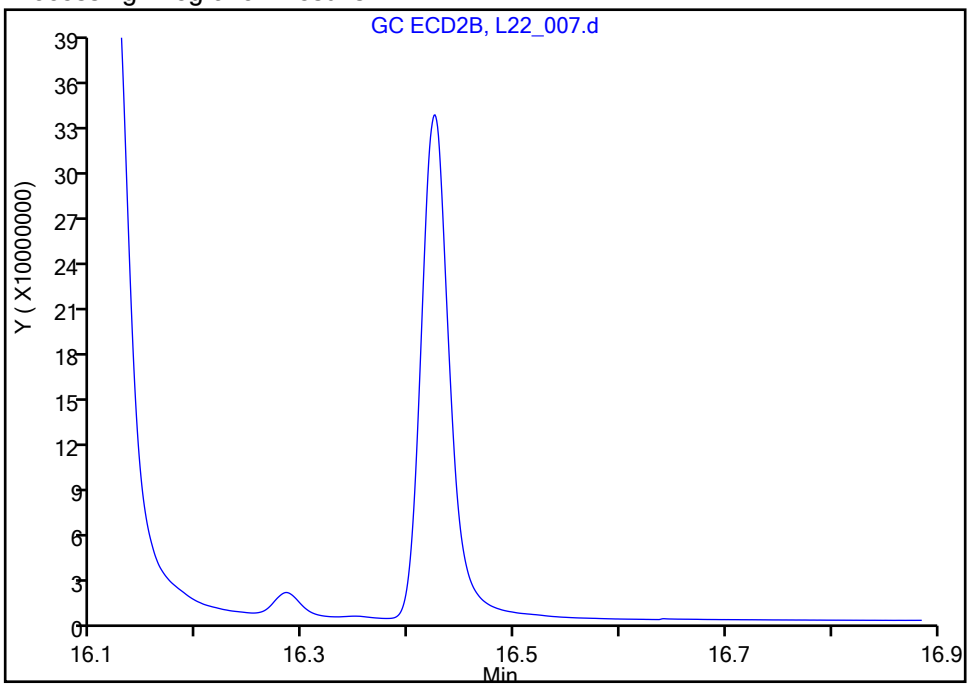

Manual Integration Results

RT: 16.42
Area: 634306061
Amount: 0.101049
Amount Units: ug/ml

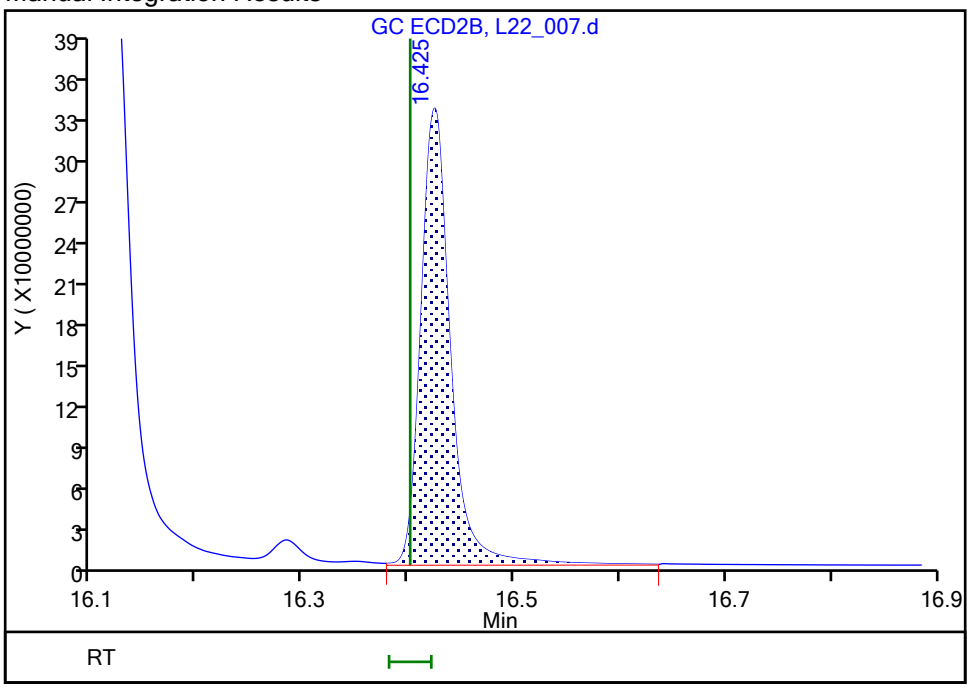

Reviewer: lamj, 23-Sep-2019 09:23:25
Audit Action: Assigned Compound ID Audit Reason:

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_008.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 22-Sep-2019 15:04:48 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031217-008
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVI_PEST_CHECD09*sub3

Method: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\LVI_PEST_CHECD09.m
Limit Group: GCSV - 8081A
Last Update: 23-Sep-2019 09:48:49 Calib Date: 22-Sep-2019 15:04:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_008.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0327

First Level Reviewer: lamj Date: 23-Sep-2019 09:26:23

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.275	6.276	-0.001	3766408684	50.0	50.0	
2	6.255	6.257	-0.002	2424829010	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	7.984	7.984	0.000	1489395520	0.1600	0.1728	
2	8.175	8.175	0.000	1014586670	0.1600	0.1824	
						RPD = 5.41	
3 alpha-BHC							
1	9.092	9.093	-0.001	1059233362	0.0800	0.0855	
2	9.373	9.374	-0.001	719551549	0.0800	0.0942	
						RPD = 9.64	
4 gamma-BHC (Lindane)							
1	9.685	9.686	-0.001	890316763	0.0800	0.0884	
2	10.013	10.014	-0.001	603705735	0.0800	0.0928	
						RPD = 4.92	
5 beta-BHC							
1	9.880	9.887	-0.007	381524338	0.0800	0.0922	
2	10.197	10.201	-0.004	232710656	0.0800	0.0872	
						RPD = 5.55	
7 delta-BHC							
1	10.183	10.189	-0.006	933464618	0.0800	0.0915	
2	10.679	10.684	-0.005	471372723	0.0800	0.1038	
						RPD = 12.61	
9 Heptachlor							
1	10.497	10.499	-0.002	898986687	0.0800	0.0842	
2	10.734	10.736	-0.002	605735312	0.0800	0.0862	
						RPD = 2.36	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 Aldrin							
1	10.988	10.990	-0.002	891796312	0.0800	0.0869	
2	11.246	11.248	-0.002	609347814	0.0800	0.0914	
						RPD = 5.09	
11 Heptachlor epoxide							
1	11.976	11.979	-0.003	757699447	0.0800	0.0841	
2	12.178	12.181	-0.003	508902264	0.0800	0.0900	
						RPD = 6.88	
12 trans-Chlordane							
1	12.191	12.194	-0.003	817268636	0.0800	0.0882	
2	12.518	12.522	-0.004	562634393	0.0800	0.0949	
						RPD = 7.34	
13 cis-Chlordane							
1	12.424	12.429	-0.005	766384723	0.0800	0.0883	
2	12.794	12.798	-0.004	524430142	0.0800	0.0954	
						RPD = 7.76	
14 4,4'-DDE							
1	12.618	12.620	-0.002	1154341692	0.1600	0.1911	
2	13.164	13.169	-0.005	1008793646	0.1600	0.1975	
						RPD = 3.32	
15 Endosulfan I							
1	12.665	12.670	-0.005	967756192	0.0800	0.0825	
2	12.885	12.890	-0.005	504763799	0.0800	0.0898	
						RPD = 8.46	
16 Dieldrin							
1	13.124	13.128	-0.004	1530276894	0.1600	0.1690	
2	13.404	13.409	-0.005	1022931571	0.1600	0.1832	
						RPD = 8.05	
18 Endrin							
1	13.557	13.561	-0.004	1044930648	0.1600	0.1654	
2	13.968	13.971	-0.003	599399688	0.1600	0.1752	
						RPD = 5.77	
19 4,4'-DDD							
1	13.753	13.759	-0.006	1135150103	0.1600	0.1848	
2	14.254	14.259	-0.005	693264383	0.1600	0.2050	
						RPD = 10.34	
20 Endosulfan II							
1	13.984	13.992	-0.008	1233911061	0.1600	0.1650	
2	14.374	14.380	-0.006	952729547	0.1600	0.1802	
						RPD = 8.76	
21 4,4'-DDT							
1	14.266	14.272	-0.006	1289924499	0.1600	0.1823	
2	14.824	14.829	-0.005	657387801	0.1600	0.2089	
						RPD = 13.64	
24 Endrin aldehyde							
1	14.770	14.774	-0.004	998023404	0.1600	0.1759	
2	15.005	15.009	-0.004	679613961	0.1600	0.1893	
						RPD = 7.36	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
25 Methoxychlor							
1	15.203	15.207	-0.004	2522837586	0.8000	0.8570	
2	16.095	16.099	-0.004	1292968883	0.8000	0.9871	
						RPD = 14.11	
26 Endosulfan sulfate							
1	15.569	15.571	-0.002	1170205795	0.1600	0.1723	
2	15.512	15.517	-0.005	824438707	0.1600	0.1869	
						RPD = 8.12	
27 Endrin ketone							
1	16.048	16.051	-0.003	1428623331	0.1600	0.1717	
2	16.397	16.401	-0.004	976562592	0.1600	0.1857	
						RPD = 7.80	
$ 28 DCB Decachlorobiphenyl							
1	17.545	17.546	-0.001	1228927123	0.1600	0.1852	
2	18.063	18.064	-0.001	900790323	0.1600	0.1862	
						RPD = 0.54	

Reagents:

PESTCAL6_00026 Amount Added: 1.00 Units: mL
PST_IS 2_00063 Amount Added: 1.00 Units: mL Run Reagent

Report Date: 23-Sep-2019 09:48:51 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_008.d				
Injection Date:	22-Sep-2019 15:04:48	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		

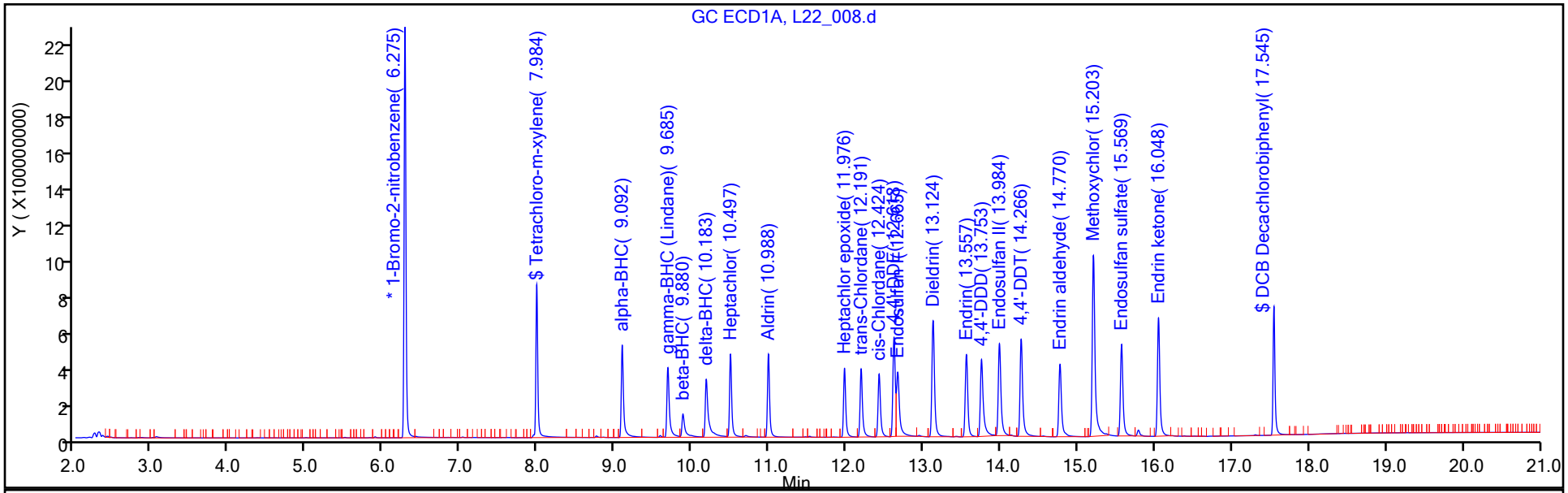

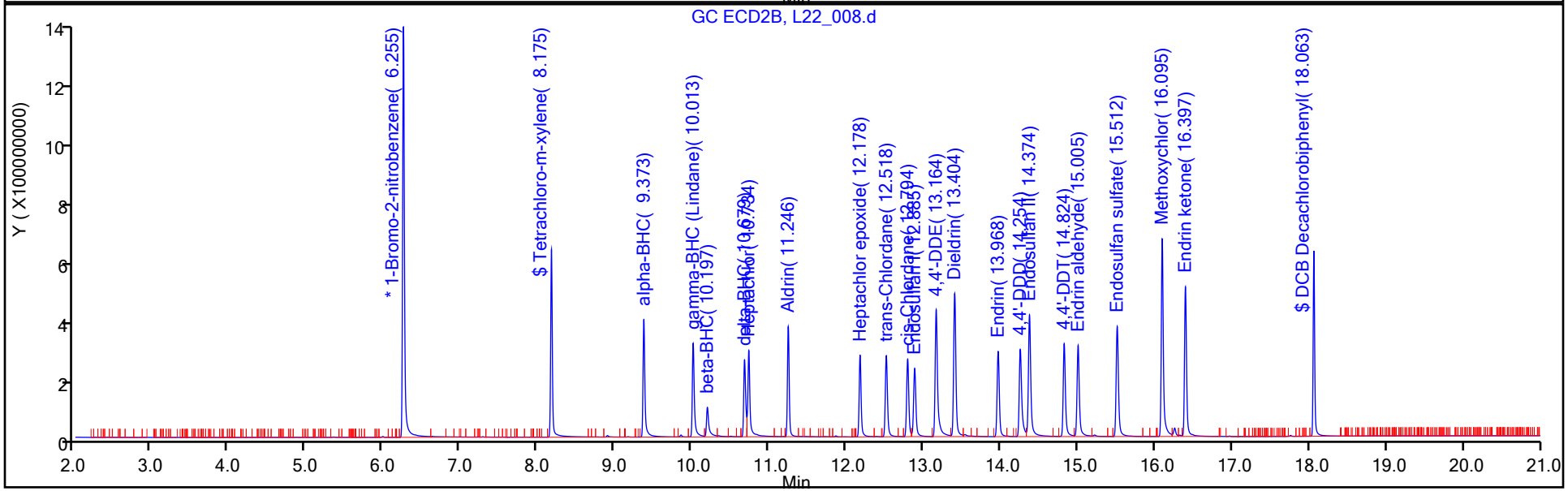

FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab Sample ID (1): ICIS 600-275356/6 Instrument ID (1): CHECD09

GC Column (1): RTX-CLP1 ID: 0.32(mm) Date Analyzed (1): 09/22/2019 14:08

ANALYTE	RT	RESOLUTION (%)
Endrin	13.56	0.10

Resolution Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_006.d				
Injection Date:	22-Sep-2019 14:08:17	Instrument ID:	CHECD09		
Lims ID:	icis				
Client ID:					
Operator ID:	JL	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		

18 Endrin - 19 4,4'-DDD

SW-846 Method

Version D: %R = (V / ((H1 + H2)/2)) * 100

V (Valley Height) = 199671
H1(18 Endrin) = 206335344
H2(19 4,4'-DDD) = 166633040

Version D: %R = 0.1 <= 0.0
Passed

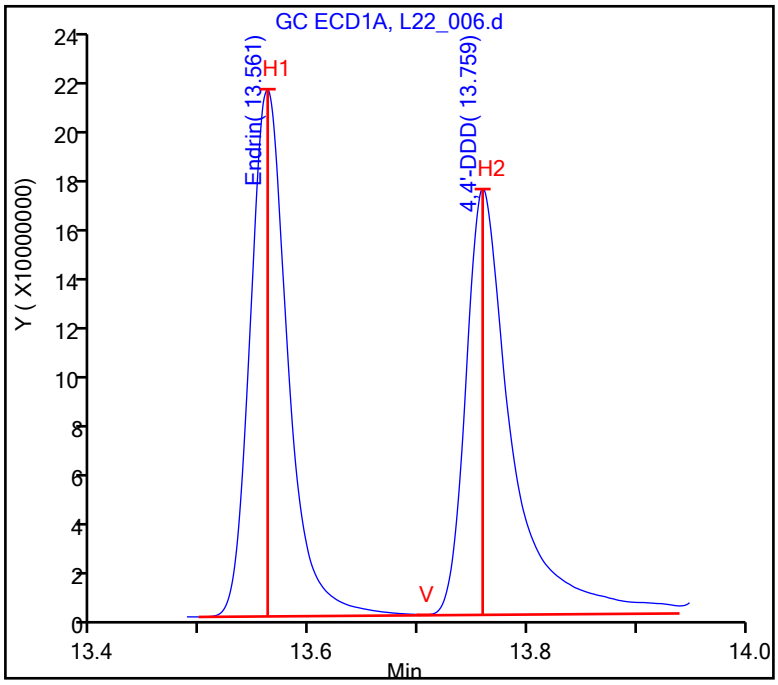

FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab Sample ID (2): ICIS 600-275356/6 Instrument ID (2): CHECD09

GC Column (2): RTX-CLP2 ID: 0.32(mm) Date Analyzed (2): 09/22/2019 14:08

ANALYTE	RT	RESOLUTION (%)
Endrin	13.97	0.00

Resolution Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_006.d				
Injection Date:	22-Sep-2019 14:08:17	Instrument ID:	CHECD09		
Lims ID:	icis				
Client ID:					
Operator ID:	JL	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		

18 Endrin - 19 4,4'-DDD

SW-846 Method

Version D: %R = (V / ((H1 + H2)/2)) * 100

V (Valley Height) = 6618
H1(18 Endrin) = 131706136
H2(19 4,4'-DDD) = 115886480

Version D: %R = 0.0 <= 0.0
Passed

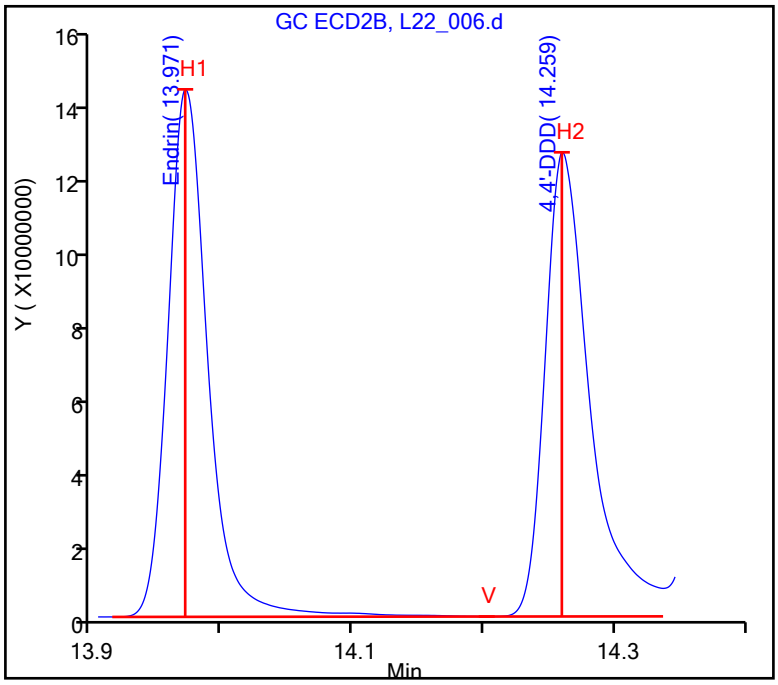

FORM VII
PESTICIDES PERFORMANCE EVALUATION MIXTURE (PEM)

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab Sample ID: PEM 600-275356/2 Calibration Date: 09/22/2019 12:15

Instrument ID: CHECD09 Calib Start Date: 08/05/2019 15:35

GC Column: RTX-CLP1 ID: 0.32(mm) Calib End Date: 08/05/2019 17:56

Lab File ID: L22_002.d Conc. Units: ug/mL

ANALYTE	RT	RESPONSE	BREAKDOWN (%)	LIMIT	#
Endrin	13.56	1227878611	7.25	15	
Endrin aldehyde	14.78	23817651			
Endrin ketone	16.05	72177032			

ANALYTE	RT	RESPONSE	BREAKDOWN (%)	LIMIT	#
4,4'-DDT	14.27	2493600640	0.33	15	
4,4'-DDD	13.75	4616053			
4,4'-DDE	12.62	3535297			

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_002.d
Lims ID: pem
Client ID:
Sample Type: PEM
Inject. Date: 22-Sep-2019 12:15:26 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031217-002
Operator ID: JL Instrument ID: CHECD09
Sublist:

Method: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\LVI_PEST_CHECD09.m
Limit Group: GCSV - 8081A
Last Update: 23-Sep-2019 09:45:07 Calib Date: 22-Sep-2019 15:04:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_008.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0327

First Level Reviewer: lamj Date: 22-Sep-2019 13:21:35

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.282	6.276	0.006	4843111913	50.0	50.0	
2	6.255	6.257	-0.002	2955639801	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	7.987	7.984	0.003	543171376	0.0500	0.0490	
2	8.173	8.175	-0.002	344221682	0.0500	0.0508	
						RPD = 3.54	
3 alpha-BHC							
1	9.096	9.093	0.003	471276110	0.0250	0.0296	
2	9.372	9.374	-0.002	293882130	0.0250	0.0316	
						RPD = 6.44	
4 gamma-BHC (Lindane)							
1	9.688	9.686	0.002	403851523	0.0250	0.0312	
2	10.011	10.014	-0.003	263932890	0.0250	0.0333	
						RPD = 6.58	
5 beta-BHC							
1	9.882	9.887	-0.005	155445059	0.0250	0.0292	
2	10.193	10.201	-0.008	103081507	0.0250	0.0317	
						RPD = 8.15	
14 4,4'-DDE							
1	12.618	12.620	-0.002	3535297		0.000455	
2	13.162	13.169	-0.007	1750255		0.000281	
						RPD = 47.25	
18 Endrin							
1	13.560	13.561	-0.001	1227878611	0.1250	0.1511	
2	13.966	13.971	-0.005	694805803	0.1250	0.1666	E
						RPD = 9.75	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
19 4,4'-DDD							
1	13.752	13.759	-0.007	4616053		0.000584	
2	14.252	14.259	-0.007	4782284		0.001160	
						RPD = 65.99	
21 4,4'-DDT							
1	14.268	14.272	-0.004	2493600640	0.2500	0.2740	E
2	14.821	14.829	-0.008	1275091206	0.2500	0.3325	E
						RPD = 19.28	
24 Endrin aldehyde							
1	14.779	14.774	0.005	23817651		0.003264	
2	15.007	15.009	-0.002	32915069		0.007523	
						RPD = 78.96	
25 Methoxychlor							
1	15.202	15.207	-0.005	2469963958	0.6250	0.6525	
2	16.091	16.099	-0.008	1198310666	0.6250	0.7506	
						RPD = 13.98	
27 Endrin ketone							
1	16.050	16.051	-0.001	72177032		0.006748	
2	16.395	16.401	-0.006	59849904		0.009336	
						RPD = 32.18	
$ 28 DCB Decachlorobiphenyl							
1	17.544	17.546	-0.002	317476966	0.0500	0.0372	
2	18.061	18.064	-0.003	286246868	0.0500	0.0486	
						RPD = 26.44	

QC Flag Legend

Processing Flags

E - Exceeded Maximum Amount

Reagents:

Pest_PEM_00035	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 23-Sep-2019 09:46:51 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_002.d				
Injection Date:	22-Sep-2019 12:15:26	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	pem			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		

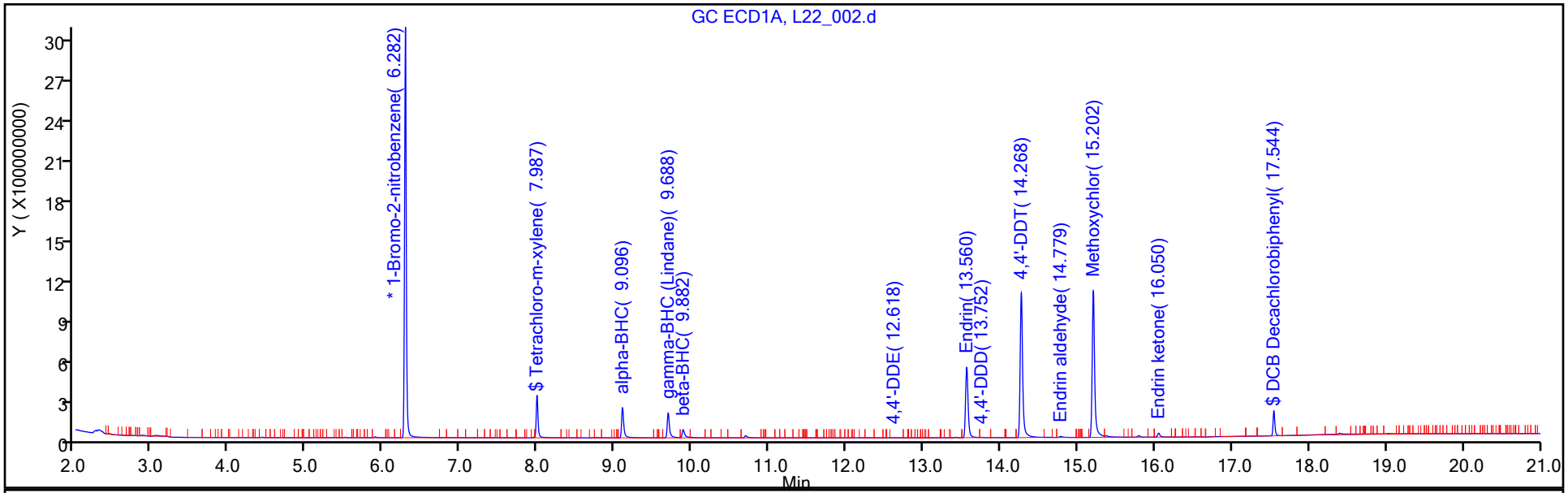

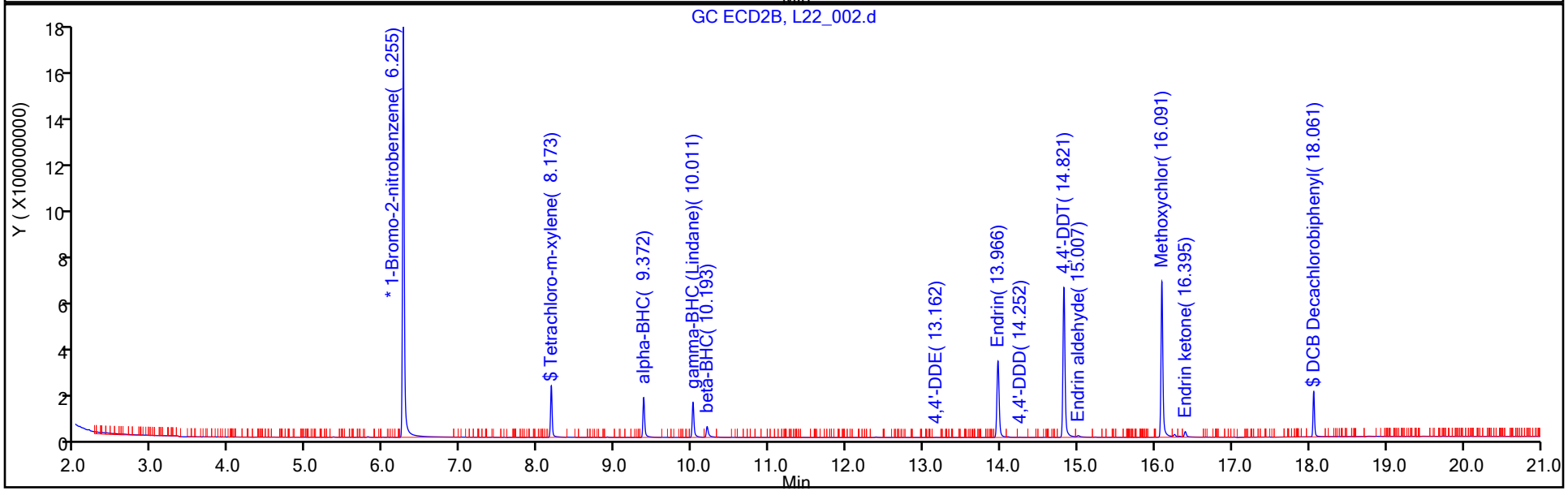

FORM VII
PESTICIDES PERFORMANCE EVALUATION MIXTURE (PEM)

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab Sample ID: PEM 600-275356/2 Calibration Date: 09/22/2019 12:15

Instrument ID: CHECD09 Calib Start Date: 08/05/2019 15:35

GC Column: RTX-CLP2 ID: 0.32(mm) Calib End Date: 08/05/2019 17:56

Lab File ID: L22_002.d Conc. Units: ug/mL

ANALYTE	RT	RESPONSE	BREAKDOWN (%)	LIMIT	#
Endrin	13.97	694805803	11.78	15	
Endrin aldehyde	15.01	32915069			
Endrin ketone	16.40	59849904			

ANALYTE	RT	RESPONSE	BREAKDOWN (%)	LIMIT	#
4,4'-DDT	14.82	1275091206	0.51	15	
4,4'-DDD	14.25	4782284			
4,4'-DDE	13.16	1750255			

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_002.d
Lims ID: pem
Client ID:
Sample Type: PEM
Inject. Date: 22-Sep-2019 12:15:26 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031217-002
Operator ID: JL Instrument ID: CHECD09
Sublist:

Method: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\LVI_PEST_CHECD09.m
Limit Group: GCSV - 8081A
Last Update: 23-Sep-2019 09:45:07 Calib Date: 22-Sep-2019 15:04:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_008.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0327

First Level Reviewer: lamj Date: 22-Sep-2019 13:21:35

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.282	6.276	0.006	4843111913	50.0	50.0	
2	6.255	6.257	-0.002	2955639801	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	7.987	7.984	0.003	543171376	0.0500	0.0490	
2	8.173	8.175	-0.002	344221682	0.0500	0.0508	
						RPD = 3.54	
3 alpha-BHC							
1	9.096	9.093	0.003	471276110	0.0250	0.0296	
2	9.372	9.374	-0.002	293882130	0.0250	0.0316	
						RPD = 6.44	
4 gamma-BHC (Lindane)							
1	9.688	9.686	0.002	403851523	0.0250	0.0312	
2	10.011	10.014	-0.003	263932890	0.0250	0.0333	
						RPD = 6.58	
5 beta-BHC							
1	9.882	9.887	-0.005	155445059	0.0250	0.0292	
2	10.193	10.201	-0.008	103081507	0.0250	0.0317	
						RPD = 8.15	
14 4,4'-DDE							
1	12.618	12.620	-0.002	3535297		0.000455	
2	13.162	13.169	-0.007	1750255		0.000281	
						RPD = 47.25	
18 Endrin							
1	13.560	13.561	-0.001	1227878611	0.1250	0.1511	
2	13.966	13.971	-0.005	694805803	0.1250	0.1666	E
						RPD = 9.75	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
19 4,4'-DDD							
1	13.752	13.759	-0.007	4616053		0.000584	
2	14.252	14.259	-0.007	4782284		0.001160	
						RPD = 65.99	
21 4,4'-DDT							
1	14.268	14.272	-0.004	2493600640	0.2500	0.2740	E
2	14.821	14.829	-0.008	1275091206	0.2500	0.3325	E
						RPD = 19.28	
24 Endrin aldehyde							
1	14.779	14.774	0.005	23817651		0.003264	
2	15.007	15.009	-0.002	32915069		0.007523	
						RPD = 78.96	
25 Methoxychlor							
1	15.202	15.207	-0.005	2469963958	0.6250	0.6525	
2	16.091	16.099	-0.008	1198310666	0.6250	0.7506	
						RPD = 13.98	
27 Endrin ketone							
1	16.050	16.051	-0.001	72177032		0.006748	
2	16.395	16.401	-0.006	59849904		0.009336	
						RPD = 32.18	
$ 28 DCB Decachlorobiphenyl							
1	17.544	17.546	-0.002	317476966	0.0500	0.0372	
2	18.061	18.064	-0.003	286246868	0.0500	0.0486	
						RPD = 26.44	

QC Flag Legend

Processing Flags

E - Exceeded Maximum Amount

Reagents:

Pest_PEM_00035	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 23-Sep-2019 09:46:51 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_002.d				
Injection Date:	22-Sep-2019 12:15:26	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	pem			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		

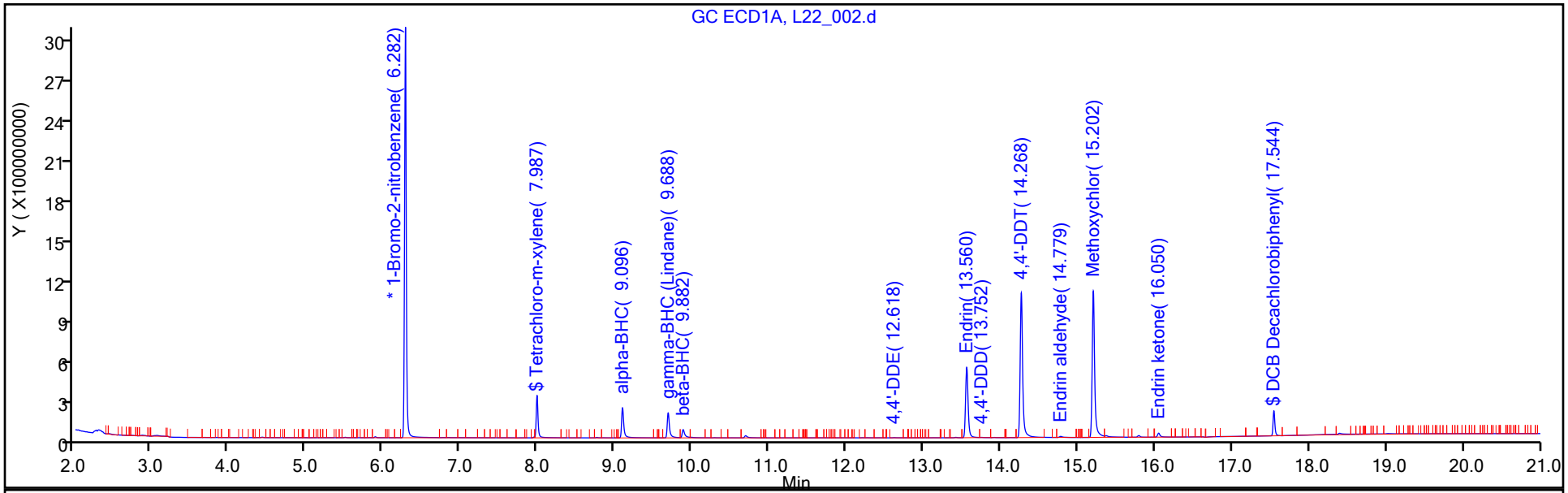

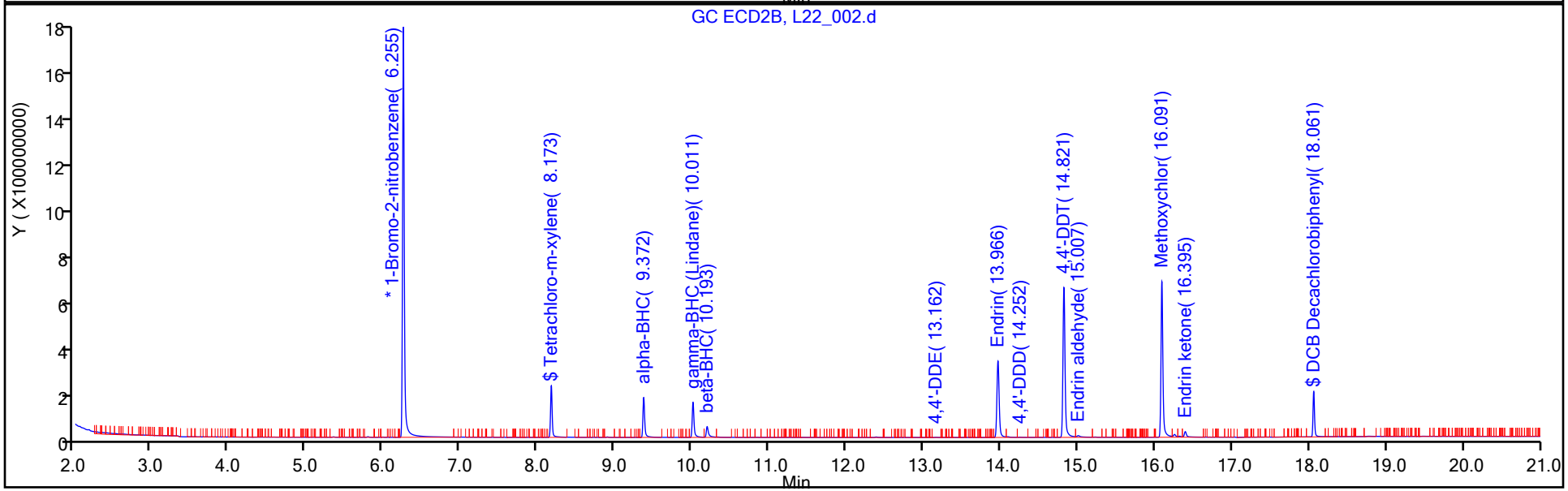

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab Sample ID: ICV 600-275356/9 Calibration Date: 09/22/2019 15:33

Instrument ID: CHECD09 Calib Start Date: 09/22/2019 12:43

GC Column: RTX-CLP1 ID: 0.32(mm) Calib End Date: 09/22/2019 15:04

Lab File ID: L22_009.d Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
alpha-BHC	Ave	164.4	155.5		0.0474	0.0501	-5.4	20.0
gamma-BHC (Lindane)	Ave	133.8	123.2		0.0461	0.0501	-7.9	20.0
beta-BHC	Ave	54.93	48.92		0.0446	0.0501	-10.9	20.0
delta-BHC	Ave	135.5	129.2		0.0478	0.0501	-4.6	20.0
Heptachlor	Ave	141.7	136.8		0.0484	0.0501	-3.4	20.0
Aldrin	Ave	136.2	129.6		0.0476	0.0501	-4.9	20.0
Heptachlor epoxide	Ave	119.7	107.3		0.0449	0.0501	-10.4	20.0
Chlordane (trans)	Ave	123.0	117.0		0.0476	0.0501	-4.9	20.0
cis-Chlordane	Ave	115.2	110.3		0.0479	0.0501	-4.3	20.0
4,4'-DDE	Ave	80.20	68.34		0.0427	0.0501	-14.8	20.0
Endosulfan I	Lin		133.0		0.0426	0.0501	-14.9	15.0
Dieldrin	Ave	120.2	115.0		0.0479	0.0501	-4.4	20.0
Endrin	Ave	83.89	76.15		0.0455	0.0501	-9.2	20.0
4,4'-DDD	Ave	81.54	76.82		0.0472	0.0501	-5.8	20.0
Endosulfan II	Ave	99.25	102.2		0.0516	0.0501	3.0	20.0
4,4'-DDT	Ave	93.95	90.35		0.0482	0.0501	-3.8	20.0
Endrin aldehyde	Ave	75.32	74.84		0.0498	0.0501	-0.6	20.0
Methoxychlor	Ave	39.08	39.61		0.0508	0.0501	1.3	20.0
Endosulfan sulfate	Ave	90.16	83.20		0.0462	0.0501	-7.7	20.0
Endrin ketone	Ave	110.4	104.3		0.0473	0.0501	-5.5	20.0
Tetrachloro-m-xylene	Ave	114.5	107.1		0.00234	0.00250	-6.4	20.0
DCB Decachlorobiphenyl	Ave	88.07	84.92		0.00241	0.00250	-3.6	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab Sample ID: ICV 600-275356/9 Calibration Date: 09/22/2019 15:33

Instrument ID: CHECD09 Calib Start Date: 09/22/2019 12:43

GC Column: RTX-CLP1 ID: 0.32(mm) Calib End Date: 09/22/2019 15:04

Lab File ID: L22_009.d

Analyte	RT	RT WINDOW	
		FROM	TO
alpha-BHC	9.09	9.07	9.11
gamma-BHC (Lindane)	9.68	9.67	9.71
beta-BHC	9.89	9.87	9.91
delta-BHC	10.19	10.17	10.21
Heptachlor	10.50	10.48	10.52
Aldrin	10.99	10.97	11.01
Heptachlor epoxide	11.98	11.96	12.00
Chlordane (trans)	12.19	12.17	12.21
cis-Chlordane	12.43	12.41	12.45
4,4'-DDE	12.63	12.60	12.64
Endosulfan I	12.67	12.65	12.69
Dieldrin	13.13	13.11	13.15
Endrin	13.56	13.54	13.58
4,4'-DDD	13.77	13.74	13.78
Endosulfan II	13.99	13.97	14.01
4,4'-DDT	14.28	14.25	14.29
Endrin aldehyde	14.78	14.75	14.79
Methoxychlor	15.22	15.19	15.23
Endosulfan sulfate	15.57	15.55	15.59
Endrin ketone	16.05	16.03	16.07
Tetrachloro-m-xylene	7.98	7.96	8.00
DCB Decachlorobiphenyl	17.55	17.53	17.57

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d
Lims ID: icv
Client ID:
Sample Type: ICV
Inject. Date: 22-Sep-2019 15:33:00 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031217-009
Operator ID: JL Instrument ID: CHECD09
Sublist:

Method: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\LVI_PEST_CHECD09.m
Limit Group: GCSV - 8081A
Last Update: 23-Sep-2019 10:43:45 Calib Date: 22-Sep-2019 15:04:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_008.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0327

First Level Reviewer: lamj Date: 23-Sep-2019 10:43:45

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.275	6.276	-0.001	4718828518	50.0	50.0	
2	6.274	6.257	0.017	3016302570	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							Ma
1	7.981	7.984	-0.003	25306407	0.002504	0.002343	M
2	8.197	8.175	0.022	14130089	0.002504	0.002042	a
						RPD = 13.73	
3 alpha-BHC							a
1	9.090	9.093	-0.003	734773319	0.0501	0.0474	a
2	9.397	9.374	0.023	457409005	0.0501	0.0481	a
						RPD = 1.63	
4 gamma-BHC (Lindane)							a
1	9.684	9.686	-0.002	582331778	0.0501	0.0461	a
2	10.038	10.014	0.024	375780549	0.0501	0.0464	a
						RPD = 0.68	
5 beta-BHC							a
1	9.887	9.887	0.000	231216563	0.0501	0.0446	a
2	10.228	10.201	0.027	150422031	0.0501	0.0453	a
						RPD = 1.61	
7 delta-BHC							a
1	10.191	10.189	0.002	610665449	0.0501	0.0478	a
2	10.710	10.684	0.026	254165769	0.0501	0.0450	a
						RPD = 5.98	
9 Heptachlor							a
1	10.496	10.499	-0.003	646701024	0.0501	0.0484	a
2	10.760	10.736	0.024	427089372	0.0501	0.0489	a
						RPD = 1.07	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 Aldrin							a
1	10.987	10.990	-0.003	612334803	0.0501	0.0476	a
2	11.272	11.248	0.024	387642433	0.0501	0.0468	a
						RPD = 1.83	
11 Heptachlor epoxide							a
1	11.976	11.979	-0.003	507063159	0.0501	0.0449	a
2	12.207	12.181	0.026	311740398	0.0501	0.0443	a
						RPD = 1.25	
12 trans-Chlordane							a
1	12.193	12.194	-0.001	553074655	0.0501	0.0476	a
2	12.551	12.522	0.029	347656695	0.0501	0.0471	a
						RPD = 1.04	
13 cis-Chlordane							a
1	12.426	12.429	-0.003	521298951	0.0501	0.0479	a
2	12.828	12.798	0.030	314282239	0.0501	0.0460	a
						RPD = 4.19	
14 4,4'-DDE							Ma
1	12.627	12.620	0.007	322981018	0.0501	0.0427	M
2	13.202	13.169	0.033	277445799	0.0501	0.0437	a
						RPD = 2.31	
15 Endosulfan I							a
1	12.667	12.670	-0.003	628475531	0.0501	0.0426	a
2	12.920	12.890	0.030	316520815	0.0501	0.0453	a
						RPD = 6.01	
16 Dieldrin							a
1	13.126	13.128	-0.002	543321029	0.0501	0.0479	a
2	13.439	13.409	0.030	316534770	0.0501	0.0456	a
						RPD = 4.98	
18 Endrin							Ma
1	13.559	13.561	-0.002	359898565	0.0501	0.0455	M
2	14.002	13.971	0.031	176892443	0.0501	0.0416	a
						RPD = 8.95	
19 4,4'-DDD							Ma
1	13.768	13.759	0.009	363097220	0.0501	0.0472	M
2	14.297	14.259	0.038	165526875	0.0501	0.0393	a
						RPD = 18.12	
20 Endosulfan II							Ma
1	13.992	13.992	0.000	483214890	0.0501	0.0516	M
2	14.411	14.380	0.031	294794363	0.0501	0.0448	a
						RPD = 14.05	
21 4,4'-DDT							Ma
1	14.278	14.272	0.006	427008259	0.0501	0.0482	M
2	14.862	14.829	0.033	165436376	0.0501	0.0423	a
						RPD = 13.02	
24 Endrin aldehyde							a
1	14.776	14.774	0.002	353725964	0.0501	0.0498	a
2	15.041	15.009	0.032	204377615	0.0501	0.0458	a
						RPD = 8.34	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
25 Methoxychlor							a
1	15.221	15.207	0.014	187200705	0.0501	0.0508	
2	16.131	16.099	0.032	67860222	0.0501	0.0416	a
						RPD = 19.71	
26 Endosulfan sulfate							a
1	15.573	15.571	0.002	393228338	0.0501	0.0462	a
2	15.547	15.517	0.030	230028161	0.0501	0.0419	a
						RPD = 9.75	
27 Endrin ketone							a
1	16.053	16.051	0.002	493176250	0.0501	0.0473	a
2	16.426	16.401	0.025	263371384	0.0501	0.0403	a
						RPD = 16.13	
$ 28 DCB Decachlorobiphenyl							
1	17.548	17.546	0.002	20068507	0.002504	0.002414	
2	18.073	18.064	0.009	13924651	0.002504	0.002314	
						RPD = 4.23	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

PEST ICV_00027	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 23-Sep-2019 10:43:51 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	icv			Worklist Smp#:	9
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		

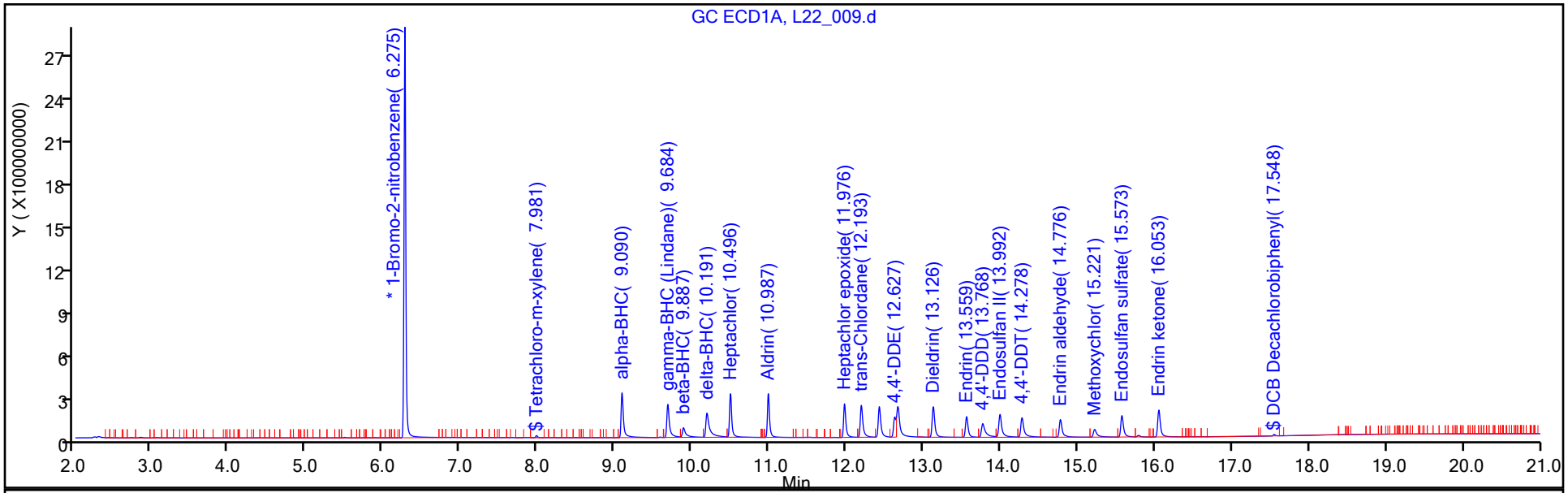

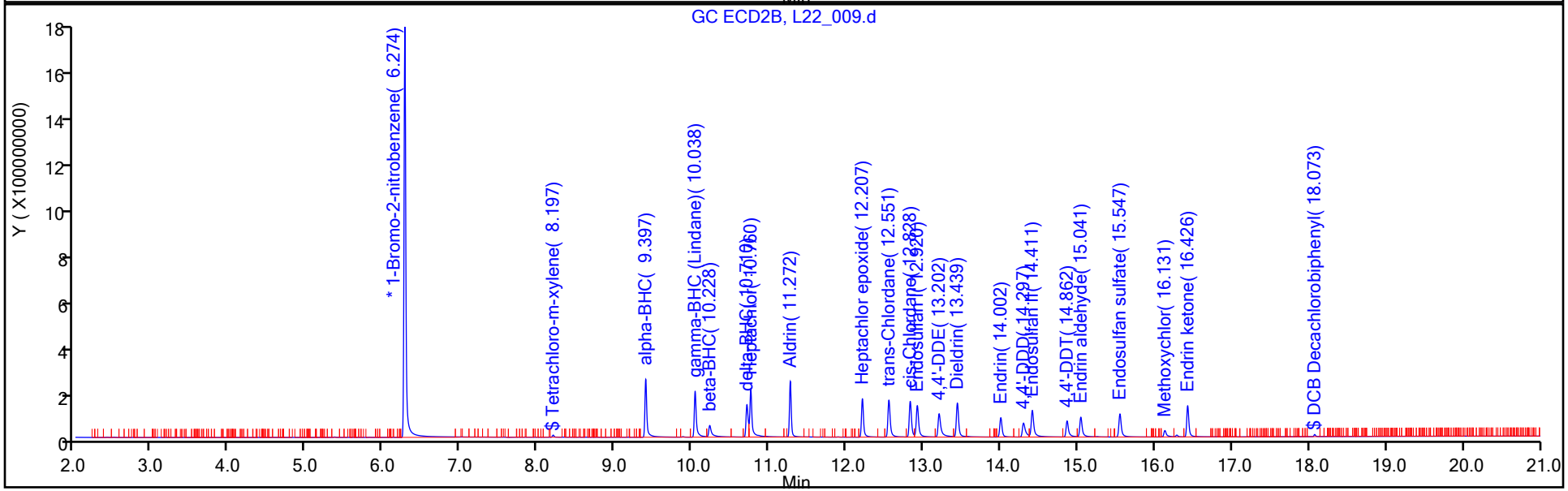

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09		
Lims ID:	icv				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

$ 2 Tetrachloro-m-xylene, CAS: 877-09-8

Signal: 1

Not Detected
Expected RT: 7.98

Processing Integration Results

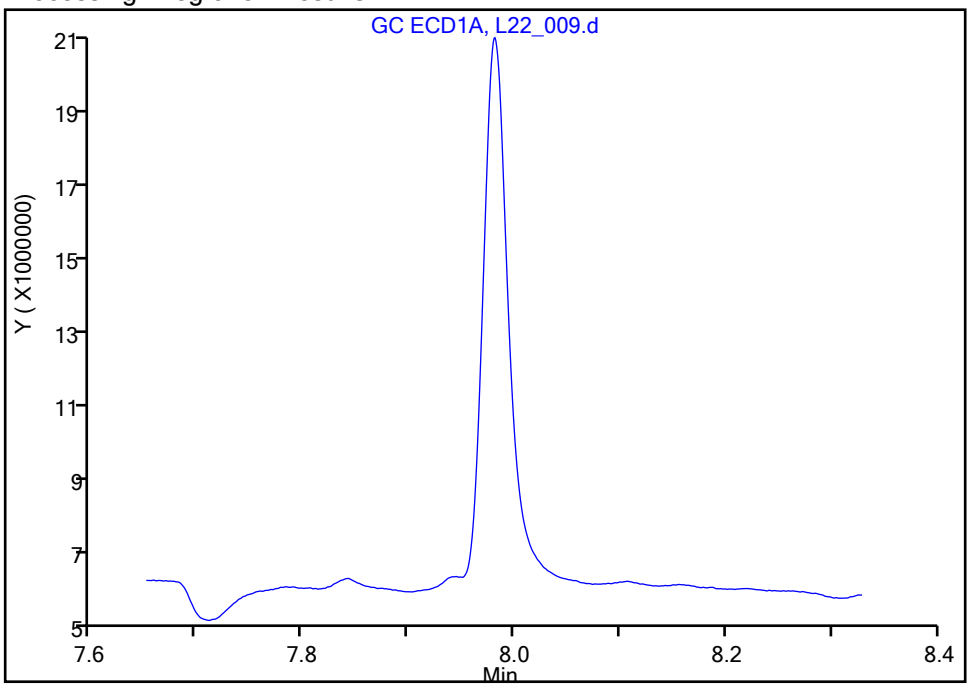

RT: 7.98
Area: 25306407
Amount: 0.002343
Amount Units: ug/ml

Manual Integration Results

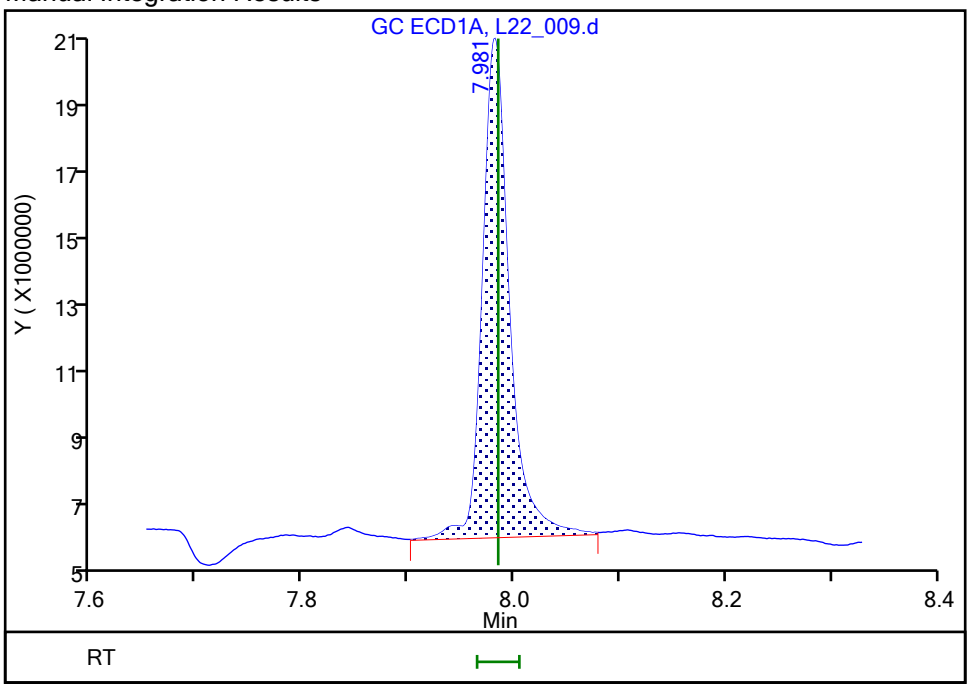

Reviewer: lamj, 23-Sep-2019 10:43:36
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09		
Lims ID:	icv				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

3 alpha-BHC, CAS: 319-84-6

Signal: 1

Not Detected
Expected RT: 9.09

Processing Integration Results

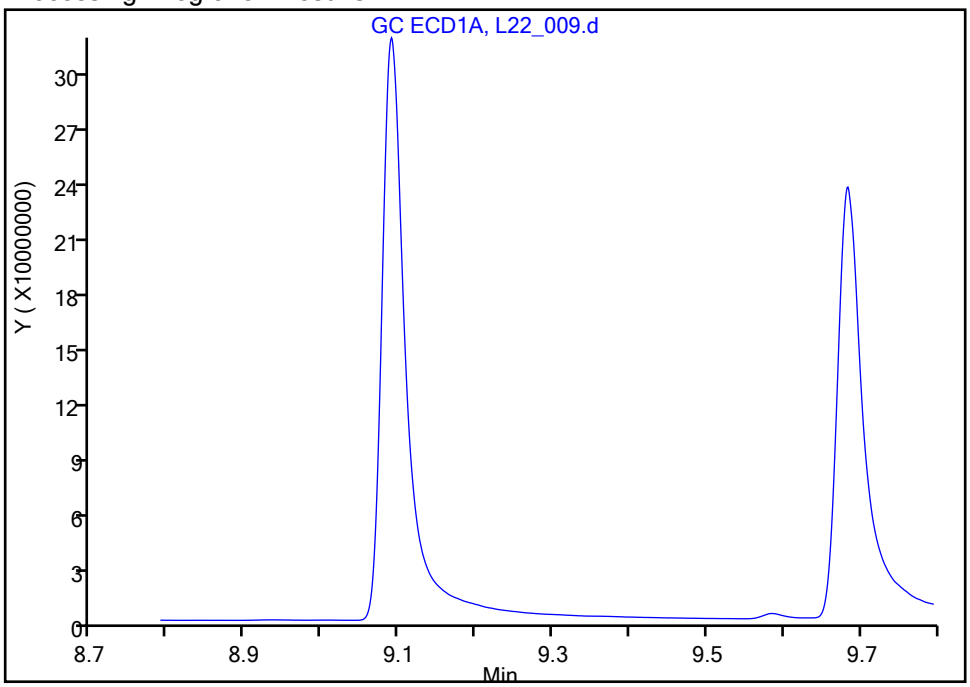

Manual Integration Results

RT: 9.09
Area: 734773319
Amount: 0.047353
Amount Units: ug/ml

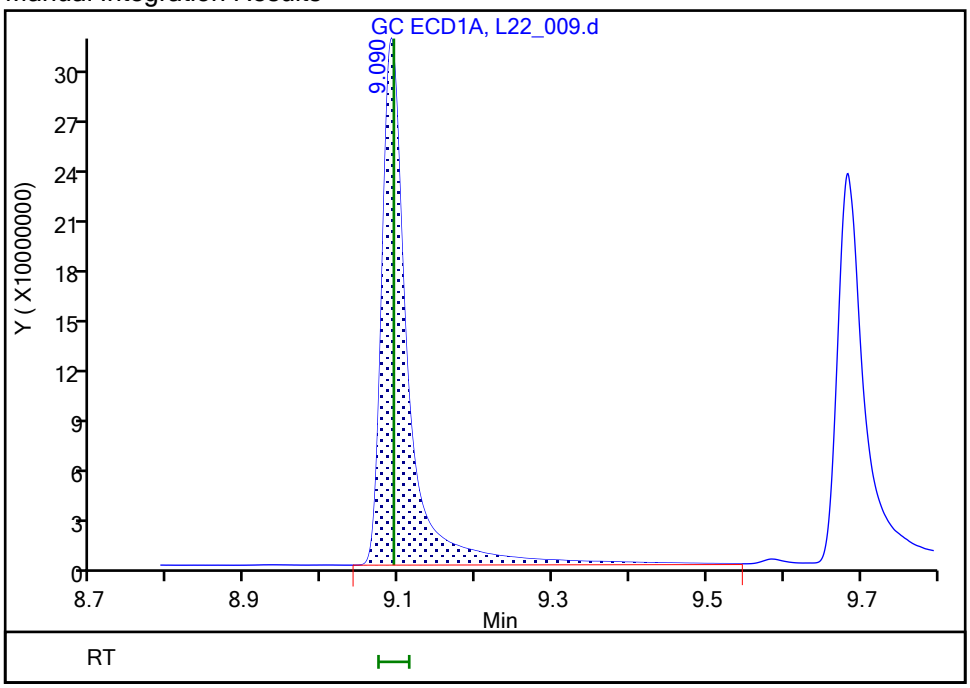

Reviewer: lamj, 23-Sep-2019 09:32:27
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09		
Lims ID:	icv				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

4 gamma-BHC (Lindane), CAS: 58-89-9

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 9.69

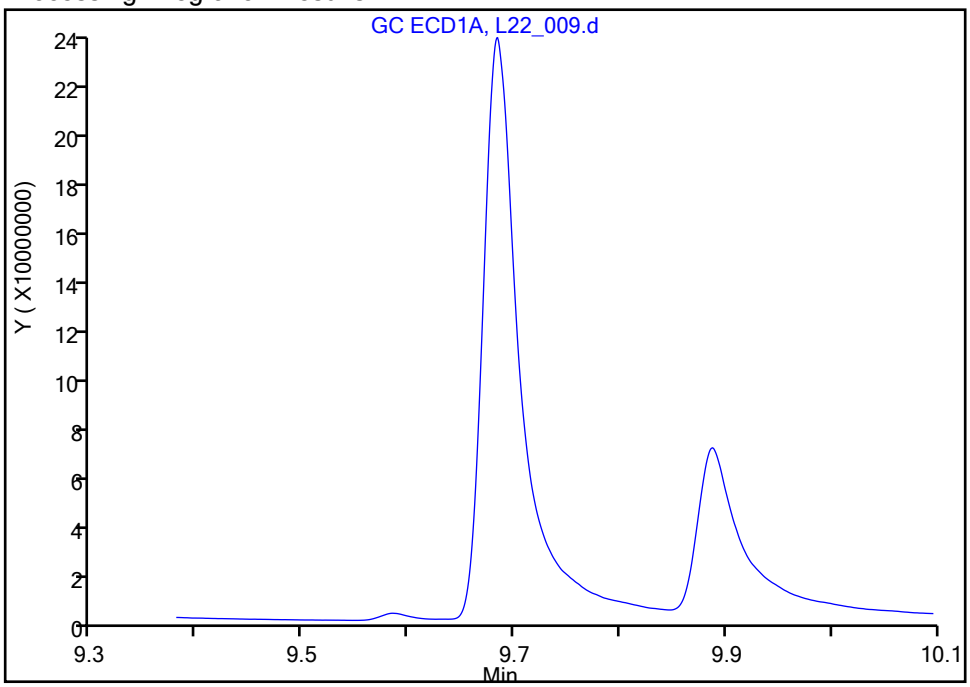

Manual Integration Results

RT: 9.68
Area: 582331778
Amount: 0.046131
Amount Units: ug/ml

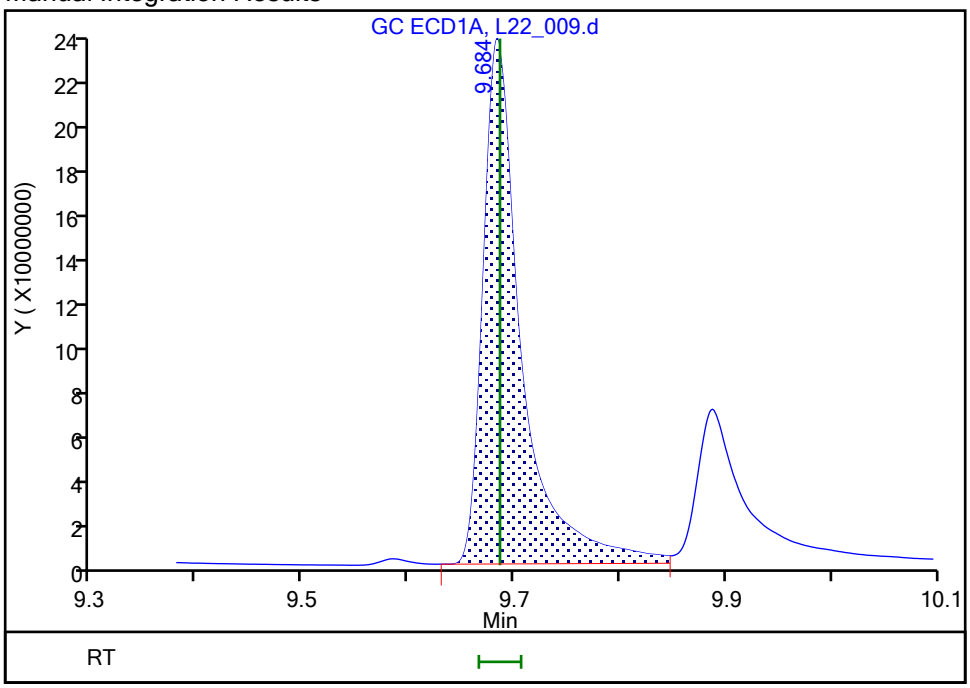

Reviewer: lamj, 23-Sep-2019 09:32:34
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09		
Lims ID:	icv				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

5 beta-BHC, CAS: 319-85-7

Signal: 1

Not Detected
Expected RT: 9.89

Processing Integration Results

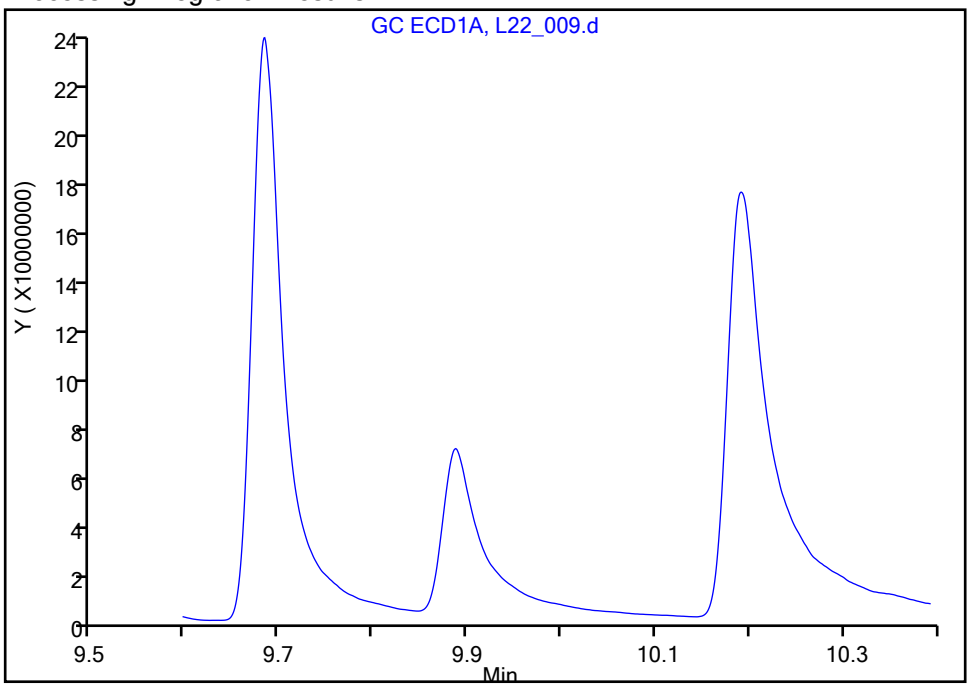

Manual Integration Results

RT:	9.89
Area:	231216563
Amount:	0.044600
Amount Units:	ug/ml

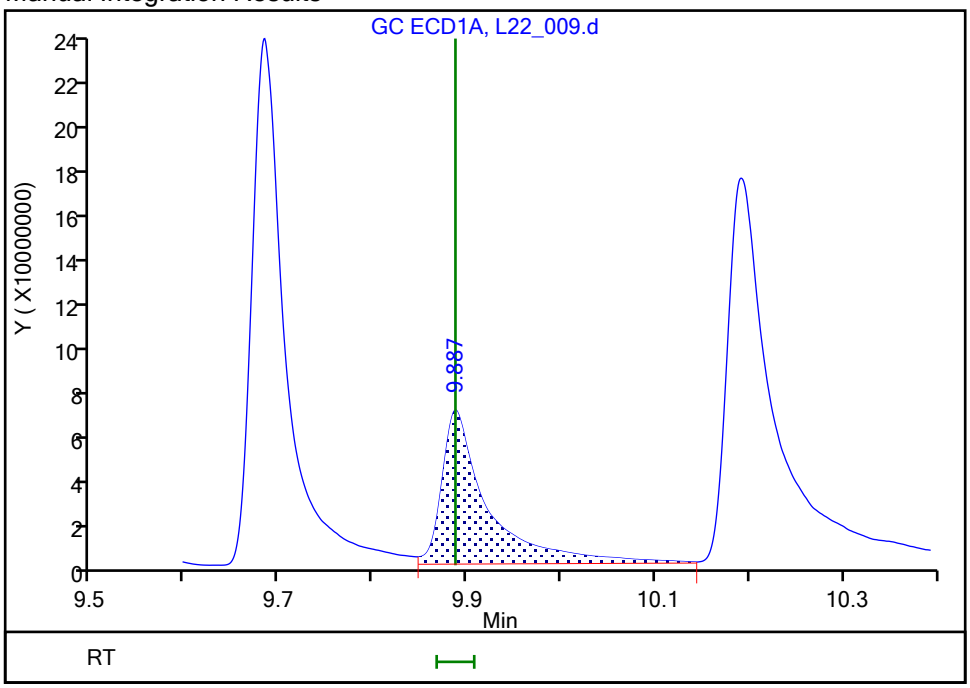

Reviewer: lamj, 23-Sep-2019 09:32:40
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09		
Lims ID:	icv				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

7 delta-BHC, CAS: 319-86-8

Signal: 1

Not Detected
Expected RT: 10.19

Processing Integration Results

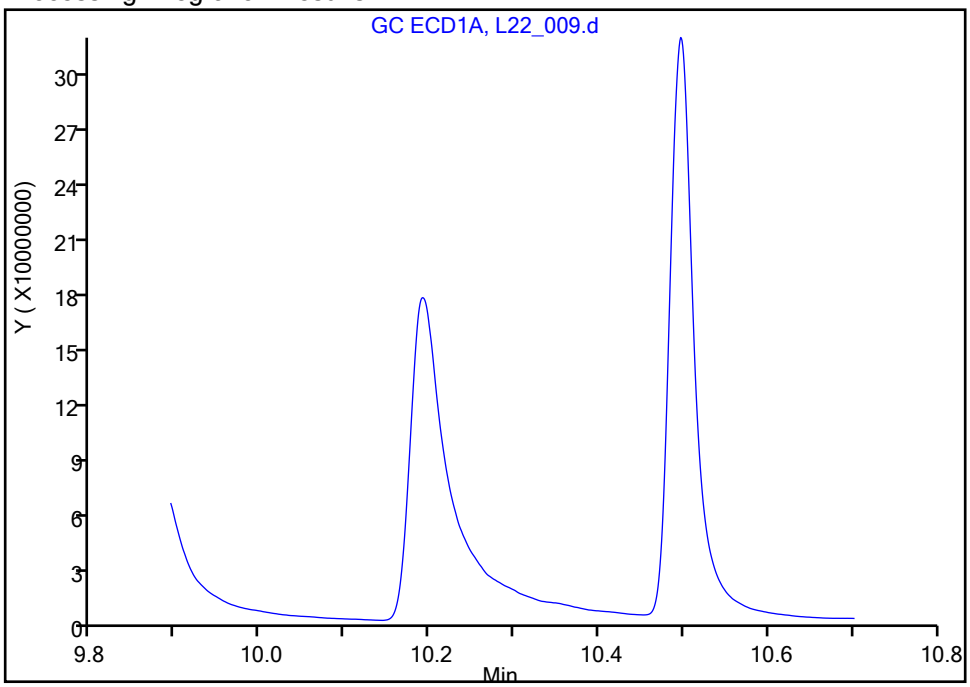

RT: 10.19
Area: 610665449
Amount: 0.047757
Amount Units: ug/ml

Manual Integration Results

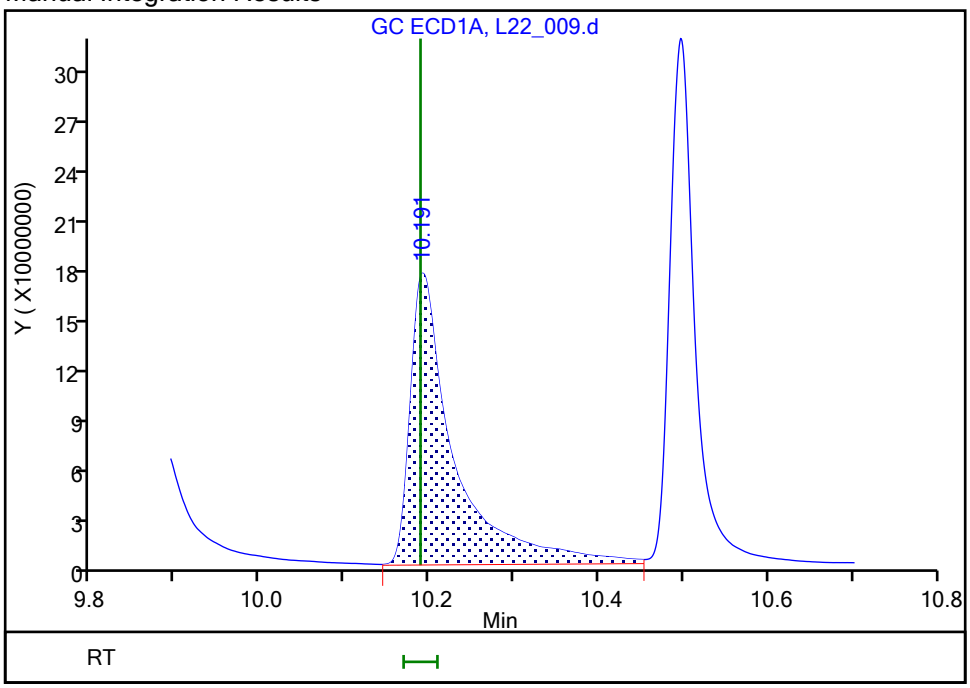

Reviewer: lamj, 23-Sep-2019 09:32:48
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09		
Lims ID:	icv				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

9 Heptachlor, CAS: 76-44-8

Signal: 1

Not Detected
Expected RT: 10.50

Processing Integration Results

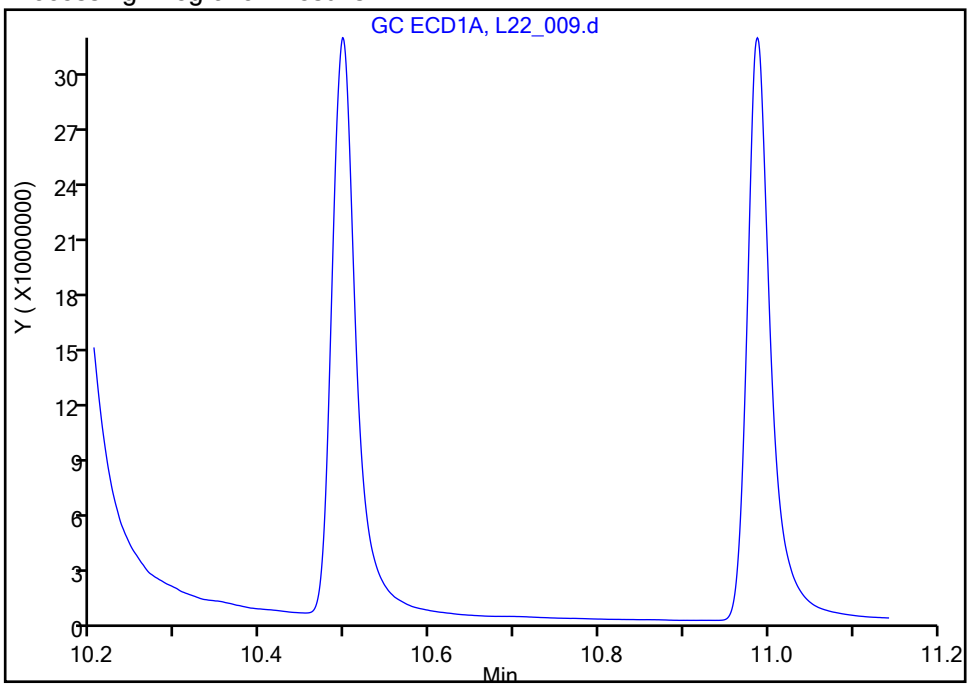

Manual Integration Results

RT: 10.50
Area: 646701024
Amount: 0.048365
Amount Units: ug/ml

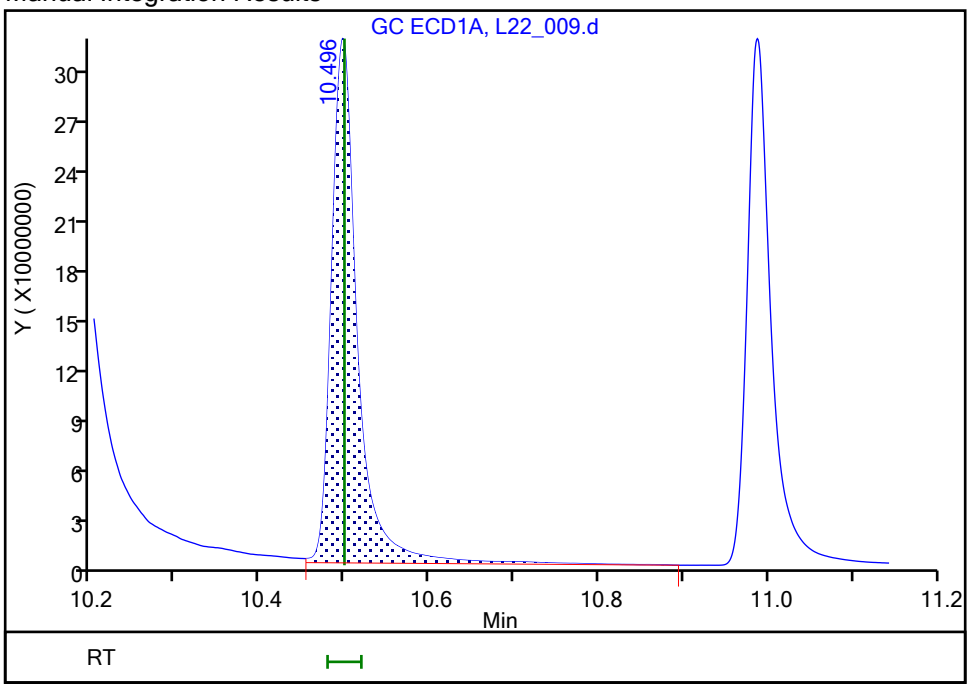

Reviewer: lamj, 23-Sep-2019 09:32:55
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09		
Lims ID:	icv				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

10 Aldrin, CAS: 309-00-2

Signal: 1

Not Detected
Expected RT: 10.99

Processing Integration Results

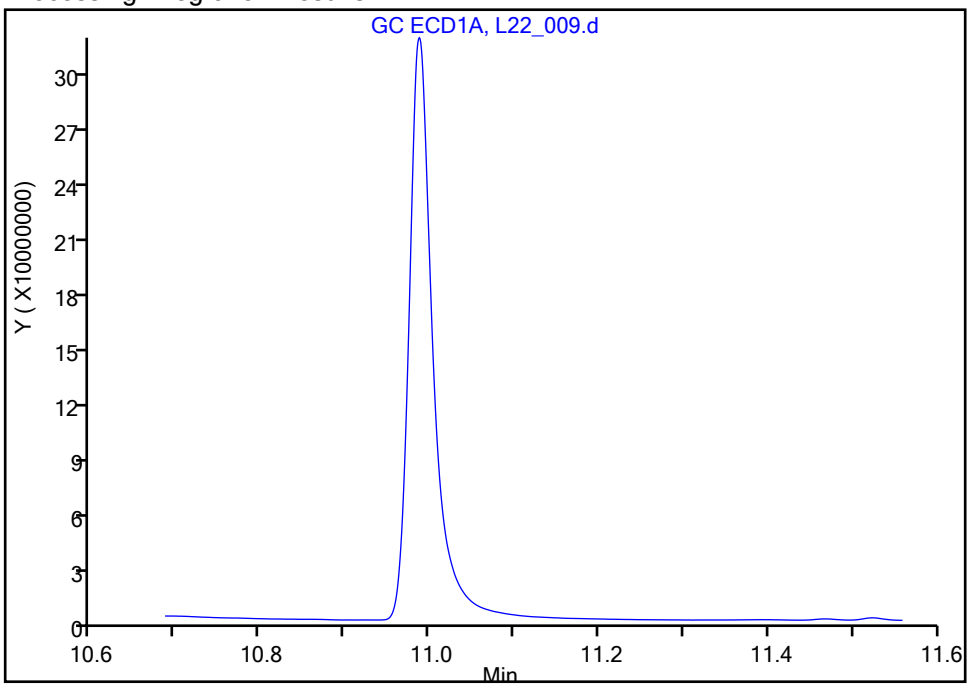

RT: 10.99
Area: 612334803
Amount: 0.047626
Amount Units: ug/ml

Manual Integration Results

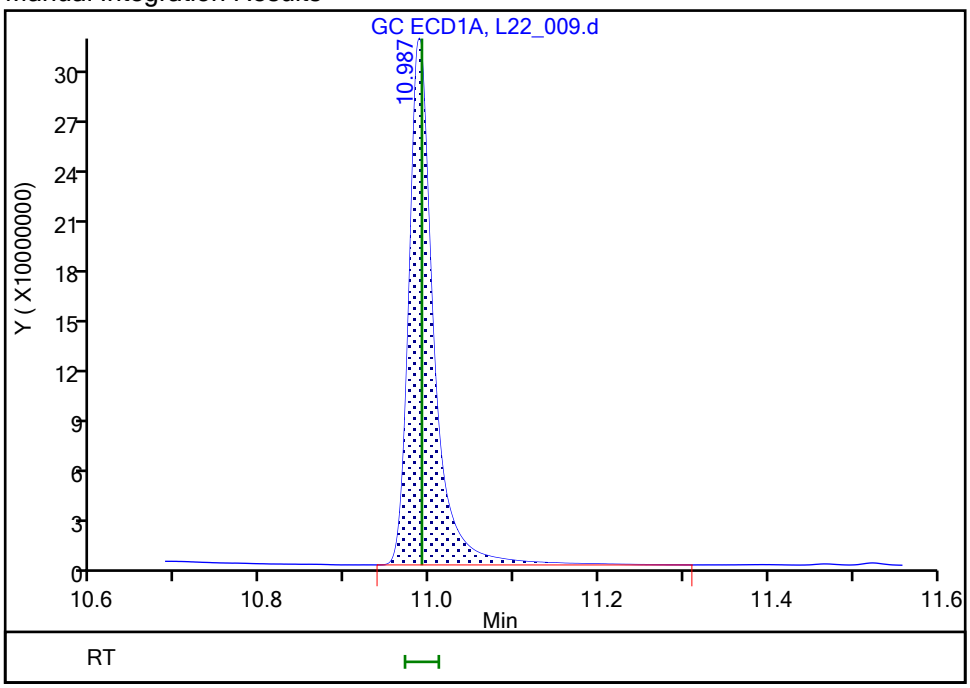

Reviewer: lamj, 23-Sep-2019 09:33:02
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09		
Lims ID:	icv				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

11 Heptachlor epoxide, CAS: 1024-57-3

Signal: 1

Not Detected
Expected RT: 11.98

Processing Integration Results

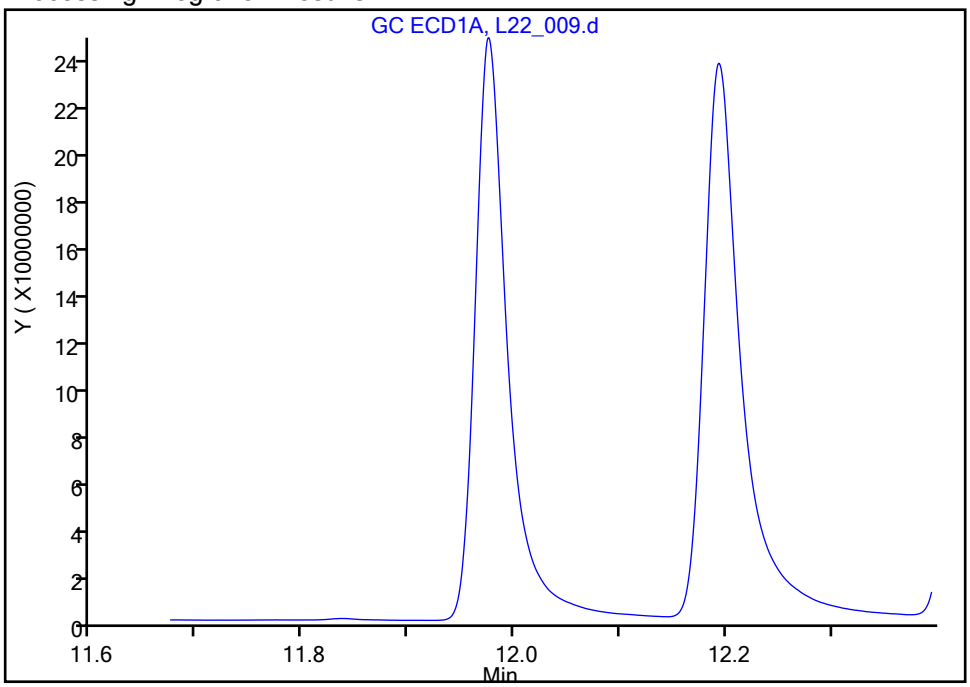

Manual Integration Results

RT:	11.98
Area:	507063159
Amount:	0.044895
Amount Units:	ug/ml

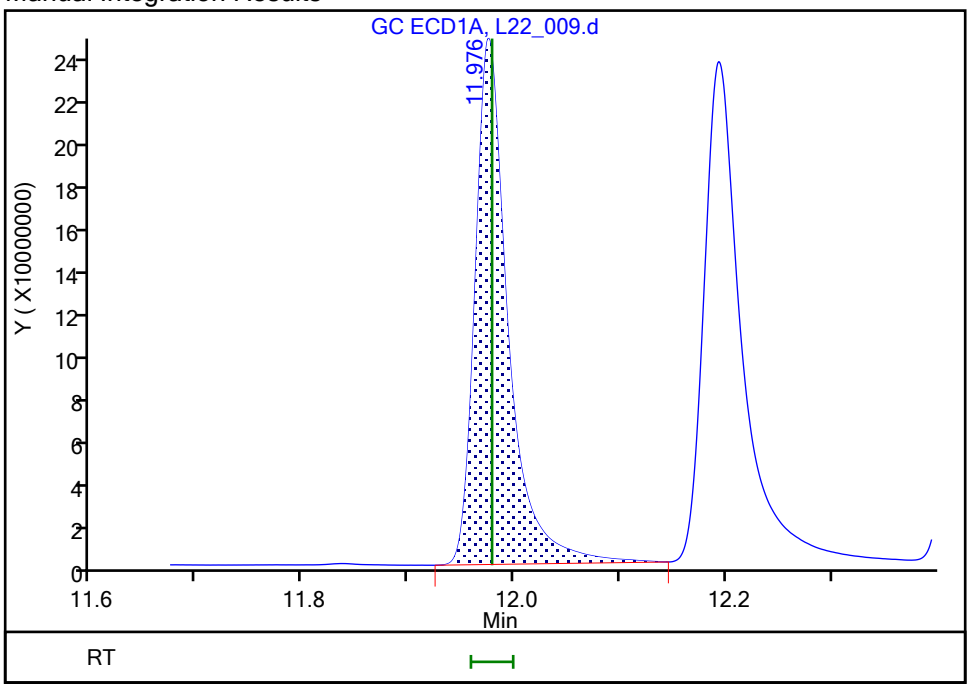

Reviewer: lamj, 23-Sep-2019 09:33:09
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09		
Lims ID:	icv				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

12 trans-Chlordane, CAS: 5103-74-2

Signal: 1

Not Detected
Expected RT: 12.19

Processing Integration Results

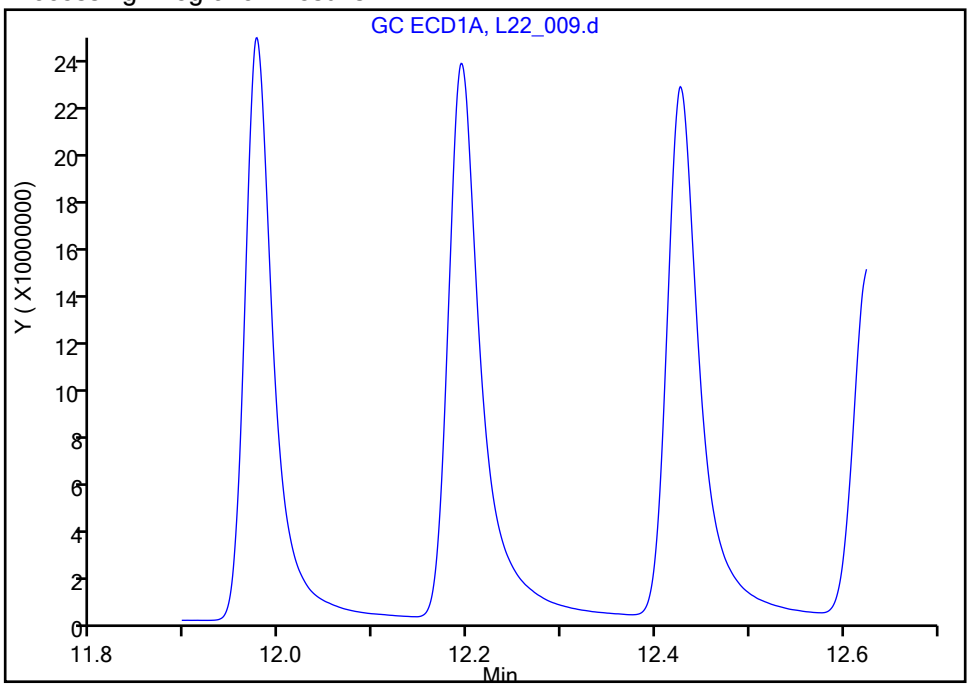

Manual Integration Results

RT:	12.19
Area:	553074655
Amount:	0.047632
Amount Units:	ug/ml

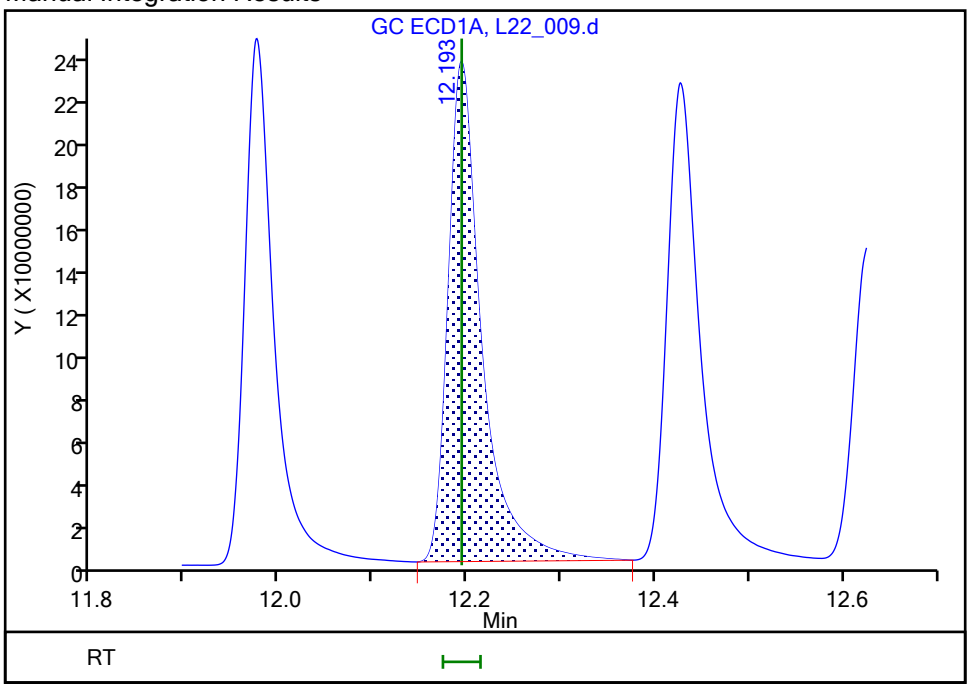

Reviewer: lamj, 23-Sep-2019 09:33:16
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09		
Lims ID:	icv				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

13 cis-Chlordane, CAS: 5103-71-9

Signal: 1

Not Detected
Expected RT: 12.43

Processing Integration Results

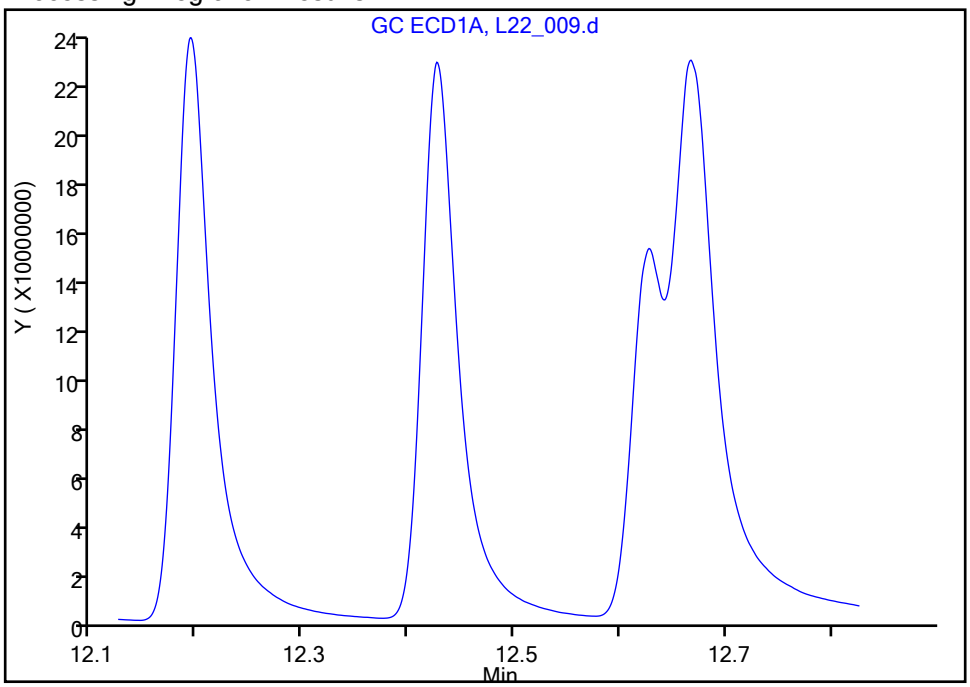

Manual Integration Results

RT:	12.43
Area:	521298951
Amount:	0.047947
Amount Units:	ug/ml

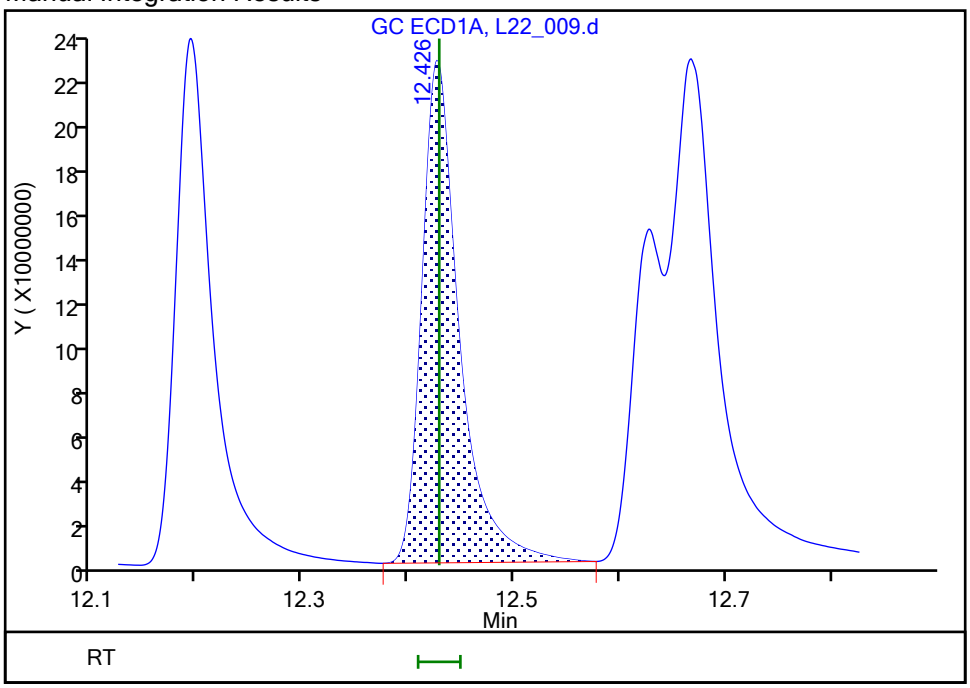

Reviewer: lamj, 23-Sep-2019 09:33:22
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09		
Lims ID:	icv				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

14 4,4'-DDE, CAS: 72-55-9

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 12.62

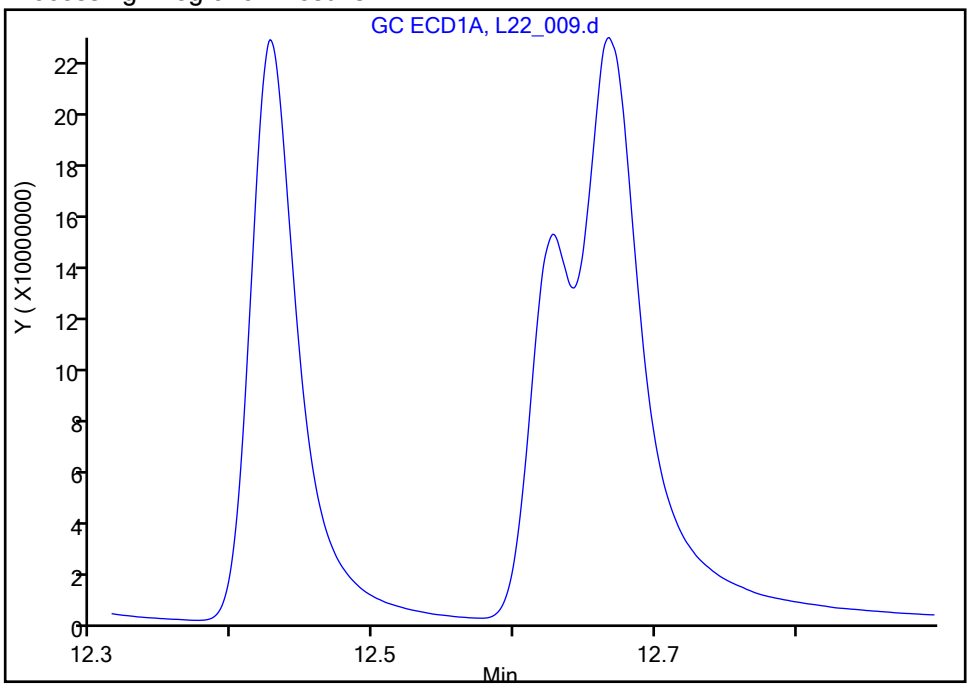

Manual Integration Results

RT: 12.63
Area: 322981018
Amount: 0.042672
Amount Units: ug/ml

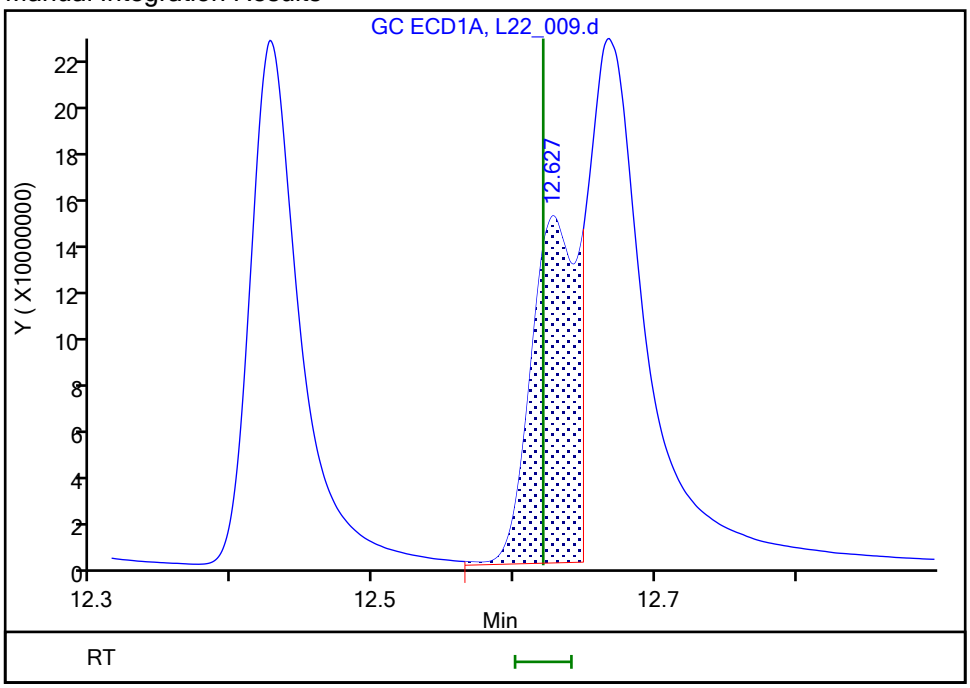

Reviewer: lamj, 23-Sep-2019 09:35:33
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09		
Lims ID:	icv				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

15 Endosulfan I, CAS: 959-98-8

Signal: 1

Not Detected
Expected RT: 12.67

Processing Integration Results

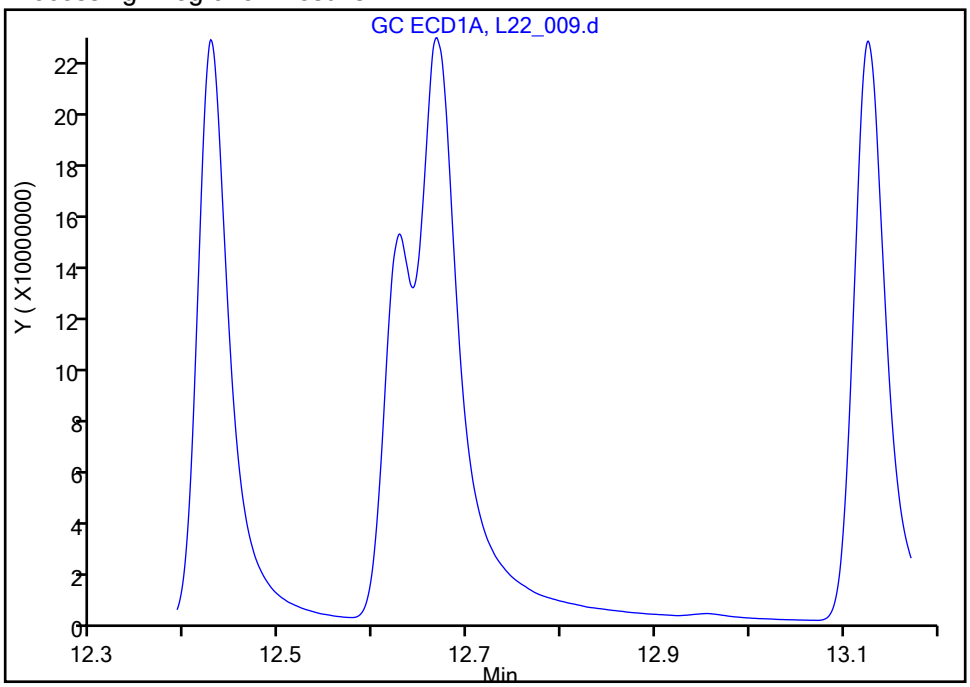

Manual Integration Results

RT:	12.67
Area:	628475531
Amount:	0.042631
Amount Units:	ug/ml

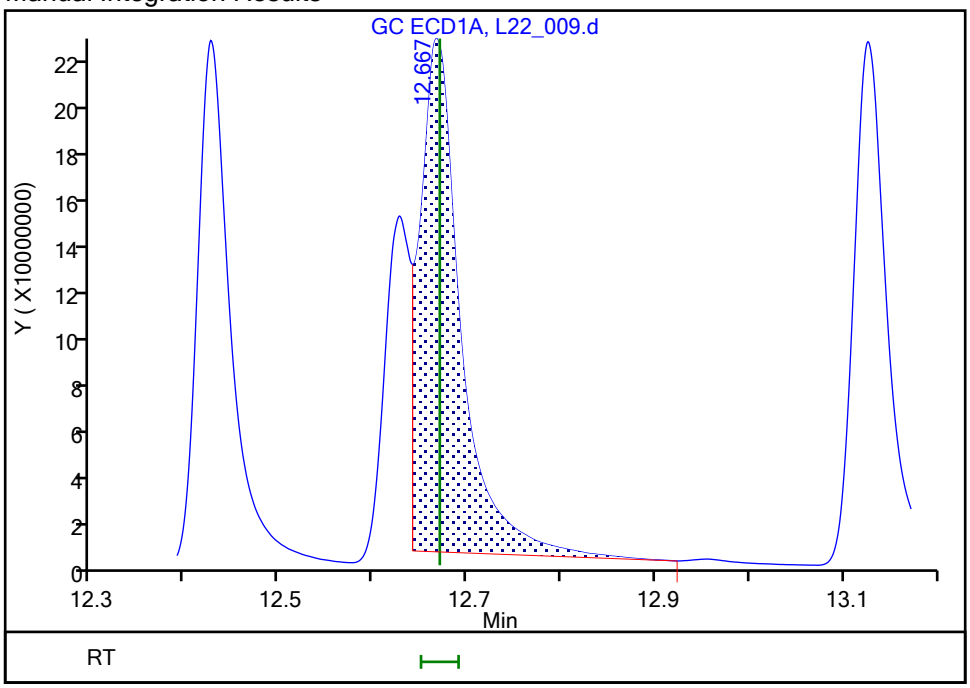

Reviewer: lamj, 23-Sep-2019 09:33:38
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09		
Lims ID:	icv				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

16 Dieldrin, CAS: 60-57-1

Signal: 1

Not Detected
Expected RT: 13.13

Processing Integration Results

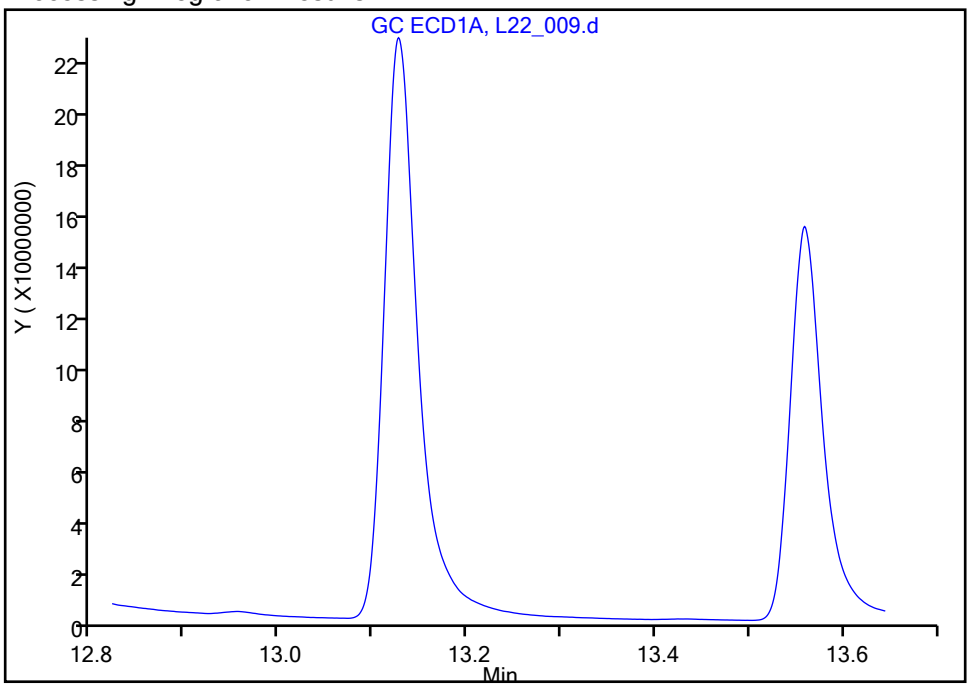

Manual Integration Results

RT:	13.13
Area:	543321029
Amount:	0.047896
Amount Units:	ug/ml

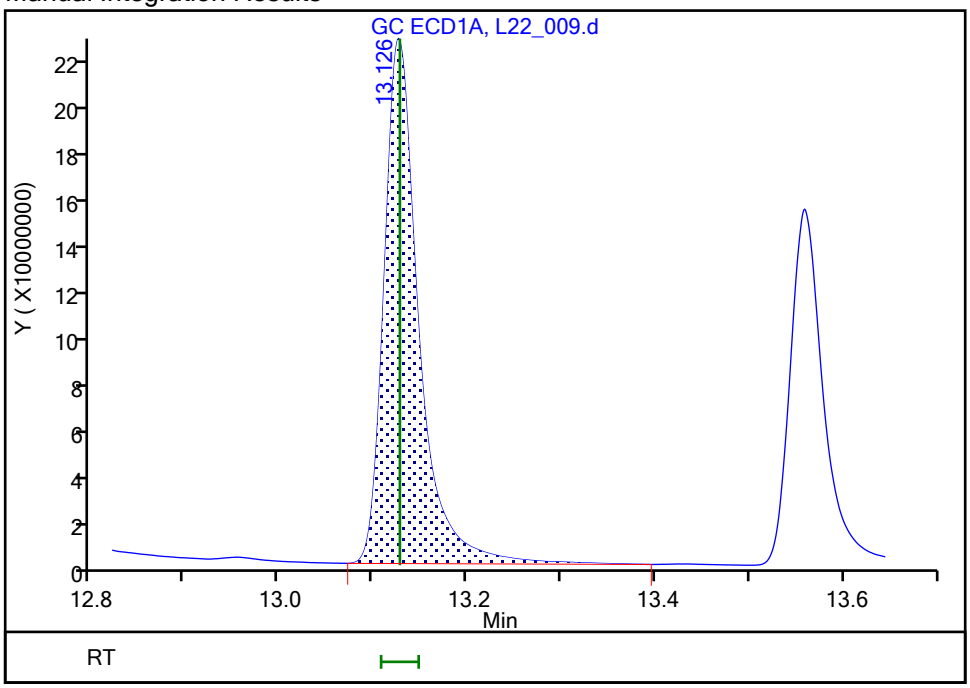

Reviewer: lamj, 23-Sep-2019 09:33:45
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09		
Lims ID:	icv				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

18 Endrin, CAS: 72-20-8

Signal: 1

Not Detected
Expected RT: 13.56

Processing Integration Results

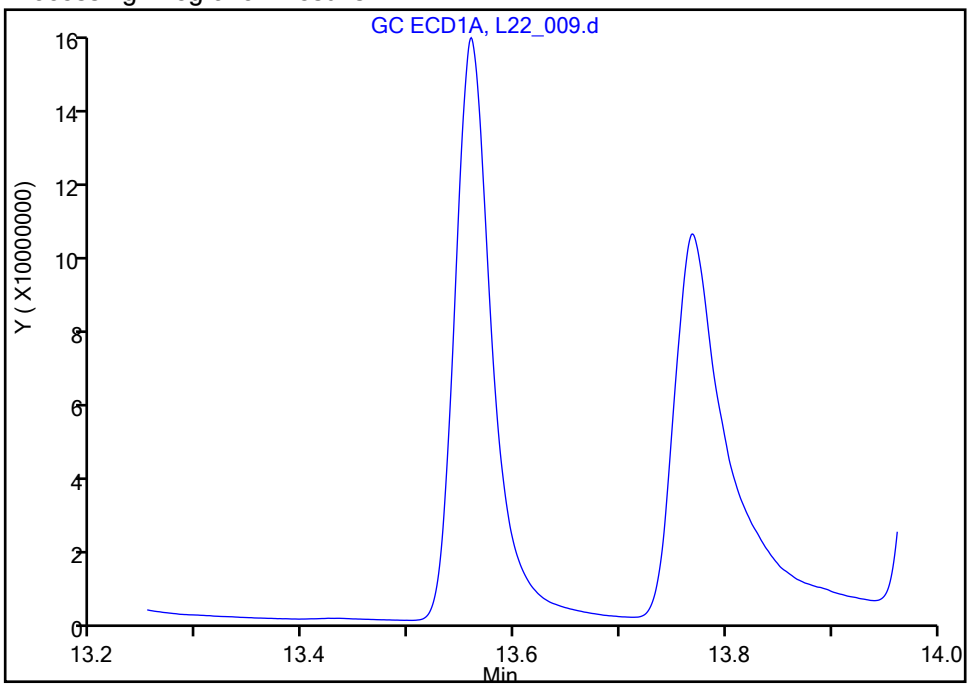

Manual Integration Results

RT:	13.56
Area:	359898565
Amount:	0.045457
Amount Units:	ug/ml

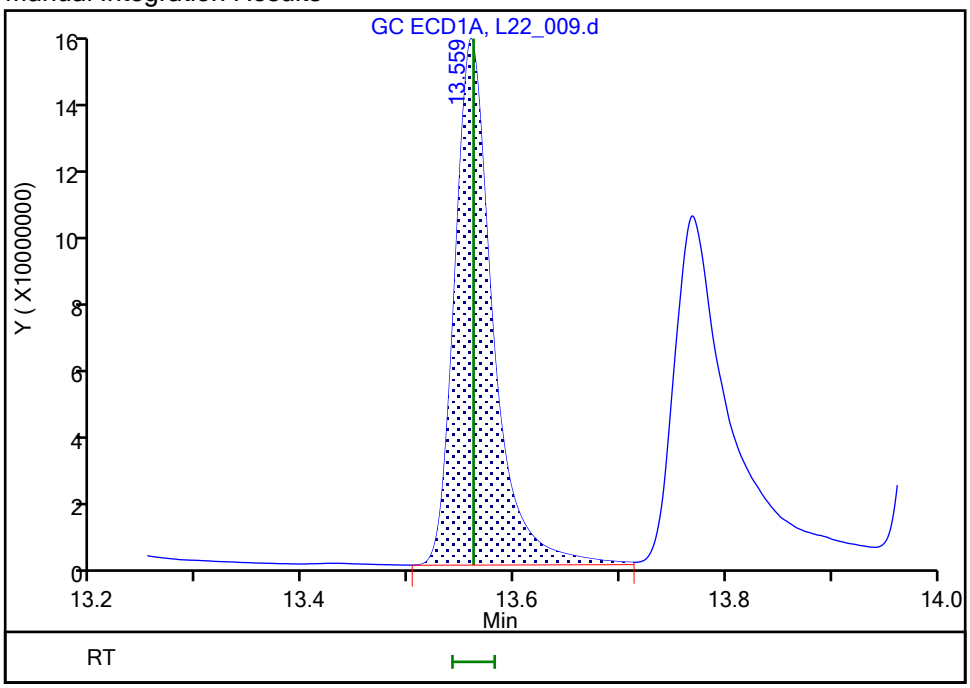

Reviewer: lamj, 23-Sep-2019 09:38:10
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09		
Lims ID:	icv				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

19 4,4'-DDD, CAS: 72-54-8

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 13.76

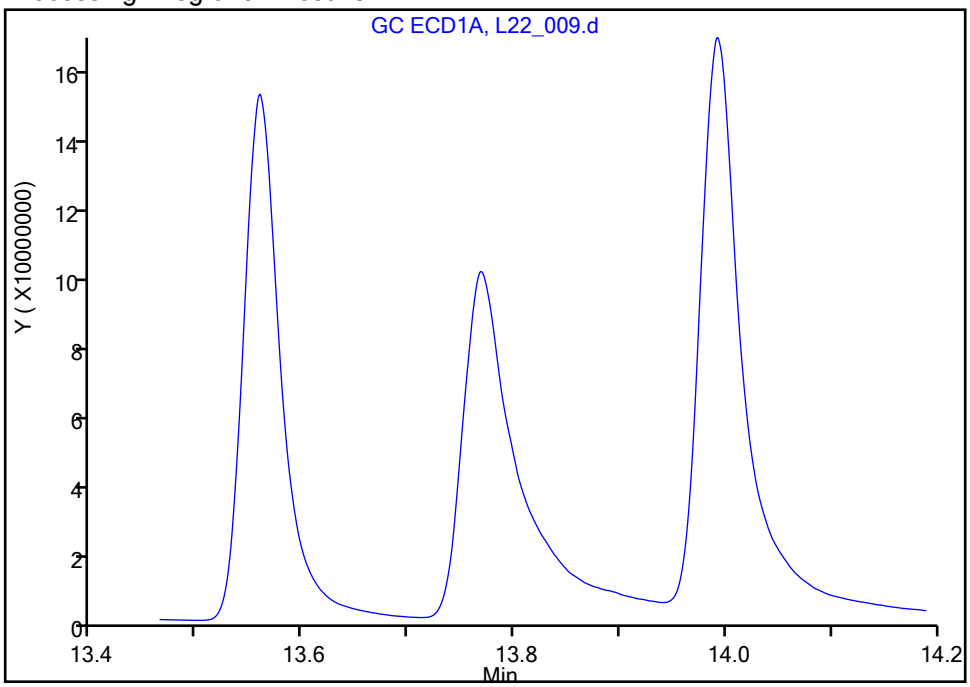

Manual Integration Results

RT:	13.77
Area:	363097220
Amount:	0.047183
Amount Units:	ug/ml

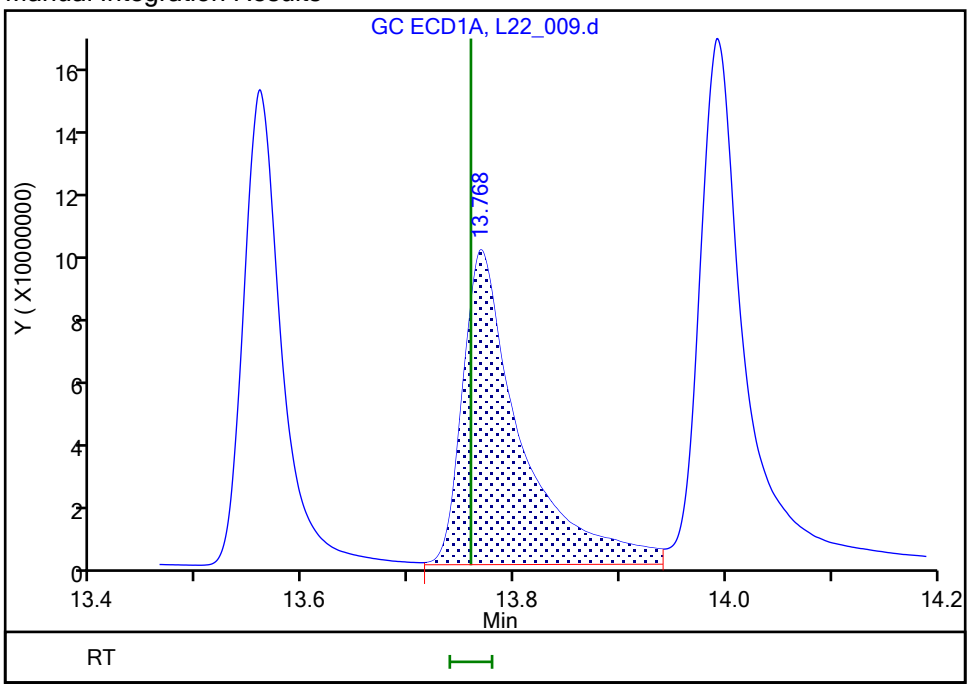

Reviewer: lamj, 23-Sep-2019 09:38:10
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09		
Lims ID:	icv				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

20 Endosulfan II, CAS: 33213-65-9

Signal: 1

Not Detected
Expected RT: 13.99

Processing Integration Results

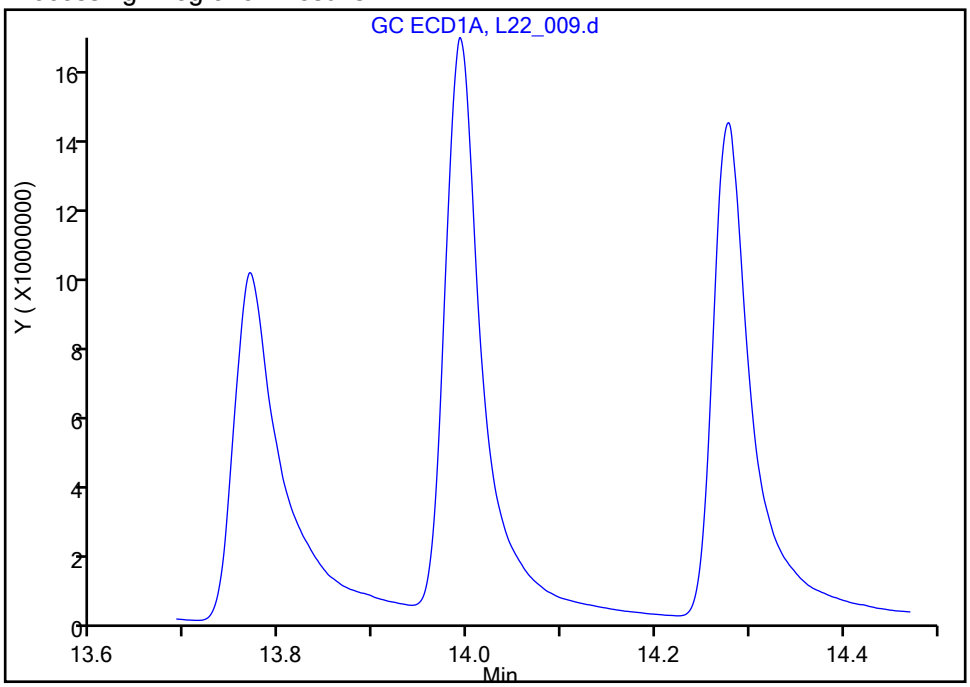

Manual Integration Results

RT:	13.99
Area:	483214890
Amount:	0.051586
Amount Units:	ug/ml

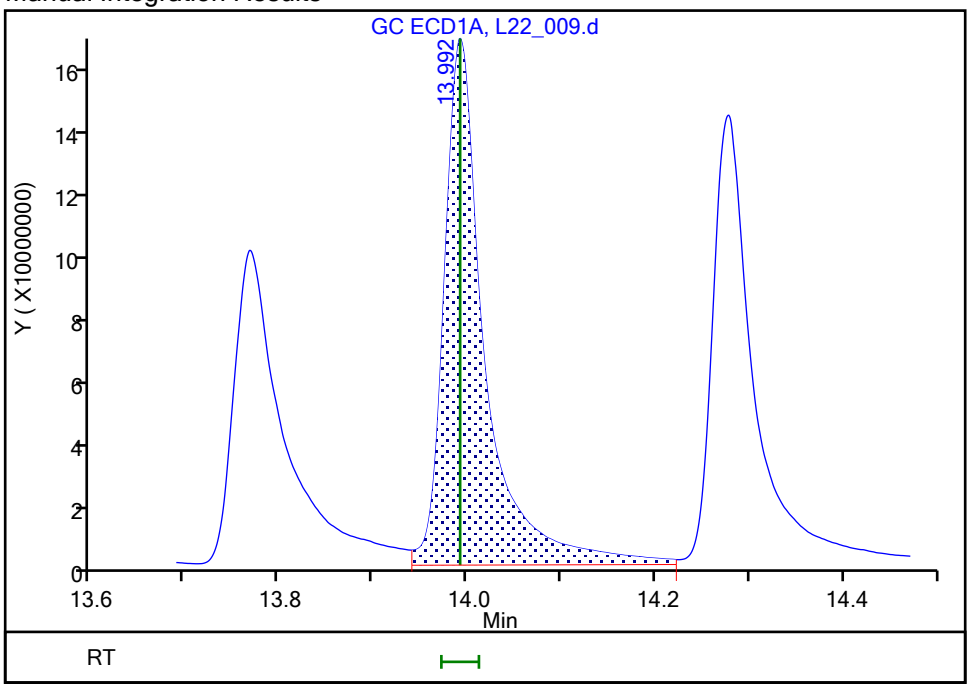

Reviewer: lamj, 23-Sep-2019 09:38:10
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09		
Lims ID:	icv				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

21 4,4'-DDT, CAS: 50-29-3

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 14.27

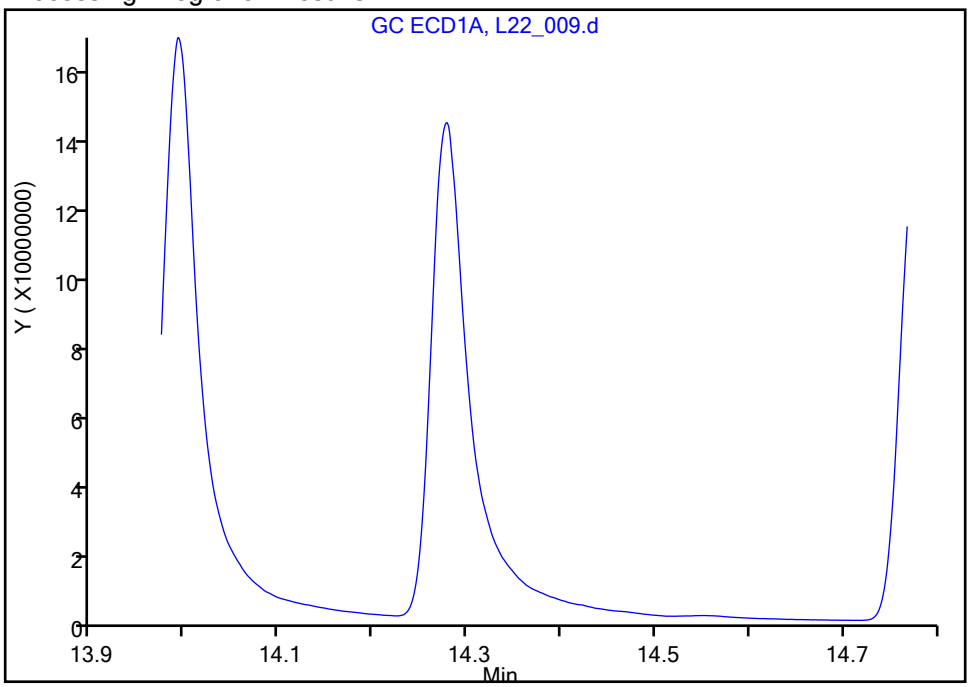

Manual Integration Results

RT: 14.28
Area: 427008259
Amount: 0.048157
Amount Units: ug/ml

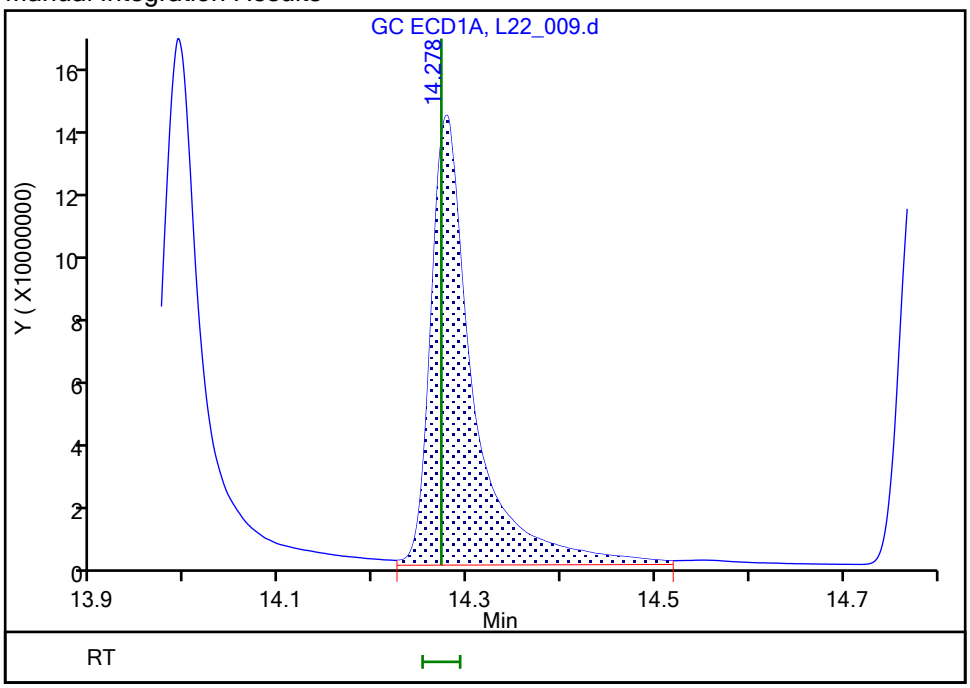

Reviewer: lamj, 23-Sep-2019 09:38:10
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09		
Lims ID:	icv				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

24 Endrin aldehyde, CAS: 7421-93-4

Signal: 1

Not Detected
Expected RT: 14.77

Processing Integration Results

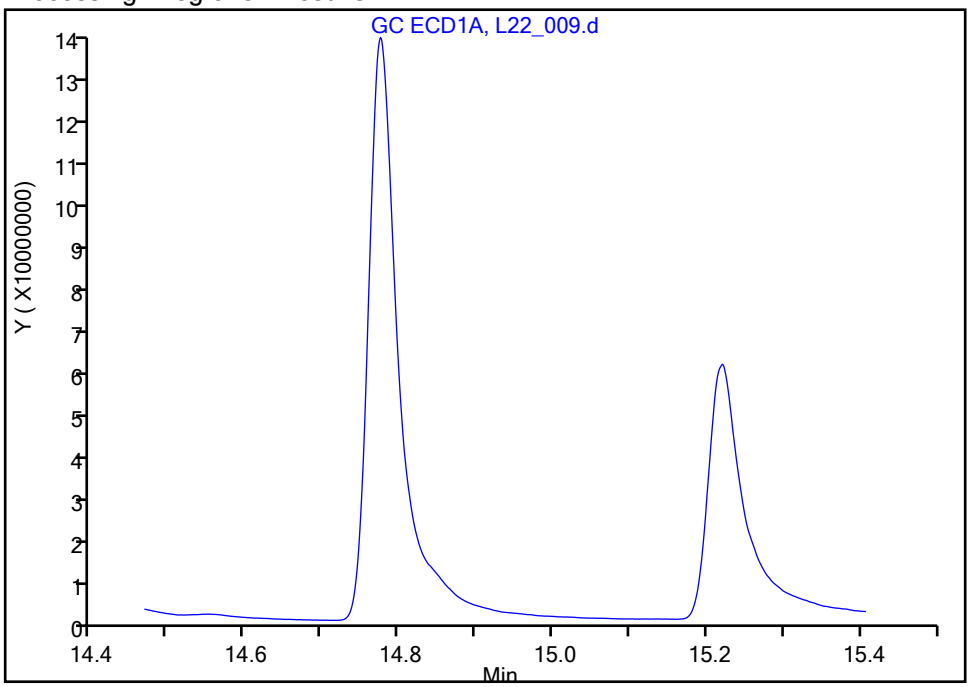

RT: 14.78
Area: 353725964
Amount: 0.049759
Amount Units: ug/ml

Manual Integration Results

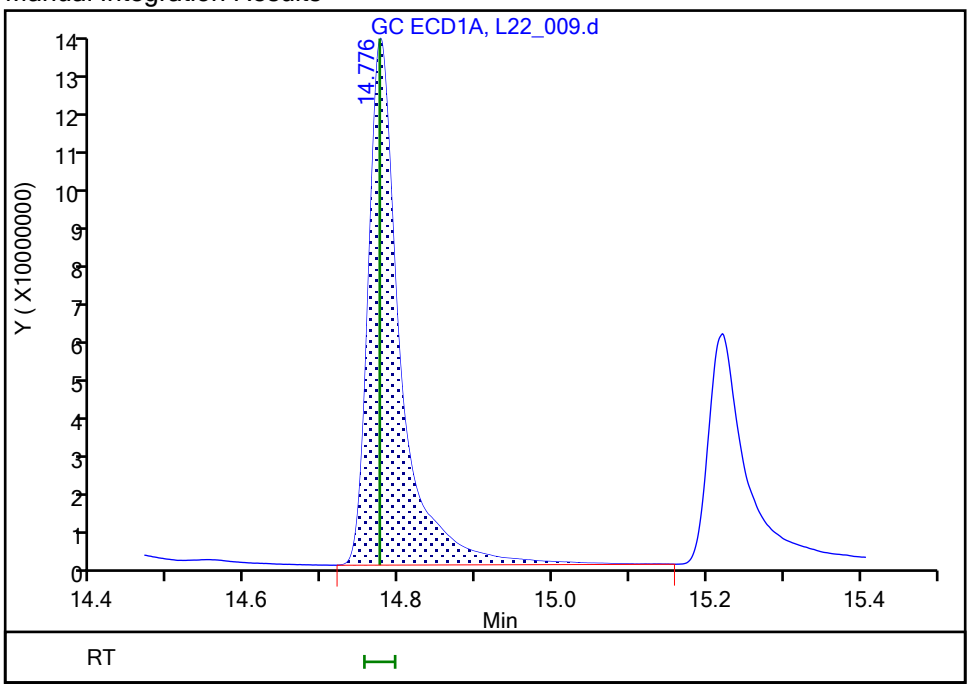

Reviewer: lamj, 23-Sep-2019 09:34:22
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09		
Lims ID:	icv				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

26 Endosulfan sulfate, CAS: 1031-07-8

Signal: 1

Not Detected
Expected RT: 15.57

Processing Integration Results

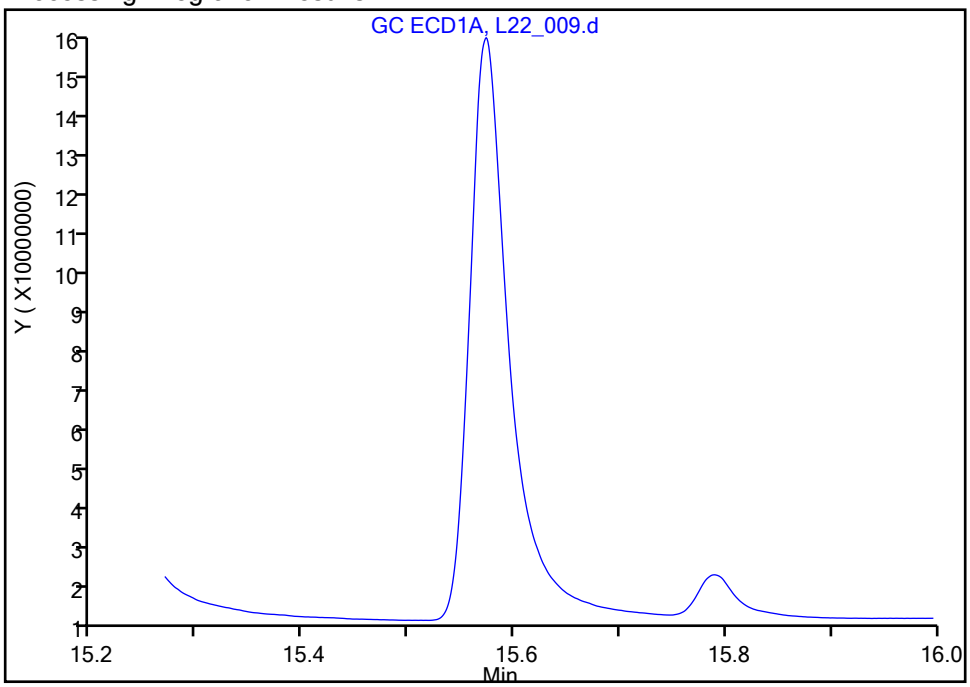

Manual Integration Results

RT:	15.57
Area:	393228338
Amount:	0.046213
Amount Units:	ug/ml

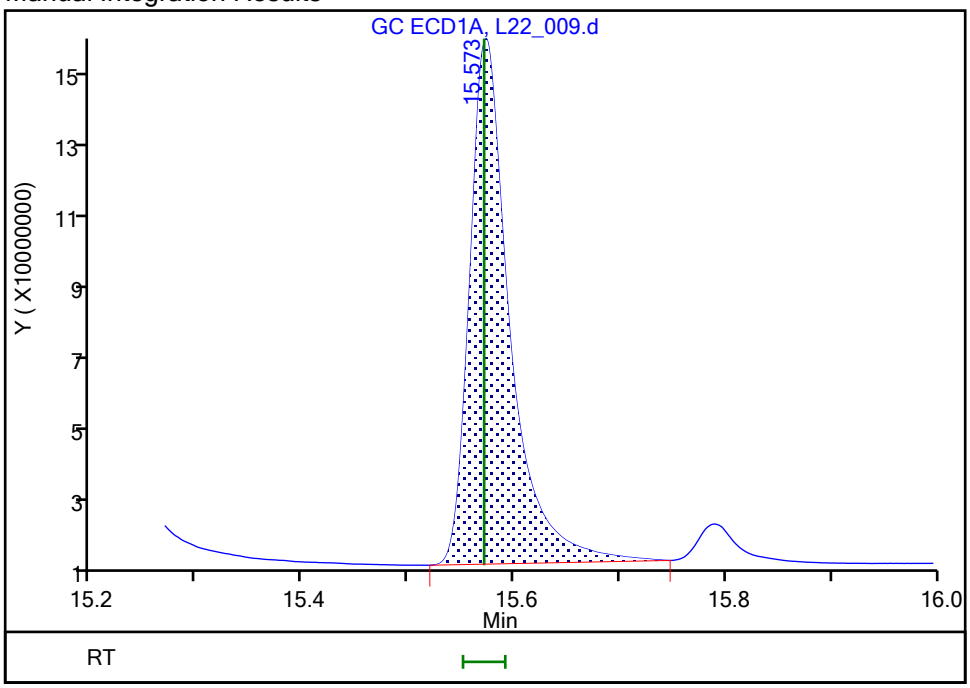

Reviewer: lamj, 23-Sep-2019 09:34:39
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09		
Lims ID:	icv				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

27 Endrin ketone, CAS: 53494-70-5

Signal: 1

Not Detected
Expected RT: 16.05

Processing Integration Results

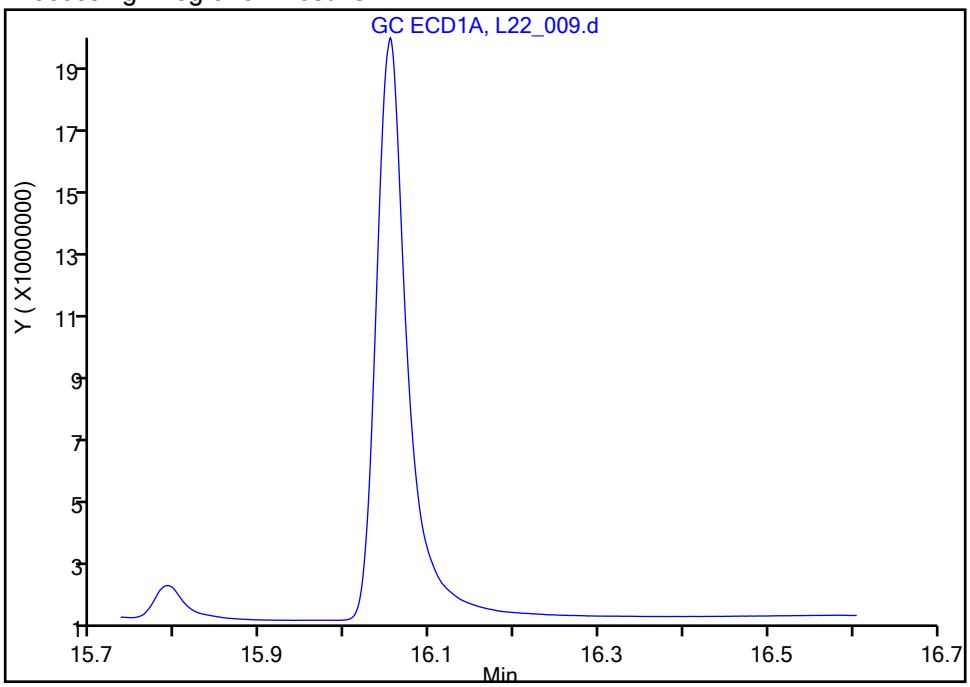

Manual Integration Results

RT: 16.05
Area: 493176250
Amount: 0.047322
Amount Units: ug/ml

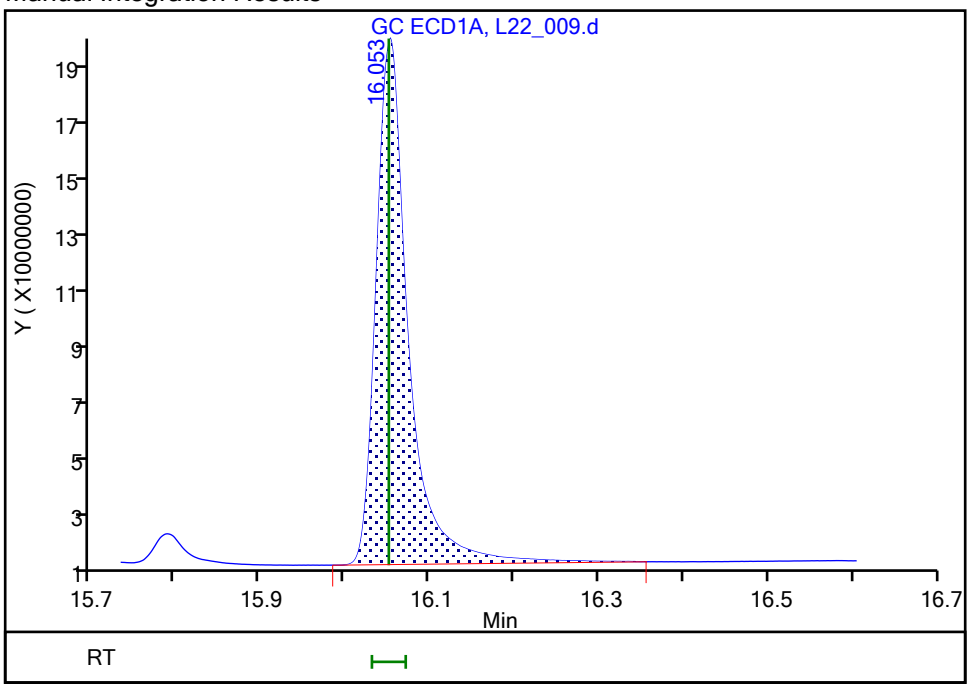

Reviewer: lamj, 23-Sep-2019 09:34:46
Audit Action: Assigned Compound ID Audit Reason:

FORM VII
PESTICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab Sample ID: ICV 600-275356/9 Calibration Date: 09/22/2019 15:33

Instrument ID: CHECD09 Calib Start Date: 09/22/2019 12:43

GC Column: RTX-CLP2 ID: 0.32(mm) Calib End Date: 09/22/2019 15:04

Lab File ID: L22_009.d Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
alpha-BHC	Ave	157.5	151.4		0.0481	0.0501	-3.9	20.0
gamma-BHC (Lindane)	Ave	134.1	124.4		0.0464	0.0501	-7.3	20.0
beta-BHC	Ave	55.01	49.79		0.0453	0.0501	-9.5	20.0
delta-BHC	Ave	93.66	84.13		0.0450	0.0501	-10.2	20.0
Heptachlor	Ave	144.8	141.4		0.0489	0.0501	-2.4	20.0
Aldrin	Ave	137.4	128.3		0.0468	0.0501	-6.6	20.0
Heptachlor epoxide	Ave	116.5	103.2		0.0443	0.0501	-11.5	20.0
Chlordane (trans)	Ave	122.2	115.1		0.0471	0.0501	-5.9	20.0
cis-Chlordane	Ave	113.3	104.0		0.0460	0.0501	-8.2	20.0
Endosulfan I	Ave	115.9	104.8		0.0453	0.0501	-9.6	20.0
4,4'-DDE	Ave	105.3	91.84		0.0437	0.0501	-12.8	20.0
Dieldrin	Ave	115.1	104.8		0.0456	0.0501	-9.0	20.0
Endrin	Ave	70.55	58.55		0.0416	0.0501	-17.0	20.0
4,4'-DDD	Ave	69.74	54.79		0.0393	0.0501	-21.4*	20.0
Endosulfan II	Ave	109.0	97.58		0.0448	0.0501	-10.5	20.0
4,4'-DDT	Ave	64.88	54.76		0.0423	0.0501	-15.6	20.0
Endrin aldehyde	Ave	74.01	67.65		0.0458	0.0501	-8.6	20.0
Endosulfan sulfate	Ave	90.97	76.14		0.0419	0.0501	-16.3	20.0
Methoxychlor	Ave	27.01	22.46		0.0416	0.0501	-16.8	20.0
Endrin ketone	Ave	108.4	87.18		0.0403	0.0501	-19.6	20.0
Tetrachloro-m-xylene	Ave	114.7	93.54		0.00204	0.00250	-18.5	20.0
DCB Decachlorobiphenyl	Ave	99.7	92.18		0.00231	0.00250	-7.6	20.0

FORM VII
PESTICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab Sample ID: ICV 600-275356/9 Calibration Date: 09/22/2019 15:33

Instrument ID: CHECD09 Calib Start Date: 09/22/2019 12:43

GC Column: RTX-CLP2 ID: 0.32(mm) Calib End Date: 09/22/2019 15:04

Lab File ID: L22_009.d

Analyte	RT	RT WINDOW	
		FROM	TO
alpha-BHC	9.40	9.35	9.39
gamma-BHC (Lindane)	10.04	9.99	10.03
beta-BHC	10.23	10.18	10.22
delta-BHC	10.71	10.66	10.70
Heptachlor	10.76	10.72	10.76
Aldrin	11.27	11.23	11.27
Heptachlor epoxide	12.21	12.16	12.20
Chlordane (trans)	12.55	12.50	12.54
cis-Chlordane	12.83	12.78	12.82
Endosulfan I	12.92	12.87	12.91
4,4'-DDE	13.20	13.15	13.19
Dieldrin	13.44	13.39	13.43
Endrin	14.00	13.95	13.99
4,4'-DDD	14.30	14.24	14.28
Endosulfan II	14.41	14.36	14.40
4,4'-DDT	14.86	14.81	14.85
Endrin aldehyde	15.04	14.99	15.03
Endosulfan sulfate	15.55	15.50	15.54
Methoxychlor	16.13	16.08	16.12
Endrin ketone	16.43	16.38	16.42
Tetrachloro-m-xylene	8.20	8.16	8.20
DCB Decachlorobiphenyl	18.07	18.04	18.08

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d
Lims ID: icv
Client ID:
Sample Type: ICV
Inject. Date: 22-Sep-2019 15:33:00 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031217-009
Operator ID: JL Instrument ID: CHECD09
Sublist:

Method: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\LVI_PEST_CHECD09.m
Limit Group: GCSV - 8081A
Last Update: 23-Sep-2019 10:43:45 Calib Date: 22-Sep-2019 15:04:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_008.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0327

First Level Reviewer: lamj Date: 23-Sep-2019 10:43:45

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.275	6.276	-0.001	4718828518	50.0	50.0	
2	6.274	6.257	0.017	3016302570	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							Ma
1	7.981	7.984	-0.003	25306407	0.002504	0.002343	M
2	8.197	8.175	0.022	14130089	0.002504	0.002042	a
						RPD = 13.73	
3 alpha-BHC							a
1	9.090	9.093	-0.003	734773319	0.0501	0.0474	a
2	9.397	9.374	0.023	457409005	0.0501	0.0481	a
						RPD = 1.63	
4 gamma-BHC (Lindane)							a
1	9.684	9.686	-0.002	582331778	0.0501	0.0461	a
2	10.038	10.014	0.024	375780549	0.0501	0.0464	a
						RPD = 0.68	
5 beta-BHC							a
1	9.887	9.887	0.000	231216563	0.0501	0.0446	a
2	10.228	10.201	0.027	150422031	0.0501	0.0453	a
						RPD = 1.61	
7 delta-BHC							a
1	10.191	10.189	0.002	610665449	0.0501	0.0478	a
2	10.710	10.684	0.026	254165769	0.0501	0.0450	a
						RPD = 5.98	
9 Heptachlor							a
1	10.496	10.499	-0.003	646701024	0.0501	0.0484	a
2	10.760	10.736	0.024	427089372	0.0501	0.0489	a
						RPD = 1.07	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 Aldrin							a
1	10.987	10.990	-0.003	612334803	0.0501	0.0476	a
2	11.272	11.248	0.024	387642433	0.0501	0.0468	a
						RPD = 1.83	
11 Heptachlor epoxide							a
1	11.976	11.979	-0.003	507063159	0.0501	0.0449	a
2	12.207	12.181	0.026	311740398	0.0501	0.0443	a
						RPD = 1.25	
12 trans-Chlordane							a
1	12.193	12.194	-0.001	553074655	0.0501	0.0476	a
2	12.551	12.522	0.029	347656695	0.0501	0.0471	a
						RPD = 1.04	
13 cis-Chlordane							a
1	12.426	12.429	-0.003	521298951	0.0501	0.0479	a
2	12.828	12.798	0.030	314282239	0.0501	0.0460	a
						RPD = 4.19	
14 4,4'-DDE							Ma
1	12.627	12.620	0.007	322981018	0.0501	0.0427	M
2	13.202	13.169	0.033	277445799	0.0501	0.0437	a
						RPD = 2.31	
15 Endosulfan I							a
1	12.667	12.670	-0.003	628475531	0.0501	0.0426	a
2	12.920	12.890	0.030	316520815	0.0501	0.0453	a
						RPD = 6.01	
16 Dieldrin							a
1	13.126	13.128	-0.002	543321029	0.0501	0.0479	a
2	13.439	13.409	0.030	316534770	0.0501	0.0456	a
						RPD = 4.98	
18 Endrin							Ma
1	13.559	13.561	-0.002	359898565	0.0501	0.0455	M
2	14.002	13.971	0.031	176892443	0.0501	0.0416	a
						RPD = 8.95	
19 4,4'-DDD							Ma
1	13.768	13.759	0.009	363097220	0.0501	0.0472	M
2	14.297	14.259	0.038	165526875	0.0501	0.0393	a
						RPD = 18.12	
20 Endosulfan II							Ma
1	13.992	13.992	0.000	483214890	0.0501	0.0516	M
2	14.411	14.380	0.031	294794363	0.0501	0.0448	a
						RPD = 14.05	
21 4,4'-DDT							Ma
1	14.278	14.272	0.006	427008259	0.0501	0.0482	M
2	14.862	14.829	0.033	165436376	0.0501	0.0423	a
						RPD = 13.02	
24 Endrin aldehyde							a
1	14.776	14.774	0.002	353725964	0.0501	0.0498	a
2	15.041	15.009	0.032	204377615	0.0501	0.0458	a
						RPD = 8.34	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
25 Methoxychlor							a
1	15.221	15.207	0.014	187200705	0.0501	0.0508	
2	16.131	16.099	0.032	67860222	0.0501	0.0416	a
						RPD = 19.71	
26 Endosulfan sulfate							a
1	15.573	15.571	0.002	393228338	0.0501	0.0462	a
2	15.547	15.517	0.030	230028161	0.0501	0.0419	a
						RPD = 9.75	
27 Endrin ketone							a
1	16.053	16.051	0.002	493176250	0.0501	0.0473	a
2	16.426	16.401	0.025	263371384	0.0501	0.0403	a
						RPD = 16.13	
$ 28 DCB Decachlorobiphenyl							
1	17.548	17.546	0.002	20068507	0.002504	0.002414	
2	18.073	18.064	0.009	13924651	0.002504	0.002314	
						RPD = 4.23	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

PEST ICV_00027	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 23-Sep-2019 10:43:52 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	icv			Worklist Smp#:	9
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		

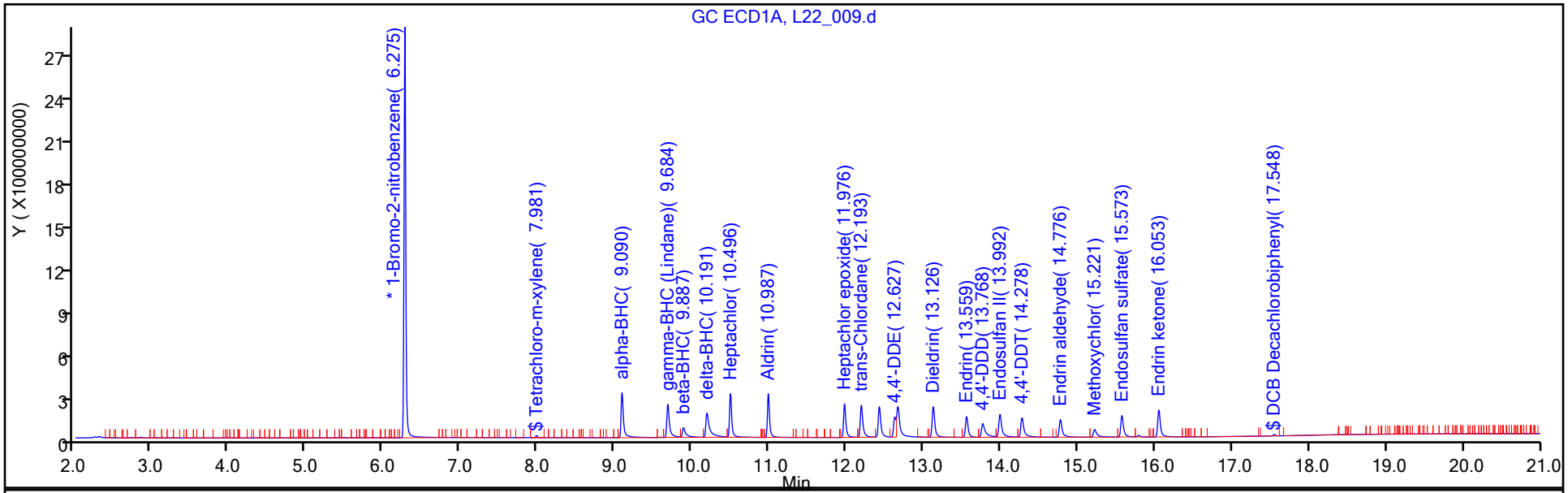

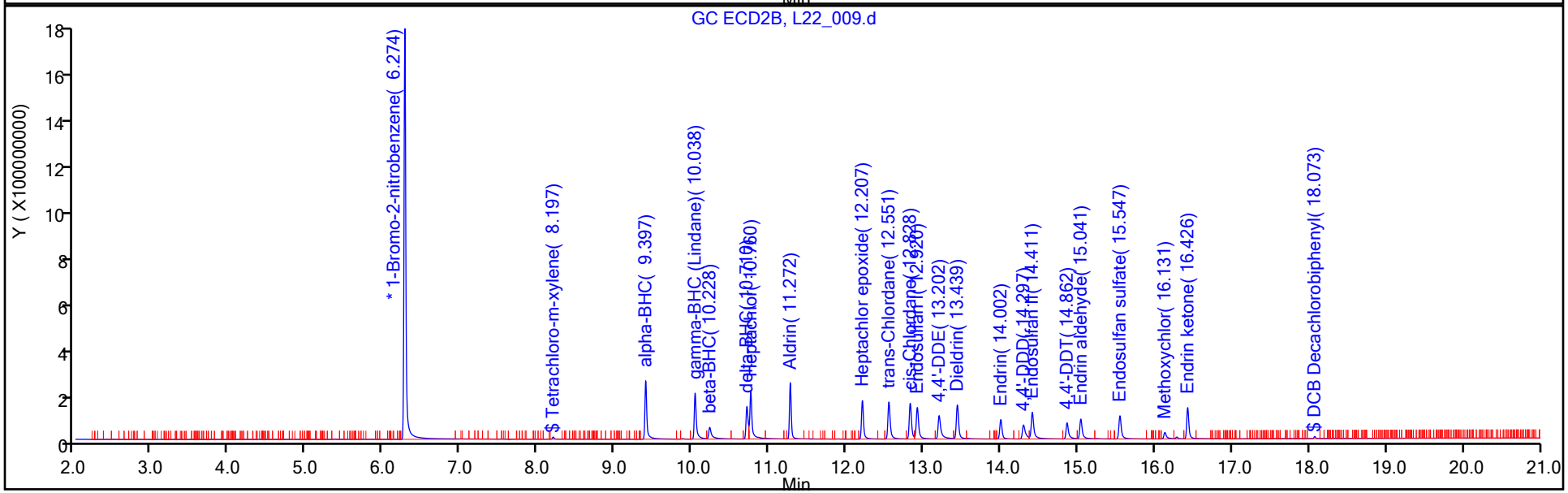

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09		
Lims ID:	icv				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

$ 2 Tetrachloro-m-xylene, CAS: 877-09-8

Signal: 2

Processing Integration Results

Not Detected
Expected RT: 8.18

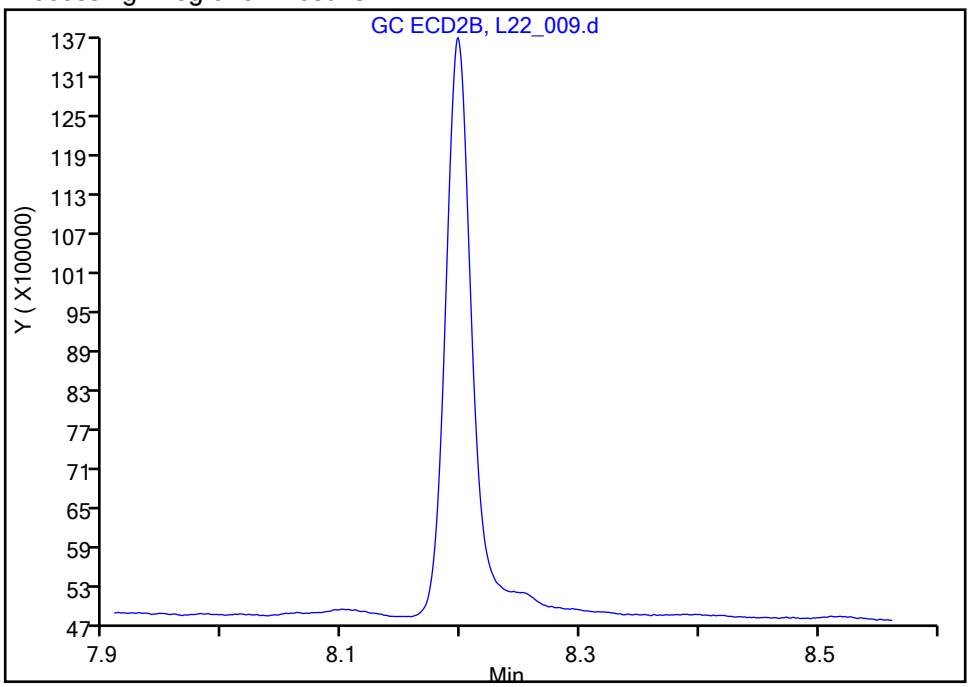

Manual Integration Results

RT: 8.20
Area: 14130089
Amount: 0.002042
Amount Units: ug/ml

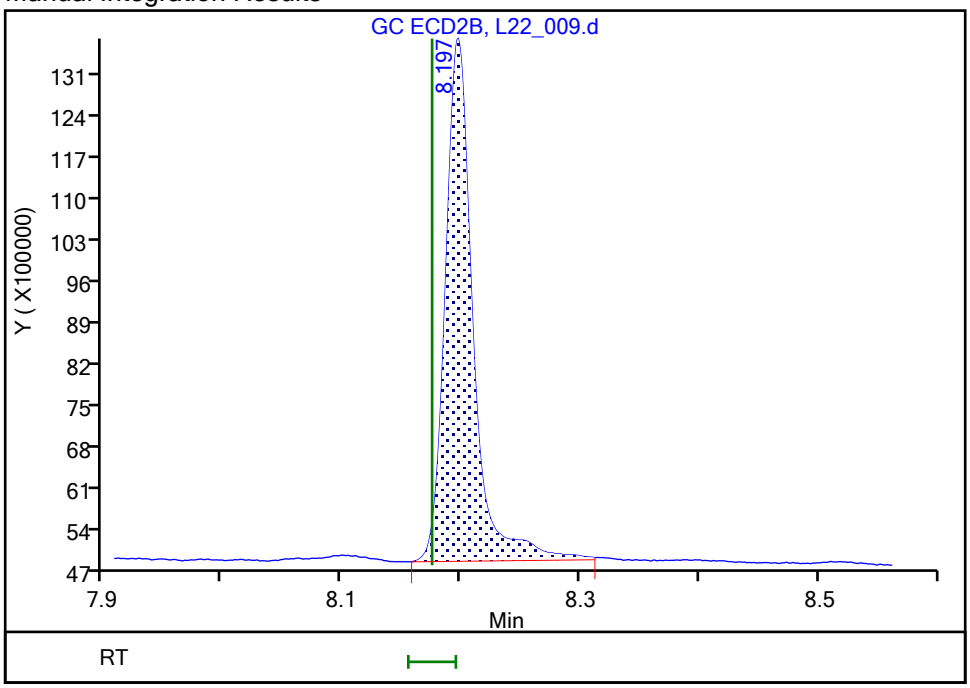

Reviewer: lamj, 23-Sep-2019 09:32:17
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09		
Lims ID:	icv				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

3 alpha-BHC, CAS: 319-84-6

Signal: 2

Not Detected
Expected RT: 9.37

Processing Integration Results

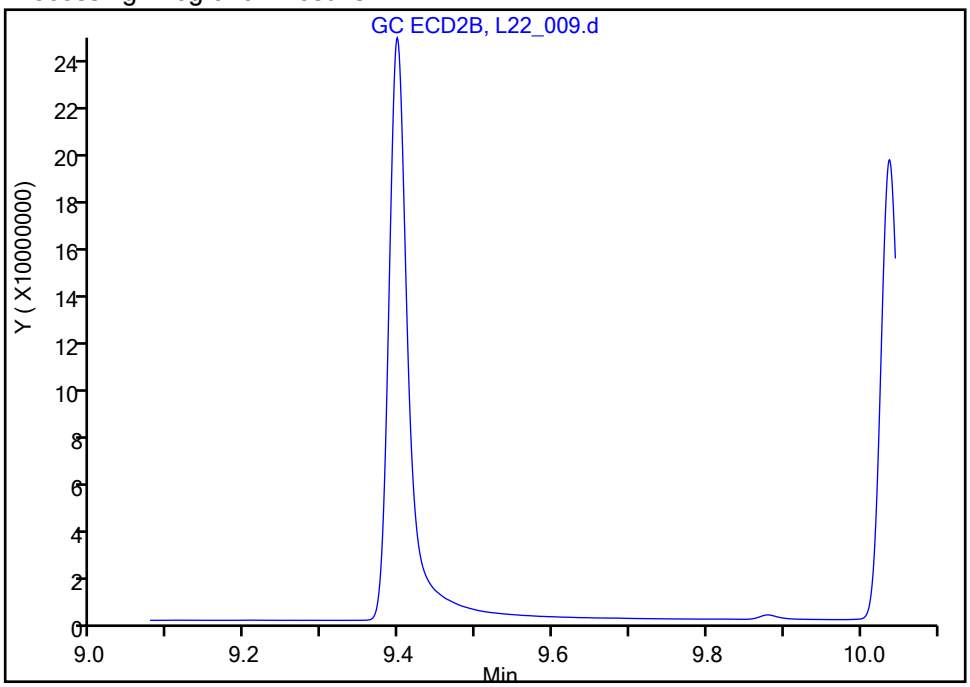

RT: 9.40
Area: 457409005
Amount: 0.048134
Amount Units: ug/ml

Manual Integration Results

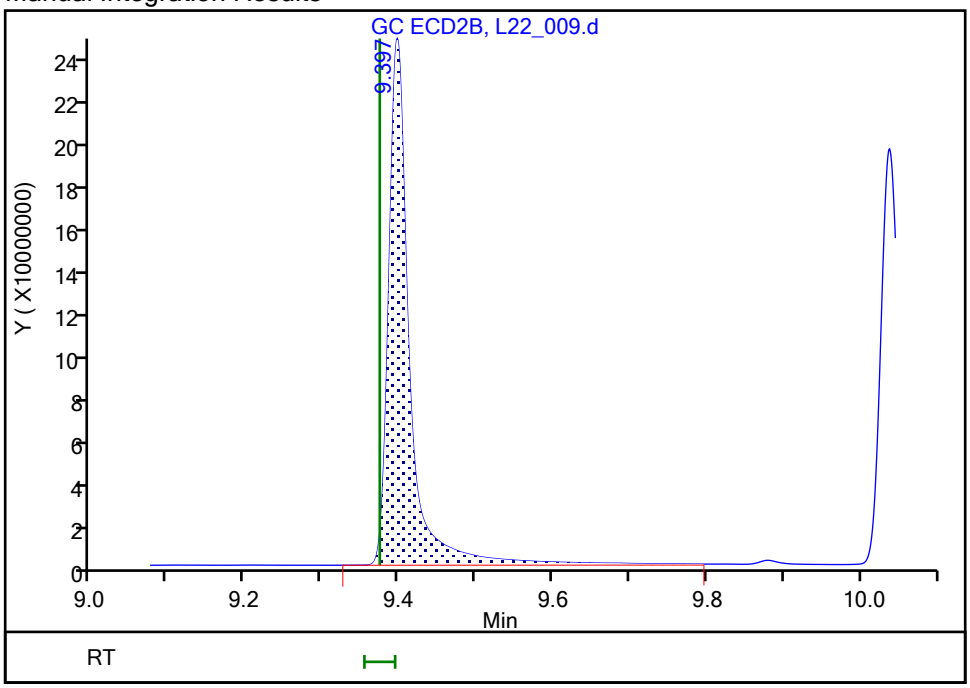

Reviewer: lamj, 23-Sep-2019 09:32:24
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09		
Lims ID:	icv				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

4 gamma-BHC (Lindane), CAS: 58-89-9

Signal: 2

Not Detected
Expected RT: 10.01

Processing Integration Results

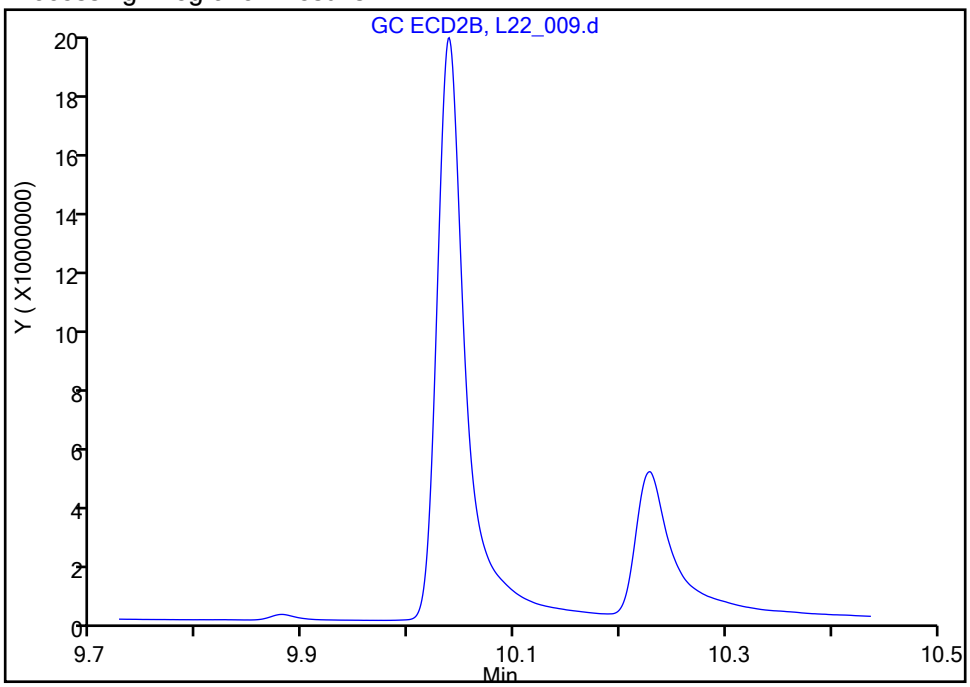

RT: 10.04
Area: 375780549
Amount: 0.046446
Amount Units: ug/ml

Manual Integration Results

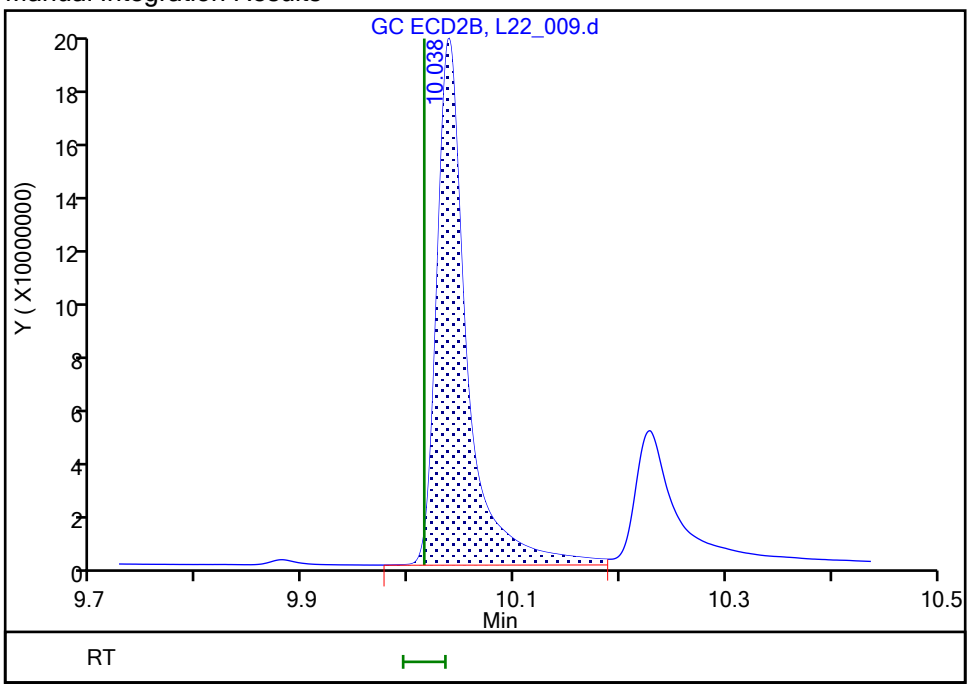

Reviewer: lamj, 23-Sep-2019 09:32:31
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09		
Lims ID:	icv				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

5 beta-BHC, CAS: 319-85-7

Signal: 2

Not Detected
Expected RT: 10.20

Processing Integration Results

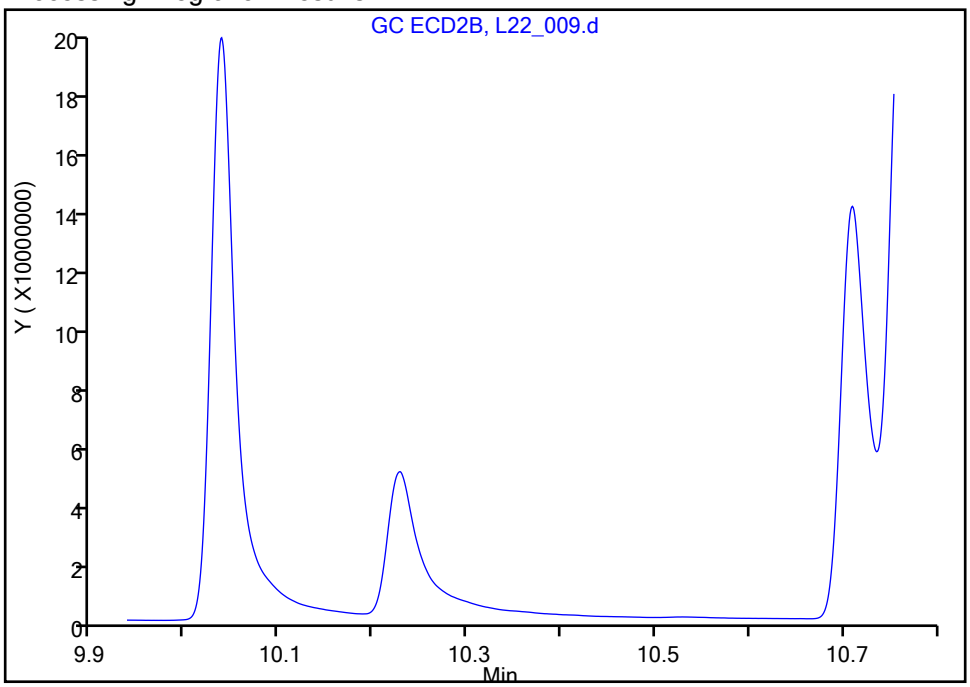

RT: 10.23
Area: 150422031
Amount: 0.045324
Amount Units: ug/ml

Manual Integration Results

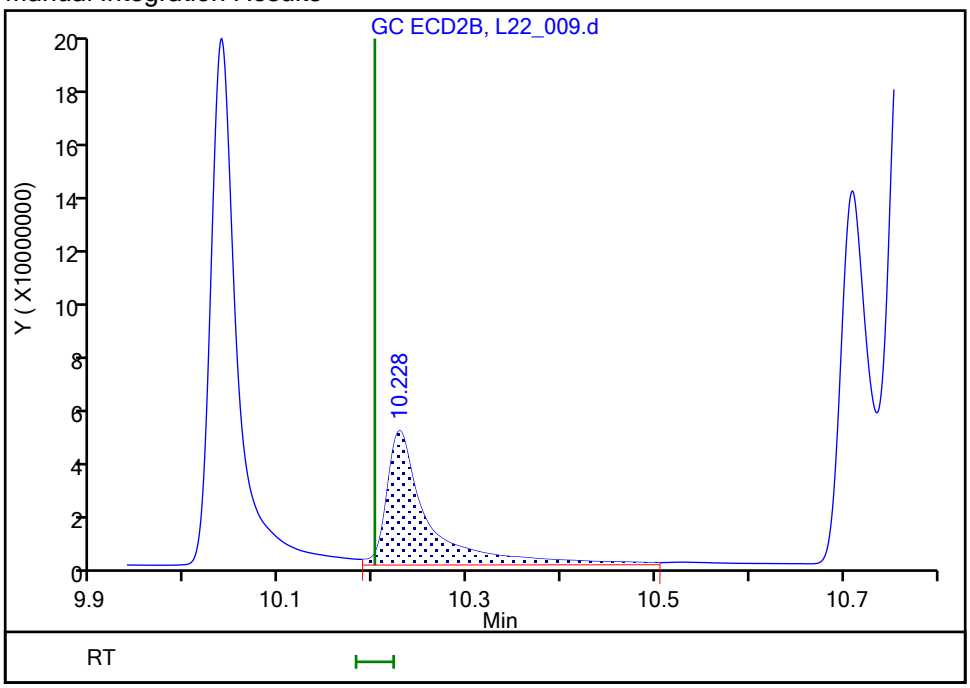

Reviewer: lamj, 23-Sep-2019 09:32:37
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09		
Lims ID:	icv				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

7 delta-BHC, CAS: 319-86-8

Signal: 2

Not Detected
Expected RT: 10.68

Processing Integration Results

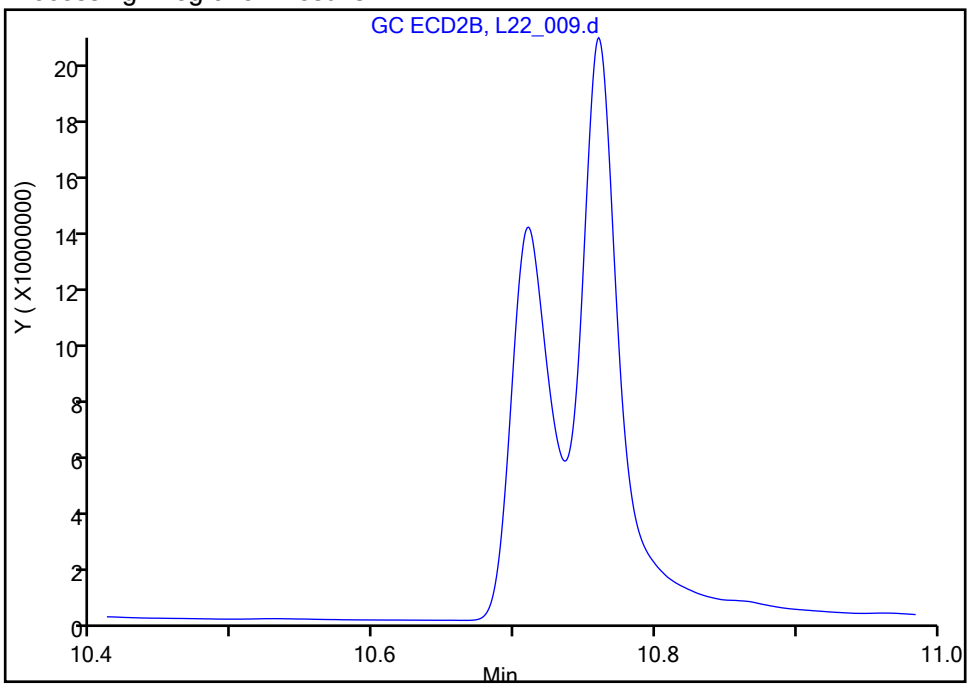

RT: 10.71
Area: 254165769
Amount: 0.044984
Amount Units: ug/ml

Manual Integration Results

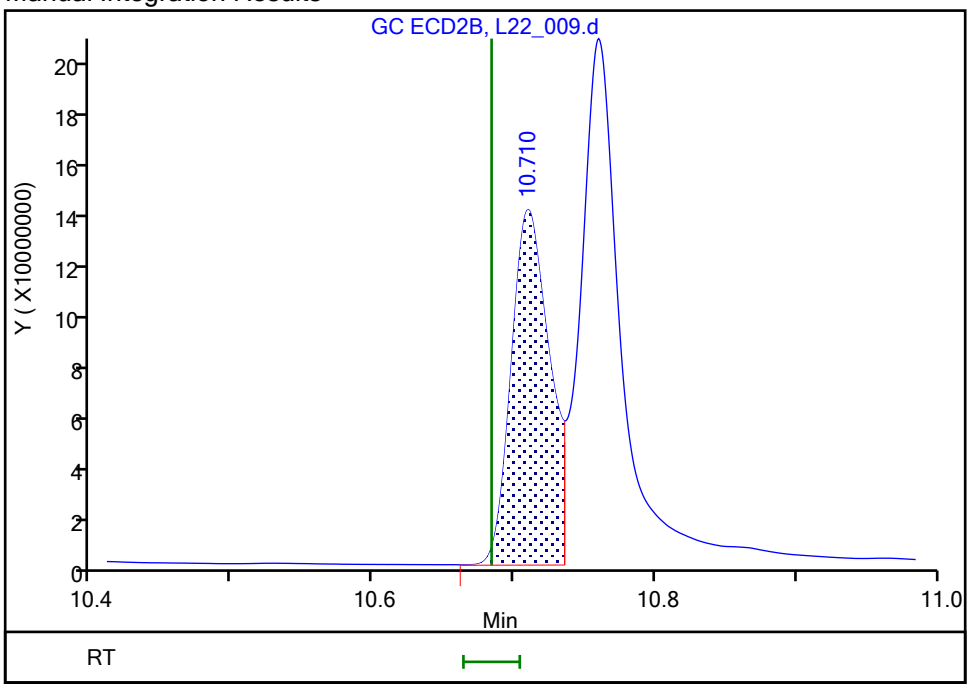

Reviewer: lamj, 23-Sep-2019 09:32:45
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09		
Lims ID:	icv				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

9 Heptachlor, CAS: 76-44-8

Signal: 2

Not Detected
Expected RT: 10.74

Processing Integration Results

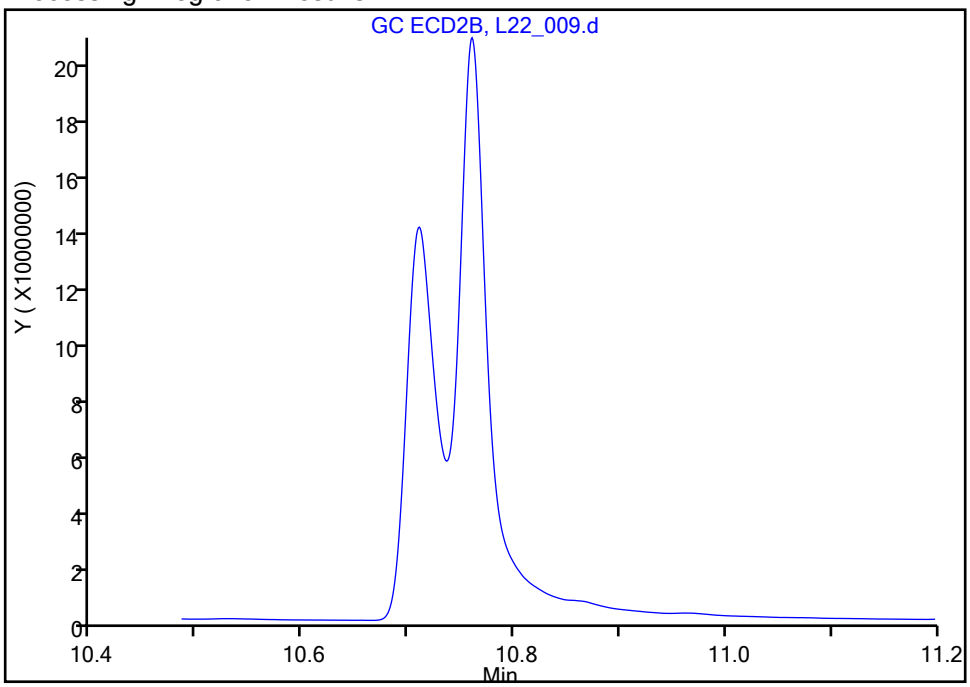

RT: 10.76
Area: 427089372
Amount: 0.048886
Amount Units: ug/ml

Manual Integration Results

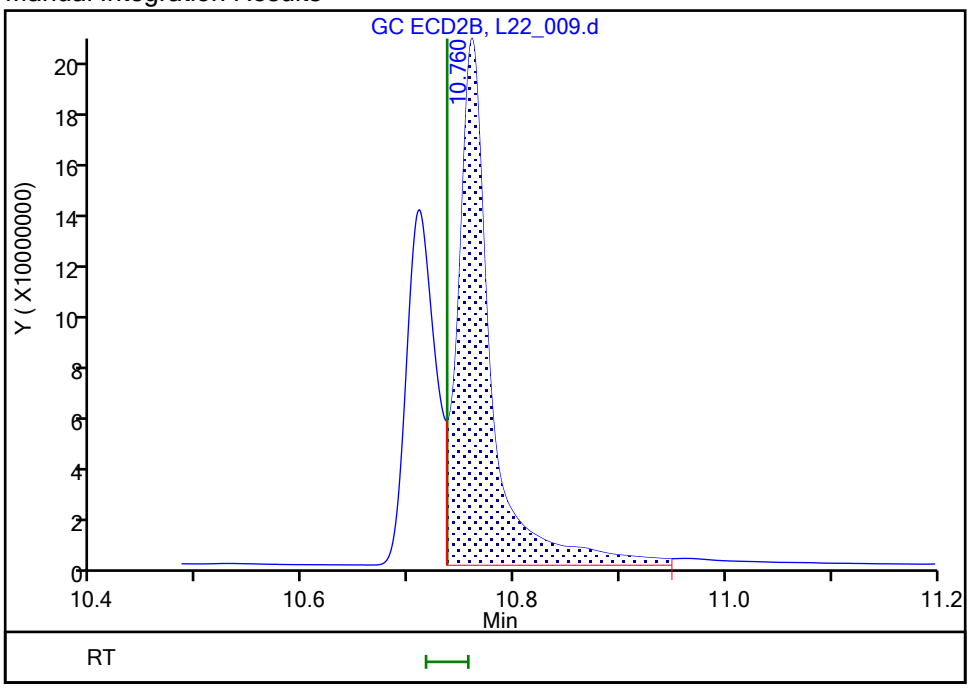

Reviewer: lamj, 23-Sep-2019 09:32:52
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09		
Lims ID:	icv				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

9 Heptachlor, CAS: 76-44-8

Signal: 2

Not Detected
Expected RT: 10.74

Processing Integration Results

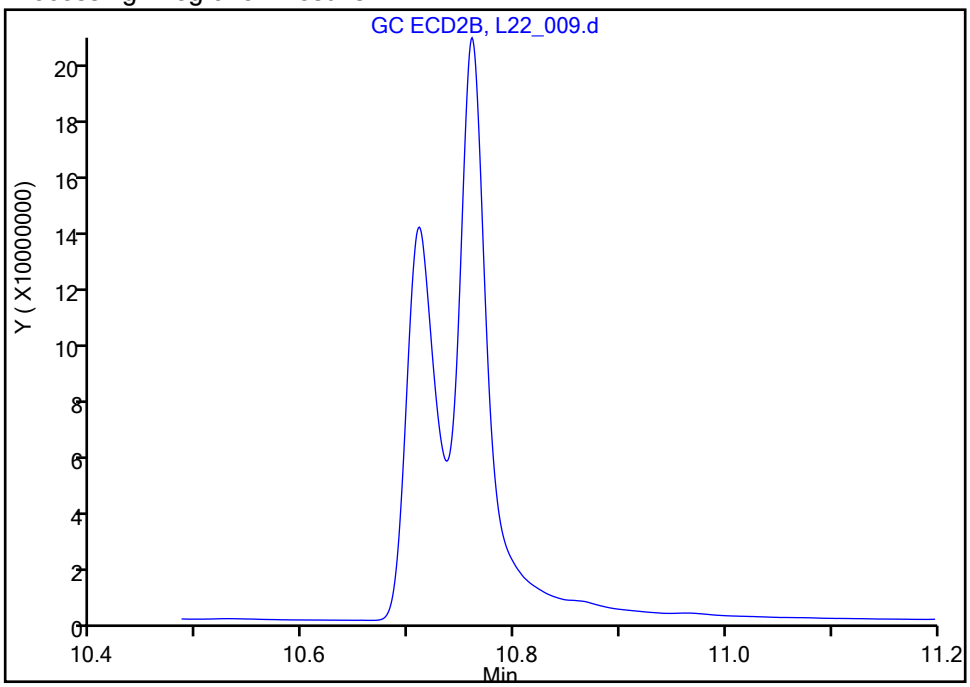

RT: 10.76
Area: 427089372
Amount: 0.048886
Amount Units: ug/ml

Manual Integration Results

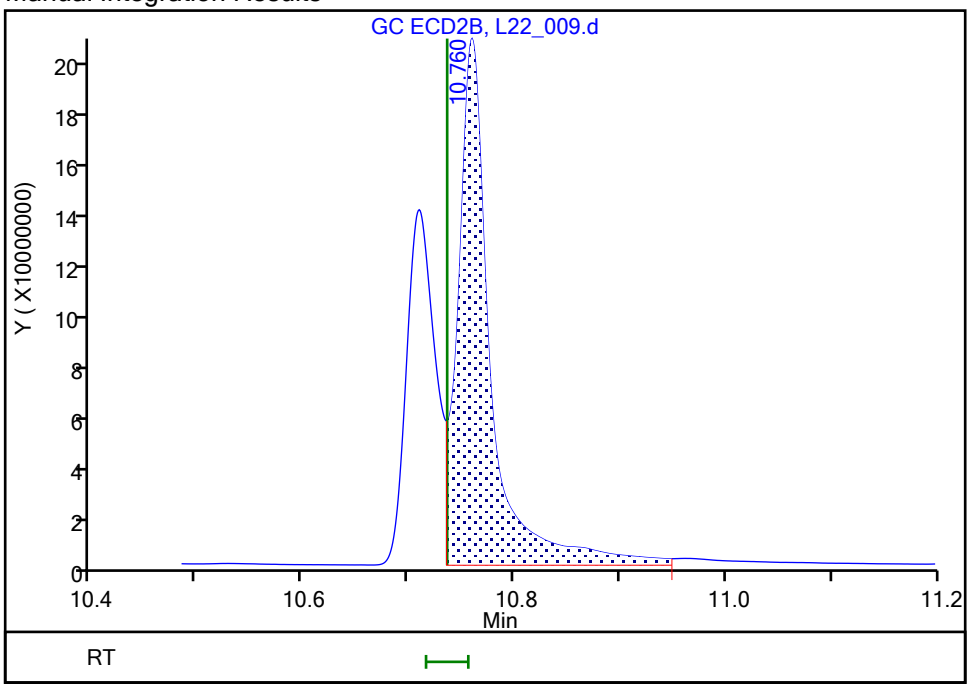

Reviewer: lamj, 23-Sep-2019 09:32:52
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09		
Lims ID:	icv				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

10 Aldrin, CAS: 309-00-2

Signal: 2

Not Detected
Expected RT: 11.25

Processing Integration Results

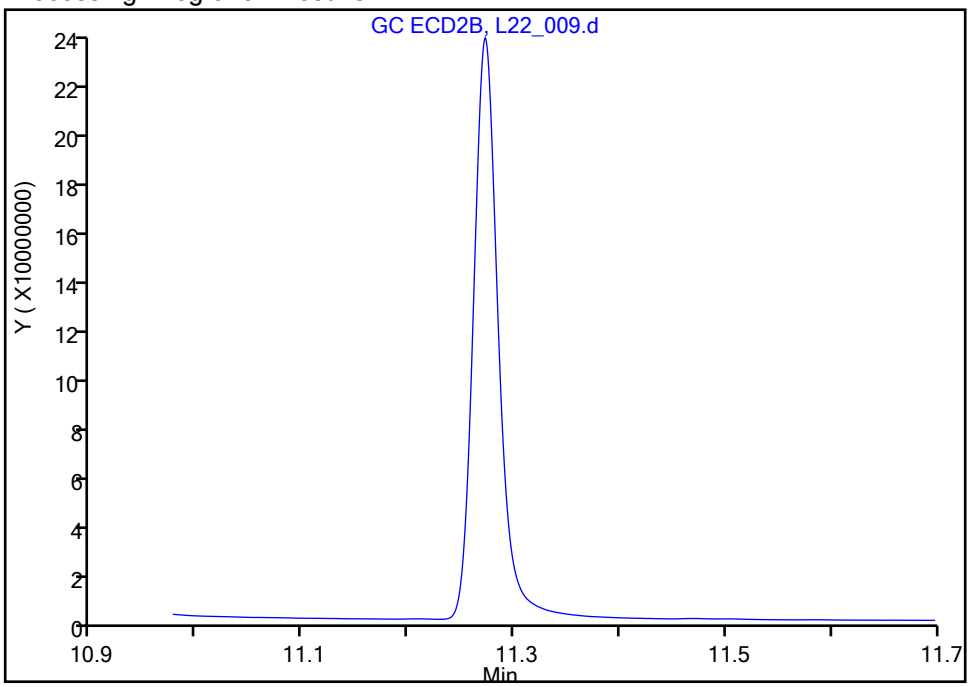

RT: 11.27
Area: 387642433
Amount: 0.046763
Amount Units: ug/ml

Manual Integration Results

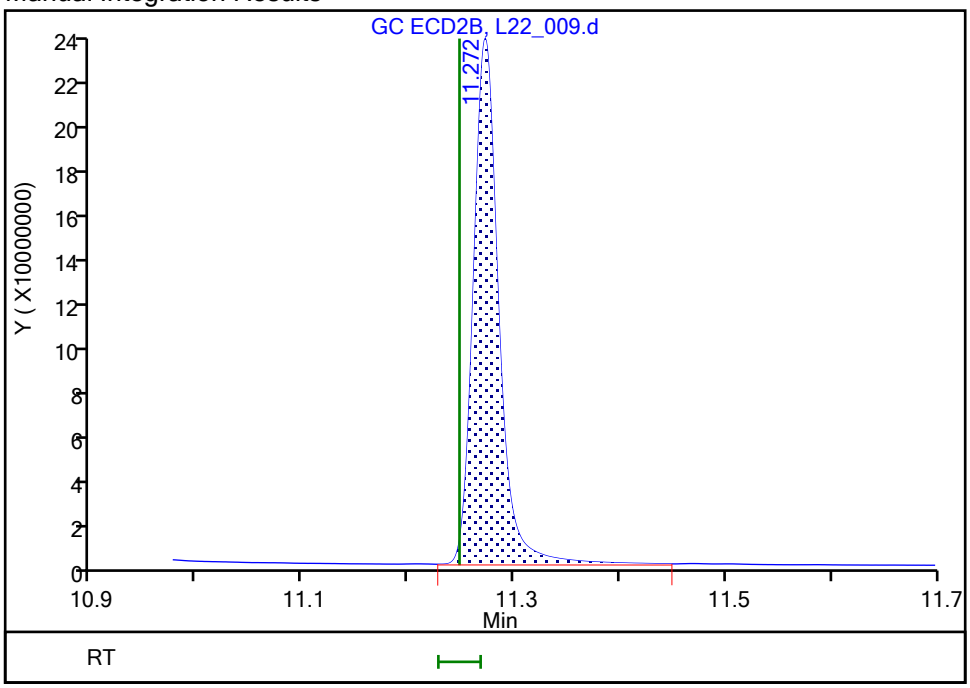

Reviewer: lamj, 23-Sep-2019 09:32:59
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09		
Lims ID:	icv				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

11 Heptachlor epoxide, CAS: 1024-57-3

Signal: 2

Processing Integration Results

Not Detected
Expected RT: 12.18

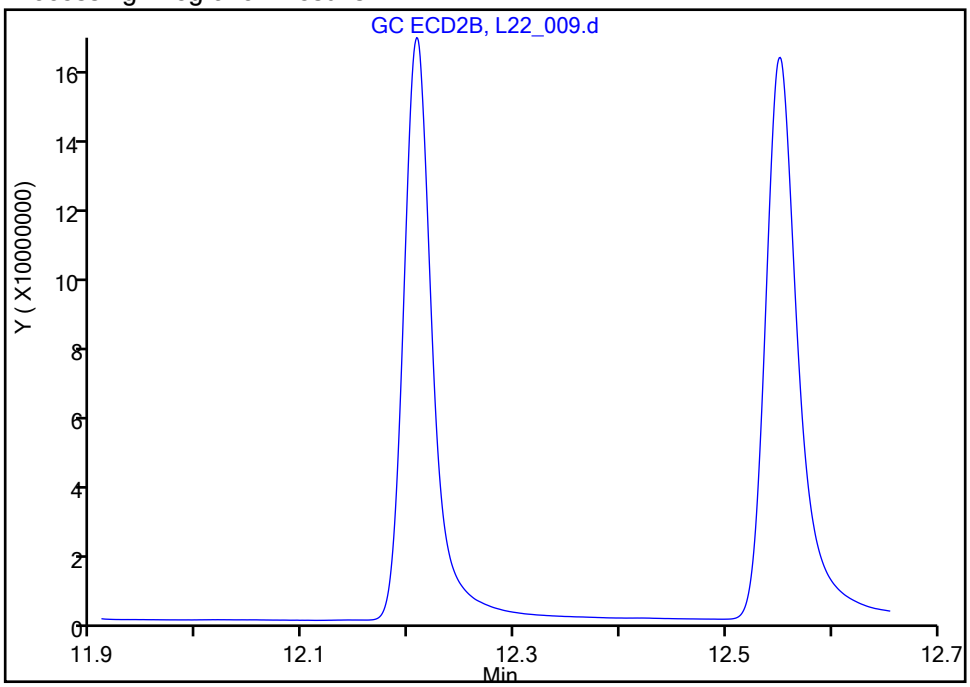

Manual Integration Results

RT: 12.21
Area: 311740398
Amount: 0.044339
Amount Units: ug/ml

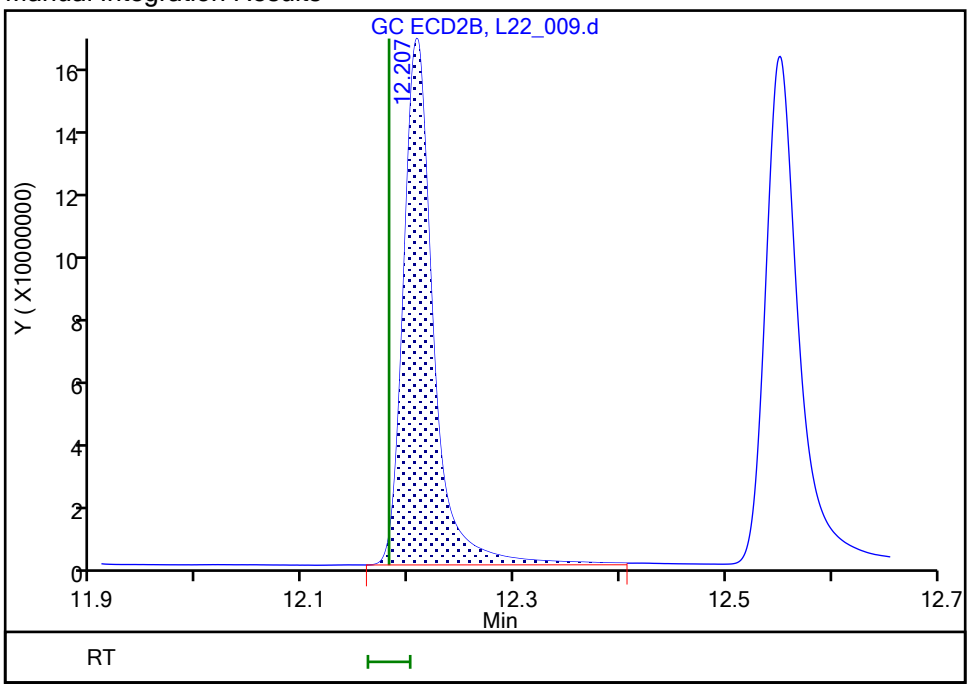

Reviewer: lamj, 23-Sep-2019 09:33:06
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09		
Lims ID:	icv				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

12 trans-Chlordane, CAS: 5103-74-2

Signal: 2

Not Detected
Expected RT: 12.52

Processing Integration Results

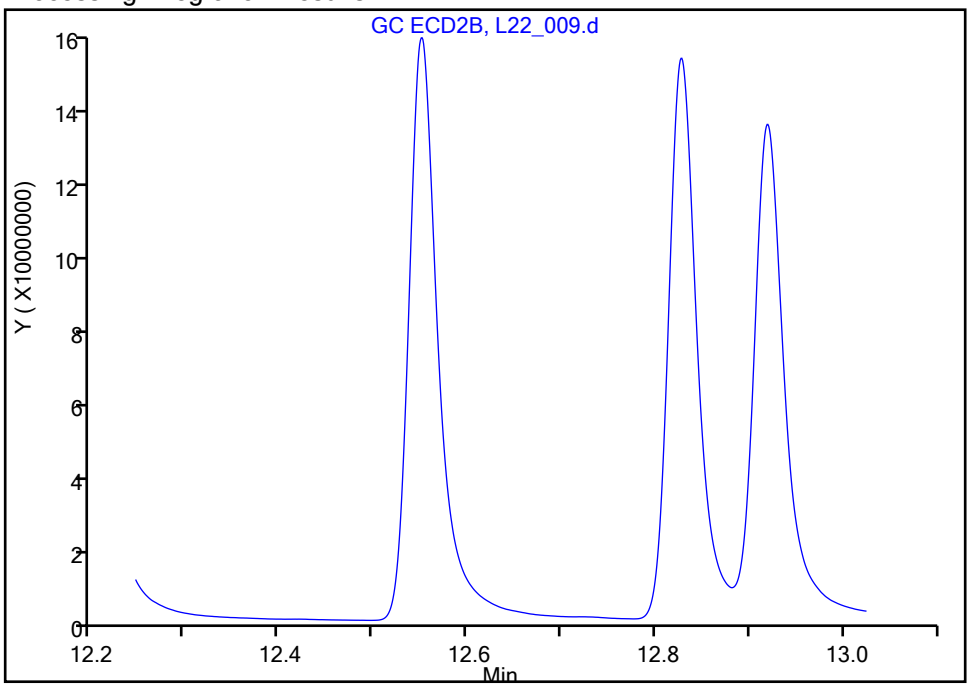

RT: 12.55
Area: 347656695
Amount: 0.047141
Amount Units: ug/ml

Manual Integration Results

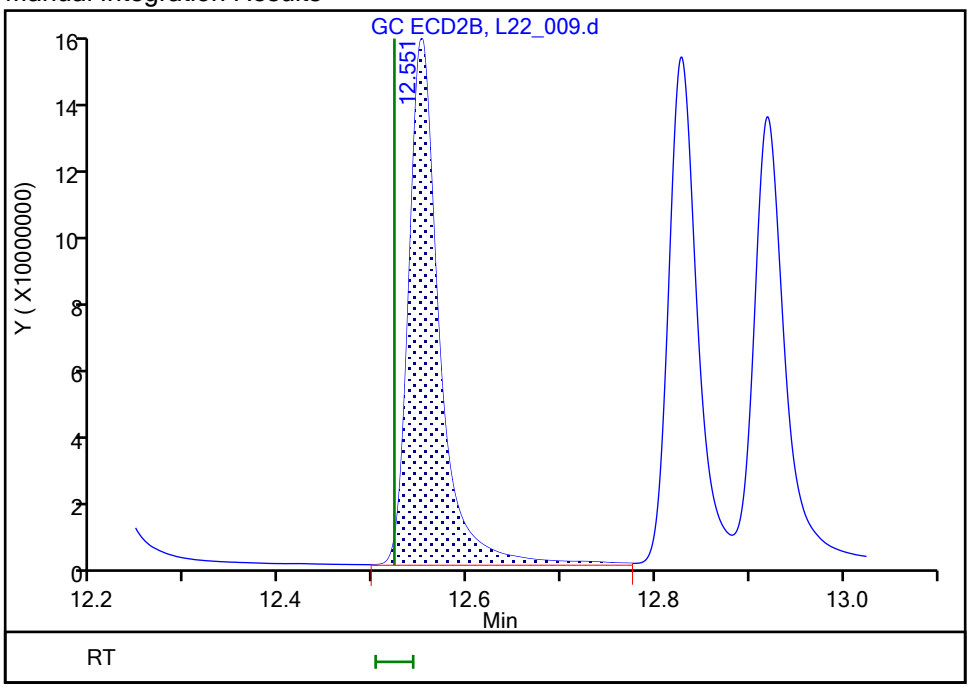

Reviewer: lamj, 23-Sep-2019 09:33:13
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09		
Lims ID:	icv				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

13 cis-Chlordane, CAS: 5103-71-9

Signal: 2

Not Detected
Expected RT: 12.80

Processing Integration Results

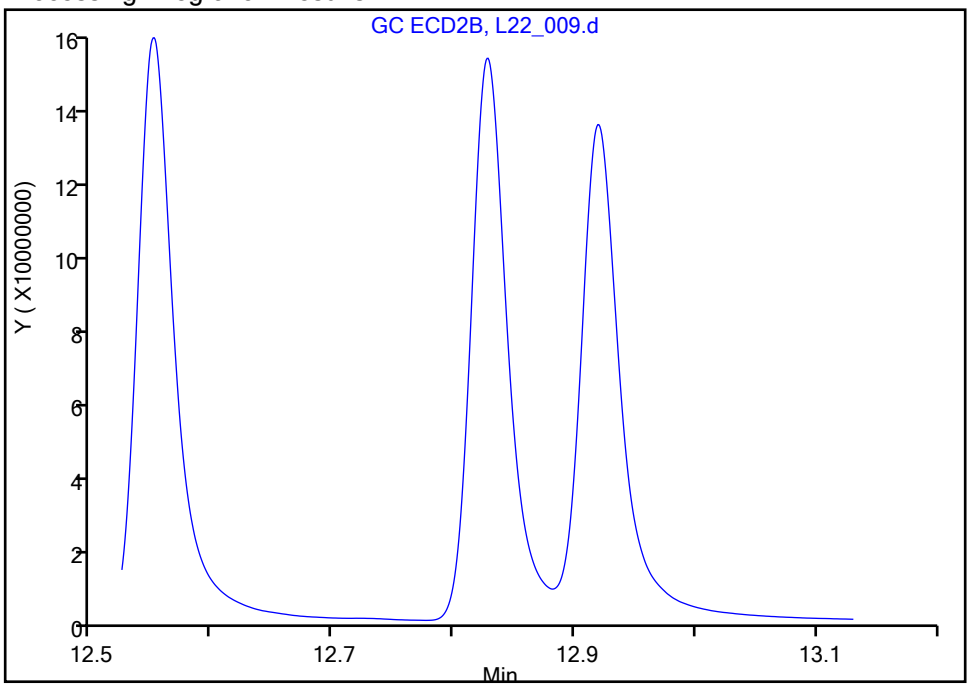

RT: 12.83
Area: 314282239
Amount: 0.045981
Amount Units: ug/ml

Manual Integration Results

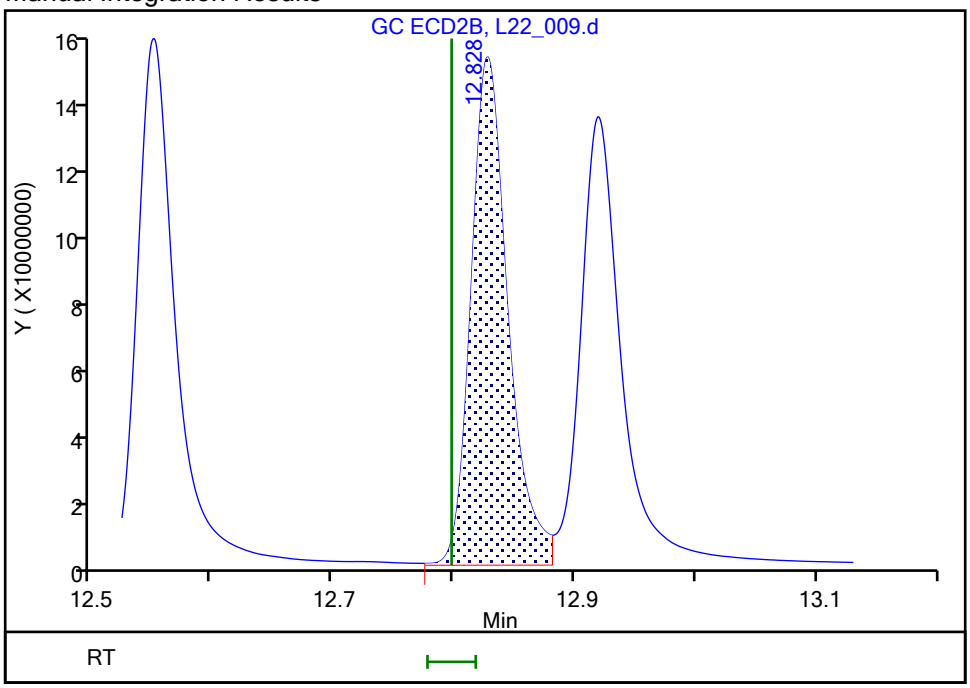

Reviewer: lamj, 23-Sep-2019 09:33:19
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09		
Lims ID:	icv				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

15 Endosulfan I, CAS: 959-98-8

Signal: 2

Not Detected
Expected RT: 12.89

Processing Integration Results

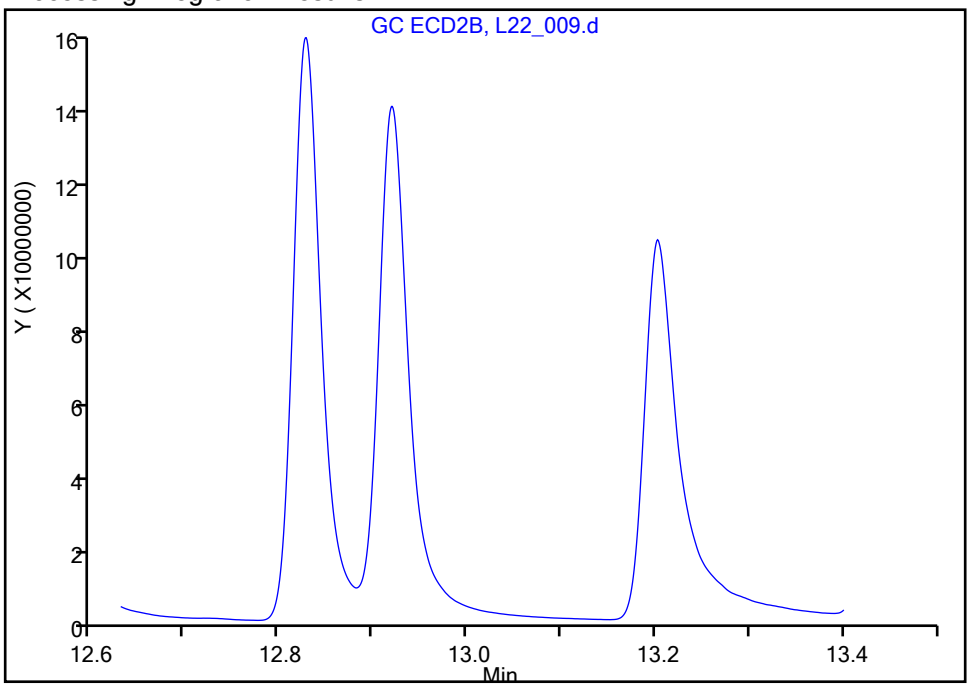

Manual Integration Results

RT:	12.92
Area:	316520815
Amount:	0.045273
Amount Units:	ug/ml

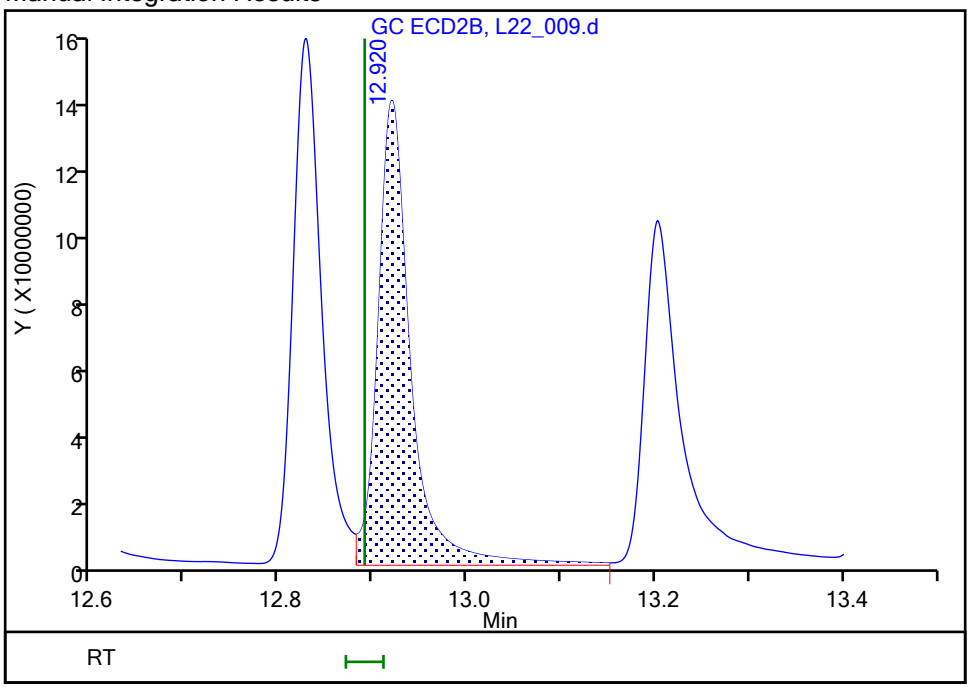

Reviewer: lamj, 23-Sep-2019 09:33:35
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09		
Lims ID:	icv				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

14 4,4'-DDE, CAS: 72-55-9

Signal: 2

Not Detected
Expected RT: 13.17

Processing Integration Results

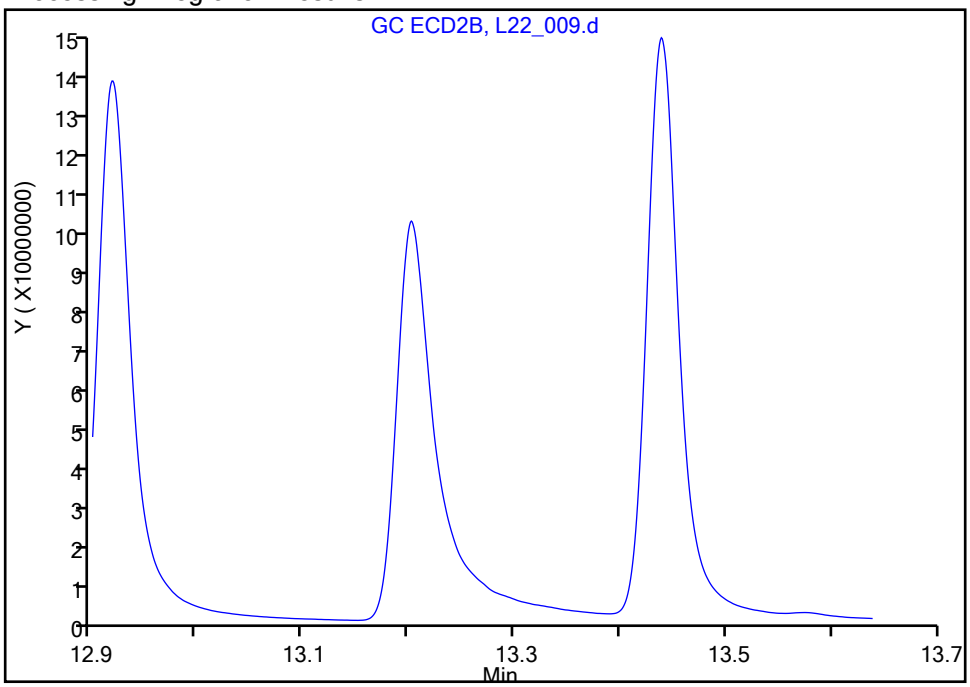

RT: 13.20
Area: 277445799
Amount: 0.043671
Amount Units: ug/ml

Manual Integration Results

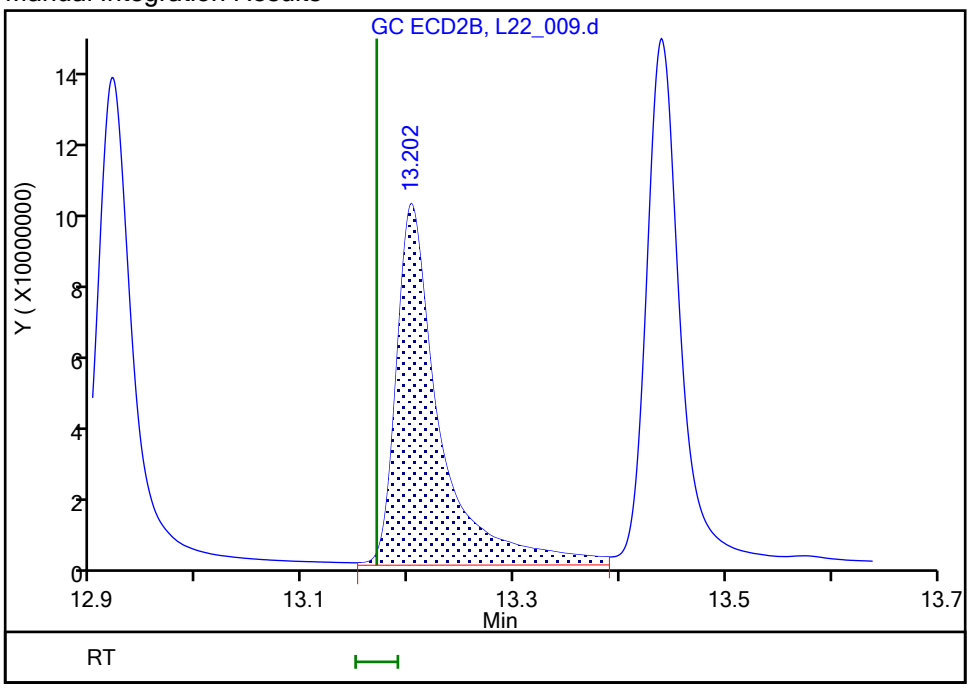

Reviewer: lamj, 23-Sep-2019 09:33:26
Audit Action: Assigned Compound ID Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09		
Lims ID:	icv				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

16 Dieldrin, CAS: 60-57-1

Signal: 2

Not Detected
Expected RT: 13.41

Processing Integration Results

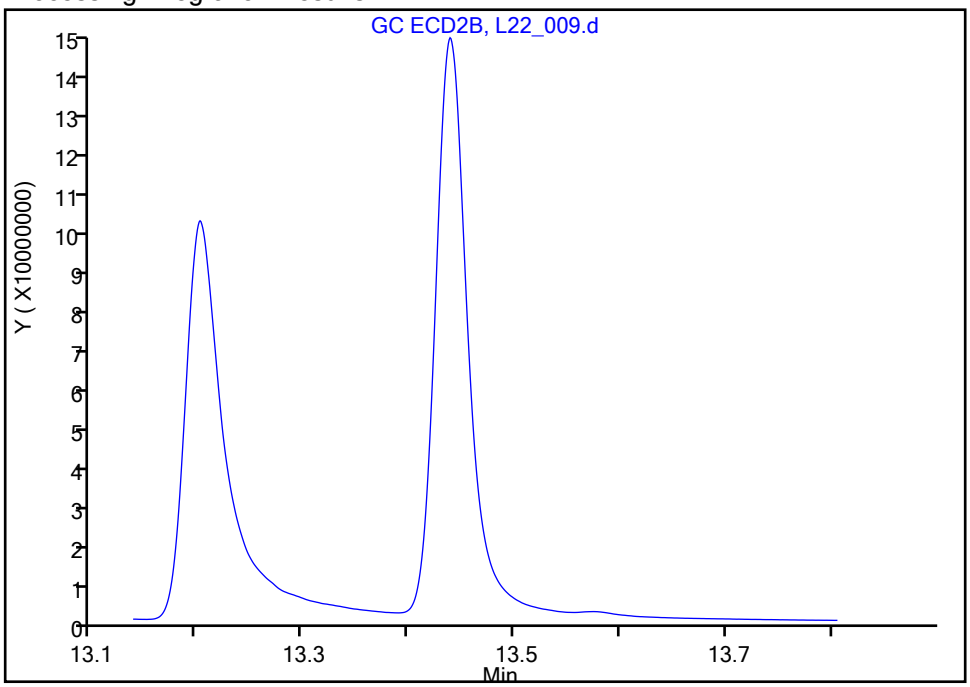

RT: 13.44
Area: 316534770
Amount: 0.045568
Amount Units: ug/ml

Manual Integration Results

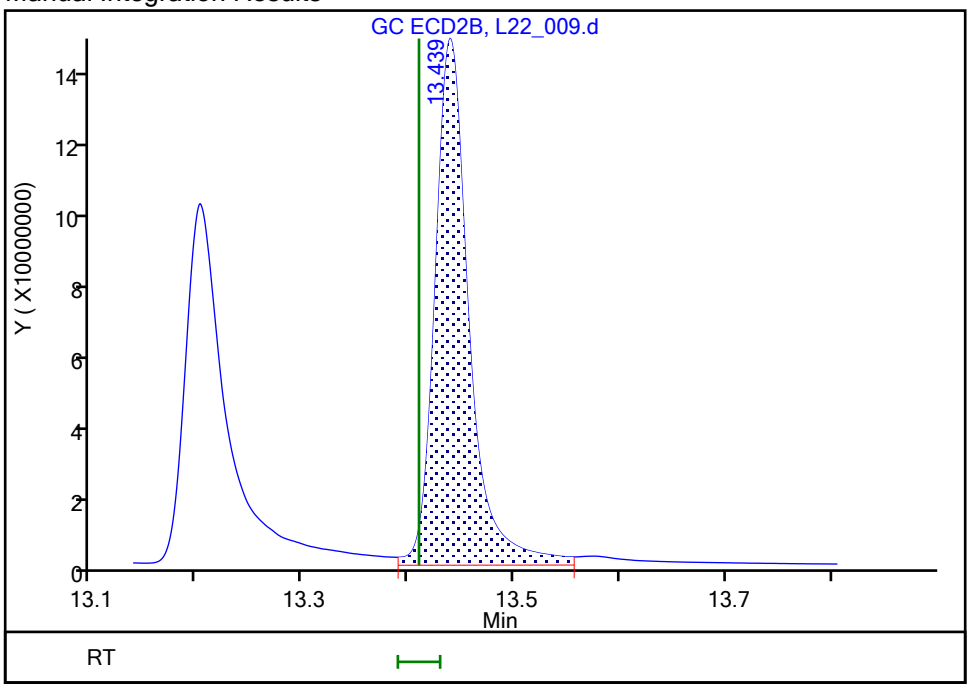

Reviewer: lamj, 23-Sep-2019 09:33:42
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09		
Lims ID:	icv				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

18 Endrin, CAS: 72-20-8

Signal: 2

Not Detected
Expected RT: 13.97

Processing Integration Results

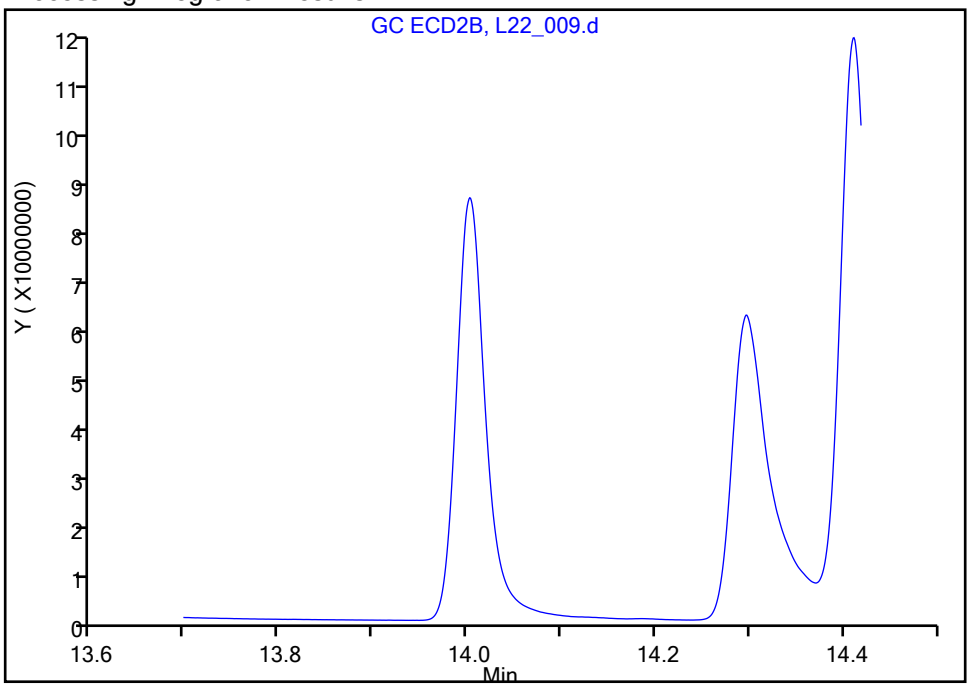

Manual Integration Results

RT: 14.00
Area: 176892443
Amount: 0.041563
Amount Units: ug/ml

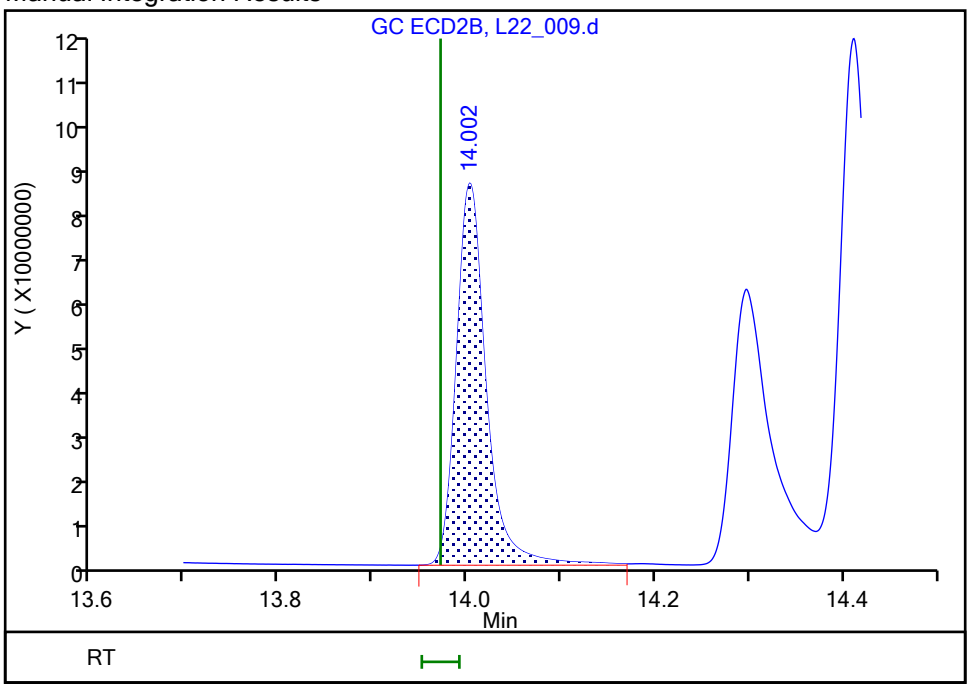

Reviewer: lamj, 23-Sep-2019 09:33:49
Audit Action: Assigned Compound ID Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09		
Lims ID:	icv				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

19 4,4'-DDD, CAS: 72-54-8

Signal: 2

Not Detected
Expected RT: 14.26

Processing Integration Results

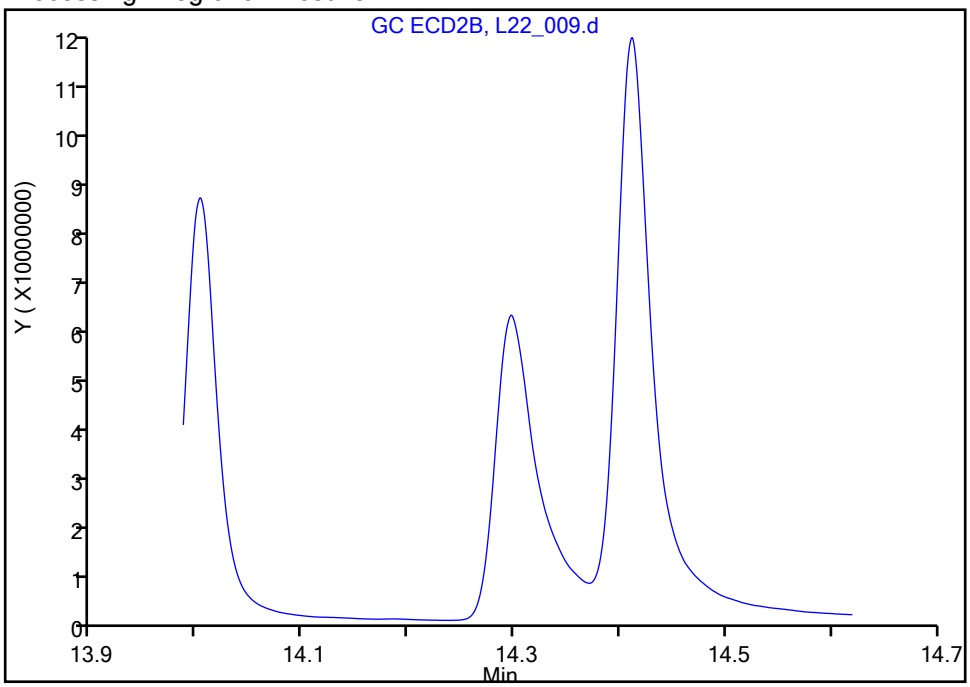

RT: 14.30
Area: 165526875
Amount: 0.039342
Amount Units: ug/ml

Manual Integration Results

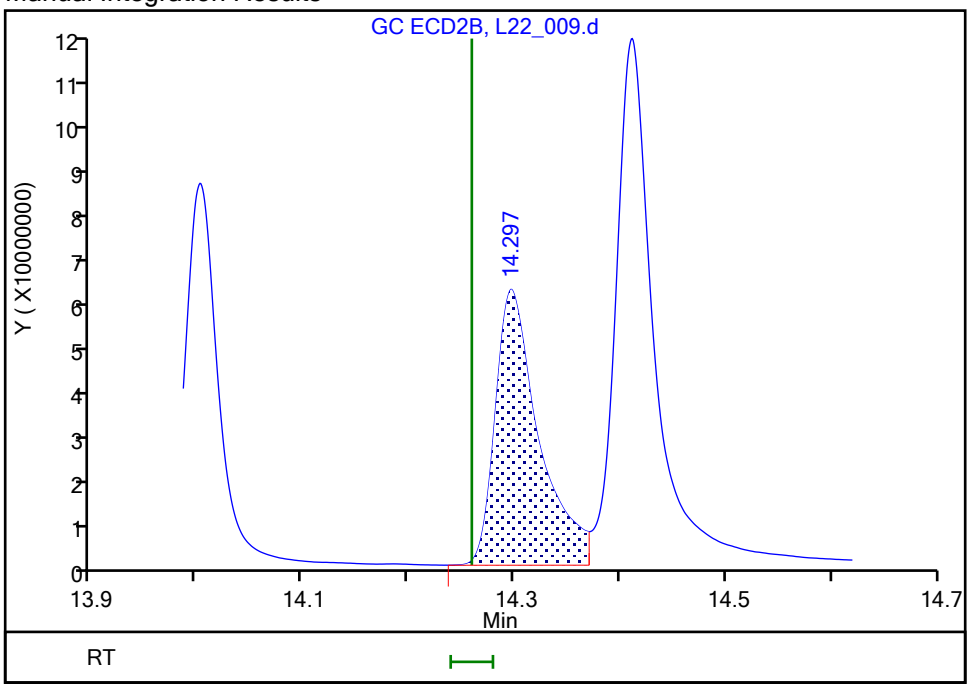

Reviewer: lamj, 23-Sep-2019 09:33:57
Audit Action: Assigned Compound ID Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09		
Lims ID:	icv				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

20 Endosulfan II, CAS: 33213-65-9

Signal: 2

Not Detected
Expected RT: 14.38

Processing Integration Results

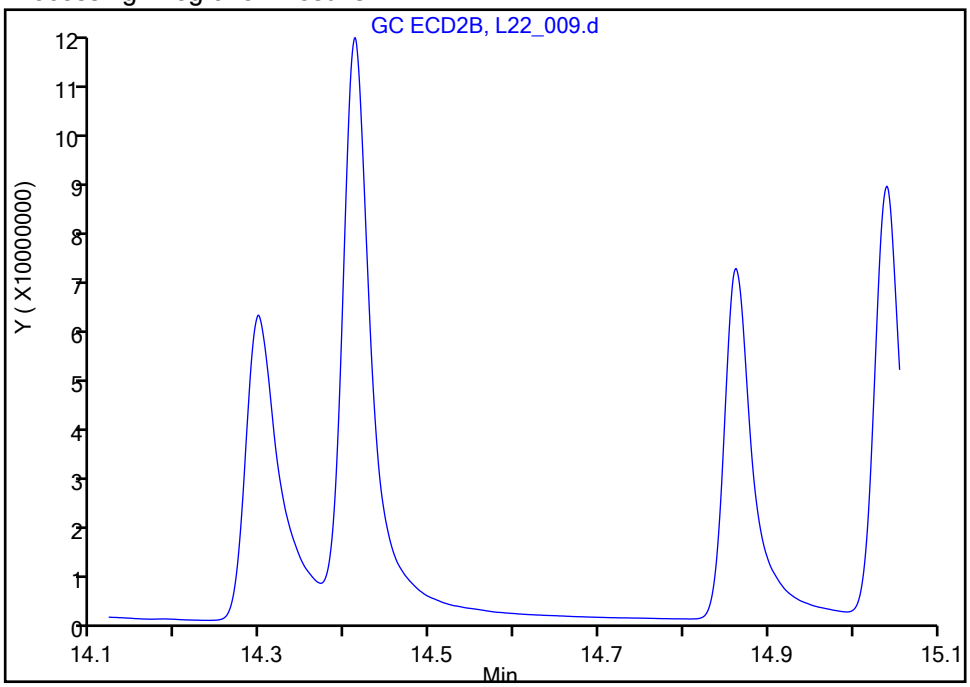

Manual Integration Results

RT:	14.41
Area:	294794363
Amount:	0.044812
Amount Units:	ug/ml

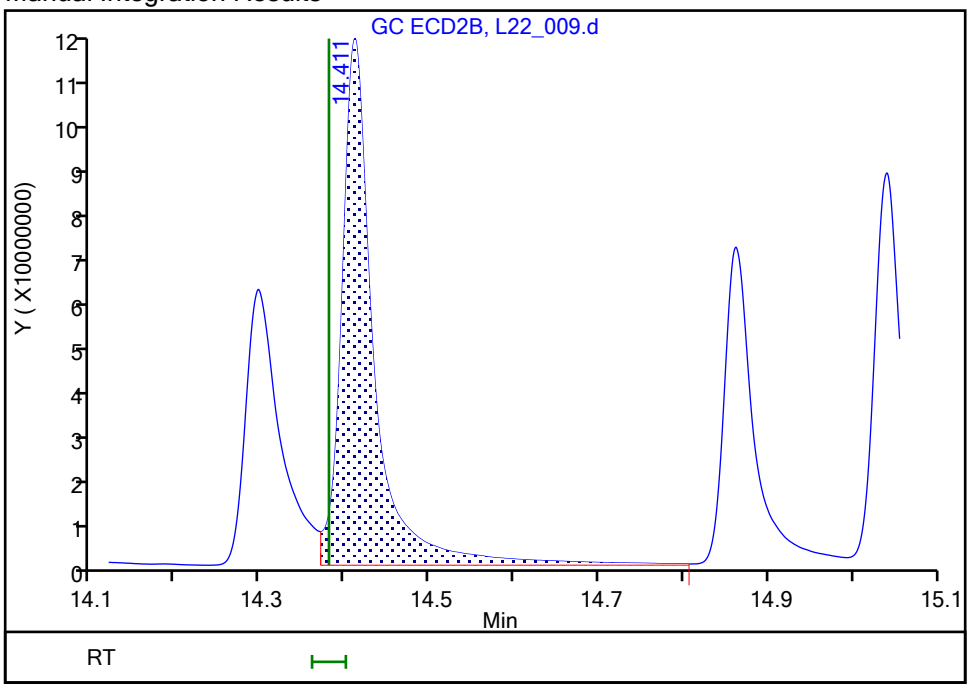

Reviewer: lamj, 23-Sep-2019 09:34:04
Audit Action: Assigned Compound ID Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09		
Lims ID:	icv				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

21 4,4'-DDT, CAS: 50-29-3

Signal: 2

Not Detected
Expected RT: 14.83

Processing Integration Results

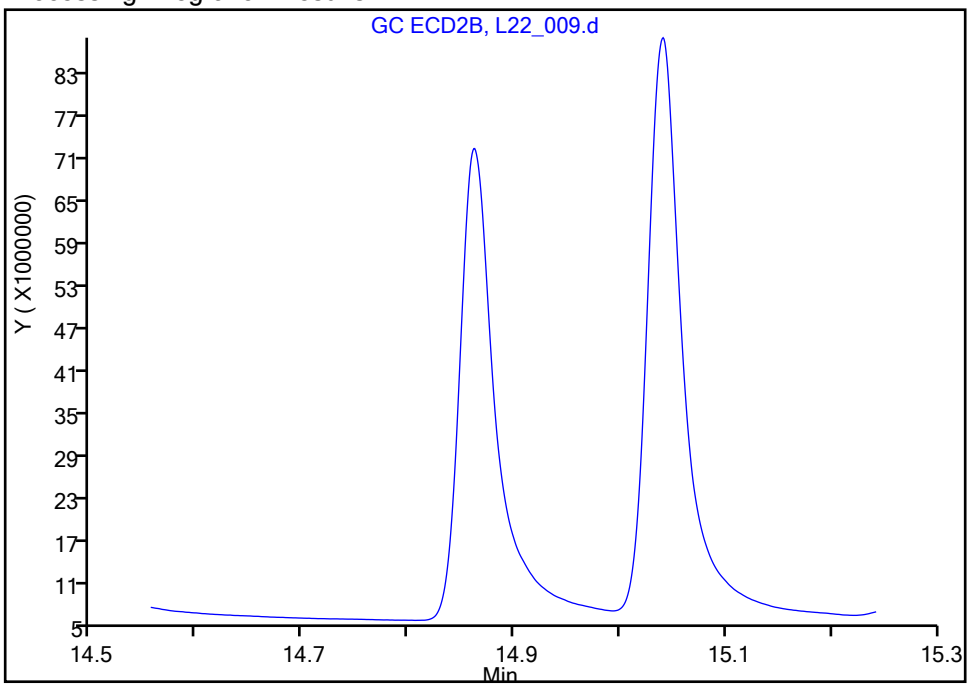

RT: 14.86
Area: 165436376
Amount: 0.042270
Amount Units: ug/ml

Manual Integration Results

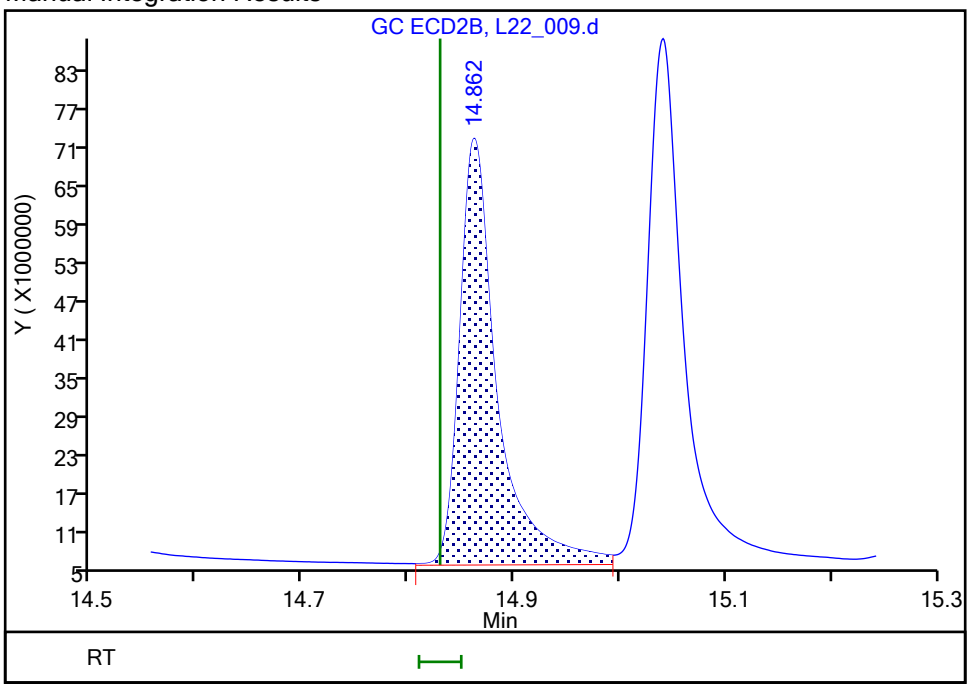

Reviewer: lamj, 23-Sep-2019 09:34:12
Audit Action: Assigned Compound ID Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09		
Lims ID:	icv				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

24 Endrin aldehyde, CAS: 7421-93-4

Signal: 2

Not Detected
Expected RT: 15.01

Processing Integration Results

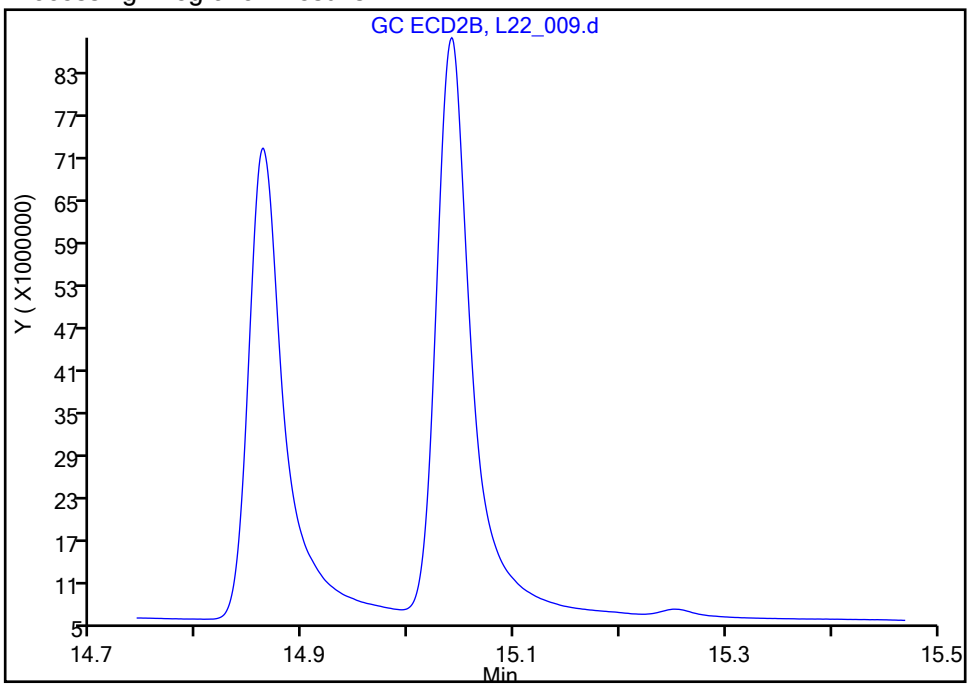

RT: 15.04
Area: 204377615
Amount: 0.045774
Amount Units: ug/ml

Manual Integration Results

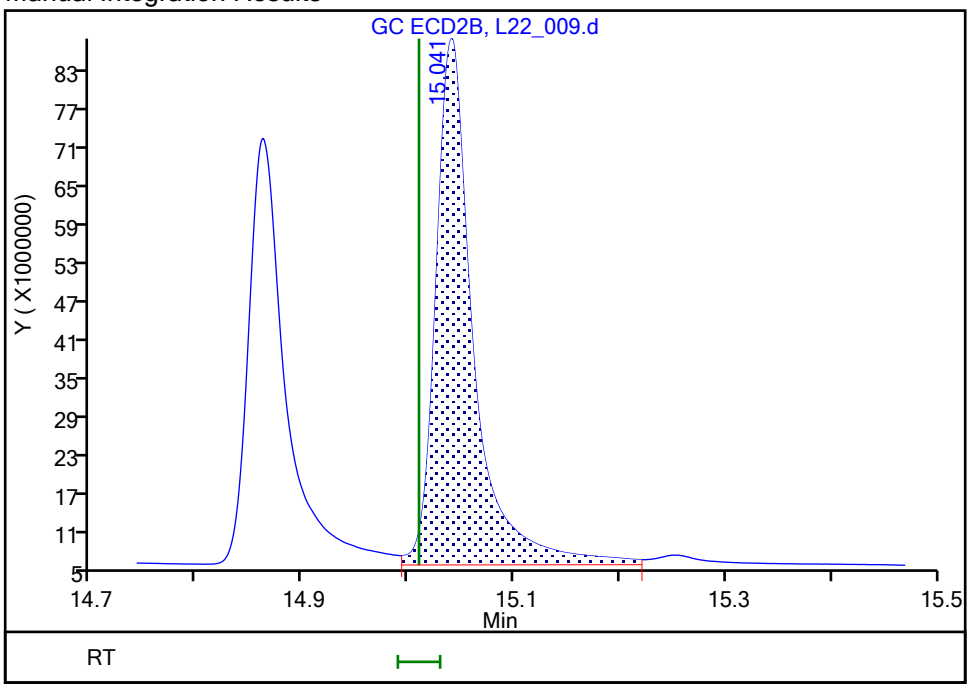

Reviewer: lamj, 23-Sep-2019 09:34:19
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09		
Lims ID:	icv				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

26 Endosulfan sulfate, CAS: 1031-07-8

Signal: 2

Not Detected
Expected RT: 15.52

Processing Integration Results

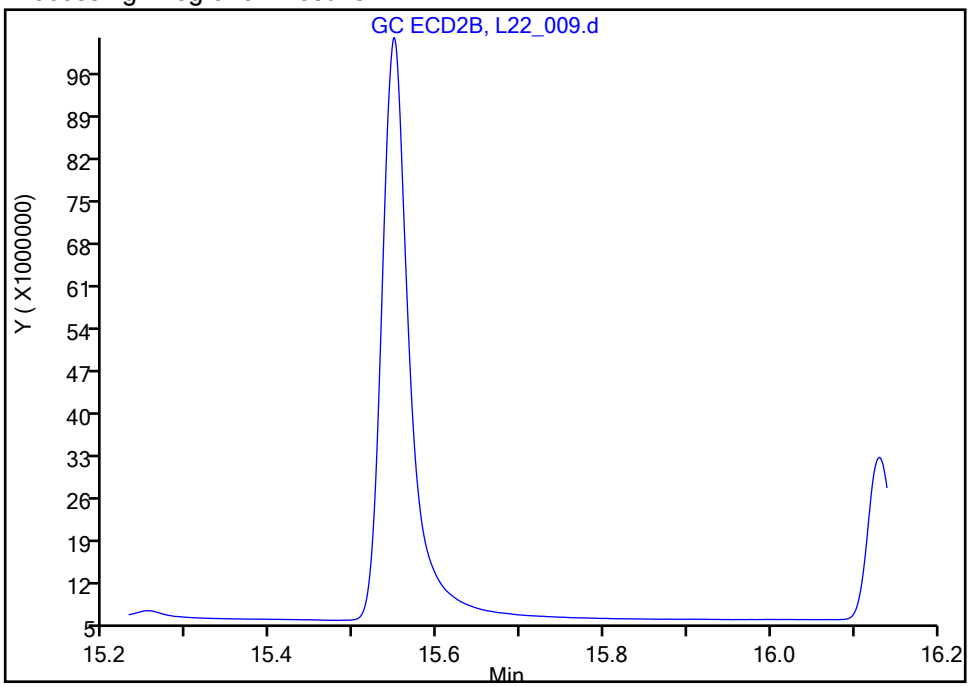

Manual Integration Results

RT:	15.55
Area:	230028161
Amount:	0.041918
Amount Units:	ug/ml

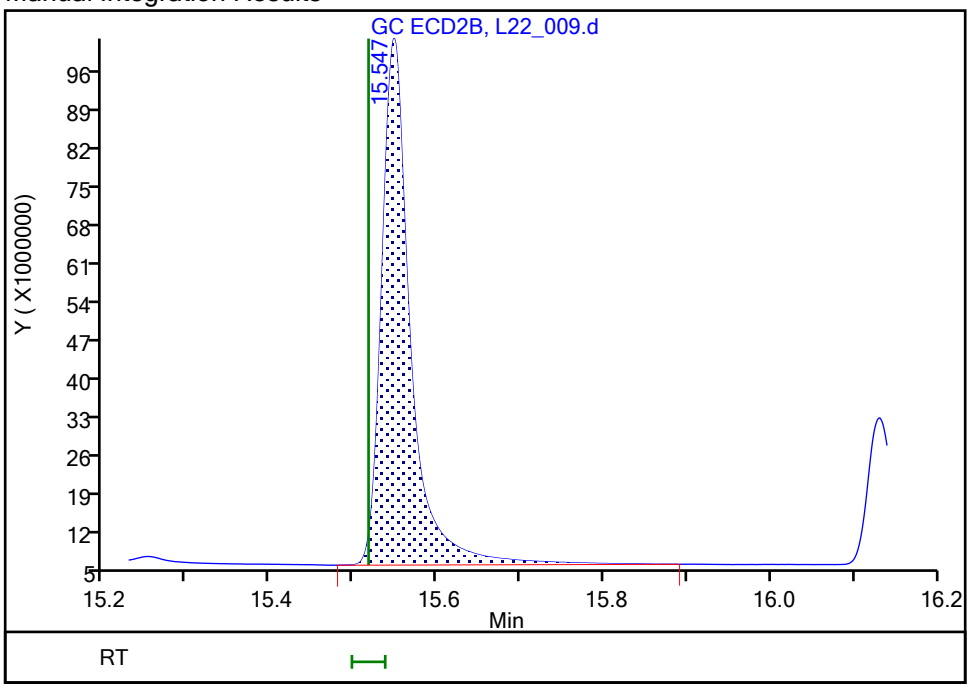

Reviewer: lamj, 23-Sep-2019 09:34:35
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09		
Lims ID:	icv				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

25 Methoxychlor, CAS: 72-43-5

Signal: 2

Processing Integration Results

RT: 16.08
Area: 1182
Amount: 0.000001
Amount Units: ug/ml

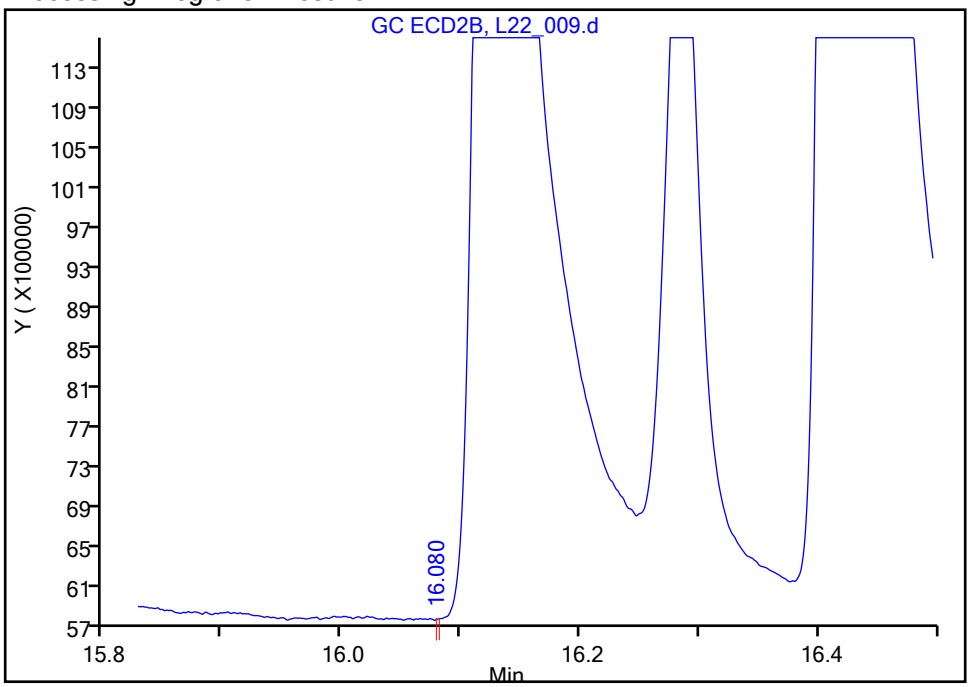

Manual Integration Results

RT: 16.13
Area: 67860222
Amount: 0.041649
Amount Units: ug/ml

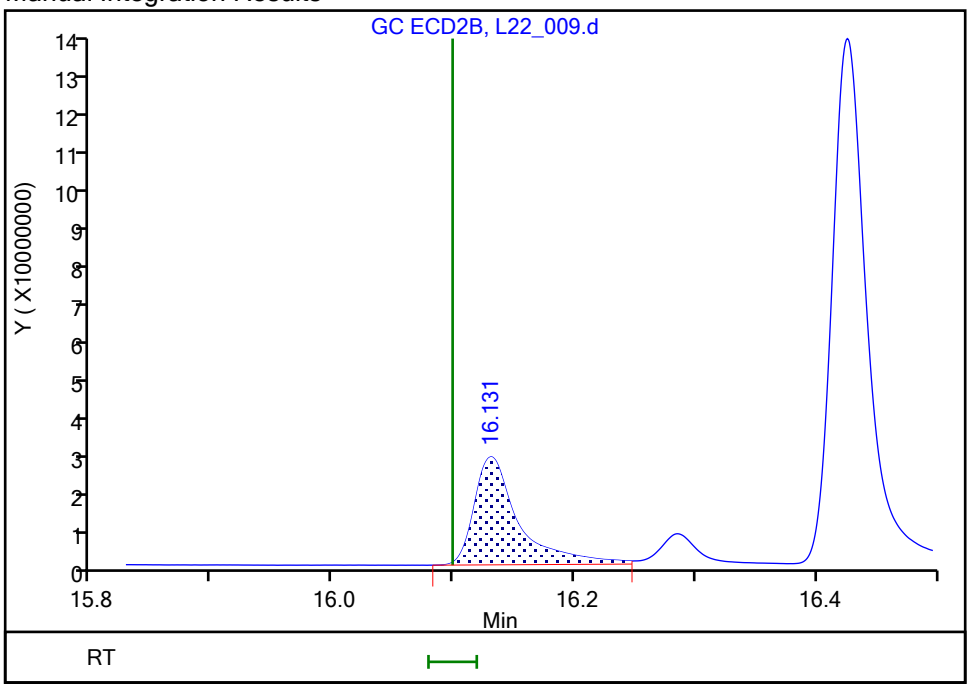

Reviewer: lamj, 23-Sep-2019 09:34:31
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_009.d				
Injection Date:	22-Sep-2019 15:33:00	Instrument ID:	CHECD09		
Lims ID:	icv				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD2B		

27 Endrin ketone, CAS: 53494-70-5

Signal: 2

Processing Integration Results

Not Detected
Expected RT: 16.40

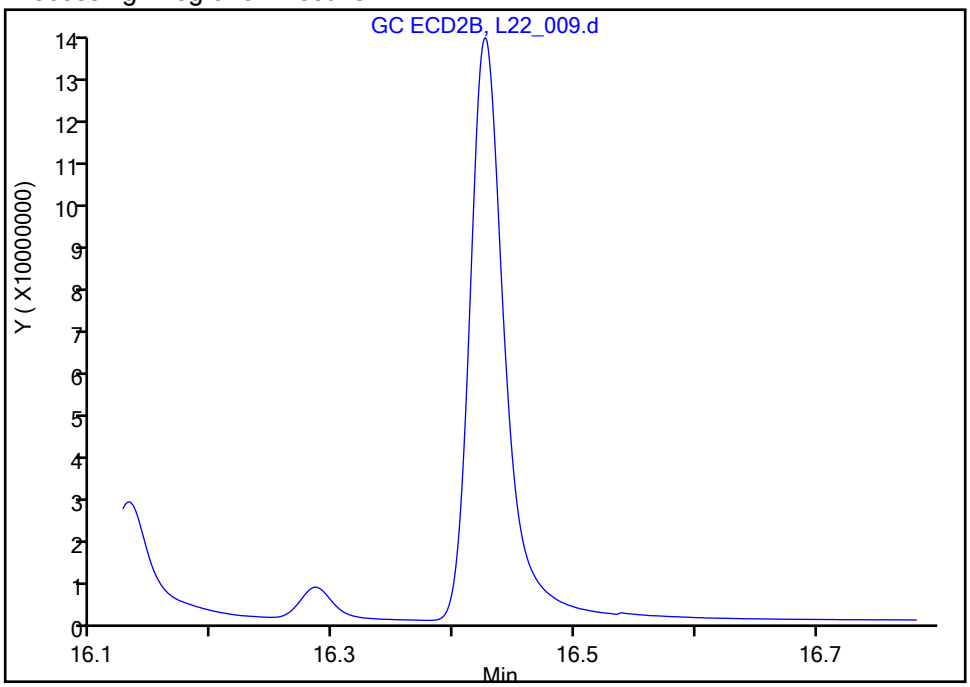

Manual Integration Results

RT: 16.43
Area: 263371384
Amount: 0.040257
Amount Units: ug/ml

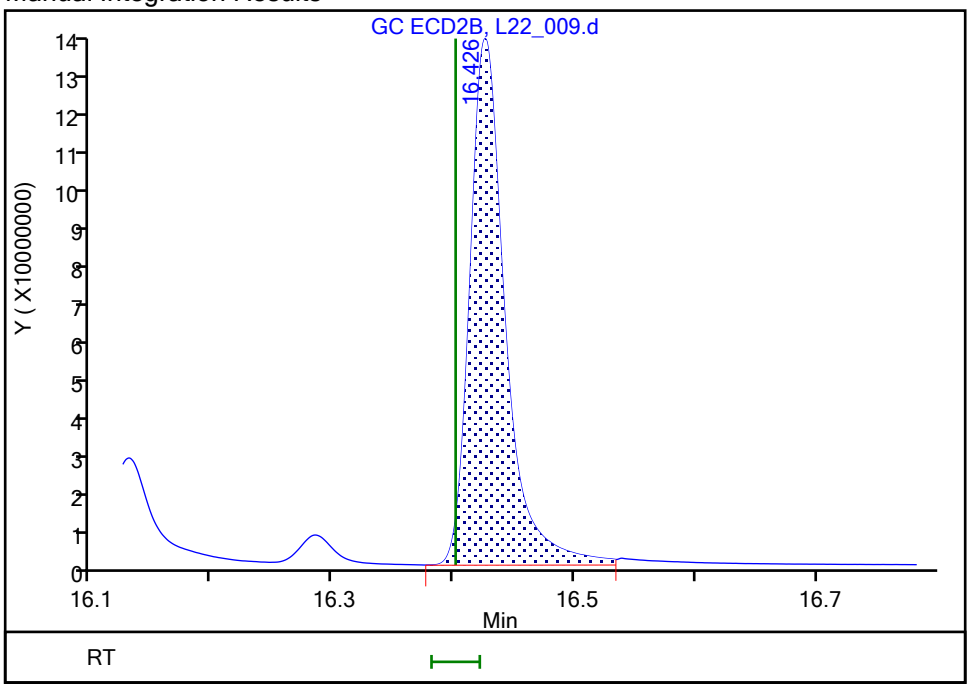

Reviewer: lamj, 23-Sep-2019 09:34:43
Audit Action: Assigned Compound ID Audit Reason:

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-191956-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 600-275087/1-A
Matrix: Water
Lab File ID: L22_012.d
Analysis Method: 8081B
Date Collected:
Extraction Method: 3510C LVI
Date Extracted: 09/18/2019 11:20
Sample wt/vol: 250(mL)
Date Analyzed: 09/22/2019 16:57
Con. Extract Vol.: 5.0(mL)
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: RTX-CLP1 ID: 0.32(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 275356
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
5103-71-9	cis-Chlordane	ND		0.10	0.10
12789-03-6	Chlordane (technical)	ND		0.20	0.12
5103-74-2	Chlordane (trans)	ND		0.10	0.014
72-20-8	Endrin	ND		0.20	0.014
58-89-9	gamma-BHC (Lindane)	ND		0.10	0.012
76-44-8	Heptachlor	ND		0.10	0.012
1024-57-3	Heptachlor epoxide	ND		0.10	0.014
72-43-5	Methoxychlor	ND		1.0	0.018
8001-35-2	Toxaphene	ND		10	4.9

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl	89		36-144
877-09-8	Tetrachloro-m-xylene	76		32-143

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_012.d
Lims ID: MB 600-275087/1-A
Client ID:
Sample Type: MB
Inject. Date: 22-Sep-2019 16:57:48 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031217-012
Operator ID: JL Instrument ID: CHECD09

Method: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\LVI_PEST_CHECD09.m
Limit Group: GCSV - 8081A
Last Update: 23-Sep-2019 10:30:59 Calib Date: 22-Sep-2019 15:04:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_008.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0327

First Level Reviewer: lamj Date: 23-Sep-2019 10:01:49

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.276	6.276	0.000	4180539245	50.0	50.0	
2	6.253	6.257	-0.004	2557056954	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	7.982	7.984	-0.002	146162285	0.0200	0.0153	
2	8.172	8.175	-0.003	82909407	0.0200	0.0141	
						RPD = 7.77	
$ 28 DCB Decachlorobiphenyl							
1	17.549	17.546	0.003	131802487	0.0200	0.0179	
2	18.062	18.064	-0.002	96039882	0.0200	0.0188	
						RPD = 5.07	

Reagents:

PST_IS 2_00063 Amount Added: 1.00 Units: mL Run Reagent

Report Date: 23-Sep-2019 10:32:12 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_012.d				
Injection Date:	22-Sep-2019 16:57:48	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	MB 600-275087/1-A			Worklist Smp#:	12
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		

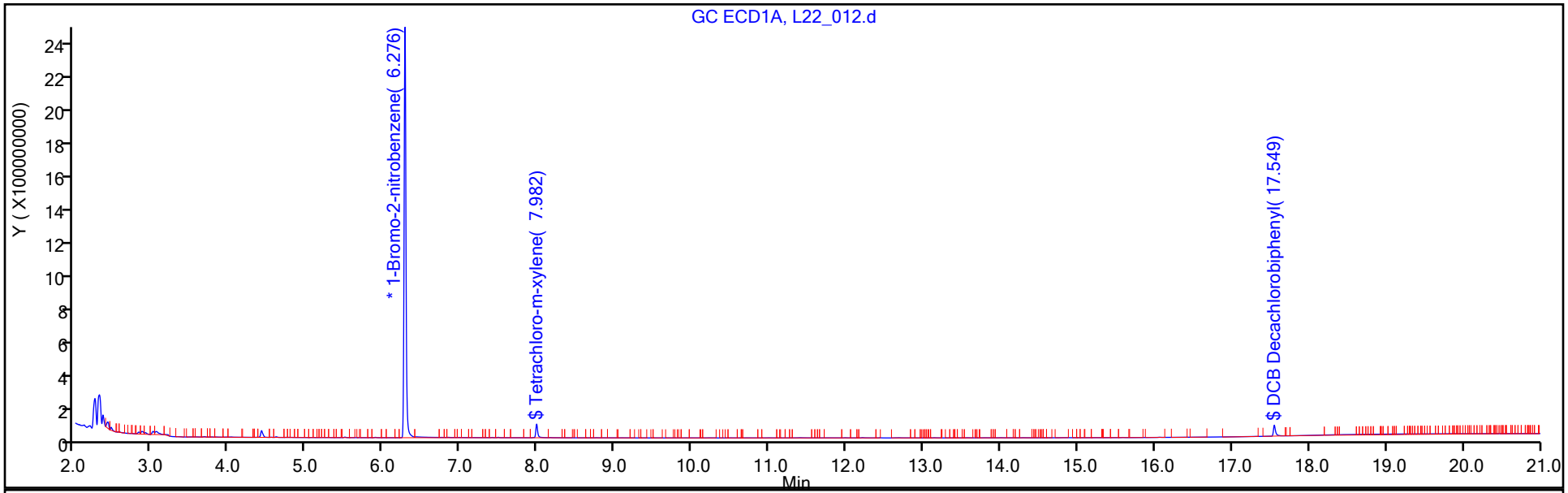

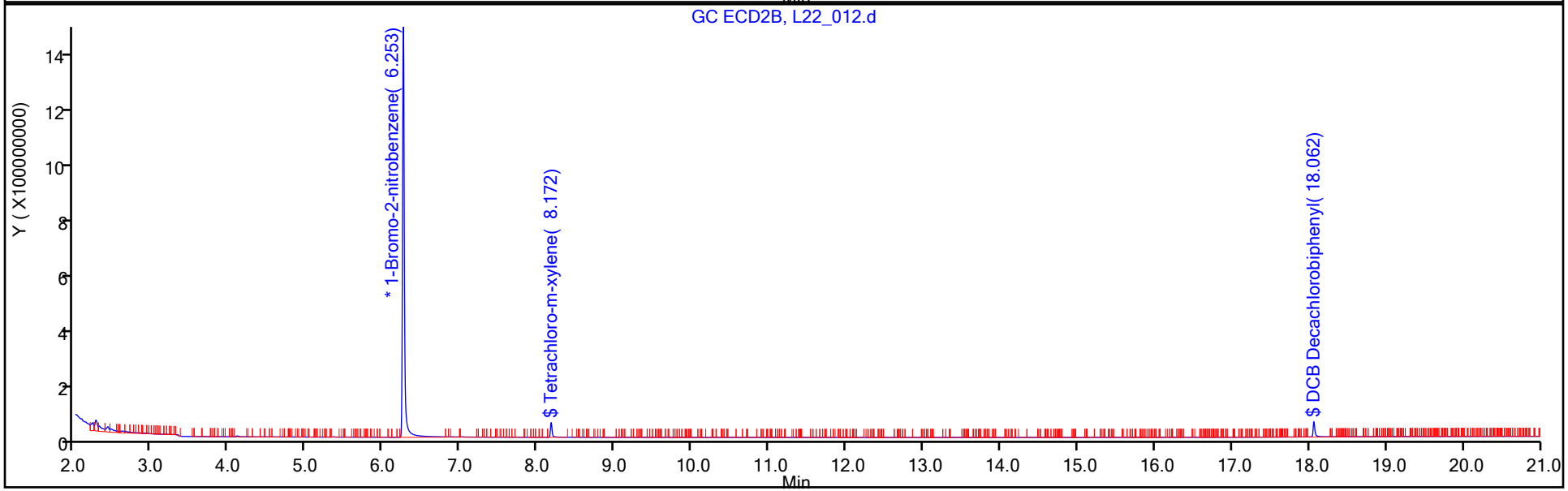

Eurofins TestAmerica, Houston
Recovery Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_012.d
Lims ID: MB 600-275087/1-A
Client ID:
Sample Type: MB
Inject. Date: 22-Sep-2019 16:57:48 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031217-012
Operator ID: JL Instrument ID: CHECD09

Method: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\LVI_PEST_CHECD09.m
Limit Group: GCSV - 8081A
Last Update: 23-Sep-2019 10:30:59 Calib Date: 22-Sep-2019 15:04:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_008.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0327

First Level Reviewer: lamj Date: 23-Sep-2019 10:01:49

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0153	76.37
$ 28 DCB Decachlorobiphenyl	0.0200	0.0179	89.49

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0141	70.66
$ 28 DCB Decachlorobiphenyl	0.0200	0.0188	94.15

User Disabled Compound Report

Eurofins TestAmerica, Houston

Data File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_012.d
Injection Date: 22-Sep-2019 16:57:48 Instrument ID: CHECD09
Lims ID: MB 600-275087/1-A
Client ID:
Operator ID: JL ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: LVI_PEST_CHECD09 Limit Group: GCSV - 8081A

Column: Detector GC ECD1A

13 cis-Chlordane, CAS: 5103-71-9, Signal: 1

RT: 12.44
Response: 1065843
Amount: 0.000111

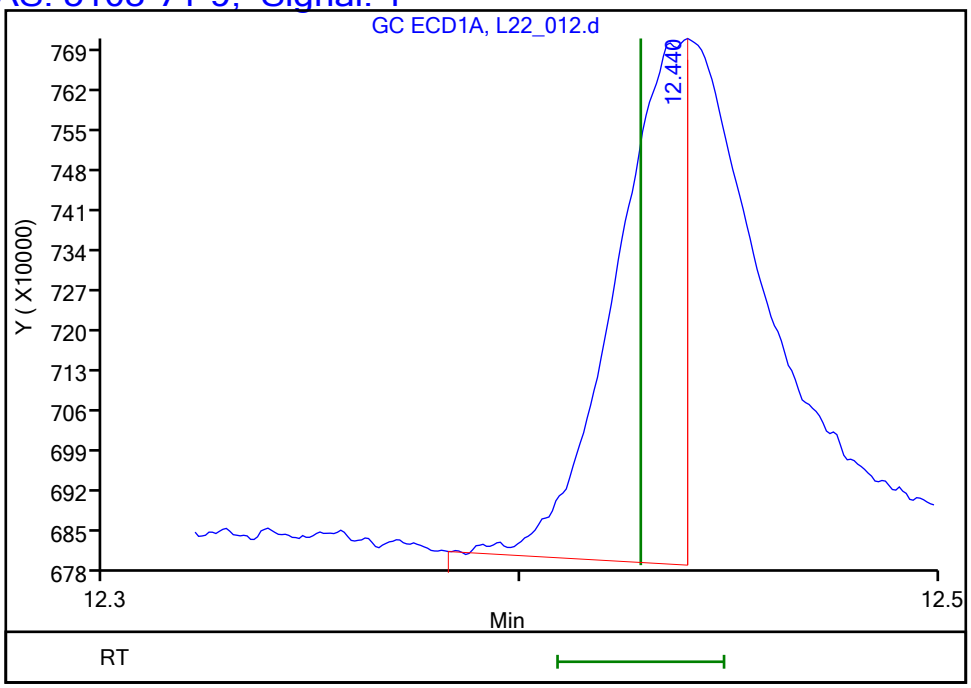

Column: Detector GC ECD2B

13 cis-Chlordane, CAS: 5103-71-9, Signal: 2

RT: 12.80
Response: 1415922
Amount: 0.000244

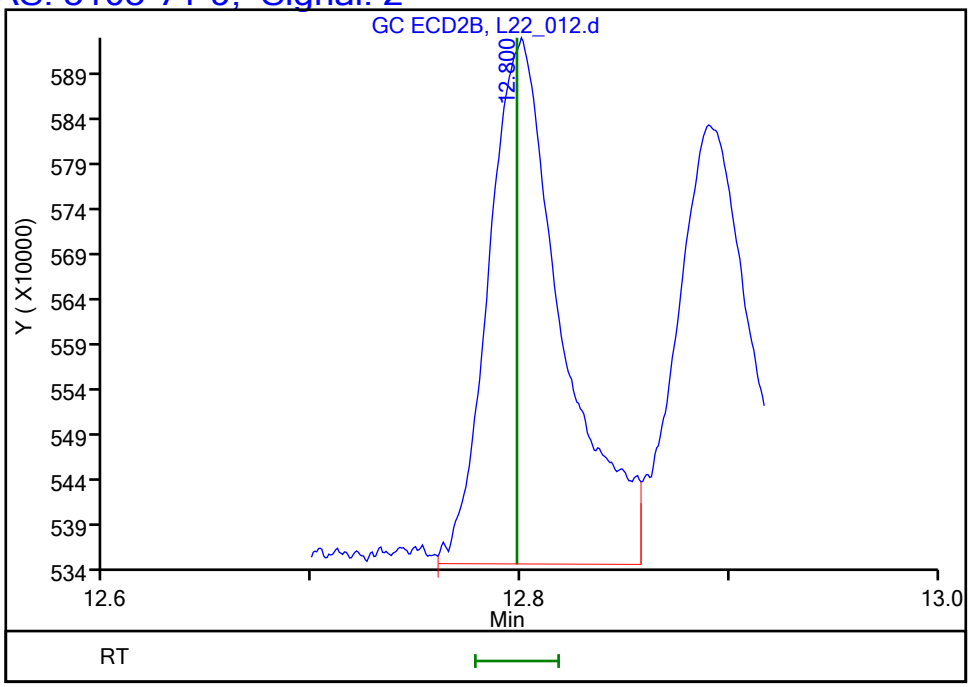

Reviewer: lamj, 23-Sep-2019 10:01:49
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Houston

Data File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_012.d
Injection Date: 22-Sep-2019 16:57:48 Instrument ID: CHECD09
Lims ID: MB 600-275087/1-A
Client ID:
Operator ID: JL ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: LVI_PEST_CHECD09 Limit Group: GCSV - 8081A

Column: Detector GC ECD1A

12 trans-Chlordane, CAS: 5103-74-2, Signal: 1

RT: 12.21
Response: 4048883
Amount: 0.000394

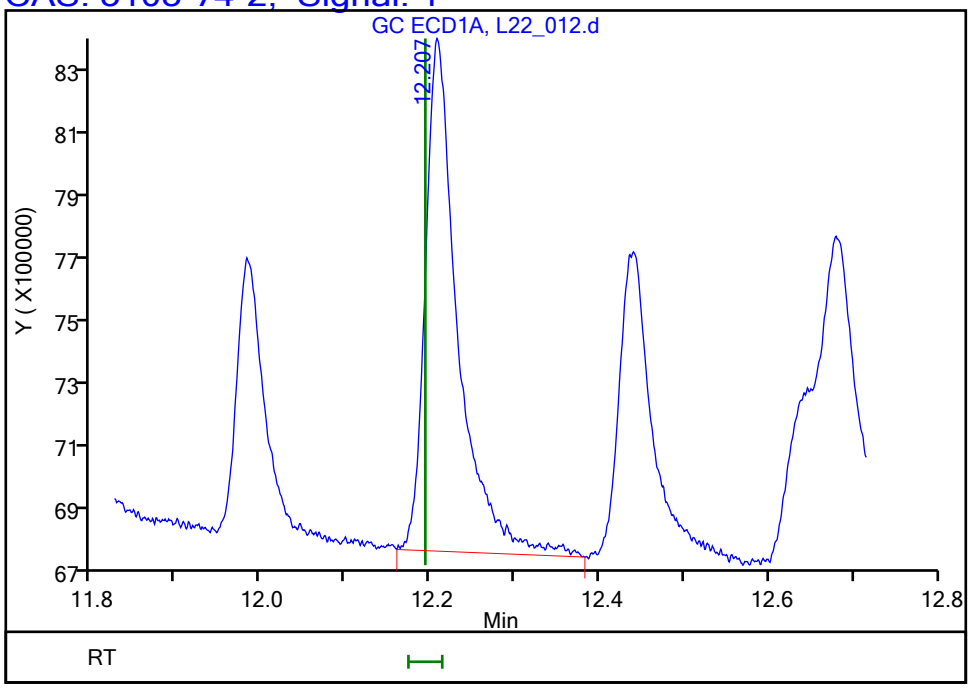

Column: Detector GC ECD2B

12 trans-Chlordane, CAS: 5103-74-2, Signal: 2

RT: 12.52
Response: 1396741
Amount: 0.000223

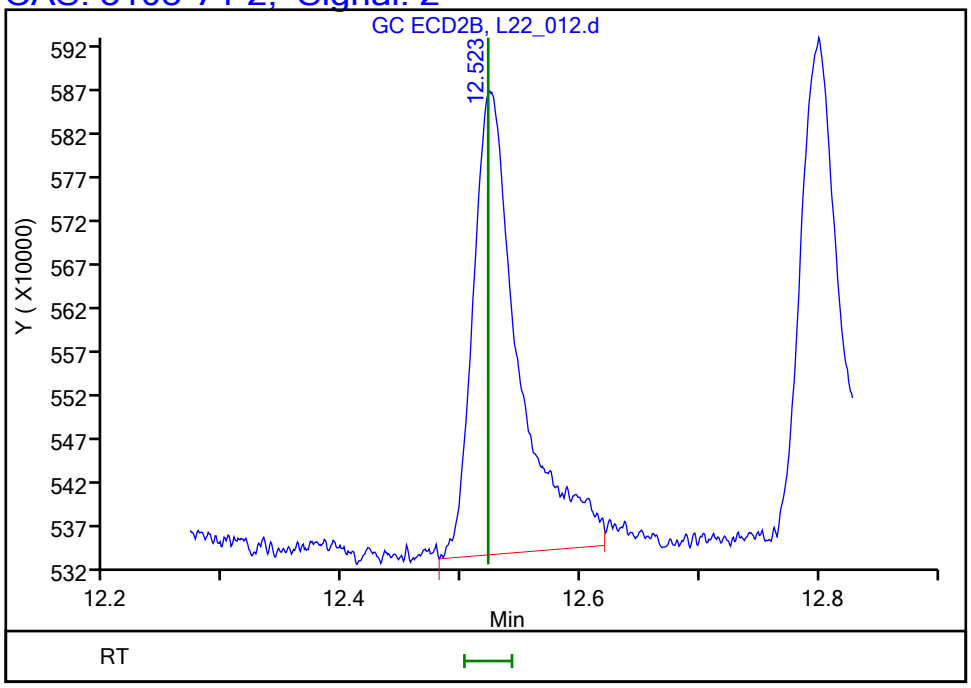

Reviewer: lamj, 23-Sep-2019 10:01:49
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Houston

Data File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_012.d
Injection Date: 22-Sep-2019 16:57:48 Instrument ID: CHECD09
Lims ID: MB 600-275087/1-A
Client ID:
Operator ID: JL ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: LVI_PEST_CHECD09 Limit Group: GCSV - 8081A

Column: Detector GC ECD1A

18 Endrin, CAS: 72-20-8, Signal: 1

RT: 13.57
Response: 1636062
Amount: 0.000233

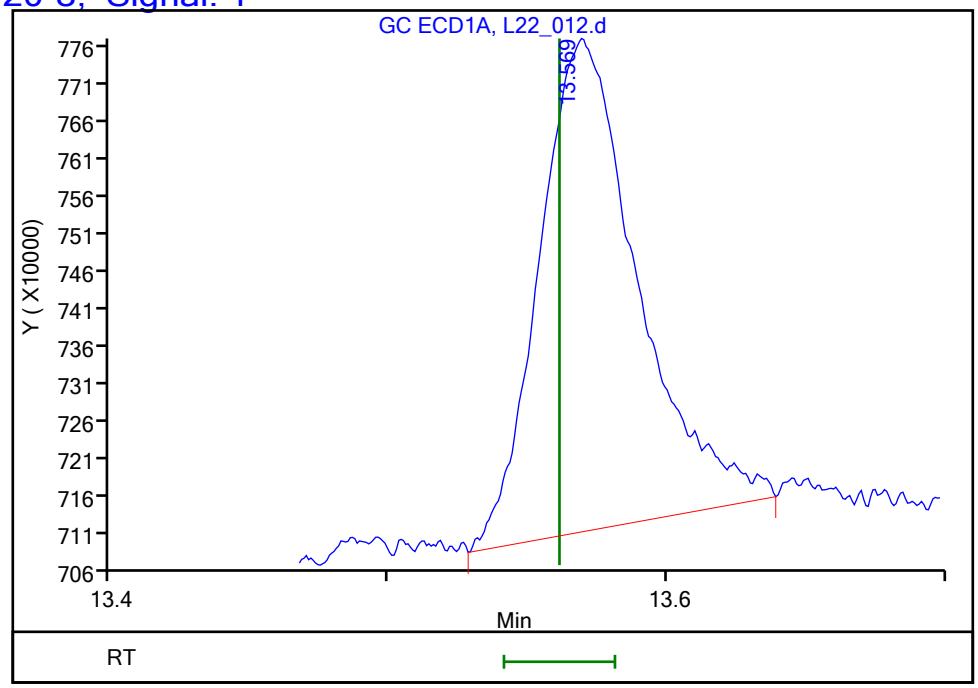

Column: Detector GC ECD2B

18 Endrin, CAS: 72-20-8, Signal: 2

RT: 13.97
Response: 803315
Amount: 0.000223

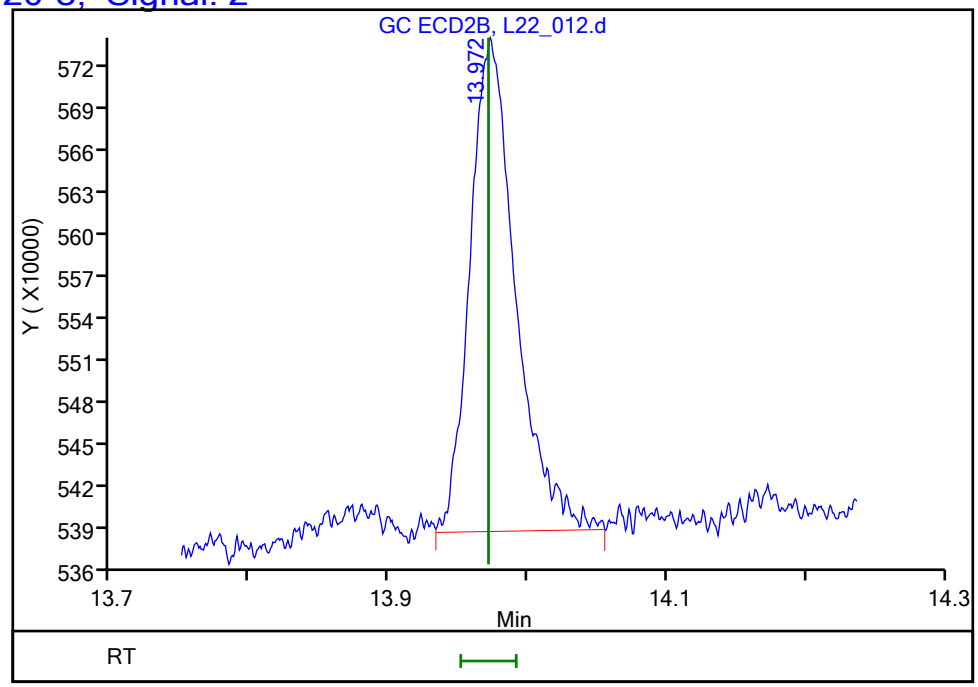

Reviewer: lamj, 23-Sep-2019 10:01:49
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Houston

Data File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_012.d
Injection Date: 22-Sep-2019 16:57:48 Instrument ID: CHECD09
Lims ID: MB 600-275087/1-A
Client ID:
Operator ID: JL ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: LVI_PEST_CHECD09 Limit Group: GCSV - 8081A

Column: Detector GC ECD1A

4 gamma-BHC (Lindane), CAS: 58-89-9, Signal: 1

RT: 9.69
Response: 536892
Amount: 0.000048

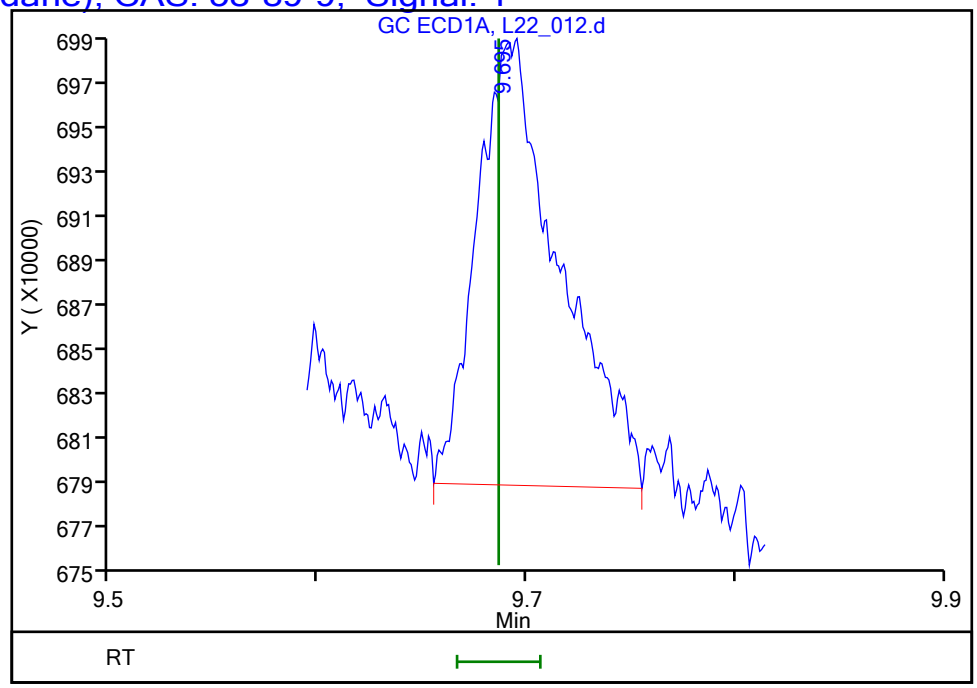

Column: Detector GC ECD2B

4 gamma-BHC (Lindane), CAS: 58-89-9, Signal: 2

RT: 10.01
Response: 428454
Amount: 0.000062

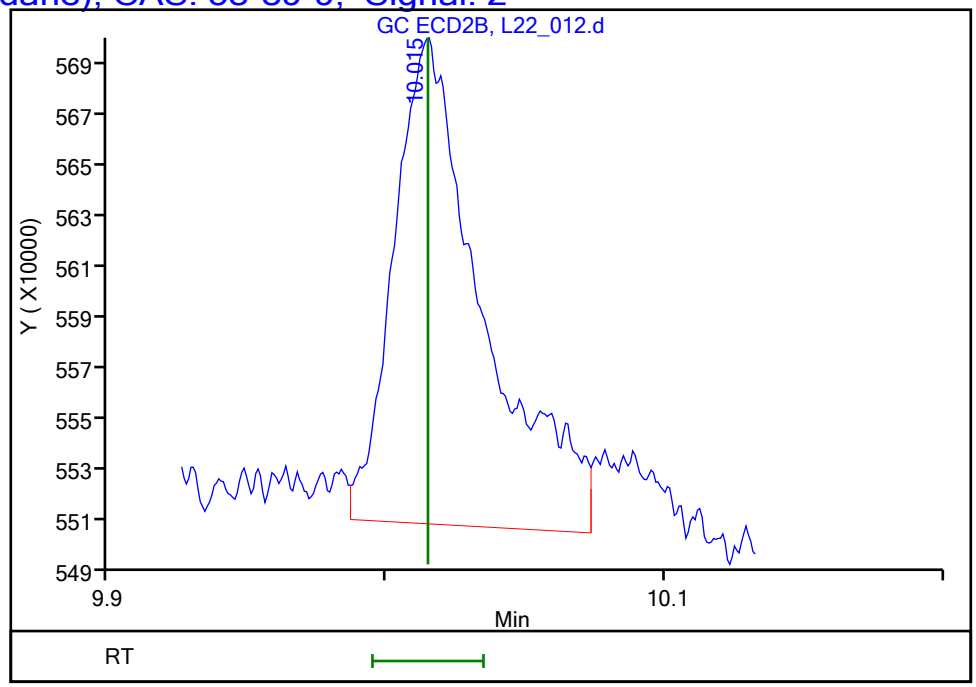

Reviewer: lamj, 23-Sep-2019 10:01:49
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Houston

Data File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_012.d
Injection Date: 22-Sep-2019 16:57:48 Instrument ID: CHECD09
Lims ID: MB 600-275087/1-A
Client ID:
Operator ID: JL ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: LVI_PEST_CHECD09 Limit Group: GCSV - 8081A

Column: Detector GC ECD1A

9 Heptachlor, CAS: 76-44-8, Signal: 1

RT: 10.50
Response: 943740
Amount: 0.000080

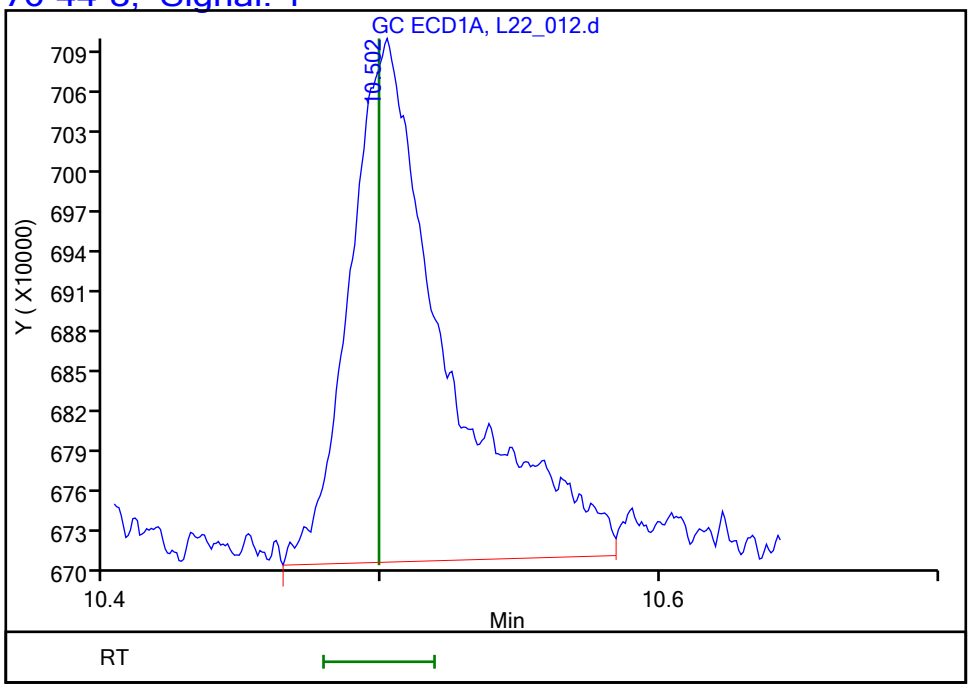

Column: Detector GC ECD2B

9 Heptachlor, CAS: 76-44-8, Signal: 2

RT: 10.73
Response: 1349801
Amount: 0.000182

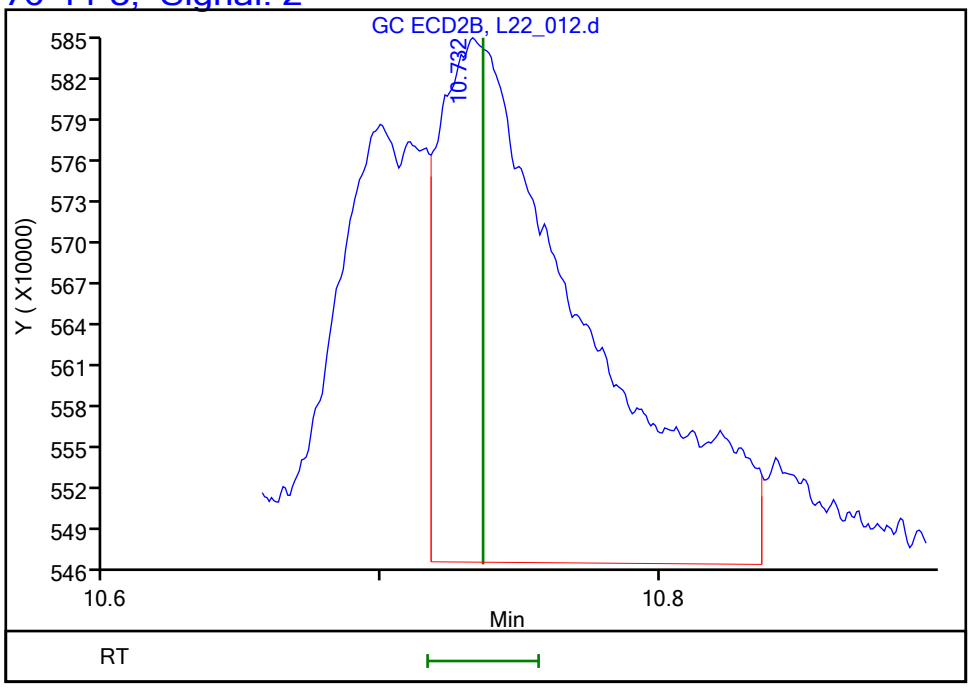

Reviewer: lamj, 23-Sep-2019 10:01:49
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Houston

Data File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_012.d
Injection Date: 22-Sep-2019 16:57:48 Instrument ID: CHECD09
Lims ID: MB 600-275087/1-A
Client ID:
Operator ID: JL ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: LVI_PEST_CHECD09 Limit Group: GCSV - 8081A

Column: Detector GC ECD1A

11 Heptachlor epoxide, CAS: 1024-57-3, Signal: 1

RT: 11.98
Response: 2036230
Amount: 0.000204

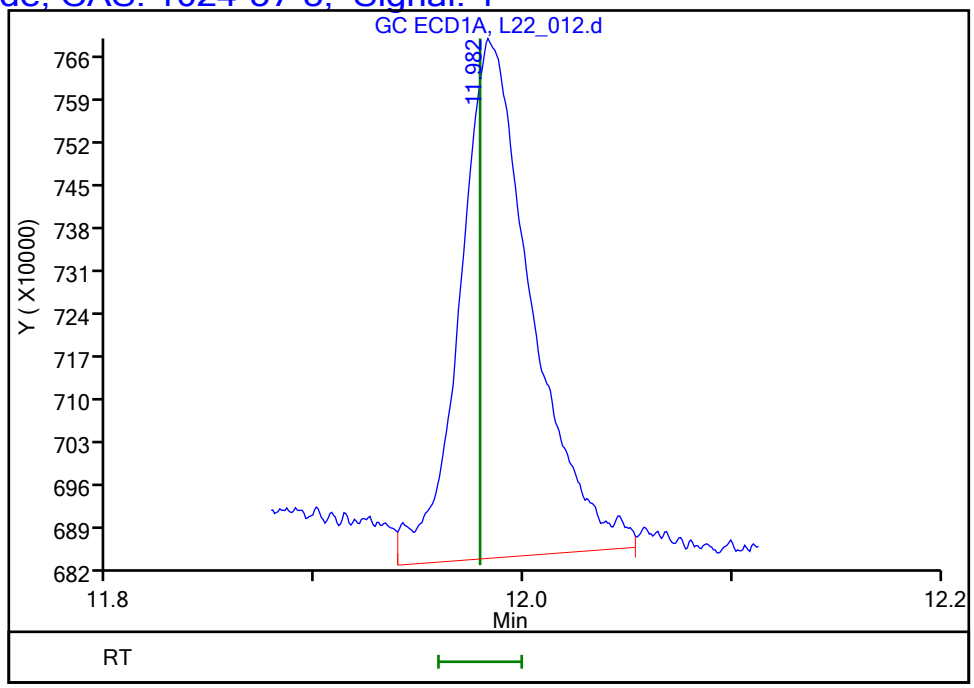

Column: Detector GC ECD2B

11 Heptachlor epoxide, CAS: 1024-57-3, Signal: 2

RT: 12.18
Response: 980859
Amount: 0.000165

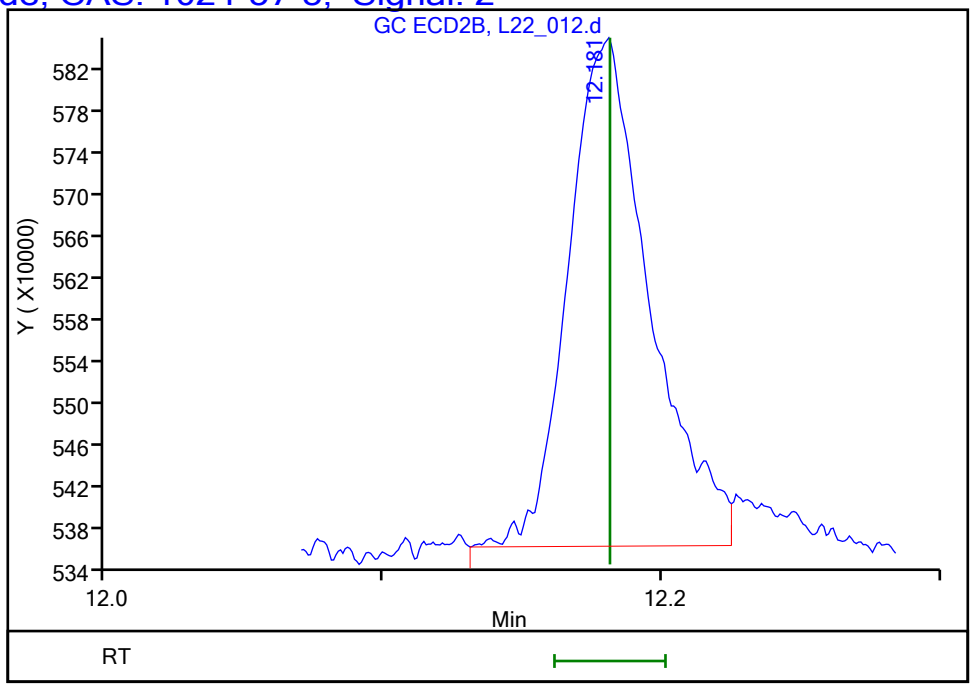

Reviewer: lamj, 23-Sep-2019 10:01:49
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-191956-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 600-275087/2-A
Matrix: Water
Lab File ID: L22_013.d
Analysis Method: 8081B
Date Collected:
Extraction Method: 3510C LVI
Date Extracted: 09/18/2019 11:20
Sample wt/vol: 250(mL)
Date Analyzed: 09/22/2019 17:25
Con. Extract Vol.: 5.0(mL)
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: RTX-CLP1 ID: 0.32(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 275356
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
5103-71-9	cis-Chlordane	1.47		0.10	0.10
5103-74-2	Chlordane (trans)	1.43		0.10	0.014
72-20-8	Endrin	1.43		0.20	0.014
58-89-9	gamma-BHC (Lindane)	1.46		0.10	0.012
76-44-8	Heptachlor	1.44		0.10	0.012
1024-57-3	Heptachlor epoxide	1.37		0.10	0.014
72-43-5	Methoxychlor	1.57		1.0	0.018

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl	101		36-144
877-09-8	Tetrachloro-m-xylene	92		32-143

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_013.d
Lims ID: LCS 600-275087/2-A
Client ID:
Sample Type: LCS
Inject. Date: 22-Sep-2019 17:25:58 ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031217-013
Operator ID: JL Instrument ID: CHECD09

Method: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\LVI_PEST_CHECD09.m
Limit Group: GCSV - 8081A
Last Update: 23-Sep-2019 10:30:59 Calib Date: 22-Sep-2019 15:04:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_008.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0327

First Level Reviewer: lamj Date: 23-Sep-2019 10:04:41

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.277	6.276	0.001	3770886958	50.0	50.0	
2	6.278	6.257	0.021	2282487844	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							a
1	7.982	7.984	-0.002	158439746	0.0200	0.0184	a
2	8.198	8.175	0.023	90613078	0.0200	0.0173	a
						RPD = 5.90	
3 alpha-BHC							a
1	9.089	9.093	-0.004	874364010	0.0500	0.0705	a
2	9.396	9.374	0.022	534653174	0.0500	0.0744	a
						RPD = 5.30	
4 gamma-BHC (Lindane)							a
1	9.682	9.686	-0.004	734097333	0.0500	0.0728	a
2	10.037	10.014	0.023	450255377	0.0500	0.0735	a
						RPD = 1.05	
5 beta-BHC							a
1	9.882	9.887	-0.005	318527888	0.0500	0.0769	a
2	10.223	10.201	0.022	186947239	0.0500	0.0744	a
						RPD = 3.24	
7 delta-BHC							a
1	10.188	10.189	-0.001	786214359	0.0500	0.0769	a
2	10.707	10.684	0.023	327859612	0.0500	0.0767	a
						RPD = 0.34	
9 Heptachlor							a
1	10.496	10.499	-0.003	771482520	0.0500	0.0722	a
2	10.760	10.736	0.024	509421374	0.0500	0.0771	a
						RPD = 6.51	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 Aldrin							a
1	10.986	10.990	-0.004	722315353	0.0500	0.0703	a
2	11.271	11.248	0.023	447609683	0.0500	0.0714	a
						RPD = 1.49	
11 Heptachlor epoxide							a
1	11.975	11.979	-0.004	617640934	0.0500	0.0684	a
2	12.207	12.181	0.026	377713611	0.0500	0.0710	a
						RPD = 3.67	
12 trans-Chlordane							a
1	12.191	12.194	-0.003	663512358	0.0500	0.0715	a
2	12.551	12.522	0.029	401150104	0.0500	0.0719	a
						RPD = 0.52	
13 cis-Chlordane							a
1	12.426	12.429	-0.003	636455891	0.0500	0.0733	a
2	12.826	12.798	0.028	370367498	0.0500	0.0716	a
						RPD = 2.27	
14 4,4'-DDE							a
1	12.624	12.620	0.004	389113915	0.0500	0.0643	a
2	13.201	13.169	0.032	344729704	0.0500	0.0717	a
						RPD = 10.84	
15 Endosulfan I							a
1	12.667	12.670	-0.003	801589398	0.0500	0.0682	a
2	12.918	12.890	0.028	368918527	0.0500	0.0697	a
						RPD = 2.20	
16 Dieldrin							a
1	13.124	13.128	-0.004	651950767	0.0500	0.0719	a
2	13.439	13.409	0.030	373713215	0.0500	0.0711	a
						RPD = 1.15	
18 Endrin							a
1	13.557	13.561	-0.004	452758774	0.0500	0.0716	a
2	14.001	13.971	0.030	225857888	0.0500	0.0701	a
						RPD = 2.02	
19 4,4'-DDD							a
1	13.764	13.759	0.005	460932230	0.0500	0.0750	a
2	14.294	14.259	0.035	217996156	0.0500	0.0685	a
						RPD = 9.04	
20 Endosulfan II							a
1	13.990	13.992	-0.002	594086951	0.0500	0.0794	a
2	14.410	14.380	0.030	367761228	0.0500	0.0739	a
						RPD = 7.16	
21 4,4'-DDT							a
1	14.274	14.272	0.002	539905283	0.0500	0.0762	a
2	14.861	14.829	0.032	215217607	0.0500	0.0727	a
						RPD = 4.74	
24 Endrin aldehyde							a
1	14.773	14.774	-0.001	437223822	0.0500	0.0770	a
2	15.039	15.009	0.030	240335275	0.0500	0.0711	a
						RPD = 7.88	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
25 Methoxychlor							a
1	15.216	15.207	0.009	231871310	0.0500	0.0787	a
2	16.129	16.099	0.030	87452024	0.0500	0.0709	a
						RPD = 10.35	
26 Endosulfan sulfate							a
1	15.571	15.571	0.000	493041191	0.0500	0.0725	a
2	15.546	15.517	0.029	289139754	0.0500	0.0696	a
						RPD = 4.05	
27 Endrin ketone							a
1	16.051	16.051	0.000	578187258	0.0500	0.0694	a
2	16.423	16.401	0.022	383731178	0.0500	0.0775	a
						RPD = 11.01	
$ 28 DCB Decachlorobiphenyl							
1	17.546	17.546	0.000	134474109	0.0200	0.0202	
2	18.072	18.064	0.008	93497003	0.0200	0.0205	
						RPD = 1.43	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

PST_IS 2_00063 Amount Added: 1.00 Units: mL Run Reagent

Report Date: 23-Sep-2019 10:32:26 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_013.d				
Injection Date:	22-Sep-2019 17:25:58	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	LCS 600-275087/2-A			Worklist Smp#:	13
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		

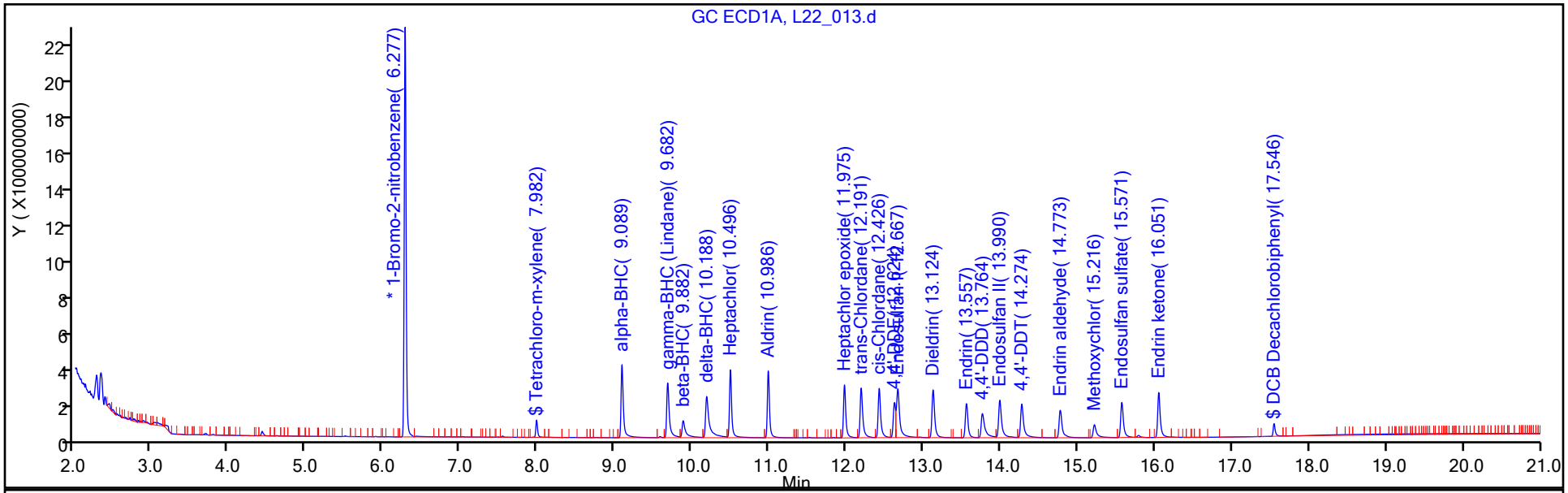

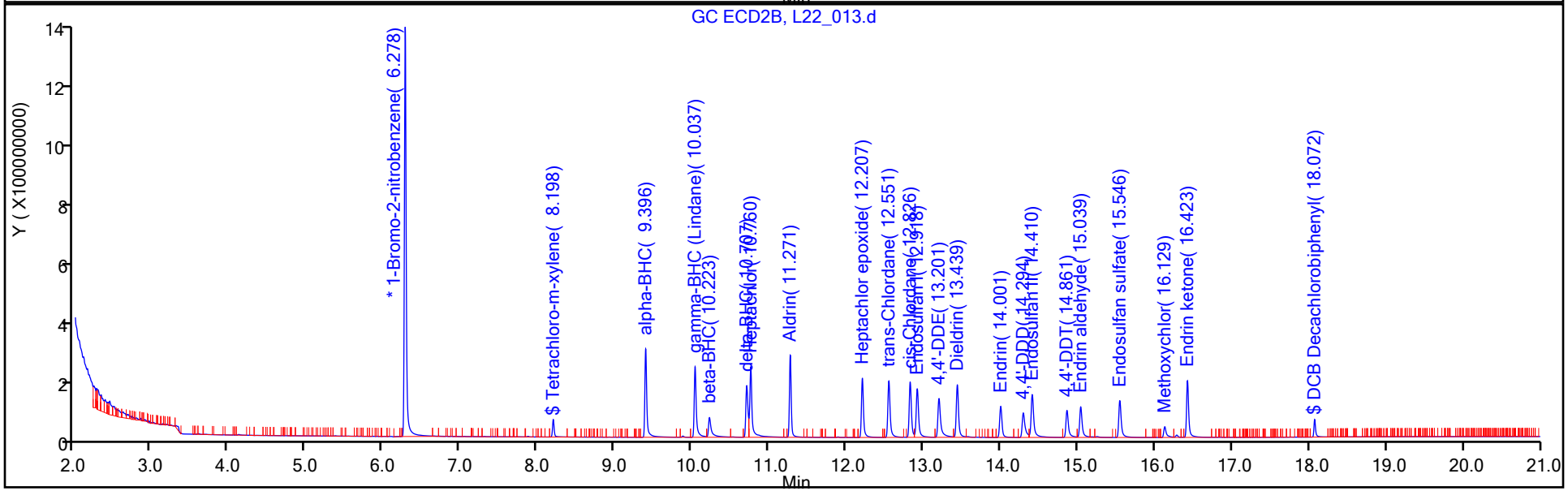

Eurofins TestAmerica, Houston
Recovery Report

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_013.d				
Lims ID:	LCS 600-275087/2-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	22-Sep-2019 17:25:58	ALS Bottle#:	13	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	600-0031217-013				
Operator ID:	JL	Instrument ID:	CHECD09		
Method:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\LVI_PEST_CHECD09.m				
Limit Group:	GCSV - 8081A				
Last Update:	23-Sep-2019 10:30:59	Calib Date:	22-Sep-2019 15:04:48		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_008.d				
Column 1 :			Det: GC ECD1A		
Column 2 :			Det: GC ECD2B		
Process Host:	CTX0327				
First Level Reviewer: lamj		Date:	23-Sep-2019 10:04:41		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0184	91.78
$ 28 DCB Decachlorobiphenyl	0.0200	0.0202	101.23

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0173	86.51
$ 28 DCB Decachlorobiphenyl	0.0200	0.0205	102.68

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_013.d				
Injection Date:	22-Sep-2019 17:25:58	Instrument ID:	CHECD09		
Lims ID:	LCS 600-275087/2-A				
Client ID:					
Operator ID:	JL	ALS Bottle#:	13	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

13 cis-Chlordane, CAS: 5103-71-9

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 12.43

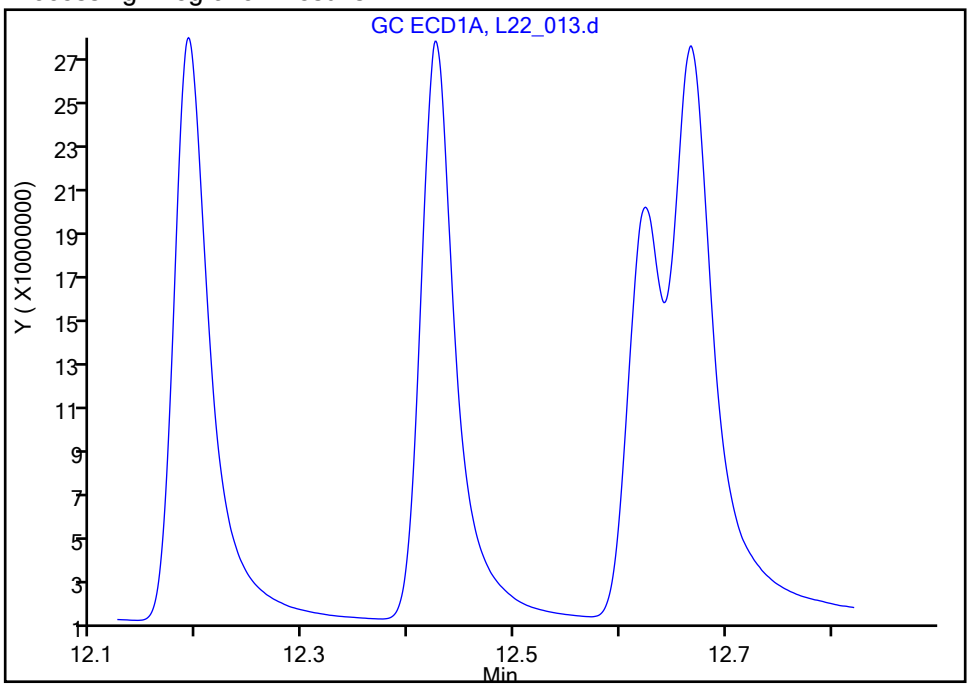

Manual Integration Results

RT: 12.43
Area: 636455891
Amount: 0.073254
Amount Units: ug/ml

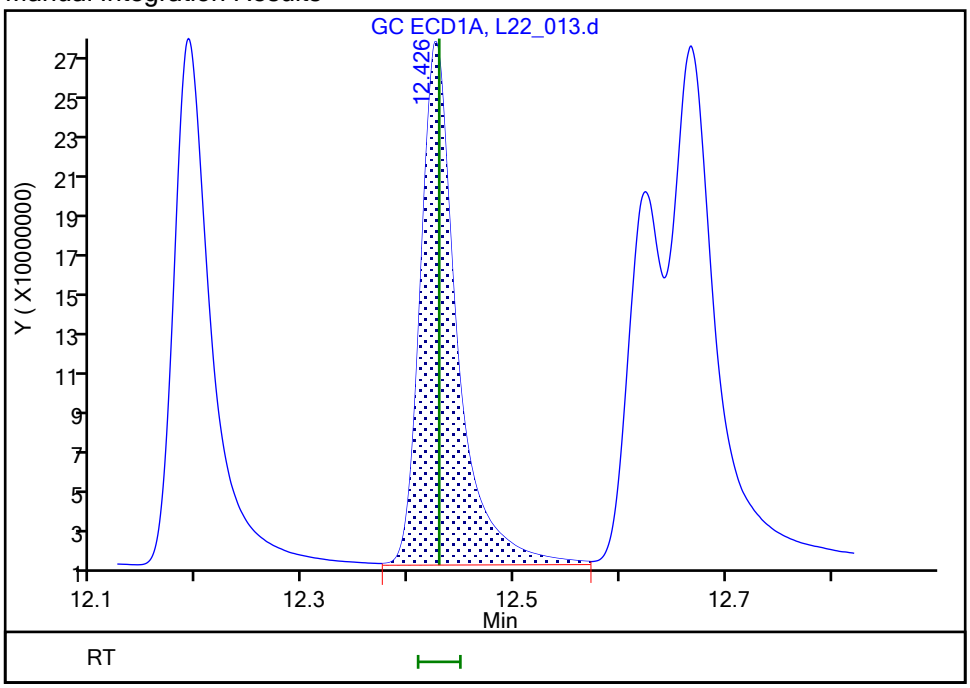

Reviewer: lamj, 23-Sep-2019 10:03:17
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_013.d				
Injection Date:	22-Sep-2019 17:25:58	Instrument ID:	CHECD09		
Lims ID:	LCS 600-275087/2-A				
Client ID:					
Operator ID:	JL	ALS Bottle#:	13	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

12 trans-Chlordane, CAS: 5103-74-2

Signal: 1

Not Detected
Expected RT: 12.19

Processing Integration Results

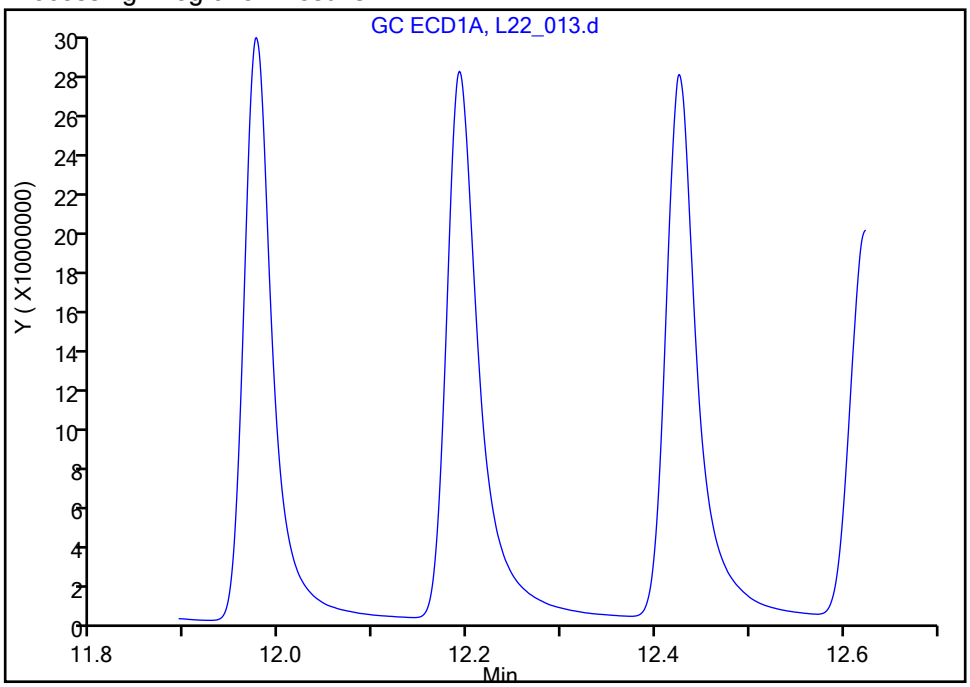

RT: 12.19
Area: 663512358
Amount: 0.071508
Amount Units: ug/ml

Manual Integration Results

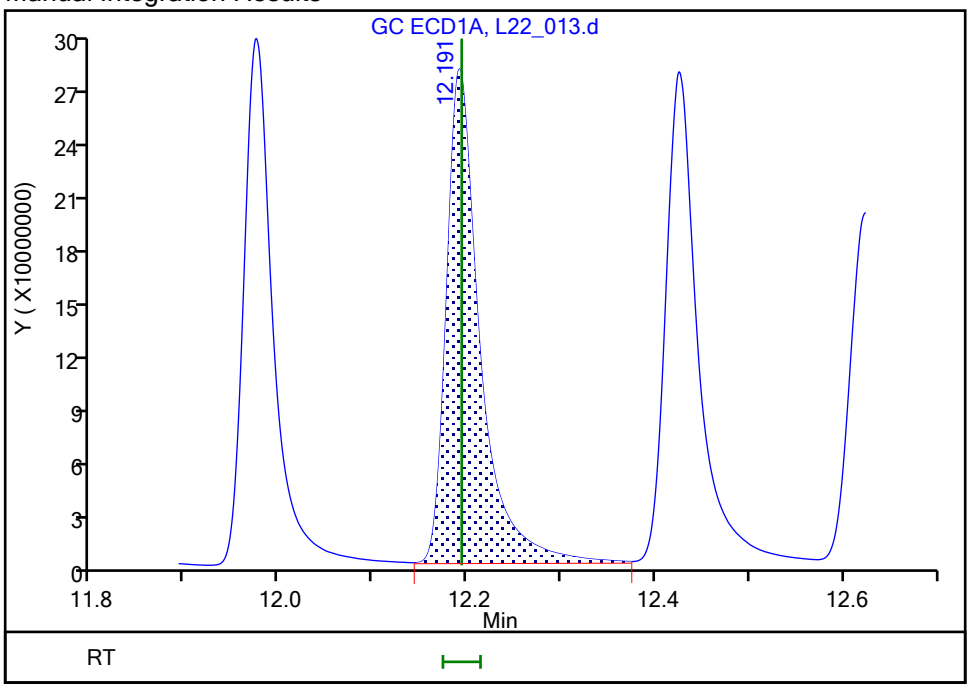

Reviewer: lamj, 23-Sep-2019 10:03:10
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_013.d				
Injection Date:	22-Sep-2019 17:25:58	Instrument ID:	CHECD09		
Lims ID:	LCS 600-275087/2-A				
Client ID:					
Operator ID:	JL	ALS Bottle#:	13	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

18 Endrin, CAS: 72-20-8

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 13.56

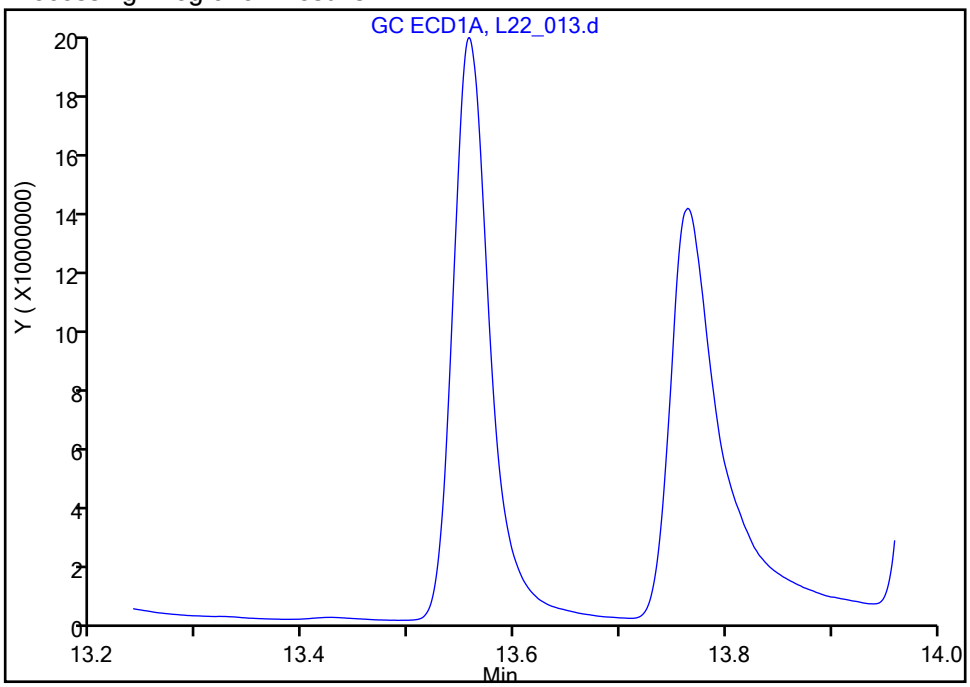

Manual Integration Results

RT: 13.56
Area: 452758774
Amount: 0.071562
Amount Units: ug/ml

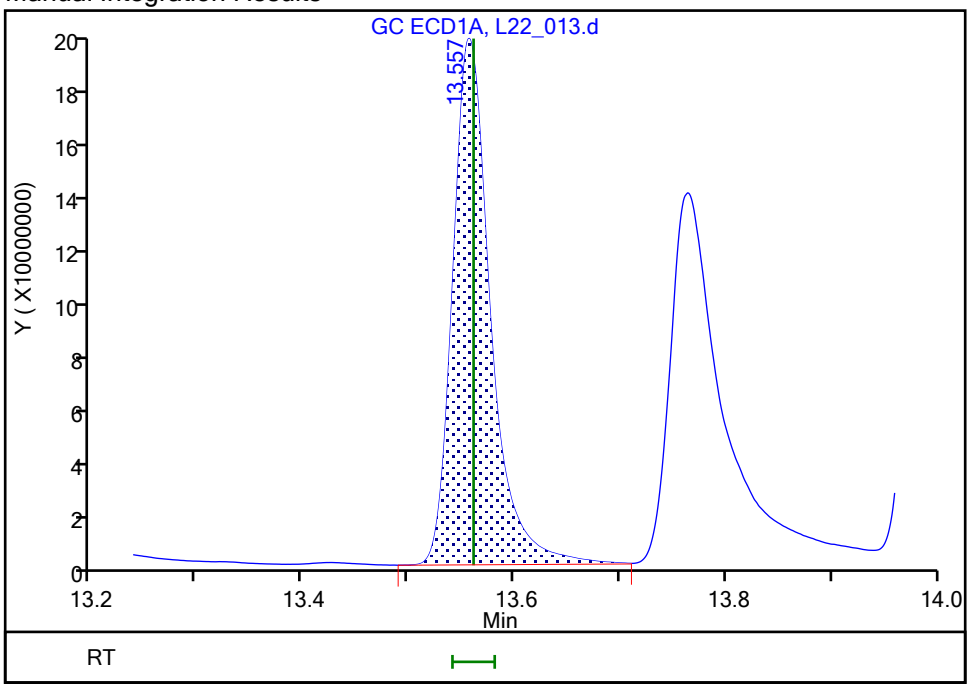

Reviewer: lamj, 23-Sep-2019 10:03:47
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_013.d				
Injection Date:	22-Sep-2019 17:25:58	Instrument ID:	CHECD09		
Lims ID:	LCS 600-275087/2-A				
Client ID:					
Operator ID:	JL	ALS Bottle#:	13	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

4 gamma-BHC (Lindane), CAS: 58-89-9

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 9.69

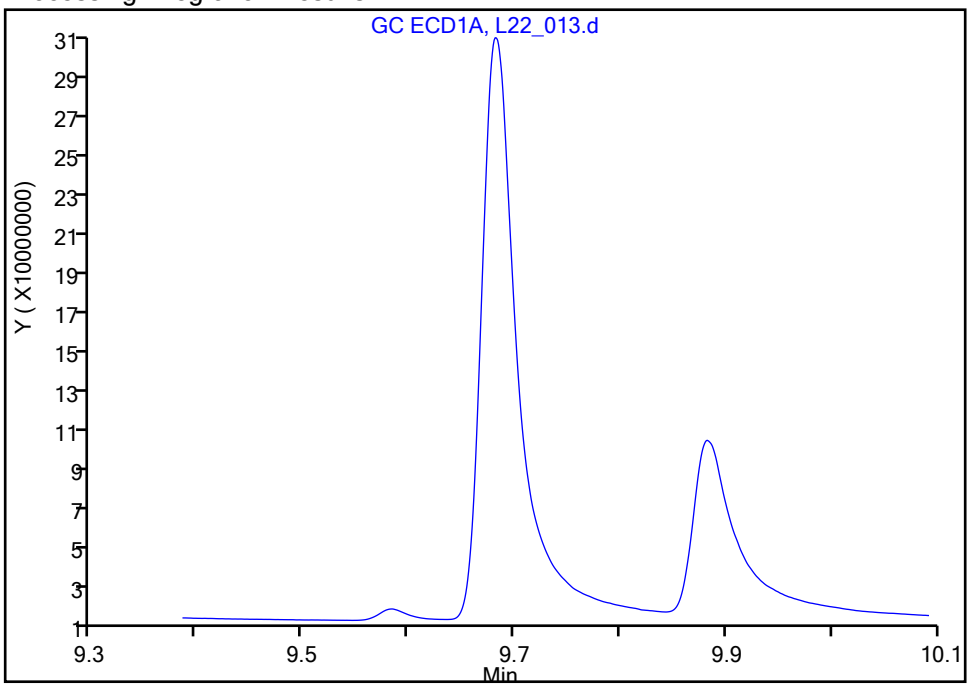

Manual Integration Results

RT: 9.68
Area: 734097333
Amount: 0.072773
Amount Units: ug/ml

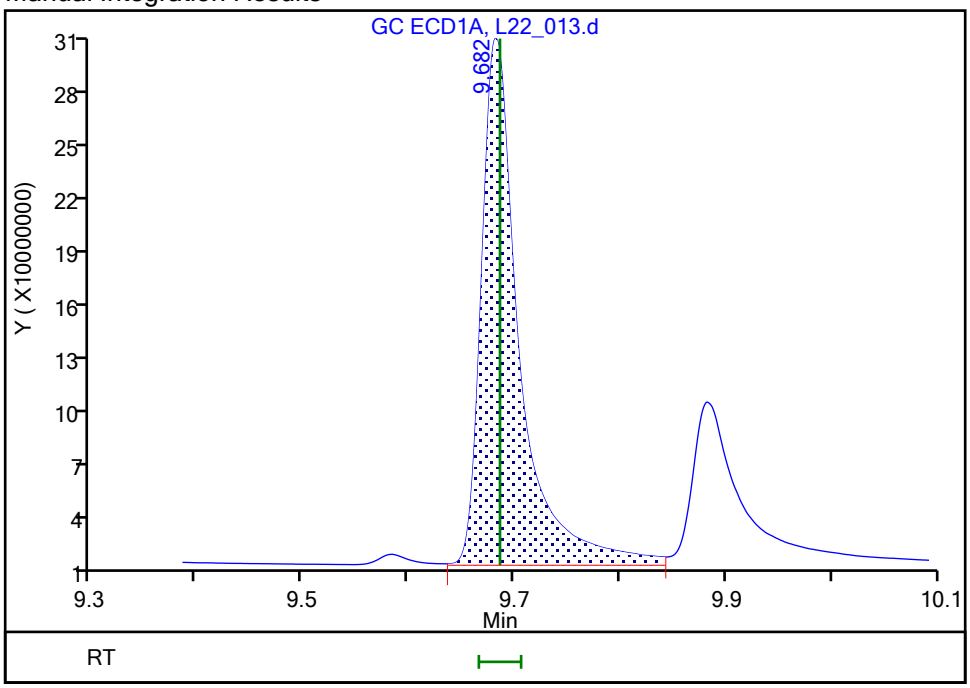

Reviewer: lamj, 23-Sep-2019 10:02:26
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_013.d				
Injection Date:	22-Sep-2019 17:25:58	Instrument ID:	CHECD09		
Lims ID:	LCS 600-275087/2-A				
Client ID:					
Operator ID:	JL	ALS Bottle#:	13	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

9 Heptachlor, CAS: 76-44-8

Signal: 1

Not Detected
Expected RT: 10.50

Processing Integration Results

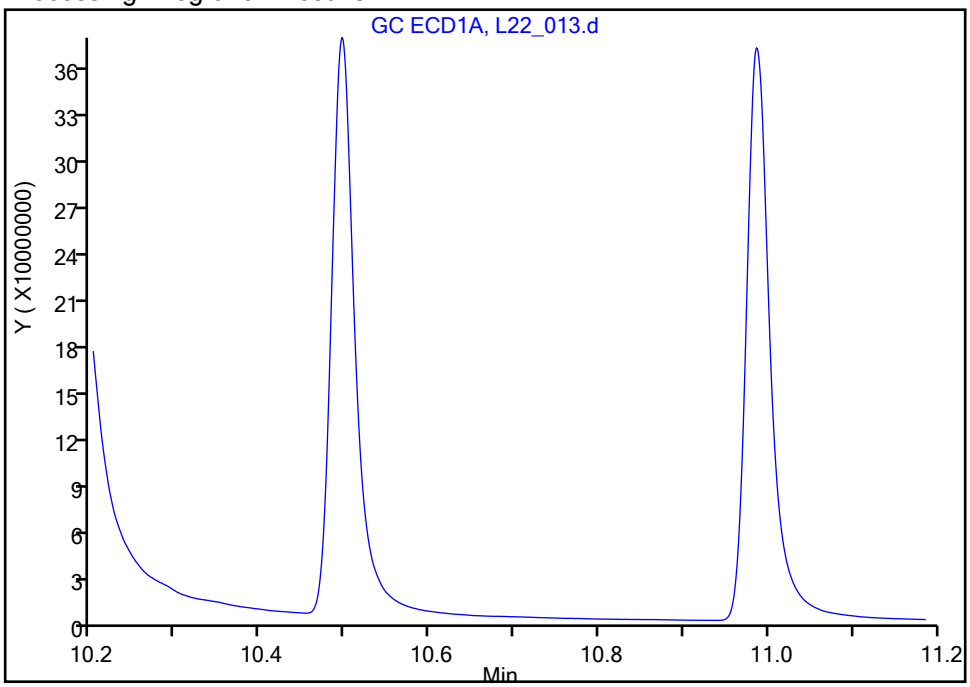

Manual Integration Results

RT: 10.50
Area: 771482520
Amount: 0.072201
Amount Units: ug/ml

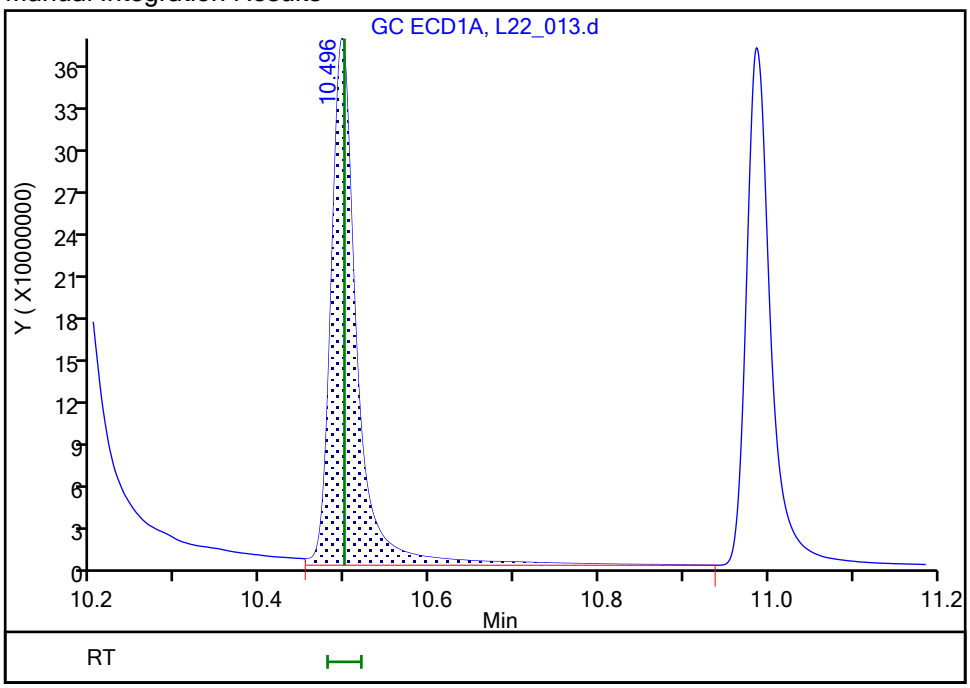

Reviewer: lamj, 23-Sep-2019 10:02:50
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_013.d				
Injection Date:	22-Sep-2019 17:25:58	Instrument ID:	CHECD09		
Lims ID:	LCS 600-275087/2-A				
Client ID:					
Operator ID:	JL	ALS Bottle#:	13	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

11 Heptachlor epoxide, CAS: 1024-57-3

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 11.98

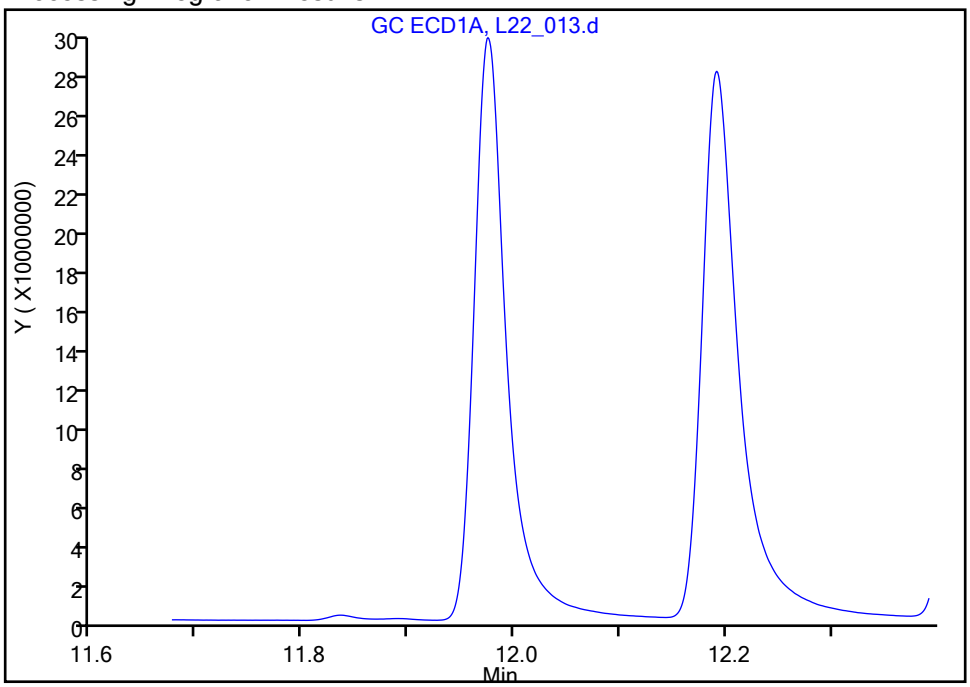

Manual Integration Results

RT: 11.97
Area: 617640934
Amount: 0.068433
Amount Units: ug/ml

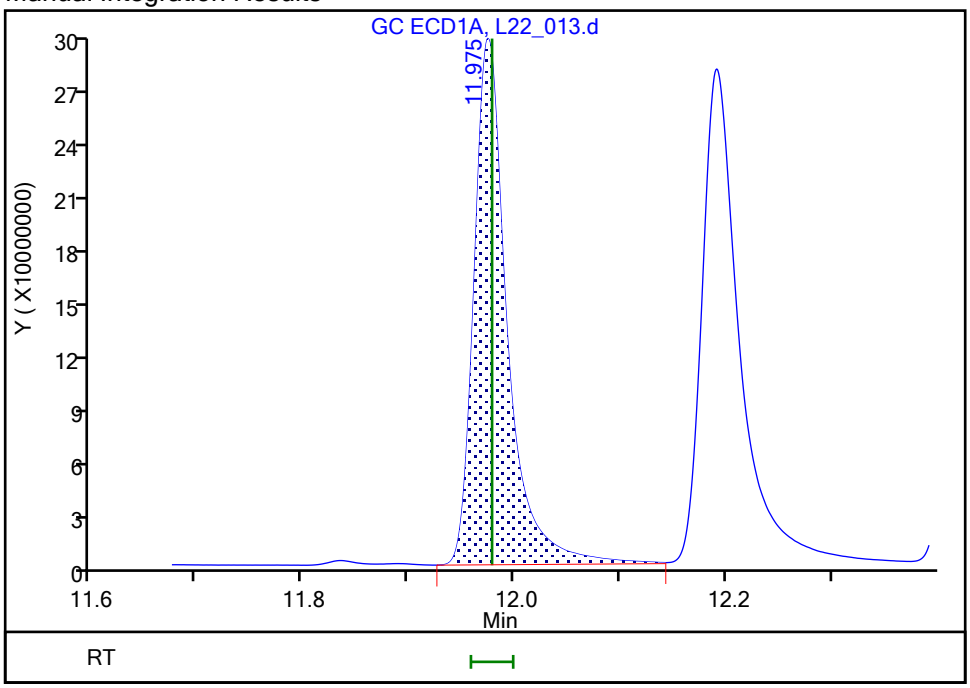

Reviewer: lamj, 23-Sep-2019 10:03:03
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_013.d				
Injection Date:	22-Sep-2019 17:25:58	Instrument ID:	CHECD09		
Lims ID:	LCS 600-275087/2-A				
Client ID:					
Operator ID:	JL	ALS Bottle#:	13	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

25 Methoxychlor, CAS: 72-43-5

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 15.21

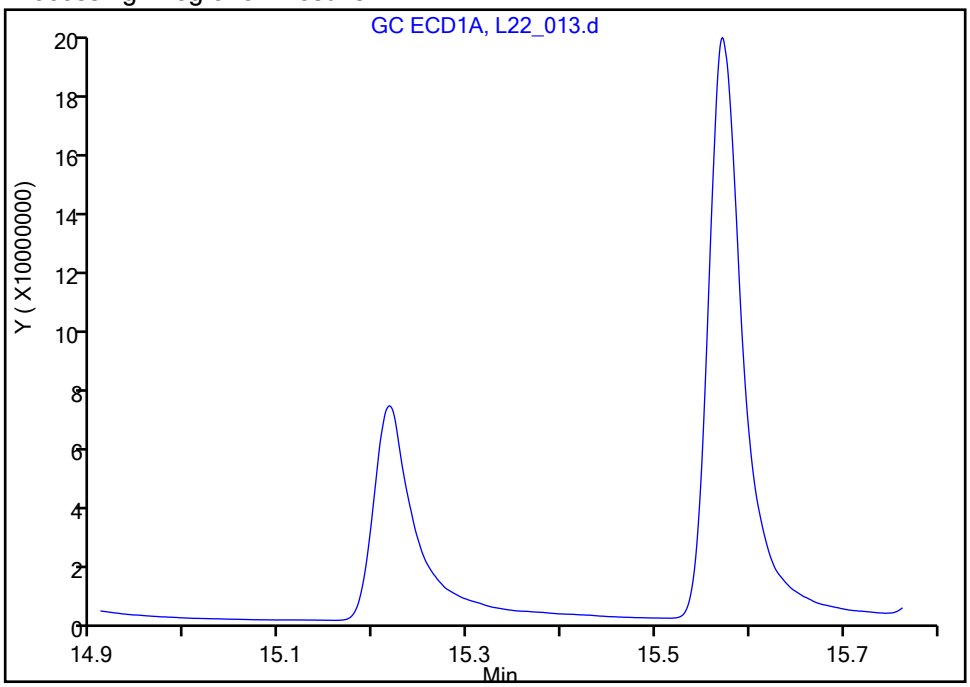

Manual Integration Results

RT: 15.22
Area: 231871310
Amount: 0.078671
Amount Units: ug/ml

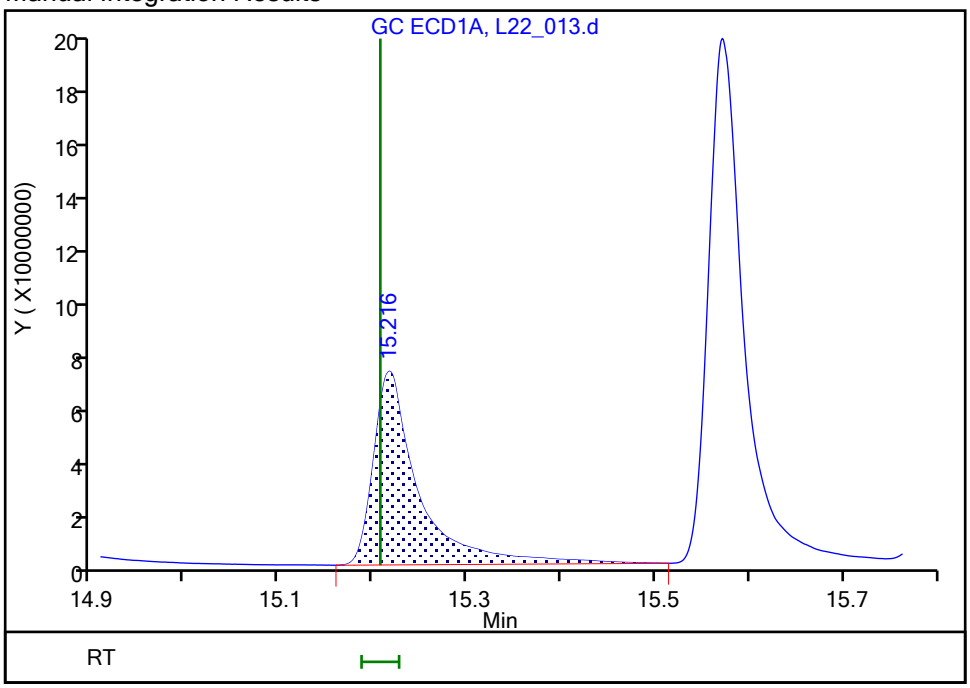

Reviewer: lamj, 23-Sep-2019 10:04:20
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_013.d				
Injection Date:	22-Sep-2019 17:25:58	Instrument ID:	CHECD09		
Lims ID:	LCS 600-275087/2-A				
Client ID:					
Operator ID:	JL	ALS Bottle#:	13	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

$ 2 Tetrachloro-m-xylene, CAS: 877-09-8

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 7.98

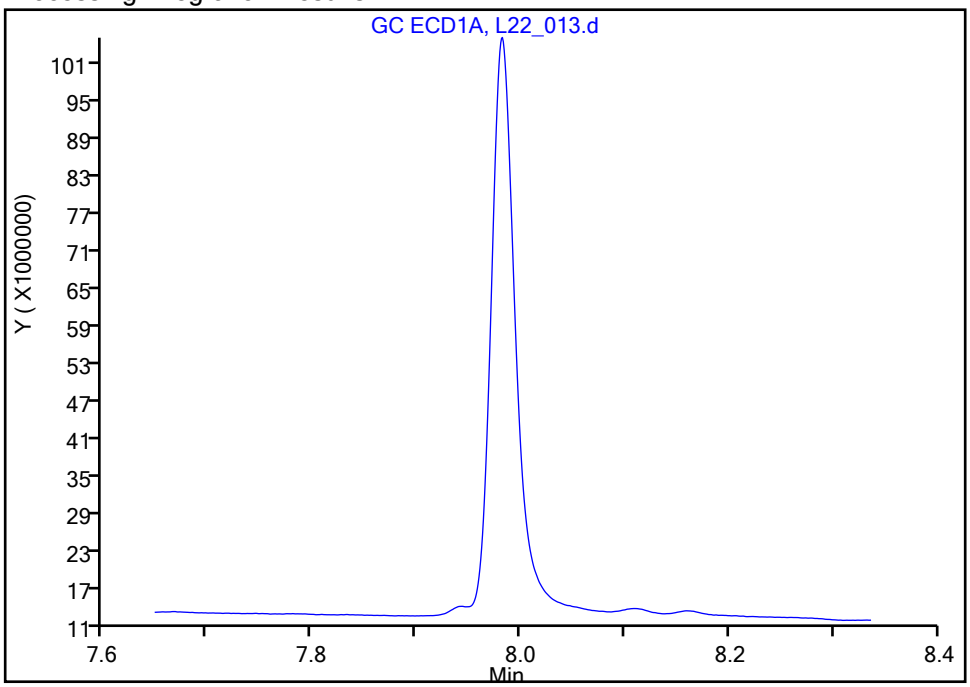

Manual Integration Results

RT:	7.98
Area:	158439746
Amount:	0.018355
Amount Units:	ug/ml

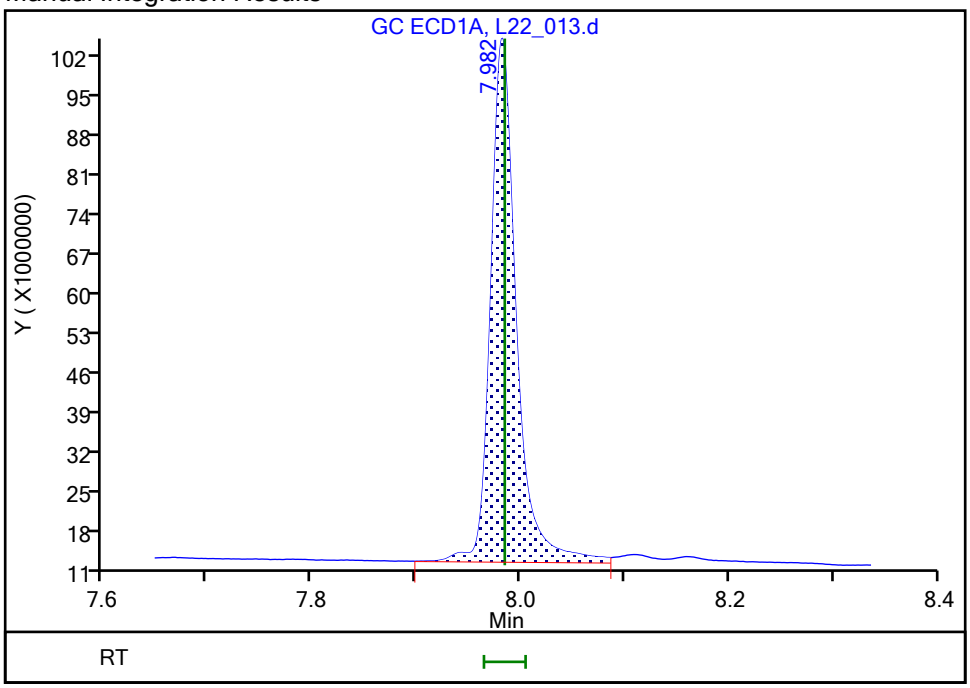

Reviewer: lamj, 23-Sep-2019 10:02:11
Audit Action: Assigned Compound ID Audit Reason:

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-191956-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 600-275087/6-A
Matrix: Water
Lab File ID: L22_015.d
Analysis Method: 8081B
Date Collected:
Extraction Method: 3510C LVI
Date Extracted: 09/18/2019 11:21
Sample wt/vol: 250(mL)
Date Analyzed: 09/22/2019 18:22
Con. Extract Vol.: 5.0(mL)
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: RTX-CLP1 ID: 0.32(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 275356
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
8001-35-2	Toxaphene	18.3		10	4.9

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl	93		36-144
877-09-8	Tetrachloro-m-xylene	77		32-143

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_015.d
Lims ID: LCS 600-275087/6-A
Client ID:
Sample Type: LCS
Inject. Date: 22-Sep-2019 18:22:25 ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031217-015
Operator ID: JL Instrument ID: CHECD09

Method: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\LVI_PEST_CHECD09.m
Limit Group: GCSV - 8081A
Last Update: 23-Sep-2019 10:30:59 Calib Date: 22-Sep-2019 15:04:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_008.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0327

First Level Reviewer: lamj Date: 23-Sep-2019 10:09:28

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.279	6.276	0.003	4177887813	50.0	50.0	
2	6.277	6.257	0.020	2568815978	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							a
1	7.982	7.984	-0.002	146686466	0.0200	0.0153	a
2	8.198	8.175	0.023	83124631	0.0200	0.0141	a
						RPD = 8.39	
23 Toxaphene							Ma
1	13.473	13.473	0.000	179980002	0.8000	0.7705	a
1	14.099	14.099	0.000	270155639	0.8000	0.7687	
1	14.198	14.199	-0.001	233585998	0.8000	0.9851	
1	16.011	16.011	0.000	174395582	0.8000	1.01	
1	16.274	16.277	-0.003	140642637	0.8000	1.04	
		Average of Peak Amounts =				0.9162	
2	13.405	13.368	0.037	29884471	0.8000	0.5105	M
2	14.699	14.664	0.035	72027037	0.8000	1.03	M
2	14.909	14.874	0.035	80642765	0.8000	1.01	M
2	15.957	15.924	0.033	181345259	0.8000	1.13	M
2	16.060	16.028	0.032	127157016	0.8000	1.05	M
		Average of Peak Amounts =				0.9479	
						RPD = 3.40	
$ 28 DCB Decachlorobiphenyl							
1	17.544	17.546	-0.002	137592064	0.0200	0.0187	
2	18.071	18.064	0.007	90001071	0.0200	0.0176	
						RPD = 6.24	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 23-Sep-2019 10:32:51 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_015.d				
Injection Date:	22-Sep-2019 18:22:25	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	LCS 600-275087/6-A			Worklist Smp#:	15
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	15
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		

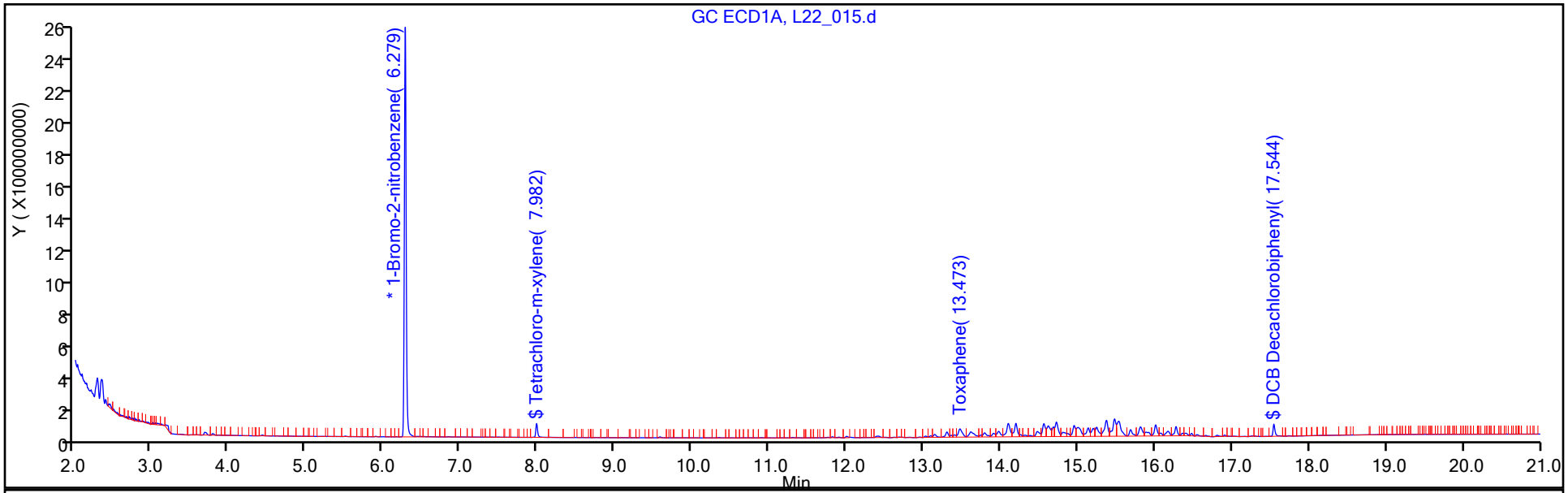

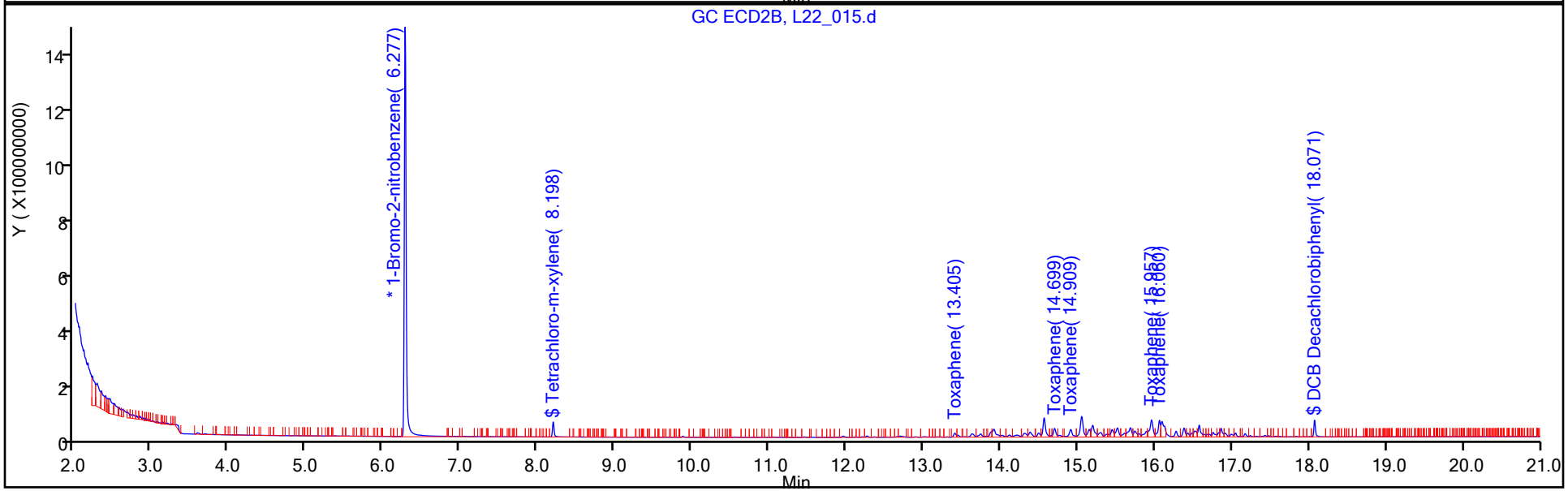

Eurofins TestAmerica, Houston
Recovery Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_015.d
Lims ID: LCS 600-275087/6-A
Client ID:
Sample Type: LCS
Inject. Date: 22-Sep-2019 18:22:25 ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031217-015
Operator ID: JL Instrument ID: CHECD09

Method: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\LVI_PEST_CHECD09.m
Limit Group: GCSV - 8081A
Last Update: 23-Sep-2019 10:30:59 Calib Date: 22-Sep-2019 15:04:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_008.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0327

First Level Reviewer: lamj Date: 23-Sep-2019 10:09:28

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0153	76.69
$ 28 DCB Decachlorobiphenyl	0.0200	0.0187	93.48

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0141	70.52
$ 28 DCB Decachlorobiphenyl	0.0200	0.0176	87.82

Report Date: 23-Sep-2019 10:32:56 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_015.d				
Injection Date:	22-Sep-2019 18:22:25	Instrument ID:	CHECD09		
Lims ID:	LCS 600-275087/6-A				
Client ID:					
Operator ID:	JL	ALS Bottle#:	15	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

23 Toxaphene, CAS: 8001-35-2

Calibration Sample, Level: 6

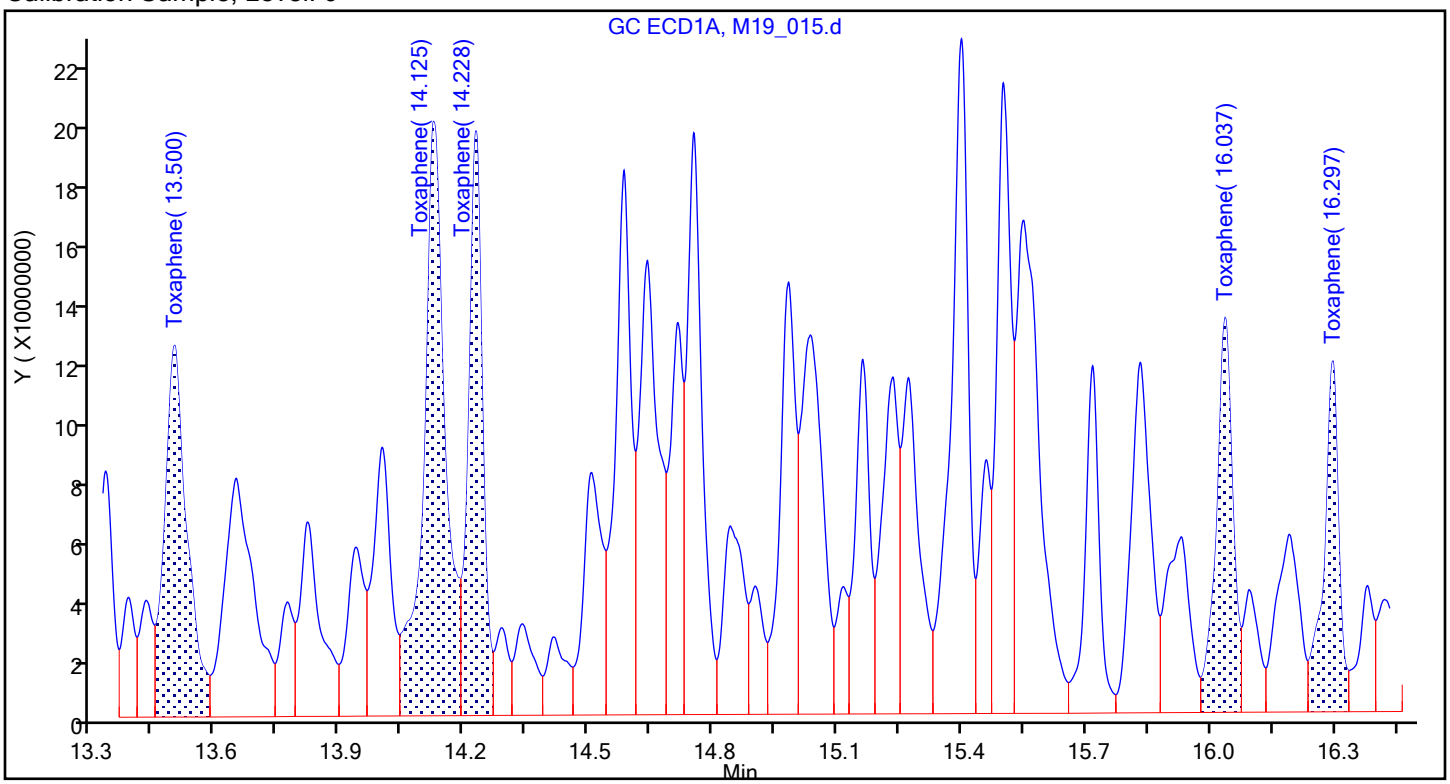

Sample

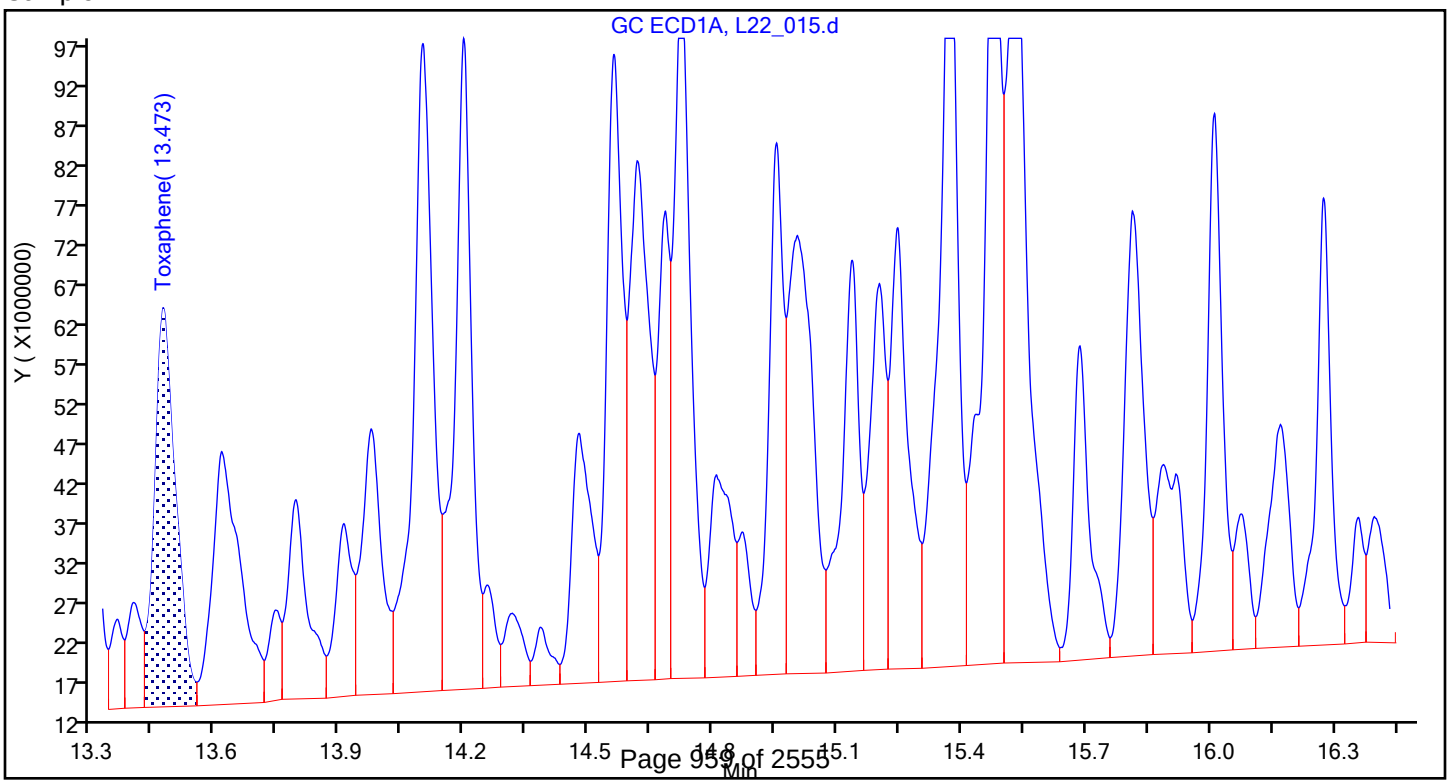

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_015.d				
Injection Date:	22-Sep-2019 18:22:25	Instrument ID:	CHECD09		
Lims ID:	LCS 600-275087/6-A				
Client ID:					
Operator ID:	JL	ALS Bottle#:	15	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

$ 2 Tetrachloro-m-xylene, CAS: 877-09-8

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 7.98

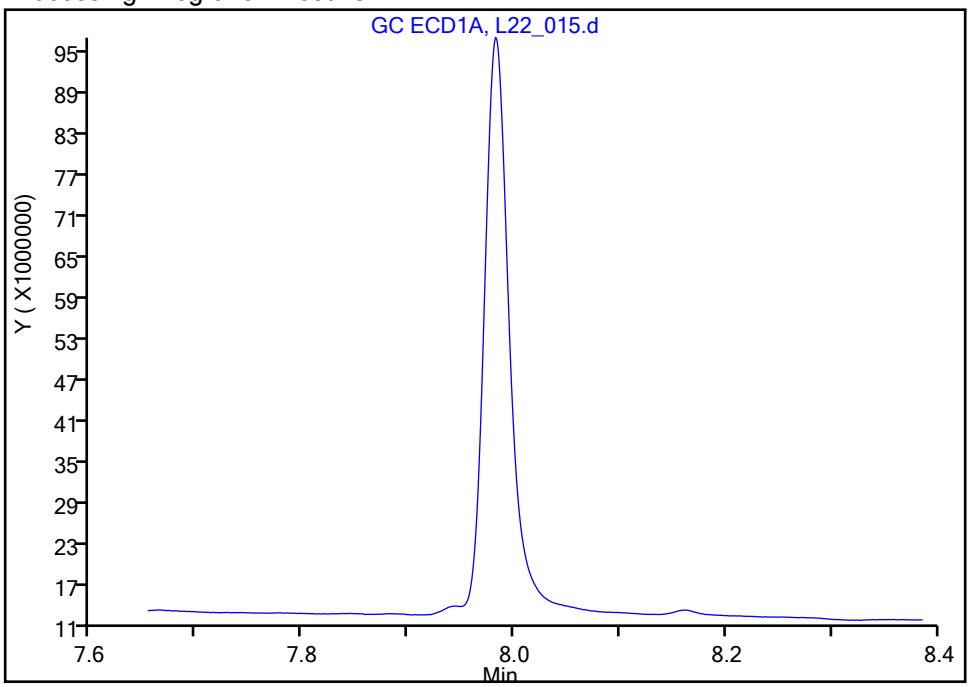

Manual Integration Results

RT: 7.98
Area: 146686466
Amount: 0.015338
Amount Units: ug/ml

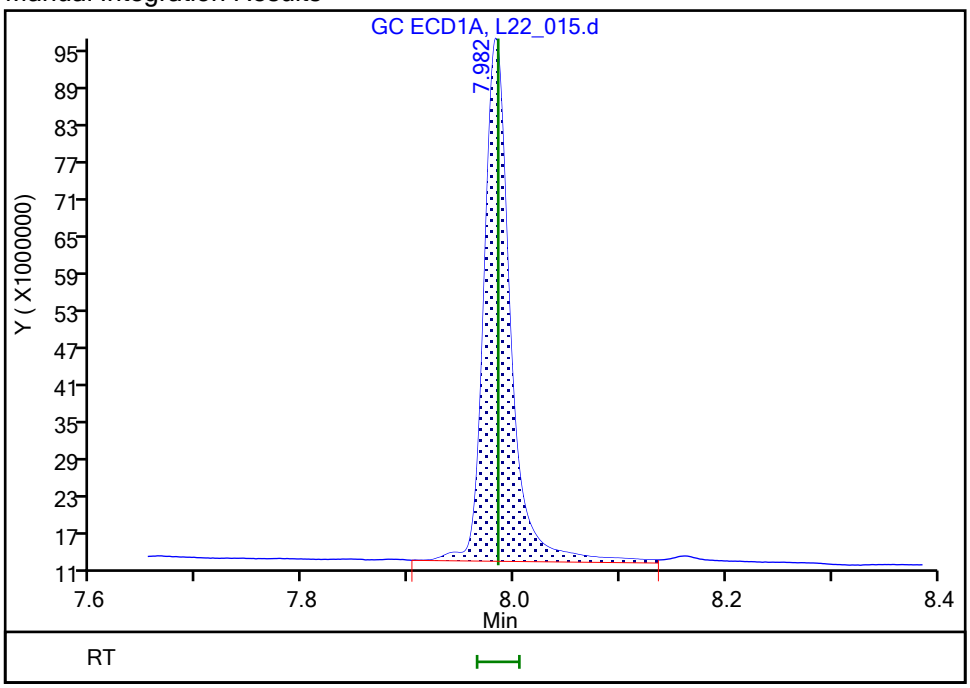

Reviewer: lamj, 23-Sep-2019 10:08:01
Audit Action: Assigned Compound ID Audit Reason:

Report Date: 23-Sep-2019 10:32:56 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_015.d

Injection Date: 22-Sep-2019 18:22:25 Instrument ID: CHECD09

Lims ID: LCS 600-275087/6-A

Client ID:

Operator ID: JL ALS Bottle#: 15 Worklist Smp#: 15

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: LVI_PEST_CHECD09 Limit Group: GCSV - 8081A

Column: Detector GC ECD1A

23 Toxaphene, CAS: 8001-35-2

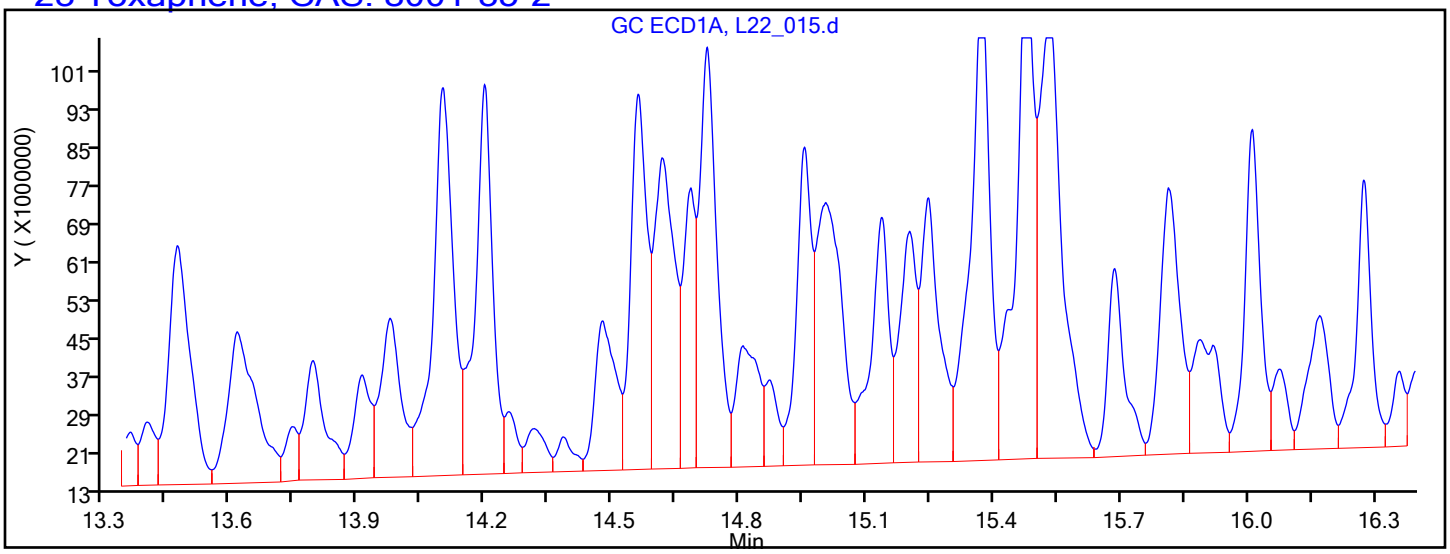

Processing Integration Results

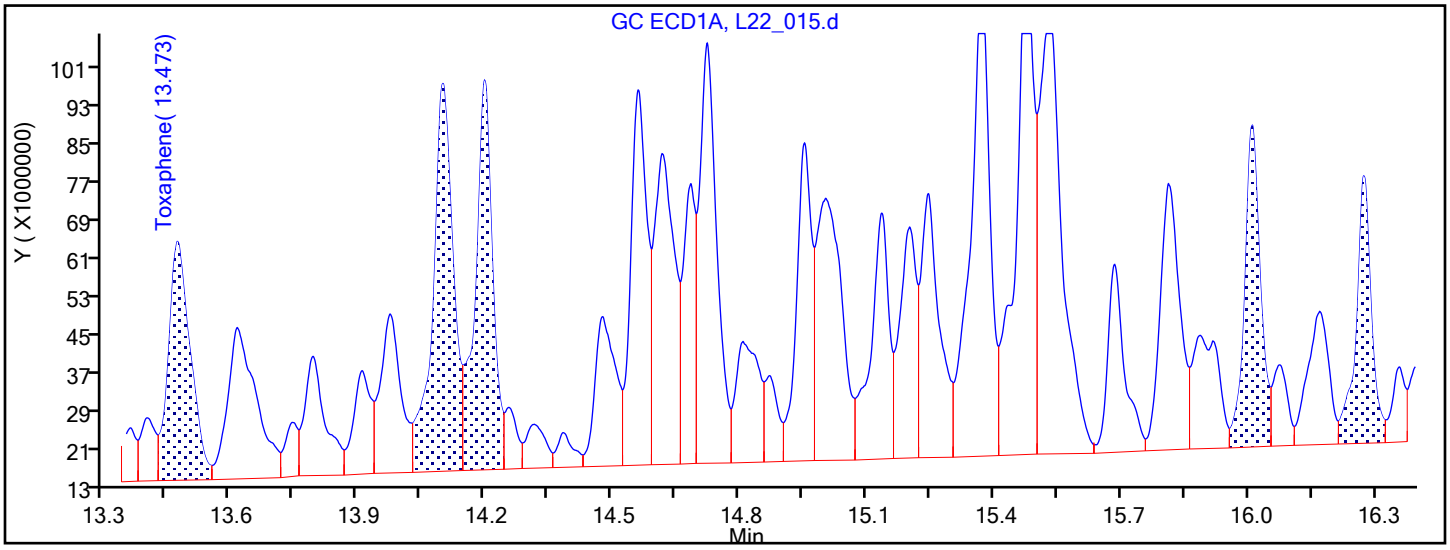

Manual Integration Results

13.473	Response = 179980002	M
14.099	Response = 270155639	
14.198	Response = 233585998	
16.011	Response = 174395582	
16.274	Response = 140642637	

Reviewer: lamj, 23-Sep-2019 10:08:06

Audit Action: Assigned Compound ID Audit Reason: Baseline Smoothing

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-191956-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 600-275087/7-A
Matrix: Water
Lab File ID: L22_016.d
Analysis Method: 8081B
Date Collected:
Extraction Method: 3510C LVI
Date Extracted: 09/18/2019 11:21
Sample wt/vol: 250(mL)
Date Analyzed: 09/22/2019 18:50
Con. Extract Vol.: 5.0(mL)
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: RTX-CLP1 ID: 0.32(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 275356
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
12789-03-6	Chlordane (technical)	13.0		0.20	0.12

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl	88		36-144
877-09-8	Tetrachloro-m-xylene	84		32-143

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_016.d
Lims ID: LCS 600-275087/7-A
Client ID:
Sample Type: LCS
Inject. Date: 22-Sep-2019 18:50:36 ALS Bottle#: 16 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031217-016
Operator ID: JL Instrument ID: CHECD09

Method: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\LVI_PEST_CHECD09.m
Limit Group: GCSV - 8081A
Last Update: 23-Sep-2019 10:38:20 Calib Date: 22-Sep-2019 15:04:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_008.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0327

First Level Reviewer: lamj Date: 23-Sep-2019 10:09:48

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.277	6.276	0.001	3702809722	50.0	50.0	
2	6.257	6.257	0.000	2339102852	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	7.982	7.984	-0.002	142416408	0.0200	0.0168	
2	8.173	8.175	-0.002	77943073	0.0200	0.0145	
						RPD = 14.55	
8 Chlordane (technical)							M
1	10.362	10.363	-0.001	259475880	0.8000	0.7830	M
1	10.498	10.499	-0.001	492776825	0.8000	0.7636	M
1	11.240	11.236	0.004	269053945	0.8000	0.3820	M
1	13.653	13.645	0.008	203578087	0.8000	0.4535	M
1	13.860	13.854	0.006	265154992	0.8000	0.8638	M
		Average of Peak Amounts =				0.6492	
2	10.495	10.493	0.002	171794230	0.8000	0.6591	
2	10.735	10.733	0.002	237194800	0.8000	0.4065	
2	11.515	11.510	0.005	147599624	0.8000	0.5135	
2	12.132	12.123	0.009	115349698	0.8000	0.5083	
2	14.456	14.449	0.007	146191055	0.8000	0.9314	
		Average of Peak Amounts =				0.6038	
						RPD = 7.25	
$ 28 DCB Decachlorobiphenyl							
1	17.548	17.546	0.002	115017907	0.0200	0.0176	
2	18.064	18.064	0.000	82175823	0.0200	0.0176	
						RPD = 0.12	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 23-Sep-2019 10:38:26 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_016.d				
Injection Date:	22-Sep-2019 18:50:36	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	LCS 600-275087/7-A			Worklist Smp#:	16
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	16
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		

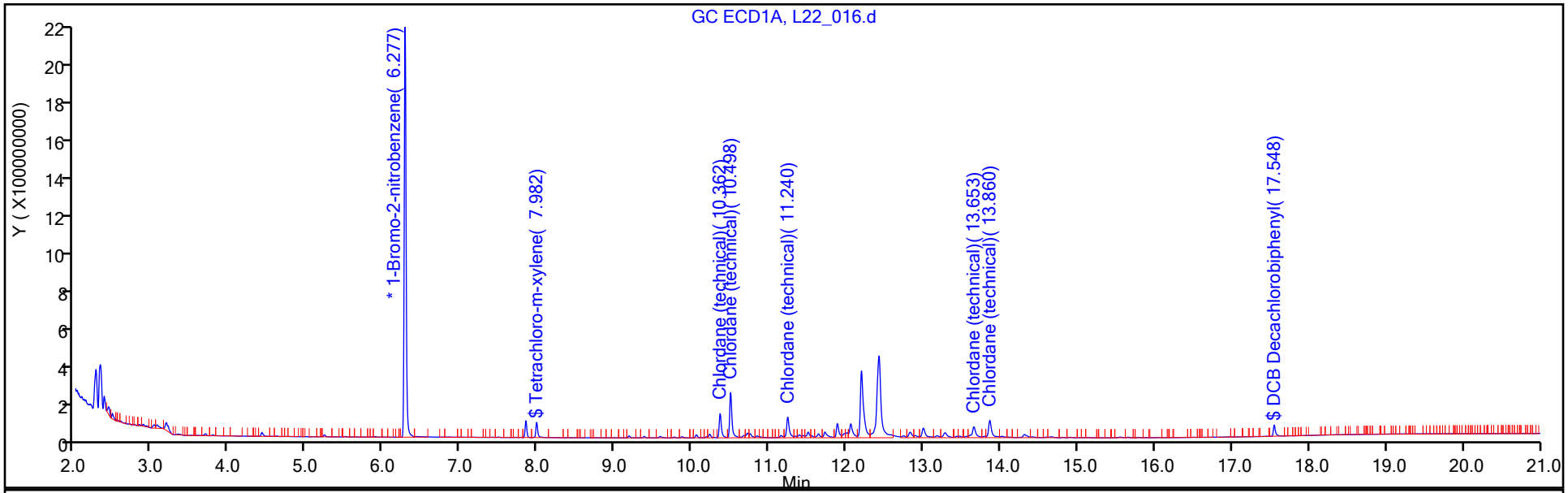

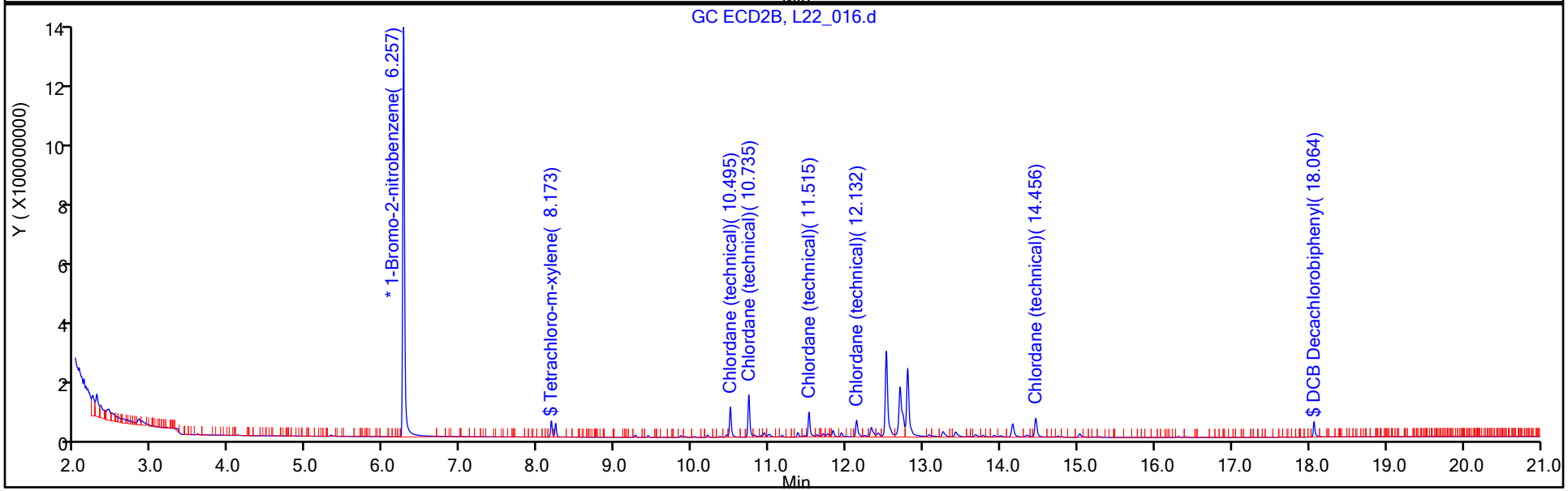

Eurofins TestAmerica, Houston
Recovery Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_016.d
Lims ID: LCS 600-275087/7-A
Client ID:
Sample Type: LCS
Inject. Date: 22-Sep-2019 18:50:36 ALS Bottle#: 16 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031217-016
Operator ID: JL Instrument ID: CHECD09

Method: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\LVI_PEST_CHECD09.m
Limit Group: GCSV - 8081A
Last Update: 23-Sep-2019 10:38:20 Calib Date: 22-Sep-2019 15:04:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_008.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0327

First Level Reviewer: lamj Date: 23-Sep-2019 10:09:48

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0168	84.01
$ 28 DCB Decachlorobiphenyl	0.0200	0.0176	88.17

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0145	72.62
$ 28 DCB Decachlorobiphenyl	0.0200	0.0176	88.06

Report Date: 23-Sep-2019 10:38:28 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_016.d				
Injection Date:	22-Sep-2019 18:50:36	Instrument ID:	CHECD09		
Lims ID:	LCS 600-275087/7-A				
Client ID:					
Operator ID:	JL	ALS Bottle#:	16	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		
Column:		Detector	GC ECD1A		

8 Chlordane (technical), CAS: 12789-03-6

Calibration Sample, Level: 6

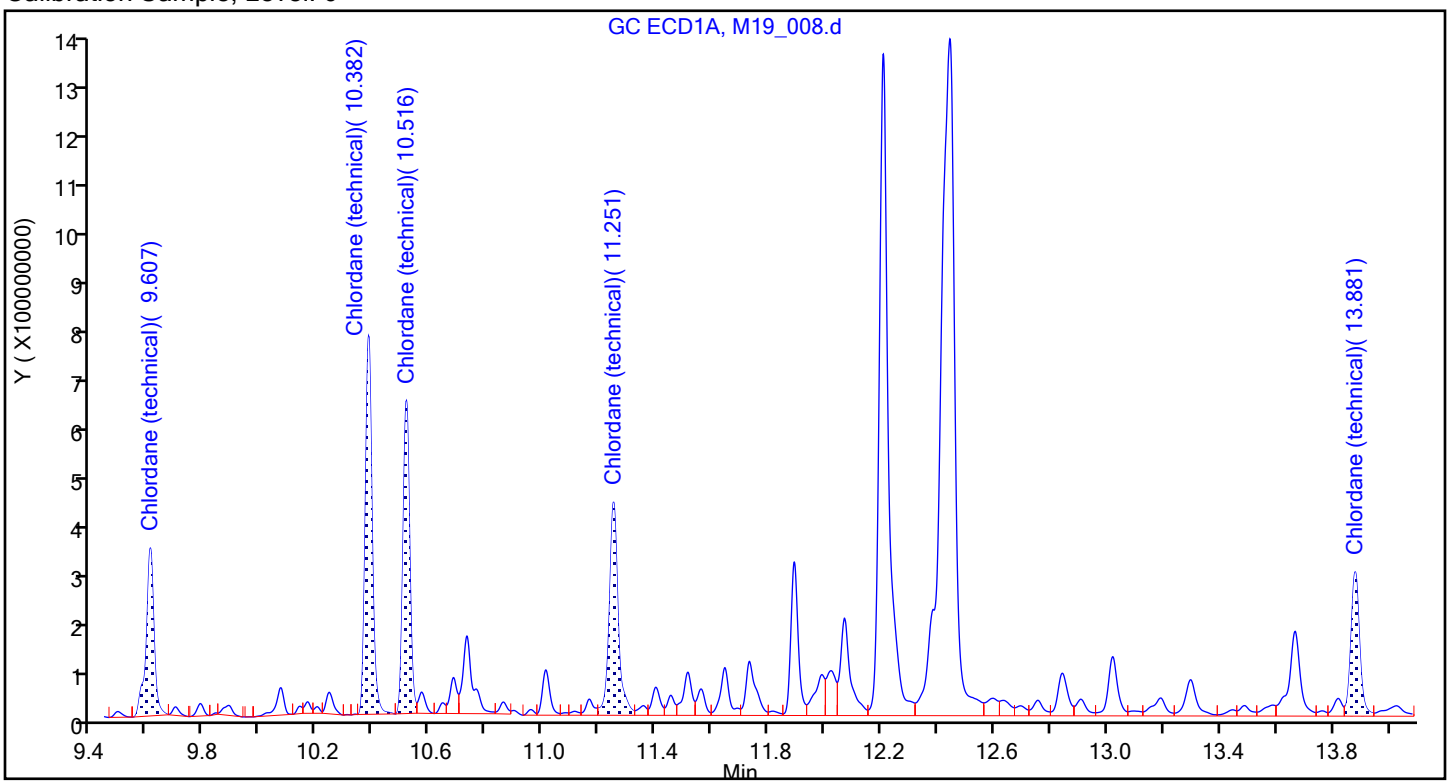

Sample

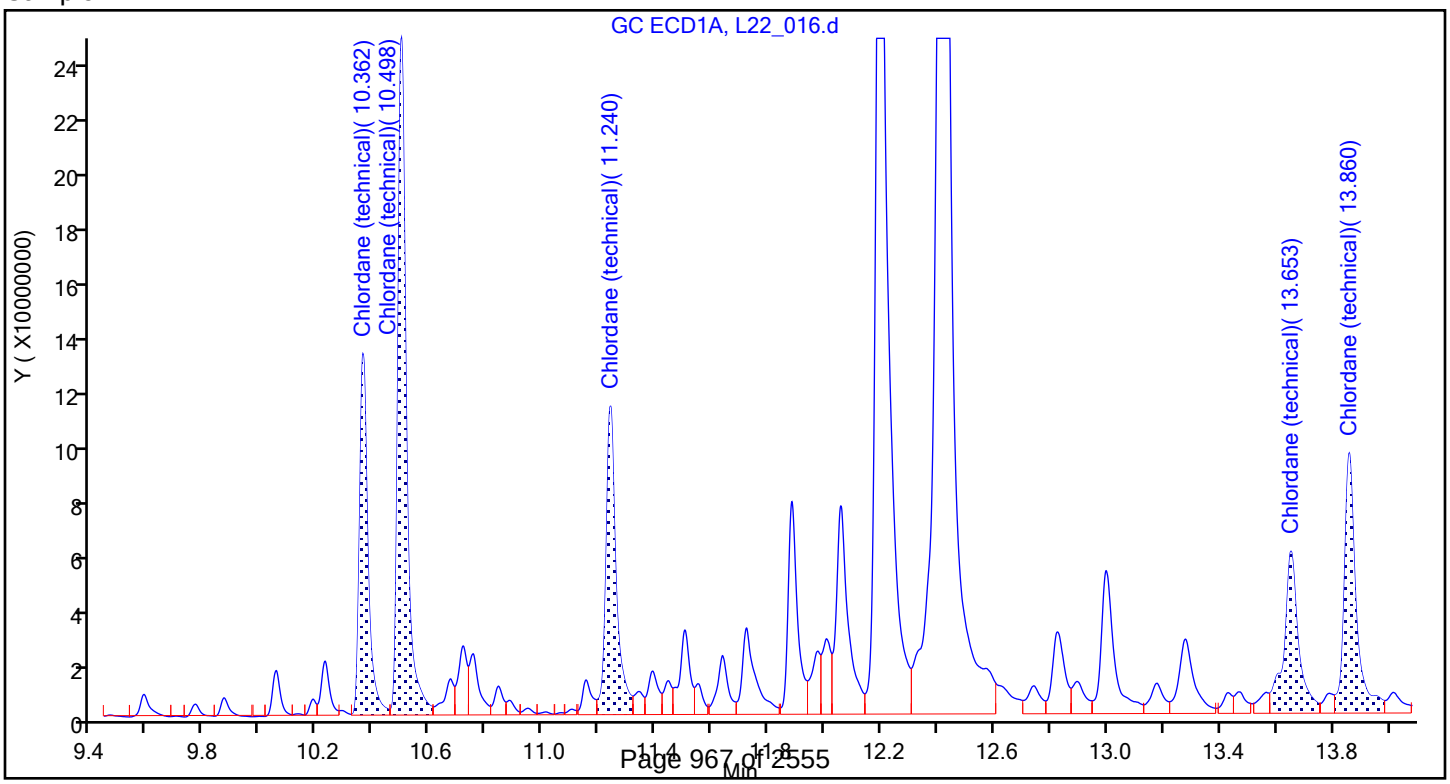

Report Date: 23-Sep-2019 10:38:28 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_016.d
Injection Date: 22-Sep-2019 18:50:36 Instrument ID: CHECD09
Lims ID: LCS 600-275087/7-A
Client ID:
Operator ID: JL ALS Bottle#: 16 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: LVI_PEST_CHECD09 Limit Group: GCSV - 8081A
Column: Detector GC ECD1A

8 Chlordane (technical), CAS: 12789-03-6

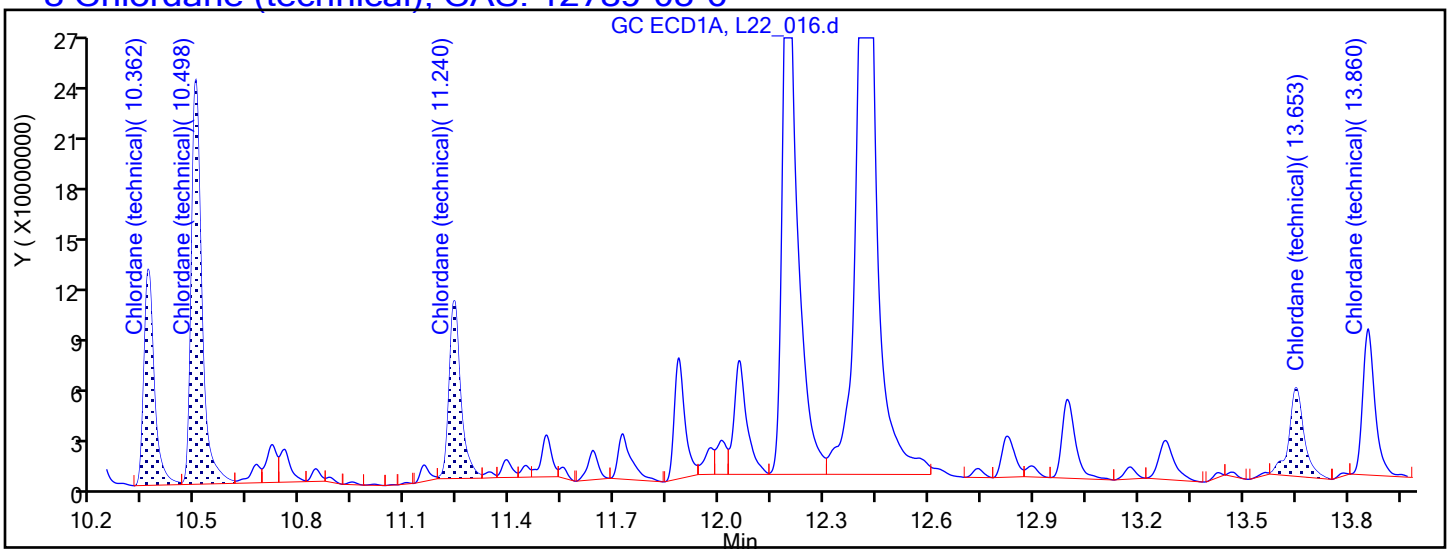

Processing Integration Results

10.362	Response = 254862851
10.498	Response = 481567531
11.240	Response = 236256892
13.653	Response = 152743960
13.860	Response = 208567724

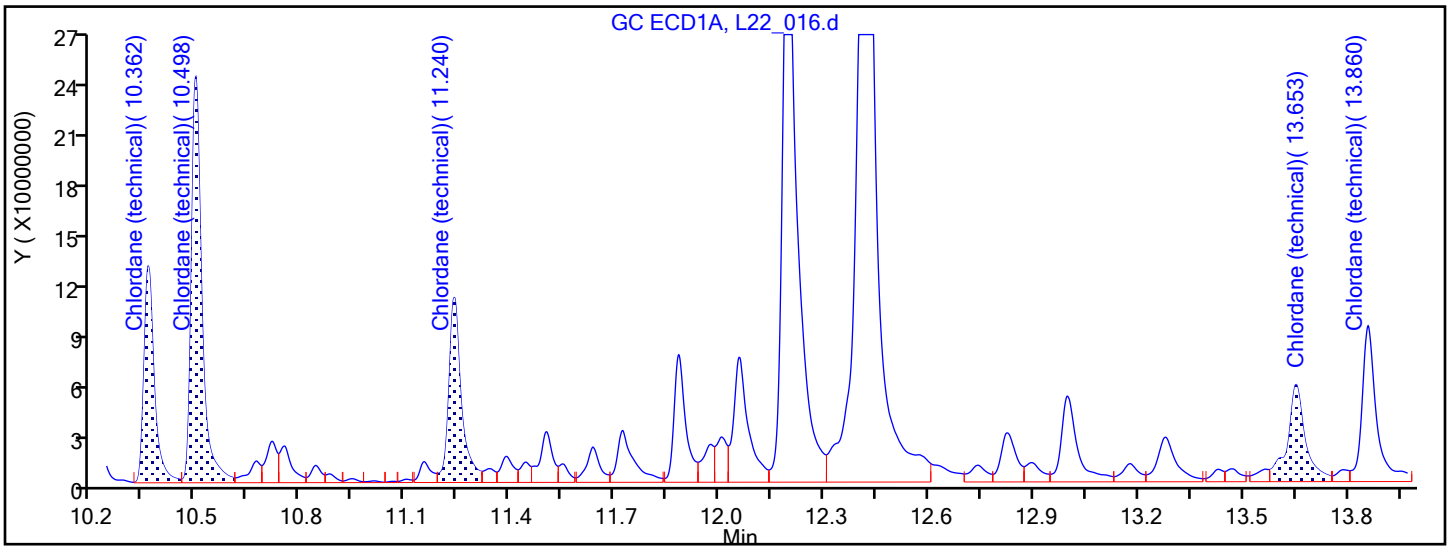

Manual Integration Results

10.362	Response = 259475880	M
10.498	Response = 492776825	M
11.240	Response = 269053945	M
13.653	Response = 203578087	M
13.860	Response = 265154992	M

Reviewer: lamj, 23-Sep-2019 10:09:43
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM I
PESTICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-191956-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCSD 600-275087/3-A
Matrix: Water
Lab File ID: L22_014.d
Analysis Method: 8081B
Date Collected:
Extraction Method: 3510C LVI
Date Extracted: 09/18/2019 11:20
Sample wt/vol: 250(mL)
Date Analyzed: 09/22/2019 17:54
Con. Extract Vol.: 5.0(mL)
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: RTX-CLP1 ID: 0.32(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 275356
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
5103-71-9	cis-Chlordane	1.37		0.10	0.10
5103-74-2	Chlordane (trans)	1.32		0.10	0.014
72-20-8	Endrin	1.29		0.20	0.014
58-89-9	gamma-BHC (Lindane)	1.34		0.10	0.012
76-44-8	Heptachlor	1.36		0.10	0.012
1024-57-3	Heptachlor epoxide	1.28		0.10	0.014
72-43-5	Methoxychlor	1.61		1.0	0.018

CAS NO.	SURROGATE	%REC	Q	LIMITS
2051-24-3	DCB Decachlorobiphenyl	121		36-144
877-09-8	Tetrachloro-m-xylene	85		32-143

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_014.d
Lims ID: LCSD 600-275087/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 22-Sep-2019 17:54:15 ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031217-014
Operator ID: JL Instrument ID: CHECD09

Method: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\LVI_PEST_CHECD09.m
Limit Group: GCSV - 8081A
Last Update: 23-Sep-2019 10:30:59 Calib Date: 22-Sep-2019 15:04:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_008.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0327

First Level Reviewer: lamj Date: 23-Sep-2019 10:05:45

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.276	6.276	0.000	3646038464	50.0	50.0	
2	6.255	6.257	-0.002	2277775742	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	7.983	7.984	-0.001	142446600	0.0200	0.0171	
2	8.173	8.175	-0.002	85149956	0.0200	0.0163	
						RPD = 4.64	
3 alpha-BHC							
1	9.092	9.093	-0.001	779747137	0.0500	0.0650	
2	9.372	9.374	-0.002	492794389	0.0500	0.0687	
						RPD = 5.44	
4 gamma-BHC (Lindane)							
1	9.684	9.686	-0.002	655708640	0.0500	0.0672	
2	10.012	10.014	-0.002	418647145	0.0500	0.0685	
						RPD = 1.91	
5 beta-BHC							
1	9.887	9.887	0.000	287598730	0.0500	0.0718	
2	10.202	10.201	0.001	177487078	0.0500	0.0708	
						RPD = 1.38	
7 delta-BHC							
1	10.192	10.189	0.003	701044336	0.0500	0.0710	
2	10.686	10.684	0.002	298852823	0.0500	0.0700	
						RPD = 1.30	
9 Heptachlor							
1	10.498	10.499	-0.001	700415844	0.0500	0.0678	
2	10.735	10.736	-0.001	484928637	0.0500	0.0735	
						RPD = 8.08	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 Aldrin							
1	10.990	10.990	0.000	645250705	0.0500	0.0650	
2	11.247	11.248	-0.001	431346126	0.0500	0.0689	
						RPD = 5.91	
11 Heptachlor epoxide							
1	11.978	11.979	-0.001	557176763	0.0500	0.0638	
2	12.179	12.181	-0.002	369656238	0.0500	0.0696	
						RPD = 8.65	
12 trans-Chlordane							
1	12.196	12.194	0.002	593676940	0.0500	0.0662	
2	12.522	12.522	0.000	398149230	0.0500	0.0715	
						RPD = 7.73	
13 cis-Chlordane							
1	12.430	12.429	0.001	577164617	0.0500	0.0687	
2	12.797	12.798	-0.001	369022075	0.0500	0.0715	
						RPD = 3.98	
14 4,4'-DDE							
1	12.628	12.620	0.008	329991960	0.0500	0.0564	
2	13.172	13.169	0.003	347389320	0.0500	0.0724	
						RPD = 24.81	
15 Endosulfan I							
1	12.670	12.670	0.000	748594453	0.0500	0.0659	
2	12.889	12.890	-0.001	373326734	0.0500	0.0707	
						RPD = 7.08	
16 Dieldrin							
1	13.129	13.128	0.001	595330971	0.0500	0.0679	
2	13.409	13.409	0.000	380163348	0.0500	0.0725	
						RPD = 6.48	
18 Endrin							
1	13.561	13.561	0.000	395130917	0.0500	0.0646	
2	13.972	13.971	0.001	220528603	0.0500	0.0686	
						RPD = 6.04	
19 4,4'-DDD							
1	13.772	13.759	0.013	419351707	0.0500	0.0705	
2	14.267	14.259	0.008	223383910	0.0500	0.0703	
						RPD = 0.31	
20 Endosulfan II							
1	13.994	13.992	0.002	550893936	0.0500	0.0761	
2	14.381	14.380	0.001	397916847	0.0500	0.0801	
						RPD = 5.10	
21 4,4'-DDT							
1	14.278	14.272	0.006	492119203	0.0500	0.0718	
2	14.833	14.829	0.004	223191214	0.0500	0.0755	
						RPD = 5.00	
24 Endrin aldehyde							
1	14.777	14.774	0.003	415967783	0.0500	0.0757	
2	15.011	15.009	0.002	270452735	0.0500	0.0802	
						RPD = 5.75	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
25 Methoxychlor							
1	15.221	15.207	0.014	229179332	0.0500	0.0804	
2	16.107	16.099	0.008	97232464	0.0500	0.0790	
						RPD = 1.75	
26 Endosulfan sulfate							
1	15.576	15.571	0.005	478434601	0.0500	0.0728	
2	15.519	15.517	0.002	322254268	0.0500	0.0778	
						RPD = 6.64	
27 Endrin ketone							
1	16.053	16.051	0.002	574469903	0.0500	0.0713	
2	16.402	16.401	0.001	373013377	0.0500	0.0755	
						RPD = 5.67	
$ 28 DCB Decachlorobiphenyl							
1	17.547	17.546	0.001	155349565	0.0200	0.0242	
2	18.066	18.064	0.002	96478124	0.0200	0.0212	
						RPD = 13.01	

Reagents:

PST_IS 2_00063 Amount Added: 1.00 Units: mL Run Reagent

Report Date: 23-Sep-2019 10:32:44 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_014.d				
Injection Date:	22-Sep-2019 17:54:15	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	LCSD 600-275087/3-A			Worklist Smp#:	14
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	LVI_PEST_CHECD09	Limit Group:	GCSV - 8081A		

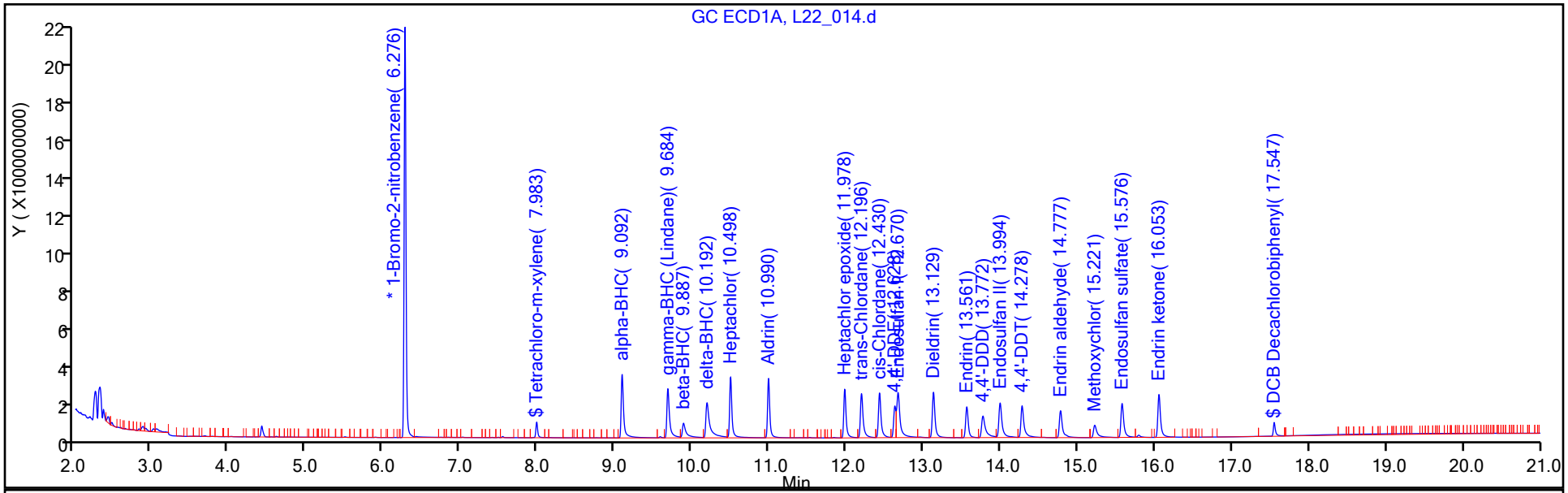

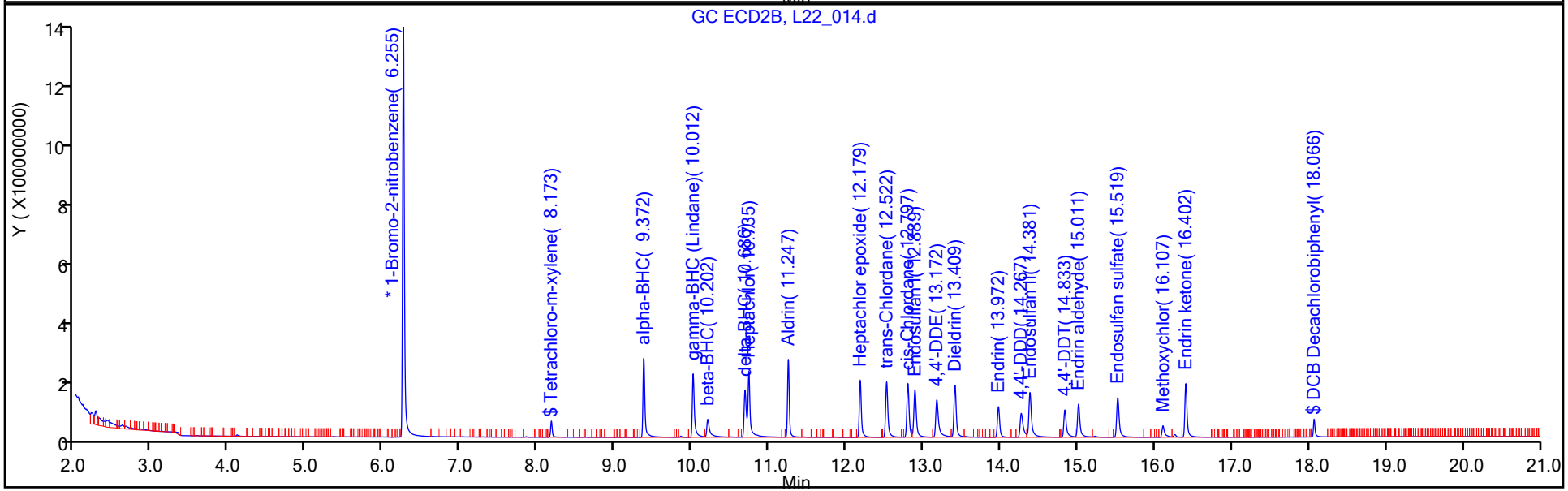

Eurofins TestAmerica, Houston
Recovery Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_014.d
Lims ID: LCSD 600-275087/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 22-Sep-2019 17:54:15 ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031217-014
Operator ID: JL Instrument ID: CHECD09

Method: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\LVI_PEST_CHECD09.m
Limit Group: GCSV - 8081A
Last Update: 23-Sep-2019 10:30:59 Calib Date: 22-Sep-2019 15:04:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190922-31217.b\L22_008.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0327

First Level Reviewer: lamj Date: 23-Sep-2019 10:05:45

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0171	85.34
$ 28 DCB Decachlorobiphenyl	0.0200	0.0242	120.94

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0163	81.47
$ 28 DCB Decachlorobiphenyl	0.0200	0.0212	106.17

PESTICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: CHECD09 Start Date: 09/19/2018 10:59

Analysis Batch Number: 247781 End Date: 09/19/2018 20:46

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
PEM 600-247781/2		09/19/2018 10:59	1		RTX-CLP1 0.32(mm)
PEM 600-247781/2		09/19/2018 10:59	1		RTX-CLP2 0.32(mm)
IC 600-247781/3		09/19/2018 11:27	1	M19_003.d	RTX-CLP1 0.32(mm)
IC 600-247781/3		09/19/2018 11:27	1	M19_003.d	RTX-CLP2 0.32(mm)
IC 600-247781/4		09/19/2018 11:55	1	M19_004.d	RTX-CLP1 0.32(mm)
IC 600-247781/4		09/19/2018 11:55	1	M19_004.d	RTX-CLP2 0.32(mm)
IC 600-247781/5		09/19/2018 12:23	1	M19_005.d	RTX-CLP1 0.32(mm)
IC 600-247781/5		09/19/2018 12:23	1	M19_005.d	RTX-CLP2 0.32(mm)
ICRT 600-247781/6		09/19/2018 12:50	1	M19_006.d	RTX-CLP1 0.32(mm)
ICRT 600-247781/6		09/19/2018 12:50	1	M19_006.d	RTX-CLP2 0.32(mm)
IC 600-247781/7		09/19/2018 13:18	1	M19_007.d	RTX-CLP1 0.32(mm)
IC 600-247781/7		09/19/2018 13:18	1	M19_007.d	RTX-CLP2 0.32(mm)
IC 600-247781/8		09/19/2018 13:46	1	M19_008.d	RTX-CLP1 0.32(mm)
IC 600-247781/8		09/19/2018 13:46	1	M19_008.d	RTX-CLP2 0.32(mm)
ICV 600-247781/9		09/19/2018 14:15	1		RTX-CLP1 0.32(mm)
ICV 600-247781/9		09/19/2018 14:15	1		RTX-CLP2 0.32(mm)
IC 600-247781/10		09/19/2018 14:45	1	M19_010.d	RTX-CLP1 0.32(mm)
IC 600-247781/10		09/19/2018 14:45	1	M19_010.d	RTX-CLP2 0.32(mm)
IC 600-247781/11		09/19/2018 15:13	1	M19_011.d	RTX-CLP1 0.32(mm)
IC 600-247781/11		09/19/2018 15:13	1	M19_011.d	RTX-CLP2 0.32(mm)
IC 600-247781/12		09/19/2018 15:41	1	M19_012.d	RTX-CLP1 0.32(mm)
IC 600-247781/12		09/19/2018 15:41	1	M19_012.d	RTX-CLP2 0.32(mm)
ICRT 600-247781/13		09/19/2018 16:08	1	M19_013.d	RTX-CLP1 0.32(mm)
ICRT 600-247781/13		09/19/2018 16:08	1	M19_013.d	RTX-CLP2 0.32(mm)
IC 600-247781/14		09/19/2018 16:36	1	M19_014.d	RTX-CLP1 0.32(mm)
IC 600-247781/14		09/19/2018 16:36	1	M19_014.d	RTX-CLP2 0.32(mm)
IC 600-247781/15		09/19/2018 17:04	1	M19_015.d	RTX-CLP1 0.32(mm)
IC 600-247781/15		09/19/2018 17:04	1	M19_015.d	RTX-CLP2 0.32(mm)
ICV 600-247781/16		09/19/2018 17:32	1		RTX-CLP1 0.32(mm)
ICV 600-247781/16		09/19/2018 17:32	1		RTX-CLP2 0.32(mm)
IC 600-247781/17		09/19/2018 18:00	1		RTX-CLP1 0.32(mm)
IC 600-247781/17		09/19/2018 18:00	1		RTX-CLP2 0.32(mm)
IC 600-247781/18		09/19/2018 18:27	1		RTX-CLP1 0.32(mm)
IC 600-247781/18		09/19/2018 18:27	1		RTX-CLP2 0.32(mm)
IC 600-247781/19		09/19/2018 18:55	1		RTX-CLP1 0.32(mm)
IC 600-247781/19		09/19/2018 18:55	1		RTX-CLP2 0.32(mm)
ICIS 600-247781/20		09/19/2018 19:23	1		RTX-CLP1 0.32(mm)
ICIS 600-247781/20		09/19/2018 19:23	1		RTX-CLP2 0.32(mm)
IC 600-247781/21		09/19/2018 19:51	1		RTX-CLP1 0.32(mm)
IC 600-247781/21		09/19/2018 19:51	1		RTX-CLP2 0.32(mm)
IC 600-247781/22		09/19/2018 20:19	1		RTX-CLP1 0.32(mm)
IC 600-247781/22		09/19/2018 20:19	1		RTX-CLP2 0.32(mm)
ICV 600-247781/23		09/19/2018 20:46	1		RTX-CLP1 0.32(mm)
ICV 600-247781/23		09/19/2018 20:46	1		RTX-CLP2 0.32(mm)

8081B

PESTICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: CHECD09 Start Date: 09/22/2019 12:15

Analysis Batch Number: 275356 End Date: 09/23/2019 00:00

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
PEM 600-275356/2		09/22/2019 12:15	1		RTX-CLP1 0.32(mm)
PEM 600-275356/2		09/22/2019 12:15	1		RTX-CLP2 0.32(mm)
IC 600-275356/3		09/22/2019 12:43	1	L22_003.d	RTX-CLP1 0.32(mm)
IC 600-275356/3		09/22/2019 12:43	1	L22_003.d	RTX-CLP2 0.32(mm)
IC 600-275356/4		09/22/2019 13:11	1	L22_004.d	RTX-CLP1 0.32(mm)
IC 600-275356/4		09/22/2019 13:11	1	L22_004.d	RTX-CLP2 0.32(mm)
IC 600-275356/5		09/22/2019 13:40	1	L22_005.d	RTX-CLP1 0.32(mm)
IC 600-275356/5		09/22/2019 13:40	1	L22_005.d	RTX-CLP2 0.32(mm)
ICIS 600-275356/6		09/22/2019 14:08	1	L22_006.d	RTX-CLP1 0.32(mm)
ICIS 600-275356/6		09/22/2019 14:08	1	L22_006.d	RTX-CLP2 0.32(mm)
IC 600-275356/7		09/22/2019 14:36	1	L22_007.d	RTX-CLP1 0.32(mm)
IC 600-275356/7		09/22/2019 14:36	1	L22_007.d	RTX-CLP2 0.32(mm)
IC 600-275356/8		09/22/2019 15:04	1	L22_008.d	RTX-CLP1 0.32(mm)
IC 600-275356/8		09/22/2019 15:04	1	L22_008.d	RTX-CLP2 0.32(mm)
ICV 600-275356/9		09/22/2019 15:33	1	L22_009.d	RTX-CLP1 0.32(mm)
ICV 600-275356/9		09/22/2019 15:33	1	L22_009.d	RTX-CLP2 0.32(mm)
CCV 600-275356/10		09/22/2019 16:01	1		RTX-CLP1 0.32(mm)
CCV 600-275356/10		09/22/2019 16:01	1		RTX-CLP2 0.32(mm)
CCV 600-275356/11		09/22/2019 16:29	1		RTX-CLP1 0.32(mm)
CCV 600-275356/11		09/22/2019 16:29	1		RTX-CLP2 0.32(mm)
ZZZZZ		09/22/2019 16:57	1		RTX-CLP1 0.32(mm)
ZZZZZ		09/22/2019 16:57	1		RTX-CLP2 0.32(mm)
ZZZZZ		09/22/2019 17:25	1		RTX-CLP1 0.32(mm)
ZZZZZ		09/22/2019 17:25	1		RTX-CLP2 0.32(mm)
ZZZZZ		09/22/2019 17:54	1		RTX-CLP1 0.32(mm)
ZZZZZ		09/22/2019 17:54	1		RTX-CLP2 0.32(mm)
ZZZZZ		09/22/2019 18:22	1		RTX-CLP1 0.32(mm)
ZZZZZ		09/22/2019 18:22	1		RTX-CLP2 0.32(mm)
ZZZZZ		09/22/2019 18:50	1		RTX-CLP1 0.32(mm)
ZZZZZ		09/22/2019 18:50	1		RTX-CLP2 0.32(mm)
ZZZZZ		09/22/2019 20:43	1		RTX-CLP1 0.32(mm)
ZZZZZ		09/22/2019 20:43	1		RTX-CLP2 0.32(mm)
600-191956-2		09/22/2019 21:11	1	L22_021.d	RTX-CLP1 0.32(mm)
600-191956-2		09/22/2019 21:11	1	L22_021.d	RTX-CLP2 0.32(mm)
ZZZZZ		09/22/2019 21:39	1		RTX-CLP1 0.32(mm)
ZZZZZ		09/22/2019 21:39	1		RTX-CLP2 0.32(mm)
ZZZZZ		09/22/2019 22:08	1		RTX-CLP1 0.32(mm)
ZZZZZ		09/22/2019 22:08	1		RTX-CLP2 0.32(mm)
ZZZZZ		09/22/2019 22:36	1		RTX-CLP1 0.32(mm)
ZZZZZ		09/22/2019 22:36	1		RTX-CLP2 0.32(mm)
ZZZZZ		09/22/2019 23:04	1		RTX-CLP1 0.32(mm)
ZZZZZ		09/22/2019 23:04	1		RTX-CLP2 0.32(mm)
ZZZZZ		09/22/2019 23:32	1		RTX-CLP1 0.32(mm)
ZZZZZ		09/22/2019 23:32	1		RTX-CLP2 0.32(mm)
ZZZZZ		09/23/2019 00:00	1		RTX-CLP1 0.32(mm)

8081B

PESTICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: CHECD09 Start Date: 09/22/2019 12:15

Analysis Batch Number: 275356 End Date: 09/23/2019 00:00

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		09/23/2019 00:00	1		RTX-CLP2 0.32(mm)

8081B

PESTICIDES BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Batch Number: 275087 Batch Start Date: 09/18/19 11:20 Batch Analyst: Racelis, Luis E

Batch Method: 3510C Batch End Date: 09/19/19 10:37

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ReceivedpH	PSURR 00053		
600-191956-L-2	11187072-091319-LL-EXC-1	3510C, 8081B	T	240 mL	5.0 mL	7 SU	0.5 mL		

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

PESTICIDES BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Batch Number: 275087 Batch Start Date: 09/18/19 11:20 Batch Analyst: Racelis, Luis E

Batch Method: 3510C Batch End Date: 09/19/19 10:37

Batch Notes	
Acid used for Clean Up ID	EX-SULF-ACID_00012 (If required)
Base Used to Adjust pH ID	EX-SODIUM-HYD_00036
Batch Comment	Vialed by: luiseracelis
Analyst ID - Concentration	ler
Concentration 1 Corrected Temperature	45.7 Degrees C
Concentration 2 Corrected Temperature	45.8 Degrees C
Analyst ID - Clean Up	ler
Equipment ID - Concentration 1	TV # 1
Equipment ID - Concentration 2	TV # 2
Exchange Solvent ID	EX-HEXANE_00040
Analyst ID - Extraction	ler
Florisil ID	EX-FLORISIL_00005 (If required)
Glass Wool ID	EX -Glasswool_00004
Method/Fraction	3510C_LVI / 8081A/8082
Na2SO4 ID	EX-SODSULF_00023_k
pH Indicator ID	HC991818
Pipette/Syringe/Dispenser ID	PSURR/PESTSPK
Prep Solvent ID	EX-METHY-CHLO_00258
Prep Solvent Volume Used	90 ML plus 15 ML rinse CH2CL2 mL
Analyst ID - Spike Analyst	ler
Analyst ID - Spike Witness Analyst	ler/ by lid method
Sufficient Volume for Batch QC	yes
Thermometer ID - Concentration 1	# 610
Thermometer ID - Concentration 2	# 610
Concentration 1 Uncorrected Temperature	45.3 Degrees C
Concentration 2 Uncorrected Temperature	45.4 Degrees C
Vial Lot Number	00231788
Reagent Water ID	DI Water

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

PESTICIDES BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Batch Number: 275087 Batch Start Date: 09/18/19 11:20 Batch Analyst: Racelis, Luis E

Batch Method: 3510C Batch End Date: 09/19/19 10:37

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Method 8082A

Polychlorinated Biphenyls (PCBs) (GC) by Method 8082A

FORM II
PCBS SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): RTX-CLP1 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCX1 #	DCBP1 #
11187072-091319-LL -EXC-1	600-191956-2	85	180 X

	QC LIMITS
TCX = Tetrachloro-m-xylene	32-150
DCBP = DCB Decachlorobiphenyl	26-130

Column to be used to flag recovery values

FORM II 8082

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Client Sample ID: 11187072-091319-LL-EXC-1 Lab Sample ID: 600-191956-2

Matrix: Water Lab File ID: L19_030.d

Analysis Method: 8082 Date Collected: 09/13/2019 08:00

Extraction Method: 3510C Date Extracted: 09/18/2019 11:24

Sample wt/vol: 240(mL) Date Analyzed: 09/19/2019 22:01

Con. Extract Vol.: 5.0(mL) Dilution Factor: 1

Injection Volume: 5(uL) GC Column: RTX-CLP1 ID: 0.32(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 275246 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
12674-11-2	PCB-1016	ND		1.0	0.56
11104-28-2	PCB-1221	ND		1.0	0.46
11141-16-5	PCB-1232	ND		1.0	0.13
53469-21-9	PCB-1242	ND		1.0	0.17
12672-29-6	PCB-1248	ND		1.0	0.21
11097-69-1	PCB-1254	ND		1.0	0.15
11096-82-5	PCB-1260	ND		1.0	0.35

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene	85		32-150
2051-24-3	DCB Decachlorobiphenyl	180	X	26-130

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_030.d
Lims ID: 600-191956-L-2-A
Client ID: 11187072-091319-LL-EXC-1
Sample Type: Client
Inject. Date: 19-Sep-2019 22:01:18 ALS Bottle#: 30 Worklist Smp#: 15
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031198-015
Operator ID: JL Instrument ID: CHECD09

Method: \\chromna\Houston\ChromData\CHECD09\20190919-31198.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 20-Sep-2019 10:43:36 Calib Date: 30-Jul-2019 04:07:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0334

First Level Reviewer: lamj Date: 20-Sep-2019 09:28:49

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene						
1	6.869	6.864	0.005	3155826823	50.0	
2	6.948	6.921	0.027	2013051799	50.0	
					RPD = 0.00	
$ 2 Tetrachloro-m-xylene						a
1	8.795	8.795	0.000	110234579	0.0171	a
2	9.152	9.128	0.024	65247596	0.0180	a
					RPD = 5.39	
$ 3 DCB Decachlorobiphenyl						Ma
1	19.255	19.260	-0.005	154139919	0.0360	M
2	20.332	20.319	0.013	54916653	0.0228	a
					RPD = 45.00	

QC Flag Legend

Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

PST_IS 2_00063 Amount Added: 1.00 Units: mL Run Reagent

Report Date: 20-Sep-2019 10:44:02 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_030.d				
Injection Date:	19-Sep-2019 22:01:18	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	600-191956-L-2-A	Lab Sample ID:	600-191956-2	Worklist Smp#:	15
Client ID:	11187072-091319-LL-EXC-1				
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	30
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

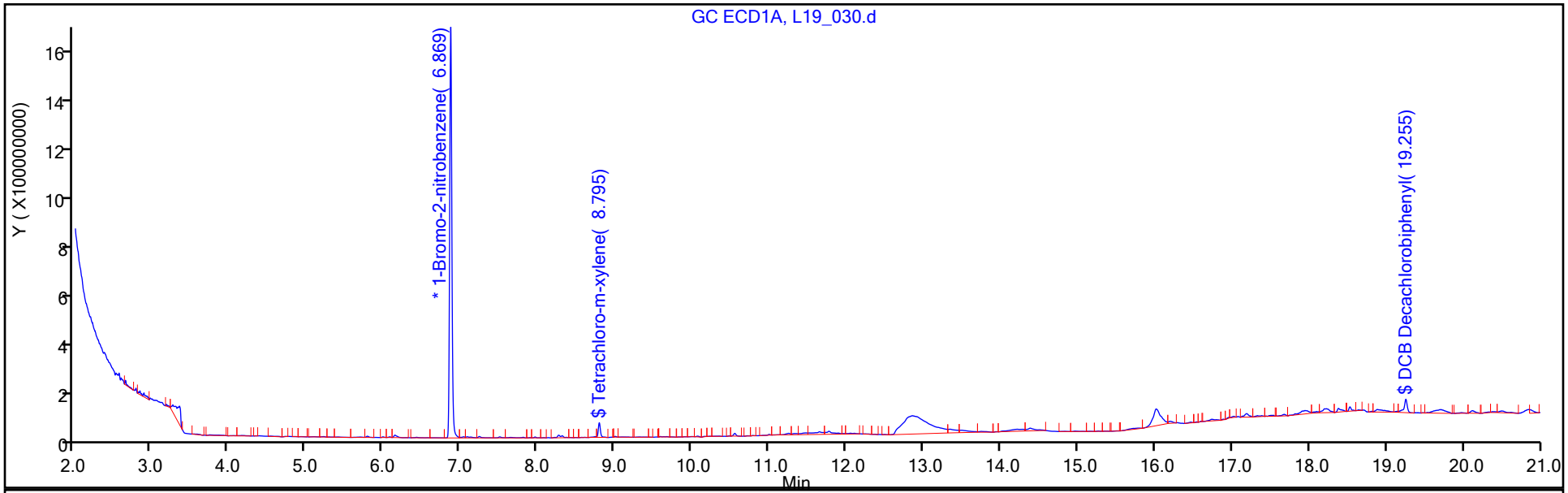

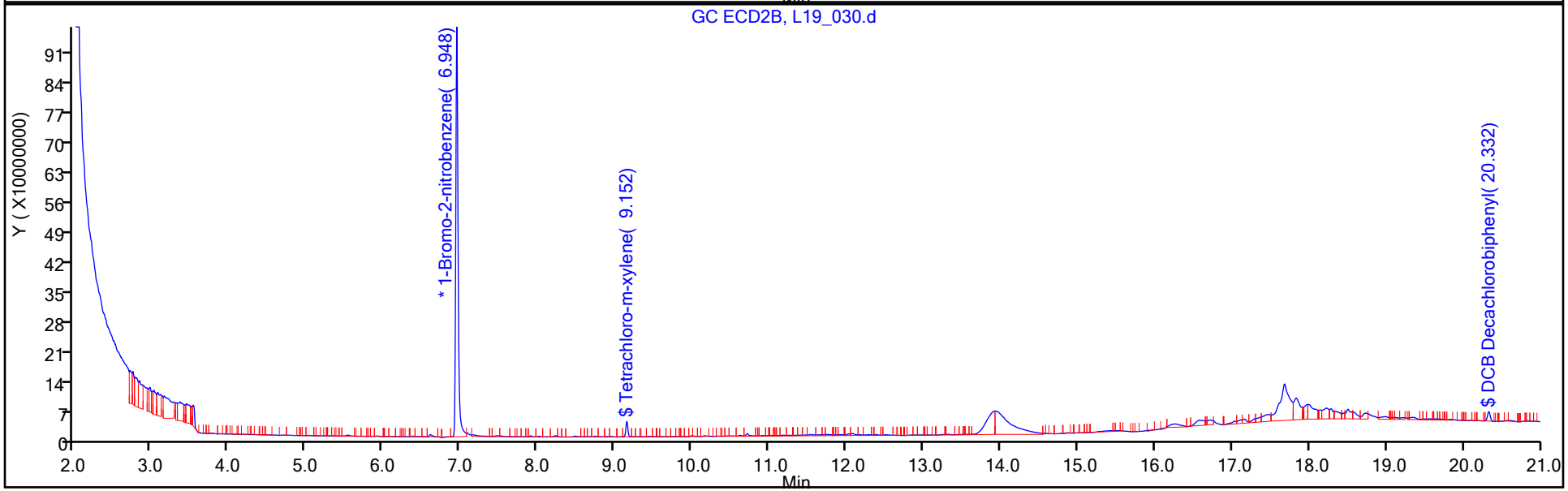

Eurofins TestAmerica, Houston
Recovery Report

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_030.d				
Lims ID:	600-191956-L-2-A				
Client ID:	11187072-091319-LL-EXC-1				
Sample Type:	Client				
Inject. Date:	19-Sep-2019 22:01:18	ALS Bottle#:	30	Worklist Smp#:	15
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Sample Info:	600-0031198-015				
Operator ID:	JL	Instrument ID:	CHECD09		
Method:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\LVIPCBCHECD09IS.m				
Limit Group:	GCSV - 8082				
Last Update:	20-Sep-2019 10:43:36	Calib Date:	30-Jul-2019 04:07:48		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d				
Column 1 :			Det: GC ECD1A		
Column 2 :			Det: GC ECD2B		
Process Host:	CTX0334				
First Level Reviewer: lamj		Date:	20-Sep-2019 09:28:49		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0171	85.30
$ 3 DCB Decachlorobiphenyl	0.0200	0.0360	180.19

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0180	90.03
$ 3 DCB Decachlorobiphenyl	0.0200	0.0228	114.00

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_030.d				
Injection Date:	19-Sep-2019 22:01:18	Instrument ID:	CHECD09		
Lims ID:	600-191956-L-2-A	Lab Sample ID:	600-191956-2		
Client ID:	11187072-091319-LL-EXC-1				
Operator ID:	JL	ALS Bottle#:	30	Worklist Smp#:	15
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD1A		

$ 2 Tetrachloro-m-xylene, CAS: 877-09-8

Signal: 1

Not Detected
Expected RT: 8.80

Processing Integration Results

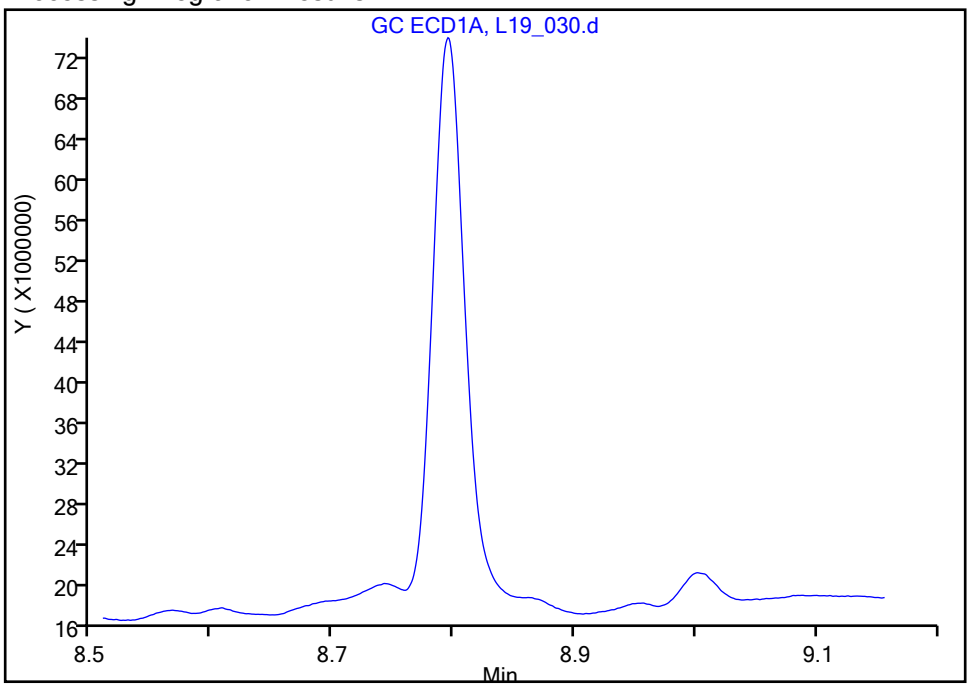

RT: 8.79
Area: 110234579
Amount: 0.017061
Amount Units: ug/ml

Manual Integration Results

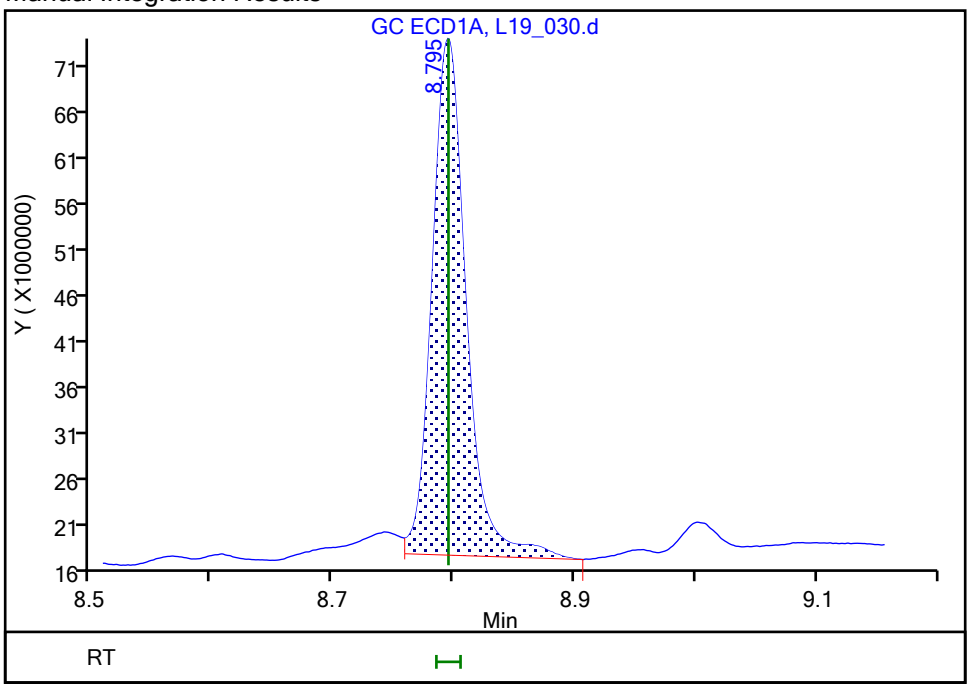

Reviewer: lamj, 20-Sep-2019 09:29:59
Audit Action: Assigned Compound ID Audit Reason:

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_030.d				
Injection Date:	19-Sep-2019 22:01:18	Instrument ID:	CHECD09		
Lims ID:	600-191956-L-2-A	Lab Sample ID:	600-191956-2		
Client ID:	11187072-091319-LL-EXC-1				
Operator ID:	JL	ALS Bottle#:	30	Worklist Smp#:	15
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD1A		

$ 3 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 19.26

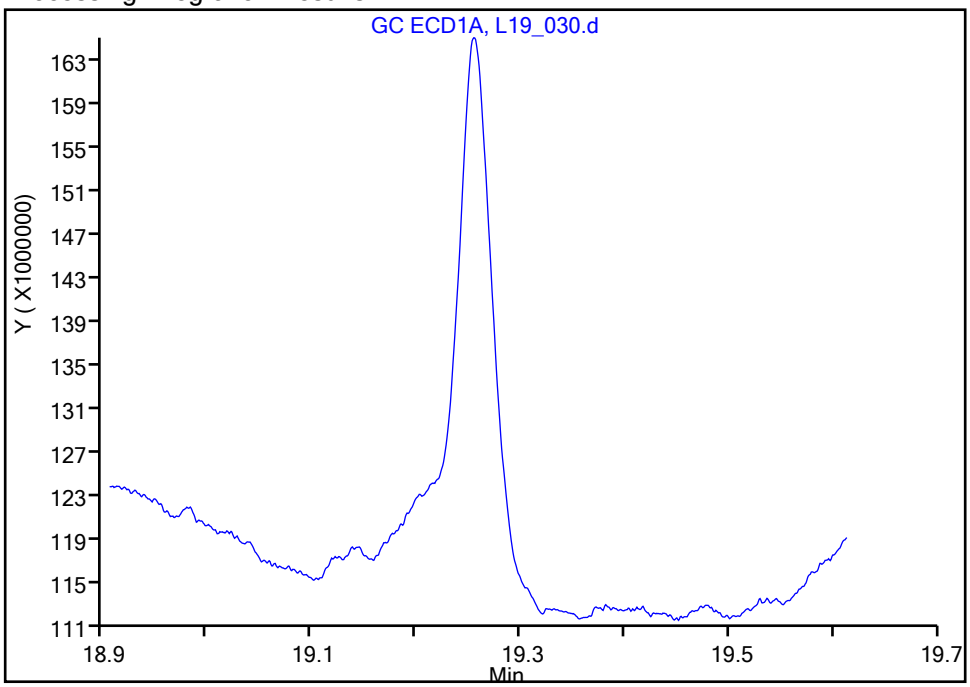

Manual Integration Results

RT: 19.25
Area: 154139919
Amount: 0.036038
Amount Units: ug/ml

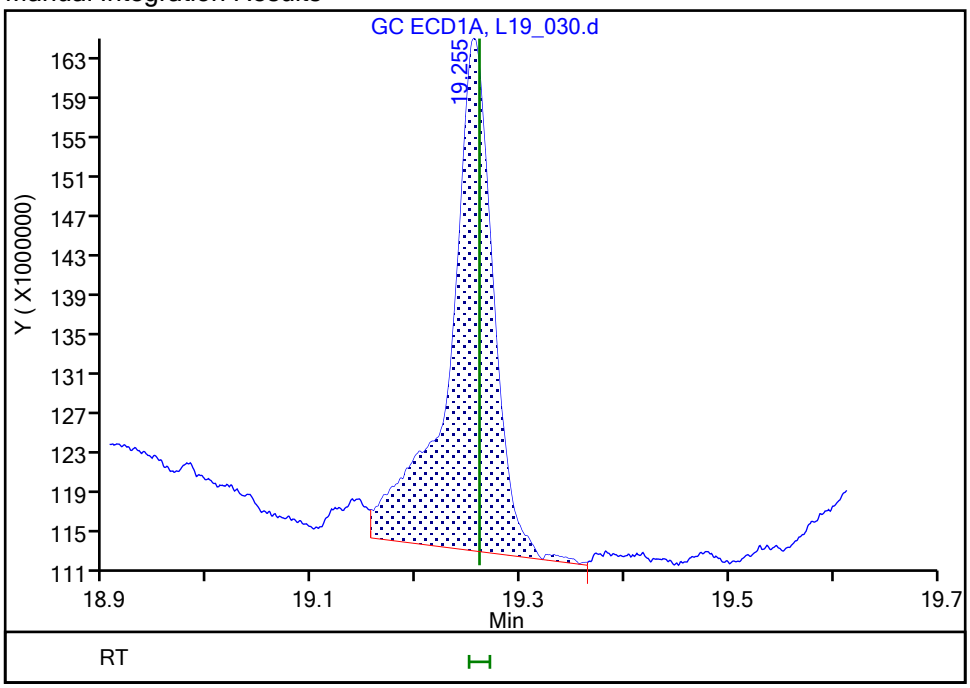

Reviewer: lamj, 20-Sep-2019 10:42:29
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2019 19:14 Calibration End Date: 07/29/2019 19:14 Calibration ID: 16260

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/2	M29_002.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1221 Peak 1	1.2980					Ave		1.2980						20.0			
PCB-1221 Peak 2	0.7946					Ave		0.7946						20.0			
PCB-1221 Peak 3	3.0501					Ave		3.0501						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2019 19:14 Calibration End Date: 07/29/2019 19:14 Calibration ID: 16260

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/2	M29_002.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1					LVL 1				
PCB-1221 Peak 1	BNB	Ave	34428258					0.500				
PCB-1221 Peak 2	BNB	Ave	21075599					0.500				
PCB-1221 Peak 3	BNB	Ave	80898411					0.500				

Curve Type Legend:

Ave = Average ISTD

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_002.d				
Lims ID:	ic				
Client ID:					
Sample Type:	IC	Calib Level:	1		
Inject. Date:	29-Jul-2019 19:14:25	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Sample Info:	600-0030284-002				
Operator ID:	JL	Instrument ID:	CHECD09		
Sublist:	chrom-LVIPCBCHECD09IS*sub2				
Method:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m				
Limit Group:	GCSV - 8082				
Last Update:	30-Jul-2019 10:10:45	Calib Date:	30-Jul-2019 03:11:33		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_019.d				
Column 1 :			Det: GC ECD1A		
Column 2 :			Det: GC ECD2B		
Process Host:	CTX0337				

First Level Reviewer: lamj Date: 30-Jul-2019 10:10:45

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.903	6.901	0.002	2652312119	50.0	50.0	
2	6.999	7.001	-0.002	1626006161	50.0	50.0	
						RPD = 0.00	
5 PCB-1221							
1	9.261	9.261	0.000	34428258	0.5000	0.5000	
1	9.587	9.587	0.000	21075599	0.5000	0.5000	
1	9.676	9.676	0.000	80898411	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	9.882	9.882	0.000	18839805	0.5000	0.5000	
2	10.178	10.178	0.000	12269422	0.5000	0.5000	
2	10.303	10.303	0.000	48866668	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	

Reagents:

AR1221STD4_00018	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 30-Jul-2019 10:10:45 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_002.d				
Injection Date:	29-Jul-2019 19:14:25	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	2
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

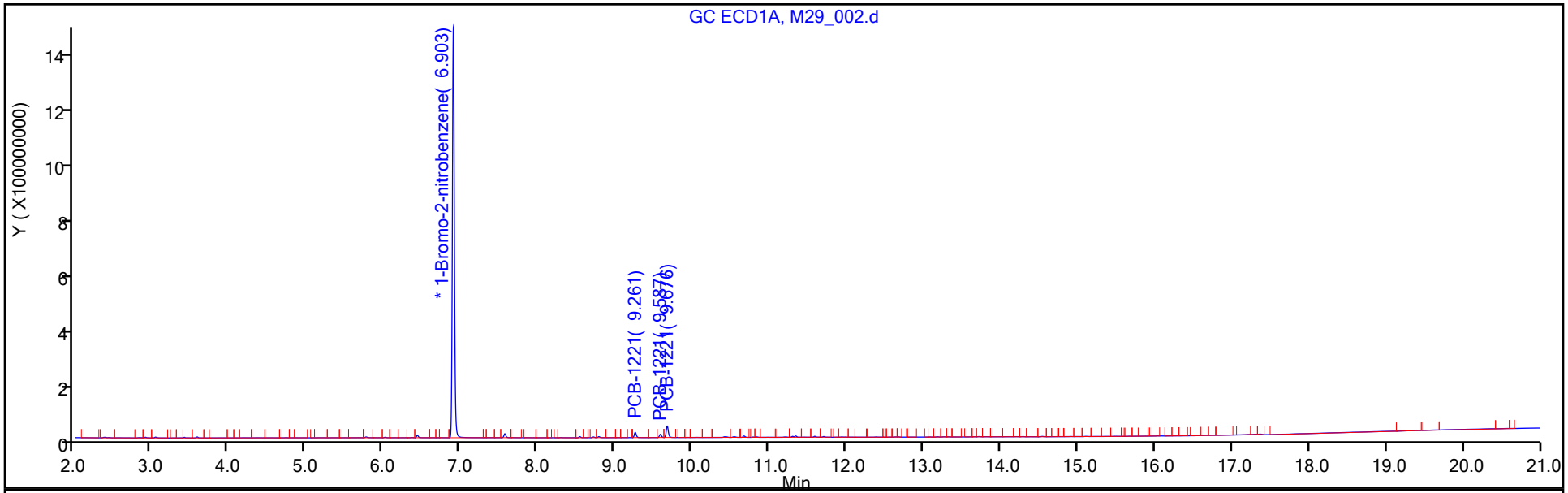

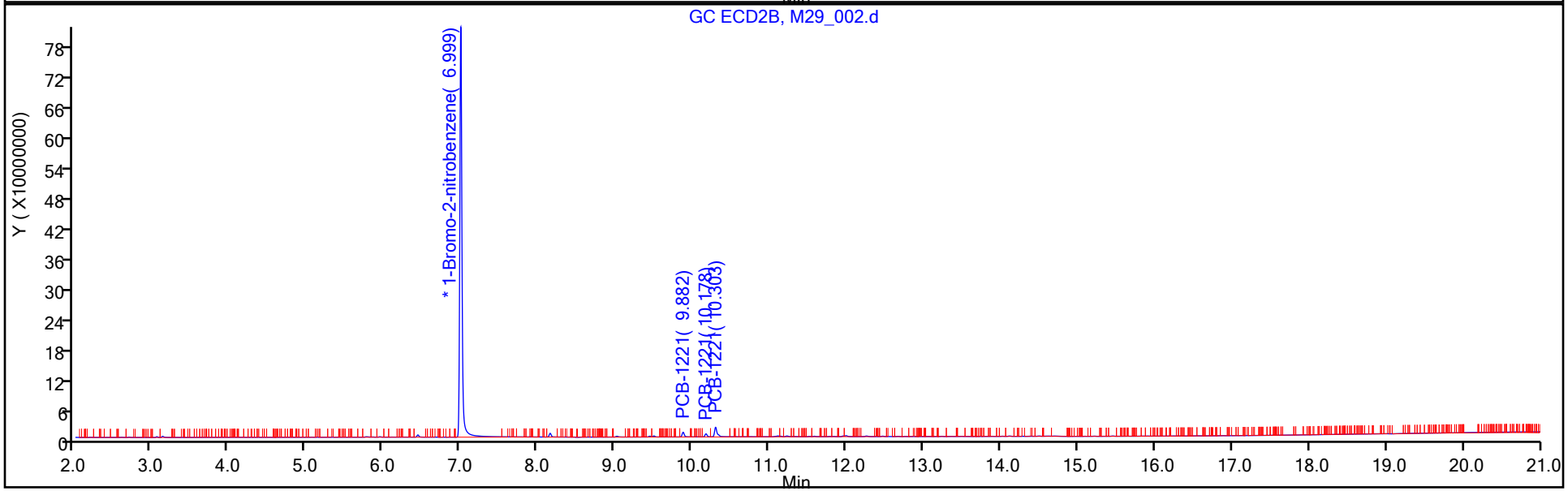

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2019 19:14 Calibration End Date: 07/29/2019 19:14 Calibration ID: 16261

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/2	M29_002.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1221 Peak 1	1.1587					Ave		1.1587						20.0			
PCB-1221 Peak 2	0.7546					Ave		0.7546						20.0			
PCB-1221 Peak 3	3.0053					Ave		3.0053						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2019 19:14 Calibration End Date: 07/29/2019 19:14 Calibration ID: 16261

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/2	M29_002.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1					LVL 1				
PCB-1221 Peak 1	BNB	Ave	18839805					0.500				
PCB-1221 Peak 2	BNB	Ave	12269422					0.500				
PCB-1221 Peak 3	BNB	Ave	48866668					0.500				

Curve Type Legend:

Ave = Average ISTD

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_002.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 29-Jul-2019 19:14:25 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030284-002
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVIPCBCHECD09IS*sub2

Method: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 30-Jul-2019 10:10:45 Calib Date: 30-Jul-2019 03:11:33
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_019.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0337

First Level Reviewer: lamj Date: 30-Jul-2019 10:10:45

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.903	6.901	0.002	2652312119	50.0	50.0	
2	6.999	7.001	-0.002	1626006161	50.0	50.0	
						RPD = 0.00	
5 PCB-1221							
1	9.261	9.261	0.000	34428258	0.5000	0.5000	
1	9.587	9.587	0.000	21075599	0.5000	0.5000	
1	9.676	9.676	0.000	80898411	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	9.882	9.882	0.000	18839805	0.5000	0.5000	
2	10.178	10.178	0.000	12269422	0.5000	0.5000	
2	10.303	10.303	0.000	48866668	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	

Reagents:

AR1221STD4_00018 Amount Added: 1.00 Units: mL
PST_IS 2_00063 Amount Added: 1.00 Units: mL Run Reagent

Report Date: 30-Jul-2019 10:10:46 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_002.d				
Injection Date:	29-Jul-2019 19:14:25	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	2
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

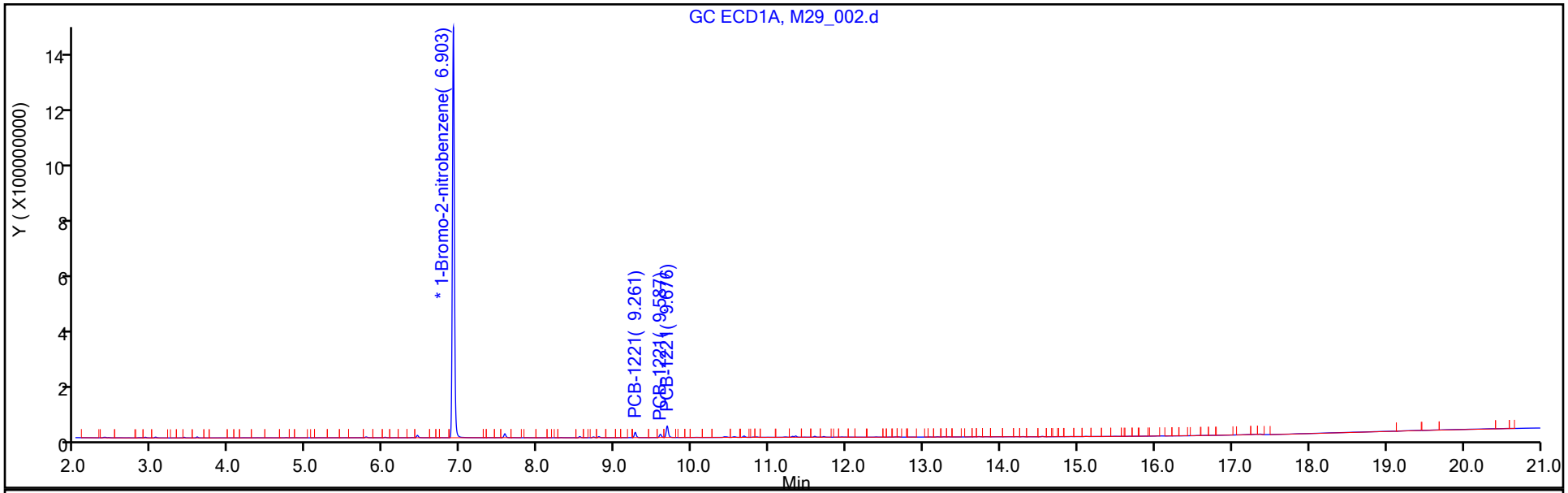

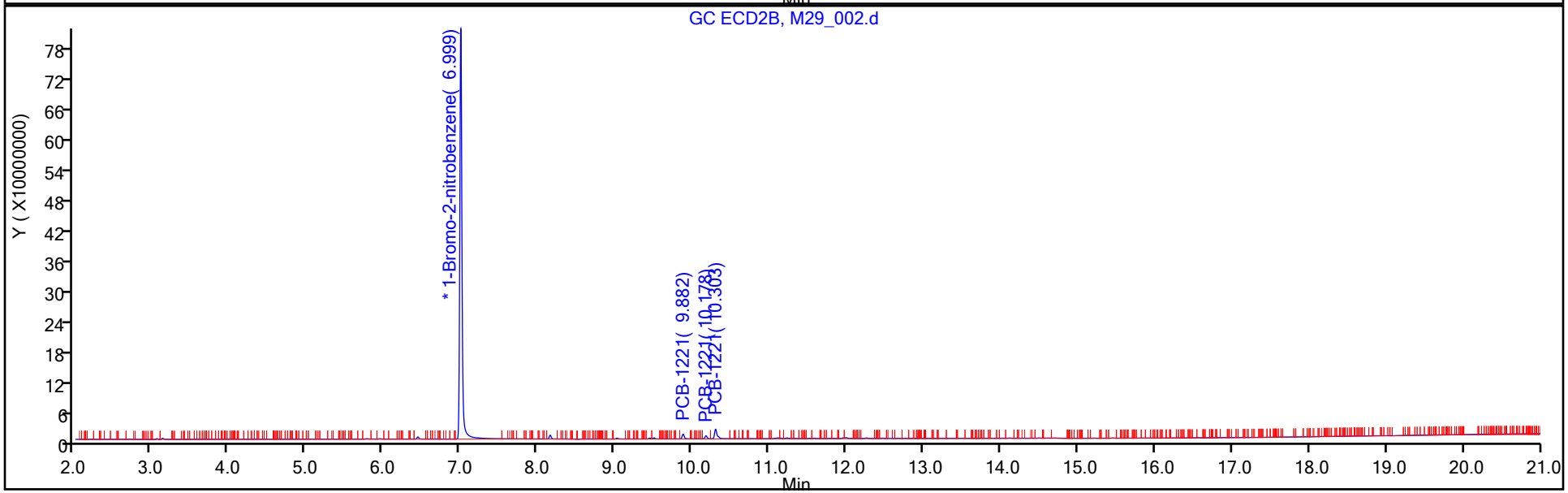

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2019 19:42 Calibration End Date: 07/29/2019 19:42 Calibration ID: 16264

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/3	M29_003.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1232 Peak 1	0.8938					Ave		0.8938						20.0			
PCB-1232 Peak 2	1.7935					Ave		1.7935						20.0			
PCB-1232 Peak 3	1.5996					Ave		1.5996						20.0			
PCB-1232 Peak 4	1.0625					Ave		1.0625						20.0			
PCB-1232 Peak 5	0.5154					Ave		0.5154						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2019 19:42 Calibration End Date: 07/29/2019 19:42 Calibration ID: 16264

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/3	M29_003.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1					LVL 1				
PCB-1232 Peak 1	BNB	Ave	22408016					0.500				
PCB-1232 Peak 2	BNB	Ave	44964967					0.500				
PCB-1232 Peak 3	BNB	Ave	40104368					0.500				
PCB-1232 Peak 4	BNB	Ave	26637217					0.500				
PCB-1232 Peak 5	BNB	Ave	12921697					0.500				

Curve Type Legend:

Ave = Average ISTD

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_003.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 29-Jul-2019 19:42:26 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030284-003
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVIPCBCHECD09IS*sub3

Method: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 30-Jul-2019 10:11:23 Calib Date: 30-Jul-2019 03:11:33
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_019.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0337

First Level Reviewer: lamj Date: 30-Jul-2019 09:49:15

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.902	6.901	0.001	2507083326	50.0	50.0	
2	7.000	7.001	-0.001	1430075540	50.0	50.0	
						RPD = 0.00	
4 PCB-1232							a
1	9.261	9.261	0.000	22408016	0.5000	0.5000	
1	10.418	10.418	0.000	44964967	0.5000	0.5000	
1	11.588	11.588	0.000	40104368	0.5000	0.5000	
1	11.706	11.706	0.000	26637217	0.5000	0.5000	
1	13.084	13.084	0.000	12921697	0.5000	0.5000	a
		Average of Peak Amounts =				0.5000	
2	9.882	9.882	0.000	11400136	0.5000	0.5000	
2	10.180	10.180	0.000	7946427	0.5000	0.5000	
2	11.522	11.522	0.000	6242943	0.5000	0.5000	
2	11.586	11.586	0.000	9117927	0.5000	0.5000	
2	12.259	12.259	0.000	17943545	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	

QC Flag Legend

Review Flags
a - User Assigned ID

Reagents:

AR1232STD4_00017 Amount Added: 1.00 Units: mL
PST_IS 2_00063 Amount Added: 1.00 Units: mL Run Reagent

Report Date: 30-Jul-2019 10:11:24 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_003.d				
Injection Date:	29-Jul-2019 19:42:26	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	3
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

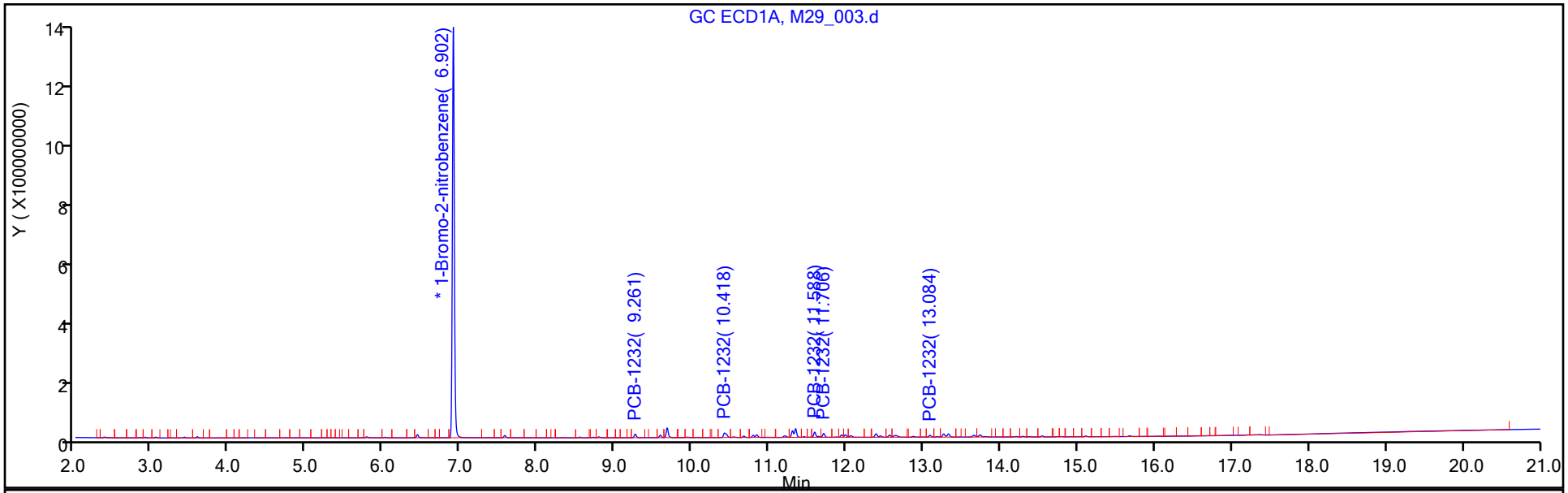

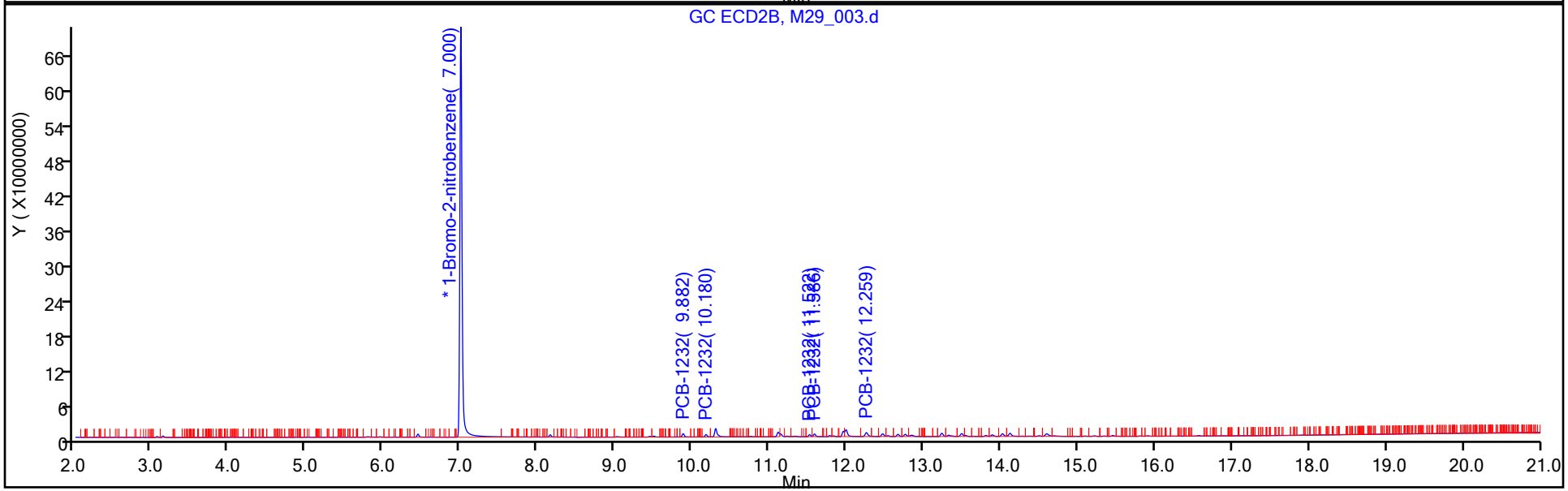

Report Date: 30-Jul-2019 10:11:24 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_003.d

Injection Date: 29-Jul-2019 19:42:26 Instrument ID: CHECD09

Lims ID: ic

Client ID:

Operator ID: JL ALS Bottle#: 3 Worklist Smp#: 3

Injection Vol: 5.0 ul Dil. Factor: 1.0000

Method: LVIPCBCHECD09IS Limit Group: GCSV - 8082

Column: Detector GC ECD1A

4 PCB-1232, CAS: 11141-16-5

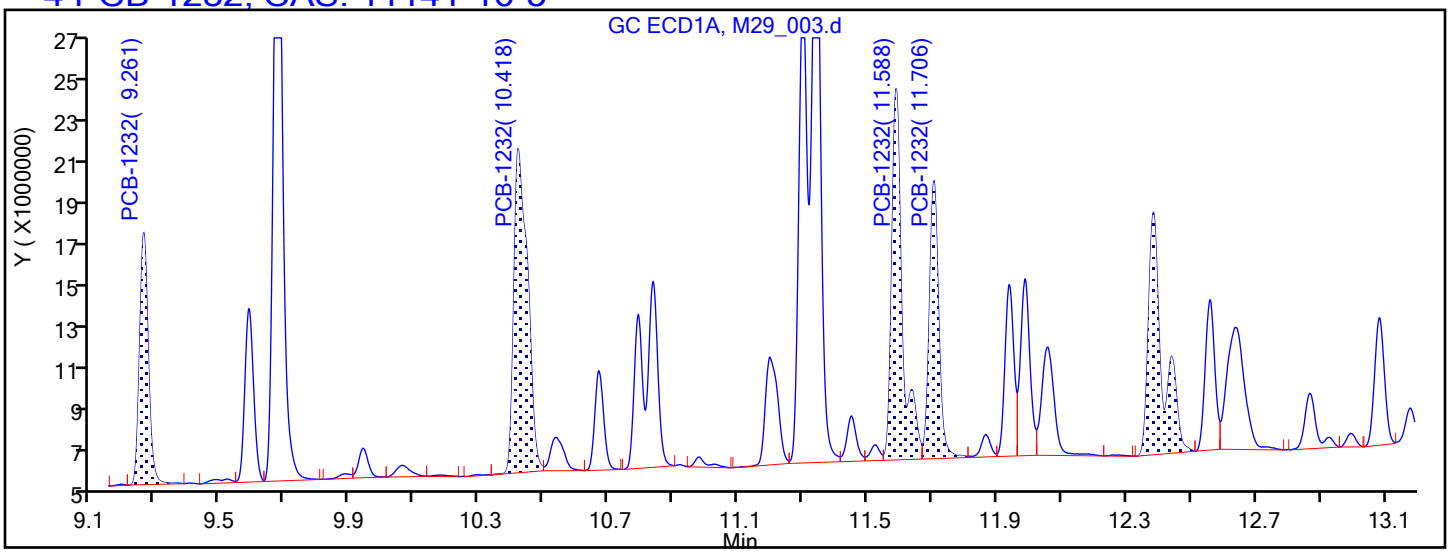

Processing Integration Results

9.261	Response = 22408016
10.418	Response = 44964967
11.588	Response = 40104368
11.706	Response = 26637217
12.385	Response = 35054494

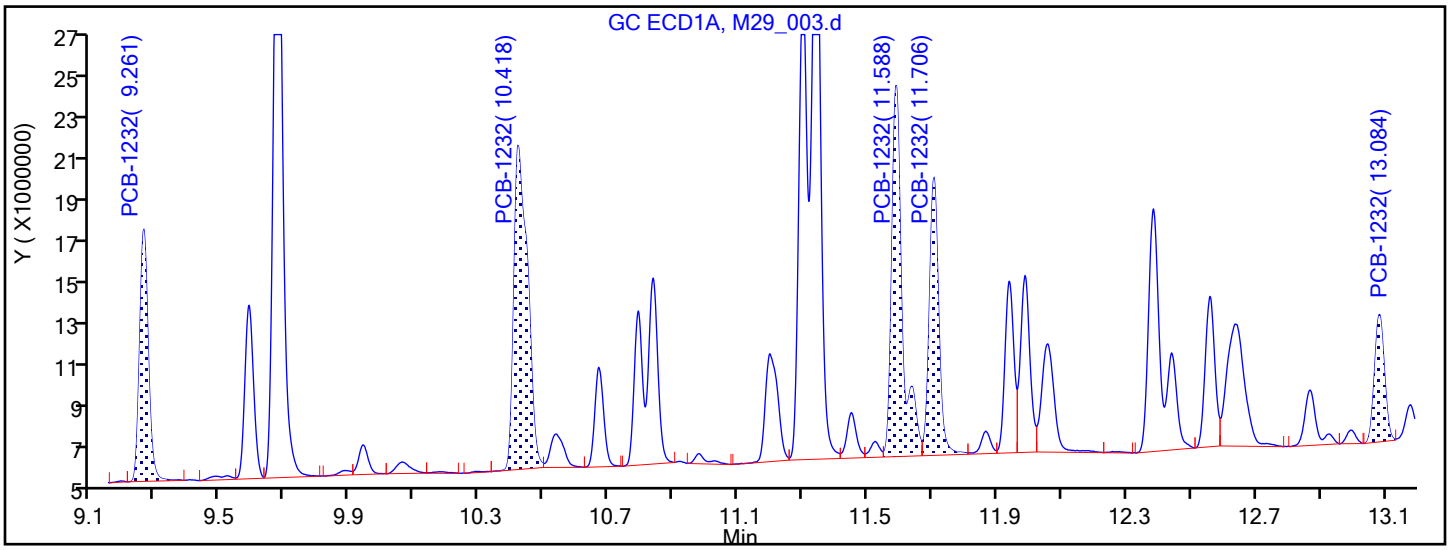

Manual Integration Results

9.261	Response = 22408016	
10.418	Response = 44964967	
11.588	Response = 40104368	
11.706	Response = 26637217	
13.084	Response = 12921697	M

Reviewer: lamj, 30-Jul-2019 10:11:12

Audit Action: Assigned Compound ID Audit Reason:

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2019 19:42 Calibration End Date: 07/29/2019 19:42 Calibration ID: 16265

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/3	M29_003.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1232 Peak 1	0.7972					Ave		0.7972						20.0			
PCB-1232 Peak 2	0.5557					Ave		0.5557						20.0			
PCB-1232 Peak 3	0.4365					Ave		0.4365						20.0			
PCB-1232 Peak 4	0.6376					Ave		0.6376						20.0			
PCB-1232 Peak 5	1.2547					Ave		1.2547						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2019 19:42 Calibration End Date: 07/29/2019 19:42 Calibration ID: 16265

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/3	M29_003.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1					LVL 1				
PCB-1232 Peak 1	BNB	Ave	11400136					0.500				
PCB-1232 Peak 2	BNB	Ave	7946427					0.500				
PCB-1232 Peak 3	BNB	Ave	6242943					0.500				
PCB-1232 Peak 4	BNB	Ave	9117927					0.500				
PCB-1232 Peak 5	BNB	Ave	17943545					0.500				

Curve Type Legend:
Ave = Average ISTD

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_003.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 29-Jul-2019 19:42:26 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030284-003
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVIPCBCHECD09IS*sub3

Method: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 30-Jul-2019 10:11:23 Calib Date: 30-Jul-2019 03:11:33
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_019.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0337

First Level Reviewer: lamj Date: 30-Jul-2019 09:49:15

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.902	6.901	0.001	2507083326	50.0	50.0	
2	7.000	7.001	-0.001	1430075540	50.0	50.0	
						RPD = 0.00	
4 PCB-1232							a
1	9.261	9.261	0.000	22408016	0.5000	0.5000	
1	10.418	10.418	0.000	44964967	0.5000	0.5000	
1	11.588	11.588	0.000	40104368	0.5000	0.5000	
1	11.706	11.706	0.000	26637217	0.5000	0.5000	
1	13.084	13.084	0.000	12921697	0.5000	0.5000	a
		Average of Peak Amounts =				0.5000	
2	9.882	9.882	0.000	11400136	0.5000	0.5000	
2	10.180	10.180	0.000	7946427	0.5000	0.5000	
2	11.522	11.522	0.000	6242943	0.5000	0.5000	
2	11.586	11.586	0.000	9117927	0.5000	0.5000	
2	12.259	12.259	0.000	17943545	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	

QC Flag Legend

Review Flags
a - User Assigned ID

Reagents:

AR1232STD4_00017 Amount Added: 1.00 Units: mL
PST_IS 2_00063 Amount Added: 1.00 Units: mL Run Reagent

Report Date: 30-Jul-2019 10:11:25 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_003.d				
Injection Date:	29-Jul-2019 19:42:26	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	3
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

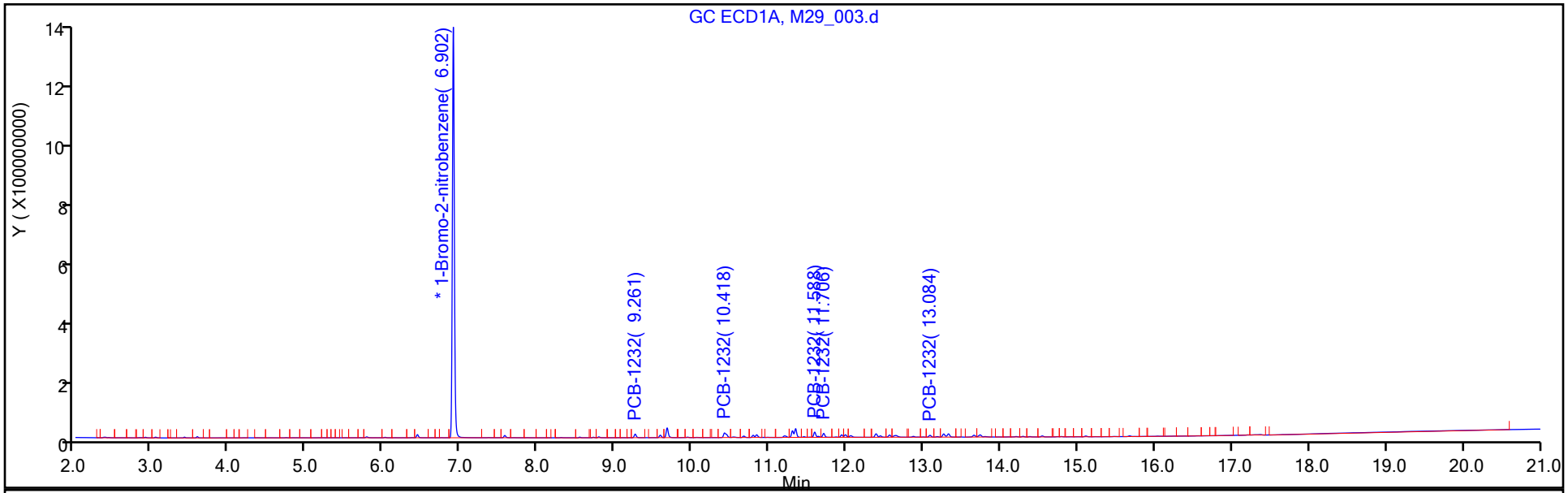

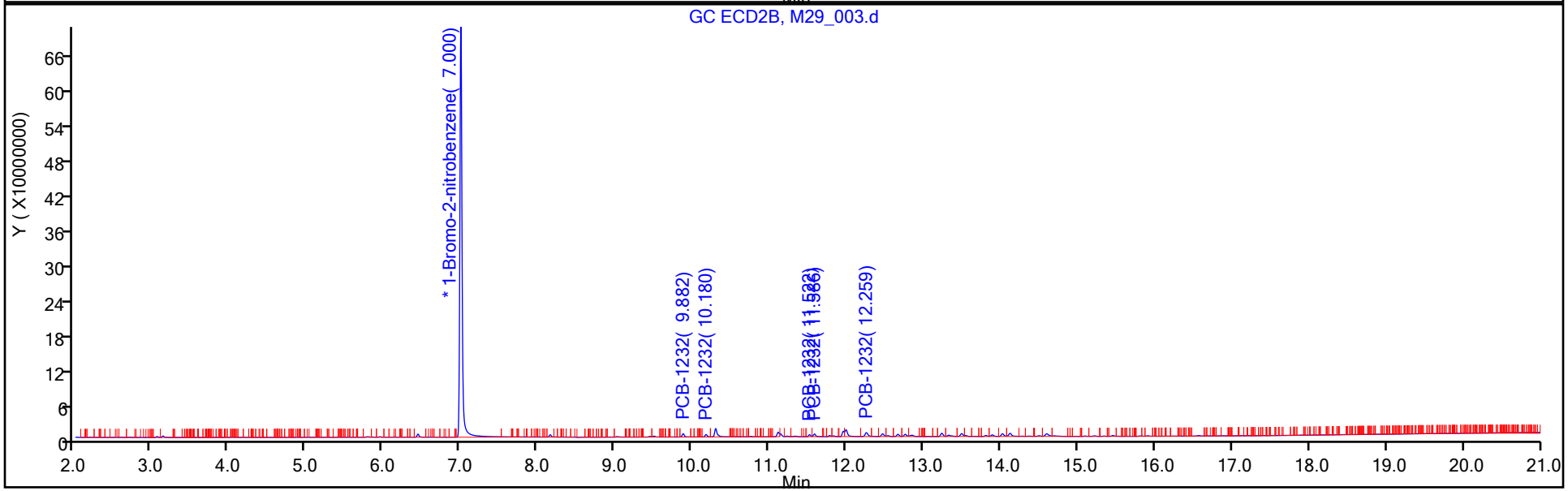

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2019 20:10 Calibration End Date: 07/29/2019 20:10 Calibration ID: 16288

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/4	M29_004.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1242 Peak 1	1.1610					Ave		1.1610						20.0			
PCB-1242 Peak 2	1.9969					Ave		1.9969						20.0			
PCB-1242 Peak 3	1.3123					Ave		1.3123						20.0			
PCB-1242 Peak 4	1.4239					Ave		1.4239						20.0			
PCB-1242 Peak 5	0.8926					Ave		0.8926						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2019 20:10 Calibration End Date: 07/29/2019 20:10 Calibration ID: 16288

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/4	M29_004.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1					LVL 1				
PCB-1242 Peak 1	BNB	Ave	42043831					0.500				
PCB-1242 Peak 2	BNB	Ave	72314907					0.500				
PCB-1242 Peak 3	BNB	Ave	47522194					0.500				
PCB-1242 Peak 4	BNB	Ave	51563231					0.500				
PCB-1242 Peak 5	BNB	Ave	32323328					0.500				

Curve Type Legend:
Ave = Average ISTD

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_004.d				
Lims ID:	ic				
Client ID:					
Sample Type:	IC	Calib Level:	1		
Inject. Date:	29-Jul-2019 20:10:29	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Sample Info:	600-0030284-004				
Operator ID:	JL	Instrument ID:	CHECD09		
Sublist:	chrom-LVIPCBCHECD09IS*sub4				
Method:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m				
Limit Group:	GCSV - 8082				
Last Update:	30-Jul-2019 10:15:28	Calib Date:	30-Jul-2019 03:11:33		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_019.d				
Column 1 :			Det: GC ECD1A		
Column 2 :			Det: GC ECD2B		
Process Host:	CTX0337				

First Level Reviewer: lamj Date: 30-Jul-2019 10:15:28

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.903	6.901	0.002	3621298556	50.0	50.0	
2	7.001	7.001	0.000	2069942928	50.0	50.0	
						RPD = 0.00	
6 PCB-1242							M
1	9.676	9.676	0.000	42043831	0.5000	0.5000	
1	11.589	11.589	0.000	72314907	0.5000	0.5000	M
1	11.705	11.705	0.000	47522194	0.5000	0.5000	M
1	12.384	12.384	0.000	51563231	0.5000	0.5000	M
1	13.084	13.084	0.000	32323328	0.5000	0.5000	M
		Average of Peak Amounts =				0.5000	
2	10.304	10.304	0.000	22794162	0.5000	0.5000	
2	11.522	11.522	0.000	12116447	0.5000	0.5000	
2	11.586	11.586	0.000	18308159	0.5000	0.5000	
2	12.259	12.259	0.000	33595608	0.5000	0.5000	
2	12.668	12.668	0.000	18232191	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR1242STD4_00023	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 30-Jul-2019 10:15:30 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_004.d				
Injection Date:	29-Jul-2019 20:10:29	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	4
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

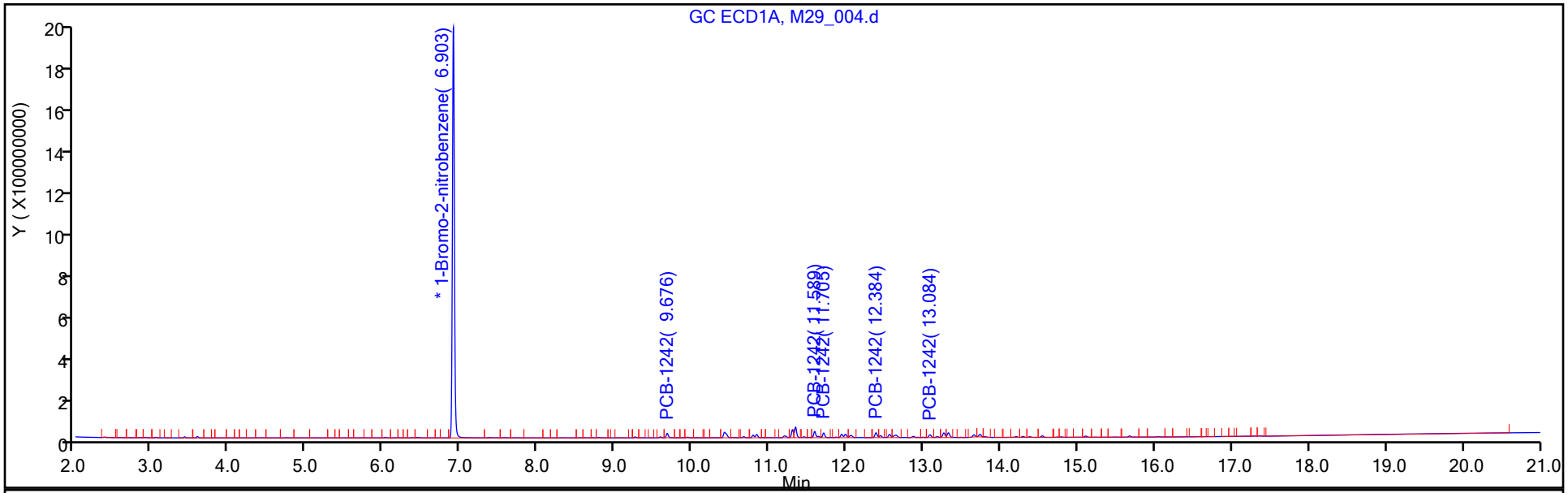

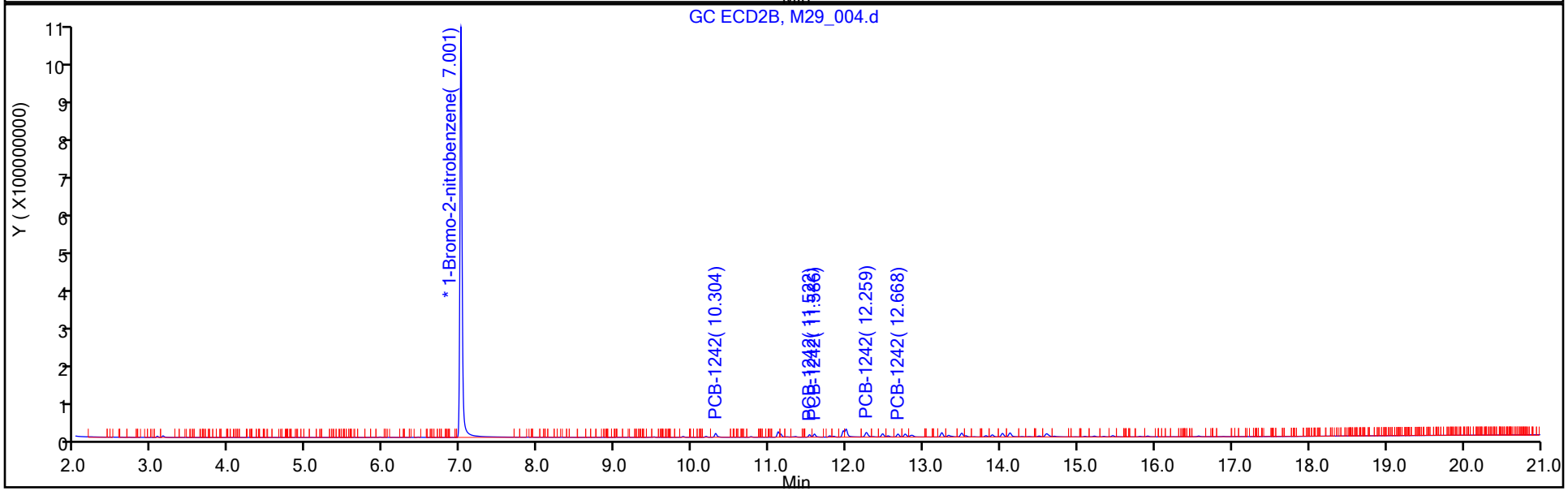

Report Date: 30-Jul-2019 10:15:31 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_004.d
Injection Date: 29-Jul-2019 20:10:29 Instrument ID: CHECD09
Lims ID: ic
Client ID:
Operator ID: JL ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Method: LVIPCBCHECD09IS Limit Group: GCSV - 8082
Column: Detector GC ECD1A

6 PCB-1242, CAS: 53469-21-9

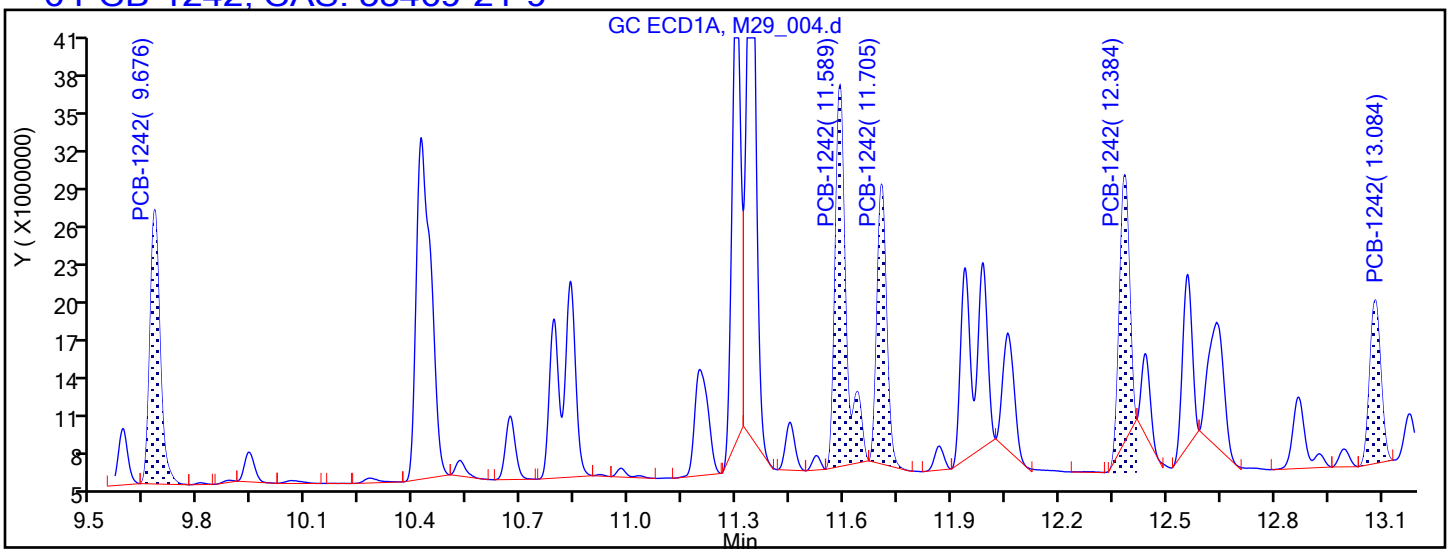

Processing Integration Results

9.676	Response = 42043831
11.589	Response = 64268774
11.705	Response = 40291003
12.384	Response = 39960500
13.084	Response = 27513502

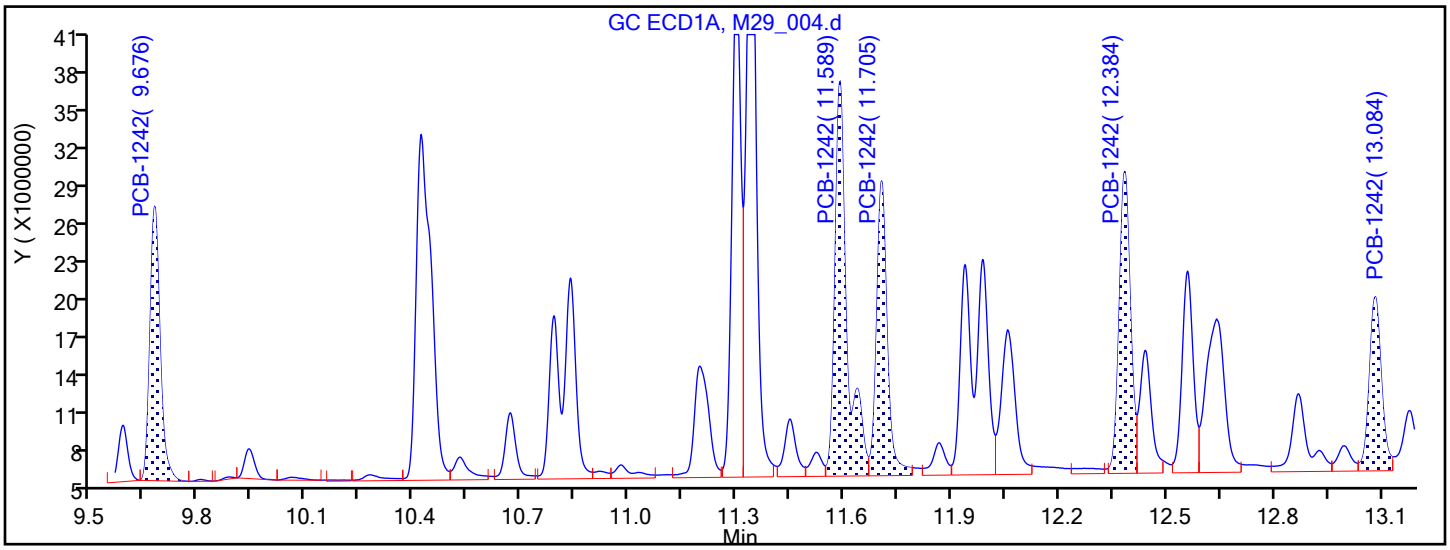

Manual Integration Results

9.676	Response = 42043831	
11.589	Response = 72314907	M
11.705	Response = 47522194	M
12.384	Response = 51563231	M
13.084	Response = 32323328	M

Reviewer: lamj, 30-Jul-2019 10:15:18
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2019 20:10 Calibration End Date: 07/29/2019 20:10 Calibration ID: 16289

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/4	M29_004.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1242 Peak 1	1.1012					Ave		1.1012						20.0			
PCB-1242 Peak 2	0.5854					Ave		0.5854						20.0			
PCB-1242 Peak 3	0.8845					Ave		0.8845						20.0			
PCB-1242 Peak 4	1.6230					Ave		1.6230						20.0			
PCB-1242 Peak 5	0.8808					Ave		0.8808						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2019 20:10 Calibration End Date: 07/29/2019 20:10 Calibration ID: 16289

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/4	M29_004.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1					LVL 1				
PCB-1242 Peak 1	BNB	Ave	22794162					0.500				
PCB-1242 Peak 2	BNB	Ave	12116447					0.500				
PCB-1242 Peak 3	BNB	Ave	18308159					0.500				
PCB-1242 Peak 4	BNB	Ave	33595608					0.500				
PCB-1242 Peak 5	BNB	Ave	18232191					0.500				

Curve Type Legend:
Ave = Average ISTD

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_004.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 29-Jul-2019 20:10:29 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030284-004
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVIPCBCHECD09IS*sub4

Method: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 30-Jul-2019 10:15:28 Calib Date: 30-Jul-2019 03:11:33
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_019.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0337

First Level Reviewer: lamj Date: 30-Jul-2019 10:15:28

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.903	6.901	0.002	3621298556	50.0	50.0	
2	7.001	7.001	0.000	2069942928	50.0	50.0	
						RPD = 0.00	
6 PCB-1242							M
1	9.676	9.676	0.000	42043831	0.5000	0.5000	
1	11.589	11.589	0.000	72314907	0.5000	0.5000	M
1	11.705	11.705	0.000	47522194	0.5000	0.5000	M
1	12.384	12.384	0.000	51563231	0.5000	0.5000	M
1	13.084	13.084	0.000	32323328	0.5000	0.5000	M
		Average of Peak Amounts =				0.5000	
2	10.304	10.304	0.000	22794162	0.5000	0.5000	
2	11.522	11.522	0.000	12116447	0.5000	0.5000	
2	11.586	11.586	0.000	18308159	0.5000	0.5000	
2	12.259	12.259	0.000	33595608	0.5000	0.5000	
2	12.668	12.668	0.000	18232191	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

AR1242STD4_00023 Amount Added: 1.00 Units: mL
PST_IS 2_00063 Amount Added: 1.00 Units: mL Run Reagent

Report Date: 30-Jul-2019 10:15:31 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_004.d				
Injection Date:	29-Jul-2019 20:10:29	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	4
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

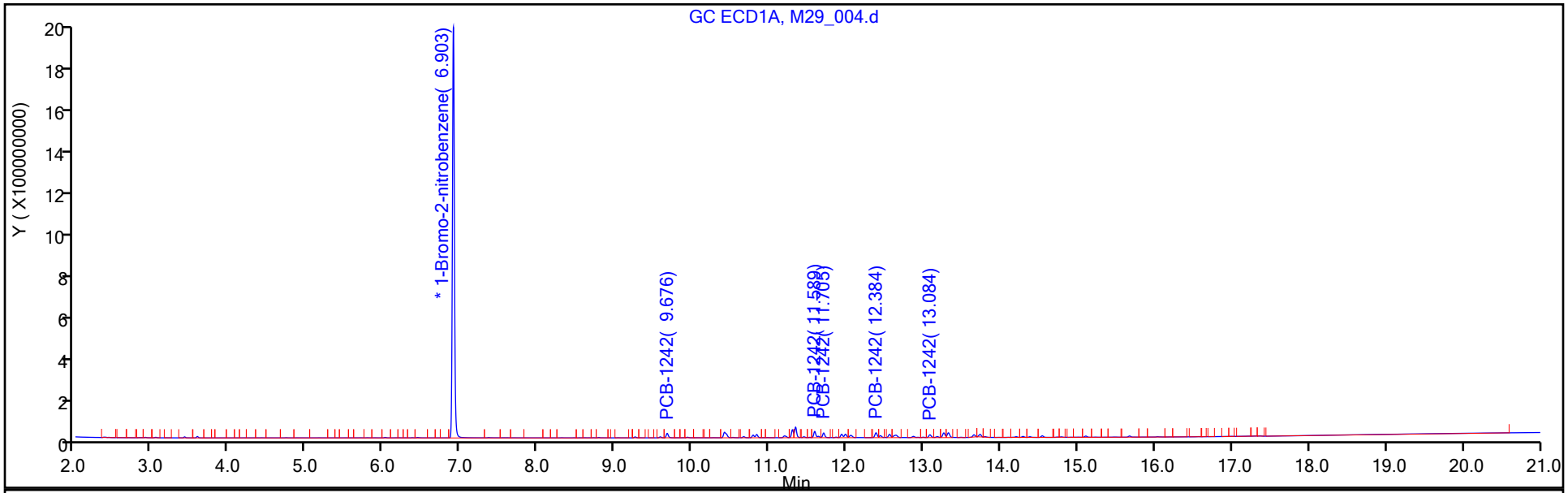

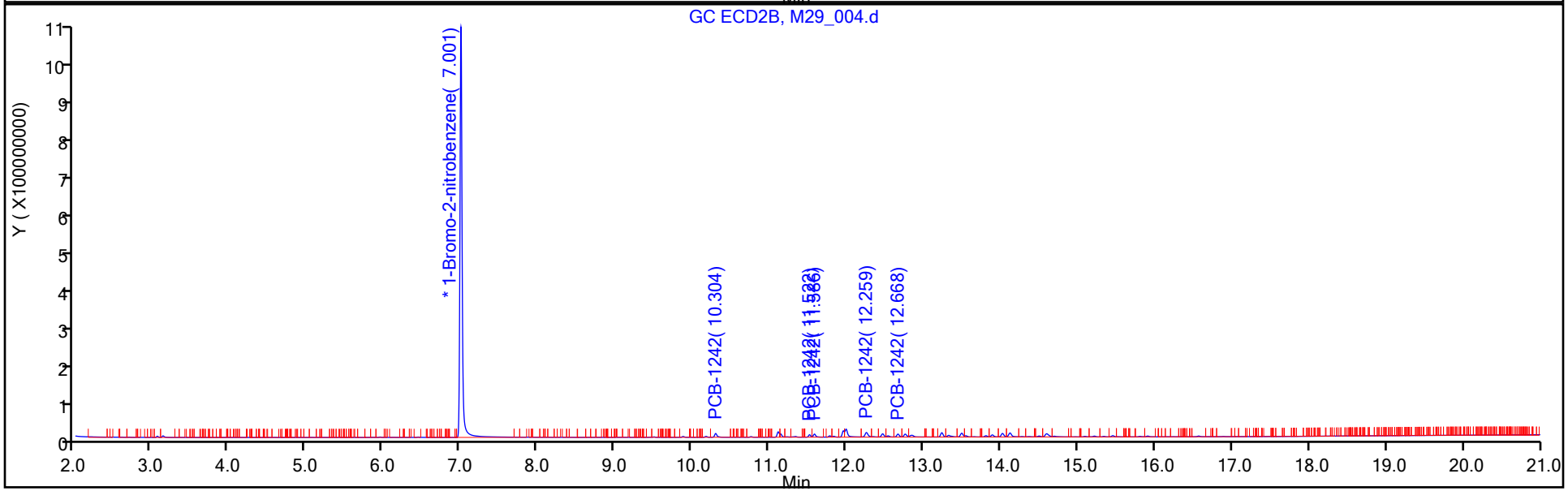

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2019 20:38 Calibration End Date: 07/29/2019 20:38 Calibration ID: 16272

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/5	M29_005.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1248 Peak 1	1.4798					Ave		1.4798						20.0			
PCB-1248 Peak 2	2.1636					Ave		2.1636						20.0			
PCB-1248 Peak 3	1.9005					Ave		1.9005						20.0			
PCB-1248 Peak 4	1.7304					Ave		1.7304						20.0			
PCB-1248 Peak 5	1.2018					Ave		1.2018						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2019 20:38 Calibration End Date: 07/29/2019 20:38 Calibration ID: 16272

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/5	M29_005.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1					LVL 1				
PCB-1248 Peak 1	BNB	Ave	43856646					0.500				
PCB-1248 Peak 2	BNB	Ave	64123564					0.500				
PCB-1248 Peak 3	BNB	Ave	56325109					0.500				
PCB-1248 Peak 4	BNB	Ave	51286635					0.500				
PCB-1248 Peak 5	BNB	Ave	35618361					0.500				

Curve Type Legend:
Ave = Average ISTD

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_005.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 29-Jul-2019 20:38:39 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030284-005
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVIPCBCHECD09IS*sub5

Method: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 30-Jul-2019 10:12:29 Calib Date: 30-Jul-2019 03:11:33
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_019.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0337

First Level Reviewer: lamj Date: 30-Jul-2019 09:57:58

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.903	6.901	0.002	2963776998	50.0	50.0	
2	6.999	7.001	-0.002	1662203988	50.0	50.0	
						RPD = 0.00	
8 PCB-1248							M
1	10.414	10.414	0.000	43856646	0.5000	0.5000	
1	12.548	12.548	0.000	64123564	0.5000	0.5000	M
1	13.073	13.073	0.000	56325109	0.5000	0.5000	M
1	14.530	14.530	0.000	51286635	0.5000	0.5000	
1	15.097	15.097	0.000	35618361	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	11.112	11.112	0.000	23437148	0.5000	0.5000	
2	12.250	12.250	0.000	20866588	0.5000	0.5000	
2	13.488	13.488	0.000	46506080	0.5000	0.5000	
2	13.884	13.884	0.000	25773877	0.5000	0.5000	
2	14.592	14.592	0.000	54417732	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

AR1248STD4_00019 Amount Added: 1.00 Units: mL
PST_IS 2_00063 Amount Added: 1.00 Units: mL Run Reagent

Report Date: 30-Jul-2019 10:12:30 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_005.d				
Injection Date:	29-Jul-2019 20:38:39	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	5
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

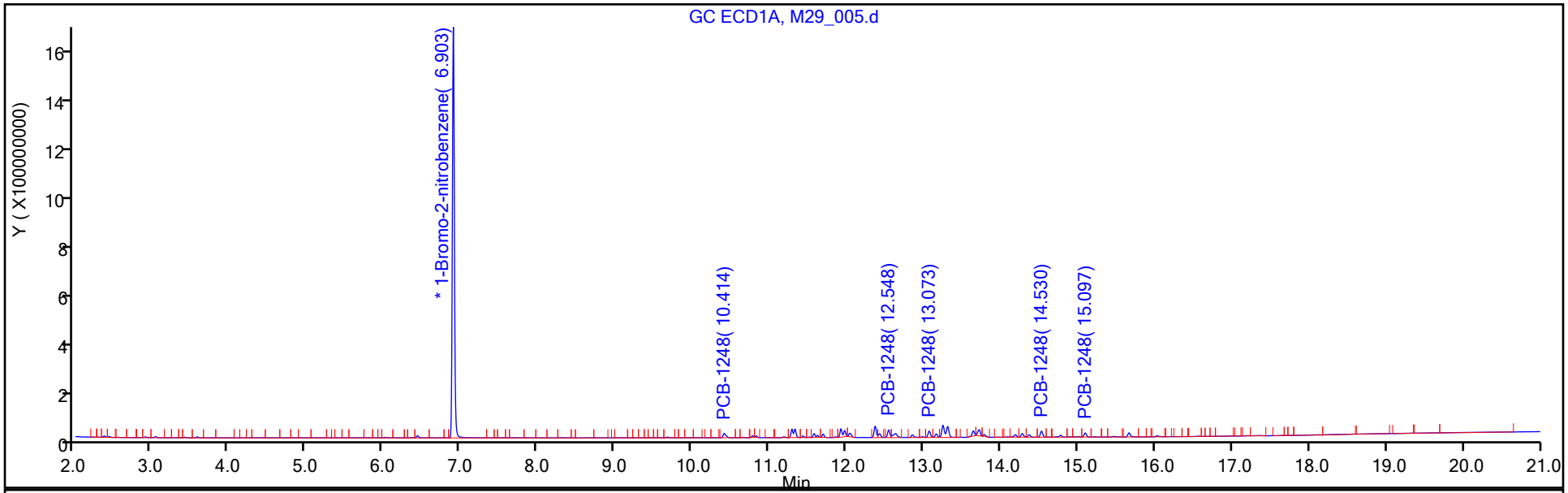

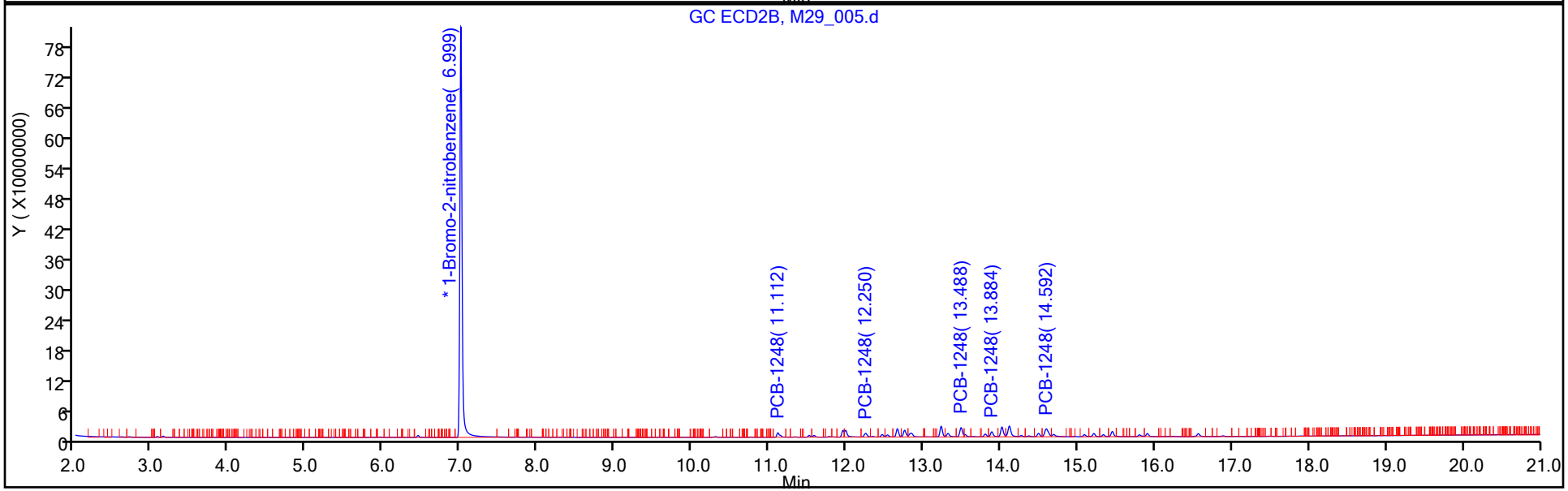

Report Date: 30-Jul-2019 10:12:30 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_005.d
Injection Date: 29-Jul-2019 20:38:39 Instrument ID: CHECD09
Lims ID: ic
Client ID:
Operator ID: JL ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Method: LVIPCBCHECD09IS Limit Group: GCSV - 8082
Column: Detector GC ECD1A

8 PCB-1248, CAS: 12672-29-6

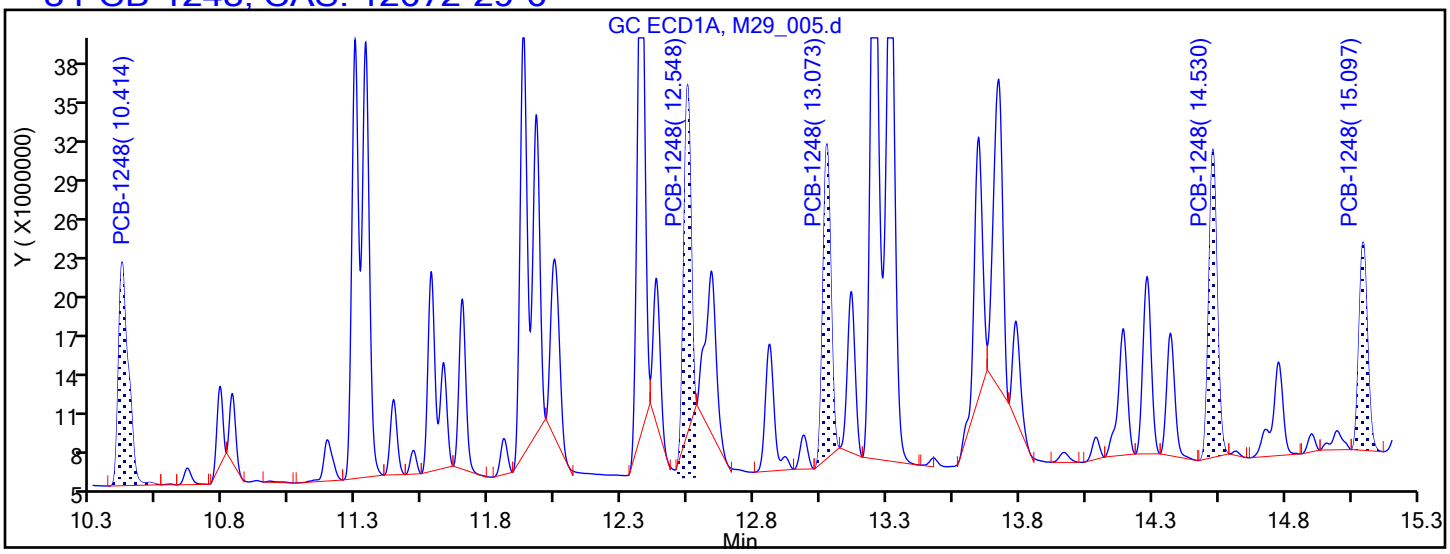

Processing Integration Results

10.414	Response = 43856646
12.548	Response = 49679034
13.073	Response = 49955951
14.530	Response = 51286635
15.097	Response = 35618361

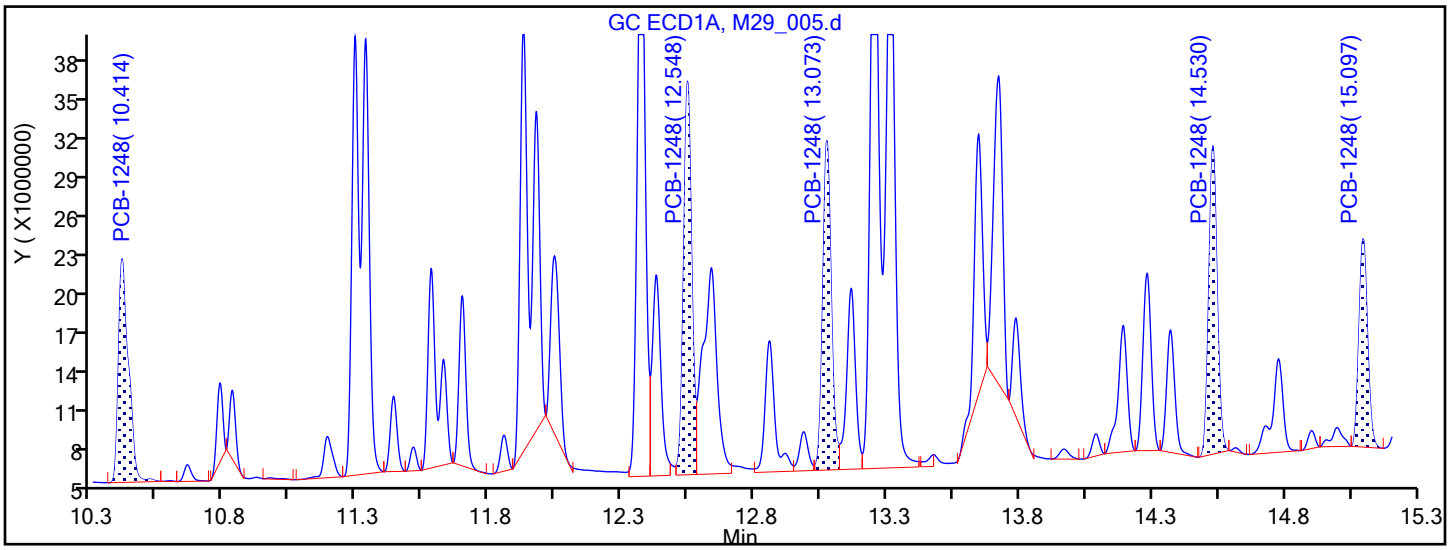

Manual Integration Results

10.414	Response = 43856646	
12.548	Response = 64123564	M
13.073	Response = 56325109	M
14.530	Response = 51286635	
15.097	Response = 35618361	

Reviewer: lamj, 30-Jul-2019 10:12:25
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2019 20:38 Calibration End Date: 07/29/2019 20:38 Calibration ID: 16273

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/5	M29_005.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1248 Peak 1	1.4100					Ave		1.4100						20.0			
PCB-1248 Peak 2	1.2554					Ave		1.2554						20.0			
PCB-1248 Peak 3	2.7979					Ave		2.7979						20.0			
PCB-1248 Peak 4	1.5506					Ave		1.5506						20.0			
PCB-1248 Peak 5	3.2738					Ave		3.2738						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2019 20:38 Calibration End Date: 07/29/2019 20:38 Calibration ID: 16273

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/5	M29_005.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1					LVL 1				
PCB-1248 Peak 1	BNB	Ave	23437148					0.500				
PCB-1248 Peak 2	BNB	Ave	20866588					0.500				
PCB-1248 Peak 3	BNB	Ave	46506080					0.500				
PCB-1248 Peak 4	BNB	Ave	25773877					0.500				
PCB-1248 Peak 5	BNB	Ave	54417732					0.500				

Curve Type Legend:
Ave = Average ISTD

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_005.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 29-Jul-2019 20:38:39 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030284-005
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVIPCBCHECD09IS*sub5

Method: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 30-Jul-2019 10:12:29 Calib Date: 30-Jul-2019 03:11:33
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_019.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0337

First Level Reviewer: lamj Date: 30-Jul-2019 09:57:58

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.903	6.901	0.002	2963776998	50.0	50.0	
2	6.999	7.001	-0.002	1662203988	50.0	50.0	
						RPD = 0.00	
8 PCB-1248							M
1	10.414	10.414	0.000	43856646	0.5000	0.5000	
1	12.548	12.548	0.000	64123564	0.5000	0.5000	M
1	13.073	13.073	0.000	56325109	0.5000	0.5000	M
1	14.530	14.530	0.000	51286635	0.5000	0.5000	
1	15.097	15.097	0.000	35618361	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	11.112	11.112	0.000	23437148	0.5000	0.5000	
2	12.250	12.250	0.000	20866588	0.5000	0.5000	
2	13.488	13.488	0.000	46506080	0.5000	0.5000	
2	13.884	13.884	0.000	25773877	0.5000	0.5000	
2	14.592	14.592	0.000	54417732	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

AR1248STD4_00019 Amount Added: 1.00 Units: mL
PST_IS 2_00063 Amount Added: 1.00 Units: mL Run Reagent

Report Date: 30-Jul-2019 10:12:30 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_005.d				
Injection Date:	29-Jul-2019 20:38:39	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	5
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

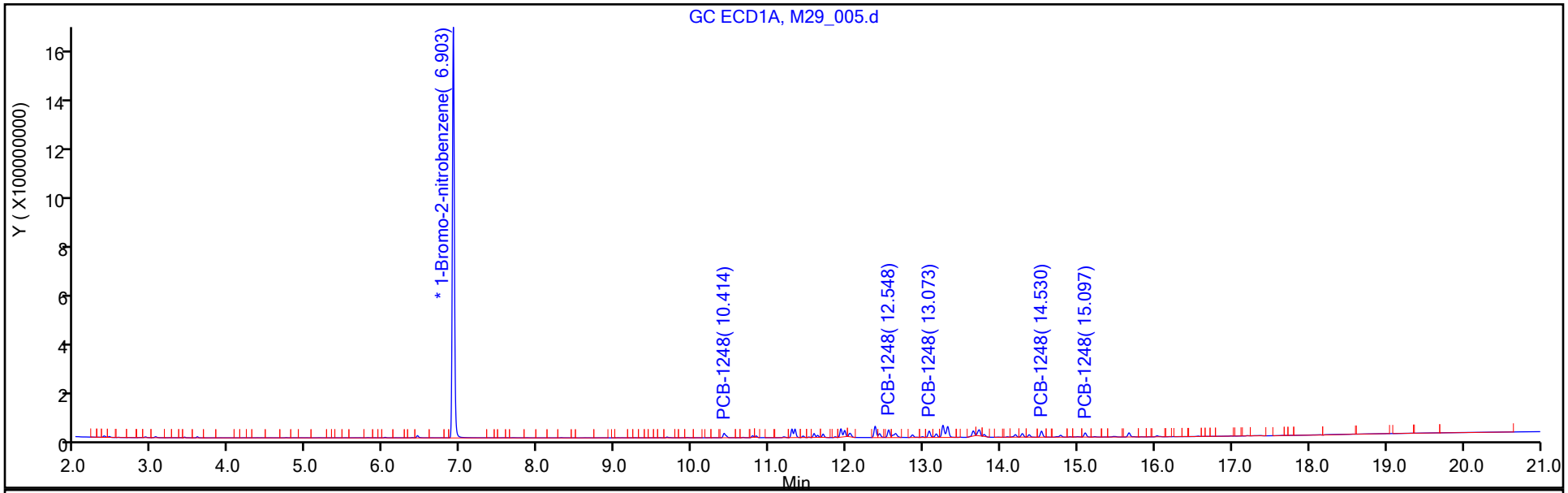

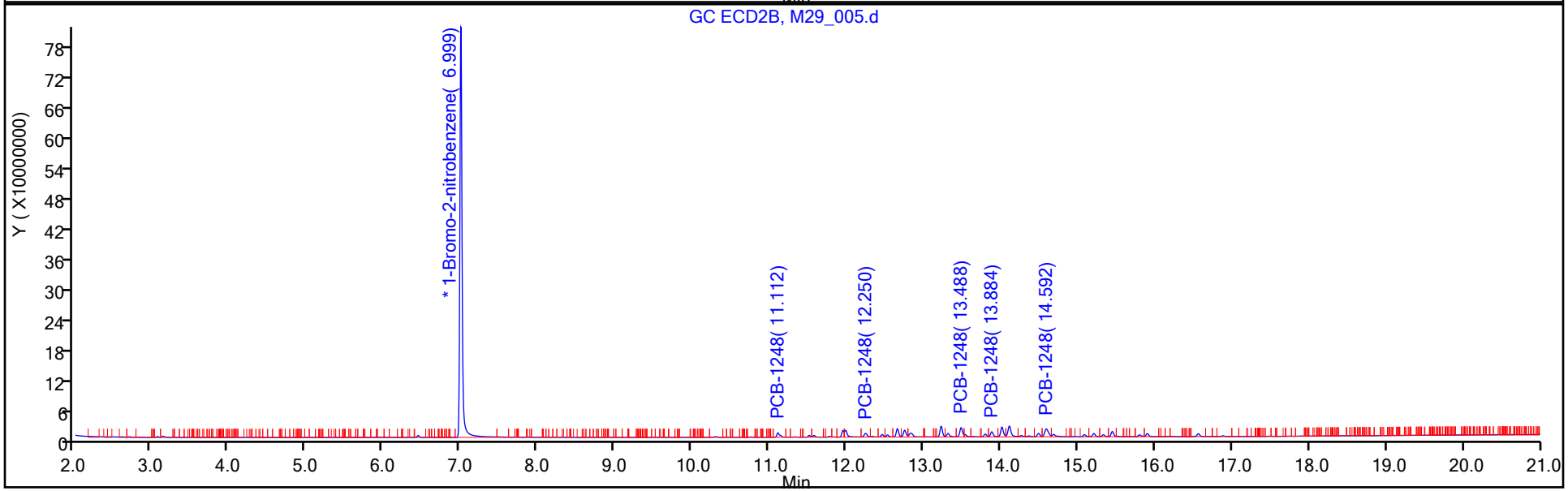

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2019 21:06 Calibration End Date: 07/29/2019 21:06 Calibration ID: 16276

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/6	M29_006.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1254 Peak 1	2.5757					Ave		2.5757						20.0			
PCB-1254 Peak 2	2.6850					Ave		2.6850						20.0			
PCB-1254 Peak 3	3.7418					Ave		3.7418						20.0			
PCB-1254 Peak 4	3.3866					Ave		3.3866						20.0			
PCB-1254 Peak 5	4.7289					Ave		4.7289						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2019 21:06 Calibration End Date: 07/29/2019 21:06 Calibration ID: 16276

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/6	M29_006.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1					LVL 1				
PCB-1254 Peak 1	BNB	Ave	90990964					0.500				
PCB-1254 Peak 2	BNB	Ave	94852337					0.500				
PCB-1254 Peak 3	BNB	Ave	132182763					0.500				
PCB-1254 Peak 4	BNB	Ave	119636341					0.500				
PCB-1254 Peak 5	BNB	Ave	167053342					0.500				

Curve Type Legend:
Ave = Average ISTD

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_006.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 29-Jul-2019 21:06:45 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030284-006
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVIPCBCHECD09IS*sub6

Method: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 30-Jul-2019 10:12:48 Calib Date: 30-Jul-2019 03:11:33
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_019.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0337

First Level Reviewer: lamj Date: 30-Jul-2019 09:59:51

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.903	6.901	0.002	3532641749	50.0	50.0	
2	7.001	7.001	0.000	1964037197	50.0	50.0	
						RPD = 0.00	
9 PCB-1254							
1	13.175	13.175	0.000	90990964	0.5000	0.5000	
1	14.285	14.285	0.000	94852337	0.5000	0.5000	
1	15.101	15.101	0.000	132182763	0.5000	0.5000	
1	15.470	15.470	0.000	119636341	0.5000	0.5000	
1	16.032	16.032	0.000	167053342	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	12.667	12.667	0.000	30310941	0.5000	0.5000	
2	13.236	13.236	0.000	17674333	0.5000	0.5000	
2	14.275	14.275	0.000	7607352	0.5000	0.5000	
2	14.372	14.372	0.000	11650612	0.5000	0.5000	
2	15.214	15.214	0.000	47327607	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	

Reagents:

AR1254STD4_00027 Amount Added: 1.00 Units: mL
PST_IS 2_00063 Amount Added: 1.00 Units: mL Run Reagent

Report Date: 30-Jul-2019 10:12:49 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_006.d				
Injection Date:	29-Jul-2019 21:06:45	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	6
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

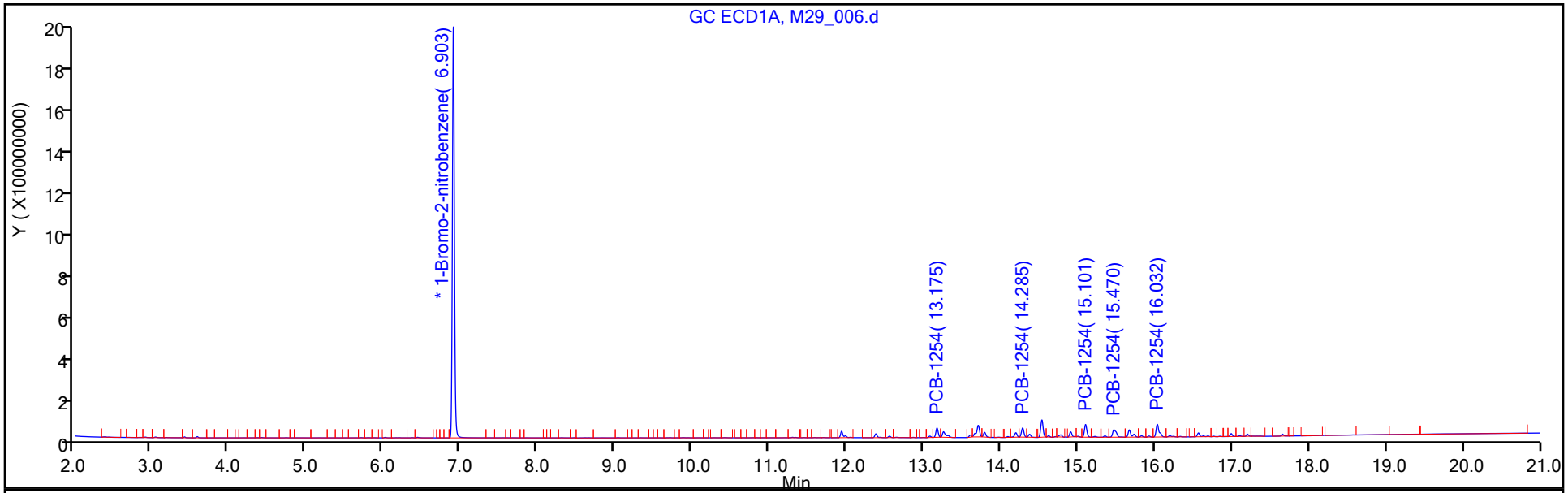

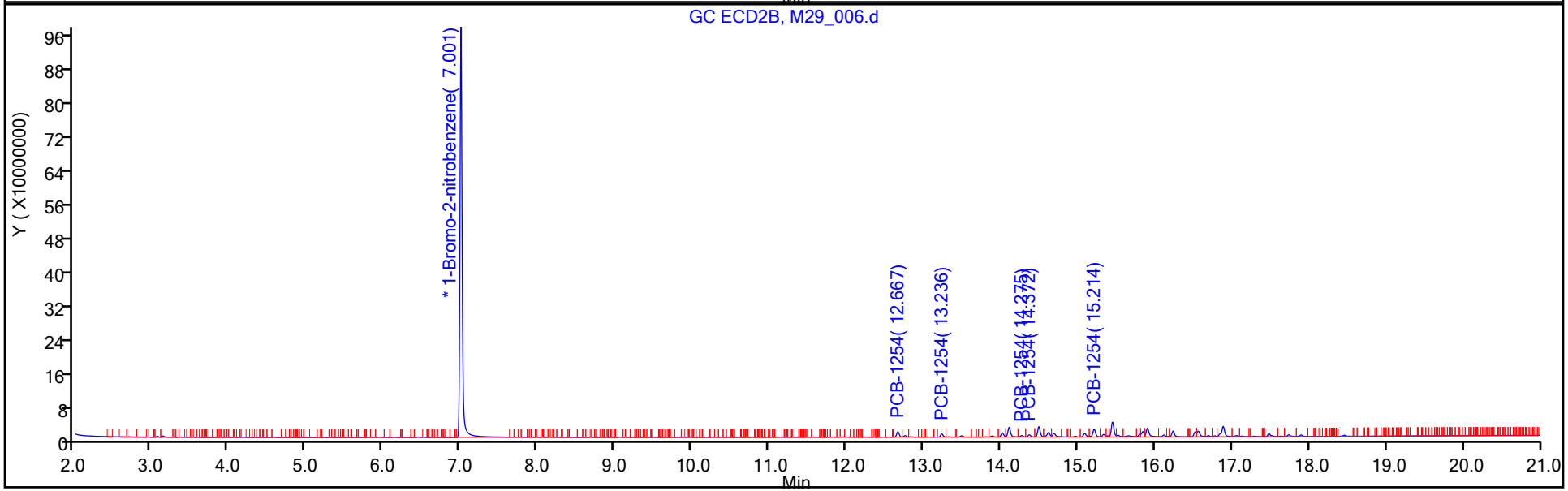

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2019 21:06 Calibration End Date: 07/29/2019 21:06 Calibration ID: 16277

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/6	M29_006.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1254 Peak 1	1.5433					Ave		1.5433						20.0			
PCB-1254 Peak 2	0.8999					Ave		0.8999						20.0			
PCB-1254 Peak 3	0.3873					Ave		0.3873						20.0			
PCB-1254 Peak 4	0.5932					Ave		0.5932						20.0			
PCB-1254 Peak 5	2.4097					Ave		2.4097						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2019 21:06 Calibration End Date: 07/29/2019 21:06 Calibration ID: 16277

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/6	M29_006.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1					LVL 1				
PCB-1254 Peak 1	BNB	Ave	30310941					0.500				
PCB-1254 Peak 2	BNB	Ave	17674333					0.500				
PCB-1254 Peak 3	BNB	Ave	7607352					0.500				
PCB-1254 Peak 4	BNB	Ave	11650612					0.500				
PCB-1254 Peak 5	BNB	Ave	47327607					0.500				

Curve Type Legend:
Ave = Average ISTD

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_006.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 29-Jul-2019 21:06:45 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030284-006
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVIPCBCHECD09IS*sub6

Method: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 30-Jul-2019 10:12:48 Calib Date: 30-Jul-2019 03:11:33
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_019.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0337

First Level Reviewer: lamj Date: 30-Jul-2019 09:59:51

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.903	6.901	0.002	3532641749	50.0	50.0	
2	7.001	7.001	0.000	1964037197	50.0	50.0	
						RPD = 0.00	
9 PCB-1254							
1	13.175	13.175	0.000	90990964	0.5000	0.5000	
1	14.285	14.285	0.000	94852337	0.5000	0.5000	
1	15.101	15.101	0.000	132182763	0.5000	0.5000	
1	15.470	15.470	0.000	119636341	0.5000	0.5000	
1	16.032	16.032	0.000	167053342	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	12.667	12.667	0.000	30310941	0.5000	0.5000	
2	13.236	13.236	0.000	17674333	0.5000	0.5000	
2	14.275	14.275	0.000	7607352	0.5000	0.5000	
2	14.372	14.372	0.000	11650612	0.5000	0.5000	
2	15.214	15.214	0.000	47327607	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	

Reagents:

AR1254STD4_00027 Amount Added: 1.00 Units: mL
PST_IS 2_00063 Amount Added: 1.00 Units: mL Run Reagent

Report Date: 30-Jul-2019 10:12:49 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_006.d				
Injection Date:	29-Jul-2019 21:06:45	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	6
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

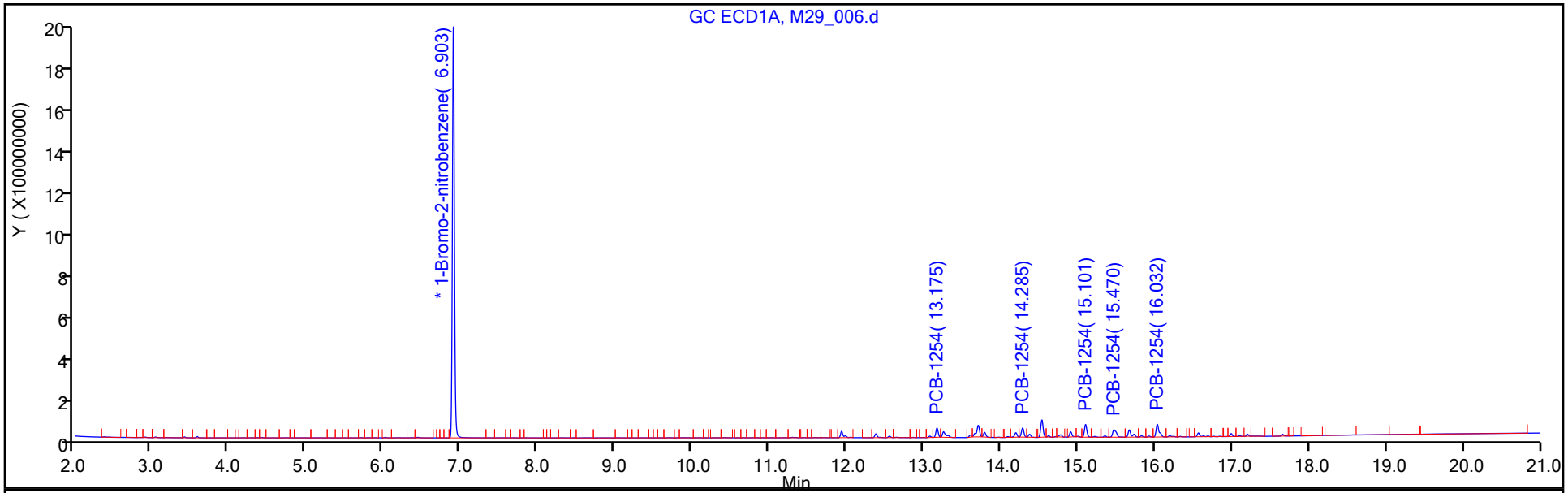

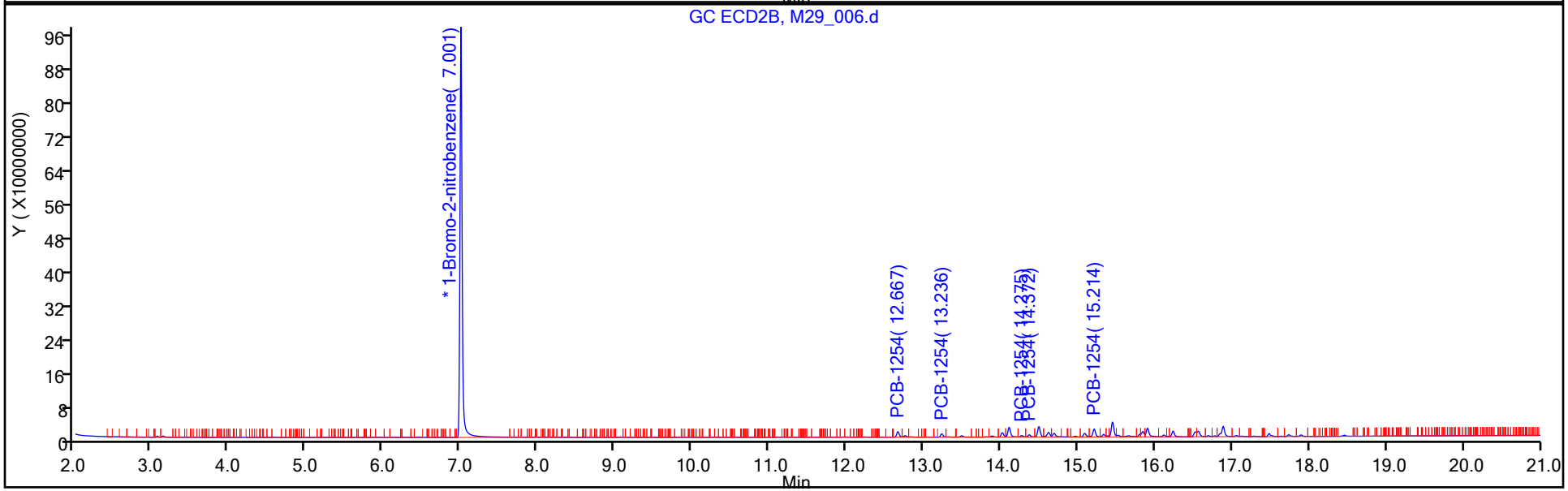

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/30/2019 01:47 Calibration End Date: 07/30/2019 04:07 Calibration ID: 16292

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/16	M29_016.d
Level 2	IC 600-270655/17	M29_017.d
Level 3	IC 600-270655/18	M29_018.d
Level 4	ICIS 600-270655/19	M29_019.d
Level 5	IC 600-270655/20	M29_020.d
Level 6	IC 600-270655/21	M29_021.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
PCB-1016 Peak 1	2.0170 1.5685	1.7718	1.7007	1.6991	1.5724	Ave		1.7216				9.6		20.0			
PCB-1016 Peak 2	3.4962 2.7673	3.2465	2.9123	2.9467	2.7277	Ave		3.0161				9.9		20.0			
PCB-1016 Peak 3	3.0977 2.5845	2.5956	2.5314	2.7046	2.4456	Ave		2.6599				8.7		20.0			
PCB-1016 Peak 4	2.1829 1.6790	1.6557	1.5959	1.7536	1.5552	Ave		1.7371				13.2		20.0			
PCB-1016 Peak 5	1.1832 1.1530	1.1581	1.1148	1.2205	1.0580	Ave		1.1479				4.9		20.0			
PCB-1260 Peak 1	1.6417 1.4824	1.6415	1.5967	1.5722	1.5219	Ave		1.5761				4.1		20.0			
PCB-1260 Peak 2	3.6052 3.0885	3.5161	3.3452	3.3213	3.2261	Ave		3.3504				5.6		20.0			
PCB-1260 Peak 3	2.1343 1.9606	2.1433	2.0900	2.1381	2.0747	Ave		2.0902				3.3		20.0			
PCB-1260 Peak 4	2.8183 2.8756	3.1821	2.8175	3.0659	3.0203	Ave		2.9633				5.0		20.0			
PCB-1260 Peak 5	2.7366 2.5671	2.7156	2.6321	2.7636	2.7394	Ave		2.6924				2.8		20.0			
Tetrachloro-m-xylene	103.37 102.66	100.62	102.74	104.22	100.61	Ave		102.37				1.4		20.0			
DCB Decachlorobiphenyl	70.549 64.721	69.566	68.712	67.991	65.057	Ave		67.766				3.5		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/30/2019 01:47 Calibration End Date: 07/30/2019 04:07 Calibration ID: 16292

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/16	M29_016.d
Level 2	IC 600-270655/17	M29_017.d
Level 3	IC 600-270655/18	M29_018.d
Level 4	ICIS 600-270655/19	M29_019.d
Level 5	IC 600-270655/20	M29_020.d
Level 6	IC 600-270655/21	M29_021.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
PCB-1016 Peak 1	BNB	Ave	6888523 108023479	12173158	28401487	57111458	81167423	0.0500 1.00	0.100	0.250	0.500	0.750
PCB-1016 Peak 2	BNB	Ave	11940561 190586567	22305355	48636179	99046530	140808269	0.0500 1.00	0.100	0.250	0.500	0.750
PCB-1016 Peak 3	BNB	Ave	10579677 177995717	17833300	42275821	90908480	126245604	0.0500 1.00	0.100	0.250	0.500	0.750
PCB-1016 Peak 4	BNB	Ave	7455313 115634657	11376035	26651611	58942860	80283840	0.0500 1.00	0.100	0.250	0.500	0.750
PCB-1016 Peak 5	BNB	Ave	4041051 79408377	7956948	18618130	41025118	54613689	0.0500 1.00	0.100	0.250	0.500	0.750
PCB-1260 Peak 1	BNB	Ave	5606783 102091815	11278042	26665452	52847156	78562334	0.0500 1.00	0.100	0.250	0.500	0.750
PCB-1260 Peak 2	BNB	Ave	12313049 212705982	24157715	55865667	111638087	166536022	0.0500 1.00	0.100	0.250	0.500	0.750
PCB-1260 Peak 3	BNB	Ave	7289351 135026511	14726055	34903608	71867006	107096697	0.0500 1.00	0.100	0.250	0.500	0.750
PCB-1260 Peak 4	BNB	Ave	9625441 198043605	21863388	47052575	103052405	155909688	0.0500 1.00	0.100	0.250	0.500	0.750
PCB-1260 Peak 5	BNB	Ave	9346398 176798380	18657963	43956043	92891317	141412789	0.0500 1.00	0.100	0.250	0.500	0.750
Tetrachloro-m-xylene	BNB	Ave	35305743 707043332	69132044	171577745	350305160	519358163	0.00500 0.100	0.0100	0.0250	0.0500	0.0750
DCB Decachlorobiphenyl	BNB	Ave	24094697 445736962	47796514	114750419	228538635	335835339	0.00500 0.100	0.0100	0.0250	0.0500	0.0750

Curve Type Legend:
Ave = Average ISTD

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_016.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 30-Jul-2019 01:47:23 ALS Bottle#: 16 Worklist Smp#: 16
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030284-016
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVIPCBCHECD09IS*sub1

Method: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 30-Jul-2019 10:24:16 Calib Date: 30-Jul-2019 04:07:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0337

First Level Reviewer: lamj Date: 30-Jul-2019 10:16:48

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.902	6.901	0.001	3415314962	50.0	50.0	
2	7.003	7.001	0.002	1933304566	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	8.836	8.836	0.000	35305743	0.005000	0.005049	
2	9.217	9.217	0.000	16412853	0.005000	0.004716	
						RPD = 6.81	
$ 3 DCB Decachlorobiphenyl							M
1	19.329	19.326	0.003	24094697	0.005000	0.005205	M
2	20.444	20.444	0.000	11641063	0.005000	0.005032	M
						RPD = 3.38	
7 PCB-1016							
1	9.674	9.673	0.001	6888523	0.0500	0.0586	
1	10.419	10.417	0.002	11940561	0.0500	0.0580	
1	11.589	11.586	0.003	10579677	0.0500	0.0582	
1	11.705	11.703	0.002	7455313	0.0500	0.0628	
1	13.179	13.178	0.001	4041051	0.0500	0.0515	
		Average of Peak Amounts =				0.0578	
2	10.306	10.305	0.001	2827829	0.0500	0.0513	
2	11.524	11.522	0.002	1671681	0.0500	0.0541	
2	11.587	11.586	0.001	2298593	0.0500	0.0516	
2	12.262	12.259	0.003	4220979	0.0500	0.0494	
2	12.672	12.667	0.005	2378514	0.0500	0.0501	
		Average of Peak Amounts =				0.0513	
						RPD = 12.02	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 PCB-1260							
1	14.628	14.623	0.005	5606783	0.0500	0.0521	
1	14.912	14.908	0.004	12313049	0.0500	0.0538	
1	15.732	15.728	0.004	7289351	0.0500	0.0511	
1	16.242	16.240	0.002	9625441	0.0500	0.0476	
1	16.689	16.683	0.006	9346398	0.0500	0.0508	
		Average of Peak Amounts =				0.0511	
2	15.526	15.524	0.002	2611022	0.0500	0.0520	
2	15.849	15.845	0.004	5711703	0.0500	0.0525	
2	17.036	17.032	0.004	4121628	0.0500	0.0482	
2	17.128	17.126	0.002	2182475	0.0500	0.0473	
2	17.522	17.521	0.001	4446571	0.0500	0.0494	
		Average of Peak Amounts =				0.0499	
						RPD = 2.35	
S 13 Polychlorinated biphenyls, Total							
1						0.1089	
2						0.1012	
						RPD = 7.37	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

PCBCURVE1I_00016	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 30-Jul-2019 10:24:16 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_016.d				
Injection Date:	30-Jul-2019 01:47:23	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	16
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	16
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

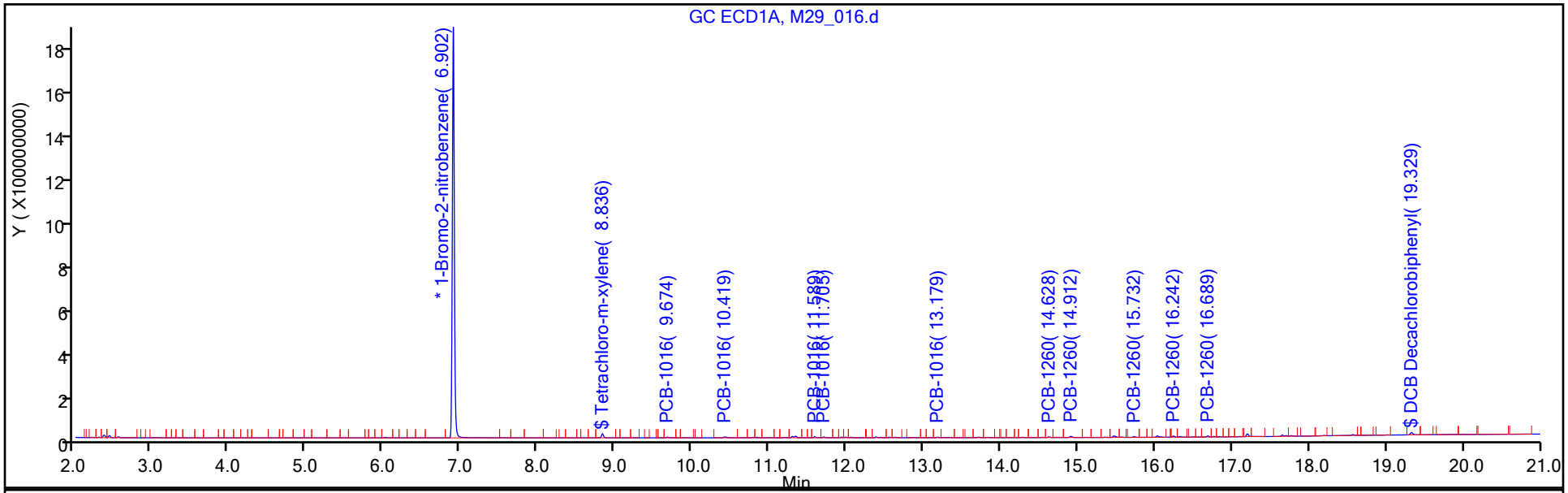

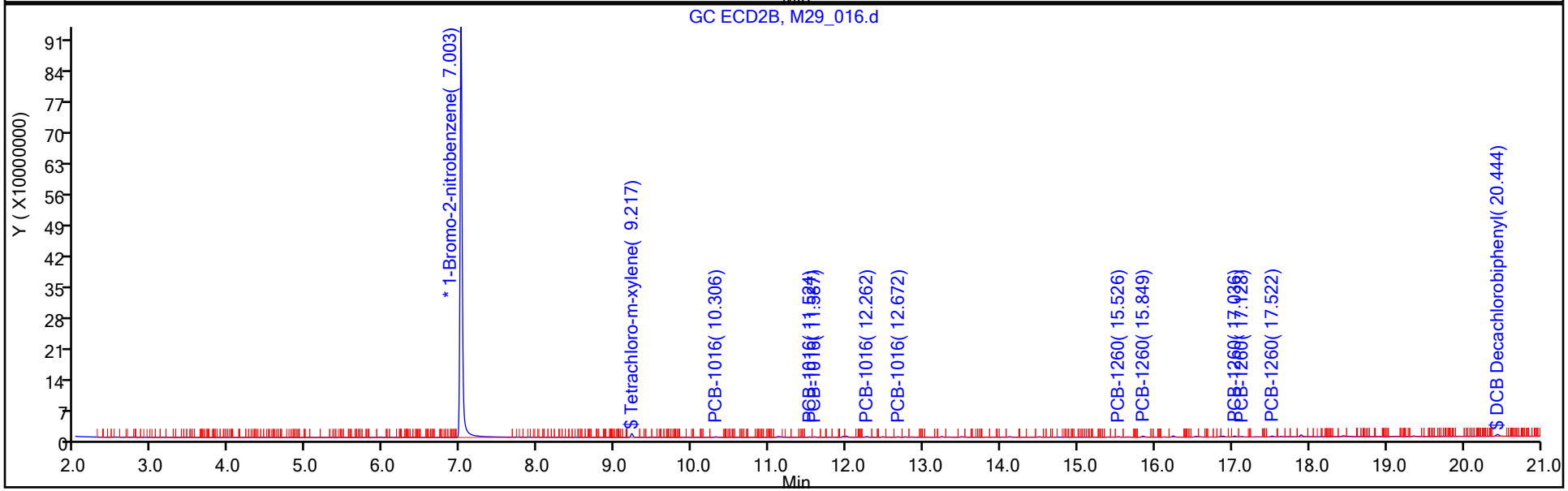

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_016.d				
Injection Date:	30-Jul-2019 01:47:23	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	16	Worklist Smp#:	16
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD1A		

$ 3 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

Processing Integration Results

RT: 19.33
Area: 24893913
Amount: 0.005163
Amount Units: ug/ml

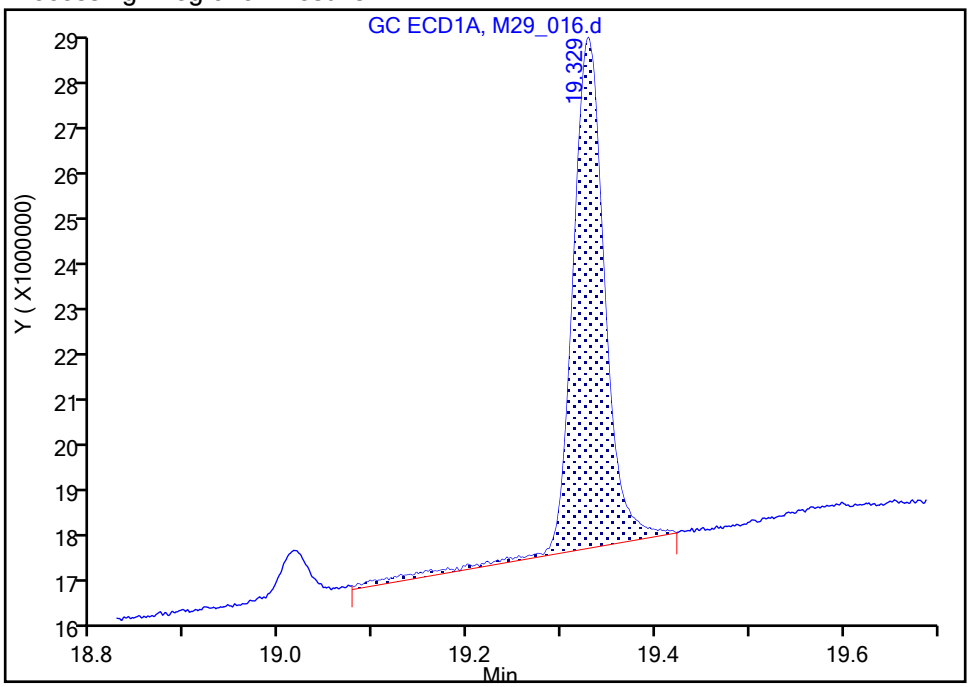

Manual Integration Results

RT: 19.33
Area: 24094697
Amount: 0.005205
Amount Units: ug/ml

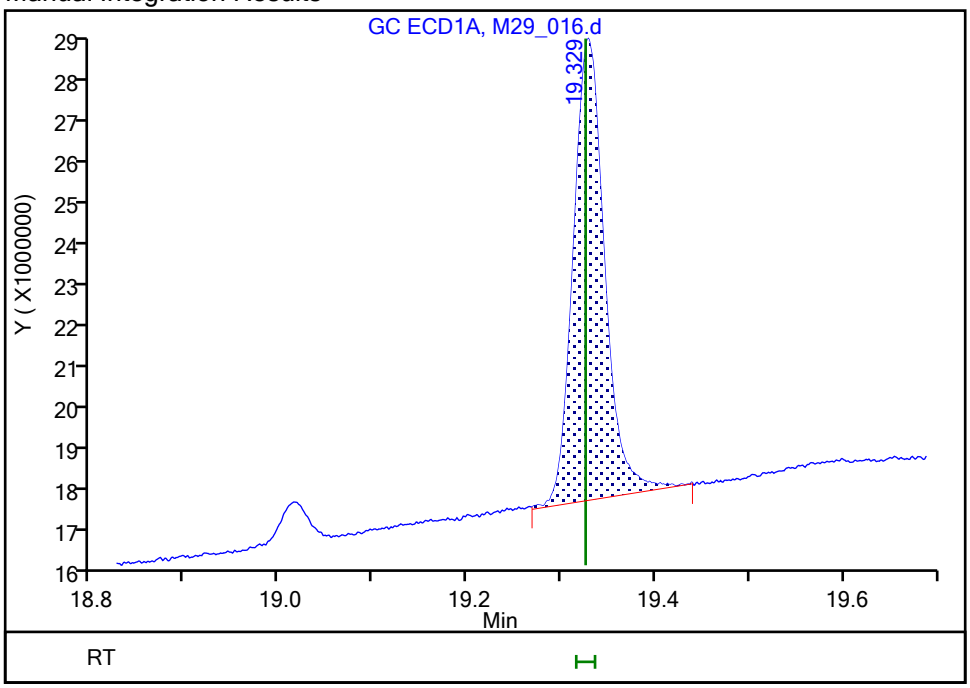

Reviewer: lamj, 30-Jul-2019 10:21:24

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_017.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 30-Jul-2019 02:15:27 ALS Bottle#: 17 Worklist Smp#: 17
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030284-017
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVIPCBCHECD09IS*sub1

Method: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 30-Jul-2019 10:24:19 Calib Date: 30-Jul-2019 04:07:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0337

First Level Reviewer: lamj Date: 30-Jul-2019 10:22:16

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.901	6.901	0.000	3435342631	50.0	50.0	
2	7.002	7.001	0.001	1948024343	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	8.836	8.836	0.000	69132044	0.0100	0.009829	
2	9.217	9.217	0.000	32833380	0.0100	0.009364	
						RPD = 4.85	
$ 3 DCB Decachlorobiphenyl							M
1	19.329	19.326	0.003	47796514	0.0100	0.0103	M
2	20.446	20.444	0.002	24493507	0.0100	0.0105	M
						RPD = 2.34	
7 PCB-1016							
1	9.675	9.673	0.002	12173158	0.1000	0.1029	
1	10.419	10.417	0.002	22305355	0.1000	0.1076	
1	11.589	11.586	0.003	17833300	0.1000	0.0976	
1	11.706	11.703	0.003	11376035	0.1000	0.0953	
1	13.179	13.178	0.001	7956948	0.1000	0.1009	
		Average of Peak Amounts =				0.1009	
2	10.306	10.305	0.001	5476337	0.1000	0.0986	
2	11.523	11.522	0.001	3212273	0.1000	0.1032	
2	11.586	11.586	0.000	4657776	0.1000	0.1037	
2	12.261	12.259	0.002	8706160	0.1000	0.1010	
2	12.670	12.667	0.003	4815442	0.1000	0.1006	
		Average of Peak Amounts =				0.1014	
						RPD = 0.54	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 PCB-1260							
1	14.626	14.623	0.003	11278042	0.1000	0.1042	
1	14.910	14.908	0.002	24157715	0.1000	0.1049	
1	15.731	15.728	0.003	14726055	0.1000	0.1025	
1	16.242	16.240	0.002	21863388	0.1000	0.1074	
1	16.688	16.683	0.005	18657963	0.1000	0.1009	
		Average of Peak Amounts =				0.1040	
2	15.526	15.524	0.002	4779860	0.1000	0.0945	
2	15.847	15.845	0.002	11073311	0.1000	0.1009	
2	17.035	17.032	0.003	8224832	0.1000	0.0955	
2	17.126	17.126	0.000	4248576	0.1000	0.0914	
2	17.521	17.521	0.000	9134817	0.1000	0.1007	
		Average of Peak Amounts =				0.0966	
						RPD = 7.35	
S 13 Polychlorinated biphenyls, Total							
1						0.2048	
2						0.1980	
						RPD = 3.39	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

PCBCURVE2I_00017	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 30-Jul-2019 10:24:19 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_017.d				
Injection Date:	30-Jul-2019 02:15:27	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	17
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	17
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

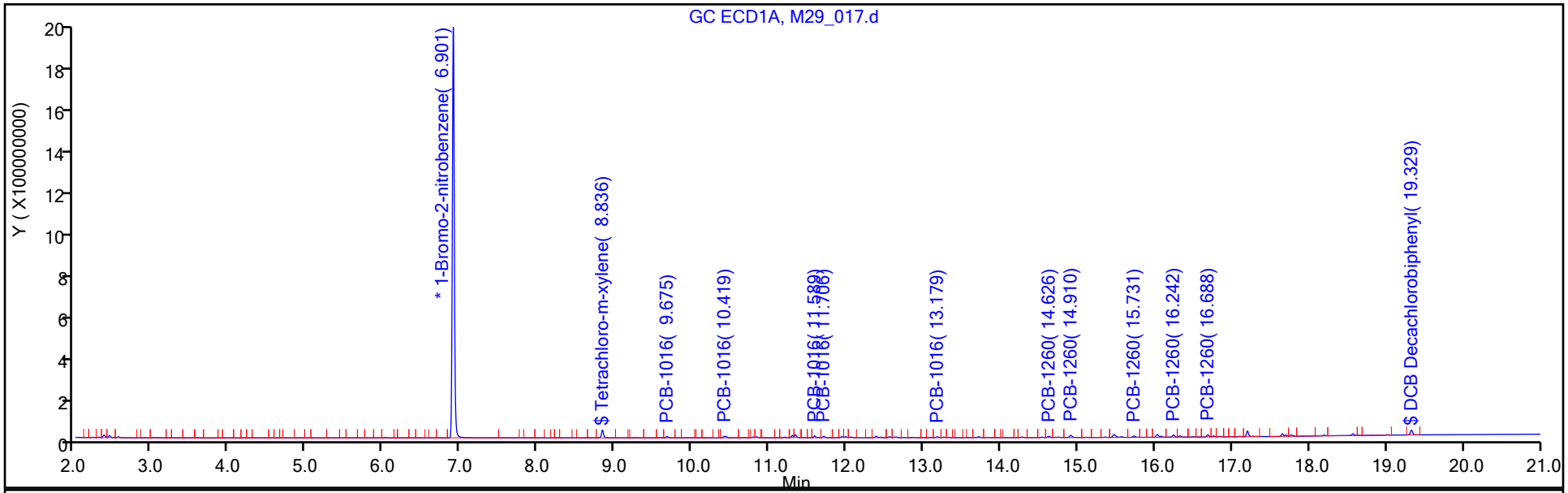

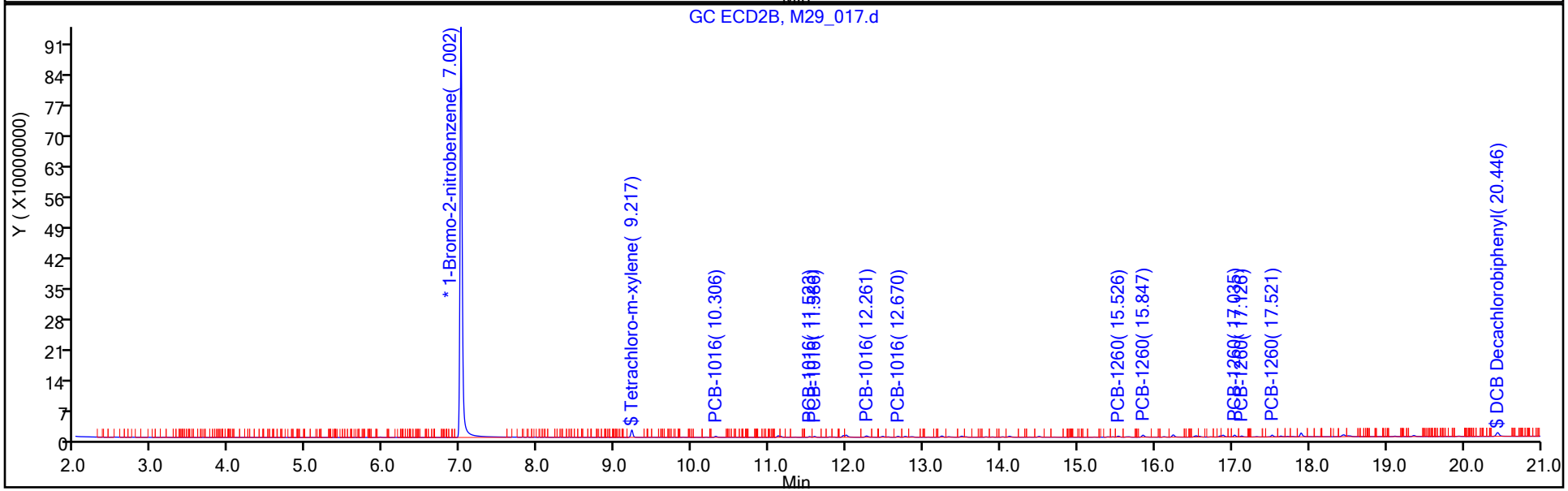

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_017.d				
Injection Date:	30-Jul-2019 02:15:27	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	17	Worklist Smp#:	17
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD1A		

$ 3 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

Processing Integration Results

RT: 19.33
Area: 49292479
Amount: 0.010220
Amount Units: ug/ml

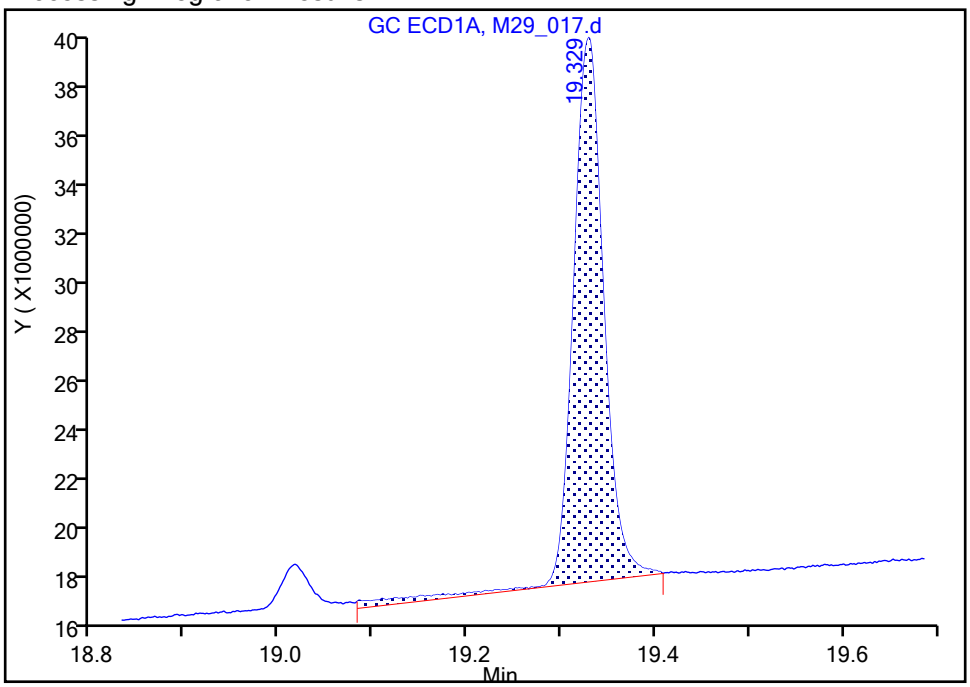

Manual Integration Results

RT: 19.33
Area: 47796514
Amount: 0.010266
Amount Units: ug/ml

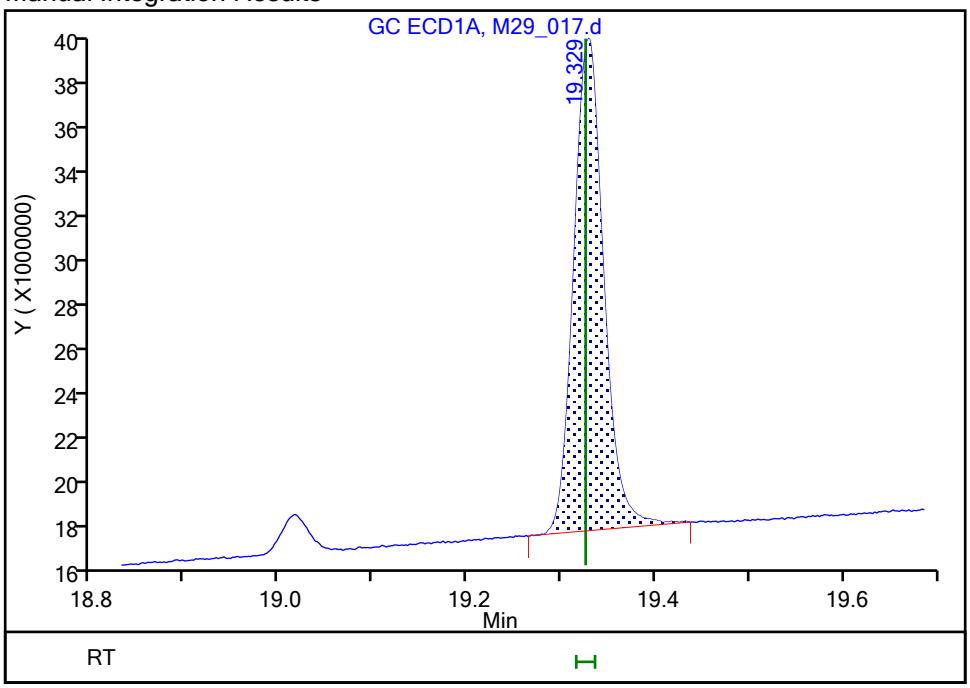

Reviewer: lamj, 30-Jul-2019 10:22:03

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_018.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 30-Jul-2019 02:43:30 ALS Bottle#: 18 Worklist Smp#: 18
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030284-018
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVIPCBCHECD09IS*sub1

Method: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 30-Jul-2019 10:24:22 Calib Date: 30-Jul-2019 04:07:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0337

First Level Reviewer: lamj Date: 30-Jul-2019 10:22:47

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.902	6.901	0.001	3340055147	50.0	50.0	
2	7.001	7.001	0.000	1883696218	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	8.836	8.836	0.000	171577745	0.0250	0.0251	
2	9.216	9.217	-0.001	83152828	0.0250	0.0245	
						RPD = 2.28	
$ 3 DCB Decachlorobiphenyl							M
1	19.326	19.326	0.000	114750419	0.0250	0.0253	M
2	20.444	20.444	0.000	57540296	0.0250	0.0255	M
						RPD = 0.71	
7 PCB-1016							
1	9.674	9.673	0.001	28401487	0.2500	0.2470	
1	10.419	10.417	0.002	48636179	0.2500	0.2414	
1	11.588	11.586	0.002	42275821	0.2500	0.2379	
1	11.704	11.703	0.001	26651611	0.2500	0.2297	
1	13.179	13.178	0.001	18618130	0.2500	0.2428	
		Average of Peak Amounts =				0.2398	
2	10.305	10.305	0.000	13252875	0.2500	0.2467	
2	11.522	11.522	0.000	7180039	0.2500	0.2385	
2	11.585	11.586	-0.001	10166099	0.2500	0.2340	
2	12.260	12.259	0.001	20351100	0.2500	0.2442	
2	12.669	12.667	0.002	11217406	0.2500	0.2423	
		Average of Peak Amounts =				0.2412	
						RPD = 0.58	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 PCB-1260							
1	14.624	14.623	0.001	26665452	0.2500	0.2533	
1	14.909	14.908	0.001	55865667	0.2500	0.2496	
1	15.729	15.728	0.001	34903608	0.2500	0.2500	
1	16.241	16.240	0.001	47052575	0.2500	0.2377	
1	16.686	16.683	0.003	43956043	0.2500	0.2444	
		Average of Peak Amounts =				0.2470	
2	15.524	15.524	0.000	12057456	0.2500	0.2466	
2	15.846	15.845	0.001	26075663	0.2500	0.2458	
2	17.033	17.032	0.001	20659680	0.2500	0.2480	
2	17.125	17.126	-0.001	11049164	0.2500	0.2458	
2	17.520	17.521	-0.001	21772437	0.2500	0.2482	
		Average of Peak Amounts =				0.2469	
						RPD = 0.04	
S 13 Polychlorinated biphenyls, Total							
1						0.4867	
2						0.4880	
						RPD = 0.26	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

PCBCURVE3I_00016	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 30-Jul-2019 10:24:23 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_018.d				
Injection Date:	30-Jul-2019 02:43:30	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	18
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	18
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

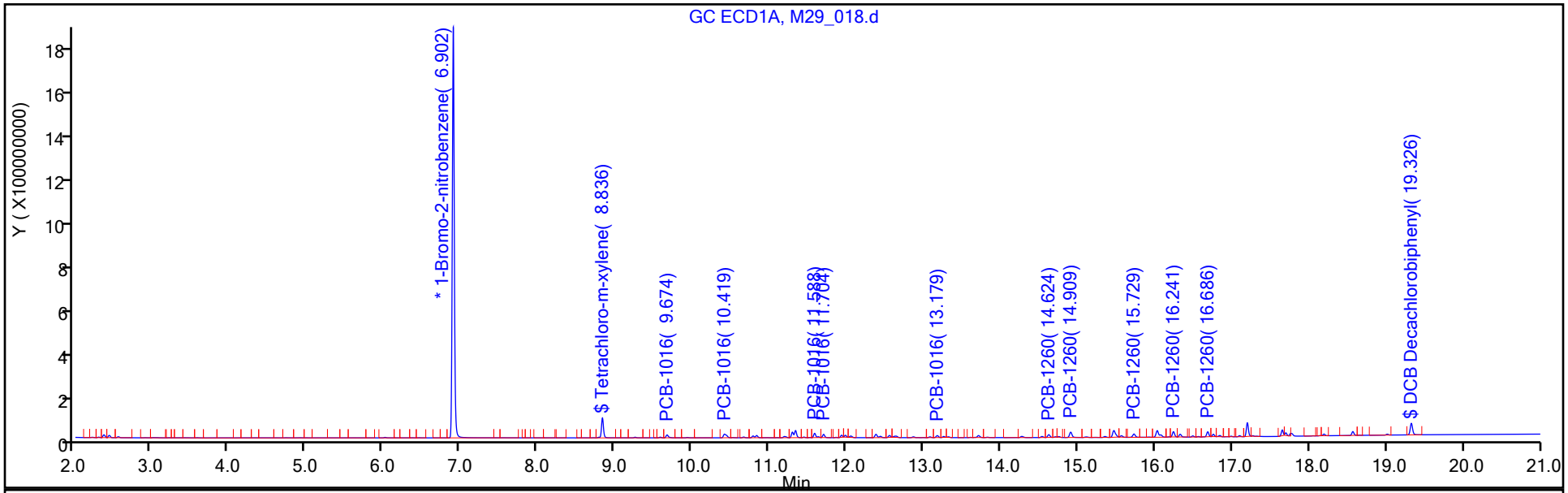

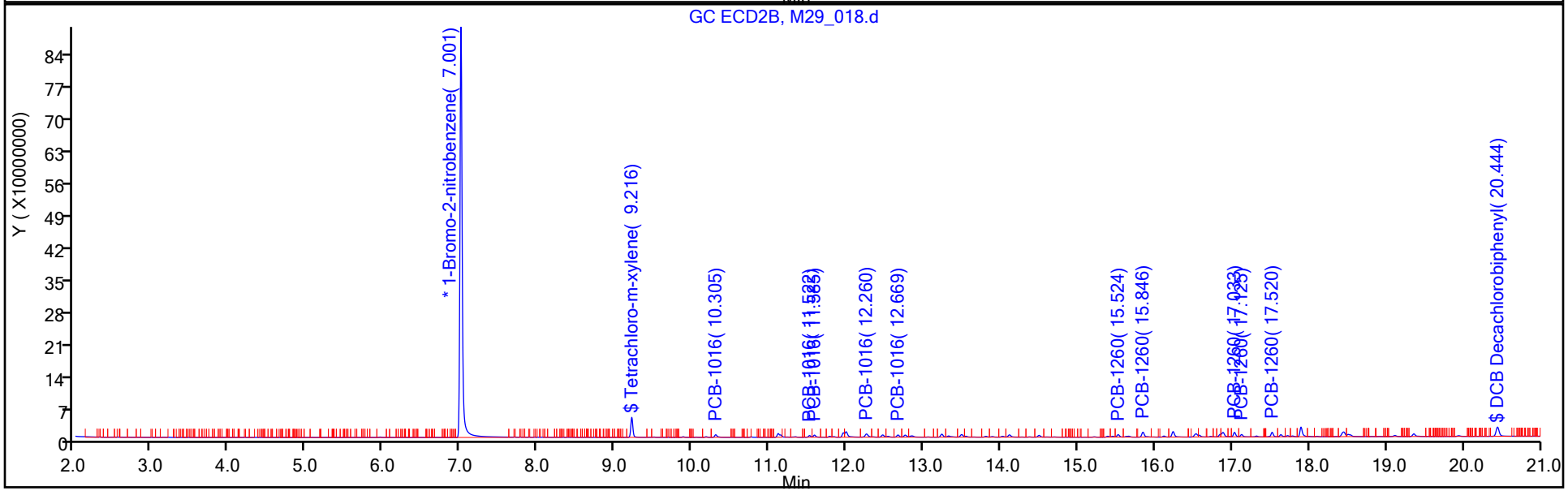

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_018.d				
Injection Date:	30-Jul-2019 02:43:30	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	18	Worklist Smp#:	18
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD1A		

$ 3 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

Processing Integration Results

RT: 19.33
Area: 114508522
Amount: 0.024755
Amount Units: ug/ml

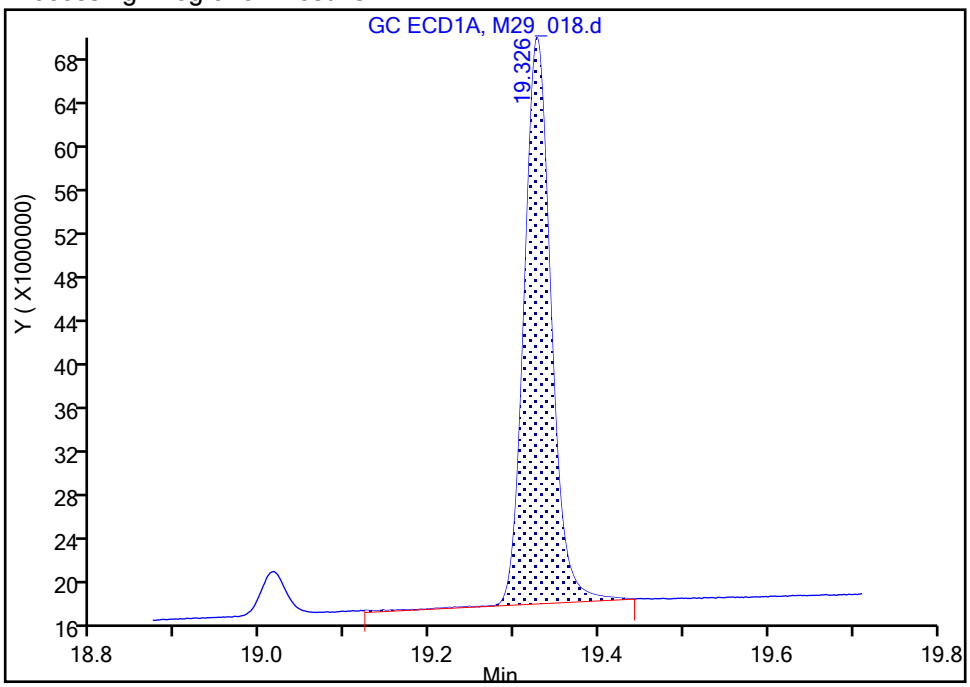

Manual Integration Results

RT: 19.33
Area: 114750419
Amount: 0.025349
Amount Units: ug/ml

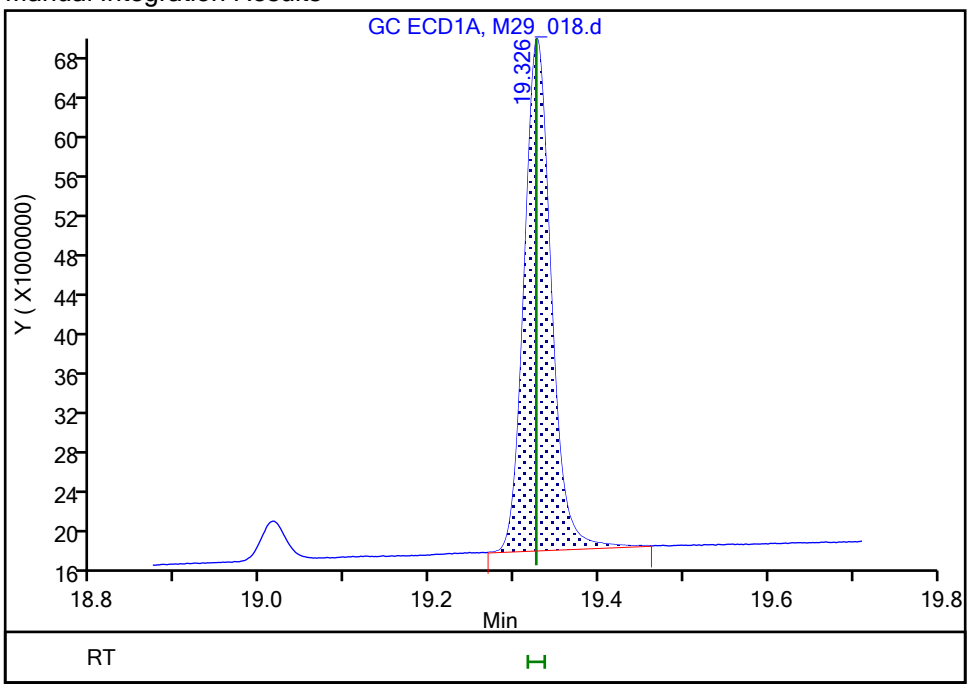

Reviewer: lamj, 30-Jul-2019 10:22:41

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_019.d
Lims ID: icis
Client ID:
Sample Type: ICIS Calib Level: 4
Inject. Date: 30-Jul-2019 03:11:33 ALS Bottle#: 19 Worklist Smp#: 19
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030284-019
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVIPCBCHECD09IS*sub1

Method: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 30-Jul-2019 10:28:31 Calib Date: 30-Jul-2019 04:07:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0337

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.901	6.901	0.000	3361299224	50.0	50.0	
2	7.001	7.001	0.000	1892473718	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	8.836	8.836	0.000	350305160	0.0500	0.0509	
2	9.217	9.217	0.000	177454734	0.0500	0.0521	
						RPD = 2.31	
$ 3 DCB Decachlorobiphenyl							M
1	19.326	19.326	0.000	228538635	0.0500	0.0502	M
2	20.444	20.444	0.000	114387915	0.0500	0.0505	M
						RPD = 0.69	
7 PCB-1016							
1	9.673	9.673	0.000	57111458	0.5000	0.4935	
1	10.417	10.417	0.000	99046530	0.5000	0.4885	
1	11.586	11.586	0.000	90908480	0.5000	0.5084	
1	11.703	11.703	0.000	58942860	0.5000	0.5048	
1	13.178	13.178	0.000	41025118	0.5000	0.5316	
		Average of Peak Amounts =				0.5053	
2	10.305	10.305	0.000	27687967	0.5000	0.5130	
2	11.522	11.522	0.000	15358310	0.5000	0.5078	
2	11.586	11.586	0.000	22770333	0.5000	0.5217	
2	12.259	12.259	0.000	43574274	0.5000	0.5205	
2	12.667	12.667	0.000	24663209	0.5000	0.5303	
		Average of Peak Amounts =				0.5187	
						RPD = 2.60	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 PCB-1260							
1	14.623	14.623	0.000	52847156	0.5000	0.4988	
1	14.908	14.908	0.000	111638087	0.5000	0.4957	
1	15.728	15.728	0.000	71867006	0.5000	0.5115	
1	16.240	16.240	0.000	103052405	0.5000	0.5173	
1	16.683	16.683	0.000	92891317	0.5000	0.5132	
		Average of Peak Amounts =				0.5073	
2	15.524	15.524	0.000	26181256	0.5000	0.5330	
2	15.845	15.845	0.000	54662123	0.5000	0.5128	
2	17.032	17.032	0.000	44820657	0.5000	0.5356	
2	17.126	17.126	0.000	24663675	0.5000	0.5462	
2	17.521	17.521	0.000	45784431	0.5000	0.5194	
		Average of Peak Amounts =				0.5294	
						RPD = 4.27	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

PCBCURVE4I_00022	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 30-Jul-2019 10:28:32 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_019.d				
Injection Date:	30-Jul-2019 03:11:33	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	icis			Worklist Smp#:	19
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	19
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

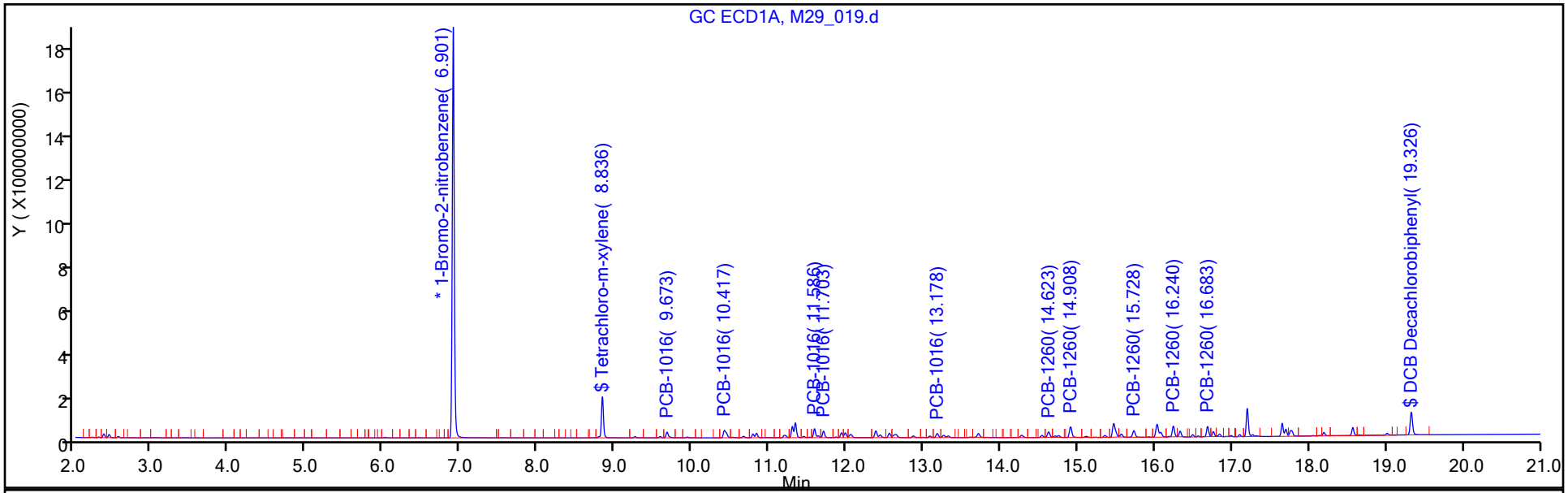

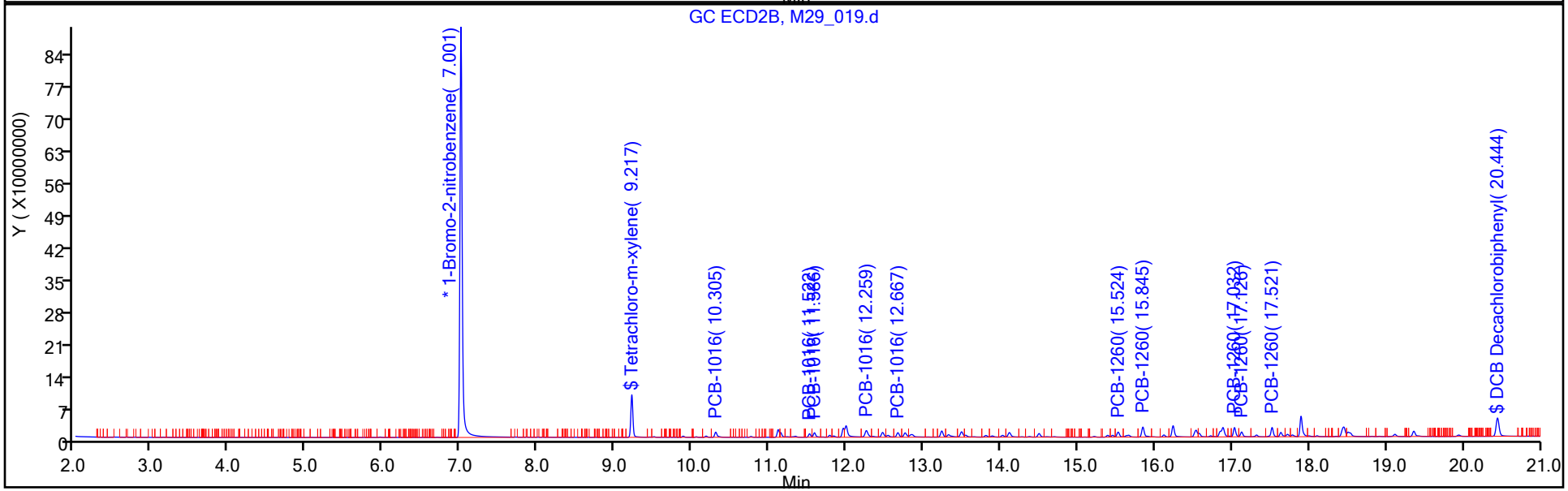

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_019.d				
Injection Date:	30-Jul-2019 03:11:33	Instrument ID:	CHECD09		
Lims ID:	icis				
Client ID:					
Operator ID:	JL	ALS Bottle#:	19	Worklist Smp#:	19
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD1A		

$ 3 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

Processing Integration Results

RT: 19.33
Area: 254503169
Amount: 0.053219
Amount Units: ug/ml

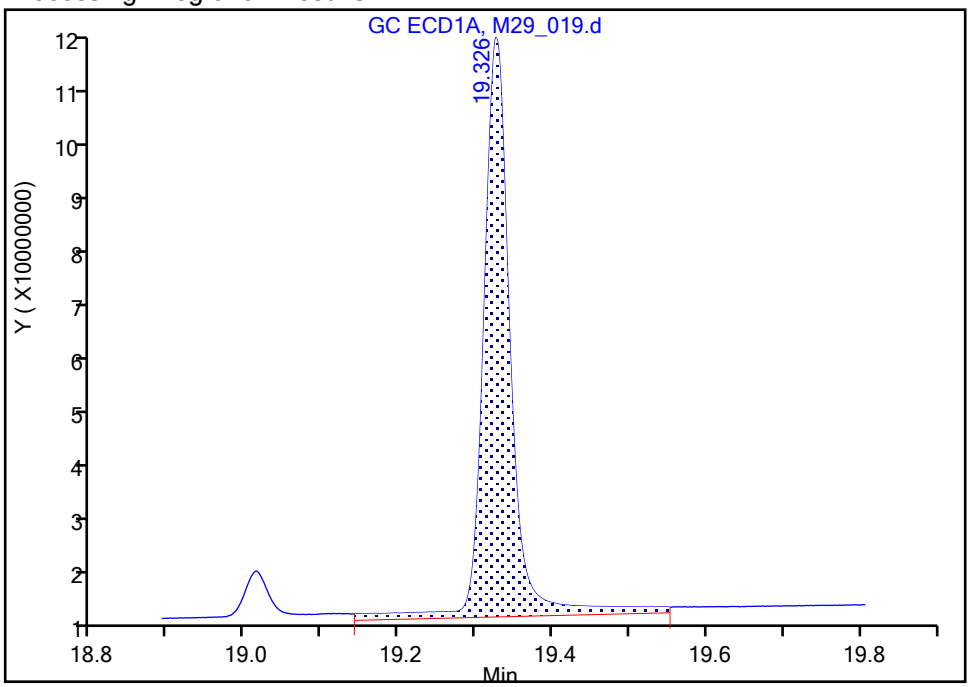

Manual Integration Results

RT: 19.33
Area: 228538635
Amount: 0.050166
Amount Units: ug/ml

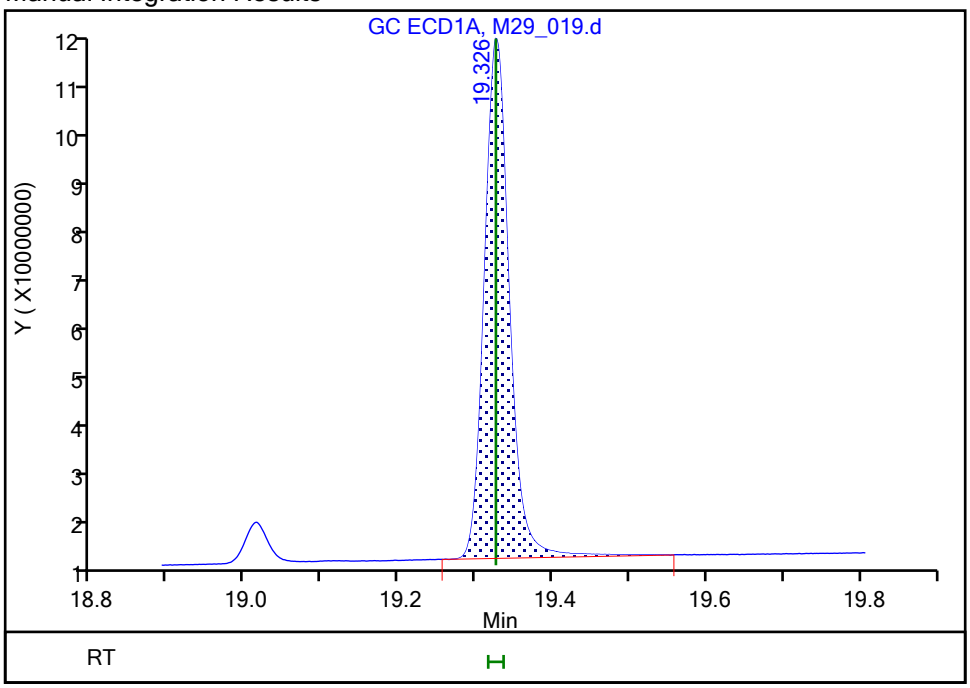

Reviewer: lamj, 30-Jul-2019 10:23:04
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_020.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 30-Jul-2019 03:39:37 ALS Bottle#: 20 Worklist Smp#: 20
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030284-020
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVIPCBCHECD09IS*sub1

Method: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 30-Jul-2019 10:24:28 Calib Date: 30-Jul-2019 04:07:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0337

First Level Reviewer: lamj Date: 30-Jul-2019 10:10:31

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.903	6.901	0.002	3441425258	50.0	50.0	
2	7.003	7.001	0.002	1938013729	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	8.837	8.836	0.001	519358163	0.0750	0.0737	
2	9.218	9.217	0.001	268722798	0.0750	0.0770	
						RPD = 4.41	
$ 3 DCB Decachlorobiphenyl							M
1	19.327	19.326	0.001	335835339	0.0750	0.0720	M
2	20.444	20.444	0.000	168408415	0.0750	0.0726	M
						RPD = 0.86	
7 PCB-1016							
1	9.675	9.673	0.002	81167423	0.7500	0.6850	
1	10.419	10.417	0.002	140808269	0.7500	0.6783	
1	11.587	11.586	0.001	126245604	0.7500	0.6896	
1	11.703	11.703	0.000	80283840	0.7500	0.6715	
1	13.178	13.178	0.000	54613689	0.7500	0.6912	
		Average of Peak Amounts =				0.6831	
2	10.306	10.305	0.001	39861604	0.7500	0.7212	
2	11.522	11.522	0.000	21673151	0.7500	0.6998	
2	11.586	11.586	0.000	31919774	0.7500	0.7141	
2	12.259	12.259	0.000	62622274	0.7500	0.7304	
2	12.668	12.667	0.001	34152010	0.7500	0.7171	
		Average of Peak Amounts =				0.7165	
						RPD = 4.77	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 PCB-1260							
1	14.622	14.623	-0.001	78562334	0.7500	0.7242	
1	14.907	14.908	-0.001	166536022	0.7500	0.7222	
1	15.728	15.728	0.000	107096697	0.7500	0.7444	
1	16.239	16.240	-0.001	155909688	0.7500	0.7644	
1	16.684	16.683	0.001	141412789	0.7500	0.7631	
		Average of Peak Amounts =				0.7437	
2	15.523	15.524	-0.001	36084929	0.7500	0.7174	
2	15.844	15.845	-0.001	79251721	0.7500	0.7260	
2	17.033	17.032	0.001	65641673	0.7500	0.7660	
2	17.126	17.126	0.000	35501291	0.7500	0.7678	
2	17.520	17.521	-0.001	68112361	0.7500	0.7546	
		Average of Peak Amounts =				0.7463	
						RPD = 0.36	
S 13 Polychlorinated biphenyls, Total							
1						1.43	
2						1.46	
						RPD = 2.50	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

PCBCURVE5I_00017	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 30-Jul-2019 10:24:29 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_020.d				
Injection Date:	30-Jul-2019 03:39:37	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	20
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	20
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

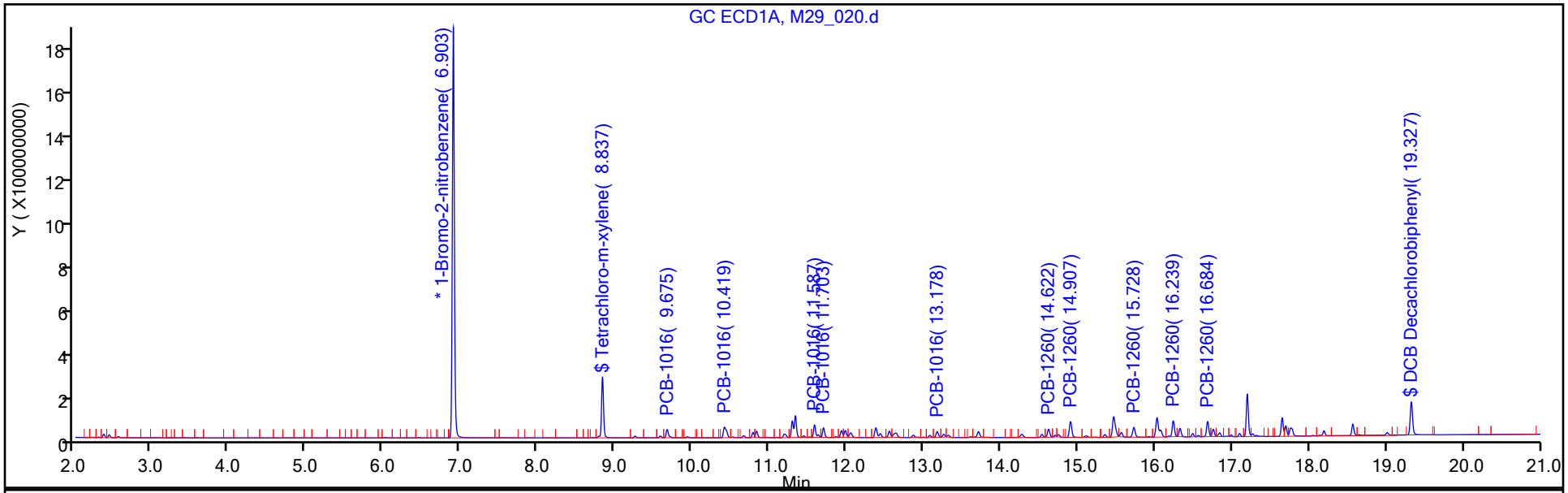

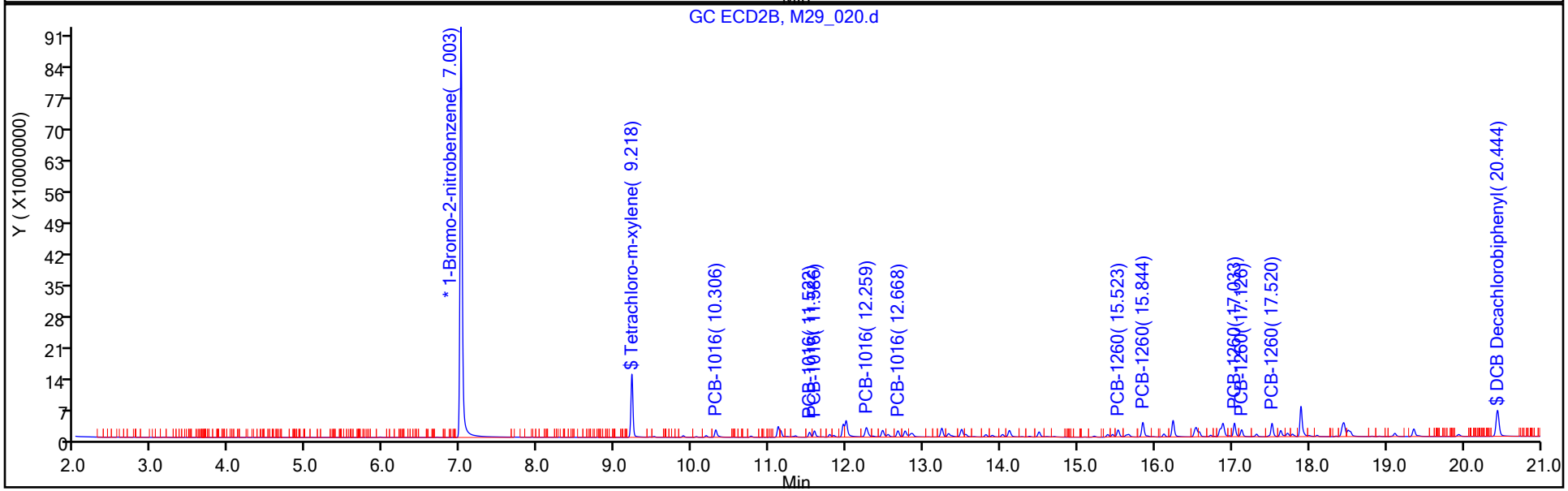

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_020.d				
Injection Date:	30-Jul-2019 03:39:37	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	20	Worklist Smp#:	20
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD1A		

$ 3 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

Processing Integration Results

RT: 19.33
Area: 375449549
Amount: 0.078027
Amount Units: ug/ml

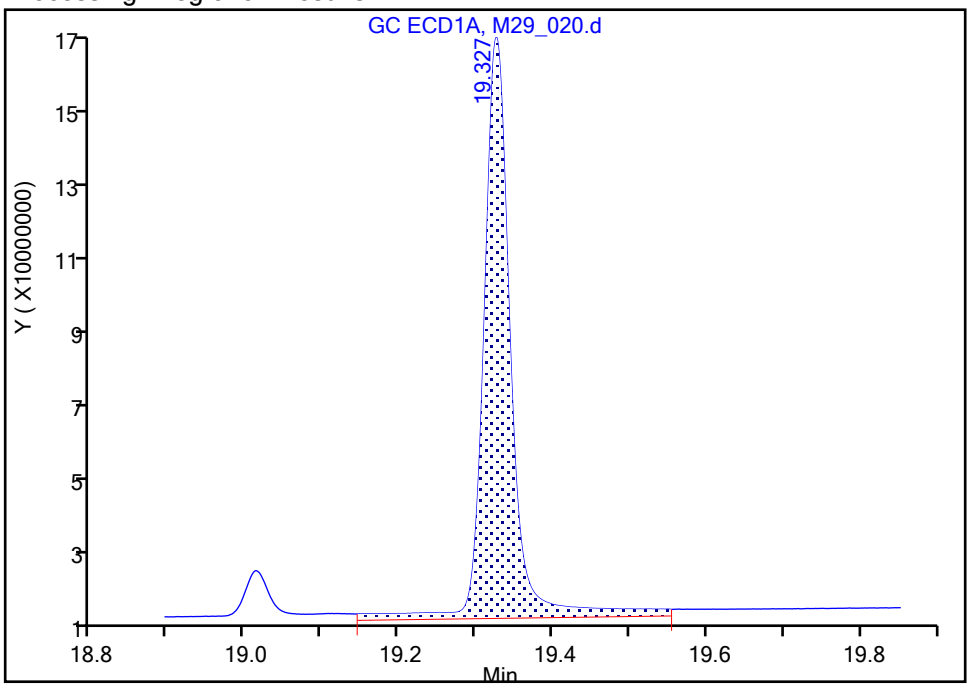

Manual Integration Results

RT: 19.33
Area: 335835339
Amount: 0.072002
Amount Units: ug/ml

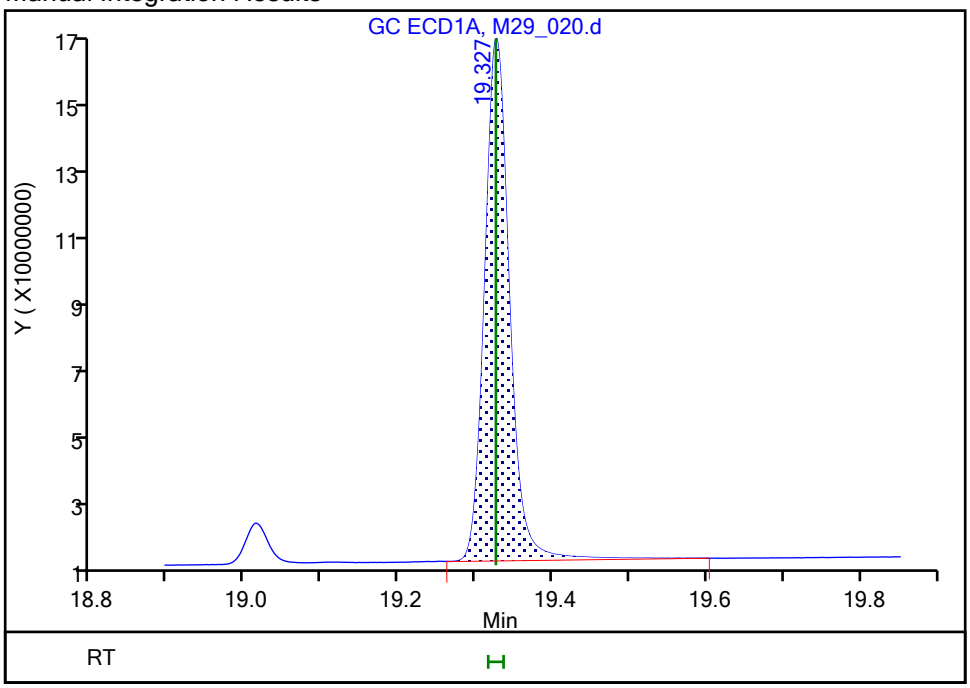

Reviewer: lamj, 30-Jul-2019 10:23:30

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 30-Jul-2019 04:07:48 ALS Bottle#: 21 Worklist Smp#: 21
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030284-021
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVIPCBCHECD09IS*sub1

Method: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 30-Jul-2019 10:24:32 Calib Date: 30-Jul-2019 04:07:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0337

First Level Reviewer: lamj Date: 30-Jul-2019 10:23:54

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.901	6.901	0.000	3443536778	50.0	50.0	
2	7.002	7.001	0.001	1935033196	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	8.836	8.836	0.000	707043332	0.1000	0.1003	
2	9.217	9.217	0.000	372832260	0.1000	0.1070	
						RPD = 6.52	
$ 3 DCB Decachlorobiphenyl							
1	19.327	19.326	0.001	445736962	0.1000	0.0955	
2	20.446	20.444	0.002	218319563	0.1000	0.0943	
						RPD = 1.28	
7 PCB-1016							
1	9.675	9.673	0.002	108023479	1.00	0.9111	
1	10.418	10.417	0.001	190586567	1.00	0.9175	
1	11.586	11.586	0.000	177995717	1.00	0.9717	
1	11.703	11.703	0.000	115634657	1.00	0.9666	
1	13.176	13.178	-0.002	79408377	1.00	1.00	
		Average of Peak Amounts =				0.9543	
2	10.306	10.305	0.001	55986705	1.00	1.01	
2	11.522	11.522	0.000	30405732	1.00	0.9833	
2	11.586	11.586	0.000	44653015	1.00	1.00	
2	12.259	12.259	0.000	86547578	1.00	1.01	
2	12.668	12.667	0.001	47861819	1.00	1.01	
		Average of Peak Amounts =				1.00	
						RPD = 5.00	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 PCB-1260							
1	14.621	14.623	-0.002	102091815	1.00	0.9406	
1	14.907	14.908	-0.001	212705982	1.00	0.9218	
1	15.728	15.728	0.000	135026511	1.00	0.9380	
1	16.240	16.240	0.000	198043605	1.00	0.9704	
1	16.685	16.683	0.002	176798380	1.00	0.9535	
		Average of Peak Amounts =				0.9449	
2	15.525	15.524	0.001	50469023	1.00	1.00	
2	15.846	15.845	0.001	105201018	1.00	0.9652	
2	17.035	17.032	0.003	85234807	1.00	1.00	
2	17.127	17.126	0.001	48024468	1.00	1.04	
2	17.521	17.521	0.000	87225064	1.00	0.9678	
		Average of Peak Amounts =				0.99	
						RPD = 5.16	
S 13 Polychlorinated biphenyls, Total							
1						1.90	
2						2.00	
						RPD = 5.08	

Reagents:

PCBCURVE6I_00017	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 30-Jul-2019 10:24:32 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d				
Injection Date:	30-Jul-2019 04:07:48	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	21
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	21
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

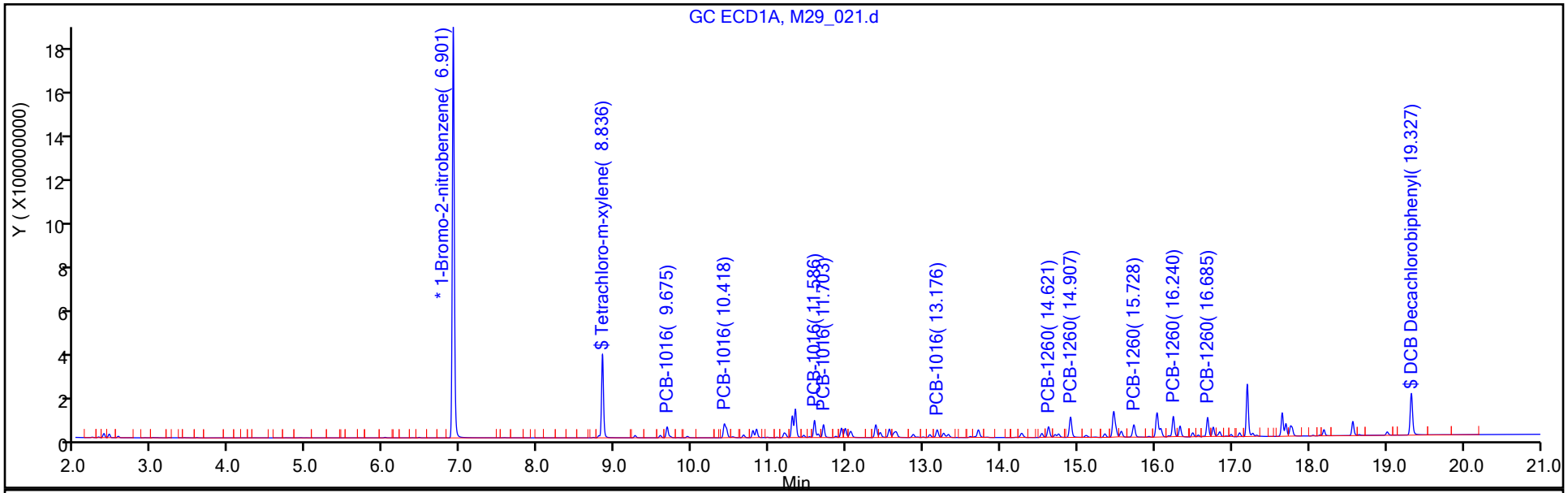

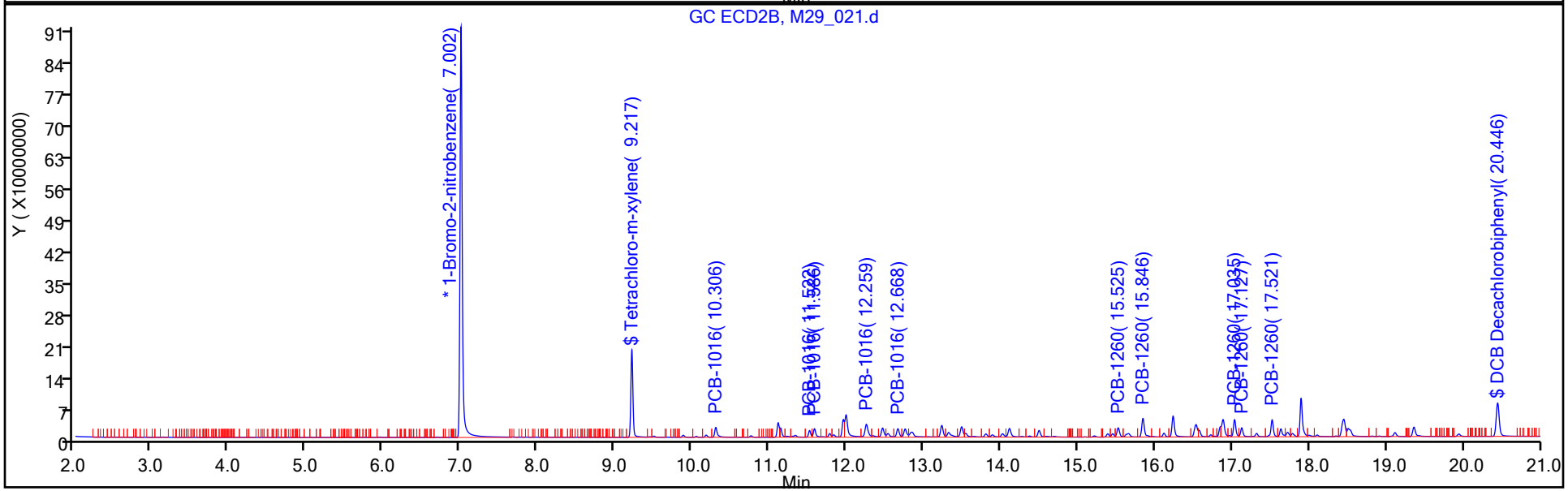

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/30/2019 01:47 Calibration End Date: 07/30/2019 04:07 Calibration ID: 16293

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/16	M29_016.d
Level 2	IC 600-270655/17	M29_017.d
Level 3	IC 600-270655/18	M29_018.d
Level 4	ICIS 600-270655/19	M29_019.d
Level 5	IC 600-270655/20	M29_020.d
Level 6	IC 600-270655/21	M29_021.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
PCB-1016 Peak 1	1.4627 1.4467	1.4056	1.4071	1.4631	1.3712	Ave		1.4261				2.6		20.0			
PCB-1016 Peak 2	0.8647 0.7857	0.8245	0.7623	0.8115	0.7455	Ave		0.7990				5.5		20.0			
PCB-1016 Peak 3	1.1889 1.1538	1.1955	1.0794	1.2032	1.0980	Ave		1.1531				4.6		20.0			
PCB-1016 Peak 4	2.1833 2.2363	2.2346	2.1608	2.3025	2.1542	Ave		2.2119				2.6		20.0			
PCB-1016 Peak 5	1.2303 1.2367	1.2360	1.1910	1.3032	1.1748	Ave		1.2287				3.6		20.0			
PCB-1260 Peak 1	1.3505 1.3041	1.2268	1.2802	1.3834	1.2413	Ave		1.2977				4.7		20.0			
PCB-1260 Peak 2	2.9544 2.7183	2.8422	2.7686	2.8884	2.7262	Ave		2.8163				3.4		20.0			
PCB-1260 Peak 3	2.1319 2.2024	2.1111	2.1935	2.3684	2.2580	Ave		2.2109				4.2		20.0			
PCB-1260 Peak 4	1.1289 1.2409	1.0905	1.1731	1.3033	1.2212	Ave		1.1930				6.5		20.0			
PCB-1260 Peak 5	2.3000 2.2538	2.3446	2.3117	2.4193	2.3430	Ave		2.3287				2.4		20.0			
Tetrachloro-m-xylene	84.895 96.337	84.274	88.287	93.769	92.439	Ave		90.000				5.5		20.0			
DCB Decachlorobiphenyl	60.213 56.412	62.868	61.093	60.444	57.932	Ave		59.827				3.9		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/30/2019 01:47 Calibration End Date: 07/30/2019 04:07 Calibration ID: 16293

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/16	M29_016.d
Level 2	IC 600-270655/17	M29_017.d
Level 3	IC 600-270655/18	M29_018.d
Level 4	ICIS 600-270655/19	M29_019.d
Level 5	IC 600-270655/20	M29_020.d
Level 6	IC 600-270655/21	M29_021.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
PCB-1016 Peak 1	BNB	Ave	2827829 55986705	5476337	13252875	27687967	39861604	0.0500 1.00	0.100	0.250	0.500	0.750
PCB-1016 Peak 2	BNB	Ave	1671681 30405732	3212273	7180039	15358310	21673151	0.0500 1.00	0.100	0.250	0.500	0.750
PCB-1016 Peak 3	BNB	Ave	2298593 44653015	4657776	10166099	22770333	31919774	0.0500 1.00	0.100	0.250	0.500	0.750
PCB-1016 Peak 4	BNB	Ave	4220979 86547578	8706160	20351100	43574274	62622274	0.0500 1.00	0.100	0.250	0.500	0.750
PCB-1016 Peak 5	BNB	Ave	2378514 47861819	4815442	11217406	24663209	34152010	0.0500 1.00	0.100	0.250	0.500	0.750
PCB-1260 Peak 1	BNB	Ave	2611022 50469023	4779860	12057456	26181256	36084929	0.0500 1.00	0.100	0.250	0.500	0.750
PCB-1260 Peak 2	BNB	Ave	5711703 105201018	11073311	26075663	54662123	79251721	0.0500 1.00	0.100	0.250	0.500	0.750
PCB-1260 Peak 3	BNB	Ave	4121628 85234807	8224832	20659680	44820657	65641673	0.0500 1.00	0.100	0.250	0.500	0.750
PCB-1260 Peak 4	BNB	Ave	2182475 48024468	4248576	11049164	24663675	35501291	0.0500 1.00	0.100	0.250	0.500	0.750
PCB-1260 Peak 5	BNB	Ave	4446571 87225064	9134817	21772437	45784431	68112361	0.0500 1.00	0.100	0.250	0.500	0.750
Tetrachloro-m-xylene	BNB	Ave	16412853 372832260	32833380	83152828	177454734	268722798	0.00500 0.100	0.0100	0.0250	0.0500	0.0750
DCB Decachlorobiphenyl	BNB	Ave	11641063 218319563	24493507	57540296	114387915	168408415	0.00500 0.100	0.0100	0.0250	0.0500	0.0750

Curve Type Legend:
Ave = Average ISTD

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_016.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 30-Jul-2019 01:47:23 ALS Bottle#: 16 Worklist Smp#: 16
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030284-016
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVIPCBCHECD09IS*sub1

Method: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 30-Jul-2019 10:24:16 Calib Date: 30-Jul-2019 04:07:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0337

First Level Reviewer: lamj Date: 30-Jul-2019 10:16:48

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.902	6.901	0.001	3415314962	50.0	50.0	
2	7.003	7.001	0.002	1933304566	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	8.836	8.836	0.000	35305743	0.005000	0.005049	
2	9.217	9.217	0.000	16412853	0.005000	0.004716	
						RPD = 6.81	
$ 3 DCB Decachlorobiphenyl							M
1	19.329	19.326	0.003	24094697	0.005000	0.005205	M
2	20.444	20.444	0.000	11641063	0.005000	0.005032	M
						RPD = 3.38	
7 PCB-1016							
1	9.674	9.673	0.001	6888523	0.0500	0.0586	
1	10.419	10.417	0.002	11940561	0.0500	0.0580	
1	11.589	11.586	0.003	10579677	0.0500	0.0582	
1	11.705	11.703	0.002	7455313	0.0500	0.0628	
1	13.179	13.178	0.001	4041051	0.0500	0.0515	
		Average of Peak Amounts =				0.0578	
2	10.306	10.305	0.001	2827829	0.0500	0.0513	
2	11.524	11.522	0.002	1671681	0.0500	0.0541	
2	11.587	11.586	0.001	2298593	0.0500	0.0516	
2	12.262	12.259	0.003	4220979	0.0500	0.0494	
2	12.672	12.667	0.005	2378514	0.0500	0.0501	
		Average of Peak Amounts =				0.0513	
						RPD = 12.02	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 PCB-1260							
1	14.628	14.623	0.005	5606783	0.0500	0.0521	
1	14.912	14.908	0.004	12313049	0.0500	0.0538	
1	15.732	15.728	0.004	7289351	0.0500	0.0511	
1	16.242	16.240	0.002	9625441	0.0500	0.0476	
1	16.689	16.683	0.006	9346398	0.0500	0.0508	
		Average of Peak Amounts =				0.0511	
2	15.526	15.524	0.002	2611022	0.0500	0.0520	
2	15.849	15.845	0.004	5711703	0.0500	0.0525	
2	17.036	17.032	0.004	4121628	0.0500	0.0482	
2	17.128	17.126	0.002	2182475	0.0500	0.0473	
2	17.522	17.521	0.001	4446571	0.0500	0.0494	
		Average of Peak Amounts =				0.0499	
						RPD = 2.35	
S 13 Polychlorinated biphenyls, Total							
1						0.1089	
2						0.1012	
						RPD = 7.37	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

PCBCURVE1I_00016	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 30-Jul-2019 10:24:17 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_016.d				
Injection Date:	30-Jul-2019 01:47:23	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	16
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	16
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

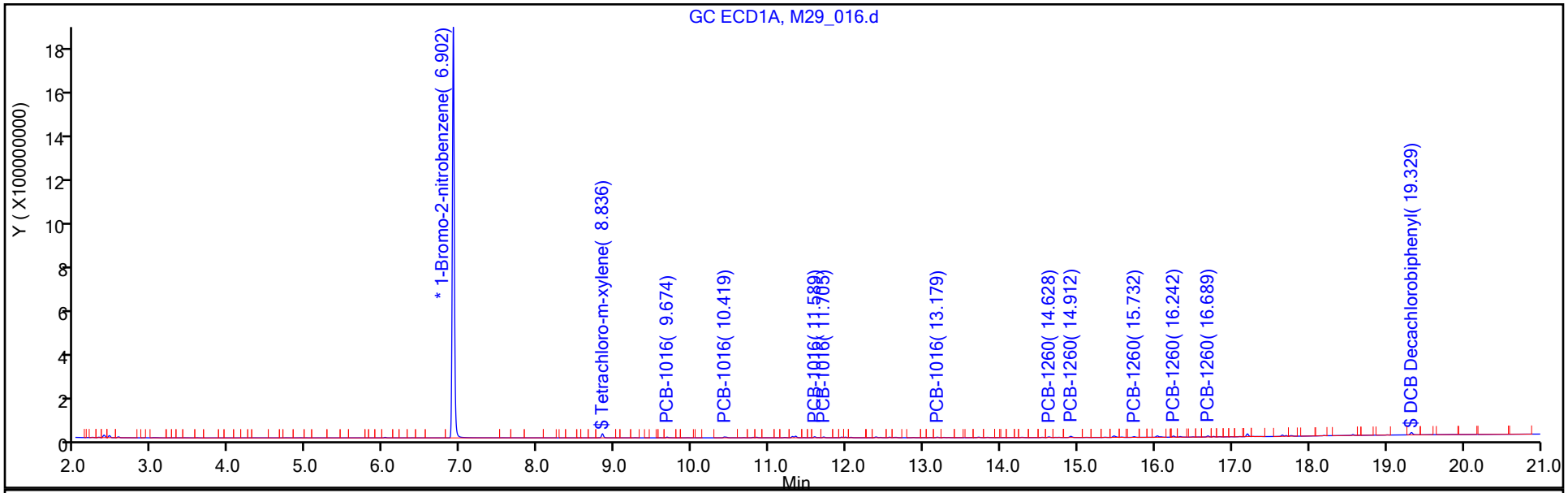

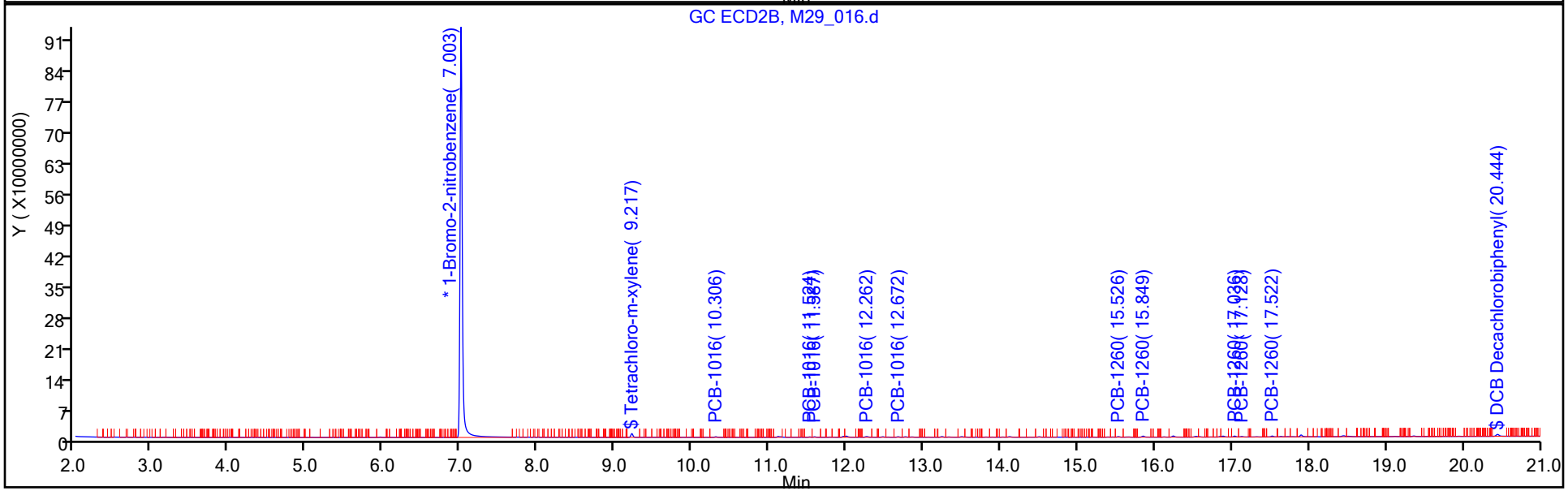

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_016.d				
Injection Date:	30-Jul-2019 01:47:23	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	16	Worklist Smp#:	16
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD2B		

$ 3 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 2

Processing Integration Results

RT: 20.44
Area: 13673367
Amount: 0.005311
Amount Units: ug/ml

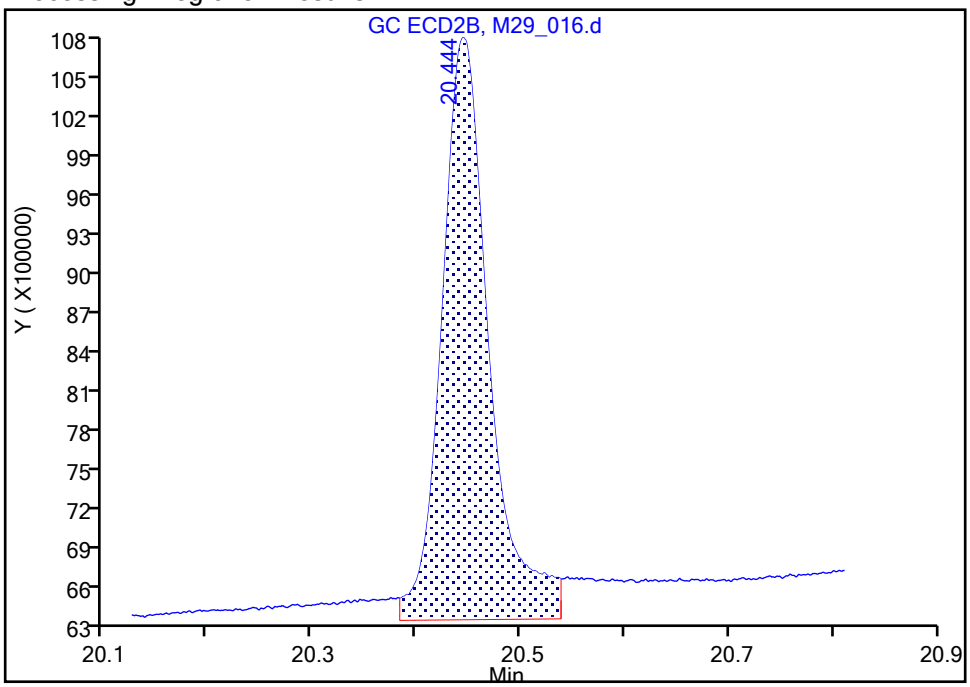

Manual Integration Results

RT: 20.44
Area: 11641063
Amount: 0.005032
Amount Units: ug/ml

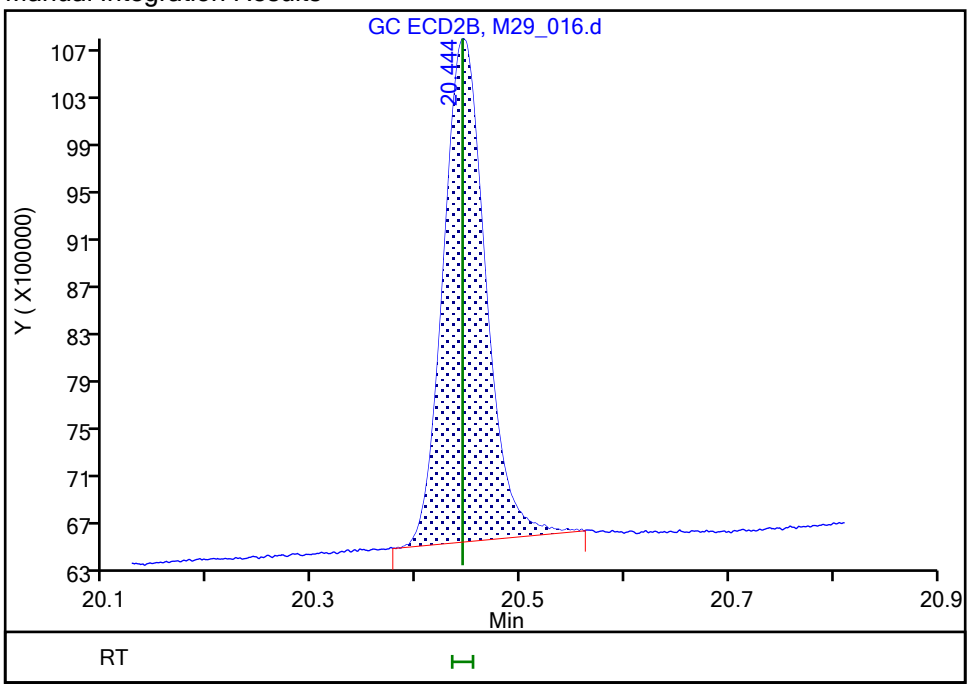

Reviewer: lamj, 30-Jul-2019 10:21:19

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_017.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 30-Jul-2019 02:15:27 ALS Bottle#: 17 Worklist Smp#: 17
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030284-017
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVIPCBCHECD09IS*sub1

Method: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 30-Jul-2019 10:24:19 Calib Date: 30-Jul-2019 04:07:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0337

First Level Reviewer: lamj Date: 30-Jul-2019 10:22:16

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.901	6.901	0.000	3435342631	50.0	50.0	
2	7.002	7.001	0.001	1948024343	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	8.836	8.836	0.000	69132044	0.0100	0.009829	
2	9.217	9.217	0.000	32833380	0.0100	0.009364	
						RPD = 4.85	
$ 3 DCB Decachlorobiphenyl							M
1	19.329	19.326	0.003	47796514	0.0100	0.0103	M
2	20.446	20.444	0.002	24493507	0.0100	0.0105	M
						RPD = 2.34	
7 PCB-1016							
1	9.675	9.673	0.002	12173158	0.1000	0.1029	
1	10.419	10.417	0.002	22305355	0.1000	0.1076	
1	11.589	11.586	0.003	17833300	0.1000	0.0976	
1	11.706	11.703	0.003	11376035	0.1000	0.0953	
1	13.179	13.178	0.001	7956948	0.1000	0.1009	
		Average of Peak Amounts =				0.1009	
2	10.306	10.305	0.001	5476337	0.1000	0.0986	
2	11.523	11.522	0.001	3212273	0.1000	0.1032	
2	11.586	11.586	0.000	4657776	0.1000	0.1037	
2	12.261	12.259	0.002	8706160	0.1000	0.1010	
2	12.670	12.667	0.003	4815442	0.1000	0.1006	
		Average of Peak Amounts =				0.1014	
						RPD = 0.54	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 PCB-1260							
1	14.626	14.623	0.003	11278042	0.1000	0.1042	
1	14.910	14.908	0.002	24157715	0.1000	0.1049	
1	15.731	15.728	0.003	14726055	0.1000	0.1025	
1	16.242	16.240	0.002	21863388	0.1000	0.1074	
1	16.688	16.683	0.005	18657963	0.1000	0.1009	
		Average of Peak Amounts =				0.1040	
2	15.526	15.524	0.002	4779860	0.1000	0.0945	
2	15.847	15.845	0.002	11073311	0.1000	0.1009	
2	17.035	17.032	0.003	8224832	0.1000	0.0955	
2	17.126	17.126	0.000	4248576	0.1000	0.0914	
2	17.521	17.521	0.000	9134817	0.1000	0.1007	
		Average of Peak Amounts =				0.0966	
						RPD = 7.35	
S 13 Polychlorinated biphenyls, Total							
1						0.2048	
2						0.1980	
						RPD = 3.39	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

PCBCURVE2I_00017	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 30-Jul-2019 10:24:19 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_017.d				
Injection Date:	30-Jul-2019 02:15:27	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	17
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	17
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

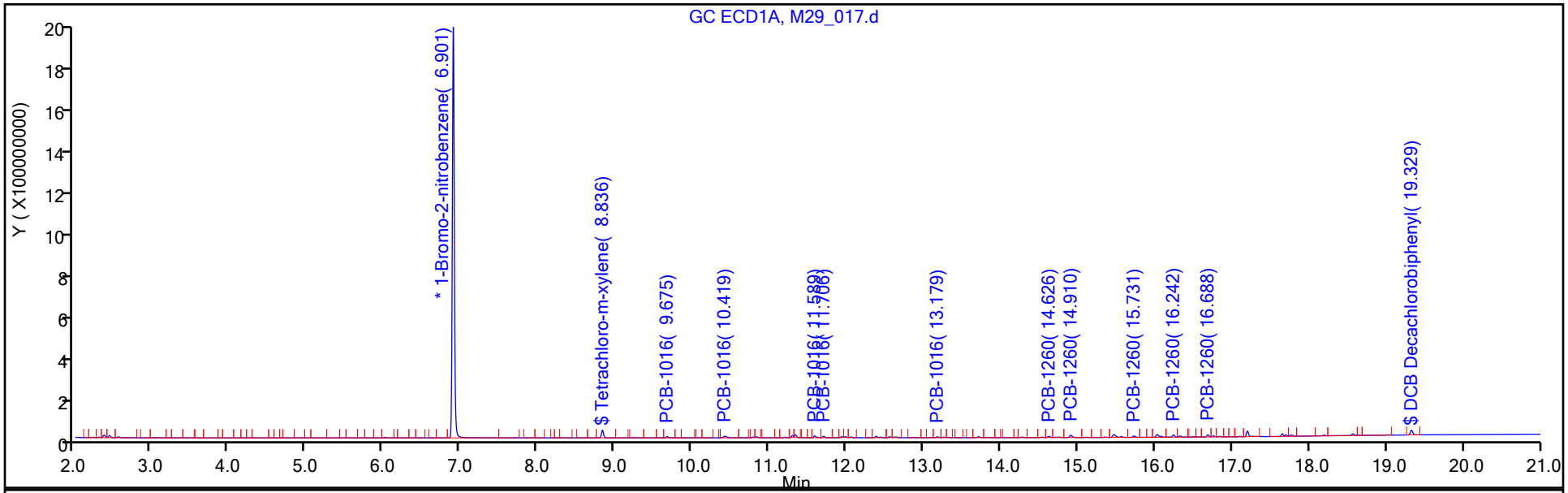

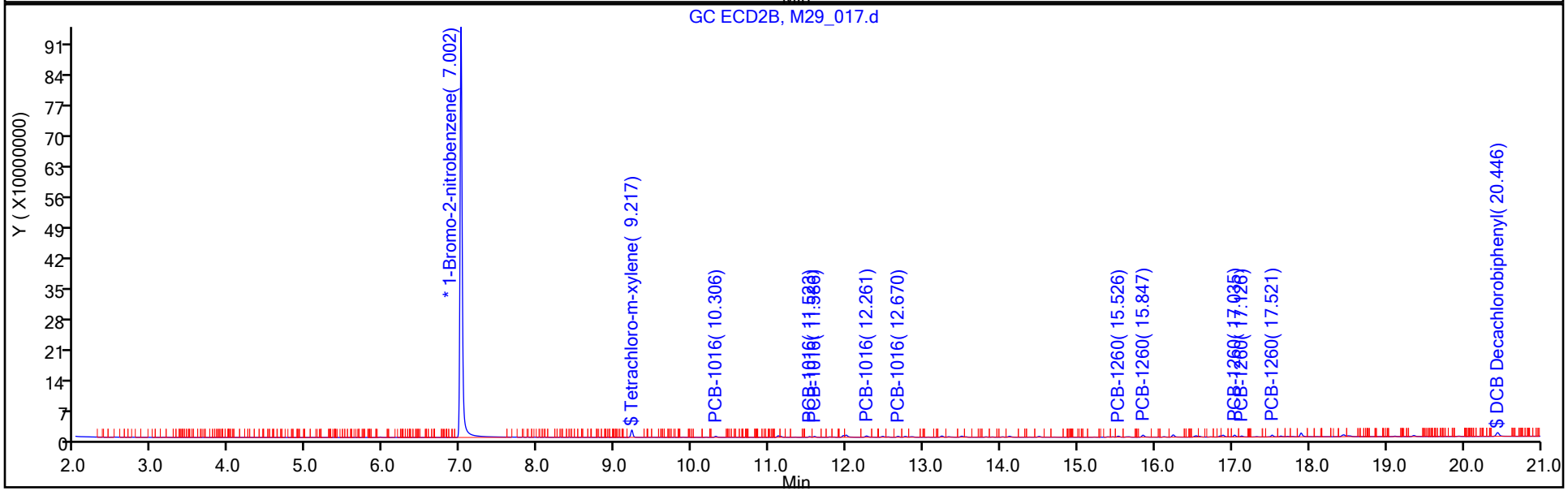

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_017.d				
Injection Date:	30-Jul-2019 02:15:27	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	17	Worklist Smp#:	17
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD2B		

$ 3 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 2

Processing Integration Results

RT: 20.45
Area: 26084542
Amount: 0.010593
Amount Units: ug/ml

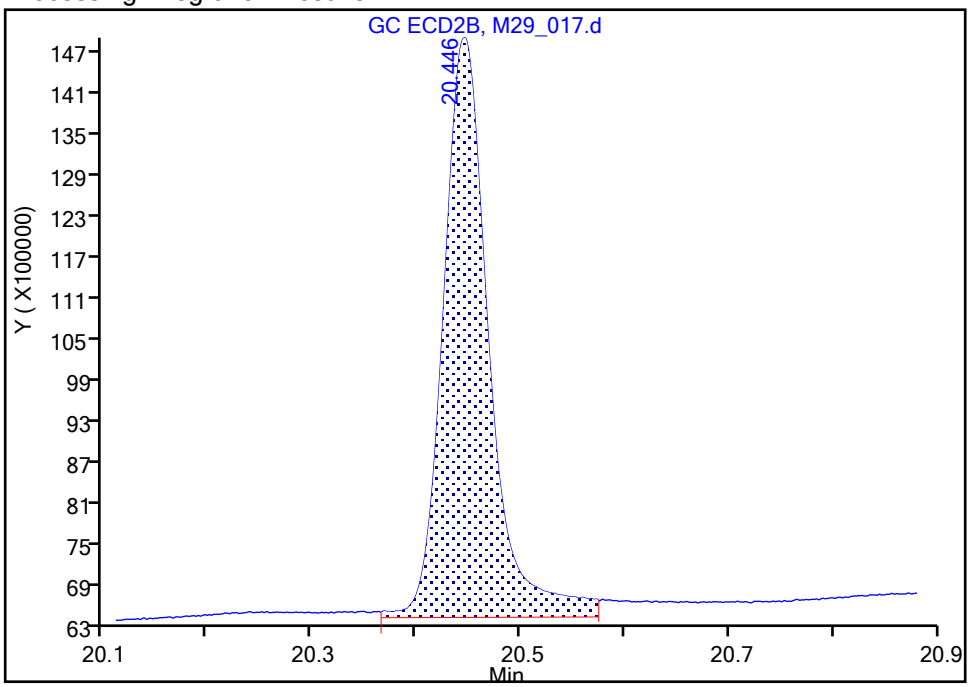

Manual Integration Results

RT: 20.45
Area: 24493507
Amount: 0.010508
Amount Units: ug/ml

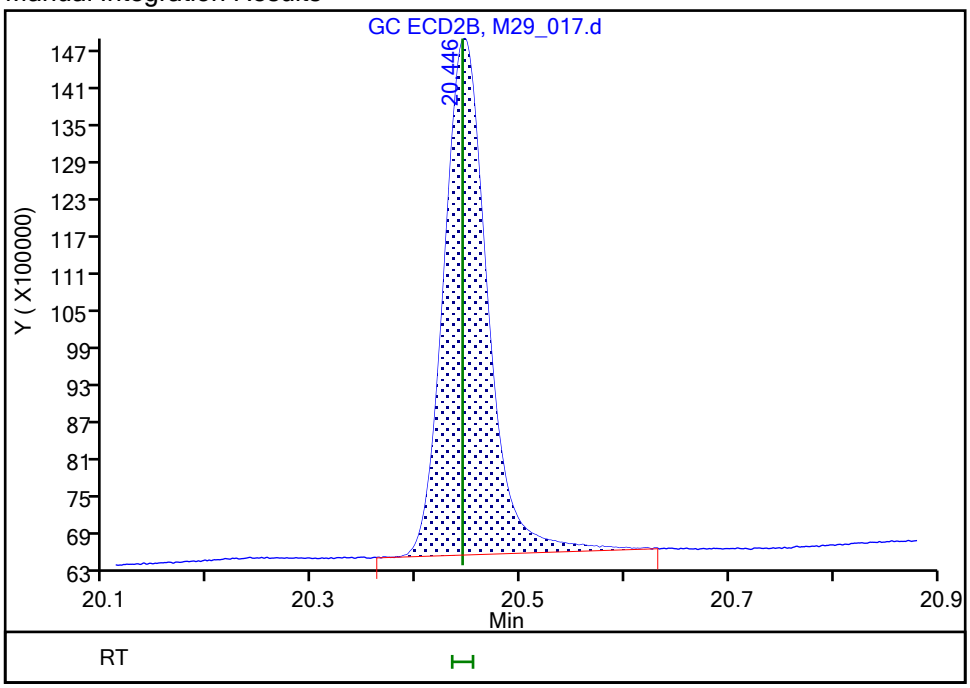

Reviewer: lamj, 30-Jul-2019 10:22:08

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_018.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 30-Jul-2019 02:43:30 ALS Bottle#: 18 Worklist Smp#: 18
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030284-018
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVIPCBCHECD09IS*sub1

Method: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 30-Jul-2019 10:24:22 Calib Date: 30-Jul-2019 04:07:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0337

First Level Reviewer: lamj Date: 30-Jul-2019 10:22:47

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.902	6.901	0.001	3340055147	50.0	50.0	
2	7.001	7.001	0.000	1883696218	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	8.836	8.836	0.000	171577745	0.0250	0.0251	
2	9.216	9.217	-0.001	83152828	0.0250	0.0245	
						RPD = 2.28	
$ 3 DCB Decachlorobiphenyl							M
1	19.326	19.326	0.000	114750419	0.0250	0.0253	M
2	20.444	20.444	0.000	57540296	0.0250	0.0255	M
						RPD = 0.71	
7 PCB-1016							
1	9.674	9.673	0.001	28401487	0.2500	0.2470	
1	10.419	10.417	0.002	48636179	0.2500	0.2414	
1	11.588	11.586	0.002	42275821	0.2500	0.2379	
1	11.704	11.703	0.001	26651611	0.2500	0.2297	
1	13.179	13.178	0.001	18618130	0.2500	0.2428	
		Average of Peak Amounts =				0.2398	
2	10.305	10.305	0.000	13252875	0.2500	0.2467	
2	11.522	11.522	0.000	7180039	0.2500	0.2385	
2	11.585	11.586	-0.001	10166099	0.2500	0.2340	
2	12.260	12.259	0.001	20351100	0.2500	0.2442	
2	12.669	12.667	0.002	11217406	0.2500	0.2423	
		Average of Peak Amounts =				0.2412	
						RPD = 0.58	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 PCB-1260							
1	14.624	14.623	0.001	26665452	0.2500	0.2533	
1	14.909	14.908	0.001	55865667	0.2500	0.2496	
1	15.729	15.728	0.001	34903608	0.2500	0.2500	
1	16.241	16.240	0.001	47052575	0.2500	0.2377	
1	16.686	16.683	0.003	43956043	0.2500	0.2444	
		Average of Peak Amounts =				0.2470	
2	15.524	15.524	0.000	12057456	0.2500	0.2466	
2	15.846	15.845	0.001	26075663	0.2500	0.2458	
2	17.033	17.032	0.001	20659680	0.2500	0.2480	
2	17.125	17.126	-0.001	11049164	0.2500	0.2458	
2	17.520	17.521	-0.001	21772437	0.2500	0.2482	
		Average of Peak Amounts =				0.2469	
						RPD = 0.04	
S 13 Polychlorinated biphenyls, Total							
1						0.4867	
2						0.4880	
						RPD = 0.26	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

PCBCURVE3I_00016	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 30-Jul-2019 10:24:23 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_018.d				
Injection Date:	30-Jul-2019 02:43:30	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	18
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	18
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

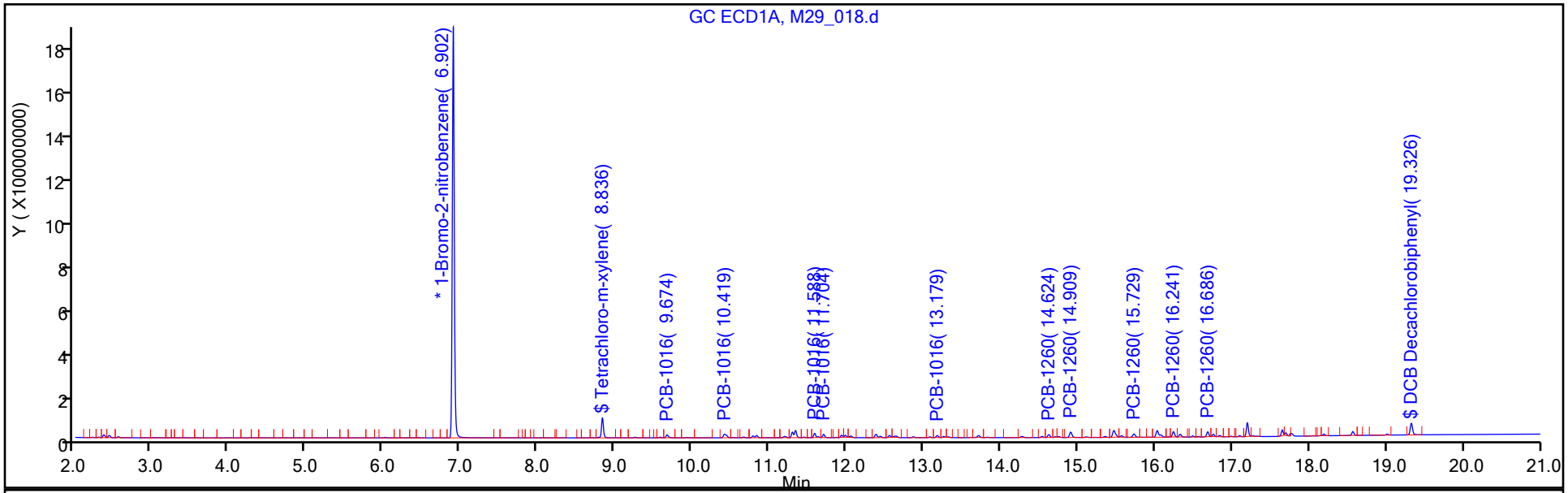

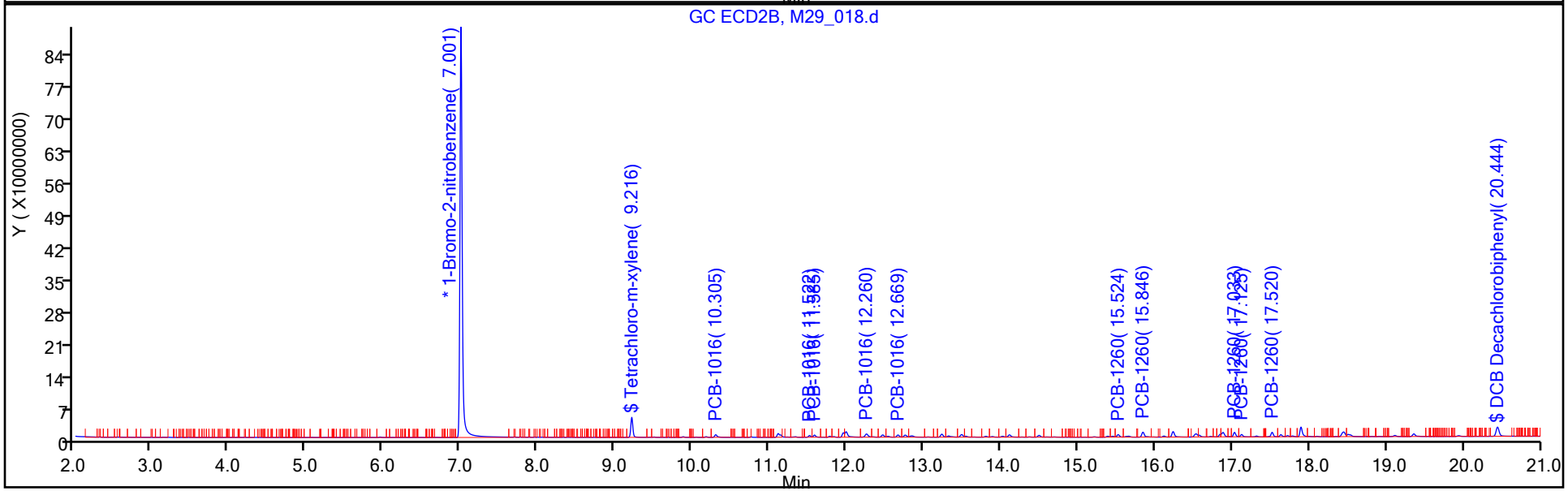

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_018.d				
Injection Date:	30-Jul-2019 02:43:30	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	18	Worklist Smp#:	18
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD2B		

$ 3 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 2

Processing Integration Results

RT: 20.44
Area: 60236167
Amount: 0.025636
Amount Units: ug/ml

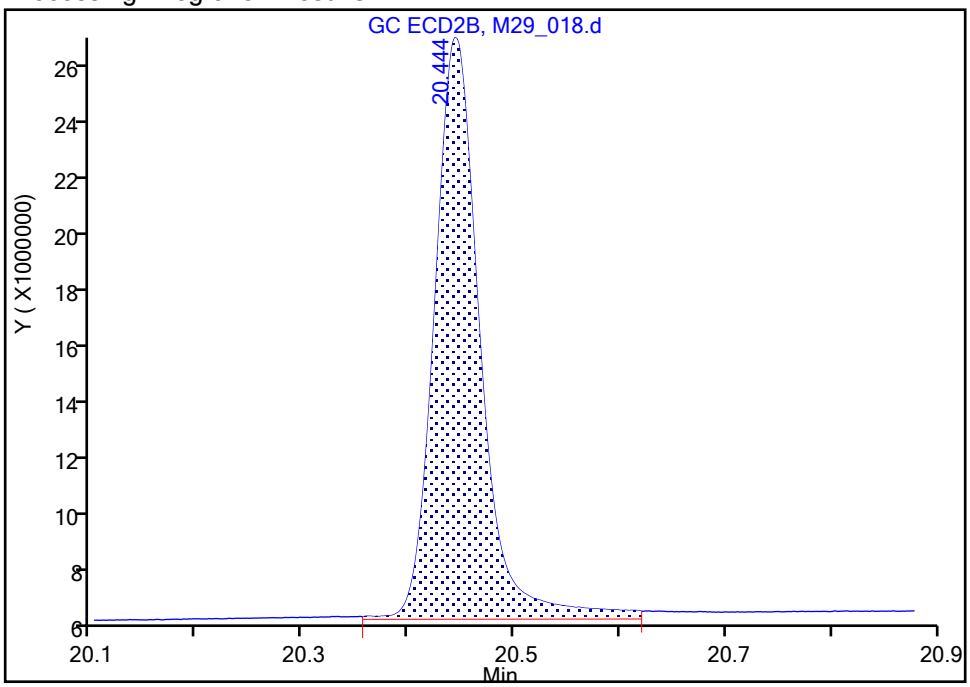

Manual Integration Results

RT: 20.44
Area: 57540296
Amount: 0.025529
Amount Units: ug/ml

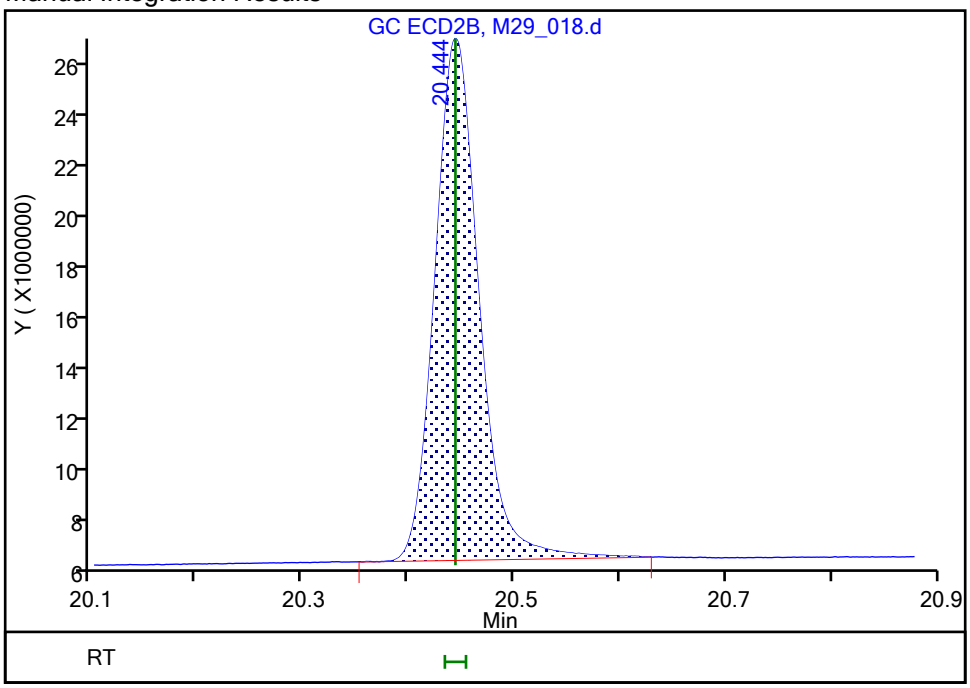

Reviewer: lamj, 30-Jul-2019 10:22:36

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_019.d
Lims ID: icis
Client ID:
Sample Type: ICIS Calib Level: 4
Inject. Date: 30-Jul-2019 03:11:33 ALS Bottle#: 19 Worklist Smp#: 19
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030284-019
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVIPCBCHECD09IS*sub1

Method: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 30-Jul-2019 10:28:31 Calib Date: 30-Jul-2019 04:07:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0337

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.901	6.901	0.000	3361299224	50.0	50.0	
2	7.001	7.001	0.000	1892473718	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	8.836	8.836	0.000	350305160	0.0500	0.0509	
2	9.217	9.217	0.000	177454734	0.0500	0.0521	
						RPD = 2.31	
$ 3 DCB Decachlorobiphenyl							M
1	19.326	19.326	0.000	228538635	0.0500	0.0502	M
2	20.444	20.444	0.000	114387915	0.0500	0.0505	M
						RPD = 0.69	
7 PCB-1016							
1	9.673	9.673	0.000	57111458	0.5000	0.4935	
1	10.417	10.417	0.000	99046530	0.5000	0.4885	
1	11.586	11.586	0.000	90908480	0.5000	0.5084	
1	11.703	11.703	0.000	58942860	0.5000	0.5048	
1	13.178	13.178	0.000	41025118	0.5000	0.5316	
		Average of Peak Amounts =				0.5053	
2	10.305	10.305	0.000	27687967	0.5000	0.5130	
2	11.522	11.522	0.000	15358310	0.5000	0.5078	
2	11.586	11.586	0.000	22770333	0.5000	0.5217	
2	12.259	12.259	0.000	43574274	0.5000	0.5205	
2	12.667	12.667	0.000	24663209	0.5000	0.5303	
		Average of Peak Amounts =				0.5187	
						RPD = 2.60	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 PCB-1260							
1	14.623	14.623	0.000	52847156	0.5000	0.4988	
1	14.908	14.908	0.000	111638087	0.5000	0.4957	
1	15.728	15.728	0.000	71867006	0.5000	0.5115	
1	16.240	16.240	0.000	103052405	0.5000	0.5173	
1	16.683	16.683	0.000	92891317	0.5000	0.5132	
		Average of Peak Amounts =				0.5073	
2	15.524	15.524	0.000	26181256	0.5000	0.5330	
2	15.845	15.845	0.000	54662123	0.5000	0.5128	
2	17.032	17.032	0.000	44820657	0.5000	0.5356	
2	17.126	17.126	0.000	24663675	0.5000	0.5462	
2	17.521	17.521	0.000	45784431	0.5000	0.5194	
		Average of Peak Amounts =				0.5294	
						RPD = 4.27	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

PCBCURVE4I_00022	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 30-Jul-2019 10:28:32 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_019.d				
Injection Date:	30-Jul-2019 03:11:33	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	icis			Worklist Smp#:	19
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	19
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

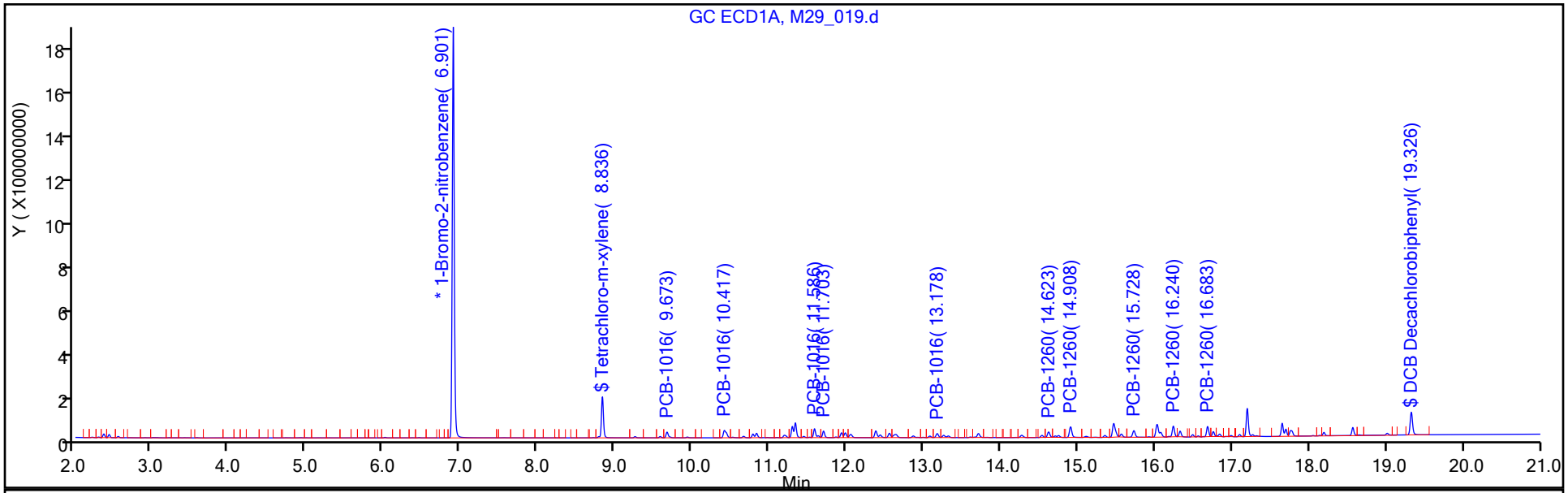

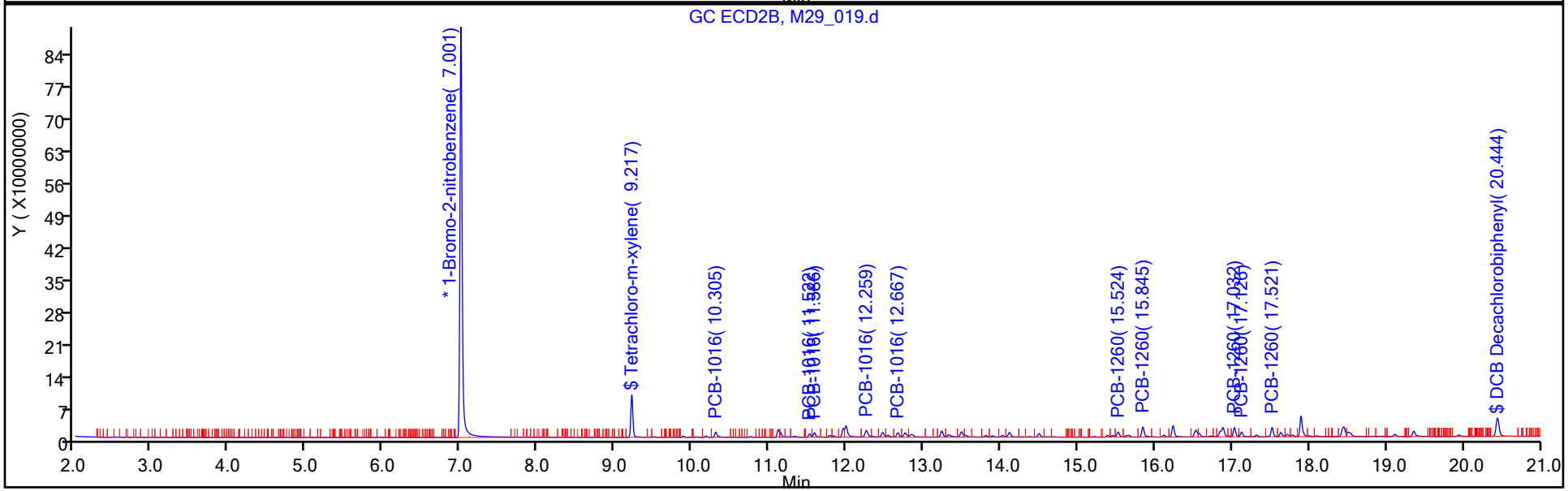

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_019.d				
Injection Date:	30-Jul-2019 03:11:33	Instrument ID:	CHECD09		
Lims ID:	icis				
Client ID:					
Operator ID:	JL	ALS Bottle#:	19	Worklist Smp#:	19
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD2B		

$ 3 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 2

Processing Integration Results

RT: 20.44
Area: 118165704
Amount: 0.050638
Amount Units: ug/ml

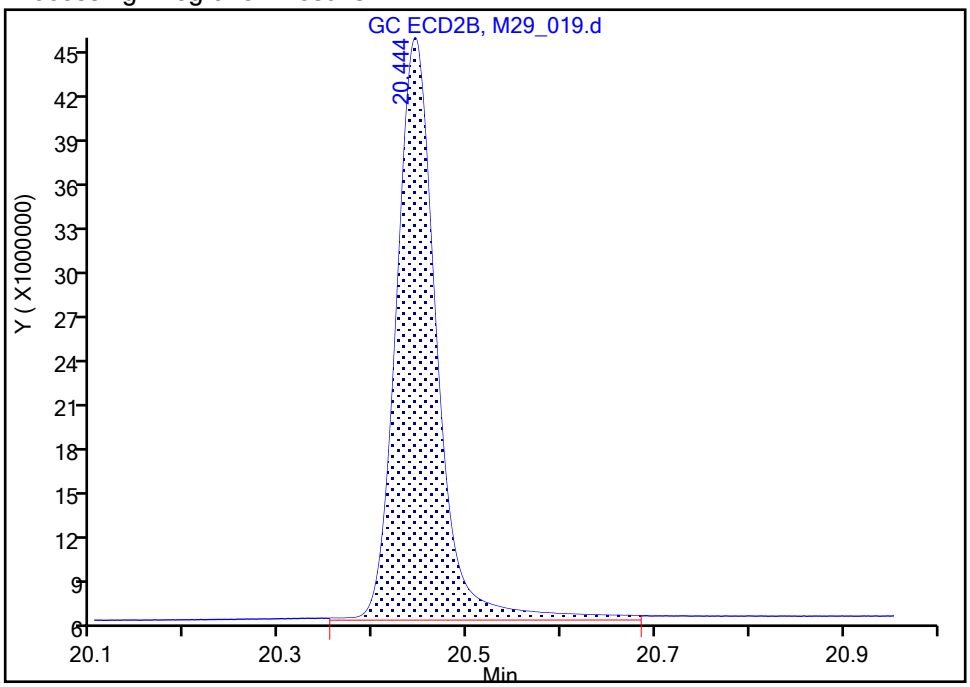

Manual Integration Results

RT: 20.44
Area: 114387915
Amount: 0.050515
Amount Units: ug/ml

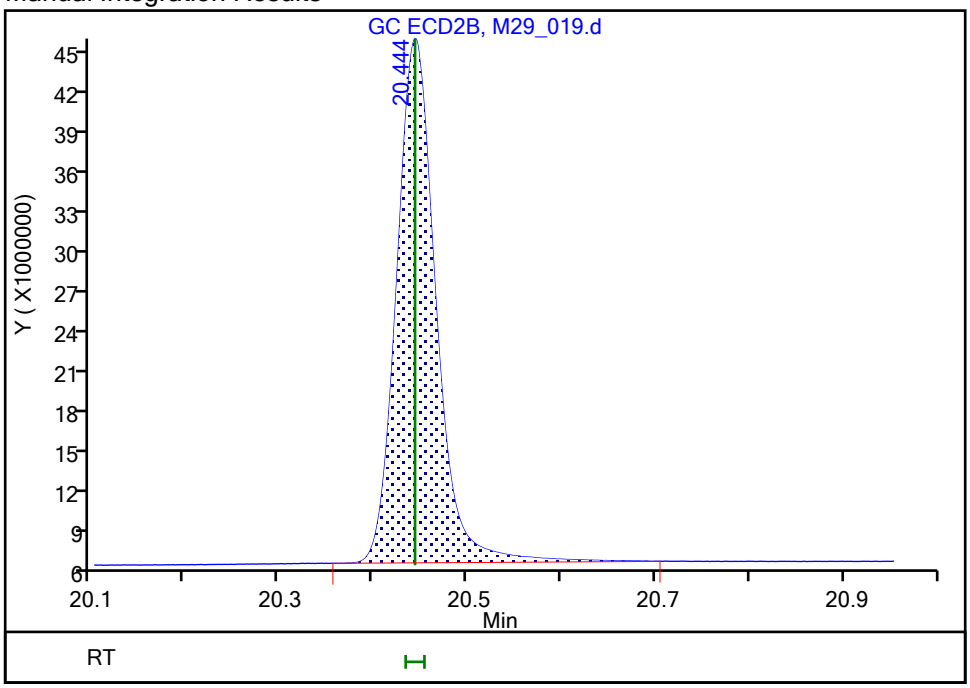

Reviewer: lamj, 30-Jul-2019 10:23:09
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_020.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 30-Jul-2019 03:39:37 ALS Bottle#: 20 Worklist Smp#: 20
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030284-020
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVIPCBCHECD09IS*sub1

Method: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 30-Jul-2019 10:24:28 Calib Date: 30-Jul-2019 04:07:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0337

First Level Reviewer: lamj Date: 30-Jul-2019 10:10:31

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.903	6.901	0.002	3441425258	50.0	50.0	
2	7.003	7.001	0.002	1938013729	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	8.837	8.836	0.001	519358163	0.0750	0.0737	
2	9.218	9.217	0.001	268722798	0.0750	0.0770	
						RPD = 4.41	
$ 3 DCB Decachlorobiphenyl							M
1	19.327	19.326	0.001	335835339	0.0750	0.0720	M
2	20.444	20.444	0.000	168408415	0.0750	0.0726	M
						RPD = 0.86	
7 PCB-1016							
1	9.675	9.673	0.002	81167423	0.7500	0.6850	
1	10.419	10.417	0.002	140808269	0.7500	0.6783	
1	11.587	11.586	0.001	126245604	0.7500	0.6896	
1	11.703	11.703	0.000	80283840	0.7500	0.6715	
1	13.178	13.178	0.000	54613689	0.7500	0.6912	
		Average of Peak Amounts =				0.6831	
2	10.306	10.305	0.001	39861604	0.7500	0.7212	
2	11.522	11.522	0.000	21673151	0.7500	0.6998	
2	11.586	11.586	0.000	31919774	0.7500	0.7141	
2	12.259	12.259	0.000	62622274	0.7500	0.7304	
2	12.668	12.667	0.001	34152010	0.7500	0.7171	
		Average of Peak Amounts =				0.7165	
						RPD = 4.77	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 PCB-1260							
1	14.622	14.623	-0.001	78562334	0.7500	0.7242	
1	14.907	14.908	-0.001	166536022	0.7500	0.7222	
1	15.728	15.728	0.000	107096697	0.7500	0.7444	
1	16.239	16.240	-0.001	155909688	0.7500	0.7644	
1	16.684	16.683	0.001	141412789	0.7500	0.7631	
		Average of Peak Amounts =				0.7437	
2	15.523	15.524	-0.001	36084929	0.7500	0.7174	
2	15.844	15.845	-0.001	79251721	0.7500	0.7260	
2	17.033	17.032	0.001	65641673	0.7500	0.7660	
2	17.126	17.126	0.000	35501291	0.7500	0.7678	
2	17.520	17.521	-0.001	68112361	0.7500	0.7546	
		Average of Peak Amounts =				0.7463	
						RPD = 0.36	
S 13 Polychlorinated biphenyls, Total							
1						1.43	
2						1.46	
						RPD = 2.50	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

PCBCURVE5I_00017	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 30-Jul-2019 10:24:29 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_020.d				
Injection Date:	30-Jul-2019 03:39:37	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	20
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	20
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

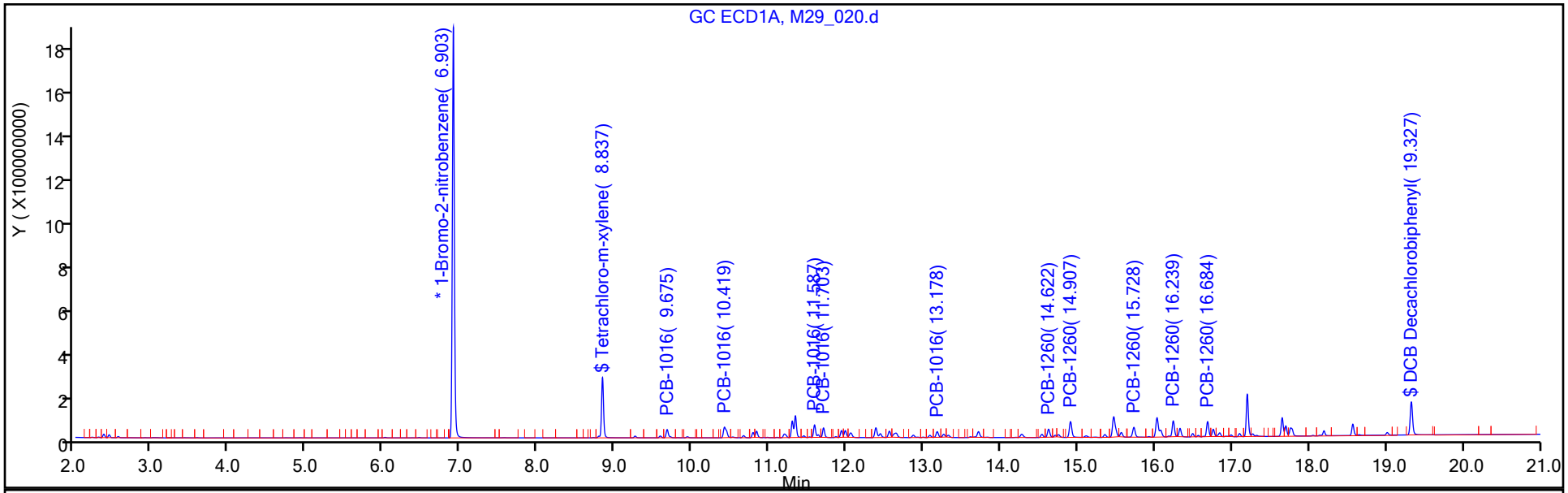

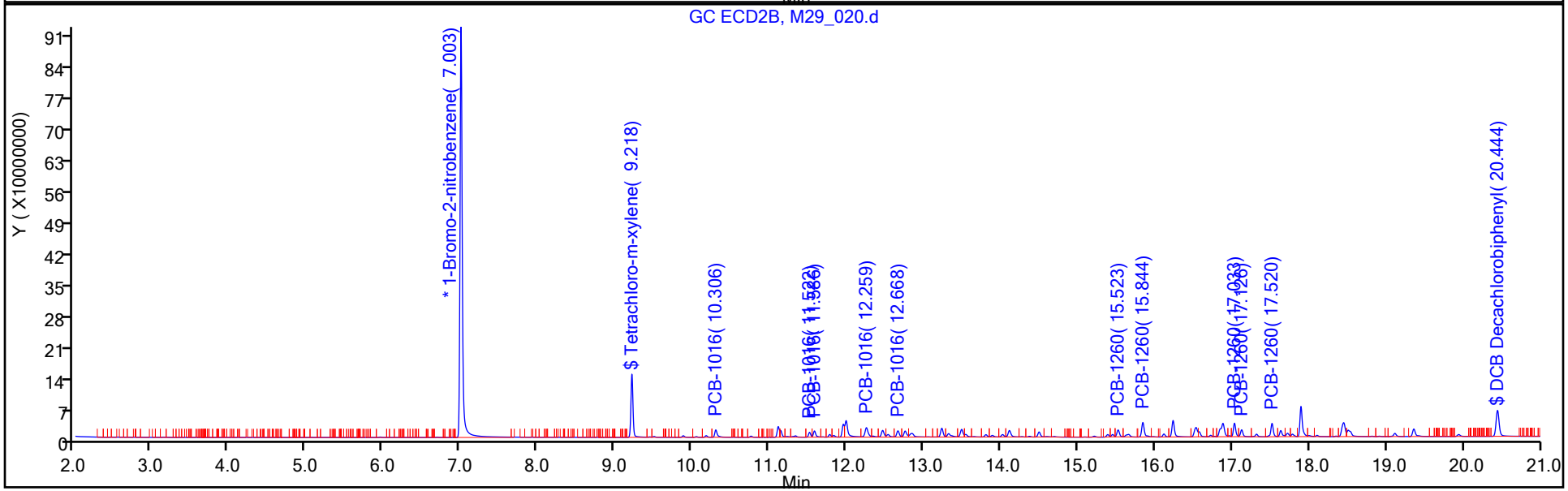

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_020.d				
Injection Date:	30-Jul-2019 03:39:37	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	20	Worklist Smp#:	20
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD2B		

$ 3 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 2

Processing Integration Results

RT: 20.44
Area: 172482981
Amount: 0.073203
Amount Units: ug/ml

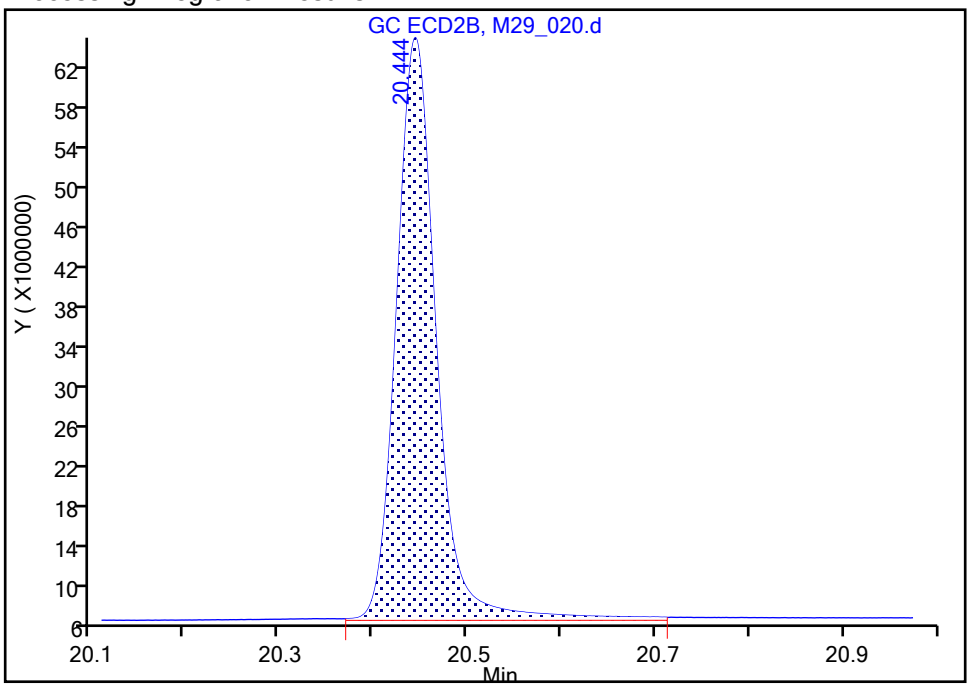

Manual Integration Results

RT: 20.44
Area: 168408415
Amount: 0.072624
Amount Units: ug/ml

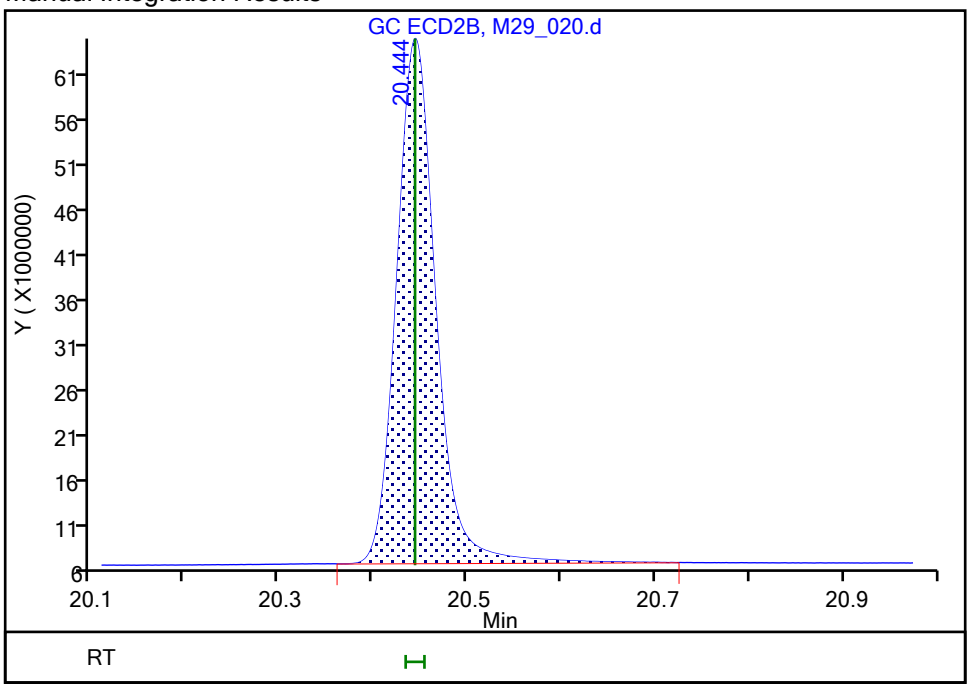

Reviewer: lamj, 30-Jul-2019 10:23:36

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 30-Jul-2019 04:07:48 ALS Bottle#: 21 Worklist Smp#: 21
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030284-021
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVIPCBCHECD09IS*sub1

Method: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 30-Jul-2019 10:24:32 Calib Date: 30-Jul-2019 04:07:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0337

First Level Reviewer: lamj Date: 30-Jul-2019 10:23:54

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.901	6.901	0.000	3443536778	50.0	50.0	
2	7.002	7.001	0.001	1935033196	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	8.836	8.836	0.000	707043332	0.1000	0.1003	
2	9.217	9.217	0.000	372832260	0.1000	0.1070	
						RPD = 6.52	
$ 3 DCB Decachlorobiphenyl							
1	19.327	19.326	0.001	445736962	0.1000	0.0955	
2	20.446	20.444	0.002	218319563	0.1000	0.0943	
						RPD = 1.28	
7 PCB-1016							
1	9.675	9.673	0.002	108023479	1.00	0.9111	
1	10.418	10.417	0.001	190586567	1.00	0.9175	
1	11.586	11.586	0.000	177995717	1.00	0.9717	
1	11.703	11.703	0.000	115634657	1.00	0.9666	
1	13.176	13.178	-0.002	79408377	1.00	1.00	
		Average of Peak Amounts =				0.9543	
2	10.306	10.305	0.001	55986705	1.00	1.01	
2	11.522	11.522	0.000	30405732	1.00	0.9833	
2	11.586	11.586	0.000	44653015	1.00	1.00	
2	12.259	12.259	0.000	86547578	1.00	1.01	
2	12.668	12.667	0.001	47861819	1.00	1.01	
		Average of Peak Amounts =				1.00	
						RPD = 5.00	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 PCB-1260							
1	14.621	14.623	-0.002	102091815	1.00	0.9406	
1	14.907	14.908	-0.001	212705982	1.00	0.9218	
1	15.728	15.728	0.000	135026511	1.00	0.9380	
1	16.240	16.240	0.000	198043605	1.00	0.9704	
1	16.685	16.683	0.002	176798380	1.00	0.9535	
		Average of Peak Amounts =				0.9449	
2	15.525	15.524	0.001	50469023	1.00	1.00	
2	15.846	15.845	0.001	105201018	1.00	0.9652	
2	17.035	17.032	0.003	85234807	1.00	1.00	
2	17.127	17.126	0.001	48024468	1.00	1.04	
2	17.521	17.521	0.000	87225064	1.00	0.9678	
		Average of Peak Amounts =				0.99	
						RPD = 5.16	
S 13 Polychlorinated biphenyls, Total							
1						1.90	
2						2.00	
						RPD = 5.08	

Reagents:

PCBCURVE6I_00017	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 30-Jul-2019 10:24:33 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d				
Injection Date:	30-Jul-2019 04:07:48	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	21
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	21
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

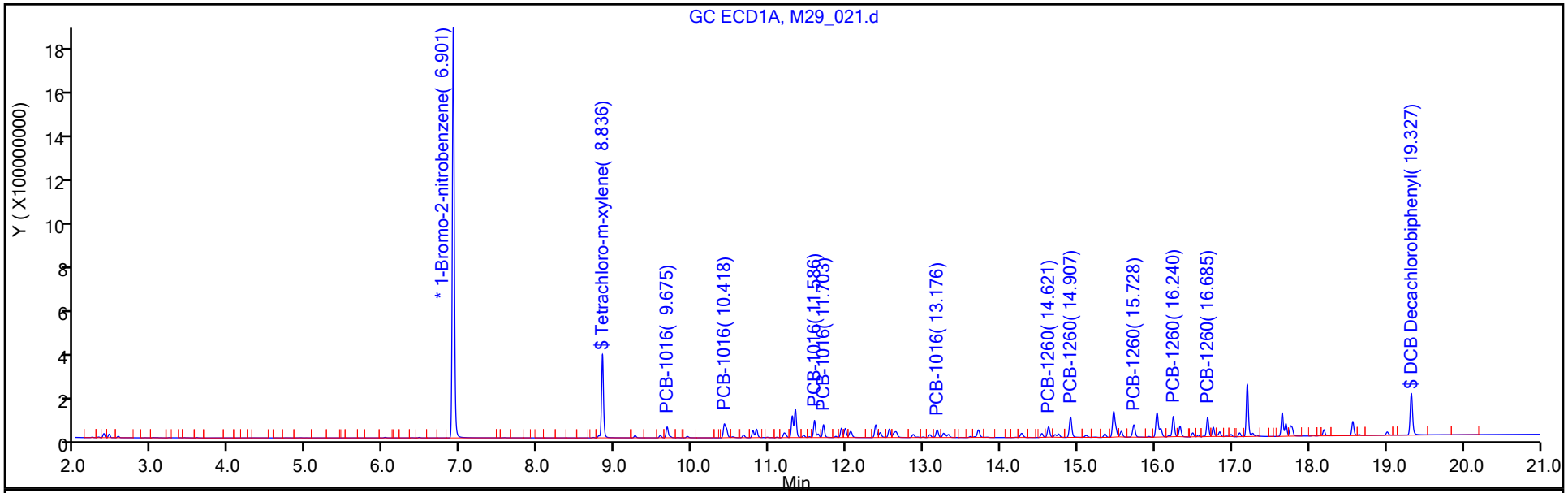

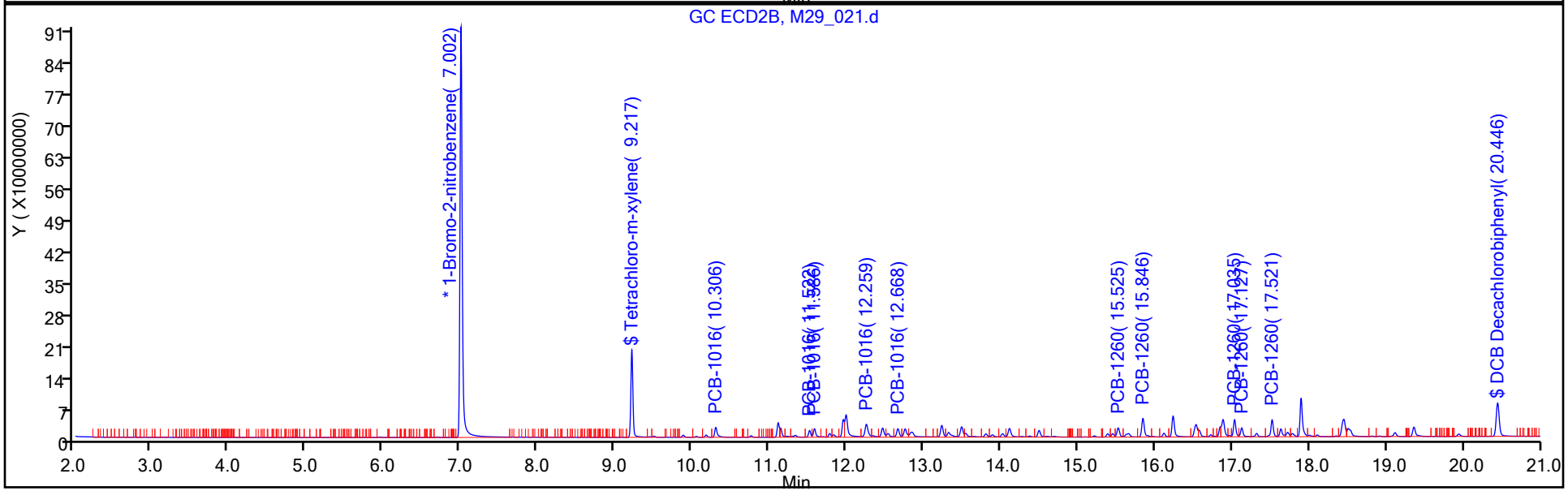

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab Sample ID: CCVIS 600-275246/2 Calibration Date: 09/19/2019 15:55

Instrument ID: CHECD09 Calib Start Date: 07/30/2019 01:47

GC Column: RTX-CLP1 ID: 0.32(mm) Calib End Date: 07/30/2019 04:07

Lab File ID: L19_017.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Tetrachloro-m-xylene	Ave	102.4	104.6		51.1	50.0	2.2	20.0
DCB Decachlorobiphenyl	Ave	67.77	79.92		59.0	50.0	17.9	20.0

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab Sample ID: CCVIS 600-275246/2 Calibration Date: 09/19/2019 15:55

Instrument ID: CHECD09 Calib Start Date: 07/30/2019 01:47

GC Column: RTX-CLP1 ID: 0.32(mm) Calib End Date: 07/30/2019 04:07

Lab File ID: L19_017.d

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	9.63	9.62	9.64
PCB-1016 Peak 2	10.37	10.36	10.38
PCB-1016 Peak 3	11.54	11.53	11.55
PCB-1016 Peak 4	11.65	11.64	11.66
PCB-1016 Peak 5	13.11	13.10	13.12
PCB-1260 Peak 1	14.55	14.54	14.56
PCB-1260 Peak 2	14.84	14.83	14.85
PCB-1260 Peak 3	15.66	15.65	15.67
PCB-1260 Peak 4	16.17	16.16	16.18
PCB-1260 Peak 5	16.62	16.61	16.63
Tetrachloro-m-xylene	8.80	8.79	8.81
DCB Decachlorobiphenyl	19.26	19.25	19.27

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_017.d
Lims ID: ccvis
Client ID:
Sample Type: CCVIS
Inject. Date: 19-Sep-2019 15:55:47 ALS Bottle#: 17 Worklist Smp#: 2
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031198-002
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVIPCBCHECD09IS*sub1

Method: \\chromna\Houston\ChromData\CHECD09\20190919-31198.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 20-Sep-2019 10:43:36 Calib Date: 30-Jul-2019 04:07:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0334

First Level Reviewer: lamj Date: 19-Sep-2019 16:22:59

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							M
1	6.864	6.864	0.000	4573833092	50.0	50.0	M
2	6.921	6.921	0.000	2999966307	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	8.795	8.795	0.000	478403964	0.0500	0.0511	
2	9.128	9.128	0.000	285589830	0.0500	0.0529	
						RPD = 3.46	
$ 3 DCB Decachlorobiphenyl							M
1	19.260	19.260	0.000	365527847	0.0500	0.0590	
2	20.319	20.319	0.000	245779780	0.0500	0.0685	M
						RPD = 14.92	
7 PCB-1016							M
1	9.633	9.633	0.000	76311059	0.5000	0.4846	
1	10.369	10.369	0.000	122103906	0.5000	0.4426	M
1	11.536	11.536	0.000	105474332	0.5000	0.4335	M
1	11.654	11.654	0.000	75534030	0.5000	0.4754	M
1	13.108	13.108	0.000	47533290	0.5000	0.4527	M
		Average of Peak Amounts =				0.4577	
2	10.214	10.214	0.000	40478507	0.5000	0.4731	
2	11.424	11.424	0.000	20295568	0.5000	0.4233	
2	11.487	11.487	0.000	29054942	0.5000	0.4199	
2	12.154	12.154	0.000	62090848	0.5000	0.4678	
2	12.553	12.553	0.000	31488228	0.5000	0.4271	
		Average of Peak Amounts =				0.4423	
						RPD = 3.43	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 PCB-1260							M
1	14.552	14.552	0.000	65448938	0.5000	0.4540	M
1	14.837	14.837	0.000	122246622	0.5000	0.3989	M
1	15.660	15.660	0.000	87498990	0.5000	0.4576	M
1	16.173	16.173	0.000	142451746	0.5000	0.5255	M
1	16.621	16.621	0.000	101891772	0.5000	0.4137	
		Average of Peak Amounts =				0.4499	
2	15.407	15.407	0.000	37893997	0.5000	0.4867	
2	15.730	15.730	0.000	80857015	0.5000	0.4785	
2	16.935	16.935	0.000	74309533	0.5000	0.5602	
2	17.029	17.029	0.000	38863952	0.5000	0.5430	
2	17.426	17.426	0.000	80060150	0.5000	0.5730	
		Average of Peak Amounts =				0.5283	
						RPD = 16.01	
43 1260 Res 1							Ma
1	17.597	17.597	0.000	132713784	NR	NR	M
2	18.359	18.359	0.000	134088488	NR	NR	a
41 1260 Res 2							Ma
1	17.640	17.640	0.000	72948877	NR	NR	M
2	18.417	18.417	0.000	70929338	NR	NR	a
42 1260 Res 3							
1	17.710	17.710	0.000	83623469	NR	NR	
2	18.539	18.539	0.000	2017392	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard
Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

PCBCURVE4I_00022	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 20-Sep-2019 10:43:37 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_017.d				
Injection Date:	19-Sep-2019 15:55:47	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ccvis			Worklist Smp#:	2
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	17
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

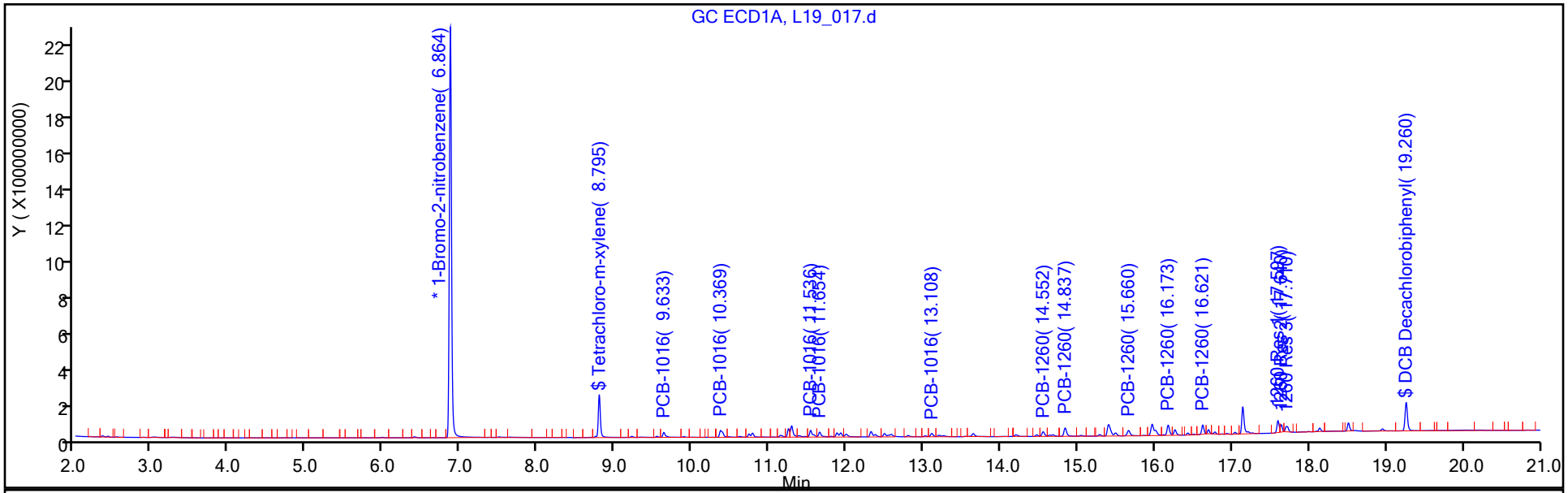

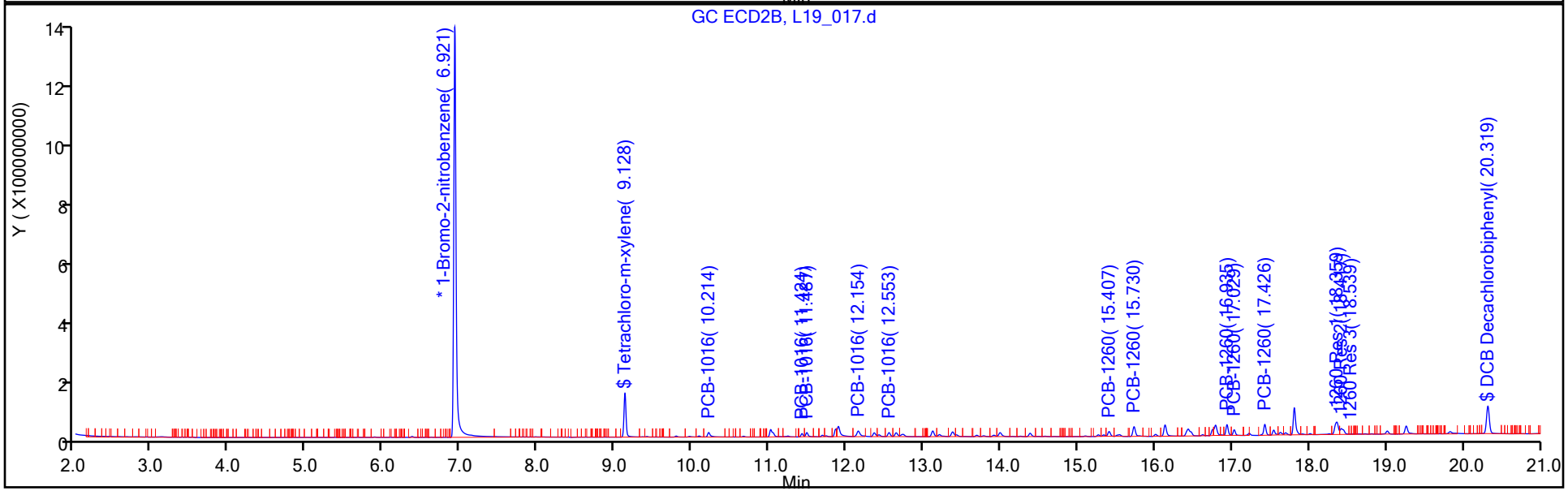

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_017.d				
Injection Date:	19-Sep-2019 15:55:47	Instrument ID:	CHECD09		
Lims ID:	ccvis				
Client ID:					
Operator ID:	JL	ALS Bottle#:	17	Worklist Smp#:	2
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD1A		

* 1 1-Bromo-2-nitrobenzene, CAS: 577-19-5

Signal: 1

Processing Integration Results

RT: 6.86
Area: 4584426225
Amount: 50.000000
Amount Units: ug/ml

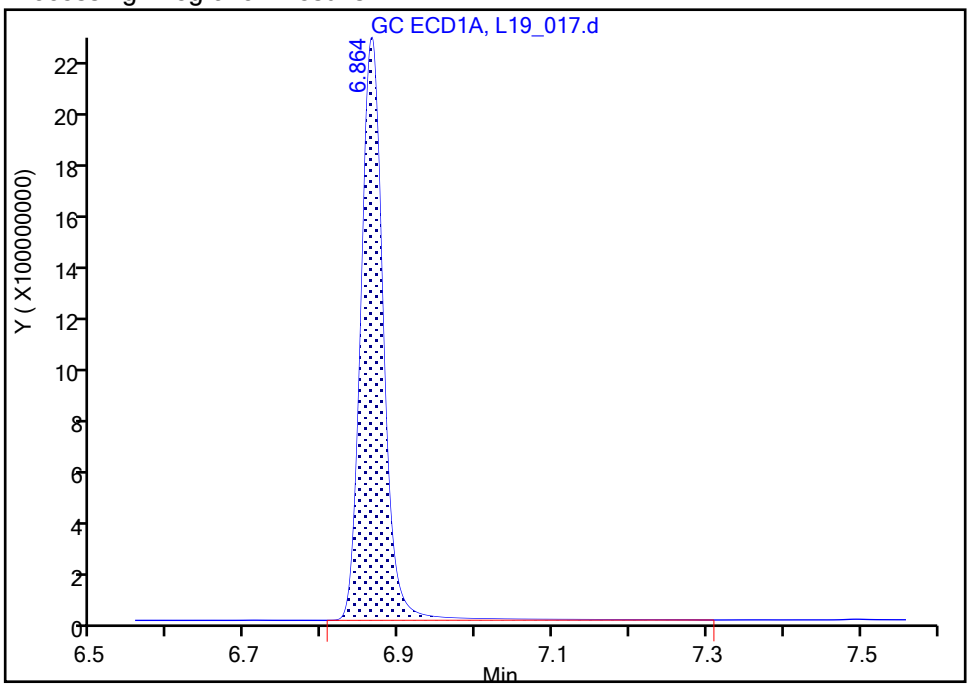

Manual Integration Results

RT: 6.86
Area: 4573833092
Amount: 50.000000
Amount Units: ug/ml

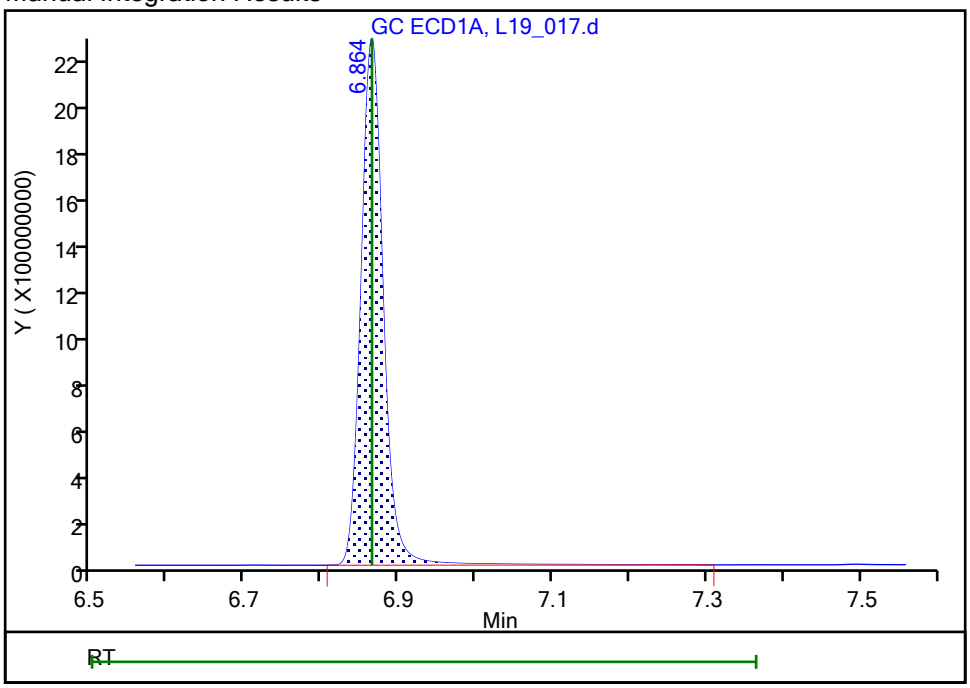

Reviewer: lamj, 19-Sep-2019 16:23:26

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Report Date: 20-Sep-2019 10:43:38 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File: \\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_017.d
Injection Date: 19-Sep-2019 15:55:47 Instrument ID: CHECD09
Lims ID: ccvis
Client ID:
Operator ID: JL ALS Bottle#: 17 Worklist Smp#: 2
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Method: LVIPCBCHECD09IS Limit Group: GCSV - 8082
Column: Detector GC ECD1A

7 PCB-1016, CAS: 12674-11-2

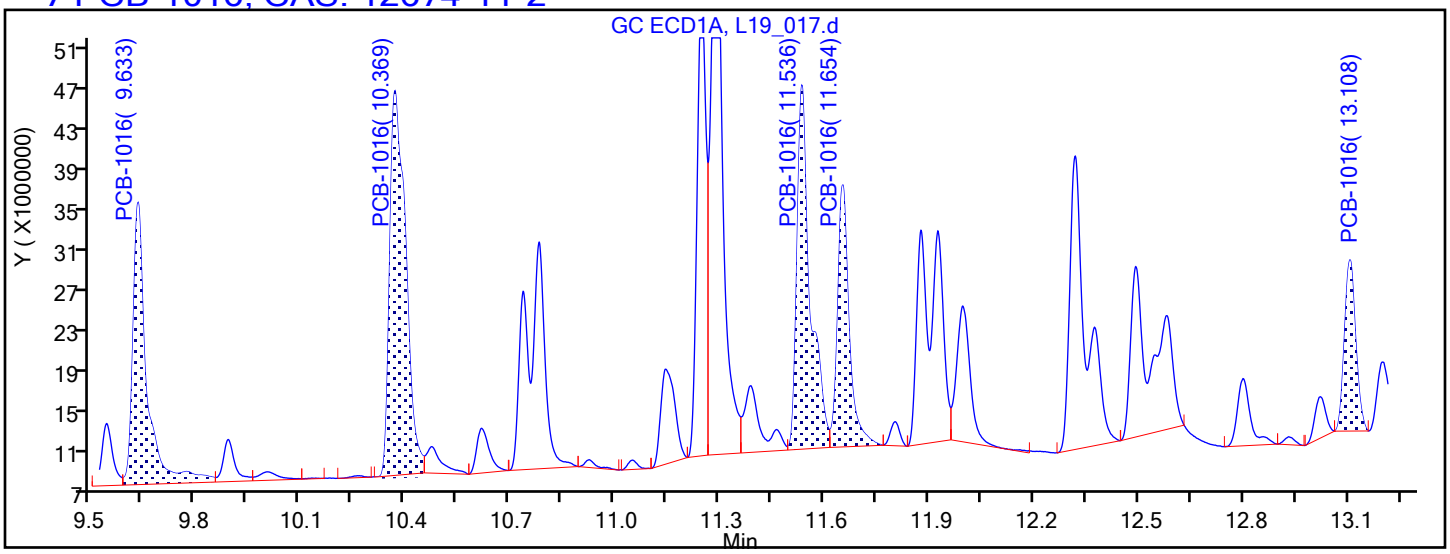

Processing Integration Results

9.633	Response = 76311059
10.369	Response = 119480769
11.536	Response = 93541086
11.654	Response = 59570508
13.108	Response = 37465157

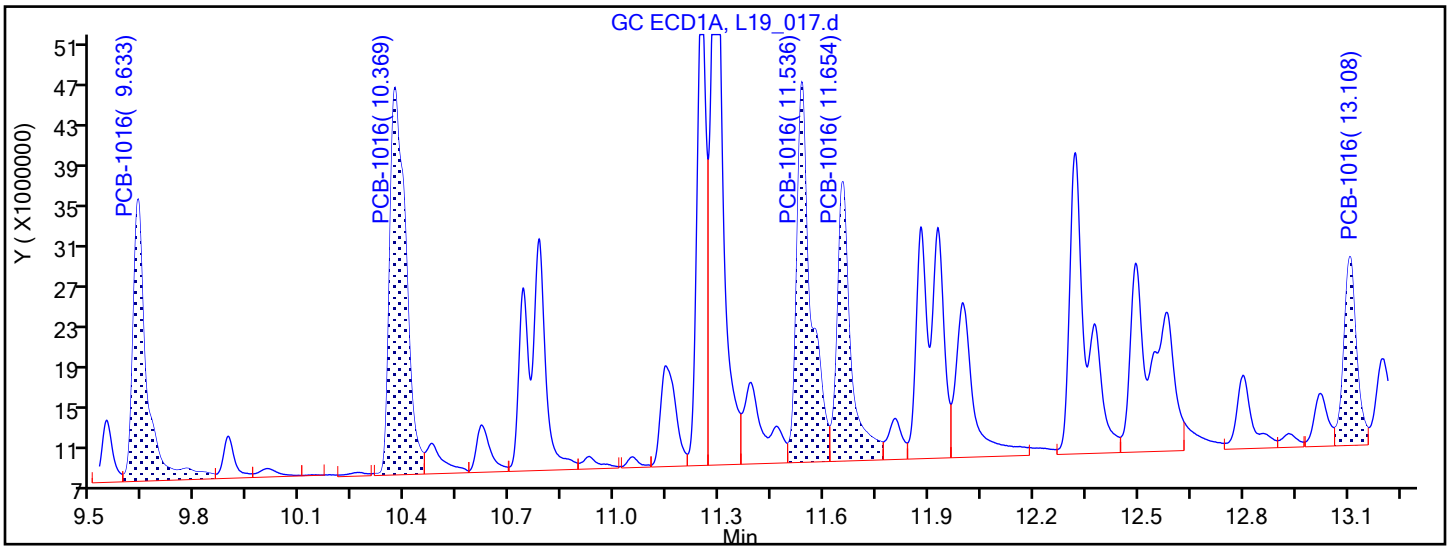

Manual Integration Results

9.633	Response = 76311059	
10.369	Response = 122103906	M
11.536	Response = 105474332	M
11.654	Response = 75534030	M
13.108	Response = 47533290	M

Reviewer: lamj, 19-Sep-2019 16:23:56

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Report Date: 20-Sep-2019 10:43:38 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File: \\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_017.d
Injection Date: 19-Sep-2019 15:55:47 Instrument ID: CHECD09
Lims ID: ccvis
Client ID:
Operator ID: JL ALS Bottle#: 17 Worklist Smp#: 2
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Method: LVIPCBCHECD09IS Limit Group: GCSV - 8082
Column: Detector GC ECD1A

10 PCB-1260, CAS: 11096-82-5

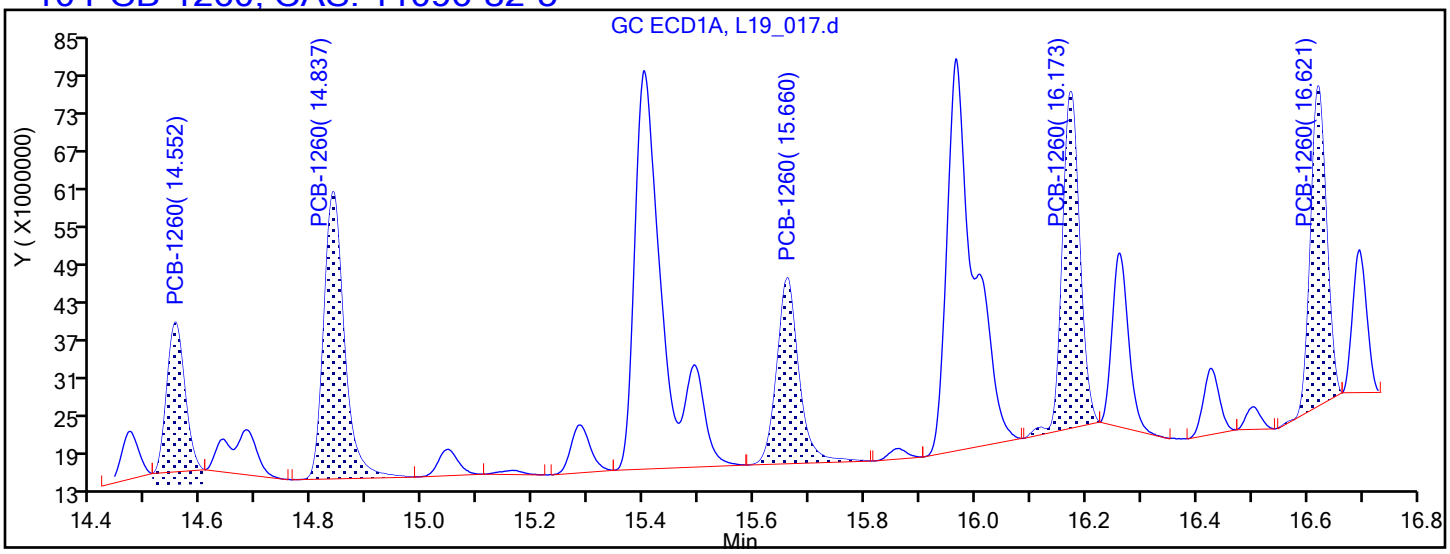

Processing Integration Results

14.552	Response = 53649177
14.837	Response = 117467972
15.660	Response = 81740312
16.173	Response = 116907370
16.621	Response = 101891772

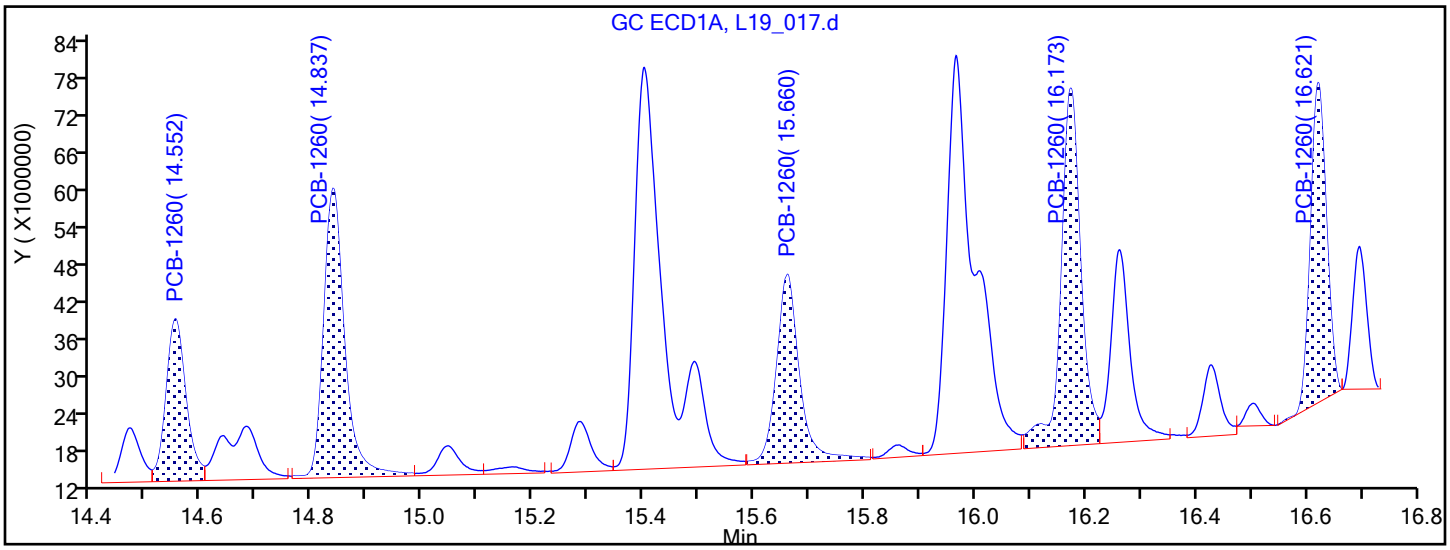

Manual Integration Results

14.552	Response = 65448938	M
14.837	Response = 122246622	M
15.660	Response = 87498990	M
16.173	Response = 142451746	M
16.621	Response = 101891772	

Reviewer: lamj, 19-Sep-2019 16:23:38
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab Sample ID: CCVIS 600-275246/2 Calibration Date: 09/19/2019 15:55

Instrument ID: CHECD09 Calib Start Date: 07/30/2019 01:47

GC Column: RTX-CLP2 ID: 0.32(mm) Calib End Date: 07/30/2019 04:07

Lab File ID: L19_017.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Tetrachloro-m-xylene	Ave	90.00	95.20		52.9	50.0	5.8	20.0
DCB Decachlorobiphenyl	Ave	59.83	81.93		68.5	50.0	36.9*	20.0

FORM VII 8082

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab Sample ID: CCVIS 600-275246/2 Calibration Date: 09/19/2019 15:55

Instrument ID: CHECD09 Calib Start Date: 07/30/2019 01:47

GC Column: RTX-CLP2 ID: 0.32(mm) Calib End Date: 07/30/2019 04:07

Lab File ID: L19_017.d

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	10.21	10.20	10.22
PCB-1016 Peak 2	11.42	11.41	11.43
PCB-1016 Peak 3	11.49	11.48	11.50
PCB-1016 Peak 4	12.15	12.14	12.16
PCB-1016 Peak 5	12.55	12.54	12.56
PCB-1260 Peak 1	15.41	15.40	15.42
PCB-1260 Peak 2	15.73	15.72	15.74
PCB-1260 Peak 3	16.94	16.93	16.95
PCB-1260 Peak 4	17.03	17.02	17.04
PCB-1260 Peak 5	17.43	17.42	17.44
Tetrachloro-m-xylene	9.13	9.12	9.14
DCB Decachlorobiphenyl	20.32	20.31	20.33

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_017.d
Lims ID: ccvis
Client ID:
Sample Type: CCVIS
Inject. Date: 19-Sep-2019 15:55:47 ALS Bottle#: 17 Worklist Smp#: 2
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031198-002
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVIPCBCHECD09IS*sub1

Method: \\chromna\Houston\ChromData\CHECD09\20190919-31198.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 20-Sep-2019 10:43:36 Calib Date: 30-Jul-2019 04:07:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0334

First Level Reviewer: lamj Date: 19-Sep-2019 16:22:59

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							M
1	6.864	6.864	0.000	4573833092	50.0	50.0	M
2	6.921	6.921	0.000	2999966307	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	8.795	8.795	0.000	478403964	0.0500	0.0511	
2	9.128	9.128	0.000	285589830	0.0500	0.0529	
						RPD = 3.46	
$ 3 DCB Decachlorobiphenyl							M
1	19.260	19.260	0.000	365527847	0.0500	0.0590	
2	20.319	20.319	0.000	245779780	0.0500	0.0685	M
						RPD = 14.92	
7 PCB-1016							M
1	9.633	9.633	0.000	76311059	0.5000	0.4846	
1	10.369	10.369	0.000	122103906	0.5000	0.4426	M
1	11.536	11.536	0.000	105474332	0.5000	0.4335	M
1	11.654	11.654	0.000	75534030	0.5000	0.4754	M
1	13.108	13.108	0.000	47533290	0.5000	0.4527	M
		Average of Peak Amounts =				0.4577	
2	10.214	10.214	0.000	40478507	0.5000	0.4731	
2	11.424	11.424	0.000	20295568	0.5000	0.4233	
2	11.487	11.487	0.000	29054942	0.5000	0.4199	
2	12.154	12.154	0.000	62090848	0.5000	0.4678	
2	12.553	12.553	0.000	31488228	0.5000	0.4271	
		Average of Peak Amounts =				0.4423	
						RPD = 3.43	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 PCB-1260							M
1	14.552	14.552	0.000	65448938	0.5000	0.4540	M
1	14.837	14.837	0.000	122246622	0.5000	0.3989	M
1	15.660	15.660	0.000	87498990	0.5000	0.4576	M
1	16.173	16.173	0.000	142451746	0.5000	0.5255	M
1	16.621	16.621	0.000	101891772	0.5000	0.4137	
		Average of Peak Amounts =				0.4499	
2	15.407	15.407	0.000	37893997	0.5000	0.4867	
2	15.730	15.730	0.000	80857015	0.5000	0.4785	
2	16.935	16.935	0.000	74309533	0.5000	0.5602	
2	17.029	17.029	0.000	38863952	0.5000	0.5430	
2	17.426	17.426	0.000	80060150	0.5000	0.5730	
		Average of Peak Amounts =				0.5283	
						RPD = 16.01	
43 1260 Res 1							Ma
1	17.597	17.597	0.000	132713784	NR	NR	M
2	18.359	18.359	0.000	134088488	NR	NR	a
41 1260 Res 2							Ma
1	17.640	17.640	0.000	72948877	NR	NR	M
2	18.417	18.417	0.000	70929338	NR	NR	a
42 1260 Res 3							
1	17.710	17.710	0.000	83623469	NR	NR	
2	18.539	18.539	0.000	2017392	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard
Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

PCBCURVE4I_00022	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 20-Sep-2019 10:43:39 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_017.d				
Injection Date:	19-Sep-2019 15:55:47	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ccvis			Worklist Smp#:	2
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	17
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

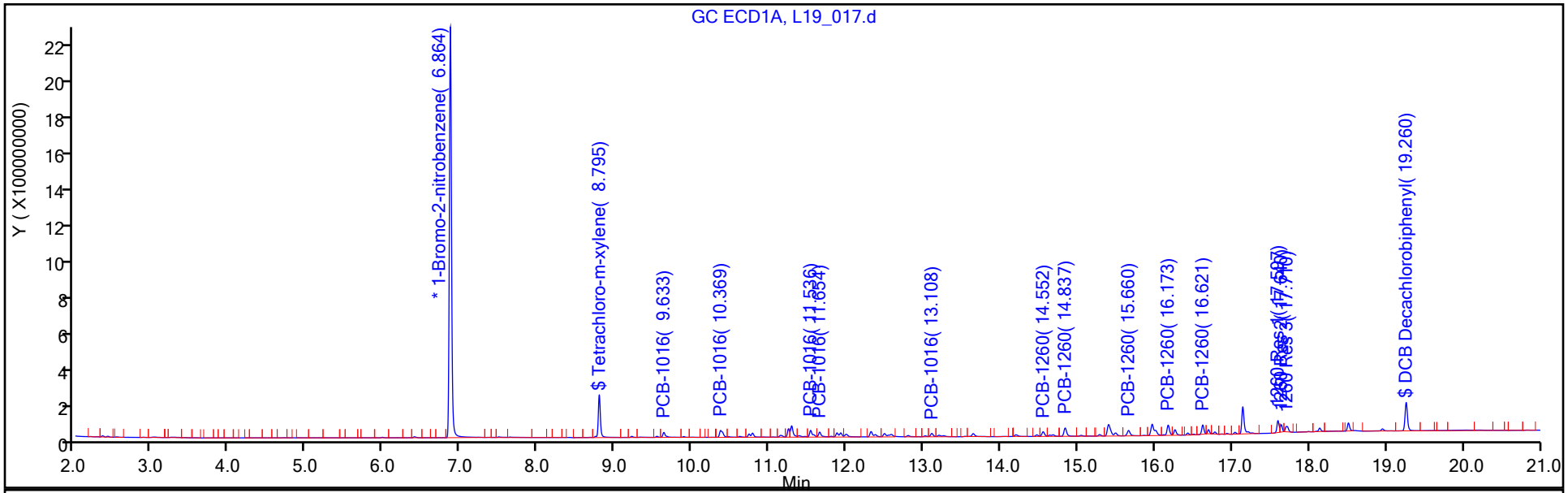

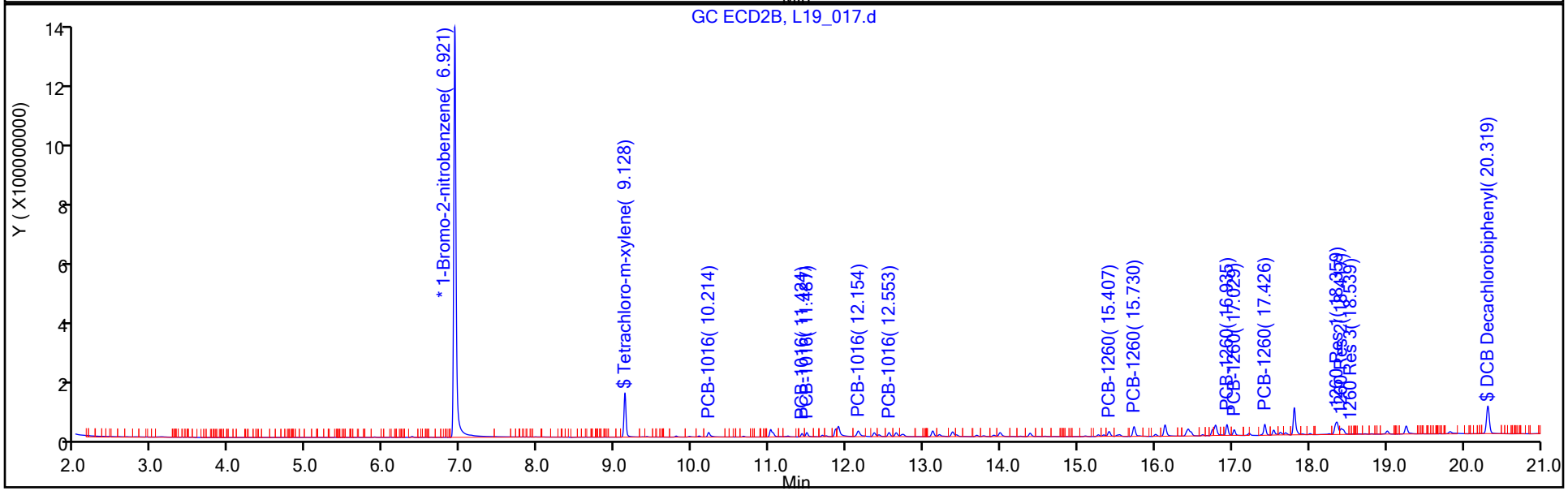

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_017.d				
Injection Date:	19-Sep-2019 15:55:47	Instrument ID:	CHECD09		
Lims ID:	ccvis				
Client ID:					
Operator ID:	JL	ALS Bottle#:	17	Worklist Smp#:	2
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD2B		

$ 3 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 2

Processing Integration Results

RT: 20.32
Area: 258240093
Amount: 0.071942
Amount Units: ug/ml

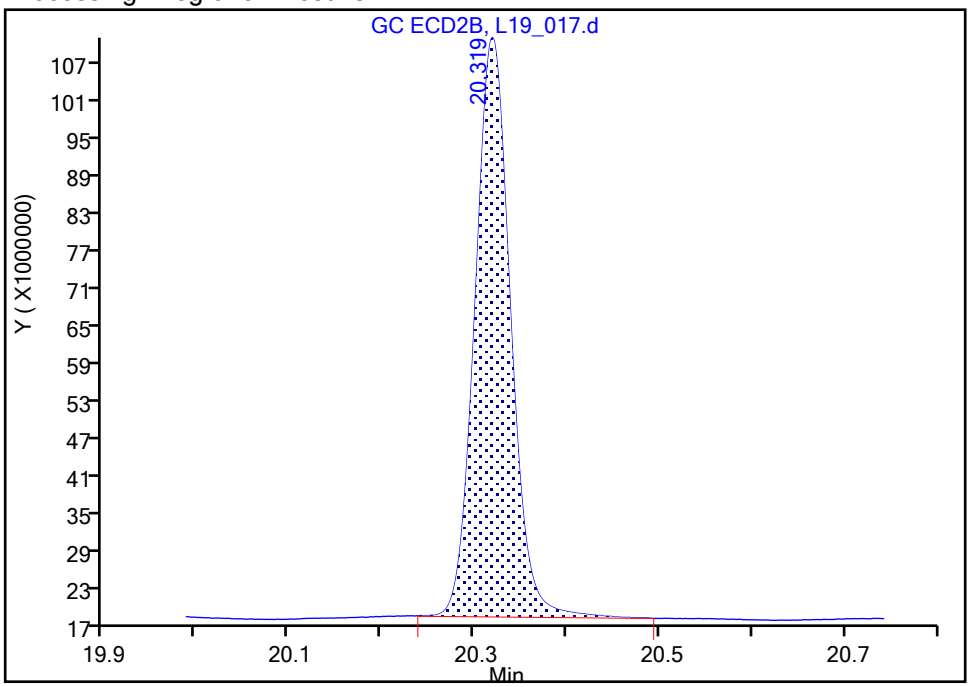

Manual Integration Results

RT: 20.32
Area: 245779780
Amount: 0.068470
Amount Units: ug/ml

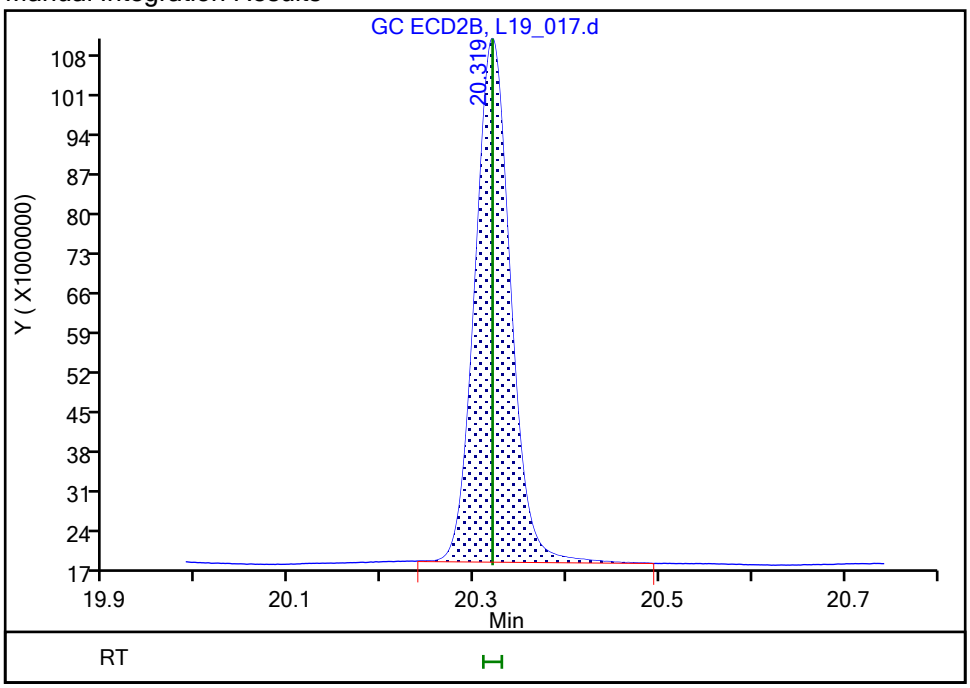

Reviewer: lamj, 19-Sep-2019 16:25:11
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-191956-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 600-275087/1-A
Matrix: Water
Lab File ID: L19_024.d
Analysis Method: 8082
Date Collected:
Extraction Method: 3510C
Date Extracted: 09/18/2019 11:20
Sample wt/vol: 250(mL)
Date Analyzed: 09/19/2019 19:12
Con. Extract Vol.: 5.0(mL)
Dilution Factor: 1
Injection Volume: 5(uL)
GC Column: RTX-CLP1 ID: 0.32(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 275246
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
12674-11-2	PCB-1016	ND		1.0	0.54
11104-28-2	PCB-1221	ND		1.0	0.44
11141-16-5	PCB-1232	ND		1.0	0.12
53469-21-9	PCB-1242	ND		1.0	0.16
12672-29-6	PCB-1248	ND		1.0	0.20
11097-69-1	PCB-1254	ND		1.0	0.14
11096-82-5	PCB-1260	ND		1.0	0.34

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene	92		32-150
2051-24-3	DCB Decachlorobiphenyl	113		26-130

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_024.d
Lims ID: MB 600-275087/1-A
Client ID:
Sample Type: MB
Inject. Date: 19-Sep-2019 19:12:49 ALS Bottle#: 24 Worklist Smp#: 9
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031198-009
Operator ID: JL Instrument ID: CHECD09

Method: \\chromna\Houston\ChromData\CHECD09\20190919-31198.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 20-Sep-2019 10:43:36 Calib Date: 30-Jul-2019 04:07:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0334

First Level Reviewer: lamj Date: 20-Sep-2019 10:39:52

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.865	6.864	0.001	3507616646	50.0	50.0	
2	6.922	6.921	0.001	2259433081	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	8.794	8.795	-0.001	131914918	0.0200	0.0184	
2	9.127	9.128	-0.001	78220809	0.0200	0.0192	
						RPD = 4.60	
$ 3 DCB Decachlorobiphenyl							M
1	19.262	19.260	0.002	107500884	0.0200	0.0226	M
2	20.323	20.319	0.004	73153479	0.0200	0.0271	M
						RPD = 17.90	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

PST_IS 2_00063 Amount Added: 1.00 Units: mL Run Reagent

Report Date: 20-Sep-2019 10:43:52 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_024.d				
Injection Date:	19-Sep-2019 19:12:49	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	MB 600-275087/1-A			Worklist Smp#:	9
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	24
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

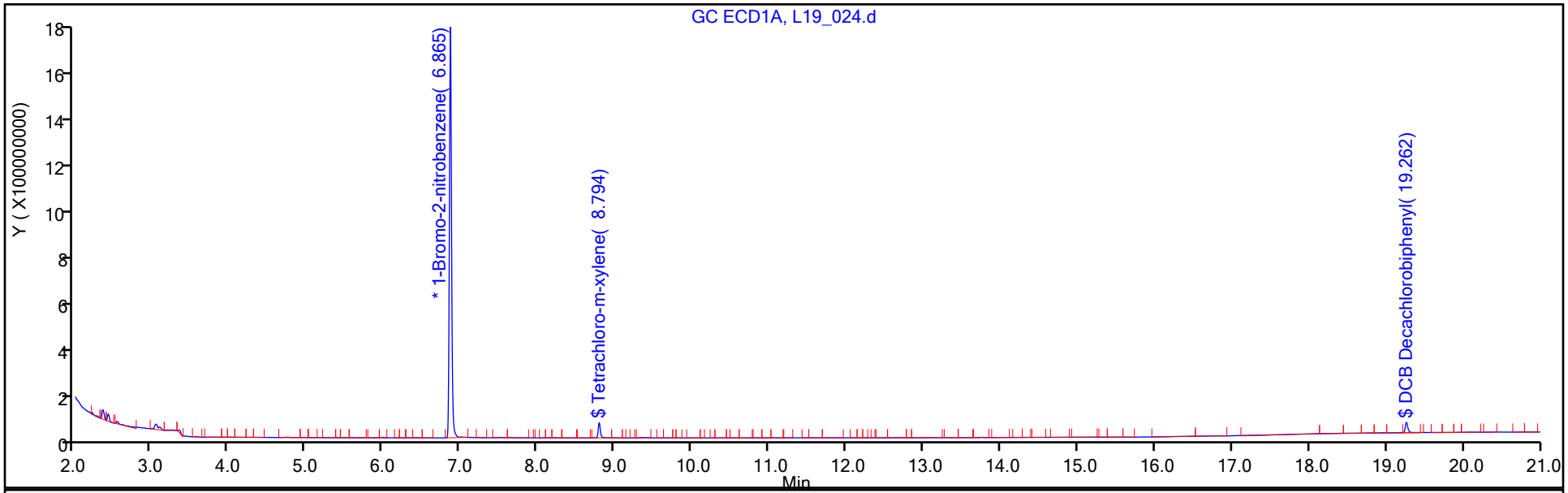

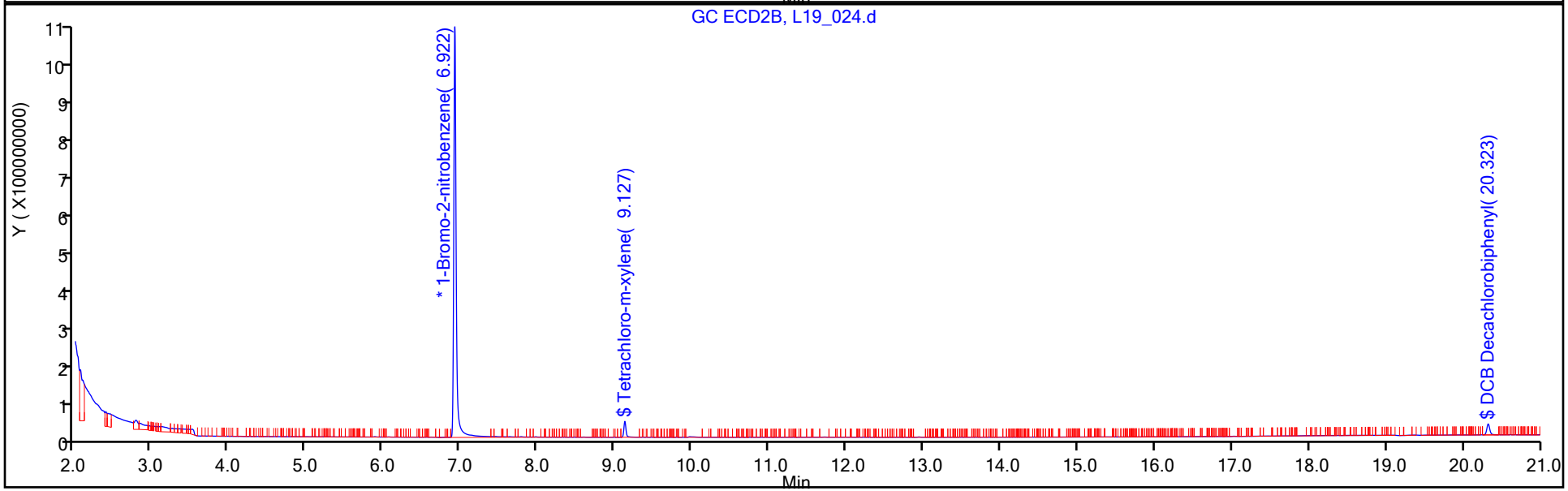

Eurofins TestAmerica, Houston
Recovery Report

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_024.d				
Lims ID:	MB 600-275087/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	19-Sep-2019 19:12:49	ALS Bottle#:	24	Worklist Smp#:	9
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Sample Info:	600-0031198-009				
Operator ID:	JL	Instrument ID:	CHECD09		
Method:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\LVIPCBCHECD09IS.m				
Limit Group:	GCSV - 8082				
Last Update:	20-Sep-2019 10:43:36	Calib Date:	30-Jul-2019 04:07:48		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d				
Column 1 :			Det: GC ECD1A		
Column 2 :			Det: GC ECD2B		
Process Host:	CTX0334				
First Level Reviewer: lamj		Date:	20-Sep-2019 10:39:52		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0184	91.84
$ 3 DCB Decachlorobiphenyl	0.0200	0.0226	113.07

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0192	96.17
$ 3 DCB Decachlorobiphenyl	0.0200	0.0271	135.29

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_024.d				
Injection Date:	19-Sep-2019 19:12:49	Instrument ID:	CHECD09		
Lims ID:	MB 600-275087/1-A				
Client ID:					
Operator ID:	JL	ALS Bottle#:	24	Worklist Smp#:	9
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD1A		

$ 3 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

Processing Integration Results

RT: 19.26
Area: 133596291
Amount: 0.028102
Amount Units: ug/ml

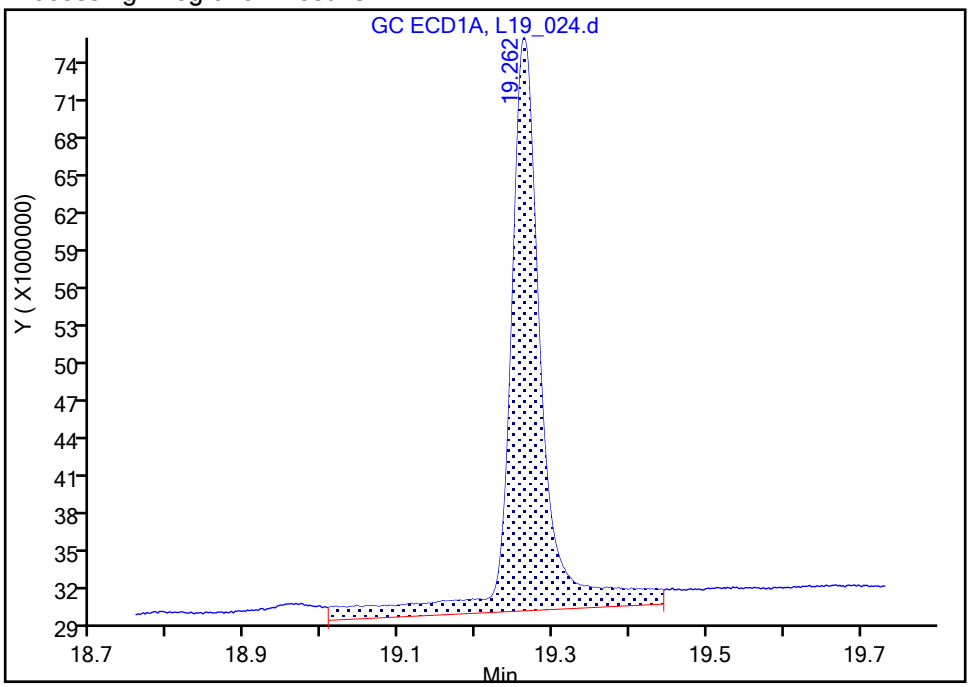

Manual Integration Results

RT: 19.26
Area: 107500884
Amount: 0.022613
Amount Units: ug/ml

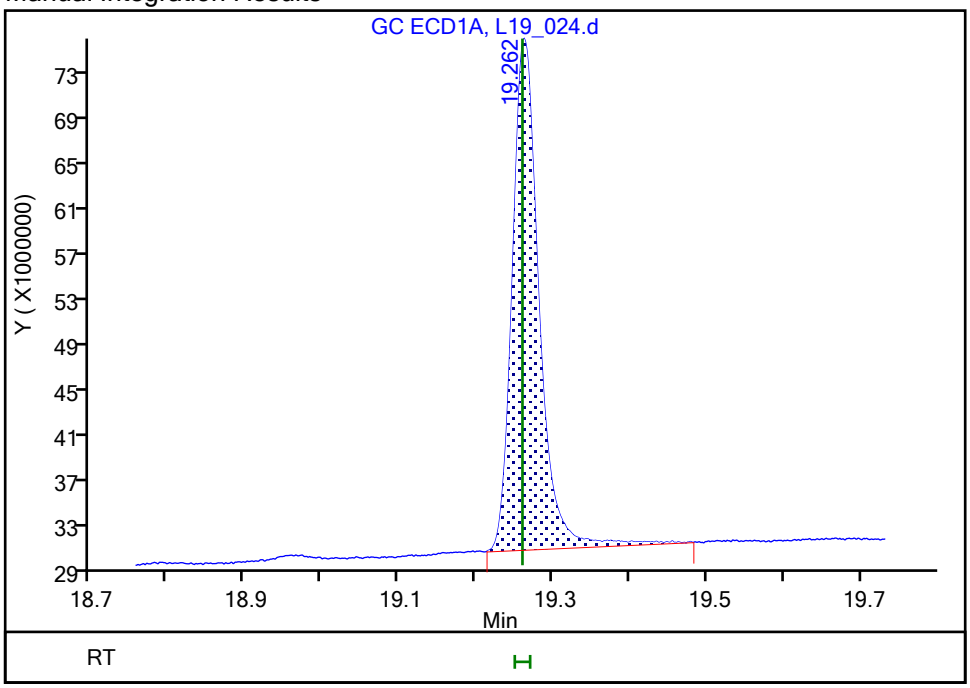

Reviewer: lamj, 20-Sep-2019 10:39:44

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-191956-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 600-275087/4-A
Matrix: Water
Lab File ID: L19_025.d
Analysis Method: 8082
Date Collected:
Extraction Method: 3510C
Date Extracted: 09/18/2019 11:21
Sample wt/vol: 250(mL)
Date Analyzed: 09/19/2019 19:40
Con. Extract Vol.: 5.0(mL)
Dilution Factor: 1
Injection Volume: 5(uL)
GC Column: RTX-CLP1 ID: 0.32(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 275246
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
12674-11-2	PCB-1016	11.2		1.0	0.54
11096-82-5	PCB-1260	10.2		1.0	0.34

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene	116		32-150
2051-24-3	DCB Decachlorobiphenyl	142	X	26-130

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_025.d
Lims ID: LCS 600-275087/4-A
Client ID:
Sample Type: LCS
Inject. Date: 19-Sep-2019 19:40:53 ALS Bottle#: 25 Worklist Smp#: 10
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031198-010
Operator ID: JL Instrument ID: CHECD09

Method: \\chromna\Houston\ChromData\CHECD09\20190919-31198.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 20-Sep-2019 14:26:09 Calib Date: 30-Jul-2019 04:07:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0334

First Level Reviewer: lamj Date: 20-Sep-2019 10:40:30

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.864	6.864	0.000	2986737455	50.0	50.0	
2	6.920	6.921	-0.001	1897884313	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	8.794	8.795	-0.001	142274031	0.0200	0.0233	
2	9.127	9.128	-0.001	82270218	0.0200	0.0241	
						RPD = 3.45	
$ 3 DCB Decachlorobiphenyl							M
1	19.262	19.260	0.002	114700322	0.0200	0.0283	M
2	20.322	20.319	0.003	78947008	0.0200	0.0348	M
						RPD = 20.38	
7 PCB-1016							
1	9.632	9.633	-0.001	51365441	0.5000	0.4995	
1	10.370	10.369	0.001	101463924	0.5000	0.5632	
1	11.540	11.536	0.004	82753663	0.5000	0.5208	
1	11.659	11.654	0.005	61542563	0.5000	0.5931	
1	13.114	13.108	0.006	42374329	0.5000	0.6180	
		Average of Peak Amounts =				0.5589	
2	10.214	10.214	0.000	28830423	0.5000	0.5326	
2	11.426	11.424	0.002	15450244	0.5000	0.5094	
2	11.489	11.487	0.002	25187739	0.5000	0.5754	
2	12.159	12.154	0.005	50933061	0.5000	0.6066	
2	12.557	12.553	0.004	23412375	0.5000	0.5020	
		Average of Peak Amounts =				0.5452	
						RPD = 2.48	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 PCB-1260							
1	14.558	14.552	0.006	47571854	0.5000	0.5053	
1	14.843	14.837	0.006	105918835	0.5000	0.5292	
1	15.666	15.660	0.006	63247121	0.5000	0.5066	
1	16.179	16.173	0.006	83114720	0.5000	0.4695	
1	16.627	16.621	0.006	86727494	0.5000	0.5393	
		Average of Peak Amounts =				0.5100	
2	15.411	15.407	0.004	29145858	0.5000	0.5917	
2	15.735	15.730	0.005	68058220	0.5000	0.6366	
2	16.939	16.935	0.004	61256129	0.5000	0.7299	
2	17.032	17.029	0.003	35664449	0.5000	0.7876	
2	17.430	17.426	0.004	67654736	0.5000	0.7654	
		Average of Peak Amounts =				0.7022	
						RPD = 31.72	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

PST_IS 2_00063 Amount Added: 1.00 Units: mL Run Reagent

Report Date: 20-Sep-2019 14:26:17 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_025.d				
Injection Date:	19-Sep-2019 19:40:53	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	LCS 600-275087/4-A			Worklist Smp#:	10
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	25
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

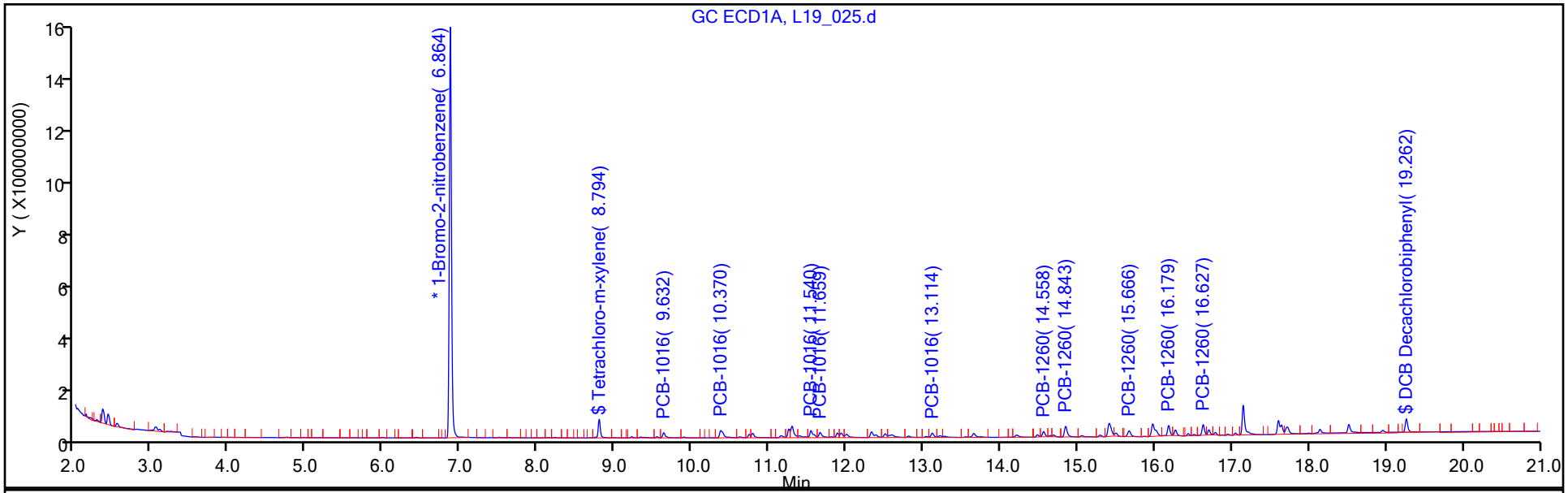

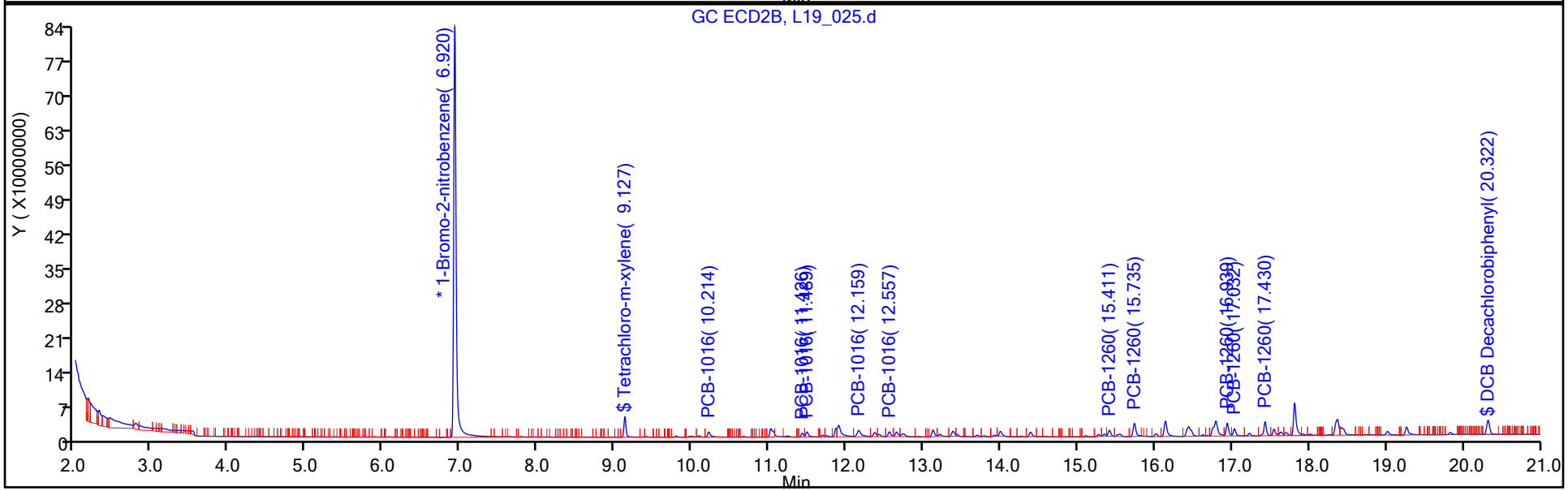

Eurofins TestAmerica, Houston
Recovery Report

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_025.d				
Lims ID:	LCS 600-275087/4-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	19-Sep-2019 19:40:53	ALS Bottle#:	25	Worklist Smp#:	10
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Sample Info:	600-0031198-010				
Operator ID:	JL	Instrument ID:	CHECD09		
Method:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\LVIPCBCHECD09IS.m				
Limit Group:	GCSV - 8082				
Last Update:	20-Sep-2019 14:26:09	Calib Date:	30-Jul-2019 04:07:48		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d				
Column 1 :			Det: GC ECD1A		
Column 2 :			Det: GC ECD2B		
Process Host:	CTX0334				
First Level Reviewer: lamj		Date:	20-Sep-2019 10:40:30		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0233	116.33
$ 3 DCB Decachlorobiphenyl	0.0200	0.0283	141.68

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0241	120.41
$ 3 DCB Decachlorobiphenyl	0.0200	0.0348	173.82

Report Date: 20-Sep-2019 14:26:18 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_025.d				
Injection Date:	19-Sep-2019 19:40:53	Instrument ID:	CHECD09		
Lims ID:	LCS 600-275087/4-A				
Client ID:					
Operator ID:	JL	ALS Bottle#:	25	Worklist Smp#:	10
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD1A		

7 PCB-1016, CAS: 12674-11-2

Calibration Sample, Level: 6

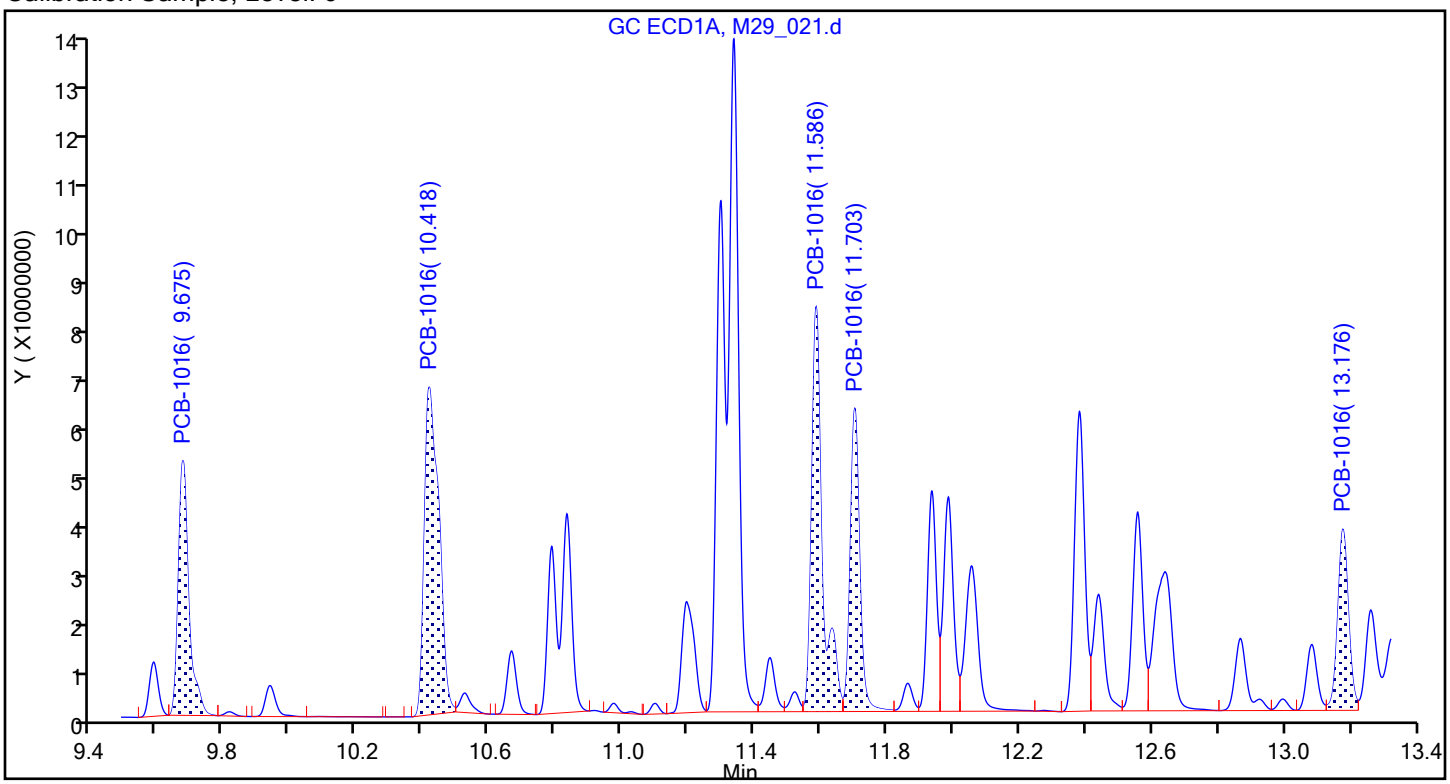

Sample

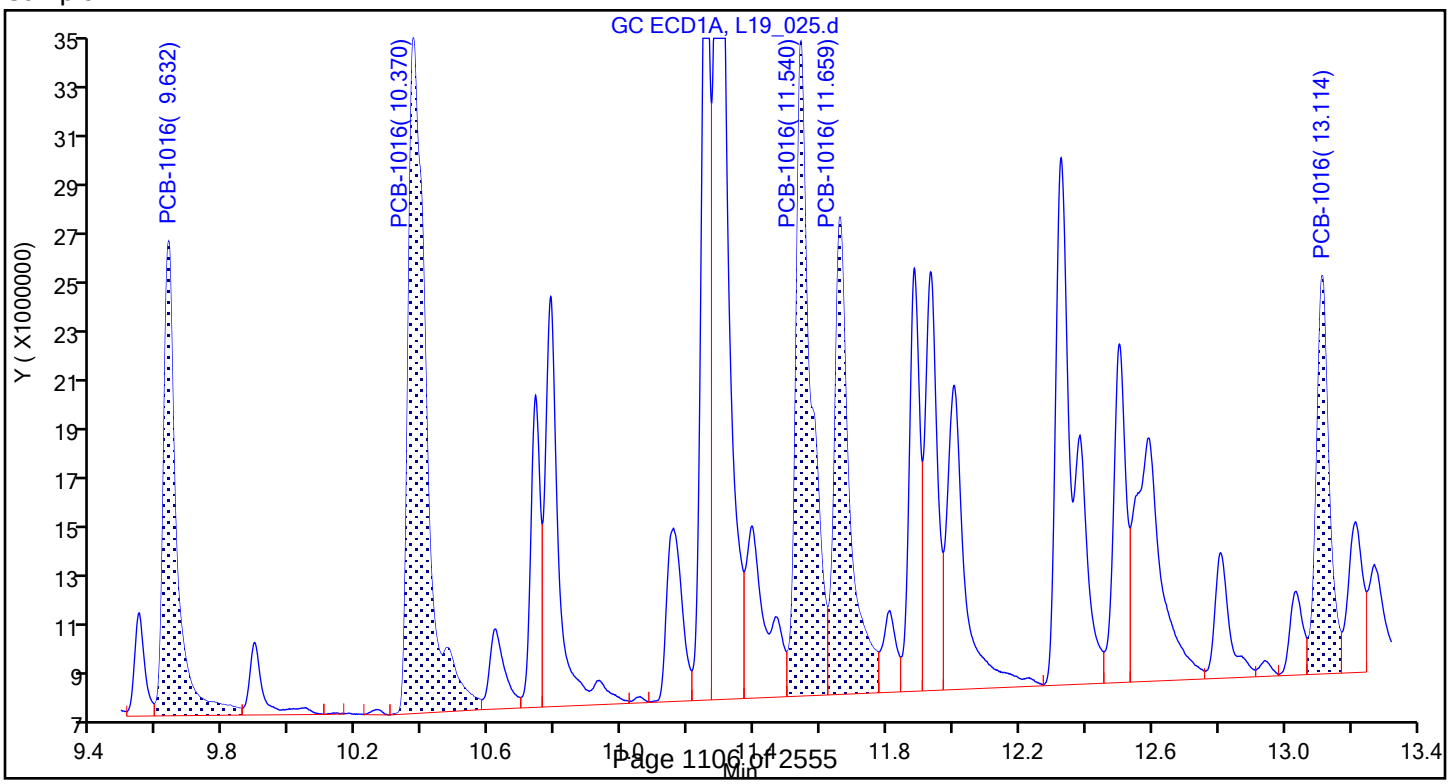

Report Date: 20-Sep-2019 14:26:18 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_025.d				
Injection Date:	19-Sep-2019 19:40:53	Instrument ID:	CHECD09		
Lims ID:	LCS 600-275087/4-A				
Client ID:					
Operator ID:	JL	ALS Bottle#:	25	Worklist Smp#:	10
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD1A		

10 PCB-1260, CAS: 11096-82-5

Calibration Sample, Level: 6

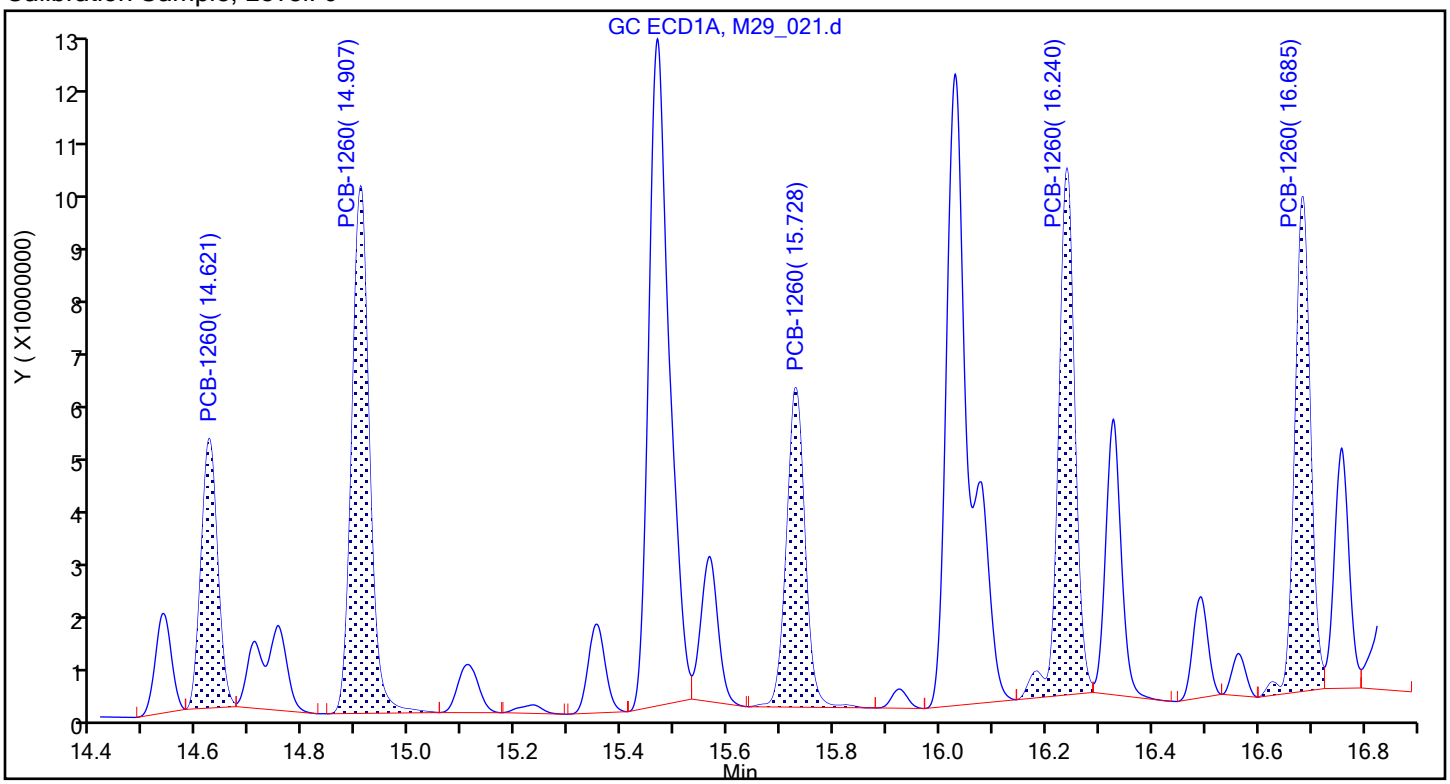

Sample

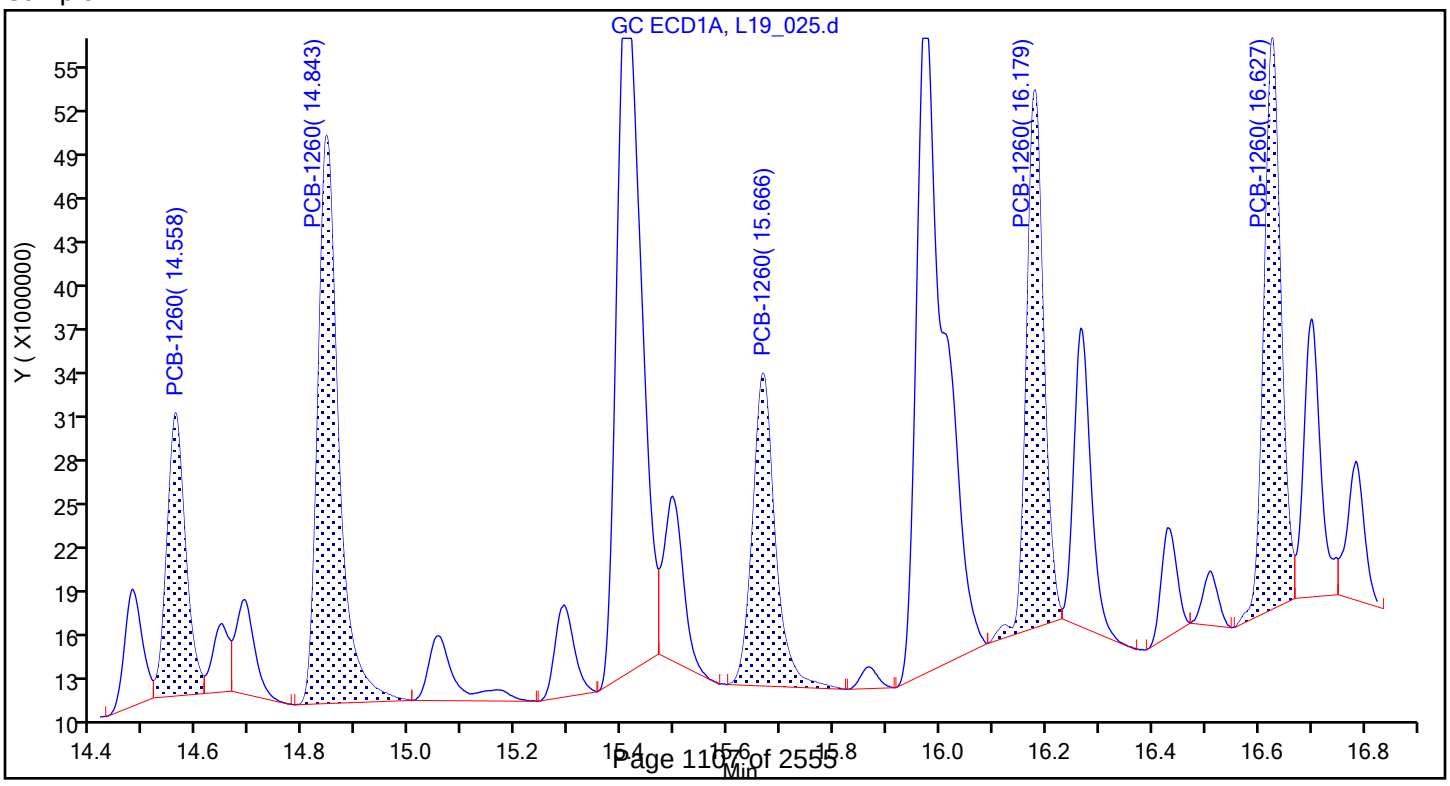

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_025.d				
Injection Date:	19-Sep-2019 19:40:53	Instrument ID:	CHECD09		
Lims ID:	LCS 600-275087/4-A				
Client ID:					
Operator ID:	JL	ALS Bottle#:	25	Worklist Smp#:	10
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD1A		

$ 3 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

Processing Integration Results

RT: 19.26
Area: 154317213
Amount: 0.038122
Amount Units: ug/ml

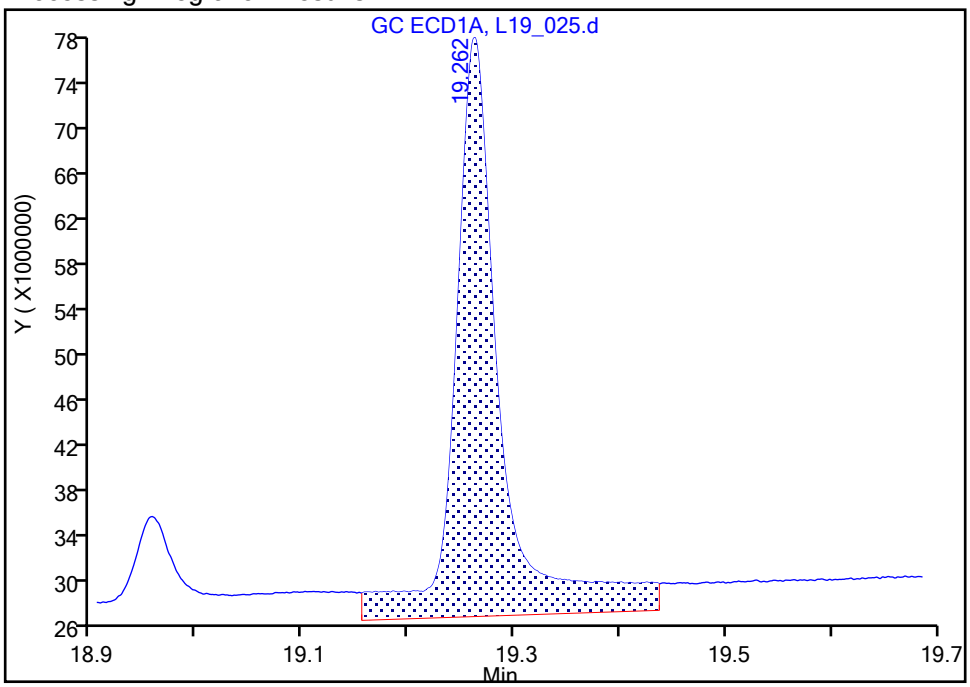

Manual Integration Results

RT: 19.26
Area: 114700322
Amount: 0.028335
Amount Units: ug/ml

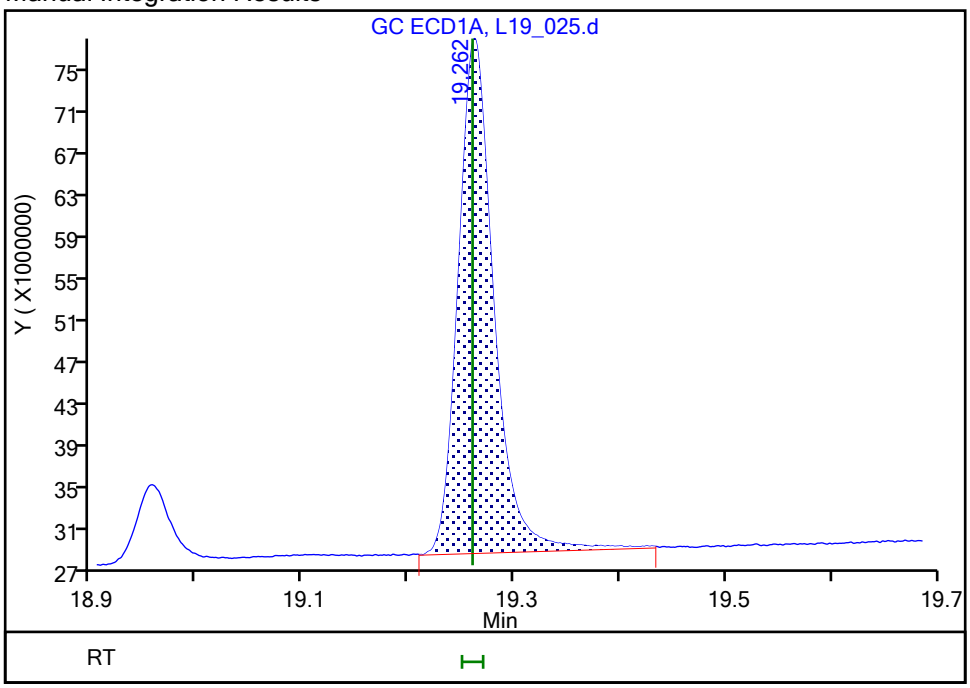

Reviewer: lamj, 20-Sep-2019 10:40:17

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-191956-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCSD 600-275087/5-A
Matrix: Water
Lab File ID: L19_026.d
Analysis Method: 8082
Date Collected:
Extraction Method: 3510C
Date Extracted: 09/18/2019 11:21
Sample wt/vol: 250(mL)
Date Analyzed: 09/19/2019 20:09
Con. Extract Vol.: 5.0(mL)
Dilution Factor: 1
Injection Volume: 5(uL)
GC Column: RTX-CLP1 ID: 0.32(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 275246
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
12674-11-2	PCB-1016	9.81		1.0	0.54
11096-82-5	PCB-1260	10.3		1.0	0.34

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene	111		32-150
2051-24-3	DCB Decachlorobiphenyl	142	X	26-130

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_026.d
Lims ID: LCSD 600-275087/5-A
Client ID:
Sample Type: LCSD
Inject. Date: 19-Sep-2019 20:09:02 ALS Bottle#: 26 Worklist Smp#: 11
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031198-011
Operator ID: JL Instrument ID: CHECD09

Method: \\chromna\Houston\ChromData\CHECD09\20190919-31198.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 20-Sep-2019 14:26:09 Calib Date: 30-Jul-2019 04:07:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0334

First Level Reviewer: lamj Date: 20-Sep-2019 10:40:55

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.864	6.864	0.000	3048720840	50.0	50.0	
2	6.922	6.921	0.001	1954959320	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	8.794	8.795	-0.001	138957243	0.0200	0.0223	
2	9.127	9.128	-0.001	80915186	0.0200	0.0230	
						RPD = 3.24	
$ 3 DCB Decachlorobiphenyl							M
1	19.261	19.260	0.001	117440332	0.0200	0.0284	M
2	20.323	20.319	0.004	80920557	0.0200	0.0346	M
						RPD = 19.59	
7 PCB-1016							
1	9.631	9.633	-0.002	45551815	0.5000	0.4339	
1	10.371	10.369	0.002	98454866	0.5000	0.5354	
1	11.542	11.536	0.006	71449222	0.5000	0.4405	
1	11.660	11.654	0.006	46995628	0.5000	0.4437	
1	13.116	13.108	0.008	41977712	0.5000	0.5997	
		Average of Peak Amounts =				0.4907	
2	10.215	10.214	0.001	28049205	0.5000	0.5031	
2	11.427	11.424	0.003	12917285	0.5000	0.4135	
2	11.490	11.487	0.003	19824617	0.5000	0.4397	
2	12.161	12.154	0.007	45375810	0.5000	0.5247	
2	12.558	12.553	0.005	21759773	0.5000	0.4530	
		Average of Peak Amounts =				0.4668	
						RPD = 4.99	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 PCB-1260							
1	14.559	14.552	0.007	43949291	0.5000	0.4573	
1	14.844	14.837	0.007	111017122	0.5000	0.5434	
1	15.669	15.660	0.009	72313955	0.5000	0.5674	
1	16.178	16.173	0.005	88515676	0.5000	0.4899	
1	16.627	16.621	0.006	86834394	0.5000	0.5289	
		Average of Peak Amounts =				0.5174	
2	15.412	15.407	0.005	33227746	0.5000	0.6549	
2	15.738	15.730	0.008	70450601	0.5000	0.6398	
2	16.941	16.935	0.006	61450309	0.5000	0.7109	
2	17.034	17.029	0.005	36333449	0.5000	0.7789	
2	17.431	17.426	0.005	68695671	0.5000	0.7545	
		Average of Peak Amounts =				0.7078	
						RPD = 31.08	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

PST_IS 2_00063 Amount Added: 1.00 Units: mL Run Reagent

Report Date: 20-Sep-2019 14:26:19 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_026.d				
Injection Date:	19-Sep-2019 20:09:02	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	LCSD 600-275087/5-A			Worklist Smp#:	11
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	26
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

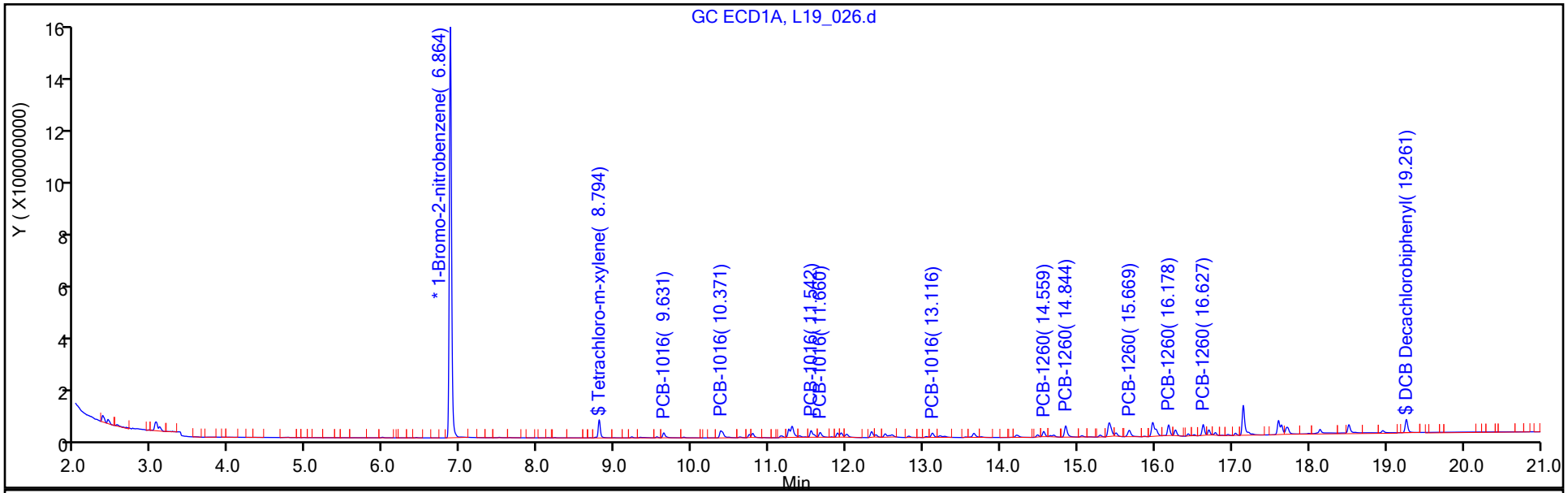

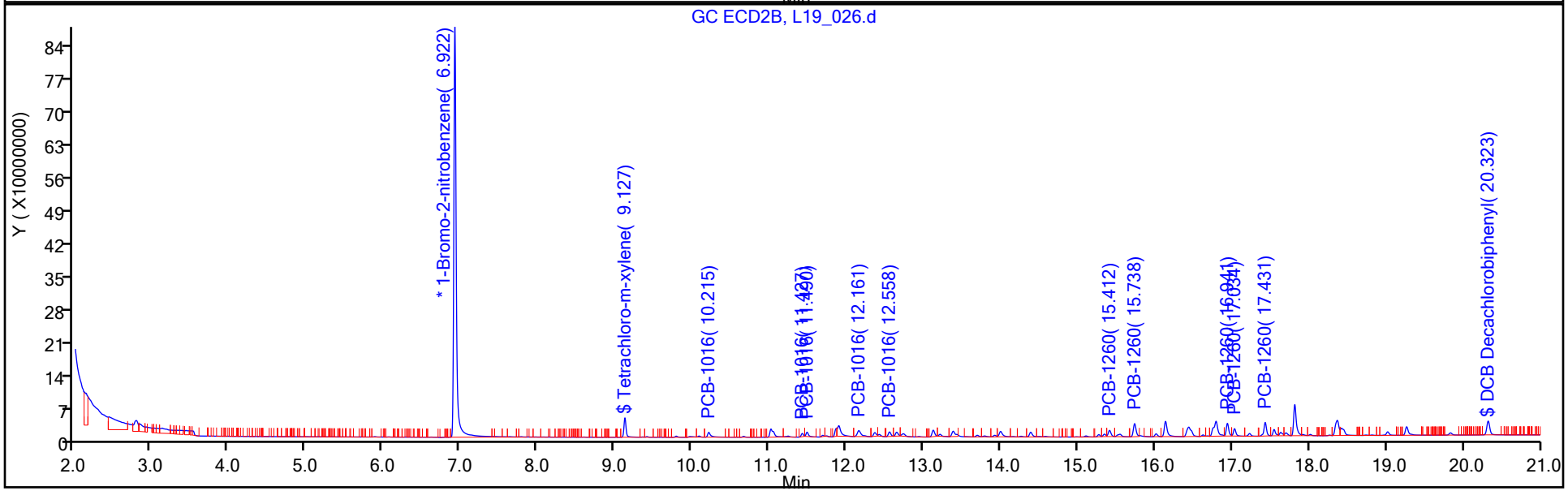

Eurofins TestAmerica, Houston
Recovery Report

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_026.d				
Lims ID:	LCSD 600-275087/5-A				
Client ID:					
Sample Type:	LCSD				
Inject. Date:	19-Sep-2019 20:09:02	ALS Bottle#:	26	Worklist Smp#:	11
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Sample Info:	600-0031198-011				
Operator ID:	JL	Instrument ID:	CHECD09		
Method:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\LVIPCBCHECD09IS.m				
Limit Group:	GCSV - 8082				
Last Update:	20-Sep-2019 14:26:09	Calib Date:	30-Jul-2019 04:07:48		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d				
Column 1 :			Det: GC ECD1A		
Column 2 :			Det: GC ECD2B		
Process Host:	CTX0334				
First Level Reviewer: lamj		Date:	20-Sep-2019 10:40:55		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0223	111.31
$ 3 DCB Decachlorobiphenyl	0.0200	0.0284	142.11

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0230	114.97
$ 3 DCB Decachlorobiphenyl	0.0200	0.0346	172.97

Report Date: 20-Sep-2019 14:26:19 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_026.d				
Injection Date:	19-Sep-2019 20:09:02	Instrument ID:	CHECD09		
Lims ID:	LCSD 600-275087/5-A				
Client ID:					
Operator ID:	JL	ALS Bottle#:	26	Worklist Smp#:	11
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD1A		

7 PCB-1016, CAS: 12674-11-2

Calibration Sample, Level: 6

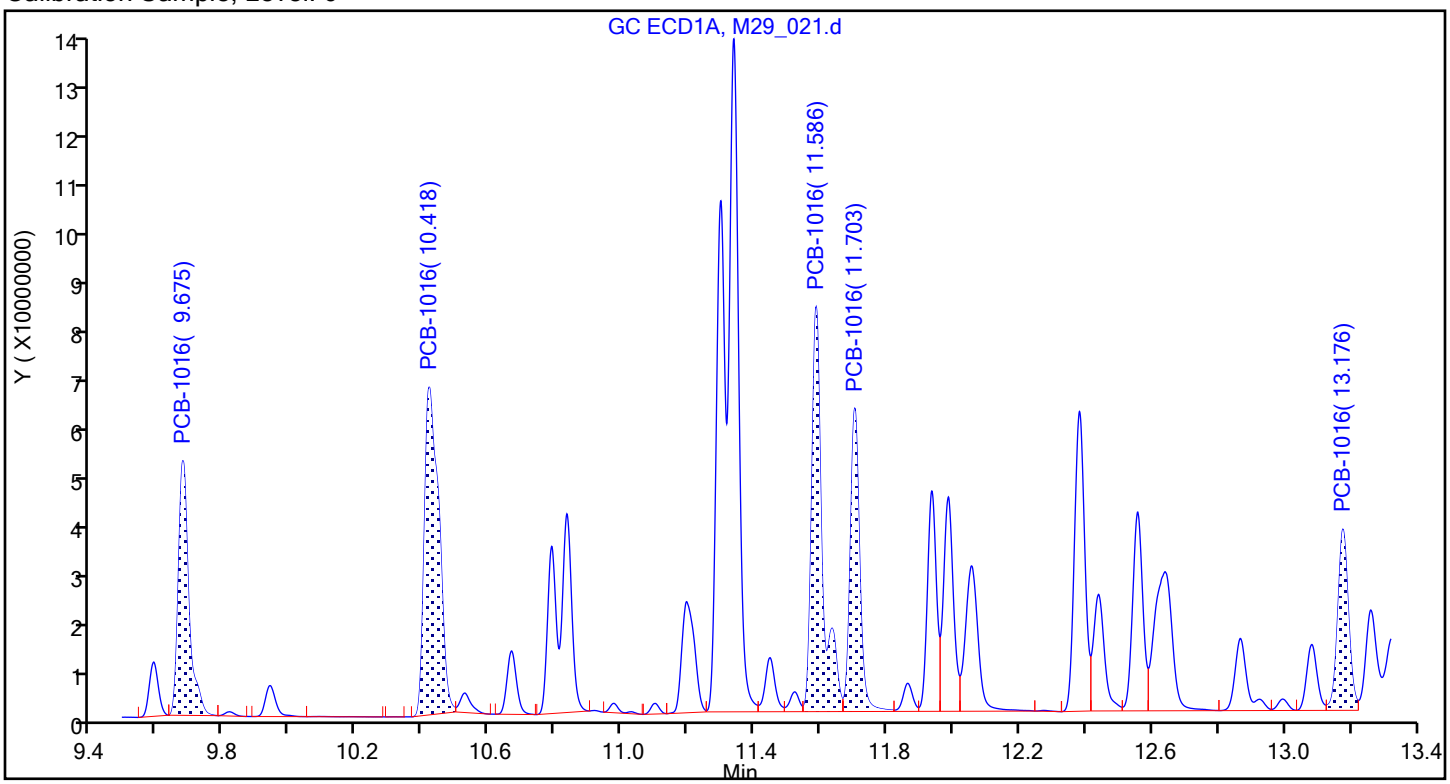

Sample

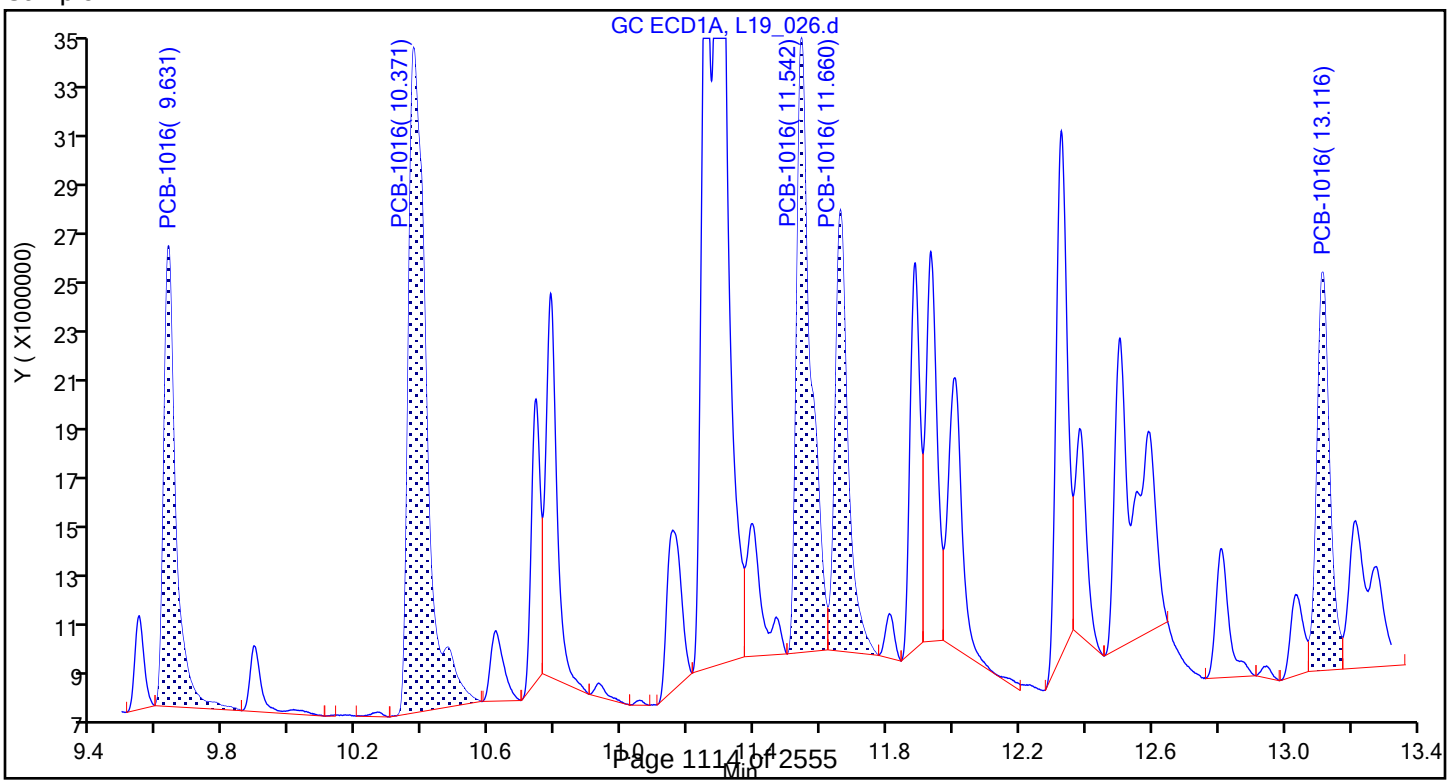

Report Date: 20-Sep-2019 14:26:19 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_026.d				
Injection Date:	19-Sep-2019 20:09:02	Instrument ID:	CHECD09		
Lims ID:	LCSD 600-275087/5-A				
Client ID:					
Operator ID:	JL	ALS Bottle#:	26	Worklist Smp#:	11
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD1A		

10 PCB-1260, CAS: 11096-82-5

Calibration Sample, Level: 6

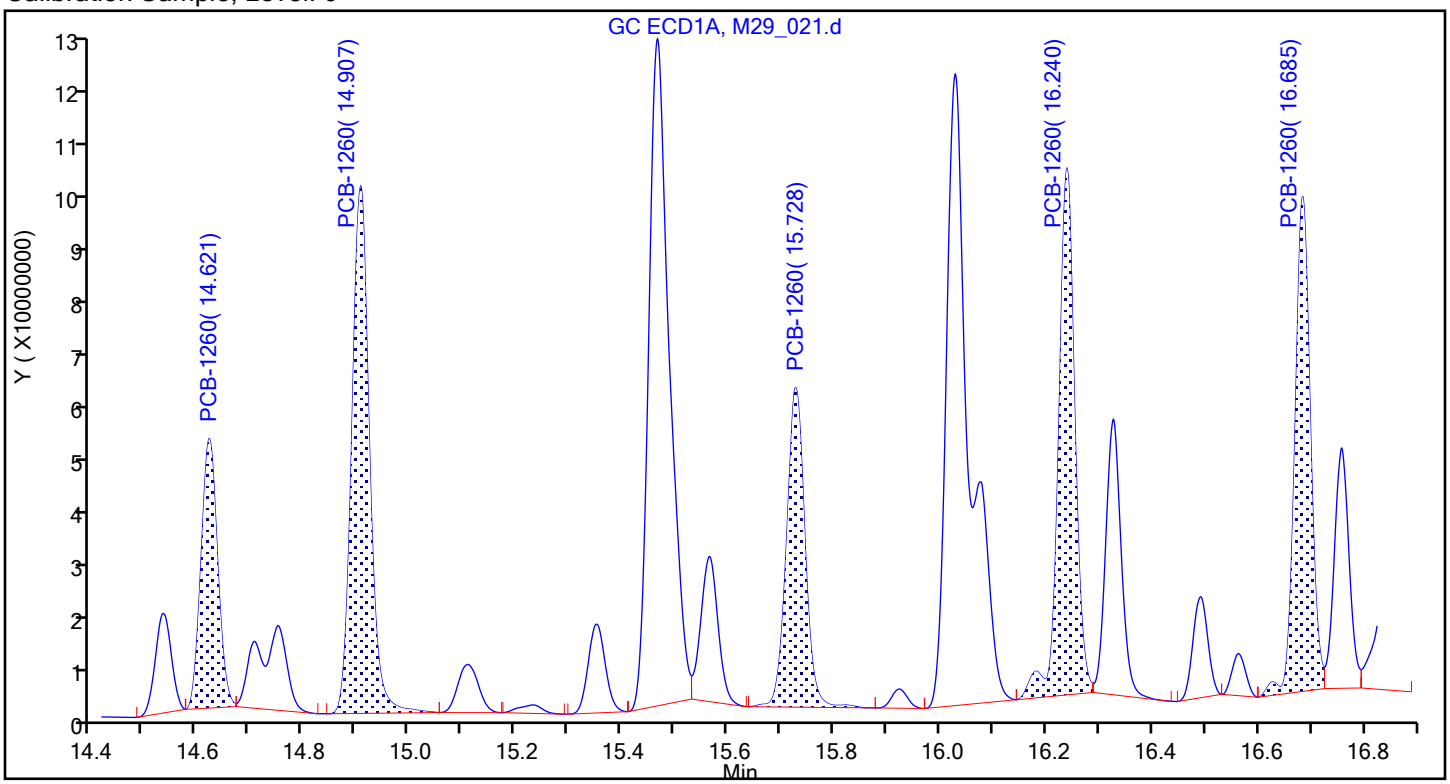

Sample

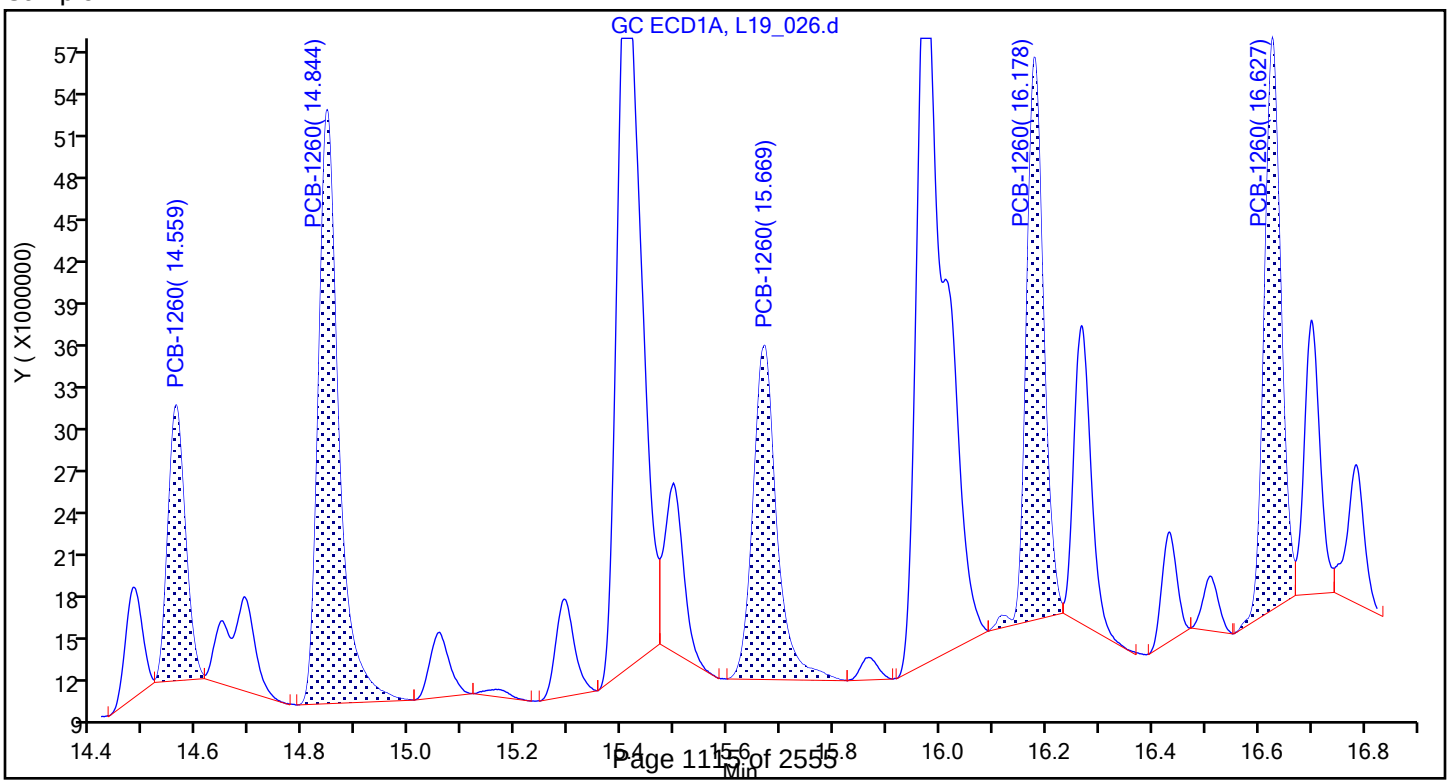

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_026.d				
Injection Date:	19-Sep-2019 20:09:02	Instrument ID:	CHECD09		
Lims ID:	LCSD 600-275087/5-A				
Client ID:					
Operator ID:	JL	ALS Bottle#:	26	Worklist Smp#:	11
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD1A		

$ 3 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

Processing Integration Results

RT: 19.26
Area: 150891088
Amount: 0.036518
Amount Units: ug/ml

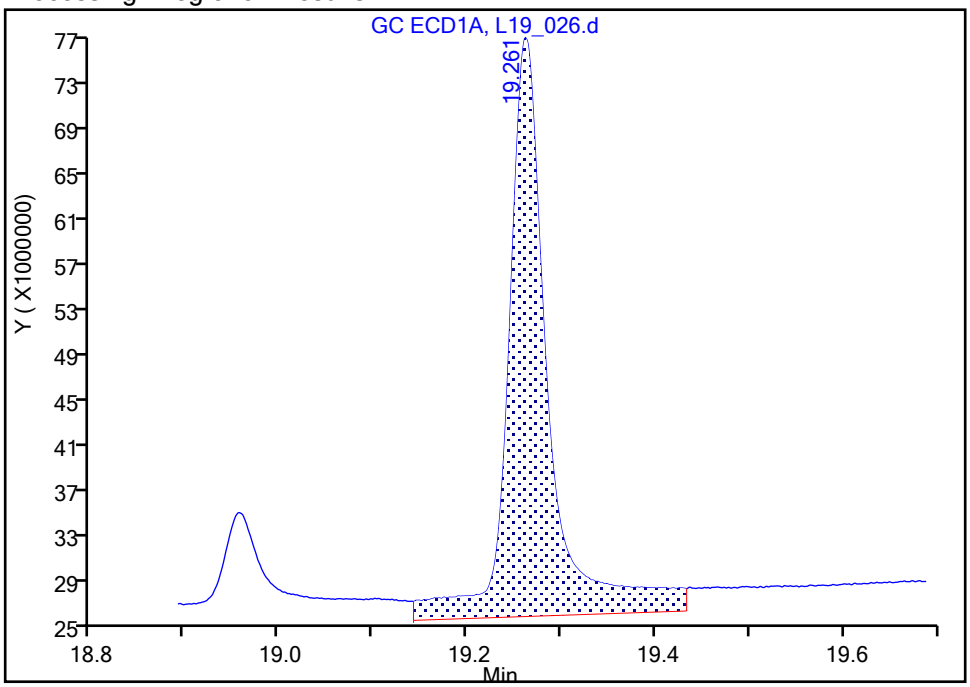

Manual Integration Results

RT: 19.26
Area: 117440332
Amount: 0.028422
Amount Units: ug/ml

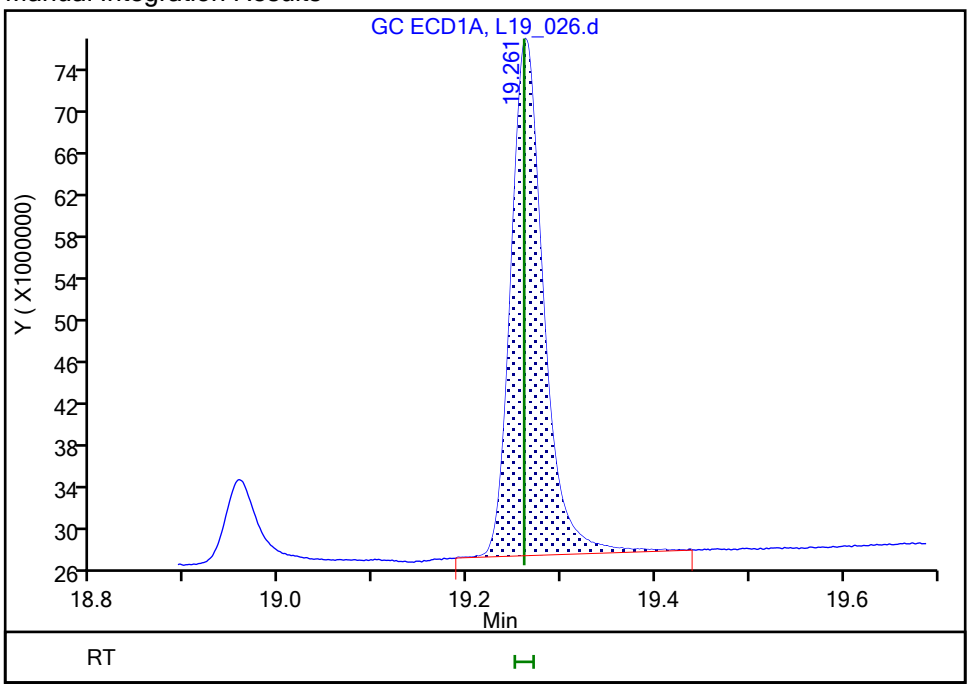

Reviewer: lamj, 20-Sep-2019 14:26:03

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

PCBS ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: CHECD09 Start Date: 07/29/2019 19:14

Analysis Batch Number: 270655 End Date: 07/30/2019 13:58

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 600-270655/2		07/29/2019 19:14	1	M29_002.d	RTX-CLP1 0.32(mm)
IC 600-270655/2		07/29/2019 19:14	1	M29_002.d	RTX-CLP2 0.32(mm)
IC 600-270655/3		07/29/2019 19:42	1	M29_003.d	RTX-CLP1 0.32(mm)
IC 600-270655/3		07/29/2019 19:42	1	M29_003.d	RTX-CLP2 0.32(mm)
IC 600-270655/4		07/29/2019 20:10	1	M29_004.d	RTX-CLP1 0.32(mm)
IC 600-270655/4		07/29/2019 20:10	1	M29_004.d	RTX-CLP2 0.32(mm)
IC 600-270655/5		07/29/2019 20:38	1	M29_005.d	RTX-CLP1 0.32(mm)
IC 600-270655/5		07/29/2019 20:38	1	M29_005.d	RTX-CLP2 0.32(mm)
IC 600-270655/6		07/29/2019 21:06	1	M29_006.d	RTX-CLP1 0.32(mm)
IC 600-270655/6		07/29/2019 21:06	1	M29_006.d	RTX-CLP2 0.32(mm)
IC 600-270655/7		07/29/2019 21:34	1		RTX-CLP1 0.32(mm)
IC 600-270655/7		07/29/2019 21:34	1		RTX-CLP2 0.32(mm)
IC 600-270655/8		07/29/2019 22:02	1		RTX-CLP1 0.32(mm)
IC 600-270655/8		07/29/2019 22:02	1		RTX-CLP2 0.32(mm)
ICV 600-270655/9		07/29/2019 22:30	1		RTX-CLP1 0.32(mm)
ICV 600-270655/9		07/29/2019 22:30	1		RTX-CLP2 0.32(mm)
ICV 600-270655/10		07/29/2019 22:58	1		RTX-CLP1 0.32(mm)
ICV 600-270655/10		07/29/2019 22:58	1		RTX-CLP2 0.32(mm)
ICV 600-270655/11		07/29/2019 23:27	1		RTX-CLP1 0.32(mm)
ICV 600-270655/11		07/29/2019 23:27	1		RTX-CLP2 0.32(mm)
ICV 600-270655/12		07/29/2019 23:55	1		RTX-CLP1 0.32(mm)
ICV 600-270655/12		07/29/2019 23:55	1		RTX-CLP2 0.32(mm)
ICV 600-270655/13		07/30/2019 00:23	1		RTX-CLP1 0.32(mm)
ICV 600-270655/13		07/30/2019 00:23	1		RTX-CLP2 0.32(mm)
ICV 600-270655/14		07/30/2019 00:51	1		RTX-CLP1 0.32(mm)
ICV 600-270655/14		07/30/2019 00:51	1		RTX-CLP2 0.32(mm)
ICV 600-270655/15		07/30/2019 01:19	1		RTX-CLP1 0.32(mm)
ICV 600-270655/15		07/30/2019 01:19	1		RTX-CLP2 0.32(mm)
IC 600-270655/16		07/30/2019 01:47	1	M29_016.d	RTX-CLP1 0.32(mm)
IC 600-270655/16		07/30/2019 01:47	1	M29_016.d	RTX-CLP2 0.32(mm)
IC 600-270655/17		07/30/2019 02:15	1	M29_017.d	RTX-CLP1 0.32(mm)
IC 600-270655/17		07/30/2019 02:15	1	M29_017.d	RTX-CLP2 0.32(mm)
IC 600-270655/18		07/30/2019 02:43	1	M29_018.d	RTX-CLP1 0.32(mm)
IC 600-270655/18		07/30/2019 02:43	1	M29_018.d	RTX-CLP2 0.32(mm)
ICIS 600-270655/19		07/30/2019 03:11	1	M29_019.d	RTX-CLP1 0.32(mm)
ICIS 600-270655/19		07/30/2019 03:11	1	M29_019.d	RTX-CLP2 0.32(mm)
IC 600-270655/20		07/30/2019 03:39	1	M29_020.d	RTX-CLP1 0.32(mm)
IC 600-270655/20		07/30/2019 03:39	1	M29_020.d	RTX-CLP2 0.32(mm)
IC 600-270655/21		07/30/2019 04:07	1	M29_021.d	RTX-CLP1 0.32(mm)
IC 600-270655/21		07/30/2019 04:07	1	M29_021.d	RTX-CLP2 0.32(mm)
ICV 600-270655/22		07/30/2019 04:35	1		RTX-CLP1 0.32(mm)
ICV 600-270655/22		07/30/2019 04:35	1		RTX-CLP2 0.32(mm)
ZZZZZ		07/30/2019 05:03	1		RTX-CLP1 0.32(mm)
ZZZZZ		07/30/2019 05:03	1		RTX-CLP2 0.32(mm)
ZZZZZ		07/30/2019 05:32	1		RTX-CLP1 0.32(mm)

8082

PCBS ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: CHECD09 Start Date: 07/29/2019 19:14

Analysis Batch Number: 270655 End Date: 07/30/2019 13:58

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		07/30/2019 05:32	1		RTX-CLP2 0.32(mm)
ZZZZZ		07/30/2019 06:00	1		RTX-CLP1 0.32(mm)
ZZZZZ		07/30/2019 06:00	1		RTX-CLP2 0.32(mm)
ZZZZZ		07/30/2019 06:28	1		RTX-CLP1 0.32(mm)
ZZZZZ		07/30/2019 06:28	1		RTX-CLP2 0.32(mm)
600-187782-A-16-A MDLV		07/30/2019 06:56	1		RTX-CLP1 0.32(mm)
600-187782-A-16-A MDLV		07/30/2019 06:56	1		RTX-CLP2 0.32(mm)
600-187782-A-17-A MDLV		07/30/2019 07:24	1		RTX-CLP1 0.32(mm)
600-187782-A-17-A MDLV		07/30/2019 07:24	1		RTX-CLP2 0.32(mm)
600-187782-A-18-A MDLV		07/30/2019 07:52	1		RTX-CLP1 0.32(mm)
600-187782-A-18-A MDLV		07/30/2019 07:52	1		RTX-CLP2 0.32(mm)
600-187782-A-23-A MDLV		07/30/2019 08:20	1		RTX-CLP1 0.32(mm)
600-187782-A-23-A MDLV		07/30/2019 08:20	1		RTX-CLP2 0.32(mm)
600-187782-A-24-A MDLV		07/30/2019 08:48	1		RTX-CLP1 0.32(mm)
600-187782-A-24-A MDLV		07/30/2019 08:48	1		RTX-CLP2 0.32(mm)
600-187782-A-25-A MDLV		07/30/2019 09:16	1		RTX-CLP1 0.32(mm)
600-187782-A-25-A MDLV		07/30/2019 09:16	1		RTX-CLP2 0.32(mm)
600-187782-A-30-A MDLV		07/30/2019 09:44	1		RTX-CLP1 0.32(mm)
600-187782-A-30-A MDLV		07/30/2019 09:44	1		RTX-CLP2 0.32(mm)
600-187782-A-31-A MDLV		07/30/2019 10:13	1		RTX-CLP1 0.32(mm)
600-187782-A-31-A MDLV		07/30/2019 10:13	1		RTX-CLP2 0.32(mm)
600-187782-A-32-A MDLV		07/30/2019 10:41	1		RTX-CLP1 0.32(mm)
600-187782-A-32-A MDLV		07/30/2019 10:41	1		RTX-CLP2 0.32(mm)
ZZZZZ		07/30/2019 11:09	1		RTX-CLP1 0.32(mm)
ZZZZZ		07/30/2019 11:09	1		RTX-CLP2 0.32(mm)
ZZZZZ		07/30/2019 11:37	1		RTX-CLP1 0.32(mm)
ZZZZZ		07/30/2019 11:37	1		RTX-CLP2 0.32(mm)
ZZZZZ		07/30/2019 12:34	1		RTX-CLP1 0.32(mm)
ZZZZZ		07/30/2019 12:34	1		RTX-CLP2 0.32(mm)
ZZZZZ		07/30/2019 13:02	1		RTX-CLP1 0.32(mm)
ZZZZZ		07/30/2019 13:02	1		RTX-CLP2 0.32(mm)
ZZZZZ		07/30/2019 13:30	1		RTX-CLP1 0.32(mm)
ZZZZZ		07/30/2019 13:30	1		RTX-CLP2 0.32(mm)
ZZZZZ		07/30/2019 13:58	1		RTX-CLP1 0.32(mm)
ZZZZZ		07/30/2019 13:58	1		RTX-CLP2 0.32(mm)

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PCBS ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: CHECD09 Start Date: 09/19/2019 15:27

Analysis Batch Number: 275246 End Date: 09/19/2019 22:29

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		09/19/2019 15:27	1		RTX-CLP1 0.32(mm)
ZZZZZ		09/19/2019 15:27	1		RTX-CLP2 0.32(mm)
CCVIS 600-275246/2		09/19/2019 15:55	1		RTX-CLP1 0.32(mm)
CCVIS 600-275246/2		09/19/2019 15:55	1		RTX-CLP2 0.32(mm)
ZZZZZ		09/19/2019 16:23	1		RTX-CLP1 0.32(mm)
ZZZZZ		09/19/2019 16:23	1		RTX-CLP2 0.32(mm)
ZZZZZ		09/19/2019 16:52	1		RTX-CLP1 0.32(mm)
ZZZZZ		09/19/2019 16:52	1		RTX-CLP2 0.32(mm)
ZZZZZ		09/19/2019 17:20	1		RTX-CLP1 0.32(mm)
ZZZZZ		09/19/2019 17:20	1		RTX-CLP2 0.32(mm)
ZZZZZ		09/19/2019 17:48	1		RTX-CLP1 0.32(mm)
ZZZZZ		09/19/2019 17:48	1		RTX-CLP2 0.32(mm)
ZZZZZ		09/19/2019 18:16	1		RTX-CLP1 0.32(mm)
ZZZZZ		09/19/2019 18:16	1		RTX-CLP2 0.32(mm)
ZZZZZ		09/19/2019 18:44	1		RTX-CLP1 0.32(mm)
ZZZZZ		09/19/2019 18:44	1		RTX-CLP2 0.32(mm)
ZZZZZ		09/19/2019 19:12	1		RTX-CLP1 0.32(mm)
ZZZZZ		09/19/2019 19:12	1		RTX-CLP2 0.32(mm)
ZZZZZ		09/19/2019 19:40	1		RTX-CLP1 0.32(mm)
ZZZZZ		09/19/2019 19:40	1		RTX-CLP2 0.32(mm)
ZZZZZ		09/19/2019 20:09	1		RTX-CLP1 0.32(mm)
ZZZZZ		09/19/2019 20:09	1		RTX-CLP2 0.32(mm)
ZZZZZ		09/19/2019 20:37	1		RTX-CLP1 0.32(mm)
ZZZZZ		09/19/2019 20:37	1		RTX-CLP2 0.32(mm)
ZZZZZ		09/19/2019 21:05	5		RTX-CLP1 0.32(mm)
ZZZZZ		09/19/2019 21:05	5		RTX-CLP2 0.32(mm)
ZZZZZ		09/19/2019 21:33	1		RTX-CLP1 0.32(mm)
ZZZZZ		09/19/2019 21:33	1		RTX-CLP2 0.32(mm)
600-191956-2		09/19/2019 22:01	1	L19_030.d	RTX-CLP1 0.32(mm)
600-191956-2		09/19/2019 22:01	1	L19_030.d	RTX-CLP2 0.32(mm)
ZZZZZ		09/19/2019 22:29	1		RTX-CLP1 0.32(mm)
ZZZZZ		09/19/2019 22:29	1		RTX-CLP2 0.32(mm)

8082

PCBS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Batch Number: 275087 Batch Start Date: 09/18/19 11:20 Batch Analyst: Racelis, Luis E

Batch Method: 3510C Batch End Date: 09/19/19 10:37

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ReceivedpH	PSURR 00053		
600-191956-L-2	11187072-091319-LL-EXC-1	3510C, 8082	T	240 mL	5.0 mL	7 SU	0.5 mL		

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

PCBS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Batch Number: 275087 Batch Start Date: 09/18/19 11:20 Batch Analyst: Racelis, Luis E

Batch Method: 3510C Batch End Date: 09/19/19 10:37

Batch Notes	
Acid used for Clean Up ID	EX-SULF-ACID_00012 (If required)
Base Used to Adjust pH ID	EX-SODIUM-HYD_00036
Batch Comment	Vialed by: luiseracelis
Analyst ID - Concentration	ler
Concentration 1 Corrected Temperature	45.7 Degrees C
Concentration 2 Corrected Temperature	45.8 Degrees C
Analyst ID - Clean Up	ler
Equipment ID - Concentration 1	TV # 1
Equipment ID - Concentration 2	TV # 2
Exchange Solvent ID	EX-HEXANE_00040
Analyst ID - Extraction	ler
Florisil ID	EX-FLORISIL_00005 (If required)
Glass Wool ID	EX -Glasswool_00004
Method/Fraction	3510C_LVI / 8081A/8082
Na2SO4 ID	EX-SODSULF_00023_k
pH Indicator ID	HC991818
Pipette/Syringe/Dispenser ID	PSURR/PESTSPK
Prep Solvent ID	EX-METHY-CHLO_00258
Prep Solvent Volume Used	90 ML plus 15 ML rinse CH2CL2 mL
Analyst ID - Spike Analyst	ler
Analyst ID - Spike Witness Analyst	ler/ by lid method
Sufficient Volume for Batch QC	yes
Thermometer ID - Concentration 1	# 610
Thermometer ID - Concentration 2	# 610
Concentration 1 Uncorrected Temperature	45.3 Degrees C
Concentration 2 Uncorrected Temperature	45.4 Degrees C
Vial Lot Number	00231788
Reagent Water ID	DI Water

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

PCBS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Batch Number: 275087 Batch Start Date: 09/18/19 11:20 Batch Analyst: Racelis, Luis E

Batch Method: 3510C Batch End Date: 09/19/19 10:37

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Method 8151A

Herbicides (GC) by Method 8151A

FORM II
HERBICIDES SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): RTX-CLP1 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	DCPAA1 #
11187072-091319-LL -EXC-1	600-191956-2	101

	QC LIMITS
DCPAA = 2,4-Dichlorophenylacetic acid	10-130

Column to be used to flag recovery values

FORM II 8151

FORM I
HERBICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-191956-1
SDG No.:
Client Sample ID: 11187072-091319-LL-EXC-1
Lab Sample ID: 600-191956-2
Matrix: Water
Lab File ID: L19_007.D
Analysis Method: 8151
Date Collected: 09/13/2019 08:00
Extraction Method: 8151A
Date Extracted: 09/17/2019 08:07
Sample wt/vol: 1000(mL)
Date Analyzed: 09/19/2019 11:50
Con. Extract Vol.: 5.0(mL)
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: RTX-CLP1 ID: 0.32(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 275199
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
94-75-7	2,4-D	ND		0.20	0.040
93-72-1	Silvex (2,4,5-TP)	ND		0.20	0.020

CAS NO.	SURROGATE	%REC	Q	LIMITS
19719-28-9	2,4-Dichlorophenylacetic acid	101		10-130

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD08\20190919-31187.b\L19_007.D
Lims ID: 600-191956-F-2-A
Client ID: 11187072-091319-LL-EXC-1
Sample Type: Client
Inject. Date: 19-Sep-2019 11:50:53 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031187-007
Operator ID: JL Instrument ID: CHECD08

Method: \\chromna\Houston\ChromData\CHECD08\20190919-31187.b\HERB_CHECD08.m
Limit Group: GCSV - 8151A
Last Update: 19-Sep-2019 13:06:01 Calib Date: 15-Aug-2019 11:42:30
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_007.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0305

First Level Reviewer: lamj Date: 19-Sep-2019 12:59:01

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
$ 2 2,4-Dichlorophenylacetic acid						
1	11.743	11.745	-0.002	187721300	1.01	
2	11.303	11.303	0.000	290922896	1.26	
					RPD = 22.34	
7 2,4-D						U
1		13.644			ND	
2		13.218				
8 Silvex (2,4,5-TP)						U
1		14.862			ND	
2		14.349				

QC Flag Legend

Review Flags
U - Marked Undetected

Report Date: 19-Sep-2019 13:06:24 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190919-31187.b\L19_007.D				
Injection Date:	19-Sep-2019 11:50:53	Instrument ID:	CHECD08	Operator ID:	JL
Lims ID:	600-191956-F-2-A	Lab Sample ID:	600-191956-2	Worklist Smp#:	7
Client ID:	11187072-091319-LL-EXC-1				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		

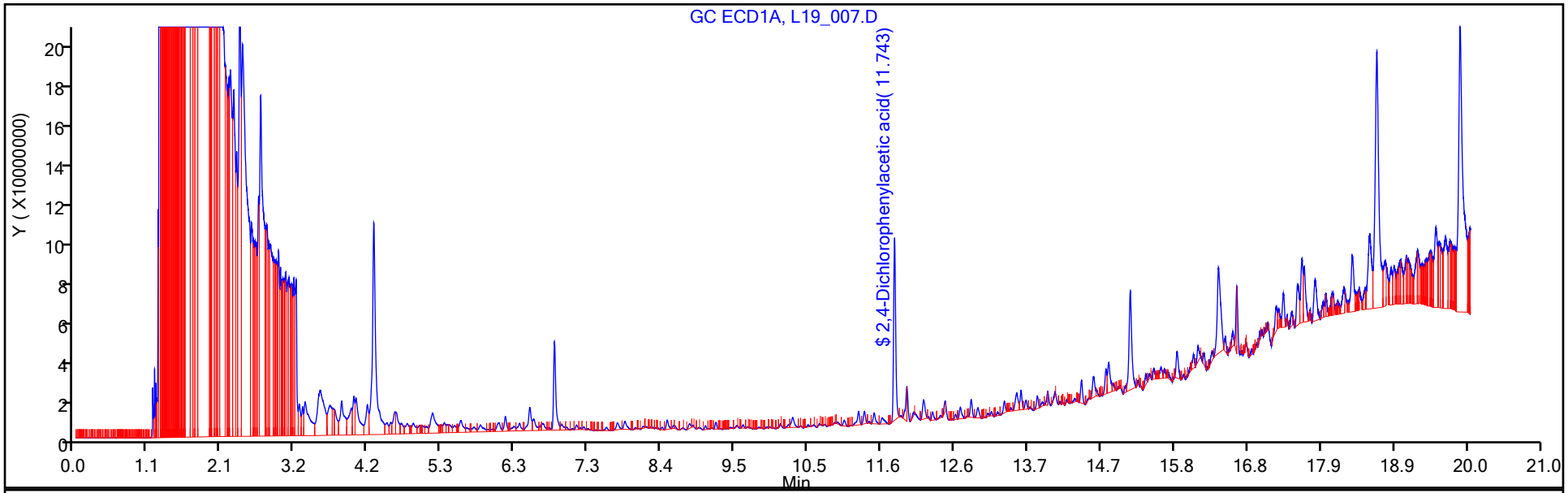

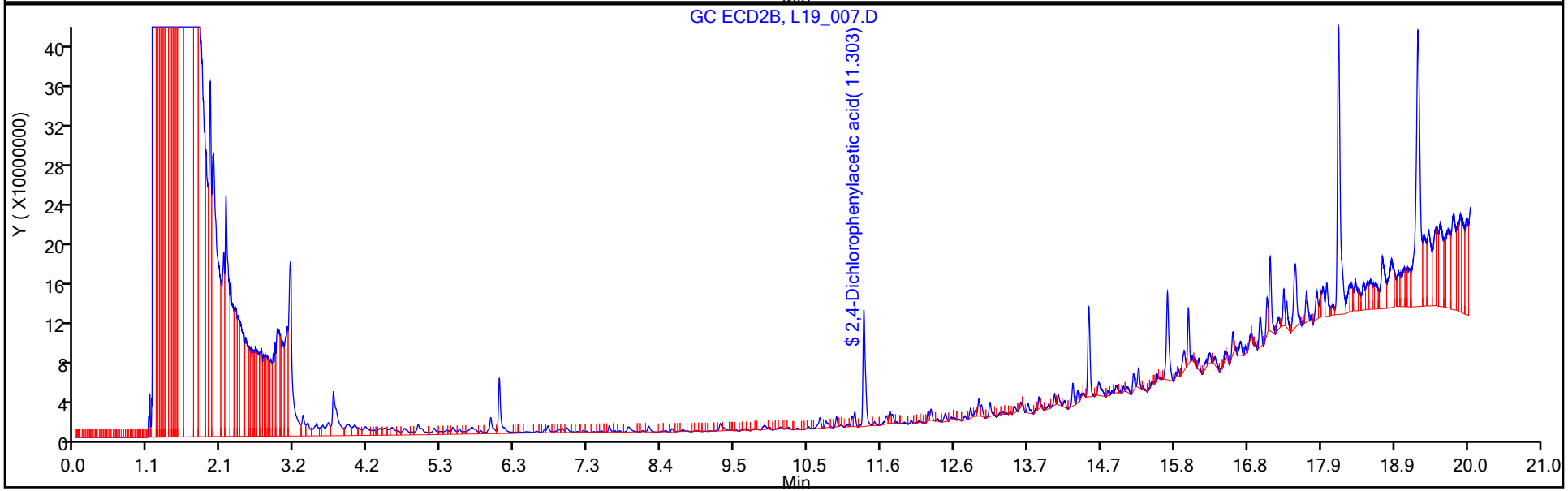

Eurofins TestAmerica, Houston
Recovery Report

Data File:	\\chromna\Houston\ChromData\CHECD08\20190919-31187.b\L19_007.D				
Lims ID:	600-191956-F-2-A				
Client ID:	11187072-091319-LL-EXC-1				
Sample Type:	Client				
Inject. Date:	19-Sep-2019 11:50:53	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	600-0031187-007				
Operator ID:	JL	Instrument ID:	CHECD08		
Method:	\\chromna\Houston\ChromData\CHECD08\20190919-31187.b\HERB_CHECD08.m				
Limit Group:	GCSV - 8151A				
Last Update:	19-Sep-2019 13:06:01	Calib Date:	15-Aug-2019 11:42:30		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_007.D				
Column 1 :			Det: GC ECD1A		
Column 2 :			Det: GC ECD2B		
Process Host:	CTX0305				
First Level Reviewer: lamj		Date:	19-Sep-2019 12:59:01		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	1.01	100.94

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	1.26	126.33

User Disabled Compound Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190919-31187.b\L19_007.D				
Injection Date:	19-Sep-2019 11:50:53	Instrument ID:	CHECD08		
Lims ID:	600-191956-F-2-A	Lab Sample ID:	600-191956-2		
Client ID:	11187072-091319-LL-EXC-1				
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		
Column:		Detector	GC ECD1A		

8 Silvex (2,4,5-TP), CAS: 93-72-1, Signal: 1

RT: 14.87
Response: 6755961
Amount: 0.006140

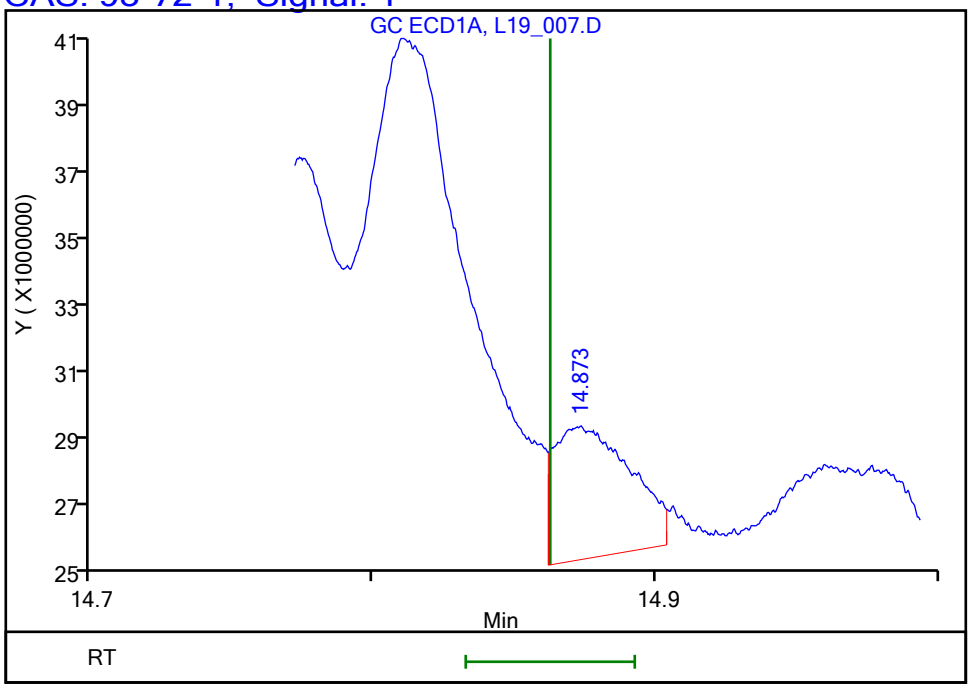

Column:		Detector	GC ECD2B

8 Silvex (2,4,5-TP), CAS: 93-72-1, Signal: 2

RT: 14.37
Response: 18947429
Amount: 0.012168

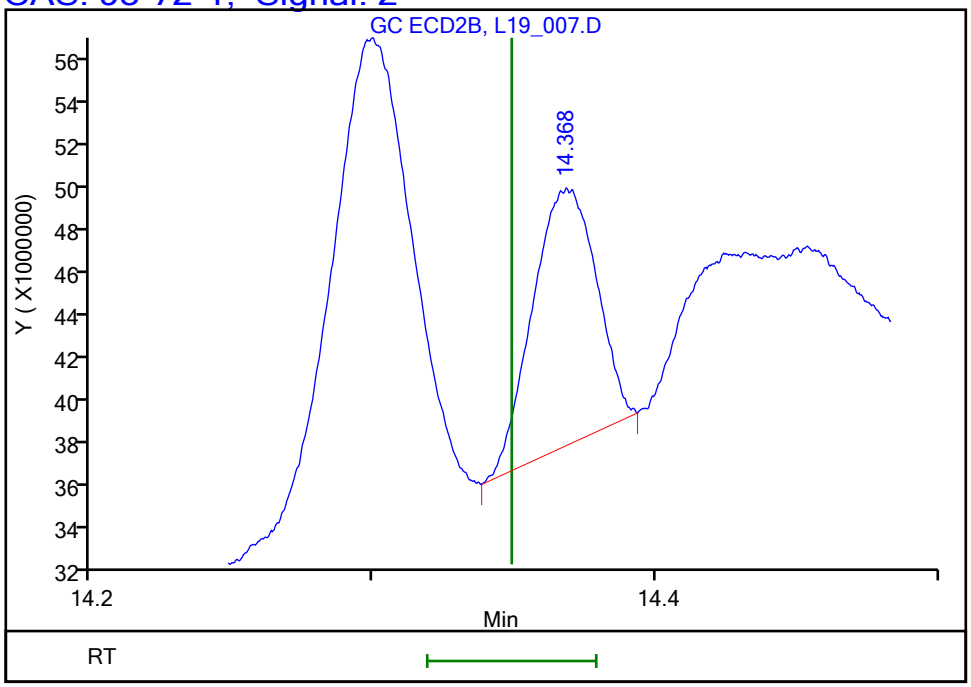

Reviewer: lamj, 19-Sep-2019 12:59:01
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM VI
HERBICIDES BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 271997

SDG No.:

Instrument ID: CHECD08 GC Column: RTX-CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/15/2019 09:37 Calibration End Date: 08/15/2019 11:42 Calibration ID: 16459

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-271997/2	L15_002.D
Level 2	IC 600-271997/3	L15_003.D
Level 3	IC 600-271997/4	L15_004.D
Level 4	ICRT 600-271997/5	L15_005.D
Level 5	IC 600-271997/6	L15_006.D
Level 6	IC 600-271997/7	L15_007.D

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6					RT WINDOW	AVG RT
Dalapon	2.750	2.747	2.746	2.745	2.746	2.745					2.715 - 2.775	2.747
Dicamba	12.042	12.033	12.027	12.024	12.023	12.020					11.994 - 12.054	12.028
Mecoprop	12.398	12.388	12.385	12.380	12.380	12.379					12.350 - 12.410	12.385
MCPA	12.662	12.653	12.647	12.643	12.641	12.641					12.613 - 12.673	12.648
Dichlorprop	13.254	13.247	13.242	13.237	13.237	13.236					13.207 - 13.267	13.242
2,4-D	13.671	13.663	13.657	13.649	13.651	13.646					13.619 - 13.679	13.656
Silvex (2,4,5-TP)	14.866	14.863	14.860	14.854	14.854	14.856					14.824 - 14.884	14.859
2,4,5-T	15.294	15.289	15.283	15.276	15.276	15.275					15.246 - 15.306	15.282
2,4-DB	16.032	16.027	16.019	16.014	16.018	16.015					15.984 - 16.044	16.021
Dinoseb	17.439	17.436	17.434	17.432	17.432	17.431					17.402 - 17.462	17.434
2,4-Dichlorophenylacetic acid	11.748	11.736	11.730	11.726	11.725	11.722					11.696 - 11.756	11.731

FORM VI
HERBICIDES BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 271997

SDG No.:

Instrument ID: CHECD08 GC Column: RTX-CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/15/2019 09:37 Calibration End Date: 08/15/2019 11:42 Calibration ID: 16459

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-271997/2	L15_002.D
Level 2	IC 600-271997/3	L15_003.D
Level 3	IC 600-271997/4	L15_004.D
Level 4	ICRT 600-271997/5	L15_005.D
Level 5	IC 600-271997/6	L15_006.D
Level 6	IC 600-271997/7	L15_007.D

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3	LVL 4		B	M1	M2								
Dalapon	16006100 16611144	17048238 17429950	17341170	16340500	Ave		16796183.5				3.4		20.0			
Dicamba	749030075 795763969	759027825 797073145	777472010	913423342	Ave		798631728				7.4		20.0			
Mecoprop	1057216 923105	1017007 888671	993661	1088541	Ave		994700.249				7.7		20.0			
MCPA	1719391 1346253	1563369 1367668	1549052	1638489	Ave		1530703.58				9.7		20.0			
Dichlorprop	217579900 222473531	223321825 221753525	228059330	260221742	Ave		228901642				6.9		20.0			
2,4-D	199364900 200378369	195555125 201462835	196173470	232816750	Ave		204291908				6.9		20.0			
Silvex (2,4,5-TP)	1009716750 1094377794	1050803788 1102731255	1061827580	1282095683	Ave		1100258808				8.6		20.0			
2,4,5-T	891655350 982714331	956556325 986498175	962962990	1129070042	Ave		984909535				8.0		20.0			
2,4-DB	100497225 107953700	100819813 108424655	104160950	122322633	Ave		107363163				7.5		20.0			
Dinoseb	538000150 543467188	551620100 553109320	567414010	650755750	Ave		567394420				7.4		20.0			
2,4-Dichlorophenylacetic acid	172280795 185504629	176118009 187790504	180364979	213735063	Ave		185965663				7.9		20.0			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HERBICIDES BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 271997

SDG No.:

Instrument ID: CHECD08 GC Column: RTX-CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/15/2019 09:37 Calibration End Date: 08/15/2019 11:42 Calibration ID: 16459

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-271997/2	L15_002.D
Level 2	IC 600-271997/3	L15_003.D
Level 3	IC 600-271997/4	L15_004.D
Level 4	ICRT 600-271997/5	L15_005.D
Level 5	IC 600-271997/6	L15_006.D
Level 6	IC 600-271997/7	L15_007.D

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
		LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Dalapon	Ave	640244 3485990	1363859	1734117	1960860	2657783	0.0400 0.200	0.0800	0.100	0.120	0.160
Dicamba	Ave	29961203 159414629	60722226	77747201	109610801	127322235	0.0400 0.200	0.0800	0.100	0.120	0.160
Mecoprop	Ave	4228864 17773428	8136055	9936607	13062496	14769683	4.00 20.0	8.00	10.0	12.0	16.0
MCPA	Ave	6877562 27353365	12506951	15490517	19661865	21540054	4.00 20.0	8.00	10.0	12.0	16.0
Dichlorprop	Ave	8703196 44350705	17865746	22805933	31226609	35595765	0.0400 0.200	0.0800	0.100	0.120	0.160
2,4-D	Ave	7974596 40292567	15644410	19617347	27938010	32060539	0.0400 0.200	0.0800	0.100	0.120	0.160
Silvex (2,4,5-TP)	Ave	40388670 220546251	84064303	106182758	153851482	175100447	0.0400 0.200	0.0800	0.100	0.120	0.160
2,4,5-T	Ave	35666214 197299635	76524506	96296299	135488405	157234293	0.0400 0.200	0.0800	0.100	0.120	0.160
2,4-DB	Ave	4019889 21684931	8065585	10416095	14678716	17272592	0.0400 0.200	0.0800	0.100	0.120	0.160
Dinoseb	Ave	21520006 110621864	44129608	56741401	78090690	86954750	0.0400 0.200	0.0800	0.100	0.120	0.160
2,4-Dichlorophenylacetic acid	Ave	68912318 375581007	140894407	180364979	256482076	296807407	0.400 2.00	0.800	1.00	1.20	1.60

Curve Type Legend:
Ave = Average

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_002.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 15-Aug-2019 09:37:51 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030560-002
Operator ID: JL Instrument ID: CHECD08
Sublist: chrom-HERB_CHECD08*sub1

Method: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\HERB_CHECD08.m
Limit Group: GCSV - 8151A
Last Update: 15-Aug-2019 12:06:57 Calib Date: 15-Aug-2019 11:42:30
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_007.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0321

First Level Reviewer: lamj Date: 15-Aug-2019 11:23:32

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Dalapon							M
1	2.750	2.745	0.005	640244	0.0400	0.0381	M
2	2.418	2.418	0.000	12510982	0.0400	0.0347	M
						RPD = 9.47	
$ 2 2,4-Dichlorophenylacetic acid							
1	11.748	11.726	0.022	68912318	0.4000	0.3706	
2	11.300	11.286	0.014	84035130	0.4000	0.3649	
						RPD = 1.54	
3 Dicamba							
1	12.042	12.024	0.018	29961203	0.0400	0.0375	
2	11.567	11.557	0.010	39604618	0.0400	0.0364	
						RPD = 2.90	
4 MCPP							
1	12.398	12.380	0.018	4228864	4.00	4.25	
2	11.804	11.794	0.010	5680260	4.00	3.69	
						RPD = 14.04	
5 MCPA							
1	12.662	12.643	0.019	6877562	4.00	4.49	
2	12.196	12.183	0.013	10137750	4.00	4.78	
						RPD = 6.17	
6 Dichlorprop							
1	13.254	13.237	0.017	8703196	0.0400	0.0380	
2	12.715	12.702	0.013	11220680	0.0400	0.0373	
						RPD = 1.81	
7 2,4-D							M
1	13.671	13.649	0.022	7974596	0.0400	0.0390	M
2	13.244	13.226	0.018	9334242	0.0400	0.0366	
						RPD = 6.39	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
8 Silvex (2,4,5-TP)							M
1	14.866	14.854	0.012	40388670	0.0400	0.0367	M
2	14.347	14.343	0.004	55606223	0.0400	0.0357	
						RPD = 2.75	
9 2,4,5-T							M
1	15.294	15.276	0.018	35666214	0.0400	0.0362	M
2	14.908	14.898	0.010	47046675	0.0400	0.0354	
						RPD = 2.33	
10 2,4-DB							M
1	16.032	16.014	0.018	4019889	0.0400	0.0374	M
2	15.584	15.571	0.013	4572778	0.0400	0.0377	
						RPD = 0.57	
11 Dinoseb							M
1	17.439	17.432	0.007	21520006	0.0400	0.0379	M
2	15.969	15.963	0.006	28466574	0.0400	0.0350	
						RPD = 8.13	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

HERBCURVE1_00034 Amount Added: 1.00 Units: mL

Report Date: 15-Aug-2019 12:06:58 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_002.D				
Injection Date:	15-Aug-2019 09:37:51	Instrument ID:	CHECD08	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		

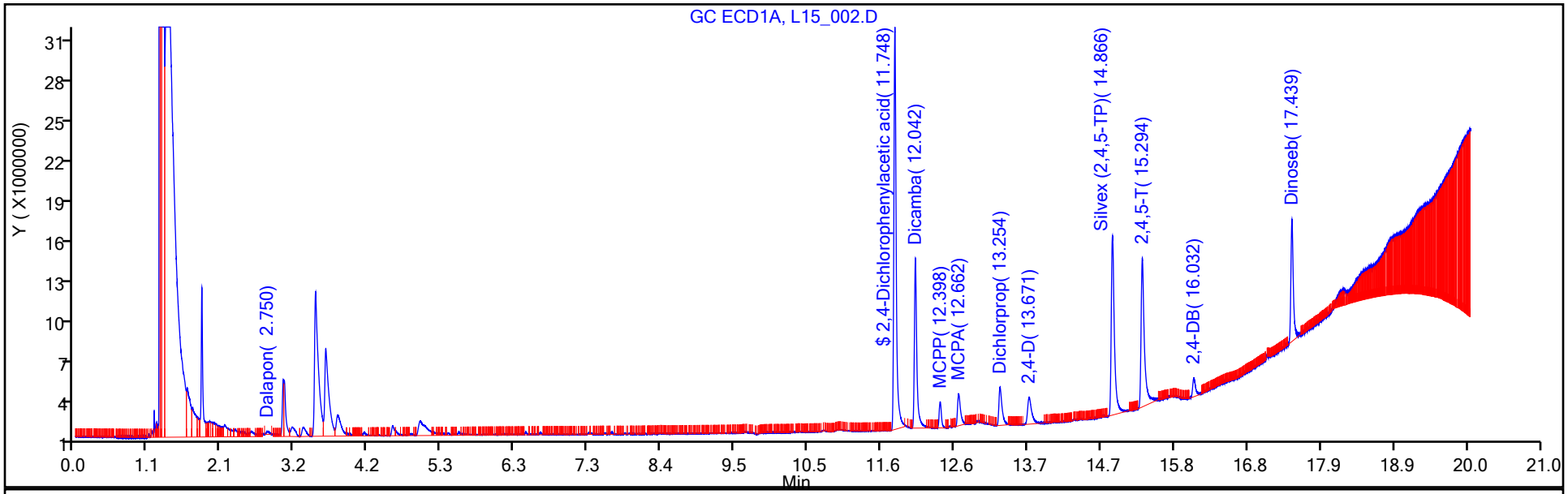

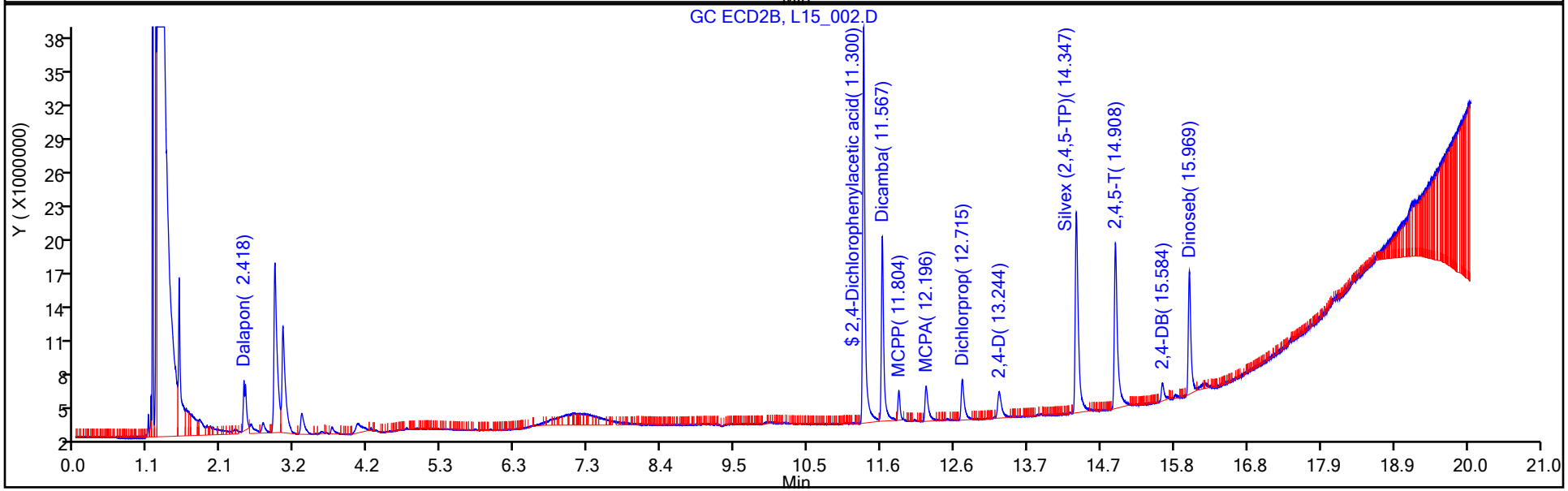

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_002.D				
Injection Date:	15-Aug-2019 09:37:51	Instrument ID:	CHECD08		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		
Column:		Detector	GC ECD1A		

1 Dalapon, CAS: 75-99-0

Signal: 1

Processing Integration Results

RT: 2.75
Area: 741927
Amount: 0.055804
Amount Units: ug/ml

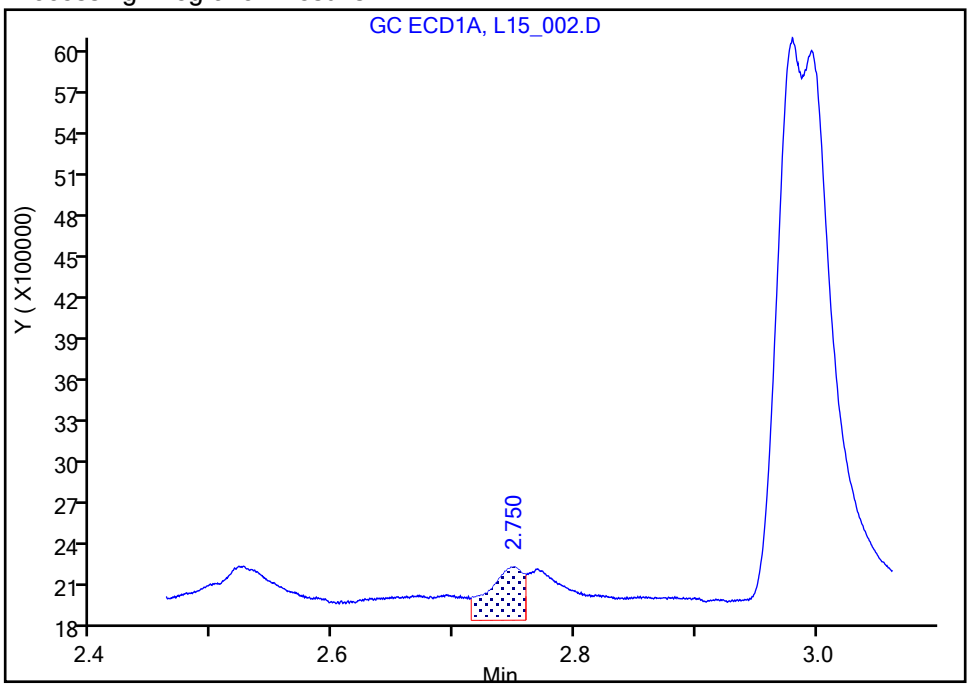

Manual Integration Results

RT: 2.75
Area: 640244
Amount: 0.038118
Amount Units: ug/ml

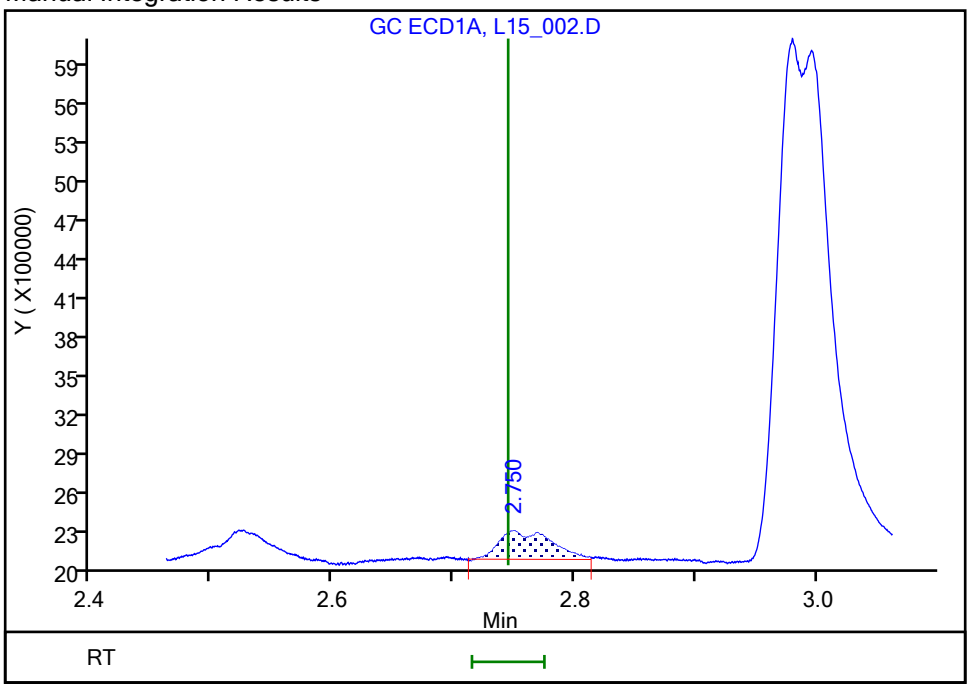

Reviewer: lamj, 15-Aug-2019 11:22:30

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_002.D				
Injection Date:	15-Aug-2019 09:37:51	Instrument ID:	CHECD08		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		
Column:		Detector	GC ECD1A		

7 2,4-D, CAS: 94-75-7

Signal: 1

Processing Integration Results

RT: 13.67
Area: 1985954
Amount: 0.039715
Amount Units: ug/ml

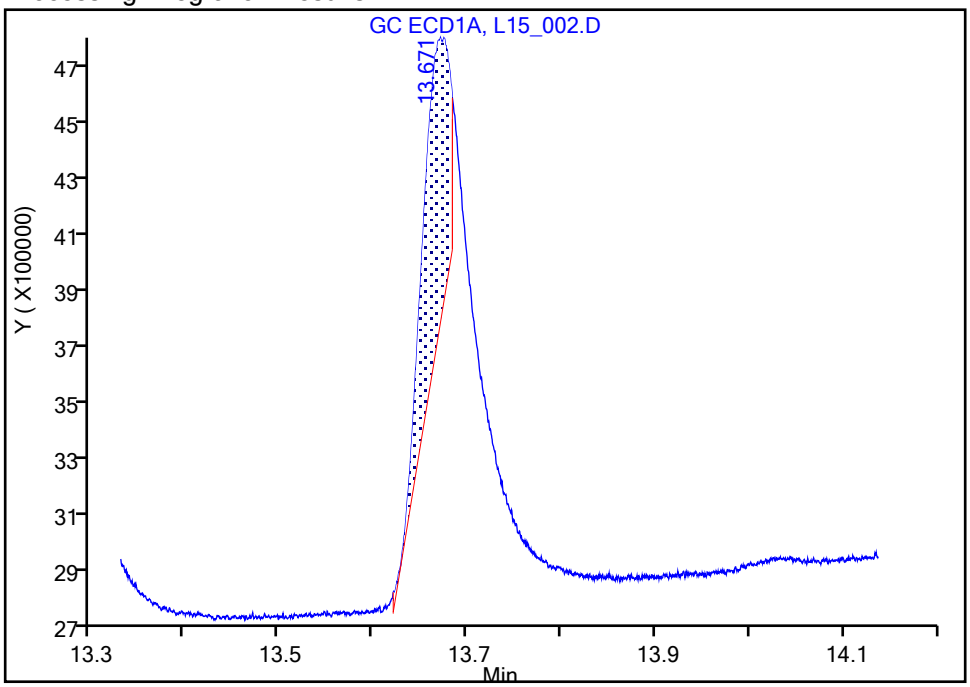

Manual Integration Results

RT: 13.67
Area: 7974596
Amount: 0.039035
Amount Units: ug/ml

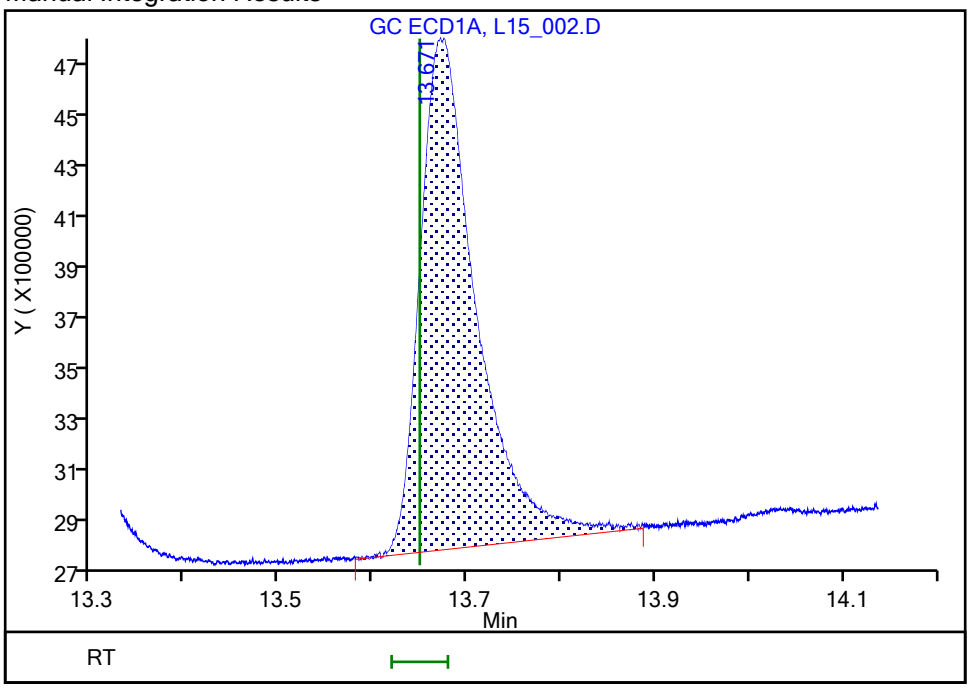

Reviewer: lamj, 15-Aug-2019 11:22:49

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_002.D				
Injection Date:	15-Aug-2019 09:37:51	Instrument ID:	CHECD08		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		
Column:		Detector	GC ECD1A		

8 Silvex (2,4,5-TP), CAS: 93-72-1

Signal: 1

Processing Integration Results

RT: 14.87
Area: 39993019
Amount: 0.036402
Amount Units: ug/ml

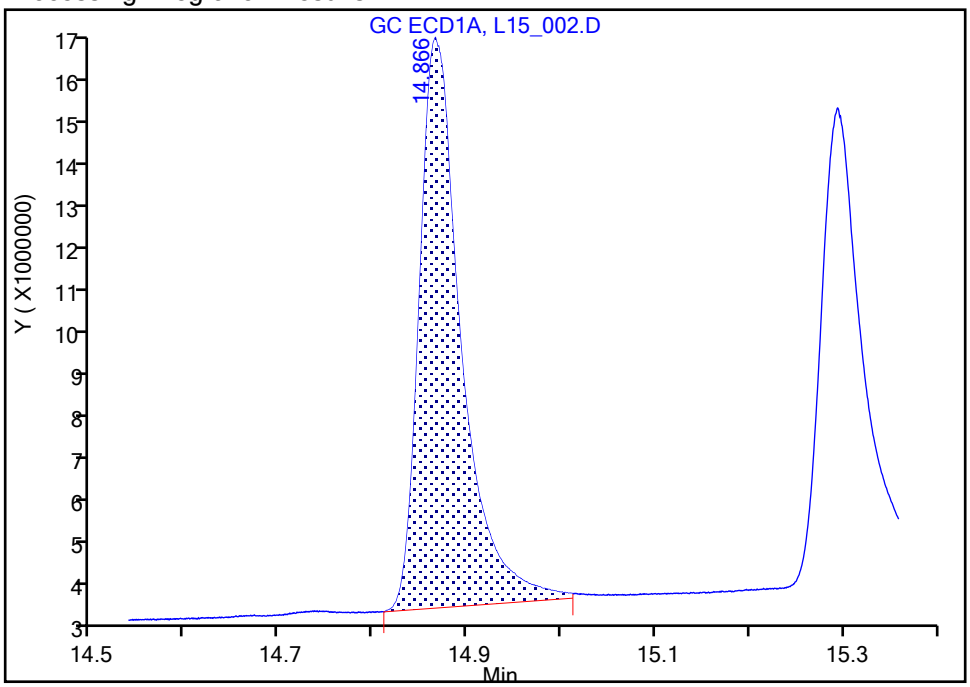

Manual Integration Results

RT: 14.87
Area: 40388670
Amount: 0.036708
Amount Units: ug/ml

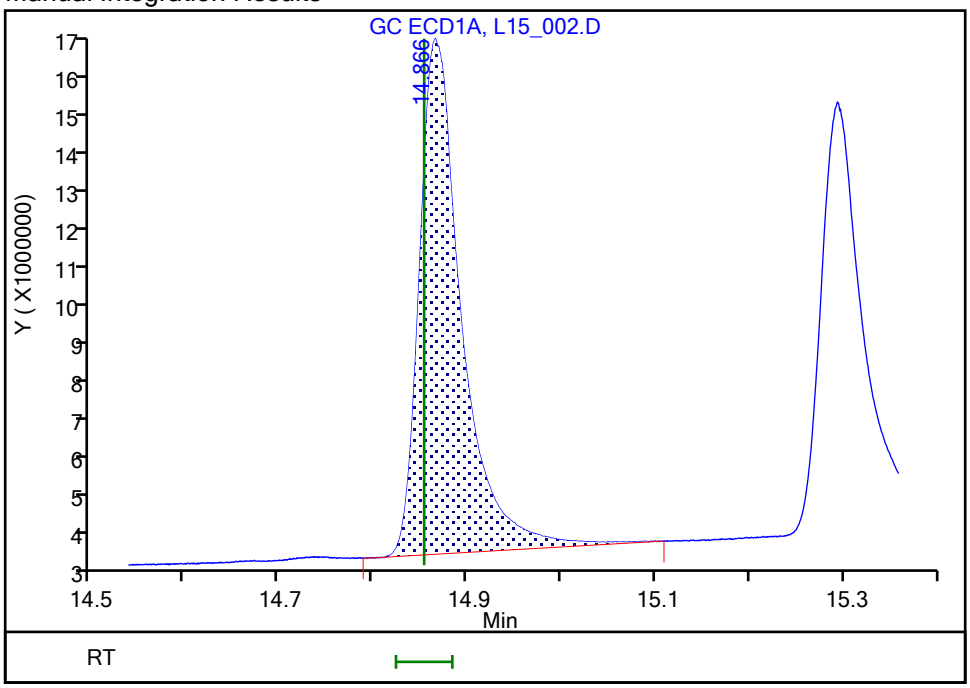

Reviewer: lamj, 15-Aug-2019 11:23:27

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_002.D				
Injection Date:	15-Aug-2019 09:37:51	Instrument ID:	CHECD08		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		
Column:		Detector	GC ECD1A		

9 2,4,5-T, CAS: 93-76-5

Signal: 1

Processing Integration Results

RT: 15.29
Area: 33251003
Amount: 0.035792
Amount Units: ug/ml

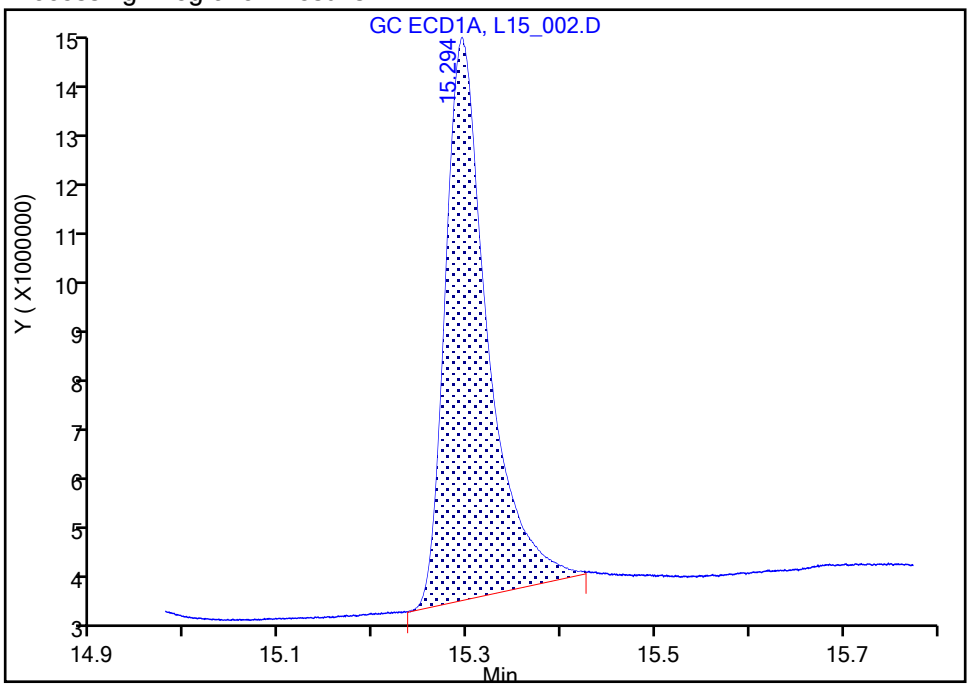

Manual Integration Results

RT: 15.29
Area: 35666214
Amount: 0.036213
Amount Units: ug/ml

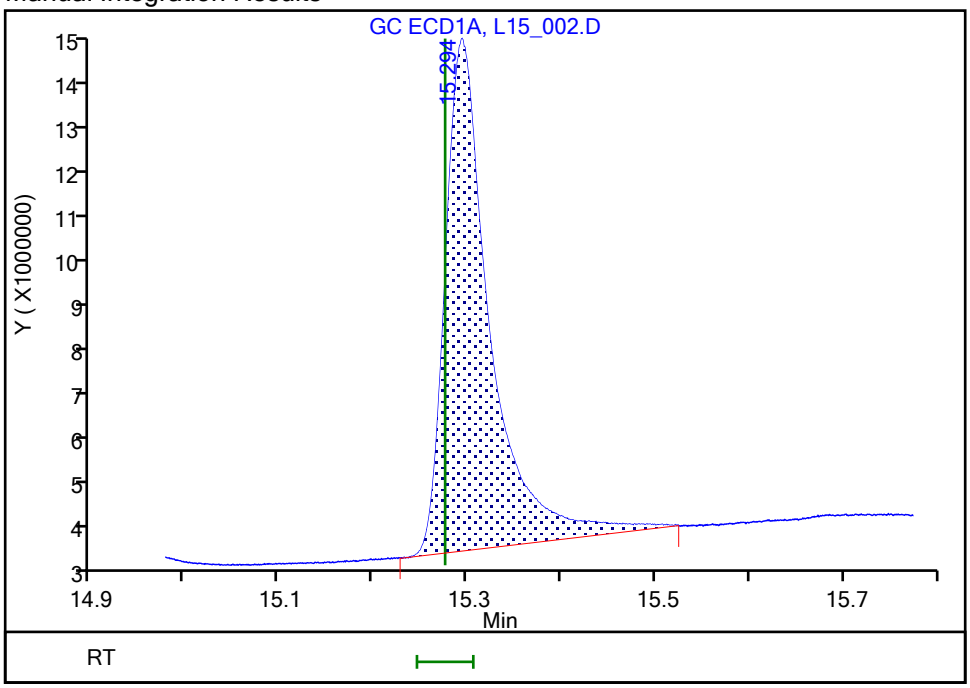

Reviewer: lamj, 15-Aug-2019 11:23:16

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_002.D				
Injection Date:	15-Aug-2019 09:37:51	Instrument ID:	CHECD08		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		
Column:		Detector	GC ECD1A		

10 2,4-DB, CAS: 94-82-6

Signal: 1

Processing Integration Results

RT: 16.03
Area: 347096
Amount: 0.039536
Amount Units: ug/ml

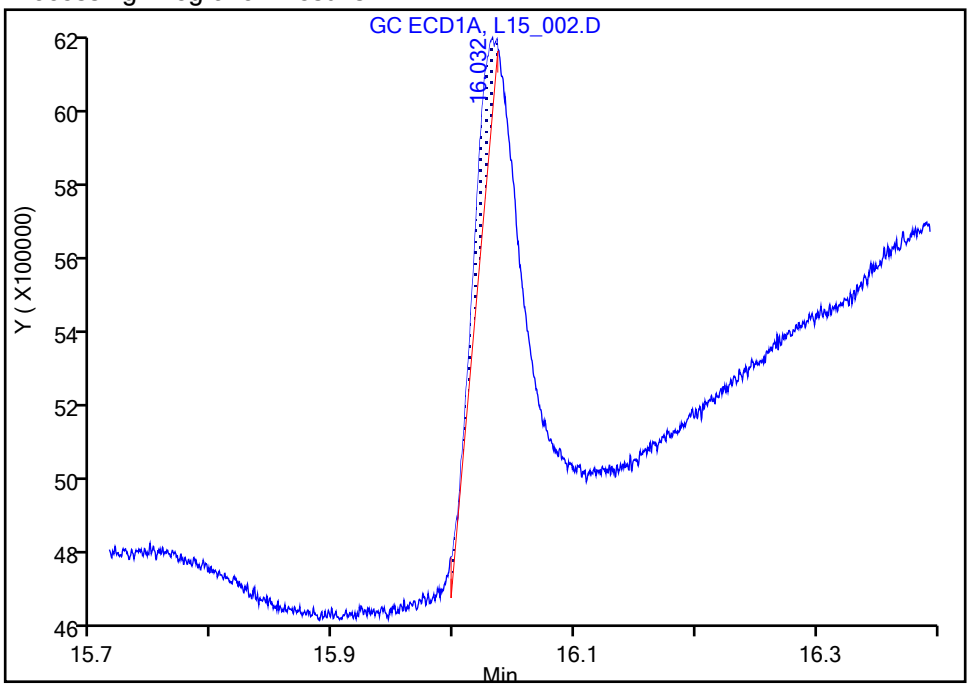

Manual Integration Results

RT: 16.03
Area: 4019889
Amount: 0.037442
Amount Units: ug/ml

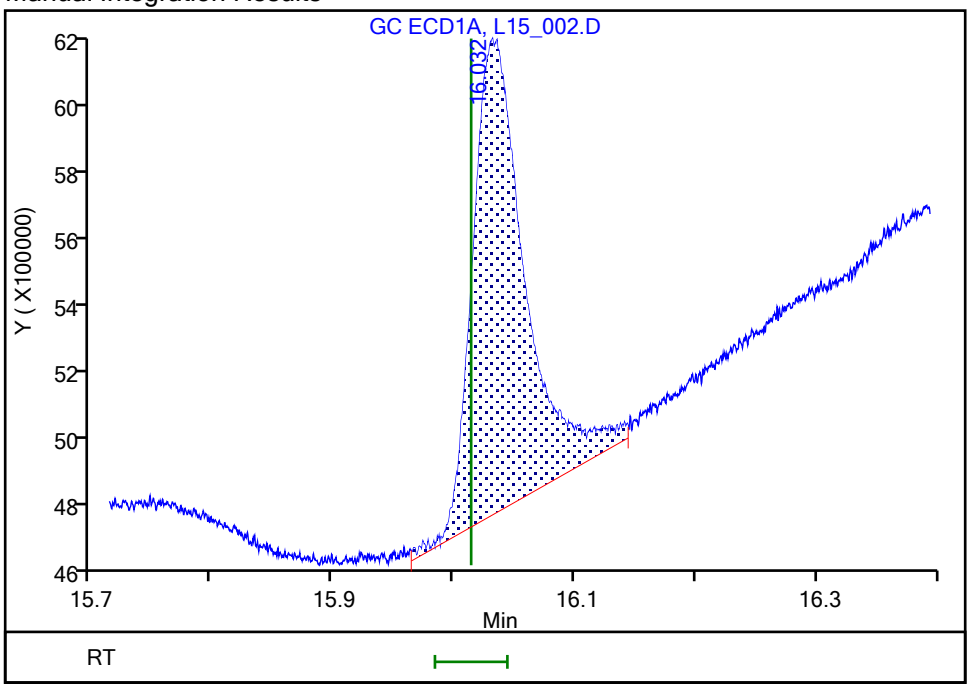

Reviewer: lamj, 15-Aug-2019 11:23:00

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_002.D				
Injection Date:	15-Aug-2019 09:37:51	Instrument ID:	CHECD08		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		
Column:		Detector	GC ECD1A		

11 Dinoseb, CAS: 88-85-7

Signal: 1

Processing Integration Results

RT: 17.44
Area: 21146789
Amount: 0.037080
Amount Units: ug/ml

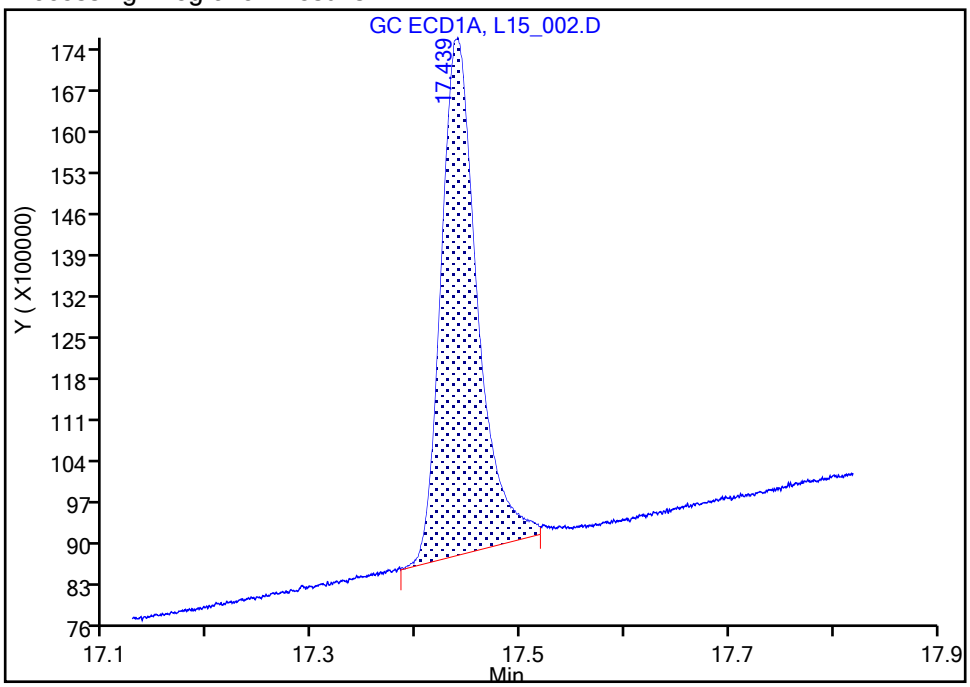

Manual Integration Results

RT: 17.44
Area: 21520006
Amount: 0.037928
Amount Units: ug/ml

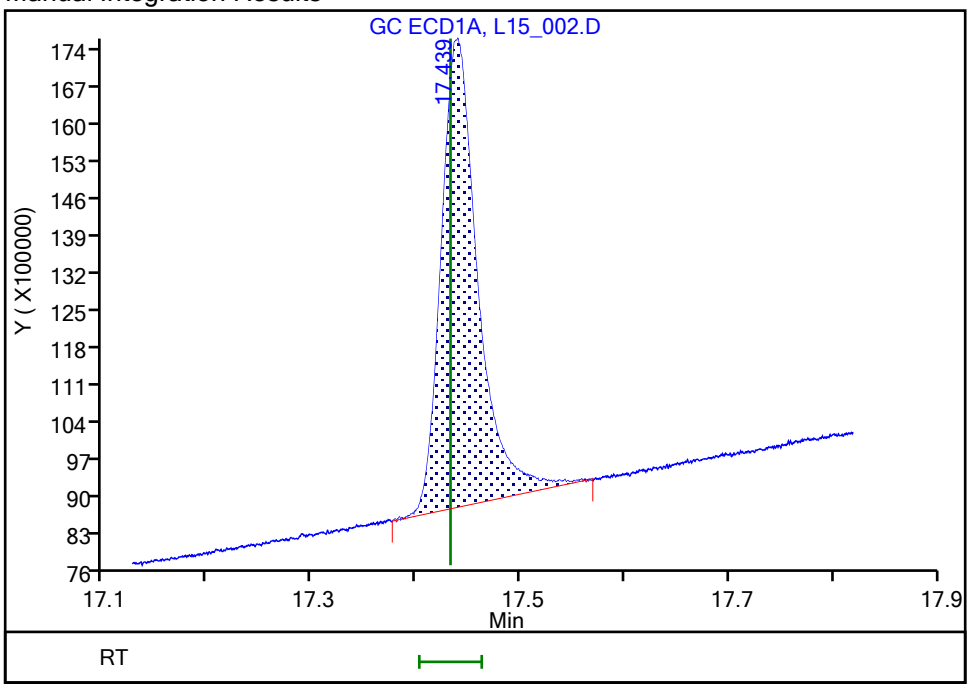

Reviewer: lamj, 15-Aug-2019 11:23:09

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_003.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 15-Aug-2019 10:02:41 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030560-003
Operator ID: JL Instrument ID: CHECD08
Sublist: chrom-HERB_CHECD08*sub1

Method: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\HERB_CHECD08.m
Limit Group: GCSV - 8151A
Last Update: 15-Aug-2019 12:07:05 Calib Date: 15-Aug-2019 11:42:30
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_007.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0321

First Level Reviewer: lamj Date: 15-Aug-2019 11:24:23

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Dalapon							M
1	2.747	2.745	0.002	1363859	0.0800	0.0812	M
2	2.418	2.418	0.000	29745683	0.0800	0.0824	M
						RPD = 1.51	
$ 2 2,4-Dichlorophenylacetic acid							
1	11.736	11.726	0.010	140894407	0.8000	0.7576	
2	11.293	11.286	0.007	174797217	0.8000	0.7590	
						RPD = 0.18	
3 Dicamba							
1	12.033	12.024	0.009	60722226	0.0800	0.0760	
2	11.564	11.557	0.007	85063768	0.0800	0.0783	
						RPD = 2.90	
4 MCPP							
1	12.388	12.380	0.008	8136055	8.00	8.18	
2	11.799	11.794	0.005	13062979	8.00	8.49	
						RPD = 3.78	
5 MCPA							
1	12.653	12.643	0.010	12506951	8.00	8.17	
2	12.189	12.183	0.006	17719061	8.00	8.35	
						RPD = 2.20	
6 Dichlorprop							
1	13.247	13.237	0.010	17865746	0.0800	0.0780	
2	12.710	12.702	0.008	23177974	0.0800	0.0771	
						RPD = 1.18	
7 2,4-D							
1	13.663	13.649	0.014	15644410	0.0800	0.0766	
2	13.236	13.226	0.010	19282087	0.0800	0.0756	
						RPD = 1.22	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
8 Silvex (2,4,5-TP)							
1	14.863	14.854	0.009	84064303	0.0800	0.0764	
2	14.348	14.343	0.005	119019984	0.0800	0.0764	
						RPD = 0.04	
9 2,4,5-T							M
1	15.289	15.276	0.013	76524506	0.0800	0.0777	M
2	14.906	14.898	0.008	102372295	0.0800	0.0770	
						RPD = 0.92	
10 2,4-DB							
1	16.027	16.014	0.013	8065585	0.0800	0.0751	
2	15.578	15.571	0.007	8608358	0.0800	0.0709	
						RPD = 5.80	
11 Dinoseb							
1	17.436	17.432	0.004	44129608	0.0800	0.0778	
2	15.968	15.963	0.005	62926556	0.0800	0.0773	
						RPD = 0.63	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

HERBCURVE2_00032 Amount Added: 1.00 Units: mL

Report Date: 15-Aug-2019 12:07:07 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_003.D				
Injection Date:	15-Aug-2019 10:02:41	Instrument ID:	CHECD08	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		

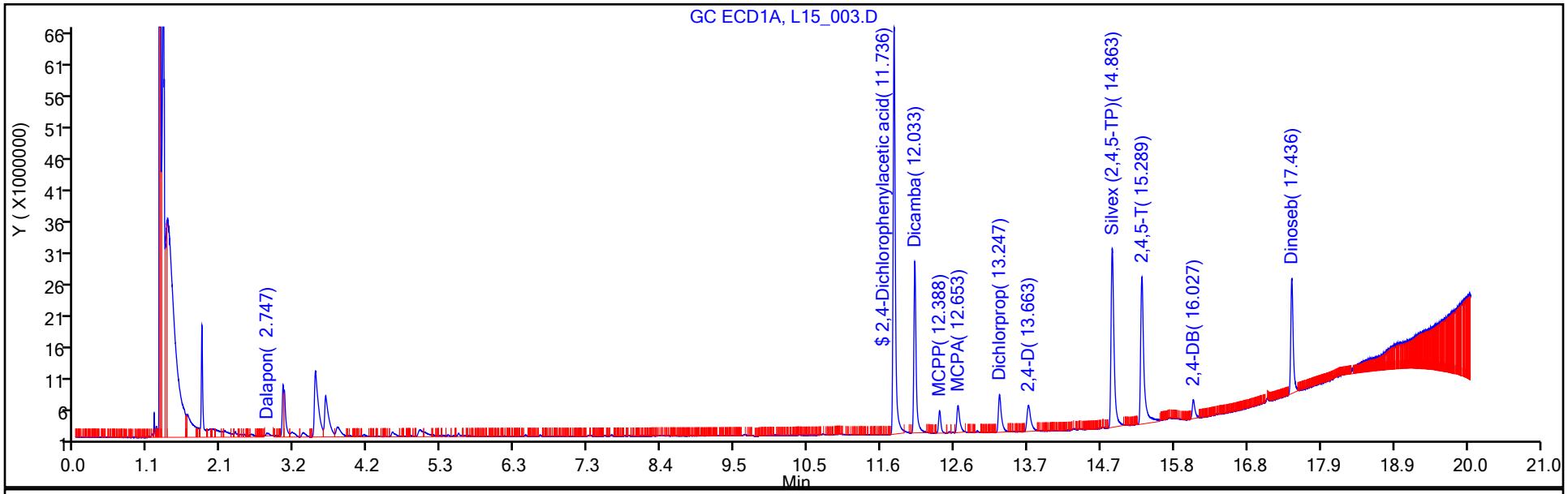

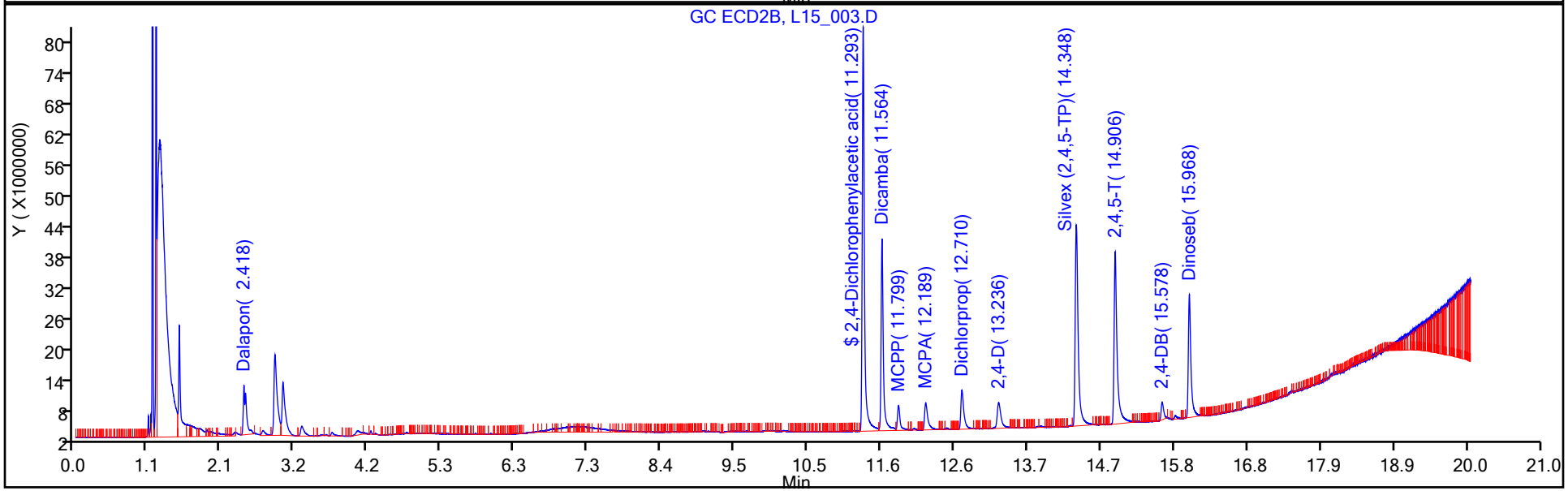

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_003.D				
Injection Date:	15-Aug-2019 10:02:41	Instrument ID:	CHECD08		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		
Column:		Detector	GC ECD1A		

1 Dalapon, CAS: 75-99-0

Signal: 1

Processing Integration Results

RT: 2.75
Area: 1156531
Amount: 0.091354
Amount Units: ug/ml

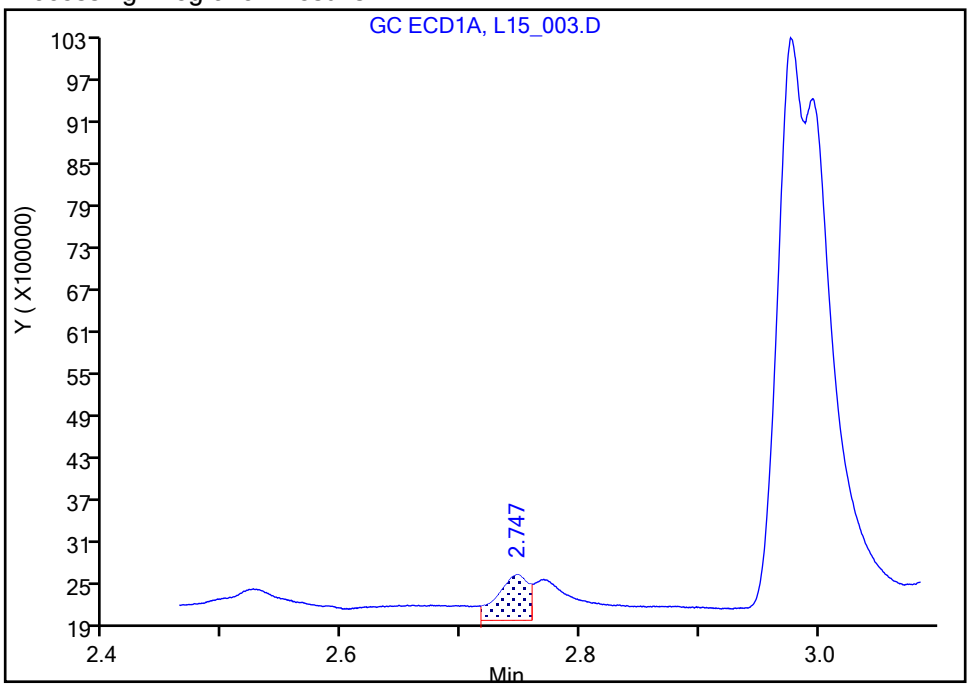

Manual Integration Results

RT: 2.75
Area: 1363859
Amount: 0.081201
Amount Units: ug/ml

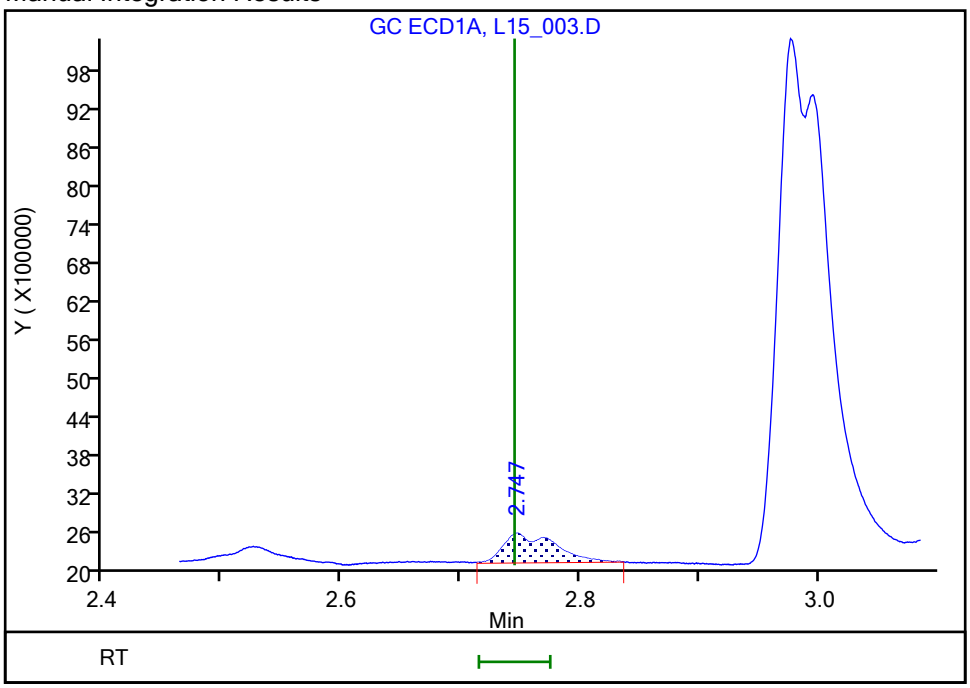

Reviewer: lamj, 15-Aug-2019 11:23:48

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_003.D				
Injection Date:	15-Aug-2019 10:02:41	Instrument ID:	CHECD08		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		
Column:		Detector	GC ECD1A		

9 2,4,5-T, CAS: 93-76-5

Signal: 1

Processing Integration Results

RT: 15.29
Area: 68686559
Amount: 0.072753
Amount Units: ug/ml

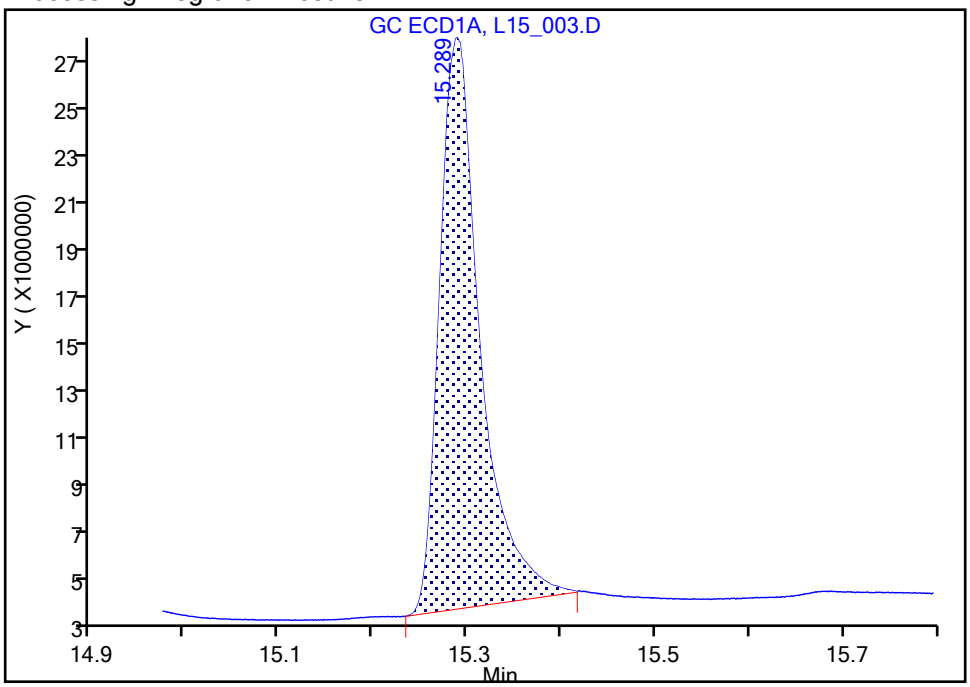

Manual Integration Results

RT: 15.29
Area: 76524506
Amount: 0.077697
Amount Units: ug/ml

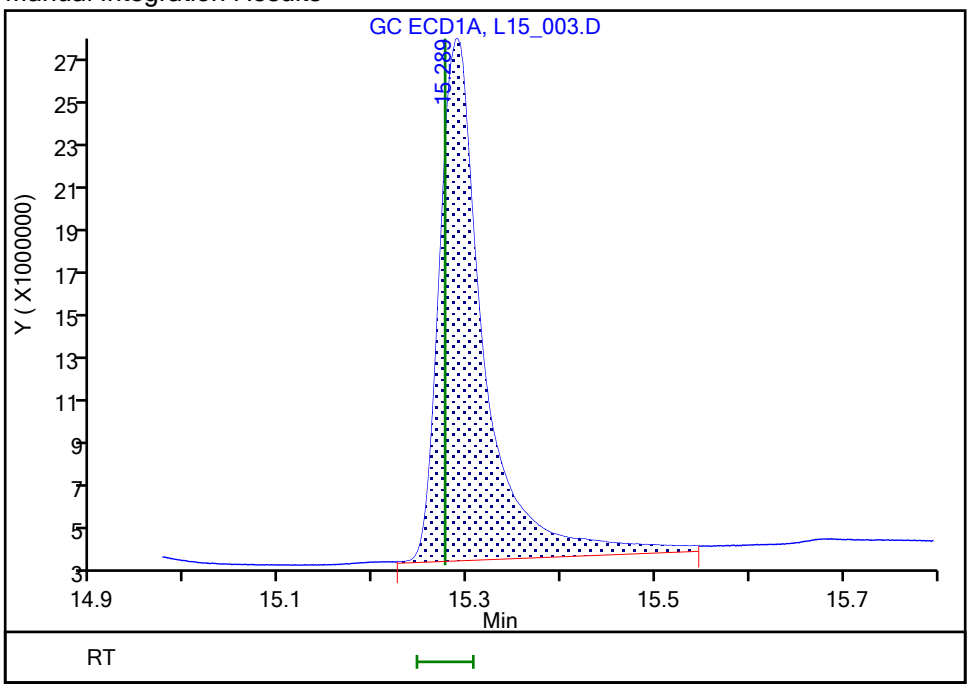

Reviewer: lamj, 15-Aug-2019 11:24:14

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_004.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 15-Aug-2019 10:27:38 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030560-004
Operator ID: JL Instrument ID: CHECD08
Sublist: chrom-HERB_CHECD08*sub1

Method: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\HERB_CHECD08.m
Limit Group: GCSV - 8151A
Last Update: 15-Aug-2019 12:07:14 Calib Date: 15-Aug-2019 11:42:30
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_007.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0321

First Level Reviewer: lamj Date: 15-Aug-2019 11:21:38

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Dalapon							M
1	2.746	2.745	0.001	1734117	0.1000	0.1032	M
2	2.418	2.418	0.000	33297677	0.1000	0.0923	M
						RPD = 11.22	
$ 2 2,4-Dichlorophenylacetic acid							
1	11.730	11.726	0.004	180364979	1.00	0.9699	
2	11.289	11.286	0.003	221386325	1.00	0.9613	
						RPD = 0.89	
3 Dicamba							
1	12.027	12.024	0.003	77747201	0.1000	0.0974	
2	11.560	11.557	0.003	105310912	0.1000	0.0969	
						RPD = 0.46	
4 MCPP							
1	12.385	12.380	0.005	9936607	10.0	9.99	
2	11.796	11.794	0.002	15980003	10.0	10.4	
						RPD = 3.94	
5 MCPA							
1	12.647	12.643	0.004	15490517	10.0	10.1	
2	12.187	12.183	0.004	21033919	10.0	9.92	
						RPD = 2.04	
6 Dichlorprop							
1	13.242	13.237	0.005	22805933	0.1000	0.0996	
2	12.704	12.702	0.002	29411775	0.1000	0.0979	
						RPD = 1.77	
7 2,4-D							
1	13.657	13.649	0.008	19617347	0.1000	0.0960	
2	13.230	13.226	0.004	24942017	0.1000	0.0979	
						RPD = 1.88	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
8 Silvex (2,4,5-TP)							
1	14.860	14.854	0.006	106182758	0.1000	0.0965	
2	14.346	14.343	0.003	151894227	0.1000	0.0975	
						RPD = 1.07	
9 2,4,5-T							M
1	15.283	15.276	0.007	96296299	0.1000	0.0978	M
2	14.902	14.898	0.004	130745436	0.1000	0.0983	
						RPD = 0.56	
10 2,4-DB							
1	16.019	16.014	0.005	10416095	0.1000	0.0970	
2	15.576	15.571	0.005	11785771	0.1000	0.0971	
						RPD = 0.04	
11 Dinoseb							M
1	17.434	17.432	0.002	56741401	0.1000	0.1000	M
2	15.967	15.963	0.004	80258603	0.1000	0.0986	
						RPD = 1.44	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

HERBCURVE3_00033 Amount Added: 1.00 Units: mL

Report Date: 15-Aug-2019 12:07:16 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_004.D				
Injection Date:	15-Aug-2019 10:27:38	Instrument ID:	CHECD08	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		

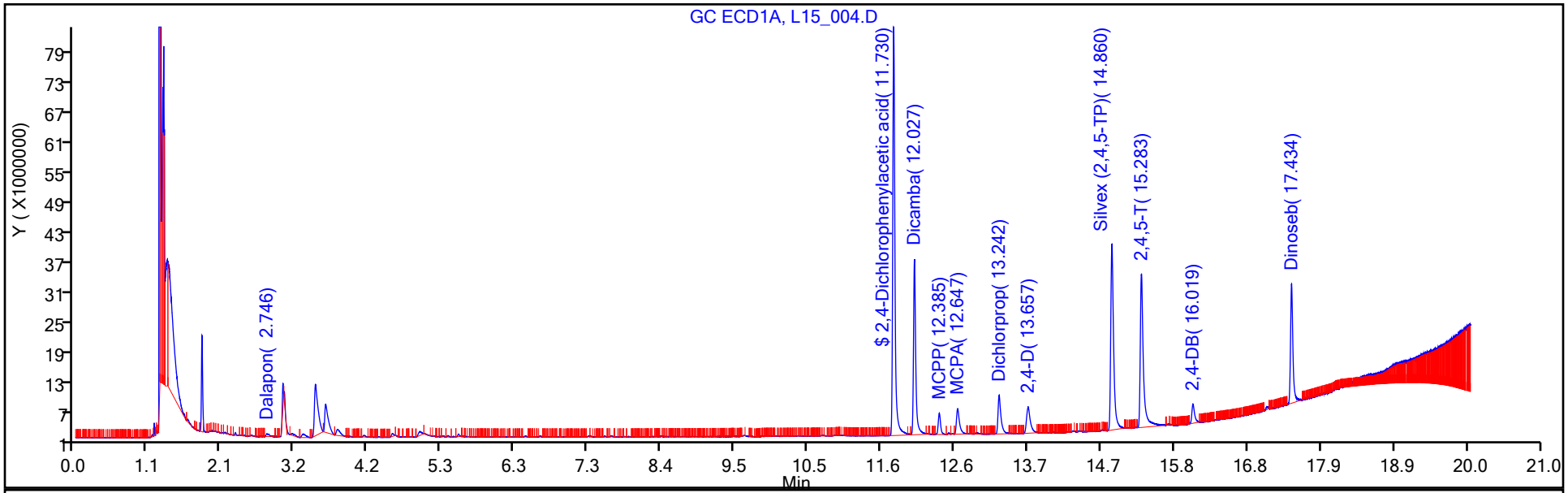

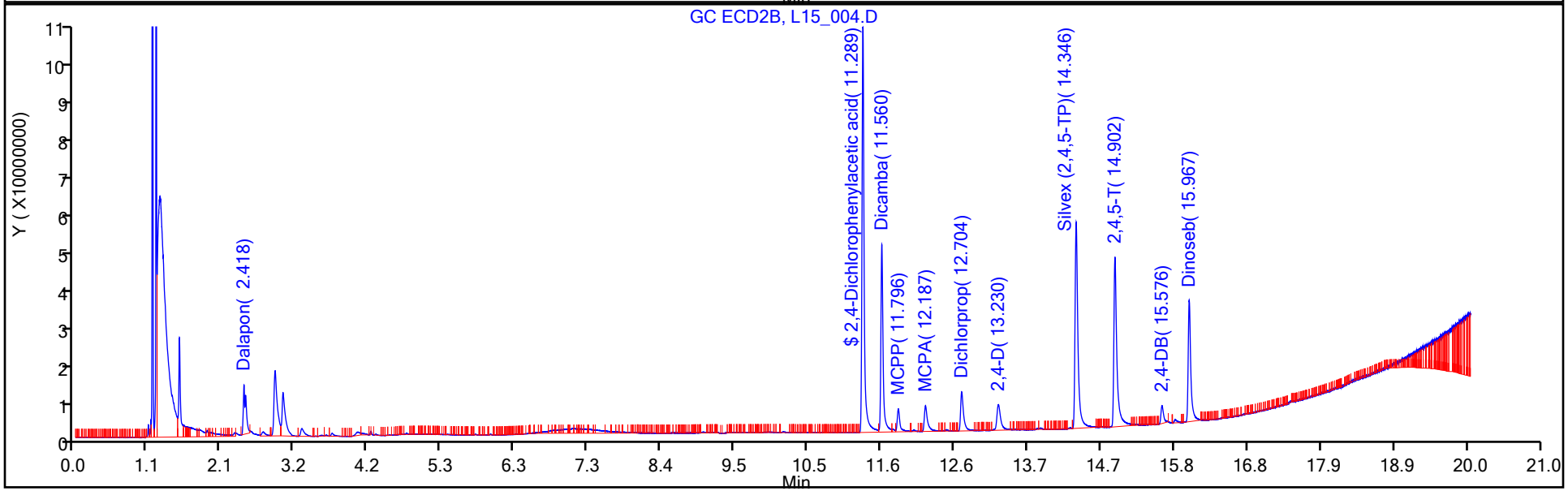

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_004.D				
Injection Date:	15-Aug-2019 10:27:38	Instrument ID:	CHECD08		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		
Column:		Detector	GC ECD1A		

1 Dalapon, CAS: 75-99-0

Signal: 1

Processing Integration Results

RT: 2.75
Area: 383606
Amount: 0.028826
Amount Units: ug/ml

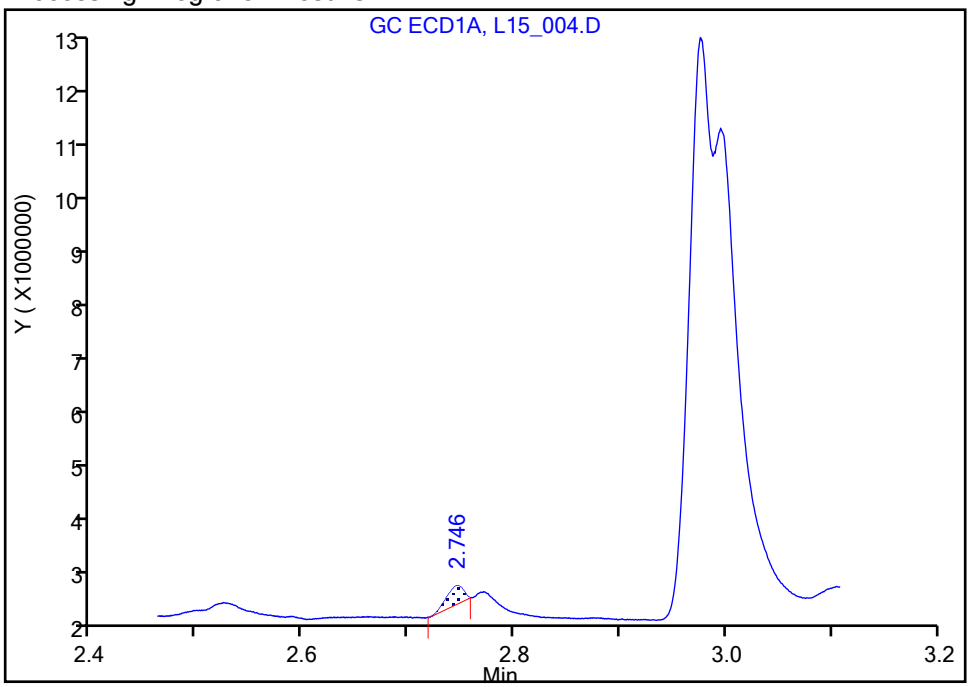

Manual Integration Results

RT: 2.75
Area: 1734117
Amount: 0.103245
Amount Units: ug/ml

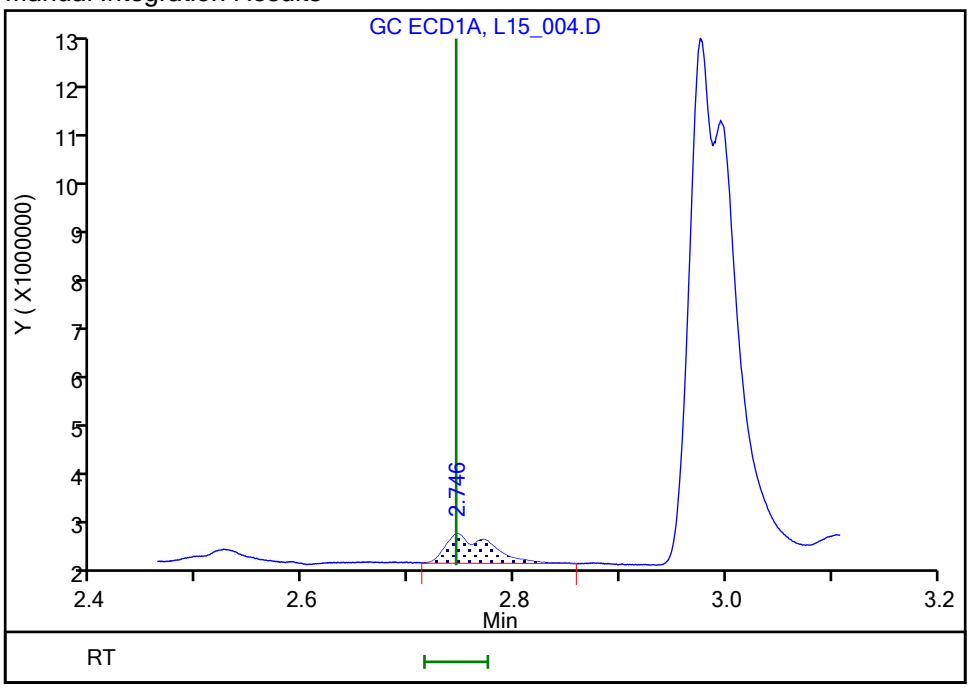

Reviewer: lamj, 15-Aug-2019 11:24:38

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_004.D				
Injection Date:	15-Aug-2019 10:27:38	Instrument ID:	CHECD08		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		
Column:		Detector	GC ECD1A		

9 2,4,5-T, CAS: 93-76-5

Signal: 1

Processing Integration Results

RT: 15.28
Area: 89709379
Amount: 0.092618
Amount Units: ug/ml

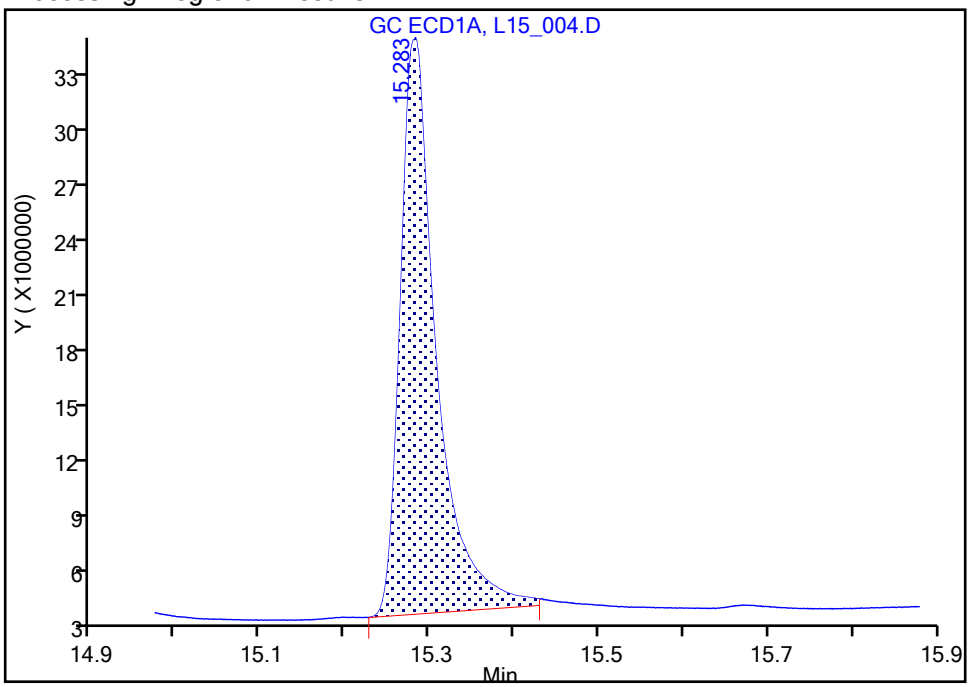

Manual Integration Results

RT: 15.28
Area: 96296299
Amount: 0.097772
Amount Units: ug/ml

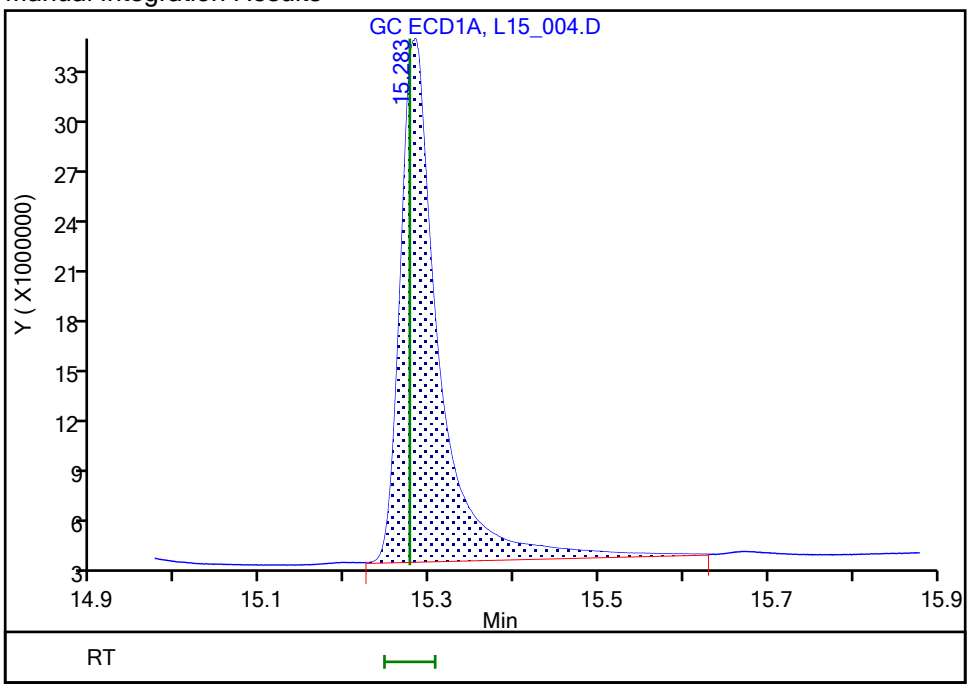

Reviewer: lamj, 15-Aug-2019 11:24:59

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_004.D				
Injection Date:	15-Aug-2019 10:27:38	Instrument ID:	CHECD08		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		
Column:		Detector	GC ECD1A		

11 Dinoseb, CAS: 88-85-7

Signal: 1

Processing Integration Results

RT: 17.43
Area: 55015540
Amount: 0.096075
Amount Units: ug/ml

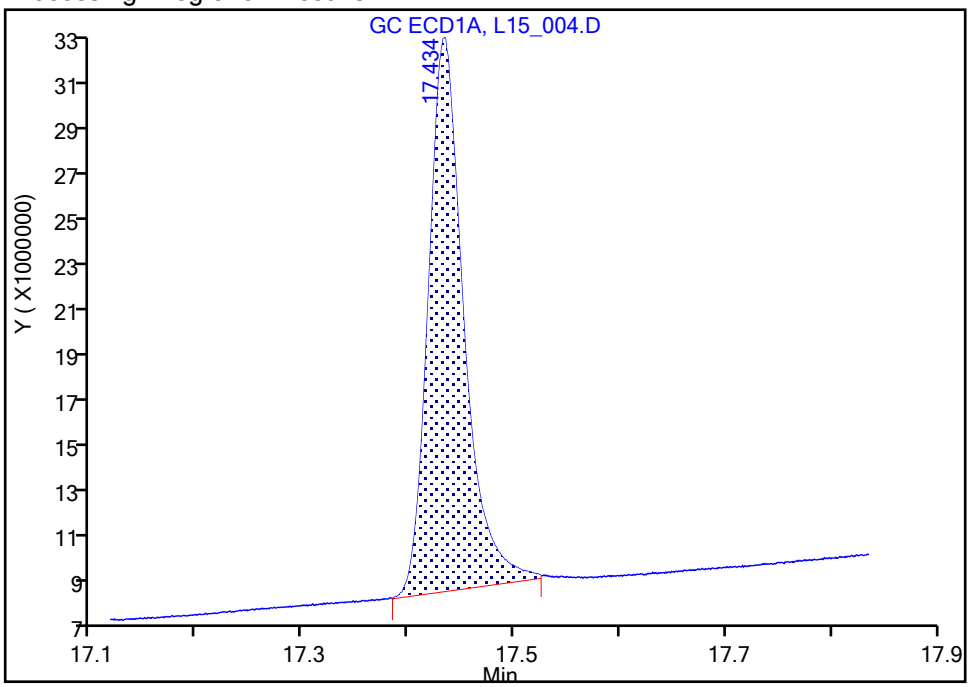

Manual Integration Results

RT: 17.43
Area: 56741401
Amount: 0.100003
Amount Units: ug/ml

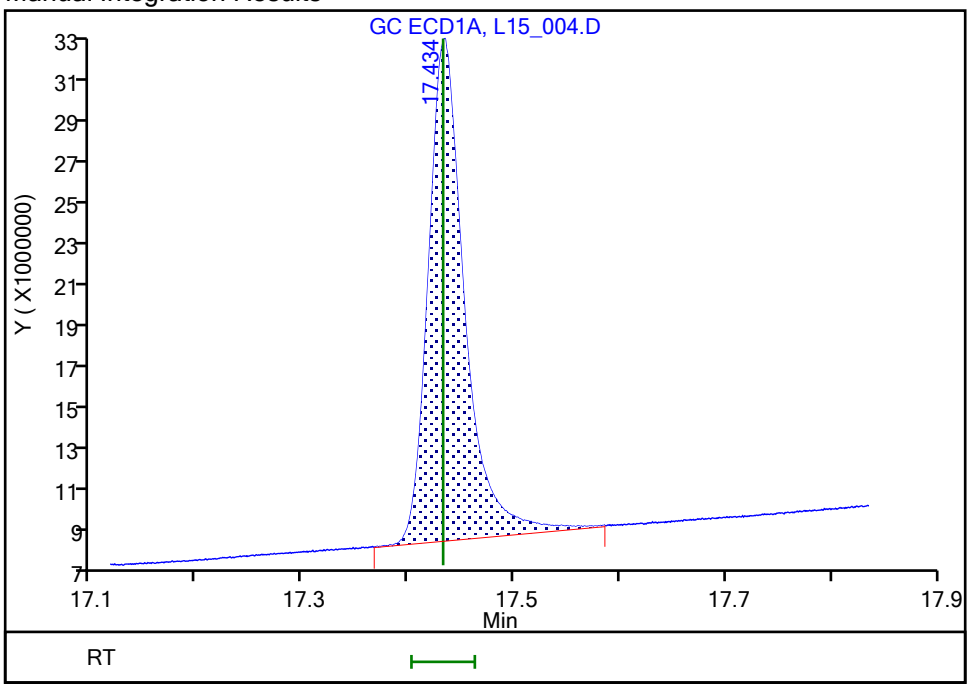

Reviewer: lamj, 15-Aug-2019 11:25:09

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_005.D
Lims ID: icrt
Client ID:
Sample Type: ICRT Calib Level: 4
Inject. Date: 15-Aug-2019 10:52:34 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030560-005
Operator ID: JL Instrument ID: CHECD08
Sublist: chrom-HERB_CHECD08*sub1

Method: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\HERB_CHECD08.m
Limit Group: GCSV - 8151A
Last Update: 15-Aug-2019 12:07:23 Calib Date: 15-Aug-2019 11:42:30
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_007.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0321

First Level Reviewer: lamj Date: 15-Aug-2019 11:22:16

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Dalapon							M
1	2.745	2.745	0.000	1960860	0.1200	0.1167	M
2	2.418	2.418	0.000	47854435	0.1200	0.1326	M
						RPD = 12.73	
$ 2 2,4-Dichlorophenylacetic acid							
1	11.726	11.726	0.000	256482076	1.20	1.38	
2	11.286	11.286	0.000	318002210	1.20	1.38	
						RPD = 0.12	
3 Dicamba							
1	12.024	12.024	0.000	109610801	0.1200	0.1372	
2	11.557	11.557	0.000	149258829	0.1200	0.1373	
						RPD = 0.07	
4 MCPP							
1	12.380	12.380	0.000	13062496	12.0	13.1	
2	11.794	11.794	0.000	20374196	12.0	13.2	
						RPD = 0.88	
5 MCPA							
1	12.643	12.643	0.000	19661865	12.0	12.8	
2	12.183	12.183	0.000	26686666	12.0	12.6	
						RPD = 2.08	
6 Dichlorprop							
1	13.237	13.237	0.000	31226609	0.1200	0.1364	
2	12.702	12.702	0.000	41061929	0.1200	0.1366	
						RPD = 0.17	
7 2,4-D							
1	13.649	13.649	0.000	27938010	0.1200	0.1368	
2	13.226	13.226	0.000	35237539	0.1200	0.1382	
						RPD = 1.08	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
8 Silvex (2,4,5-TP)							
1	14.854	14.854	0.000	153851482	0.1200	0.1398	
2	14.343	14.343	0.000	216668596	0.1200	0.1391	
						RPD = 0.49	
9 2,4,5-T							
1	15.276	15.276	0.000	135488405	0.1200	0.1376	
2	14.898	14.898	0.000	184025387	0.1200	0.1384	
						RPD = 0.59	
10 2,4-DB							
1	16.014	16.014	0.000	14678716	0.1200	0.1367	
2	15.571	15.571	0.000	17363832	0.1200	0.1430	
						RPD = 4.48	
11 Dinoseb							
1	17.432	17.432	0.000	78090690	0.1200	0.1376	
2	15.963	15.963	0.000	114677886	0.1200	0.1409	
						RPD = 2.31	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

HERBCURVE4_00043 Amount Added: 1.00 Units: mL

Report Date: 15-Aug-2019 12:07:25 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_005.D				
Injection Date:	15-Aug-2019 10:52:34	Instrument ID:	CHECD08	Operator ID:	JL
Lims ID:	icrt			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		

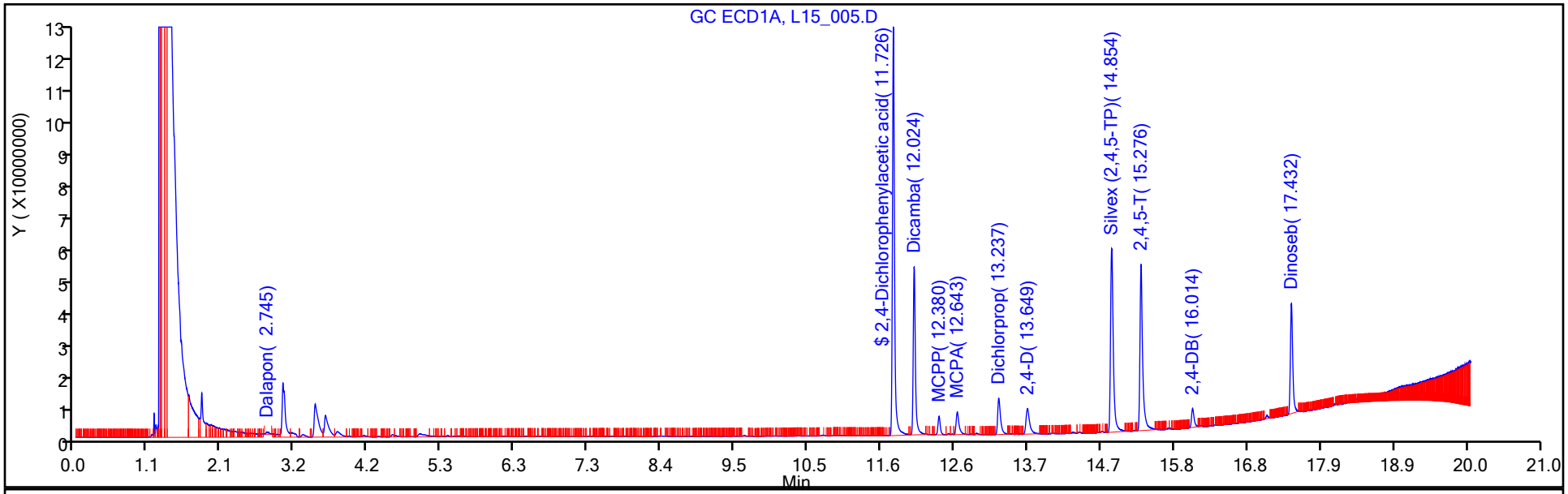

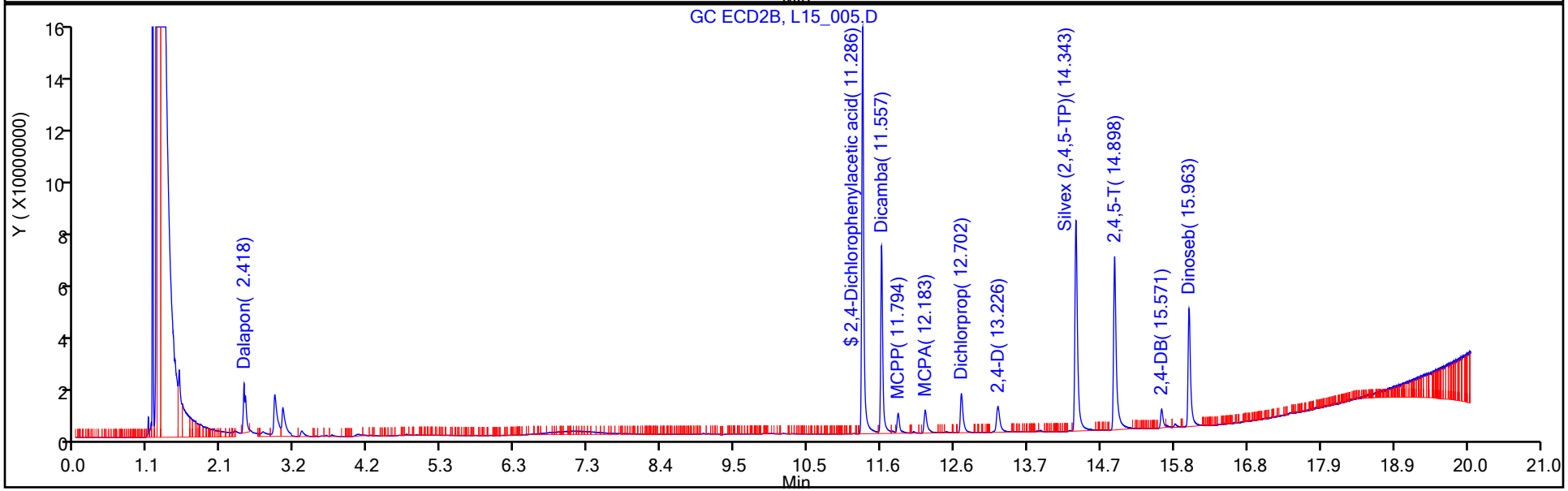

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_005.D				
Injection Date:	15-Aug-2019 10:52:34	Instrument ID:	CHECD08		
Lims ID:	icrt				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		
Column:		Detector	GC ECD1A		

1 Dalapon, CAS: 75-99-0

Signal: 1

Processing Integration Results

RT: 2.74
Area: 3483095
Amount: 0.211524
Amount Units: ug/ml

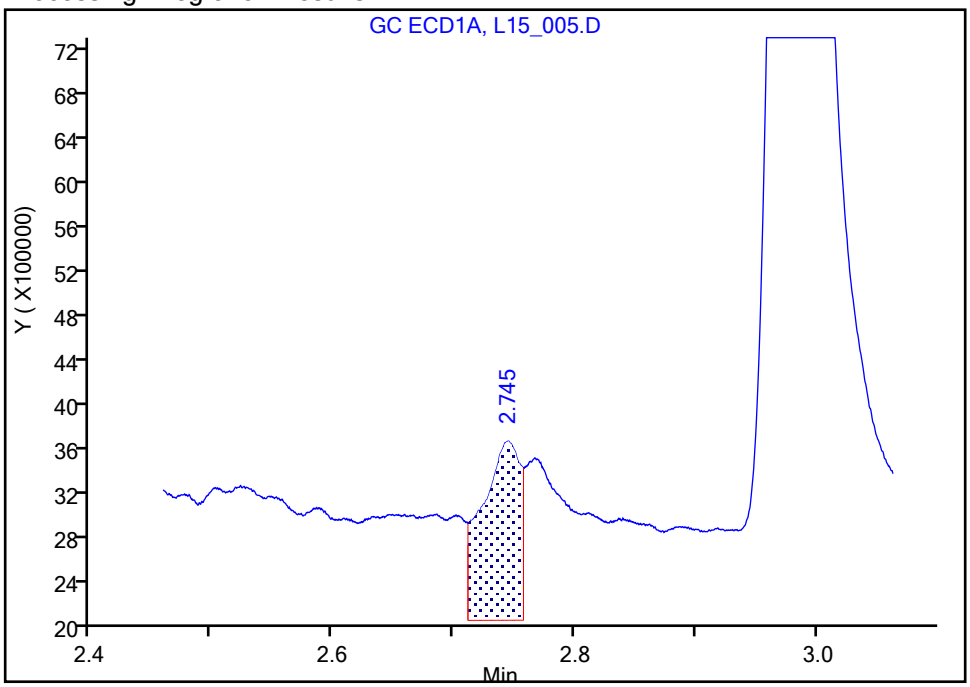

Manual Integration Results

RT: 2.74
Area: 1960860
Amount: 0.116744
Amount Units: ug/ml

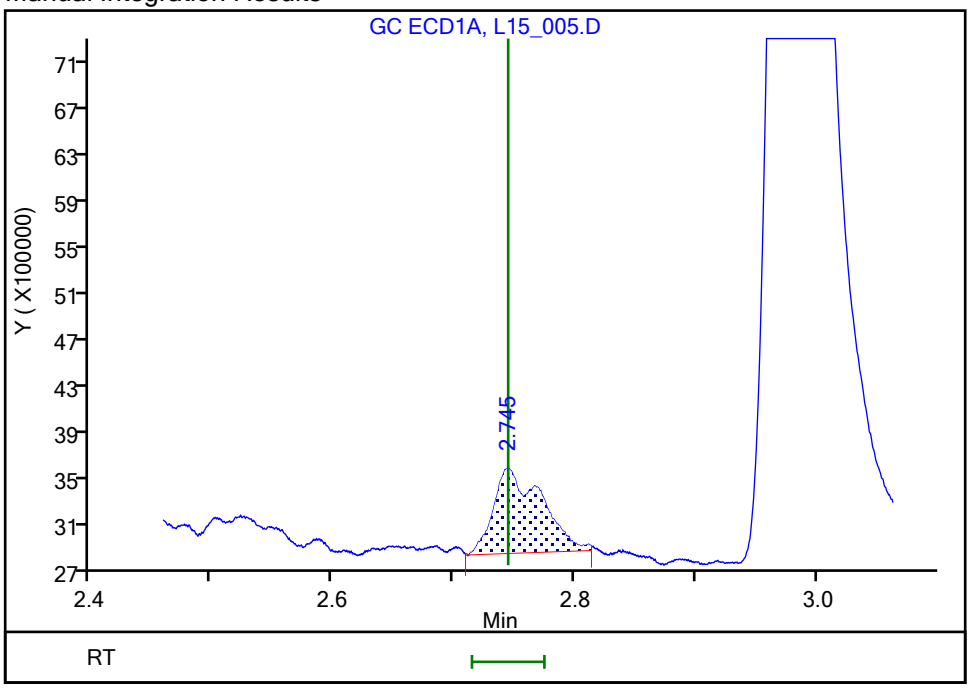

Reviewer: lamj, 15-Aug-2019 11:21:53
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_006.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 15-Aug-2019 11:17:30 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030560-006
Operator ID: JL Instrument ID: CHECD08
Sublist: chrom-HERB_CHECD08*sub1

Method: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\HERB_CHECD08.m
Limit Group: GCSV - 8151A
Last Update: 15-Aug-2019 12:07:32 Calib Date: 15-Aug-2019 11:42:30
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_007.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0321

First Level Reviewer: lamj Date: 15-Aug-2019 11:42:53

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Dalapon							M
1	2.746	2.745	0.001	2657783	0.1600	0.1582	M
2	2.418	2.418	0.000	59389196	0.1600	0.1646	M
						RPD = 3.93	
$ 2 2,4-Dichlorophenylacetic acid							
1	11.725	11.726	-0.001	296807407	1.60	1.60	
2	11.285	11.286	-0.001	369735161	1.60	1.61	
						RPD = 0.59	
3 Dicamba							
1	12.023	12.024	-0.001	127322235	0.1600	0.1594	
2	11.556	11.557	-0.001	172883256	0.1600	0.1591	
						RPD = 0.22	
4 MCPP							M
1	12.380	12.380	0.000	14769683	16.0	14.8	M
2	11.796	11.794	0.002	23362142	16.0	15.2	
						RPD = 2.28	
5 MCPA							
1	12.641	12.643	-0.002	21540054	16.0	14.1	
2	12.183	12.183	0.000	29878204	16.0	14.1	
						RPD = 0.09	
6 Dichlorprop							
1	13.237	13.237	0.000	35595765	0.1600	0.1555	
2	12.701	12.702	-0.001	47709872	0.1600	0.1588	
						RPD = 2.08	
7 2,4-D							
1	13.651	13.649	0.002	32060539	0.1600	0.1569	
2	13.222	13.226	-0.004	40689074	0.1600	0.1596	
						RPD = 1.70	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
8 Silvex (2,4,5-TP)							
1	14.854	14.854	0.000	175100447	0.1600	0.1591	
2	14.343	14.343	0.000	246457634	0.1600	0.1583	
						RPD = 0.54	
9 2,4,5-T							M
1	15.276	15.276	0.000	157234293	0.1600	0.1596	M
2	14.897	14.898	-0.001	210431029	0.1600	0.1582	
						RPD = 0.88	
10 2,4-DB							
1	16.018	16.014	0.004	17272592	0.1600	0.1609	
2	15.572	15.571	0.001	19646491	0.1600	0.1618	
						RPD = 0.56	
11 Dinoseb							
1	17.432	17.432	0.000	86954750	0.1600	0.1533	
2	15.964	15.963	0.001	127486632	0.1600	0.1566	
						RPD = 2.15	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

HERBCURVE5_00032 Amount Added: 1.00 Units: mL

Report Date: 15-Aug-2019 12:07:34 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_006.D				
Injection Date:	15-Aug-2019 11:17:30	Instrument ID:	CHECD08	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		

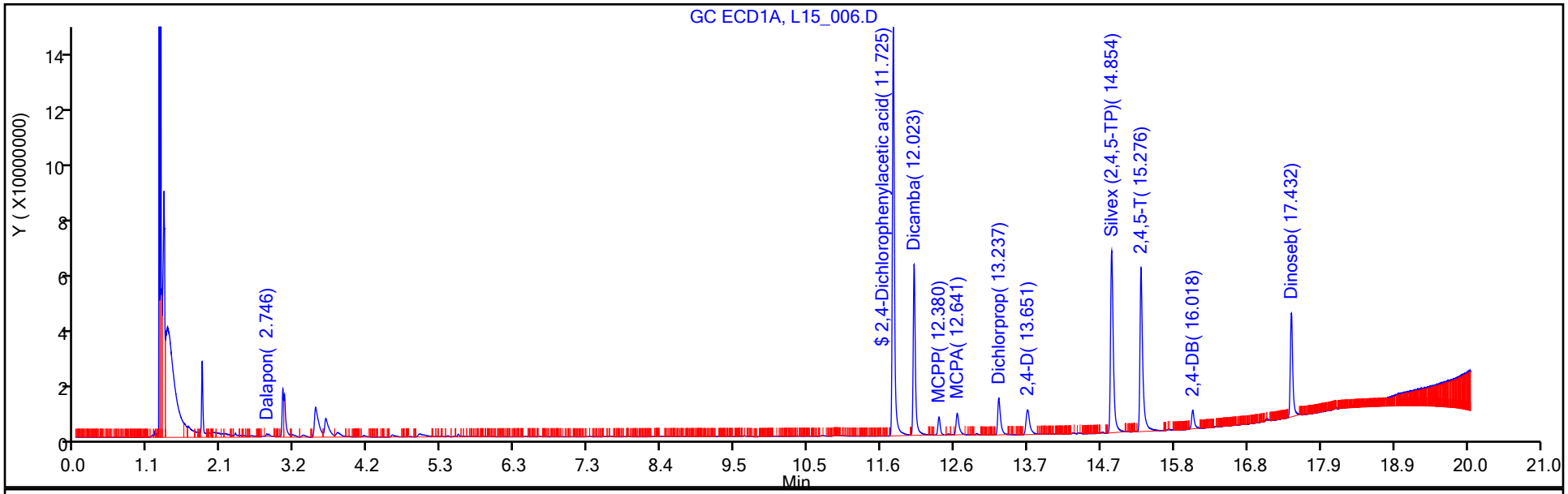

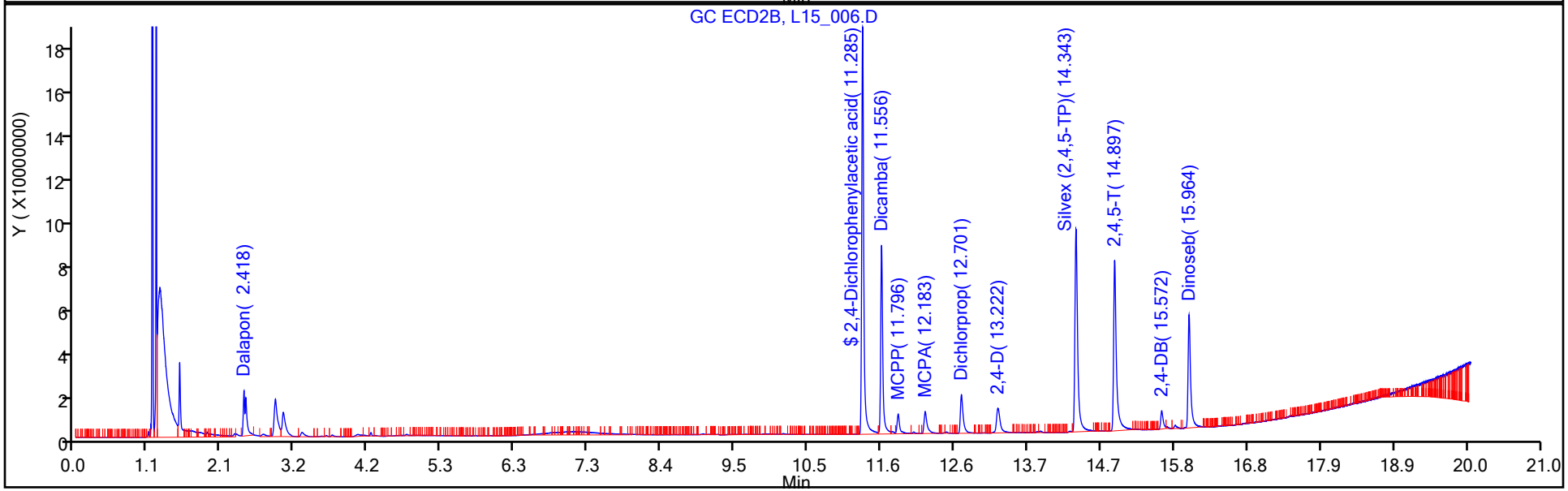

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_006.D				
Injection Date:	15-Aug-2019 11:17:30	Instrument ID:	CHECD08		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		
Column:		Detector	GC ECD1A		

1 Dalapon, CAS: 75-99-0

Signal: 1

Processing Integration Results

RT: 2.75
Area: 1950659
Amount: 0.123573
Amount Units: ug/ml

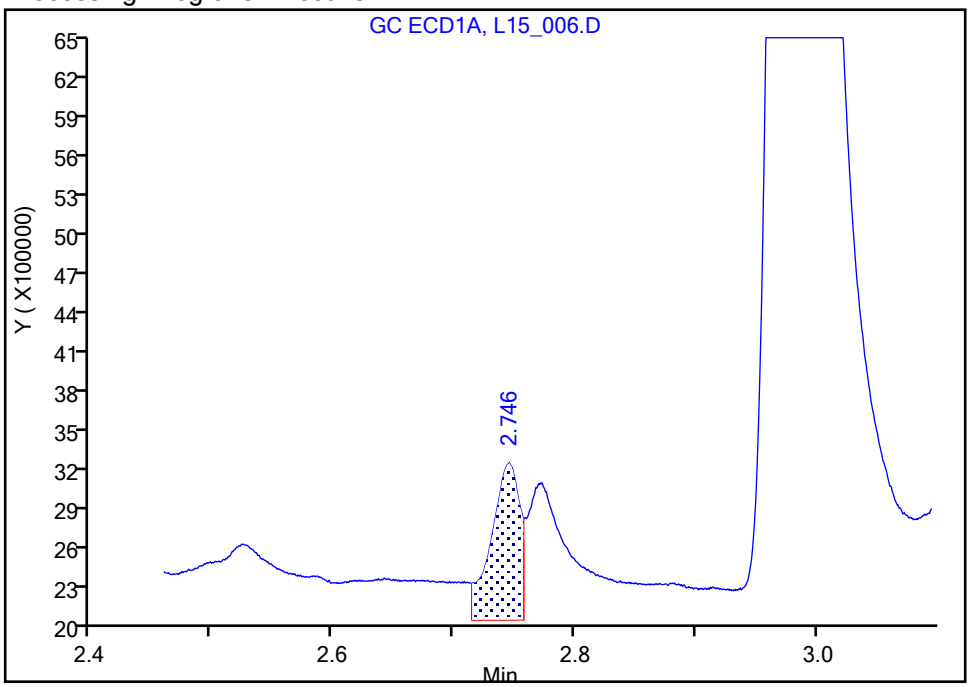

Manual Integration Results

RT: 2.75
Area: 2657783
Amount: 0.158237
Amount Units: ug/ml

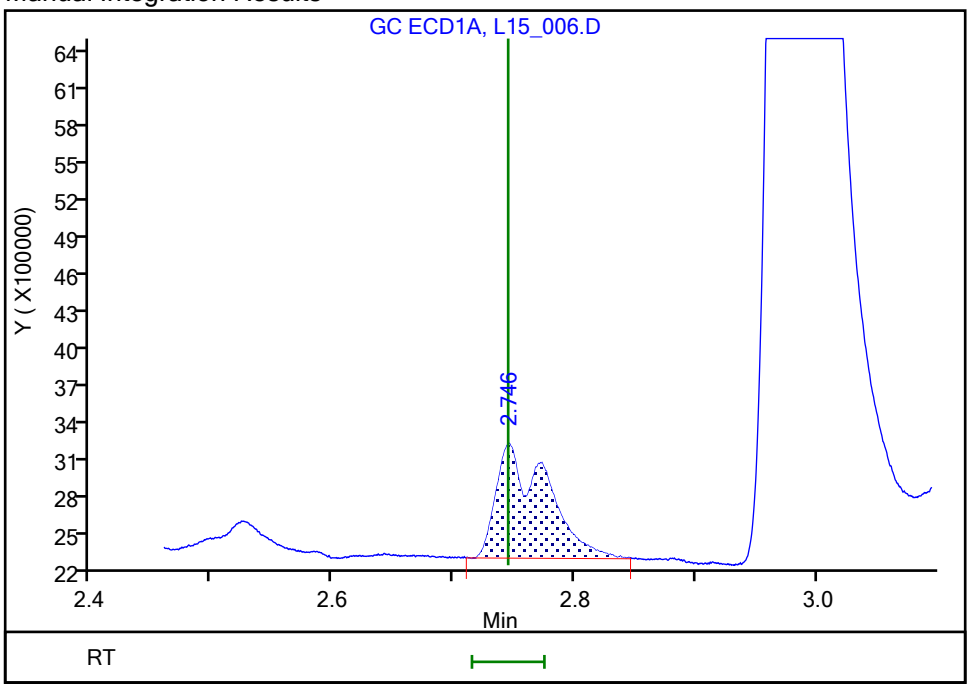

Reviewer: lamj, 15-Aug-2019 11:42:17

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_006.D				
Injection Date:	15-Aug-2019 11:17:30	Instrument ID:	CHECD08		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		
Column:		Detector	GC ECD1A		

4 MCPP, CAS: 93-65-2

Signal: 1

Processing Integration Results

RT: 12.38
Area: 6839918
Amount: 7.460774
Amount Units: ug/ml

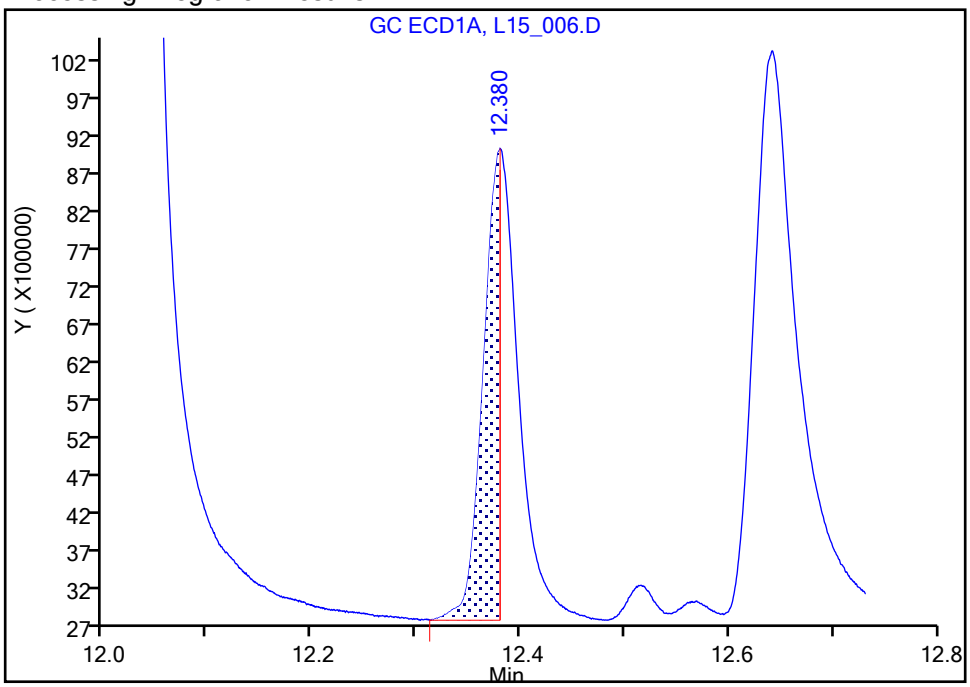

Manual Integration Results

RT: 12.38
Area: 14769683
Amount: 14.848376
Amount Units: ug/ml

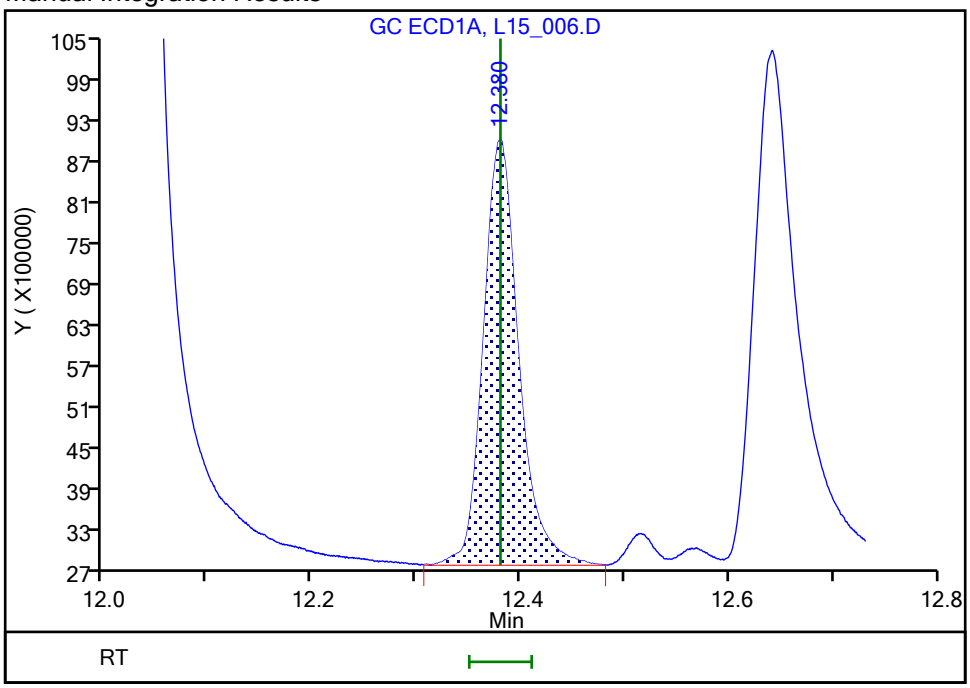

Reviewer: lamj, 15-Aug-2019 11:42:33

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_006.D				
Injection Date:	15-Aug-2019 11:17:30	Instrument ID:	CHECD08		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		
Column:		Detector	GC ECD1A		

9 2,4,5-T, CAS: 93-76-5

Signal: 1

Processing Integration Results

RT: 15.28
Area: 149583170
Amount: 0.153414
Amount Units: ug/ml

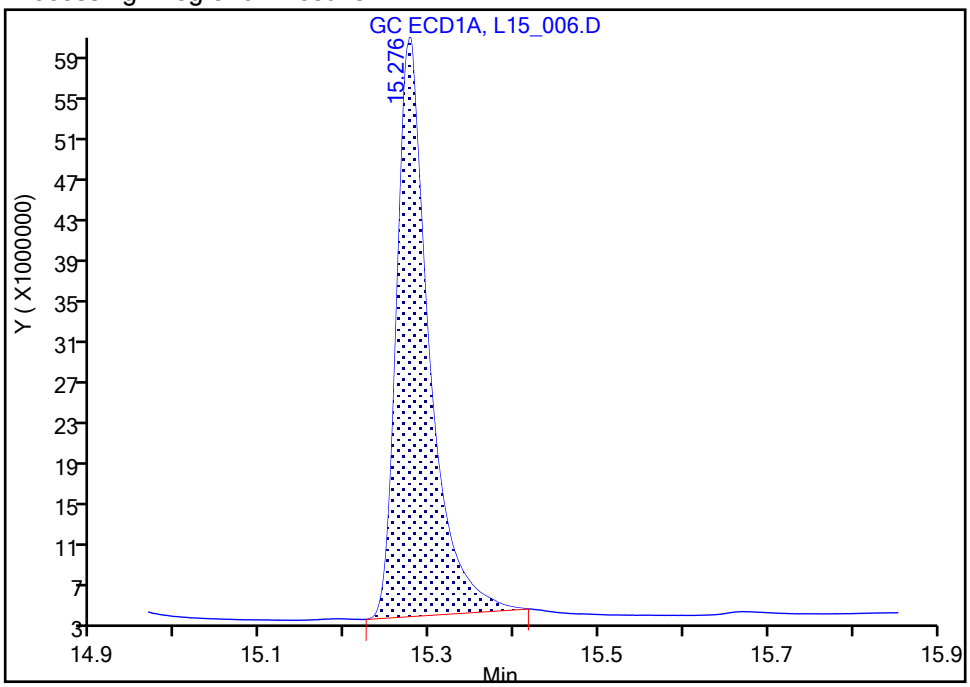

Manual Integration Results

RT: 15.28
Area: 157234293
Amount: 0.159643
Amount Units: ug/ml

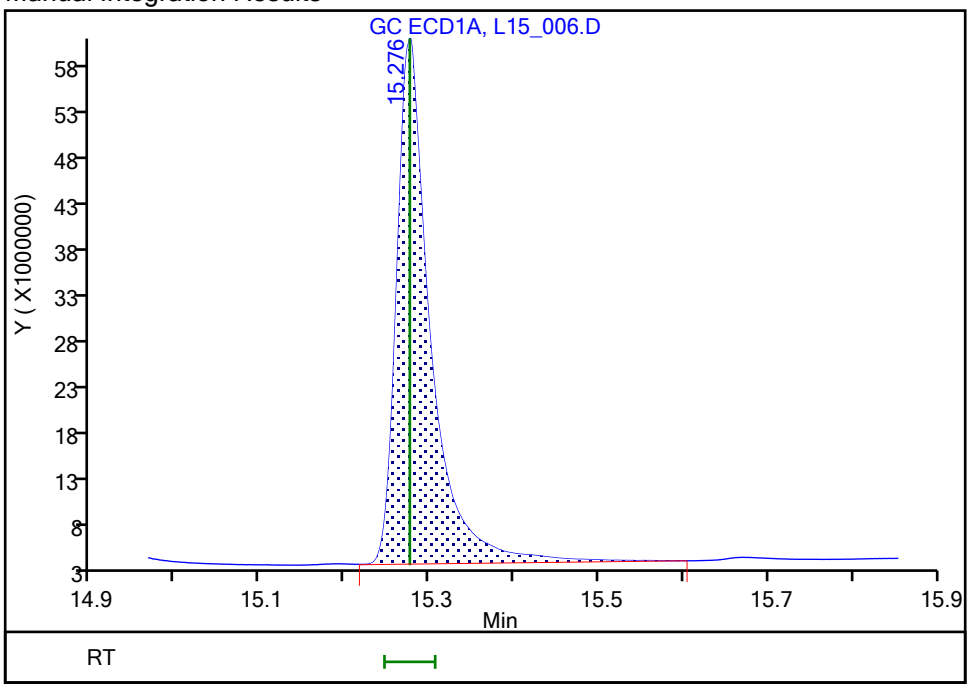

Reviewer: lamj, 15-Aug-2019 11:42:46

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_007.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 15-Aug-2019 11:42:30 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030560-007
Operator ID: JL Instrument ID: CHECD08
Sublist: chrom-HERB_CHECD08*sub1

Method: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\HERB_CHECD08.m
Limit Group: GCSV - 8151A
Last Update: 15-Aug-2019 12:07:43 Calib Date: 15-Aug-2019 11:42:30
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_007.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0321

First Level Reviewer: lamj Date: 15-Aug-2019 12:06:17

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Dalapon							M
1	2.745	2.745	0.000	3485990	0.2000	0.2075	M
2	2.417	2.418	-0.001	75504330	0.2000	0.2092	M
						RPD = 0.81	
$ 2 2,4-Dichlorophenylacetic acid							
1	11.722	11.726	-0.004	375581007	2.00	2.02	
2	11.282	11.286	-0.004	471434159	2.00	2.05	
						RPD = 1.35	
3 Dicamba							
1	12.020	12.024	-0.004	159414629	0.2000	0.1996	
2	11.555	11.557	-0.002	217967914	0.2000	0.2006	
						RPD = 0.48	
4 MCPP							
1	12.379	12.380	-0.001	17773428	20.0	17.9	
2	11.794	11.794	0.000	28362768	20.0	18.4	
						RPD = 3.17	
5 MCPA							
1	12.641	12.643	-0.002	27353365	20.0	17.9	
2	12.181	12.183	-0.002	35677881	20.0	16.8	
						RPD = 6.06	
6 Dichlorprop							
1	13.236	13.237	-0.001	44350705	0.2000	0.1938	
2	12.700	12.702	-0.002	59642104	0.2000	0.1985	
						RPD = 2.41	
7 2,4-D							
1	13.646	13.649	-0.003	40292567	0.2000	0.1972	
2	13.225	13.226	-0.001	51522739	0.2000	0.2021	
						RPD = 2.46	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
8 Silvex (2,4,5-TP)							
1	14.856	14.854	0.002	220546251	0.2000	0.2004	
2	14.345	14.343	0.002	319962840	0.2000	0.2055	
						RPD = 2.48	
9 2,4,5-T							
1	15.275	15.276	-0.001	197299635	0.2000	0.2003	
2	14.898	14.898	0.000	273365156	0.2000	0.2056	
						RPD = 2.58	
10 2,4-DB							
1	16.015	16.014	0.001	21684931	0.2000	0.2020	
2	15.571	15.571	0.000	24271987	0.2000	0.1999	
						RPD = 1.05	
11 Dinoseb							
1	17.431	17.432	-0.001	110621864	0.2000	0.1950	
2	15.967	15.963	0.004	166366752	0.2000	0.2043	
						RPD = 4.69	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

HERBCURVE6_00032 Amount Added: 1.00 Units: mL

Report Date: 15-Aug-2019 12:07:45 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_007.D				
Injection Date:	15-Aug-2019 11:42:30	Instrument ID:	CHECD08	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		

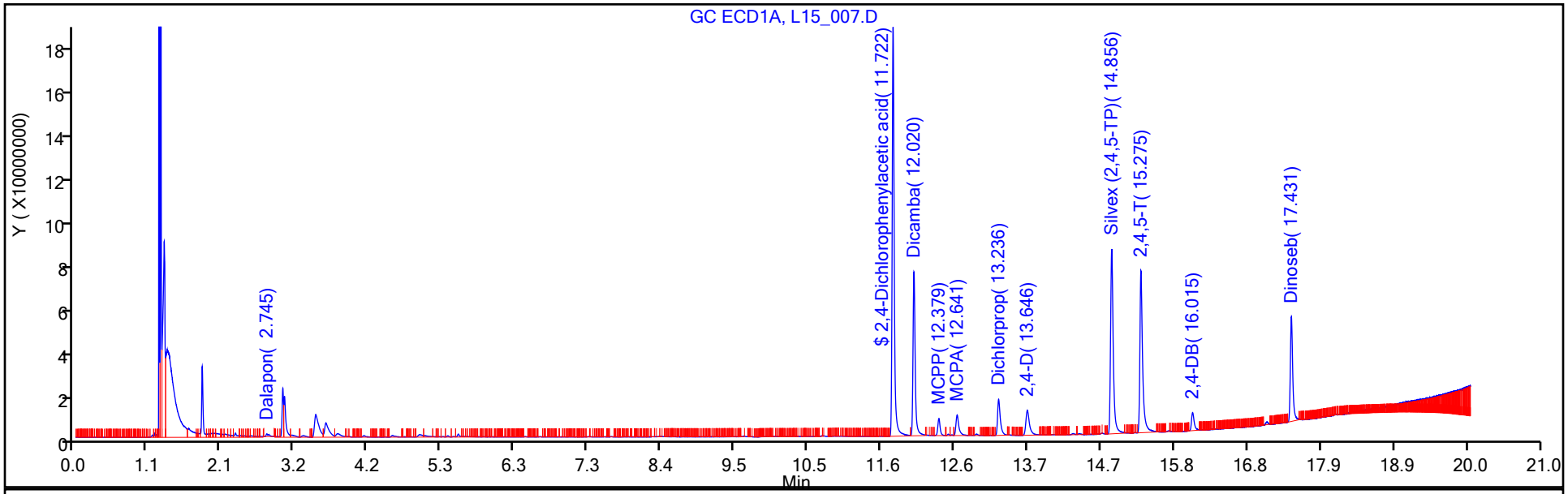

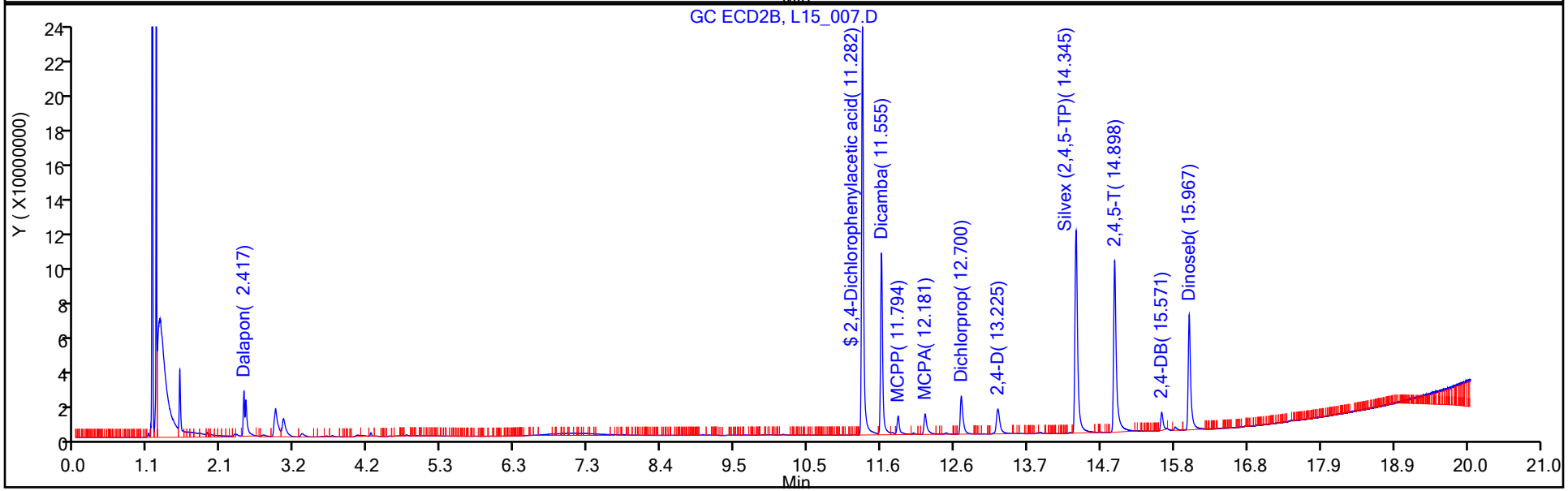

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_007.D				
Injection Date:	15-Aug-2019 11:42:30	Instrument ID:	CHECD08		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		
Column:		Detector	GC ECD1A		

1 Dalapon, CAS: 75-99-0

Signal: 1

Processing Integration Results

RT: 2.75
Area: 2672942
Amount: 0.165829
Amount Units: ug/ml

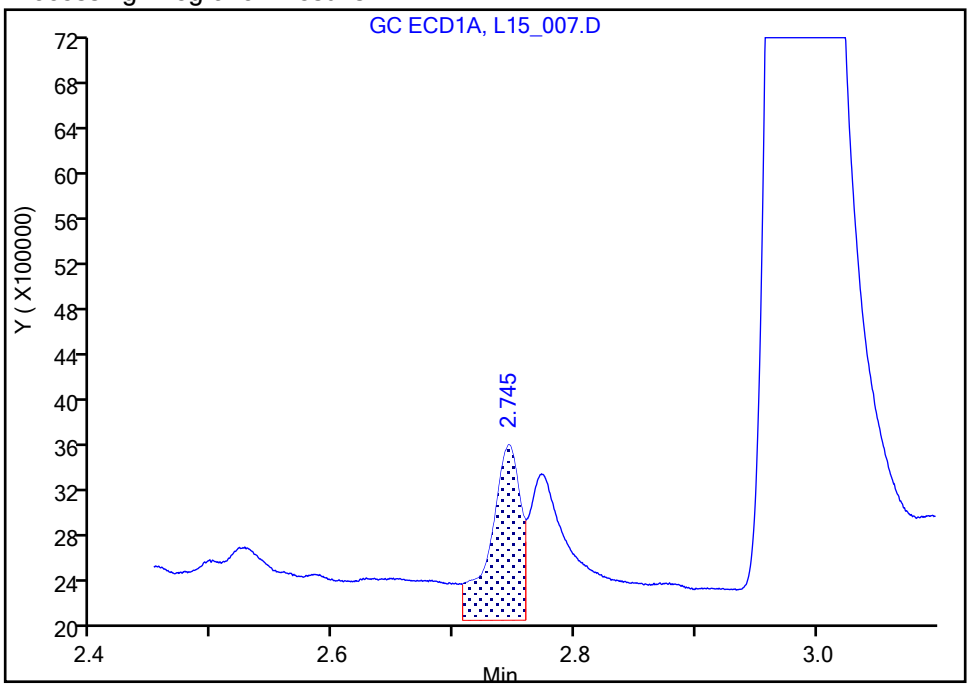

Manual Integration Results

RT: 2.75
Area: 3485990
Amount: 0.207547
Amount Units: ug/ml

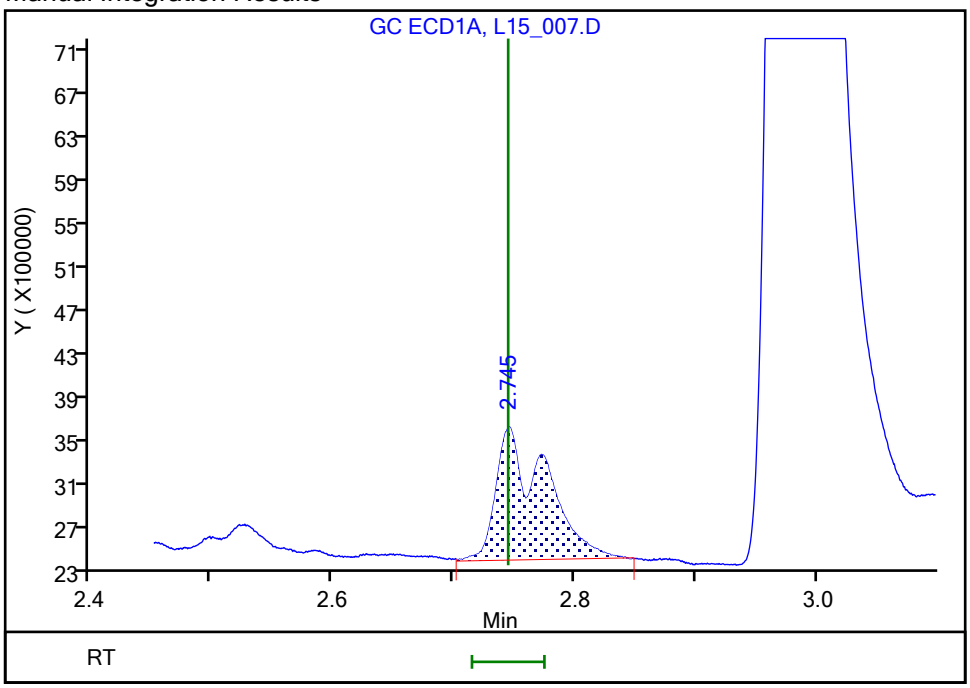

Reviewer: lamj, 15-Aug-2019 12:05:59

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VI
HERBICIDES BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 271997

SDG No.:

Instrument ID: CHECD08 GC Column: RTX-CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/15/2019 09:37 Calibration End Date: 08/15/2019 11:42 Calibration ID: 16460

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-271997/2	L15_002.D
Level 2	IC 600-271997/3	L15_003.D
Level 3	IC 600-271997/4	L15_004.D
Level 4	ICRT 600-271997/5	L15_005.D
Level 5	IC 600-271997/6	L15_006.D
Level 6	IC 600-271997/7	L15_007.D

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6					RT WINDOW	AVG RT
Dalapon	2.418	2.418	2.418	2.418	2.418	2.417					2.388 - 2.448	2.418
Dicamba	11.567	11.564	11.560	11.557	11.556	11.555					11.527 - 11.587	11.560
Mecoprop	11.804	11.799	11.796	11.794	11.796	11.794					11.764 - 11.824	11.797
MCPA	12.196	12.189	12.187	12.183	12.183	12.181					12.153 - 12.213	12.187
Dichlorprop	12.715	12.710	12.704	12.702	12.701	12.700					12.672 - 12.732	12.705
2,4-D	13.244	13.236	13.230	13.226	13.222	13.225					13.196 - 13.256	13.231
Silvex (2,4,5-TP)	14.347	14.348	14.346	14.343	14.343	14.345					14.313 - 14.373	14.345
2,4,5-T	14.908	14.906	14.902	14.898	14.897	14.898					14.868 - 14.928	14.902
2,4-DB	15.584	15.578	15.576	15.571	15.572	15.571					15.541 - 15.601	15.575
Dinoseb	15.969	15.968	15.967	15.963	15.964	15.967					15.933 - 15.993	15.966
2,4-Dichlorophenylacetic acid	11.300	11.293	11.289	11.286	11.285	11.282					11.256 - 11.316	11.289

FORM VI
HERBICIDES BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 271997

SDG No.:

Instrument ID: CHECD08 GC Column: RTX-CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/15/2019 09:37 Calibration End Date: 08/15/2019 11:42 Calibration ID: 16460

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-271997/2	L15_002.D
Level 2	IC 600-271997/3	L15_003.D
Level 3	IC 600-271997/4	L15_004.D
Level 4	ICRT 600-271997/5	L15_005.D
Level 5	IC 600-271997/6	L15_006.D
Level 6	IC 600-271997/7	L15_007.D

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3	LVL 4		B	M1	M2								
Dalapon	312774550 371182475	371821038 377521650	332976770	398786958	Ave		360843907				8.8		20.0			
Dicamba	990115450 1080520350	1063297100 1089839570	1053109120	1243823575	Ave		1086784194				7.8		20.0			
Mecoprop	1420065 1460134	1632872 1418138	1598000	1697850	Ave		1537843.27				7.8		20.0			
MCPA	2534438 1867388	2214883 1783894	2103392	2223889	Ave		2121313.78				12.8		20.0			
Dichlorprop	280517000 298186700	289724675 298210520	294117750	342182742	Ave		300489898				7.1		20.0			
2,4-D	233356050 254306713	241026088 257613695	249420170	293646158	Ave		254894812				8.2		20.0			
Silvex (2,4,5-TP)	1390155575 1540360213	1487749800 1599814200	1518942270	1805571633	Ave		1557098948				9.0		20.0			
2,4,5-T	1176166875 1315193931	1279653688 1366825780	1307454360	1533544892	Ave		1329806588				8.9		20.0			
2,4-DB	114319450 122790569	107604475 121359935	117857710	144698600	Ave		121438456				10.4		20.0			
Dinoseb	711664350 796791450	786581950 831833760	802586030	955649050	Ave		814184432				9.8		20.0			
2,4-Dichlorophenylacetic acid	210087825 231084476	218496521 235717080	221386325	265001842	Ave		230295678				8.4		20.0			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HERBICIDES BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 271997

SDG No.:

Instrument ID: CHECD08 GC Column: RTX-CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/15/2019 09:37 Calibration End Date: 08/15/2019 11:42 Calibration ID: 16460

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-271997/2	L15_002.D
Level 2	IC 600-271997/3	L15_003.D
Level 3	IC 600-271997/4	L15_004.D
Level 4	ICRT 600-271997/5	L15_005.D
Level 5	IC 600-271997/6	L15_006.D
Level 6	IC 600-271997/7	L15_007.D

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
		LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Dalapon	Ave	12510982 75504330	29745683	33297677	47854435	59389196	0.0400 0.200	0.0800	0.100	0.120	0.160
Dicamba	Ave	39604618 217967914	85063768	105310912	149258829	172883256	0.0400 0.200	0.0800	0.100	0.120	0.160
Mecoprop	Ave	5680260 28362768	13062979	15980003	20374196	23362142	4.00 20.0	8.00	10.0	12.0	16.0
MCPA	Ave	10137750 35677881	17719061	21033919	26686666	29878204	4.00 20.0	8.00	10.0	12.0	16.0
Dichlorprop	Ave	11220680 59642104	23177974	29411775	41061929	47709872	0.0400 0.200	0.0800	0.100	0.120	0.160
2,4-D	Ave	9334242 51522739	19282087	24942017	35237539	40689074	0.0400 0.200	0.0800	0.100	0.120	0.160
Silvex (2,4,5-TP)	Ave	55606223 319962840	119019984	151894227	216668596	246457634	0.0400 0.200	0.0800	0.100	0.120	0.160
2,4,5-T	Ave	47046675 273365156	102372295	130745436	184025387	210431029	0.0400 0.200	0.0800	0.100	0.120	0.160
2,4-DB	Ave	4572778 24271987	8608358	11785771	17363832	19646491	0.0400 0.200	0.0800	0.100	0.120	0.160
Dinoseb	Ave	28466574 166366752	62926556	80258603	114677886	127486632	0.0400 0.200	0.0800	0.100	0.120	0.160
2,4-Dichlorophenylacetic acid	Ave	84035130 471434159	174797217	221386325	318002210	369735161	0.400 2.00	0.800	1.00	1.20	1.60

Curve Type Legend:

Ave = Average

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_002.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 15-Aug-2019 09:37:51 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030560-002
Operator ID: JL Instrument ID: CHECD08
Sublist: chrom-HERB_CHECD08*sub1

Method: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\HERB_CHECD08.m
Limit Group: GCSV - 8151A
Last Update: 15-Aug-2019 12:06:57 Calib Date: 15-Aug-2019 11:42:30
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_007.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0321

First Level Reviewer: lamj Date: 15-Aug-2019 11:23:32

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Dalapon							M
1	2.750	2.745	0.005	640244	0.0400	0.0381	M
2	2.418	2.418	0.000	12510982	0.0400	0.0347	M
						RPD = 9.47	
$ 2 2,4-Dichlorophenylacetic acid							
1	11.748	11.726	0.022	68912318	0.4000	0.3706	
2	11.300	11.286	0.014	84035130	0.4000	0.3649	
						RPD = 1.54	
3 Dicamba							
1	12.042	12.024	0.018	29961203	0.0400	0.0375	
2	11.567	11.557	0.010	39604618	0.0400	0.0364	
						RPD = 2.90	
4 MCPP							
1	12.398	12.380	0.018	4228864	4.00	4.25	
2	11.804	11.794	0.010	5680260	4.00	3.69	
						RPD = 14.04	
5 MCPA							
1	12.662	12.643	0.019	6877562	4.00	4.49	
2	12.196	12.183	0.013	10137750	4.00	4.78	
						RPD = 6.17	
6 Dichlorprop							
1	13.254	13.237	0.017	8703196	0.0400	0.0380	
2	12.715	12.702	0.013	11220680	0.0400	0.0373	
						RPD = 1.81	
7 2,4-D							M
1	13.671	13.649	0.022	7974596	0.0400	0.0390	M
2	13.244	13.226	0.018	9334242	0.0400	0.0366	
						RPD = 6.39	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
8 Silvex (2,4,5-TP)							M
1	14.866	14.854	0.012	40388670	0.0400	0.0367	M
2	14.347	14.343	0.004	55606223	0.0400	0.0357	
						RPD = 2.75	
9 2,4,5-T							M
1	15.294	15.276	0.018	35666214	0.0400	0.0362	M
2	14.908	14.898	0.010	47046675	0.0400	0.0354	
						RPD = 2.33	
10 2,4-DB							M
1	16.032	16.014	0.018	4019889	0.0400	0.0374	M
2	15.584	15.571	0.013	4572778	0.0400	0.0377	
						RPD = 0.57	
11 Dinoseb							M
1	17.439	17.432	0.007	21520006	0.0400	0.0379	M
2	15.969	15.963	0.006	28466574	0.0400	0.0350	
						RPD = 8.13	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

HERBCURVE1_00034 Amount Added: 1.00 Units: mL

Report Date: 15-Aug-2019 12:07:00 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_002.D				
Injection Date:	15-Aug-2019 09:37:51	Instrument ID:	CHECD08	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		

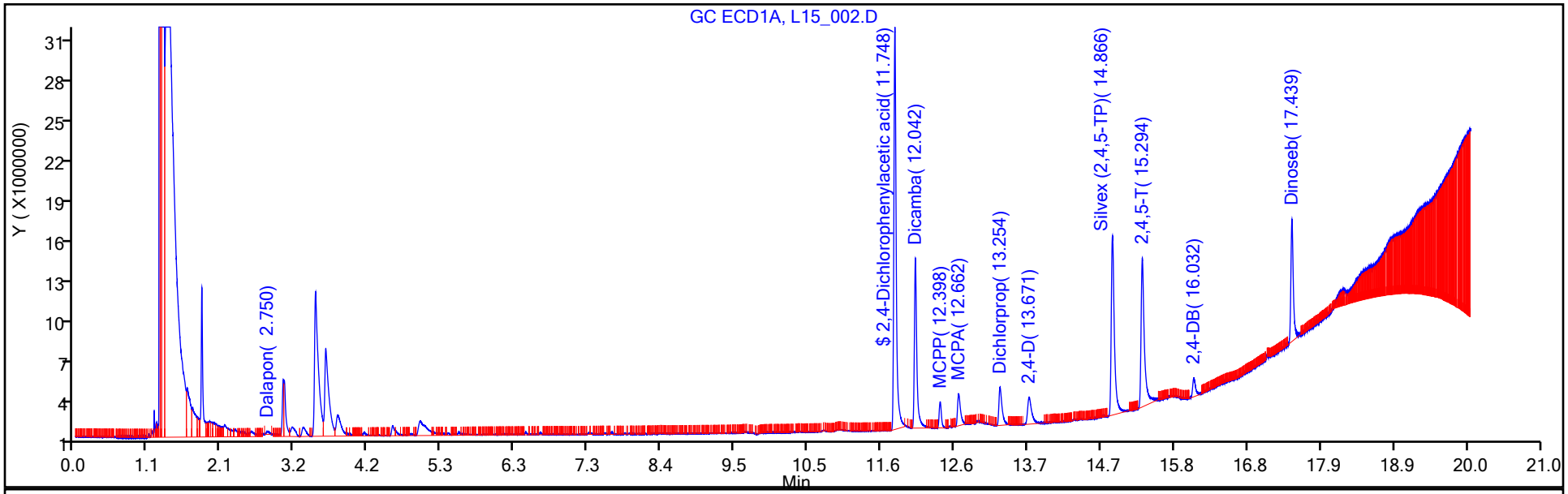

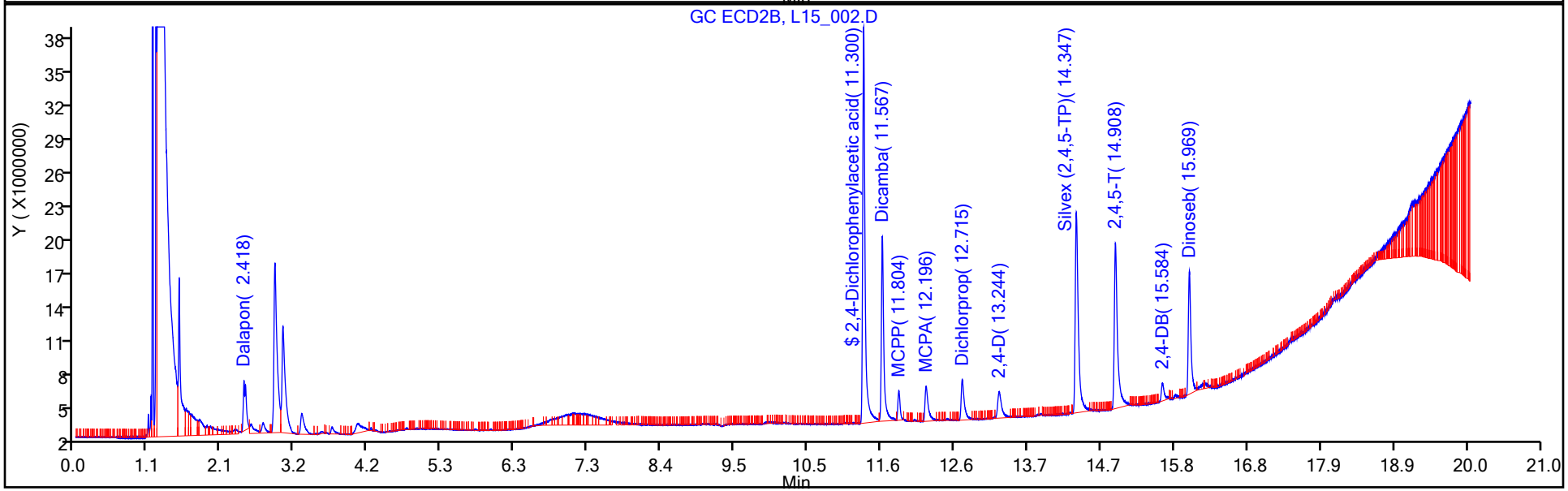

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_002.D				
Injection Date:	15-Aug-2019 09:37:51	Instrument ID:	CHECD08		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		
Column:		Detector	GC ECD2B		

1 Dalapon, CAS: 75-99-0

Signal: 2

Processing Integration Results

RT: 2.42
Area: 6338010
Amount: 0.028392
Amount Units: ug/ml

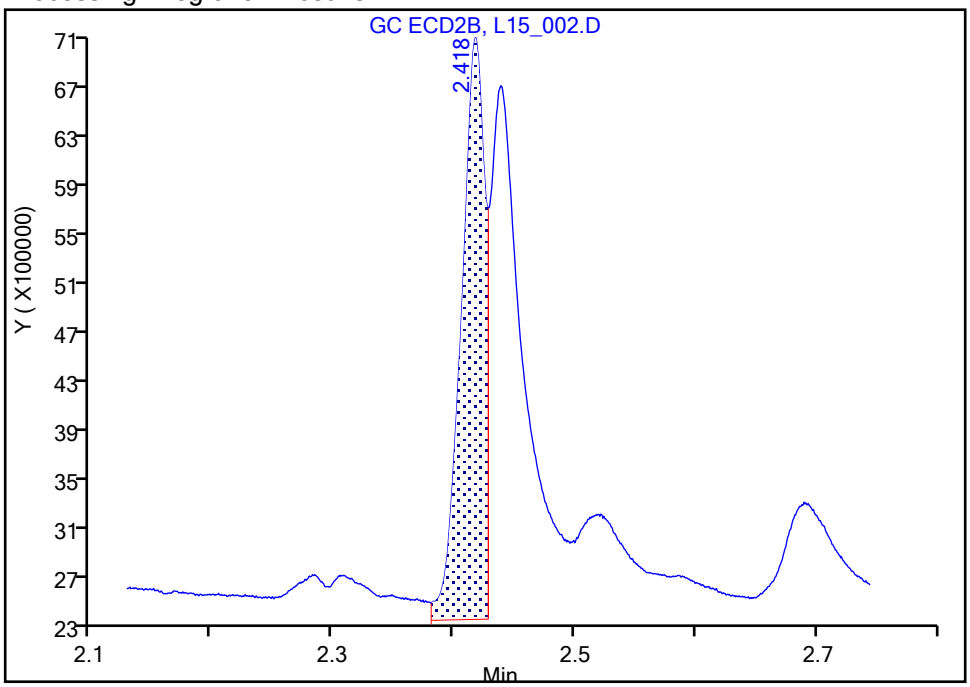

Manual Integration Results

RT: 2.42
Area: 12510982
Amount: 0.034671
Amount Units: ug/ml

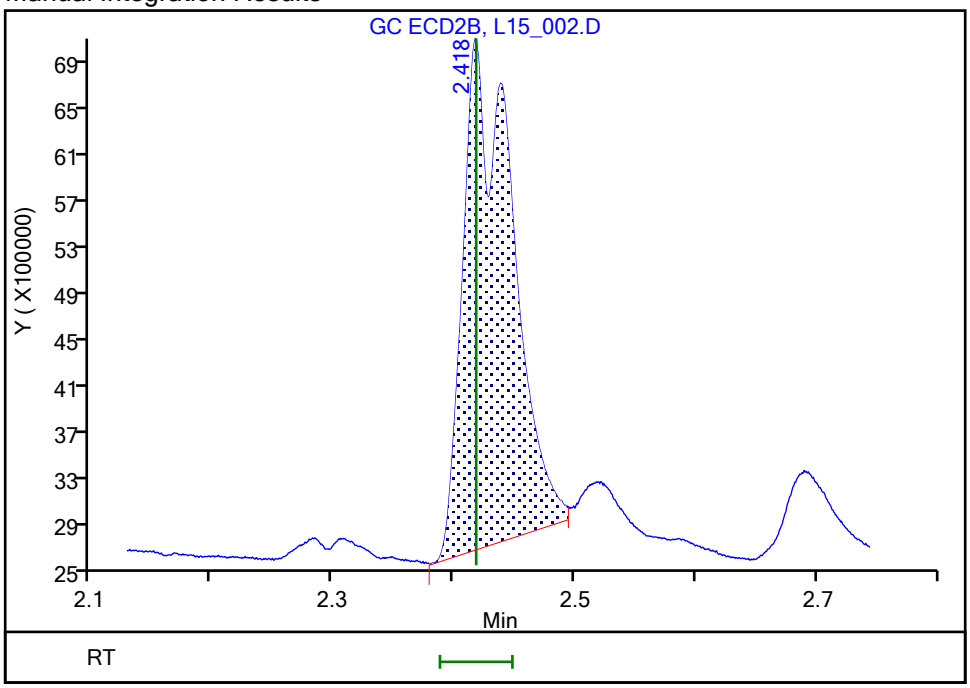

Reviewer: lamj, 15-Aug-2019 11:22:37

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_003.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 15-Aug-2019 10:02:41 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030560-003
Operator ID: JL Instrument ID: CHECD08
Sublist: chrom-HERB_CHECD08*sub1

Method: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\HERB_CHECD08.m
Limit Group: GCSV - 8151A
Last Update: 15-Aug-2019 12:07:05 Calib Date: 15-Aug-2019 11:42:30
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_007.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0321

First Level Reviewer: lamj Date: 15-Aug-2019 11:24:23

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Dalapon							M
1	2.747	2.745	0.002	1363859	0.0800	0.0812	M
2	2.418	2.418	0.000	29745683	0.0800	0.0824	M
						RPD = 1.51	
$ 2 2,4-Dichlorophenylacetic acid							
1	11.736	11.726	0.010	140894407	0.8000	0.7576	
2	11.293	11.286	0.007	174797217	0.8000	0.7590	
						RPD = 0.18	
3 Dicamba							
1	12.033	12.024	0.009	60722226	0.0800	0.0760	
2	11.564	11.557	0.007	85063768	0.0800	0.0783	
						RPD = 2.90	
4 MCPP							
1	12.388	12.380	0.008	8136055	8.00	8.18	
2	11.799	11.794	0.005	13062979	8.00	8.49	
						RPD = 3.78	
5 MCPA							
1	12.653	12.643	0.010	12506951	8.00	8.17	
2	12.189	12.183	0.006	17719061	8.00	8.35	
						RPD = 2.20	
6 Dichlorprop							
1	13.247	13.237	0.010	17865746	0.0800	0.0780	
2	12.710	12.702	0.008	23177974	0.0800	0.0771	
						RPD = 1.18	
7 2,4-D							
1	13.663	13.649	0.014	15644410	0.0800	0.0766	
2	13.236	13.226	0.010	19282087	0.0800	0.0756	
						RPD = 1.22	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
8 Silvex (2,4,5-TP)							
1	14.863	14.854	0.009	84064303	0.0800	0.0764	
2	14.348	14.343	0.005	119019984	0.0800	0.0764	
						RPD = 0.04	
9 2,4,5-T							M
1	15.289	15.276	0.013	76524506	0.0800	0.0777	M
2	14.906	14.898	0.008	102372295	0.0800	0.0770	
						RPD = 0.92	
10 2,4-DB							
1	16.027	16.014	0.013	8065585	0.0800	0.0751	
2	15.578	15.571	0.007	8608358	0.0800	0.0709	
						RPD = 5.80	
11 Dinoseb							
1	17.436	17.432	0.004	44129608	0.0800	0.0778	
2	15.968	15.963	0.005	62926556	0.0800	0.0773	
						RPD = 0.63	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

HERBCURVE2_00032 Amount Added: 1.00 Units: mL

Report Date: 15-Aug-2019 12:07:08 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_003.D				
Injection Date:	15-Aug-2019 10:02:41	Instrument ID:	CHECD08	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		

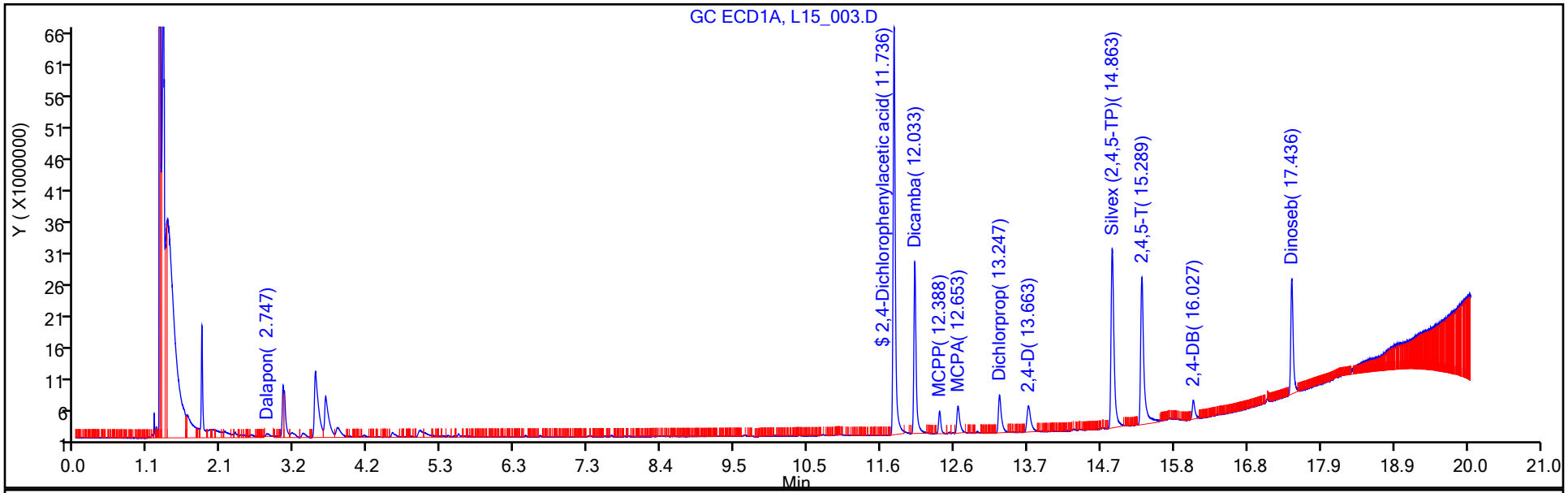

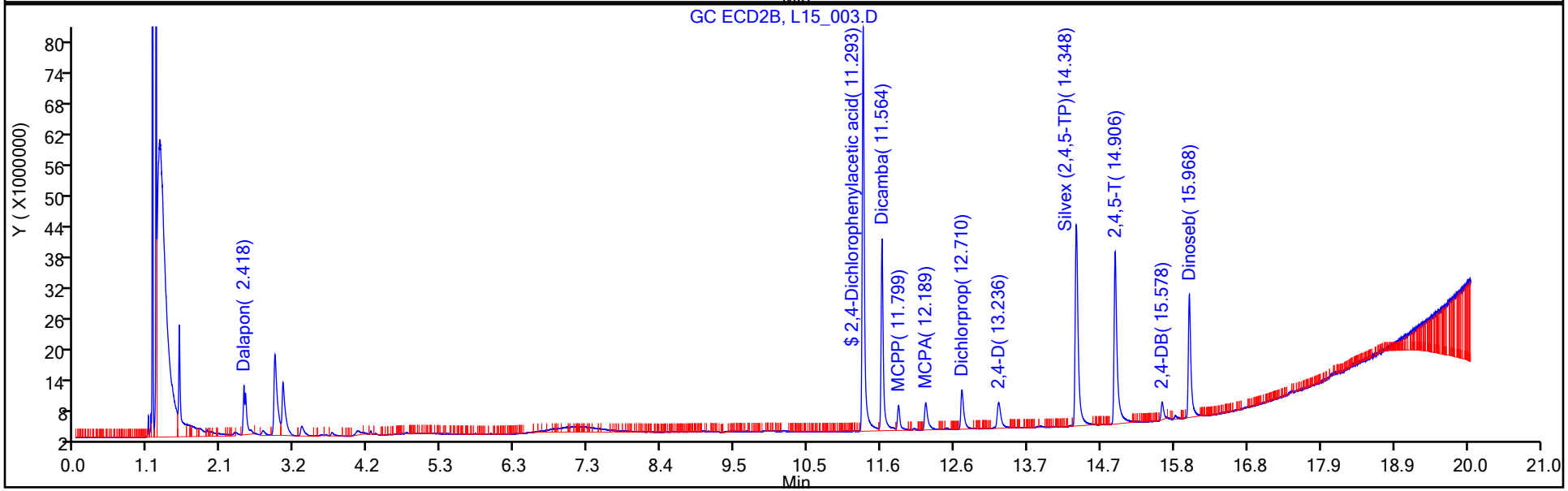

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_003.D				
Injection Date:	15-Aug-2019 10:02:41	Instrument ID:	CHECD08		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		
Column:		Detector	GC ECD2B		

1 Dalapon, CAS: 75-99-0

Signal: 2

Processing Integration Results

RT: 2.42
Area: 13083382
Amount: 0.049972
Amount Units: ug/ml

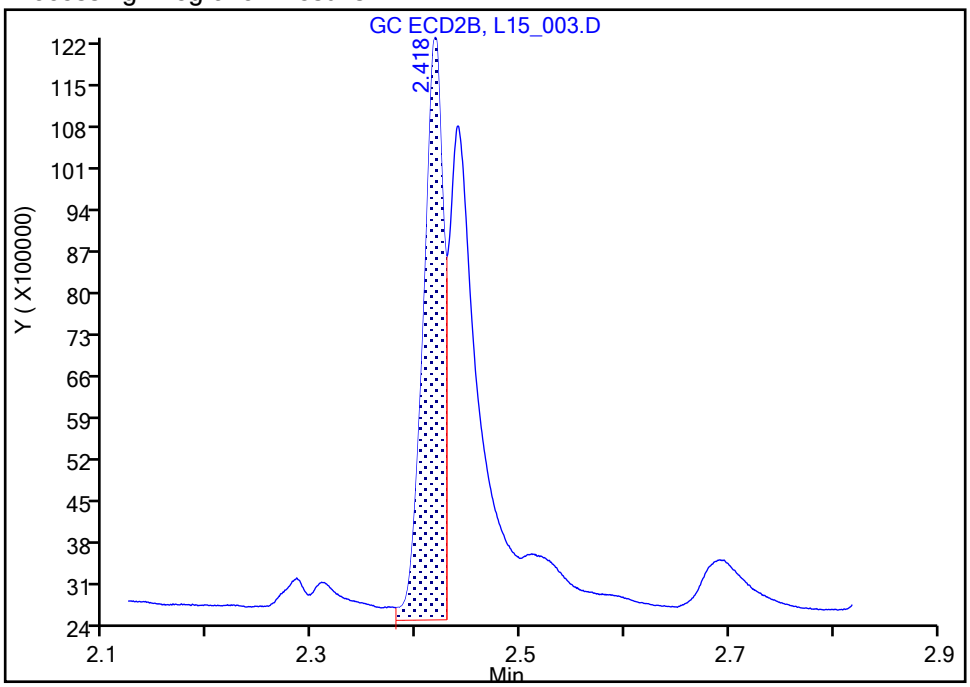

Manual Integration Results

RT: 2.42
Area: 29745683
Amount: 0.082434
Amount Units: ug/ml

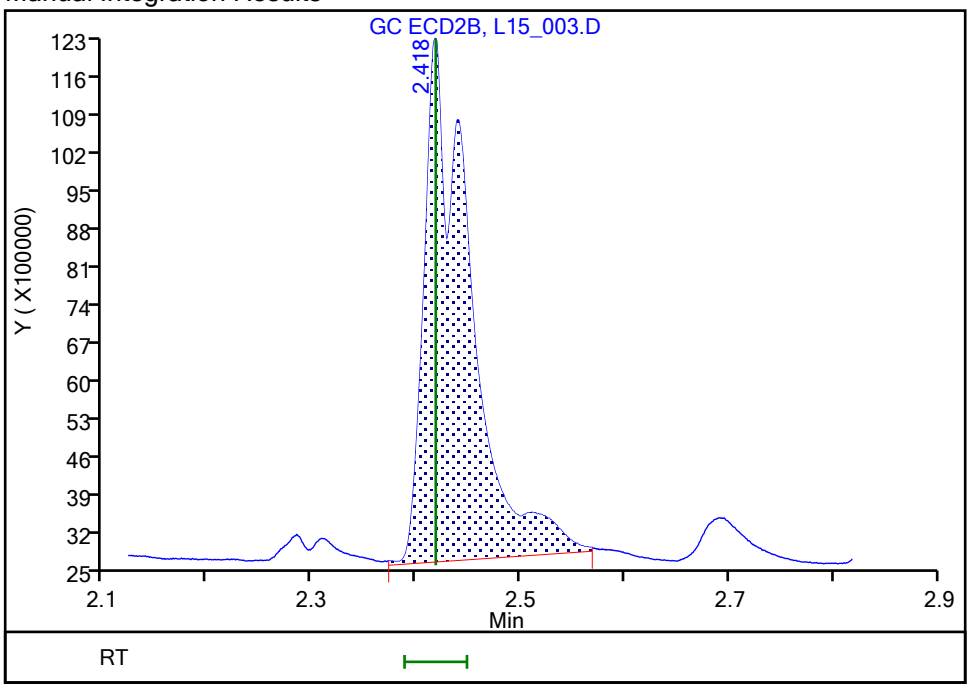

Reviewer: lamj, 15-Aug-2019 11:23:56

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_004.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 15-Aug-2019 10:27:38 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030560-004
Operator ID: JL Instrument ID: CHECD08
Sublist: chrom-HERB_CHECD08*sub1

Method: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\HERB_CHECD08.m
Limit Group: GCSV - 8151A
Last Update: 15-Aug-2019 12:07:14 Calib Date: 15-Aug-2019 11:42:30
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_007.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0321

First Level Reviewer: lamj Date: 15-Aug-2019 11:21:38

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Dalapon							M
1	2.746	2.745	0.001	1734117	0.1000	0.1032	M
2	2.418	2.418	0.000	33297677	0.1000	0.0923	M
						RPD = 11.22	
$ 2 2,4-Dichlorophenylacetic acid							
1	11.730	11.726	0.004	180364979	1.00	0.9699	
2	11.289	11.286	0.003	221386325	1.00	0.9613	
						RPD = 0.89	
3 Dicamba							
1	12.027	12.024	0.003	77747201	0.1000	0.0974	
2	11.560	11.557	0.003	105310912	0.1000	0.0969	
						RPD = 0.46	
4 MCPP							
1	12.385	12.380	0.005	9936607	10.0	9.99	
2	11.796	11.794	0.002	15980003	10.0	10.4	
						RPD = 3.94	
5 MCPA							
1	12.647	12.643	0.004	15490517	10.0	10.1	
2	12.187	12.183	0.004	21033919	10.0	9.92	
						RPD = 2.04	
6 Dichlorprop							
1	13.242	13.237	0.005	22805933	0.1000	0.0996	
2	12.704	12.702	0.002	29411775	0.1000	0.0979	
						RPD = 1.77	
7 2,4-D							
1	13.657	13.649	0.008	19617347	0.1000	0.0960	
2	13.230	13.226	0.004	24942017	0.1000	0.0979	
						RPD = 1.88	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
8 Silvex (2,4,5-TP)							
1	14.860	14.854	0.006	106182758	0.1000	0.0965	
2	14.346	14.343	0.003	151894227	0.1000	0.0975	
						RPD = 1.07	
9 2,4,5-T							M
1	15.283	15.276	0.007	96296299	0.1000	0.0978	M
2	14.902	14.898	0.004	130745436	0.1000	0.0983	
						RPD = 0.56	
10 2,4-DB							
1	16.019	16.014	0.005	10416095	0.1000	0.0970	
2	15.576	15.571	0.005	11785771	0.1000	0.0971	
						RPD = 0.04	
11 Dinoseb							M
1	17.434	17.432	0.002	56741401	0.1000	0.1000	M
2	15.967	15.963	0.004	80258603	0.1000	0.0986	
						RPD = 1.44	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

HERBCURVE3_00033 Amount Added: 1.00 Units: mL

Report Date: 15-Aug-2019 12:07:17 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_004.D				
Injection Date:	15-Aug-2019 10:27:38	Instrument ID:	CHECD08	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		

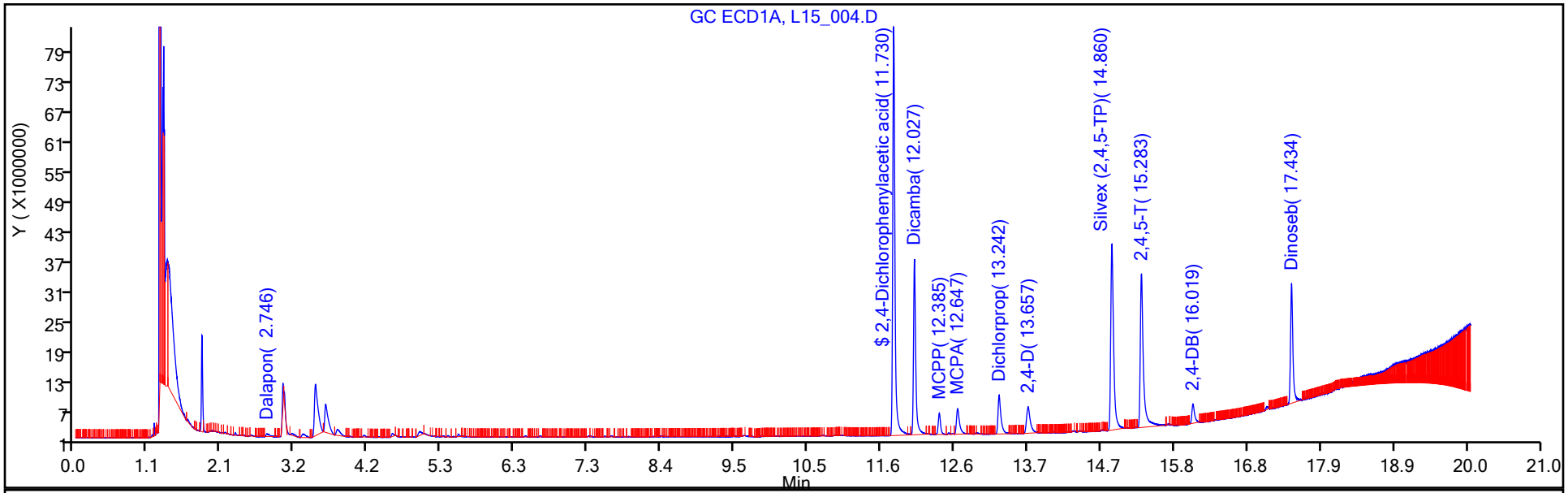

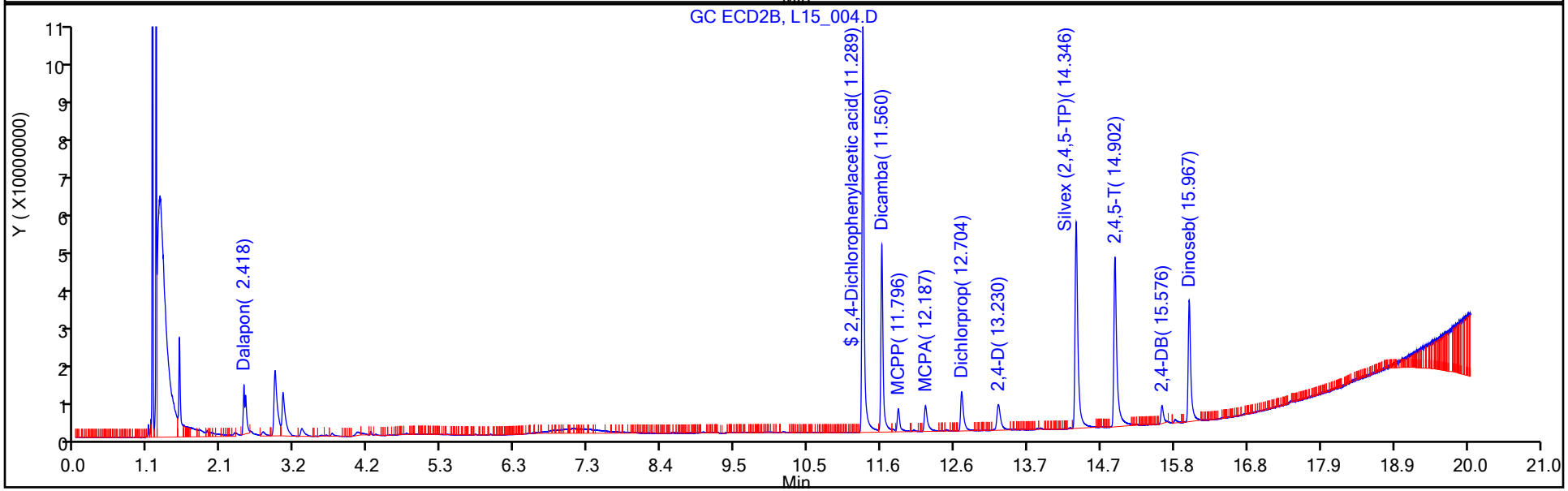

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_004.D				
Injection Date:	15-Aug-2019 10:27:38	Instrument ID:	CHECD08		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		
Column:		Detector	GC ECD2B		

1 Dalapon, CAS: 75-99-0

Signal: 2

Processing Integration Results

RT: 2.42
Area: 17216164
Amount: 0.054848
Amount Units: ug/ml

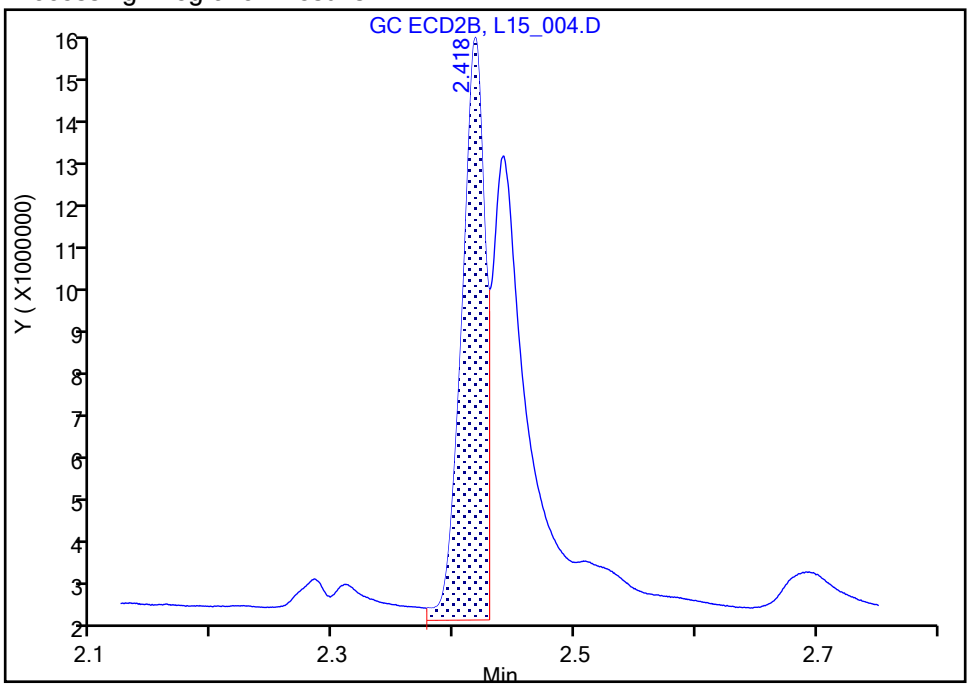

Manual Integration Results

RT: 2.42
Area: 33297677
Amount: 0.092277
Amount Units: ug/ml

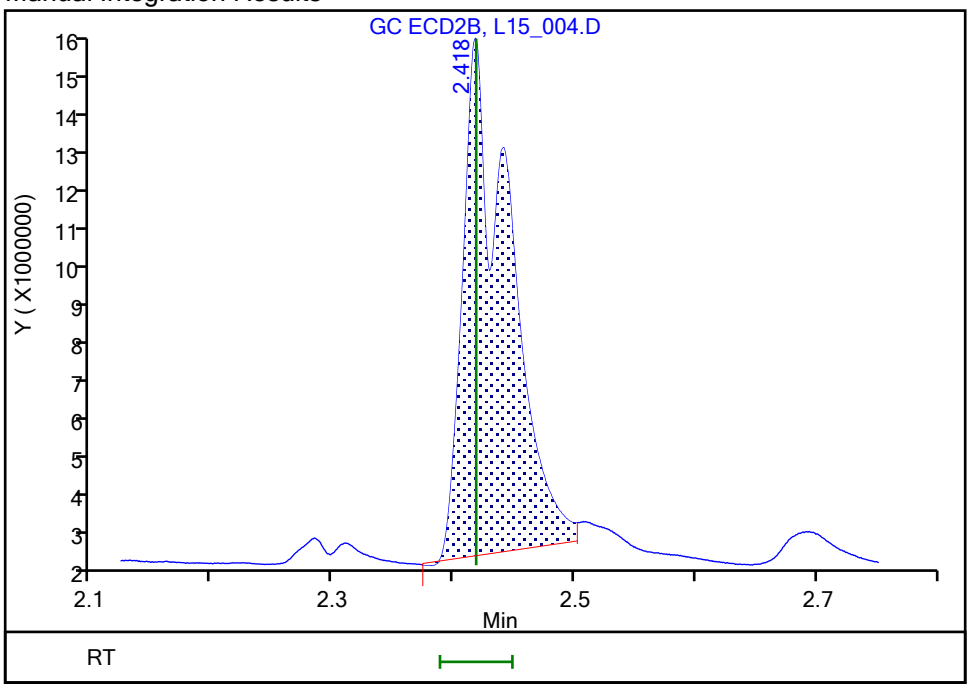

Reviewer: lamj, 15-Aug-2019 11:24:44

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_005.D
Lims ID: icrt
Client ID:
Sample Type: ICRT Calib Level: 4
Inject. Date: 15-Aug-2019 10:52:34 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030560-005
Operator ID: JL Instrument ID: CHECD08
Sublist: chrom-HERB_CHECD08*sub1

Method: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\HERB_CHECD08.m
Limit Group: GCSV - 8151A
Last Update: 15-Aug-2019 12:07:23 Calib Date: 15-Aug-2019 11:42:30
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_007.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0321

First Level Reviewer: lamj Date: 15-Aug-2019 11:22:16

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Dalapon							M
1	2.745	2.745	0.000	1960860	0.1200	0.1167	M
2	2.418	2.418	0.000	47854435	0.1200	0.1326	M
						RPD = 12.73	
$ 2 2,4-Dichlorophenylacetic acid							
1	11.726	11.726	0.000	256482076	1.20	1.38	
2	11.286	11.286	0.000	318002210	1.20	1.38	
						RPD = 0.12	
3 Dicamba							
1	12.024	12.024	0.000	109610801	0.1200	0.1372	
2	11.557	11.557	0.000	149258829	0.1200	0.1373	
						RPD = 0.07	
4 MCPP							
1	12.380	12.380	0.000	13062496	12.0	13.1	
2	11.794	11.794	0.000	20374196	12.0	13.2	
						RPD = 0.88	
5 MCPA							
1	12.643	12.643	0.000	19661865	12.0	12.8	
2	12.183	12.183	0.000	26686666	12.0	12.6	
						RPD = 2.08	
6 Dichlorprop							
1	13.237	13.237	0.000	31226609	0.1200	0.1364	
2	12.702	12.702	0.000	41061929	0.1200	0.1366	
						RPD = 0.17	
7 2,4-D							
1	13.649	13.649	0.000	27938010	0.1200	0.1368	
2	13.226	13.226	0.000	35237539	0.1200	0.1382	
						RPD = 1.08	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
8 Silvex (2,4,5-TP)							
1	14.854	14.854	0.000	153851482	0.1200	0.1398	
2	14.343	14.343	0.000	216668596	0.1200	0.1391	
						RPD = 0.49	
9 2,4,5-T							
1	15.276	15.276	0.000	135488405	0.1200	0.1376	
2	14.898	14.898	0.000	184025387	0.1200	0.1384	
						RPD = 0.59	
10 2,4-DB							
1	16.014	16.014	0.000	14678716	0.1200	0.1367	
2	15.571	15.571	0.000	17363832	0.1200	0.1430	
						RPD = 4.48	
11 Dinoseb							
1	17.432	17.432	0.000	78090690	0.1200	0.1376	
2	15.963	15.963	0.000	114677886	0.1200	0.1409	
						RPD = 2.31	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

HERBCURVE4_00043 Amount Added: 1.00 Units: mL

Report Date: 15-Aug-2019 12:07:26 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_005.D				
Injection Date:	15-Aug-2019 10:52:34	Instrument ID:	CHECD08	Operator ID:	JL
Lims ID:	icrt			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		

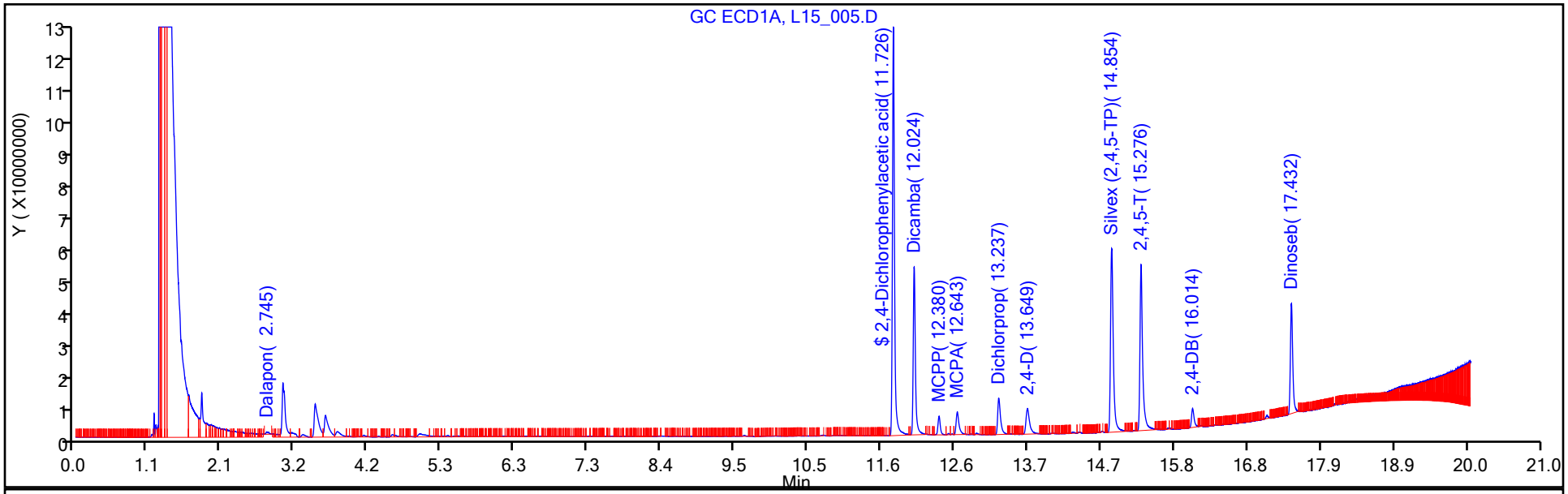

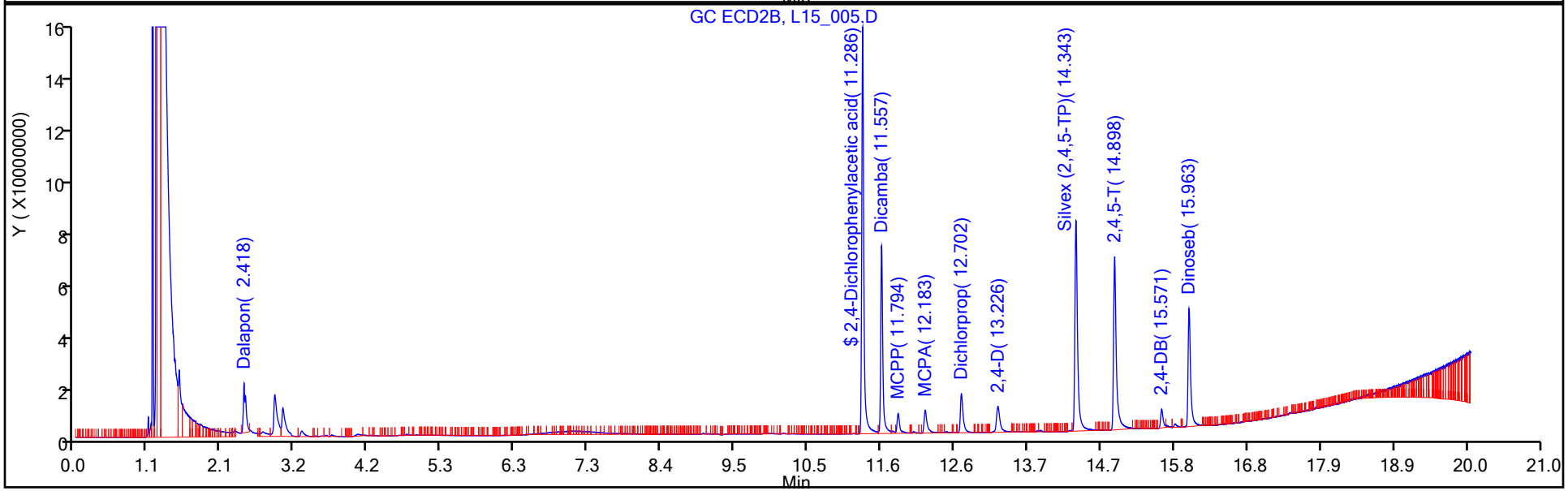

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_005.D				
Injection Date:	15-Aug-2019 10:52:34	Instrument ID:	CHECD08		
Lims ID:	icrt				
Client ID:					
Operator ID:	JL	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		
Column:		Detector	GC ECD2B		

1 Dalapon, CAS: 75-99-0

Signal: 2

Processing Integration Results

RT: 2.42
Area: 28477156
Amount: 0.155727
Amount Units: ug/ml

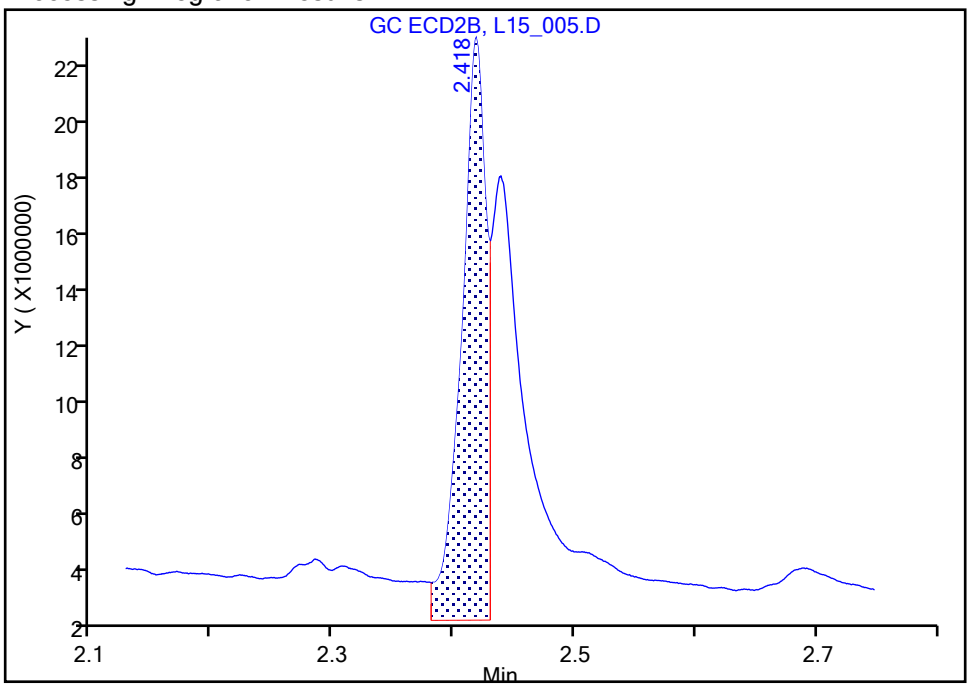

Manual Integration Results

RT: 2.42
Area: 47854435
Amount: 0.132618
Amount Units: ug/ml

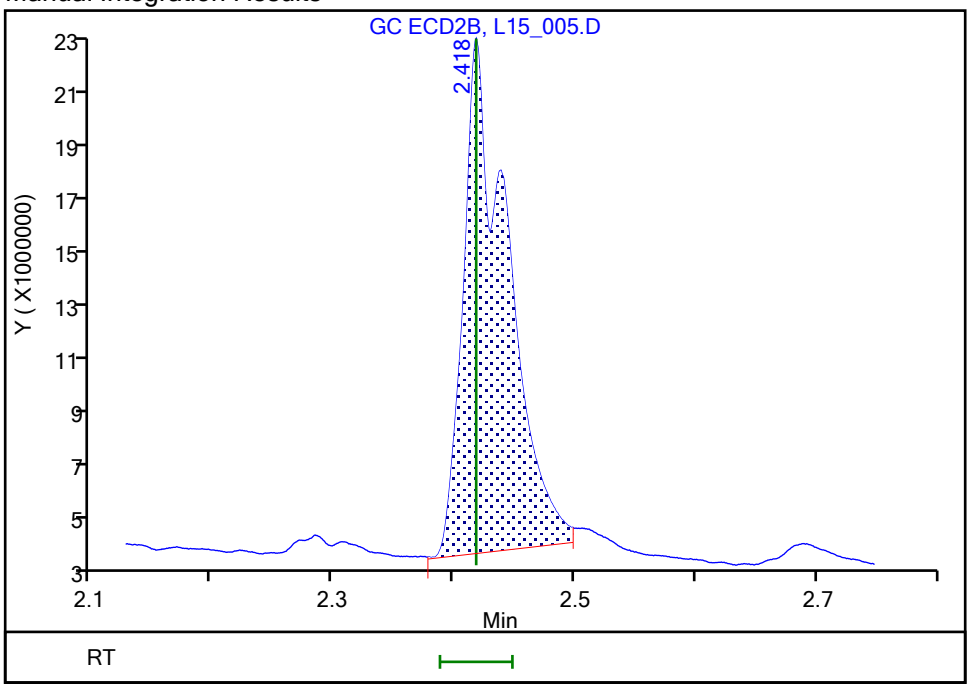

Reviewer: lamj, 15-Aug-2019 11:22:01

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_006.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 15-Aug-2019 11:17:30 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030560-006
Operator ID: JL Instrument ID: CHECD08
Sublist: chrom-HERB_CHECD08*sub1

Method: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\HERB_CHECD08.m
Limit Group: GCSV - 8151A
Last Update: 15-Aug-2019 12:07:32 Calib Date: 15-Aug-2019 11:42:30
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_007.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0321

First Level Reviewer: lamj Date: 15-Aug-2019 11:42:53

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Dalapon							M
1	2.746	2.745	0.001	2657783	0.1600	0.1582	M
2	2.418	2.418	0.000	59389196	0.1600	0.1646	M
						RPD = 3.93	
$ 2 2,4-Dichlorophenylacetic acid							
1	11.725	11.726	-0.001	296807407	1.60	1.60	
2	11.285	11.286	-0.001	369735161	1.60	1.61	
						RPD = 0.59	
3 Dicamba							
1	12.023	12.024	-0.001	127322235	0.1600	0.1594	
2	11.556	11.557	-0.001	172883256	0.1600	0.1591	
						RPD = 0.22	
4 MCPP							M
1	12.380	12.380	0.000	14769683	16.0	14.8	M
2	11.796	11.794	0.002	23362142	16.0	15.2	
						RPD = 2.28	
5 MCPA							
1	12.641	12.643	-0.002	21540054	16.0	14.1	
2	12.183	12.183	0.000	29878204	16.0	14.1	
						RPD = 0.09	
6 Dichlorprop							
1	13.237	13.237	0.000	35595765	0.1600	0.1555	
2	12.701	12.702	-0.001	47709872	0.1600	0.1588	
						RPD = 2.08	
7 2,4-D							
1	13.651	13.649	0.002	32060539	0.1600	0.1569	
2	13.222	13.226	-0.004	40689074	0.1600	0.1596	
						RPD = 1.70	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
8 Silvex (2,4,5-TP)							
1	14.854	14.854	0.000	175100447	0.1600	0.1591	
2	14.343	14.343	0.000	246457634	0.1600	0.1583	
						RPD = 0.54	
9 2,4,5-T							M
1	15.276	15.276	0.000	157234293	0.1600	0.1596	M
2	14.897	14.898	-0.001	210431029	0.1600	0.1582	
						RPD = 0.88	
10 2,4-DB							
1	16.018	16.014	0.004	17272592	0.1600	0.1609	
2	15.572	15.571	0.001	19646491	0.1600	0.1618	
						RPD = 0.56	
11 Dinoseb							
1	17.432	17.432	0.000	86954750	0.1600	0.1533	
2	15.964	15.963	0.001	127486632	0.1600	0.1566	
						RPD = 2.15	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

HERBCURVE5_00032 Amount Added: 1.00 Units: mL

Report Date: 15-Aug-2019 12:07:36 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_006.D				
Injection Date:	15-Aug-2019 11:17:30	Instrument ID:	CHECD08	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		

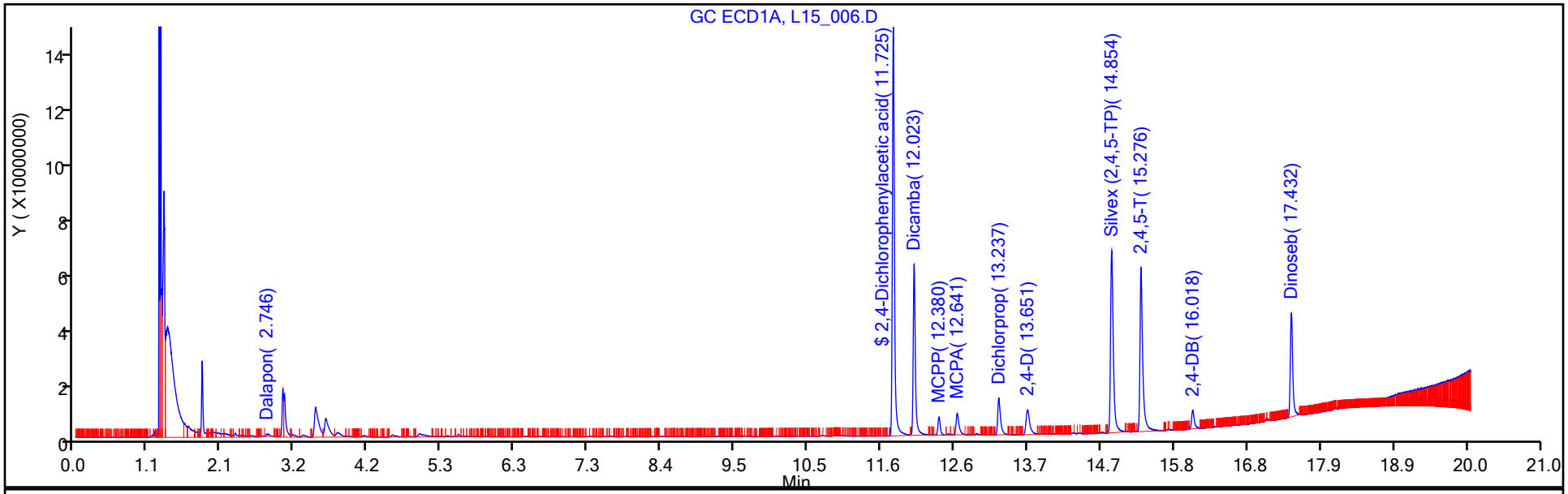

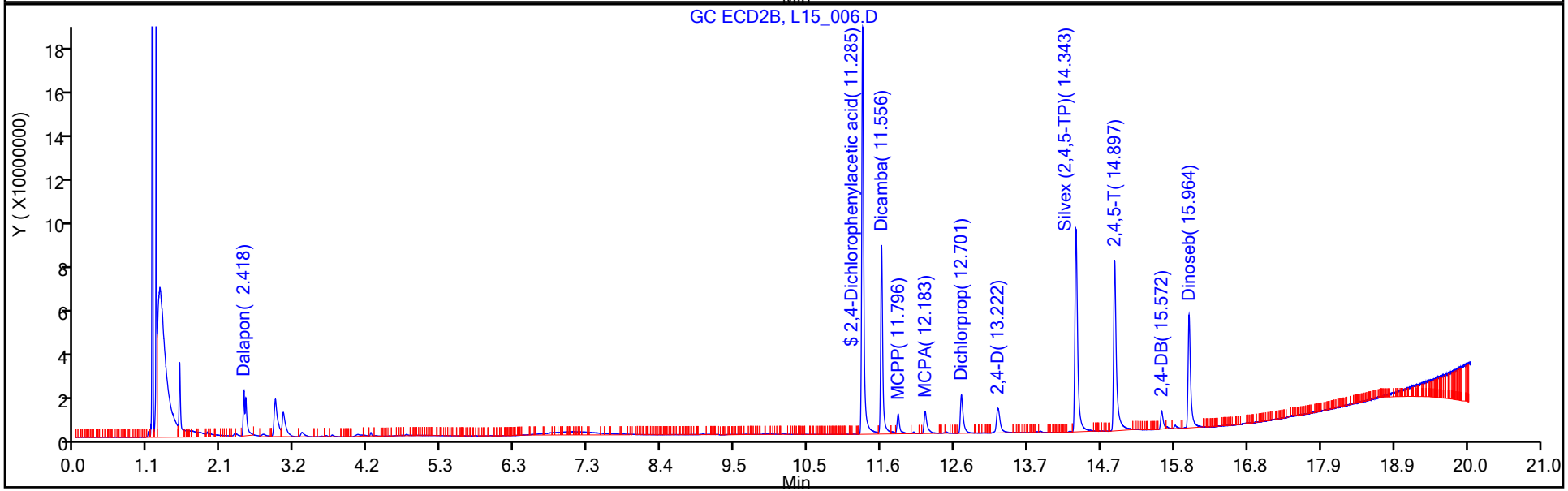

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_006.D				
Injection Date:	15-Aug-2019 11:17:30	Instrument ID:	CHECD08		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		
Column:		Detector	GC ECD2B		

1 Dalapon, CAS: 75-99-0

Signal: 2

Processing Integration Results

RT: 2.42
Area: 27050474
Amount: 0.085310
Amount Units: ug/ml

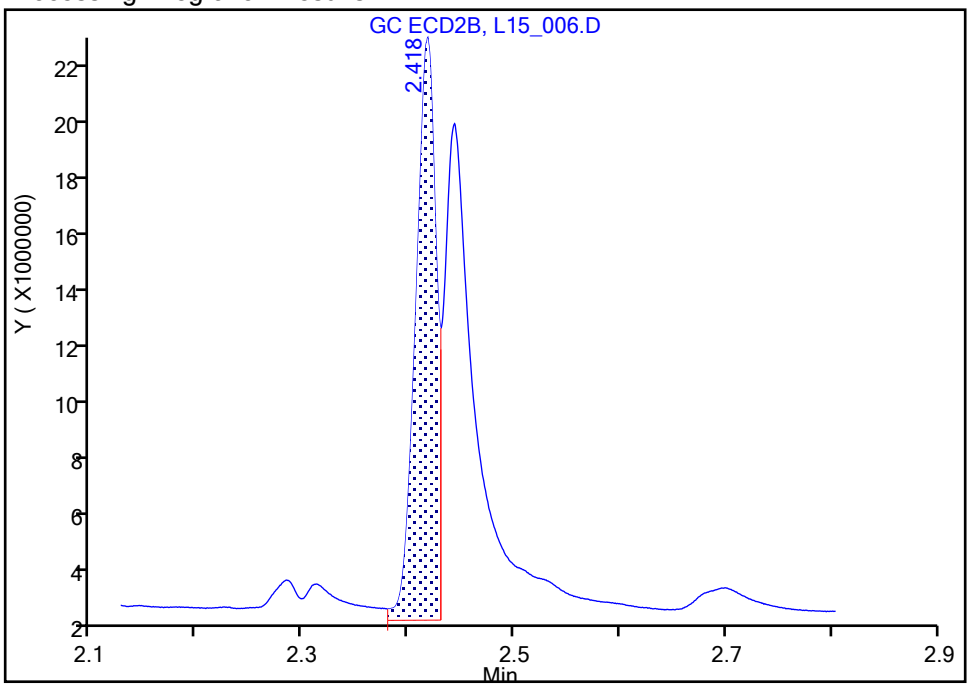

Manual Integration Results

RT: 2.42
Area: 59389196
Amount: 0.164584
Amount Units: ug/ml

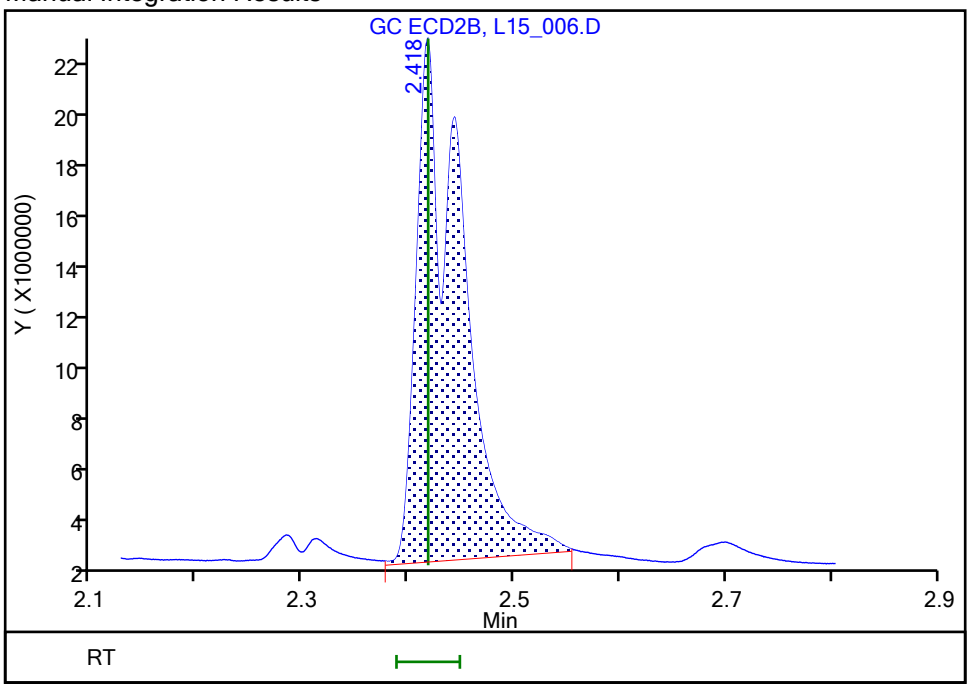

Reviewer: lamj, 15-Aug-2019 11:42:22

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_007.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 15-Aug-2019 11:42:30 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030560-007
Operator ID: JL Instrument ID: CHECD08
Sublist: chrom-HERB_CHECD08*sub1

Method: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\HERB_CHECD08.m
Limit Group: GCSV - 8151A
Last Update: 15-Aug-2019 12:07:43 Calib Date: 15-Aug-2019 11:42:30
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_007.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0321

First Level Reviewer: lamj Date: 15-Aug-2019 12:06:17

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Dalapon							M
1	2.745	2.745	0.000	3485990	0.2000	0.2075	M
2	2.417	2.418	-0.001	75504330	0.2000	0.2092	M
						RPD = 0.81	
$ 2 2,4-Dichlorophenylacetic acid							
1	11.722	11.726	-0.004	375581007	2.00	2.02	
2	11.282	11.286	-0.004	471434159	2.00	2.05	
						RPD = 1.35	
3 Dicamba							
1	12.020	12.024	-0.004	159414629	0.2000	0.1996	
2	11.555	11.557	-0.002	217967914	0.2000	0.2006	
						RPD = 0.48	
4 MCPP							
1	12.379	12.380	-0.001	17773428	20.0	17.9	
2	11.794	11.794	0.000	28362768	20.0	18.4	
						RPD = 3.17	
5 MCPA							
1	12.641	12.643	-0.002	27353365	20.0	17.9	
2	12.181	12.183	-0.002	35677881	20.0	16.8	
						RPD = 6.06	
6 Dichlorprop							
1	13.236	13.237	-0.001	44350705	0.2000	0.1938	
2	12.700	12.702	-0.002	59642104	0.2000	0.1985	
						RPD = 2.41	
7 2,4-D							
1	13.646	13.649	-0.003	40292567	0.2000	0.1972	
2	13.225	13.226	-0.001	51522739	0.2000	0.2021	
						RPD = 2.46	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
8 Silvex (2,4,5-TP)							
1	14.856	14.854	0.002	220546251	0.2000	0.2004	
2	14.345	14.343	0.002	319962840	0.2000	0.2055	
						RPD = 2.48	
9 2,4,5-T							
1	15.275	15.276	-0.001	197299635	0.2000	0.2003	
2	14.898	14.898	0.000	273365156	0.2000	0.2056	
						RPD = 2.58	
10 2,4-DB							
1	16.015	16.014	0.001	21684931	0.2000	0.2020	
2	15.571	15.571	0.000	24271987	0.2000	0.1999	
						RPD = 1.05	
11 Dinoseb							
1	17.431	17.432	-0.001	110621864	0.2000	0.1950	
2	15.967	15.963	0.004	166366752	0.2000	0.2043	
						RPD = 4.69	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

HERBCURVE6_00032 Amount Added: 1.00 Units: mL

Report Date: 15-Aug-2019 12:07:47 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_007.D				
Injection Date:	15-Aug-2019 11:42:30	Instrument ID:	CHECD08	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		

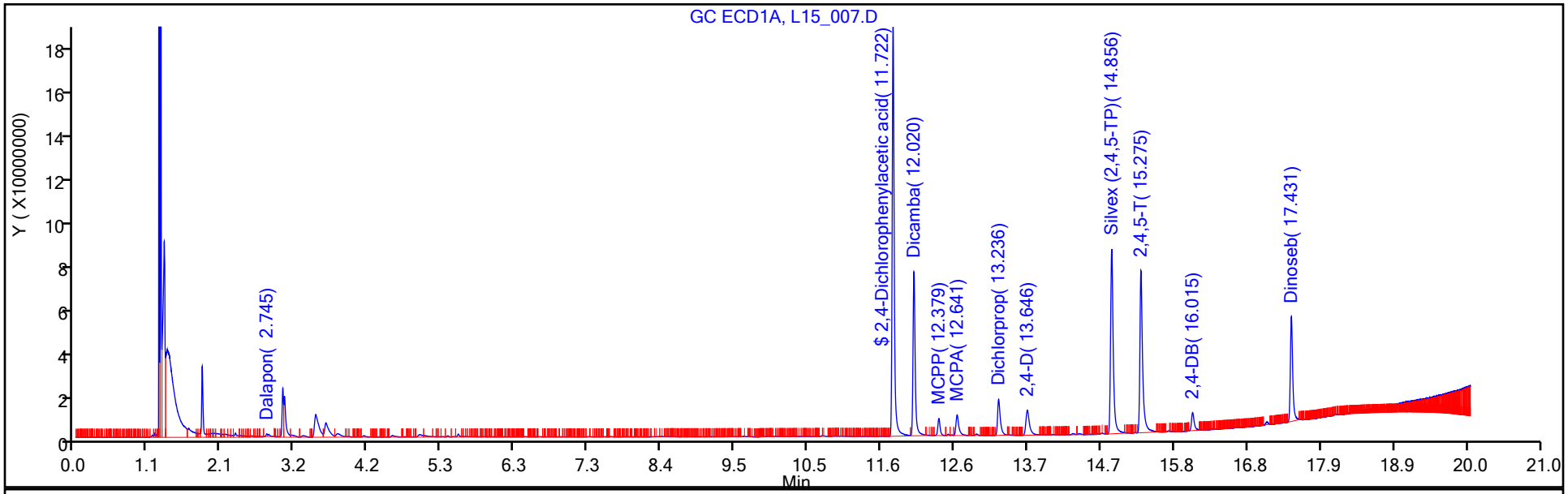

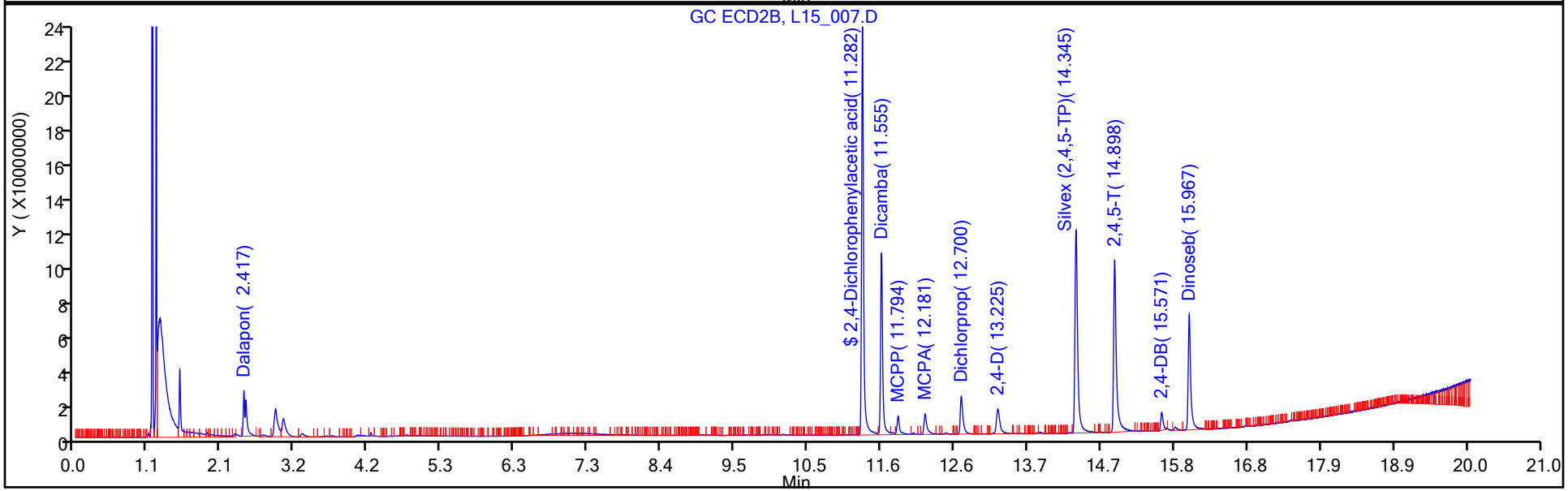

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_007.D				
Injection Date:	15-Aug-2019 11:42:30	Instrument ID:	CHECD08		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		
Column:		Detector	GC ECD2B		

1 Dalapon, CAS: 75-99-0

Signal: 2

Processing Integration Results

RT: 2.42
Area: 34105046
Amount: 0.104506
Amount Units: ug/ml

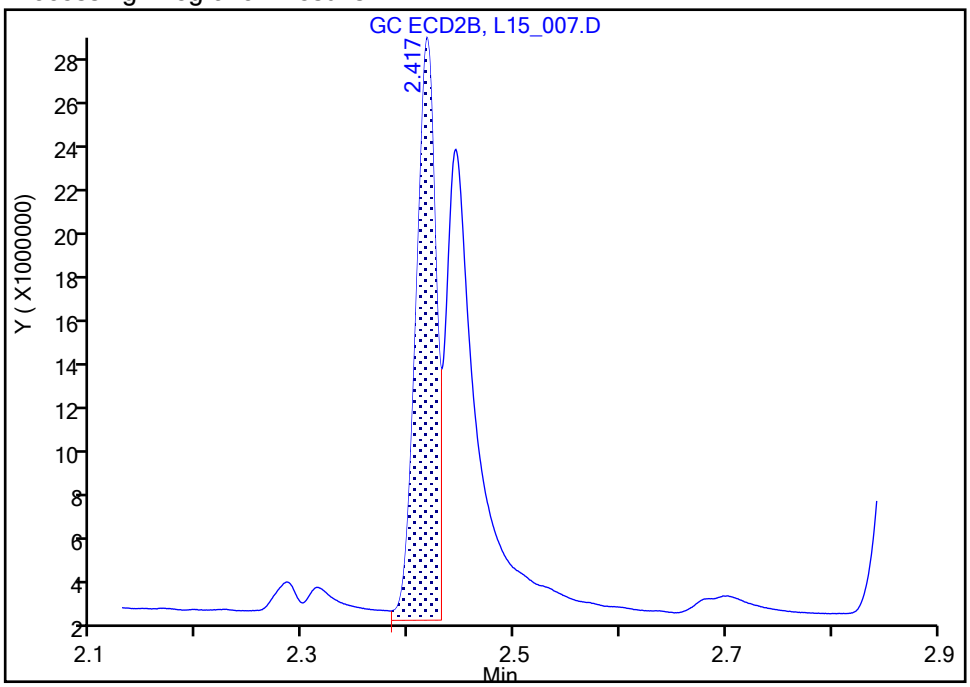

Manual Integration Results

RT: 2.42
Area: 75504330
Amount: 0.209244
Amount Units: ug/ml

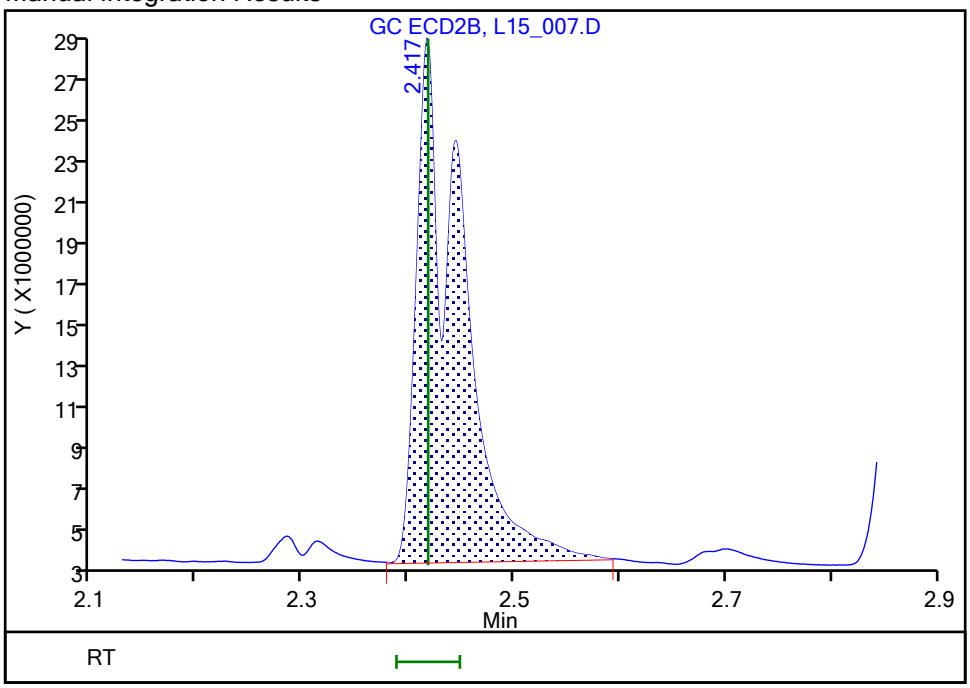

Reviewer: lamj, 15-Aug-2019 12:06:05
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VII
HERBICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab Sample ID: CCVRT 600-275199/2 Calibration Date: 09/19/2019 09:45

Instrument ID: CHECD08 Calib Start Date: 08/15/2019 09:37

GC Column: RTX-CLP1 ID: 0.32(mm) Calib End Date: 08/15/2019 11:42

Lab File ID: L19_002.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dalapon	Ave	16796184	28298558		0.202	0.120	68.5*	15.0
Dicamba	Ave	798631728	796354492		0.120	0.120	-0.3	15.0
Mecoprop	Ave	994700	967315		11.7	12.0	-2.8	15.0
MCPA	Ave	1530704	1468265		11.5	12.0	-4.1	15.0
Dichlorprop	Ave	228901642	214306317		0.112	0.120	-6.4	15.0
2,4-D	Ave	204291908	187658158		0.110	0.120	-8.1	15.0
Silvex (2,4,5-TP)	Ave	1100258808	1036316183		0.113	0.120	-5.8	15.0
2,4,5-T	Ave	984909535	929745233		0.113	0.120	-5.6	15.0
2,4-DB	Ave	107363163	136299483		0.152	0.120	27.0*	15.0
Dinoseb	Ave	567394420	606086517		0.128	0.120	6.8	15.0
2,4-Dichlorophenylacetic acid	Ave	185965663	192931267		1.24	1.20	3.7	20.0

FORM VII
HERBICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab Sample ID: CCVRT 600-275199/2 Calibration Date: 09/19/2019 09:45

Instrument ID: CHECD08 Calib Start Date: 08/15/2019 09:37

GC Column: RTX-CLP1 ID: 0.32(mm) Calib End Date: 08/15/2019 11:42

Lab File ID: L19_002.D

Analyte	RT	RT WINDOW	
		FROM	TO
Dalapon	2.78	2.75	2.81
Dicamba	12.04	12.01	12.07
Mecoprop	12.40	12.37	12.43
MCPA	12.66	12.63	12.69
Dichlorprop	13.25	13.22	13.28
2,4-D	13.64	13.61	13.67
Silvex (2,4,5-TP)	14.86	14.83	14.89
2,4,5-T	15.28	15.25	15.31
2,4-DB	16.02	15.99	16.05
Dinoseb	17.44	17.41	17.47
2,4-Dichlorophenylacetic acid	11.75	11.72	11.78

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD08\20190919-31187.b\L19_002.D
Lims ID: ccvrt
Client ID:
Sample Type: CCVRT
Inject. Date: 19-Sep-2019 09:45:28 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031187-002
Operator ID: JL Instrument ID: CHECD08
Sublist: chrom-HERB_CHECD08*sub1

Method: \\chromna\Houston\ChromData\CHECD08\20190919-31187.b\HERB_CHECD08.m
Limit Group: GCSV - 8151A
Last Update: 19-Sep-2019 13:06:01 Calib Date: 15-Aug-2019 11:42:30
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_007.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0305

First Level Reviewer: lamj Date: 19-Sep-2019 10:11:43

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Dalapon							
1	2.777	2.777	0.000	3395827	0.1200	0.2022	E
2	2.422	2.422	0.000	18817674	0.1200	0.0521	
						RPD = 117.98	
$ 2 2,4-Dichlorophenylacetic acid							
1	11.745	11.745	0.000	231517520	1.20	1.24	
2	11.303	11.303	0.000	289480474	1.20	1.26	
						RPD = 0.96	
3 Dicamba							
1	12.043	12.043	0.000	95562539	0.1200	0.1197	
2	11.575	11.575	0.000	128547810	0.1200	0.1183	
						RPD = 1.16	
4 MCPP							
1	12.400	12.400	0.000	11607777	12.0	11.7	
2	11.811	11.811	0.000	14603256	12.0	9.50	
						RPD = 20.54	
5 MCPA							
1	12.661	12.661	0.000	17619174	12.0	11.5	
2	12.197	12.197	0.000	22244794	12.0	10.5	
						RPD = 9.31	
6 Dichlorprop							
1	13.251	13.251	0.000	25716758	0.1200	0.1123	
2	12.712	12.712	0.000	34585506	0.1200	0.1151	
						RPD = 2.42	
7 2,4-D							
1	13.644	13.644	0.000	22518979	0.1200	0.1102	
2	13.218	13.218	0.000	28726749	0.1200	0.1127	
						RPD = 2.22	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
8 Silvex (2,4,5-TP)							
1	14.862	14.862	0.000	124357942	0.1200	0.1130	
2	14.349	14.349	0.000	190250799	0.1200	0.1222	
						RPD = 7.79	
9 2,4,5-T							
1	15.281	15.281	0.000	111569428	0.1200	0.1133	
2	14.900	14.900	0.000	163872197	0.1200	0.1232	
						RPD = 8.42	
10 2,4-DB							
1	16.021	16.021	0.000	16355938	0.1200	0.1523	
2	15.574	15.574	0.000	18049109	0.1200	0.1486	
						RPD = 2.47	
11 Dinoseb							
1	17.442	17.442	0.000	72730382	0.1200	0.1282	
2	15.972	15.972	0.000	111946114	0.1200	0.1375	
						RPD = 7.01	

QC Flag Legend

Processing Flags

E - Exceeded Maximum Amount

Reagents:

HERBCURVE4_00043 Amount Added: 1.00 Units: mL

Report Date: 19-Sep-2019 13:06:03 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190919-31187.b\L19_002.D				
Injection Date:	19-Sep-2019 09:45:28	Instrument ID:	CHECD08	Operator ID:	JL
Lims ID:	ccvrt			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		

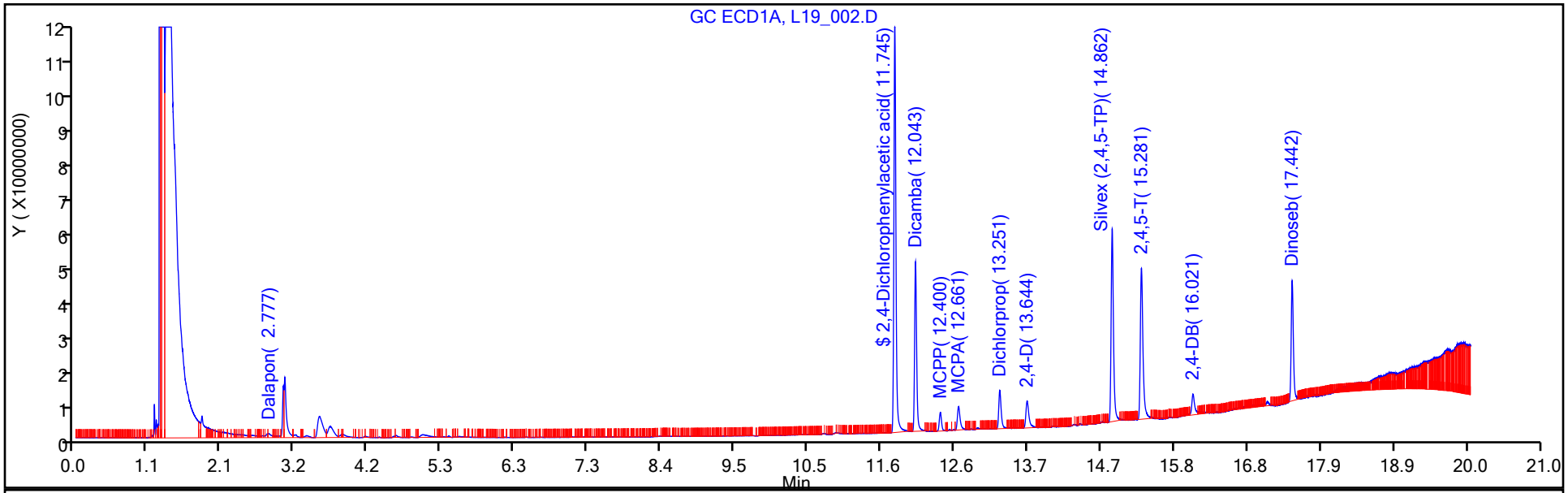

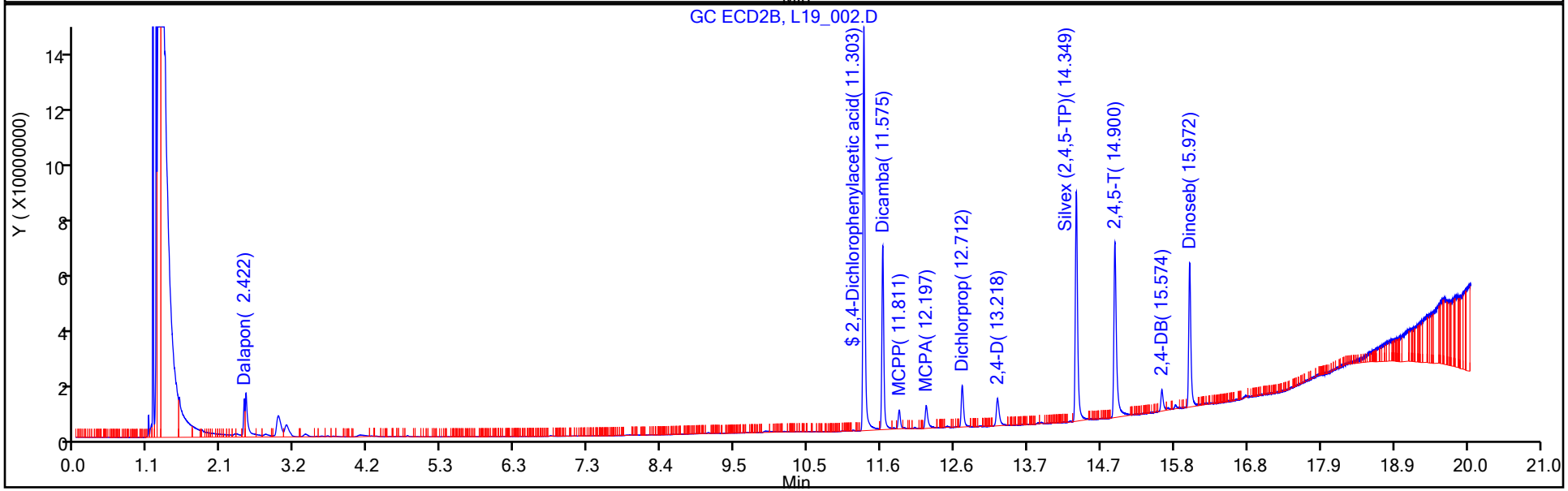

FORM VII
HERBICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab Sample ID: CCVRT 600-275199/2 Calibration Date: 09/19/2019 09:45

Instrument ID: CHECD08 Calib Start Date: 08/15/2019 09:37

GC Column: RTX-CLP2 ID: 0.32(mm) Calib End Date: 08/15/2019 11:42

Lab File ID: L19_002.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dalapon	Ave	360843907	156813950		0.0521	0.120	-56.5*	15.0
Dicamba	Ave	1086784194	1071231750		0.118	0.120	-1.4	15.0
Mecoprop	Ave	1537843	1216938		9.50	12.0	-20.9*	15.0
MCPA	Ave	2121314	1853733		10.5	12.0	-12.6	15.0
Dichlorprop	Ave	300489898	288212550		0.115	0.120	-4.1	15.0
2,4-D	Ave	254894812	239389575		0.113	0.120	-6.1	15.0
Silvex (2,4,5-TP)	Ave	1557098948	1585423325		0.122	0.120	1.8	15.0
2,4,5-T	Ave	1329806588	1365601642		0.123	0.120	2.7	15.0
2,4-DB	Ave	121438456	150409242		0.149	0.120	23.9*	15.0
Dinoseb	Ave	814184432	932884283		0.137	0.120	14.6	15.0
2,4-Dichlorophenylacetic acid	Ave	230295678	241233728		1.26	1.20	4.7	20.0

FORM VII
HERBICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab Sample ID: CCVRT 600-275199/2 Calibration Date: 09/19/2019 09:45

Instrument ID: CHECD08 Calib Start Date: 08/15/2019 09:37

GC Column: RTX-CLP2 ID: 0.32(mm) Calib End Date: 08/15/2019 11:42

Lab File ID: L19_002.D

Analyte	RT	RT WINDOW	
		FROM	TO
Dalapon	2.42	2.39	2.45
Dicamba	11.58	11.55	11.61
Mecoprop	11.81	11.78	11.84
MCPA	12.20	12.17	12.23
Dichlorprop	12.71	12.68	12.74
2,4-D	13.22	13.19	13.25
Silvex (2,4,5-TP)	14.35	14.32	14.38
2,4,5-T	14.90	14.87	14.93
2,4-DB	15.57	15.54	15.60
Dinoseb	15.97	15.94	16.00
2,4-Dichlorophenylacetic acid	11.30	11.27	11.33

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD08\20190919-31187.b\L19_002.D
Lims ID: ccvrt
Client ID:
Sample Type: CCVRT
Inject. Date: 19-Sep-2019 09:45:28 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031187-002
Operator ID: JL Instrument ID: CHECD08
Sublist: chrom-HERB_CHECD08*sub1

Method: \\chromna\Houston\ChromData\CHECD08\20190919-31187.b\HERB_CHECD08.m
Limit Group: GCSV - 8151A
Last Update: 19-Sep-2019 13:06:01 Calib Date: 15-Aug-2019 11:42:30
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_007.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0305

First Level Reviewer: lamj Date: 19-Sep-2019 10:11:43

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Dalapon							
1	2.777	2.777	0.000	3395827	0.1200	0.2022	E
2	2.422	2.422	0.000	18817674	0.1200	0.0521	
						RPD = 117.98	
$ 2 2,4-Dichlorophenylacetic acid							
1	11.745	11.745	0.000	231517520	1.20	1.24	
2	11.303	11.303	0.000	289480474	1.20	1.26	
						RPD = 0.96	
3 Dicamba							
1	12.043	12.043	0.000	95562539	0.1200	0.1197	
2	11.575	11.575	0.000	128547810	0.1200	0.1183	
						RPD = 1.16	
4 MCPP							
1	12.400	12.400	0.000	11607777	12.0	11.7	
2	11.811	11.811	0.000	14603256	12.0	9.50	
						RPD = 20.54	
5 MCPA							
1	12.661	12.661	0.000	17619174	12.0	11.5	
2	12.197	12.197	0.000	22244794	12.0	10.5	
						RPD = 9.31	
6 Dichlorprop							
1	13.251	13.251	0.000	25716758	0.1200	0.1123	
2	12.712	12.712	0.000	34585506	0.1200	0.1151	
						RPD = 2.42	
7 2,4-D							
1	13.644	13.644	0.000	22518979	0.1200	0.1102	
2	13.218	13.218	0.000	28726749	0.1200	0.1127	
						RPD = 2.22	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
8 Silvex (2,4,5-TP)							
1	14.862	14.862	0.000	124357942	0.1200	0.1130	
2	14.349	14.349	0.000	190250799	0.1200	0.1222	
						RPD = 7.79	
9 2,4,5-T							
1	15.281	15.281	0.000	111569428	0.1200	0.1133	
2	14.900	14.900	0.000	163872197	0.1200	0.1232	
						RPD = 8.42	
10 2,4-DB							
1	16.021	16.021	0.000	16355938	0.1200	0.1523	
2	15.574	15.574	0.000	18049109	0.1200	0.1486	
						RPD = 2.47	
11 Dinoseb							
1	17.442	17.442	0.000	72730382	0.1200	0.1282	
2	15.972	15.972	0.000	111946114	0.1200	0.1375	
						RPD = 7.01	

QC Flag Legend

Processing Flags

E - Exceeded Maximum Amount

Reagents:

HERBCURVE4_00043 Amount Added: 1.00 Units: mL

Report Date: 19-Sep-2019 13:06:04 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190919-31187.b\L19_002.D				
Injection Date:	19-Sep-2019 09:45:28	Instrument ID:	CHECD08	Operator ID:	JL
Lims ID:	ccvrt			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		

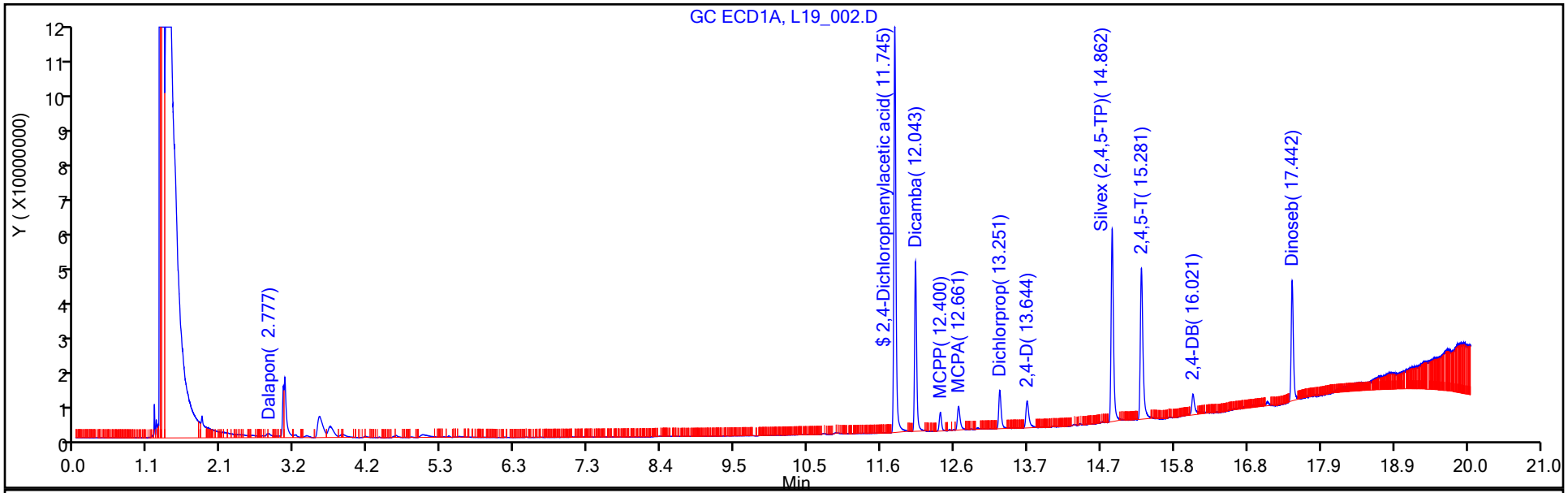

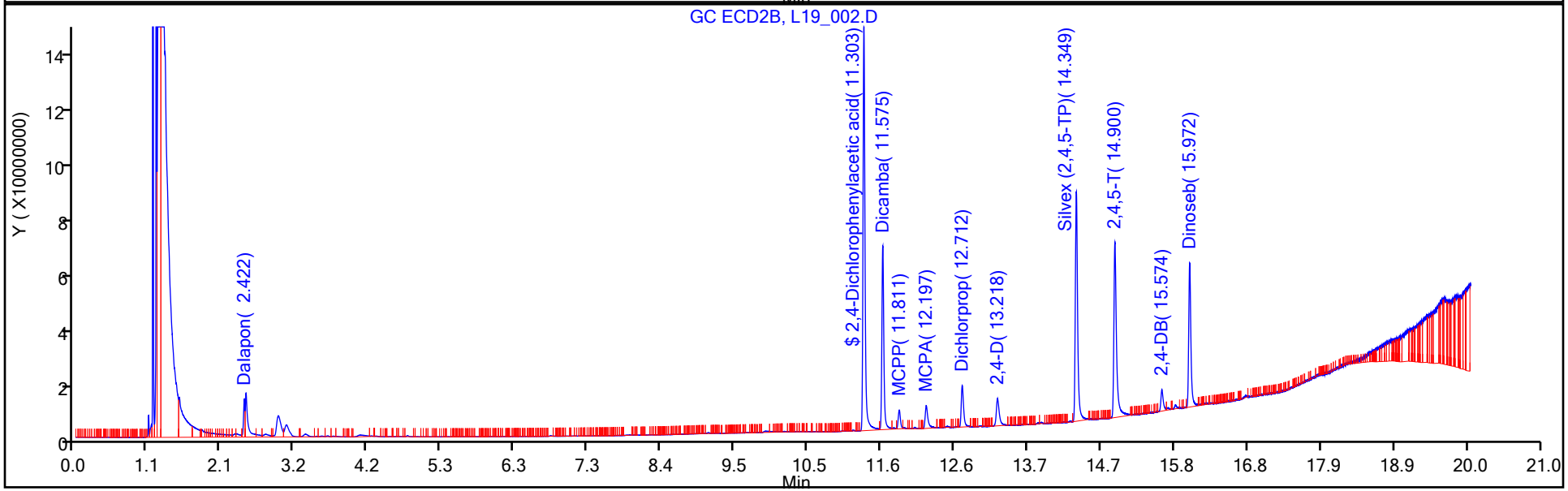

FORM VII
HERBICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab Sample ID: CCV 600-275199/9 Calibration Date: 09/19/2019 12:40

Instrument ID: CHECD08 Calib Start Date: 08/15/2019 09:37

GC Column: RTX-CLP1 ID: 0.32(mm) Calib End Date: 08/15/2019 11:42

Lab File ID: L19_009.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dalapon	Ave	16796184	21443650		0.153	0.120	27.7*	15.0
Dicamba	Ave	798631728	947925583		0.142	0.120	18.7*	15.0
Mecoprop	Ave	994700	878384		10.6	12.0	-11.7	15.0
MCPA	Ave	1530704	1192639		9.35	12.0	-22.1*	15.0
Dichlorprop	Ave	228901642	233420167		0.122	0.120	2.0	15.0
2,4-D	Ave	204291908	174478583		0.102	0.120	-14.6	15.0
Silvex (2,4,5-TP)	Ave	1100258808	1218375367		0.133	0.120	10.7	15.0
2,4,5-T	Ave	984909535	998449033		0.122	0.120	1.4	15.0
2,4-DB	Ave	107363163	125460450		0.140	0.120	16.9*	15.0
Dinoseb	Ave	567394420	884009058		0.187	0.120	55.8*	15.0
2,4-Dichlorophenylacetic acid	Ave	185965663	216665948		1.40	1.20	16.5	20.0

FORM VII
HERBICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab Sample ID: CCV 600-275199/9 Calibration Date: 09/19/2019 12:40

Instrument ID: CHECD08 Calib Start Date: 08/15/2019 09:37

GC Column: RTX-CLP1 ID: 0.32(mm) Calib End Date: 08/15/2019 11:42

Lab File ID: L19_009.D

Analyte	RT	RT WINDOW	
		FROM	TO
Dalapon	2.77	2.75	2.81
Dicamba	12.04	12.01	12.07
Mecoprop	12.39	12.37	12.43
MCPA	12.65	12.63	12.69
Dichlorprop	13.25	13.22	13.28
2,4-D	13.64	13.61	13.67
Silvex (2,4,5-TP)	14.86	14.83	14.89
2,4,5-T	15.28	15.25	15.31
2,4-DB	16.01	15.99	16.05
Dinoseb	17.44	17.41	17.47
2,4-Dichlorophenylacetic acid	11.74	11.72	11.78

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD08\20190919-31187.b\L19_009.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 19-Sep-2019 12:40:33 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031187-009
Operator ID: JL Instrument ID: CHECD08
Sublist: chrom-HERB_CHECD08*sub1

Method: \\chromna\Houston\ChromData\CHECD08\20190919-31187.b\HERB_CHECD08.m
Limit Group: GCSV - 8151A
Last Update: 19-Sep-2019 13:06:30 Calib Date: 15-Aug-2019 11:42:30
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_007.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0305

First Level Reviewer: lamj Date: 19-Sep-2019 13:05:36

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Dalapon							
1	2.766	2.777	-0.011	2573238	0.1200	0.1532	
2	2.424	2.422	0.002	25584363	0.1200	0.0709	
						RPD = 73.45	
$ 2 2,4-Dichlorophenylacetic acid							
1	11.743	11.745	-0.002	259999138	1.20	1.40	
2	11.301	11.303	-0.002	342559597	1.20	1.49	
						RPD = 6.19	
3 Dicamba							
1	12.040	12.043	-0.003	113751070	0.1200	0.1424	
2	11.572	11.575	-0.003	163060352	0.1200	0.1500	
						RPD = 5.20	
4 MCPP							
1	12.393	12.400	-0.007	10540608	12.0	10.6	
2	11.810	11.811	-0.001	14373244	12.0	9.35	
						RPD = 12.54	
5 MCPA							
1	12.654	12.661	-0.007	14311670	12.0	9.35	
2	12.195	12.197	-0.002	19407045	12.0	9.15	
						RPD = 2.17	
6 Dichlorprop							
1	13.246	13.251	-0.005	28010420	0.1200	0.1224	
2	12.711	12.712	-0.001	51325458	0.1200	0.1708	
						RPD = 33.04	
7 2,4-D							M
1	13.639	13.644	-0.005	20937430	0.1200	0.1025	M
2	13.216	13.218	-0.002	33363723	0.1200	0.1309	
						RPD = 24.34	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
8 Silvex (2,4,5-TP)							
1	14.856	14.862	-0.006	146205044	0.1200	0.1329	
2	14.346	14.349	-0.003	238953851	0.1200	0.1535	
						RPD = 14.37	
9 2,4,5-T							
1	15.275	15.281	-0.006	119813884	0.1200	0.1216	
2	14.898	14.900	-0.002	198242758	0.1200	0.1491	
						RPD = 20.26	
10 2,4-DB							
1	16.012	16.021	-0.009	15055254	0.1200	0.1402	
2	15.572	15.574	-0.002	23671184	0.1200	0.1949	
						RPD = 32.64	
11 Dinoseb							
1	17.437	17.442	-0.005	106081087	0.1200	0.1870	
2	15.970	15.972	-0.002	119971785	0.1200	0.1474	
						RPD = 23.70	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

HERBCURVE4_00043 Amount Added: 1.00 Units: mL

Report Date: 19-Sep-2019 13:06:32 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190919-31187.b\L19_009.D				
Injection Date:	19-Sep-2019 12:40:33	Instrument ID:	CHECD08	Operator ID:	JL
Lims ID:	CCV			Worklist Smp#:	9
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		

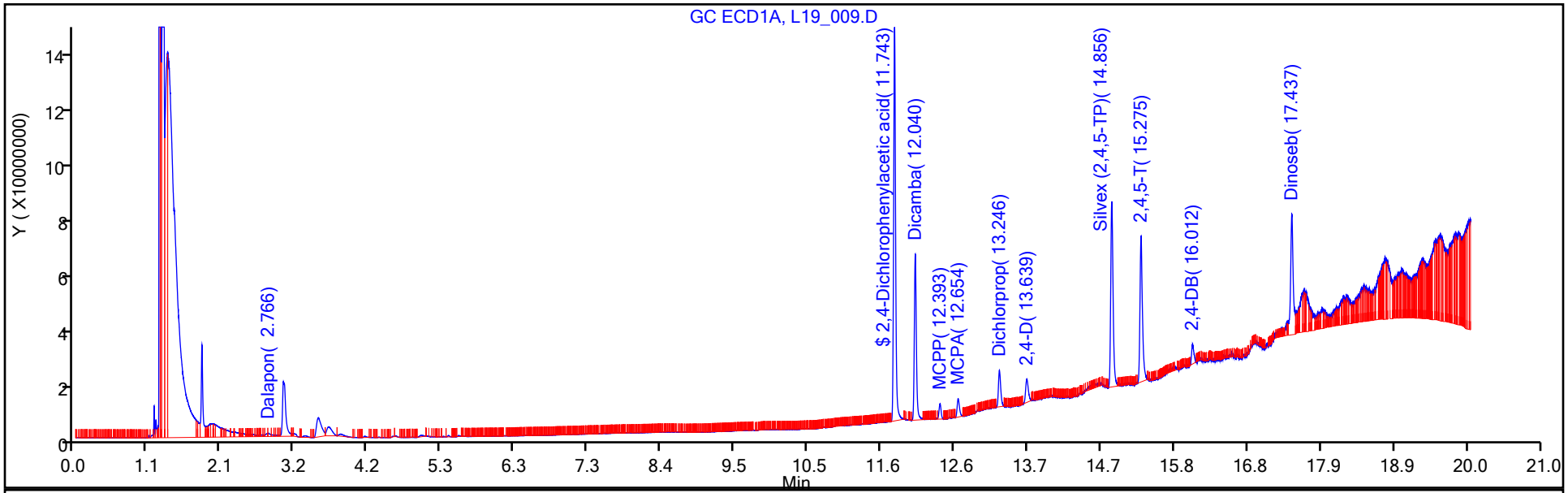

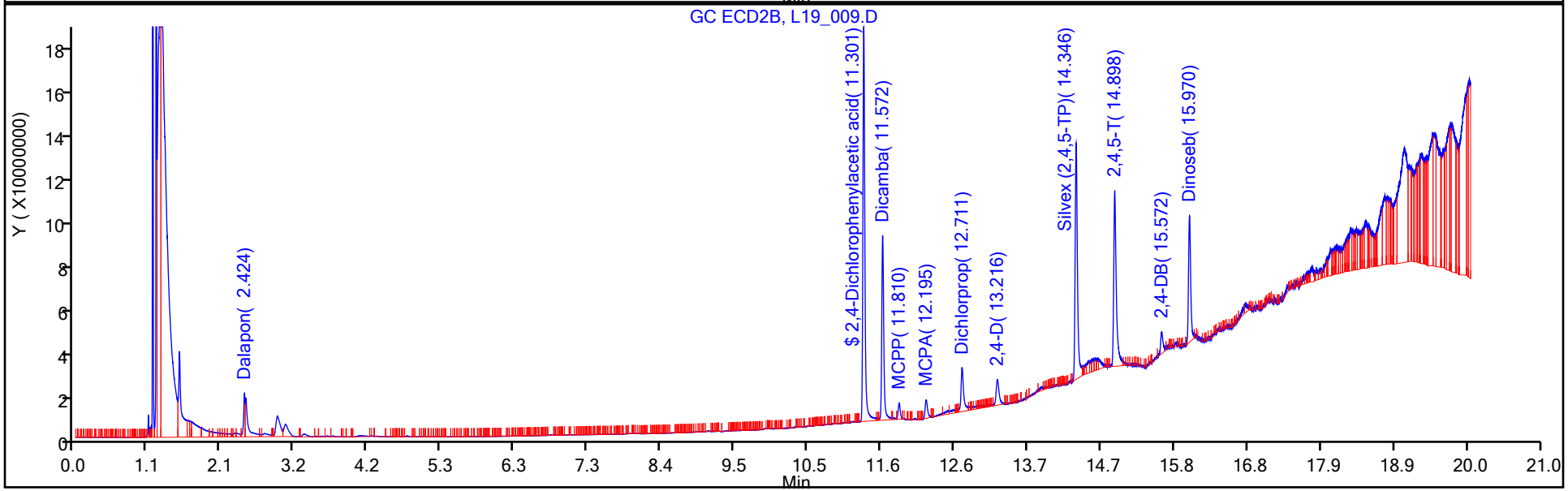

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190919-31187.b\L19_009.D				
Injection Date:	19-Sep-2019 12:40:33	Instrument ID:	CHECD08		
Lims ID:	CCV				
Client ID:					
Operator ID:	JL	ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		
Column:		Detector	GC ECD1A		

7 2,4-D, CAS: 94-75-7

Signal: 1

Processing Integration Results

RT: 13.64
Area: 11455205
Amount: 0.056073
Amount Units: ug/ml

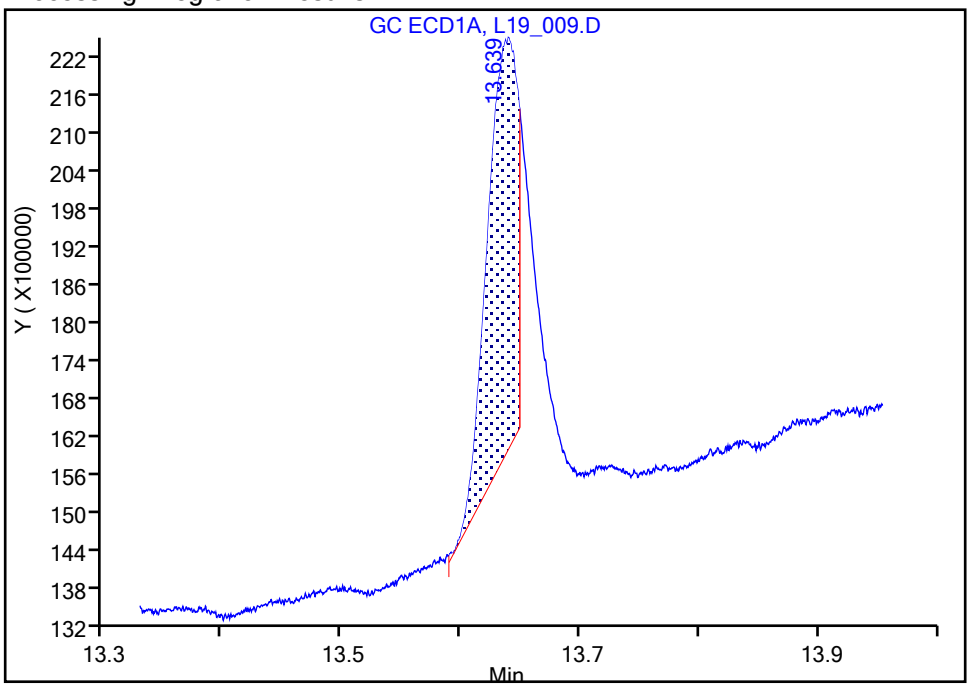

Manual Integration Results

RT: 13.64
Area: 20937430
Amount: 0.102488
Amount Units: ug/ml

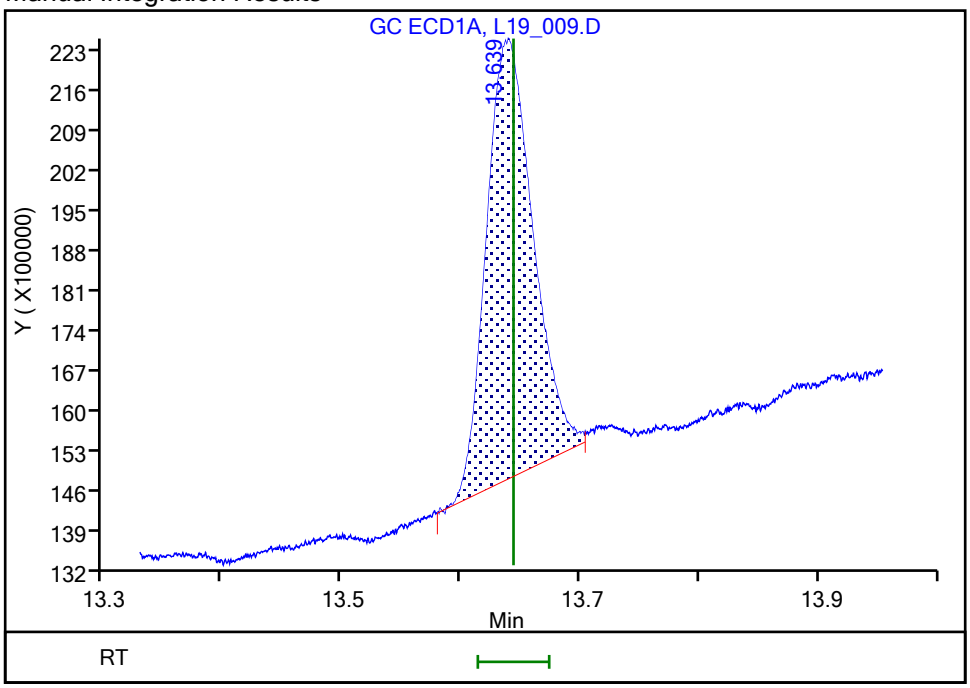

Reviewer: lamj, 19-Sep-2019 13:03:12

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VII
HERBICIDES CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab Sample ID: CCV 600-275199/9 Calibration Date: 09/19/2019 12:40

Instrument ID: CHECD08 Calib Start Date: 08/15/2019 09:37

GC Column: RTX-CLP2 ID: 0.32(mm) Calib End Date: 08/15/2019 11:42

Lab File ID: L19_009.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dalapon	Ave	360843907	213203025		0.0709	0.120	-40.9*	15.0
Dicamba	Ave	1086784194	1358836267		0.150	0.120	25.0*	15.0
Mecoprop	Ave	1537843	1197770		9.35	12.0	-22.1*	15.0
MCPA	Ave	2121314	1617254		9.15	12.0	-23.8*	15.0
Dichlorprop	Ave	300489898	427712150		0.171	0.120	42.3*	15.0
2,4-D	Ave	254894812	278031025		0.131	0.120	9.1	15.0
Silvex (2,4,5-TP)	Ave	1557098948	1991282092		0.153	0.120	27.9*	15.0
2,4,5-T	Ave	1329806588	1652022983		0.149	0.120	24.2*	15.0
2,4-DB	Ave	121438456	197259867		0.195	0.120	62.4*	15.0
Dinoseb	Ave	814184432	999764875		0.147	0.120	22.8*	15.0
2,4-Dichlorophenylacetic acid	Ave	230295678	285466331		1.49	1.20	24.0*	20.0

FORM VII
HERBICIDES CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab Sample ID: CCV 600-275199/9 Calibration Date: 09/19/2019 12:40

Instrument ID: CHECD08 Calib Start Date: 08/15/2019 09:37

GC Column: RTX-CLP2 ID: 0.32(mm) Calib End Date: 08/15/2019 11:42

Lab File ID: L19_009.D

Analyte	RT	RT WINDOW	
		FROM	TO
Dalapon	2.42	2.39	2.45
Dicamba	11.57	11.55	11.61
Mecoprop	11.81	11.78	11.84
MCPA	12.20	12.17	12.23
Dichlorprop	12.71	12.68	12.74
2,4-D	13.22	13.19	13.25
Silvex (2,4,5-TP)	14.35	14.32	14.38
2,4,5-T	14.90	14.87	14.93
2,4-DB	15.57	15.54	15.60
Dinoseb	15.97	15.94	16.00
2,4-Dichlorophenylacetic acid	11.30	11.27	11.33

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD08\20190919-31187.b\L19_009.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 19-Sep-2019 12:40:33 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031187-009
Operator ID: JL Instrument ID: CHECD08
Sublist: chrom-HERB_CHECD08*sub1

Method: \\chromna\Houston\ChromData\CHECD08\20190919-31187.b\HERB_CHECD08.m
Limit Group: GCSV - 8151A
Last Update: 19-Sep-2019 13:06:30 Calib Date: 15-Aug-2019 11:42:30
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_007.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0305

First Level Reviewer: lamj Date: 19-Sep-2019 13:05:36

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Dalapon							
1	2.766	2.777	-0.011	2573238	0.1200	0.1532	
2	2.424	2.422	0.002	25584363	0.1200	0.0709	
						RPD = 73.45	
$ 2 2,4-Dichlorophenylacetic acid							
1	11.743	11.745	-0.002	259999138	1.20	1.40	
2	11.301	11.303	-0.002	342559597	1.20	1.49	
						RPD = 6.19	
3 Dicamba							
1	12.040	12.043	-0.003	113751070	0.1200	0.1424	
2	11.572	11.575	-0.003	163060352	0.1200	0.1500	
						RPD = 5.20	
4 MCPP							
1	12.393	12.400	-0.007	10540608	12.0	10.6	
2	11.810	11.811	-0.001	14373244	12.0	9.35	
						RPD = 12.54	
5 MCPA							
1	12.654	12.661	-0.007	14311670	12.0	9.35	
2	12.195	12.197	-0.002	19407045	12.0	9.15	
						RPD = 2.17	
6 Dichlorprop							
1	13.246	13.251	-0.005	28010420	0.1200	0.1224	
2	12.711	12.712	-0.001	51325458	0.1200	0.1708	
						RPD = 33.04	
7 2,4-D							M
1	13.639	13.644	-0.005	20937430	0.1200	0.1025	M
2	13.216	13.218	-0.002	33363723	0.1200	0.1309	
						RPD = 24.34	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
8 Silvex (2,4,5-TP)							
1	14.856	14.862	-0.006	146205044	0.1200	0.1329	
2	14.346	14.349	-0.003	238953851	0.1200	0.1535	
						RPD = 14.37	
9 2,4,5-T							
1	15.275	15.281	-0.006	119813884	0.1200	0.1216	
2	14.898	14.900	-0.002	198242758	0.1200	0.1491	
						RPD = 20.26	
10 2,4-DB							
1	16.012	16.021	-0.009	15055254	0.1200	0.1402	
2	15.572	15.574	-0.002	23671184	0.1200	0.1949	
						RPD = 32.64	
11 Dinoseb							
1	17.437	17.442	-0.005	106081087	0.1200	0.1870	
2	15.970	15.972	-0.002	119971785	0.1200	0.1474	
						RPD = 23.70	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

HERBCURVE4_00043 Amount Added: 1.00 Units: mL

Report Date: 19-Sep-2019 13:06:33 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190919-31187.b\L19_009.D				
Injection Date:	19-Sep-2019 12:40:33	Instrument ID:	CHECD08	Operator ID:	JL
Lims ID:	CCV			Worklist Smp#:	9
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		

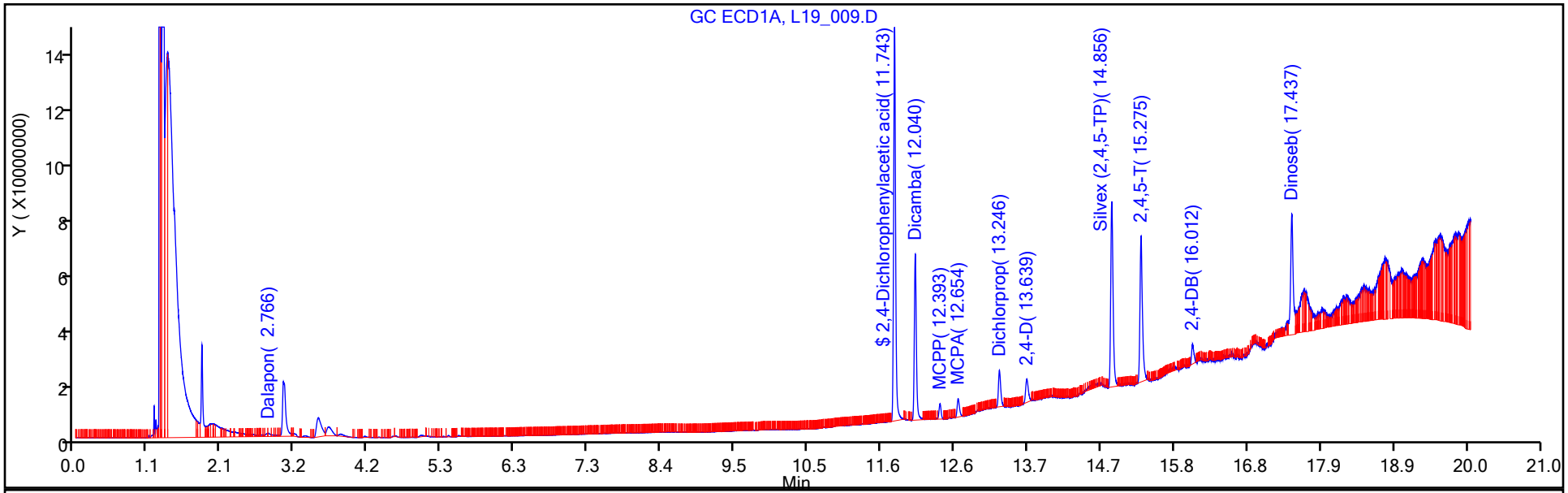

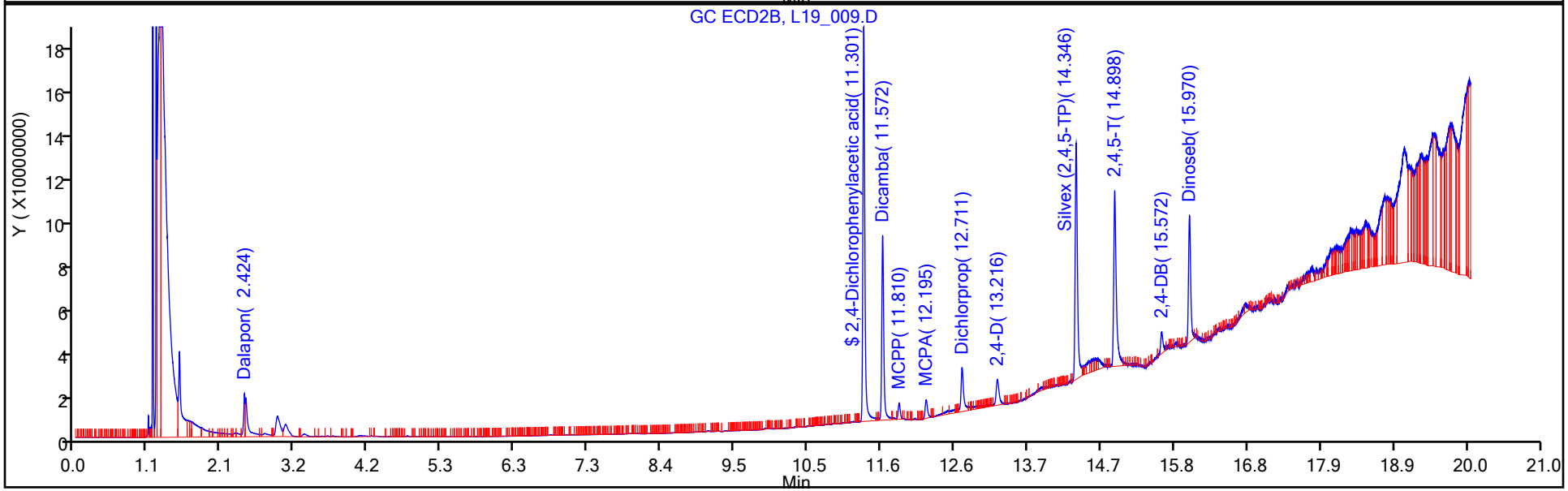

FORM I
HERBICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-191956-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 600-274931/1-A
Matrix: Water
Lab File ID: L19_003.D
Analysis Method: 8151
Date Collected:
Extraction Method: 8151A
Date Extracted: 09/17/2019 08:07
Sample wt/vol: 1000(mL)
Date Analyzed: 09/19/2019 10:11
Con. Extract Vol.: 5.0(mL)
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: RTX-CLP1 ID: 0.32(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 275199
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
94-75-7	2,4-D	ND		0.20	0.040
93-72-1	Silvex (2,4,5-TP)	ND		0.20	0.020

CAS NO.	SURROGATE	%REC	Q	LIMITS
19719-28-9	2,4-Dichlorophenylacetic acid	103		10-130

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD08\20190919-31187.b\L19_003.D
Lims ID: MB 600-274931/1-A
Client ID:
Sample Type: MB
Inject. Date: 19-Sep-2019 10:11:02 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031187-003
Operator ID: JL Instrument ID: CHECD08

Method: \\chromna\Houston\ChromData\CHECD08\20190919-31187.b\HERB_CHECD08.m
Limit Group: GCSV - 8151A
Last Update: 19-Sep-2019 13:06:01 Calib Date: 15-Aug-2019 11:42:30
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_007.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0305

First Level Reviewer: lamj Date: 19-Sep-2019 10:37:46

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Dalapon							U
1		2.777				ND	
2		2.422					
$ 2 2,4-Dichlorophenylacetic acid							
1	11.760	11.745	0.015	191927830	1.00	1.03	
2	11.317	11.303	0.014	246169252	1.00	1.07	
						RPD = 3.51	
3 Dicamba							U
1		12.043				ND	
2		11.575					
4 MCPP							U
1		12.400				ND	
2		11.811					
5 MCPA							U
1		12.661				ND	
2		12.197					
6 Dichlorprop							U
1		13.251				ND	
2		12.712					
7 2,4-D							U
1		13.644				ND	
2		13.218					
8 Silvex (2,4,5-TP)							U
1		14.862				ND	
2		14.349					
9 2,4,5-T							U
1		15.281				ND	
2		14.900					

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 2,4-DB							U
1		16.021				ND	
2		15.574					
11 Dinoseb							U
1		17.442				ND	
2		15.972					

QC Flag Legend

Review Flags

U - Marked Undetected

Report Date: 19-Sep-2019 13:06:10 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190919-31187.b\L19_003.D				
Injection Date:	19-Sep-2019 10:11:02	Instrument ID:	CHECD08	Operator ID:	JL
Lims ID:	MB 600-274931/1-A			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		

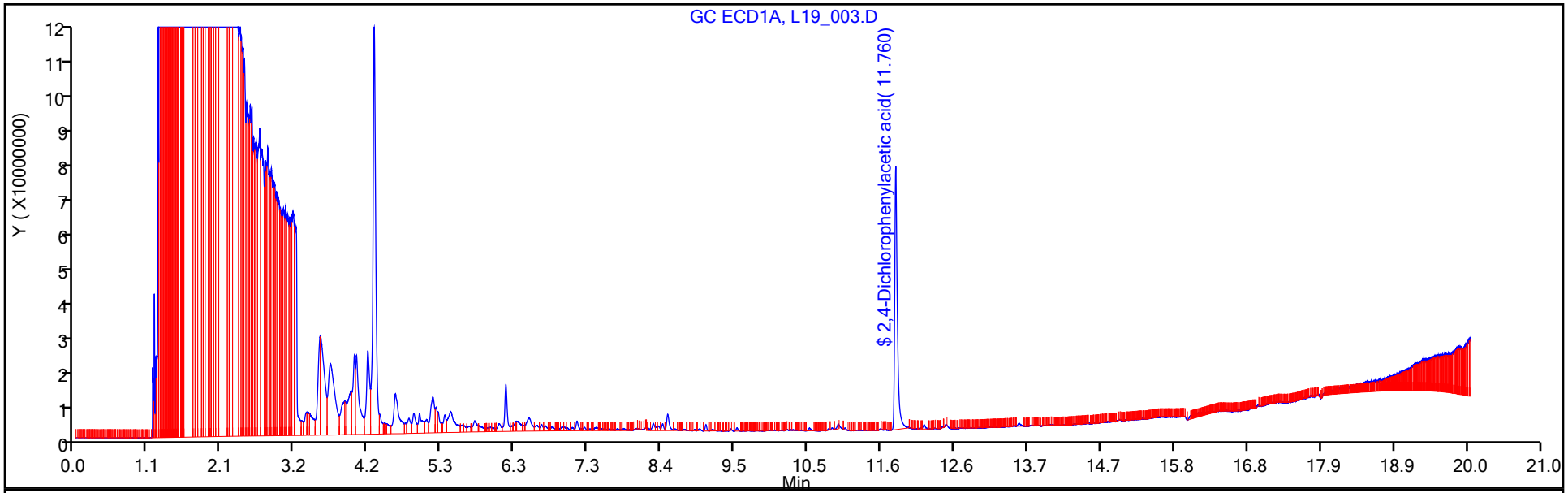

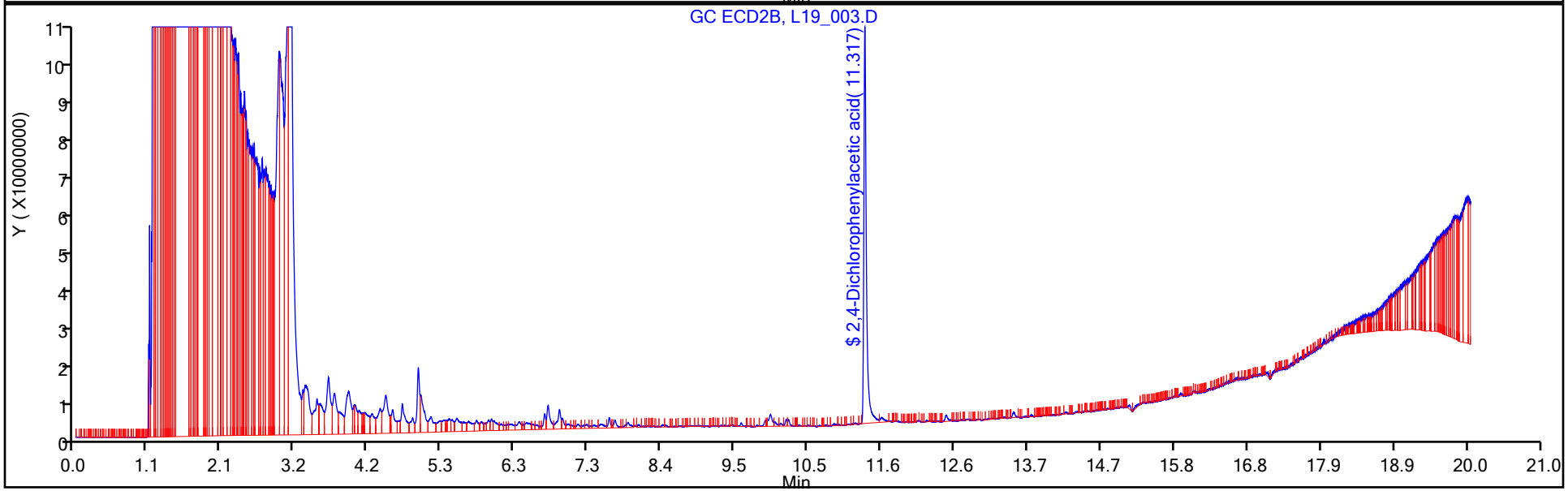

Eurofins TestAmerica, Houston
Recovery Report

Data File:	\\chromna\Houston\ChromData\CHECD08\20190919-31187.b\L19_003.D				
Lims ID:	MB 600-274931/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	19-Sep-2019 10:11:02	ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	600-0031187-003				
Operator ID:	JL	Instrument ID:	CHECD08		
Method:	\\chromna\Houston\ChromData\CHECD08\20190919-31187.b\HERB_CHECD08.m				
Limit Group:	GCSV - 8151A				
Last Update:	19-Sep-2019 13:06:01	Calib Date:	15-Aug-2019 11:42:30		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_007.D				
Column 1 :			Det: GC ECD1A		
Column 2 :			Det: GC ECD2B		
Process Host:	CTX0305				
First Level Reviewer: lamj		Date:	19-Sep-2019 10:37:46		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	1.03	103.21

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	1.07	106.89

User Disabled Compound Report

Eurofins TestAmerica, Houston

Data File: \\chromna\Houston\ChromData\CHECD08\20190919-31187.b\L19_003.D
Injection Date: 19-Sep-2019 10:11:02 Instrument ID: CHECD08
Lims ID: MB 600-274931/1-A
Client ID:
Operator ID: JL ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: HERB_CHECD08 Limit Group: GCSV - 8151A

Column: Detector GC ECD1A

7 2,4-D, CAS: 94-75-7, Signal: 1

RT: 13.65
Response: 3464
Amount: 0.000017

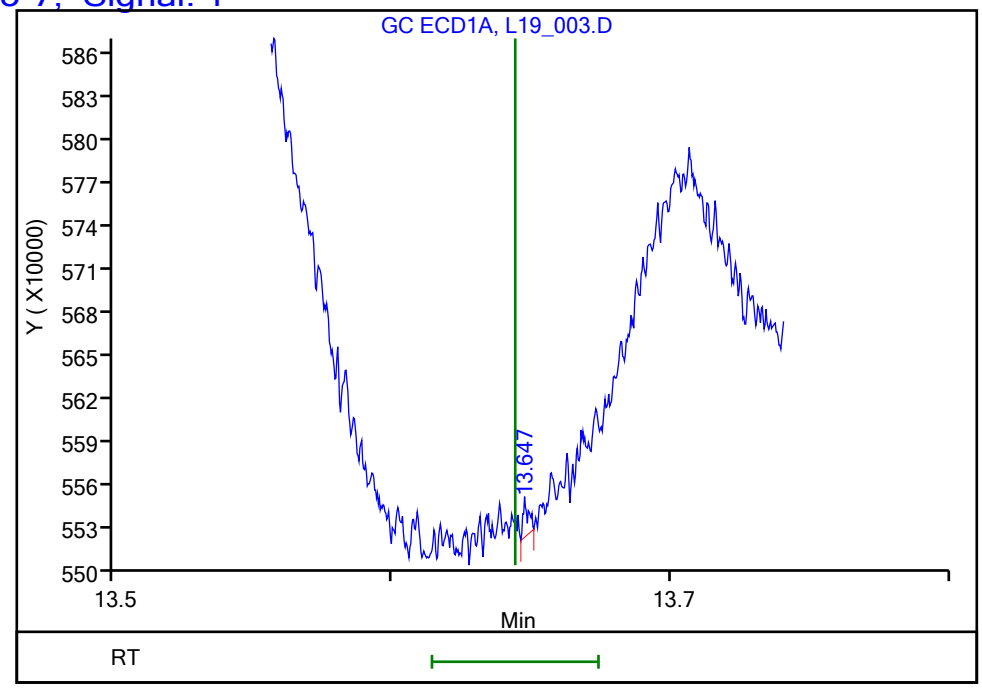

Column: Detector GC ECD2B

7 2,4-D, CAS: 94-75-7, Signal: 2

RT: 13.22
Response: 80782
Amount: 0.000317

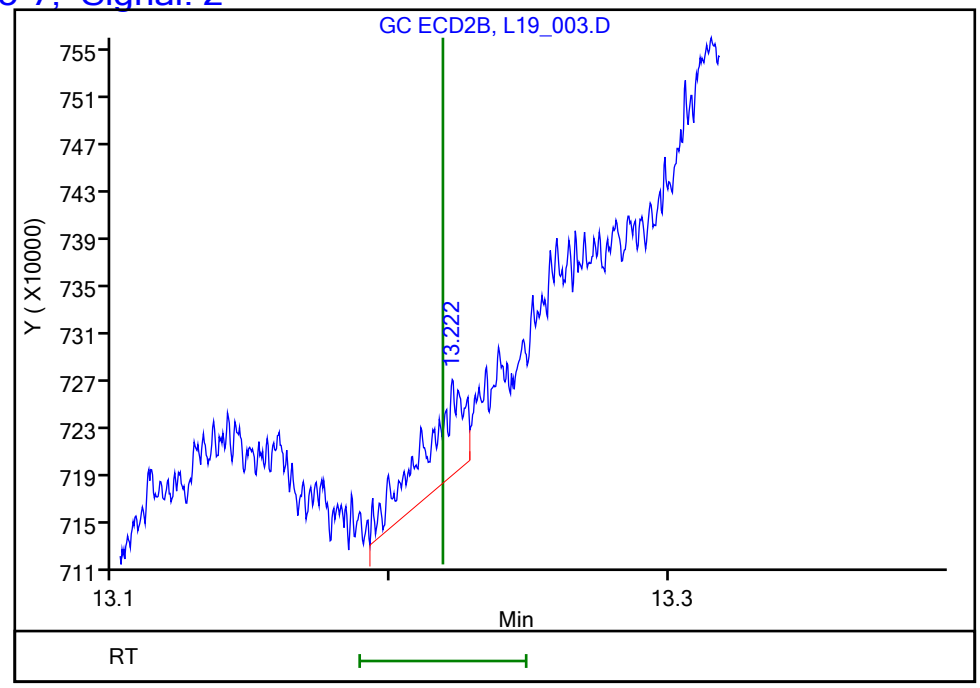

Reviewer: lamj, 19-Sep-2019 10:37:46
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

Eurofins TestAmerica, Houston

Data File: \\chromna\Houston\ChromData\CHECD08\20190919-31187.b\L19_003.D
Injection Date: 19-Sep-2019 10:11:02 Instrument ID: CHECD08
Lims ID: MB 600-274931/1-A
Client ID:
Operator ID: JL ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: HERB_CHECD08 Limit Group: GCSV - 8151A

Column: Detector GC ECD1A

8 Silvex (2,4,5-TP), CAS: 93-72-1, Signal: 1

RT: 14.86
Response: 6330
Amount: 0.000006

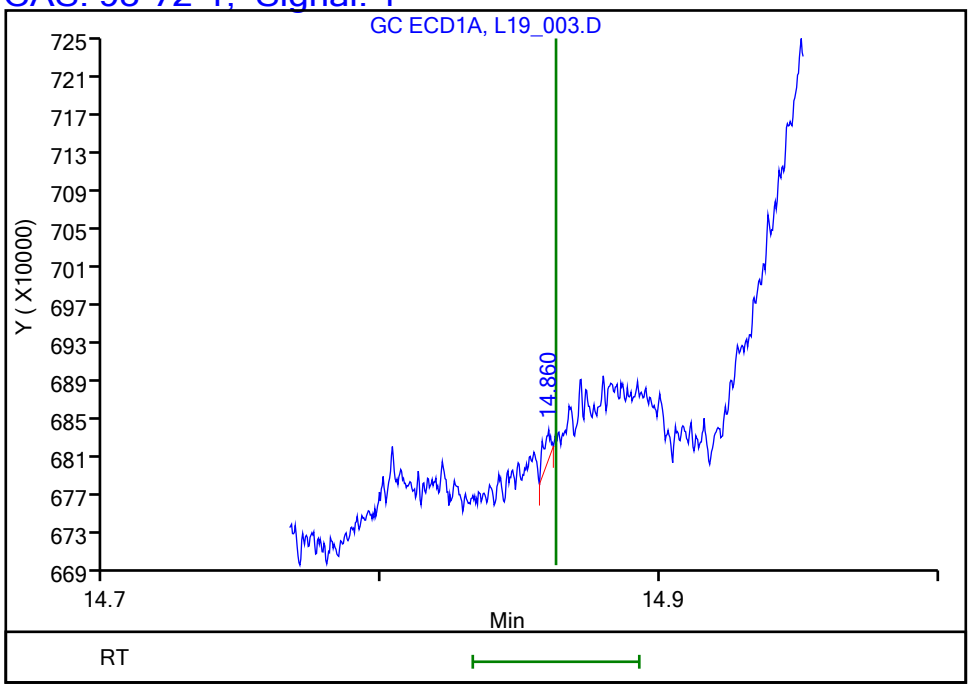

Column: Detector GC ECD2B

8 Silvex (2,4,5-TP), CAS: 93-72-1, Signal: 2

RT: 14.35
Response: 585556
Amount: 0.000376

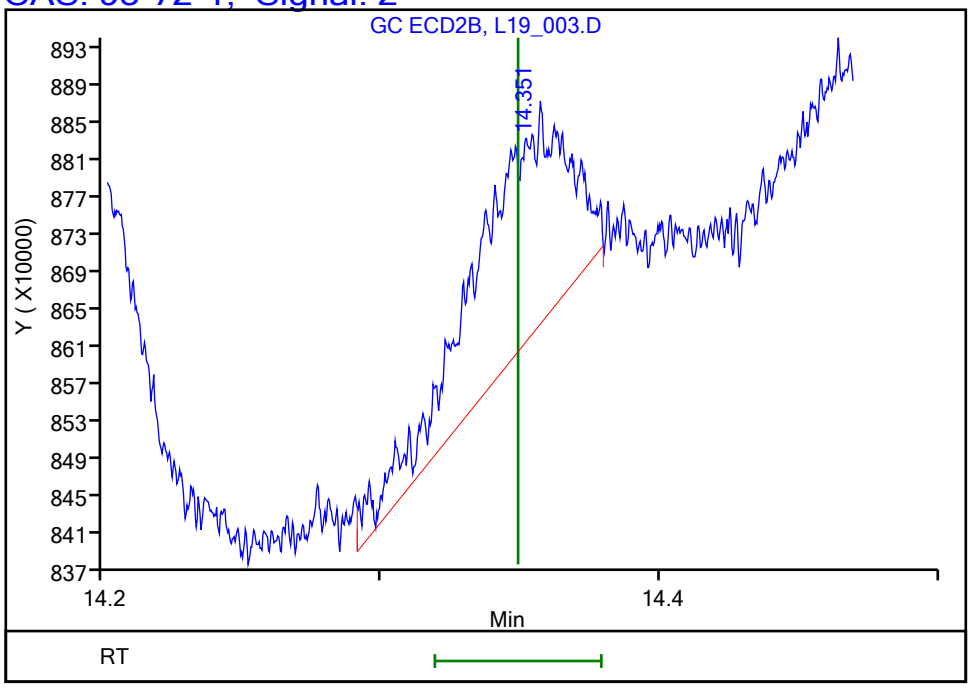

Reviewer: lamj, 19-Sep-2019 10:37:46
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
HERBICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-191956-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 600-274931/2-A
Matrix: Water
Lab File ID: L19_004.D
Analysis Method: 8151
Date Collected:
Extraction Method: 8151A
Date Extracted: 09/17/2019 08:07
Sample wt/vol: 1000(mL)
Date Analyzed: 09/19/2019 10:36
Con. Extract Vol.: 5.0(mL)
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: RTX-CLP1 ID: 0.32(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 275199
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
94-75-7	2,4-D	0.417		0.20	0.040
93-72-1	Silvex (2,4,5-TP)	0.352		0.20	0.020

CAS NO.	SURROGATE	%REC	Q	LIMITS
19719-28-9	2,4-Dichlorophenylacetic acid	106		10-130

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD08\20190919-31187.b\L19_004.D
Lims ID: LCS 600-274931/2-A
Client ID:
Sample Type: LCS
Inject. Date: 19-Sep-2019 10:36:05 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031187-004
Operator ID: JL Instrument ID: CHECD08

Method: \\chromna\Houston\ChromData\CHECD08\20190919-31187.b\HERB_CHECD08.m
Limit Group: GCSV - 8151A
Last Update: 19-Sep-2019 13:06:01 Calib Date: 15-Aug-2019 11:42:30
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_007.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0305

First Level Reviewer: lamj Date: 19-Sep-2019 11:07:23

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
$ 2 2,4-Dichlorophenylacetic acid							
1	11.749	11.745	0.004	196776425	1.00	1.06	
2	11.307	11.303	0.004	258811525	1.00	1.12	
						RPD = 6.02	
3 Dicamba							
1	12.045	12.043	0.002	51727808	0.0800	0.0648	
2	11.576	11.575	0.001	72727334	0.0800	0.0669	
						RPD = 3.26	
4 MCPP							
1	12.398	12.400	-0.002	6798137	8.00	6.83	
2	11.812	11.811	0.001	9950191	8.00	6.47	
						RPD = 5.47	
5 MCPA							
1	12.663	12.661	0.002	11116516	8.00	7.26	
2	12.201	12.197	0.004	15847177	8.00	7.47	
						RPD = 2.82	
6 Dichlorprop							
1	13.252	13.251	0.001	15929517	0.0800	0.0696	
2	12.717	12.712	0.005	23351530	0.0800	0.0777	
						RPD = 11.03	
7 2,4-D							
1	13.644	13.644	0.000	17025134	0.0800	0.0833	
2	13.221	13.218	0.003	24556592	0.0800	0.0963	
						RPD = 14.47	
8 Silvex (2,4,5-TP)							
1	14.861	14.862	-0.001	77564177	0.0800	0.0705	
2	14.349	14.349	0.000	129925814	0.0800	0.0834	
						RPD = 16.82	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
9 2,4,5-T							
1	15.279	15.281	-0.002	65672001	0.0800	0.0667	
2	14.902	14.900	0.002	108094295	0.0800	0.0813	
						RPD = 19.74	
10 2,4-DB							
1	16.018	16.021	-0.003	15237899	0.0800	0.1419	
2	15.574	15.574	0.000	11679835	0.0800	0.0962	
						RPD = 38.43	
11 Dinoseb							
1	17.446	17.442	0.004	6124	0.0800	0.00001079	
2	15.972	15.972	0.000	169755	0.0800	0.000208	
						RPD = 180.31	

Report Date: 19-Sep-2019 13:06:14 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190919-31187.b\L19_004.D				
Injection Date:	19-Sep-2019 10:36:05	Instrument ID:	CHECD08	Operator ID:	JL
Lims ID:	LCS 600-274931/2-A			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		

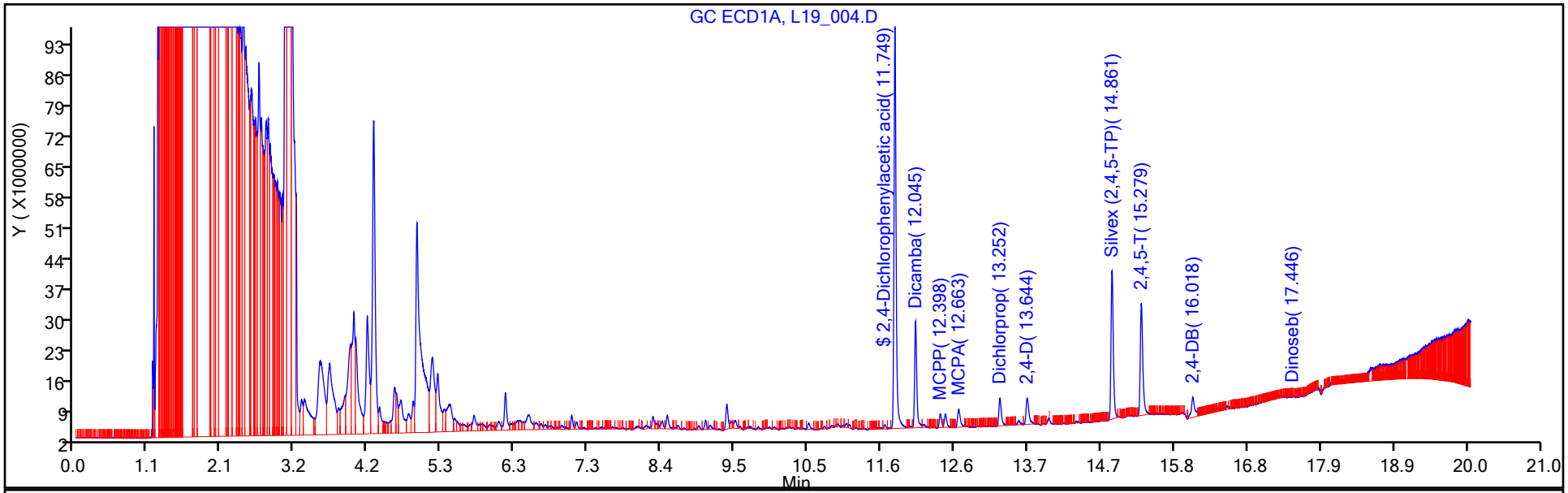

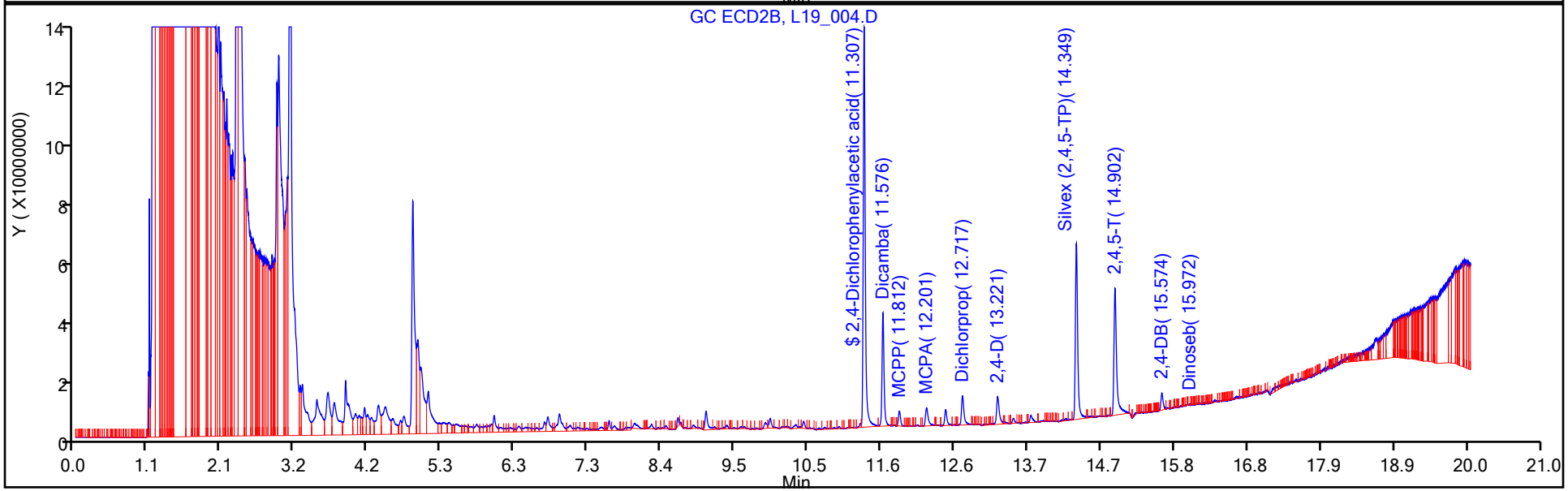

Eurofins TestAmerica, Houston
Recovery Report

Data File:	\\chromna\Houston\ChromData\CHECD08\20190919-31187.b\L19_004.D				
Lims ID:	LCS 600-274931/2-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	19-Sep-2019 10:36:05	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	600-0031187-004				
Operator ID:	JL	Instrument ID:	CHECD08		
Method:	\\chromna\Houston\ChromData\CHECD08\20190919-31187.b\HERB_CHECD08.m				
Limit Group:	GCSV - 8151A				
Last Update:	19-Sep-2019 13:06:01	Calib Date:	15-Aug-2019 11:42:30		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_007.D				
Column 1 :			Det: GC ECD1A		
Column 2 :			Det: GC ECD2B		
Process Host:	CTX0305				
First Level Reviewer: lamj		Date:	19-Sep-2019 11:07:23		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	1.06	105.81

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	1.12	112.38

FORM I
HERBICIDES ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-191956-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCSD 600-274931/3-A
Matrix: Water
Lab File ID: L19_005.D
Analysis Method: 8151
Date Collected:
Extraction Method: 8151A
Date Extracted: 09/17/2019 08:07
Sample wt/vol: 1000(mL)
Date Analyzed: 09/19/2019 11:00
Con. Extract Vol.: 5.0(mL)
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: RTX-CLP1 ID: 0.32(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 275199
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
94-75-7	2,4-D	0.424		0.20	0.040
93-72-1	Silvex (2,4,5-TP)	0.373		0.20	0.020

CAS NO.	SURROGATE	%REC	Q	LIMITS
19719-28-9	2,4-Dichlorophenylacetic acid	107		10-130

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD08\20190919-31187.b\L19_005.D
Lims ID: LCSD 600-274931/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 19-Sep-2019 11:00:58 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031187-005
Operator ID: JL Instrument ID: CHECD08

Method: \\chromna\Houston\ChromData\CHECD08\20190919-31187.b\HERB_CHECD08.m
Limit Group: GCSV - 8151A
Last Update: 19-Sep-2019 13:06:01 Calib Date: 15-Aug-2019 11:42:30
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_007.D

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0305

First Level Reviewer: lamj Date: 19-Sep-2019 11:38:46

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
$ 2 2,4-Dichlorophenylacetic acid							
1	11.748	11.745	0.003	199830814	1.00	1.07	
2	11.305	11.303	0.002	261253616	1.00	1.13	
						RPD = 5.42	
3 Dicamba							
1	12.042	12.043	-0.001	53095458	0.0800	0.0665	
2	11.574	11.575	-0.001	74655060	0.0800	0.0687	
						RPD = 3.27	
4 MCPP							
1	12.397	12.400	-0.003	7321935	8.00	7.36	
2	11.811	11.811	0.000	10414601	8.00	6.77	
						RPD = 8.33	
5 MCPA							
1	12.659	12.661	-0.002	10977488	8.00	7.17	
2	12.200	12.197	0.003	17406501	8.00	8.21	
						RPD = 13.45	
6 Dichlorprop							
1	13.251	13.251	0.000	16132956	0.0800	0.0705	
2	12.714	12.712	0.002	26477268	0.0800	0.0881	
						RPD = 22.24	
7 2,4-D							
1	13.644	13.644	0.000	17340537	0.0800	0.0849	
2	13.220	13.218	0.002	25187849	0.0800	0.0988	
						RPD = 15.17	
8 Silvex (2,4,5-TP)							
1	14.858	14.862	-0.004	82064692	0.0800	0.0746	
2	14.347	14.349	-0.002	135845399	0.0800	0.0872	
						RPD = 15.64	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
9 2,4,5-T							
1	15.278	15.281	-0.003	69984478	0.0800	0.0711	
2	14.899	14.900	-0.001	109487936	0.0800	0.0823	
						RPD = 14.70	
10 2,4-DB							
1	16.013	16.021	-0.008	2850518	0.0800	0.0266	
2	15.575	15.574	0.001	11878684	0.0800	0.0978	
						RPD = 114.61	
11 Dinoseb							
1	17.444	17.442	0.002	120991	0.0800	0.000213	
2	15.966	15.972	-0.006	26466	0.0800	0.00003251	
						RPD = 147.09	

Report Date: 19-Sep-2019 13:06:18 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD08\20190919-31187.b\L19_005.D				
Injection Date:	19-Sep-2019 11:00:58	Instrument ID:	CHECD08	Operator ID:	JL
Lims ID:	LCSD 600-274931/3-A			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	HERB_CHECD08	Limit Group:	GCSV - 8151A		

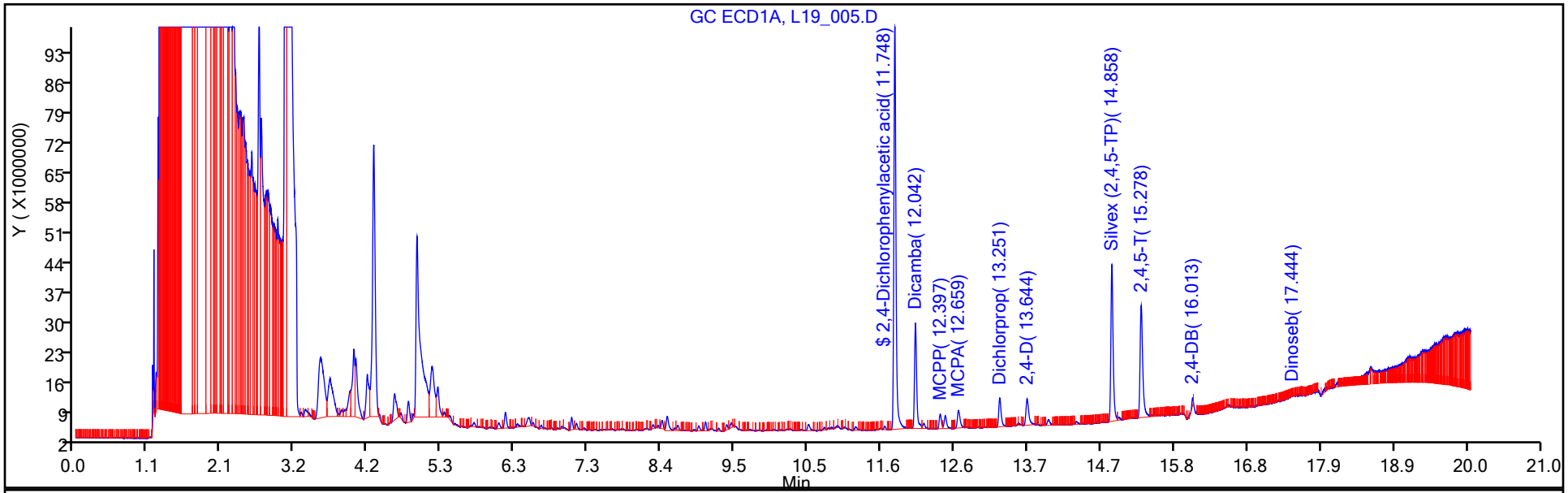

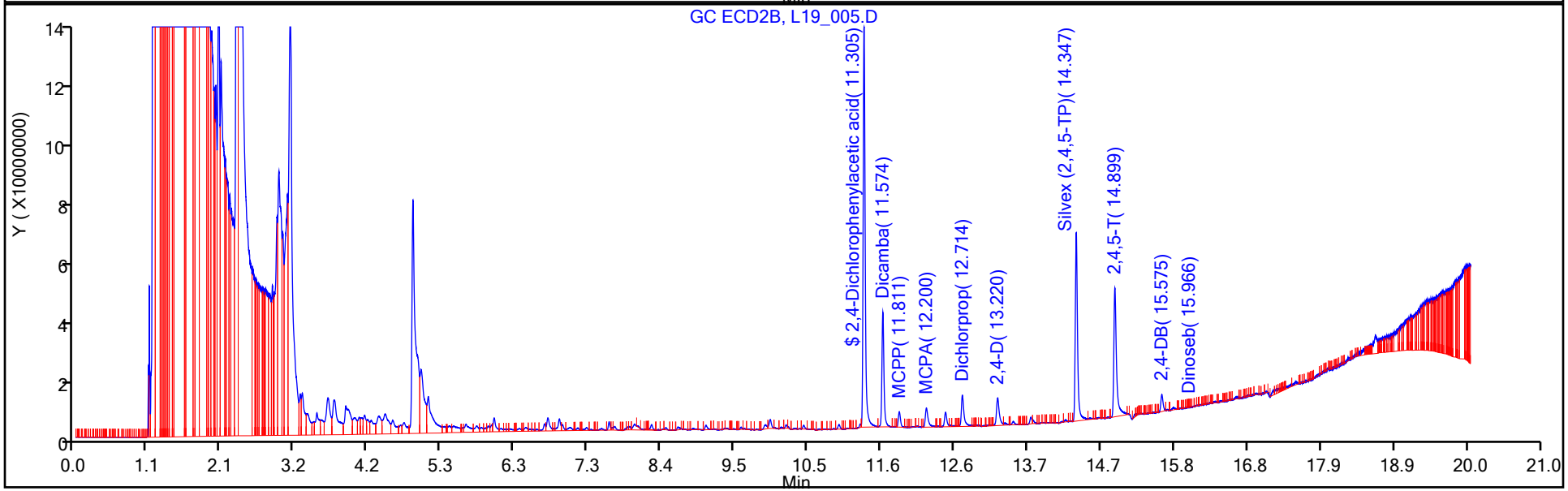

Eurofins TestAmerica, Houston
Recovery Report

Data File:	\\chromna\Houston\ChromData\CHECD08\20190919-31187.b\L19_005.D				
Lims ID:	LCSD 600-274931/3-A				
Client ID:					
Sample Type:	LCSD				
Inject. Date:	19-Sep-2019 11:00:58	ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	600-0031187-005				
Operator ID:	JL	Instrument ID:	CHECD08		
Method:	\\chromna\Houston\ChromData\CHECD08\20190919-31187.b\HERB_CHECD08.m				
Limit Group:	GCSV - 8151A				
Last Update:	19-Sep-2019 13:06:01	Calib Date:	15-Aug-2019 11:42:30		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Houston\ChromData\CHECD08\20190814-30560.b\L15_007.D				
Column 1 :			Det: GC ECD1A		
Column 2 :			Det: GC ECD2B		
Process Host:	CTX0305				
First Level Reviewer: lamj		Date:	19-Sep-2019 11:38:46		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	1.07	107.46

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 2,4-Dichlorophenylacetic acid	1.00	1.13	113.44

HERBICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: CHECD08 Start Date: 08/15/2019 09:37

Analysis Batch Number: 271997 End Date: 08/15/2019 18:09

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 600-271997/2		08/15/2019 09:37	1	L15_002.D	RTX-CLP1 0.32(mm)
IC 600-271997/2		08/15/2019 09:37	1	L15_002.D	RTX-CLP2 0.32(mm)
IC 600-271997/3		08/15/2019 10:02	1	L15_003.D	RTX-CLP1 0.32(mm)
IC 600-271997/3		08/15/2019 10:02	1	L15_003.D	RTX-CLP2 0.32(mm)
IC 600-271997/4		08/15/2019 10:27	1	L15_004.D	RTX-CLP1 0.32(mm)
IC 600-271997/4		08/15/2019 10:27	1	L15_004.D	RTX-CLP2 0.32(mm)
ICRT 600-271997/5		08/15/2019 10:52	1	L15_005.D	RTX-CLP1 0.32(mm)
ICRT 600-271997/5		08/15/2019 10:52	1	L15_005.D	RTX-CLP2 0.32(mm)
IC 600-271997/6		08/15/2019 11:17	1	L15_006.D	RTX-CLP1 0.32(mm)
IC 600-271997/6		08/15/2019 11:17	1	L15_006.D	RTX-CLP2 0.32(mm)
IC 600-271997/7		08/15/2019 11:42	1	L15_007.D	RTX-CLP1 0.32(mm)
IC 600-271997/7		08/15/2019 11:42	1	L15_007.D	RTX-CLP2 0.32(mm)
ICV 600-271997/8		08/15/2019 12:07	1		RTX-CLP1 0.32(mm)
ICV 600-271997/8		08/15/2019 12:07	1		RTX-CLP2 0.32(mm)
ZZZZZ		08/15/2019 13:02	1		RTX-CLP1 0.32(mm)
ZZZZZ		08/15/2019 13:02	1		RTX-CLP2 0.32(mm)
ZZZZZ		08/15/2019 13:27	1		RTX-CLP1 0.32(mm)
ZZZZZ		08/15/2019 13:27	1		RTX-CLP2 0.32(mm)
ZZZZZ		08/15/2019 14:19	1		RTX-CLP1 0.32(mm)
ZZZZZ		08/15/2019 14:19	1		RTX-CLP2 0.32(mm)
ZZZZZ		08/15/2019 14:44	1		RTX-CLP1 0.32(mm)
ZZZZZ		08/15/2019 14:44	1		RTX-CLP2 0.32(mm)
ZZZZZ		08/15/2019 15:09	1		RTX-CLP1 0.32(mm)
ZZZZZ		08/15/2019 15:09	1		RTX-CLP2 0.32(mm)
ZZZZZ		08/15/2019 15:59	1		RTX-CLP1 0.32(mm)
ZZZZZ		08/15/2019 15:59	1		RTX-CLP2 0.32(mm)
ZZZZZ		08/15/2019 16:24	1		RTX-CLP1 0.32(mm)
ZZZZZ		08/15/2019 16:24	1		RTX-CLP2 0.32(mm)
ZZZZZ		08/15/2019 16:49	1		RTX-CLP1 0.32(mm)
ZZZZZ		08/15/2019 16:49	1		RTX-CLP2 0.32(mm)
ZZZZZ		08/15/2019 17:14	1		RTX-CLP1 0.32(mm)
ZZZZZ		08/15/2019 17:14	1		RTX-CLP2 0.32(mm)
CCV 600-271997/20		08/15/2019 18:09	1		RTX-CLP1 0.32(mm)
CCV 600-271997/20		08/15/2019 18:09	1		RTX-CLP2 0.32(mm)

8151

HERBICIDES ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: CHECD08 Start Date: 09/19/2019 09:45

Analysis Batch Number: 275199 End Date: 09/19/2019 12:40

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVRT 600-275199/2		09/19/2019 09:45	1		RTX-CLP1 0.32(mm)
CCVRT 600-275199/2		09/19/2019 09:45	1		RTX-CLP2 0.32(mm)
ZZZZZ		09/19/2019 10:11	1		RTX-CLP1 0.32(mm)
ZZZZZ		09/19/2019 10:11	1		RTX-CLP2 0.32(mm)
ZZZZZ		09/19/2019 10:36	1		RTX-CLP1 0.32(mm)
ZZZZZ		09/19/2019 10:36	1		RTX-CLP2 0.32(mm)
ZZZZZ		09/19/2019 11:00	1		RTX-CLP1 0.32(mm)
ZZZZZ		09/19/2019 11:00	1		RTX-CLP2 0.32(mm)
ZZZZZ		09/19/2019 11:25	1		RTX-CLP1 0.32(mm)
ZZZZZ		09/19/2019 11:25	1		RTX-CLP2 0.32(mm)
600-191956-2		09/19/2019 11:50	1	L19_007.D	RTX-CLP1 0.32(mm)
600-191956-2		09/19/2019 11:50	1	L19_007.D	RTX-CLP2 0.32(mm)
ZZZZZ		09/19/2019 12:15	1		RTX-CLP1 0.32(mm)
ZZZZZ		09/19/2019 12:15	1		RTX-CLP2 0.32(mm)
CCV 600-275199/9		09/19/2019 12:40	1		RTX-CLP1 0.32(mm)
CCV 600-275199/9		09/19/2019 12:40	1		RTX-CLP2 0.32(mm)

8151

HERBICIDES BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Batch Number: 274931 Batch Start Date: 09/17/19 08:07 Batch Analyst: Racelis, Luis E

Batch Method: 8151A Batch End Date: 09/18/19 14:46

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ReceivedpH	FirstAdjustpH	SecondAdjustpH	HEBSURR 00080
600-191956-F-2	11187072-091319-LL-EXC-1	8151A, 8151	T	1000 mL	5.0 mL	7 SU	12 SU	2	1 mL

Batch Notes	
Acid Used for pH Adjustment ID	EX-SULF-ACID2_00022
Base Used to Adjust pH ID	EX-SODIUM-HYD_00036
Batch Comment	Vialed by:luisracelis
Concentration 1 Equipment ID	WB #1
Concentration 1 Thermometer ID	# 584
Concentration 2 Equipment ID	WB #4
Concentration 2 Thermometer ID	# 584
Analyst ID - Concentration	ler
Concentration 1 Corrected Temperature	65.03 Degrees C
Concentration 2 Corrected Temperature	65.03 Degrees C
Diazald ID	EX-DIAZOMETHA_00081
Diethyl Ether ID	EX-ETHYLETHER_00085
Analyst ID - Extraction	ler
Sulfuric Acid Lot Number	EX-SULF-ACID2_00022
Potassium Hydroxide ID	EX-37%POTHYDR_00013
MeCL2 ID	EX/METHY/CHLO_00256
Acidified Na2SO4 ID	EX-ACID-SODIU_00102
NaCl ID	EX-BAKSODCHLO_00002
Peroxide Test Strip ID	EX-PEROXTEST_00003
pH Indicator ID	HC991818
Pipette/Syringe/Dispenser ID	HERBSURR/HERBSPIKE
Analyst ID - Spike Analyst	ler
Analyst ID - Spike Witness Analyst	ler/by;lid method
Sufficient Volume for Batch QC	no/yes
Concentration 1 Uncorrected Temperature	65 Degrees C
Concentration 2 Uncorrected Temperature	65 Degrees C

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

HERBICIDES BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Batch Number: 274931 Batch Start Date: 09/17/19 08:07 Batch Analyst: Racelis, Luis E

Batch Method: 8151A Batch End Date: 09/18/19 14:46

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Method 300.0

Anions (IC) by Method 300.0

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 091319-5.d

Lab ID: LCS 600-274705/5 Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
Bromide	7.50	7.34	98	90-110	
Chloride	20.0	19.7	98	90-110	
Sulfate	20.0	19.9	100	90-110	

Column to be used to flag recovery and RPD values

FORM III 300.0

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 091319-36.d

Lab ID: LCS 600-274705/36 Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
Bromide	7.50	7.30	97	90-110	
Chloride	20.0	19.8	99	90-110	
Sulfate	20.0	19.8	99	90-110	

Column to be used to flag recovery and RPD values

FORM III 300.0

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 091319-5.d

Lab ID: LCS 600-274706/5 Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
Nitrate as N	10.0	9.64	96	90-110	
Nitrite as N	10.0	9.70	97	90-110	

Column to be used to flag recovery and RPD values

FORM III 300.0

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 091619-5.d

Lab ID: LCS 600-274863/5 Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
Bromide	7.50	7.44	99	90-110	
Chloride	20.0	19.6	98	90-110	
Sulfate	20.0	19.9	99	90-110	

Column to be used to flag recovery and RPD values

FORM III 300.0

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab File ID: 091319-4.d Lab Sample ID: MB 600-274705/4

Matrix: Water Date Extracted:

Instrument ID: CHWC11 Date Analyzed: 09/13/2019 12:53

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 600-274705/5	091319-5.d	09/13/2019 13:13
11187072-091219-SS-INF-1	600-191956-1	091319-28.d	09/13/2019 20:54
11187072-091319-LL-EXC-1	600-191956-2	091319-29.d	09/13/2019 21:14
11187072-091319-LL-INF-2	600-191956-3	091319-30.d	09/13/2019 21:34

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab File ID: 091319-4.d Lab Sample ID: MB 600-274706/4

Matrix: Water Date Extracted:

Instrument ID: CHWC11 Date Analyzed: 09/13/2019 12:53

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	CCB 600-274706/3	091319-3.d	09/13/2019 12:33
	LCS 600-274706/5	091319-5.d	09/13/2019 13:13
	CCB 600-274706/27	091319-27.d	09/13/2019 20:34
11187072-091219-SS-INF-1	600-191956-1	091319-28.d	09/13/2019 20:54
11187072-091319-LL-EXC-1	600-191956-2	091319-29.d	09/13/2019 21:14
11187072-091319-LL-INF-2	600-191956-3	091319-30.d	09/13/2019 21:34
	CCB 600-274706/39	091319-39.d	09/14/2019 00:34

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab File ID: 091319-35.d Lab Sample ID: MB 600-274705/35

Matrix: Water Date Extracted:

Instrument ID: CHWC11 Date Analyzed: 09/13/2019 23:14

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	CCB 600-274705/3	091319-3.d	09/13/2019 12:33
	CCB 600-274705/27	091319-27.d	09/13/2019 20:34
	LCS 600-274705/36	091319-36.d	09/13/2019 23:34
	CCB 600-274705/39	091319-39.d	09/14/2019 00:34
	CCB 600-274705/51	091319-51.d	09/14/2019 04:34
	CCB 600-274705/63	091319-63.d	09/14/2019 08:34

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab File ID: 091619-4.d Lab Sample ID: MB 600-274863/4

Matrix: Water Date Extracted:

Instrument ID: CHWC11 Date Analyzed: 09/16/2019 13:19

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	CCB 600-274863/3	091619-3.d	09/16/2019 12:59
	LCS 600-274863/5	091619-5.d	09/16/2019 13:39
	CCB 600-274863/15	091619-15.d	09/16/2019 16:59
11187072-091219-SS-INF-1	600-191956-1	091619-25.d	09/16/2019 20:19
	CCB 600-274863/27	091619-27.d	09/16/2019 20:59
11187072-091319-LL-EXC-1	600-191956-2	091619-28.d	09/16/2019 21:19
11187072-091319-LL-INF-2	600-191956-3	091619-29.d	09/16/2019 21:39
	CCB 600-274863/39	091619-39.d	09/17/2019 00:59

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Client Sample ID: 11187072-091319-LL-EXC-1 Lab Sample ID: 600-191956-2

Matrix: Water Lab File ID: 091319-29.d

Analysis Method: 300.0 Date Collected: 09/13/2019 08:00

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 09/13/2019 21:14

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS-18 ID:

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 274705 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	9.9		0.40	0.10
14808-79-8	Sulfate	6.5		0.50	0.096

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20190913-31085.b\091319-29.d
Lims ID: 600-191956-R-2
Client ID: 11187072-091319-LL-EXC-1
Sample Type: Client
Inject. Date: 13-Sep-2019 21:14:00 ALS Bottle#: 0 Worklist Smp#: 29
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031085-029
Misc. Info.: 10522
Operator ID: Instrument ID: CHWC11

Method: \\chromna\Houston\ChromData\CHWC11\20190913-31085.b\300_11.m
Limit Group: WC - IC_300_9056_28day
Last Update: 16-Sep-2019 10:48:03 Calib Date: 06-Aug-2019 14:54:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-9.d

Column 1 : Det: 040914-1
Process Host: CTX0302

First Level Reviewer: reachs Date: 16-Sep-2019 10:35:14

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
2 Chloride	4.683	4.658	0.025	34388190333	4174.0	E
9 Nitrite as N		5.700			ND	
1 Bromide	7.958	8.008	-0.050	29866019	9.88	M
5 Sulfate	8.783	8.808	-0.025	37191824	6.52	
3 Nitrate as N		9.308			ND	

QC Flag Legend

Processing Flags
E - Exceeded Maximum Amount
Review Flags
M - Manually Integrated

Report Date: 16-Sep-2019 10:48:10 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20190913-31085.b\091319-29.d				
Injection Date:	13-Sep-2019 21:14:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	600-191956-R-2	Lab Sample ID:	600-191956-2	Worklist Smp#:	29
Client ID:	11187072-091319-LL-EXC-1				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		

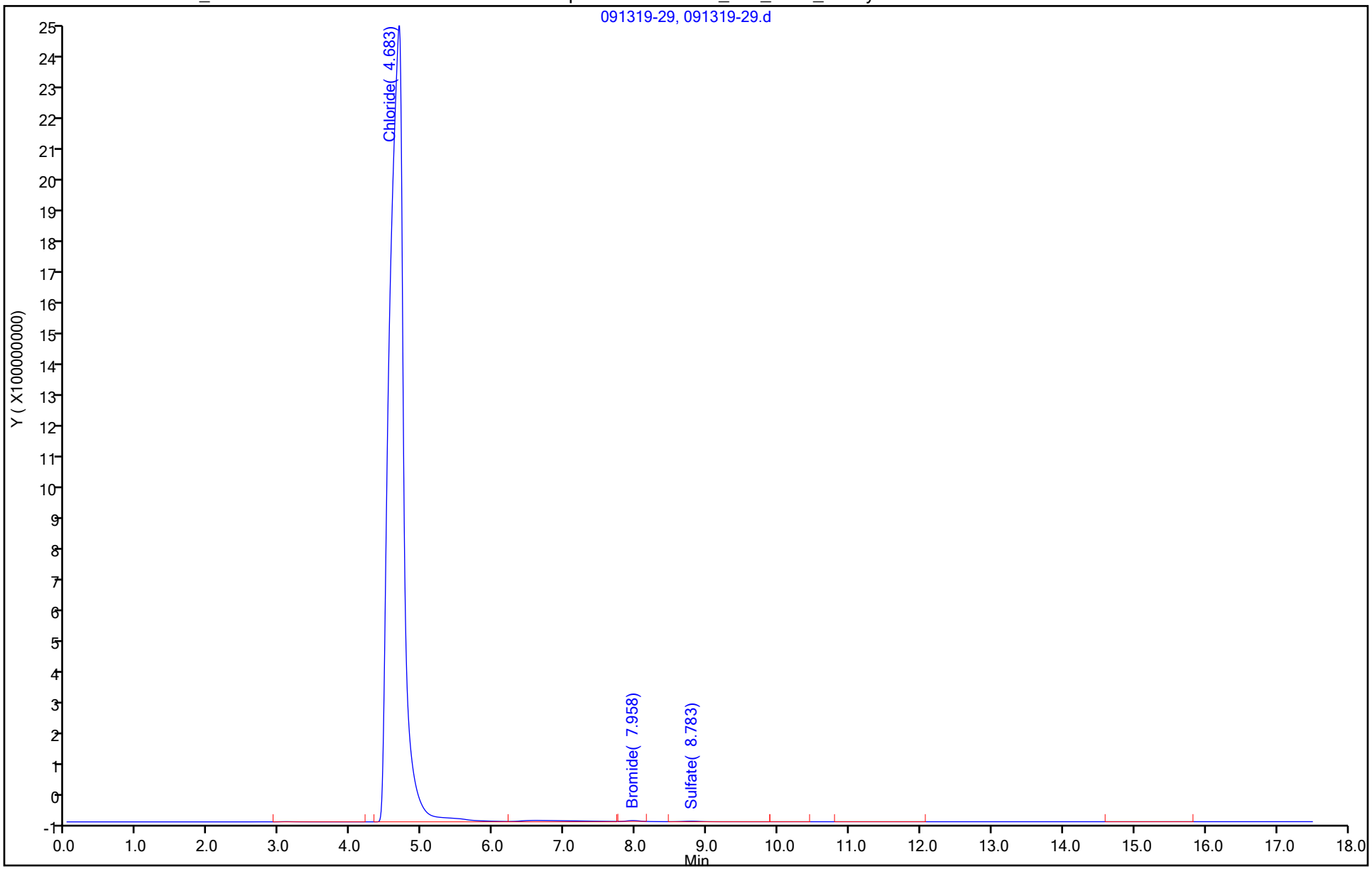

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20190913-31085.b\091319-29.d				
Injection Date:	13-Sep-2019 21:14:00	Instrument ID:	CHWC11		
Lims ID:	600-191956-R-2	Lab Sample ID:	600-191956-2		
Client ID:	11187072-091319-LL-EXC-1				
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	29
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		
Column:		Detector	040914-1		

1 Bromide, CAS: 24959-67-9

Signal: 1

Processing Integration Results

RT: 7.96
Area: 69263622
Amount: 22.698856
Amount Units: ug/ml

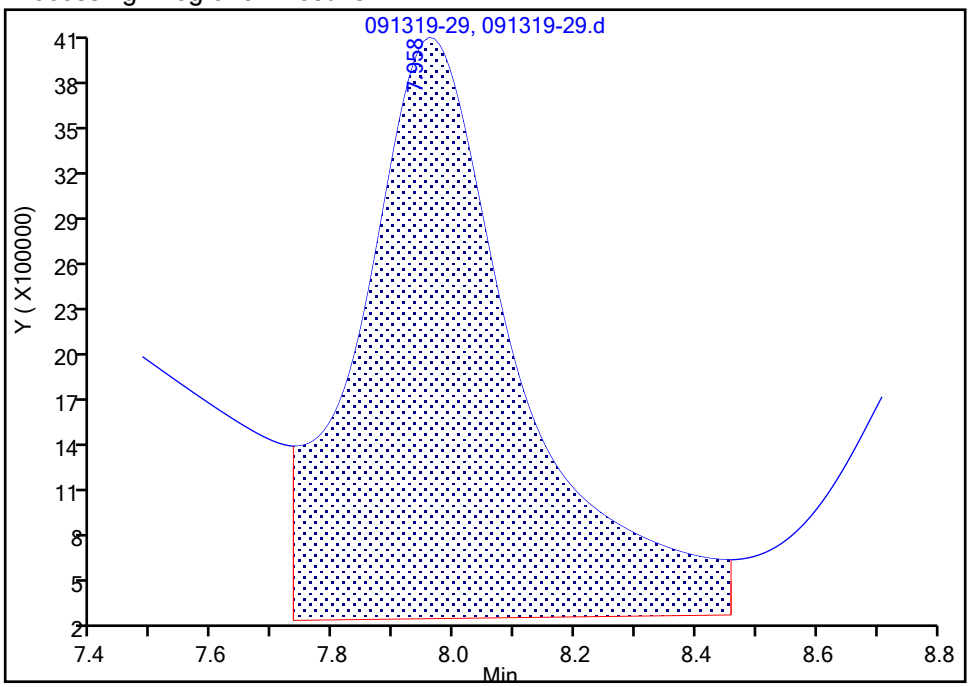

Manual Integration Results

RT: 7.96
Area: 29866019
Amount: 9.881788
Amount Units: ug/ml

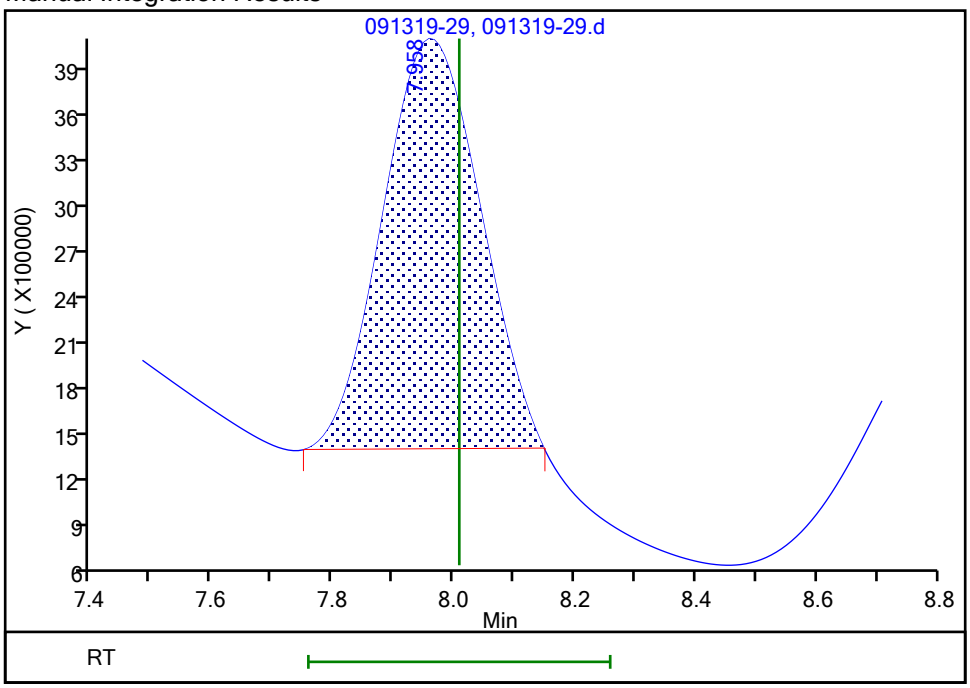

Reviewer: reachs, 16-Sep-2019 10:33:35

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Client Sample ID: 11187072-091319-LL-EXC-1 Lab Sample ID: 600-191956-2

Matrix: Water Lab File ID: 091319-29.d

Analysis Method: 300.0 Date Collected: 09/13/2019 08:00

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 09/13/2019 21:14

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS-18 ID:

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 274706 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	ND		0.20	0.025
14797-65-0	Nitrite as N	ND		0.20	0.030

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20190913-31085.b\091319-29.d
Lims ID: 600-191956-R-2
Client ID: 11187072-091319-LL-EXC-1
Sample Type: Client
Inject. Date: 13-Sep-2019 21:14:00 ALS Bottle#: 0 Worklist Smp#: 29
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031085-029
Misc. Info.: 10522
Operator ID: Instrument ID: CHWC11

Method: \\chromna\Houston\ChromData\CHWC11\20190913-31085.b\300_11.m
Limit Group: WC - IC_300_9056_48hr
Last Update: 16-Sep-2019 10:48:03 Calib Date: 06-Aug-2019 14:54:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-9.d

Column 1 : Det: 040914-1
Process Host: CTX0302

First Level Reviewer: reachs Date: 16-Sep-2019 10:35:14

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
2 Chloride	4.683	4.658	0.025	34388190333	NC	
9 Nitrite as N		5.700			ND	
1 Bromide	7.958	8.008	-0.050	29866019	NC	M
5 Sulfate	8.783	8.808	-0.025	37191824	NC	
3 Nitrate as N		9.308			ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Report Date: 16-Sep-2019 10:48:10 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20190913-31085.b\091319-29.d				
Injection Date:	13-Sep-2019 21:14:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	600-191956-R-2	Lab Sample ID:	600-191956-2	Worklist Smp#:	29
Client ID:	11187072-091319-LL-EXC-1				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		

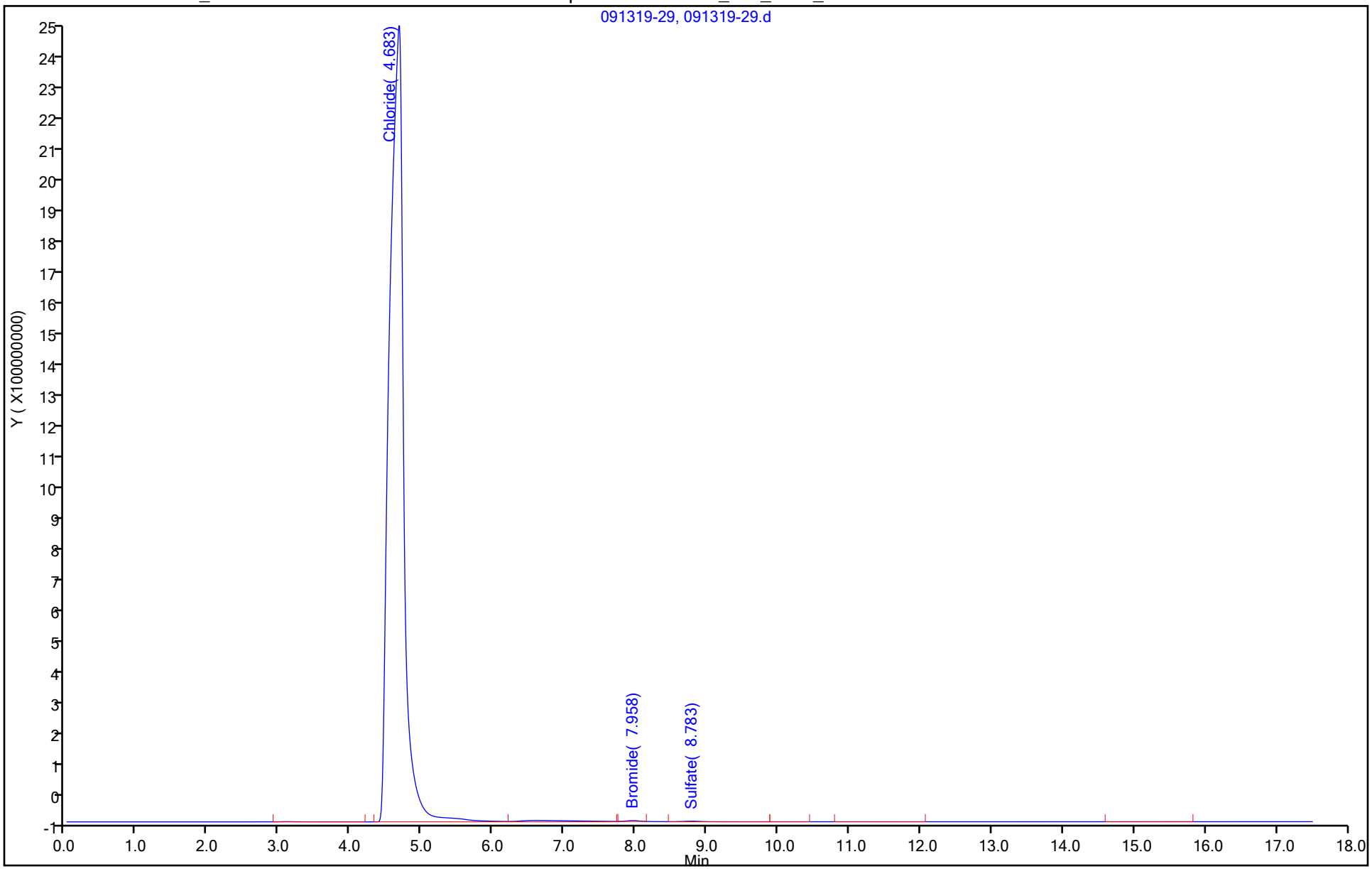

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Client Sample ID: 11187072-091319-LL-EXC-1 Lab Sample ID: 600-191956-2

Matrix: Water Lab File ID: 091619-28.d

Analysis Method: 300.0 Date Collected: 09/13/2019 08:00

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 09/16/2019 21:19

Con. Extract Vol.: Dilution Factor: 200

Injection Volume: 1(uL) GC Column: AS-18 ID:

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 274863 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
16887-00-6	Chloride	4200		80	11

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20190916-31123.b\091619-28.d
Lims ID: 600-191956-R-2
Client ID: 11187072-091319-LL-EXC-1
Sample Type: Client
Inject. Date: 16-Sep-2019 21:19:00 ALS Bottle#: 0 Worklist Smp#: 28
Injection Vol: 1.0 ul Dil. Factor: 200.0000
Sample Info: 600-0031123-028
Misc. Info.: 11183
Operator ID: Instrument ID: CHWC11

Method: \\chromna\Houston\ChromData\CHWC11\20190916-31123.b\300_11.m
Limit Group: WC - IC_300_9056_28day
Last Update: 17-Sep-2019 10:49:28 Calib Date: 06-Aug-2019 14:54:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-9.d

Column 1 : Det: 040914-1
Process Host: CTX0327

First Level Reviewer: reachs Date: 17-Sep-2019 10:41:14

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
2 Chloride	4.650	4.650	0.000	172000894	21.1	
9 Nitrite as N		5.692			ND	
1 Bromide	8.008	8.000	0.008	294531	0.2614	
5 Sulfate		8.817			ND	
3 Nitrate as N		9.300			ND	

Report Date: 17-Sep-2019 10:49:31 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20190916-31123.b\091619-28.d				
Injection Date:	16-Sep-2019 21:19:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	600-191956-R-2	Lab Sample ID:	600-191956-2	Worklist Smp#:	28
Client ID:	11187072-091319-LL-EXC-1				
Injection Vol:	1.0 ul	Dil. Factor:	200.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		

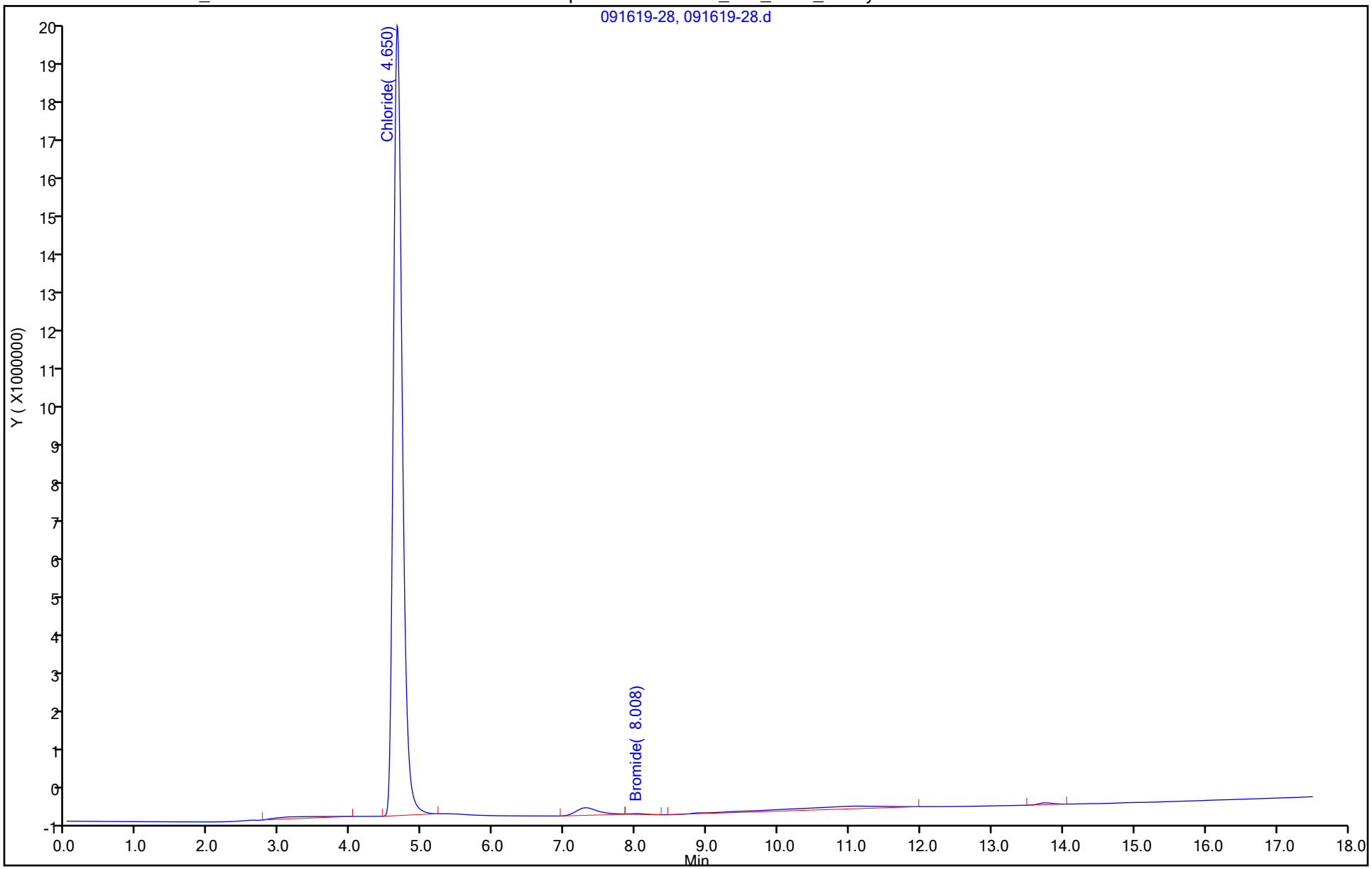

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 271285

SDG No.:

Instrument ID: CHWC11 GC Column: AS-18 ID: Heated Purge: (Y/N) N

Calibration Start Date: 08/06/2019 12:34 Calibration End Date: 08/06/2019 14:54 Calibration ID: 16441

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-271285/3	CAL080619-3.d
Level 2	IC 600-271285/4	CAL080619-4.d
Level 3	IC 600-271285/5	CAL080619-5.d
Level 4	IC 600-271285/6	CAL080619-6.d
Level 5	IC 600-271285/7	CAL080619-7.d
Level 6	IC 600-271285/8	CAL080619-8.d
Level 7	IC 600-271285/9	CAL080619-9.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7				RT WINDOW	AVG RT
Fluoride	3.117	3.117	3.117	3.125	3.125	3.133	3.133				2.867 - 3.367	3.124
Chloride	4.675	4.683	4.675	4.692	4.692	4.692	4.692				4.425 - 4.925	4.686
Bromide	8.117	8.117	8.125	8.150	8.133	8.133	8.108				7.875 - 8.375	8.126
Sulfate	8.958	8.958	8.975	9.025	9.017	9.000	8.942				8.725 - 9.225	8.982

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 271285

SDG No.:

Instrument ID: CHWC11 GC Column: AS-18 ID: Heated Purge: (Y/N) N

Calibration Start Date: 08/06/2019 12:34 Calibration End Date: 08/06/2019 14:54 Calibration ID: 16441

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-271285/3	CAL080619-3.d
Level 2	IC 600-271285/4	CAL080619-4.d
Level 3	IC 600-271285/5	CAL080619-5.d
Level 4	IC 600-271285/6	CAL080619-6.d
Level 5	IC 600-271285/7	CAL080619-7.d
Level 6	IC 600-271285/8	CAL080619-8.d
Level 7	IC 600-271285/9	CAL080619-9.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4		B	M1	M2								
Fluoride	15355420 13961483	13089104 14206918	13774445 14544461	15427881	Lin	-193661.41	14404785.7							0.9990		0.9900
Chloride	6214203 8198923	6250080 8156228	6438896 8282348	7442534	Lin1	-1529094.5	8238999.86							0.9990		0.9900
Bromide	1403710 2794383	1909324 2976003	2196242 3233473	2456616	Lin1	-509006.28	3073838.93							0.9940		0.9900
Sulfate	4294033 5579752	4789087 5793746	4907581 5969194	5095650	Lin1	-1053215.7	5862408.75							0.9990		0.9900

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 271285

SDG No.:

Instrument ID: CHWC11 GC Column: AS-18 ID: Heated Purge: (Y/N) N

Calibration Start Date: 08/06/2019 12:34 Calibration End Date: 08/06/2019 14:54 Calibration ID: 16441

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-271285/3	CAL080619-3.d
Level 2	IC 600-271285/4	CAL080619-4.d
Level 3	IC 600-271285/5	CAL080619-5.d
Level 4	IC 600-271285/6	CAL080619-6.d
Level 5	IC 600-271285/7	CAL080619-7.d
Level 6	IC 600-271285/8	CAL080619-8.d
Level 7	IC 600-271285/9	CAL080619-9.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Fluoride	Lin	3071084 106551887	6544552 145444611	13774445	30855762	69807415	0.200 7.50	0.500 10.0	1.00	2.00	5.00
Chloride	Lin1	2485681 163124559	6250080 331293919	12877791	37212670	81989228	0.400 20.0	1.00 40.0	2.00	5.00	10.0
Bromide	Lin1	280742 22320019	954662 32334726	2196242	4913232	13971913	0.200 7.50	0.500 10.0	1.00	2.00	5.00
Sulfate	Lin1	1717613 115874929	4789087 238767778	9815161	25478248	55797520	0.400 20.0	1.00 40.0	2.00	5.00	10.0

Curve Type Legend:

Lin = Linear
Lin1 = Linear 1/conc

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-3.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 06-Aug-2019 12:54:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030424-003
Operator ID: Instrument ID: CHWC11
Sublist: chrom-300_11*sub2

Method: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\300_11.m
Limit Group: WC - IC_300_9056_28day
Last Update: 07-Aug-2019 13:01:48 Calib Date: 06-Aug-2019 14:54:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-9.d

Column 1 : Det: 040914-1
Process Host: CTX0309

First Level Reviewer: reachs Date: 07-Aug-2019 10:15:41

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	3.117	3.117	0.000	3071084	0.2000	0.2266	
	2 Chloride	4.675	4.675	0.000	2485681	0.4000	0.4873	
	9 Nitrite as N	5.742	5.742	0.000	2938303	NC	NC	
	1 Bromide	8.117	8.125	-0.008	280742	0.2000	0.2569	
	5 Sulfate	8.958	8.975	-0.017	1717613	0.4000	0.4726	
	3 Nitrate as N	9.517	9.517	0.000	2698209	NC	NC	
S	6 Nitrate Nitrite as N		0.000				ND	
S	8 Sulfate as Sulfur						0.4726	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

ICCALSTD2_00050 Amount Added: 5.00 Units: mL

Report Date: 07-Aug-2019 13:01:48 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-3.d				
Injection Date:	06-Aug-2019 12:54:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	IC			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		

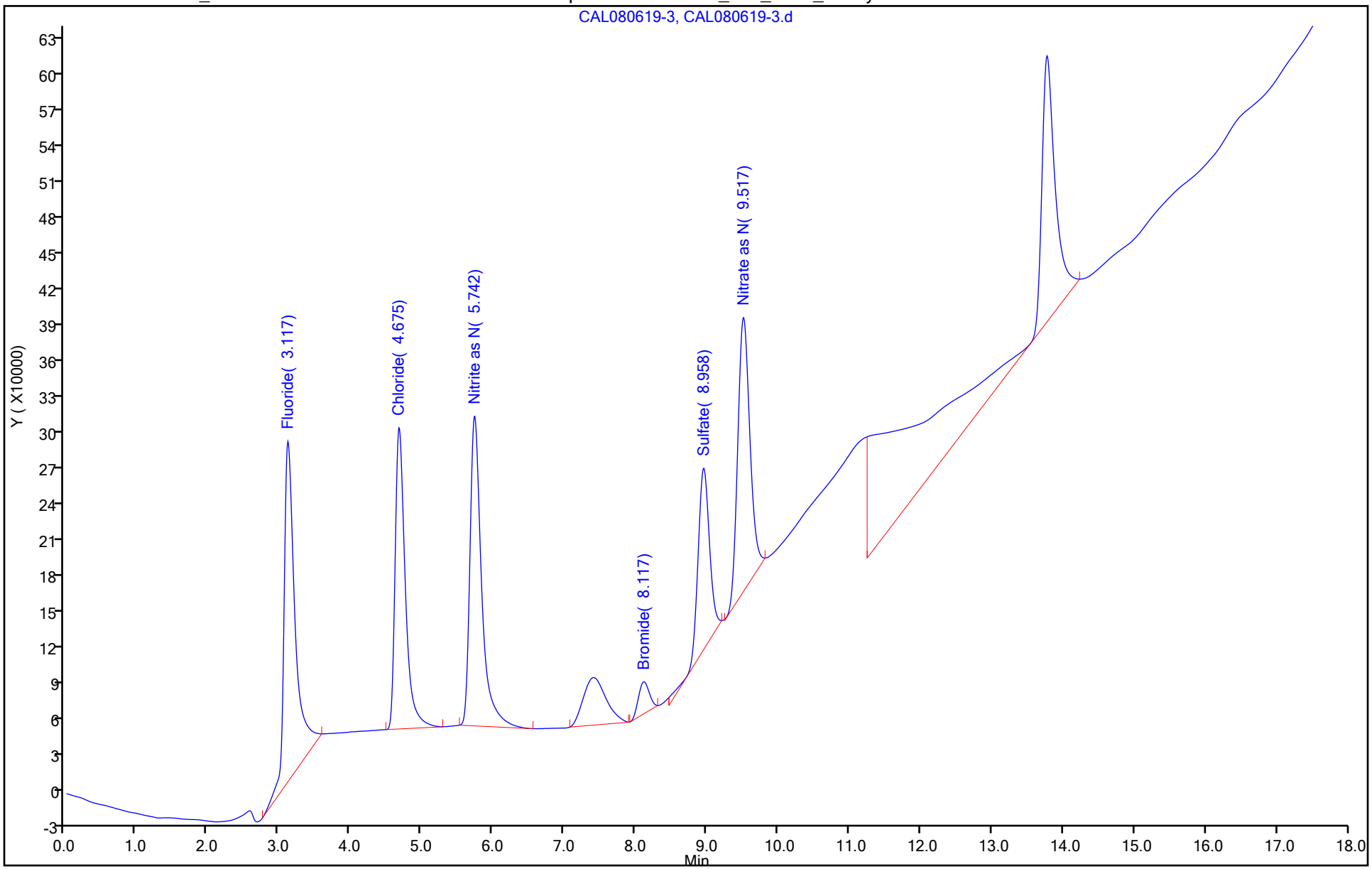

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-4.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 06-Aug-2019 13:14:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030424-004
Operator ID: Instrument ID: CHWC11
Sublist: chrom-300_11*sub2

Method: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\300_11.m
Limit Group: WC - IC_300_9056_28day
Last Update: 07-Aug-2019 13:01:50 Calib Date: 06-Aug-2019 14:54:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-9.d

Column 1 : Det: 040914-1
Process Host: CTX0309

First Level Reviewer: reachs Date: 07-Aug-2019 10:17:34

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
7 Fluoride	3.117	3.117	0.000	6544552	0.5000	0.4678	
2 Chloride	4.683	4.675	0.008	6250080	1.00	0.9442	
9 Nitrite as N	5.742	5.742	0.000	7512361	NC	NC	
1 Bromide	8.117	8.125	-0.008	954662	0.5000	0.4762	
5 Sulfate	8.958	8.975	-0.017	4789087	1.00	1.00	
3 Nitrate as N	9.508	9.517	-0.009	8287439	NC	NC	
S 6 Nitrate Nitrite as N		0.000				ND	
S 8 Sulfate as Sulfur						1.00	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

ICCALSTD3_00043 Amount Added: 5.00 Units: mL

Report Date: 07-Aug-2019 13:01:50 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-4.d				
Injection Date:	06-Aug-2019 13:14:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	IC			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		

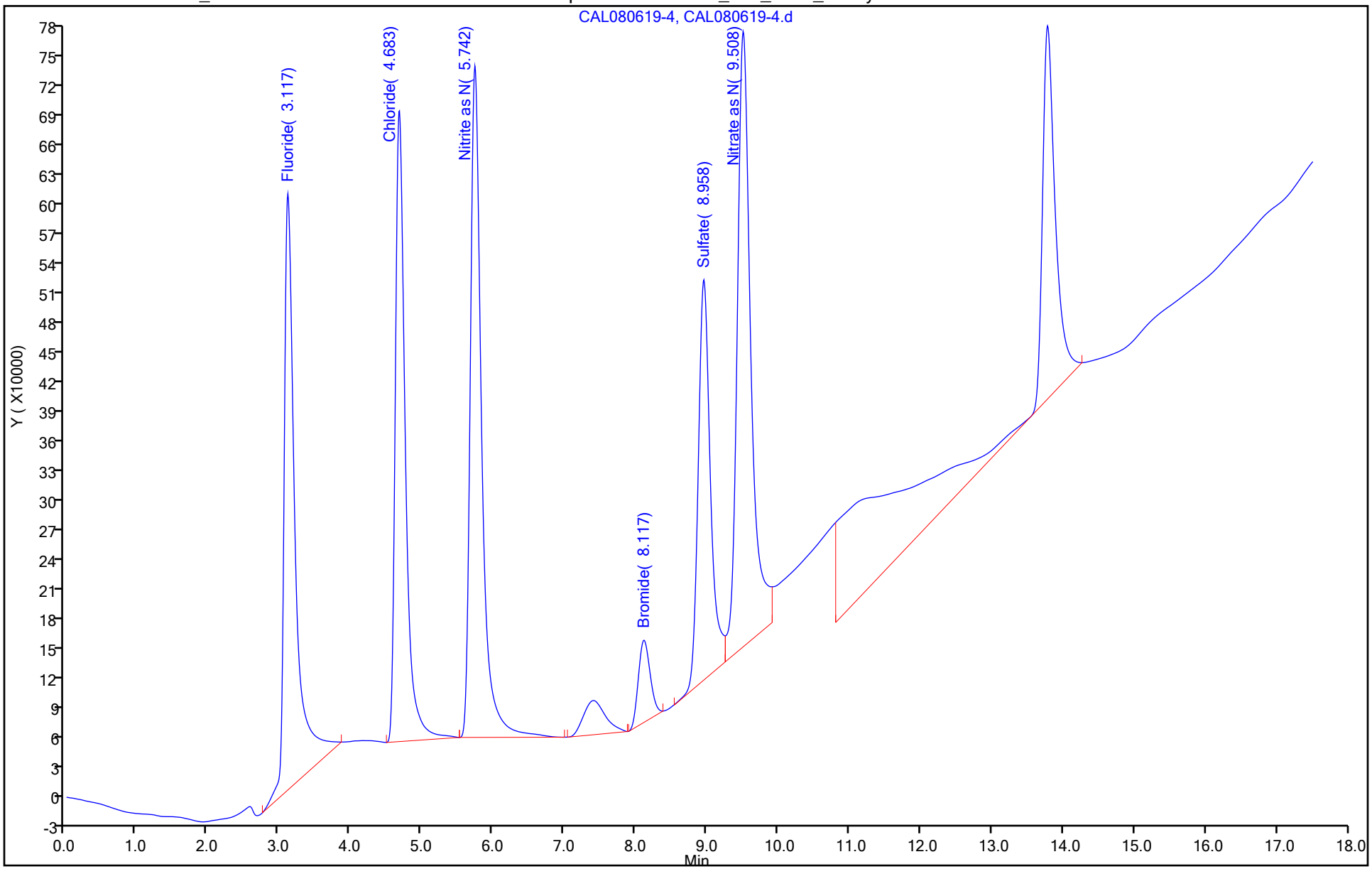

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-5.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 06-Aug-2019 13:34:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030424-005
Operator ID: Instrument ID: CHWC11
Sublist: chrom-300_11*sub2

Method: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\300_11.m
Limit Group: WC - IC_300_9056_28day
Last Update: 07-Aug-2019 13:01:52 Calib Date: 06-Aug-2019 14:54:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-9.d

Column 1 : Det: 040914-1
Process Host: CTX0309

First Level Reviewer: reachs Date: 07-Aug-2019 10:17:42

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
7 Fluoride	3.117	3.117	0.000	13774445	1.00	0.9697	
2 Chloride	4.675	4.675	0.000	12877791	2.00	1.75	
9 Nitrite as N	5.742	5.742	0.000	16074700	NC	NC	
1 Bromide	8.125	8.125	0.000	2196242	1.00	0.8801	
5 Sulfate	8.975	8.975	0.000	9815161	2.00	1.85	
3 Nitrate as N	9.517	9.517	0.000	17453261	NC	NC	
S 6 Nitrate Nitrite as N		0.000				ND	
S 8 Sulfate as Sulfur						1.85	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

ICCALSTD4_00042 Amount Added: 5.00 Units: mL

Report Date: 07-Aug-2019 13:01:53 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-5.d				
Injection Date:	06-Aug-2019 13:34:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	IC			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		

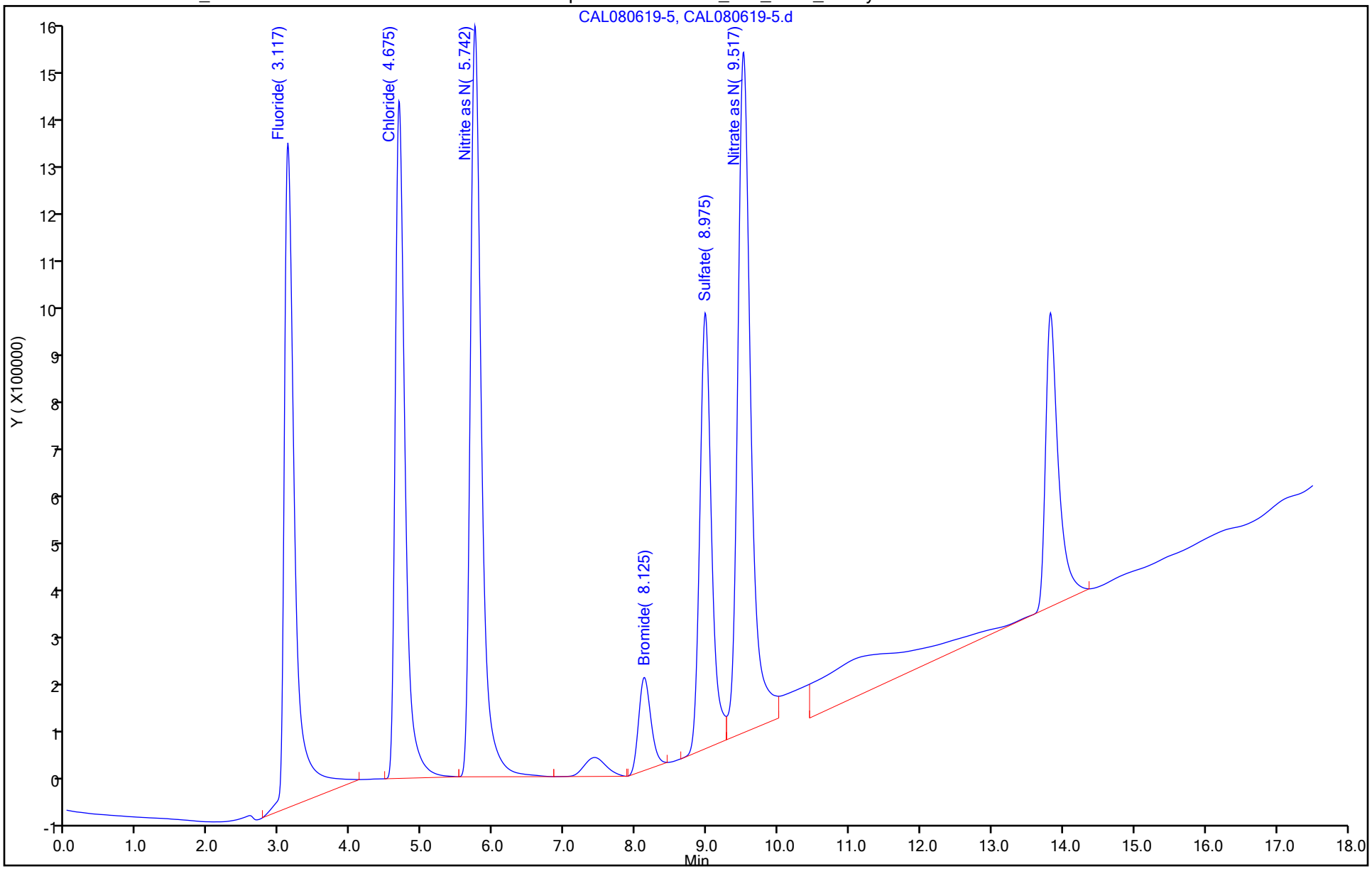

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-6.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 06-Aug-2019 13:54:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030424-006
Operator ID: Instrument ID: CHWC11
Sublist: chrom-300_11*sub2

Method: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\300_11.m
Limit Group: WC - IC_300_9056_28day
Last Update: 07-Aug-2019 13:01:55 Calib Date: 06-Aug-2019 14:54:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-9.d

Column 1 : Det: 040914-1
Process Host: CTX0309

First Level Reviewer: reachs Date: 07-Aug-2019 10:17:51

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	3.125	3.117	0.008	30855762	2.00	2.16	
	2 Chloride	4.692	4.675	0.017	37212670	5.00	4.70	M
	9 Nitrite as N	5.767	5.742	0.025	46721678	NC	NC	
	1 Bromide	8.150	8.125	0.025	4913232	2.00	1.76	
	5 Sulfate	9.025	8.975	0.050	25478248	5.00	4.53	
	3 Nitrate as N	9.525	9.517	0.008	46636900	NC	NC	
S	6 Nitrate Nitrite as N		0.000				ND	
S	8 Sulfate as Sulfur						4.53	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

ICCALSTD5_00043 Amount Added: 5.00 Units: mL

Report Date: 07-Aug-2019 13:01:56 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-6.d				
Injection Date:	06-Aug-2019 13:54:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	IC			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		

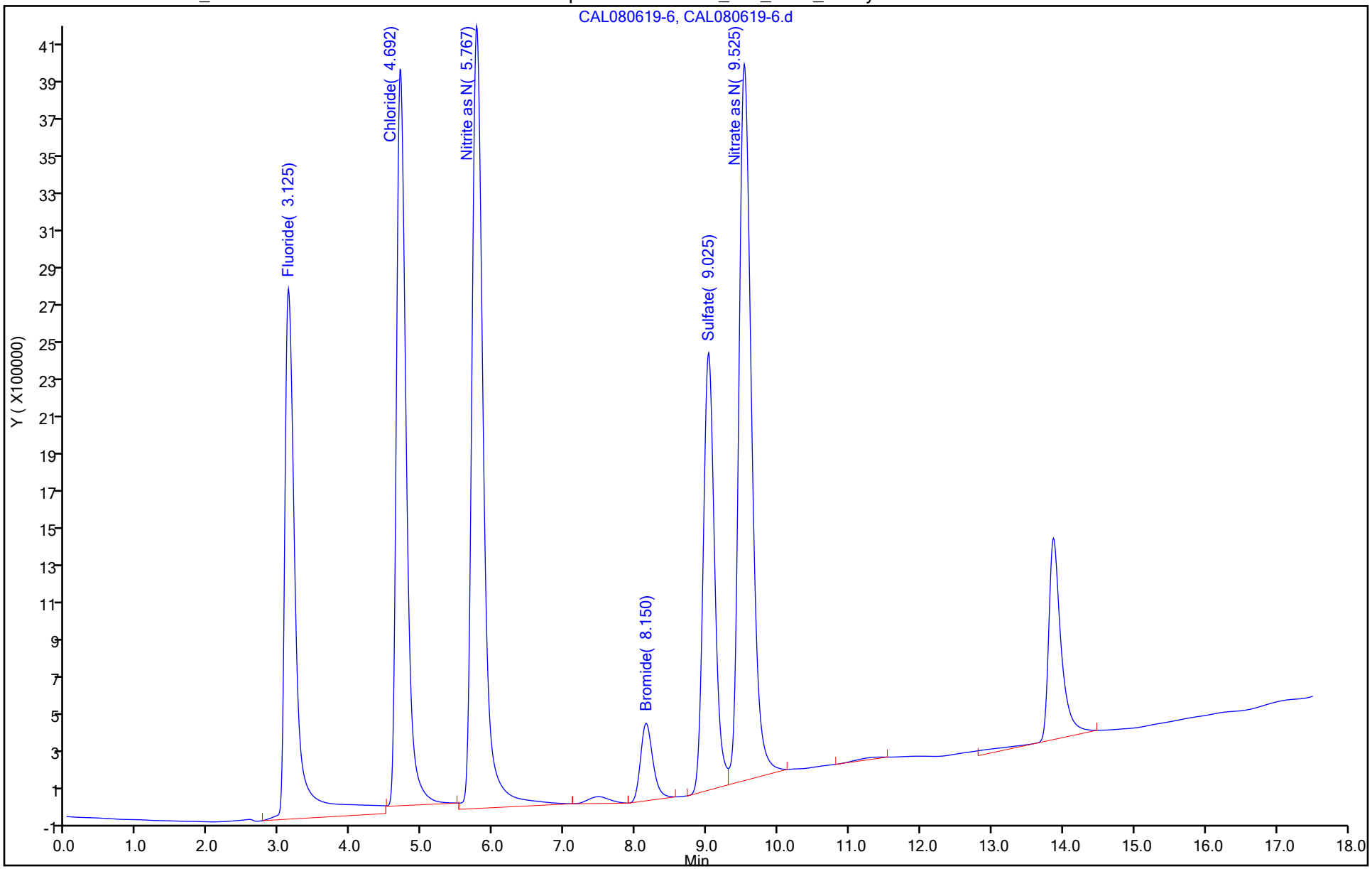

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-6.d				
Injection Date:	06-Aug-2019 13:54:00	Instrument ID:	CHWC11		
Lims ID:	IC				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		
Column:		Detector	040914-1		

2 Chloride, CAS: 16887-00-6

Signal: 1

Processing Integration Results

RT: 4.69
Area: 39393201
Amount: 4.994765
Amount Units: ug/ml

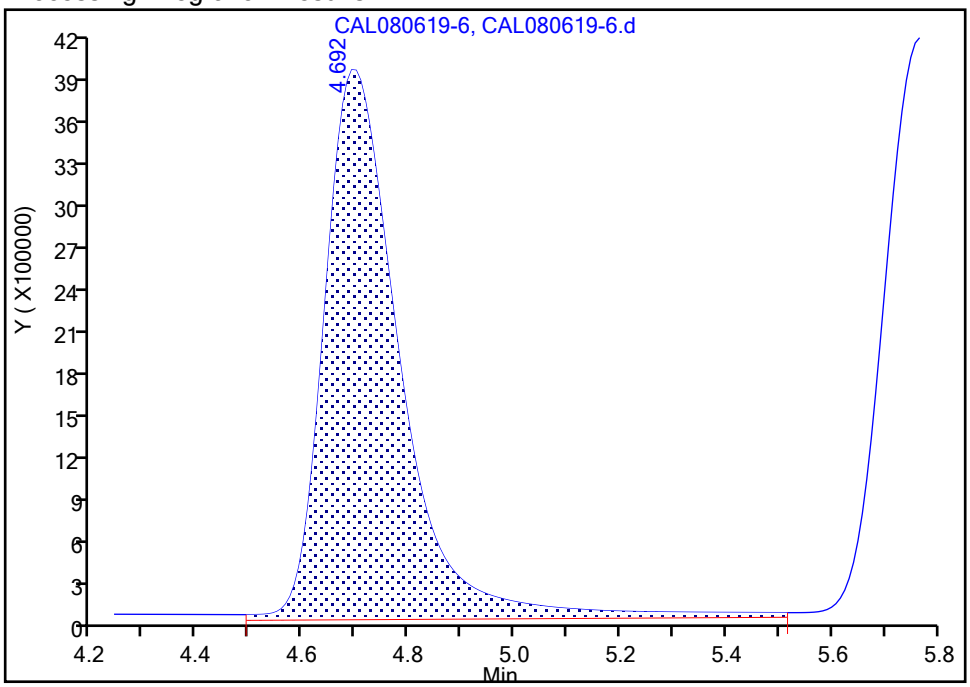

Manual Integration Results

RT: 4.69
Area: 37212670
Amount: 4.702241
Amount Units: ug/ml

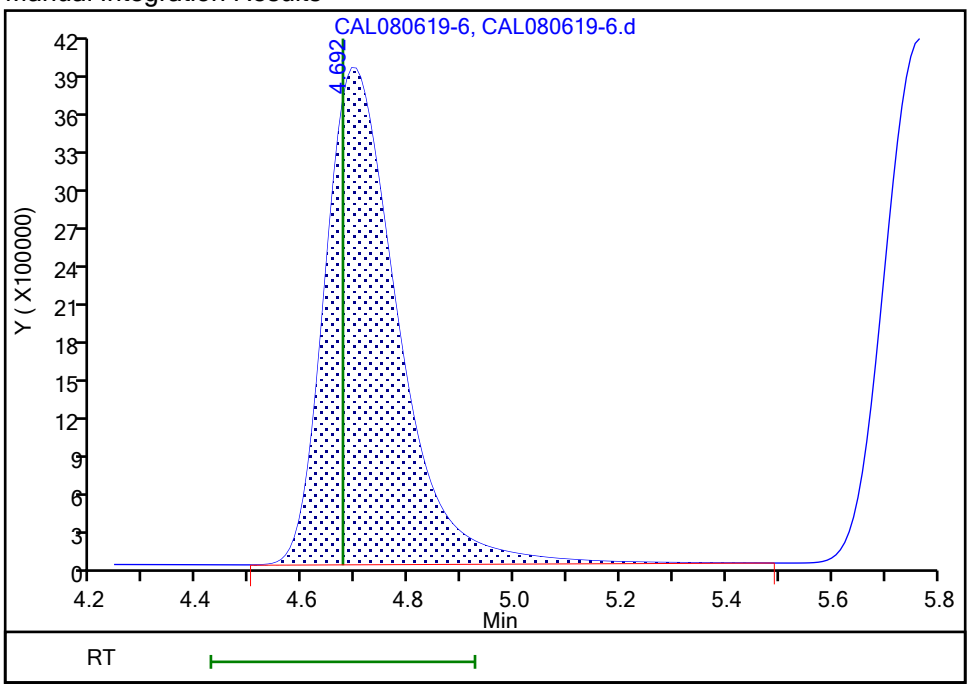

Reviewer: patelk, 07-Aug-2019 12:50:51

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-7.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 06-Aug-2019 14:14:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030424-007
Operator ID: Instrument ID: CHWC11
Sublist: chrom-300_11*sub2

Method: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\300_11.m
Limit Group: WC - IC_300_9056_28day
Last Update: 07-Aug-2019 13:01:59 Calib Date: 06-Aug-2019 14:54:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-9.d

Column 1 : Det: 040914-1
Process Host: CTX0309

First Level Reviewer: reachs Date: 07-Aug-2019 10:17:58

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	3.125	3.117	0.008	69807415	5.00	4.86	
	2 Chloride	4.692	4.675	0.017	81989228	10.0	10.1	
	9 Nitrite as N	5.767	5.742	0.025	92507626	NC	NC	
	1 Bromide	8.133	8.125	0.008	13971913	5.00	4.71	
	5 Sulfate	9.017	8.975	0.042	55797520	10.0	9.70	
	3 Nitrate as N	9.500	9.517	-0.017	96709777	NC	NC	
S	6 Nitrate Nitrite as N		0.000				ND	
S	8 Sulfate as Sulfur						9.70	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

ICCALSTD6_00039 Amount Added: 5.00 Units: mL

Report Date: 07-Aug-2019 13:02:00 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-7.d				
Injection Date:	06-Aug-2019 14:14:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	IC			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		

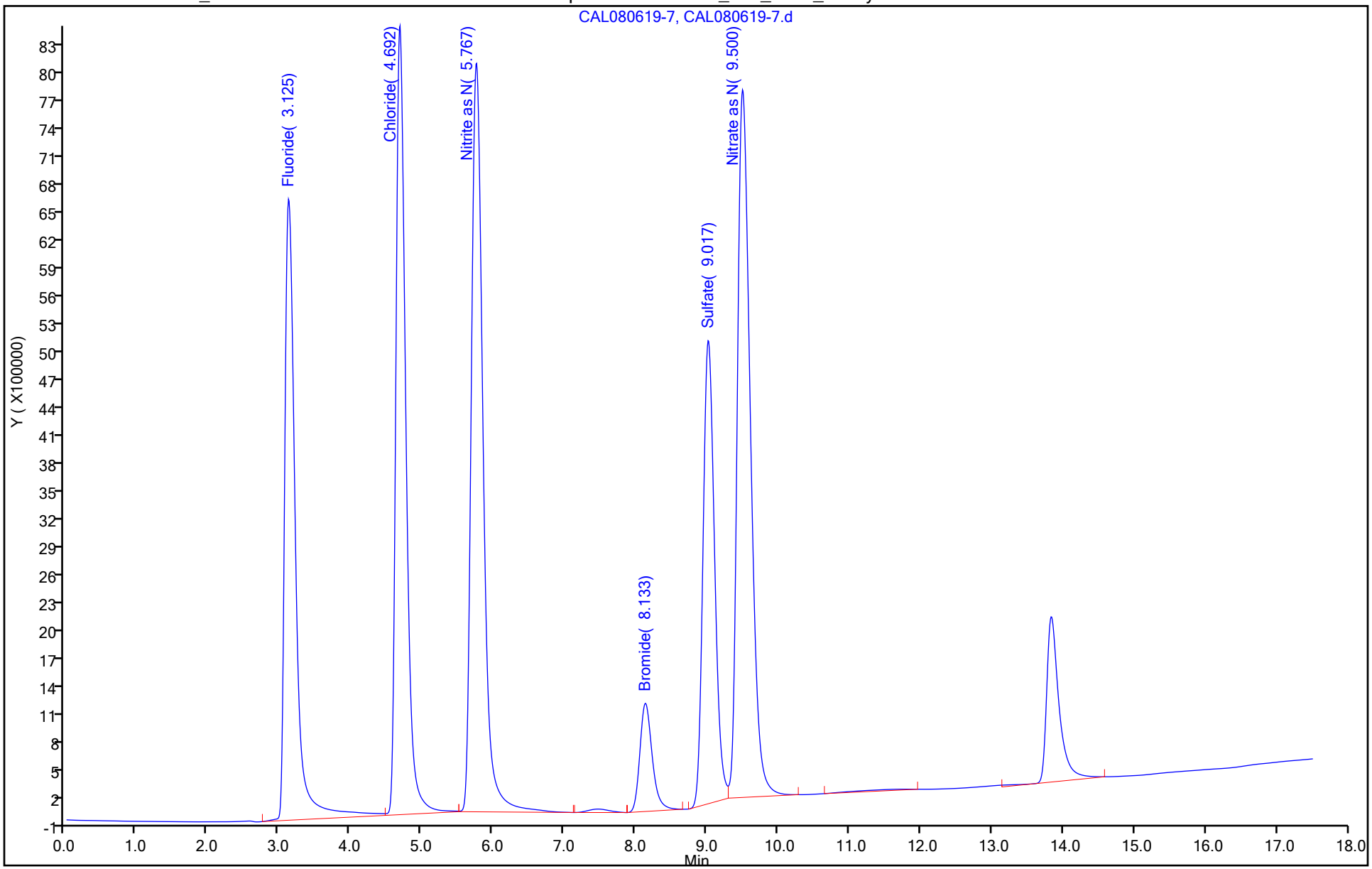

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-8.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 06-Aug-2019 14:34:00 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030424-008
Operator ID: Instrument ID: CHWC11
Sublist: chrom-300_11*sub2

Method: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\300_11.m
Limit Group: WC - IC_300_9056_28day
Last Update: 07-Aug-2019 13:02:02 Calib Date: 06-Aug-2019 14:54:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-9.d

Column 1 : Det: 040914-1
Process Host: CTX0309

First Level Reviewer: reachs Date: 07-Aug-2019 10:18:08

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	3.133	3.117	0.016	106551887	7.50	7.41	
	2 Chloride	4.692	4.675	0.017	163124559	20.0	20.0	
	9 Nitrite as N	5.767	5.742	0.025	190800995	NC	NC	
	1 Bromide	8.133	8.125	0.008	22320019	7.50	7.43	
	5 Sulfate	9.000	8.975	0.025	115874929	20.0	19.9	
	3 Nitrate as N	9.450	9.517	-0.067	207310077	NC	NC	
S	6 Nitrate Nitrite as N		0.000				ND	
S	8 Sulfate as Sulfur						19.9	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

ICCALSTD7_00042 Amount Added: 5.00 Units: mL

Report Date: 07-Aug-2019 13:02:03 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-8.d				
Injection Date:	06-Aug-2019 14:34:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	IC			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		

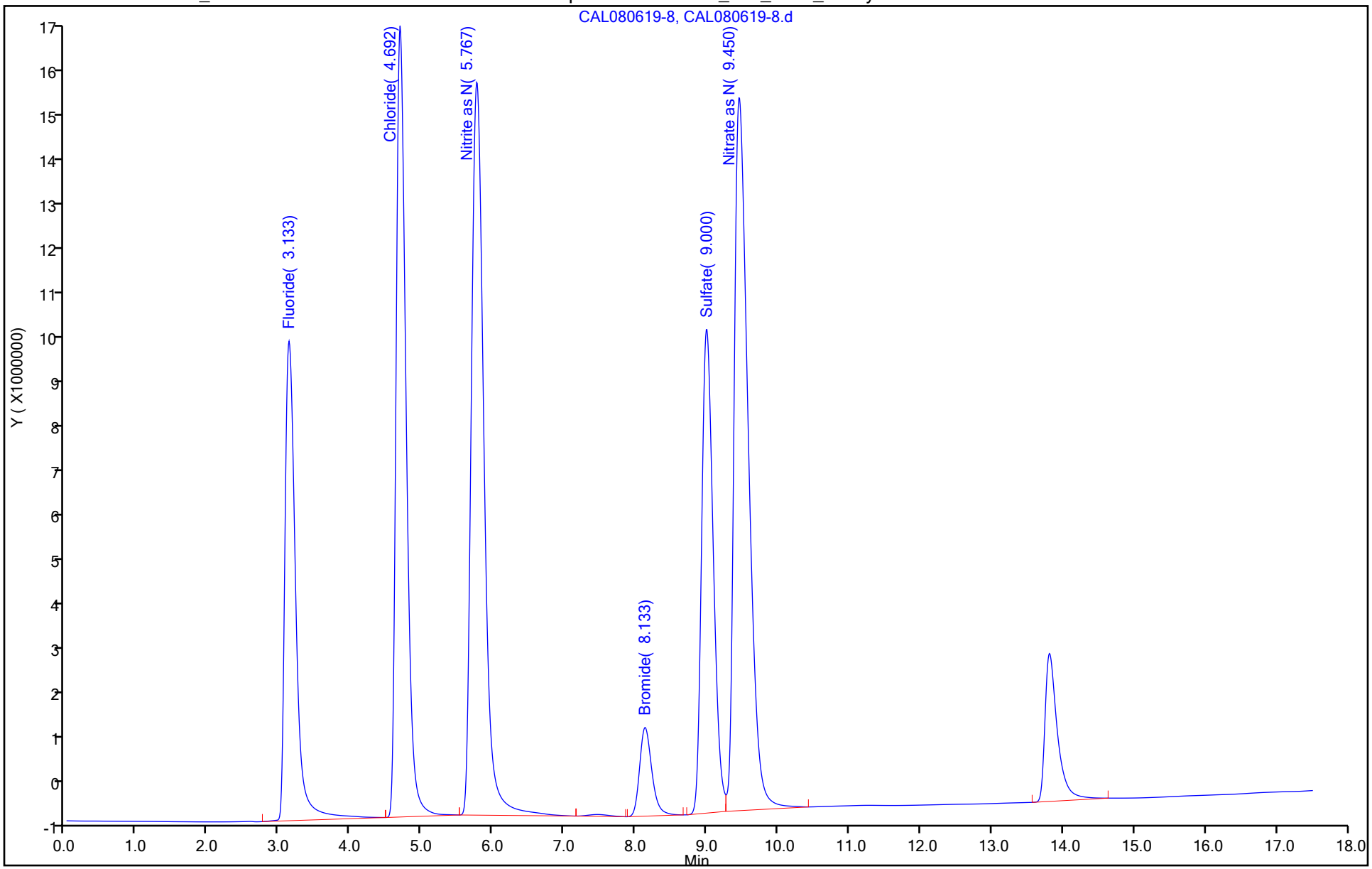

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-9.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 06-Aug-2019 14:54:00 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030424-009
Operator ID: Instrument ID: CHWC11
Sublist: chrom-300_11*sub2

Method: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\300_11.m
Limit Group: WC - IC_300_9056_28day
Last Update: 07-Aug-2019 13:02:04 Calib Date: 06-Aug-2019 14:54:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-9.d

Column 1 : Det: 040914-1
Process Host: CTX0309

First Level Reviewer: reachs Date: 07-Aug-2019 10:18:19

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	3.133	3.117	0.016	145444611	10.0	10.1	
	2 Chloride	4.692	4.675	0.017	331293919	40.0	40.4	
	9 Nitrite as N	5.775	5.742	0.033	365325823	NC	NC	
	1 Bromide	8.108	8.125	-0.017	32334726	10.0	10.7	
	5 Sulfate	8.942	8.975	-0.033	238767778	40.0	40.9	
	3 Nitrate as N	9.375	9.517	-0.142	418014829	NC	NC	
S	6 Nitrate Nitrite as N		0.000				ND	
S	8 Sulfate as Sulfur						40.9	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

ICCALSTD8_00030 Amount Added: 5.00 Units: mL

Report Date: 07-Aug-2019 13:02:05 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-9.d				
Injection Date:	06-Aug-2019 14:54:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	IC			Worklist Smp#:	9
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		

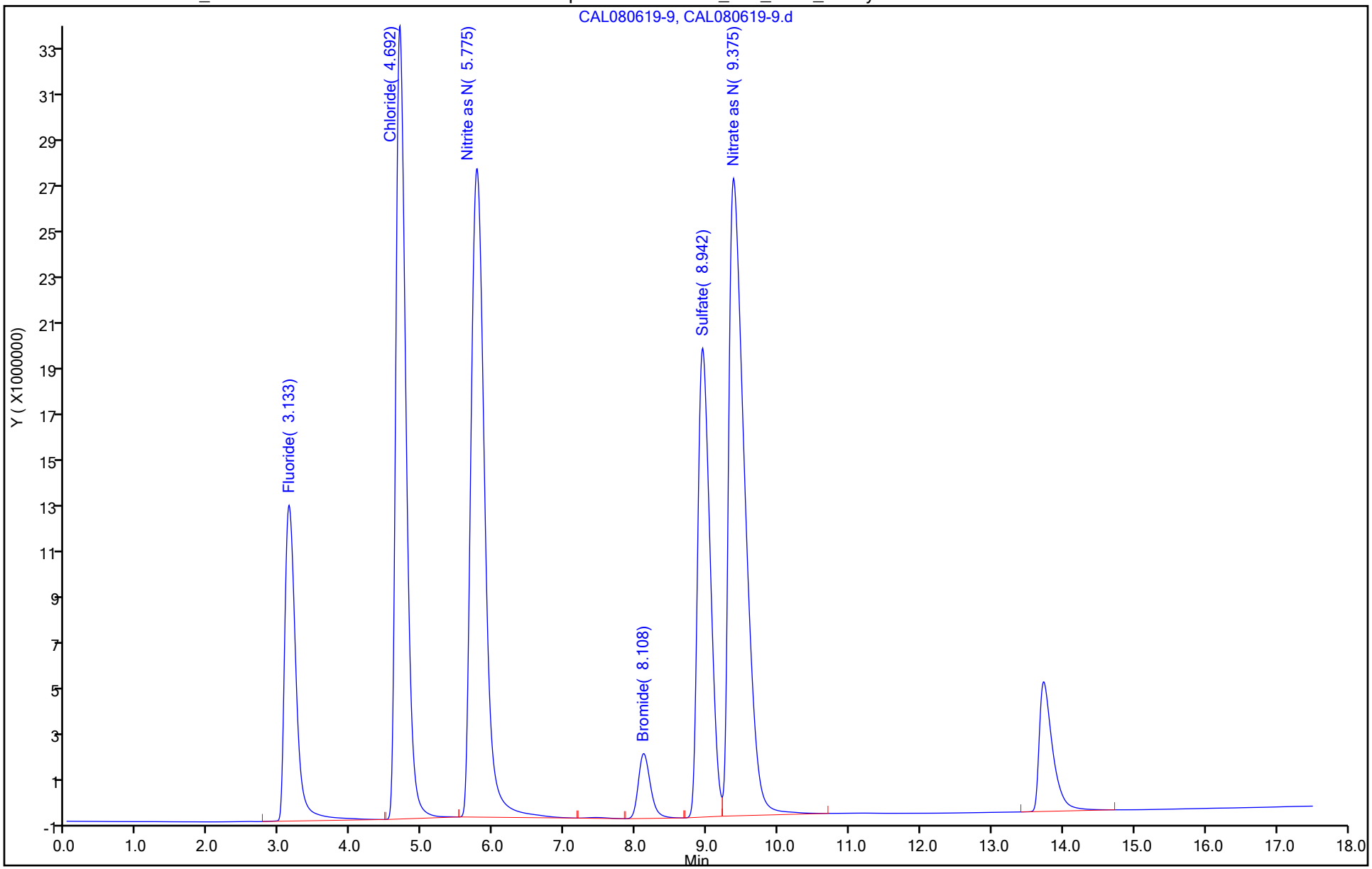

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 271286

SDG No.:

Instrument ID: CHWC11 GC Column: AS-18 ID: Heated Purge: (Y/N) N

Calibration Start Date: 08/06/2019 12:34 Calibration End Date: 08/06/2019 14:54 Calibration ID: 16442

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-271286/3	CAL080619-3.d
Level 2	IC 600-271286/4	CAL080619-4.d
Level 3	IC 600-271286/5	CAL080619-5.d
Level 4	IC 600-271286/6	CAL080619-6.d
Level 5	IC 600-271286/7	CAL080619-7.d
Level 6	IC 600-271286/8	CAL080619-8.d
Level 7	IC 600-271286/9	CAL080619-9.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7				RT WINDOW	AVG RT
Nitrite as N	5.742	5.742	5.742	5.767	5.767	5.767	5.775				5.492 - 5.992	5.757
Nitrate as N	9.517	9.508	9.517	9.525	9.500	9.450	9.375				9.267 - 9.767	9.485

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 271286

SDG No.:

Instrument ID: CHWC11 GC Column: AS-18 ID: Heated Purge: (Y/N) N

Calibration Start Date: 08/06/2019 12:34 Calibration End Date: 08/06/2019 14:54 Calibration ID: 16442

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-271286/3	CAL080619-3.d
Level 2	IC 600-271286/4	CAL080619-4.d
Level 3	IC 600-271286/5	CAL080619-5.d
Level 4	IC 600-271286/6	CAL080619-6.d
Level 5	IC 600-271286/7	CAL080619-7.d
Level 6	IC 600-271286/8	CAL080619-8.d
Level 7	IC 600-271286/9	CAL080619-9.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4		B	M1	M2								
Nitrite as N	14691515 18501525	15024722 19080100	16074700 18266291	18688671	Lin	-132029.29	18438920.7							0.9990		0.9900
Nitrate as N	13491045 19341955	16574878 20731008	17453261 20900741	18654760	Lin1	-2025801.4	20696201.6							0.9990		0.9900

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1 Analy Batch No.: 271286

SDG No.:

Instrument ID: CHWC11 GC Column: AS-18 ID: Heated Purge: (Y/N) N

Calibration Start Date: 08/06/2019 12:34 Calibration End Date: 08/06/2019 14:54 Calibration ID: 16442

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-271286/3	CAL080619-3.d
Level 2	IC 600-271286/4	CAL080619-4.d
Level 3	IC 600-271286/5	CAL080619-5.d
Level 4	IC 600-271286/6	CAL080619-6.d
Level 5	IC 600-271286/7	CAL080619-7.d
Level 6	IC 600-271286/8	CAL080619-8.d
Level 7	IC 600-271286/9	CAL080619-9.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Nitrite as N	Lin	2938303 190800995	7512361 365325823	16074700	46721678	92507626	0.200 10.0	0.500 20.0	1.00	2.50	5.00
Nitrate as N	Lin1	2698209 207310077	8287439 418014829	17453261	46636900	96709777	0.200 10.0	0.500 20.0	1.00	2.50	5.00

Curve Type Legend:

Lin = Linear
Lin1 = Linear 1/conc

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-3.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 06-Aug-2019 12:54:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030424-003
Operator ID: Instrument ID: CHWC11
Sublist: chrom-300_11*sub2

Method: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\300_11.m
Limit Group: WC - IC_300_9056_48hr
Last Update: 07-Aug-2019 13:01:48 Calib Date: 06-Aug-2019 14:54:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-9.d

Column 1 : Det: 040914-1
Process Host: CTX0309

First Level Reviewer: reachs Date: 07-Aug-2019 10:15:41

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
7 Fluoride	3.117	3.117	0.000	3071084	NC	NC	
2 Chloride	4.675	4.675	0.000	2485681	NC	NC	
9 Nitrite as N	5.742	5.742	0.000	2938303	0.2000	0.1665	
1 Bromide	8.117	8.125	-0.008	280742	NC	NC	
5 Sulfate	8.958	8.975	-0.017	1717613	NC	NC	
3 Nitrate as N	9.517	9.517	0.000	2698209	0.2000	0.2283	
S 6 Nitrate Nitrite as N						0.3948	
S 8 Sulfate as Sulfur		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

ICCALSTD2_00050 Amount Added: 5.00 Units: mL

Report Date: 07-Aug-2019 13:01:48 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-3.d				
Injection Date:	06-Aug-2019 12:54:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	IC			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		

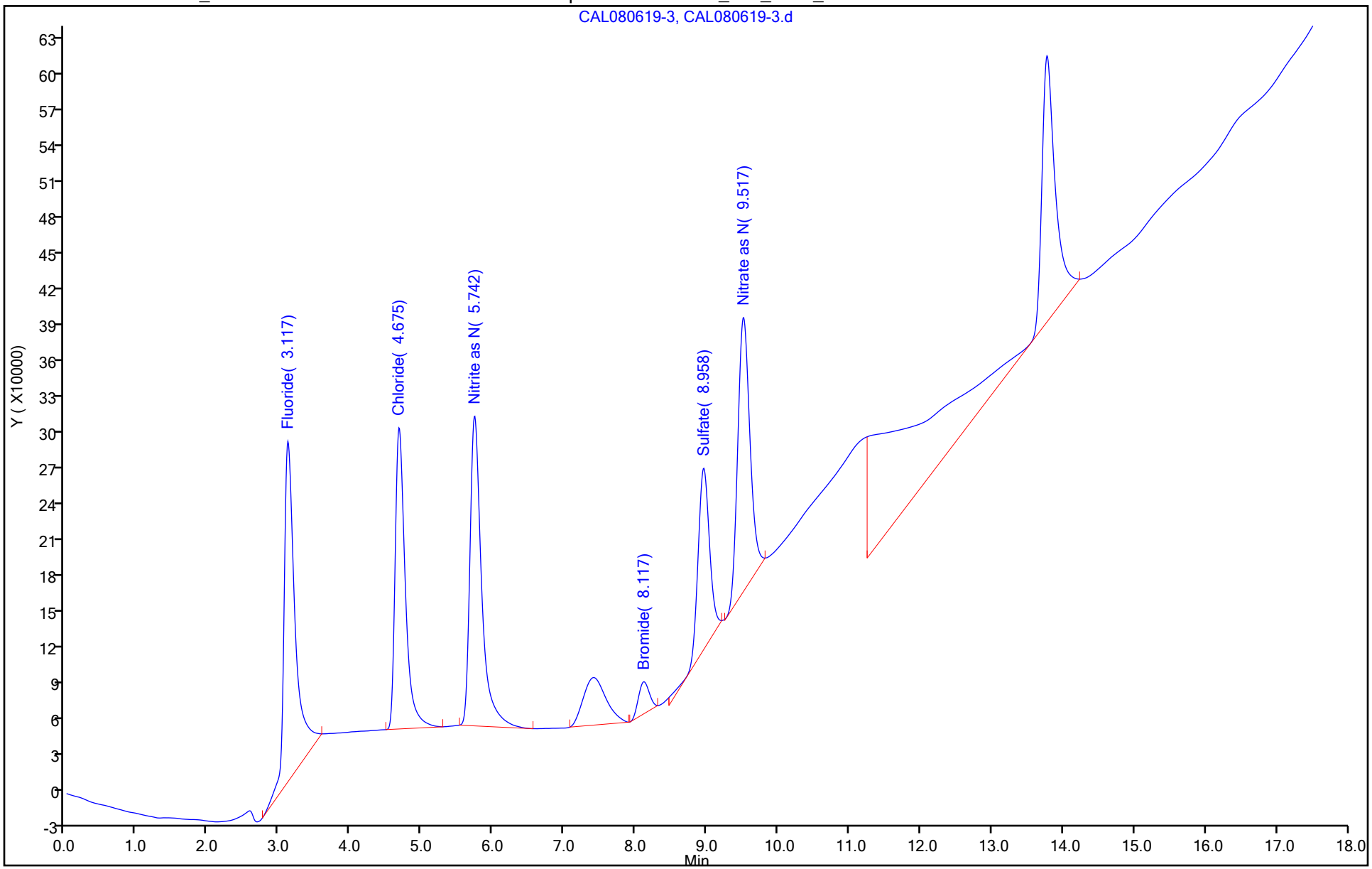

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-4.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 06-Aug-2019 13:14:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030424-004
Operator ID: Instrument ID: CHWC11
Sublist: chrom-300_11*sub2

Method: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\300_11.m
Limit Group: WC - IC_300_9056_48hr
Last Update: 07-Aug-2019 13:01:50 Calib Date: 06-Aug-2019 14:54:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-9.d

Column 1 : Det: 040914-1
Process Host: CTX0309

First Level Reviewer: reachs Date: 07-Aug-2019 10:17:34

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	3.117	3.117	0.000	6544552	NC	NC	
	2 Chloride	4.683	4.675	0.008	6250080	NC	NC	
	9 Nitrite as N	5.742	5.742	0.000	7512361	0.5000	0.4146	
	1 Bromide	8.117	8.125	-0.008	954662	NC	NC	
	5 Sulfate	8.958	8.975	-0.017	4789087	NC	NC	
	3 Nitrate as N	9.508	9.517	-0.009	8287439	0.5000	0.4983	
S	6 Nitrate Nitrite as N						0.9129	
S	8 Sulfate as Sulfur		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

ICCALSTD3_00043 Amount Added: 5.00 Units: mL

Report Date: 07-Aug-2019 13:01:50 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-4.d				
Injection Date:	06-Aug-2019 13:14:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	IC			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		

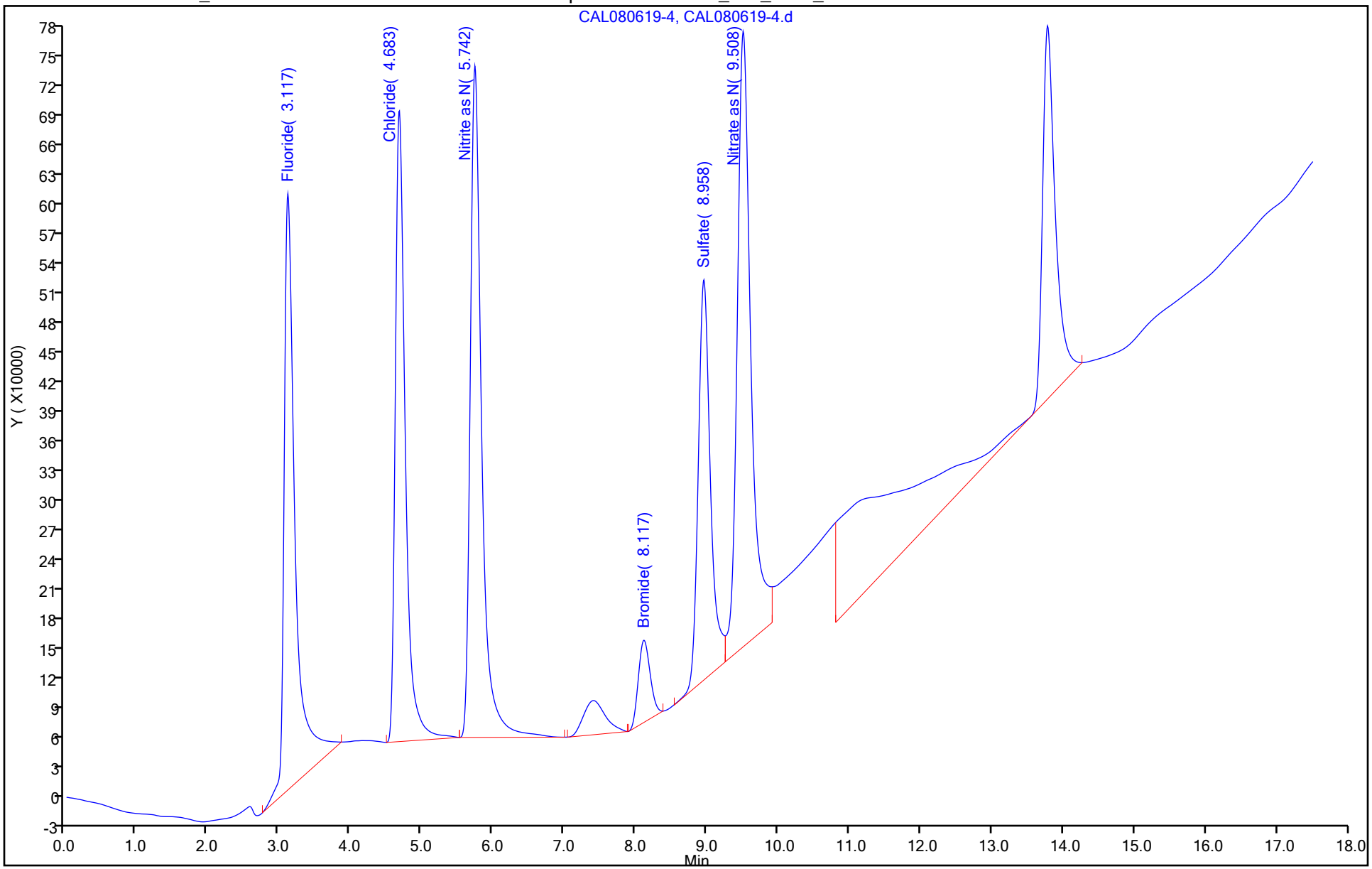

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-5.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 06-Aug-2019 13:34:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030424-005
Operator ID: Instrument ID: CHWC11
Sublist: chrom-300_11*sub2

Method: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\300_11.m
Limit Group: WC - IC_300_9056_48hr
Last Update: 07-Aug-2019 13:01:52 Calib Date: 06-Aug-2019 14:54:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-9.d

Column 1 : Det: 040914-1
Process Host: CTX0309

First Level Reviewer: reachs Date: 07-Aug-2019 10:17:42

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
7 Fluoride	3.117	3.117	0.000	13774445	NC	NC	
2 Chloride	4.675	4.675	0.000	12877791	NC	NC	
9 Nitrite as N	5.742	5.742	0.000	16074700	1.00	0.8789	
1 Bromide	8.125	8.125	0.000	2196242	NC	NC	
5 Sulfate	8.975	8.975	0.000	9815161	NC	NC	
3 Nitrate as N	9.517	9.517	0.000	17453261	1.00	0.9412	
S 6 Nitrate Nitrite as N						1.82	
S 8 Sulfate as Sulfur		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

ICCALSTD4_00042 Amount Added: 5.00 Units: mL

Report Date: 07-Aug-2019 13:01:53 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-5.d				
Injection Date:	06-Aug-2019 13:34:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	IC			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		

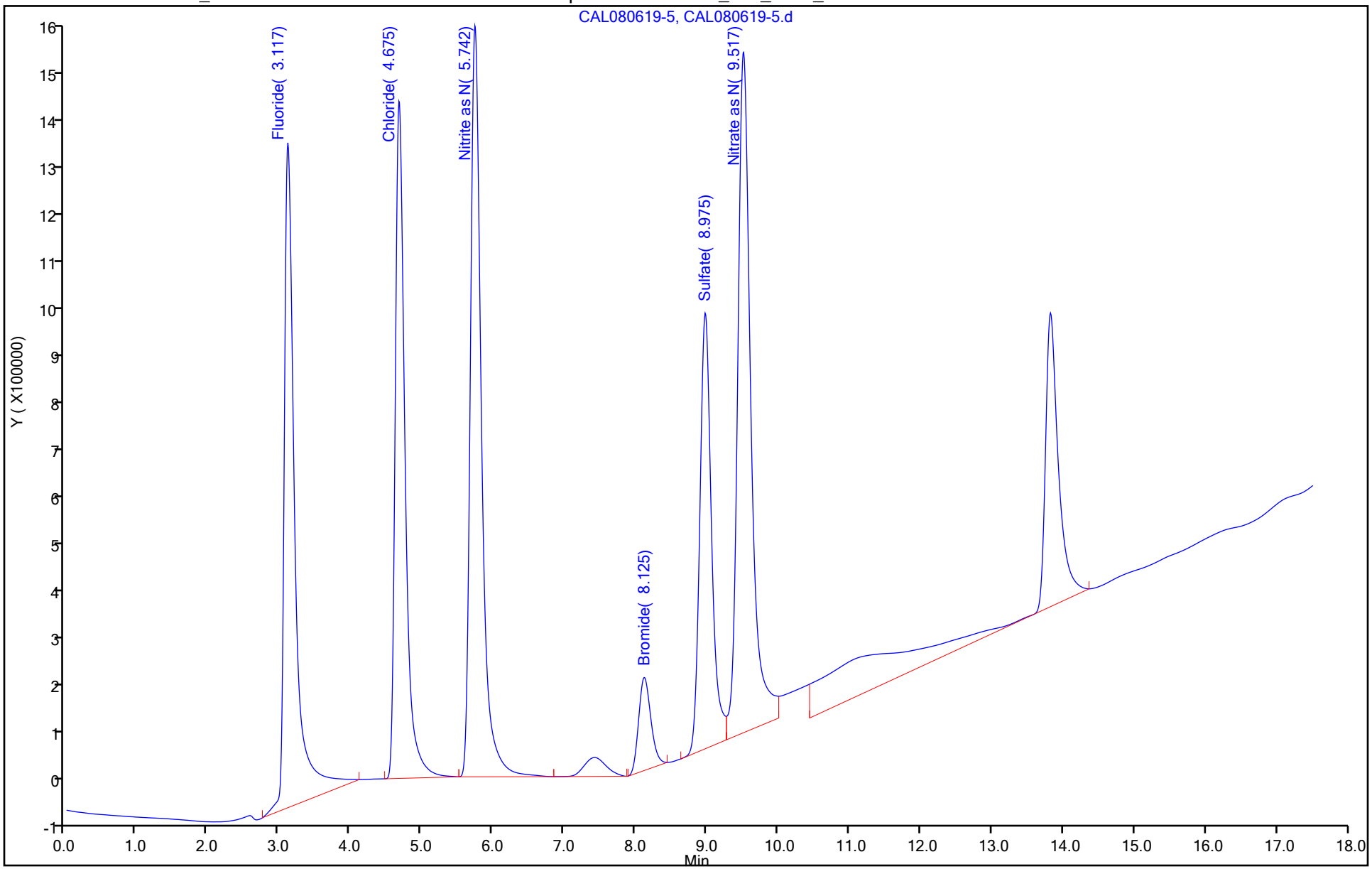

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-6.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 06-Aug-2019 13:54:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030424-006
Operator ID: Instrument ID: CHWC11
Sublist: chrom-300_11*sub2

Method: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\300_11.m
Limit Group: WC - IC_300_9056_48hr
Last Update: 07-Aug-2019 13:01:55 Calib Date: 06-Aug-2019 14:54:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-9.d

Column 1 : Det: 040914-1
Process Host: CTX0309

First Level Reviewer: reachs Date: 07-Aug-2019 10:17:51

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
7 Fluoride	3.125	3.117	0.008	30855762	NC	NC	
2 Chloride	4.692	4.675	0.017	37212670	NC	NC	M
9 Nitrite as N	5.767	5.742	0.025	46721678	2.50	2.54	
1 Bromide	8.150	8.125	0.025	4913232	NC	NC	
5 Sulfate	9.025	8.975	0.050	25478248	NC	NC	
3 Nitrate as N	9.525	9.517	0.008	46636900	2.50	2.35	
S 6 Nitrate Nitrite as N						4.89	
S 8 Sulfate as Sulfur		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated

Reagents:

ICCALSTD5_00043 Amount Added: 5.00 Units: mL

Report Date: 07-Aug-2019 13:01:56 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-6.d				
Injection Date:	06-Aug-2019 13:54:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	IC			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		

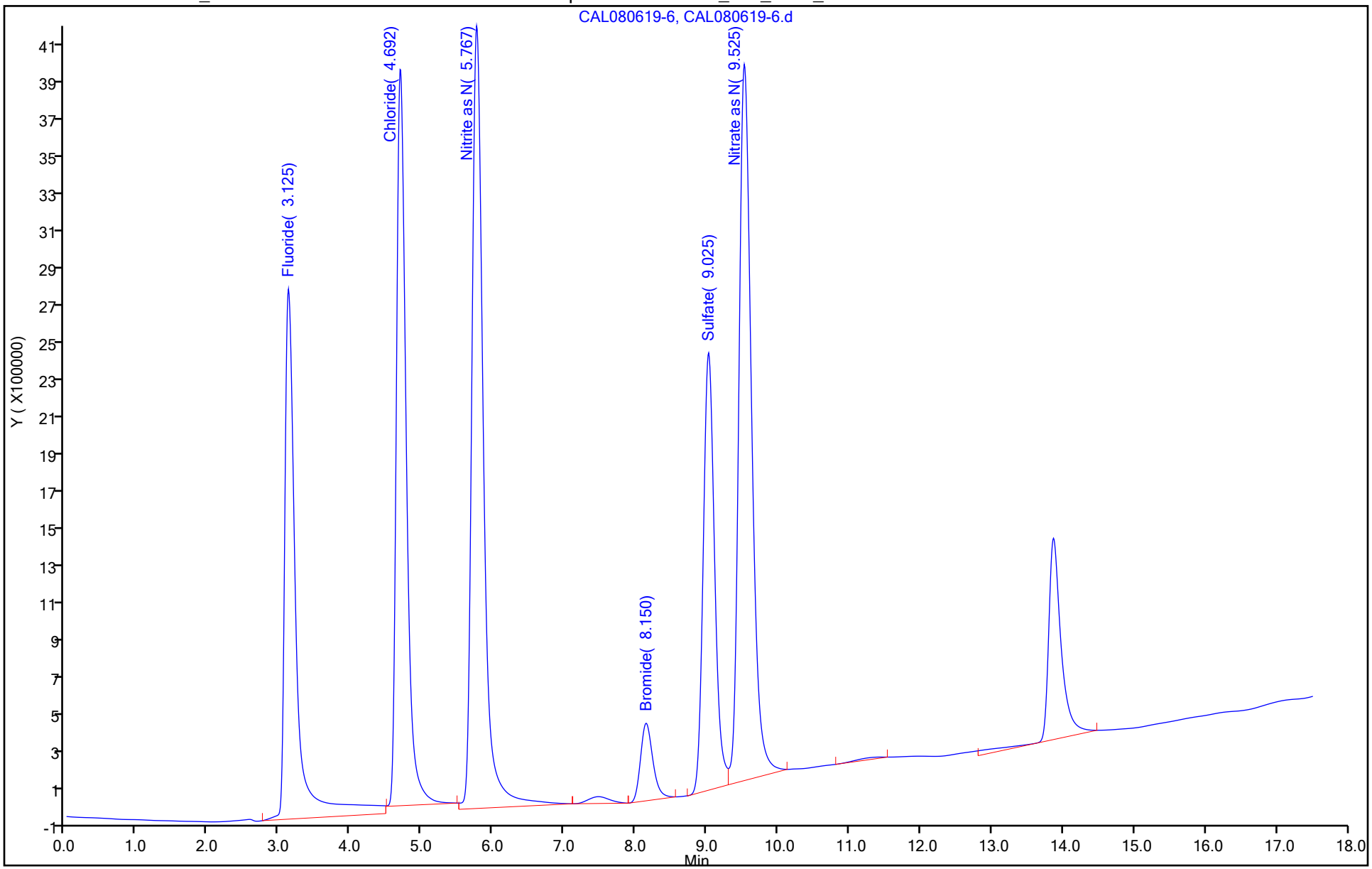

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-7.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 06-Aug-2019 14:14:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030424-007
Operator ID: Instrument ID: CHWC11
Sublist: chrom-300_11*sub2

Method: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\300_11.m
Limit Group: WC - IC_300_9056_48hr
Last Update: 07-Aug-2019 13:01:59 Calib Date: 06-Aug-2019 14:54:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-9.d

Column 1 : Det: 040914-1
Process Host: CTX0309

First Level Reviewer: reachs Date: 07-Aug-2019 10:17:58

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	3.125	3.117	0.008	69807415	NC	NC	
	2 Chloride	4.692	4.675	0.017	81989228	NC	NC	
	9 Nitrite as N	5.767	5.742	0.025	92507626	5.00	5.02	
	1 Bromide	8.133	8.125	0.008	13971913	NC	NC	
	5 Sulfate	9.017	8.975	0.042	55797520	NC	NC	
	3 Nitrate as N	9.500	9.517	-0.017	96709777	5.00	4.77	
S	6 Nitrate Nitrite as N						9.79	
S	8 Sulfate as Sulfur		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

ICCALSTD6_00039 Amount Added: 5.00 Units: mL

Report Date: 07-Aug-2019 13:02:00 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-7.d				
Injection Date:	06-Aug-2019 14:14:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	IC			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		

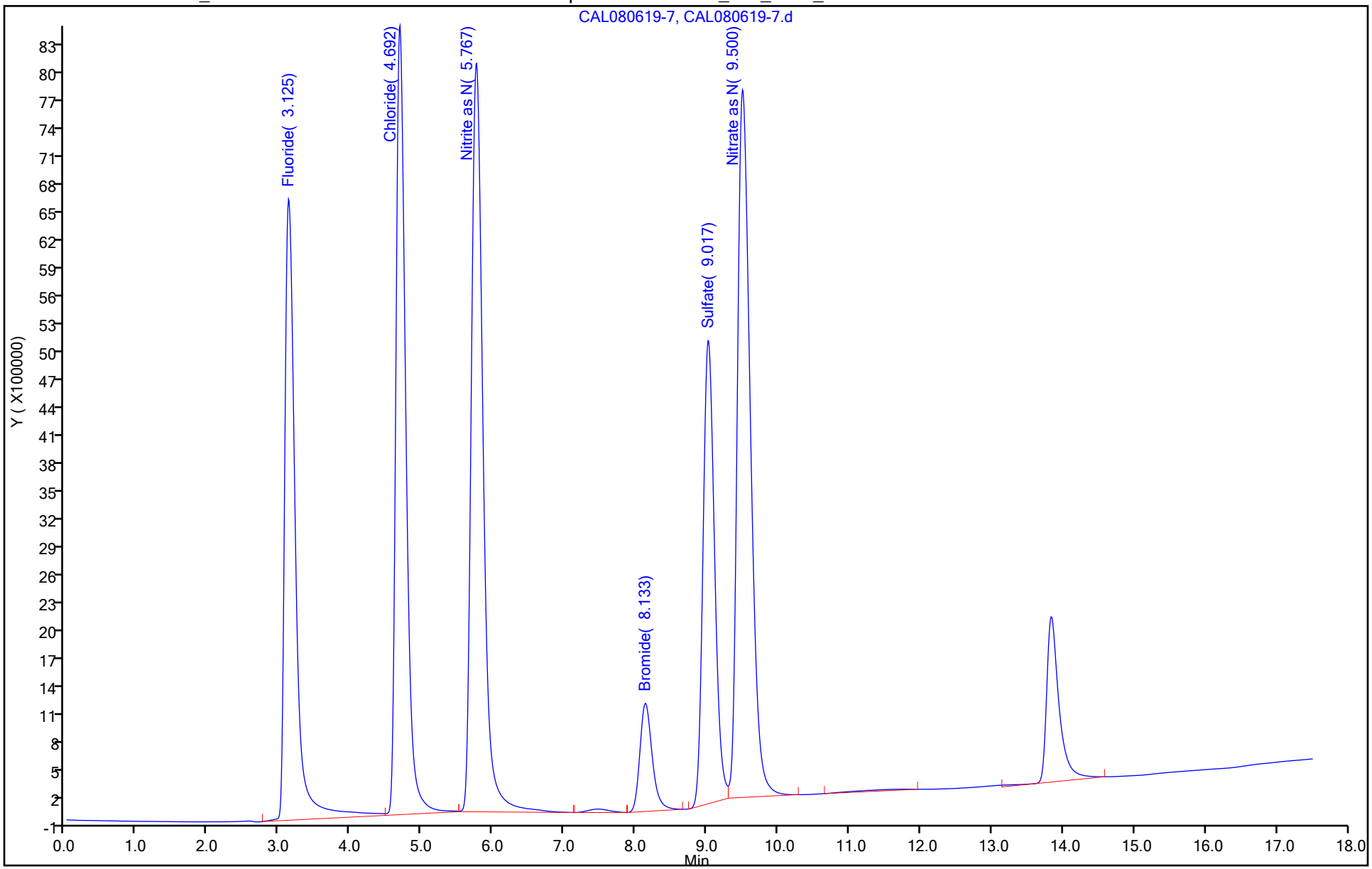

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-8.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 06-Aug-2019 14:34:00 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030424-008
Operator ID: Instrument ID: CHWC11
Sublist: chrom-300_11*sub2

Method: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\300_11.m
Limit Group: WC - IC_300_9056_48hr
Last Update: 07-Aug-2019 13:02:02 Calib Date: 06-Aug-2019 14:54:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-9.d

Column 1 : Det: 040914-1
Process Host: CTX0309

First Level Reviewer: reachs Date: 07-Aug-2019 10:18:08

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	3.133	3.117	0.016	106551887	NC	NC	
	2 Chloride	4.692	4.675	0.017	163124559	NC	NC	
	9 Nitrite as N	5.767	5.742	0.025	190800995	10.0	10.4	
	1 Bromide	8.133	8.125	0.008	22320019	NC	NC	
	5 Sulfate	9.000	8.975	0.025	115874929	NC	NC	
	3 Nitrate as N	9.450	9.517	-0.067	207310077	10.0	10.1	
S	6 Nitrate Nitrite as N						20.5	
S	8 Sulfate as Sulfur		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

ICCALSTD7_00042 Amount Added: 5.00 Units: mL

Report Date: 07-Aug-2019 13:02:03 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-8.d				
Injection Date:	06-Aug-2019 14:34:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	IC			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		

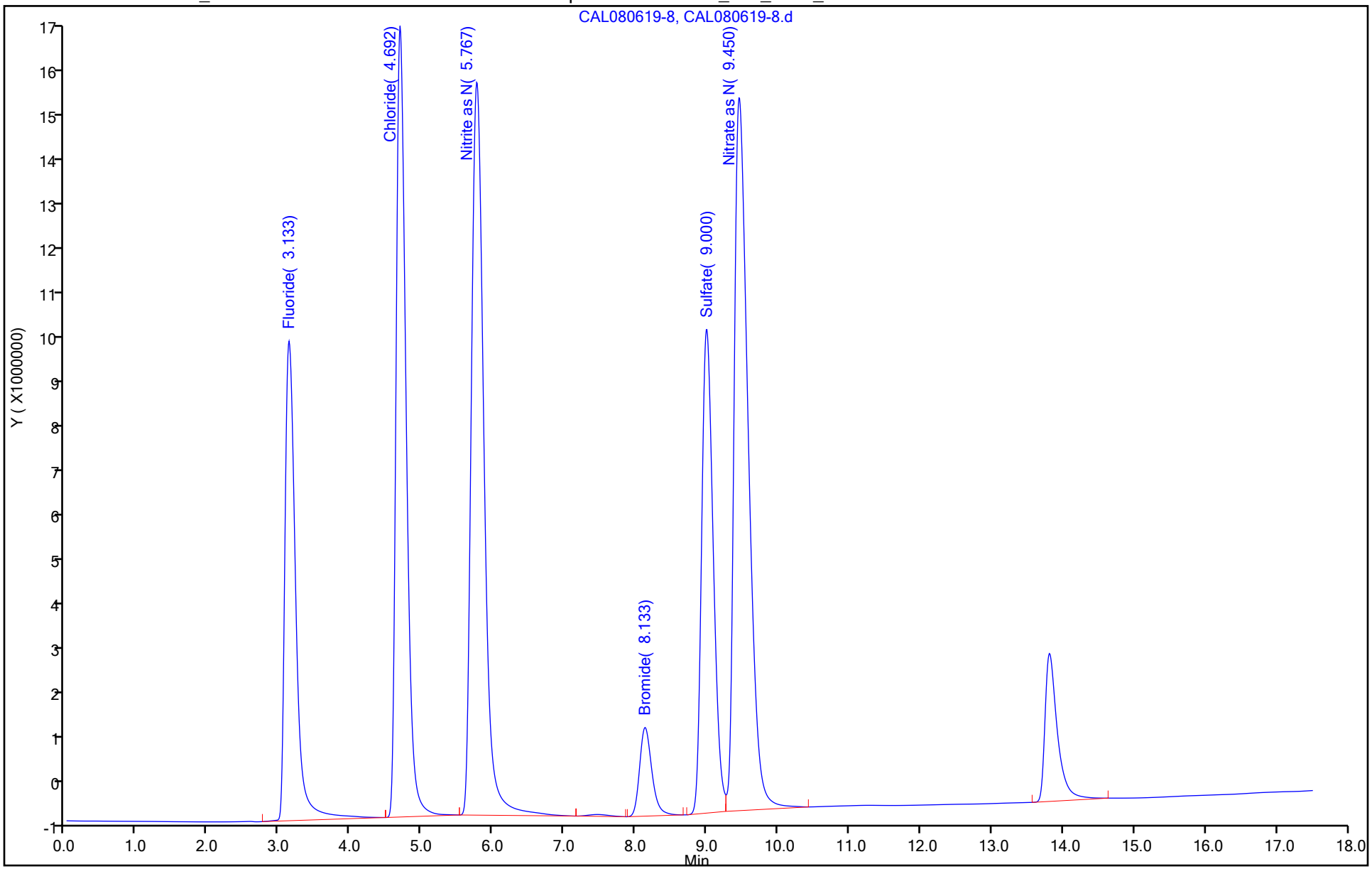

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-9.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 06-Aug-2019 14:54:00 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030424-009
Operator ID: Instrument ID: CHWC11
Sublist: chrom-300_11*sub2

Method: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\300_11.m
Limit Group: WC - IC_300_9056_48hr
Last Update: 07-Aug-2019 13:02:04 Calib Date: 06-Aug-2019 14:54:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-9.d

Column 1 : Det: 040914-1
Process Host: CTX0309

First Level Reviewer: reachs Date: 07-Aug-2019 10:18:19

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	3.133	3.117	0.016	145444611	NC	NC	
	2 Chloride	4.692	4.675	0.017	331293919	NC	NC	
	9 Nitrite as N	5.775	5.742	0.033	365325823	20.0	19.8	
	1 Bromide	8.108	8.125	-0.017	32334726	NC	NC	
	5 Sulfate	8.942	8.975	-0.033	238767778	NC	NC	
	3 Nitrate as N	9.375	9.517	-0.142	418014829	20.0	20.3	
S	6 Nitrate Nitrite as N						40.1	
S	8 Sulfate as Sulfur		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

ICCALSTD8_00030 Amount Added: 5.00 Units: mL

Report Date: 07-Aug-2019 13:02:05 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-9.d				
Injection Date:	06-Aug-2019 14:54:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	IC			Worklist Smp#:	9
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		

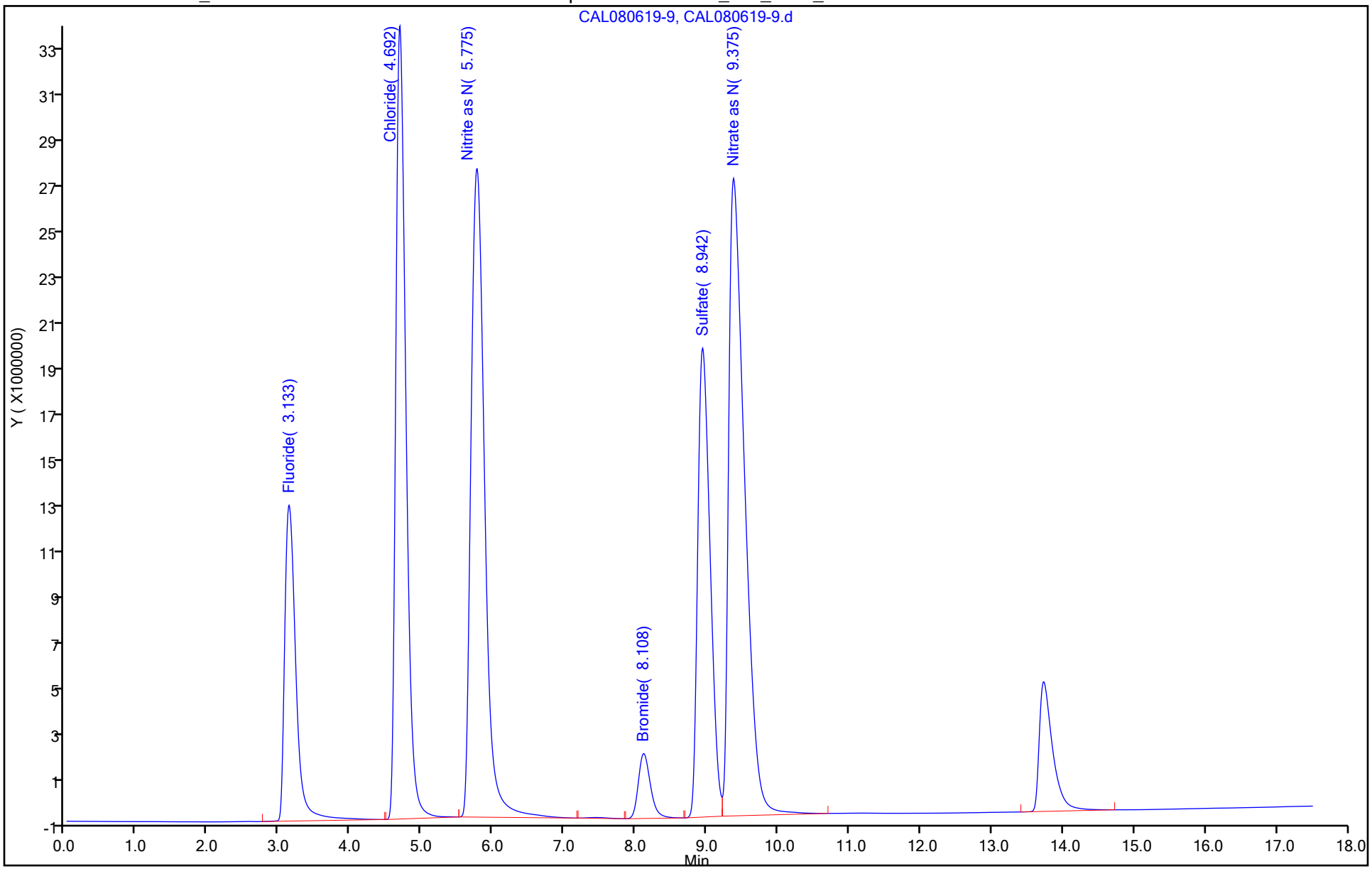

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab Sample ID: CCV 600-274863/38 Calibration Date: 09/17/2019 00:39

Instrument ID: CHWC11 Calib Start Date: 08/06/2019 12:34

GC Column: AS-18 ID: Calib End Date: 08/06/2019 14:54

Lab File ID: 091619-38.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin		13721137		7.16	7.50	-4.6	10.0
Chloride	Lin1		7932448		19.4	20.0	-2.8	10.0
Bromide	Lin1		2849528		7.12	7.50	-5.1	10.0
Sulfate	Lin1		5601333		19.3	20.0	-3.6	10.0

FORM VII 300.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab Sample ID: CCV 600-274863/38 Calibration Date: 09/17/2019 00:39

Instrument ID: CHWC11 Calib Start Date: 08/06/2019 12:34

GC Column: AS-18 ID: Calib End Date: 08/06/2019 14:54

Lab File ID: 091619-38.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	3.13	2.88	3.38
Chloride	4.65	4.40	4.90
Bromide	8.00	7.75	8.25
Sulfate	8.83	8.57	9.07

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20190916-31123.b\091619-38.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 17-Sep-2019 00:39:00 ALS Bottle#: 0 Worklist Smp#: 38
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031123-038
Misc. Info.: 18467
Operator ID: Instrument ID: CHWC11
Sublist: chrom-300_11*sub2

Method: \\chromna\Houston\ChromData\CHWC11\20190916-31123.b\300_11.m
Limit Group: WC - IC_300_9056_28day
Last Update: 17-Sep-2019 10:49:38 Calib Date: 06-Aug-2019 14:54:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-9.d

Column 1 : Det: 040914-1
Process Host: CTX0327

First Level Reviewer: reachs Date: 17-Sep-2019 10:42:33

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	3.133	3.133	0.000	102908525	7.50	7.16	
	2 Chloride	4.650	4.650	0.000	158648960	20.0	19.4	
	9 Nitrite as N	5.692	5.692	0.000	182356468	NC	NC	
	1 Bromide	8.000	8.000	0.000	21371461	7.50	7.12	
	5 Sulfate	8.825	8.817	0.008	112026664	20.0	19.3	
	3 Nitrate as N	9.308	9.300	0.008	199102681	NC	NC	
S	6 Nitrate Nitrite as N		0.000				ND	
S	8 Sulfate as Sulfur						19.3	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

CCV_00109 Amount Added: 5.00 Units: mL

Report Date: 17-Sep-2019 10:49:38 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20190916-31123.b\091619-38.d				
Injection Date:	17-Sep-2019 00:39:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	CCV			Worklist Smp#:	38
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		

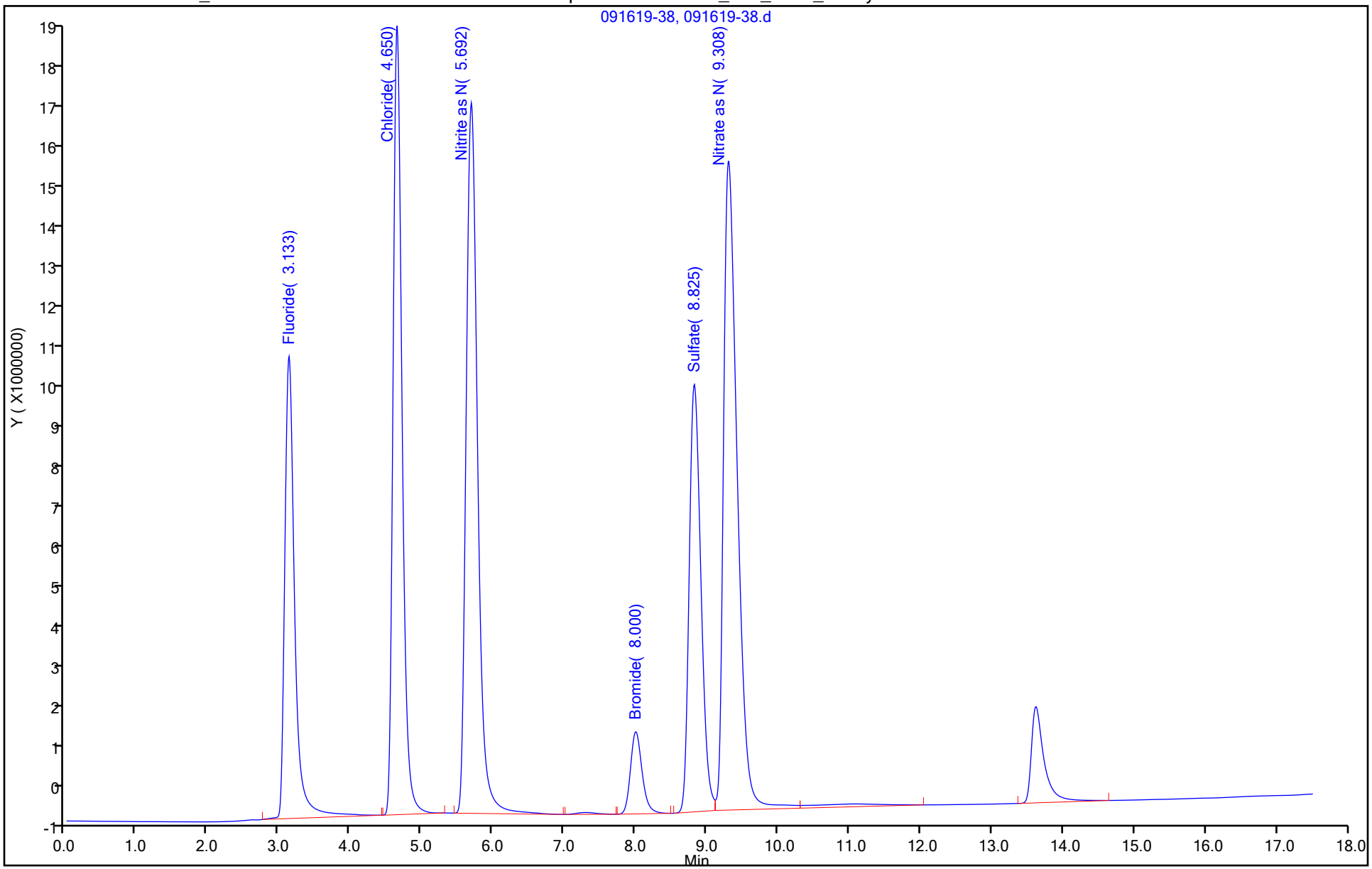

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Client Sample ID: Lab Sample ID: CCB 600-274863/39

Matrix: Water Lab File ID: 091619-39.d

Analysis Method: 300.0 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 09/17/2019 00:59

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS-18 ID:

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 274863 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	ND		0.40	0.10
16887-00-6	Chloride	ND		0.40	0.053
14808-79-8	Sulfate	ND		0.50	0.096

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20190916-31123.b\091619-39.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 17-Sep-2019 00:59:00 ALS Bottle#: 0 Worklist Smp#: 39
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031123-039
Misc. Info.: 2972
Operator ID: Instrument ID: CHWC11

Method: \\chromna\Houston\ChromData\CHWC11\20190916-31123.b\300_11.m
Limit Group: WC - IC_300_9056_28day
Last Update: 17-Sep-2019 10:49:38 Calib Date: 06-Aug-2019 14:54:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-9.d

Column 1 : Det: 040914-1
Process Host: CTX0327

First Level Reviewer: reachs Date: 17-Sep-2019 10:42:38

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride		3.133				ND	
	2 Chloride		4.650				ND	
	9 Nitrite as N		5.692				ND	
	1 Bromide		8.000				ND	
	5 Sulfate		8.817				ND	
	3 Nitrate as N		9.300				ND	
	4 Orthophosphate as P	13.758	13.608	0.150	1696487			NC
S	6 Nitrate Nitrite as N		0.000				ND	
S	8 Sulfate as Sulfur		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Report Date: 17-Sep-2019 10:49:39 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20190916-31123.b\091619-39.d				
Injection Date:	17-Sep-2019 00:59:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	CCB			Worklist Smp#:	39
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		

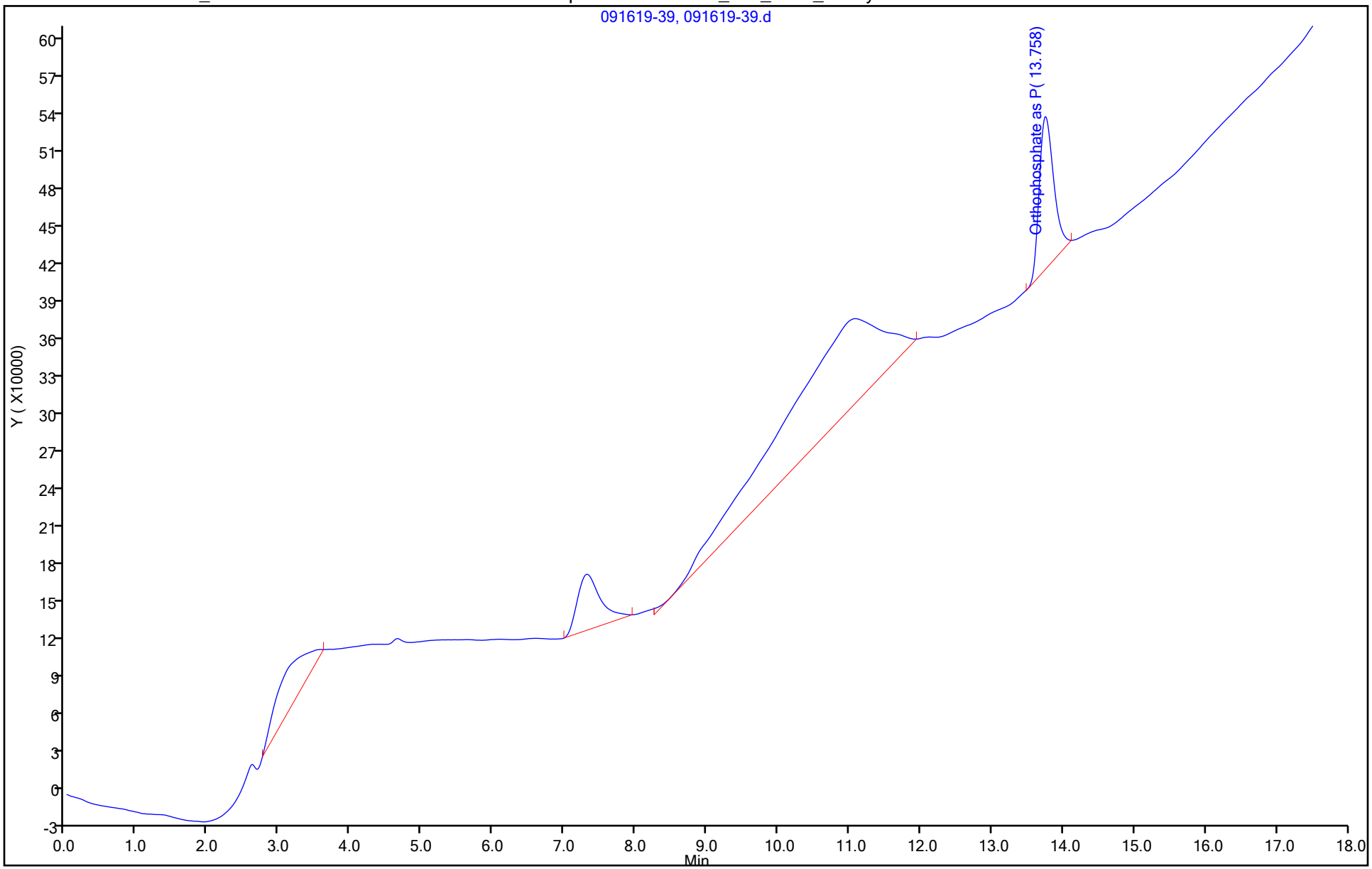

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 600-274705/5

Matrix: Water Lab File ID: 091319-5.d

Analysis Method: 300.0 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 09/13/2019 13:13

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS-18 ID:

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 274705 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	7.34		0.40	0.10
16887-00-6	Chloride	19.7		0.40	0.053
14808-79-8	Sulfate	19.9		0.50	0.096

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20190913-31085.b\091319-5.d
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 13-Sep-2019 13:13:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031085-005
Operator ID: Instrument ID: CHWC11

Method: \\chromna\Houston\ChromData\CHWC11\20190913-31085.b\300_11.m
Limit Group: WC - IC_300_9056_28day
Last Update: 16-Sep-2019 10:47:25 Calib Date: 06-Aug-2019 14:54:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-9.d

Column 1 : Det: 040914-1
Process Host: CTX0302

First Level Reviewer: reachs Date: 13-Sep-2019 14:41:27

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
7 Fluoride	3.125	3.133	-0.008	106335553	7.50	7.40	
2 Chloride	4.650	4.658	-0.008	160567127	20.0	19.7	
9 Nitrite as N	5.692	5.700	-0.008	178711616	NC	NC	
1 Bromide	8.000	8.008	-0.008	22059190	7.50	7.34	
5 Sulfate	8.825	8.808	0.017	115612310	20.0	19.9	
3 Nitrate as N	9.292	9.308	-0.016	197537037	NC	NC	
S 6 Nitrate Nitrite as N		0.000			10.0	ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

ICV/LCS_00106 Amount Added: 5.00 Units: mL

Report Date: 16-Sep-2019 10:47:30 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20190913-31085.b\091319-5.d				
Injection Date:	13-Sep-2019 13:13:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	LCS			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		

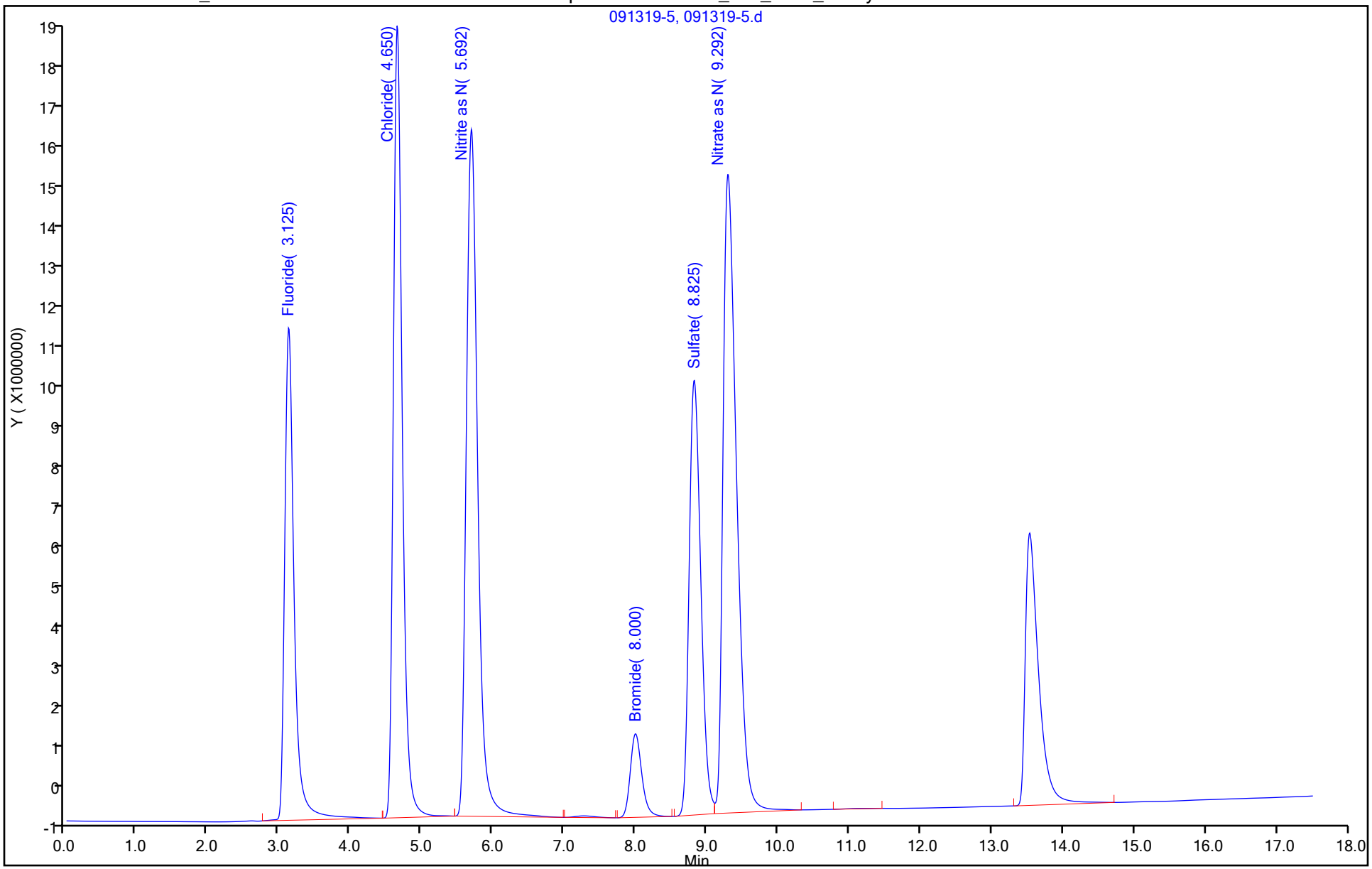

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-191956-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 600-274705/36
Matrix: Water
Lab File ID: 091319-36.d
Analysis Method: 300.0
Date Collected:
Extraction Method:
Date Extracted:
Sample wt/vol: 5(mL)
Date Analyzed: 09/13/2019 23:34
Con. Extract Vol.:
Dilution Factor: 1
Injection Volume: 1(uL)
GC Column: AS-18 ID:
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 274705
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	7.30		0.40	0.10
16887-00-6	Chloride	19.8		0.40	0.053
14808-79-8	Sulfate	19.8		0.50	0.096

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20190913-31085.b\091319-36.d
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 13-Sep-2019 23:34:00 ALS Bottle#: 0 Worklist Smp#: 36
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031085-036
Misc. Info.: 7591
Operator ID: Instrument ID: CHWC11

Method: \\chromna\Houston\ChromData\CHWC11\20190913-31085.b\300_11.m
Limit Group: WC - IC_300_9056_28day
Last Update: 16-Sep-2019 10:48:03 Calib Date: 06-Aug-2019 14:54:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-9.d

Column 1 : Det: 040914-1
Process Host: CTX0302

First Level Reviewer: reachs Date: 16-Sep-2019 10:37:32

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	7 Fluoride	3.133	3.133	0.000	107286625	7.50	7.46	
	2 Chloride	4.650	4.658	-0.008	161618991	20.0	19.8	
	9 Nitrite as N	5.692	5.700	-0.008	179949380	NC	NC	
	1 Bromide	8.000	8.008	-0.008	21928521	7.50	7.30	
	5 Sulfate	8.817	8.808	0.009	114861729	20.0	19.8	
	3 Nitrate as N	9.300	9.308	-0.008	197262714	NC	NC	
S	6 Nitrate Nitrite as N		0.000			10.0	ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

ICV/LCS_00106 Amount Added: 5.00 Units: mL

Report Date: 16-Sep-2019 10:48:21 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20190913-31085.b\091319-36.d				
Injection Date:	13-Sep-2019 23:34:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	LCS			Worklist Smp#:	36
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		

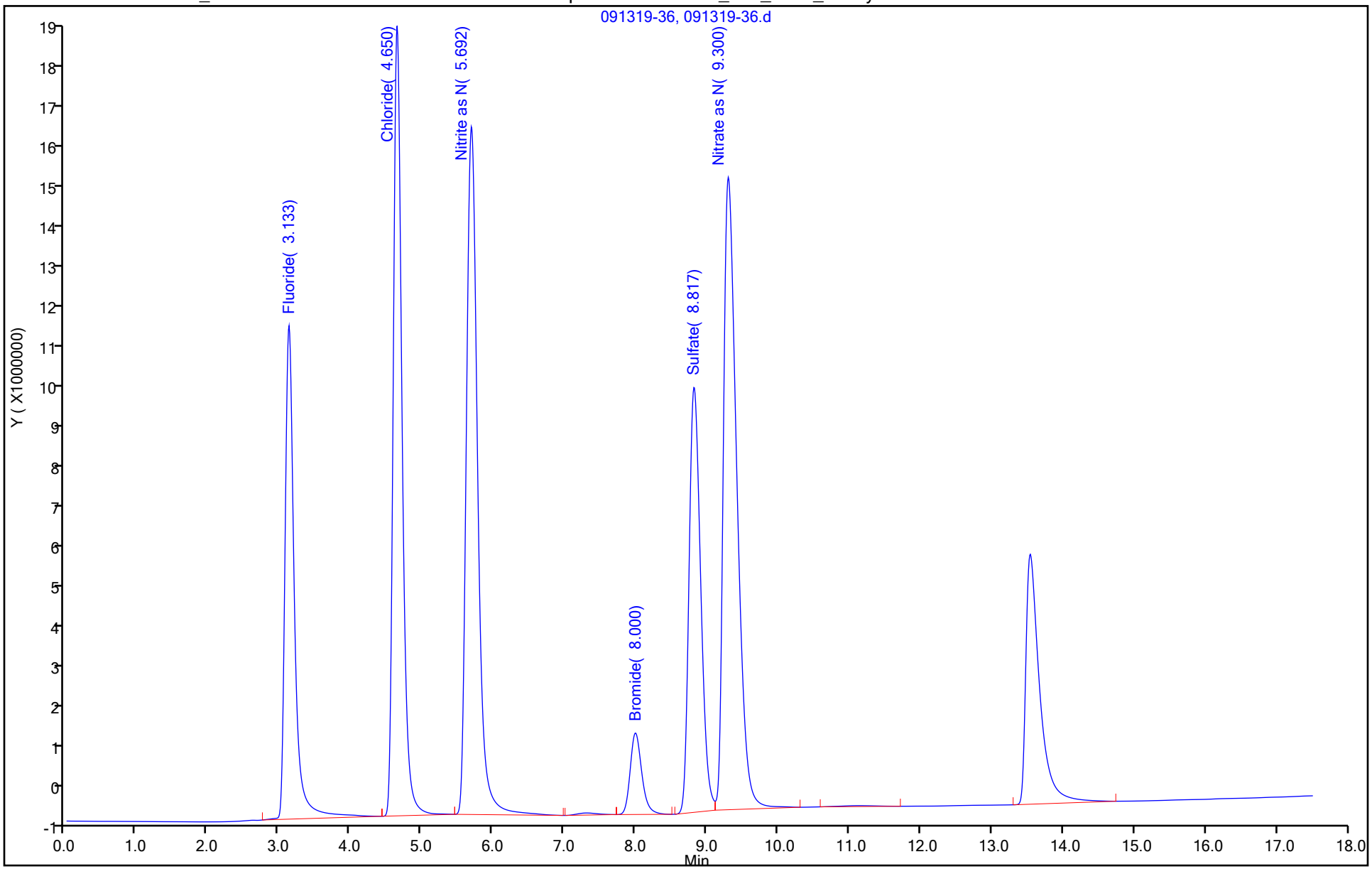

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 600-274706/5

Matrix: Water Lab File ID: 091319-5.d

Analysis Method: 300.0 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 09/13/2019 13:13

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS-18 ID:

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 274706 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrate as N	9.64		0.20	0.025
14797-65-0	Nitrite as N	9.70		0.20	0.030

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20190913-31085.b\091319-5.d
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 13-Sep-2019 13:13:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031085-005
Operator ID: Instrument ID: CHWC11

Method: \\chromna\Houston\ChromData\CHWC11\20190913-31085.b\300_11.m
Limit Group: WC - IC_300_9056_48hr
Last Update: 16-Sep-2019 10:47:25 Calib Date: 06-Aug-2019 14:54:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-9.d

Column 1 : Det: 040914-1
Process Host: CTX0302

First Level Reviewer: reachs Date: 13-Sep-2019 14:41:27

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
7 Fluoride	3.125	3.133	-0.008	106335553	NC	NC	
2 Chloride	4.650	4.658	-0.008	160567127	NC	NC	
9 Nitrite as N	5.692	5.700	-0.008	178711616	10.0	9.70	
1 Bromide	8.000	8.008	-0.008	22059190	NC	NC	
5 Sulfate	8.825	8.808	0.017	115612310	NC	NC	
3 Nitrate as N	9.292	9.308	-0.016	197537037	10.0	9.64	
S 6 Nitrate Nitrite as N					10.0	19.3	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

ICV/LCS_00106 Amount Added: 5.00 Units: mL

Report Date: 16-Sep-2019 10:47:30 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20190913-31085.b\091319-5.d				
Injection Date:	13-Sep-2019 13:13:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	LCS			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_48hr		

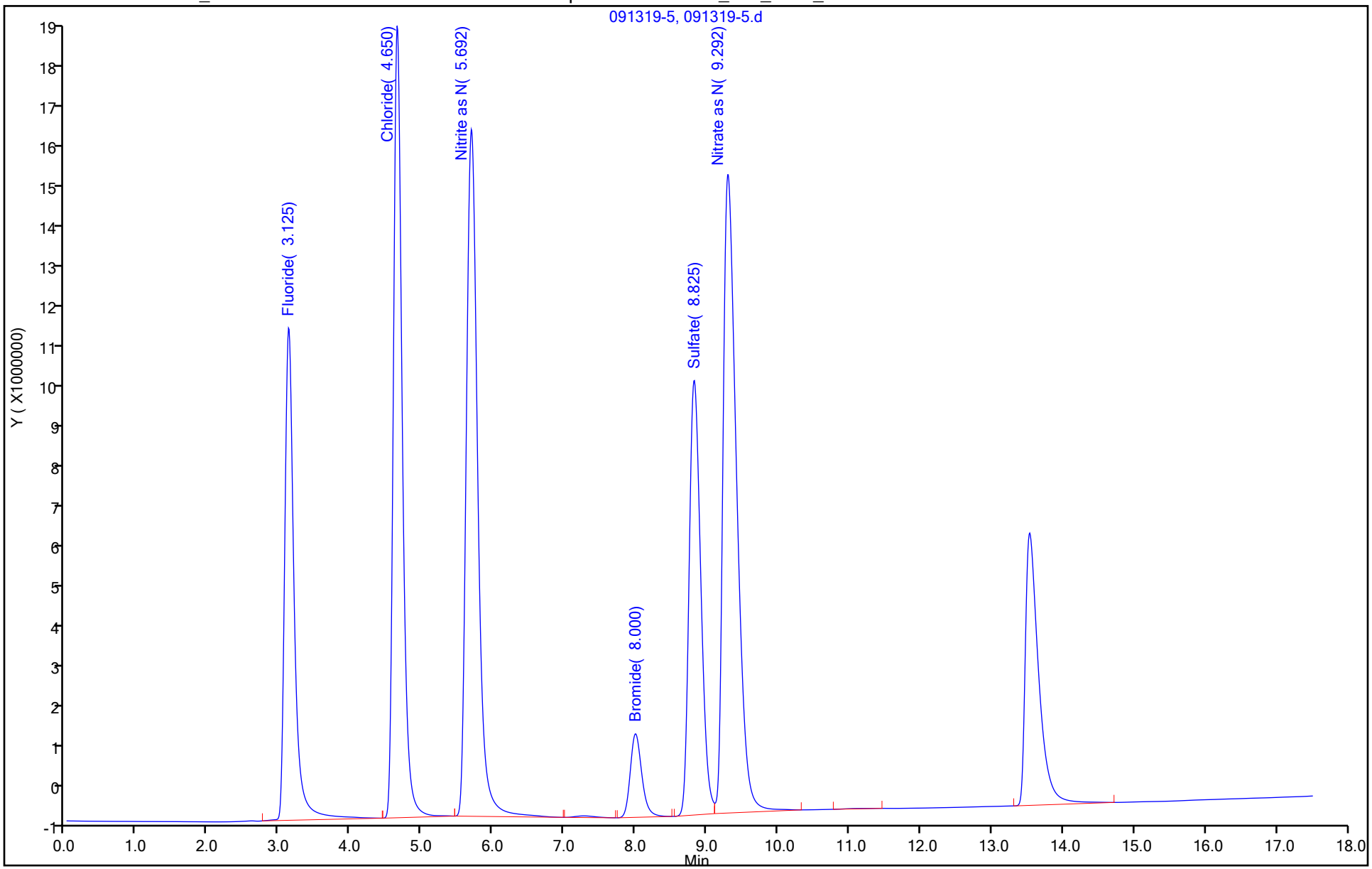

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 600-274863/5

Matrix: Water Lab File ID: 091619-5.d

Analysis Method: 300.0 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 5(mL) Date Analyzed: 09/16/2019 13:39

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: AS-18 ID:

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 274863 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
24959-67-9	Bromide	7.44		0.40	0.10
16887-00-6	Chloride	19.6		0.40	0.053
14808-79-8	Sulfate	19.9		0.50	0.096

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHWC11\20190916-31123.b\091619-5.d
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 16-Sep-2019 13:39:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031123-005
Operator ID: Instrument ID: CHWC11

Method: \\chromna\Houston\ChromData\CHWC11\20190916-31123.b\300_11.m
Limit Group: WC - IC_300_9056_28day
Last Update: 17-Sep-2019 10:48:50 Calib Date: 06-Aug-2019 14:54:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHWC11\20190806-30424.b\CAL080619-9.d

Column 1 : Det: 040914-1
Process Host: CTX0327

First Level Reviewer: reachs Date: 16-Sep-2019 15:31:31

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
7 Fluoride	3.133	3.133	0.000	106660835	7.50	7.42	
2 Chloride	4.650	4.650	0.000	160357936	20.0	19.6	
9 Nitrite as N	5.692	5.692	0.000	178977855	NC	NC	
1 Bromide	7.992	8.000	-0.008	22356624	7.50	7.44	
5 Sulfate	8.817	8.817	0.000	115387643	20.0	19.9	
3 Nitrate as N	9.292	9.300	-0.008	199324257	NC	NC	
S 6 Nitrate Nitrite as N		0.000			10.0	ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

ICV/LCS_00106 Amount Added: 5.00 Units: mL

Report Date: 17-Sep-2019 10:48:59 Chrom Revision: 2.3 22-Aug-2019 12:55:36

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHWC11\20190916-31123.b\091619-5.d				
Injection Date:	16-Sep-2019 13:39:00	Instrument ID:	CHWC11	Operator ID:	
Lims ID:	LCS			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	300_11	Limit Group:	WC - IC_300_9056_28day		

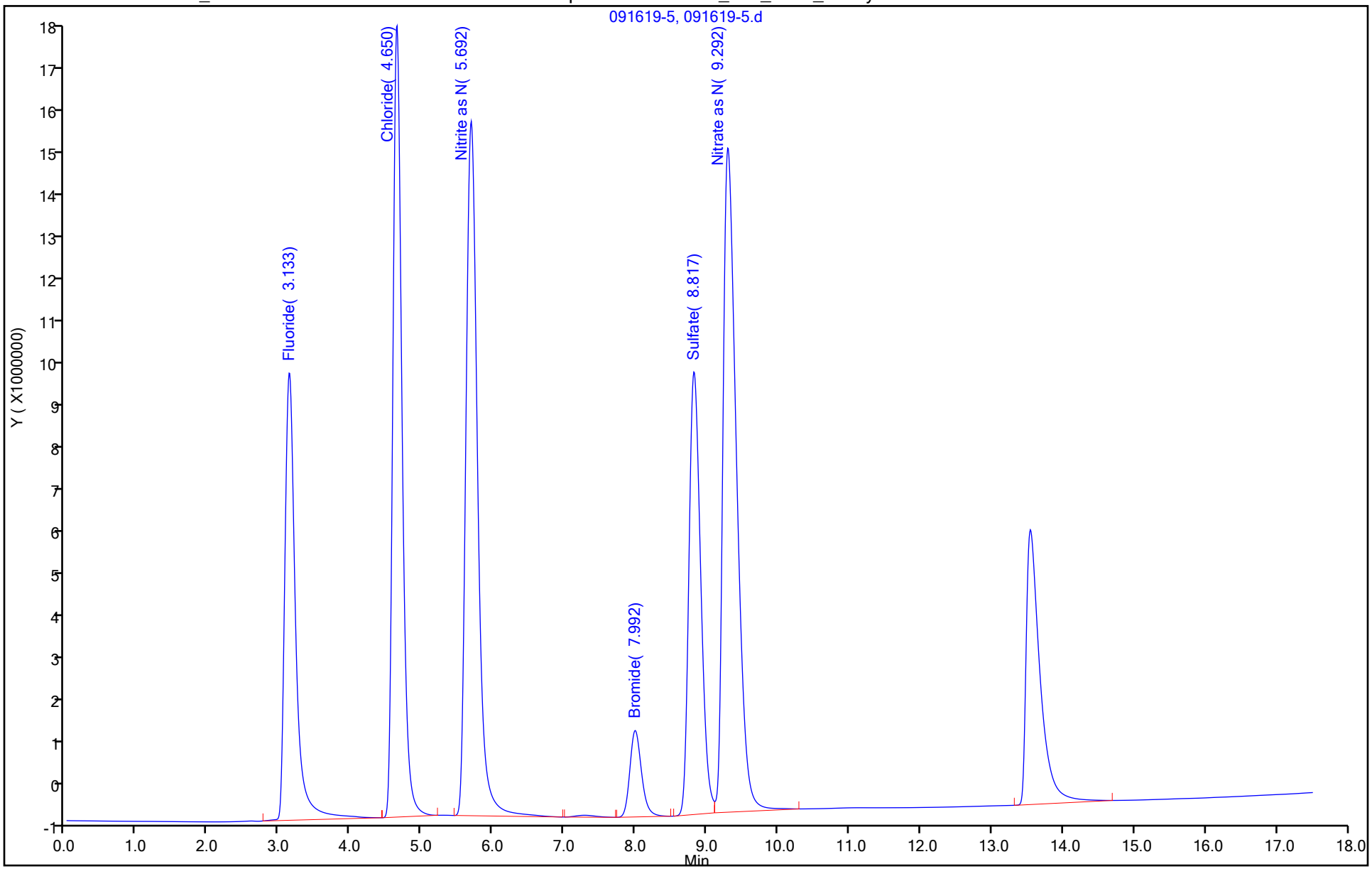

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: CHWC11 Start Date: 08/06/2019 12:34

Analysis Batch Number: 271285 End Date: 08/07/2019 11:34

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 600-271285/2		08/06/2019 12:34	1		AS-18
IC 600-271285/3		08/06/2019 12:54	1	CAL080619-3.d	AS-18
IC 600-271285/4		08/06/2019 13:14	1	CAL080619-4.d	AS-18
IC 600-271285/5		08/06/2019 13:34	1	CAL080619-5.d	AS-18
IC 600-271285/6		08/06/2019 13:54	1	CAL080619-6.d	AS-18
IC 600-271285/7		08/06/2019 14:14	1	CAL080619-7.d	AS-18
IC 600-271285/8		08/06/2019 14:34	1	CAL080619-8.d	AS-18
IC 600-271285/9		08/06/2019 14:54	1	CAL080619-9.d	AS-18
ICV 600-271285/10		08/06/2019 15:14	1		AS-18
ICB 600-271285/11		08/06/2019 15:34	1		AS-18
ZZZZZ		08/06/2019 15:54	1		AS-18
ZZZZZ		08/06/2019 16:14	1		AS-18
ZZZZZ		08/06/2019 16:34	1		AS-18
ZZZZZ		08/06/2019 16:54	1		AS-18
ZZZZZ		08/06/2019 17:14	1		AS-18
ZZZZZ		08/06/2019 17:34	1		AS-18
ZZZZZ		08/06/2019 17:54	1		AS-18
ZZZZZ		08/06/2019 18:14	1		AS-18
ZZZZZ		08/06/2019 18:34	1		AS-18
ZZZZZ		08/06/2019 18:54	1		AS-18
CCV 600-271285/22		08/06/2019 19:14	1		AS-18
CCB 600-271285/23		08/06/2019 19:34	1		AS-18
ZZZZZ		08/06/2019 19:54	1		AS-18
ZZZZZ		08/06/2019 20:14	1		AS-18
ZZZZZ		08/06/2019 20:34	1		AS-18
ZZZZZ		08/06/2019 20:54	1		AS-18
ZZZZZ		08/06/2019 21:14	1		AS-18
ZZZZZ		08/06/2019 21:34	1		AS-18
ZZZZZ		08/06/2019 21:54	1		AS-18
ZZZZZ		08/06/2019 22:14	5		AS-18
ZZZZZ		08/06/2019 22:34	1		AS-18
ZZZZZ		08/06/2019 22:54	1		AS-18
CCV 600-271285/34		08/06/2019 23:14	1		AS-18
CCB 600-271285/35		08/06/2019 23:34	1		AS-18
ZZZZZ		08/06/2019 23:54	1		AS-18
ZZZZZ		08/07/2019 00:14	1		AS-18
ZZZZZ		08/07/2019 00:34	1		AS-18
ZZZZZ		08/07/2019 00:54	1		AS-18
ZZZZZ		08/07/2019 01:14	1		AS-18
ZZZZZ		08/07/2019 01:34	1		AS-18
ZZZZZ		08/07/2019 01:54	1		AS-18
ZZZZZ		08/07/2019 02:14	100		AS-18
ZZZZZ		08/07/2019 02:34	1		AS-18
ZZZZZ		08/07/2019 02:54	1		AS-18
ZZZZZ		08/07/2019 03:14	1		AS-18

300.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: CHWC11 Start Date: 08/06/2019 12:34

Analysis Batch Number: 271285 End Date: 08/07/2019 11:34

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		08/07/2019 03:34	1		AS-18
CCV 600-271285/48		08/07/2019 03:54	1		AS-18
CCB 600-271285/49		08/07/2019 04:14	1		AS-18
ZZZZZ		08/07/2019 04:34	1		AS-18
ZZZZZ		08/07/2019 04:54	1		AS-18
ZZZZZ		08/07/2019 05:14	1		AS-18
ZZZZZ		08/07/2019 05:34	1		AS-18
ZZZZZ		08/07/2019 05:54	1		AS-18
ZZZZZ		08/07/2019 06:14	1		AS-18
ZZZZZ		08/07/2019 06:34	20		AS-18
ZZZZZ		08/07/2019 06:54	20		AS-18
ZZZZZ		08/07/2019 07:14	1		AS-18
ZZZZZ		08/07/2019 07:34	1		AS-18
CCV 600-271285/60		08/07/2019 07:54	1		AS-18
CCB 600-271285/61		08/07/2019 08:14	1		AS-18
ZZZZZ		08/07/2019 08:34	5		AS-18
ZZZZZ		08/07/2019 08:54	1		AS-18
ZZZZZ		08/07/2019 09:14	1		AS-18
ZZZZZ		08/07/2019 09:34	1		AS-18
ZZZZZ		08/07/2019 09:54	1		AS-18
ZZZZZ		08/07/2019 10:14	1		AS-18
ZZZZZ		08/07/2019 10:34	1		AS-18
ZZZZZ		08/07/2019 10:54	1		AS-18
CCV 600-271285/70		08/07/2019 11:14	1		AS-18
CCB 600-271285/71		08/07/2019 11:34	1		AS-18

300.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: CHWC11 Start Date: 08/06/2019 12:34

Analysis Batch Number: 271286 End Date: 08/07/2019 11:34

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 600-271286/2		08/06/2019 12:34	1		AS-18
IC 600-271286/3		08/06/2019 12:54	1	CAL080619-3.d	AS-18
IC 600-271286/4		08/06/2019 13:14	1	CAL080619-4.d	AS-18
IC 600-271286/5		08/06/2019 13:34	1	CAL080619-5.d	AS-18
IC 600-271286/6		08/06/2019 13:54	1	CAL080619-6.d	AS-18
IC 600-271286/7		08/06/2019 14:14	1	CAL080619-7.d	AS-18
IC 600-271286/8		08/06/2019 14:34	1	CAL080619-8.d	AS-18
IC 600-271286/9		08/06/2019 14:54	1	CAL080619-9.d	AS-18
ICV 600-271286/10		08/06/2019 15:14	1		AS-18
ICB 600-271286/11		08/06/2019 15:34	1		AS-18
ZZZZZ		08/06/2019 15:54	1		AS-18
ZZZZZ		08/06/2019 16:14	1		AS-18
ZZZZZ		08/06/2019 16:34	1		AS-18
ZZZZZ		08/06/2019 16:54	1		AS-18
ZZZZZ		08/06/2019 17:14	1		AS-18
CCV 600-271286/22		08/06/2019 19:14	1		AS-18
CCB 600-271286/23		08/06/2019 19:34	1		AS-18
ZZZZZ		08/06/2019 19:54	1		AS-18
ZZZZZ		08/06/2019 20:14	1		AS-18
ZZZZZ		08/06/2019 20:34	1		AS-18
CCV 600-271286/34		08/06/2019 23:14	1		AS-18
CCB 600-271286/35		08/06/2019 23:34	1		AS-18
ZZZZZ		08/06/2019 23:54	1		AS-18
ZZZZZ		08/07/2019 00:14	1		AS-18
ZZZZZ		08/07/2019 00:34	1		AS-18
ZZZZZ		08/07/2019 02:14	100		AS-18
ZZZZZ		08/07/2019 02:34	1		AS-18
ZZZZZ		08/07/2019 02:54	1		AS-18
ZZZZZ		08/07/2019 03:14	1		AS-18
ZZZZZ		08/07/2019 03:34	1		AS-18
CCV 600-271286/48		08/07/2019 03:54	1		AS-18
CCB 600-271286/49		08/07/2019 04:14	1		AS-18
ZZZZZ		08/07/2019 04:34	1		AS-18
ZZZZZ		08/07/2019 04:54	1		AS-18
ZZZZZ		08/07/2019 05:14	1		AS-18
ZZZZZ		08/07/2019 05:34	1		AS-18
ZZZZZ		08/07/2019 05:54	1		AS-18
ZZZZZ		08/07/2019 06:14	1		AS-18
CCV 600-271286/60		08/07/2019 07:54	1		AS-18
CCB 600-271286/61		08/07/2019 08:14	1		AS-18
ZZZZZ		08/07/2019 08:54	1		AS-18
ZZZZZ		08/07/2019 09:14	1		AS-18
ZZZZZ		08/07/2019 09:34	1		AS-18
CCV 600-271286/70		08/07/2019 11:14	1		AS-18
CCB 600-271286/71		08/07/2019 11:34	1		AS-18

300.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: CHWC11 Start Date: 09/13/2019 12:13

Analysis Batch Number: 274705 End Date: 09/14/2019 08:34

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 600-274705/2		09/13/2019 12:13	1		AS-18
CCB 600-274705/3		09/13/2019 12:33	1		AS-18
ZZZZZ		09/13/2019 12:53	1		AS-18
ZZZZZ		09/13/2019 13:13	1		AS-18
ZZZZZ		09/13/2019 13:33	1		AS-18
ZZZZZ		09/13/2019 13:53	1		AS-18
ZZZZZ		09/13/2019 14:14	1		AS-18
ZZZZZ		09/13/2019 14:34	1		AS-18
ZZZZZ		09/13/2019 14:54	1		AS-18
ZZZZZ		09/13/2019 15:14	1		AS-18
ZZZZZ		09/13/2019 15:34	1		AS-18
ZZZZZ		09/13/2019 15:54	1		AS-18
ZZZZZ		09/13/2019 16:14	1		AS-18
ZZZZZ		09/13/2019 16:34	1		AS-18
ZZZZZ		09/13/2019 16:54	1		AS-18
ZZZZZ		09/13/2019 17:14	1		AS-18
ZZZZZ		09/13/2019 17:34	5		AS-18
ZZZZZ		09/13/2019 17:54	5		AS-18
ZZZZZ		09/13/2019 18:14	5		AS-18
ZZZZZ		09/13/2019 18:34	50		AS-18
ZZZZZ		09/13/2019 18:54	20		AS-18
ZZZZZ		09/13/2019 19:14	20		AS-18
ZZZZZ		09/13/2019 19:34	5		AS-18
ZZZZZ		09/13/2019 19:54	5		AS-18
CCV 600-274705/26		09/13/2019 20:14	1		AS-18
CCB 600-274705/27		09/13/2019 20:34	1		AS-18
ZZZZZ		09/13/2019 20:54	1		AS-18
600-191956-2		09/13/2019 21:14	1	091319-29.d	AS-18
ZZZZZ		09/13/2019 21:34	1		AS-18
ZZZZZ		09/13/2019 21:54	20		AS-18
ZZZZZ		09/13/2019 22:14	5		AS-18
ZZZZZ		09/13/2019 22:34	20		AS-18
ZZZZZ		09/13/2019 22:54	2		AS-18
ZZZZZ		09/13/2019 23:14	1		AS-18
ZZZZZ		09/13/2019 23:34	1		AS-18
ZZZZZ		09/13/2019 23:54	20		AS-18
CCV 600-274705/38		09/14/2019 00:14	1		AS-18
CCB 600-274705/39		09/14/2019 00:34	1		AS-18
ZZZZZ		09/14/2019 00:54	5		AS-18
ZZZZZ		09/14/2019 01:14	5		AS-18
ZZZZZ		09/14/2019 01:34	5		AS-18
ZZZZZ		09/14/2019 01:54	5		AS-18
ZZZZZ		09/14/2019 02:14	5		AS-18
ZZZZZ		09/14/2019 02:34	500		AS-18
ZZZZZ		09/14/2019 02:54	2		AS-18

300.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: CHWC11 Start Date: 09/13/2019 12:13

Analysis Batch Number: 274705 End Date: 09/14/2019 08:34

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		09/14/2019 03:14	500		AS-18
ZZZZZ		09/14/2019 03:34	100		AS-18
ZZZZZ		09/14/2019 03:54	250		AS-18
CCV 600-274705/50		09/14/2019 04:14	1		AS-18
CCB 600-274705/51		09/14/2019 04:34	1		AS-18
ZZZZZ		09/14/2019 04:54	250		AS-18
ZZZZZ		09/14/2019 05:14	2		AS-18
ZZZZZ		09/14/2019 05:34	20		AS-18
ZZZZZ		09/14/2019 05:54	500		AS-18
ZZZZZ		09/14/2019 06:14	250		AS-18
ZZZZZ		09/14/2019 06:34	1		AS-18
ZZZZZ		09/14/2019 06:54	1		AS-18
ZZZZZ		09/14/2019 07:14	1		AS-18
ZZZZZ		09/14/2019 07:34	1		AS-18
ZZZZZ		09/14/2019 07:54	1		AS-18
CCV 600-274705/62		09/14/2019 08:14	1		AS-18
CCB 600-274705/63		09/14/2019 08:34	1		AS-18

300.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: CHWC11 Start Date: 09/13/2019 12:13

Analysis Batch Number: 274706 End Date: 09/14/2019 08:34

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 600-274706/2		09/13/2019 12:13	1		AS-18
CCB 600-274706/3		09/13/2019 12:33	1		AS-18
ZZZZZ		09/13/2019 12:53	1		AS-18
ZZZZZ		09/13/2019 13:13	1		AS-18
ZZZZZ		09/13/2019 13:33	1		AS-18
ZZZZZ		09/13/2019 13:53	1		AS-18
ZZZZZ		09/13/2019 14:14	1		AS-18
ZZZZZ		09/13/2019 14:34	1		AS-18
ZZZZZ		09/13/2019 14:54	1		AS-18
ZZZZZ		09/13/2019 15:14	1		AS-18
ZZZZZ		09/13/2019 15:34	1		AS-18
ZZZZZ		09/13/2019 15:54	1		AS-18
ZZZZZ		09/13/2019 16:14	1		AS-18
ZZZZZ		09/13/2019 16:34	1		AS-18
ZZZZZ		09/13/2019 16:54	1		AS-18
ZZZZZ		09/13/2019 17:14	1		AS-18
ZZZZZ		09/13/2019 17:34	5		AS-18
ZZZZZ		09/13/2019 17:54	5		AS-18
ZZZZZ		09/13/2019 18:14	5		AS-18
ZZZZZ		09/13/2019 18:34	50		AS-18
CCV 600-274706/26		09/13/2019 20:14	1		AS-18
CCB 600-274706/27		09/13/2019 20:34	1		AS-18
ZZZZZ		09/13/2019 20:54	1		AS-18
600-191956-2		09/13/2019 21:14	1	091319-29.d	AS-18
ZZZZZ		09/13/2019 21:34	1		AS-18
ZZZZZ		09/13/2019 23:14	1		AS-18
ZZZZZ		09/13/2019 23:34	1		AS-18
CCV 600-274706/38		09/14/2019 00:14	1		AS-18
CCB 600-274706/39		09/14/2019 00:34	1		AS-18
CCV 600-274706/50		09/14/2019 04:14	1		AS-18
CCB 600-274706/51		09/14/2019 04:34	1		AS-18
ZZZZZ		09/14/2019 06:34	1		AS-18
ZZZZZ		09/14/2019 06:54	1		AS-18
ZZZZZ		09/14/2019 07:14	1		AS-18
ZZZZZ		09/14/2019 07:34	1		AS-18
ZZZZZ		09/14/2019 07:54	1		AS-18
CCV 600-274706/62		09/14/2019 08:14	1		AS-18
CCB 600-274706/63		09/14/2019 08:34	1		AS-18

300.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: CHWC11 Start Date: 09/16/2019 12:39

Analysis Batch Number: 274863 End Date: 09/17/2019 06:39

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 600-274863/2		09/16/2019 12:39	1		AS-18
CCB 600-274863/3		09/16/2019 12:59	1		AS-18
ZZZZZ		09/16/2019 13:19	1		AS-18
ZZZZZ		09/16/2019 13:39	1		AS-18
ZZZZZ		09/16/2019 13:59	1		AS-18
ZZZZZ		09/16/2019 14:19	1		AS-18
ZZZZZ		09/16/2019 14:39	1		AS-18
ZZZZZ		09/16/2019 14:59	1		AS-18
ZZZZZ		09/16/2019 15:19	1		AS-18
ZZZZZ		09/16/2019 15:39	1		AS-18
ZZZZZ		09/16/2019 15:59	1		AS-18
ZZZZZ		09/16/2019 16:19	1		AS-18
CCV 600-274863/14		09/16/2019 16:39	1		AS-18
CCB 600-274863/15		09/16/2019 16:59	1		AS-18
ZZZZZ		09/16/2019 17:19	20		AS-18
ZZZZZ		09/16/2019 17:39	20		AS-18
ZZZZZ		09/16/2019 17:59	20		AS-18
ZZZZZ		09/16/2019 18:19	5		AS-18
ZZZZZ		09/16/2019 18:39	20		AS-18
ZZZZZ		09/16/2019 18:59	20		AS-18
ZZZZZ		09/16/2019 19:19	20		AS-18
ZZZZZ		09/16/2019 19:39	20		AS-18
ZZZZZ		09/16/2019 19:59	20		AS-18
ZZZZZ		09/16/2019 20:19	20		AS-18
CCV 600-274863/26		09/16/2019 20:39	1		AS-18
CCB 600-274863/27		09/16/2019 20:59	1		AS-18
600-191956-2		09/16/2019 21:19	200	091619-28.d	AS-18
ZZZZZ		09/16/2019 21:39	10		AS-18
ZZZZZ		09/16/2019 21:59	50		AS-18
ZZZZZ		09/16/2019 22:19	10		AS-18
ZZZZZ		09/16/2019 22:39	10		AS-18
ZZZZZ		09/16/2019 22:59	50		AS-18
ZZZZZ		09/16/2019 23:19	20		AS-18
ZZZZZ		09/16/2019 23:39	1		AS-18
ZZZZZ		09/16/2019 23:59	1		AS-18
ZZZZZ		09/17/2019 00:19	50		AS-18
CCV 600-274863/38		09/17/2019 00:39	1	091619-38.d	AS-18
CCB 600-274863/39		09/17/2019 00:59	1	091619-39.d	AS-18
ZZZZZ		09/17/2019 01:19	50		AS-18
ZZZZZ		09/17/2019 01:39	50		AS-18
ZZZZZ		09/17/2019 01:59	50		AS-18
ZZZZZ		09/17/2019 02:19	100		AS-18
ZZZZZ		09/17/2019 02:39	1		AS-18
ZZZZZ		09/17/2019 02:59	20		AS-18
ZZZZZ		09/17/2019 03:19	5		AS-18

300.0

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: CHWC11 Start Date: 09/16/2019 12:39

Analysis Batch Number: 274863 End Date: 09/17/2019 06:39

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		09/17/2019 03:39	5		AS-18
ZZZZZ		09/17/2019 03:59	5		AS-18
ZZZZZ		09/17/2019 04:19	1		AS-18
CCV 600-274863/50		09/17/2019 04:39	1		AS-18
CCB 600-274863/51		09/17/2019 04:59	1		AS-18
ZZZZZ		09/17/2019 05:19	50		AS-18
ZZZZZ		09/17/2019 05:39	5		AS-18
ZZZZZ		09/17/2019 05:59	500		AS-18
CCV 600-274863/55		09/17/2019 06:19	1		AS-18
CCB 600-274863/56		09/17/2019 06:39	1		AS-18

300.0

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Batch Number: 274705 Batch Start Date: 09/13/19 12:13 Batch Analyst: Reach, Shrey K

Batch Method: 300.0 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount					
600-191956-R-2	11187072-091319-LL-EXC-1	300.0	T	5 mL					

Batch Notes	
Eluent 1 ID	190400143011
Filter ID	16905223

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Batch Number: 274706 Batch Start Date: 09/13/19 12:13 Batch Analyst: Reach, Shrey K

Batch Method: 300.0 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount					
600-191956-R-2	11187072-091319-LL-EXC-1	300.0	T	5 mL					

Batch Notes	
Eluent 1 ID	190400143011
Filter ID	16905223

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Batch Number: 274863 Batch Start Date: 09/16/19 12:39 Batch Analyst: Reach, Shrey K

Batch Method: 300.0 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	CCV 00109				
600-191956-R-2	11187072-091319-LL-EXC-1	300.0	T	5 mL					
CCV 600-274863/38		300.0		5 mL	5 mL				
CCB 600-274863/39		300.0		5 mL					

Batch Notes	
Eluent 1 ID	190400143011
Filter ID	16905223

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Method 1613B

Dioxins and Furans (HRGC/HRMS) by Method 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-225 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	37TCDD #	TCDF #
11187072-091319-LL -EXC-1 RA	600-191956-2 RA	100	64

	QC LIMITS
37TCDD = 37Cl4-2,3,7,8-TCDD	35-197
TCDF = 13C-2,3,7,8-TCDF	24-169

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCDF #	TCDD #	37TCDD #	PeCDF #	PeCF #	PeCDD #	HxCDF #	HxDF #
11187072-091319-LL -EXC-1	600-191956-2	58	57	94	56	57	58	57	58

	QC LIMITS
TCDF = 13C-2,3,7,8-TCDF	24-169
TCDD = 13C-2,3,7,8-TCDD	25-164
37TCDD = 37Cl4-2,3,7,8-TCDD	35-197
PeCDF = 13C-1,2,3,7,8-PeCDF	24-185
PeCF = 13C-2,3,4,7,8-PeCDF	21-178
PeCDD = 13C-1,2,3,7,8-PeCDD	25-181
HxCDF = 13C-1,2,3,4,7,8-HxCDF	26-152
HxDF = 13C-1,2,3,6,7,8-HxCDF	26-123

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	13CHxCF #	HxCDD #	HxDD #	HxCF #	HpCDF #	HpCDD #	HpCDF2 #	OCDD #
11187072-091319-LL -EXC-1	600-191956-2	56	59	59	58	55	56	60	53

	QC LIMITS
13CHxCF = 13C-2,3,4,6,7,8-HxCDF	28-136
HxCDD = 13C-1,2,3,4,7,8-HxCDD	32-141
HxDD = 13C-1,2,3,6,7,8-HxCDD	28-130
HxCF = 13C-1,2,3,7,8,9-HxCDF	29-147
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF	28-143
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD	23-140
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF	26-138
OCDD = 13C-OCDD	17-157

Column to be used to flag recovery values

FORM II 1613B

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 600-191956-1
SDG No.:
Client Sample ID: 11187072-091319-LL-EXC-1
Lab Sample ID: 600-191956-2
Matrix: Water
Lab File ID: 18SE1910D5_46.d
Analysis Method: 1613B
Date Collected: 09/13/2019 08:00
Extract. Method: 1613B
Date Extracted: 09/18/2019 13:22
Sample wt/vol: 1021.1(mL)
Date Analyzed: 09/19/2019 22:26
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 324876
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	61		9.8	1.5
40321-76-4	1,2,3,7,8-PeCDD	ND		49	1.1
57117-41-6	1,2,3,7,8-PeCDF	11	J *	49	0.99
57117-31-4	2,3,4,7,8-PeCDF	6.2	J	49	1.1
39227-28-6	1,2,3,4,7,8-HxCDD	ND		49	0.82
57653-85-7	1,2,3,6,7,8-HxCDD	ND	*	49	0.83
19408-74-3	1,2,3,7,8,9-HxCDD	ND		49	0.74
70648-26-9	1,2,3,4,7,8-HxCDF	19	J	49	1.2
57117-44-9	1,2,3,6,7,8-HxCDF	5.6	J * q	49	1.0
72918-21-9	1,2,3,7,8,9-HxCDF	ND	*	49	0.68
60851-34-5	2,3,4,6,7,8-HxCDF	ND		49	0.73
35822-46-9	1,2,3,4,6,7,8-HpCDD	4.1	J B	49	0.68
67562-39-4	1,2,3,4,6,7,8-HpCDF	6.9	J * B	49	0.65
55673-89-7	1,2,3,4,7,8,9-HpCDF	1.8	J B	49	0.78
3268-87-9	OCDD	90	J B	98	1.2
39001-02-0	OCDF	5.8	J B	98	1.4
41903-57-5	Total TCDD	66	q	9.8	1.5
30402-14-3	Total TCDF	390	q	9.8	1.8
36088-22-9	Total PeCDD	ND		49	1.1
30402-15-4	Total PeCDF	26	J q	49	1.0
34465-46-8	Total HxCDD	ND		49	0.83
55684-94-1	Total HxCDF	25	J B q	49	0.91
37871-00-4	Total HpCDD	10	J B	49	0.68
38998-75-3	Total HpCDF	11	J B	49	0.71

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-1

SDG No.:

Client Sample ID: 11187072-091319-LL-EXC-1 Lab Sample ID: 600-191956-2

Matrix: Water Lab File ID: 18SE1910D5_46.d

Analysis Method: 1613B Date Collected: 09/13/2019 08:00

Extract. Method: 1613B Date Extracted: 09/18/2019 13:22

Sample wt/vol: 1021.1(mL) Date Analyzed: 09/19/2019 22:26

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 324876 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	57		25-164
89059-46-1	13C-2,3,7,8-TCDF	58		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	58		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	56		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	57		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	59		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	59		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	57		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	58		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	58		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	56		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	56		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	55		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	60		26-138
114423-97-1	13C-OCDD	53		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	94		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_46.d
Lims ID: 600-191956-A-2-C
Client ID: 11187072-091319-LL-EXC-1
Sample Type: Client
Inject. Date: 19-Sep-2019 22:26:57 ALS Bottle#: 47 Worklist Smp#: 46
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 600-191956-A-2-C 600-191956-A-2-C
Misc. Info.: 18SE1910D5
Operator ID: SMA, ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 20-Sep-2019 11:21:30 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0314

First Level Reviewer: stephensk Date: 20-Sep-2019 11:08:15

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.270	40865083	0.77	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.771	34060568	0.79	1.4384	57.9	57.9	0.2071	0.2071	57.95	
2,3,7,8-TCDF	16.801	3981036	0.80	1.0507	11.1	11.1	0.0918	0.0918		
A Non-2,3,7,8-sub-TCDF	16.514	3229398	0.77	1.0507	9.095	9.024	0.0918	5.110		RQMa
S Total TCDF					20.2	20.1	0.0918	0.0918		RQ
D 13C-2,3,7,8-TCDD	17.451	22176020	0.79	0.9533	56.9	56.9	0.1894	0.1894	56.92	
$ 37Cl4-2,3,7,8-TCDD	17.466	18797450		1.2224	37.6	37.6	0.0481	0.0481	94.07	
2,3,7,8-TCDD	17.481	766406	0.81	1.1064	3.124	3.124	0.0749	0.0749		M
A Non-2,3,7,8-sub-TCDD	16.952	57992	0.77	1.1064	0.2802	0.2364	0.0749	0.2364		RQM
S Total TCDD					3.404	3.360	0.0749	0.0749		RQ
D 13C-1,2,3,7,8-PeCDF	21.590	23397773	1.61	1.0286	55.7	55.7	0.1471	0.1471	55.66	
1,2,3,7,8-PeCDF	21.631	143696	1.62	1.0822	0.5675	0.5675	0.0508	0.0508		M
D 13C-2,3,4,7,8-PeCDF	22.886	23044144	1.57	0.9827	57.4	57.4	0.1540	0.1540	57.39	
2,3,4,7,8-PeCDF	22.886	80943	1.63	1.1032	0.3184	0.3184	0.0555	0.0555		Ma
A F1 PeCDFs	19.205						0.0421	0.0421		
A Non-2,3,7,8-sub-PeCDF	22.226	115566	1.55	1.0927	0.4785	0.4554	0.0530	0.2941		RQ
S Total PeCDF					1.364	1.341	0.0531	0.0531		RQ
D 13C-1,2,3,7,8-PeCDD	23.568	17674234	1.59	0.7481	57.8	57.8	0.1140	0.1140	57.81	
1,2,3,7,8-PeCDD	23.622						0.0548	0.0548		
A Non-2,3,7,8-sub-PeCDD	22.559						0.0548	0.0548		
S Total PeCDD							0.0548	0.0548		
D 13C-1,2,3,4,7,8-HxCDF	29.682	17383679	0.52	1.1520	57.0	57.0	0.3952	0.3952	57.03	
1,2,3,4,7,8-HxCDF	29.736	204783	1.34	1.1973	0.9839	0.9839	0.0631	0.0631		
D 13C-1,2,3,6,7,8-HxCDF	29.948	19183910	0.52	1.2434	58.3	58.3	0.3662	0.3662	58.31	
1,2,3,6,7,8-HxCDF	29.975	64256	1.24	1.1807	0.3223	0.2837	0.0516	0.0516		RQM
D 13C-2,3,4,6,7,8-HxCDF	31.000	17247582	0.52	1.1720	55.6	55.6	0.3885	0.3885	55.62	
2,3,4,6,7,8-HxCDF	31.040						0.0371	0.0371		
D 13C-1,2,3,7,8,9-HxCDF	31.905	16332598	0.54	1.0655	57.9	57.9	0.4273	0.4273	57.94	
1,2,3,7,8,9-HxCDF	31.945						0.0349	0.0349		
A Non-2,3,7,8-sub-HxCDF	29.503						0.0442	0.0442		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
S Total HxCDF					1.306	1.268	0.0467	0.0467		RQ
* 13C-1,2,3,7,8,9-HxCDD	31.705	26458161	1.26	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.226	12131591	1.30	0.7812	58.7	58.7	0.4499	0.4499	58.69	
1,2,3,4,7,8-HxCDD	31.253						0.0417	0.0417		
D 13C-1,2,3,6,7,8-HxCDD	31.346	14215761	1.25	0.9175	58.6	58.6	0.3831	0.3831	58.56	
1,2,3,6,7,8-HxCDD	31.373						0.0422	0.0422		
1,2,3,7,8,9-HxCDD	31.746						0.0379	0.0379		
A Non-2,3,7,8-sub-HxCDD	30.089						0.0405	0.0405		
S Total HxCDD							0.0422	0.0422		
D 13C-1,2,3,4,6,7,8-HpCDF	33.423	12545570	0.43	0.8628	55.0	55.0	1.350	1.350	54.96	
1,2,3,4,6,7,8-HpCDF	33.447	68778	0.93	1.5555	0.3524	0.3524	0.0334	0.0334		
D 13C-1,2,3,4,7,8,9-HpCDF	34.468	12640886	0.45	0.7991	59.8	59.8	1.457	1.457	59.79	
1,2,3,4,7,8,9-HpCDF	34.480	15662	1.16	1.3862	0.0894	0.0894	0.0396	0.0396		M
A Non-2,3,7,8-sub-HpCDF	33.982	20144	0.95	1.4709	0.1087	0.1087	0.0363	0.1087		M
S Total HpCDF					0.5506	0.5506	0.0365	0.0365		
D 13C-1,2,3,4,6,7,8-HpCDD	34.201	13056423	1.04	0.8739	56.5	56.5	0.6718	0.6718	56.47	
1,2,3,4,6,7,8-HpCDD	34.201	25647	1.11	0.9316	0.2109	0.2109	0.0348	0.0348		M
A Non-2,3,7,8-sub-HpCDD	34.747	37206	1.20	0.9316	0.3059	0.3059	0.0348	0.3059		Ma
S Total HpCDD					0.5167	0.5167	0.0348	0.0348		
D 13C-OCDD	36.457	21565778	0.89	0.7744	105.3	105.3	0.3015	0.3015	52.63	
OCDF	36.541	40510	0.95	1.2596	0.2983	0.2983	0.0700	0.0700		M
OCDD	36.469	524810	0.92	1.0621	4.583	4.583	0.0638	0.0638		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_46.d
Lims ID: 600-191956-A-2-C
Client ID: 11187072-091319-LL-EXC-1
Sample Type: Client
Inject. Date: 19-Sep-2019 22:26:57 ALS Bottle#: 47 Worklist Smp#: 46
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 600-191956-A-2-C 600-191956-A-2-C
Misc. Info.: 18SE1910D5
Operator ID: SMA, ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 20-Sep-2019 11:21:30 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0314

First Level Reviewer: stephensk Date: 20-Sep-2019 11:08:15

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.270	17.285	-1		17785857	4589575	4737	11842	969		
333.9339	17.270	17.285	-1		23079226	6045422	2946	7365	2052	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.771	16.786	-1	0.971	15012393	3881030	8083	20207	480		
317.9389	16.771	16.786	-1	0.971	19048175	4906501	4591	11477	1069	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.801	16.816	-1	1.002	1771624	425672	1414	3535	301		
305.8987	16.786	16.816	-2	1.001	2209412	524810	1978	4945	265	0.80(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											RQMa
303.9016	15.440	16.514	-64	0.921	69759	19720	1414	3535	14		
	Empc Correction				59897	15449	1414	3535	11		
305.8987	15.440	16.514	-64	0.921	77789	20064	1978	4945	10	0.90(0.65-0.89)	
303.9016	15.697	16.514	-49	0.936	104607	21208	1414	3535	15		
305.8987	15.697	16.514	-49	0.936	139738	26610	1978	4945	13	0.75(0.65-0.89)	
303.9016	15.924	16.514	-35	0.950	62067	16747	1414	3535	12		
305.8987	15.924	16.514	-35	0.950	81084	20445	1978	4945	10	0.77(0.65-0.89)	
303.9016	16.151	16.514	-22	0.963	81749	18681	1414	3535	13		
305.8987	16.151	16.514	-22	0.963	125507	27932	1978	4945	14	0.65(0.65-0.89)	
303.9016	16.423	16.514	-5	0.979	808682	224131	1414	3535	159		
305.8987	16.423	16.514	-5	0.979	1020203	277307	1978	4945	140	0.79(0.65-0.89)	
303.9016	16.635	16.514	7	0.992	35568	8877	1414	3535	6		M
305.8987	16.635	16.514	7	0.992	62011	15023	1978	4945	8	0.57(0.65-0.89)	
	Empc Correction				46192	11528	1978	4945	6		
303.9016	17.209	16.514	42	1.026	119174	31813	1414	3535	22		
305.8987	17.209	16.514	42	1.026	165860	41563	1978	4945	21	0.72(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
303.9016	18.555	16.514	122	1.106	120115	26872	1414	3535	19		
305.8987	18.540	16.514	121	1.105	181166	38309	1978	4945	19	0.66(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.451	17.466	-1	1.011	9802210	2355947	4737	11842	497		
333.9339	17.451	17.466	-1	1.011	12373810	2984533	2946	7365	1013	0.79(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.466	17.481	-1	1.011	18797450	4458600	2500	6250	1783		
2,3,7,8-TCDD											M
319.8965	17.481	17.497	-1	1.002	343641	81884	1096	2740	75		M
321.8936	17.466	17.497	-2	1.001	422765	98171	675	1687	145	0.81(0.65-0.89)	M
A Non-2,3,7,8-sub-TCDD											RQM
319.8965	17.814	16.952	52	1.021	35986	8701	1096	2740	8		M
	Empc Correction				25228	6274	1096	2740	6		
321.8936	17.814	16.952	52	1.021	32764	8149	675	1687	12	1.10(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	21.590	21.604	-1	1.250	14420611	2637582	3941	9852	669		
353.8970	21.590	21.604	-1	1.250	8977162	1683949	2495	6237	675	1.61(1.32-1.78)	
1,2,3,7,8-PeCDF											M
339.8597	21.631	21.631	0	1.002	88881	13834	357	892	39		
341.8567	21.604	21.631	-2	1.001	54815	11050	593	1482	19	1.62(1.32-1.78)	M
13C-2,3,4,7,8-PeCDF											
351.9000	22.886	22.900	-1	1.325	14082482	2373383	3941	9852	602		
353.8970	22.886	22.900	-1	1.325	8961662	1506044	2495	6237	604	1.57(1.32-1.78)	
2,3,4,7,8-PeCDF											Ma
339.8597	22.886	22.927	-2	1.000	50138	8594	357	892	24		M
341.8567	22.899	22.927	-2	1.001	30805	5450	593	1482	9	1.63(1.32-1.78)	a
A F1 PeCDFs											
339.8597	19.205						224	560			
341.8567	19.205						531	1327			
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	20.322	22.226	-114	0.941	42434	8602	357	892	24		
341.8567	20.336	22.226	-113	0.942	32197	6388	593	1482	11	1.32(1.32-1.78)	
339.8597	22.095	22.226	-8	1.023	30733	4716	357	892	13		
	Empc Correction				24882	5085	357	892	14		
341.8567	22.081	22.226	-9	1.023	16053	3281	593	1482	6	1.91(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.568	23.595	-2	1.365	10838730	1715809	2273	5682	755		
369.8919	23.568	23.595	-2	1.365	6835504	1122963	1354	3385	829	1.59(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.622						403	1007			
357.8516	23.622						160	400			
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.559						403	1007			
357.8516	22.559						160	400			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.682	29.709	-2	0.936	5965515	734936	3592	8980	205		
385.8610	29.682	29.709	-2	0.936	11418164	1494239	7291	18227	205	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.736	29.749	-1	1.002	117390	14537	417	1042	35		
375.8178	29.736	29.749	-1	1.002	87393	11756	257	642	46	1.34(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.948	29.975	-2	0.945	6534570	957825	3592	8980	267		
385.8610	29.948	29.975	-2	0.945	12649340	1807388	7291	18227	248	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											RQMM
373.8208	29.975	30.002	-2	1.001	44319	6146	417	1042	15		
	Empc Correction				35570	6009	417	1042	14		
375.8178	29.975	30.002	-2	1.001	28686	4846	257	642	19	1.54(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.000	31.013	-1	0.978	5903020	1271976	3592	8980	354		
385.8610	31.000	31.013	-1	0.978	11344562	2475033	7291	18227	339	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.040						417	1042			
375.8178	31.040						257	642			
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.905	31.919	-1	1.006	5722586	1387030	3592	8980	386		
385.8610	31.905	31.919	-1	1.006	10610012	2486588	7291	18227	341	0.54(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.945						417	1042			
375.8178	31.945						257	642			
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.503						417	1042			
375.8178	29.503						257	642			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.705	31.732	-2		14771975	3350665	4745	11862	706		
403.8529	31.705	31.732	-2		11686186	2625126	3656	9140	718	1.26(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.226	31.240	-1	0.985	6868123	1687012	4745	11862	356		
403.8529	31.226	31.240	-1	0.985	5263468	1330358	3656	9140	364	1.30(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.253						230	575			
391.8127	31.253						328	820			
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.346	31.360	-1	0.989	7890312	1668983	4745	11862	352		
403.8529	31.346	31.360	-1	0.989	6325449	1389203	3656	9140	380	1.25(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.373						230	575			
391.8127	31.373						328	820			
1,2,3,7,8,9-HxCDD											
389.8157	31.746						230	575			
391.8127	31.746						328	820			

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.089						230	575			
391.8127	30.089						328	820			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.423	33.447	-1	1.054	3743747	1113432	8167	20417	136		
419.8220	33.423	33.447	-1	1.054	8801823	2586722	19664	49160	132	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.447	33.460	-1	1.001	33123	9190	471	1177	20		
409.7789	33.435	33.460	-1	1.000	35655	11440	297	742	39	0.93(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.468	34.492	-1	1.087	3916983	1104912	8167	20417	135		
419.8220	34.468	34.492	-1	1.087	8723903	2391715	19664	49160	122	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											M
407.7818	34.480	34.505	-1	1.000	8400	3377	471	1177	7		M
409.7789	34.493	34.505	-1	1.001	7262	3196	297	742	11	1.16(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											M
407.7818	33.727	33.982	-15	1.009	9814	2578	471	1177	5		
409.7789	33.739	33.982	-15	1.009	10330	3212	297	742	11	0.95(0.88-1.20)	M
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.201	34.213	-1	1.079	6666022	1854919	7106	17765	261		
437.8140	34.201	34.213	-1	1.079	6390401	1779860	6926	17315	257	1.04(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											M
423.7766	34.201	34.225	-1	1.000	13470	4674	271	677	17		
425.7737	34.213	34.225	-1	1.000	12177	4243	201	502	21	1.11(0.88-1.20)	M
A Non-2,3,7,8-sub-HpCDD											Ma
423.7766	33.678	34.747	-64	0.985	20307	5406	271	677	20		M
425.7737	33.678	34.747	-64	0.985	16899	6060	201	502	30	1.20(0.88-1.20)	
13C-OCDD											
469.7779	36.457	36.469	-1	1.150	10182294	2337078	2793	6982	837		
471.7750	36.457	36.469	-1	1.150	11383484	2715366	2787	6967	974	0.89(0.76-1.02)	
OCDF											M
441.7428	36.541	36.565	-1	1.002	19704	4490	305	762	15		M
443.7399	36.541	36.565	-1	1.002	20806	4874	586	1465	8	0.95(0.76-1.02)	M
OCDD											
457.7377	36.469	36.481	-1	1.000	251303	53741	359	897	150		
459.7348	36.457	36.481	-1	1.000	273507	70306	326	815	216	0.92(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_46.d
Lims ID: 600-191956-A-2-C
Client ID: 11187072-091319-LL-EXC-1
Inject. Date: 19-Sep-2019 22:26:57 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: SMA, ALM
Lims Batch ID: 324876 Lims Sample ID: 46

Non-2,3,7,8-sub-TCDF, RT: 16.514

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.051	D 13C-2,3,7,8-TCDF	100.000	34060568	8787531

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.051		100.000	34060568	8787531

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
15.440	69759	19720	77789	20064	0.4123	0.90	RQ
15.440	59897	15449	77789	20064	0.3847		Empc Correction
15.697	104607	21208	139738	26610	0.6827	0.75	
15.924	62067	16747	81084	20445	0.4000	0.77	
16.151	81749	18681	125507	27932	0.5791	0.65	
16.423	808682	224131	1020203	277307	5.11	0.79	
16.635	35568	8877	62011	15023	0.2727	0.57	RQMa
16.635	35568	8877	46192	11528	0.2285		Empc Correction
17.209	119174	31813	165860	41563	0.7964	0.72	
18.555	120115	26872	181166	38309	0.8418	0.66	
Signal Totals:							
	1391859	363778	1837539	463758			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	3255079	835302				0.76	RQMa
	3229398	827536					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 9.095 = (3255079 * 100.000) / (34060568 * 1.051)
Empc Amount: 9.024 = (3229398 * 100.000) / (34060568 * 1.051)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated
a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_46.d
Lims ID: 600-191956-A-2-C
Client ID: 11187072-091319-LL-EXC-1
Inject. Date: 19-Sep-2019 22:26:57 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: SMA, ALM
Lims Batch ID: 324876 Lims Sample ID: 46

Non-2,3,7,8-sub-TCDD, RT: 16.952

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDD	1.106	D 13C-2,3,7,8-TCDD	100.000	22176020	5340480

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.106		100.000	22176020	5340480

Sum the Uncalibrated Results

RT	319.8965 Area	319.8965 Height	321.8936 Area	321.8936 Height	Amount	Ratio	Flags
17.814	35986	8701	32764	8149	0.2802	1.10	RQM
17.814	25228	6274	32764	8149	0.2364		Empc Correction
Signal Totals:							
	25228	6274	32764	8149			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	68750	16850				1.10	RQM
	57992	14423					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.2802 = (68750 * 100.000) / (22176020 * 1.106)
Empc Amount: 0.2364 = (57992 * 100.000) / (22176020 * 1.106)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_46.d
Lims ID: 600-191956-A-2-C
Client ID: 11187072-091319-LL-EXC-1
Inject. Date: 19-Sep-2019 22:26:57 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: SMA, ALM
Lims Batch ID: 324876 Lims Sample ID: 46

Non-2,3,7,8-sub-PeCDF, RT: 22.226

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.082	D 13C-1,2,3,7,8-PeCDF	100.000	23397773	4321531
2,3,4,7,8-PeCDF	1.103	D 13C-2,3,4,7,8-PeCDF	100.000	23044144	3879427

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.093		100.000	23220958	4100479

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
20.322	42434	8602	32197	6388	0.2941	1.32	
22.095	30733	4716	16053	3281	0.1844	1.91	RQ
22.095	24882	5085	16053	3281	0.1613		Empc Correction
Signal Totals:							
	67316	13687	48250	9669			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	121417	22987				1.52	RQ
	115566	23356					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.4785 = (121417 * 100.000) / (23220958 * 1.093)
Empc Amount: 0.4554 = (115566 * 100.000) / (23220958 * 1.093)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_46.d
Lims ID: 600-191956-A-2-C
Client ID: 11187072-091319-LL-EXC-1
Inject. Date: 19-Sep-2019 22:26:57 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: SMA, ALM
Lims Batch ID: 324876 Lims Sample ID: 46

Non-2,3,7,8-sub-HpCDF, RT: 33.982

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDF	1.556	D 13C-1,2,3,4,6,7,8-HpCDF	100.000	12545570	3700154
1,2,3,4,7,8,9-HpCDF	1.386	D 13C-1,2,3,4,7,8,9-HpCDF	100.000	12640886	3496627

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.471		100.000	12593228	3598390

Sum the Uncalibrated Results

RT	407.7818 Area	407.7818 Height	409.7789 Area	409.7789 Height	Amount	Ratio	Flags
33.727	9814	2578	10330	3212	0.1087	0.95	M
Signal Totals:							
	9814	2578	10330	3212			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	20144	5790				0.95	M

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.1087 = (20144 * 100.000) / (12593228 * 1.471)

QC Flag Legend

Review Flags
M - Manually Integrated

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_46.d
Lims ID: 600-191956-A-2-C
Client ID: 11187072-091319-LL-EXC-1
Inject. Date: 19-Sep-2019 22:26:57 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: SMA, ALM
Lims Batch ID: 324876 Lims Sample ID: 46

Non-2,3,7,8-sub-HpCDD, RT: 34.747

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.932	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	13056423	3634779

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.932		100.000	13056423	3634779

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
33.678	20307	5406	16899	6060	0.3059	1.20	
Signal Totals:							
	20307	5406	16899	6060			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	37206	11466				1.20	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.3059 = (37206 * 100.000) / (13056423 * 0.932)

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_46.d				
Injection Date:	19-Sep-2019 22:26:57	Instrument ID:	10D5		
Lims ID:	600-191956-A-2-C	Lab Sample ID:	320-191956-2		
Client ID:	11187072-091319-LL-EXC-1				
Operator ID:	SMA, ALM	ALS Bottle#:	47	Worklist Smp#:	46
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

Non-2,3,7,8-sub-TCDF, Signal: 1, m/z: 303.9016, RT: (14.44- 18.58)

Signal: 1

Not Detected
RT: 14.44- 18.58

Processing Integration Results

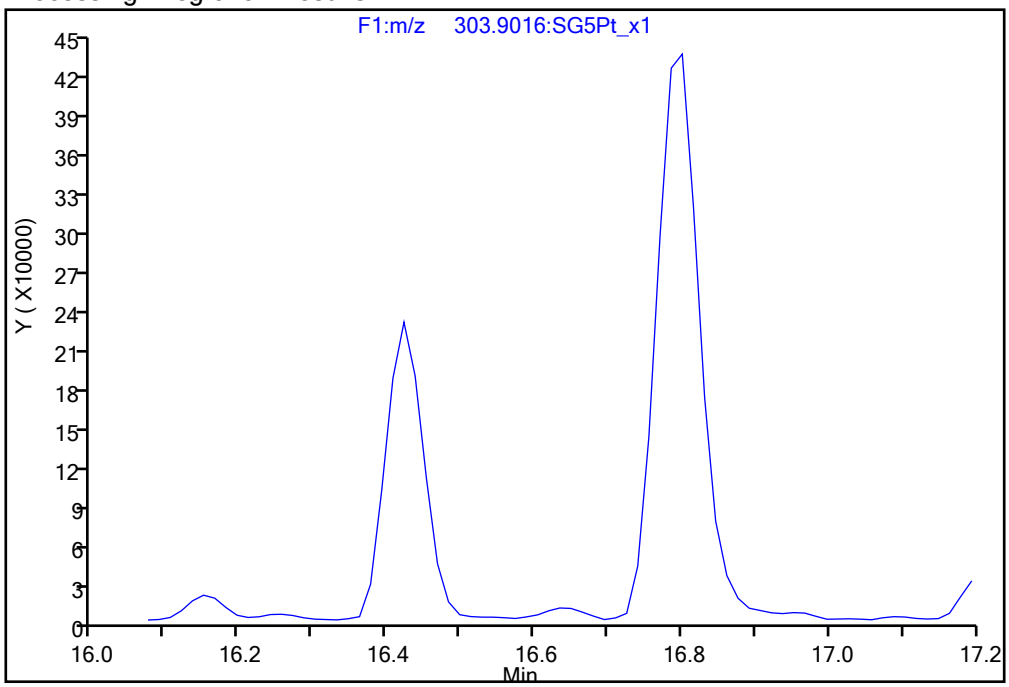

RT = 16.635 Area = 35568 M

Manual Integration Results

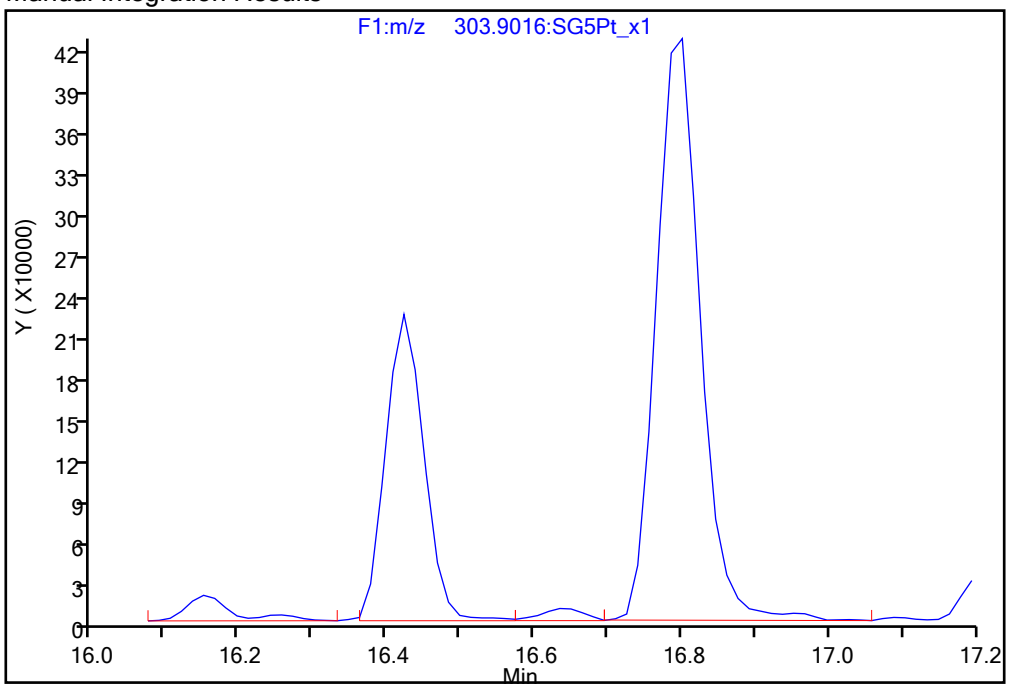

Reviewer: stephensk, 20-Sep-2019 10:57:08
Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_46.d				
Injection Date:	19-Sep-2019 22:26:57	Instrument ID:	10D5		
Lims ID:	600-191956-A-2-C	Lab Sample ID:	320-191956-2		
Client ID:	11187072-091319-LL-EXC-1				
Operator ID:	SMA, ALM	ALS Bottle#:	47	Worklist Smp#:	46
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDD, CAS: 1746-01-6

Signal: 1

Processing Integration Results

RT: 17.48
Area: 346946
Amount: 3.167812
Amount Units: pg/ul

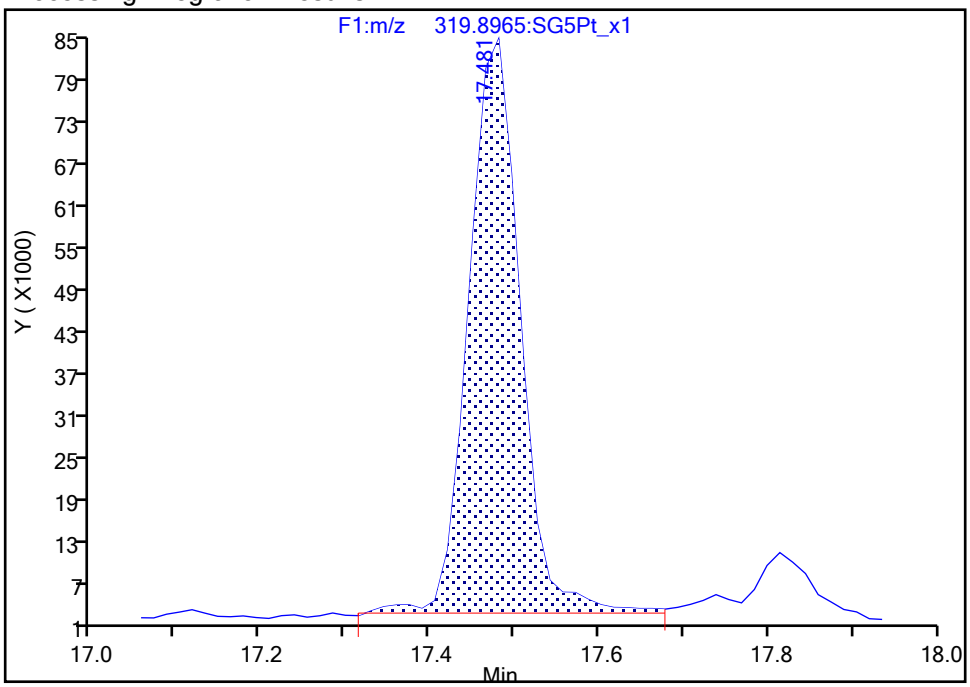

Manual Integration Results

RT: 17.48
Area: 343641
Amount: 3.123636
Amount Units: pg/ul

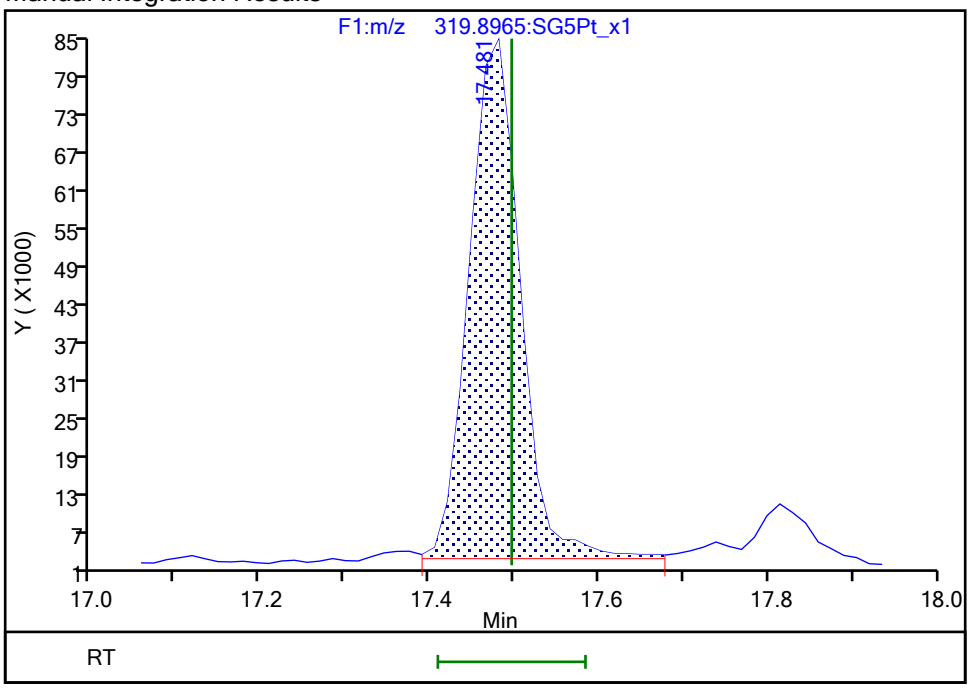

Reviewer: stephensk, 20-Sep-2019 10:59:26

Audit Action: Split an Integrated Peak Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_46.d				
Injection Date:	19-Sep-2019 22:26:57	Instrument ID:	10D5		
Lims ID:	600-191956-A-2-C	Lab Sample ID:	320-191956-2		
Client ID:	11187072-091319-LL-EXC-1				
Operator ID:	SMA, ALM	ALS Bottle#:	47	Worklist Smp#:	46
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDD, CAS: 1746-01-6

Signal: 2

Processing Integration Results

RT: 17.47
Area: 430299
Amount: 3.167812
Amount Units: pg/ul

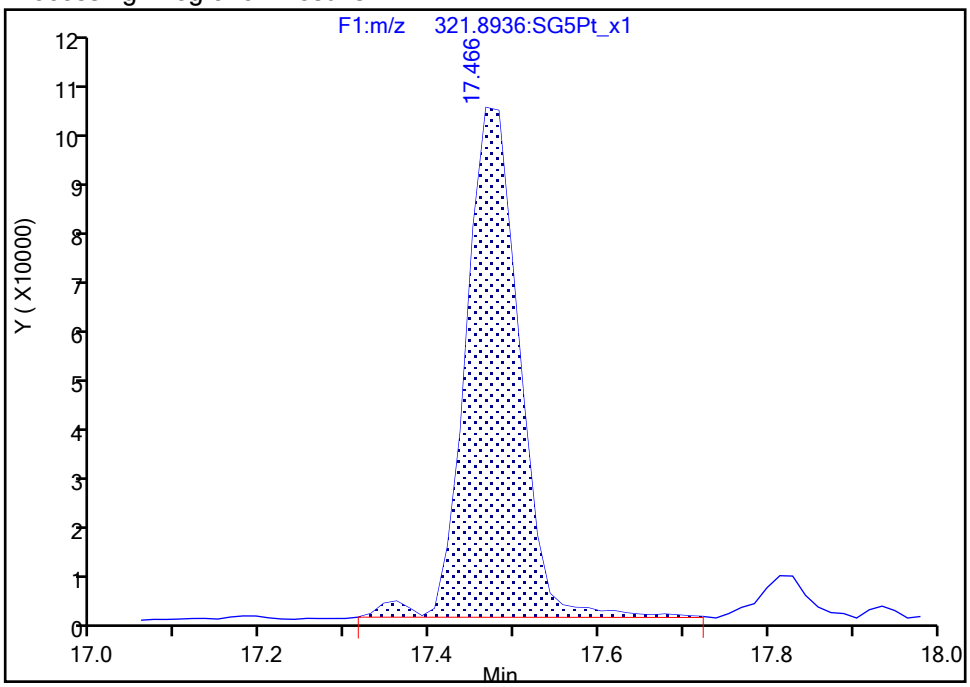

Manual Integration Results

RT: 17.47
Area: 422765
Amount: 3.123636
Amount Units: pg/ul

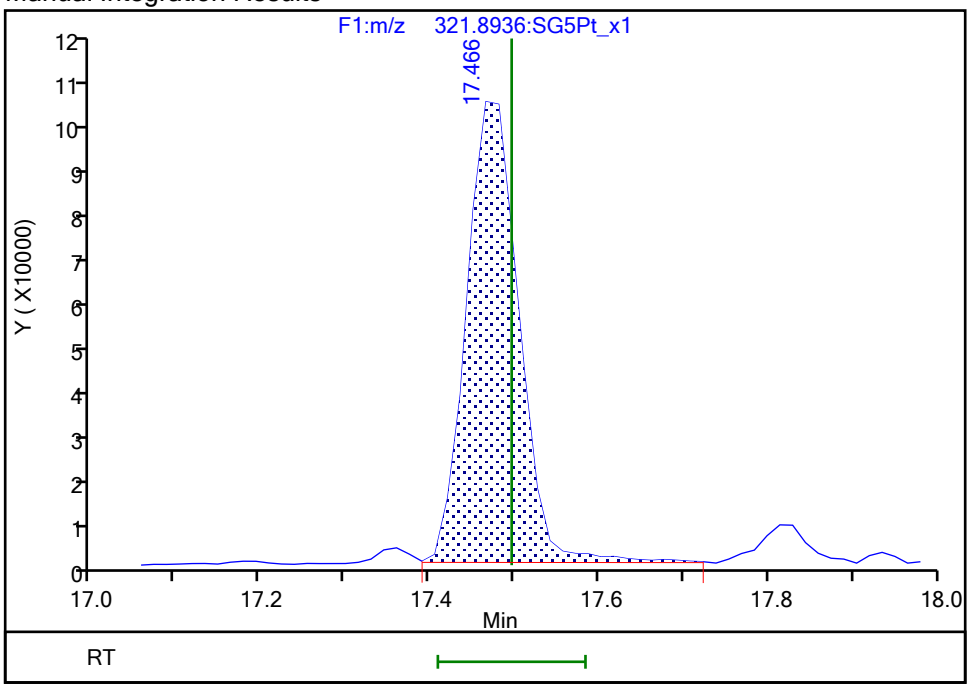

Reviewer: stephensk, 20-Sep-2019 10:59:29

Audit Action: Split an Integrated Peak Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_46.d				
Injection Date:	19-Sep-2019 22:26:57	Instrument ID:	10D5		
Lims ID:	600-191956-A-2-C	Lab Sample ID:	320-191956-2		
Client ID:	11187072-091319-LL-EXC-1				
Operator ID:	SMA, ALM	ALS Bottle#:	47	Worklist Smp#:	46
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

Non-2,3,7,8-sub-TCDD, Signal: 1, m/z: 319.8965, RT: (15.32- 18.58)

Signal: 1

Processing Integration Results

RT = 17.814 Area = 54283

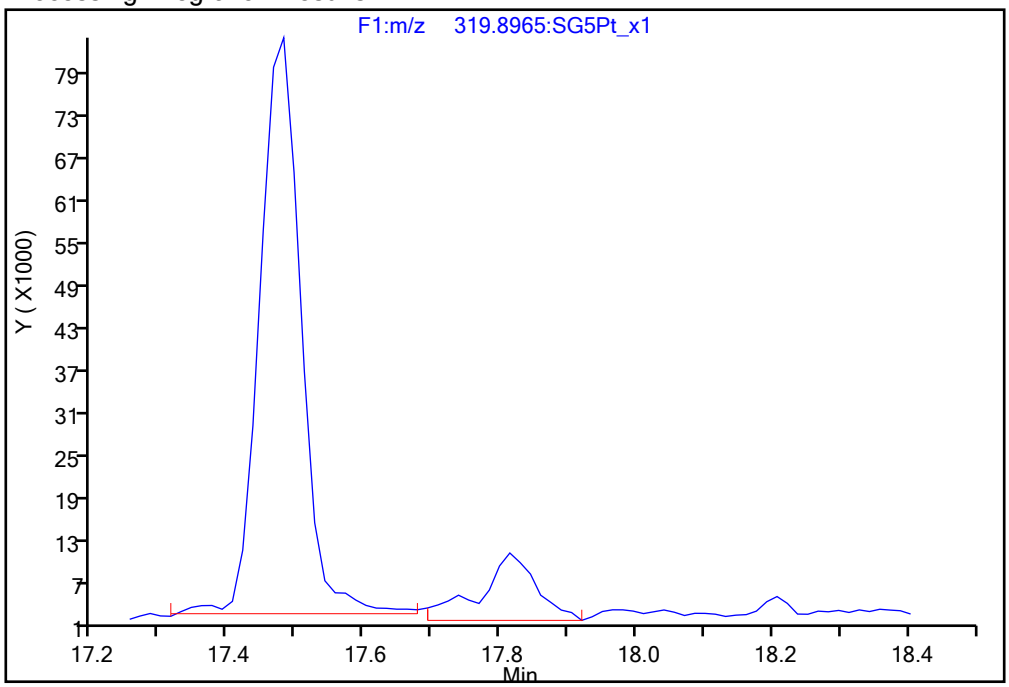

Manual Integration Results

RT = 17.814 Area = 35986 M

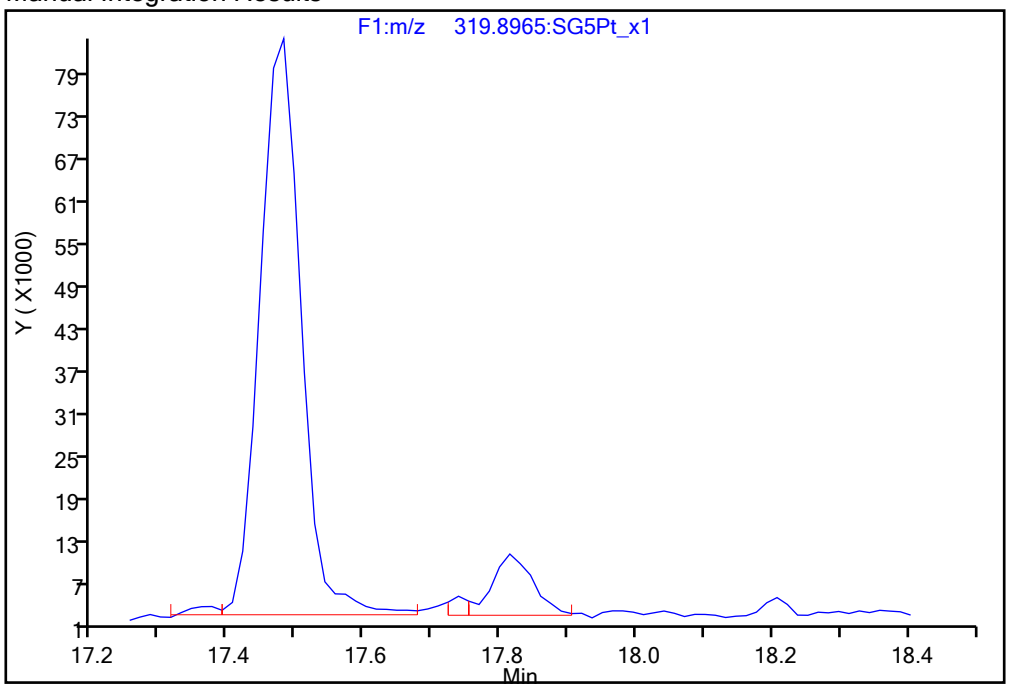

Reviewer: stephensk, 20-Sep-2019 11:00:37

Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_46.d				
Injection Date:	19-Sep-2019 22:26:57	Instrument ID:	10D5		
Lims ID:	600-191956-A-2-C	Lab Sample ID:	320-191956-2		
Client ID:	11187072-091319-LL-EXC-1				
Operator ID:	SMA, ALM	ALS Bottle#:	47	Worklist Smp#:	46
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

1,2,3,7,8-PeCDF, CAS: 57117-41-6

Signal: 2

Processing Integration Results

RT: 21.60
Area: 59891
Amount: 0.587518
Amount Units: pg/ul

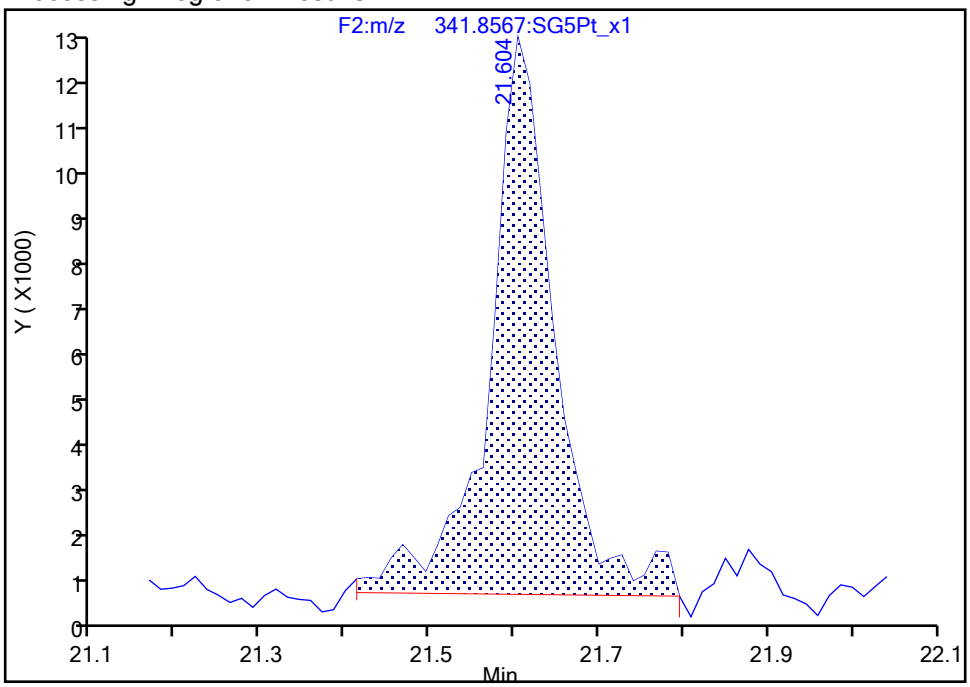

Manual Integration Results

RT: 21.60
Area: 54815
Amount: 0.567472
Amount Units: pg/ul

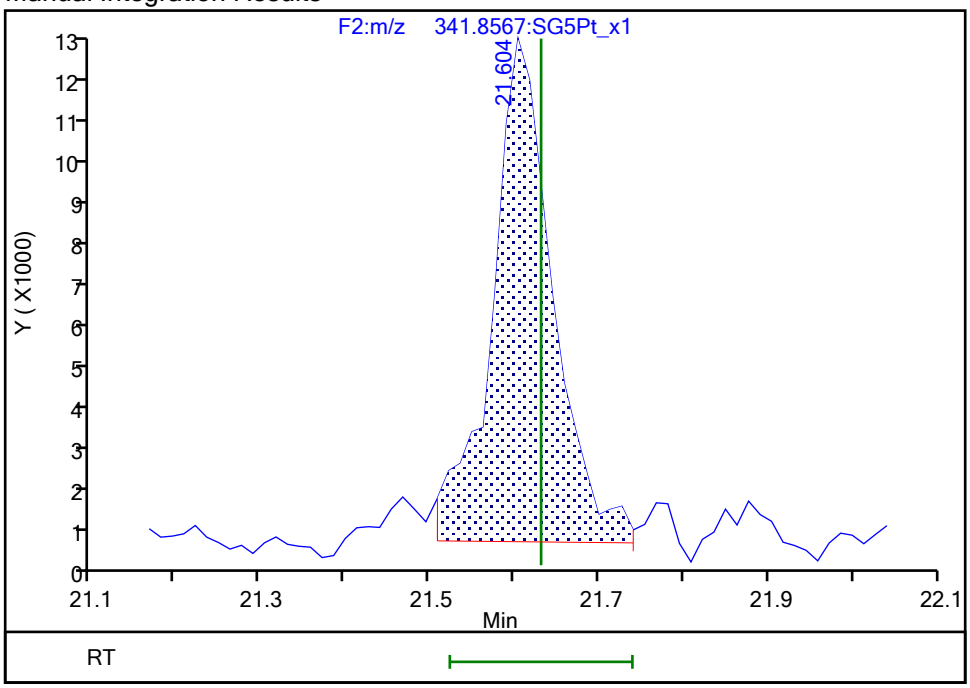

Reviewer: stephensk, 20-Sep-2019 11:01:16

Audit Action: Split an Integrated Peak Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_46.d				
Injection Date:	19-Sep-2019 22:26:57	Instrument ID:	10D5		
Lims ID:	600-191956-A-2-C	Lab Sample ID:	320-191956-2		
Client ID:	11187072-091319-LL-EXC-1				
Operator ID:	SMA, ALM	ALS Bottle#:	47	Worklist Smp#:	46
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

2,3,4,7,8-PeCDF, CAS: 57117-31-4

Signal: 2

Not Detected
Expected RT: 22.93

Processing Integration Results

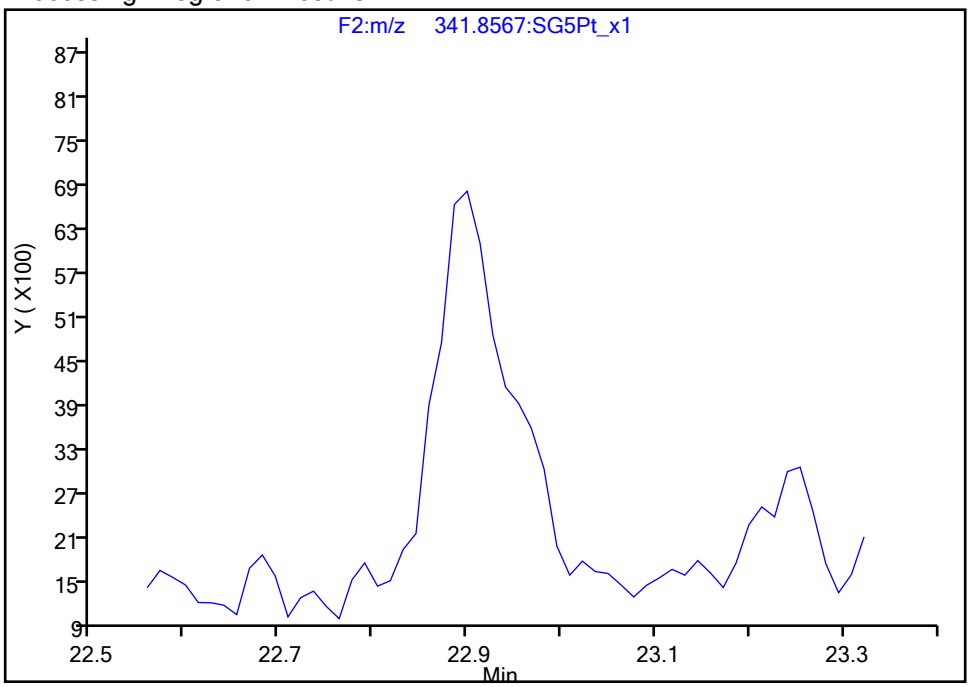

RT: 22.90
Area: 30805
Amount: 0.318393
Amount Units: pg/ul

Manual Integration Results

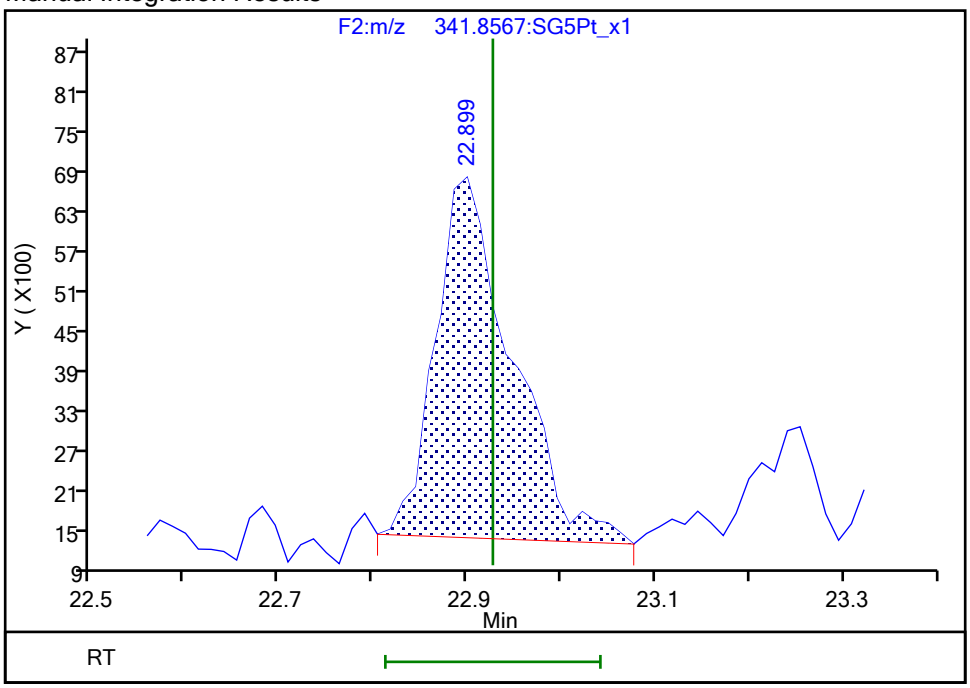

Reviewer: stephensk, 20-Sep-2019 11:01:47
Audit Action: Assigned Compound ID Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_46.d				
Injection Date:	19-Sep-2019 22:26:57	Instrument ID:	10D5		
Lims ID:	600-191956-A-2-C	Lab Sample ID:	320-191956-2		
Client ID:	11187072-091319-LL-EXC-1				
Operator ID:	SMA, ALM	ALS Bottle#:	47	Worklist Smp#:	46
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

2,3,4,7,8-PeCDF, CAS: 57117-31-4

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 22.93

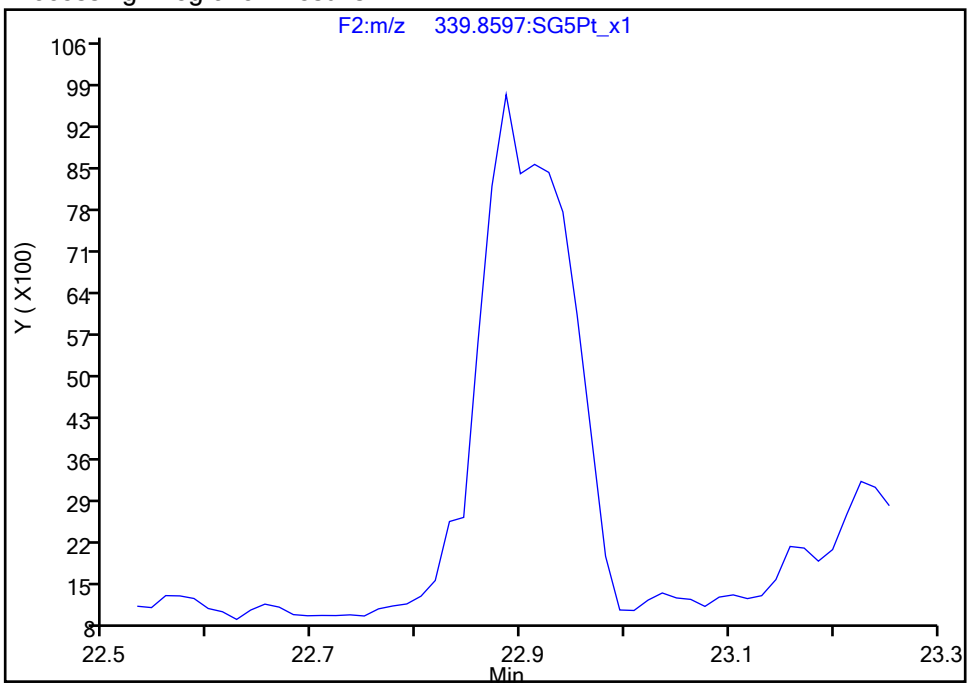

Manual Integration Results

RT: 22.89
Area: 50138
Amount: 0.318393
Amount Units: pg/ul

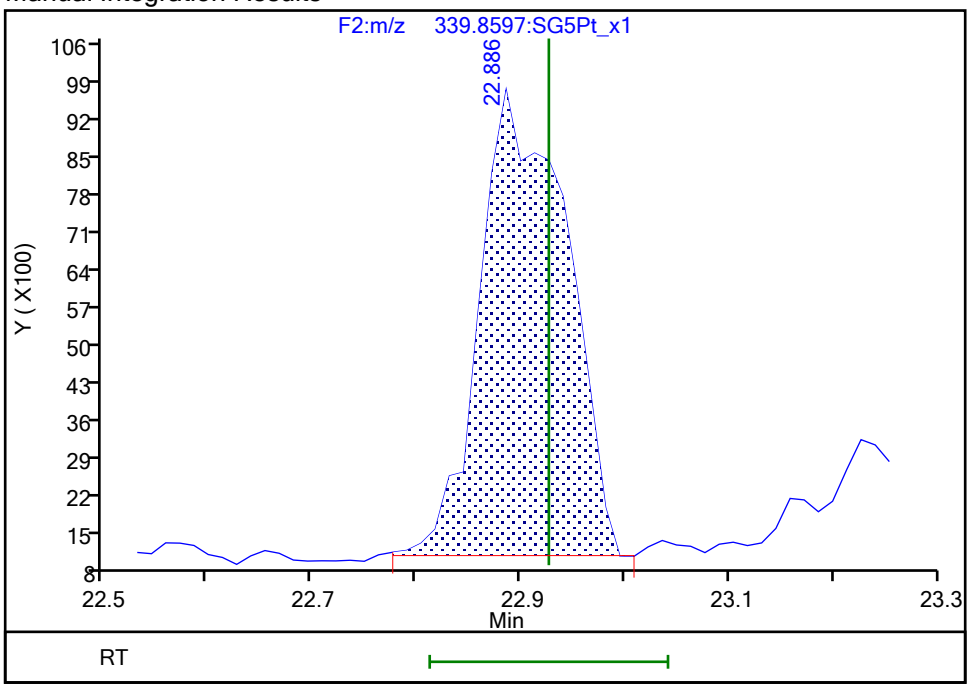

Reviewer: stephensk, 20-Sep-2019 11:01:47
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_46.d				
Injection Date:	19-Sep-2019 22:26:57	Instrument ID:	10D5		
Lims ID:	600-191956-A-2-C	Lab Sample ID:	320-191956-2		
Client ID:	11187072-091319-LL-EXC-1				
Operator ID:	SMA, ALM	ALS Bottle#:	47	Worklist Smp#:	46
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDF, CAS: 57117-44-9

Signal: 1

Processing Integration Results

RT: 29.98
Area: 41788
Amount: 0.311148
Amount Units: pg/ul

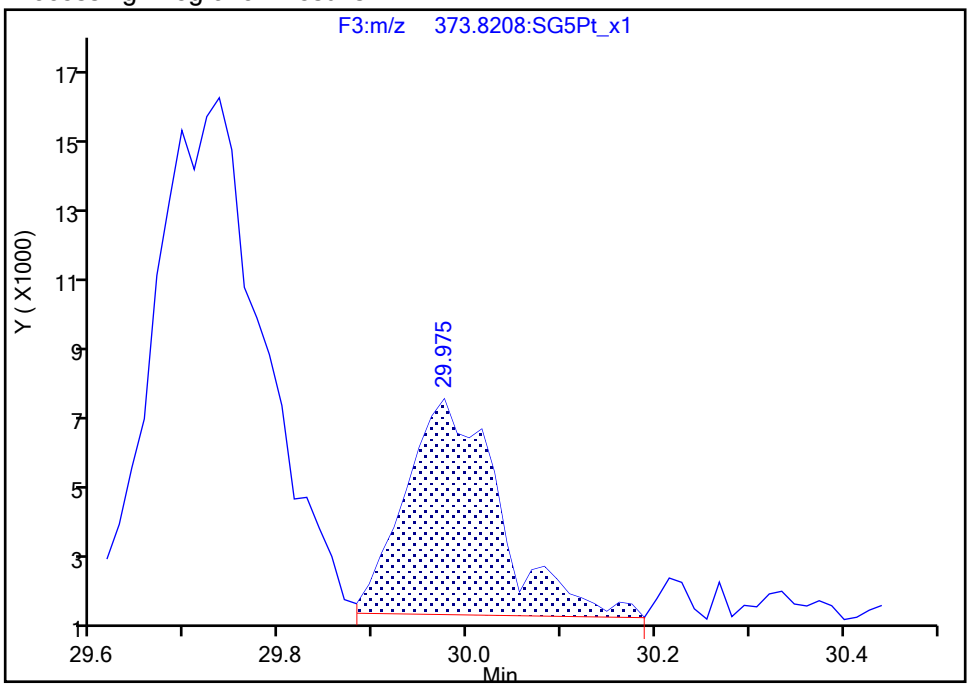

Manual Integration Results

RT: 29.98
Area: 44319
Amount: 0.322322
Amount Units: pg/ul

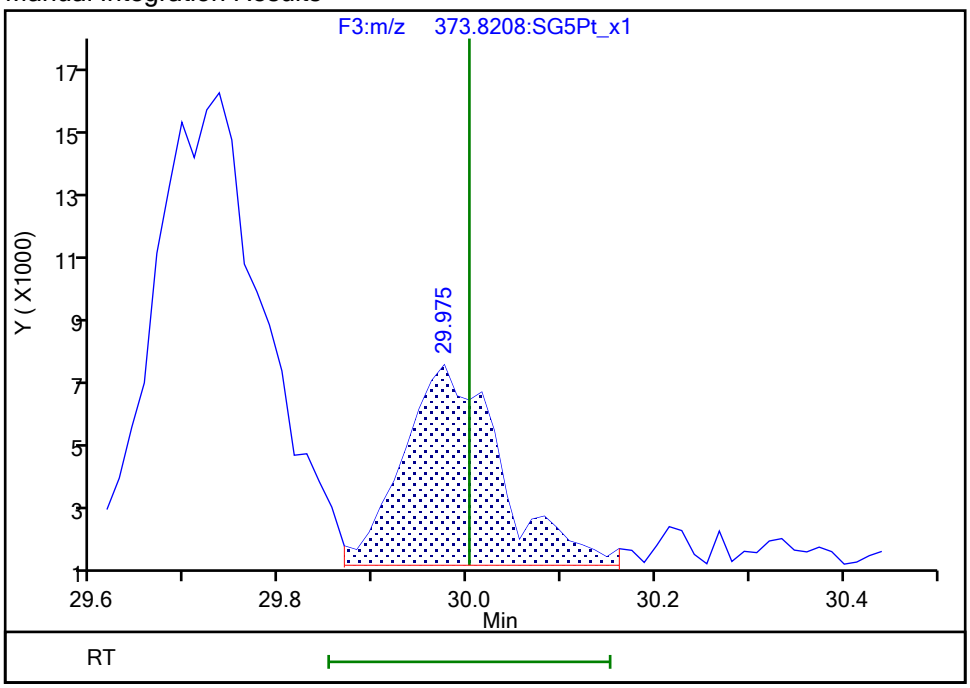

Reviewer: stephensk, 20-Sep-2019 11:04:33

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_46.d				
Injection Date:	19-Sep-2019 22:26:57	Instrument ID:	10D5		
Lims ID:	600-191956-A-2-C	Lab Sample ID:	320-191956-2		
Client ID:	11187072-091319-LL-EXC-1				
Operator ID:	SMA, ALM	ALS Bottle#:	47	Worklist Smp#:	46
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,7,8,9-HpCDF, CAS: 55673-89-7

Signal: 1

Processing Integration Results

RT: 34.48
Area: 11768
Amount: 0.108598
Amount Units: pg/ul

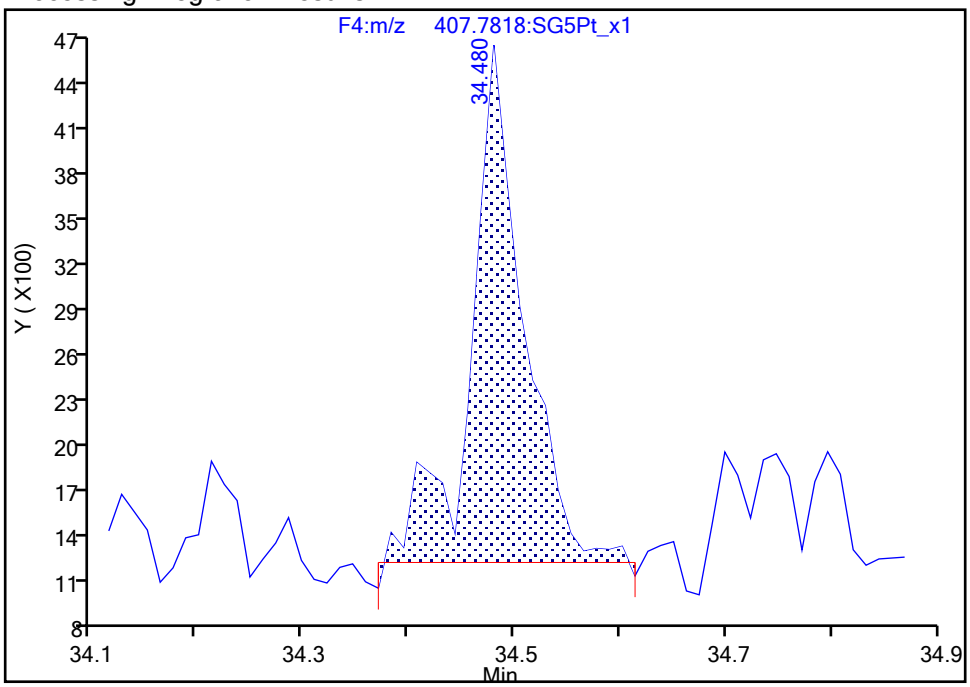

Manual Integration Results

RT: 34.48
Area: 8400
Amount: 0.089378
Amount Units: pg/ul

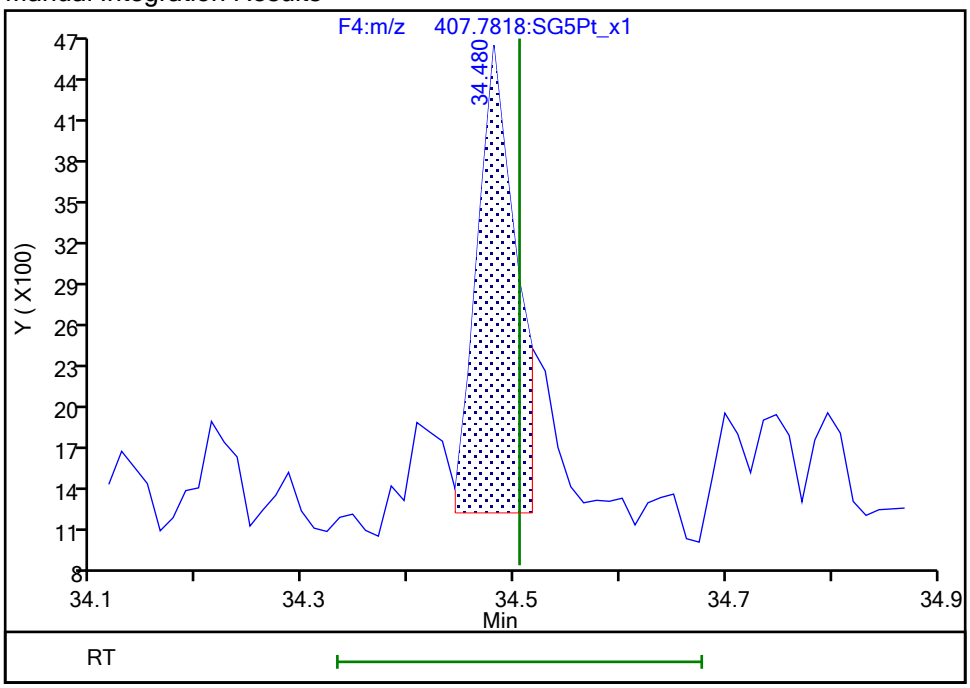

Reviewer: stephensk, 20-Sep-2019 11:05:24

Audit Action: Split an Integrated Peak Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_46.d				
Injection Date:	19-Sep-2019 22:26:57	Instrument ID:	10D5		
Lims ID:	600-191956-A-2-C	Lab Sample ID:	320-191956-2		
Client ID:	11187072-091319-LL-EXC-1				
Operator ID:	SMA, ALM	ALS Bottle#:	47	Worklist Smp#:	46
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

Non-2,3,7,8-sub-HpCDF, Signal: 2, m/z: 409.7789, RT: (33.43- 34.53)

Signal: 2

Processing Integration Results

RT = 33.739 Area = 13023

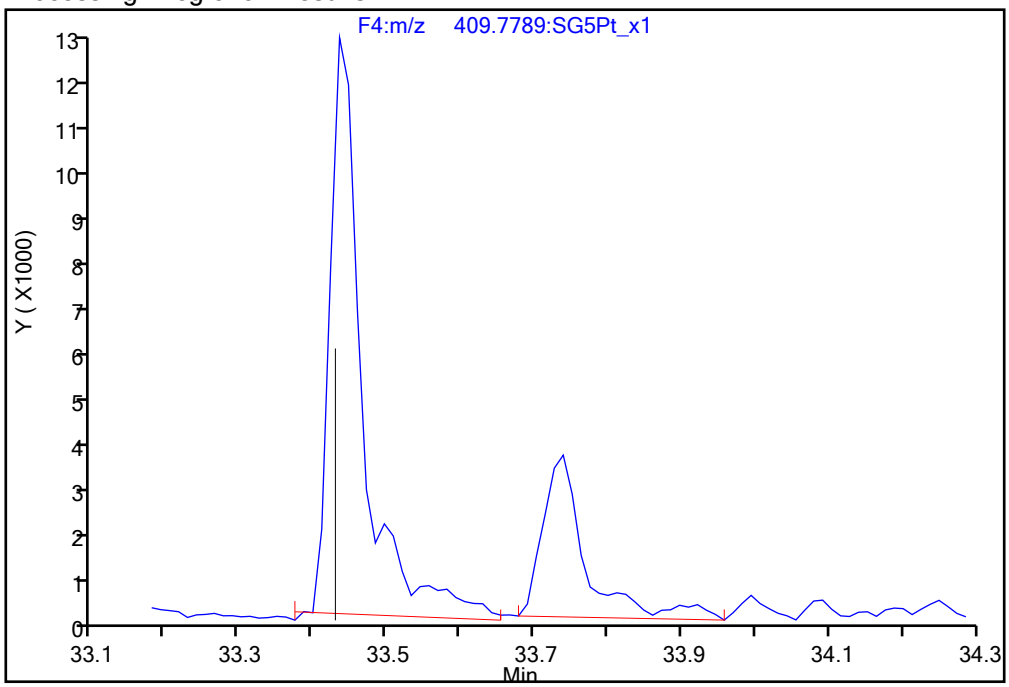

Manual Integration Results

RT = 33.739 Area = 10330 M

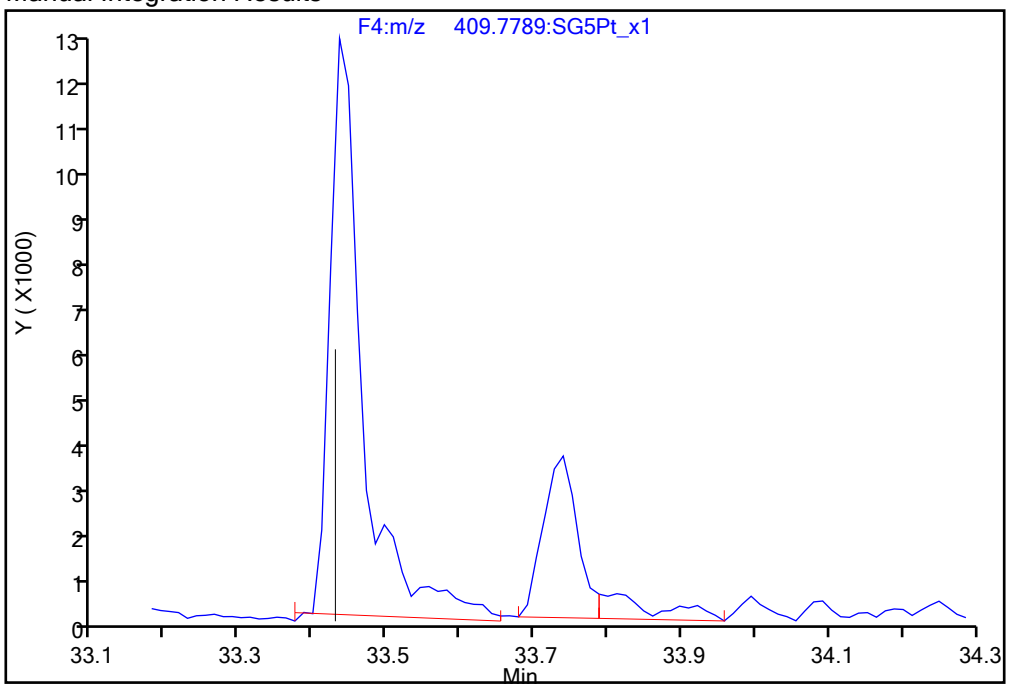

Reviewer: stephensk, 20-Sep-2019 11:05:39

Audit Action: Split an Integrated Peak Audit Reason: Peak Tail

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_46.d				
Injection Date:	19-Sep-2019 22:26:57	Instrument ID:	10D5		
Lims ID:	600-191956-A-2-C	Lab Sample ID:	320-191956-2		
Client ID:	11187072-091319-LL-EXC-1				
Operator ID:	SMA, ALM	ALS Bottle#:	47	Worklist Smp#:	46
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 2

Processing Integration Results

RT: 34.21
Area: 11171
Amount: 0.202584
Amount Units: pg/ul

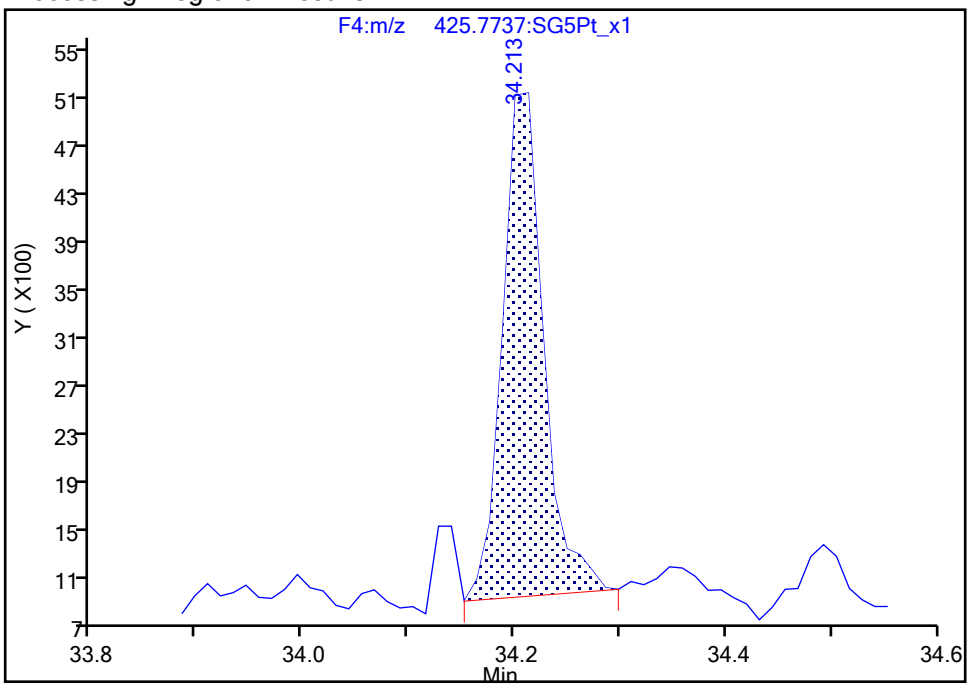

Manual Integration Results

RT: 34.21
Area: 12177
Amount: 0.210855
Amount Units: pg/ul

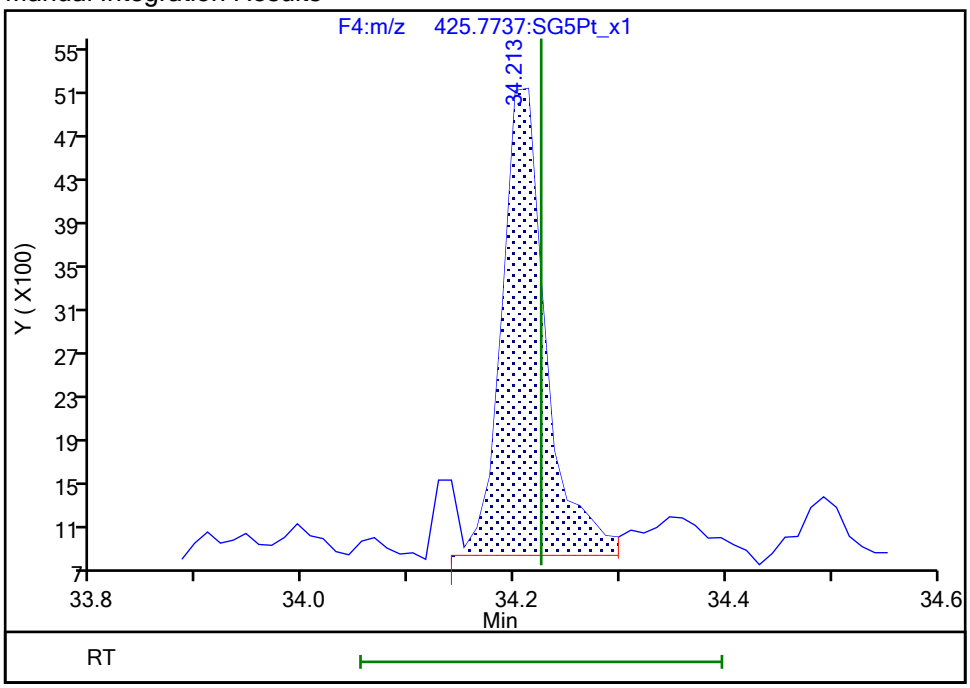

Reviewer: stephensk, 20-Sep-2019 11:06:14

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_46.d				
Injection Date:	19-Sep-2019 22:26:57	Instrument ID:	10D5		
Lims ID:	600-191956-A-2-C	Lab Sample ID:	320-191956-2		
Client ID:	11187072-091319-LL-EXC-1				
Operator ID:	SMA, ALM	ALS Bottle#:	47	Worklist Smp#:	46
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5:HRSIR		

OCDF, CAS: 39001-02-0

Signal: 2

Processing Integration Results

RT: 36.54
Area: 17079
Amount: 0.275122
Amount Units: pg/ul

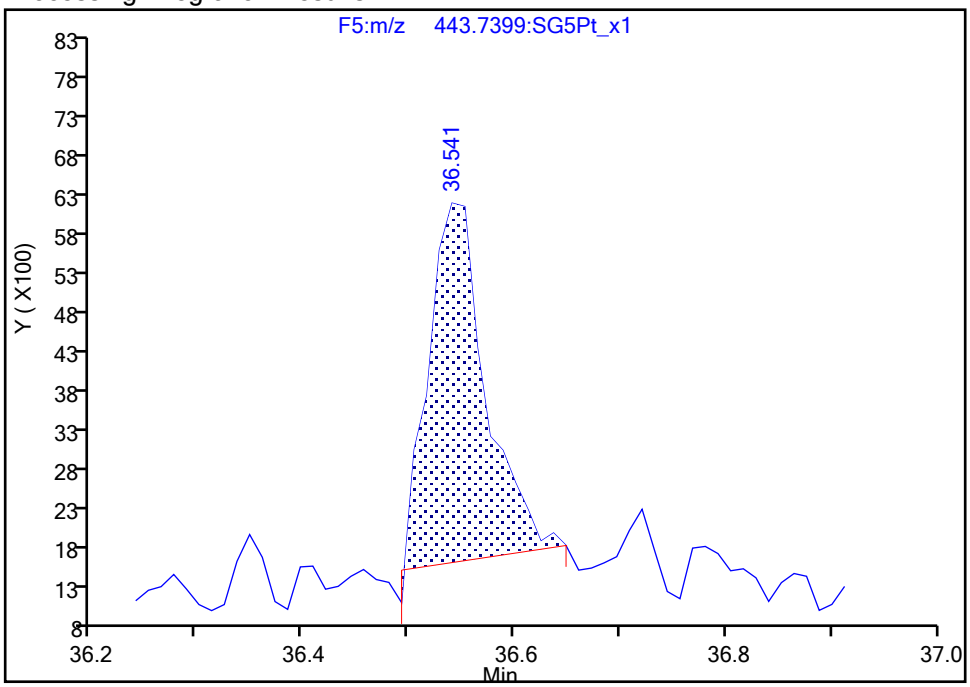

Manual Integration Results

RT: 36.54
Area: 20806
Amount: 0.298263
Amount Units: pg/ul

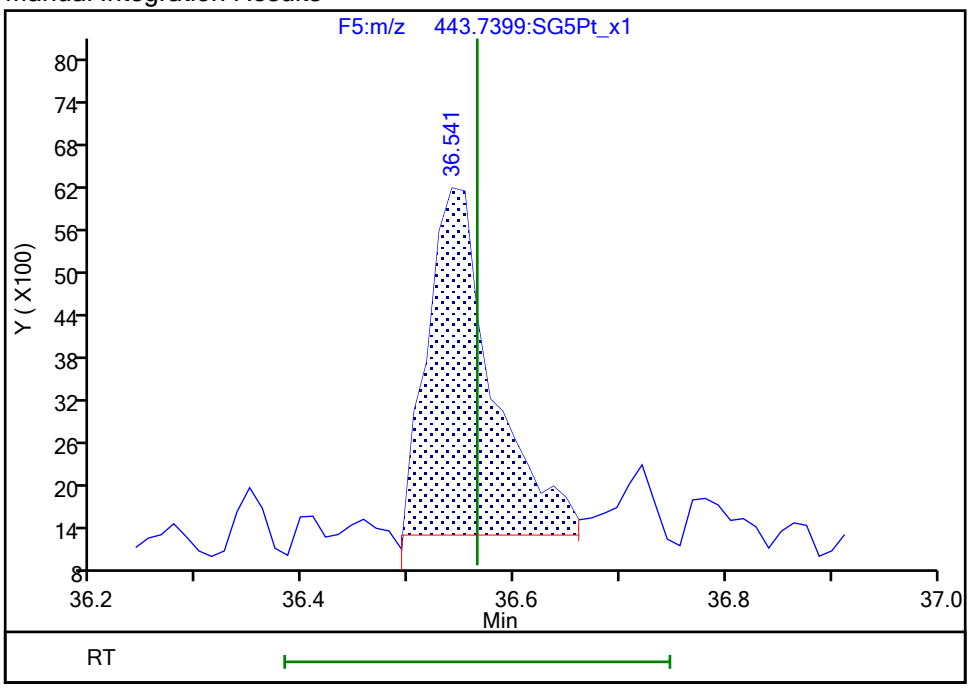

Reviewer: stephensk, 20-Sep-2019 11:07:26

Audit Action: Manually Integrated Audit Reason: Peak Tail

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_46.d				
Injection Date:	19-Sep-2019 22:26:57	Instrument ID:	10D5		
Lims ID:	600-191956-A-2-C	Lab Sample ID:	320-191956-2		
Client ID:	11187072-091319-LL-EXC-1				
Operator ID:	SMA, ALM	ALS Bottle#:	47	Worklist Smp#:	46
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5:HRSIR		

OCDF, CAS: 39001-02-0

Signal: 1

Processing Integration Results

RT: 36.54
Area: 20288
Amount: 0.275122
Amount Units: pg/ul

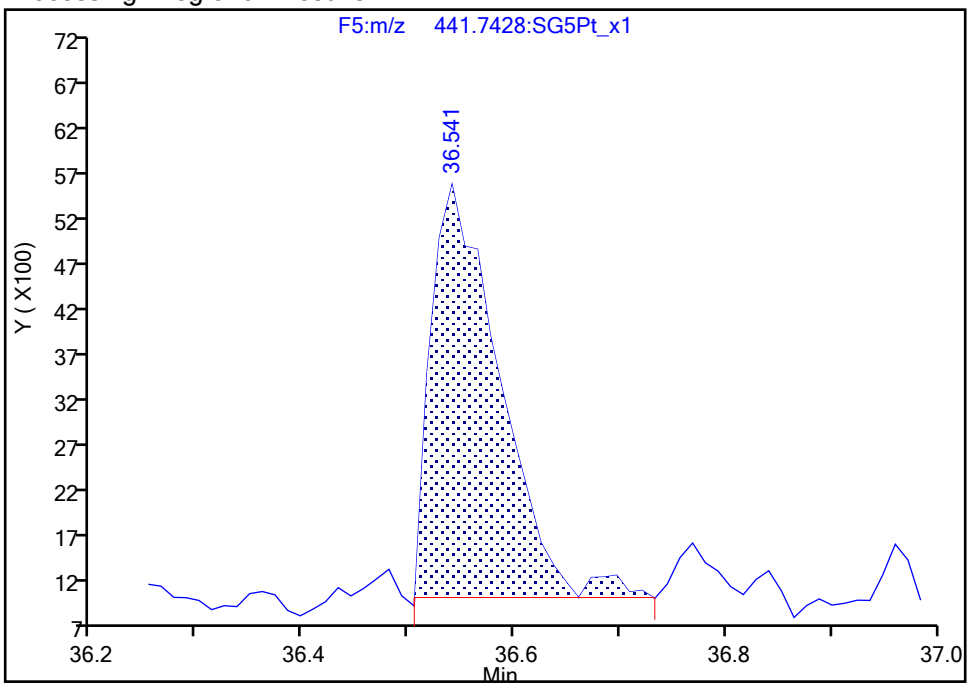

Manual Integration Results

RT: 36.54
Area: 19704
Amount: 0.298263
Amount Units: pg/ul

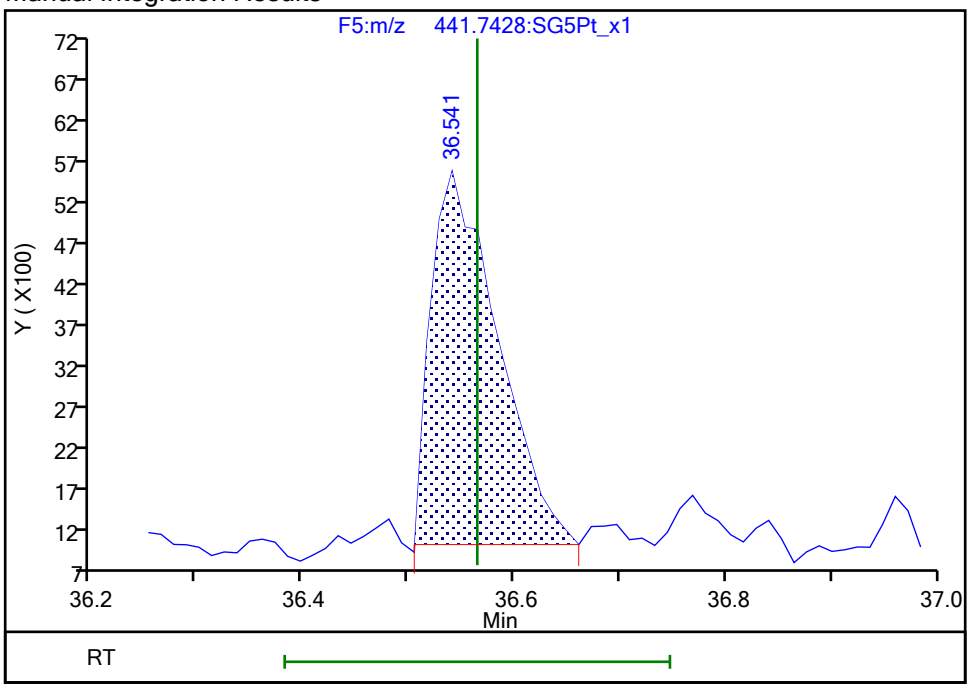

Reviewer: stephensk, 20-Sep-2019 11:07:57

Audit Action: Split an Integrated Peak Audit Reason: Peak Tail

Report Date: 20-Sep-2019 11:21:40 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_46.d		
Injection Date:	19-Sep-2019 22:26:57	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-091319-LL-EXC-1		
Worklist#:	324876	Sample Line#:	46
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

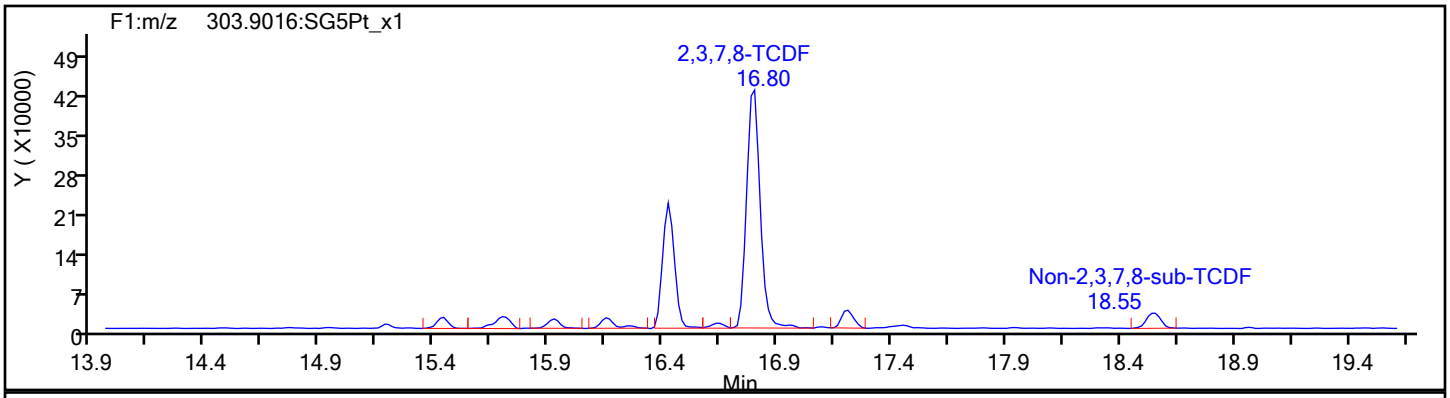

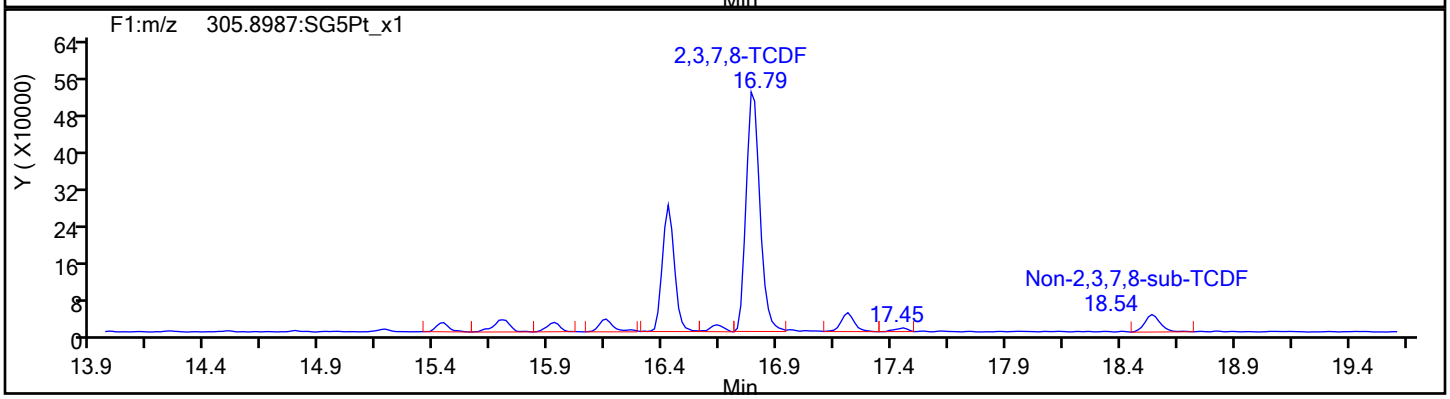

TCDF Standards

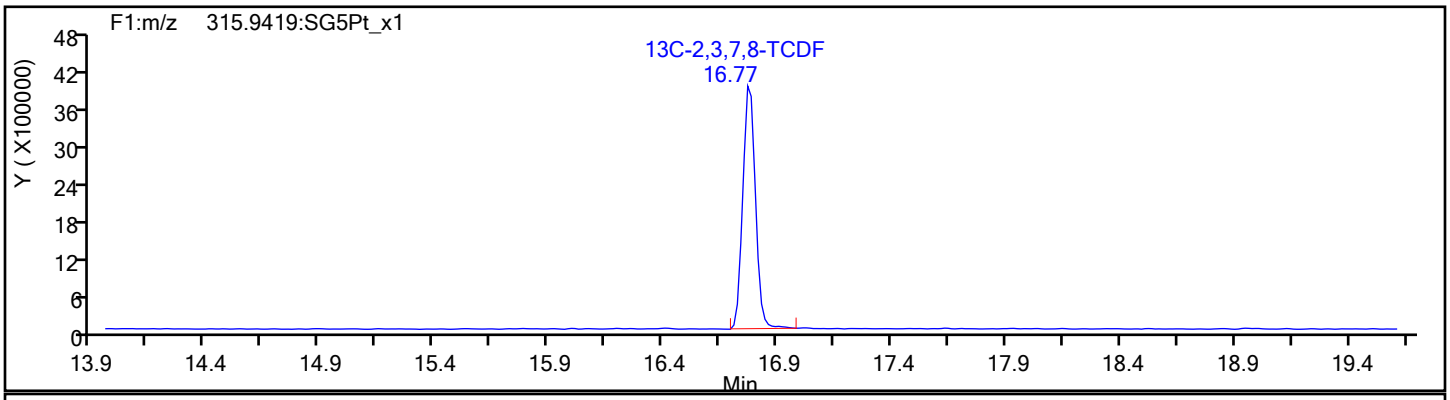

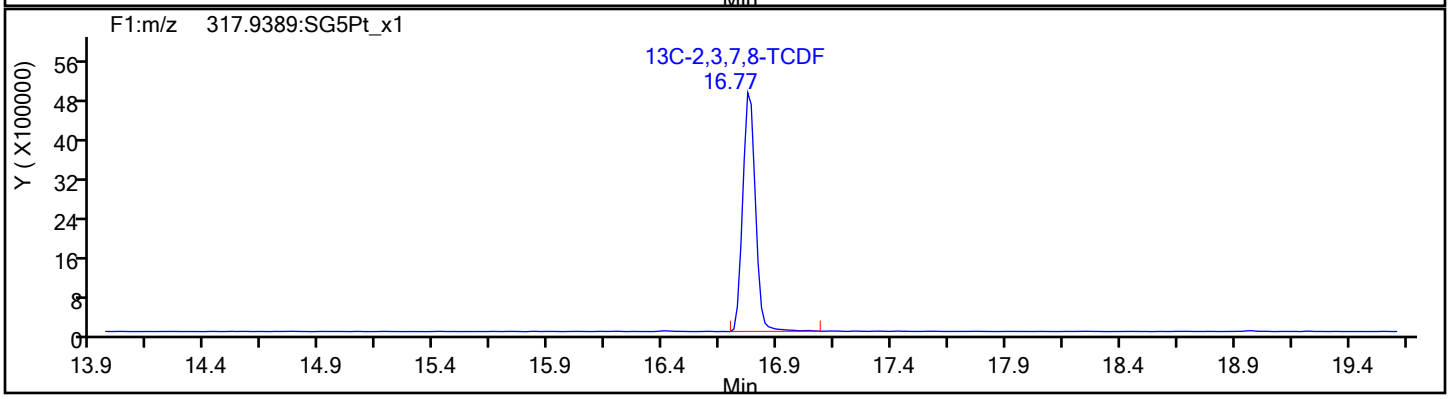

Report Date: 20-Sep-2019 11:21:40 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_46.d		
Injection Date:	19-Sep-2019 22:26:57	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-091319-LL-EXC-1		
Worklist#:	324876	Sample Line#:	46
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

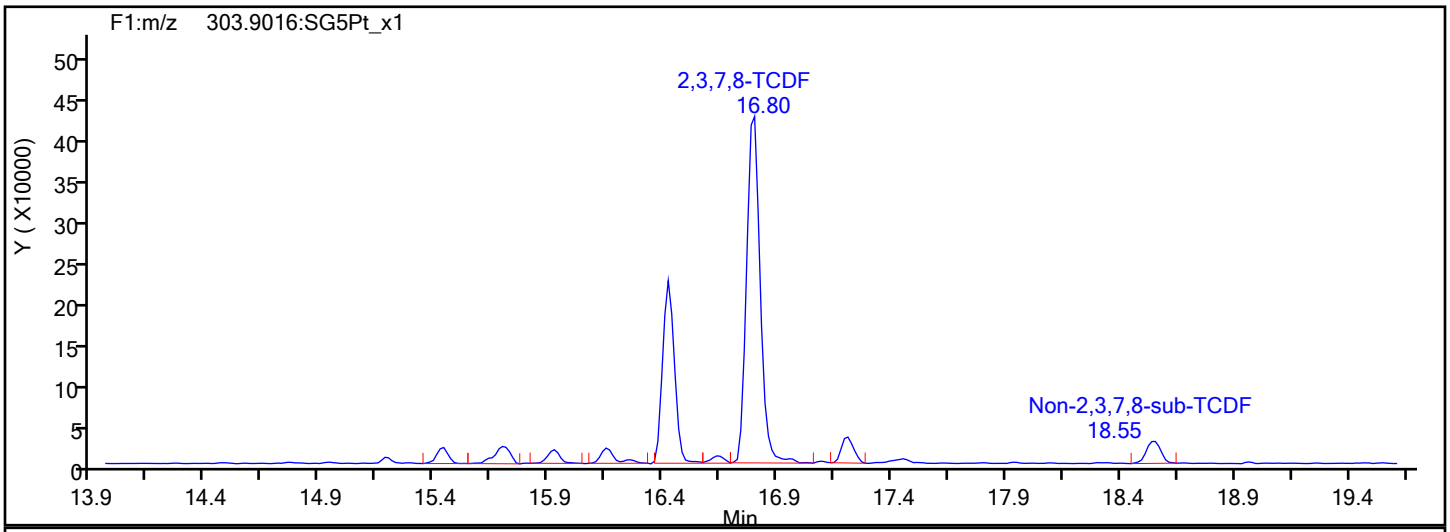

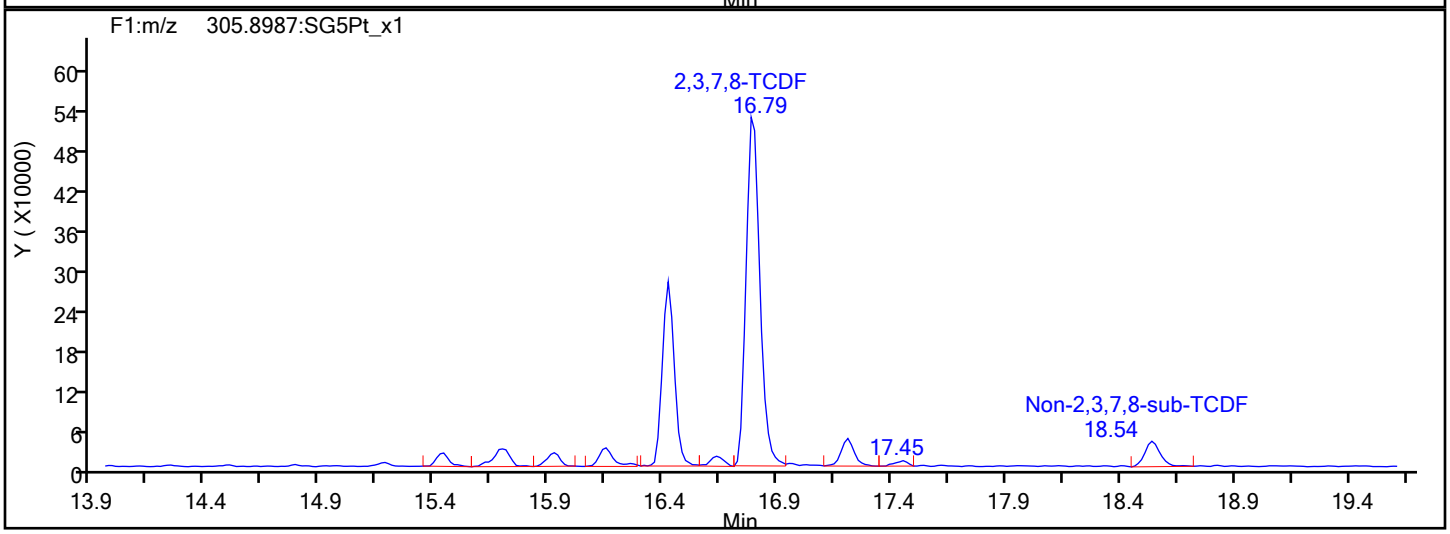

TCDF Interference Mass

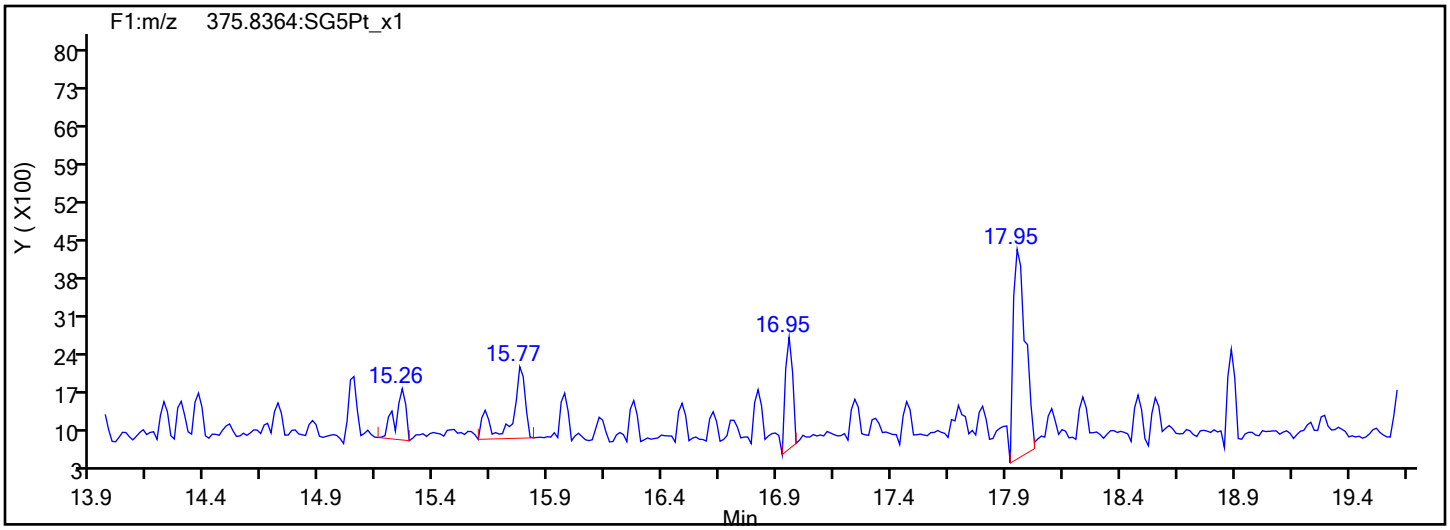

Report Date: 20-Sep-2019 11:21:40 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-091319-LL-EXC-1		
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

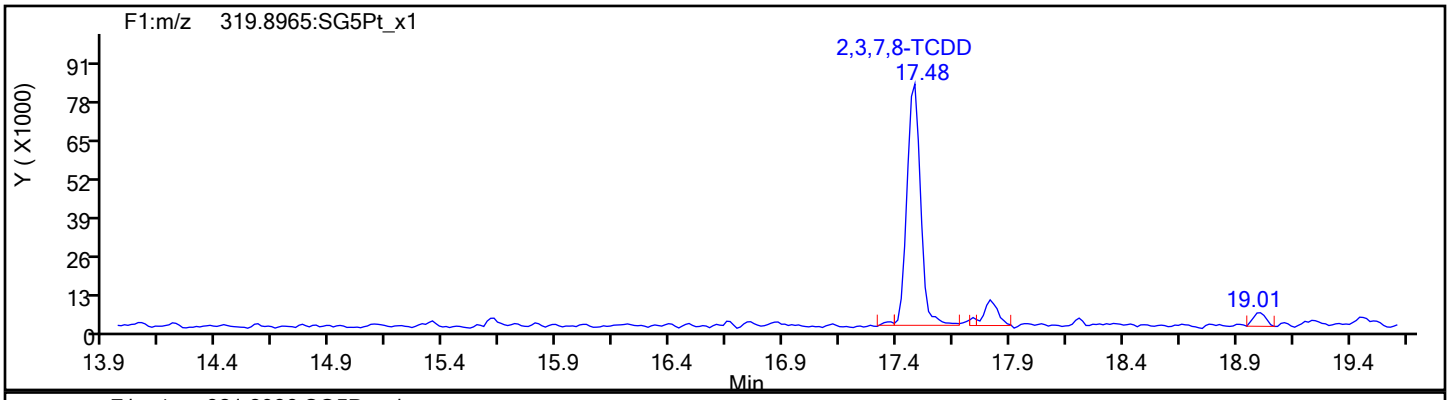

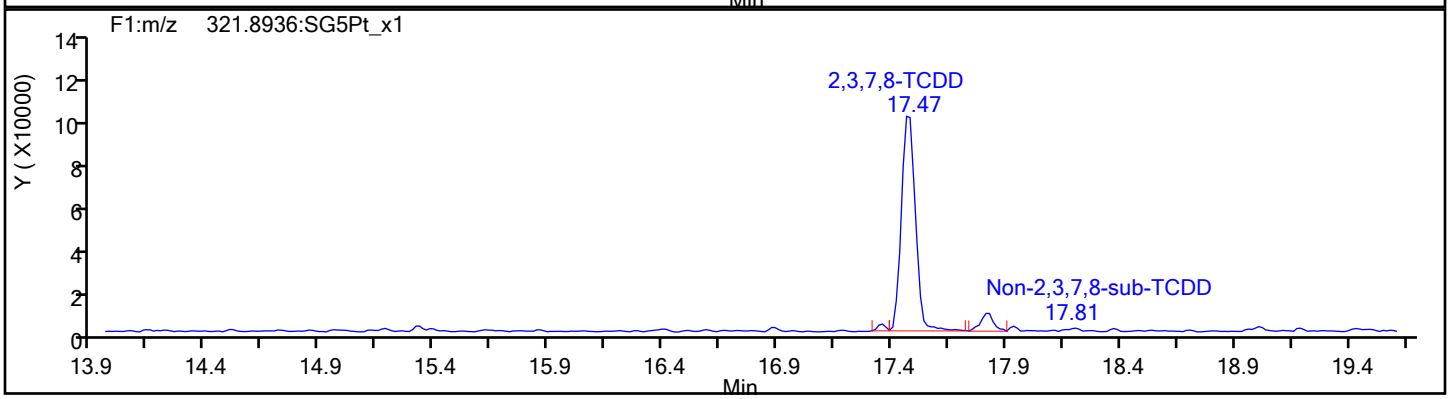

TCDD Standards

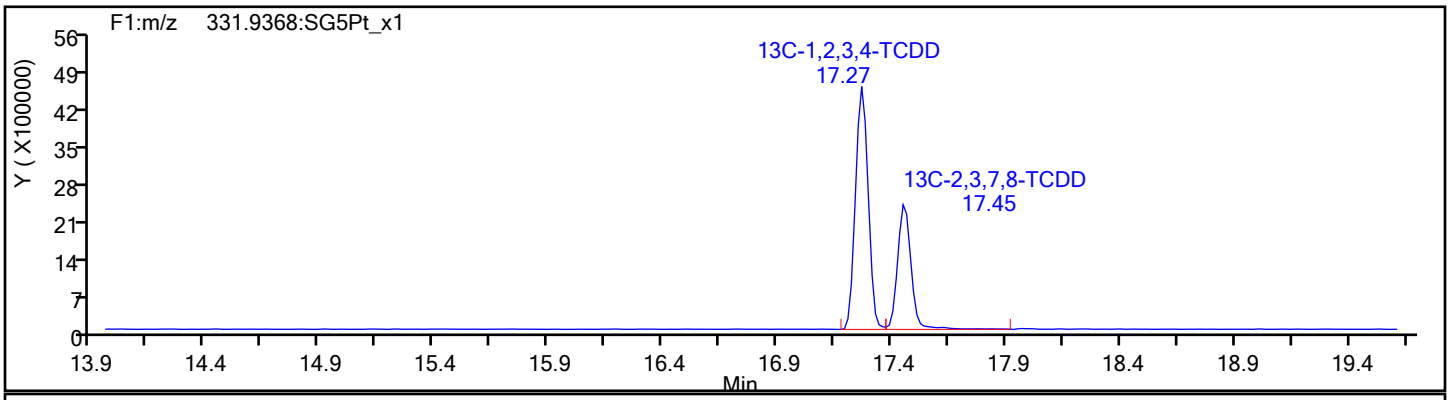

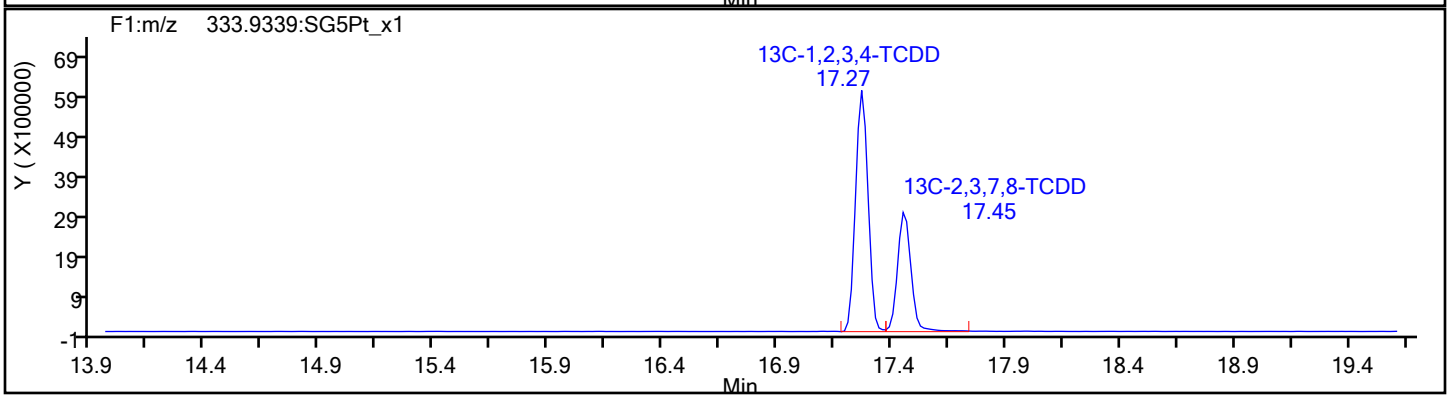

Report Date: 20-Sep-2019 11:21:40 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

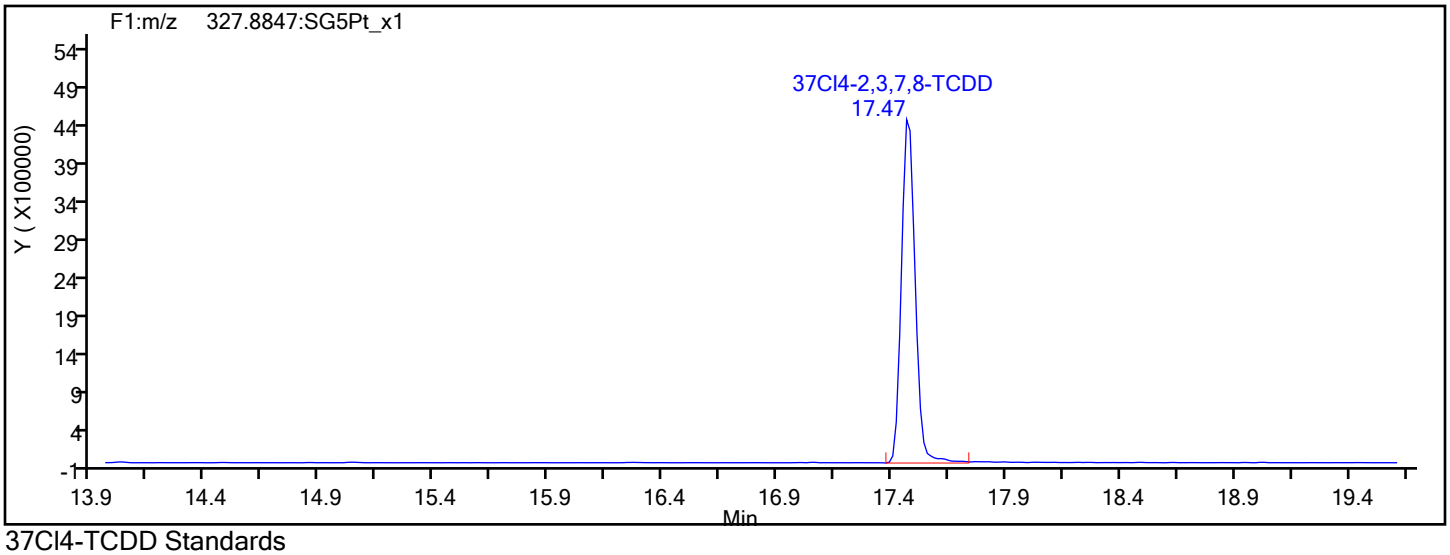

37Cl4-TCDD Standards

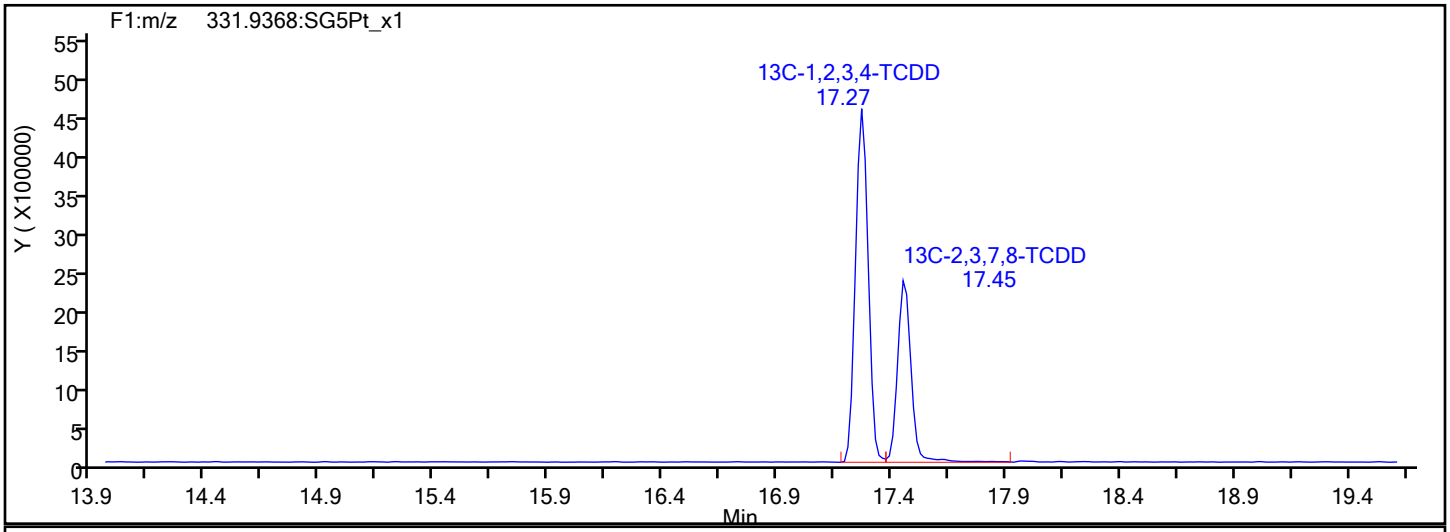

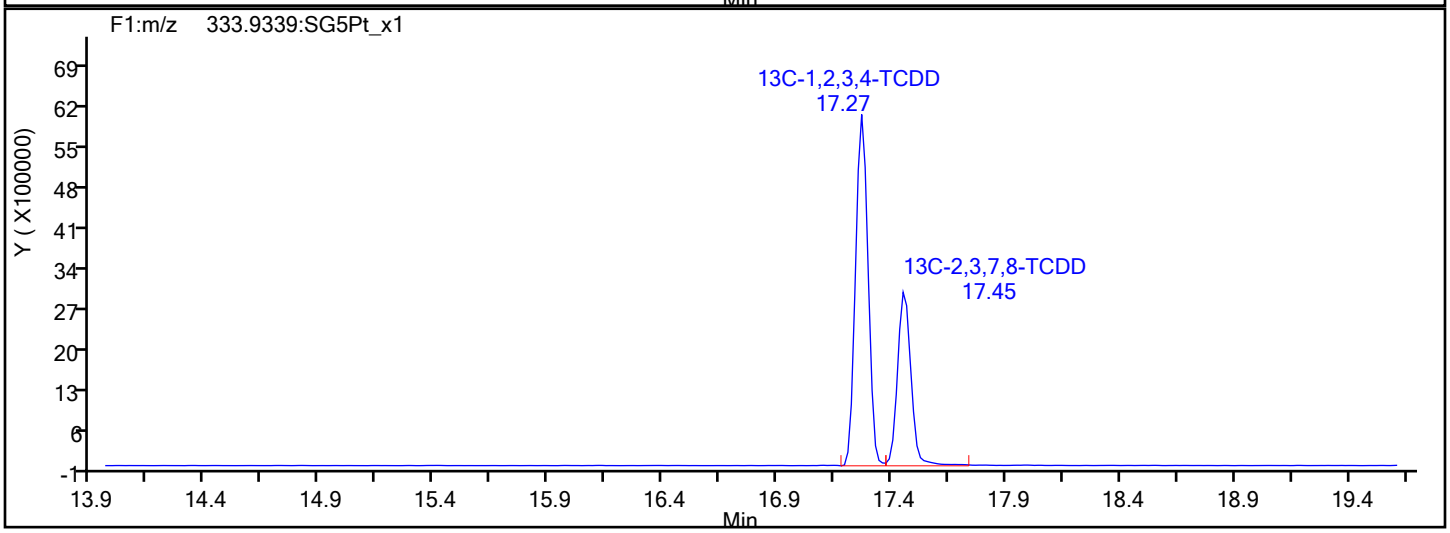

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Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

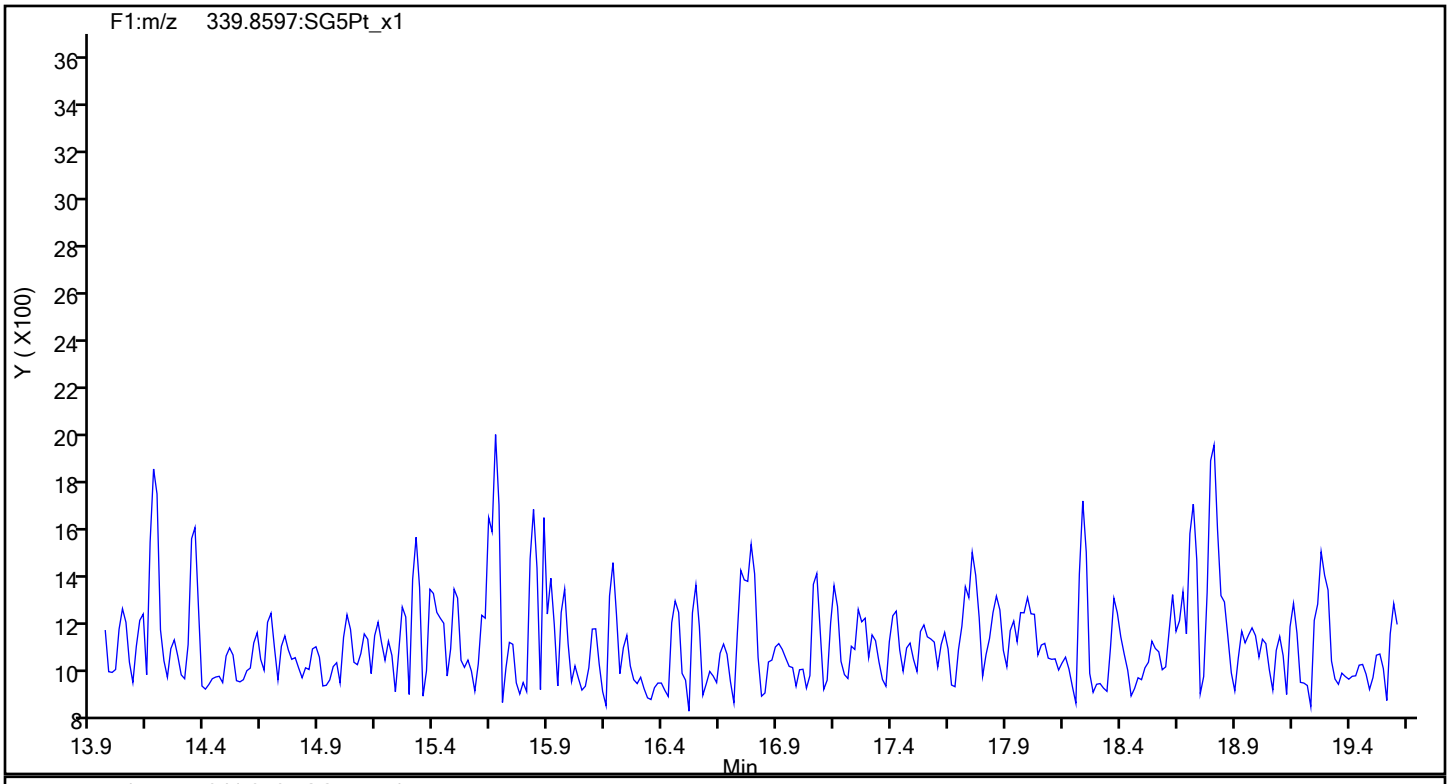

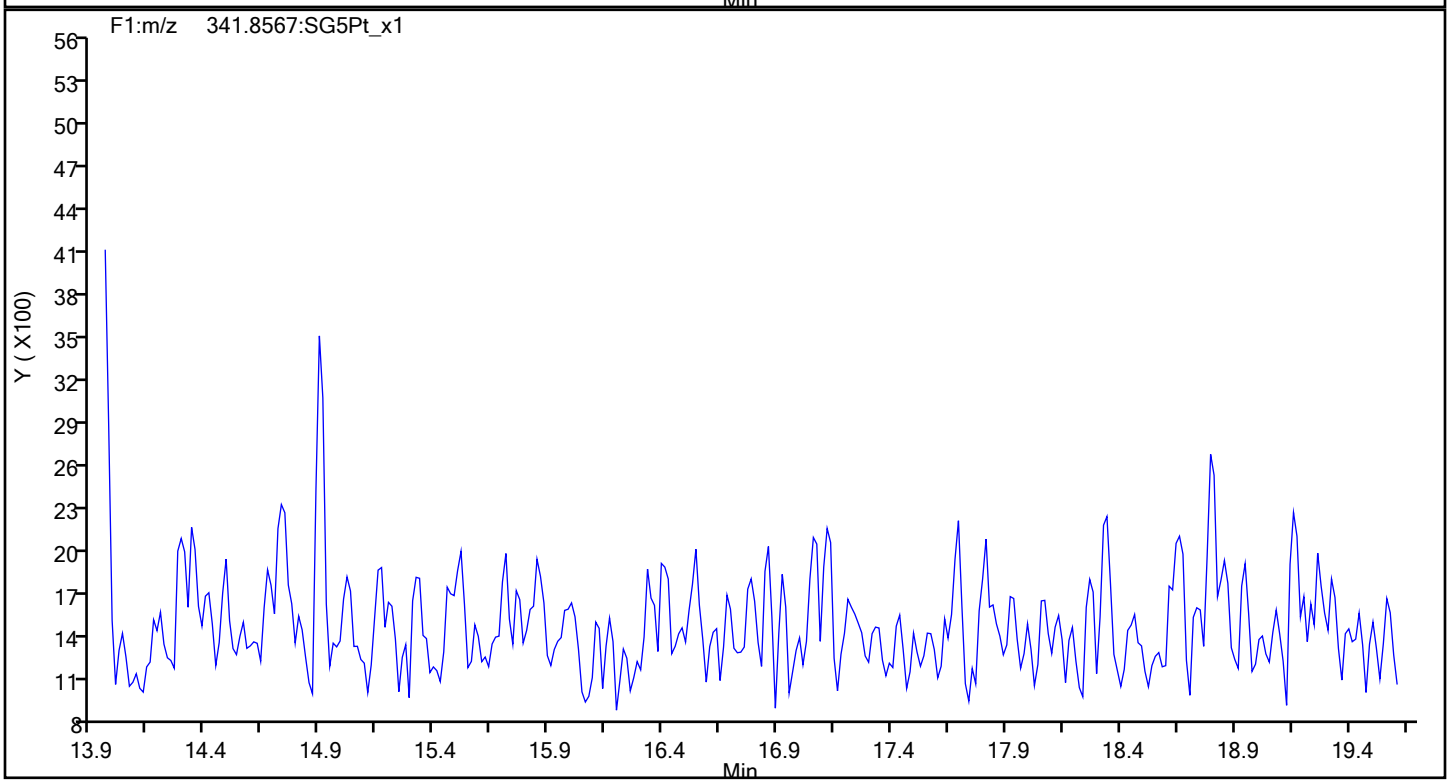

Report Date: 20-Sep-2019 11:21:40 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

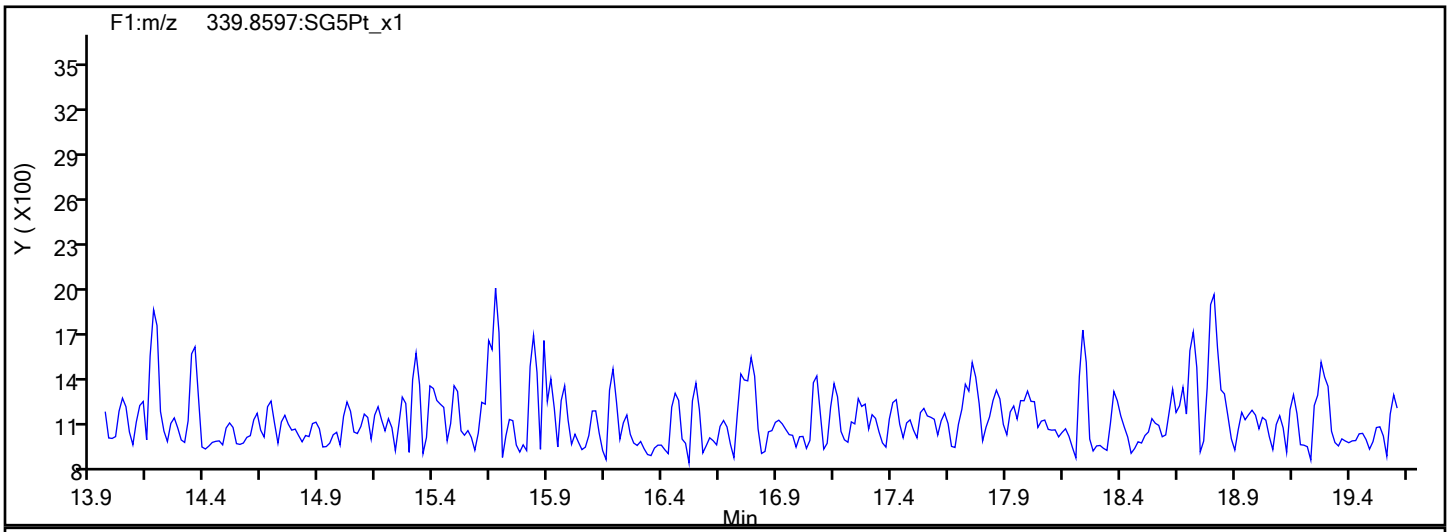

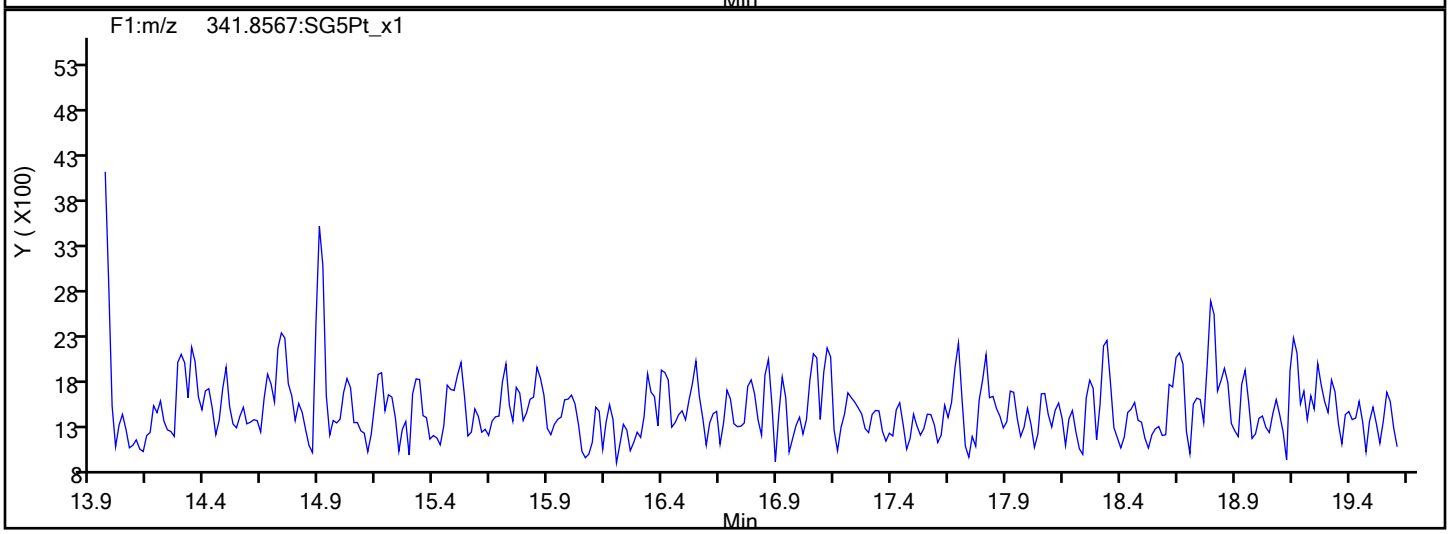

F1 PeCDFs Interference Mass

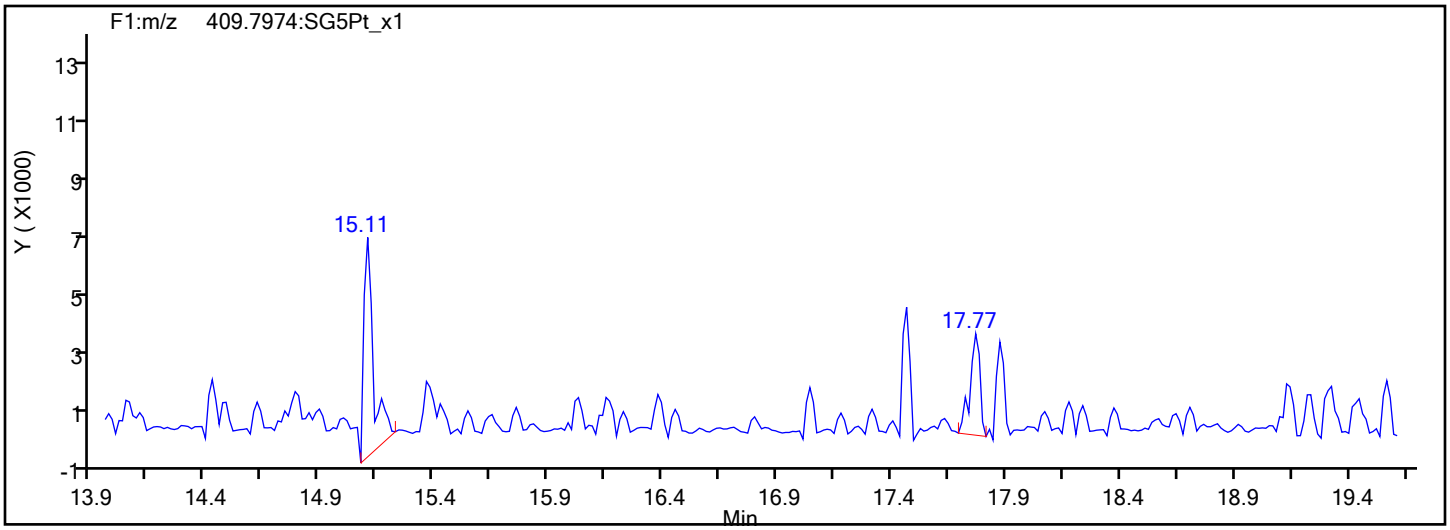

Report Date: 20-Sep-2019 11:21:40 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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PeCDF

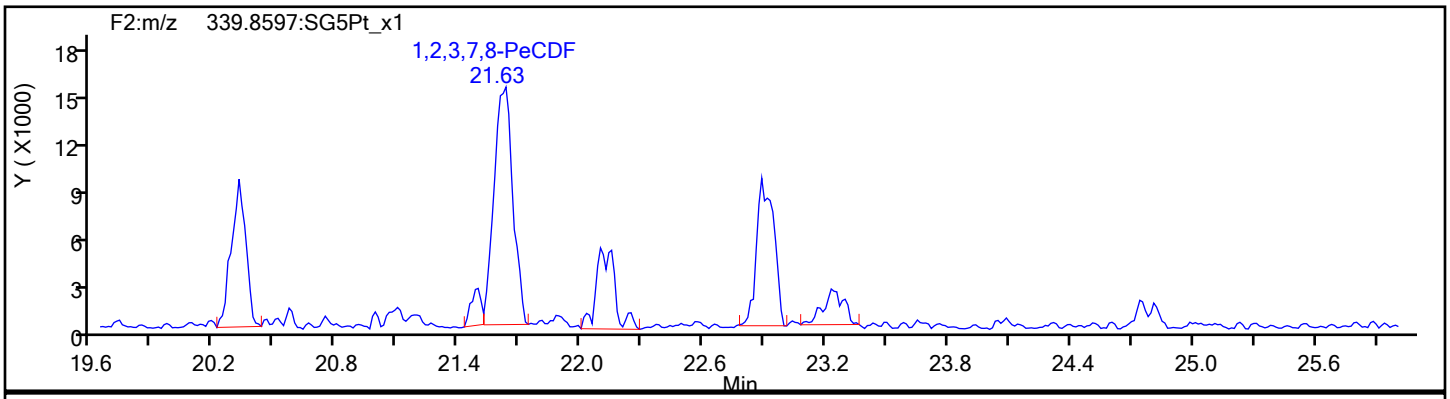

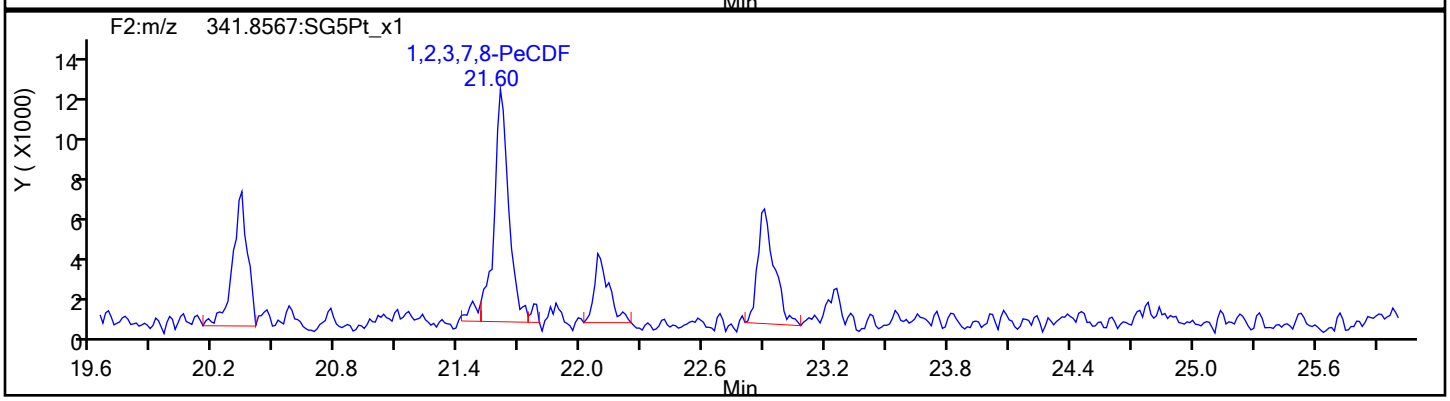

PeCDF Standards

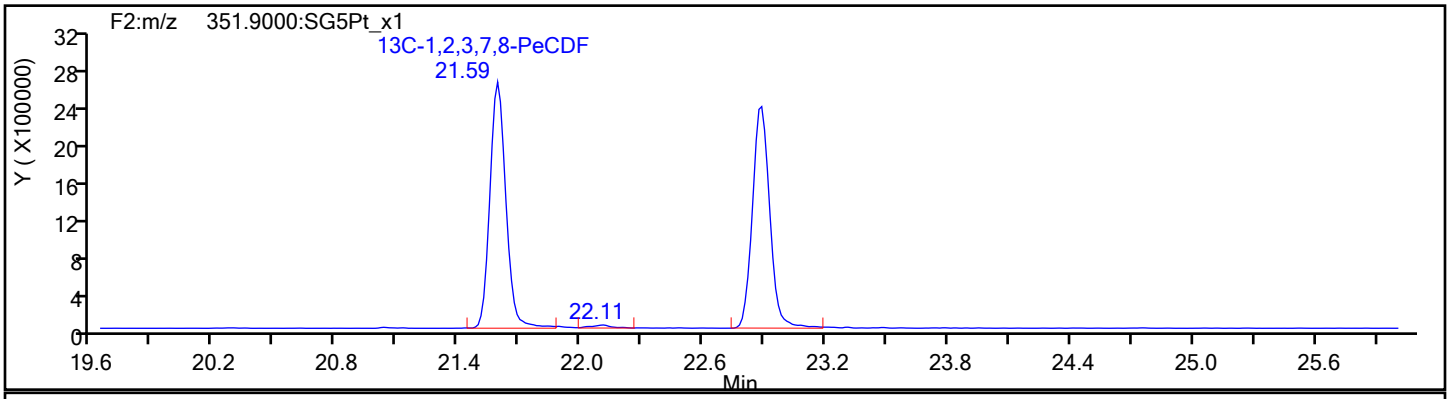

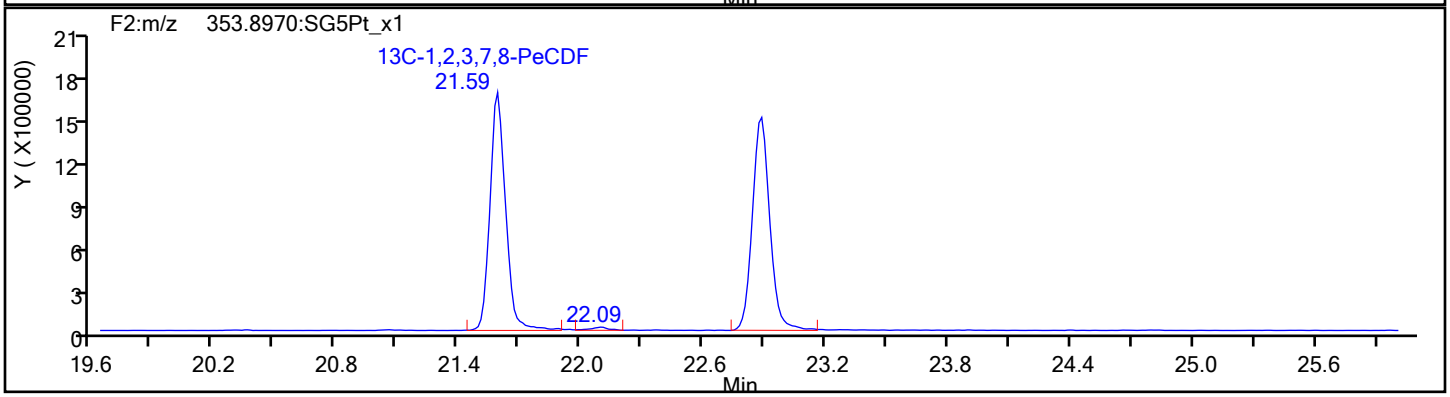

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Eurofins TestAmerica, Sacramento

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PeCDF

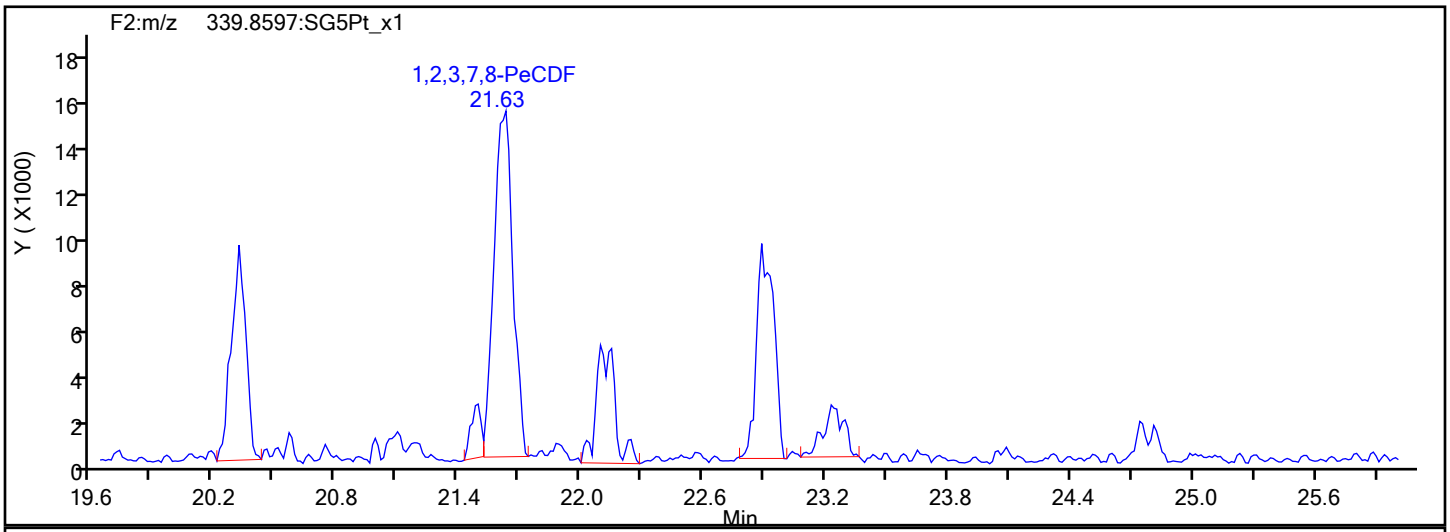

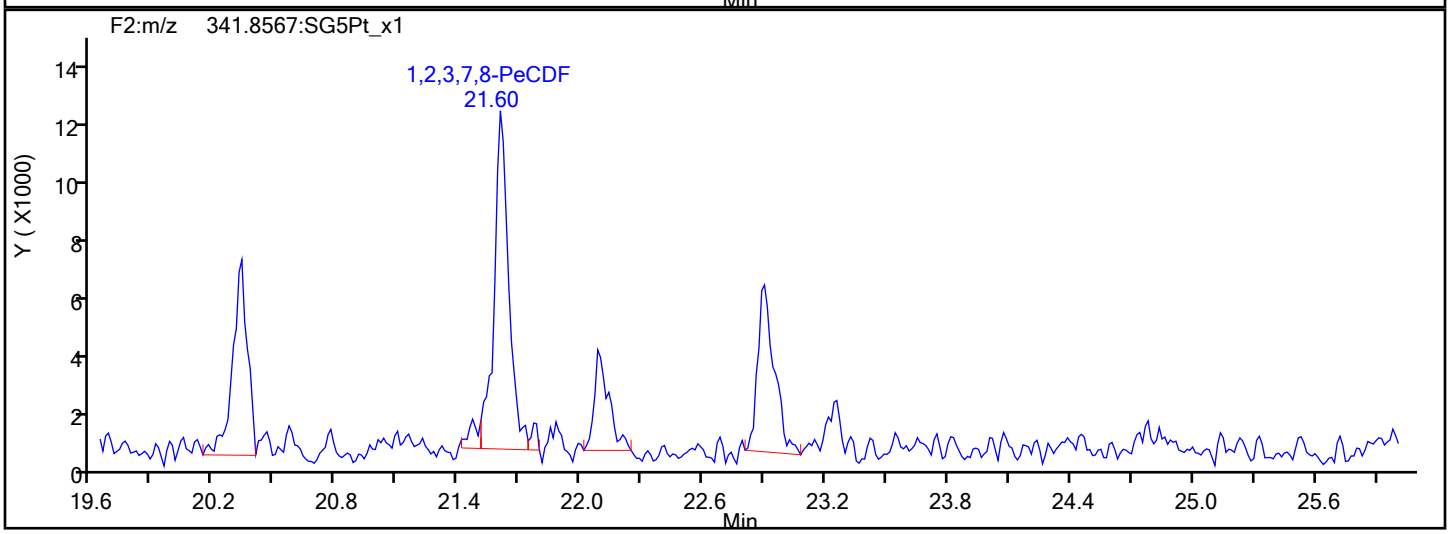

PeCDF Interference Mass

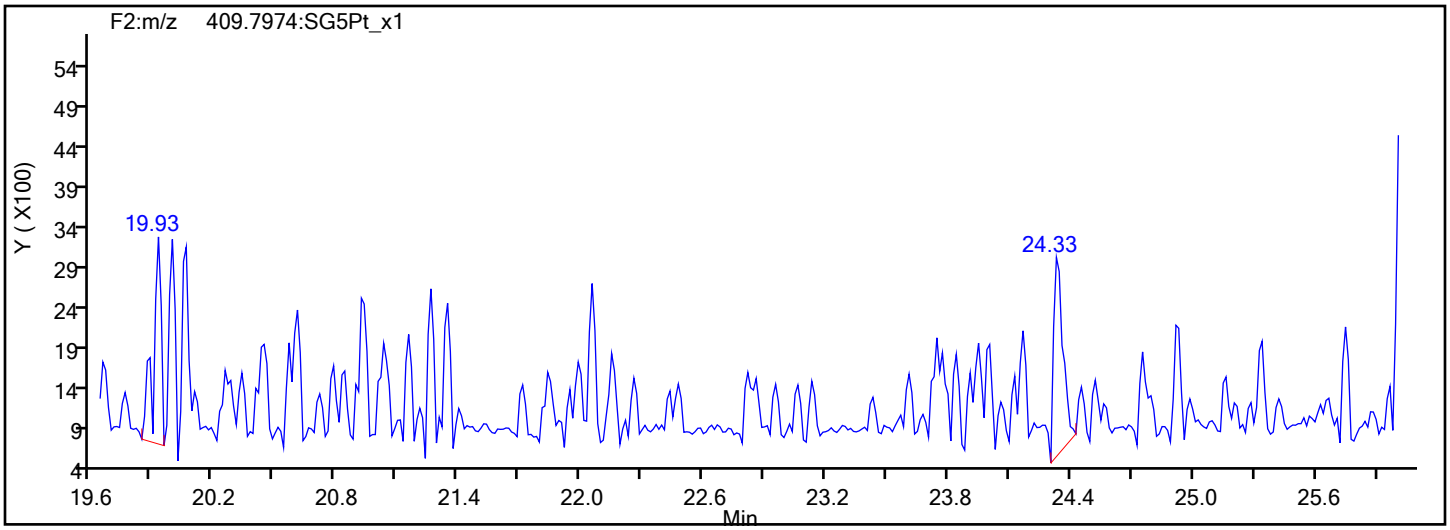

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Eurofins TestAmerica, Sacramento

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PeCDD

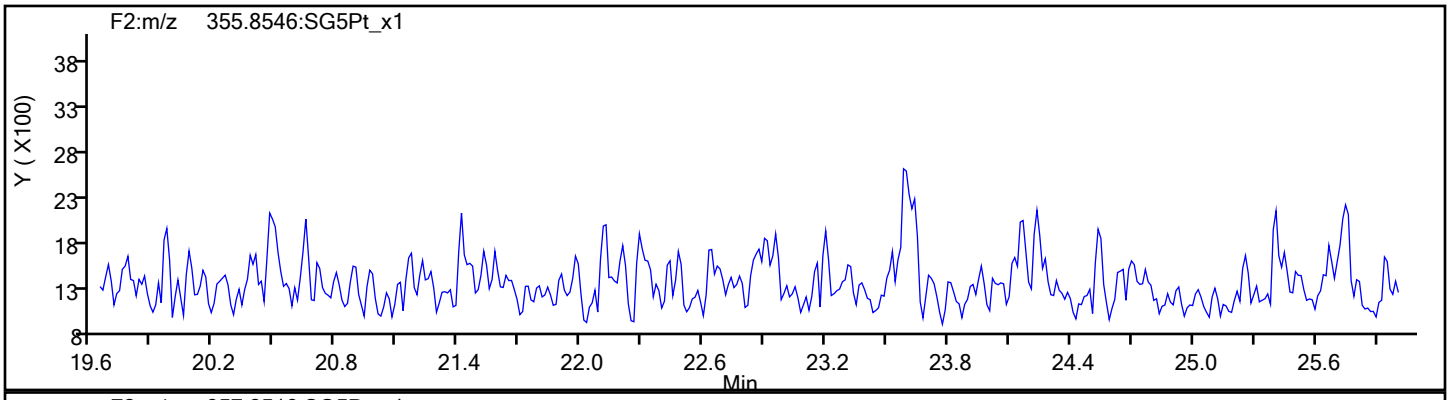

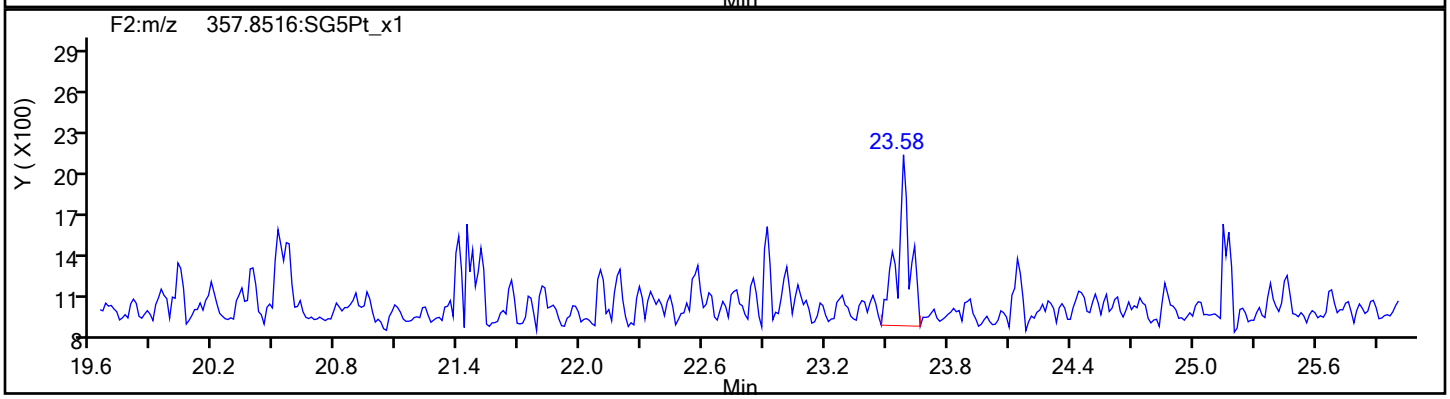

PeCDD Standards

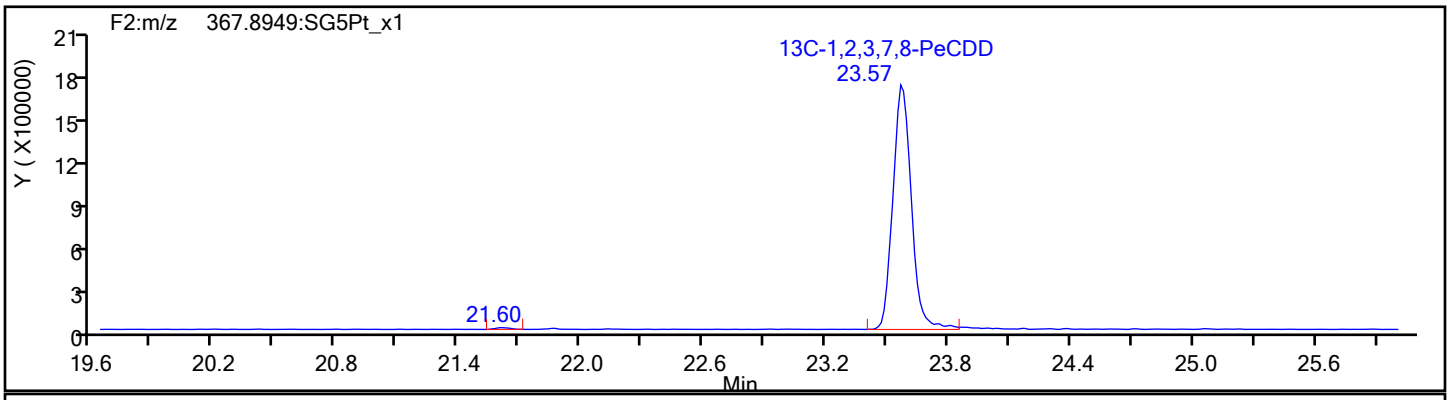

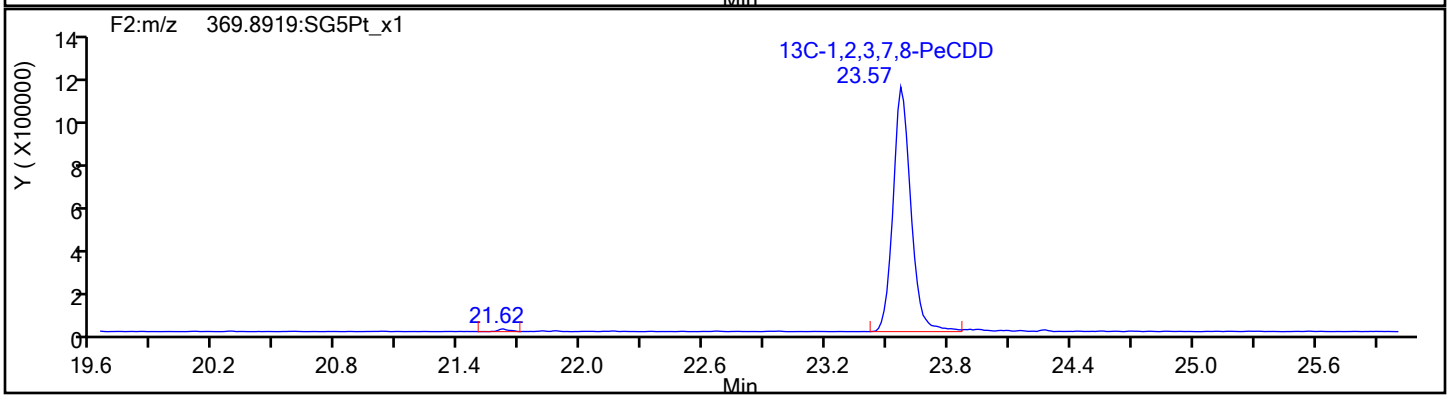

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HxCDF

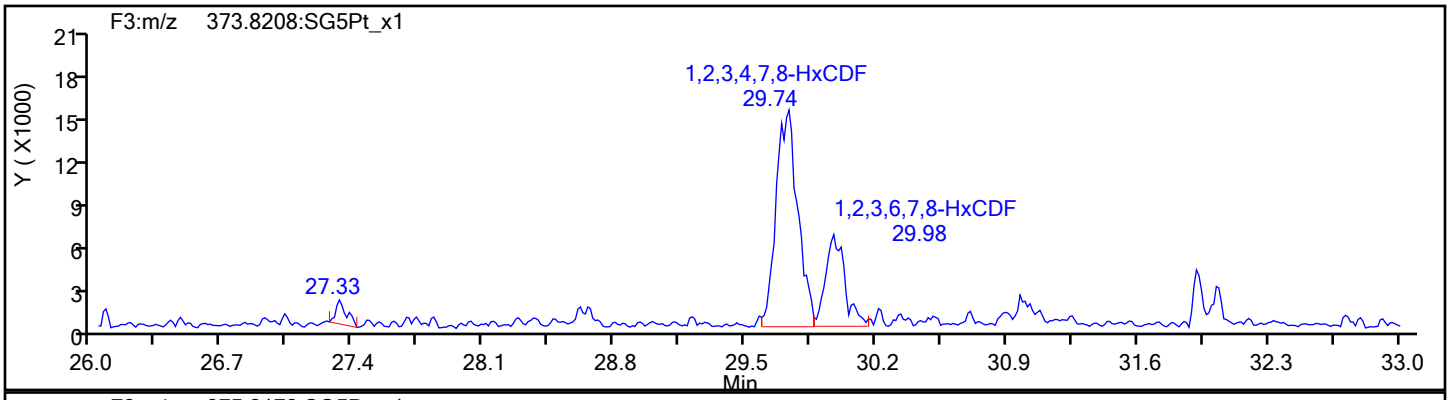

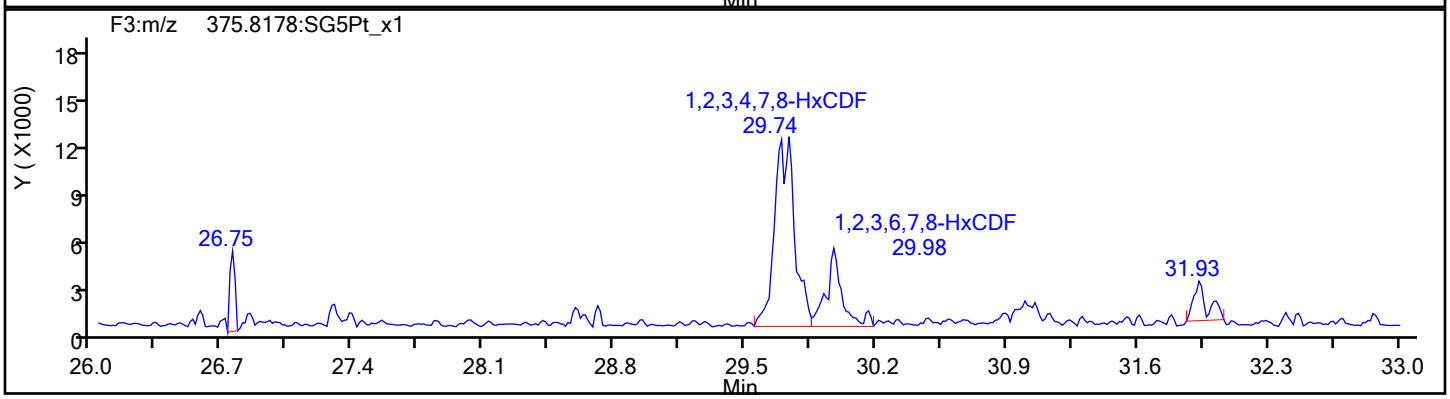

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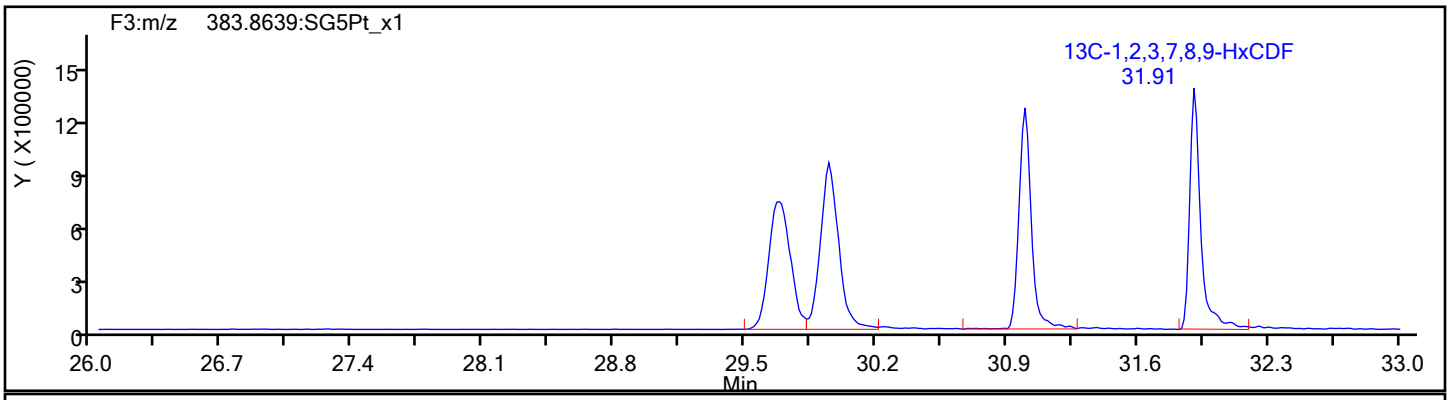

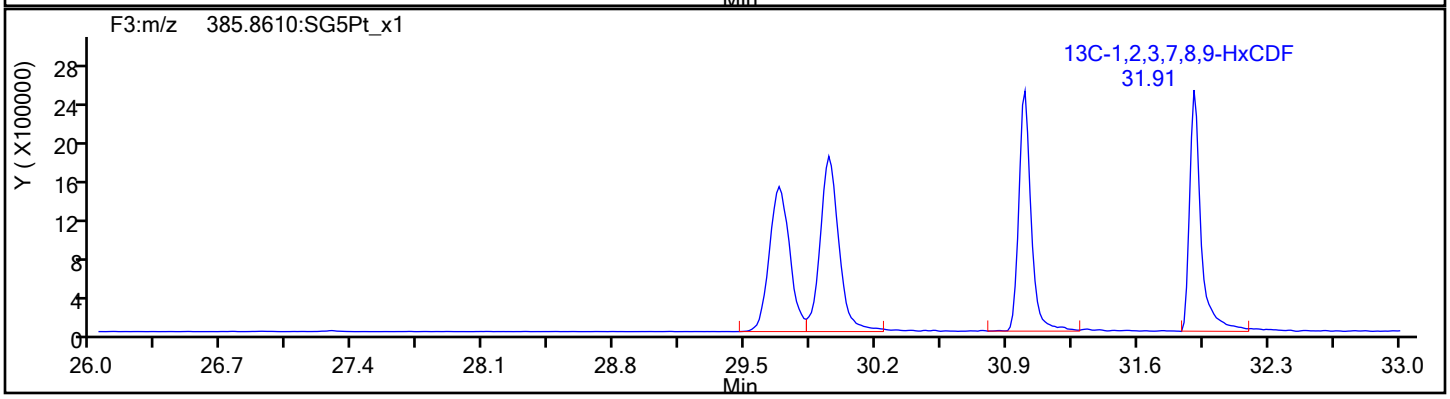

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Eurofins TestAmerica, Sacramento

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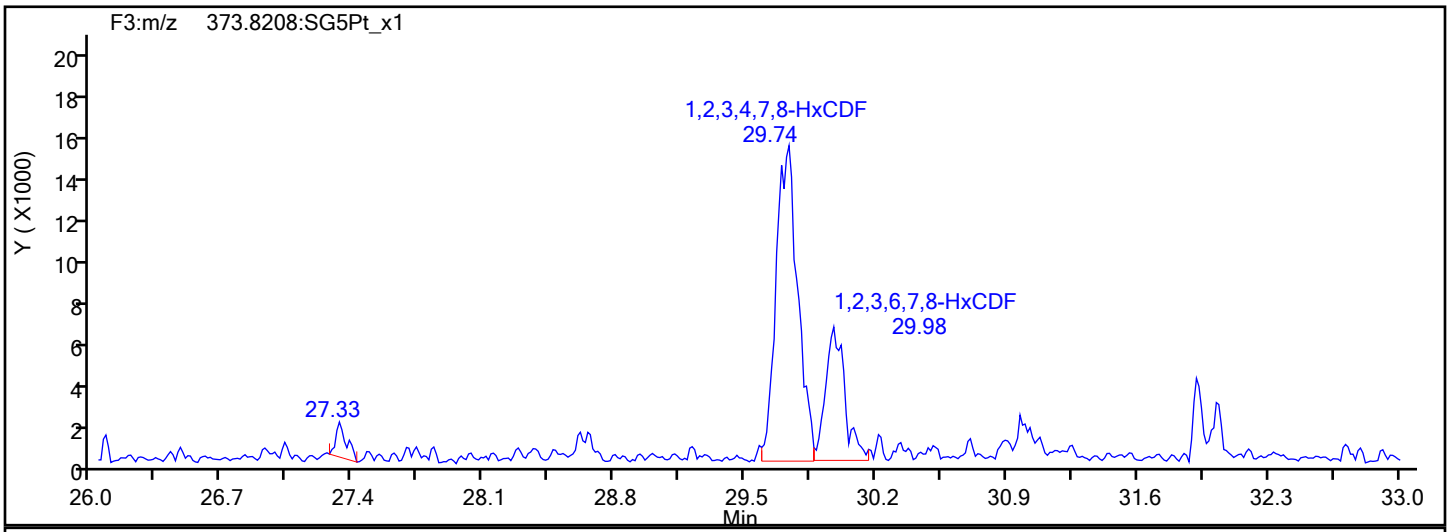

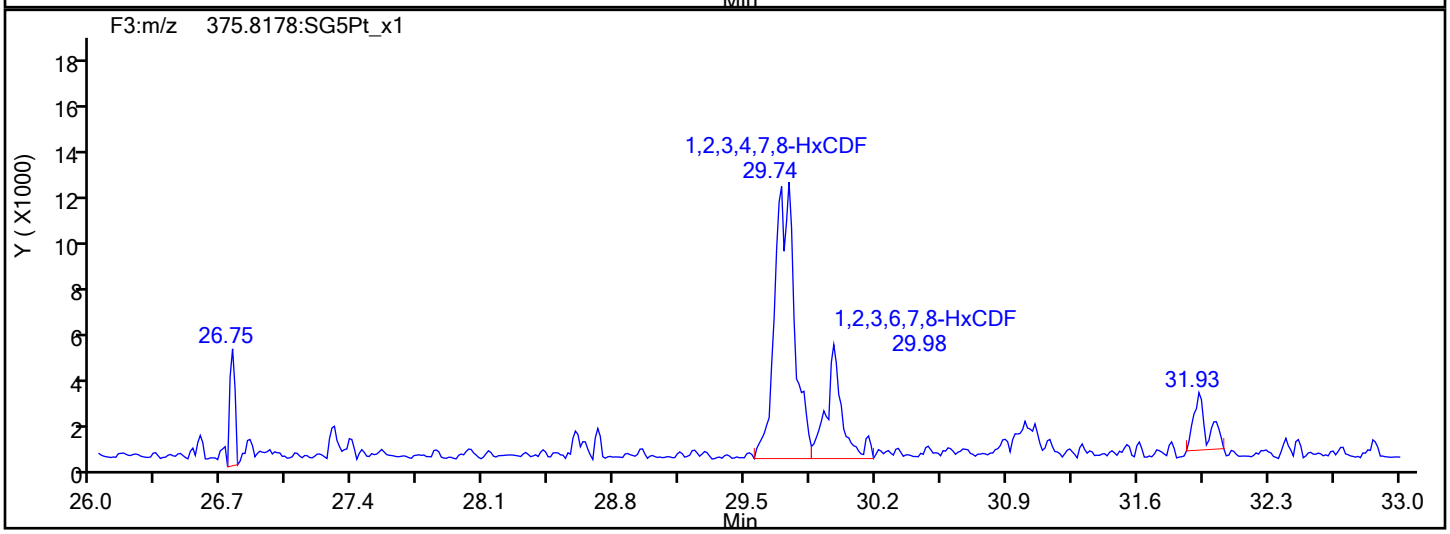

HxCDF Interference Mass

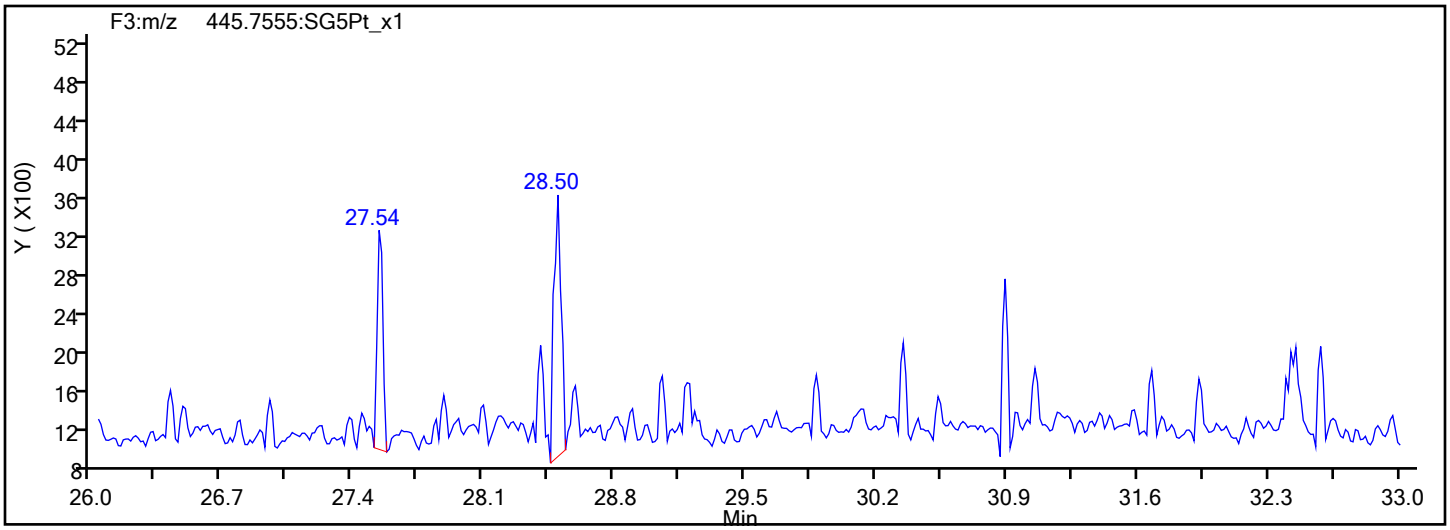

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Eurofins TestAmerica, Sacramento

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HxCDD

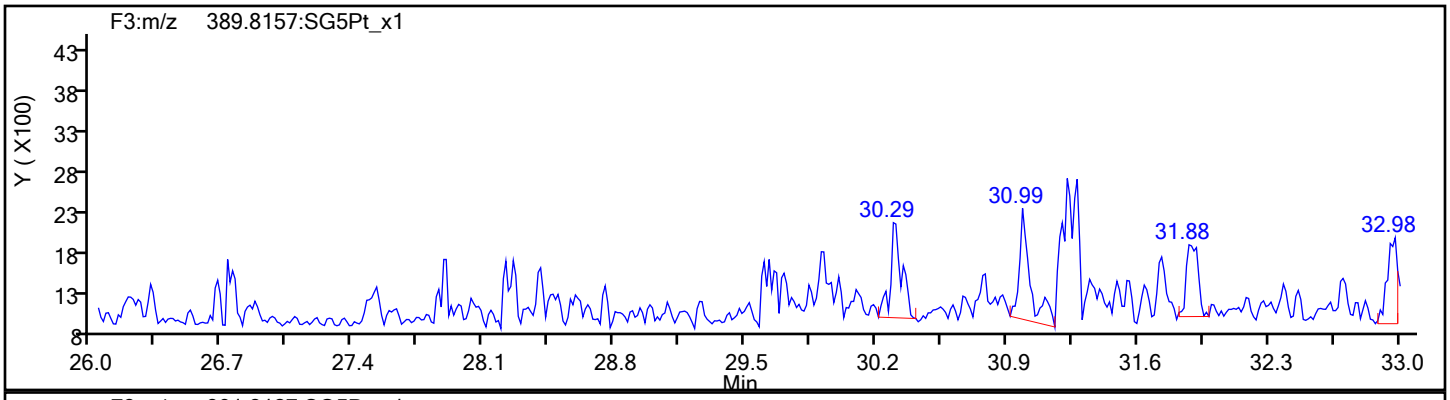

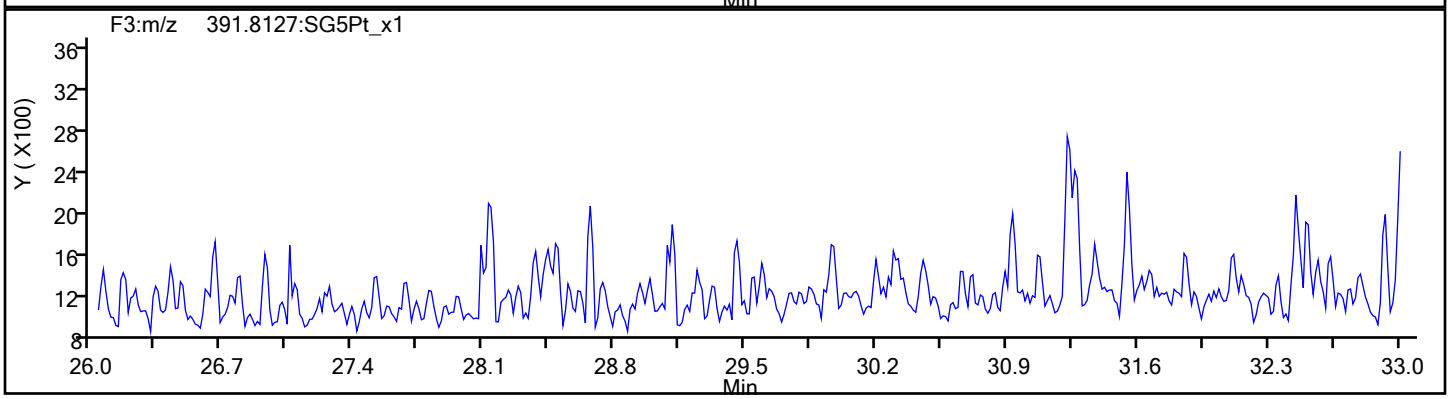

HxCDD Standards

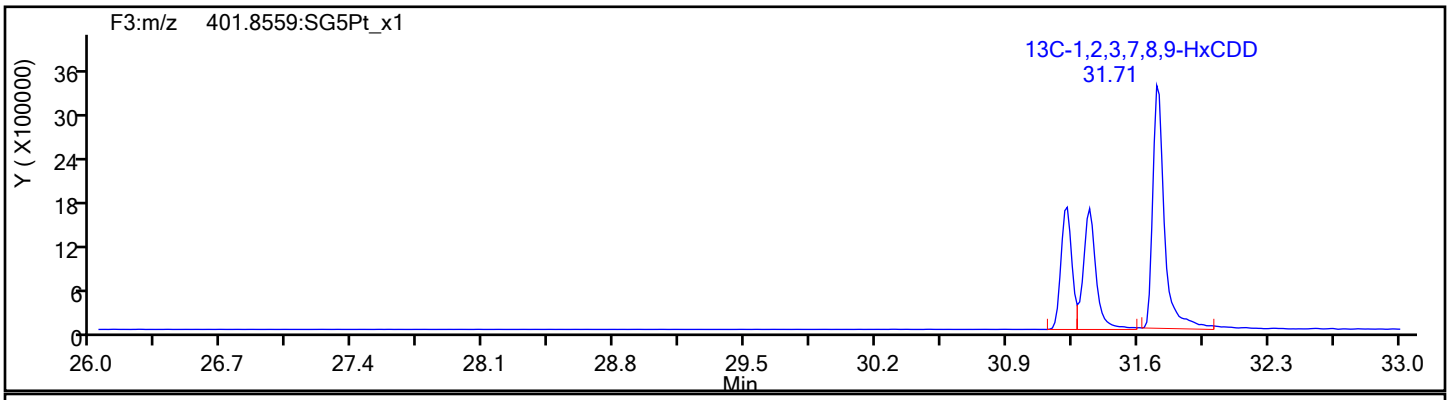

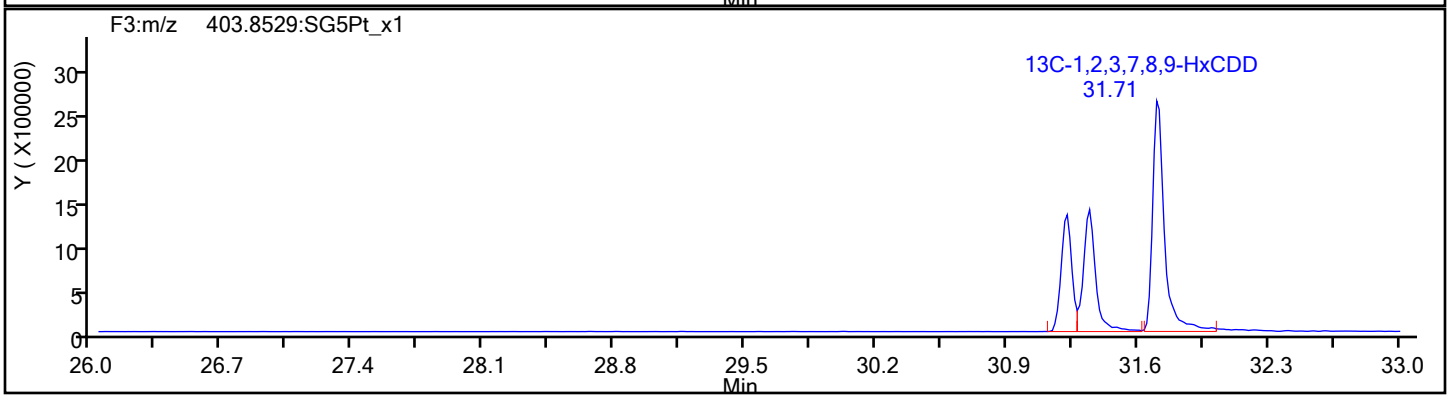

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HpCDF

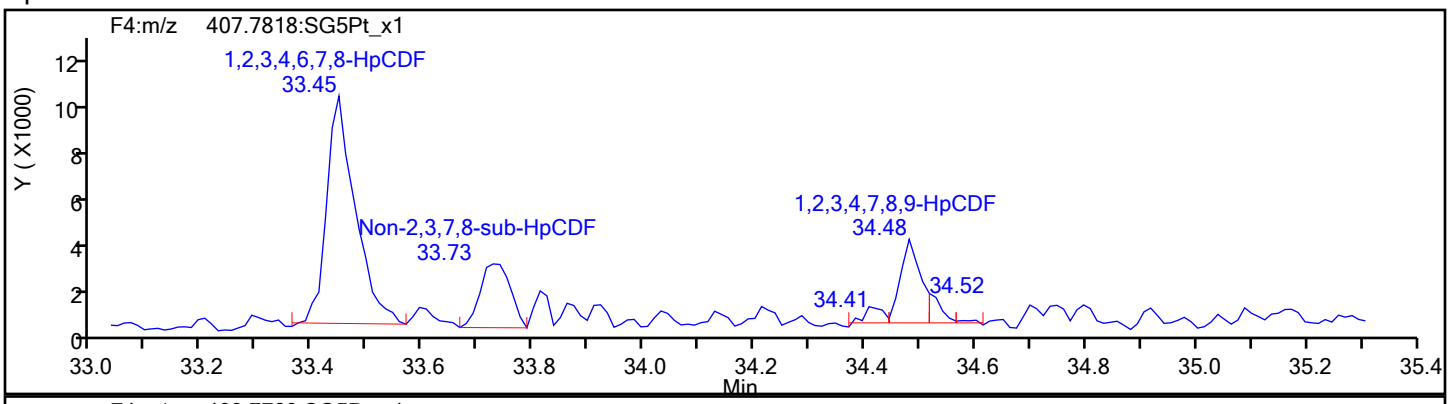

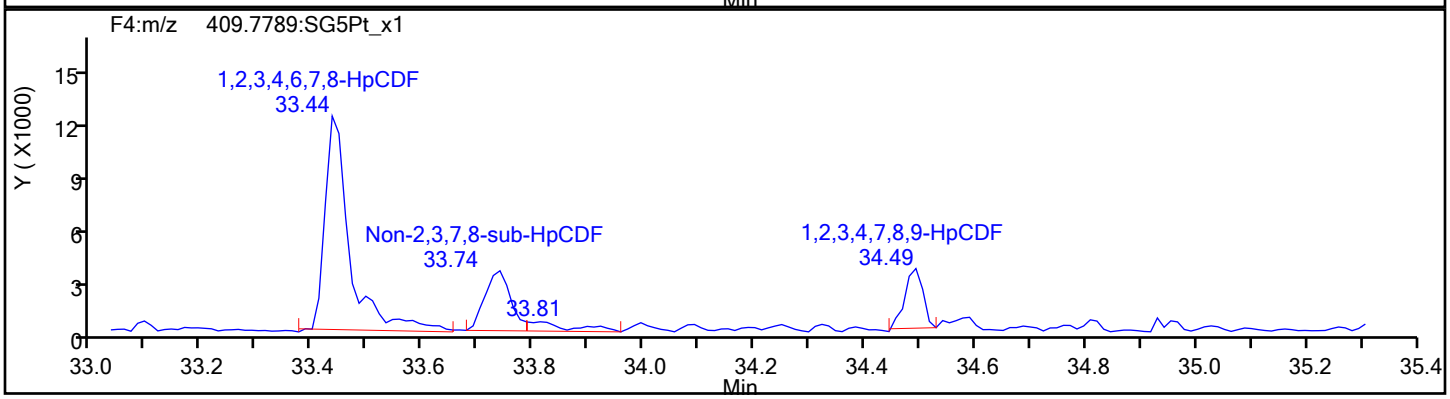

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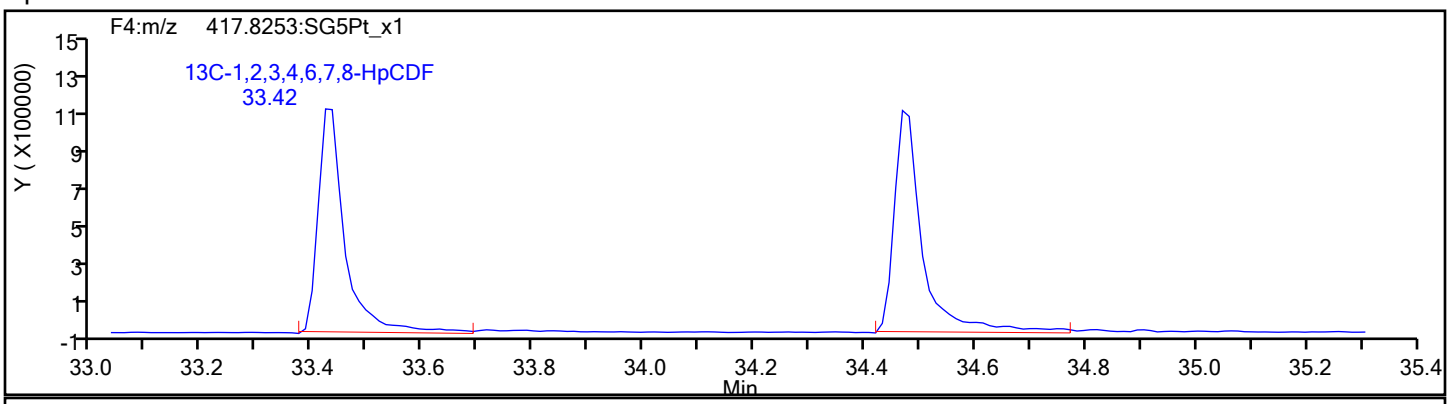

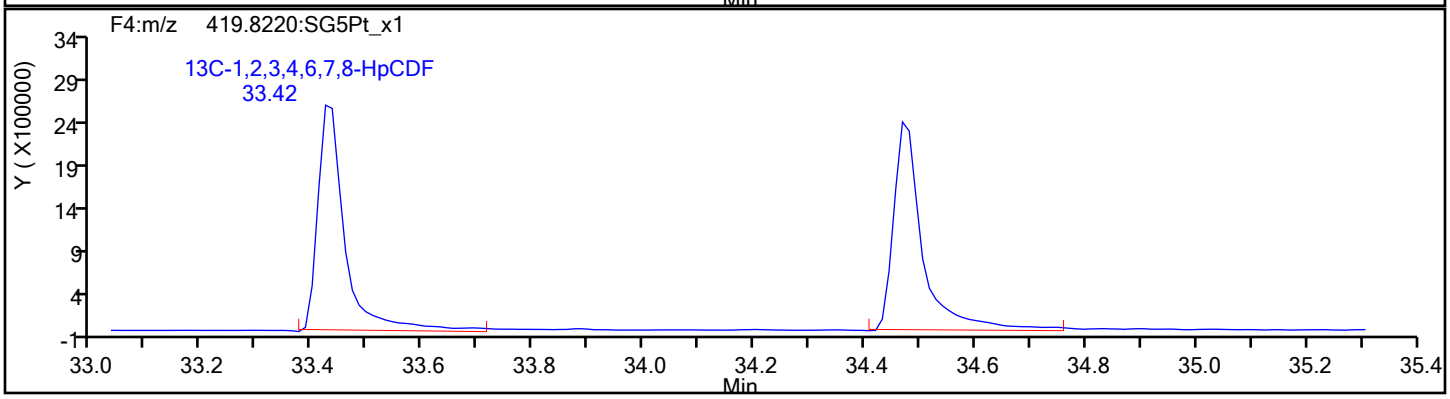

Report Date: 20-Sep-2019 11:21:40 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_46.d		
Injection Date:	19-Sep-2019 22:26:57	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-091319-LL-EXC-1		
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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

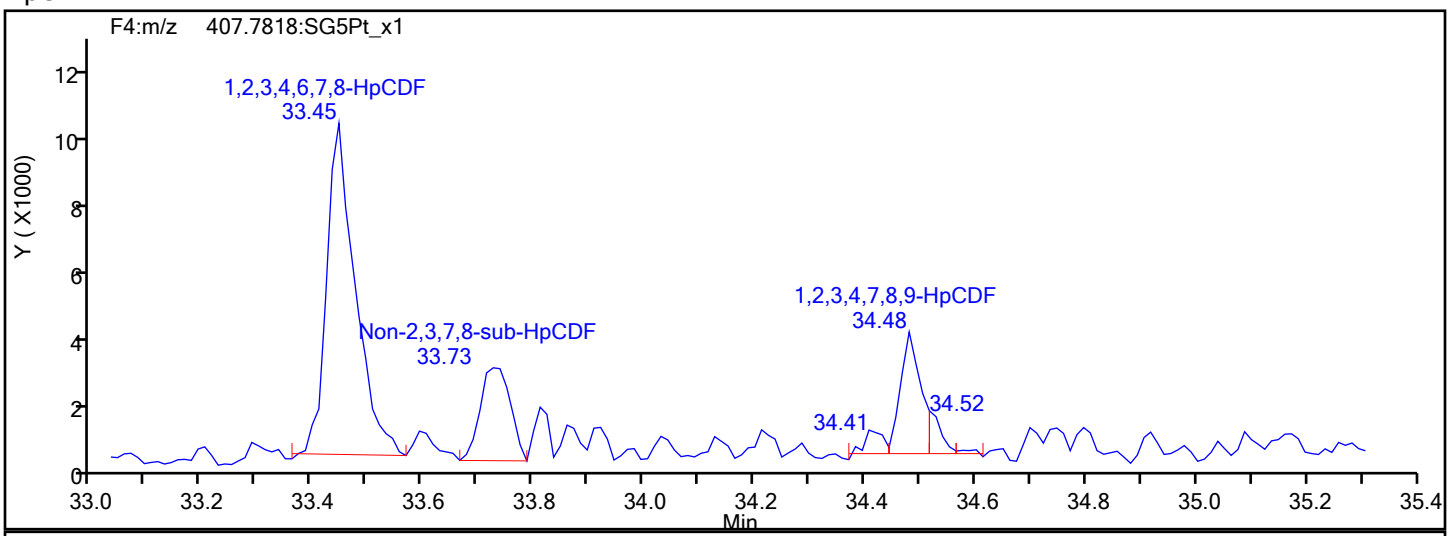

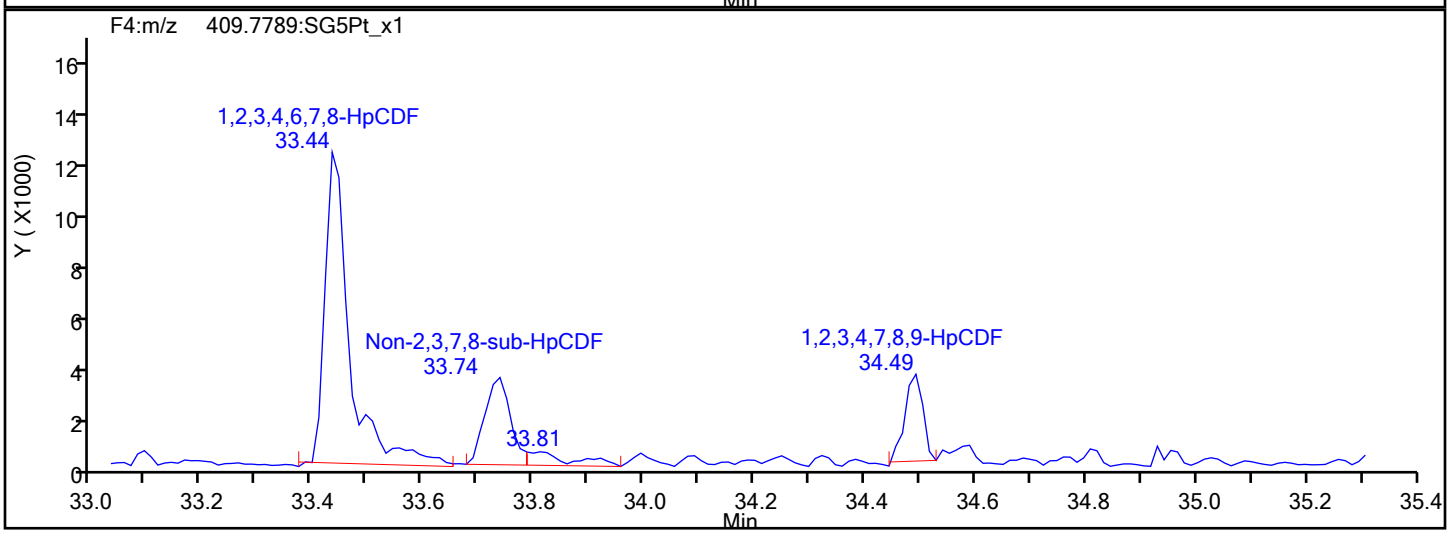

HpCDF Interference Mass

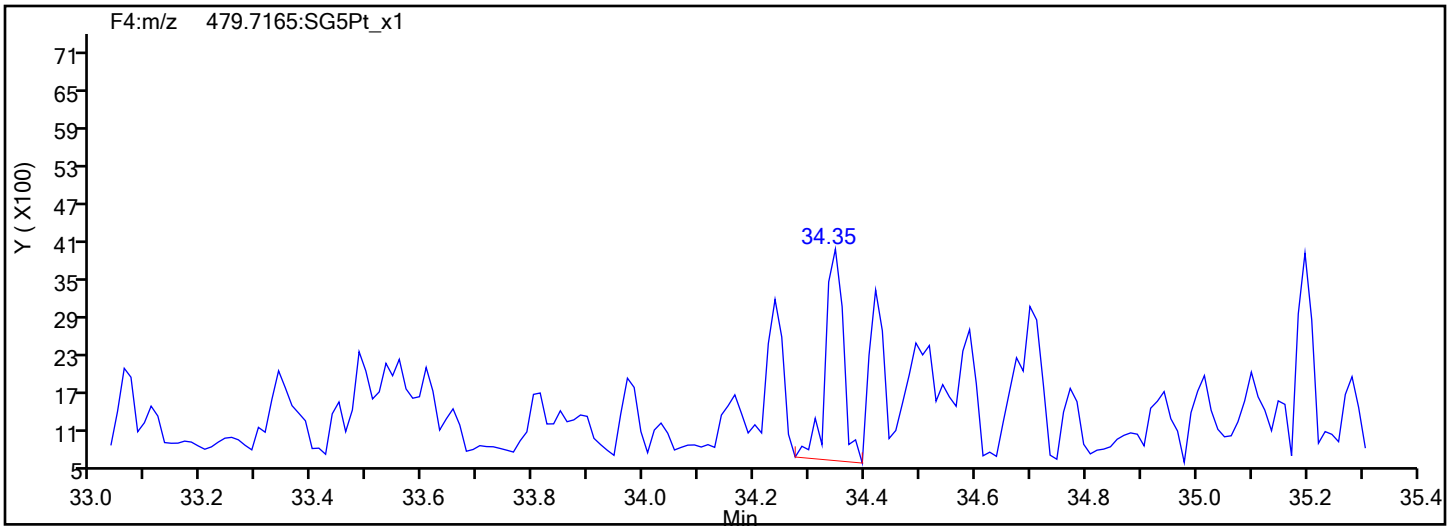

Report Date: 20-Sep-2019 11:21:40 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_46.d		
Injection Date:	19-Sep-2019 22:26:57	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-091319-LL-EXC-1		
Worklist#:	324876	Sample Line#:	46
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

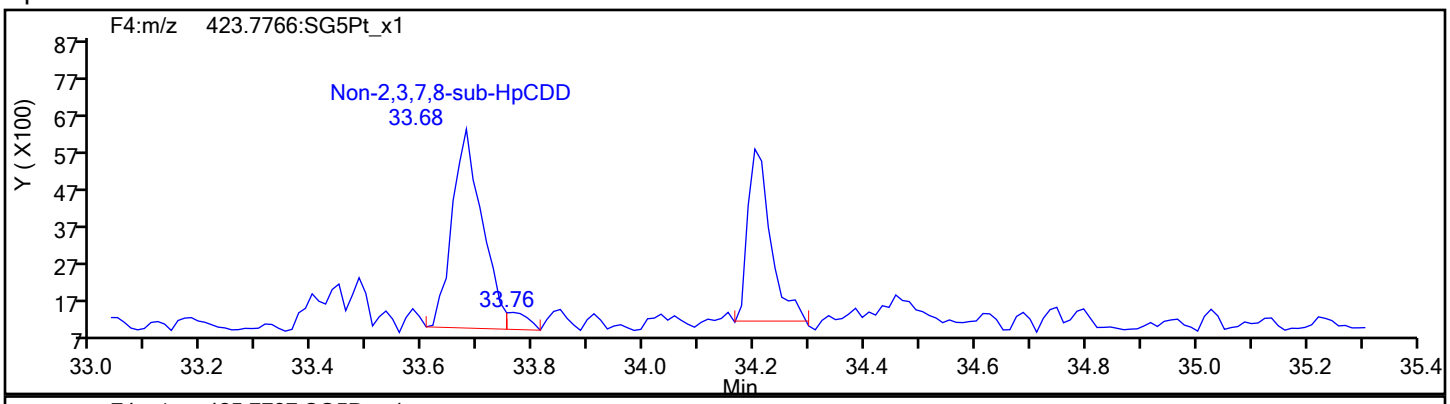

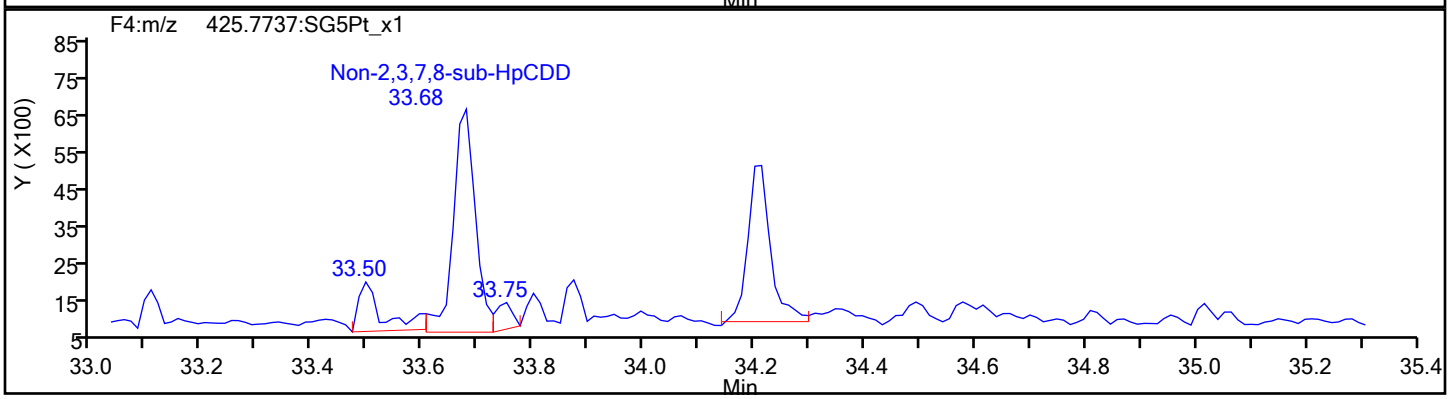

HpCDD Standards

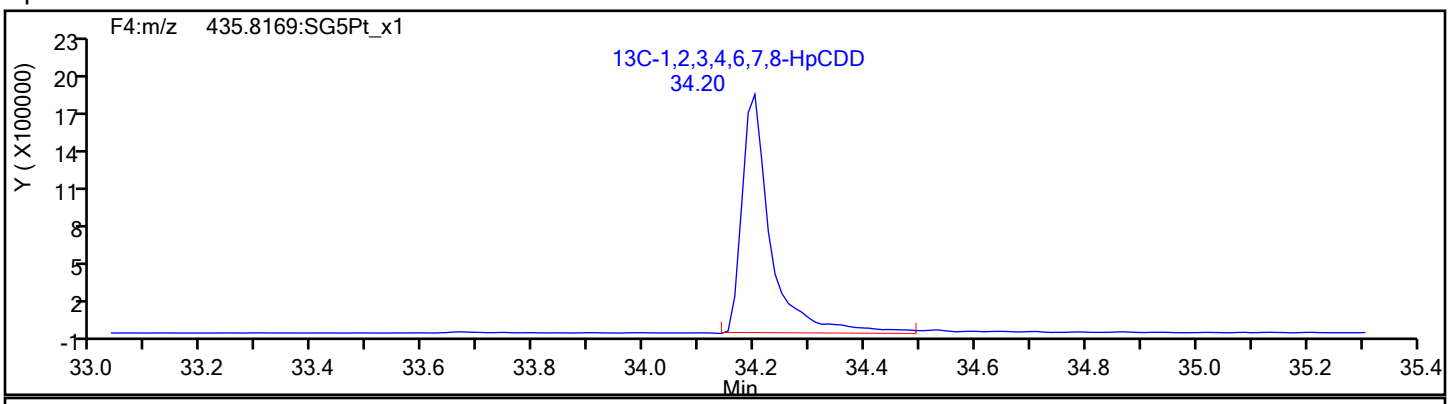

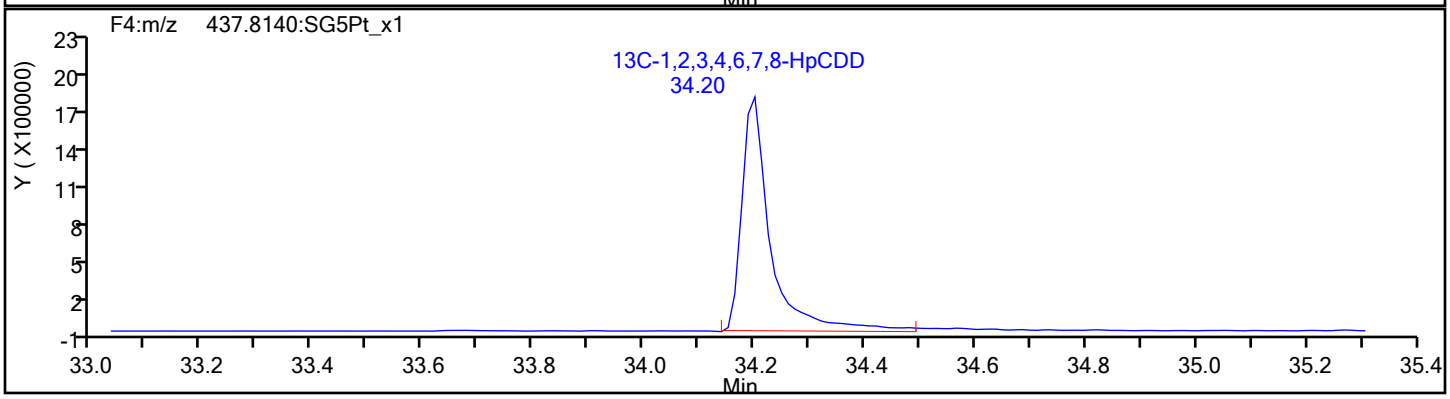

Report Date: 20-Sep-2019 11:21:40 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Injection Date:	19-Sep-2019 22:26:57	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-091319-LL-EXC-1		
Worklist#:	324876	Sample Line#:	46
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

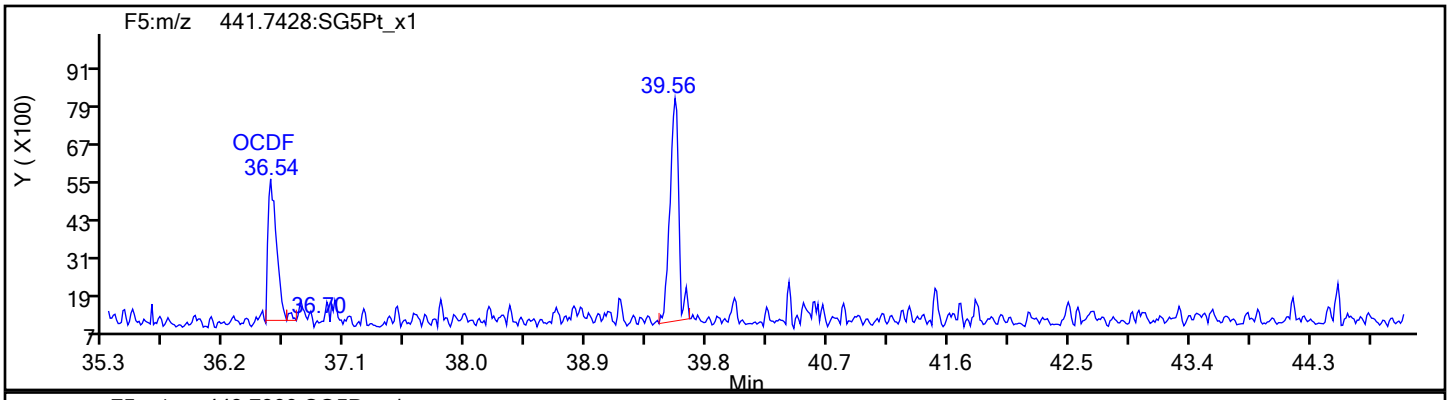

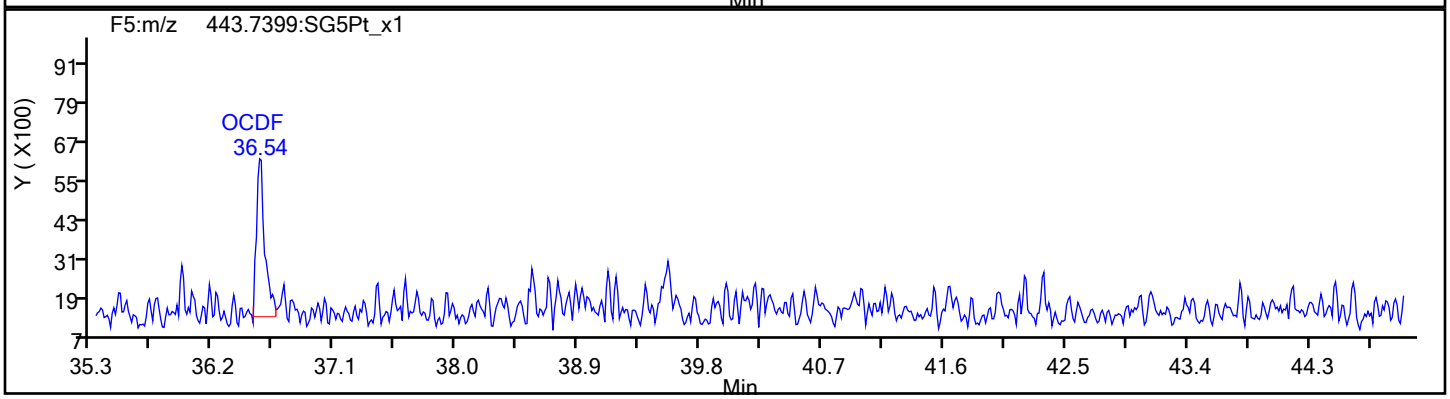

OCDF Standards

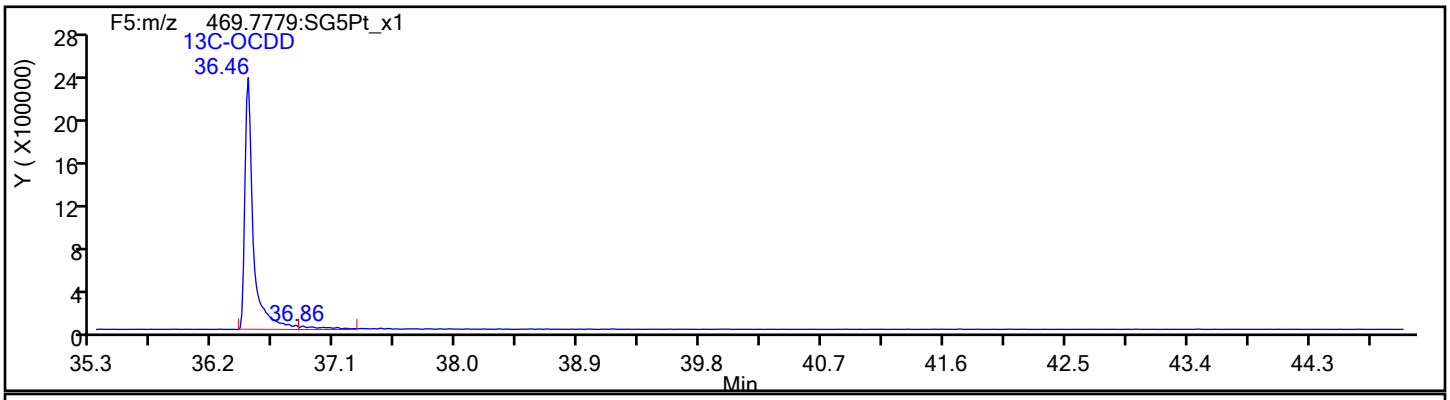

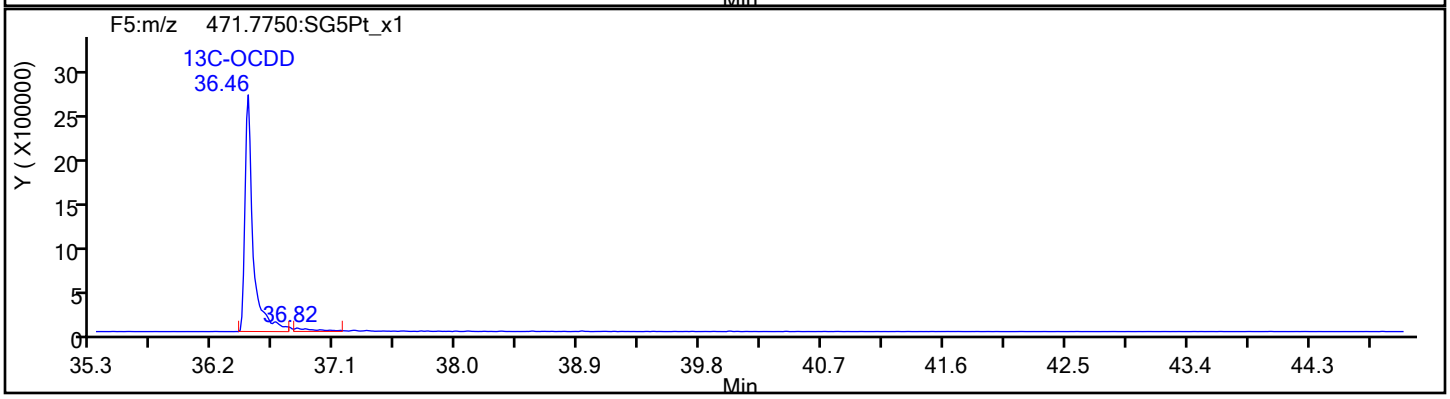

Report Date: 20-Sep-2019 11:21:40 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_46.d		
Injection Date:	19-Sep-2019 22:26:57	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-091319-LL-EXC-1		
Worklist#:	324876	Sample Line#:	46
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

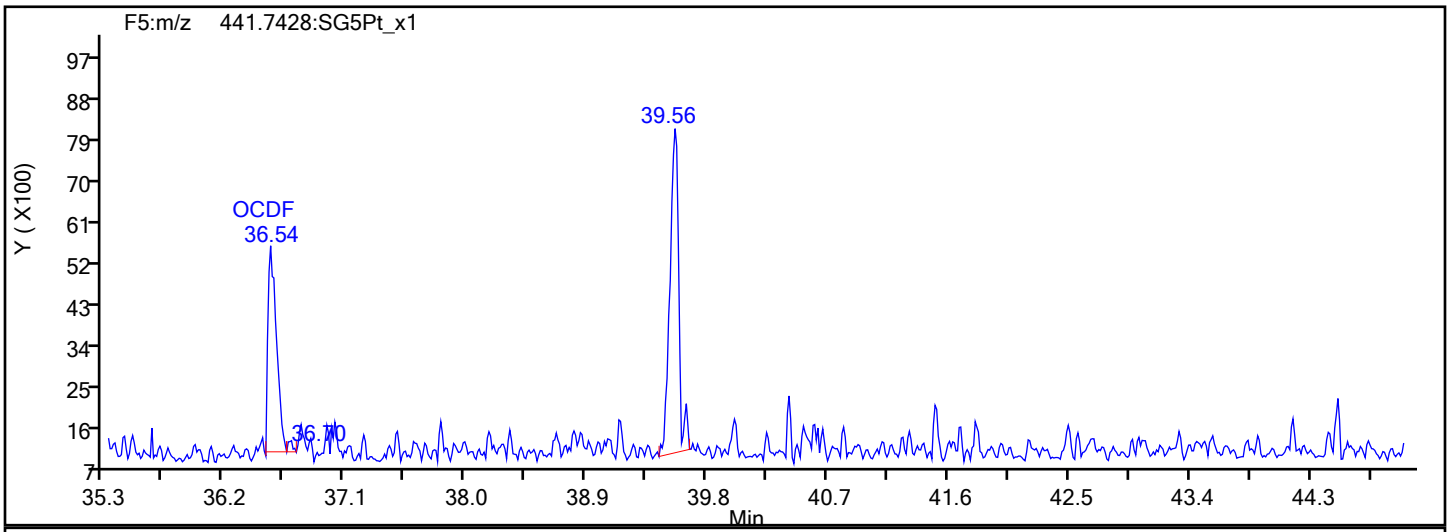

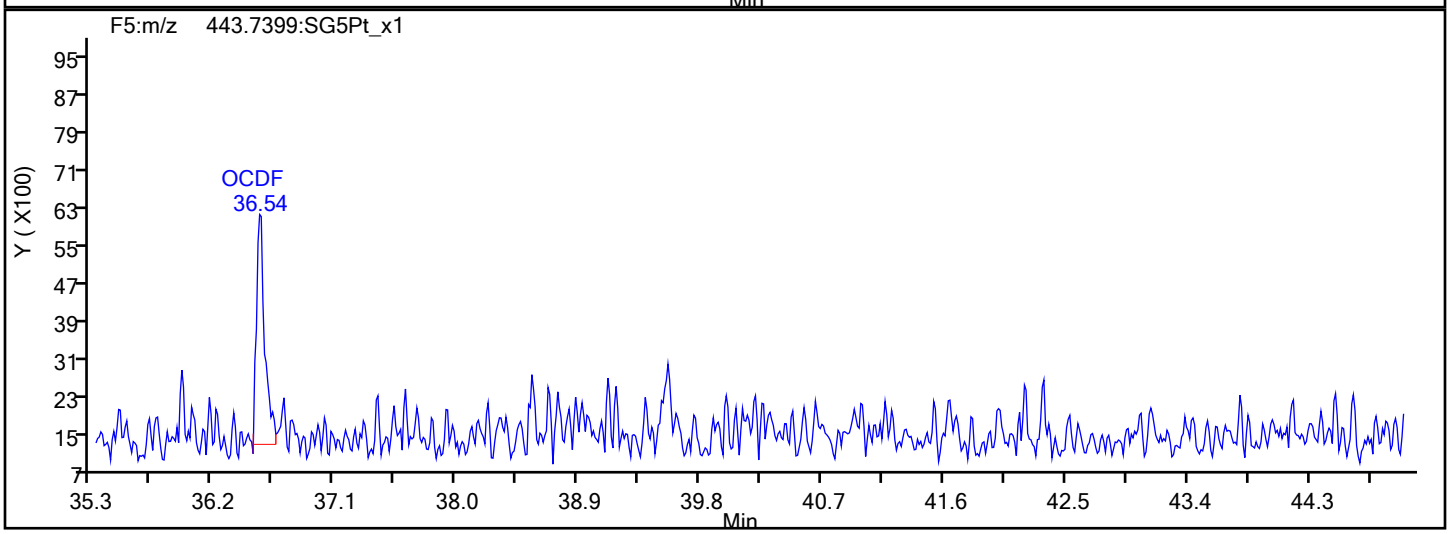

OCDF Interference Mass

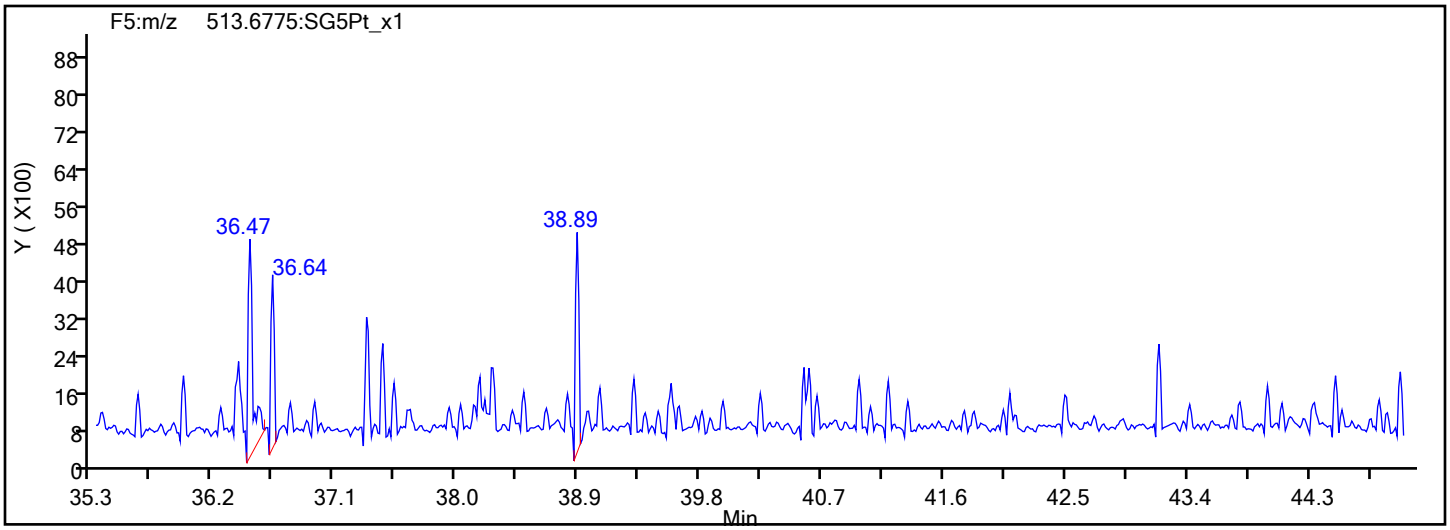

Report Date: 20-Sep-2019 11:21:41 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_46.d		
Injection Date:	19-Sep-2019 22:26:57	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-091319-LL-EXC-1		
Worklist#:	324876	Sample Line#:	46
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

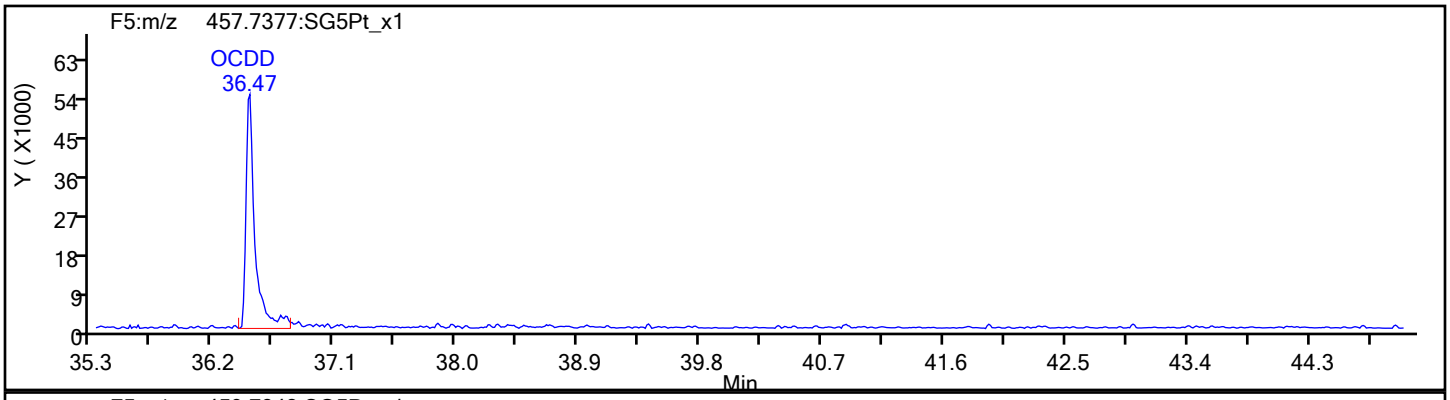

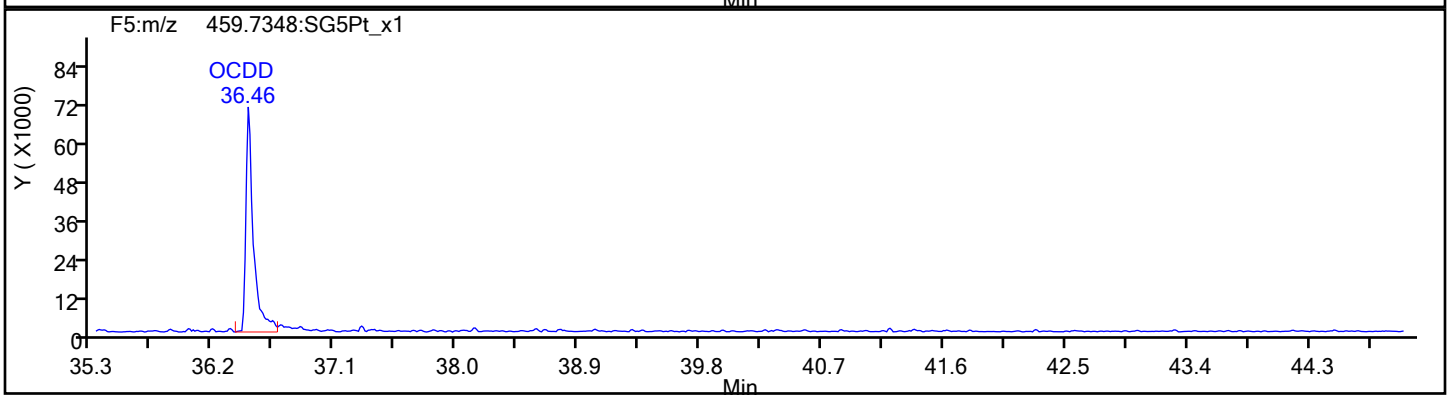

OCDD Standards

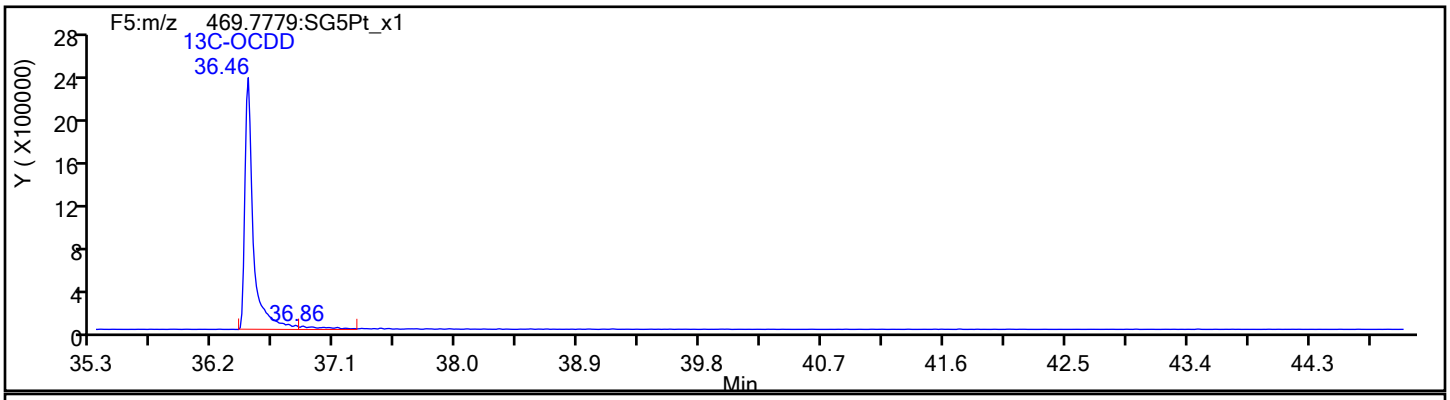

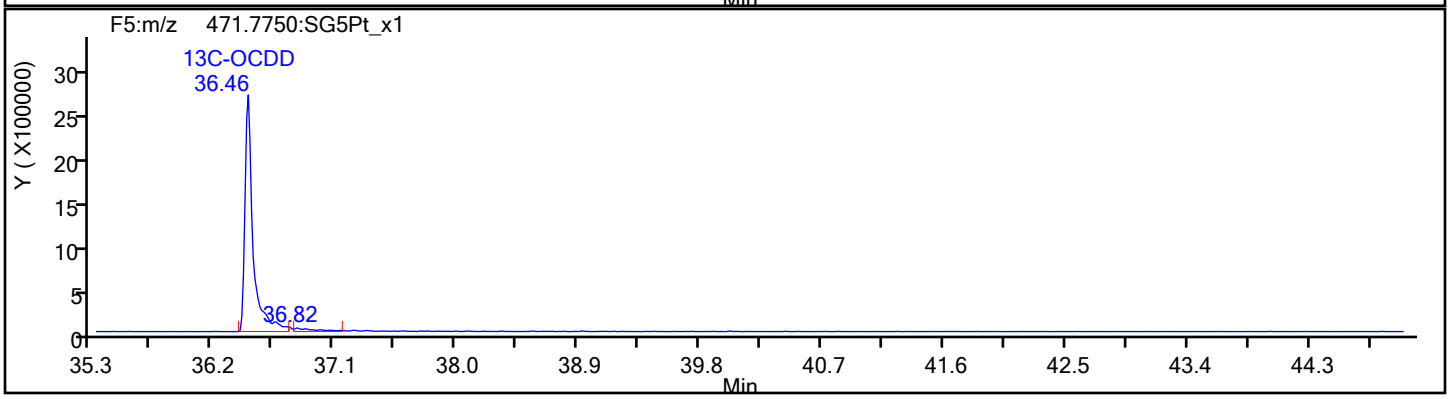

Report Date: 20-Sep-2019 11:21:41 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Injection Date:	19-Sep-2019 22:26:57	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-091319-LL-EXC-1		
Worklist#:	324876	Sample Line#:	46
Column Type:	DB-5	Column Dia:	0.32 mm

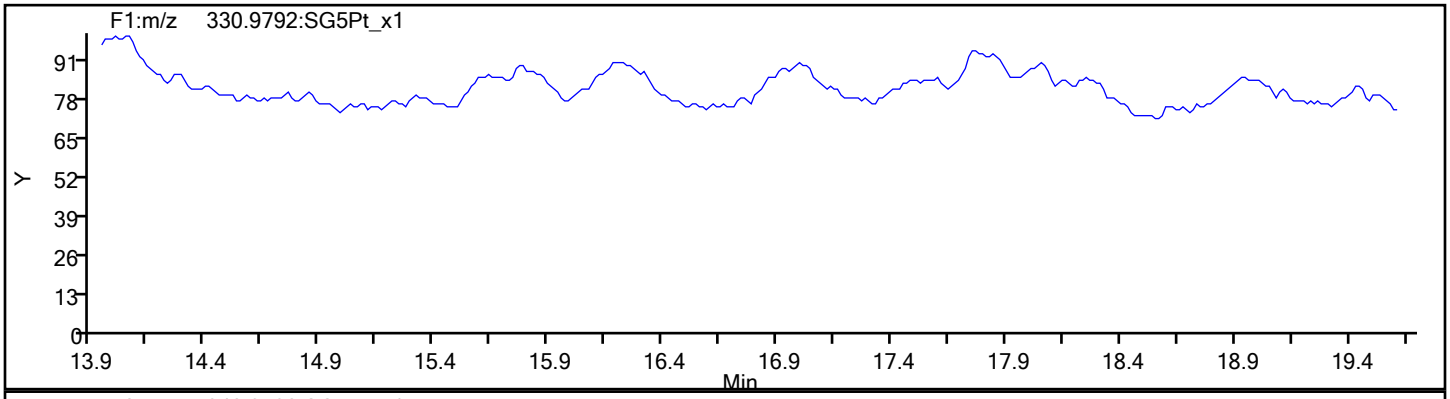

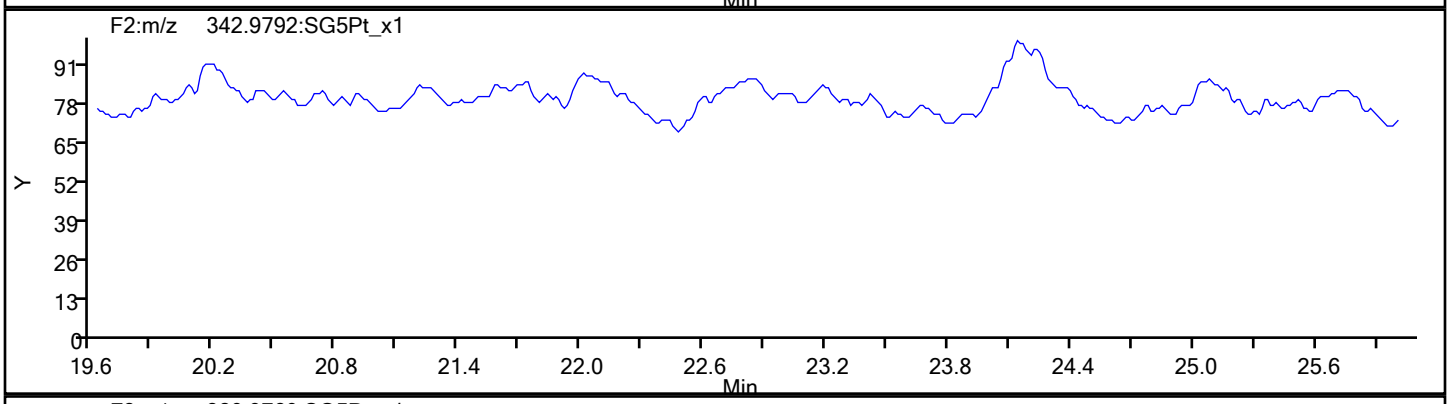

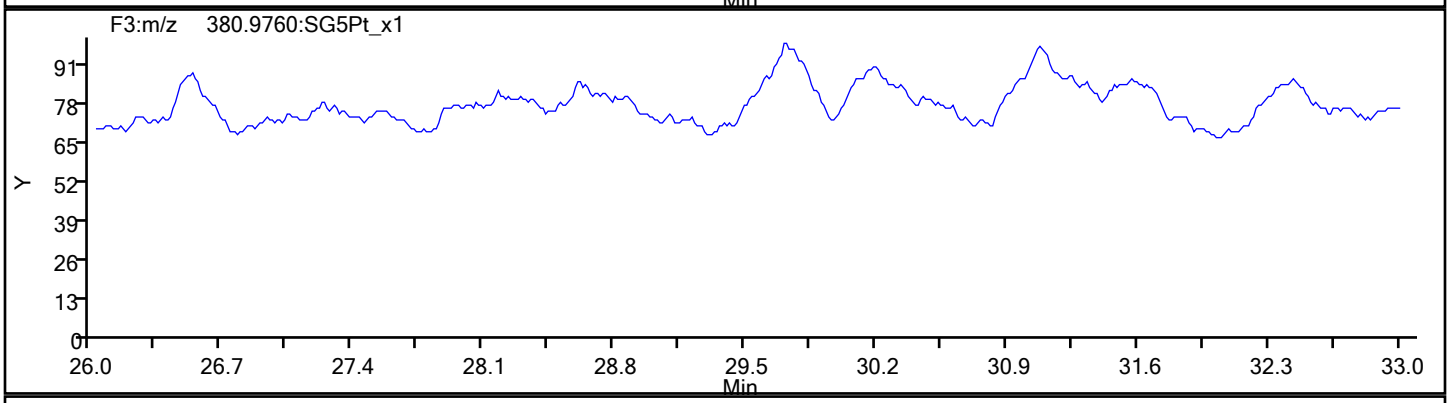

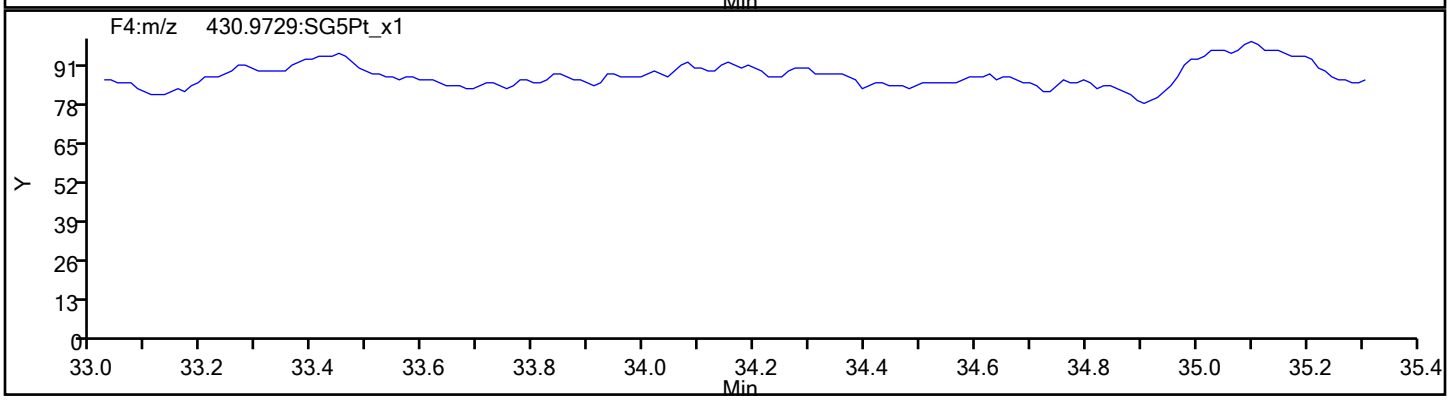

Report Date: 20-Sep-2019 11:21:41 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_46.d		
Injection Date:	19-Sep-2019 22:26:57	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-091319-LL-EXC-1		
Worklist#:	324876	Sample Line#:	46
Column Type:	DB-5	Column Dia:	0.32 mm

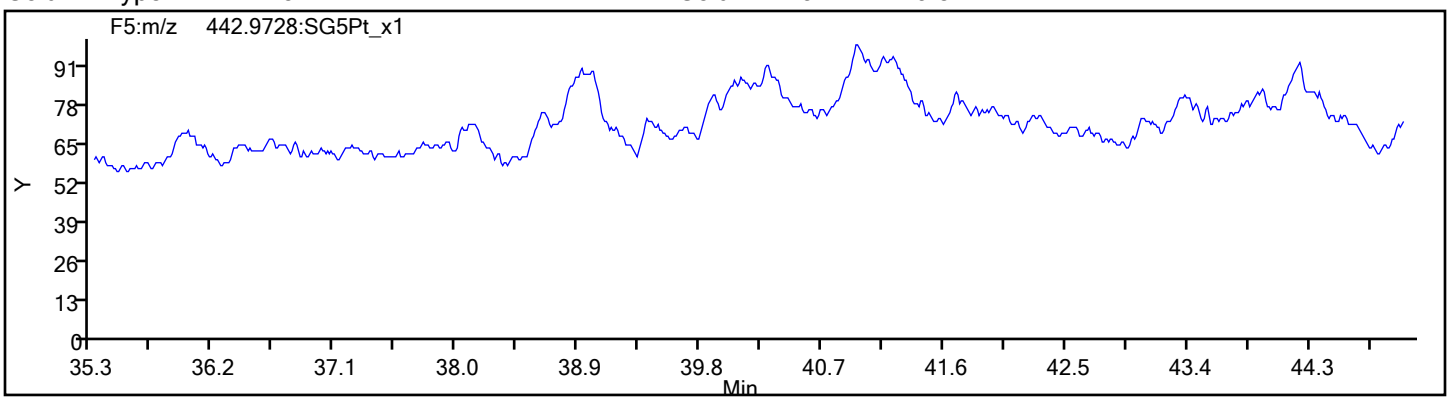

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 600-191956-1
SDG No.:
Client Sample ID: 11187072-091319-LL-EXC-1 RA
Lab Sample ID: 600-191956-2 RA
Matrix: Water
Lab File ID: 20SE1911D2_005.d
Analysis Method: 1613B
Date Collected: 09/13/2019 08:00
Extract. Method: 1613B
Date Extracted: 09/18/2019 13:22
Sample wt/vol: 1021.1(mL)
Date Analyzed: 09/20/2019 12:28
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325151
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
51207-31-9	2,3,7,8-TCDF	220		9.8	1.2

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
89059-46-1	13C-2,3,7,8-TCDF	64		24-169

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	100		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190920-83509.b\20SE1911D2_005.d
Lims ID: 600-191956-A-2-C
Client ID: 11187072-091319-LL-EXC-1
Sample Type: Client
Inject. Date: 20-Sep-2019 12:28:55 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 600-191956-A-2-C
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20190920-83509.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 23-Sep-2019 11:20:20 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0303

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.340	182604390	0.77	1.1E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.506	155901027	0.78	1.3379	63.8	63.8	0.2175	0.2175	63.81	
2,3,7,8-TCDF	16.520	14430298	0.78	0.8389	11.0	11.0	0.0596	0.0596		
D 13C-2,3,7,8-TCDD	15.093	99524354	0.77	0.9388	58.1	58.1	0.5174	0.5174	58.05	
2,3,7,8-TCDD	15.107	3746038	0.76	1.1538	3.262	3.262	0.0844	0.0844		
$ 37Cl4-2,3,7,8-TCDD	15.107	86435510		1.1816	40.1	40.1	0.0414	0.0414	100	
S Total 2378-Chlorinated							0.000100	0.000100		

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190920-83509.b\20SE1911D2_005.d
Lims ID: 600-191956-A-2-C
Client ID: 11187072-091319-LL-EXC-1
Sample Type: Client
Inject. Date: 20-Sep-2019 12:28:55 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 600-191956-A-2-C
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20190920-83509.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 23-Sep-2019 11:20:20 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0303

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.340	15.341	0		79434070	17130514	41850	104625	409		
333.9339	15.340	15.341	0		103170320	22362212	34877	87192	641	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.506	16.511	1	1.076	68427890	13417929	23939	59847	561		
317.9389	16.506	16.511	1	1.076	87473137	16967111	22025	55062	770	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.520	16.535	-1	1.001	6317342	1232849	2611	6527	472		
305.8987	16.533	16.535	0	1.002	8112956	1568034	3467	8667	452	0.78(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.093	15.097	1	0.984	43422874	9395331	41850	104625	225		
333.9339	15.093	15.097	1	0.984	56101480	12240208	34877	87192	351	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.107	15.108	0	1.001	1623434	333424	5052	12630	66		
321.8936	15.107	15.108	0	1.001	2122604	441352	3380	8450	131	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.107	15.108	0	0.985	86435510	18482540	7729	19322	2391		

Total 2378-Chlorinated Dioxins & Furans
0.0 0

Report Date: 23-Sep-2019 11:20:52 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190920-83509.b\20SE1911D2_005.d		
Injection Date:	20-Sep-2019 12:28:55	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-091319-LL-EXC-1		
Worklist#:	325151	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

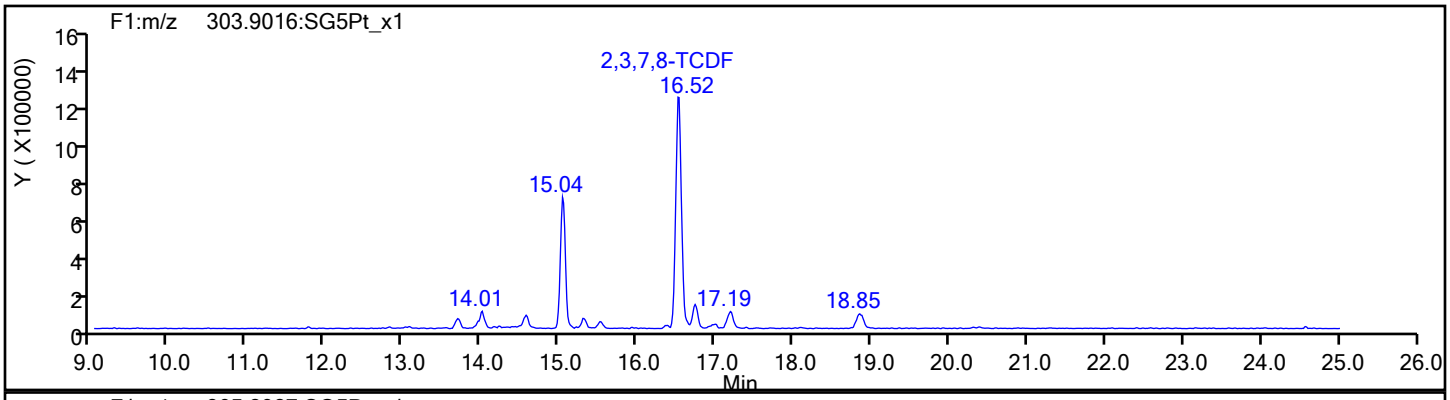

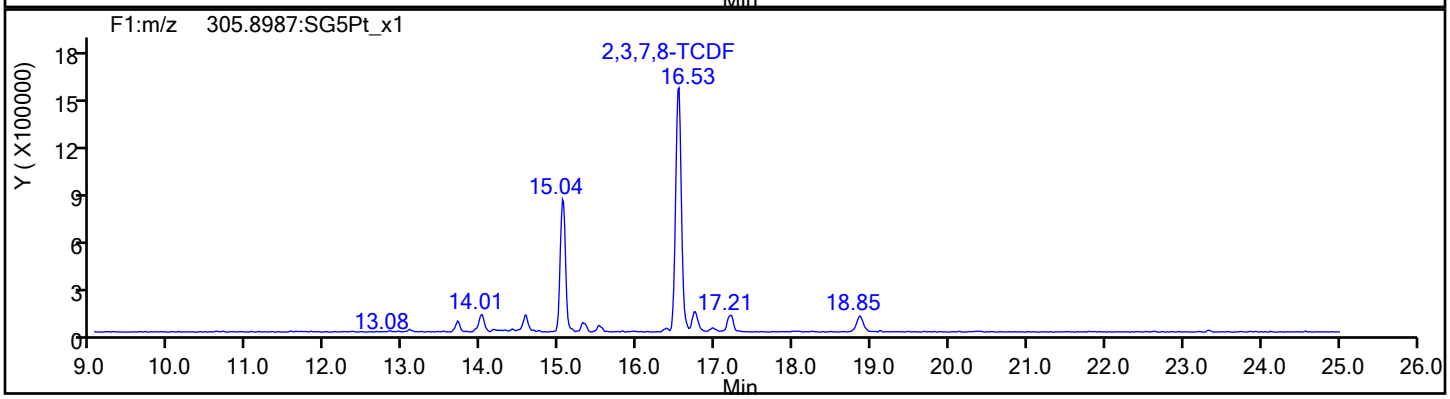

TCDF Standards

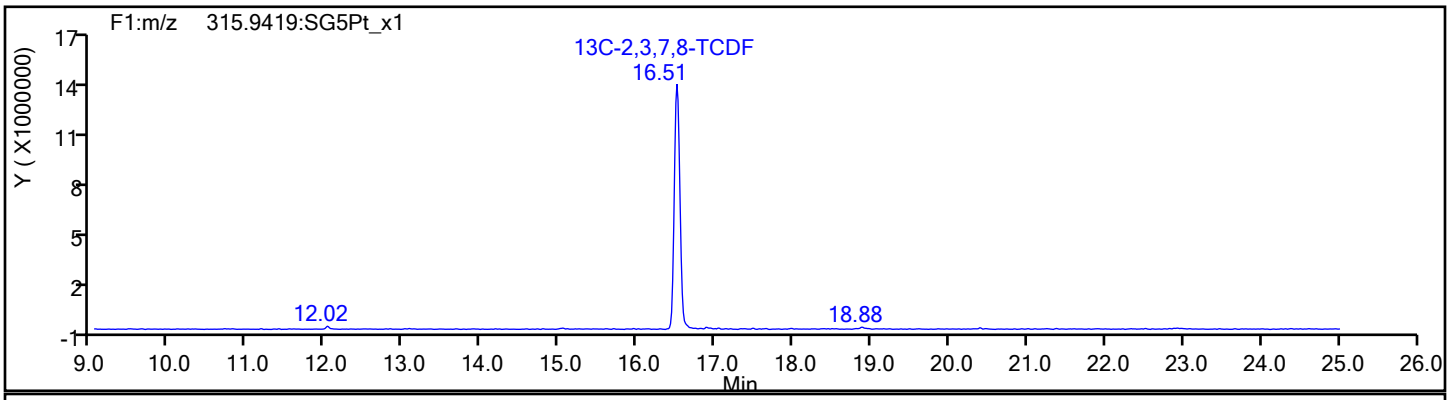

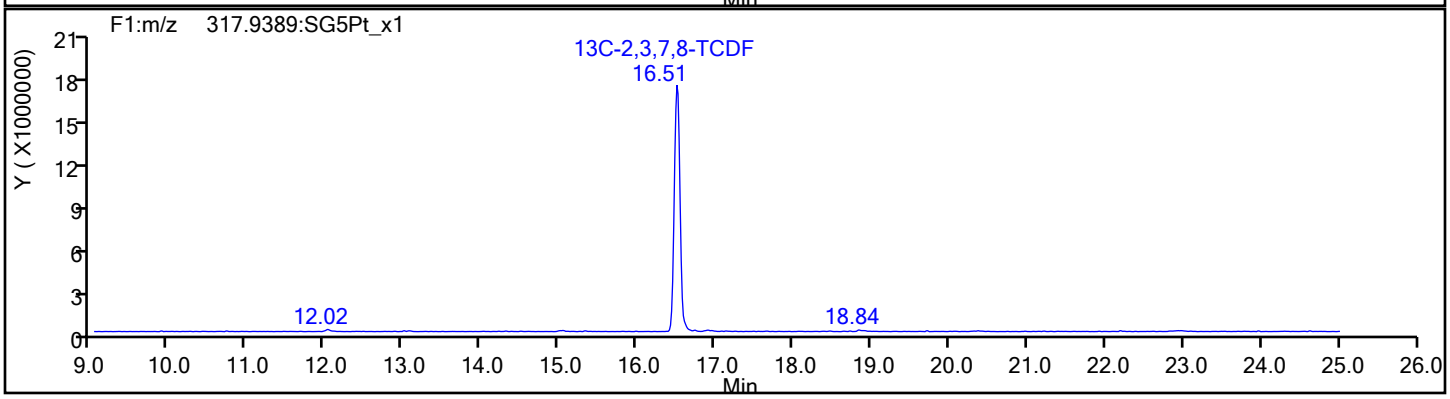

Report Date: 23-Sep-2019 11:20:52 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190920-83509.b\20SE1911D2_005.d		
Injection Date:	20-Sep-2019 12:28:55	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-091319-LL-EXC-1		
Worklist#:	325151	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

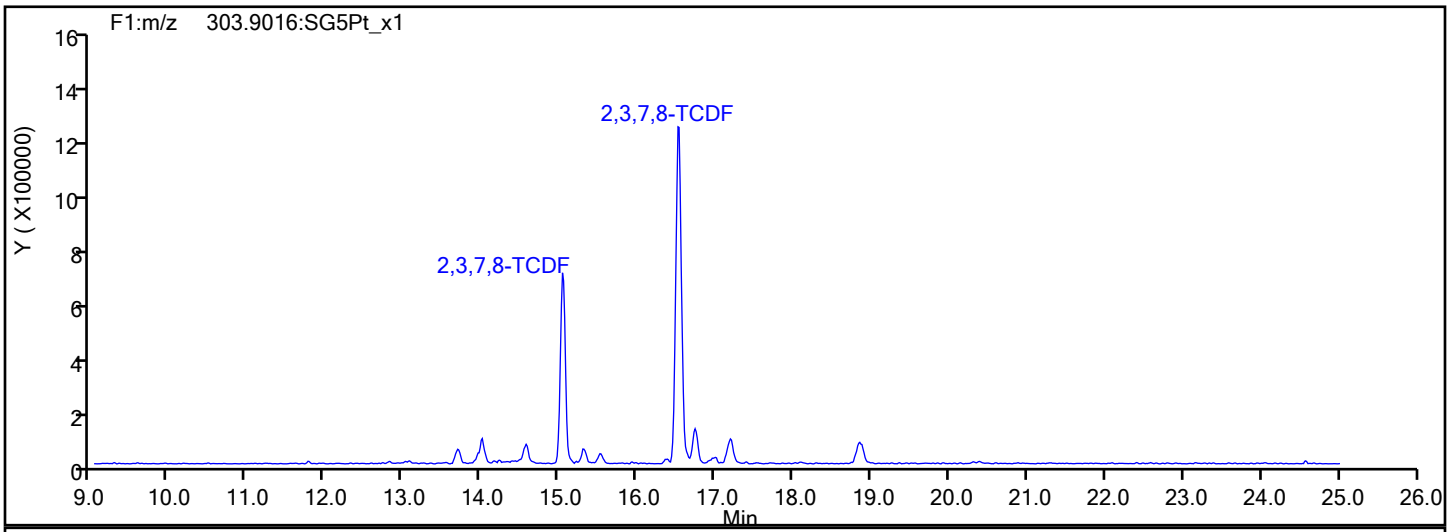

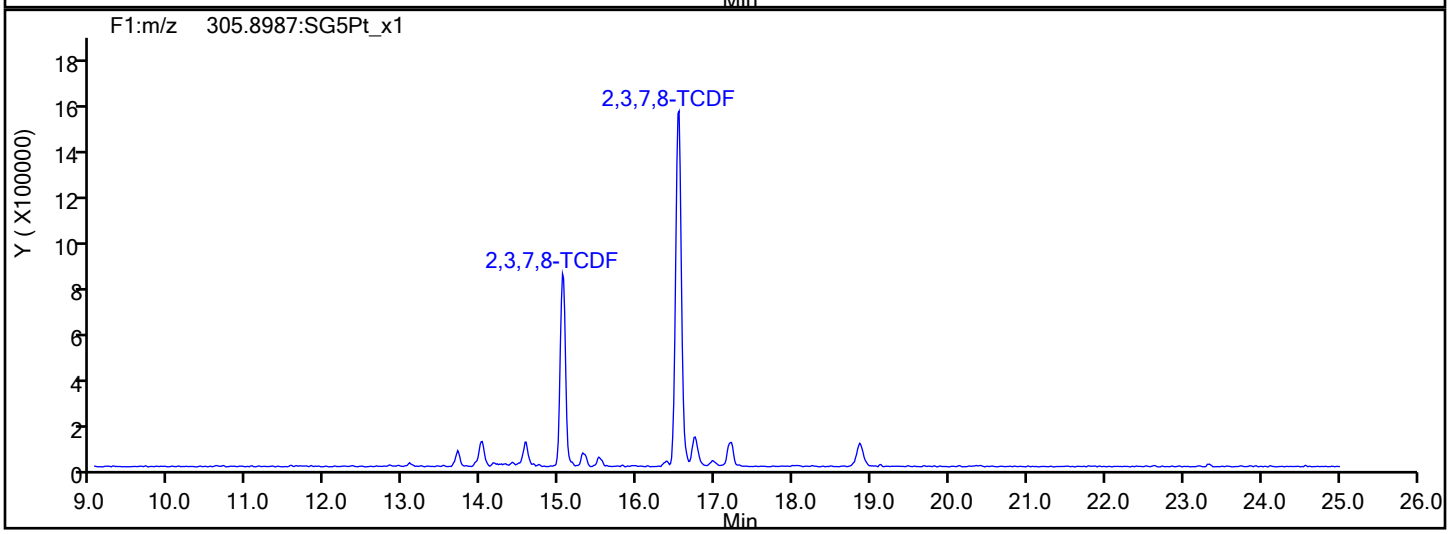

TCDF Interference Mass

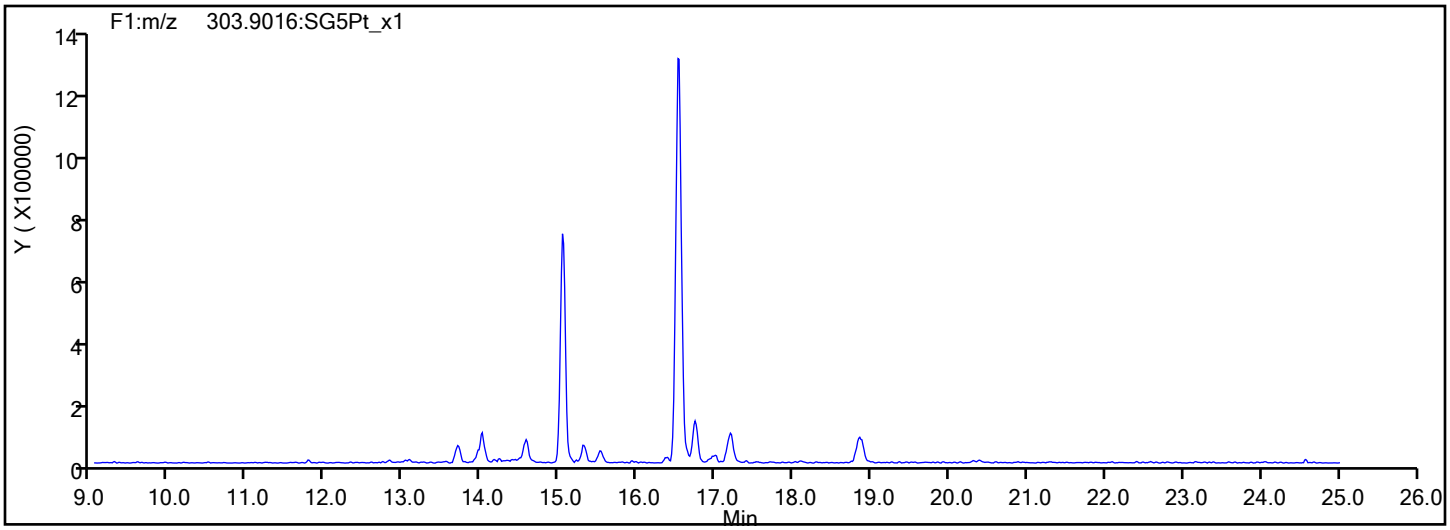

Report Date: 23-Sep-2019 11:20:52 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190920-83509.b\20SE1911D2_005.d		
Injection Date:	20-Sep-2019 12:28:55	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-091319-LL-EXC-1		
Worklist#:	325151	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

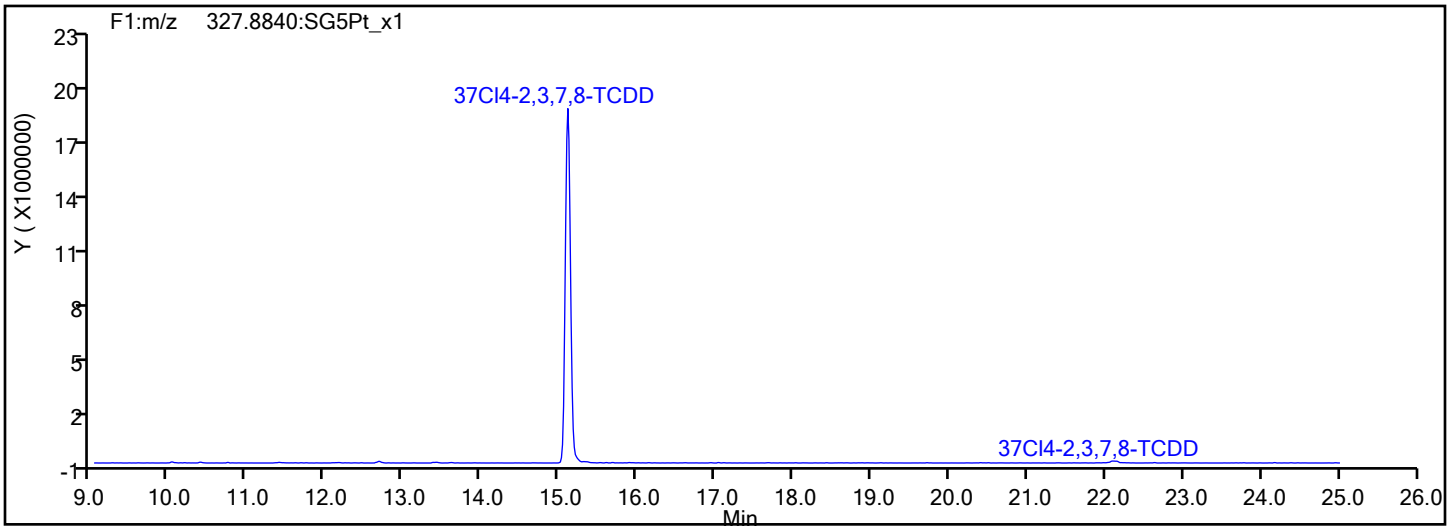

37Cl4-TCDD Standards

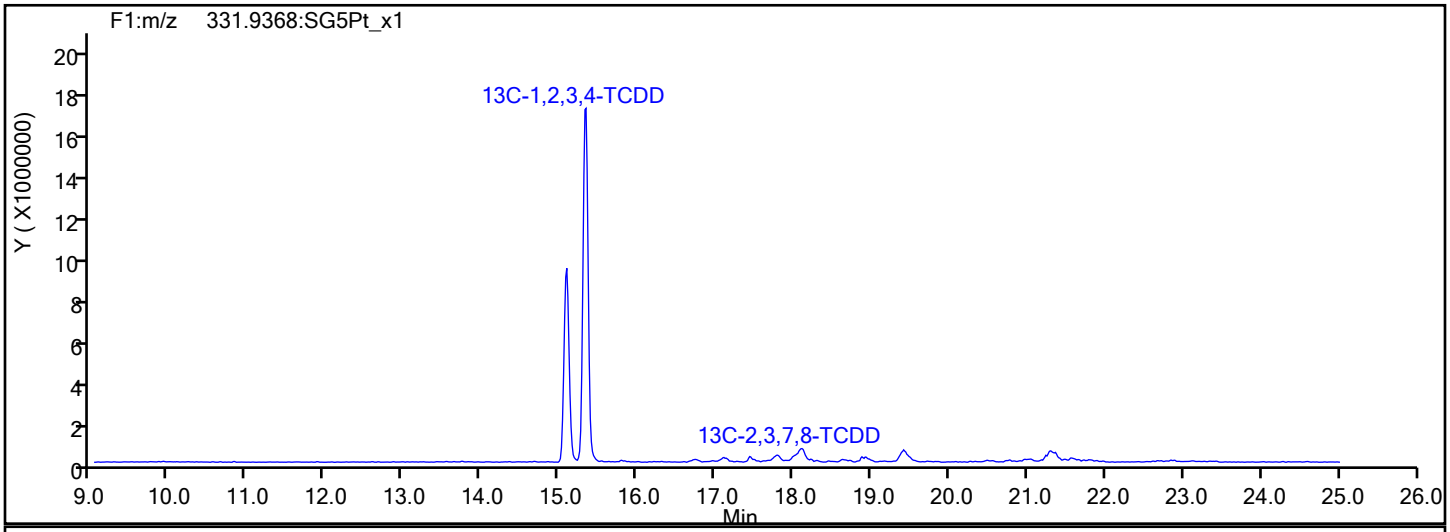

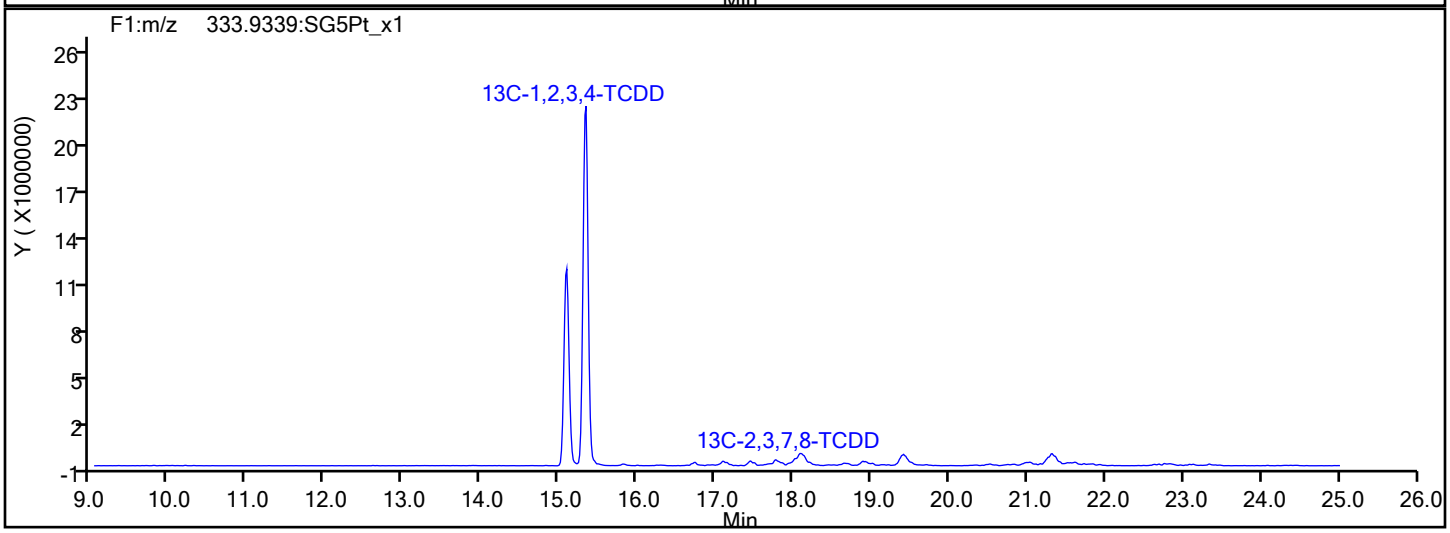

Report Date: 23-Sep-2019 11:20:52 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190920-83509.b\20SE1911D2_005.d		
Injection Date:	20-Sep-2019 12:28:55	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-091319-LL-EXC-1		
Worklist#:	325151	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

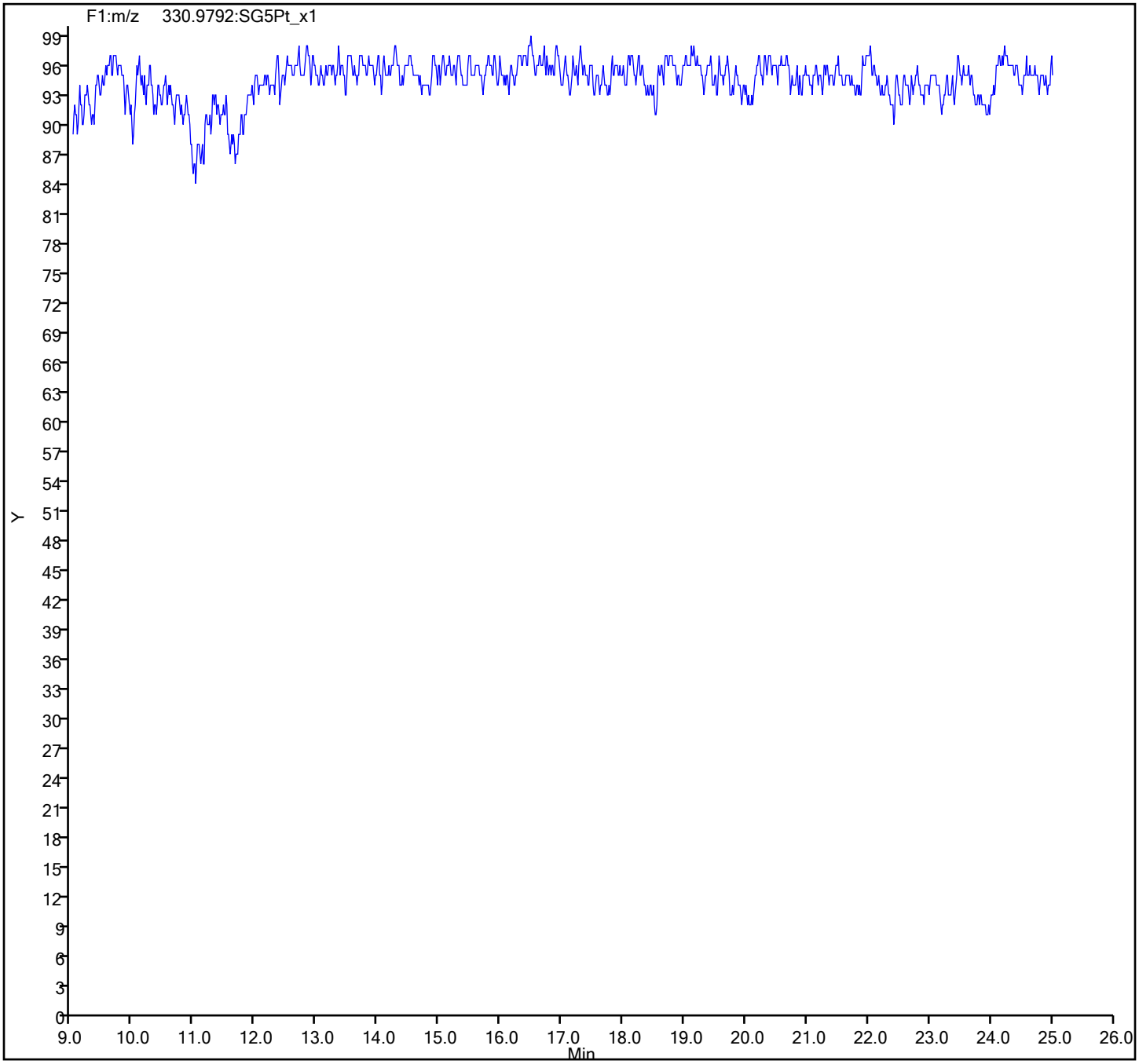

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-1 Analy Batch No.: 324128

SDG No.:

Instrument ID: 10D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 13:03 Calibration End Date: 09/17/2019 16:55 Calibration ID: 47423

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-324128/3	17SE1910D5_3.d
Level 2	IC 320-324128/4	17SE1910D5_4.d
Level 3	IC 320-324128/7	17SE1910D5_7.d
Level 4	IC 320-324128/6	17SE1910D5_6.d
Level 5	IC 320-324128/8	17SE1910D5_8.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
2,3,7,8-TCDF	1.0712	1.1022	0.9929	1.0616	1.0257	AveID		1.0507				4.0		20.0			
2,3,7,8-TCDD	1.1677	1.1266	1.0239	1.1261	1.0877	AveID		1.1064				4.9		20.0			
1,2,3,7,8-PeCDF	1.0011	1.1601	1.0432	1.1331	1.0737	AveID		1.0822				6.0		20.0			
2,3,4,7,8-PeCDF	0.9626	1.1888	1.0864	1.1728	1.1054	AveID		1.1032				8.1		20.0			
1,2,3,7,8-PeCDD	0.8594	0.9576	0.8670	0.9410	0.9001	AveID		0.9050				4.8		20.0			
1,2,3,4,7,8-HxCDF	1.1004	1.2643	1.1561	1.2645	1.2013	AveID		1.1973				5.9		20.0			
1,2,3,6,7,8-HxCDF	1.0669	1.2704	1.1534	1.2334	1.1792	AveID		1.1807				6.6		20.0			
2,3,4,6,7,8-HxCDF	1.1327	1.2683	1.1855	1.2657	1.2056	AveID		1.2116				4.7		20.0			
1,2,3,4,7,8-HxCDD	1.0497	1.1313	1.0762	1.1585	1.1282	AveID		1.1088				4.0		20.0			
1,2,3,6,7,8-HxCDD	1.0225	1.1526	1.0496	1.1177	1.0648	AveID		1.0814				4.9		20.0			
1,2,3,7,8,9-HxCDD	1.1542	1.3138	1.1887	1.2433	1.1615	AveID		1.2123				5.5		20.0			
1,2,3,7,8,9-HxCDF	1.2253	1.2976	1.2100	1.2716	1.2212	AveID		1.2451				3.0		20.0			
1,2,3,4,6,7,8-HpCDF	1.5175	1.6415	1.5201	1.5867	1.5119	AveID		1.5555				3.7		20.0			
1,2,3,4,6,7,8-HpCDD	0.8498	0.9887	0.9182	0.9754	0.9258	AveID		0.9316				5.9		20.0			
1,2,3,4,7,8,9-HpCDF	1.2548	1.4796	1.3480	1.4704	1.3785	AveID		1.3862				6.7		20.0			
OCDD	0.9991	1.1715	1.0189	1.0914	1.0295	AveID		1.0621				6.6		20.0			
OCDF	1.1420	1.3314	1.2399	1.3172	1.2675	AveID		1.2596				6.0		20.0			
13C-2,3,7,8-TCDF	1.4608	1.4445	1.4059	1.4451	1.4357	Ave		1.4384				1.4		35.0			
13C-2,3,7,8-TCDD	0.9625	0.9452	0.9420	0.9578	0.9591	Ave		0.9533				1.0		35.0			
13C-1,2,3,7,8-PeCDF	1.0011	0.9736	1.0018	1.0725	1.0941	Ave		1.0286				5.0		35.0			
13C-2,3,4,7,8-PeCDF	0.9468	0.9409	0.9284	1.0290	1.0682	Ave		0.9827				6.3		35.0			
13C-1,2,3,7,8-PeCDD	0.7126	0.6892	0.7253	0.7912	0.8222	Ave		0.7481				7.5		35.0			
13C-1,2,3,4,7,8-HxCDF	1.1695	1.1696	1.1139	1.1554	1.1519	Ave		1.1520				2.0		35.0			
13C-1,2,3,6,7,8-HxCDF	1.2574	1.2360	1.2152	1.2646	1.2439	Ave		1.2434				1.6		35.0			
13C-2,3,4,6,7,8-HxCDF	1.1808	1.1525	1.1326	1.1890	1.2049	Ave		1.1720				2.5		35.0			
13C-1,2,3,4,7,8-HxCDD	0.7524	0.7624	0.7637	0.8053	0.8223	Ave		0.7812				3.9		35.0			
13C-1,2,3,6,7,8-HxCDD	0.8902	0.8874	0.9034	0.9518	0.9544	Ave		0.9175				3.6		35.0			
13C-1,2,3,7,8,9-HxCDF	1.0743	1.0692	1.0512	1.0728	1.0598	Ave		1.0655				0.9		35.0			
13C-1,2,3,4,6,7,8-HpCDF	0.8693	0.8034	0.8768	0.8898	0.8745	Ave		0.8628				3.9		35.0			
13C-1,2,3,4,6,7,8-HpCDD	0.8645	0.8231	0.8669	0.9030	0.9118	Ave		0.8739				4.0		35.0			
13C-1,2,3,4,7,8,9-HpCDF	0.8125	0.7593	0.7819	0.8143	0.8272	Ave		0.7991				3.5		35.0			
13C-OCDD	0.7944	0.6967	0.7385	0.7965	0.8457	Ave		0.7744				7.4		35.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-1 Analy Batch No.: 324128

SDG No.:

Instrument ID: 10D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 13:03 Calibration End Date: 09/17/2019 16:55 Calibration ID: 47423

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
37Cl4-2,3,7,8-TCDD	1.1192	1.2125	1.2082	1.2900	1.2821	Ave		1.2224				5.7					

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-1 Analy Batch No.: 324128

SDG No.:

Instrument ID: 10D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 13:03 Calibration End Date: 09/17/2019 16:55 Calibration ID: 47423

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-324128/3	17SE1910D5_3.d
Level 2	IC 320-324128/4	17SE1910D5_4.d
Level 3	IC 320-324128/7	17SE1910D5_7.d
Level 4	IC 320-324128/6	17SE1910D5_6.d
Level 5	IC 320-324128/8	17SE1910D5_8.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (PG/UL)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
2,3,7,8-TCDF		AveID	172042	1529056	16312729	83942362	462672519	0.500	2.00	10.0	40.0	200
2,3,7,8-TCDD		AveID	123575	1022744	11272193	59019056	327747086	0.500	2.00	10.0	40.0	200
1,2,3,7,8-PeCDF		AveID	550940	5424212	61060330	332470884	1845377073	2.50	10.0	50.0	200	1000
2,3,4,7,8-PeCDF		AveID	501008	5371777	58935693	330153847	1854754260	2.50	10.0	50.0	200	1000
1,2,3,7,8-PeCDD		AveID	336661	3169429	36740998	203688899	1162563715	2.50	10.0	50.0	200	1000
1,2,3,4,7,8-HxCDF		AveID	452083	4604517	51431784	291651831	1688948701	2.50	10.0	50.0	200	1000
1,2,3,6,7,8-HxCDF		AveID	471238	4889511	55977084	311373058	1790437956	2.50	10.0	50.0	200	1000
2,3,4,6,7,8-HxCDF		AveID	469856	4551517	53626165	300428448	1773083873	2.50	10.0	50.0	200	1000
1,2,3,4,7,8-HxCDD		AveID	277444	2685740	32825472	186227471	1132407299	2.50	10.0	50.0	200	1000
1,2,3,6,7,8-HxCDD		AveID	319747	3184984	37867080	212361866	1240444751	2.50	10.0	50.0	200	1000
1,2,3,7,8,9-HxCDD		AveID	333001	3374687	39571199	218049333	1259477463	2.50	10.0	50.0	200	1000
1,2,3,7,8,9-HxCDF		AveID	462420	4319986	50802364	272303395	1579646001	2.50	10.0	50.0	200	1000
1,2,3,4,6,7,8-HpCDF		AveID	463407	4106440	53230505	281845286	1613842335	2.50	10.0	50.0	200	1000
1,2,3,4,6,7,8-HpCDD		AveID	258090	2534205	31792117	175833007	1030391820	2.50	10.0	50.0	200	1000
1,2,3,4,7,8,9-HpCDF		AveID	358162	3498041	42098592	239010564	1391884877	2.50	10.0	50.0	200	1000
OCDD		AveID	557610	5082981	60102277	347055077	2125514466	5.00	20.0	100	400	2000
OCDF		AveID	637327	5776792	73138090	418862104	2616959337	5.00	20.0	100	400	2000
13C-2,3,7,8-TCDF	13CTC	Ave	32121801	69364385	164292495	197671153	225533576	100	100	100	100	100
13C-2,3,7,8-TCDD	13CTC	Ave	21165335	45389691	110088290	131023361	150666513	100	100	100	100	100
13C-1,2,3,7,8-PeCDF	13CTC	Ave	22013977	46755351	117067384	146707284	171862914	100	100	100	100	100
13C-2,3,4,7,8-PeCDF	13CTC	Ave	20818900	45184985	108494277	140755634	167797734	100	100	100	100	100
13C-1,2,3,7,8-PeCDD	13CTC	Ave	15668897	33098301	84755636	108225317	129152474	100	100	100	100	100
13C-1,2,3,4,7,8-HxCDF	13CHx	Ave	16433122	36418536	88972191	115322048	140595624	100	100	100	100	100
13C-1,2,3,6,7,8-HxCDF	13CHx	Ave	17668349	38486861	97064883	126224651	151833452	100	100	100	100	100
13C-2,3,4,6,7,8-HxCDF	13CHx	Ave	16591902	35886090	90467566	118677202	147071003	100	100	100	100	100
13C-1,2,3,4,7,8-HxCDD	13CHx	Ave	10572054	23739455	61001305	80372897	100374877	100	100	100	100	100
13C-1,2,3,6,7,8-HxCDD	13CHx	Ave	12508423	27633426	72157657	95002970	116499868	100	100	100	100	100
13C-1,2,3,7,8,9-HxCDF	13CHx	Ave	15096147	33293009	83967924	107073331	129353689	100	100	100	100	100
13C-1,2,3,4,6,7,8-HpCDF	13CHx	Ave	12214839	25015698	70034446	88816288	106743815	100	100	100	100	100
13C-1,2,3,4,6,7,8-HpCDD	13CHx	Ave	12148019	25630510	69249272	90130025	111298169	100	100	100	100	100
13C-1,2,3,4,7,8,9-HpCDF	13CHx	Ave	11417456	23641905	62459777	81274920	100973962	100	100	100	100	100
13C-OCDD	13CHx	Ave	22323676	43388861	117978202	158997965	206464776	200	200	200	200	200
37Cl4-2,3,7,8-TCDD	13CTC	Ave	123050	1164531	11295580	70585275	402794059	0.500	2.00	8.00	40.0	200

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-1 Analy Batch No.: 324128

SDG No.:

Instrument ID: 10D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 13:03 Calibration End Date: 09/17/2019 16:55 Calibration ID: 47423

Curve Type Legend:

Ave = Average ISTD
AveID = Average isotope dilution

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #
1	17SE1910D5_1	WDM HRDXNCP_00038	WDM 091719	Tray01:1	---	
2	17SE1910D5_2	Solvent Blank C-14	SB 091719	Tray01:3	---	
3	17SE1910D5_3	CS-2 HRDXNL2_00027	IC 091719	Tray01:4	Dioxin	
4	17SE1910D5_4	CS-3 HRDXNL3_00025	IC 091719A	Tray01:5	Dioxin	
5	17SE1910D5_5	Mis-inject (wrong standard)	Mis-inject (wrong standard)	Tray01:2	Dioxin	
6	17SE1910D5_6	CS-5 HRDXNL5_00028	IC 091719C	Tray01:6	Dioxin	
7	17SE1910D5_7	CS-4 HRDXNL4_00084	IC 091719B	Tray01:2	Dioxin	
8	17SE1910D5_8	CS-6 HRDXNL6_00024	IC 091719D	Tray01:7	Dioxin	
9	17SE1910D5_9	Solvent Blank C-14	SB 091719A	Tray01:3	---	
10	17SE1910D5_10	ICV HRDXNIC_00042	ICV 091719	Tray01:8	Dioxin	
11	17SE1910D5_11	Solvent Blank C-14	SB 091619A	Tray01:3	---	
12	17SE1910D5_12	WDM HRDXNCP_00038	WDM 091719A	Tray01:1	---	
13	17SE1910D5_13	CS-4 HRDXNL4_00084	CCV 091719	Tray01:2	Dioxin	
14	17SE1910D5_14	Solvent Blank C-14	SB 091719B	Tray01:3	---	
15	17SE1910D5_15	MB 320-521530/1-A	MB 320-521530/1-A	Tray01:15	8290/Solid	50
16	17SE1910D5_16	LCS 320-521530/2-A	LCS 320-521530/2-A	Tray01:16	8290/Solid	
17	17SE1910D5_17	320-53987-E-2-A	320-53987-E-2-A	Tray01:17	8290/Solid	
18	17SE1910D5_18	320-53987-E-3-A	320-53987-E-3-A	Tray01:18	8290/Solid	
19	17SE1910D5_19	320-53988-E-2-A	320-53988-E-2-A	Tray01:19	8290/Solid	
20	17SE1910D5_20	320-53989-E-2-A	320-53989-E-2-A	Tray01:20	8290/Solid	
21	17SE1910D5_21	320-53989-E-3-A	320-53989-E-3-A	Tray01:21	8290/Solid	
22	17SE1910D5_22	320-53989-E-4-A	320-53989-E-4-A	Tray01:22	8290/Solid	
23	17SE1910D5_23	320-53989-E-5-A	320-53989-E-5-A	Tray01:23	8290/Solid	
24	17SE1910D5_24	Solvent Blank C-14	SB 091619C	Tray01:3	---	
25	17SE1910D5_25	CS-4 HRDXNL4_00084	CCV 091719A	Tray01:2	Dioxin	
26	17SE1910D5_26	WDM HRDXNCP_00038	WDM 091719B	Tray01:1	---	
27	17SE1910D5_27	Solvent Blank C-14	SB 091719D	Tray01:3	---	
28	17SE1910D5_28	320-53989-E-6-A	320-53989-E-6-A	Tray01:29	8290/Solid	50
29	17SE1910D5_29	320-53989-E-7-A	320-53989-E-7-A	Tray01:30	8290/Solid	
30	17SE1910D5_30	320-53989-E-8-A	320-53989-E-8-A	Tray01:31	8290/Solid	
31	17SE1910D5_31	320-53989-E-9-A	320-53989-E-9-A	Tray01:32	8290/Solid	
32	17SE1910D5_32	320-53989-E-10-A	320-53989-E-10-A	Tray01:33	8290/Solid	
33	17SE1910D5_33	320-53989-E-11-A	320-53989-E-11-A	Tray01:34	8290/Solid	
34	17SE1910D5_34	320-53989-E-12-A	320-53989-E-12-A	Tray01:35	8290/Solid	
35	17SE1910D5_35	320-53989-E-13-A	320-53989-E-13-A	Tray01:36	8290/Solid	
36	17SE1910D5_36	320-53989-E-14-A	320-53989-E-14-A	Tray01:37	8290/Solid	
37	17SE1910D5_37	Solvent Blank C-14	SB 091619E	Tray01:3	---	
38	17SE1910D5_38	CS-4 HRDXNL4_00084	CCV 091719B	Tray01:2	Dioxin	
39	17SE1910D5_39	WDM HRDXNCP_00038	WDM 091719C	Tray01:1	---	
40	17SE1910D5_40	Solvent Blank C-14	SB 091719F	Tray01:3	---	

Logfile checked
09/18/19 SMA

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed: Tuesday, September 17, 2019 11:25:01 Pacific Daylight Time

M 292.9824 R 12824

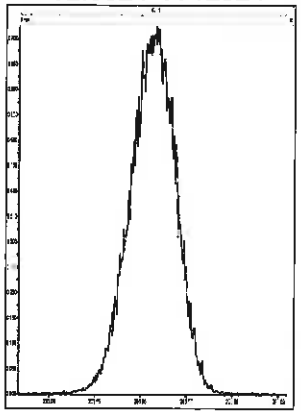

M 304.9824 R 13022

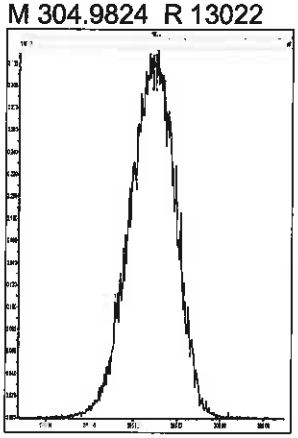

M 318.9792 R 12690

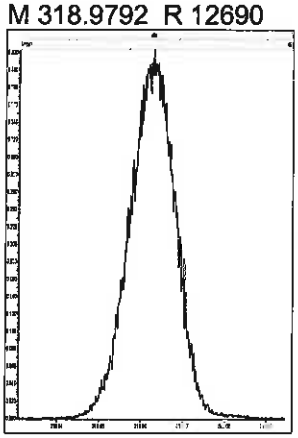

M 330.9792 R 12694

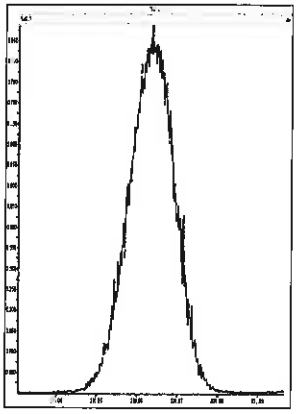

M 342.9792 R 13090

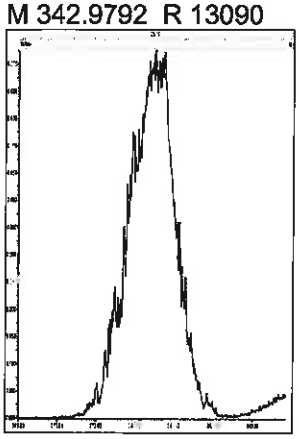

M 354.9792 R 12499

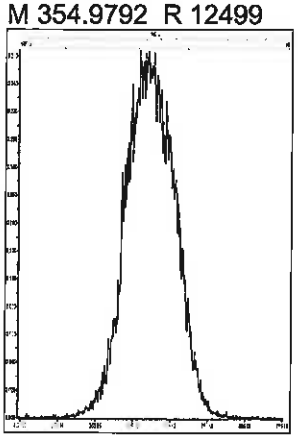

M 366.9792 R 11902

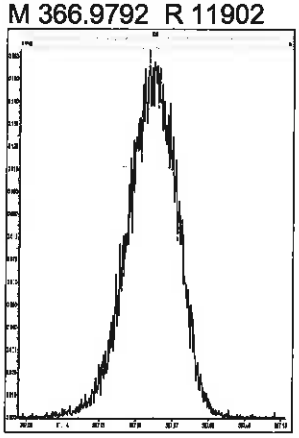

M 380.9760 R 11789

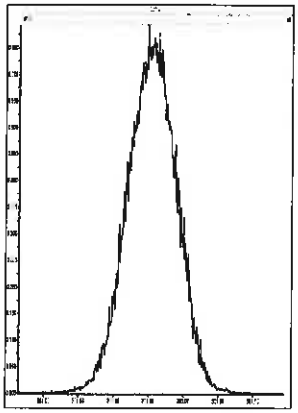

M 392.9760 R 12018

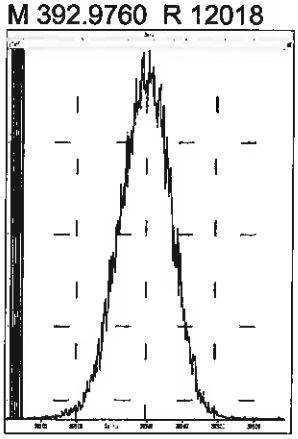

M 404.9760 R 11626

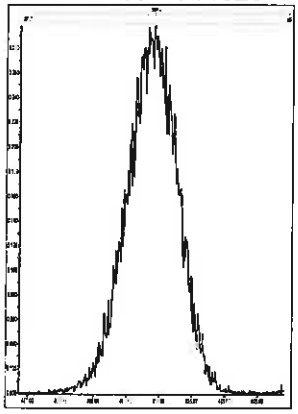

M 416.9760 R 11958

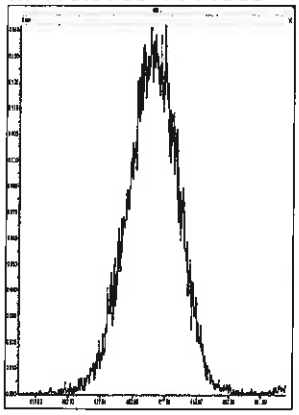

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 2 @ 200 (ppm)

Printed: Tuesday, September 17, 2019 11:25:25 Pacific Daylight Time

M 318.9792 R 13513

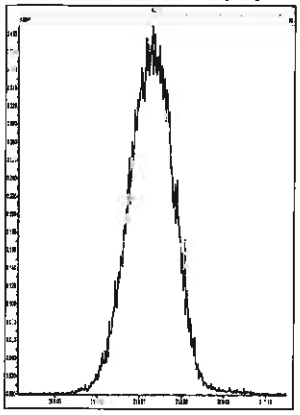

M 330.9792 R 12694

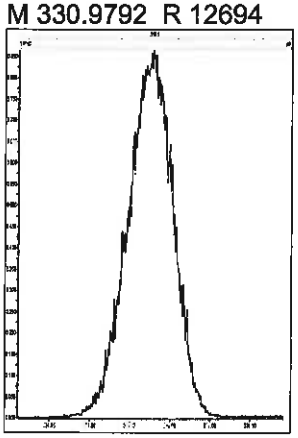

M 342.9792 R 12949

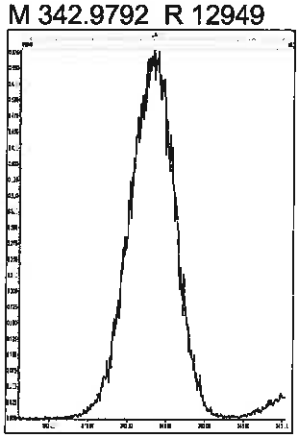

M 354.9792 R 13021

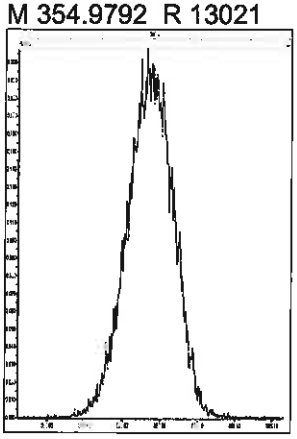

M 366.9792 R 12824

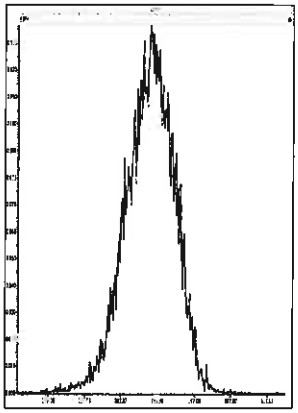

M 380.9760 R 12687

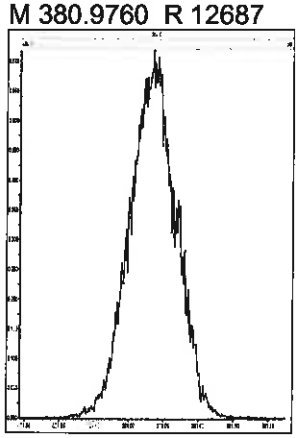

M 392.9760 R 12558

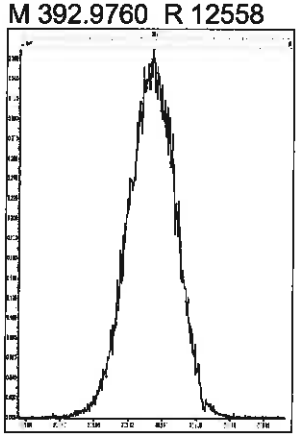

M 404.9760 R 11740

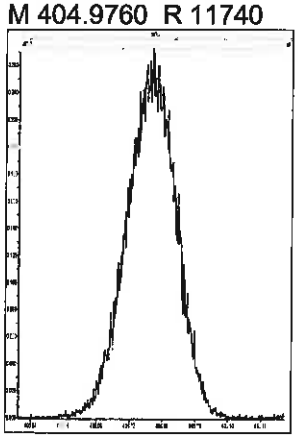

M 416.9760 R 11906

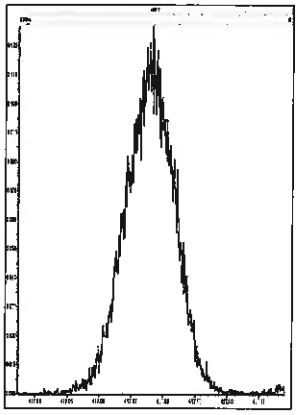

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

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M 366.9792 R 13089

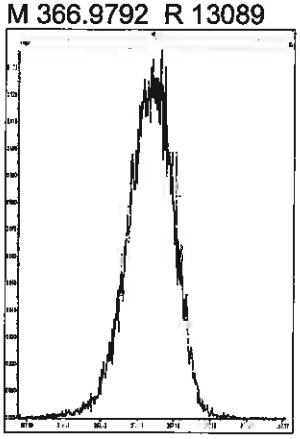

M 380.9760 R 12561

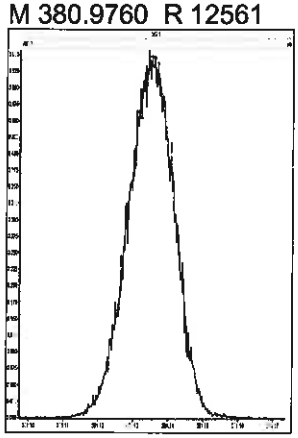

M 392.9760 R 12497

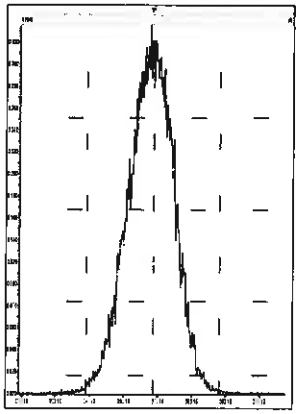

M 404.9760 R 12690

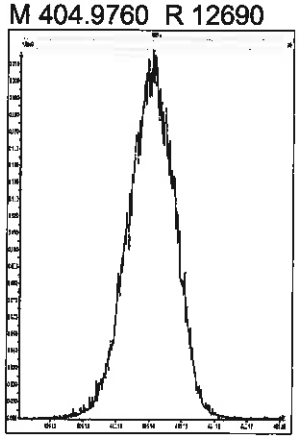

M 416.9760 R 12689

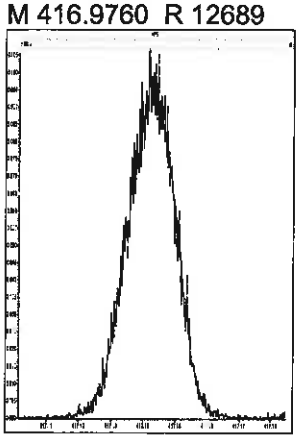

M 430.9728 R 12197

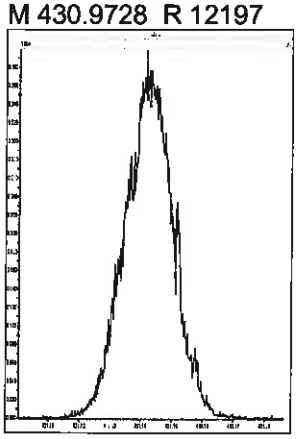

M 442.9728 R 12132

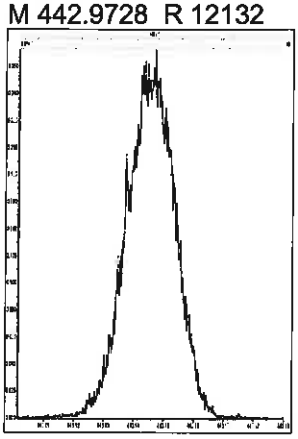

M 454.9728 R 12194

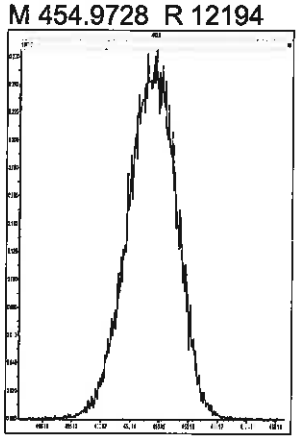

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 4 @ 200 (ppm)

Printed: Tuesday, September 17, 2019 11:26:23 Pacific Daylight Time

M 380.9760 R 12621

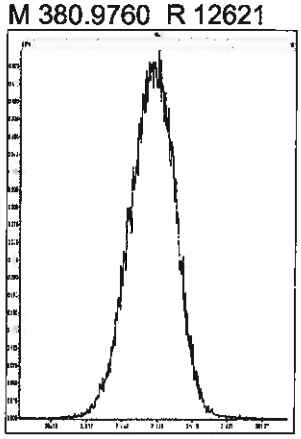

M 392.9760 R 12561

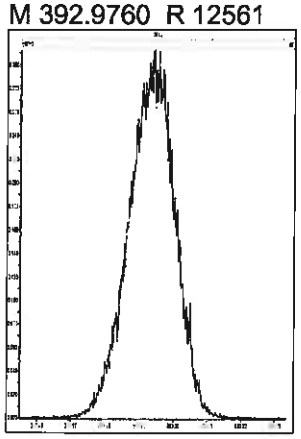

M 404.9760 R 12950

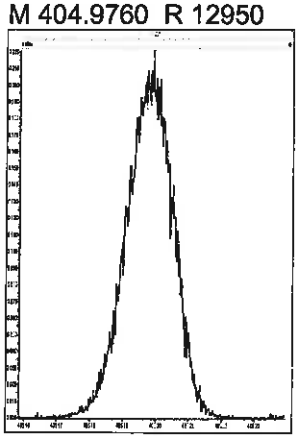

M 416.9760 R 12887

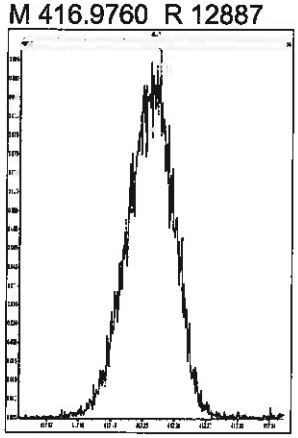

M 430.9728 R 11961

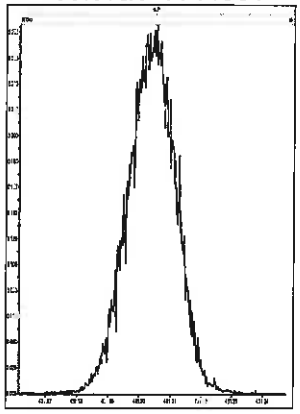

M 442.9728 R 12134

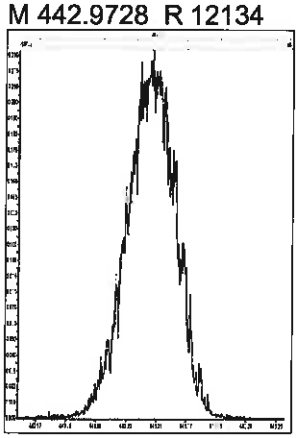

M 454.9728 R 12074

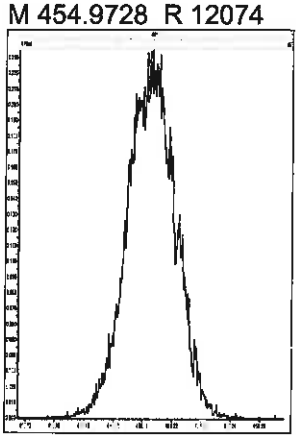

M 466.9728 R 12254

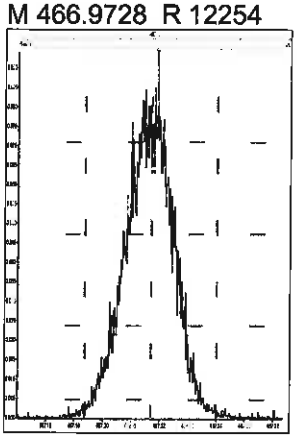

M 480.9696 R 12193

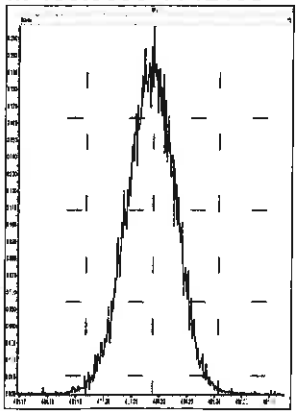

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 5 @ 200 (ppm)

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M 380.9760 R 13158

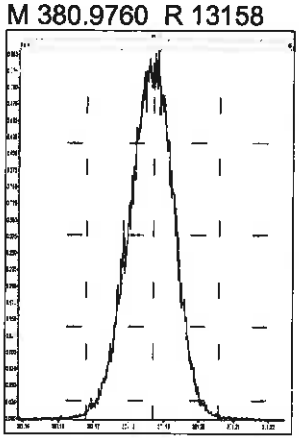

M 392.9760 R 12819

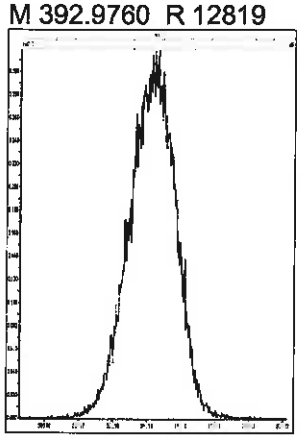

M 404.9760 R 12373

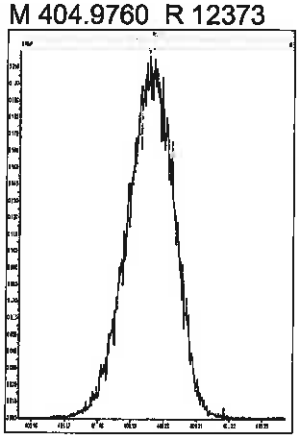

M 416.9760 R 12563

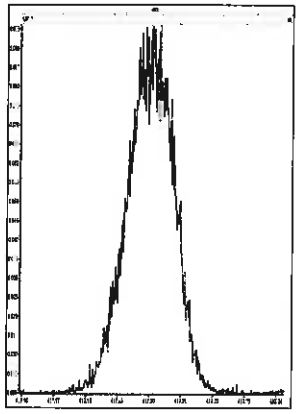

M 430.9728 R 12886

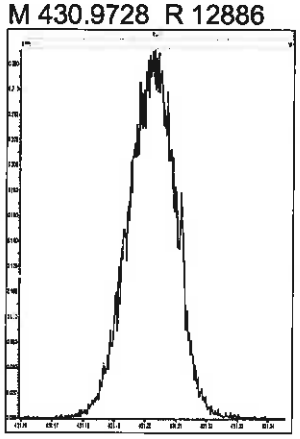

M 442.9728 R 12436

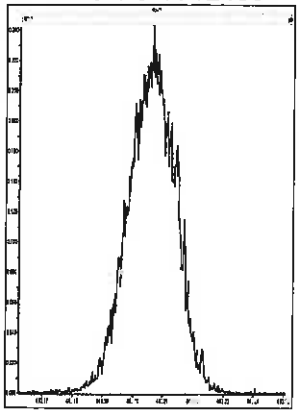

M 454.9728 R 12954

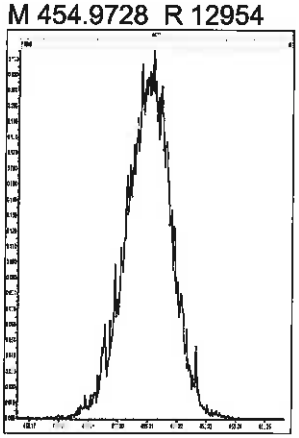

M 466.9728 R 12375

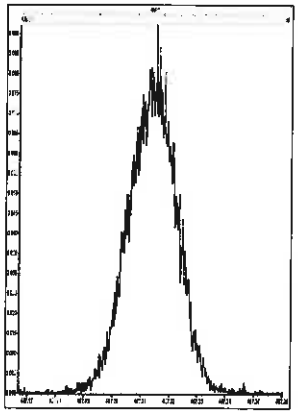

M 480.9696 R 12018

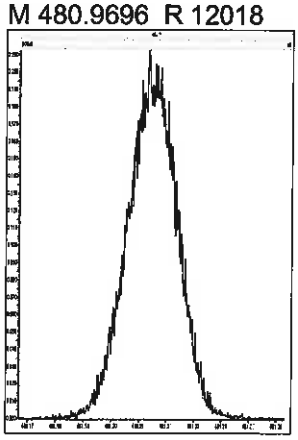

M 492.9696 R 11738

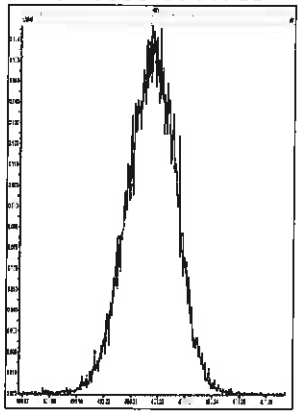

M 504.9696 R 11682

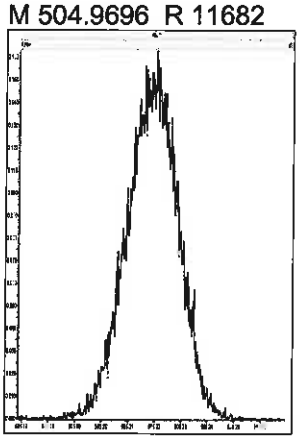

M 516.9697 R 11903

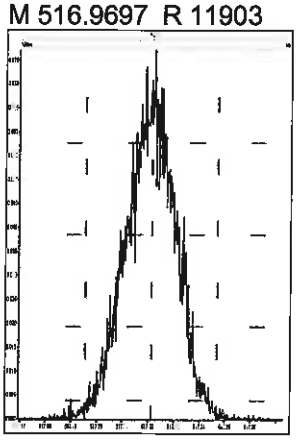

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M 292.9824 R 12757

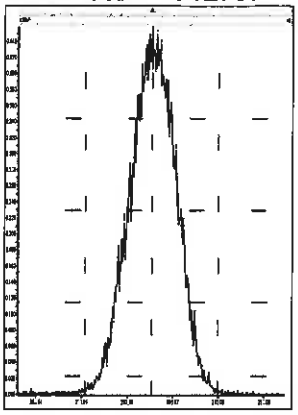

M 304.9824 R 13054

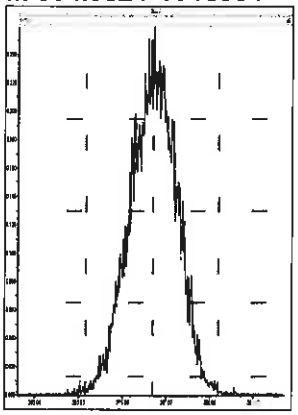

M 318.9792 R 12440

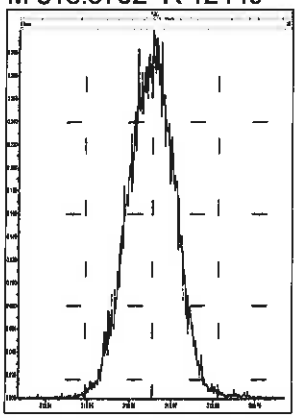

M 330.9792 R 12107

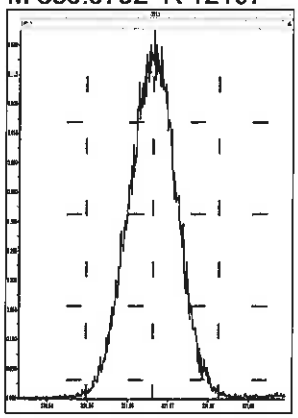

M 342.9792 R 12081

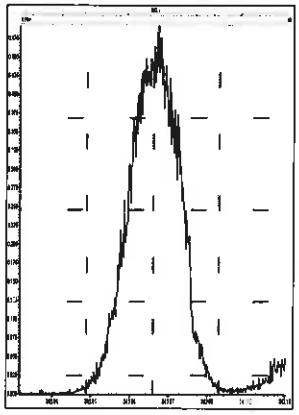

M 354.9792 R 11936

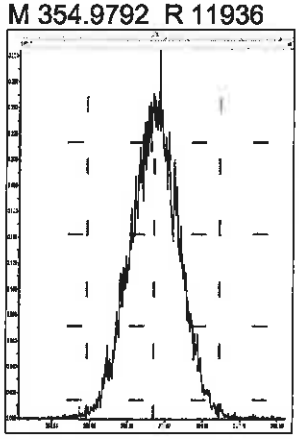

M 366.9792 R 11921

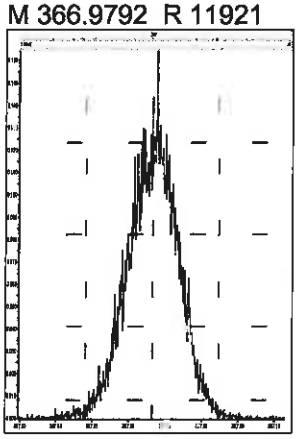

M 380.9760 R 11363

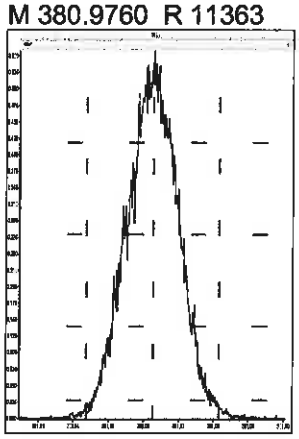

M 392.9760 R 11063

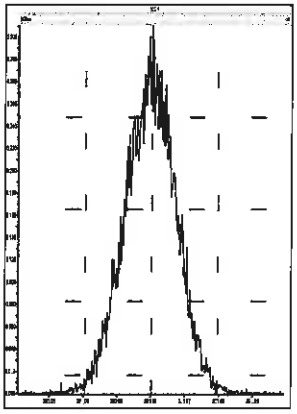

M 404.9760 R 11365

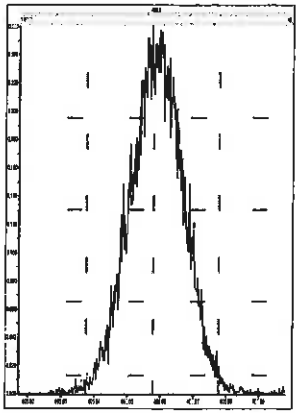

M 416.9760 R 11462

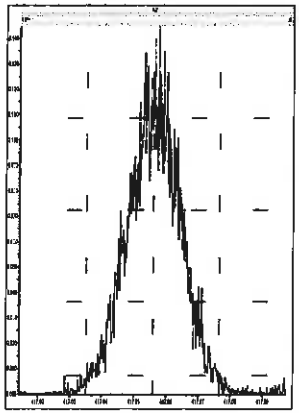

M 318.9792 R 13074

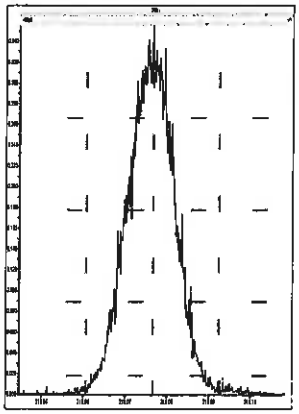

M 330.9792 R 12691

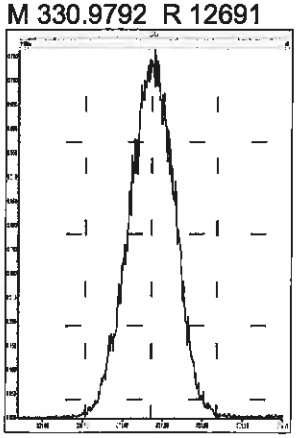

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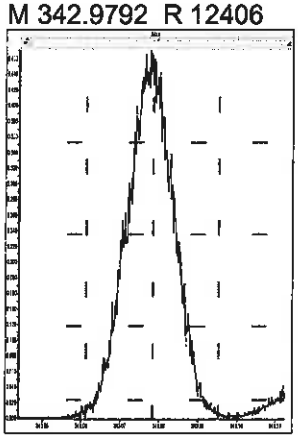

M 354.9792 R 12194

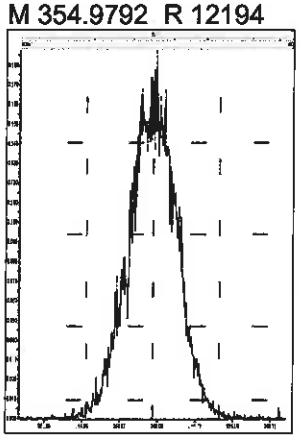

M 366.9792 R 12510

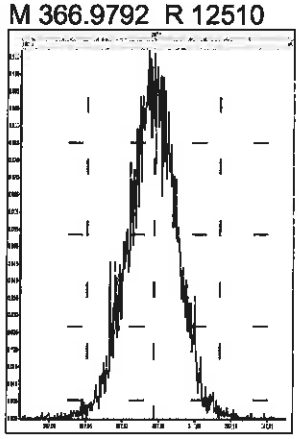

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M 380.9760 R 11961

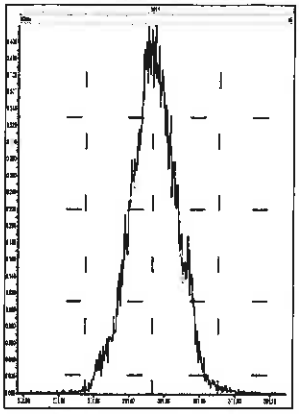

M 392.9760 R 11769

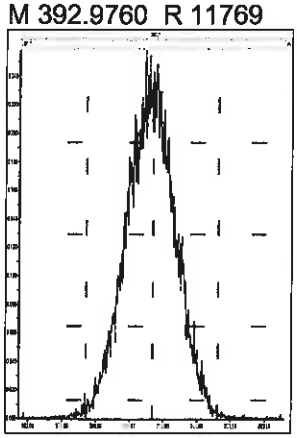

M 404.9760 R 11932

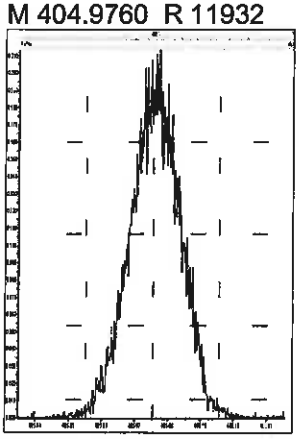

M 416.9760 R 11934

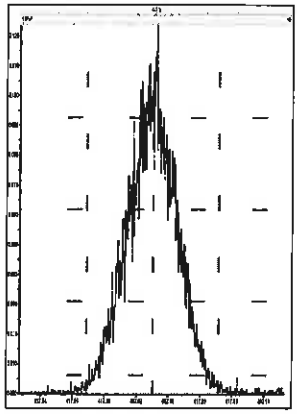

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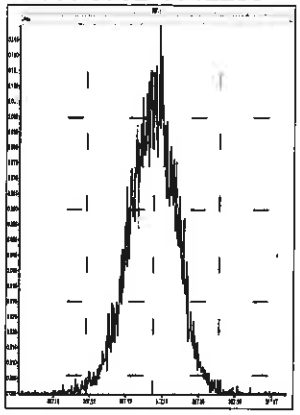

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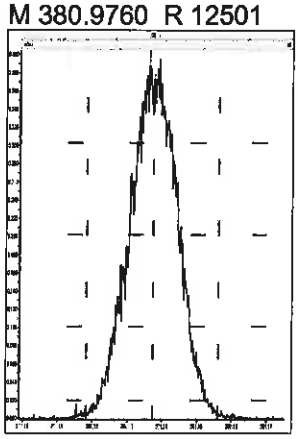

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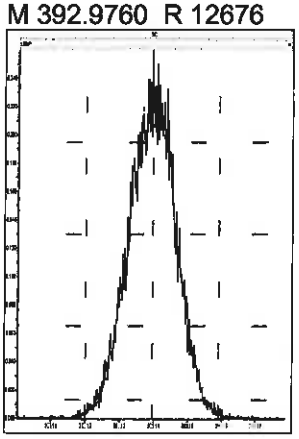

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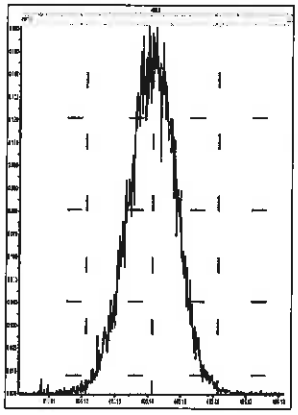

M 416.9760 R 12167

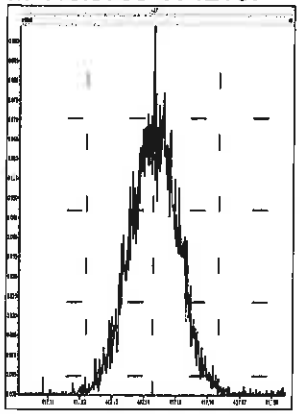

M 430.9728 R 11971

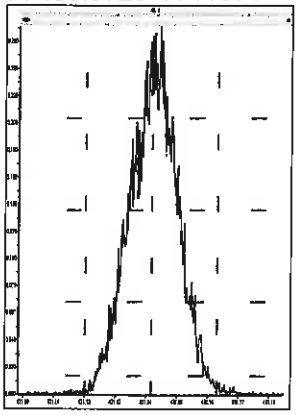

M 442.9728 R 11991

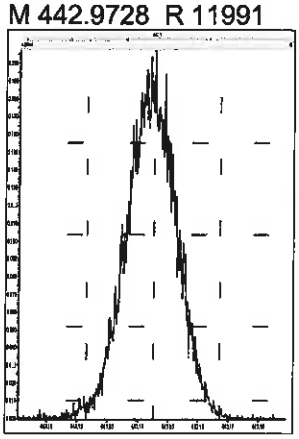

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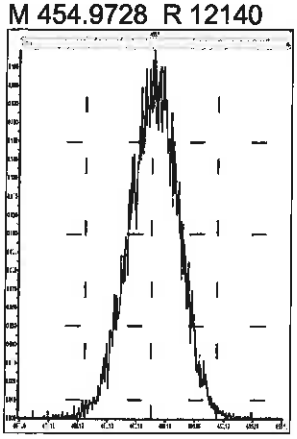

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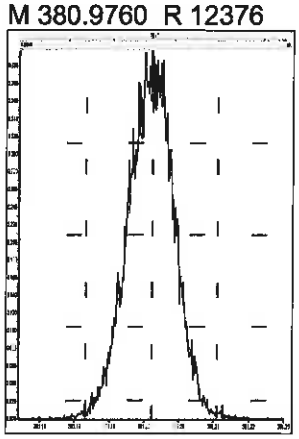

M 392.9760 R 12530

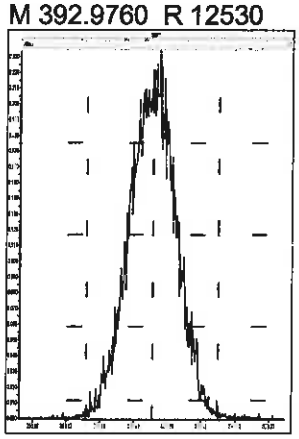

M 404.9760 R 12410

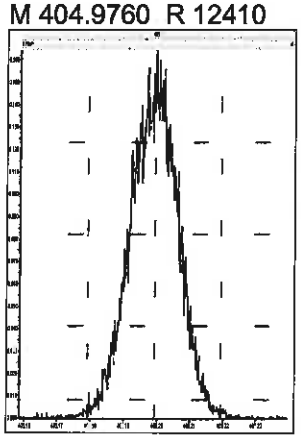

M 416.9760 R 13257

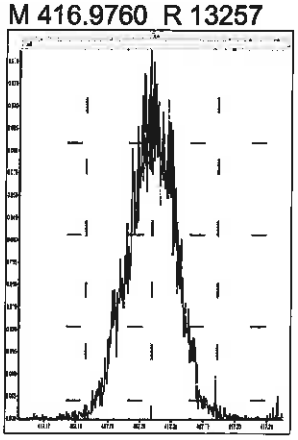

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M 430.9728 R 12118

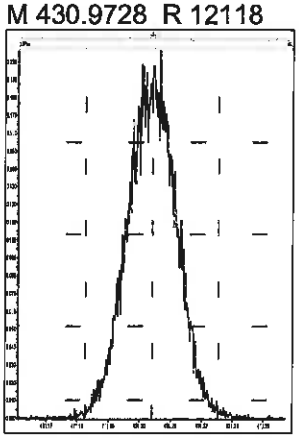

M 442.9728 R 12408

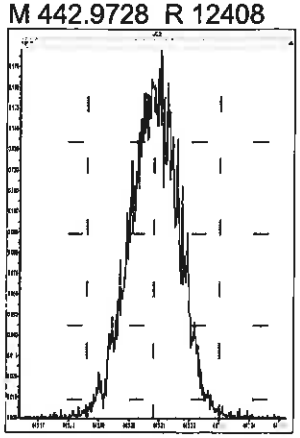

M 454.9728 R 12564

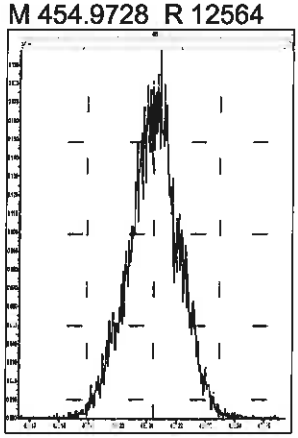

M 466.9728 R 13333

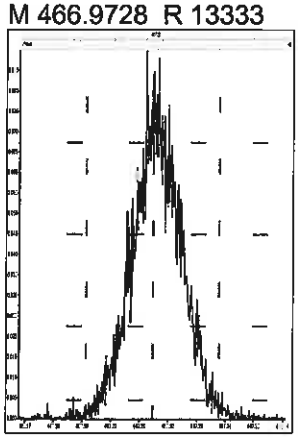

M 480.9696 R 11886

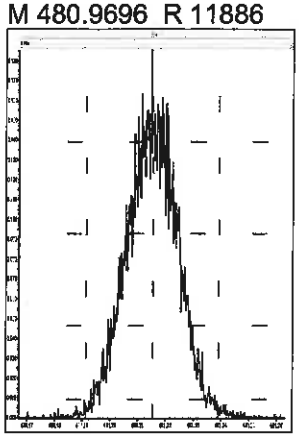

M 380.9760 R 12531

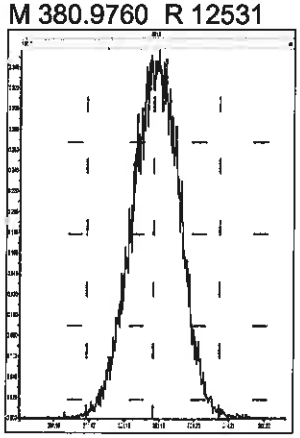

M 392.9760 R 12445

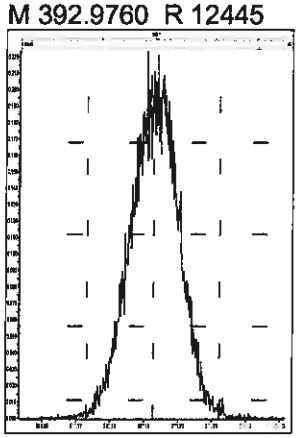

M 404.9760 R 12577

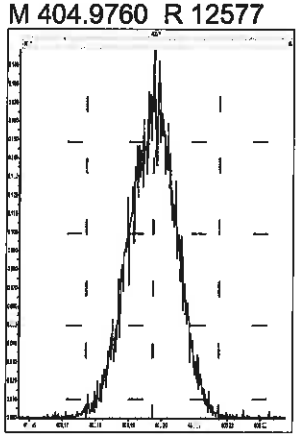

M 416.9760 R 12658

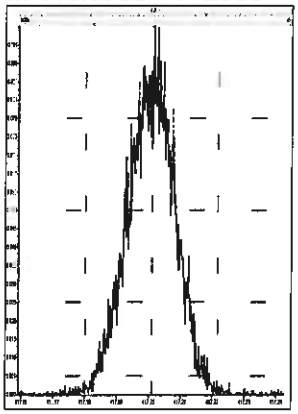

M 430.9728 R 12167

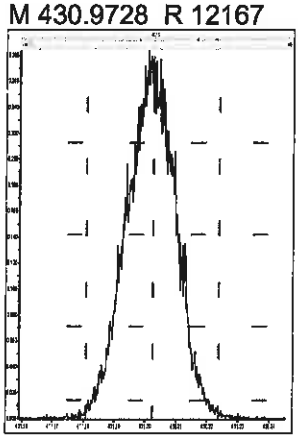

M 442.9728 R 12199

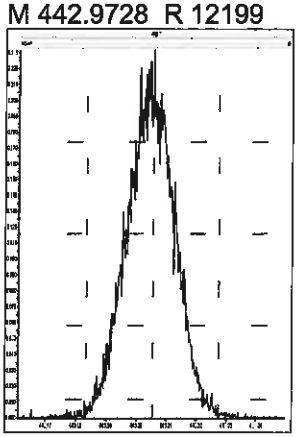

M 454.9728 R 12347

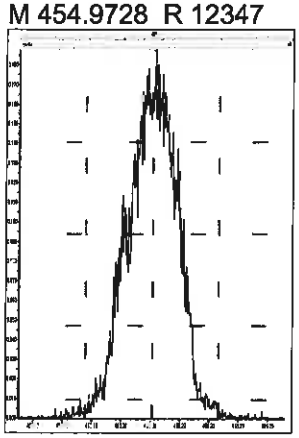

M 466.9728 R 12105

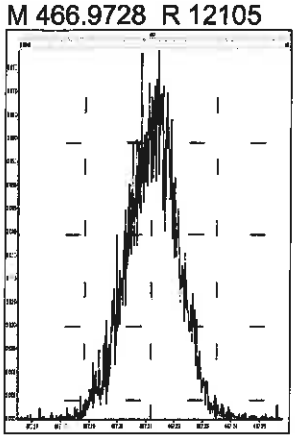

M 480.9696 R 11712

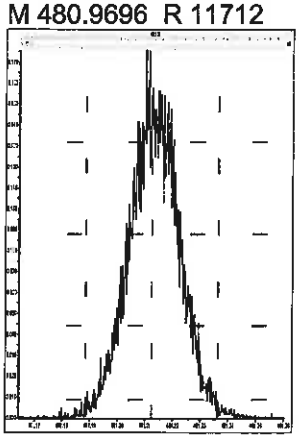

M 492.9696 R 11769

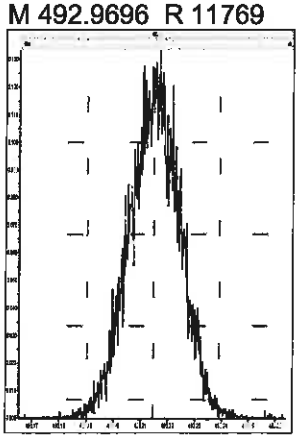

M 504.9696 R 11683

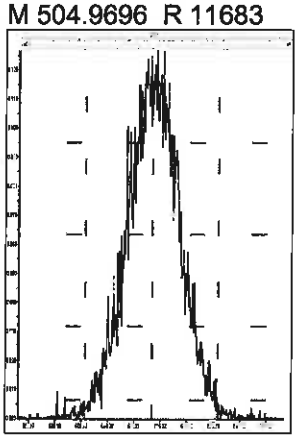

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M 516.9697 R 12766

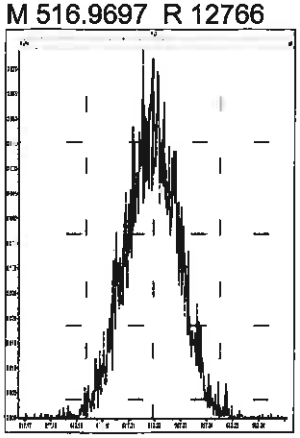

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

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Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 17-Sep-2019 13:03:20 ALS Bottle#: 4 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719 CS-2 HRDXNL2_00027
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:08 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:04:52

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.300	21989821	0.79	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.801	32121801	0.77	1.4384	101.6	101.6	0.4773	0.4773	102	
2,3,7,8-TCDF	16.816	172042	0.74	1.0507	0.5097	0.5097	0.0449	0.0449	102	
S Total TCDF					0.5097	0.5097	0.0449	0.0449		
D 13C-2,3,7,8-TCDD	17.481	21165335	0.76	0.9533	101.0	101.0	0.3928	0.3928	101	
$ 37Cl4-2,3,7,8-TCDD	17.496	123050		1.2224	0.4578	0.4578	0.0312	0.0312	91.55	
2,3,7,8-TCDD	17.481	123575	0.80	1.1064	0.5277	0.5277	0.0804	0.0804	106	n
S Total TCDD					0.5277	0.5277	0.0804	0.0804		
D 13C-1,2,3,7,8-PeCDF	21.631	22013977	1.60	1.0286	97.3	97.3	0.2946	0.2946	97.33	
1,2,3,7,8-PeCDF	21.659	550940	1.70	1.0822	2.312	2.312	0.0703	0.0703	92.50	
D 13C-2,3,4,7,8-PeCDF	22.927	20818900	1.62	0.9827	96.3	96.3	0.3084	0.3084	96.35	
2,3,4,7,8-PeCDF	22.940	501008	1.61	1.1032	2.181	2.181	0.0759	0.0759	87.26	
S Total PeCDF					4.494	4.494	0.0731	0.0731		
D 13C-1,2,3,7,8-PeCDD	23.622	15668897	1.56	0.7481	95.3	95.3	0.2373	0.2373	95.25	
1,2,3,7,8-PeCDD	23.649	336661	1.69	0.9050	2.374	2.374	0.1036	0.1036	94.96	
S Total PeCDD					2.374	2.374	0.1036	0.1036		
D 13C-1,2,3,4,7,8-HxCDF	29.749	16433122	0.52	1.1520	101.5	101.5	0.6239	0.6239	102	
1,2,3,4,7,8-HxCDF	29.789	452083	1.14	1.1973	2.298	2.298	0.1101	0.1101	91.91	
D 13C-1,2,3,6,7,8-HxCDF	30.015	17668349	0.51	1.2434	101.1	101.1	0.5781	0.5781	101	
1,2,3,6,7,8-HxCDF	30.028	471238	1.23	1.1807	2.259	2.259	0.0922	0.0922	90.36	
D 13C-2,3,4,6,7,8-HxCDF	31.040	16591902	0.51	1.1720	100.8	100.8	0.6133	0.6133	101	
2,3,4,6,7,8-HxCDF	31.053	469856	1.22	1.2116	2.337	2.337	0.0626	0.0626	93.49	
D 13C-1,2,3,7,8,9-HxCDF	31.932	15096147	0.51	1.0655	100.8	100.8	0.6746	0.6746	101	
1,2,3,7,8,9-HxCDF	31.945	462420	1.18	1.2451	2.460	2.460	0.0606	0.0606	98.40	
S Total HxCDF					9.354	9.354	0.0814	0.0814		
* 13C-1,2,3,7,8,9-HxCDD	31.745	14051438	1.31	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.253	10572054	1.29	0.7812	96.3	96.3	0.6394	0.6394	96.31	
1,2,3,4,7,8-HxCDD	31.266	277444	1.10	1.1088	2.367	2.367	0.0800	0.0800	94.67	
D 13C-1,2,3,6,7,8-HxCDD	31.372	12508423	1.30	0.9175	97.0	97.0	0.5444	0.5444	97.03	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.399	319747	1.23	1.0814	2.364	2.364	0.0780	0.0780	94.55	
1,2,3,7,8,9-HxCDD	31.758	333001	1.05	1.2123	2.380	2.380	0.0713	0.0713	95.21	a
S Total HxCDD					7.111	7.111	0.0764	0.0764		
D 13C-1,2,3,4,6,7,8-HpCDF	33.447	12214839	0.45	0.8628	100.8	100.8	2.432	2.432	101	
1,2,3,4,6,7,8-HpCDF	33.459	463407	1.08	1.5555	2.439	2.439	0.0665	0.0665	97.56	
D 13C-1,2,3,4,7,8,9-HpCDF	34.492	11417456	0.43	0.7991	101.7	101.7	2.626	2.626	102	
1,2,3,4,7,8,9-HpCDF	34.504	358162	1.15	1.3862	2.263	2.263	0.0888	0.0888	90.52	
S Total HpCDF					4.702	4.702	0.0776	0.0776		
D 13C-1,2,3,4,6,7,8-HpCDD	34.225	12148019	1.04	0.8739	98.9	98.9	1.265	1.265	98.93	
1,2,3,4,6,7,8-HpCDD	34.225	258090	1.02	0.9316	2.281	2.281	0.0675	0.0675	91.22	
S Total HpCDD					2.281	2.281	0.0675	0.0675		
D 13C-OCDD	36.481	22323676	0.90	0.7744	205.2	205.2	0.5053	0.5053	103	
OCDF	36.576	637327	0.85	1.2596	4.533	4.533	0.0809	0.0809	90.66	
OCDD	36.493	557610	0.87	1.0621	4.704	4.704	0.0841	0.0841	94.07	

QC Flag Legend

Processing Flags
n - Failed Sig-To-Noise Test
Review Flags
a - User Assigned ID

Reagents:

HRDXNL2_00027 Amount Added: 1.00 Units: mL

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 17-Sep-2019 13:03:20 ALS Bottle#: 4 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719 CS-2 HRDXNL2_00027
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:08 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:04:52

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.300	17.303	0		9690887	2505804	5138	12845	488		
333.9339	17.300	17.303	0		12298934	3113659	3280	8200	949	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.801	16.810	-1	0.971	14016338	3733692	11470	28675	326		
317.9389	16.801	16.810	-1	0.971	18105463	4683284	3963	9907	1182	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.816	16.825	-1	1.001	73063	16422	605	1512	27		
305.8987	16.816	16.825	-1	1.001	98979	22949	985	2462	23	0.74(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.481	17.490	-1	1.010	9130723	2237743	5138	12845	436		
333.9339	17.481	17.490	-1	1.010	12034612	3027581	3280	8200	923	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.496	17.505	-1	1.011	123050	30762	856	2140	36		
2,3,7,8-TCDD											n
319.8965	17.481	17.505	-1	1.000	55077	9940	1181	2952	8		
321.8936	17.496	17.505	-1	1.001	68498	15008	693	1732	22	0.80(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	21.631	21.637	0	1.250	13538943	2446204	3736	9340	655		
353.8970	21.631	21.637	0	1.250	8475034	1535096	3076	7690	499	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.659	21.661	0	1.001	346537	63107	477	1192	132		
341.8567	21.659	21.661	0	1.001	204403	36937	734	1835	50	1.70(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	22.927	22.932	0	1.325	12876171	2247350	3736	9340	602		
353.8970	22.927	22.932	0	1.325	7942729	1369022	3076	7690	445	1.62(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.940	22.954	-1	1.001	309291	49872	477	1192	105		
341.8567	22.940	22.954	-1	1.001	191717	32344	734	1835	44	1.61(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.622	23.625	0	1.365	9559667	1575307	2284	5710	690		
369.8919	23.622	23.625	0	1.365	6109230	995410	1706	4265	583	1.56(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.649	23.649	0	1.001	211682	31533	616	1540	51		
357.8516	23.636	23.649	-1	1.001	124979	21165	348	870	61	1.69(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.749	29.754	0	0.937	5613748	749447	3310	8275	226		
385.8610	29.749	29.754	0	0.937	10819374	1402669	5959	14897	235	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.789	29.789	0	1.001	240484	35863	546	1365	66		
375.8178	29.762	29.789	-2	1.000	211599	28700	589	1472	49	1.14(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.015	30.015	0	0.945	5969557	865919	3310	8275	262		
385.8610	30.002	30.015	-1	0.945	11698792	1738856	5959	14897	292	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.028	30.039	-1	1.000	259918	40834	546	1365	75		
375.8178	30.028	30.039	-1	1.000	211320	30654	589	1472	52	1.23(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.040	31.043	0	0.978	5612853	1245433	3310	8275	376		
385.8610	31.040	31.043	0	0.978	10979049	2494852	5959	14897	419	0.51(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.053	31.059	0	1.000	257999	59556	546	1365	109		
375.8178	31.053	31.059	0	1.000	211857	47785	589	1472	81	1.22(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.932	31.942	-1	1.006	5127023	1276569	3310	8275	386		
385.8610	31.932	31.942	-1	1.006	9969124	2483754	5959	14897	417	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.945	31.956	-1	1.000	250582	59386	546	1365	109		
375.8178	31.945	31.956	-1	1.000	211838	48028	589	1472	82	1.18(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.745	31.748	0		7962026	1846184	3652	9130	506		
403.8529	31.745	31.748	0		6089412	1377609	2789	6972	494	1.31(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.253	31.261	0	0.984	5953058	1483942	3652	9130	406		
403.8529	31.253	31.261	0	0.984	4618996	1187991	2789	6972	426	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.266	31.280	-1	1.000	145178	36647	426	1065	86		
391.8127	31.266	31.280	-1	1.000	132266	35409	522	1305	68	1.10(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.372	31.383	-1	0.988	7061273	1582952	3652	9130	433		
403.8529	31.372	31.383	-1	0.988	5447150	1228199	2789	6972	440	1.30(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.399	31.402	0	1.001	176287	43996	426	1065	103		
391.8127	31.399	31.402	0	1.001	143460	32388	522	1305	62	1.23(1.05-1.43)	
1,2,3,7,8,9-HxCDD											a
389.8157	31.758	31.761	0	1.016	170841	43295	426	1065	102		a
391.8127	31.745	31.761	-1	1.016	162160	33233	522	1305	64	1.05(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.447	33.457	-1	1.054	3779241	1261566	6785	16962	186		
419.8220	33.447	33.457	-1	1.054	8435598	2721447	20272	50680	134	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.459	33.469	-1	1.000	240121	76906	736	1840	104		
409.7789	33.459	33.469	-1	1.000	223286	71700	913	2282	79	1.08(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.492	34.502	-1	1.087	3454300	1028385	6785	16962	152		
419.8220	34.492	34.502	-1	1.087	7963156	2321827	20272	50680	115	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.504	34.509	0	1.000	191761	54375	736	1840	74		
409.7789	34.504	34.509	0	1.000	166401	51183	913	2282	56	1.15(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.225	34.227	0	1.078	6191349	1869122	6907	17267	271		
437.8140	34.213	34.227	-1	1.078	5956670	1788163	7344	18360	243	1.04(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.225	34.235	-1	1.000	130161	41792	539	1347	78		
425.7737	34.225	34.235	-1	1.000	127929	39414	381	952	103	1.02(0.88-1.20)	
13C-OCDD											
469.7779	36.481	36.486	0	1.149	10560642	2745879	1937	4842	1418		
471.7750	36.481	36.486	0	1.149	11763034	3056374	3109	7772	983	0.90(0.76-1.02)	
OCDF											
441.7428	36.576	36.581	0	1.003	292923	77485	428	1070	181		
443.7399	36.564	36.581	-1	1.002	344404	90221	754	1885	120	0.85(0.76-1.02)	
OCDD											
457.7377	36.493	36.497	0	1.000	259867	66125	554	1385	119		
459.7348	36.481	36.497	-1	1.000	297743	73262	482	1205	152	0.87(0.76-1.02)	

QC Flag Legend

Processing Flags

n - Failed Sig-To-Noise Test

Review Flags

a - User Assigned ID

Reagents:

HRDXNL2_00027 Amount Added: 1.00 Units: mL

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d				
Injection Date:	17-Sep-2019 13:03:20	Instrument ID:	10D5		
Lims ID:	IC				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 2

Processing Integration Results

RT: 31.75
Area: 162160
Amount: 2.380231
Amount Units: pg/ul

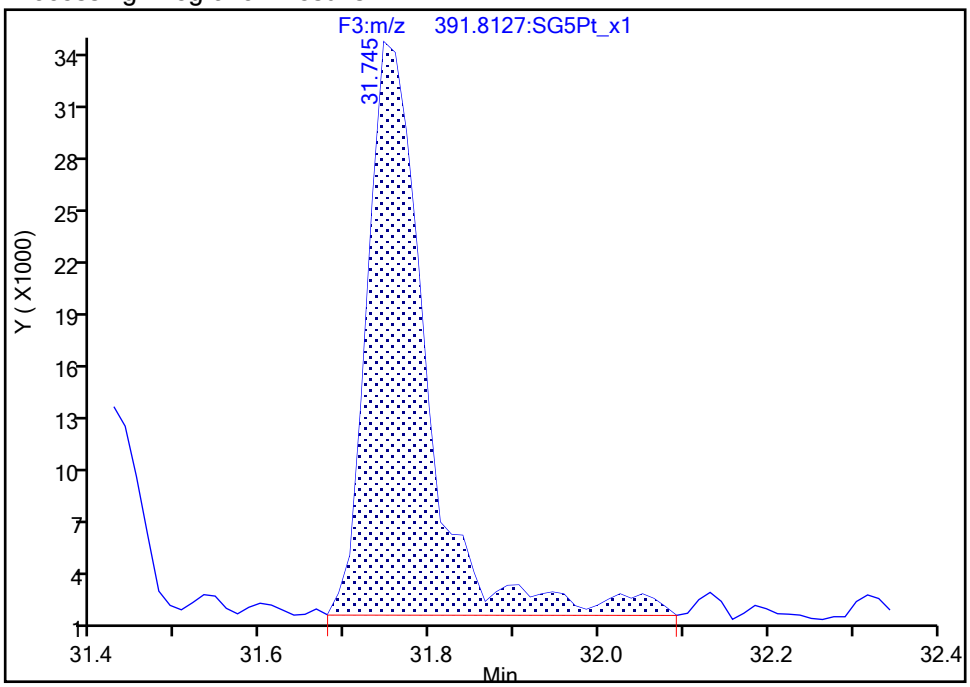

Manual Integration Results

RT: 31.75
Area: 162160
Amount: 2.380231
Amount Units: pg/ul

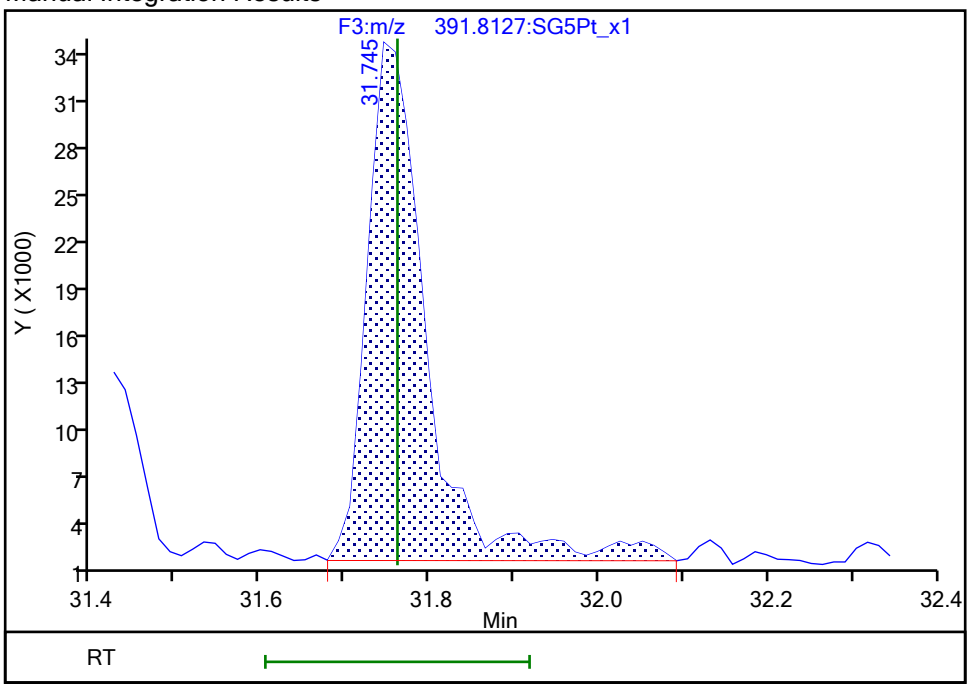

Reviewer: shardaa, 17-Sep-2019 18:02:41

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d				
Injection Date:	17-Sep-2019 13:03:20	Instrument ID:	10D5		
Lims ID:	IC				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 3

Processing Integration Results

RT: 31.76
Area: 333001
Amount: 2.380231
Amount Units: pg/ul

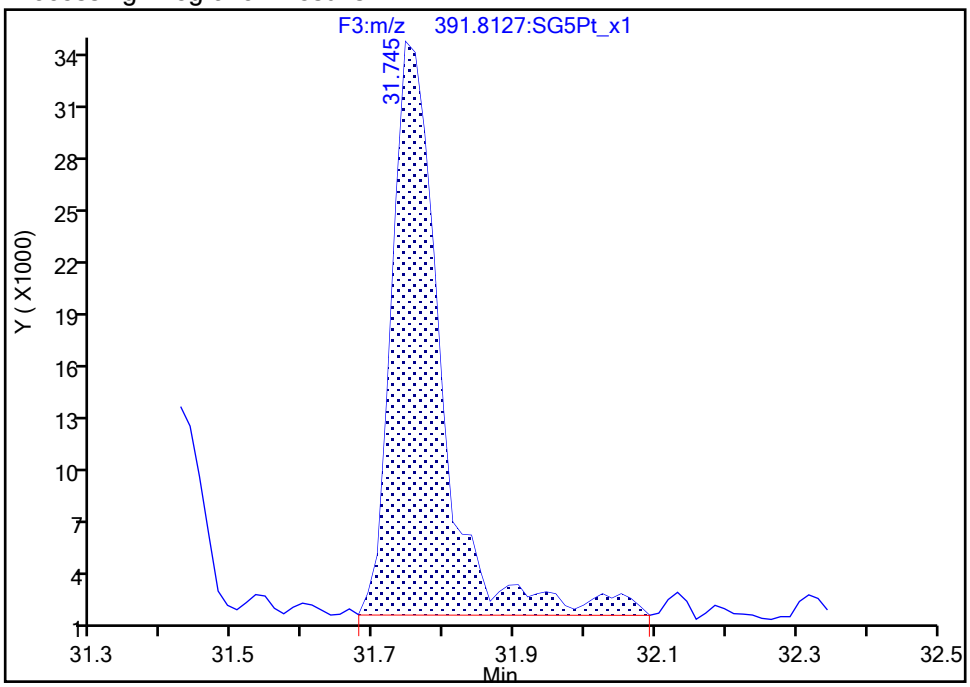

Manual Integration Results

RT: 31.76
Area: 333001
Amount: 2.380231
Amount Units: pg/ul
Reviewer: shardaa, 17-Sep-2019 18:02:41
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d				
Injection Date:	17-Sep-2019 13:03:20	Instrument ID:	10D5		
Lims ID:	IC				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 1

Processing Integration Results

RT: 31.76
Area: 170841
Amount: 2.380231
Amount Units: pg/ul

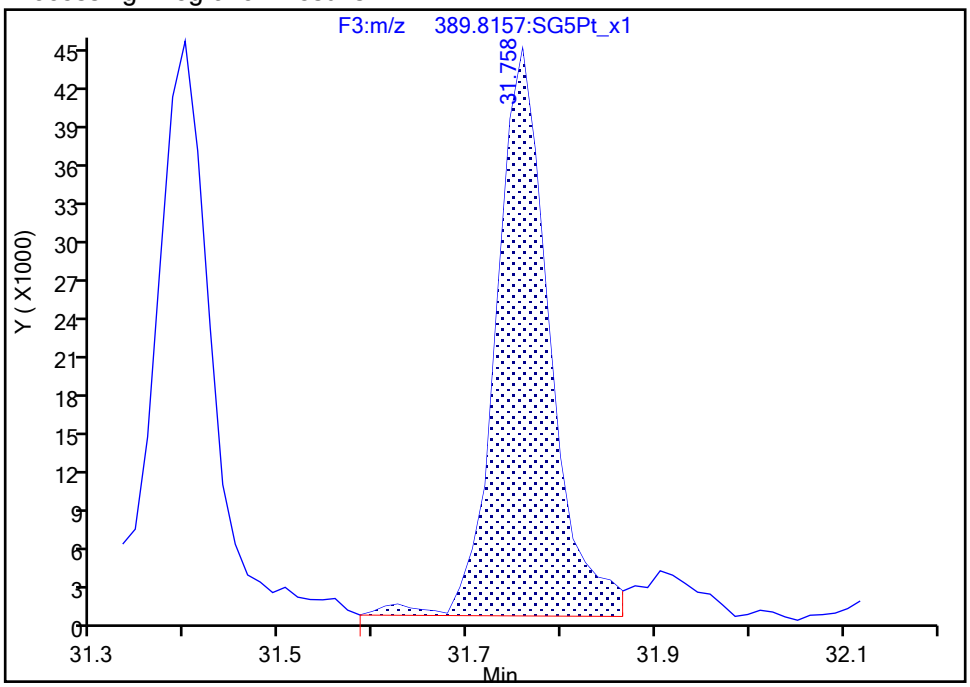

Manual Integration Results

RT: 31.76
Area: 170841
Amount: 2.380231
Amount Units: pg/ul

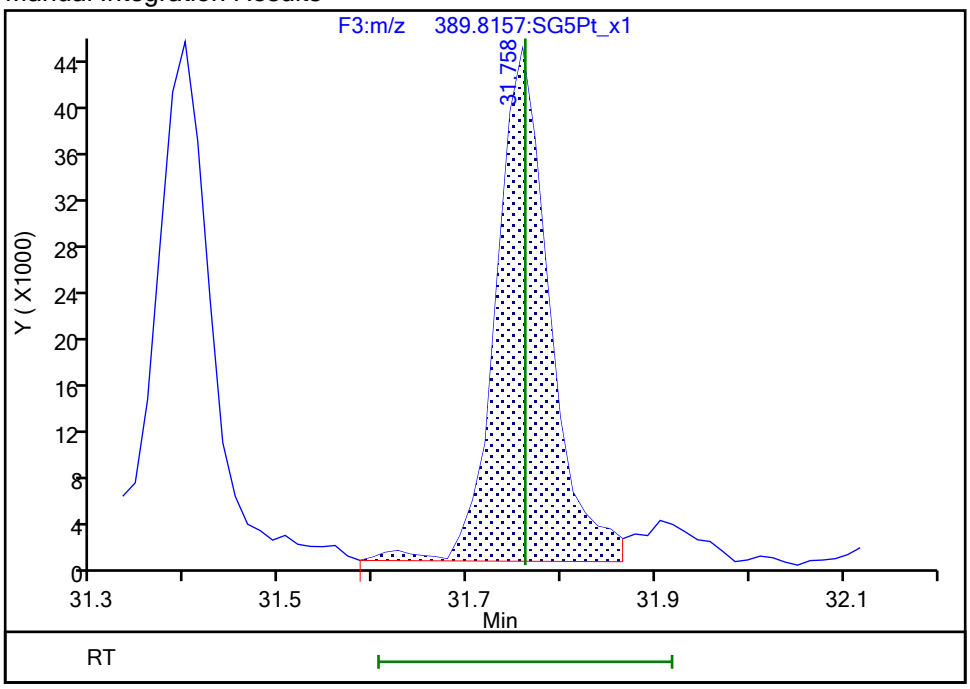

Reviewer: shardaa, 17-Sep-2019 18:02:44

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
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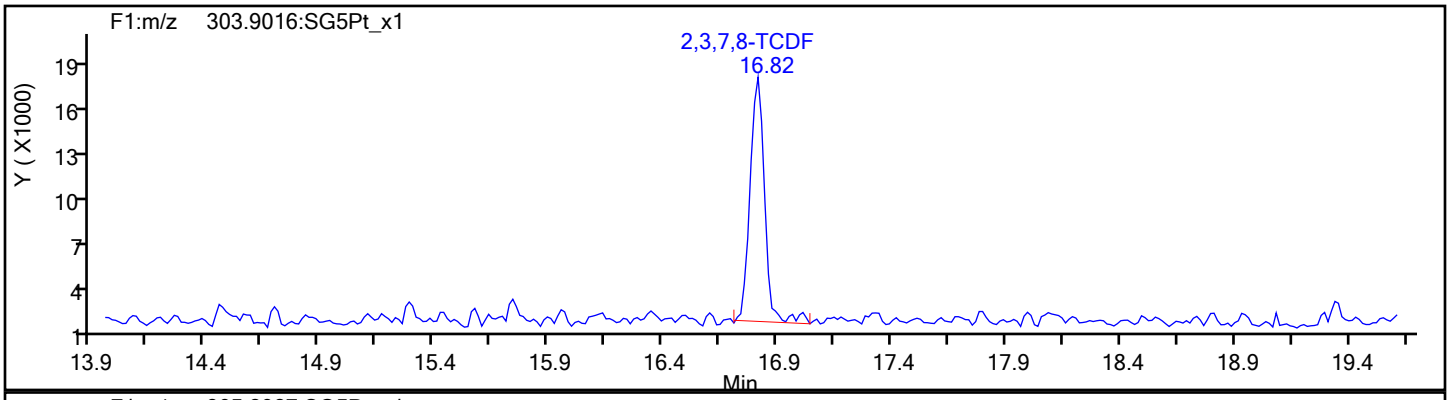

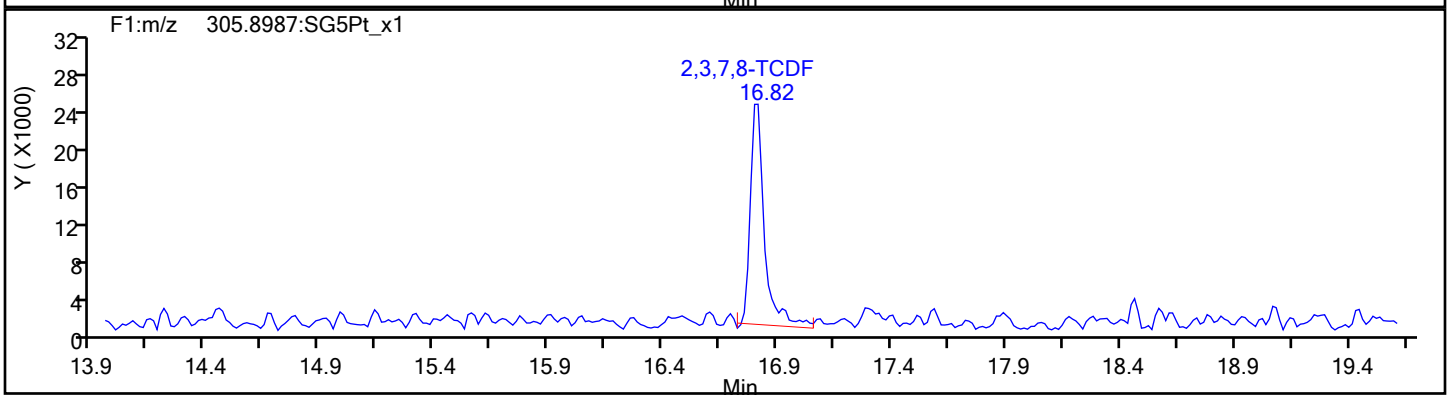

TCDF Standards

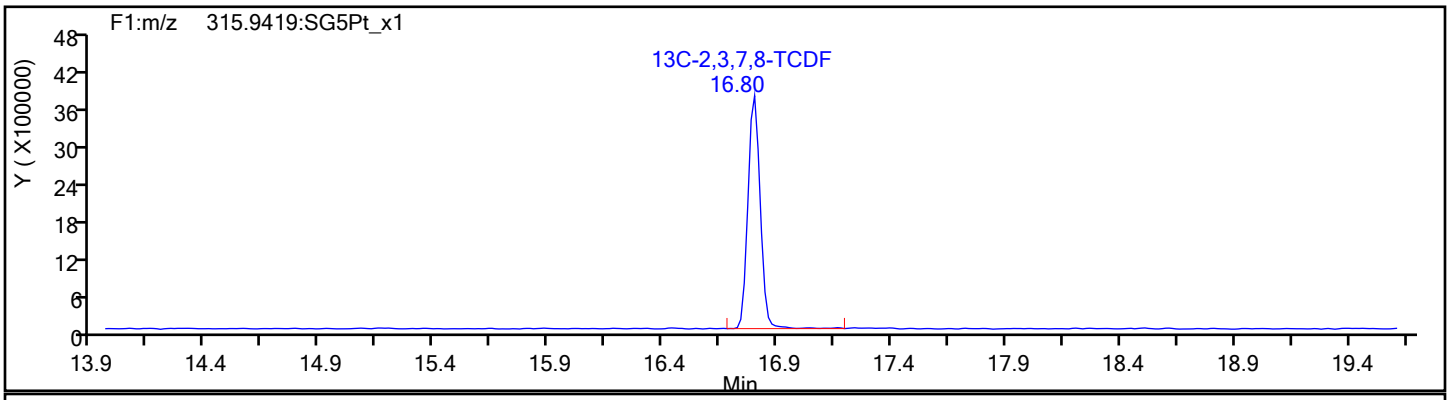

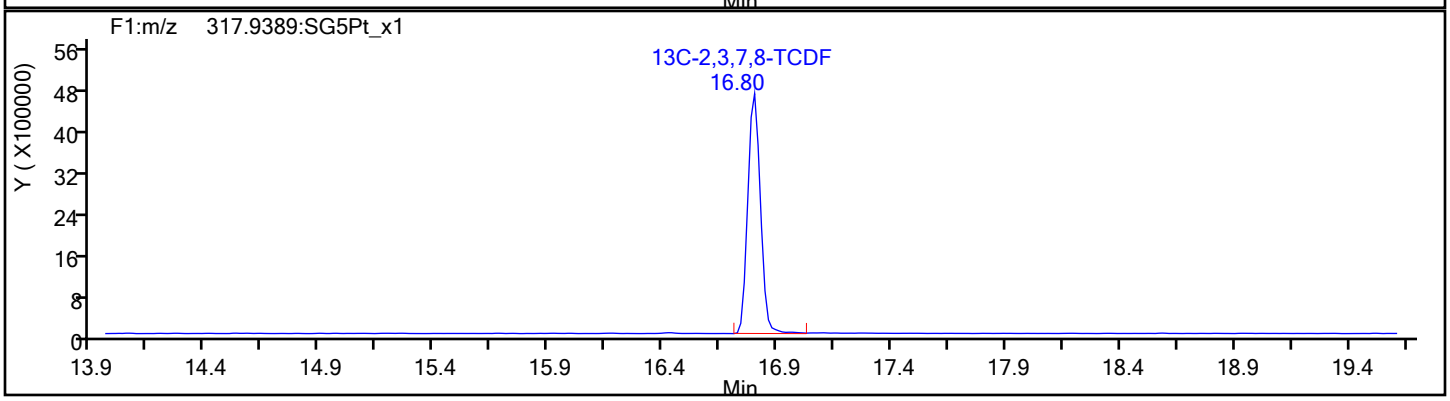

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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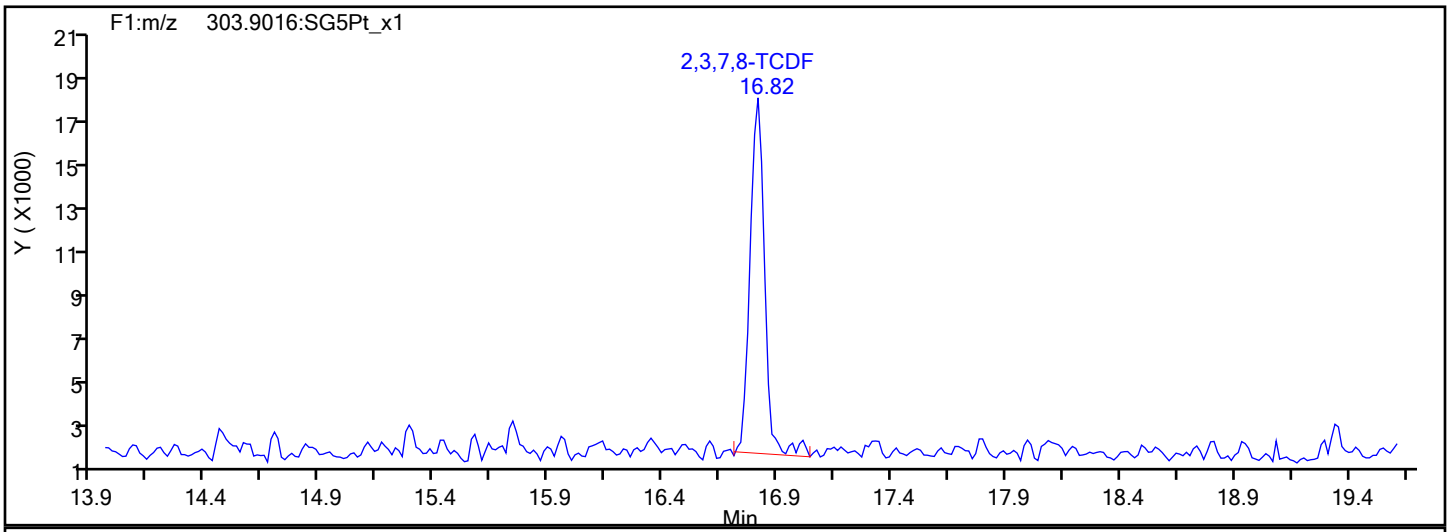

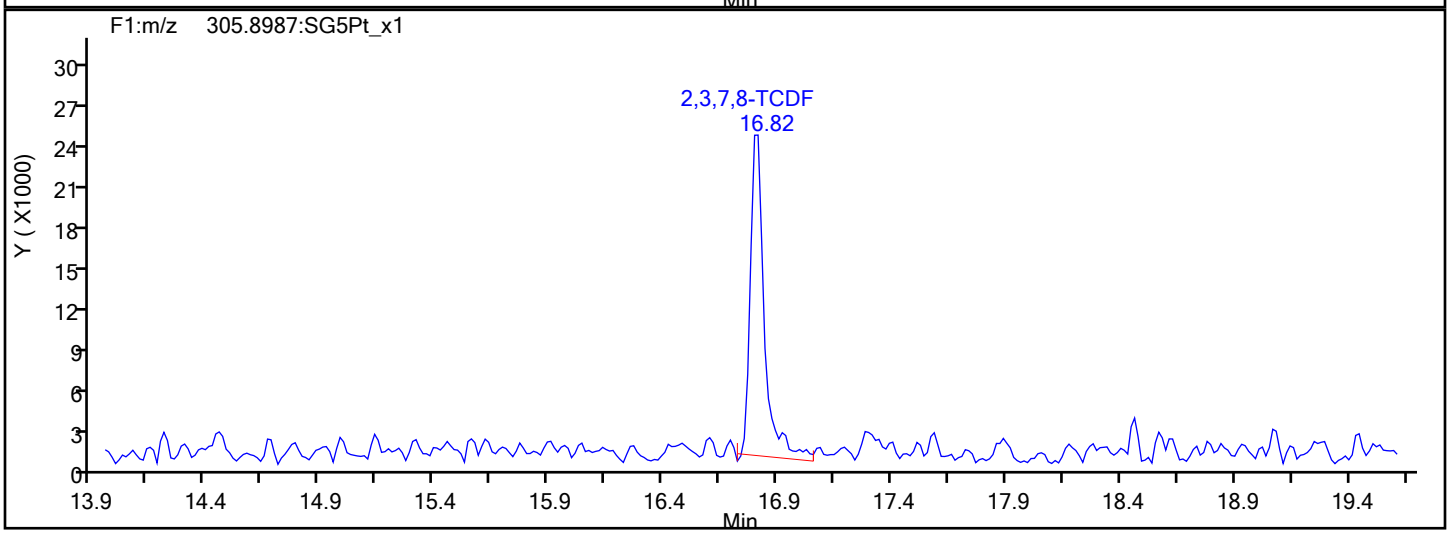

TCDF Interference Mass

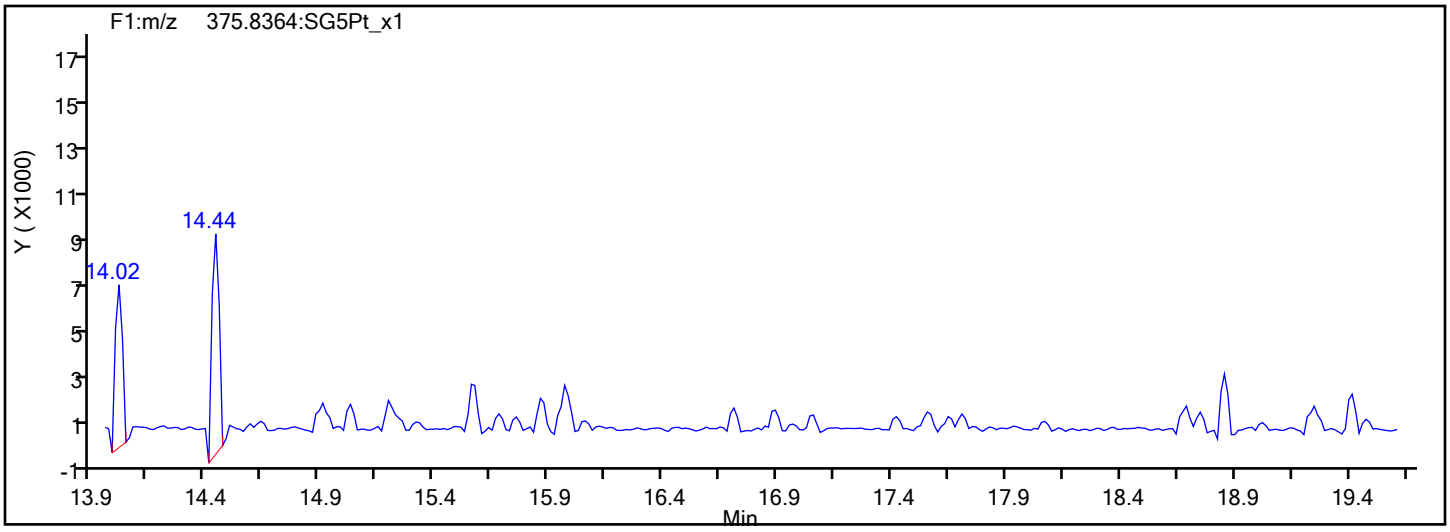

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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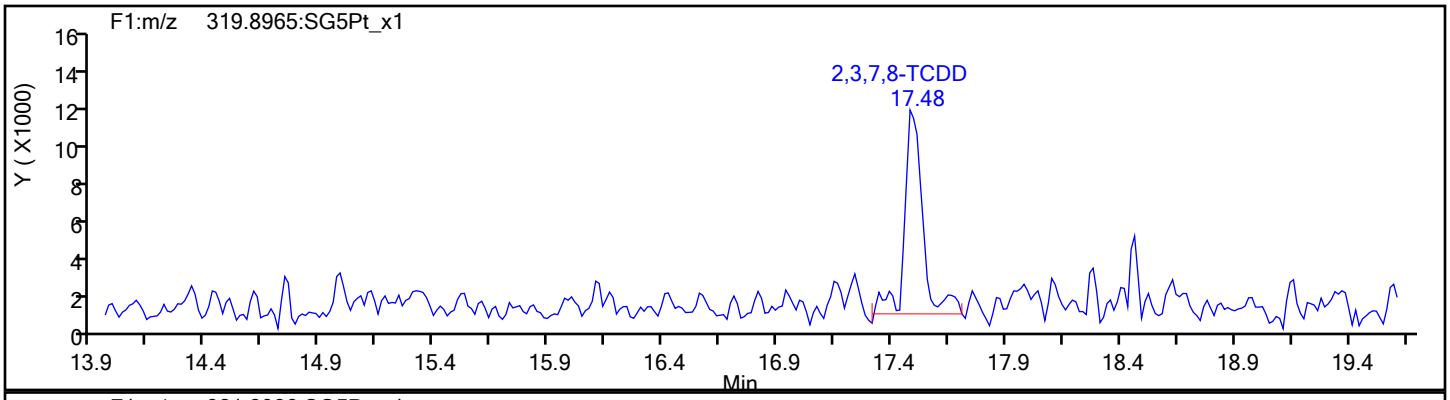

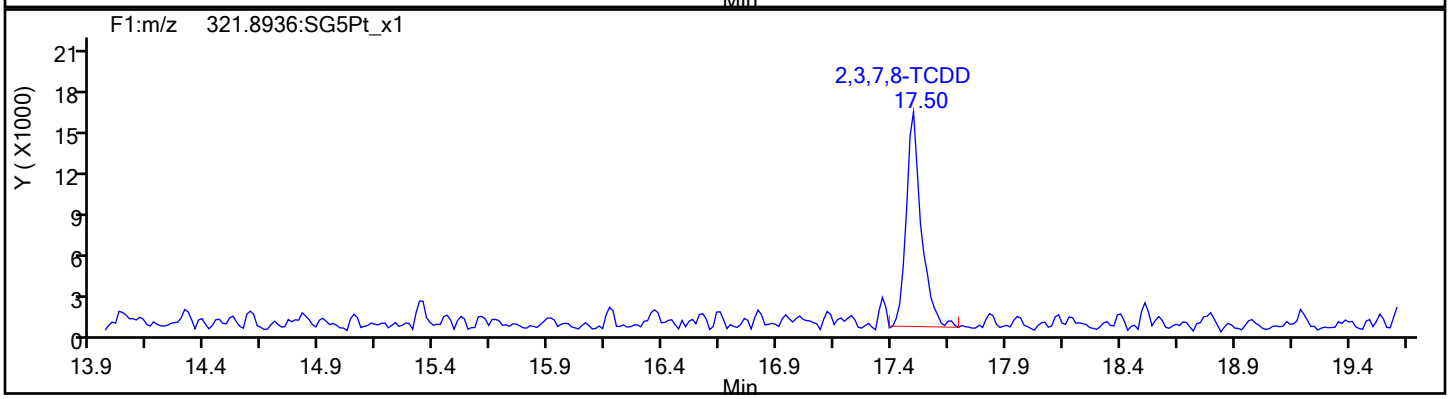

TCDD Standards

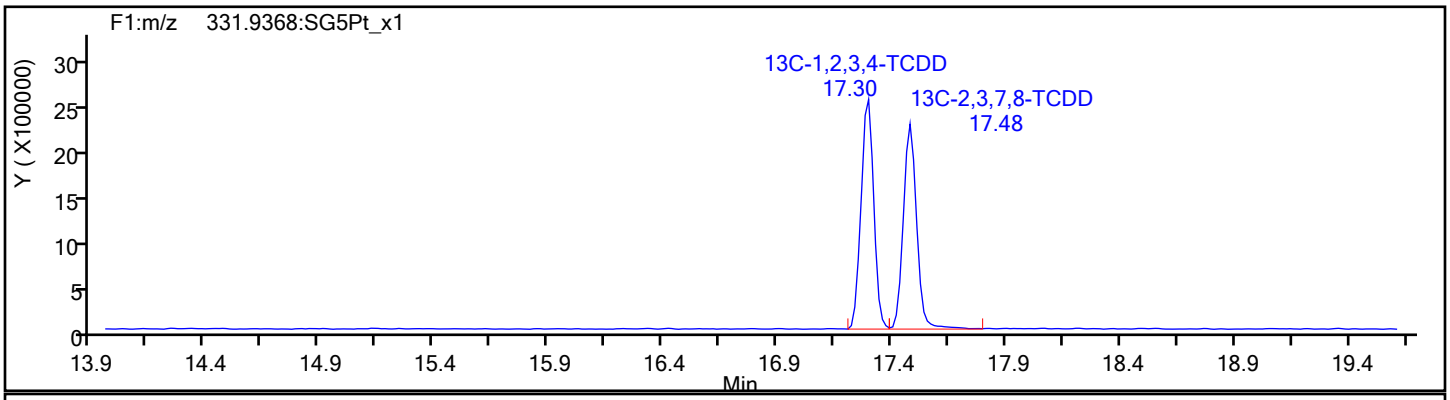

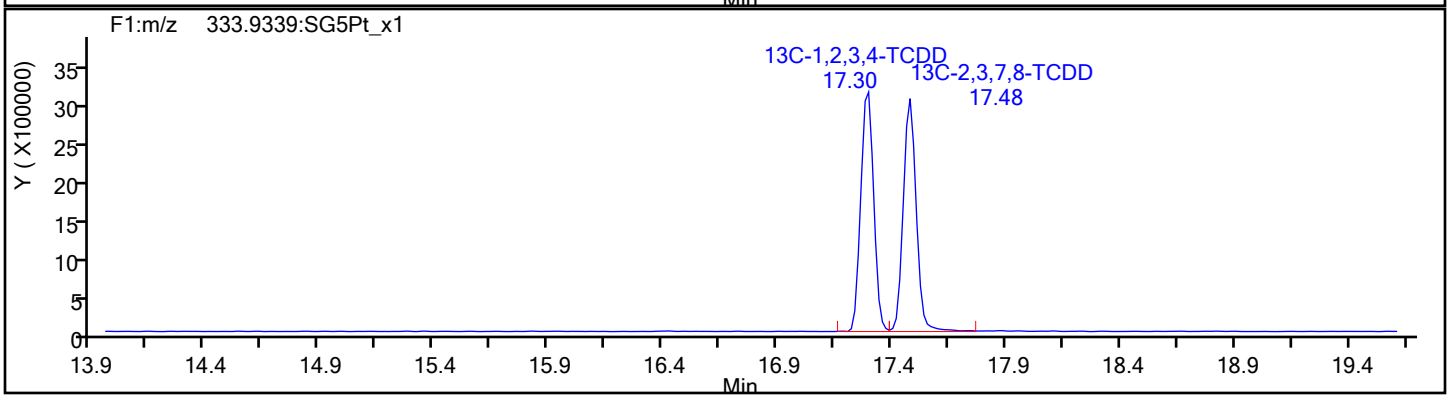

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

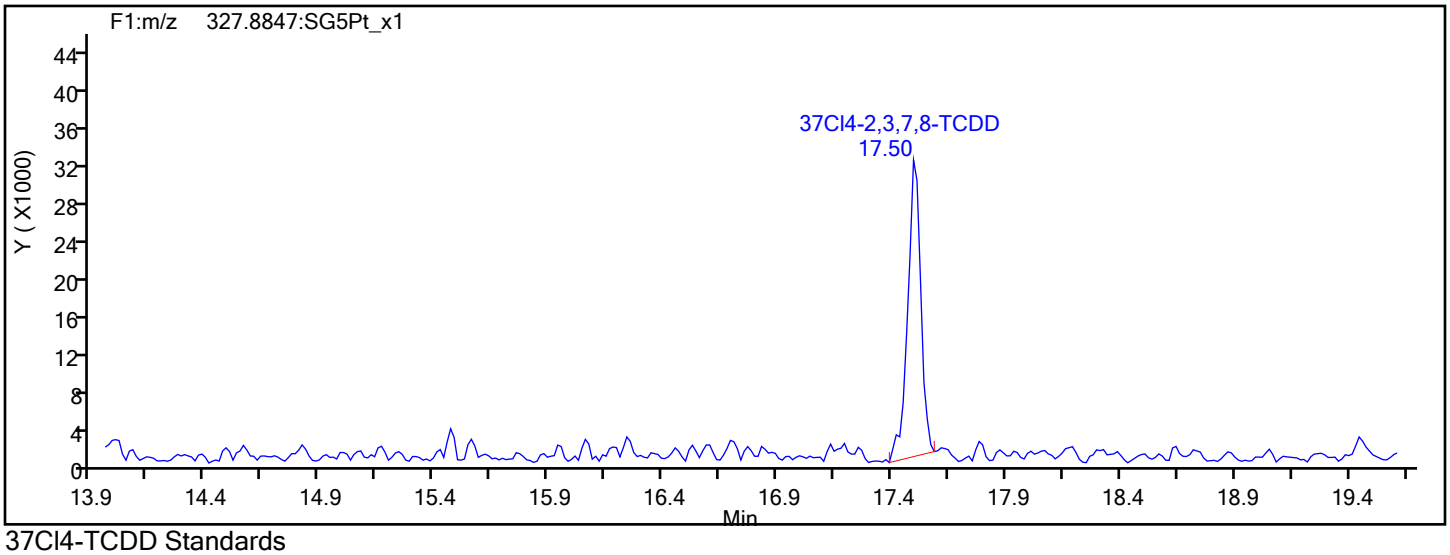

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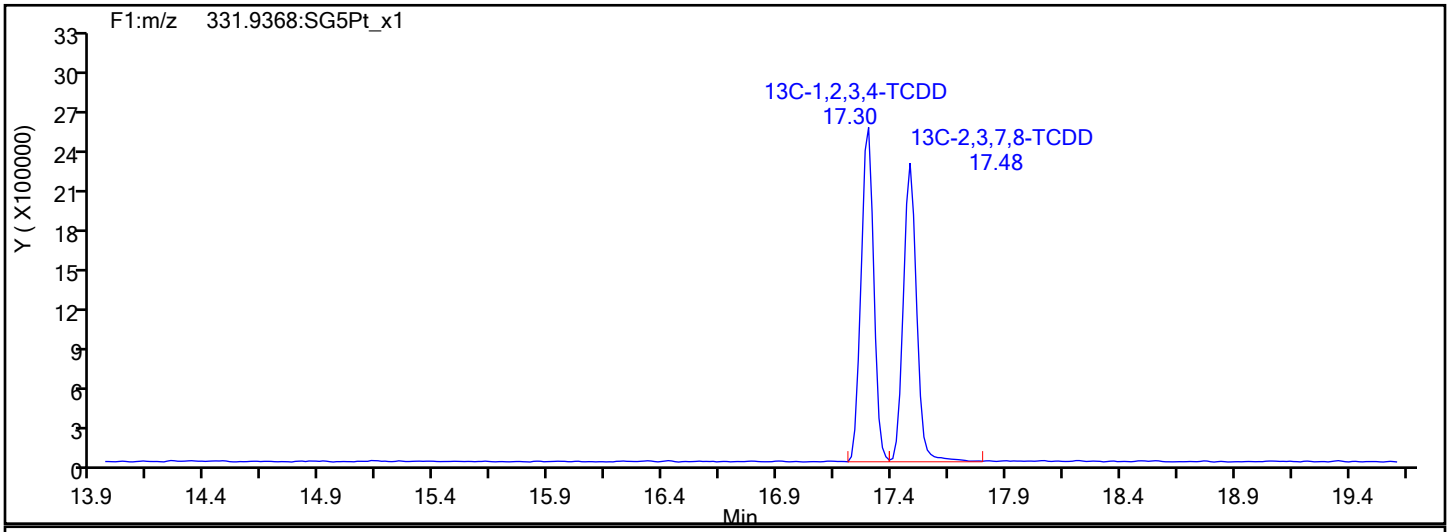

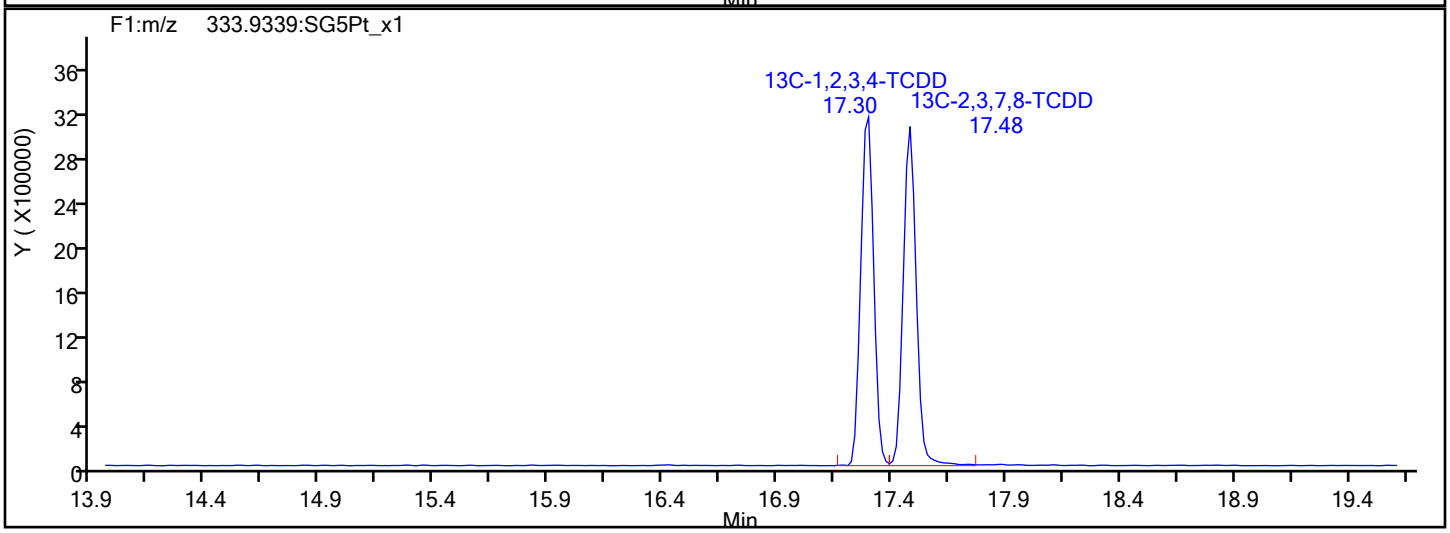

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

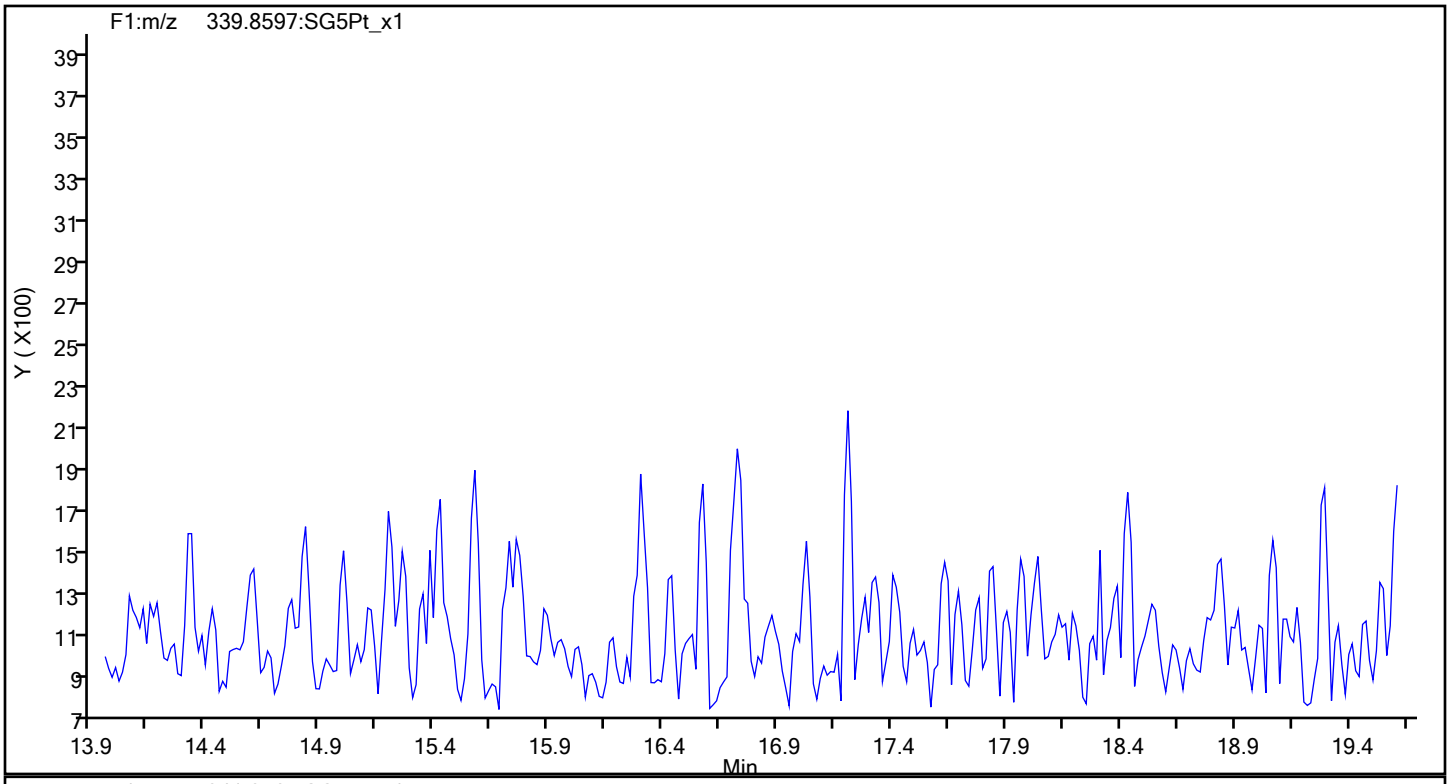

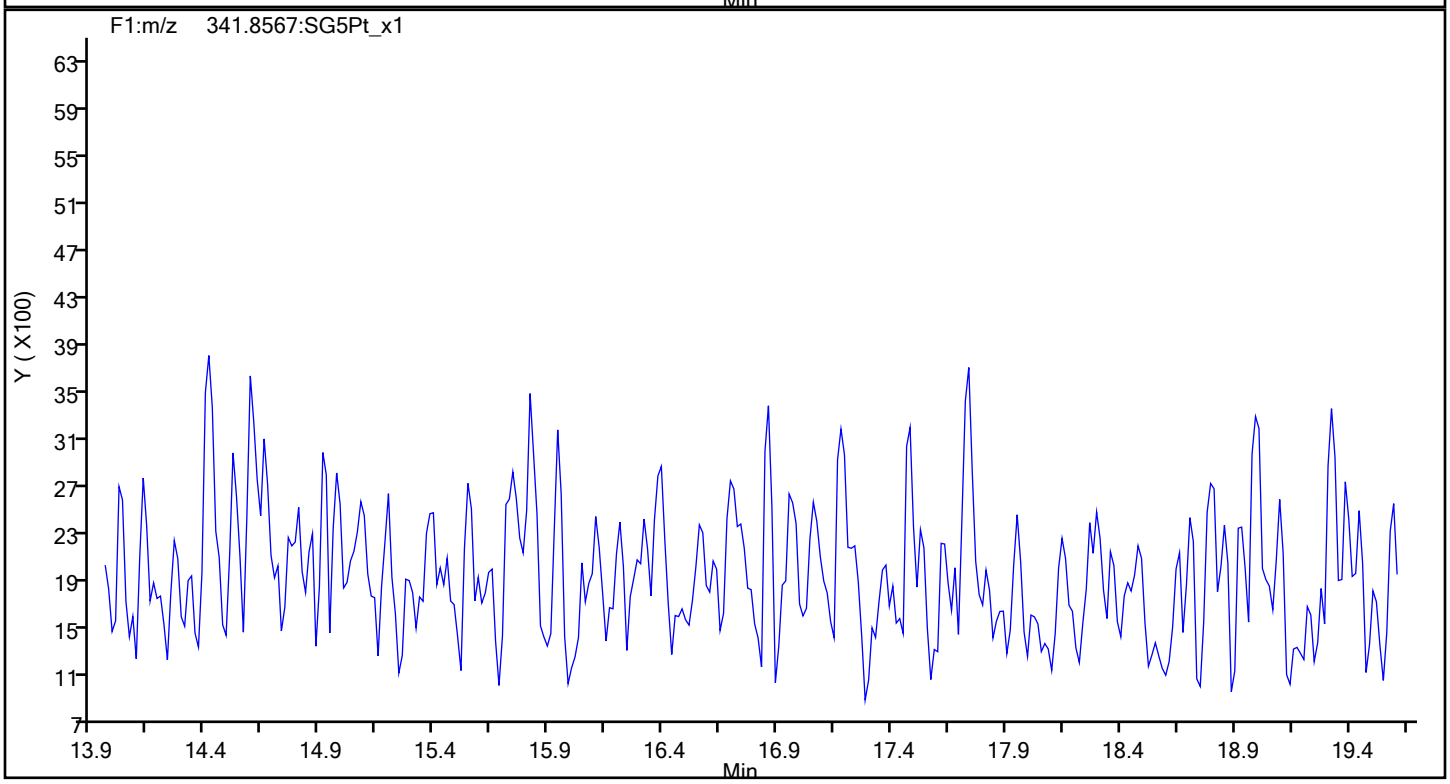

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

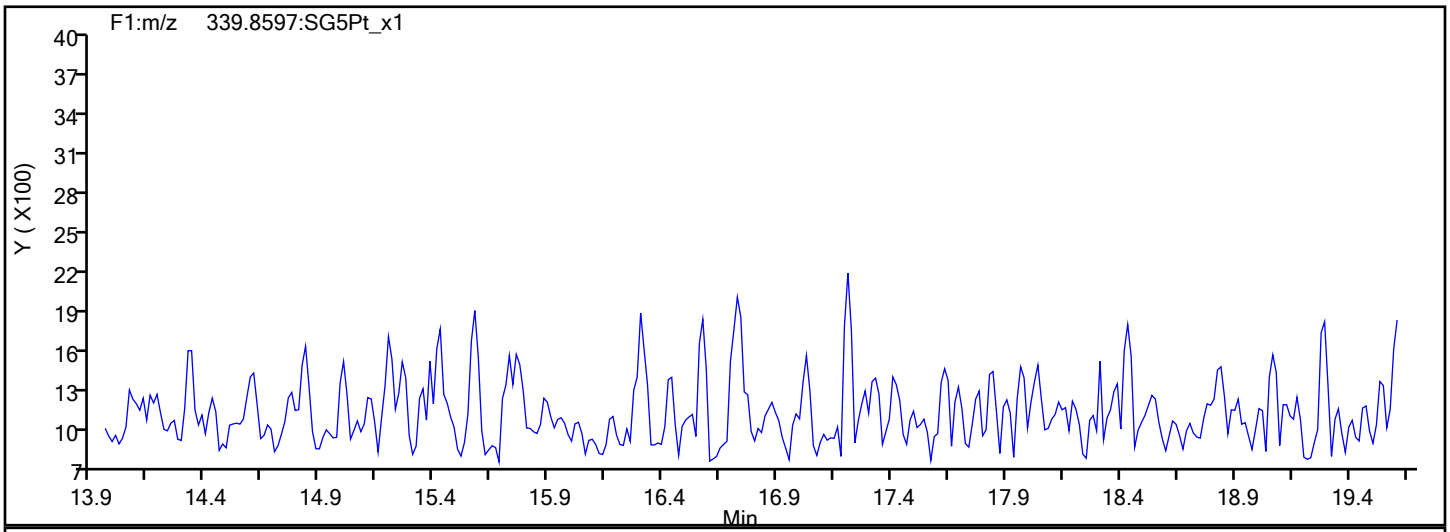

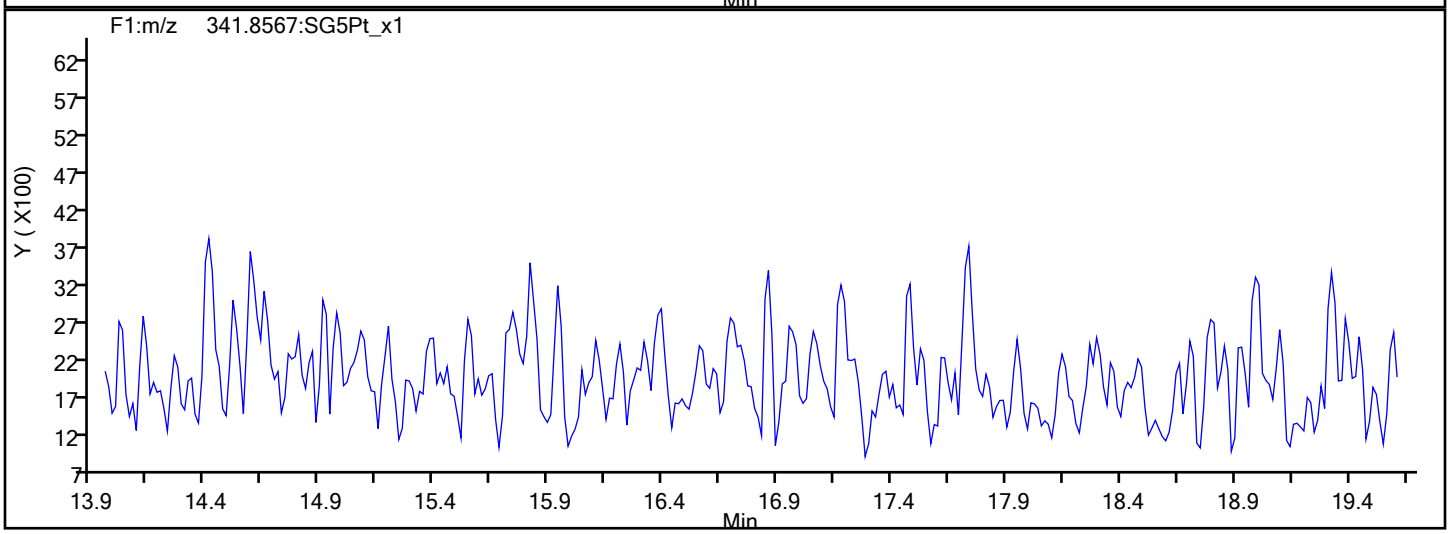

F1 PeCDFs Interference Mass

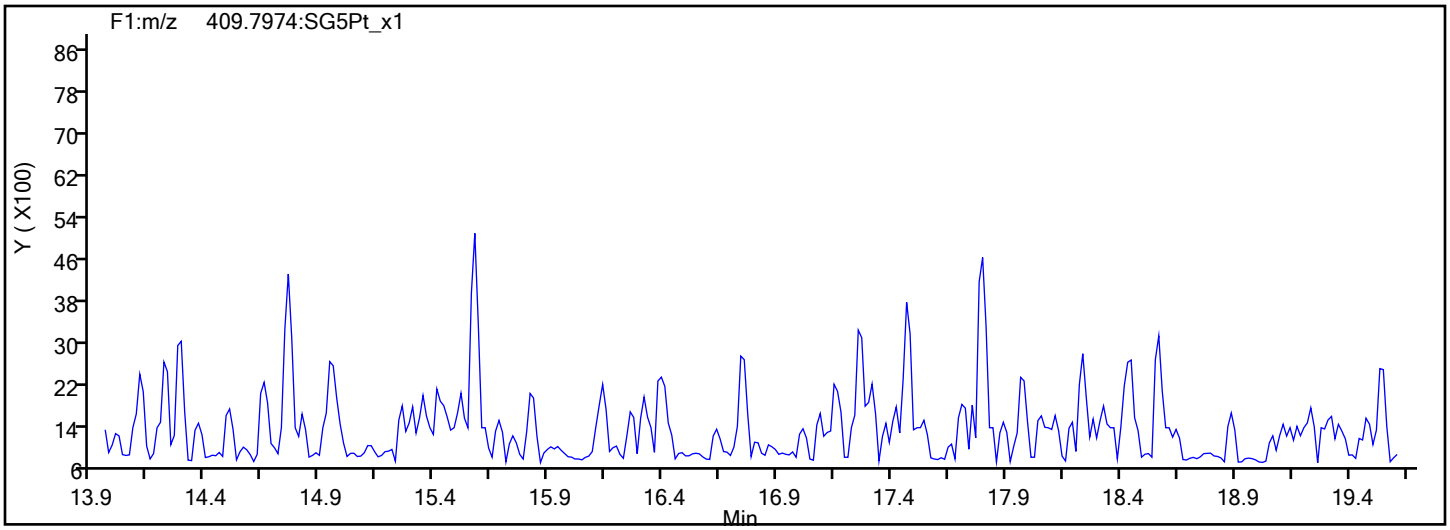

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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PeCDF

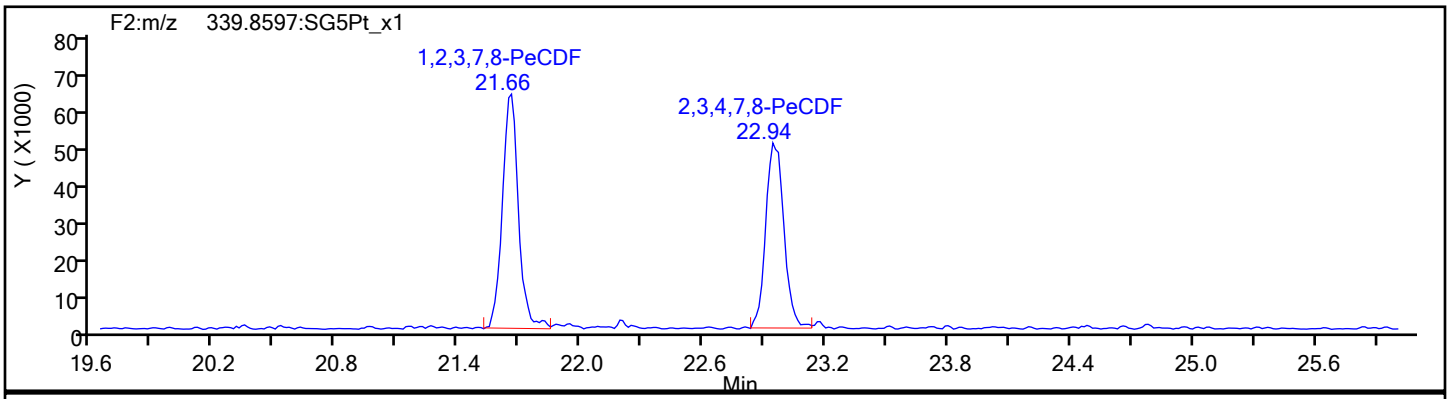

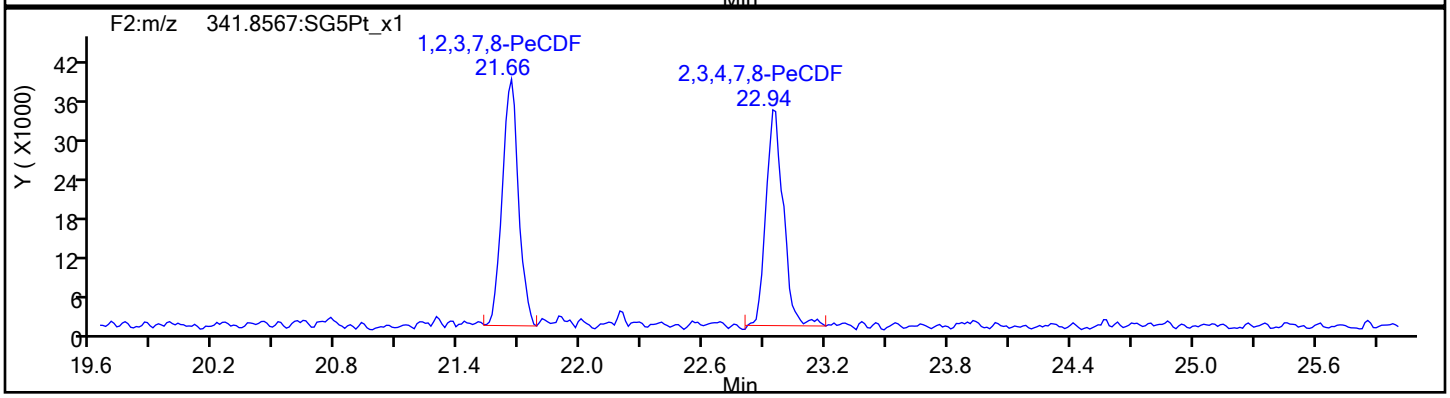

PeCDF Standards

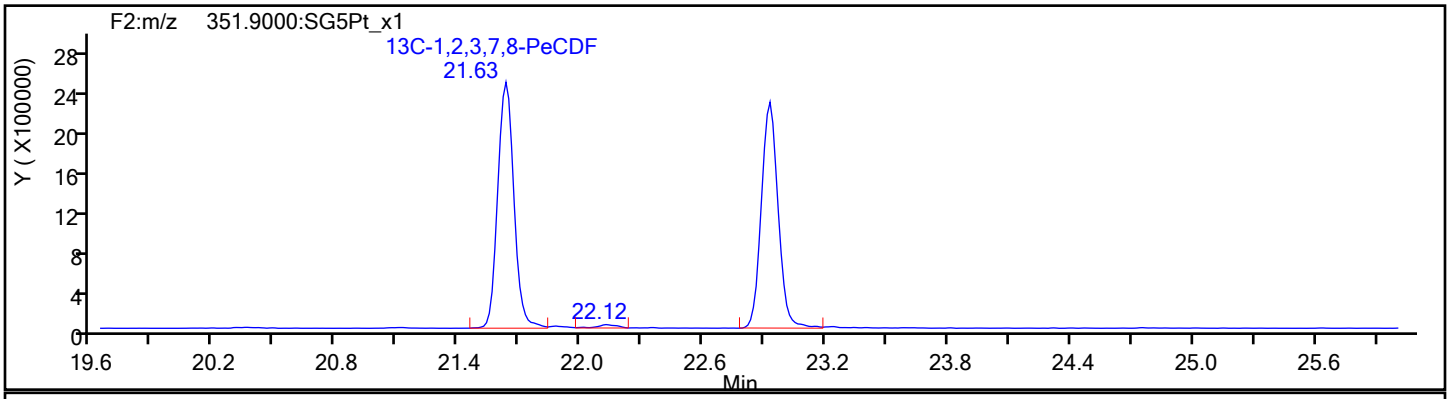

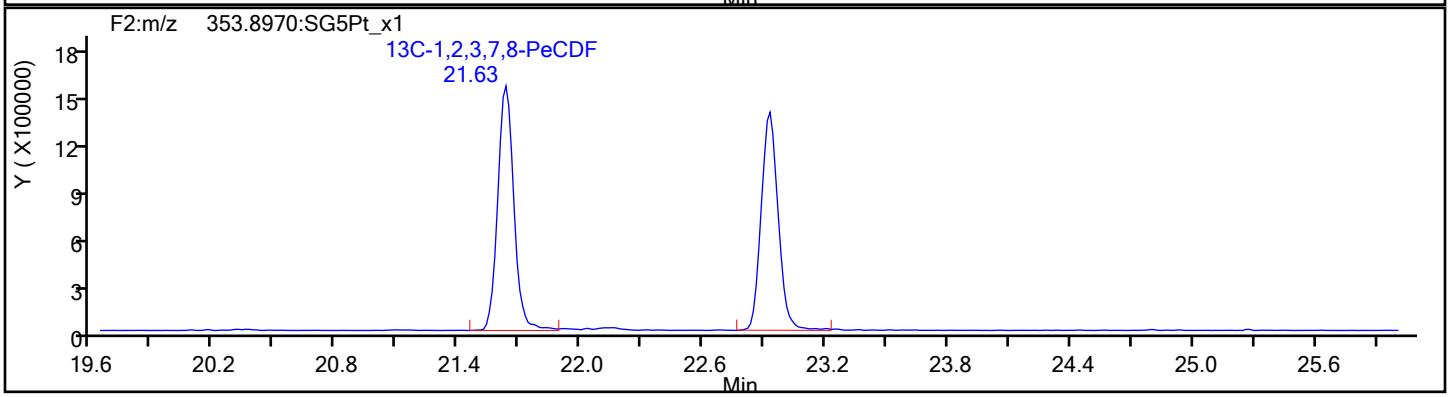

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Eurofins TestAmerica, Sacramento

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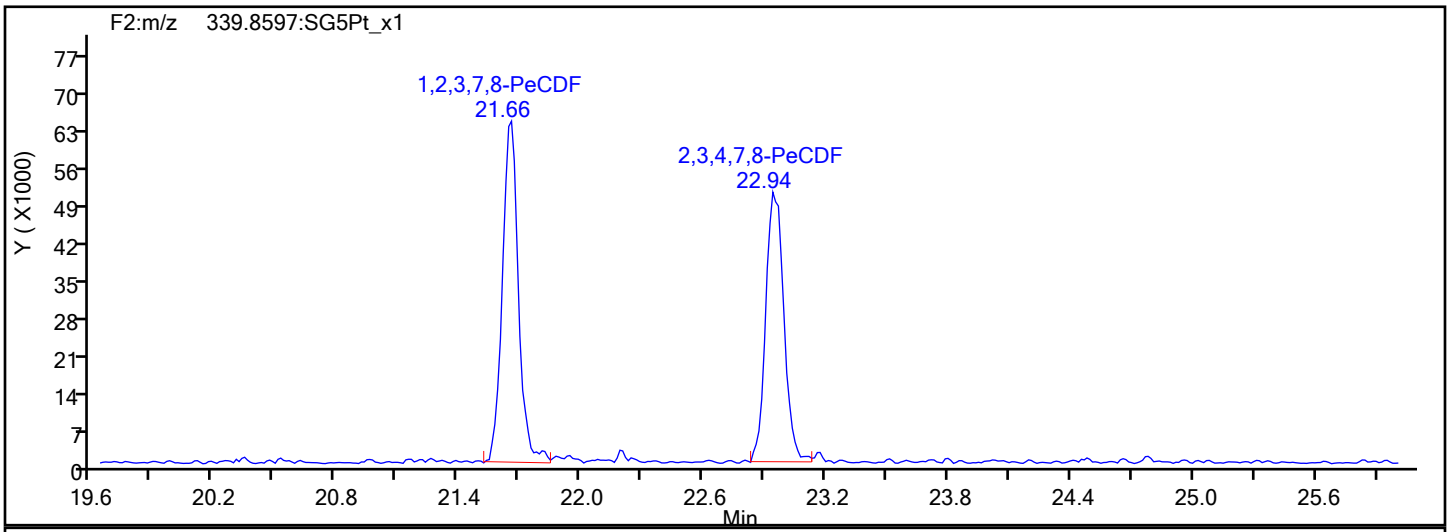

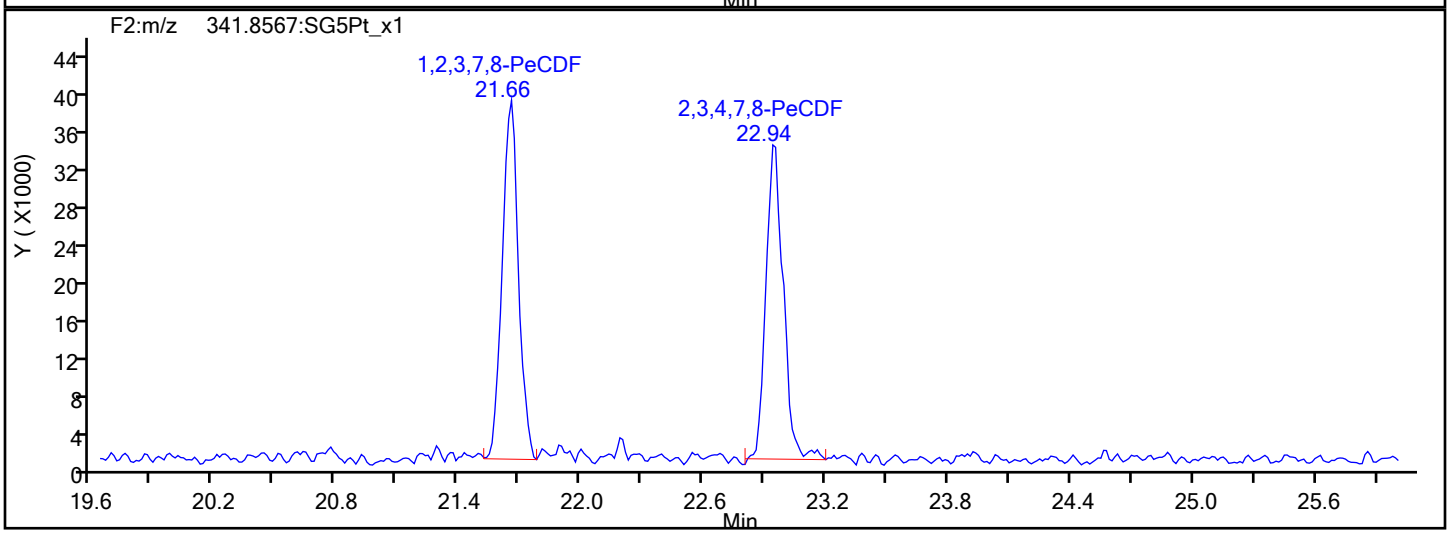

PeCDF Interference Mass

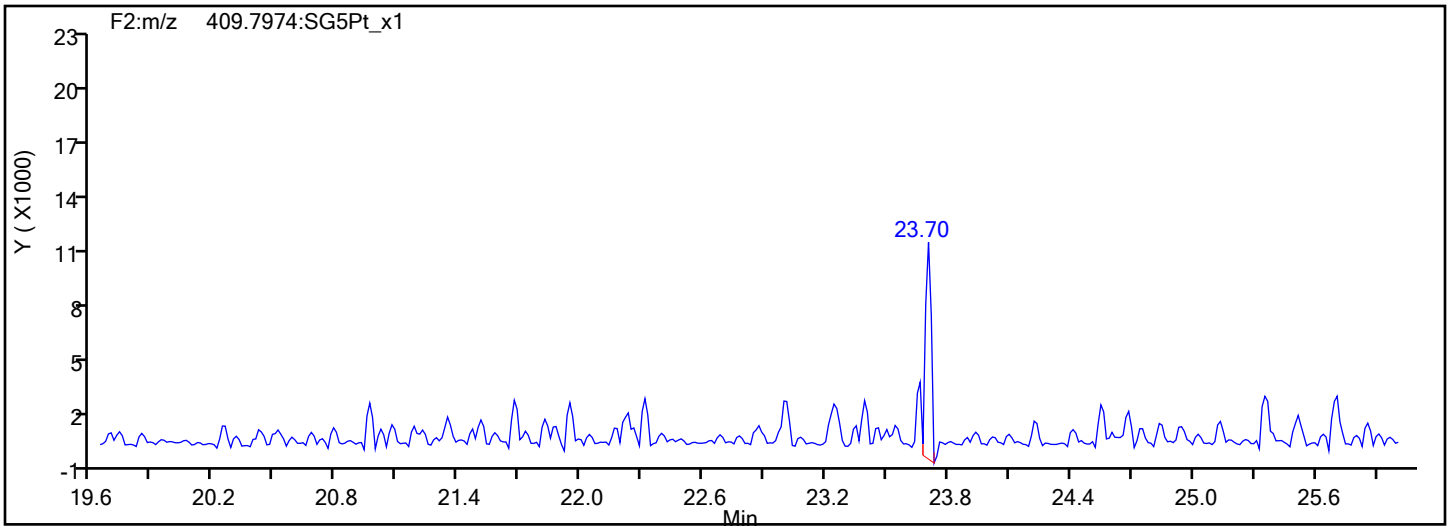

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Eurofins TestAmerica, Sacramento

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PeCDD

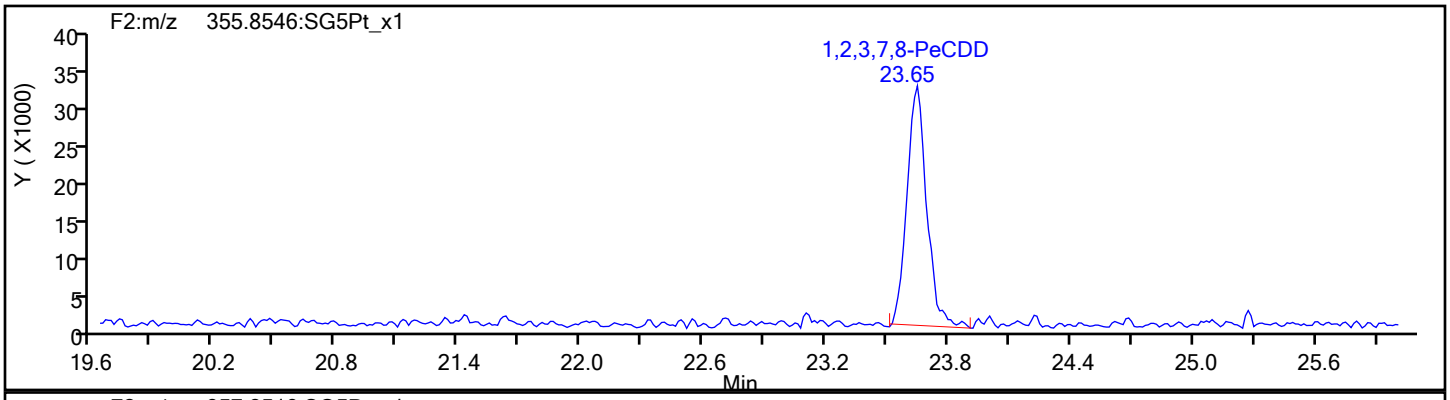

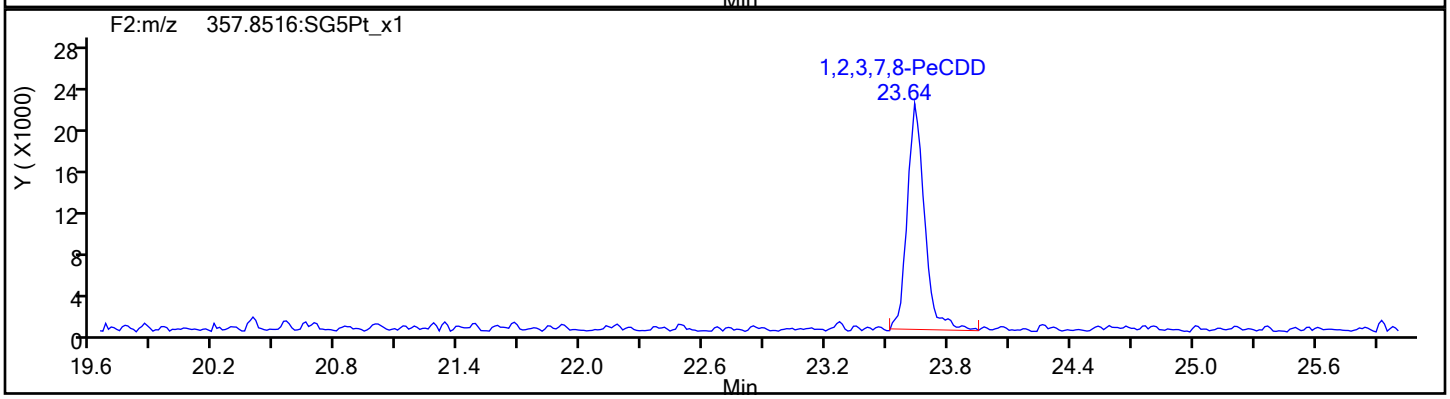

PeCDD Standards

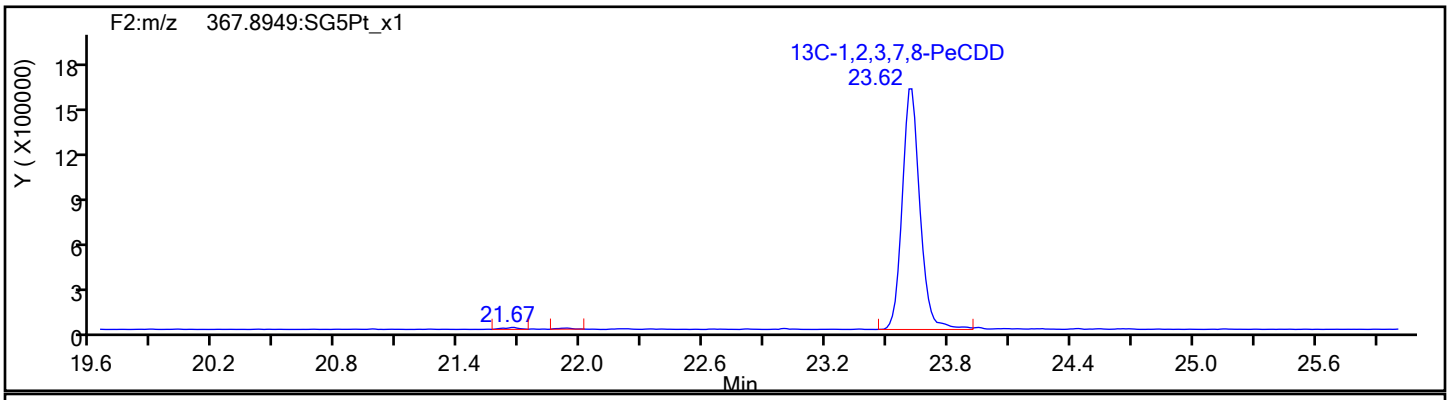

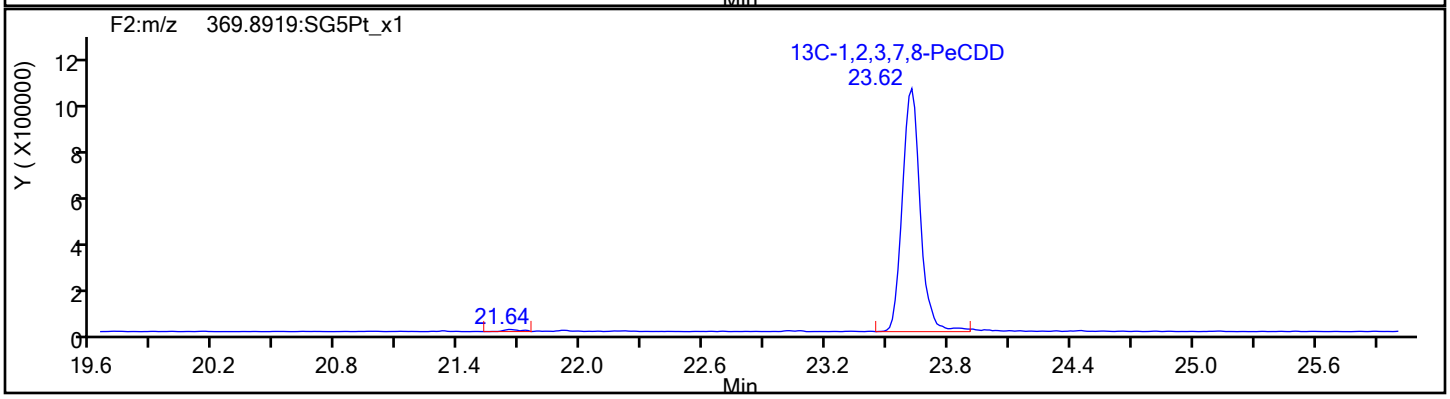

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Eurofins TestAmerica, Sacramento

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HxCDF

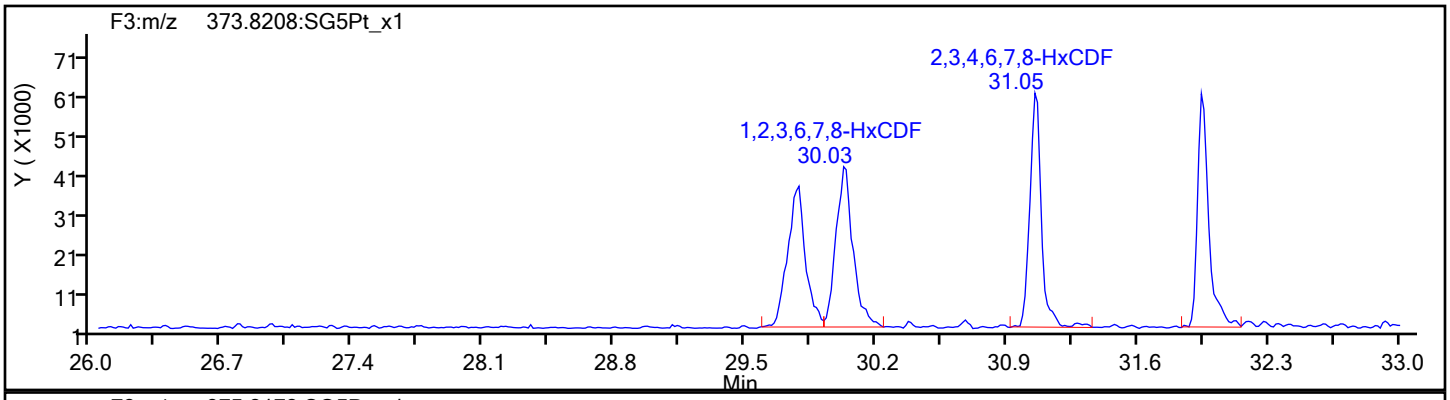

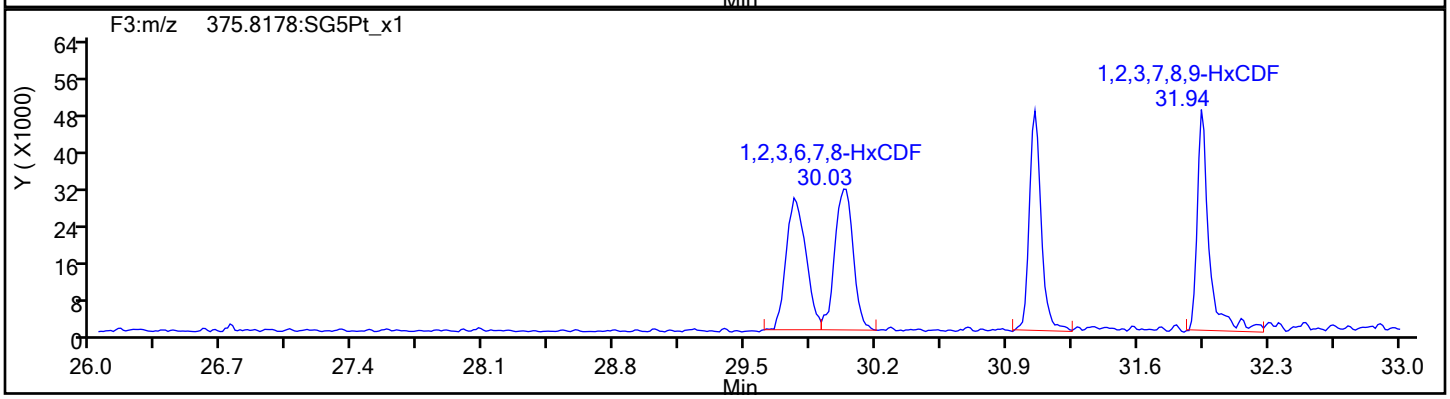

HxCDF Standards

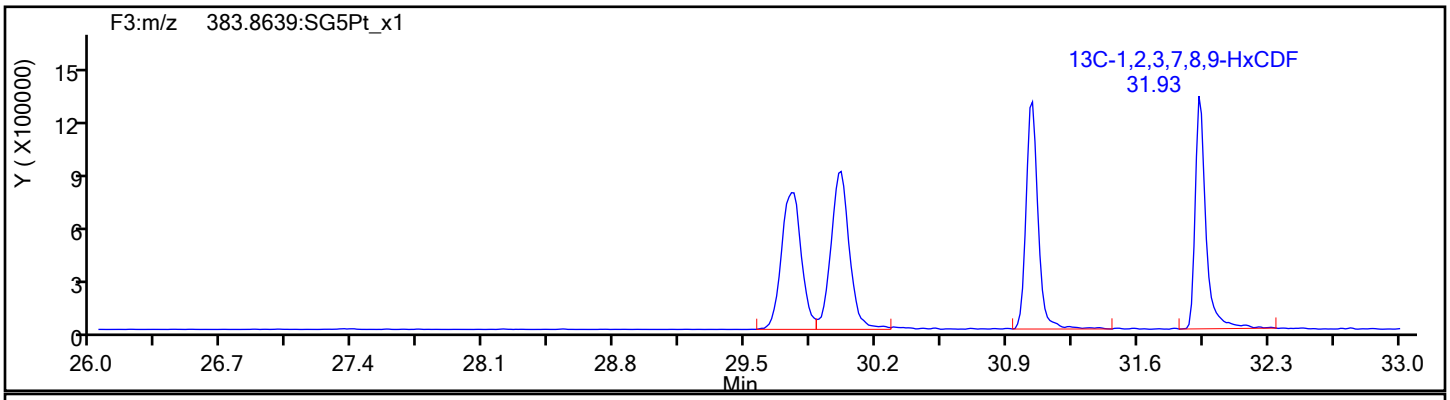

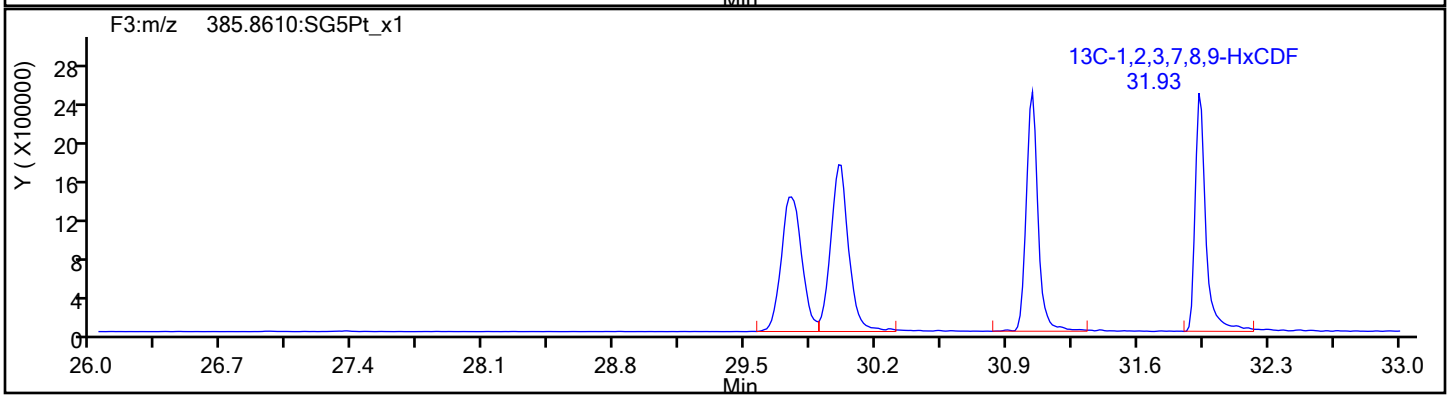

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Eurofins TestAmerica, Sacramento

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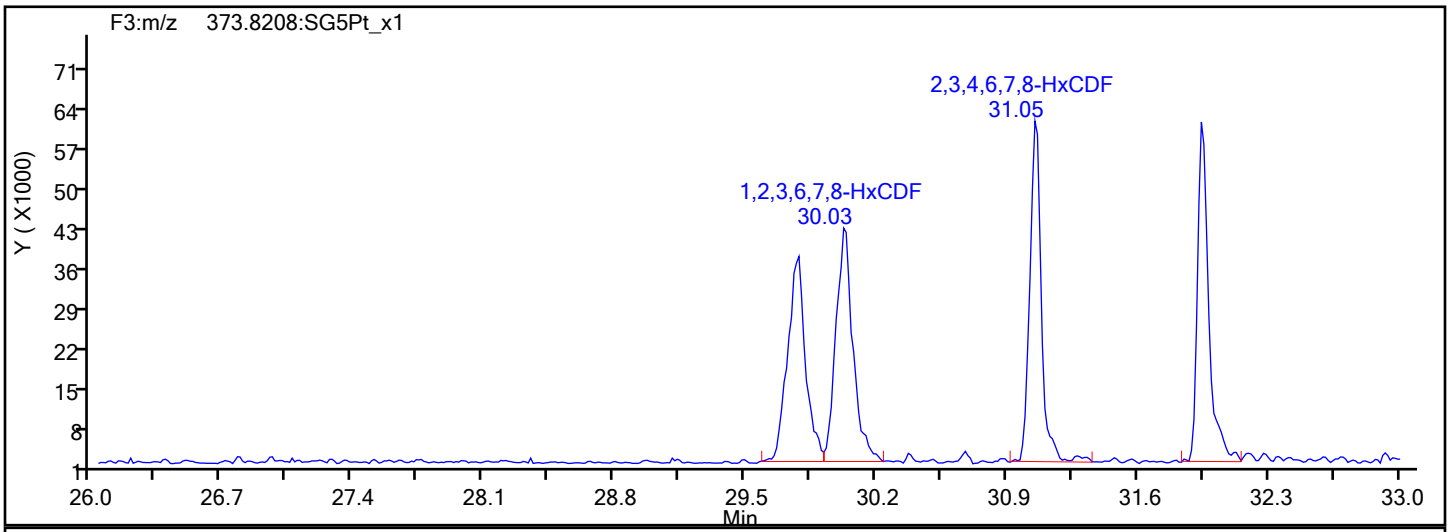

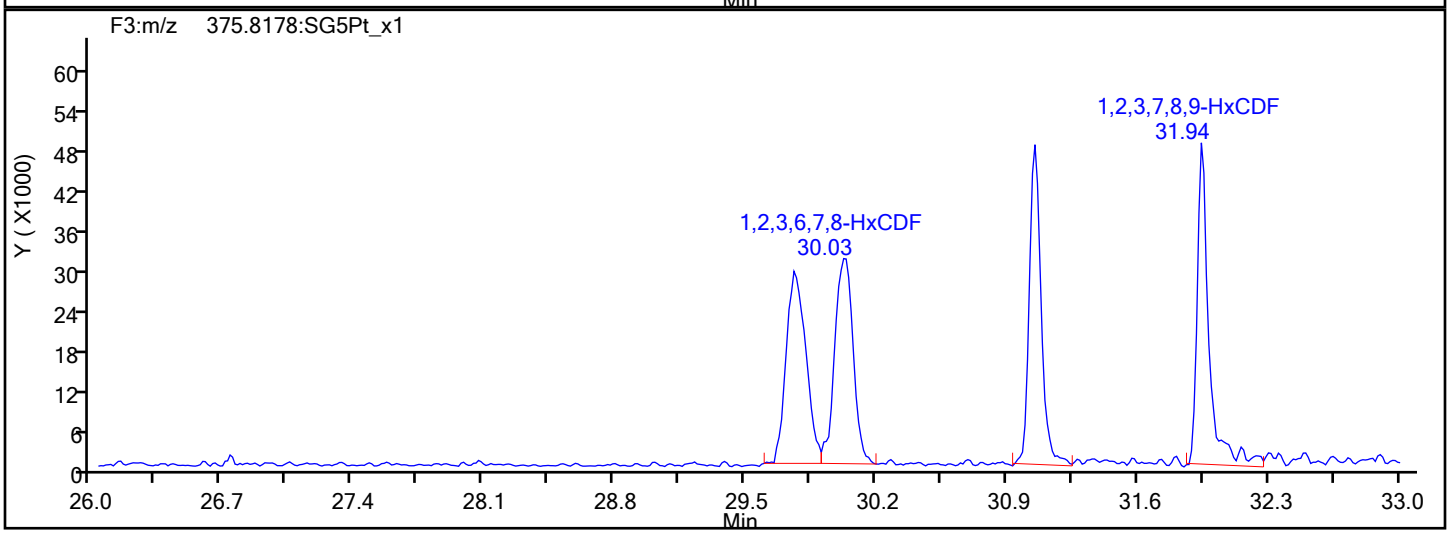

HxCDF Interference Mass

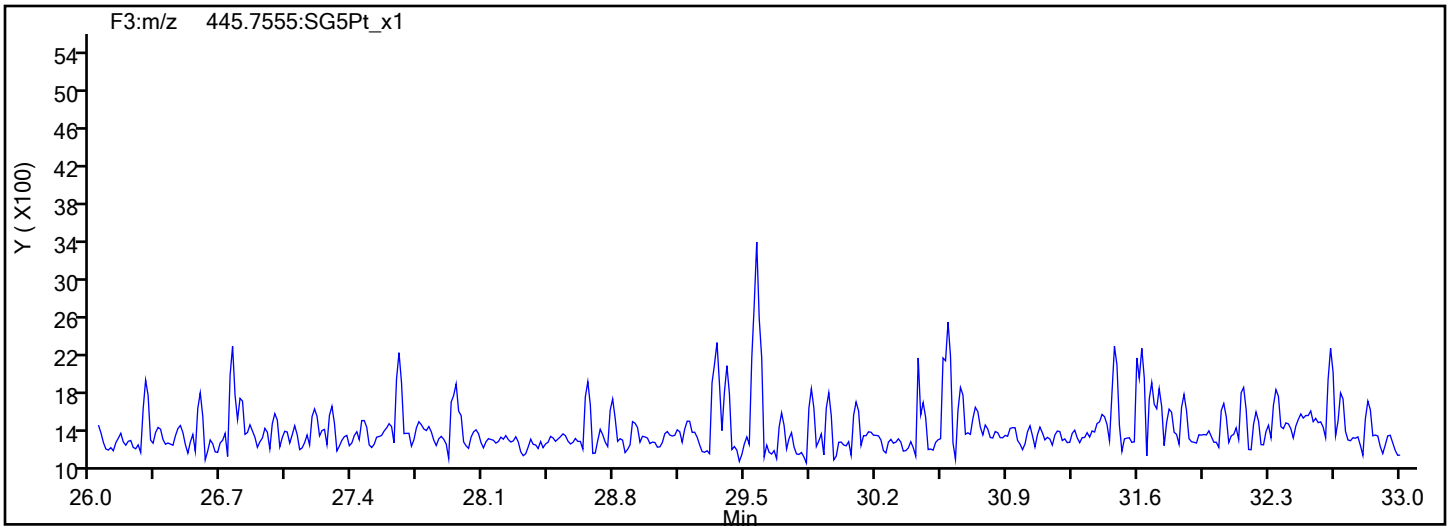

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Eurofins TestAmerica, Sacramento

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HxCDD

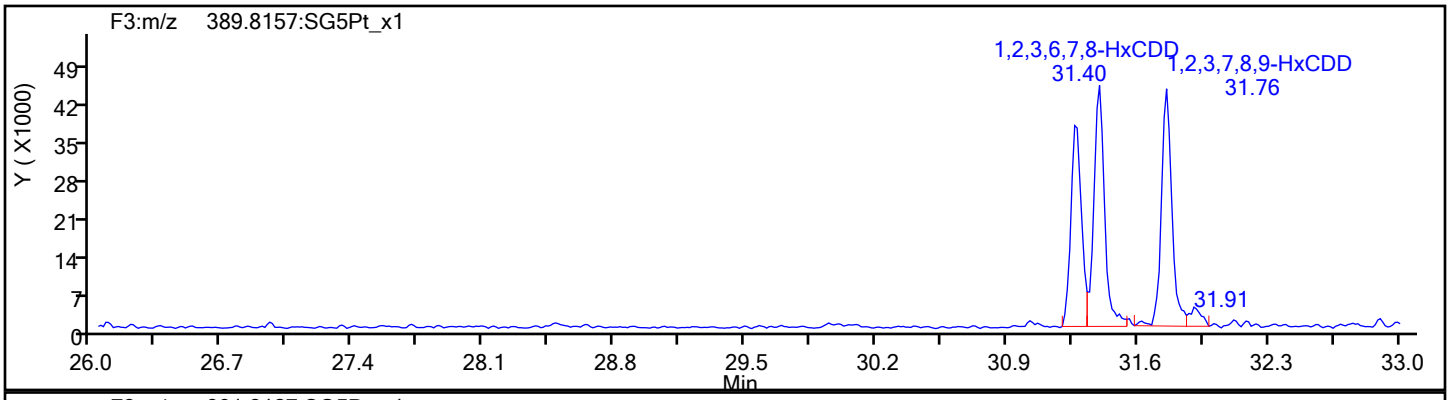

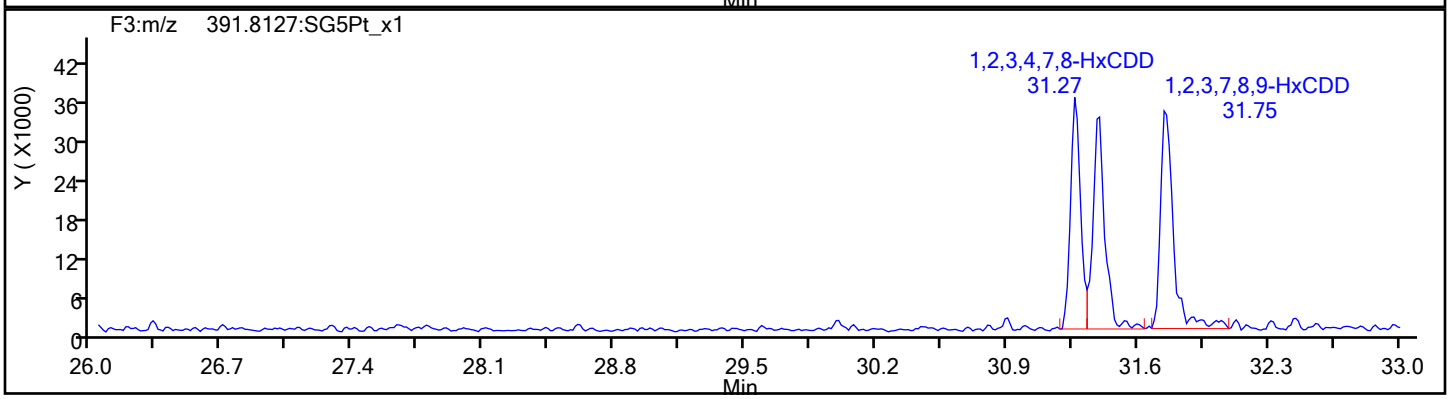

HxCDD Standards

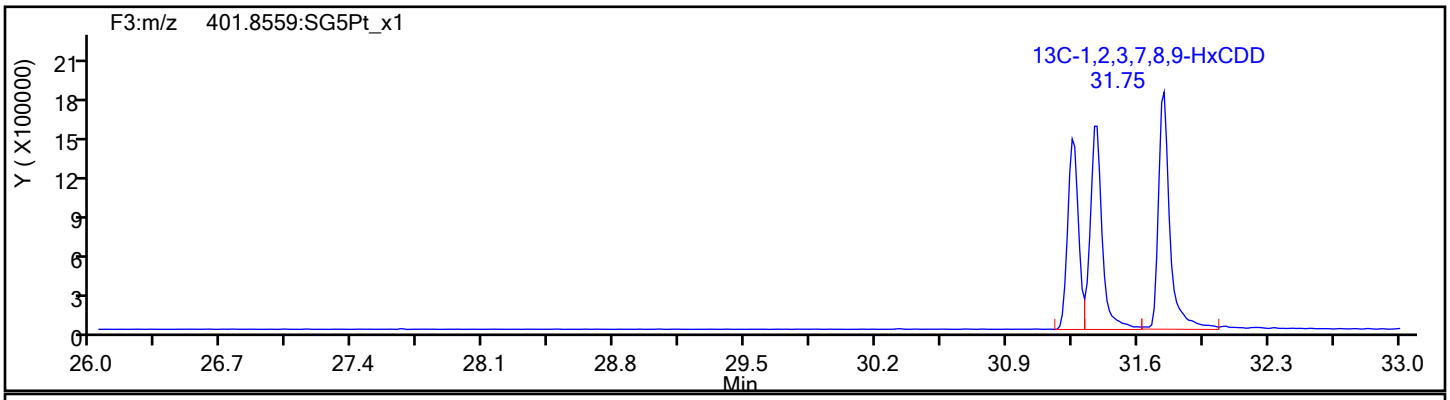

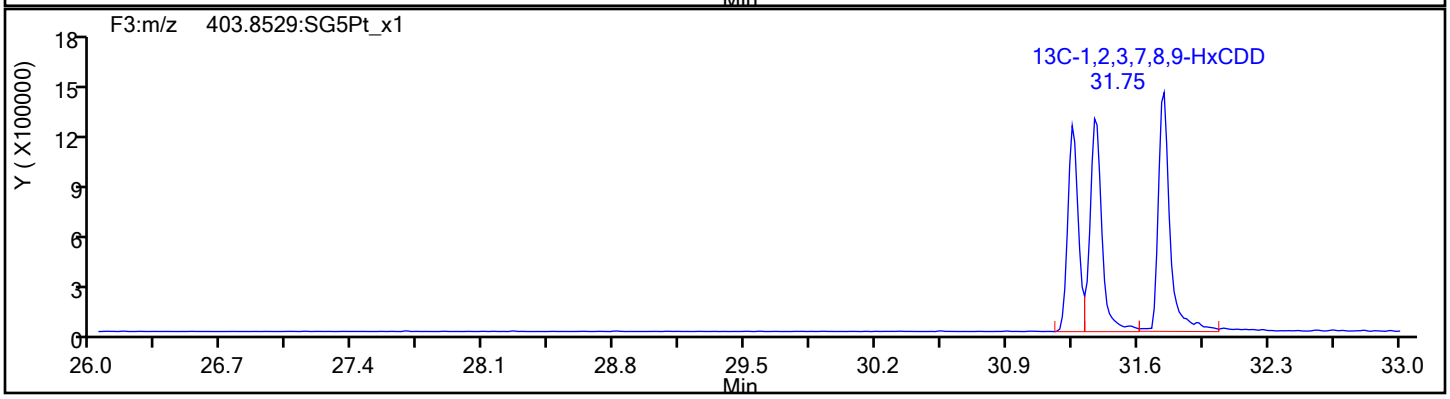

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

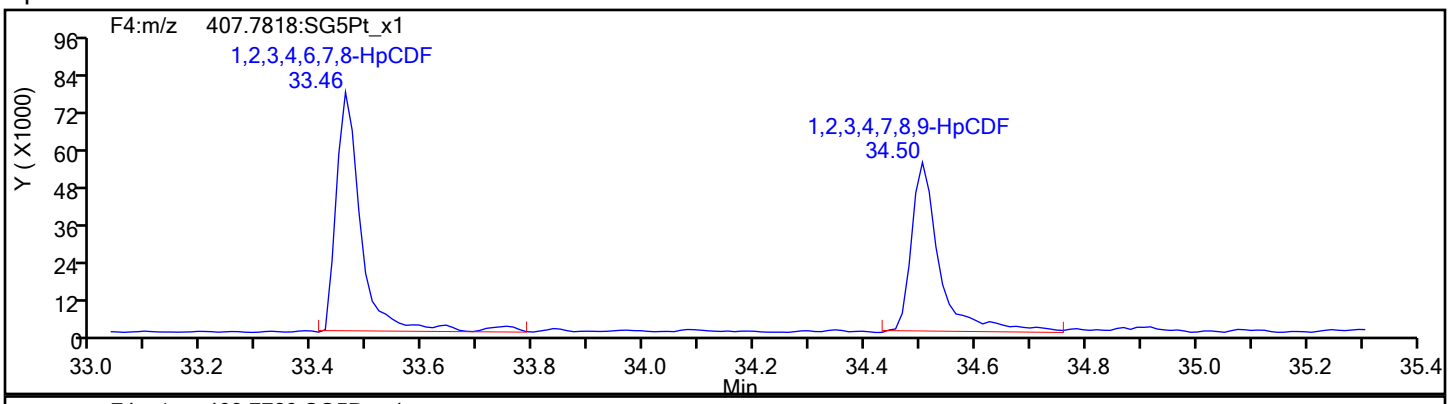

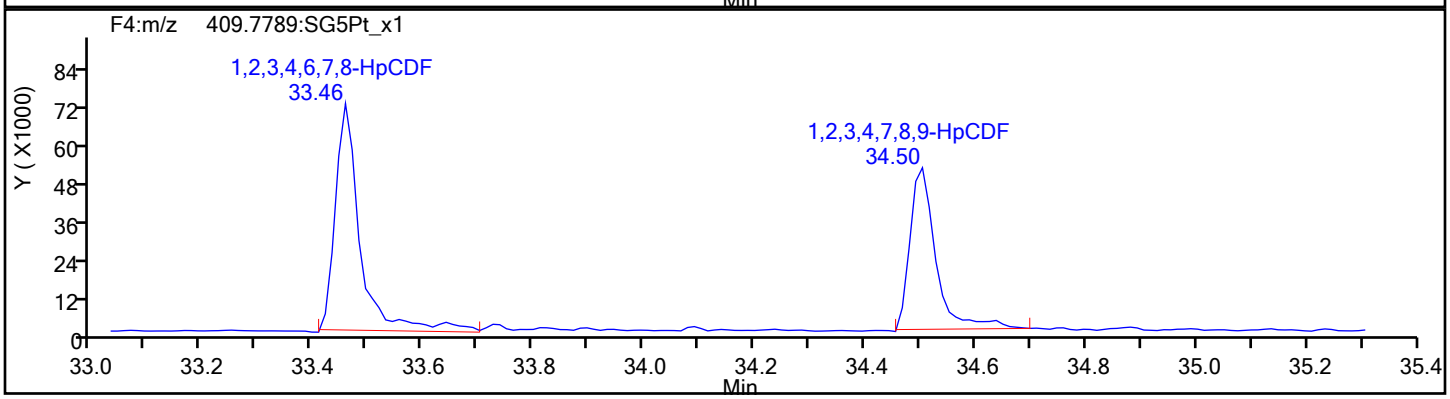

HpCDF Standards

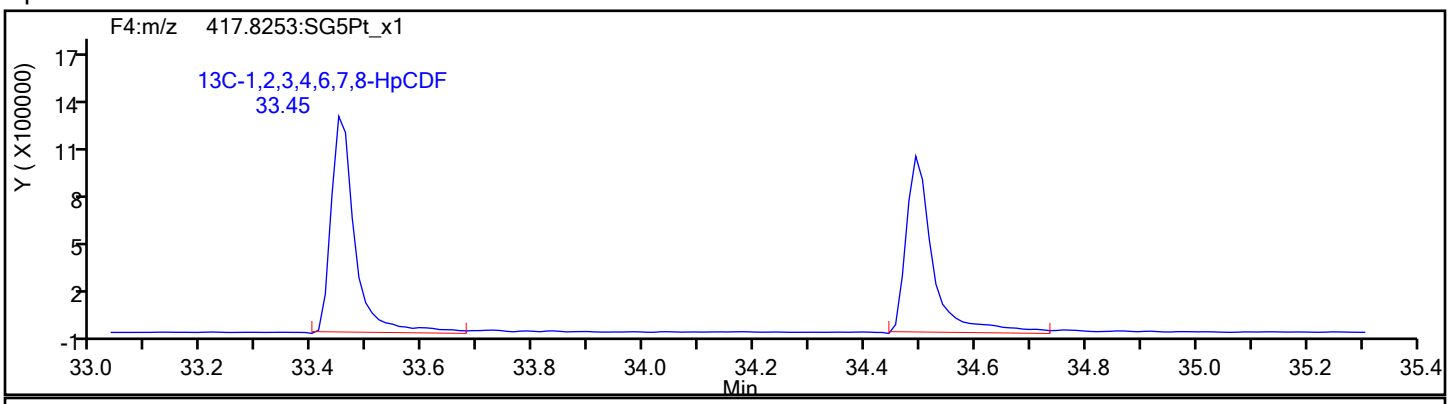

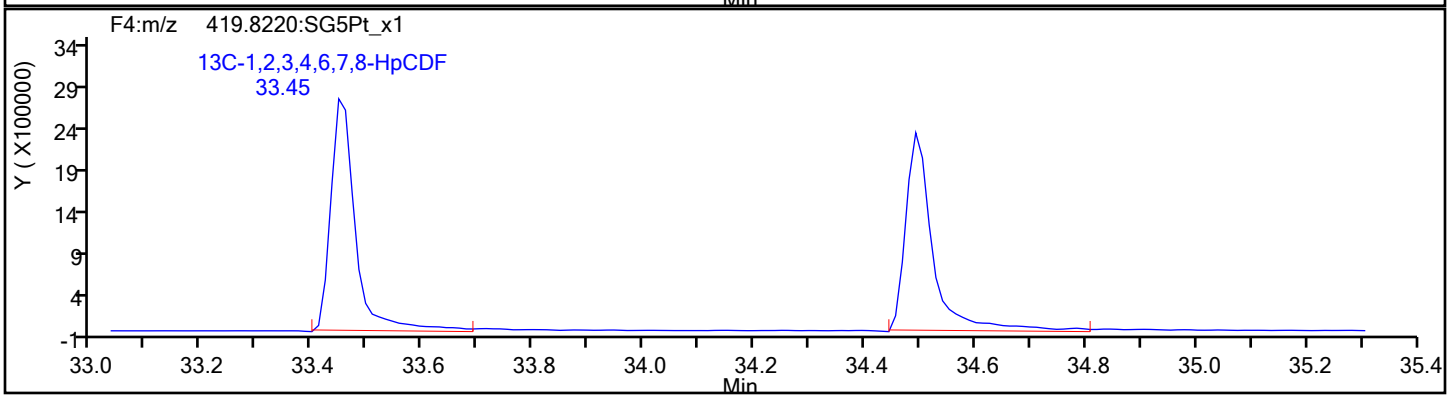

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

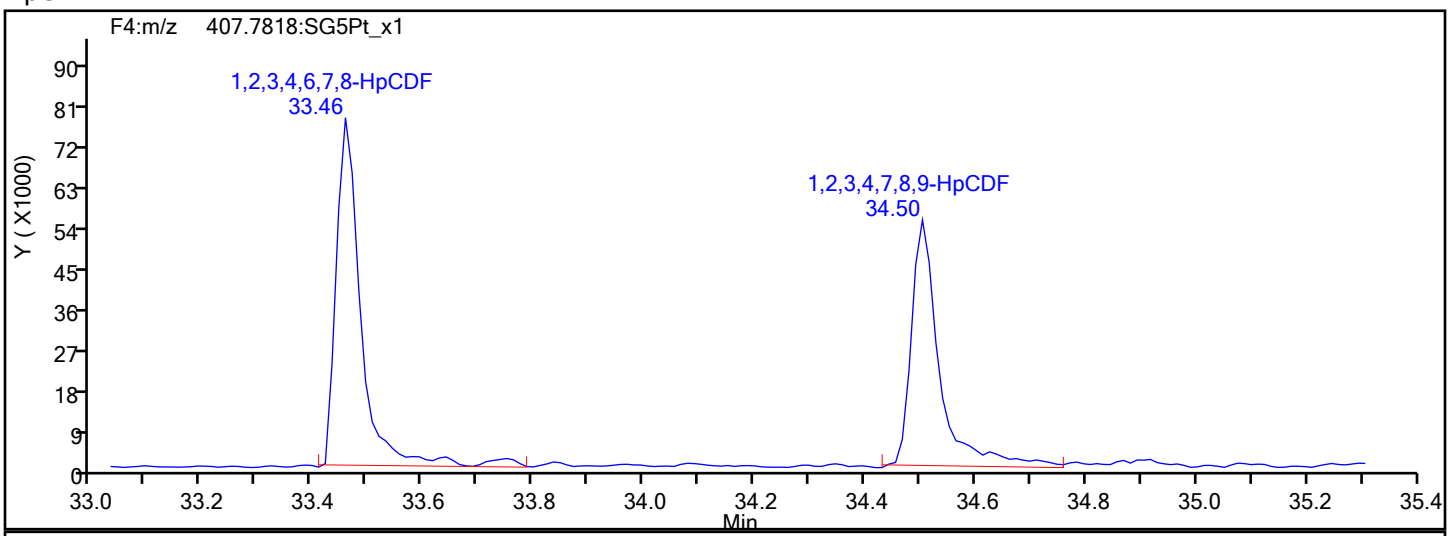

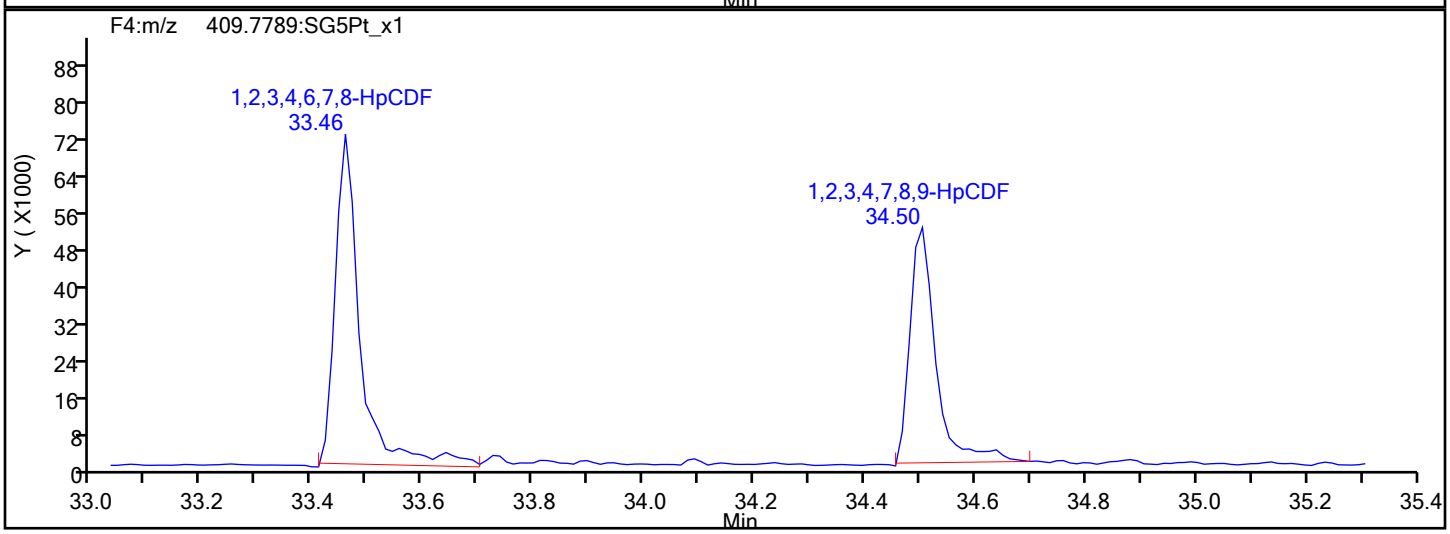

HpCDF Interference Mass

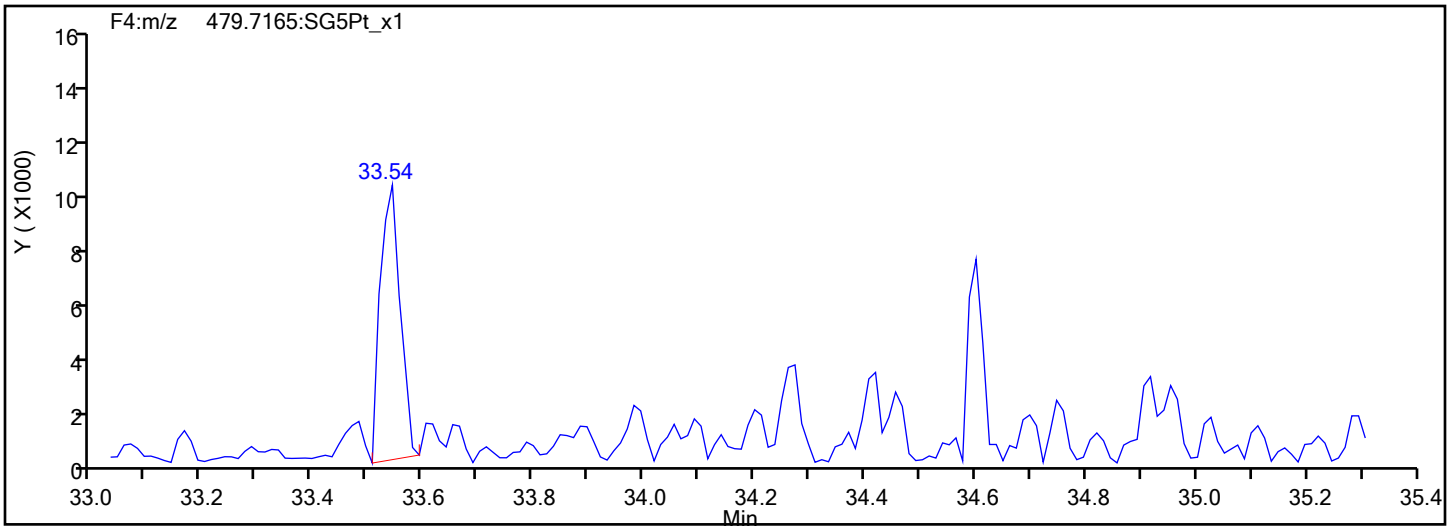

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

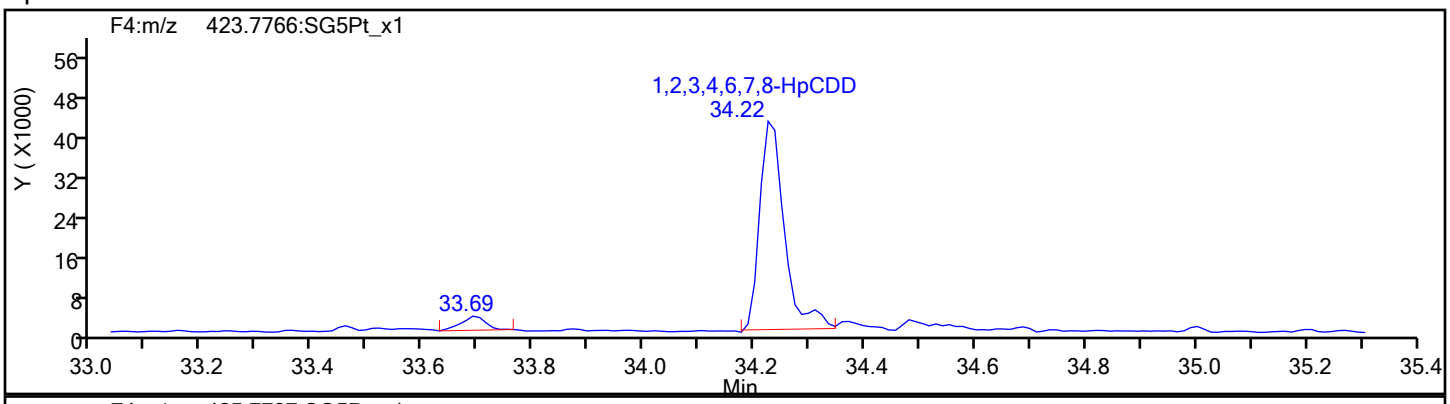

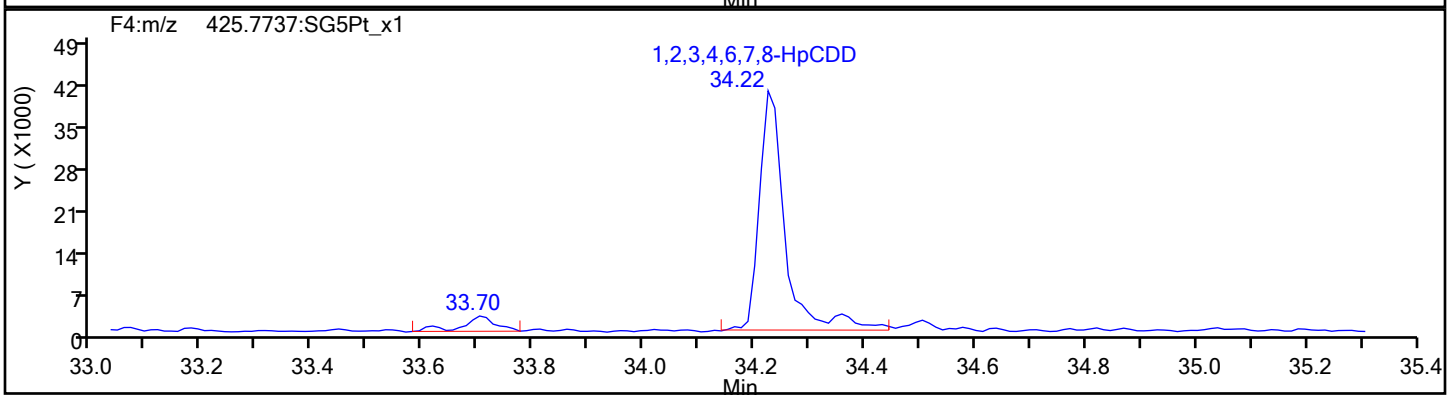

HpCDD Standards

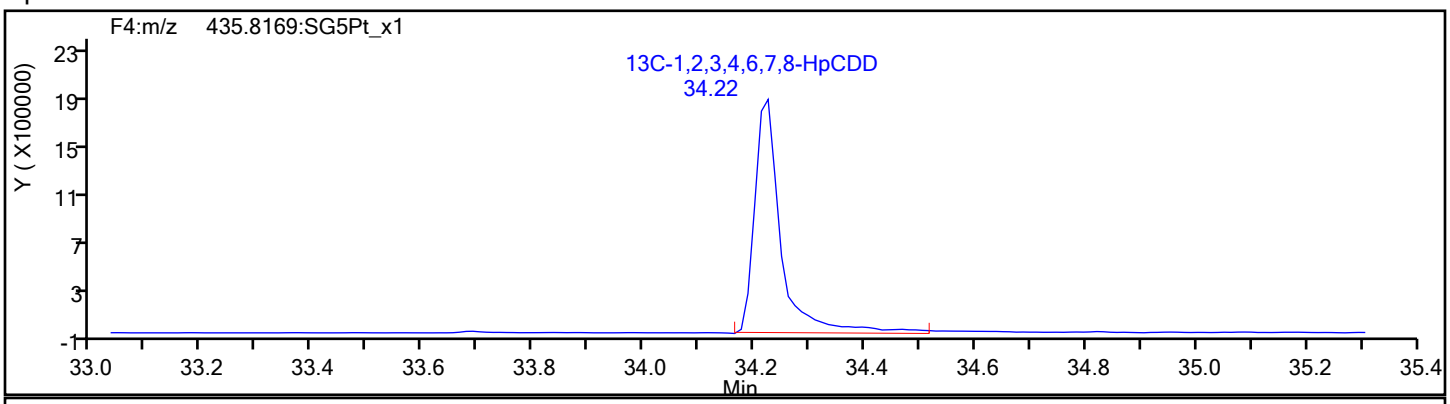

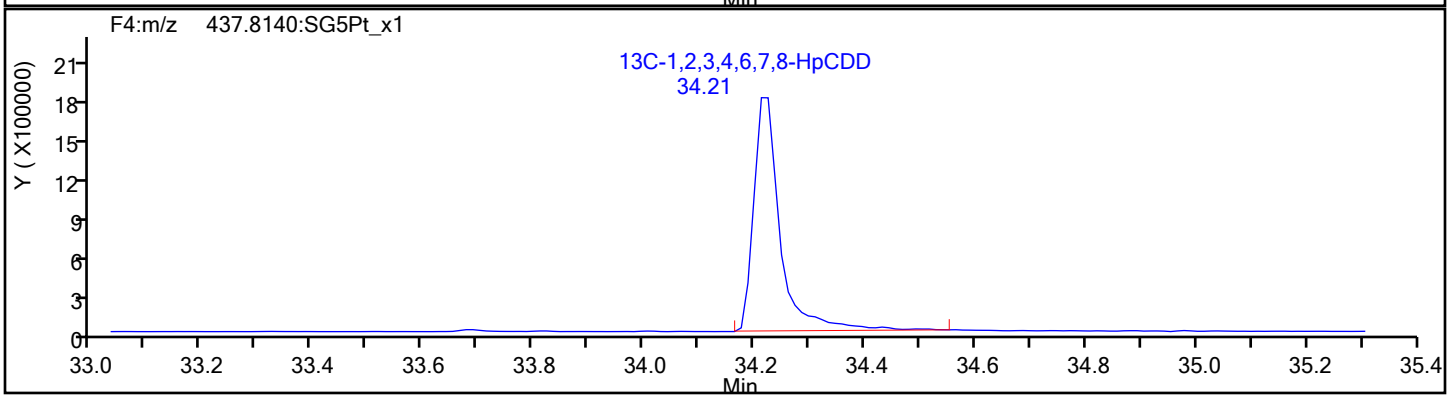

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
Injection Date:	17-Sep-2019 13:03:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

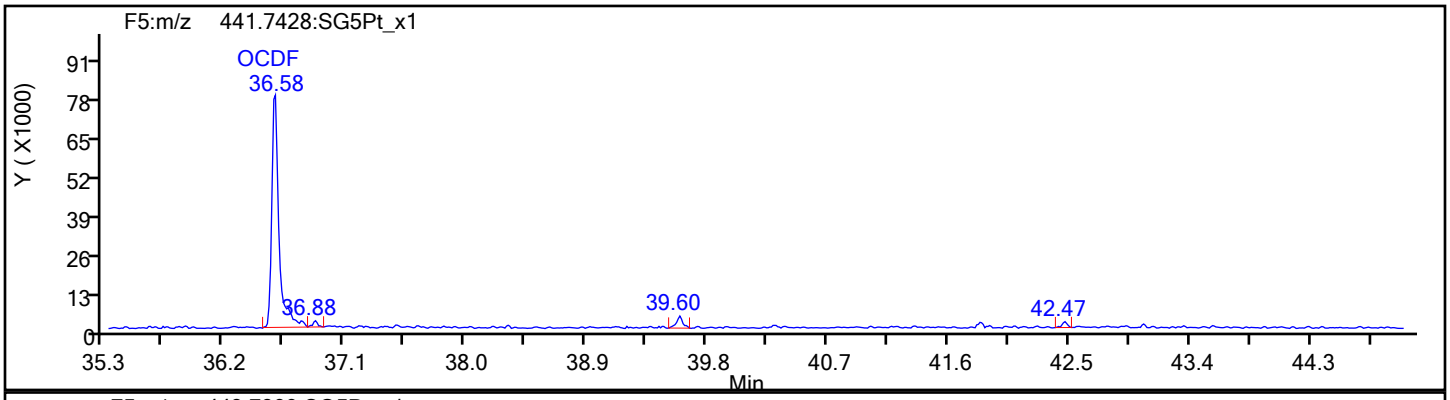

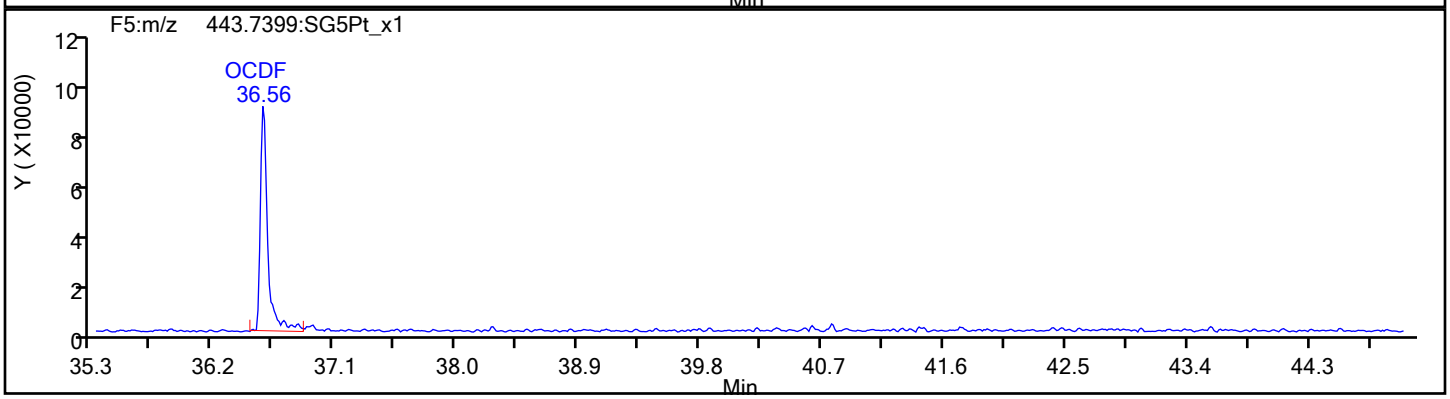

OCDF Standards

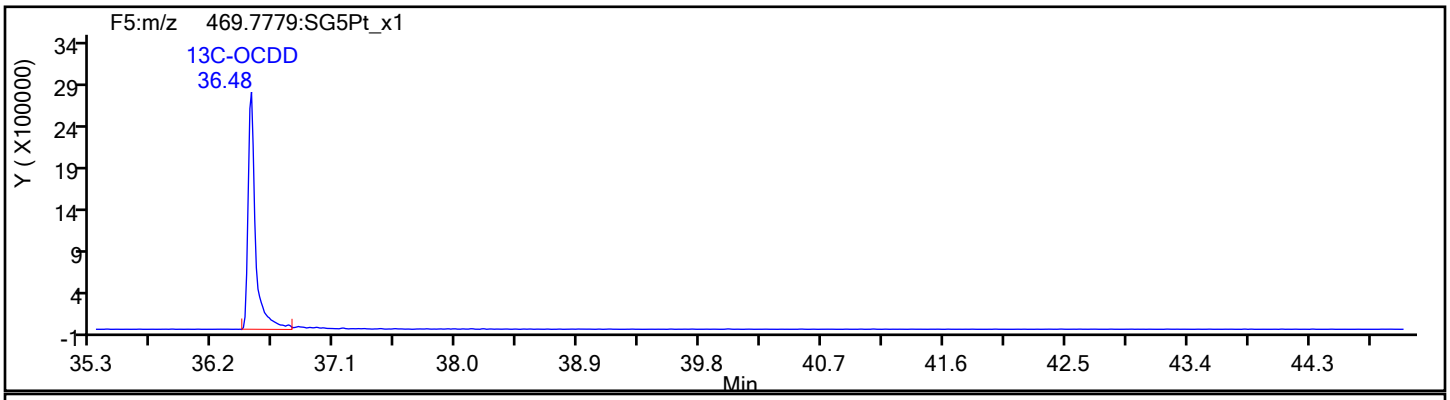

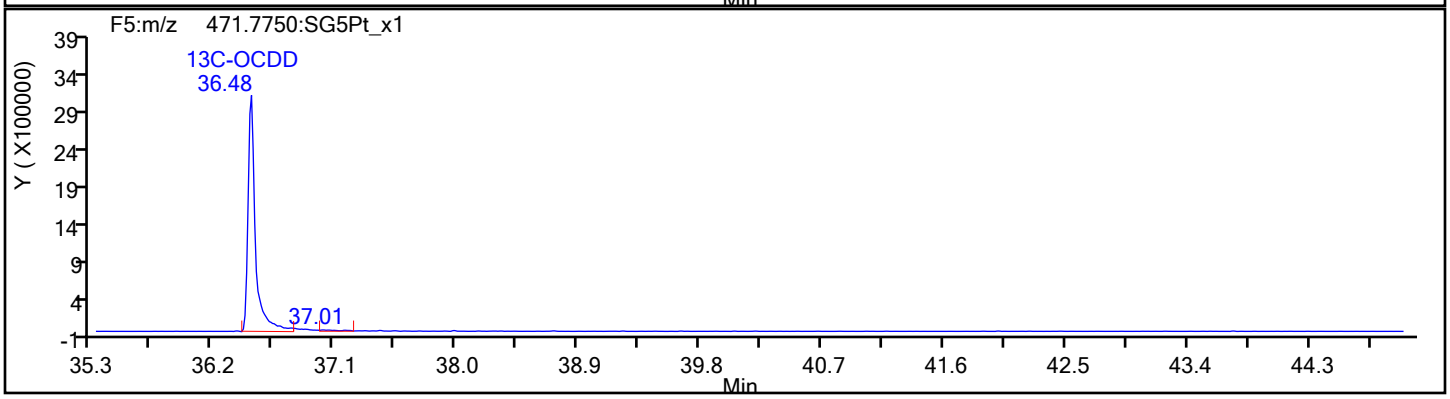

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

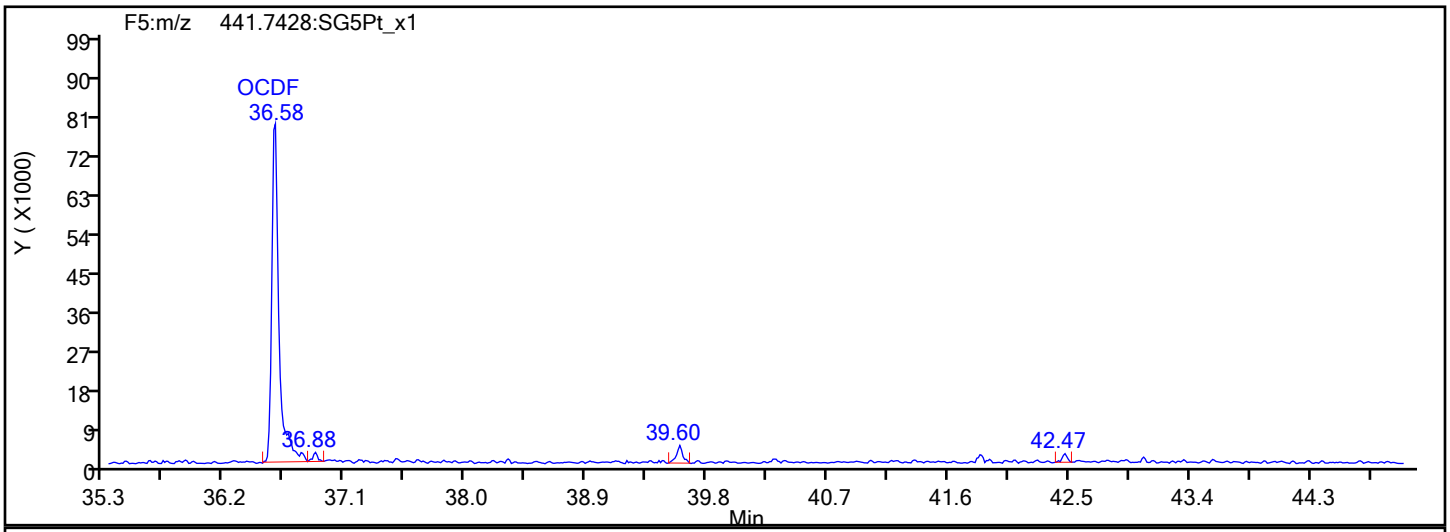

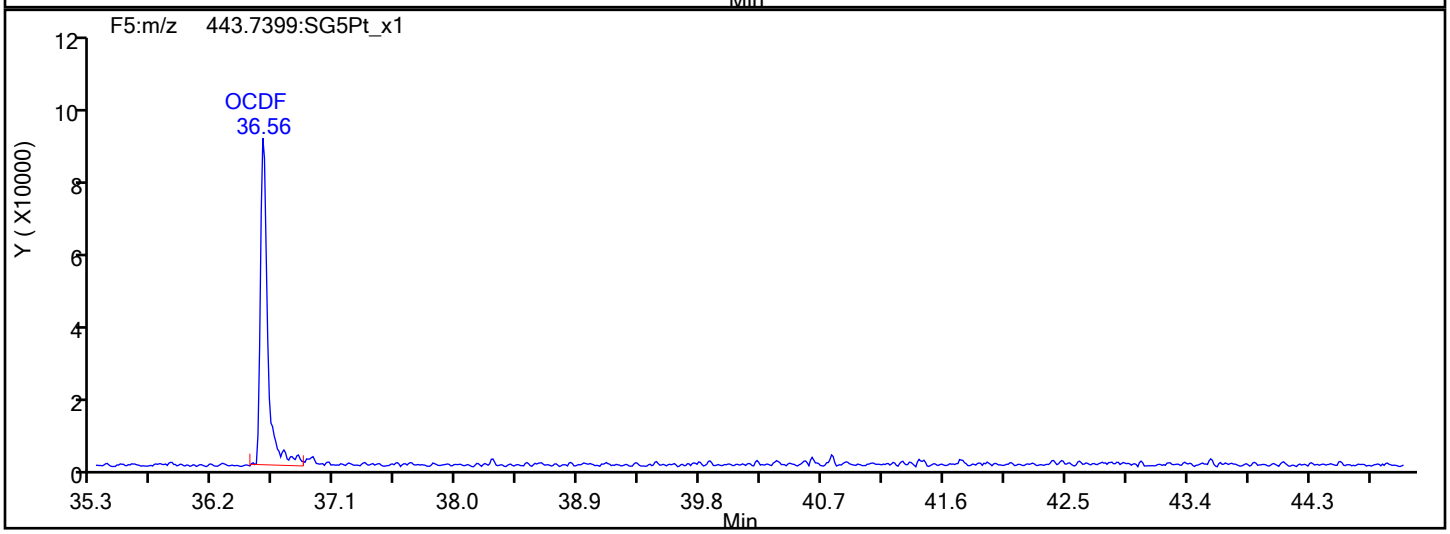

OCDF Interference Mass

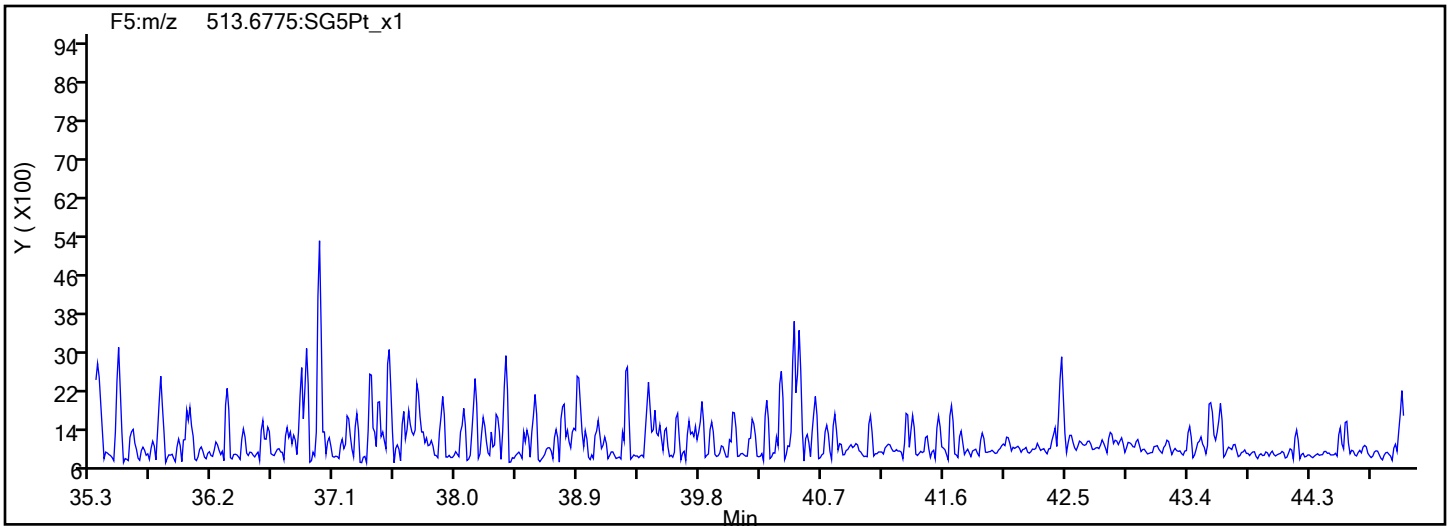

Report Date: 18-Sep-2019 10:22:16 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

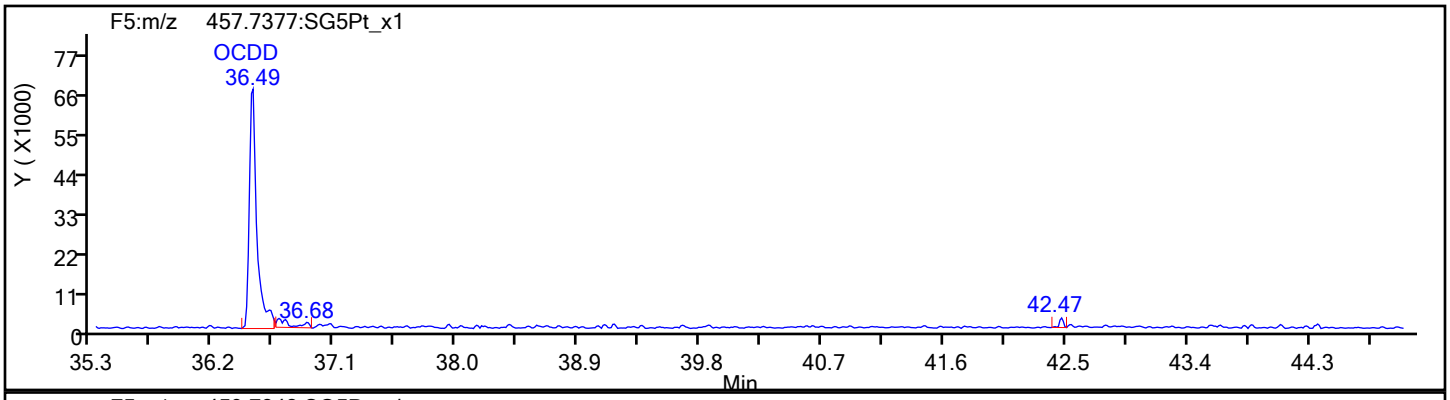

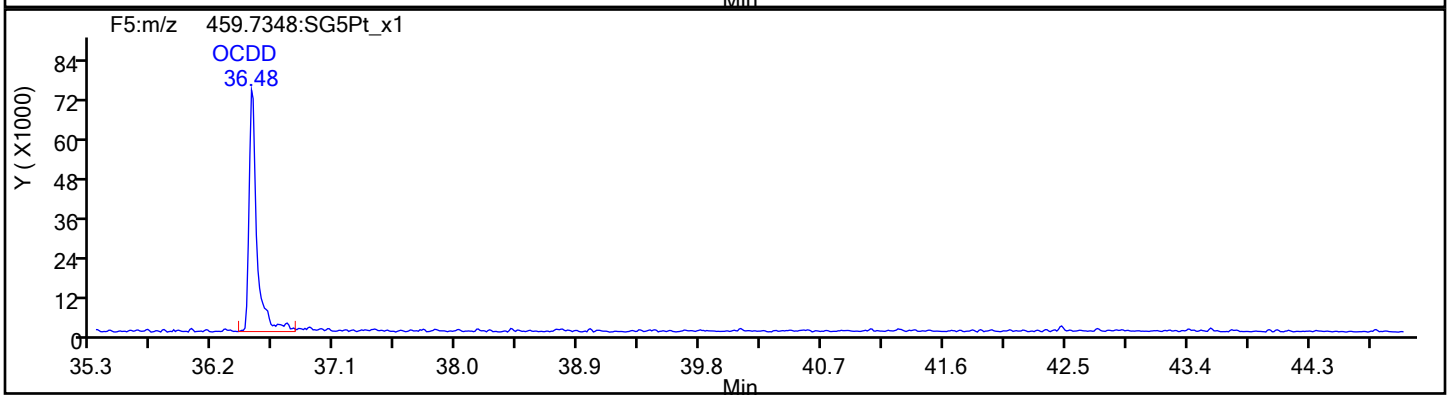

OCDD Standards

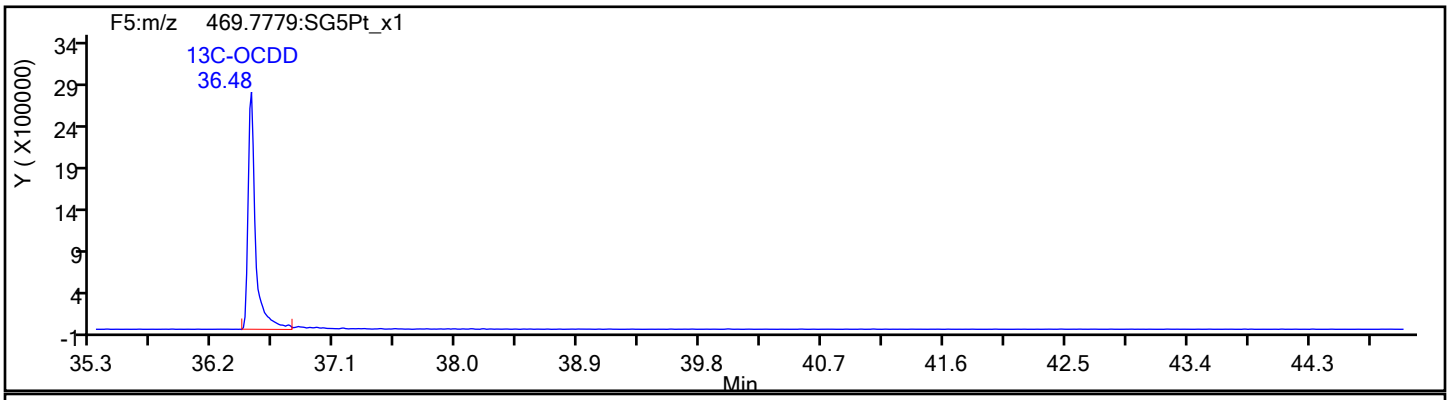

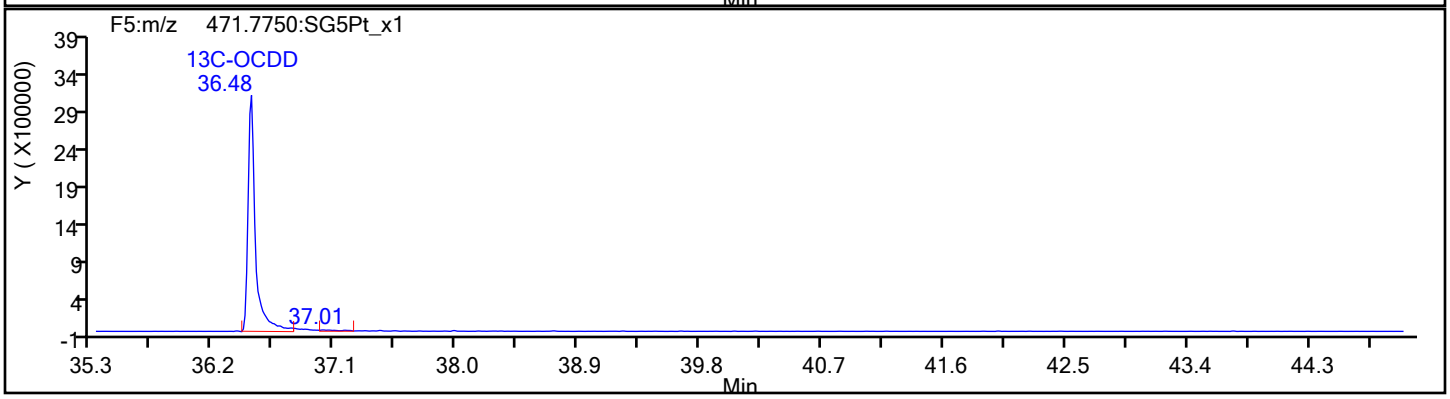

Report Date: 18-Sep-2019 10:22:16 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	3
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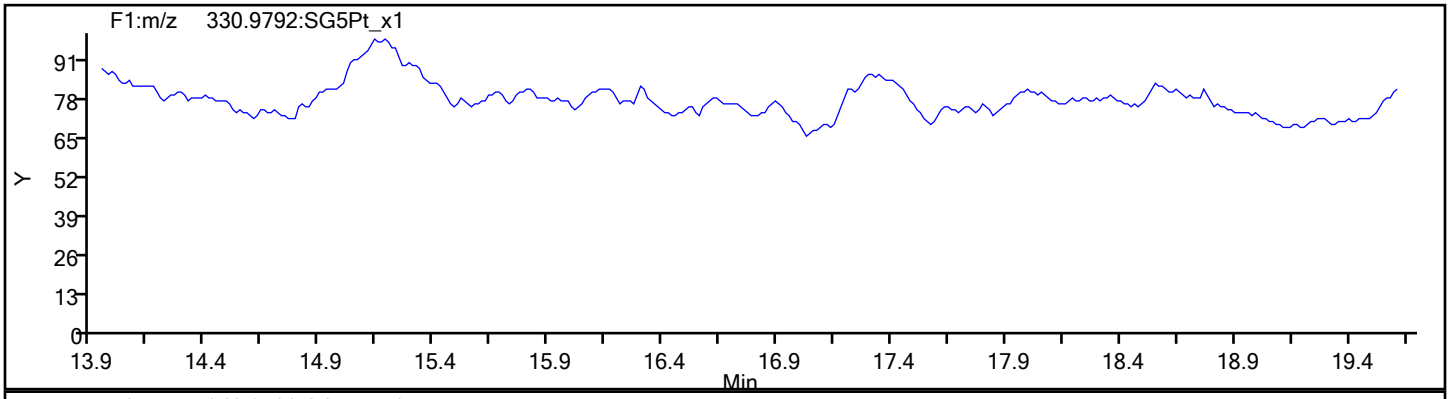

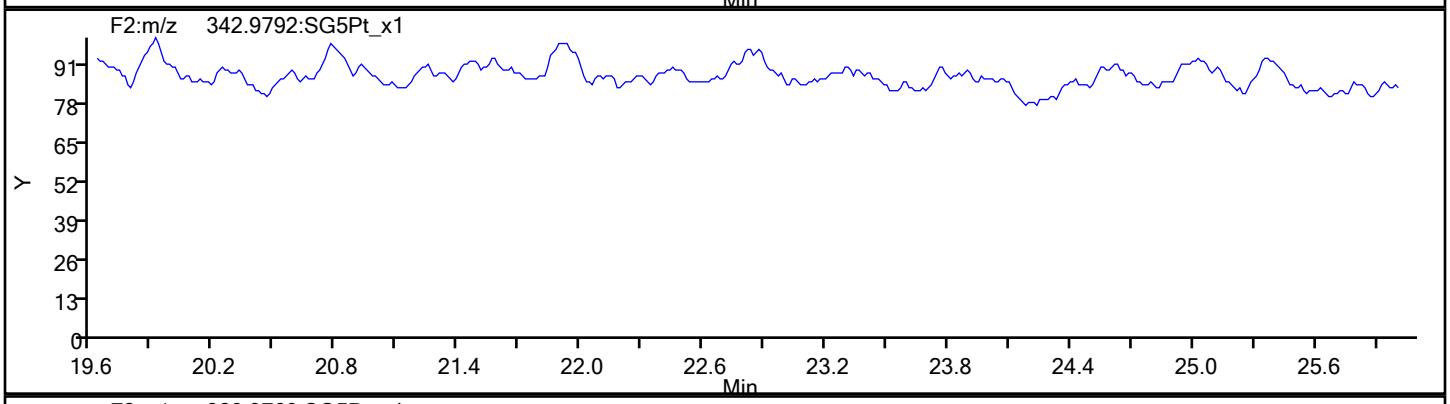

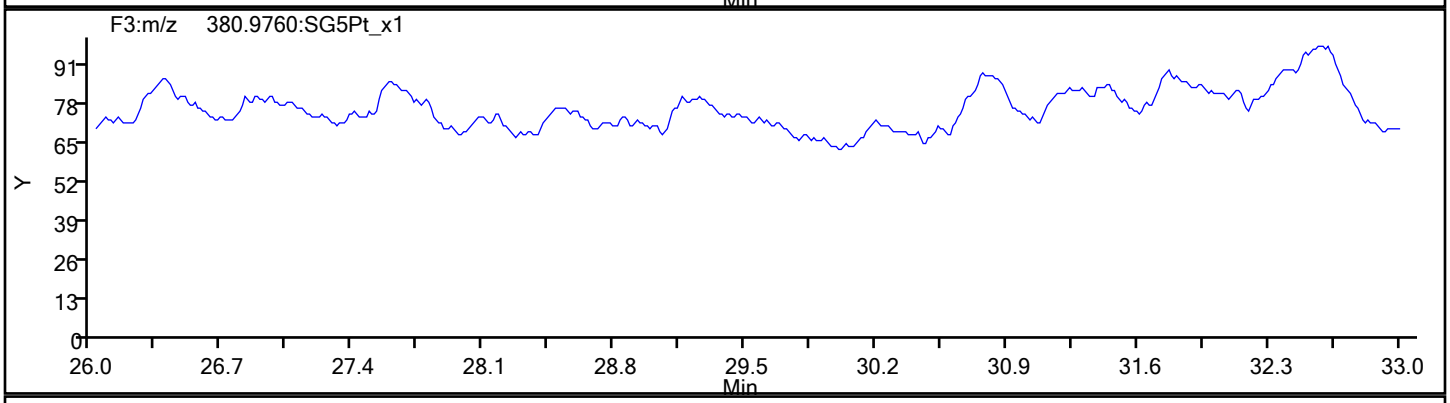

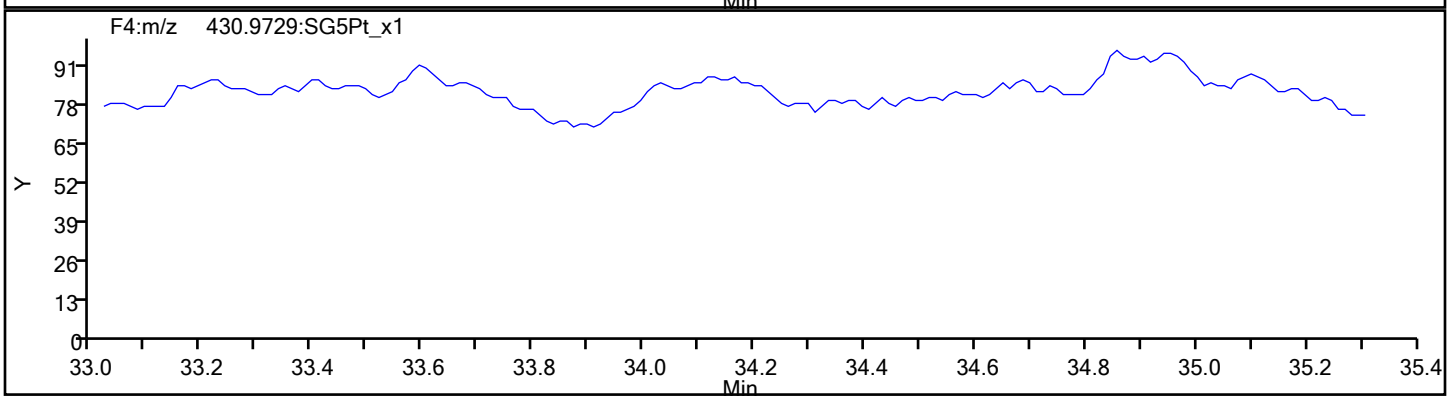

Report Date: 18-Sep-2019 10:22:16 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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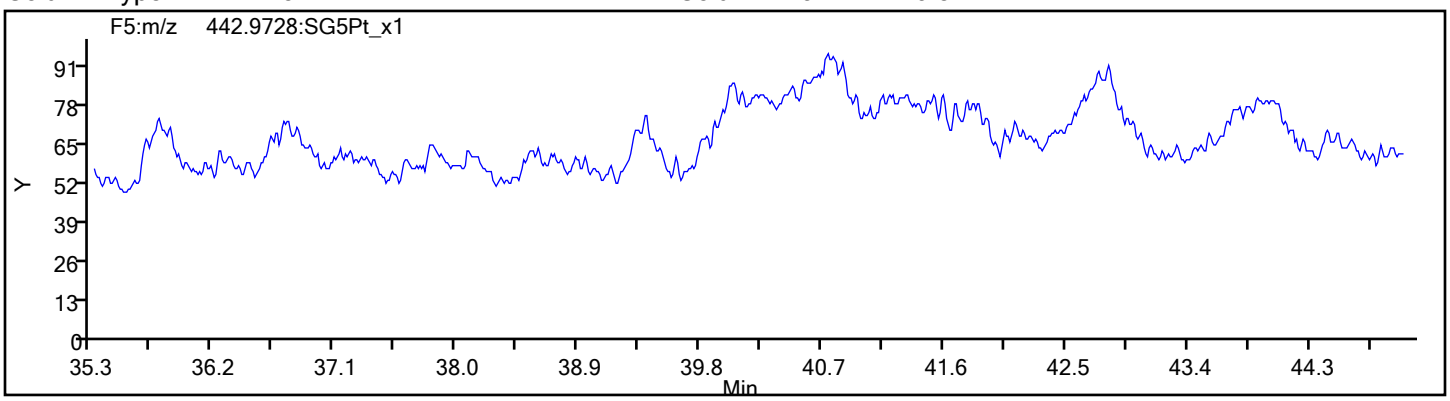

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 17-Sep-2019 13:49:24 ALS Bottle#: 5 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719A CS-3 HRDXNL3_00025
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:19 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:05:30

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.300	48020971	0.78	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.816	69364385	0.79	1.4384	100.4	100.4	0.2642	0.2642	100	
2,3,7,8-TCDF	16.831	1529056	0.76	1.0507	2.098	2.098	0.0285	0.0285	105	
S Total TCDF					2.098	2.098	0.0285	0.0285		
D 13C-2,3,7,8-TCDD	17.497	45389691	0.78	0.9533	99.1	99.1	0.2368	0.2368	99.15	
$ 37Cl4-2,3,7,8-TCDD	17.511	1164531		1.2224	1.984	1.984	0.0211	0.0211	99.19	
2,3,7,8-TCDD	17.511	1022744	0.76	1.1064	2.037	2.037	0.0433	0.0433	102	
S Total TCDD					2.037	2.037	0.0433	0.0433		
D 13C-1,2,3,7,8-PeCDF	21.631	46755351	1.61	1.0286	94.7	94.7	0.2555	0.2555	94.66	
1,2,3,7,8-PeCDF	21.659	5424212	1.59	1.0822	10.7	10.7	0.0895	0.0895	107	
D 13C-2,3,4,7,8-PeCDF	22.927	45184985	1.62	0.9827	95.8	95.8	0.2675	0.2675	95.76	
2,3,4,7,8-PeCDF	22.954	5371777	1.62	1.1032	10.8	10.8	0.0948	0.0948	108	
S Total PeCDF					21.5	21.5	0.0922	0.0922		
D 13C-1,2,3,7,8-PeCDD	23.622	33098301	1.55	0.7481	92.1	92.1	0.1767	0.1767	92.14	
1,2,3,7,8-PeCDD	23.636	3169429	1.60	0.9050	10.6	10.6	0.0951	0.0951	106	
S Total PeCDD					10.6	10.6	0.0951	0.0951		
D 13C-1,2,3,4,7,8-HxCDF	29.736	36418536	0.52	1.1520	101.5	101.5	0.5052	0.5052	102	
1,2,3,4,7,8-HxCDF	29.775	4604517	1.28	1.1973	10.6	10.6	0.1137	0.1137	106	
D 13C-1,2,3,6,7,8-HxCDF	30.002	38486861	0.53	1.2434	99.4	99.4	0.4681	0.4681	99.40	
1,2,3,6,7,8-HxCDF	30.028	4889511	1.24	1.1807	10.8	10.8	0.0994	0.0994	108	
D 13C-2,3,4,6,7,8-HxCDF	31.040	35886090	0.52	1.1720	98.3	98.3	0.4966	0.4966	98.34	
2,3,4,6,7,8-HxCDF	31.053	4551517	1.24	1.2116	10.5	10.5	0.0696	0.0696	105	
D 13C-1,2,3,7,8,9-HxCDF	31.945	33293009	0.51	1.0655	100.4	100.4	0.5463	0.5463	100	
1,2,3,7,8,9-HxCDF	31.958	4319986	1.26	1.2451	10.4	10.4	0.0644	0.0644	104	
S Total HxCDF					42.2	42.2	0.0868	0.0868		
* 13C-1,2,3,7,8,9-HxCDD	31.746	31138249	1.26	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.253	23739455	1.30	0.7812	97.6	97.6	0.5185	0.5185	97.59	
1,2,3,4,7,8-HxCDD	31.280	2685740	1.29	1.1088	10.2	10.2	0.0768	0.0768	102	
D 13C-1,2,3,6,7,8-HxCDD	31.386	27633426	1.27	0.9175	96.7	96.7	0.4415	0.4415	96.73	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.399	3184984	1.24	1.0814	10.7	10.7	0.0746	0.0746	107	
1,2,3,7,8,9-HxCDD	31.759	3374687	1.23	1.2123	10.8	10.8	0.0684	0.0684	108	
S Total HxCDD					31.7	31.7	0.0733	0.0733		
D 13C-1,2,3,4,6,7,8-HpCDF	33.459	25015698	0.45	0.8628	93.1	93.1	1.693	1.693	93.12	
1,2,3,4,6,7,8-HpCDF	33.472	4106440	1.02	1.5555	10.6	10.6	0.1585	0.1585	106	
D 13C-1,2,3,4,7,8,9-HpCDF	34.505	23641905	0.45	0.7991	95.0	95.0	1.828	1.828	95.02	
1,2,3,4,7,8,9-HpCDF	34.517	3498041	1.02	1.3862	10.7	10.7	0.2064	0.2064	107	
S Total HpCDF					21.2	21.2	0.1824	0.1824		
D 13C-1,2,3,4,6,7,8-HpCDD	34.225	25630510	1.05	0.8739	94.2	94.2	0.7704	0.7704	94.19	
1,2,3,4,6,7,8-HpCDD	34.237	2534205	1.08	0.9316	10.6	10.6	0.1098	0.1098	106	
S Total HpCDD					10.6	10.6	0.1098	0.1098		
D 13C-OCDD	36.481	43388861	0.89	0.7744	179.9	179.9	0.3226	0.3226	89.97	
OCDF	36.576	5776792	0.88	1.2596	21.1	21.1	0.0659	0.0659	106	
OCDD	36.493	5082981	0.91	1.0621	22.1	22.1	0.0435	0.0435	110	

Reagents:

HRDXNL3_00025 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 17-Sep-2019 13:49:24 ALS Bottle#: 5 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719A CS-3 HRDXNL3_00025
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:19 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:05:30

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.300	17.303	0		20974964	5440414	6907	17267	788		
333.9339	17.300	17.303	0		27046007	7081542	4401	11002	1609	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.816	16.810	0	0.972	30651979	7996237	9530	23825	839		
317.9389	16.816	16.810	0	0.972	38712406	9934901	9507	23767	1045	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.831	16.825	0	1.001	662231	175822	896	2240	196		
305.8987	16.816	16.825	-1	1.000	866825	219868	1254	3135	175	0.76(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.497	17.490	0	1.011	19932104	4784387	6907	17267	693		
333.9339	17.497	17.490	0	1.011	25457587	6033501	4401	11002	1371	0.78(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.511	17.505	0	1.012	1164531	282528	1292	3230	219		
2,3,7,8-TCDD											
319.8965	17.511	17.505	0	1.001	441524	105506	1328	3320	79		
321.8936	17.511	17.505	0	1.001	581220	143982	745	1862	193	0.76(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	21.631	21.637	0	1.250	28830075	5337132	7805	19512	684		
353.8970	21.631	21.637	0	1.250	17925276	3287495	5360	13400	613	1.61(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.659	21.661	0	1.001	3332281	606608	1384	3460	438		
341.8567	21.659	21.661	0	1.001	2091931	384200	1956	4890	196	1.59(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	22.927	22.932	0	1.325	27936496	4963352	7805	19512	636		
353.8970	22.927	22.932	0	1.325	17248489	3016941	5360	13400	563	1.62(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.954	22.954	0	1.001	3318716	579906	1384	3460	419		
341.8567	22.954	22.954	0	1.001	2053061	350098	1956	4890	179	1.62(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.622	23.625	0	1.365	20140801	3312973	3677	9192	901		
369.8919	23.622	23.625	0	1.365	12957500	2145657	2944	7360	729	1.55(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.636	23.649	-1	1.001	1948199	306163	1167	2917	262		
357.8516	23.636	23.649	-1	1.001	1221230	203548	713	1782	285	1.60(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.736	29.754	-1	0.937	12434463	1670692	6140	15350	272		
385.8610	29.736	29.754	-1	0.937	23984073	3285602	11505	28762	286	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.775	29.789	-1	1.001	2582089	364887	1448	3620	252		
375.8178	29.775	29.789	-1	1.001	2022428	279399	1250	3125	224	1.28(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.002	30.015	-1	0.945	13305598	1990616	6140	15350	324		
385.8610	30.002	30.015	-1	0.945	25181263	3755911	11505	28762	326	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.028	30.039	-1	1.001	2703771	385416	1448	3620	266		
375.8178	30.028	30.039	-1	1.001	2185740	311020	1250	3125	249	1.24(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.040	31.043	0	0.978	12200251	2715531	6140	15350	442		
385.8610	31.040	31.043	0	0.978	23685839	5277600	11505	28762	459	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.053	31.059	0	1.000	2519385	561452	1448	3620	388		
375.8178	31.053	31.059	0	1.000	2032132	450929	1250	3125	361	1.24(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.945	31.942	0	1.006	11294314	2854603	6140	15350	465		
385.8610	31.945	31.942	0	1.006	21998695	5560445	11505	28762	483	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.958	31.956	0	1.000	2410054	592393	1448	3620	409		
375.8178	31.958	31.956	0	1.000	1909932	473961	1250	3125	379	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.746	31.748	0		17348498	4270052	6927	17317	616		
403.8529	31.746	31.748	0		13789751	3309146	5354	13385	618	1.26(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.253	31.261	0	0.984	13398901	3308138	6927	17317	478		
403.8529	31.266	31.261	0	0.985	10340554	2572354	5354	13385	480	1.30(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.280	31.280	0	1.001	1512390	375482	976	2440	385		
391.8127	31.280	31.280	0	1.001	1173350	295553	1027	2567	288	1.29(1.05-1.43)	

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24
Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.386	31.383	0	0.989	15440618	3468444	6927	17317	501		
403.8529	31.386	31.383	0	0.989	12192808	2735657	5354	13385	511	1.27(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.399	31.402	0	1.000	1761134	403725	976	2440	414		
391.8127	31.399	31.402	0	1.000	1423850	307508	1027	2567	299	1.24(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.759	31.761	0	1.016	1859918	455161	976	2440	466		
391.8127	31.759	31.761	0	1.016	1514769	367872	1027	2567	358	1.23(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.459	33.457	0	1.054	7716742	2566124	14405	36012	178		
419.8220	33.459	33.457	0	1.054	17298956	5707303	29871	74677	191	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.472	33.469	0	1.000	2075359	698893	3992	9980	175		
409.7789	33.472	33.469	0	1.000	2031081	642835	4168	10420	154	1.02(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.505	34.502	0	1.087	7363985	2239195	14405	36012	155		
419.8220	34.505	34.502	0	1.087	16277920	4892131	29871	74677	164	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.517	34.509	0	1.000	1766633	514034	3992	9980	129		
409.7789	34.505	34.509	0	1.000	1731408	520165	4168	10420	125	1.02(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.225	34.227	0	1.078	13114345	4054784	9475	23687	428		
437.8140	34.225	34.227	0	1.078	12516165	3859079	10936	27340	353	1.05(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.237	34.235	0	1.000	1317899	403714	1570	3925	257		
425.7737	34.237	34.235	0	1.000	1216306	375677	1669	4172	225	1.08(0.88-1.20)	
13C-OCDD											
469.7779	36.481	36.486	0	1.149	20384484	5322735	3975	9937	1339		
471.7750	36.481	36.486	0	1.149	23004377	6112123	3599	8997	1698	0.89(0.76-1.02)	
OCDF											
441.7428	36.576	36.581	0	1.003	2698881	719825	815	2037	883		
443.7399	36.576	36.581	0	1.003	3077911	834185	1083	2707	770	0.88(0.76-1.02)	
OCDD											
457.7377	36.493	36.497	0	1.000	2421846	617373	541	1352	1141		
459.7348	36.493	36.497	0	1.000	2661135	682611	516	1290	1323	0.91(0.76-1.02)	

Reagents:

HRDXNL3_00025 Amount Added: 1.00 Units: mL

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d		
Injection Date:	17-Sep-2019 13:49:24	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

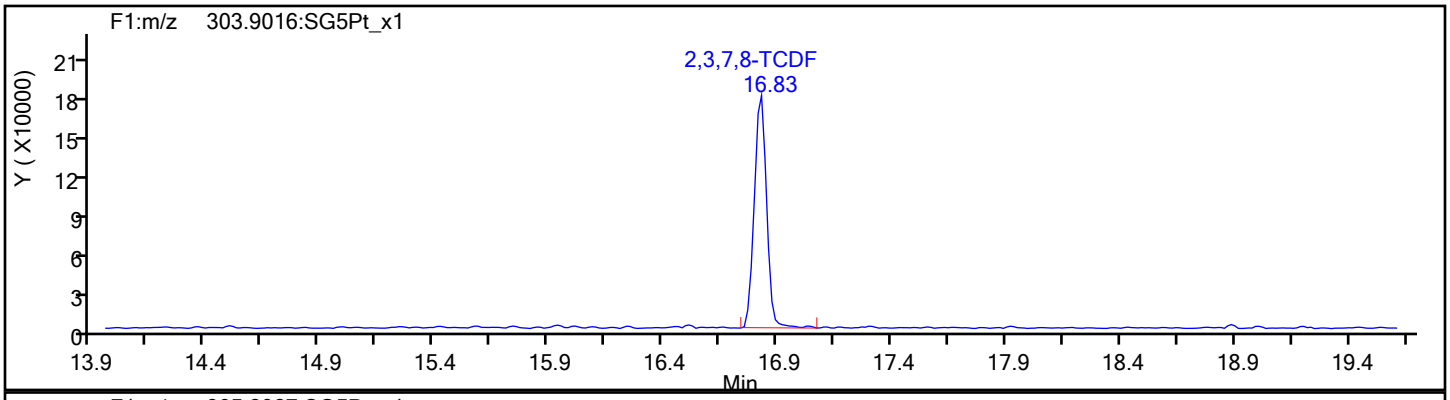

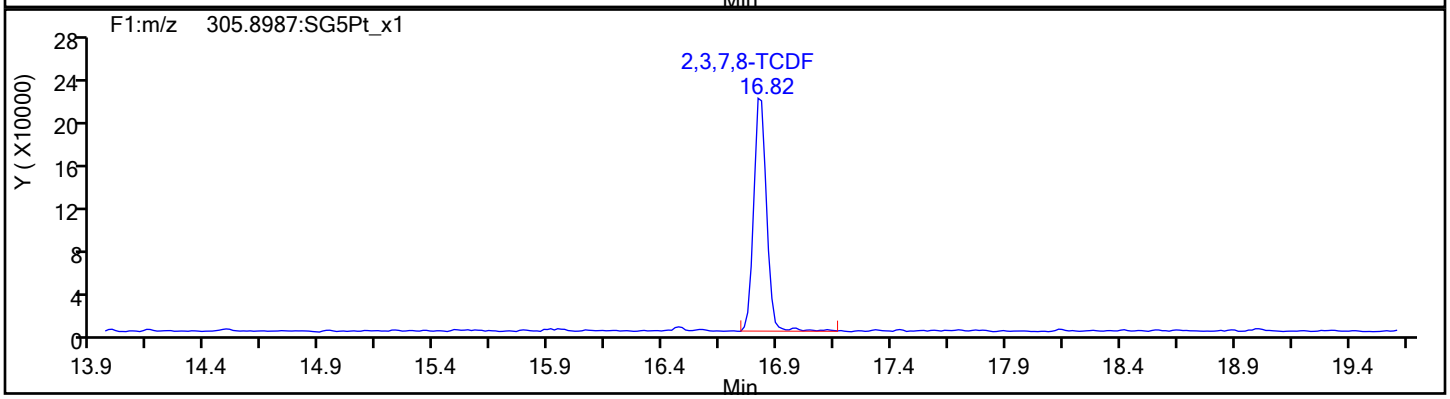

TCDF Standards

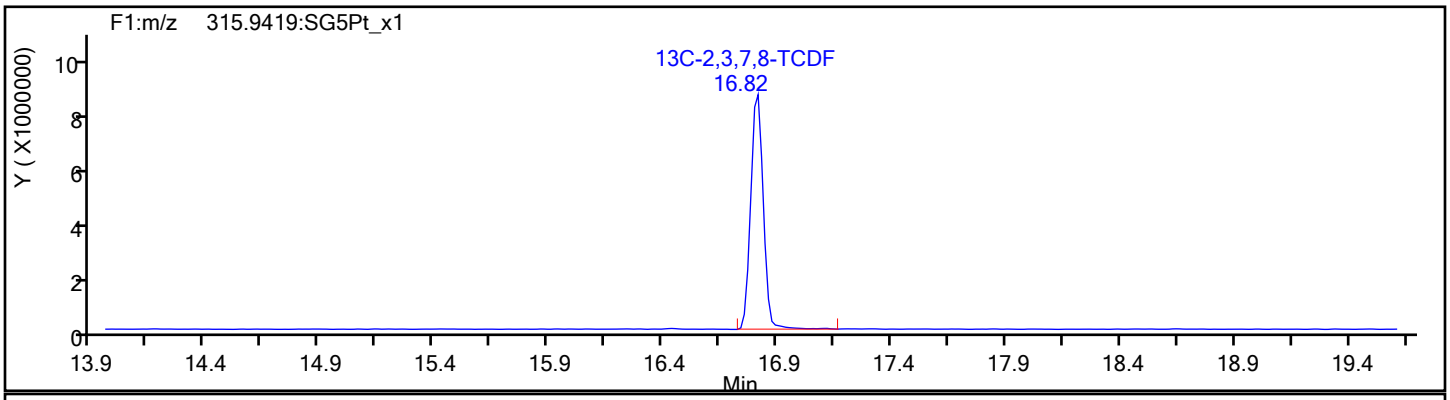

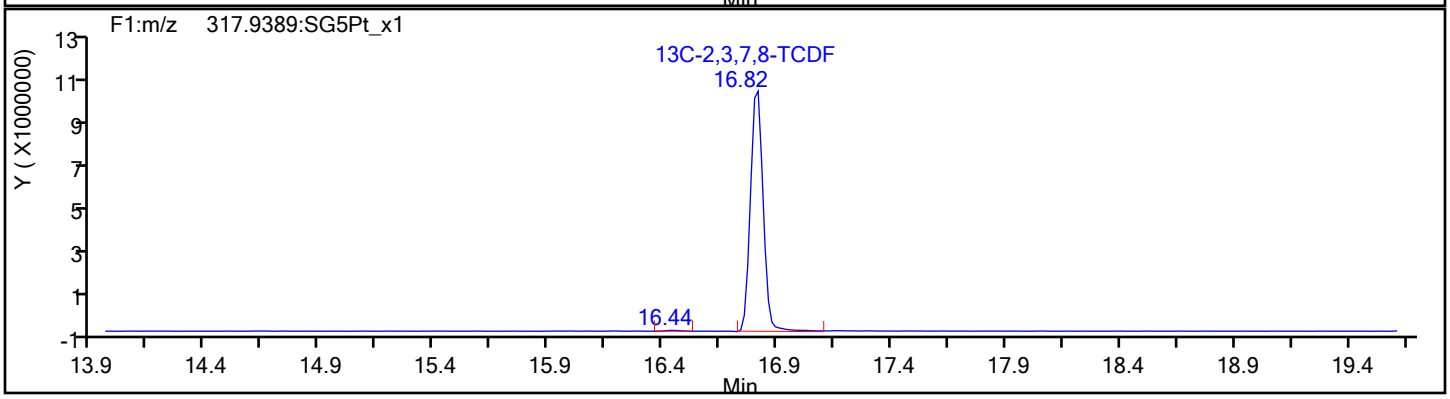

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Injection Date:	17-Sep-2019 13:49:24	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

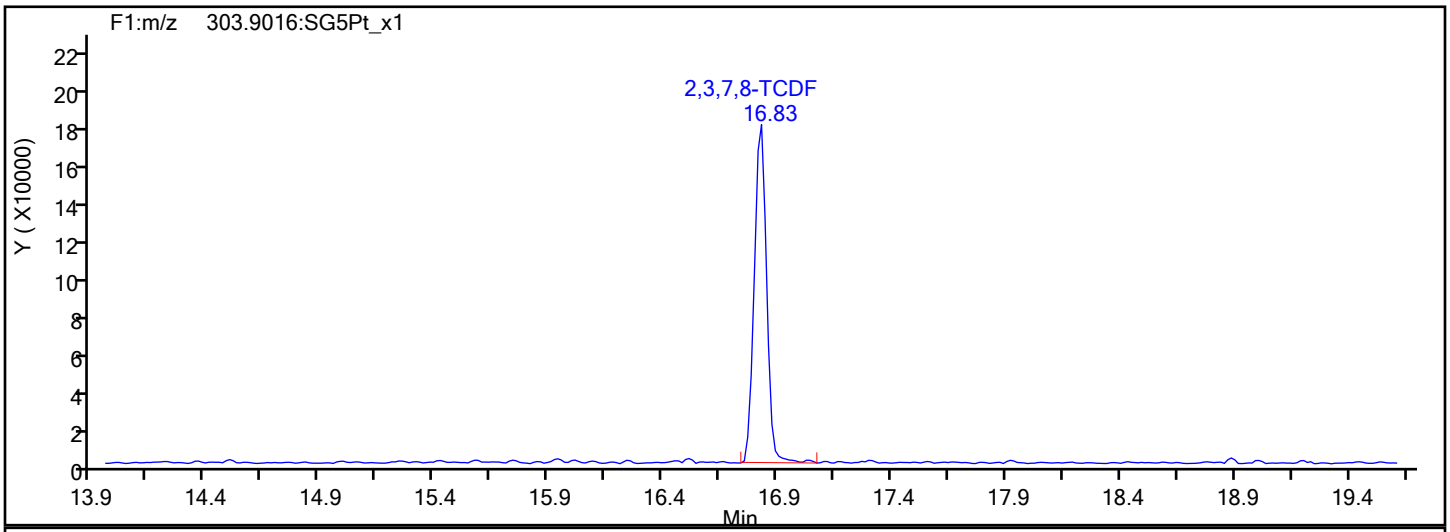

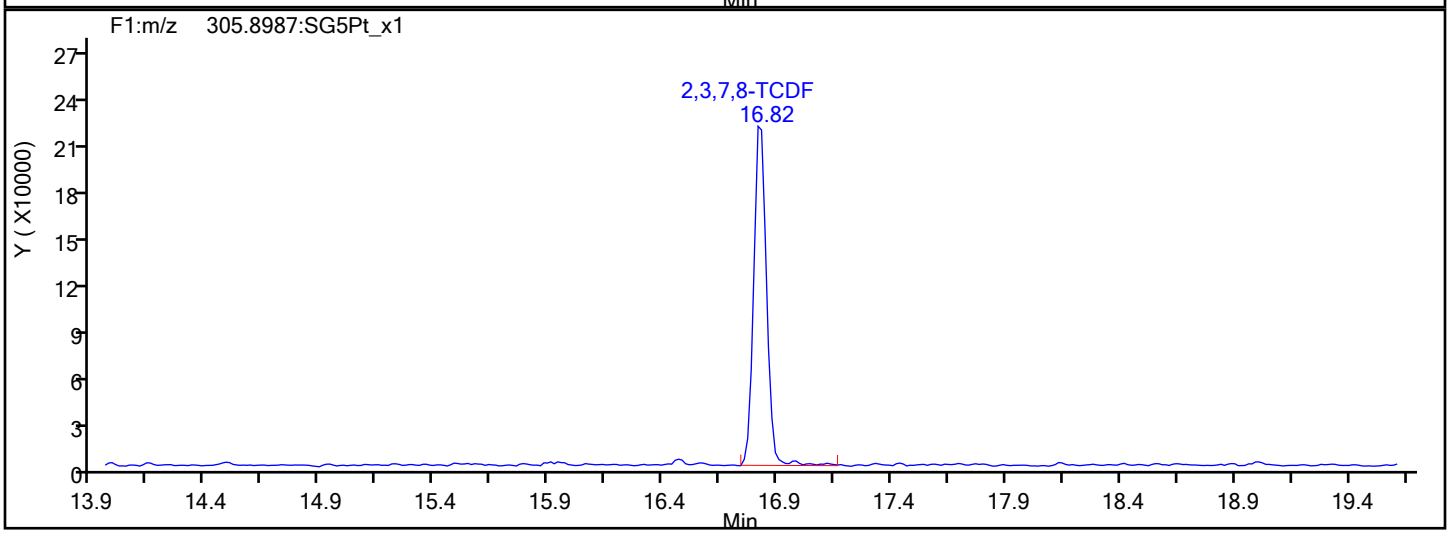

TCDF Interference Mass

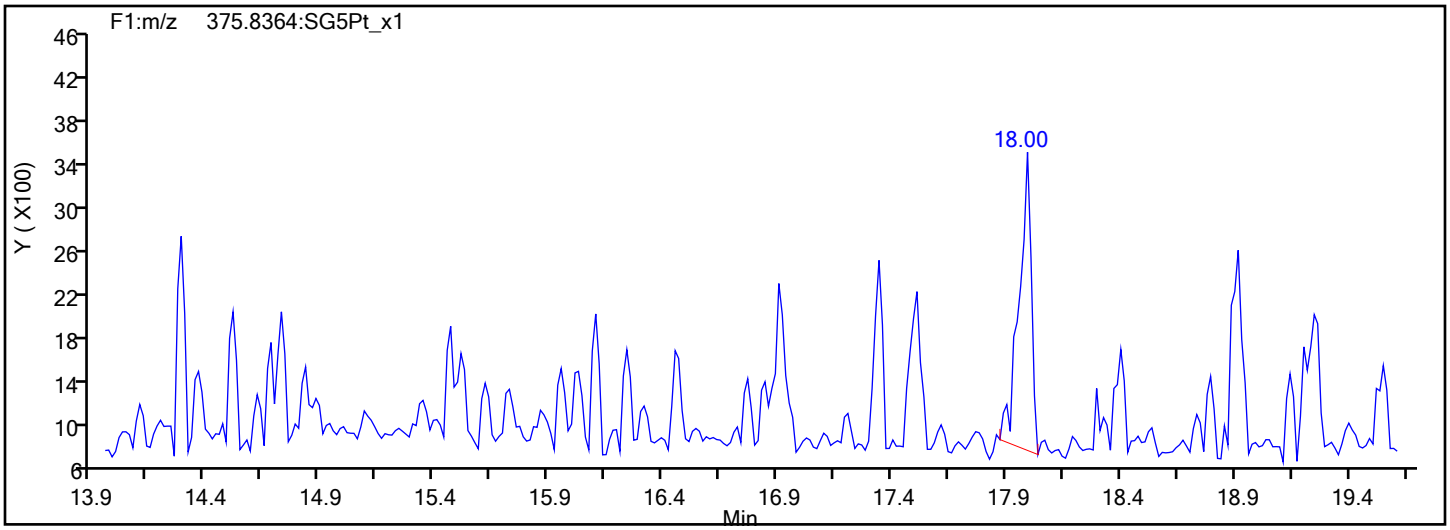

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d		
Injection Date:	17-Sep-2019 13:49:24	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

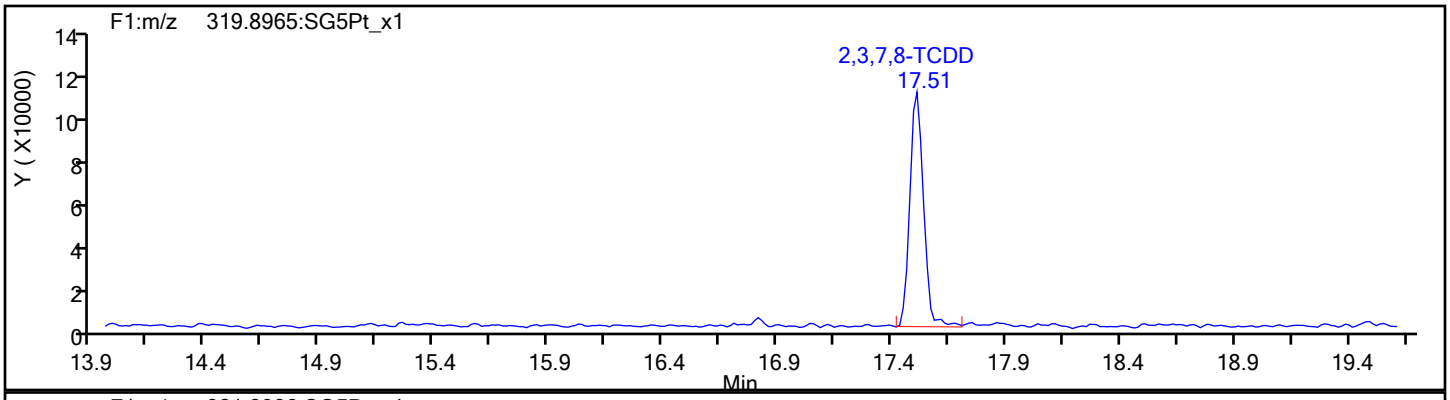

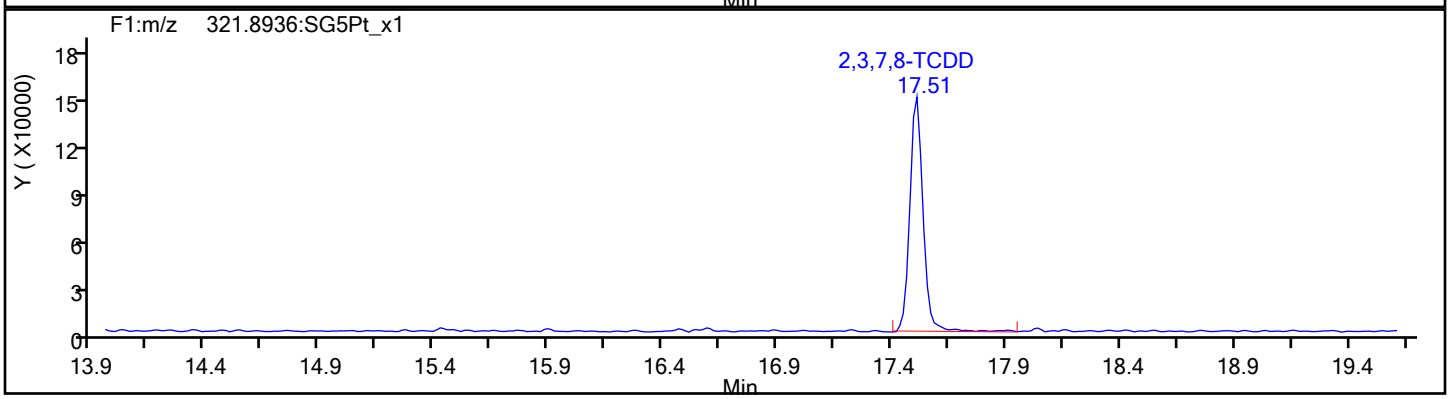

TCDD Standards

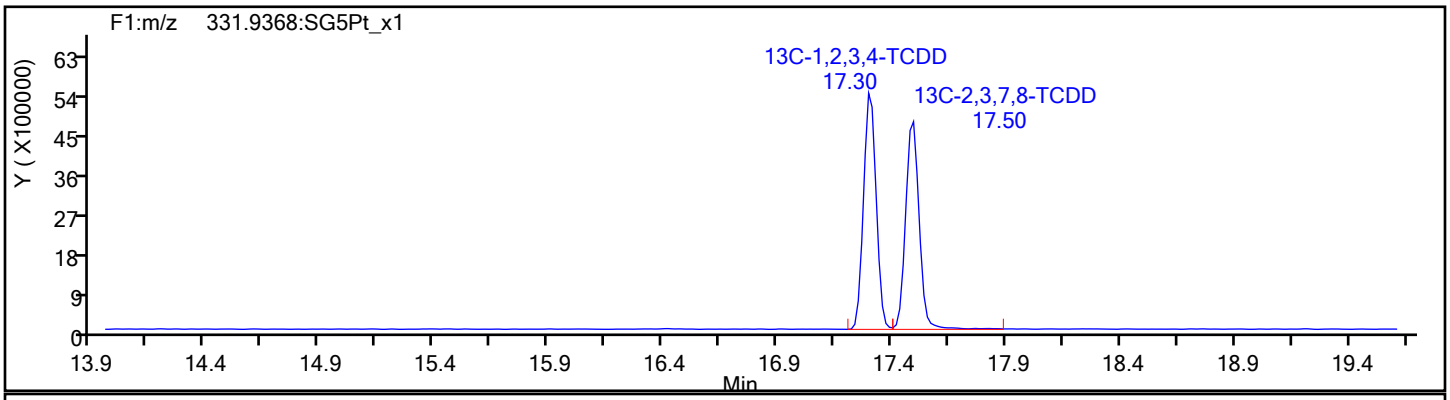

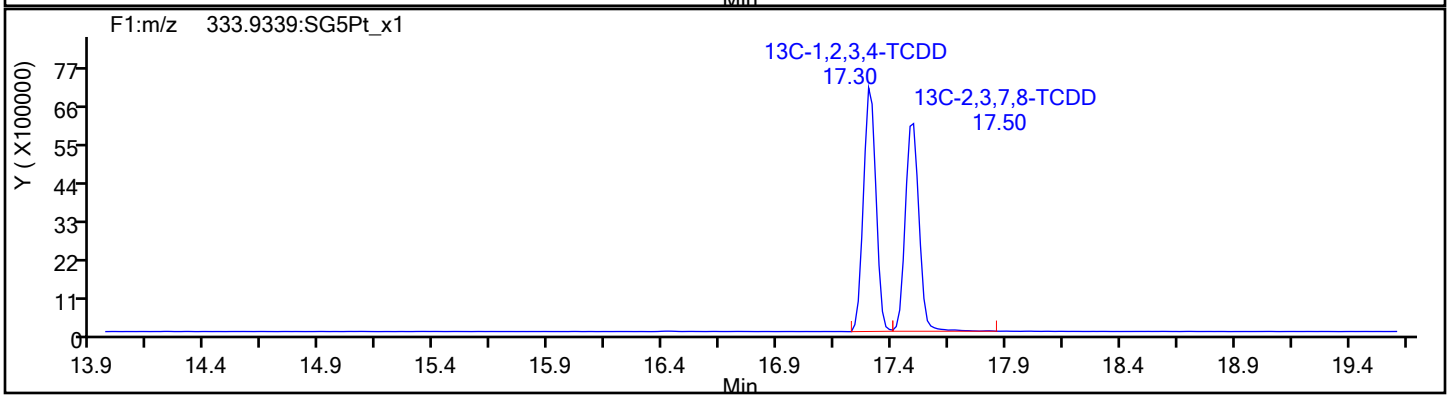

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d		
Injection Date:	17-Sep-2019 13:49:24	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

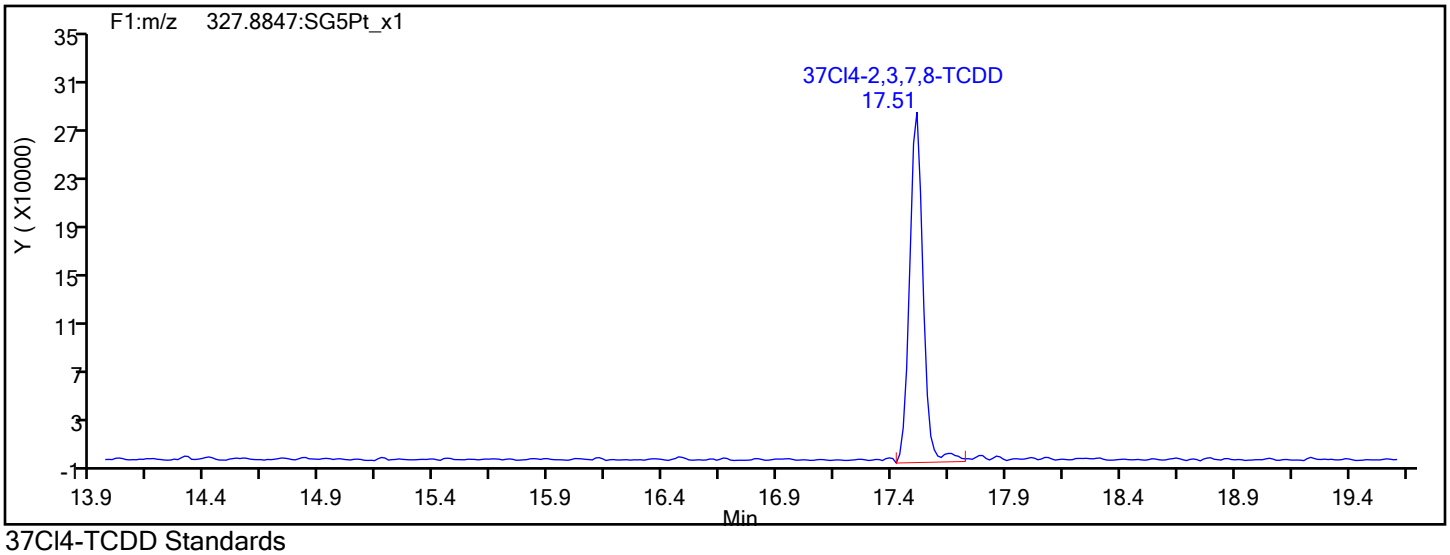

37Cl4-TCDD Standards

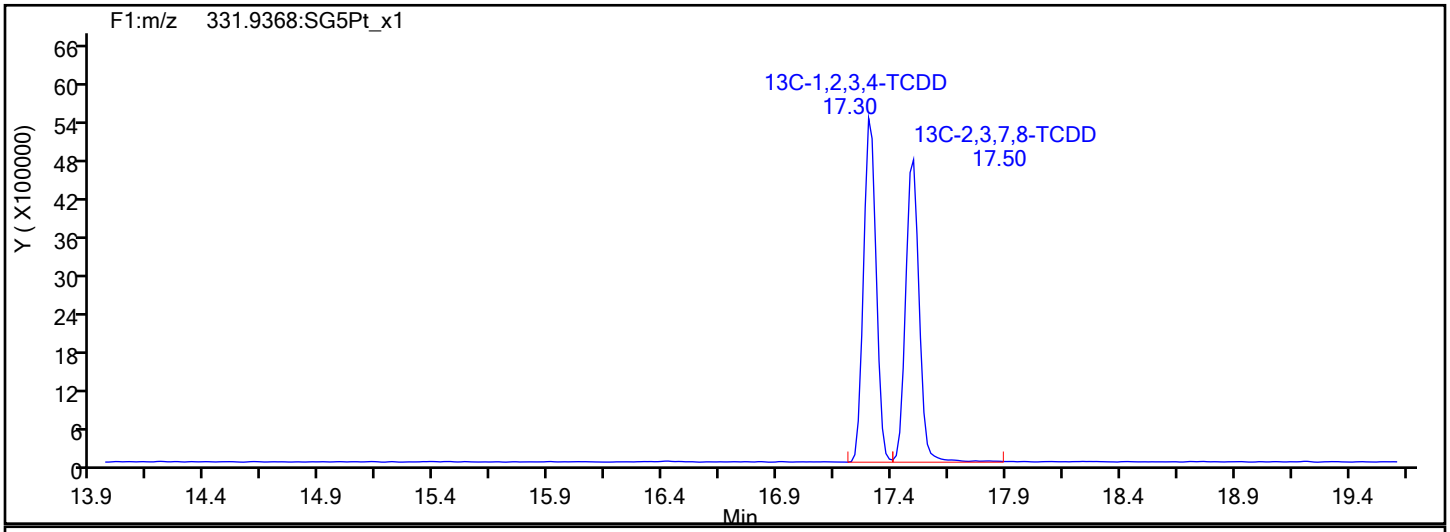

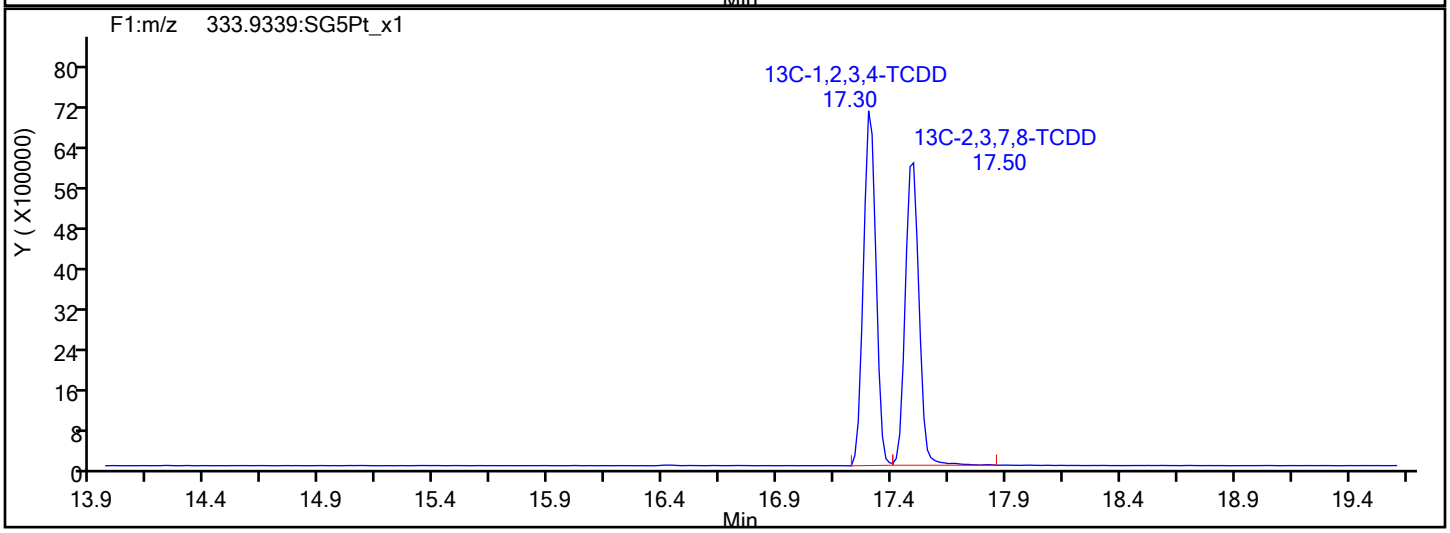

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d		
Injection Date:	17-Sep-2019 13:49:24	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

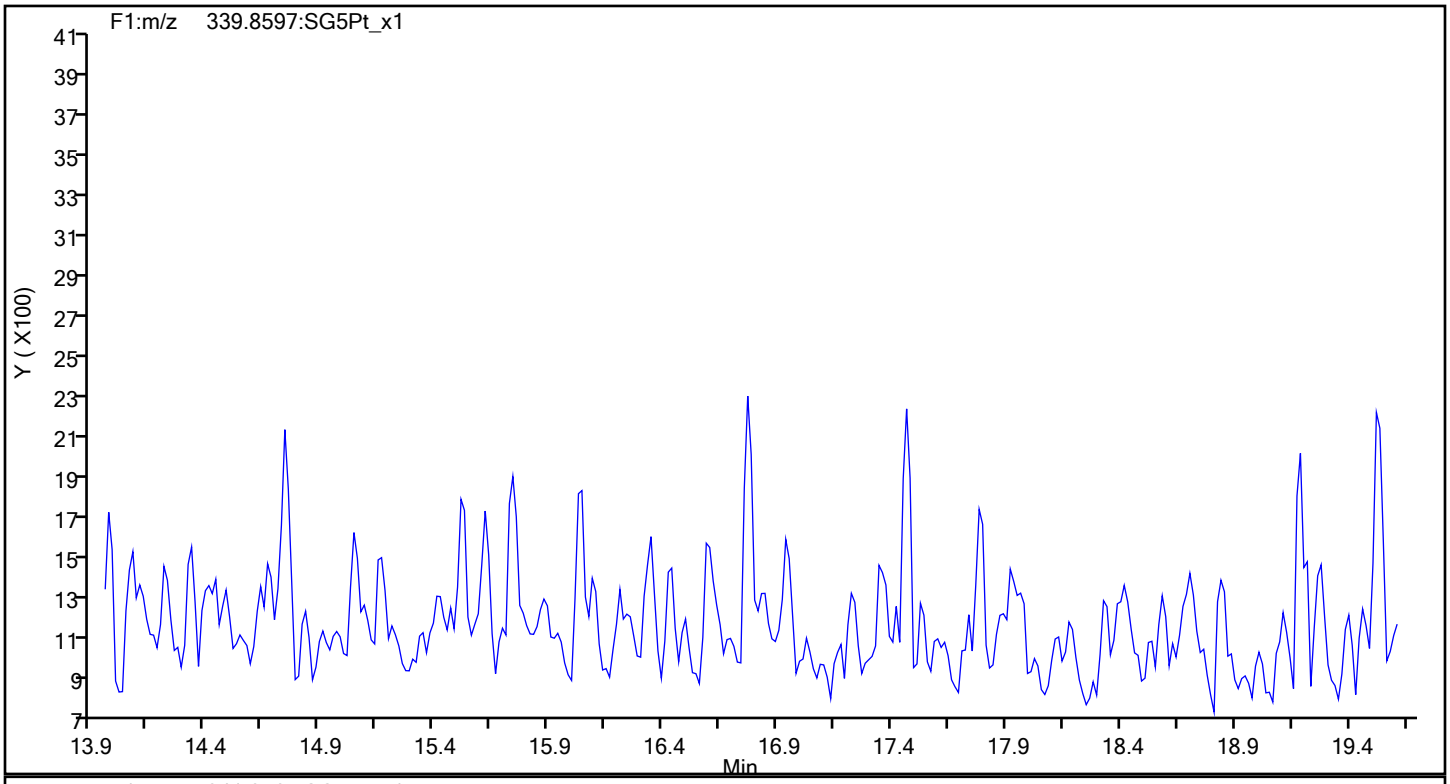

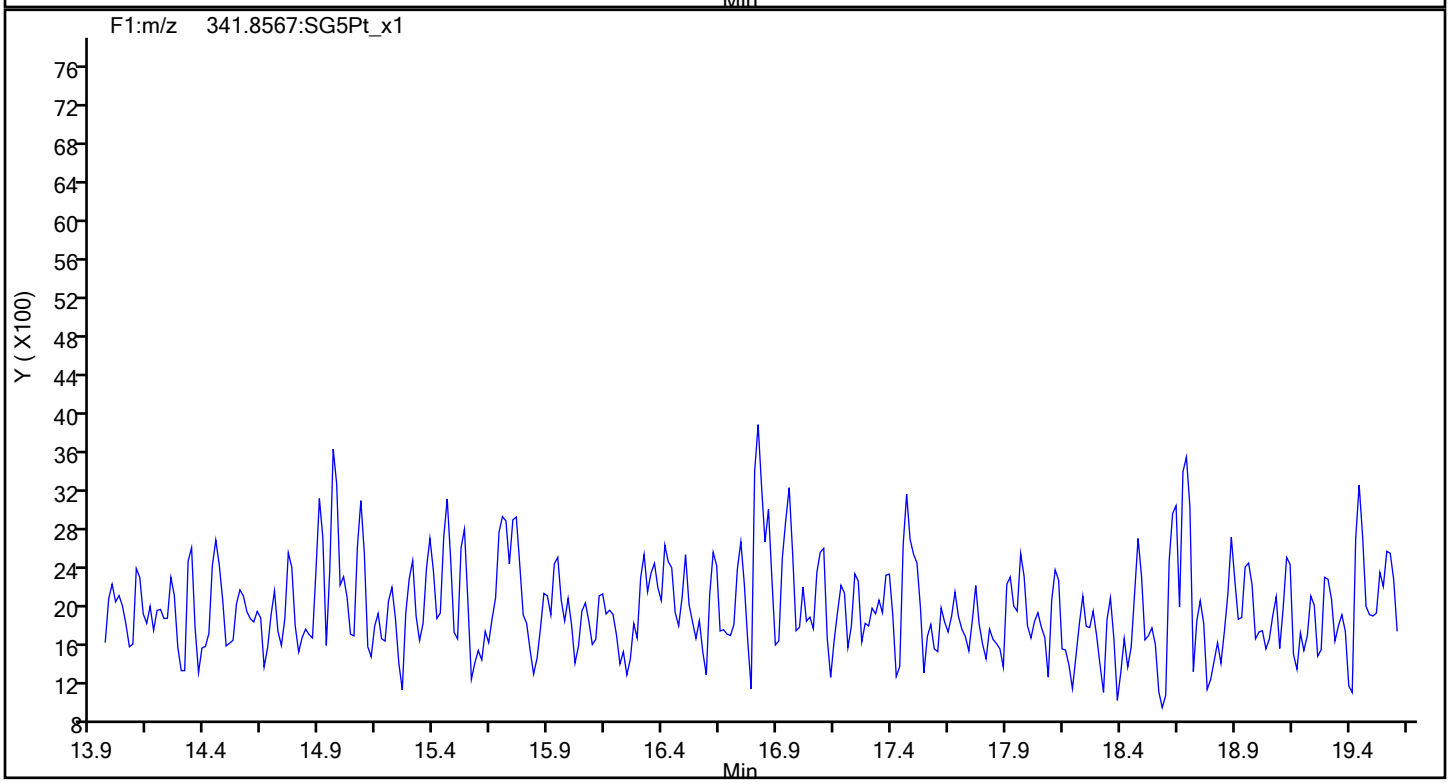

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Client ID:			
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F1 PeCDFs

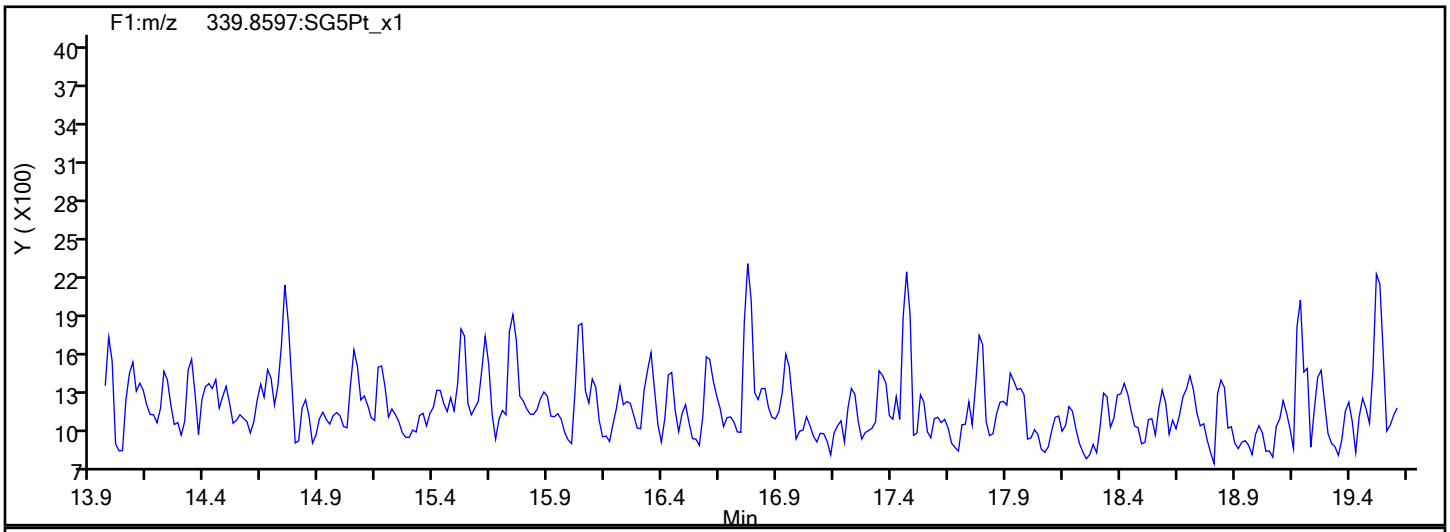

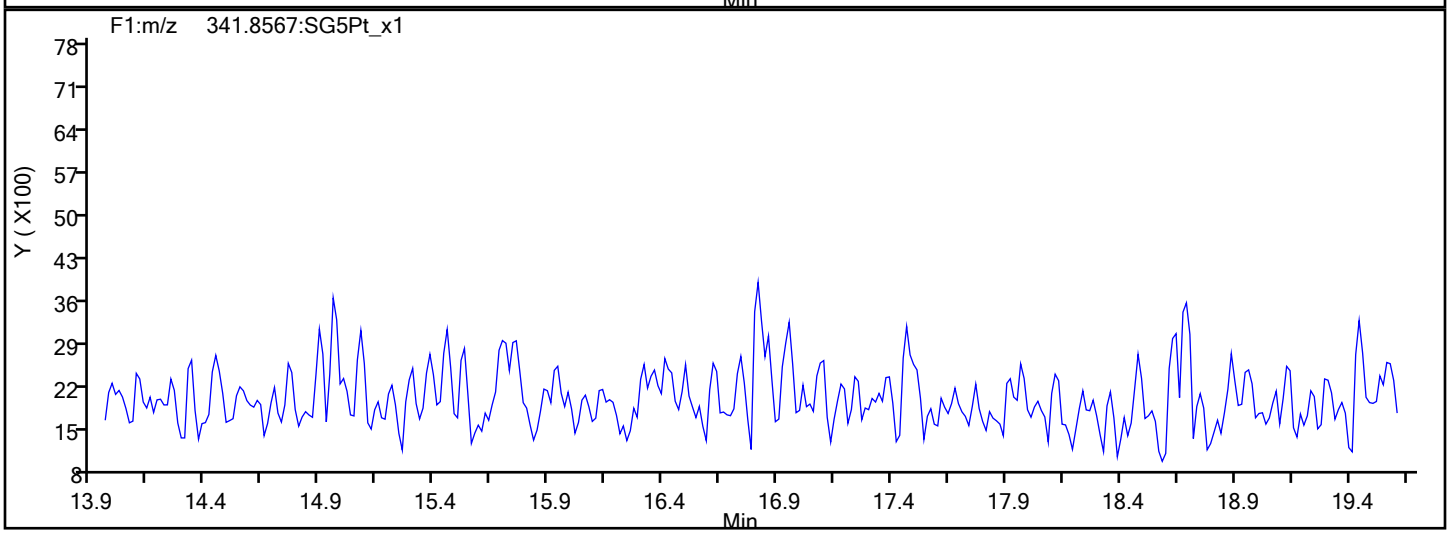

F1 PeCDFs Interference Mass

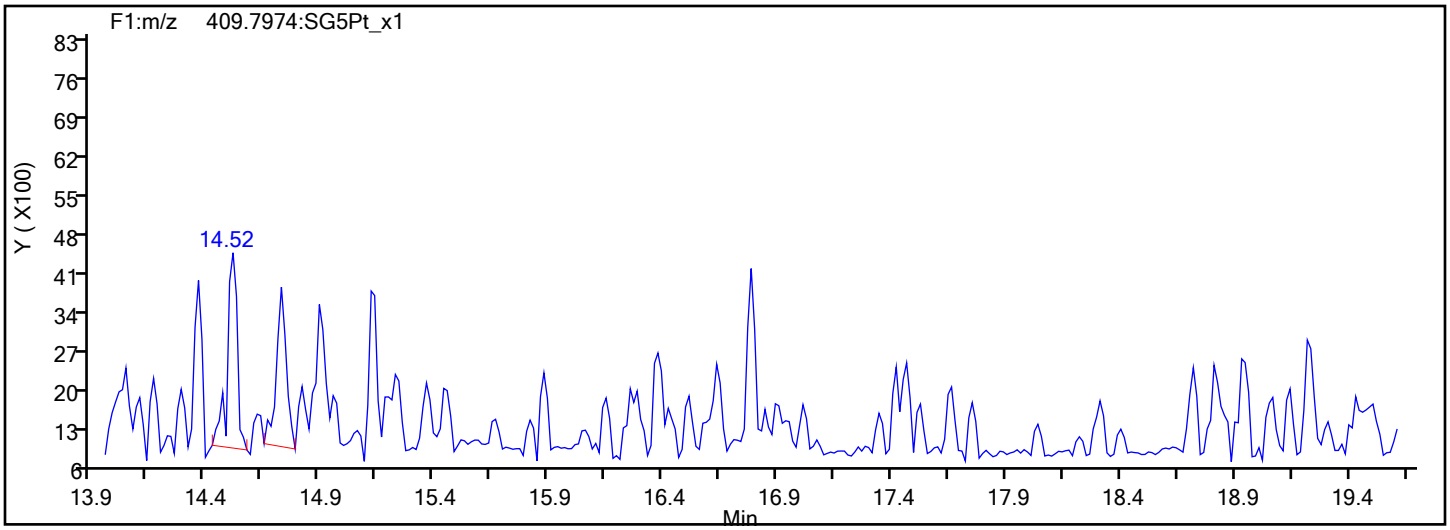

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Eurofins TestAmerica, Sacramento

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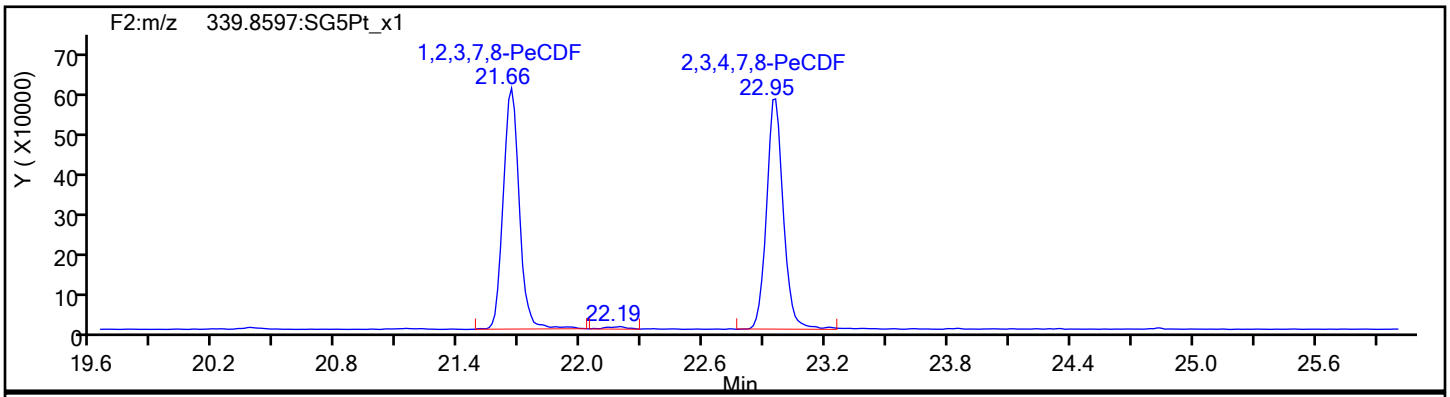

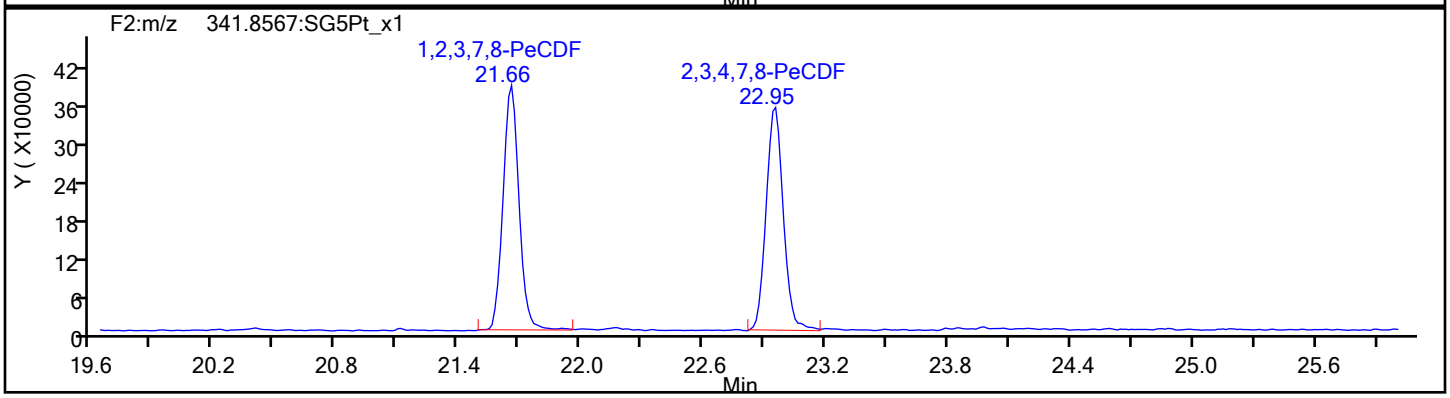

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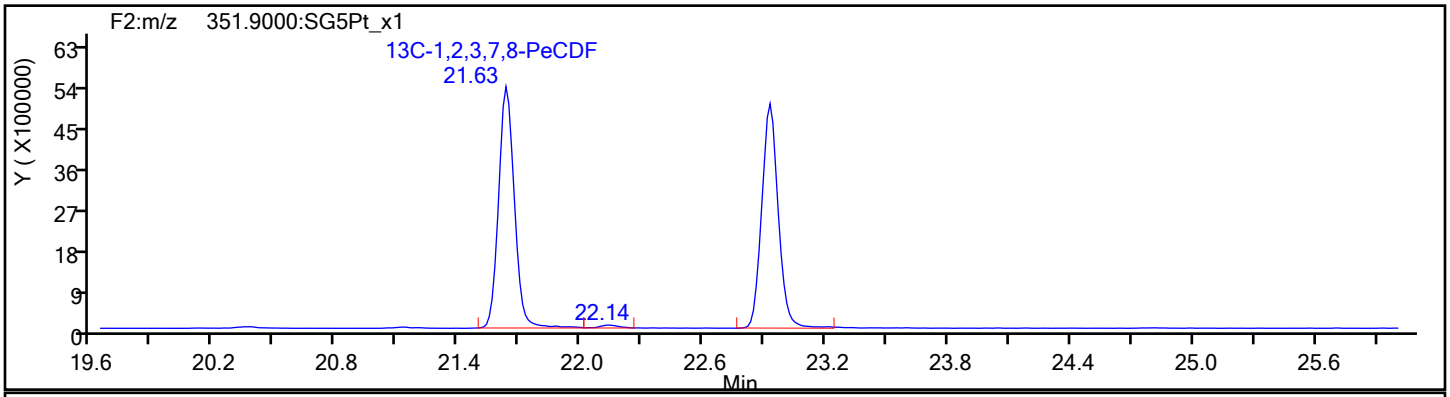

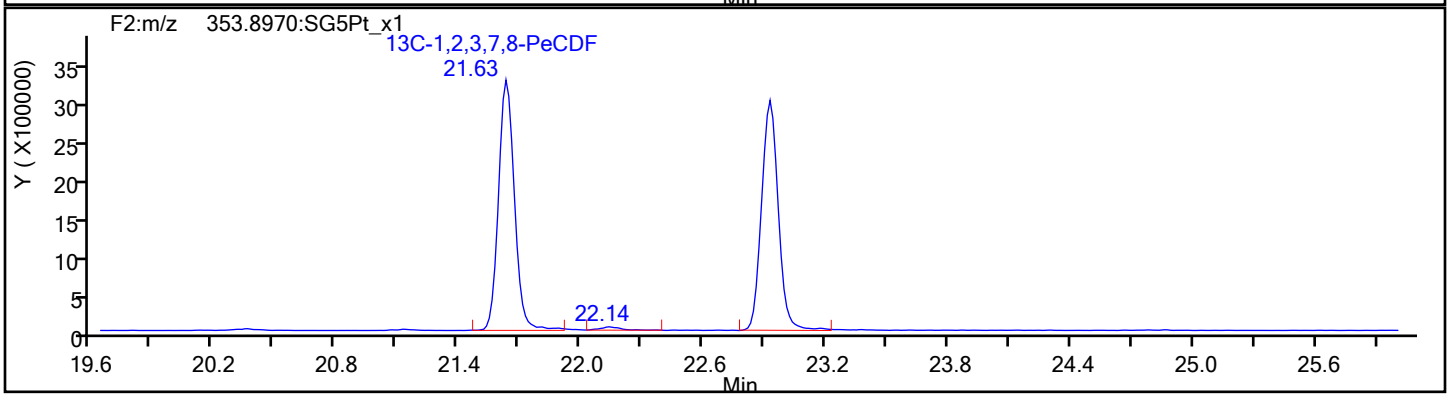

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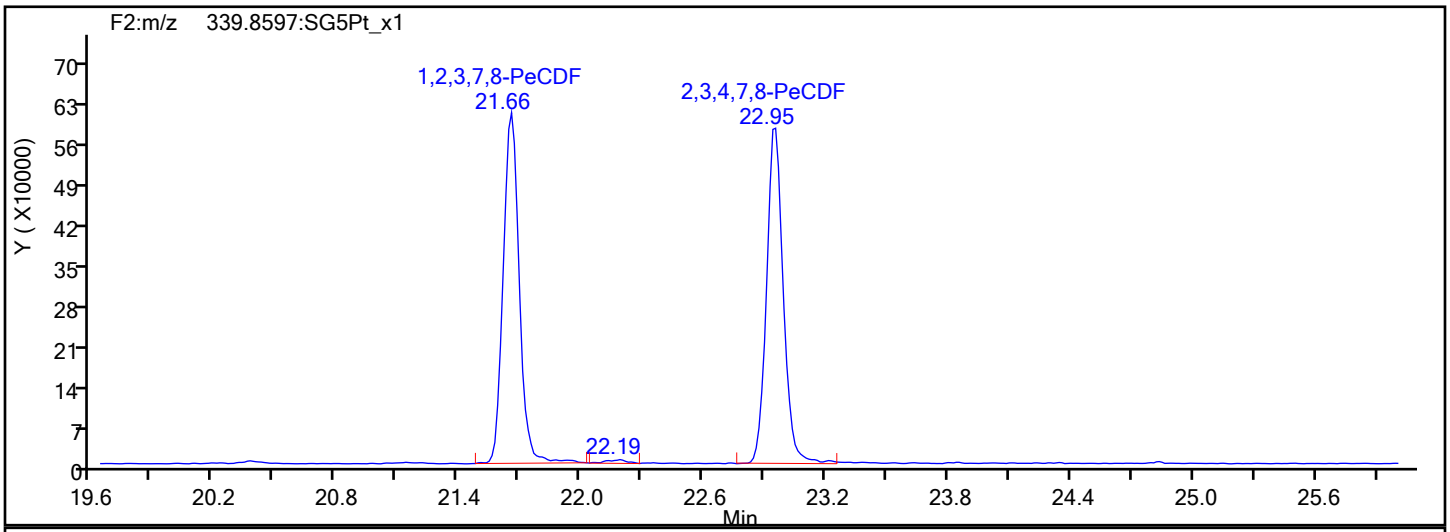

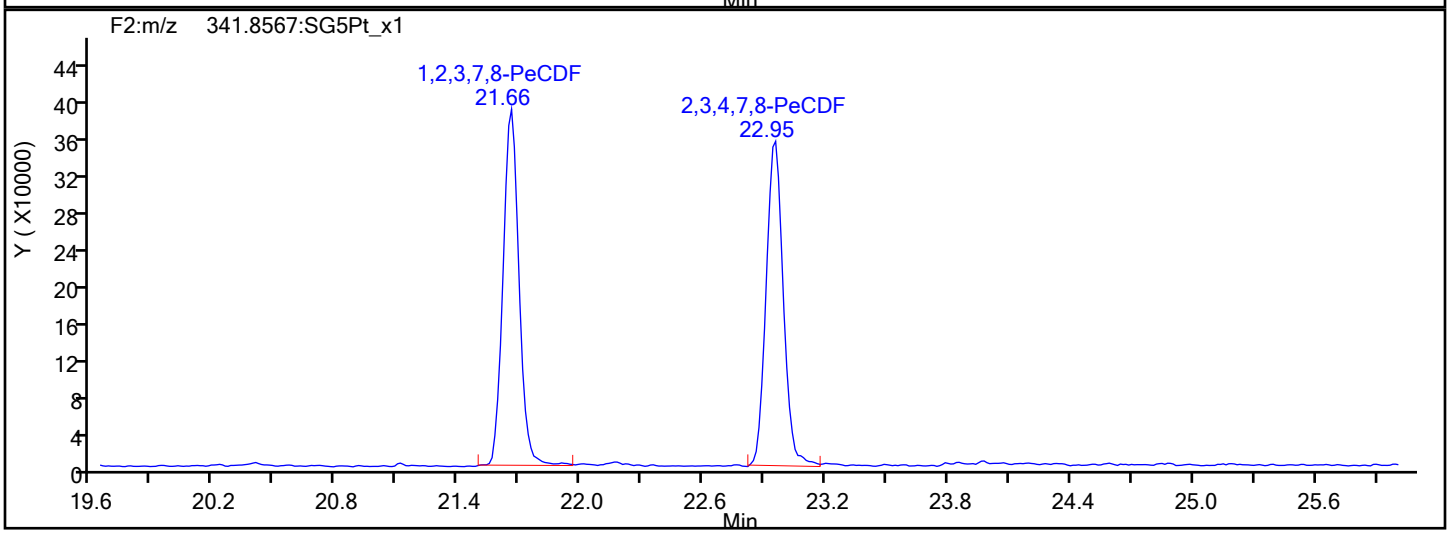

PeCDF Interference Mass

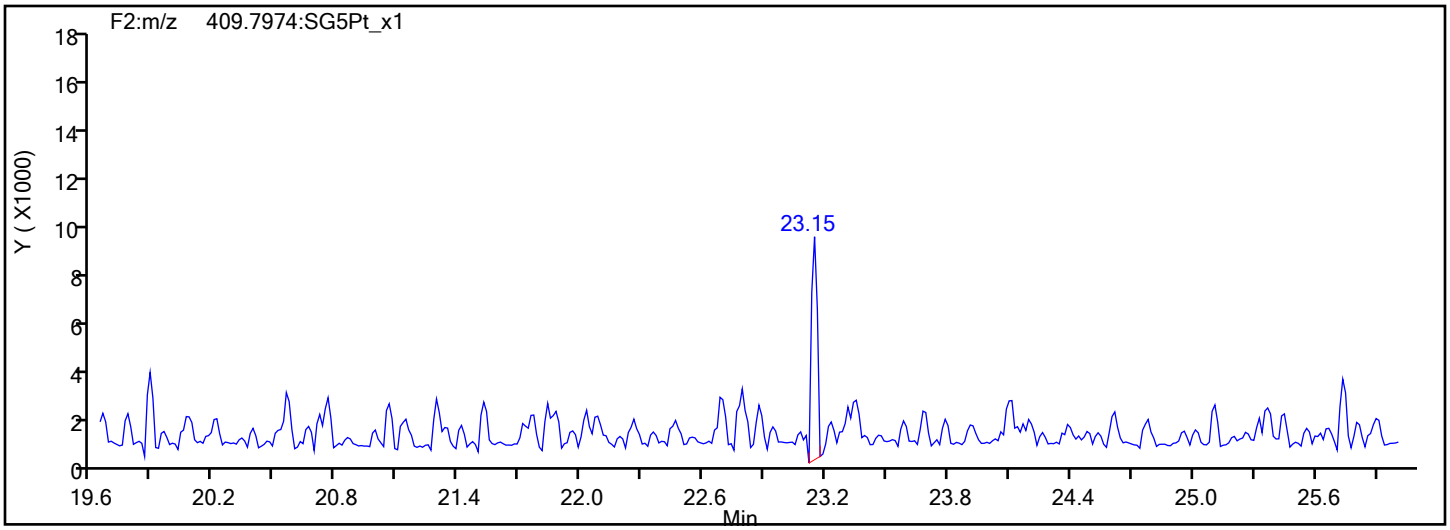

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Eurofins TestAmerica, Sacramento

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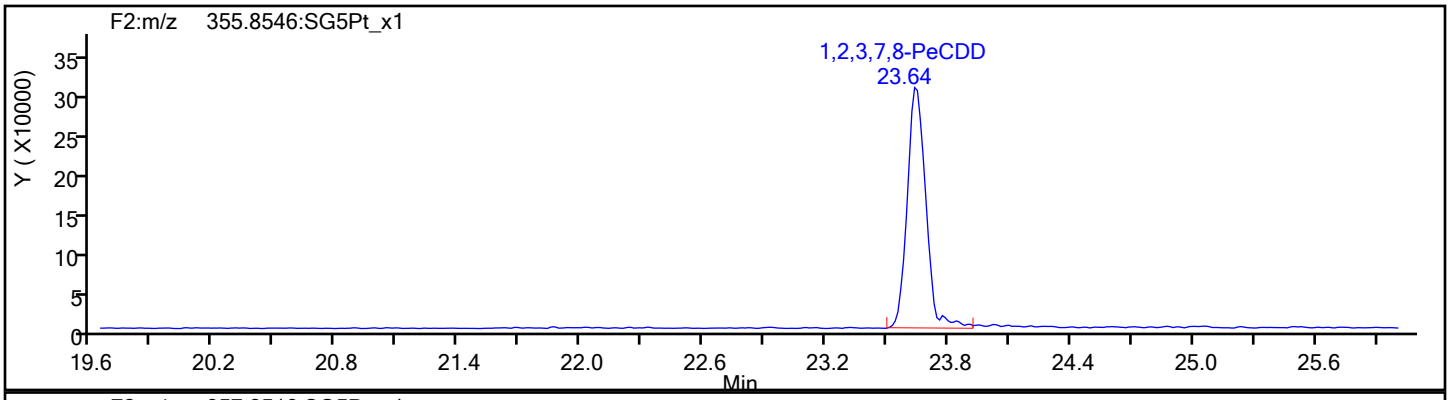

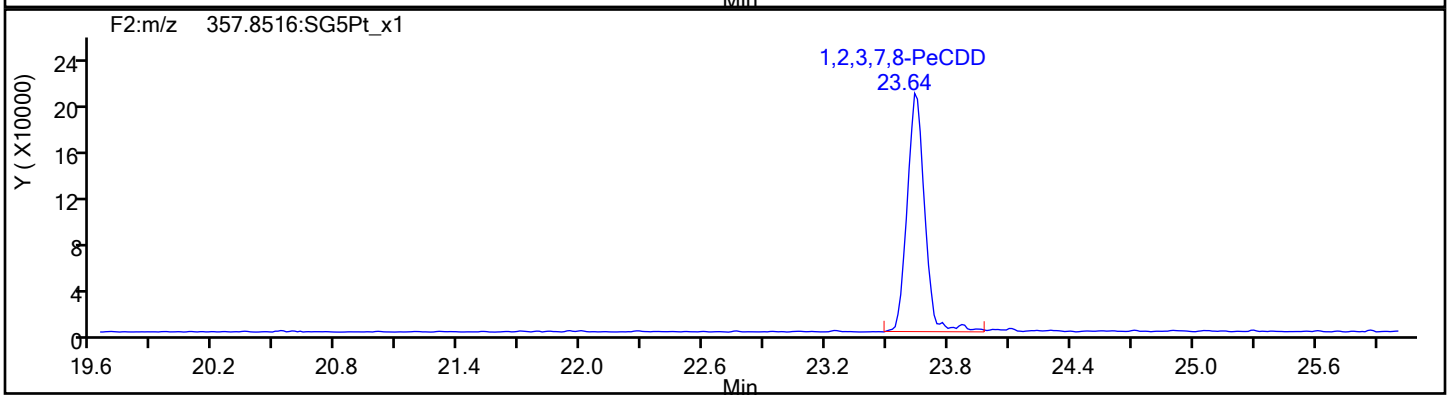

PeCDD Standards

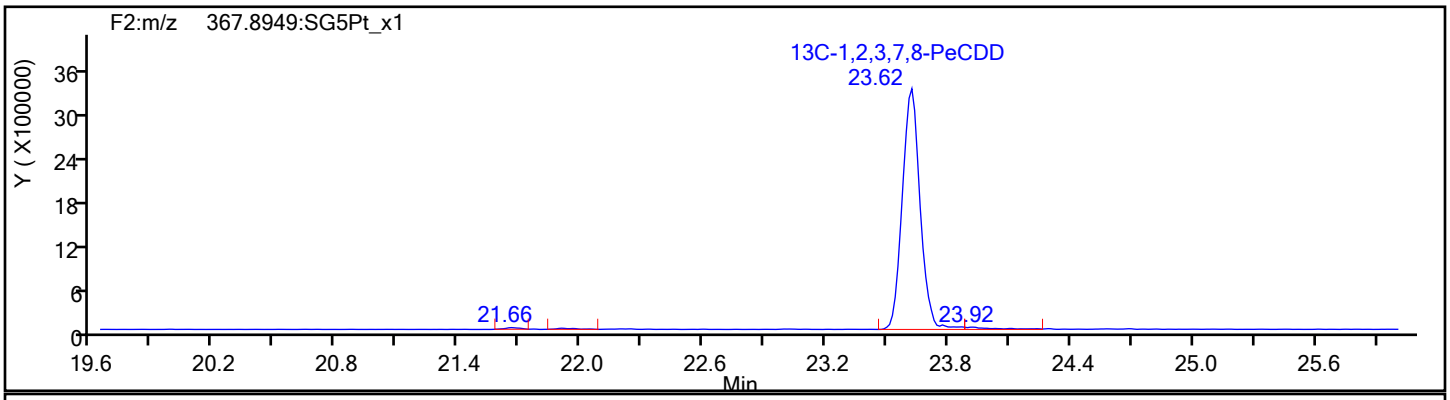

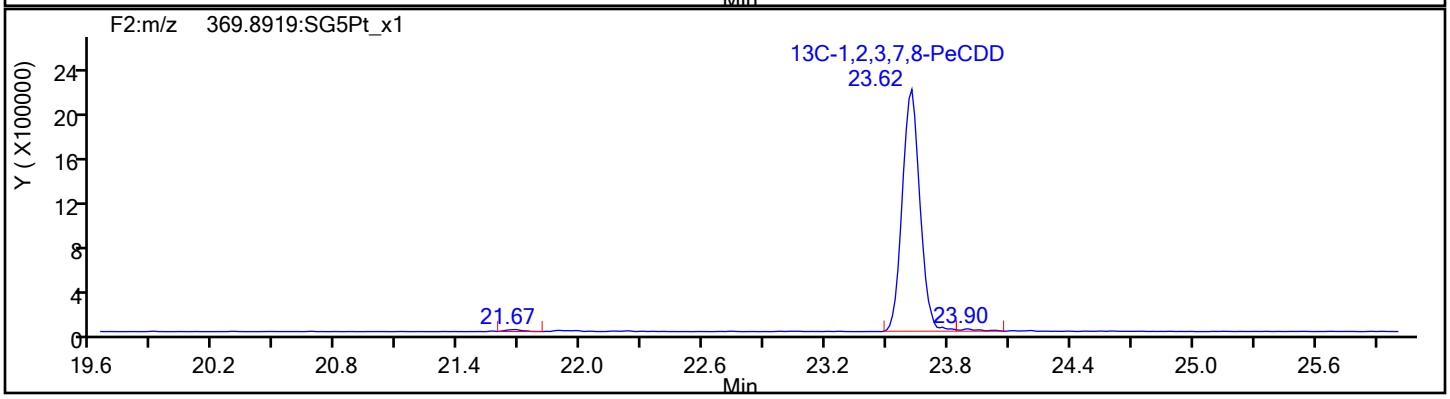

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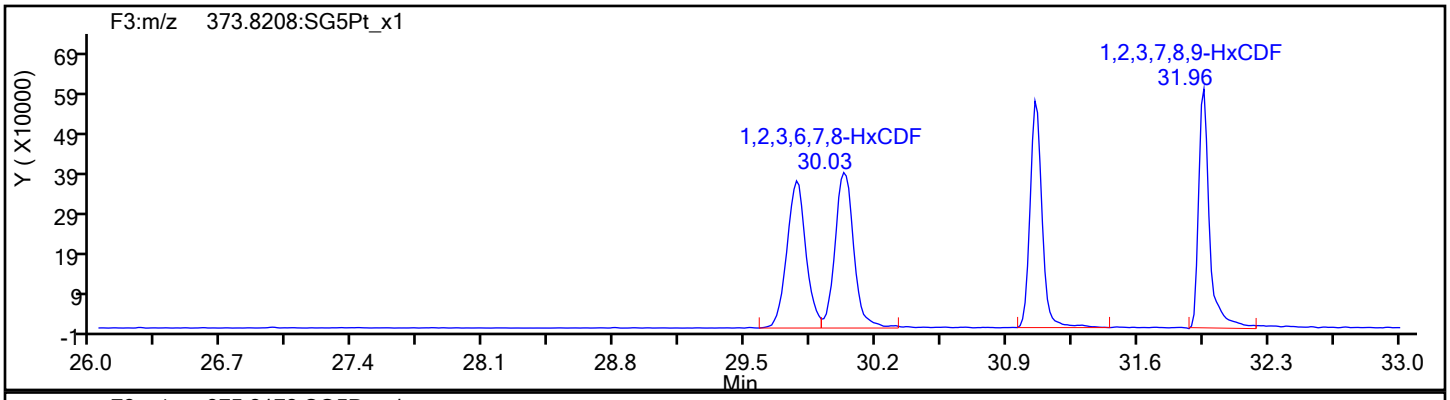

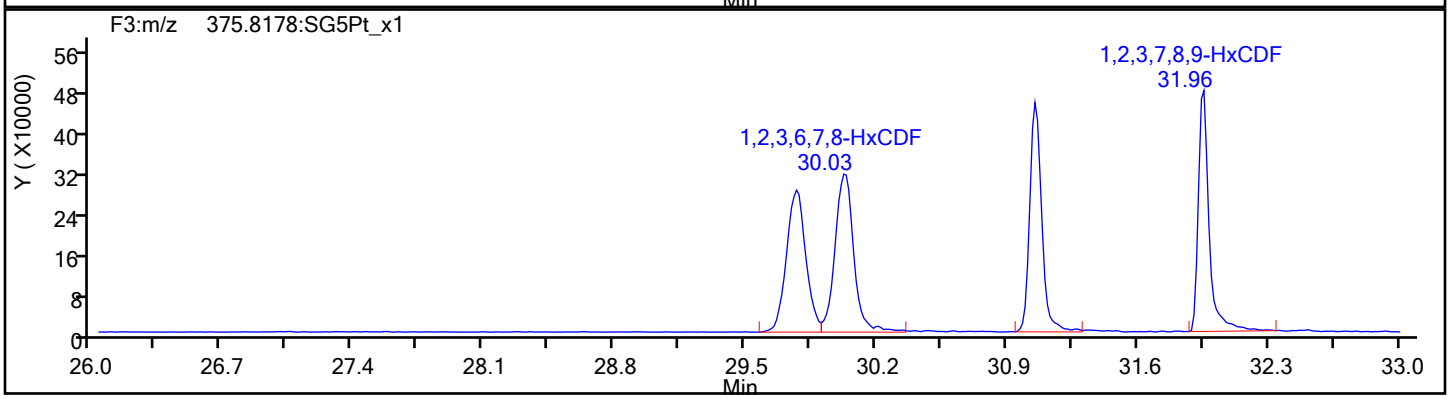

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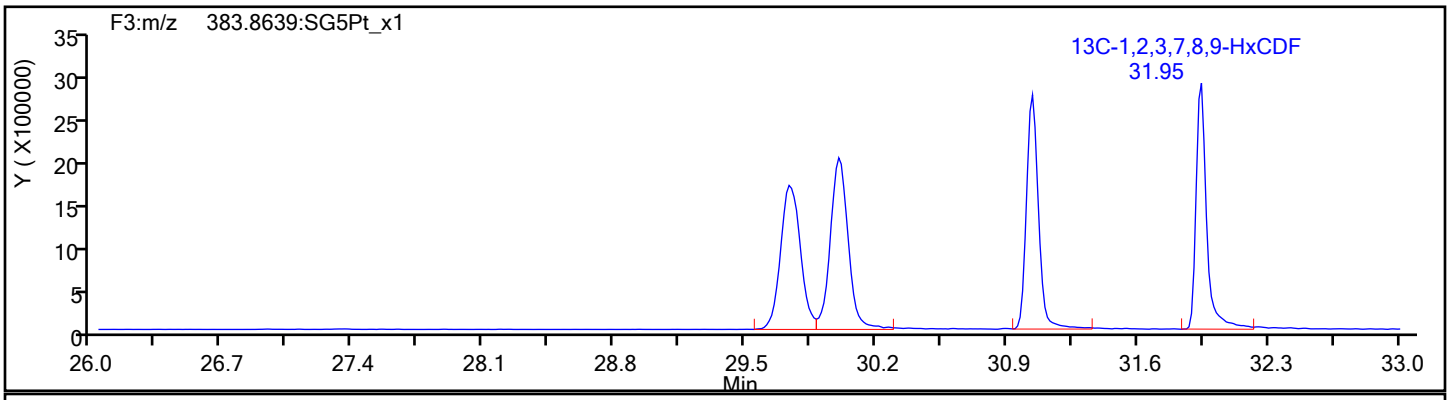

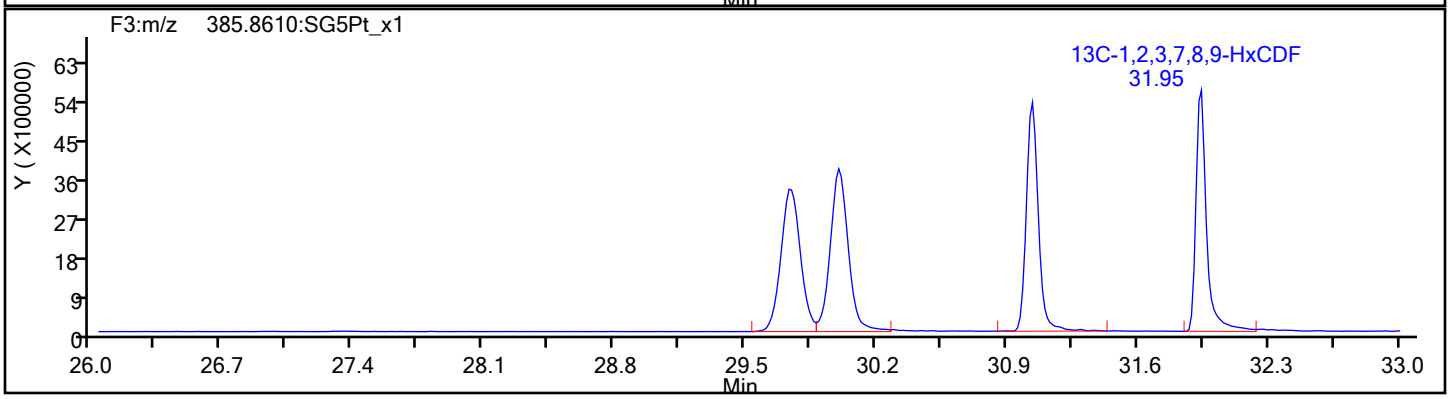

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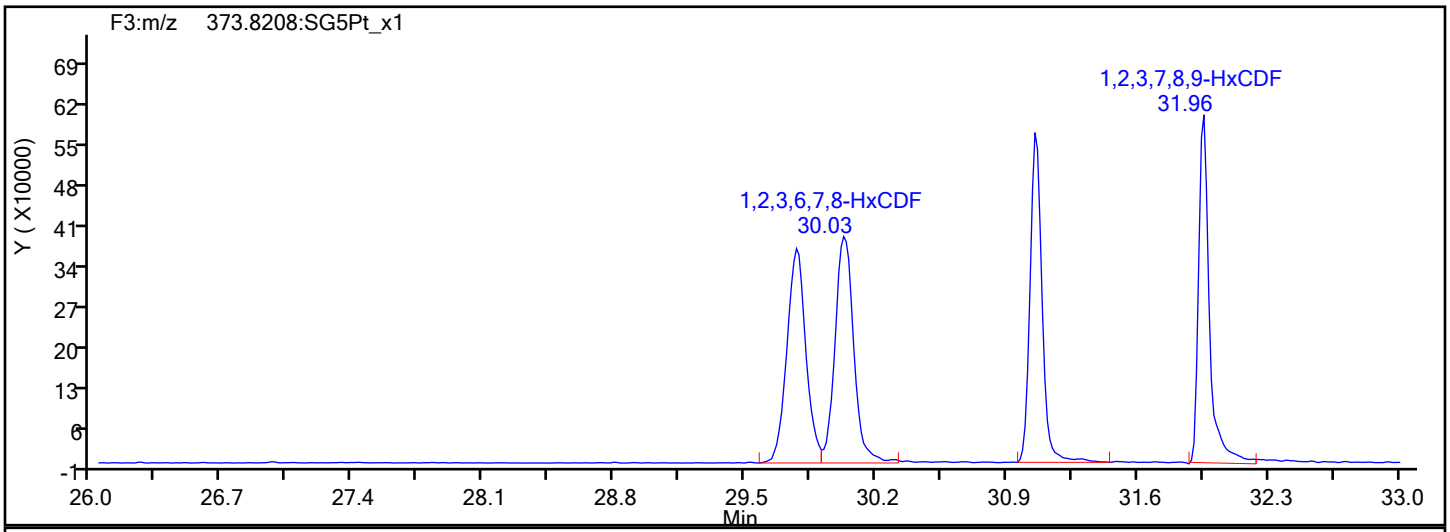

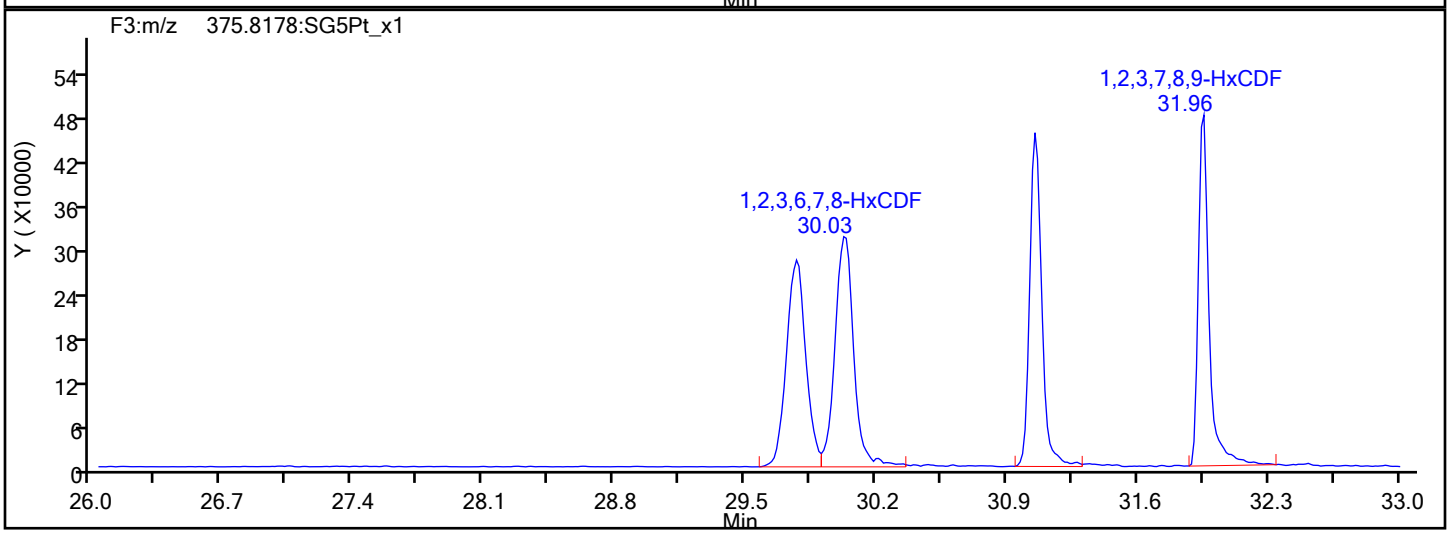

HxCDF Interference Mass

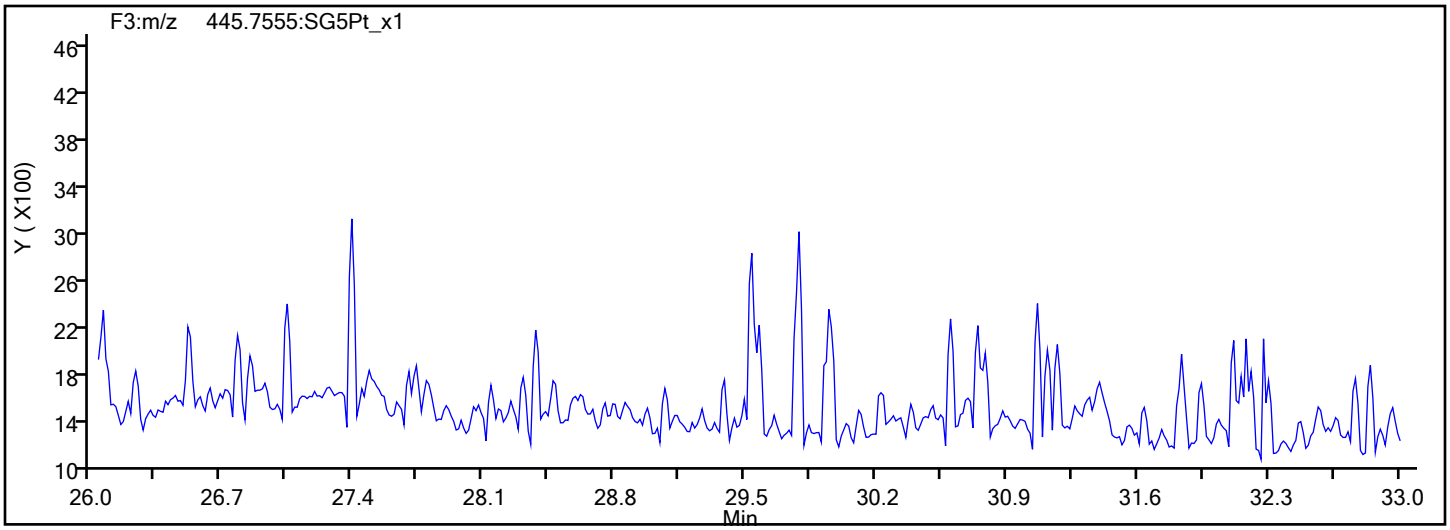

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Eurofins TestAmerica, Sacramento

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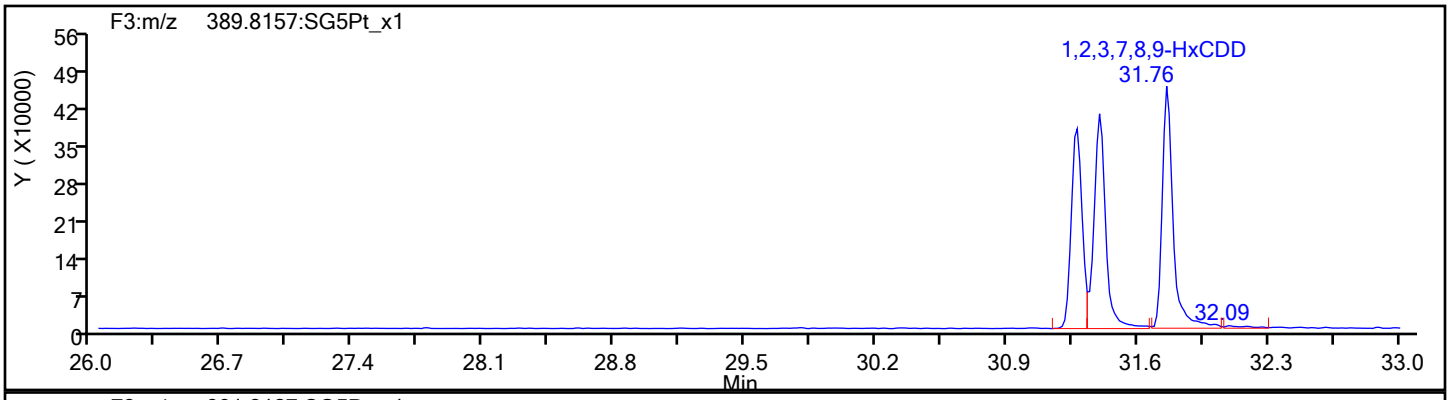

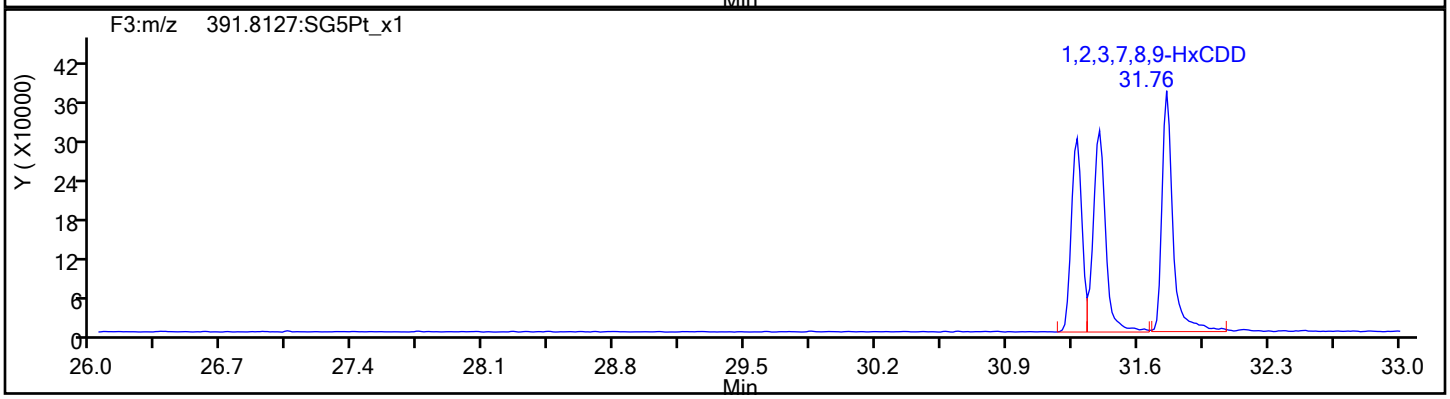

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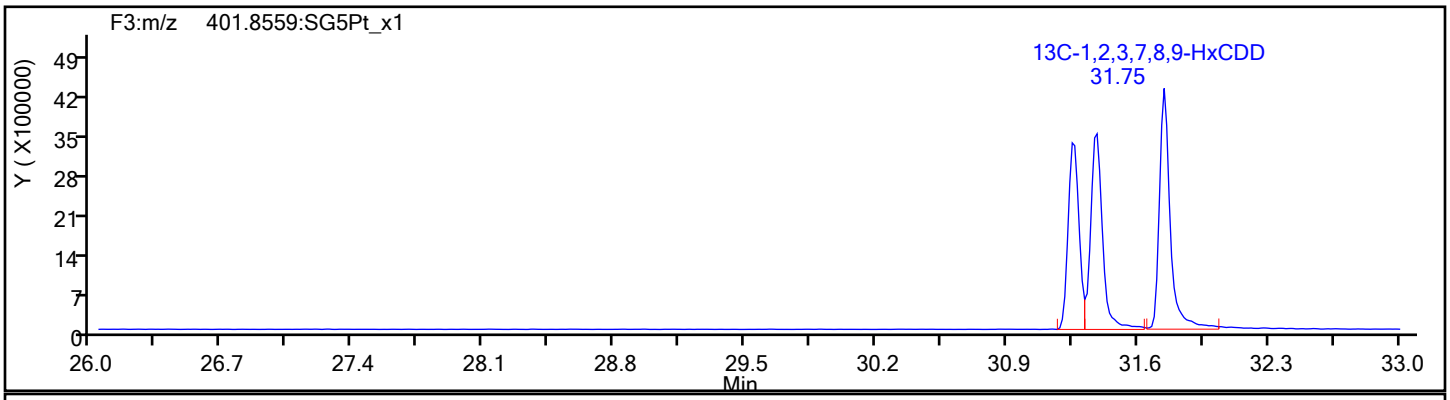

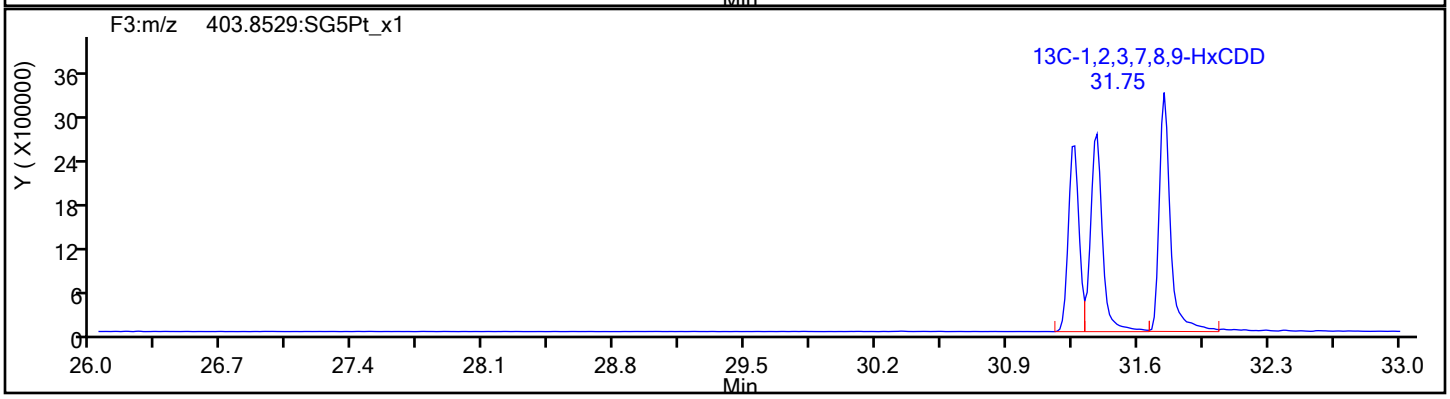

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Eurofins TestAmerica, Sacramento

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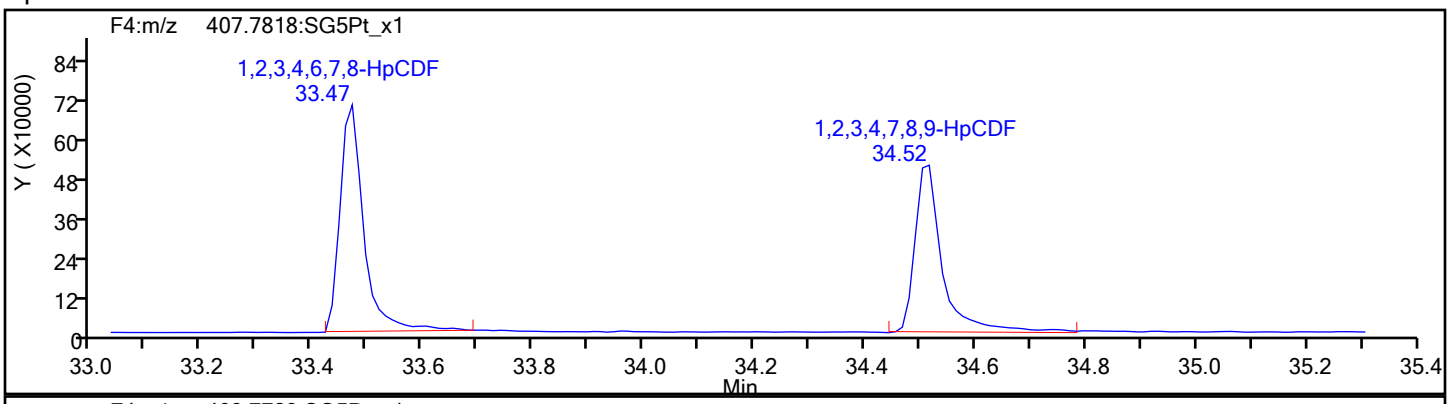

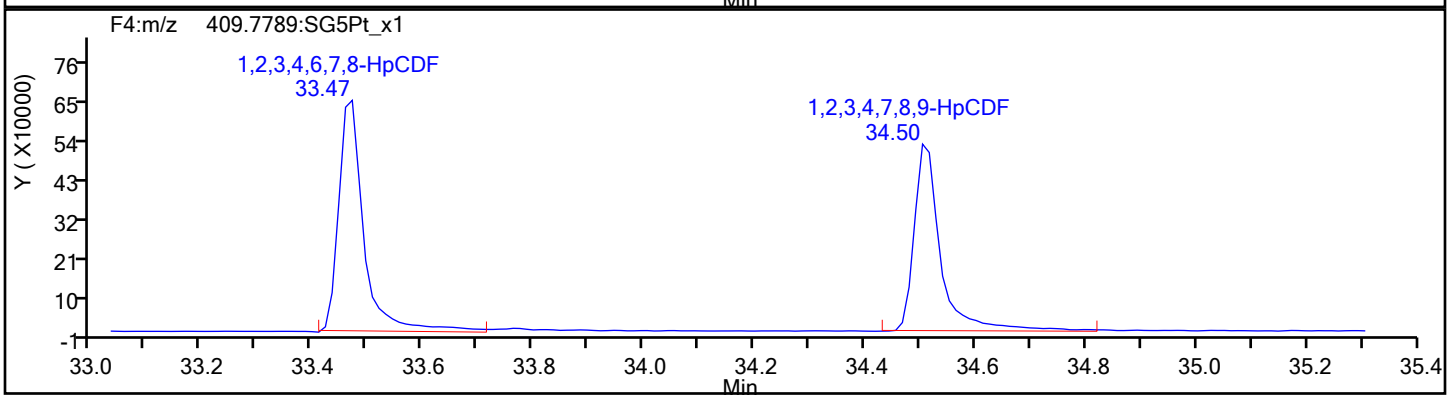

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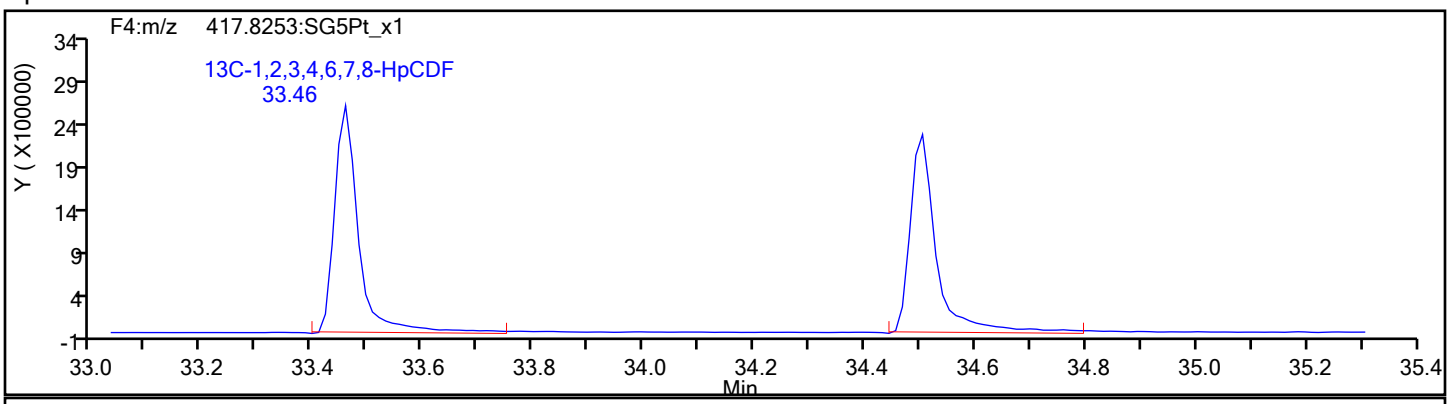

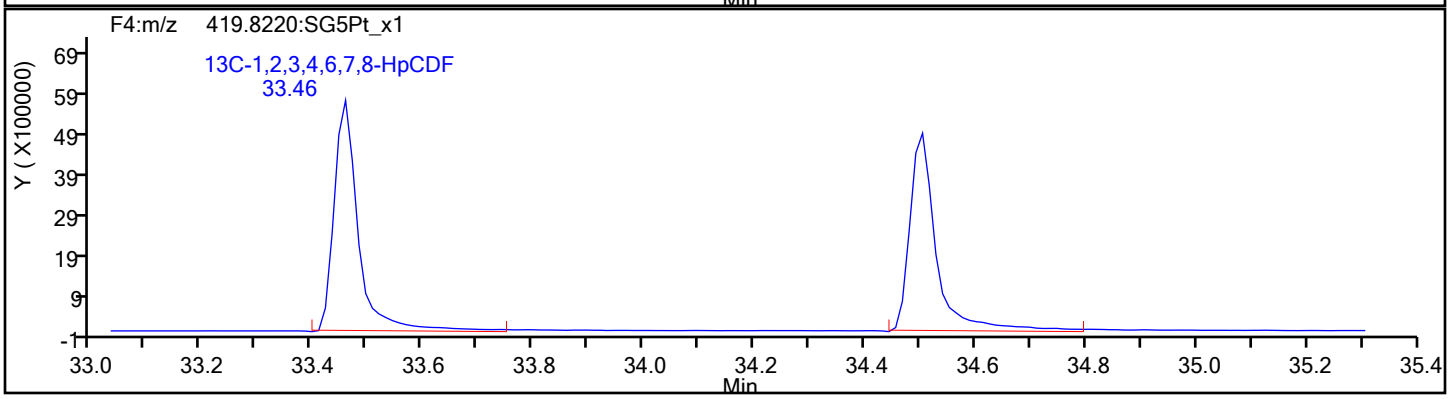

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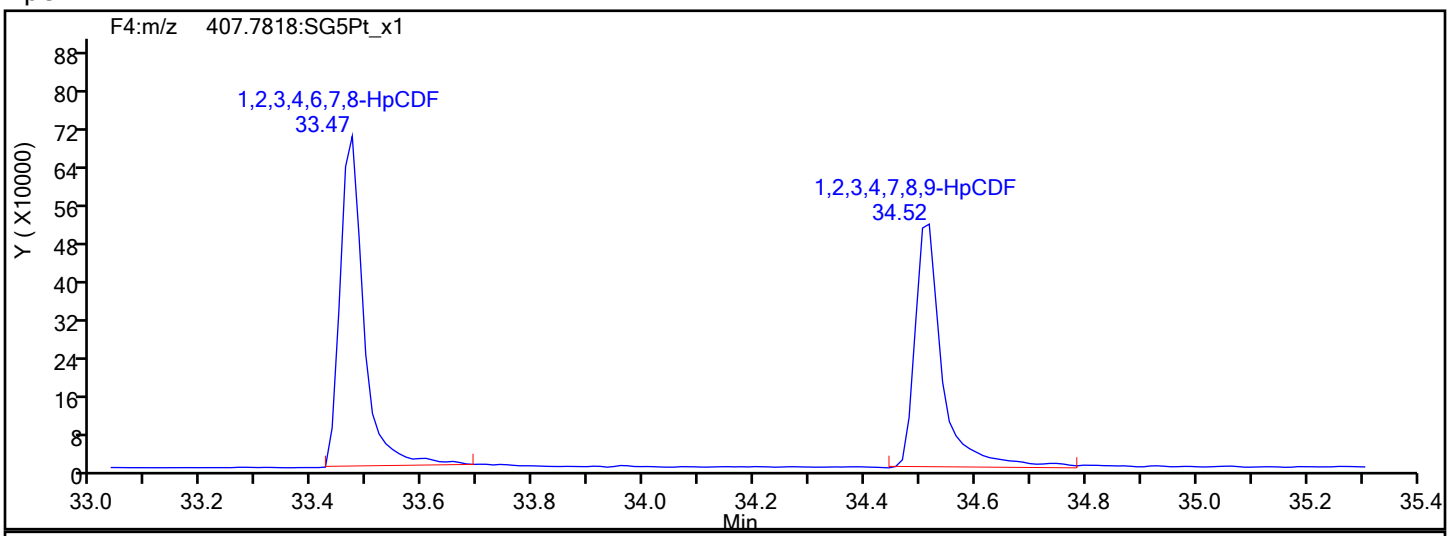

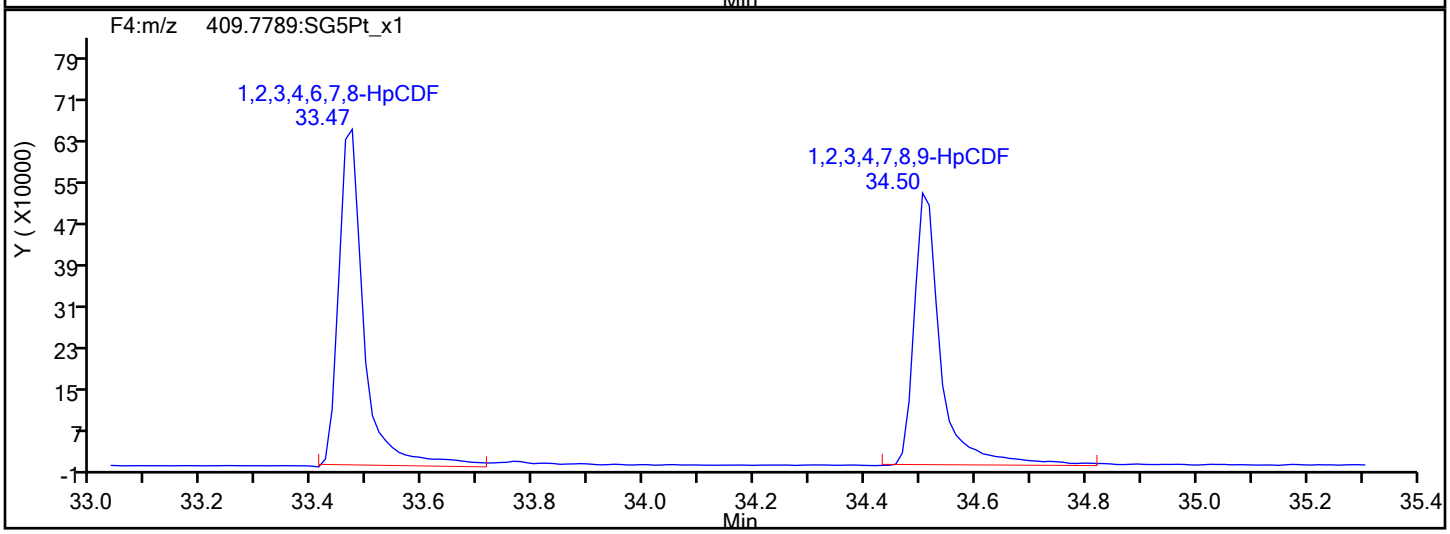

HpCDF Interference Mass

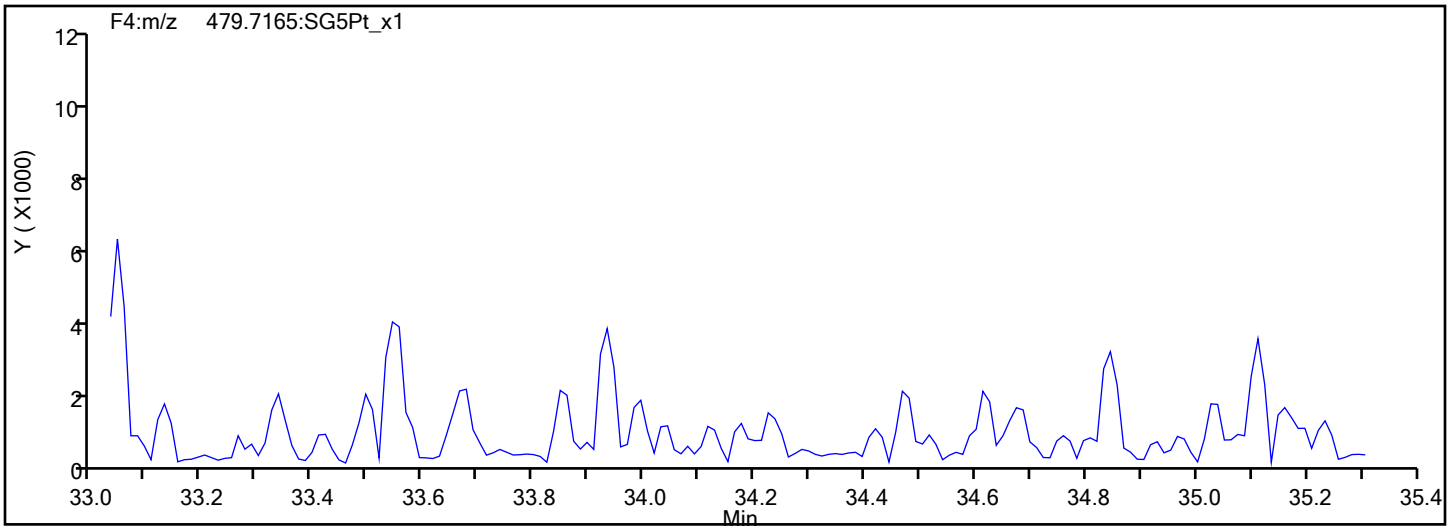

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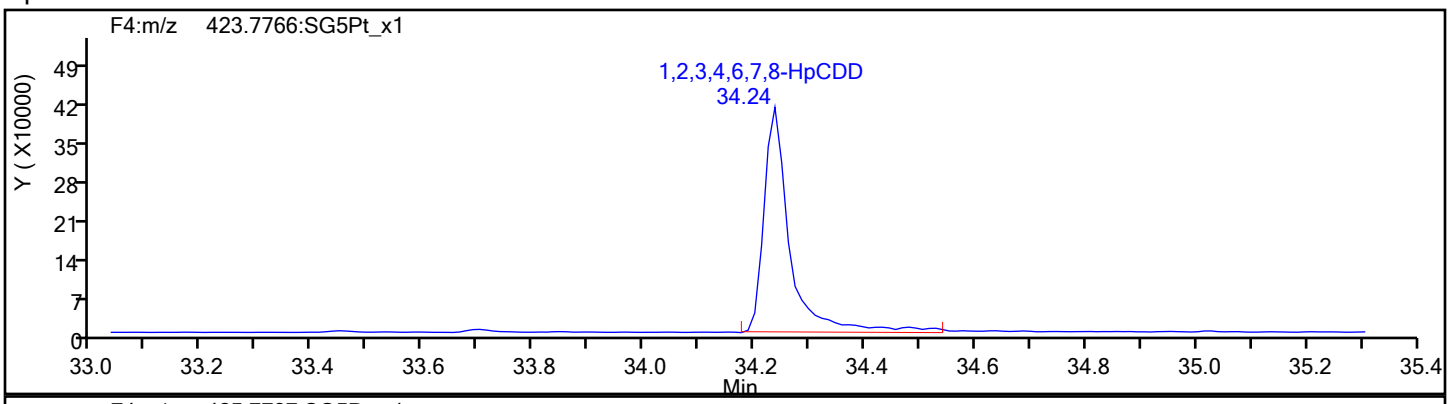

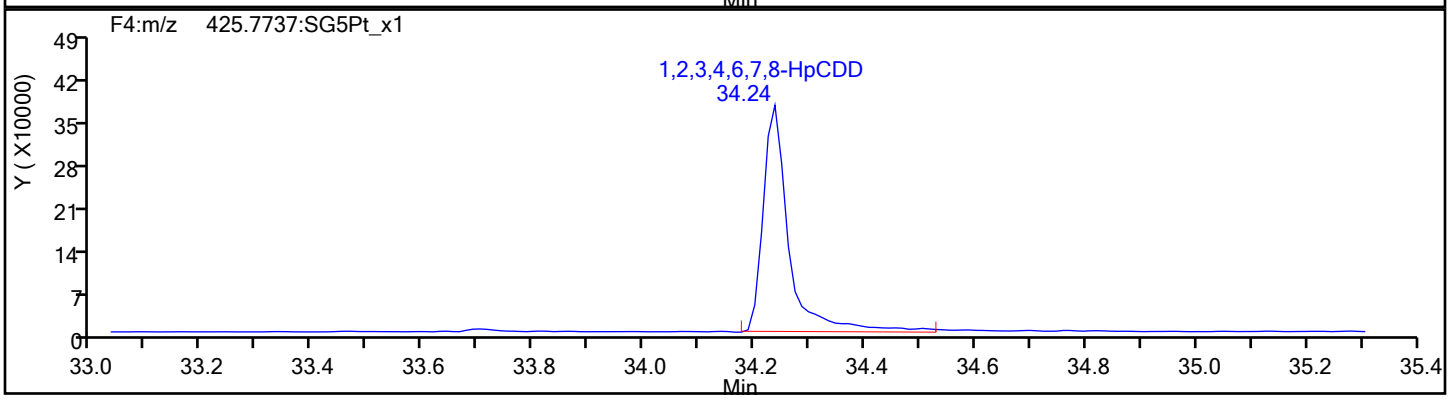

HpCDD Standards

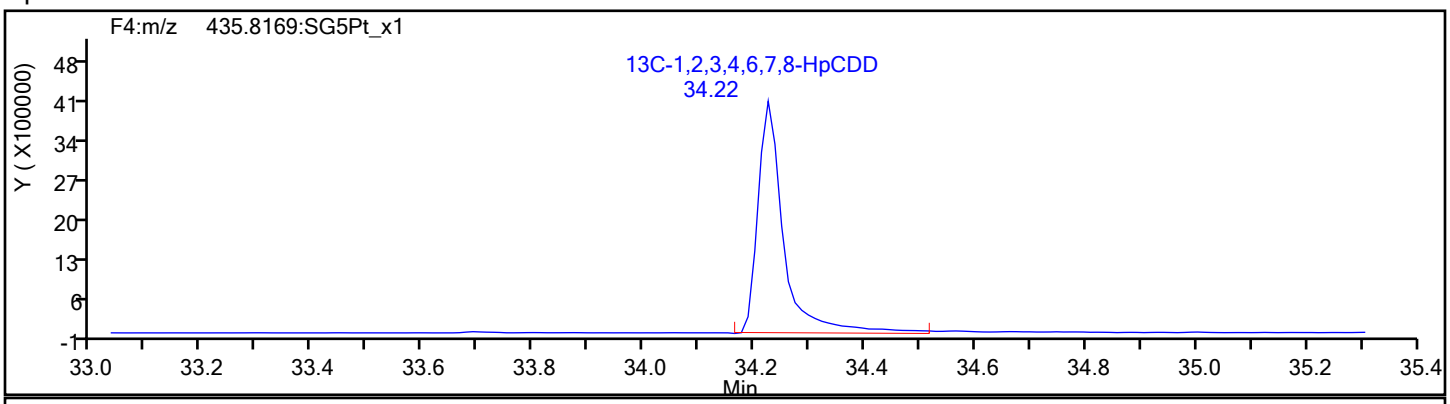

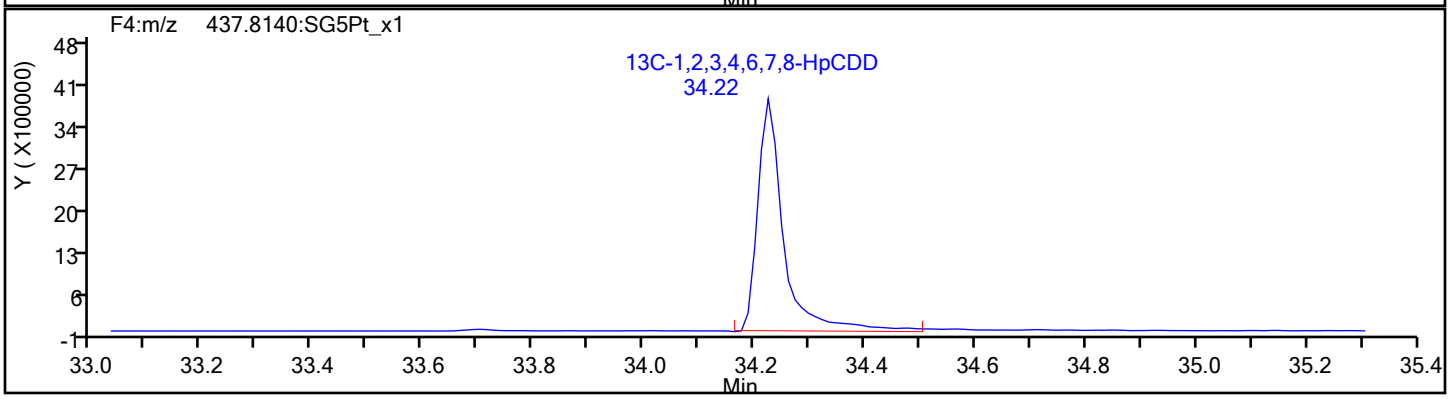

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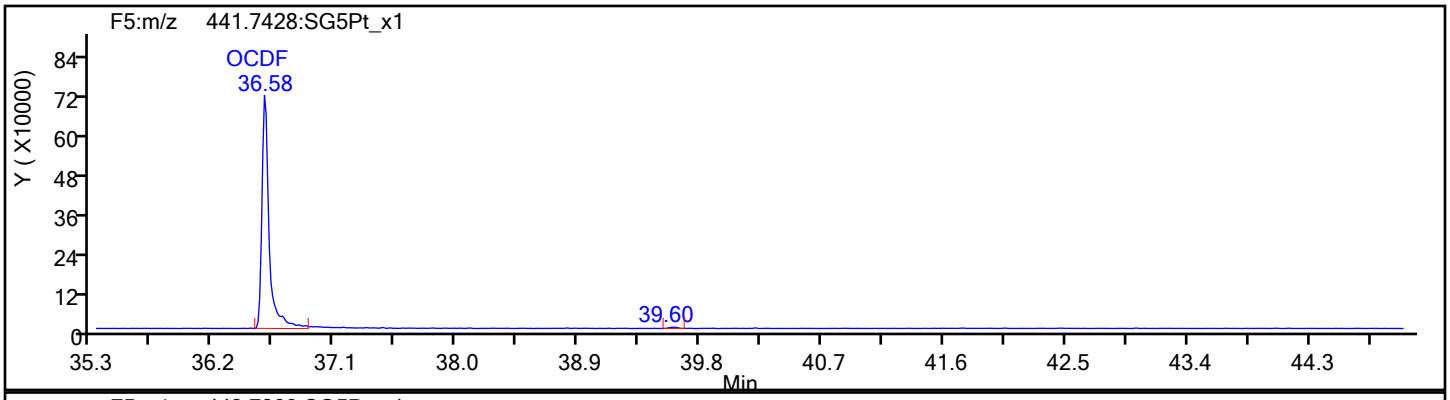

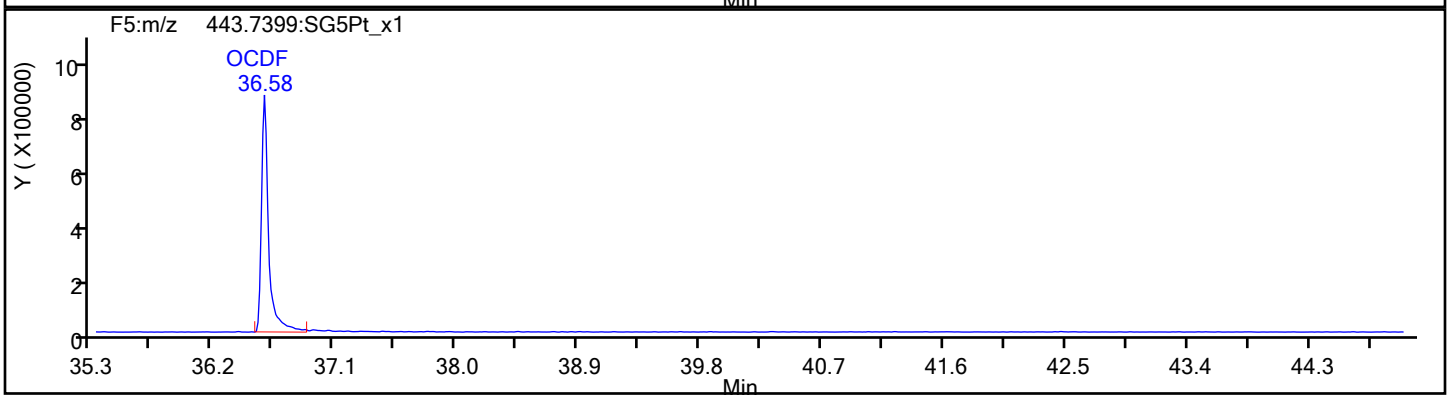

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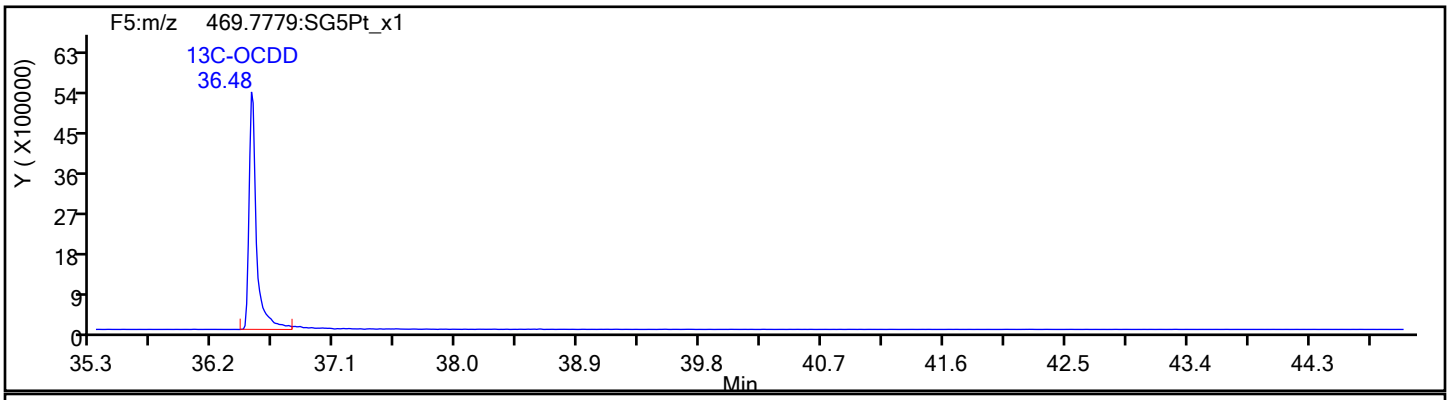

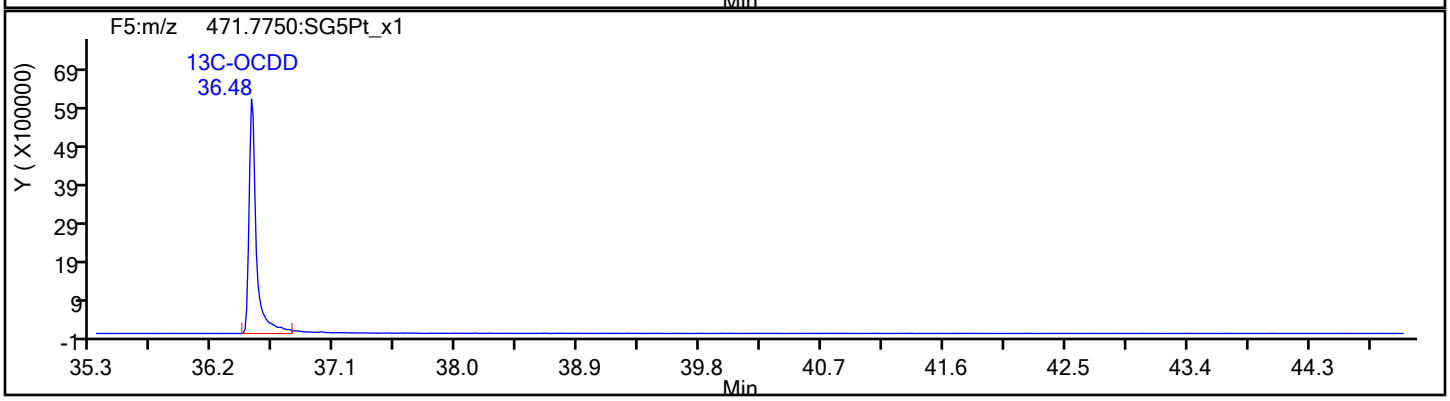

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OCDF

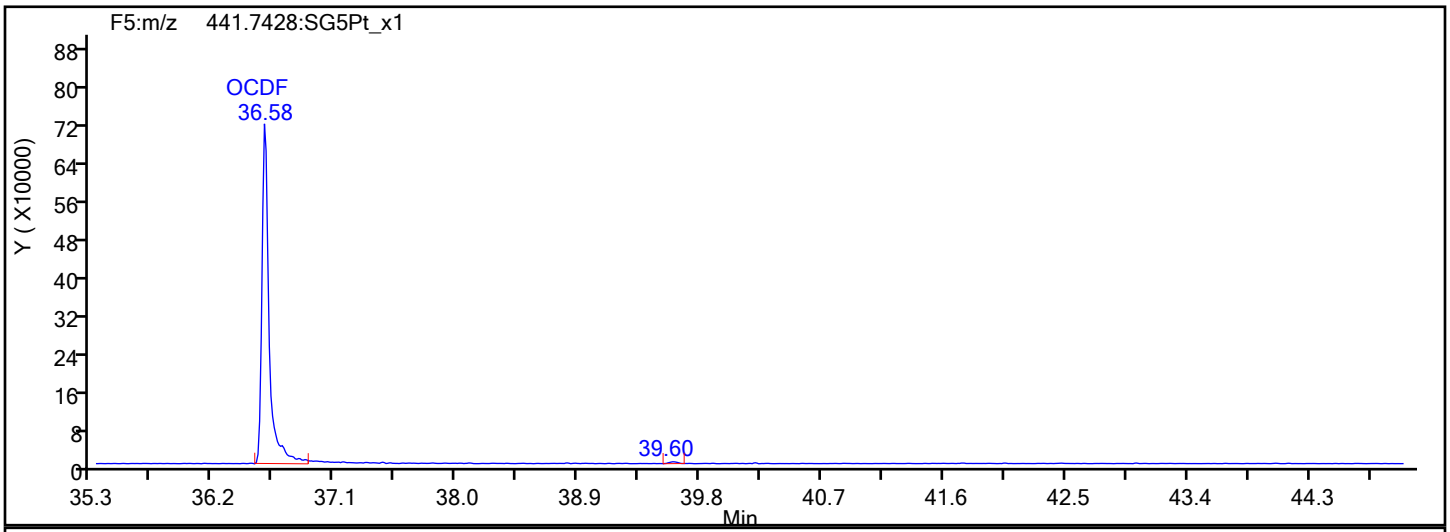

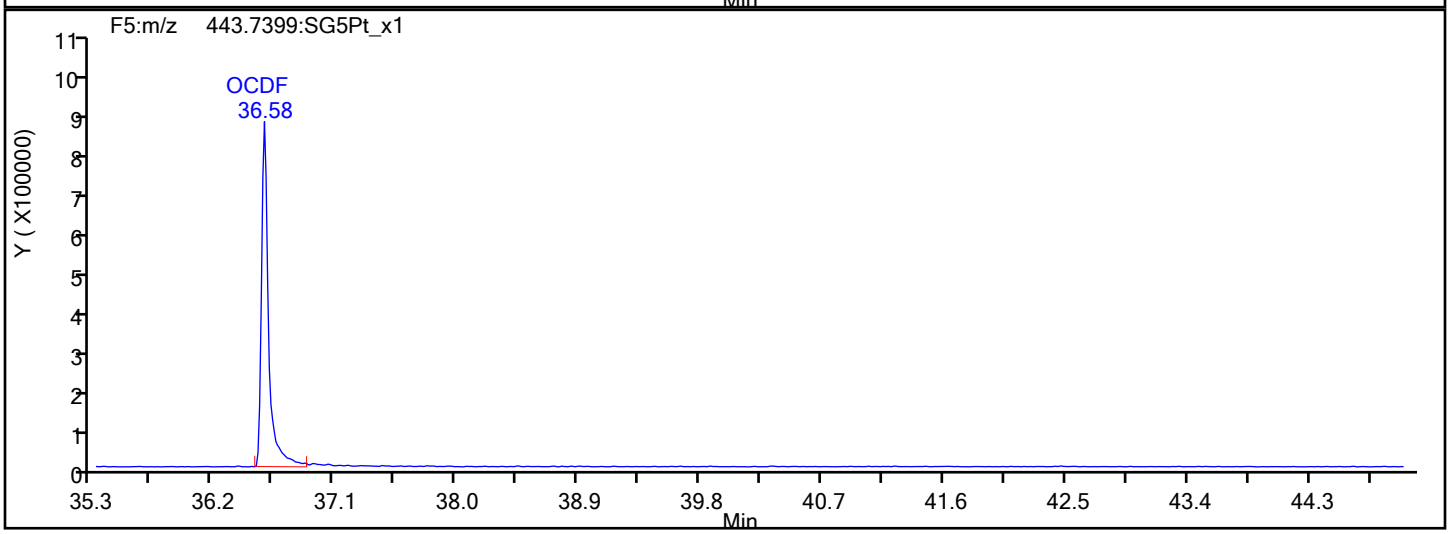

OCDF Interference Mass

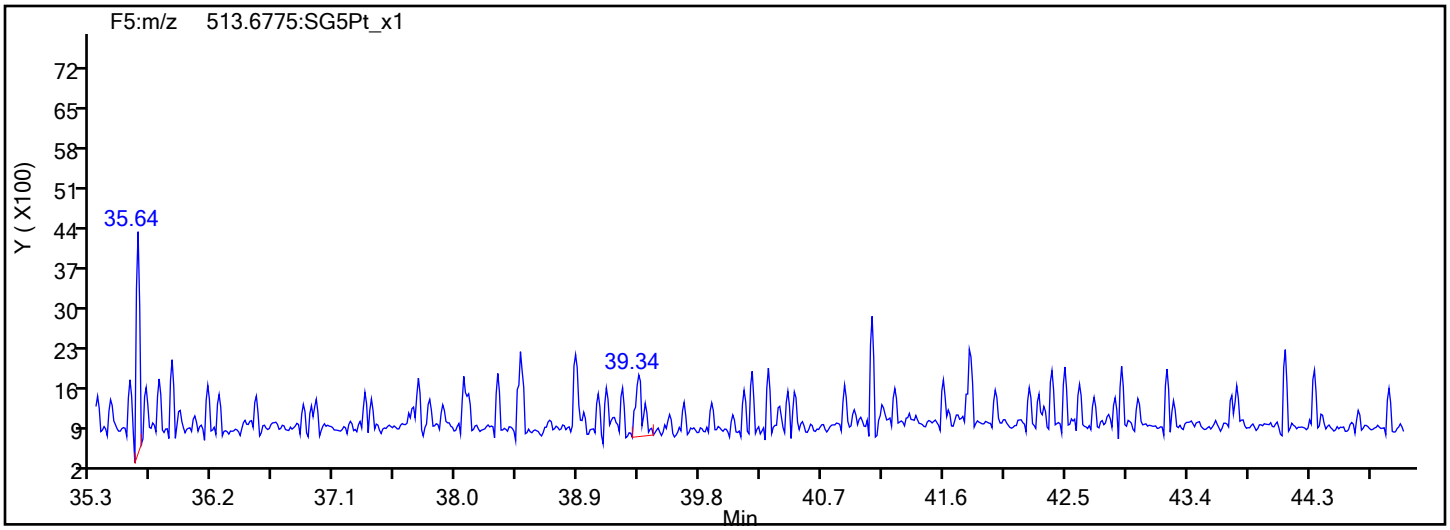

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d		
Injection Date:	17-Sep-2019 13:49:24	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

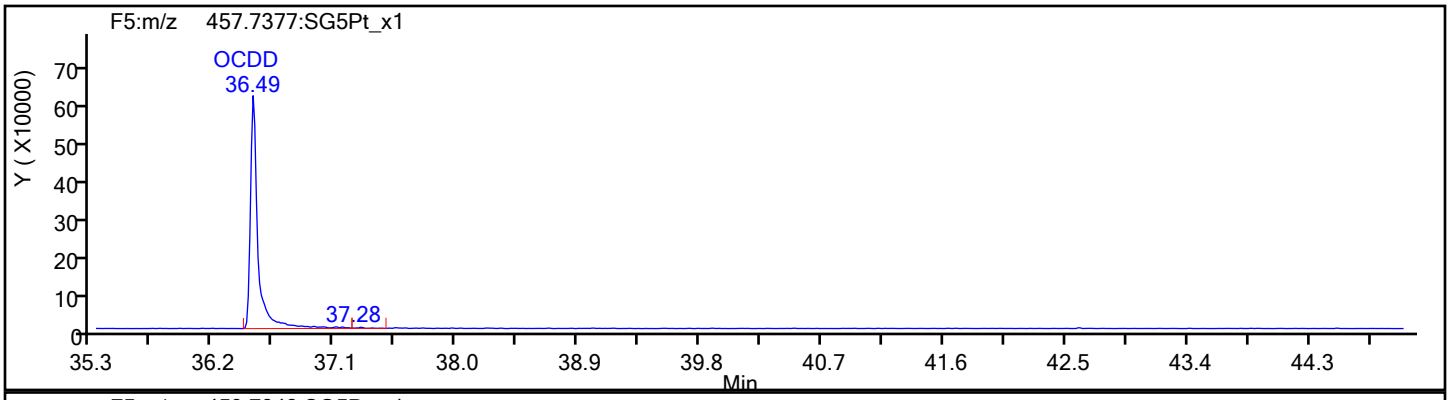

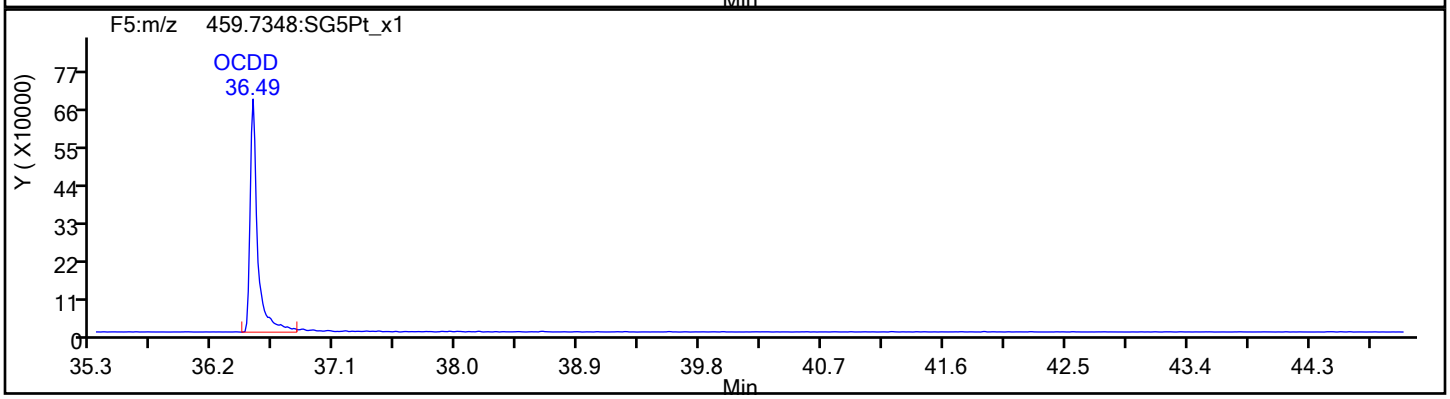

OCDD Standards

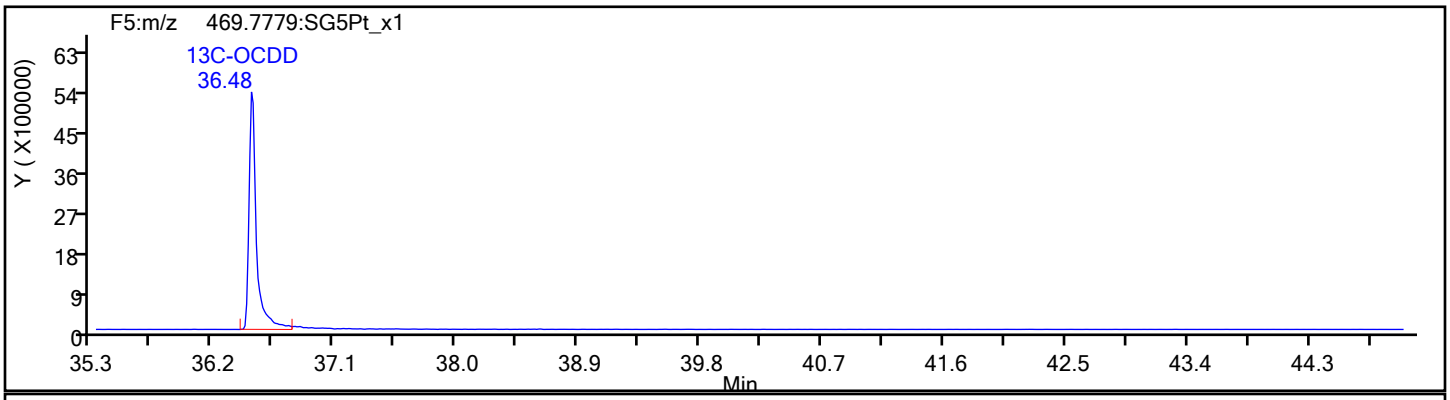

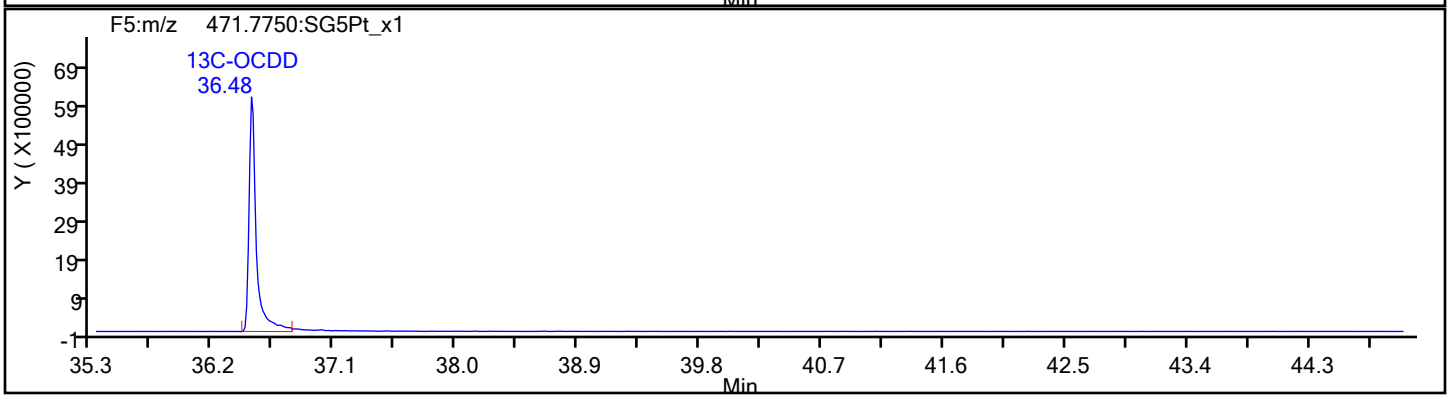

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d		
Injection Date:	17-Sep-2019 13:49:24	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

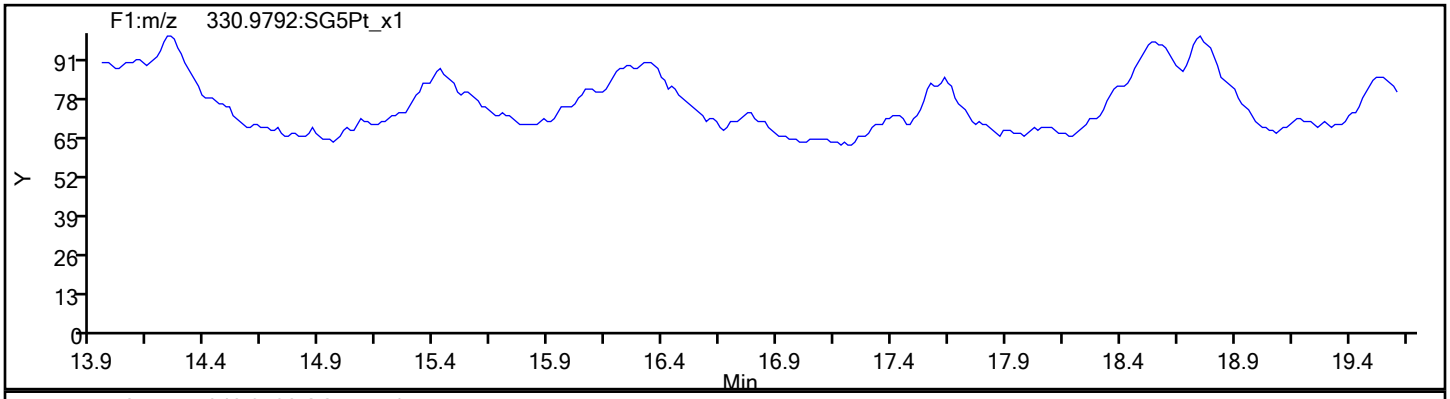

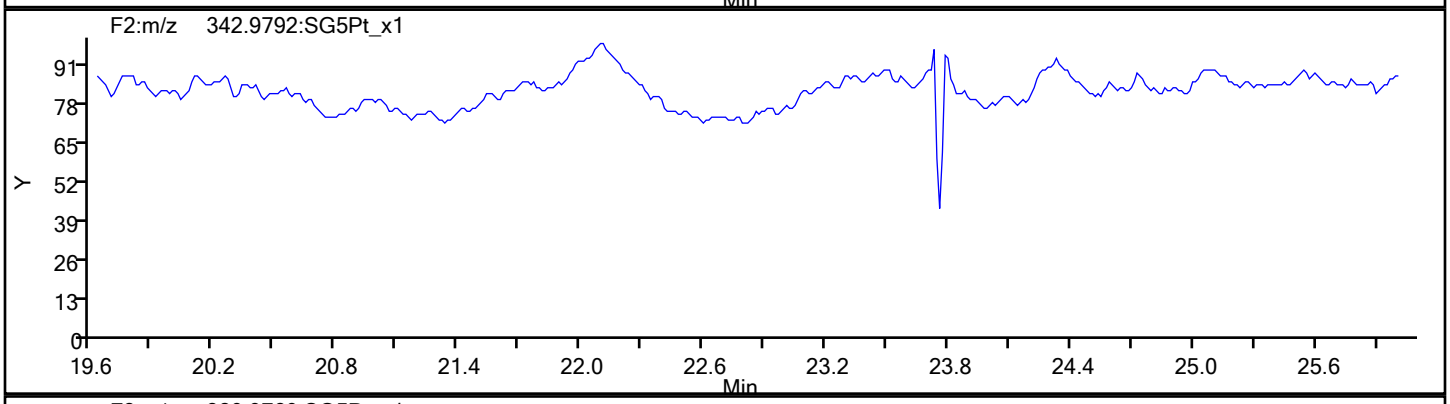

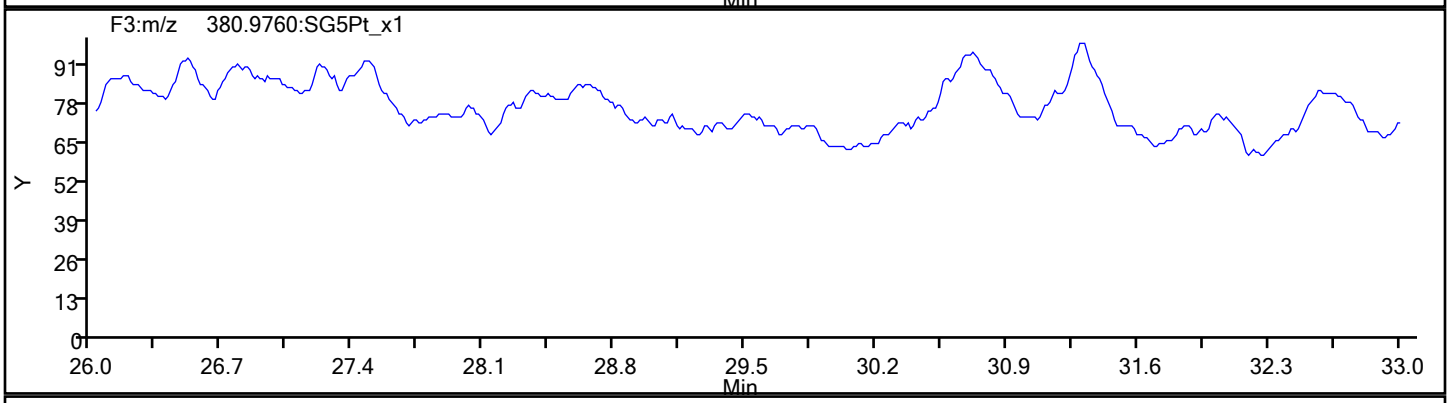

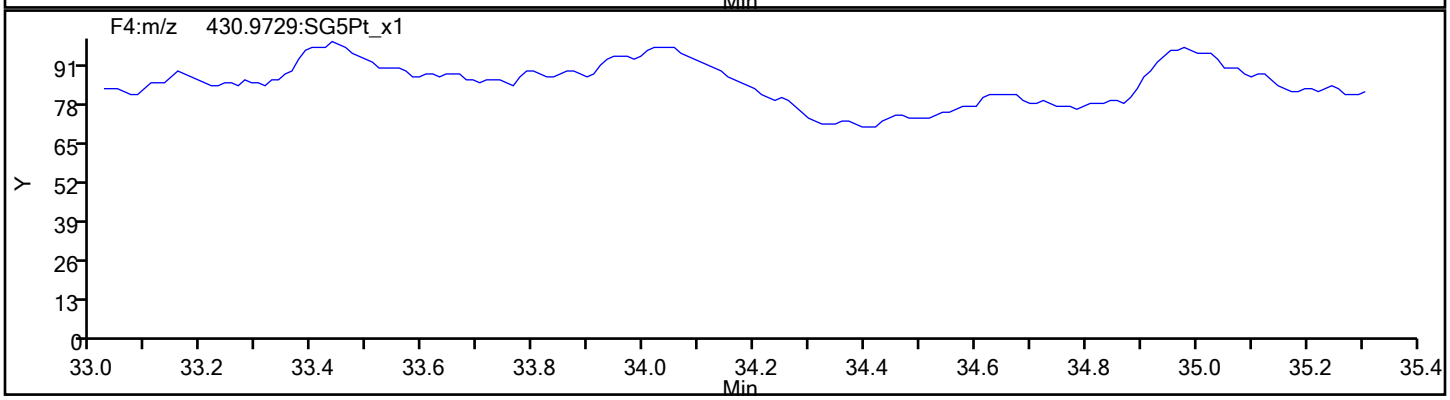

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d		
Injection Date:	17-Sep-2019 13:49:24	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

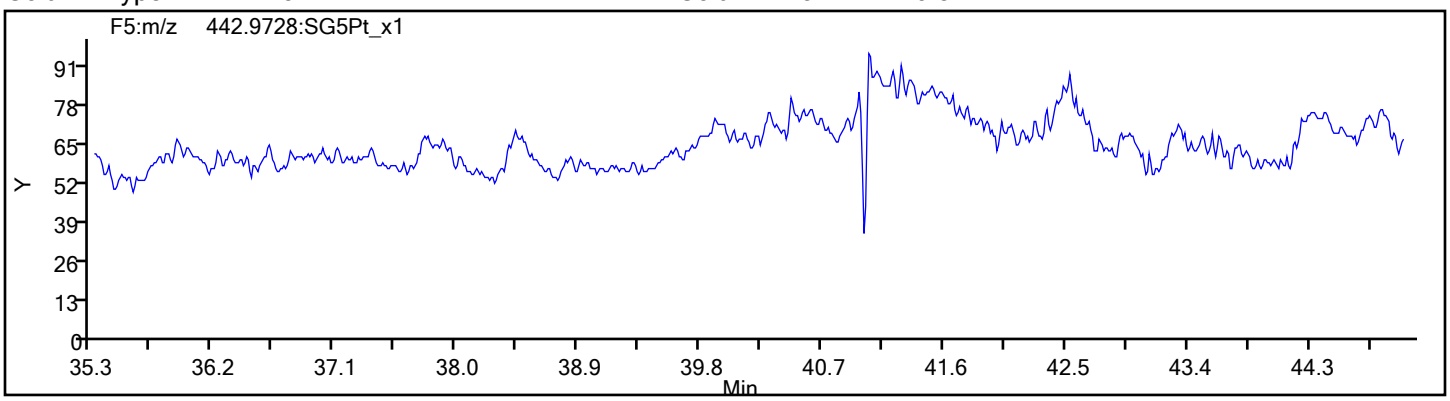

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_6.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 17-Sep-2019 15:21:22 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719C CS-5 HRDXNL5_00028
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:28 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:06:18

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.315	136791650	0.77	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.816	197671153	0.80	1.4384	100.5	100.5	0.1444	0.1444	100	
2,3,7,8-TCDF	16.831	83942362	0.79	1.0507	40.4	40.4	0.0684	0.0684	101	
S Total TCDF					40.4	40.4	0.0684	0.0684		
D 13C-2,3,7,8-TCDD	17.496	131023361	0.76	0.9533	100.5	100.5	0.1754	0.1754	100	
$ 37Cl4-2,3,7,8-TCDD	17.511	70585275		1.2224	42.2	42.2	0.0502	0.0502	106	
2,3,7,8-TCDD	17.511	59019056	0.79	1.1064	40.7	40.7	0.0423	0.0423	102	
S Total TCDD					40.7	40.7	0.0423	0.0423		
D 13C-1,2,3,7,8-PeCDF	21.645	146707284	1.60	1.0286	104.3	104.3	0.2271	0.2271	104	
1,2,3,7,8-PeCDF	21.672	332470884	1.58	1.0822	209.4	209.4	0.5823	0.5823	105	
D 13C-2,3,4,7,8-PeCDF	22.940	140755634	1.62	0.9827	104.7	104.7	0.2377	0.2377	105	
2,3,4,7,8-PeCDF	22.968	330153847	1.57	1.1032	212.6	212.6	0.6510	0.6510	106	
S Total PeCDF					422.0	422.0	0.6166	0.6166		
D 13C-1,2,3,7,8-PeCDD	23.636	108225317	1.55	0.7481	105.8	105.8	0.1282	0.1282	106	
1,2,3,7,8-PeCDD	23.663	203688899	1.58	0.9050	208.0	208.0	0.2341	0.2341	104	
S Total PeCDD					208.0	208.0	0.2341	0.2341		
D 13C-1,2,3,4,7,8-HxCDF	29.762	115322048	0.51	1.1520	100.3	100.3	0.4565	0.4565	100	
1,2,3,4,7,8-HxCDF	29.802	291651831	1.26	1.1973	211.2	211.2	1.539	1.539	106	
D 13C-1,2,3,6,7,8-HxCDF	30.028	126224651	0.53	1.2434	101.7	101.7	0.4229	0.4229	102	
1,2,3,6,7,8-HxCDF	30.055	311373058	1.26	1.1807	208.9	208.9	1.338	1.338	104	
D 13C-2,3,4,6,7,8-HxCDF	31.053	118677202	0.52	1.1720	101.5	101.5	0.4487	0.4487	101	
2,3,4,6,7,8-HxCDF	31.067	300428448	1.26	1.2116	208.9	208.9	0.9123	0.9123	104	
D 13C-1,2,3,7,8,9-HxCDF	31.945	107073331	0.52	1.0655	100.7	100.7	0.4935	0.4935	101	
1,2,3,7,8,9-HxCDF	31.958	272303395	1.26	1.2451	204.2	204.2	0.8892	0.8892	102	
S Total HxCDF					833.3	833.3	1.170	1.170		
* 13C-1,2,3,7,8,9-HxCDD	31.759	99810625	1.29	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.266	80372897	1.29	0.7812	103.1	103.1	0.3822	0.3822	103	
1,2,3,4,7,8-HxCDD	31.293	186227471	1.26	1.1088	209.0	209.0	0.6104	0.6104	104	
D 13C-1,2,3,6,7,8-HxCDD	31.386	95002970	1.27	0.9175	103.7	103.7	0.3254	0.3254	104	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.413	212361866	1.27	1.0814	206.7	206.7	0.5785	0.5785	103	
1,2,3,7,8,9-HxCDD	31.772	218049333	1.25	1.2123	205.1	205.1	0.5363	0.5363	103	
S Total HxCDD					620.8	620.8	0.5751	0.5751		
D 13C-1,2,3,4,6,7,8-HpCDF	33.459	88816288	0.46	0.8628	103.1	103.1	2.079	2.079	103	
1,2,3,4,6,7,8-HpCDF	33.472	281845286	1.05	1.5555	204.0	204.0	3.635	3.635	102	
D 13C-1,2,3,4,7,8,9-HpCDF	34.504	81274920	0.45	0.7991	101.9	101.9	2.245	2.245	102	
1,2,3,4,7,8,9-HpCDF	34.516	239010564	1.05	1.3862	212.1	212.1	4.800	4.800	106	
S Total HpCDF					416.1	416.1	4.218	4.218		
D 13C-1,2,3,4,6,7,8-HpCDD	34.237	90130025	1.04	0.8739	103.3	103.3	1.148	1.148	103	
1,2,3,4,6,7,8-HpCDD	34.237	175833007	1.05	0.9316	209.4	209.4	2.167	2.167	105	
S Total HpCDD					209.4	209.4	2.167	2.167		
D 13C-OCDD	36.493	158997965	0.88	0.7744	205.7	205.7	0.3551	0.3551	103	
OCDF	36.589	418862104	0.89	1.2596	418.3	418.3	0.4537	0.4537	105	
OCDD	36.505	347055077	0.89	1.0621	411.0	411.0	0.6571	0.6571	103	

Reagents:

HRDXNL5_00028 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_6.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 17-Sep-2019 15:21:22 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719C CS-5 HRDXNL5_00028
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:28 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:06:18

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.315	17.303	1		59594664	15287135	9225	23062	1657		
333.9339	17.315	17.303	1		77196986	19734133	14193	35482	1390	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.816	16.810	0	0.971	87712948	23127802	13754	34385	1682		
317.9389	16.816	16.810	0	0.971	109958205	28845594	15339	38347	1881	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.831	16.825	0	1.001	36949180	9674667	6043	15107	1601		
305.8987	16.831	16.825	0	1.001	46993182	12302542	8902	22255	1382	0.79(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.496	17.490	0	1.010	56708135	13975530	9225	23062	1515		
333.9339	17.496	17.490	0	1.010	74315226	18338786	14193	35482	1292	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.511	17.505	0	1.011	70585275	17605066	8592	21480	2049		
2,3,7,8-TCDD											
319.8965	17.511	17.505	0	1.001	26067676	6503532	2993	7482	2173		
321.8936	17.511	17.505	0	1.001	32951380	8185513	3053	7632	2681	0.79(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	21.645	21.637	0	1.250	90246004	16955643	19974	49935	849		
353.8970	21.645	21.637	0	1.250	56461280	10556577	12749	31872	828	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.672	21.661	1	1.001	203793856	37432282	42262	105655	886		
341.8567	21.672	21.661	1	1.001	128677028	23626725	27084	67710	872	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	22.940	22.932	0	1.325	87007765	14859467	19974	49935	744		
353.8970	22.940	22.932	0	1.325	53747869	9280455	12749	31872	728	1.62(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.968	22.954	1	1.001	201570262	34626412	42262	105655	819		
341.8567	22.968	22.954	1	1.001	128583585	22276079	27084	67710	822	1.57(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.636	23.625	1	1.365	65730378	10862933	7904	19760	1374		
369.8919	23.636	23.625	1	1.365	42494939	6954914	5526	13815	1259	1.55(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.663	23.649	1	1.001	124750517	20269910	9274	23185	2186		
357.8516	23.663	23.649	1	1.001	78938382	12735405	5825	14562	2186	1.58(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.762	29.754	0	0.937	39196947	5461495	18152	45380	301		
385.8610	29.762	29.754	0	0.937	76125101	10409265	31962	79905	326	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.802	29.789	1	1.001	162403041	22433624	65844	164610	341		
375.8178	29.789	29.789	0	1.001	129248790	17859839	51149	127872	349	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.028	30.015	1	0.946	43639188	6387099	18152	45380	352		
385.8610	30.028	30.015	1	0.946	82585463	12130808	31962	79905	380	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.055	30.039	1	1.001	173687895	26264182	65844	164610	399		
375.8178	30.055	30.039	1	1.001	137685163	20987234	51149	127872	410	1.26(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.053	31.043	1	0.978	40788407	9120663	18152	45380	502		
385.8610	31.053	31.043	1	0.978	77888795	17340792	31962	79905	543	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.067	31.059	0	1.000	167309786	37576842	65844	164610	571		
375.8178	31.067	31.059	0	1.000	133118662	29904554	51149	127872	585	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.945	31.942	0	1.006	36791830	9139865	18152	45380	504		
385.8610	31.945	31.942	0	1.006	70281501	17276995	31962	79905	541	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.958	31.956	0	1.000	151855406	36977671	65844	164610	562		
375.8178	31.958	31.956	0	1.000	120447989	30006929	51149	127872	587	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.759	31.748	1		56270617	13452314	14607	36517	921		
403.8529	31.759	31.748	1		43540008	10372903	13848	34620	749	1.29(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.266	31.261	0	0.984	45227277	11150175	14607	36517	763		
403.8529	31.266	31.261	0	0.984	35145620	8735365	13848	34620	631	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.293	31.280	1	1.001	103691748	26080947	29902	74755	872		
391.8127	31.279	31.280	0	1.000	82535723	20584143	23933	59832	860	1.26(1.05-1.43)	

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24
Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_6.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.386	31.383	0	0.988	53174636	12056504	14607	36517	825		
403.8529	31.386	31.383	0	0.988	41828334	9455739	13848	34620	683	1.27(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.413	31.402	1	1.001	118924223	27338827	29902	74755	914		
391.8127	31.413	31.402	1	1.001	93437643	21365407	23933	59832	893	1.27(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.772	31.761	1	1.016	121151996	28954994	29902	74755	968		
391.8127	31.772	31.761	1	1.016	96897337	23073240	23933	59832	964	1.25(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.459	33.457	0	1.054	28029452	9006809	51228	128070	176		
419.8220	33.459	33.457	0	1.054	60786836	19574017	119701	299252	164	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.472	33.469	0	1.000	144194629	47922295	320097	800242	150		
409.7789	33.472	33.469	0	1.000	137650657	45921753	326367	815917	141	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.504	34.502	0	1.086	25205698	7508483	51228	128070	147		
419.8220	34.504	34.502	0	1.086	56069222	16780818	119701	299252	140	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.516	34.509	0	1.000	122343291	36942029	320097	800242	115		
409.7789	34.516	34.509	0	1.000	116667273	34848749	326367	815917	107	1.05(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.237	34.227	1	1.078	45952113	13244990	41516	103790	319		
437.8140	34.225	34.227	0	1.078	44177912	12813430	54131	135327	237	1.04(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.237	34.235	0	1.000	90154256	26778982	103826	259565	258		
425.7737	34.237	34.235	0	1.000	85678751	25940196	106590	266475	243	1.05(0.88-1.20)	
13C-OCDD											
469.7779	36.493	36.486	0	1.149	74572520	18801270	9864	24660	1906		
471.7750	36.493	36.486	0	1.149	84425445	21269549	16343	40857	1301	0.88(0.76-1.02)	
OCDF											
441.7428	36.589	36.581	0	1.003	197544150	51410039	20935	52337	2456		
443.7399	36.589	36.581	0	1.003	221317954	56864509	24864	62160	2287	0.89(0.76-1.02)	
OCDD											
457.7377	36.505	36.497	0	1.000	163350934	40607331	33690	84225	1205		
459.7348	36.505	36.497	0	1.000	183704143	44957614	22242	55605	2021	0.89(0.76-1.02)	

Reagents:

HRDXNL5_00028 Amount Added: 1.00 Units: mL

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

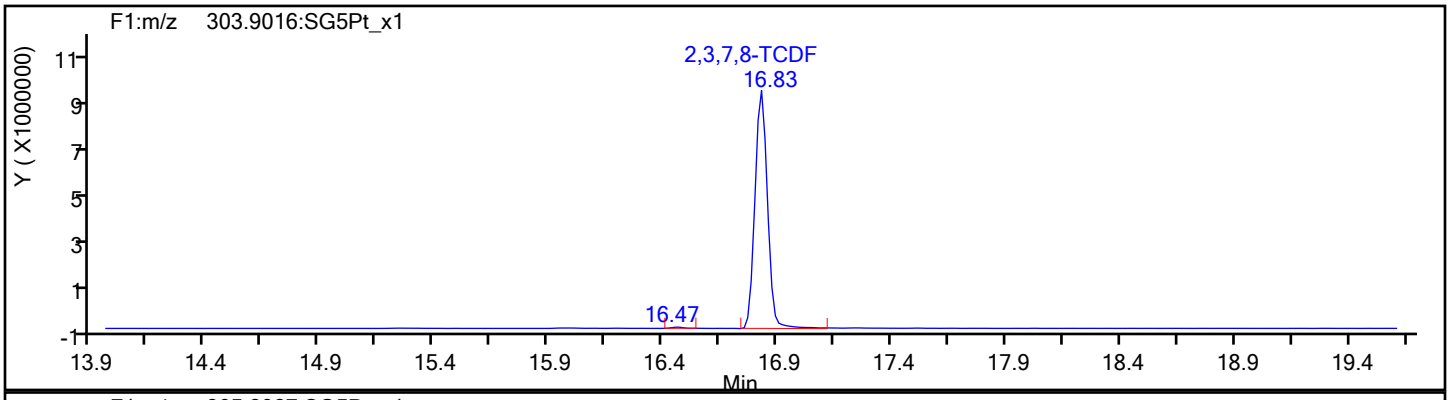

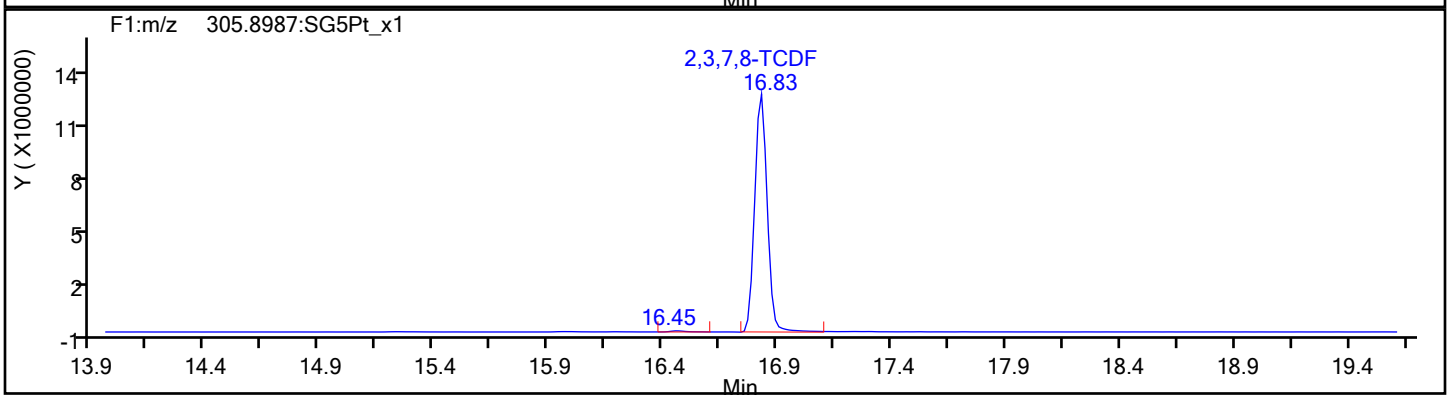

TCDF Standards

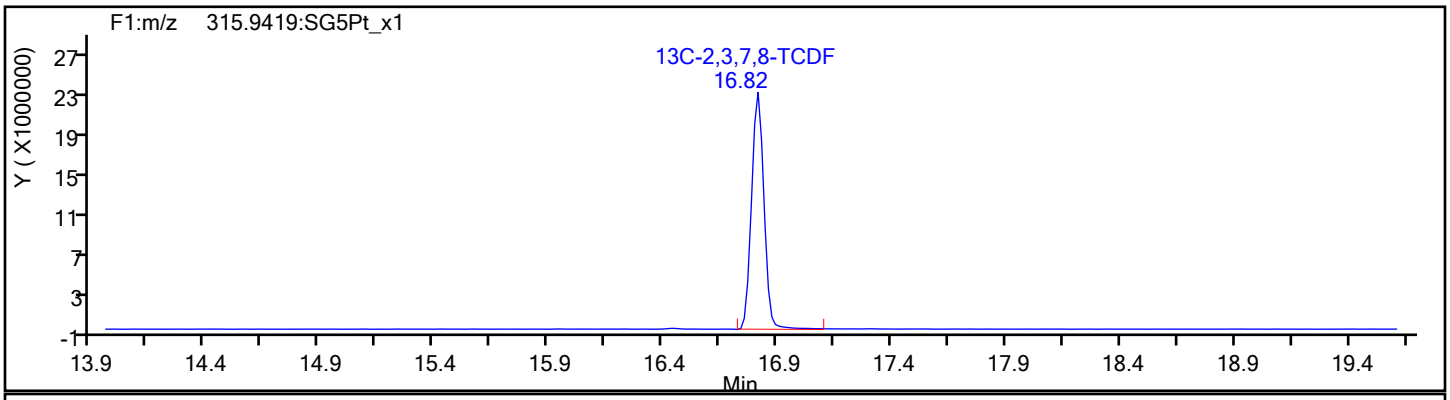

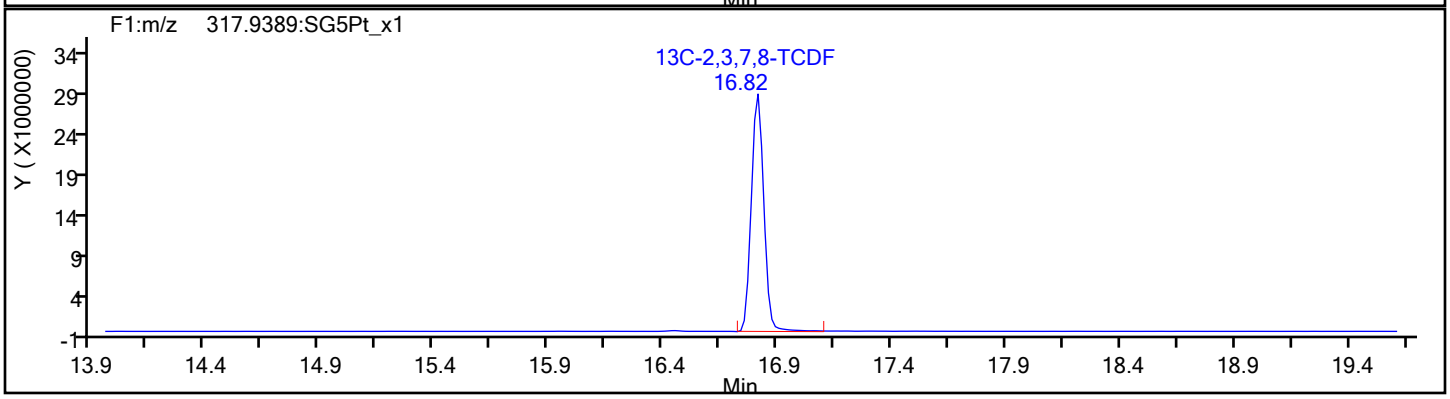

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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

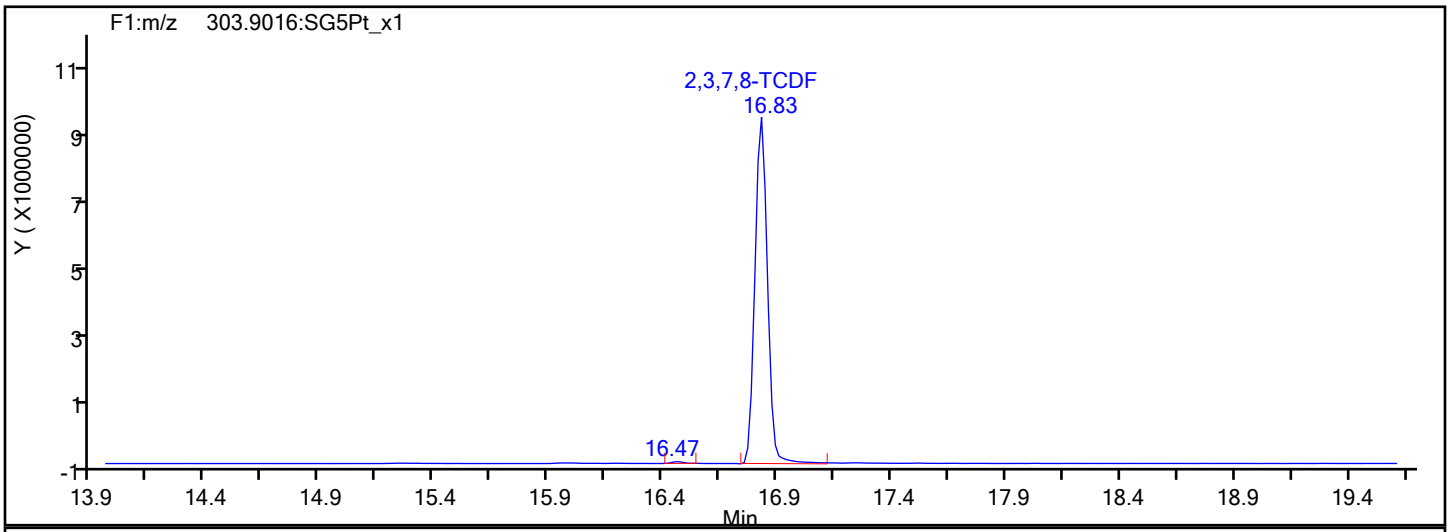

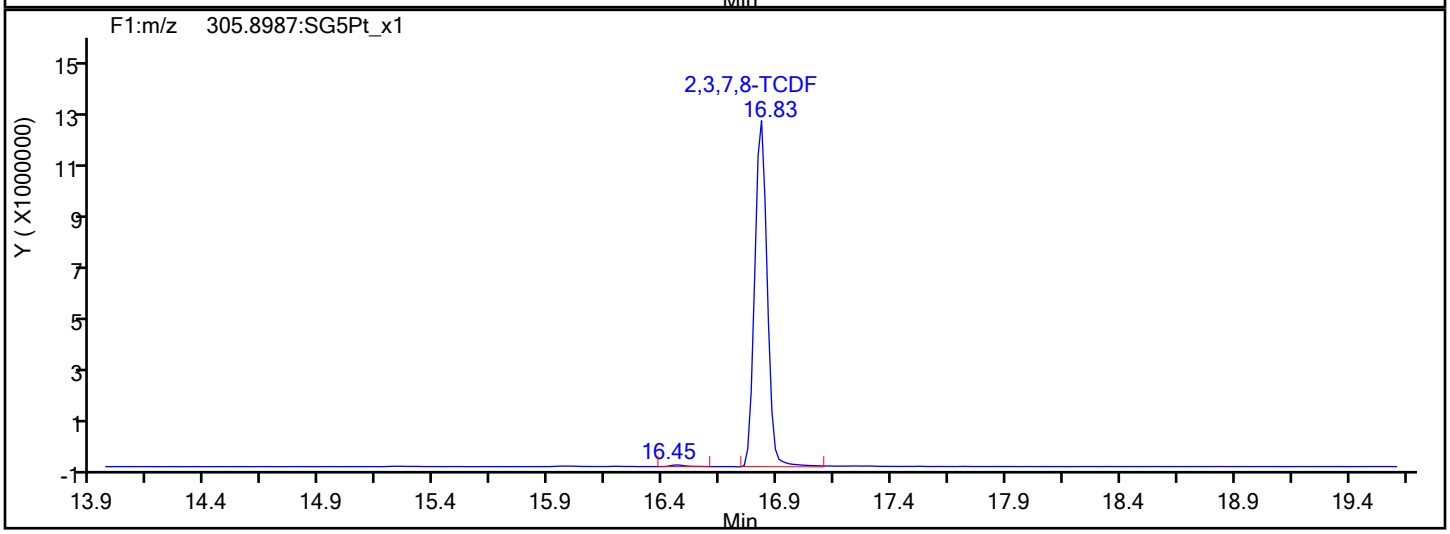

TCDF Interference Mass

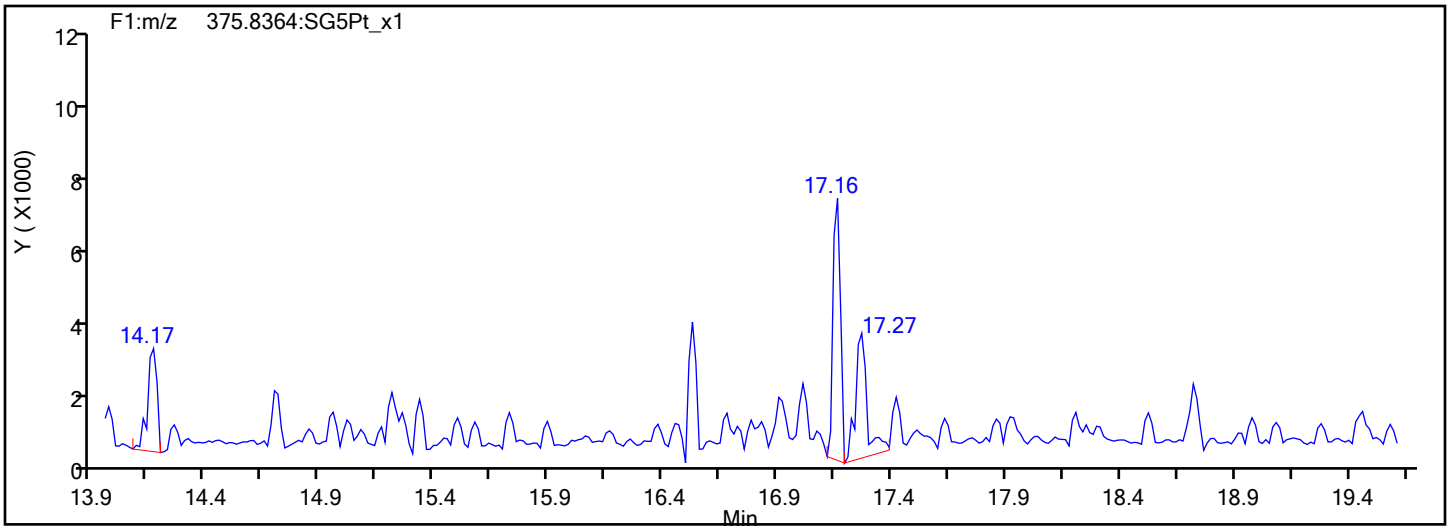

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

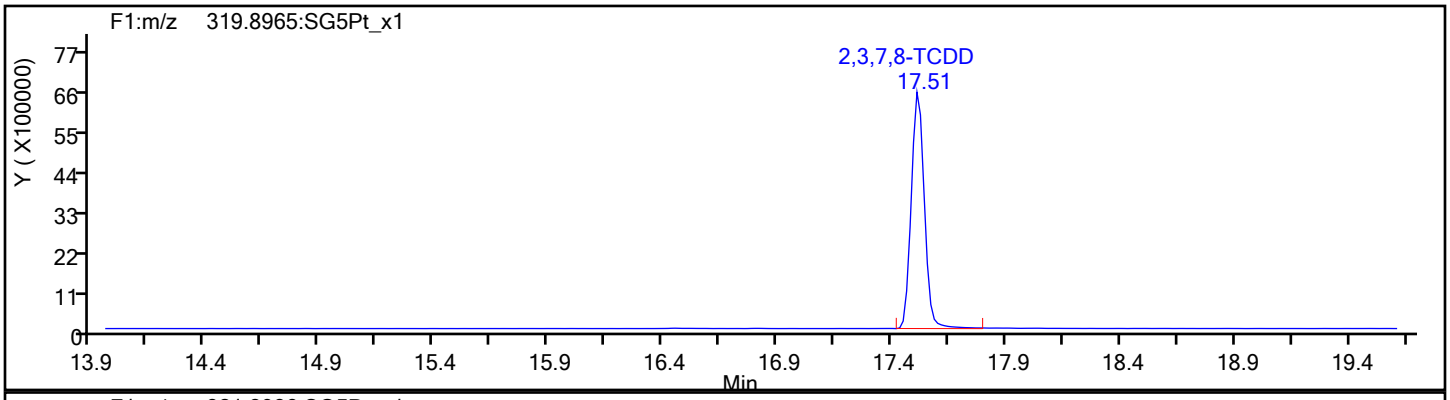

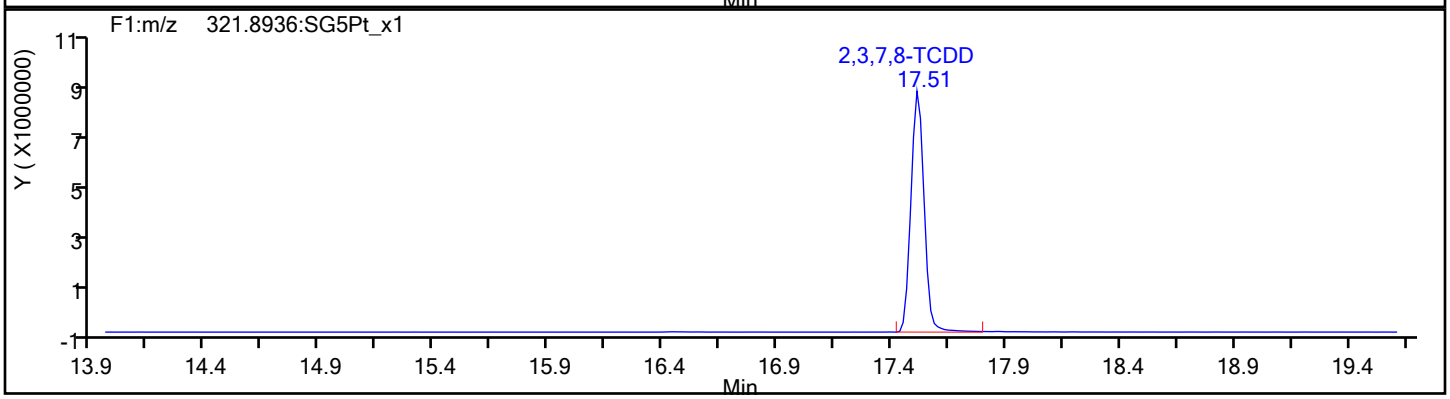

TCDD Standards

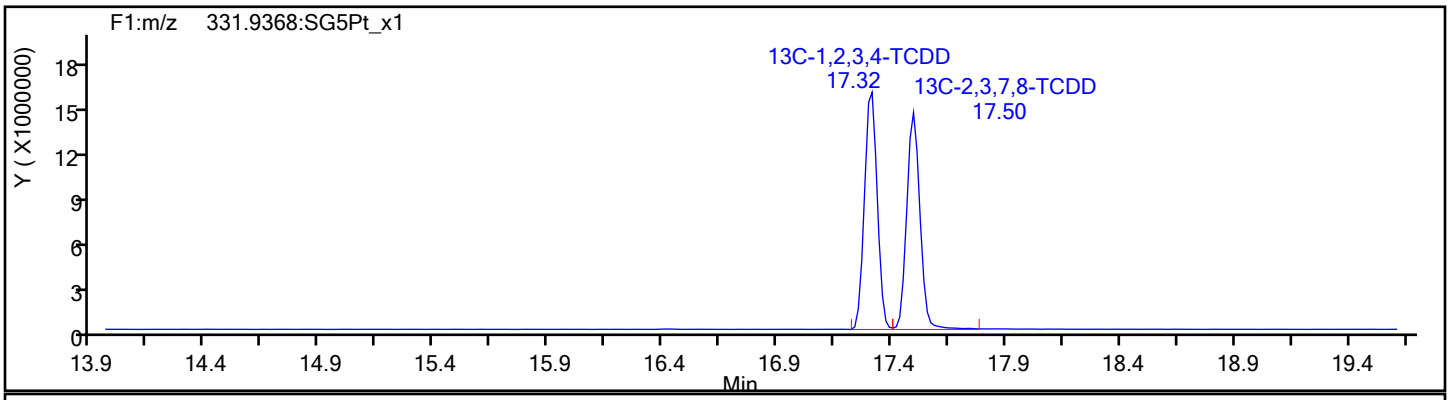

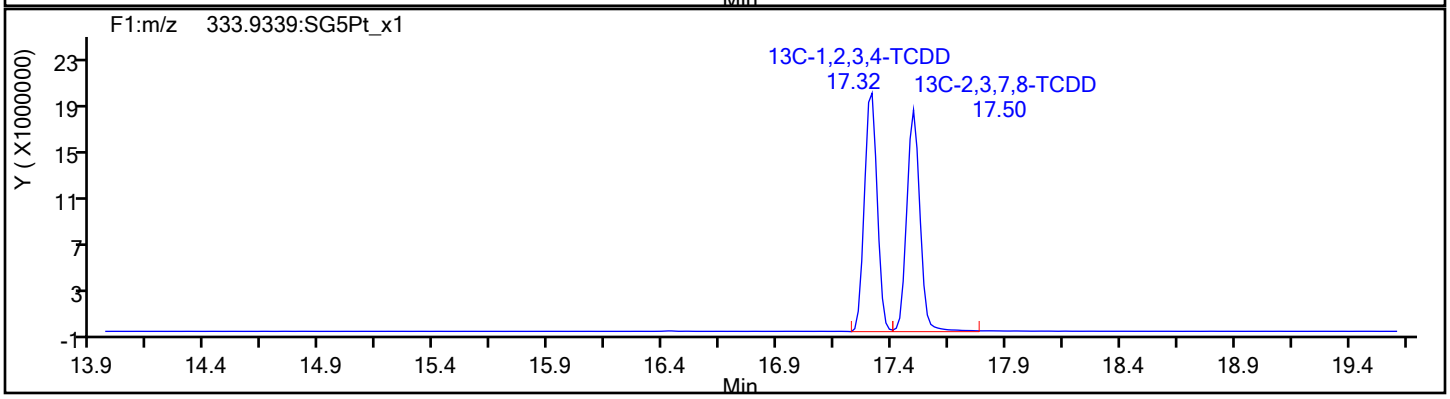

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

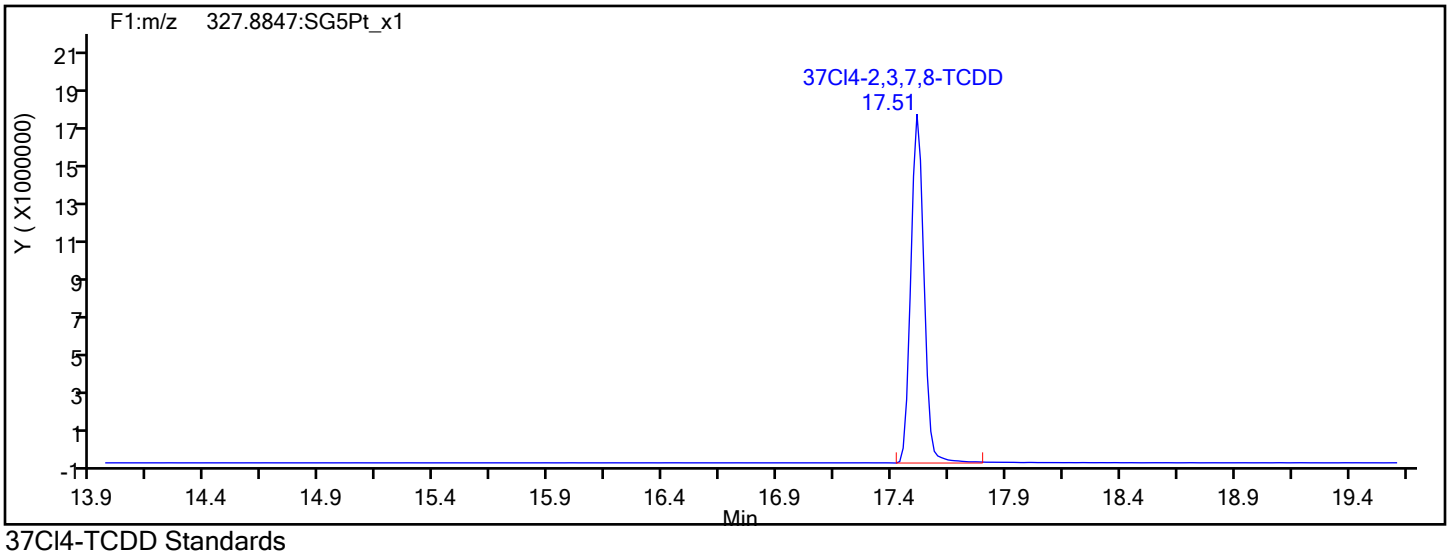

37Cl4-TCDD Standards

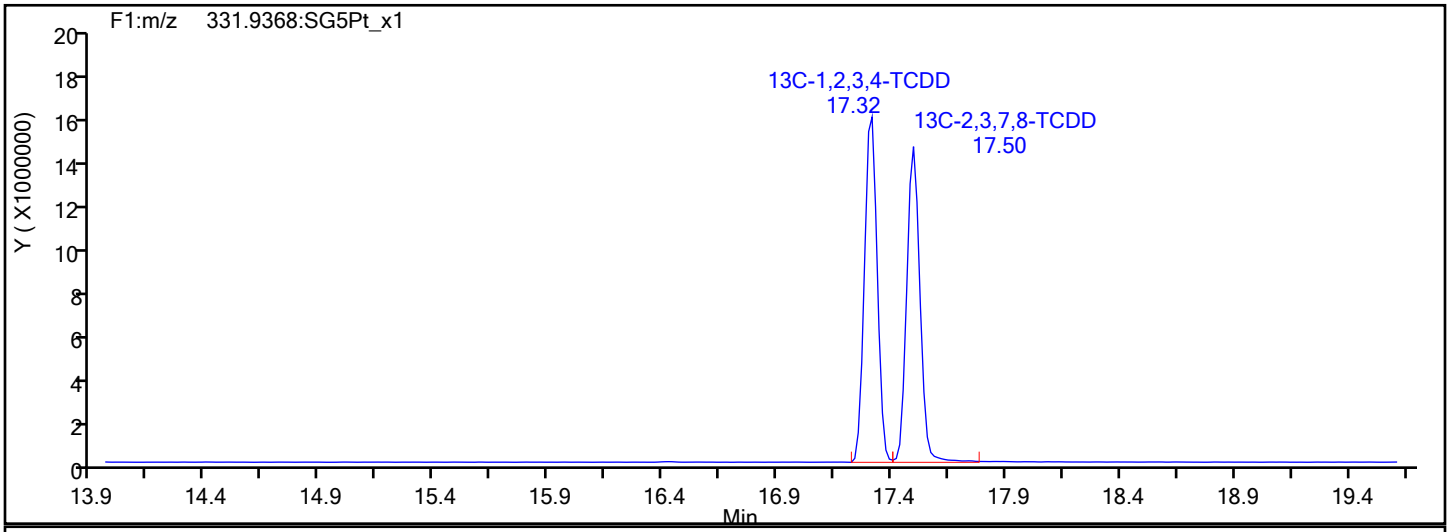

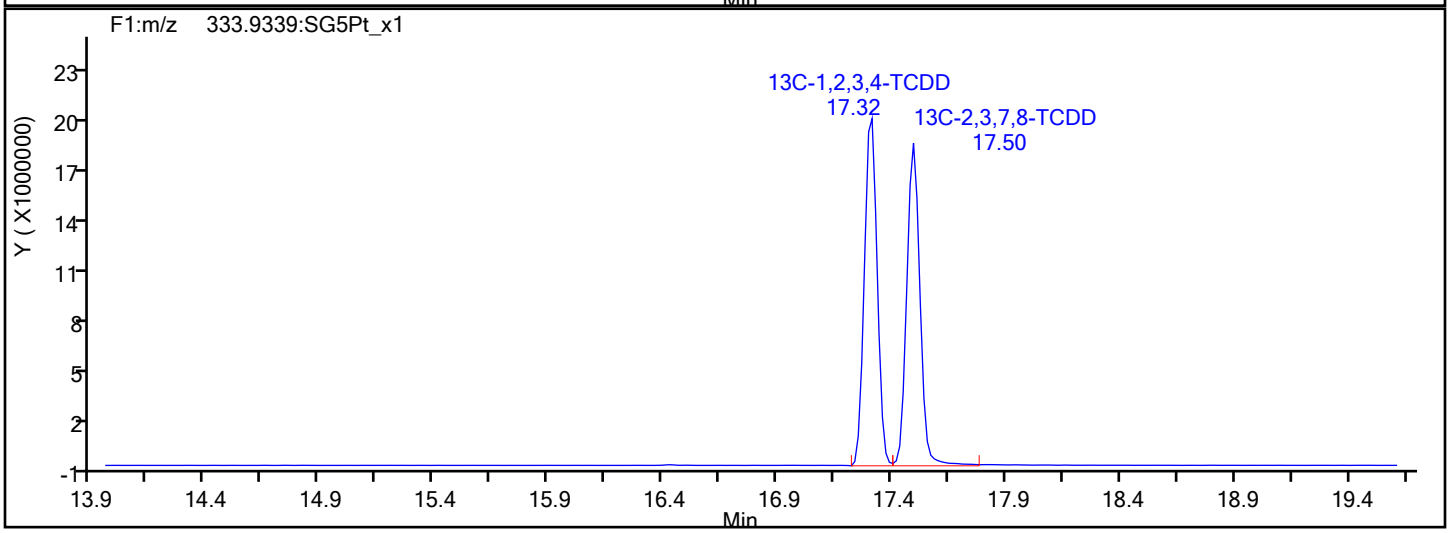

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

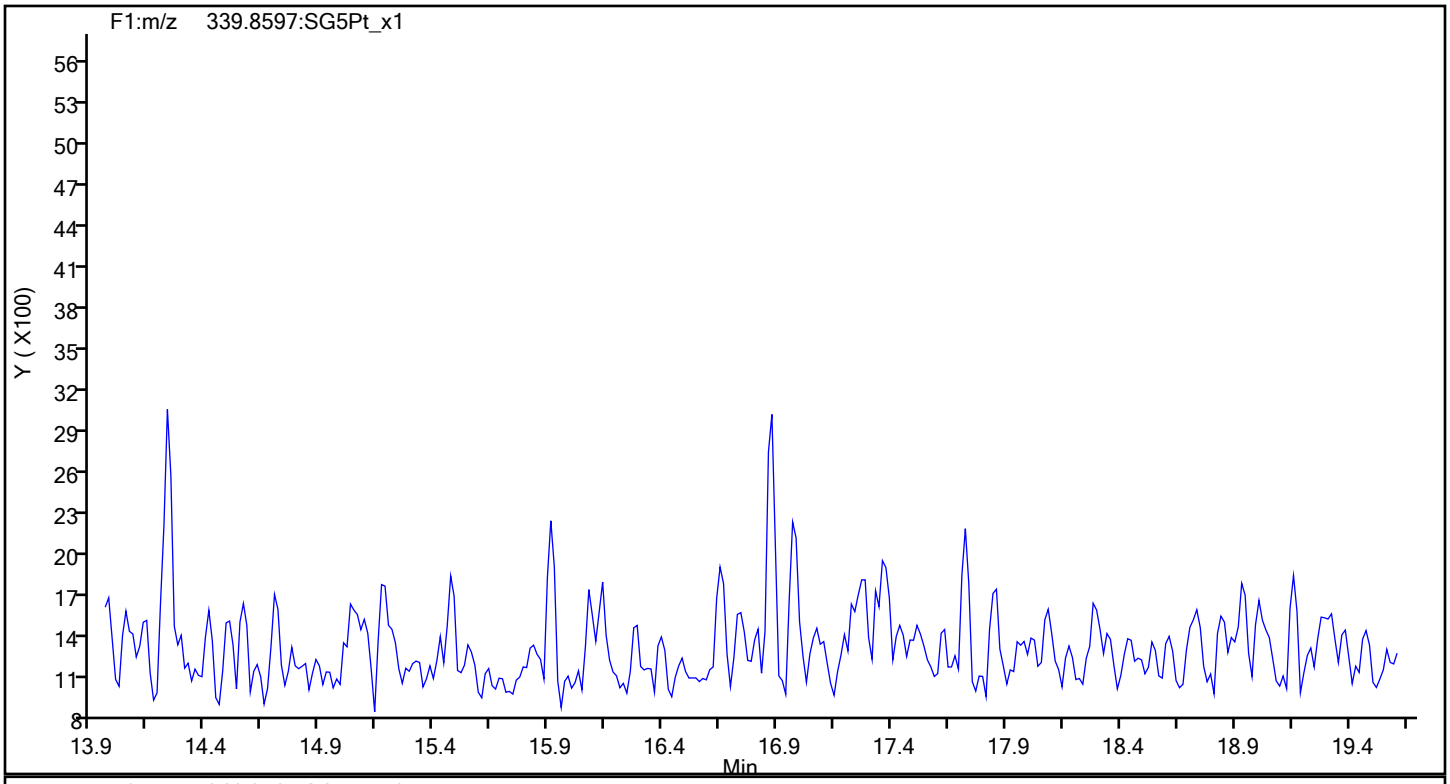

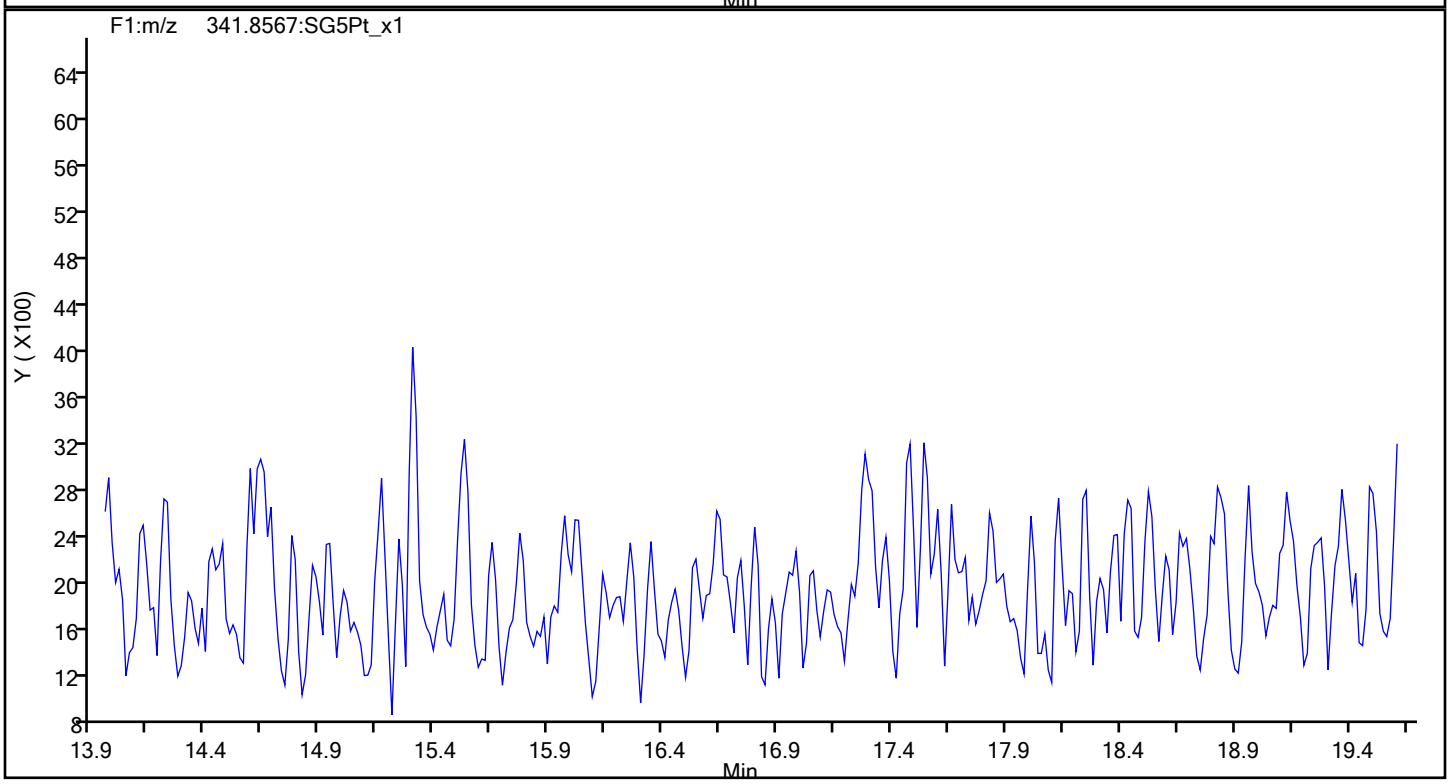

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

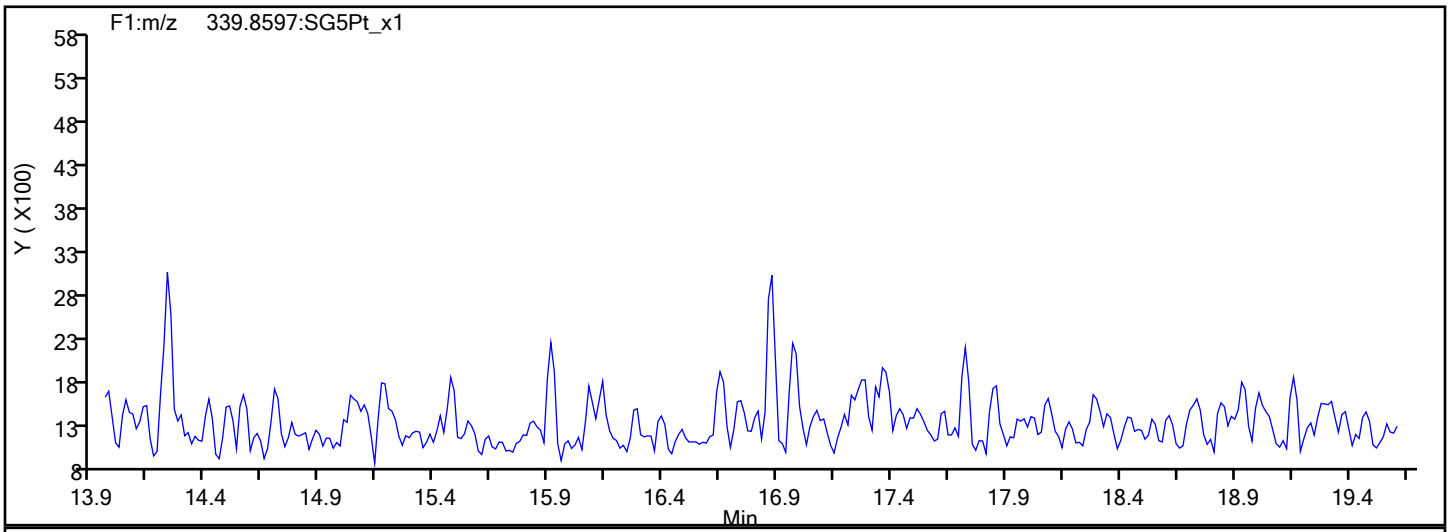

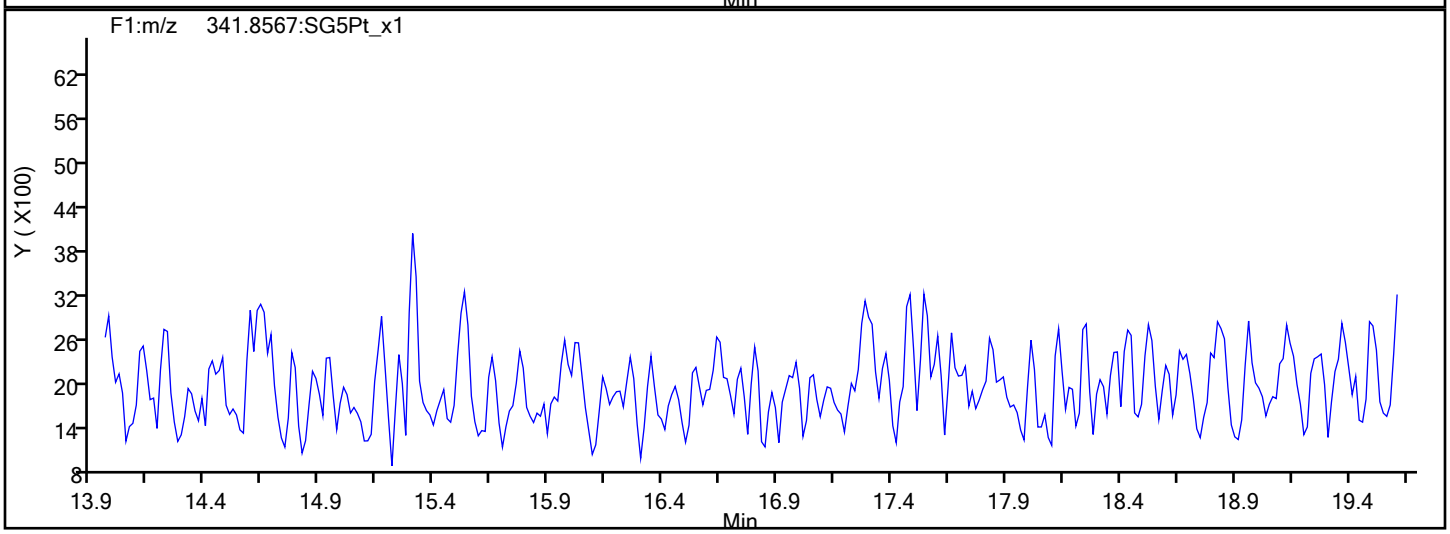

F1 PeCDFs Interference Mass

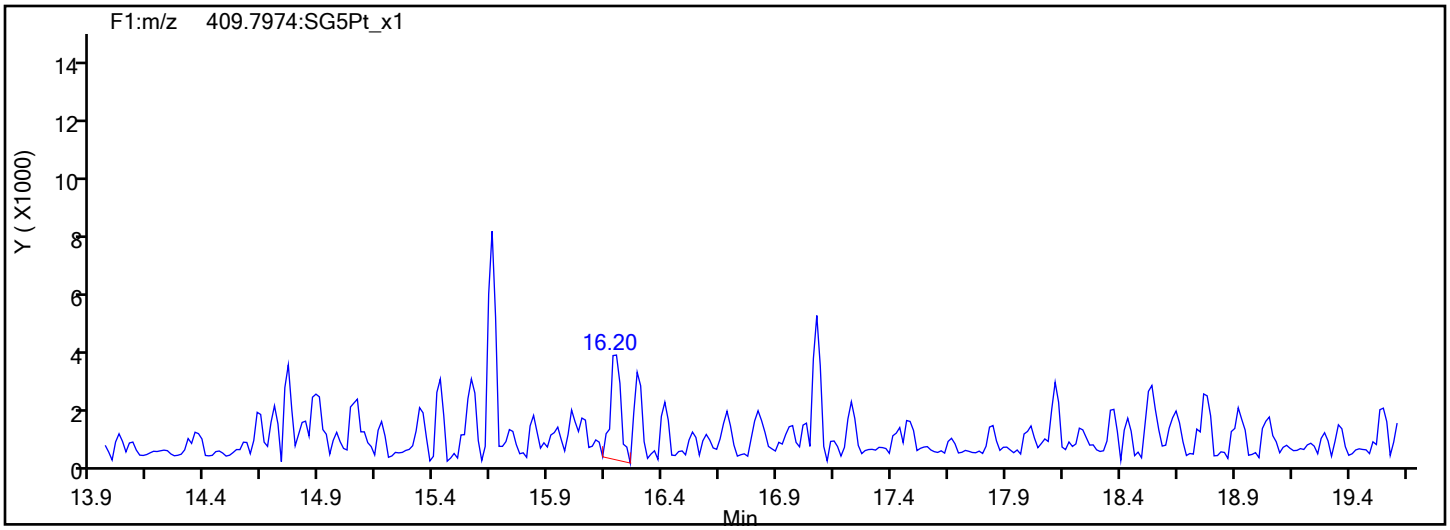

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Eurofins TestAmerica, Sacramento

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PeCDF

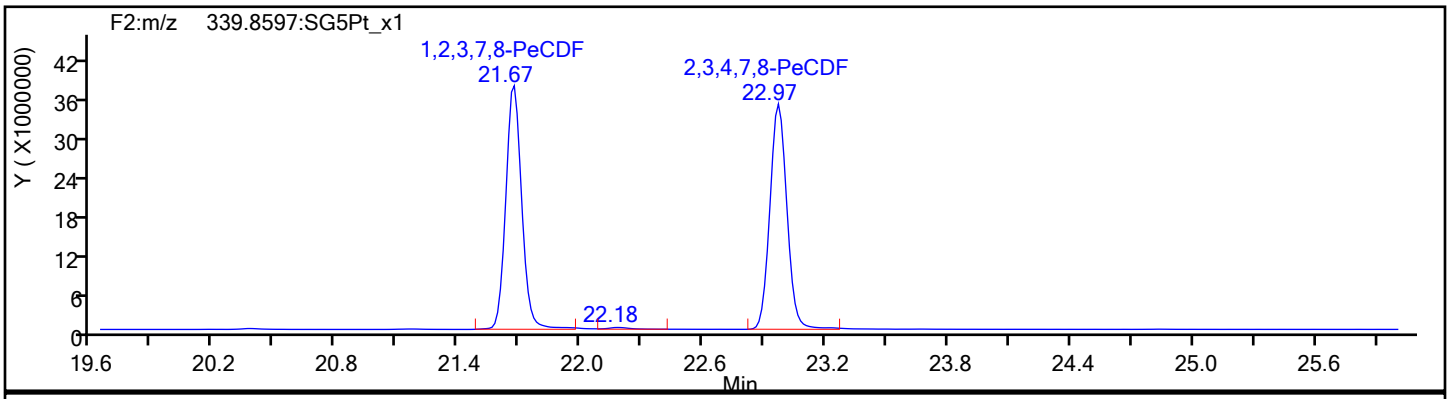

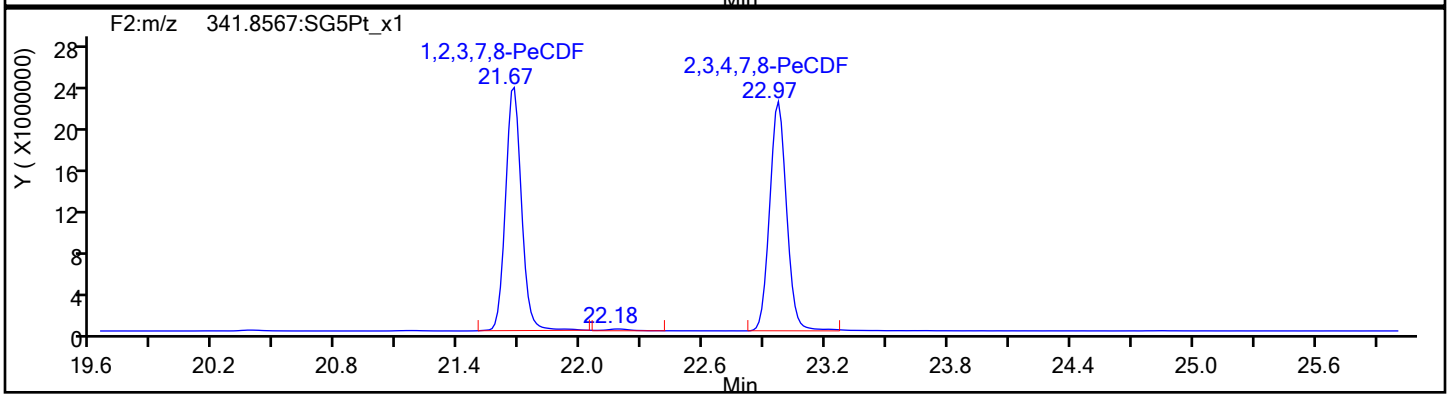

PeCDF Standards

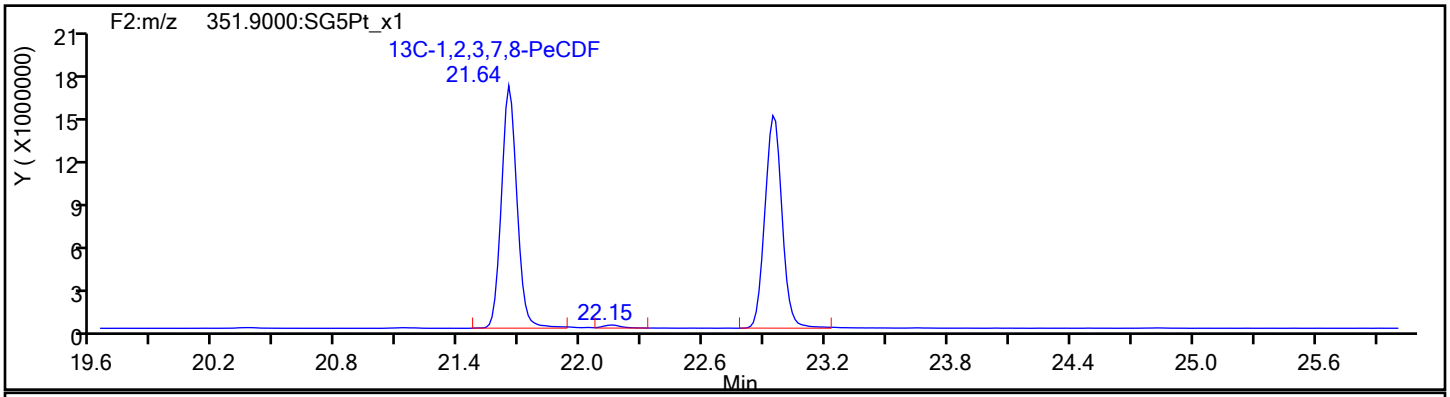

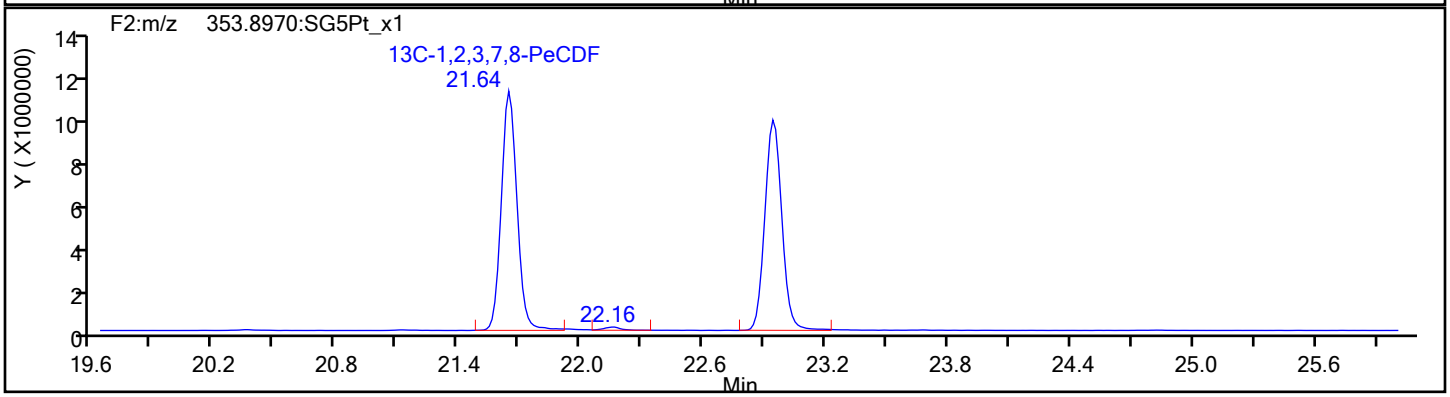

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Eurofins TestAmerica, Sacramento

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PeCDF

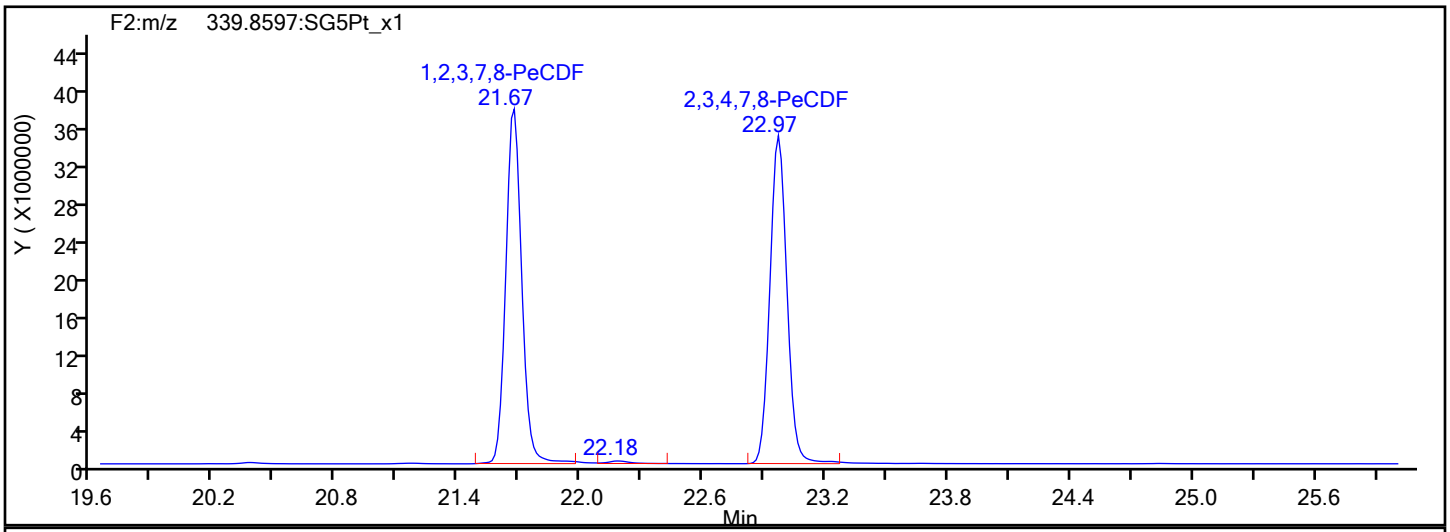

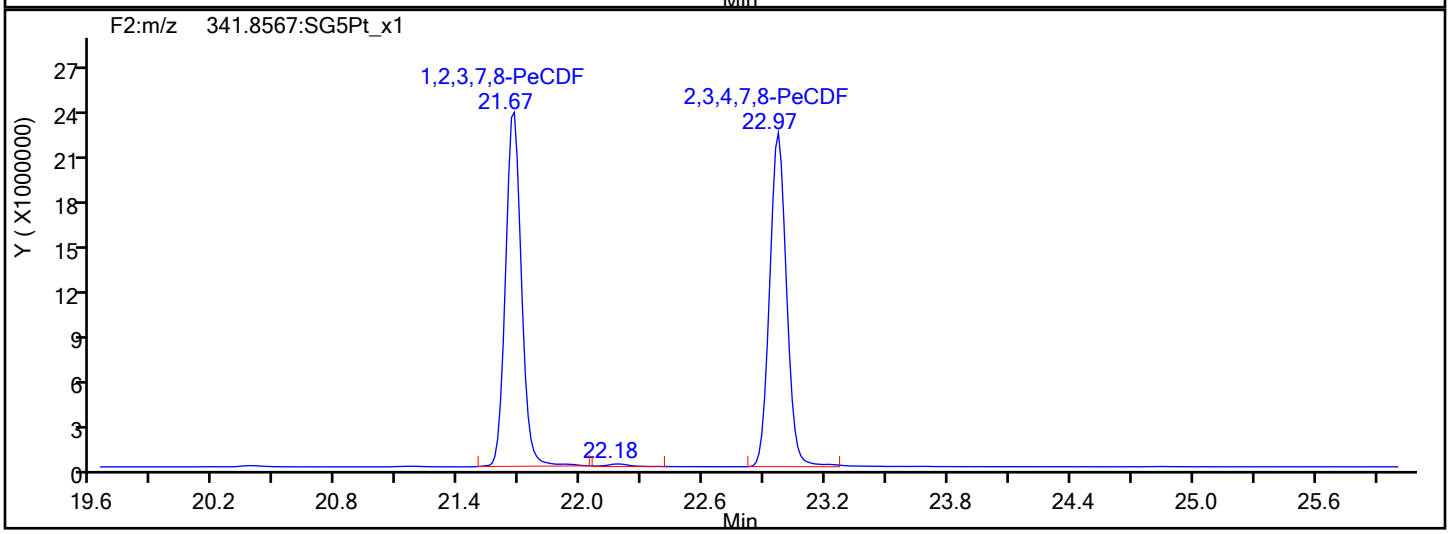

PeCDF Interference Mass

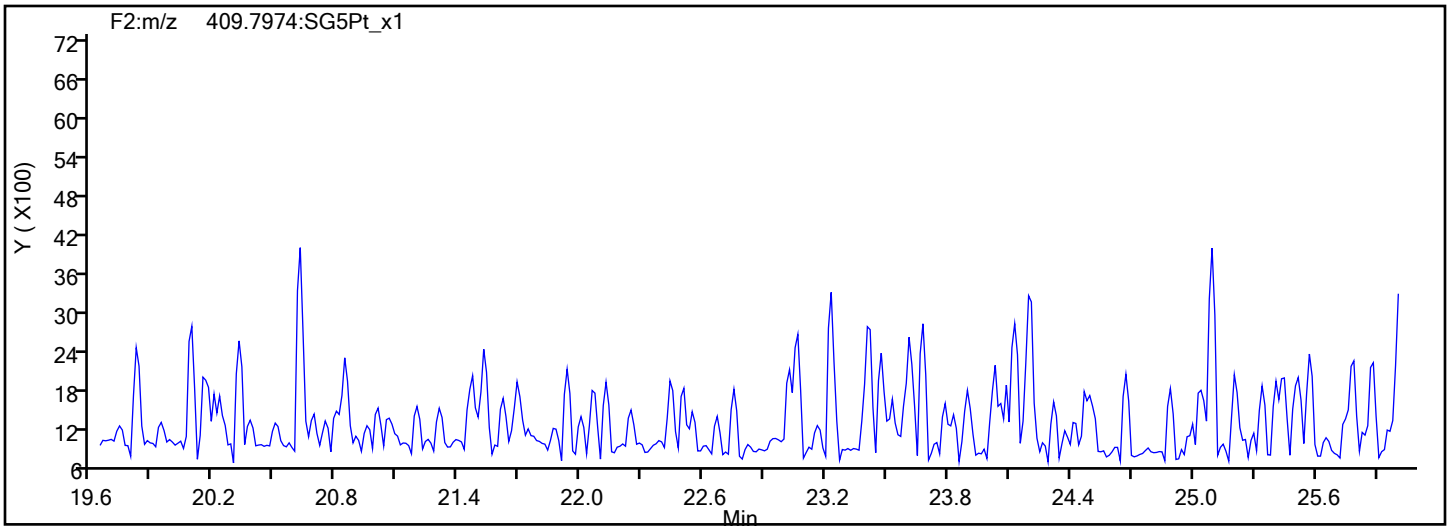

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Eurofins TestAmerica, Sacramento

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PeCDD

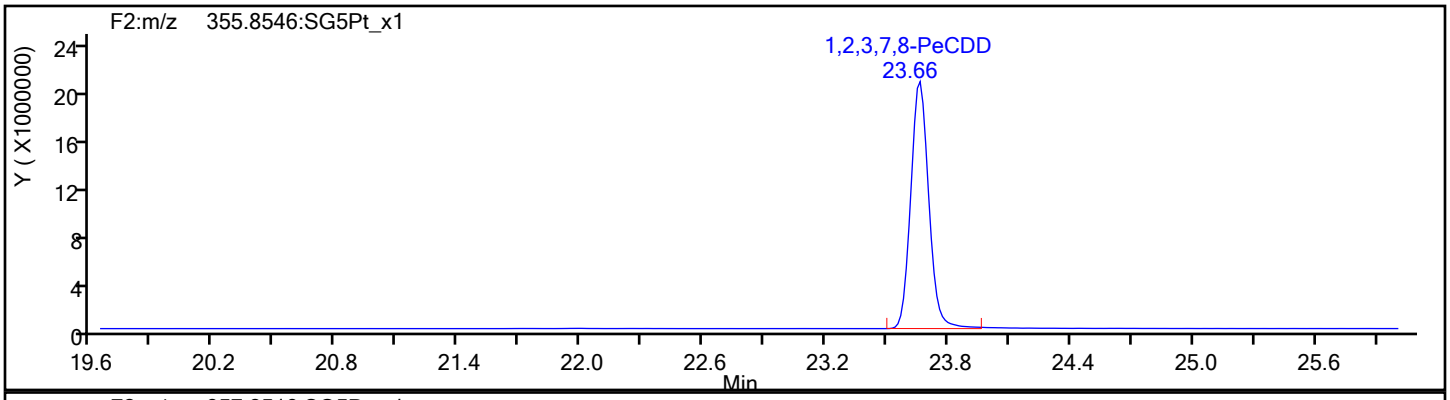

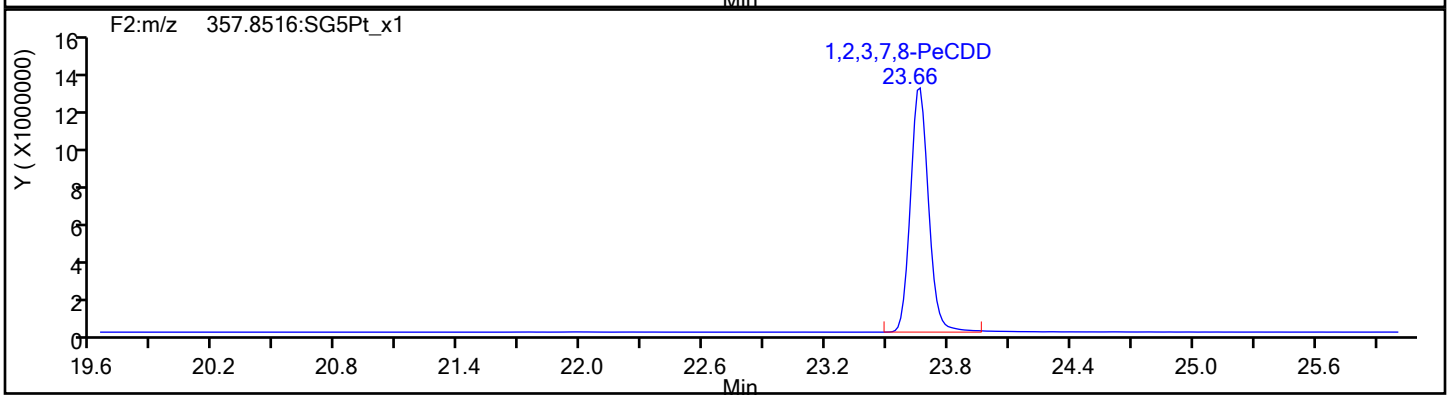

PeCDD Standards

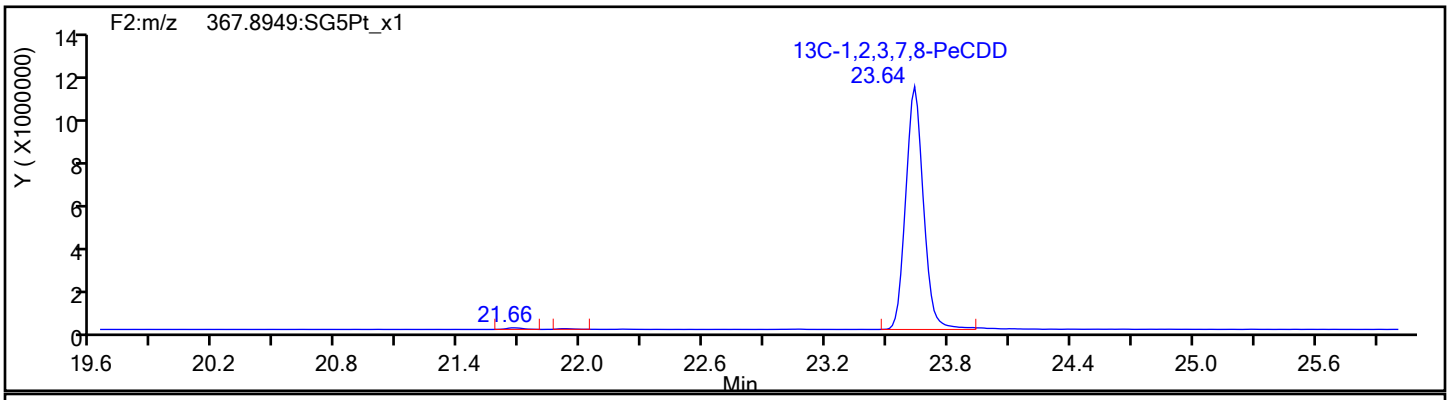

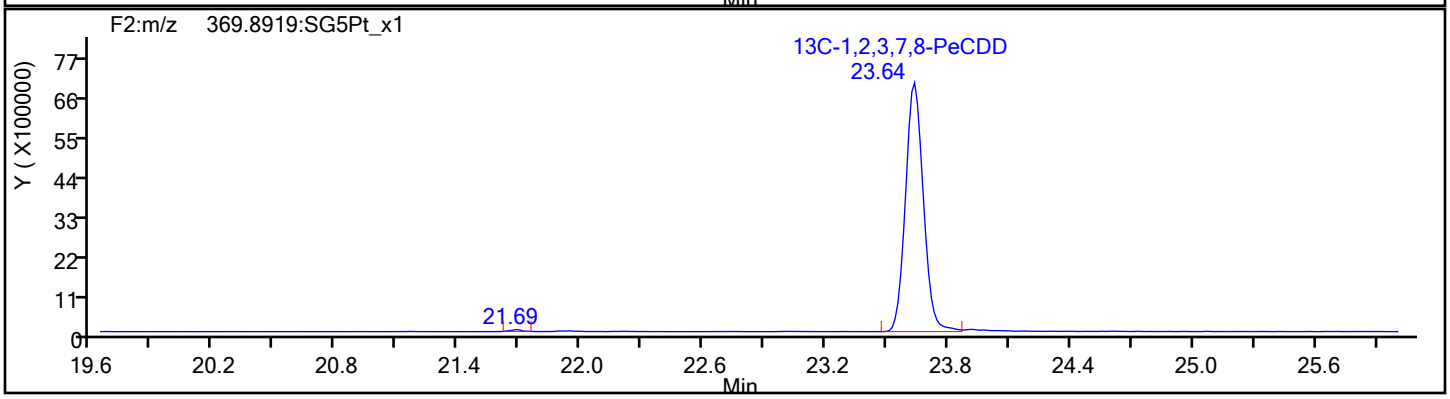

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HxCDF

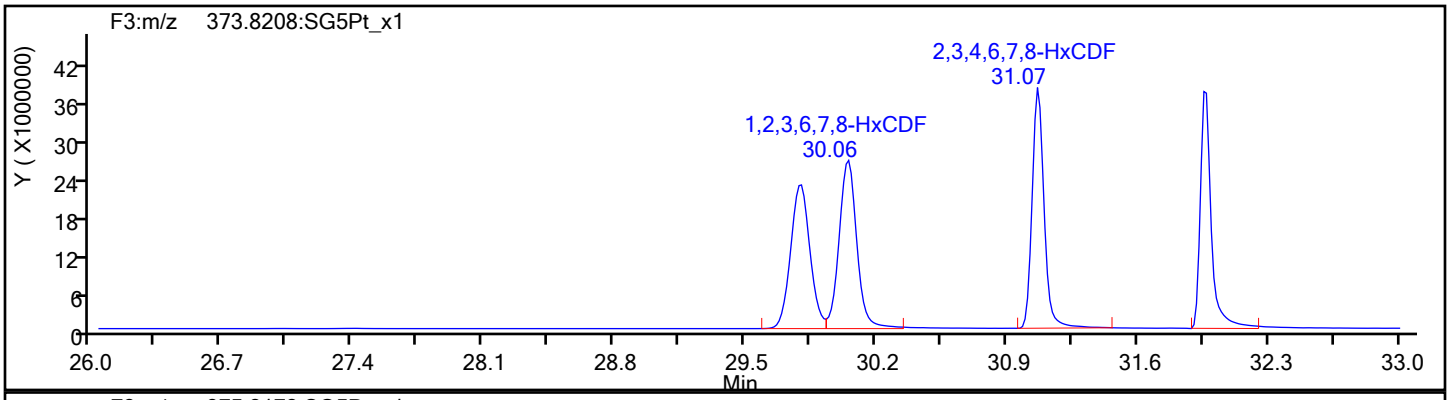

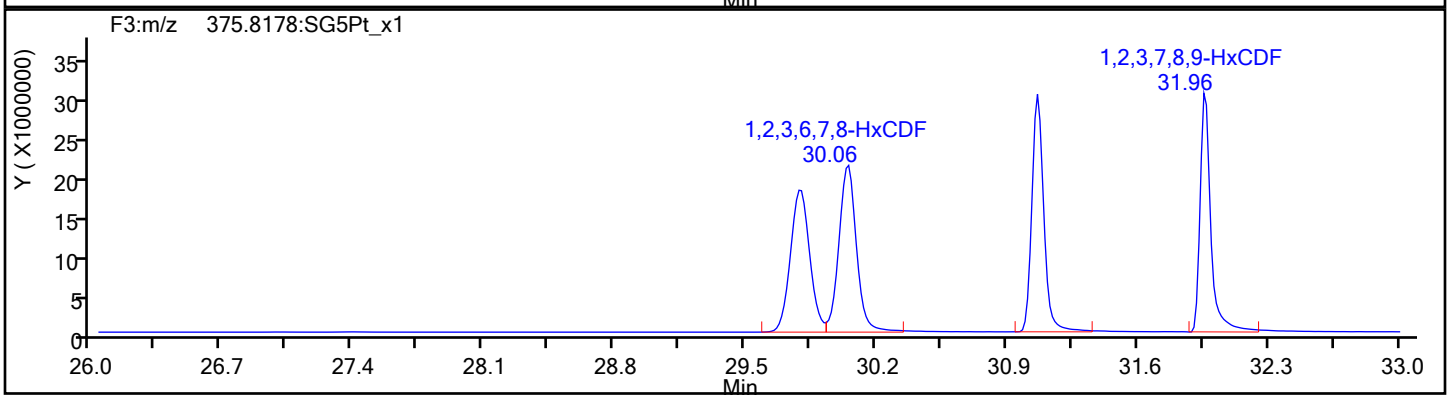

HxCDF Standards

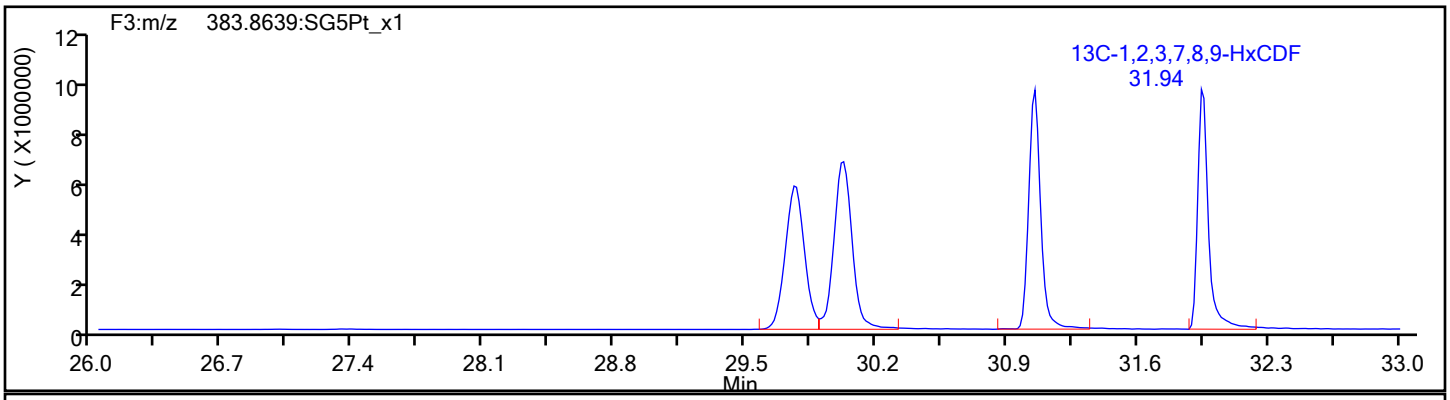

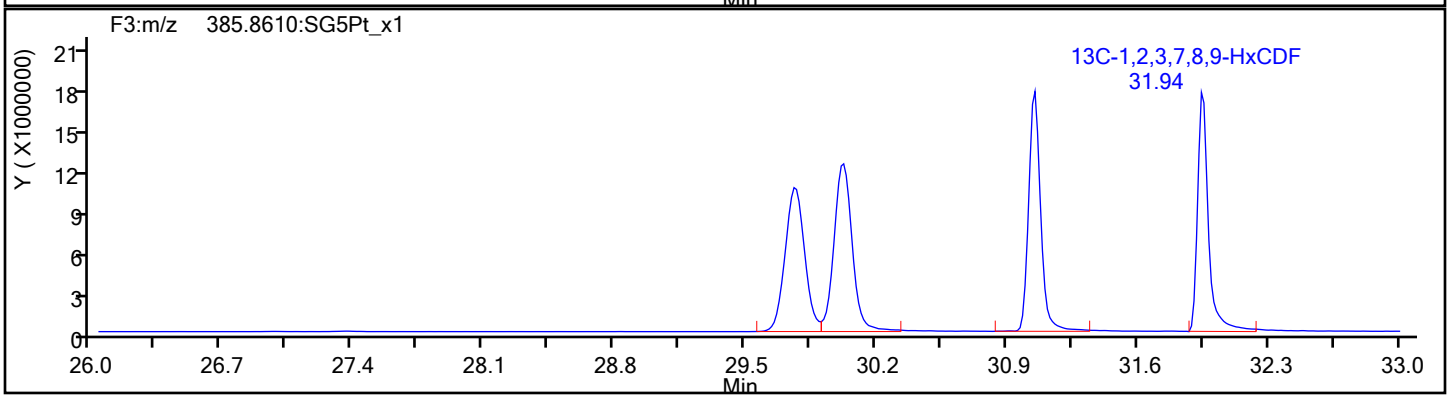

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_6.d		
Injection Date:	17-Sep-2019 15:21:22	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

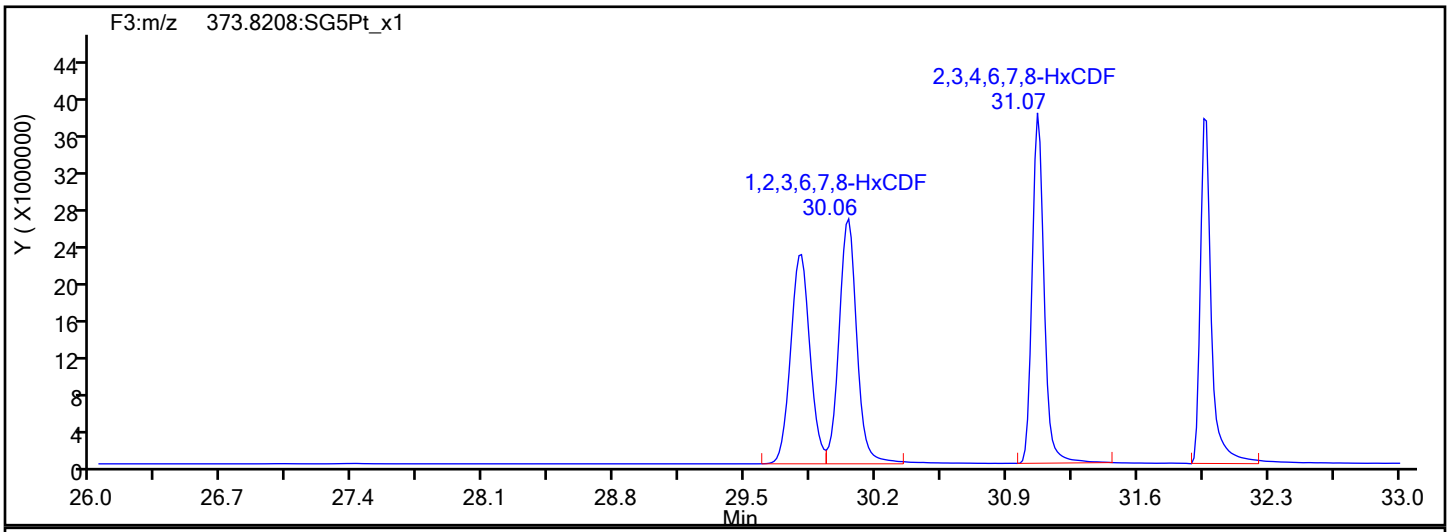

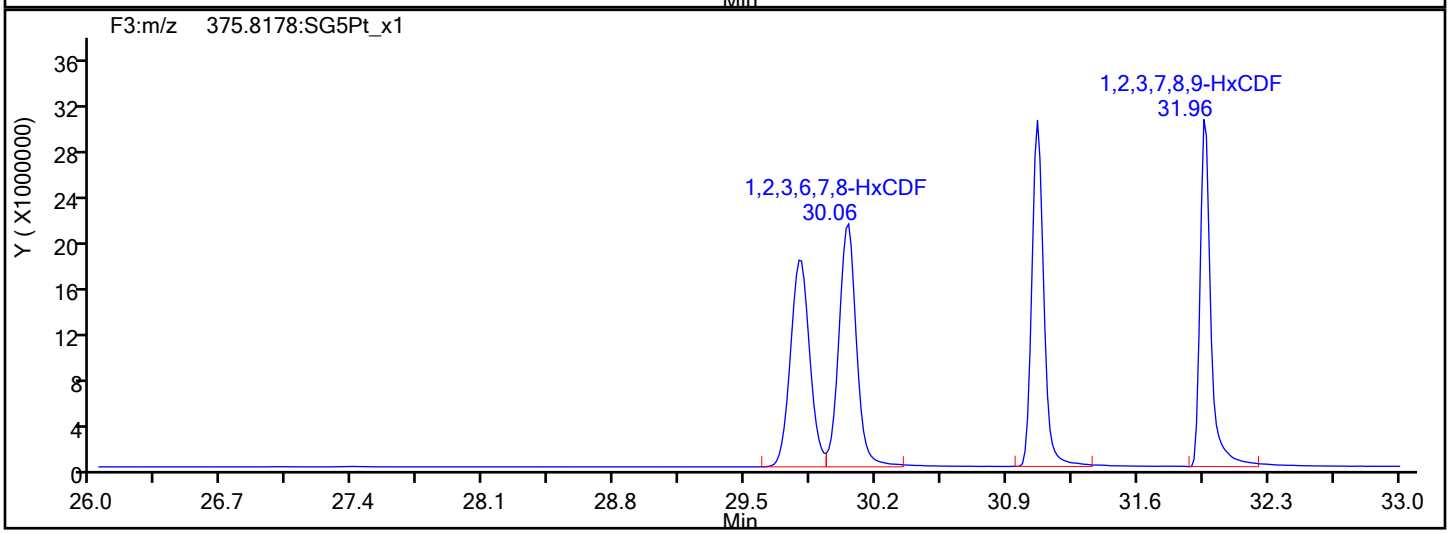

HxCDF Interference Mass

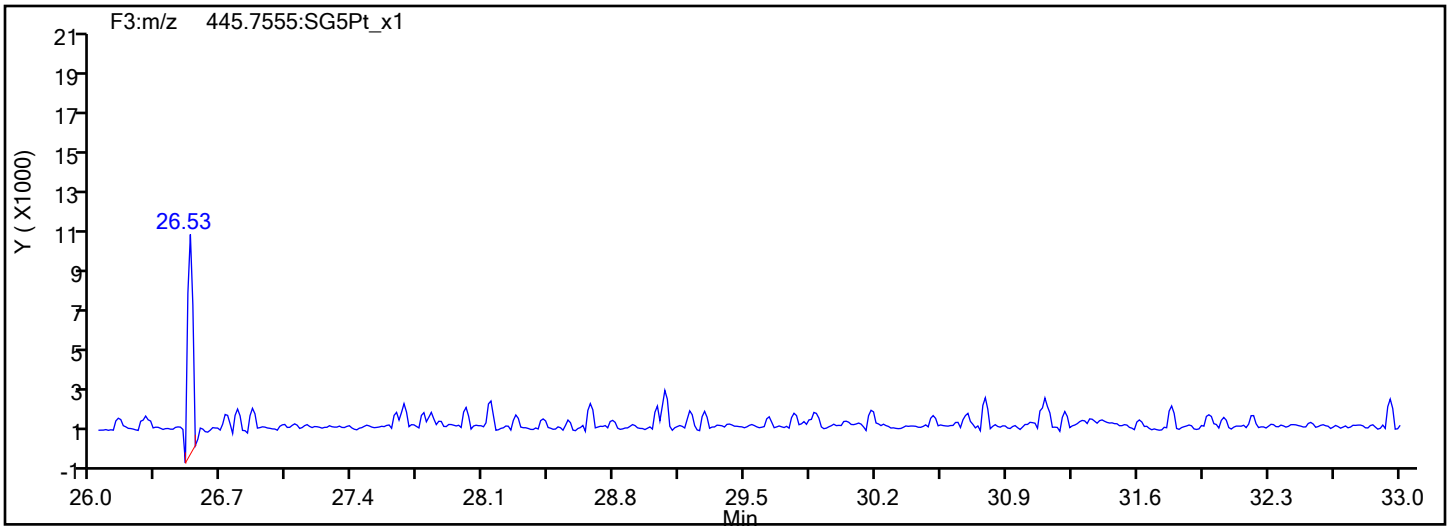

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

HxCDD

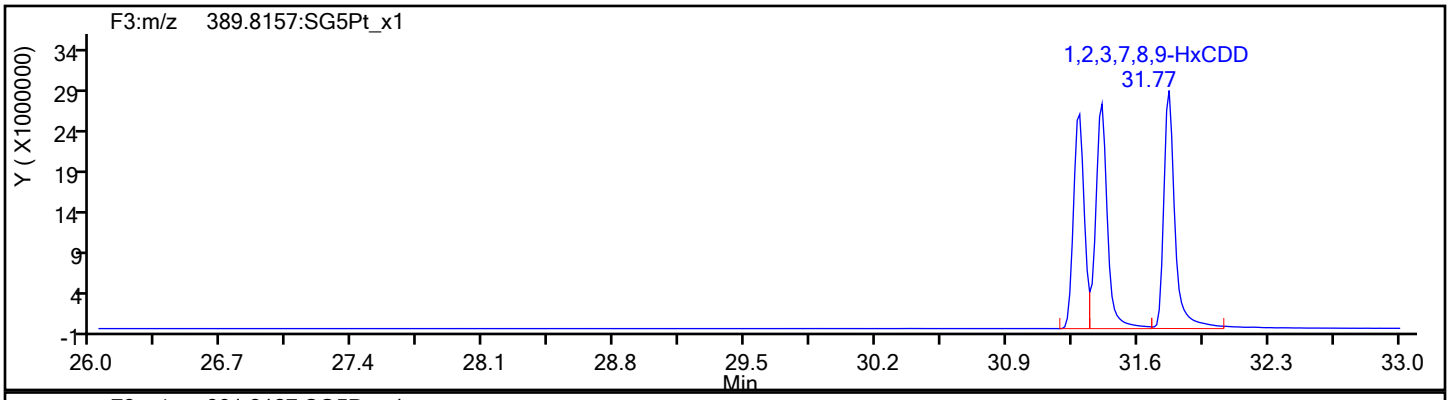

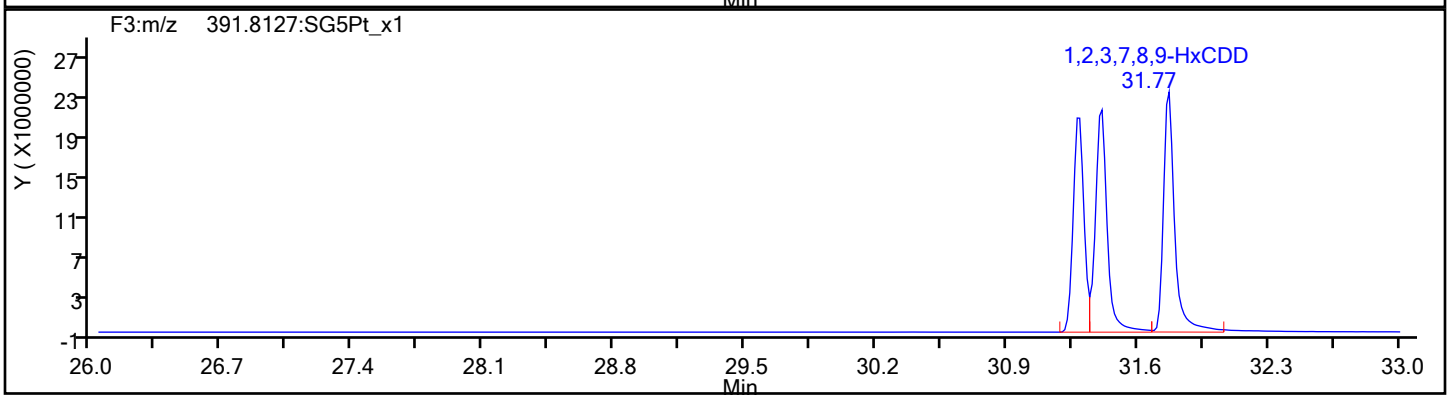

HxCDD Standards

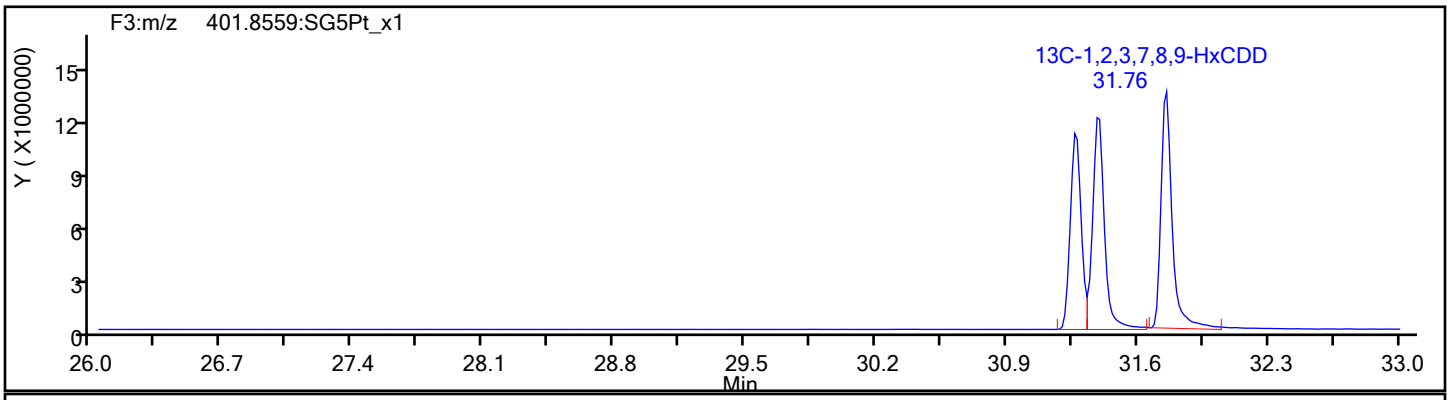

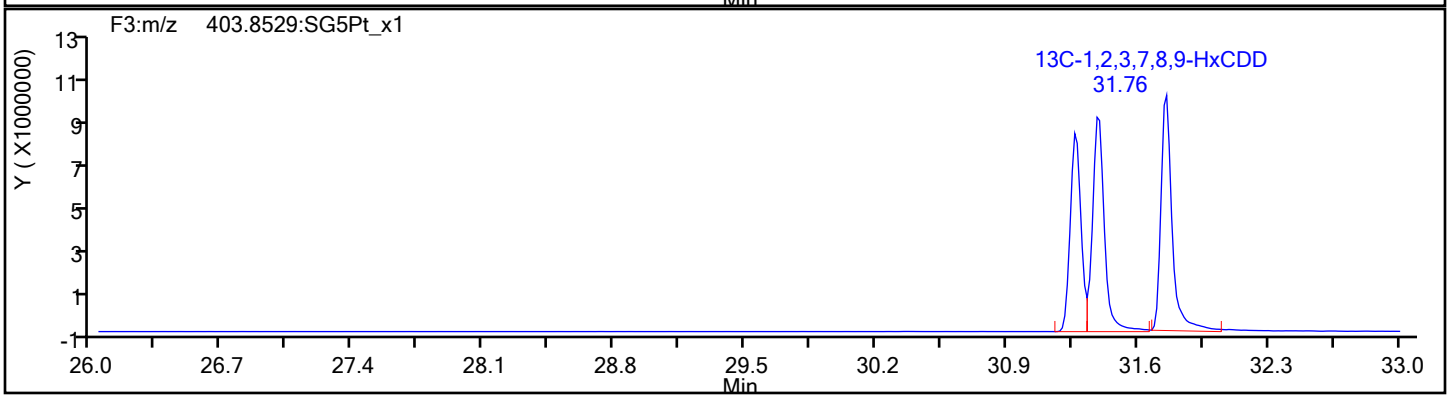

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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HpCDF

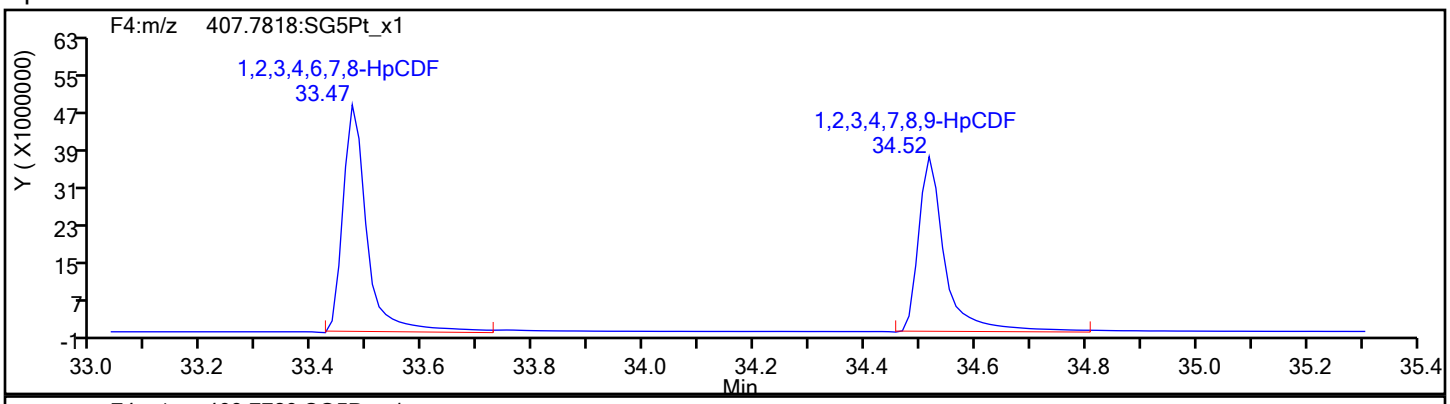

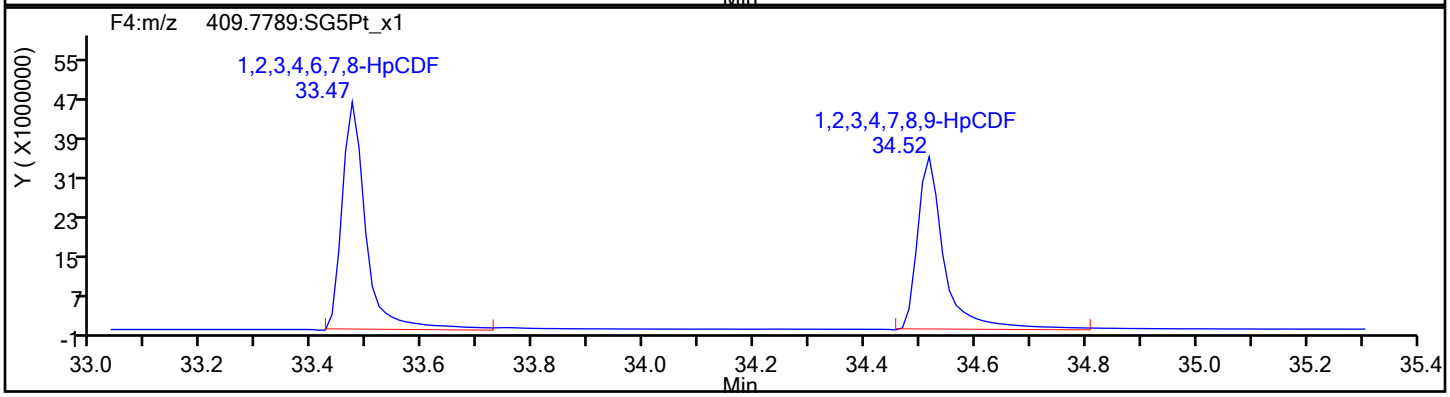

HpCDF Standards

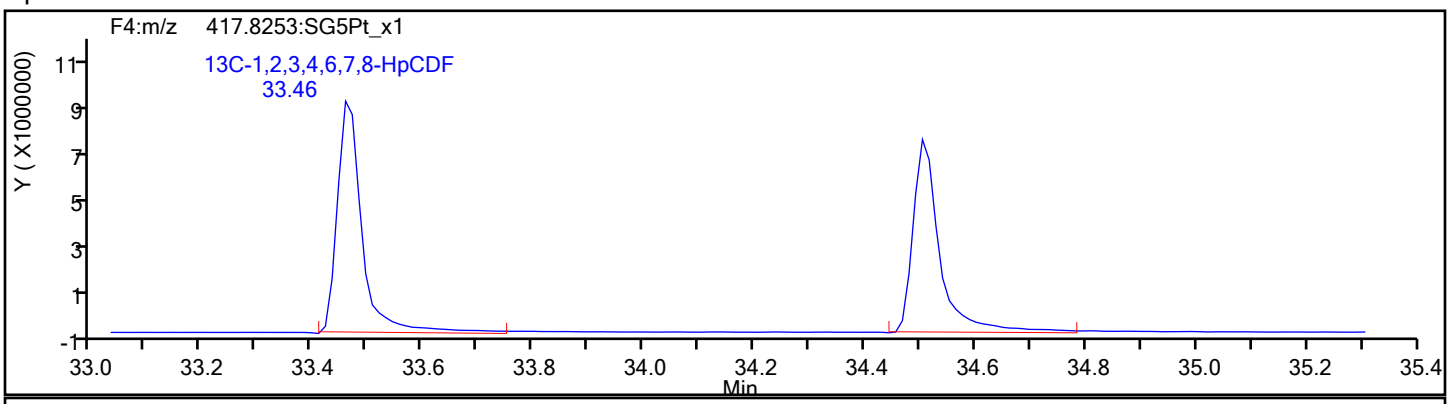

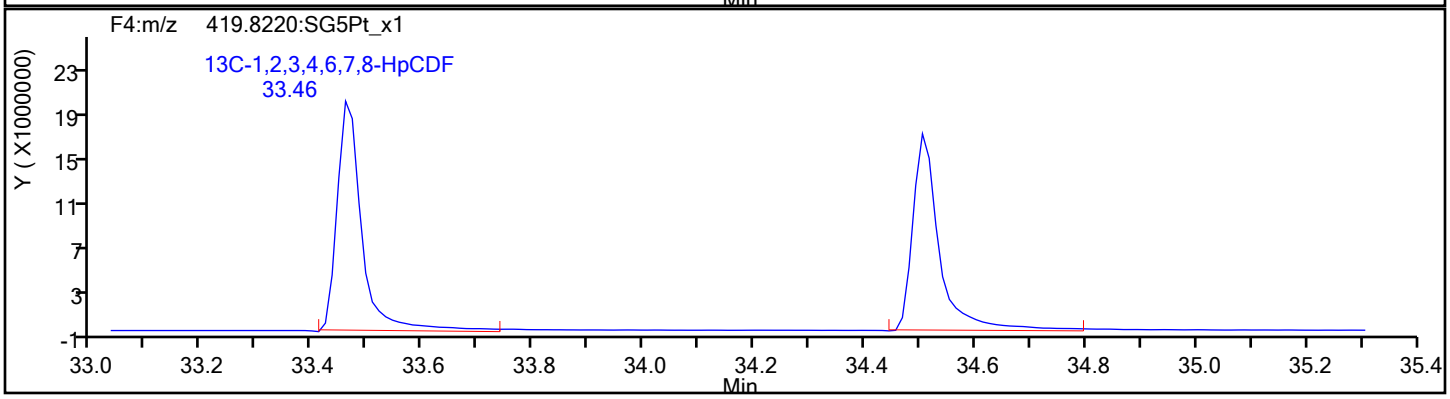

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

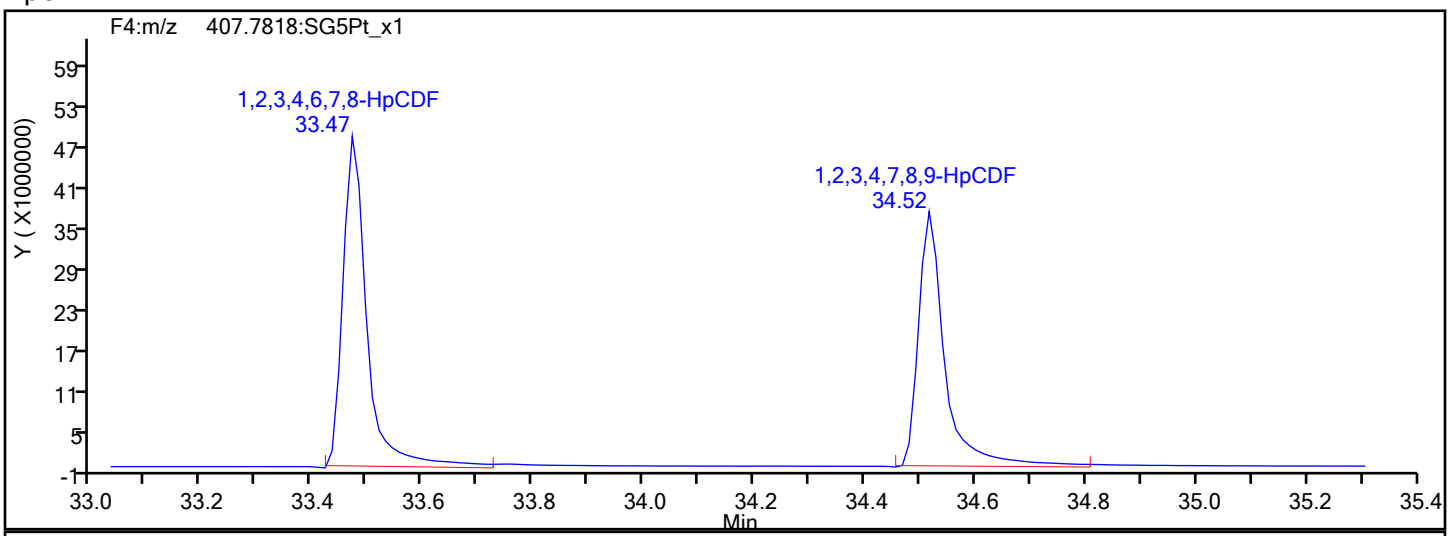

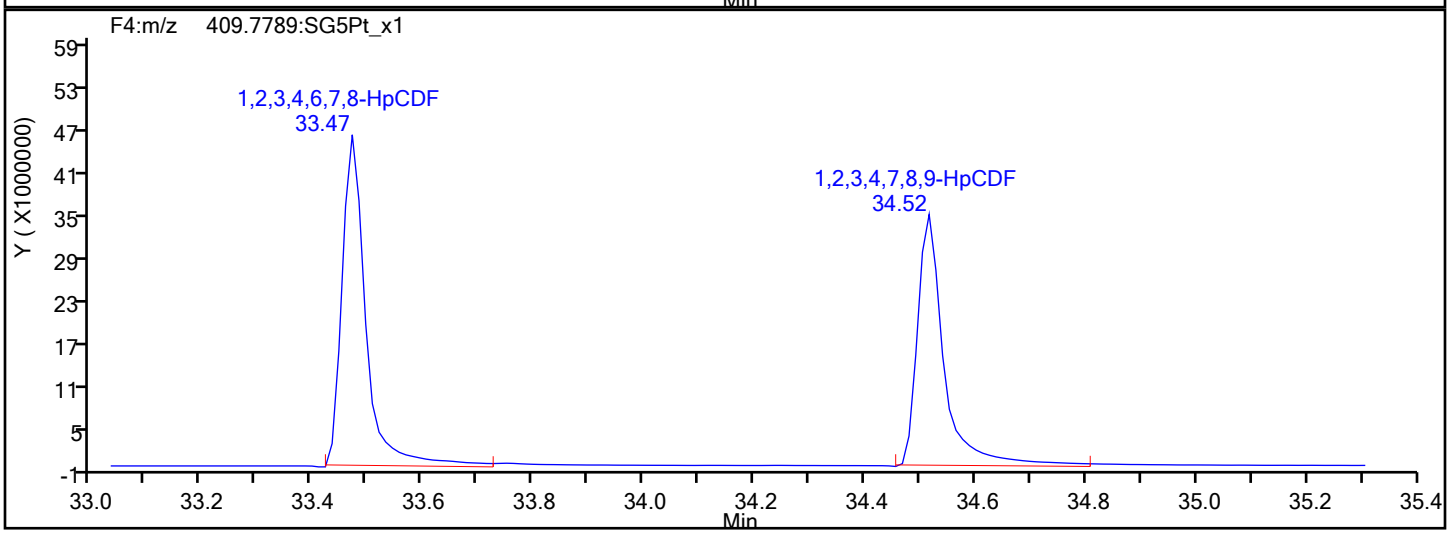

HpCDF Interference Mass

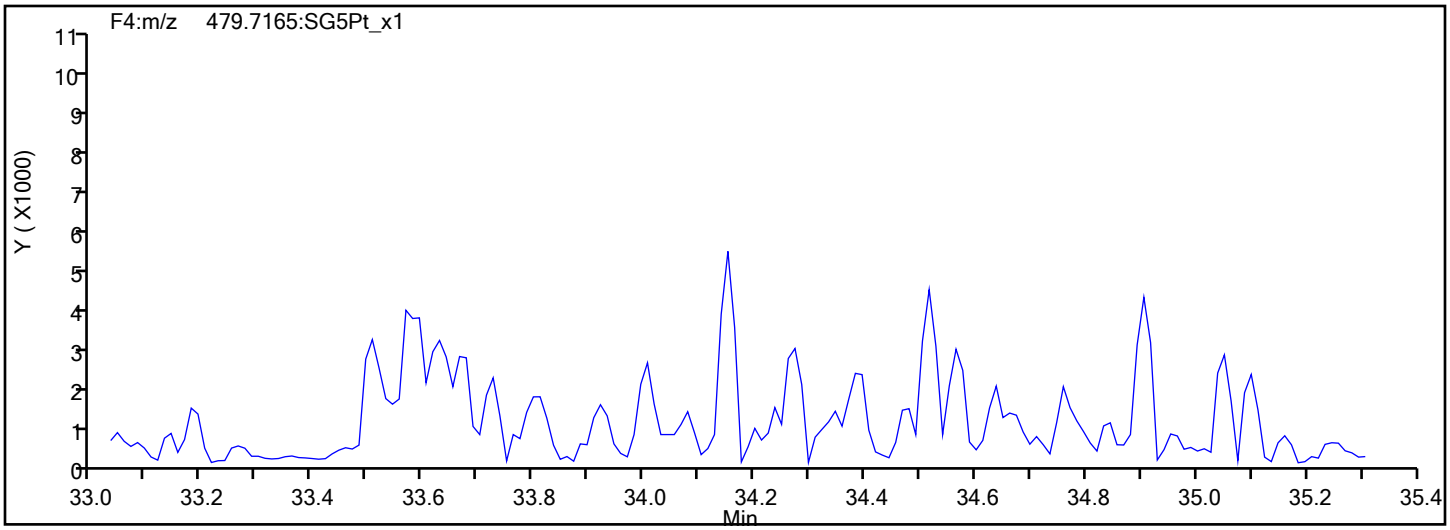

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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HpCDD

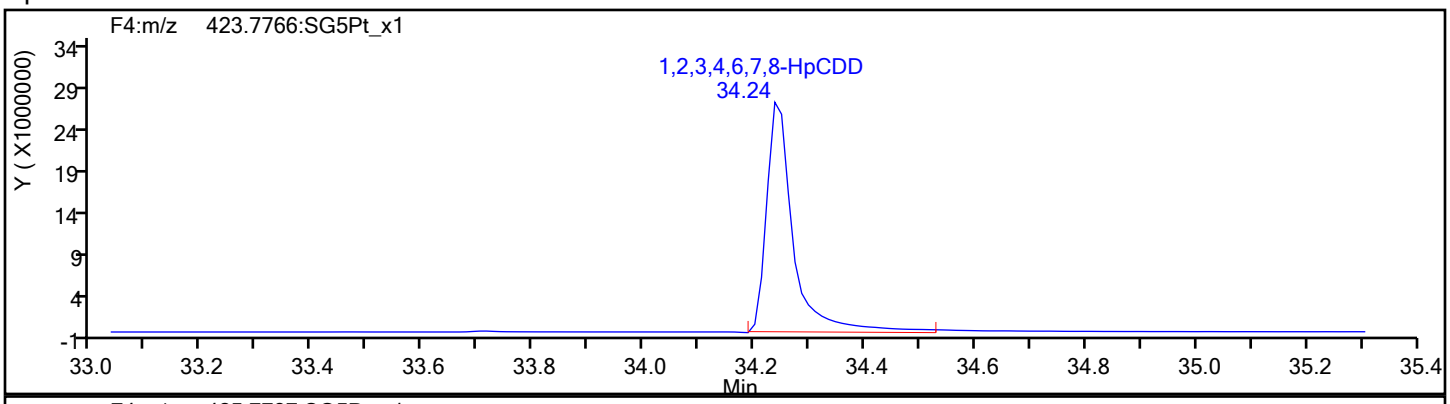

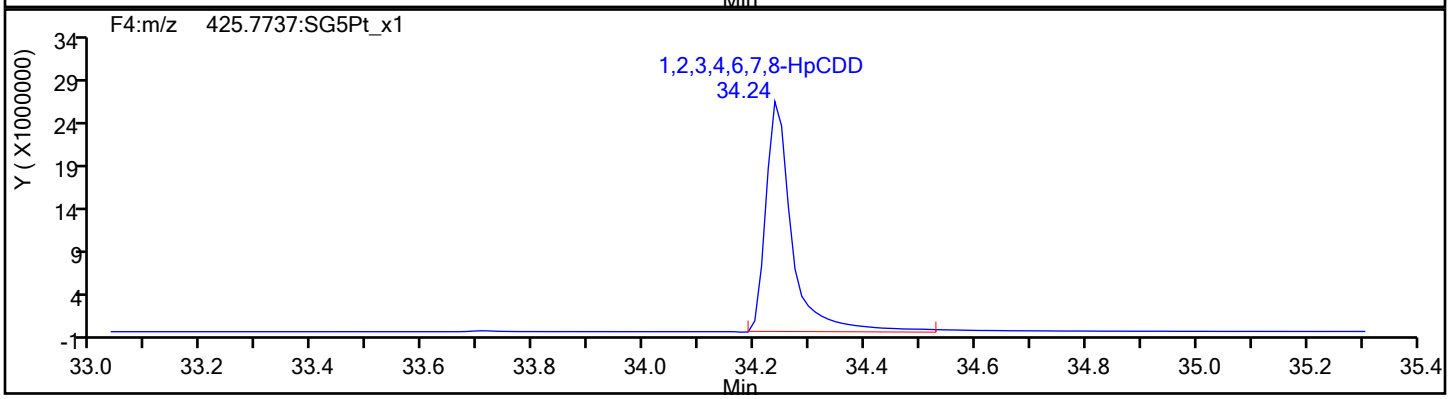

HpCDD Standards

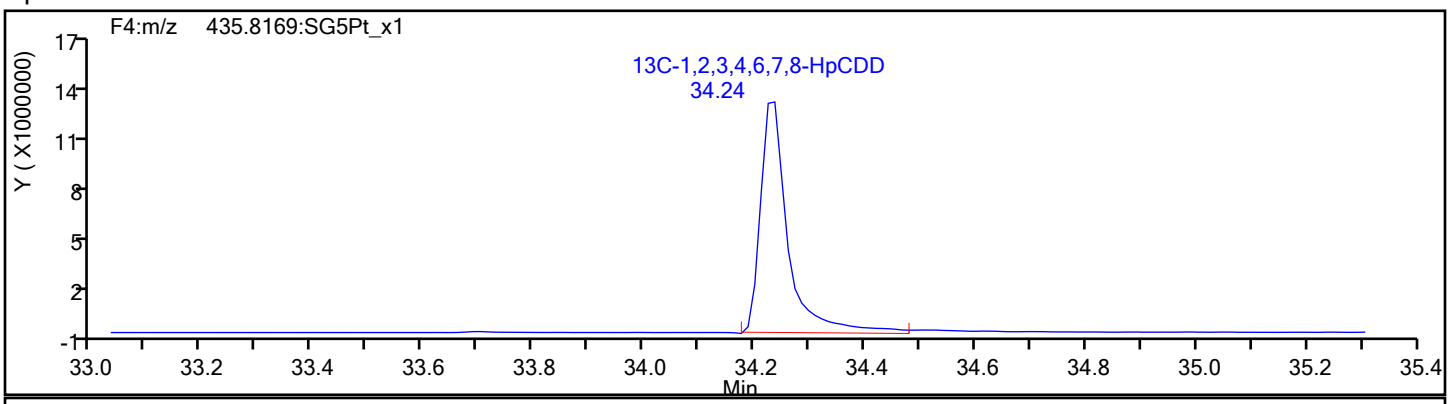

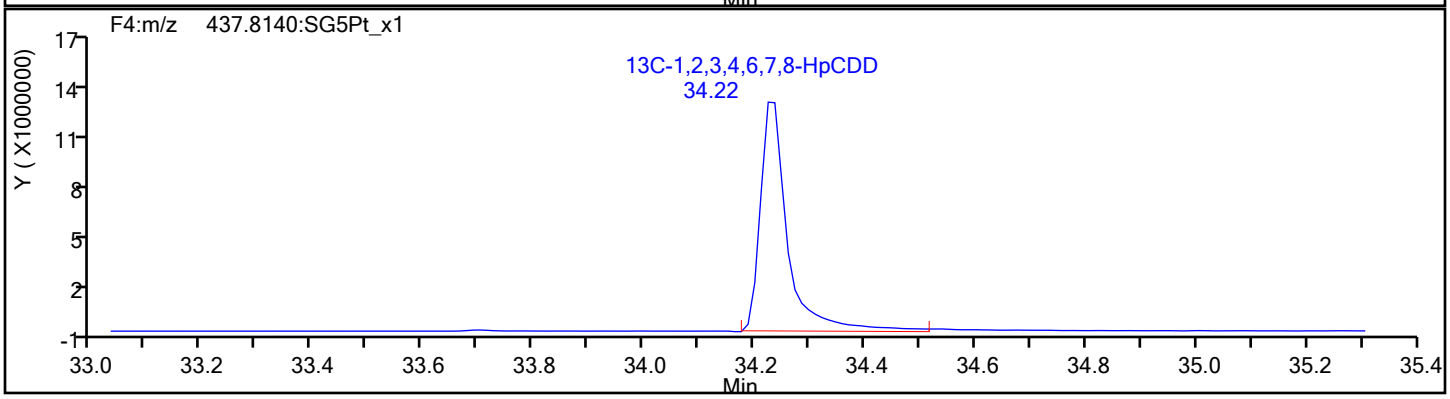

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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OCDF

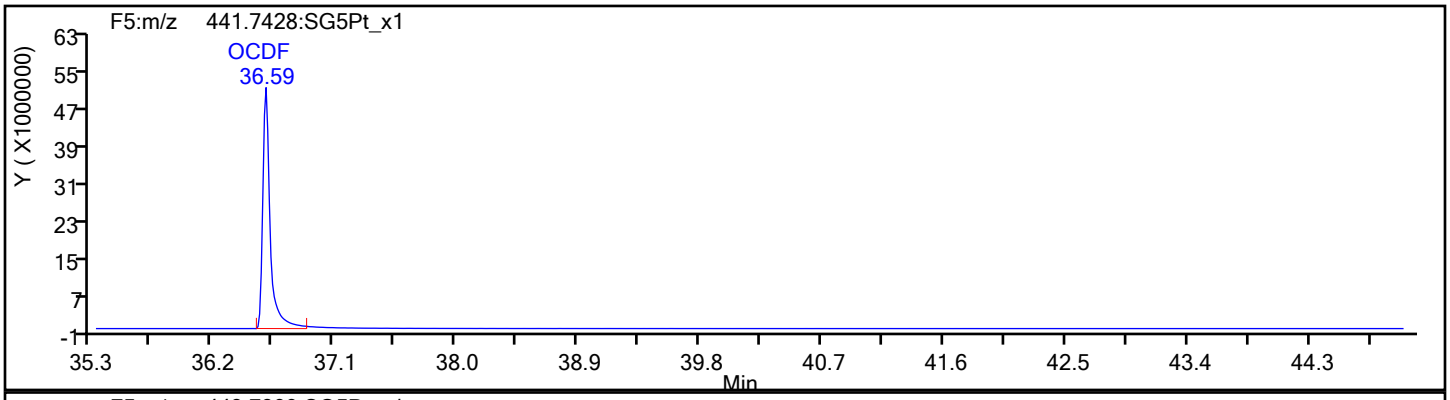

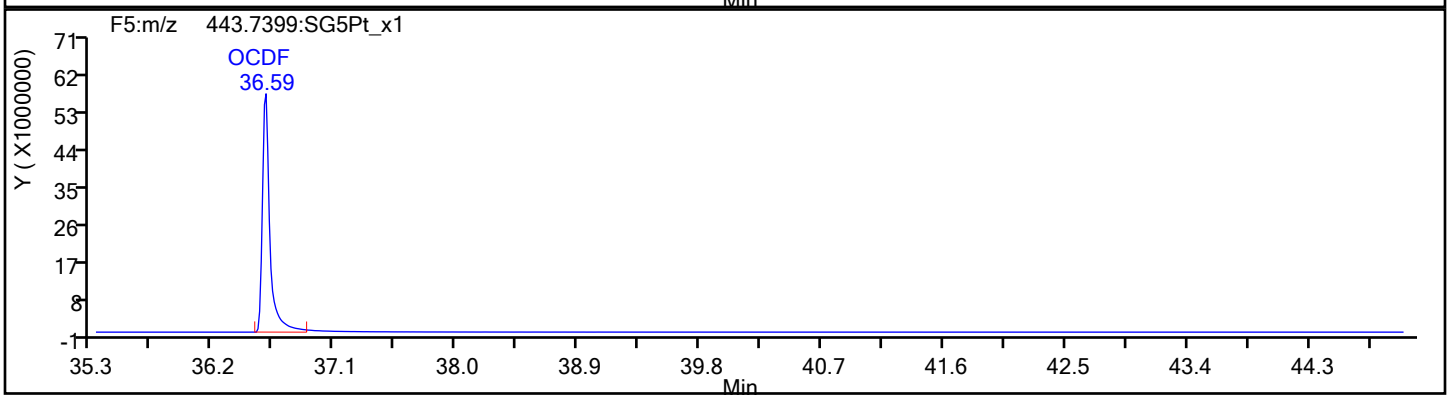

OCDF Standards

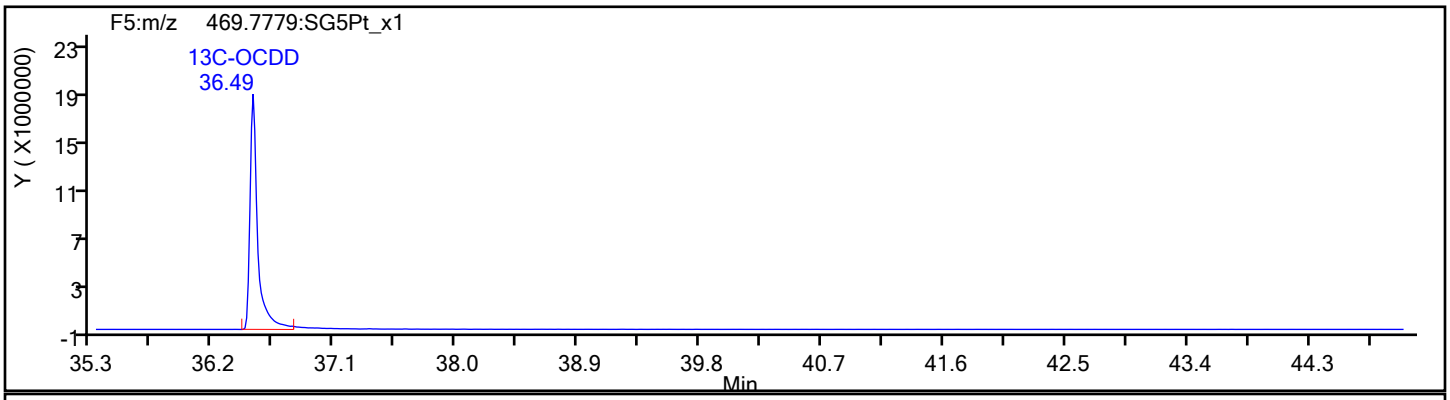

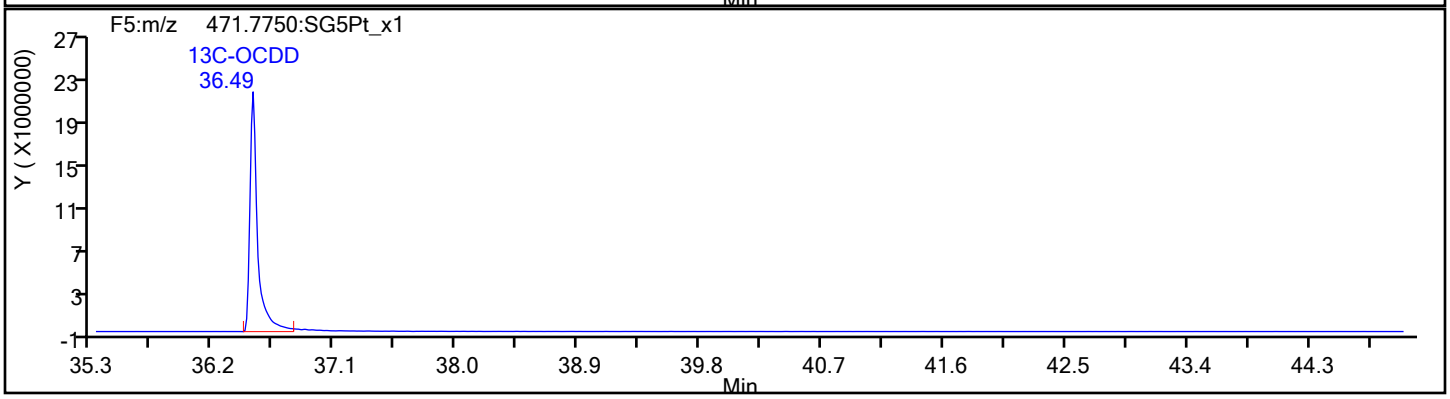

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Client ID:			
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OCDF

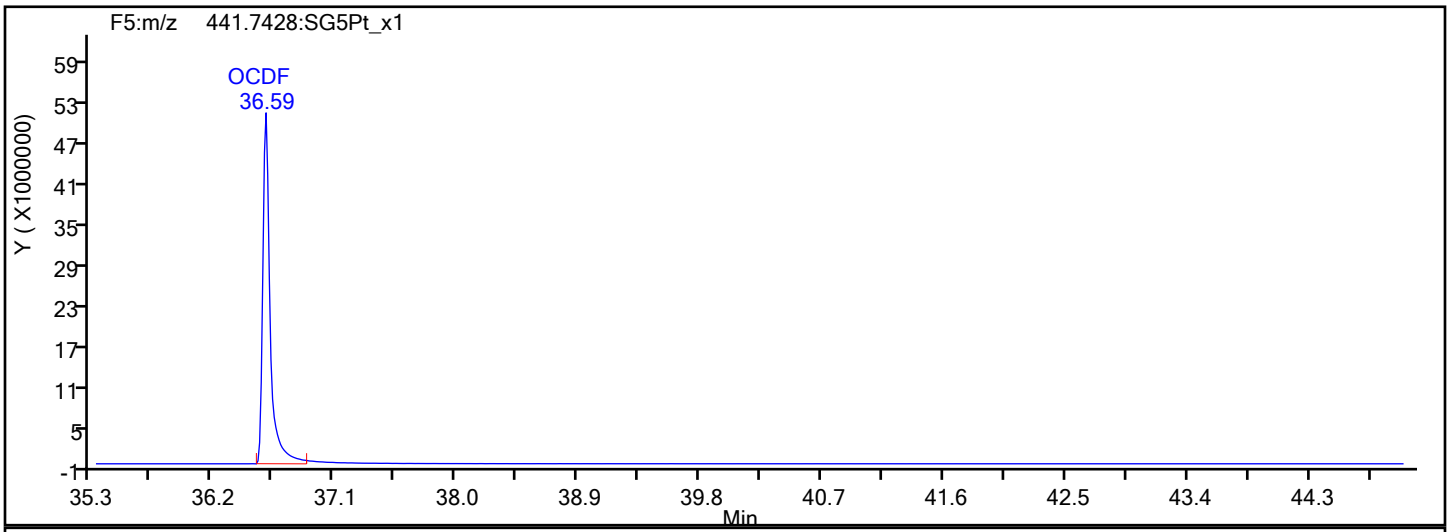

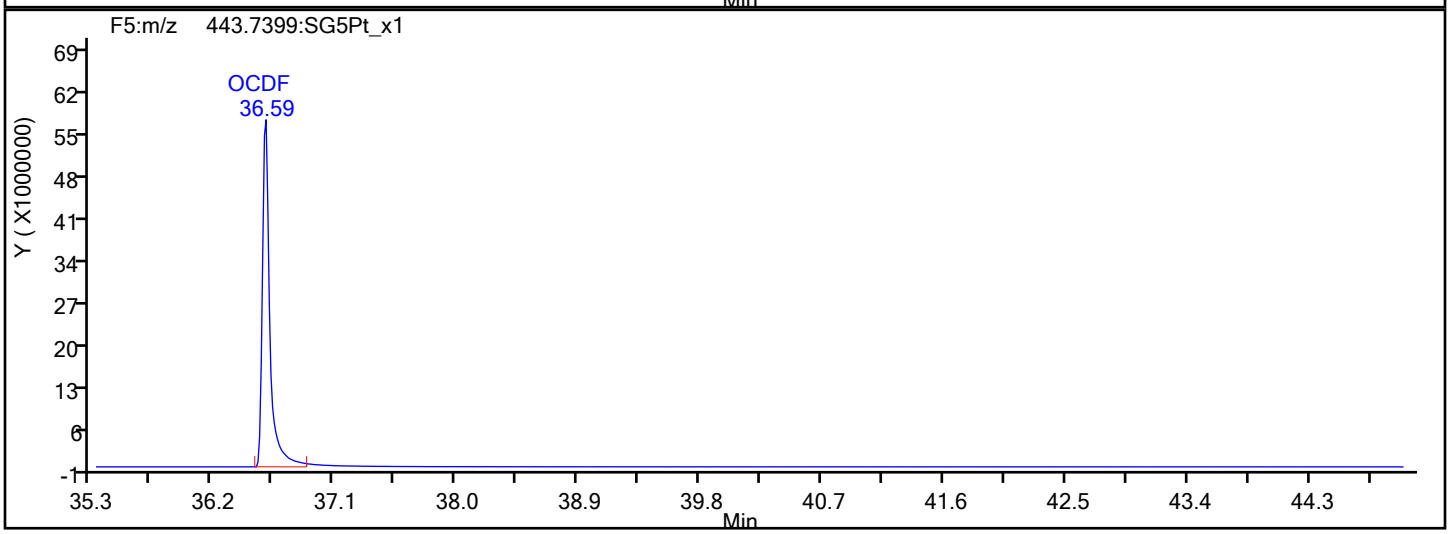

OCDF Interference Mass

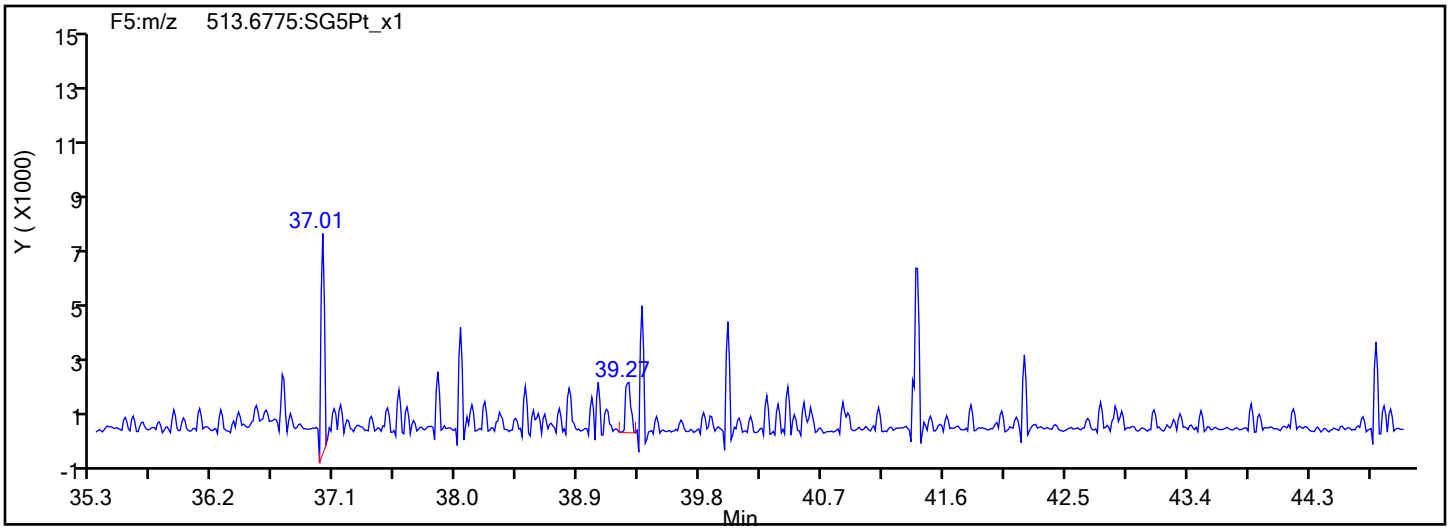

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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OCDD

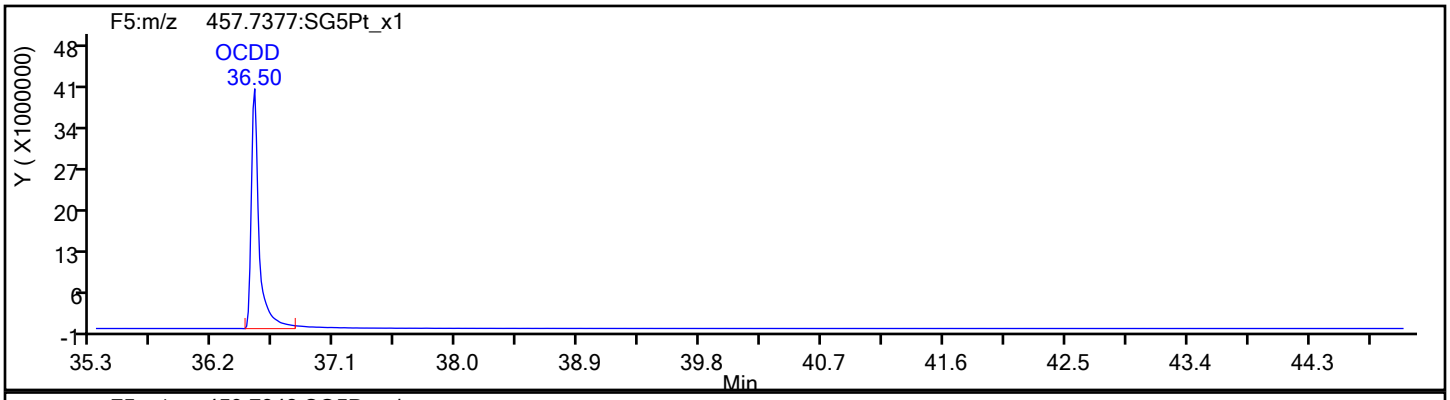

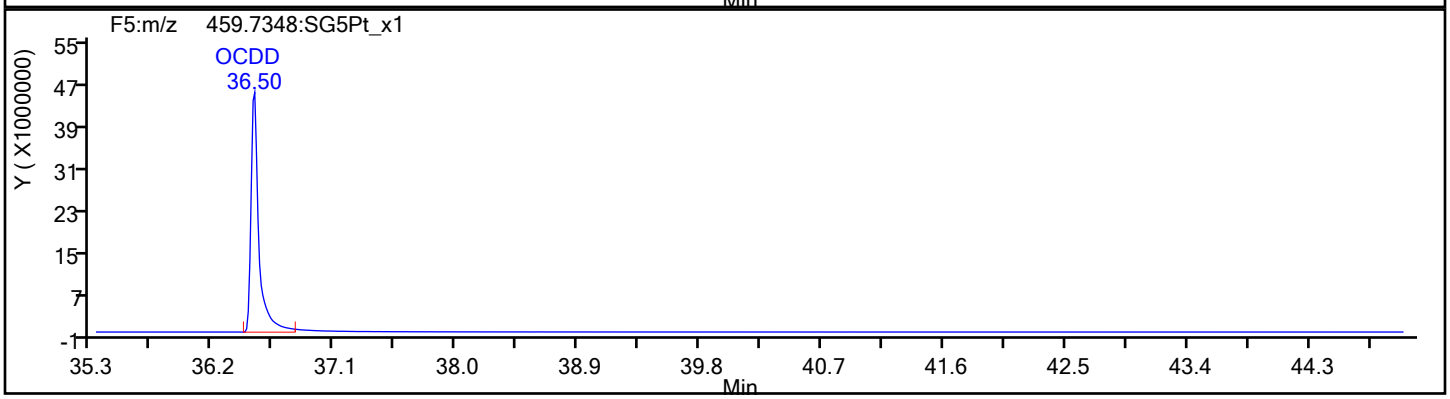

OCDD Standards

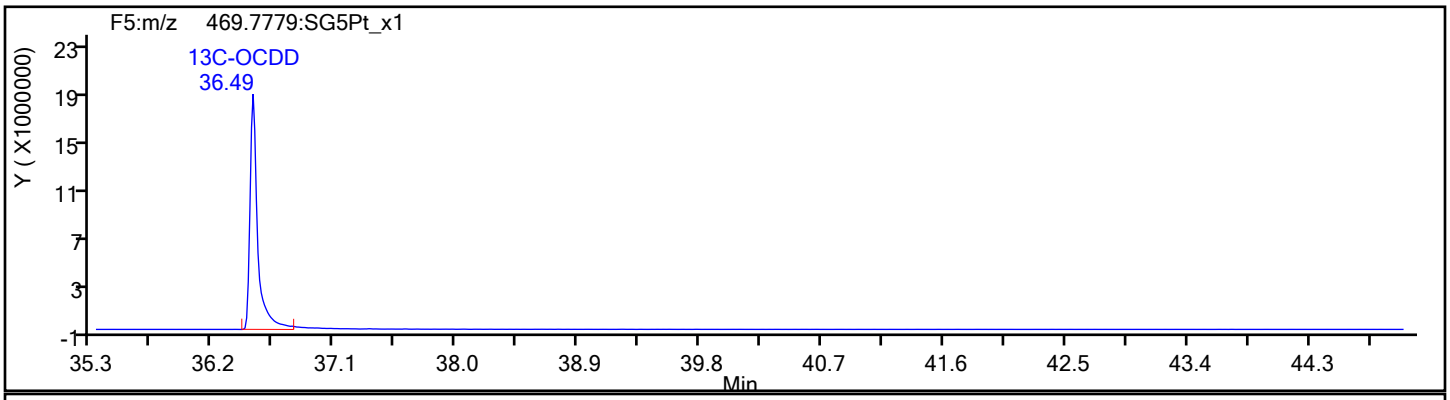

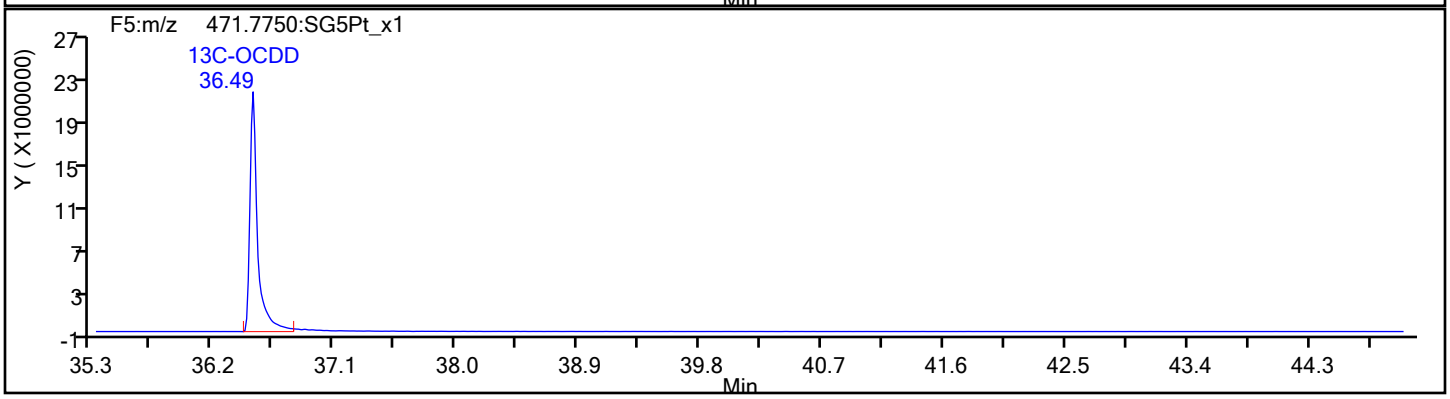

Report Date: 18-Sep-2019 10:22:35 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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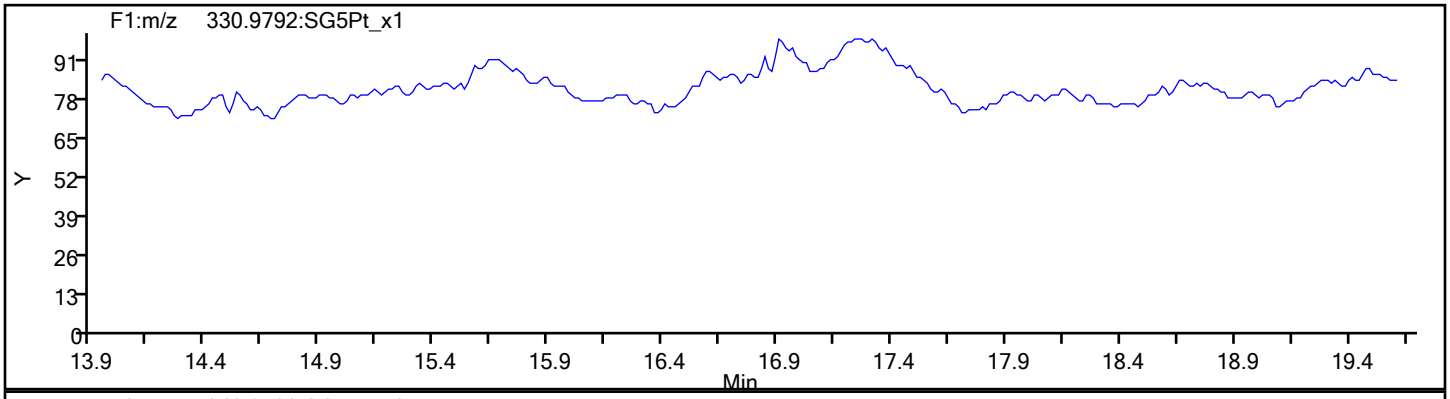

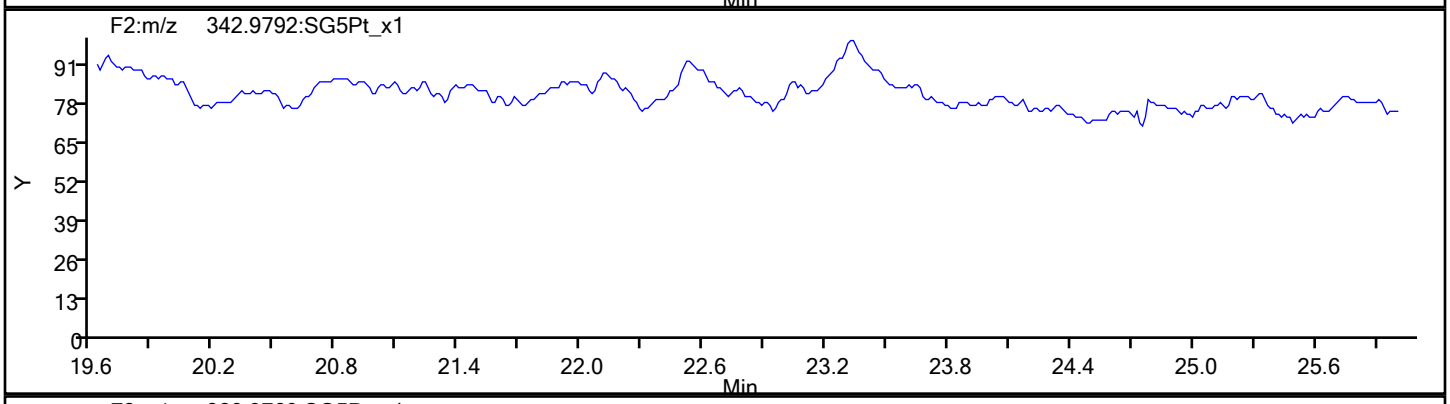

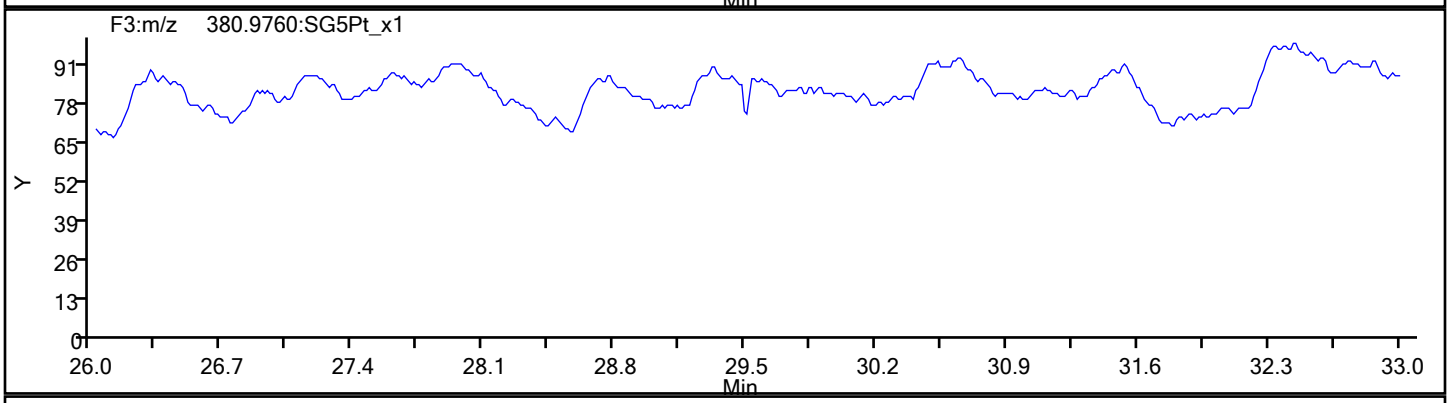

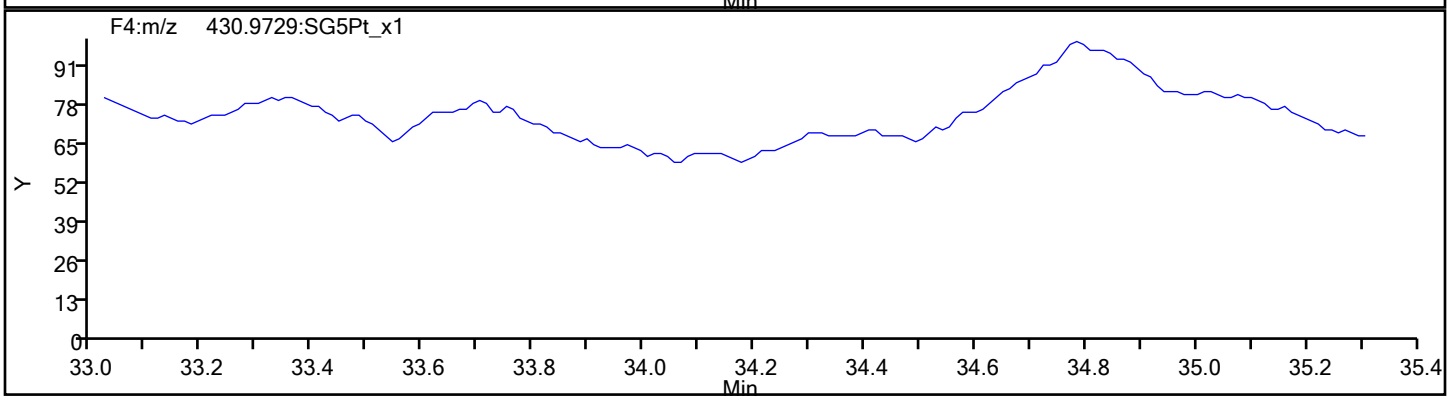

Report Date: 18-Sep-2019 10:22:35 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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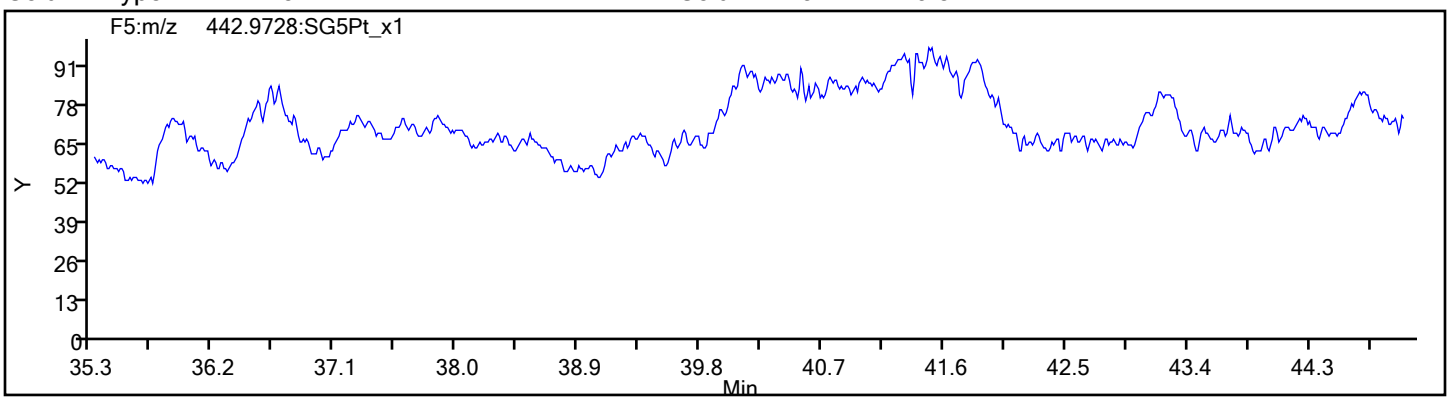

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 17-Sep-2019 16:09:27 ALS Bottle#: 2 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719B CS-4 HRDXNL4_00084
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:37 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:03:31

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.300	116862140	0.78	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.816	164292495	0.81	1.4384	97.7	97.7	0.2030	0.2030	97.74	
2,3,7,8-TCDF	16.831	16312729	0.78	1.0507	9.450	9.450	0.0288	0.0288	94.50	
S Total TCDF					9.450	9.450	0.0288	0.0288		
D 13C-2,3,7,8-TCDD	17.497	110088290	0.77	0.9533	98.8	98.8	0.1811	0.1811	98.81	
$ 37Cl4-2,3,7,8-TCDD	17.511	11295580		1.2224	7.907	7.907	0.0161	0.0161	98.84	
2,3,7,8-TCDD	17.511	11272193	0.80	1.1064	9.254	9.254	0.0249	0.0249	92.54	
S Total TCDD					9.254	9.254	0.0249	0.0249		
D 13C-1,2,3,7,8-PeCDF	21.632	117067384	1.60	1.0286	97.4	97.4	0.2355	0.2355	97.39	
1,2,3,7,8-PeCDF	21.659	61060330	1.61	1.0822	48.2	48.2	0.1753	0.1753	96.39	
D 13C-2,3,4,7,8-PeCDF	22.927	108494277	1.59	0.9827	94.5	94.5	0.2465	0.2465	94.48	
2,3,4,7,8-PeCDF	22.954	58935693	1.60	1.1032	49.2	49.2	0.1981	0.1981	98.48	
S Total PeCDF					97.4	97.4	0.1867	0.1867		
D 13C-1,2,3,7,8-PeCDD	23.622	84755636	1.56	0.7481	96.9	96.9	0.1346	0.1346	96.95	
1,2,3,7,8-PeCDD	23.650	36740998	1.60	0.9050	47.9	47.9	0.0846	0.0846	95.80	
S Total PeCDD					47.9	47.9	0.0846	0.0846		
D 13C-1,2,3,4,7,8-HxCDF	29.749	88972191	0.52	1.1520	96.7	96.7	0.5009	0.5009	96.69	
1,2,3,4,7,8-HxCDF	29.776	51431784	1.25	1.1973	48.3	48.3	0.4285	0.4285	96.56	
D 13C-1,2,3,6,7,8-HxCDF	30.015	97064883	0.52	1.2434	97.7	97.7	0.4641	0.4641	97.73	
1,2,3,6,7,8-HxCDF	30.042	55977084	1.25	1.1807	48.8	48.8	0.3660	0.3660	97.69	
D 13C-2,3,4,6,7,8-HxCDF	31.040	90467566	0.52	1.1720	96.6	96.6	0.4924	0.4924	96.64	
2,3,4,6,7,8-HxCDF	31.053	53626165	1.26	1.2116	48.9	48.9	0.2565	0.2565	97.85	
D 13C-1,2,3,7,8,9-HxCDF	31.945	83967924	0.52	1.0655	98.7	98.7	0.5416	0.5416	98.66	
1,2,3,7,8,9-HxCDF	31.958	50802364	1.28	1.2451	48.6	48.6	0.2521	0.2521	97.18	
S Total HxCDF					194.6	194.6	0.3258	0.3258		
* 13C-1,2,3,7,8,9-HxCDD	31.746	79877165	1.26	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.266	61001305	1.29	0.7812	97.8	97.8	0.4169	0.4169	97.76	
1,2,3,4,7,8-HxCDD	31.280	32825472	1.25	1.1088	48.5	48.5	0.1882	0.1882	97.06	
D 13C-1,2,3,6,7,8-HxCDD	31.386	72157657	1.29	0.9175	98.5	98.5	0.3550	0.3550	98.46	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.399	37867080	1.26	1.0814	48.5	48.5	0.1789	0.1789	97.05	
1,2,3,7,8,9-HxCDD	31.759	39571199	1.26	1.2123	49.0	49.0	0.1656	0.1656	98.05	
S Total HxCDD					146.1	146.1	0.1776	0.1776		
D 13C-1,2,3,4,6,7,8-HpCDF	33.460	70034446	0.45	0.8628	101.6	101.6	1.887	1.887	102	
1,2,3,4,6,7,8-HpCDF	33.472	53230505	1.05	1.5555	48.9	48.9	0.7328	0.7328	97.72	
D 13C-1,2,3,4,7,8,9-HpCDF	34.505	62459777	0.45	0.7991	97.9	97.9	2.038	2.038	97.86	
1,2,3,4,7,8,9-HpCDF	34.505	42098592	1.05	1.3862	48.6	48.6	1.030	1.030	97.24	
S Total HpCDF					97.5	97.5	0.8815	0.8815		
D 13C-1,2,3,4,6,7,8-HpCDD	34.225	69249272	1.01	0.8739	99.2	99.2	0.8707	0.8707	99.21	
1,2,3,4,6,7,8-HpCDD	34.237	31792117	1.05	0.9316	49.3	49.3	0.3574	0.3574	98.56	
S Total HpCDD					49.3	49.3	0.3574	0.3574		
D 13C-OCDD	36.481	117978202	0.90	0.7744	190.7	190.7	0.3164	0.3164	95.37	
OCDF	36.577	73138090	0.89	1.2596	98.4	98.4	0.0928	0.0928	98.43	
OCDD	36.493	60102277	0.88	1.0621	95.9	95.9	0.1528	0.1528	95.93	

Reagents:

HRDXNL4_00084 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 17-Sep-2019 16:09:27 ALS Bottle#: 2 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719B CS-4 HRDXNL4_00084
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:37 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:03:31

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.300	17.303	0		51188431	13221592	10308	25770	1283		
333.9339	17.300	17.303	0		65673709	17067918	10612	26530	1608	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.816	16.810	0	0.972	73273257	18643279	16682	41705	1118		
317.9389	16.816	16.810	0	0.972	91019238	23348376	18701	46752	1249	0.81(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.831	16.825	0	1.001	7146505	1866474	1748	4370	1068		
305.8987	16.831	16.825	0	1.001	9166224	2309204	3335	8337	692	0.78(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.497	17.490	0	1.011	47890197	11504119	10308	25770	1116		
333.9339	17.497	17.490	0	1.011	62198093	14897345	10612	26530	1404	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.511	17.505	0	1.012	11295580	2759721	2389	5972	1155		
2,3,7,8-TCDD											
319.8965	17.511	17.505	0	1.001	5006379	1229603	1679	4197	732		
321.8936	17.511	17.505	0	1.001	6265814	1552760	1232	3080	1260	0.80(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	21.632	21.637	0	1.250	72085037	13290906	17975	44937	739		
353.8970	21.632	21.637	0	1.250	44982347	8135550	11370	28425	716	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.659	21.661	0	1.001	37645378	6988113	9632	24080	726		
341.8567	21.659	21.661	0	1.001	23414952	4333779	6628	16570	654	1.61(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	22.927	22.932	0	1.325	66667406	11411081	17975	44937	635		
353.8970	22.927	22.932	0	1.325	41826871	7189733	11370	28425	632	1.59(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.954	22.954	0	1.001	36249920	6246701	9632	24080	649		
341.8567	22.954	22.954	0	1.001	22685773	3975349	6628	16570	600	1.60(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.622	23.625	0	1.365	51615468	8403431	7024	17560	1196		
369.8919	23.622	23.625	0	1.365	33140168	5441011	5174	12935	1052	1.56(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.650	23.649	0	1.001	22616992	3684612	2542	6355	1449		
357.8516	23.650	23.649	0	1.001	14124006	2284855	1697	4242	1346	1.60(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.749	29.754	0	0.937	30622454	4262368	15646	39115	272		
385.8610	29.749	29.754	0	0.937	58349737	7978660	27510	68775	290	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.776	29.789	-1	1.001	28572669	3966552	14037	35092	283		
375.8178	29.776	29.789	-1	1.001	22859115	3184716	11085	27712	287	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.015	30.015	0	0.945	33334673	4974859	15646	39115	318		
385.8610	30.015	30.015	0	0.945	63730210	9557829	27510	68775	347	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.042	30.039	0	1.001	31100201	4648576	14037	35092	331		
375.8178	30.028	30.039	-1	1.000	24876883	3736483	11085	27712	337	1.25(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.040	31.043	0	0.978	31041442	6949049	15646	39115	444		
385.8610	31.040	31.043	0	0.978	59426124	13257904	27510	68775	482	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.053	31.059	0	1.000	29867122	6669756	14037	35092	475		
375.8178	31.053	31.059	0	1.000	23759043	5329537	11085	27712	481	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.945	31.942	0	1.006	28810187	6889378	15646	39115	440		
385.8610	31.945	31.942	0	1.006	55157737	13121620	27510	68775	477	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.958	31.956	0	1.000	28484868	6927852	14037	35092	494		
375.8178	31.958	31.956	0	1.000	22317496	5417368	11085	27712	489	1.28(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.746	31.748	0		44590033	10388597	13953	34882	745		
403.8529	31.746	31.748	0		35287132	8307576	10402	26005	799	1.26(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.266	31.261	0	0.985	34418121	8538114	13953	34882	612		
403.8529	31.253	31.261	0	0.984	26583184	6542155	10402	26005	629	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.280	31.280	0	1.000	18210328	4676373	6796	16990	688		
391.8127	31.280	31.280	0	1.000	14615144	3685627	5791	14477	636	1.25(1.05-1.43)	

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24
Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.386	31.383	0	0.989	40713057	9165140	13953	34882	657		
403.8529	31.386	31.383	0	0.989	31444600	7098259	10402	26005	682	1.29(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.399	31.402	0	1.000	21129707	4810731	6796	16990	708		
391.8127	31.399	31.402	0	1.000	16737373	3882456	5791	14477	670	1.26(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.759	31.761	0	1.016	22036967	5199355	6796	16990	765		
391.8127	31.759	31.761	0	1.016	17534232	4154993	5791	14477	717	1.26(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.460	33.457	0	1.054	21694702	6802754	38569	96422	176		
419.8220	33.460	33.457	0	1.054	48339744	14980925	83187	207967	180	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.472	33.469	0	1.000	27303098	8321332	48031	120077	173		
409.7789	33.460	33.469	-1	1.000	25927407	8013389	51301	128252	156	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.505	34.502	0	1.087	19495147	5459139	38569	96422	142		
419.8220	34.505	34.502	0	1.087	42964630	11931602	83187	207967	143	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.505	34.509	0	1.000	21594067	6125765	48031	120077	128		
409.7789	34.505	34.509	0	1.000	20504525	5997687	51301	128252	117	1.05(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.225	34.227	0	1.078	34873988	10385149	28867	72167	360		
437.8140	34.225	34.227	0	1.078	34375284	10126378	28038	70095	361	1.01(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.237	34.235	0	1.000	16297283	4845800	14038	35095	345		
425.7737	34.237	34.235	0	1.000	15494834	4492519	13280	33200	338	1.05(0.88-1.20)	
13C-OCDD											
469.7779	36.481	36.486	0	1.149	55925656	13683141	9939	24847	1377		
471.7750	36.481	36.486	0	1.149	62052546	15254711	8386	20965	1819	0.90(0.76-1.02)	
OCDF											
441.7428	36.577	36.581	0	1.003	34484063	8952540	3122	7805	2868		
443.7399	36.577	36.581	0	1.003	38654027	9970777	3641	9102	2738	0.89(0.76-1.02)	
OCDD											
457.7377	36.493	36.497	0	1.000	28100552	7029079	3330	8325	2111		
459.7348	36.493	36.497	0	1.000	32001725	7995829	6061	15152	1319	0.88(0.76-1.02)	

Reagents:

HRDXNL4_00084 Amount Added: 1.00 Units: mL

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
Injection Date:	17-Sep-2019 16:09:27	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

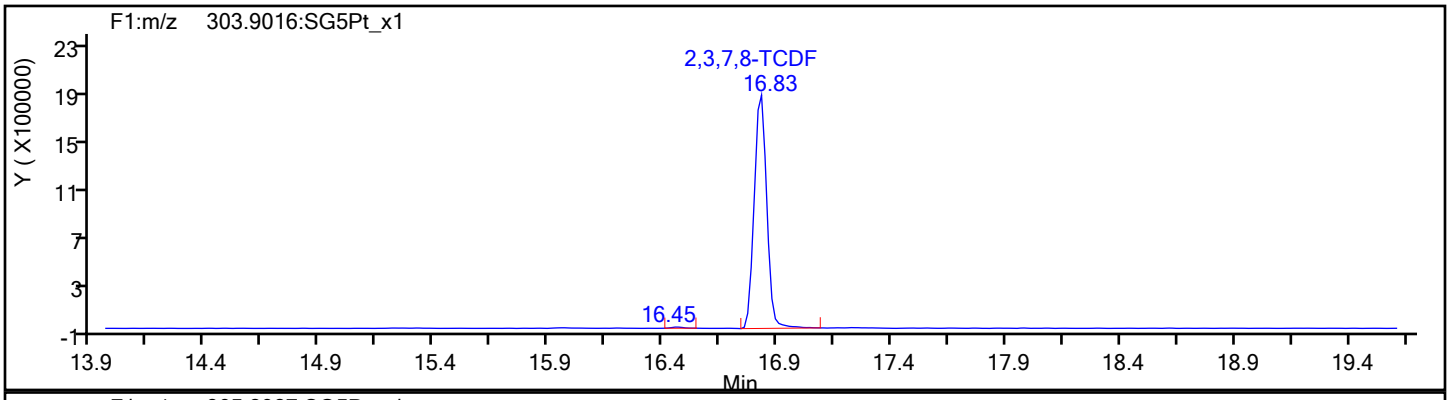

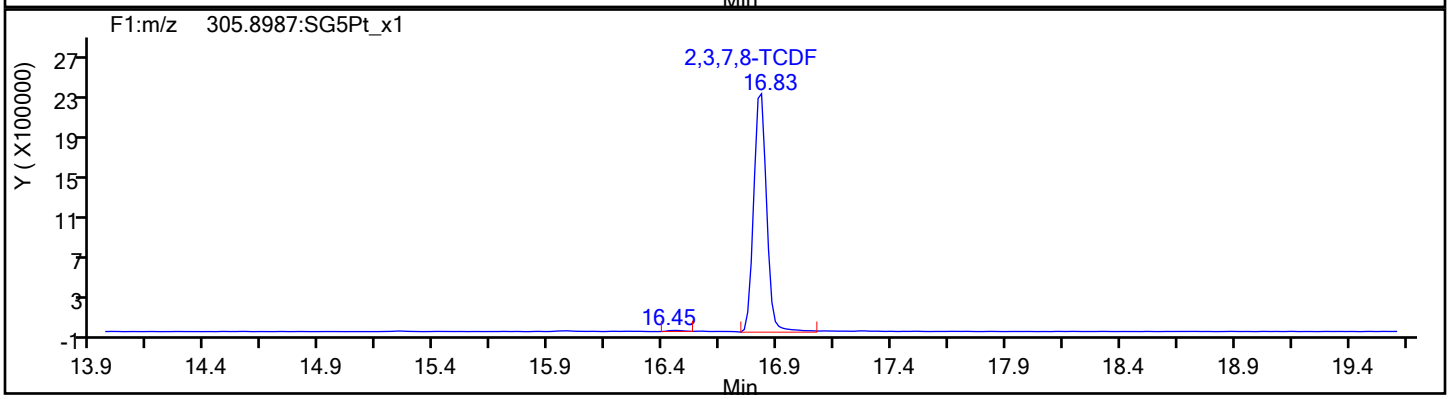

TCDF Standards

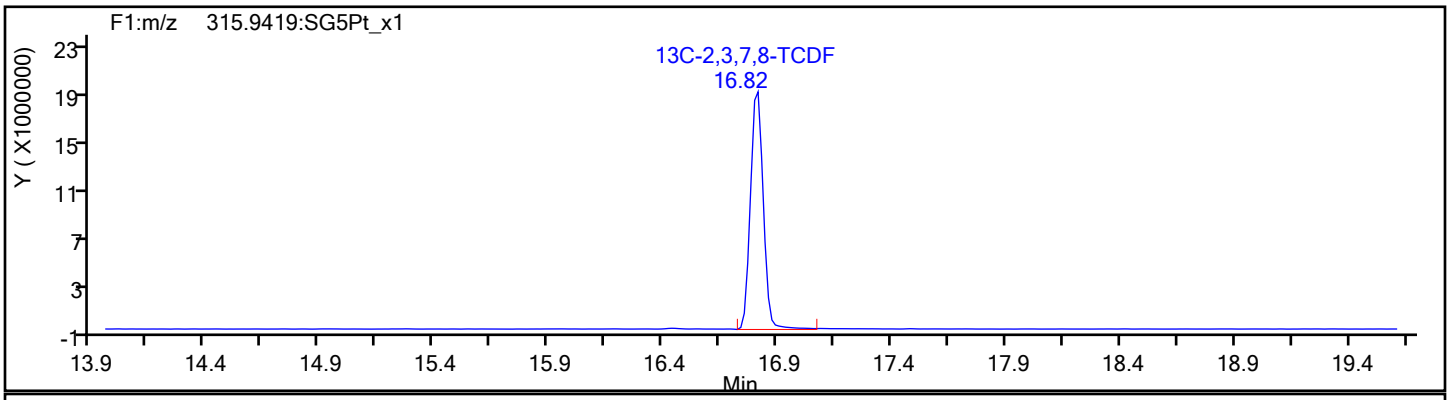

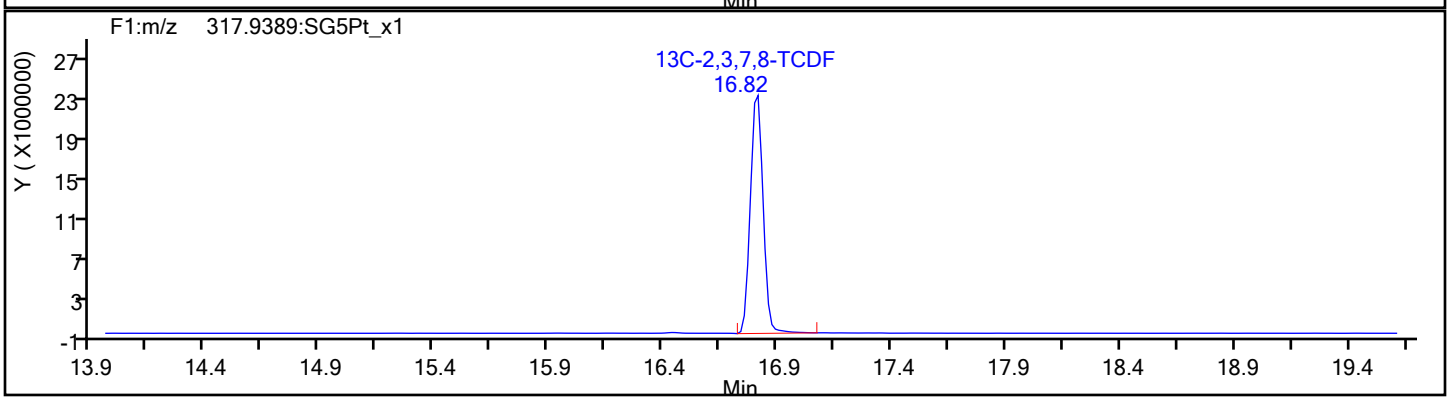

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
Injection Date:	17-Sep-2019 16:09:27	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

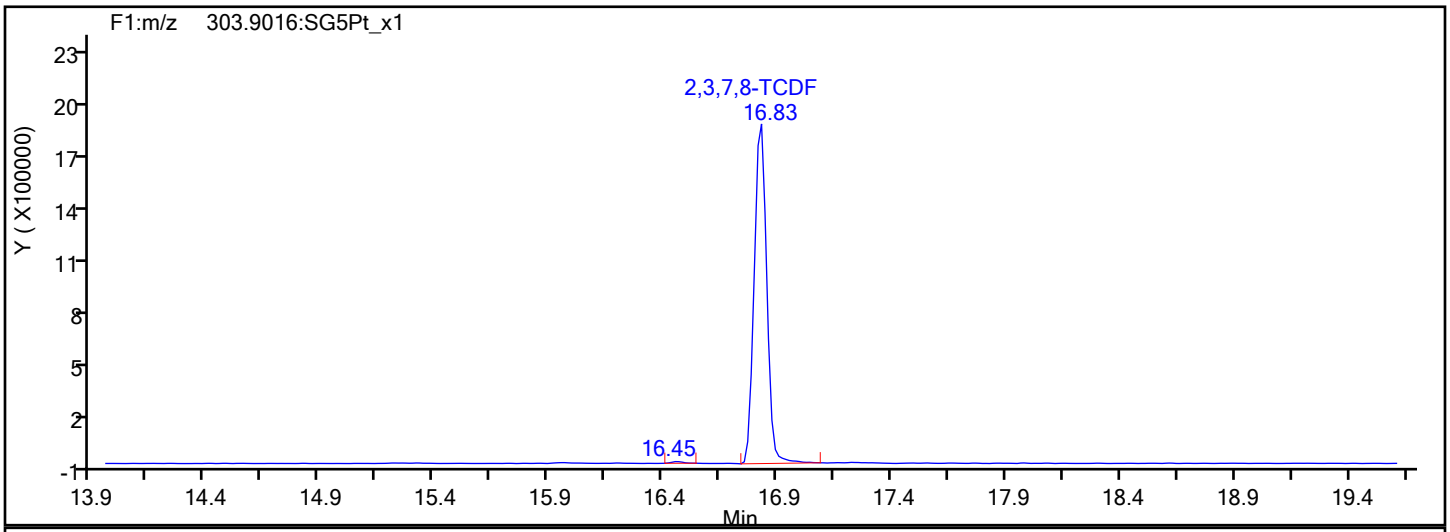

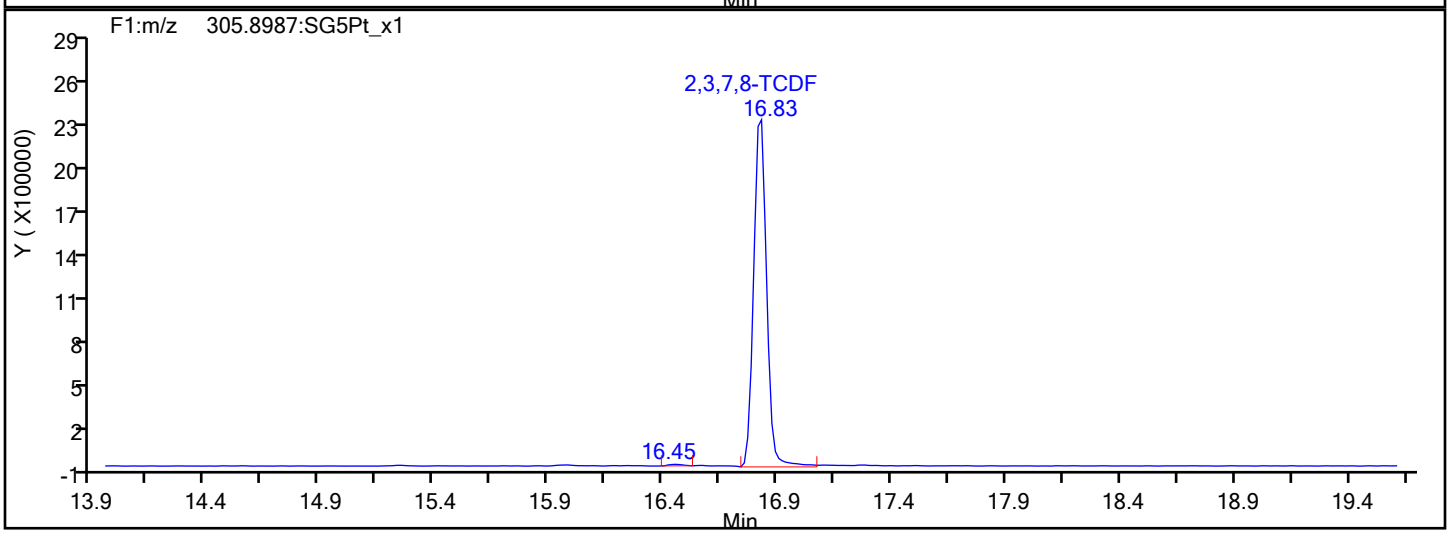

TCDF Interference Mass

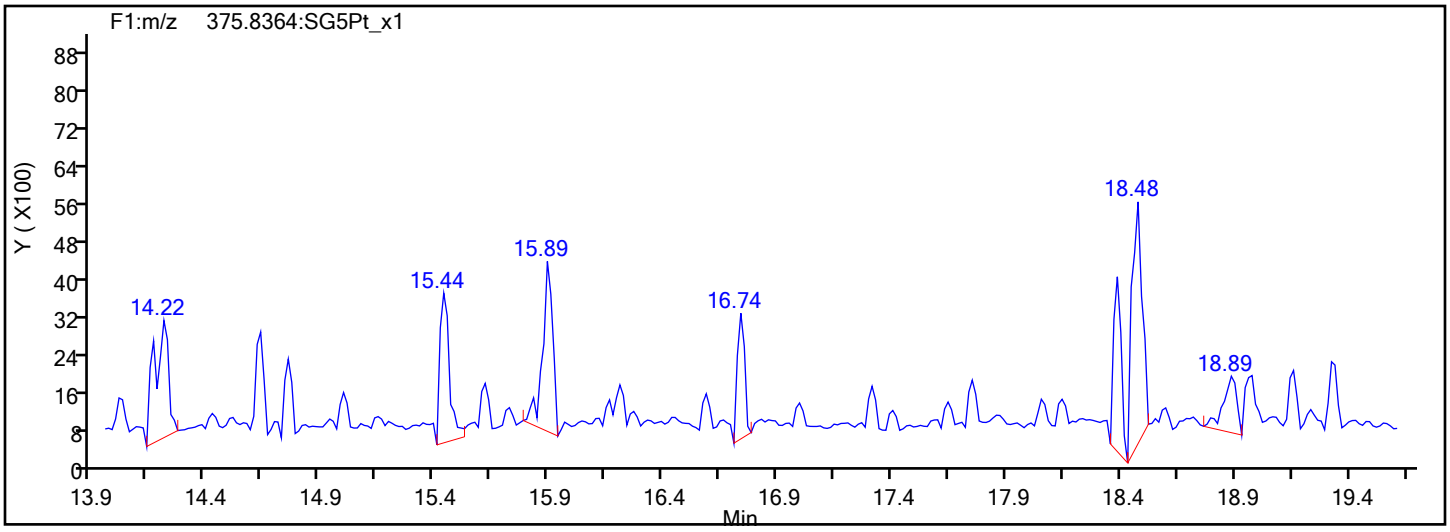

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
Injection Date:	17-Sep-2019 16:09:27	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

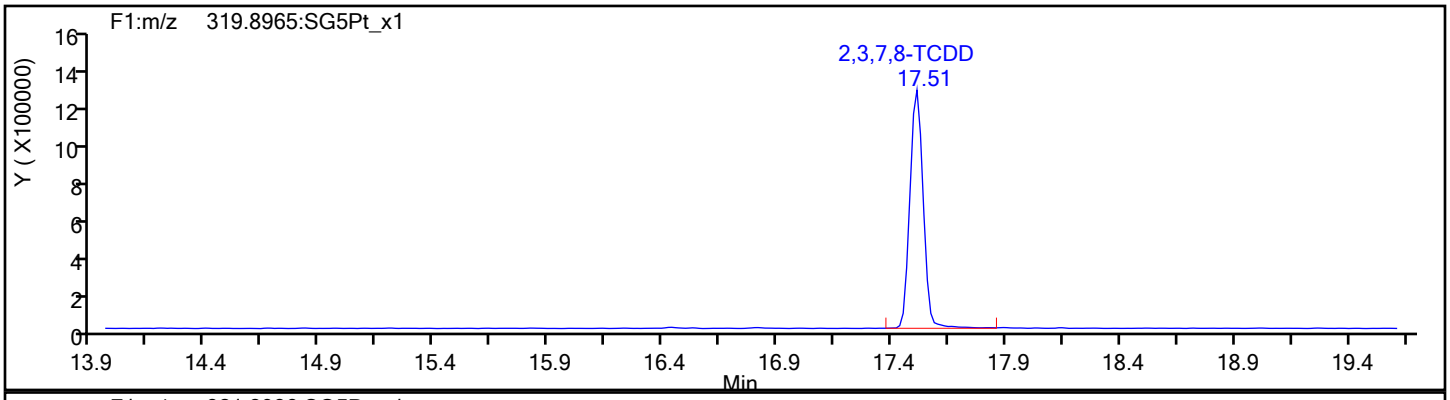

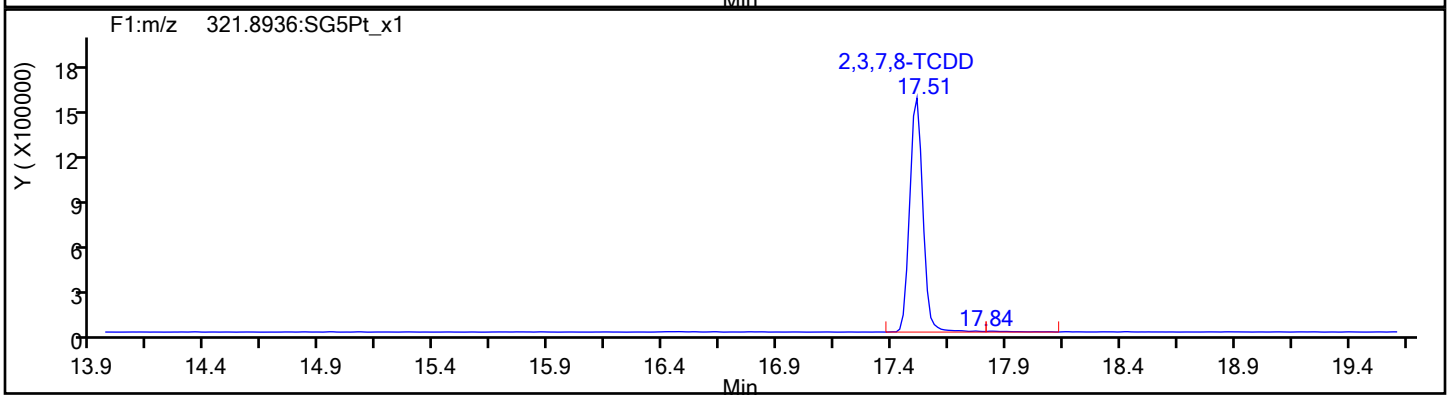

TCDD Standards

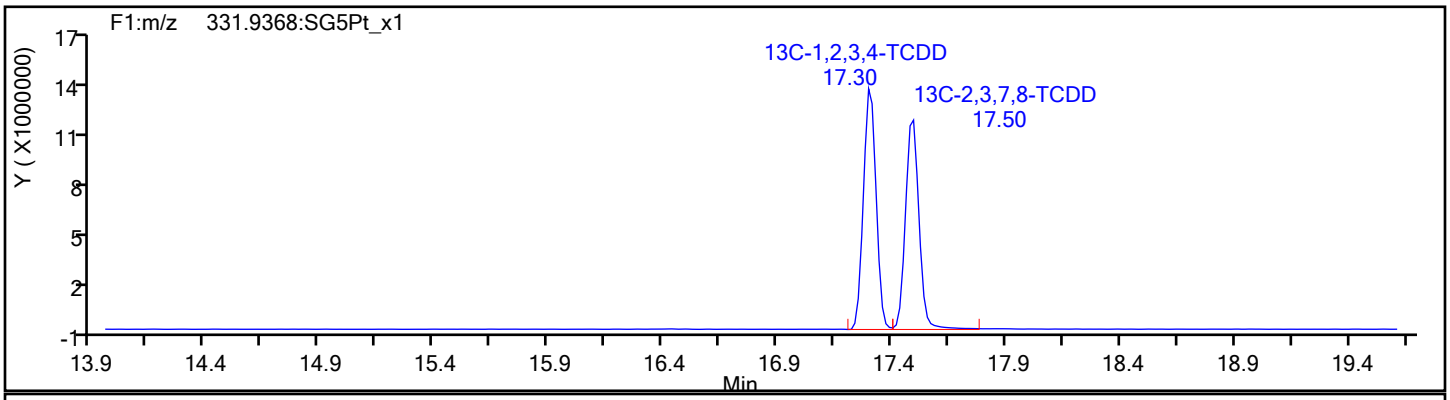

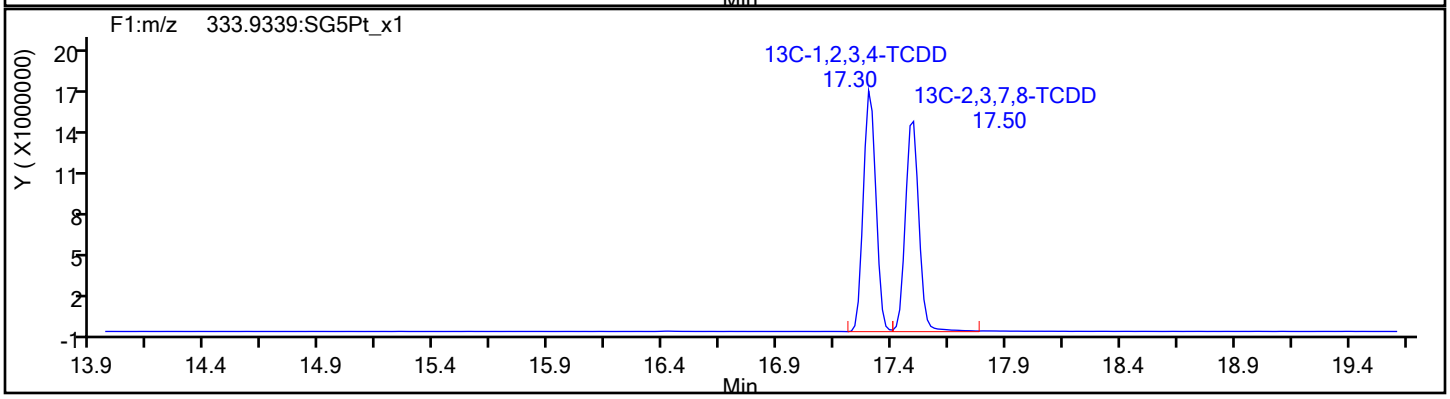

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

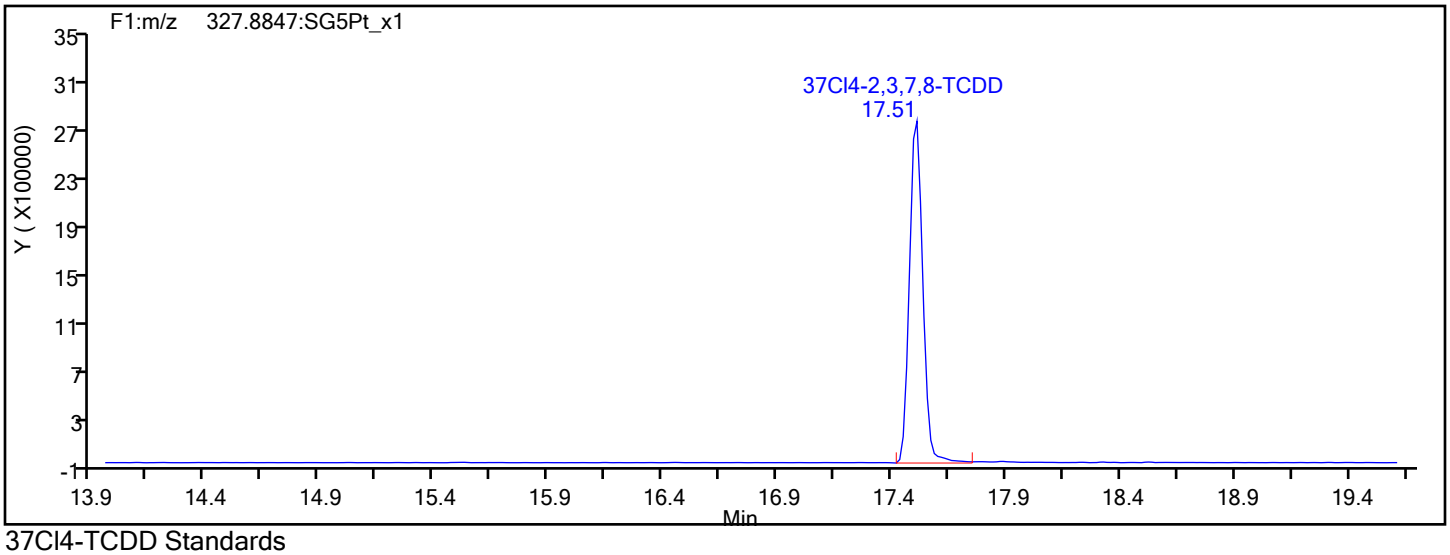

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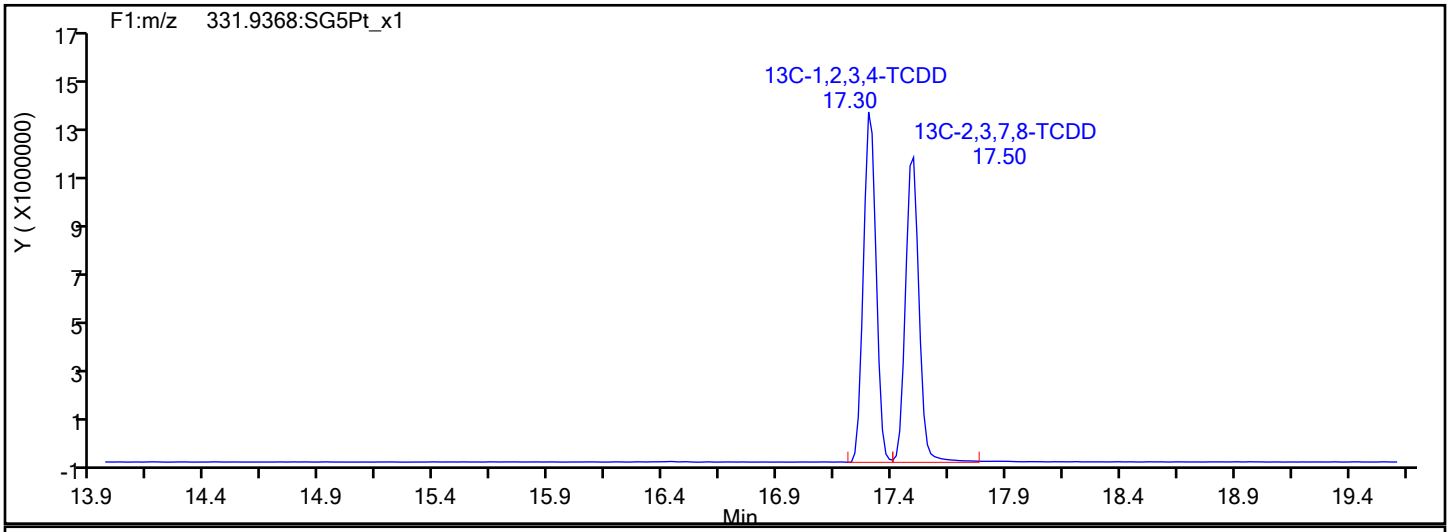

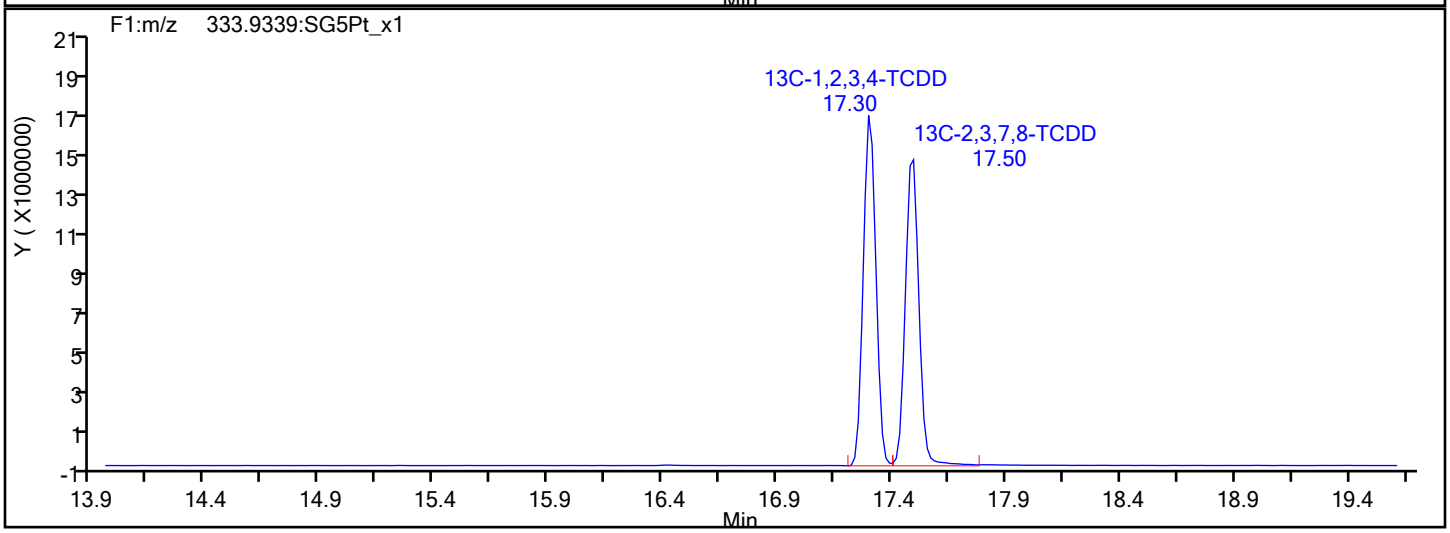

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

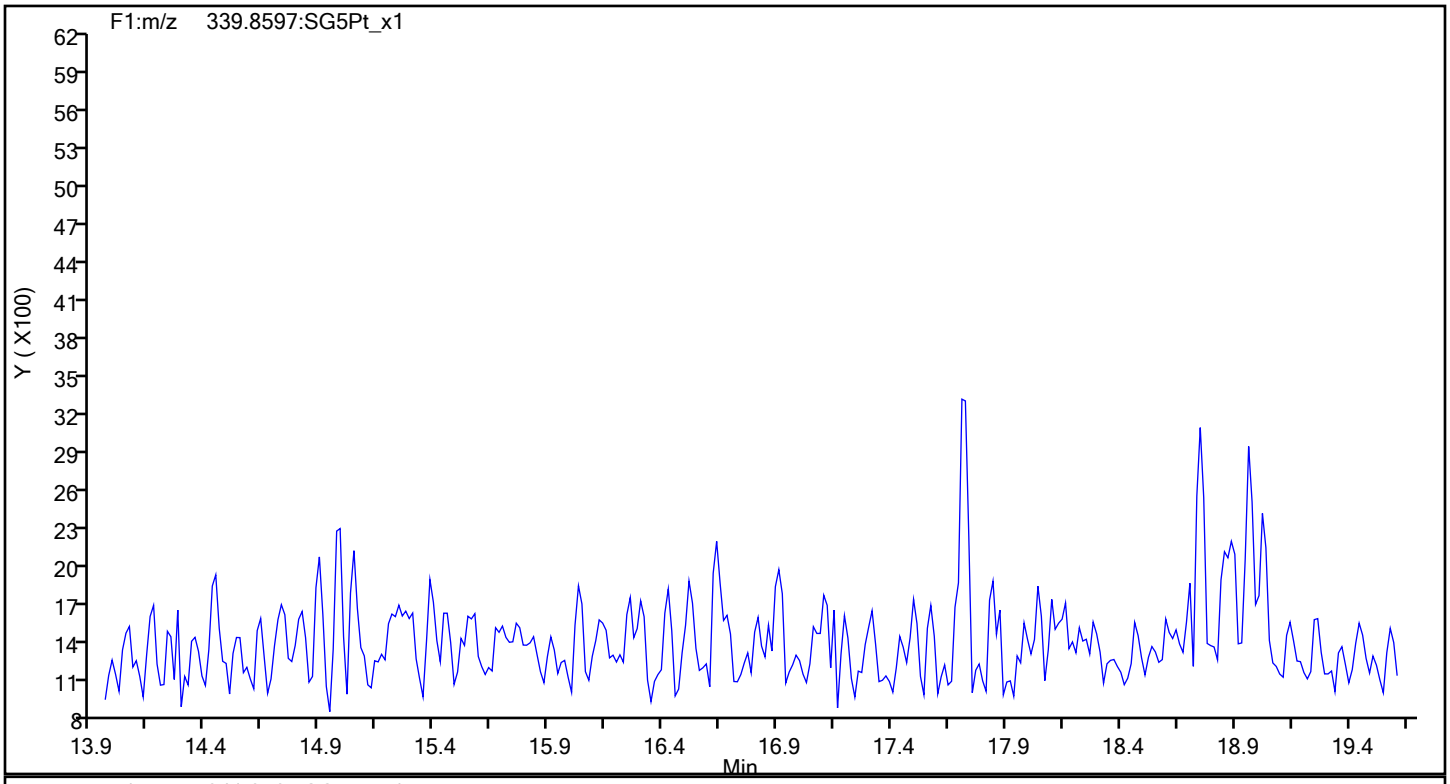

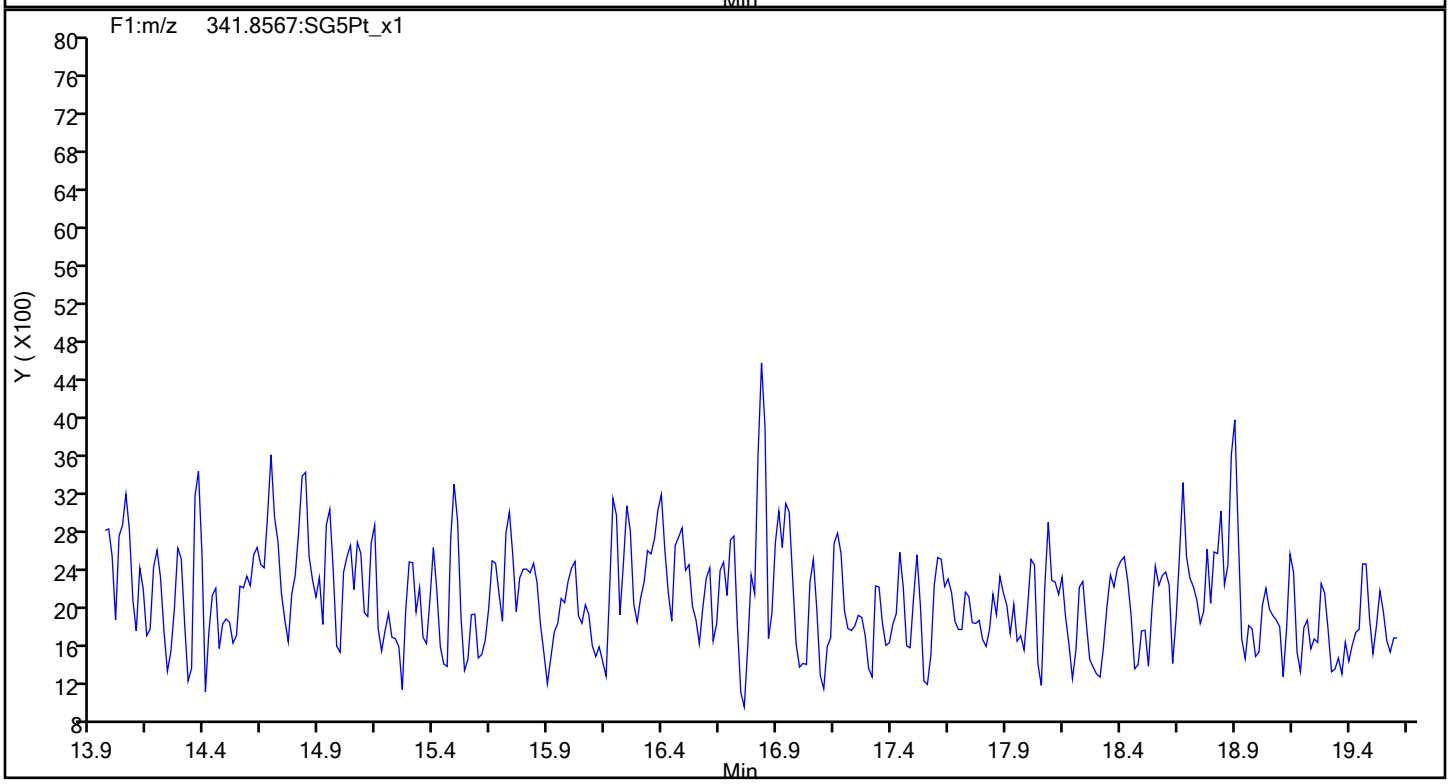

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

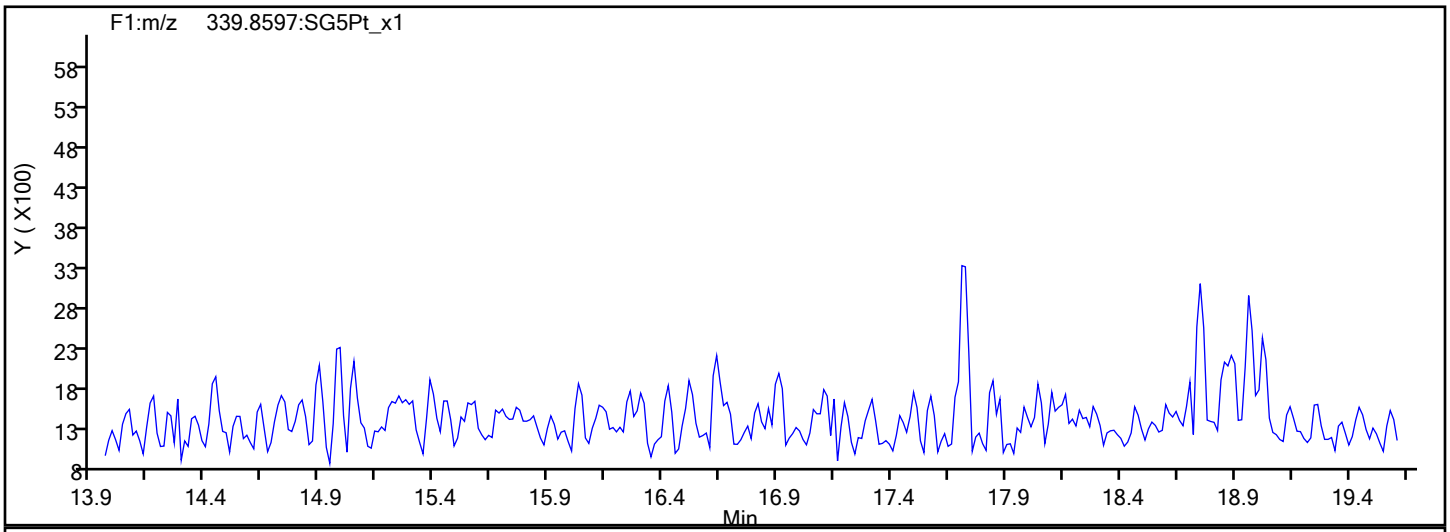

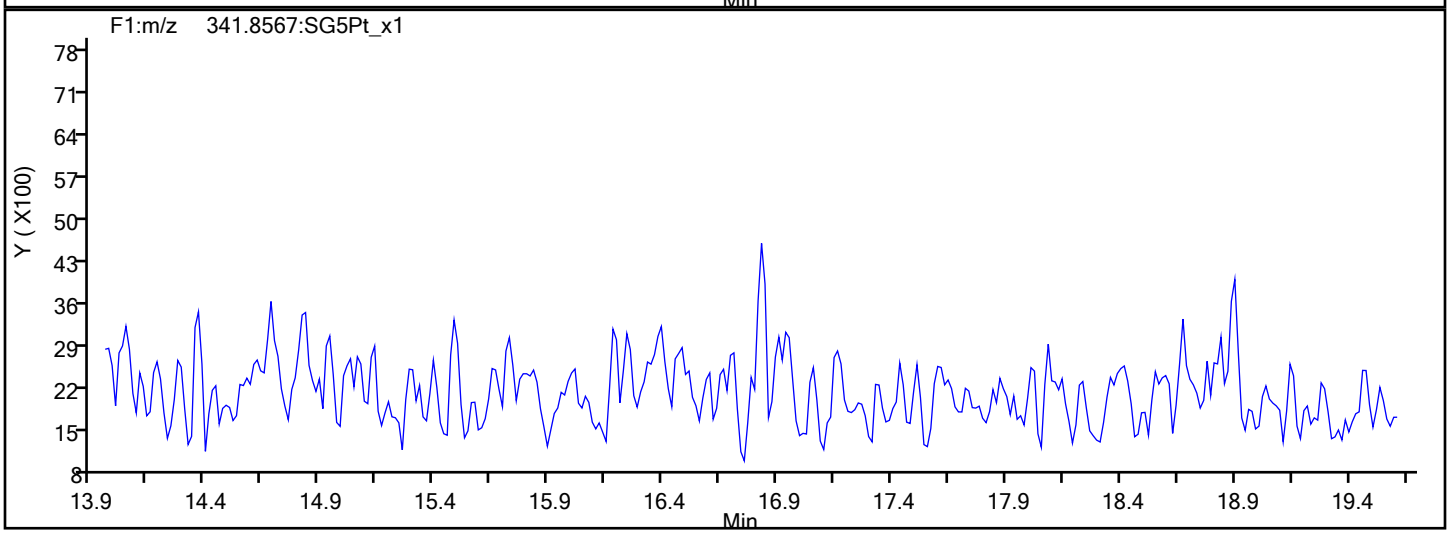

F1 PeCDFs Interference Mass

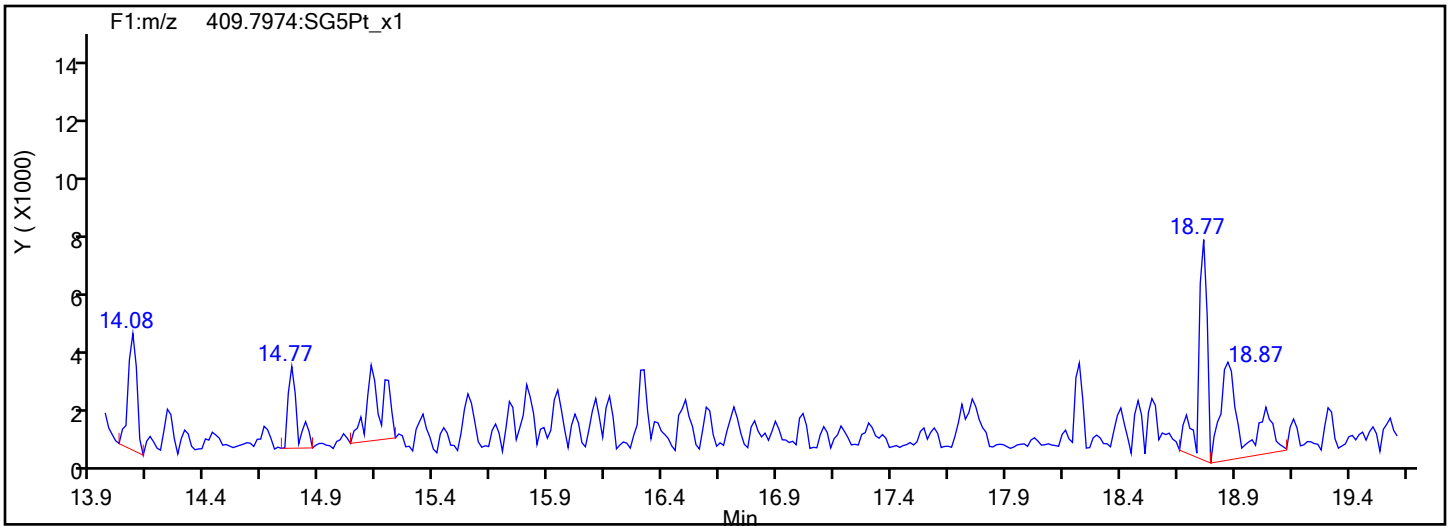

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Eurofins TestAmerica, Sacramento

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PeCDF

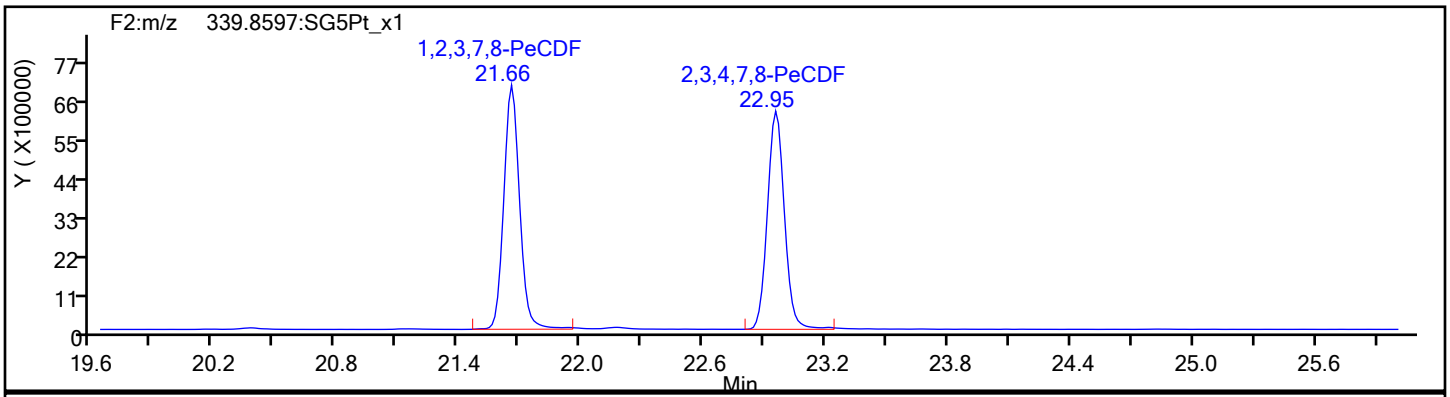

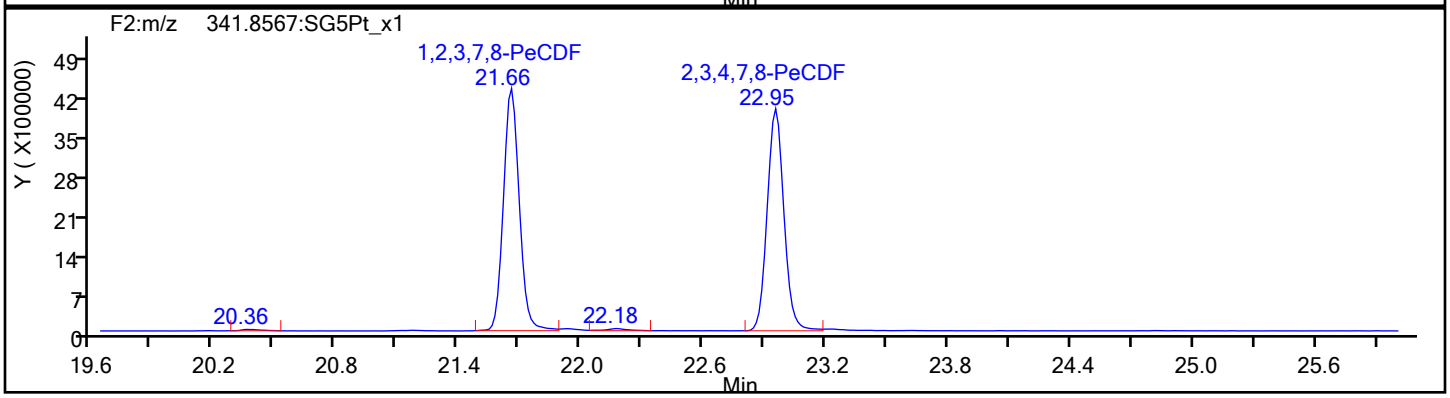

PeCDF Standards

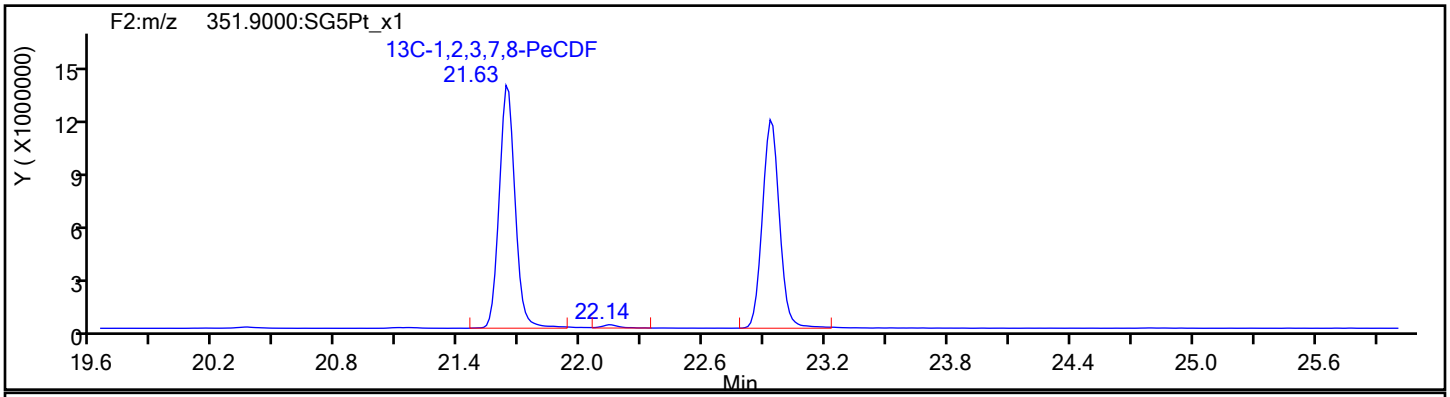

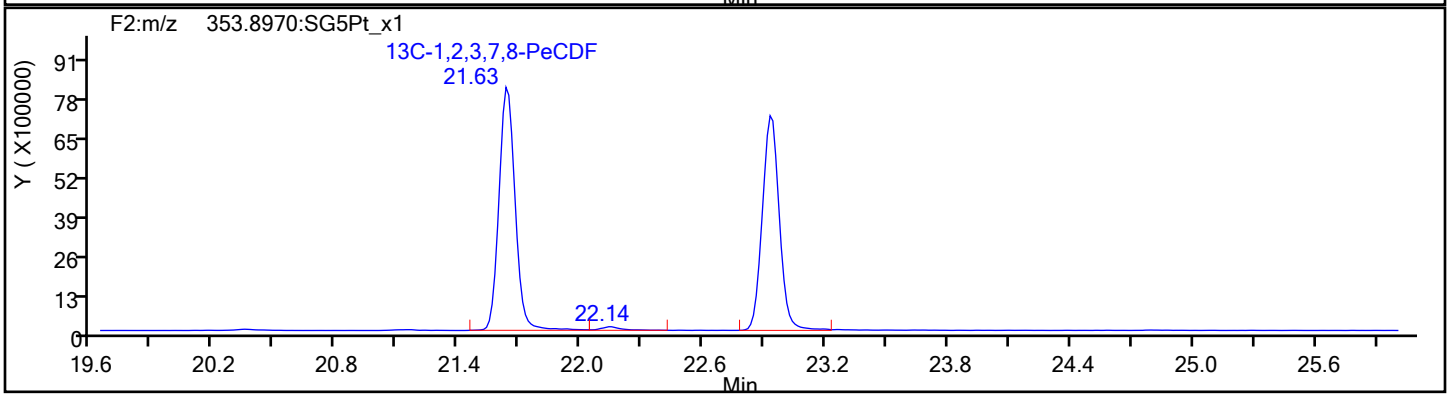

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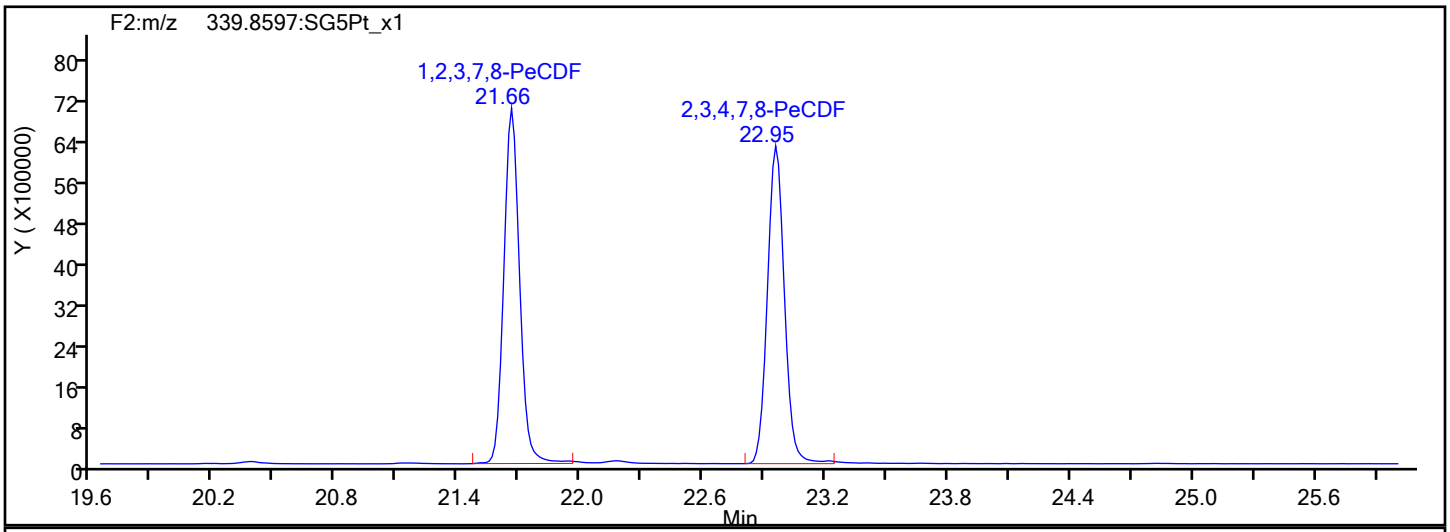

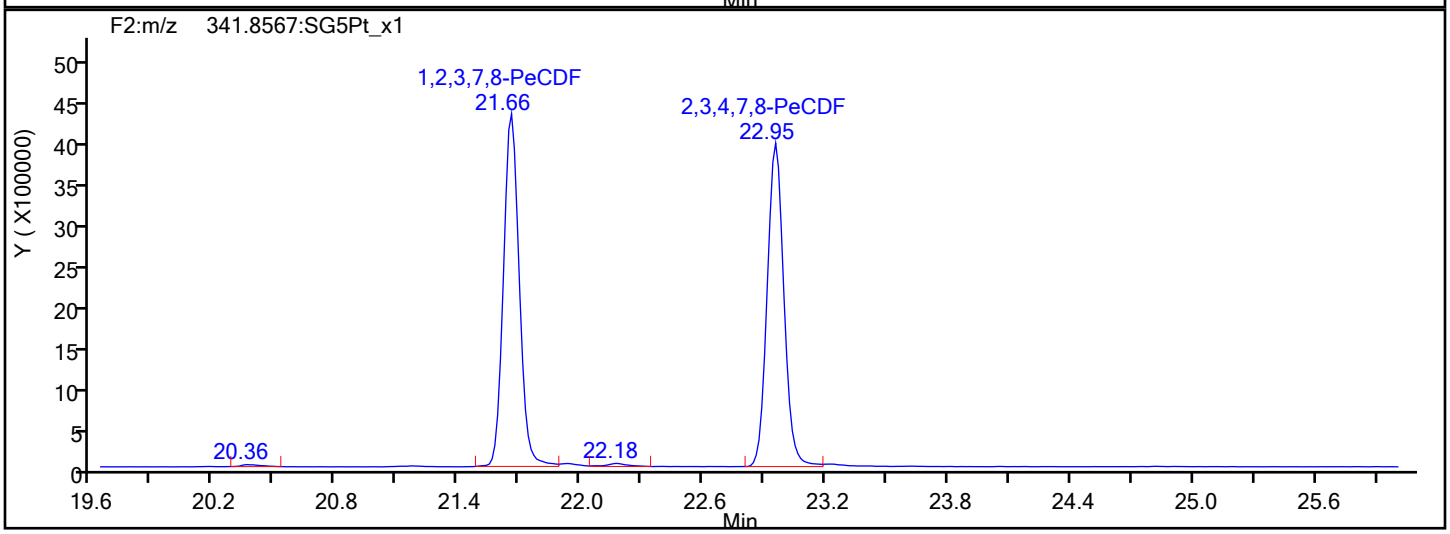

PeCDF Interference Mass

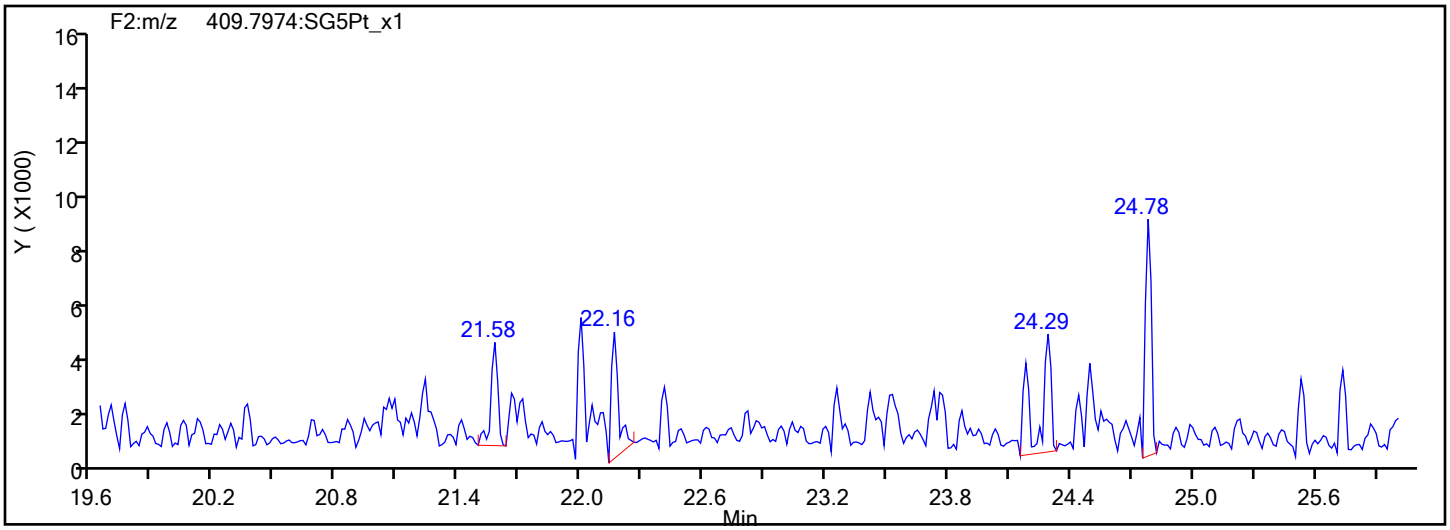

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Eurofins TestAmerica, Sacramento

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PeCDD

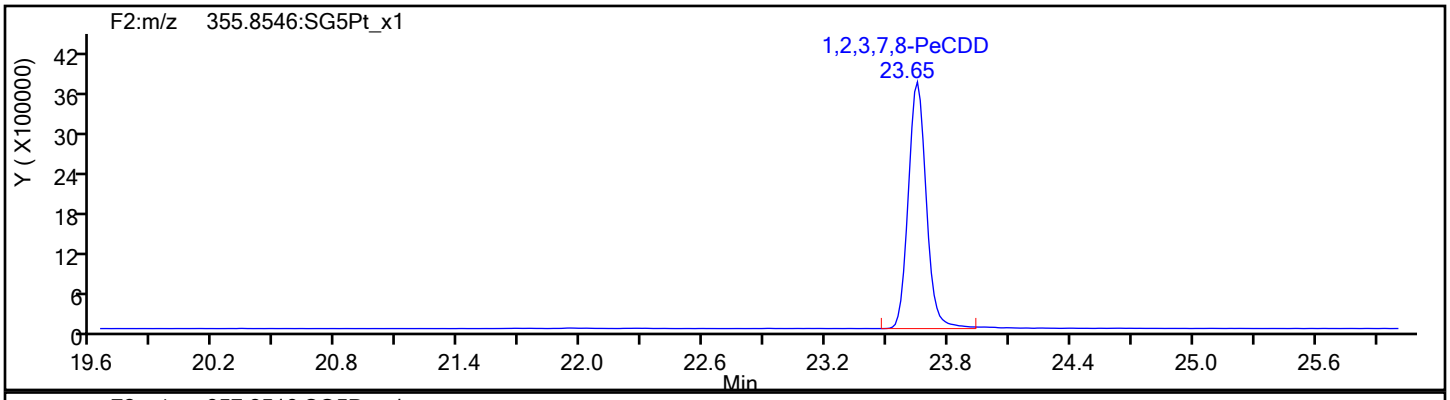

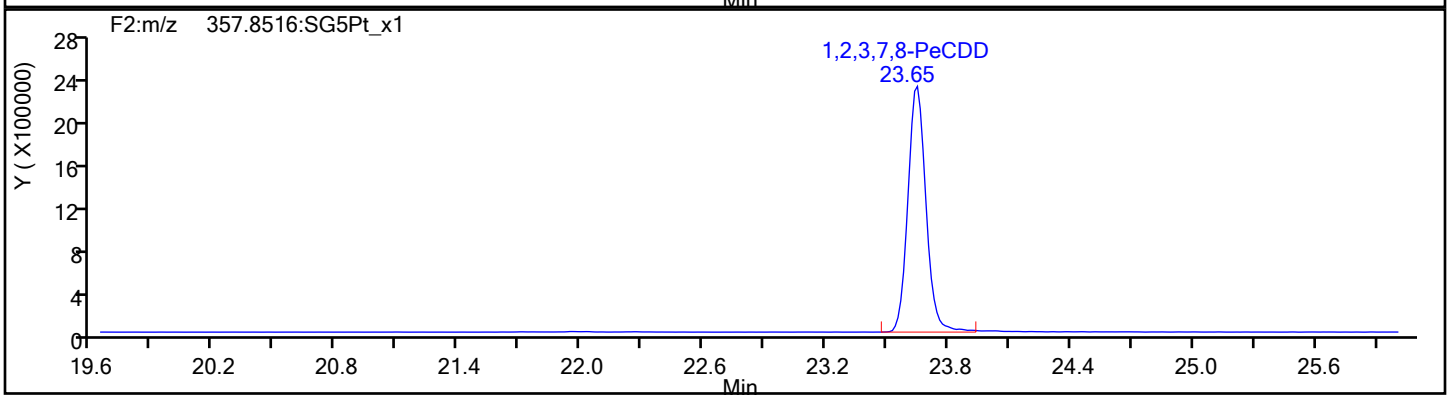

PeCDD Standards

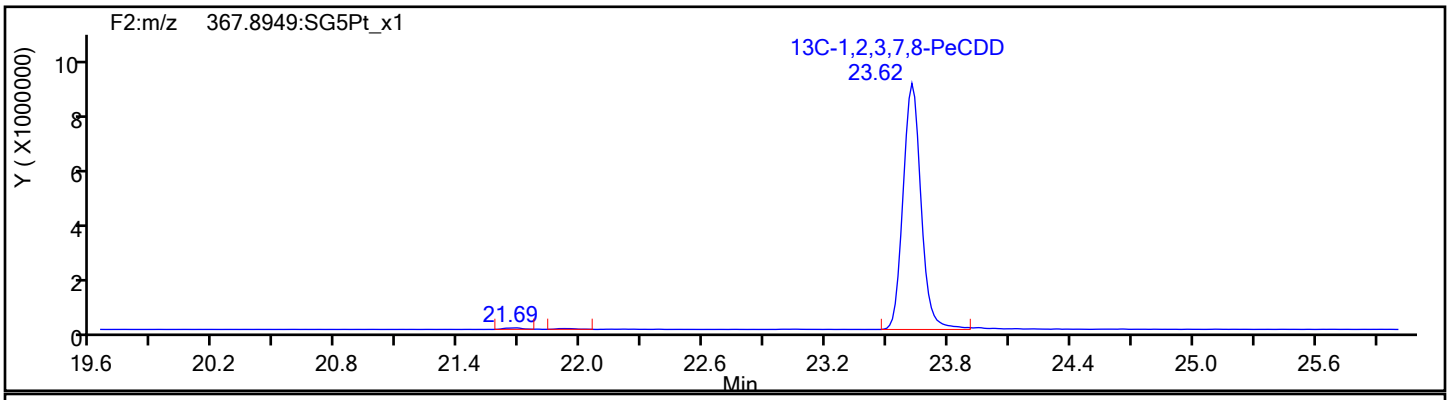

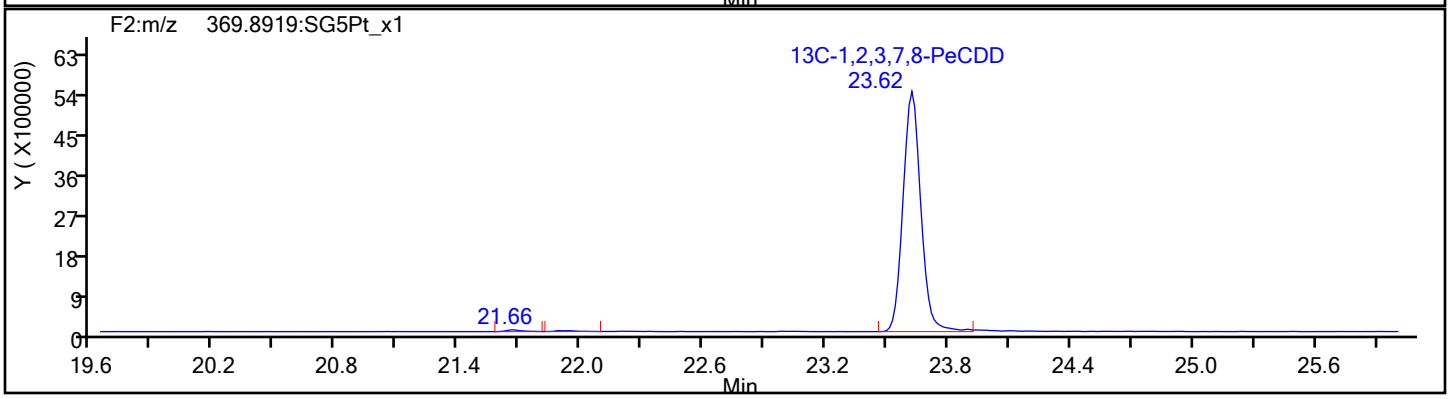

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Eurofins TestAmerica, Sacramento

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HxCDF

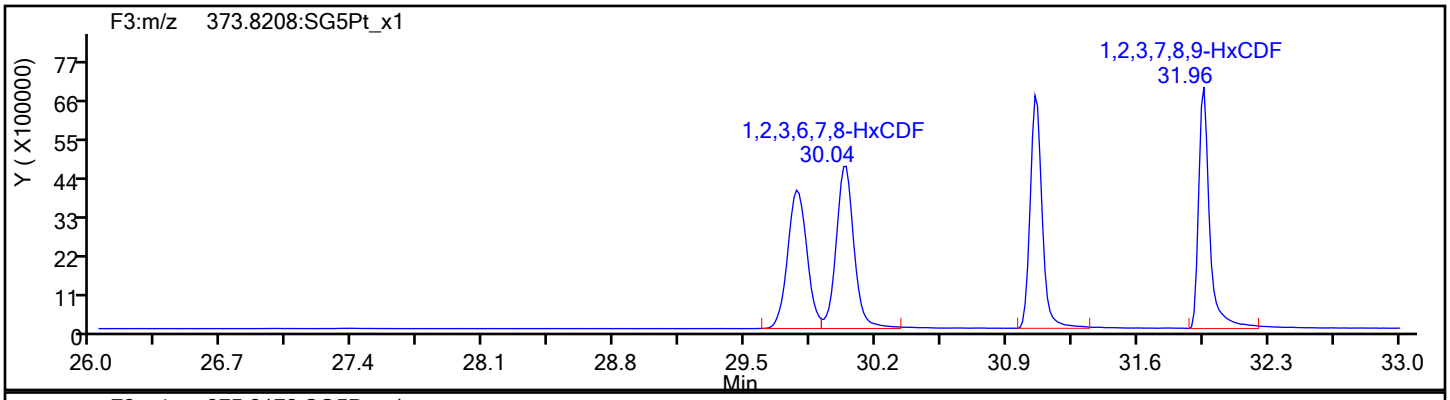

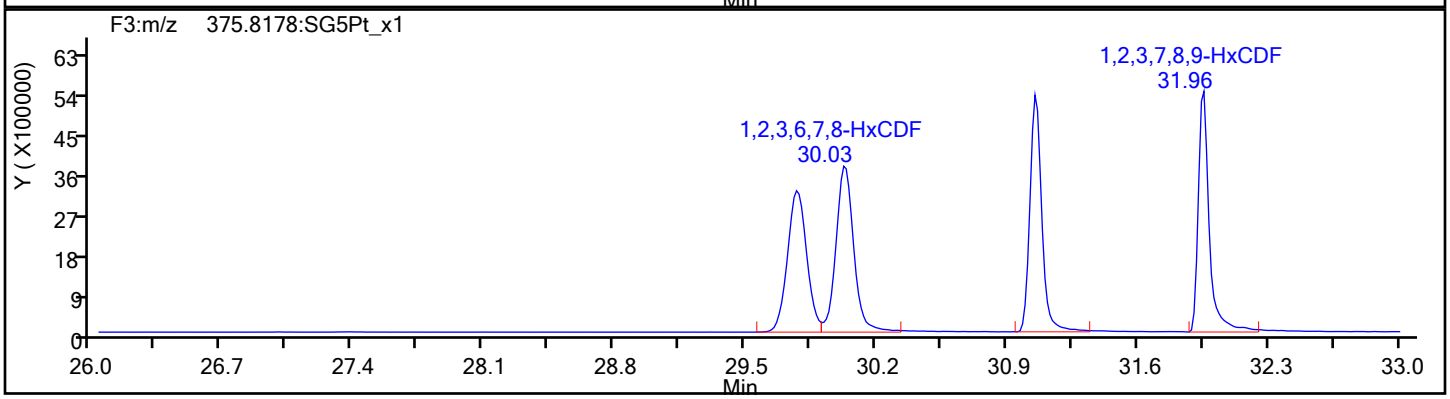

HxCDF Standards

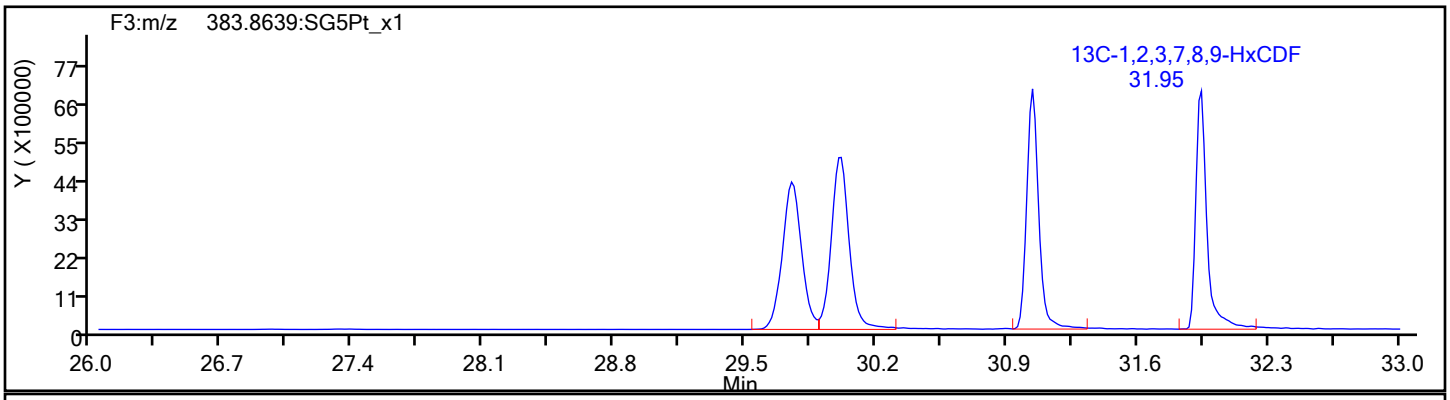

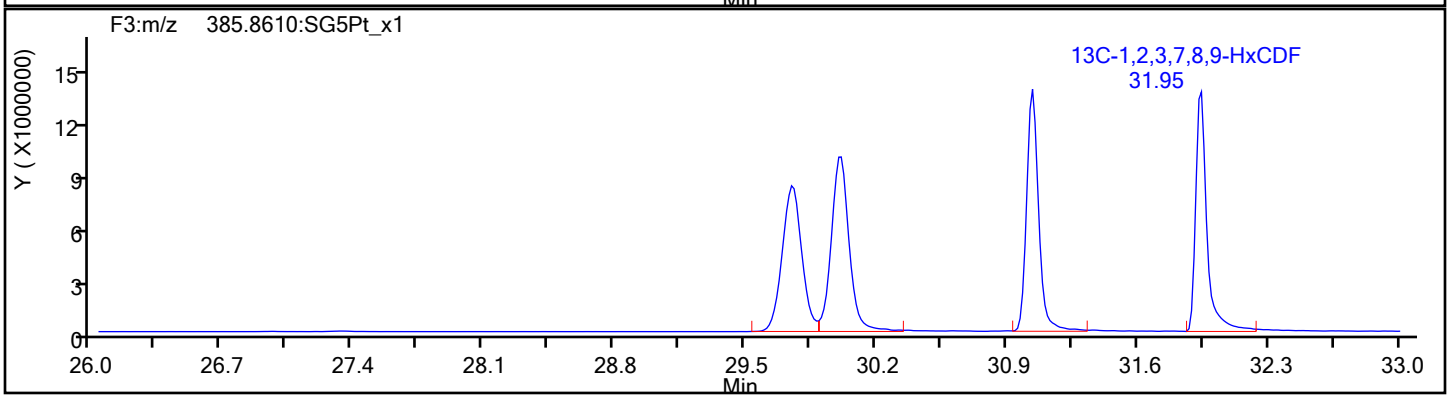

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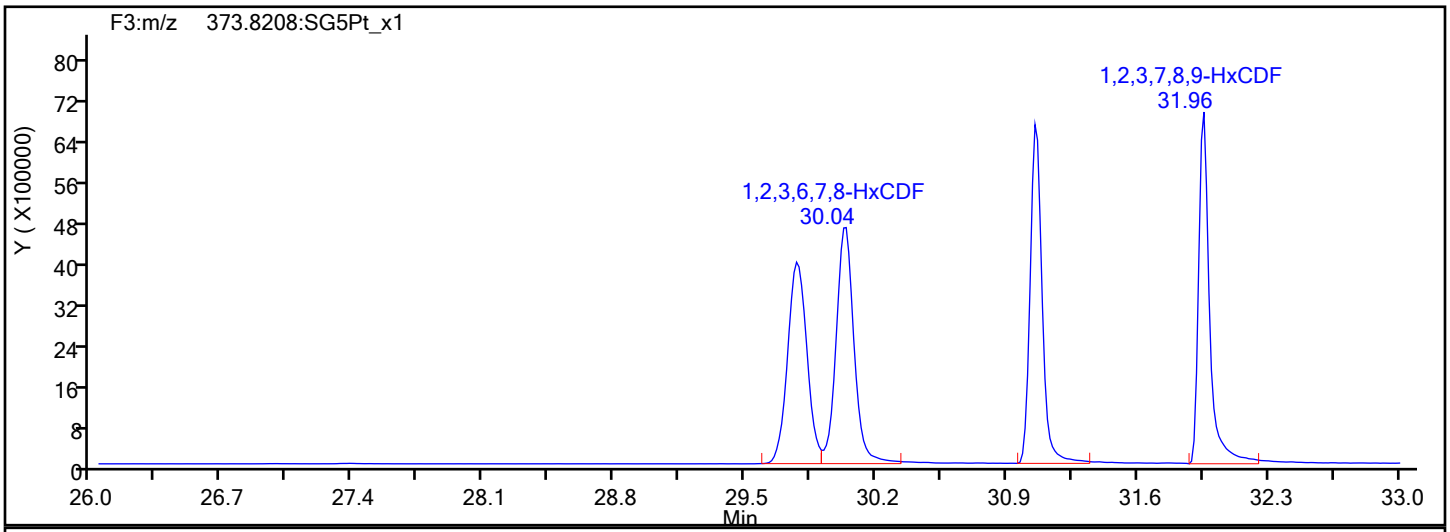

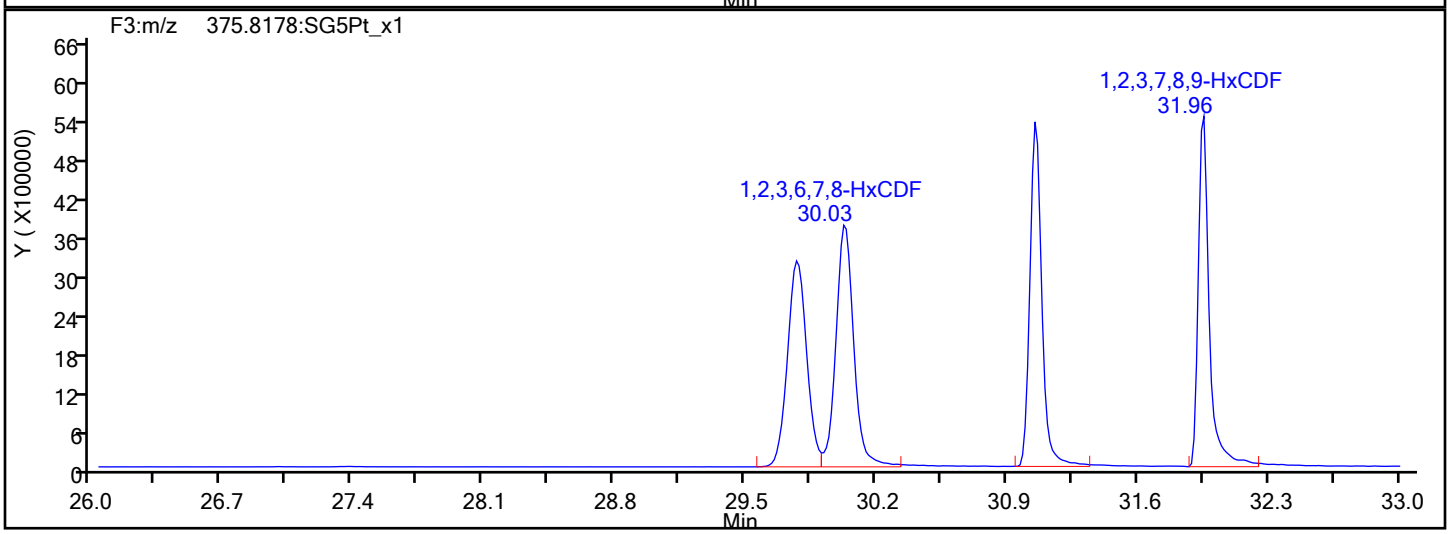

HxCDF Interference Mass

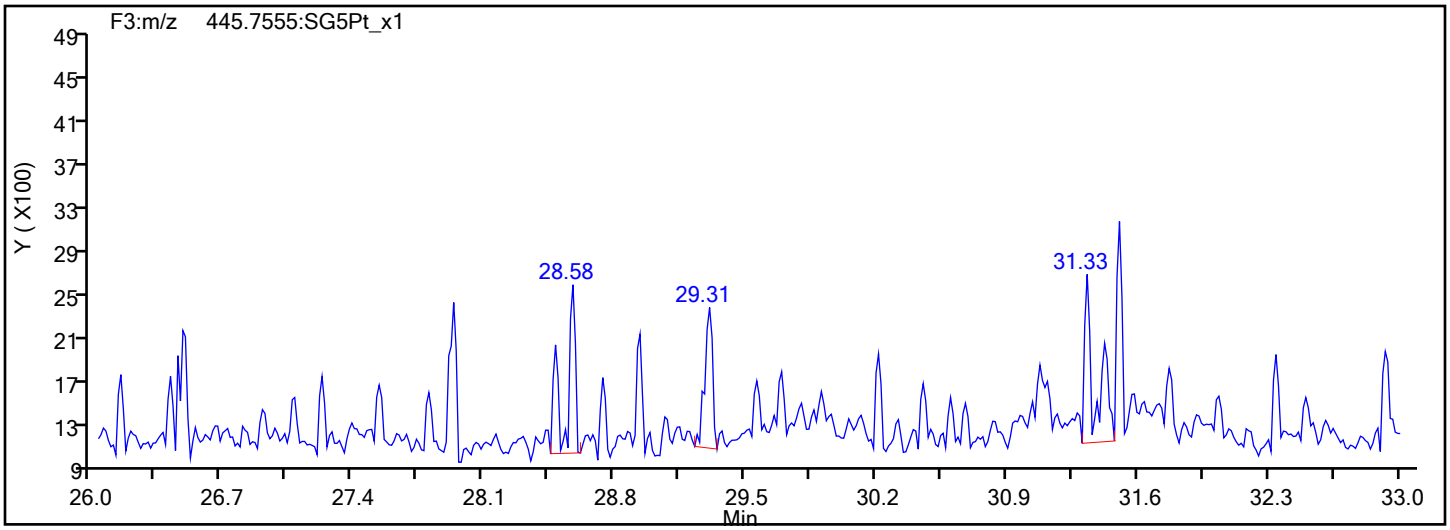

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Eurofins TestAmerica, Sacramento

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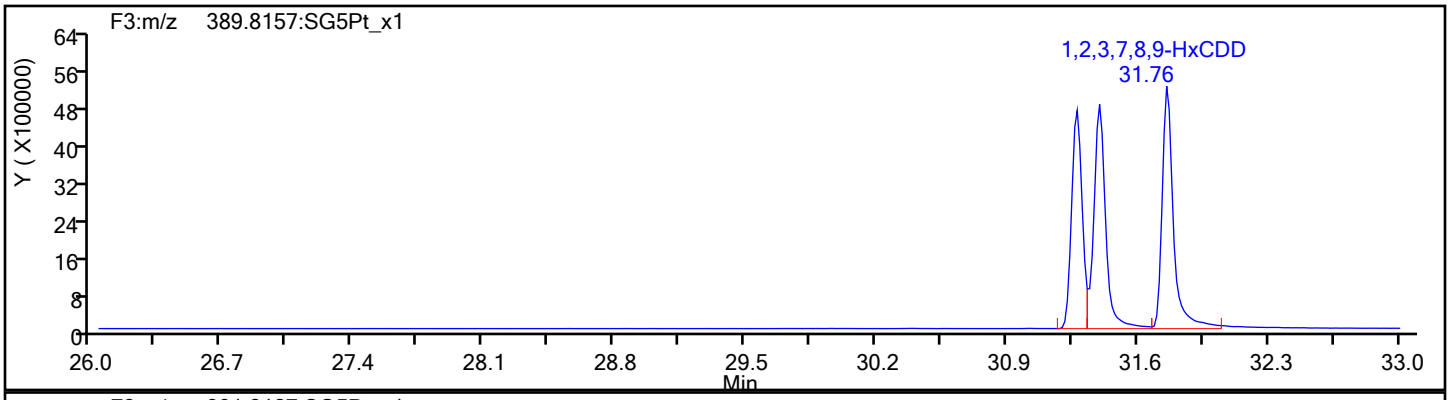

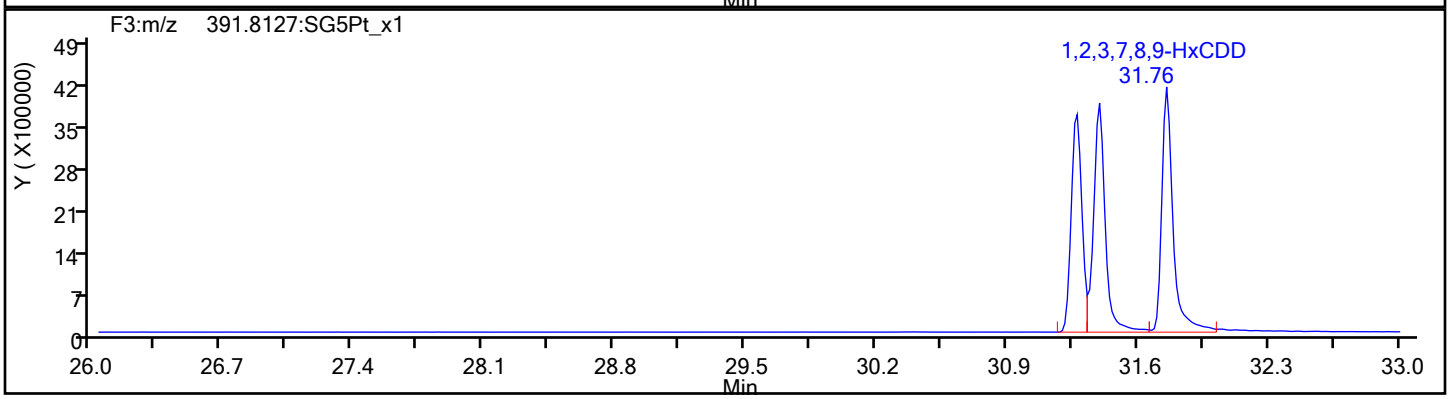

HxCDD Standards

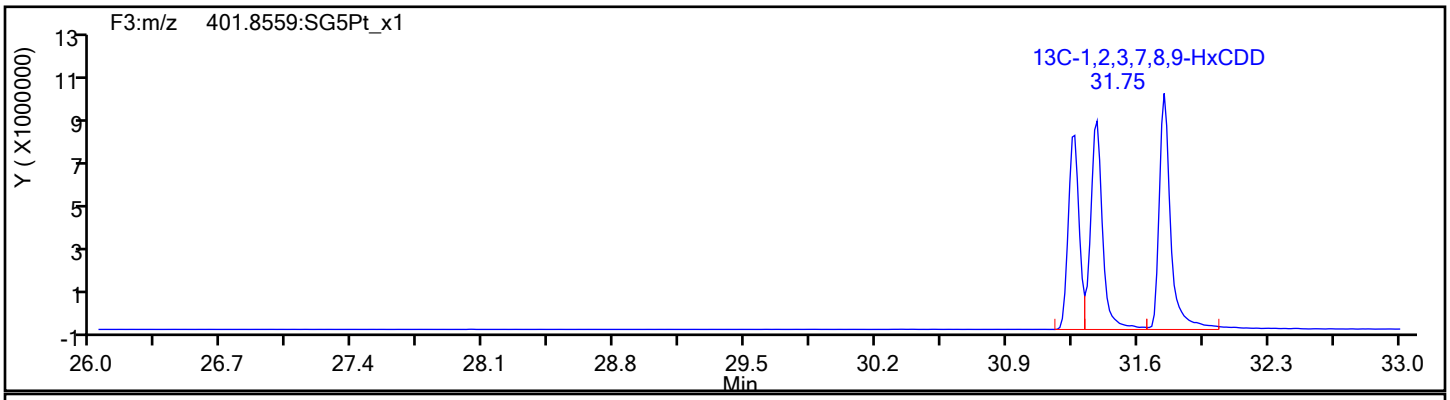

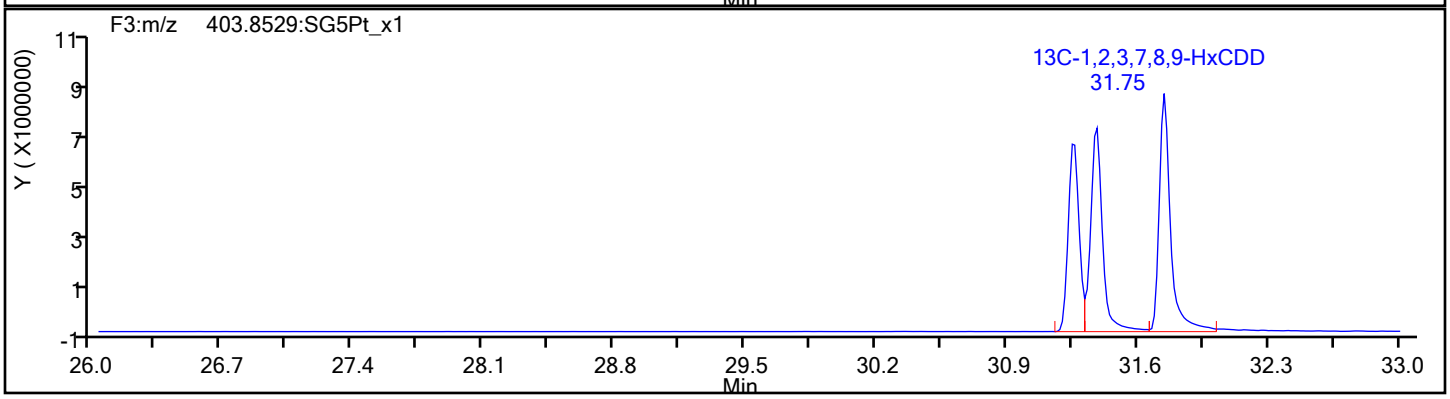

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Eurofins TestAmerica, Sacramento

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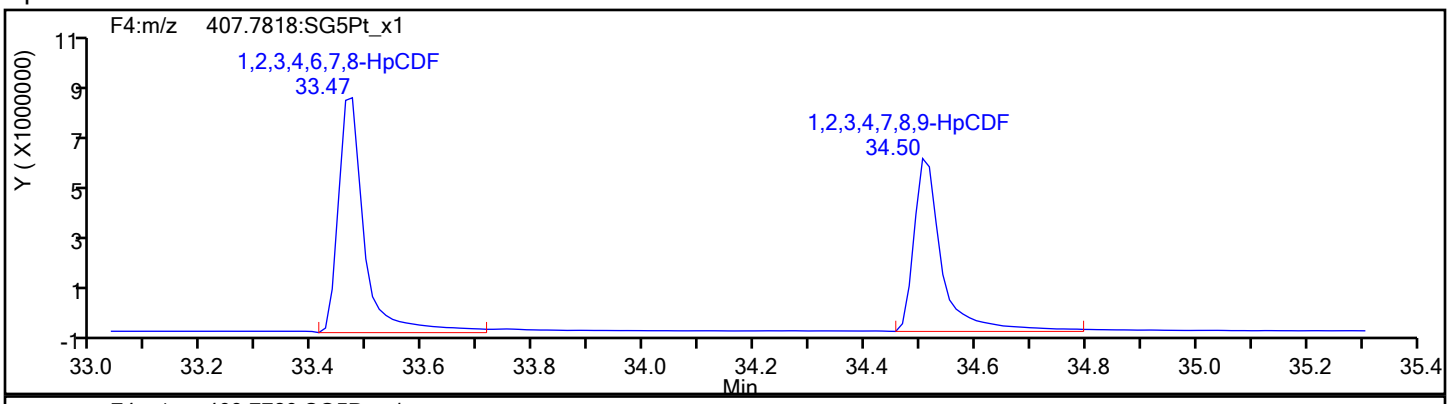

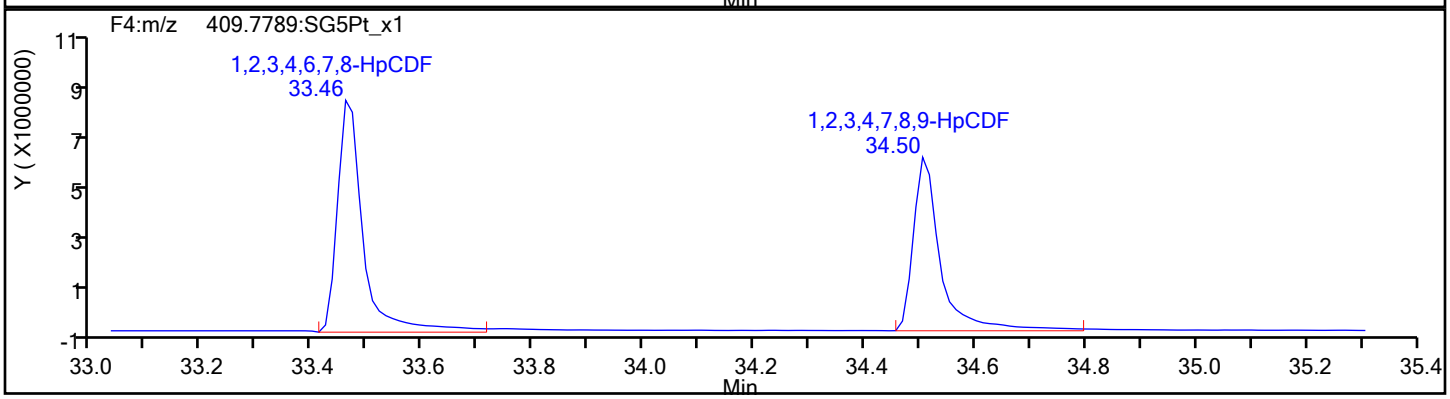

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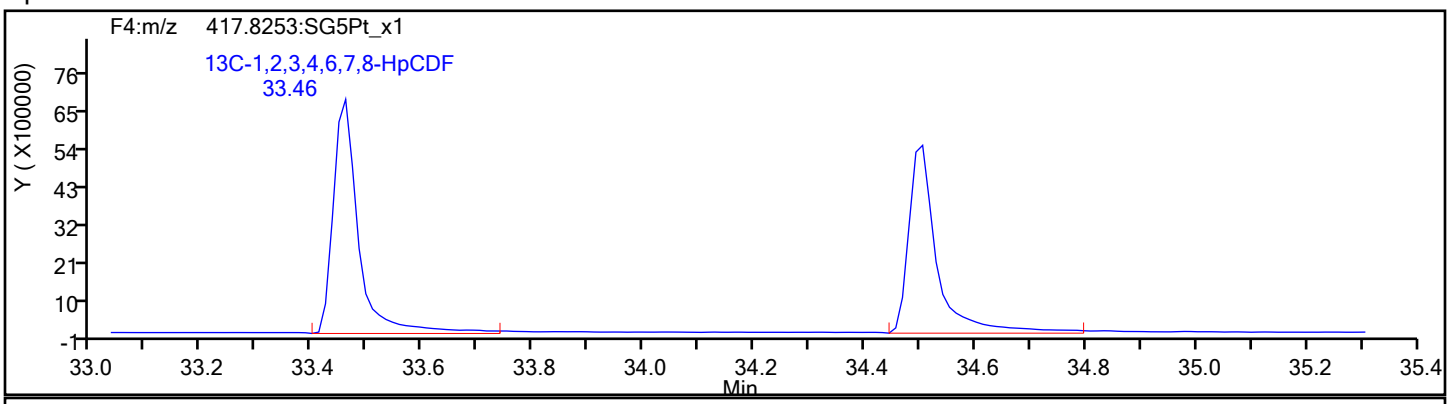

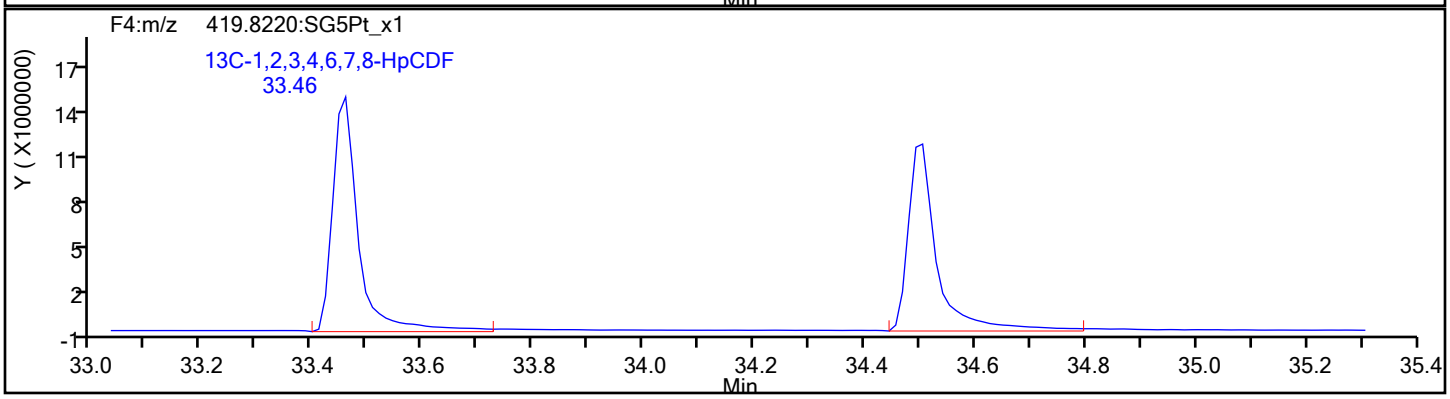

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Eurofins TestAmerica, Sacramento

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HpCDF

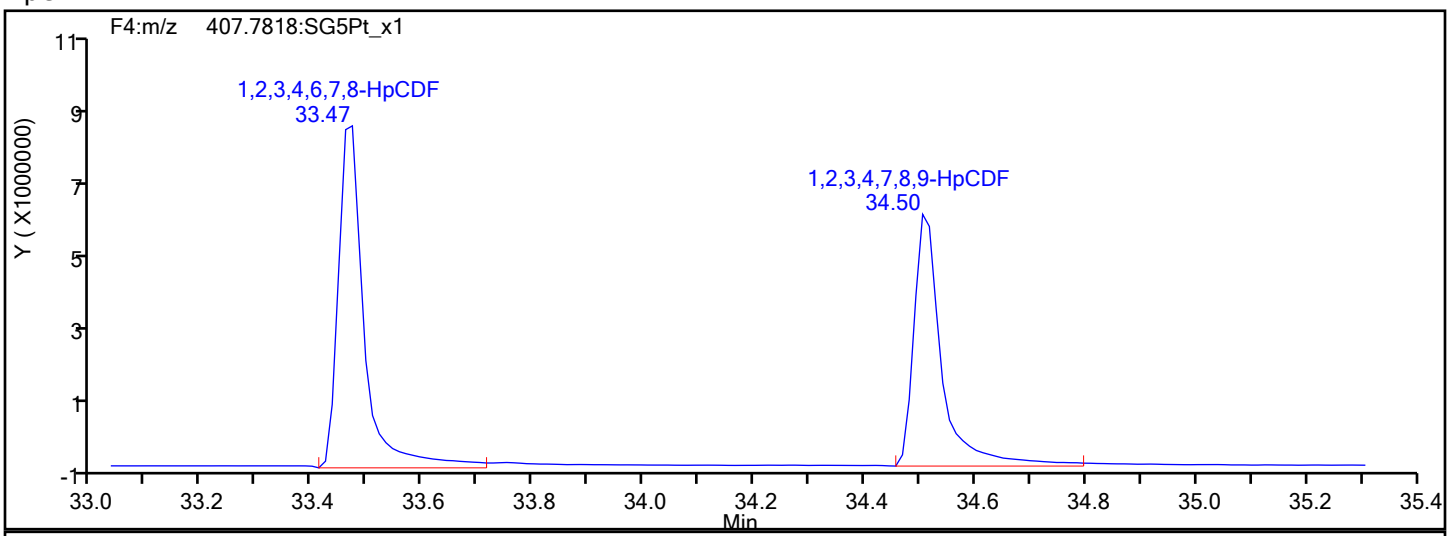

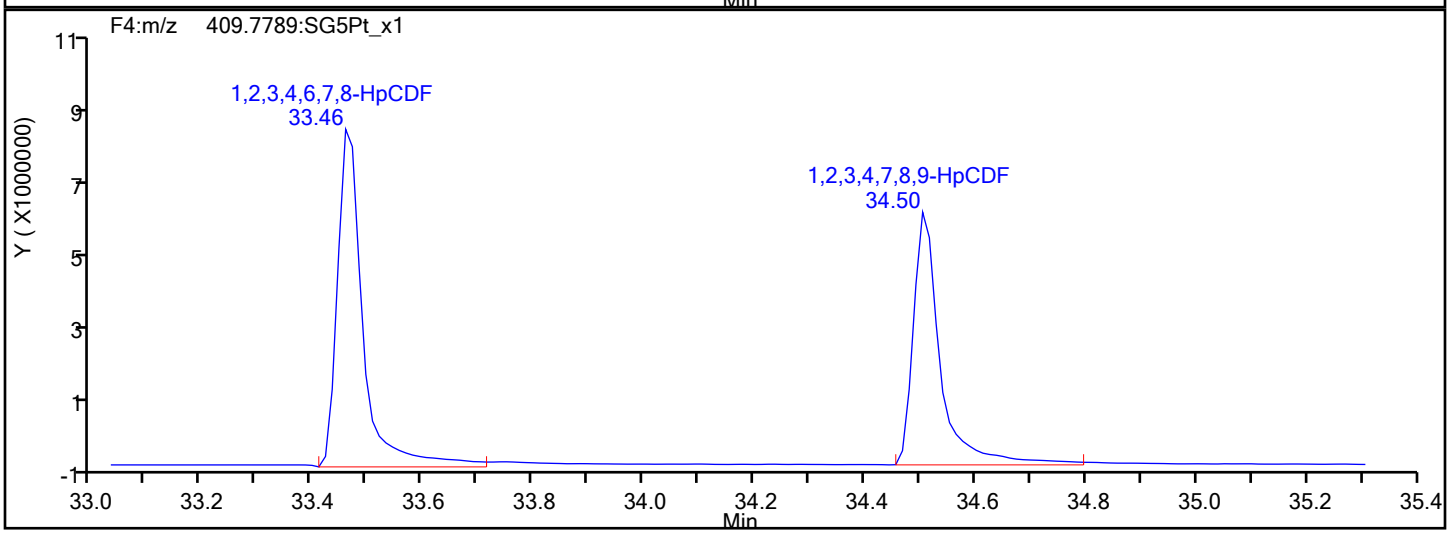

HpCDF Interference Mass

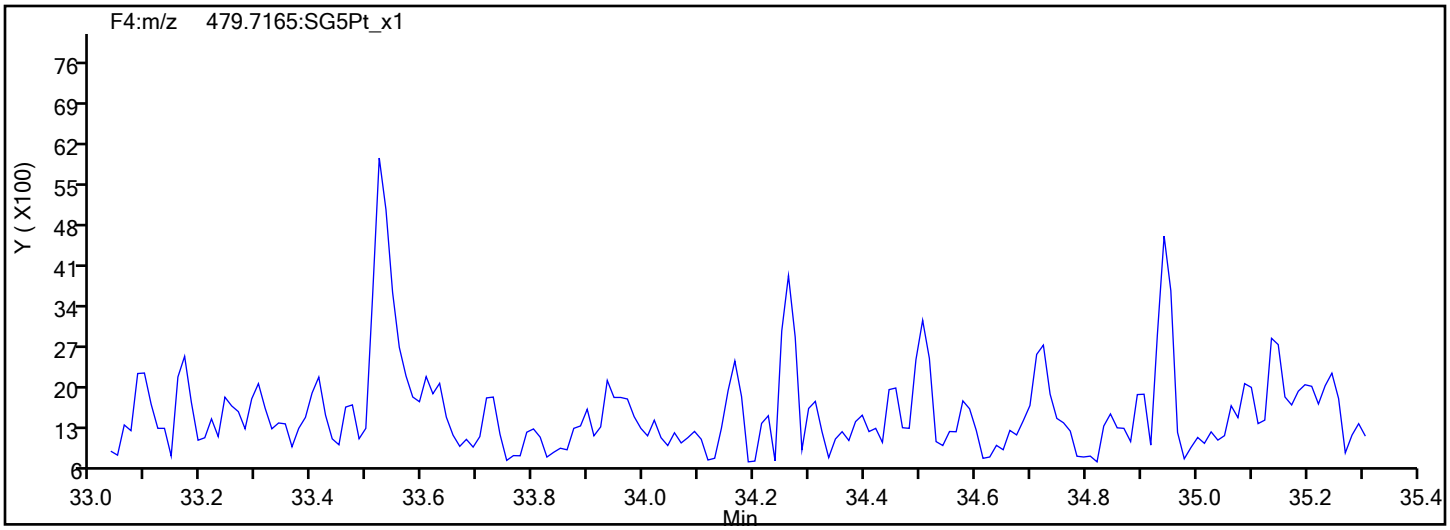

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Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

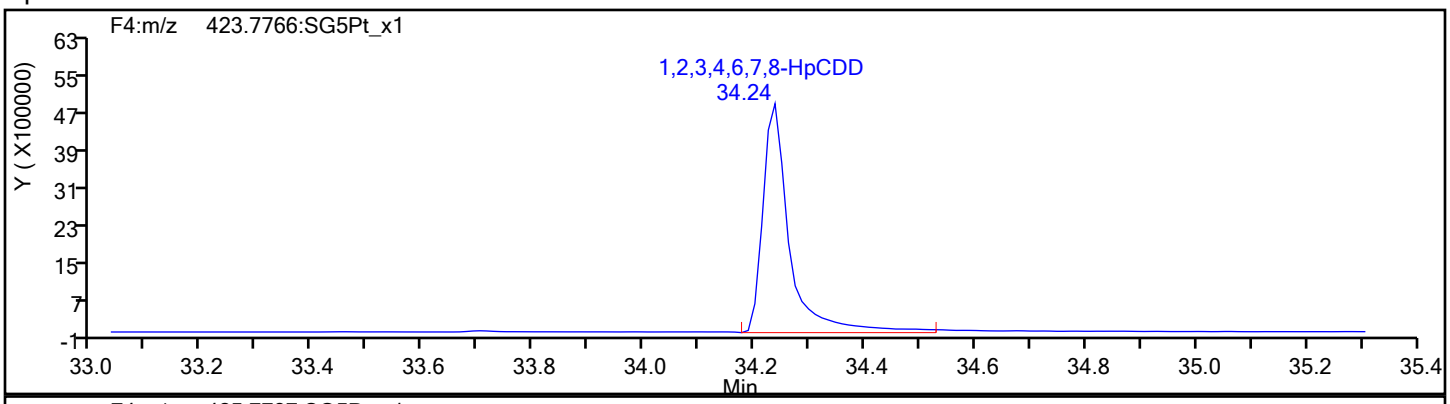

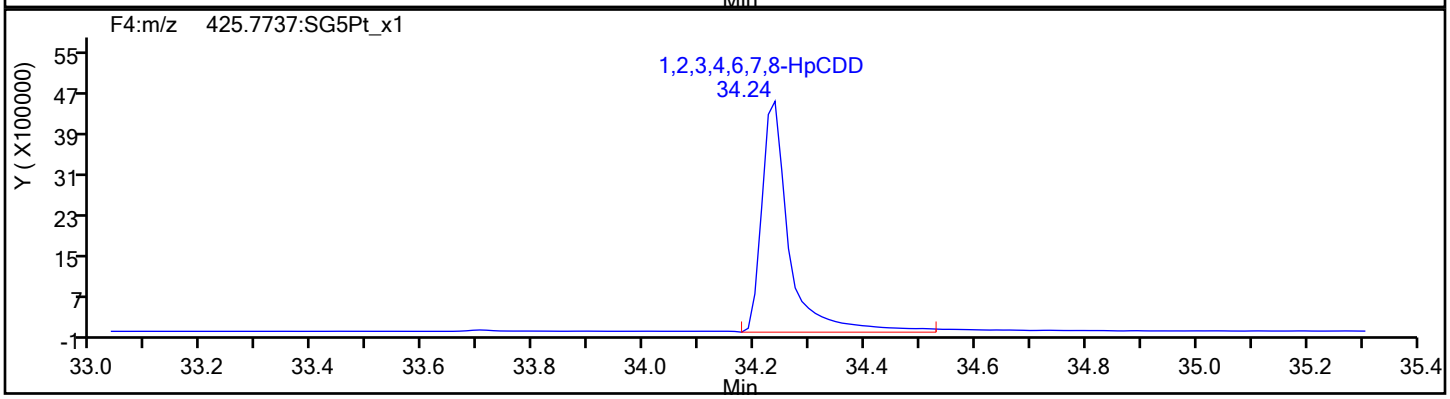

HpCDD Standards

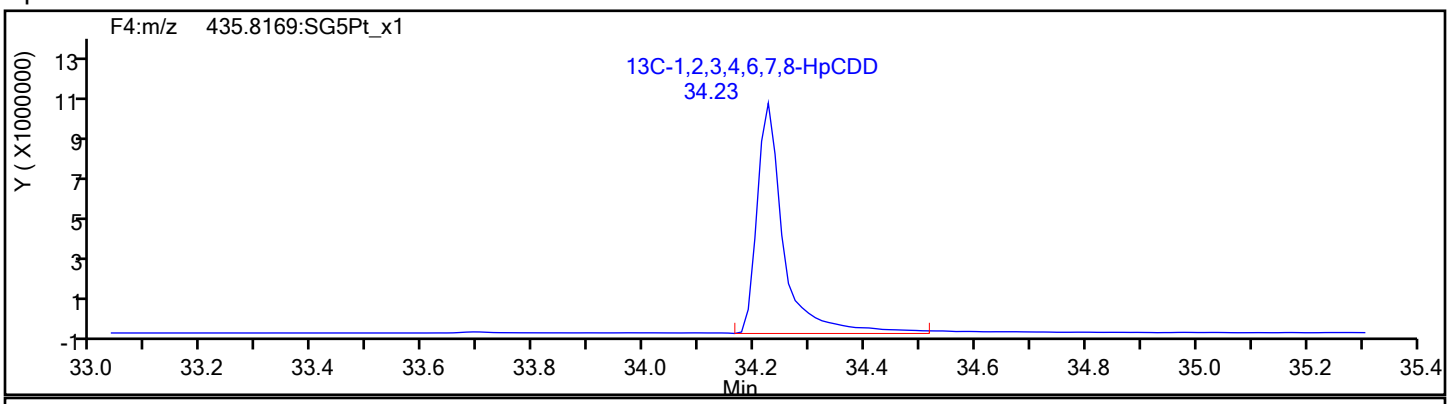

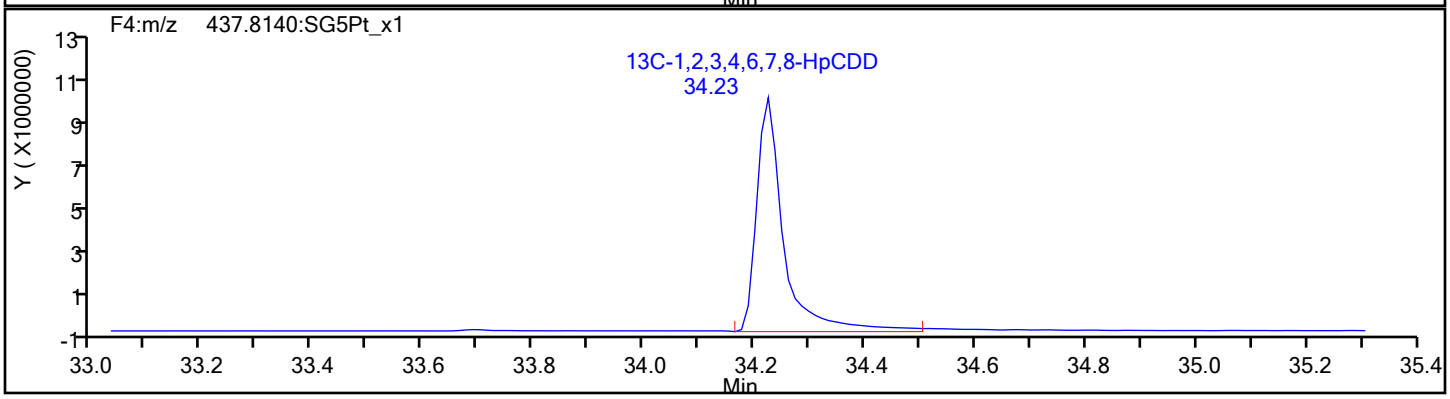

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
Injection Date:	17-Sep-2019 16:09:27	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

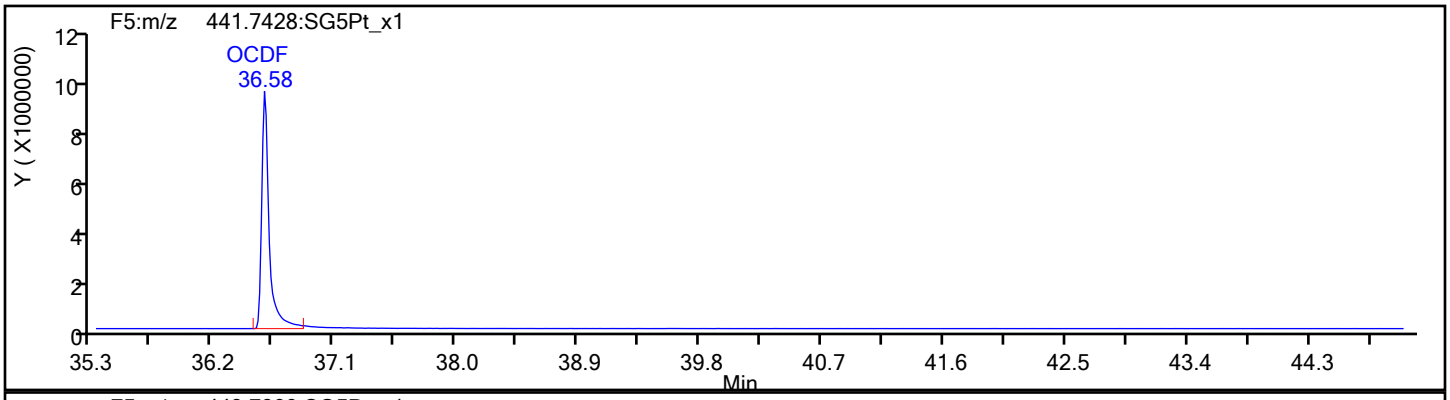

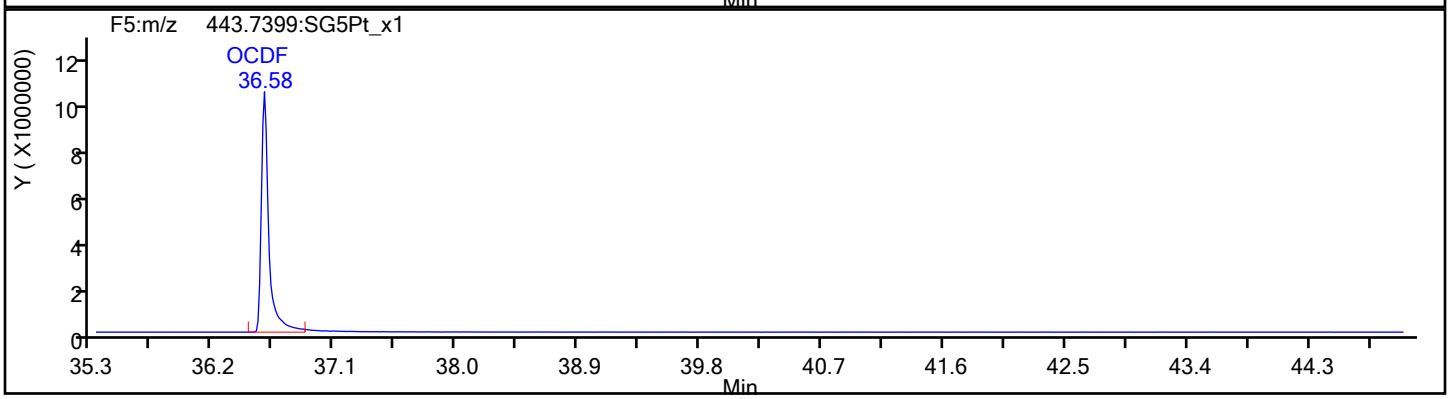

OCDF Standards

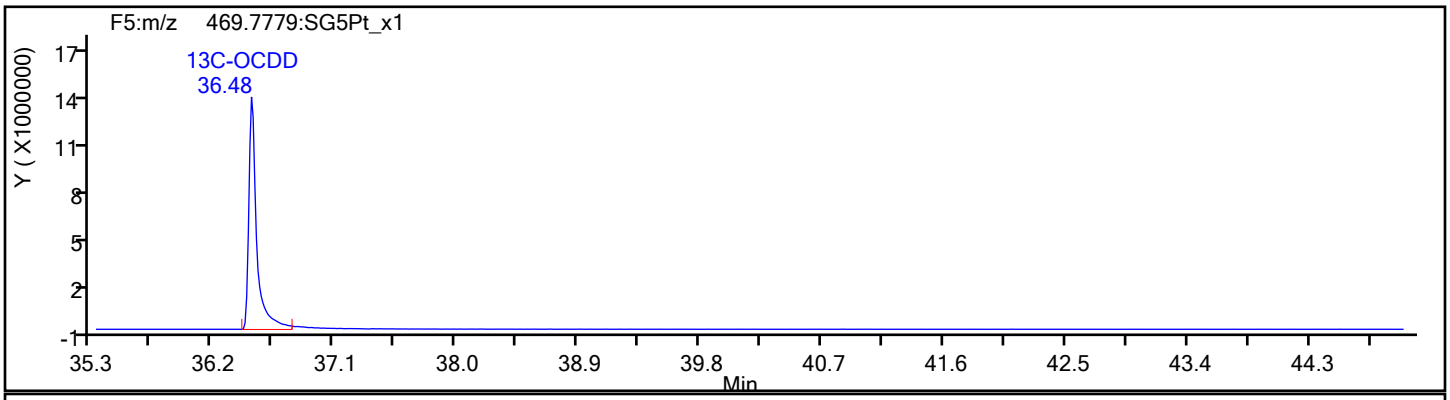

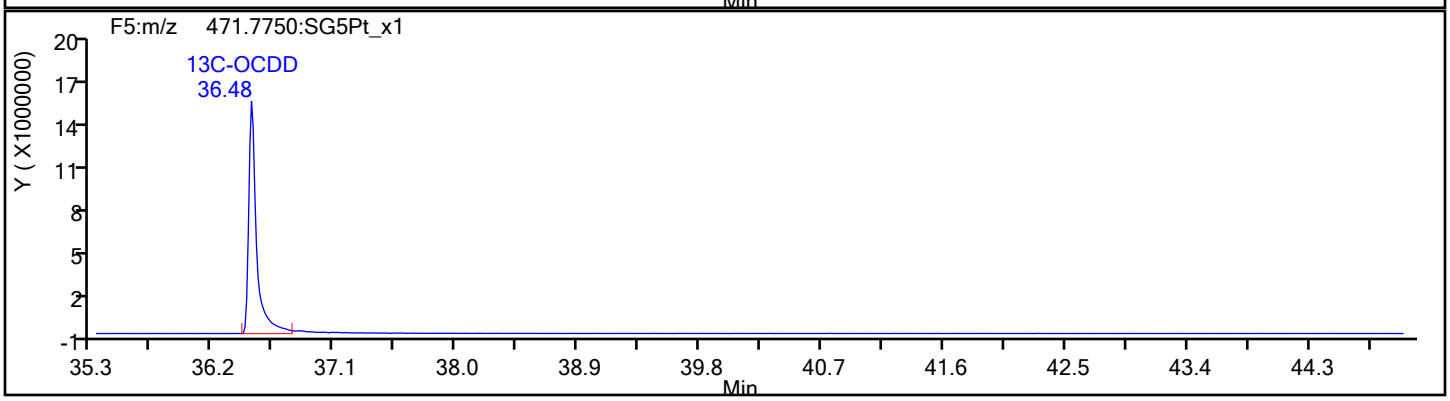

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
Injection Date:	17-Sep-2019 16:09:27	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

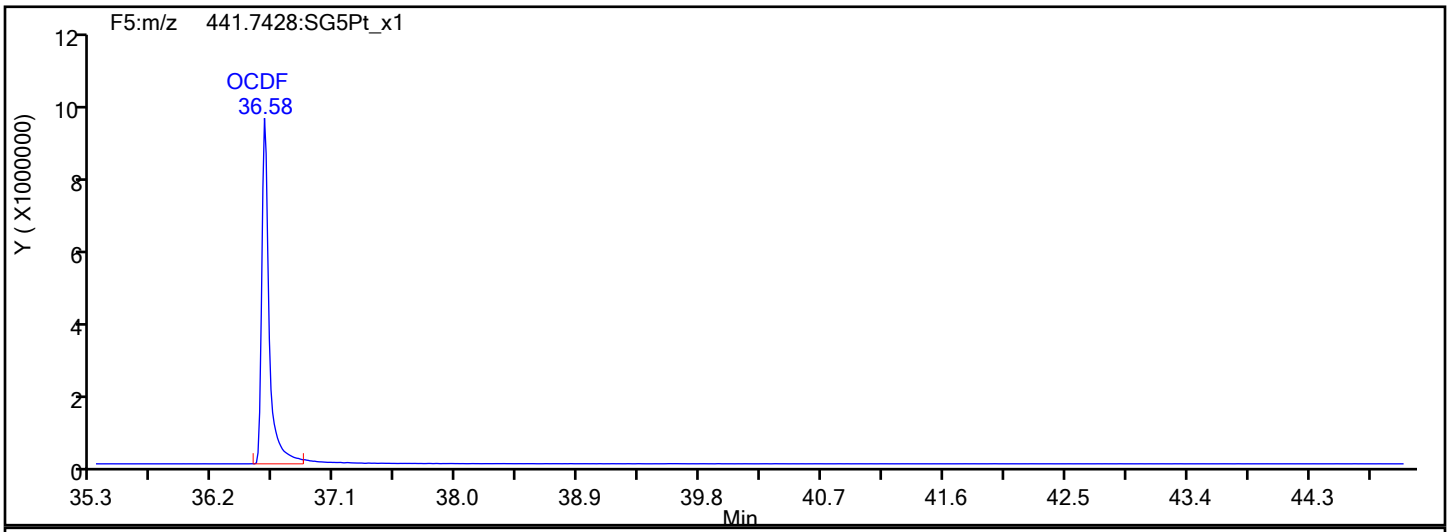

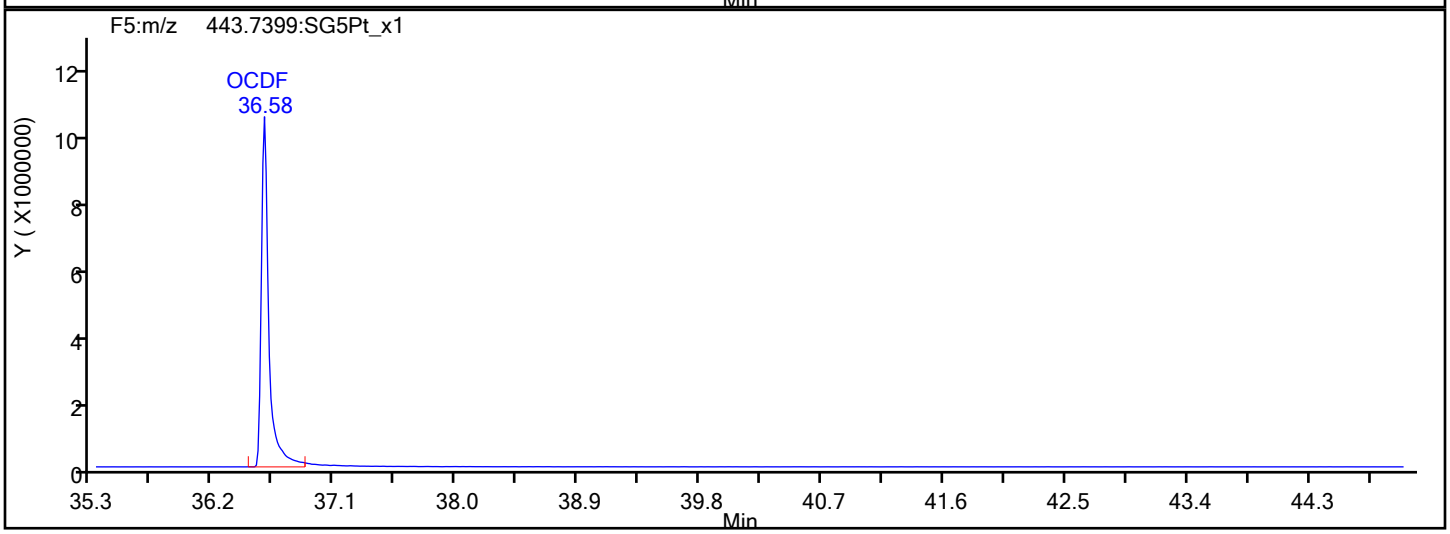

OCDF Interference Mass

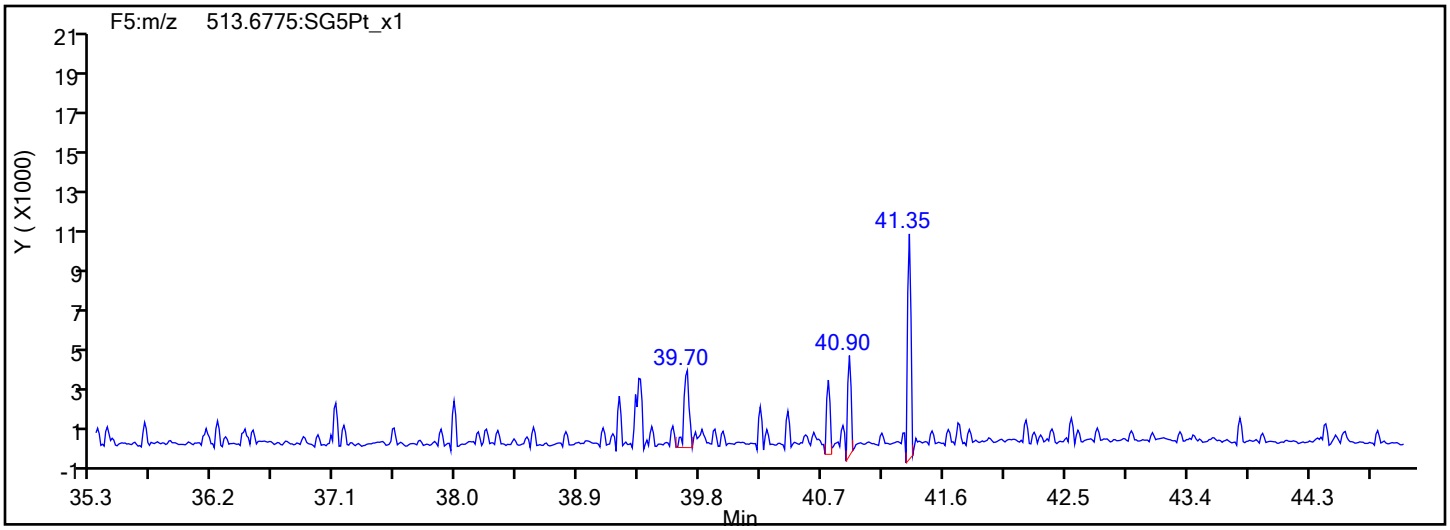

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
Injection Date:	17-Sep-2019 16:09:27	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

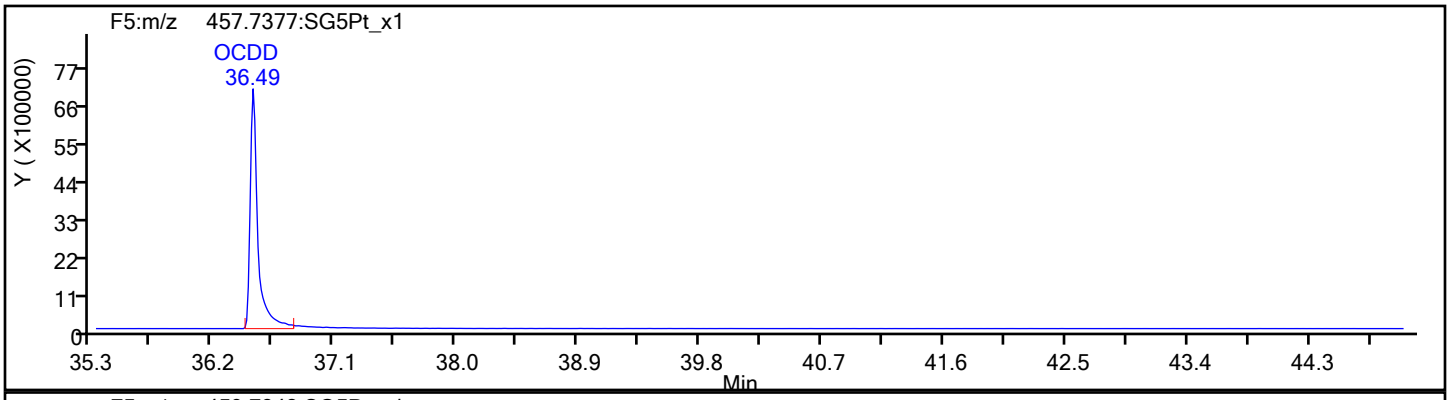

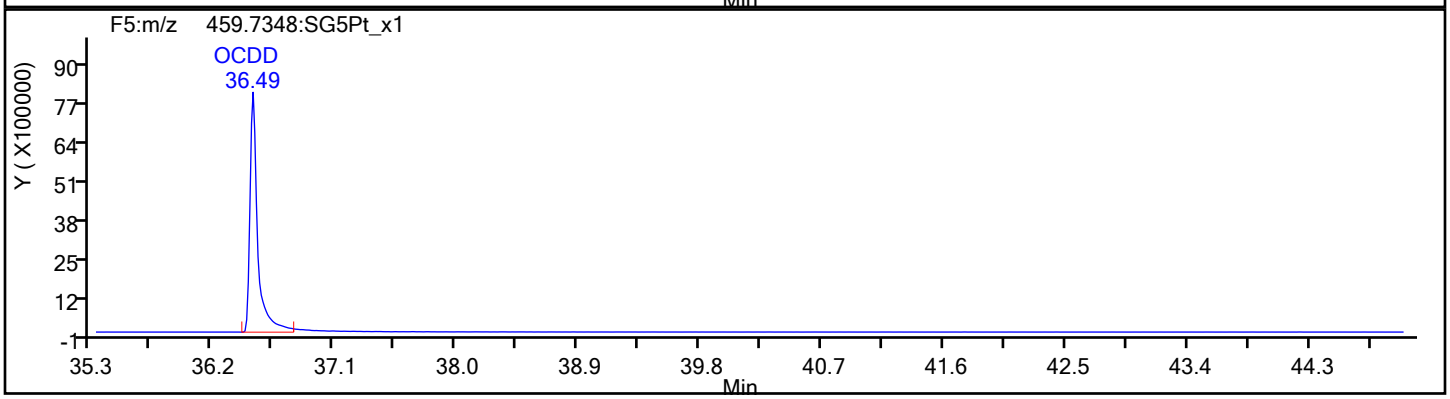

OCDD Standards

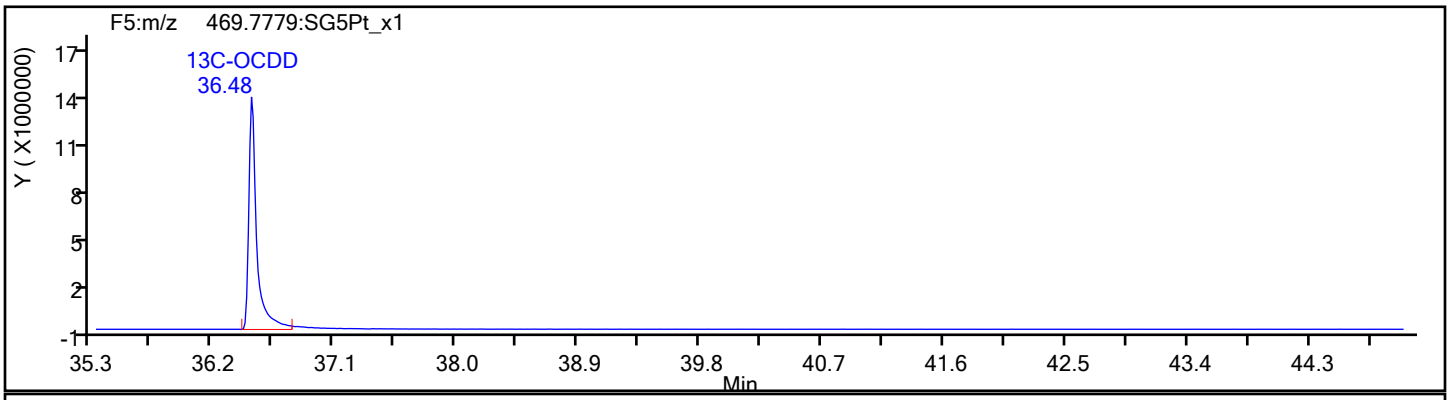

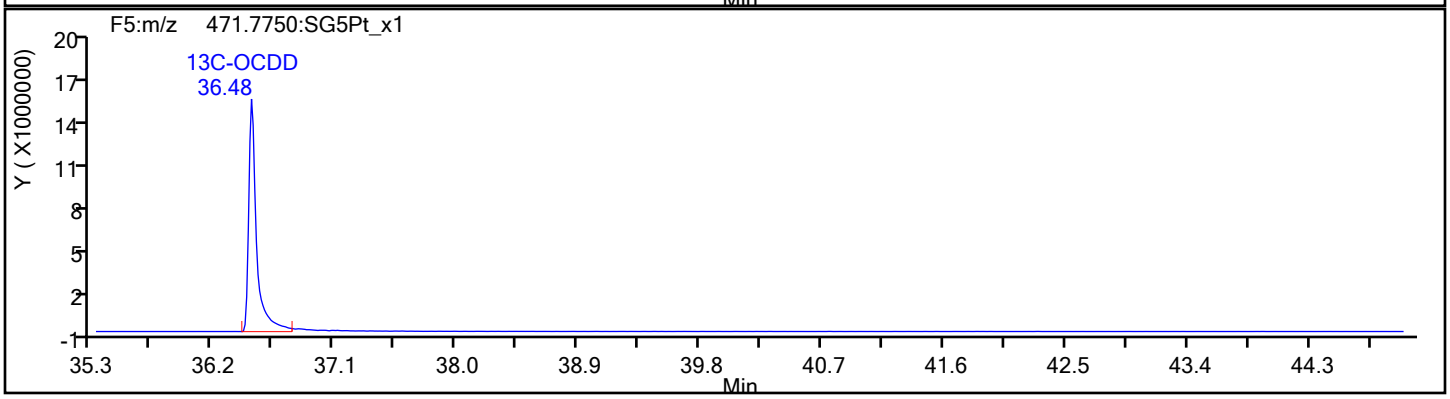

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
Injection Date:	17-Sep-2019 16:09:27	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

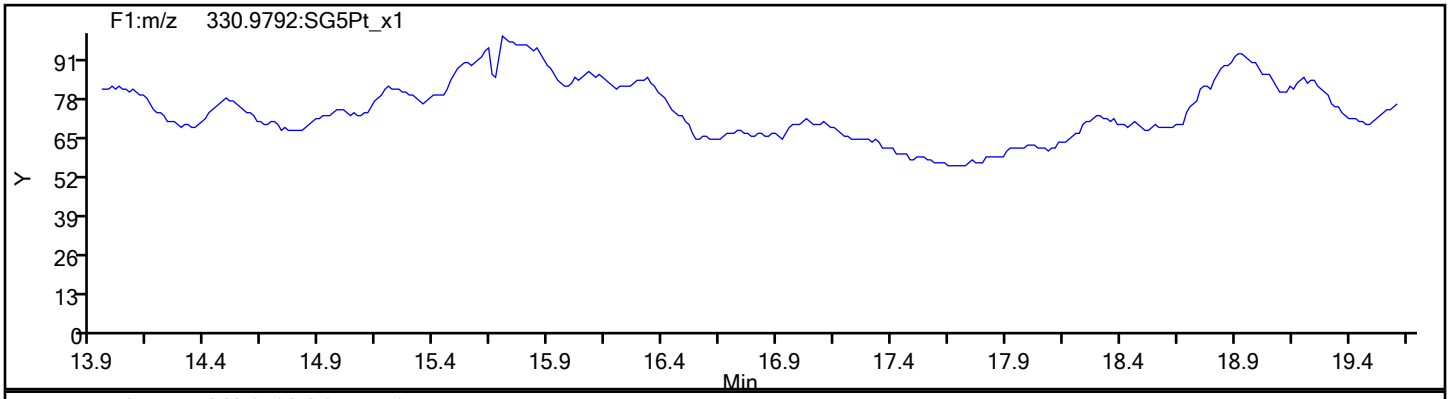

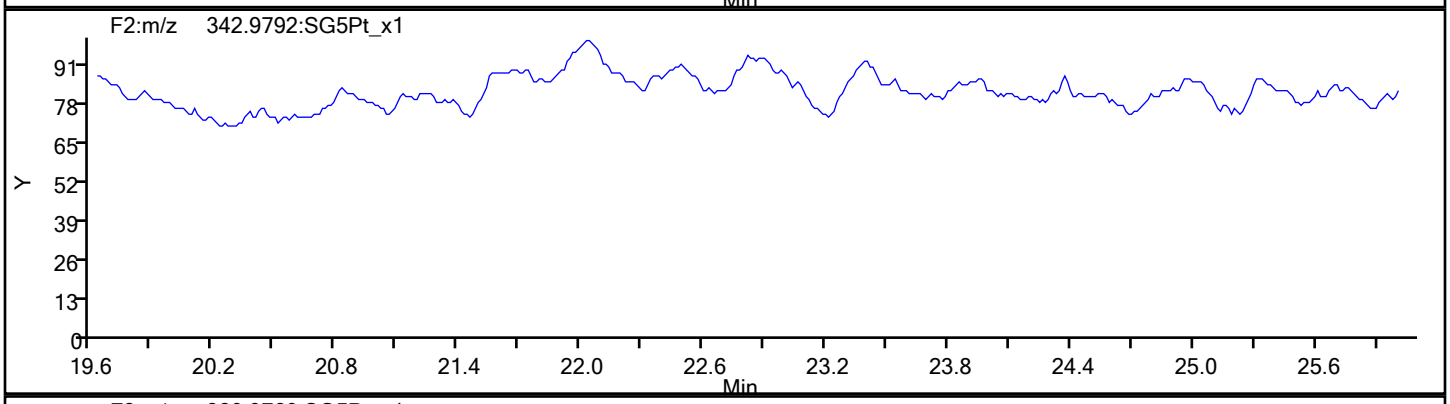

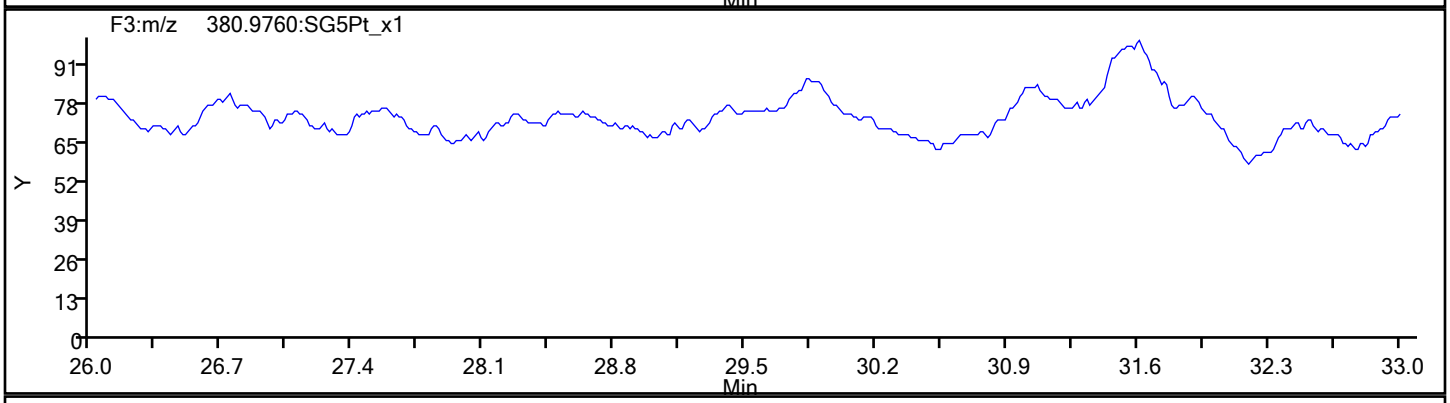

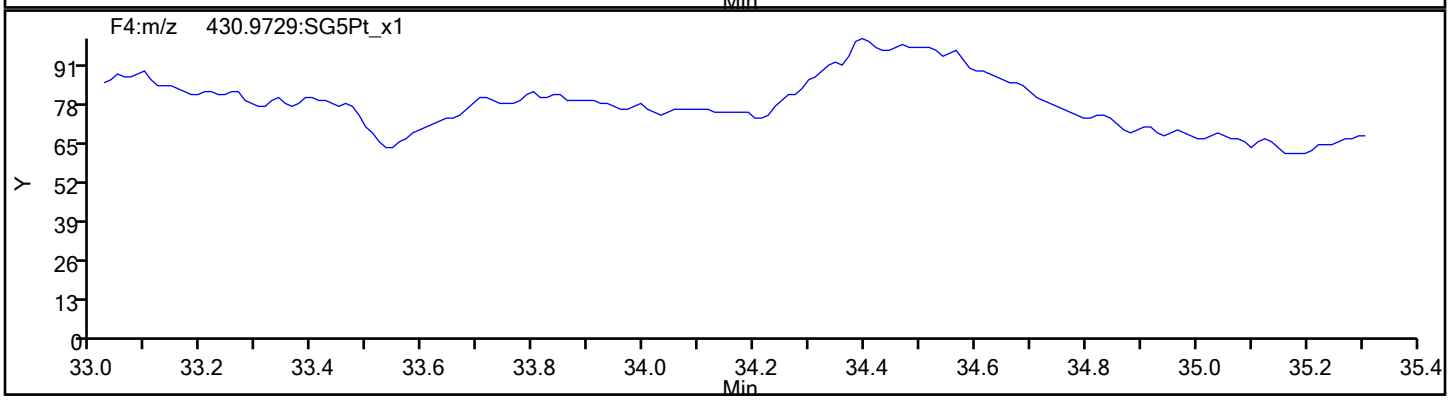

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
Injection Date:	17-Sep-2019 16:09:27	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

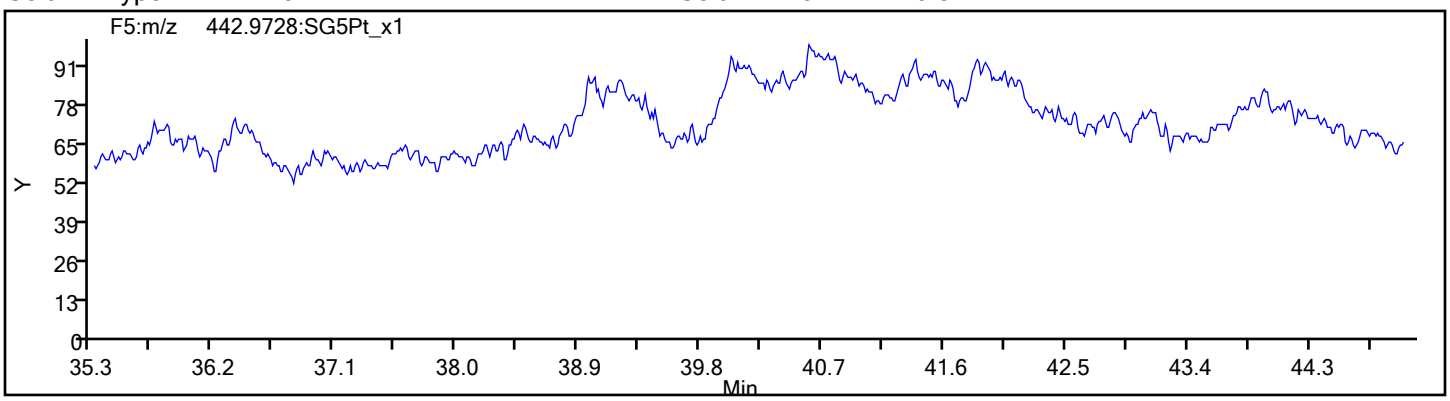

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 17-Sep-2019 16:55:33 ALS Bottle#: 7 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719D CS-6 HRDXNL6_00024
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:47 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:54:56

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.300	157084773	0.78	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.801	225533576	0.80	1.4384	99.8	99.8	0.1407	0.1407	99.82	
2,3,7,8-TCDF	16.816	462672519	0.79	1.0507	195.2	195.2	0.2682	0.2682	97.62	
S Total TCDF					195.2	195.2	0.2682	0.2682		
D 13C-2,3,7,8-TCDD	17.481	150666513	0.77	0.9533	100.6	100.6	0.1699	0.1699	101	
$ 37Cl4-2,3,7,8-TCDD	17.496	402794059		1.2224	209.8	209.8	0.1859	0.1859	105	
2,3,7,8-TCDD	17.511	327747086	0.80	1.1064	196.6	196.6	0.1471	0.1471	98.31	
S Total TCDD					196.6	196.6	0.1471	0.1471		
D 13C-1,2,3,7,8-PeCDF	21.645	171862914	1.60	1.0286	106.4	106.4	0.2163	0.2163	106	
1,2,3,7,8-PeCDF	21.659	1845377073	1.58	1.0822	992.2	992.2	2.737	2.737	99.22	
D 13C-2,3,4,7,8-PeCDF	22.940	167797734	1.58	0.9827	108.7	108.7	0.2264	0.2264	109	
2,3,4,7,8-PeCDF	22.954	1854754260	1.57	1.1032	1001.9	1001.9	2.942	2.942	100	
S Total PeCDF					1994.1	1994.1	2.839	2.839		
D 13C-1,2,3,7,8-PeCDD	23.622	129152474	1.52	0.7481	109.9	109.9	0.1201	0.1201	110	
1,2,3,7,8-PeCDD	23.649	1162563715	1.58	0.9050	994.6	994.6	1.041	1.041	99.46	
S Total PeCDD					994.6	994.6	1.041	1.041		
D 13C-1,2,3,4,7,8-HxCDF	29.775	140595624	0.52	1.1520	100.0	100.0	0.4225	0.4225	99.98	
1,2,3,4,7,8-HxCDF	29.802	1688948701	1.26	1.1973	1003.3	1003.3	7.472	7.472	100	
D 13C-1,2,3,6,7,8-HxCDF	30.015	151833452	0.53	1.2434	100.0	100.0	0.3914	0.3914	100	
1,2,3,6,7,8-HxCDF	30.042	1790437956	1.26	1.1807	998.8	998.8	6.340	6.340	99.88	
D 13C-2,3,4,6,7,8-HxCDF	31.040	147071003	0.53	1.1720	102.8	102.8	0.4153	0.4153	103	
2,3,4,6,7,8-HxCDF	31.066	1773083873	1.25	1.2116	995.1	995.1	4.324	4.324	99.51	
D 13C-1,2,3,7,8,9-HxCDF	31.945	129353689	0.52	1.0655	99.5	99.5	0.4568	0.4568	99.46	
1,2,3,7,8,9-HxCDF	31.958	1579646001	1.26	1.2451	980.8	980.8	4.155	4.155	98.08	
S Total HxCDF					3977.9	3977.9	5.573	5.573		
* 13C-1,2,3,7,8,9-HxCDD	31.745	122060377	1.25	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.266	100374877	1.33	0.7812	105.3	105.3	0.3579	0.3579	105	
1,2,3,4,7,8-HxCDD	31.279	1132407299	1.25	1.1088	1017.5	1017.5	3.102	3.102	102	
D 13C-1,2,3,6,7,8-HxCDD	31.386	116499868	1.24	0.9175	104.0	104.0	0.3048	0.3048	104	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.399	1240444751	1.26	1.0814	984.6	984.6	2.882	2.882	98.46	
1,2,3,7,8,9-HxCDD	31.759	1259477463	1.26	1.2123	958.1	958.1	2.697	2.697	95.81	
S Total HxCDD					2960.2	2960.2	2.894	2.894		
D 13C-1,2,3,4,6,7,8-HpCDF	33.459	106743815	0.46	0.8628	101.4	101.4	1.713	1.713	101	
1,2,3,4,6,7,8-HpCDF	33.472	1613842335	1.05	1.5555	971.9	971.9	14.1	14.1	97.19	
D 13C-1,2,3,4,7,8,9-HpCDF	34.504	100973962	0.46	0.7991	103.5	103.5	1.849	1.849	104	
1,2,3,4,7,8,9-HpCDF	34.504	1391884877	1.05	1.3862	994.4	994.4	18.7	18.7	99.44	
S Total HpCDF					1966.3	1966.3	16.4	16.4		
D 13C-1,2,3,4,6,7,8-HpCDD	34.225	111298169	1.03	0.8739	104.3	104.3	0.8846	0.8846	104	
1,2,3,4,6,7,8-HpCDD	34.237	1030391820	1.05	0.9316	993.8	993.8	7.238	7.238	99.38	
S Total HpCDD					993.8	993.8	7.238	7.238		
D 13C-OCDD	36.493	206464776	0.88	0.7744	218.4	218.4	0.2420	0.2420	109	
OCDF	36.589	2616959337	0.90	1.2596	2012.6	2012.6	1.498	1.498	101	
OCDD	36.505	2125514466	0.89	1.0621	1938.6	1938.6	2.038	2.038	96.93	

Reagents:

HRDXNL6_00024 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 17-Sep-2019 16:55:33 ALS Bottle#: 7 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719D CS-6 HRDXNL6_00024
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:47 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:54:56

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.300	17.303	0		68656888	17703152	11871	29677	1491		
333.9339	17.300	17.303	0		88427885	22923443	14450	36125	1586	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.801	16.810	-1	0.971	100473796	26202504	17815	44537	1471		
317.9389	16.801	16.810	-1	0.971	125059780	32860085	15076	37690	2180	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.816	16.825	-1	1.001	203968881	53426825	28090	70225	1902		
305.8987	16.816	16.825	-1	1.001	258703638	67905008	38497	96242	1764	0.79(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.481	17.490	-1	1.010	65699125	16108883	11871	29677	1357		
333.9339	17.481	17.490	-1	1.010	84967388	20783333	14450	36125	1438	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.496	17.505	-1	1.011	402794059	97947785	36924	92310	2653		
2,3,7,8-TCDD											
319.8965	17.511	17.505	0	1.002	145759899	35006474	11020	27550	3177		
321.8936	17.496	17.505	-1	1.001	181987187	44378051	13000	32500	3414	0.80(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	21.645	21.637	0	1.251	105769386	19380532	21442	53605	904		
353.8970	21.645	21.637	0	1.251	66093528	12006776	14706	36765	816	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.659	21.661	0	1.001	1128987918	207786620	228337	570842	910		
341.8567	21.659	21.661	0	1.001	716389155	132705026	143597	358992	924	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	22.940	22.932	0	1.326	102870411	17592993	21442	53605	820		
353.8970	22.940	22.932	0	1.326	64927323	11060126	14706	36765	752	1.58(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.954	22.954	0	1.001	1134203044	192648194	228337	570842	844		
341.8567	22.954	22.954	0	1.001	720551216	123114818	143597	358992	857	1.57(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.622	23.625	0	1.365	77891431	12413727	9204	23010	1349		
369.8919	23.622	23.625	0	1.365	51261043	8286162	5391	13477	1537	1.52(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.649	23.649	0	1.001	712114532	115586755	47770	119425	2420		
357.8516	23.649	23.649	0	1.001	450449183	73672225	30241	75602	2436	1.58(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.775	29.754	1	0.938	48283336	6569879	20357	50892	323		
385.8610	29.775	29.754	1	0.938	92312288	12535842	37224	93060	337	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.802	29.789	1	1.001	940997687	133250334	383917	959792	347		
375.8178	29.802	29.789	1	1.001	747951014	105366191	299807	749517	351	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.015	30.015	0	0.945	52450288	7974033	20357	50892	392		
385.8610	30.015	30.015	0	0.945	99383164	14861268	37224	93060	399	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.042	30.039	0	1.001	997571168	151931057	383917	959792	396		
375.8178	30.042	30.039	0	1.001	792866788	120963468	299807	749517	403	1.26(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.040	31.043	0	0.978	50759518	11236785	20357	50892	552		
385.8610	31.040	31.043	0	0.978	96311485	21393821	37224	93060	575	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.066	31.059	0	1.001	985093633	220162965	383917	959792	573		
375.8178	31.066	31.059	0	1.001	787990240	173863815	299807	749517	580	1.25(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.945	31.942	0	1.006	44455247	11339049	20357	50892	557		
385.8610	31.945	31.942	0	1.006	84898442	21704283	37224	93060	583	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.958	31.956	0	1.000	881417801	228486168	383917	959792	595		
375.8178	31.958	31.956	0	1.000	698228200	180413640	299807	749517	602	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.745	31.748	0		67929723	16429699	18251	45627	900		
403.8529	31.745	31.748	0		54130654	13145642	14828	37070	887	1.25(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.266	31.261	0	0.985	57329166	14082357	18251	45627	772		
403.8529	31.266	31.261	0	0.985	43045711	11050859	14828	37070	745	1.33(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.279	31.280	0	1.000	629831633	158465261	197312	493280	803		
391.8127	31.279	31.280	0	1.000	502575666	126972690	148417	371042	856	1.25(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.386	31.383	0	0.989	64540443	15691585	18251	45627	860		
403.8529	31.386	31.383	0	0.989	51959425	12036727	14828	37070	812	1.24(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.399	31.402	0	1.000	692132021	165495989	197312	493280	839		
391.8127	31.399	31.402	0	1.000	548312730	133657431	148417	371042	901	1.26(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.759	31.761	0	1.016	702952771	169150562	197312	493280	857		
391.8127	31.759	31.761	0	1.016	556524692	136362240	148417	371042	919	1.26(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.459	33.457	0	1.054	33673507	11080194	54234	135585	204		
419.8220	33.459	33.457	0	1.054	73070308	23803007	120568	301420	197	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.472	33.469	0	1.000	828352693	264674315	15239773	809942	174		
409.7789	33.459	33.469	-1	1.000	785489642	258152347	15359593	839897	168	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.504	34.502	0	1.087	31611144	9286341	54234	135585	171		
419.8220	34.504	34.502	0	1.087	69362818	20149549	120568	301420	167	0.46(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.504	34.509	0	1.000	711389911	208533041	15239773	809942	137		
409.7789	34.504	34.509	0	1.000	680494966	202816426	15359593	839897	132	1.05(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.225	34.227	0	1.078	56576314	17187295	46326	115815	371		
437.8140	34.225	34.227	0	1.078	54721855	16668841	45125	112812	369	1.03(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.237	34.235	0	1.000	528198445	160615442	456142	1140355	352		
425.7737	34.237	34.235	0	1.000	502193375	149899801	457044	1142610	328	1.05(0.88-1.20)	
13C-OCDD											
469.7779	36.493	36.486	0	1.150	96929202	24000709	8587	21467	2795		
471.7750	36.493	36.486	0	1.150	109535574	26795340	13585	33962	1972	0.88(0.76-1.02)	
OCDF											
441.7428	36.589	36.581	0	1.003	1236830988	325979490	105711	264277	3084		
443.7399	36.589	36.581	0	1.003	1380128349	358207842	85997	214992	4165	0.90(0.76-1.02)	
OCDD											
457.7377	36.505	36.497	0	1.000	1001000005	251130559	122617	306542	2048		
459.7348	36.505	36.497	0	1.000	1124514461	278735720	97234	243085	2867	0.89(0.76-1.02)	

Reagents:

HRDXNL6_00024 Amount Added: 1.00 Units: mL

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Injection Date:	17-Sep-2019 16:55:33	Injection Vol:	2.0 ul
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

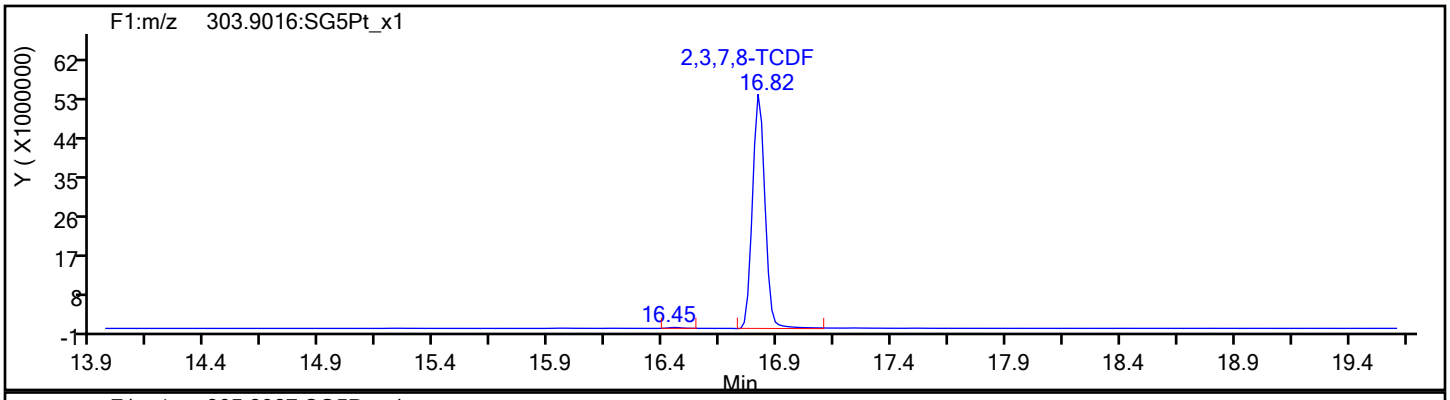

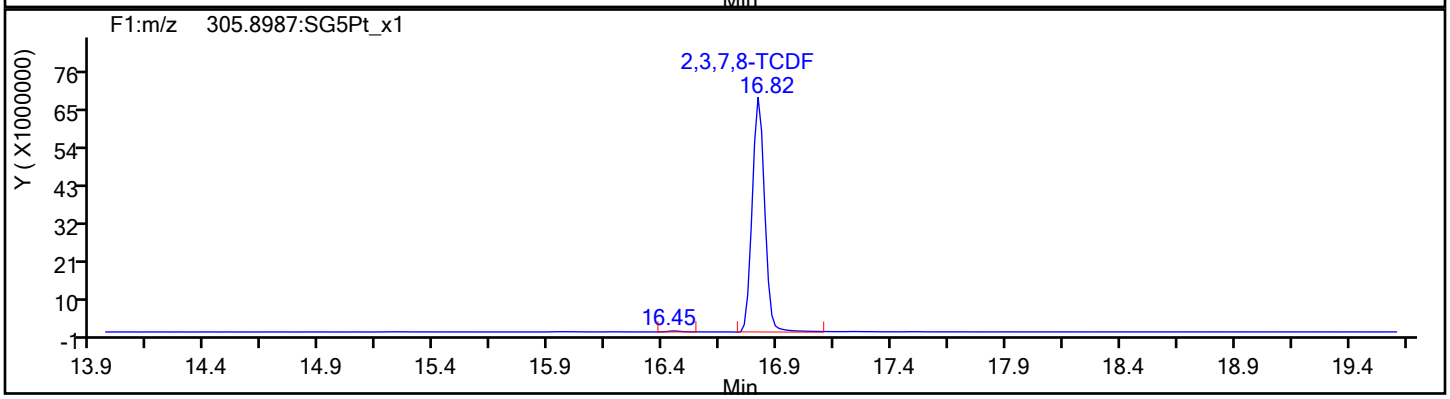

TCDF Standards

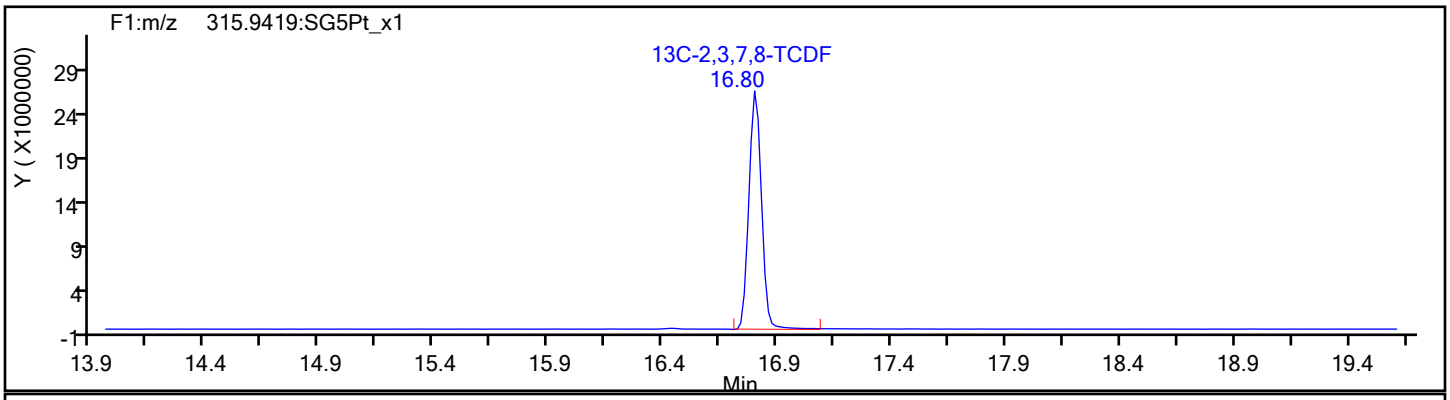

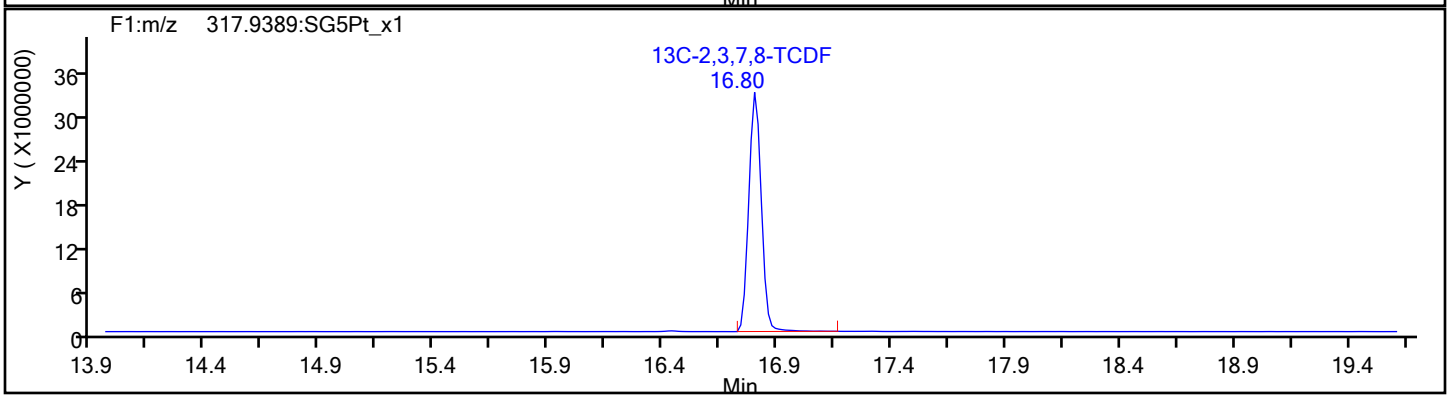

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

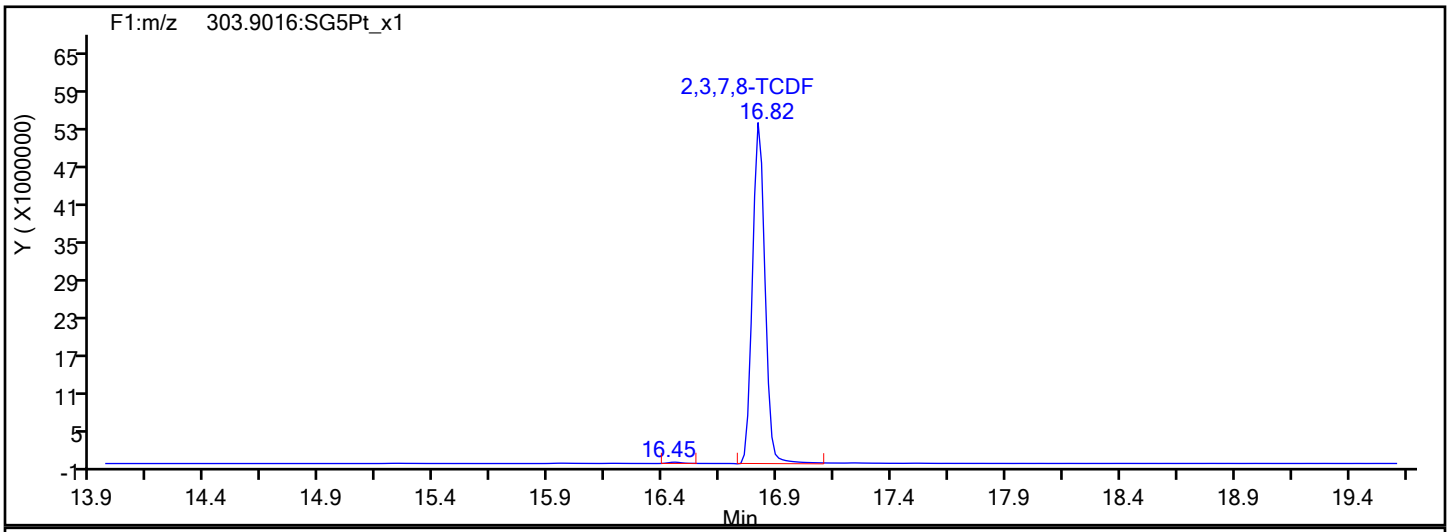

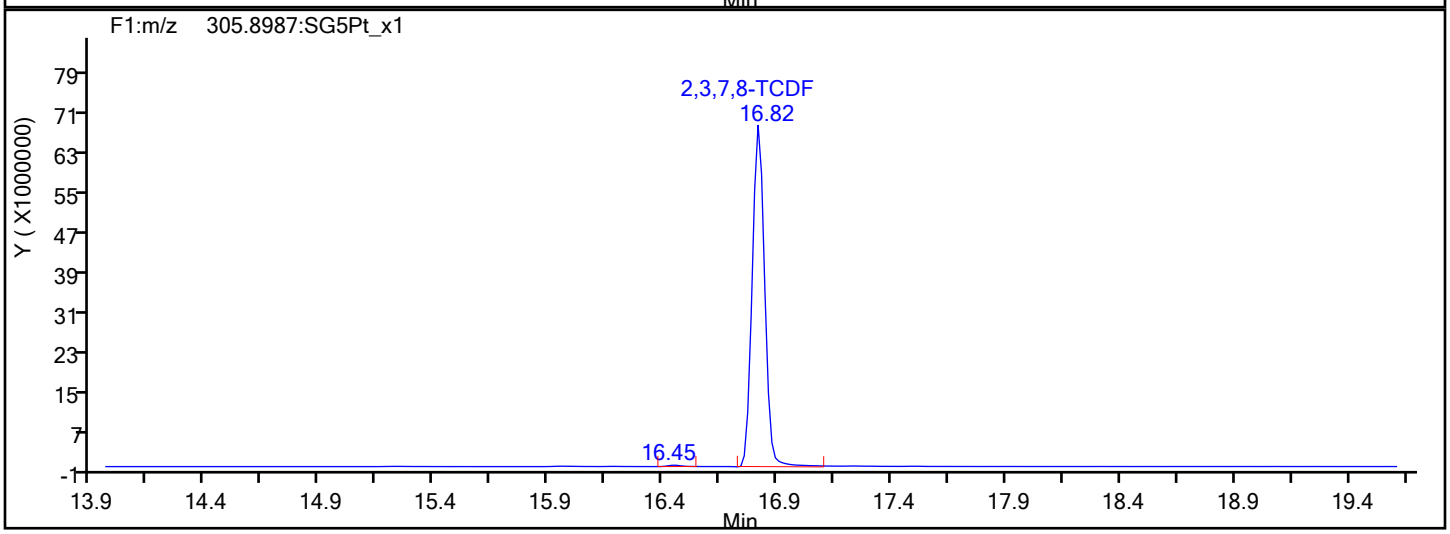

TCDF Interference Mass

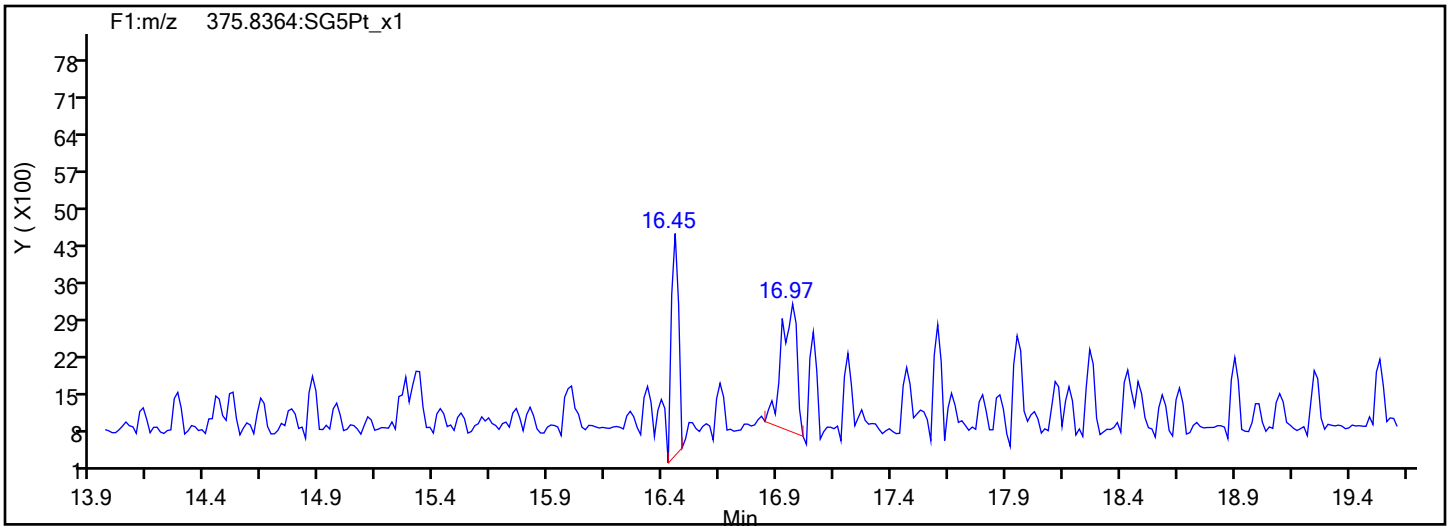

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

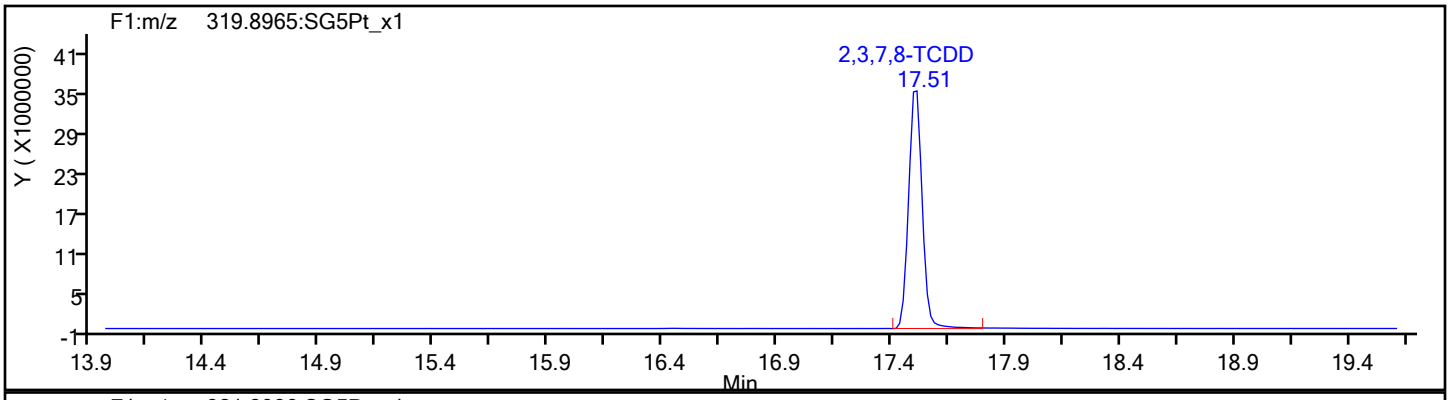

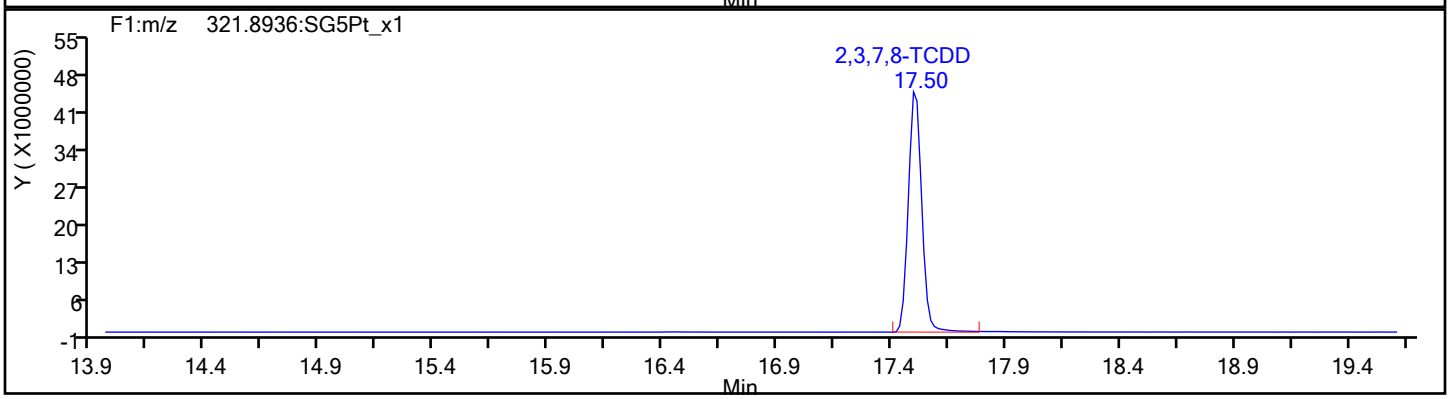

TCDD Standards

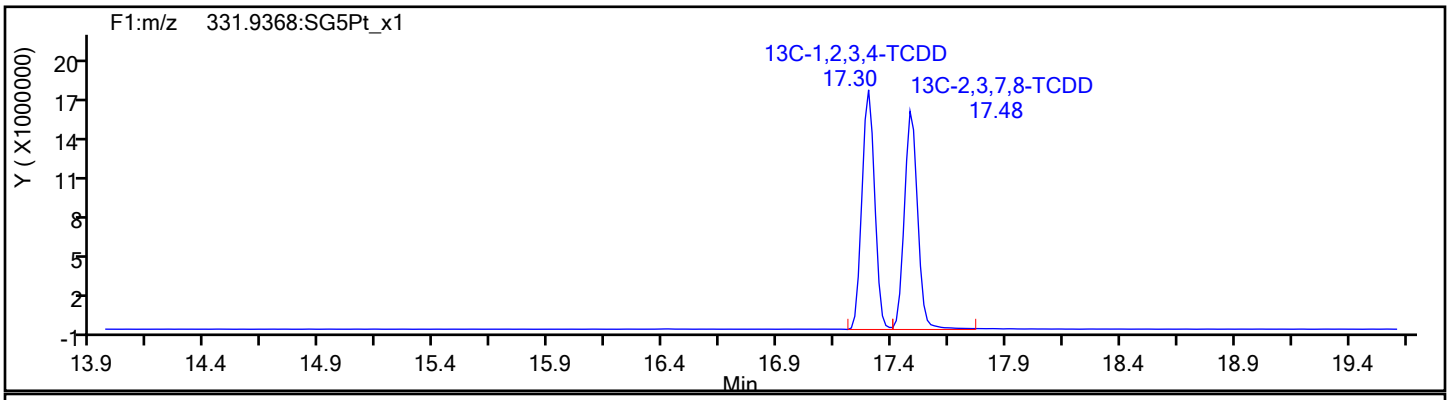

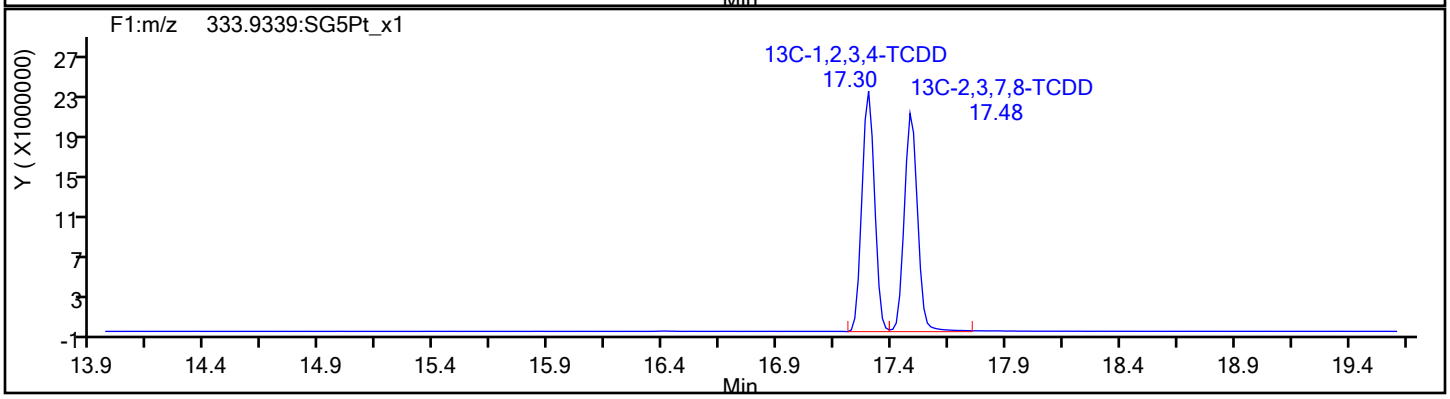

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Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

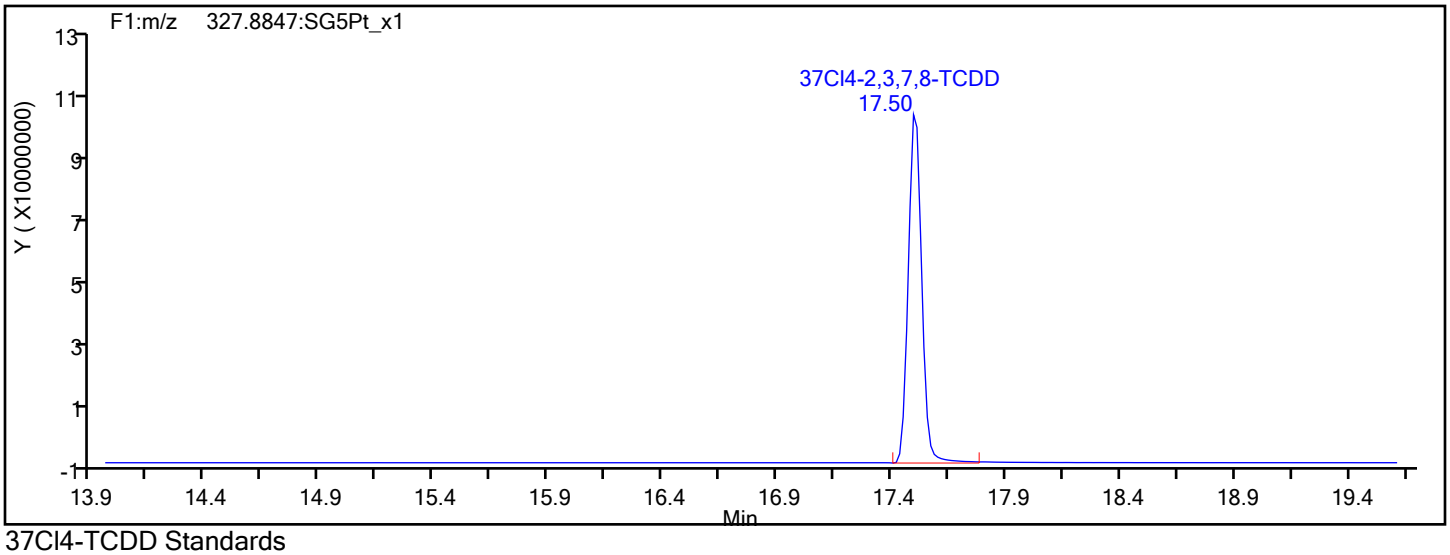

37Cl4-TCDD Standards

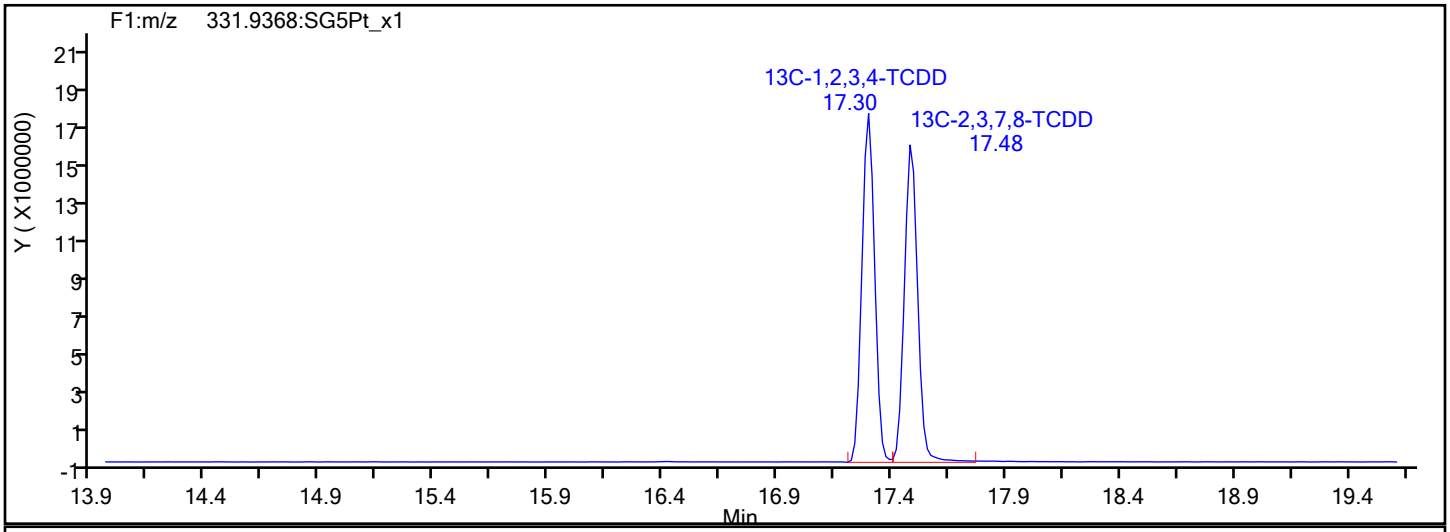

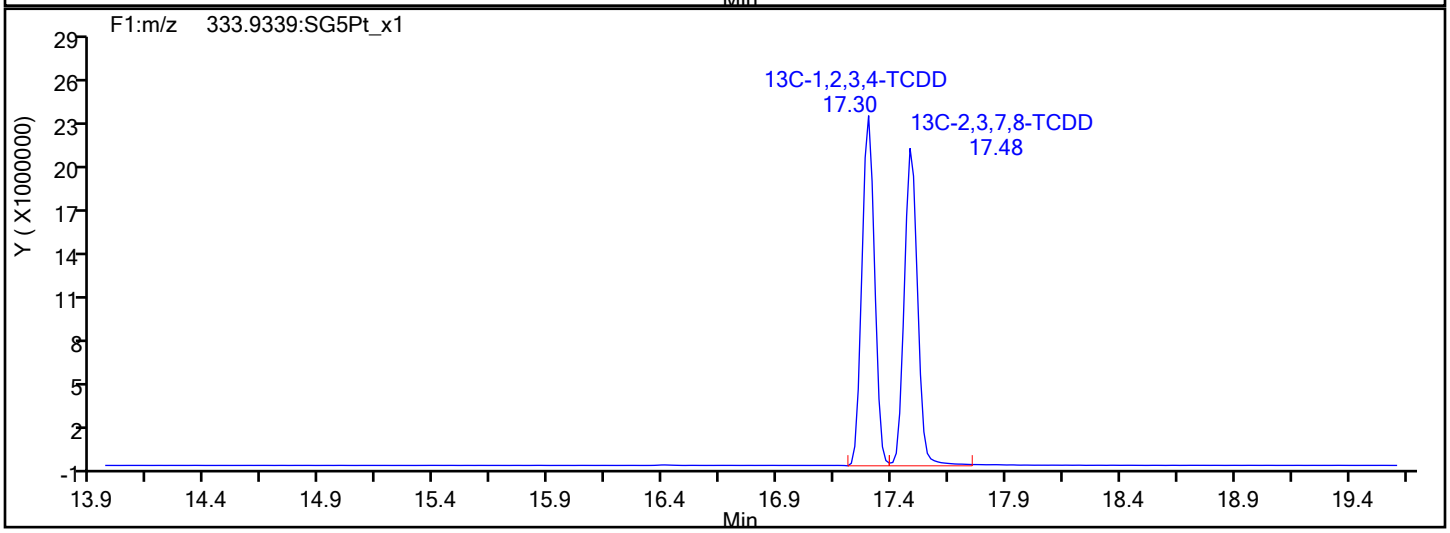

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Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

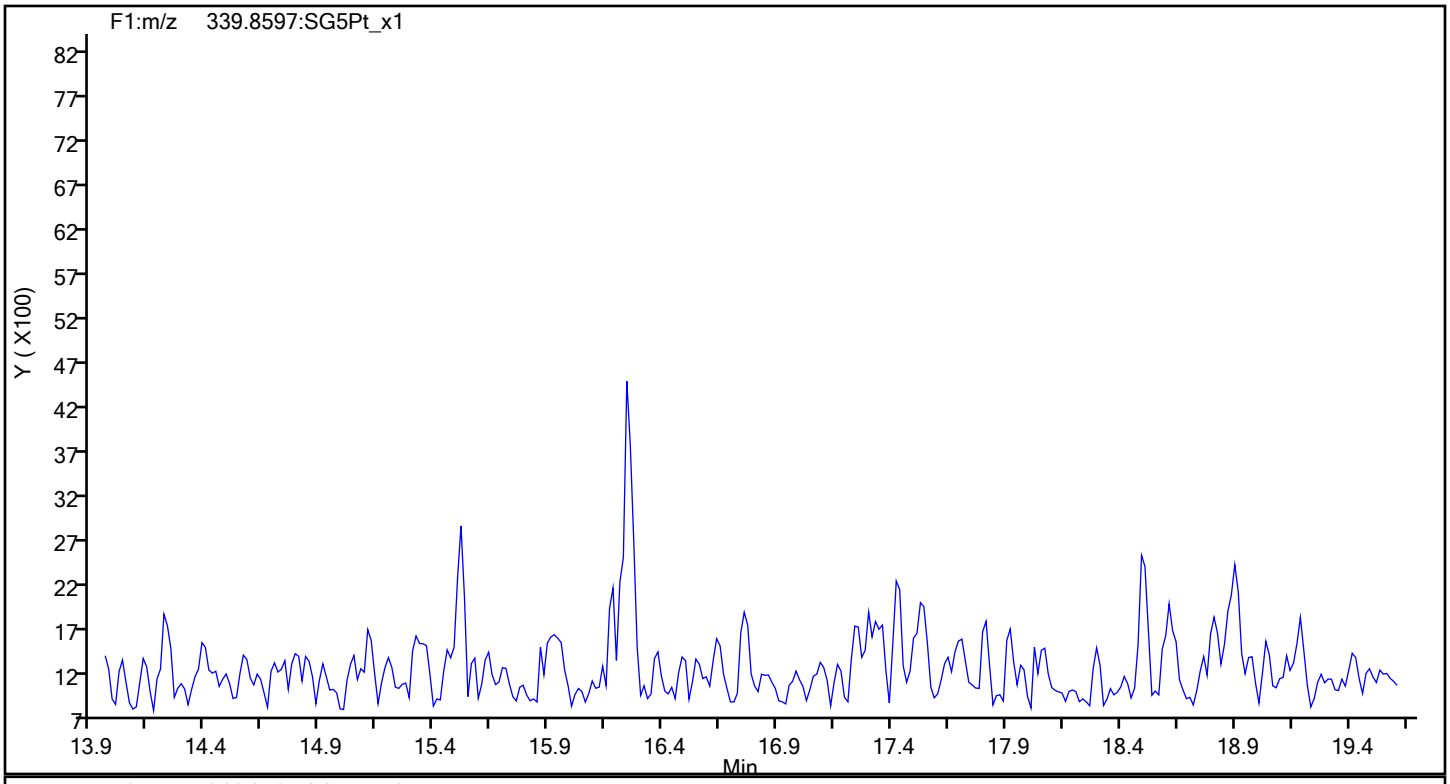

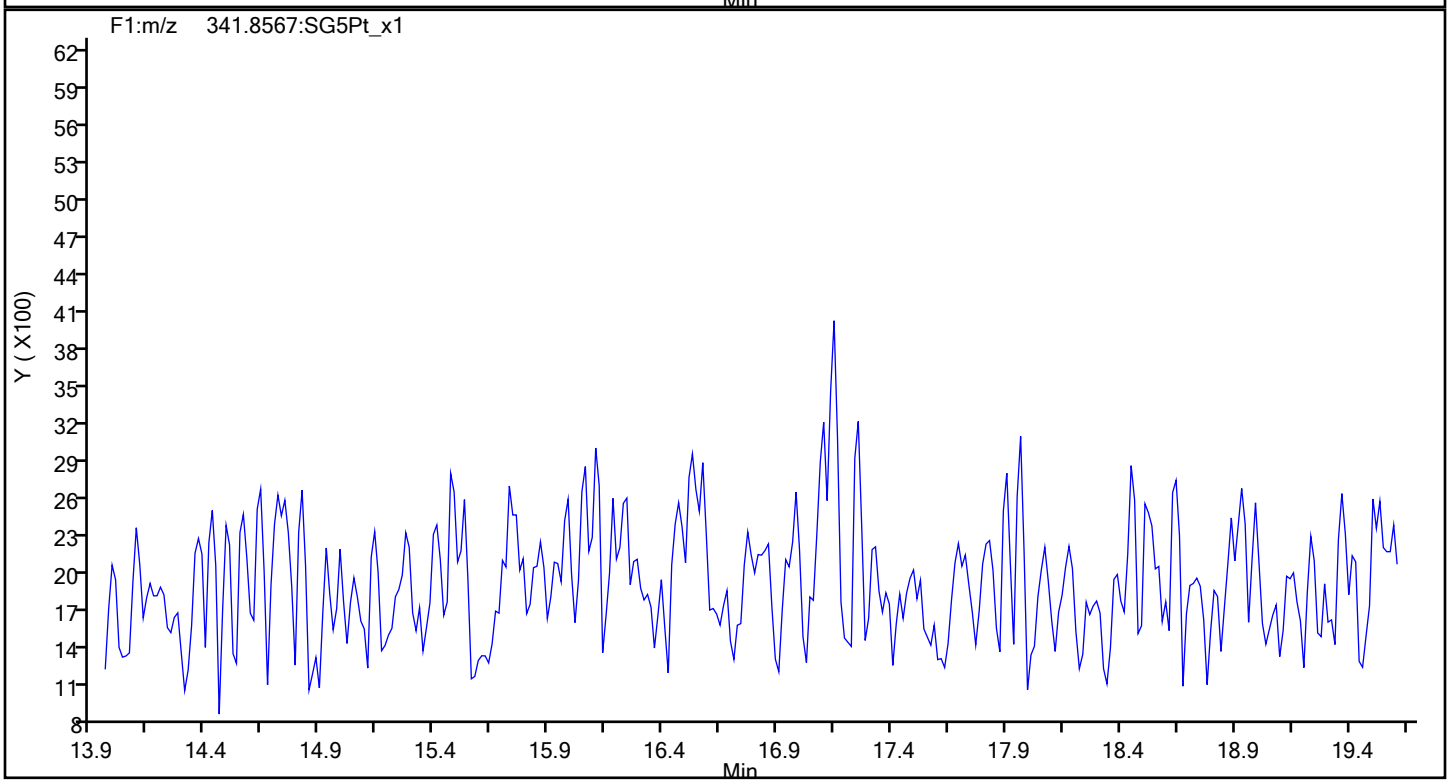

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Eurofins TestAmerica, Sacramento

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Client ID:			
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F1 PeCDFs

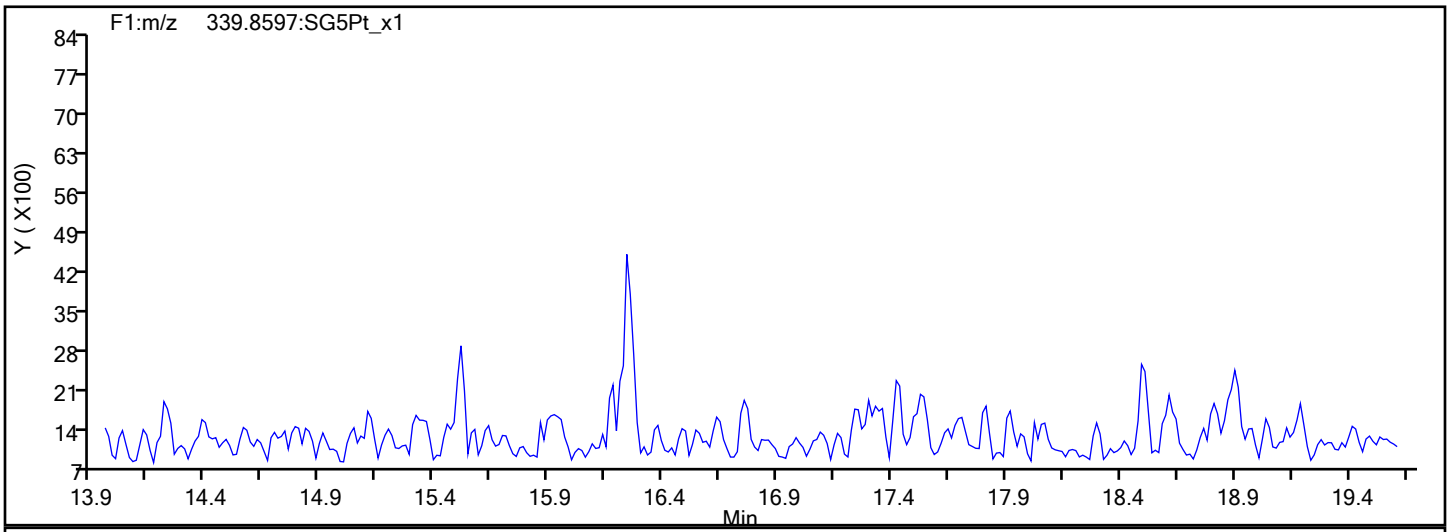

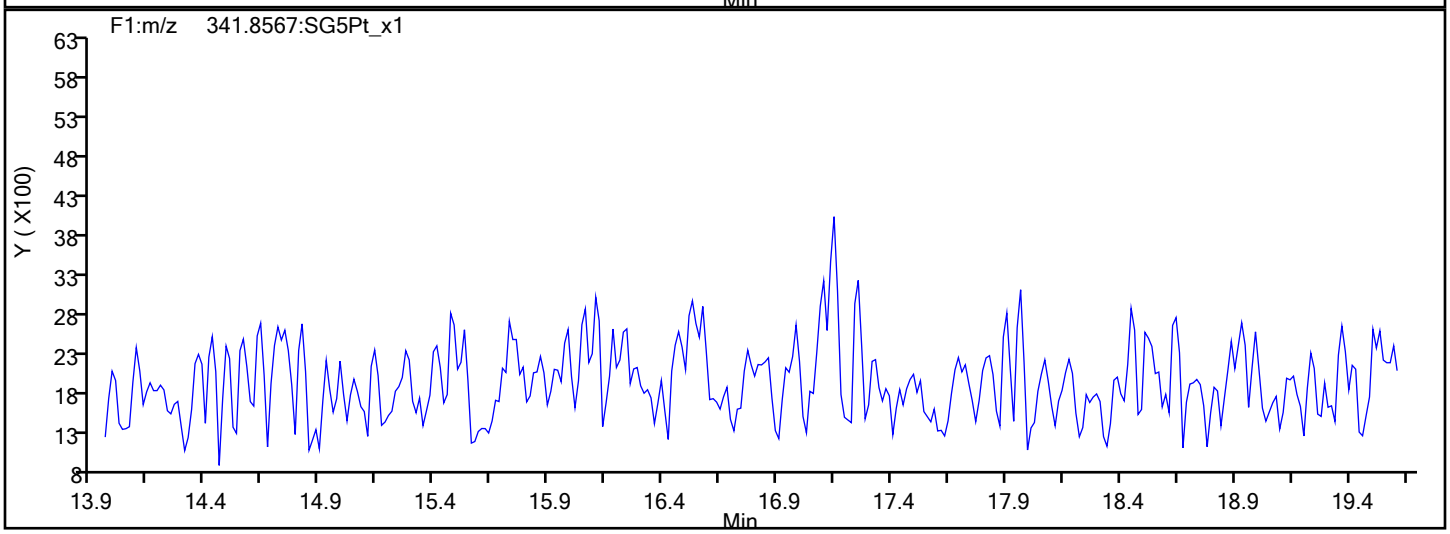

F1 PeCDFs Interference Mass

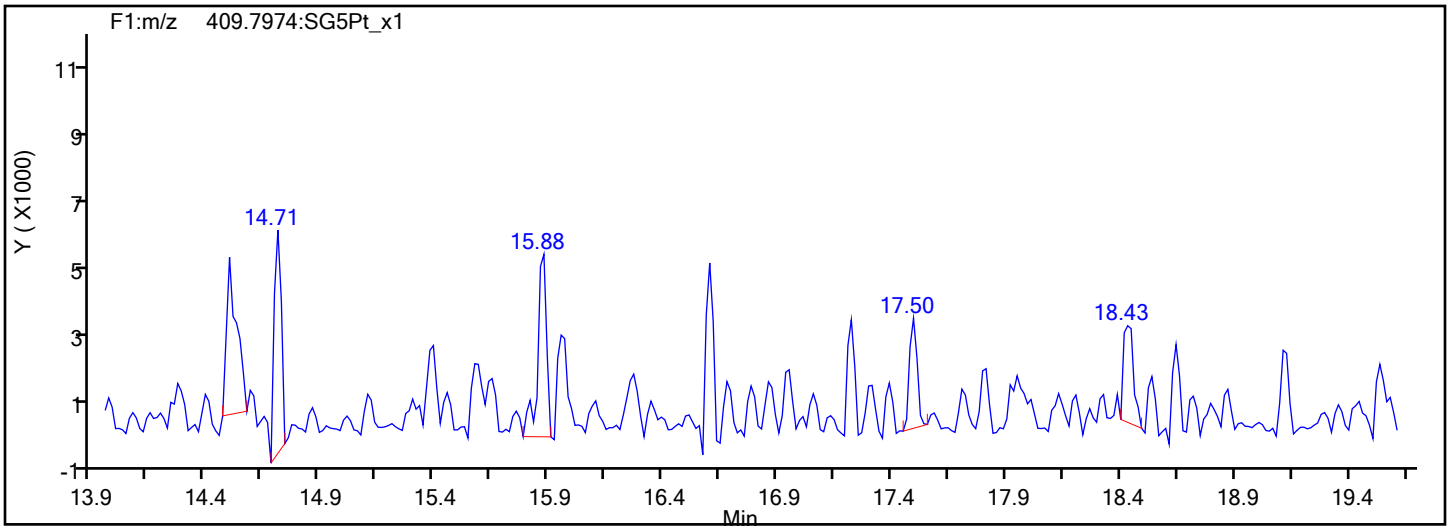

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Worklist#:	324128	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

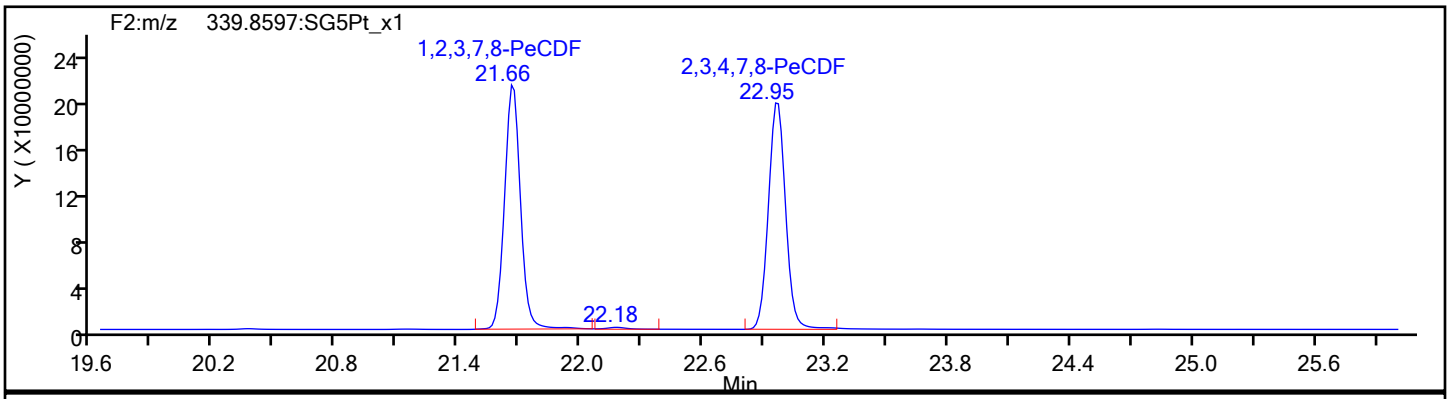

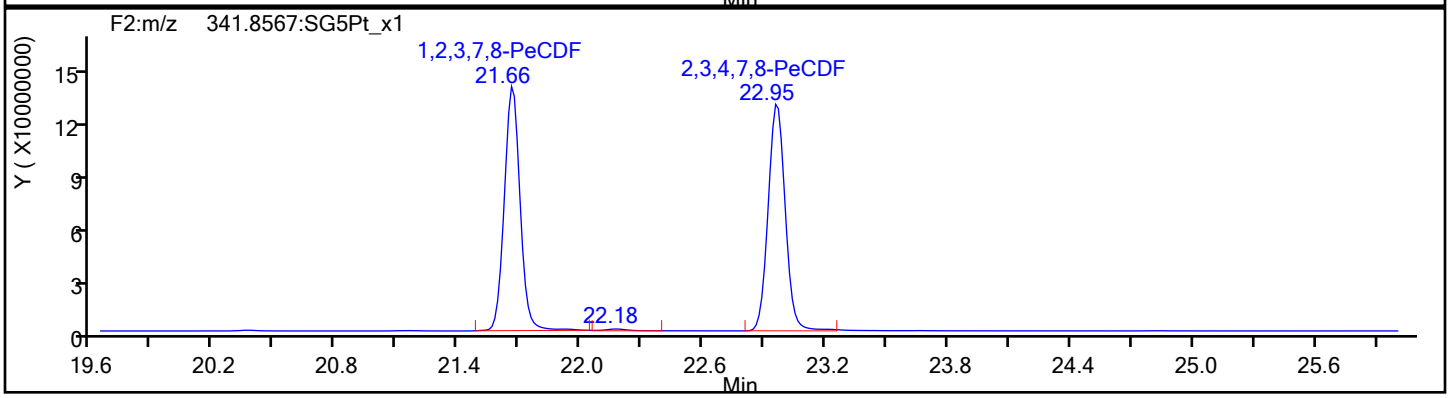

PeCDF Standards

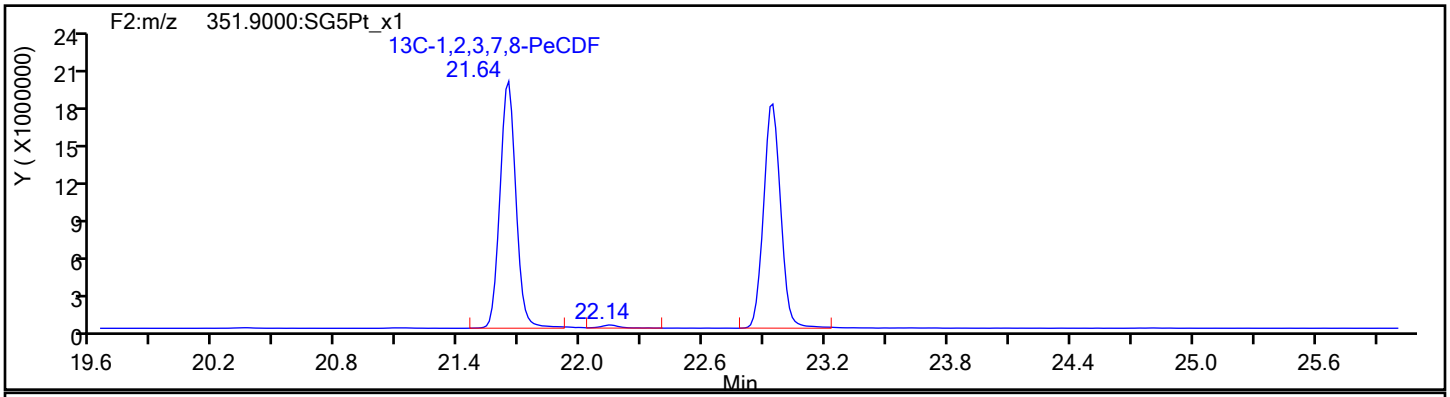

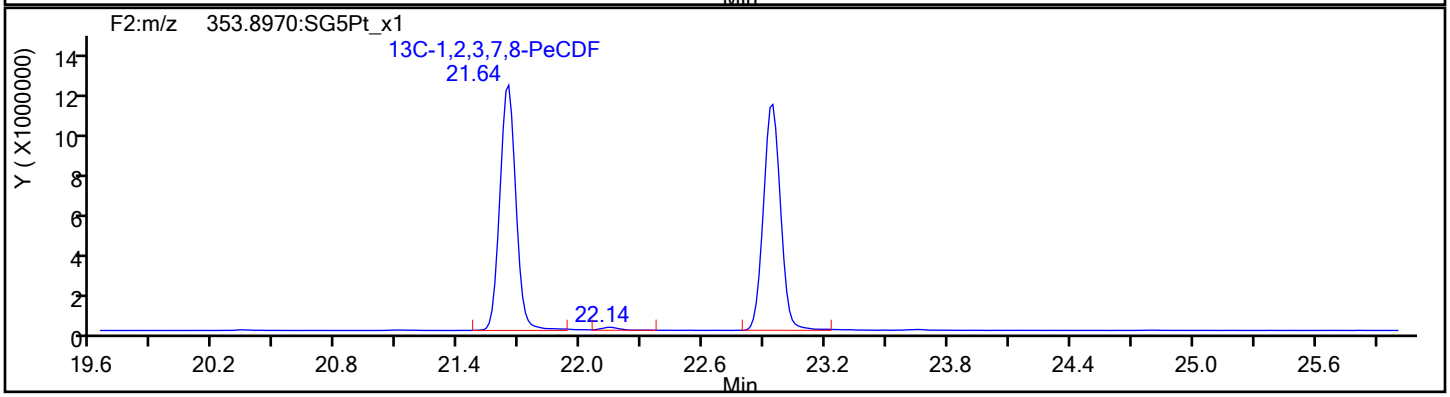

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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PeCDF

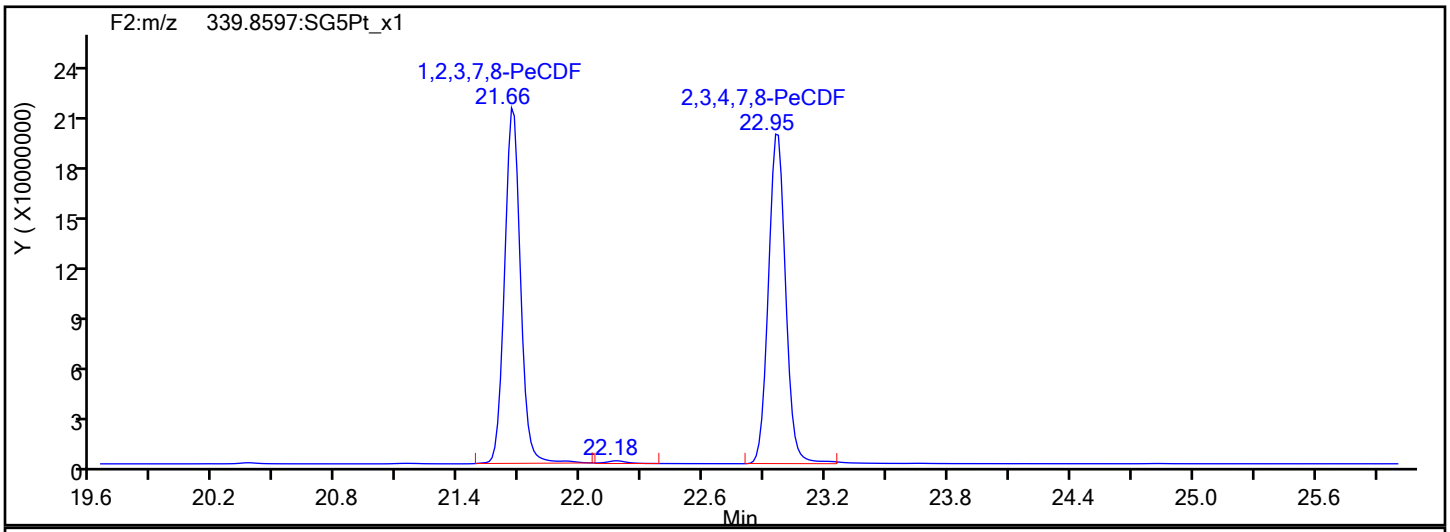

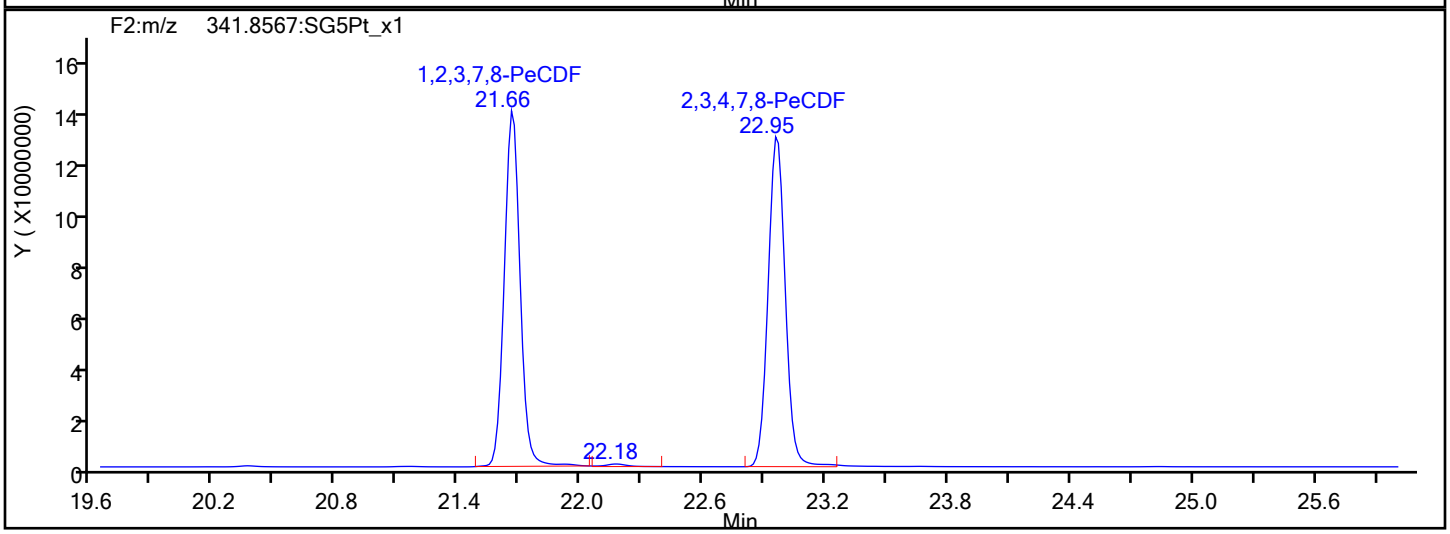

PeCDF Interference Mass

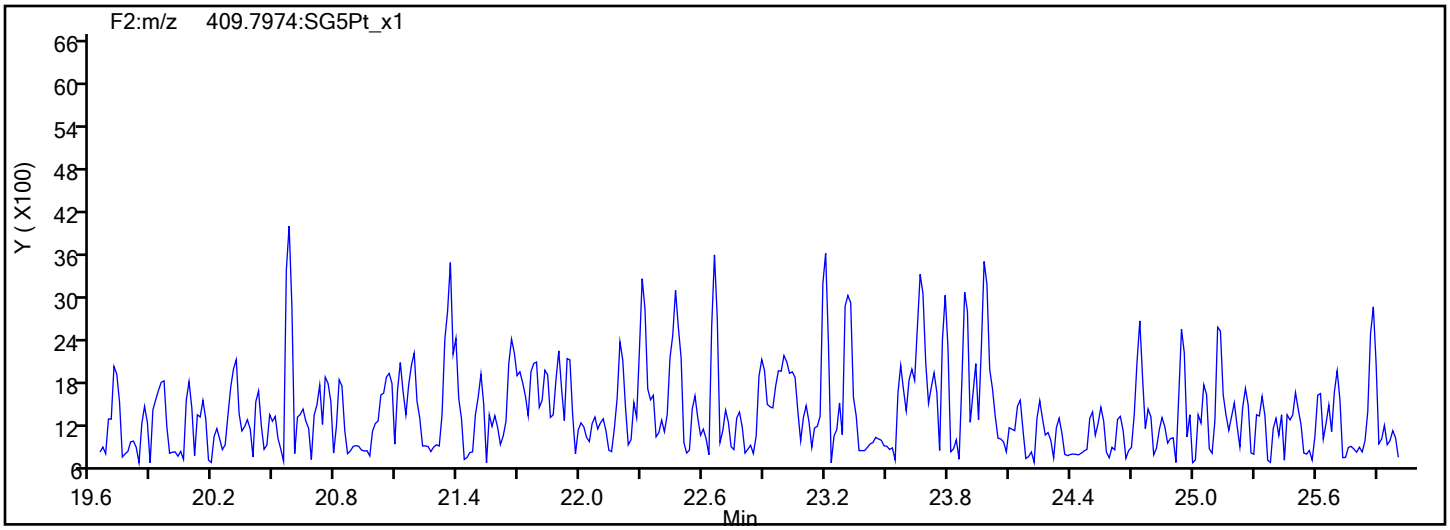

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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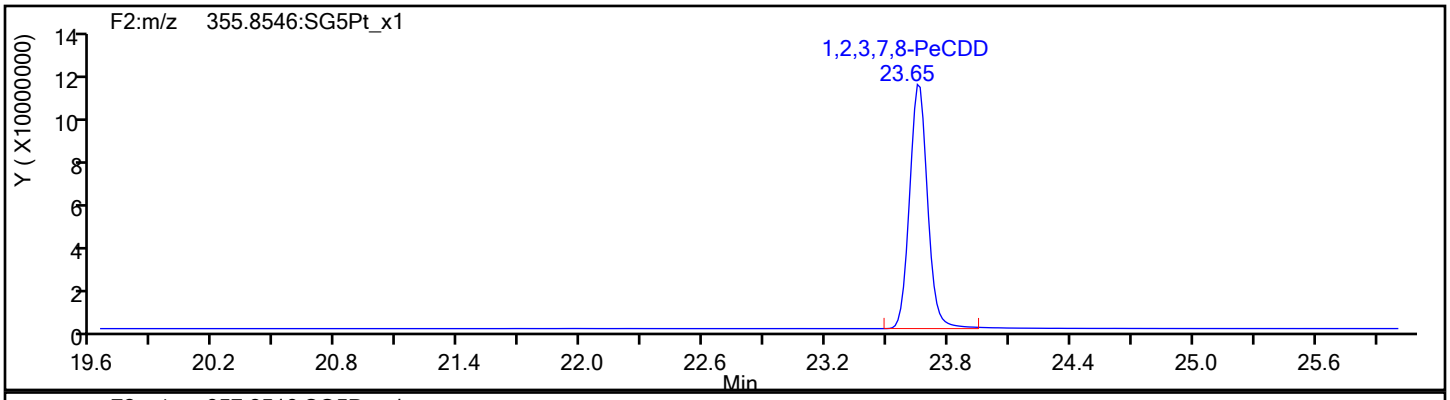

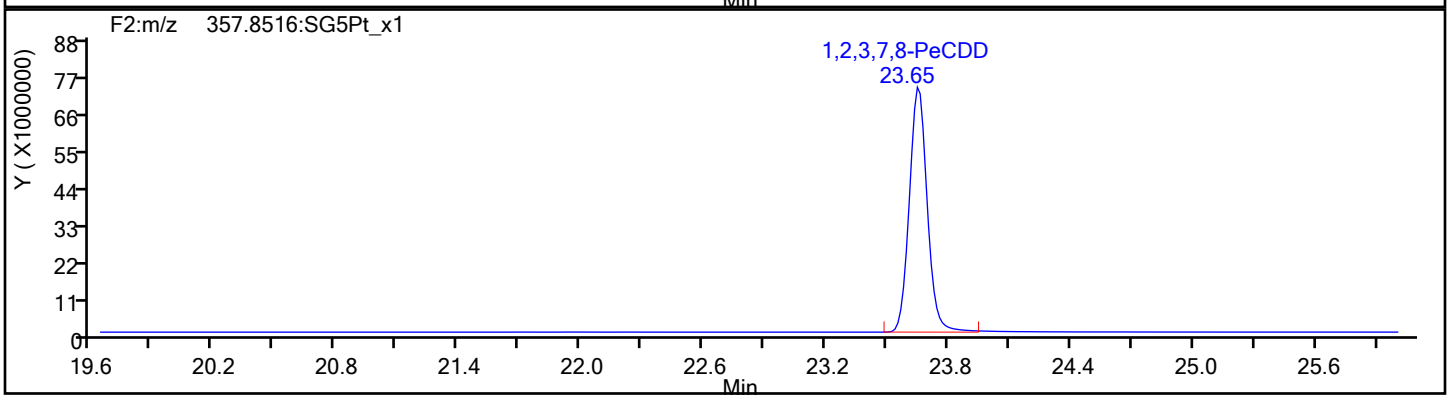

PeCDD Standards

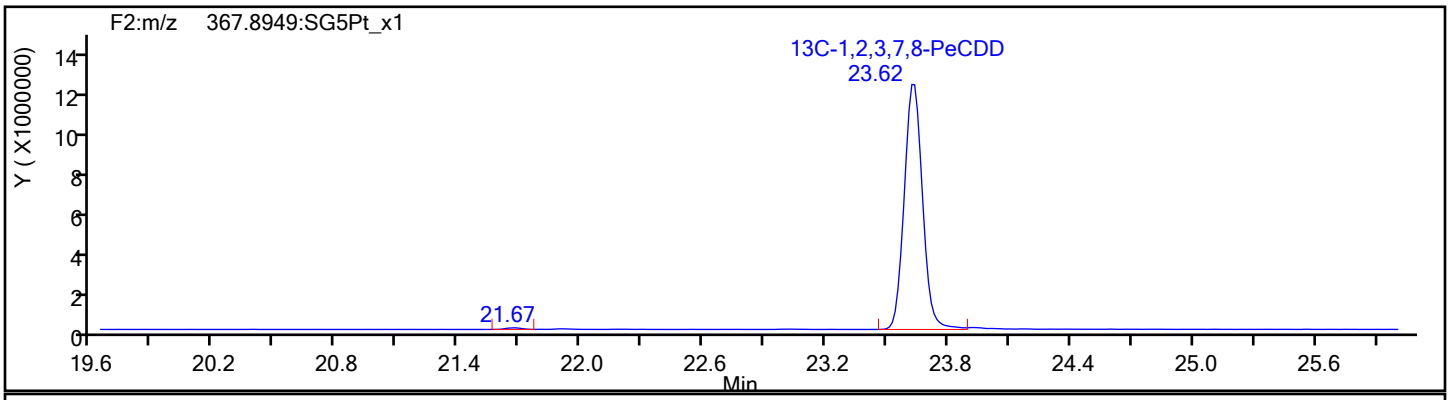

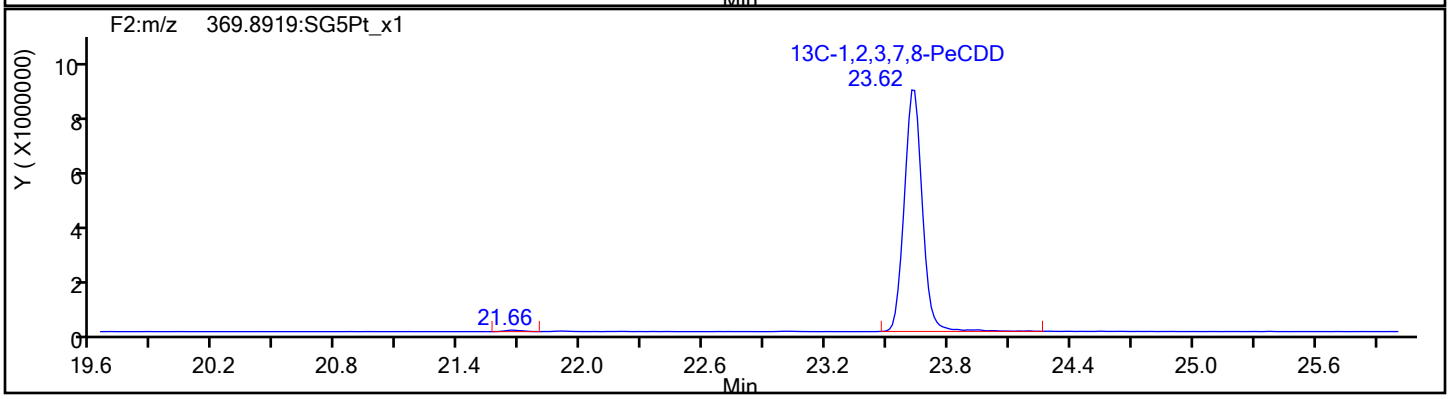

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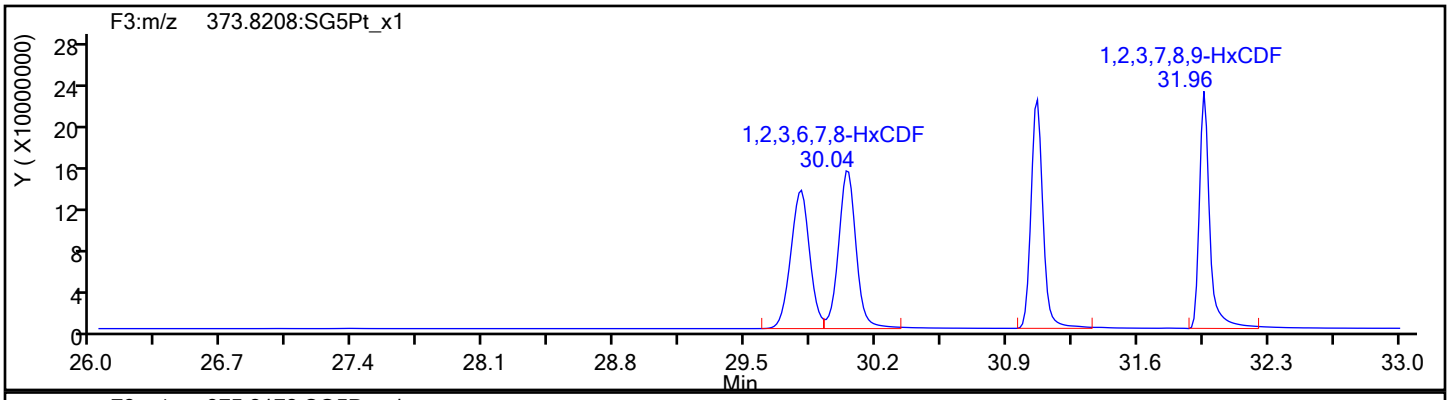

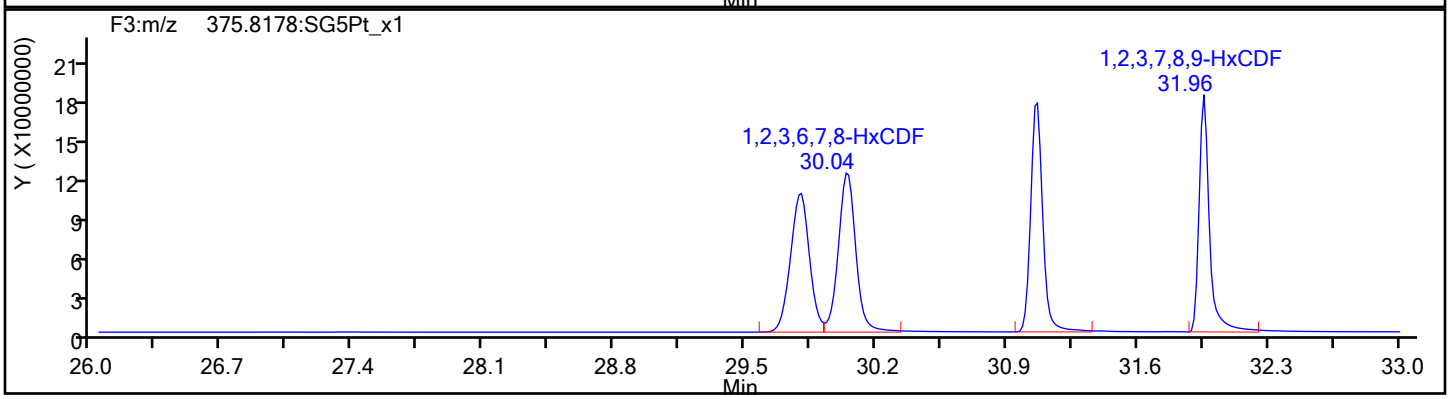

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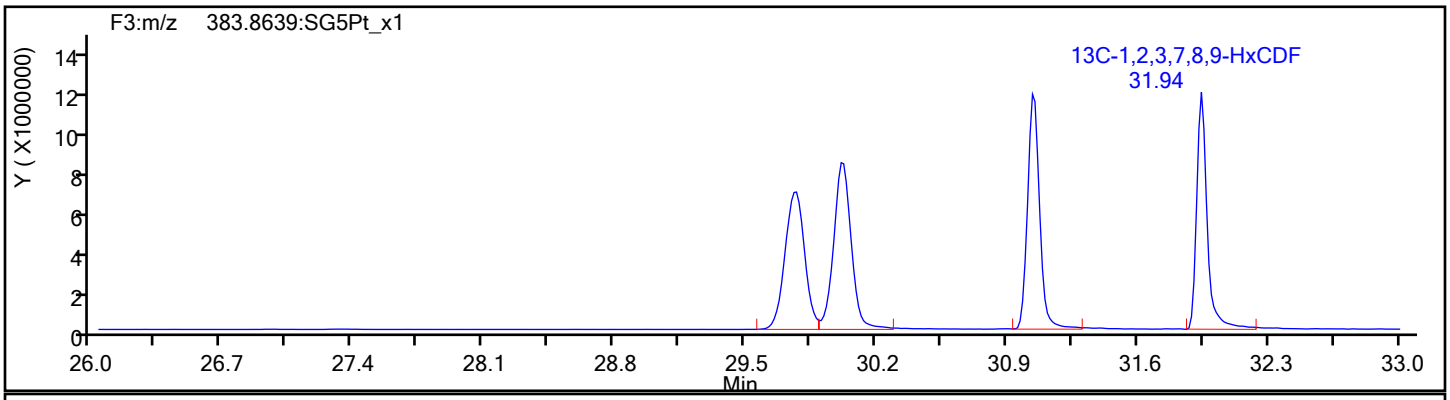

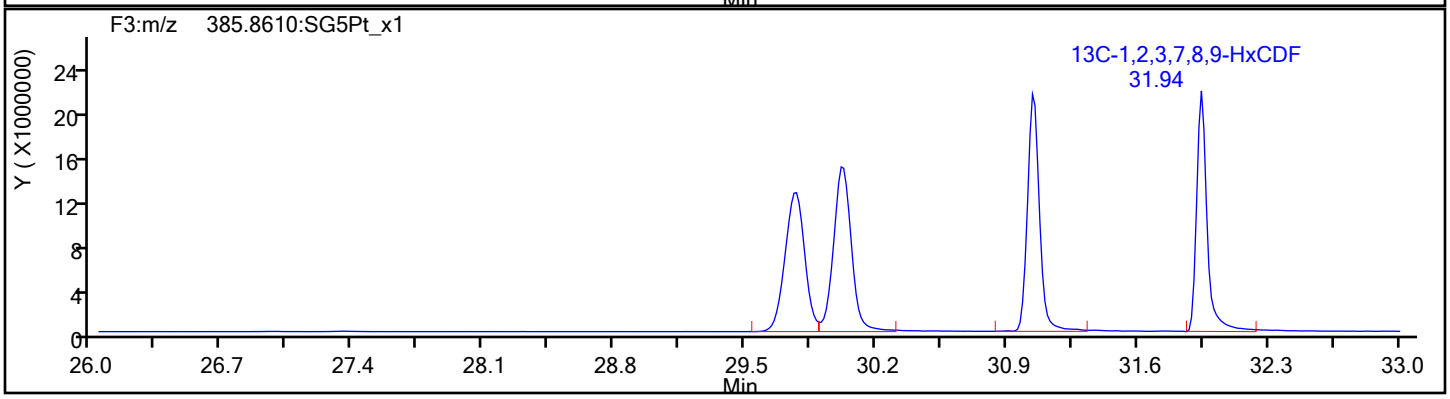

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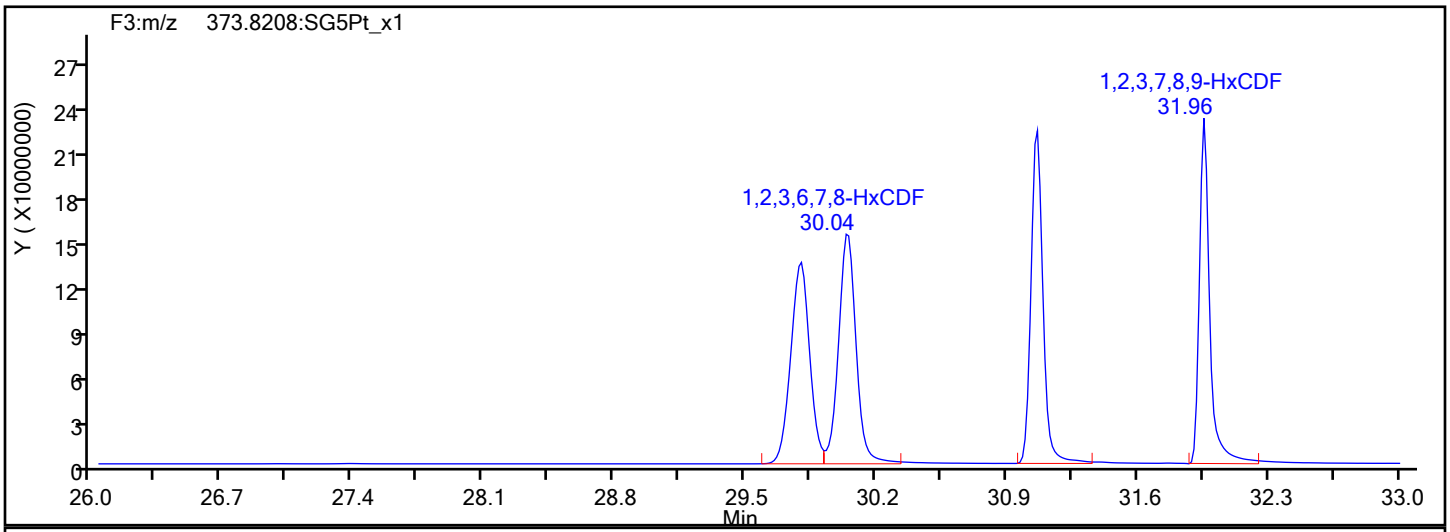

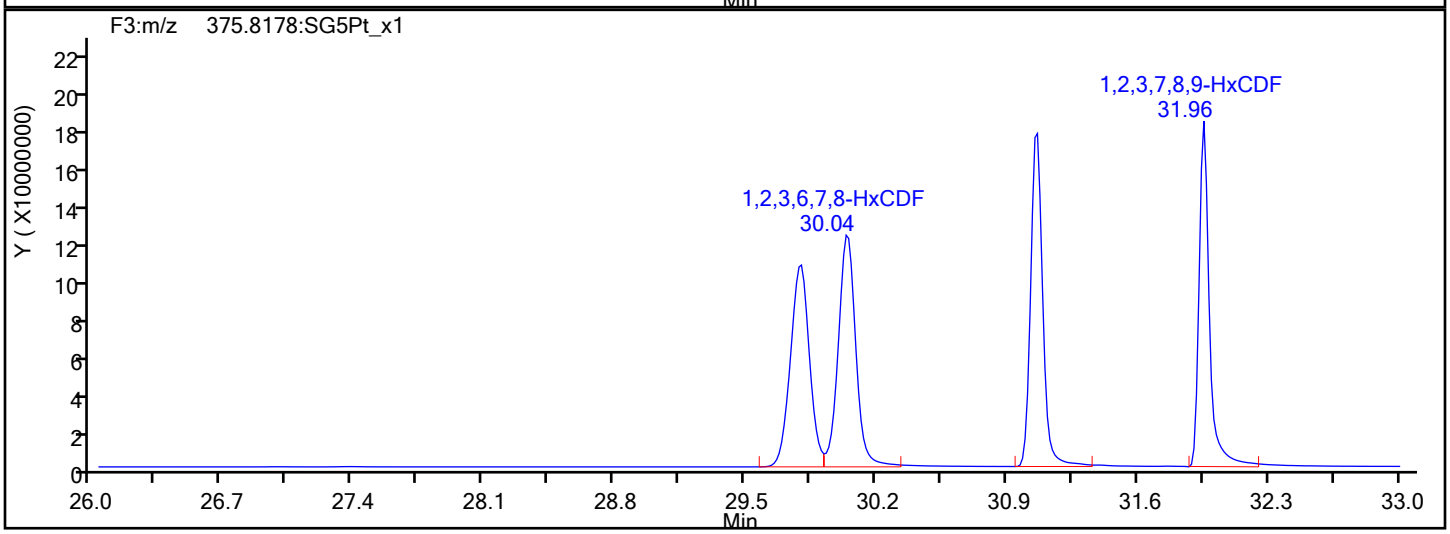

HxCDF Interference Mass

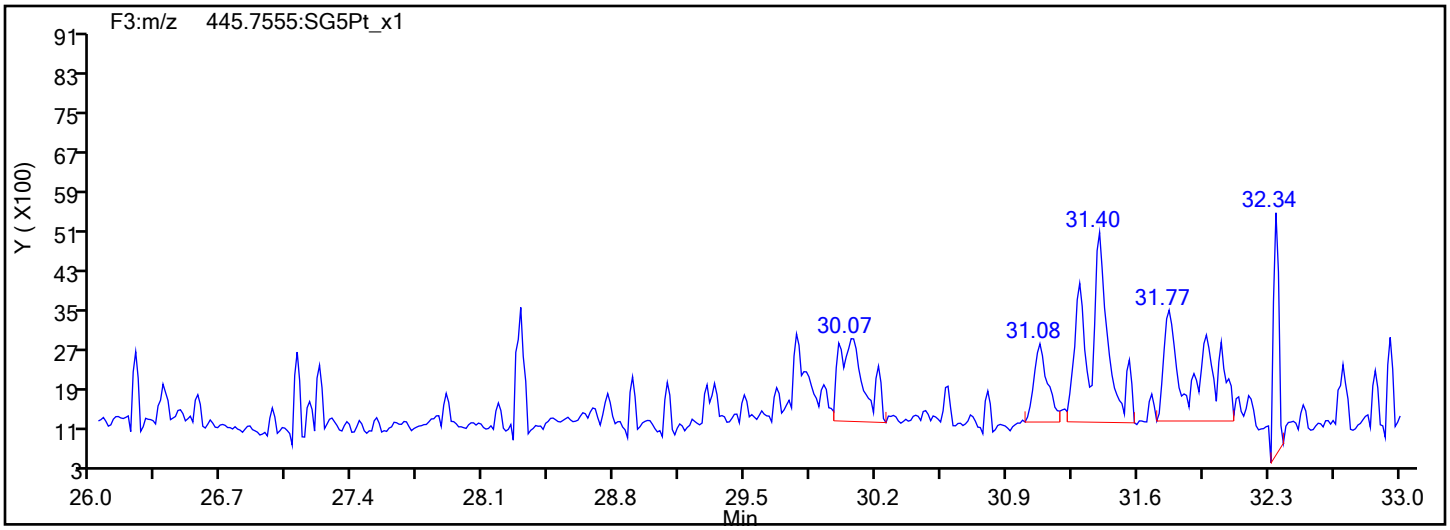

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Eurofins TestAmerica, Sacramento

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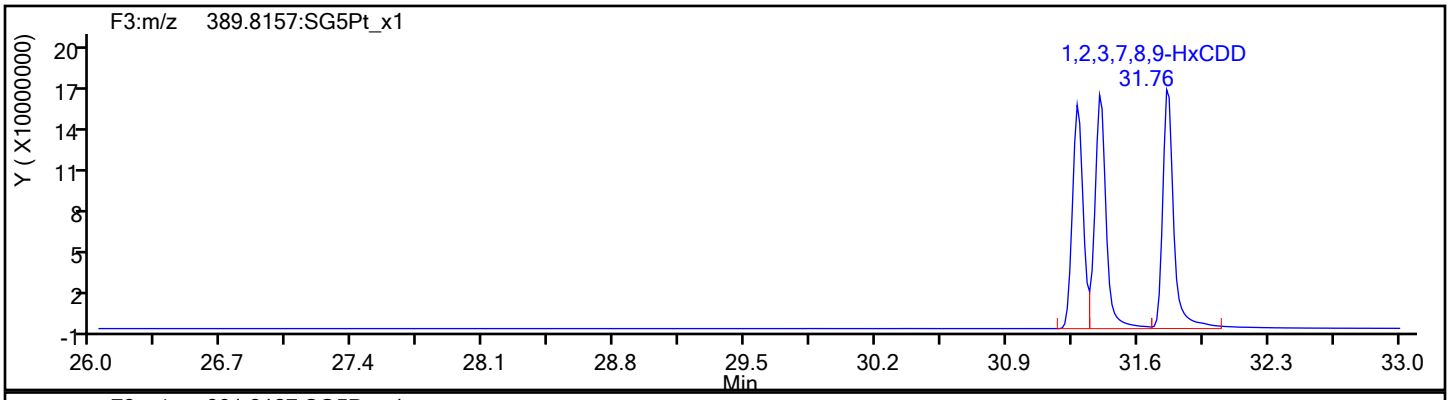

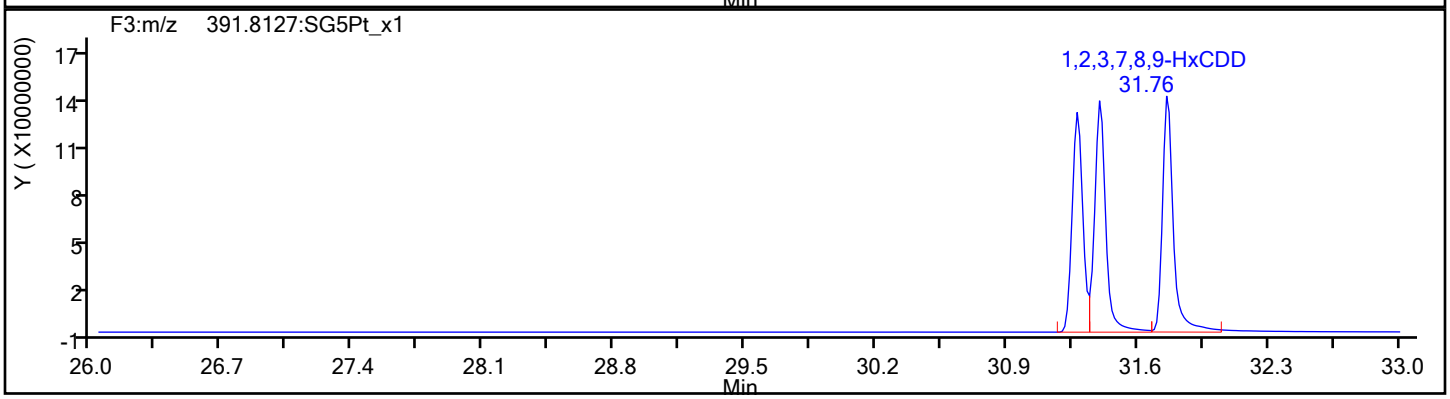

HxCDD Standards

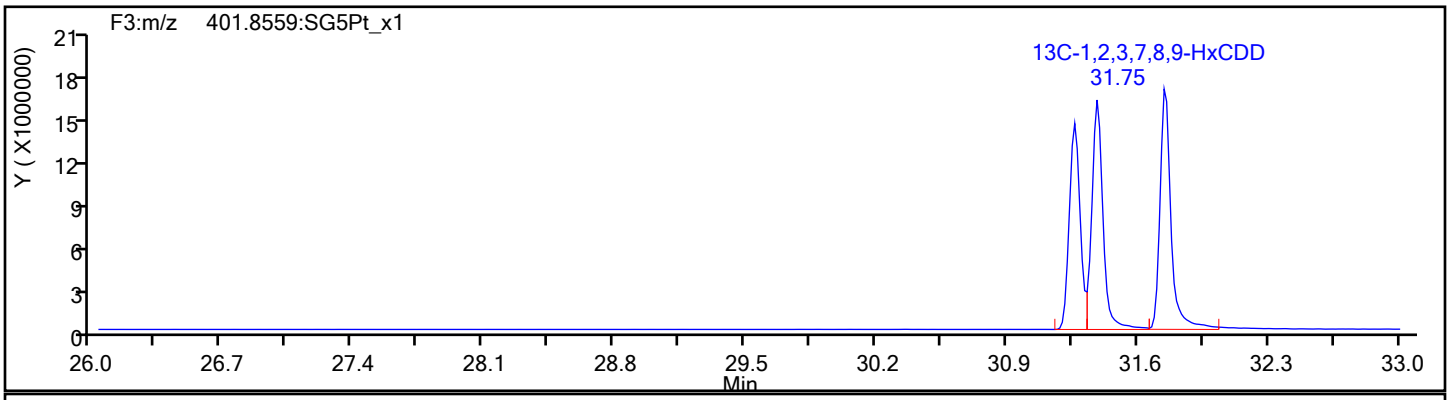

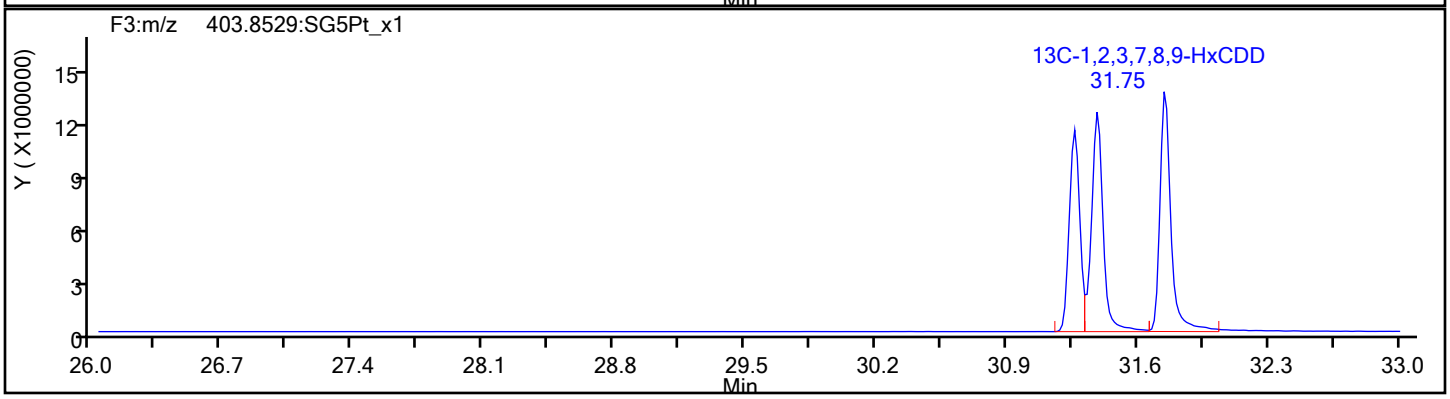

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Eurofins TestAmerica, Sacramento

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HpCDF

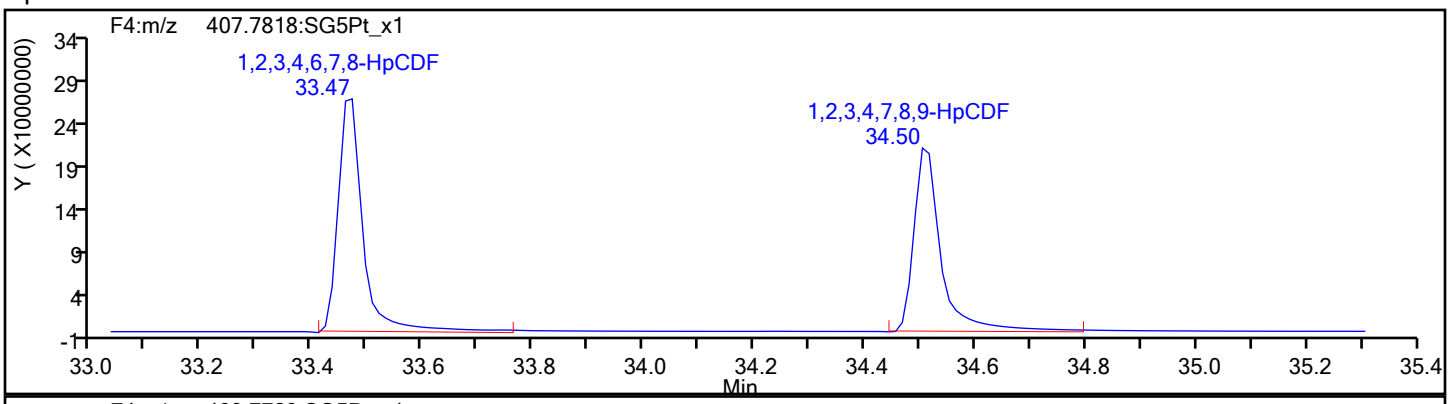

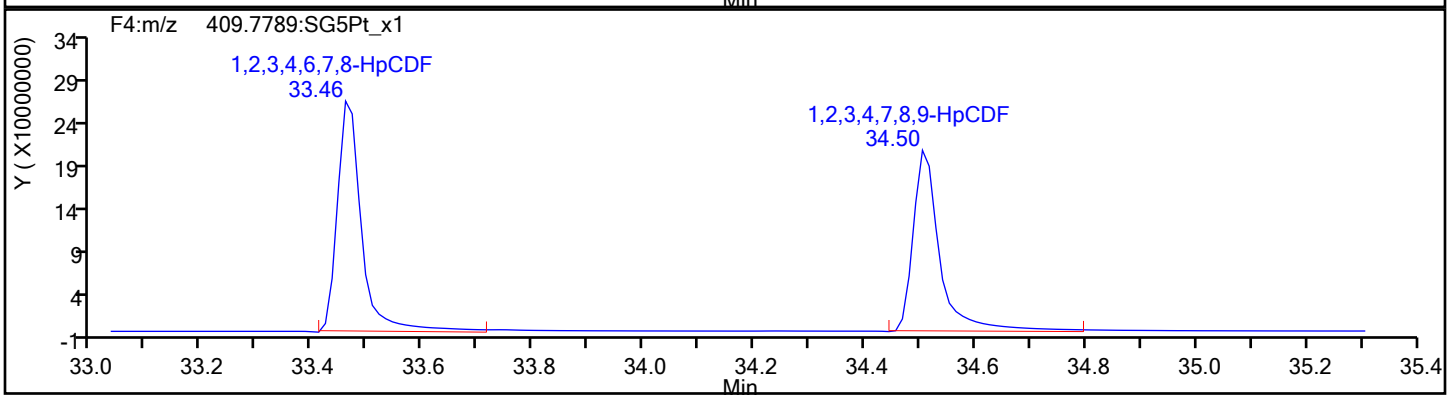

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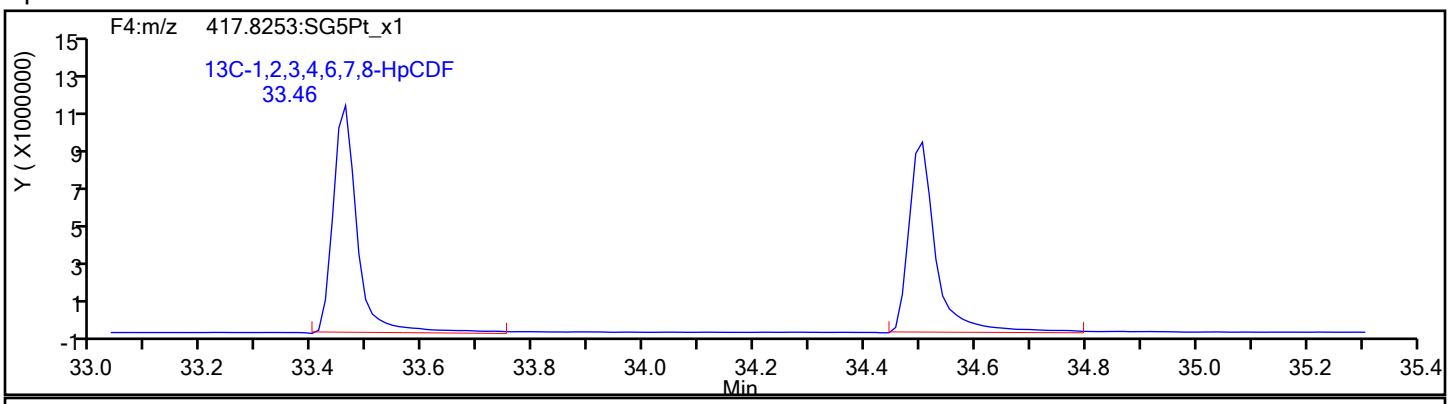

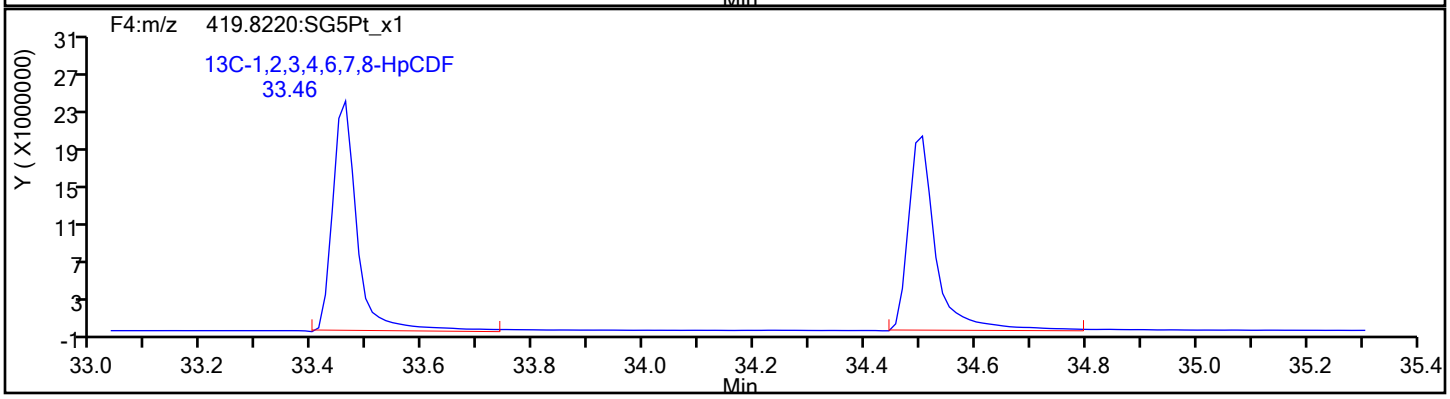

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Eurofins TestAmerica, Sacramento

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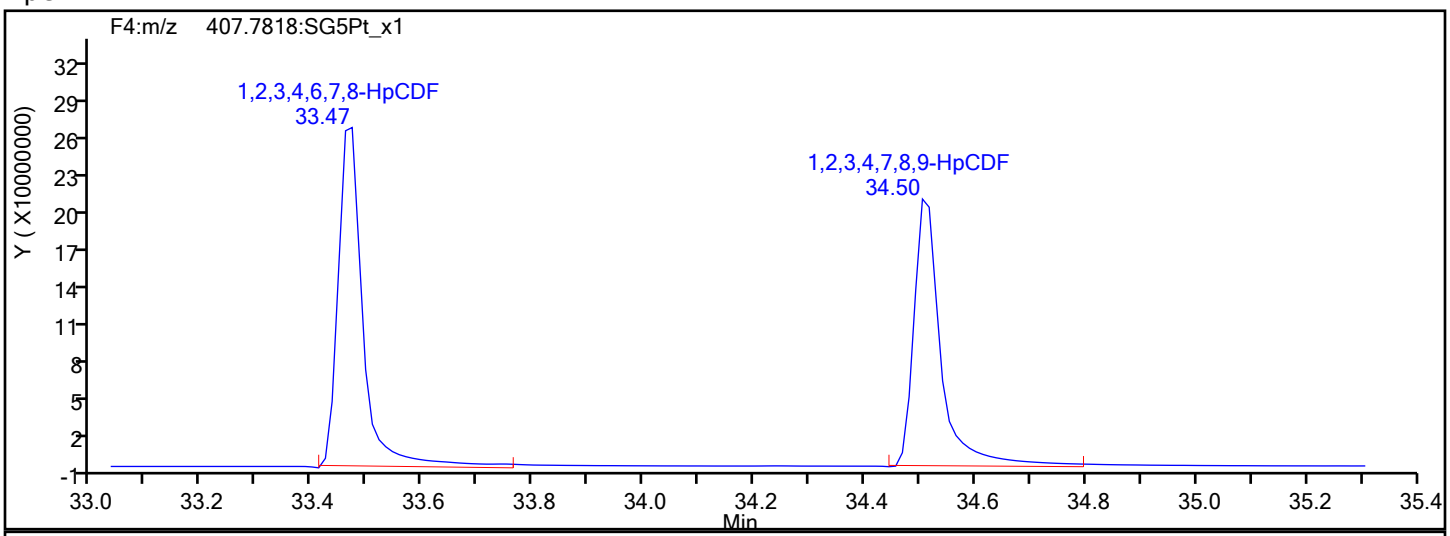

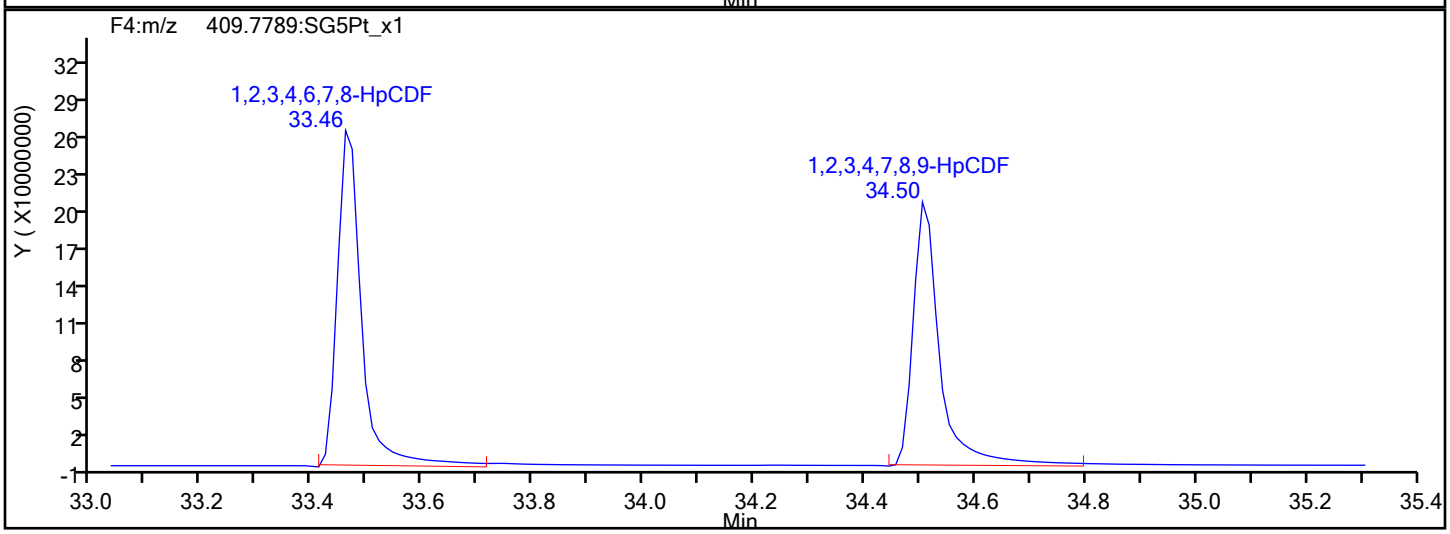

HpCDF Interference Mass

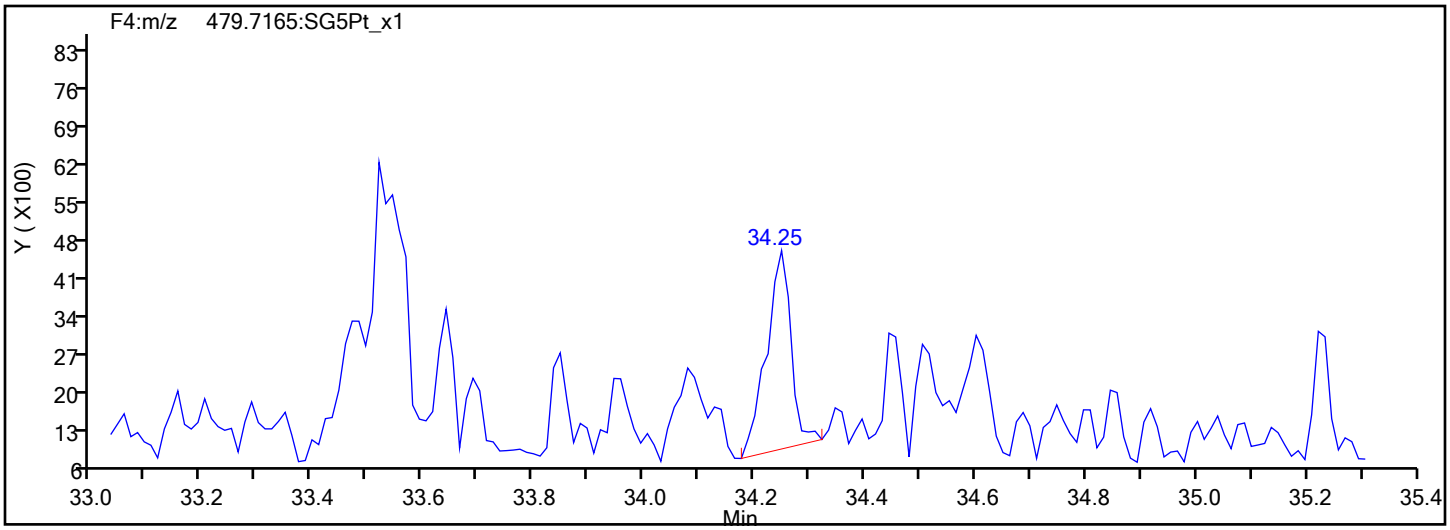

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Eurofins TestAmerica, Sacramento

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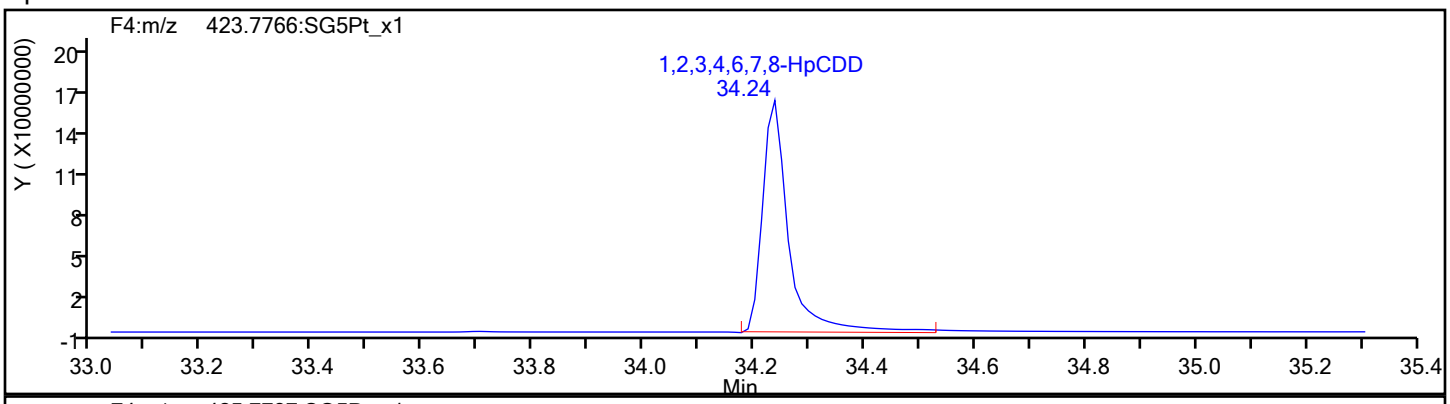

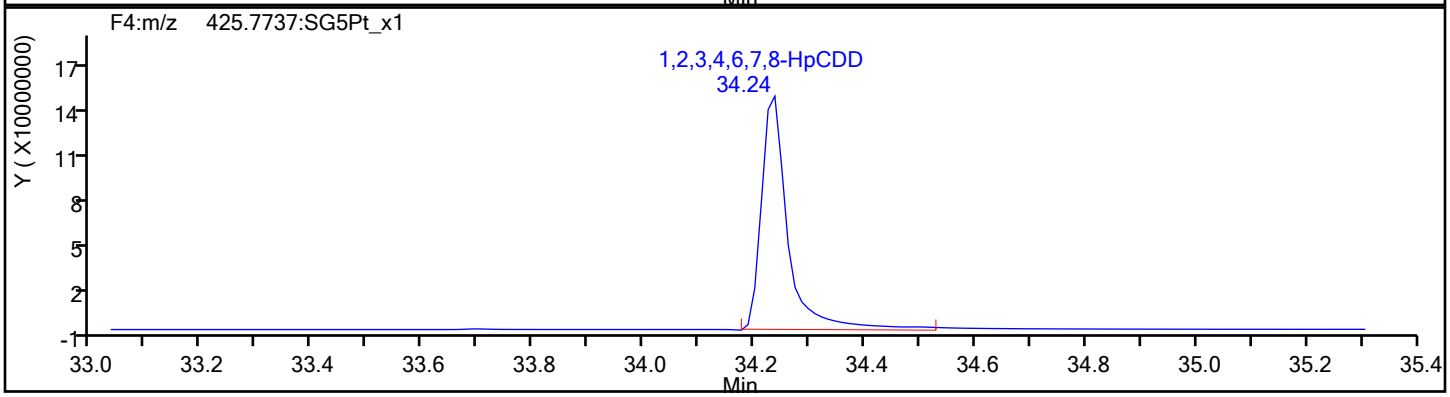

HpCDD Standards

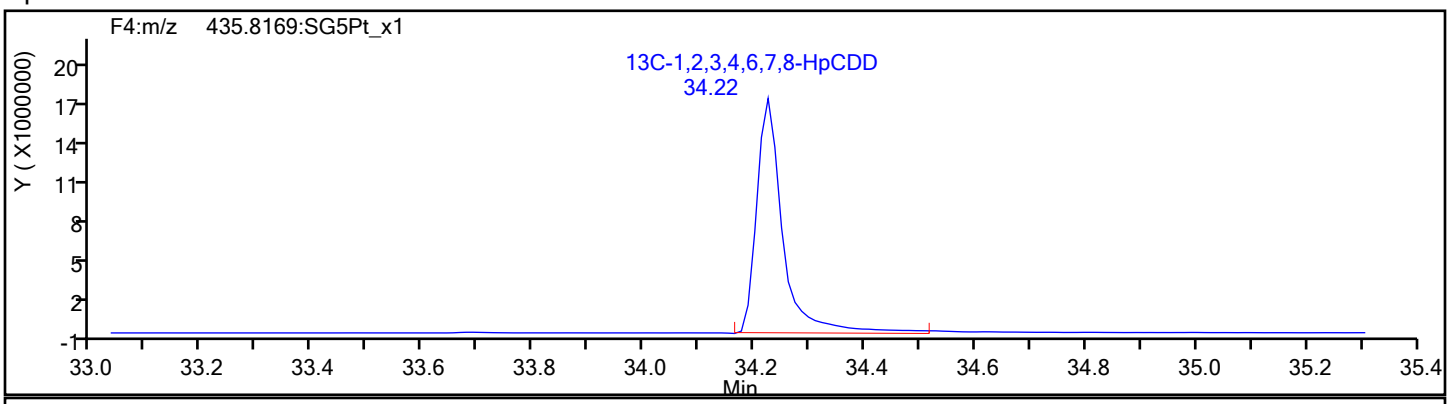

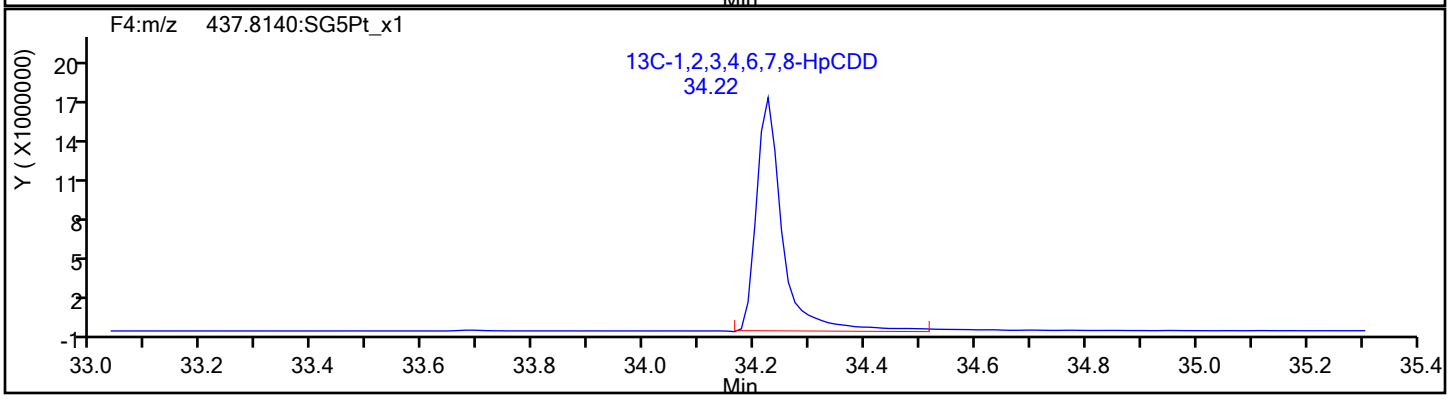

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Eurofins TestAmerica, Sacramento

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OCDF

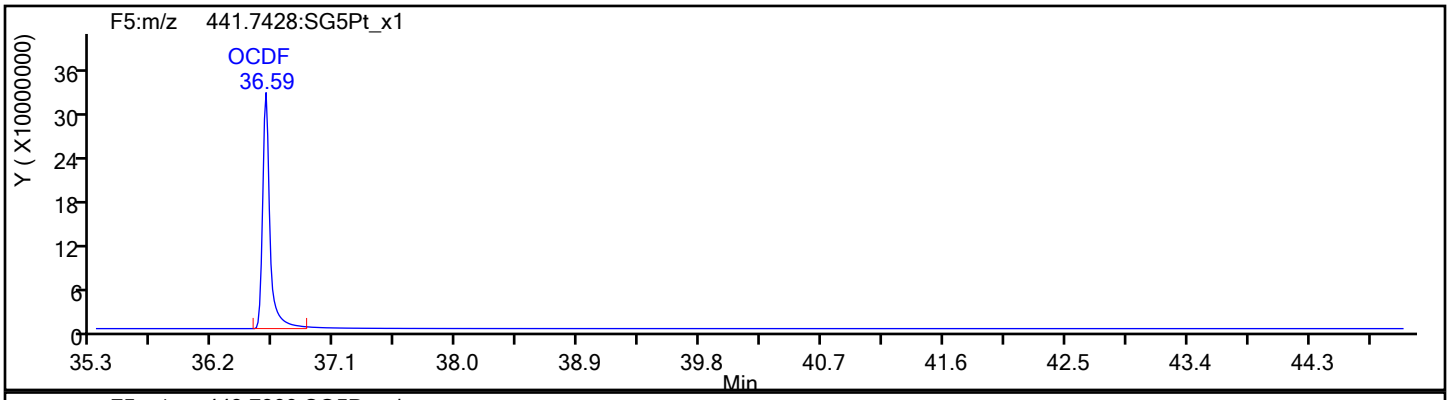

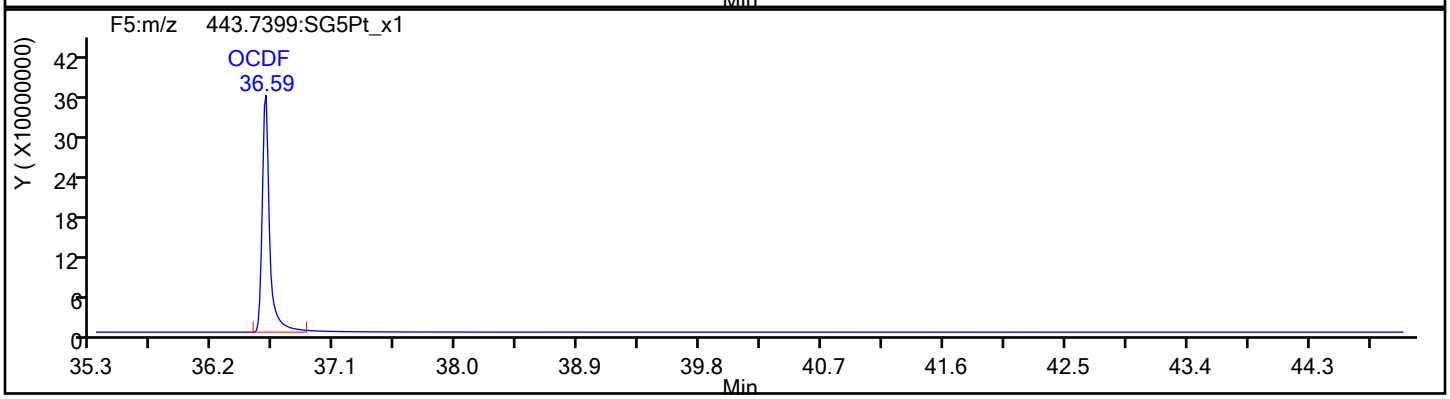

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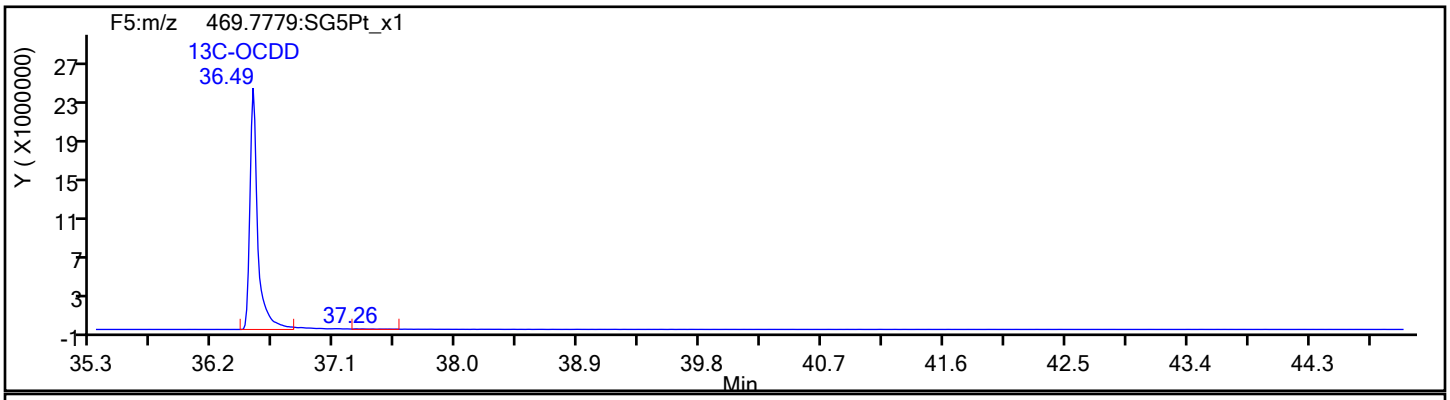

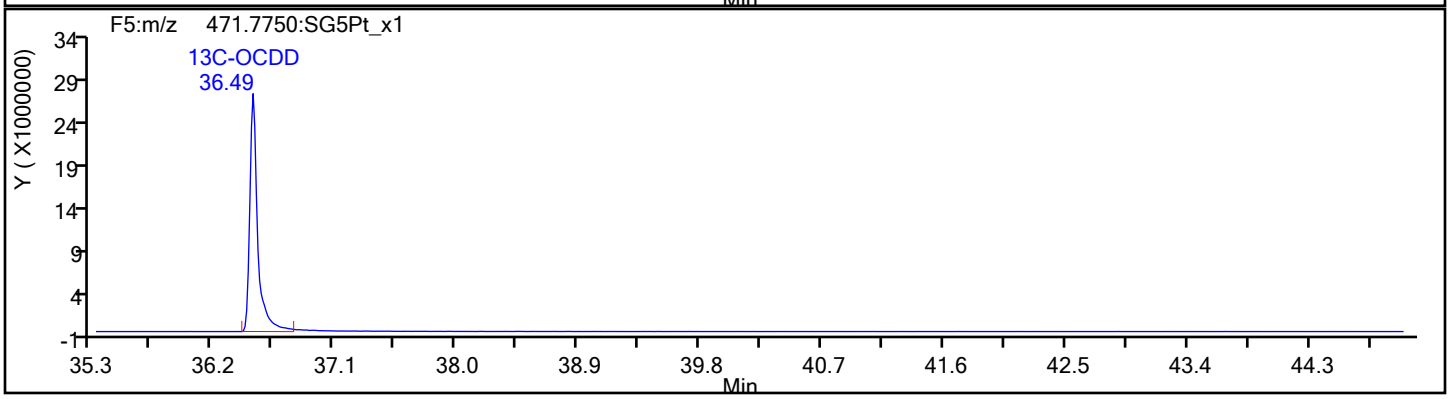

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Eurofins TestAmerica, Sacramento

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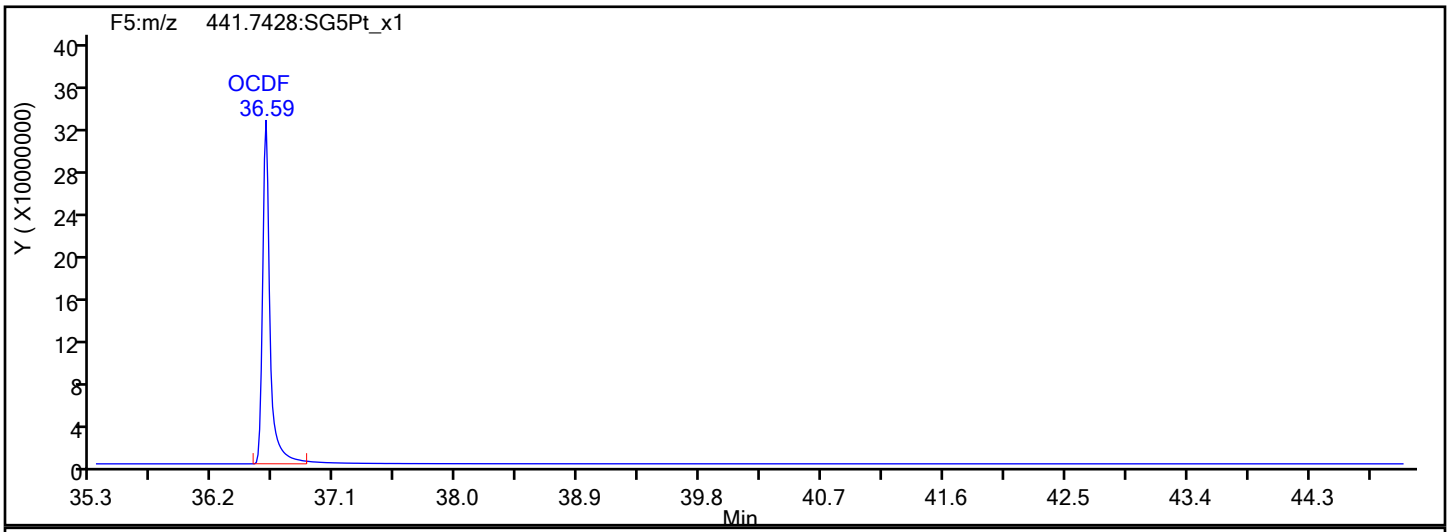

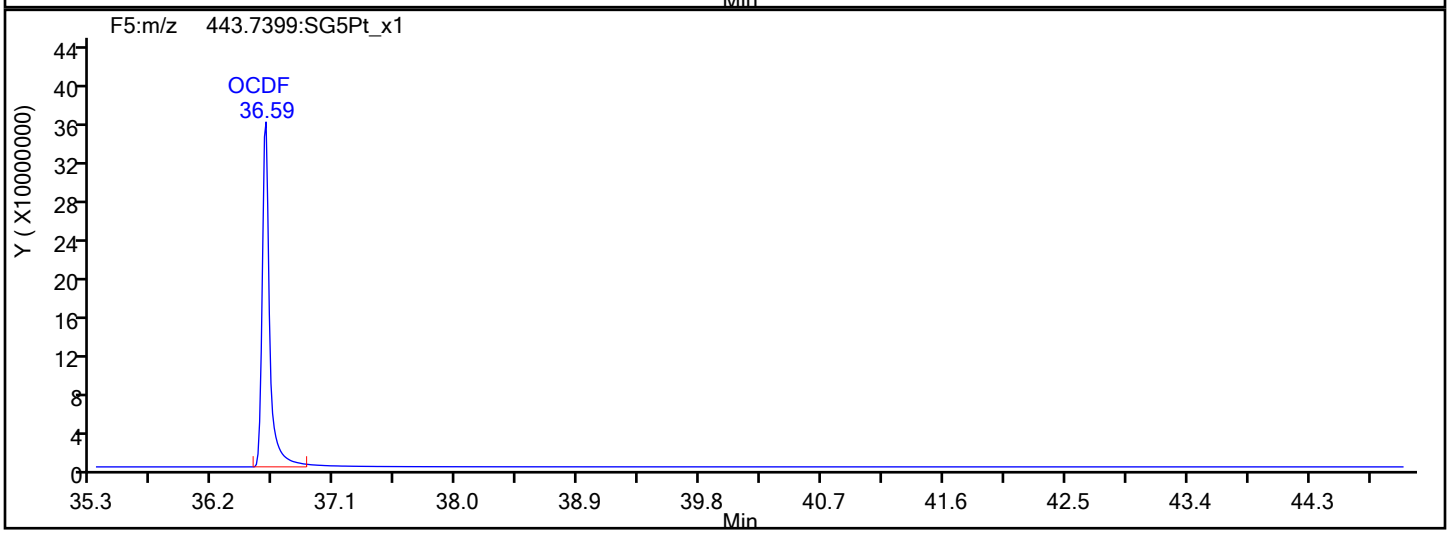

OCDF Interference Mass

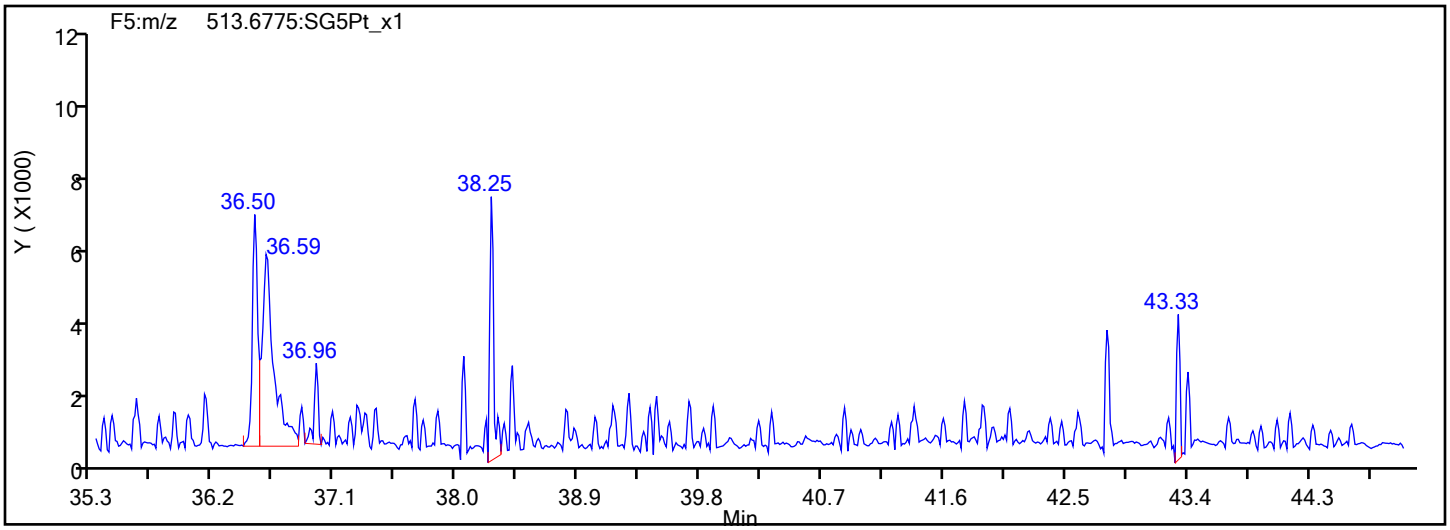

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Eurofins TestAmerica, Sacramento

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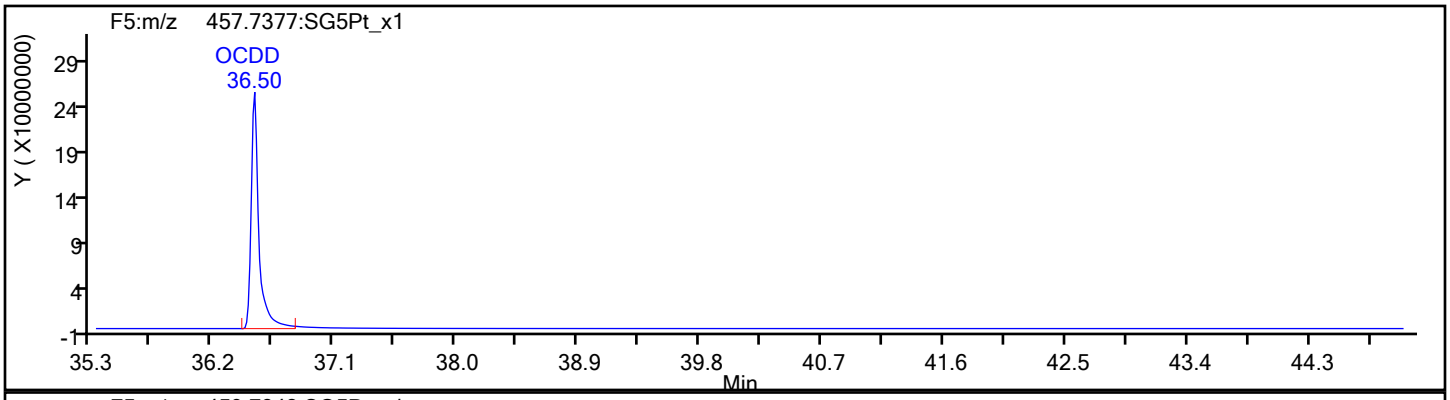

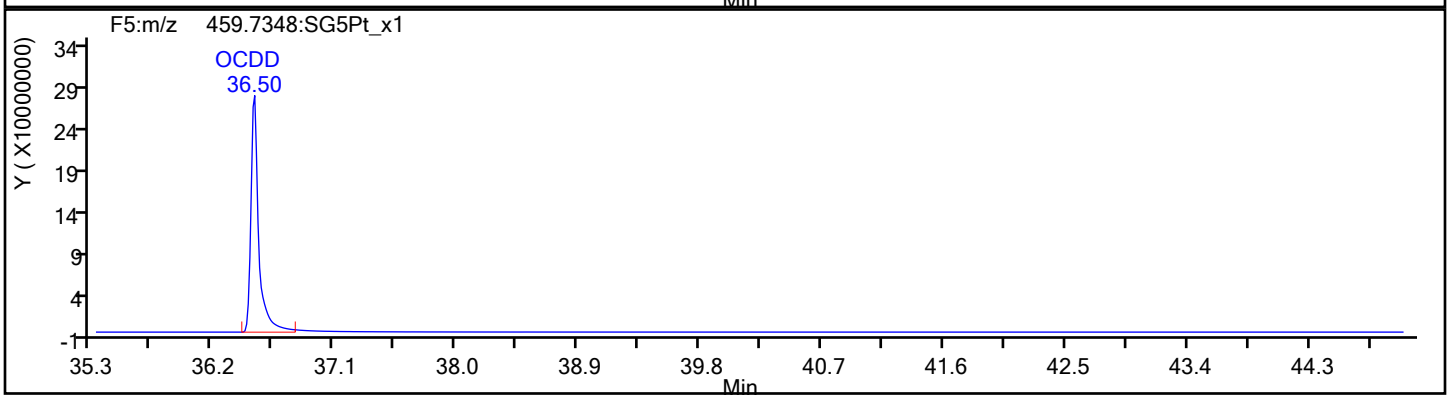

OCDD Standards

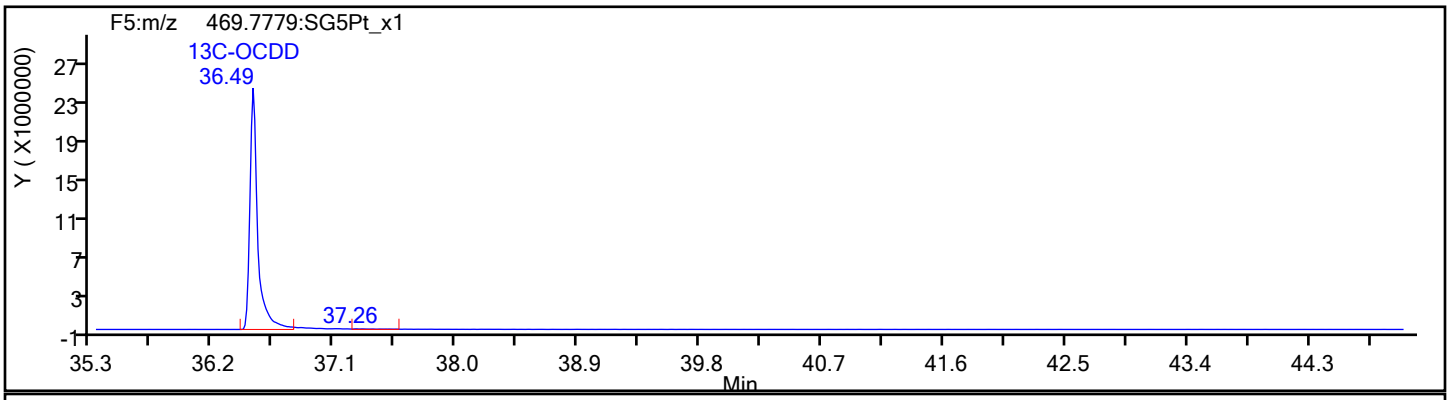

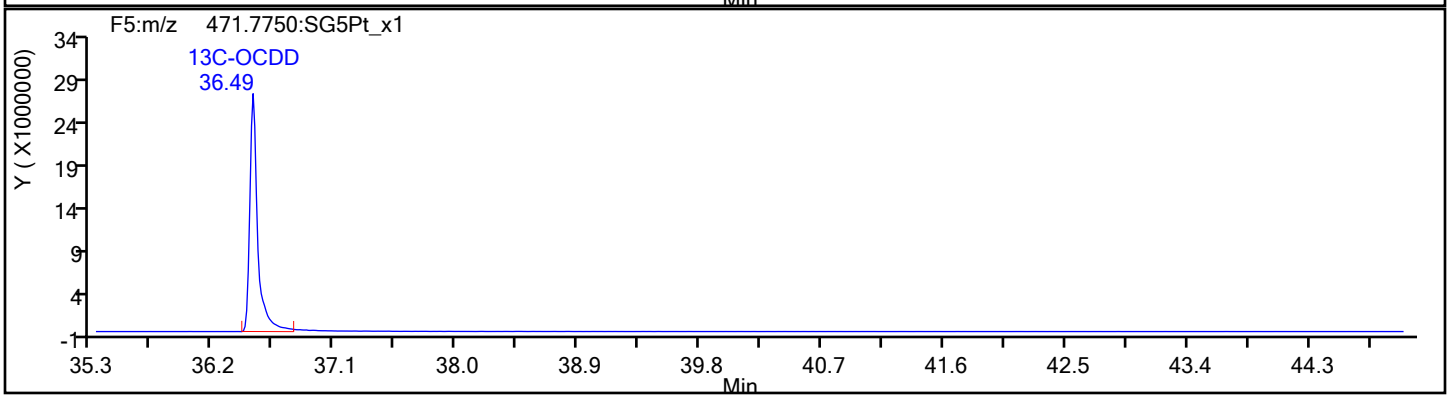

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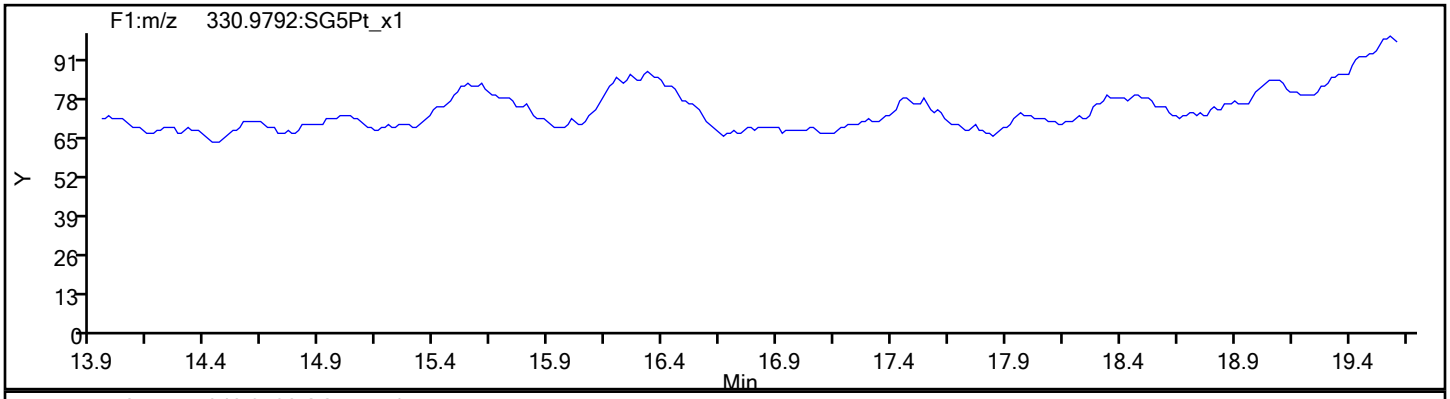

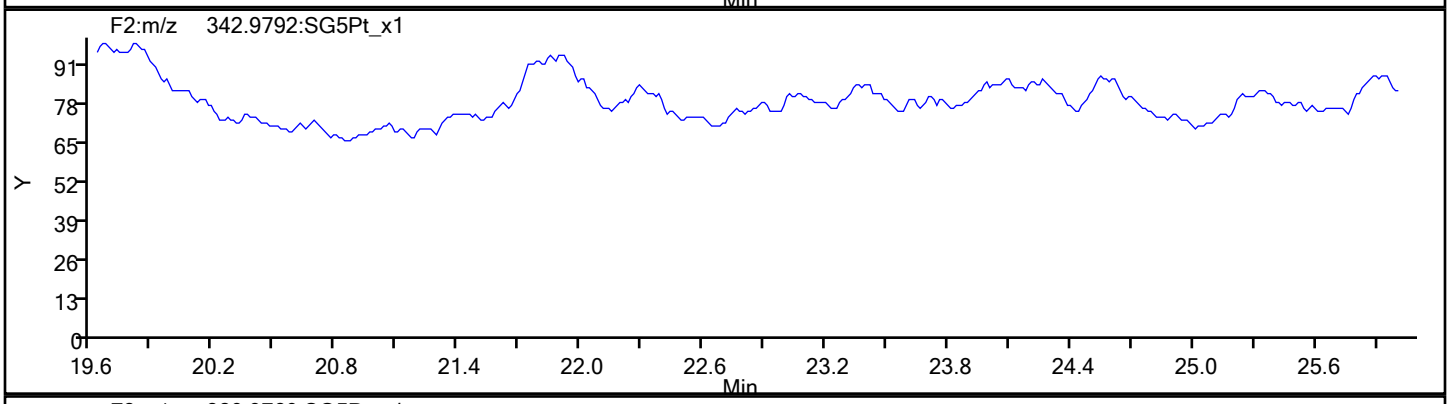

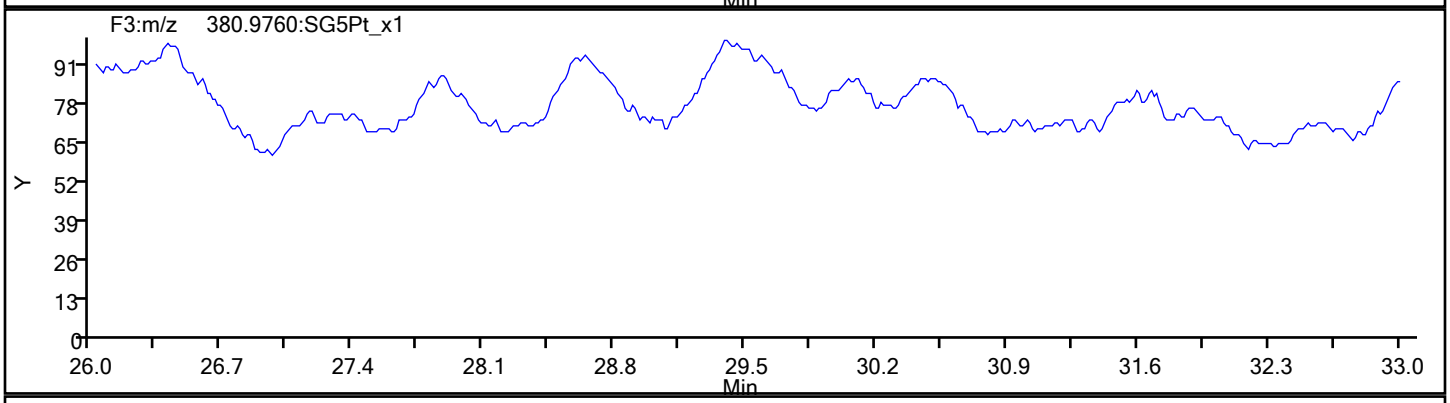

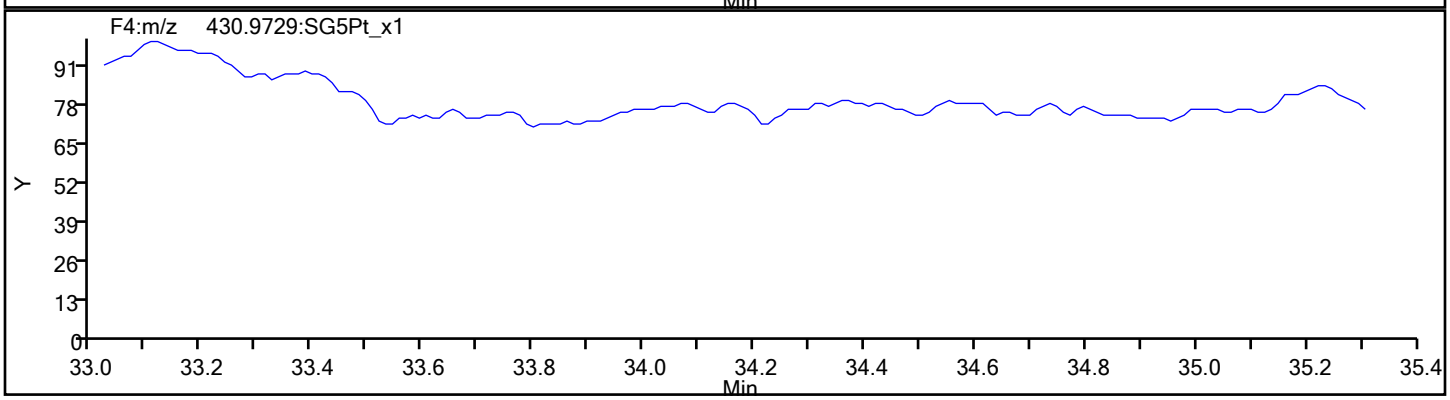

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d		
Injection Date:	17-Sep-2019 16:55:33	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

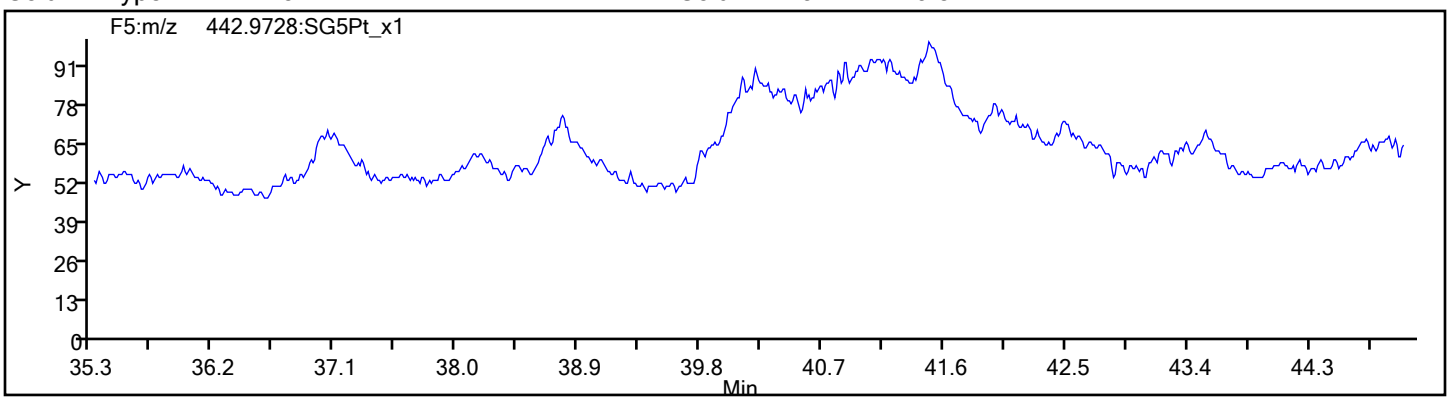

Calibration / 1,2,3,4,6,7,8-HpCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.9316

Error Coefficients

Standard Error:	523000000
Relative Standard Error:	5.9
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.124544	100.0	12148019.0	0.849818	Y
2	IC 320-324128/4	10.0	9.887454	100.0	25630510.0	0.988745	Y
3	IC 320-324128/7	50.0	45.909677	100.0	69249272.0	0.918194	Y
4	IC 320-324128/6	200.0	195.08816	100.0	90130025.0	0.975441	Y
5	IC 320-324128/8	1000.0	925.794044	100.0	111298169.0	0.925794	Y

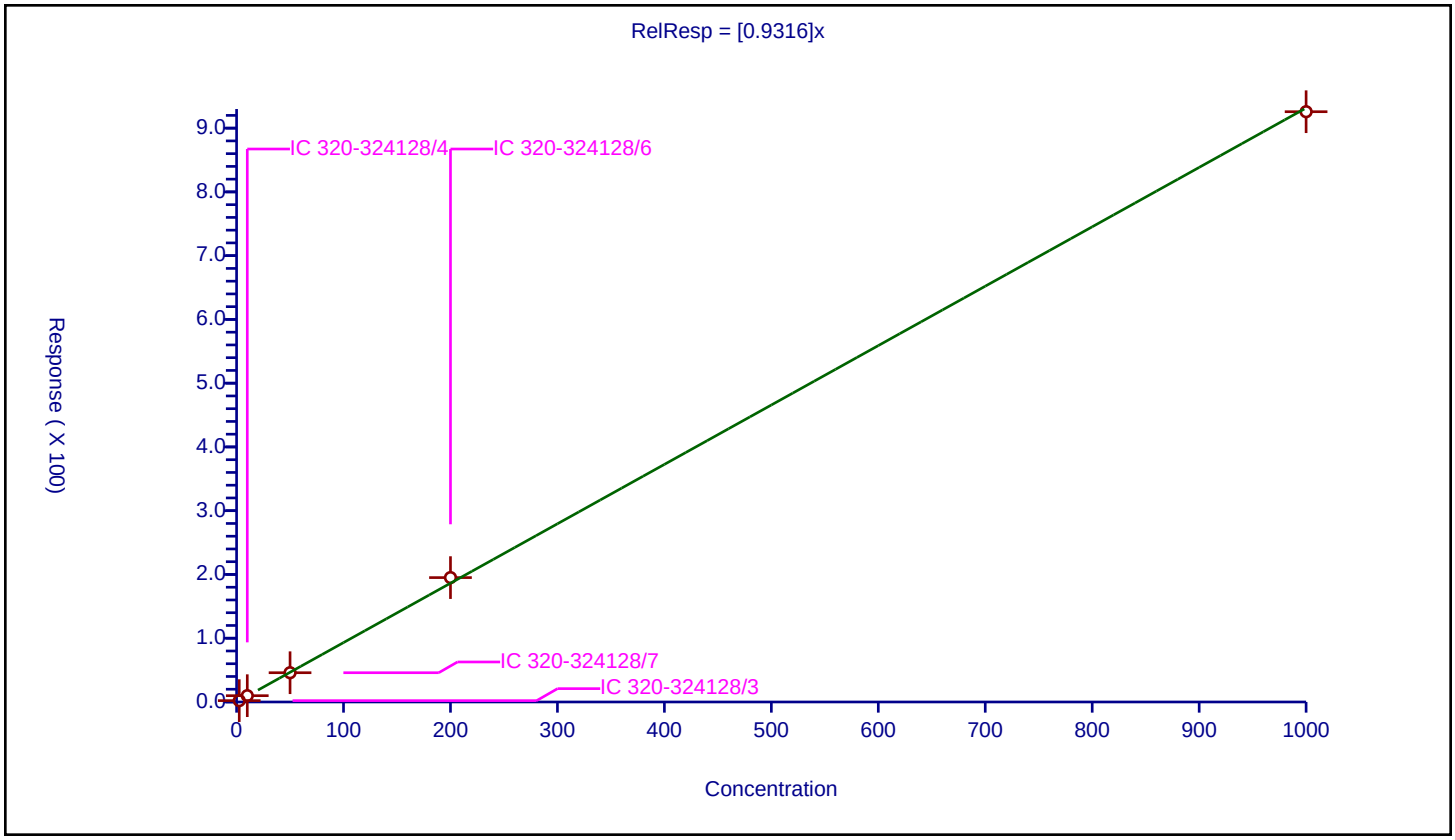

Calibration / 1,2,3,4,6,7,8-HpCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.556

Error Coefficients

Standard Error:	820000000
Relative Standard Error:	3.7
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	3.793804	100.0	12214839.0	1.517521	Y
2	IC 320-324128/4	10.0	16.415452	100.0	25015698.0	1.641545	Y
3	IC 320-324128/7	50.0	76.006177	100.0	70034446.0	1.520124	Y
4	IC 320-324128/6	200.0	317.335133	100.0	88816288.0	1.586676	Y
5	IC 320-324128/8	1000.0	1511.883696	100.0	106743815.0	1.511884	Y

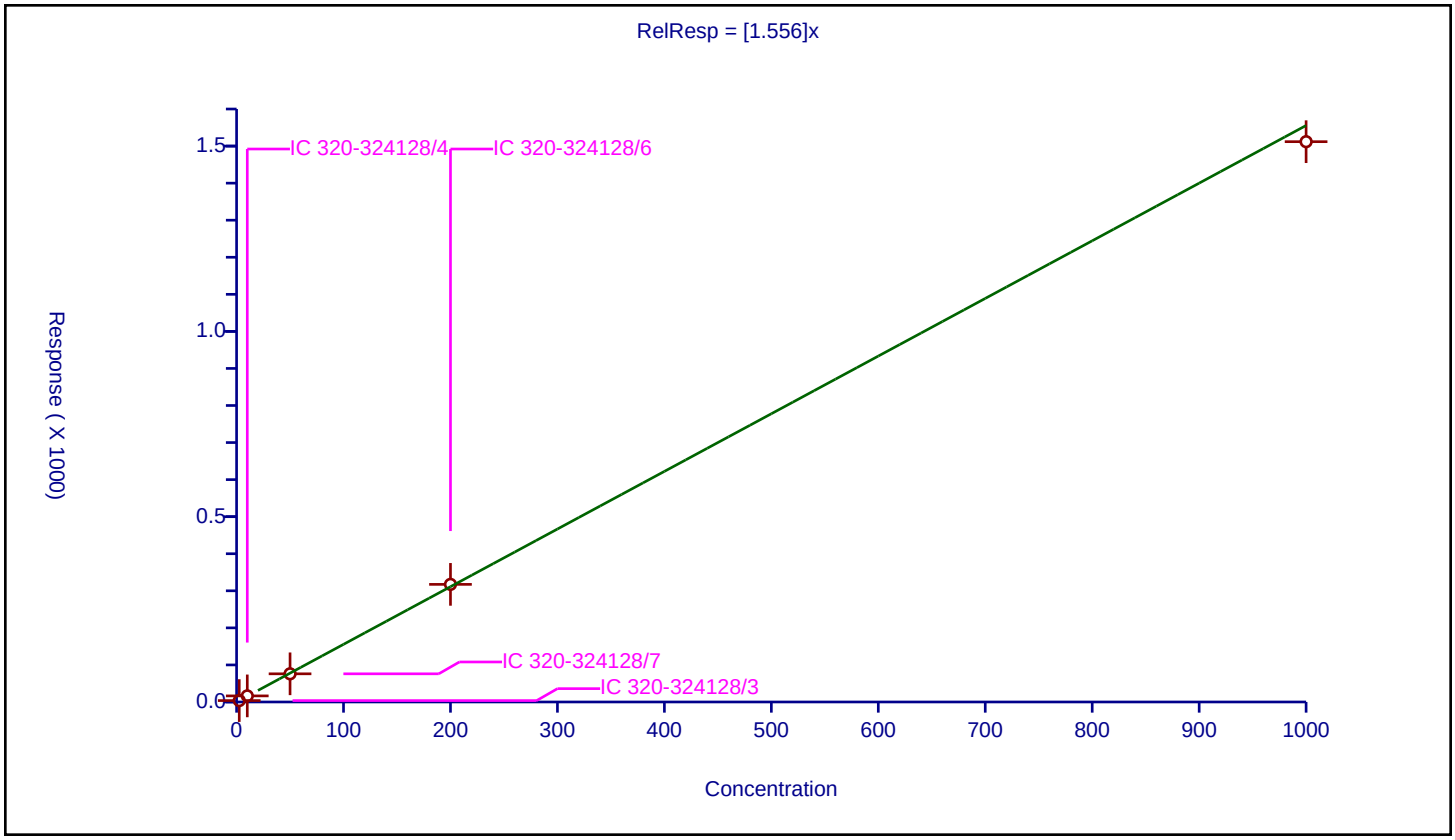

Calibration / 1,2,3,4,7,8,9-HpCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.386

Error Coefficients

Standard Error:	706000000
Relative Standard Error:	6.7
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	3.136969	100.0	11417456.0	1.254787	Y
2	IC 320-324128/4	10.0	14.795935	100.0	23641905.0	1.479594	Y
3	IC 320-324128/7	50.0	67.401124	100.0	62459777.0	1.348022	Y
4	IC 320-324128/6	200.0	294.076652	100.0	81274920.0	1.470383	Y
5	IC 320-324128/8	1000.0	1378.459208	100.0	100973962.0	1.378459	Y

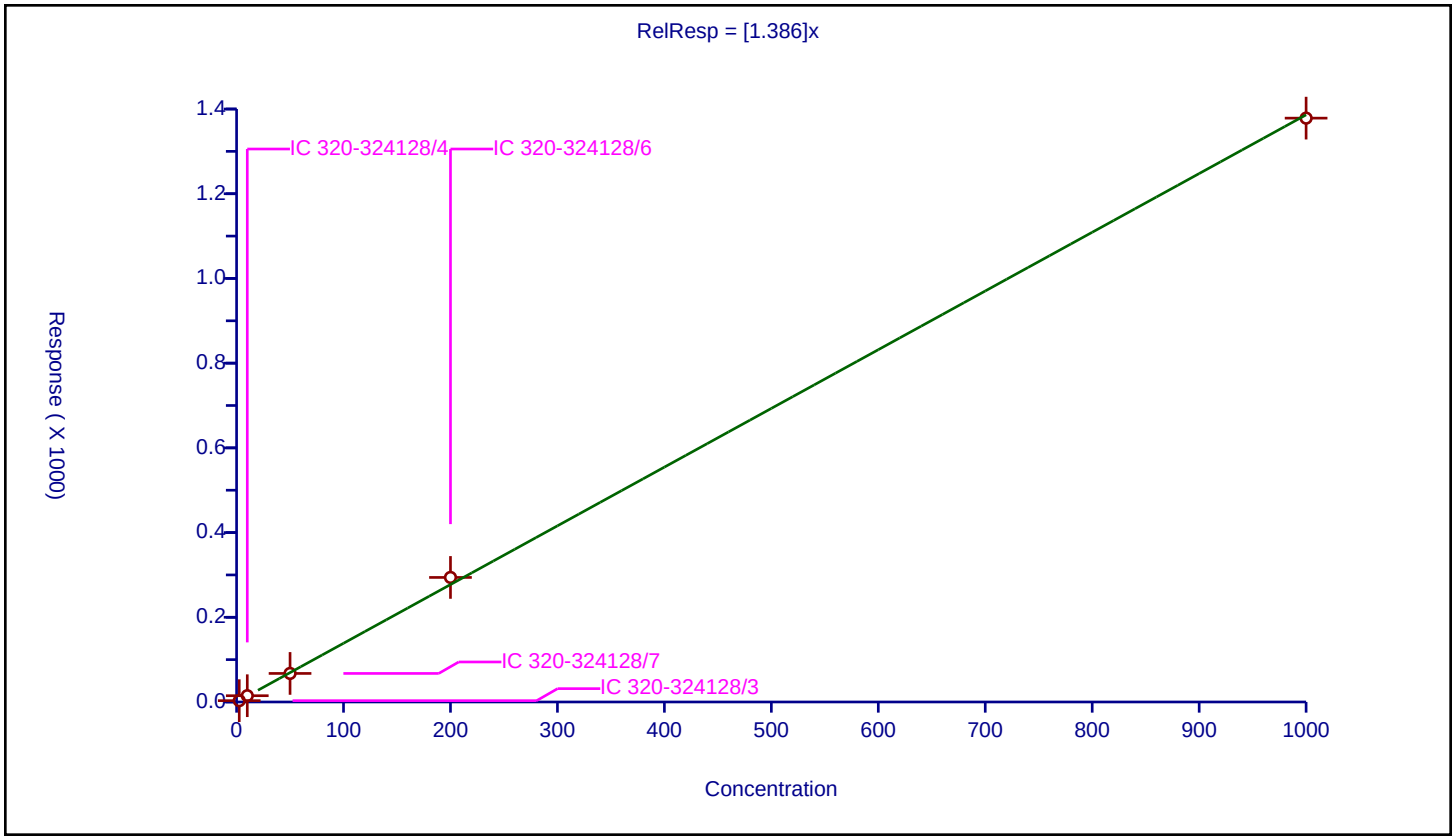

Calibration / 1,2,3,4,7,8-HxCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.109

Error Coefficients

Standard Error:	574000000
Relative Standard Error:	4.0
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.624315	100.0	10572054.0	1.049726	Y
2	IC 320-324128/4	10.0	11.313402	100.0	23739455.0	1.13134	Y
3	IC 320-324128/7	50.0	53.811098	100.0	61001305.0	1.076222	Y
4	IC 320-324128/6	200.0	231.704316	100.0	80372897.0	1.158522	Y
5	IC 320-324128/8	1000.0	1128.178019	100.0	100374877.0	1.128178	Y

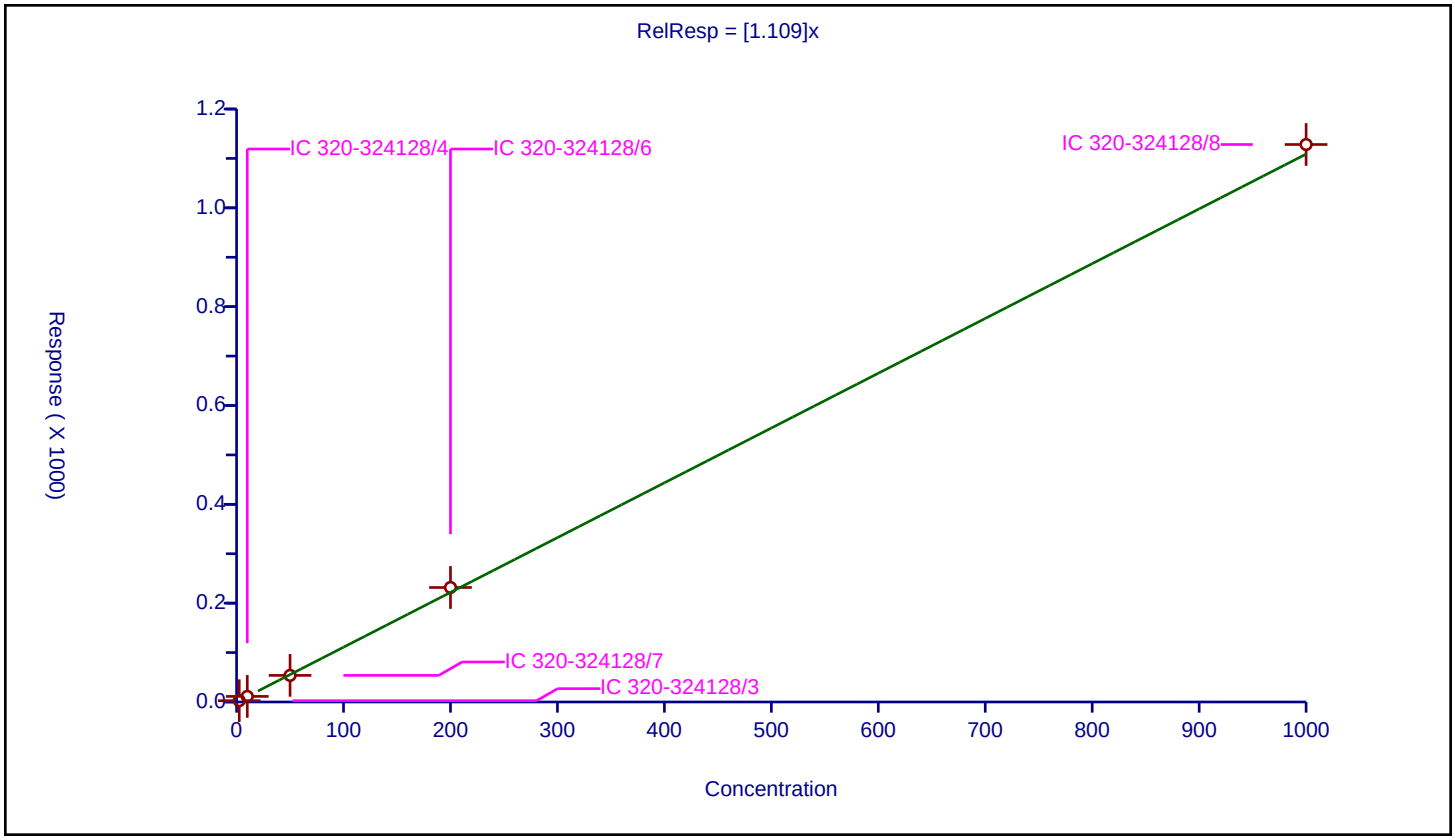

Calibration / 1,2,3,4,7,8-HxCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.197

Error Coefficients

Standard Error:	857000000
Relative Standard Error:	5.9
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.751048	100.0	16433122.0	1.100419	Y
2	IC 320-324128/4	10.0	12.643334	100.0	36418536.0	1.264333	Y
3	IC 320-324128/7	50.0	57.806584	100.0	88972191.0	1.156132	Y
4	IC 320-324128/6	200.0	252.902057	100.0	115322048.0	1.26451	Y
5	IC 320-324128/8	1000.0	1201.28113	100.0	140595624.0	1.201281	Y

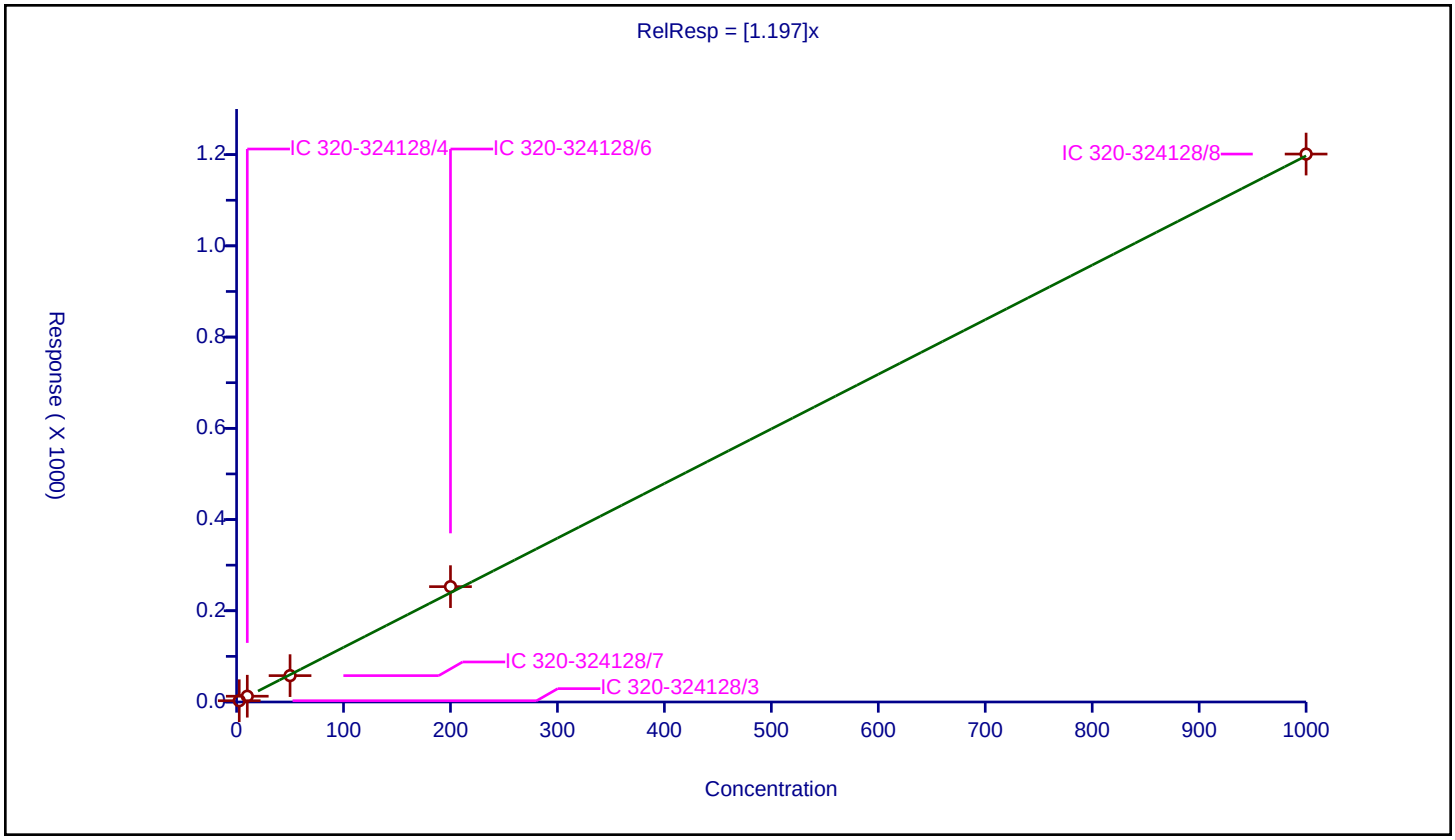

Calibration / 1,2,3,6,7,8-HxCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.081

Error Coefficients

Standard Error:	630000000
Relative Standard Error:	4.9
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.556253	100.0	12508423.0	1.022501	Y
2	IC 320-324128/4	10.0	11.525838	100.0	27633426.0	1.152584	Y
3	IC 320-324128/7	50.0	52.478256	100.0	72157657.0	1.049565	Y
4	IC 320-324128/6	200.0	223.531818	100.0	95002970.0	1.117659	Y
5	IC 320-324128/8	1000.0	1064.760649	100.0	116499868.0	1.064761	Y

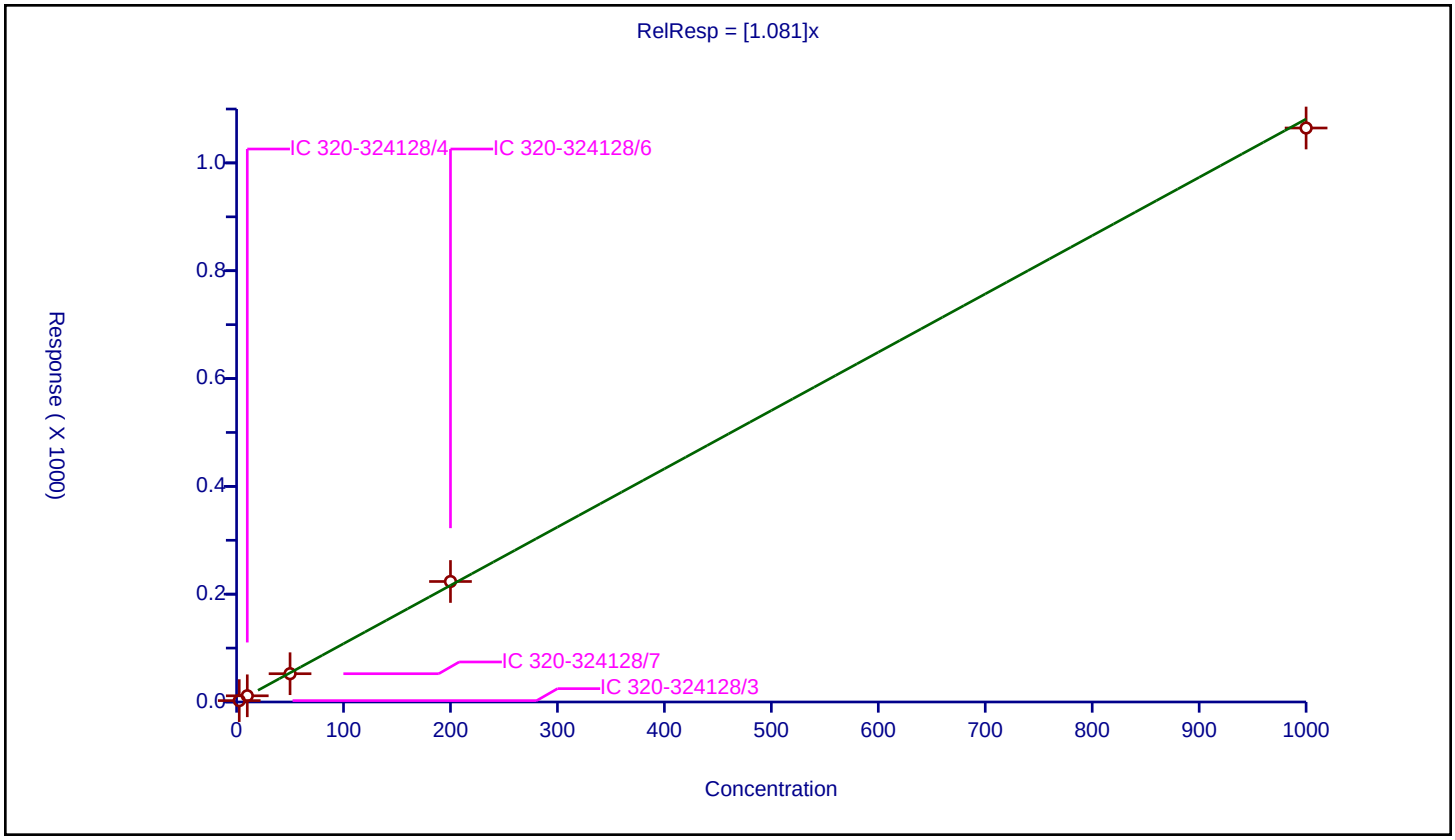

Calibration / 1,2,3,6,7,8-HxCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.181

Error Coefficients

Standard Error:	909000000
Relative Standard Error:	6.6
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.667131	100.0	17668349.0	1.066852	Y
2	IC 320-324128/4	10.0	12.704364	100.0	38486861.0	1.270436	Y
3	IC 320-324128/7	50.0	57.669759	100.0	97064883.0	1.153395	Y
4	IC 320-324128/6	200.0	246.681655	100.0	126224651.0	1.233408	Y
5	IC 320-324128/8	1000.0	1179.211783	100.0	151833452.0	1.179212	Y

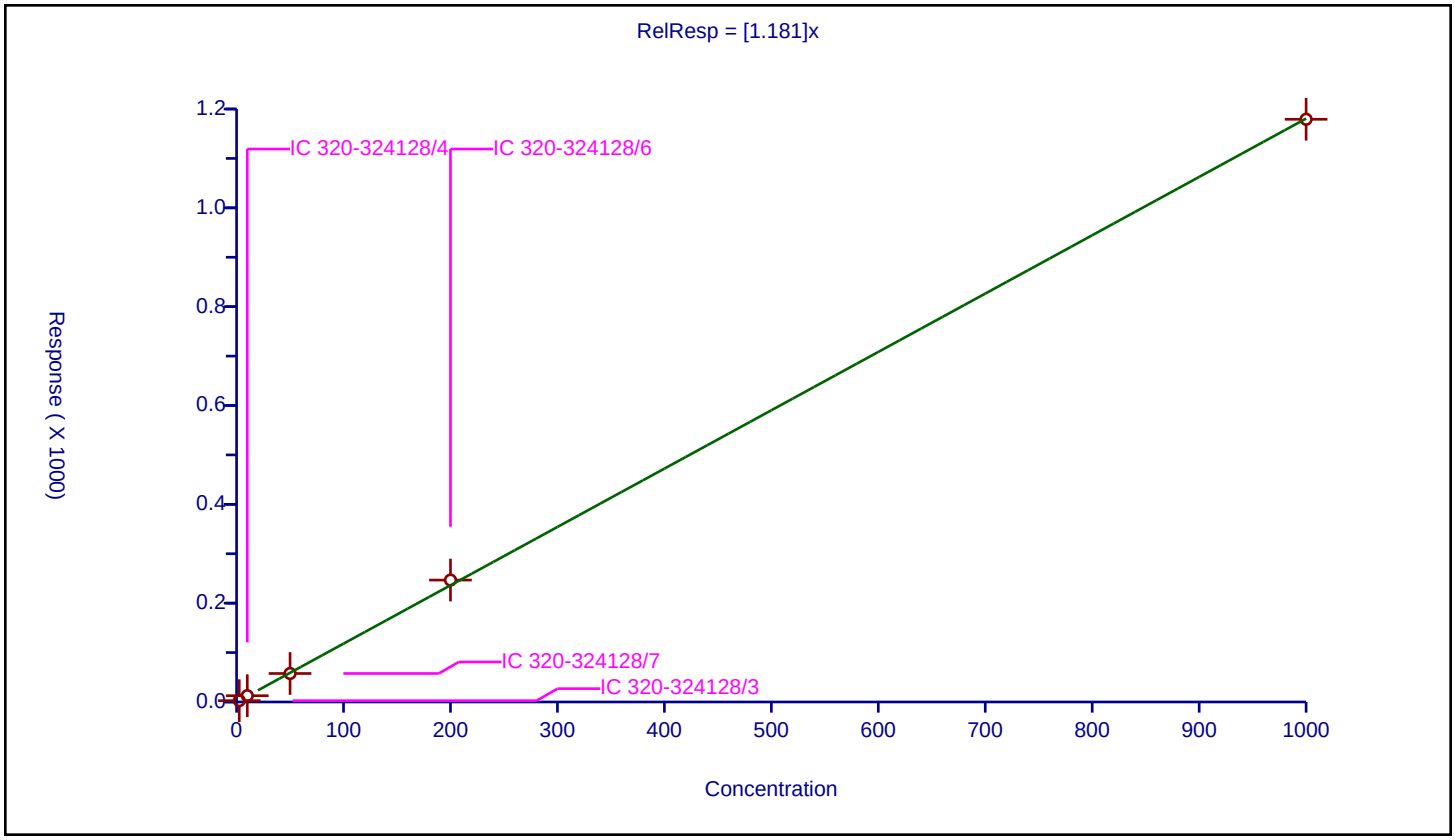

Calibration / 1,2,3,7,8,9-HxCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.318

Error Coefficients

Standard Error:	639000000
Relative Standard Error:	5.4
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	3.149823	100.0	10572054.0	1.259929	Y
2	IC 320-324128/4	10.0	14.21552	100.0	23739455.0	1.421552	Y
3	IC 320-324128/7	50.0	64.86943	100.0	61001305.0	1.297389	Y
4	IC 320-324128/6	200.0	271.297093	100.0	80372897.0	1.356485	Y
5	IC 320-324128/8	1000.0	1254.773605	100.0	100374877.0	1.254774	Y

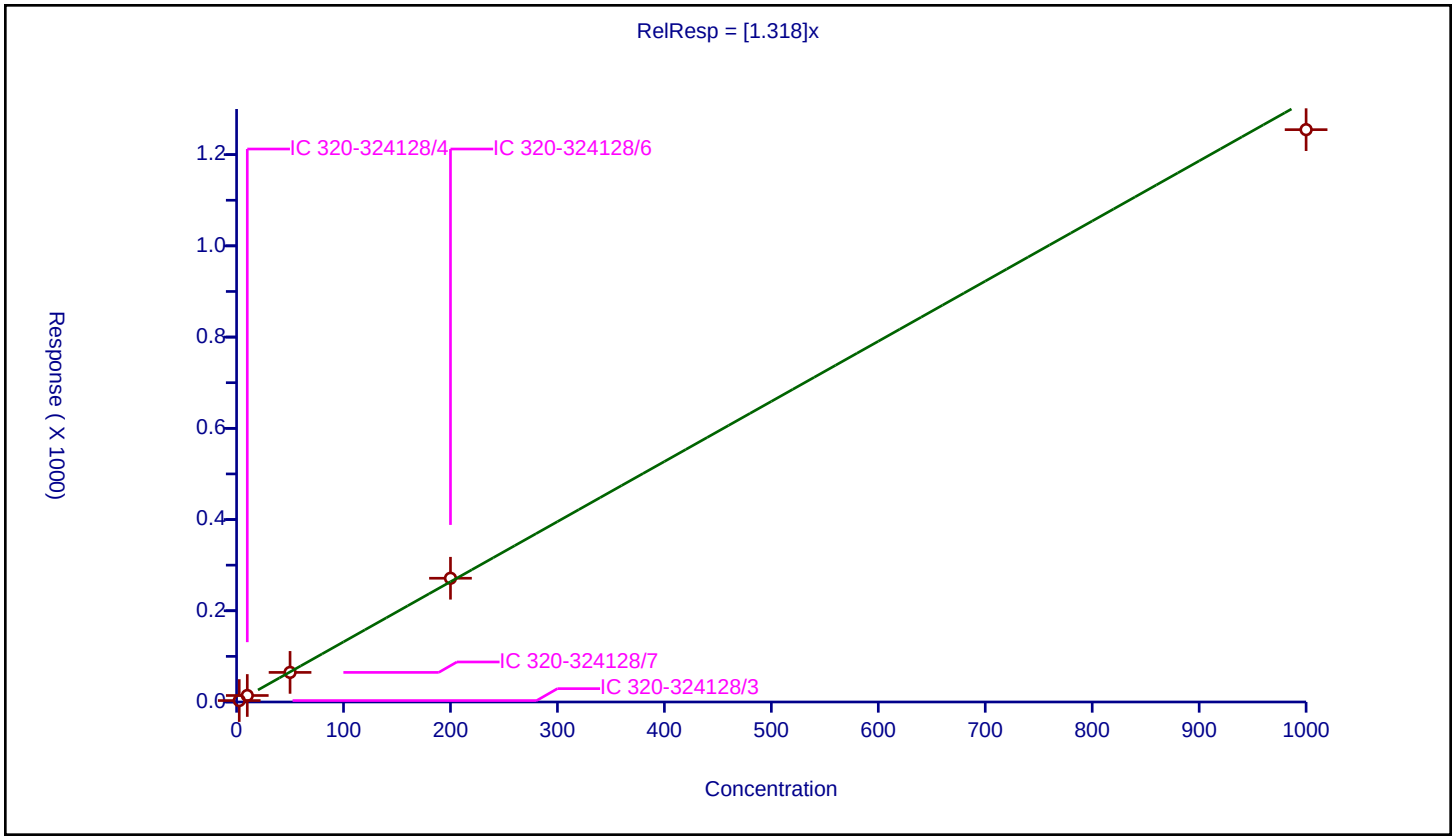

Calibration / 1,2,3,7,8,9-HxCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.245

Error Coefficients

Standard Error:	802000000
Relative Standard Error:	3.0
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	3.063166	100.0	15096147.0	1.225266	Y
2	IC 320-324128/4	10.0	12.975655	100.0	33293009.0	1.297566	Y
3	IC 320-324128/7	50.0	60.502108	100.0	83967924.0	1.210042	Y
4	IC 320-324128/6	200.0	254.314863	100.0	107073331.0	1.271574	Y
5	IC 320-324128/8	1000.0	1221.183573	100.0	129353689.0	1.221184	Y

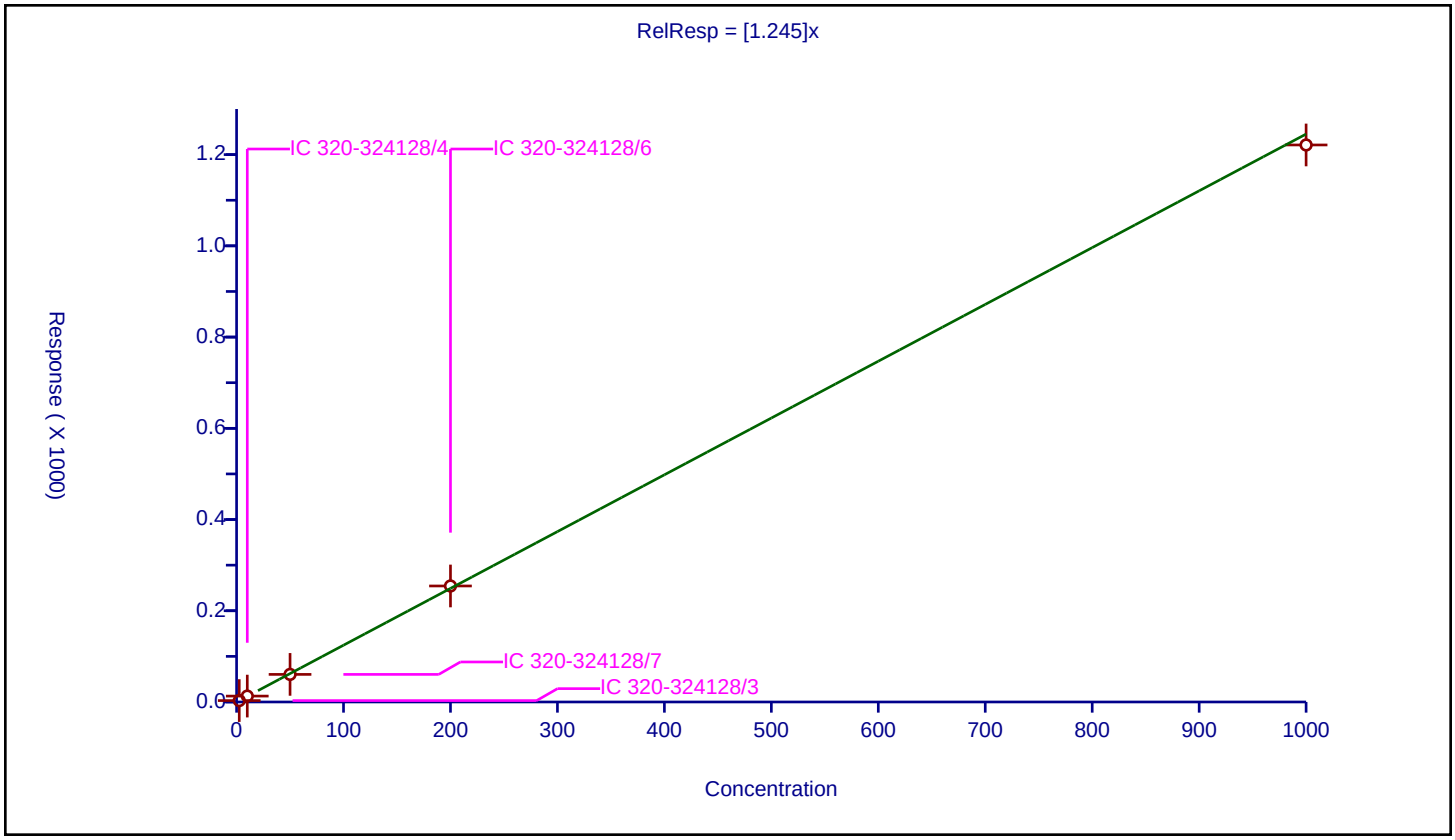

Calibration / 1,2,3,7,8-PeCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.905

Error Coefficients

Standard Error:	590000000
Relative Standard Error:	4.8
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.148594	100.0	15668897.0	0.859438	Y
2	IC 320-324128/4	10.0	9.575806	100.0	33098301.0	0.957581	Y
3	IC 320-324128/7	50.0	43.349327	100.0	84755636.0	0.866987	Y
4	IC 320-324128/6	200.0	188.20818	100.0	108225317.0	0.941041	Y
5	IC 320-324128/8	1000.0	900.148235	100.0	129152474.0	0.900148	Y

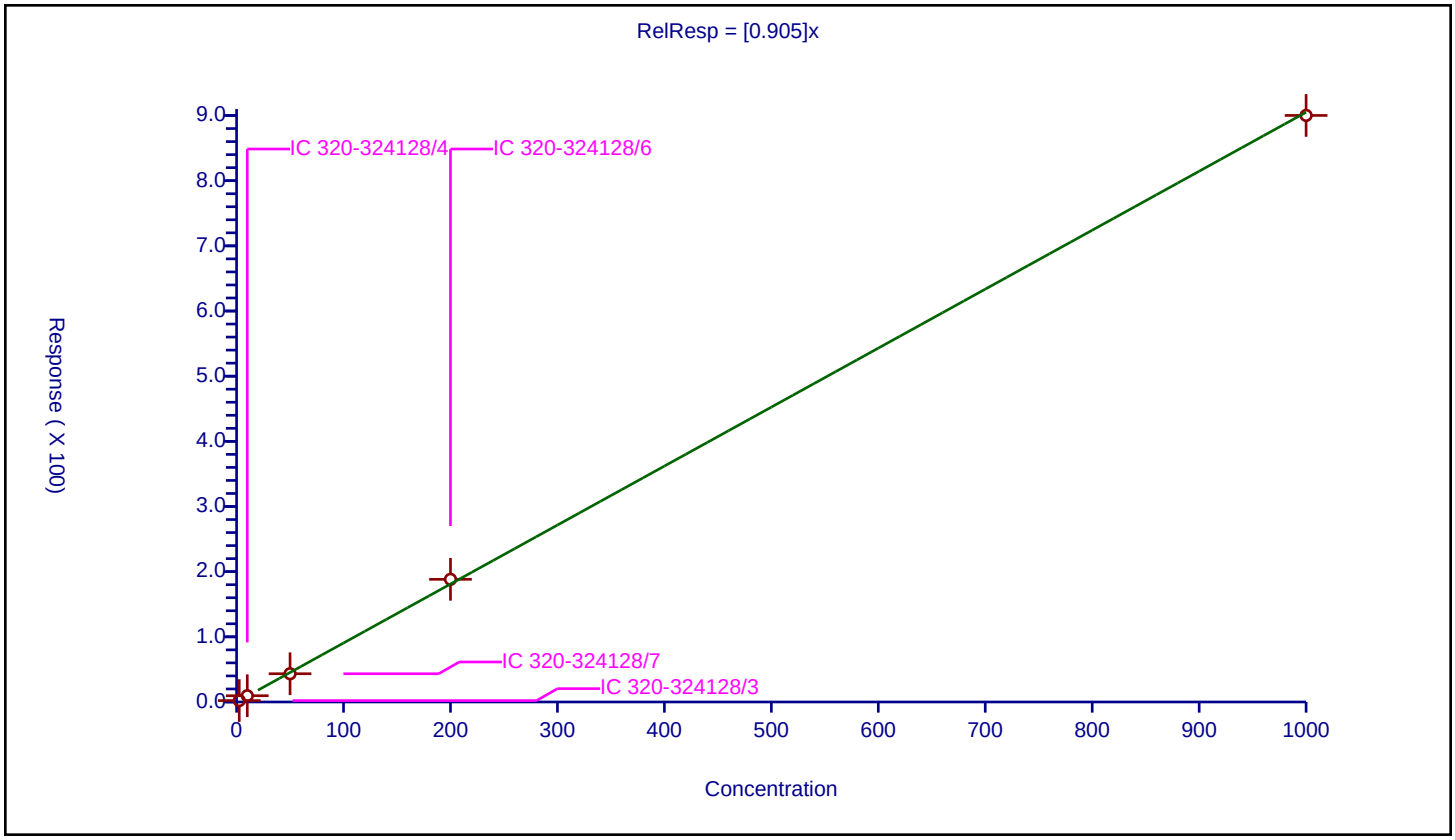

Calibration / 1,2,3,7,8-PeCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.082

Error Coefficients

Standard Error:	938000000
Relative Standard Error:	6.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.502683	100.0	22013977.0	1.001073	Y
2	IC 320-324128/4	10.0	11.601265	100.0	46755351.0	1.160126	Y
3	IC 320-324128/7	50.0	52.158277	100.0	117067384.0	1.043166	Y
4	IC 320-324128/6	200.0	226.621934	100.0	146707284.0	1.13311	Y
5	IC 320-324128/8	1000.0	1073.749438	100.0	171862914.0	1.073749	Y

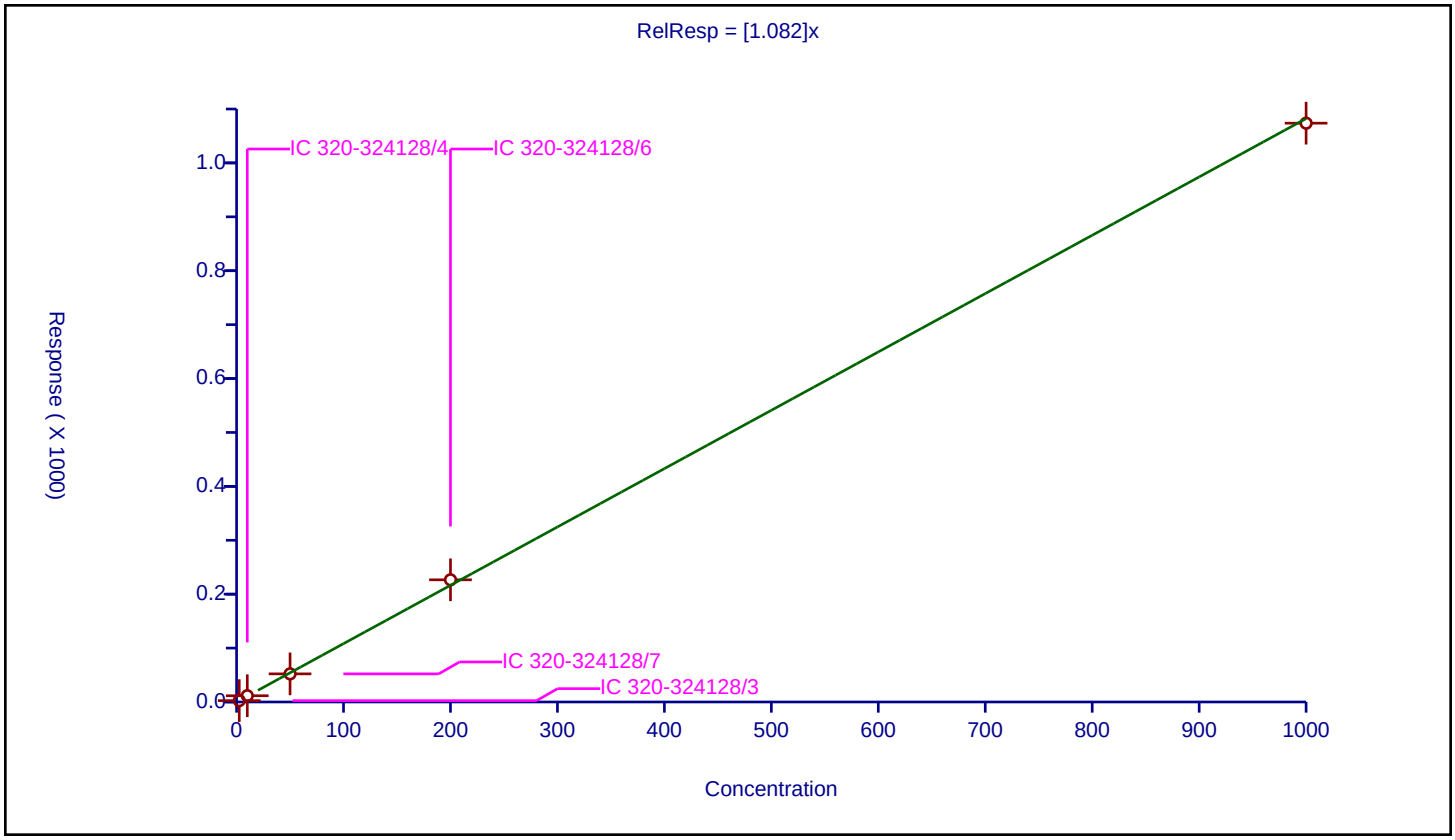

Calibration / 2,3,4,6,7,8-HxCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.212

Error Coefficients

Standard Error:	900000000
Relative Standard Error:	4.7
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.831839	100.0	16591902.0	1.132736	Y
2	IC 320-324128/4	10.0	12.683235	100.0	35886090.0	1.268323	Y
3	IC 320-324128/7	50.0	59.276675	100.0	90467566.0	1.185533	Y
4	IC 320-324128/6	200.0	253.147566	100.0	118677202.0	1.265738	Y
5	IC 320-324128/8	1000.0	1205.597186	100.0	147071003.0	1.205597	Y

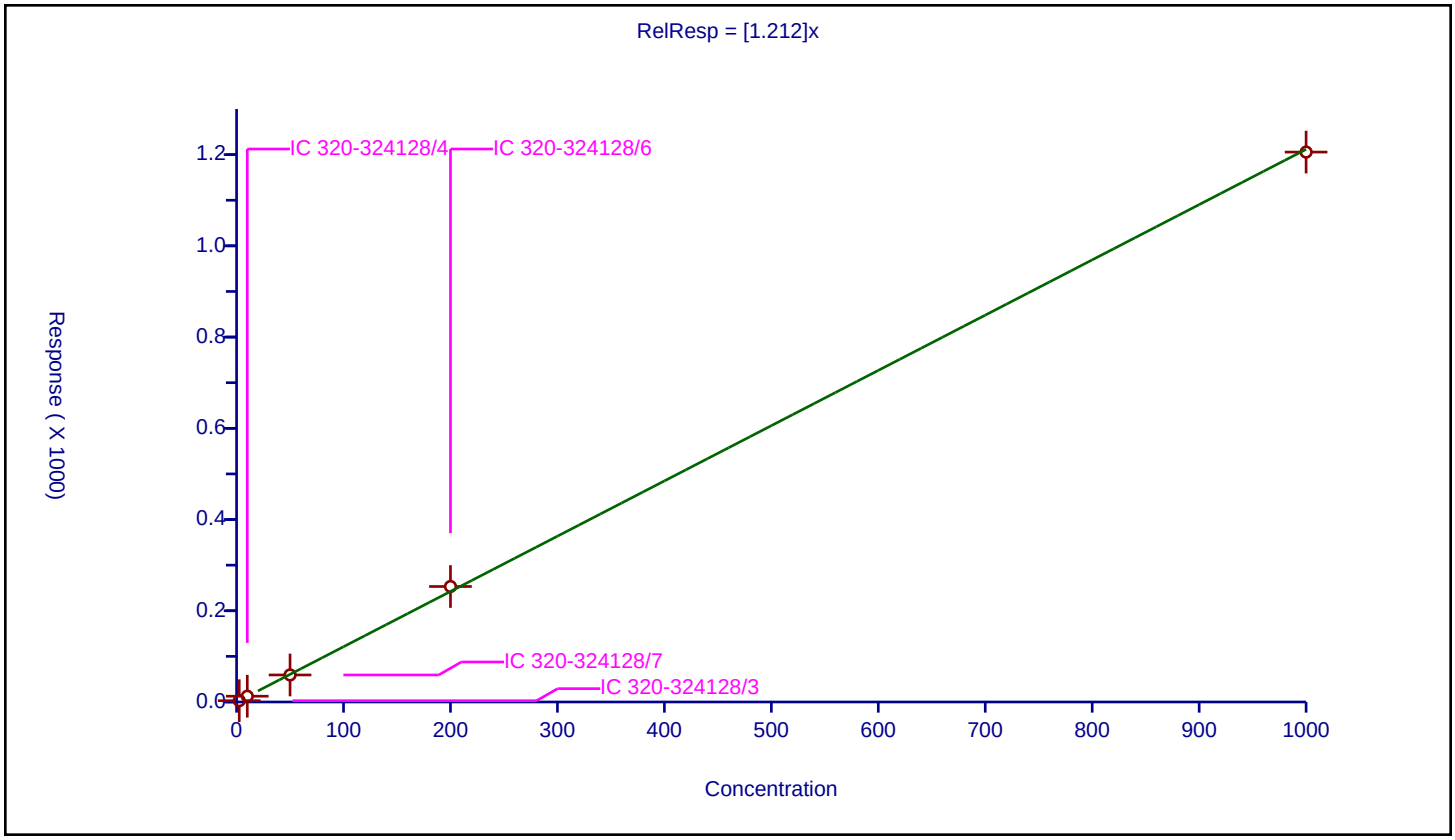

Calibration / 2,3,4,7,8-PeCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.103

Error Coefficients

Standard Error:	942000000
Relative Standard Error:	8.1
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.406506	100.0	20818900.0	0.962602	Y
2	IC 320-324128/4	10.0	11.888412	100.0	45184985.0	1.188841	Y
3	IC 320-324128/7	50.0	54.321476	100.0	108494277.0	1.08643	Y
4	IC 320-324128/6	200.0	234.558175	100.0	140755634.0	1.172791	Y
5	IC 320-324128/8	1000.0	1105.351196	100.0	167797734.0	1.105351	Y

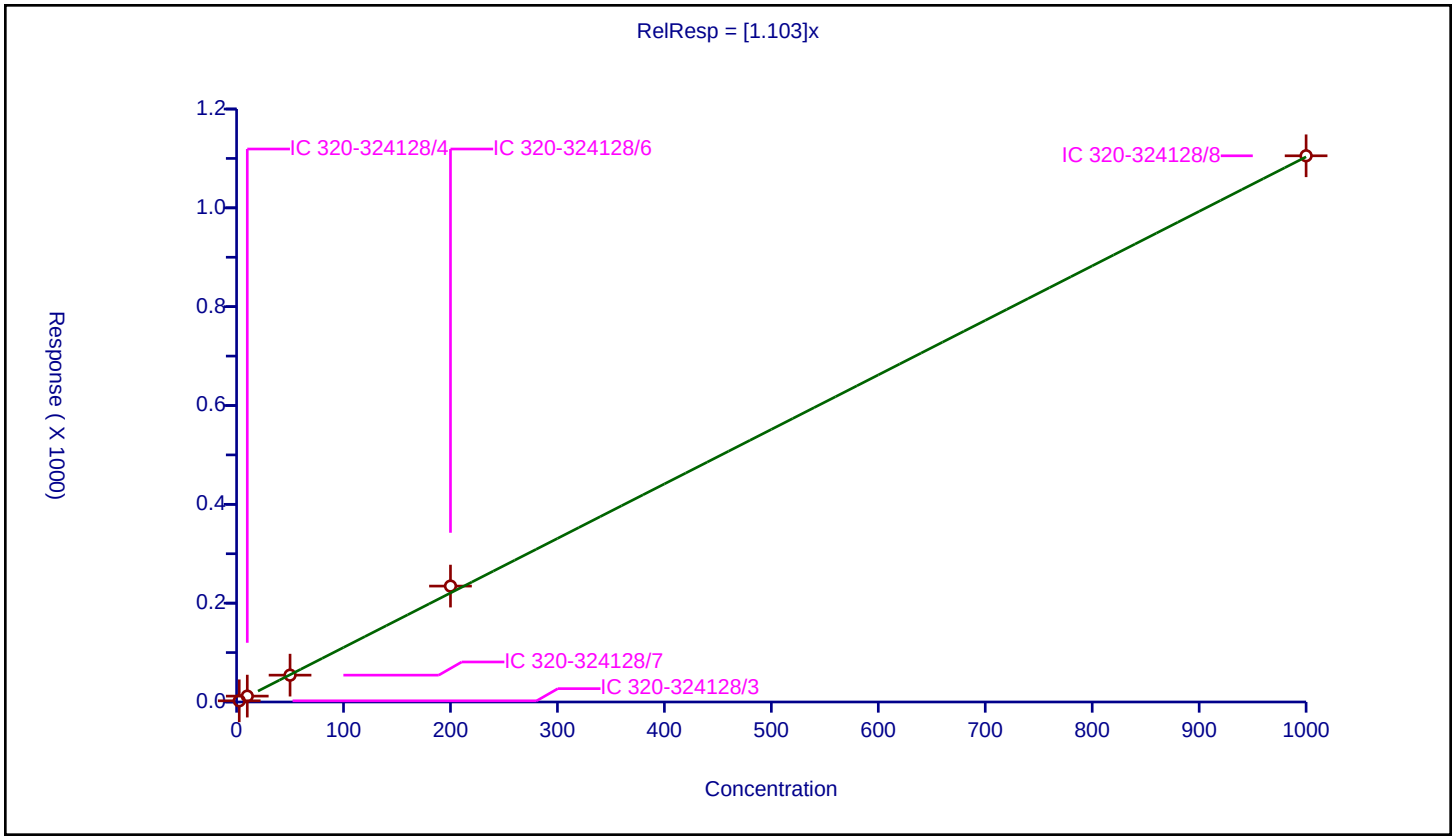

Calibration / 2,3,7,8-TCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.106

Error Coefficients

Standard Error:	167000000
Relative Standard Error:	4.9
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	0.5	0.583856	100.0	21165335.0	1.167711	Y
2	IC 320-324128/4	2.0	2.253252	100.0	45389691.0	1.126626	Y
3	IC 320-324128/7	10.0	10.23923	100.0	110088290.0	1.023923	Y
4	IC 320-324128/6	40.0	45.044682	100.0	131023361.0	1.126117	Y
5	IC 320-324128/8	200.0	217.531474	100.0	150666513.0	1.087657	Y

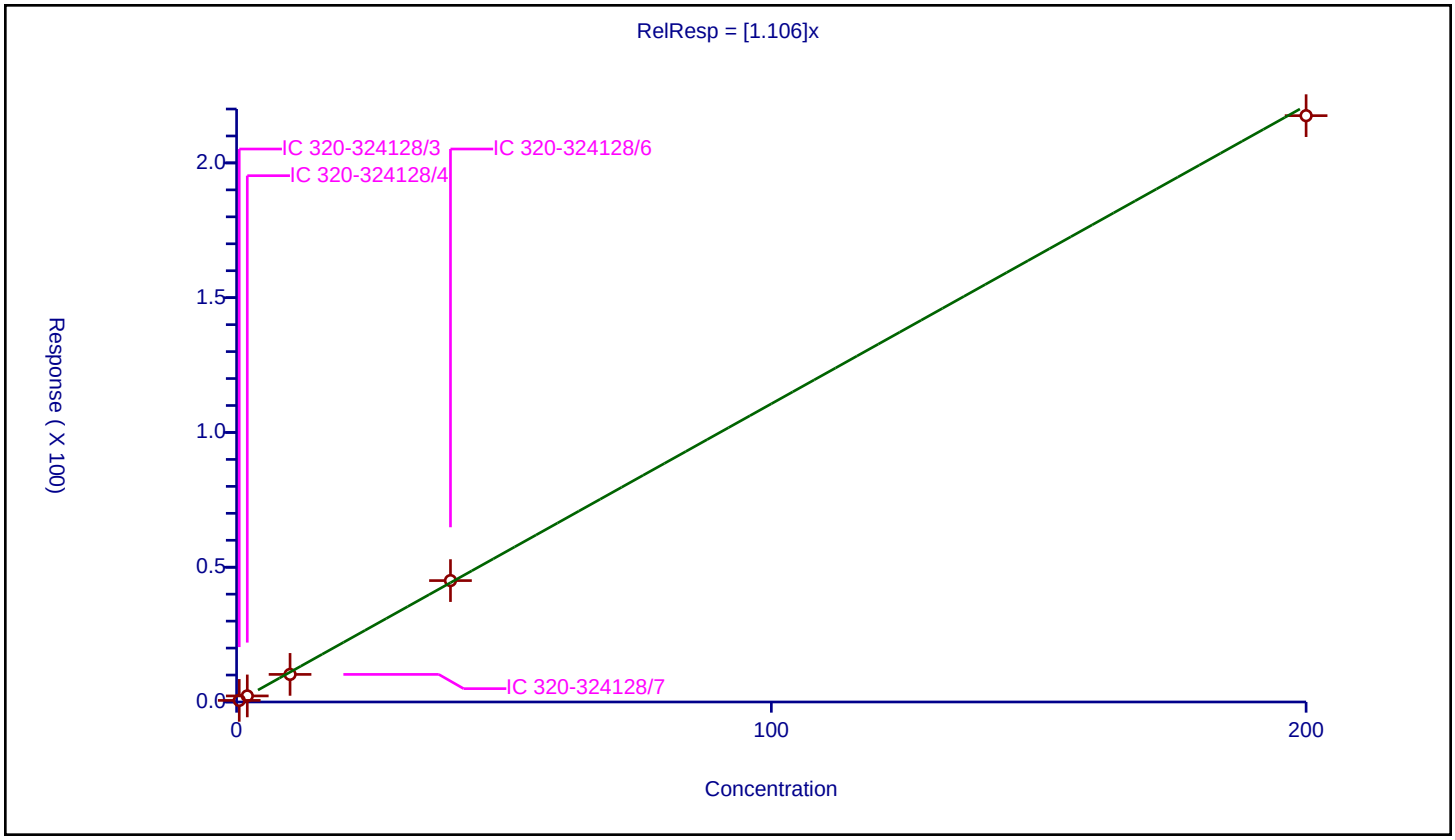

Calibration / 2,3,7,8-TCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.051

Error Coefficients

Standard Error:	235000000
Relative Standard Error:	4.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	0.5	0.535593	100.0	32121801.0	1.071185	Y
2	IC 320-324128/4	2.0	2.204382	100.0	69364385.0	1.102191	Y
3	IC 320-324128/7	10.0	9.929077	100.0	164292495.0	0.992908	Y
4	IC 320-324128/6	40.0	42.465661	100.0	197671153.0	1.061642	Y
5	IC 320-324128/8	200.0	205.145738	100.0	225533576.0	1.025729	Y

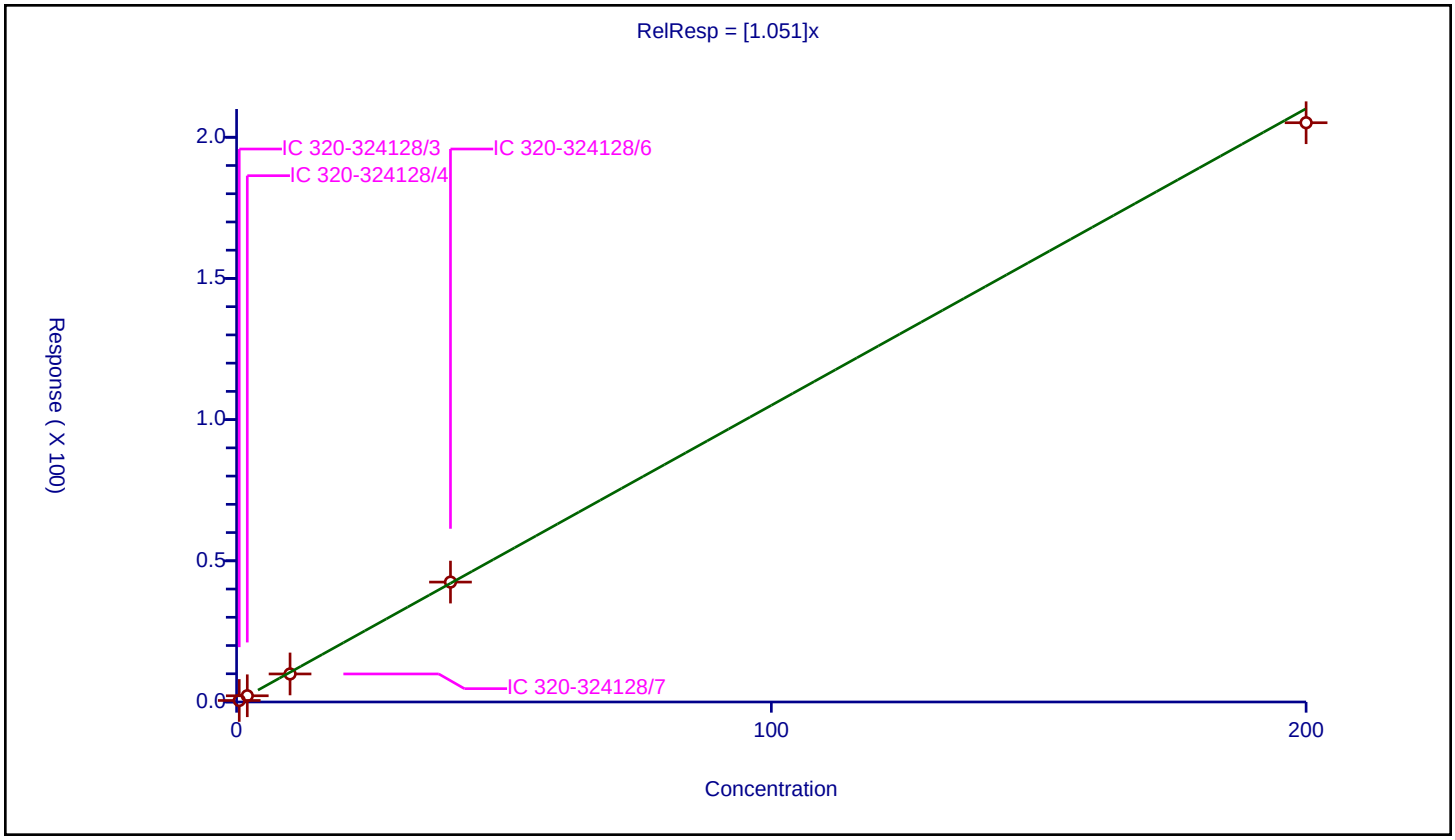

Calibration / 37Cl4-2,3,7,8-TCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.222

Error Coefficients

Standard Error:	205000000
Relative Standard Error:	5.7
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	0.5	0.559577	100.0	21989821.0	1.119154	Y
2	IC 320-324128/4	2.0	2.425047	100.0	48020971.0	1.212523	Y
3	IC 320-324128/7	8.0	9.665731	100.0	116862140.0	1.208216	Y
4	IC 320-324128/6	40.0	51.600573	100.0	136791650.0	1.290014	Y
5	IC 320-324128/8	200.0	256.418271	100.0	157084773.0	1.282091	Y

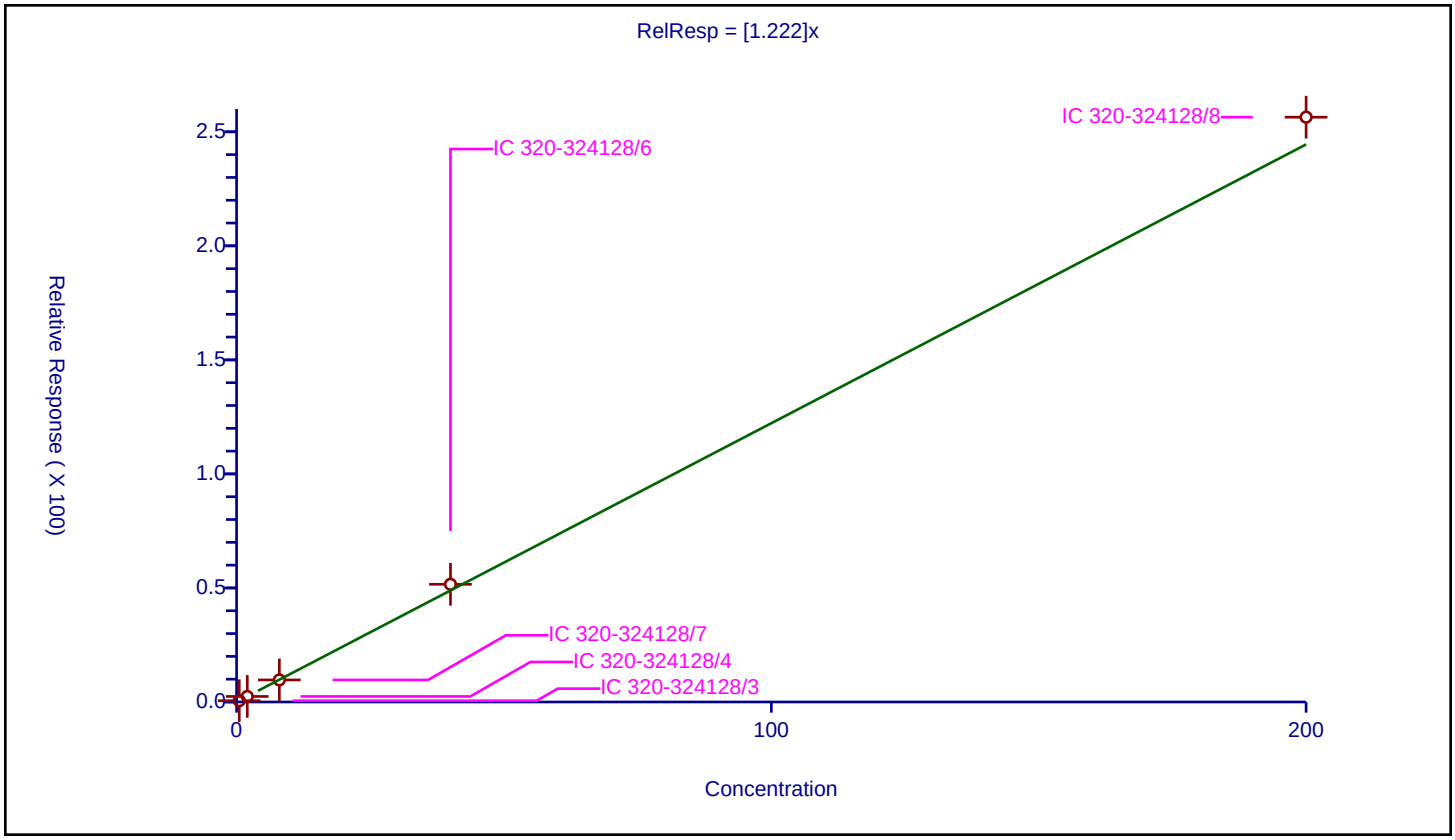

Calibration / OCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.062

Error Coefficients

Standard Error:	1080000000
Relative Standard Error:	6.6
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	5.0	4.995683	200.0	22323676.0	0.999137	Y
2	IC 320-324128/4	20.0	23.429889	200.0	43388861.0	1.171494	Y
3	IC 320-324128/7	100.0	101.887088	200.0	117978202.0	1.018871	Y
4	IC 320-324128/6	400.0	436.552854	200.0	158997965.0	1.091382	Y
5	IC 320-324128/8	2000.0	2058.960862	200.0	206464776.0	1.02948	Y

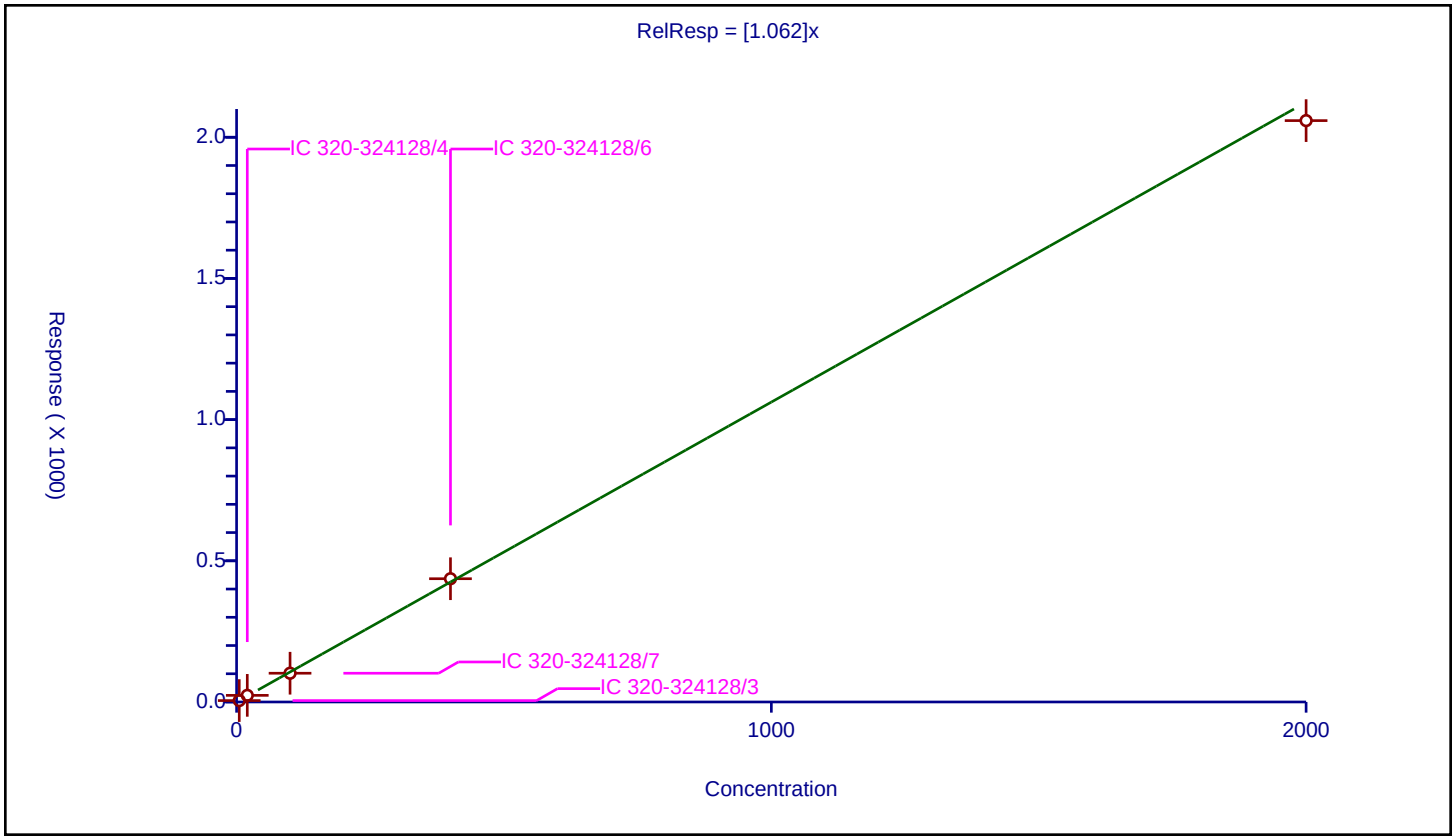

Calibration / OCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.26

Error Coefficients

Standard Error:	1330000000
Relative Standard Error:	6.0
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	5.0	5.709875	200.0	22323676.0	1.141975	Y
2	IC 320-324128/4	20.0	26.627996	200.0	43388861.0	1.3314	Y
3	IC 320-324128/7	100.0	123.985768	200.0	117978202.0	1.239858	Y
4	IC 320-324128/6	400.0	526.877314	200.0	158997965.0	1.317193	Y
5	IC 320-324128/8	2000.0	2535.017728	200.0	206464776.0	1.267509	Y

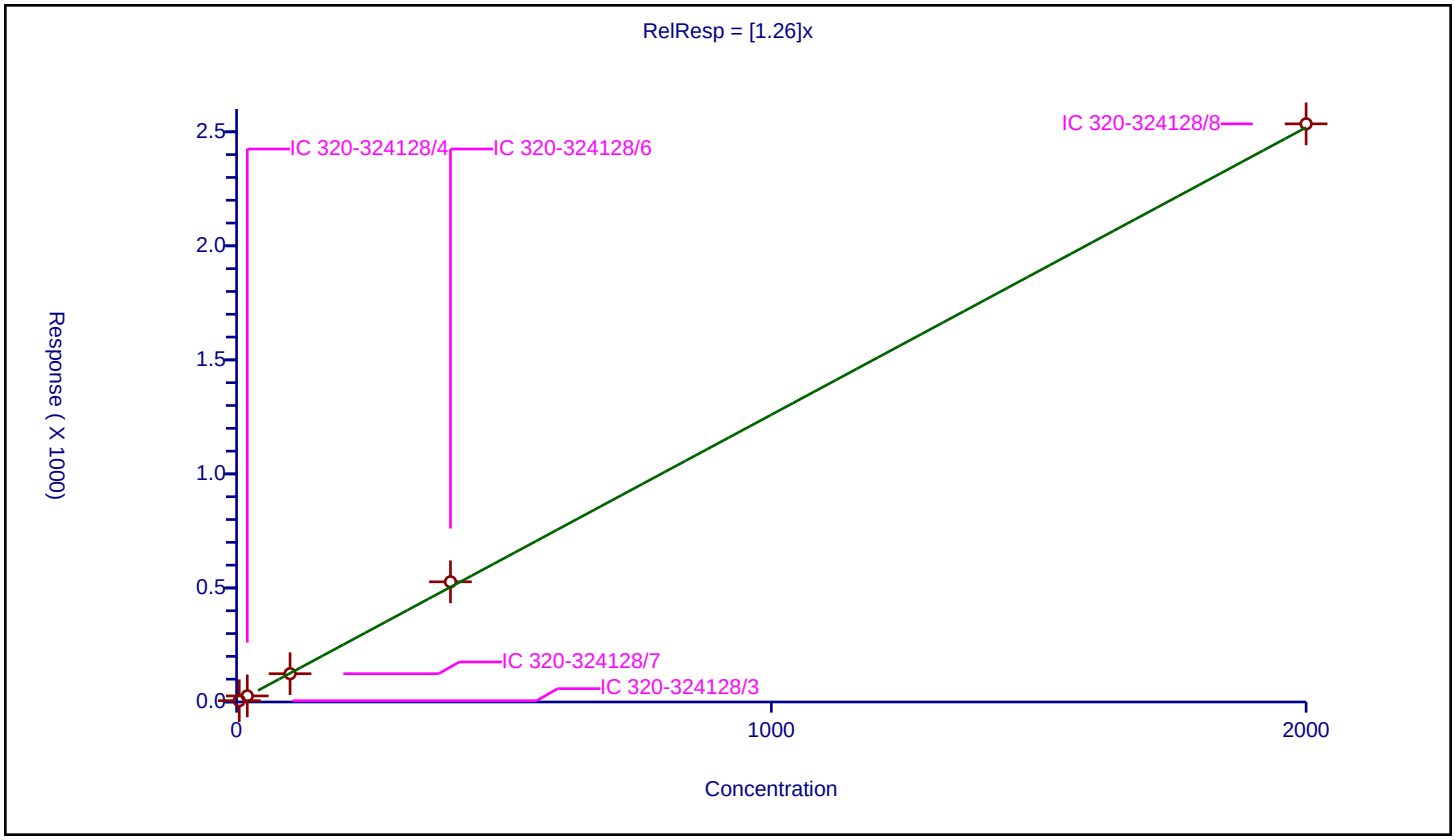

FORM VI
DIOXIN BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-1 Analy Batch No.: 312067

SDG No.:

Instrument ID: 11D2 GC Column: DB-225 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/02/2019 02:52 Calibration End Date: 08/02/2019 05:25 Calibration ID: 46494

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-312067/3	02AU1911D2_003.d
Level 2	IC 320-312067/4	02AU1911D2_004.d
Level 3	IC 320-312067/5	02AU1911D2_005.d
Level 4	IC 320-312067/6	02AU1911D2_006.d
Level 5	IC 320-312067/7	02AU1911D2_007.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
2,3,7,8-TCDD	1.4072	1.1517	0.9928	1.1253	1.0921	AveID		1.1538				13.3		20.0			
2,3,7,8-TCDF	0.9508	0.8634	0.7802	0.8060	0.7939	AveID		0.8389				8.4		20.0			
13C-2,3,7,8-TCDD	0.9860	0.9016	0.9603	0.9300	0.9162	Ave		0.9388				3.6		35.0			
13C-2,3,7,8-TCDF	1.4126	1.2992	1.3548	1.2560	1.3671	Ave		1.3379				4.6		35.0			
37Cl4-2,3,7,8-TCDD	1.2464	1.0504	1.1674	1.2313	1.2128	Ave		1.1816				6.7					

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
DIOXIN BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-1 Analy Batch No.: 312067

SDG No.:

Instrument ID: 11D2 GC Column: DB-225 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/02/2019 02:52 Calibration End Date: 08/02/2019 05:25 Calibration ID: 46494

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-312067/3	02AU1911D2_003.d
Level 2	IC 320-312067/4	02AU1911D2_004.d
Level 3	IC 320-312067/5	02AU1911D2_005.d
Level 4	IC 320-312067/6	02AU1911D2_006.d
Level 5	IC 320-312067/7	02AU1911D2_007.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (PG/UL)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
2,3,7,8-TCDD		AveID	766838	2408989	10136940	48146783	221171643	0.500	2.00	10.0	40.0	200
2,3,7,8-TCDF		AveID	742351	2602621	11238394	46575552	239921851	0.500	2.00	10.0	40.0	200
13C-2,3,7,8-TCDD	13CTC	Ave	108987233	104587968	102100937	106968299	101263855	100	100	100	100	100
13C-2,3,7,8-TCDF	13CTC	Ave	156147949	150712836	144041178	144459393	151101344	100	100	100	100	100
37Cl4-2,3,7,8-TCDD	13CTC	Ave	688870	2436945	9929024	56650769	268090229	0.500	2.00	8.00	40.0	200

Curve Type Legend:

Ave = Average ISTD
AveID = Average isotope dilution

Data file	Smp	Work Order	Sample ID	FV-uL	Method/Matrix	Box	Size	U
02AU1911D2	1	CPS 080219	CPS HRDXNCP_00038		Dioxin		1.00000	
02AU1911D2	2	SB 080219	SB Solvent Blank C-14				1.00000	
02AU1911D2	3	IC 080219	CS-2 HRDXNL2_00027		Dioxin		1.00000	
02AU1911D2	4	IC 080219A	CS-3 HRDXNL3_00025		Dioxin		1.00000	
02AU1911D2	5	IC 080219B	CS-4 HRDXNL4_00084		Dioxin		1.00000	
02AU1911D2	6	IC 080219C	CS-5 HRDXNL5_00028		Dioxin		1.00000	
02AU1911D2	7	IC 080219D	CS-6 HRDXNL6_00024		Dioxin		1.00000	
02AU1911D2	8	ICV 080219	ICV HRDXNIC_00042		Dioxin		1.00000	
02AU1911D2	9						1.00000	
02AU1911D2	10						1.00000	
02AU1911D2	11						1.00000	
02AU1911D2	12						1.00000	
02AU1911D2	13						1.00000	
02AU1911D2	14						1.00000	
02AU1911D2	15						1.00000	
02AU1911D2	16						1.00000	
02AU1911D2	17		ALM 08-02-19				1.00000	
02AU1911D2	18						1.00000	

Logfile checked
08/02/19 SMA

Peak Locate Examination: 2-AUG-2019:01:33 File:02AU1911D2
Experiment:DB225RES Function:1 Reference:PFK

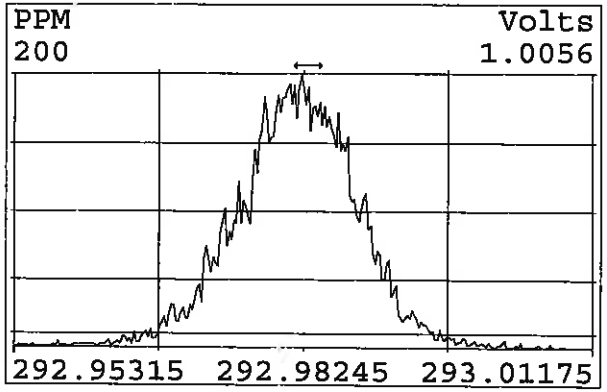

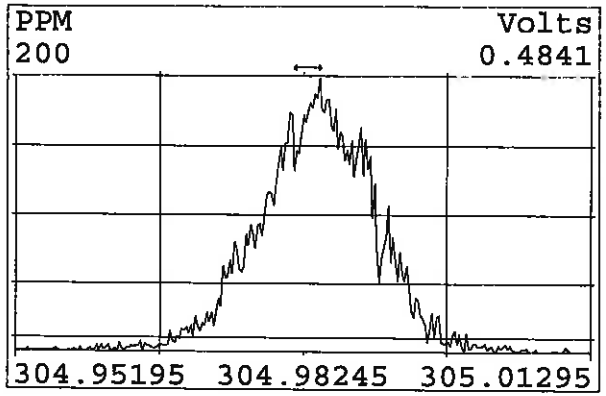

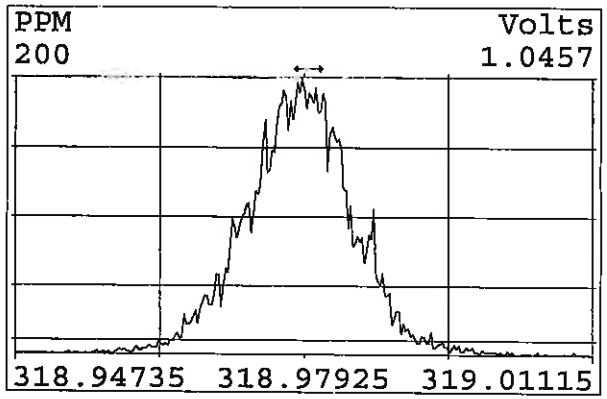

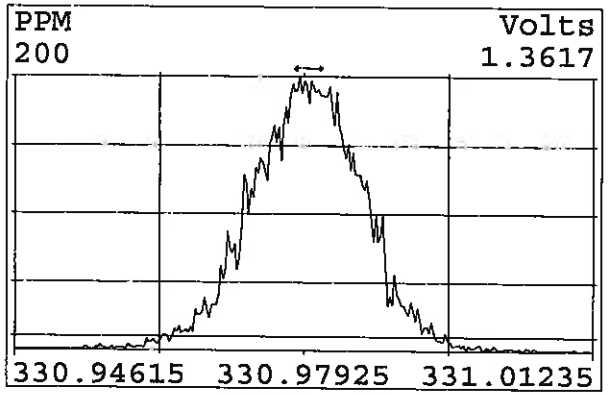

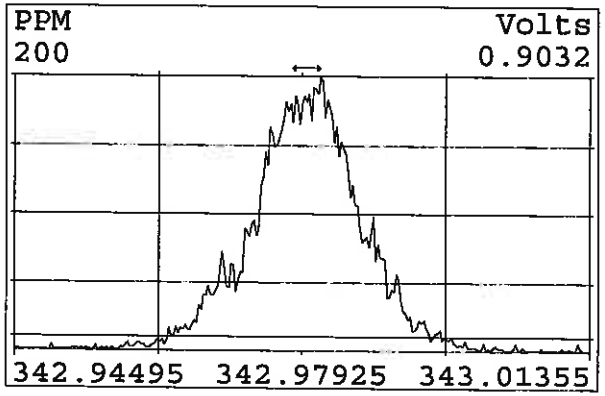

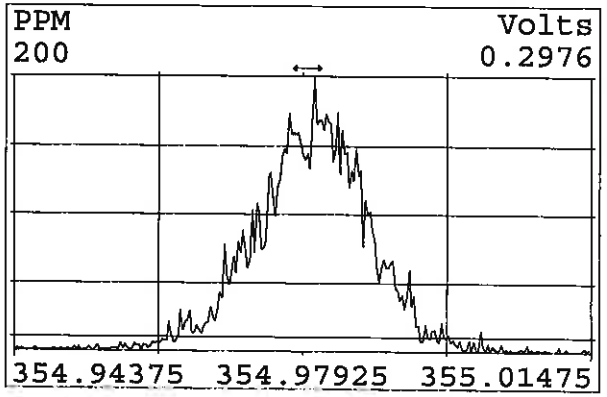

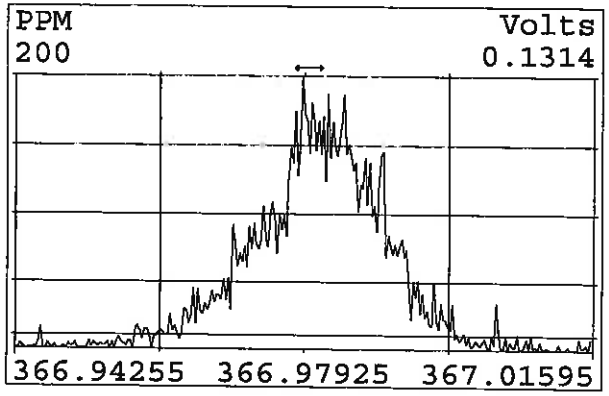

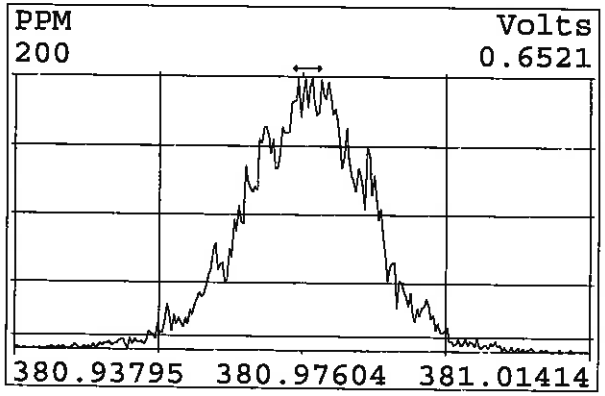

Peak Locate Examination: 2-AUG-2019:07:38 File:RESCHECK11D2
Experiment:DB225RES Function:1 Reference:PFK

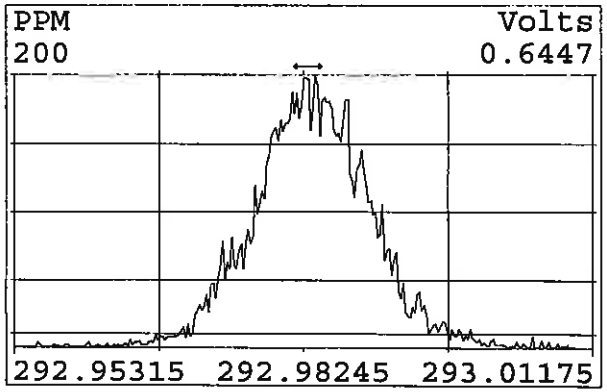

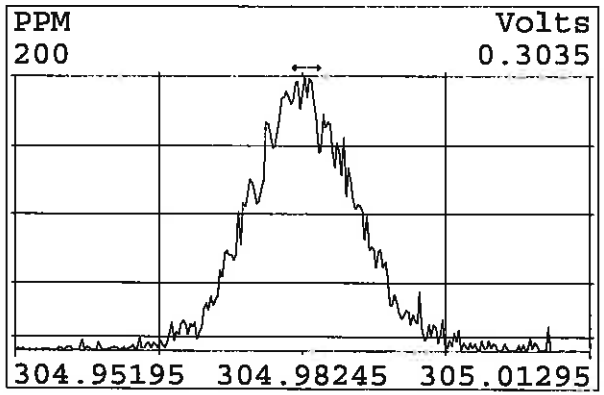

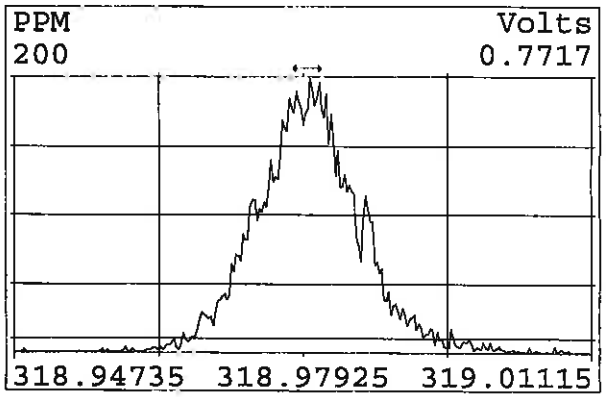

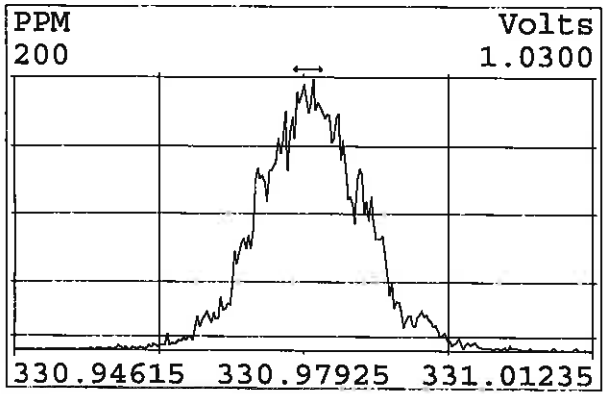

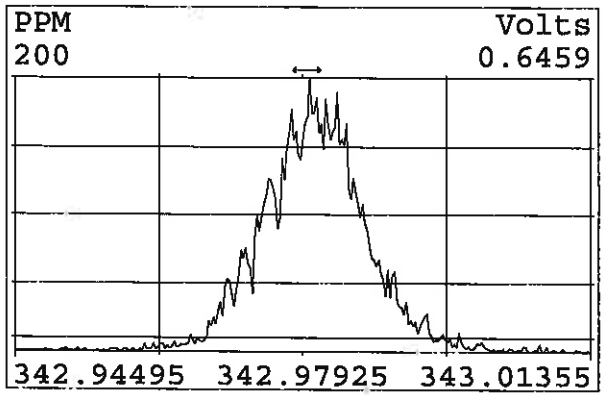

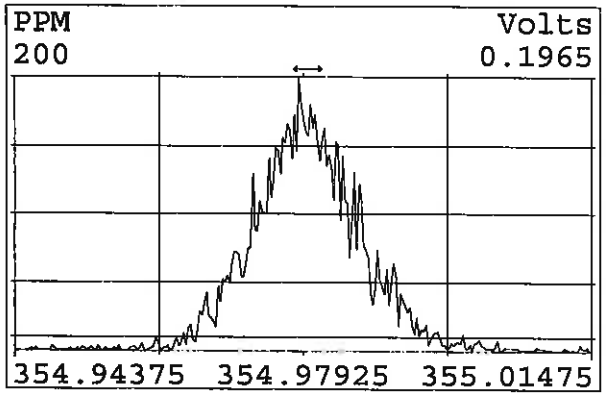

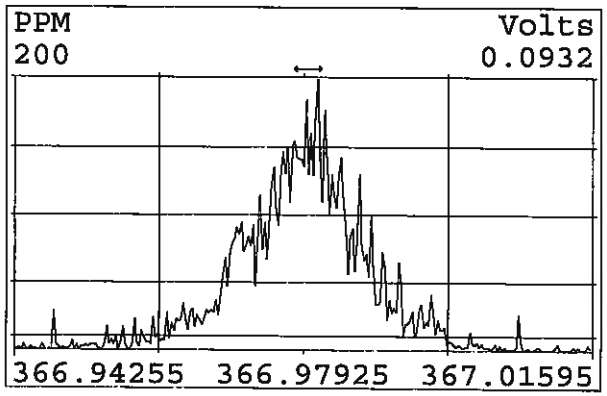

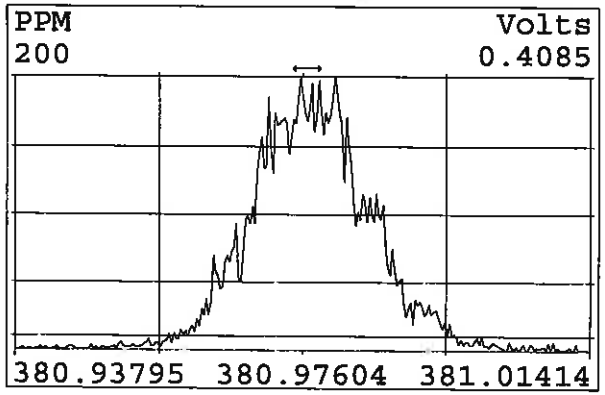

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_003.d
Lims ID: IC 2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 02-Aug-2019 02:52:03 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-2 HRDXNL2_00027
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:50:46 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:43:34

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.424	110538697	0.80	1.1E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.591	156147949	0.76	1.3379	105.6	105.6	0.5565	0.5565	106	
2,3,7,8-TCDF	16.618	742351	0.68	0.8389	0.5667	0.5667	0.0601	0.0601	113	
D 13C-2,3,7,8-TCDD	15.150	108987233	0.78	0.9388	105.0	105.0	0.3029	0.3029	105	
2,3,7,8-TCDD	15.164	766838	0.66	1.1538	0.6098	0.6098	0.1272	0.1272	122	n
$ 37Cl4-2,3,7,8-TCDD	15.177	688870		1.1816	0.5274	0.5274	0.0799	0.0799	105	
S Total 2378-Chlorinated							0.000100	0.000100		

QC Flag Legend

Processing Flags
n - Failed Sig-To-Noise Test

Reagents:

HRDXNL2_00027 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_003.d
Lims ID: IC 2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 02-Aug-2019 02:52:03 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-2 HRDXNL2_00027
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:50:46 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:43:34

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.424	15.416	0		49211451	11686880	18543	46357	630		
333.9339	15.424	15.416	0		61327246	14873725	11665	29162	1275	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.591	16.580	1	1.076	67180120	14400770	53937	134842	267		
317.9389	16.591	16.580	1	1.076	88967829	19171242	25172	62930	762	0.76(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.618	16.599	1	1.002	300768	58292	2710	6775	22		
305.8987	16.604	16.599	0	1.001	441583	80440	4062	10155	20	0.68(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.150	15.136	1	0.982	47916340	11905033	18543	46357	642		
333.9339	15.150	15.136	1	0.982	61070893	14985948	11665	29162	1285	0.78(0.65-0.89)	
2,3,7,8-TCDD											n
319.8965	15.164	15.156	0	1.001	304053	63475	6504	16260	10		
321.8936	15.177	15.156	1	1.002	462785	92174	9277	23192	10	0.66(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.177	15.158	1	0.984	688870	148959	10036	25090	15		

Total 2378-Chlorinated Dioxins & Furans
0.0 0

QC Flag Legend

Processing Flags
n - Failed Sig-To-Noise Test

Reagents:

HRDXNL2_00027 Amount Added: 1.00 Units: mL

Report Date: 02-Aug-2019 11:50:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_003.d		
Injection Date:	02-Aug-2019 02:52:03	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	3
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

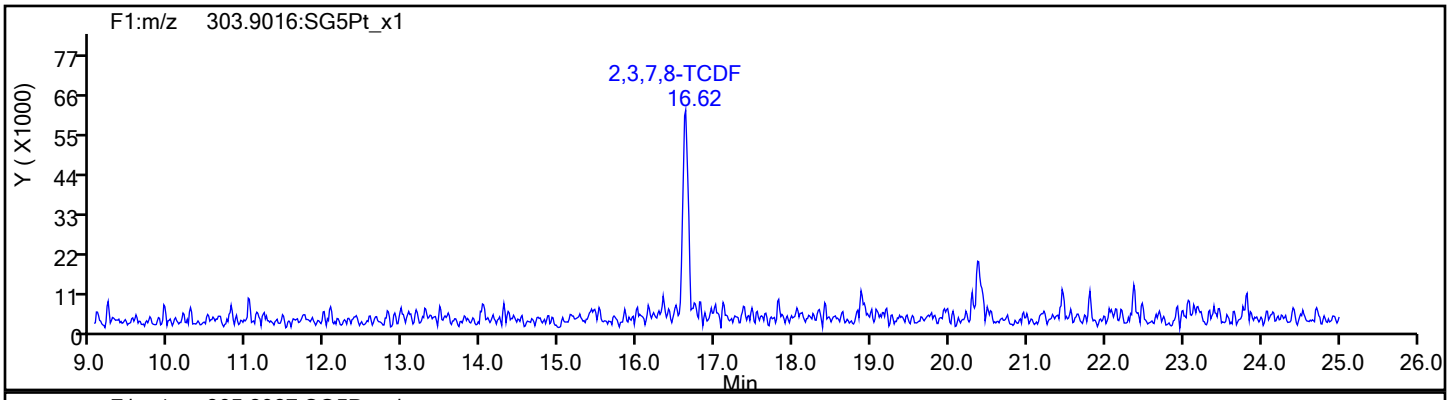

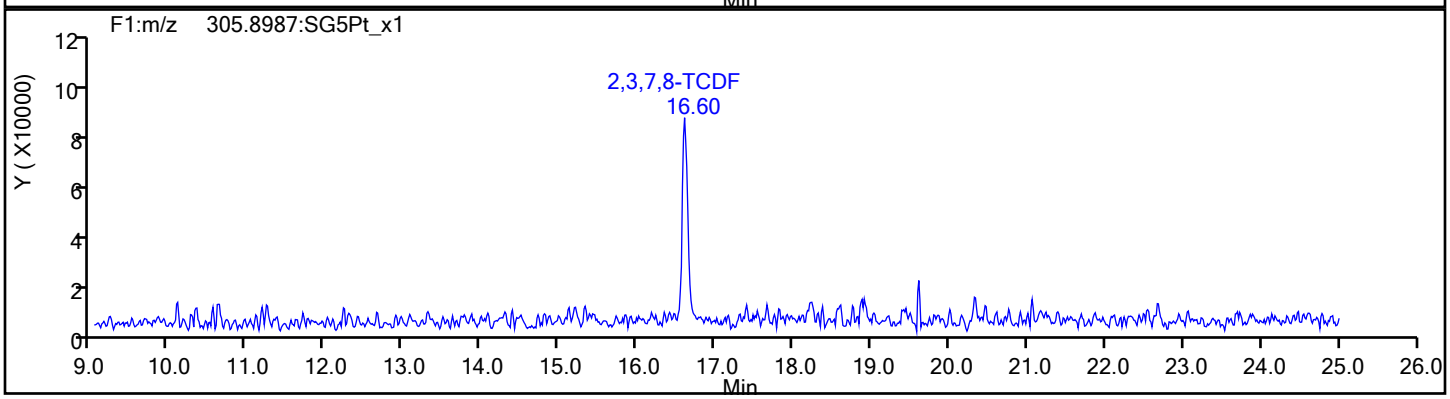

TCDF Standards

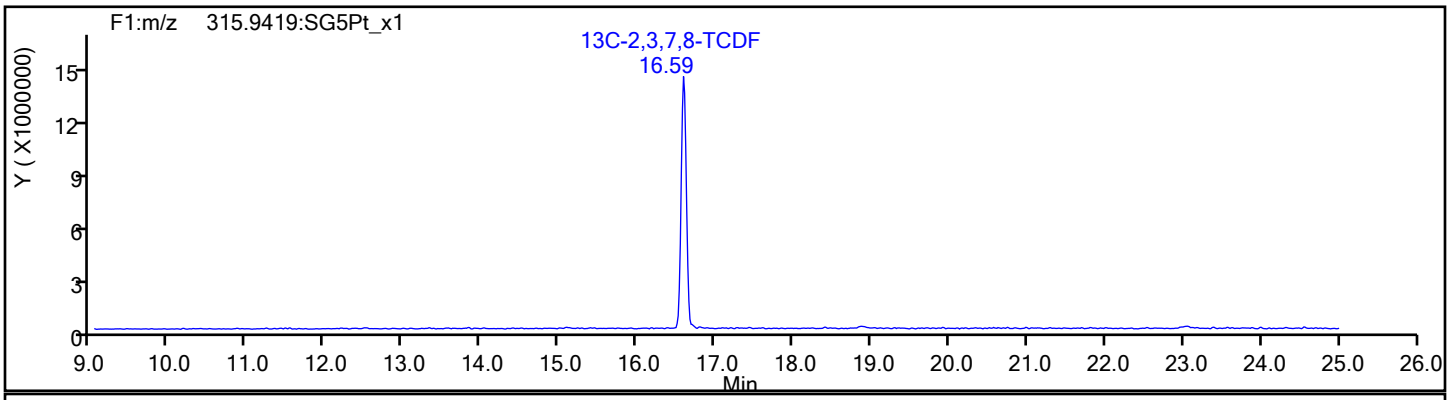

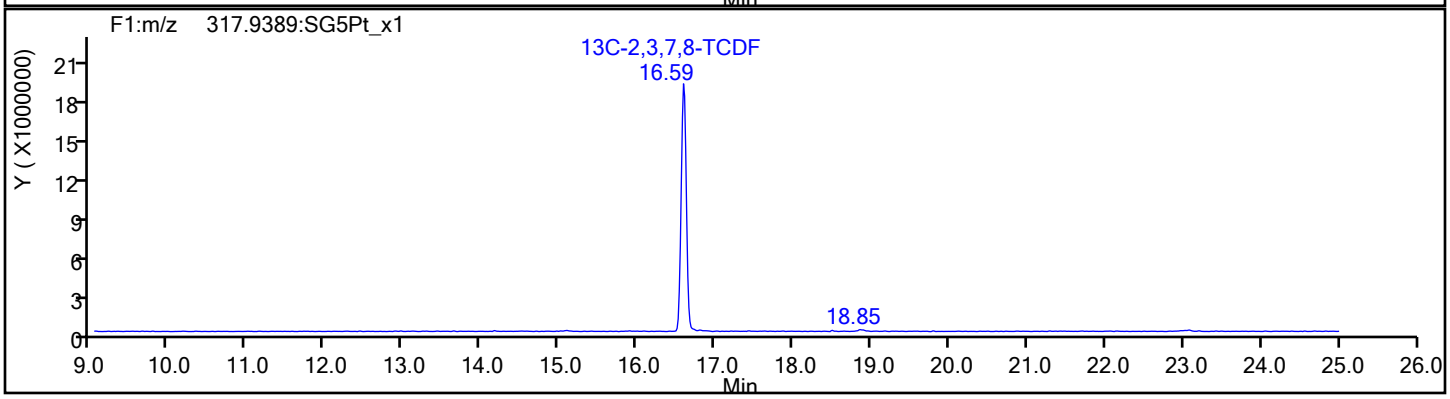

Report Date: 02-Aug-2019 11:50:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_003.d		
Injection Date:	02-Aug-2019 02:52:03	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	3
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

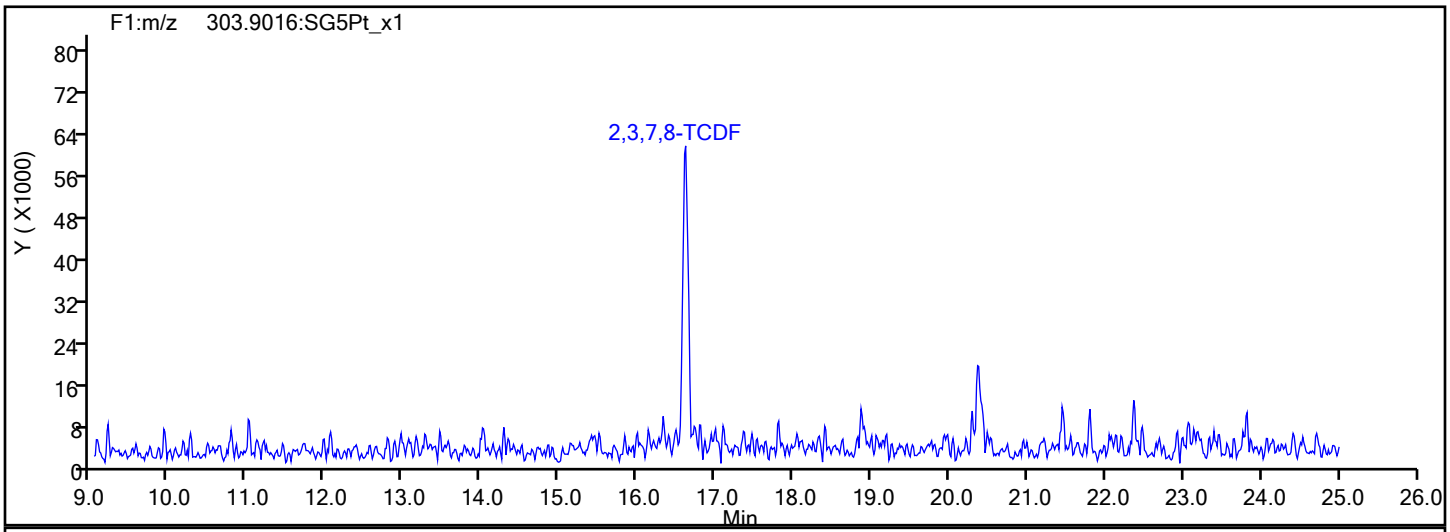

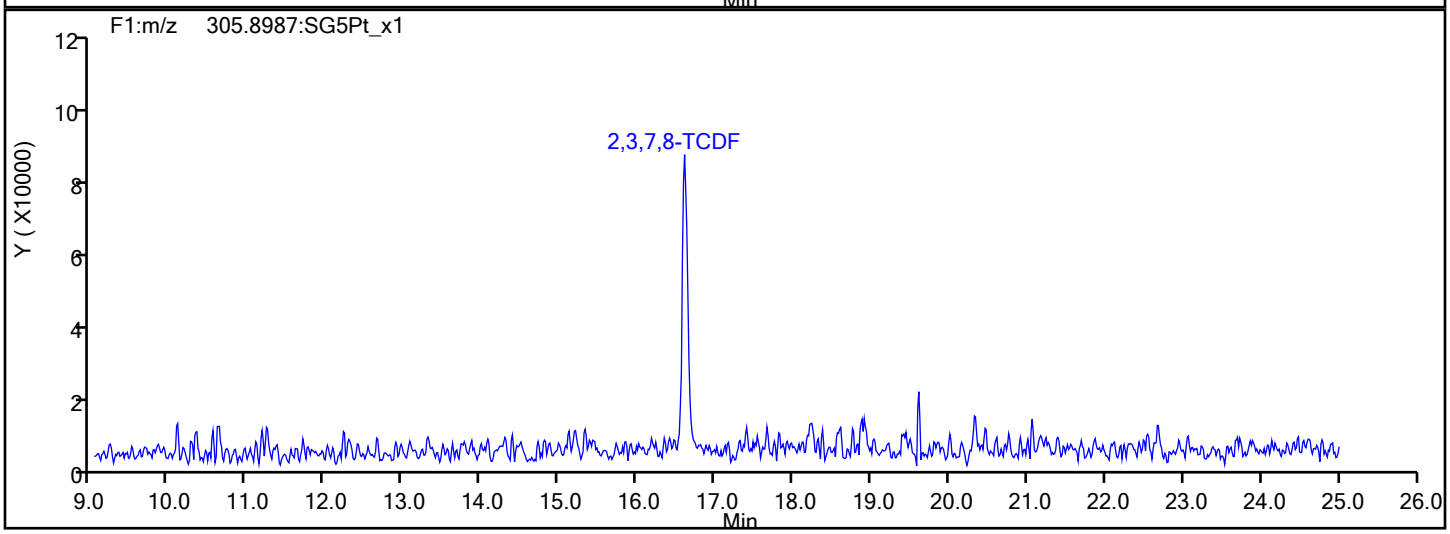

TCDF Interference Mass

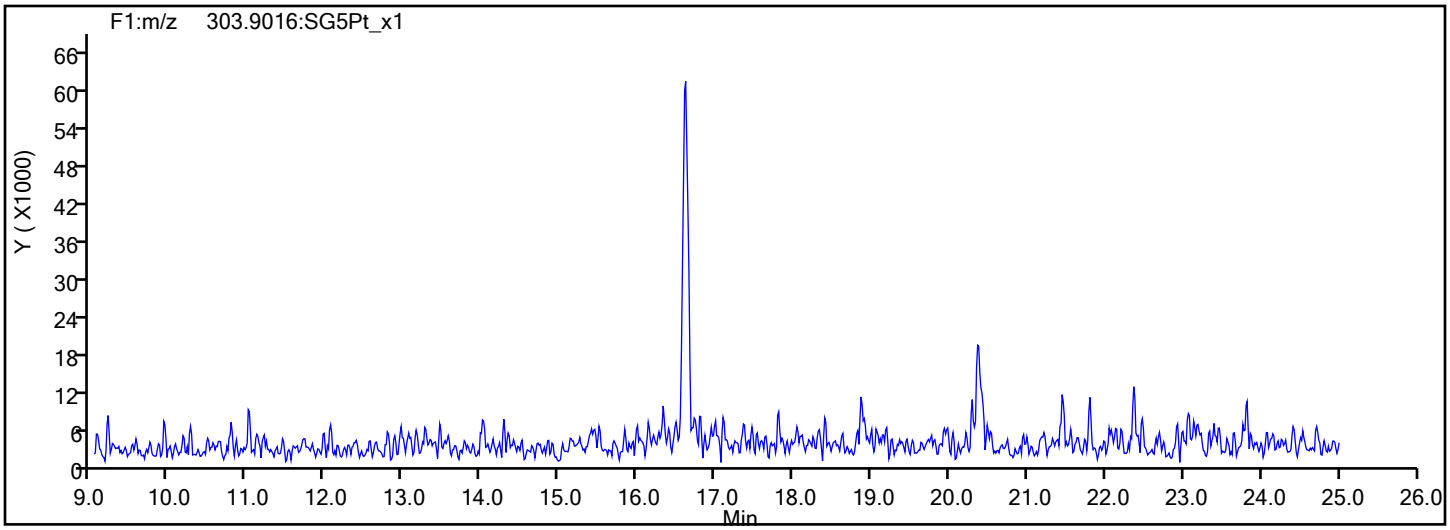

Report Date: 02-Aug-2019 11:50:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_003.d		
Injection Date:	02-Aug-2019 02:52:03	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	3
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

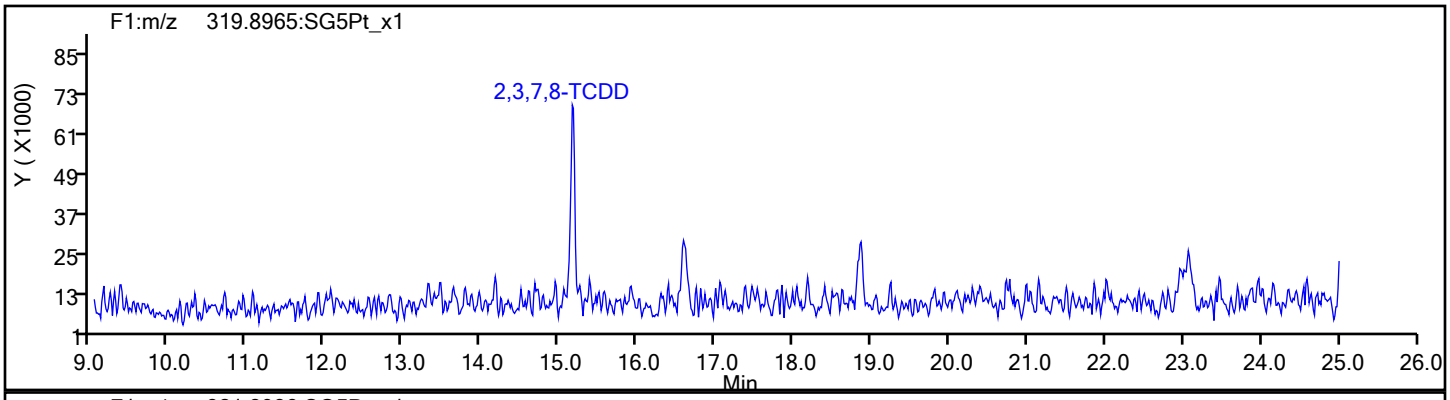

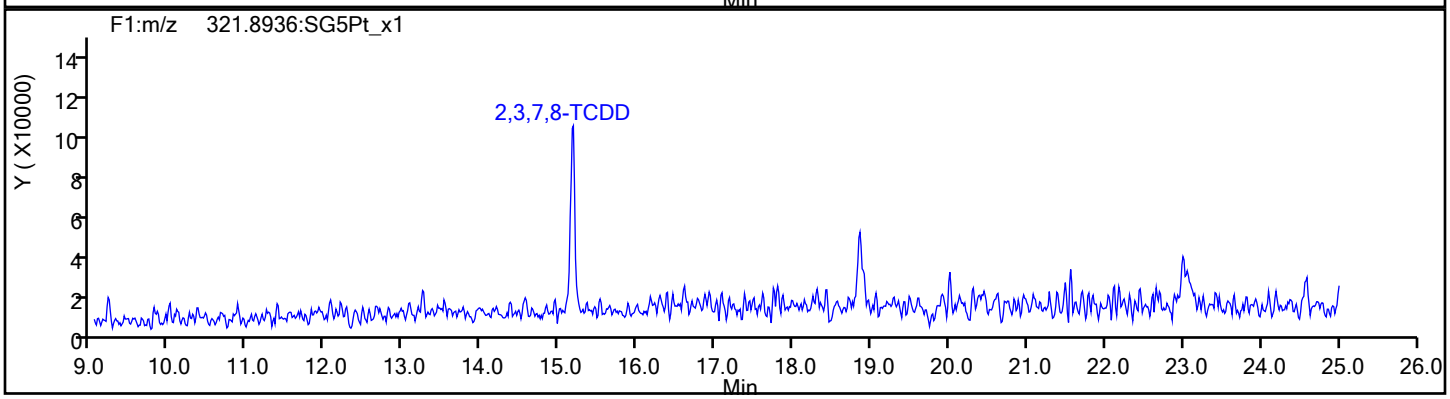

TCDD Standards

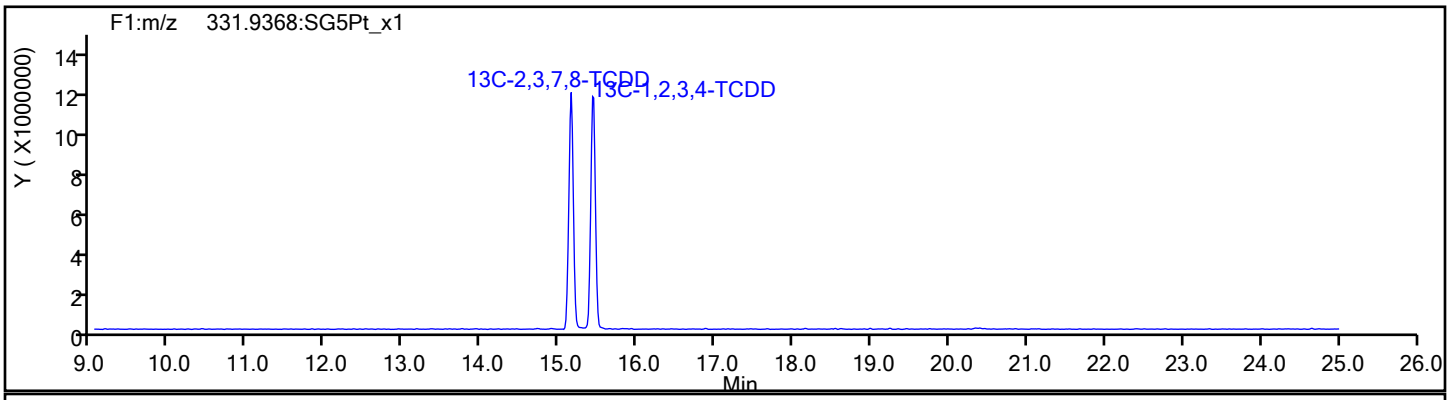

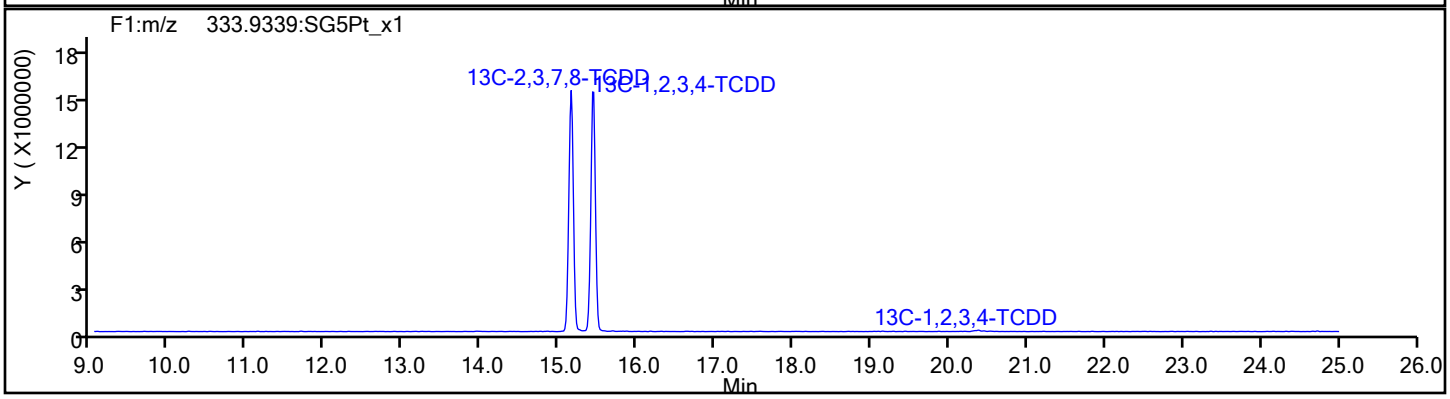

Report Date: 02-Aug-2019 11:50:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_003.d		
Injection Date:	02-Aug-2019 02:52:03	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	3
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

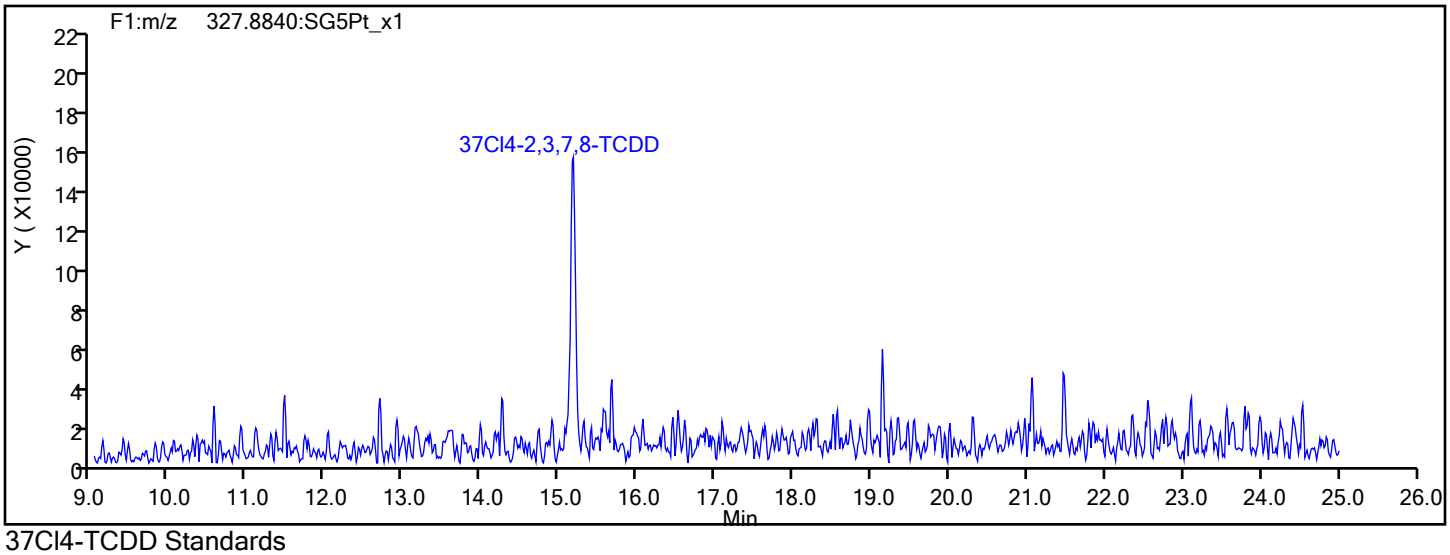

37Cl4-TCDD Standards

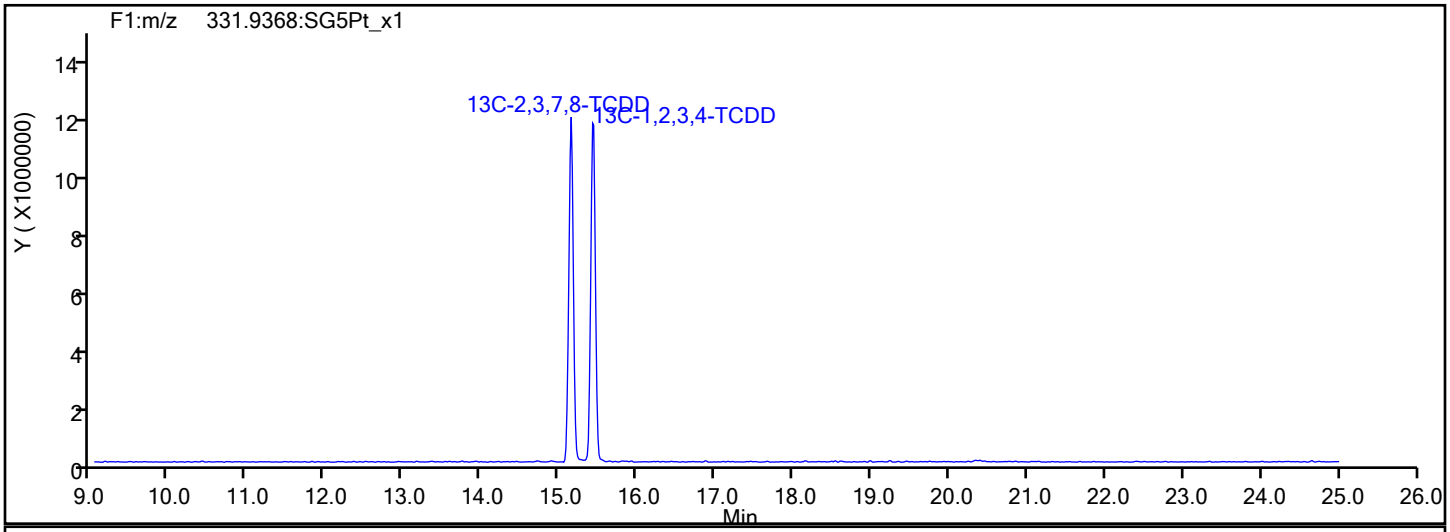

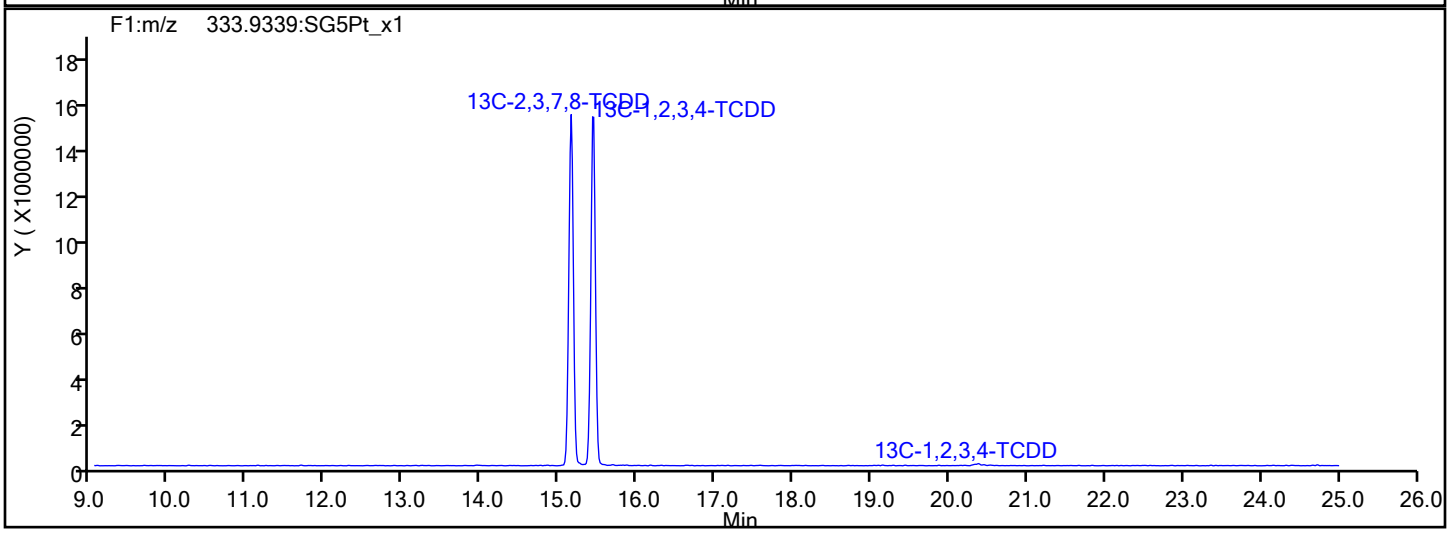

Report Date: 02-Aug-2019 11:50:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_003.d		
Injection Date:	02-Aug-2019 02:52:03	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	3
Column Type:	DB-225	Column Dia:	0.32 mm

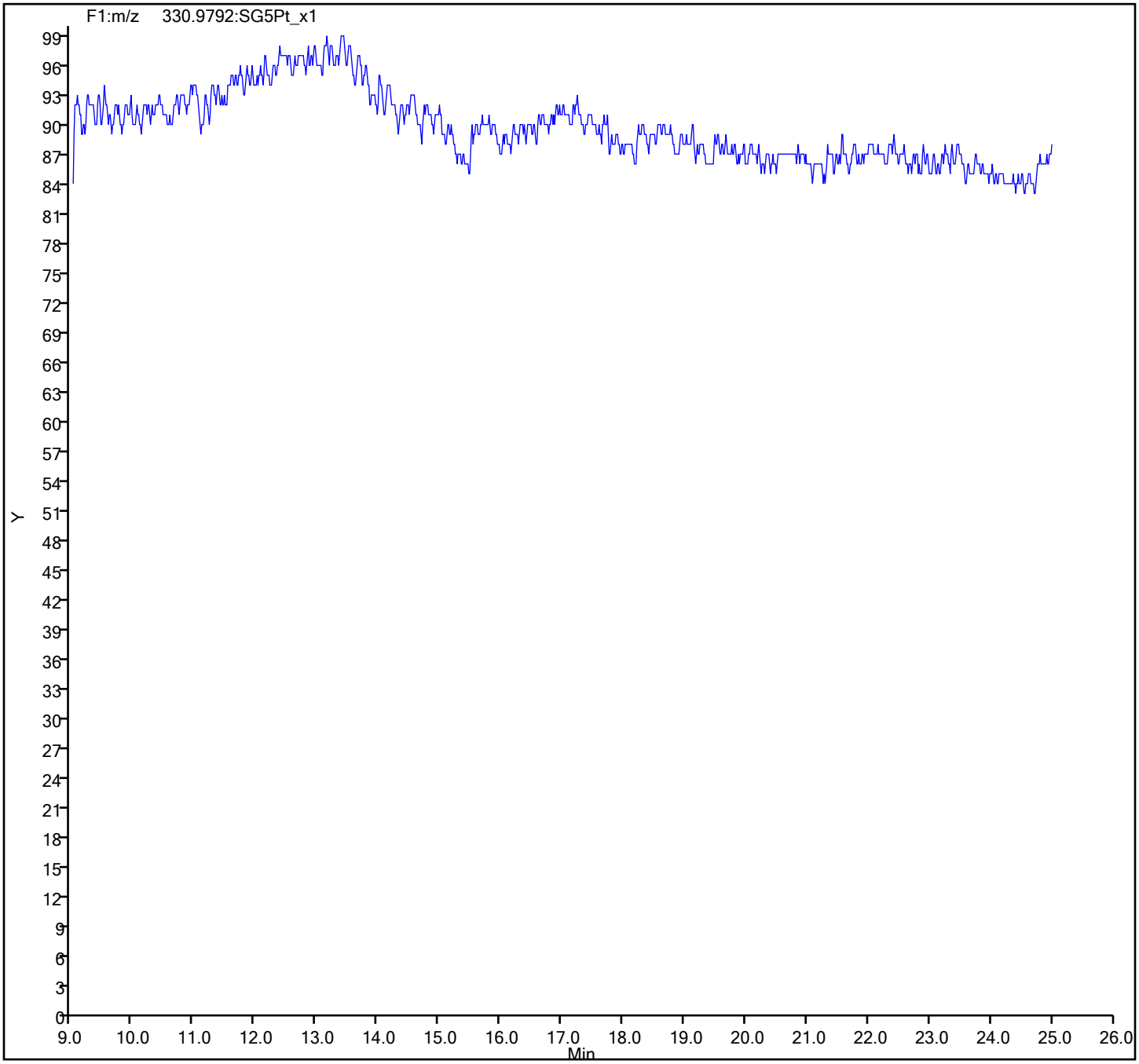

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_004.d
Lims ID: IC 3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 02-Aug-2019 03:30:21 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-3 HRDXNL3_00025
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:51:18 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:43:45

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.422	116003371	0.79	1.1E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.588	150712836	0.76	1.3379	97.1	97.1	0.5017	0.5017	97.11	
2,3,7,8-TCDF	16.602	2602621	0.77	0.8389	2.059	2.059	0.0697	0.0697	103	
D 13C-2,3,7,8-TCDD	15.134	104587968	0.77	0.9388	96.0	96.0	0.2954	0.2954	96.04	
2,3,7,8-TCDD	15.161	2408989	0.76	1.1538	1.996	1.996	0.1402	0.1402	99.81	
$ 37Cl4-2,3,7,8-TCDD	15.161	2436945		1.1816	1.778	1.778	0.0697	0.0697	88.89	
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNL3_00025 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_004.d
Lims ID: IC 3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 02-Aug-2019 03:30:21 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-3 HRDXNL3_00025
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:51:18 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:43:45

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.422	15.416	0		51108109	12518707	19618	49045	638		
333.9339	15.422	15.416	0		64895262	16017022	12040	30100	1330	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.588	16.580	0	1.076	65303459	13590544	55233	138082	246		
317.9389	16.588	16.580	0	1.076	85409377	18139250	21388	53470	848	0.76(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.602	16.599	0	1.001	1128784	210338	2933	7332	72		
305.8987	16.602	16.599	0	1.001	1473837	306111	4488	11220	68	0.77(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.134	15.136	0	0.981	45657518	11153304	19618	49045	569		
333.9339	15.134	15.136	0	0.981	58930450	14086226	12040	30100	1170	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.161	15.156	0	1.002	1042745	248740	6492	16230	38		
321.8936	15.161	15.156	0	1.002	1366244	315049	9844	24610	32	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.161	15.158	0	0.983	2436945	572005	9406	23515	61		
Total 2378-Chlorinated Dioxins & Furans											
		0.0	0								

Reagents:

HRDXNL3_00025 Amount Added: 1.00 Units: mL

Report Date: 02-Aug-2019 11:51:36 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_004.d		
Injection Date:	02-Aug-2019 03:30:21	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

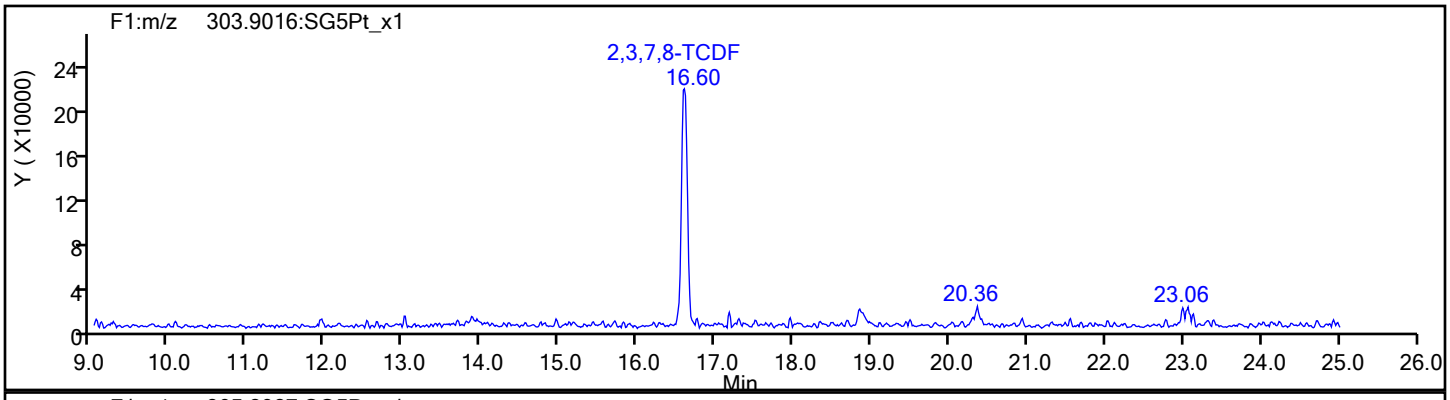

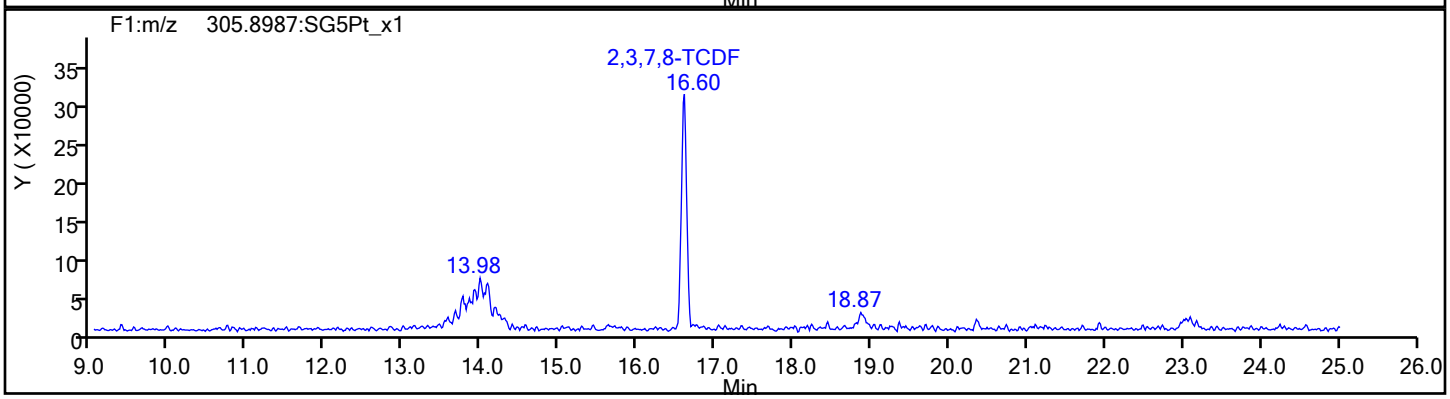

TCDF Standards

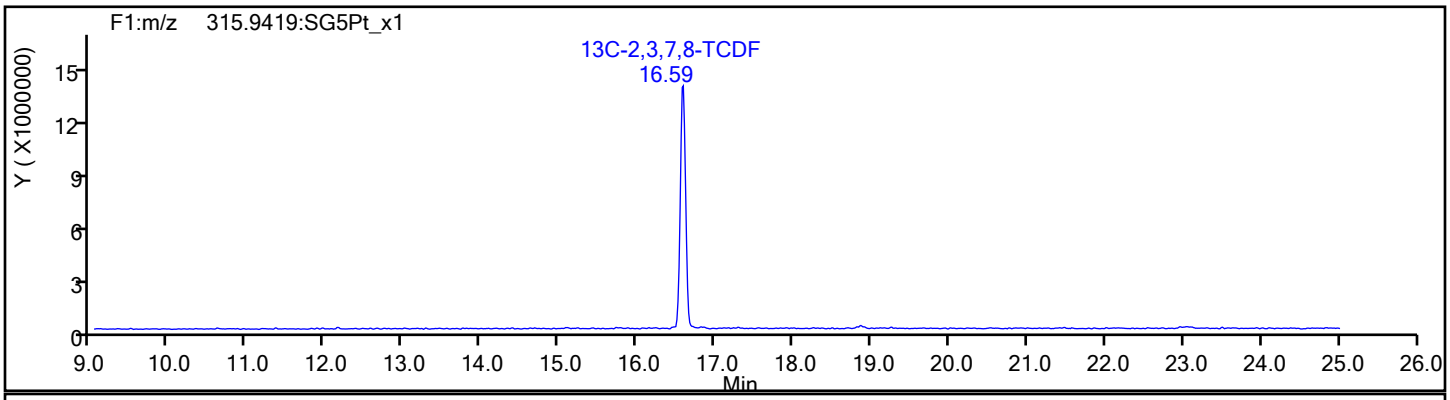

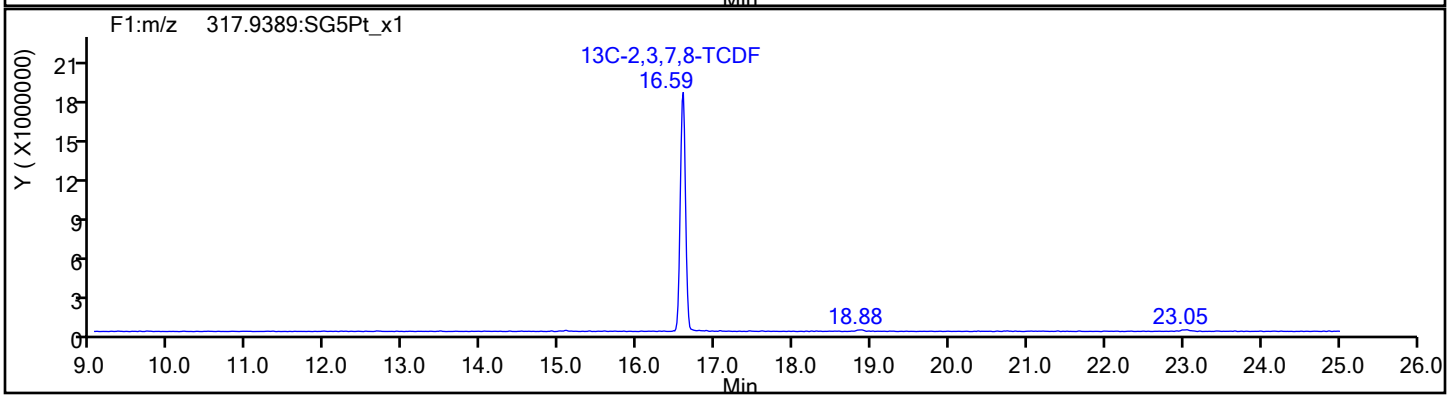

Report Date: 02-Aug-2019 11:51:36 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_004.d		
Injection Date:	02-Aug-2019 03:30:21	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

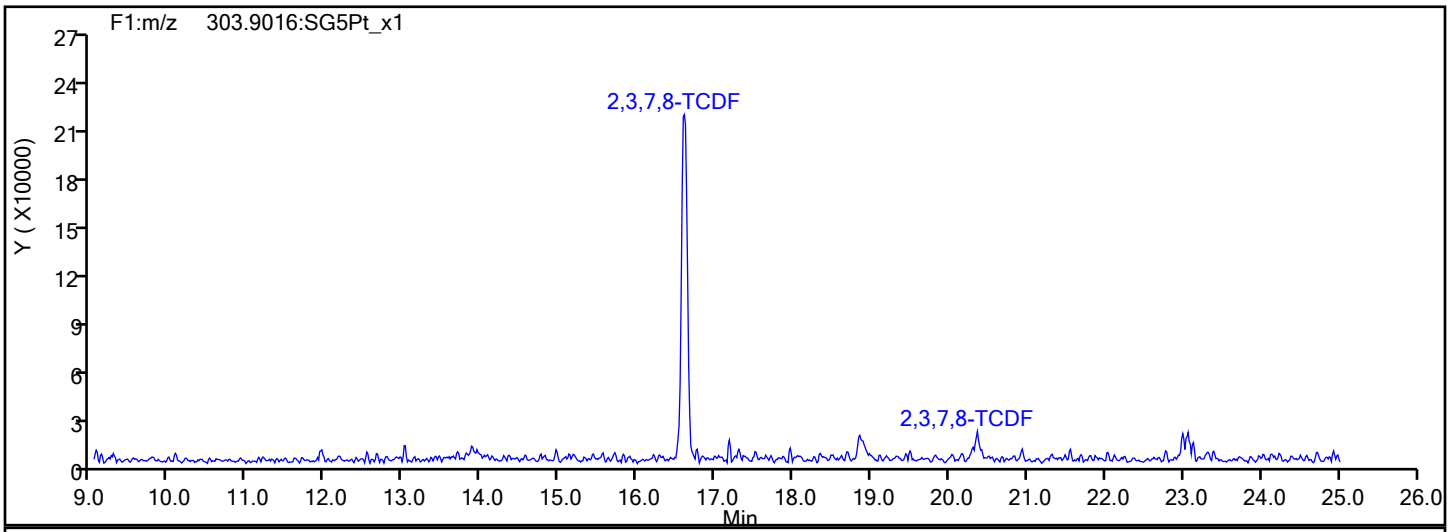

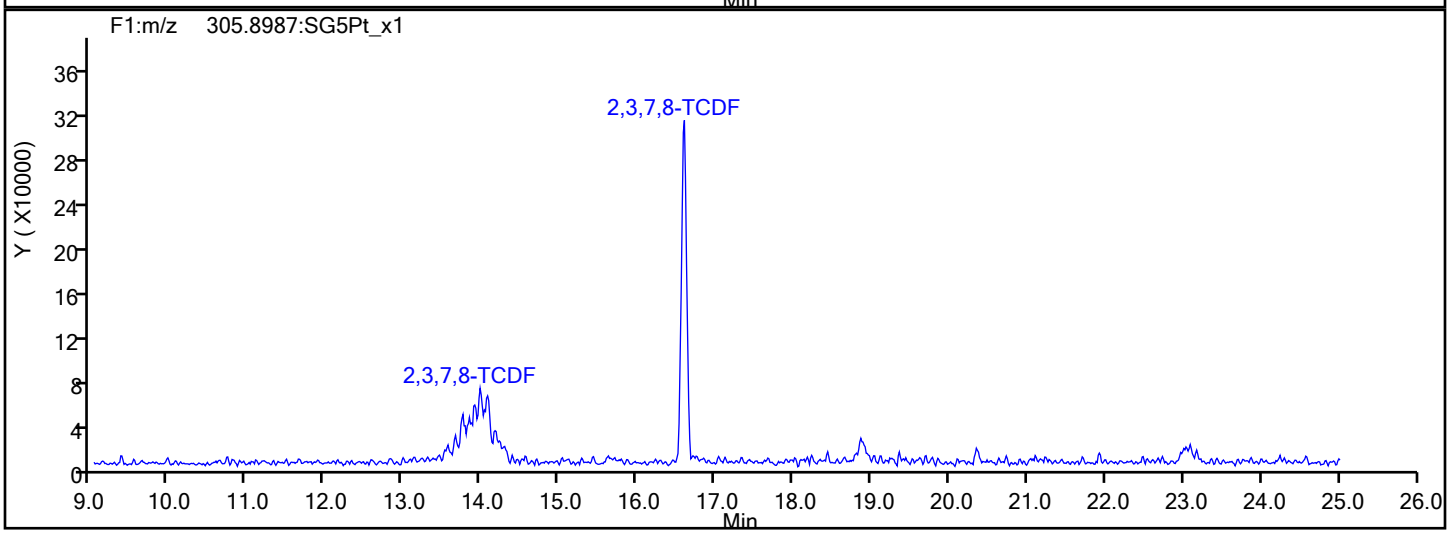

TCDF Interference Mass

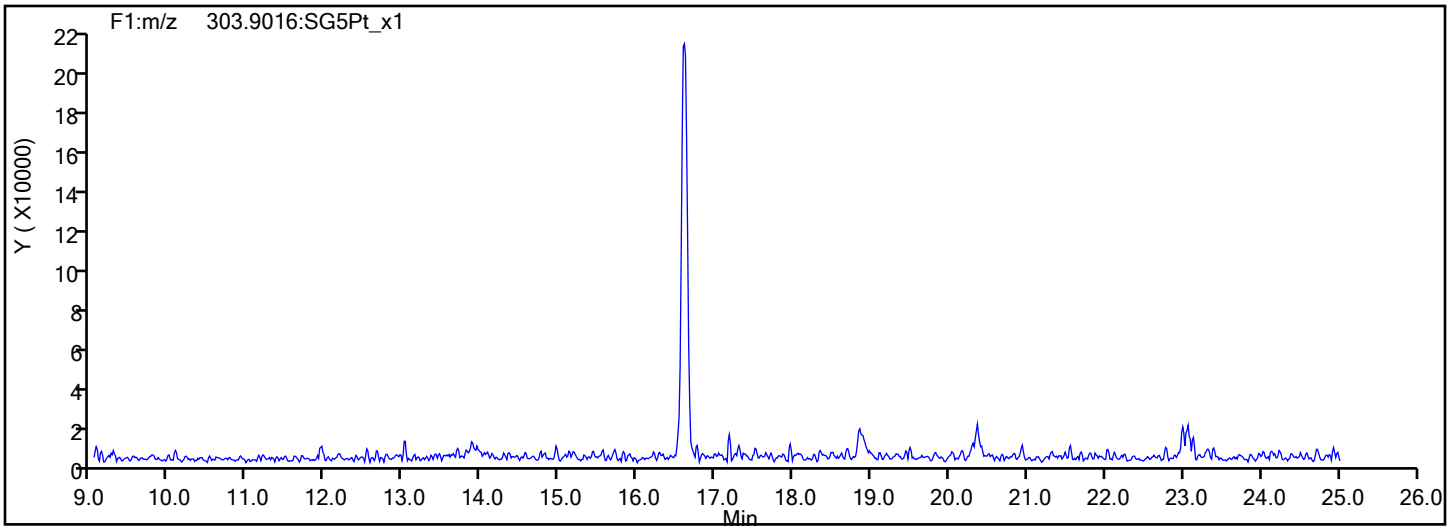

Report Date: 02-Aug-2019 11:51:36 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_004.d		
Injection Date:	02-Aug-2019 03:30:21	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

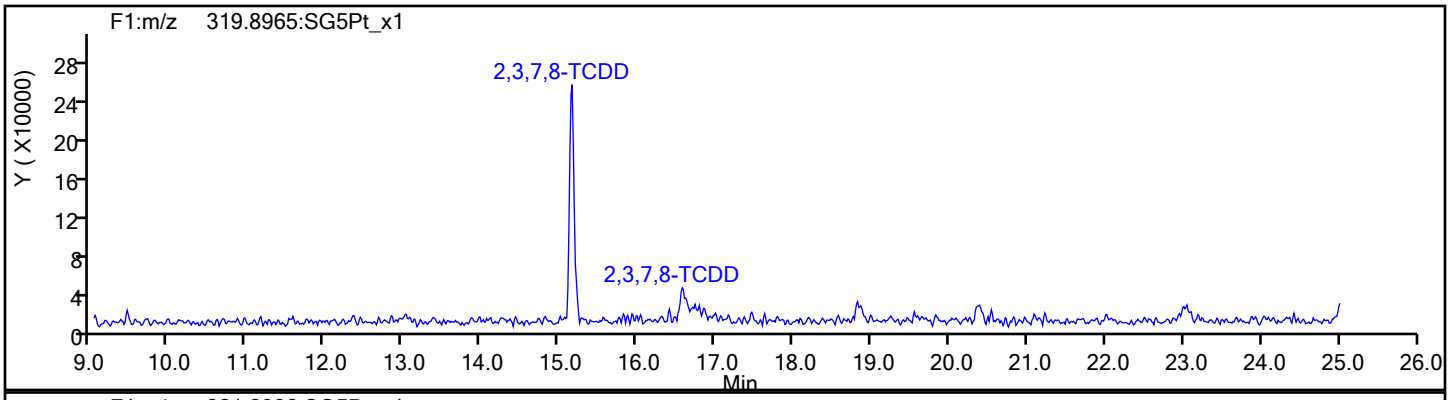

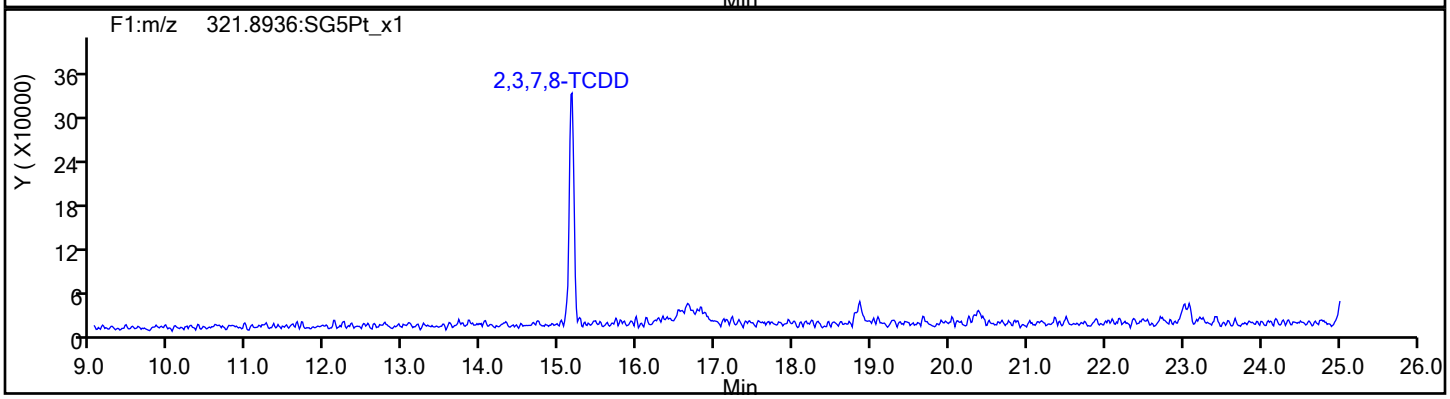

TCDD Standards

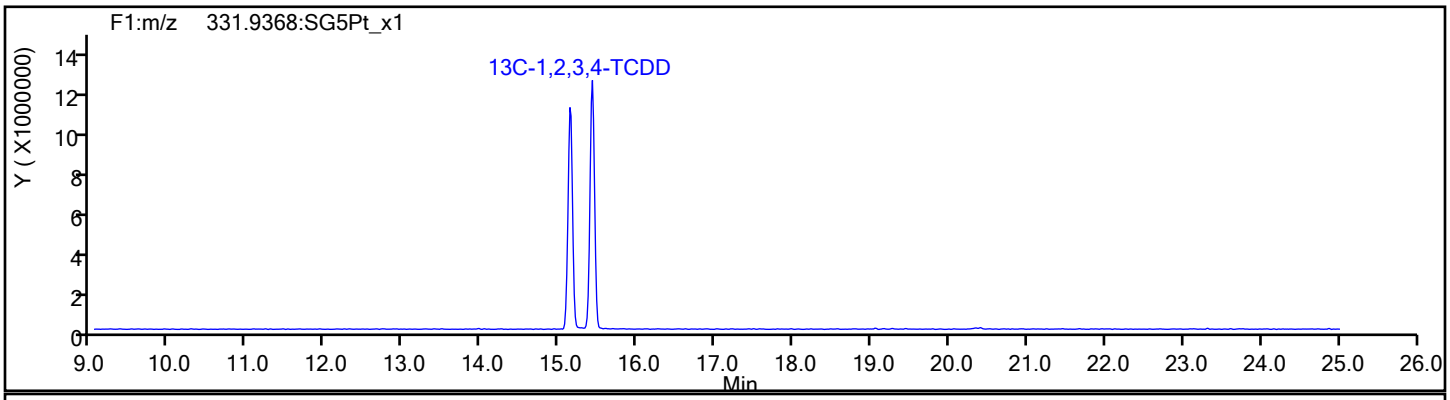

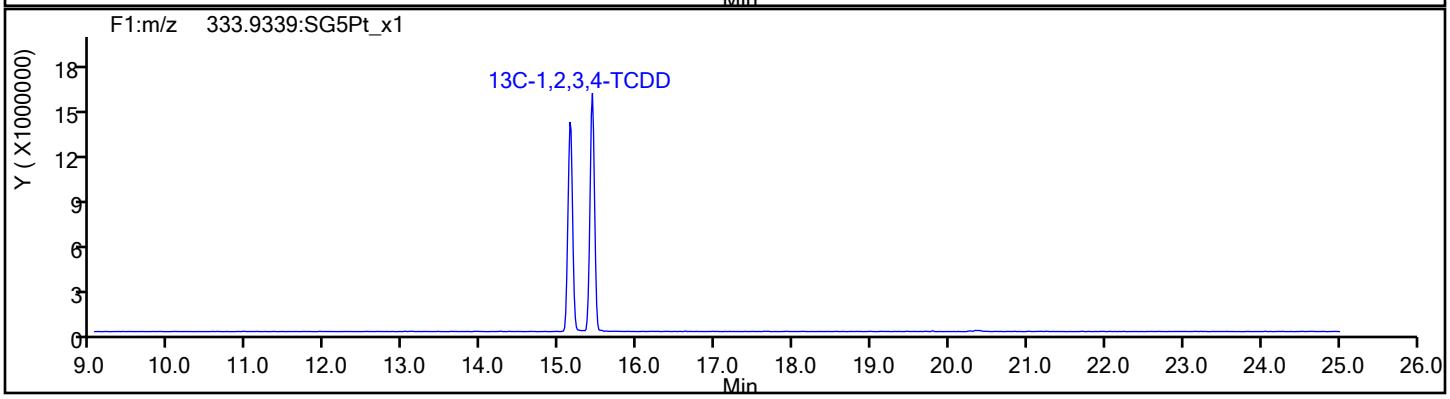

Report Date: 02-Aug-2019 11:51:36 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_004.d		
Injection Date:	02-Aug-2019 03:30:21	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

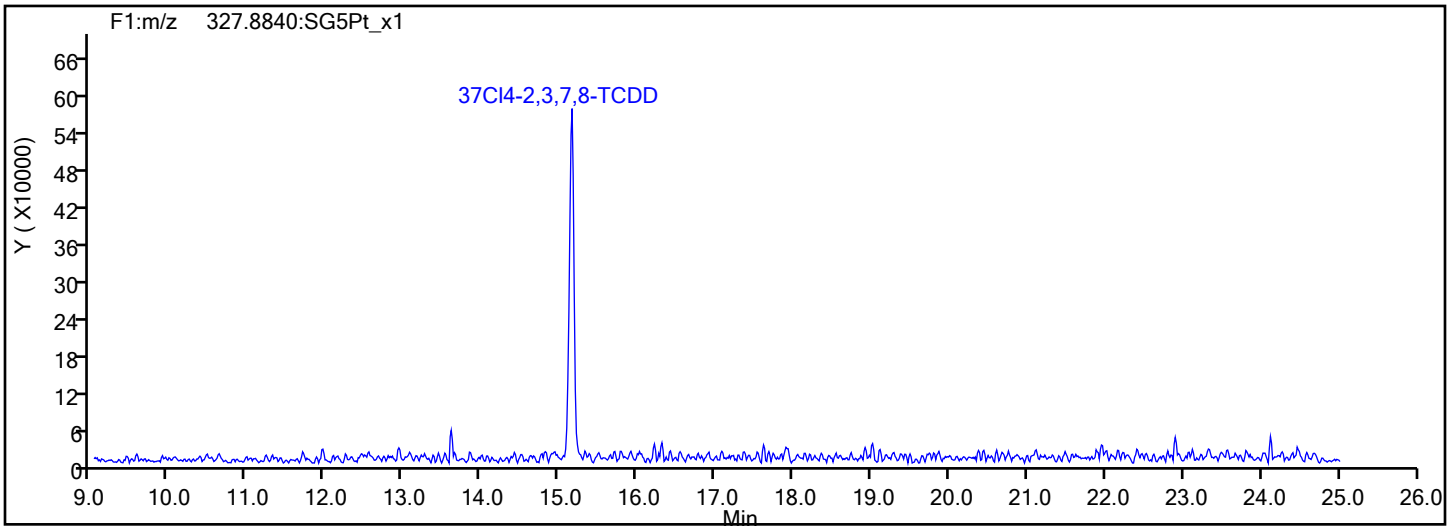

37Cl4-TCDD Standards

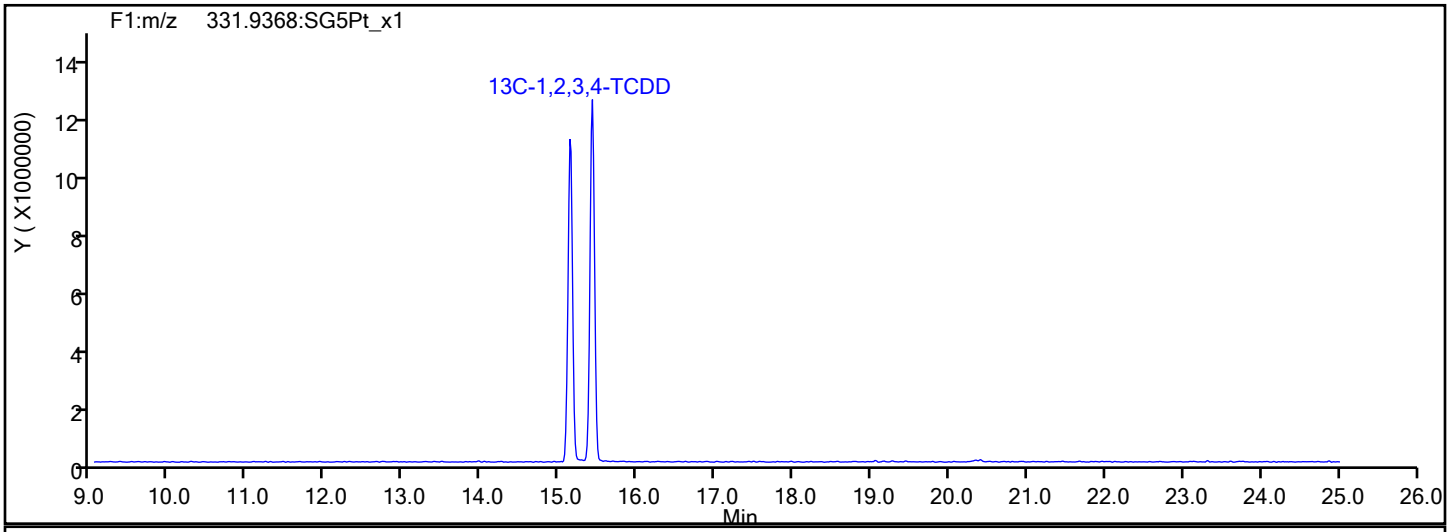

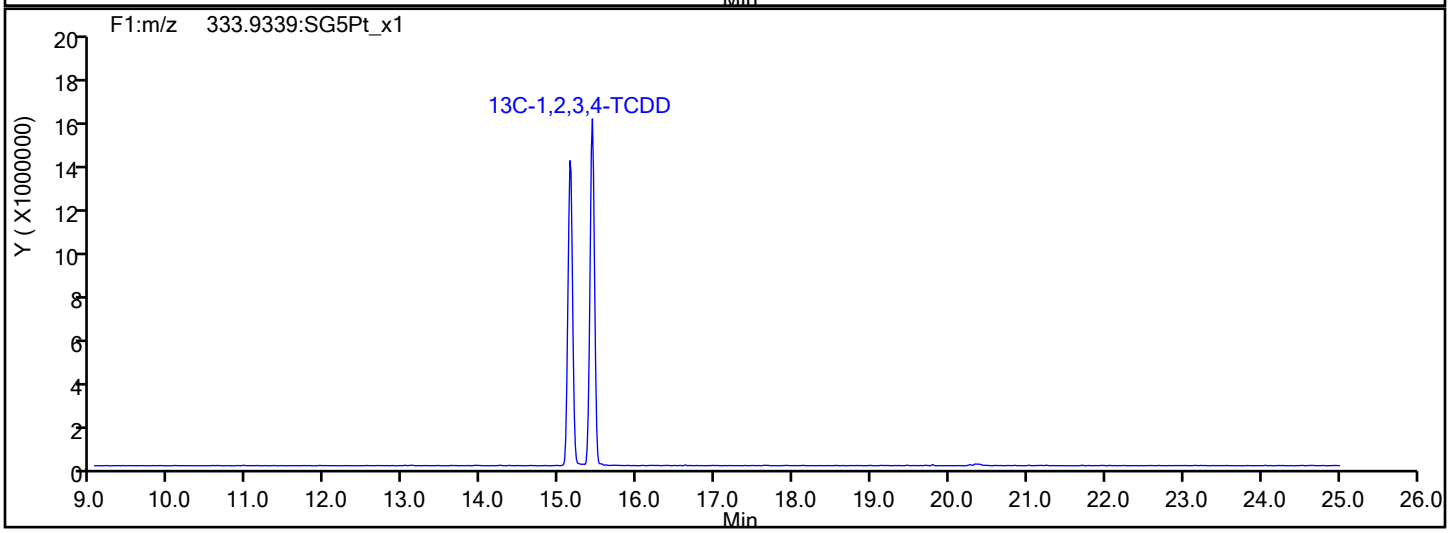

Report Date: 02-Aug-2019 11:51:37 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_004.d		
Injection Date:	02-Aug-2019 03:30:21	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm

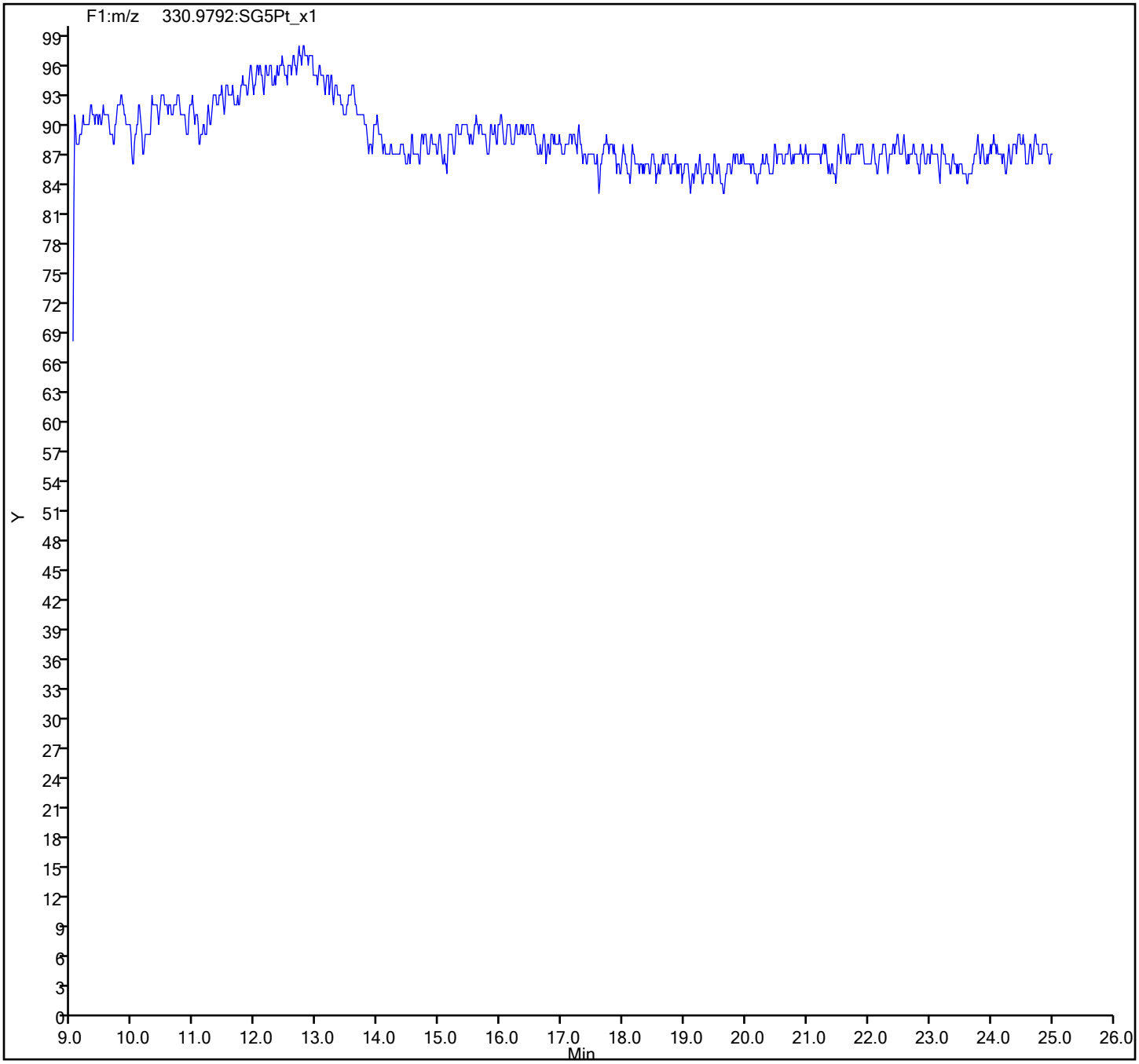

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_005.d
Lims ID: IC 4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 02-Aug-2019 04:08:39 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-4 HRDXNL4_00084
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:50:13 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 11:50:13

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.424	106319859	0.78	1.1E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.591	144041178	0.79	1.3379	101.3	101.3	0.5534	0.5534	101	
2,3,7,8-TCDF	16.604	11238394	0.76	0.8389	9.301	9.301	0.0827	0.0827	93.01	
D 13C-2,3,7,8-TCDD	15.136	102100937	0.77	0.9388	102.3	102.3	0.2809	0.2809	102	
2,3,7,8-TCDD	15.164	10136940	0.76	1.1538	8.605	8.605	0.1498	0.1498	86.05	
$ 37Cl4-2,3,7,8-TCDD	15.164	9929024		1.1816	7.903	7.903	0.1068	0.1068	98.79	
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNL4_00084 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_005.d
Lims ID: IC 4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 02-Aug-2019 04:08:39 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-4 HRDXNL4_00084
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:50:13 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 11:50:13

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.424	15.416	0		46708197	10977681	16216	40540	677		
333.9339	15.424	15.416	0		59611662	14687691	10856	27140	1353	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.591	16.580	1	1.076	63548576	13720043	50935	127337	269		
317.9389	16.591	16.580	1	1.076	80492602	17728003	25076	62690	707	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.604	16.599	0	1.001	4865871	1034824	3394	8485	305		
305.8987	16.604	16.599	0	1.001	6372523	1366111	5328	13320	256	0.76(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.136	15.136	0	0.981	44311856	10806558	16216	40540	666		
333.9339	15.136	15.136	0	0.981	57789081	13912119	10856	27140	1282	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.164	15.156	0	1.002	4381105	1087501	6755	16887	161		
321.8936	15.164	15.156	0	1.002	5755835	1373692	10330	25825	133	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.164	15.158	0	0.983	9929024	2303011	12961	32402	178		
Total 2378-Chlorinated Dioxins & Furans											
		0.0	0								

Reagents:

HRDXNL4_00084 Amount Added: 1.00 Units: mL

Report Date: 02-Aug-2019 11:50:37 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_005.d		
Injection Date:	02-Aug-2019 04:08:39	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

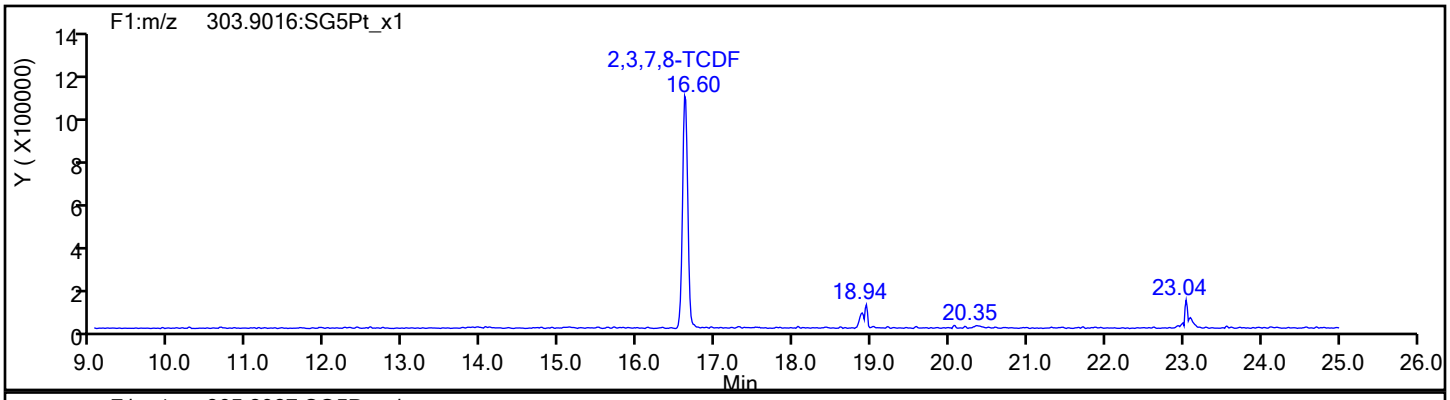

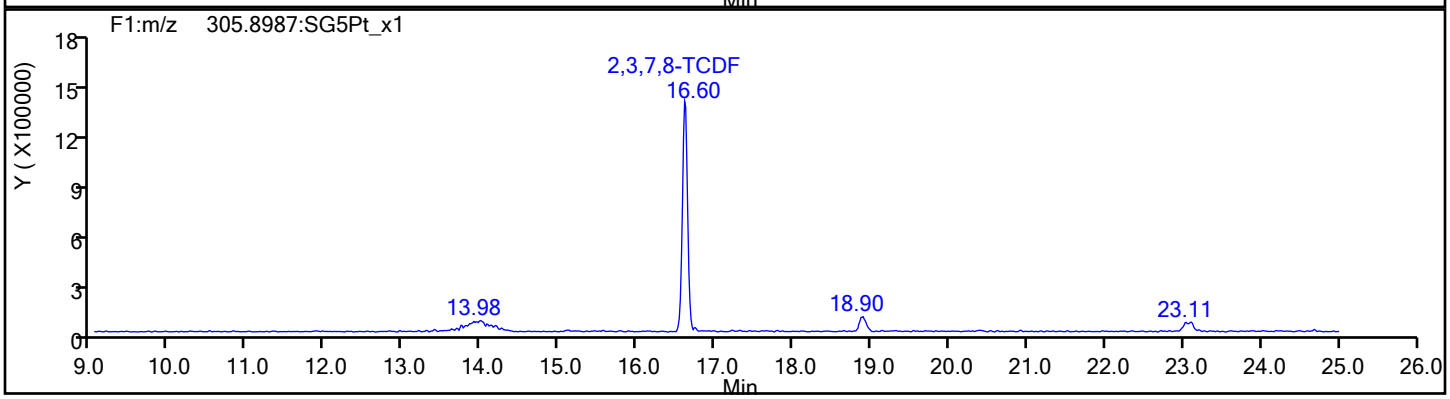

TCDF Standards

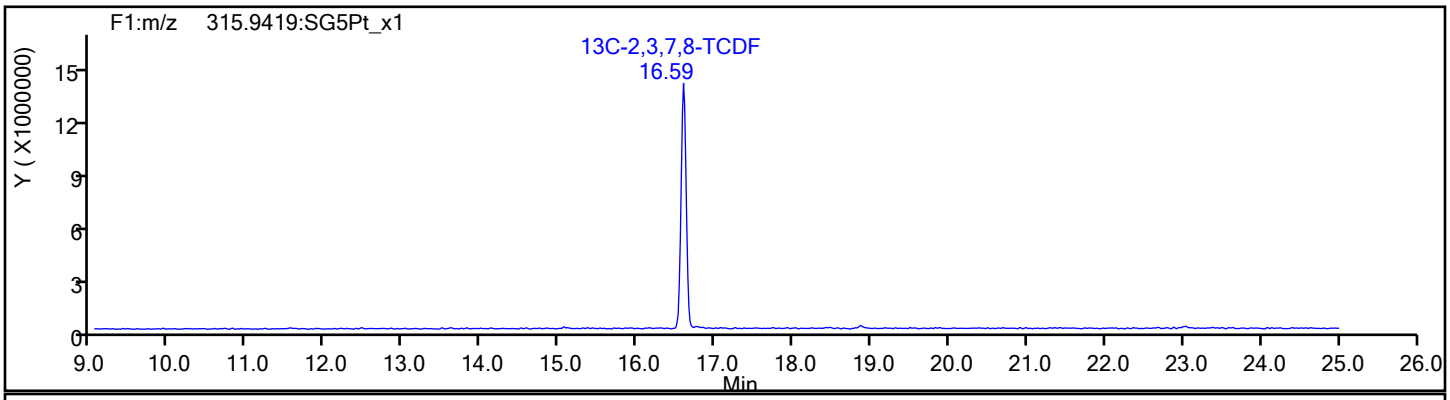

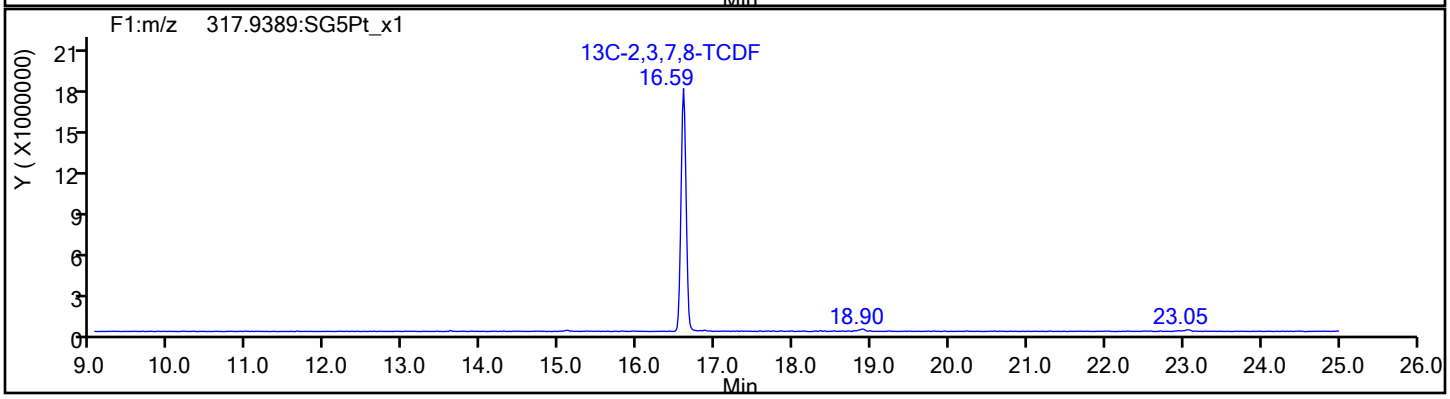

Report Date: 02-Aug-2019 11:50:37 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_005.d		
Injection Date:	02-Aug-2019 04:08:39	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

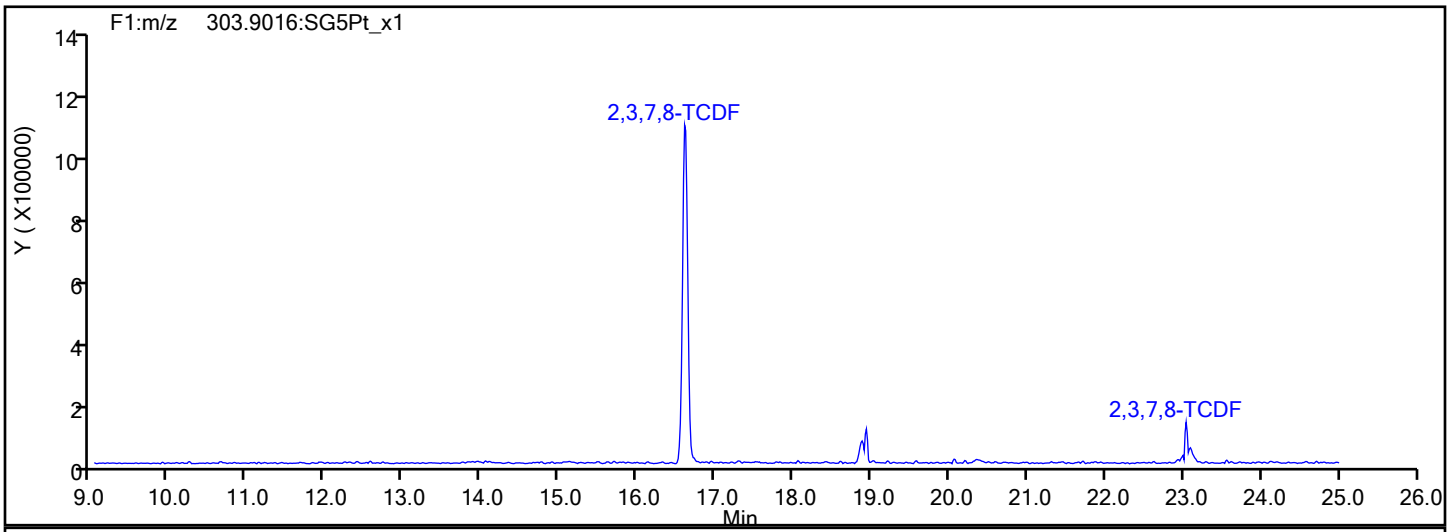

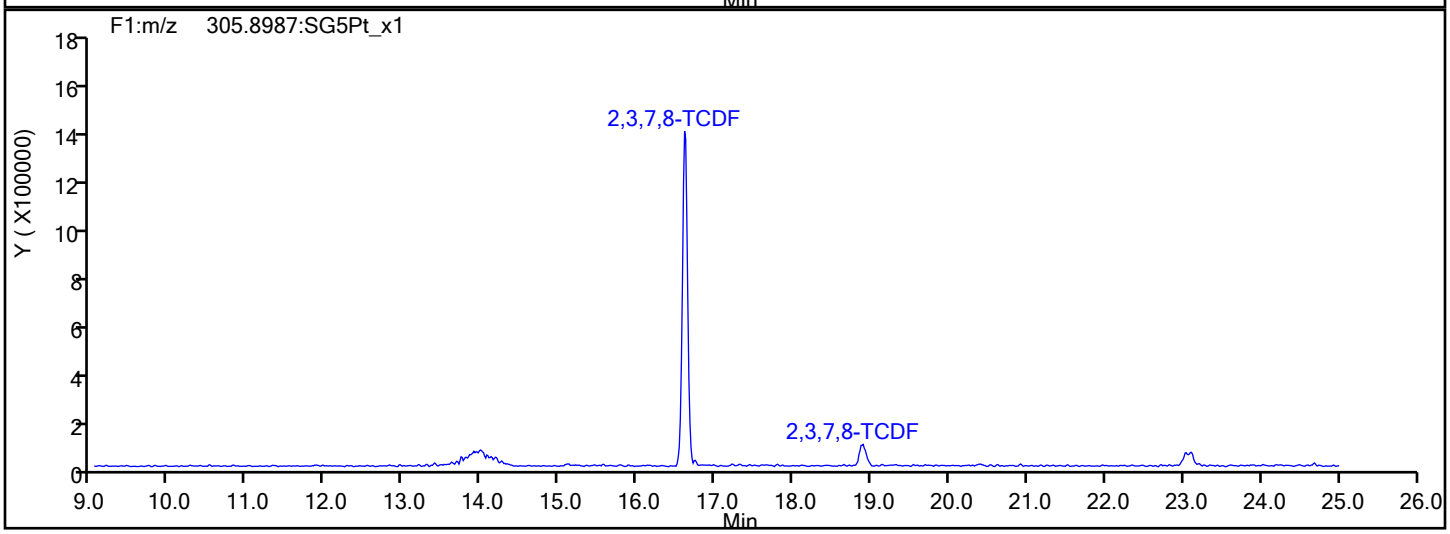

TCDF Interference Mass

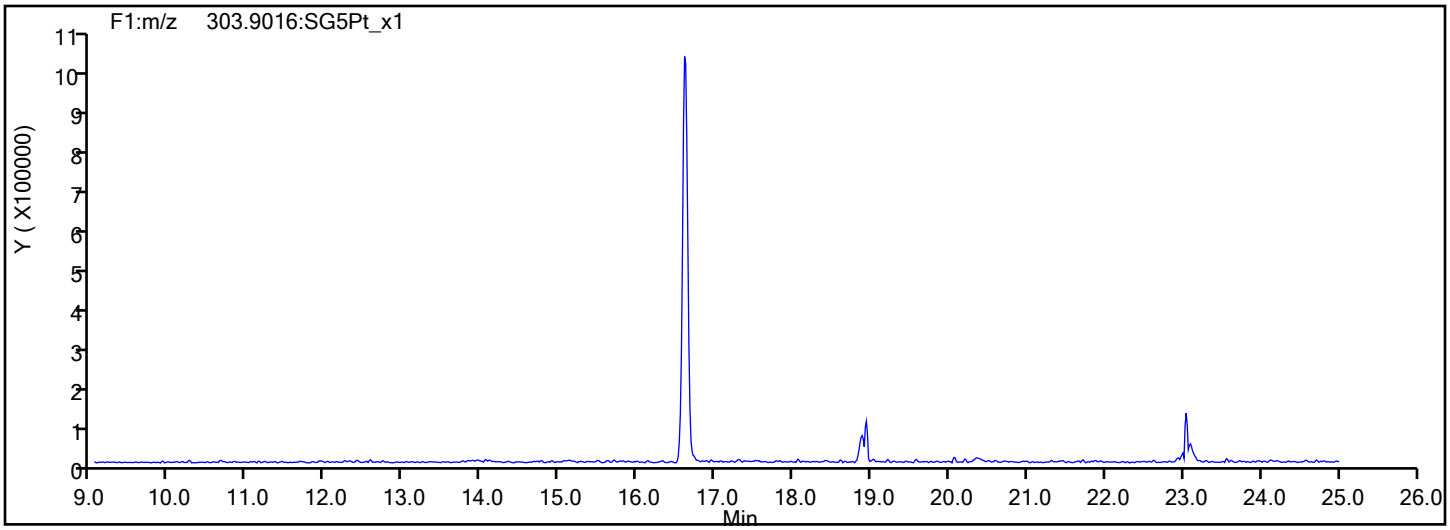

Report Date: 02-Aug-2019 11:50:37 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_005.d		
Injection Date:	02-Aug-2019 04:08:39	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

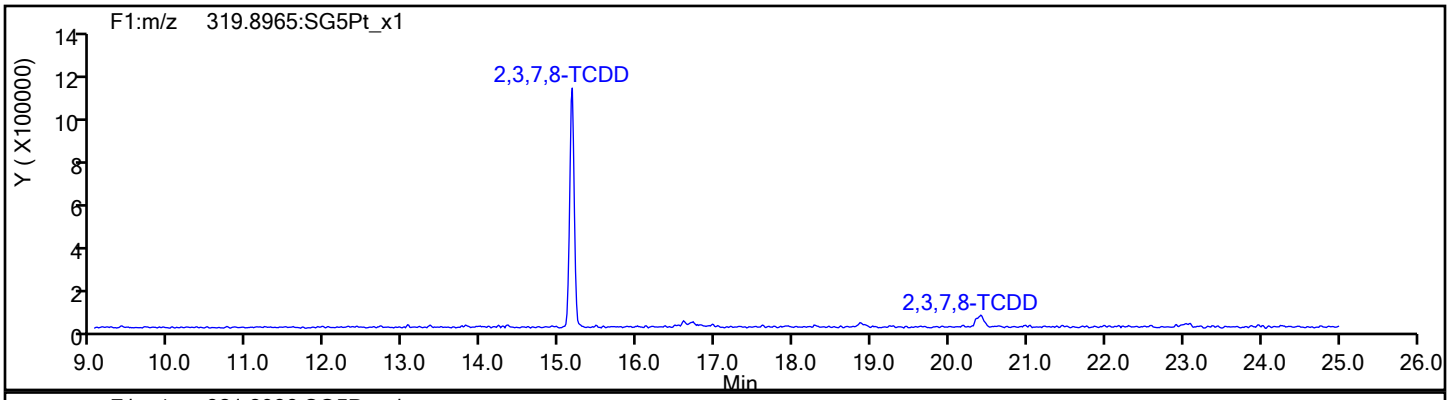

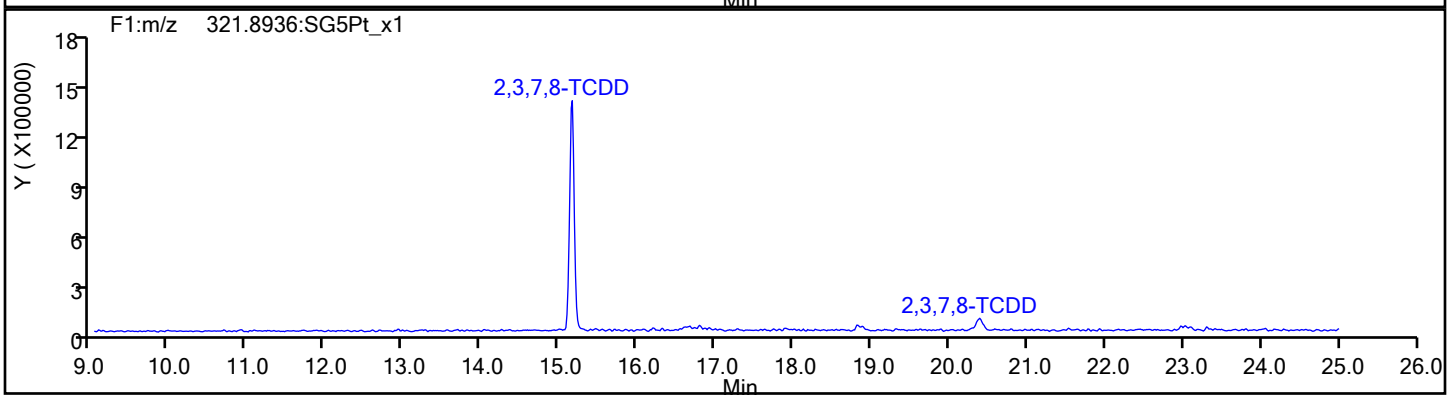

TCDD Standards

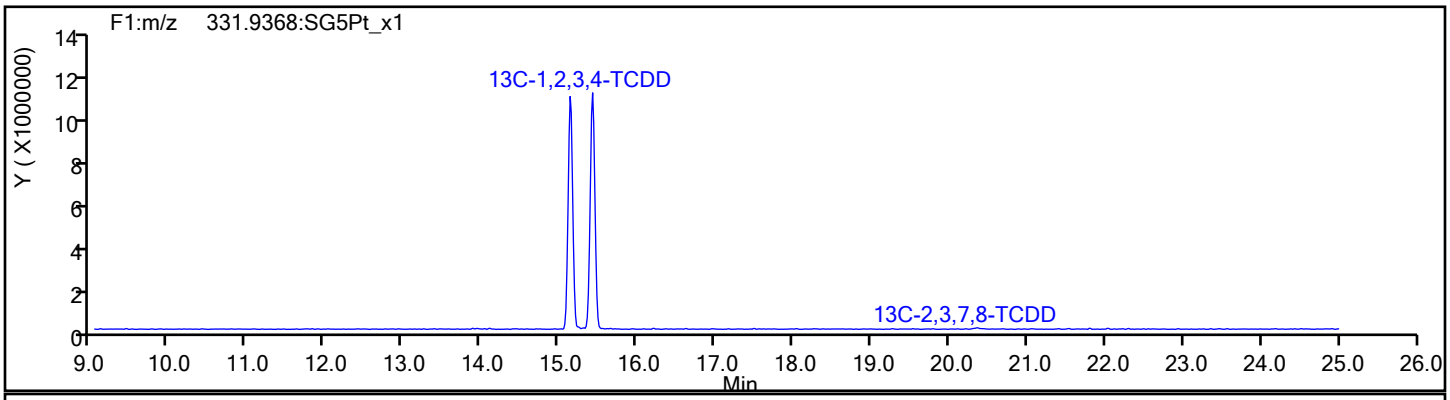

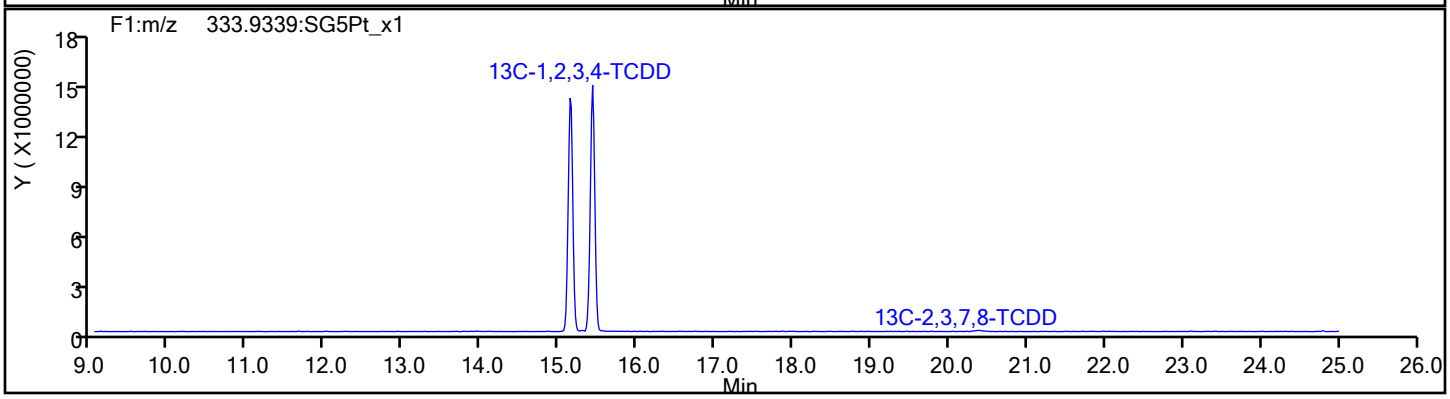

Report Date: 02-Aug-2019 11:50:37 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_005.d		
Injection Date:	02-Aug-2019 04:08:39	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

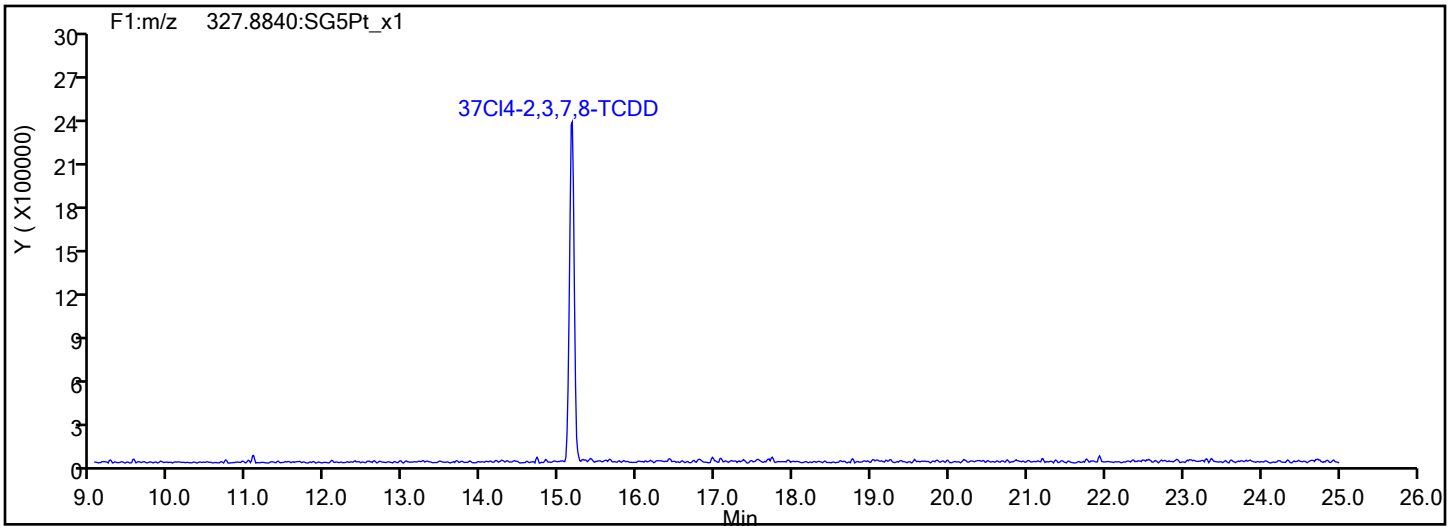

37Cl4-TCDD Standards

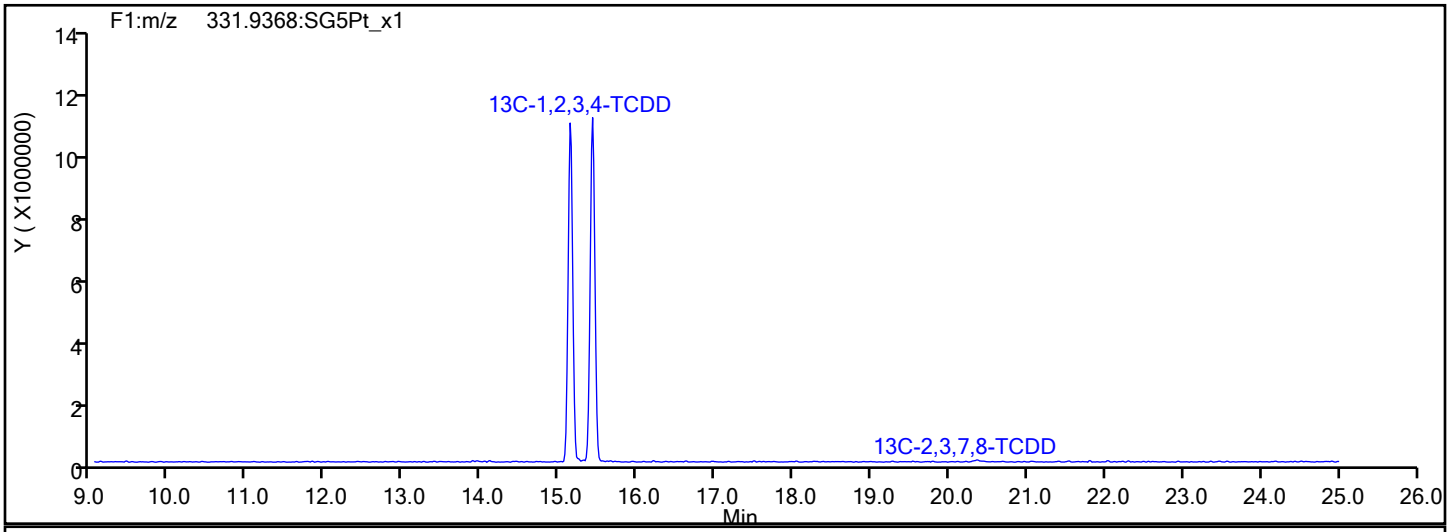

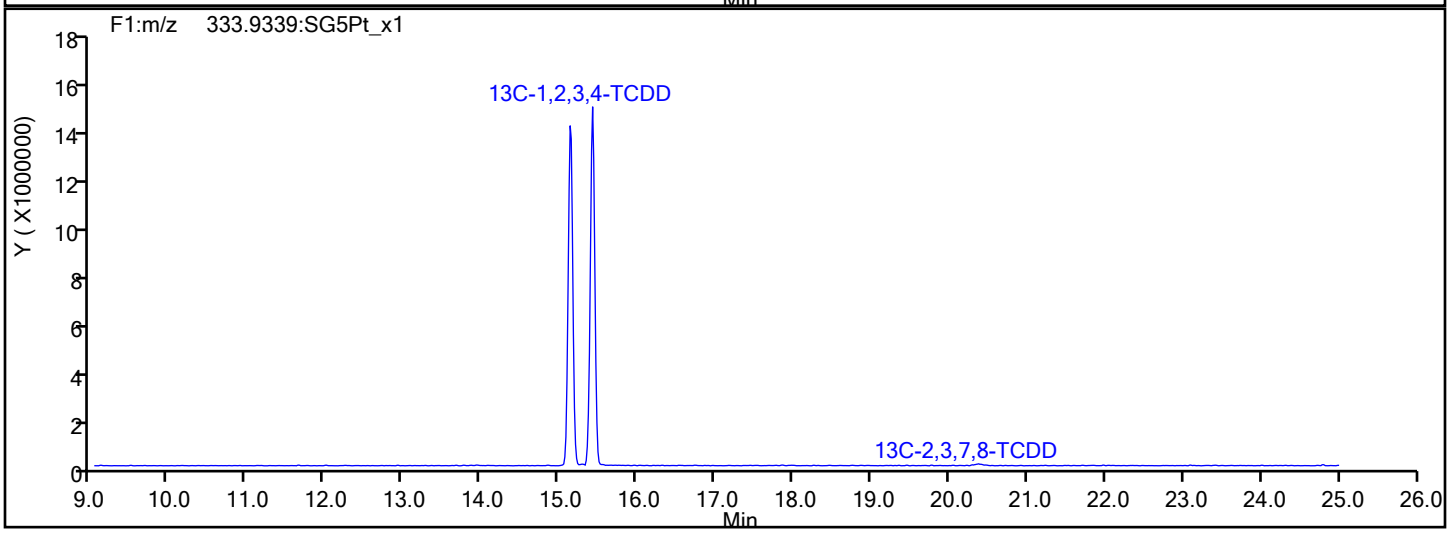

Report Date: 02-Aug-2019 11:50:37 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_005.d		
Injection Date:	02-Aug-2019 04:08:39	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

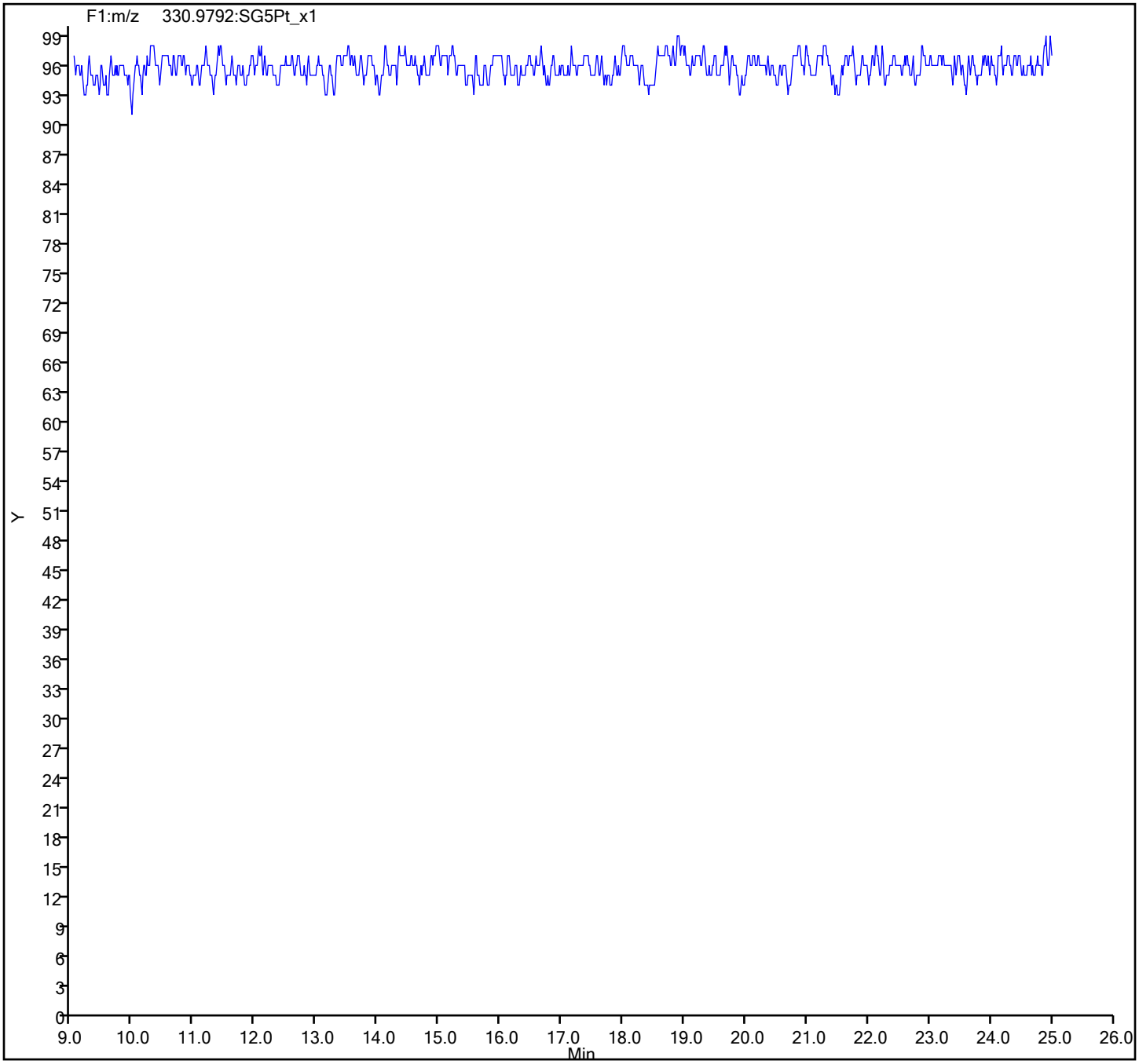

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_006.d
Lims ID: IC 5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 02-Aug-2019 04:46:57 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-5 HRDXNL5_00028
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:52:00 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:44:08

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.407	115018689	0.78	1.1E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.573	144459393	0.77	1.3379	93.9	93.9	0.5274	0.5274	93.87	
2,3,7,8-TCDF	16.586	46575552	0.77	0.8389	38.4	38.4	0.1167	0.1167	96.08	
D 13C-2,3,7,8-TCDD	15.132	106968299	0.77	0.9388	99.1	99.1	0.2830	0.2830	99.06	
2,3,7,8-TCDD	15.146	48146783	0.76	1.1538	39.0	39.0	0.1640	0.1640	97.53	
$ 37Cl4-2,3,7,8-TCDD	15.146	56650769		1.1816	41.7	41.7	0.0894	0.0894	104	
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNL5_00028 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_006.d
Lims ID: IC 5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 02-Aug-2019 04:46:57 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-5 HRDXNL5_00028
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:52:00 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:44:08

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.407	15.416	-1		50351038	12128425	19106	47765	635		
333.9339	15.407	15.416	-1		64667651	15935590	10721	26802	1486	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.573	16.580	0	1.076	62832695	14048507	53452	133630	263		
317.9389	16.573	16.580	0	1.076	81626698	17801662	25764	64410	691	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.586	16.599	-1	1.001	20335382	4486199	5024	12560	893		
305.8987	16.586	16.599	-1	1.001	26240170	5630982	7452	18630	756	0.77(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.132	15.136	0	0.982	46501097	11086056	19106	47765	580		
333.9339	15.118	15.136	-1	0.981	60467202	14396233	10721	26802	1343	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.146	15.156	-1	1.001	20863773	5196689	8344	20860	623		
321.8936	15.146	15.156	-1	1.001	27283010	6610856	10939	27347	604	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.146	15.158	-1	0.983	56650769	13763841	11857	29642	1161		
Total 2378-Chlorinated Dioxins & Furans											
		0.0	0								

Reagents:

HRDXNL5_00028 Amount Added: 1.00 Units: mL

Report Date: 02-Aug-2019 11:52:18 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_006.d		
Injection Date:	02-Aug-2019 04:46:57	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

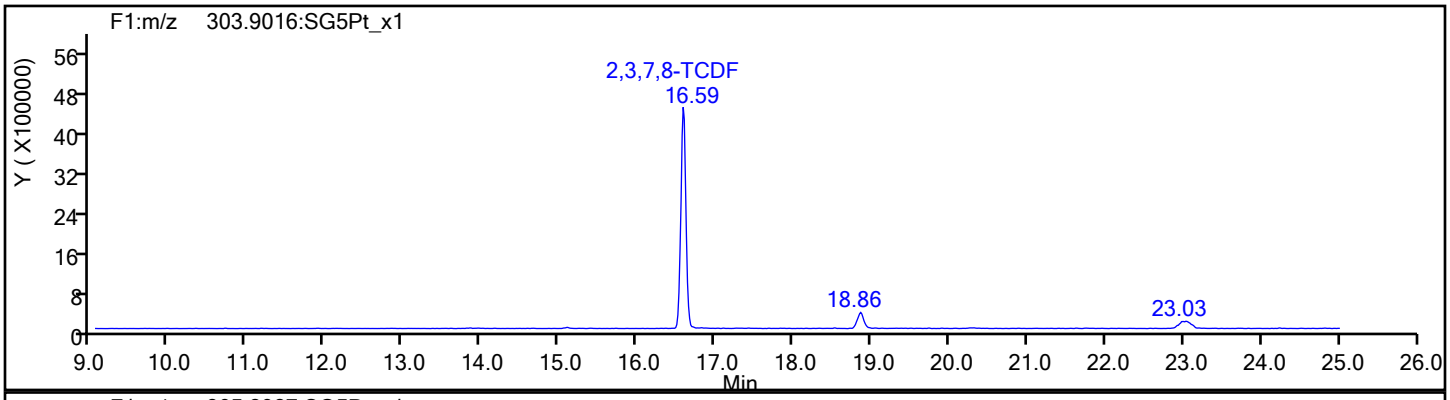

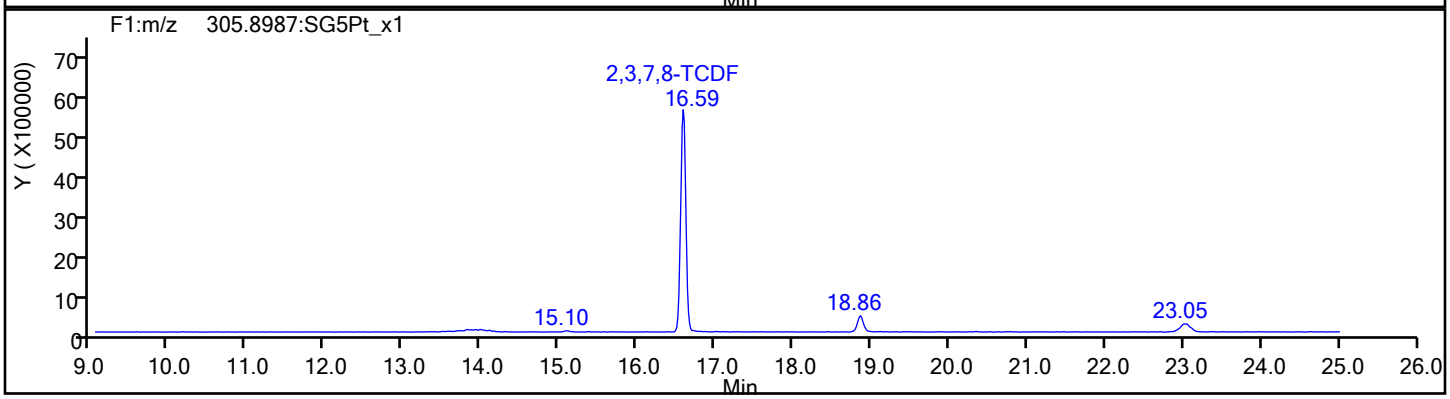

TCDF Standards

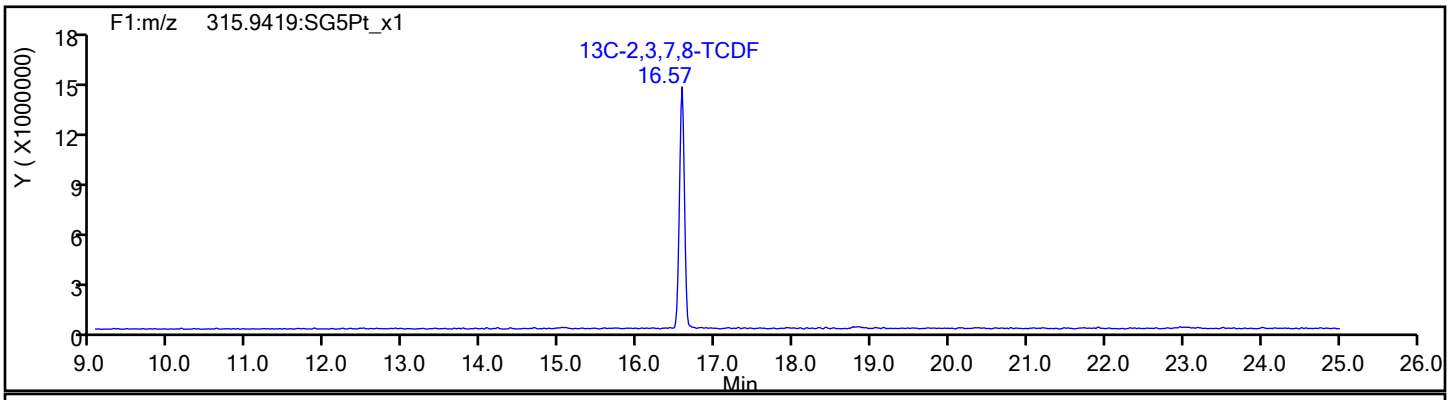

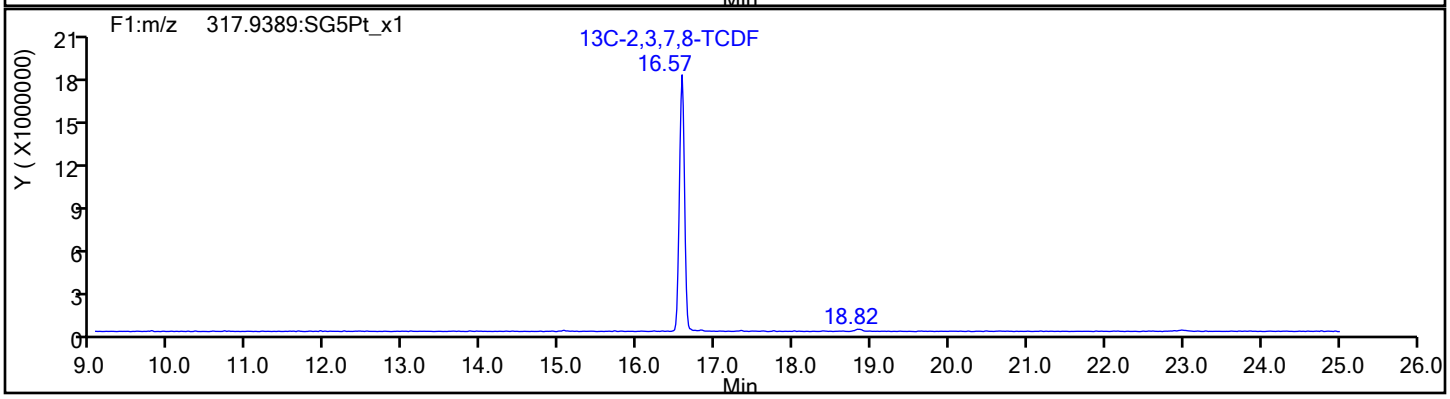

Report Date: 02-Aug-2019 11:52:18 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_006.d		
Injection Date:	02-Aug-2019 04:46:57	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

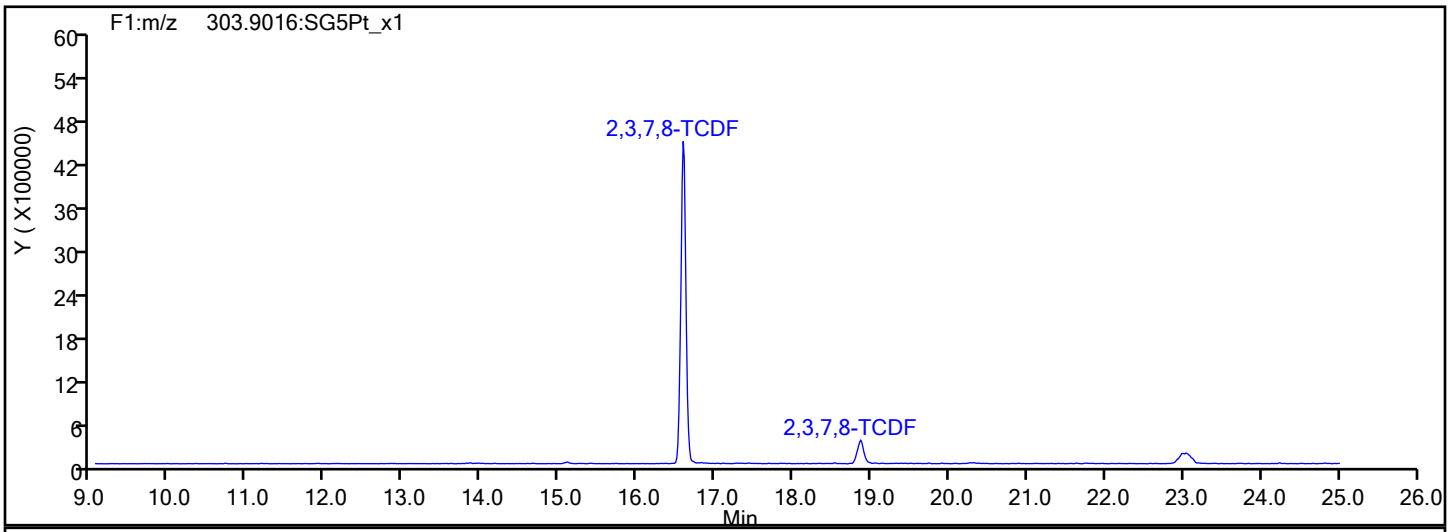

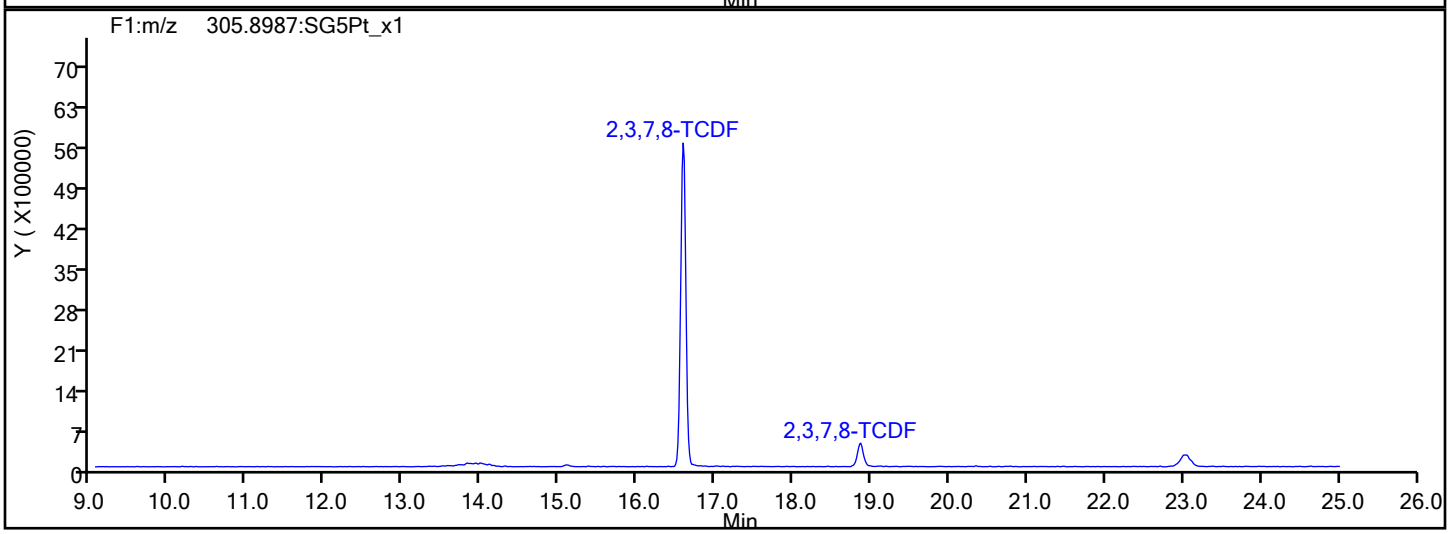

TCDF Interference Mass

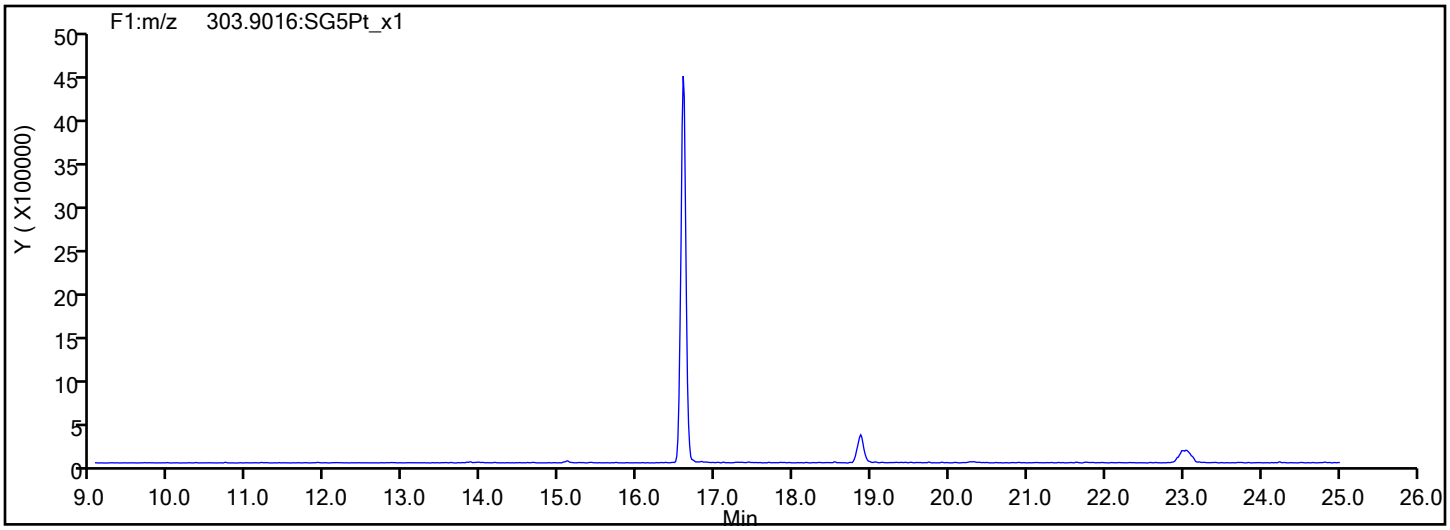

Report Date: 02-Aug-2019 11:52:18 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_006.d		
Injection Date:	02-Aug-2019 04:46:57	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

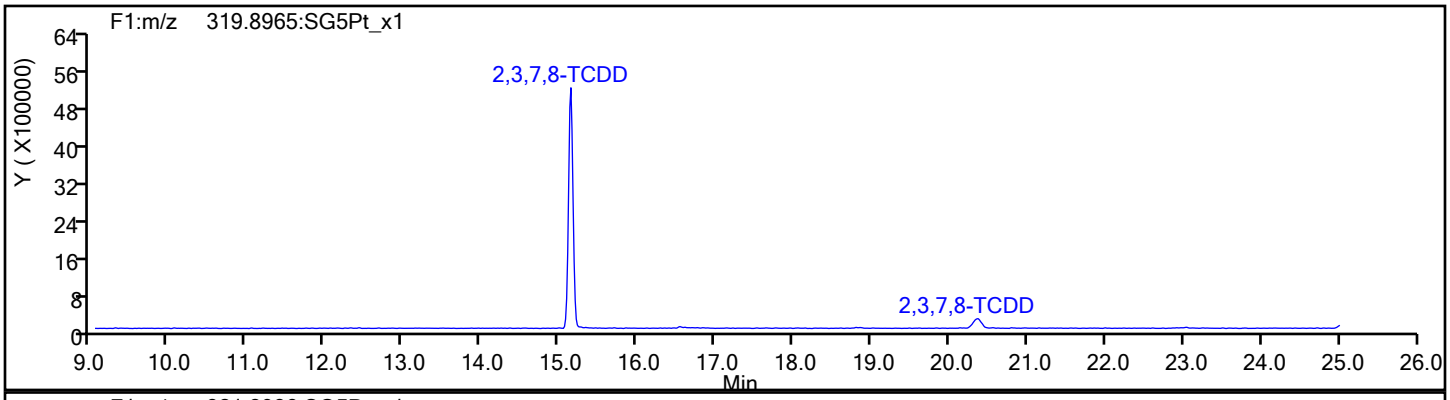

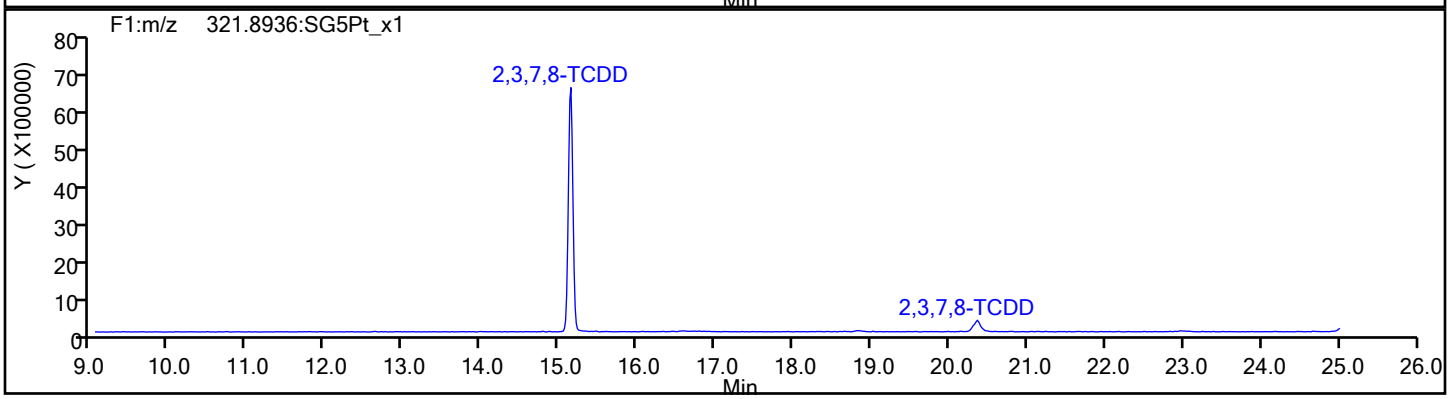

TCDD Standards

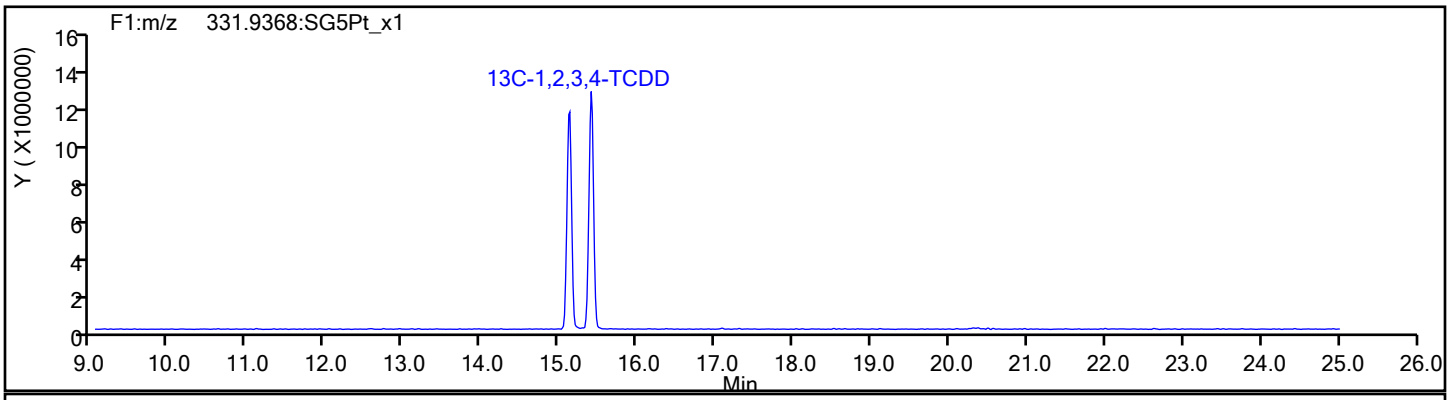

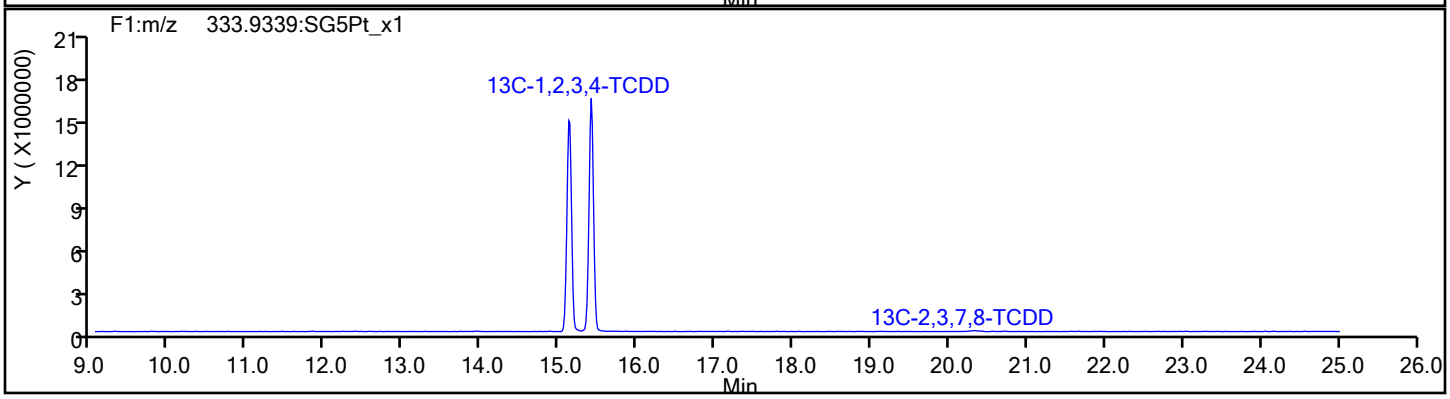

Report Date: 02-Aug-2019 11:52:18 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_006.d		
Injection Date:	02-Aug-2019 04:46:57	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

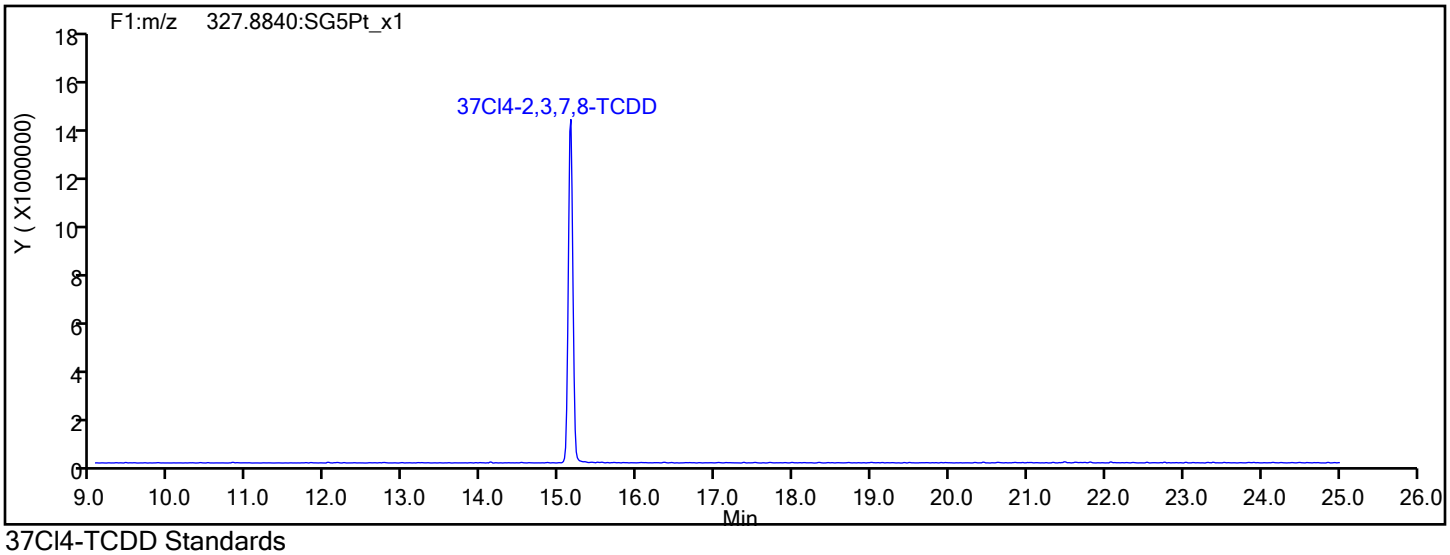

37Cl4-TCDD Standards

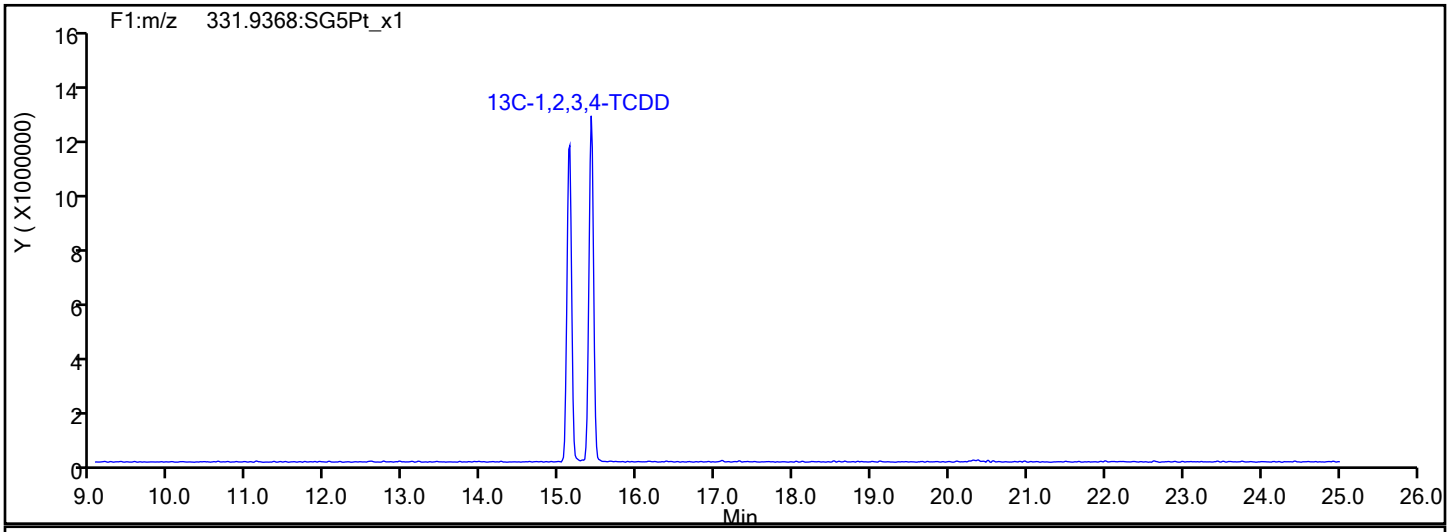

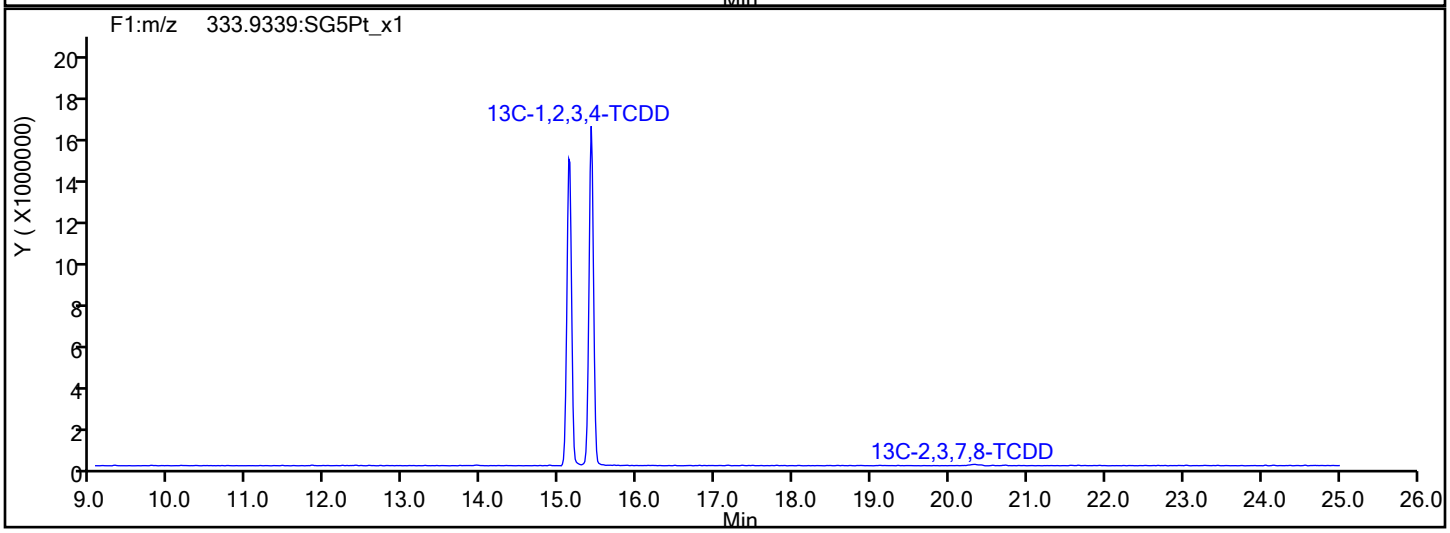

Report Date: 02-Aug-2019 11:52:19 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_006.d		
Injection Date:	02-Aug-2019 04:46:57	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

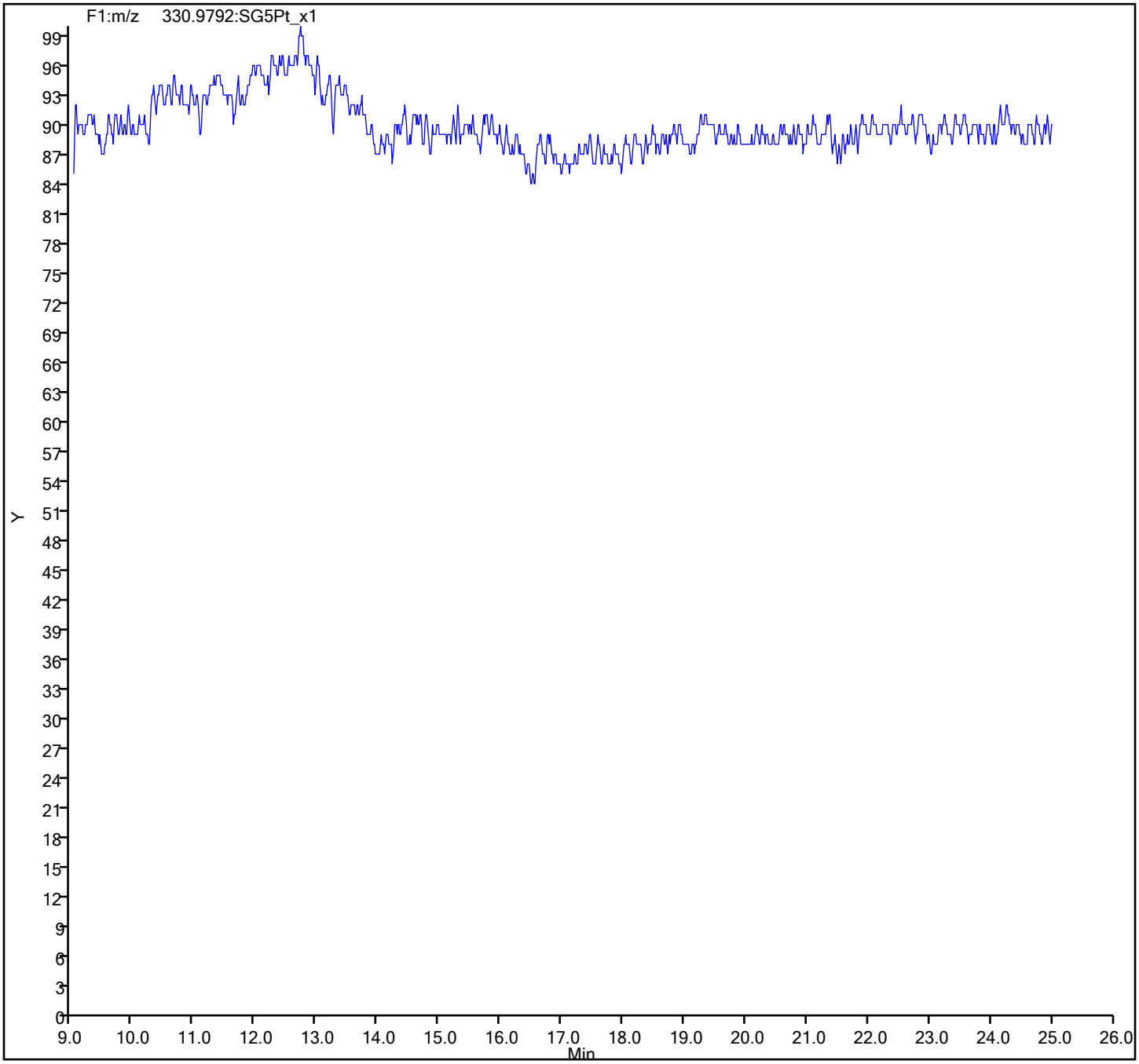

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d
Lims ID: IC 6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 02-Aug-2019 05:25:19 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-6 HRDXNL6_00024
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:52:36 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:44:20

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.404	110526038	0.77	1.1E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.556	151101344	0.75	1.3379	102.2	102.2	0.5415	0.5415	102	
2,3,7,8-TCDF	16.584	239921851	0.78	0.8389	189.3	189.3	0.1707	0.1707	94.64	
D 13C-2,3,7,8-TCDD	15.130	101263855	0.79	0.9388	97.6	97.6	0.2909	0.2909	97.59	
2,3,7,8-TCDD	15.143	221171643	0.78	1.1538	189.3	189.3	0.2031	0.2031	94.65	
$ 37Cl4-2,3,7,8-TCDD	15.143	268090229		1.1816	205.3	205.3	0.1091	0.1091	103	
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNL6_00024 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d
Lims ID: IC 6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 02-Aug-2019 05:25:19 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-6 HRDXNL6_00024
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:52:36 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:44:20

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.404	15.416	-1		48112289	11729044	18185	45462	645		
333.9339	15.404	15.416	-1		62413749	15576756	11642	29105	1338	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.556	16.580	-1	1.075	64986610	14150118	57009	142522	248		
317.9389	16.556	16.580	-1	1.075	86114734	18279234	22119	55297	826	0.75(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.584	16.599	-1	1.002	104966823	22470376	8972	22430	2505		
305.8987	16.584	16.599	-1	1.002	134955028	28495262	9607	24017	2966	0.78(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.130	15.136	0	0.982	44673635	10986883	18185	45462	604		
333.9339	15.130	15.136	0	0.982	56590220	13637893	11642	29105	1171	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.143	15.156	-1	1.001	96586623	23829881	9066	22665	2628		
321.8936	15.143	15.156	-1	1.001	124585020	30700236	14012	35030	2191	0.78(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.143	15.158	-1	0.983	268090229	64785114	14075	35187	4603		

Total 2378-Chlorinated Dioxins & Furans
0.0 0

Reagents:

HRDXNL6_00024 Amount Added: 1.00 Units: mL

Report Date: 02-Aug-2019 11:52:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d		
Injection Date:	02-Aug-2019 05:25:19	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

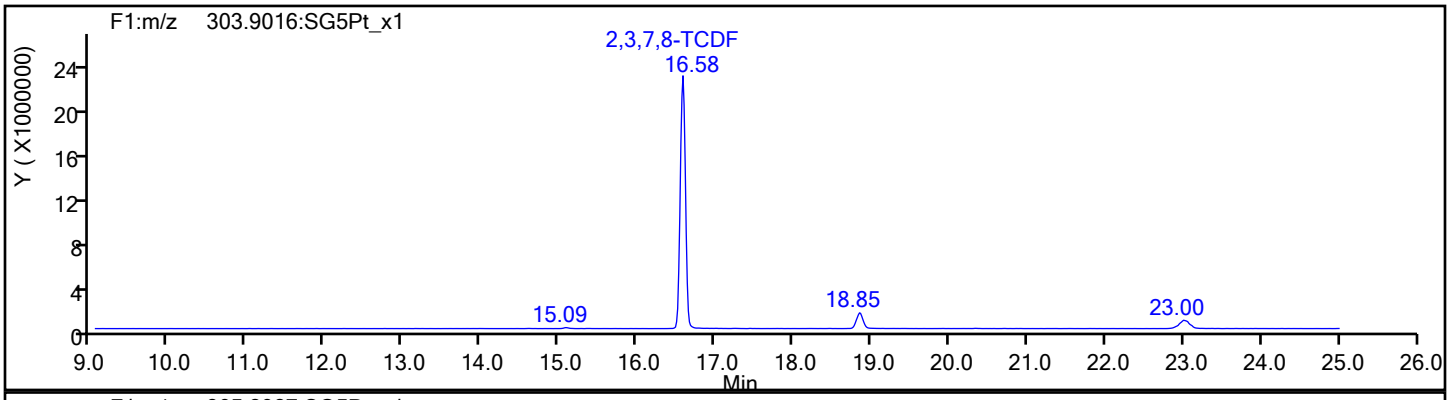

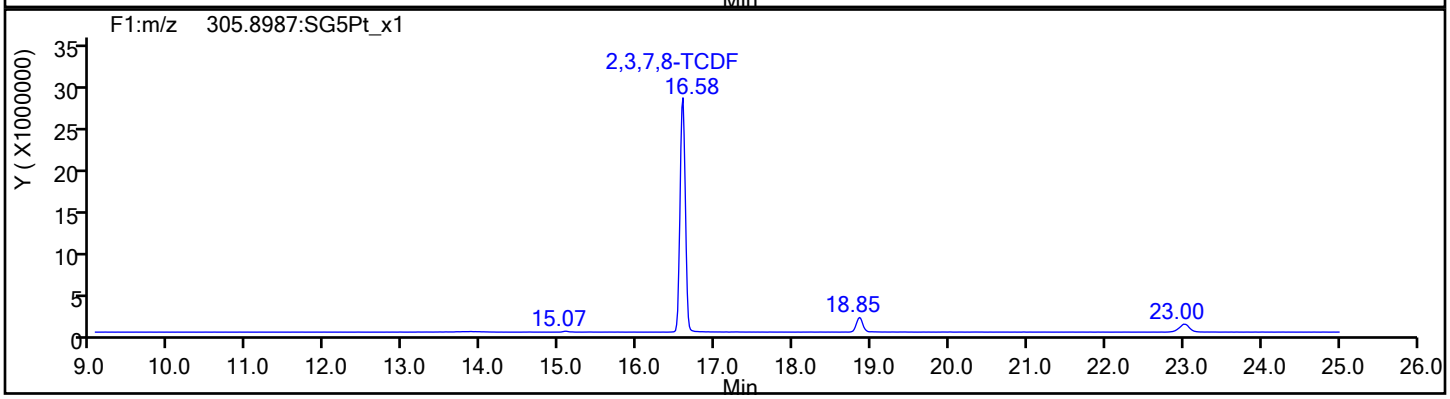

TCDF Standards

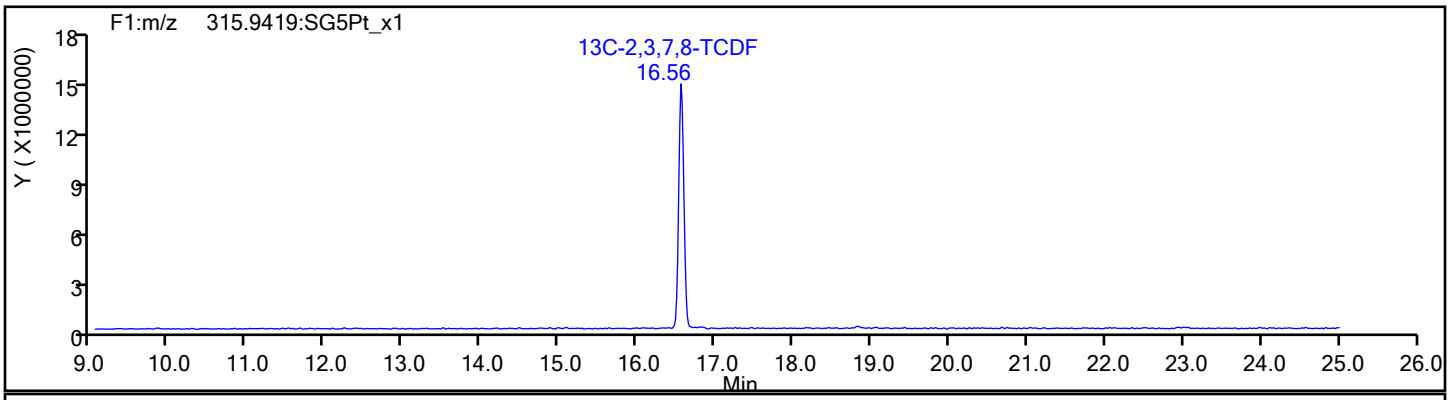

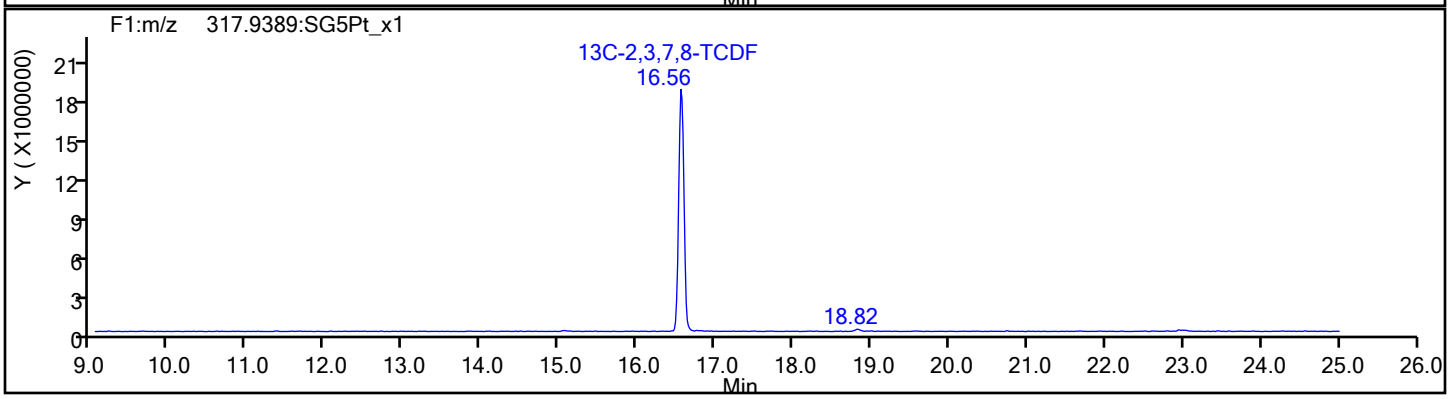

Report Date: 02-Aug-2019 11:52:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d		
Injection Date:	02-Aug-2019 05:25:19	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

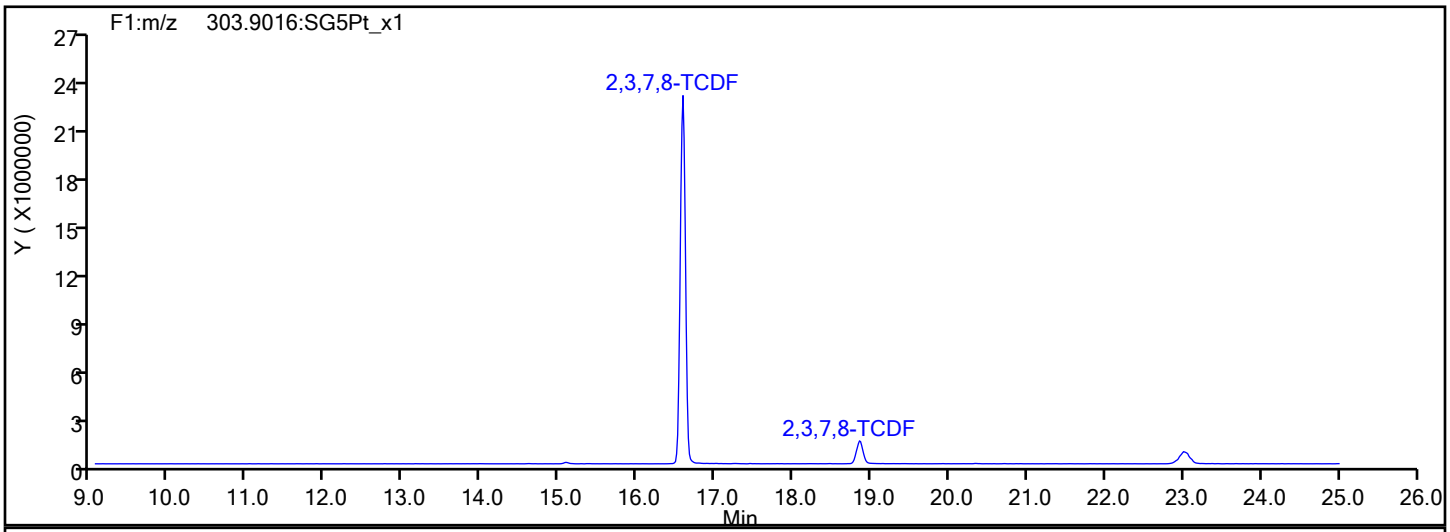

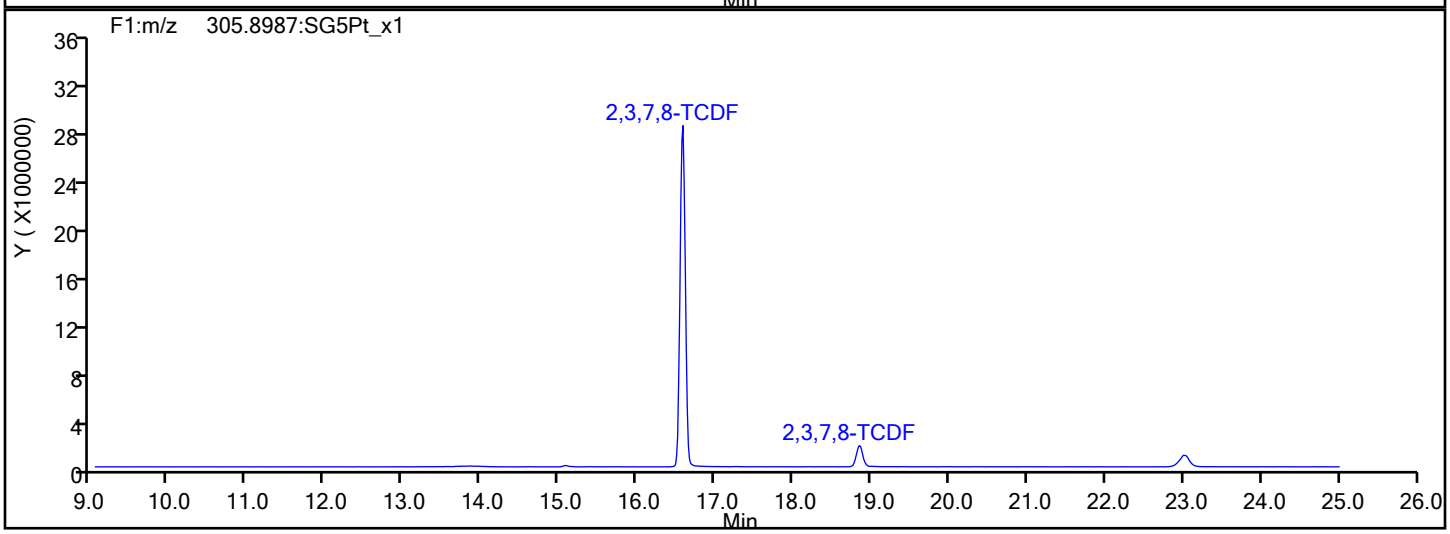

TCDF Interference Mass

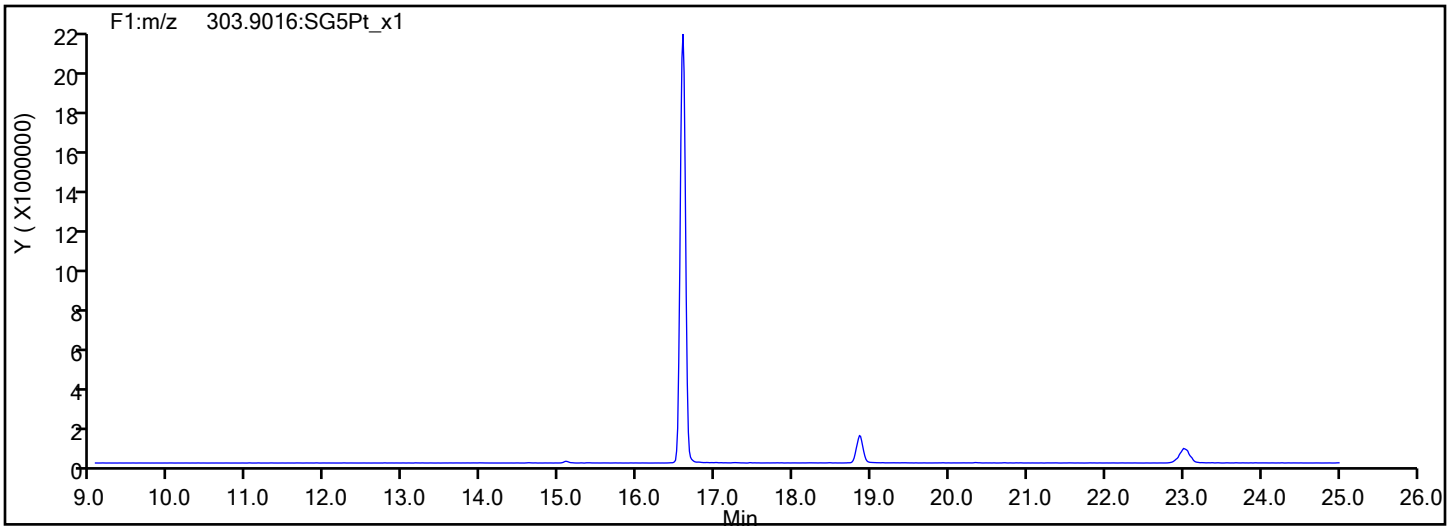

Report Date: 02-Aug-2019 11:52:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d		
Injection Date:	02-Aug-2019 05:25:19	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

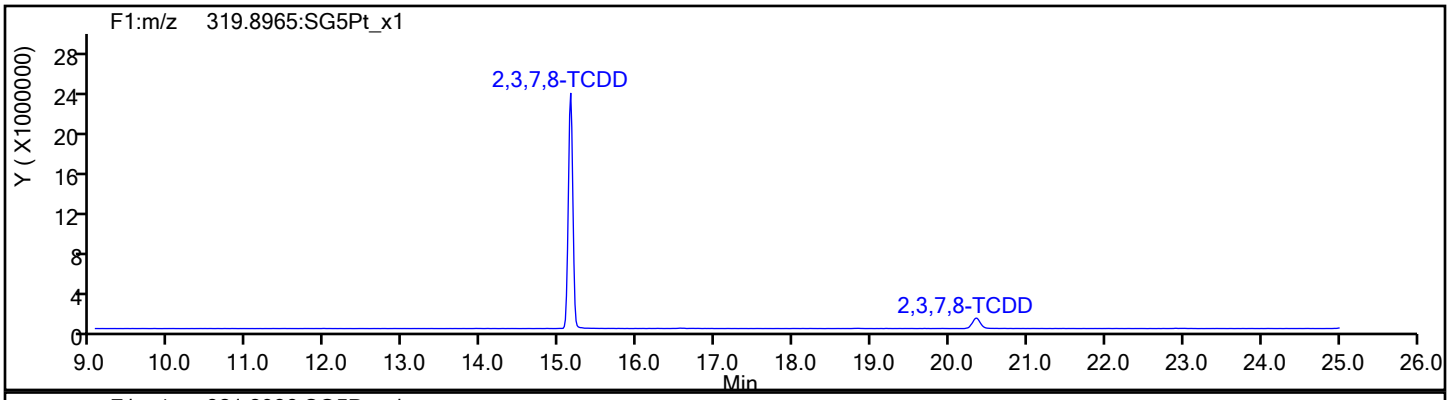

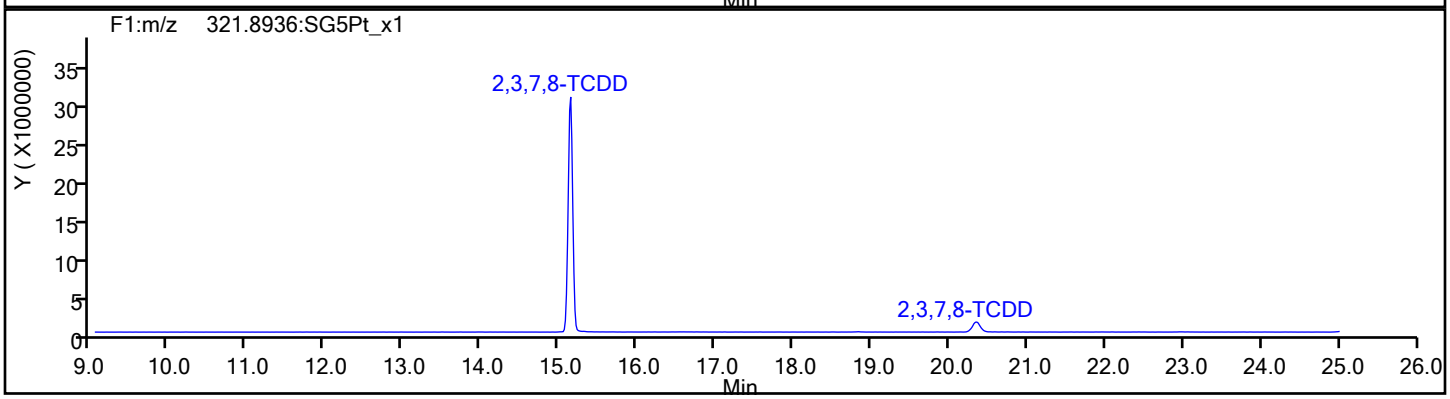

TCDD Standards

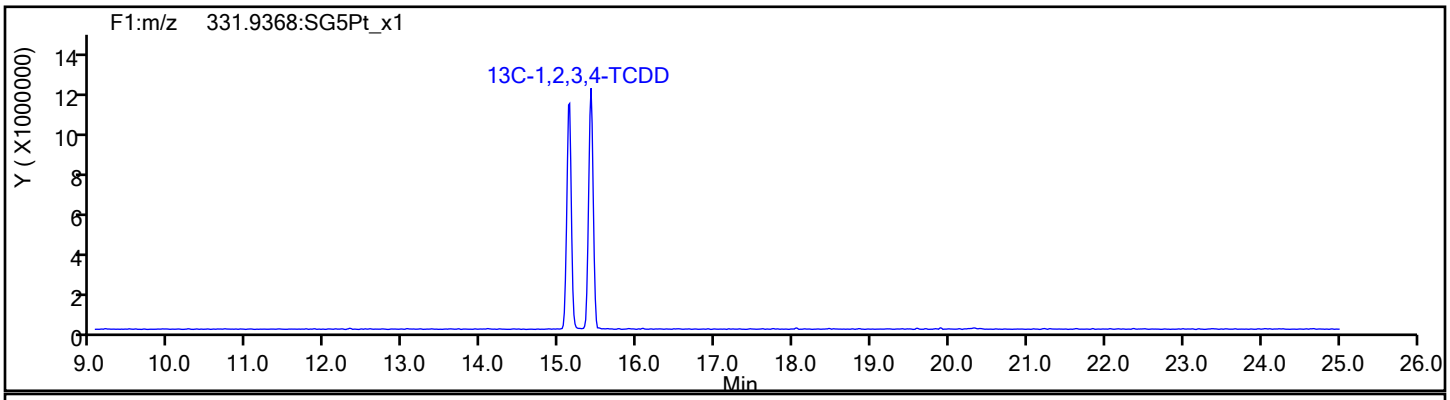

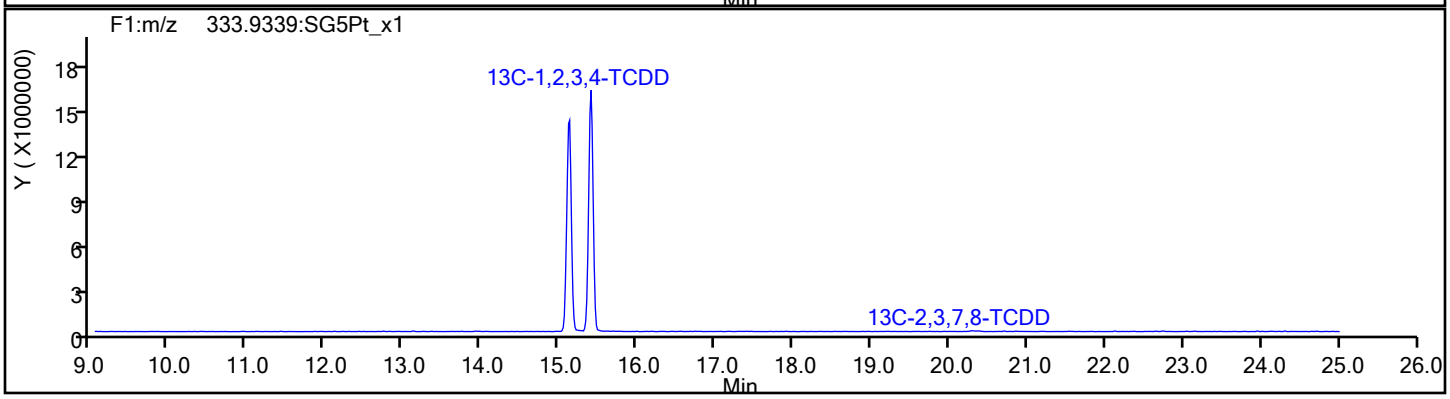

Report Date: 02-Aug-2019 11:52:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d		
Injection Date:	02-Aug-2019 05:25:19	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

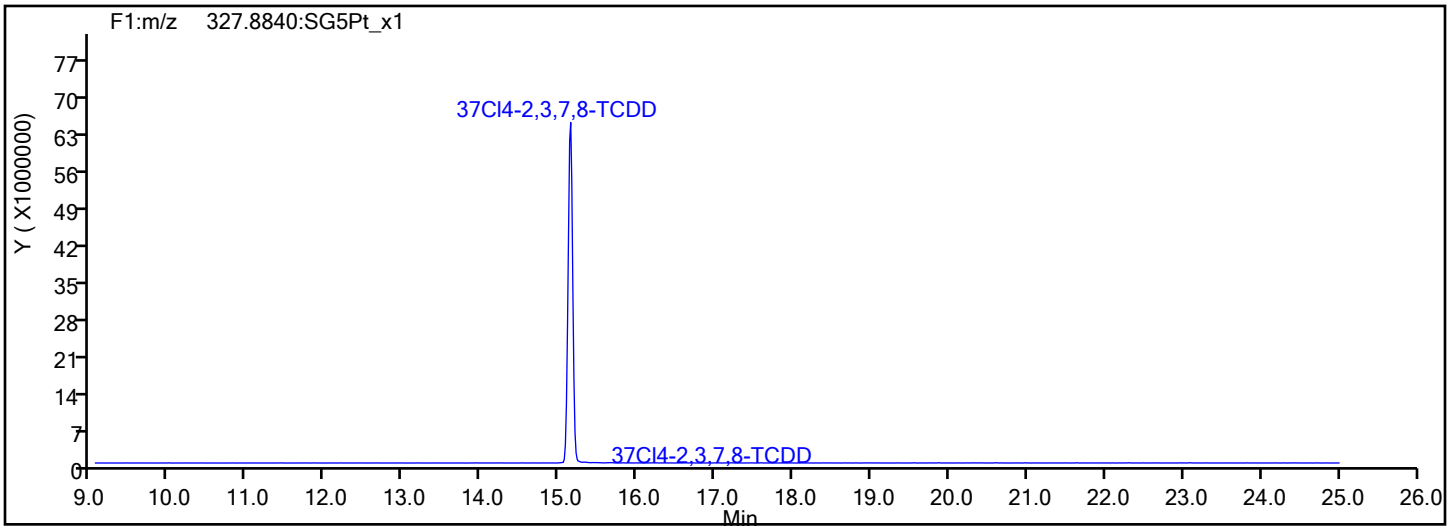

37Cl4-TCDD Standards

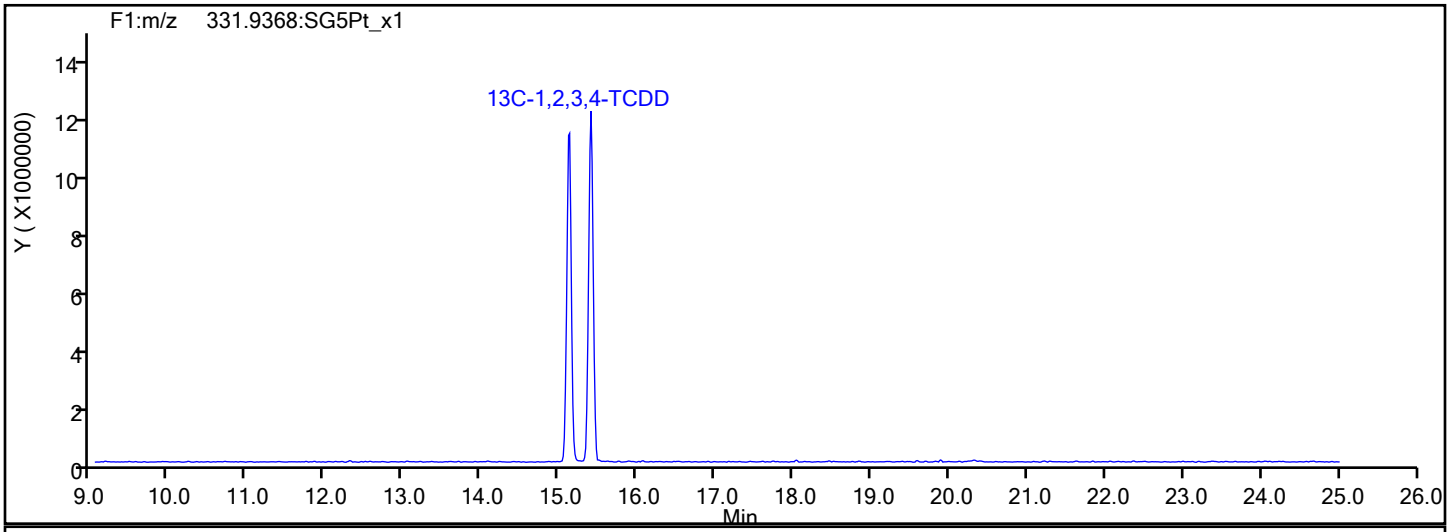

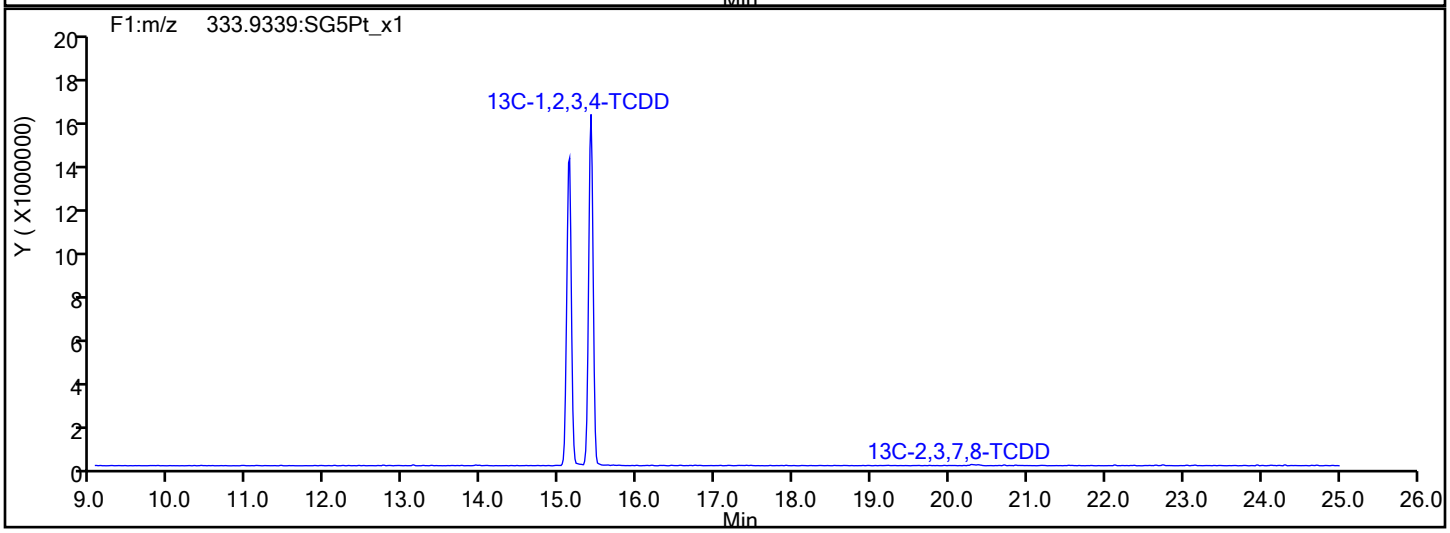

Report Date: 02-Aug-2019 11:52:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d		
Injection Date:	02-Aug-2019 05:25:19	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

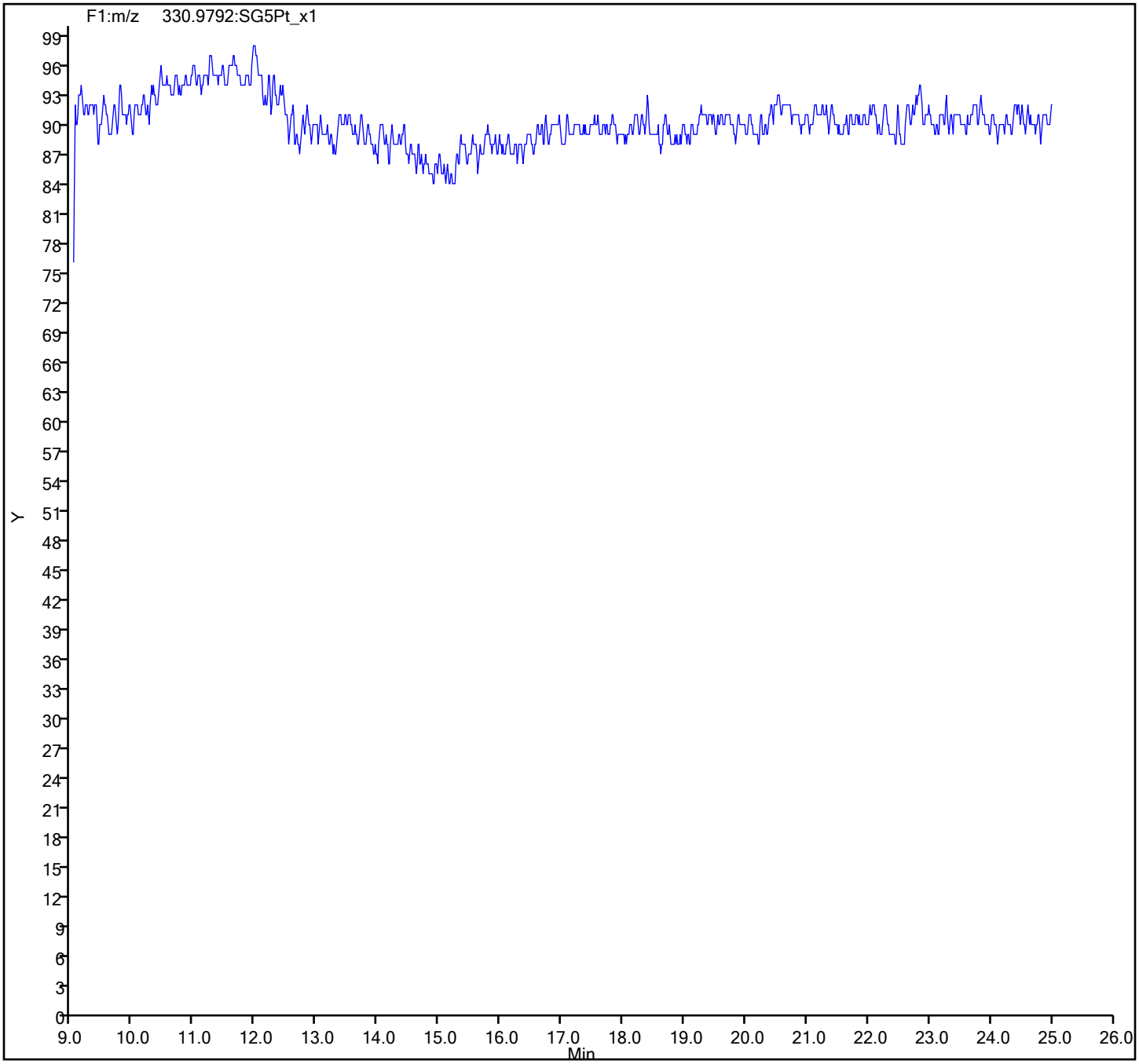

FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-1

SDG No.:

Lab Sample ID (1): WDM 320-324876/41 Instrument ID (1): 10D5

GC Column (1): DB-5 ID: 0.32(mm) Date Analyzed (1): 09/19/2019 18:21

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDD	17.50	21

Resolution Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_41.d				
Injection Date:	19-Sep-2019 18:21:10	Instrument ID:	10D5		
Lims ID:	WDM				
Client ID:					
Operator ID:	SMA, ALM	ALS Bottle#:	1	Worklist Smp#:	41
Injection Vol:	2.0 ul	Column:	DB-5 (0.32 mm)		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		

2,3,7,8-TCDD

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 655408
H (Peak Height) = 3175722

%R = 21 <= 25
Passed

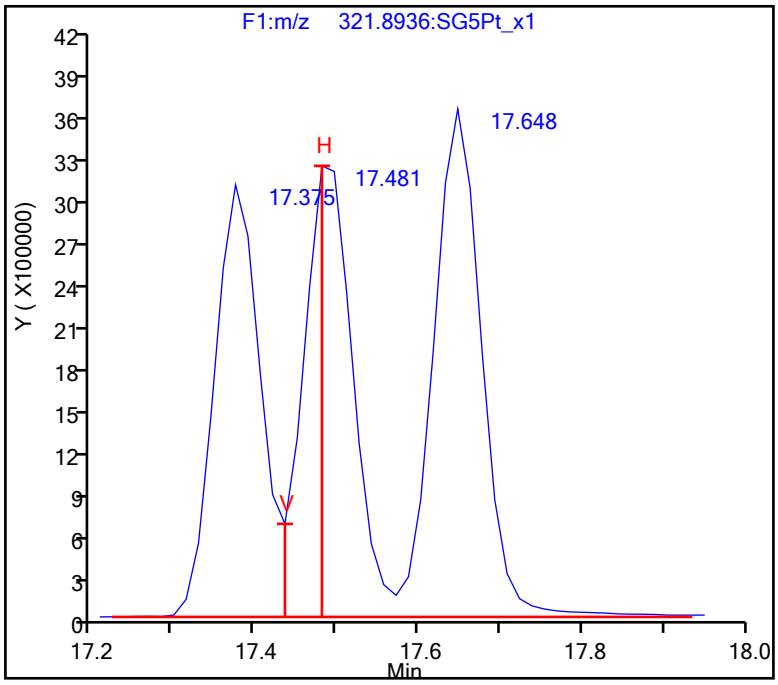

FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-1

SDG No.:

Lab Sample ID (1): CPS 320-325151/1 Instrument ID (1): 11D2

GC Column (1): DB-225 ID: 0.32(mm) Date Analyzed (1): 09/20/2019 09:55

ANALYTE	RT	RESOLUTION (%)
2,3,7,8-TCDF	16.52	24

Resolution Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190920-83509.b\20SE1911D2_001.d				
Injection Date:	20-Sep-2019 09:55:31	Instrument ID:	11D2		
Lims ID:	CPS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	2.0 ul	Column:	DB-225 (0.32 mm)		
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL		

2,3,7,8-TCDF

Isotopic Dilution Dioxin Method

%R = (V / H) * 100

V (Valley Height) = 3116566
H (Peak Height) = 12973716

%R = 24 <= 25
Passed

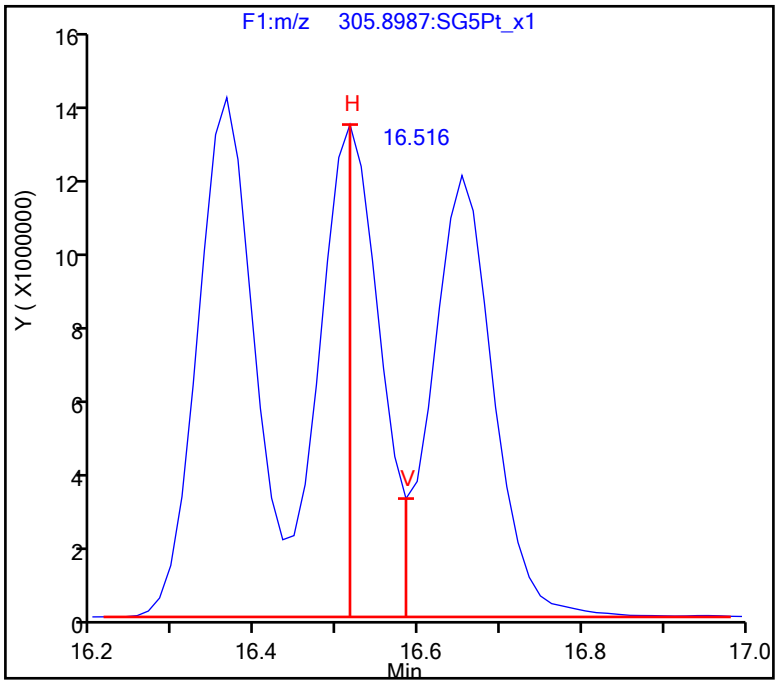

Resolution Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190920-83509.b\20SE1911D2_001.d				
Injection Date:	20-Sep-2019 09:55:31	Instrument ID:	11D2		
Lims ID:	CPS				
Client ID:					
Operator ID:		ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	2.0 ul	Column:	DB-225 (0.32 mm)		
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL		

Sample List Report **MassLynx 4.1**

Sample List: C:\MassLynx\DATA 2019.PRO\SampleDB\18SE1910D5.SPL
Last Modified: Thursday, September 19, 2019 18:46:51 Pacific Daylight Time
Printed: Thursday, September 19, 2019 18:47:00 Pacific Daylight Time

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #
1	18SE1910D5_1	WDM HRDXNCP_00038	WDM 091819	Tray01:1	---	
2	18SE1910D5_2	CS-4 HRDXNL4_00084	CCV 091819	Tray01:2	Dioxin	
3	18SE1910D5_3	Solvent Blank C-14	SB 091819	Tray01:3	---	
4	18SE1910D5_4	QC Eluent 20% 1740986	QC Eluent 20% 1740986	Tray01:4	1613B/8290	Q82
5	18SE1910D5_5	QC Eluent 65% 1740986	QC Eluent 65% 1740986	Tray01:5	1613B/8290	
6	18SE1910D5_6	QC Eluent 20% 1740987	QC Eluent 20% 1740987	Tray01:6	1613B/8290	
7	18SE1910D5_7	QC Eluent 65% 1740987	QC Eluent 65% 1740987	Tray01:7	1613B/8290	
8	18SE1910D5_8	320-53989-E-6-A	320-53989-E-6-A	Tray01:8	8290/Solid	50
9	18SE1910D5_9	320-53989-E-7-A	320-53989-E-7-A	Tray01:9	8290/Solid	
10	18SE1910D5_10	320-53989-E-8-A	320-53989-E-8-A	Tray01:10	8290/Solid	
11	18SE1910D5_11	320-53989-E-9-A	320-53989-E-9-A	Tray01:11	8290/Solid	
12	18SE1910D5_12	320-53989-E-10-A	320-53989-E-10-A	Tray01:12	8290/Solid	
13	18SE1910D5_13	Solvent Blank C-14	SB 091819A	Tray01:3	---	
14	18SE1910D5_14	CS-4 HRDXNL4_00084	CCV 091819A	Tray01:2	Dioxin	
15	18SE1910D5_15	WDM HRDXNCP_00038	WDM 091819A	Tray01:1	---	
16	18SE1910D5_16	Solvent Blank C-14	SB 091819B	Tray01:3	---	
17	18SE1910D5_17	320-53989-E-11-A	320-53989-E-11-A	Tray01:15	8290/Solid	50
18	18SE1910D5_18	320-53989-E-12-A	320-53989-E-12-A	Tray01:16	8290/Solid	
19	18SE1910D5_19	320-53989-E-13-A	320-53989-E-13-A	Tray01:17	8290/Solid	
20	18SE1910D5_20	320-53989-E-14-A	320-53989-E-14-A	Tray01:18	8290/Solid	
21	18SE1910D5_21	320-53989-E-15-A	320-53989-E-15-A	Tray01:19	8290/Solid	
22	18SE1910D5_22	320-53989-E-16-A	320-53989-E-16-A	Tray01:20	8290/Solid	
23	18SE1910D5_23	320-53989-E-18-A	320-53989-E-18-A	Tray01:21	8290/Solid	
24	18SE1910D5_24	320-53989-E-18-B MS	320-53989-E-18-B MS	Tray01:22	8290/Solid	
25	18SE1910D5_25	320-53989-E-18-C MSD	320-53989-E-18-C MSD	Tray01:23	8290/Solid	
26	18SE1910D5_26	Solvent Blank C-14	SB 091819C	Tray01:3	---	
27	18SE1910D5_27	CS-4 HRDXNL4_00084	CCV 091819B	Tray01:2		
28	18SE1910D5_28	WDM HRDXNCP_00038	WDM 091819B	Tray01:1	---	
29	18SE1910D5_29	Solvent Blank C-14	SB 091819D	Tray01:3	---	
30	18SE1910D5_30	MB 320-316612/1-A	MB 320-316612/1-A	Tray01:29	8290/Solid	D88
31	18SE1910D5_31	320-52496-A-59-B MDLV (47)	320-52496-A-59-B MDLV (47)	Tray01:30	8290/Solid	
32	18SE1910D5_32	320-52496-A-60-B MDLV (48)	320-52496-A-60-B MDLV (48)	Tray01:31	8290/Solid	
33	18SE1910D5_33	320-52496-A-61-B MDLV (49)	320-52496-A-61-B MDLV (49)	Tray01:32	8290/Solid	
34	18SE1910D5_34	320-52496-A-62-B LOQV (50)	320-52496-A-62-B LOQV (50)	Tray01:33	8290/Solid	
35	18SE1910D5_35	MB 320-316519/1-A	MB 320-316519/1-A	Tray01:34	8290/Water	48
36	18SE1910D5_36	320-52496-A-41-A MDLV (23)	320-52496-A-41-A MDLV (23)	Tray01:35	8290/Water	
37	18SE1910D5_37	320-52496-A-42-A MDLV (24)	320-52496-A-42-A MDLV (24)	Tray01:36	8290/Water	
38	18SE1910D5_38	320-52496-A-43-A MDLV (25)	320-52496-A-43-A MDLV (25)	Tray01:37	8290/Water	
39	18SE1910D5_39	320-52496-A-45-A LOQV (26)	320-52496-A-45-A LOQV (26)	Tray01:38	8290/Water	
40	18SE1910D5_40	CS-4 HRDXNL4_00084	CCV 091819C	Tray01:2		
41	18SE1910D5_41	WDM HRDXNCP_00038	WDM 091819C	Tray01:1	---	
42	18SE1910D5_42	MB 320-324498/1-A	MB 320-324498/1-A	Tray01:43	1613B/Water	D93
43	18SE1910D5_43	LCS 320-324498/2-A	LCS 320-324498/2-A	Tray01:44	1613B/Water	
44	18SE1910D5_44	LCSD 320-324498/3-A	LCSD 320-324498/3-A	Tray01:45	1613B/Water	
45	18SE1910D5_45	600-191956-A-1-C	600-191956-A-1-C	Tray01:46	1613B/Water	
46	18SE1910D5_46	600-191956-A-2-C	600-191956-A-2-C	Tray01:47	1613B/Water	
47	18SE1910D5_47	600-191956-A-3-C	600-191956-A-3-C	Tray01:48	1613B/Water	
48	18SE1910D5_48	MB 320-324499/1-A	MB 320-324499/1-A	Tray01:49	1613B/Water	D93
49	18SE1910D5_49	LCS 320-324499/2-A	LCS 320-324499/2-A	Tray01:50	1613B/Water	
50	18SE1910D5_50	LCSD 320-324499/3-A	LCSD 320-324499/3-A	Tray01:51	1613B/Water	
51	18SE1910D5_51	600-191956-B-1-D	600-191956-B-1-D	Tray01:52	1613B/Water	
52	18SE1910D5_52	600-191956-B-2-D	600-191956-B-2-D	Tray01:53	1613B/Water	
53	18SE1910D5_53	600-191956-B-3-D	600-191956-B-3-D	Tray01:54	1613B/Water	
54	18SE1910D5_54	Solvent Blank C-14	SB 091819E	Tray01:3	---	

Logfile checked
09/20/19 SMA

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SMA, ALM	1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
SMA, AJS	1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
SMA, AJS	1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
SMA, AJS	1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
SMA, AJS	1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
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SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
SMA, AJS	10.000000	g	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
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SMA, AJS	1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
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SMA, ALM	1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
SMA, ALM	1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	FBAT_ML_FileMover
SMA, ALM	1.000000	L	DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck
SMA, ALM	1.000000		DIOXIN10D5NEW	DIOXINNOGC	2.000000	ResolutionCheck

Process Options	Action On Error	s5
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C:\Masslynx\Autospec\dioxinrescheck.dat	Ignore Error	---
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M 292.9824 R 13123

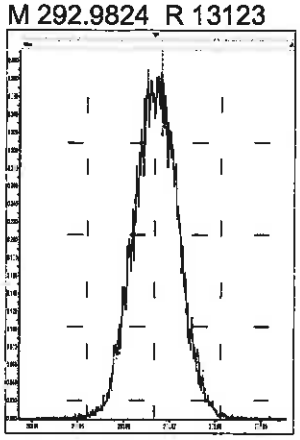

M 304.9824 R 12410

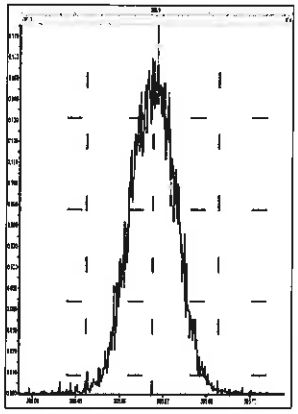

M 318.9792 R 12724

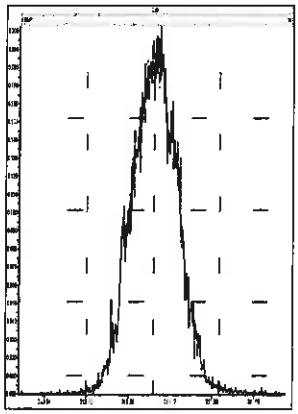

M 330.9792 R 13228

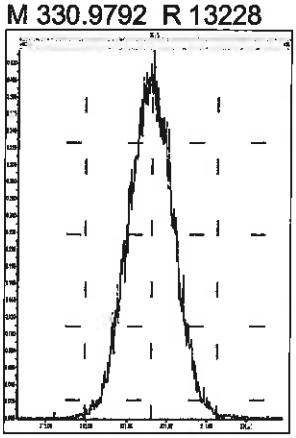

M 342.9792 R 12724

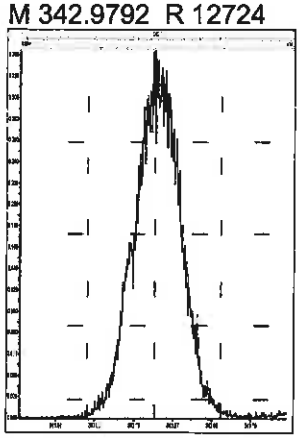

M 354.9792 R 12716

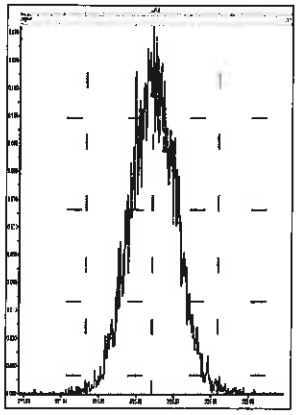

M 366.9792 R 12920

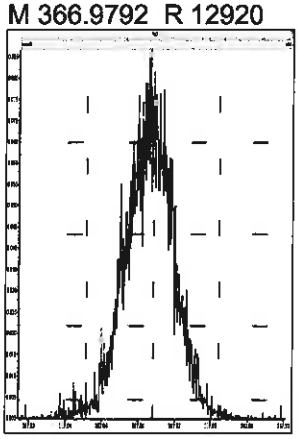

M 380.9760 R 12358

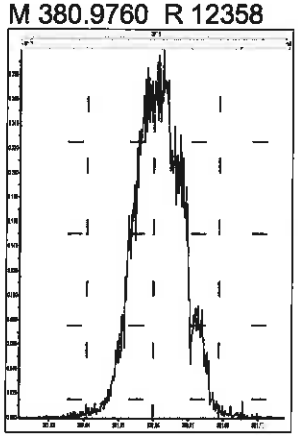

M 392.9760 R 12380

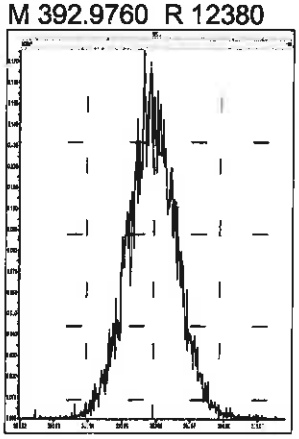

M 404.9760 R 12472

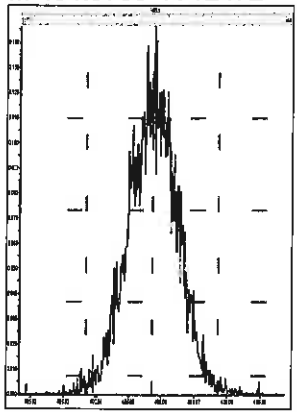

M 416.9760 R 12869

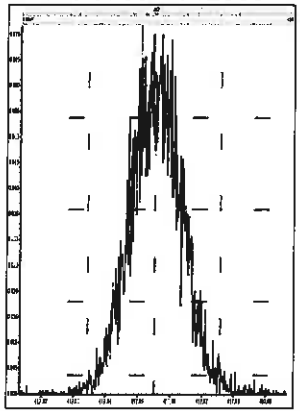

M 318.9792 R 13446

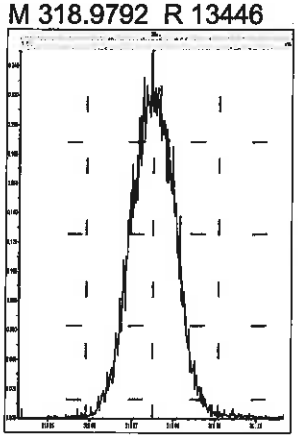

M 330.9792 R 12821

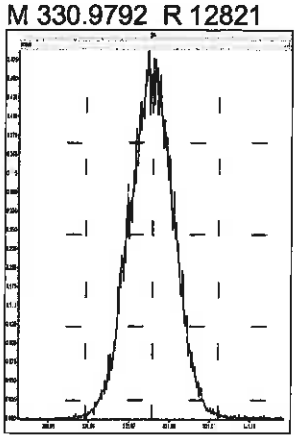

M 342.9792 R 12791

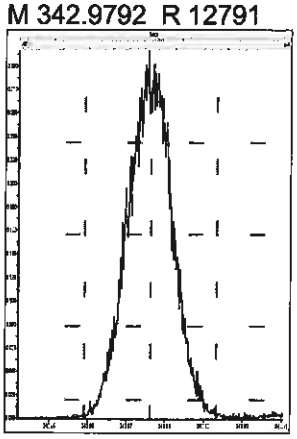

M 354.9792 R 13170

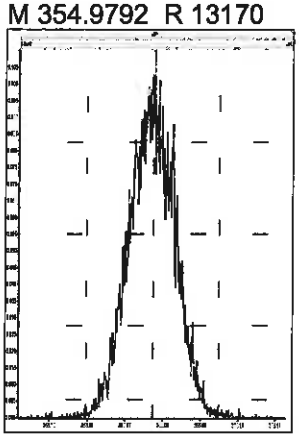

M 366.9792 R 13661

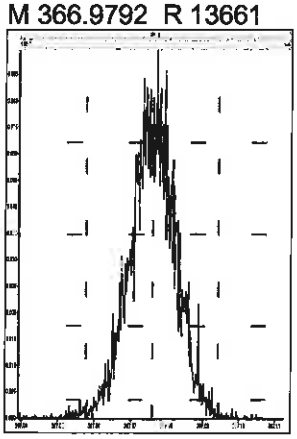

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M 380.9760 R 12789

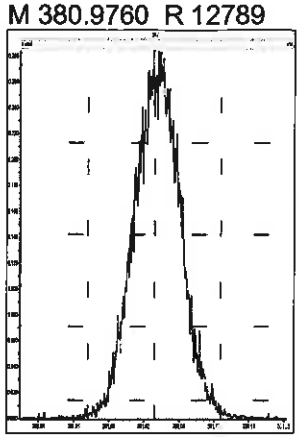

M 392.9760 R 12853

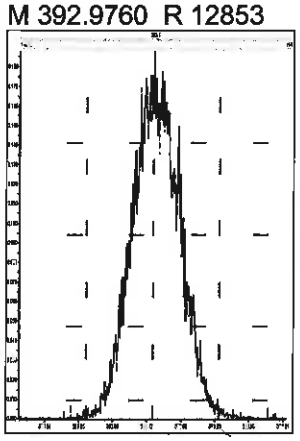

M 404.9760 R 12920

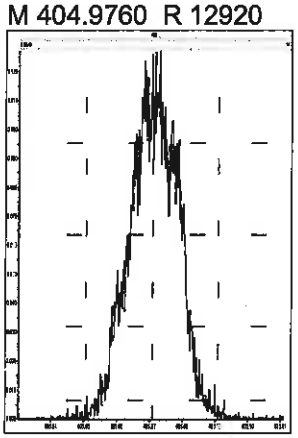

M 416.9760 R 13867

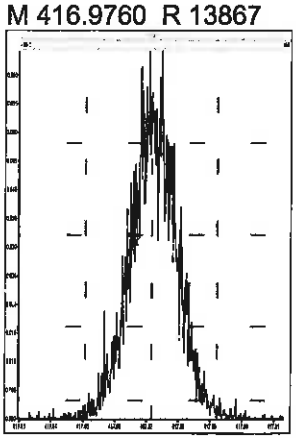

M 366.9792 R 14235

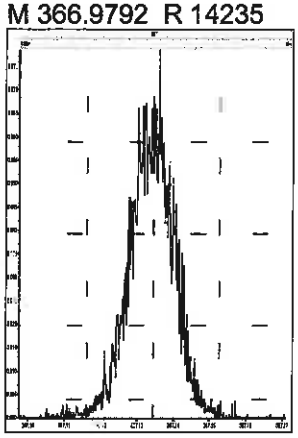

M 380.9760 R 13333

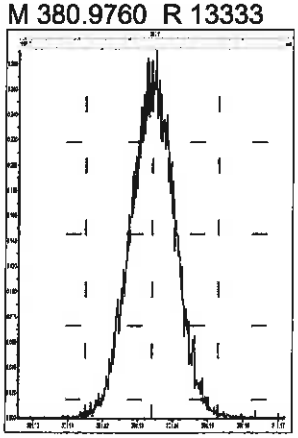

M 392.9760 R 13407

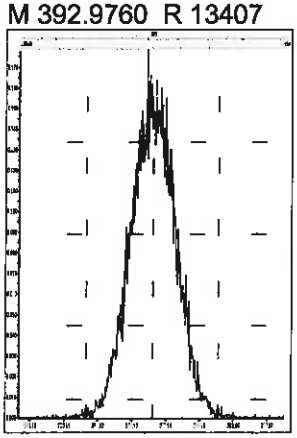

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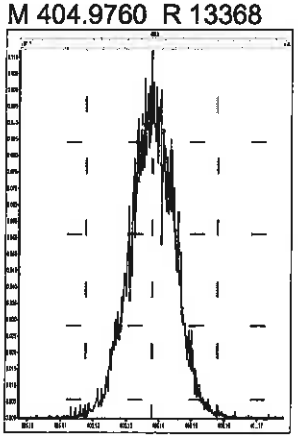

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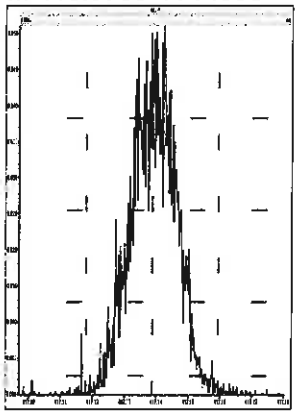

M 430.9728 R 13332

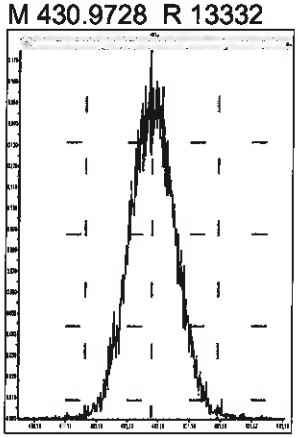

M 442.9728 R 12825

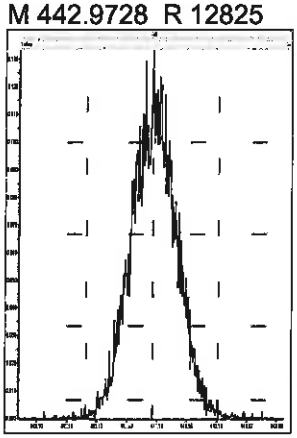

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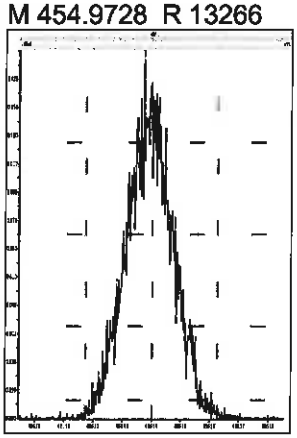

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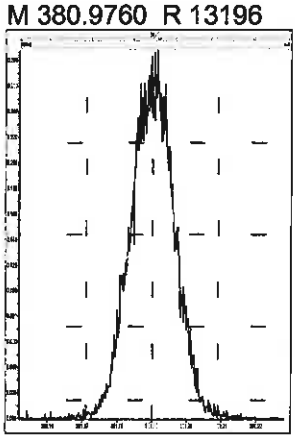

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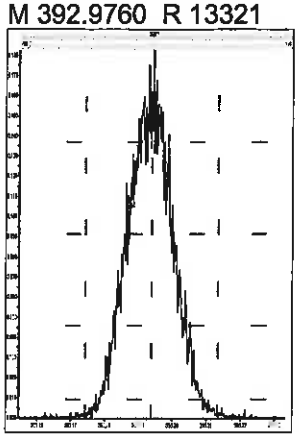

M 404.9760 R 13130

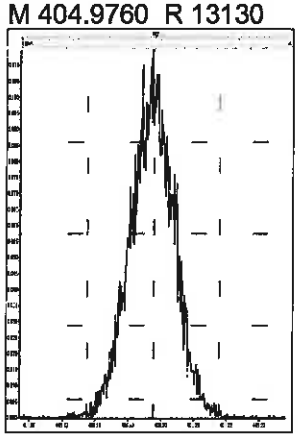

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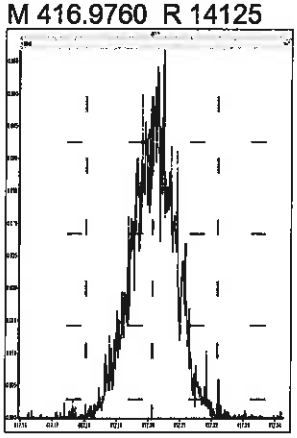

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M 430.9728 R 13187

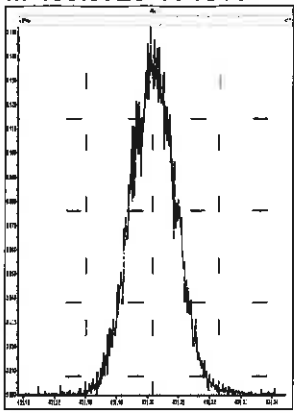

M 442.9728 R 12628

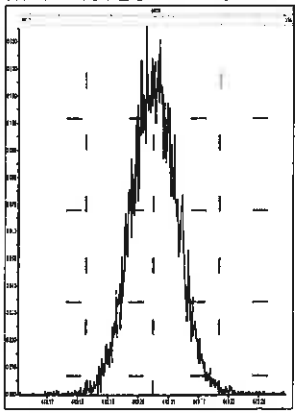

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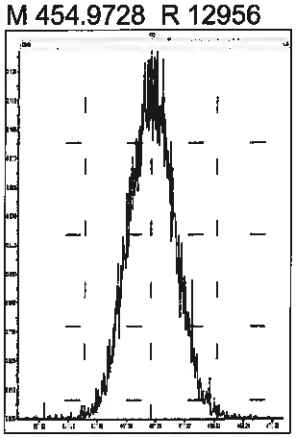

M 466.9728 R 13378

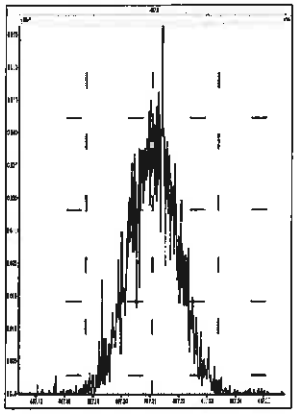

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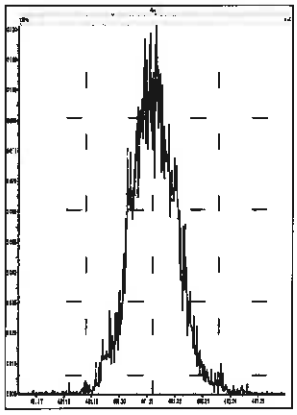

M 380.9760 R 12954

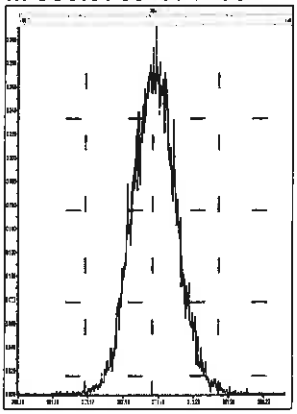

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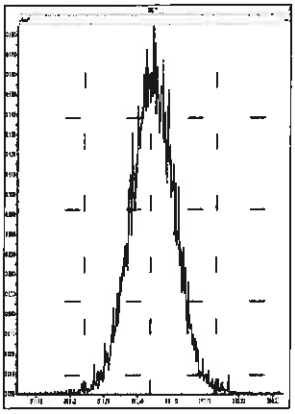

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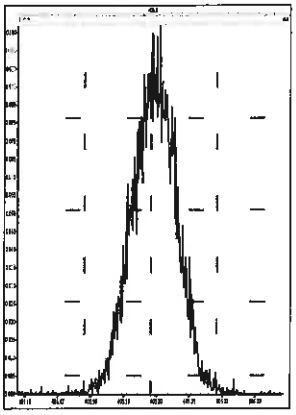

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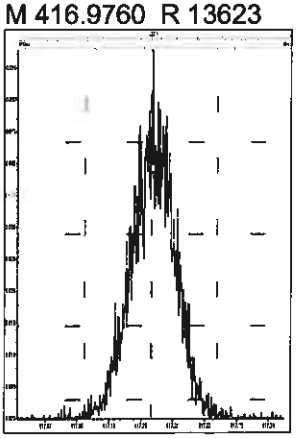

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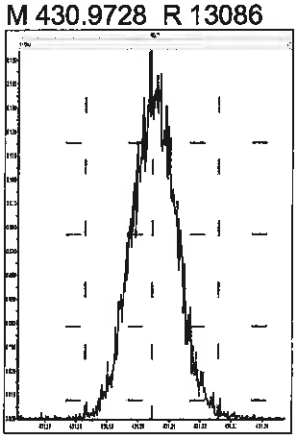

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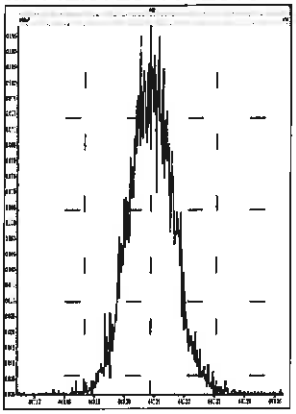

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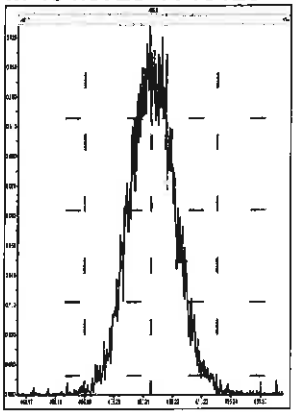

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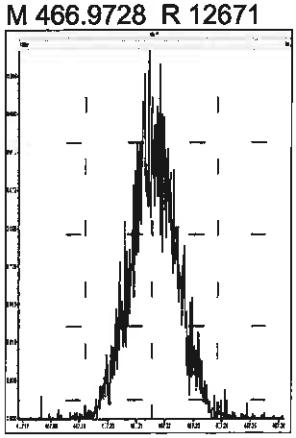

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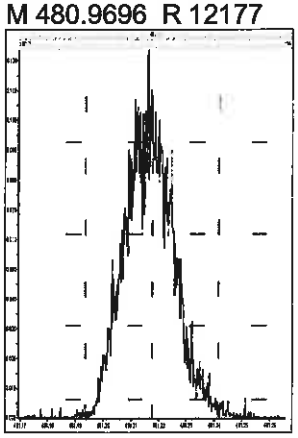

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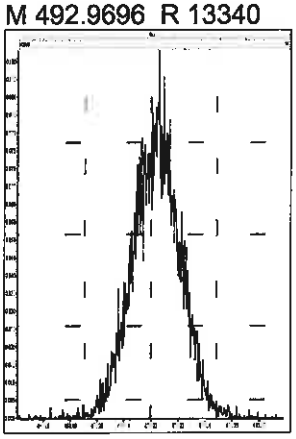

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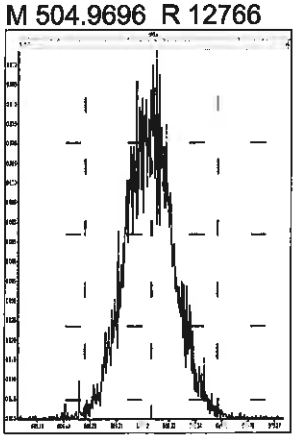

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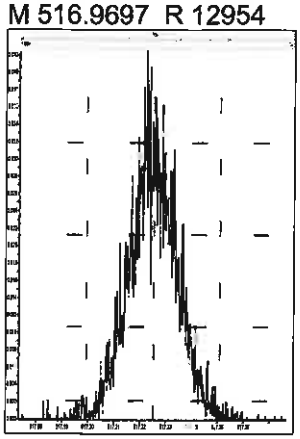

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M 292.9824 R 13297

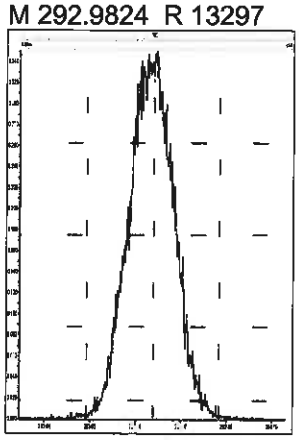

M 304.9824 R 13680

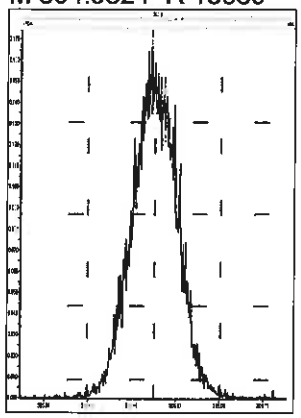

M 318.9792 R 13307

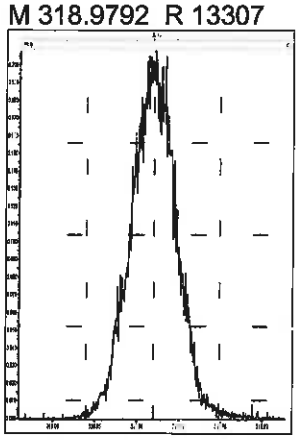

M 330.9792 R 12472

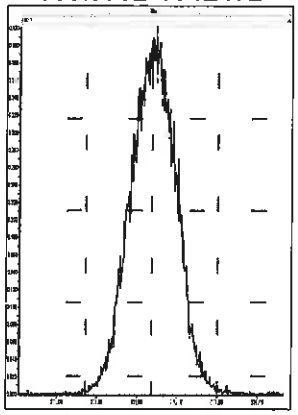

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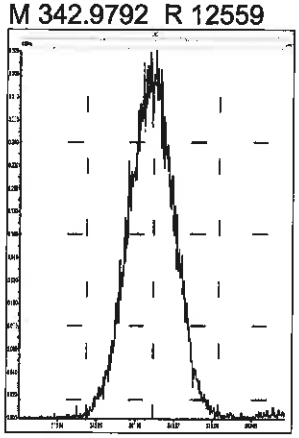

M 354.9792 R 12563

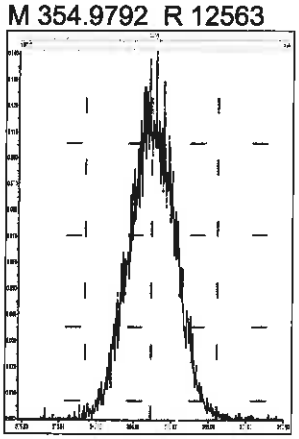

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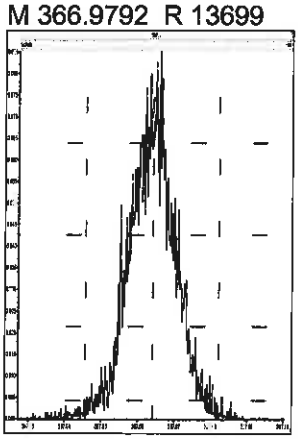

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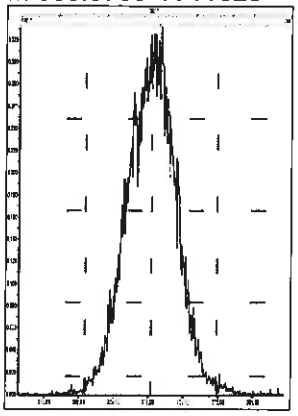

M 392.9760 R 11933

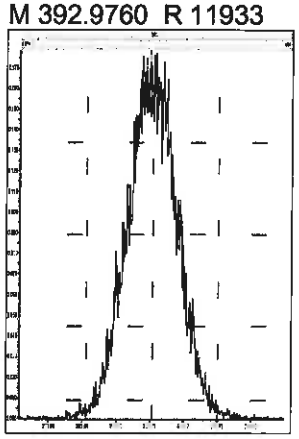

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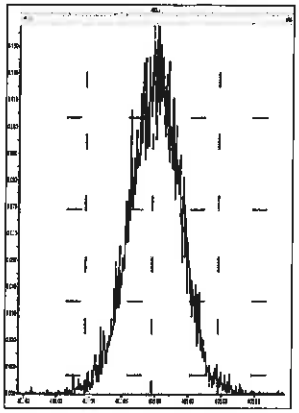

M 416.9760 R 12469

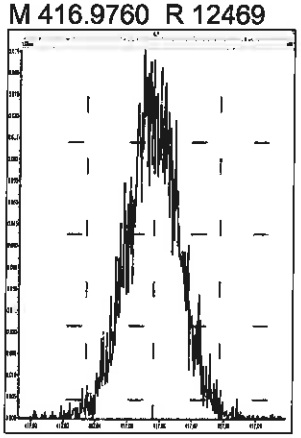

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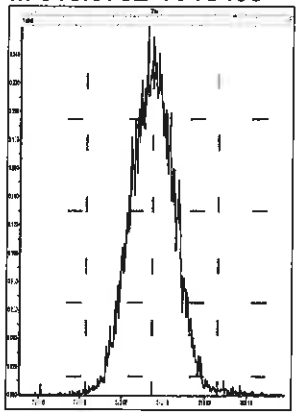

M 330.9792 R 13441

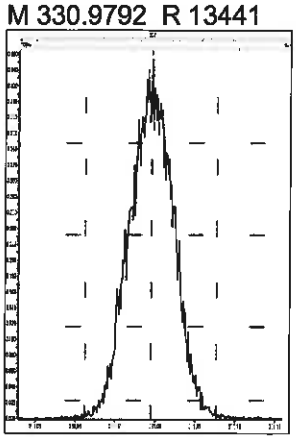

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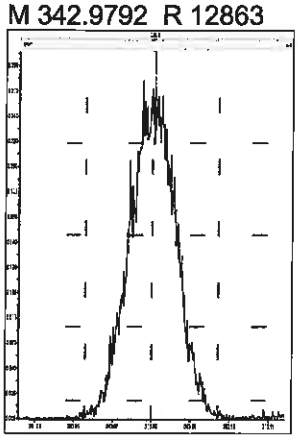

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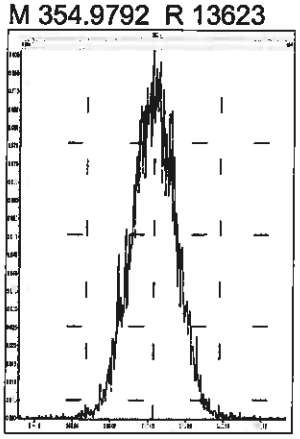

M 366.9792 R 14029

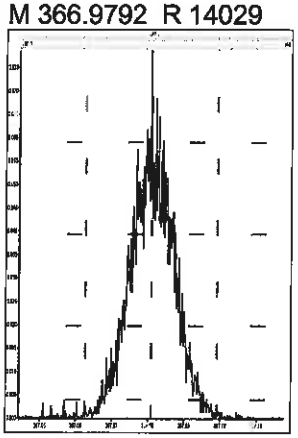

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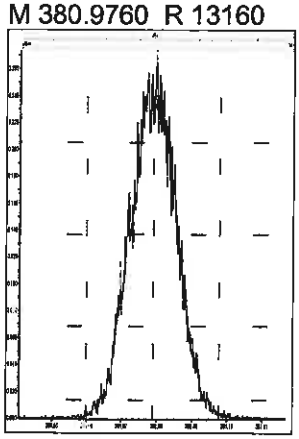

M 392.9760 R 12658

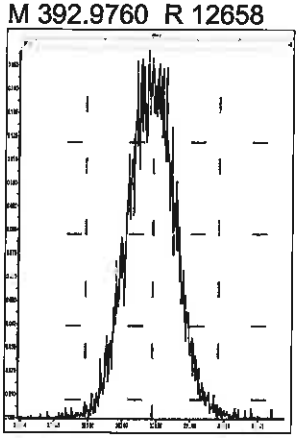

M 404.9760 R 13055

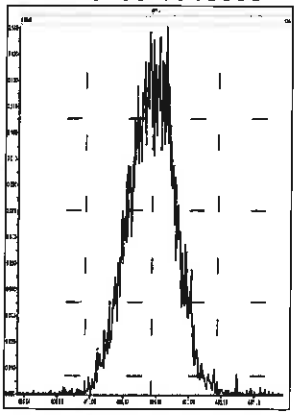

M 416.9760 R 13432

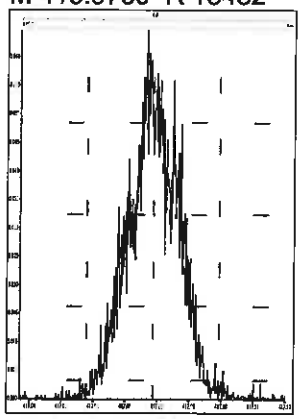

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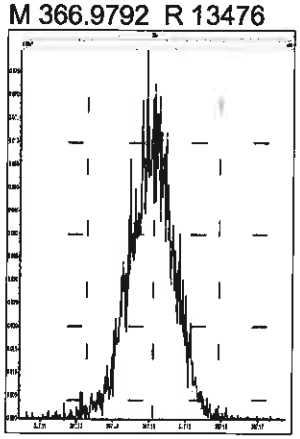

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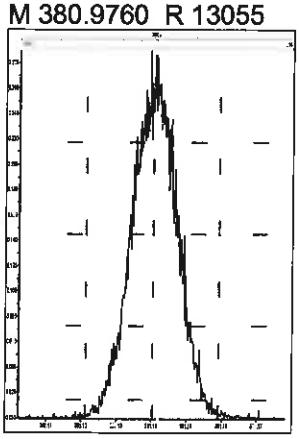

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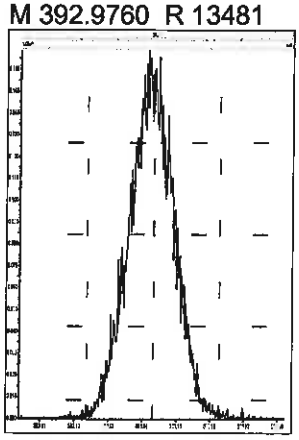

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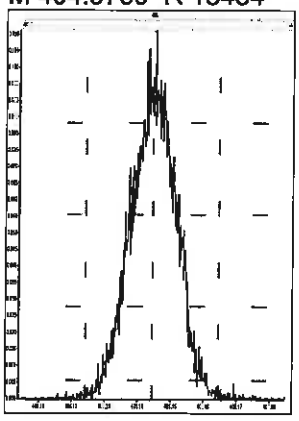

M 416.9760 R 14098

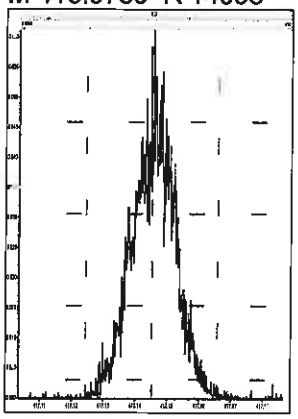

M 430.9728 R 12956

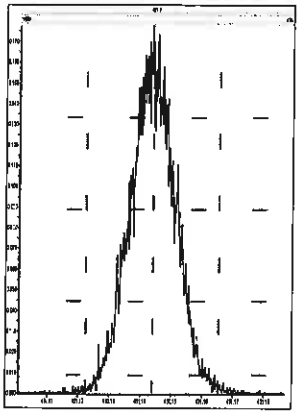

M 442.9728 R 13370

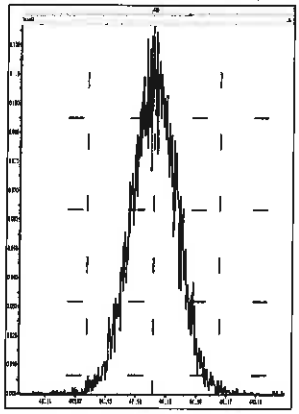

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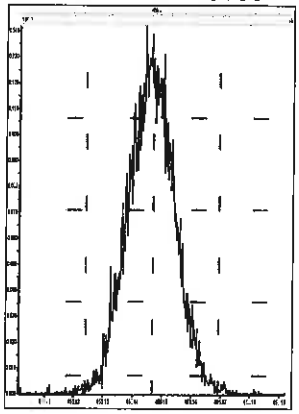

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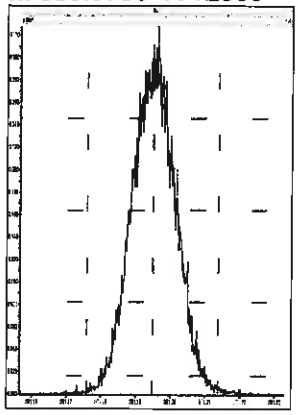

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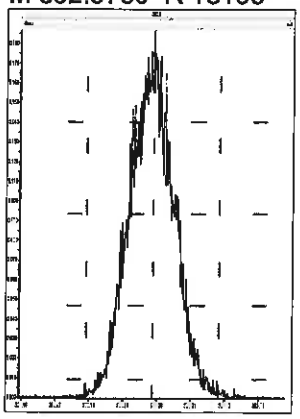

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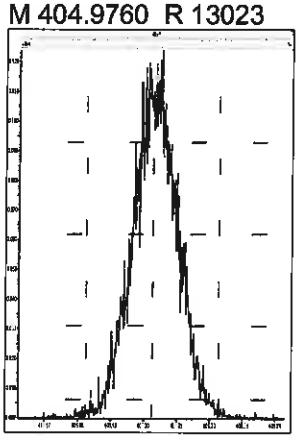

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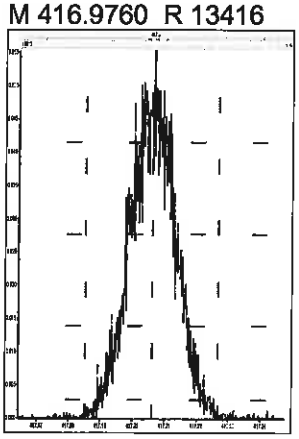

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M 430.9728 R 12820

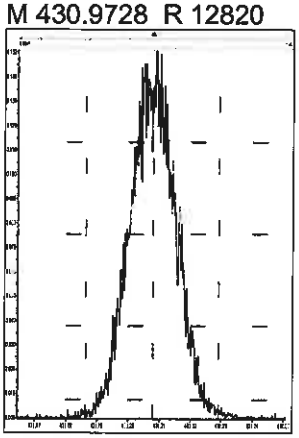

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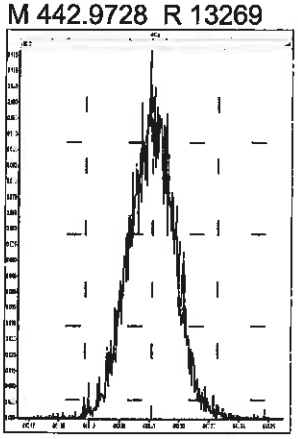

M 454.9728 R 12969

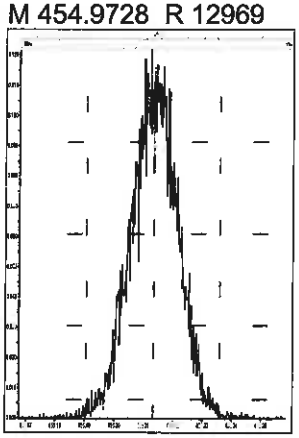

M 466.9728 R 13296

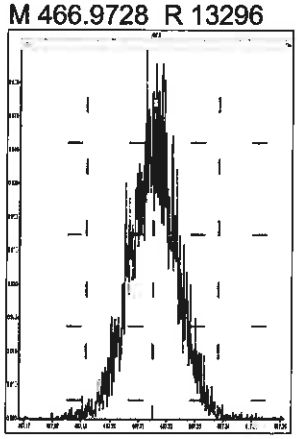

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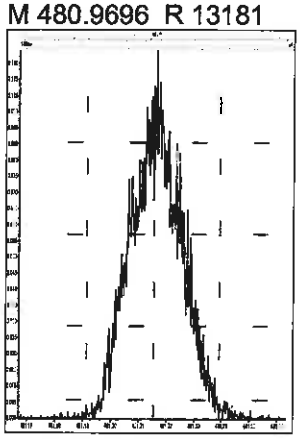

M 380.9760 R 12923

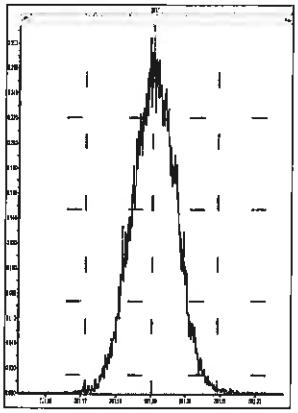

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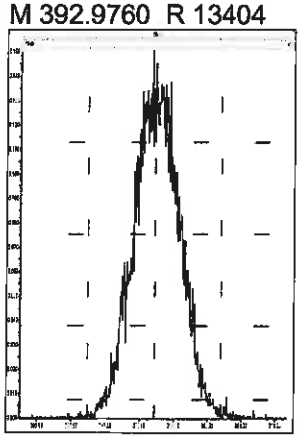

M 404.9760 R 14084

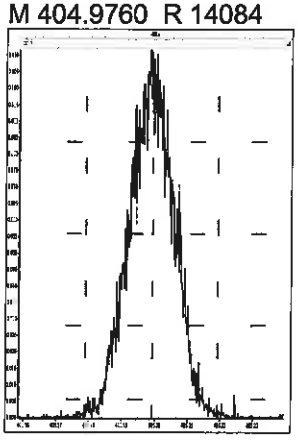

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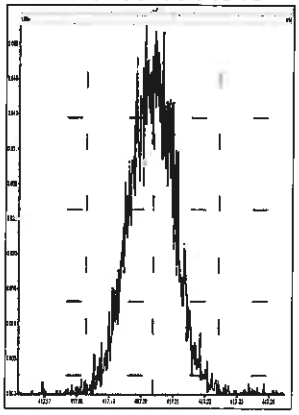

M 430.9728 R 12766

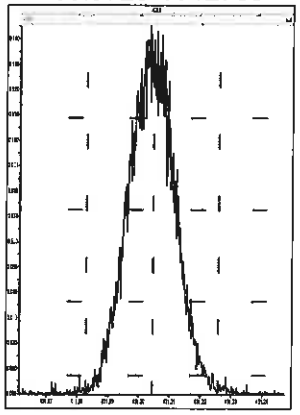

M 442.9728 R 13122

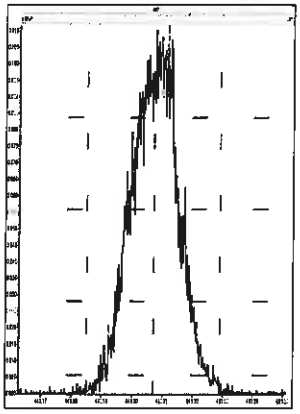

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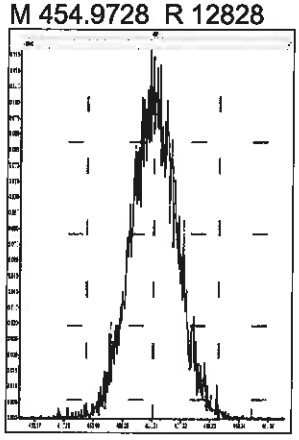

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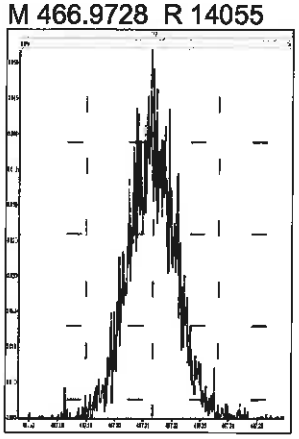

M 480.9696 R 12830

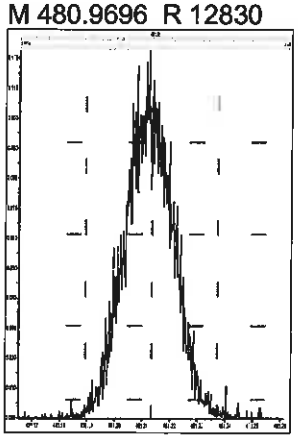

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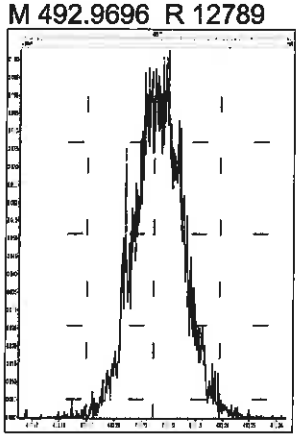

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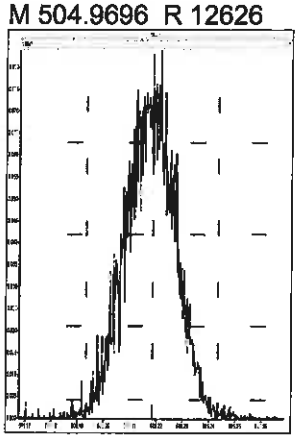

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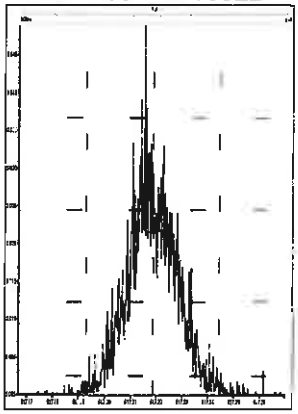

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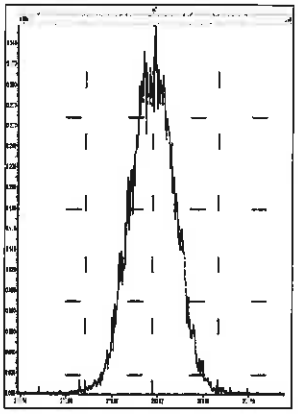

M 304.9824 R 13332

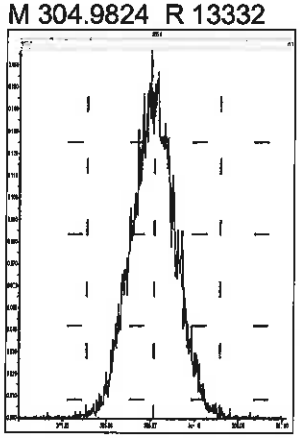

M 318.9792 R 13229

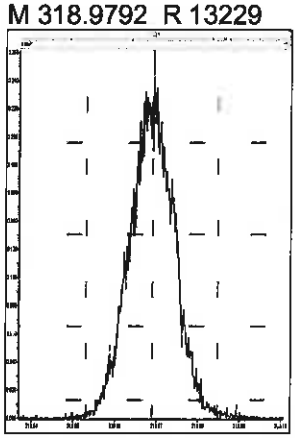

M 330.9792 R 12628

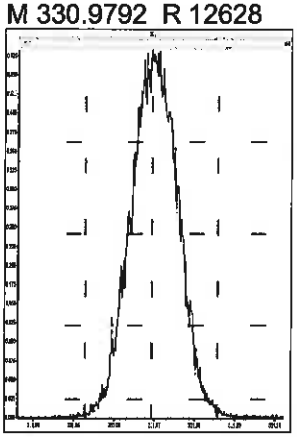

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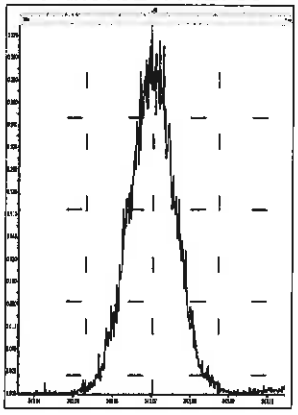

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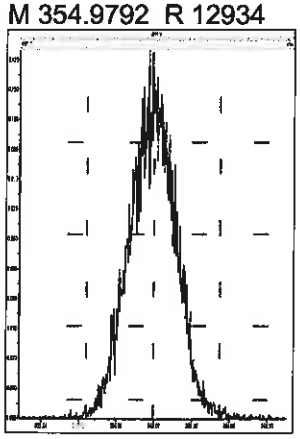

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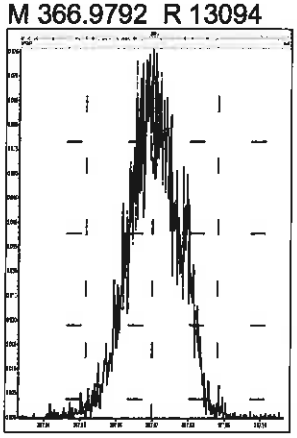

M 380.9760 R 11876

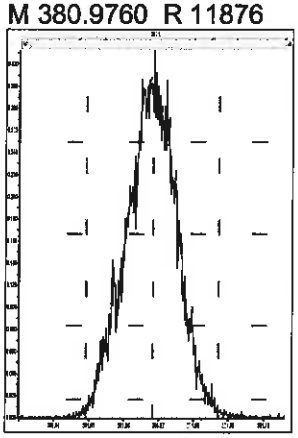

M 392.9760 R 11998

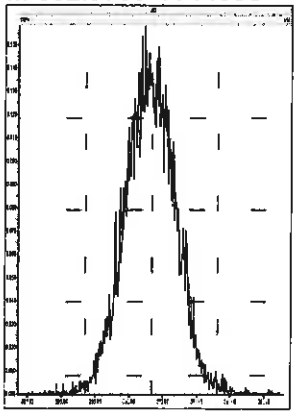

M 404.9760 R 12126

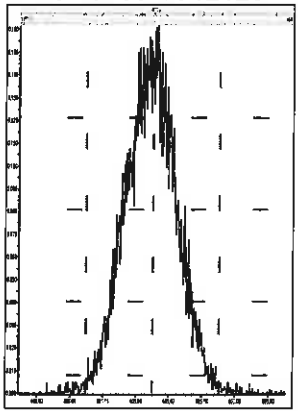

M 416.9760 R 12986

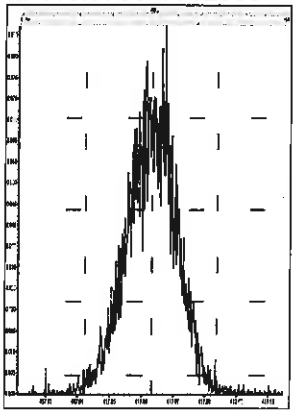

M 318.9792 R 13699

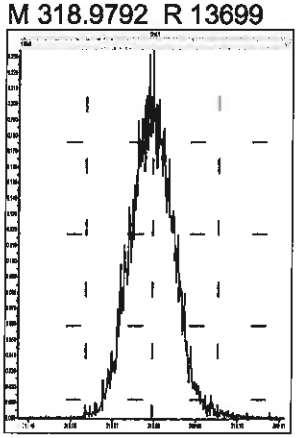

M 330.9792 R 13303

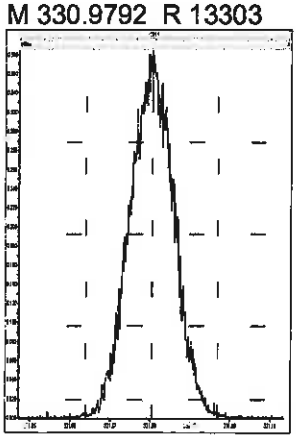

M 342.9792 R 12658

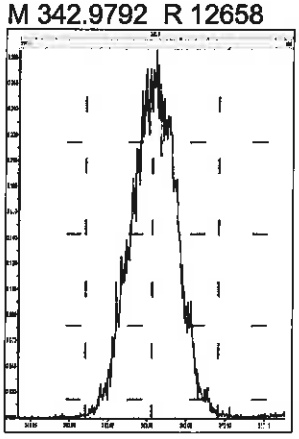

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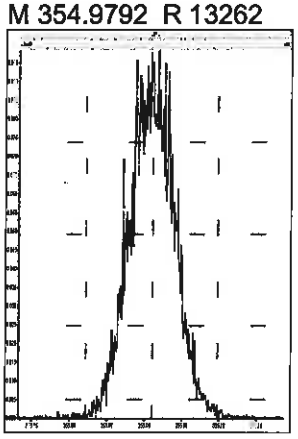

M 366.9792 R 13557

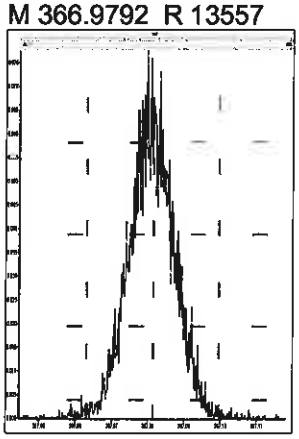

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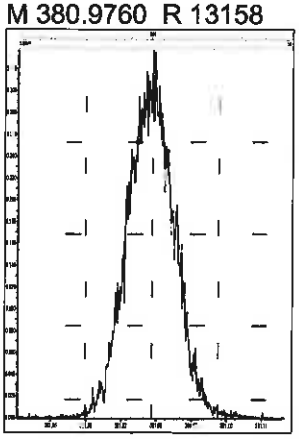

M 392.9760 R 12961

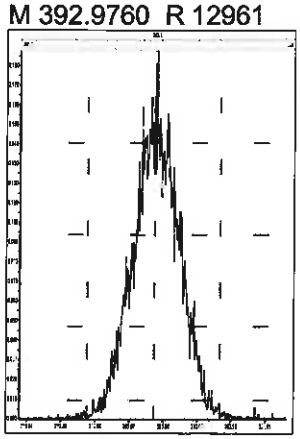

M 404.9760 R 12920

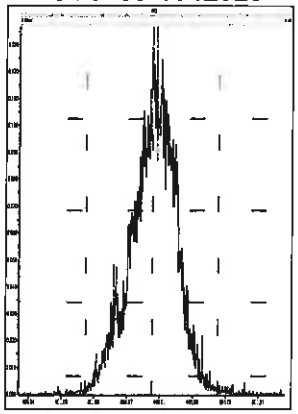

M 416.9760 R 12961

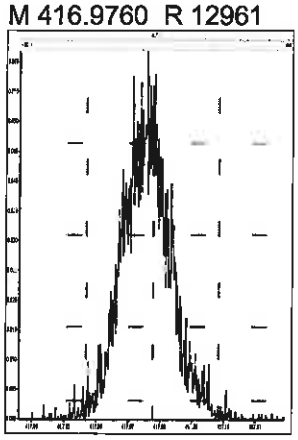

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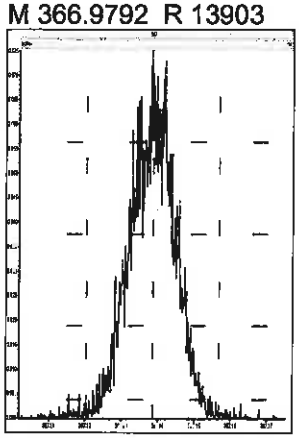

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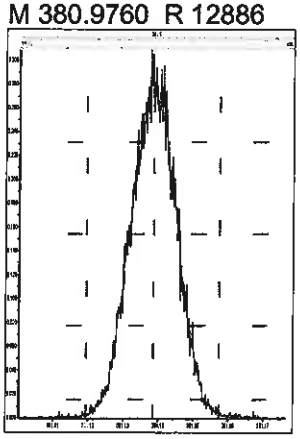

M 392.9760 R 13890

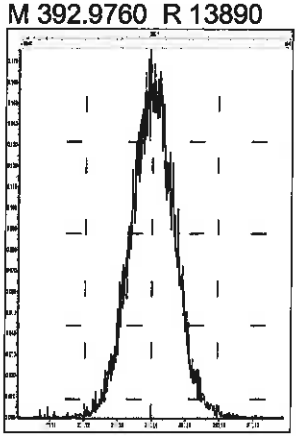

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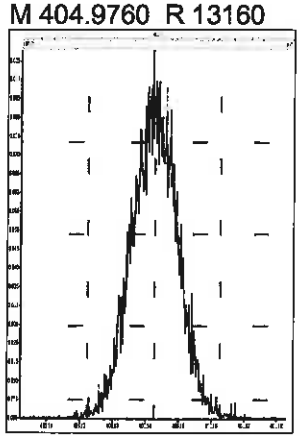

M 416.9760 R 13774

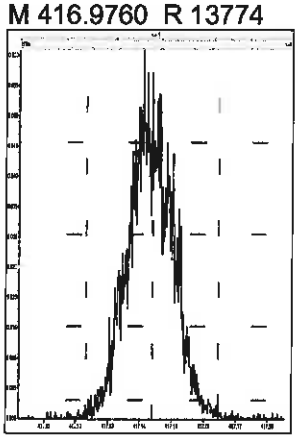

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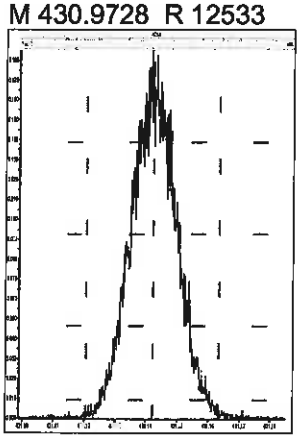

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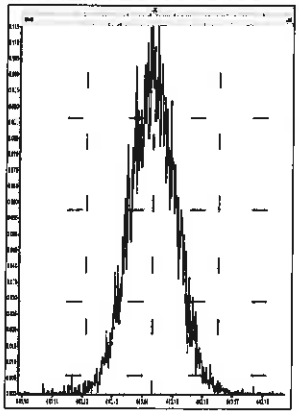

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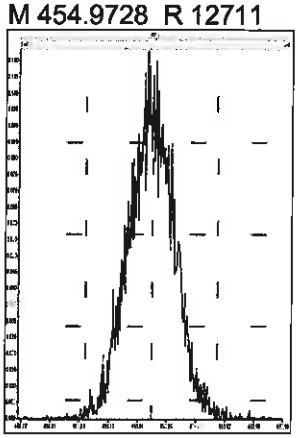

M 380.9760 R 13158

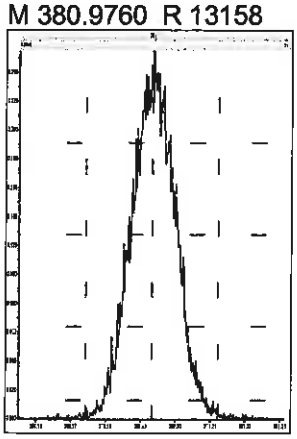

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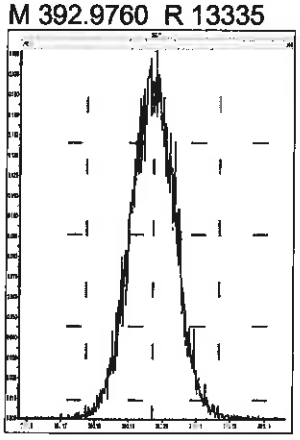

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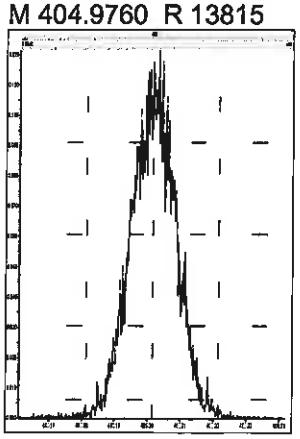

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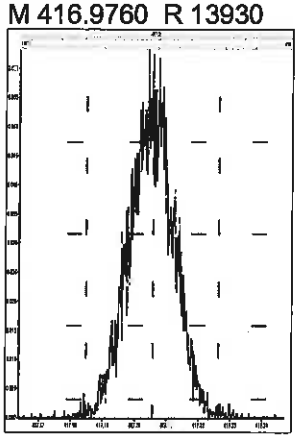

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M 430.9728 R 13021

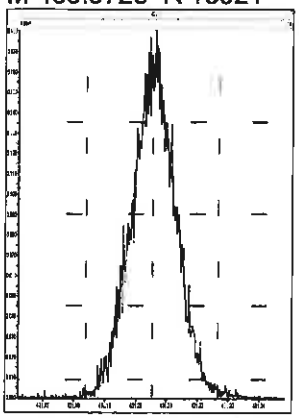

M 442.9728 R 13513

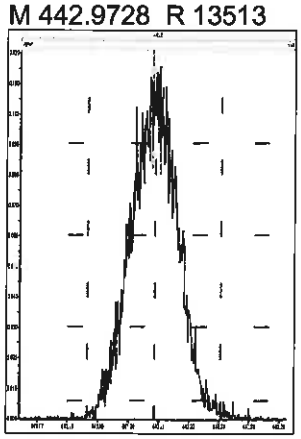

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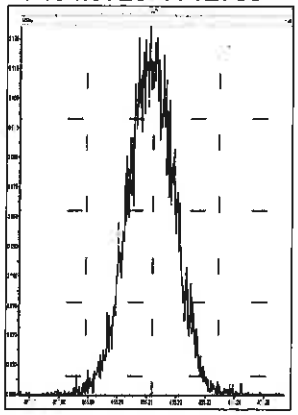

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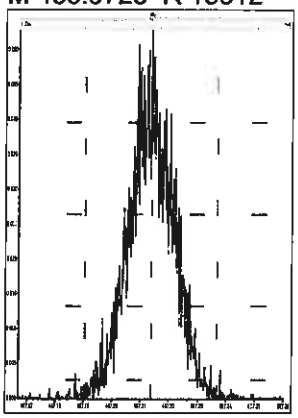

M 480.9696 R 12199

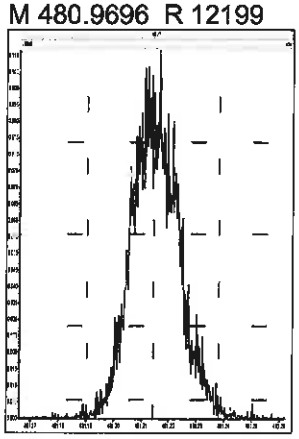

M 380.9760 R 13266

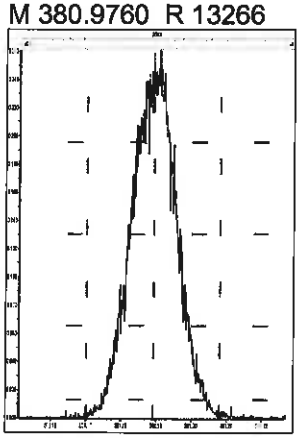

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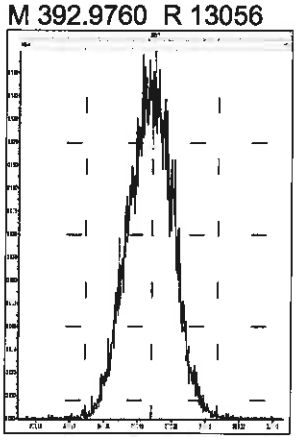

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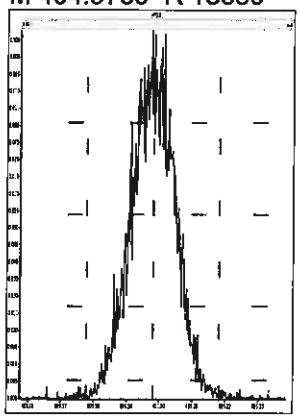

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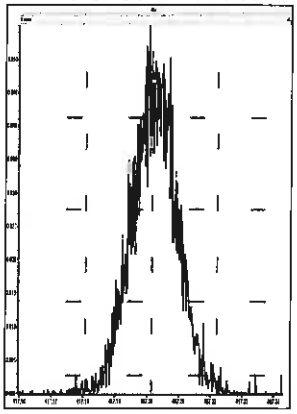

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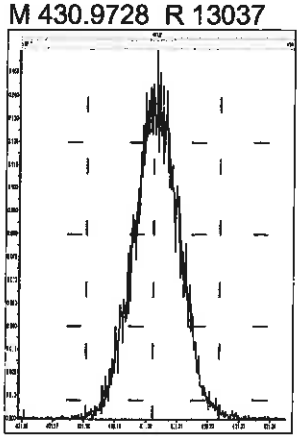

M 442.9728 R 12825

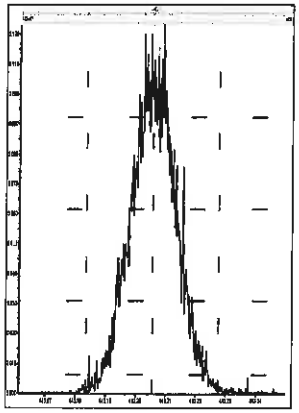

M 454.9728 R 12728

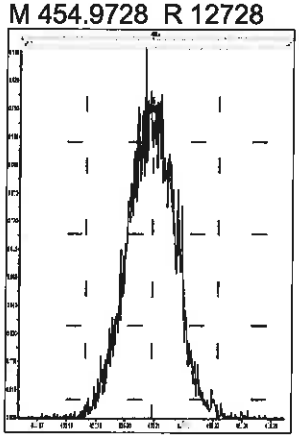

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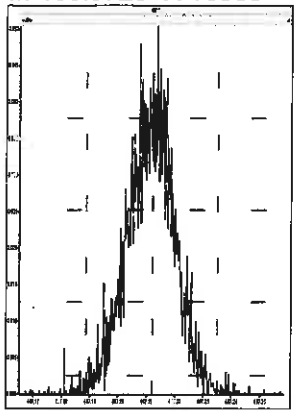

M 480.9696 R 12789

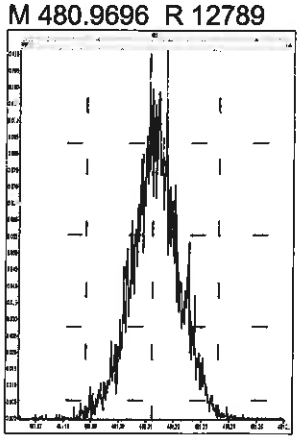

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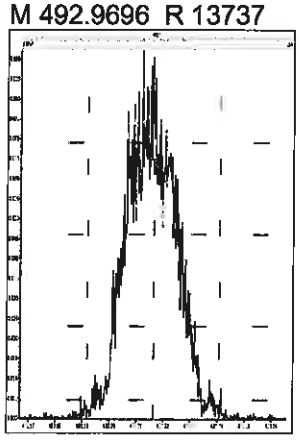

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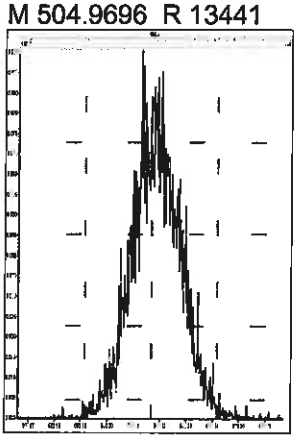

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M 516.9697 R 13897

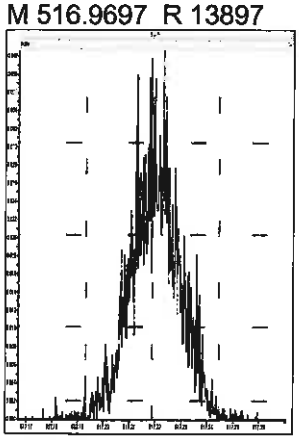

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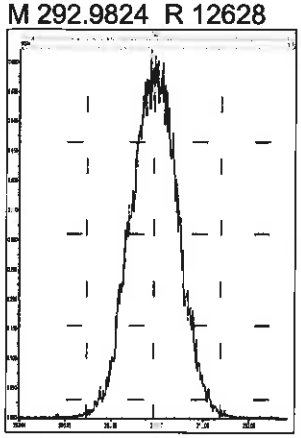

M 304.9824 R 12500

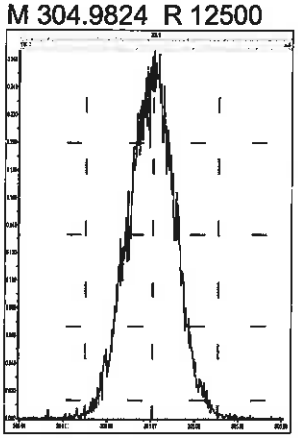

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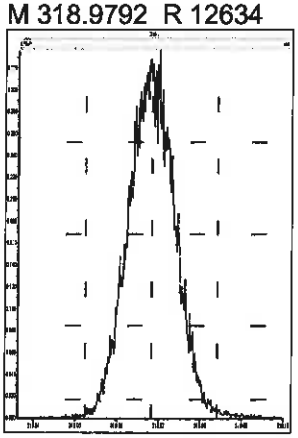

M 330.9792 R 12081

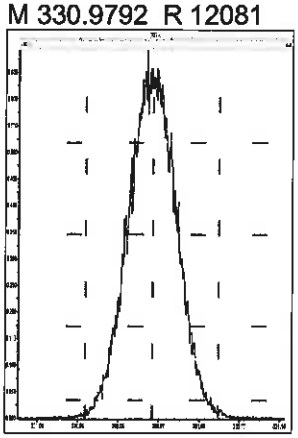

M 342.9792 R 12019

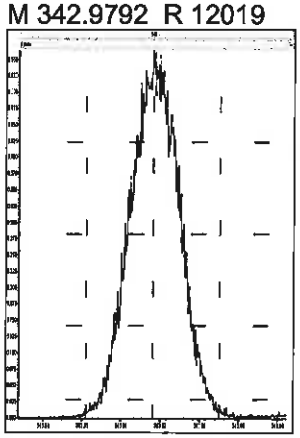

M 354.9792 R 12419

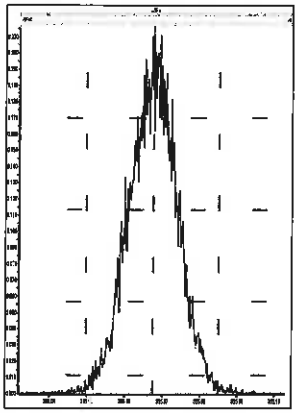

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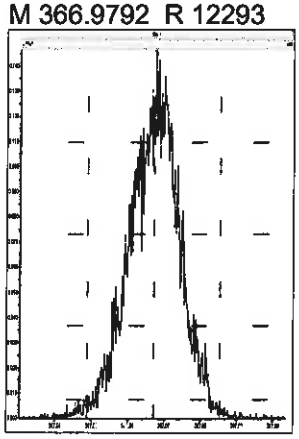

M 380.9760 R 12142

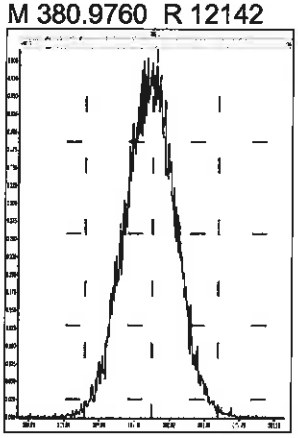

M 392.9760 R 11086

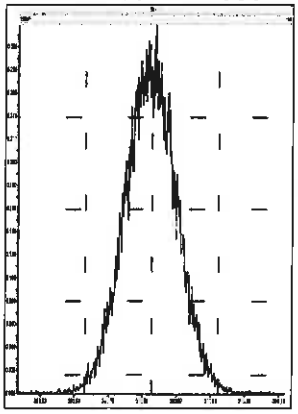

M 404.9760 R 10869

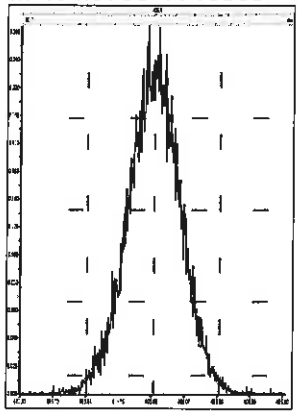

M 416.9760 R 11075

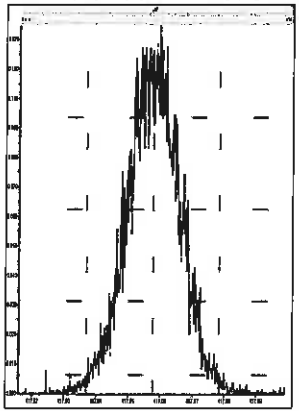

M 318.9792 R 12789

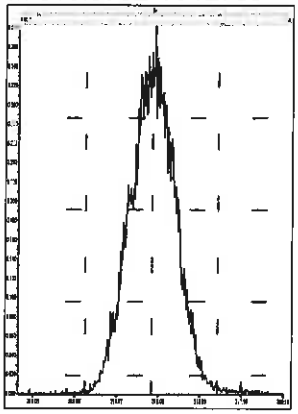

M 330.9792 R 12690

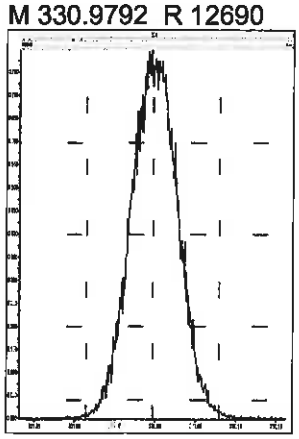

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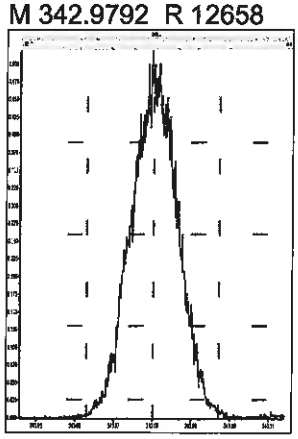

M 354.9792 R 12345

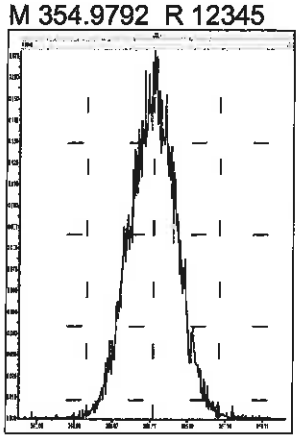

M 366.9792 R 12499

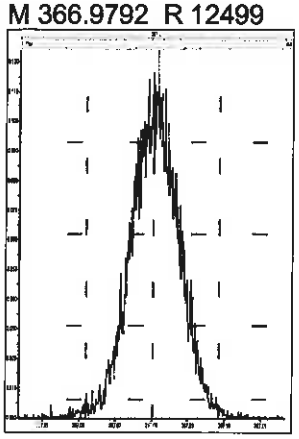

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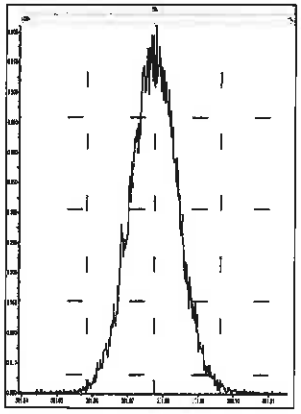

M 392.9760 R 12165

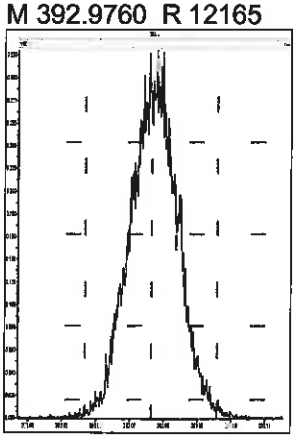

M 404.9760 R 11905

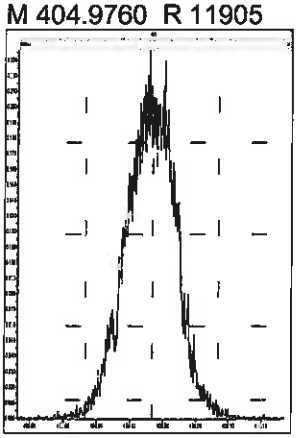

M 416.9760 R 12988

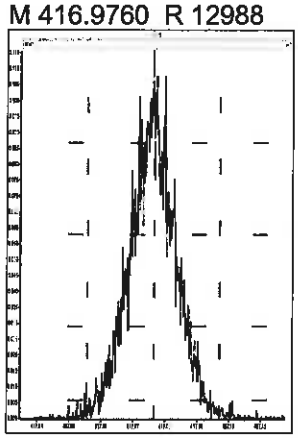

M 366.9792 R 12631

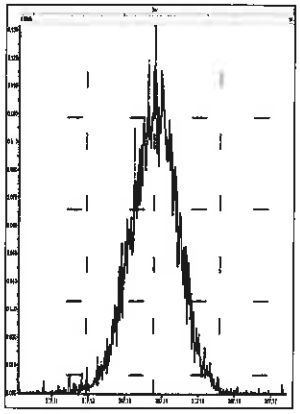

M 380.9760 R 12468

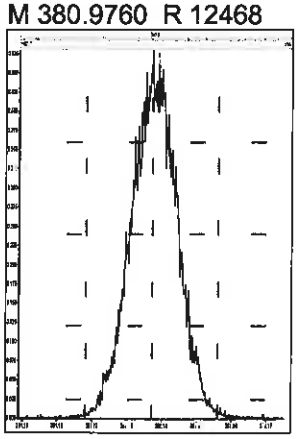

M 392.9760 R 12756

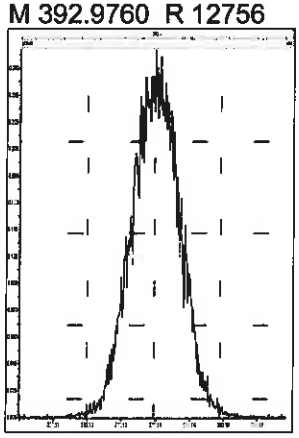

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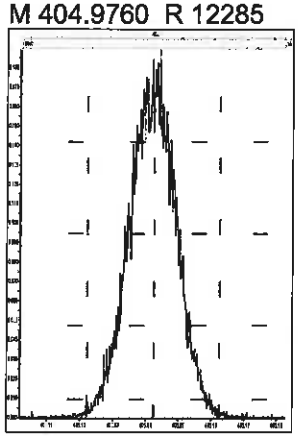

M 416.9760 R 13488

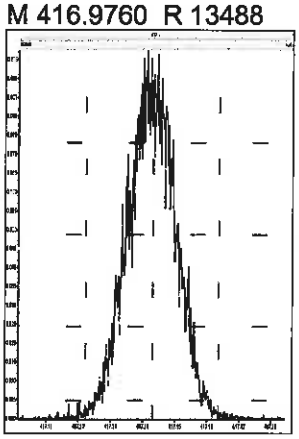

M 430.9728 R 12165

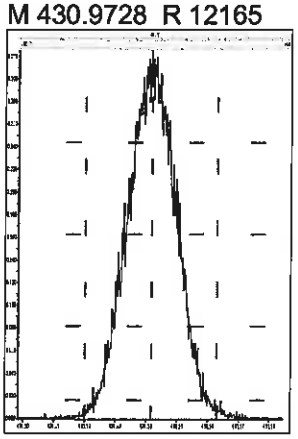

M 442.9728 R 12226

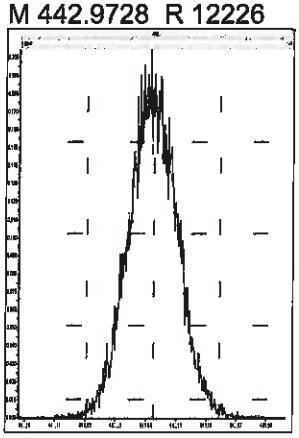

M 454.9728 R 12376

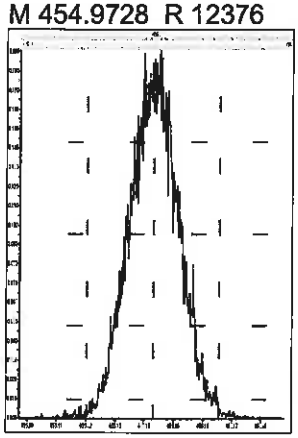

M 380.9760 R 12755

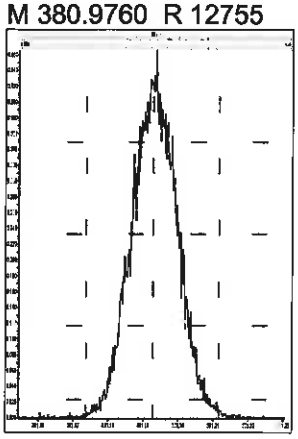

M 392.9760 R 12596

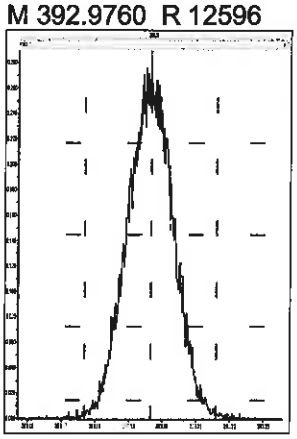

M 404.9760 R 12412

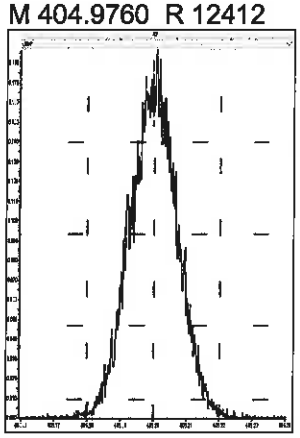

M 416.9760 R 13124

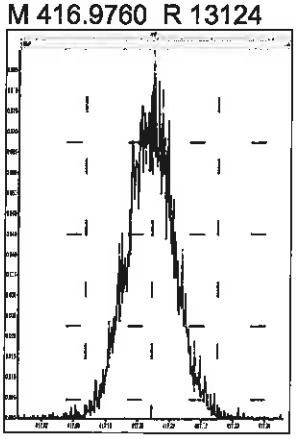

Printed: Friday, September 20, 2019 04:44:43 Pacific Daylight Time

M 430.9728 R 12290

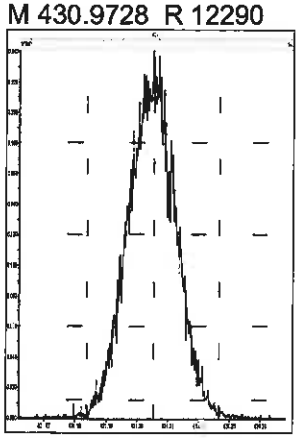

M 442.9728 R 12255

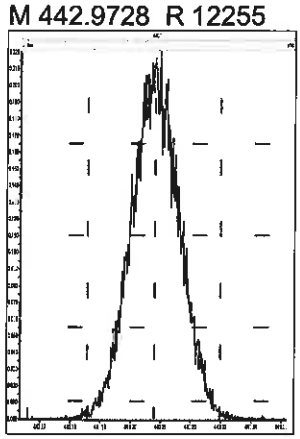

M 454.9728 R 12196

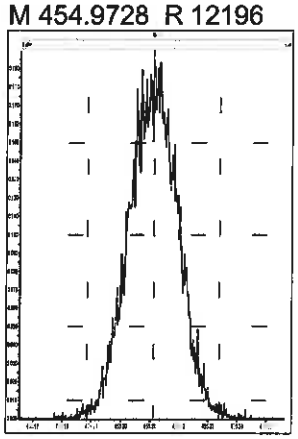

M 466.9728 R 13058

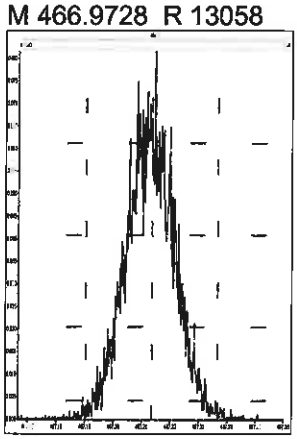

M 480.9696 R 11520

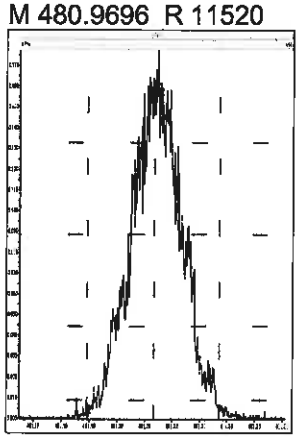

M 380.9760 R 12136

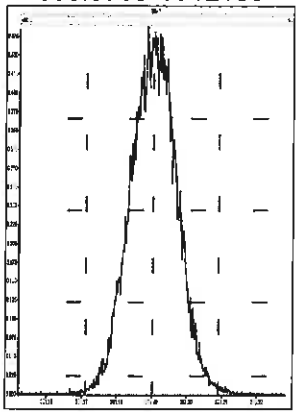

M 392.9760 R 12722

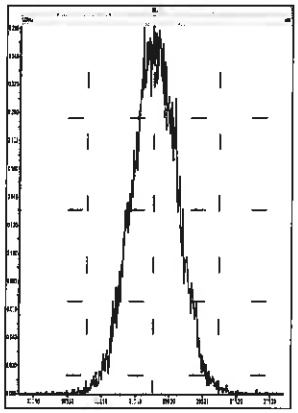

M 404.9760 R 12788

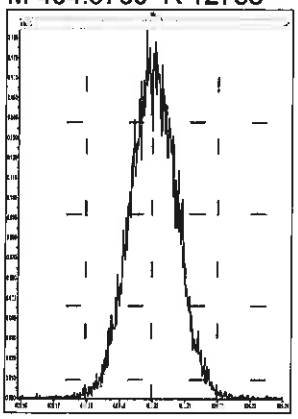

M 416.9760 R 12607

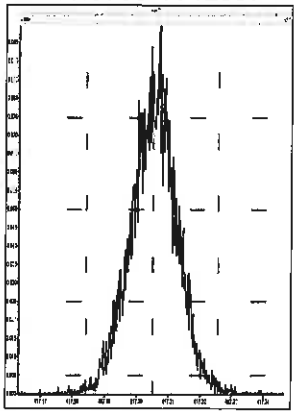

M 430.9728 R 12315

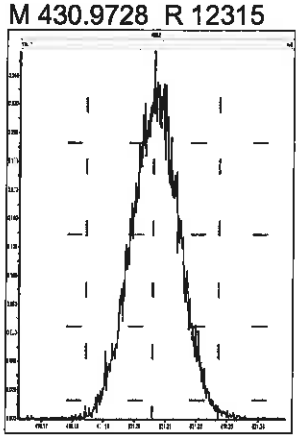

M 442.9728 R 12454

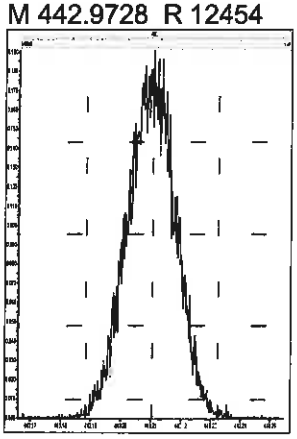

M 454.9728 R 12468

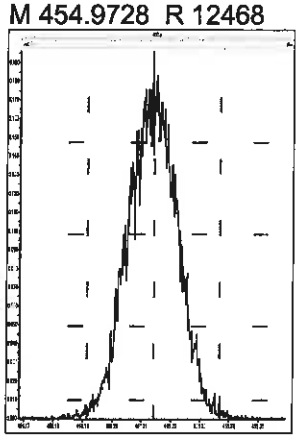

M 466.9728 R 12664

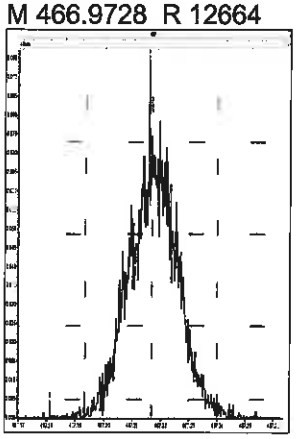

M 480.9696 R 11547

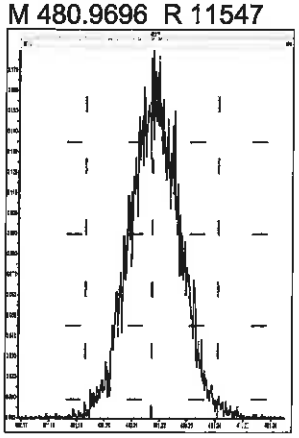

M 492.9696 R 12438

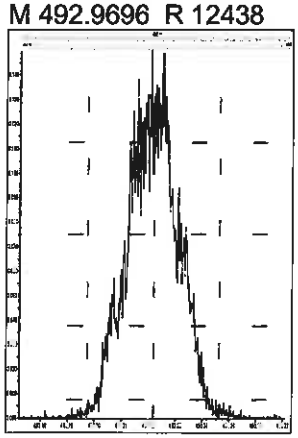

M 504.9696 R 11552

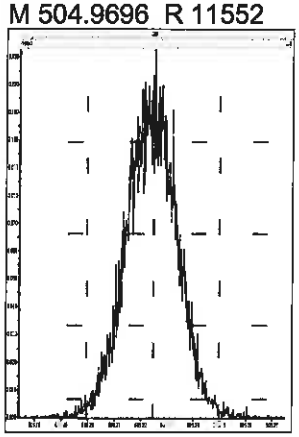

Printed: Friday, September 20, 2019 04:44:43 Pacific Daylight Time

M 516.9697 R 12077

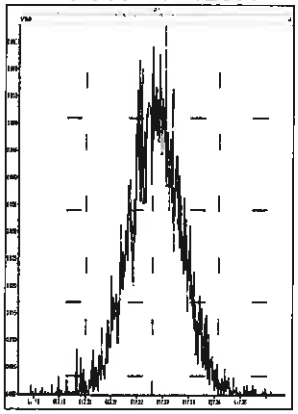

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_40.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 19-Sep-2019 17:18:44 ALS Bottle#: 2 Worklist Smp#: 40
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 091819C CS-4 HRDXNL4_00084
Misc. Info.: 18SE1910D5
Operator ID: SMA, ALM Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 20-Sep-2019 09:55:53 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0314

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.285	52342967	0.77	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.786	73602064	0.79	1.4384	97.8	97.8	0.2632	0.2632	97.76	
2,3,7,8-TCDF	16.801	7233717	0.77	1.0507	9.354	9.354	0.0364	0.0364	93.54	
A Non-2,3,7,8-sub-TCDF	16.514						0.0364	0.0364		
S Total TCDF					9.354	9.354	0.0364	0.0364		
D 13C-2,3,7,8-TCDD	17.466	48382258	0.77	0.9533	97.0	97.0	0.1774	0.1774	96.96	
2,3,7,8-TCDD	17.481	4968695	0.79	1.1064	9.282	9.282	0.0295	0.0295	92.82	
$ 37Cl4-2,3,7,8-TCDD	17.481	4853197		1.2224	7.585	7.585	0.0158	0.0158	94.81	
A Non-2,3,7,8-sub-TCDD	16.952						0.0295	0.0295		
S Total TCDD					9.282	9.282	0.0295	0.0295		
D 13C-1,2,3,7,8-PeCDF	21.604	50903518	1.61	1.0286	94.5	94.5	0.2522	0.2522	94.54	
1,2,3,7,8-PeCDF	21.631	26661350	1.58	1.0822	48.4	48.4	0.2004	0.2004	96.79	
D 13C-2,3,4,7,8-PeCDF	22.900	50186847	1.61	0.9827	97.6	97.6	0.2640	0.2640	97.57	
2,3,4,7,8-PeCDF	22.927	26616595	1.59	1.1032	48.1	48.1	0.2076	0.2076	96.15	
A F1 PeCDFs	19.205						0.0188	0.0188		
A Non-2,3,7,8-sub-PeCDF	22.219						0.2039	0.2039		Rn
S Total PeCDF					96.5	96.5	0.2040	0.2040		
D 13C-1,2,3,7,8-PeCDD	23.595	37869929	1.57	0.7481	96.7	96.7	0.1552	0.1552	96.71	
1,2,3,7,8-PeCDD	23.622	16133520	1.57	0.9050	47.1	47.1	0.0903	0.0903	94.15	
A Non-2,3,7,8-sub-PeCDD	22.559						0.0903	0.0903		
S Total PeCDD					47.1	47.1	0.0903	0.0903		
D 13C-1,2,3,4,7,8-HxCDF	29.709	40200235	0.51	1.1520	98.8	98.8	0.6076	0.6076	98.79	
1,2,3,4,7,8-HxCDF	29.749	23582578	1.25	1.1973	49.0	49.0	0.4973	0.4973	97.99	
D 13C-1,2,3,6,7,8-HxCDF	29.975	45499259	0.51	1.2434	103.6	103.6	0.5629	0.5629	104	
1,2,3,6,7,8-HxCDF	30.002	25857757	1.28	1.1807	48.1	48.1	0.4101	0.4101	96.27	
D 13C-2,3,4,6,7,8-HxCDF	31.013	40676514	0.52	1.1720	98.3	98.3	0.5973	0.5973	98.26	
2,3,4,6,7,8-HxCDF	31.040	24306713	1.25	1.2116	49.3	49.3	0.3031	0.3031	98.64	
D 13C-1,2,3,7,8,9-HxCDF	31.919	37118497	0.52	1.0655	98.6	98.6	0.6570	0.6570	98.63	
1,2,3,7,8,9-HxCDF	31.945	22354531	1.29	1.2451	48.4	48.4	0.2985	0.2985	96.74	
A Non-2,3,7,8-sub-HxCDF	29.503						0.3613	0.3613		
S Total HxCDF					194.8	194.8	0.3772	0.3772		

Report Date: 20-Sep-2019 09:55:53 Chrom Revision: 2.3 17-Sep-2019 16:19:08
Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_40.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.732	35323824	1.29	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.240	27044372	1.26	0.7812	98.0	98.0	0.4211	0.4211	98.00	
1,2,3,4,7,8-HxCDD	31.253	14529498	1.29	1.1088	48.5	48.5	0.2176	0.2176	96.91	
D 13C-1,2,3,6,7,8-HxCDD	31.360	33064887	1.28	0.9175	102.0	102.0	0.3586	0.3586	102	
1,2,3,6,7,8-HxCDD	31.373	17175199	1.26	1.0814	48.0	48.0	0.1954	0.1954	96.07	
1,2,3,7,8,9-HxCDD	31.746	17151004	1.23	1.2123	47.1	47.1	0.1858	0.1858	94.14	
A Non-2,3,7,8-sub-HxCDD	30.089						0.1986	0.1986		
S Total HxCDD					143.6	143.6	0.1996	0.1996		
D 13C-1,2,3,4,6,7,8-HpCDF	33.447	28070791	0.45	0.8628	92.1	92.1	1.941	1.941	92.11	
1,2,3,4,6,7,8-HpCDF	33.459	20698344	1.06	1.5555	47.4	47.4	0.8569	0.8569	94.80	
D 13C-1,2,3,4,7,8,9-HpCDF	34.492	24924883	0.46	0.7991	88.3	88.3	2.095	2.095	88.31	
1,2,3,4,7,8,9-HpCDF	34.492	17513063	1.05	1.3862	50.7	50.7	1.183	1.183	101	
A Non-2,3,7,8-sub-HpCDF	33.982						1.000	1.000		
S Total HpCDF					98.1	98.1	1.020	1.020		
D 13C-1,2,3,4,6,7,8-HpCDD	34.213	28352041	1.01	0.8739	91.8	91.8	1.848	1.848	91.85	
1,2,3,4,6,7,8-HpCDD	34.225	12879706	1.05	0.9316	48.8	48.8	0.3770	0.3770	97.53	
A Non-2,3,7,8-sub-HpCDD	34.747						0.3770	0.3770		
S Total HpCDD					48.8	48.8	0.3770	0.3770		
D 13C-OCDD	36.469	45092894	0.89	0.7744	164.9	164.9	0.4677	0.4677	82.43	
OCDF	36.565	28046650	0.90	1.2596	98.8	98.8	0.2445	0.2445	98.76	
OCDD	36.481	22957329	0.89	1.0621	95.9	95.9	0.2551	0.2551	95.87	

Reagents:

HRDXNL4_00084 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_40.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 19-Sep-2019 17:18:44 ALS Bottle#: 2 Worklist Smp#: 40
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV 091819C CS-4 HRDXNL4_00084
Misc. Info.: 18SE1910D5
Operator ID: SMA, ALM Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 20-Sep-2019 09:55:53 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0314

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.285	17.285	0		22773288	5964716	4928	12320	1210		
333.9339	17.285	17.285	0		29569679	7642611	4278	10695	1786	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.786	16.786	0	0.971	32589598	8519111	6875	17187	1239		
317.9389	16.786	16.786	0	0.971	41012466	10675259	13733	34332	777	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.801	16.801	0	1.001	3139120	816920	1725	4312	474		
305.8987	16.801	16.801	0	1.001	4094597	1068609	1213	3032	881	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.514						1725	4312			
305.8987	16.514						1213	3032			
13C-2,3,7,8-TCDD											
331.9368	17.466	17.466	0	1.010	21028319	5138476	4928	12320	1043		
333.9339	17.466	17.466	0	1.010	27353939	6667672	4278	10695	1559	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.481	17.481	0	1.001	2191113	523474	837	2092	625		
321.8936	17.481	17.481	0	1.001	2777582	673776	705	1762	956	0.79(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.481	17.481	0	1.011	4853197	1195999	1051	2627	1138		
A Non-2,3,7,8-sub-TCDD											
319.8965	16.952						837	2092			
321.8936	16.952						705	1762			
13C-1,2,3,7,8-PeCDF											
351.9000	21.604	21.604	0	1.250	31415025	5640712	8494	21235	664		
353.8970	21.618	21.604	1	1.251	19488493	3471423	5625	14062	617	1.61(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	21.631	21.631	0	1.001	16322684	2974919	4607	11517	646		
341.8567	21.631	21.631	0	1.001	10338666	1917666	3297	8242	582	1.58(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	22.900	22.900	0	1.325	30969751	5277515	8494	21235	621		
353.8970	22.900	22.900	0	1.325	19217096	3351777	5625	14062	596	1.61(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.927	22.927	0	1.001	16343498	2828820	4607	11517	614		
341.8567	22.927	22.927	0	1.001	10273097	1775104	3297	8242	538	1.59(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.205						191	477			
341.8567	19.205						539	1347			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.149	22.226	-5	1.025	207251	27793	4607	11517	6		
341.8567	22.136	22.226	-5	1.025	96188	12921	3297	8242	4	2.15(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.595	23.595	0	1.365	23127117	3797564	3862	9655	983		
369.8919	23.595	23.595	0	1.365	14742812	2385613	2458	6145	971	1.57(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.622	23.622	0	1.001	9846565	1571715	1243	3107	1264		
357.8516	23.622	23.622	0	1.001	6286955	988934	779	1947	1269	1.57(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.559						1243	3107			
357.8516	22.559						779	1947			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.709	29.709	0	0.936	13663570	1831925	7360	18400	249		
385.8610	29.709	29.709	0	0.936	26536665	3540039	14823	37057	239	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.749	29.749	0	1.001	13095931	1764053	7061	17652	250		
375.8178	29.749	29.749	0	1.001	10486647	1407308	5733	14332	245	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.975	29.975	0	0.945	15445260	2172972	7360	18400	295		
385.8610	29.975	29.975	0	0.945	30053999	4433552	14823	37057	299	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.002	30.002	0	1.001	14520148	2132412	7061	17652	302		
375.8178	30.002	30.002	0	1.001	11337609	1668620	5733	14332	291	1.28(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.013	31.013	0	0.977	13846278	2968200	7360	18400	403		
385.8610	31.013	31.013	0	0.977	26830236	5742624	14823	37057	387	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.040	31.040	0	1.001	13511020	2913418	7061	17652	413		
375.8178	31.040	31.040	0	1.001	10795693	2323454	5733	14332	405	1.25(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.919	31.919	0	1.006	12639841	2937710	7360	18400	399		
385.8610	31.919	31.919	0	1.006	24478656	5669120	14823	37057	382	0.52(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	31.945	31.945	0	1.001	12588876	2910180	7061	17652	412		
375.8178	31.932	31.945	-1	1.000	9765655	2310876	5733	14332	403	1.29(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.503						7061	17652			
375.8178	29.503						5733	14332			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.732	31.732	0		19906252	4473191	5668	14170	789		
403.8529	31.732	31.732	0		15417572	3449780	4758	11895	725	1.29(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.240	31.240	0	0.984	15099788	3661176	5668	14170	646		
403.8529	31.240	31.240	0	0.984	11944584	2906164	4758	11895	611	1.26(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.253	31.253	0	1.000	8182270	2018040	3499	8747	577		
391.8127	31.253	31.253	0	1.000	6347228	1557355	2839	7097	549	1.29(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.360	31.360	0	0.988	18592876	4210273	5668	14170	743		
403.8529	31.360	31.360	0	0.988	14472011	3287931	4758	11895	691	1.28(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.373	31.373	0	1.000	9574403	2083382	3499	8747	595		
391.8127	31.373	31.373	0	1.000	7600796	1683329	2839	7097	593	1.26(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.746	31.746	0	1.016	9444214	2182740	3499	8747	624		
391.8127	31.746	31.746	0	1.016	7706790	1716989	2839	7097	605	1.23(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.089						3499	8747			
391.8127	30.089						2839	7097			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.447	33.447	0	1.054	8659913	2638235	15560	38900	170		
419.8220	33.447	33.447	0	1.054	19410878	5927666	37504	93760	158	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.459	33.459	0	1.000	10666961	3154204	21901	54752	144		
409.7789	33.447	33.459	-1	1.000	10031383	3067324	23771	59427	129	1.06(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.492	34.492	0	1.087	7838575	2183073	15560	38900	140		
419.8220	34.492	34.492	0	1.087	17086308	4780745	37504	93760	127	0.46(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.492	34.492	0	1.000	8971857	2529700	21901	54752	116		
409.7789	34.492	34.492	0	1.000	8541206	2462288	23771	59427	104	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.982						21901	54752			
409.7789	33.982						23771	59427			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.213	34.213	0	1.078	14266517	4102464	22997	57492	178		
437.8140	34.213	34.213	0	1.078	14085524	4044712	28192	70480	143	1.01(0.88-1.20)	

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Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_40.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.225	34.225	0	1.000	6586965	1864613	5807	14517	321		
425.7737	34.225	34.225	0	1.000	6292741	1757440	5640	14100	312	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.747						5807	14517			
425.7737	34.747						5640	14100			
13C-OCDD											
469.7779	36.469	36.469	0	1.149	21281009	5015999	7937	19842	632		
471.7750	36.469	36.469	0	1.149	23811885	5785583	3541	8852	1634	0.89(0.76-1.02)	
OCDF											
441.7428	36.565	36.565	0	1.003	13254033	3292667	2230	5575	1477		
443.7399	36.565	36.565	0	1.003	14792617	3666817	4423	11057	829	0.90(0.76-1.02)	
OCDD											
457.7377	36.481	36.481	0	1.000	10836535	2629867	2092	5230	1257		
459.7348	36.481	36.481	0	1.000	12120794	2854233	3761	9402	759	0.89(0.76-1.02)	

Reagents:

HRDXNL4_00084 Amount Added: 1.00 Units: mL

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Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_40.d		
Injection Date:	19-Sep-2019 17:18:44	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	40
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

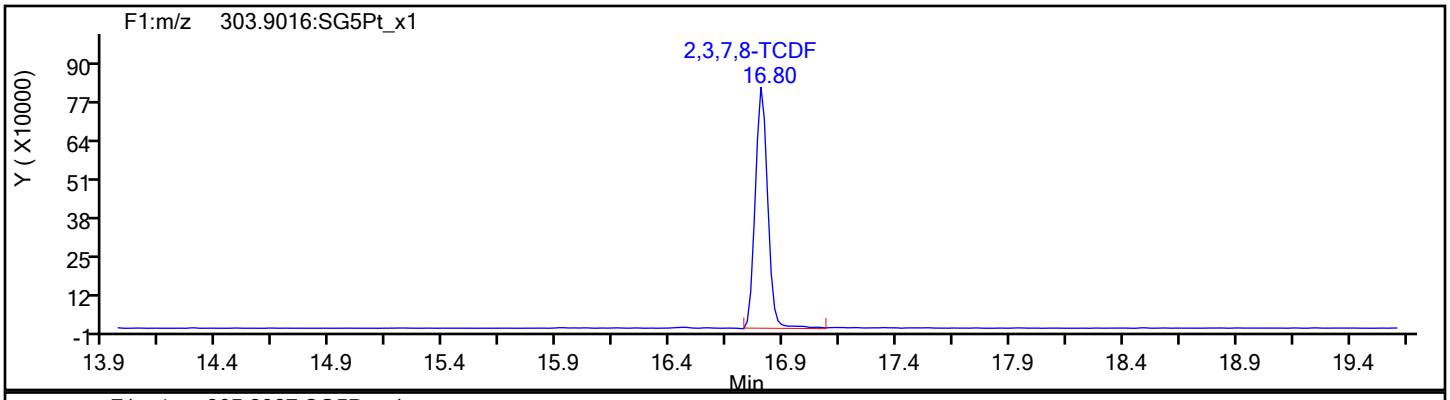

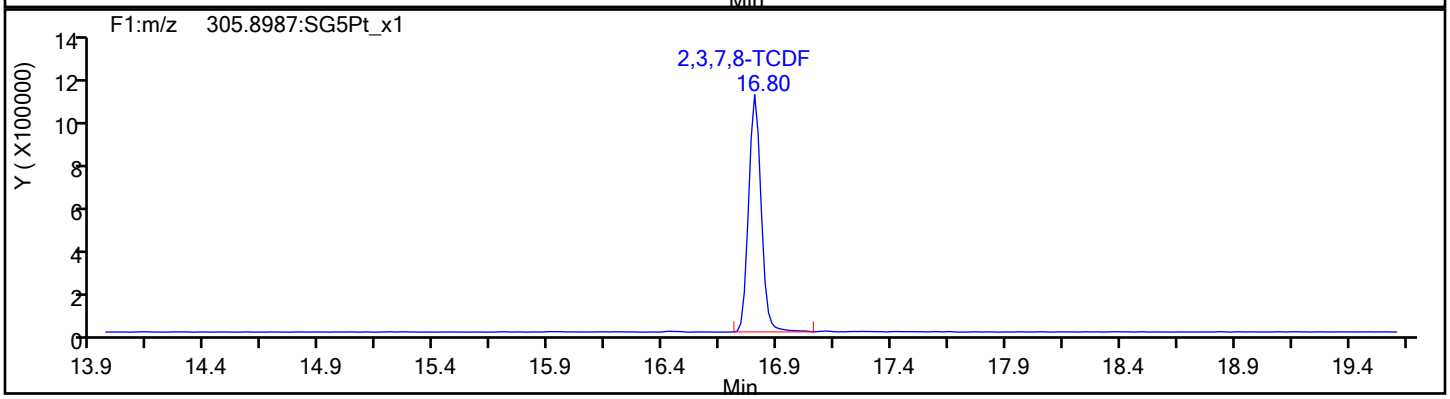

TCDF Standards

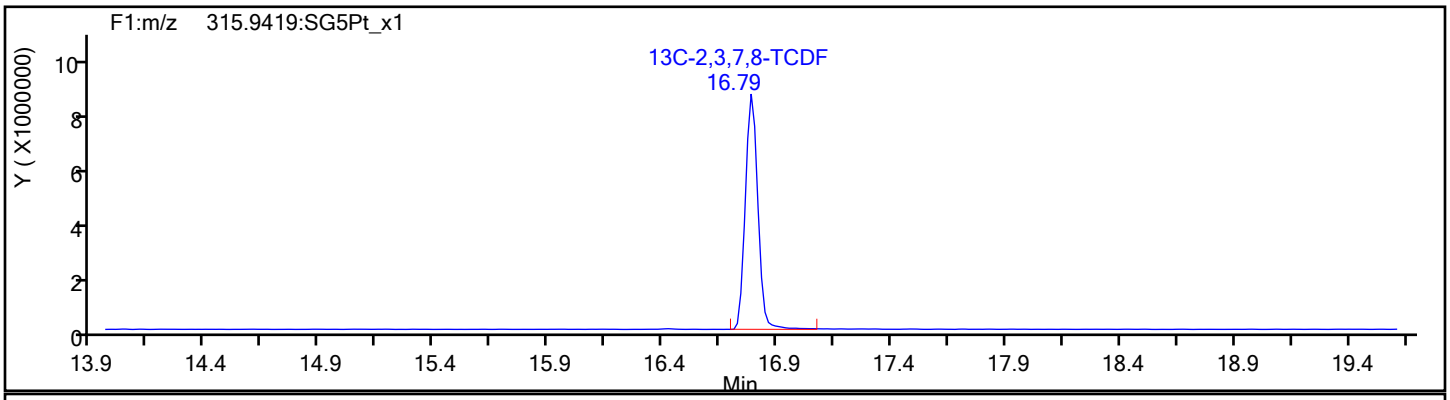

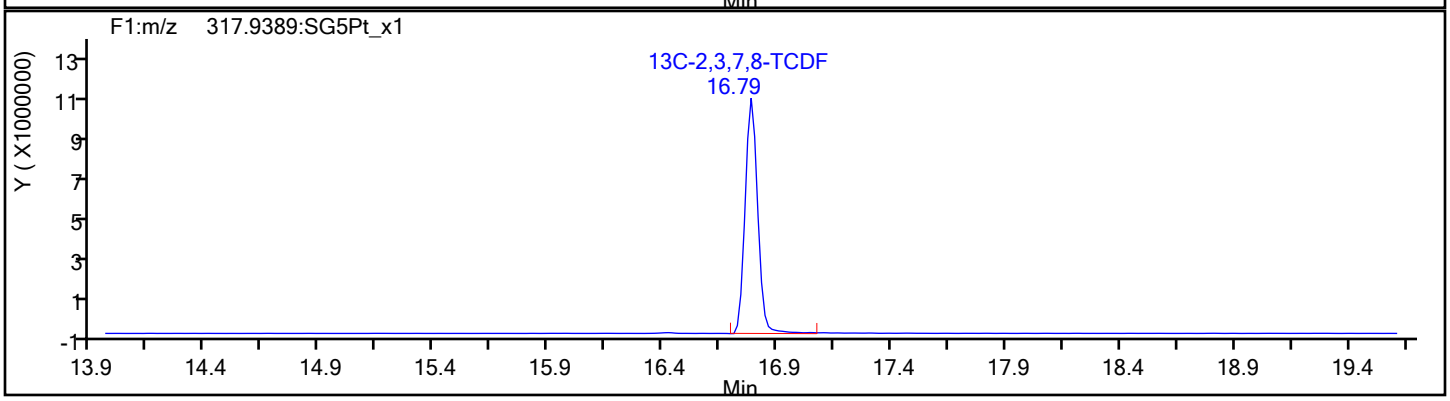

Report Date: 20-Sep-2019 09:55:53 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_40.d		
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Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	40
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

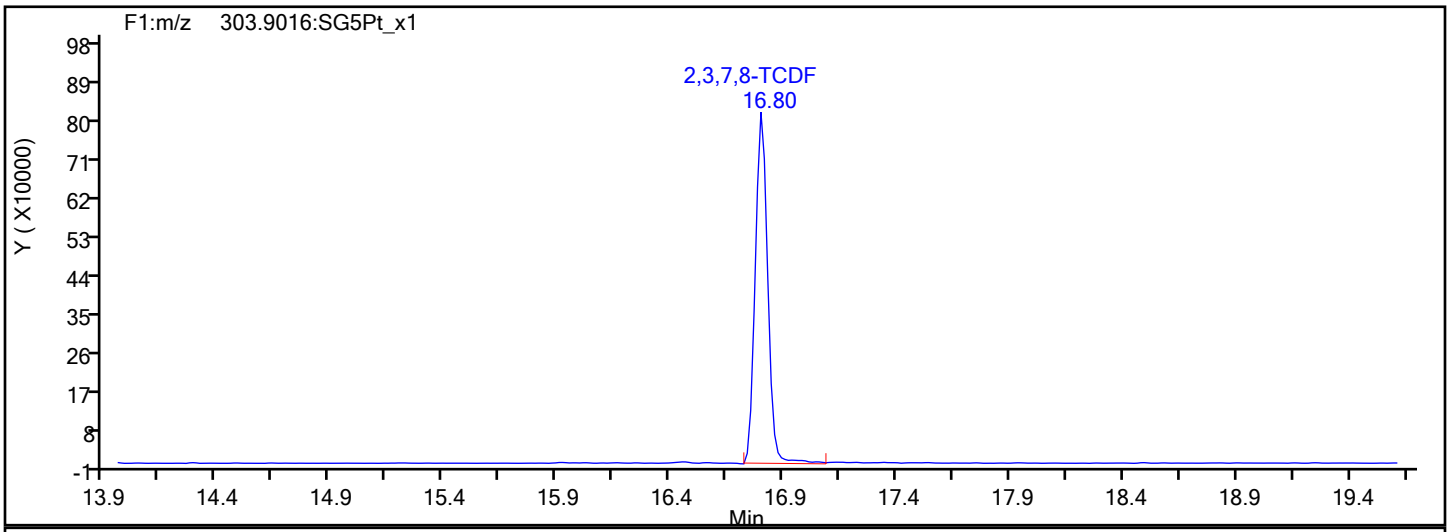

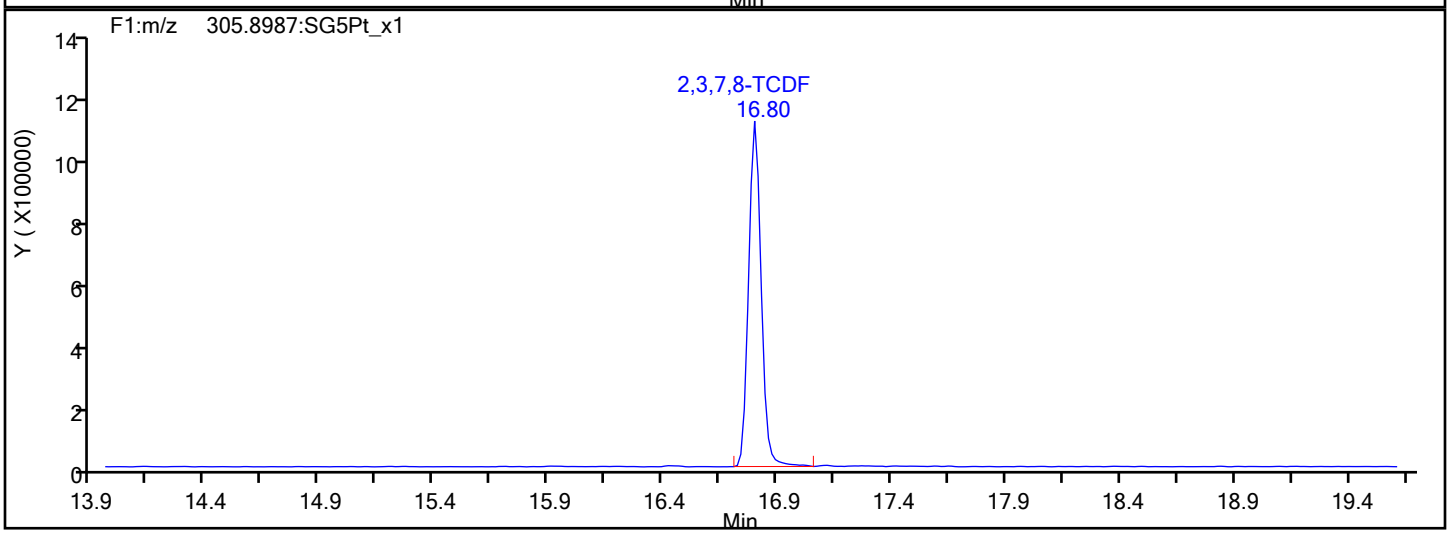

TCDF Interference Mass

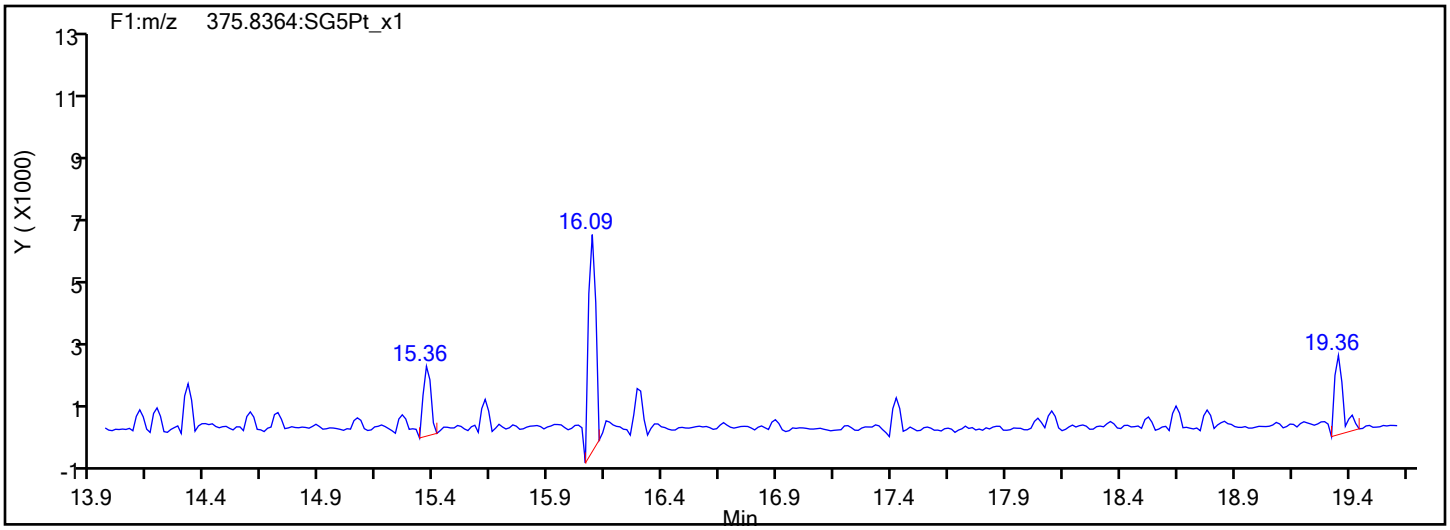

Report Date: 20-Sep-2019 09:55:53 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_40.d		
Injection Date:	19-Sep-2019 17:18:44	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	40
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

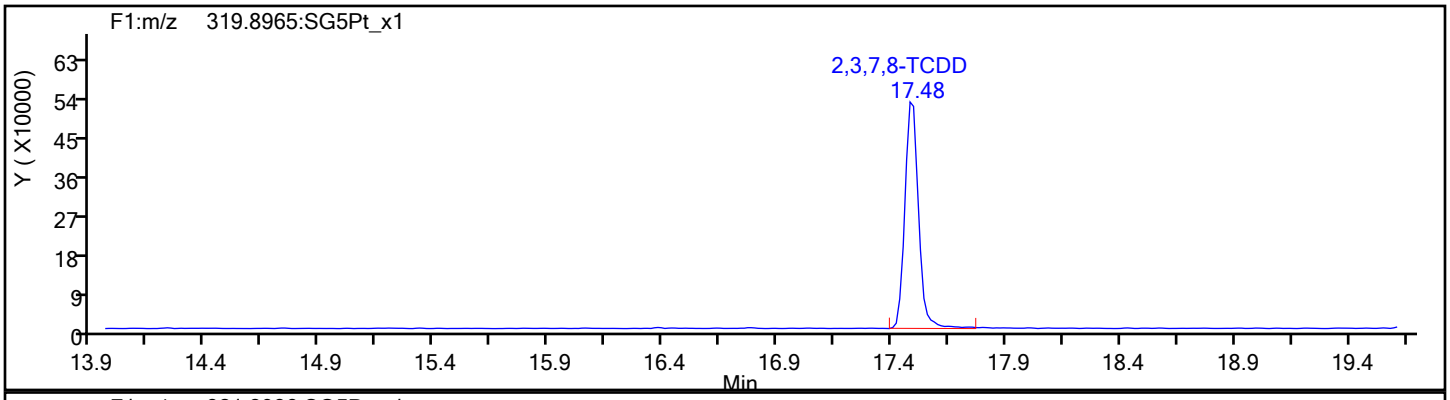

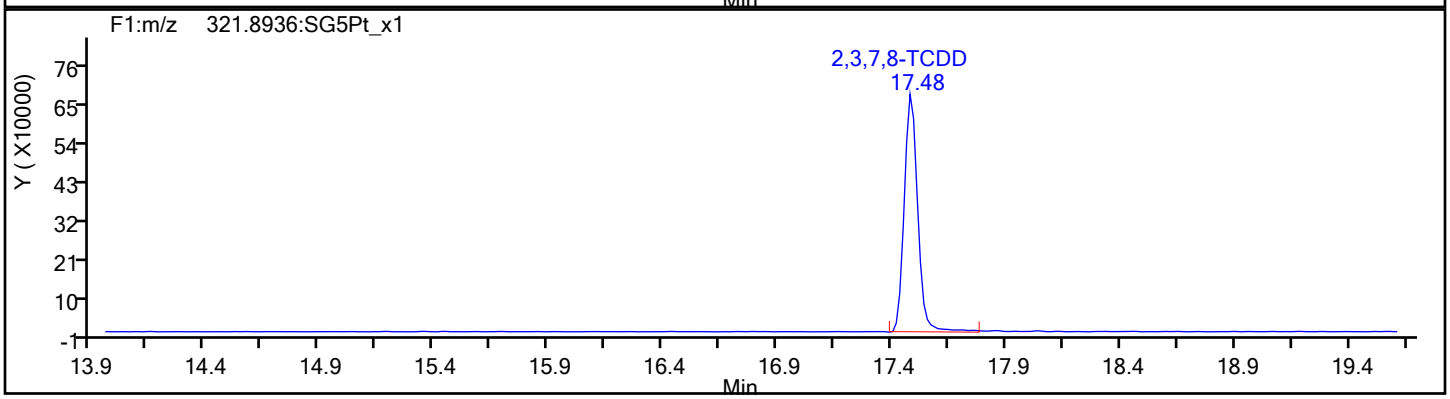

TCDD Standards

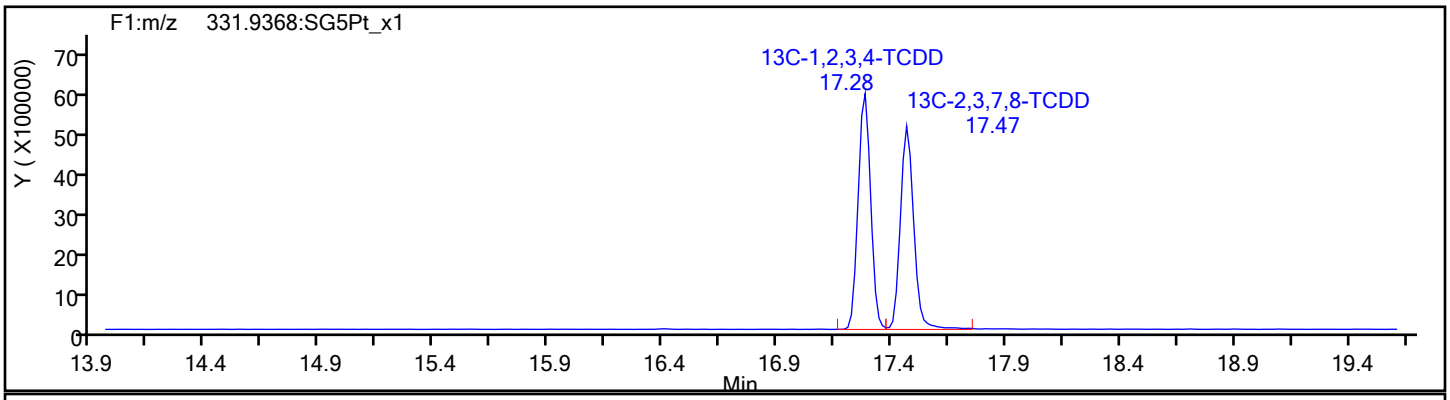

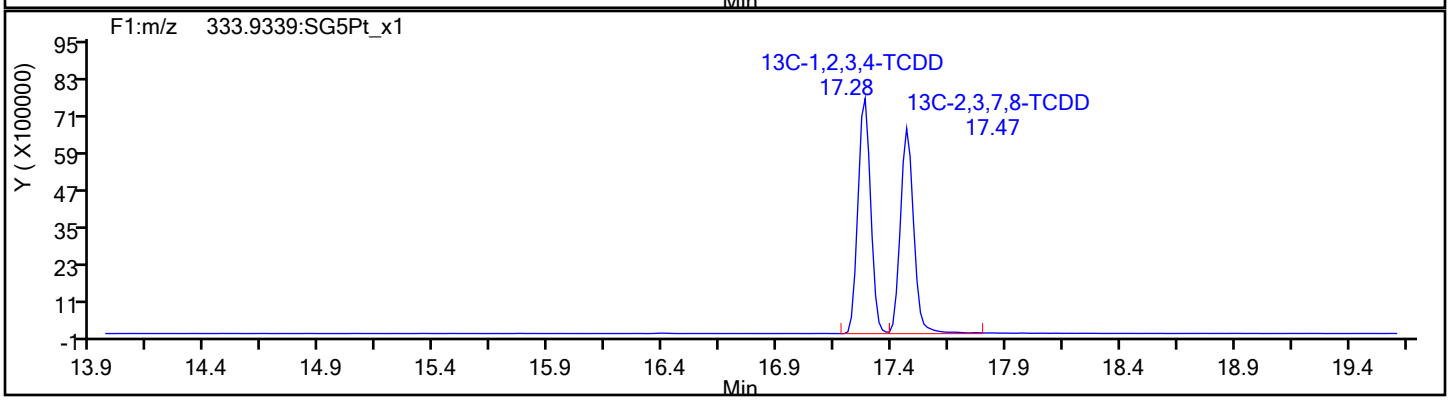

Report Date: 20-Sep-2019 09:55:53 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_40.d		
Injection Date:	19-Sep-2019 17:18:44	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	40
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

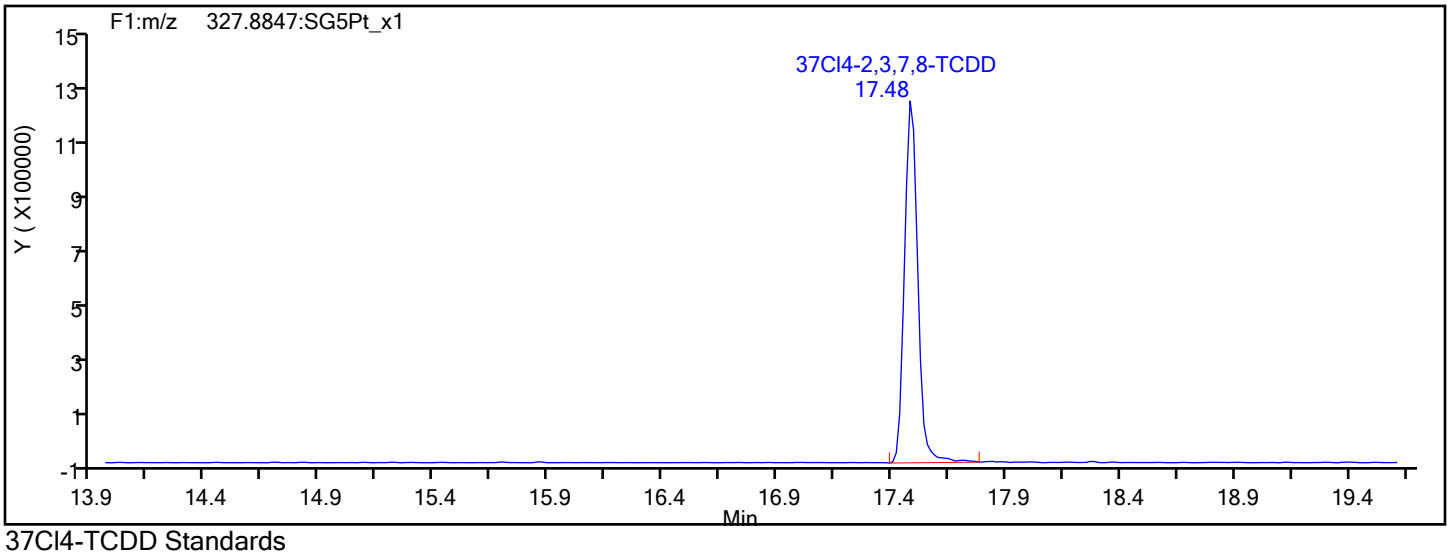

37Cl4-TCDD Standards

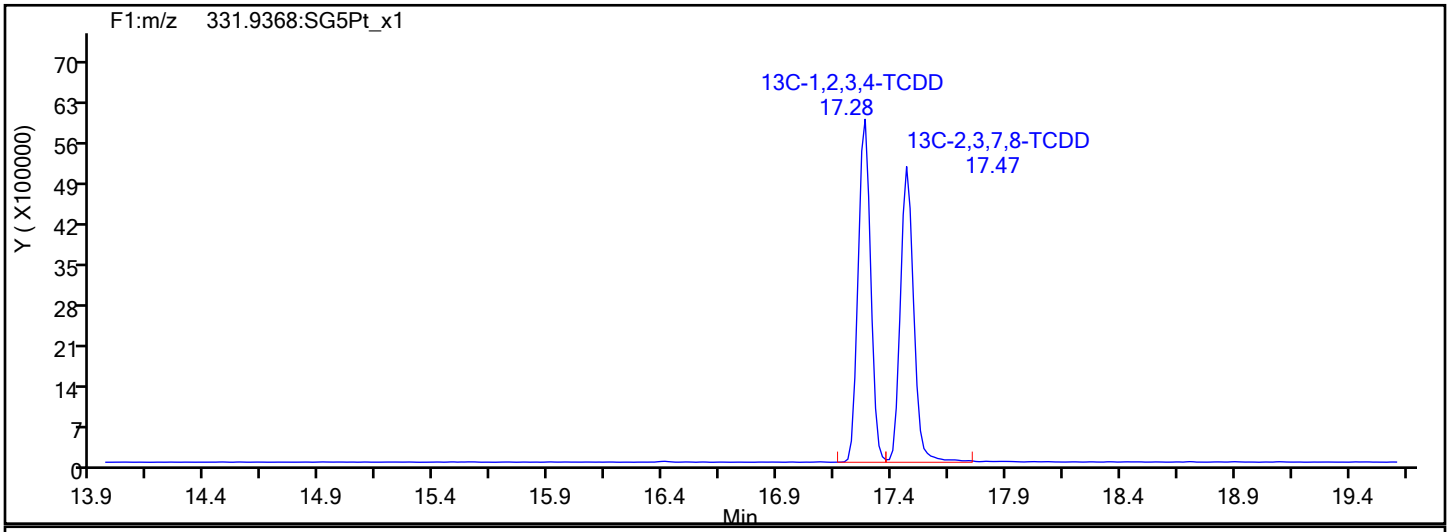

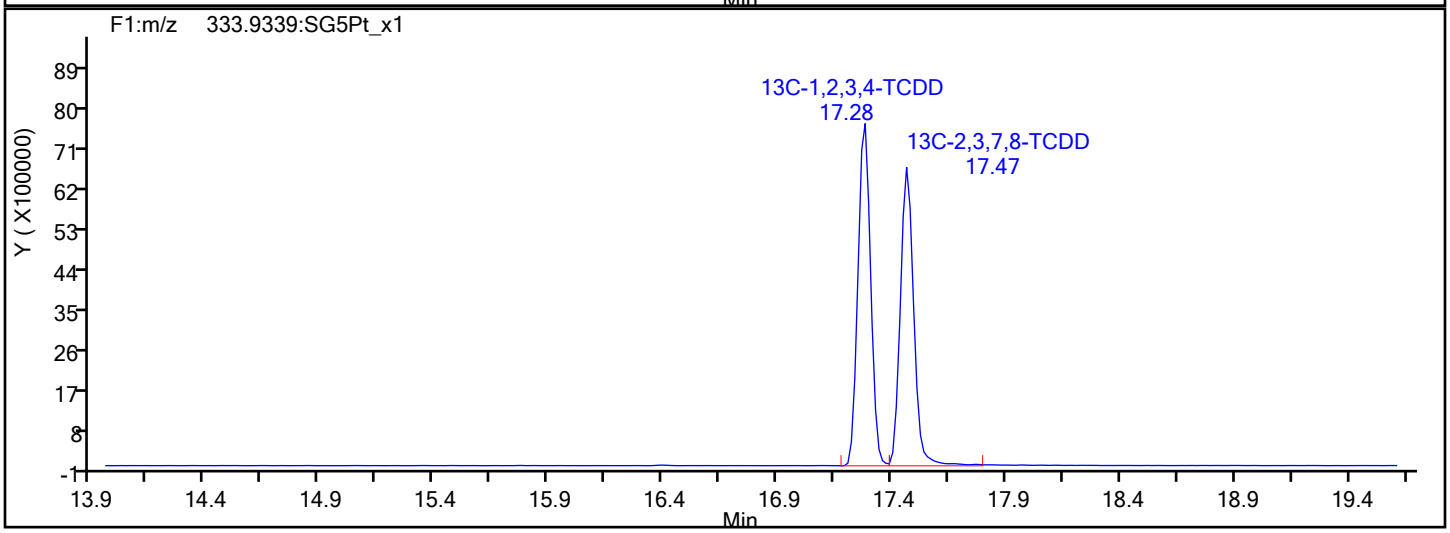

Report Date: 20-Sep-2019 09:55:53 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_40.d		
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Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	40
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

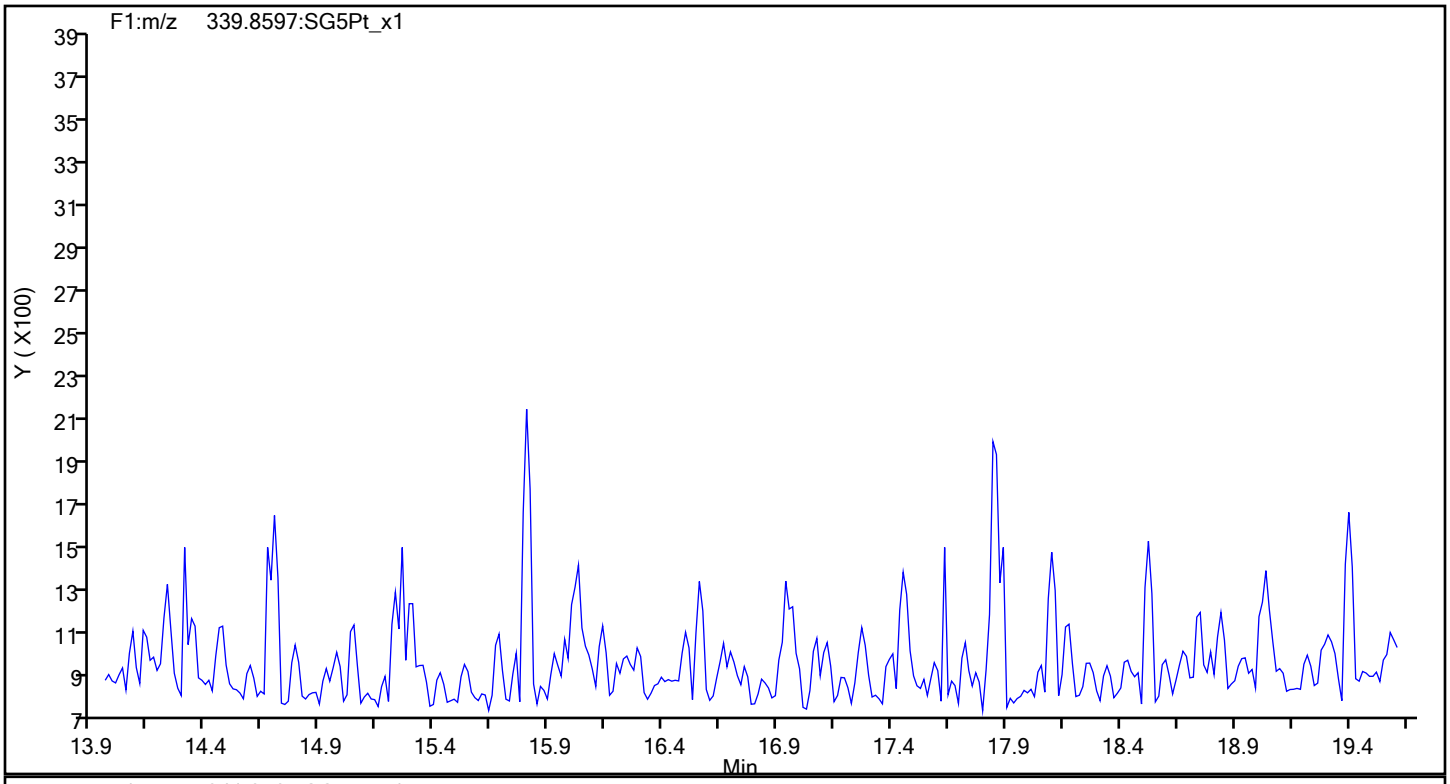

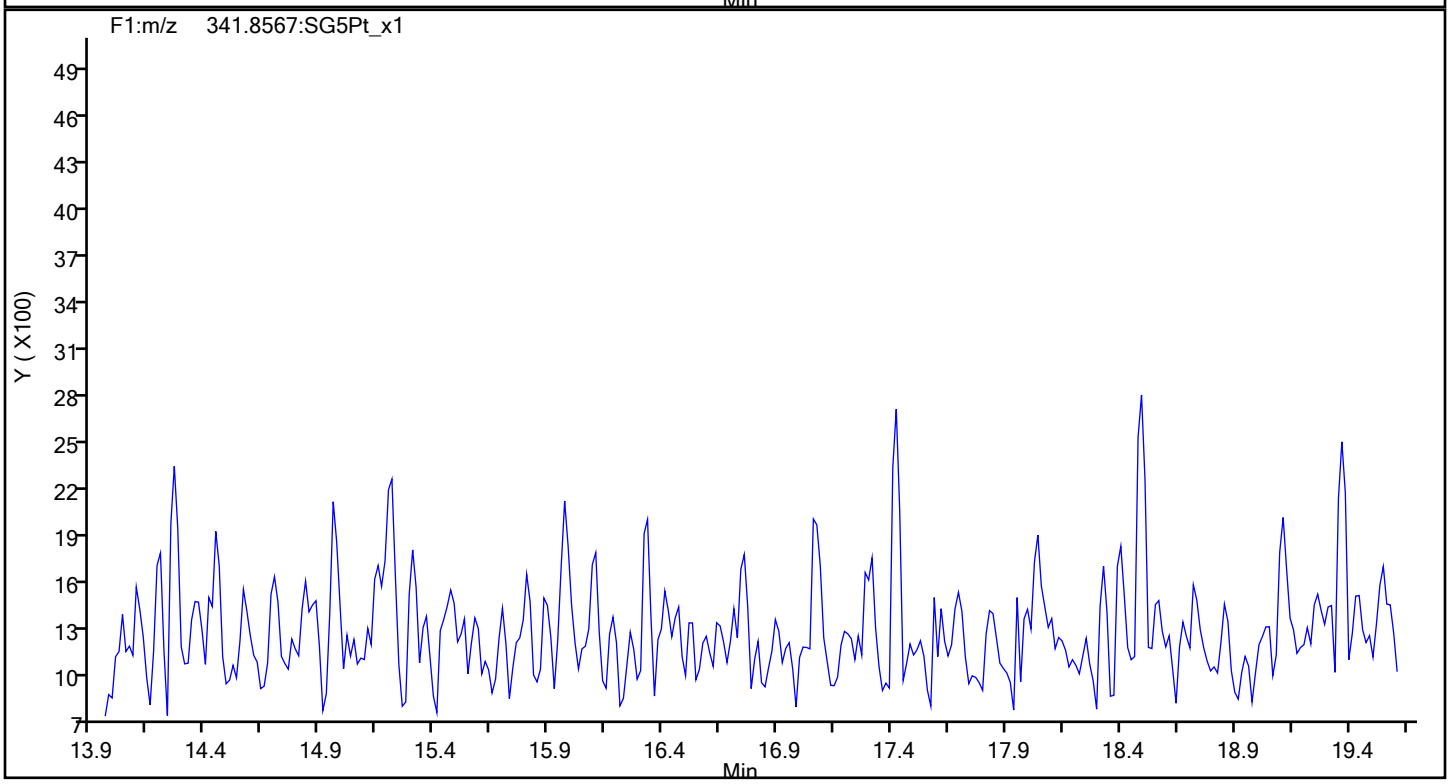

Report Date: 20-Sep-2019 09:55:53 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_40.d		
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Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	40
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

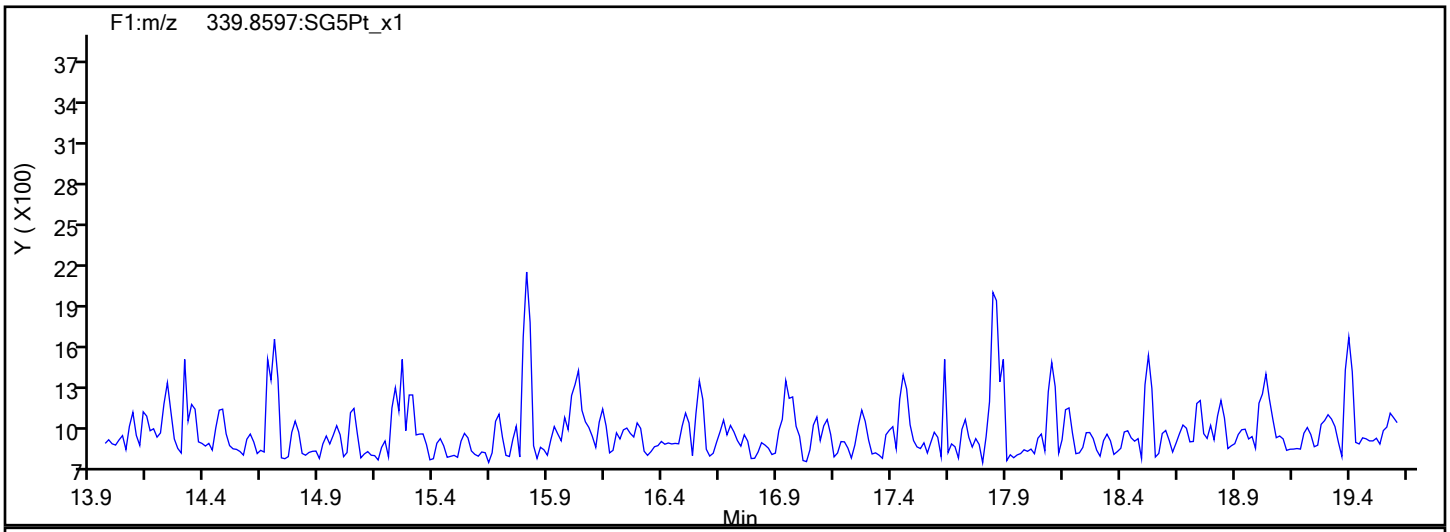

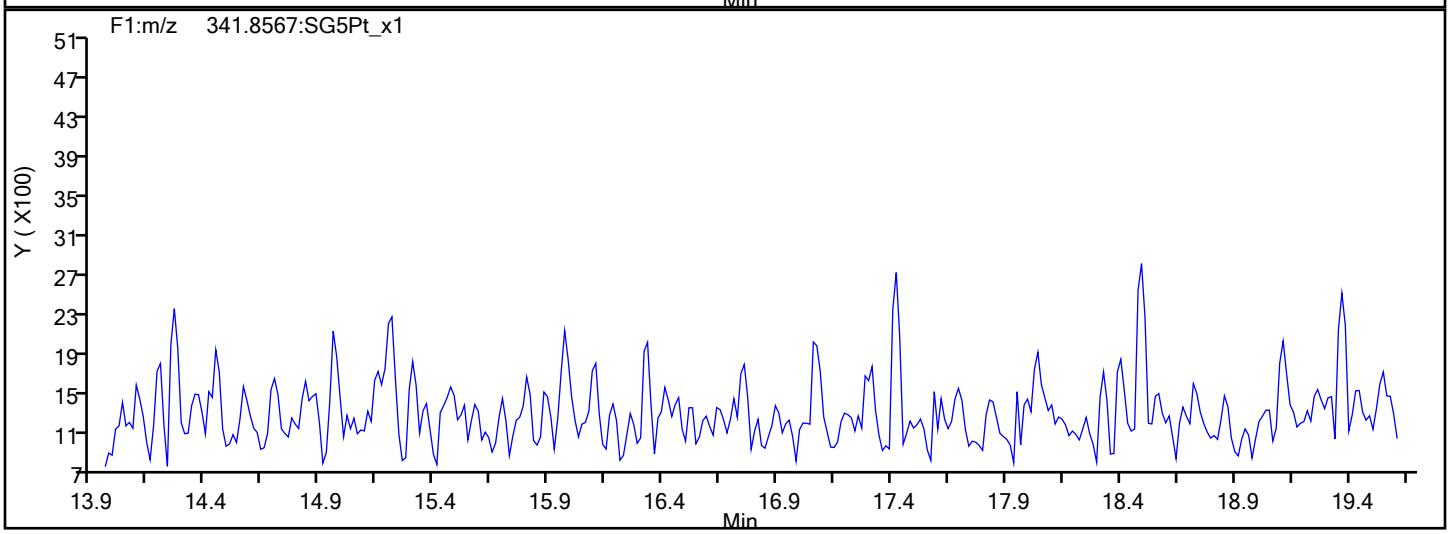

F1 PeCDFs Interference Mass

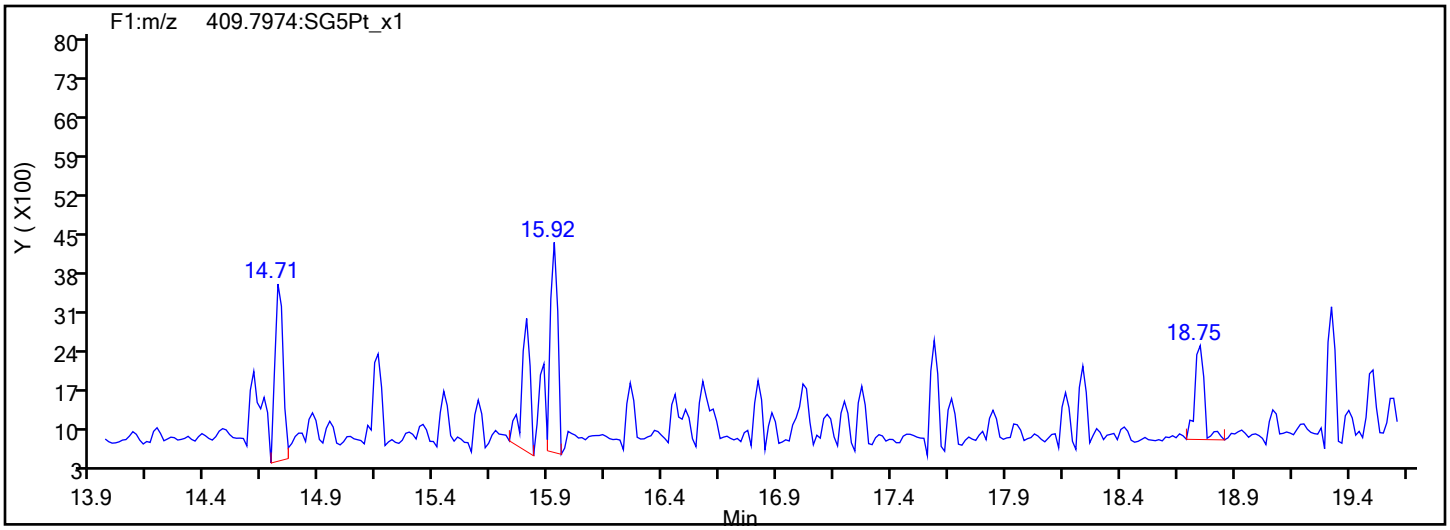

Report Date: 20-Sep-2019 09:55:53 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_40.d		
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Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	40
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

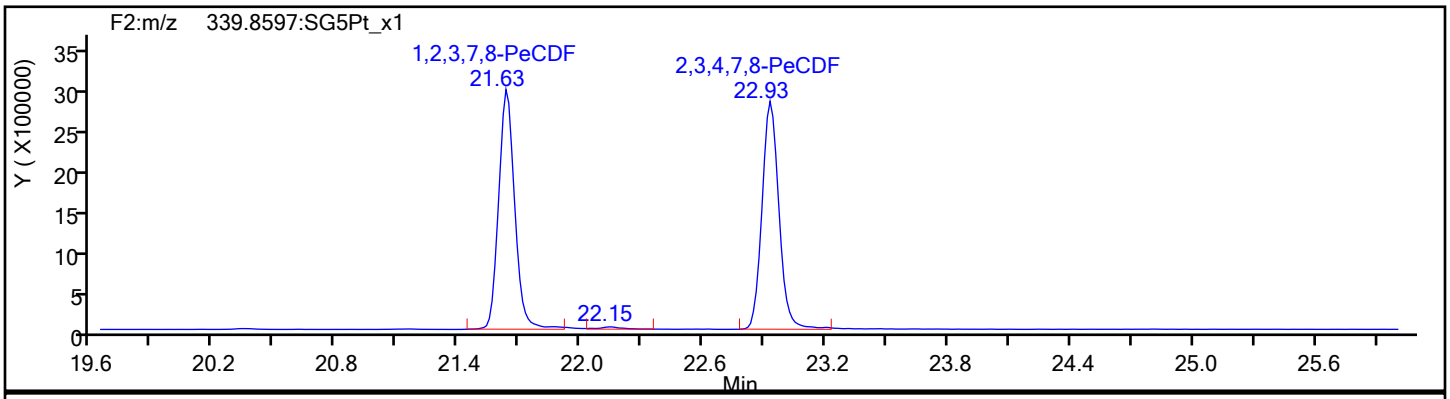

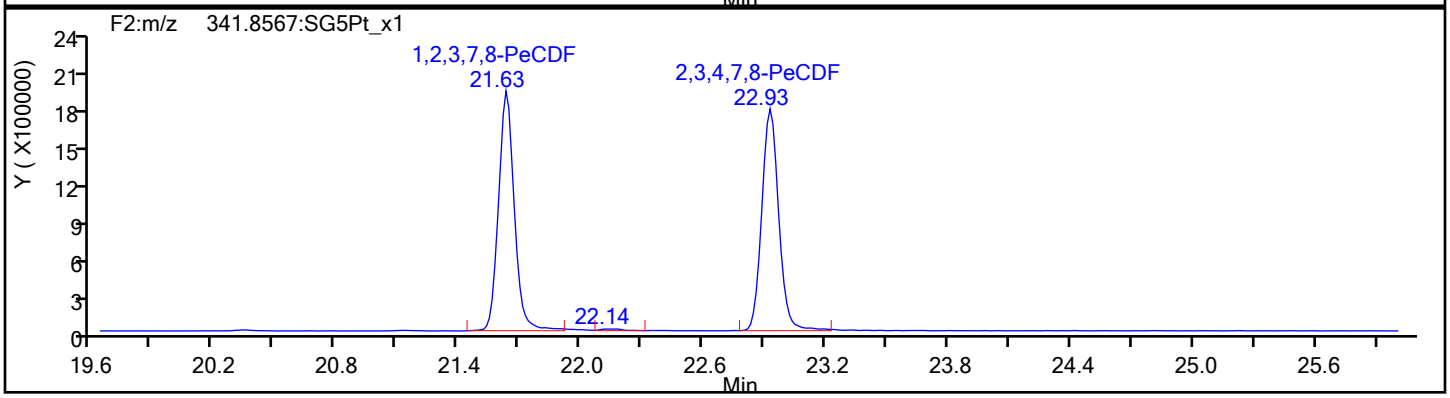

PeCDF Standards

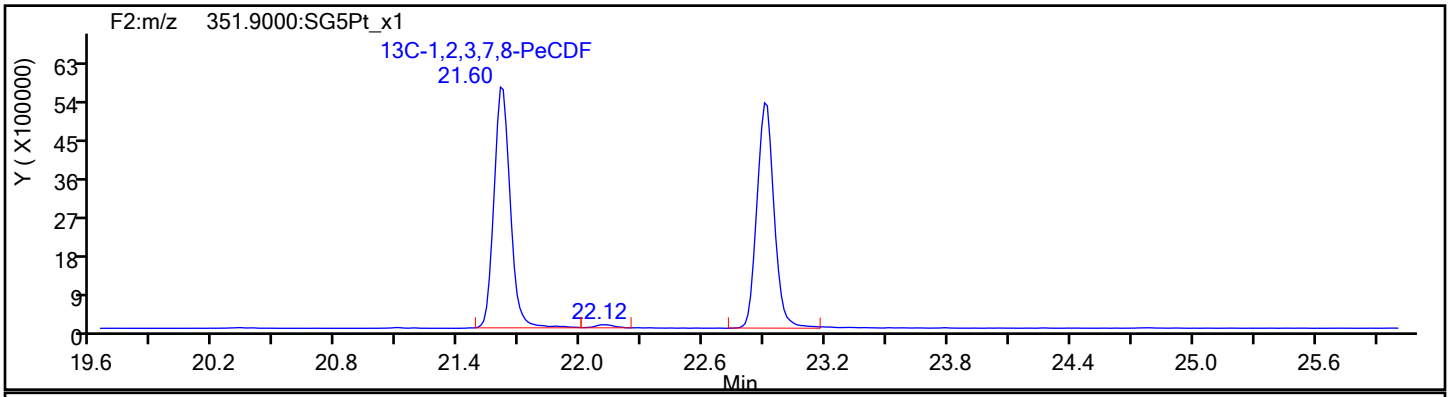

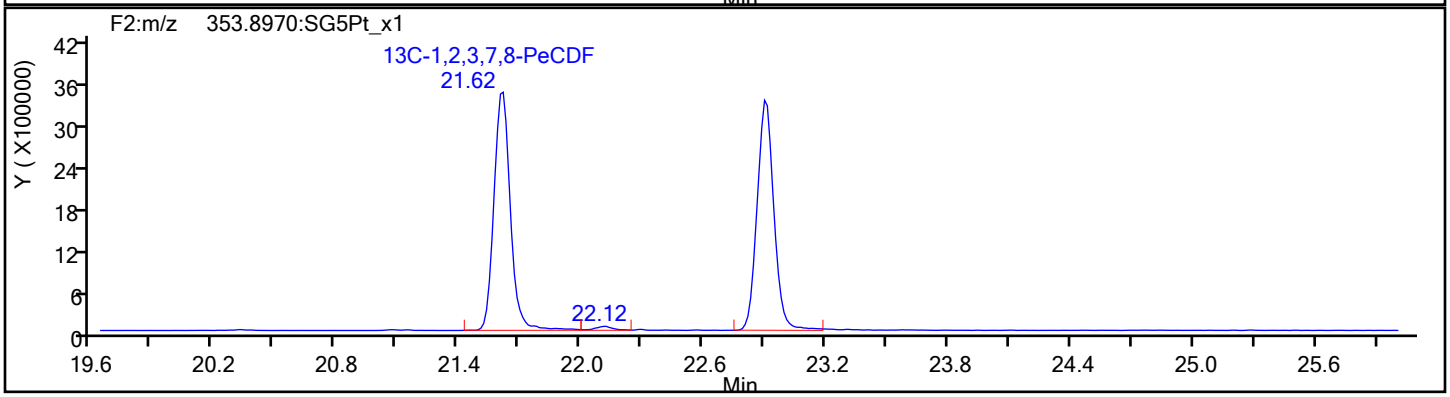

Report Date: 20-Sep-2019 09:55:54 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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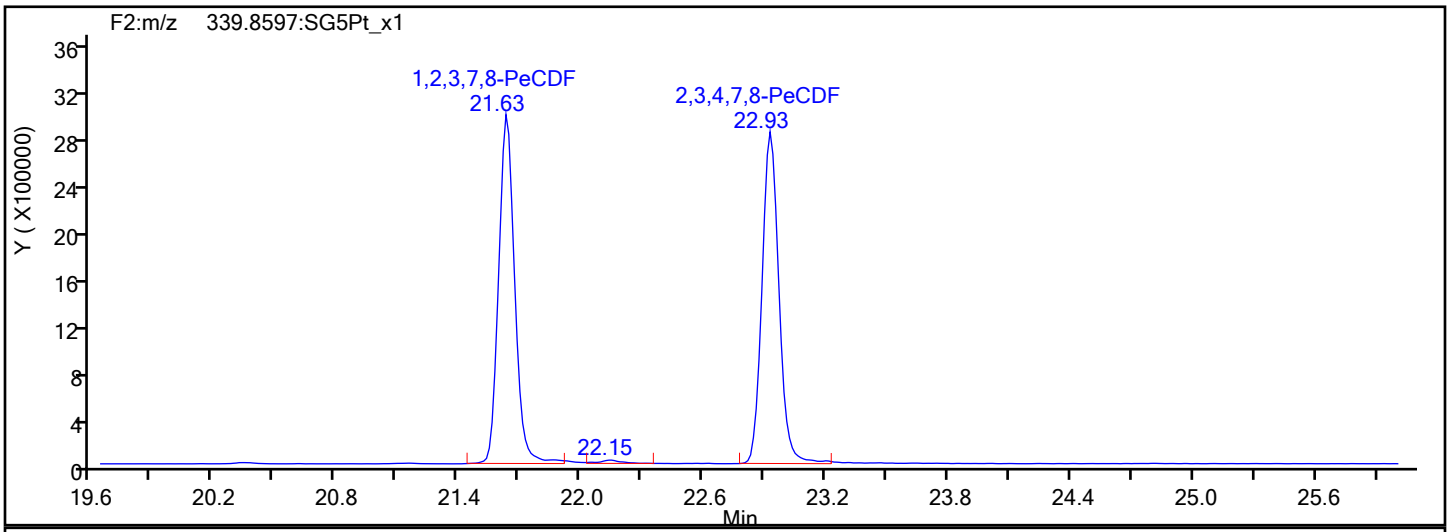

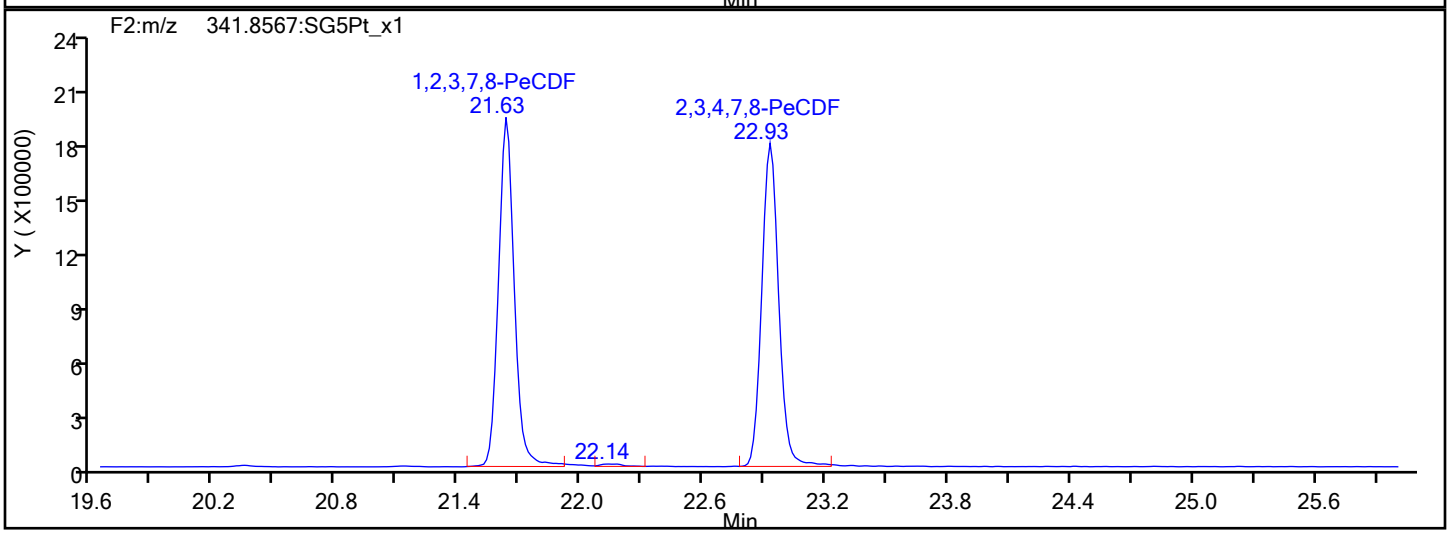

PeCDF Interference Mass

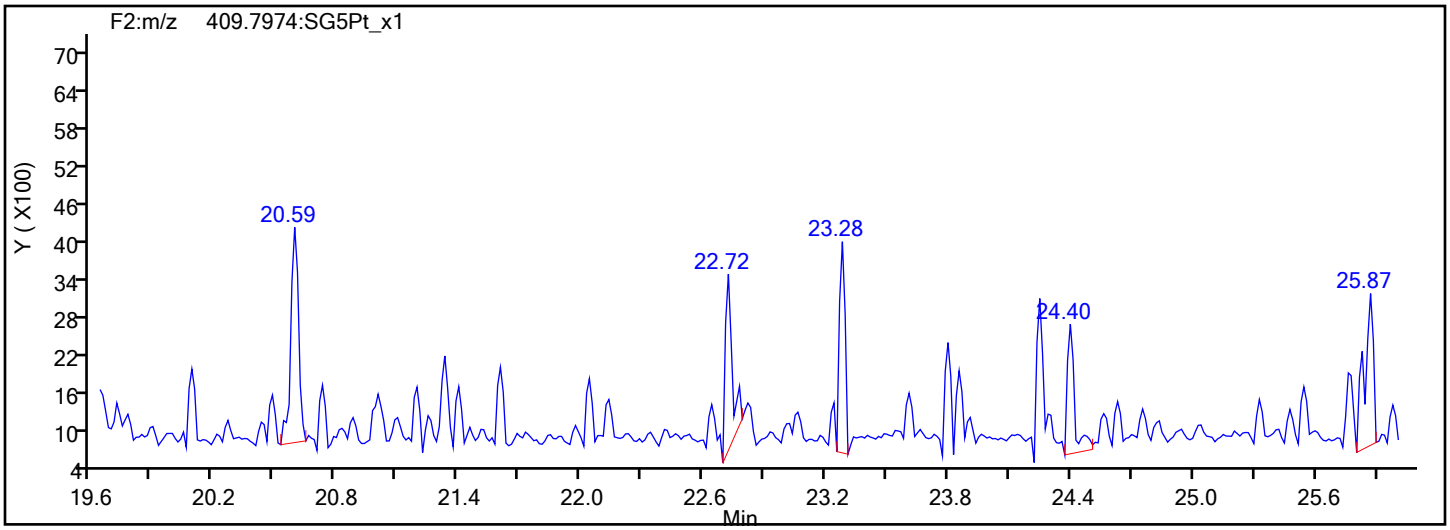

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Eurofins TestAmerica, Sacramento

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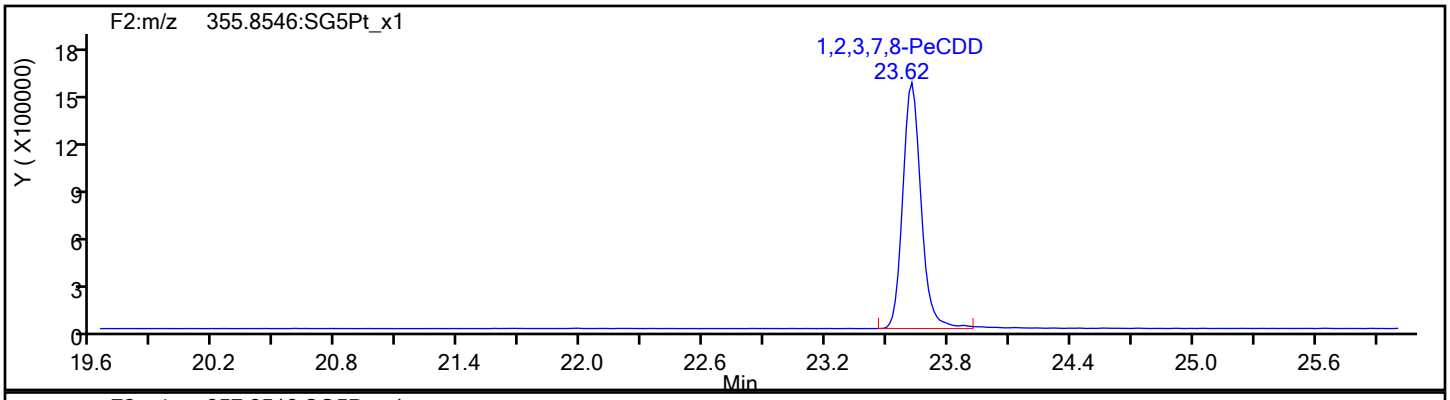

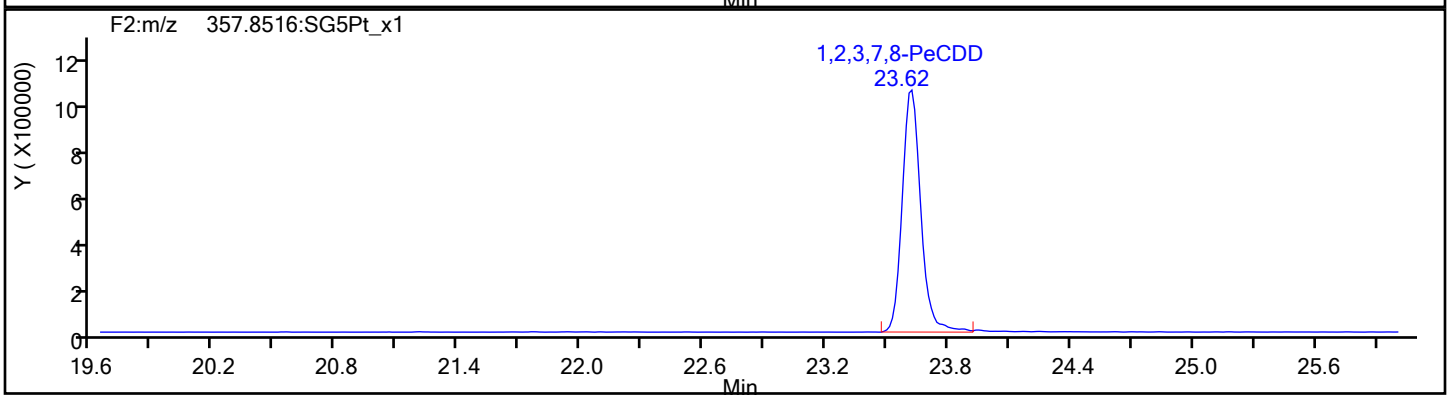

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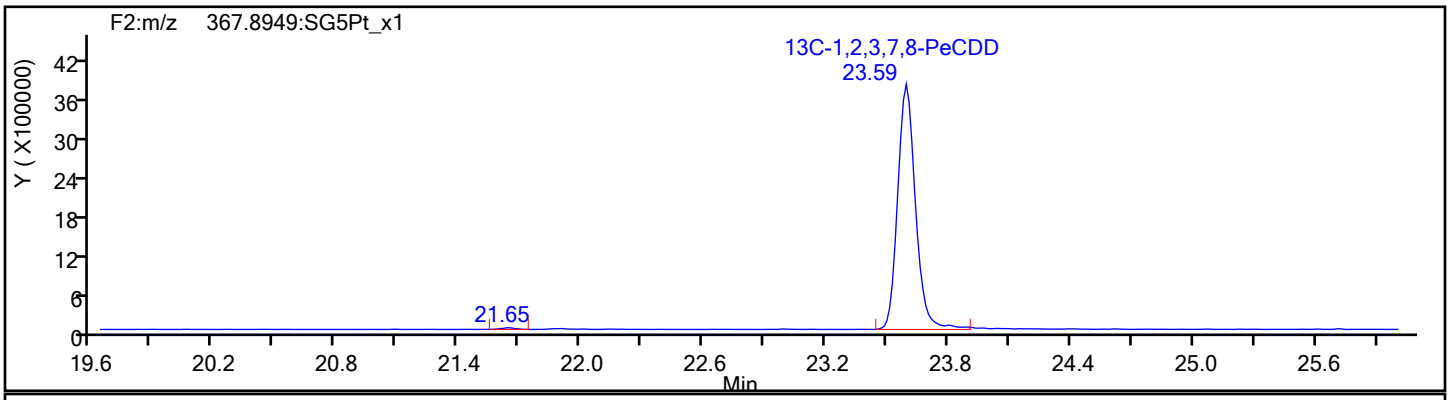

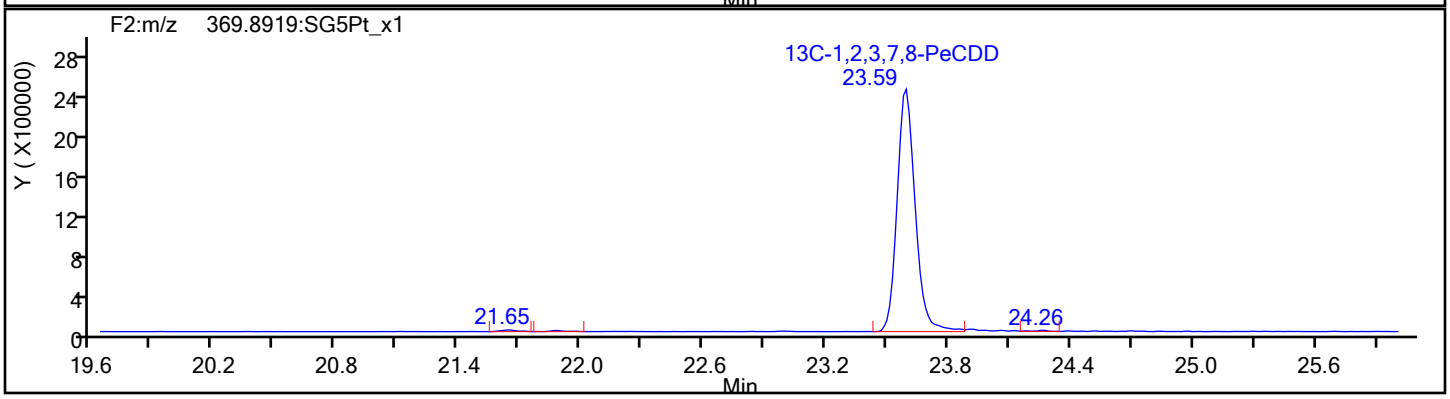

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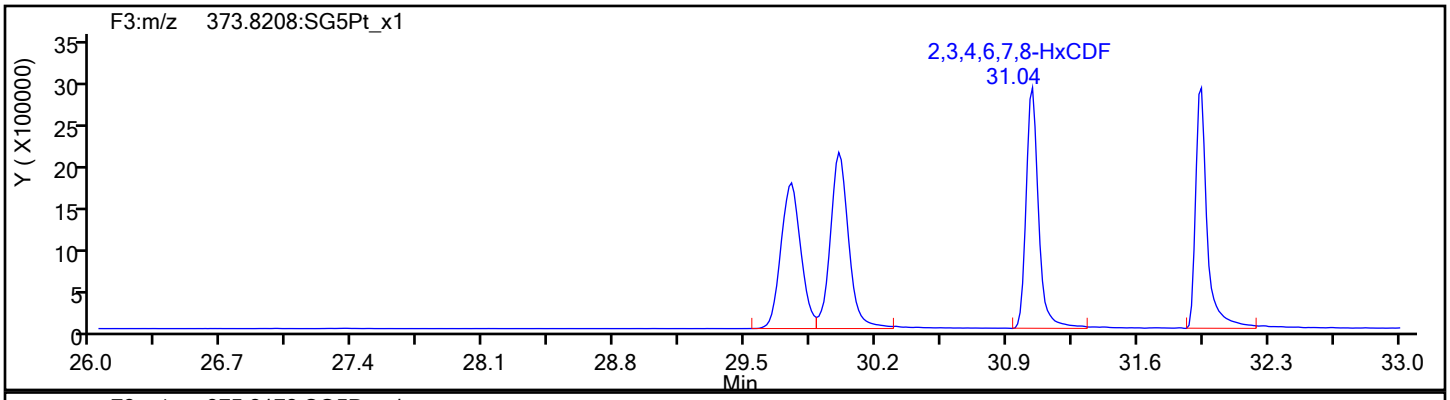

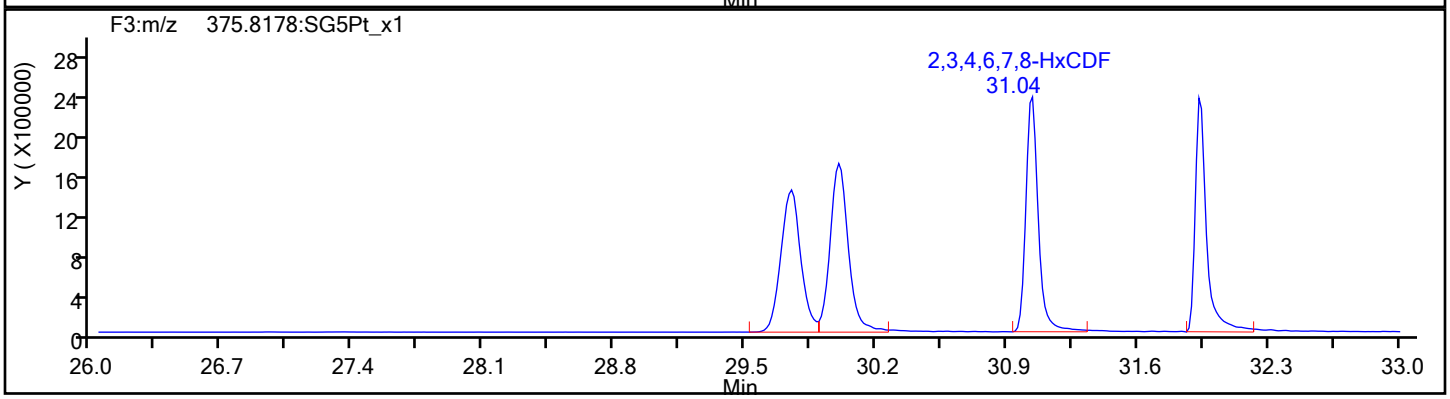

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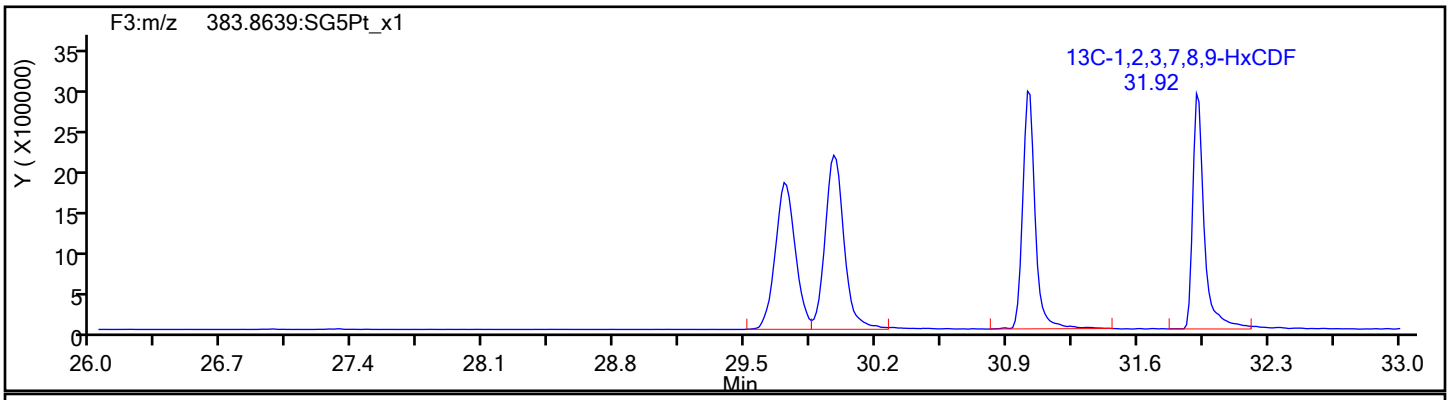

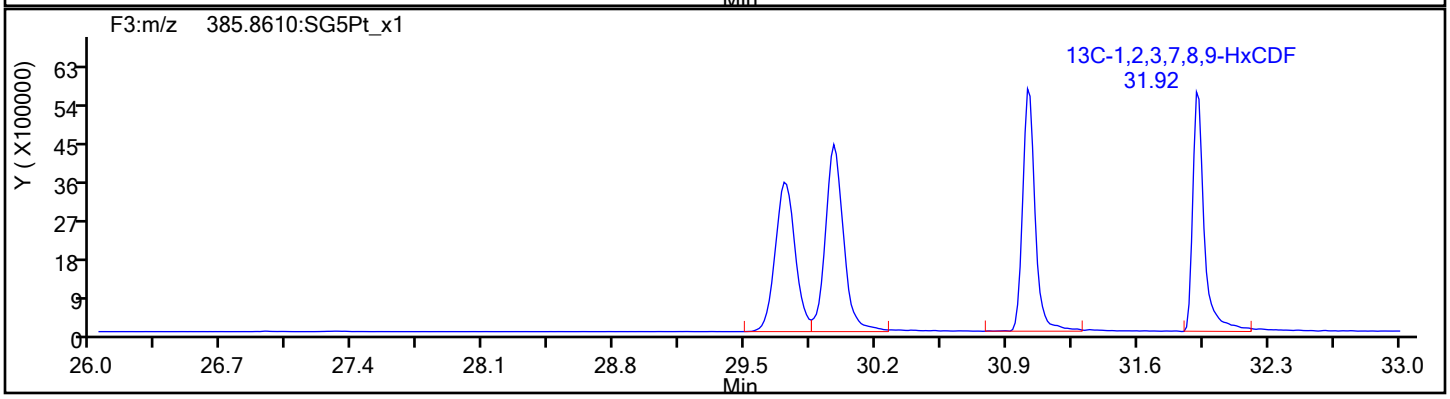

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Eurofins TestAmerica, Sacramento

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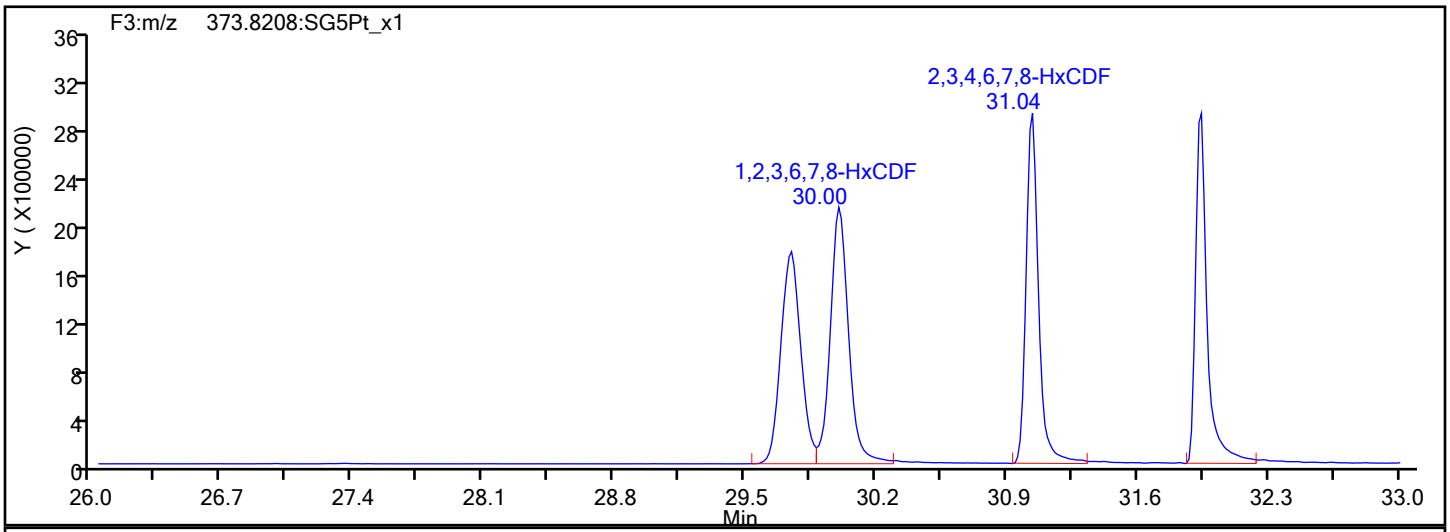

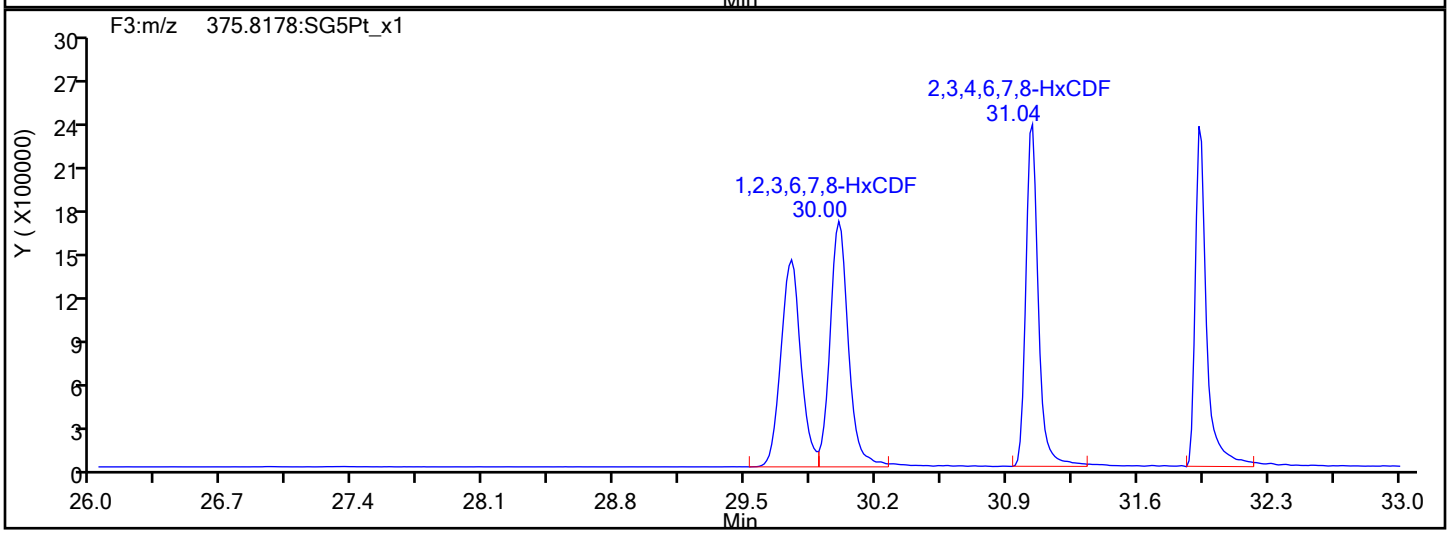

HxCDF Interference Mass

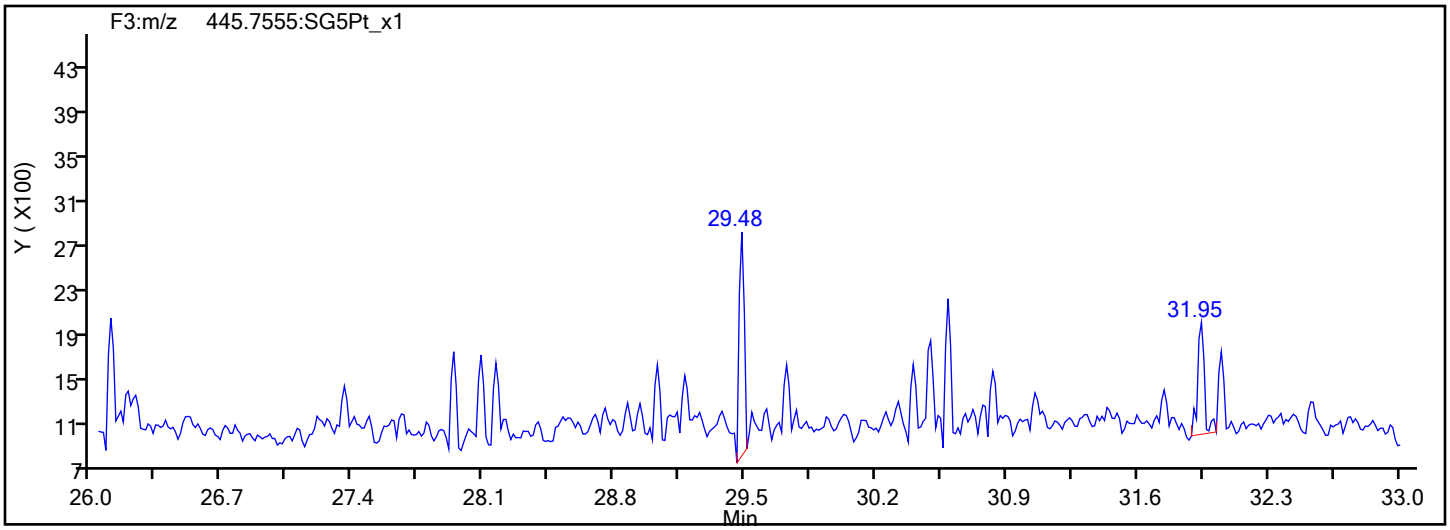

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Eurofins TestAmerica, Sacramento

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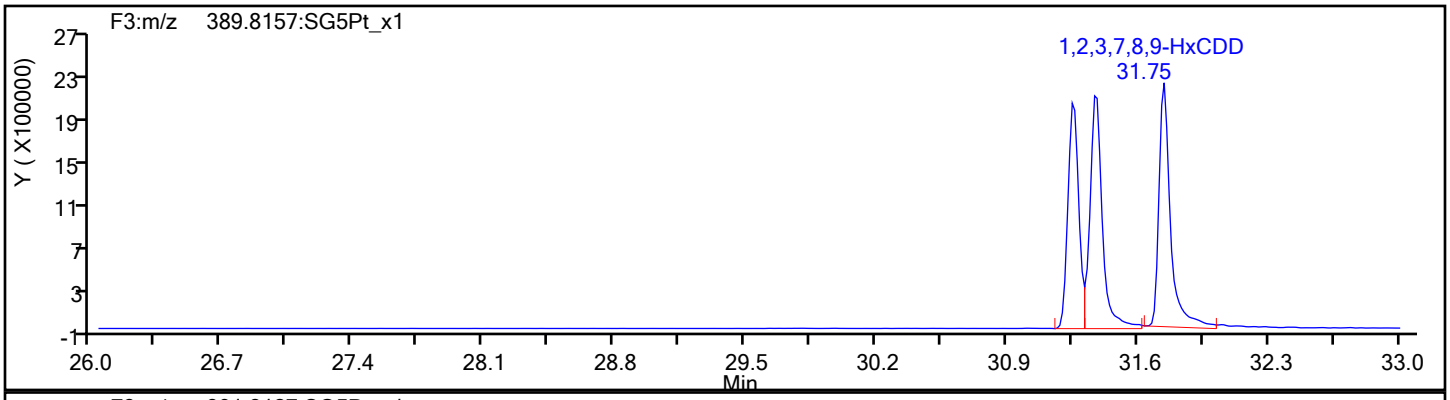

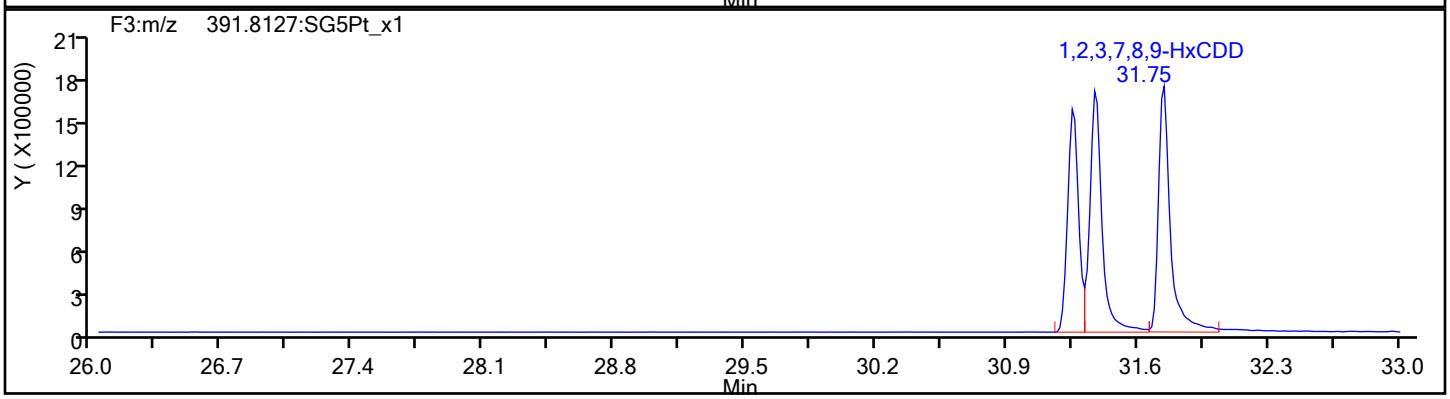

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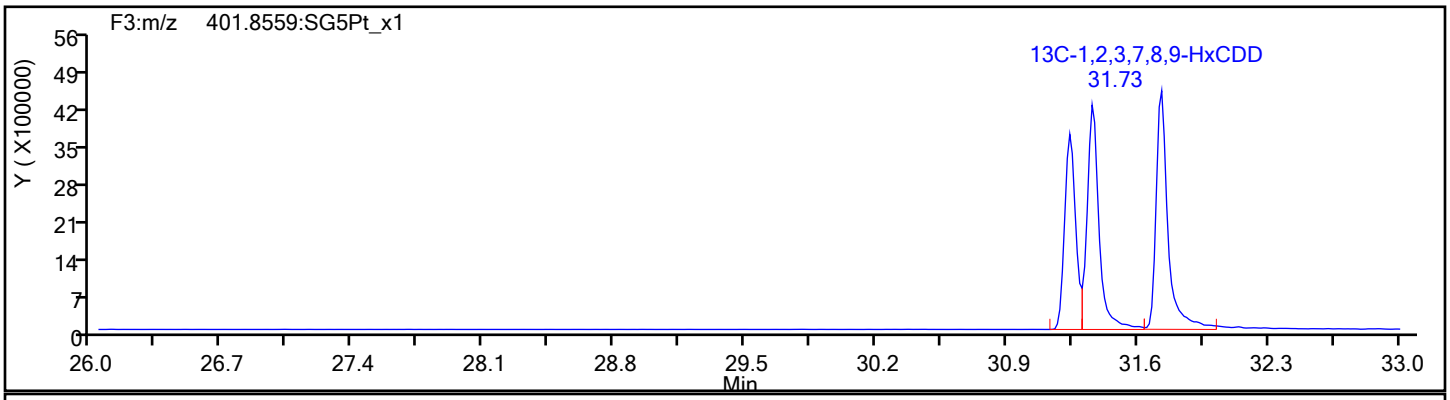

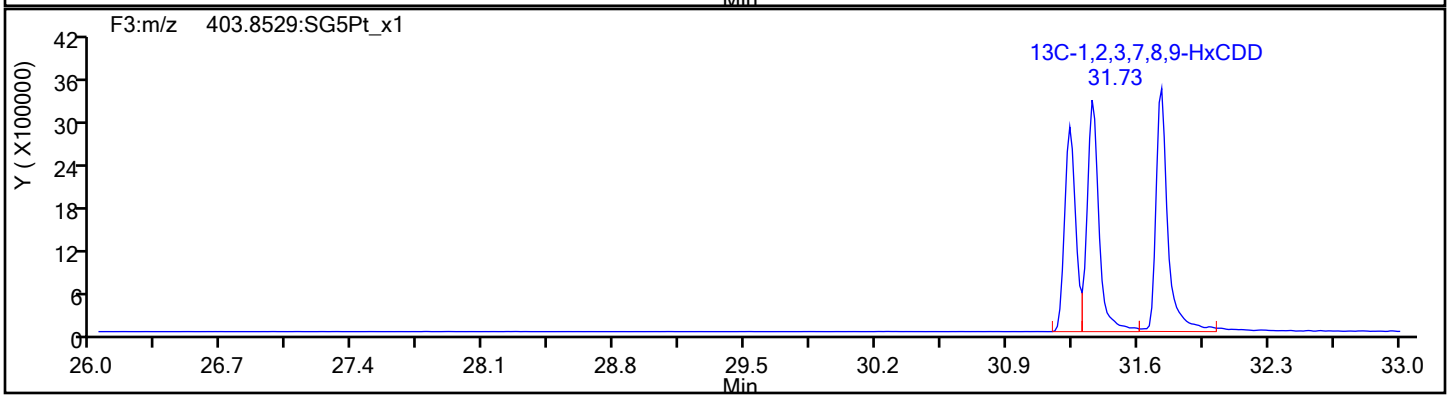

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Eurofins TestAmerica, Sacramento

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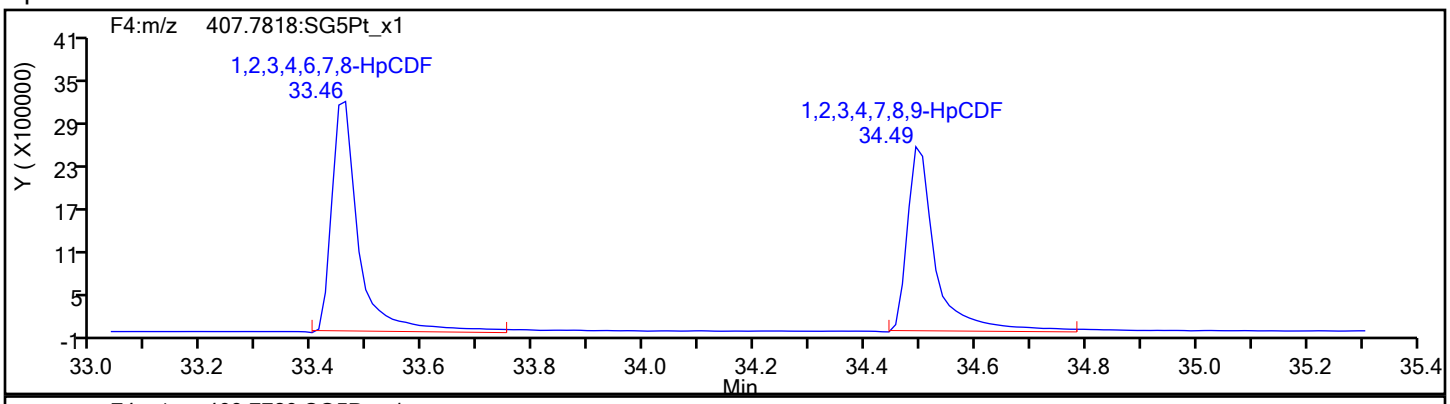

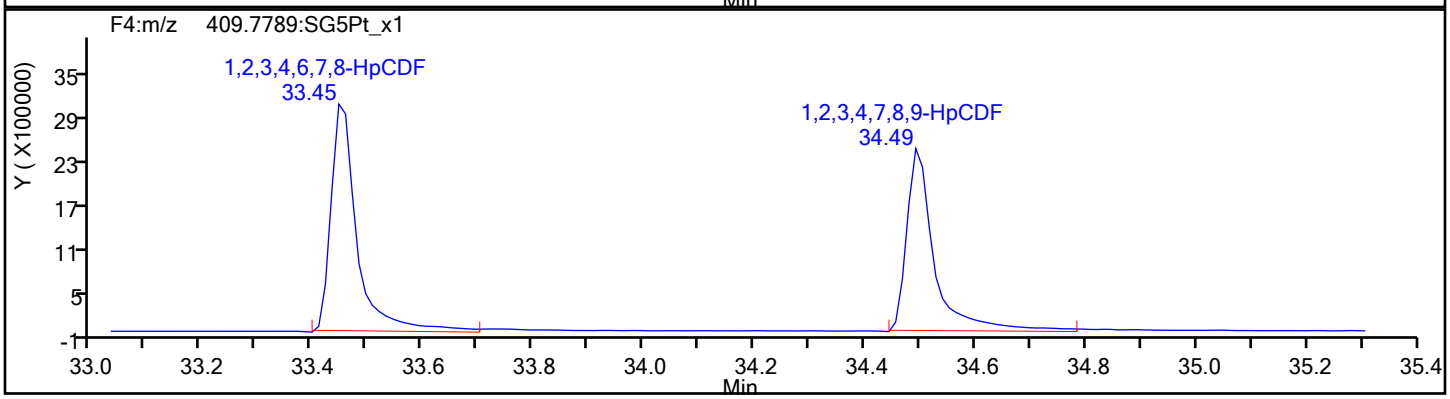

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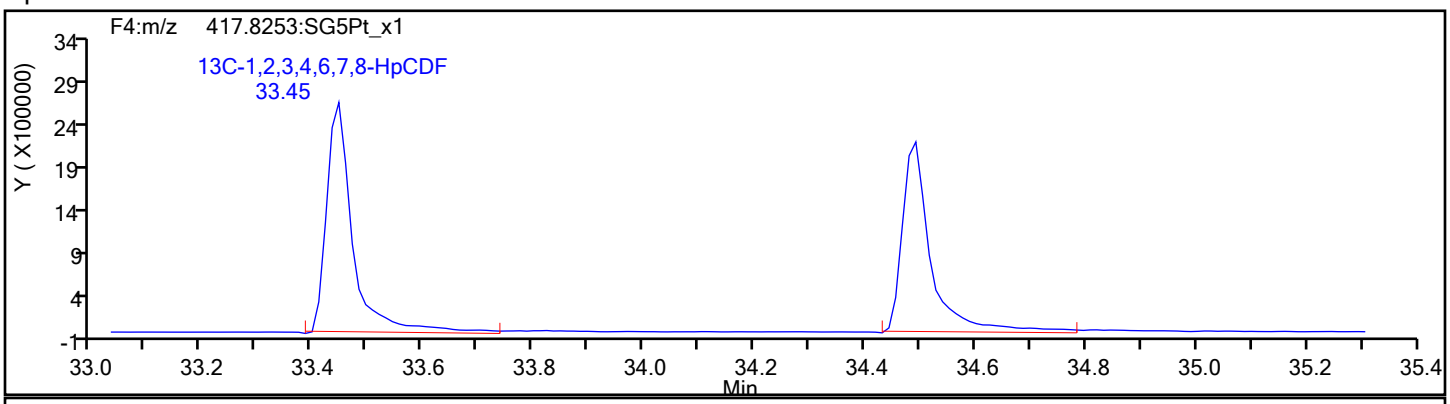

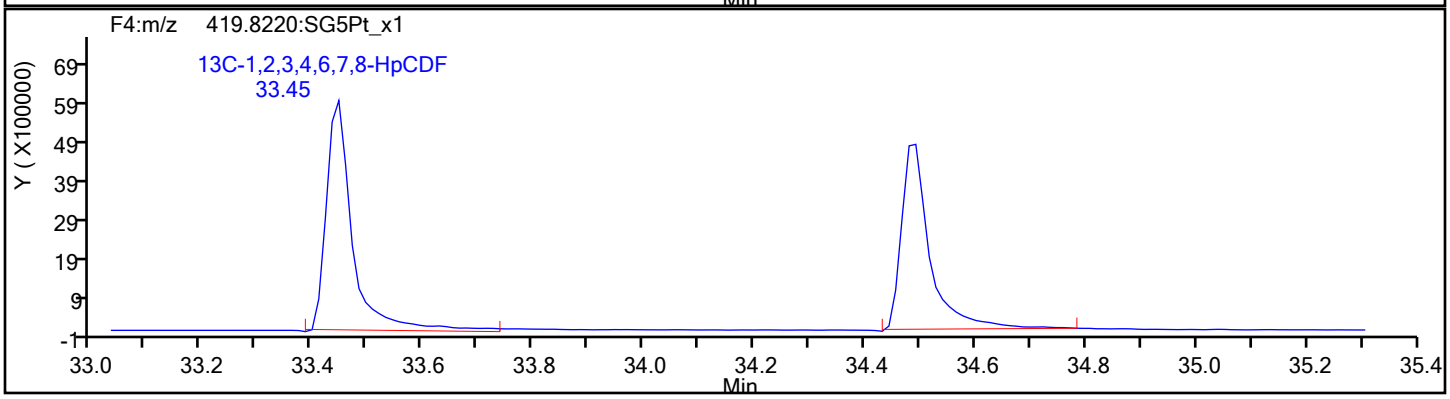

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Eurofins TestAmerica, Sacramento

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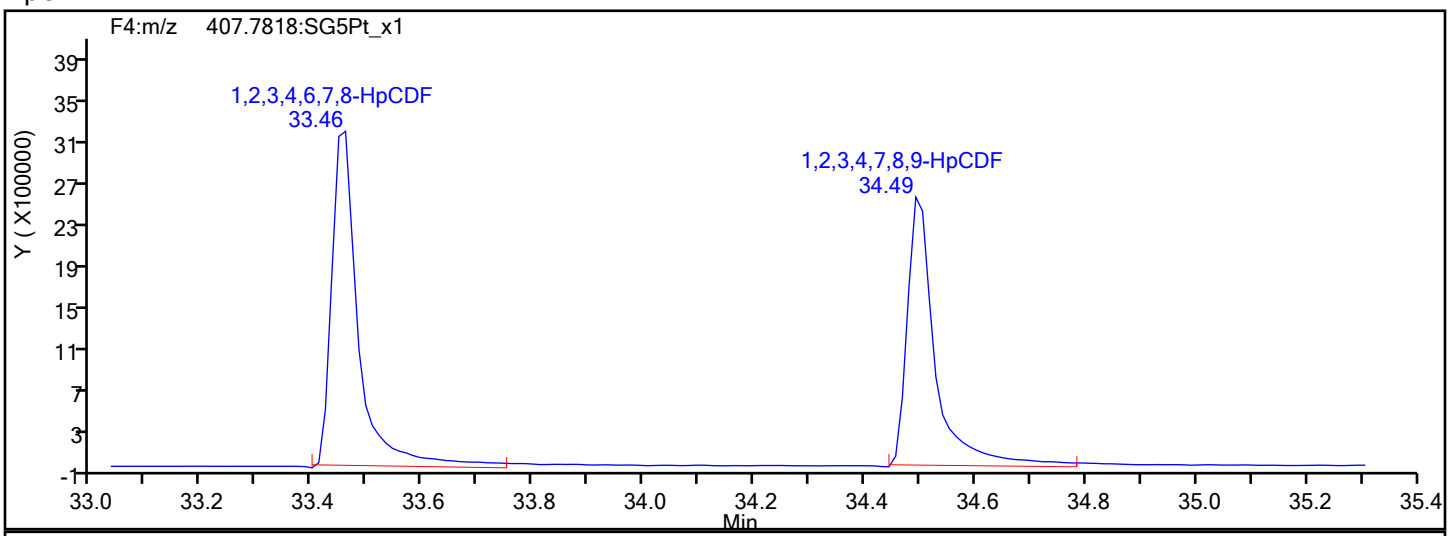

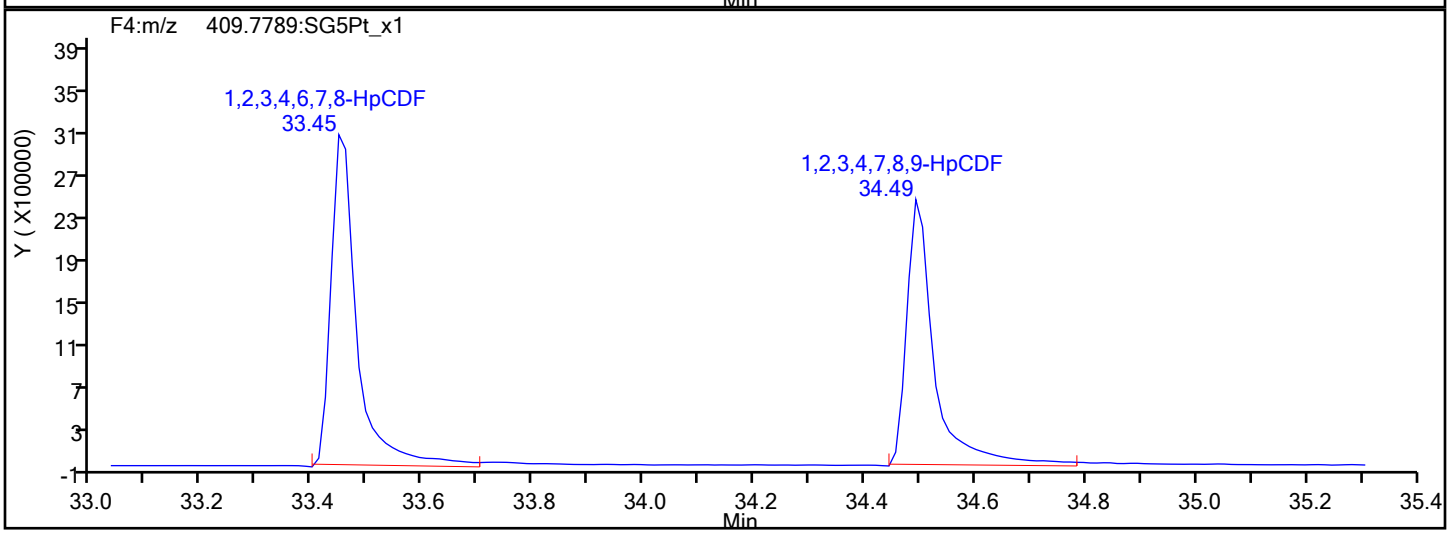

HpCDF Interference Mass

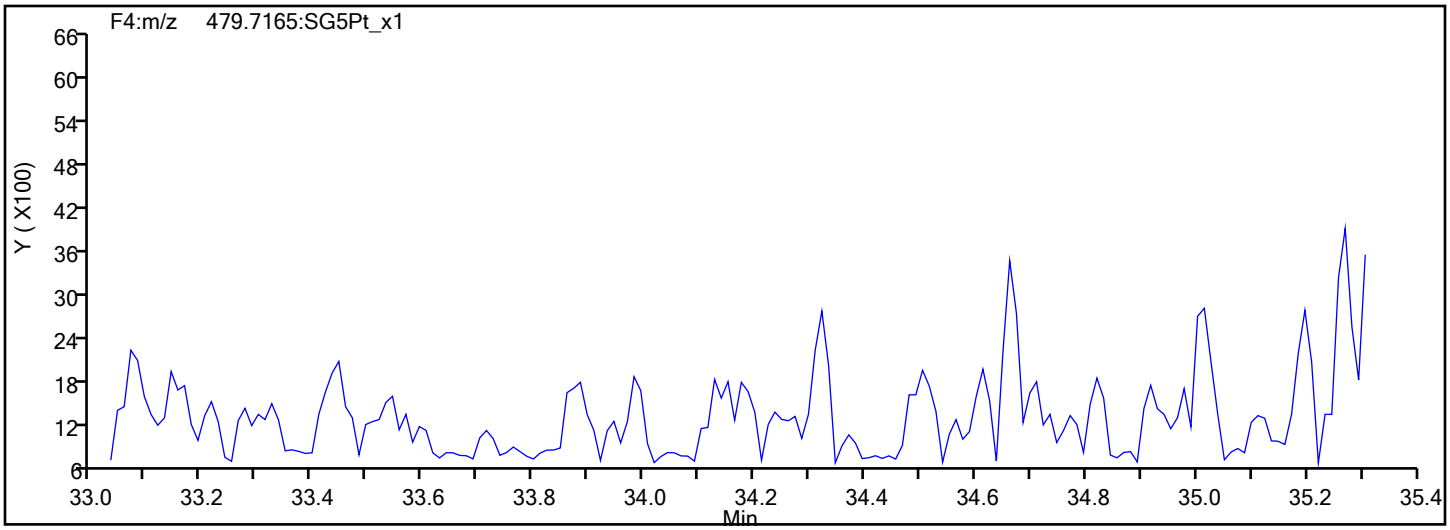

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Eurofins TestAmerica, Sacramento

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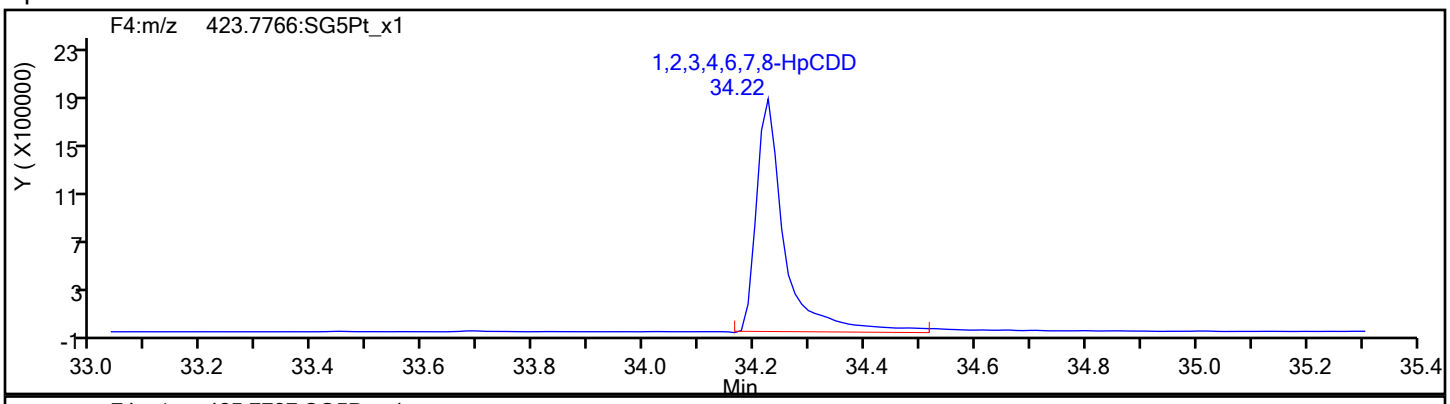

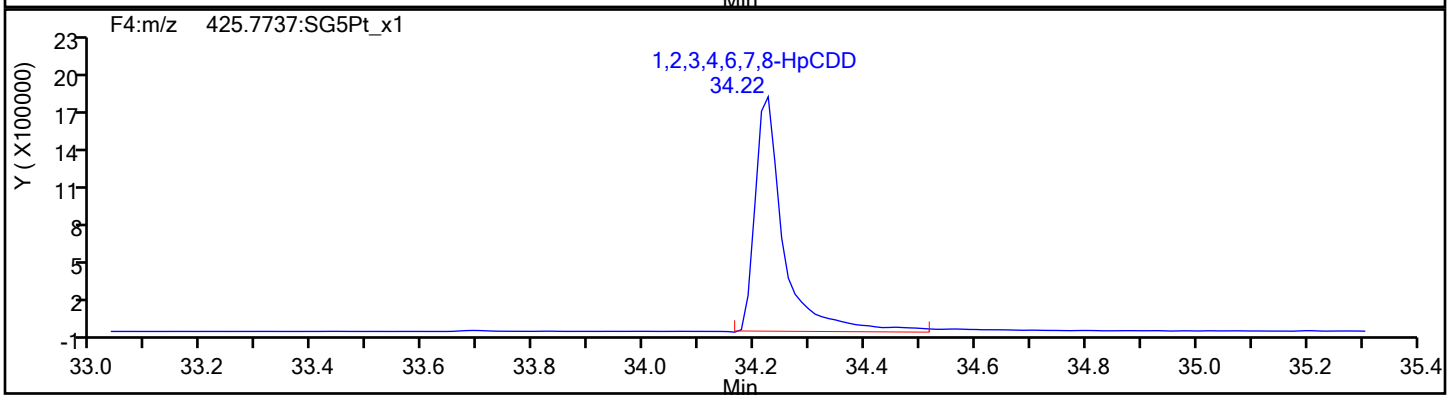

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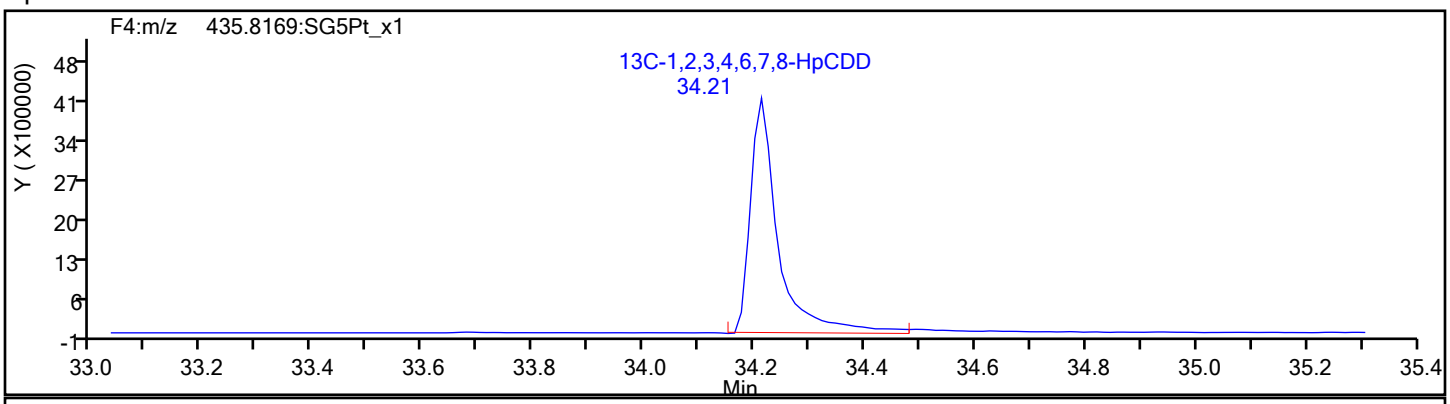

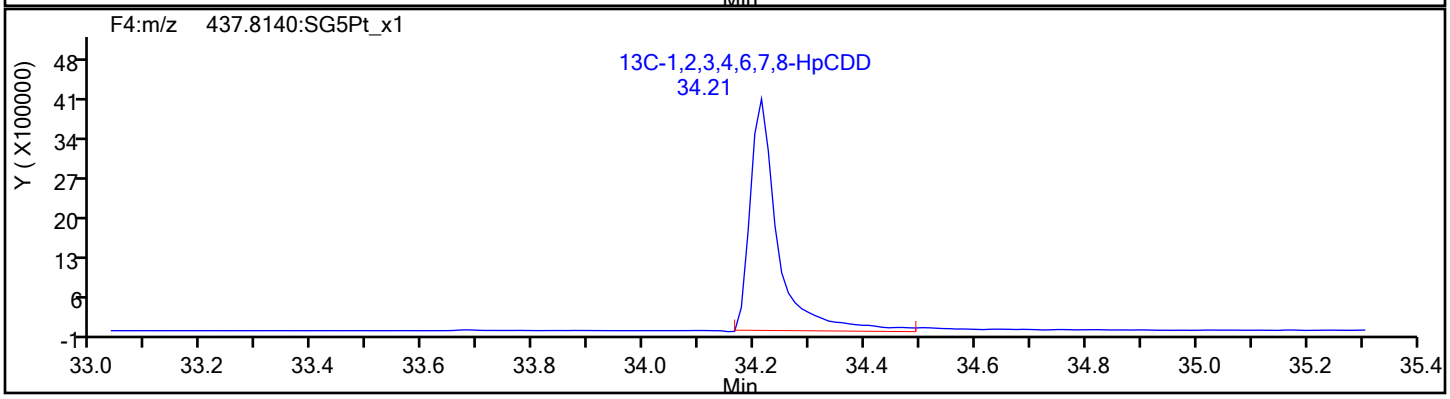

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Eurofins TestAmerica, Sacramento

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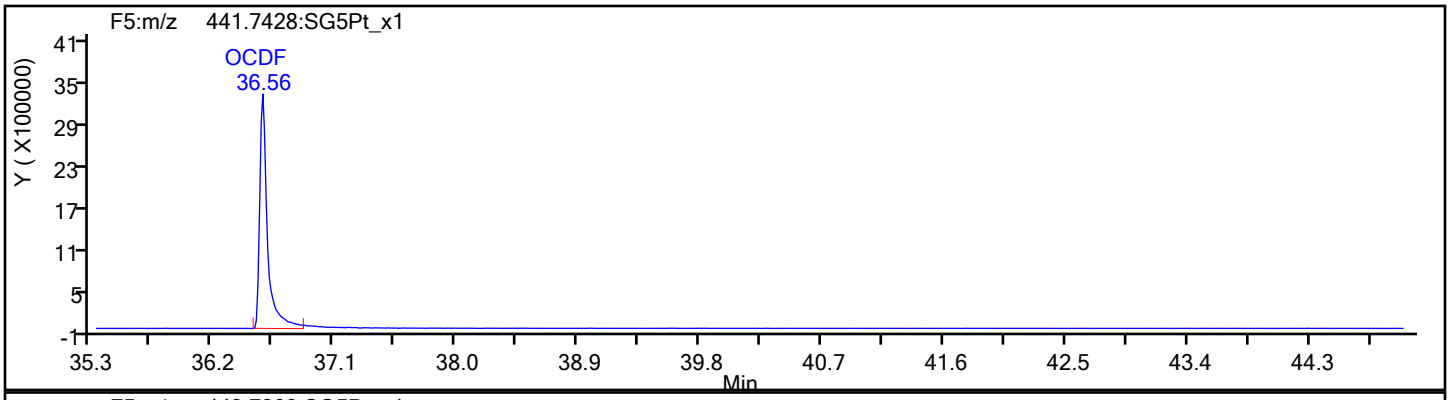

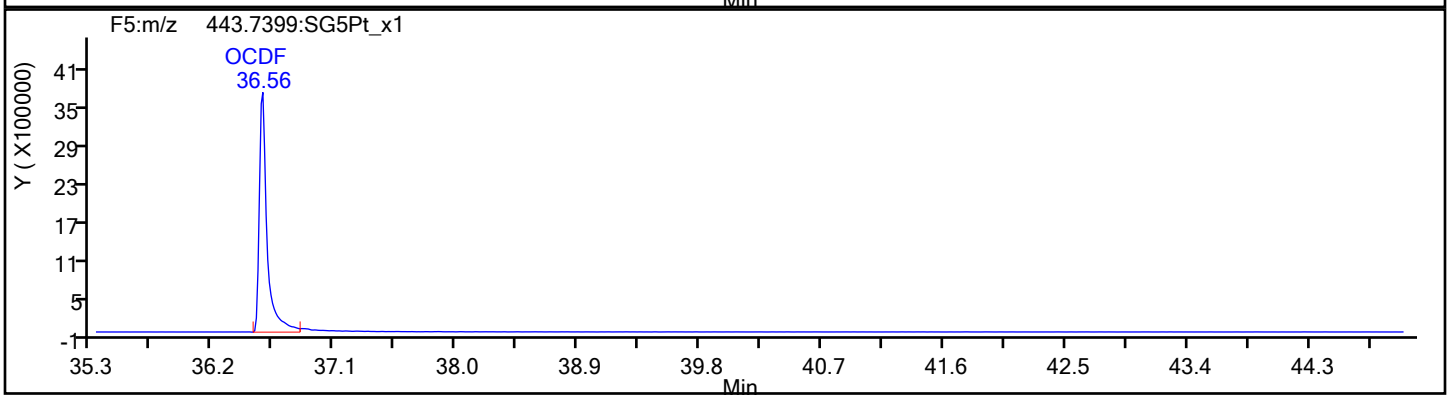

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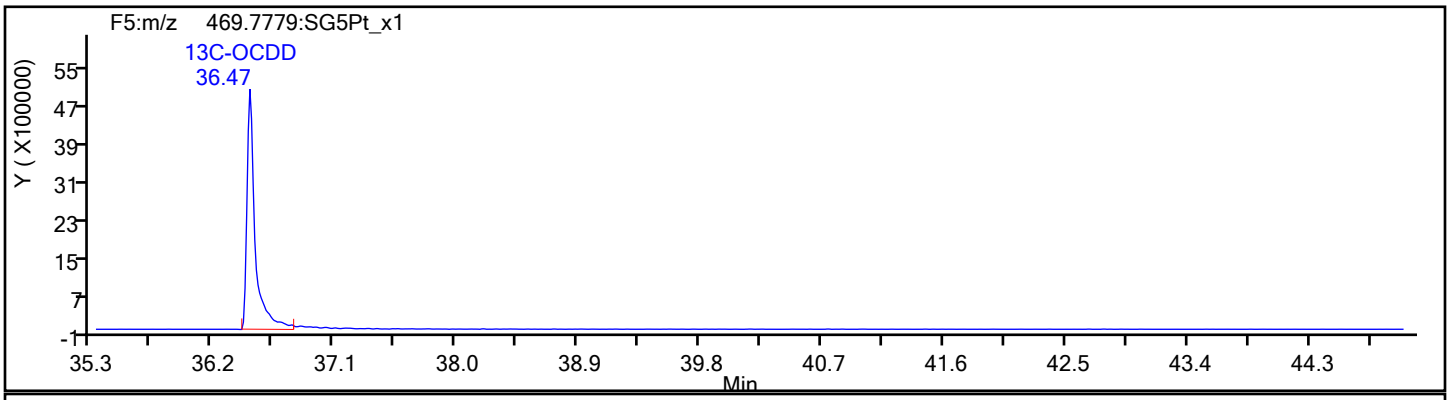

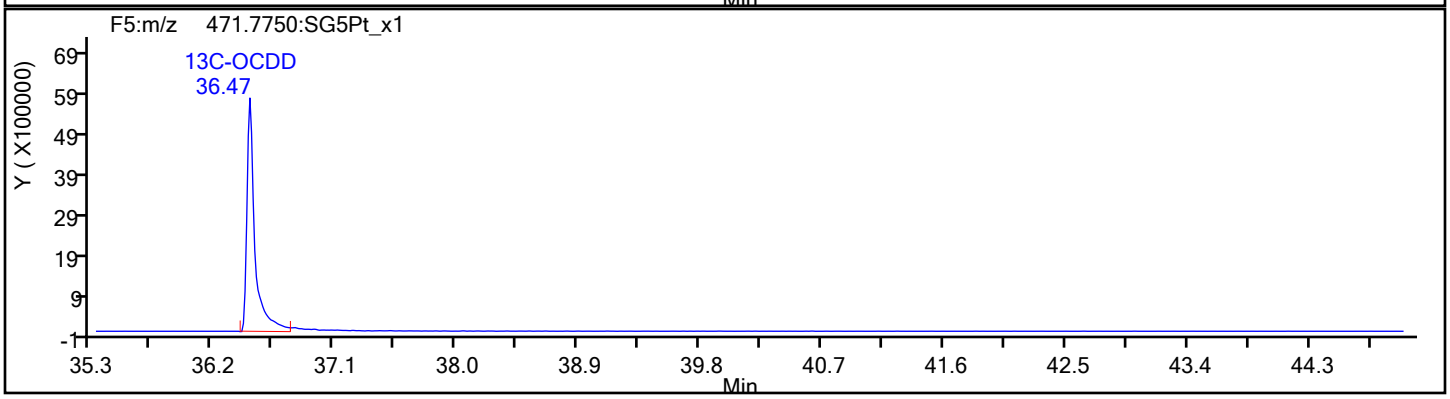

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Eurofins TestAmerica, Sacramento

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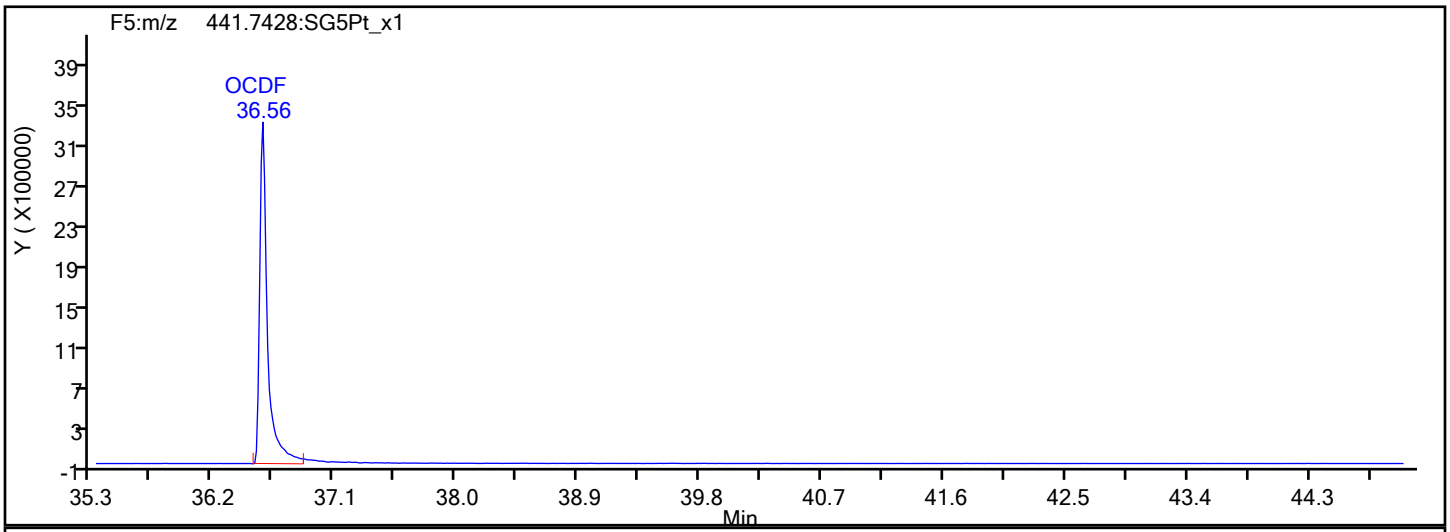

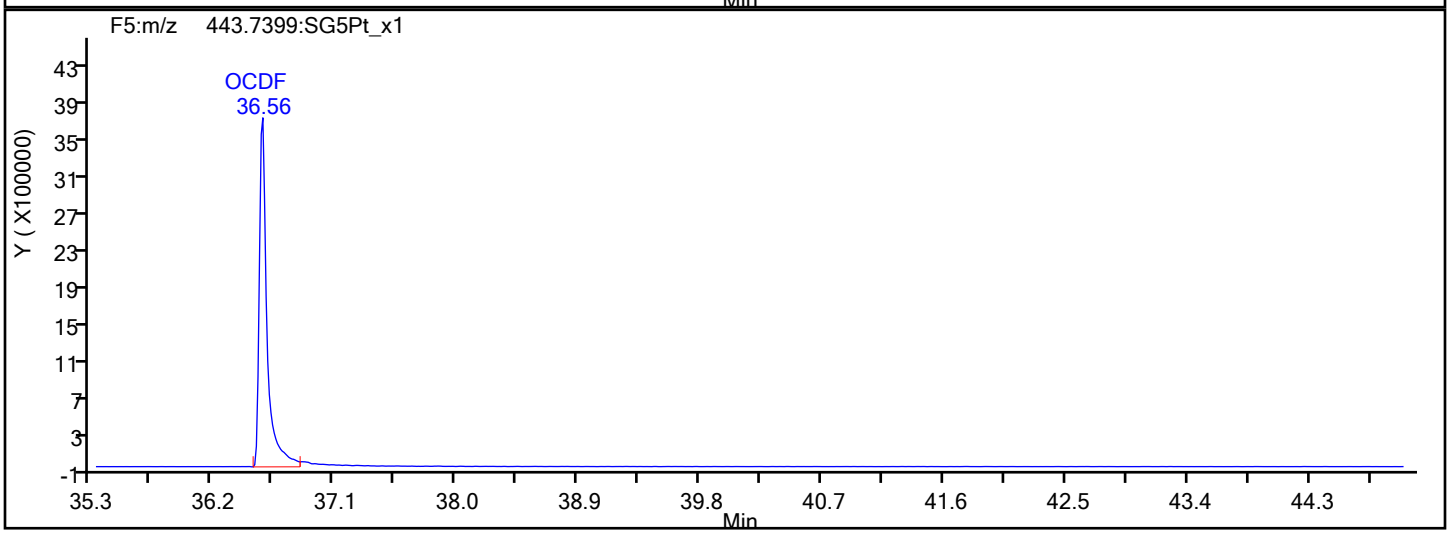

OCDF Interference Mass

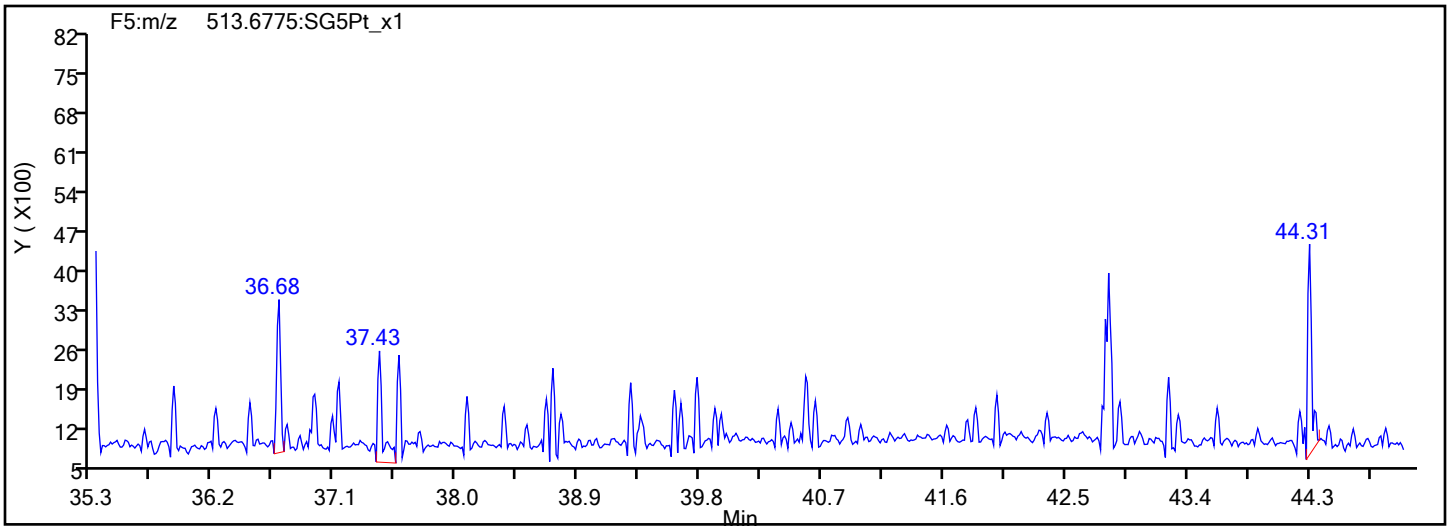

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Eurofins TestAmerica, Sacramento

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OCDD

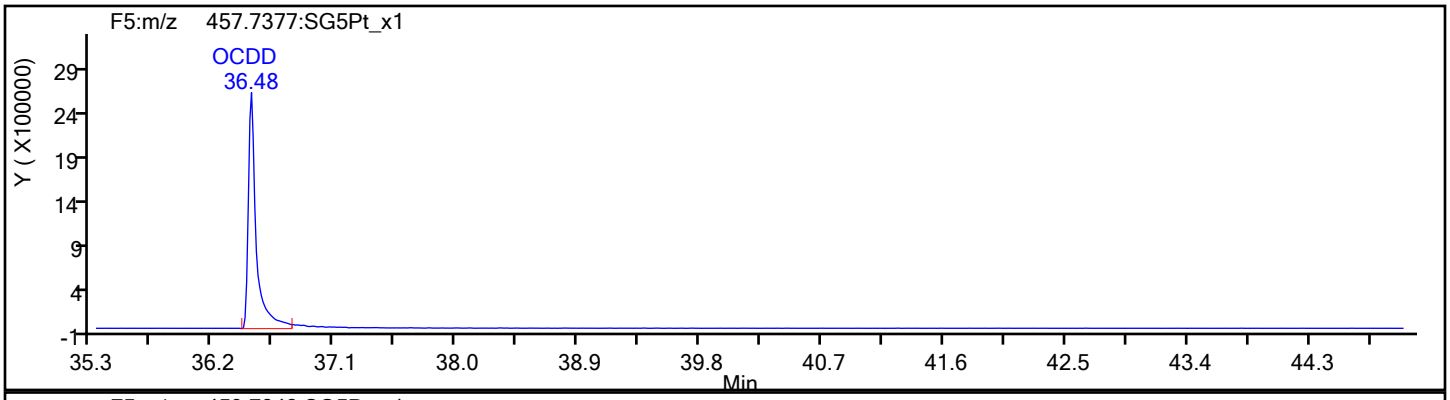

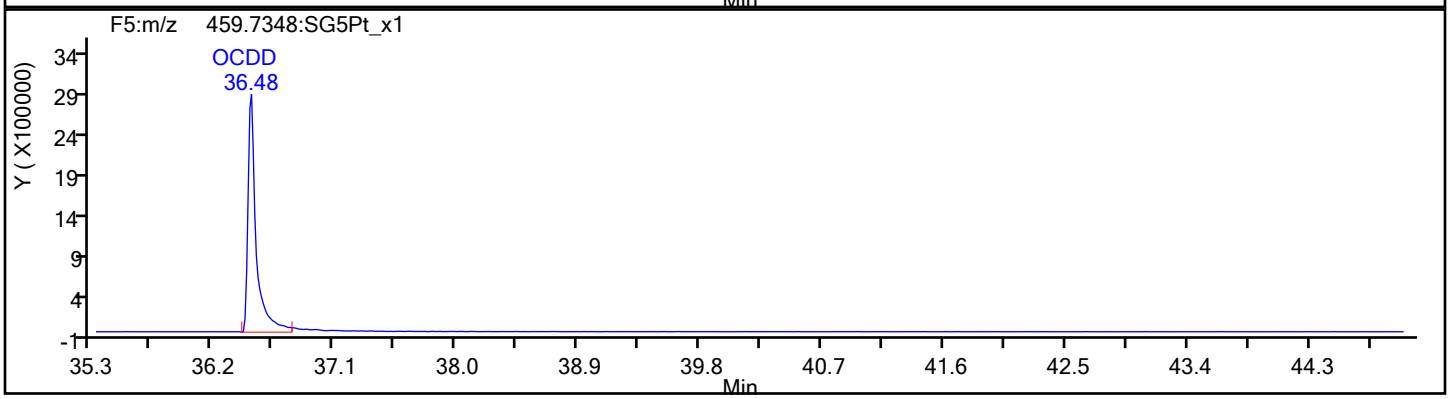

OCDD Standards

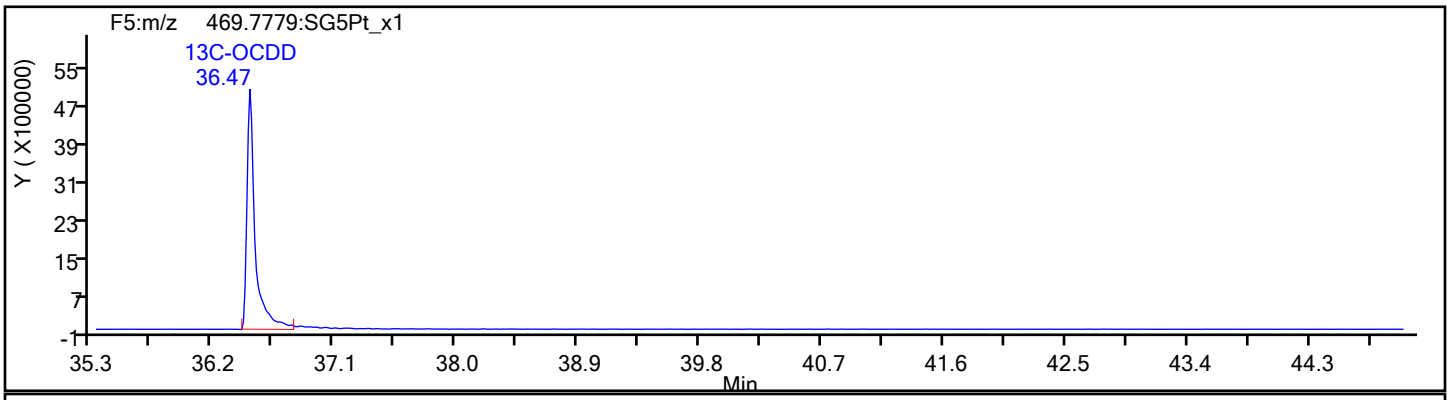

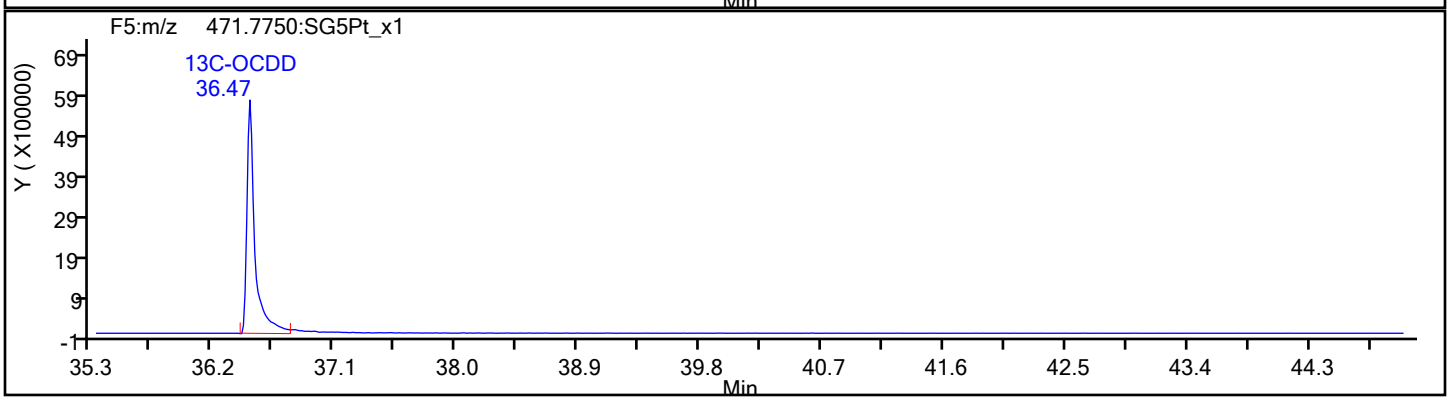

Report Date: 20-Sep-2019 09:55:54 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_40.d		
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Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	40
Column Type:	DB-5	Column Dia:	0.32 mm

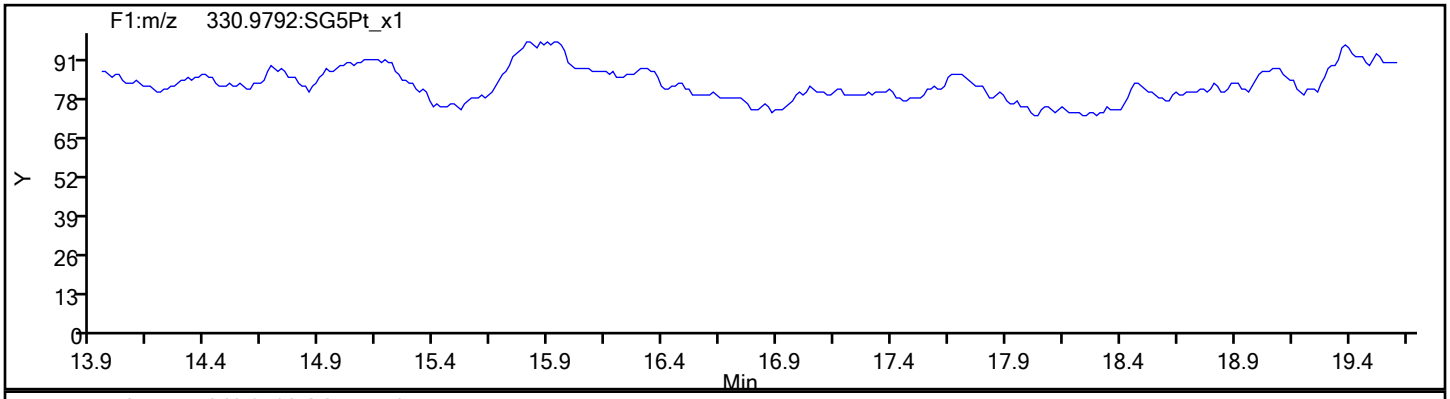

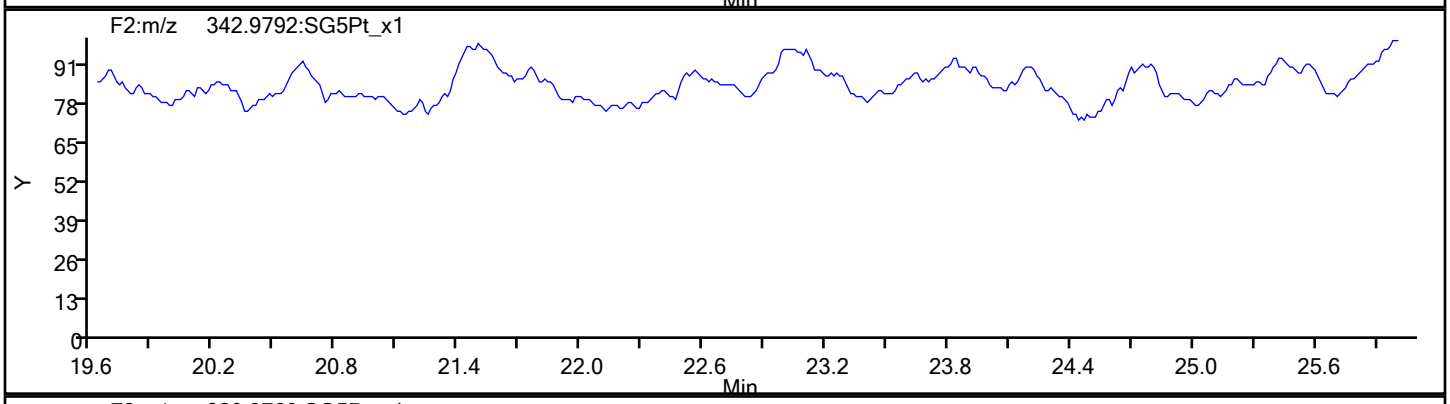

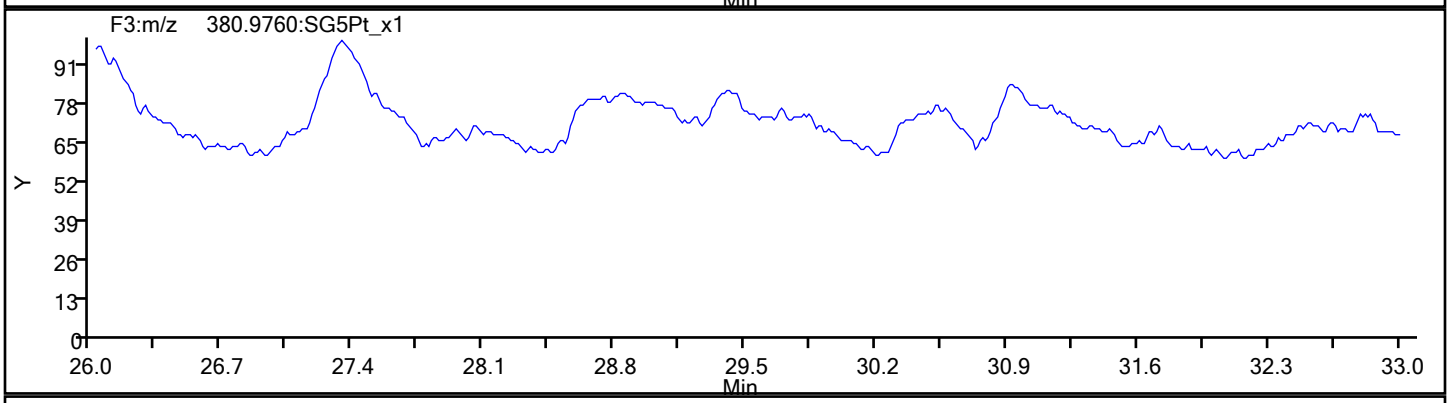

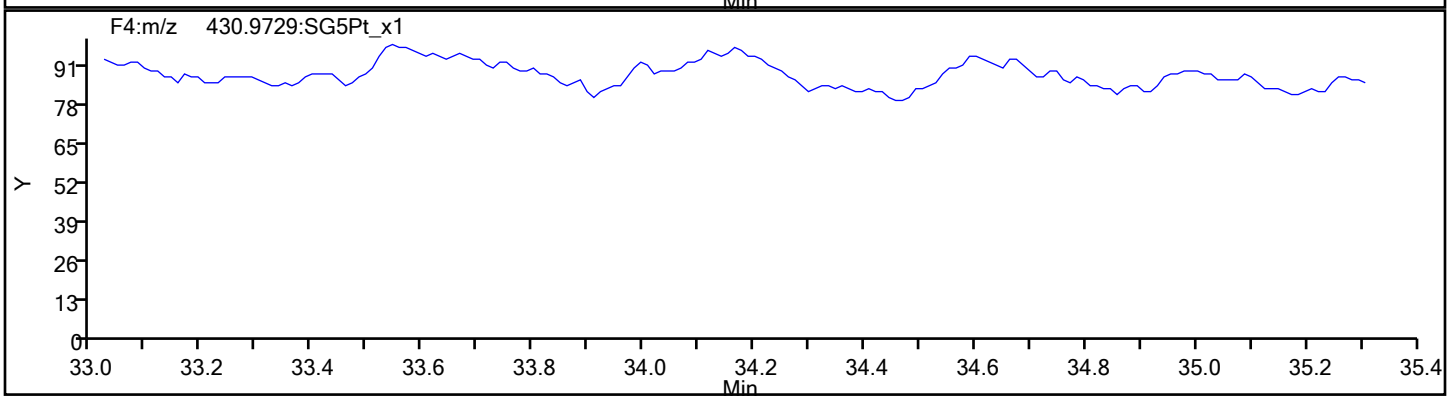

Report Date: 20-Sep-2019 09:55:54 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_40.d		
Injection Date:	19-Sep-2019 17:18:44	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	40
Column Type:	DB-5	Column Dia:	0.32 mm

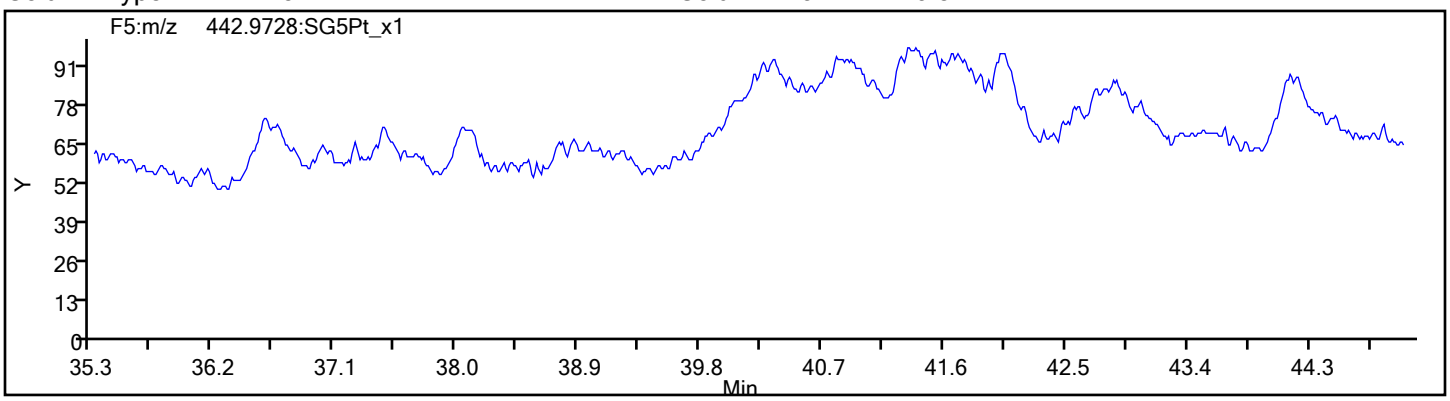

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20SE1911D2	3	SB 092019	SB Solvent Blank C-14				1.00000	
20SE1911D2	4	320-324498	600-191956-A-1-C	20	1613B/Water	D93	1.00000	L
20SE1911D2	5	320-324498	600-191956-A-2-C	20	1613B/Water		1.00000	L
20SE1911D2	6	320-324498	600-191956-A-3-C	20	1613B/Water		1.00000	L
20SE1911D2	7	320-324499	600-191956-B-1-D	20	1613B/Water	D93	1.00000	L
20SE1911D2	8	320-324499	600-191956-B-2-D	20	1613B/Water		1.00000	L
20SE1911D2	9	320-324499	600-191956-B-3-D	20	1613B/Water		1.00000	L
20SE1911D2	10	320-324382	550-129464-A-1-A	20	8290A/Solid	D93	10.00000	g
20SE1911D2	11	320-324382	160-35626-B-8-A	20	8290A_D5/Solid		10.00000	g
20SE1911D2	12	320-324382	160-35626-B-8-B MS	20	8290A_D5/Solid		10.00000	g
20SE1911D2	13	320-324382	160-35626-B-8-C MSD	20	8290A-D5/Solid		10.00000	g
20SE1911D2	14	SB 092019A	SB Solvent Blank C-14				1.00000	
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20SE1911D2	16						1.00000	
20SE1911D2	17						1.00000	
20SE1911D2	18						1.00000	
20SE1911D2	19						1.00000	
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20SE1911D2	21		SMA 09-20-19				1.00000	
20SE1911D2	22						1.00000	
20SE1911D2	23						1.00000	
20SE1911D2	24						1.00000	
20SE1911D2	25						1.00000	
20SE1911D2	26						1.00000	

logfile checked
9-20-19 AJS, ALM

Peak Locate Examination:20-SEP-2019:09:54 File:20SE1911D2
Experiment:DB225RES Function:1 Reference:PFK

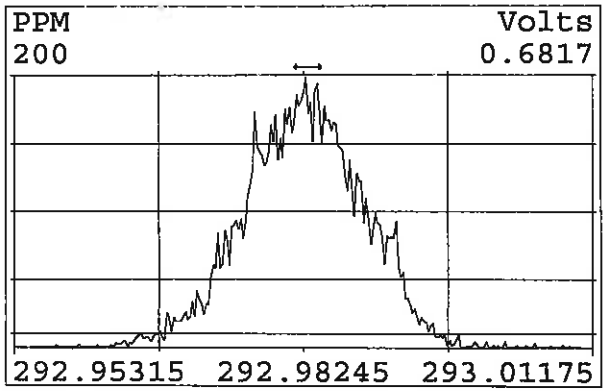

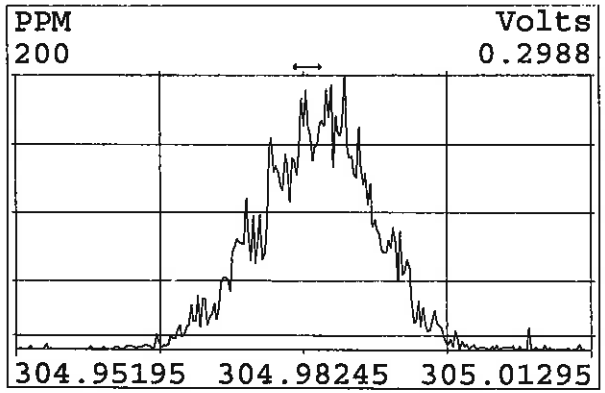

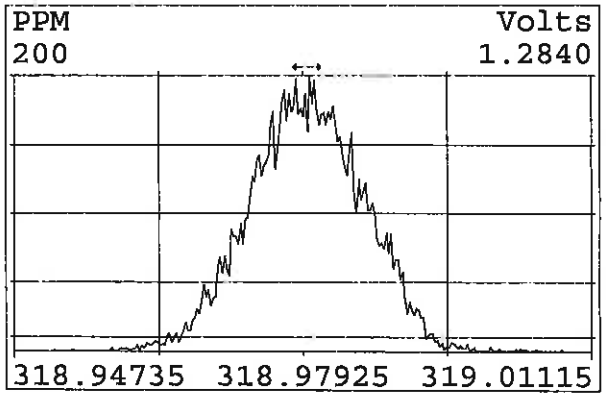

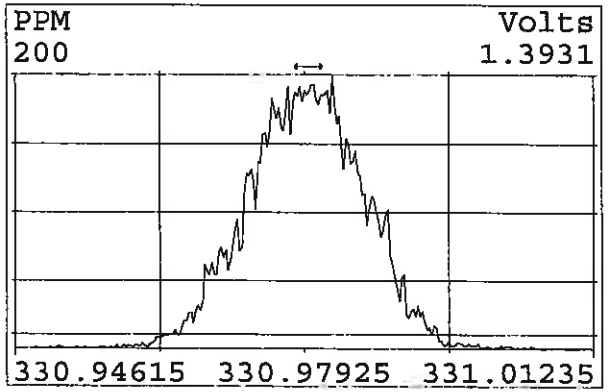

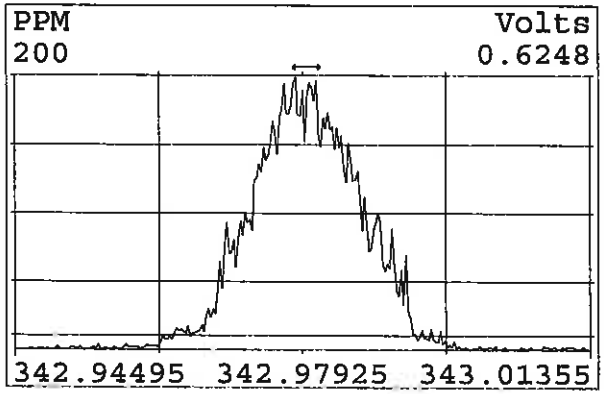

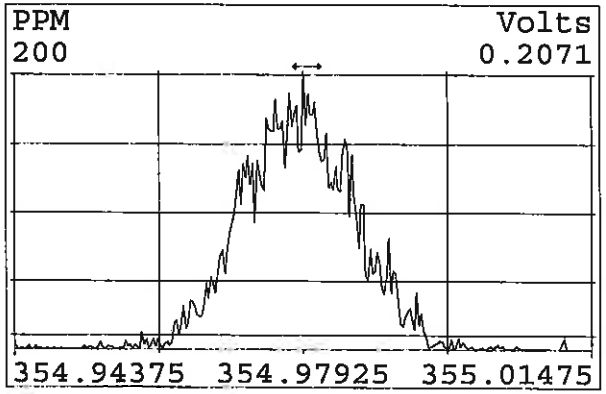

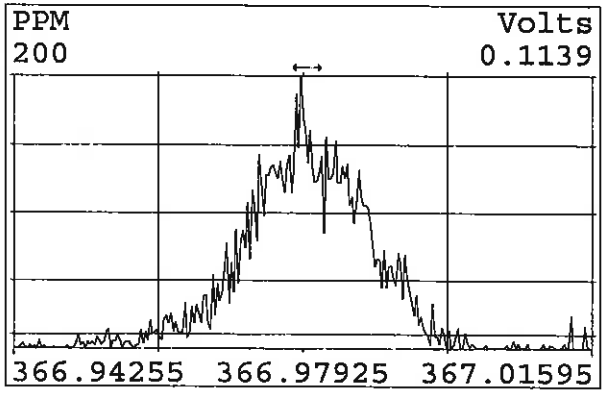

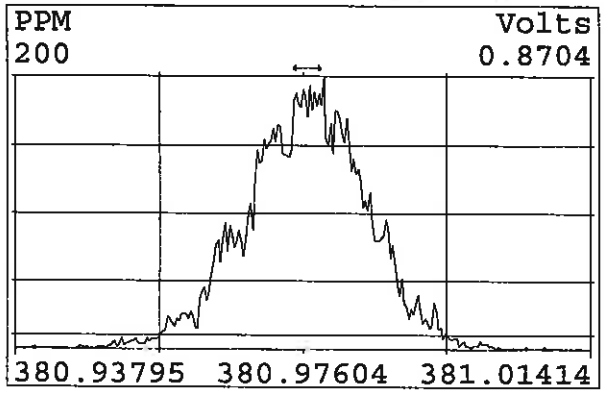

Peak Locate Examination:20-SEP-2019:19:37 File:RESCHK20SE1911D2
Experiment:DB225RES Function:1 Reference:PFK

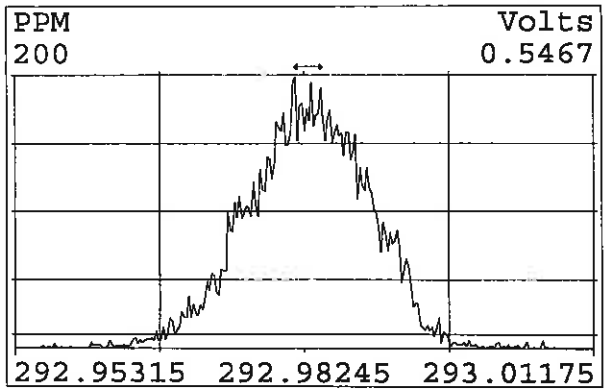

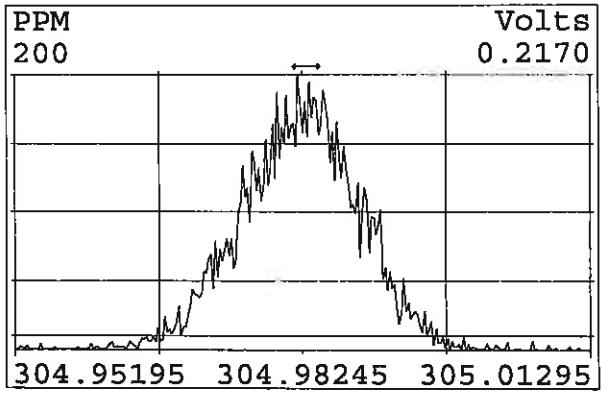

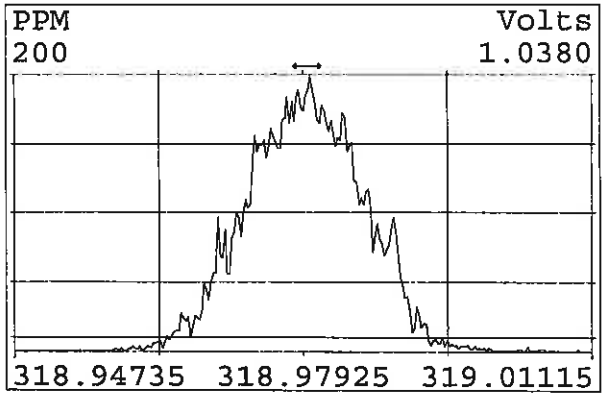

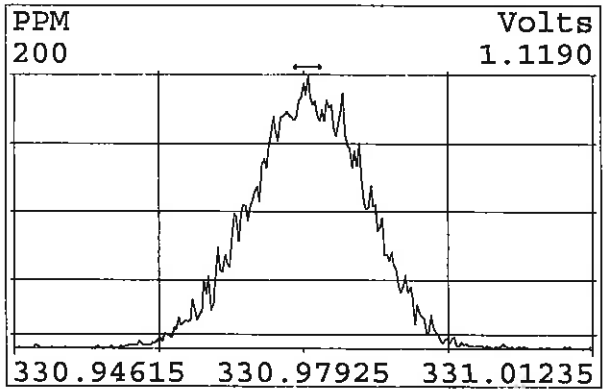

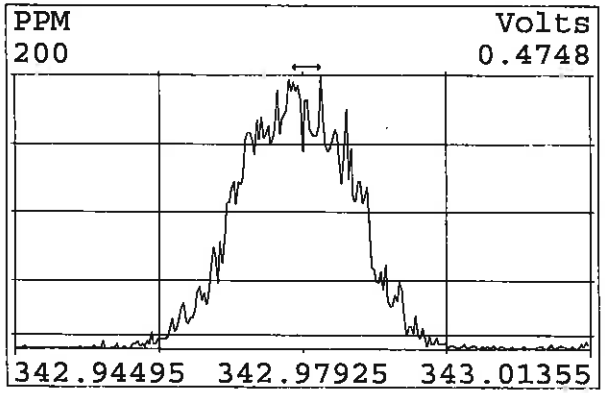

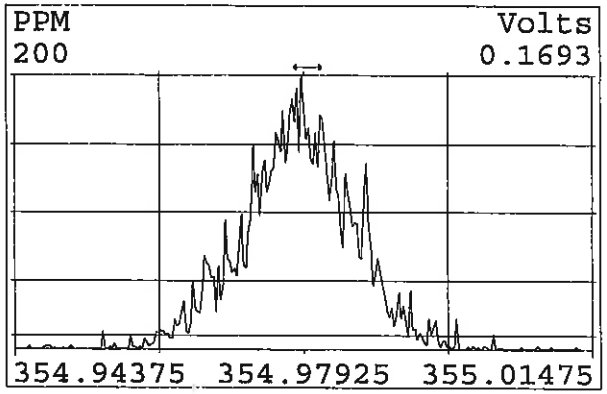

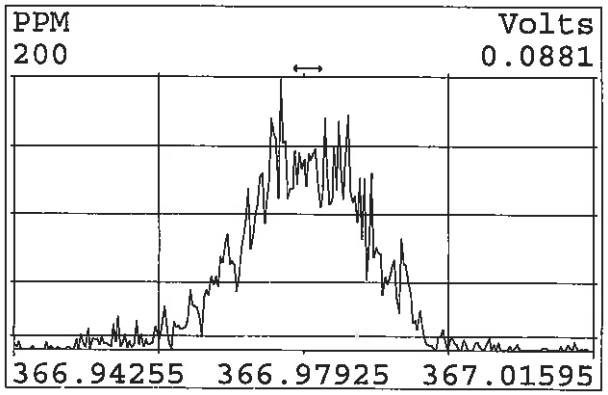

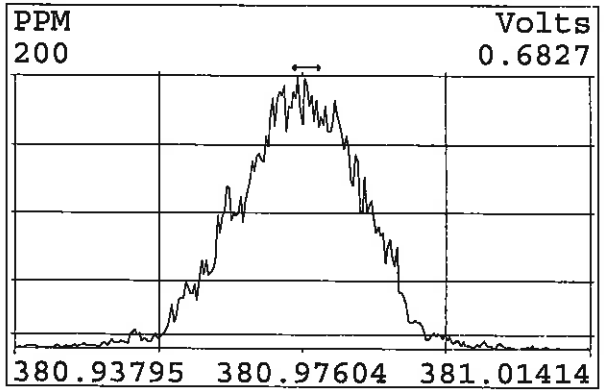

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190920-83509.b\20SE1911D2_002.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 20-Sep-2019 10:33:49 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV CS-4 HRDXNL4_00084
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190920-83509.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 21-Sep-2019 00:20:41 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0308

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.322	175842746	0.77	1.1E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.502	240716429	0.78	1.3379	102.3	102.3	0.2069	0.2069	102	
2,3,7,8-TCDF	16.516	21818470	0.77	0.8389	10.8	10.8	0.0370	0.0370	108	
D 13C-2,3,7,8-TCDD	15.089	156692292	0.78	0.9388	94.9	94.9	0.1479	0.1479	94.92	
2,3,7,8-TCDD	15.102	16760131	0.82	1.1538	9.270	9.270	0.0596	0.0596	92.70	
$ 37Cl4-2,3,7,8-TCDD	15.102	16199172		1.1816	7.796	7.796	0.0364	0.0364	97.45	
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNL4_00084 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190920-83509.b\20SE1911D2_002.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 20-Sep-2019 10:33:49 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CCV CS-4 HRDXNL4_00084
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190920-83509.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 21-Sep-2019 00:20:41 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0308

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.322	15.322	0		76228308	16836160	13932	34830	1208		
333.9339	15.322	15.322	0		99614438	21898211	7584	18960	2887	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.502	16.511	1	1.077	105506421	21491346	23404	58510	918		
317.9389	16.502	16.511	1	1.077	135210008	26729238	19482	48705	1372	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.516	16.516	0	1.001	9524168	1934408	2574	6435	752		
305.8987	16.516	16.516	0	1.001	12294302	2413554	3409	8522	708	0.77(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.089	15.097	1	0.985	68531128	14497149	13932	34830	1041		
333.9339	15.089	15.097	1	0.985	88161164	18853256	7584	18960	2486	0.78(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.102	15.102	0	1.001	7572338	1699166	5391	13477	315		
321.8936	15.102	15.102	0	1.001	9187793	2054563	3779	9447	544	0.82(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.102	15.102	0	0.986	16199172	3522333	6659	16647	529		
Total 2378-Chlorinated Dioxins & Furans											
		0.0	0								

Reagents:

HRDXNL4_00084 Amount Added: 2.00 Units: uL

Report Date: 21-Sep-2019 00:20:41 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190920-83509.b\20SE1911D2_002.d		
Injection Date:	20-Sep-2019 10:33:49	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	325151	Sample Line#:	2
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

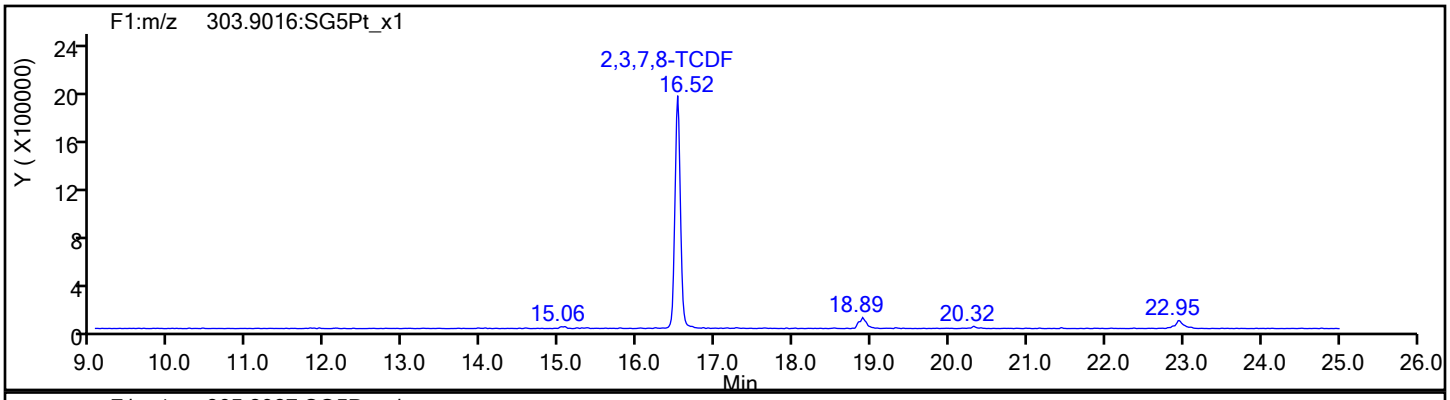

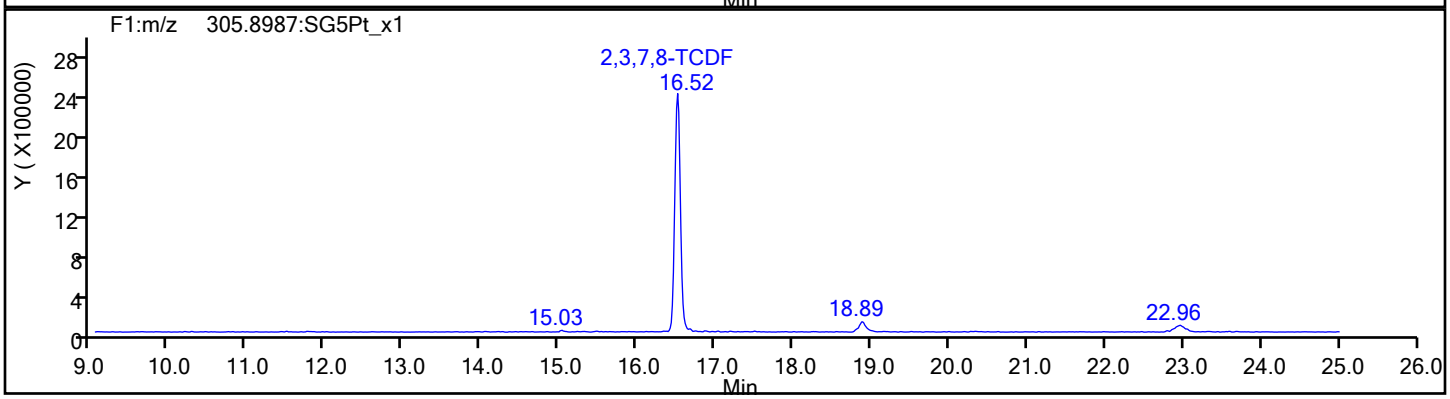

TCDF Standards

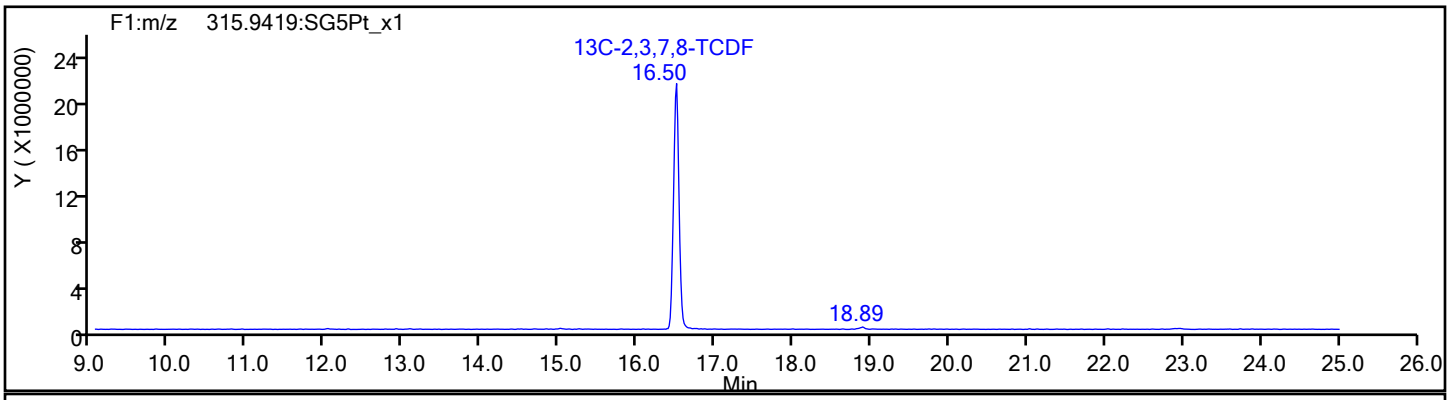

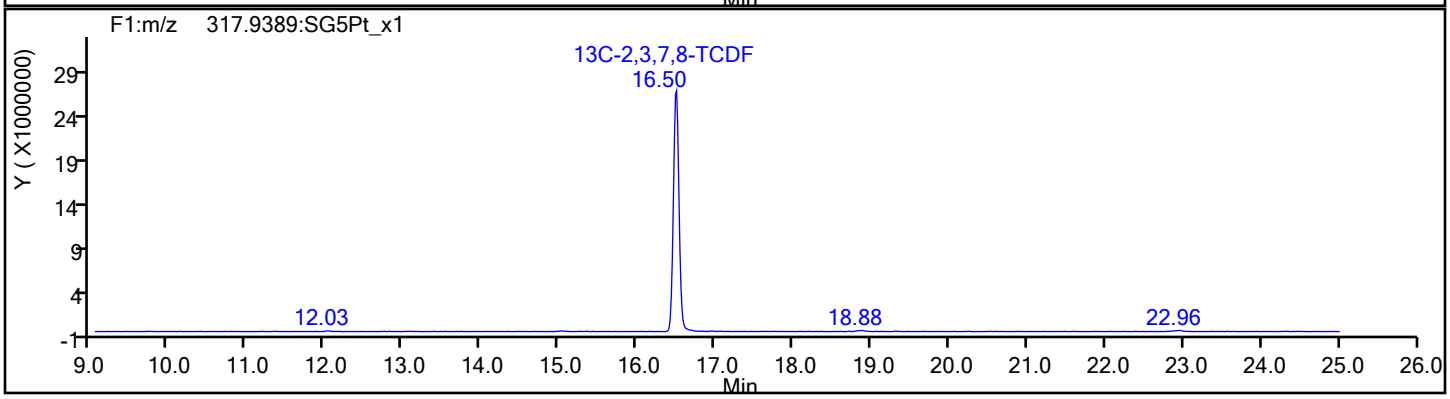

Report Date: 21-Sep-2019 00:20:41 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190920-83509.b\20SE1911D2_002.d		
Injection Date:	20-Sep-2019 10:33:49	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	325151	Sample Line#:	2
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

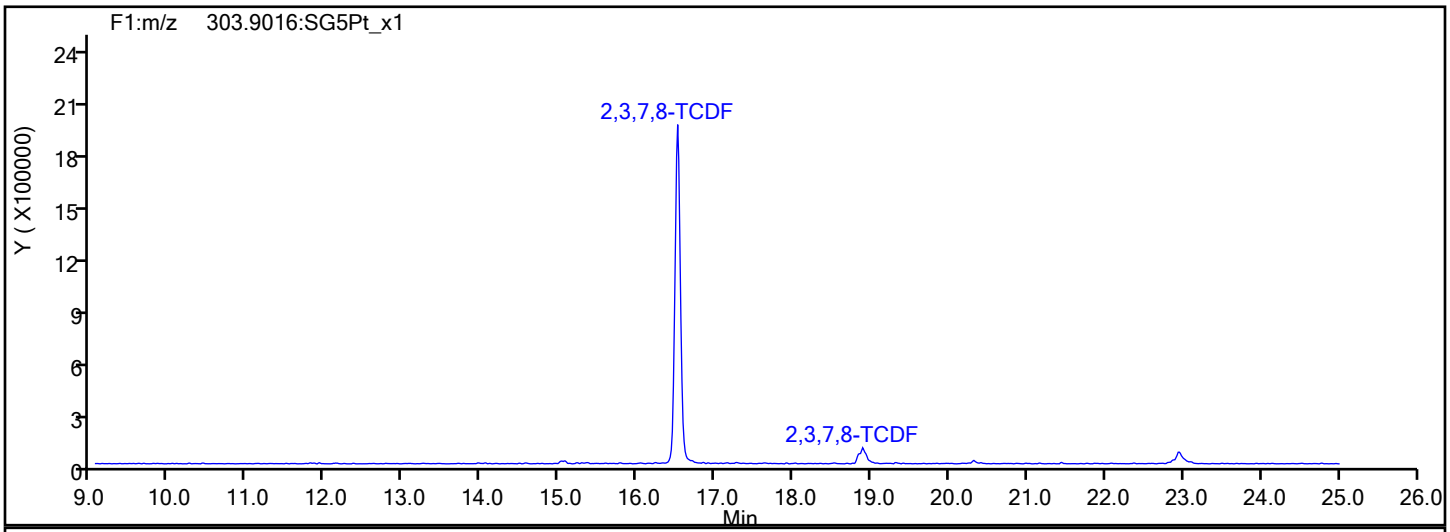

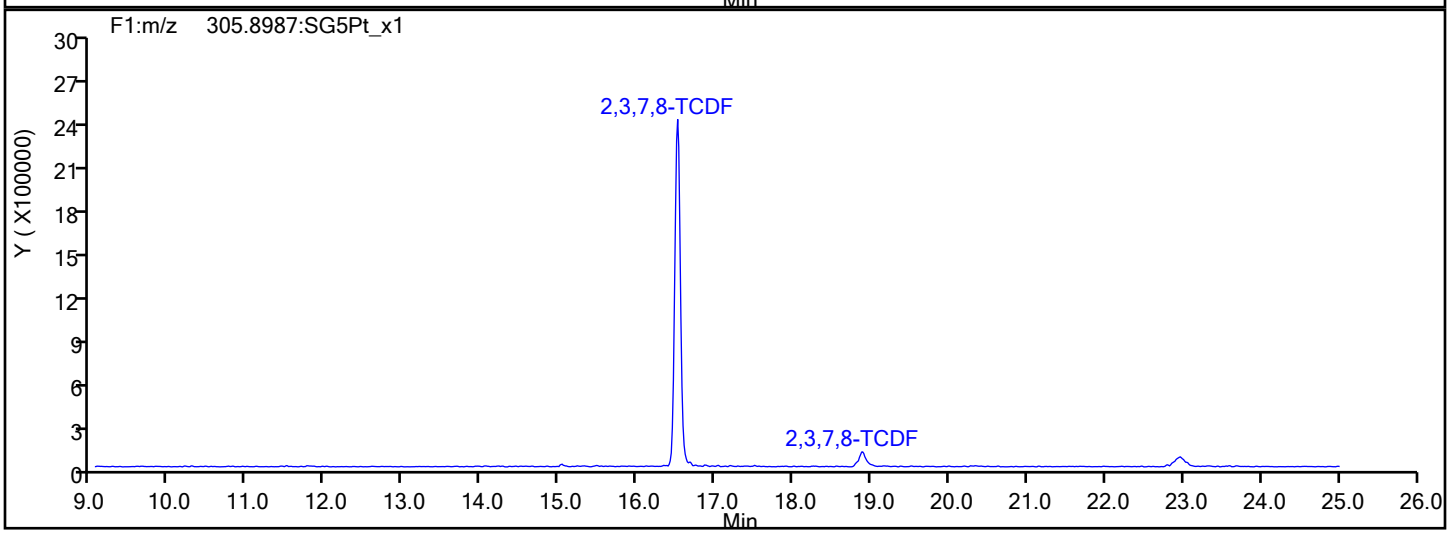

TCDF Interference Mass

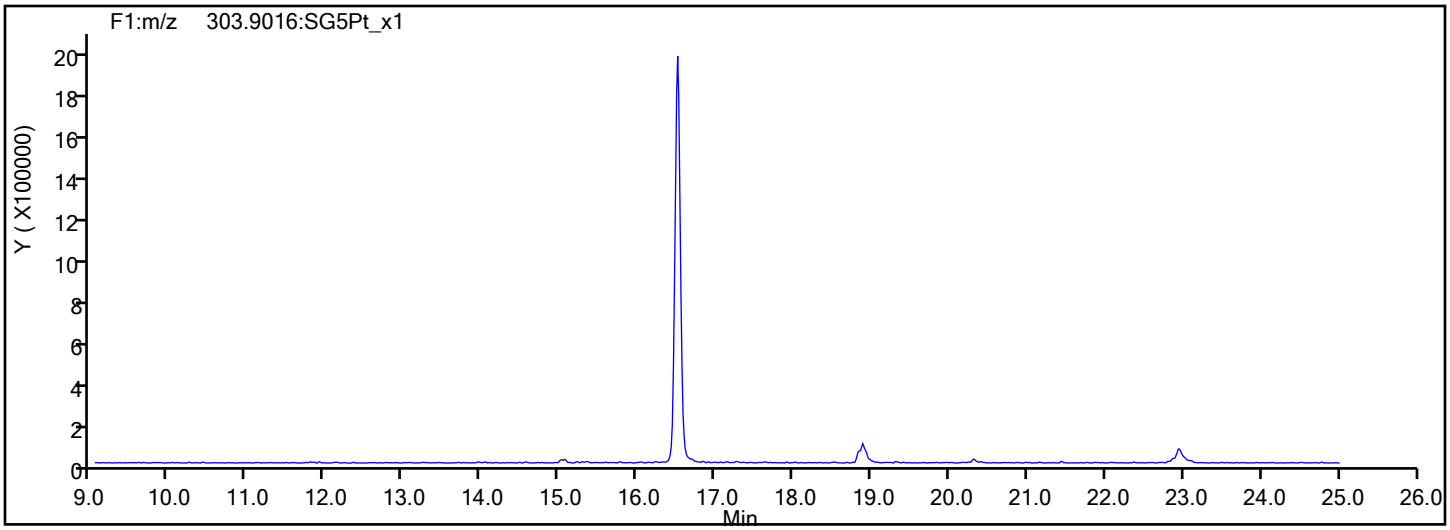

Report Date: 21-Sep-2019 00:20:41 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190920-83509.b\20SE1911D2_002.d		
Injection Date:	20-Sep-2019 10:33:49	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	325151	Sample Line#:	2
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

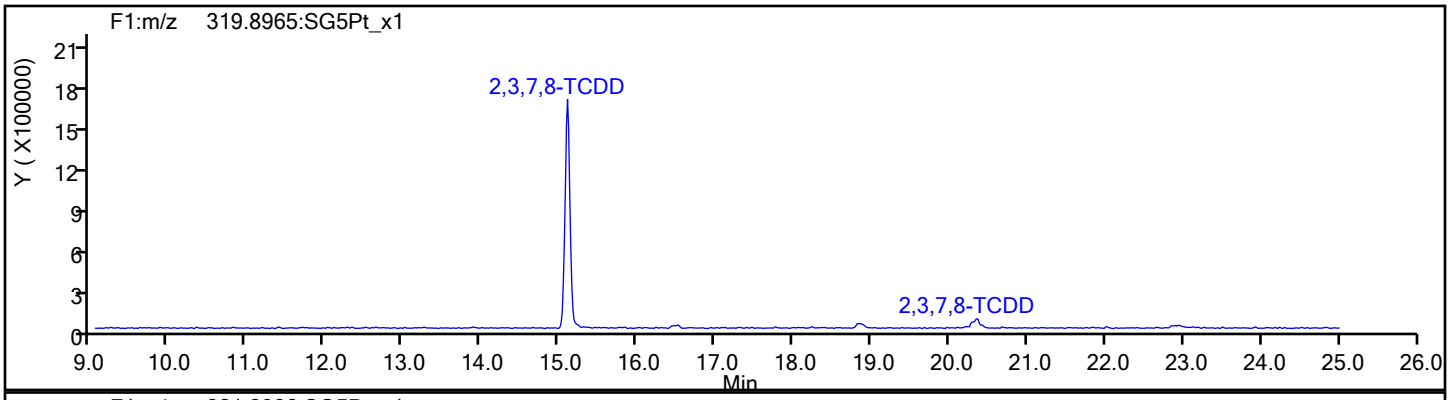

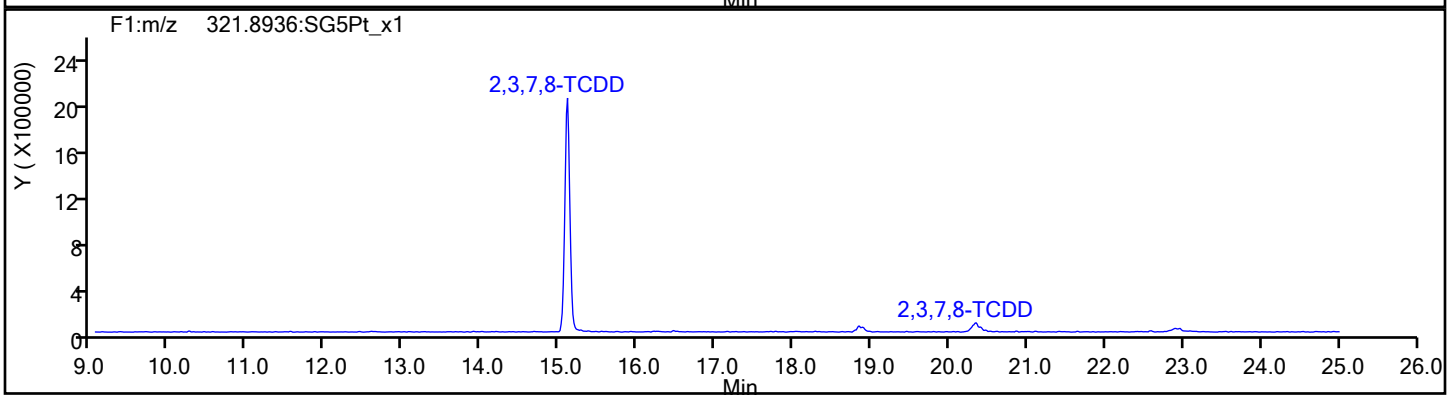

TCDD Standards

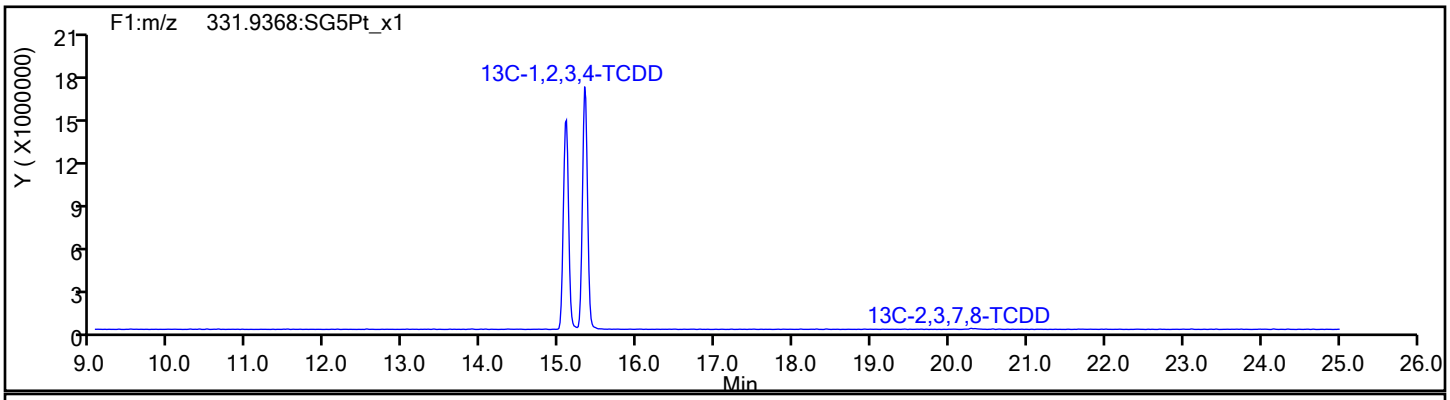

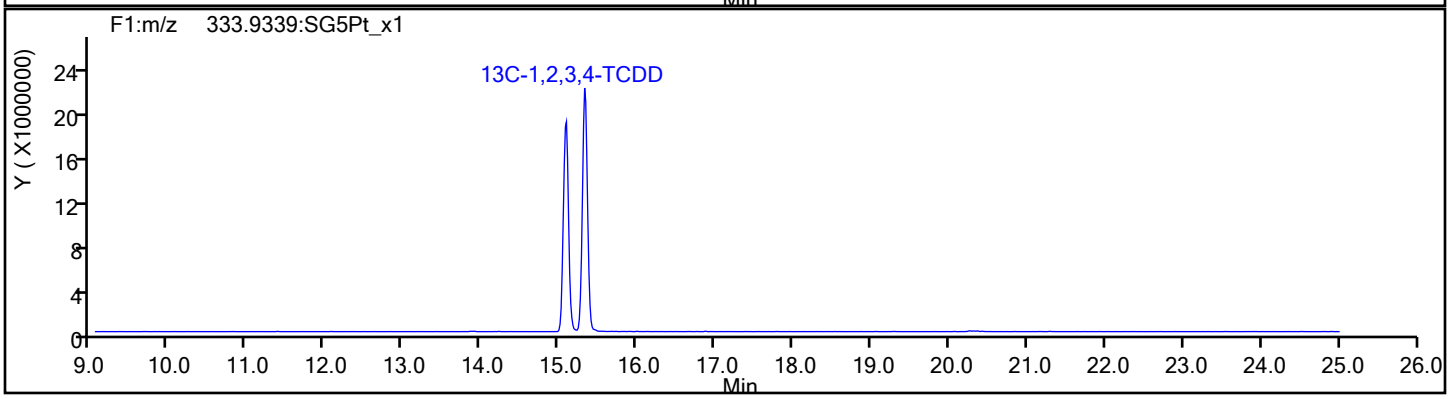

Report Date: 21-Sep-2019 00:20:41 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190920-83509.b\20SE1911D2_002.d		
Injection Date:	20-Sep-2019 10:33:49	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	325151	Sample Line#:	2
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

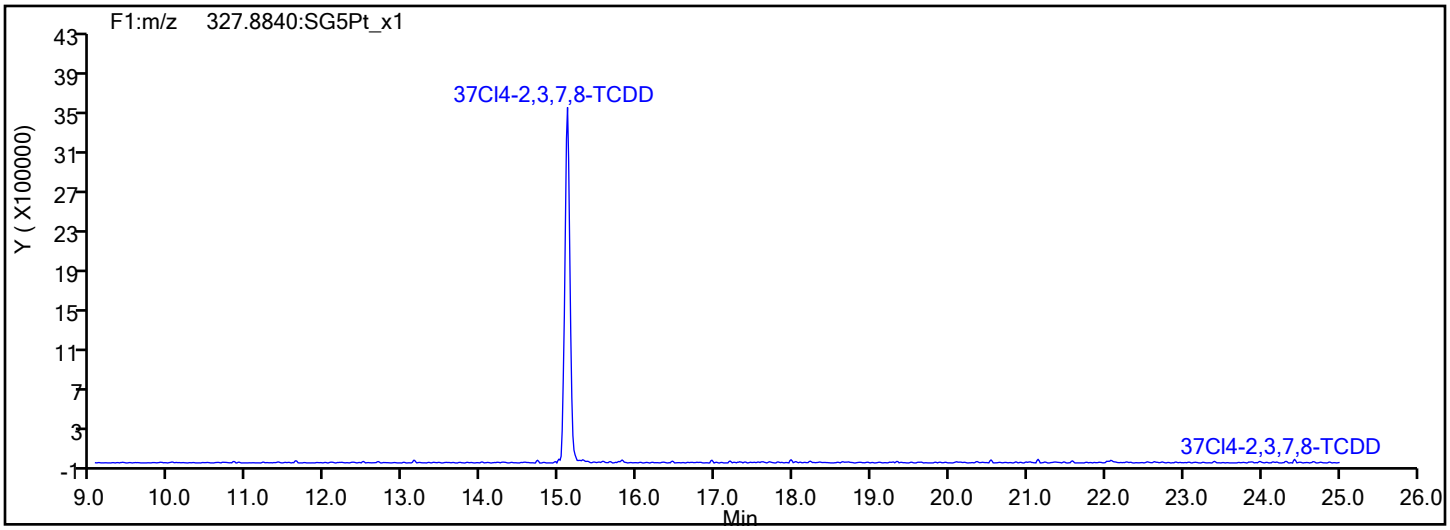

37Cl4-TCDD Standards

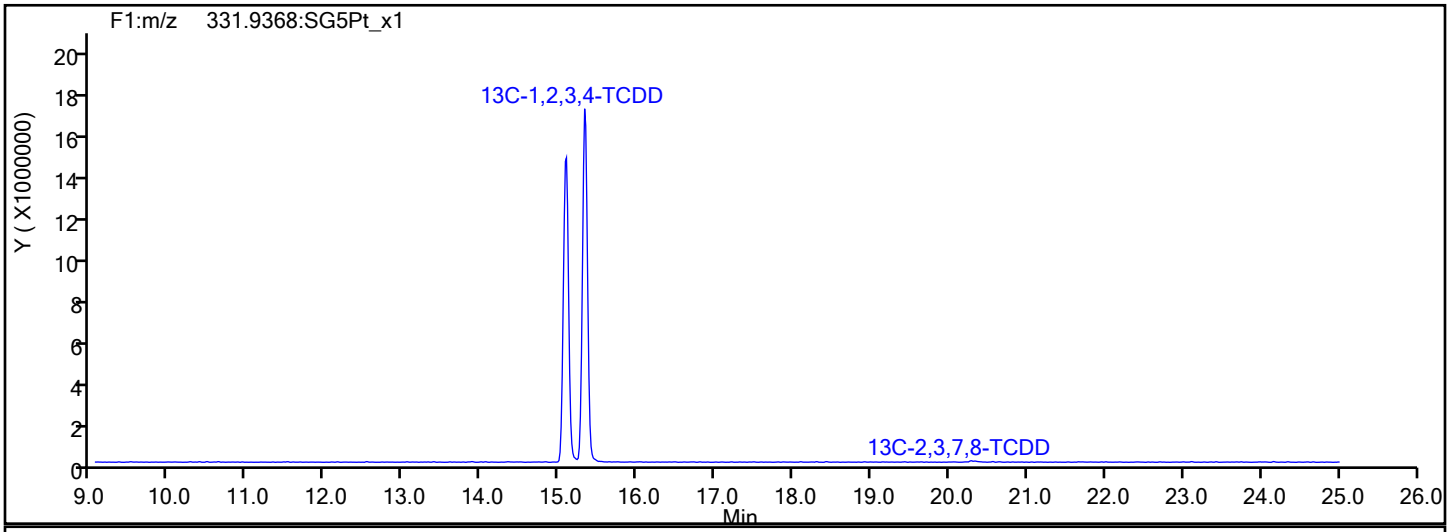

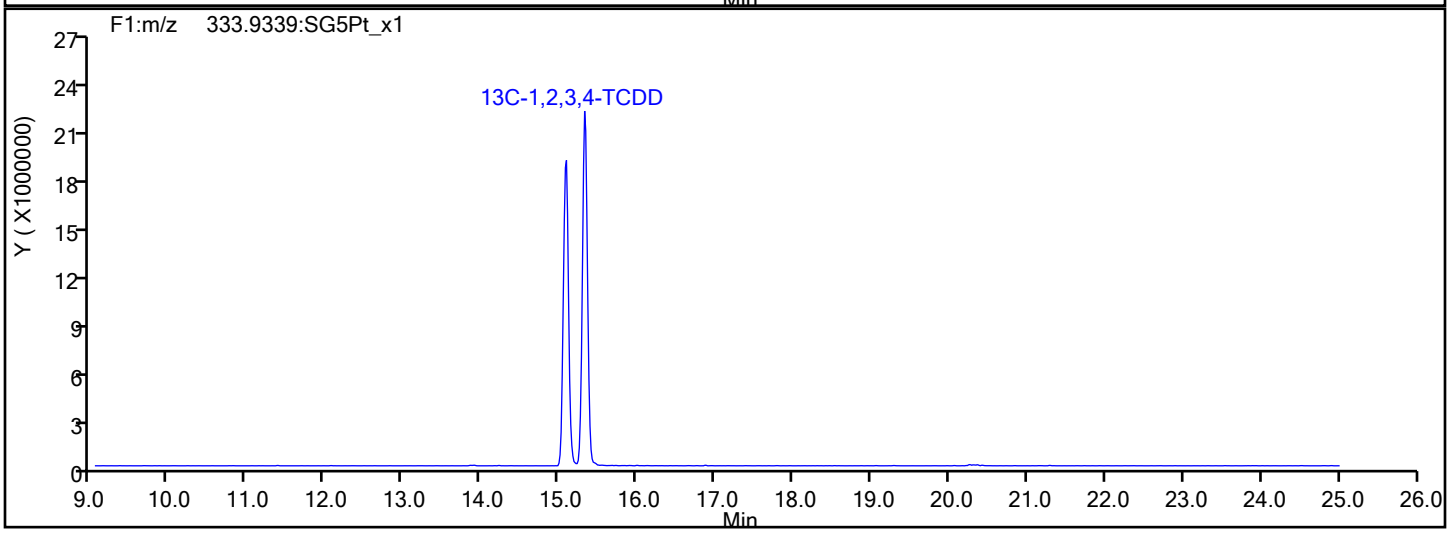

Report Date: 21-Sep-2019 00:20:41 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190920-83509.b\20SE1911D2_002.d		
Injection Date:	20-Sep-2019 10:33:49	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	325151	Sample Line#:	2
Column Type:	DB-225	Column Dia:	0.32 mm

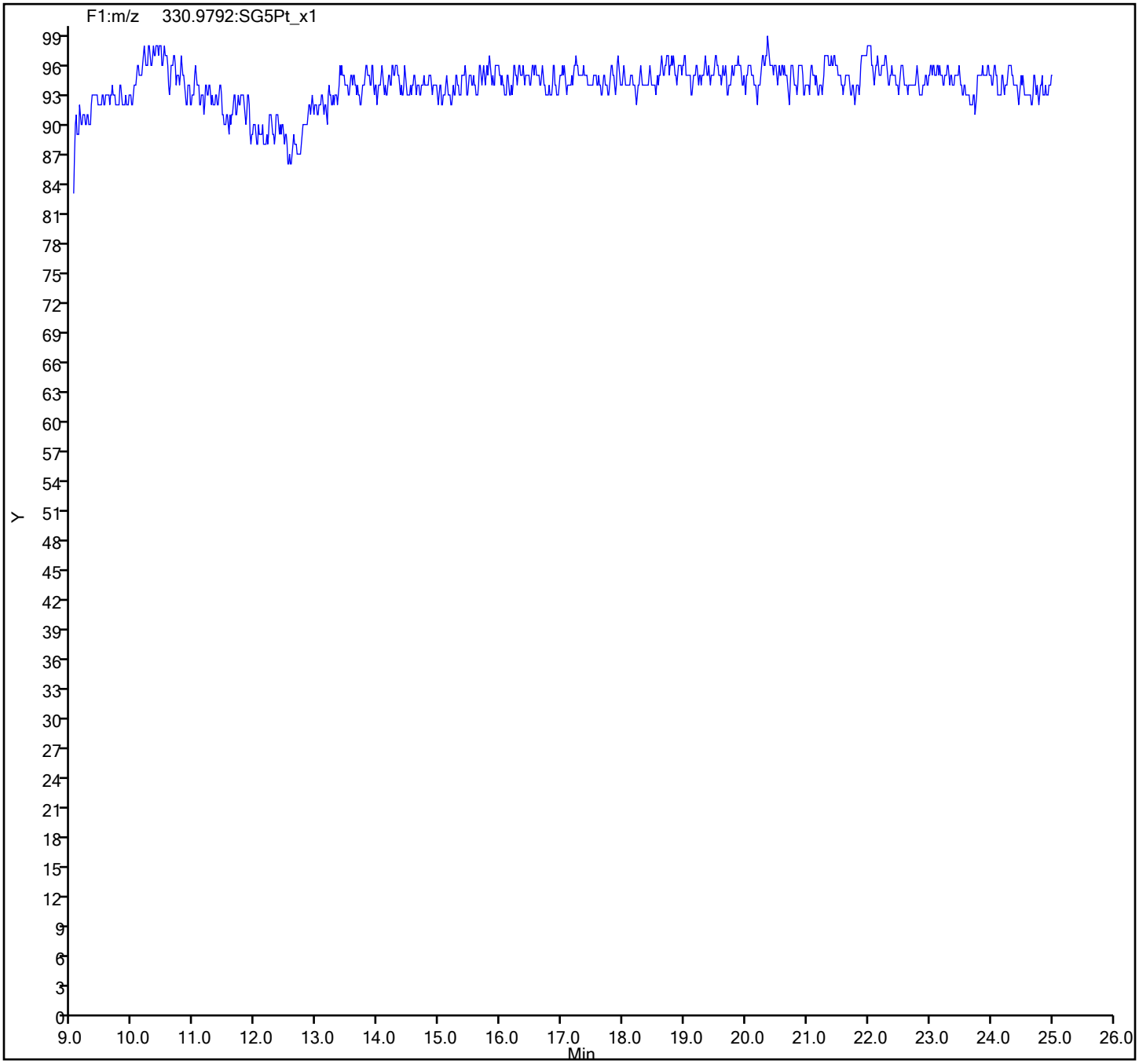

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_41.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 19-Sep-2019 18:21:10 ALS Bottle#: 1 Worklist Smp#: 41
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 091819C WDM HRDXNCP_00038
Misc. Info.: 18SE1910D5
Operator ID: SMA, ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 20-Sep-2019 09:55:55 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0314

First Level Reviewer: stephensk Date: 20-Sep-2019 09:46:52

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	16.786	34225358	0.78	1.4384					0.00	
2,3,7,8-TCDF	16.816	75005555	0.78	1.0507	83.4	83.4	0.6119	0.6119		
A Non-2,3,7,8-sub-TCDF	16.514	956611	0.77	1.0507	1.181	1.064	0.6119	1.064		RQ
S Total TCDF					84.6	84.5	0.6119	0.6119		RQ
D 13C-2,3,7,8-TCDD	17.466	21348378	0.75	0.9533					0.00	
2,3,7,8-TCDD	17.497	23632311	0.79	1.1064	40.0	40.0	0.1801	0.1801		
A Non-2,3,7,8-sub-TCDD	16.952						0.1801	0.1801		
S Total TCDD					40.0	40.0	0.1801	0.1801		
A F1 PeCDFs	19.205						0.0	0.0		
A Non-2,3,7,8-sub-PeCDF	22.226	398853	1.55	0.0000						RQ
S Total PeCDF										RQ
A Non-2,3,7,8-sub-PeCDD	22.559						0.0	0.0		
S Total PeCDD										
A Non-2,3,7,8-sub-HxCDF	29.503	223313	1.09	0.0000						
S Total HxCDF										
A Non-2,3,7,8-sub-HxCDD	30.089	177312	1.24	0.0000						RQ
S Total HxCDD										RQ
1,2,3,4,6,7,8-HpCDF	33.460	19910372	1.02	1.5555						
1,2,3,4,7,8,9-HpCDF	34.505	16740611	1.05	1.3862						
A Non-2,3,7,8-sub-HpCDF	33.982						0.0	0.0		
S Total HpCDF										
1,2,3,4,6,7,8-HpCDD	34.225	12265320	1.05	0.9316						
A Non-2,3,7,8-sub-HpCDD	34.747						0.0	0.0		
S Total HpCDD										
1,3,6,8-TCDF	14.472	44137752	0.79							
1,3,6,8-TCDD	15.349	26088814	0.79							
2,3,4,7-TCDF	16.816	75005555	0.78							
1,2,3,7-TCDD	17.375	21311435	0.78							
1,2,3,9-TCDF	17.648	32525648	0.79							
1,2,3,9-TCDD	17.648	26453504	0.80							

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,8,9-TCDD	18.555	10115030								
1,2,8,9-TCDF	18.555	32450688	0.78							
1,3,4,6,8-PeCDF	18.827	35354188	1.58							
1,2,4,7,9-PeCDD	20.527	19028156	1.58							
1,2,3,8,9-PeCDD	24.590	16311284	1.59							
1,2,3,8,9-PeCDF	24.795	22791823	1.58							
1,2,3,4,6,8-HxCDF	26.967	26822056	1.27							
1,2,4,6,7,9-HxCDD	28.471	19386291	1.26							
1,2,3,4,6,7-HxCDD	31.706	16808911	1.26							
1,2,3,4,8,9-HxCDF	32.039	21709790	1.26							
1,2,3,4,6,7,9-HpCDD	33.691	14392048	1.03							

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNCP_00040 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_41.d
Lims ID: WDM
Client ID:
Sample Type: WDM
Inject. Date: 19-Sep-2019 18:21:10 ALS Bottle#: 1 Worklist Smp#: 41
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: WDM 091819C WDM HRDXNCP_00038
Misc. Info.: 18SE1910D5
Operator ID: SMA, ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 20-Sep-2019 09:55:55 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0314

First Level Reviewer: stephensk Date: 20-Sep-2019 09:46:52

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	16.786	16.786	0	1.000	15028631	3872994	5281	13202	733		
317.9389	16.786	16.786	0	1.000	19196727	4914173	6329	15822	776	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.816	16.816	0	1.002	32952479	7900946	24359	60897	324		
305.8987	16.816	16.816	0	1.002	42053076	10008390	32136	80340	311	0.78(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											RQ
303.9016	18.842	16.514	139	1.123	416153	90112	24359	60897	4		
305.8987	18.842	16.514	139	1.123	645210	134124	32136	80340	4	0.64(0.65-0.89)	
	Empc Correction				540458	117028	32136	80340	4		
13C-2,3,7,8-TCDD											
331.9368	17.466	17.466	0	1.000	9165635	2200315	3543	8857	621		
333.9339	17.466	17.466	0	1.000	12182743	2881449	2675	6687	1077	0.75(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	17.497	17.497	0	1.002	10432878	2513708	4561	11402	551		
321.8936	17.481	17.497	-1	1.001	13199433	3174022	5563	13907	571	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	16.952						4561	11402			
321.8936	16.952						5563	13907			
A F1 PeCDFs											
339.8597	19.205						1320	3300			
341.8567	19.205						955	2387			
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	21.645	22.226	-35	1.000	141819	17105	2099	5247	8		
341.8567	21.631	22.226	-36	1.000	71322	9631	2370	5925	4	1.99(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
339.8597	22.150	22.226	-5	1.000	154861	23405	2099	5247	11		
341.8567	22.150	22.226	-5	1.000	85091	14413	2370	5925	6	1.82(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.559						2364	5910			
357.8516	22.559						1501	3752			
A Non-2,3,7,8-sub-HxCDF											
373.8208	30.042	29.503	32	1.000	116351	17692	3890	9725	5		
375.8178	30.015	29.503	31	1.000	106962	15254	2961	7402	5	1.09(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											RQ
389.8157	30.348	30.089	16	1.000	98155	18165	2623	6557	7		
391.8127	30.348	30.089	16	1.000	103017	13787	2021	5052	7	0.95(1.05-1.43)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.460	33.460	0	1.000	10053378	3104687	26325	65812	118		
409.7789	33.460	33.460	0	1.000	9856994	3038310	27650	69125	110	1.02(0.88-1.20)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.505	34.505	0	1.000	8562048	2465353	26325	65812	94		
409.7789	34.505	34.505	0	1.000	8178563	2321643	27650	69125	84	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.982						26325	65812			
409.7789	33.982						27650	69125			
1,2,3,4,6,7,8-HpCDD											
423.7766	34.225	34.225	0	1.000	6282148	1822998	15709	39272	116		
425.7737	34.225	34.225	0	1.000	5983172	1732983	14241	35602	122	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.747						15709	39272			
425.7737	34.747						14241	35602			
1,3,6,8-TCDF											
303.9016	14.472	14.472	0		19489438	6409667	24359	60897	263		
305.8987	14.472	14.472	0		24648314	8149480	32136	80340	254	0.79(0.65-0.89)	
1,3,6,8-TCDD											
319.8965	15.349	15.349	0		11552340	3555546	4561	11402	780		
321.8936	15.349	15.349	0		14536474	4371893	5563	13907	786	0.79(0.65-0.89)	
2,3,4,7-TCDF											
303.9016	16.816	16.816	0		32952479	7900946	24359	60897	324		
305.8987	16.816	16.816	0		42053076	10008390	32136	80340	311	0.78(0.65-0.89)	
1,2,3,7-TCDD											
319.8965	17.375	17.375	0		9369620	2412650	4561	11402	529		
321.8936	17.375	17.375	0		11941815	3042534	5563	13907	547	0.78(0.65-0.89)	
1,2,3,9-TCDF											
303.9016	17.648	17.648	0		14338540	3490371	24359	60897	143		
305.8987	17.648	17.648	0		18187108	4387302	32136	80340	137	0.79(0.65-0.89)	
1,2,3,9-TCDD											
319.8965	17.648	17.648	0		11758495	2838827	4561	11402	622		
321.8936	17.648	17.648	0		14695009	3576282	5563	13907	643	0.80(0.65-0.89)	
1,2,8,9-TCDD											
319.8965	18.555	18.555	0		10115030	2278885	4561	11402	500		

Report Date: 20-Sep-2019 09:55:55 Chrom Revision: 2.3 17-Sep-2019 16:19:08
Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_41.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,8,9-TCDF											
303.9016	18.555	18.555	0		14211781	3273151	24359	60897	134		
305.8987	18.555	18.555	0		18238907	4207938	32136	80340	131	0.78(0.65-0.89)	
1,3,4,6,8-PeCDF											
339.8597	18.827	18.827	0		21642404	4992383	1320	3300	3782		
341.8567	18.827	18.827	0		13711784	3166890	955	2387	3316	1.58(1.32-1.78)	
1,2,4,7,9-PeCDD											
355.8546	20.527	20.527	0		11662872	2160587	2364	5910	914		
357.8516	20.527	20.527	0		7365284	1369828	1501	3752	913	1.58(1.32-1.78)	
1,2,3,8,9-PeCDD											
355.8546	24.590	24.590	0		10002157	1507309	2364	5910	638		
357.8516	24.590	24.590	0		6309127	923801	1501	3752	615	1.59(1.32-1.78)	
1,2,3,8,9-PeCDF											
339.8597	24.795	24.795	0		13962669	2077061	2099	5247	990		
341.8567	24.795	24.795	0		8829154	1330533	2370	5925	561	1.58(1.32-1.78)	
1,2,3,4,6,8-HxCDF											
373.8208	26.967	26.967	0		14992353	2081855	3890	9725	535		
375.8178	26.967	26.967	0		11829703	1642028	2961	7402	555	1.27(1.05-1.43)	
1,2,4,6,7,9-HxCDD											
389.8157	28.471	28.471	0		10811052	1354630	2623	6557	516		
391.8127	28.485	28.471	1		8575239	1094694	2021	5052	542	1.26(1.05-1.43)	
1,2,3,4,6,7-HxCDD											
389.8157	31.706	31.706	0		9387284	2296264	2623	6557	875		
391.8127	31.706	31.706	0		7421627	1795488	2021	5052	888	1.26(1.05-1.43)	
1,2,3,4,8,9-HxCDF											
373.8208	32.039	32.039	0		12094837	3173106	3890	9725	816		
375.8178	32.039	32.039	0		9614953	2571490	2961	7402	868	1.26(1.05-1.43)	
1,2,3,4,6,7,9-HpCDD											
423.7766	33.691	33.691	0		7312454	2157240	15709	39272	137		
425.7737	33.691	33.691	0		7079594	2126154	14241	35602	149	1.03(0.88-1.20)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Reagents:

HRDXNCP_00040 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_41.d
Lims ID: WDM
Client ID:
Inject. Date: 19-Sep-2019 18:21:10 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 10D5 Operator: SMA, ALM
Lims Batch ID: 324876 Lims Sample ID: 41

Non-2,3,7,8-sub-TCDF, RT: 16.514

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.051	D 13C-2,3,7,8-TCDF	40.000	34225358	8787167

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.051		40.000	34225358	8787167

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
18.842	416153	90112	645210	134124	1.18	0.64	RQ
18.842	416153	90112	540458	117028	1.06		Empc Correction
Signal Totals:							
	416153	90112	540458	117028			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	1061363	224236				0.64	RQ
	956611	207140					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 1.181 = (1061363 * 40.000) / (34225358 * 1.051)
Empc Amount: 1.064 = (956611 * 40.000) / (34225358 * 1.051)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_41.d
Lims ID: WDM
Client ID:
Inject. Date: 19-Sep-2019 18:21:10 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 10D5 Operator: SMA, ALM
Lims Batch ID: 324876 Lims Sample ID: 41

Non-2,3,7,8-sub-PeCDF, RT: 22.226

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.082				
2,3,4,7,8-PeCDF	1.103				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
21.645	141819	17105	71322	9631		1.99	R
22.150	154861	23405	85091	14413		1.82	R
Signal Totals:							
	296680	40510	156413	24044			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	453093	64554				1.90	RQ
	398853	61312					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (453093 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (398853 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_41.d
Lims ID: WDM
Client ID:
Inject. Date: 19-Sep-2019 18:21:10 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 10D5 Operator: SMA, ALM
Lims Batch ID: 324876 Lims Sample ID: 41

Non-2,3,7,8-sub-HxCDF, RT: 29.503

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDF	1.197				
1,2,3,6,7,8-HxCDF	1.181				
2,3,4,6,7,8-HxCDF	1.212				
1,2,3,7,8,9-HxCDF	1.245				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	373.8208 Area	373.8208 Height	375.8178 Area	375.8178 Height	Amount	Ratio	Flags
30.042	116351	17692	106962	15254		1.09	
Signal Totals:							
	116351	17692	106962	15254			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	223313	32946				1.09	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (223313 * 0.0) / (0 * 0.000)

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_41.d
Lims ID: WDM
Client ID:
Inject. Date: 19-Sep-2019 18:21:10 Dil. Factor: 1.0000
Sample Type: WDM, Window Defining Mix
Instrument ID: 10D5 Operator: SMA, ALM
Lims Batch ID: 324876 Lims Sample ID: 41

Non-2,3,7,8-sub-HxCDD, RT: 30.089

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.109				
1,2,3,6,7,8-HxCDD	1.081				
1,2,3,7,8,9-HxCDD	1.212				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
30.348	98155	18165	103017	13787		0.95	R
Signal Totals:							
	98155	18165	103017	13787			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	201172	31952				0.95	RQ
	177312	32814					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0 = (201172 * 0.0) / (0 * 0.000)
Empc Amount: 0.0 = (177312 * 0.0) / (0 * 0.000)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Report Date: 20-Sep-2019 09:55:55 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_41.d		
Injection Date:	19-Sep-2019 18:21:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	41
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

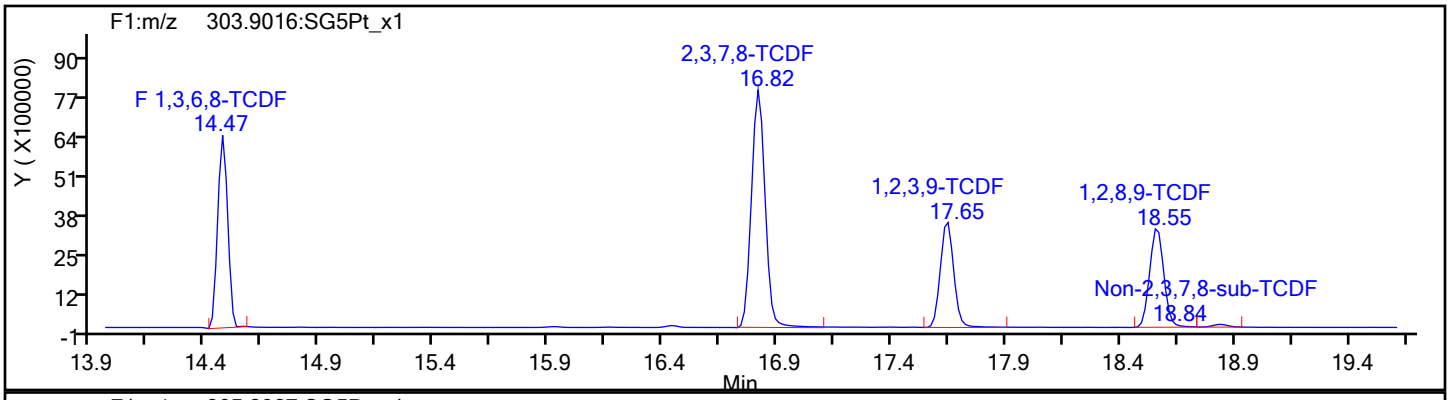

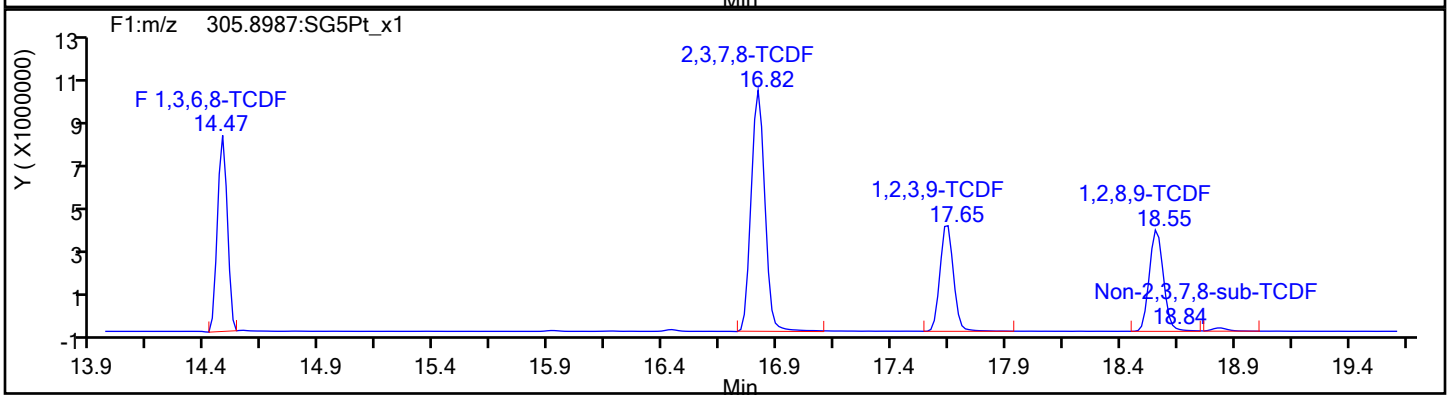

TCDF Standards

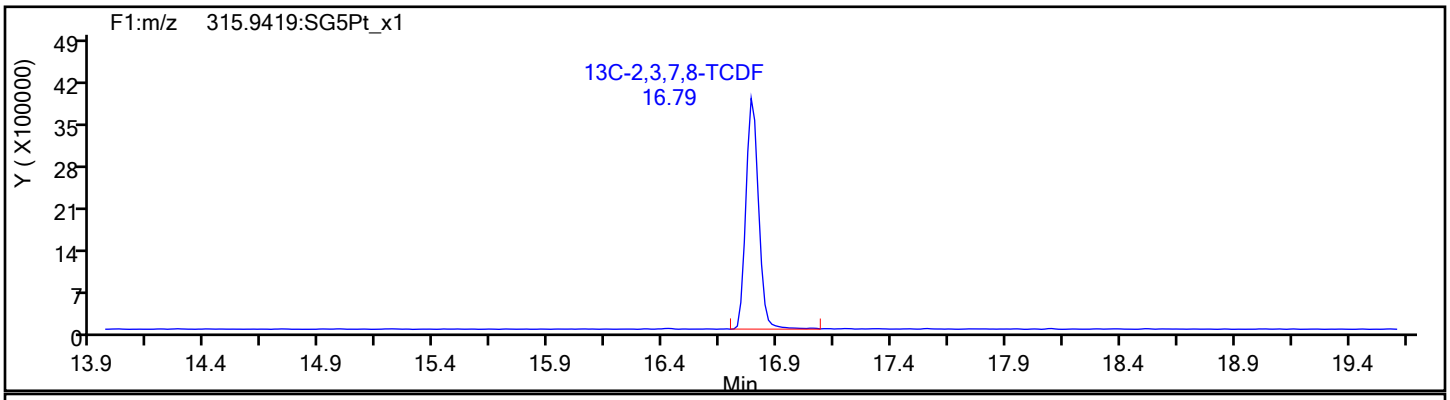

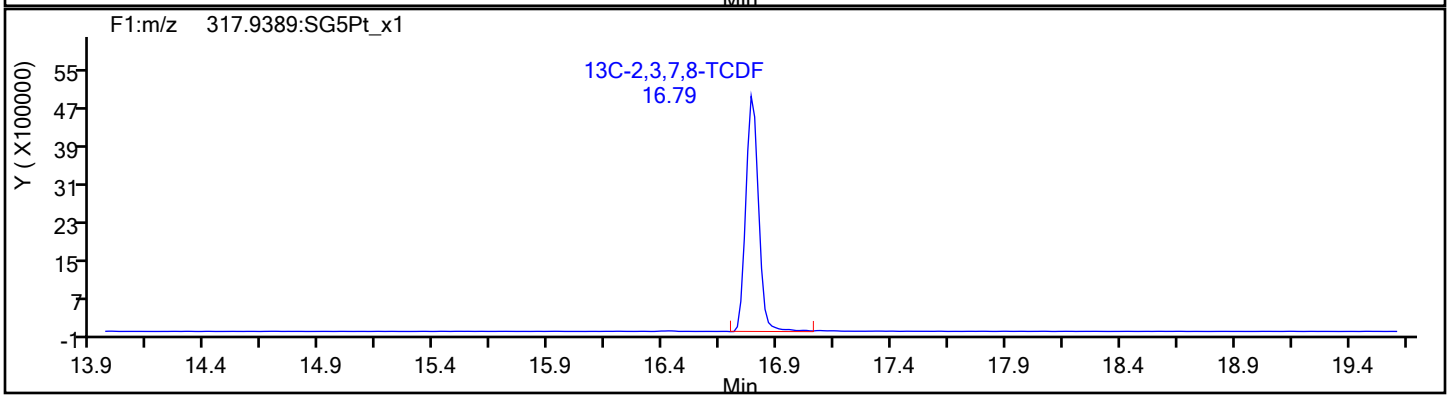

Report Date: 20-Sep-2019 09:55:55 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_41.d		
Injection Date:	19-Sep-2019 18:21:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	41
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

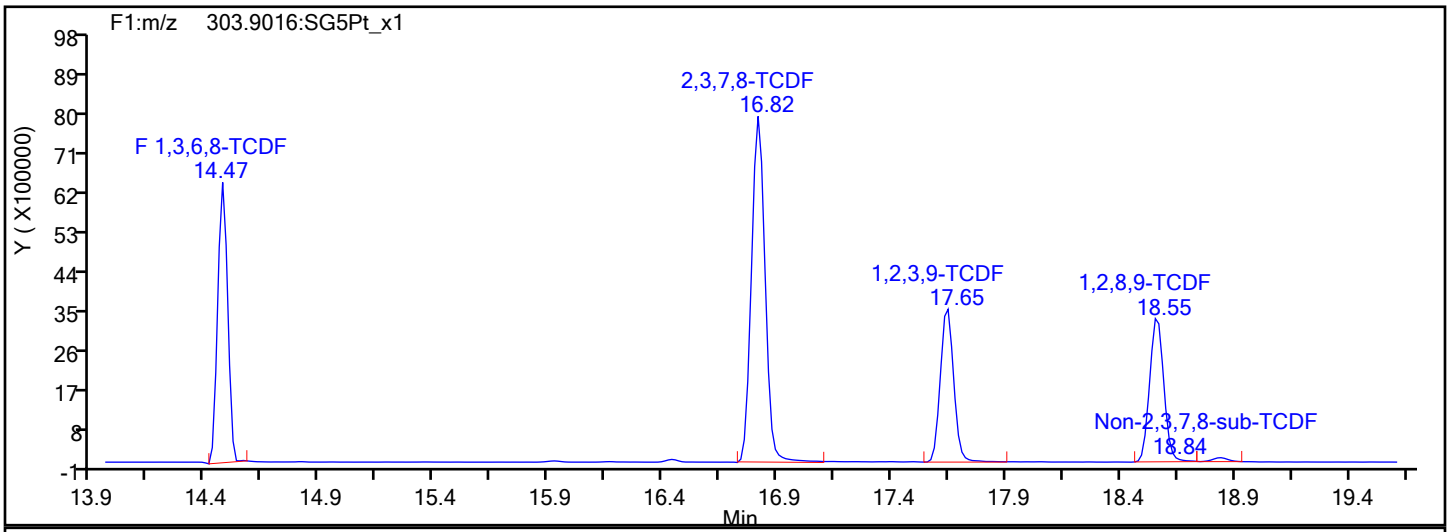

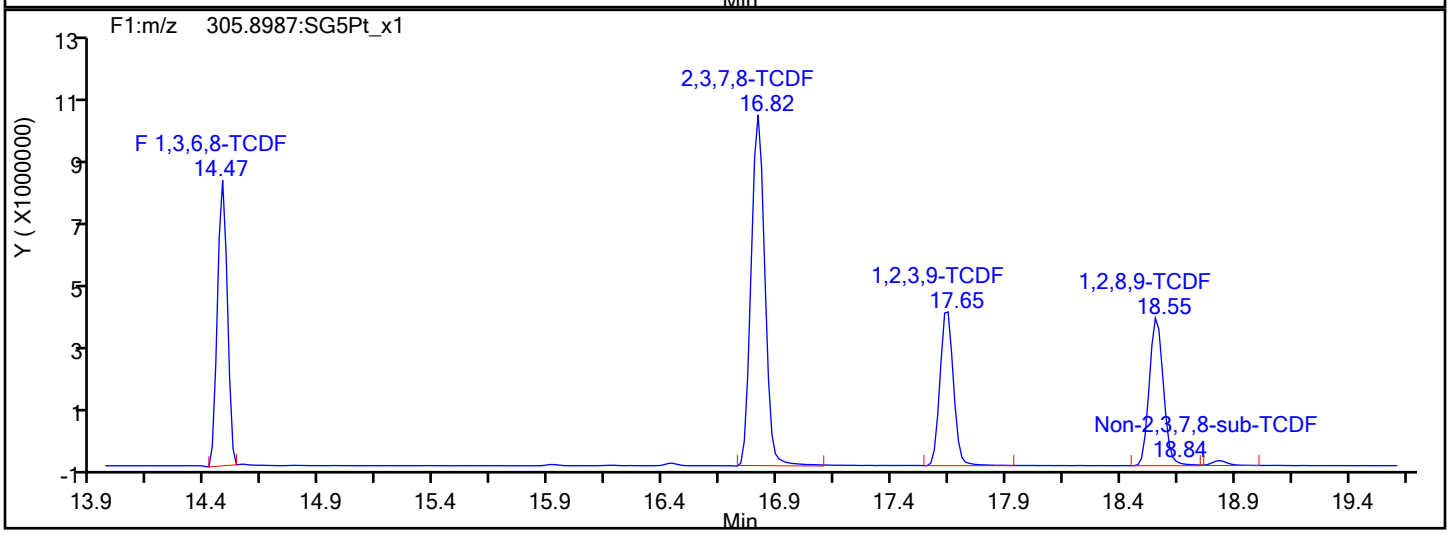

TCDF Interference Mass

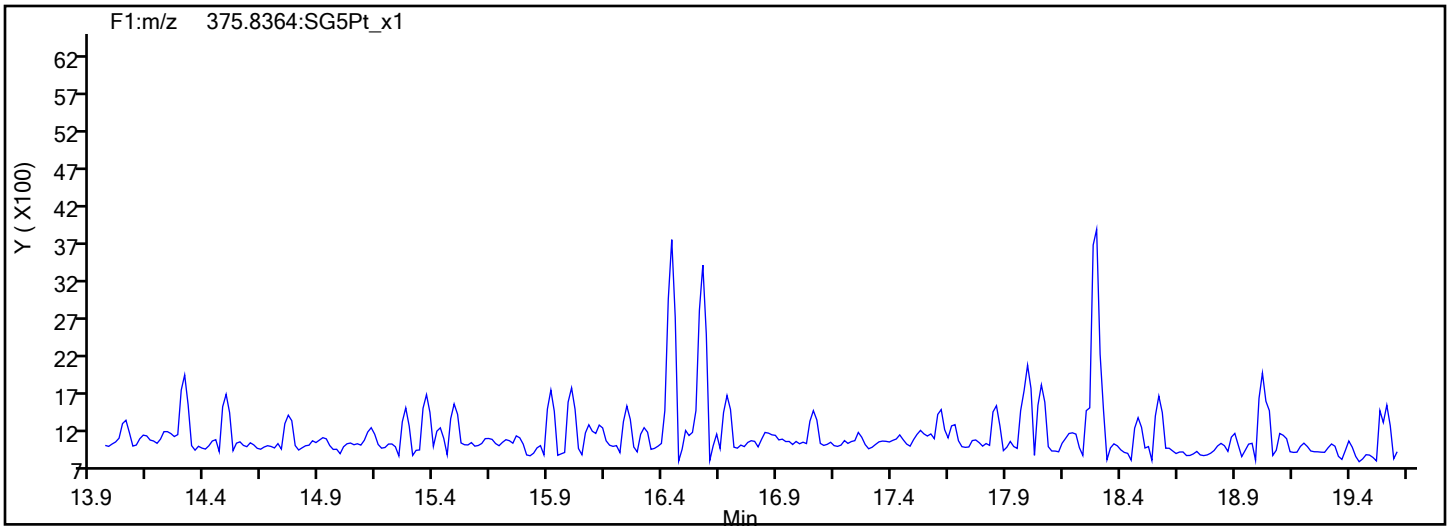

Report Date: 20-Sep-2019 09:55:55 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_41.d		
Injection Date:	19-Sep-2019 18:21:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	41
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

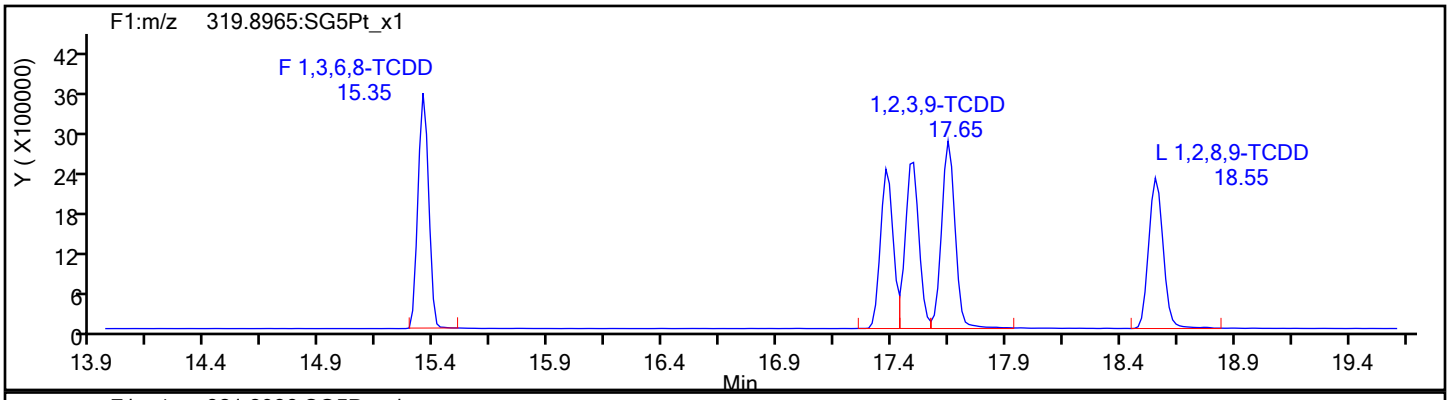

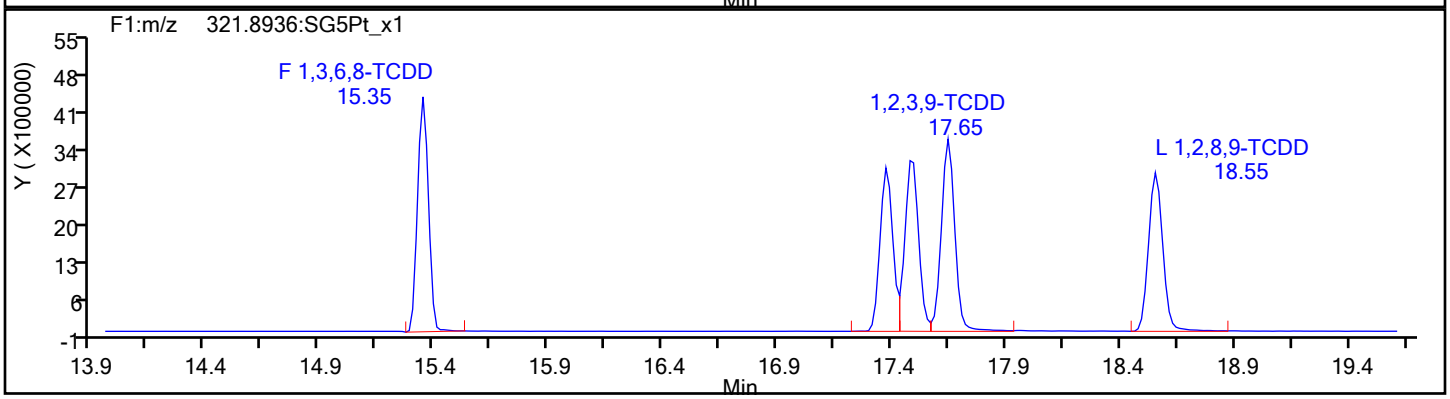

TCDD Standards

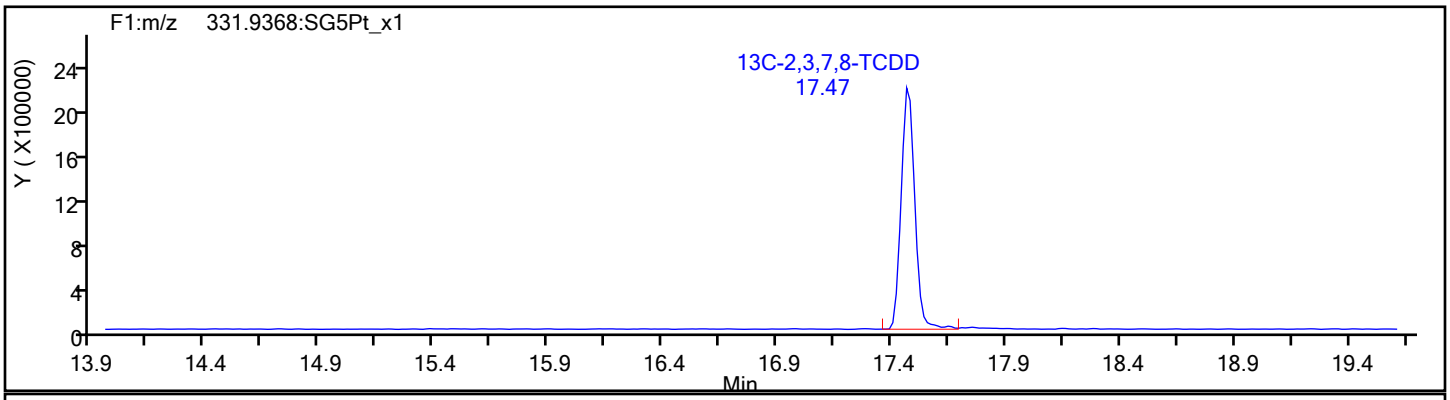

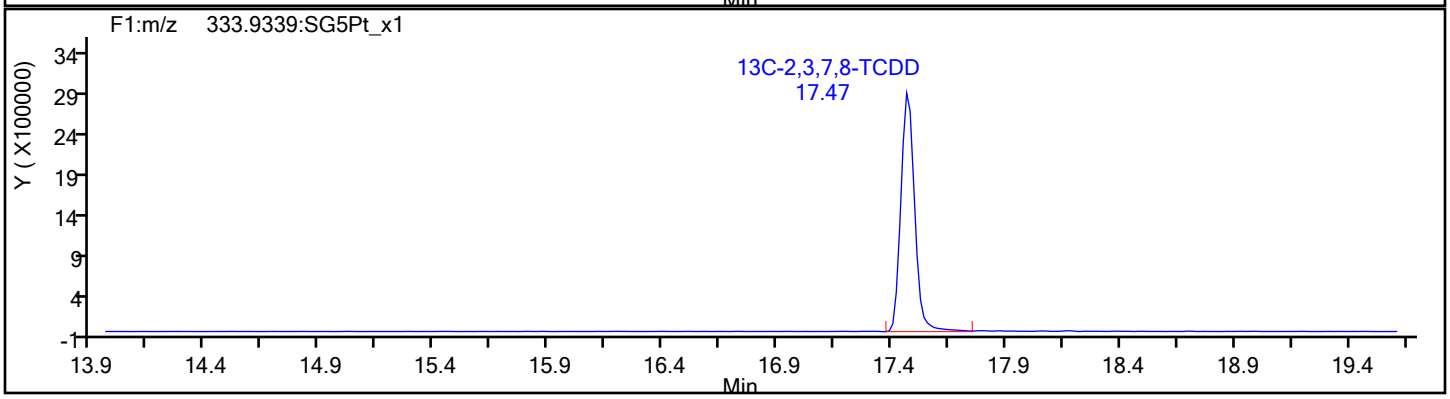

Report Date: 20-Sep-2019 09:55:55 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Injection Date:	19-Sep-2019 18:21:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

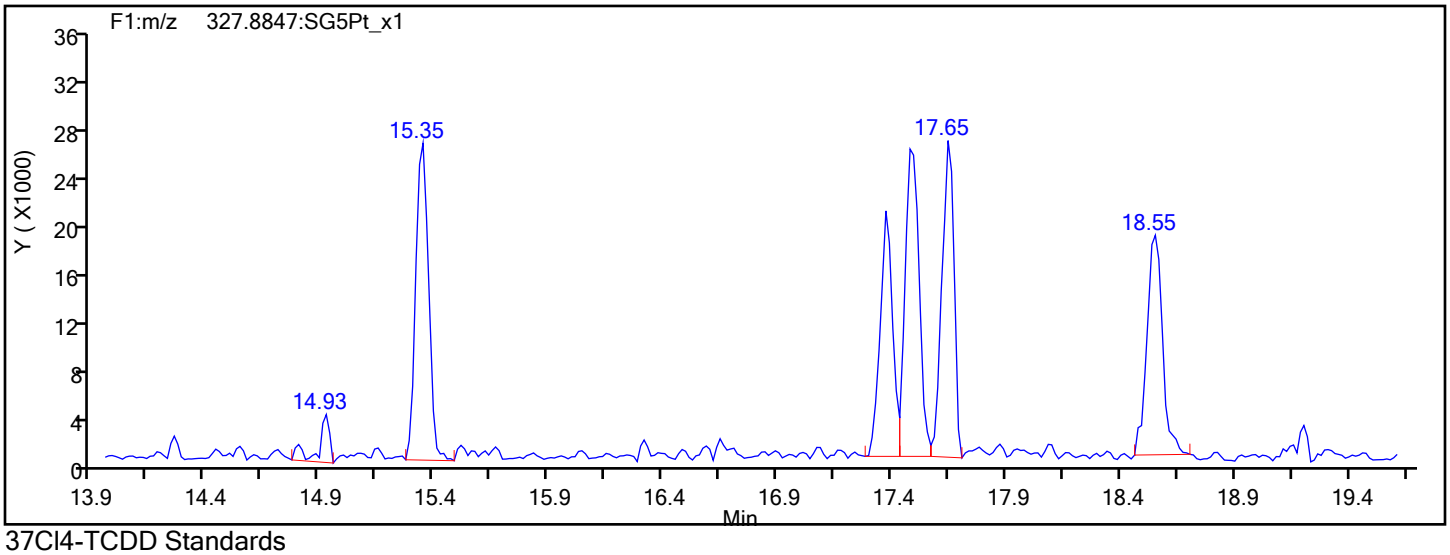

37Cl4-TCDD Standards

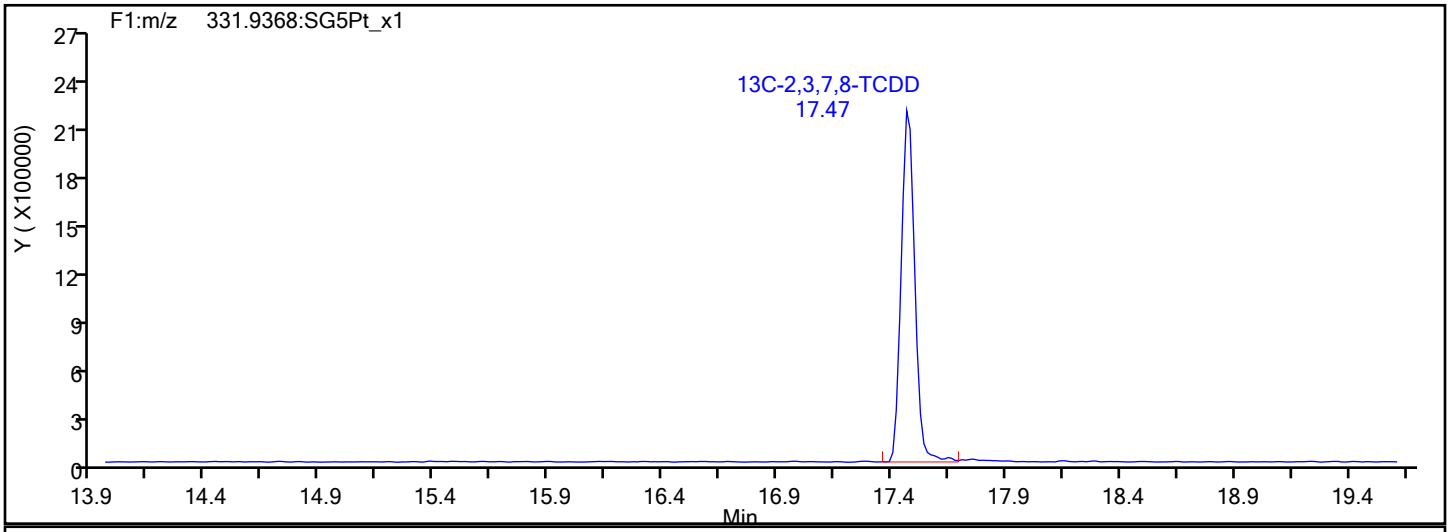

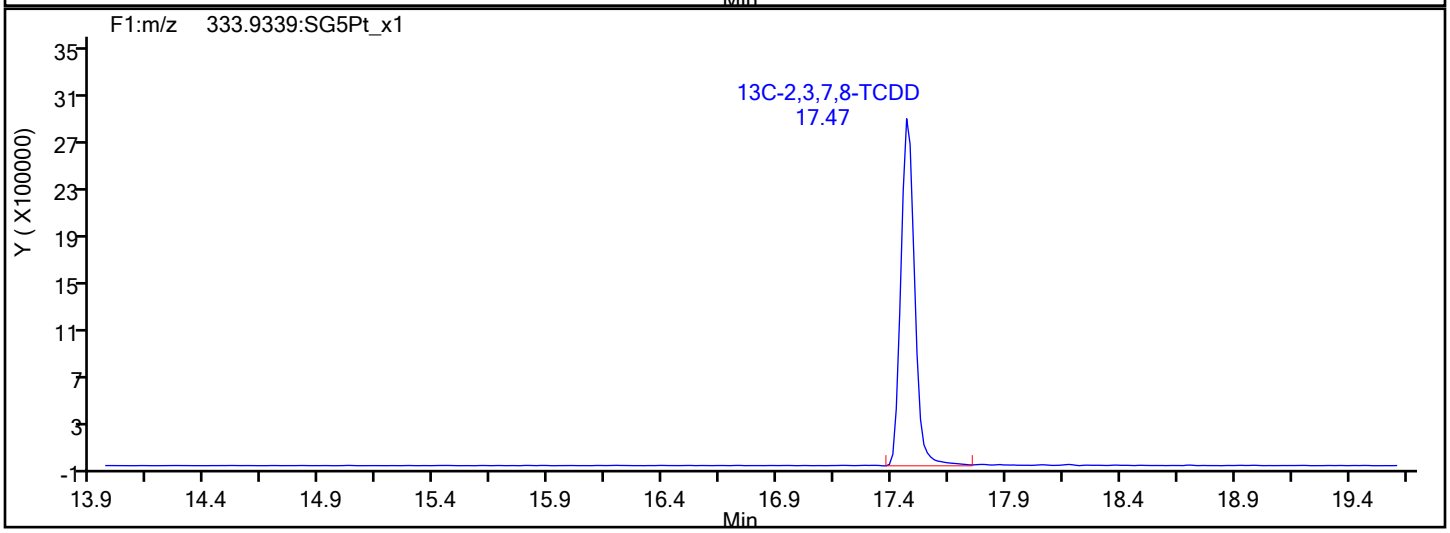

Report Date: 20-Sep-2019 09:55:55 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	41
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

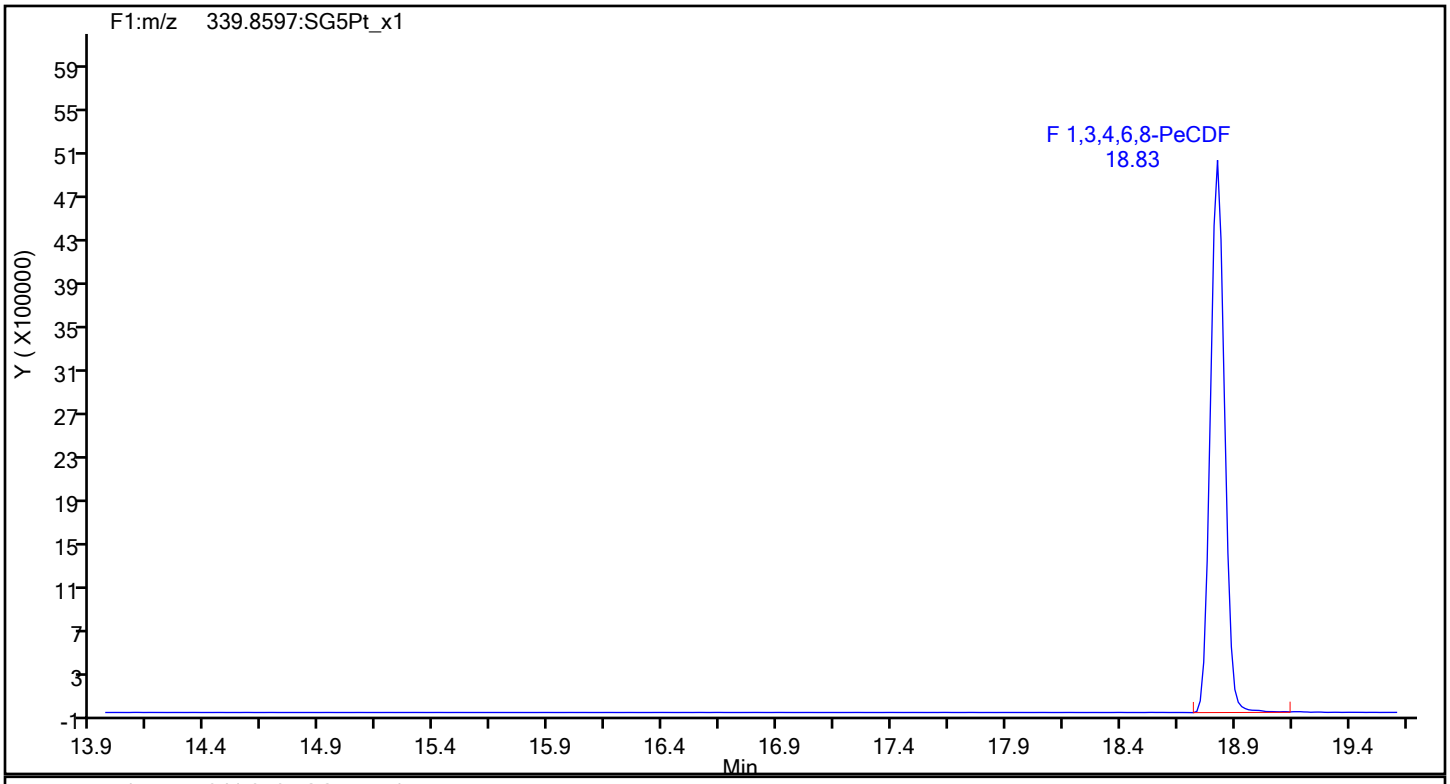

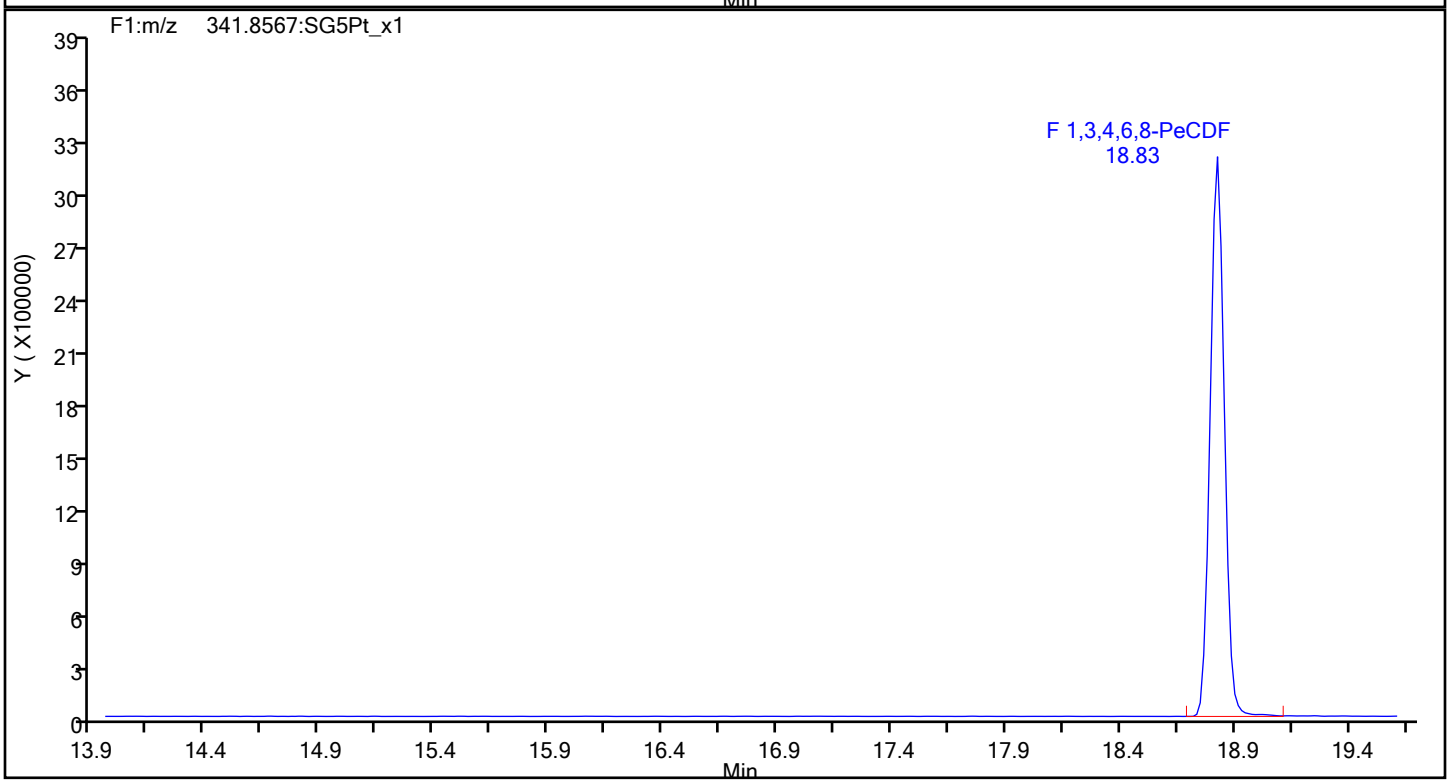

Report Date: 20-Sep-2019 09:55:55 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

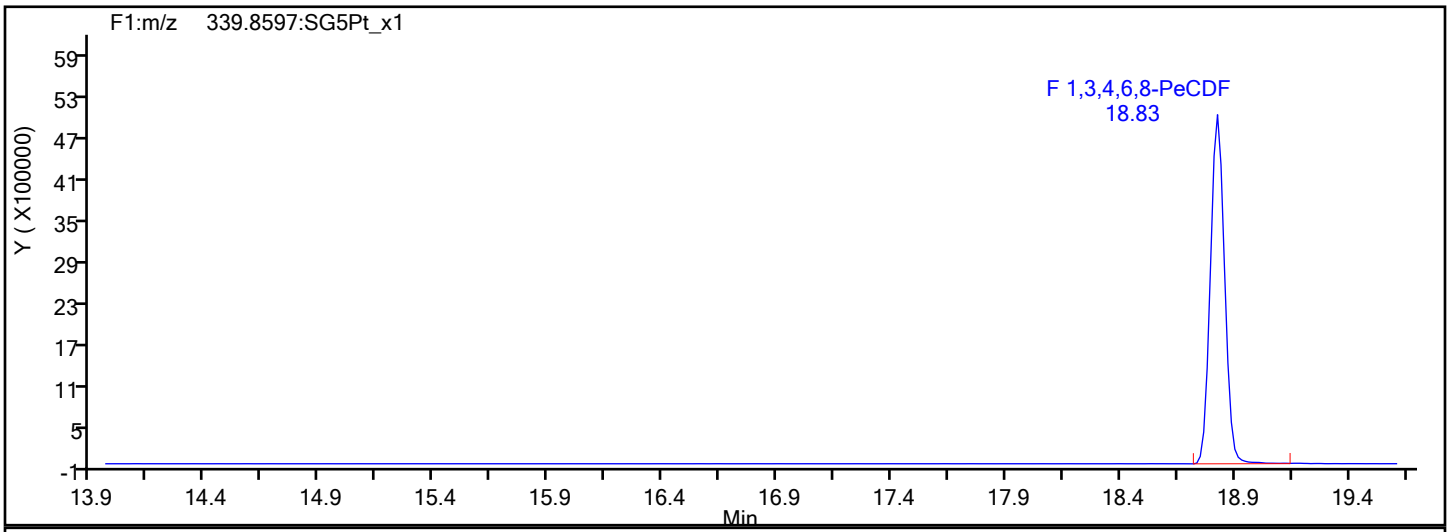

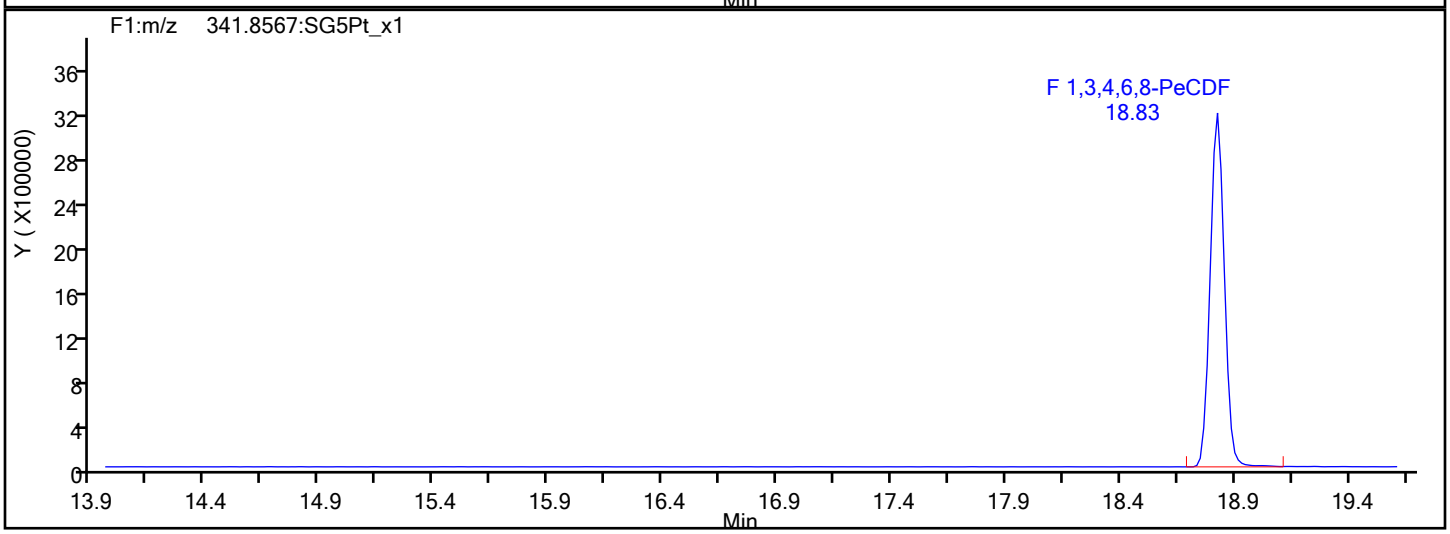

F1 PeCDFs Interference Mass

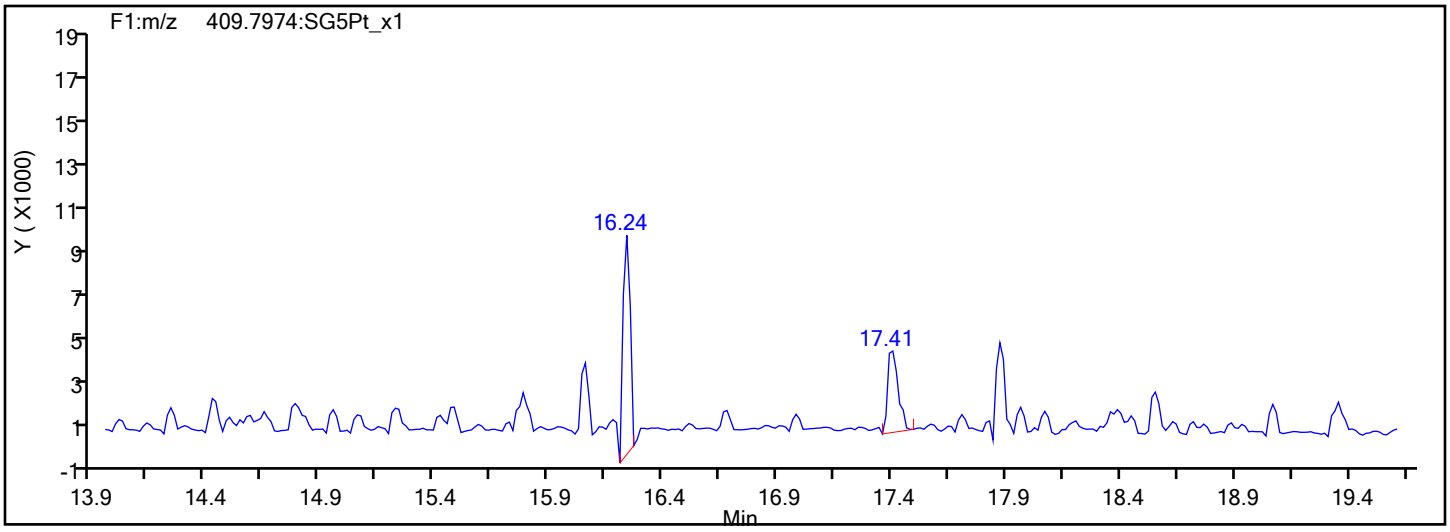

Report Date: 20-Sep-2019 09:55:55 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_41.d		
Injection Date:	19-Sep-2019 18:21:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	41
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

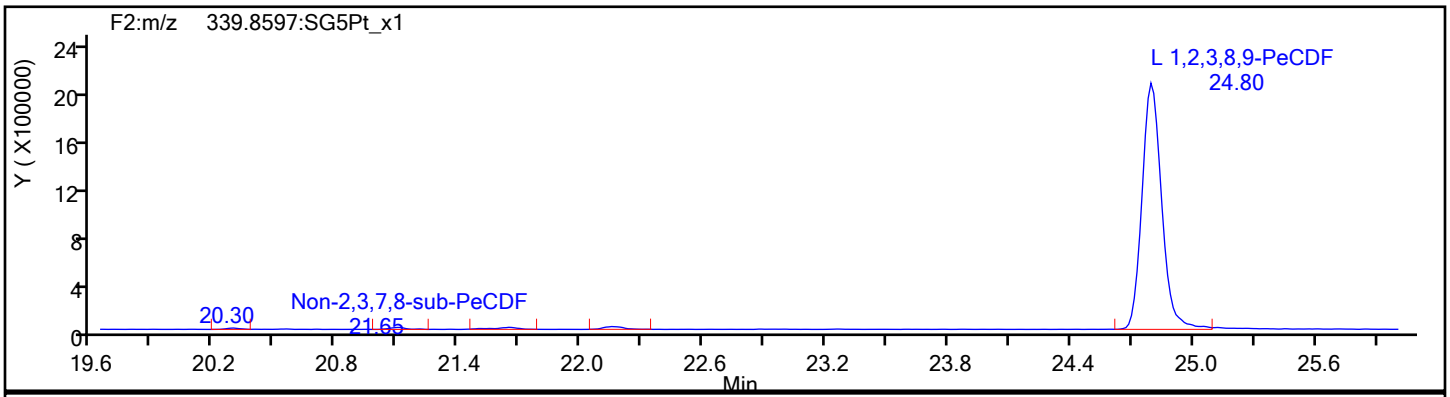

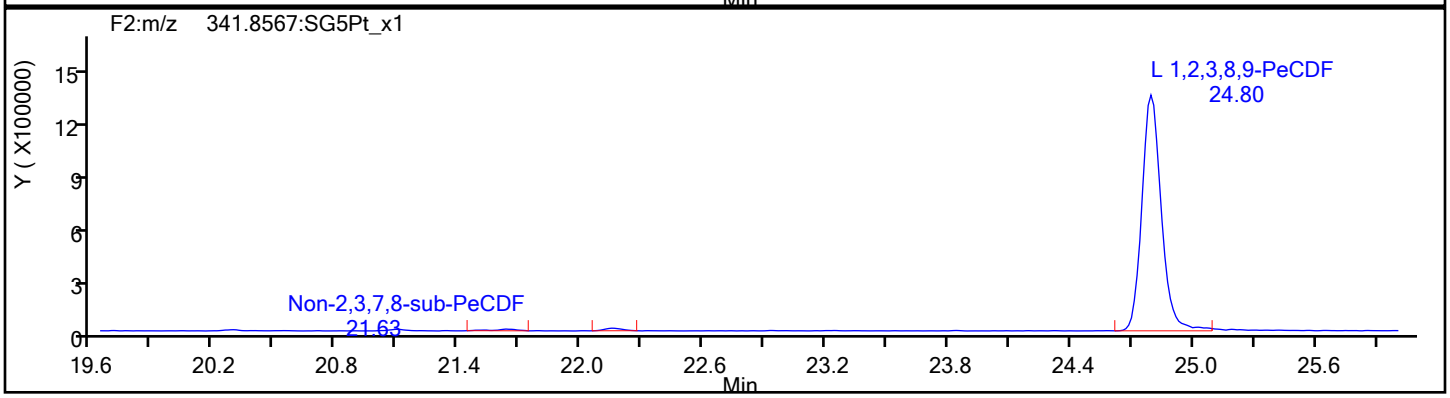

PeCDF Standards

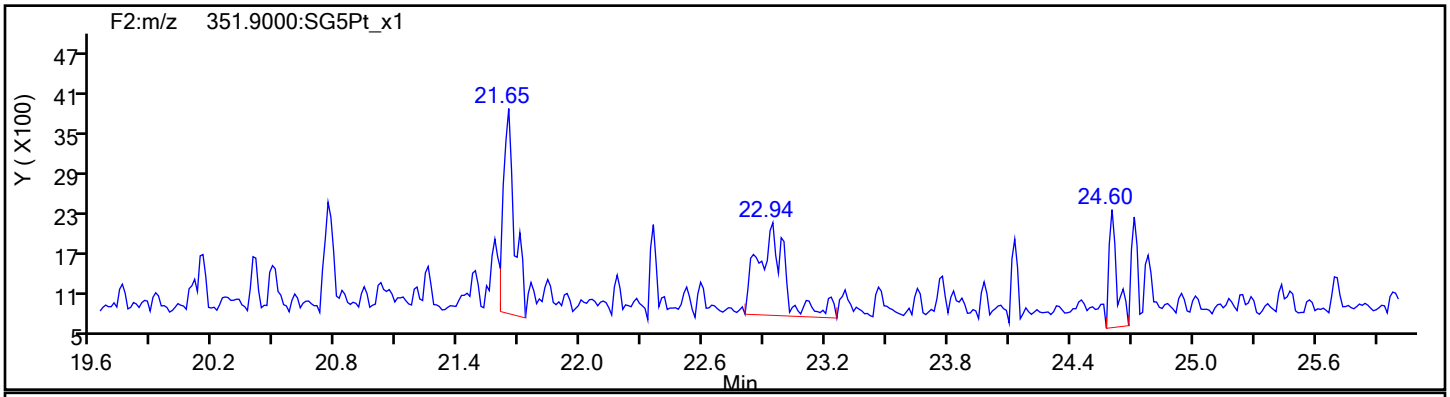

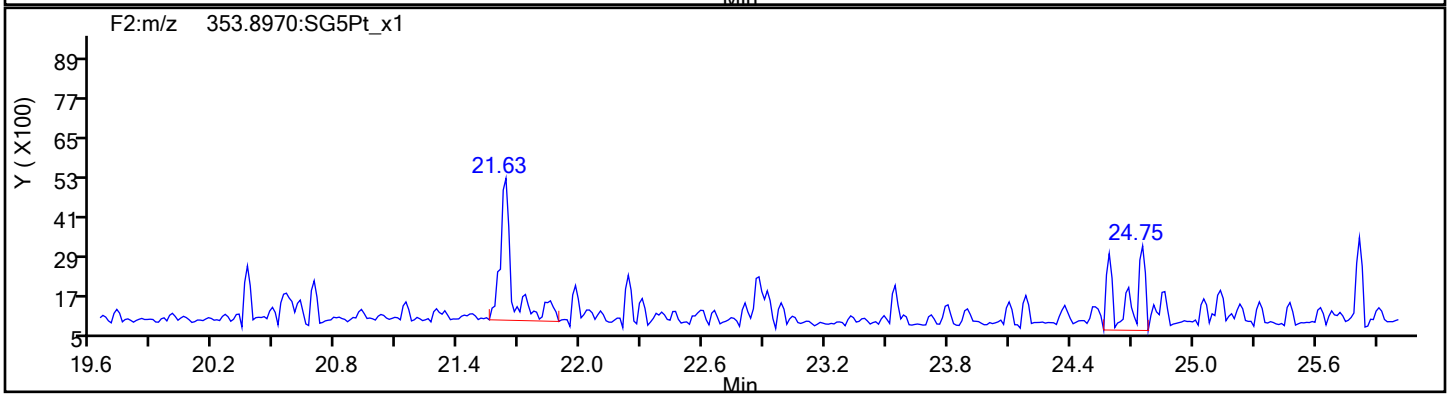

Report Date: 20-Sep-2019 09:55:55 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_41.d		
Injection Date:	19-Sep-2019 18:21:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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PeCDF

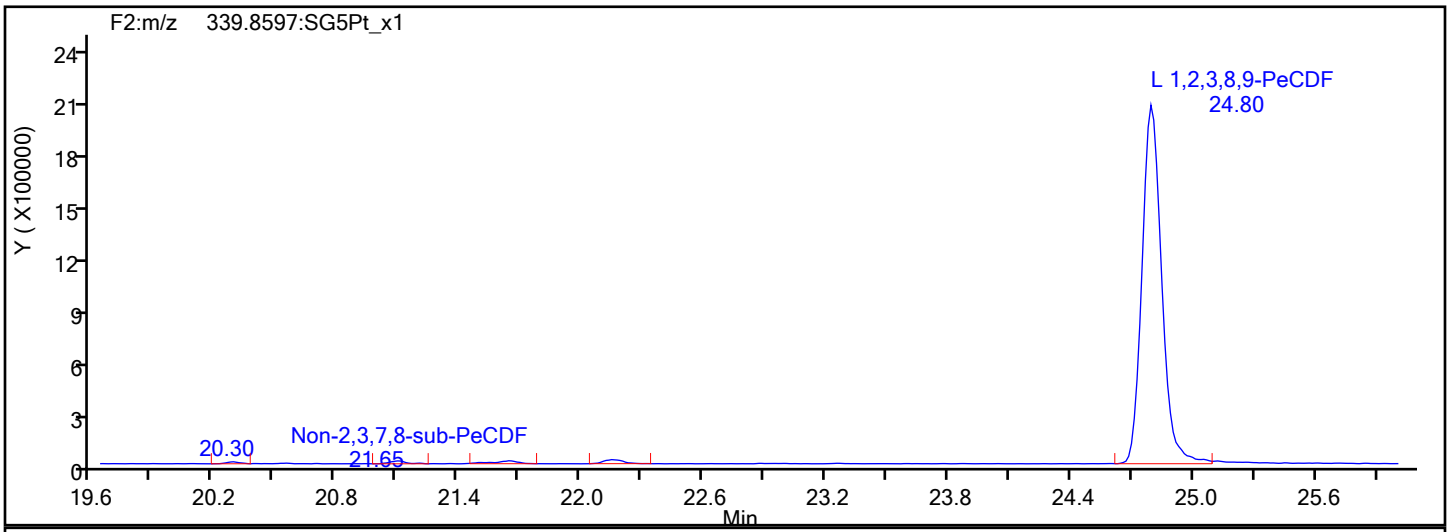

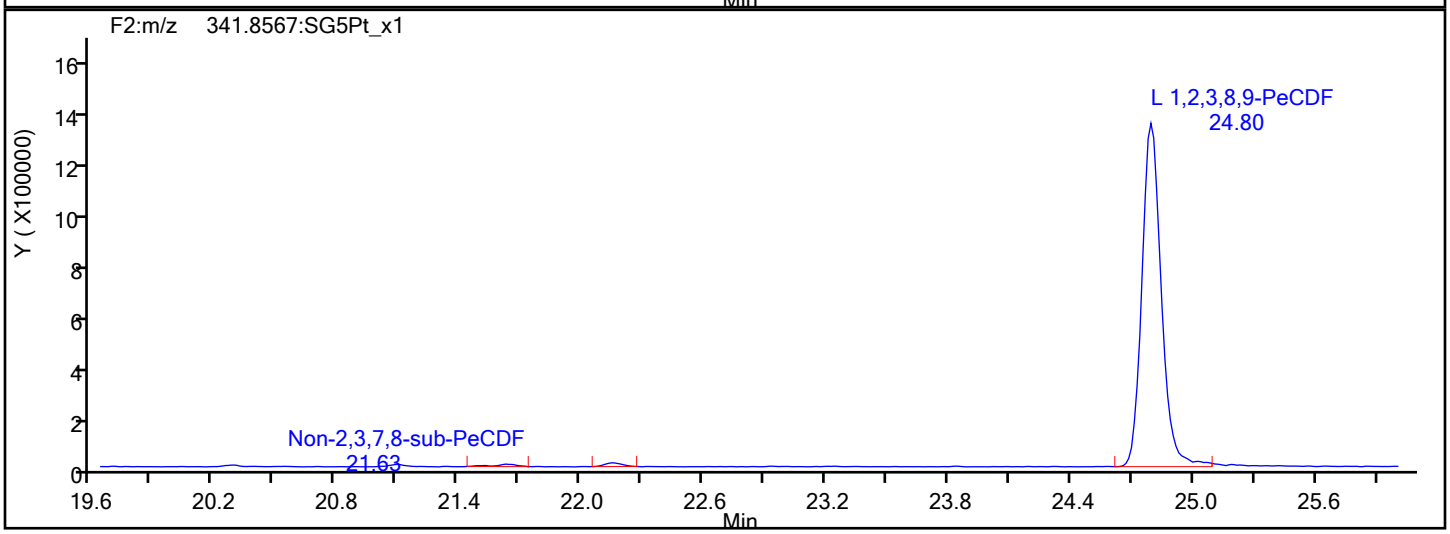

PeCDF Interference Mass

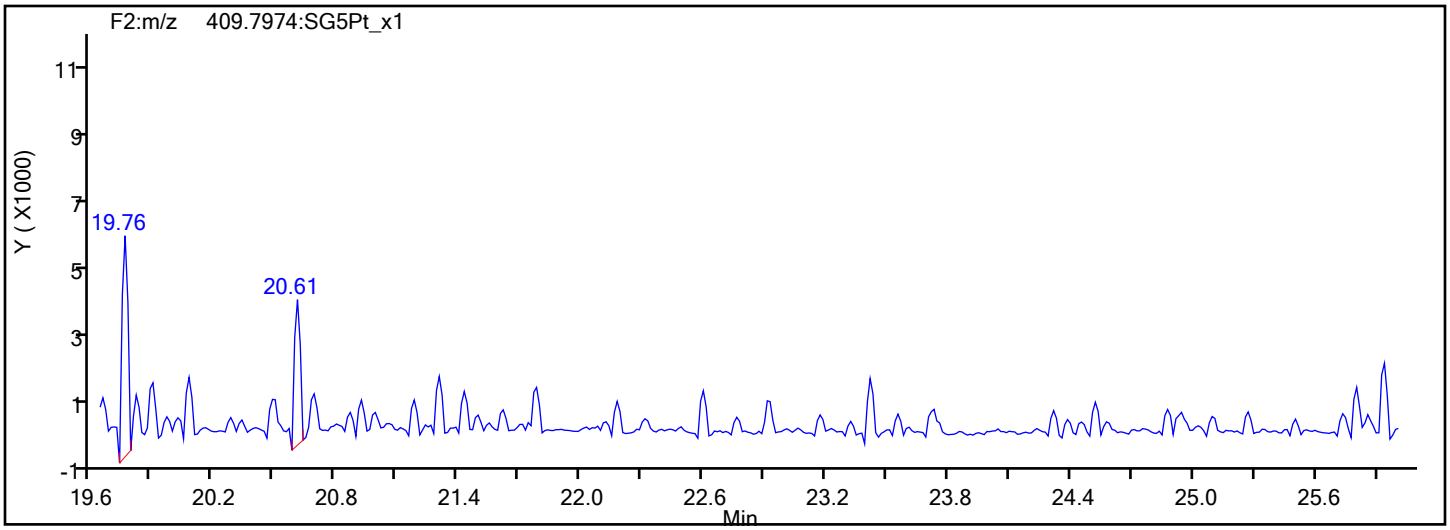

Report Date: 20-Sep-2019 09:55:56 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_41.d		
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Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

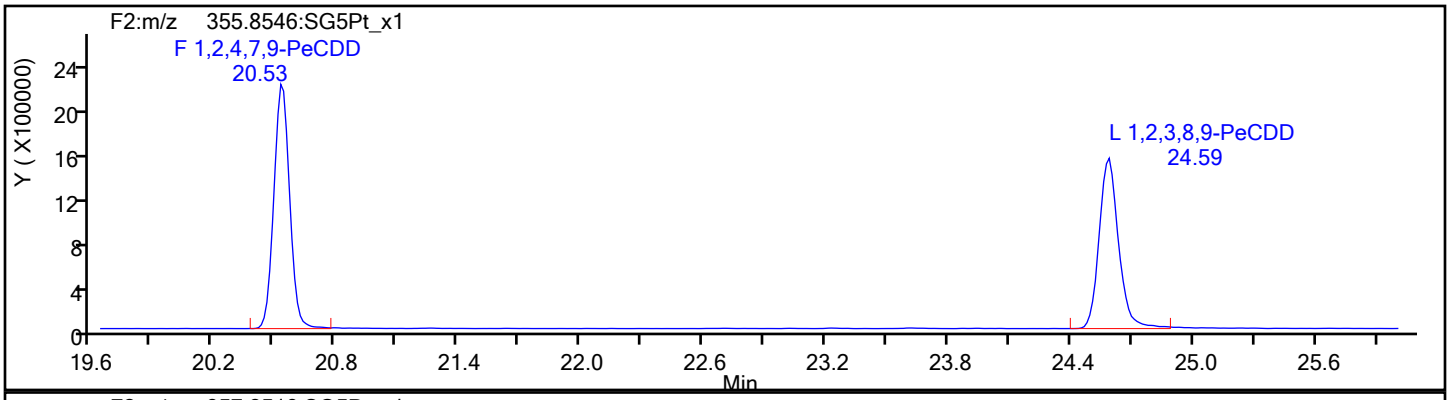

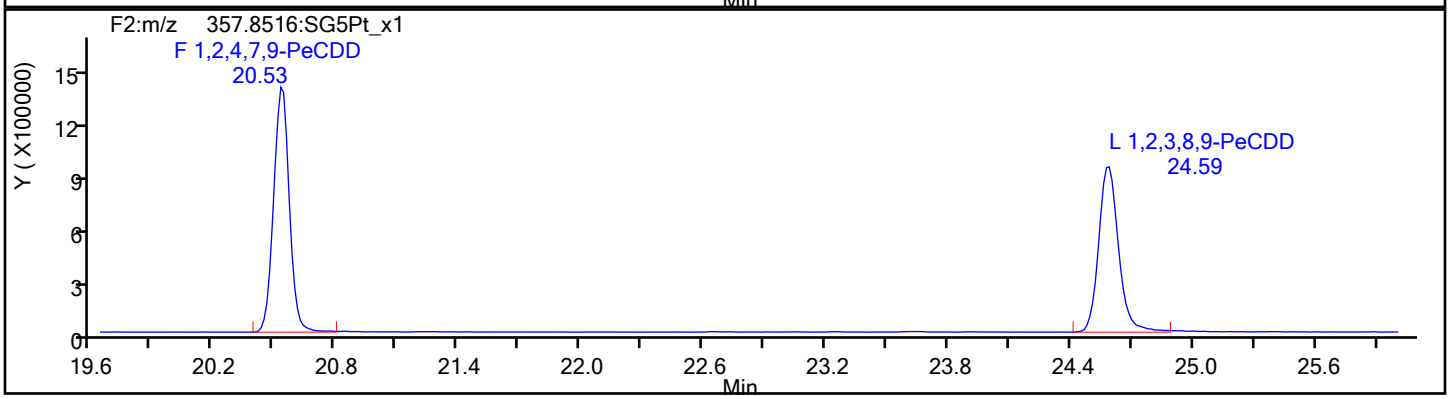

PeCDD Standards

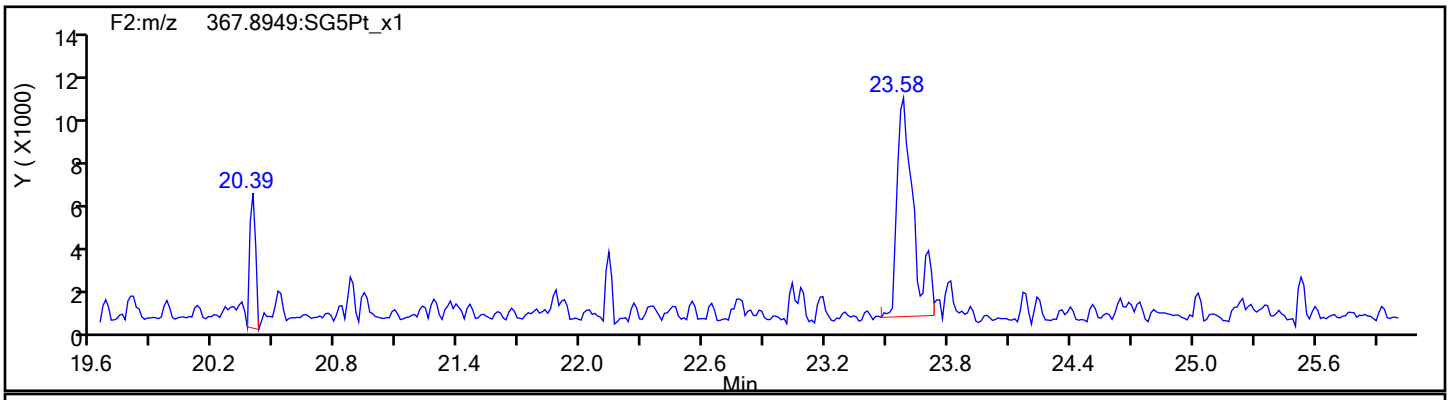

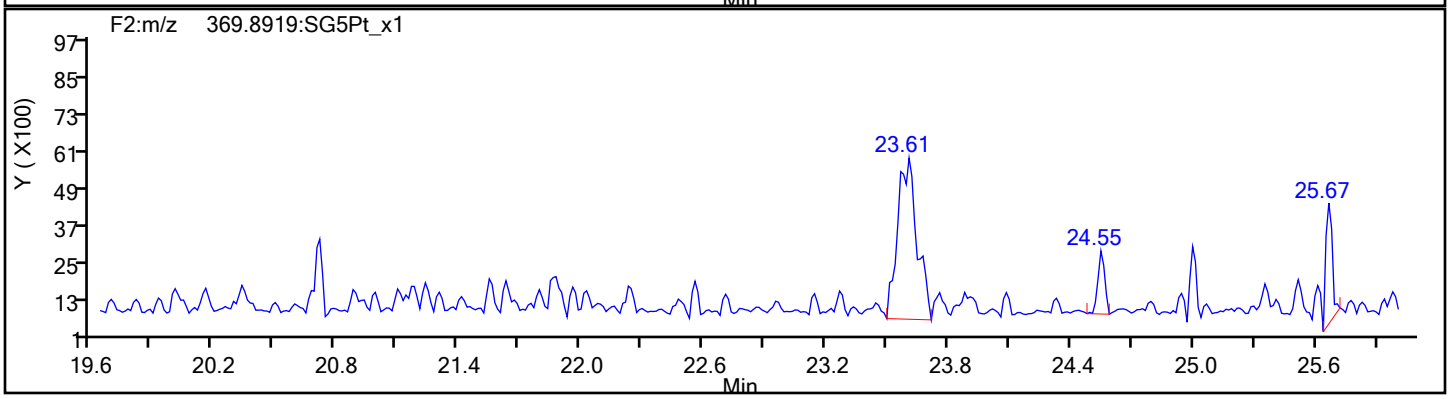

Report Date: 20-Sep-2019 09:55:56 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_41.d		
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Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

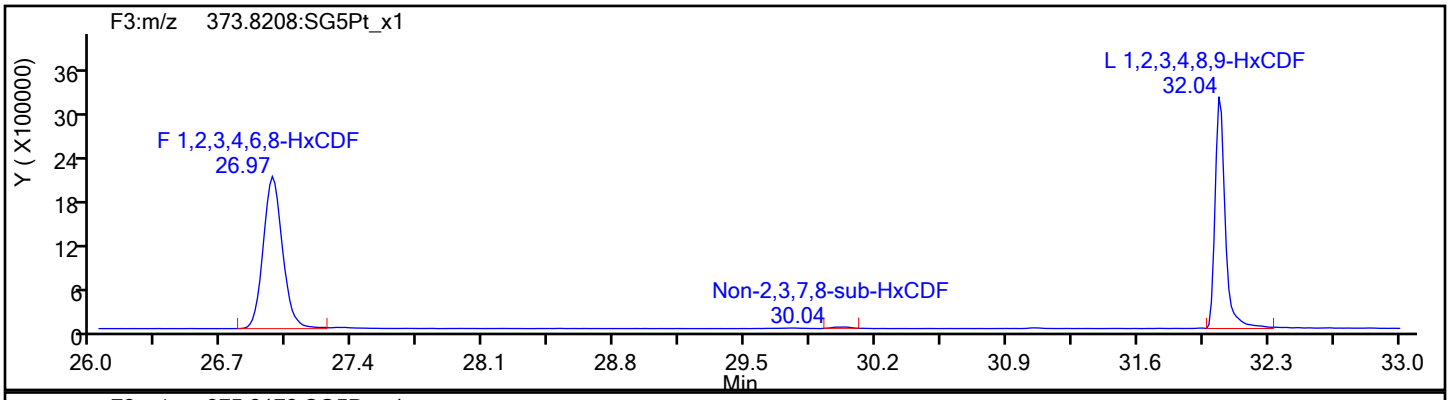

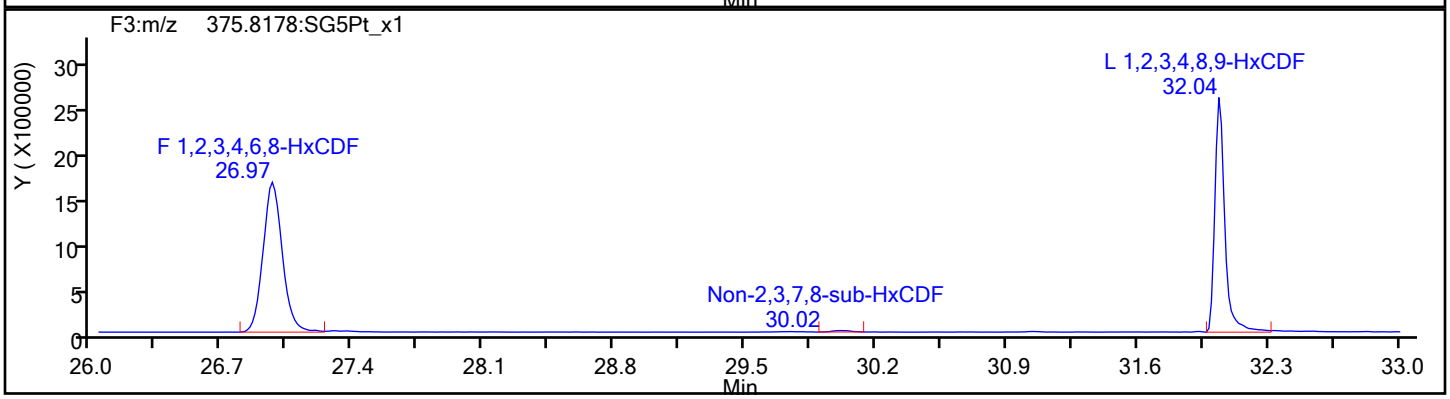

HxCDF Standards

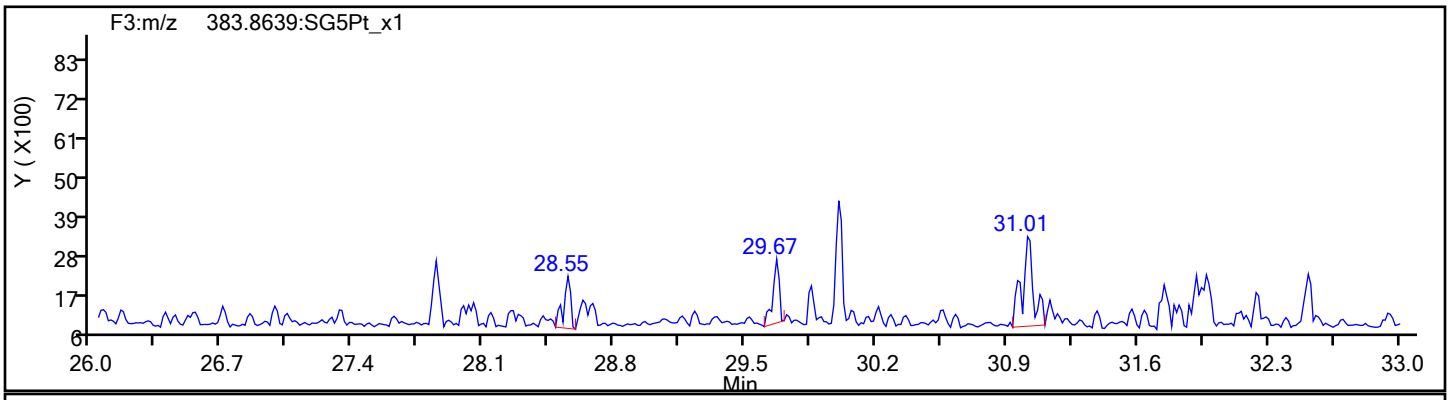

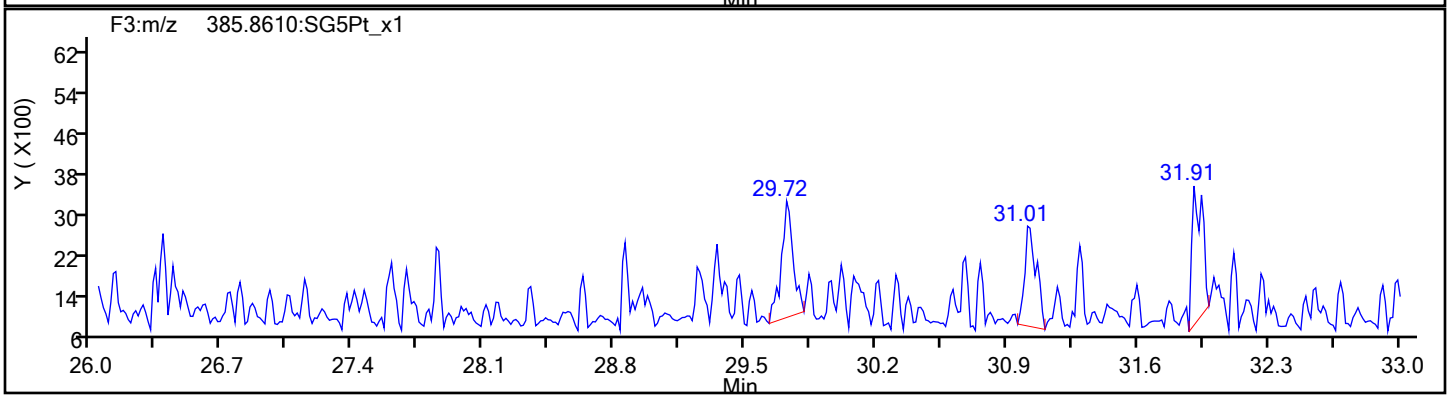

Report Date: 20-Sep-2019 09:55:56 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_41.d		
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Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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HxCDF

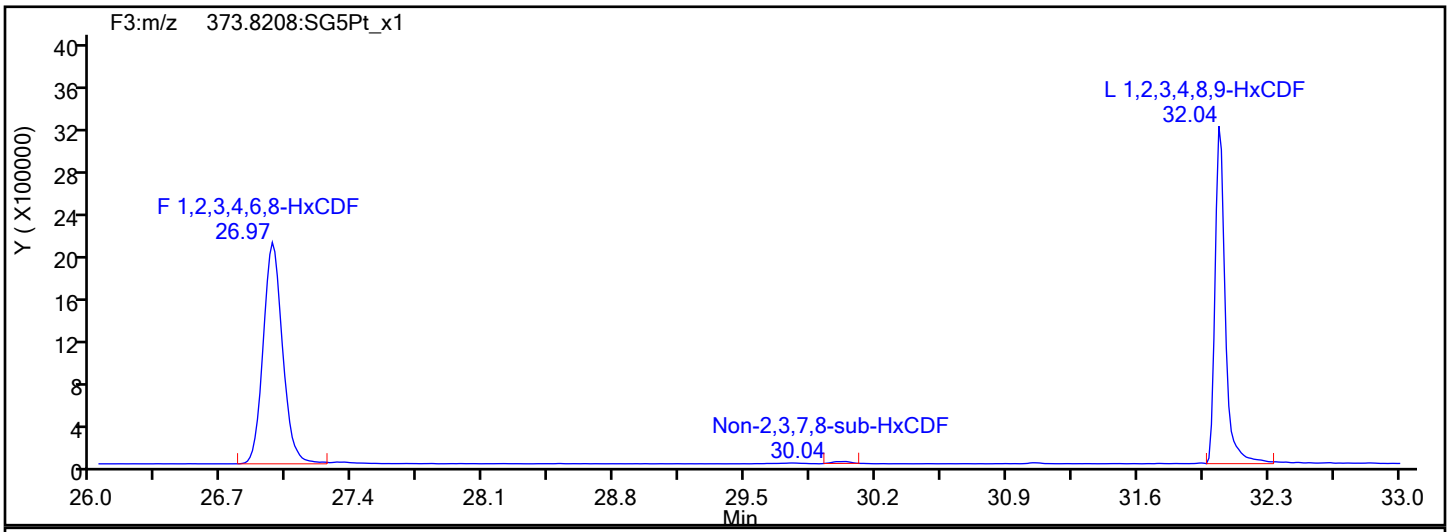

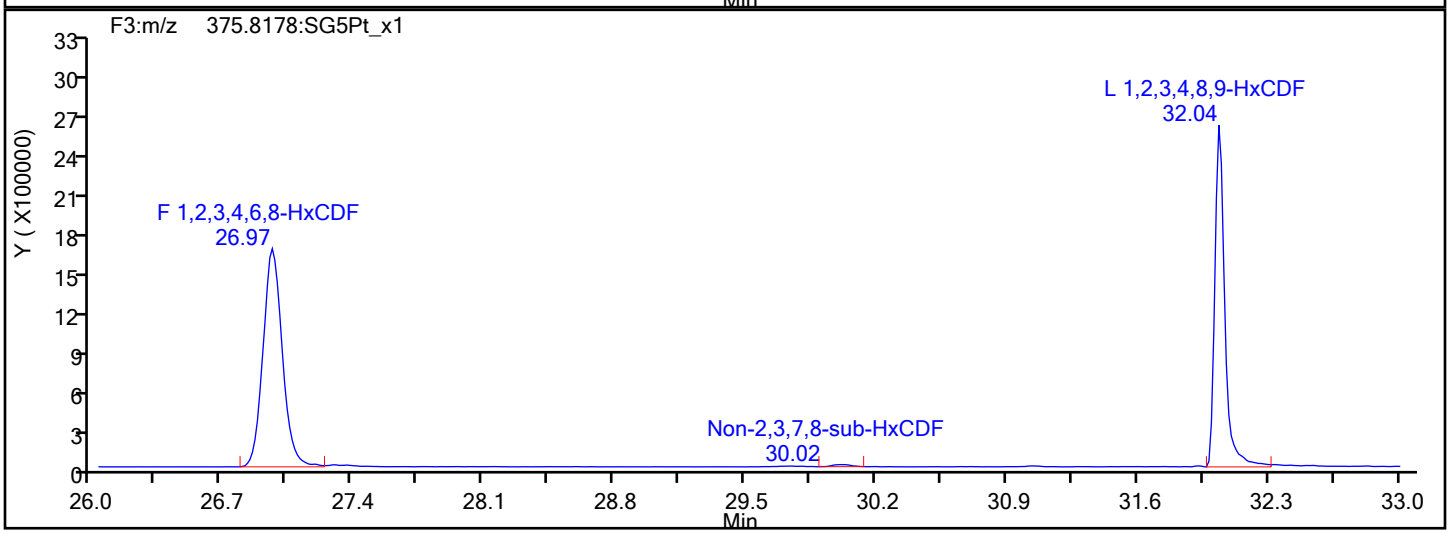

HxCDF Interference Mass

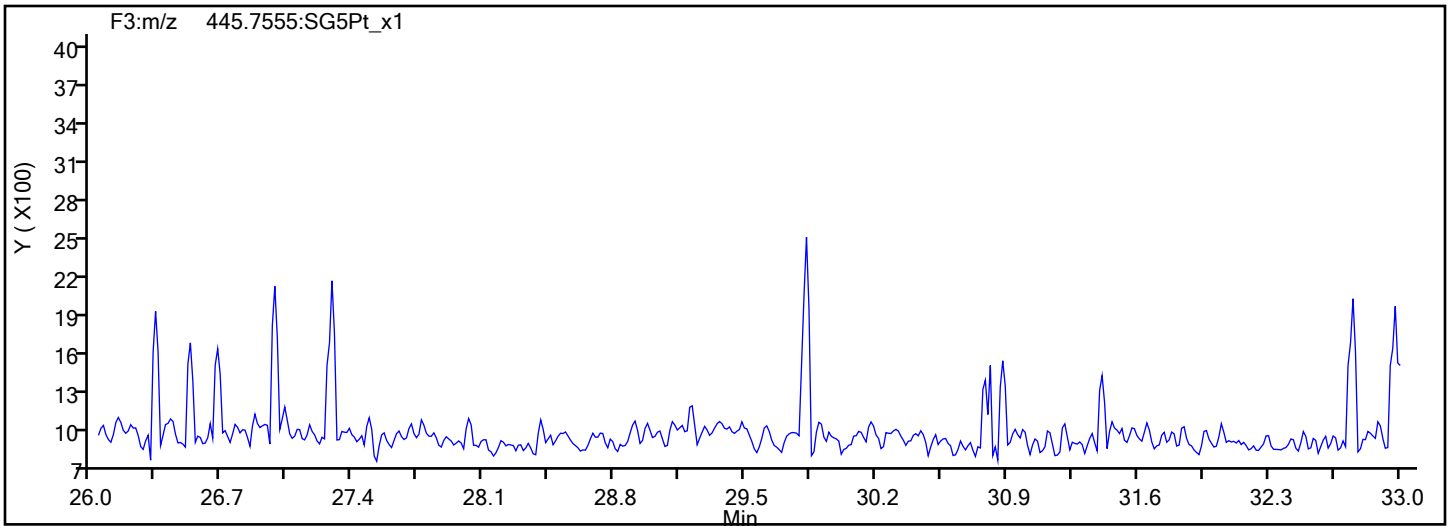

Report Date: 20-Sep-2019 09:55:56 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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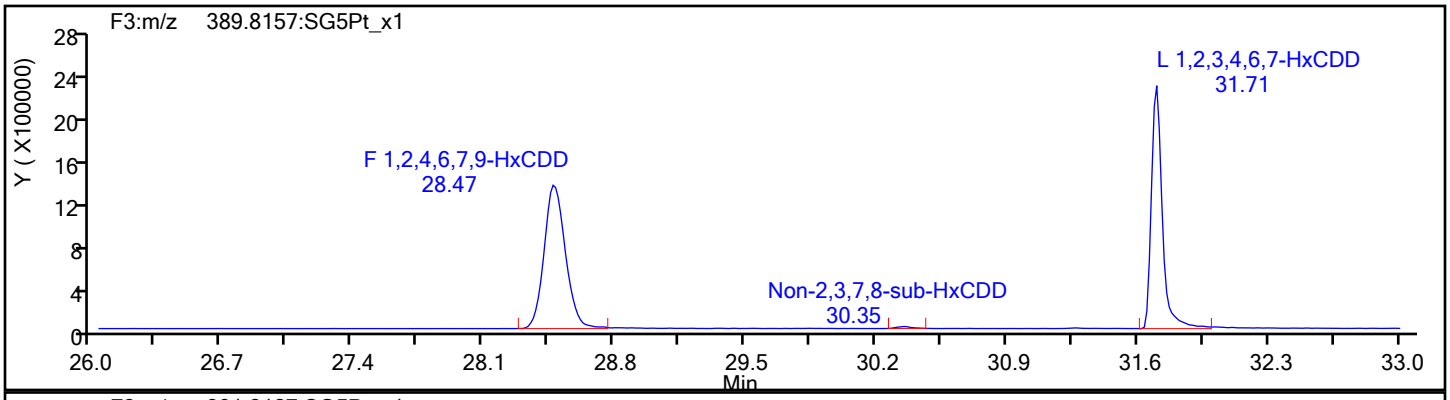

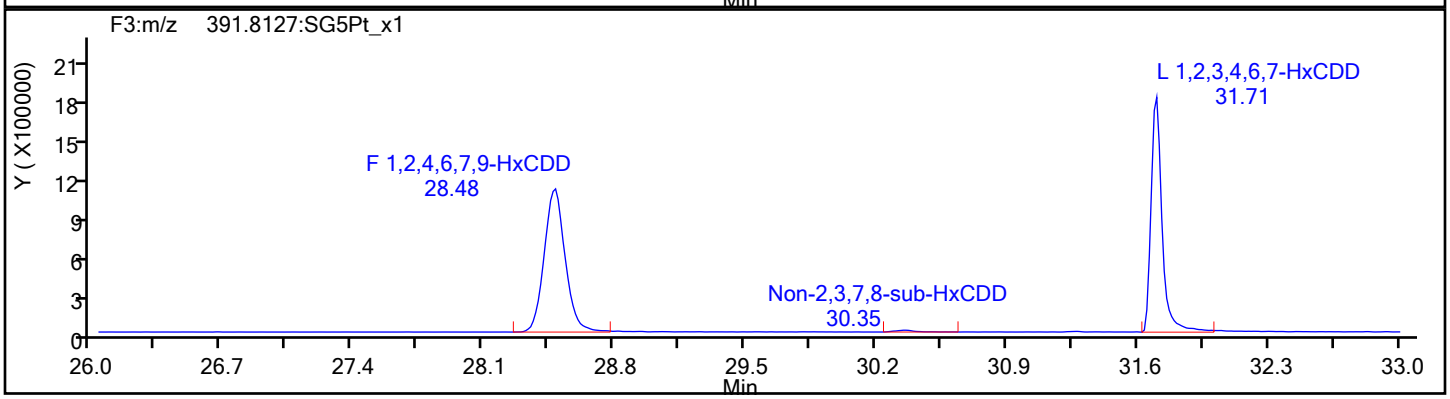

HxCDD Standards

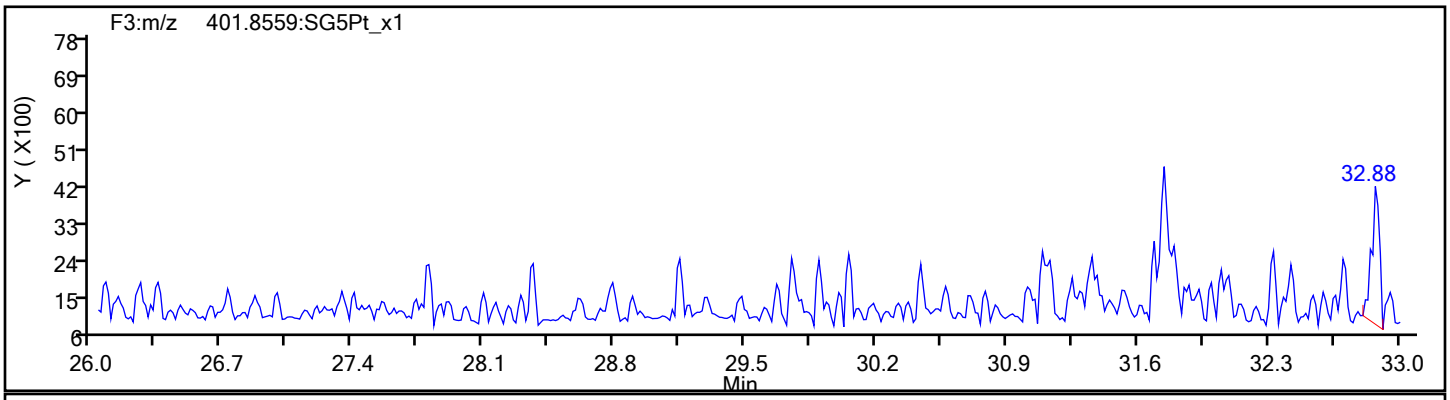

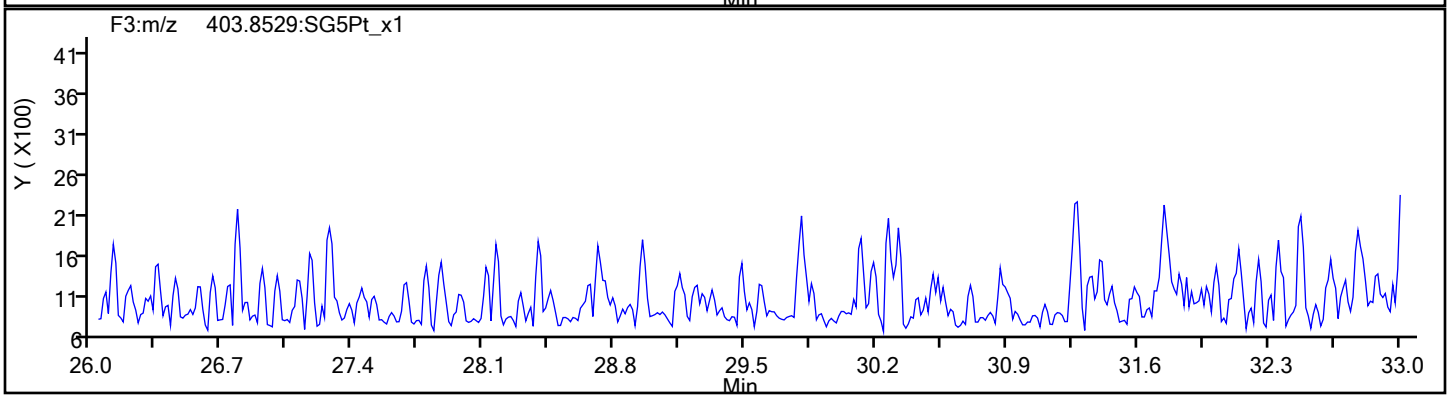

Report Date: 20-Sep-2019 09:55:56 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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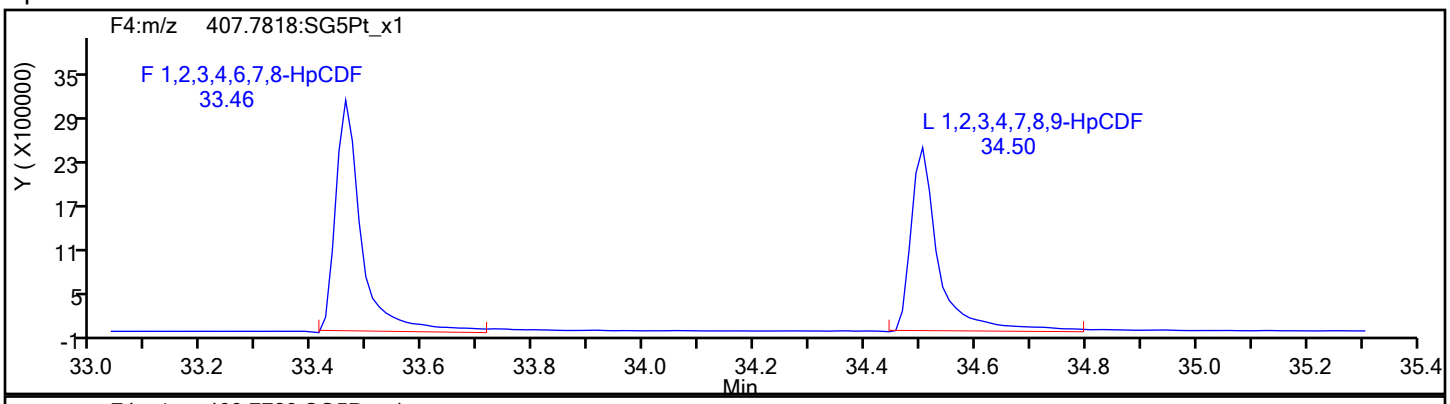

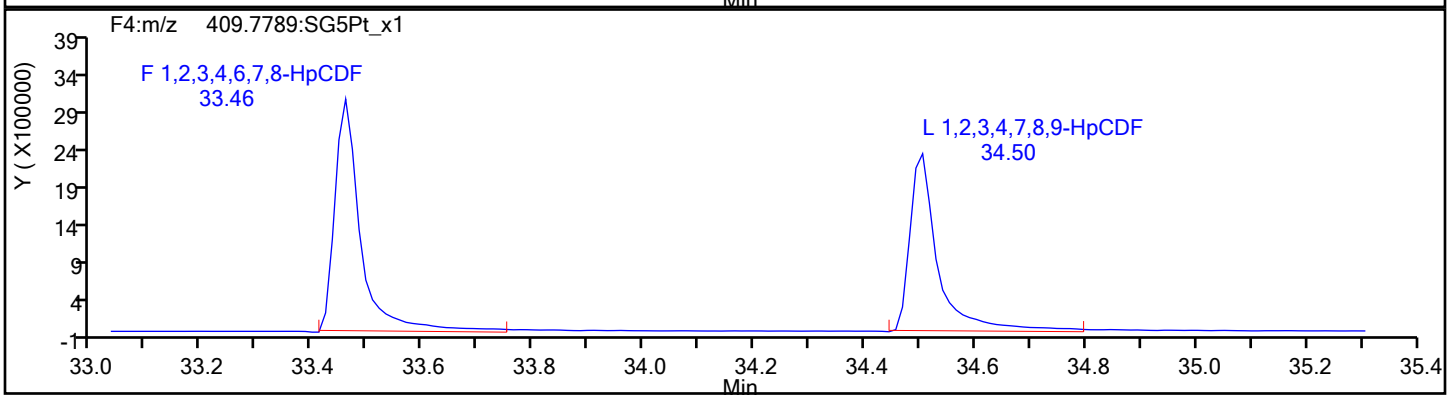

HpCDF Standards

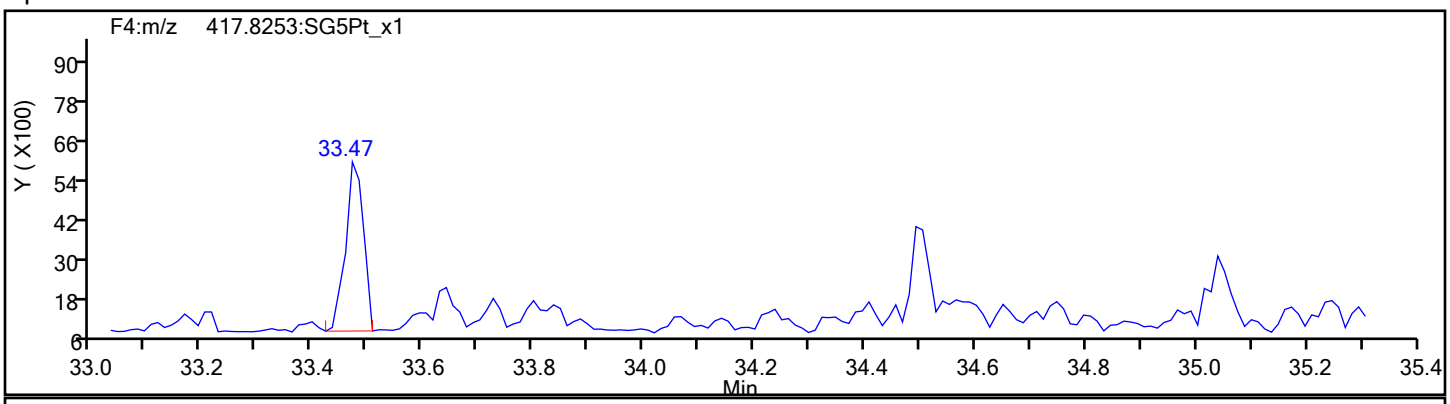

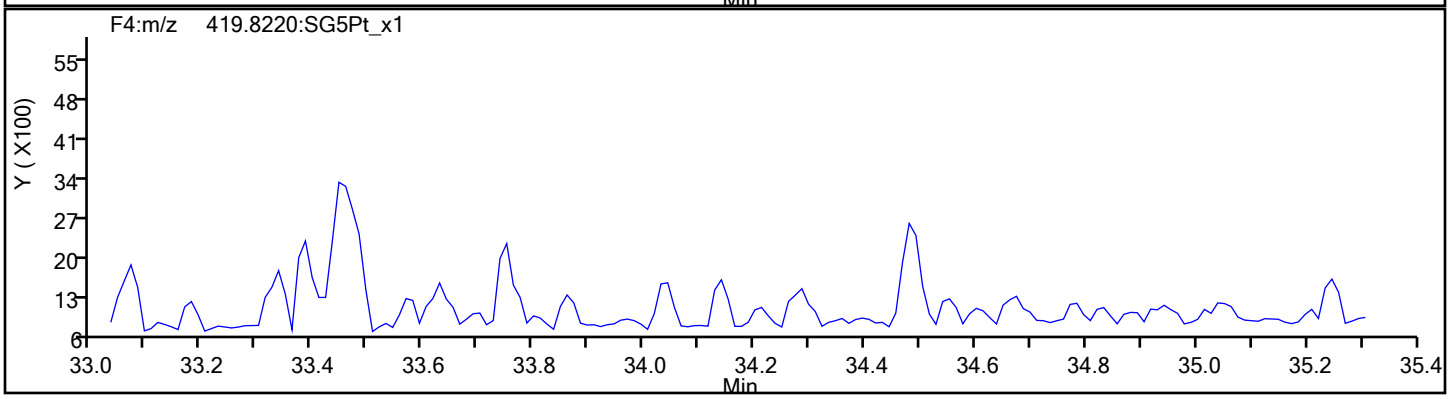

Report Date: 20-Sep-2019 09:55:56 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Injection Date:	19-Sep-2019 18:21:10	Injection Vol:	2.0 ul
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

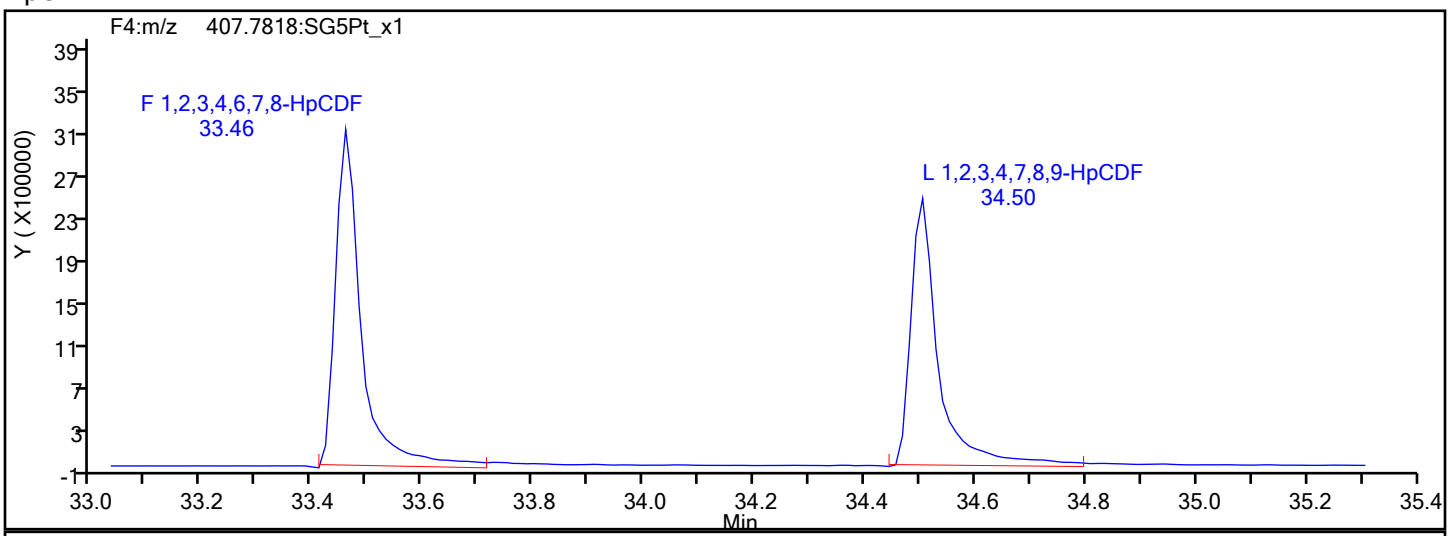

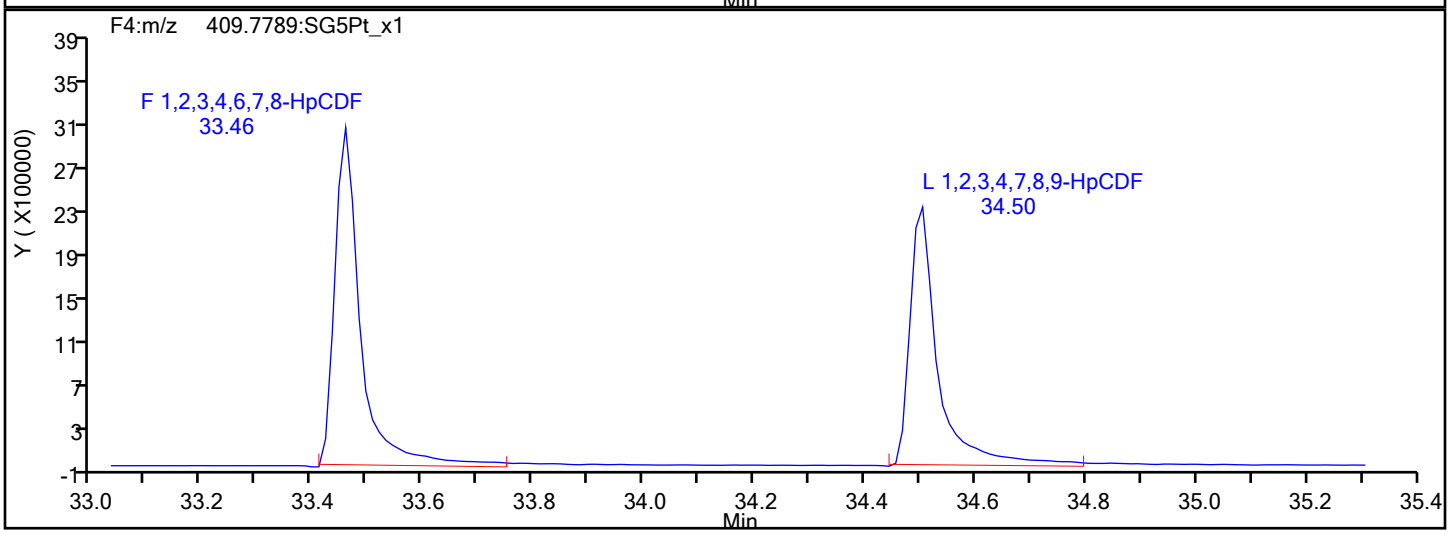

HpCDF Interference Mass

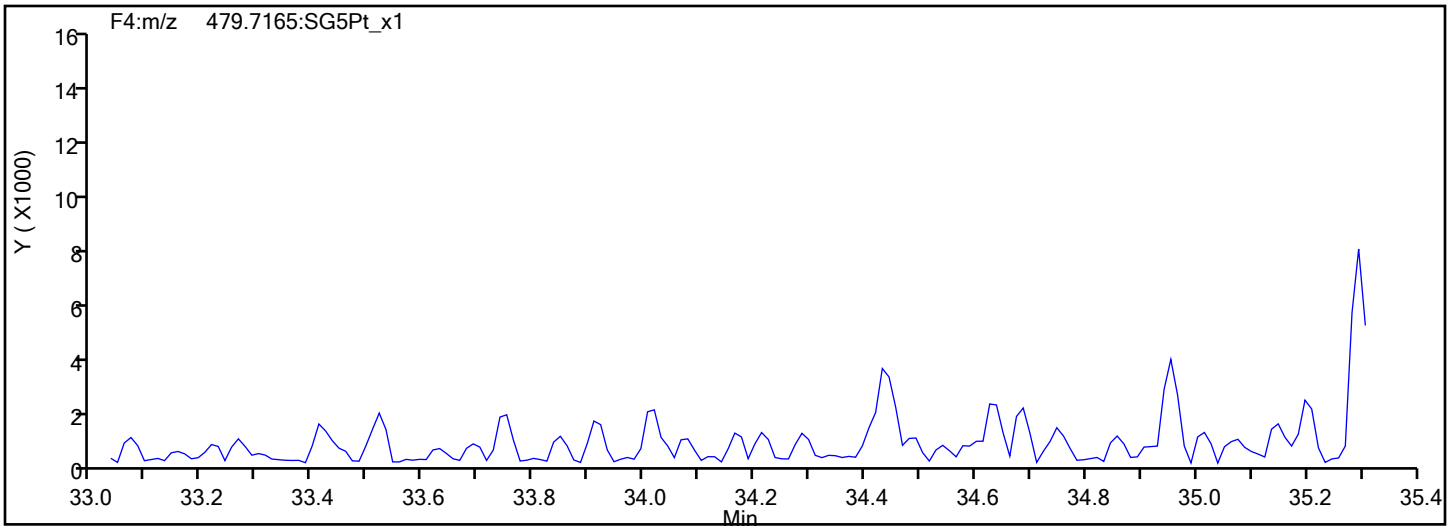

Report Date: 20-Sep-2019 09:55:56 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_41.d		
Injection Date:	19-Sep-2019 18:21:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	41
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

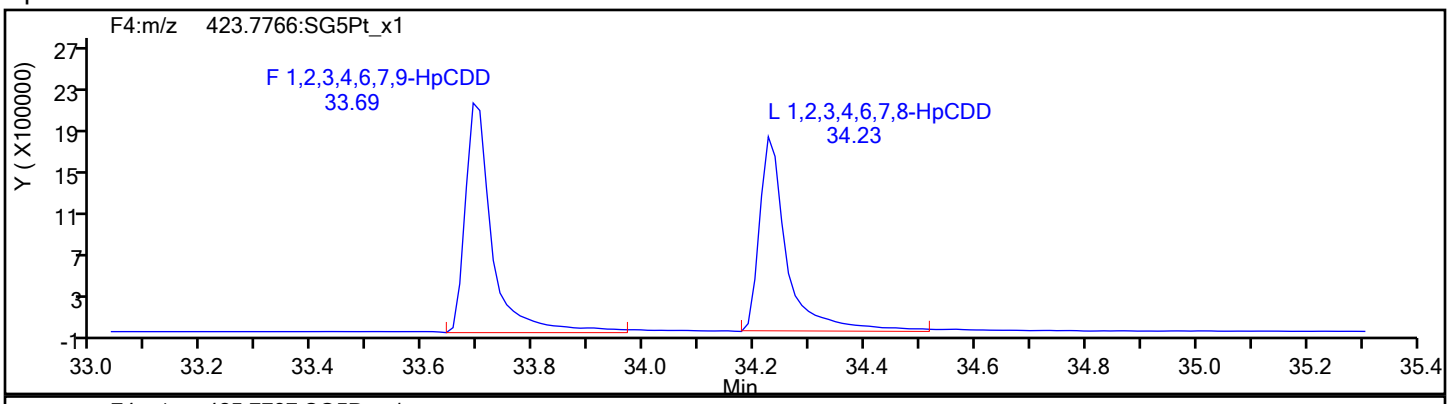

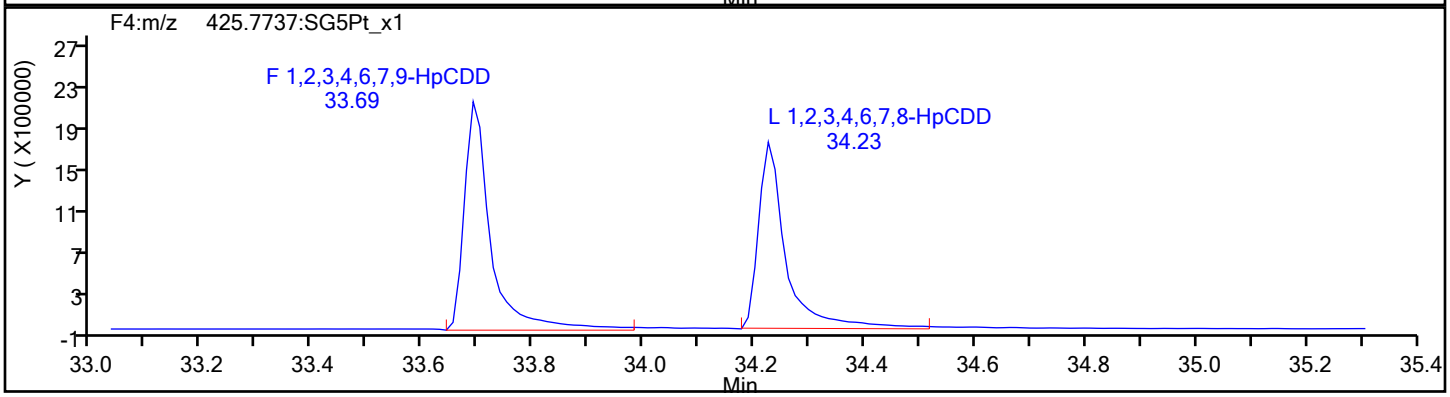

HpCDD Standards

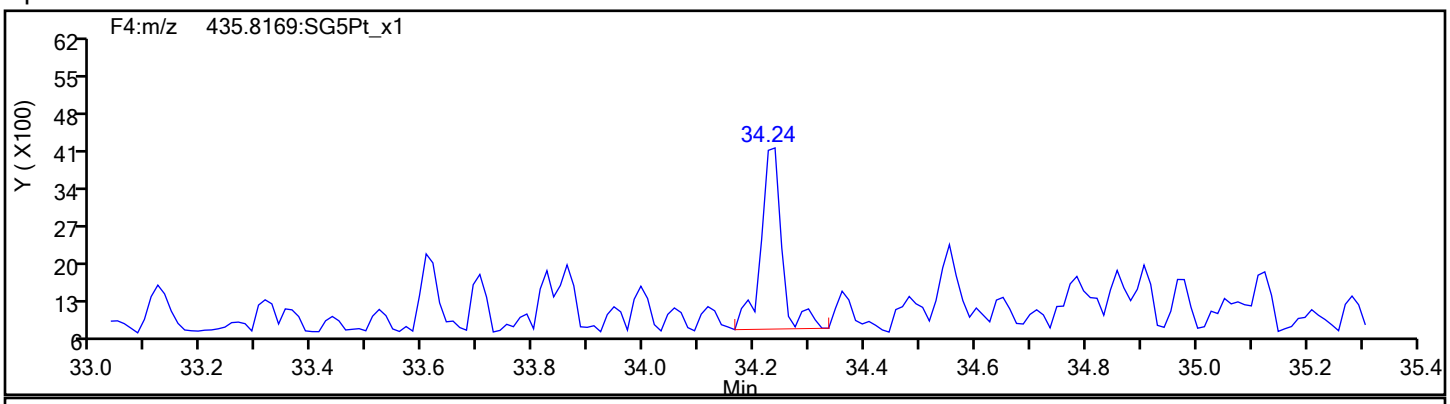

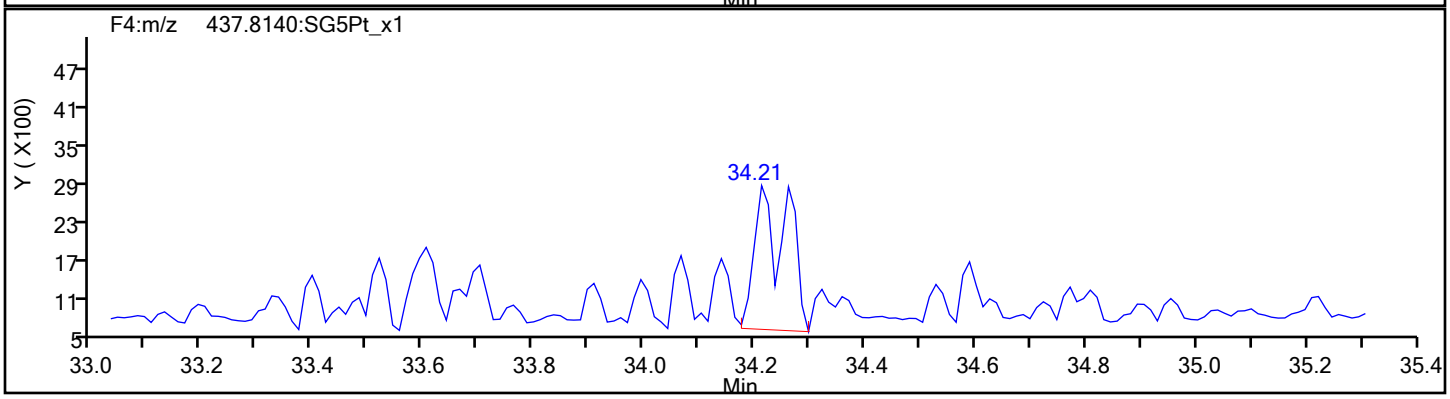

Report Date: 20-Sep-2019 09:55:56 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Injection Date:	19-Sep-2019 18:21:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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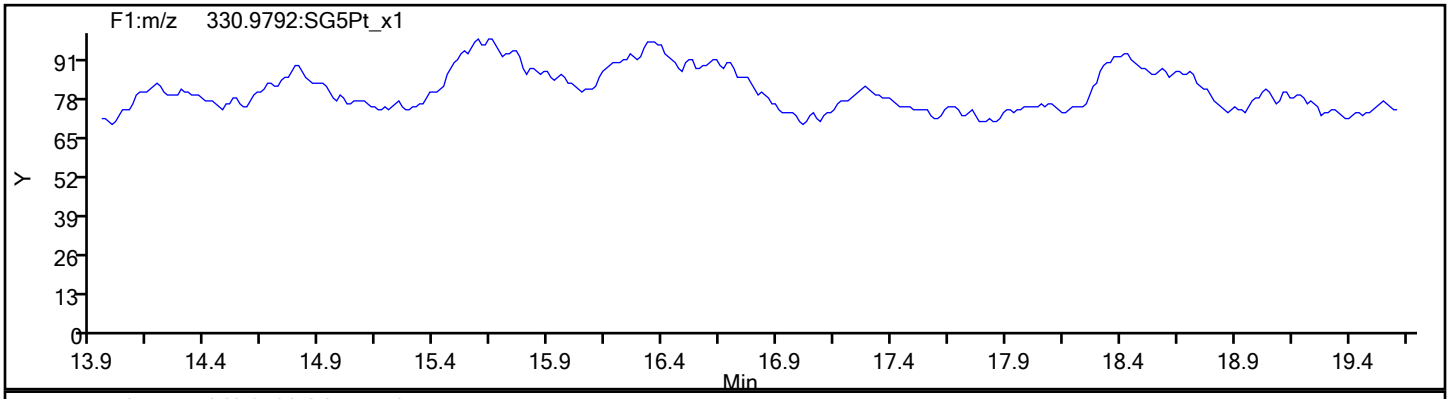

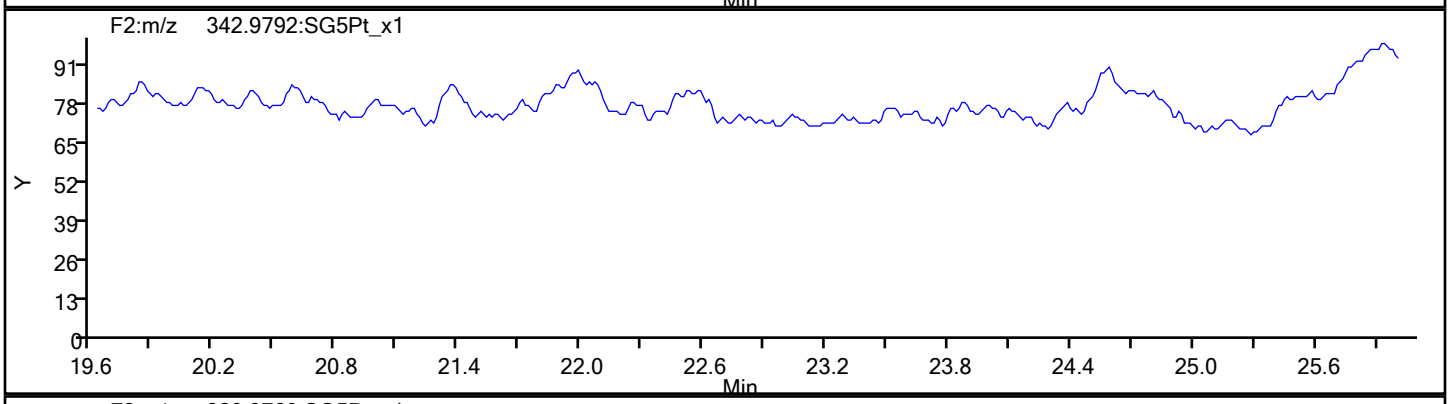

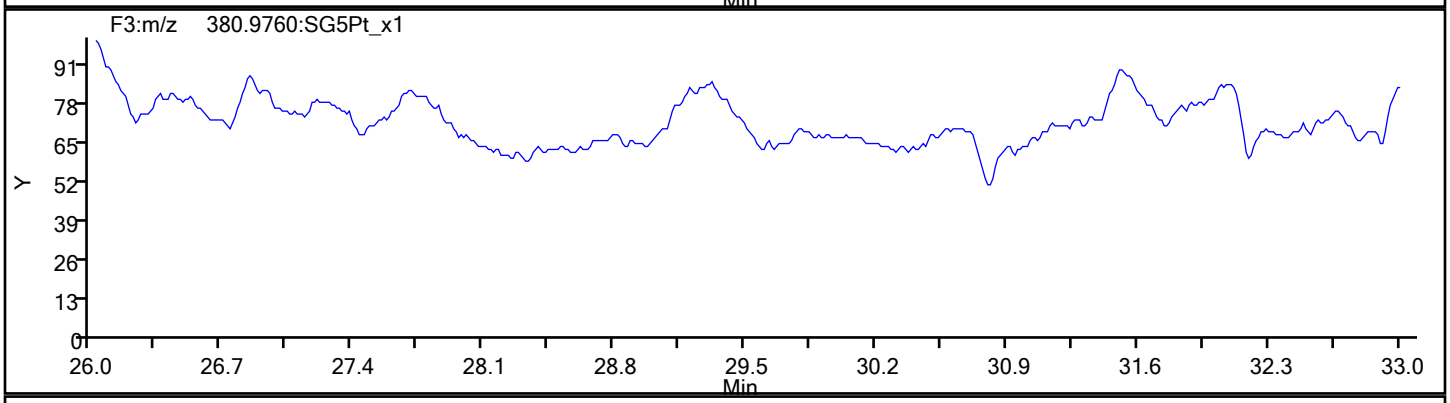

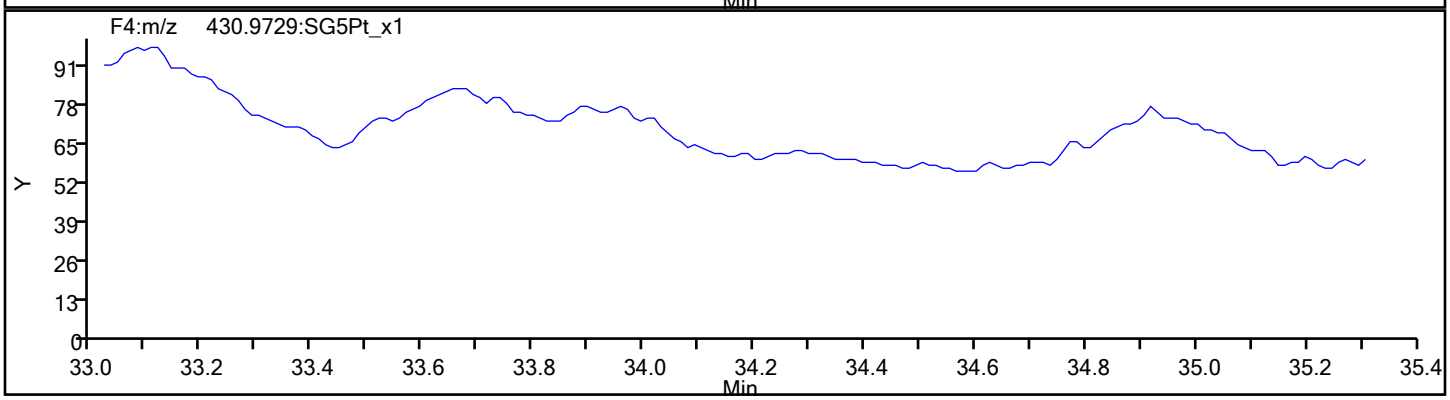

Report Date: 20-Sep-2019 09:55:56 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Injection Date:	19-Sep-2019 18:21:10	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	41
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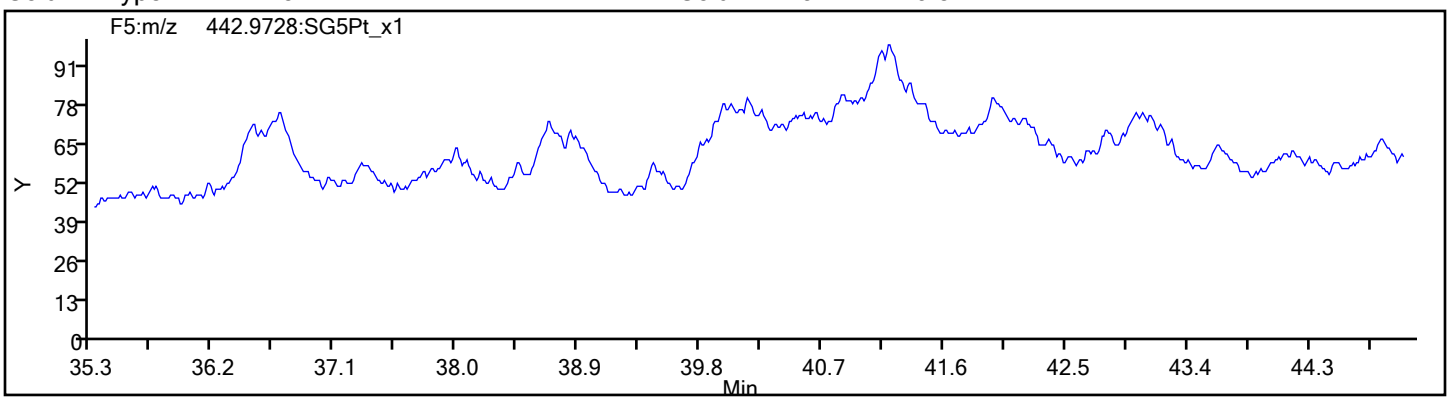

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190920-83509.b\20SE1911D2_001.d
Lims ID: CPS
Client ID:
Sample Type: CPS
Inject. Date: 20-Sep-2019 09:55:31 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info:
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20190920-83509.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 21-Sep-2019 00:20:39 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0308

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
D 13C-2,3,7,8-TCDF	16.502	115254083	0.77	1.3379					0.00	
2,3,7,8-TCDF	16.516	115740710	0.74	0.8389	47.9	47.9	0.0825	0.0825		
D 13C-2,3,7,8-TCDD	15.075	76676126	0.76	0.9388					0.00	
2,3,7,8-TCDD	15.089	85841995	0.77	1.1538	38.8	38.8	0.0784	0.0784		
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNCP_00040 Amount Added: 2.00 Units: uL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190920-83509.b\20SE1911D2_001.d
Lims ID: CPS
Client ID:
Sample Type: CPS
Inject. Date: 20-Sep-2019 09:55:31 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info:
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20190920-83509.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 21-Sep-2019 00:20:39 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0308

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,7,8-TCDF											
315.9419	16.502	16.511	1	1.000	50237030	9737525	23325	58312	417		
317.9389	16.502	16.511	1	1.000	65017053	12556446	13151	32877	955	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.516	16.516	0	1.001	49192680	9946324	6554	16385	1518		
305.8987	16.516	16.516	0	1.001	66548030	12975701	8871	22177	1463	0.74(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.075	15.097	0	1.000	33222202	6959978	14663	36657	475		
333.9339	15.075	15.097	0	1.000	43453924	9233827	4549	11372	2030	0.76(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.089	15.089	0	1.001	37474929	8106017	7761	19402	1044		
321.8936	15.089	15.089	0	1.001	48367066	10479344	6882	17205	1523	0.77(0.65-0.89)	
Total 2378-Chlorinated Dioxins & Furans											
		0.0	0								

Reagents:

HRDXNCP_00040 Amount Added: 2.00 Units: uL

Report Date: 21-Sep-2019 00:20:39 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190920-83509.b\20SE1911D2_001.d		
Injection Date:	20-Sep-2019 09:55:31	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	325151	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

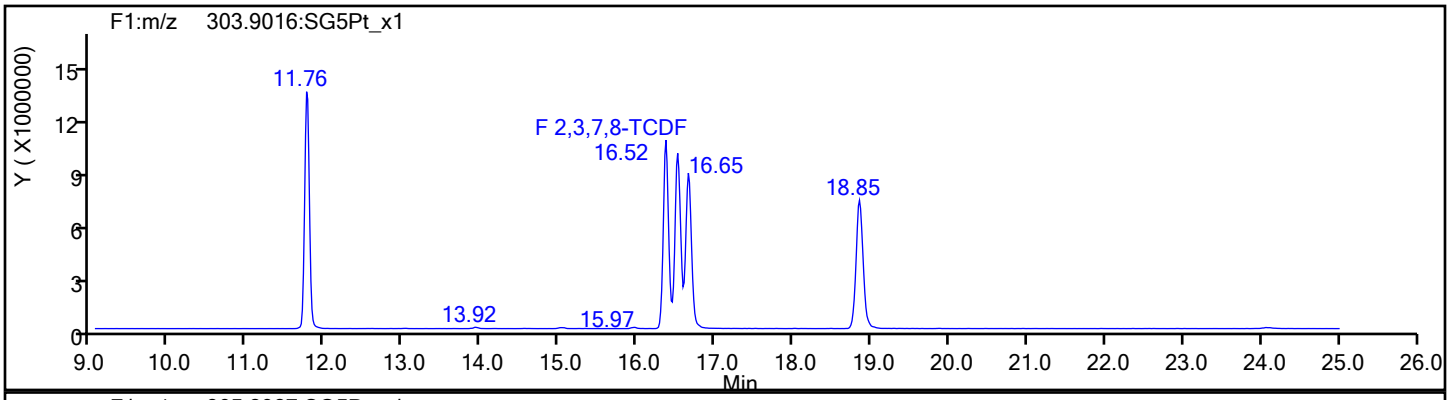

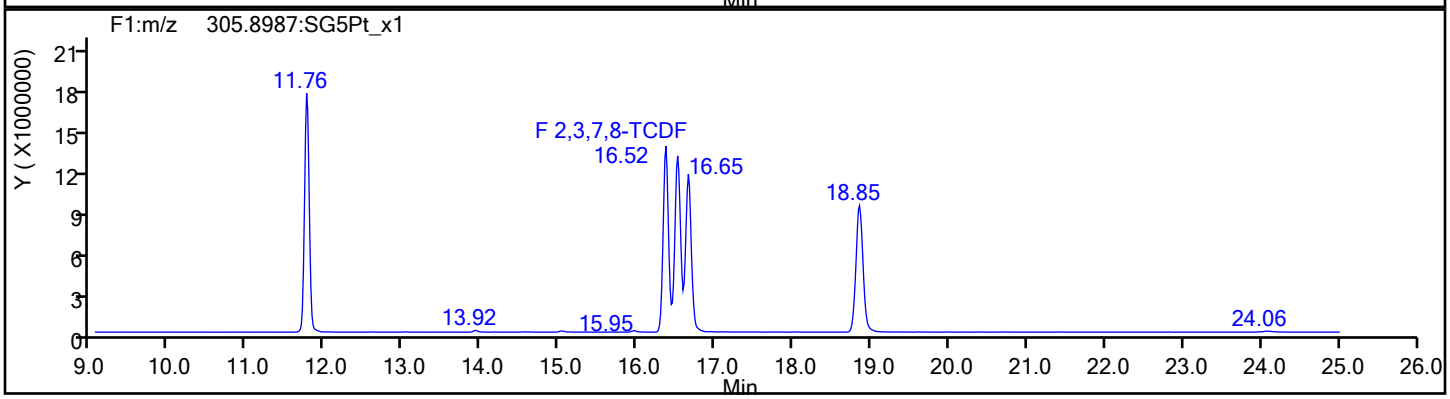

TCDF Standards

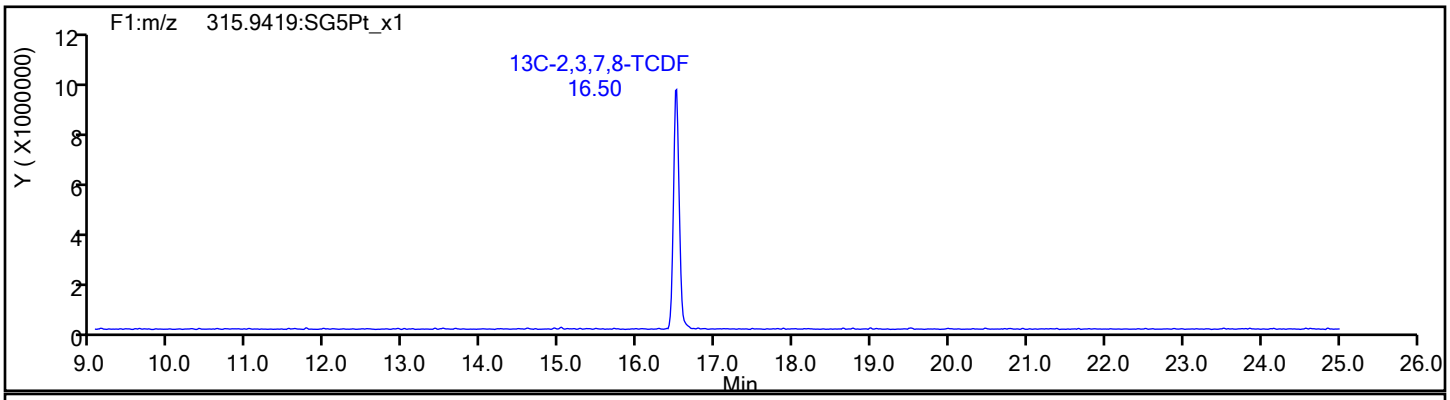

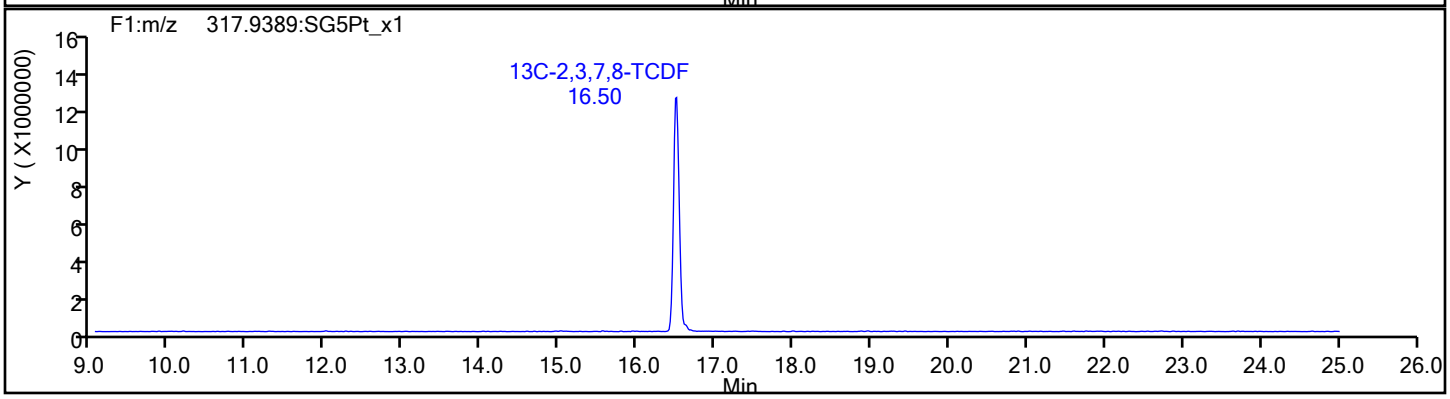

Report Date: 21-Sep-2019 00:20:39 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190920-83509.b\20SE1911D2_001.d		
Injection Date:	20-Sep-2019 09:55:31	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

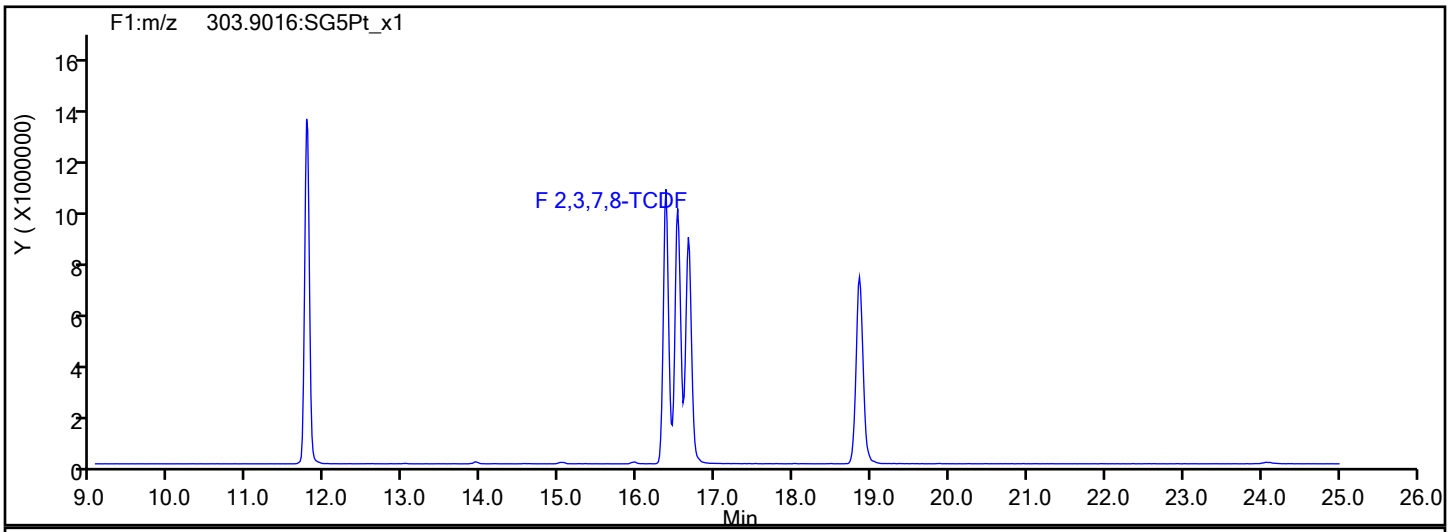

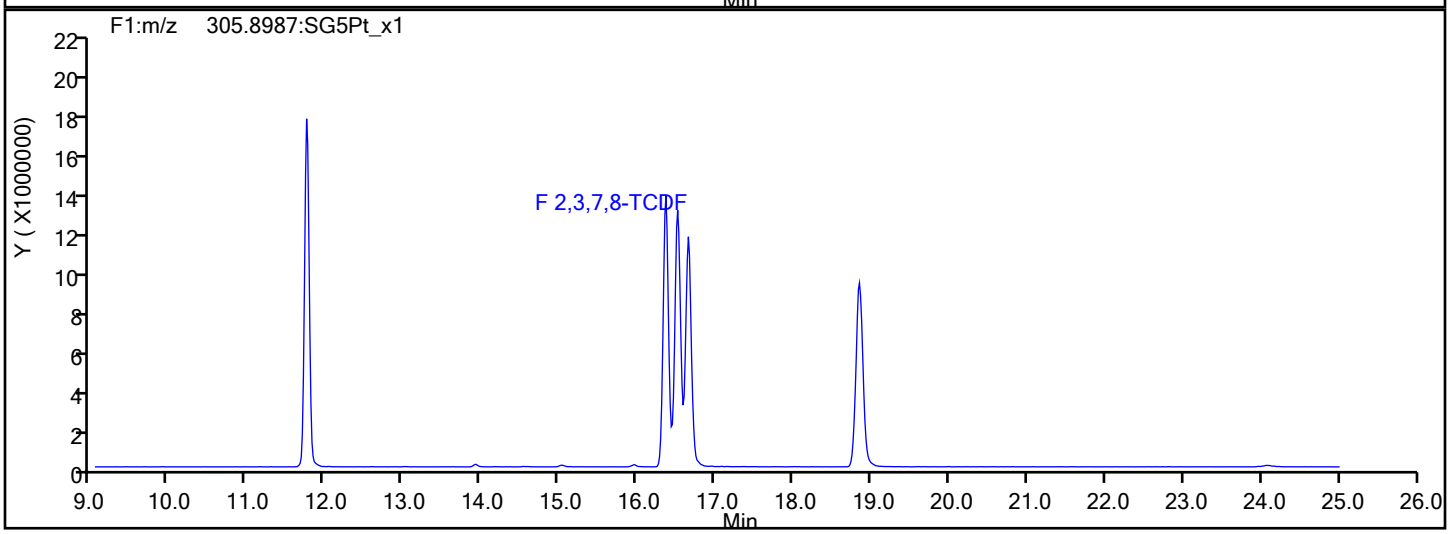

TCDF Interference Mass

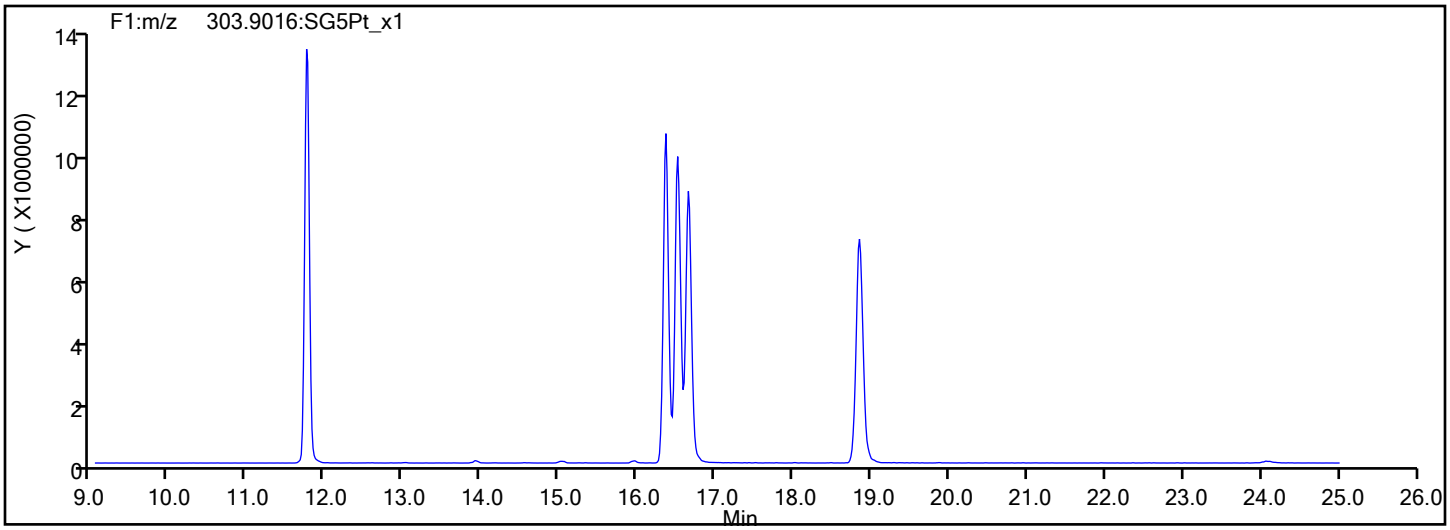

Report Date: 21-Sep-2019 00:20:39 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190920-83509.b\20SE1911D2_001.d		
Injection Date:	20-Sep-2019 09:55:31	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	325151	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

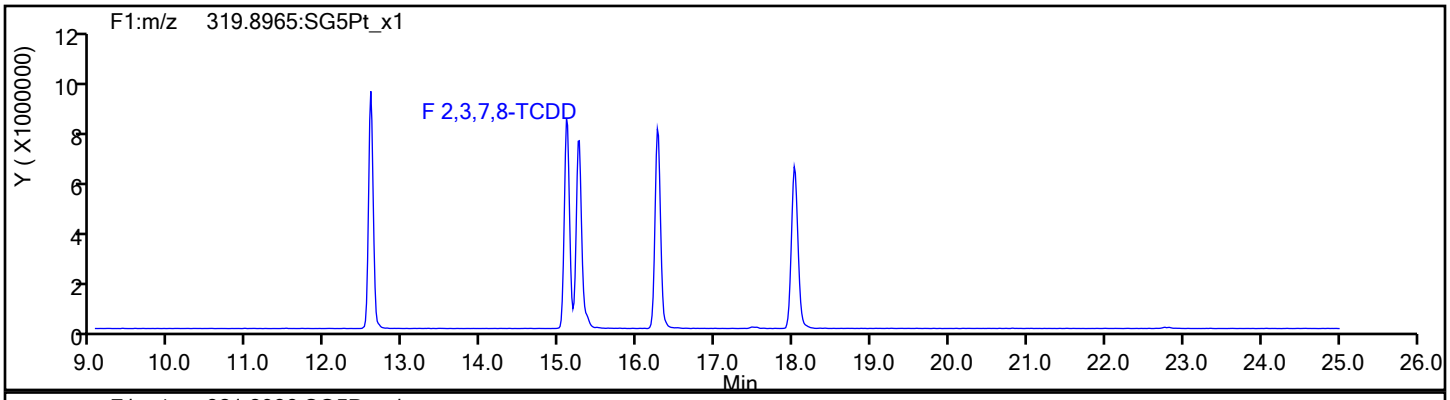

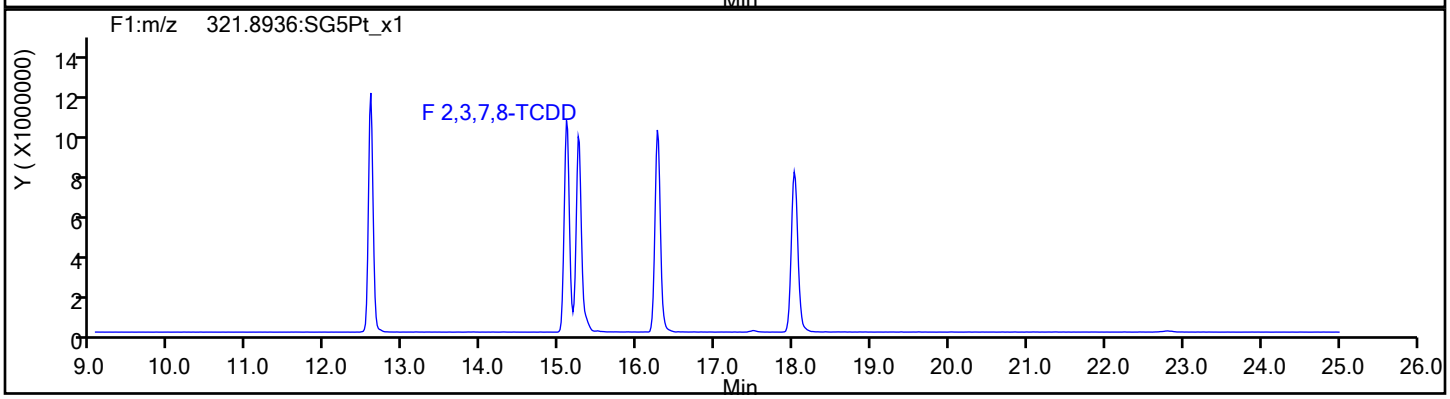

TCDD Standards

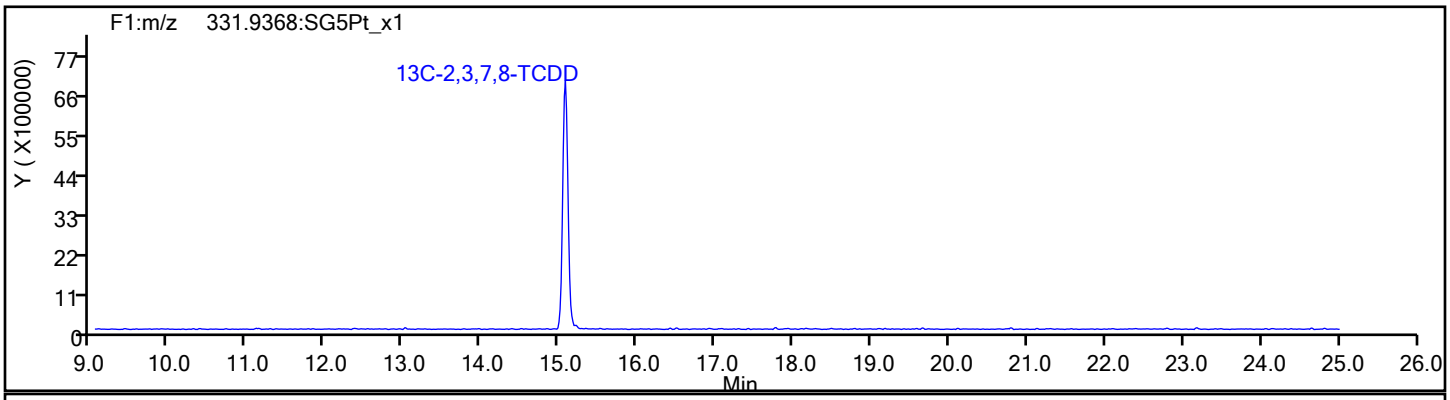

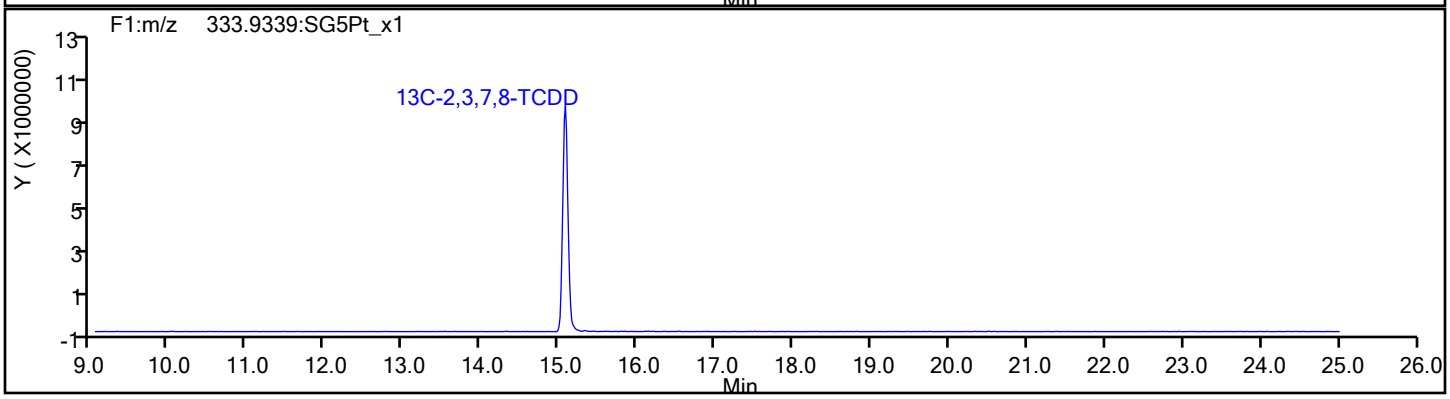

Report Date: 21-Sep-2019 00:20:39 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190920-83509.b\20SE1911D2_001.d		
Injection Date:	20-Sep-2019 09:55:31	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	325151	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

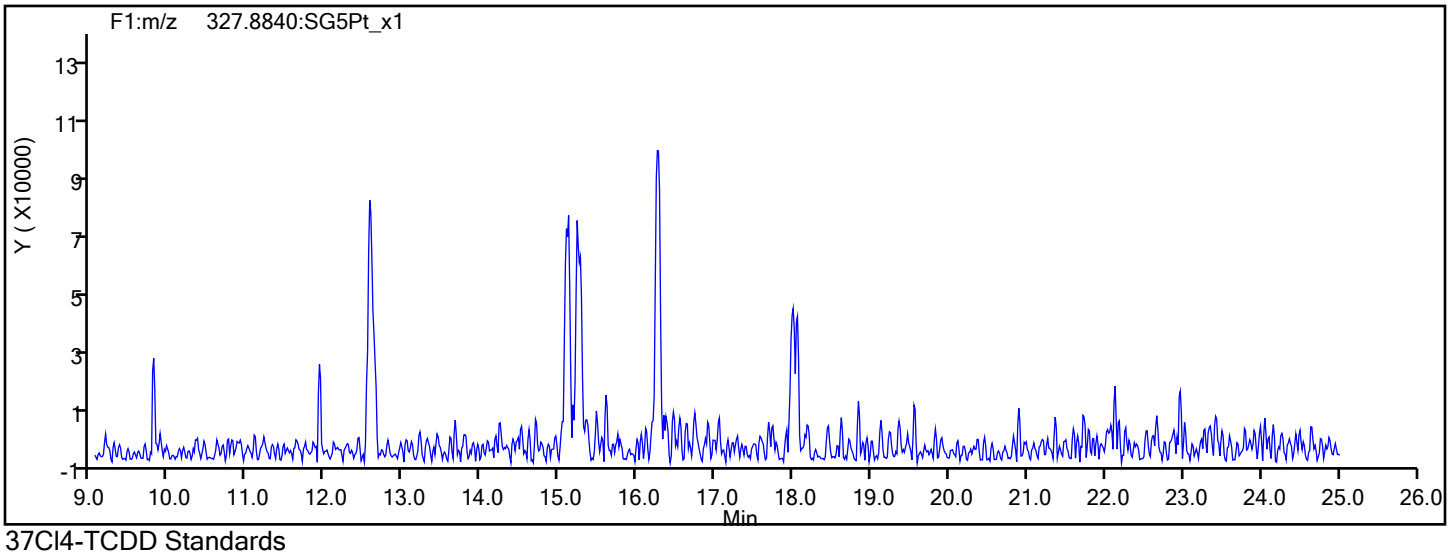

37Cl4-TCDD Standards

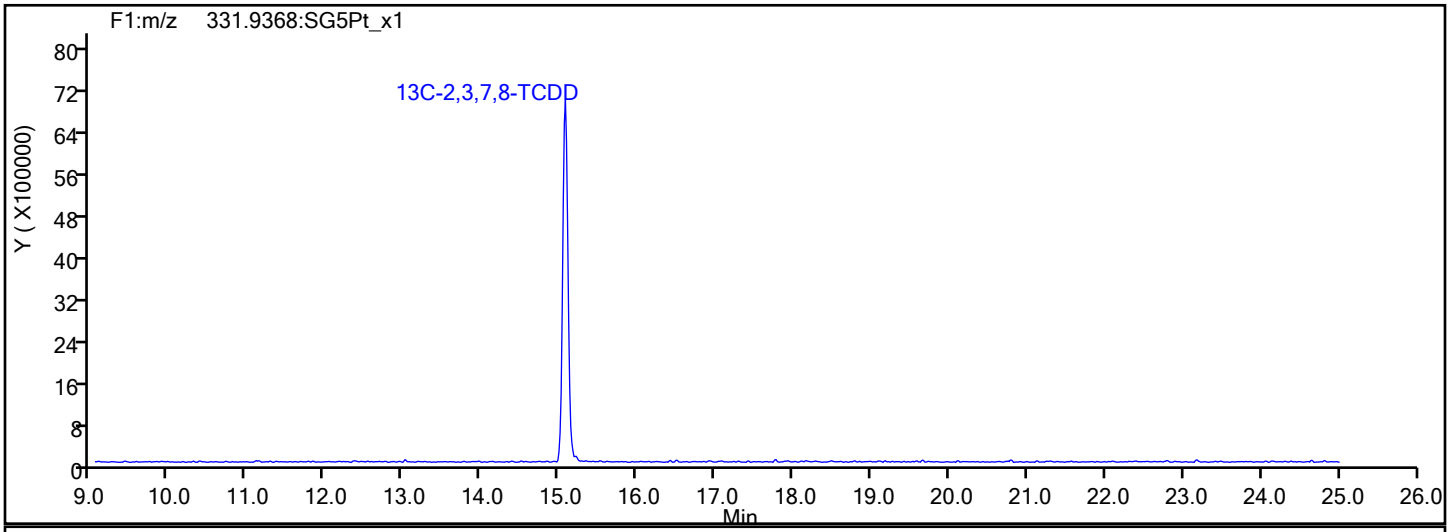

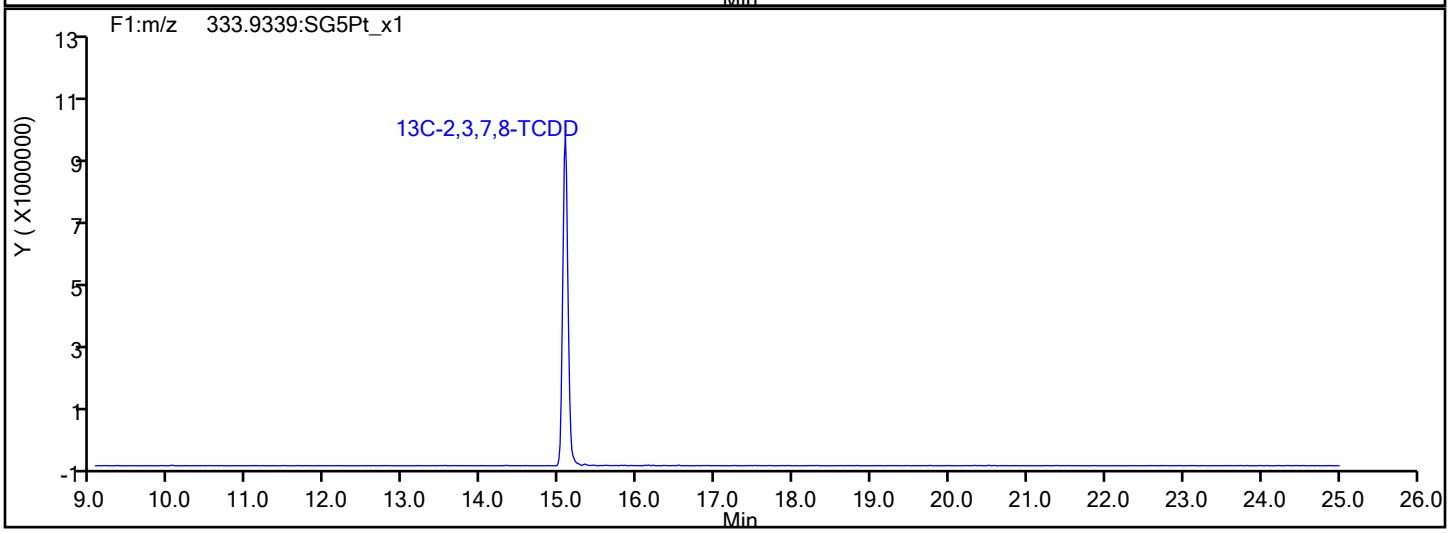

Report Date: 21-Sep-2019 00:20:39 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190920-83509.b\20SE1911D2_001.d		
Injection Date:	20-Sep-2019 09:55:31	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	325151	Sample Line#:	1
Column Type:	DB-225	Column Dia:	0.32 mm

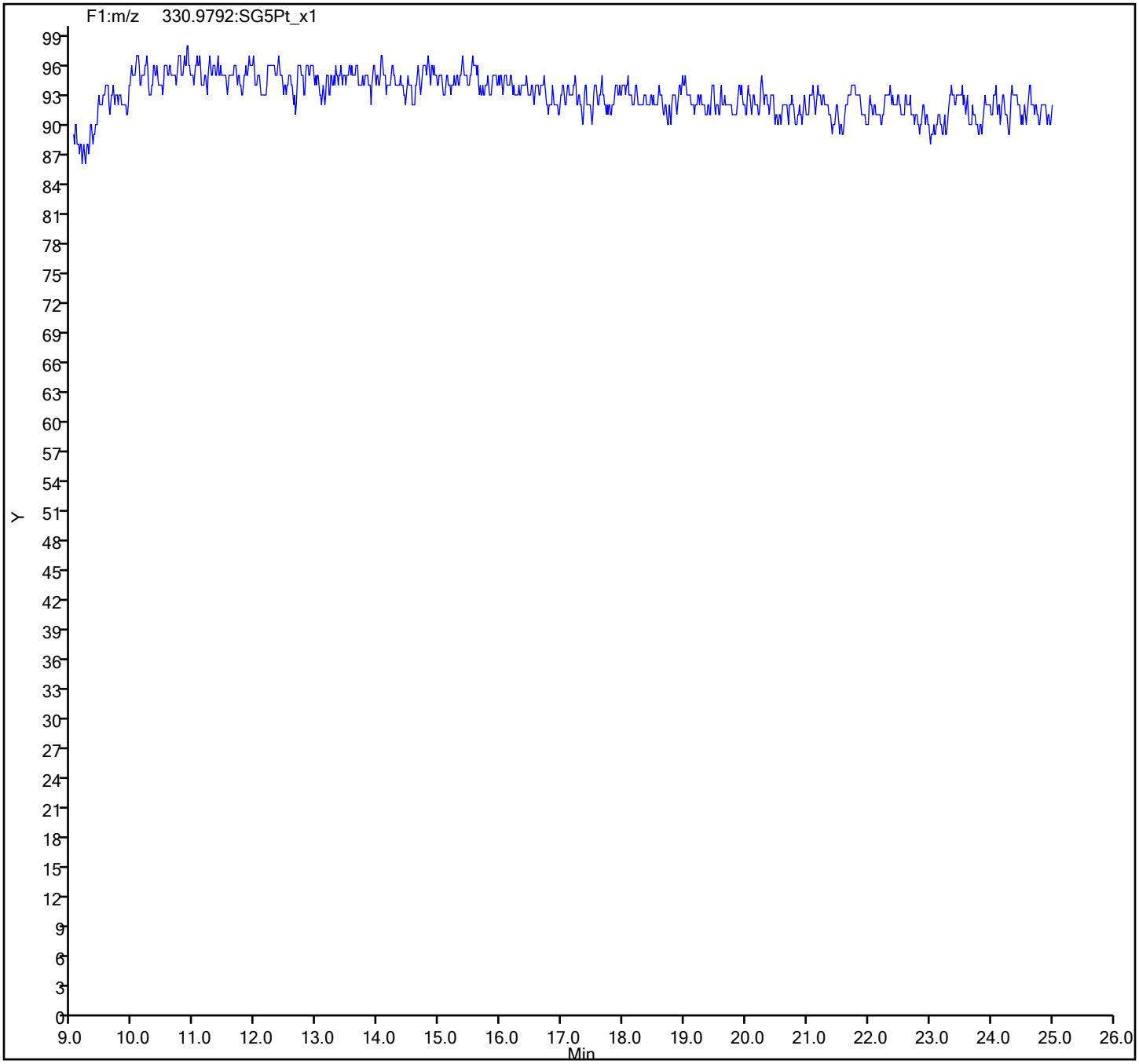

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 600-191956-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 320-324498/1-A
Matrix: Water
Lab File ID: 18SE1910D5_42.d
Analysis Method: 1613B
Date Collected:
Extract. Method: 1613B
Date Extracted: 09/18/2019 13:22
Sample wt/vol: 1000(mL)
Date Analyzed: 09/19/2019 19:23
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 324876
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		10	1.7
51207-31-9	2,3,7,8-TCDF	ND		10	0.85
40321-76-4	1,2,3,7,8-PeCDD	ND		50	1.5
57117-41-6	1,2,3,7,8-PeCDF	ND		50	0.91
57117-31-4	2,3,4,7,8-PeCDF	ND		50	0.80
39227-28-6	1,2,3,4,7,8-HxCDD	3.10	J	50	1.1
57653-85-7	1,2,3,6,7,8-HxCDD	1.39	J	50	1.0
19408-74-3	1,2,3,7,8,9-HxCDD	2.31	J	50	0.95
70648-26-9	1,2,3,4,7,8-HxCDF	ND		50	2.2
57117-44-9	1,2,3,6,7,8-HxCDF	ND		50	1.8
72918-21-9	1,2,3,7,8,9-HxCDF	2.66	J	50	1.3
60851-34-5	2,3,4,6,7,8-HxCDF	ND		50	1.3
35822-46-9	1,2,3,4,6,7,8-HpCDD	5.28	J	50	1.3
67562-39-4	1,2,3,4,6,7,8-HpCDF	3.16	J	50	0.67
55673-89-7	1,2,3,4,7,8,9-HpCDF	3.26	J	50	0.83
3268-87-9	OCDD	8.59	J	100	1.9
39001-02-0	OCDF	4.87	J	100	2.8
41903-57-5	Total TCDD	ND		10	1.7
30402-14-3	Total TCDF	ND		10	0.85
36088-22-9	Total PeCDD	ND		50	1.5
30402-15-4	Total PeCDF	ND		50	1.4
34465-46-8	Total HxCDD	6.80	J	50	1.0
55684-94-1	Total HxCDF	2.66	J	50	1.7
37871-00-4	Total HpCDD	7.96	J	50	1.3
38998-75-3	Total HpCDF	6.42	J	50	0.75

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 320-324498/1-A

Matrix: Water Lab File ID: 18SE1910D5_42.d

Analysis Method: 1613B Date Collected:

Extract. Method: 1613B Date Extracted: 09/18/2019 13:22

Sample wt/vol: 1000(mL) Date Analyzed: 09/19/2019 19:23

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 324876 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	64		25-164
89059-46-1	13C-2,3,7,8-TCDF	68		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	64		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	59		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	72		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	60		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	63		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	63		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	64		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	60		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	62		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	51		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	56		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	57		26-138
114423-97-1	13C-OCDD	46		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	101		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_42.d
Lims ID: MB 320-324498/1-A
Client ID:
Sample Type: MB
Inject. Date: 19-Sep-2019 19:23:05 ALS Bottle#: 43 Worklist Smp#: 42
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: MB 320-324498/1-A MB 320-324498/1-A
Misc. Info.: 18SE1910D5
Operator ID: SMA, ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 20-Sep-2019 09:55:55 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0314

First Level Reviewer: stephensk Date: 20-Sep-2019 09:46:28

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.270	30206591	0.76	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.786	29532499	0.78	1.4384	68.0	68.0	0.2893	0.2893	67.97	
2,3,7,8-TCDF	16.801						0.0425	0.0425		
A Non-2,3,7,8-sub-TCDF	16.514						0.0425	0.0425		
S Total TCDF							0.0425	0.0425		
D 13C-2,3,7,8-TCDD	17.466	18430432	0.78	0.9533	64.0	64.0	0.2715	0.2715	64.00	
$ 37Cl4-2,3,7,8-TCDD	17.481	14854958		1.2224	40.2	40.2	0.0476	0.0476	101	
2,3,7,8-TCDD	17.497						0.0830	0.0830		
A Non-2,3,7,8-sub-TCDD	16.952						0.0830	0.0830		
S Total TCDD							0.0830	0.0830		
D 13C-1,2,3,7,8-PeCDF	21.604	18483925	1.63	1.0286	59.5	59.5	0.1866	0.1866	59.49	
1,2,3,7,8-PeCDF	21.631						0.0454	0.0454		
D 13C-2,3,4,7,8-PeCDF	22.899	21445425	1.64	0.9827	72.2	72.2	0.1954	0.1954	72.25	
2,3,4,7,8-PeCDF	22.927						0.0399	0.0399		
A F1 PeCDFs	19.205						0.0713	0.0713		
A Non-2,3,7,8-sub-PeCDF	22.226						0.0425	0.0425		
S Total PeCDF							0.0713	0.0713		
D 13C-1,2,3,7,8-PeCDD	23.581	14419634	1.58	0.7481	63.8	63.8	0.1729	0.1729	63.81	
1,2,3,7,8-PeCDD	23.622						0.0766	0.0766		
A Non-2,3,7,8-sub-PeCDD	22.559						0.0766	0.0766		
S Total PeCDD							0.0766	0.0766		
D 13C-1,2,3,4,7,8-HxCDF	29.709	15106485	0.52	1.1520	63.0	63.0	0.4758	0.4758	62.97	
1,2,3,4,7,8-HxCDF	29.749						0.1078	0.1078		
D 13C-1,2,3,6,7,8-HxCDF	29.975	16481614	0.52	1.2434	63.7	63.7	0.4408	0.4408	63.65	
1,2,3,6,7,8-HxCDF	30.002						0.0912	0.0912		
D 13C-2,3,4,6,7,8-HxCDF	31.014	15197523	0.52	1.1720	62.3	62.3	0.4677	0.4677	62.27	
2,3,4,6,7,8-HxCDF	31.040						0.0662	0.0662		
D 13C-1,2,3,7,8,9-HxCDF	31.919	13259025	0.52	1.0655	59.8	59.8	0.5145	0.5145	59.76	
1,2,3,7,8,9-HxCDF	31.932	21981	1.24	1.2451	0.1558	0.1331	0.0671	0.0671		RQM
A Non-2,3,7,8-sub-HxCDF	29.503						0.0798	0.0798		
S Total HxCDF					0.1558	0.1331	0.0831	0.0831		RQ

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.719	20824779	1.30	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.240	9719563	1.31	0.7812	59.7	59.7	0.5134	0.5134	59.74	
1,2,3,4,7,8-HxCDD	31.280	16678	1.27	1.1088	0.1548	0.1548	0.0534	0.0534		M
D 13C-1,2,3,6,7,8-HxCDD	31.360	12077177	1.28	0.9175	63.2	63.2	0.4371	0.4371	63.21	
1,2,3,6,7,8-HxCDD	31.360	9106	1.05	1.0814	0.0697	0.0697	0.0521	0.0521		Ma
1,2,3,7,8,9-HxCDD	31.759	15239	1.24	1.2123	0.1335	0.1153	0.0476	0.0476		RQM
A Non-2,3,7,8-sub-HxCDD	30.089						0.0509	0.0509		
S Total HxCDD					0.3580	0.3398	0.0510	0.0510		RQ
D 13C-1,2,3,4,6,7,8-HpCDF	33.435	10114386	0.43	0.8628	56.3	56.3	1.511	1.511	56.29	
1,2,3,4,6,7,8-HpCDF	33.447	24891	1.12	1.5555	0.1582	0.1582	0.0333	0.0333		
D 13C-1,2,3,4,7,8,9-HpCDF	34.480	9421650	0.43	0.7991	56.6	56.6	1.632	1.632	56.62	
1,2,3,4,7,8,9-HpCDF	34.505	21279	1.16	1.3862	0.1629	0.1629	0.0414	0.0414		M
A Non-2,3,7,8-sub-HpCDF	33.982						0.0370	0.0370		
S Total HpCDF					0.3211	0.3211	0.0374	0.0374		
D 13C-1,2,3,4,6,7,8-HpCDD	34.213	9228479	1.03	0.8739	50.7	50.7	0.6046	0.6046	50.71	
1,2,3,4,6,7,8-HpCDD	34.225	22691	1.00	0.9316	0.2639	0.2639	0.0655	0.0655		Ma
A Non-2,3,7,8-sub-HpCDD	34.747	11519	1.04	0.9316	0.1561	0.1340	0.0655	0.1340		RQMa
S Total HpCDD					0.4200	0.3979	0.0655	0.0655		RQ
D 13C-OCDD	36.469	14985960	0.88	0.7744	92.9	92.9	0.3246	0.3246	46.47	
OCDF	36.565	22991	0.90	1.2596	0.2436	0.2436	0.1424	0.1424		
OCDD	36.481	34186	0.99	1.0621	0.4296	0.4296	0.0936	0.0936		

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_42.d
Lims ID: MB 320-324498/1-A
Client ID:
Sample Type: MB
Inject. Date: 19-Sep-2019 19:23:05 ALS Bottle#: 43 Worklist Smp#: 42
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: MB 320-324498/1-A MB 320-324498/1-A
Misc. Info.: 18SE1910D5
Operator ID: SMA, ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 20-Sep-2019 09:55:55 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0314

First Level Reviewer: stephensk Date: 20-Sep-2019 09:46:28

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.270	17.285	-1		13053820	3268541	5134	12835	637		
333.9339	17.270	17.285	-1		17152771	4383340	2788	6970	1572	0.76(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.786	16.786	0	0.972	12937569	3310625	8139	20347	407		
317.9389	16.786	16.786	0	0.972	16594930	4198251	4597	11492	913	0.78(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.816						481	1202			
305.8987	16.816						862	2155			
A Non-2,3,7,8-sub-TCDF											
303.9016	16.514						481	1202			
305.8987	16.514						862	2155			
13C-2,3,7,8-TCDD											
331.9368	17.466	17.466	0	1.011	8102508	1952087	5134	12835	380		
333.9339	17.466	17.466	0	1.011	10327924	2470402	2788	6970	886	0.78(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.481	17.481	0	1.012	14854958	3566142	1783	4457	2000		
2,3,7,8-TCDD											
319.8965	17.497						1154	2885			
321.8936	17.497						471	1177			
A Non-2,3,7,8-sub-TCDD											
319.8965	16.952						1154	2885			
321.8936	16.952						471	1177			
13C-1,2,3,7,8-PeCDF											
351.9000	21.604	21.604	0	1.251	11451048	2029395	3367	8417	603		
353.8970	21.604	21.604	0	1.251	7032877	1291669	2509	6272	515	1.63(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	21.631						185	462			
341.8567	21.631						467	1167			
13C-2,3,4,7,8-PeCDF											
351.9000	22.899	22.900	0	1.326	13336069	2295061	3367	8417	682		
353.8970	22.899	22.900	0	1.326	8109356	1410923	2509	6272	562	1.64(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.927						185	462			
341.8567	22.927						467	1167			
A F1 PeCDFs											
339.8597	19.205						353	882			
341.8567	19.205						742	1855			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.226						185	462			
341.8567	22.226						467	1167			
13C-1,2,3,7,8-PeCDD											
367.8949	23.581	23.595	-1	1.365	8829077	1380156	2416	6040	571		
369.8919	23.595	23.595	0	1.366	5590557	928583	1543	3857	602	1.58(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.622						471	1177			
357.8516	23.622						169	422			
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.559						471	1177			
357.8516	22.559						169	422			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.709	29.709	0	0.937	5157237	673050	3485	8712	193		
385.8610	29.722	29.709	1	0.937	9949248	1318767	6662	16655	198	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.749						540	1350			
375.8178	29.749						488	1220			
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.975	29.975	0	0.945	5630347	791436	3485	8712	227		
385.8610	29.975	29.975	0	0.945	10851267	1594439	6662	16655	239	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.002						540	1350			
375.8178	30.002						488	1220			
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.014	31.013	0	0.978	5220889	1109263	3485	8712	318		
385.8610	31.014	31.013	0	0.978	9976634	2093396	6662	16655	314	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.040						540	1350			
375.8178	31.040						488	1220			
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.919	31.919	0	1.006	4550225	1061567	3485	8712	305		
385.8610	31.919	31.919	0	1.006	8708800	2012523	6662	16655	302	0.52(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											RQM
373.8208	31.932	31.945	-1	1.000	15904	3846	540	1350	7		
	Empc Correction				12168	2631	540	1350	5		
375.8178	31.932	31.945	-1	1.000	9813	2122	488	1220	4	1.62(1.05-1.43)	M
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.503						540	1350			
375.8178	29.503						488	1220			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.719	31.732	-1		11763296	2580616	3996	9990	646		
403.8529	31.719	31.732	-1		9061483	2047208	3428	8570	597	1.30(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.240	31.240	0	0.985	5515084	1366457	3996	9990	342		
403.8529	31.240	31.240	0	0.985	4204479	1052362	3428	8570	307	1.31(1.05-1.43)	
1,2,3,4,7,8-HxCDD											M
389.8157	31.280	31.253	2	1.001	9338	2077	221	552	9		M
391.8127	31.266	31.253	1	1.001	7340	1859	352	880	5	1.27(1.05-1.43)	M
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.360	31.360	0	0.989	6769653	1433922	3996	9990	359		
403.8529	31.360	31.360	0	0.989	5307524	1109446	3428	8570	324	1.28(1.05-1.43)	
1,2,3,6,7,8-HxCDD											Ma
389.8157	31.360	31.373	-1	1.000	4666	1478	221	552	7		M
391.8127	31.373	31.373	0	1.000	4440	1526	352	880	4	1.05(1.05-1.43)	M
1,2,3,7,8,9-HxCDD											RQM
389.8157	31.759	31.746	1	1.017	8436	1690	221	552	8		M
391.8127	31.759	31.746	1	1.017	9201	1905	352	880	5	0.92(1.05-1.43)	M
	Empc Correction				6803	1362	352	880	4		
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.089						221	552			
391.8127	30.089						352	880			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.435	33.447	-1	1.054	3055166	890915	7862	19655	113		
419.8220	33.435	33.447	-1	1.054	7059220	2109375	16276	40690	130	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.447	33.460	-1	1.000	13125	4586	406	1015	11		
409.7789	33.447	33.460	-1	1.000	11766	3806	216	540	18	1.12(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.480	34.492	-1	1.087	2853149	811947	7862	19655	103		
419.8220	34.480	34.492	-1	1.087	6568501	1898443	16276	40690	117	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											M
407.7818	34.505	34.505	0	1.001	11420	3018	406	1015	7		M
409.7789	34.492	34.505	-1	1.000	9859	2247	216	540	10	1.16(0.88-1.20)	M
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.982						406	1015			
409.7789	33.982						216	540			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.213	34.213	0	1.079	4685023	1293705	3455	8637	374		
437.8140	34.201	34.213	-1	1.078	4543456	1250260	6326	15815	198	1.03(0.88-1.20)	

Report Date: 20-Sep-2019 09:55:57 Chrom Revision: 2.3 17-Sep-2019 16:19:08
Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_42.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											Ma
423.7766	34.225	34.225	0	1.000	11360	3241	426	1065	8		M
425.7737	34.213	34.225	-1	1.000	11331	3231	195	487	17	1.00(0.88-1.20)	a
A Non-2,3,7,8-sub-HpCDD											RQMa
423.7766	33.690	34.747	-63	0.985	7773	2497	426	1065	6		a
	Empc Correction				5872	1917	426	1065	5		
425.7737	33.678	34.747	-64	0.984	5647	1844	195	487	9	1.38(0.88-1.20)	M
13C-OCDD											
469.7779	36.469	36.469	0	1.150	6995740	1578033	3283	8207	481		
471.7750	36.457	36.469	-1	1.149	7990220	1806898	1370	3425	1319	0.88(0.76-1.02)	
OCDF											
441.7428	36.565	36.565	0	1.003	10914	3415	365	912	9		
443.7399	36.553	36.565	-1	1.002	12077	3236	849	2122	4	0.90(0.76-1.02)	
OCDD											
457.7377	36.481	36.481	0	1.000	16983	4858	357	892	14		
459.7348	36.469	36.481	-1	1.000	17203	5192	316	790	16	0.99(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Review Flags

M - Manually Integrated

a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_42.d
Lims ID: MB 320-324498/1-A
Client ID:
Inject. Date: 19-Sep-2019 19:23:05 Dil. Factor: 1.0000
Sample Type: MB, Method Blank
Instrument ID: 10D5 Operator: SMA, ALM
Lims Batch ID: 324876 Lims Sample ID: 42

Non-2,3,7,8-sub-HpCDD, RT: 34.747

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,6,7,8-HpCDD	0.932	D 13C-1,2,3,4,6,7,8-HpCDD	100.000	9228479	2543965

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.932		100.000	9228479	2543965

Sum the Uncalibrated Results

RT	423.7766 Area	423.7766 Height	425.7737 Area	425.7737 Height	Amount	Ratio	Flags
33.690	7773	2497	5647	1844	0.1561	1.38	RQM
33.690	5872	1917	5647	1844	0.1340		Empc Correction
Signal Totals:							
	5872	1917	5647	1844			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	13420	4341				1.38	RQM
	11519	3761					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.1561 = (13420 * 100.000) / (9228479 * 0.932)
Empc Amount: 0.1340 = (11519 * 100.000) / (9228479 * 0.932)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Review Flags
M - Manually Integrated

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_42.d				
Injection Date:	19-Sep-2019 19:23:05	Instrument ID:	10D5		
Lims ID:	MB 320-324498/1-A				
Client ID:					
Operator ID:	SMA, ALM	ALS Bottle#:	43	Worklist Smp#:	42
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 2

Processing Integration Results

RT: 31.93
Area: 18463
Amount: 0.208169
Amount Units: pg/ul

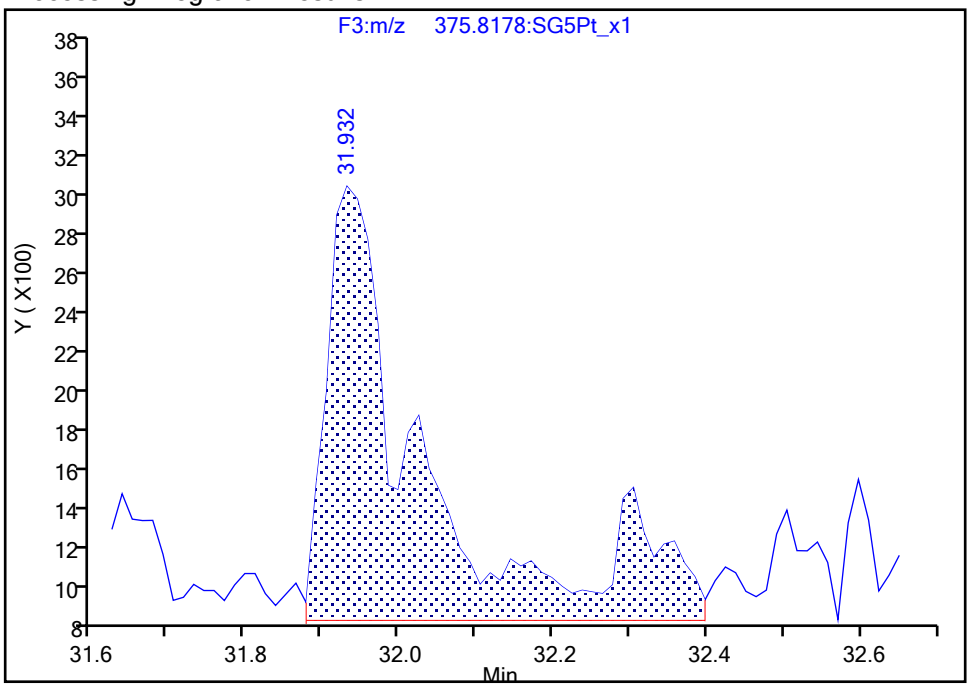

Manual Integration Results

RT: 31.93
Area: 9813
Amount: 0.155774
Amount Units: pg/ul

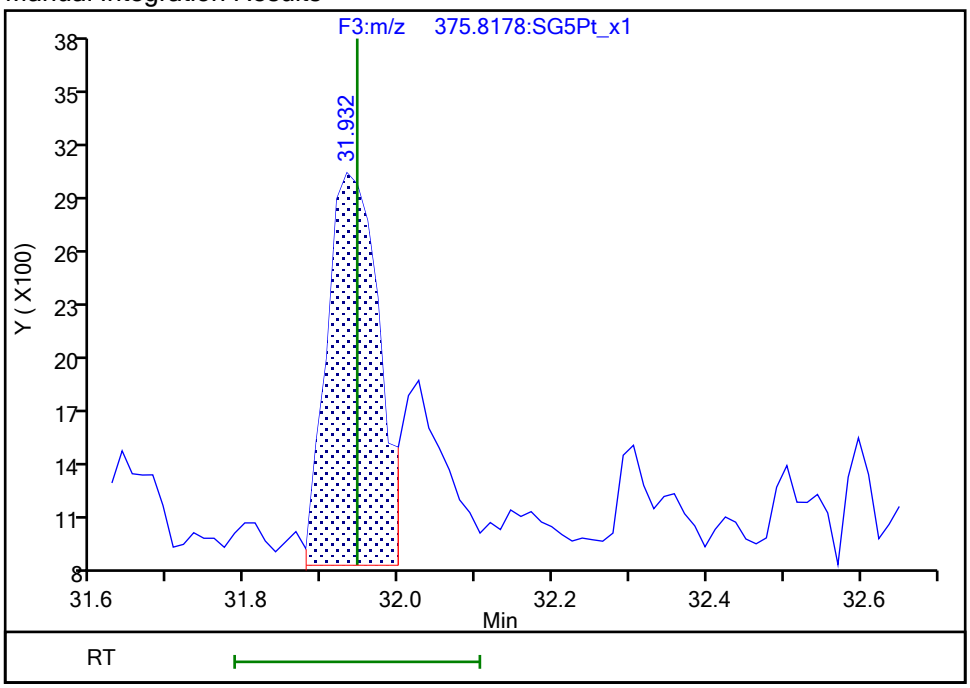

Reviewer: stephensk, 20-Sep-2019 09:44:11

Audit Action: Split an Integrated Peak Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_42.d				
Injection Date:	19-Sep-2019 19:23:05	Instrument ID:	10D5		
Lims ID:	MB 320-324498/1-A				
Client ID:					
Operator ID:	SMA, ALM	ALS Bottle#:	43	Worklist Smp#:	42
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 1

Processing Integration Results

RT: 31.28
Area: 14000
Amount: 0.252788
Amount Units: pg/ul

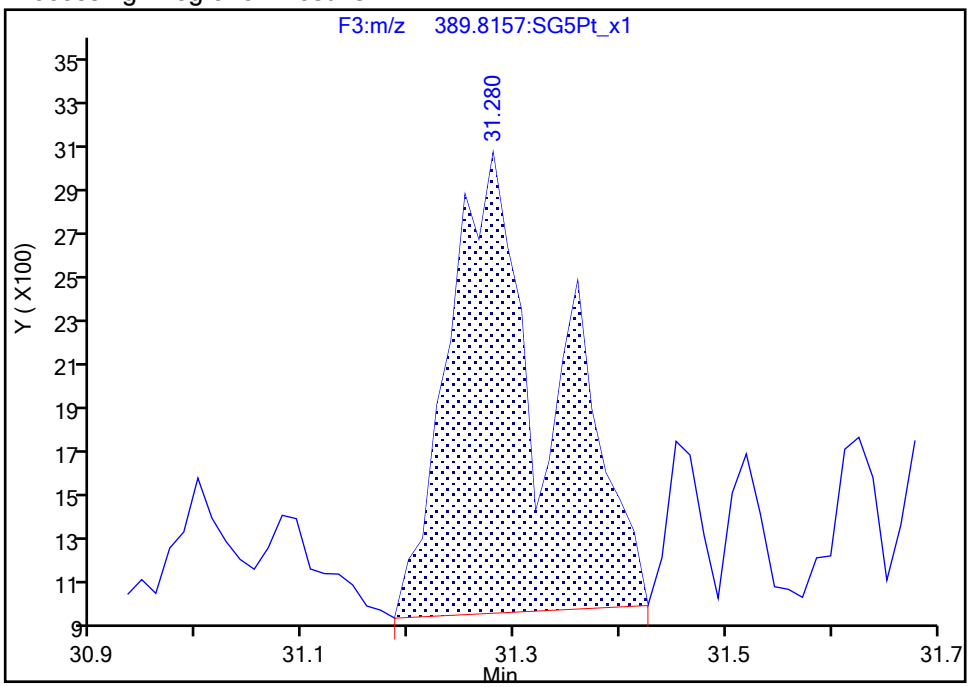

Manual Integration Results

RT: 31.28
Area: 9338
Amount: 0.154755
Amount Units: pg/ul

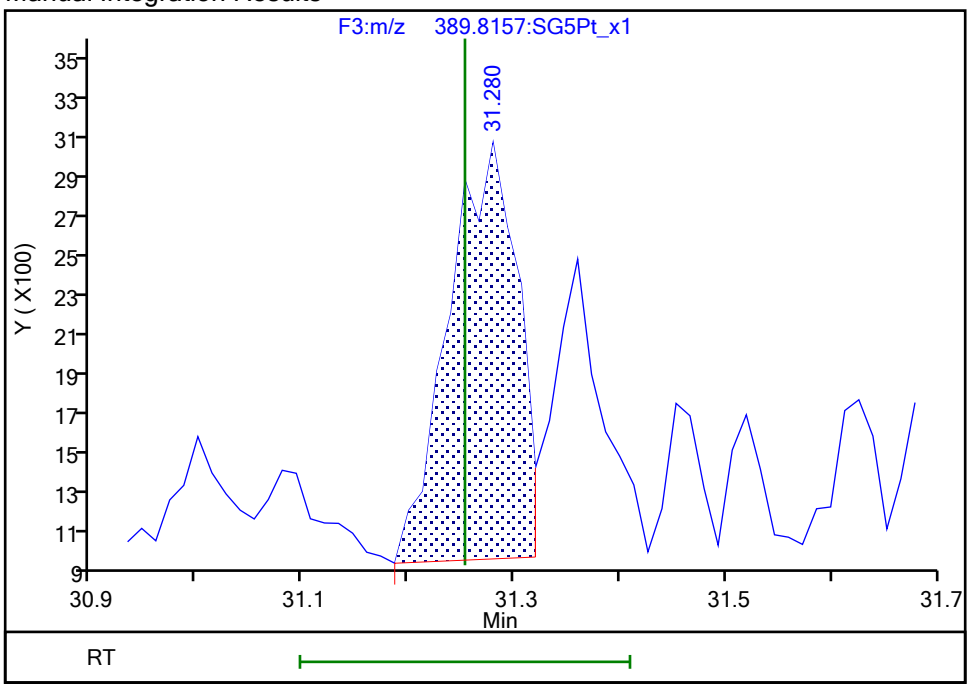

Reviewer: stephensk, 20-Sep-2019 09:44:42

Audit Action: Split an Integrated Peak Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_42.d				
Injection Date:	19-Sep-2019 19:23:05	Instrument ID:	10D5		
Lims ID:	MB 320-324498/1-A				
Client ID:					
Operator ID:	SMA, ALM	ALS Bottle#:	43	Worklist Smp#:	42
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDD, CAS: 39227-28-6

Signal: 2

Processing Integration Results

RT: 31.27
Area: 13243
Amount: 0.252788
Amount Units: pg/ul

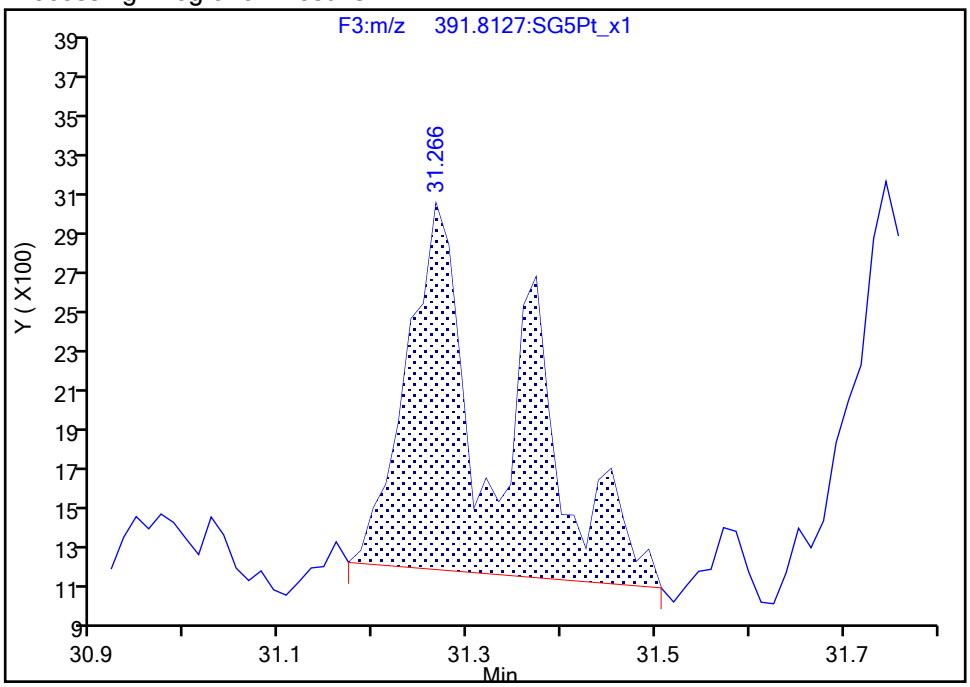

Manual Integration Results

RT: 31.27
Area: 7340
Amount: 0.154755
Amount Units: pg/ul

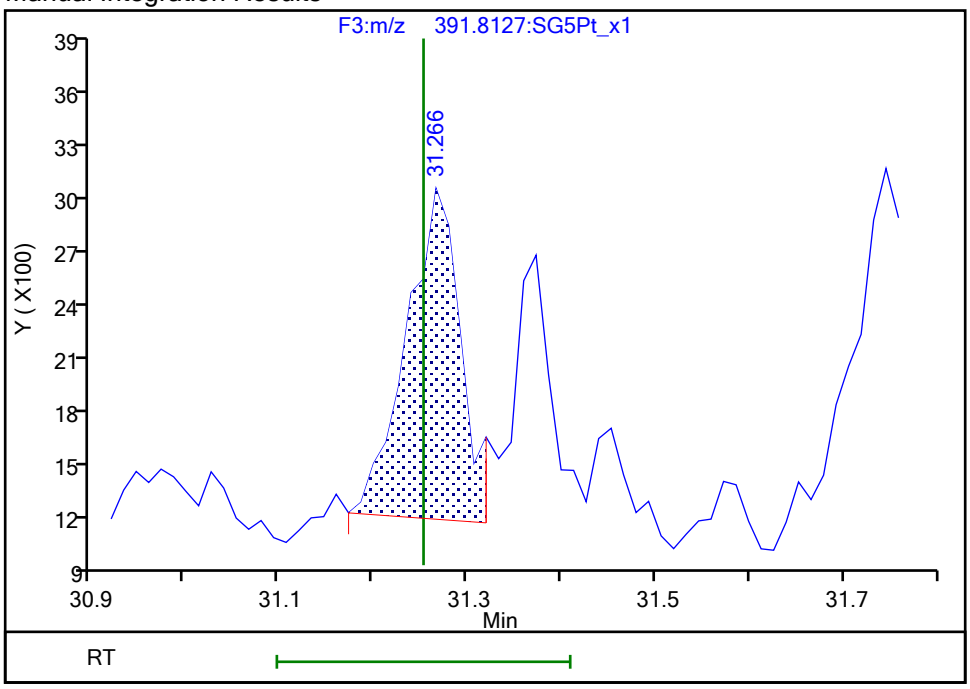

Reviewer: stephensk, 20-Sep-2019 09:44:44

Audit Action: Split an Integrated Peak Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_42.d				
Injection Date:	19-Sep-2019 19:23:05	Instrument ID:	10D5		
Lims ID:	MB 320-324498/1-A				
Client ID:					
Operator ID:	SMA, ALM	ALS Bottle#:	43	Worklist Smp#:	42
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 3

Processing Integration Results

RT:	31.28
Area:	27243
Amount:	0.208592
Amount Units:	pg/ul

Manual Integration Results

RT:	31.36
Area:	9106
Amount:	0.069722
Amount Units:	pg/ul

Reviewer: stephensk, 20-Sep-2019 09:44:50

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_42.d				
Injection Date:	19-Sep-2019 19:23:05	Instrument ID:	10D5		
Lims ID:	MB 320-324498/1-A				
Client ID:					
Operator ID:	SMA, ALM	ALS Bottle#:	43	Worklist Smp#:	42
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 1

Processing Integration Results

RT: 31.28
Area: 14000
Amount: 0.208592
Amount Units: pg/ul

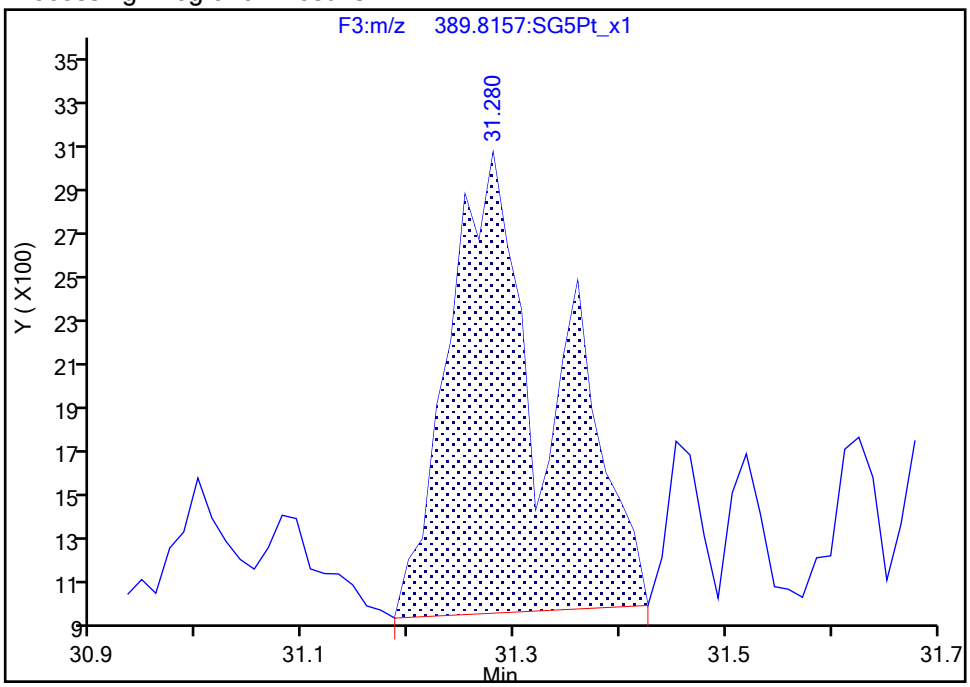

Manual Integration Results

RT: 31.36
Area: 4666
Amount: 0.069722
Amount Units: pg/ul

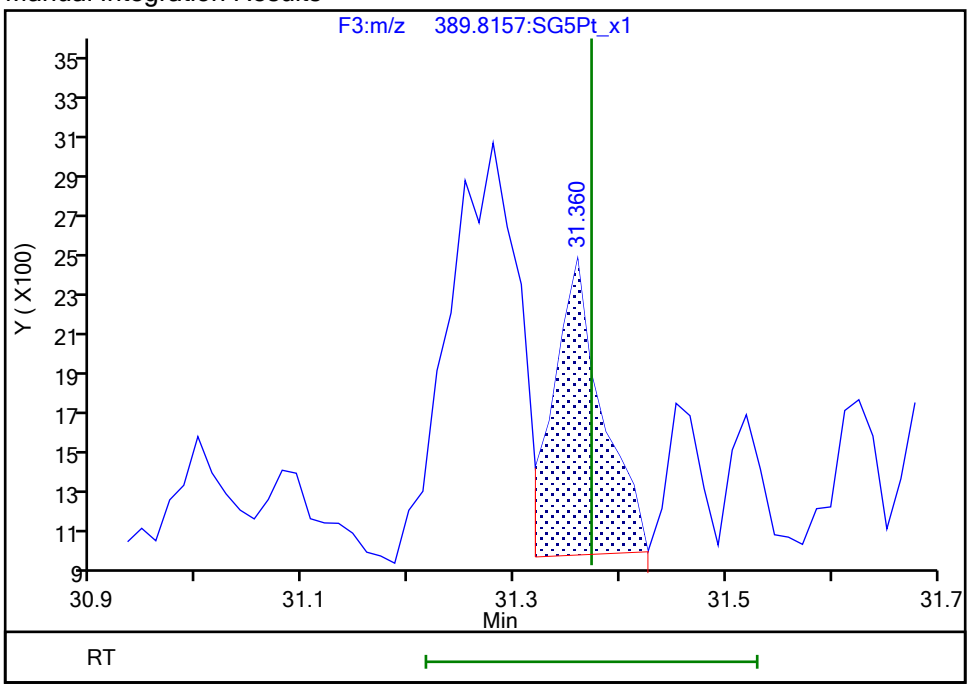

Reviewer: stephensk, 20-Sep-2019 09:44:52

Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_42.d				
Injection Date:	19-Sep-2019 19:23:05	Instrument ID:	10D5		
Lims ID:	MB 320-324498/1-A				
Client ID:					
Operator ID:	SMA, ALM	ALS Bottle#:	43	Worklist Smp#:	42
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 2

Processing Integration Results

RT: 31.27
Area: 13243
Amount: 0.208592
Amount Units: pg/ul

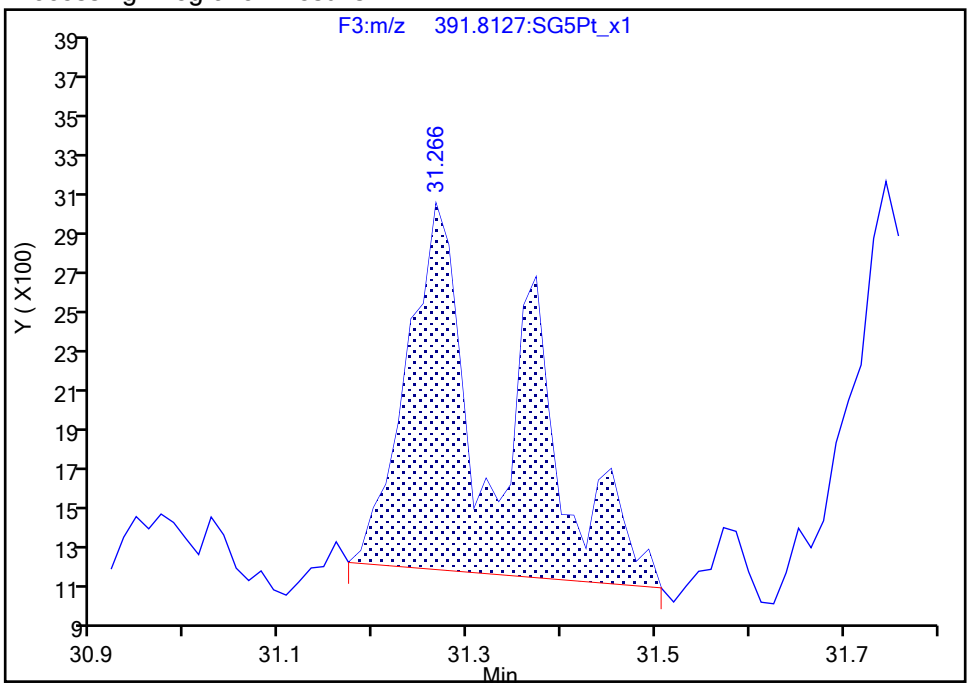

Manual Integration Results

RT: 31.37
Area: 4440
Amount: 0.069722
Amount Units: pg/ul

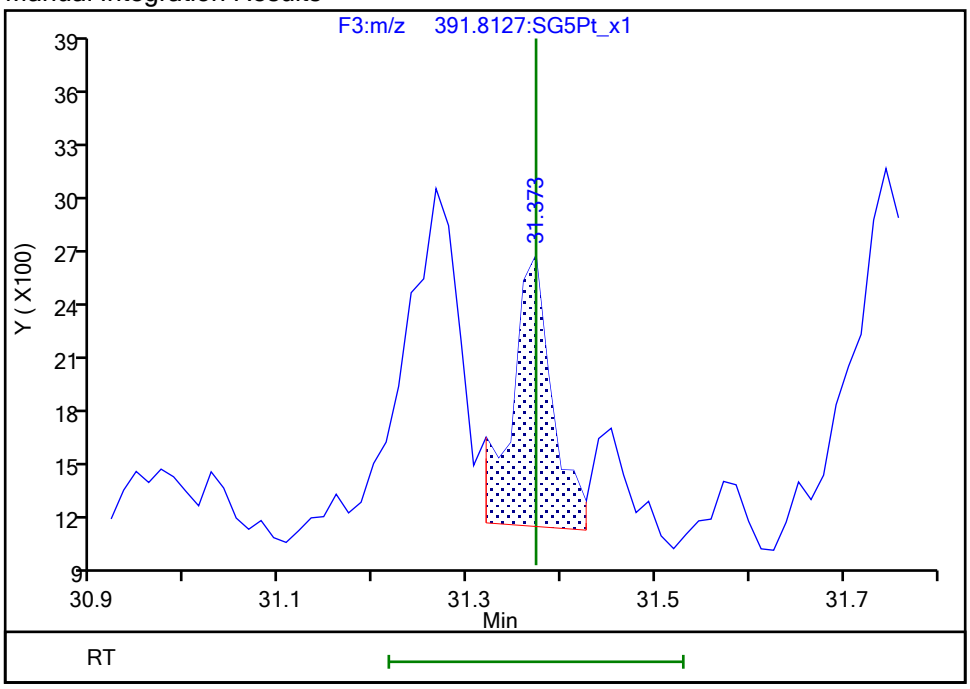

Reviewer: stephensk, 20-Sep-2019 09:44:54

Audit Action: Split an Integrated Peak Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_42.d				
Injection Date:	19-Sep-2019 19:23:05	Instrument ID:	10D5		
Lims ID:	MB 320-324498/1-A				
Client ID:					
Operator ID:	SMA, ALM	ALS Bottle#:	43	Worklist Smp#:	42
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 2

Processing Integration Results

RT: 31.76
Area: 9990
Amount: 0.160860
Amount Units: pg/ul

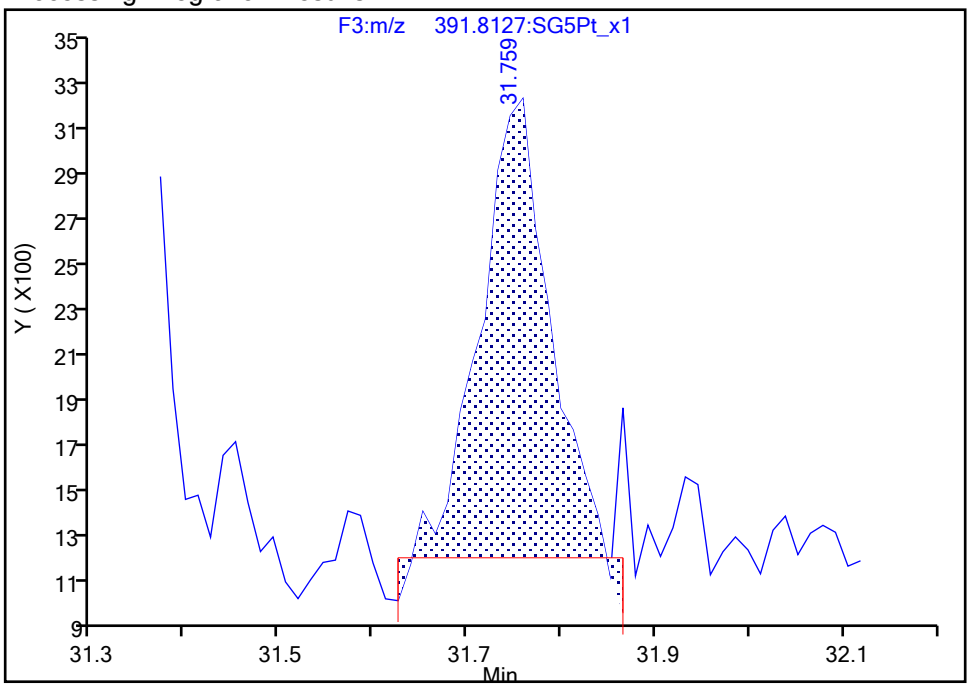

Manual Integration Results

RT: 31.76
Area: 9201
Amount: 0.133491
Amount Units: pg/ul

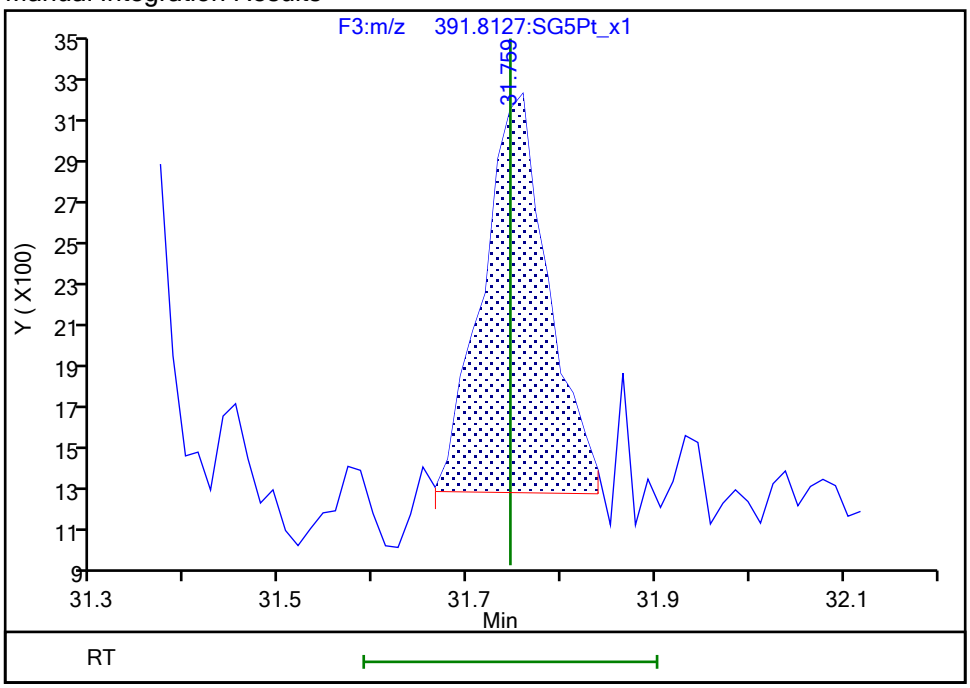

Reviewer: stephensk, 20-Sep-2019 09:45:19

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_42.d				
Injection Date:	19-Sep-2019 19:23:05	Instrument ID:	10D5		
Lims ID:	MB 320-324498/1-A				
Client ID:					
Operator ID:	SMA, ALM	ALS Bottle#:	43	Worklist Smp#:	42
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 1

Processing Integration Results

RT: 31.76
Area: 11263
Amount: 0.160860
Amount Units: pg/ul

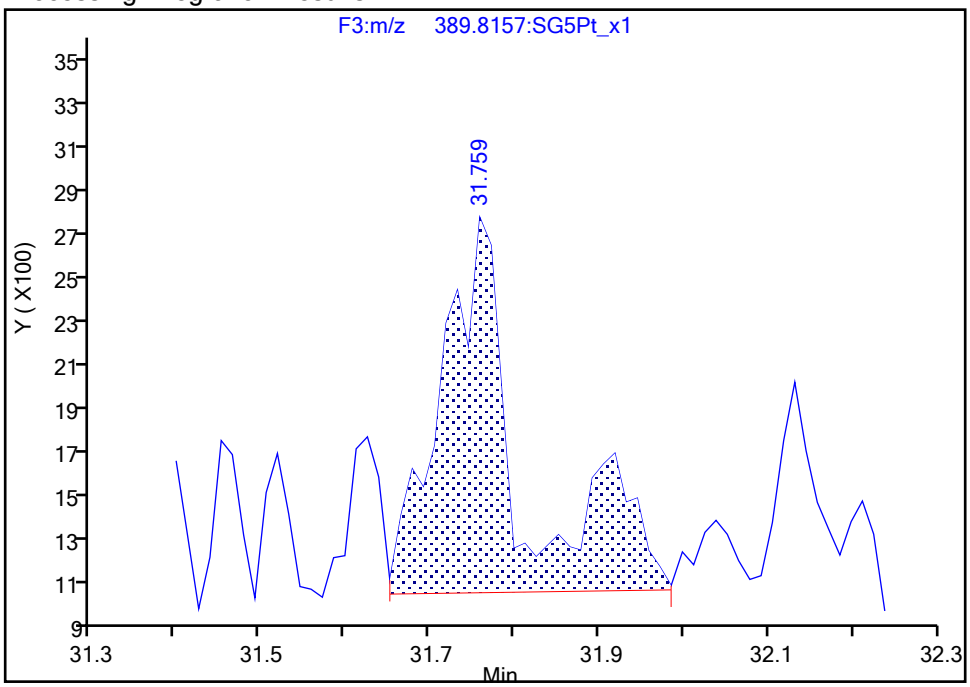

Manual Integration Results

RT: 31.76
Area: 8436
Amount: 0.133491
Amount Units: pg/ul

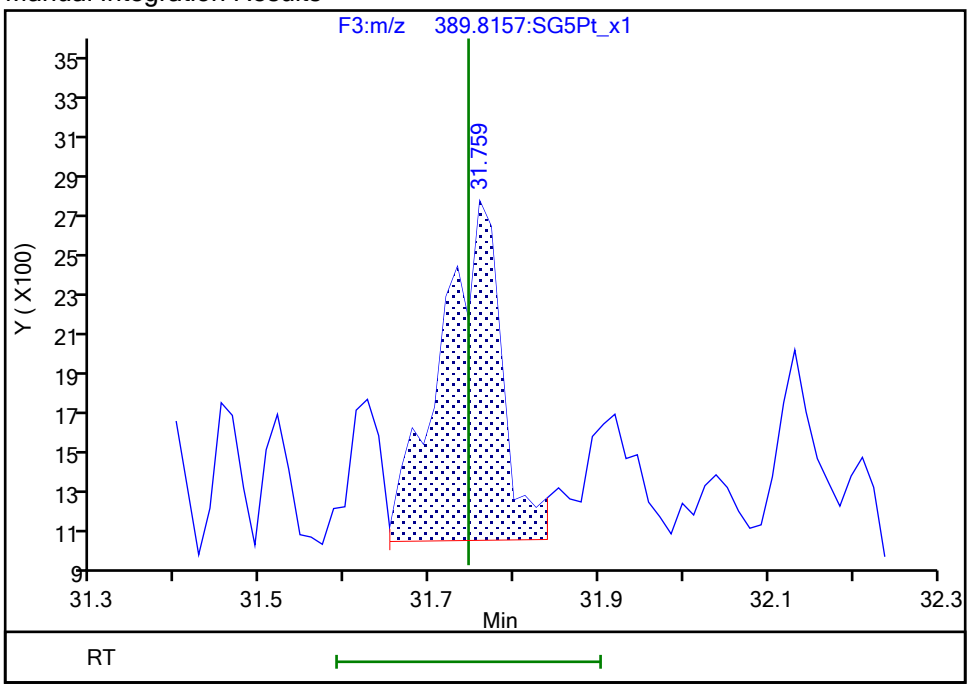

Reviewer: stephensk, 20-Sep-2019 09:45:19

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_42.d				
Injection Date:	19-Sep-2019 19:23:05	Instrument ID:	10D5		
Lims ID:	MB 320-324498/1-A				
Client ID:					
Operator ID:	SMA, ALM	ALS Bottle#:	43	Worklist Smp#:	42
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,7,8,9-HpCDF, CAS: 55673-89-7

Signal: 2

Processing Integration Results

RT: 34.49
Area: 9566
Amount: 0.165748
Amount Units: pg/ul

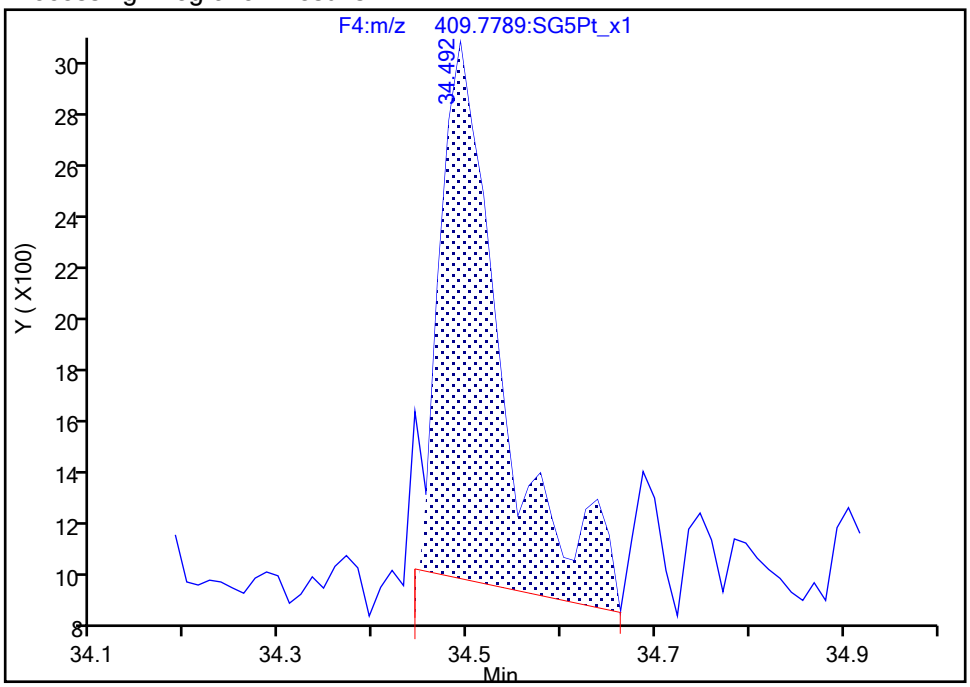

Manual Integration Results

RT: 34.49
Area: 9859
Amount: 0.162923
Amount Units: pg/ul

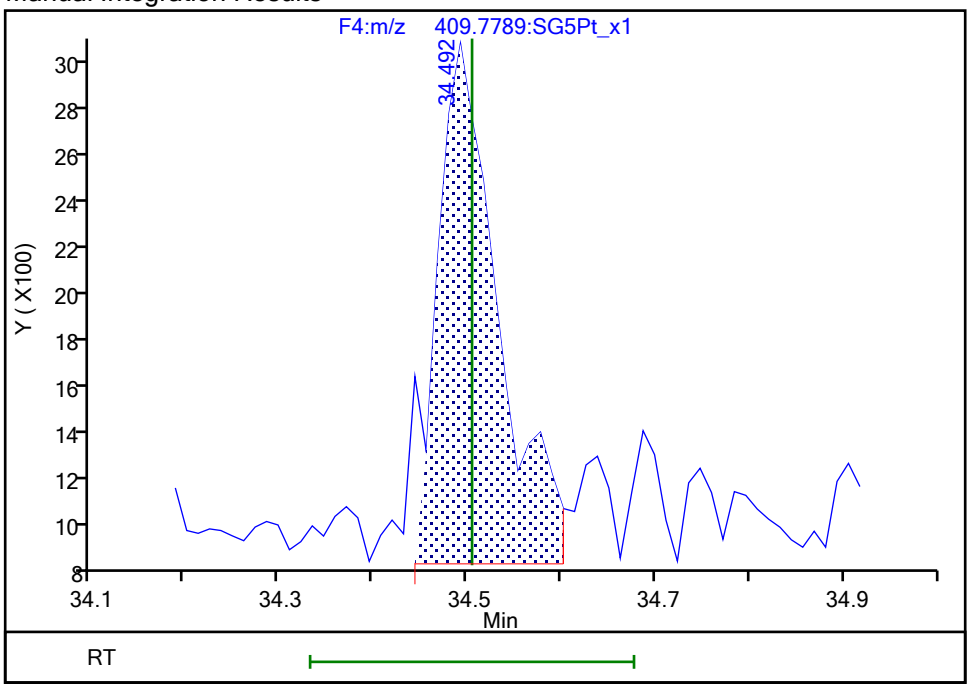

Reviewer: stephensk, 20-Sep-2019 09:45:38

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_42.d				
Injection Date:	19-Sep-2019 19:23:05	Instrument ID:	10D5		
Lims ID:	MB 320-324498/1-A				
Client ID:					
Operator ID:	SMA, ALM	ALS Bottle#:	43	Worklist Smp#:	42
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,7,8,9-HpCDF, CAS: 55673-89-7

Signal: 1

Processing Integration Results

RT: 34.50
Area: 12082
Amount: 0.165748
Amount Units: pg/ul

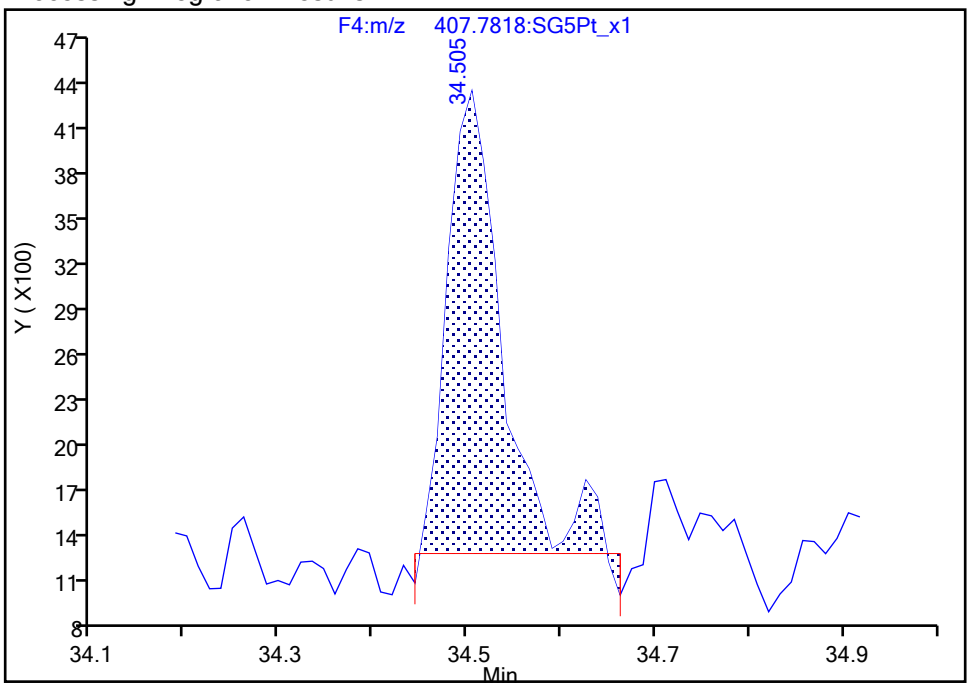

Manual Integration Results

RT: 34.50
Area: 11420
Amount: 0.162923
Amount Units: pg/ul

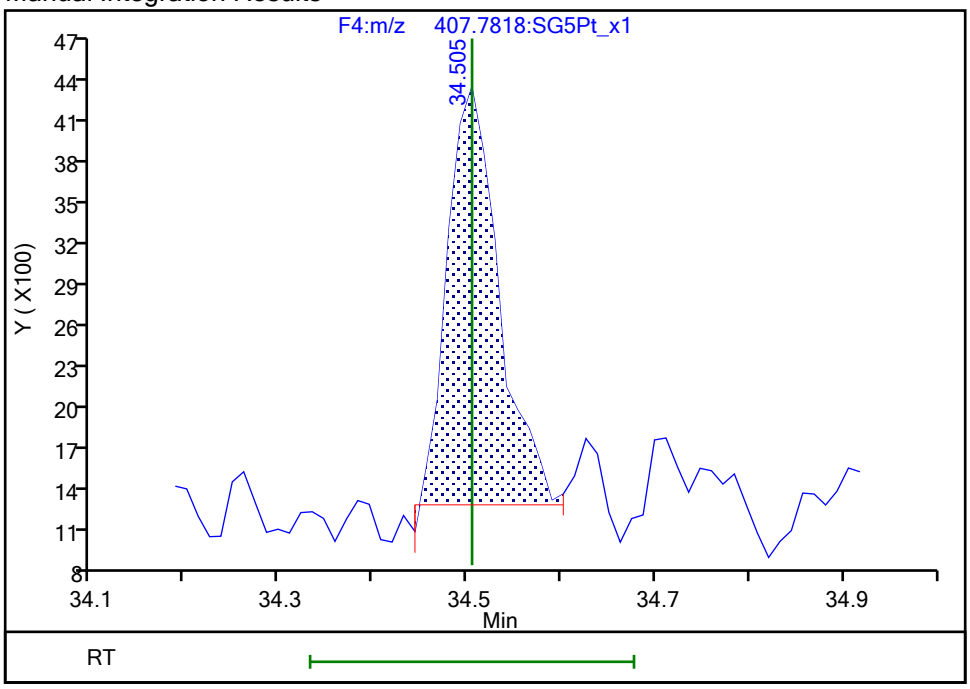

Reviewer: stephensk, 20-Sep-2019 09:45:47

Audit Action: Split an Integrated Peak Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_42.d				
Injection Date:	19-Sep-2019 19:23:05	Instrument ID:	10D5		
Lims ID:	MB 320-324498/1-A				
Client ID:					
Operator ID:	SMA, ALM	ALS Bottle#:	43	Worklist Smp#:	42
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 2

Not Detected

Expected RT: 34.23

Processing Integration Results

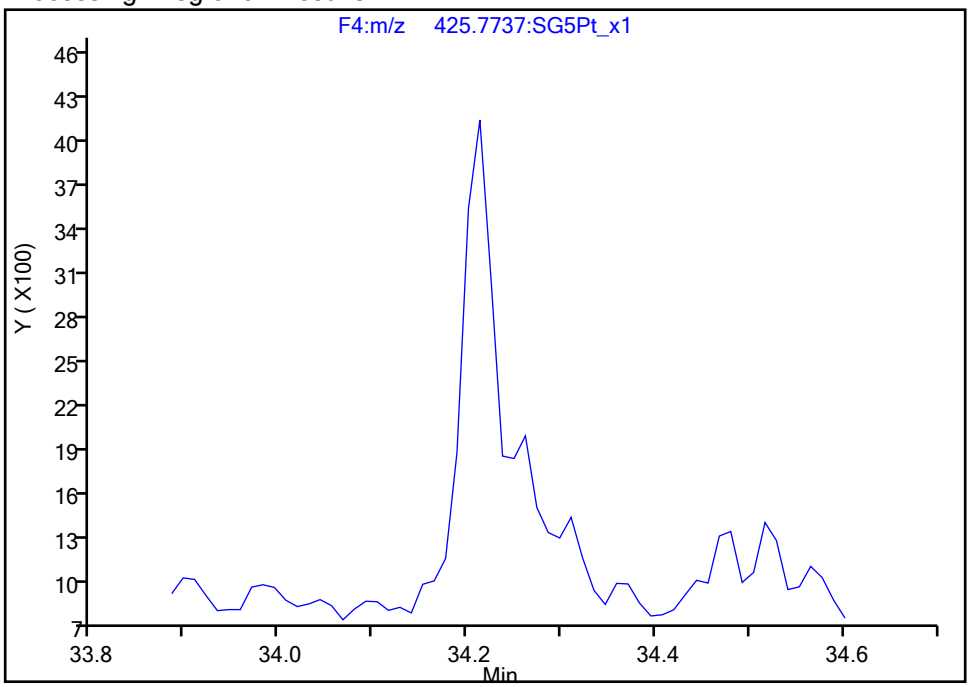

RT: 34.21

Area: 11331

Amount: 0.263934

Amount Units: pg/ul

Manual Integration Results

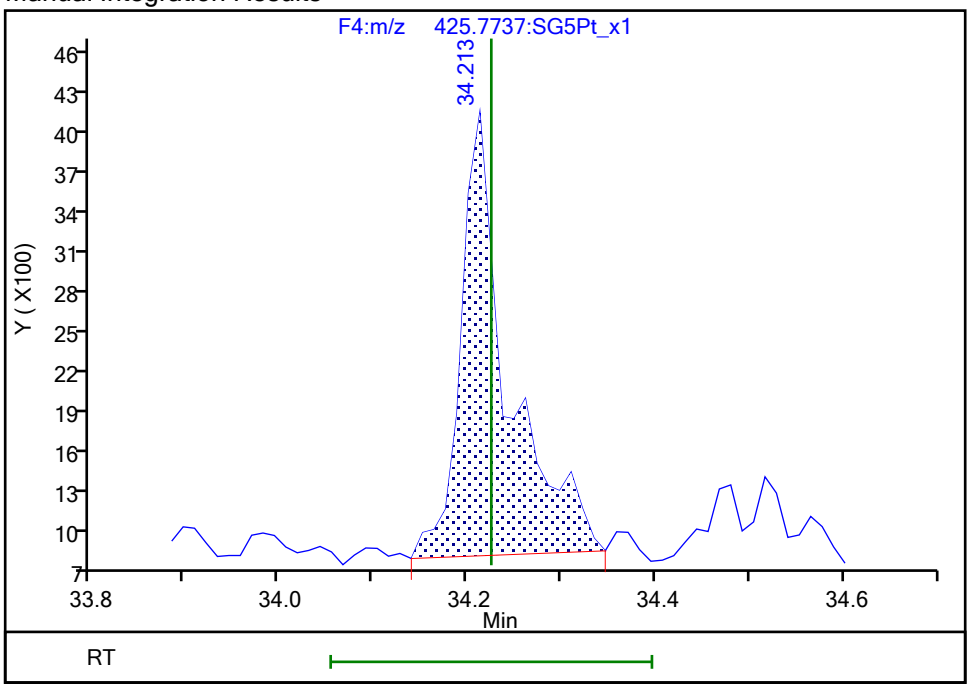

Reviewer: stephensk, 20-Sep-2019 09:46:09

Audit Action: Assigned Compound ID Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_42.d				
Injection Date:	19-Sep-2019 19:23:05	Instrument ID:	10D5		
Lims ID:	MB 320-324498/1-A				
Client ID:					
Operator ID:	SMA, ALM	ALS Bottle#:	43	Worklist Smp#:	42
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDD, CAS: 35822-46-9

Signal: 1

Processing Integration Results

Not Detected
Expected RT: 34.23

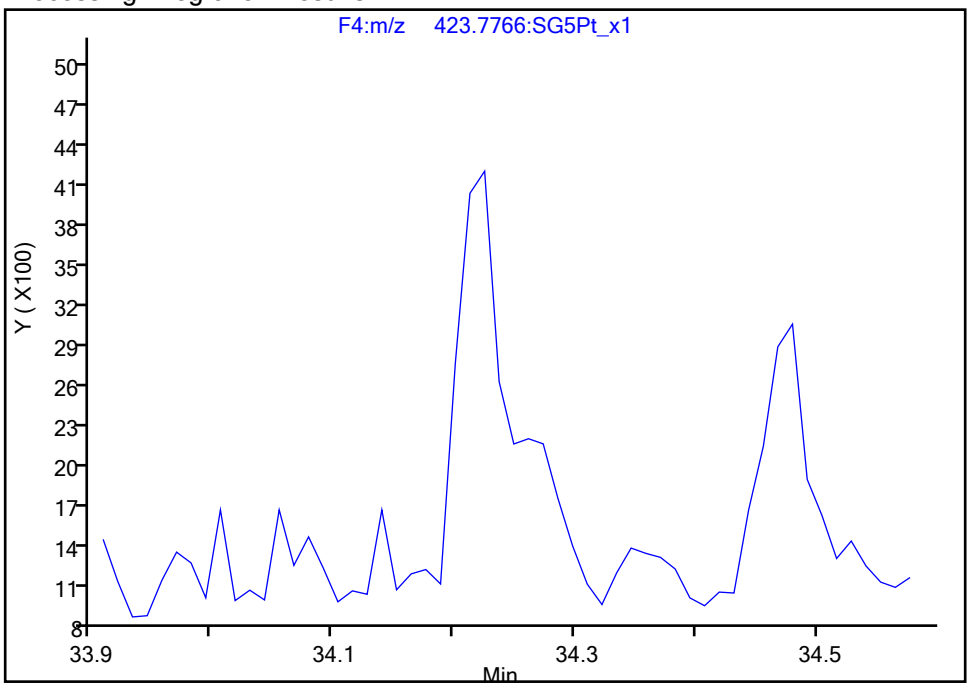

Manual Integration Results

RT: 34.23
Area: 11360
Amount: 0.263934
Amount Units: pg/ul

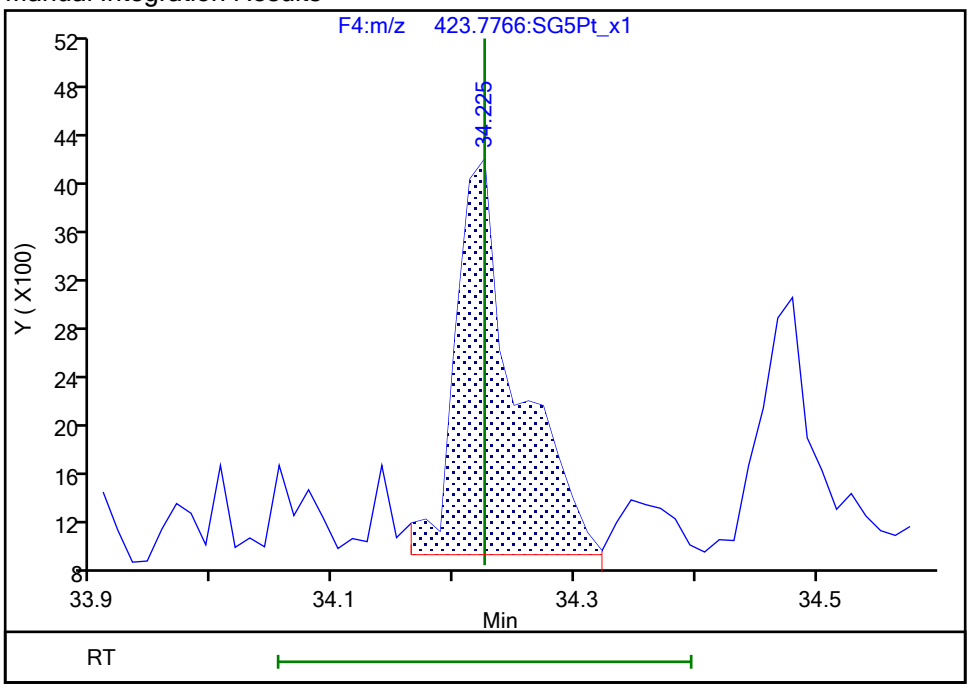

Reviewer: stephensk, 20-Sep-2019 09:46:09
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_42.d				
Injection Date:	19-Sep-2019 19:23:05	Instrument ID:	10D5		
Lims ID:	MB 320-324498/1-A				
Client ID:					
Operator ID:	SMA, ALM	ALS Bottle#:	43	Worklist Smp#:	42
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

Non-2,3,7,8-sub-HpCDD, Signal: 2, m/z: 425.7737, RT: (34.19- 35.31)

Signal: 2

Processing Integration Results

RT = 33.678 Area = 9263

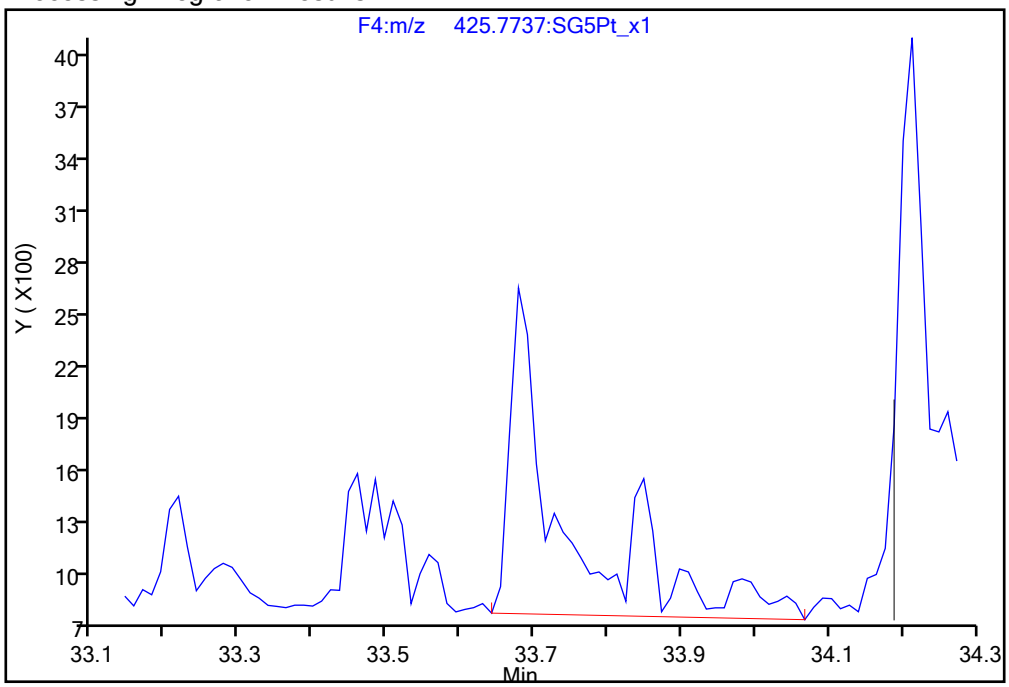

Manual Integration Results

RT = 33.678 Area = 5647 M

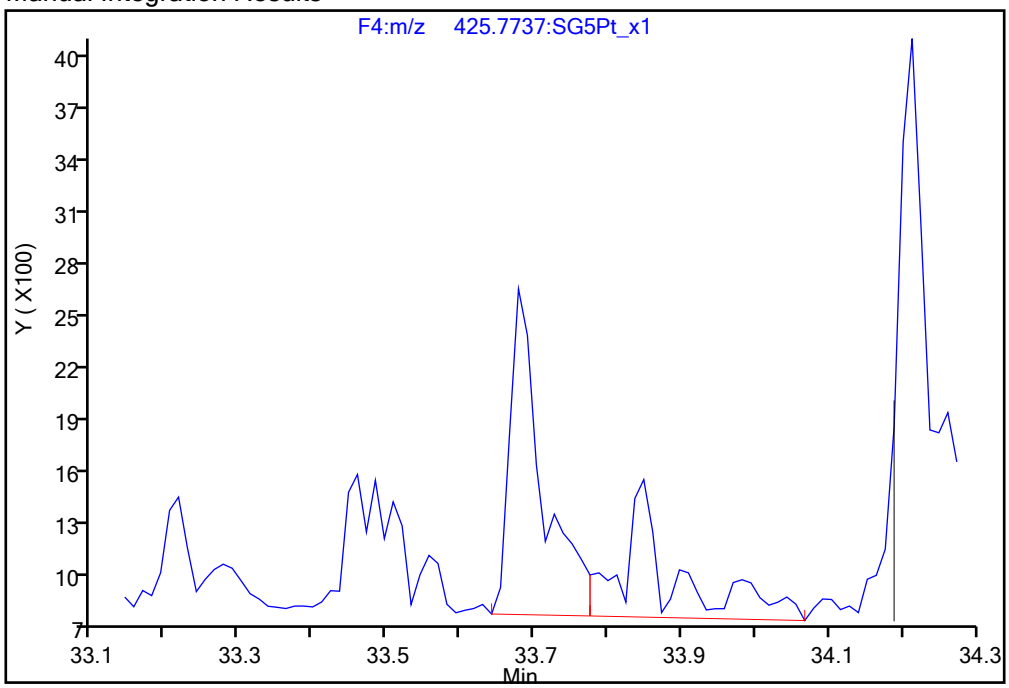

Reviewer: stephensk, 20-Sep-2019 09:47:15

Audit Action: Split an Integrated Peak Audit Reason: Poor chromatography

Report Date: 20-Sep-2019 09:55:57 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_42.d		
Injection Date:	19-Sep-2019 19:23:05	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	42
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

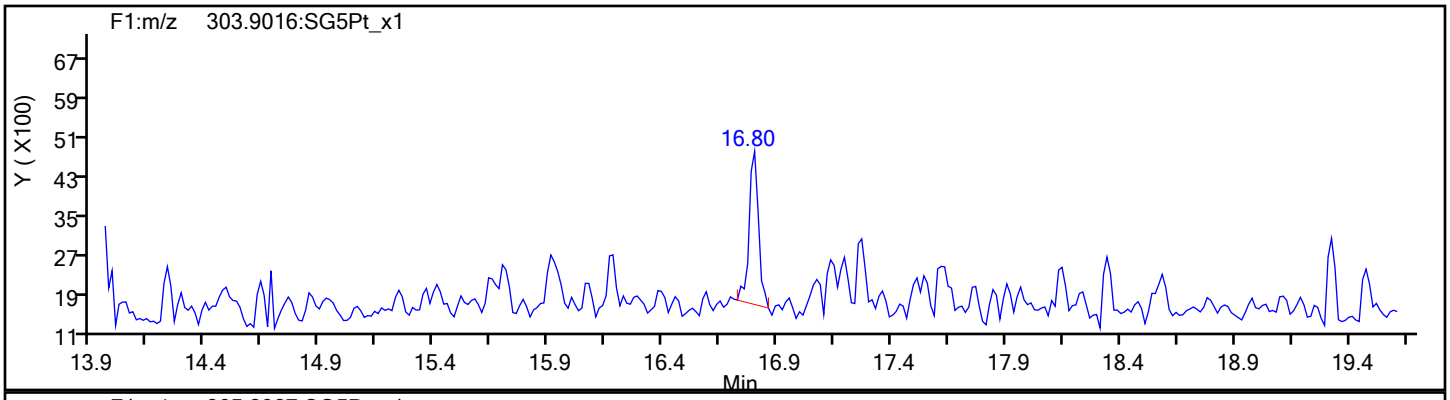

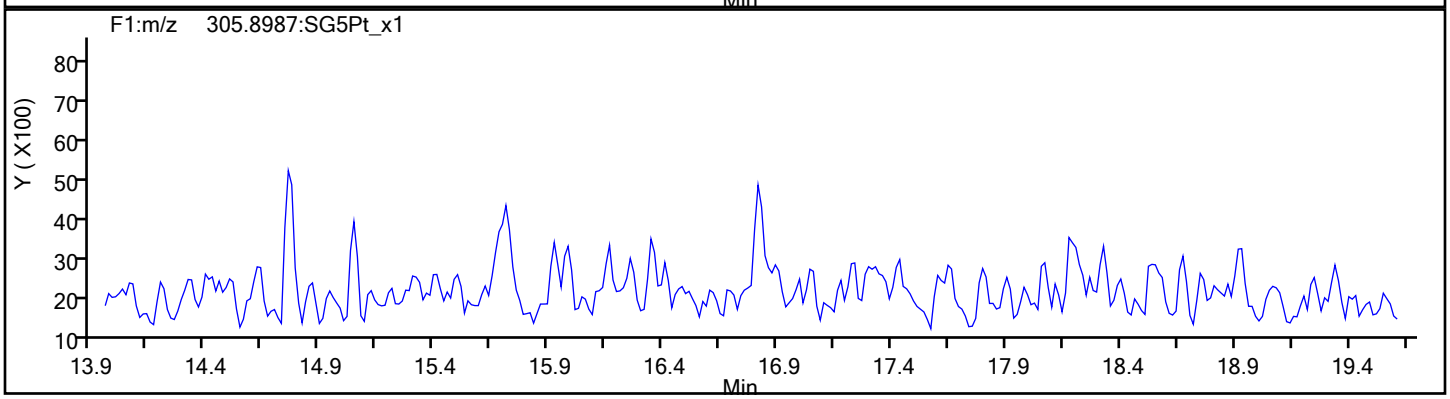

TCDF Standards

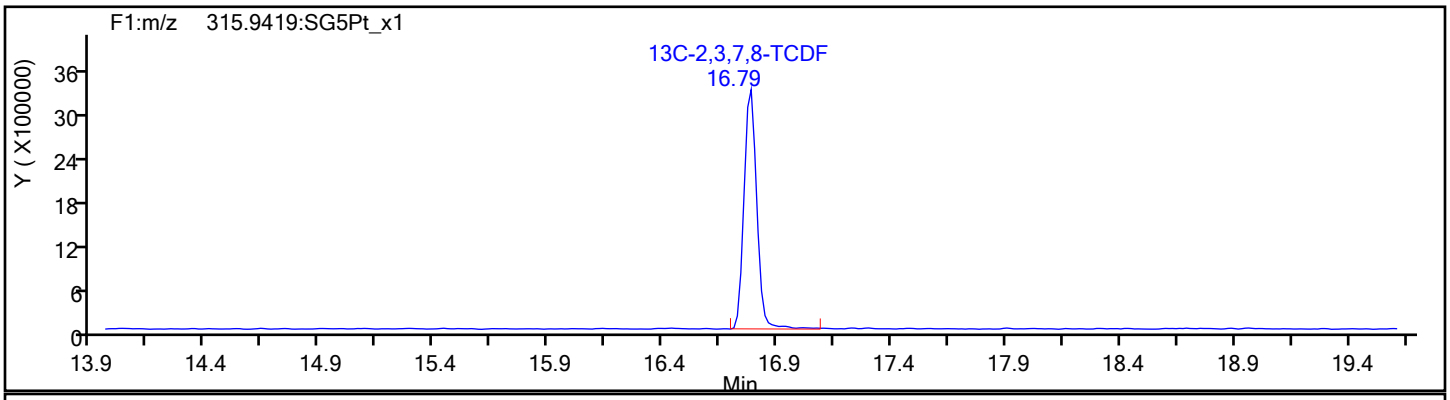

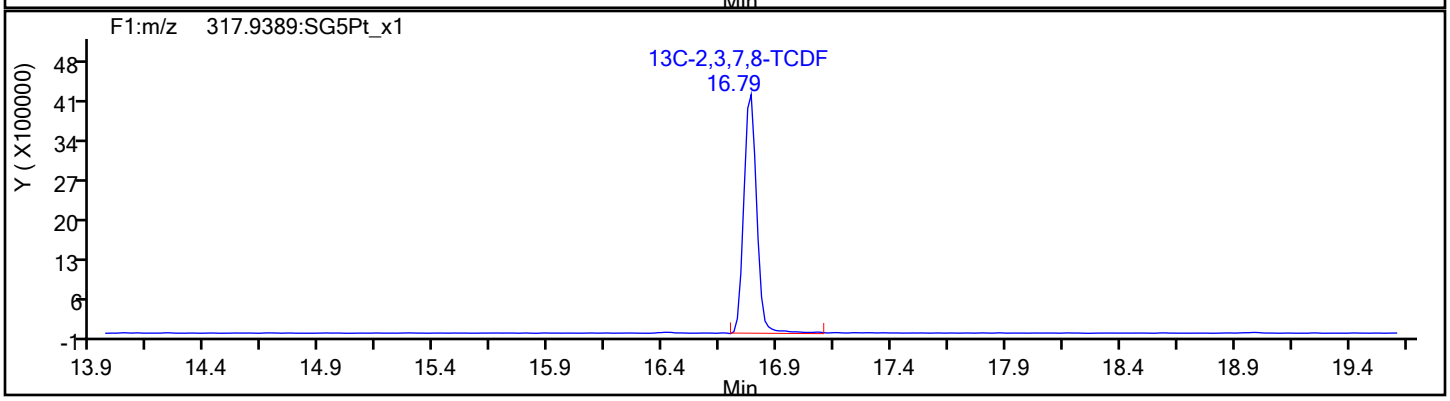

Report Date: 20-Sep-2019 09:55:57 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_42.d		
Injection Date:	19-Sep-2019 19:23:05	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	42
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

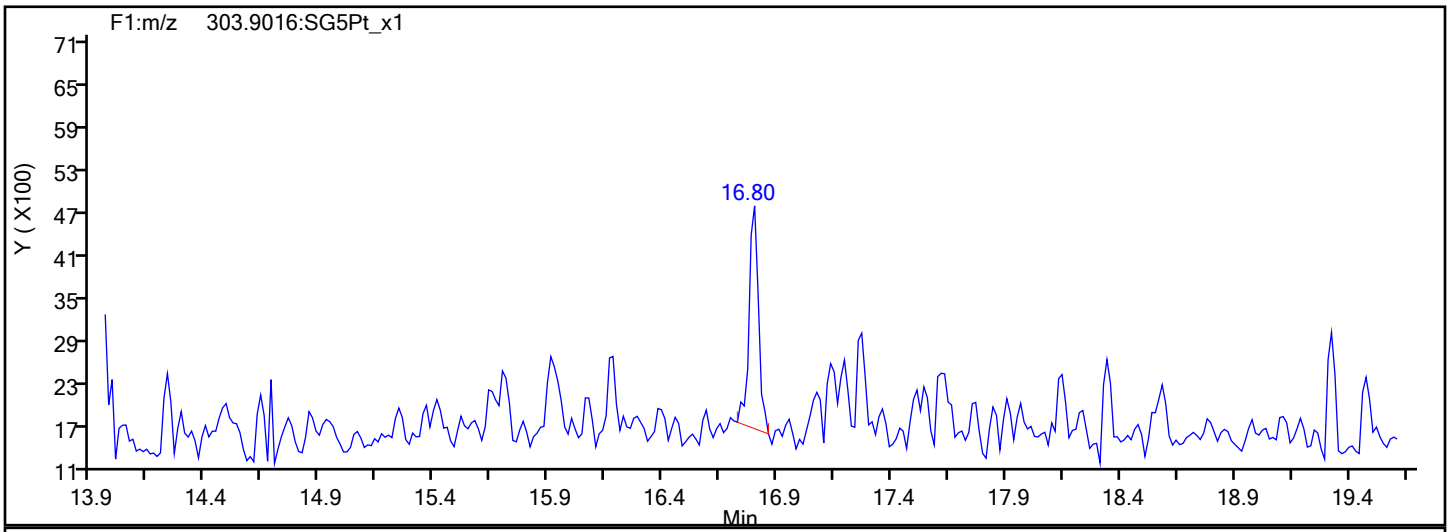

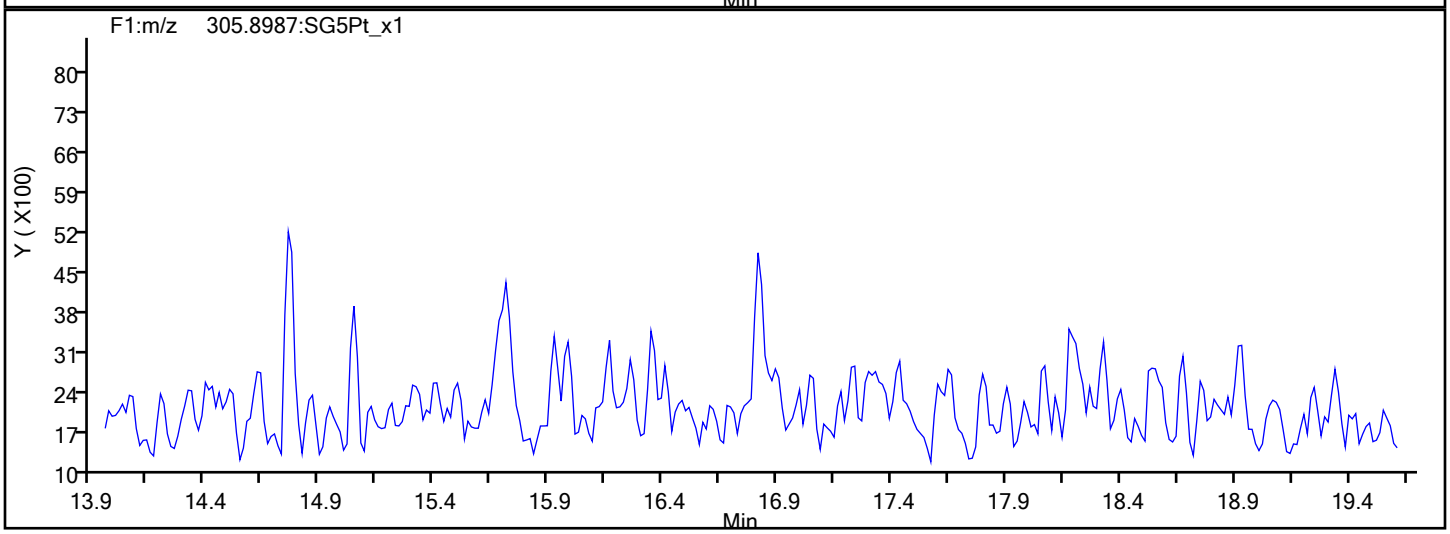

TCDF Interference Mass

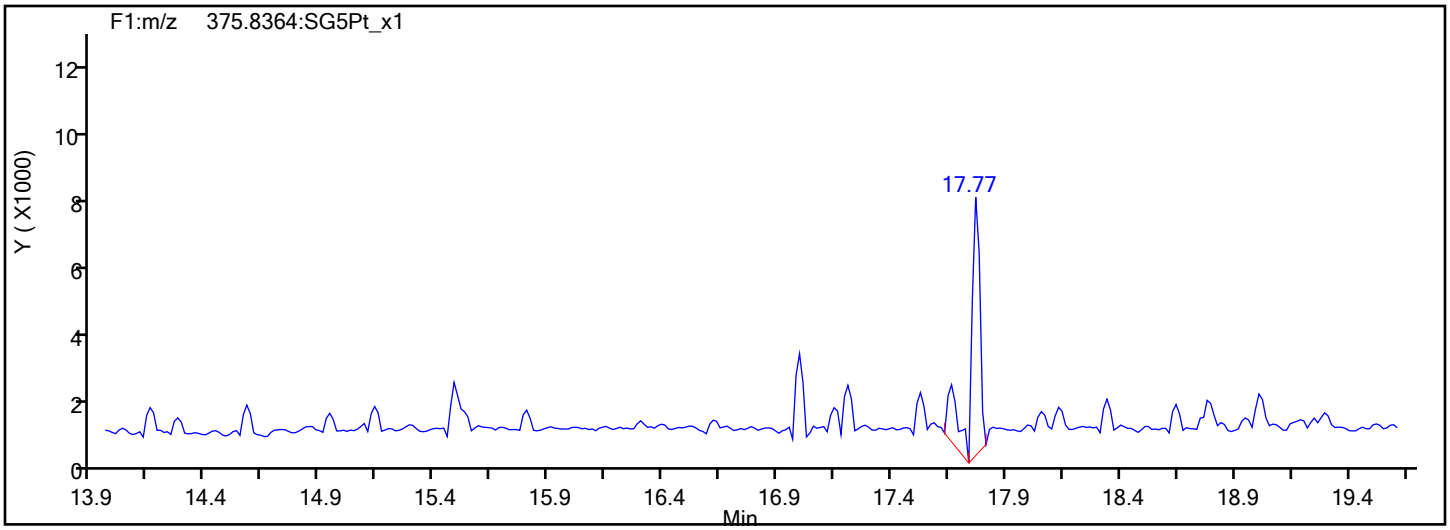

Report Date: 20-Sep-2019 09:55:57 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_42.d		
Injection Date:	19-Sep-2019 19:23:05	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	42
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

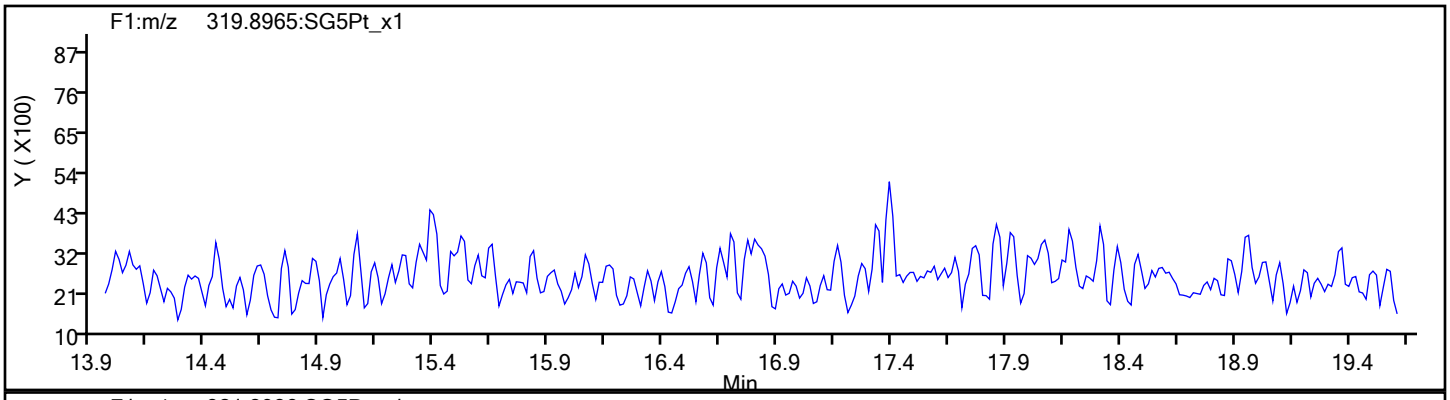

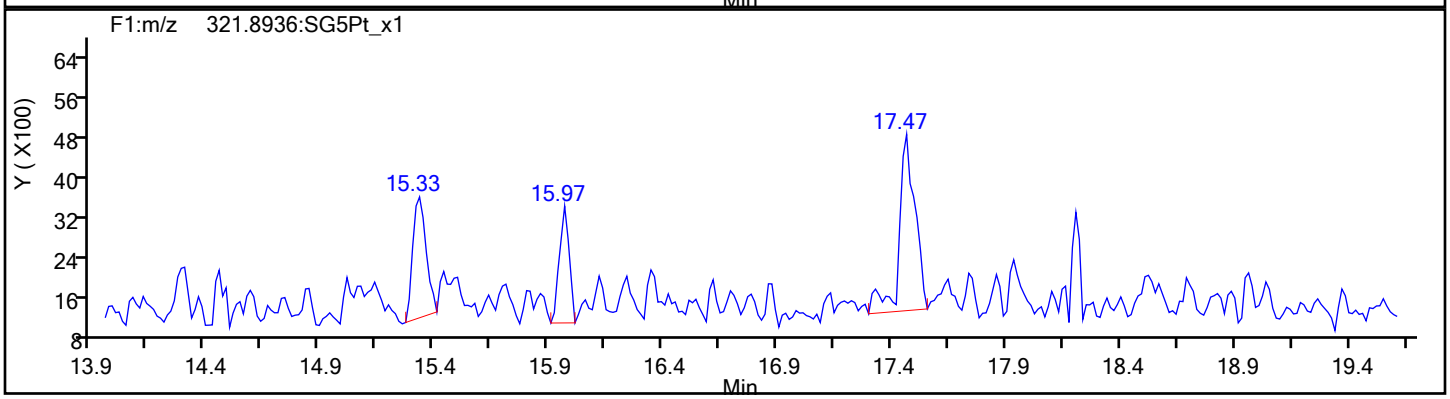

TCDD Standards

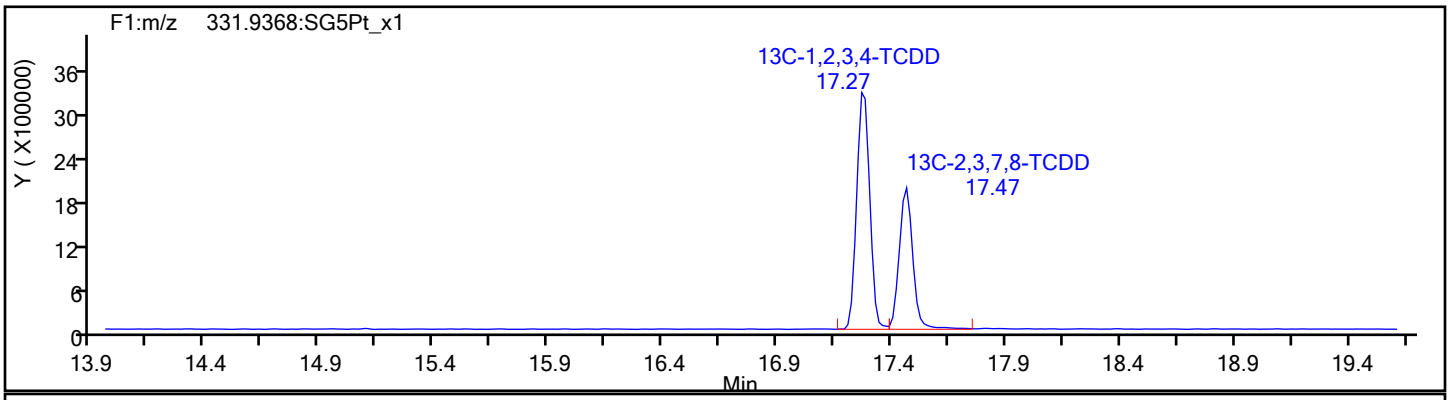

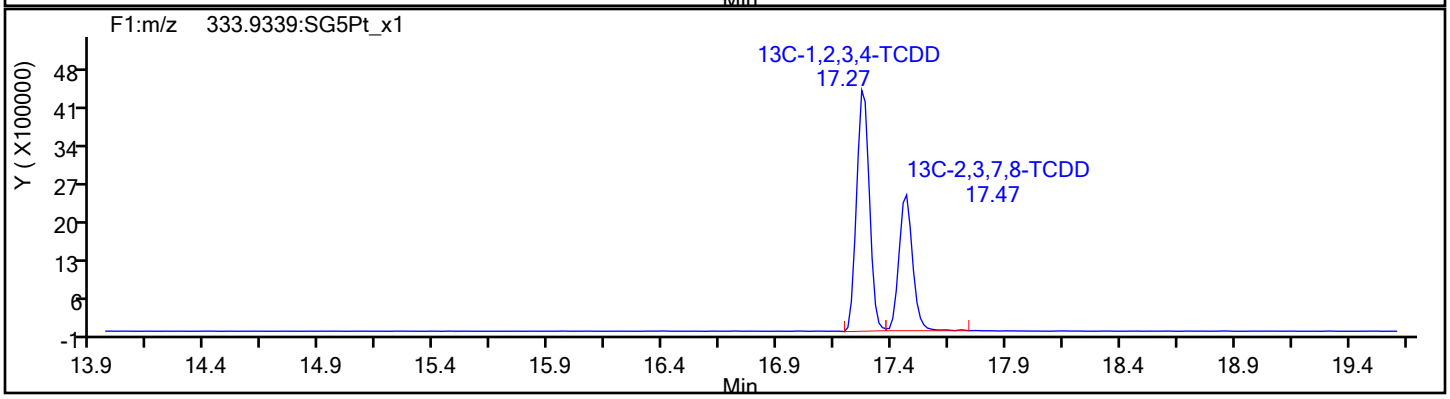

Report Date: 20-Sep-2019 09:55:57 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_42.d		
Injection Date:	19-Sep-2019 19:23:05	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	42
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

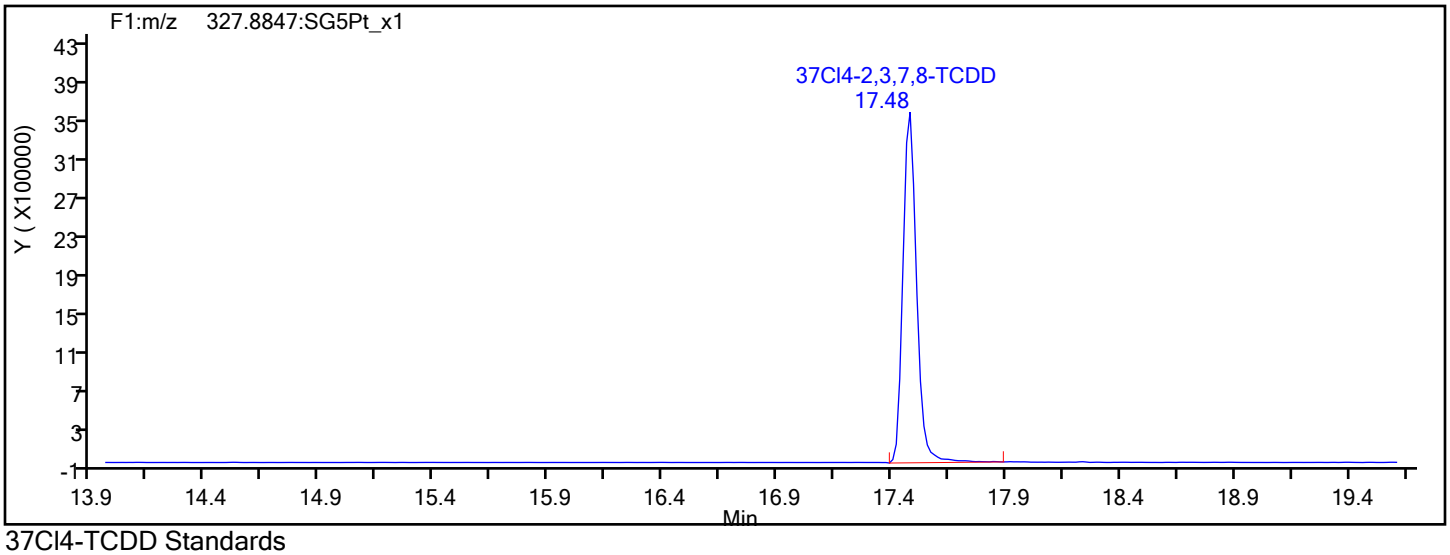

37Cl4-TCDD Standards

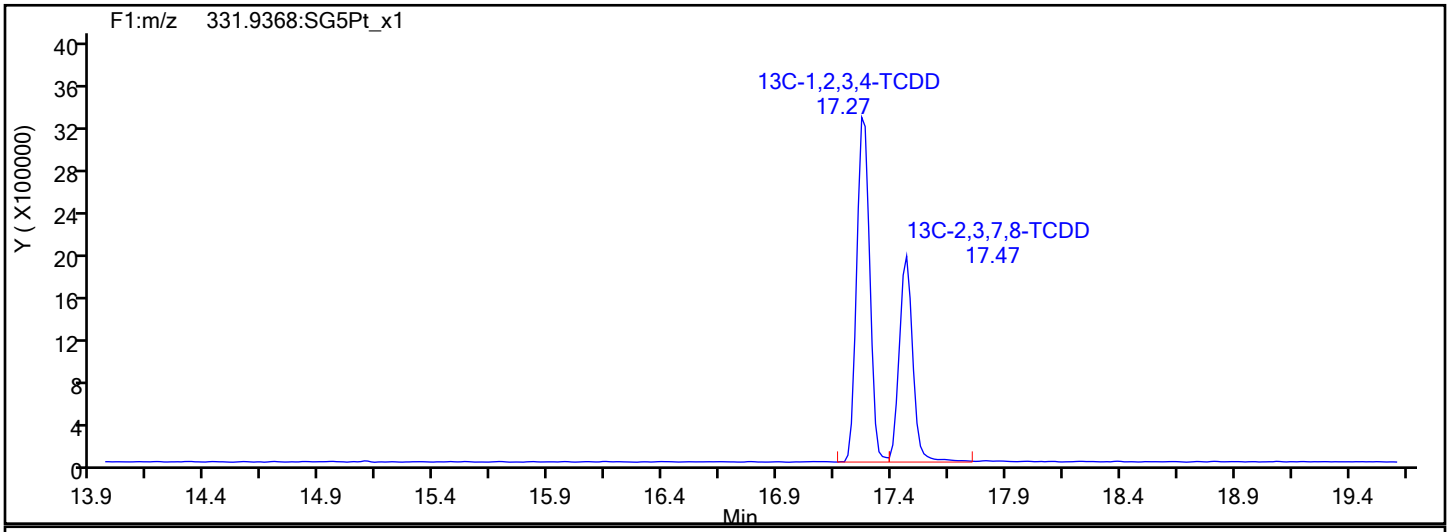

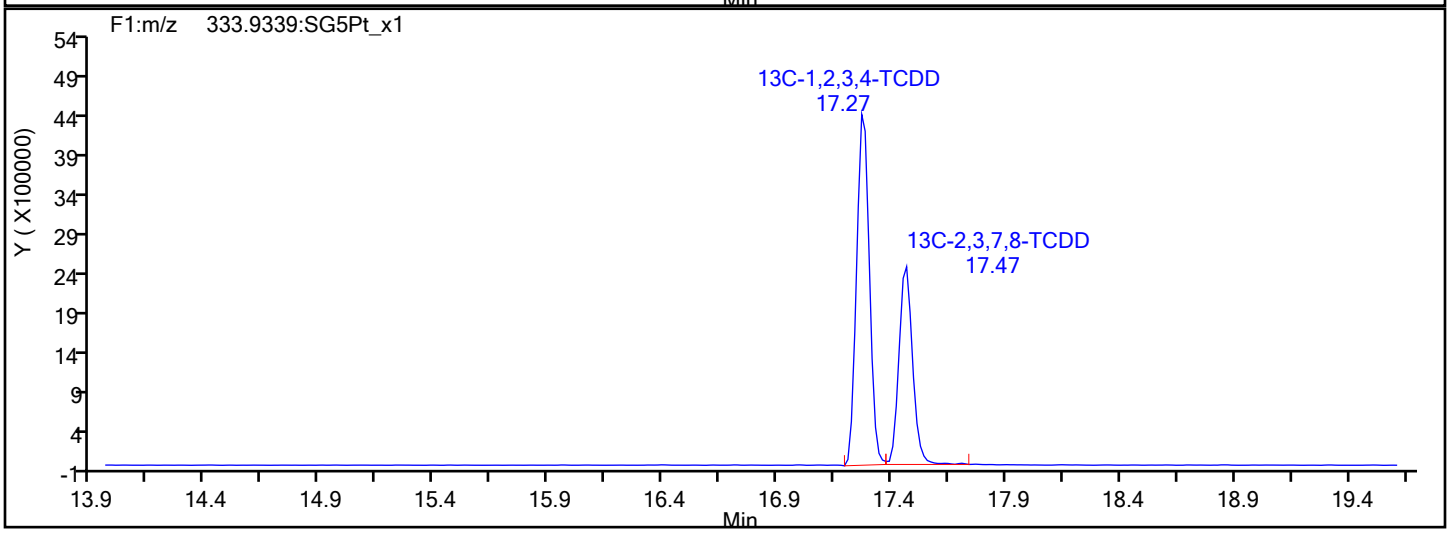

Report Date: 20-Sep-2019 09:55:57 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_42.d		
Injection Date:	19-Sep-2019 19:23:05	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	42
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

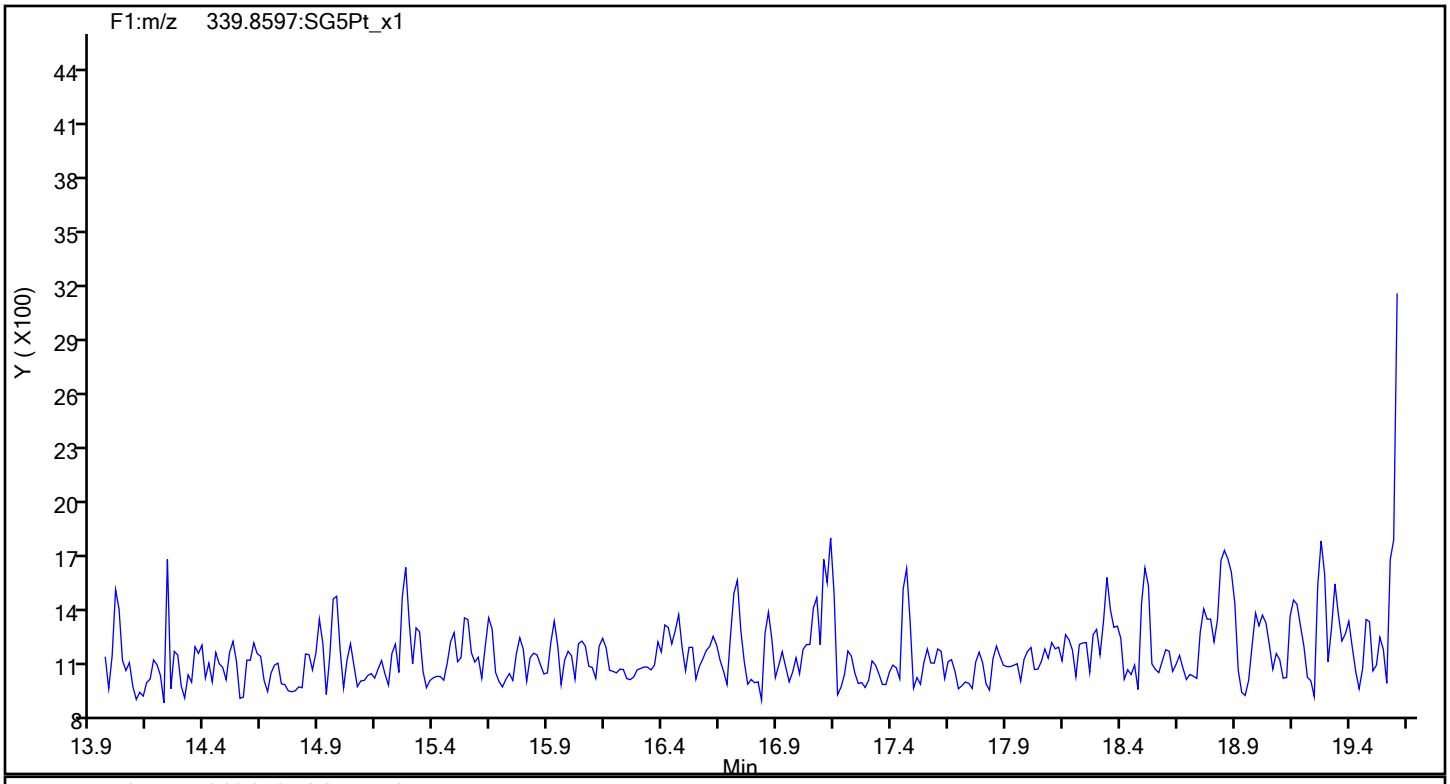

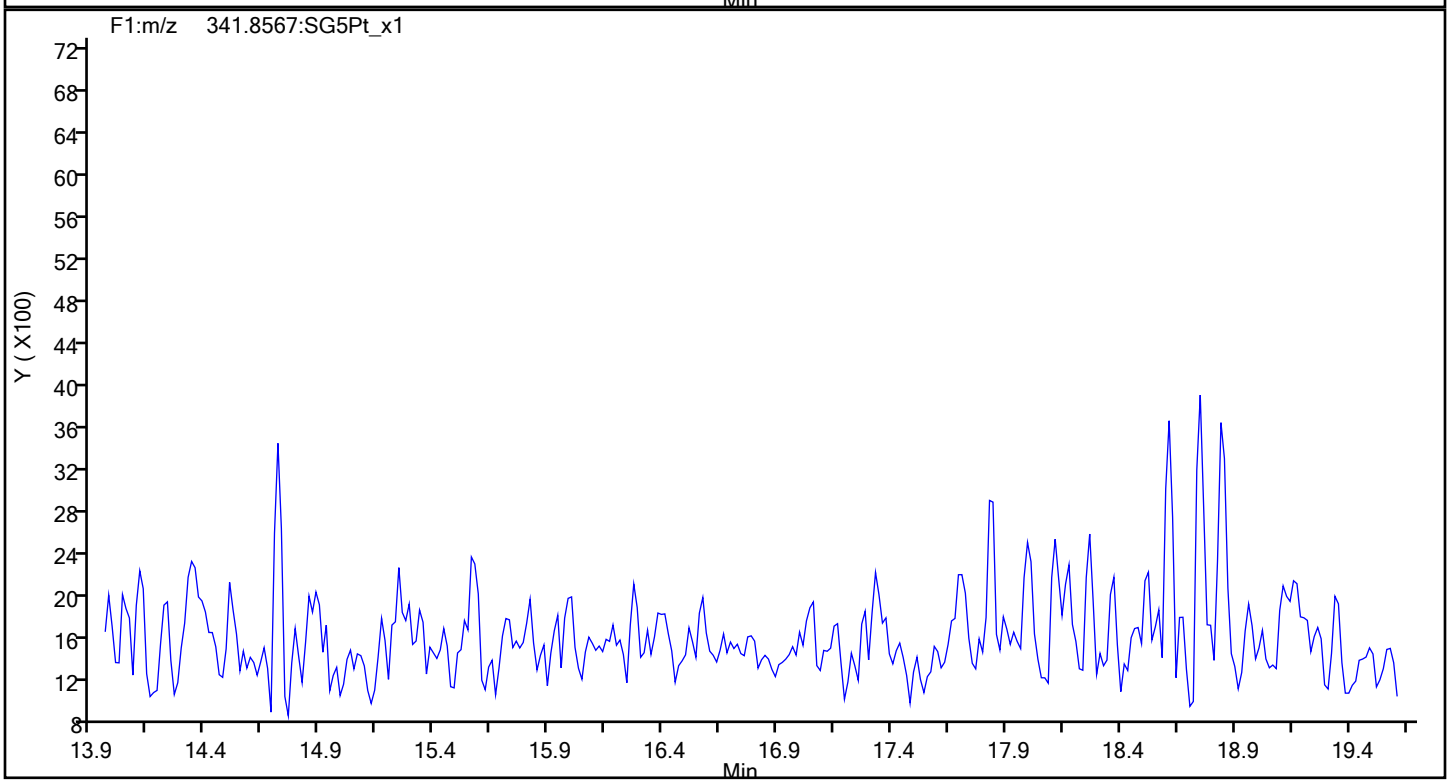

Report Date: 20-Sep-2019 09:55:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_42.d		
Injection Date:	19-Sep-2019 19:23:05	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	42
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

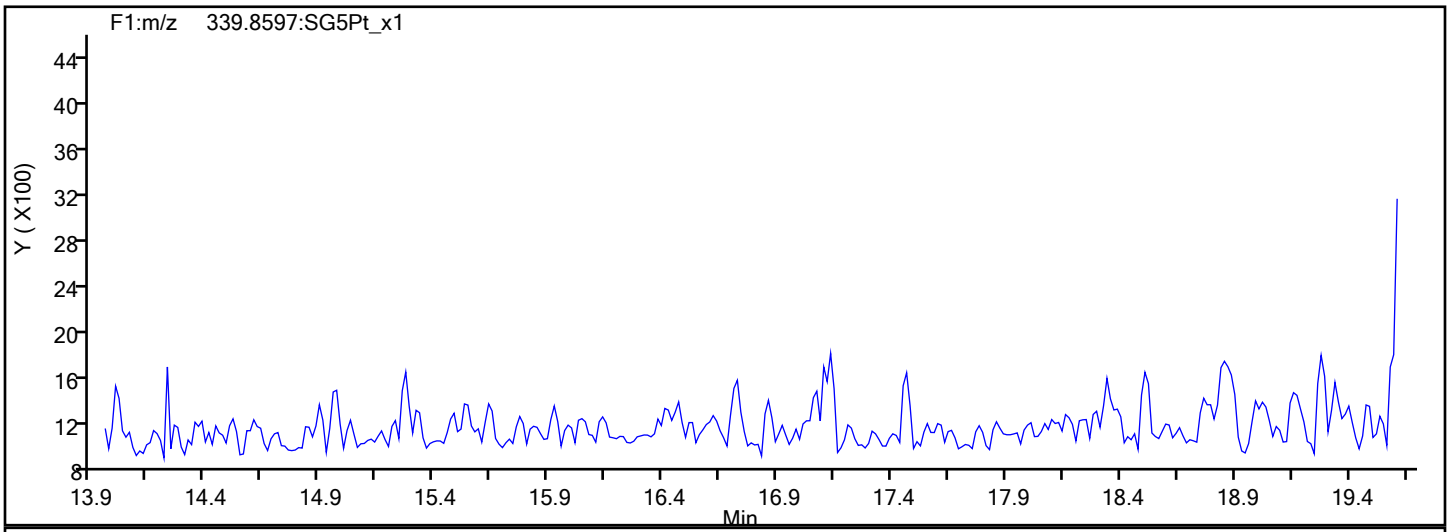

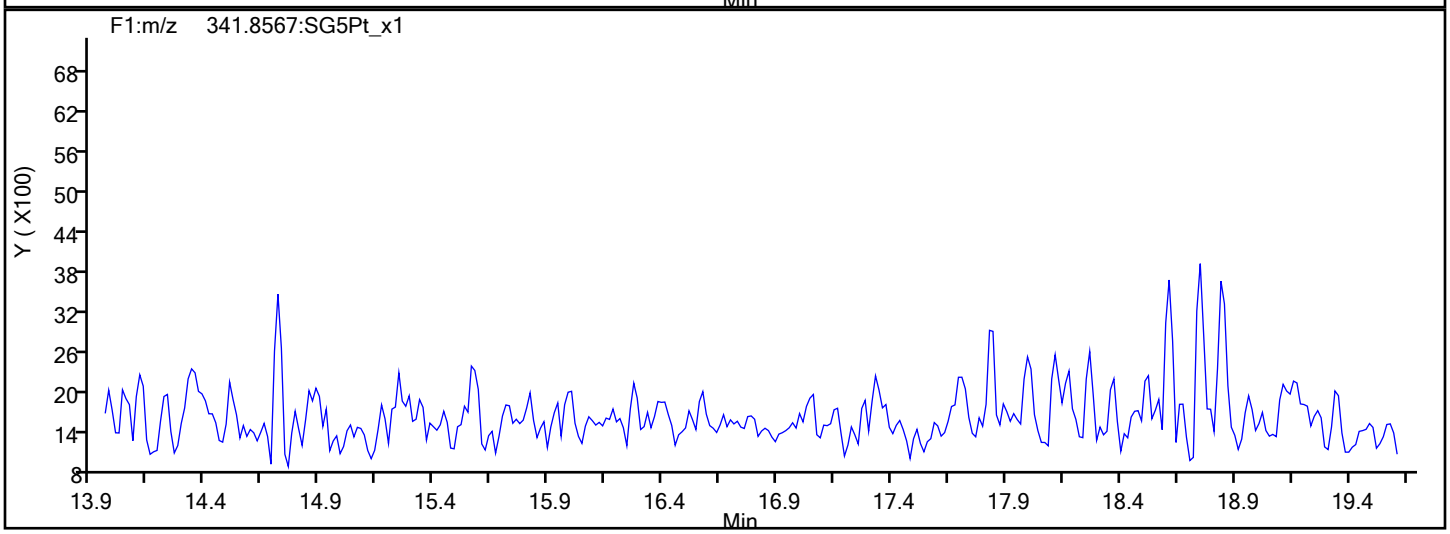

F1 PeCDFs Interference Mass

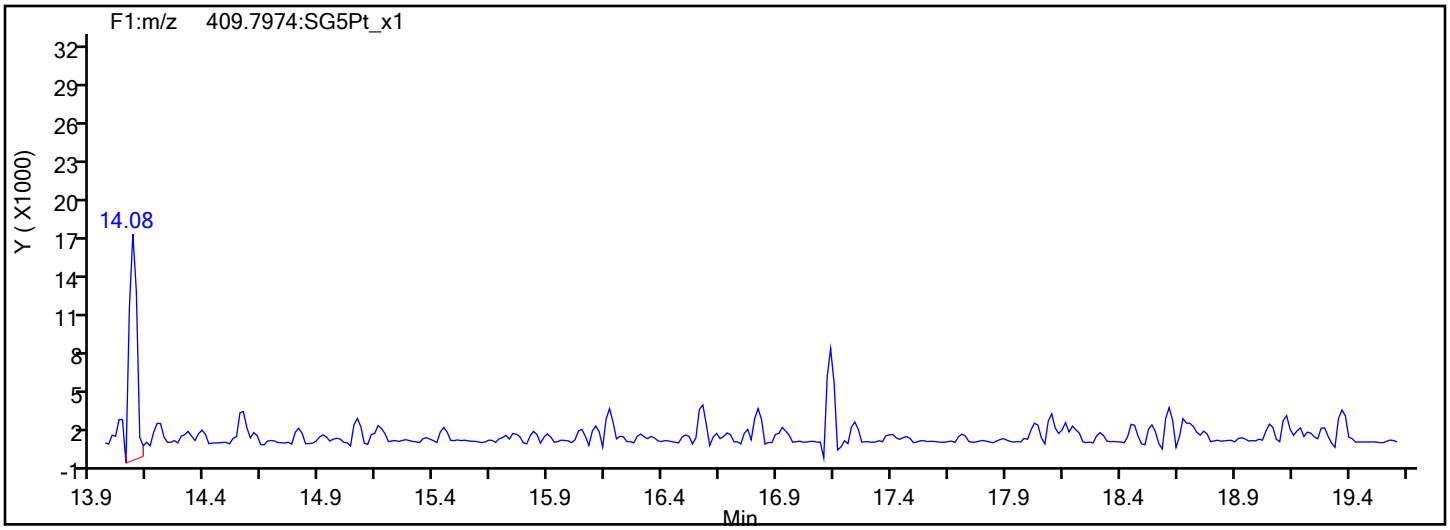

Report Date: 20-Sep-2019 09:55:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_42.d		
Injection Date:	19-Sep-2019 19:23:05	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	42
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

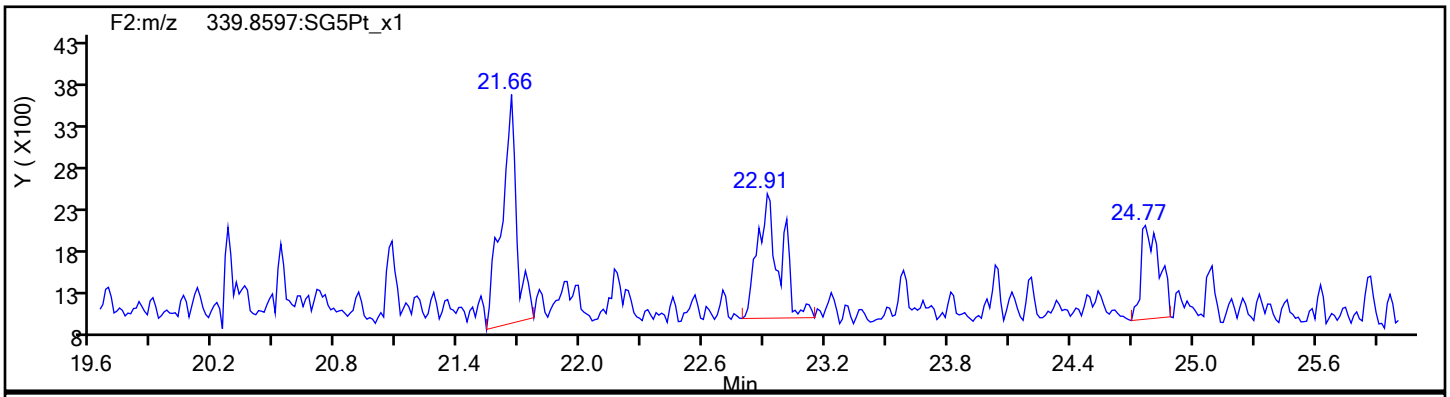

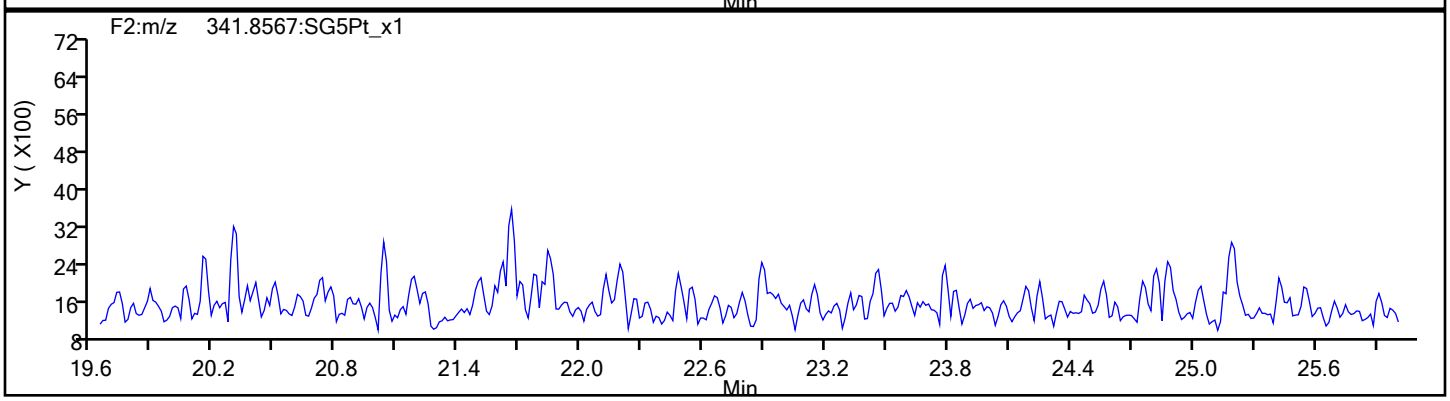

PeCDF Standards

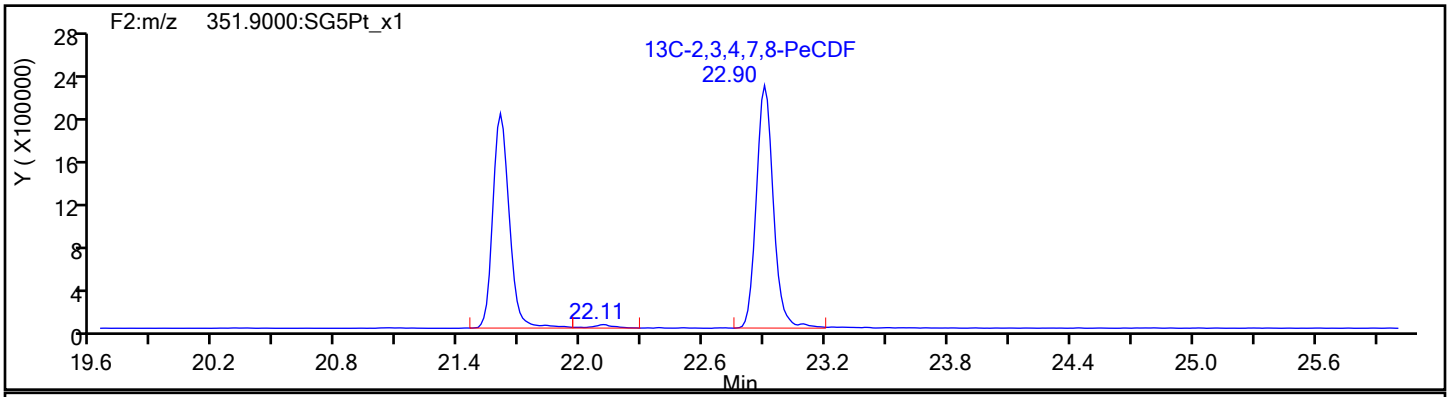

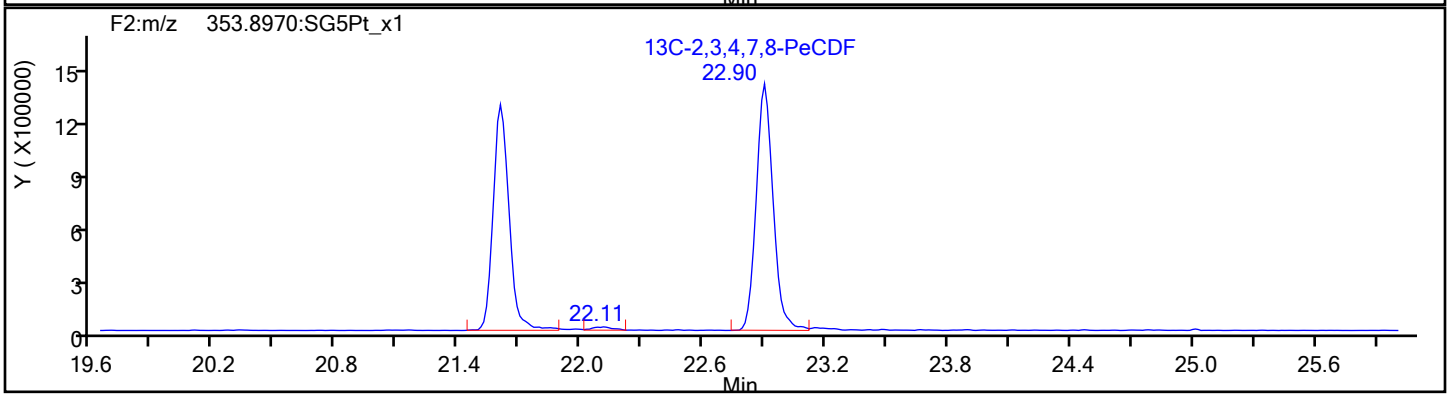

Report Date: 20-Sep-2019 09:55:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_42.d		
Injection Date:	19-Sep-2019 19:23:05	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	42
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

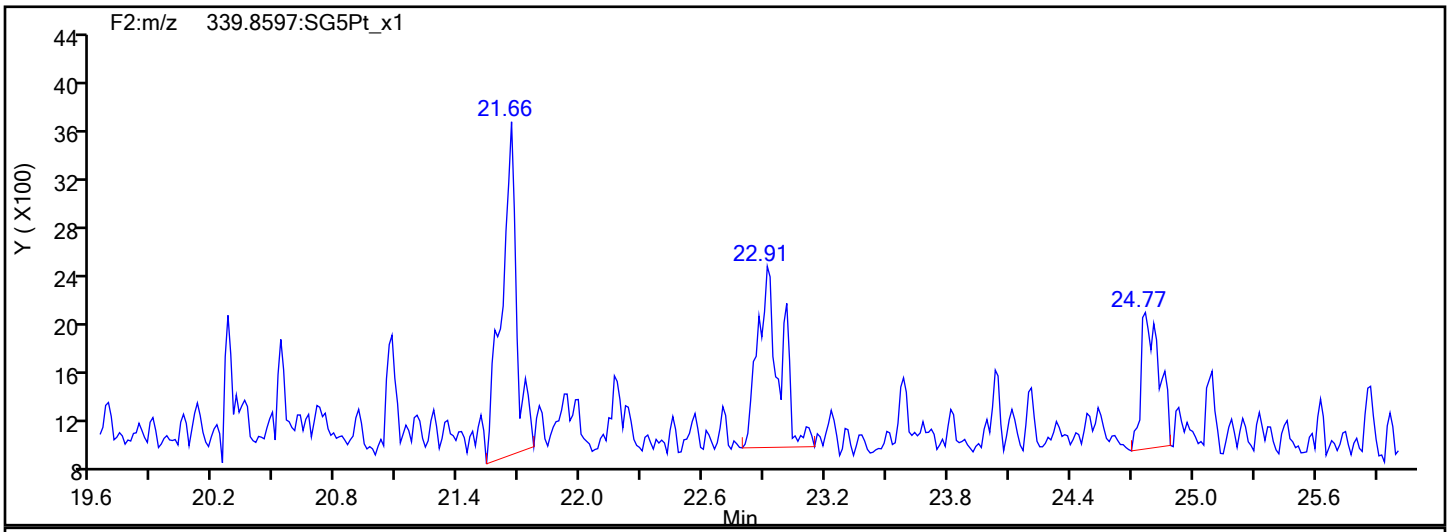

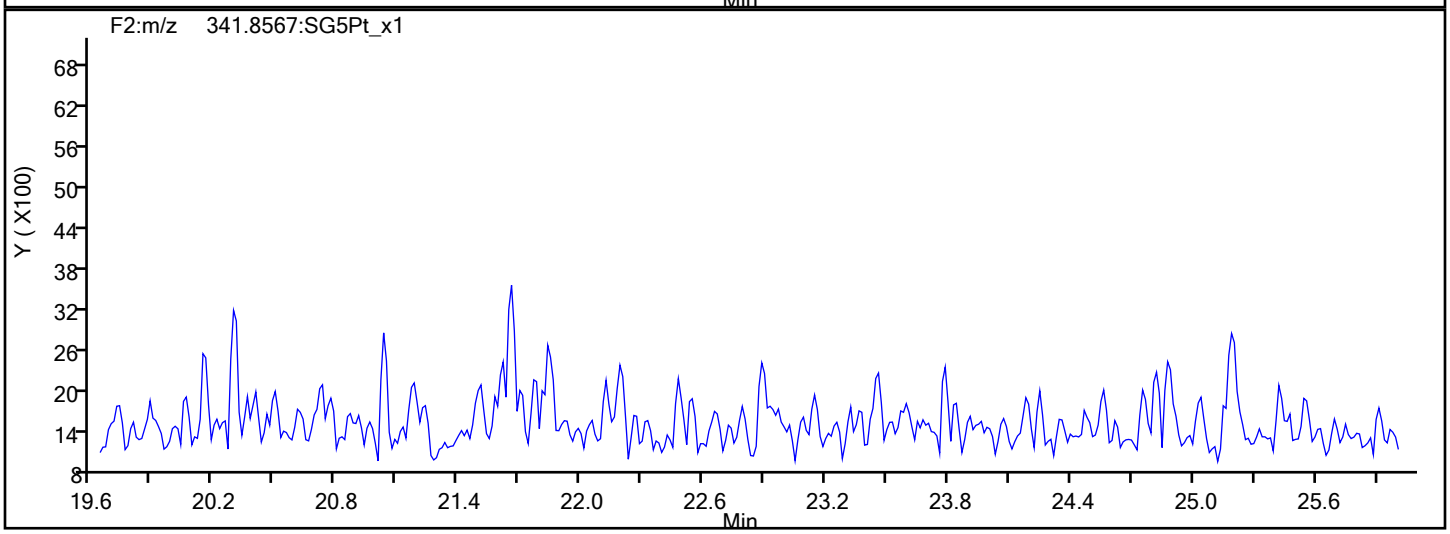

PeCDF Interference Mass

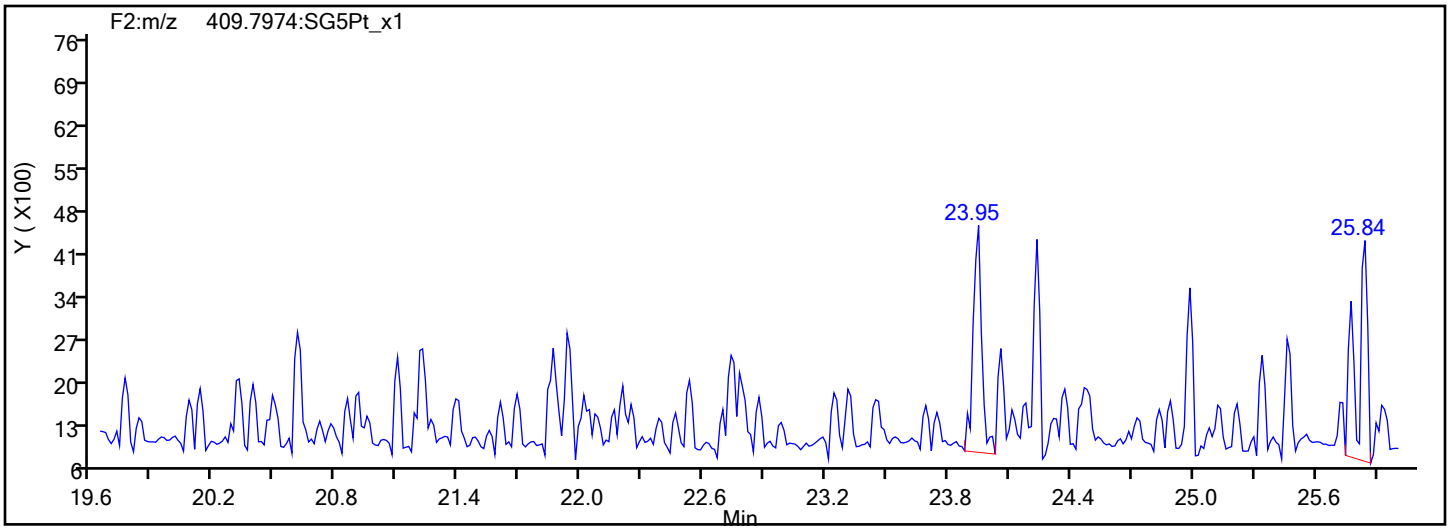

Report Date: 20-Sep-2019 09:55:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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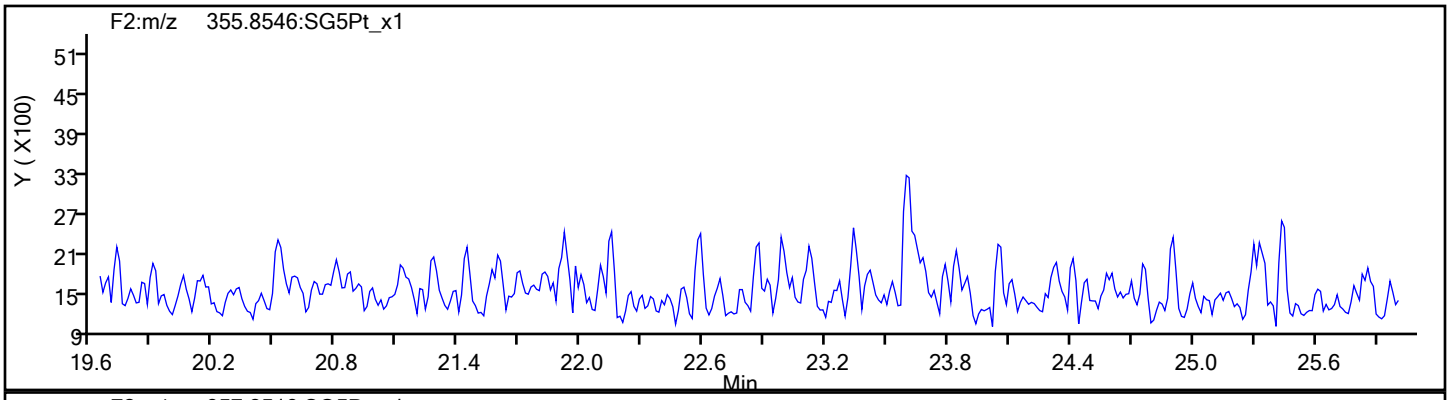

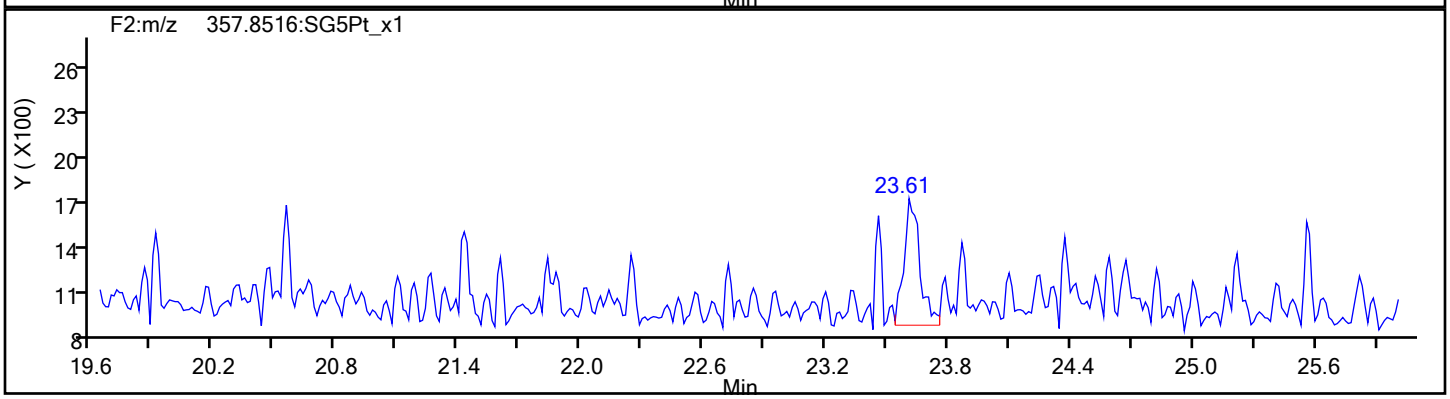

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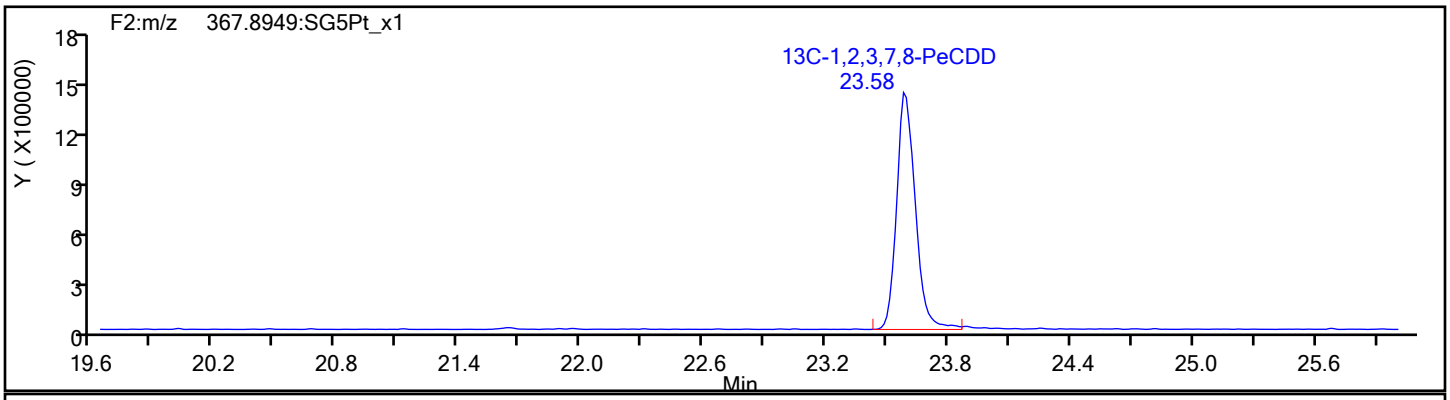

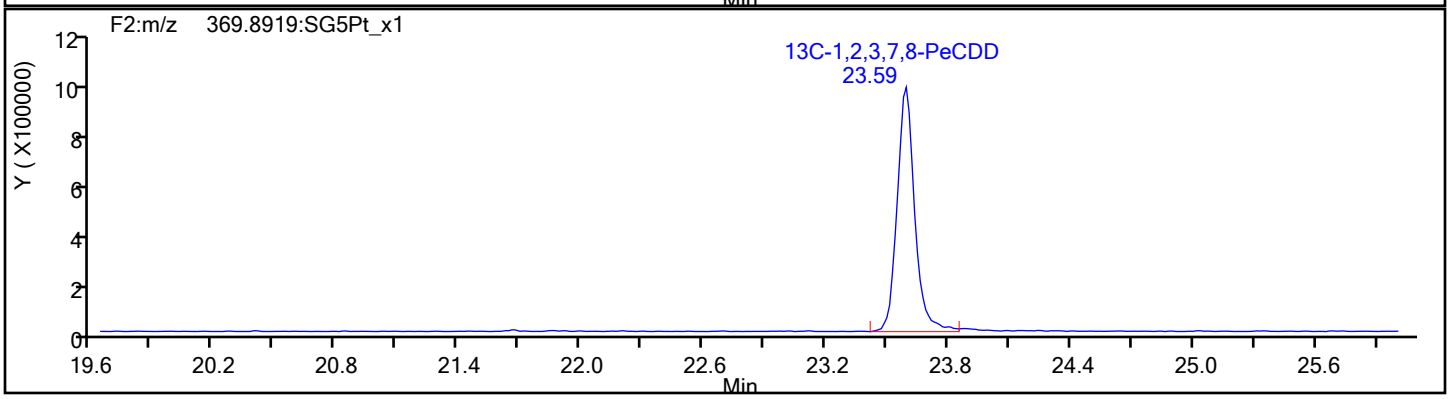

Report Date: 20-Sep-2019 09:55:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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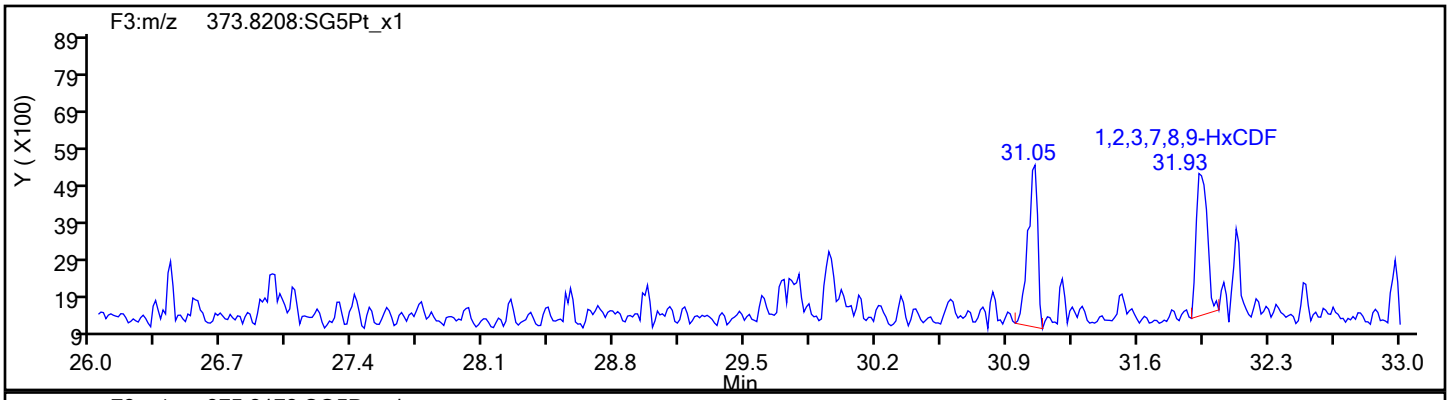

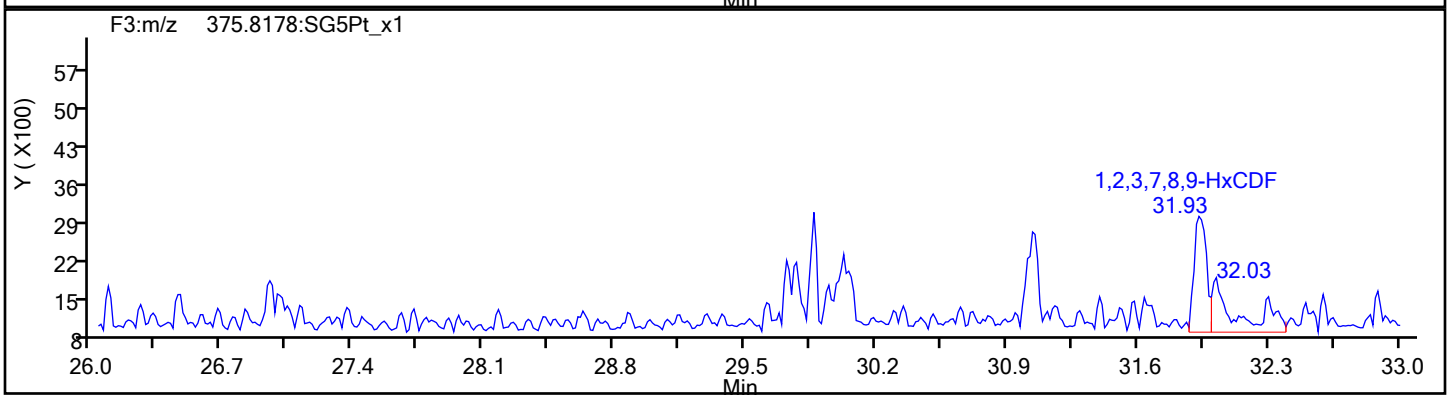

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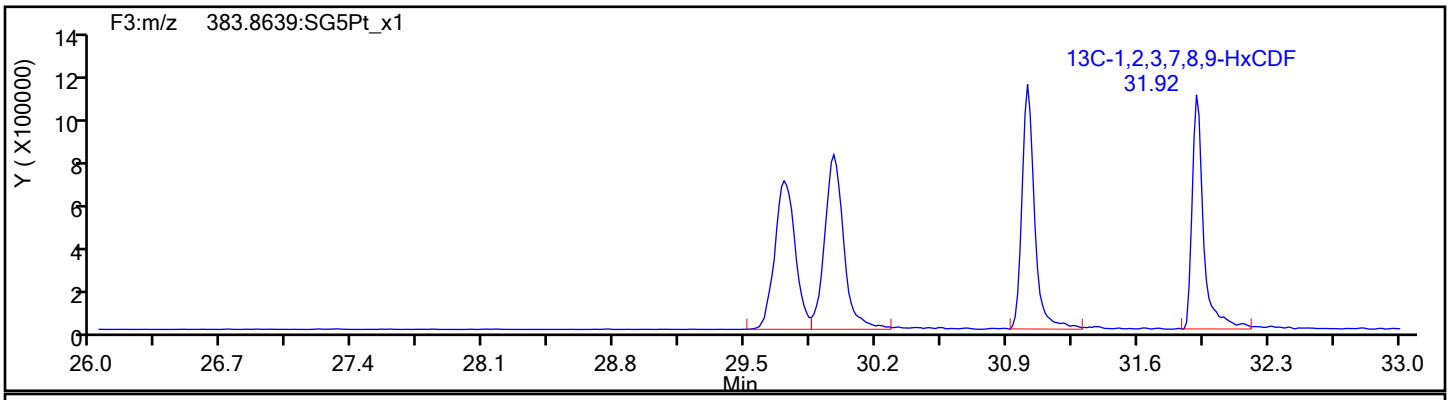

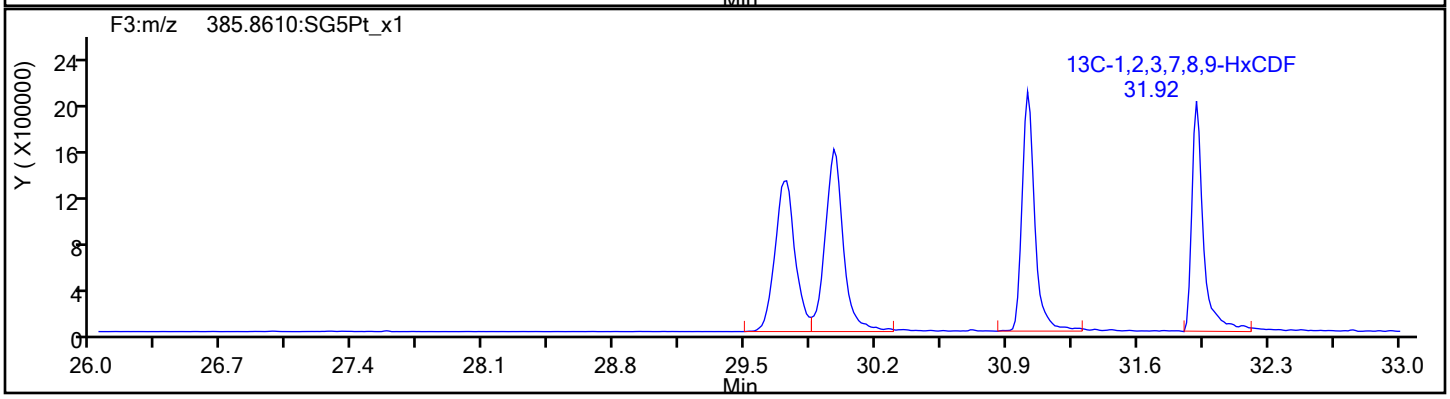

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Eurofins TestAmerica, Sacramento

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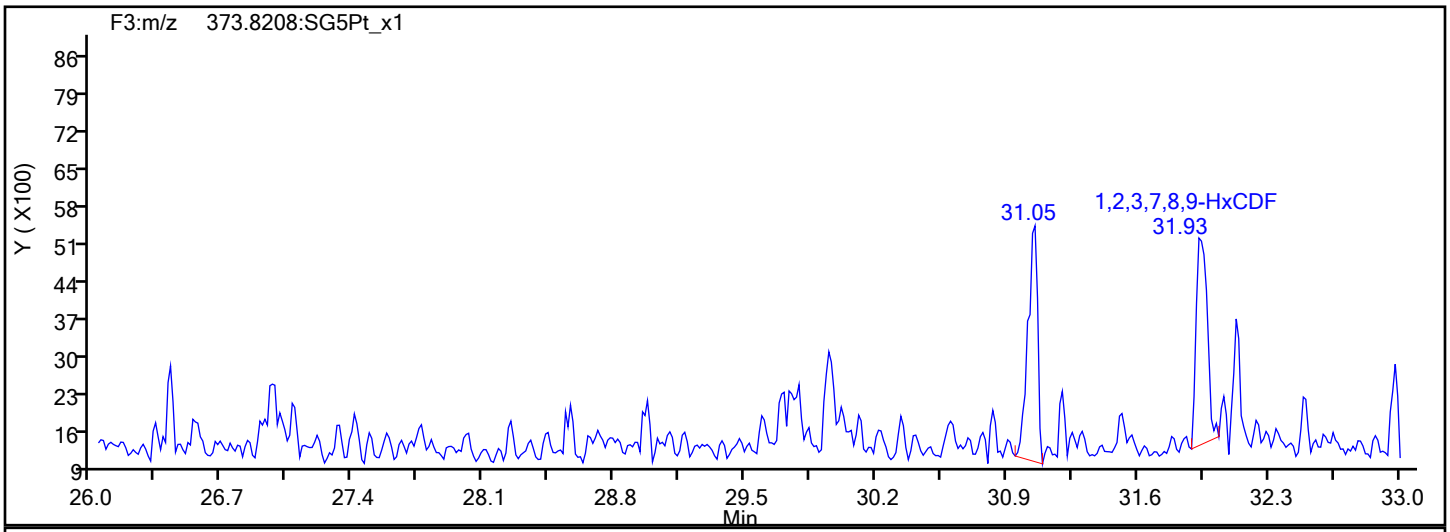

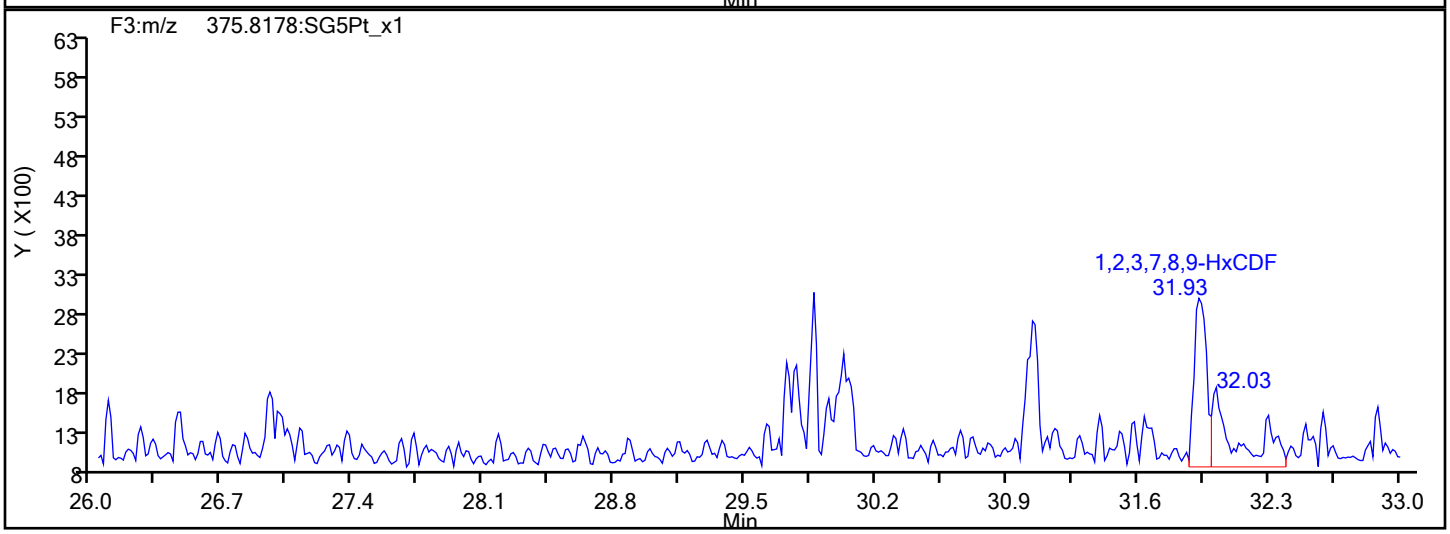

HxCDF Interference Mass

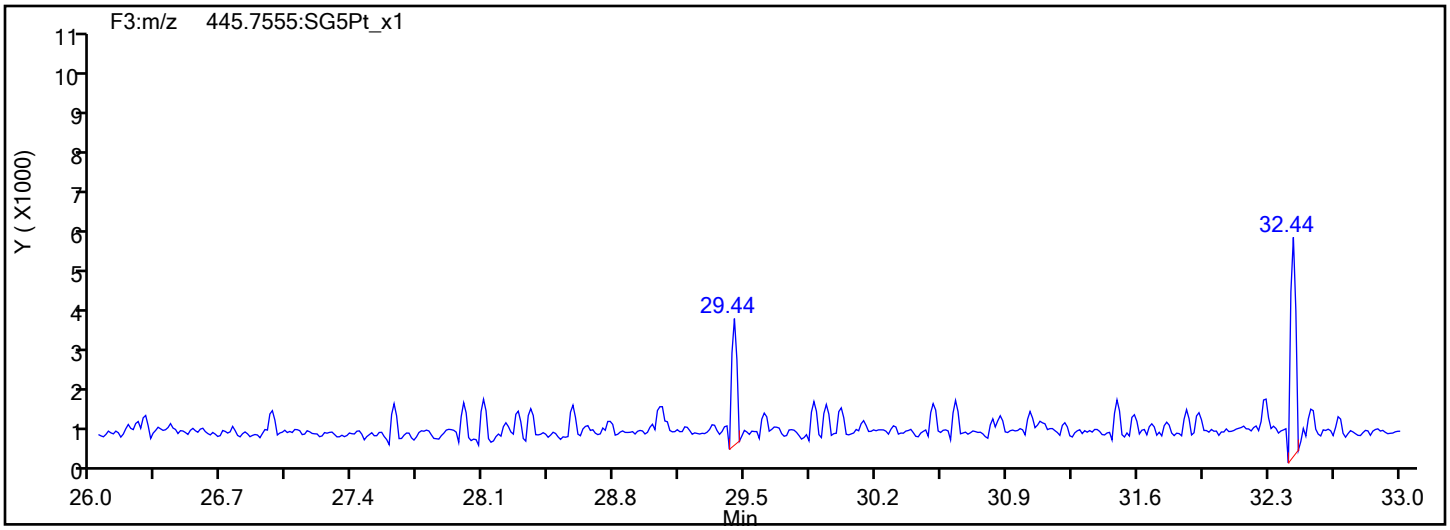

Report Date: 20-Sep-2019 09:55:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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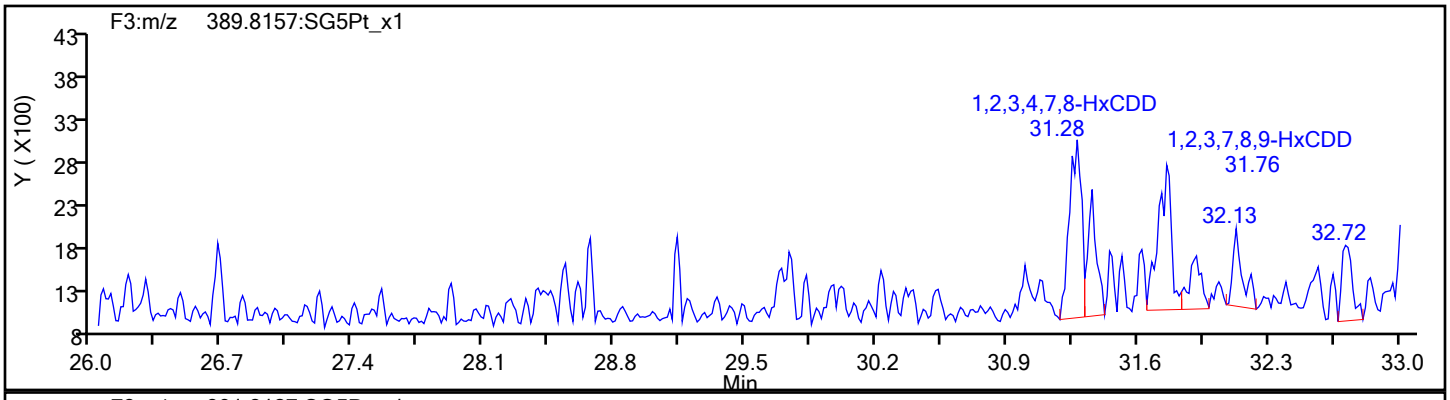

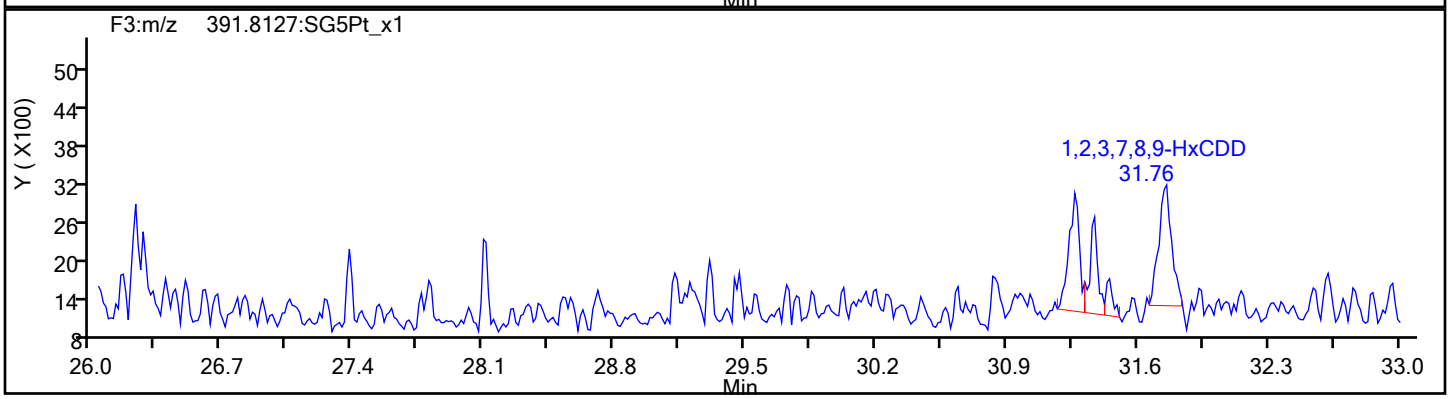

HxCDD Standards

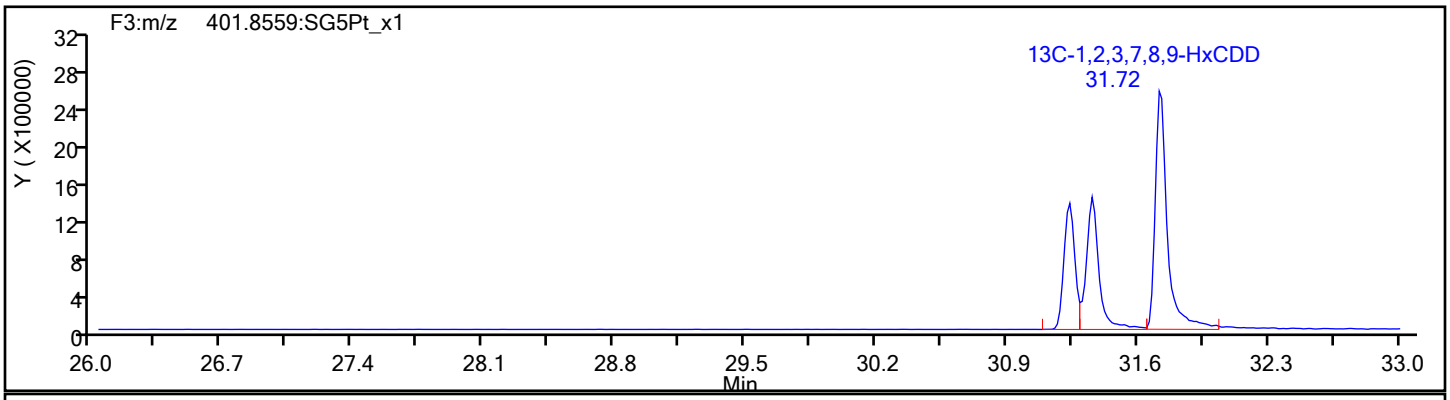

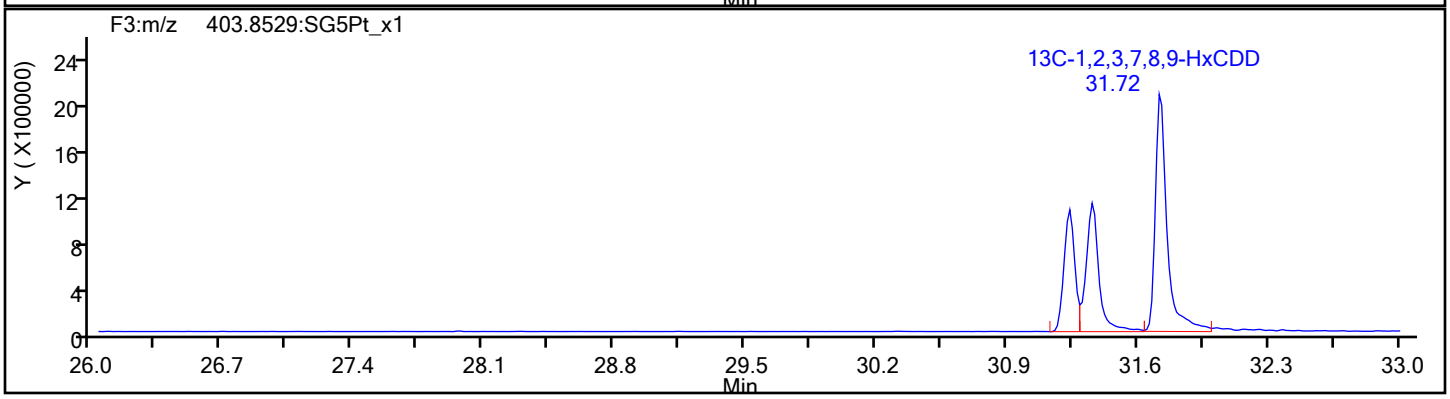

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Eurofins TestAmerica, Sacramento

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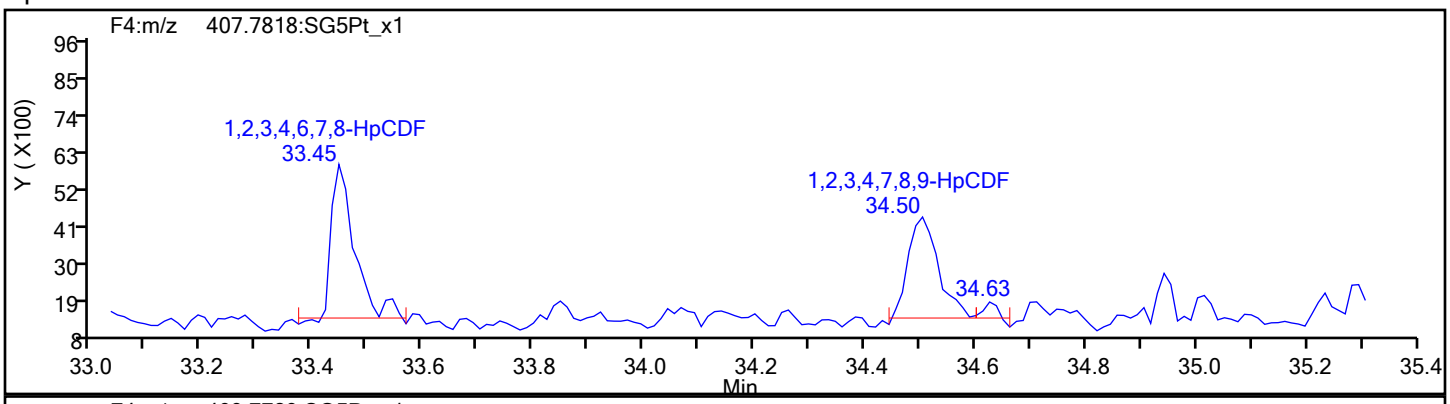

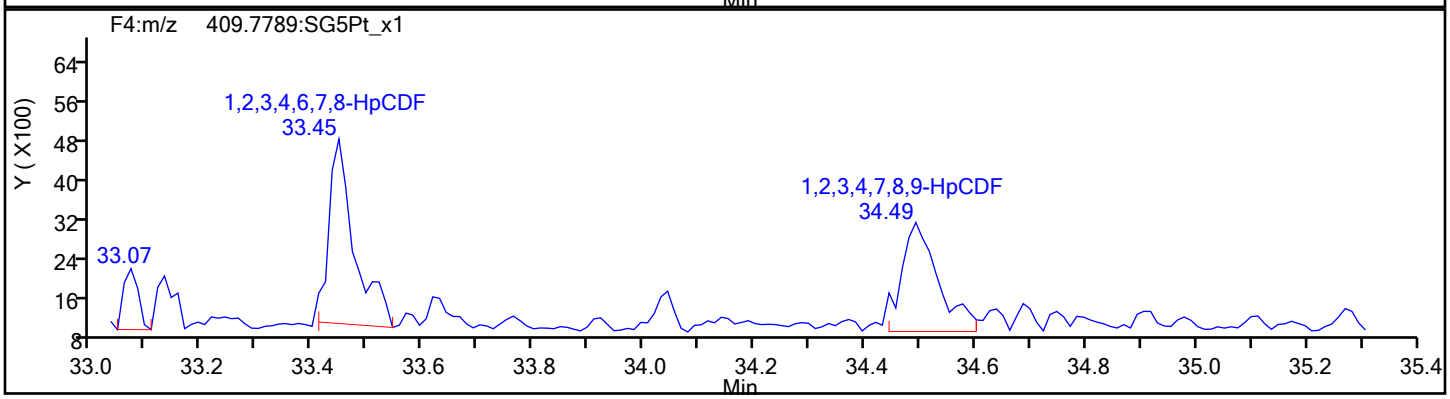

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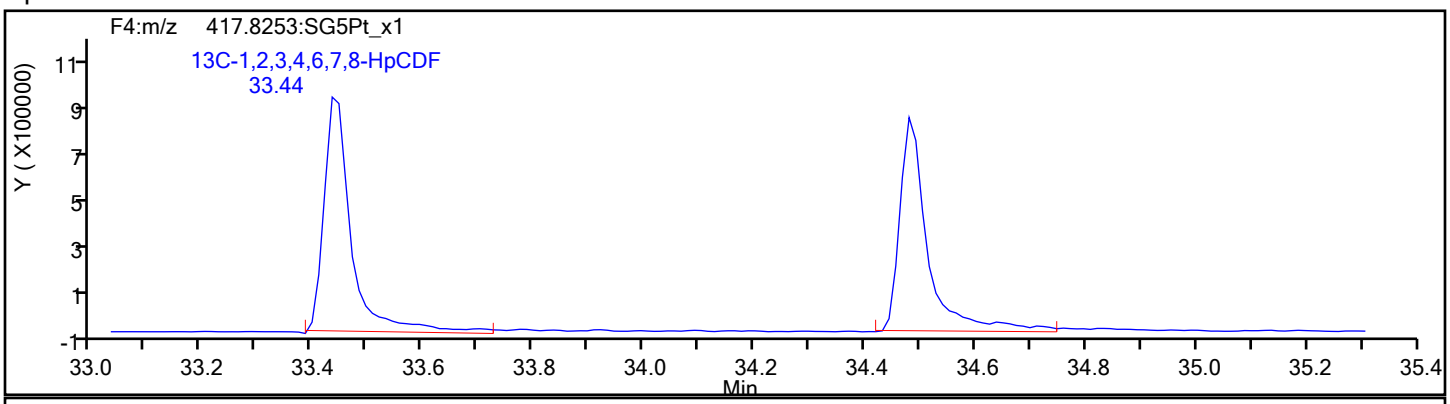

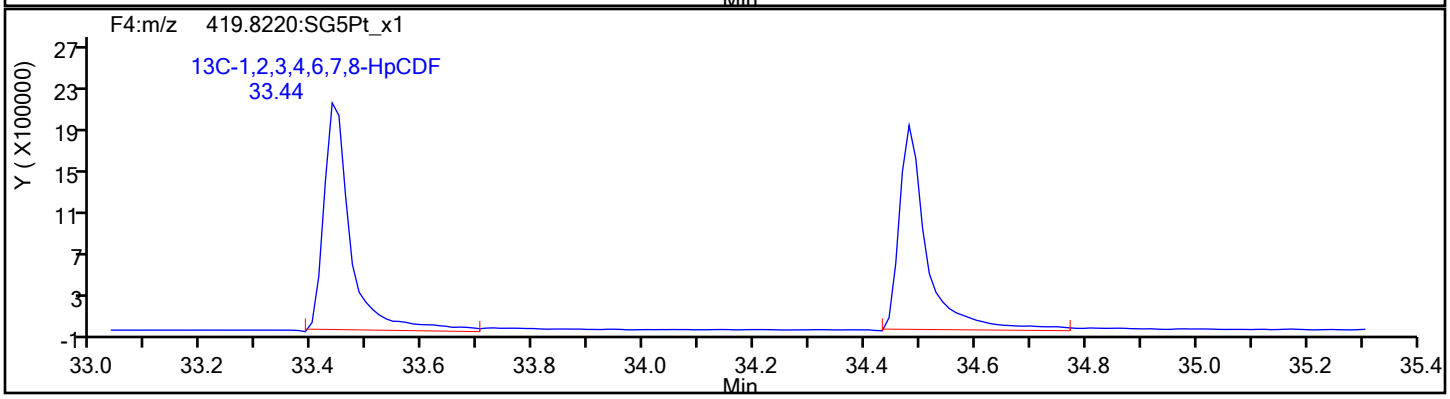

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Eurofins TestAmerica, Sacramento

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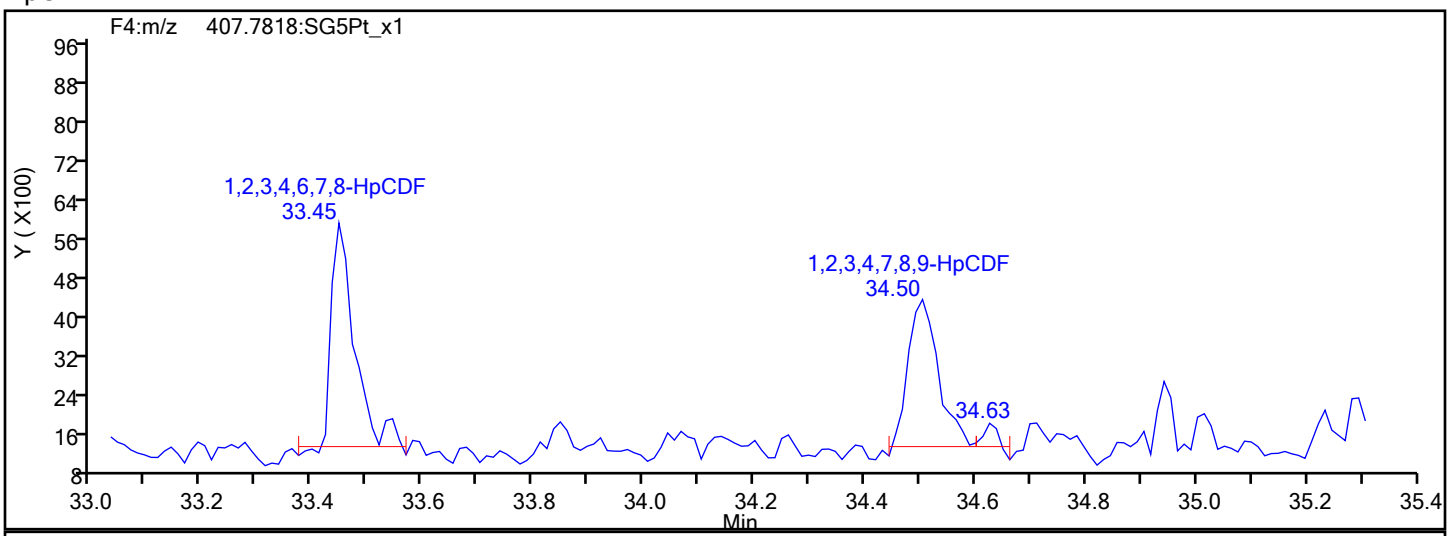

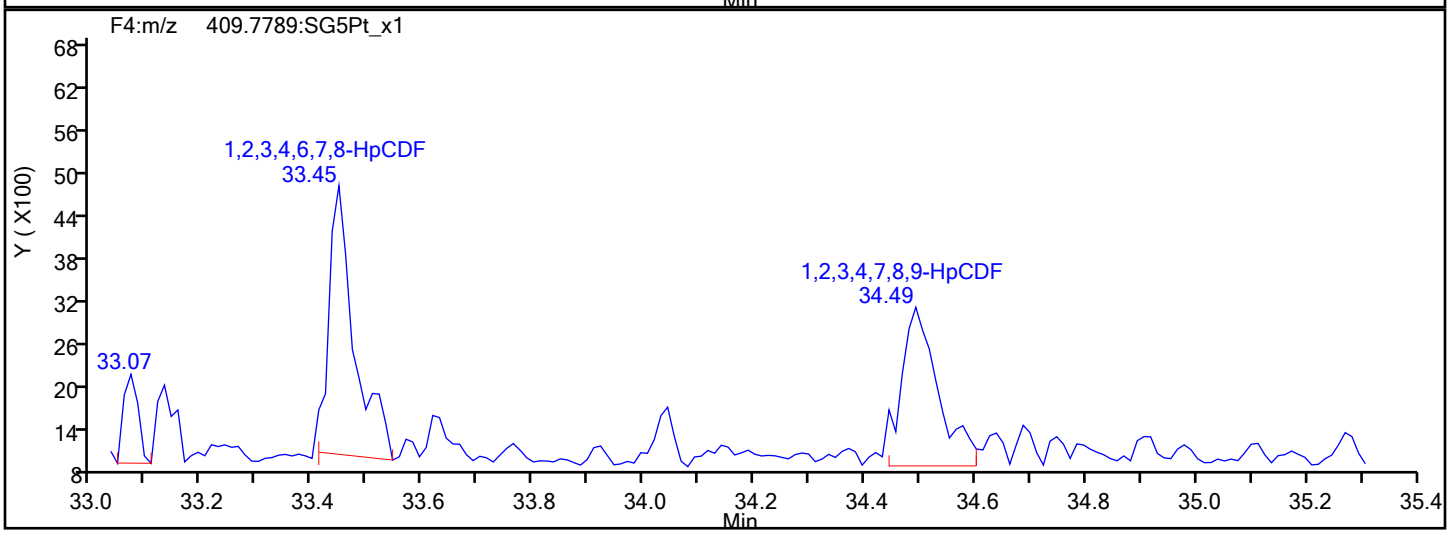

HpCDF Interference Mass

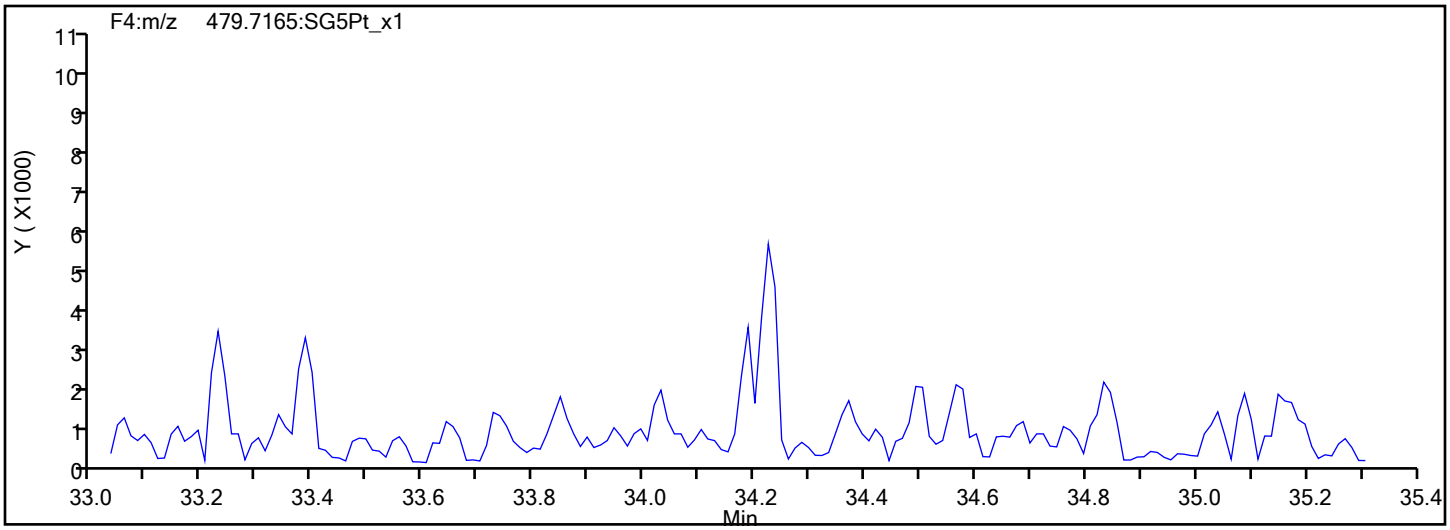

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Eurofins TestAmerica, Sacramento

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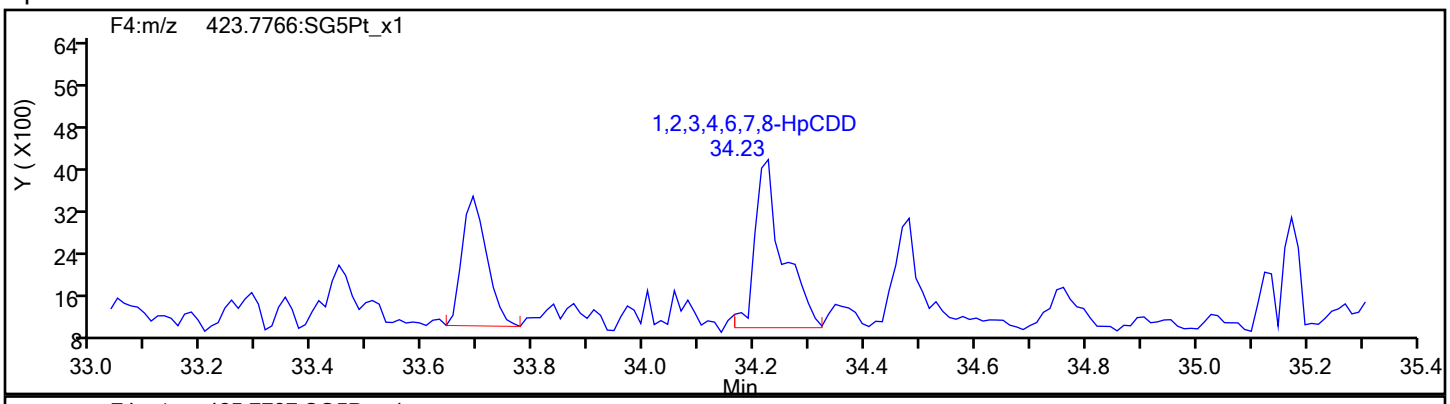

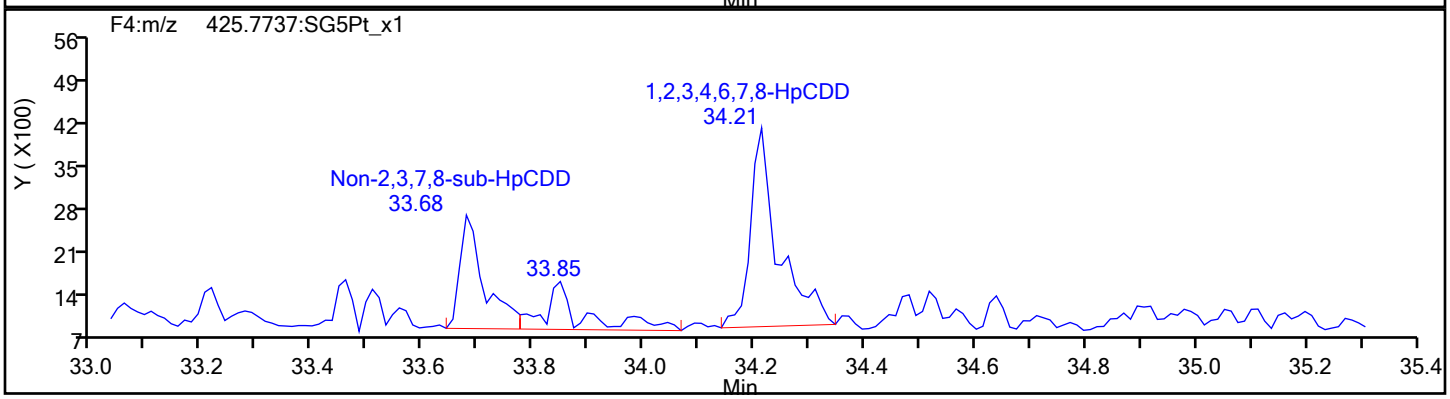

HpCDD Standards

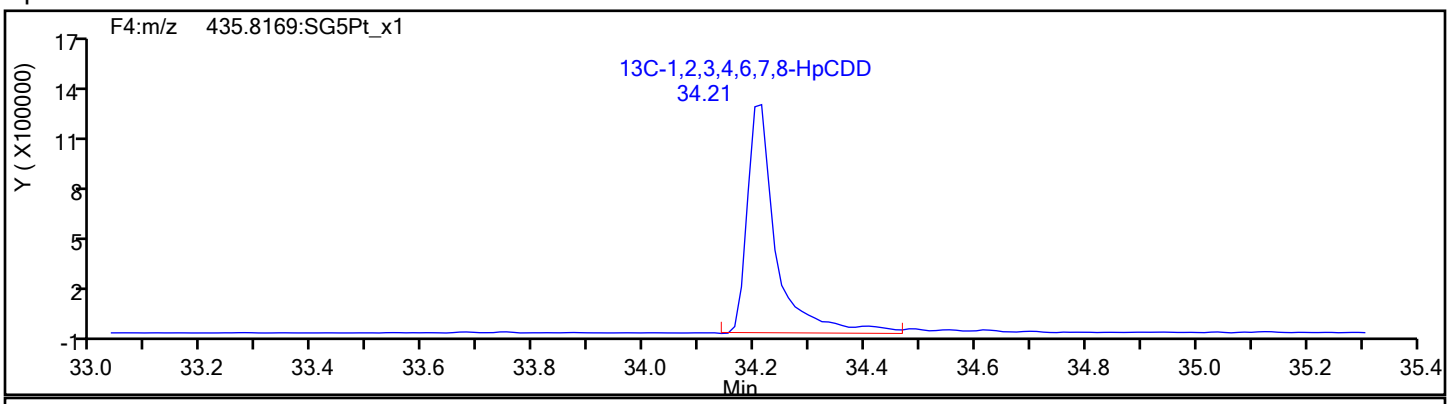

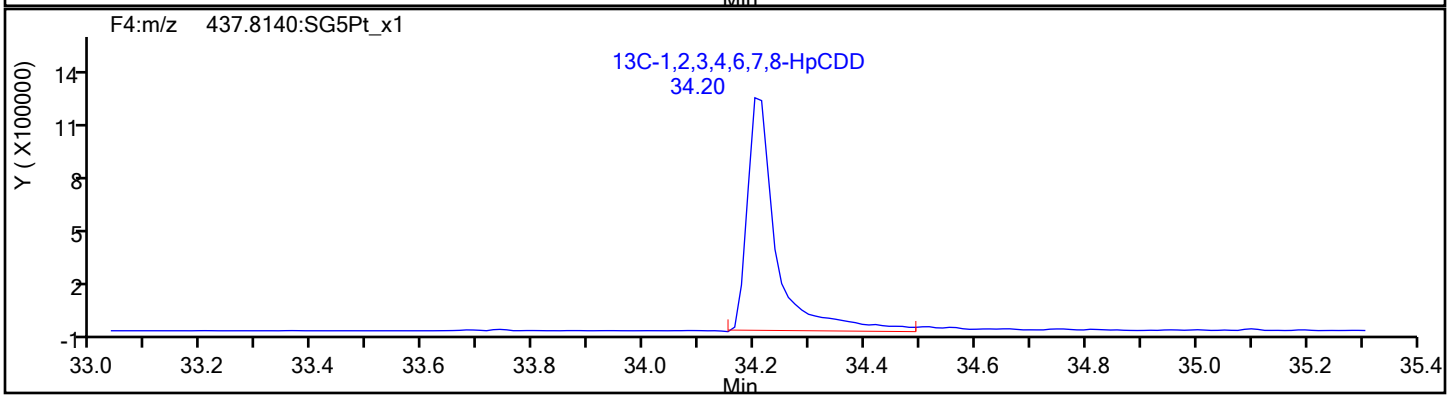

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Eurofins TestAmerica, Sacramento

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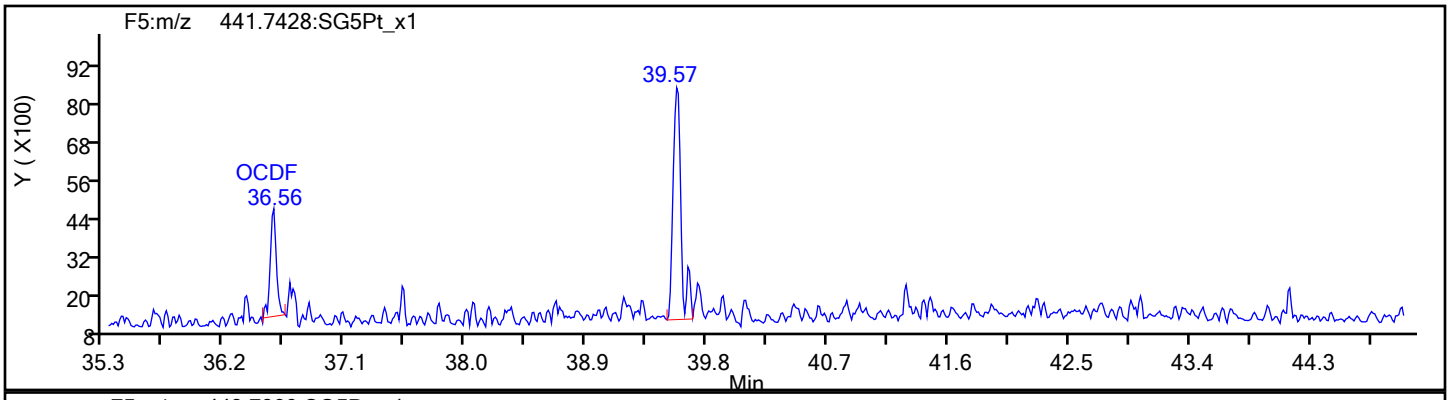

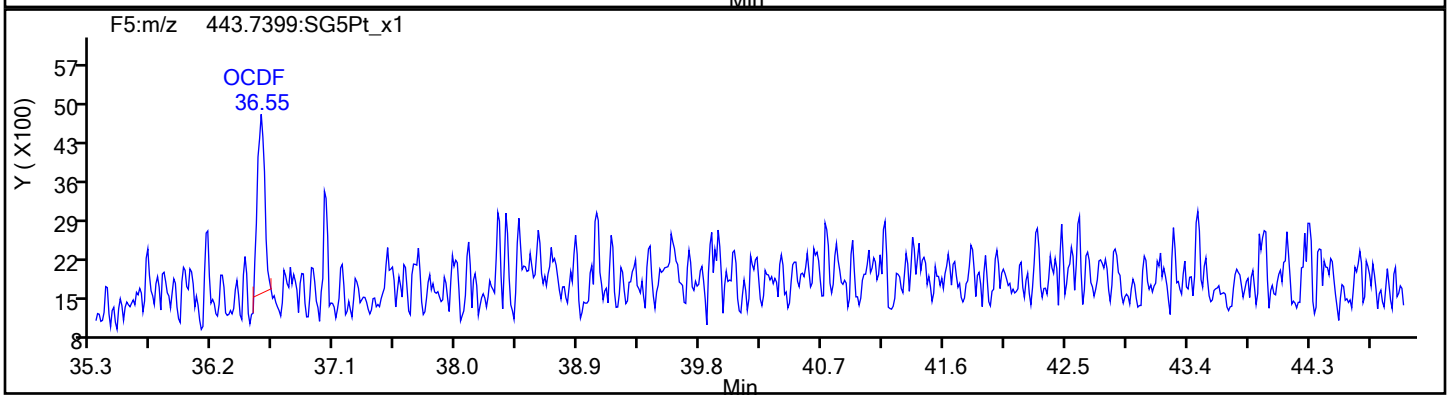

OCDF Standards

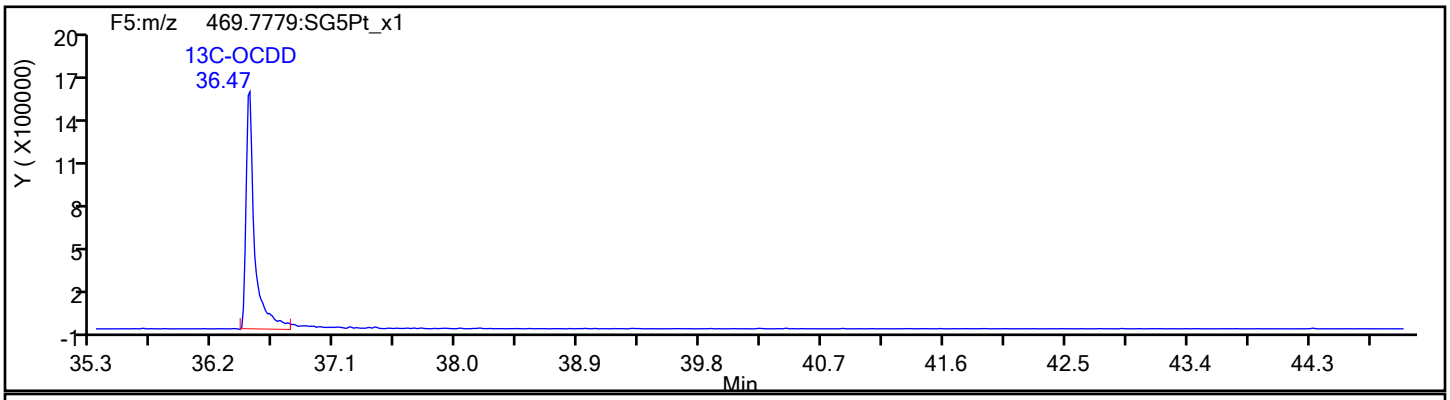

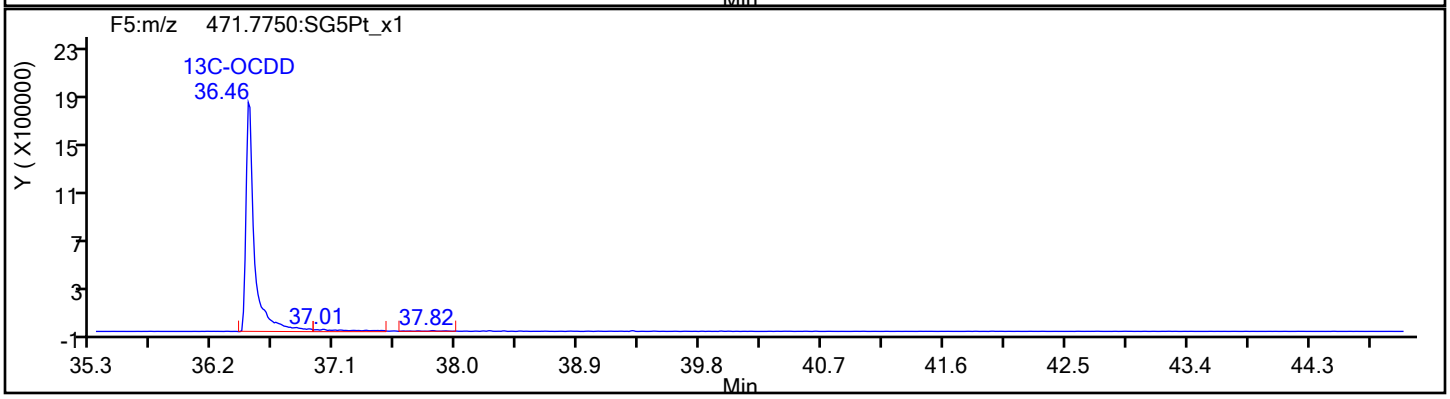

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Eurofins TestAmerica, Sacramento

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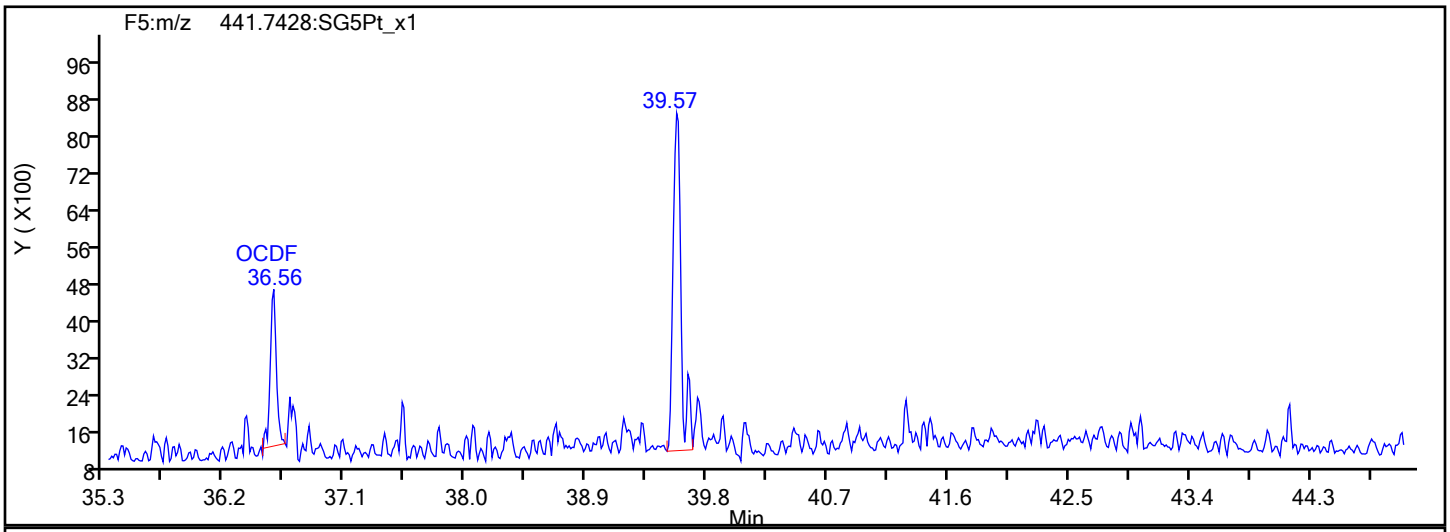

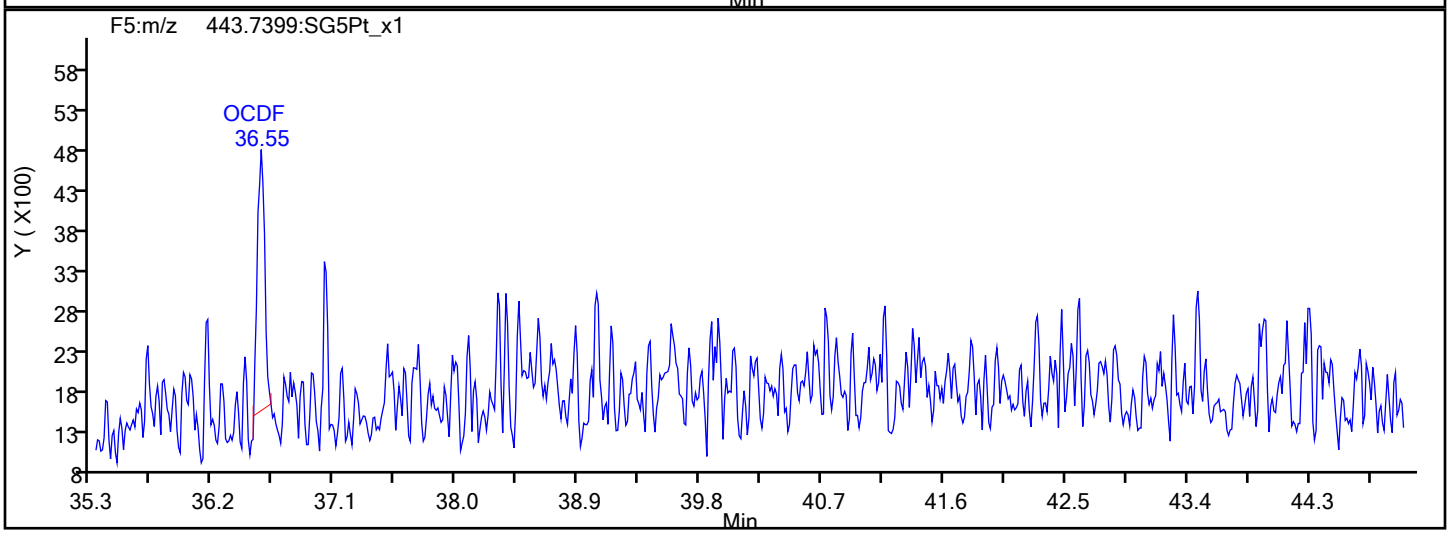

OCDF Interference Mass

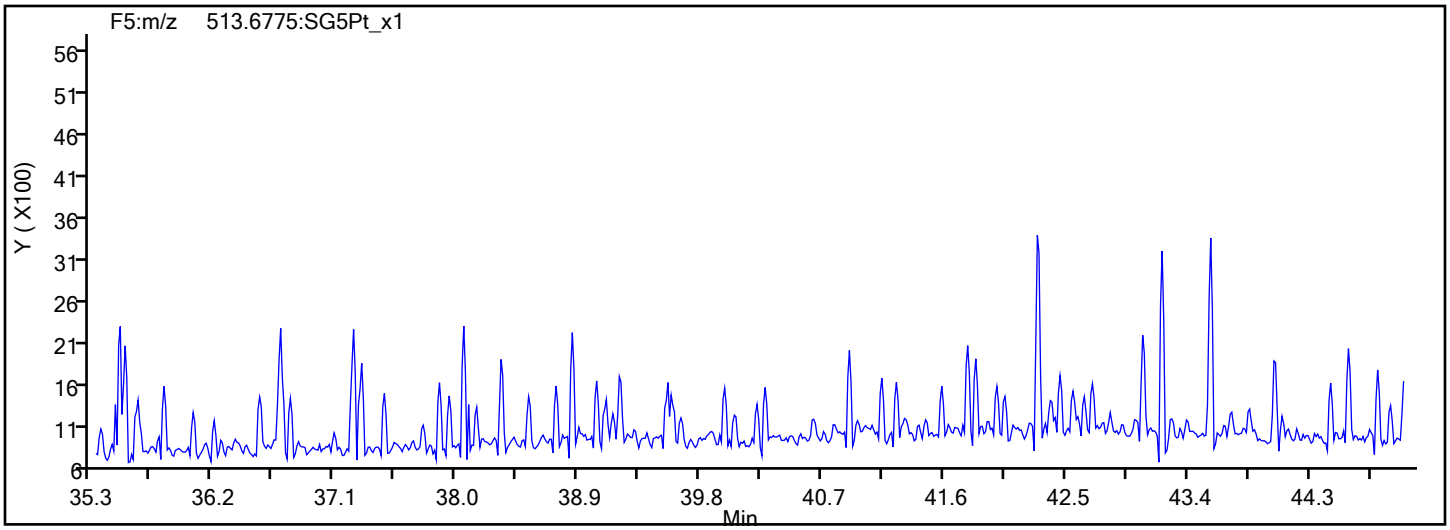

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Eurofins TestAmerica, Sacramento

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OCDD

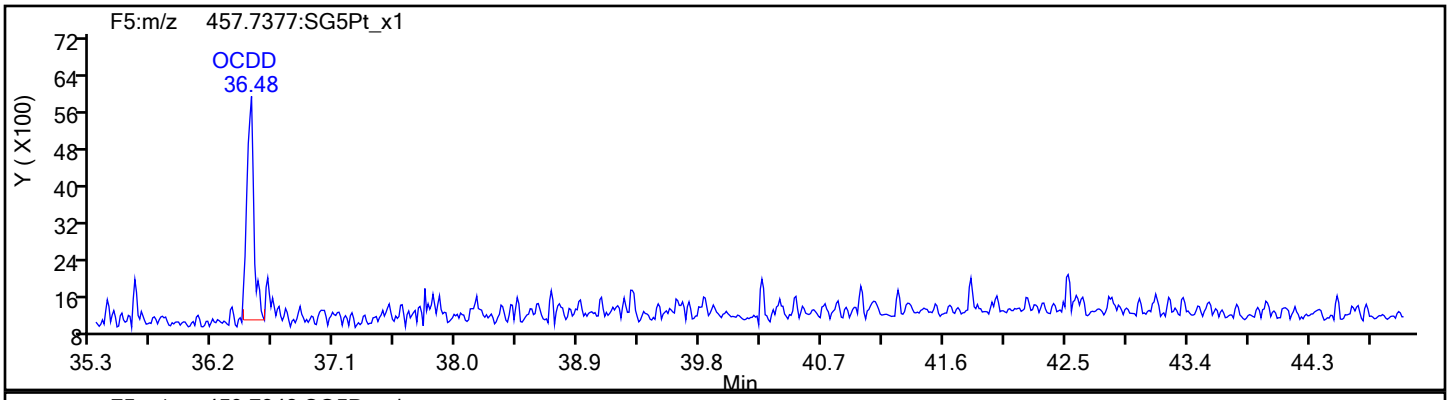

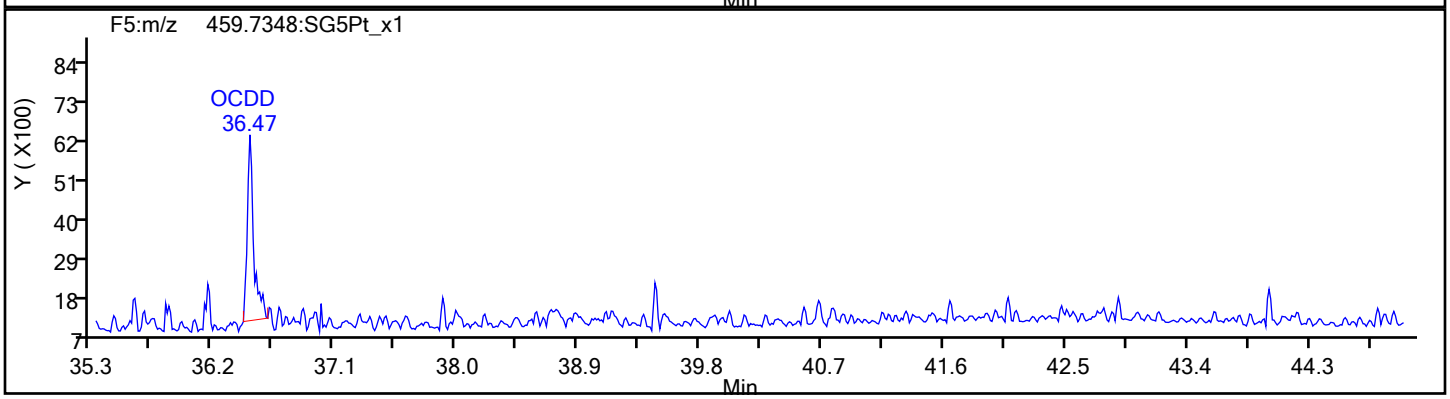

OCDD Standards

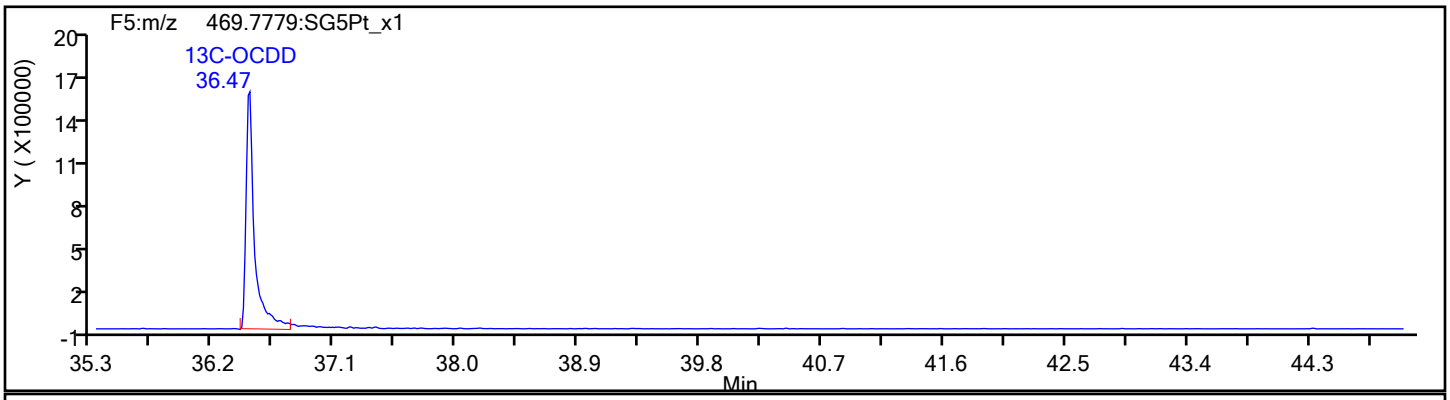

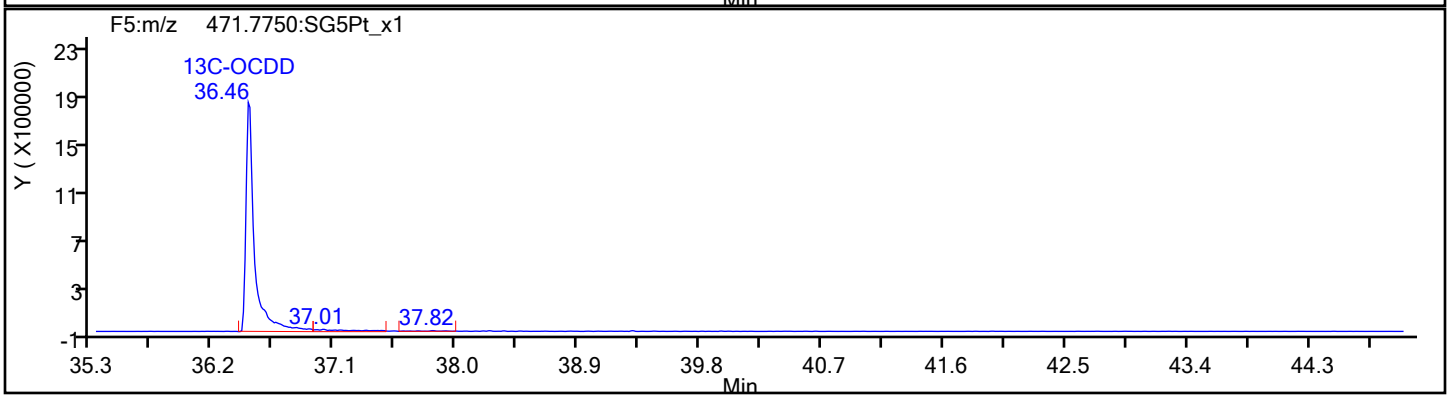

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Eurofins TestAmerica, Sacramento

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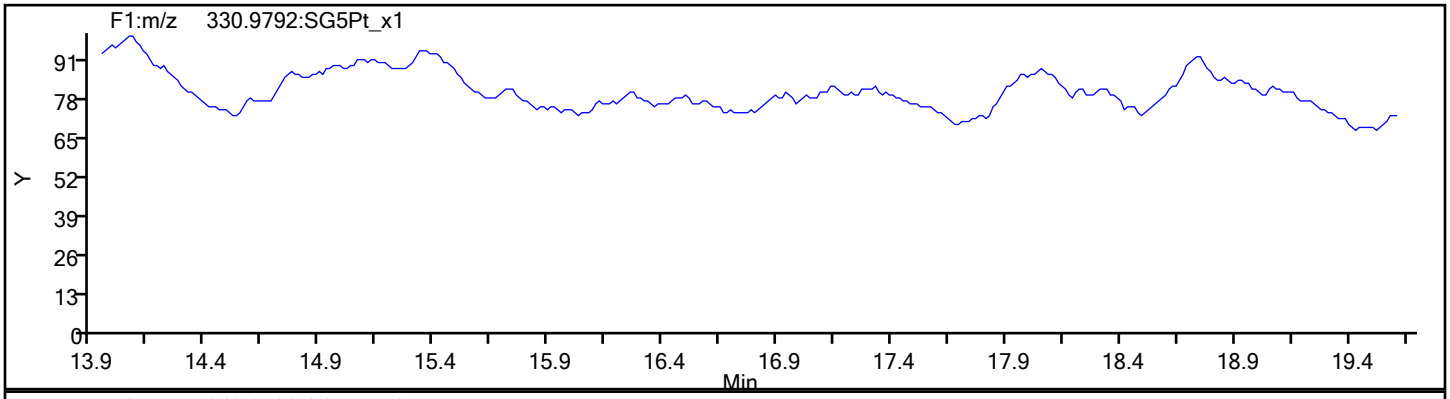

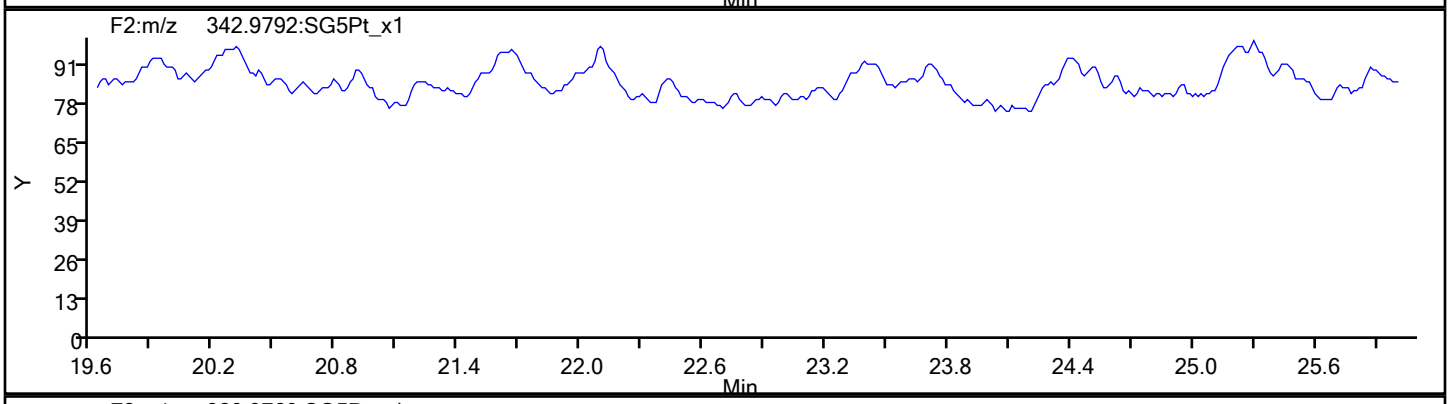

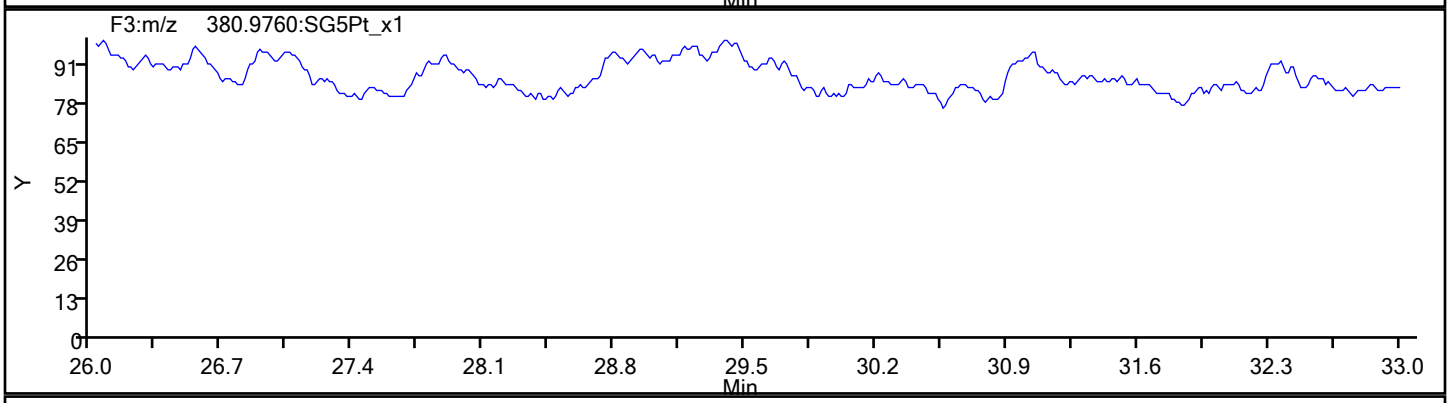

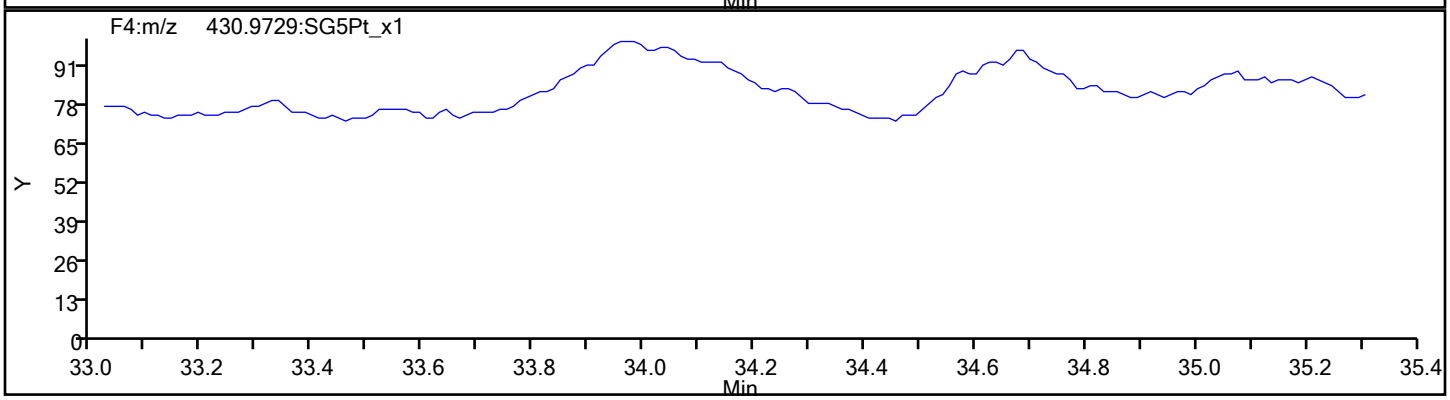

Report Date: 20-Sep-2019 09:55:58 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_42.d		
Injection Date:	19-Sep-2019 19:23:05	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	42
Column Type:	DB-5	Column Dia:	0.32 mm

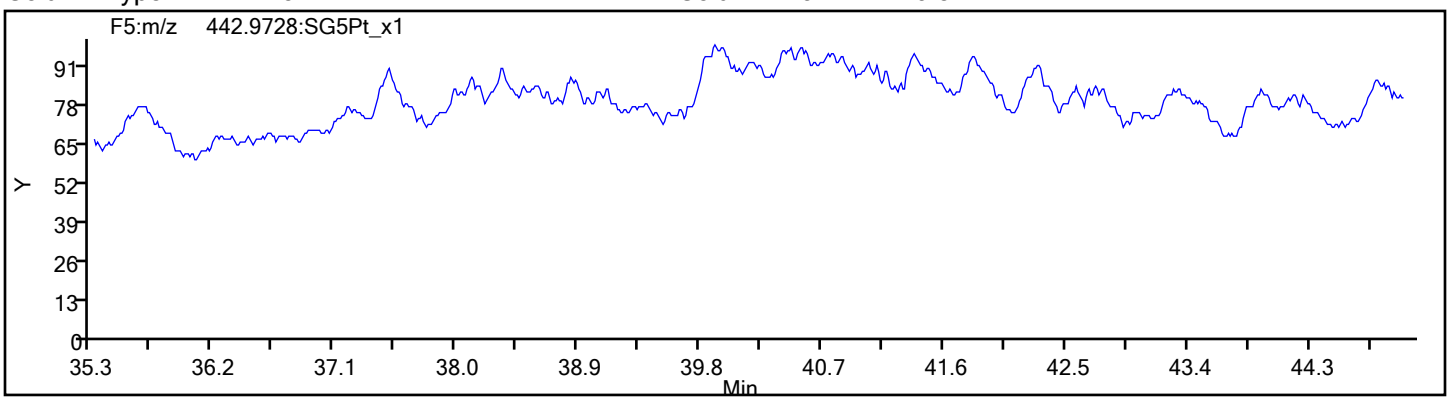

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 600-191956-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 320-324498/2-A
Matrix: Water
Lab File ID: 18SE1910D5_43.d
Analysis Method: 1613B
Date Collected:
Extract. Method: 1613B
Date Extracted: 09/18/2019 13:22
Sample wt/vol: 1000(mL)
Date Analyzed: 09/19/2019 20:09
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 324876
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	225		10	2.2
51207-31-9	2,3,7,8-TCDF	230		10	1.4
40321-76-4	1,2,3,7,8-PeCDD	1240		50	3.9
57117-41-6	1,2,3,7,8-PeCDF	1240		50	5.8
57117-31-4	2,3,4,7,8-PeCDF	1200		50	6.3
39227-28-6	1,2,3,4,7,8-HxCDD	1180		50	6.8
57653-85-7	1,2,3,6,7,8-HxCDD	1200		50	7.1
19408-74-3	1,2,3,7,8,9-HxCDD	1180		50	6.3
70648-26-9	1,2,3,4,7,8-HxCDF	1210		50	15
57117-44-9	1,2,3,6,7,8-HxCDF	1260		50	15
72918-21-9	1,2,3,7,8,9-HxCDF	1270		50	9.3
60851-34-5	2,3,4,6,7,8-HxCDF	1270		50	10
35822-46-9	1,2,3,4,6,7,8-HpCDD	1180		50	16
67562-39-4	1,2,3,4,6,7,8-HpCDF	1220		50	29
55673-89-7	1,2,3,4,7,8,9-HpCDF	1190		50	38
3268-87-9	OCDD	2390		100	10
39001-02-0	OCDF	2520		100	6.7
41903-57-5	Total TCDD	225		10	2.2
30402-14-3	Total TCDF	230		10	1.4
36088-22-9	Total PeCDD	1240		50	3.9
30402-15-4	Total PeCDF	2440		50	6.1
34465-46-8	Total HxCDD	3560		50	6.7
55684-94-1	Total HxCDF	5010		50	12
37871-00-4	Total HpCDD	1180		50	16
38998-75-3	Total HpCDF	2410		50	34

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 320-324498/2-A

Matrix: Water Lab File ID: 18SE1910D5_43.d

Analysis Method: 1613B Date Collected:

Extract. Method: 1613B Date Extracted: 09/18/2019 13:22

Sample wt/vol: 1000(mL) Date Analyzed: 09/19/2019 20:09

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 324876 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	51		20-175
89059-46-1	13C-2,3,7,8-TCDF	50		22-152
109719-79-1	13C-1,2,3,7,8-PeCDD	43		21-227
109719-77-9	13C-1,2,3,7,8-PeCDF	46		21-192
116843-02-8	13C-2,3,4,7,8-PeCDF	48		13-328
109719-80-4	13C-1,2,3,4,7,8-HxCDD	44		21-193
109719-81-5	13C-1,2,3,6,7,8-HxCDD	43		25-163
114423-98-2	13C-1,2,3,4,7,8-HxCDF	45		19-202
116843-03-9	13C-1,2,3,6,7,8-HxCDF	41		21-159
116843-04-0	13C-1,2,3,7,8,9-HxCDF	43		17-205
116843-05-1	13C-2,3,4,6,7,8-HxCDF	43		22-176
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	37		26-166
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	37		21-158
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	38		20-186
114423-97-1	13C-OCDD	33		13-199

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	96		31-191

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_43.d
Lims ID: LCS 320-324498/2-A
Client ID:
Sample Type: LCS
Inject. Date: 19-Sep-2019 20:09:06 ALS Bottle#: 44 Worklist Smp#: 43
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCS 320-324498/2-A LCS 320-324498/2-A
Misc. Info.: 18SE1910D5
Operator ID: SMA, ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 20-Sep-2019 09:55:55 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0314

First Level Reviewer: stephensk Date: 20-Sep-2019 09:48:47

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.285	33298207	0.78	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.786	24093285	0.81	1.4384	50.3	50.3	0.2805	0.2805	50.30	
2,3,7,8-TCDF	16.801	2914470	0.77	1.0507	11.5	11.5	0.0700	0.0700	115	
A Non-2,3,7,8-sub-TCDF	16.514						0.0700	0.0700		
S Total TCDF					11.5	11.5	0.0700	0.0700		
D 13C-2,3,7,8-TCDD	17.466	16063887	0.78	0.9533	50.6	50.6	0.2224	0.2224	50.60	
$ 37Cl4-2,3,7,8-TCDD	17.481	15574748		1.2224	38.3	38.3	0.0651	0.0651	95.66	
2,3,7,8-TCDD	17.481	2000256	0.76	1.1064	11.3	11.3	0.1109	0.1109	113	
A Non-2,3,7,8-sub-TCDD	16.952						0.1109	0.1109		
S Total TCDD					11.3	11.3	0.1109	0.1109		
D 13C-1,2,3,7,8-PeCDF	21.604	15749393	1.58	1.0286	46.0	46.0	0.1357	0.1357	45.98	
1,2,3,7,8-PeCDF	21.631	10562623	1.59	1.0822	62.0	62.0	0.2924	0.2924	124	
D 13C-2,3,4,7,8-PeCDF	22.886	15615736	1.60	0.9827	47.7	47.7	0.1420	0.1420	47.72	
2,3,4,7,8-PeCDF	22.913	10377986	1.60	1.1032	60.2	60.2	0.3154	0.3154	120	
A F1 PeCDFs	19.205						0.0699	0.0699		
A Non-2,3,7,8-sub-PeCDF	22.226						0.3033	0.3033		
S Total PeCDF					122.2	122.2	0.3039	0.3039		
D 13C-1,2,3,7,8-PeCDD	23.581	10787263	1.59	0.7481	43.3	43.3	0.1309	0.1309	43.31	
1,2,3,7,8-PeCDD	23.622	6043269	1.57	0.9050	61.9	61.9	0.1957	0.1957	124	
A Non-2,3,7,8-sub-PeCDD	22.559						0.1957	0.1957		
S Total PeCDD					61.9	61.9	0.1957	0.1957		
D 13C-1,2,3,4,7,8-HxCDF	29.709	11325911	0.50	1.1520	44.6	44.6	0.3480	0.3480	44.59	
1,2,3,4,7,8-HxCDF	29.736	8214162	1.28	1.1973	60.6	60.6	0.7546	0.7546	121	
D 13C-1,2,3,6,7,8-HxCDF	29.975	11150096	0.52	1.2434	40.7	40.7	0.3224	0.3224	40.67	
1,2,3,6,7,8-HxCDF	29.989	8295077	1.27	1.1807	63.0	63.0	0.7694	0.7694	126	
D 13C-2,3,4,6,7,8-HxCDF	31.014	11095222	0.54	1.1720	42.9	42.9	0.3421	0.3421	42.94	
2,3,4,6,7,8-HxCDF	31.027	8561453	1.28	1.2116	63.7	63.7	0.4996	0.4996	127	
D 13C-1,2,3,7,8,9-HxCDF	31.919	10206668	0.53	1.0655	43.4	43.4	0.3763	0.3763	43.45	
1,2,3,7,8,9-HxCDF	31.932	8046947	1.29	1.2451	63.3	63.3	0.4629	0.4629	127	
A Non-2,3,7,8-sub-HxCDF	29.503						0.5915	0.5915		
S Total HxCDF					250.6	250.6	0.6216	0.6216		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.719	22049341	1.23	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.226	7573236	1.23	0.7812	44.0	44.0	0.3564	0.3564	43.97	
1,2,3,4,7,8-HxCDD	31.253	4950018	1.23	1.1088	58.9	58.9	0.3391	0.3391	118	
D 13C-1,2,3,6,7,8-HxCDD	31.360	8679885	1.26	0.9175	42.9	42.9	0.3035	0.3035	42.91	
1,2,3,6,7,8-HxCDD	31.373	5651382	1.27	1.0814	60.2	60.2	0.3563	0.3563	120	M
1,2,3,7,8,9-HxCDD	31.732	5800836	1.29	1.2123	58.9	58.9	0.3139	0.3139	118	M
A Non-2,3,7,8-sub-HxCDD	30.089						0.3356	0.3356		
S Total HxCDD					178.0	178.0	0.3364	0.3364		
D 13C-1,2,3,4,6,7,8-HpCDF	33.435	6950815	0.42	0.8628	36.5	36.5	1.151	1.151	36.54	
1,2,3,4,6,7,8-HpCDF	33.447	6605340	1.06	1.5555	61.1	61.1	1.464	1.464	122	
D 13C-1,2,3,4,7,8,9-HpCDF	34.480	6621169	0.46	0.7991	37.6	37.6	1.242	1.242	37.58	
1,2,3,4,7,8,9-HpCDF	34.493	5465296	1.05	1.3862	59.5	59.5	1.922	1.922	119	
A Non-2,3,7,8-sub-HpCDF	33.982						1.670	1.670		
S Total HpCDF					120.6	120.6	1.693	1.693		
D 13C-1,2,3,4,6,7,8-HpCDD	34.201	7052396	1.05	0.8739	36.6	36.6	0.5830	0.5830	36.60	
1,2,3,4,6,7,8-HpCDD	34.213	3885188	1.08	0.9316	59.1	59.1	0.7926	0.7926	118	
A Non-2,3,7,8-sub-HpCDD	34.747						0.7926	0.7926		
S Total HpCDD					59.1	59.1	0.7926	0.7926		
D 13C-OCDD	36.457	11221219	0.94	0.7744	65.7	65.7	0.2256	0.2256	32.86	
OCDF	36.553	8891735	0.92	1.2596	125.8	125.8	0.3364	0.3364	126	
OCDD	36.469	7126822	0.87	1.0621	119.6	119.6	0.5170	0.5170	120	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 20-Sep-2019 09:55:59 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_43.d
Lims ID: LCS 320-324498/2-A
Client ID:
Sample Type: LCS
Inject. Date: 19-Sep-2019 20:09:06 ALS Bottle#: 44 Worklist Smp#: 43
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCS 320-324498/2-A LCS 320-324498/2-A
Misc. Info.: 18SE1910D5
Operator ID: SMA, ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 20-Sep-2019 09:55:55 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0314

First Level Reviewer: stephensk Date: 20-Sep-2019 09:48:47

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.285	17.285	0		14545094	3785746	4643	11607	815		
333.9339	17.285	17.285	0		18753113	4892273	2717	6792	1801	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.786	16.786	0	0.971	10747956	2797511	9205	23012	304		
317.9389	16.786	16.786	0	0.971	13345329	3499513	4802	12005	729	0.81(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.801	16.816	-1	1.001	1269755	322087	585	1462	551		
305.8987	16.801	16.816	-1	1.001	1644715	414125	1267	3167	327	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.514						585	1462			
305.8987	16.514						1267	3167			
13C-2,3,7,8-TCDD											
331.9368	17.466	17.466	0	1.010	7032398	1655072	4643	11607	356		
333.9339	17.466	17.466	0	1.010	9031489	2197466	2717	6792	809	0.78(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.481	17.481	0	1.011	15574748	3821053	2764	6910	1382		
2,3,7,8-TCDD											
319.8965	17.481	17.497	-1	1.001	863769	206896	1238	3095	167		
321.8936	17.481	17.497	-1	1.001	1136487	280989	653	1632	430	0.76(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	16.952						1238	3095			
321.8936	16.952						653	1632			
13C-1,2,3,7,8-PeCDF											
351.9000	21.604	21.604	0	1.250	9636841	1764423	2817	7042	626		
353.8970	21.604	21.604	0	1.250	6112552	1120822	2028	5070	553	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	21.631	21.631	0	1.001	6478619	1171139	2014	5035	581		
341.8567	21.631	21.631	0	1.001	4084004	723976	1638	4095	442	1.59(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	22.886	22.900	-1	1.324	9607845	1617922	2817	7042	574		
353.8970	22.899	22.900	0	1.325	6007891	1006029	2028	5070	496	1.60(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.913	22.927	-1	1.001	6390357	1079130	2014	5035	536		
341.8567	22.913	22.927	-1	1.001	3987629	660332	1638	4095	403	1.60(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.205						264	660			
341.8567	19.205						578	1445			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.226						2014	5035			
341.8567	22.226						1638	4095			
13C-1,2,3,7,8-PeCDD											
367.8949	23.581	23.595	-1	1.364	6621832	1066430	1813	4532	588		
369.8919	23.581	23.595	-1	1.364	4165431	676234	1586	3965	426	1.59(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.622	23.622	0	1.002	3690158	570890	856	2140	667		
357.8516	23.609	23.622	-1	1.001	2353111	376498	379	947	993	1.57(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.559						856	2140			
357.8516	22.559						379	947			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.709	29.709	0	0.937	3750244	516365	2764	6910	187		
385.8610	29.696	29.709	-1	0.936	7575667	1025155	5530	13825	185	0.50(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.736	29.749	-1	1.001	4603726	608907	3082	7705	198		
375.8178	29.722	29.749	-2	1.000	3610436	472938	2489	6222	190	1.28(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.975	29.975	0	0.945	3795380	525135	2764	6910	190		
385.8610	29.962	29.975	-1	0.945	7354716	1007939	5530	13825	182	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	29.989	30.002	-1	1.000	4635167	638198	3082	7705	207		
375.8178	29.989	30.002	-1	1.000	3659910	515053	2489	6222	207	1.27(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.014	31.013	0	0.978	3872380	819990	2764	6910	297		
385.8610	31.014	31.013	0	0.978	7222842	1480863	5530	13825	268	0.54(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.027	31.040	-1	1.000	4807865	1024909	3082	7705	333		
375.8178	31.027	31.040	-1	1.000	3753588	793462	2489	6222	319	1.28(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.919	31.919	0	1.006	3533397	819953	2764	6910	297		
385.8610	31.919	31.919	0	1.006	6673271	1596271	5530	13825	289	0.53(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	31.932	31.945	-1	1.000	4533512	1083974	3082	7705	352		
375.8178	31.932	31.945	-1	1.000	3513435	809177	2489	6222	325	1.29(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.503						3082	7705			
375.8178	29.503						2489	6222			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.719	31.732	-1		12172701	2852477	2769	6922	1030		
403.8529	31.719	31.732	-1		9876640	2319553	2991	7477	776	1.23(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.226	31.240	-1	0.984	4181416	1026387	2769	6922	371		
403.8529	31.226	31.240	-1	0.984	3391820	838555	2991	7477	280	1.23(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.253	31.253	0	1.001	2734407	680271	1523	3807	447		
391.8127	31.253	31.253	0	1.001	2215611	554401	1282	3205	432	1.23(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.360	31.360	0	0.989	4846462	1042964	2769	6922	377		
403.8529	31.360	31.360	0	0.989	3833423	777076	2991	7477	260	1.26(1.05-1.43)	
1,2,3,6,7,8-HxCDD											M
389.8157	31.373	31.373	0	1.000	3158470	697717	1523	3807	458		M
391.8127	31.373	31.373	0	1.000	2492912	546490	1282	3205	426	1.27(1.05-1.43)	
1,2,3,7,8,9-HxCDD											M
389.8157	31.732	31.746	-1	1.016	3263247	766874	1523	3807	504		M
391.8127	31.732	31.746	-1	1.016	2537589	587748	1282	3205	458	1.29(1.05-1.43)	M
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.089						1523	3807			
391.8127	30.089						1282	3205			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.435	33.447	-1	1.054	2061278	664916	6924	17310	96		
419.8220	33.435	33.447	-1	1.054	4889537	1487811	13615	34037	109	0.42(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.447	33.460	-1	1.000	3402238	1058846	9987	24967	106		
409.7789	33.447	33.460	-1	1.000	3203102	1001913	9629	24072	104	1.06(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.480	34.492	-1	1.087	2092739	582783	6924	17310	84		
419.8220	34.480	34.492	-1	1.087	4528430	1257475	13615	34037	92	0.46(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.493	34.505	-1	1.000	2799494	795710	9987	24967	80		
409.7789	34.493	34.505	-1	1.000	2665802	734821	9629	24072	76	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.982						9987	24967			
409.7789	33.982						9629	24072			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.201	34.213	-1	1.078	3613297	1008878	5684	14210	177		
437.8140	34.201	34.213	-1	1.078	3439099	951169	4857	12142	196	1.05(0.88-1.20)	

Report Date: 20-Sep-2019 09:55:59 Chrom Revision: 2.3 17-Sep-2019 16:19:08
Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_43.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.213	34.225	-1	1.000	2018687	551870	2343	5857	236		
425.7737	34.213	34.225	-1	1.000	1866501	525439	3446	8615	152	1.08(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.747						2343	5857			
425.7737	34.747						3446	8615			
13C-OCDD											
469.7779	36.457	36.469	-1	1.149	5435703	1259787	1518	3795	830		
471.7750	36.457	36.469	-1	1.149	5785516	1418958	2097	5242	677	0.94(0.76-1.02)	
OCDF											
441.7428	36.553	36.565	-1	1.003	4268069	995189	813	2032	1224		
443.7399	36.553	36.565	-1	1.003	4623666	1137577	1457	3642	781	0.92(0.76-1.02)	
OCDD											
457.7377	36.469	36.481	-1	1.000	3319162	775882	1209	3022	642		
459.7348	36.469	36.481	-1	1.000	3807660	895740	1733	4332	517	0.87(0.76-1.02)	

QC Flag Legend

Review Flags

M - Manually Integrated

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_43.d
Lims ID: LCS 320-324498/2-A
Client ID:
Inject. Date: 19-Sep-2019 20:09:06 Dil. Factor: 1.0000
Sample Type: LCS, Lab Control Sample
Instrument ID: 10D5 Operator: SMA, ALM
Lims Batch ID: 324876 Lims Sample ID: 43

Non-2,3,7,8-sub-HxCDD, RT: 30.089

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.109	D 13C-1,2,3,4,7,8-HxCDD	100.000	7573236	1864942
1,2,3,6,7,8-HxCDD	1.081	D 13C-1,2,3,6,7,8-HxCDD	100.000	8679885	1820040
1,2,3,7,8,9-HxCDD	1.212				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
Signal Totals:	0	0	0	0			

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_43.d				
Injection Date:	19-Sep-2019 20:09:06	Instrument ID:	10D5		
Lims ID:	LCS 320-324498/2-A				
Client ID:					
Operator ID:	SMA, ALM	ALS Bottle#:	44	Worklist Smp#:	43
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 1

Processing Integration Results

RT: 31.37
Area: 3247435
Amount: 61.155029
Amount Units: pg/ul

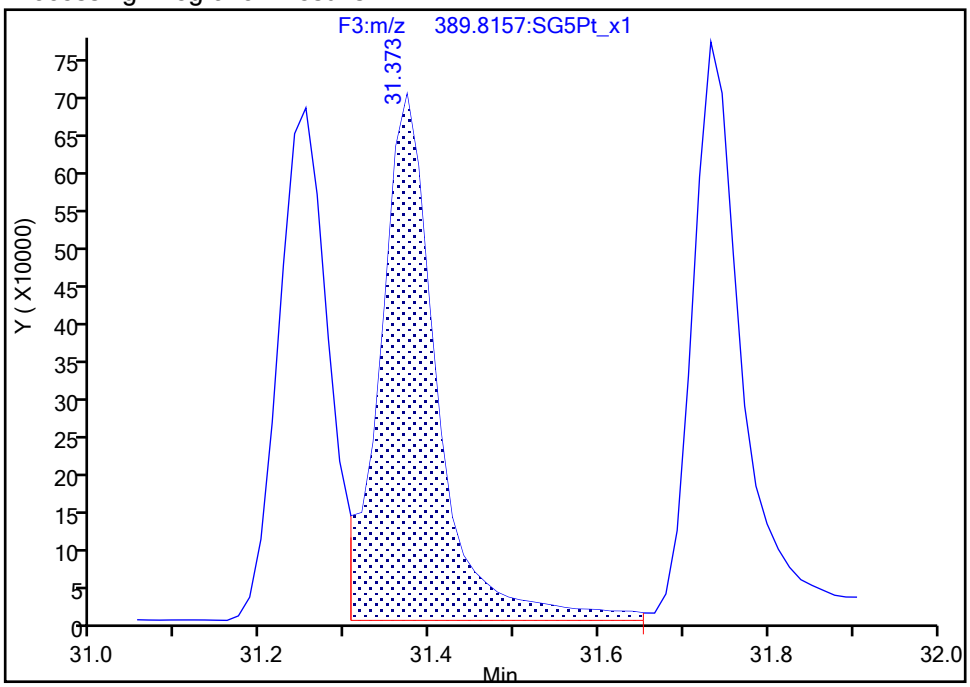

Manual Integration Results

RT: 31.37
Area: 3158470
Amount: 60.207237
Amount Units: pg/ul

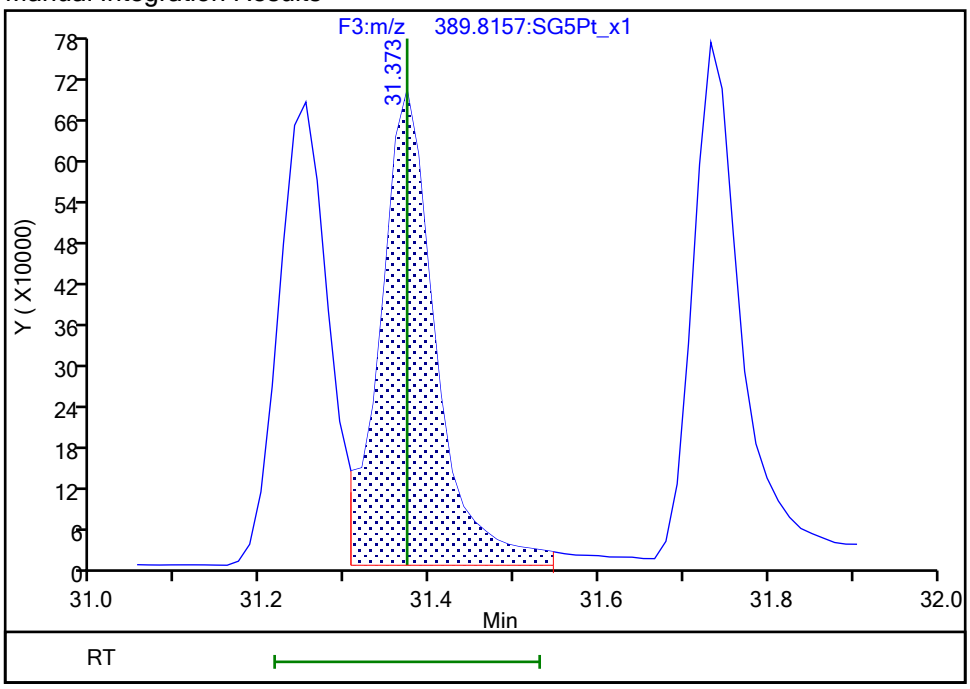

Reviewer: stephensk, 20-Sep-2019 09:48:10

Audit Action: Split an Integrated Peak Audit Reason: Peak Tail

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_43.d				
Injection Date:	19-Sep-2019 20:09:06	Instrument ID:	10D5		
Lims ID:	LCS 320-324498/2-A				
Client ID:					
Operator ID:	SMA, ALM	ALS Bottle#:	44	Worklist Smp#:	43
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 1

Processing Integration Results

RT: 31.73
Area: 3340438
Amount: 60.267383
Amount Units: pg/ul

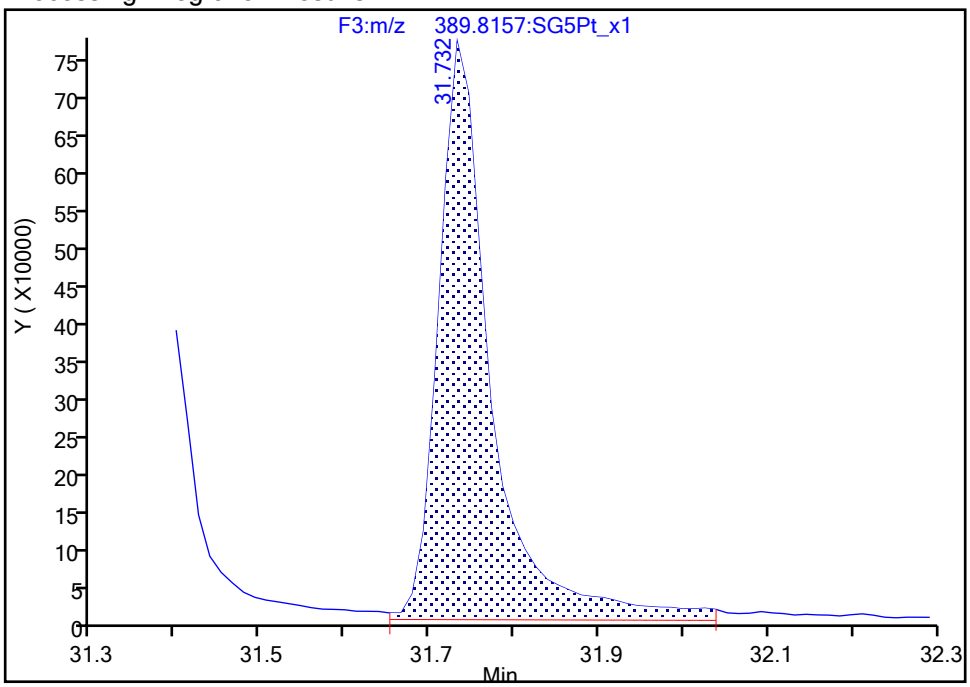

Manual Integration Results

RT: 31.73
Area: 3263247
Amount: 58.880589
Amount Units: pg/ul

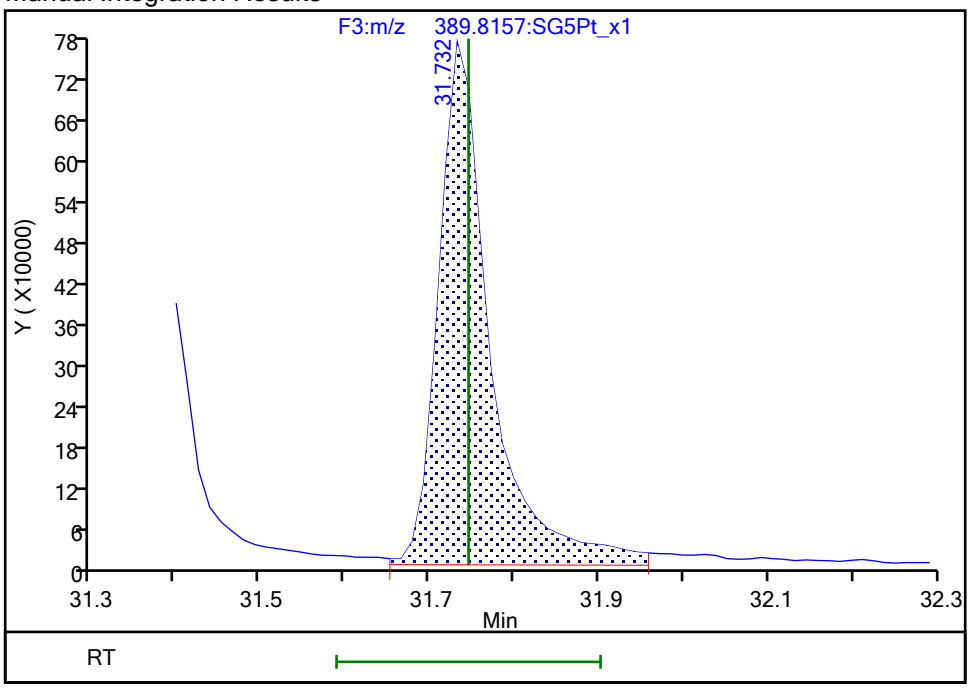

Reviewer: stephensk, 20-Sep-2019 09:48:24

Audit Action: Split an Integrated Peak Audit Reason: Peak Tail

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_43.d				
Injection Date:	19-Sep-2019 20:09:06	Instrument ID:	10D5		
Lims ID:	LCS 320-324498/2-A				
Client ID:					
Operator ID:	SMA, ALM	ALS Bottle#:	44	Worklist Smp#:	43
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 2

Processing Integration Results

RT: 31.73
Area: 2597023
Amount: 60.267383
Amount Units: pg/ul

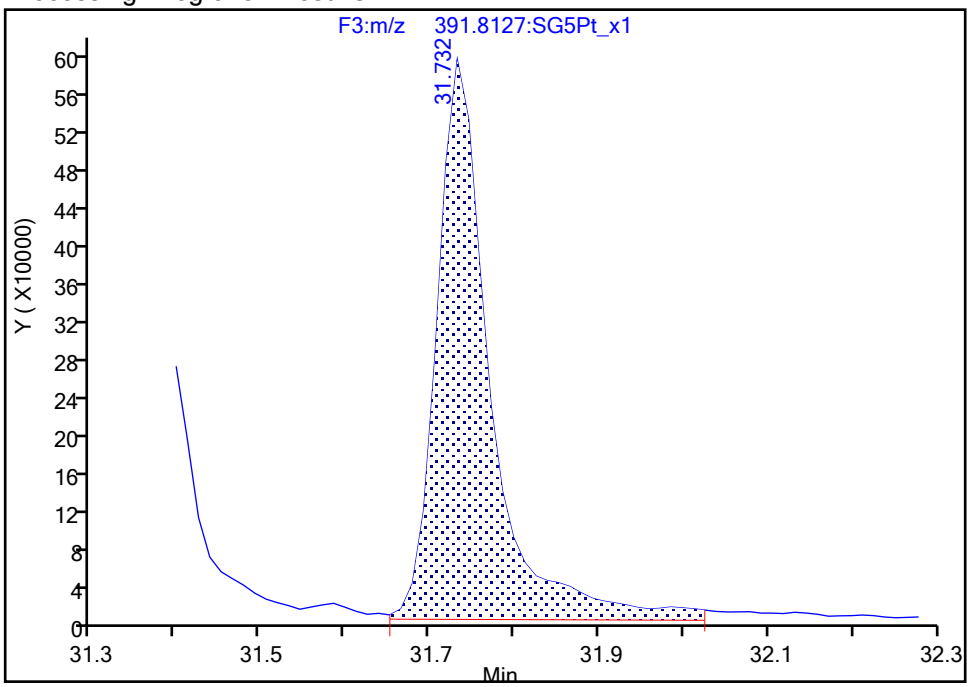

Manual Integration Results

RT: 31.73
Area: 2537589
Amount: 58.880589
Amount Units: pg/ul

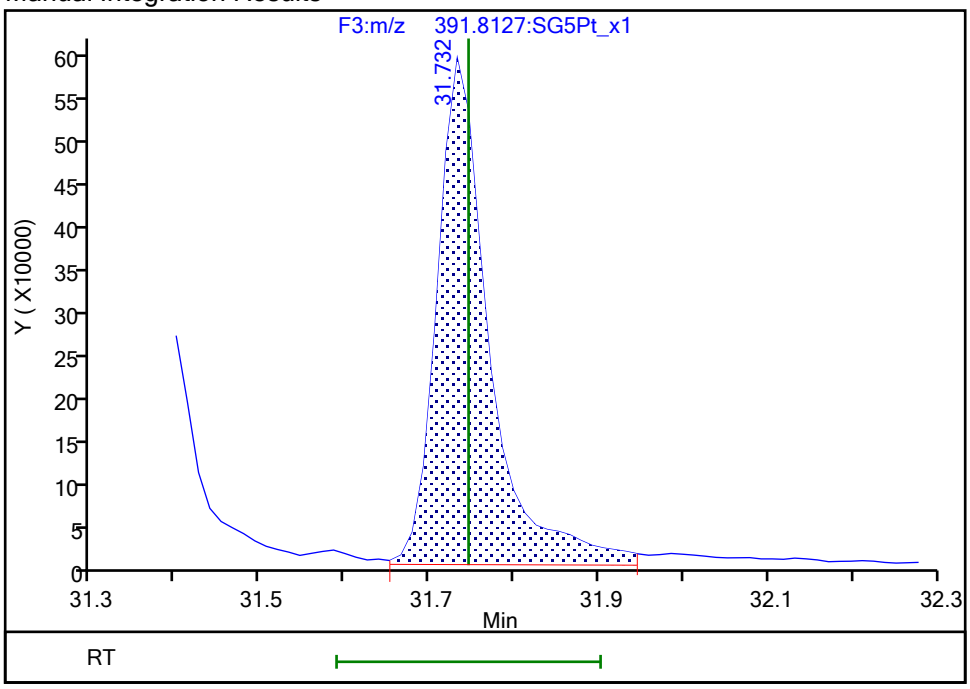

Reviewer: stephensk, 20-Sep-2019 09:48:26

Audit Action: Split an Integrated Peak Audit Reason: Peak Tail

Report Date: 20-Sep-2019 09:55:59 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_43.d		
Injection Date:	19-Sep-2019 20:09:06	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	43
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

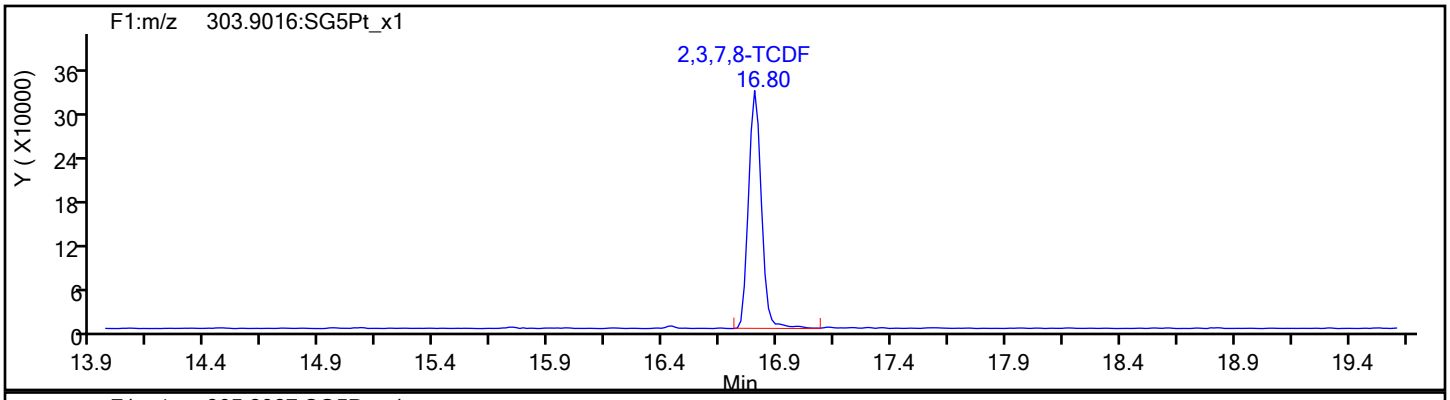

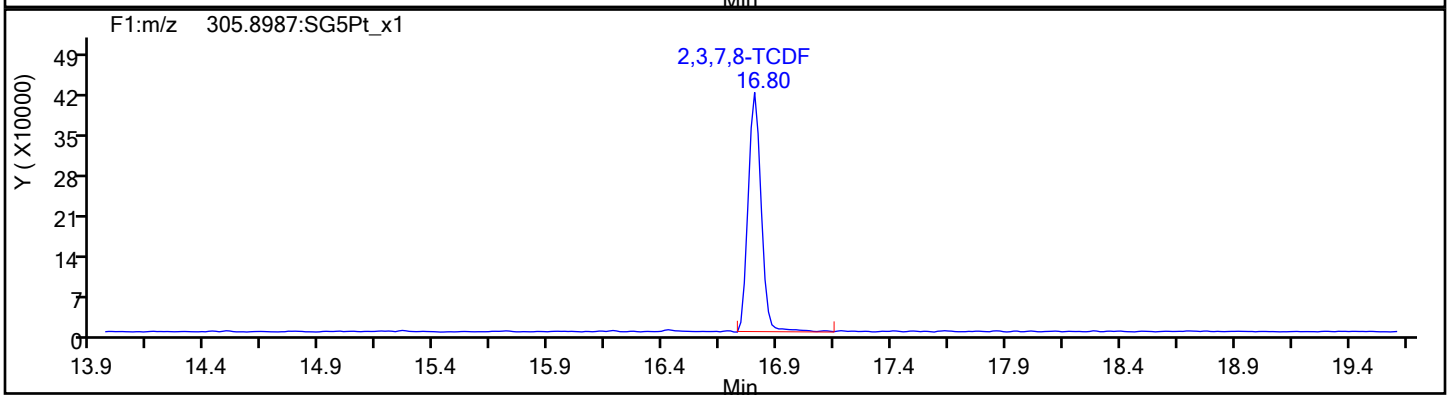

TCDF Standards

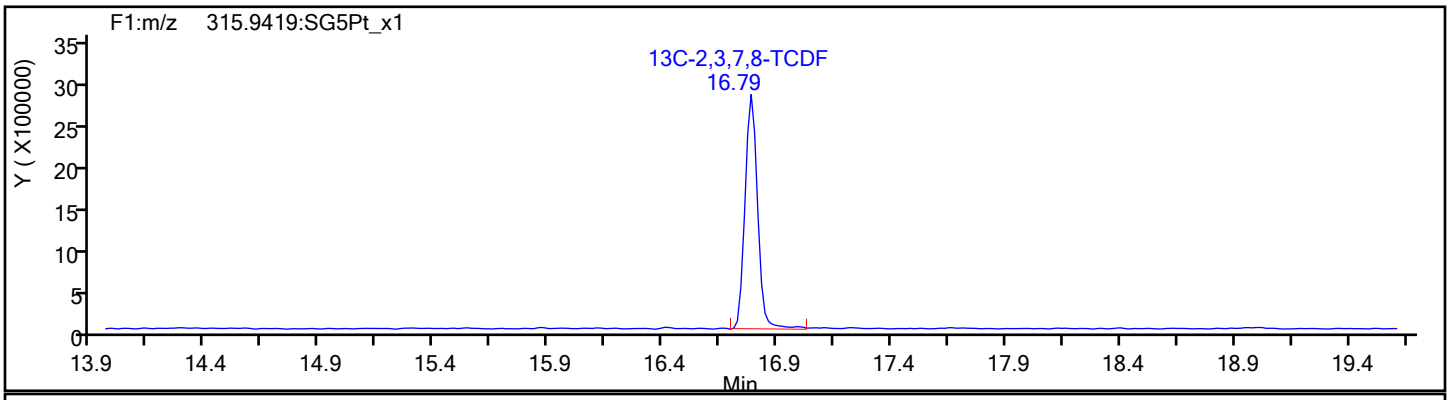

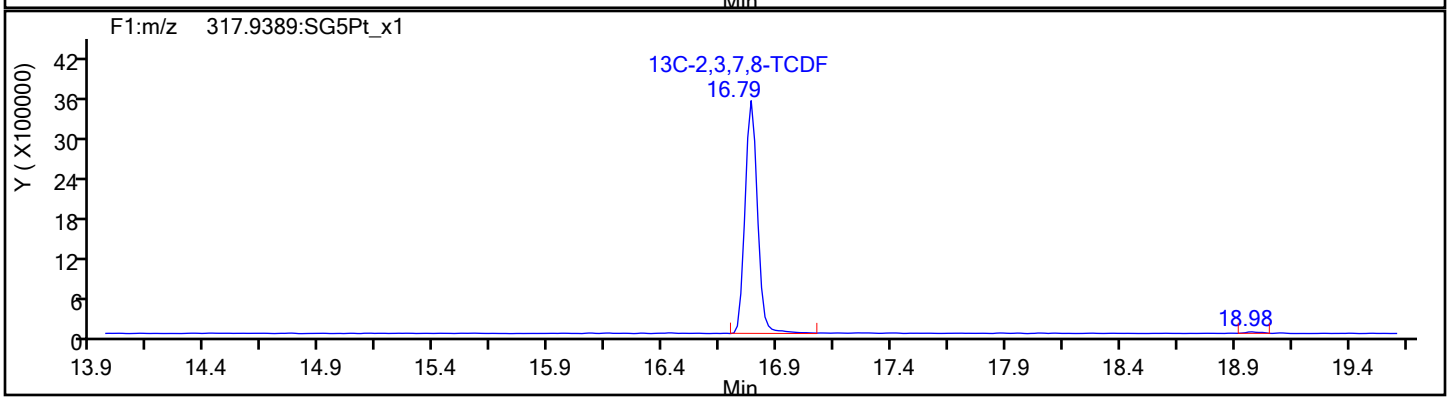

Report Date: 20-Sep-2019 09:55:59 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_43.d		
Injection Date:	19-Sep-2019 20:09:06	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	43
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

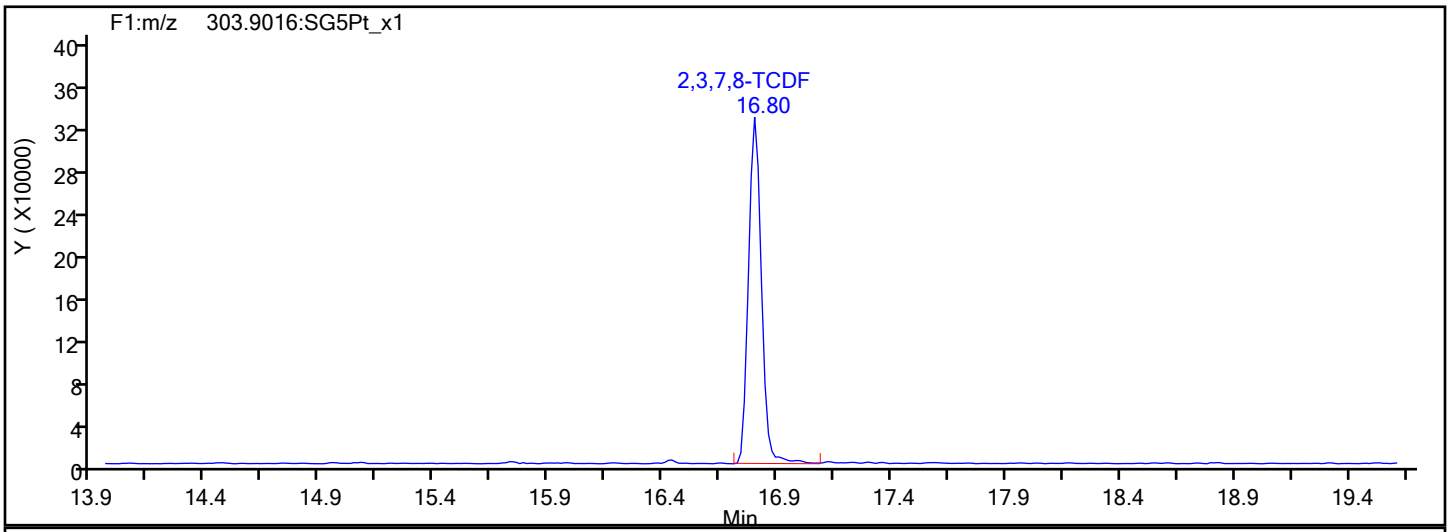

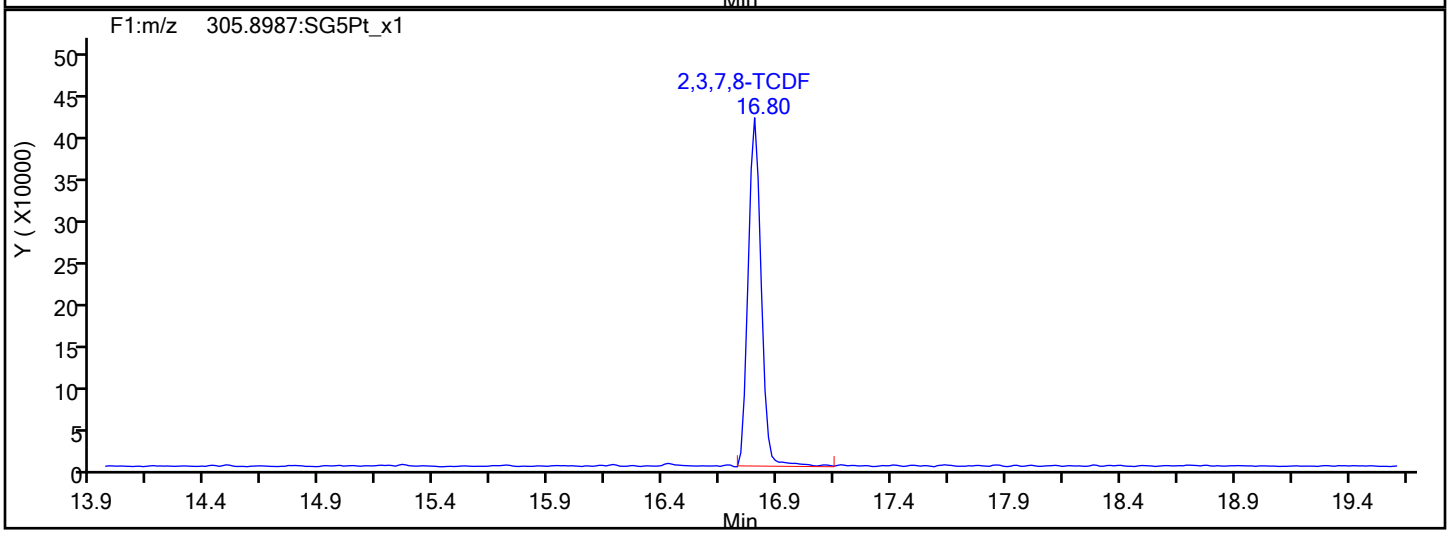

TCDF Interference Mass

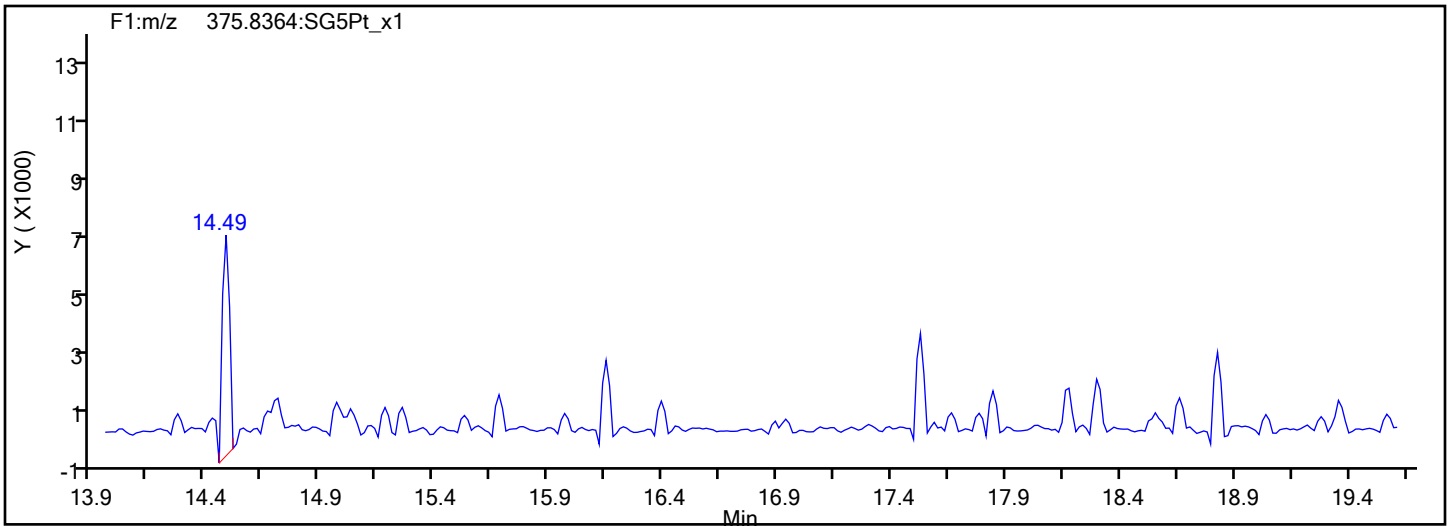

Report Date: 20-Sep-2019 09:55:59 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_43.d		
Injection Date:	19-Sep-2019 20:09:06	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	43
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

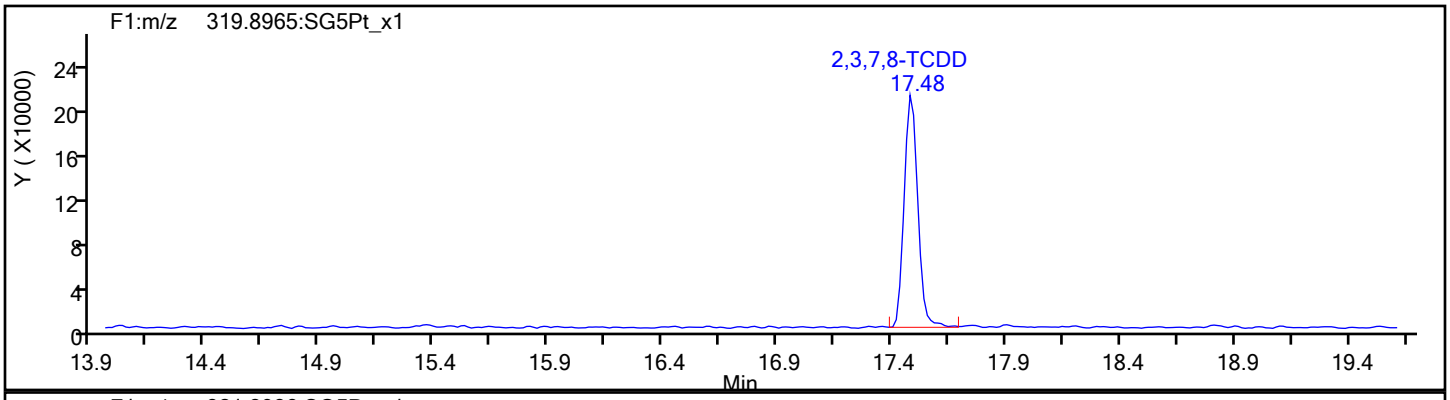

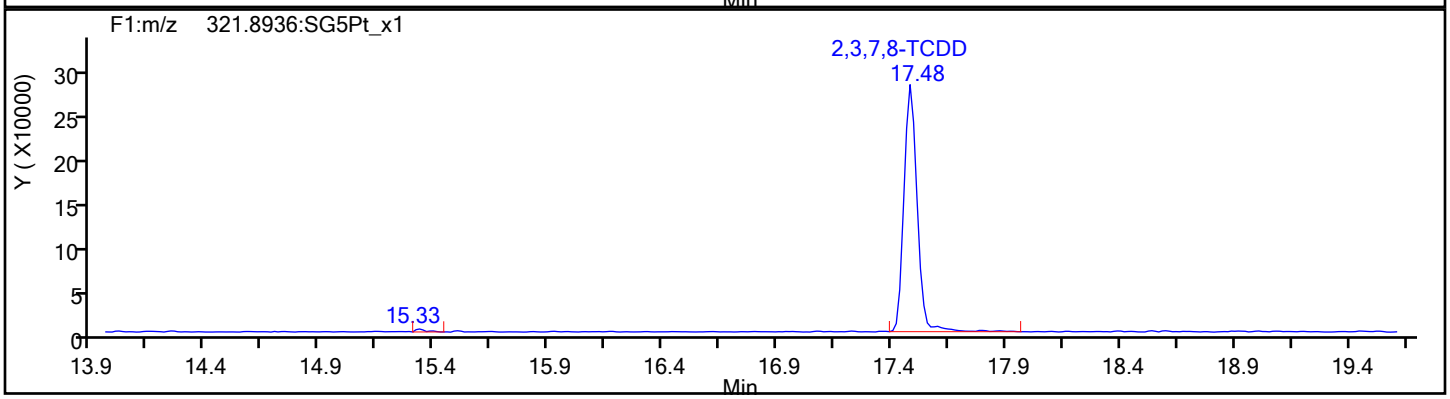

TCDD Standards

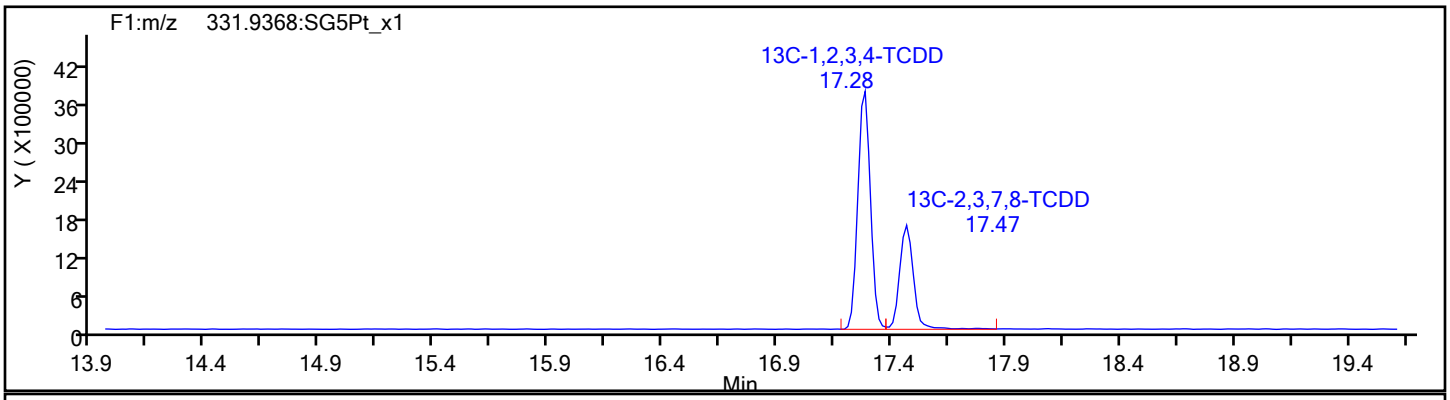

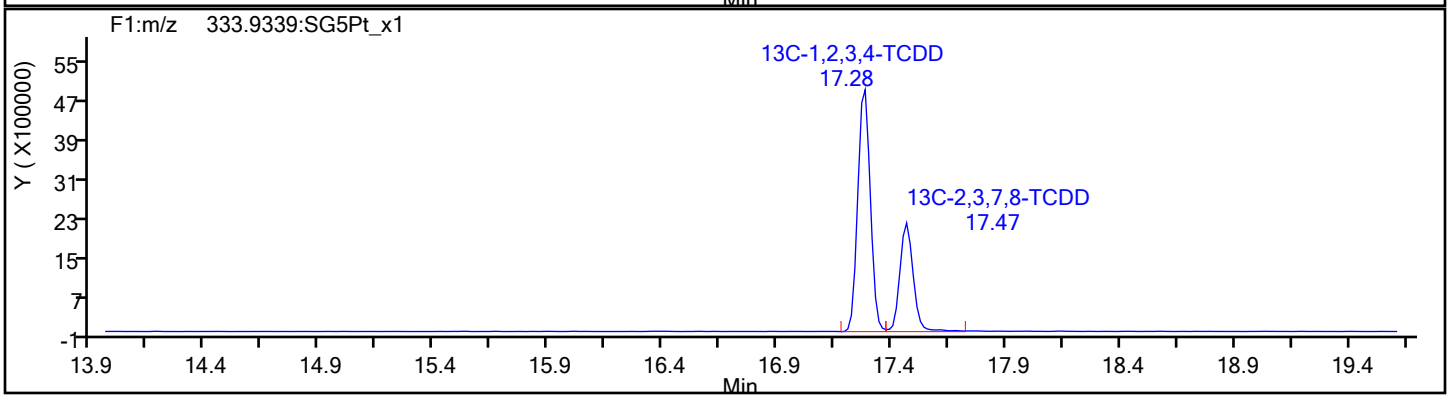

Report Date: 20-Sep-2019 09:55:59 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_43.d		
Injection Date:	19-Sep-2019 20:09:06	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	43
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

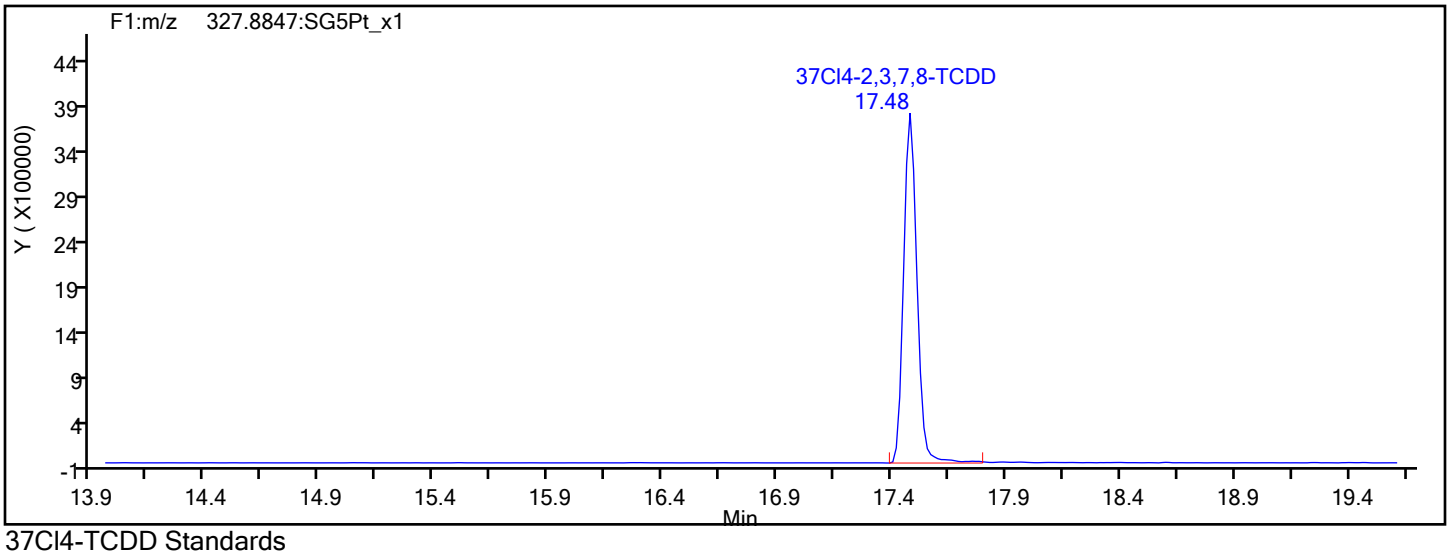

37Cl4-TCDD Standards

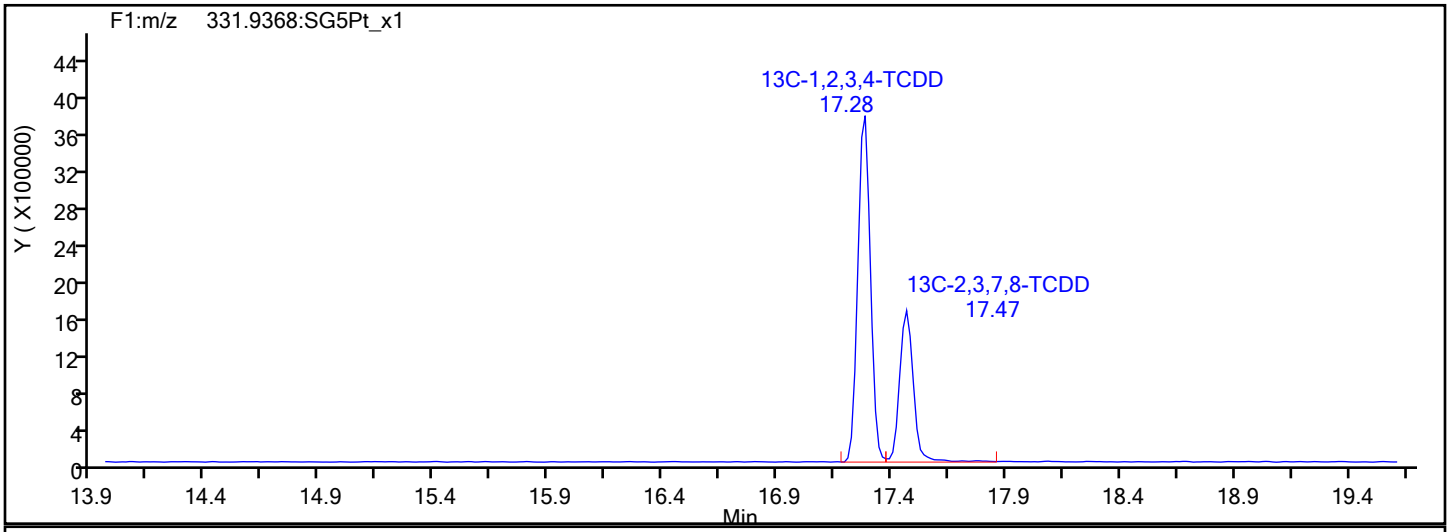

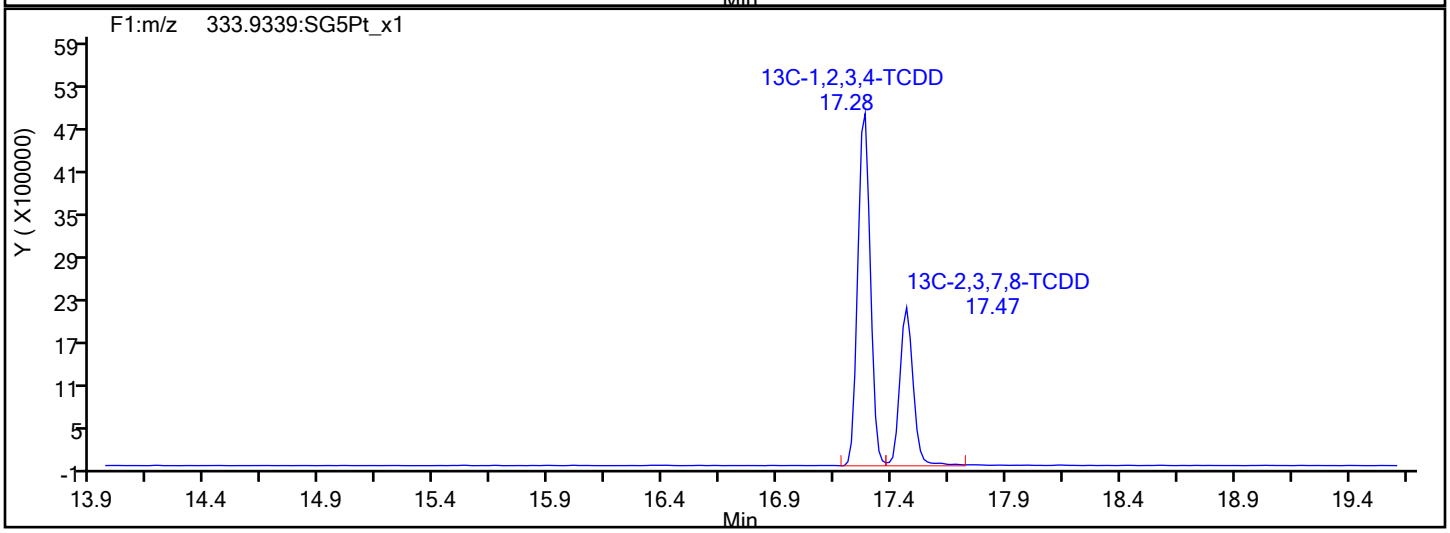

Report Date: 20-Sep-2019 09:55:59 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_43.d		
Injection Date:	19-Sep-2019 20:09:06	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	43
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

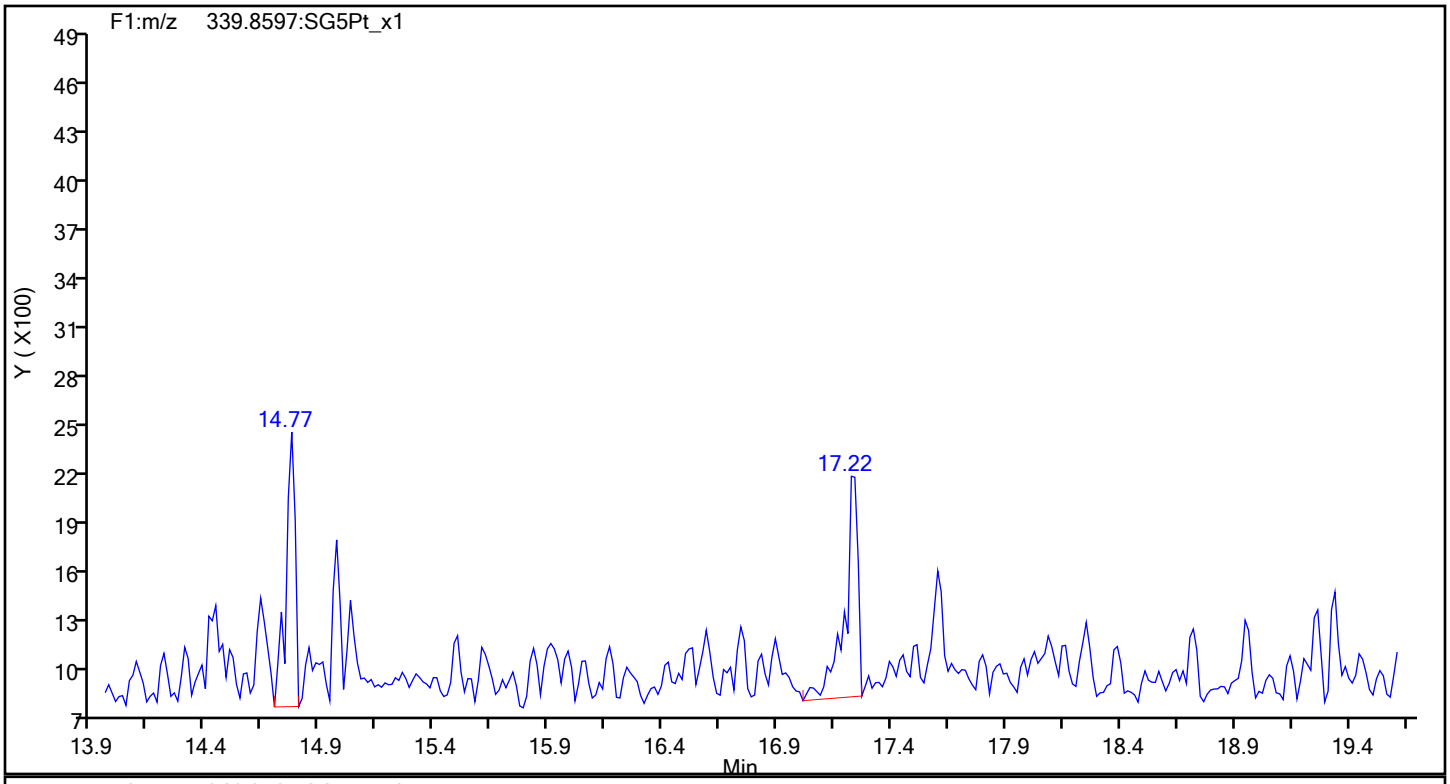

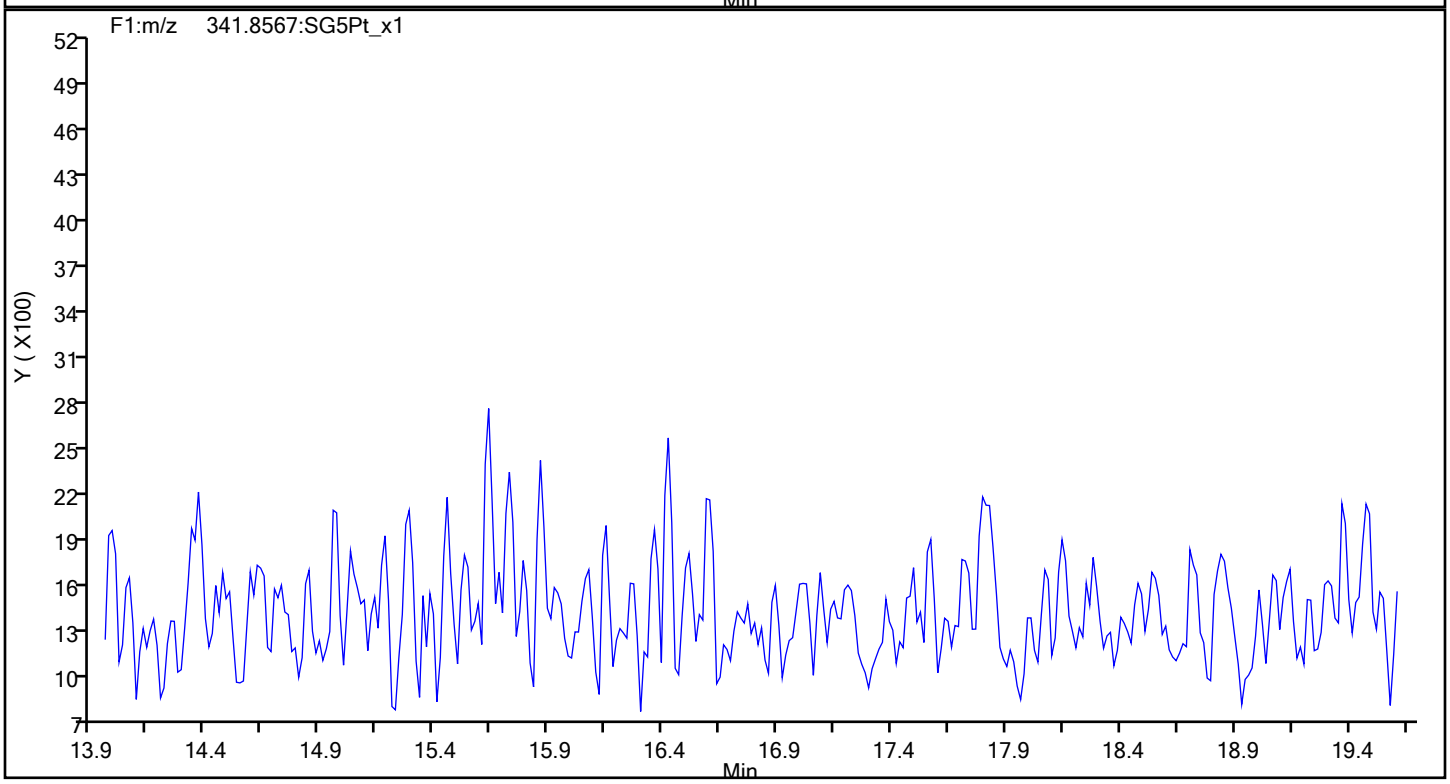

Report Date: 20-Sep-2019 09:55:59 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

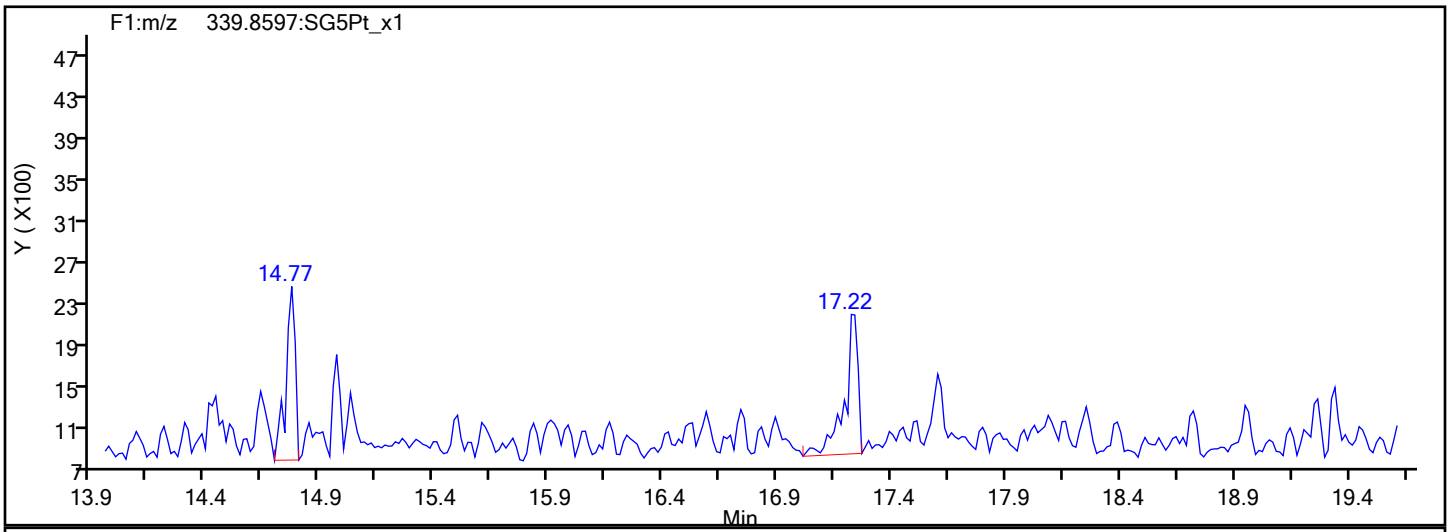

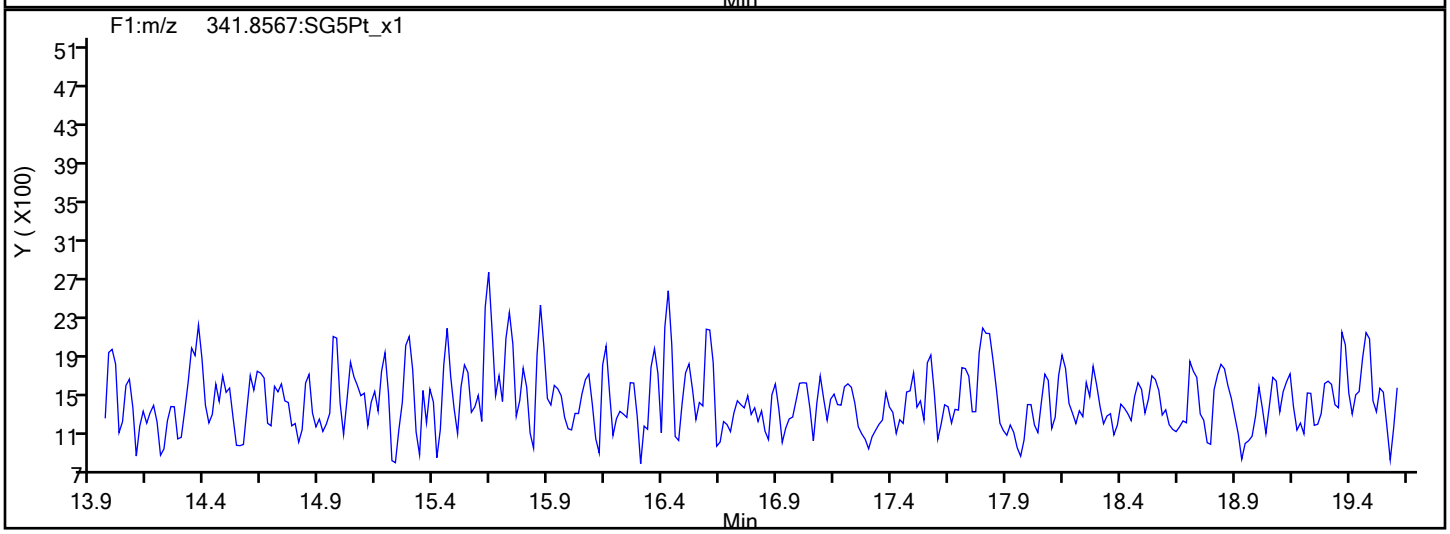

F1 PeCDFs Interference Mass

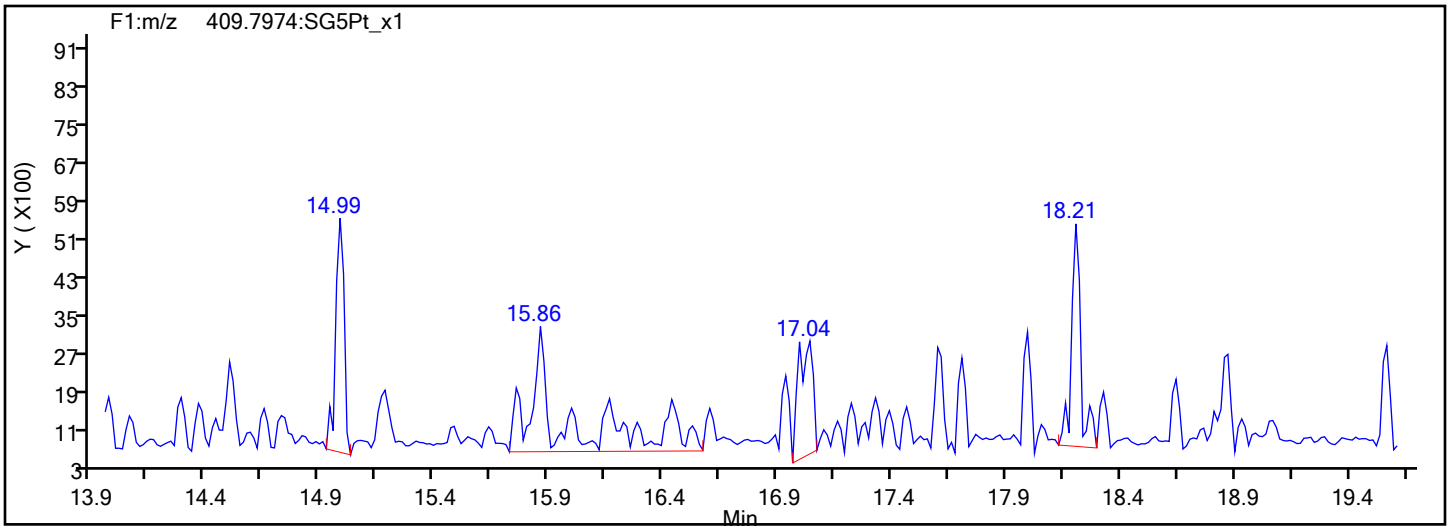

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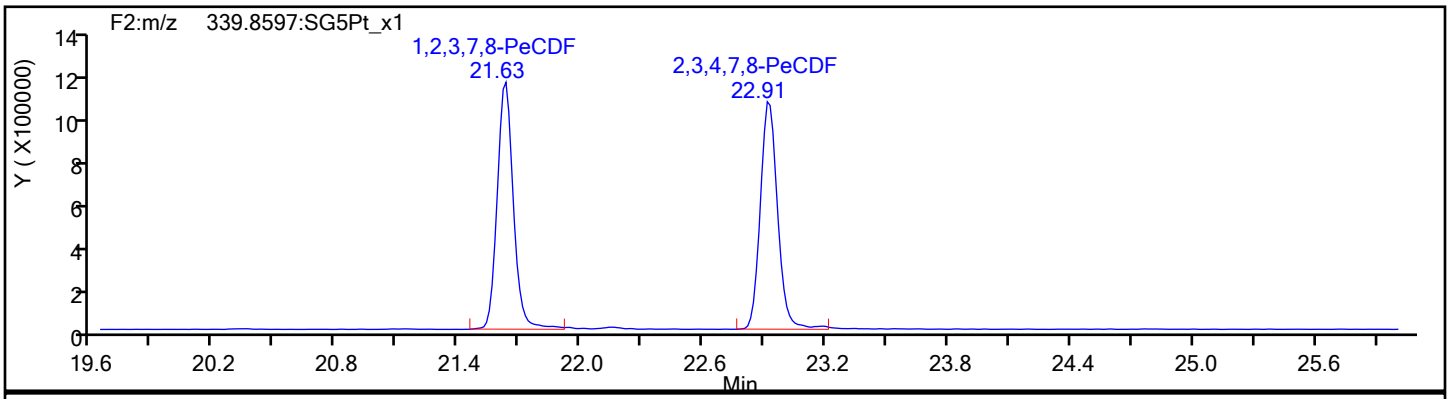

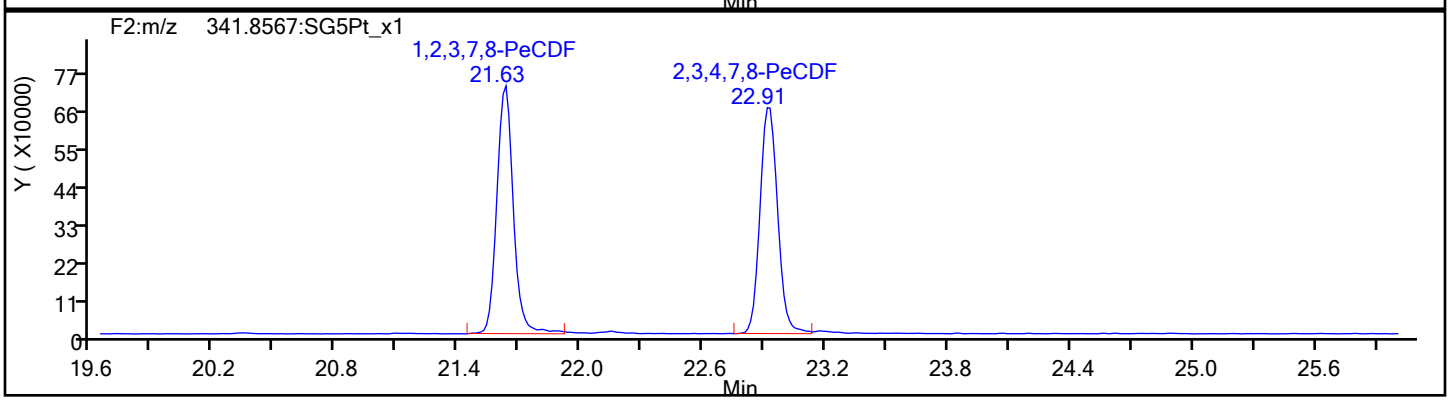

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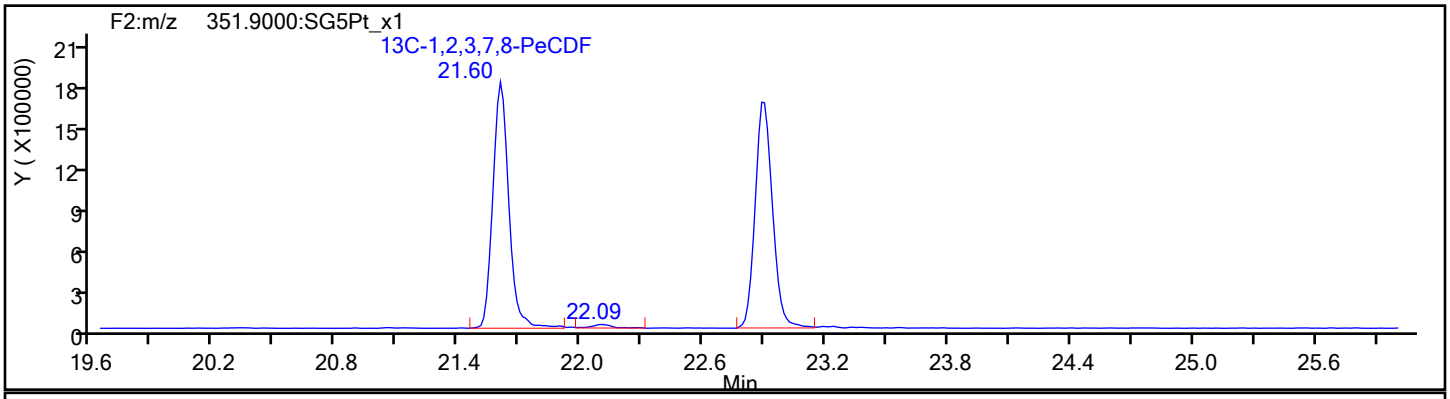

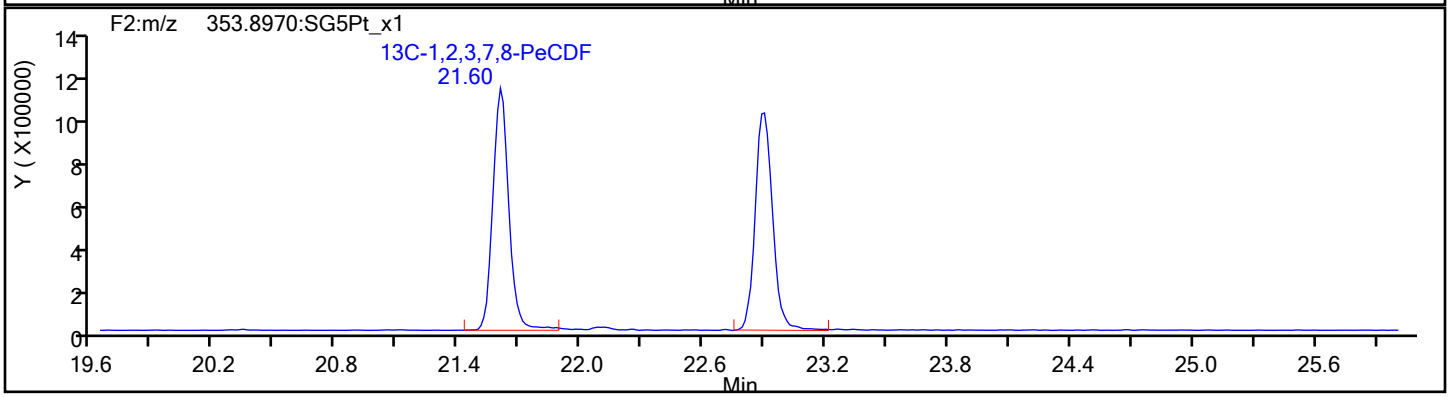

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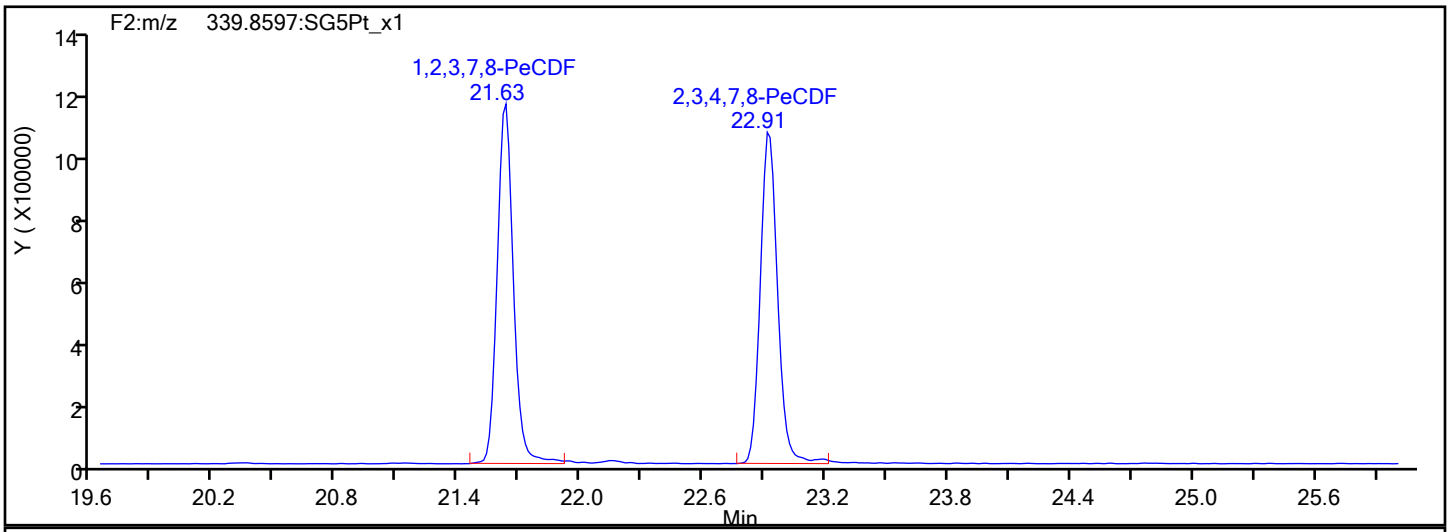

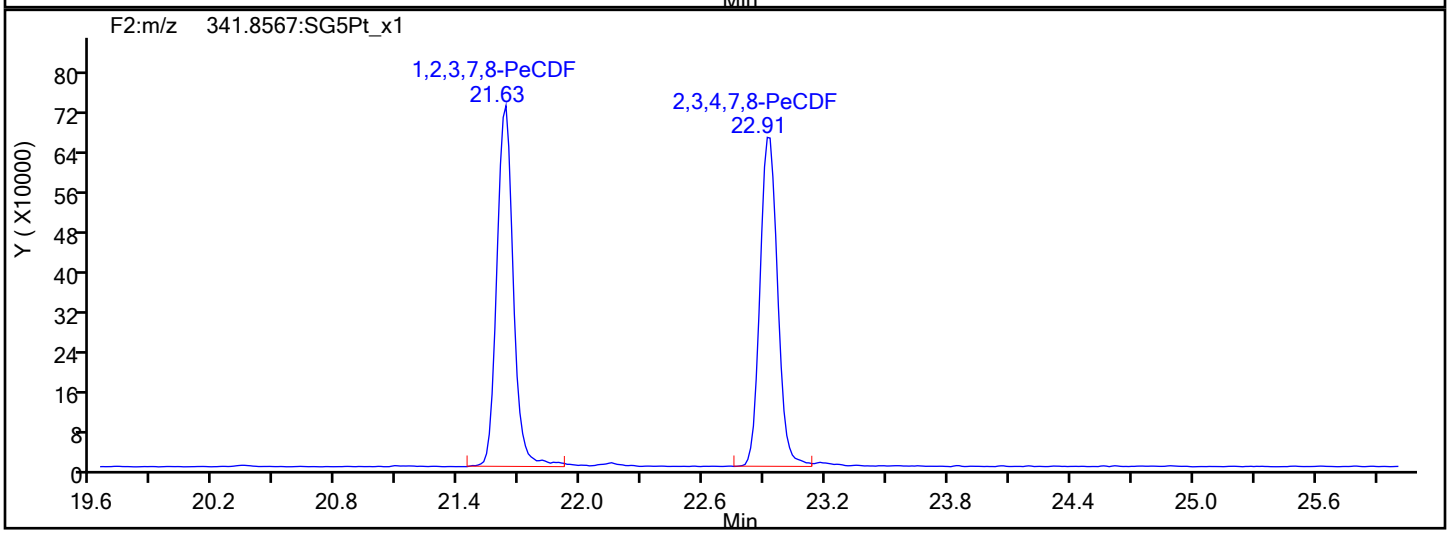

PeCDF Interference Mass

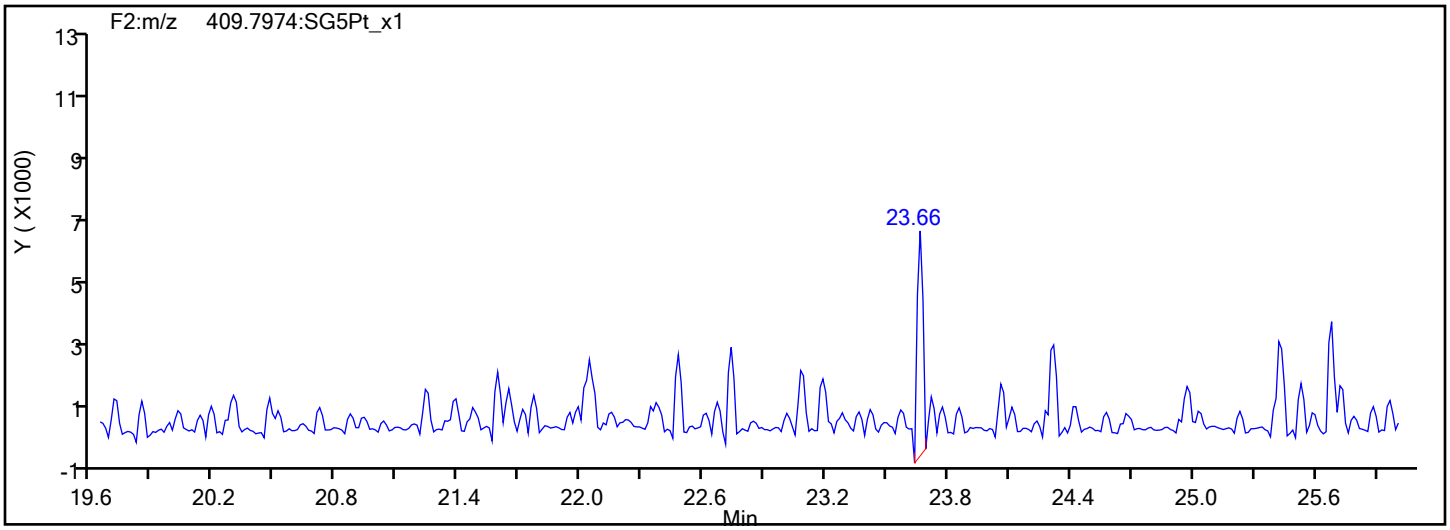

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Eurofins TestAmerica, Sacramento

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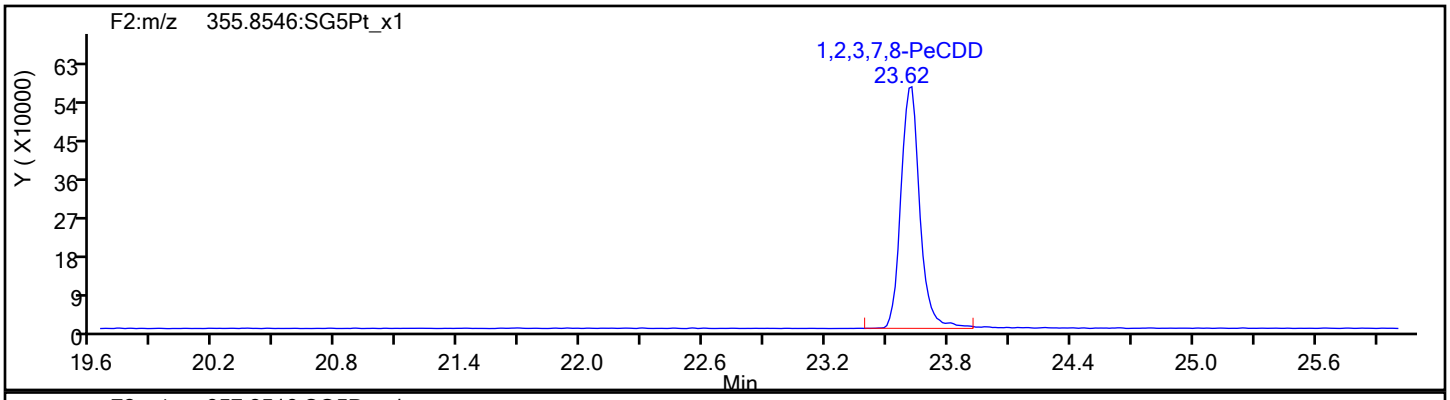

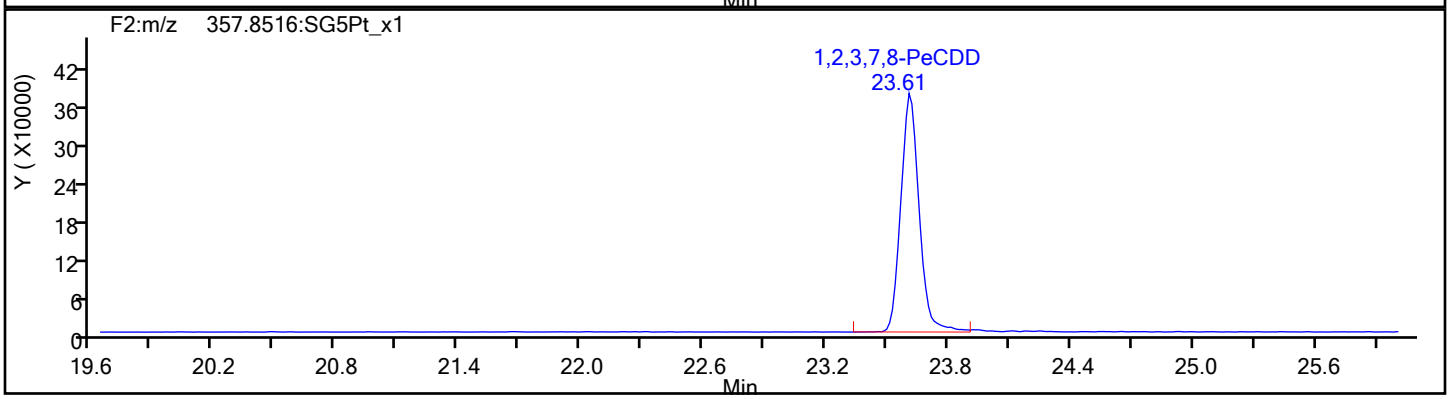

PeCDD Standards

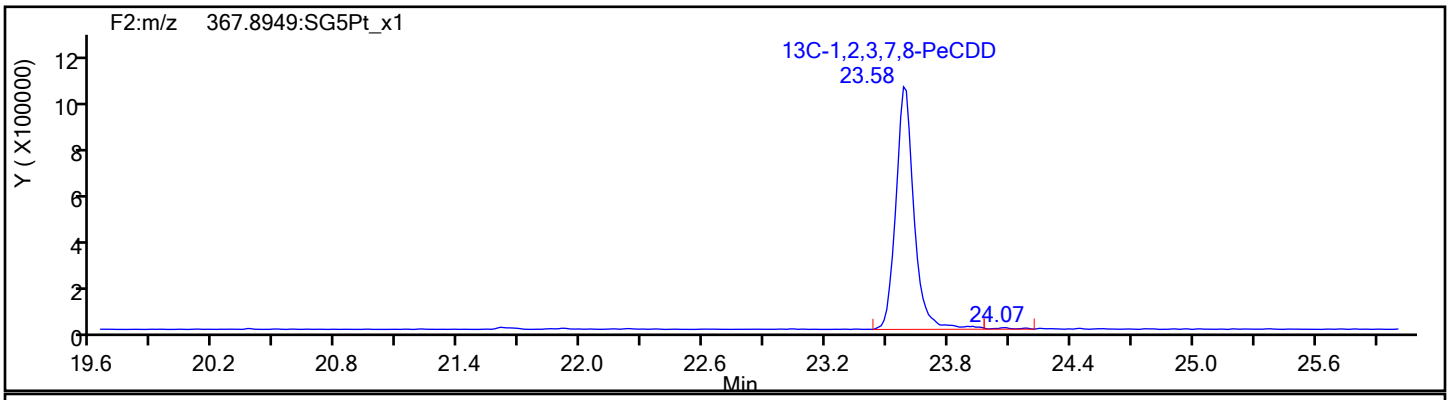

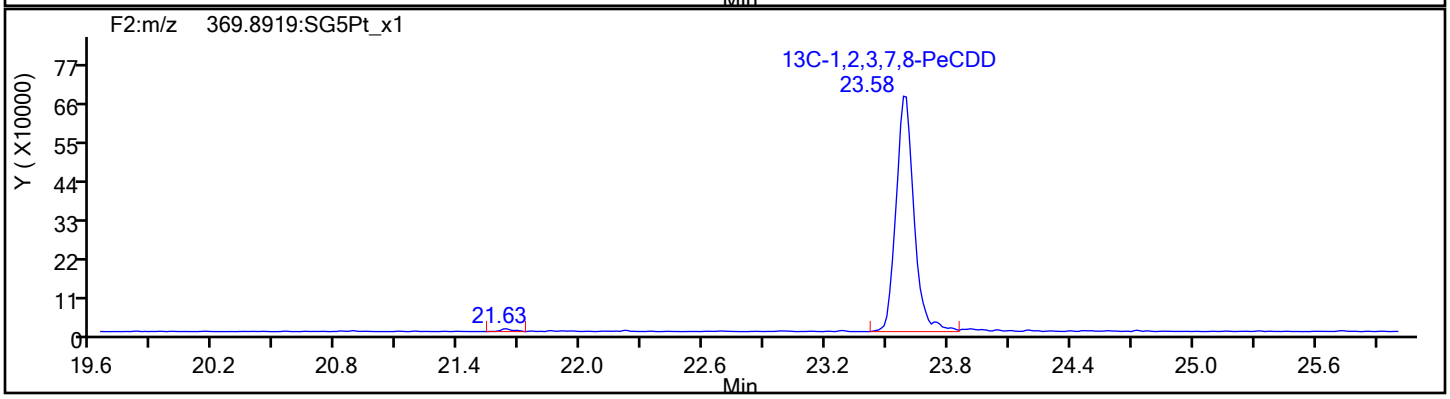

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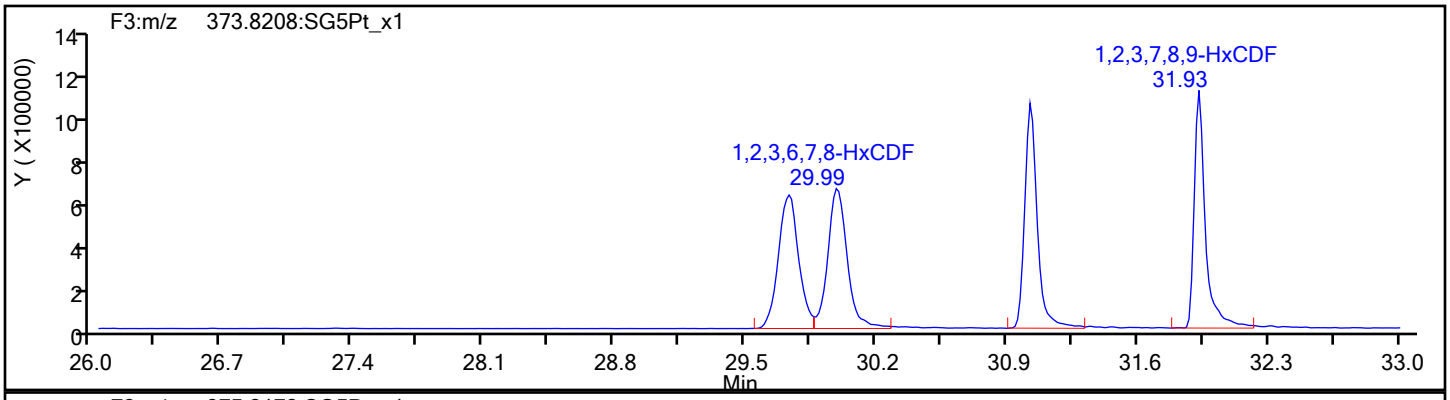

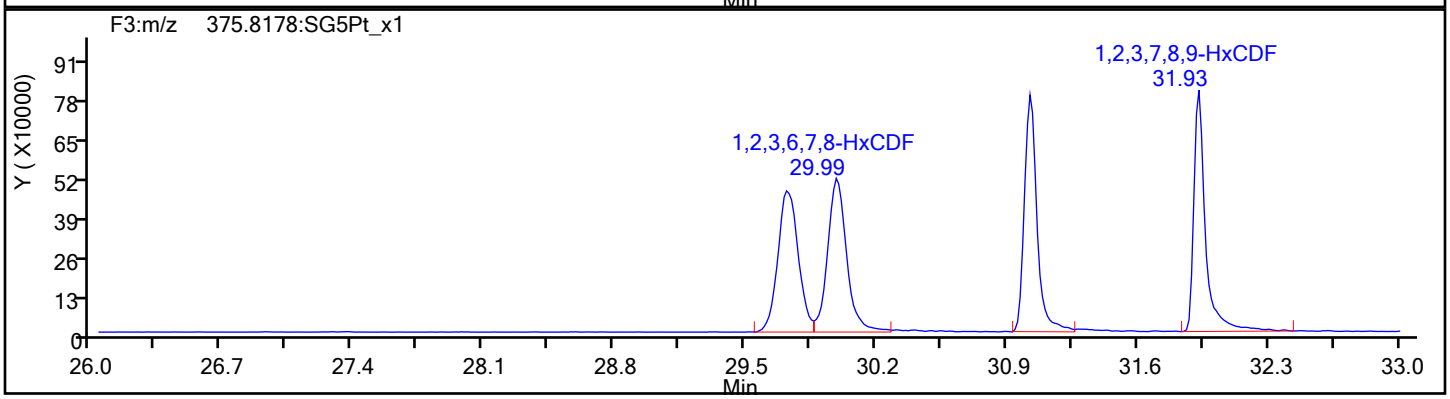

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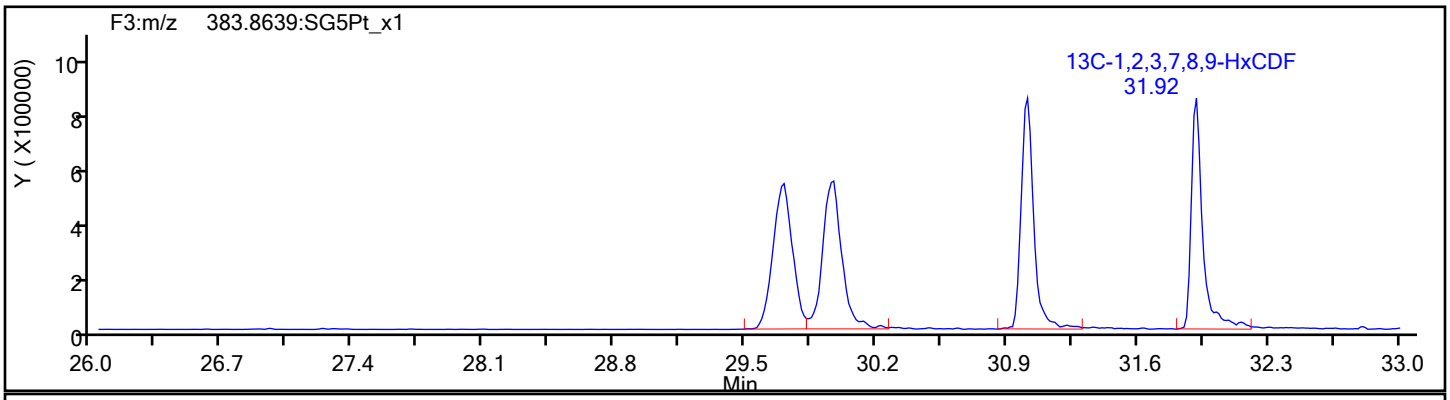

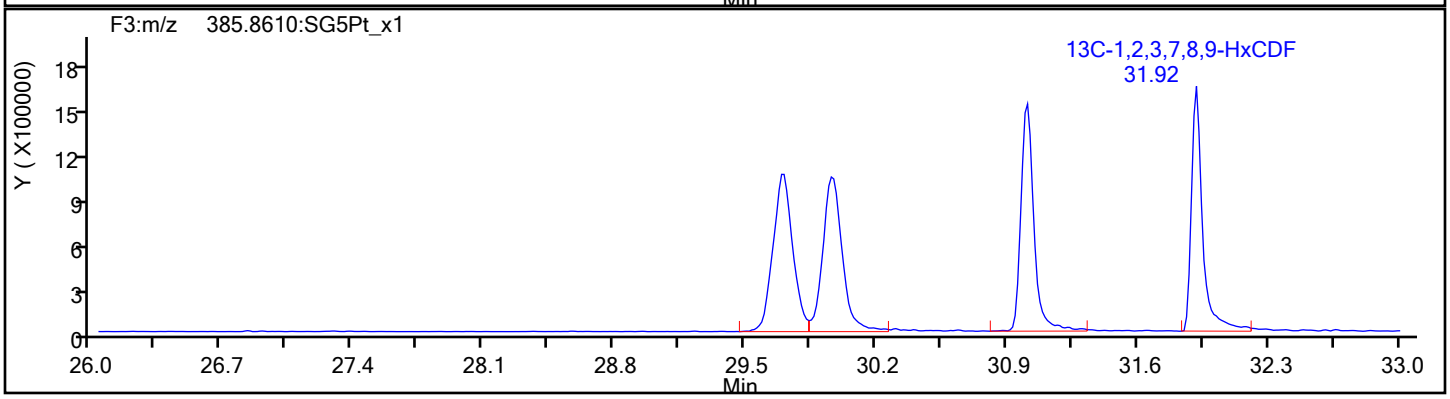

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Eurofins TestAmerica, Sacramento

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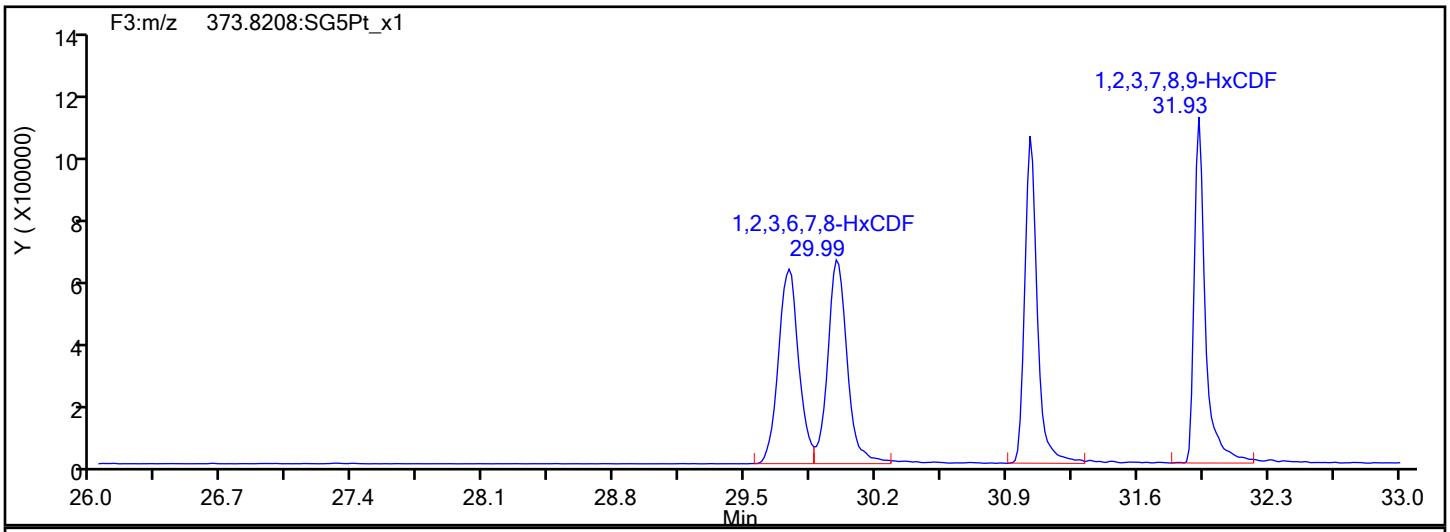

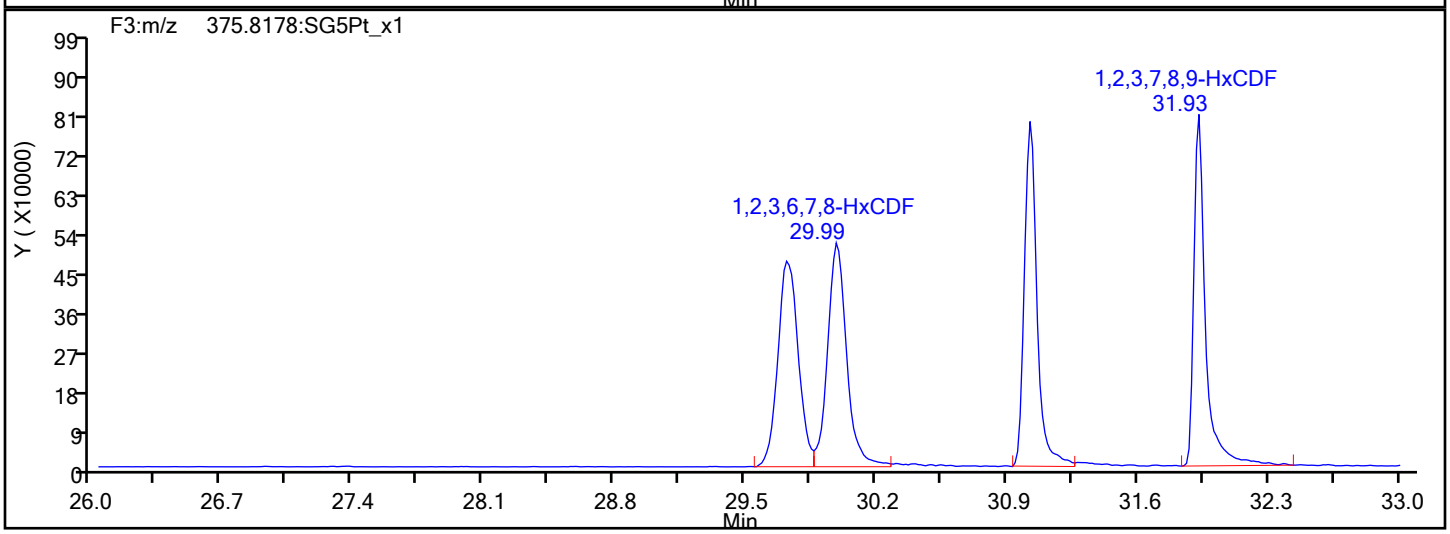

HxCDF Interference Mass

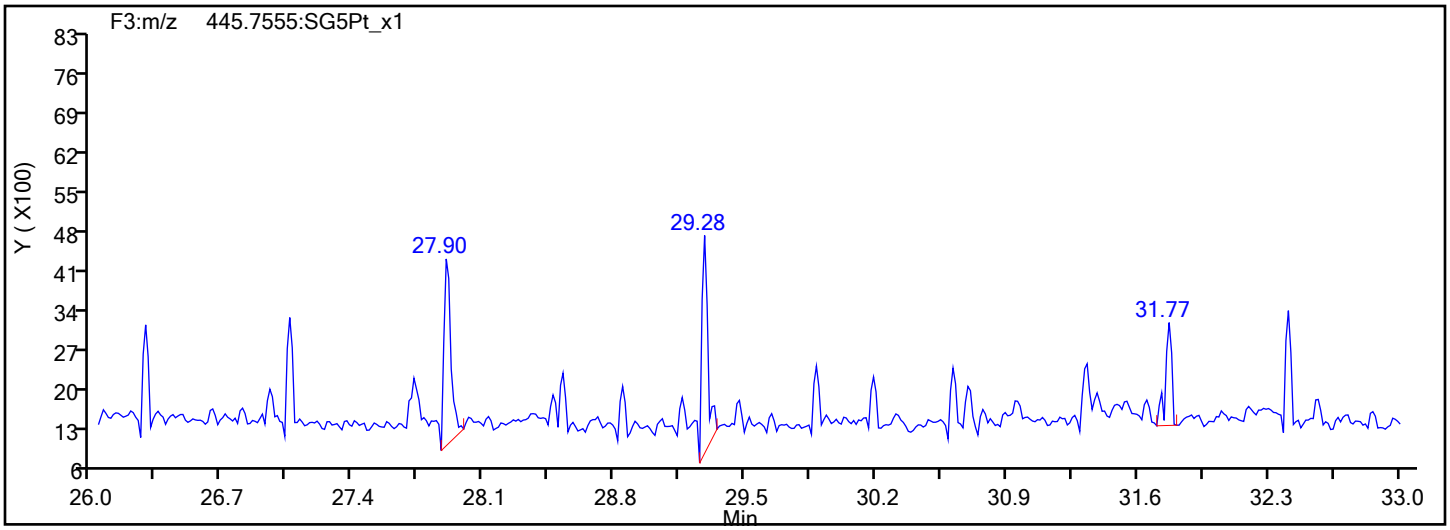

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Eurofins TestAmerica, Sacramento

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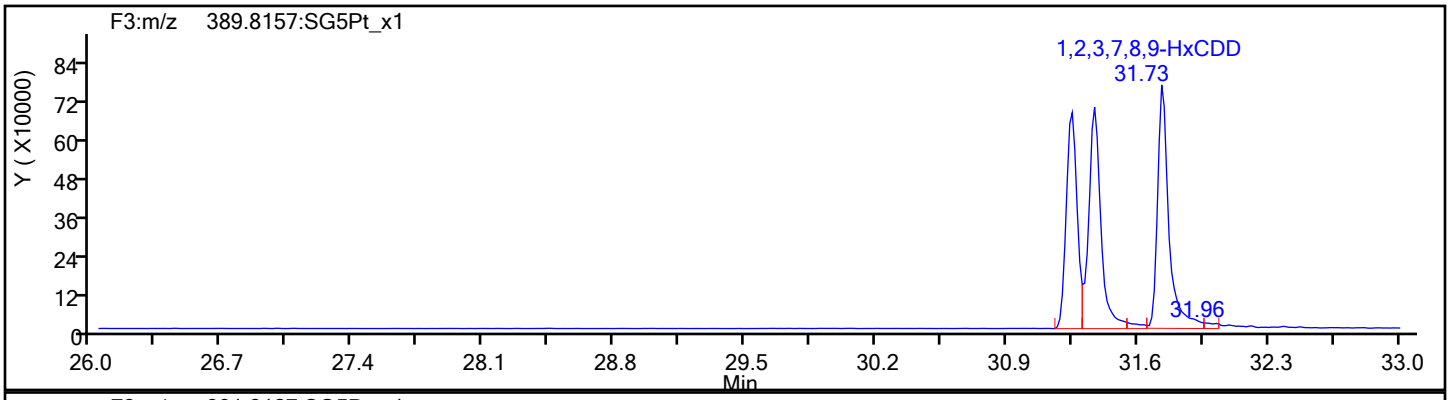

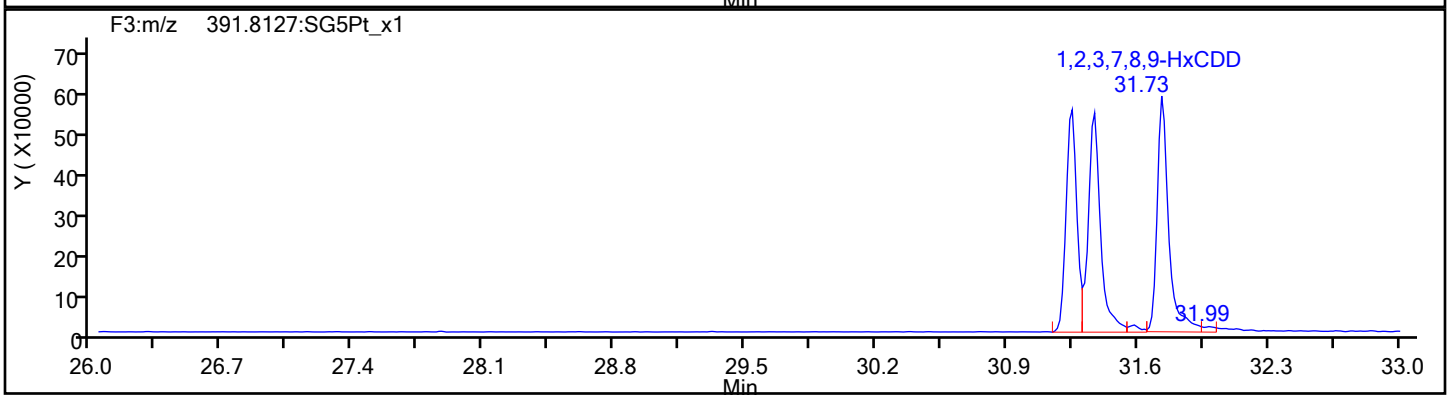

HxCDD Standards

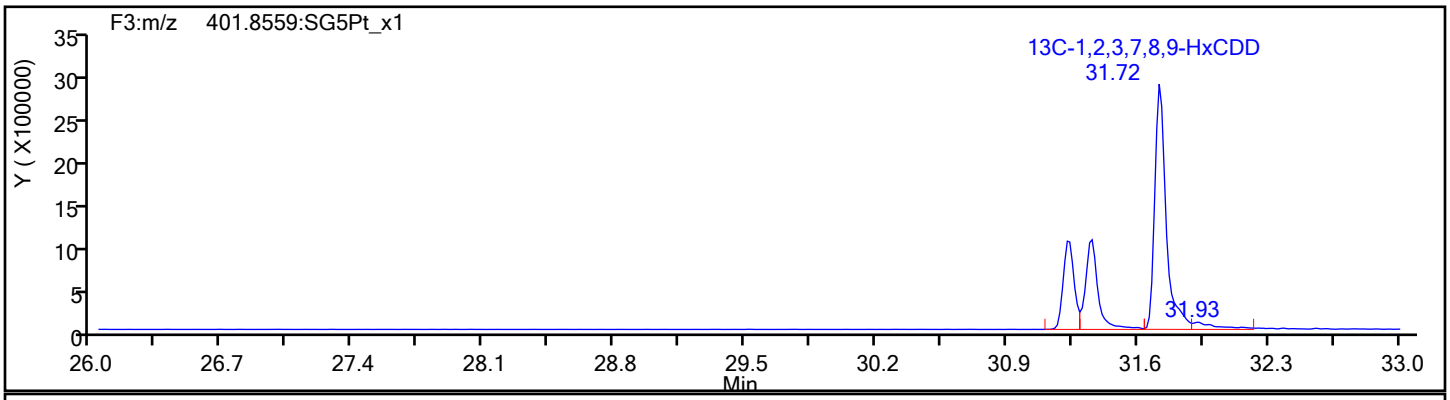

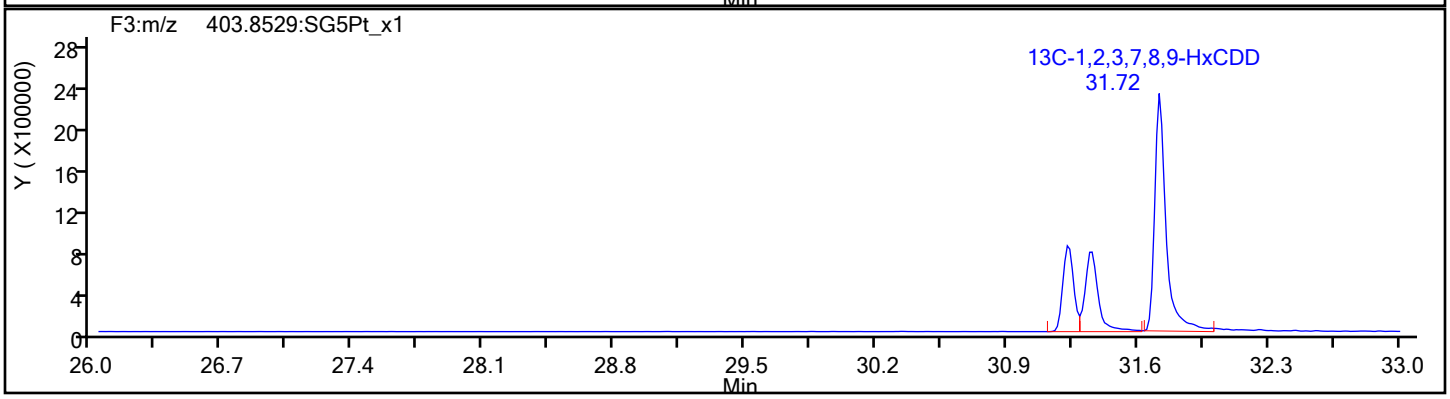

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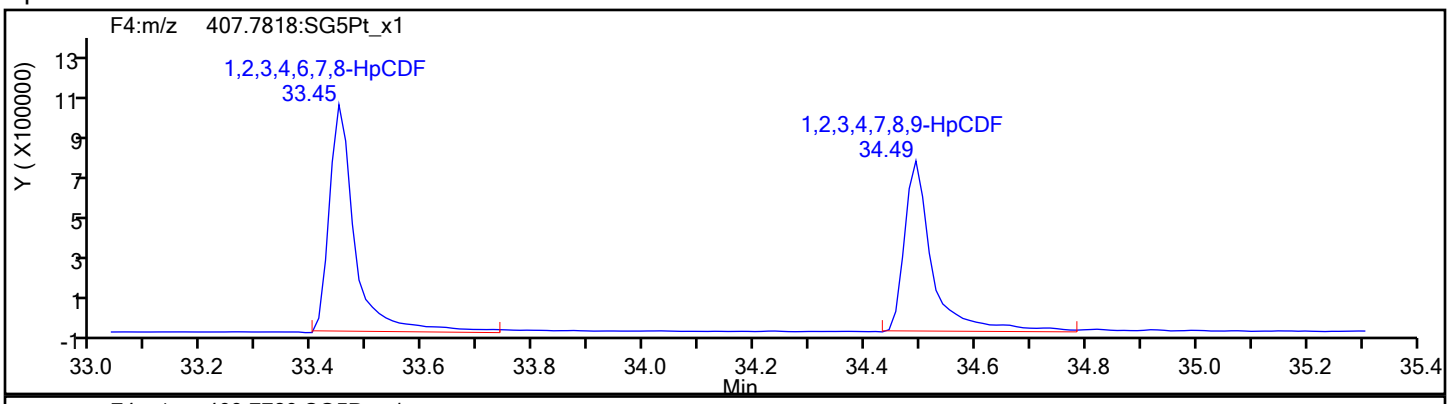

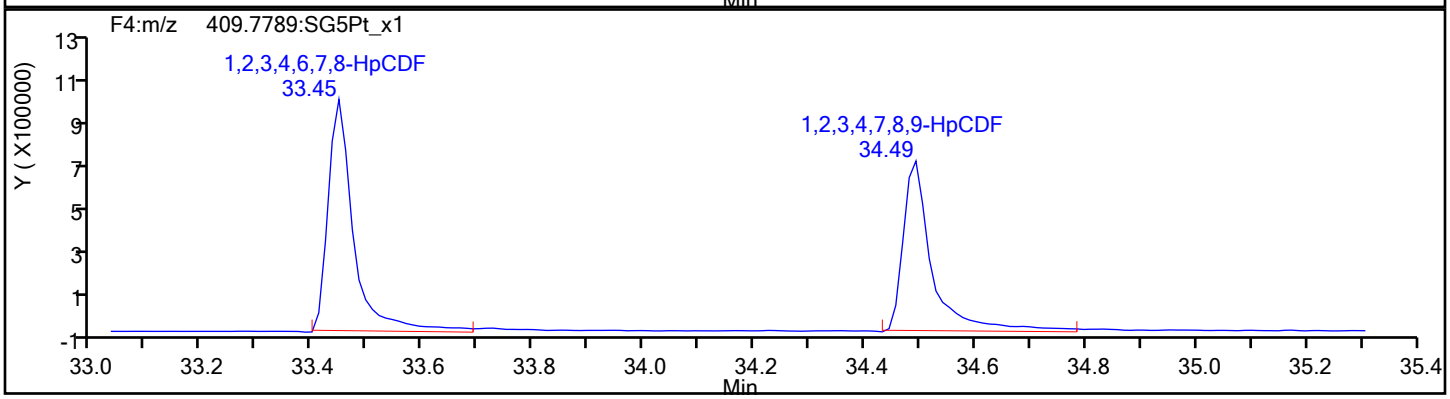

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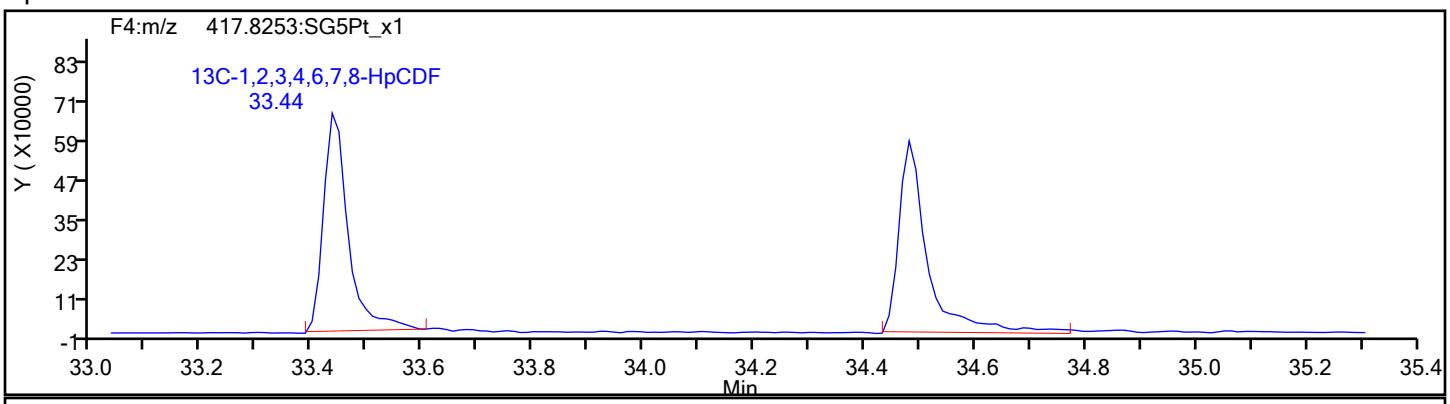

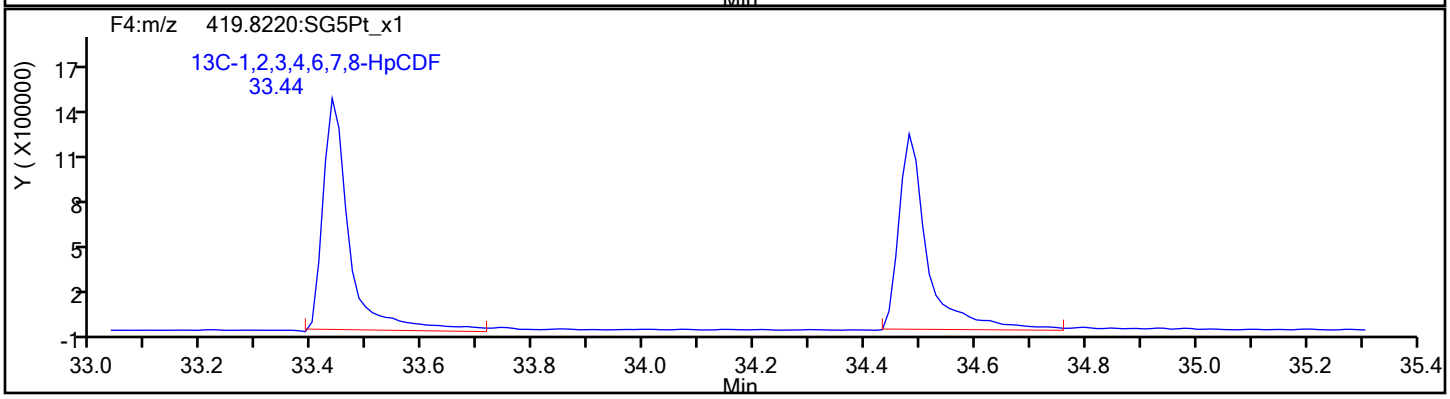

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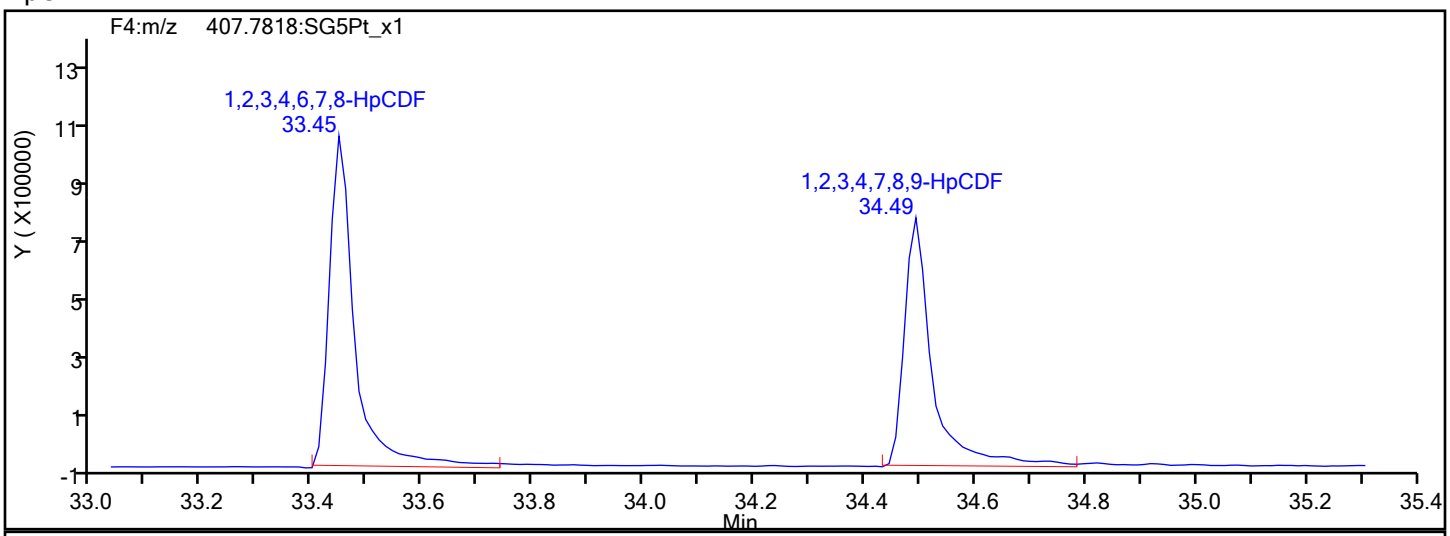

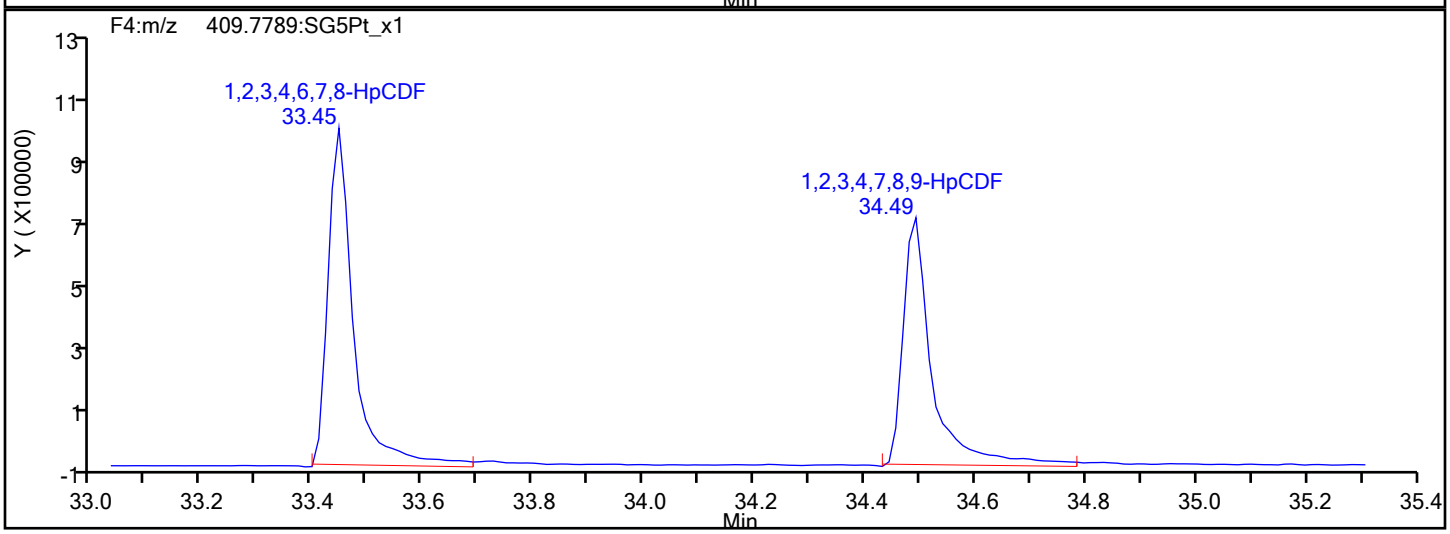

HpCDF Interference Mass

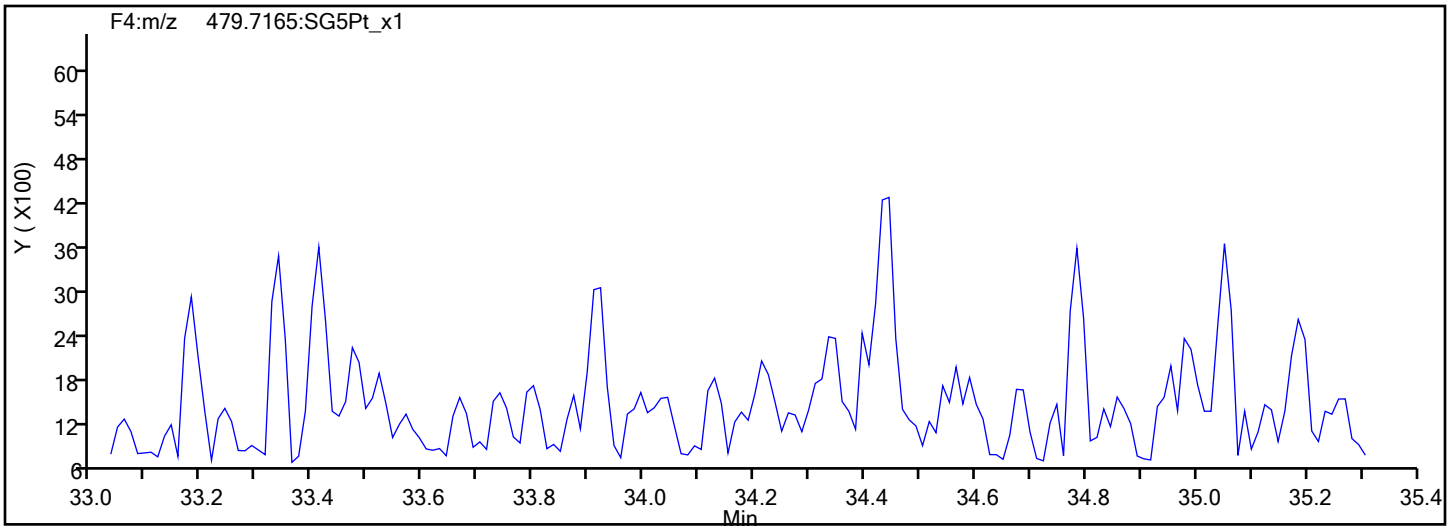

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Eurofins TestAmerica, Sacramento

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HpCDD

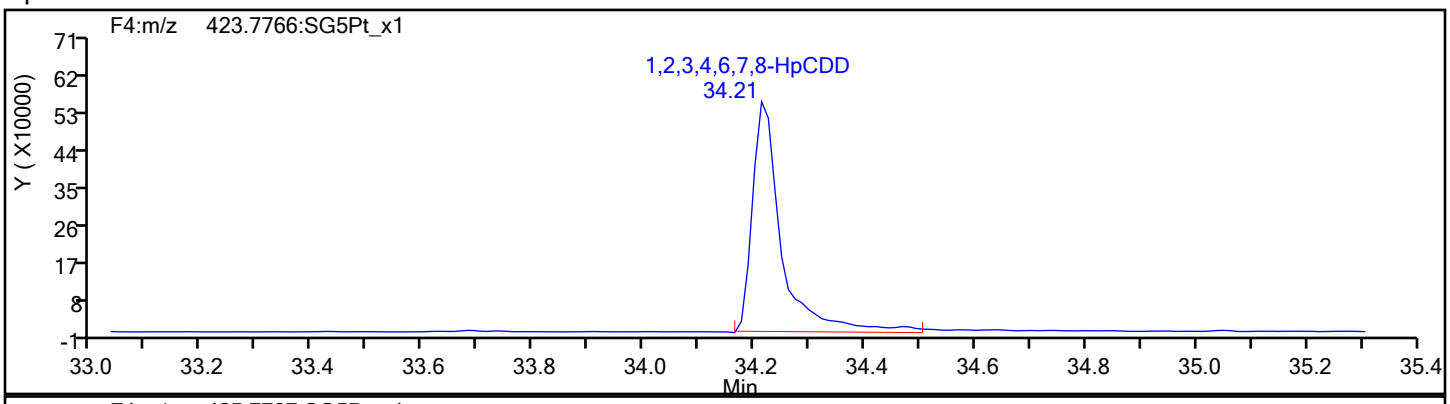

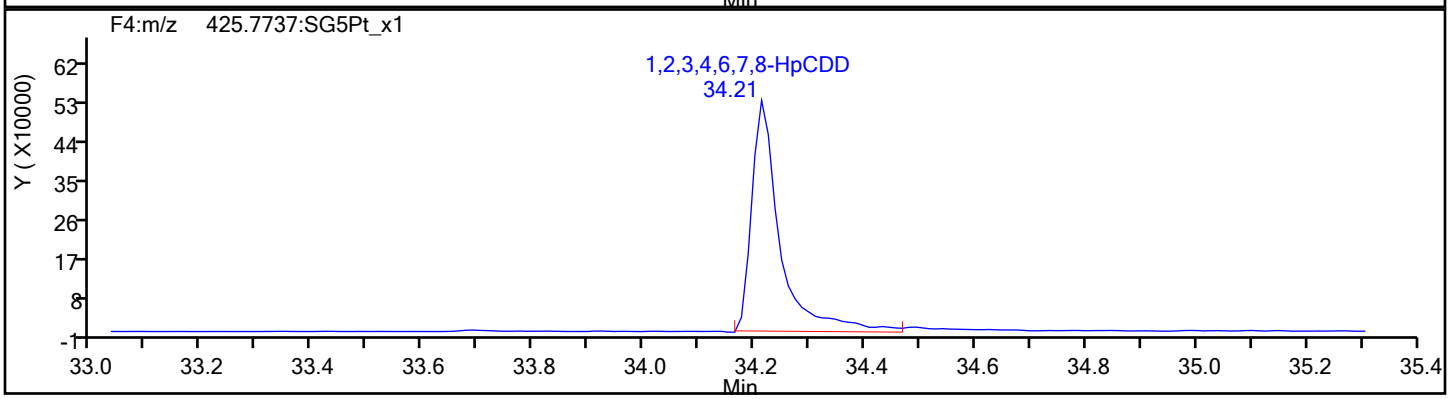

HpCDD Standards

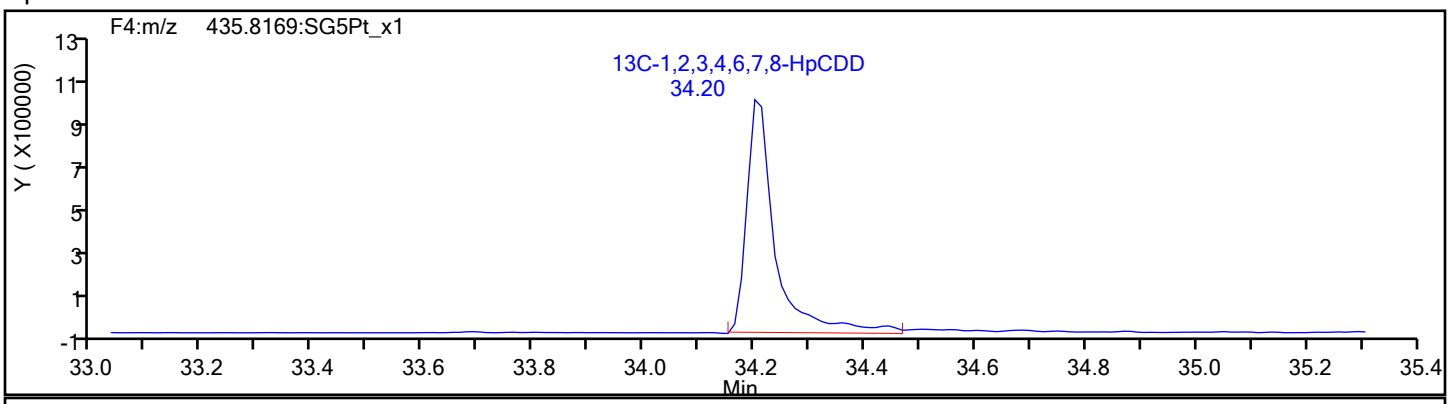

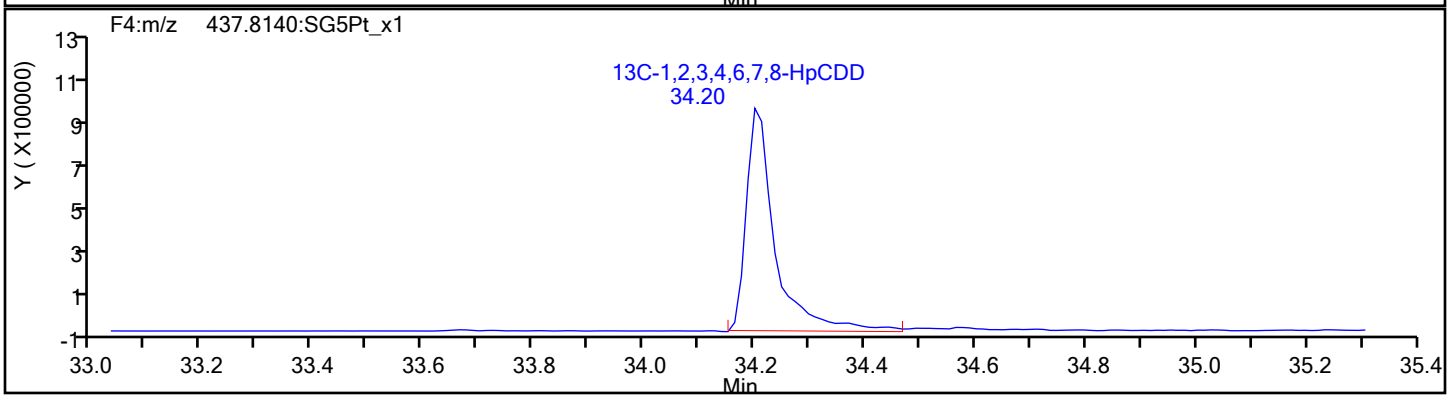

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OCDF

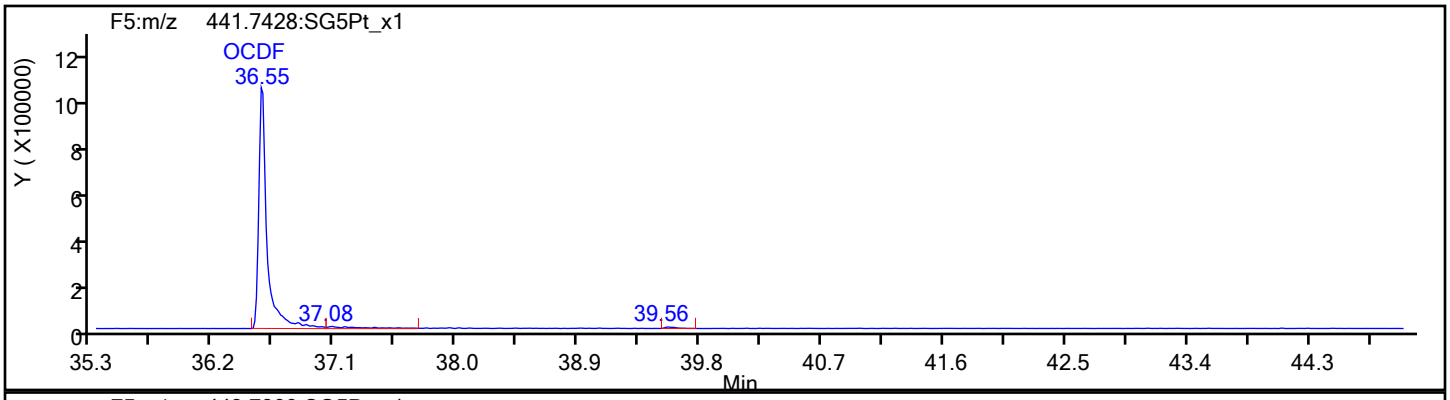

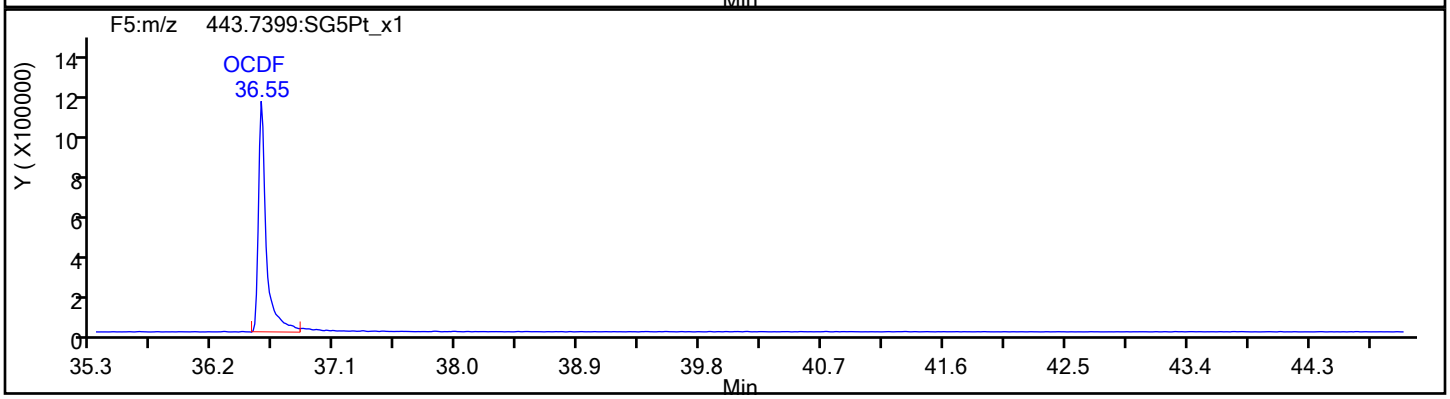

OCDF Standards

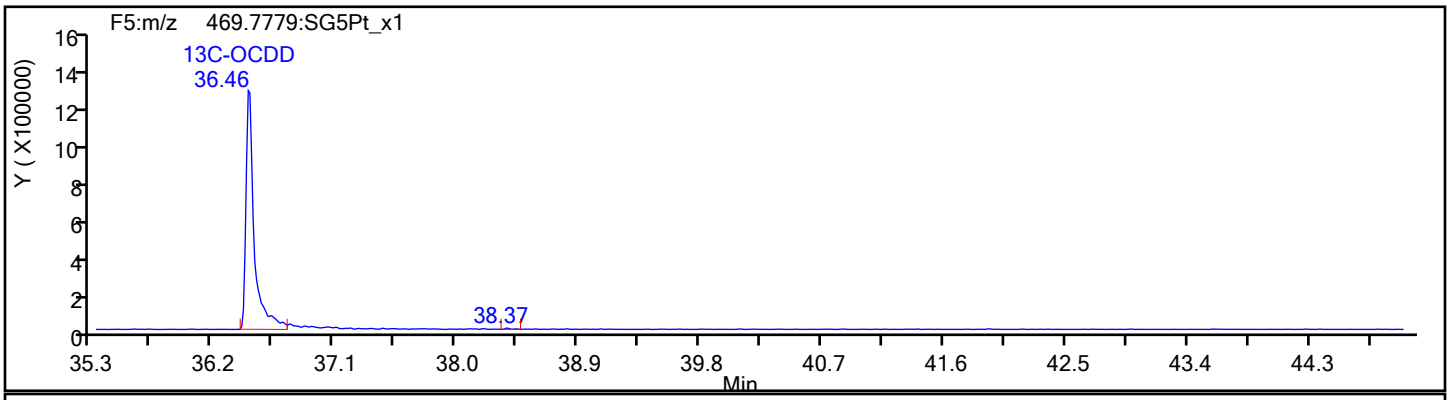

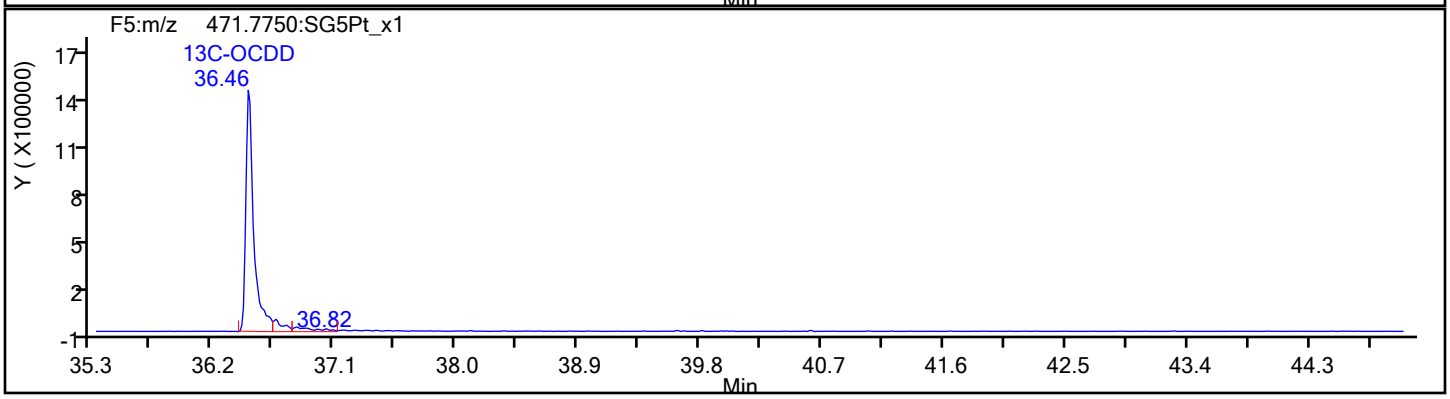

Report Date: 20-Sep-2019 09:56:00 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_43.d		
Injection Date:	19-Sep-2019 20:09:06	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	43
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

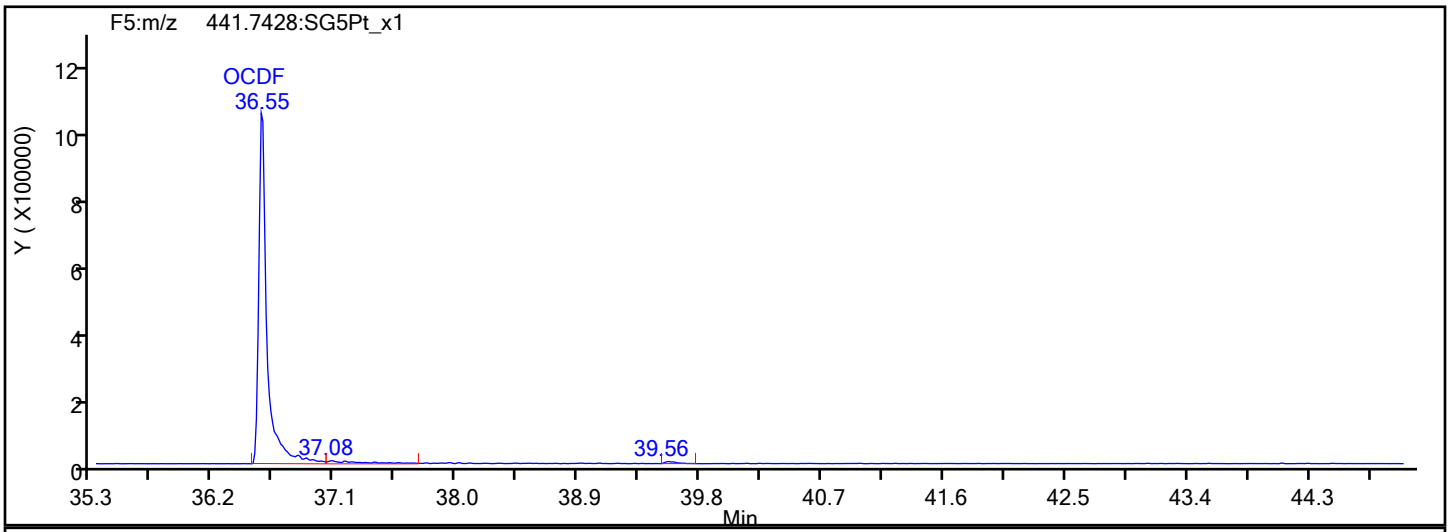

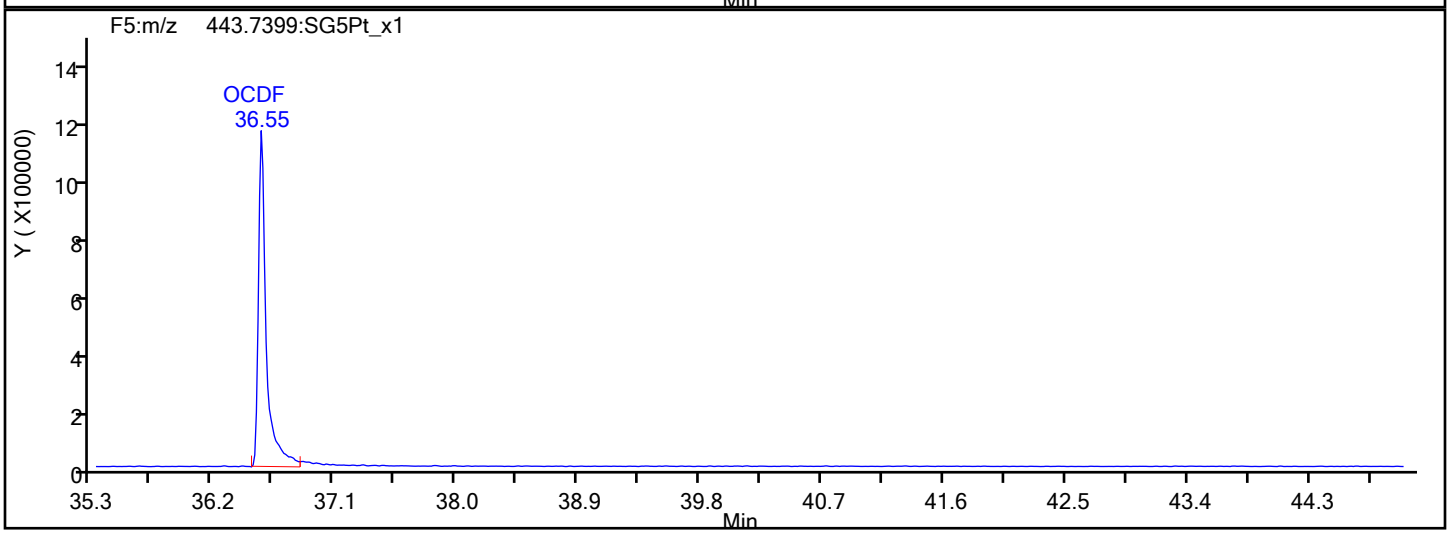

OCDF Interference Mass

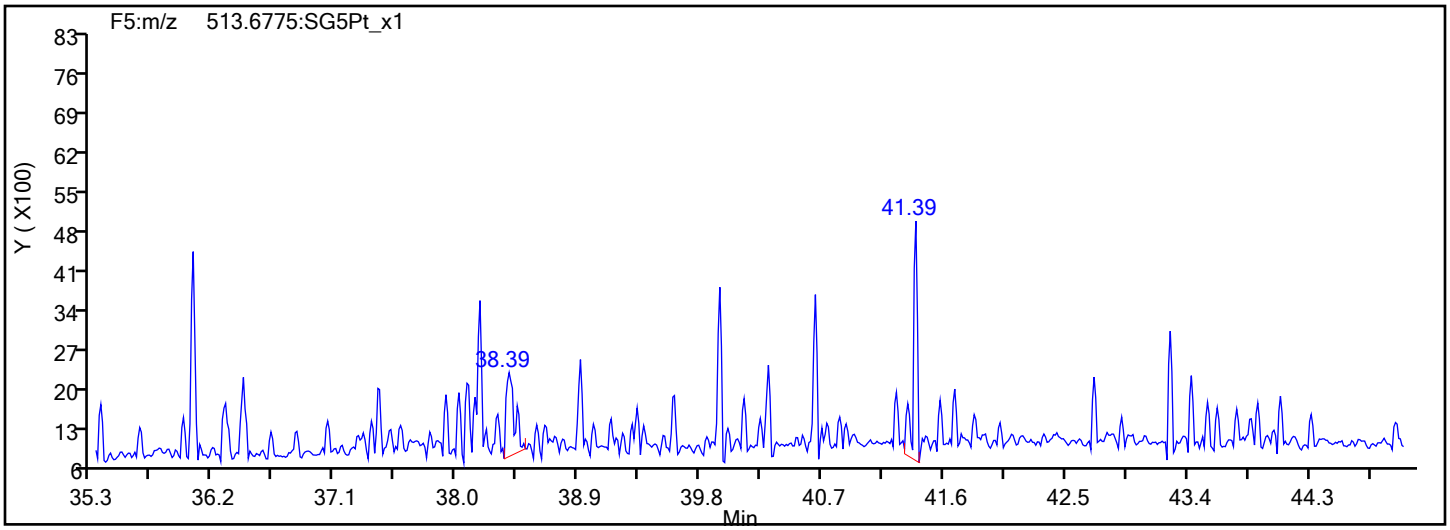

Report Date: 20-Sep-2019 09:56:00 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_43.d		
Injection Date:	19-Sep-2019 20:09:06	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	43
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

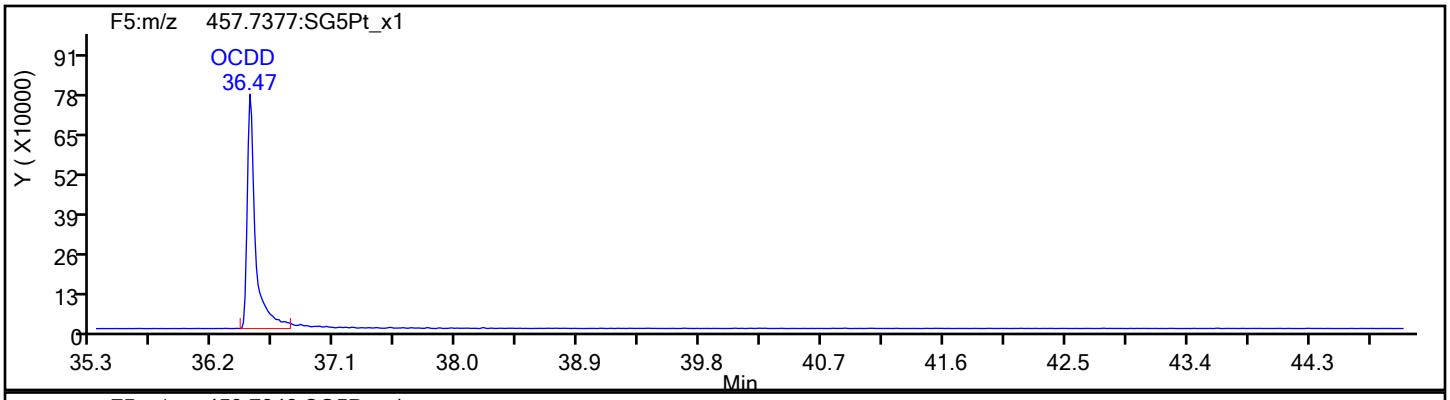

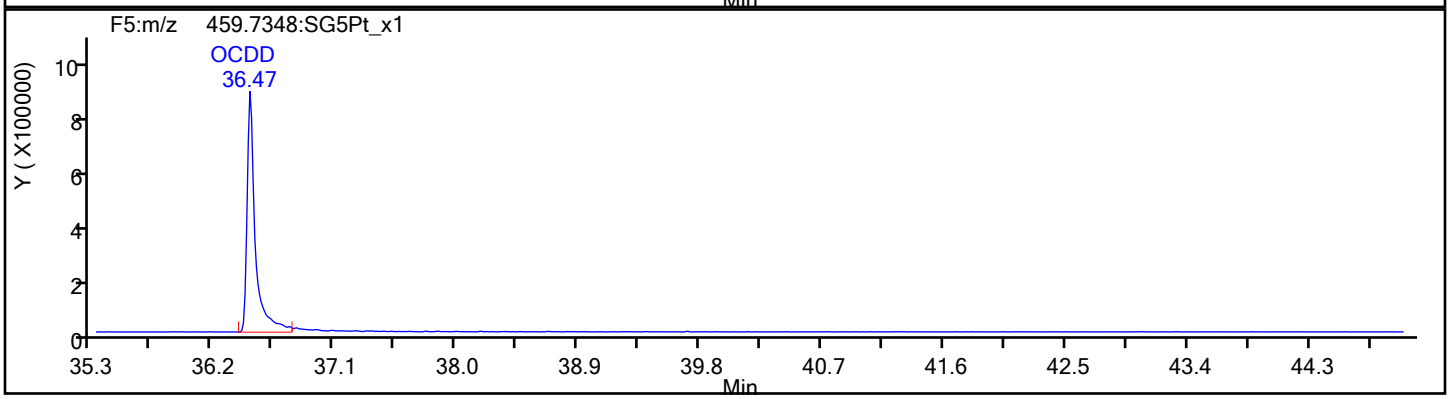

OCDD Standards

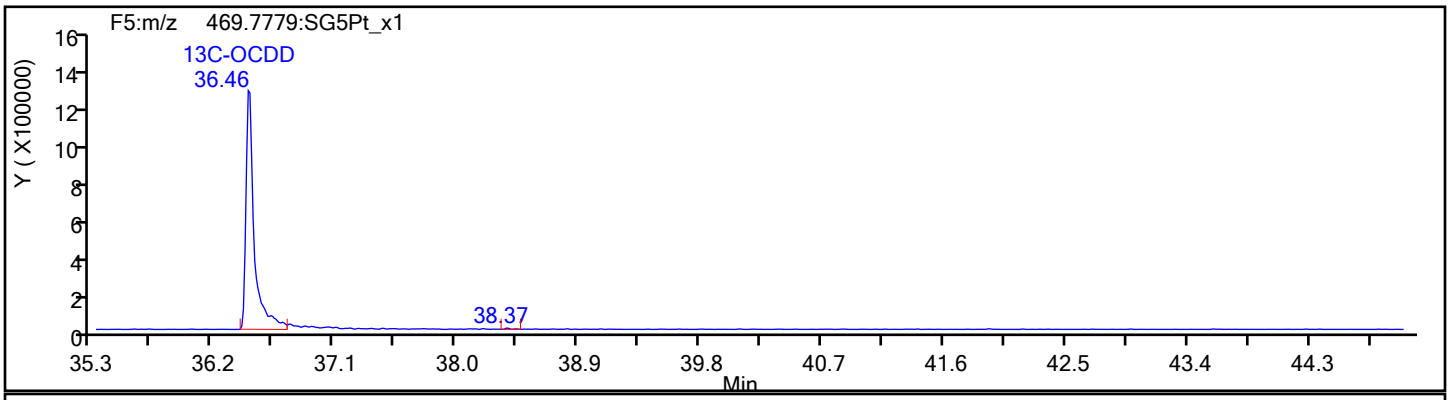

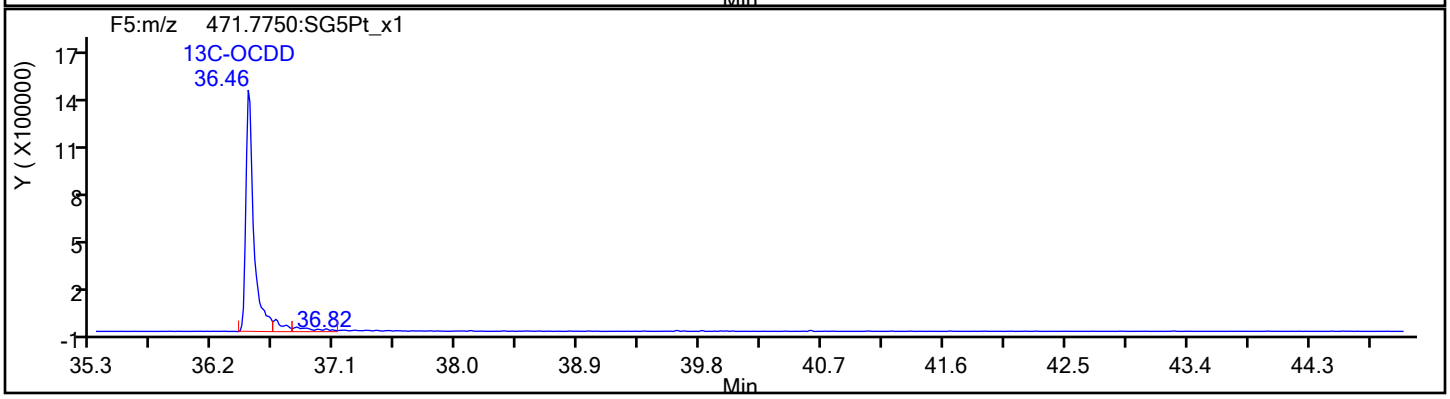

Report Date: 20-Sep-2019 09:56:00 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_43.d		
Injection Date:	19-Sep-2019 20:09:06	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	43
Column Type:	DB-5	Column Dia:	0.32 mm

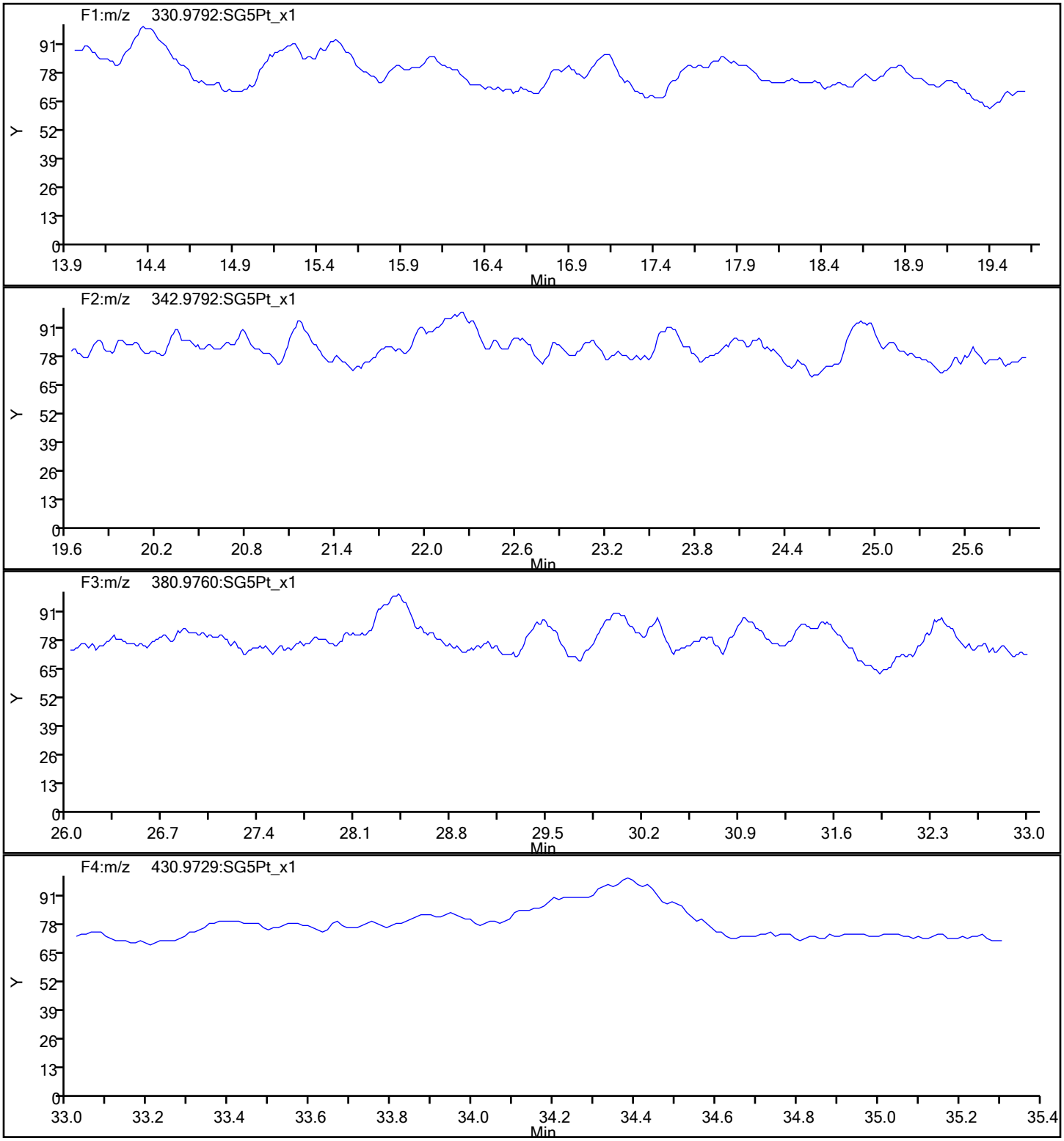

Report Date: 20-Sep-2019 09:56:00 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_43.d		
Injection Date:	19-Sep-2019 20:09:06	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	43
Column Type:	DB-5	Column Dia:	0.32 mm

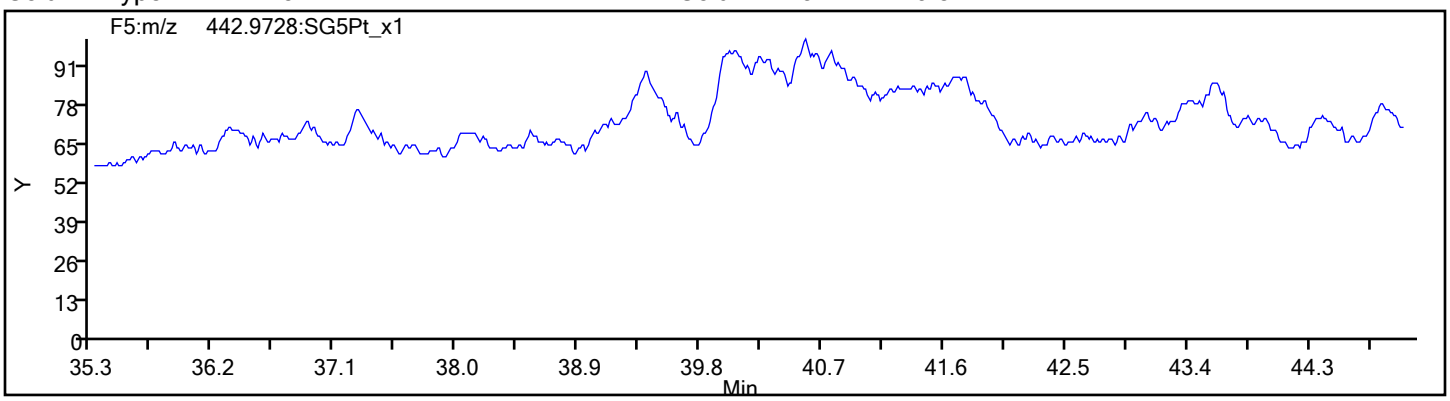

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 600-191956-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCSD 320-324498/3-A
Matrix: Water
Lab File ID: 18SE1910D5_44.d
Analysis Method: 1613B
Date Collected:
Extract. Method: 1613B
Date Extracted: 09/18/2019 13:22
Sample wt/vol: 1000(mL)
Date Analyzed: 09/19/2019 20:55
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 324876
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	248		10	2.7
51207-31-9	2,3,7,8-TCDF	253		10	1.6
40321-76-4	1,2,3,7,8-PeCDD	1320		50	4.9
57117-41-6	1,2,3,7,8-PeCDF	1370		50	6.1
57117-31-4	2,3,4,7,8-PeCDF	1280		50	6.1
39227-28-6	1,2,3,4,7,8-HxCDD	1250		50	6.7
57653-85-7	1,2,3,6,7,8-HxCDD	1380		50	7.1
19408-74-3	1,2,3,7,8,9-HxCDD	1280		50	6.2
70648-26-9	1,2,3,4,7,8-HxCDF	1310		50	17
57117-44-9	1,2,3,6,7,8-HxCDF	1360		50	15
72918-21-9	1,2,3,7,8,9-HxCDF	1340		50	10
60851-34-5	2,3,4,6,7,8-HxCDF	1370		50	10
35822-46-9	1,2,3,4,6,7,8-HpCDD	1290		50	13
67562-39-4	1,2,3,4,6,7,8-HpCDF	1300		50	24
55673-89-7	1,2,3,4,7,8,9-HpCDF	1310		50	32
3268-87-9	OCDD	2590		100	7.5
39001-02-0	OCDF	2680		100	7.9
41903-57-5	Total TCDD	248		10	2.7
30402-14-3	Total TCDF	253		10	1.6
36088-22-9	Total PeCDD	1320		50	4.9
30402-15-4	Total PeCDF	2650		50	6.1
34465-46-8	Total HxCDD	3910		50	6.7
55684-94-1	Total HxCDF	5390		50	13
37871-00-4	Total HpCDD	1290		50	13
38998-75-3	Total HpCDF	2620		50	28

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-1

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 320-324498/3-A

Matrix: Water Lab File ID: 18SE1910D5_44.d

Analysis Method: 1613B Date Collected:

Extract. Method: 1613B Date Extracted: 09/18/2019 13:22

Sample wt/vol: 1000(mL) Date Analyzed: 09/19/2019 20:55

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 324876 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	42		20-175
89059-46-1	13C-2,3,7,8-TCDF	42		22-152
109719-79-1	13C-1,2,3,7,8-PeCDD	37		21-227
109719-77-9	13C-1,2,3,7,8-PeCDF	36		21-192
116843-02-8	13C-2,3,4,7,8-PeCDF	40		13-328
109719-80-4	13C-1,2,3,4,7,8-HxCDD	39		21-193
109719-81-5	13C-1,2,3,6,7,8-HxCDD	36		25-163
114423-98-2	13C-1,2,3,4,7,8-HxCDF	36		19-202
116843-03-9	13C-1,2,3,6,7,8-HxCDF	37		21-159
116843-04-0	13C-1,2,3,7,8,9-HxCDF	36		17-205
116843-05-1	13C-2,3,4,6,7,8-HxCDF	38		22-176
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	31		26-166
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	31		21-158
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	32		20-186
114423-97-1	13C-OCDD	26		13-199

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	92		31-191

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_44.d
Lims ID: LCSD 320-324498/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 19-Sep-2019 20:55:04 ALS Bottle#: 45 Worklist Smp#: 44
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 320-324498/3-A LCSD 320-324498/3-A
Misc. Info.: 18SE1910D5
Operator ID: SMA, ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 20-Sep-2019 09:55:55 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0314

First Level Reviewer: stephensk Date: 20-Sep-2019 09:49:49

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.285	38821570	0.77	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.786	23510154	0.80	1.4384	42.1	42.1	0.2428	0.2428	42.10	
2,3,7,8-TCDF	16.801	3127980	0.77	1.0507	12.7	12.7	0.0787	0.0787	127	
A Non-2,3,7,8-sub-TCDF	16.514						0.0787	0.0787		
S Total TCDF					12.7	12.7	0.0787	0.0787		
D 13C-2,3,7,8-TCDD	17.466	15706243	0.73	0.9533	42.4	42.4	0.2332	0.2332	42.44	
$ 37Cl4-2,3,7,8-TCDD	17.481	17418161		1.2224	36.7	36.7	0.0576	0.0576	91.76	
2,3,7,8-TCDD	17.481	2157939	0.80	1.1064	12.4	12.4	0.1356	0.1356	124	
A Non-2,3,7,8-sub-TCDD	16.952						0.1356	0.1356		
S Total TCDD					12.4	12.4	0.1356	0.1356		
D 13C-1,2,3,7,8-PeCDF	21.604	14483095	1.61	1.0286	36.3	36.3	0.1014	0.1014	36.27	
1,2,3,7,8-PeCDF	21.631	10735557	1.61	1.0822	68.5	68.5	0.3067	0.3067	137	
D 13C-2,3,4,7,8-PeCDF	22.899	15431921	1.69	0.9827	40.5	40.5	0.1061	0.1061	40.45	
2,3,4,7,8-PeCDF	22.927	10935955	1.59	1.1032	64.2	64.2	0.3069	0.3069	128	
A F1 PeCDFs	19.205						0.0835	0.0835		
A Non-2,3,7,8-sub-PeCDF	22.226						0.3068	0.3068		
S Total PeCDF					132.7	132.7	0.3068	0.3068		
D 13C-1,2,3,7,8-PeCDD	23.595	10791006	1.61	0.7481	37.2	37.2	0.1022	0.1022	37.16	
1,2,3,7,8-PeCDD	23.608	6467412	1.59	0.9050	66.2	66.2	0.2442	0.2442	132	
A Non-2,3,7,8-sub-PeCDD	22.559						0.2442	0.2442		
S Total PeCDD					66.2	66.2	0.2442	0.2442		
D 13C-1,2,3,4,7,8-HxCDF	29.709	10335769	0.54	1.1520	36.4	36.4	0.3197	0.3197	36.37	
1,2,3,4,7,8-HxCDF	29.736	8114232	1.29	1.1973	65.6	65.6	0.8727	0.8727	131	
D 13C-1,2,3,6,7,8-HxCDF	29.975	11250323	0.53	1.2434	36.7	36.7	0.2962	0.2962	36.68	
1,2,3,6,7,8-HxCDF	30.002	9053545	1.27	1.1807	68.2	68.2	0.7432	0.7432	136	
D 13C-2,3,4,6,7,8-HxCDF	31.014	10885793	0.52	1.1720	37.7	37.7	0.3143	0.3143	37.66	
2,3,4,6,7,8-HxCDF	31.040	9044016	1.24	1.2116	68.6	68.6	0.4981	0.4981	137	
D 13C-1,2,3,7,8,9-HxCDF	31.919	9438237	0.52	1.0655	35.9	35.9	0.3457	0.3457	35.91	
1,2,3,7,8,9-HxCDF	31.945	7882888	1.33	1.2451	67.1	67.1	0.5084	0.5084	134	
A Non-2,3,7,8-sub-HxCDF	29.503						0.6205	0.6205		
S Total HxCDF					269.4	269.4	0.6556	0.6556		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.732	24665170	1.29	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.240	7443656	1.27	0.7812	38.6	38.6	0.3462	0.3462	38.63	
1,2,3,4,7,8-HxCDD	31.253	5159386	1.26	1.1088	62.5	62.5	0.3342	0.3342	125	
D 13C-1,2,3,6,7,8-HxCDD	31.360	8059937	1.32	0.9175	35.6	35.6	0.2948	0.2948	35.62	
1,2,3,6,7,8-HxCDD	31.373	6019483	1.26	1.0814	69.1	69.1	0.3562	0.3562	138	M
1,2,3,7,8,9-HxCDD	31.746	6027363	1.24	1.2123	64.1	64.1	0.3116	0.3116	128	
A Non-2,3,7,8-sub-HxCDD	30.089						0.3331	0.3331		
S Total HxCDD					195.7	195.7	0.3340	0.3340		
D 13C-1,2,3,4,6,7,8-HpCDF	33.447	6610126	0.43	0.8628	31.1	31.1	1.009	1.009	31.06	
1,2,3,4,6,7,8-HpCDF	33.460	6687859	1.05	1.5555	65.0	65.0	1.200	1.200	130	
D 13C-1,2,3,4,7,8,9-HpCDF	34.492	6268480	0.44	0.7991	31.8	31.8	1.089	1.089	31.81	
1,2,3,4,7,8,9-HpCDF	34.492	5713107	1.03	1.3862	65.7	65.7	1.618	1.618	131	
A Non-2,3,7,8-sub-HpCDF	33.982						1.385	1.385		
S Total HpCDF					130.8	130.8	1.409	1.409		
D 13C-1,2,3,4,6,7,8-HpCDD	34.213	6637221	1.06	0.8739	30.8	30.8	0.4165	0.4165	30.79	
1,2,3,4,6,7,8-HpCDD	34.225	4000419	1.06	0.9316	64.7	64.7	0.6387	0.6387	129	
A Non-2,3,7,8-sub-HpCDD	34.747						0.6387	0.6387		
S Total HpCDD					64.7	64.7	0.6387	0.6387		
D 13C-OCDD	36.469	9855542	0.88	0.7744	51.6	51.6	0.2523	0.2523	25.80	
OCDF	36.565	8305246	0.89	1.2596	133.8	133.8	0.3973	0.3973	134	
OCDD	36.481	6780549	0.92	1.0621	129.6	129.6	0.3768	0.3768	130	

QC Flag Legend

Review Flags

M - Manually Integrated

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_44.d
Lims ID: LCSD 320-324498/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 19-Sep-2019 20:55:04 ALS Bottle#: 45 Worklist Smp#: 44
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 320-324498/3-A LCSD 320-324498/3-A
Misc. Info.: 18SE1910D5
Operator ID: SMA, ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 20-Sep-2019 09:55:55 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0314

First Level Reviewer: stephensk Date: 20-Sep-2019 09:49:49

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.285	17.285	0		16910222	4330344	6097	15242	710		
333.9339	17.285	17.285	0		21911348	5714242	2836	7090	2015	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.786	16.786	0	0.971	10418023	2684486	9263	23157	290		
317.9389	16.786	16.786	0	0.971	13092131	3384990	4771	11927	709	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.801	16.816	-1	1.001	1361436	345308	723	1807	478		
305.8987	16.801	16.816	-1	1.001	1766544	451334	1286	3215	351	0.77(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.514						723	1807			
305.8987	16.514						1286	3215			
13C-2,3,7,8-TCDD											
331.9368	17.466	17.466	0	1.010	6651048	1630663	6097	15242	267		
333.9339	17.466	17.466	0	1.010	9055195	2177983	2836	7090	768	0.73(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.481	17.481	0	1.011	17418161	4260005	2831	7077	1505		
2,3,7,8-TCDD											
319.8965	17.481	17.497	-1	1.001	958470	229496	1509	3772	152		
321.8936	17.481	17.497	-1	1.001	1199469	293144	777	1942	377	0.80(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	16.952						1509	3772			
321.8936	16.952						777	1942			
13C-1,2,3,7,8-PeCDF											
351.9000	21.604	21.604	0	1.250	8927303	1671814	2491	6227	671		
353.8970	21.604	21.604	0	1.250	5555792	1029083	1700	4250	605	1.61(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	21.631	21.631	0	1.001	6619084	1186449	1942	4855	611		
341.8567	21.631	21.631	0	1.001	4116473	725138	1644	4110	441	1.61(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	22.899	22.900	0	1.325	9703956	1656798	2491	6227	665		
353.8970	22.899	22.900	0	1.325	5727965	990906	1700	4250	583	1.69(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.927	22.927	0	1.001	6713032	1151254	1942	4855	593		
341.8567	22.927	22.927	0	1.001	4222923	722943	1644	4110	440	1.59(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.205						246	615			
341.8567	19.205						730	1825			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.226						1942	4855			
341.8567	22.226						1644	4110			
13C-1,2,3,7,8-PeCDD											
367.8949	23.595	23.595	0	1.365	6659853	1047266	1664	4160	629		
369.8919	23.595	23.595	0	1.365	4131153	683318	1407	3517	486	1.61(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.608	23.622	-1	1.001	3969449	628119	1054	2635	596		
357.8516	23.608	23.622	-1	1.001	2497963	390666	476	1190	821	1.59(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.559						1054	2635			
357.8516	22.559						476	1190			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.709	29.709	0	0.936	3604399	495415	2946	7365	168		
385.8610	29.709	29.709	0	0.936	6731370	853429	5219	13047	164	0.54(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.736	29.749	-1	1.001	4578306	591978	3299	8247	179		
375.8178	29.736	29.749	-1	1.001	3535926	477298	2339	5847	204	1.29(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.975	29.975	0	0.945	3897976	578600	2946	7365	196		
385.8610	29.975	29.975	0	0.945	7352347	1027816	5219	13047	197	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.002	30.002	0	1.001	5064264	727121	3299	8247	220		
375.8178	29.989	30.002	-1	1.000	3989281	567660	2339	5847	243	1.27(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.014	31.013	0	0.977	3703647	820293	2946	7365	278		
385.8610	31.014	31.013	0	0.977	7182146	1515277	5219	13047	290	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.040	31.040	0	1.001	5013862	1045580	3299	8247	317		
375.8178	31.040	31.040	0	1.001	4030154	848710	2339	5847	363	1.24(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.919	31.919	0	1.006	3209237	741513	2946	7365	252		
385.8610	31.919	31.919	0	1.006	6229000	1484912	5219	13047	285	0.52(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	31.945	31.945	0	1.001	4499816	1023613	3299	8247	310		
375.8178	31.932	31.945	-1	1.000	3383072	777208	2339	5847	332	1.33(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.503						3299	8247			
375.8178	29.503						2339	5847			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.732	31.732	0		13900319	3110000	3743	9357	831		
403.8529	31.732	31.732	0		10764851	2431932	2252	5630	1080	1.29(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.240	31.240	0	0.984	4171187	1026810	3743	9357	274		
403.8529	31.240	31.240	0	0.984	3272469	812826	2252	5630	361	1.27(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.253	31.253	0	1.000	2878382	706544	1339	3347	528		
391.8127	31.253	31.253	0	1.000	2281004	563688	1388	3470	406	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.360	31.360	0	0.988	4585073	1012220	3743	9357	270		
403.8529	31.360	31.360	0	0.988	3474864	757294	2252	5630	336	1.32(1.05-1.43)	
1,2,3,6,7,8-HxCDD											M
389.8157	31.373	31.373	0	1.000	3355955	716033	1339	3347	535		M
391.8127	31.373	31.373	0	1.000	2663528	595595	1388	3470	429	1.26(1.05-1.43)	M
1,2,3,7,8,9-HxCDD											
389.8157	31.746	31.746	0	1.016	3333959	757097	1339	3347	565		
391.8127	31.746	31.746	0	1.016	2693404	598324	1388	3470	431	1.24(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.089						1339	3347			
391.8127	30.089						1388	3470			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.447	33.447	0	1.054	1987131	614784	5474	13685	112		
419.8220	33.447	33.447	0	1.054	4622995	1432824	13821	34552	104	0.43(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.460	33.460	0	1.000	3430220	1018663	7802	19505	131		
409.7789	33.447	33.460	-1	1.000	3257639	938743	7483	18707	125	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.492	34.492	0	1.087	1911127	513934	5474	13685	94		
419.8220	34.492	34.492	0	1.087	4357353	1189830	13821	34552	86	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.492	34.505	-1	1.000	2904981	793791	7802	19505	102		
409.7789	34.492	34.505	-1	1.000	2808126	763527	7483	18707	102	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.982						7802	19505			
409.7789	33.982						7483	18707			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.213	34.213	0	1.078	3409733	984921	3963	9907	249		
437.8140	34.213	34.213	0	1.078	3227488	914983	4105	10262	223	1.06(0.88-1.20)	

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Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_44.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.225	34.225	0	1.000	2060644	584496	2012	5030	291		
425.7737	34.225	34.225	0	1.000	1939775	540673	2510	6275	215	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.747						2012	5030			
425.7737	34.747						2510	6275			
13C-OCDD											
469.7779	36.469	36.469	0	1.149	4624675	1100189	1503	3757	732		
471.7750	36.469	36.469	0	1.149	5230867	1198753	2828	7070	424	0.88(0.76-1.02)	
OCDF											
441.7428	36.565	36.565	0	1.003	3920953	959682	929	2322	1033		
443.7399	36.565	36.565	0	1.003	4384293	1034183	1372	3430	754	0.89(0.76-1.02)	
OCDD											
457.7377	36.481	36.481	0	1.000	3241593	757264	727	1817	1042		
459.7348	36.481	36.481	0	1.000	3538956	805566	1113	2782	724	0.92(0.76-1.02)	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 20-Sep-2019 09:56:02 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_44.d
Lims ID: LCSD 320-324498/3-A
Client ID:
Inject. Date: 19-Sep-2019 20:55:04 Dil. Factor: 1.0000
Sample Type: LCSD, LCS Duplicate
Instrument ID: 10D5 Operator: SMA, ALM
Lims Batch ID: 324876 Lims Sample ID: 44

Non-2,3,7,8-sub-HxCDD, RT: 30.089

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,4,7,8-HxCDD	1.109	D 13C-1,2,3,4,7,8-HxCDD	100.000	7443656	1839636
1,2,3,6,7,8-HxCDD	1.081	D 13C-1,2,3,6,7,8-HxCDD	100.000	8059937	1769514
1,2,3,7,8,9-HxCDD	1.212				

Averages:

	RRFn		Qis	Ris Area	Ris Height
	0.000		0.0	0	0

Sum the Uncalibrated Results

RT	389.8157 Area	389.8157 Height	391.8127 Area	391.8127 Height	Amount	Ratio	Flags
Signal Totals:	0	0	0	0			

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_44.d				
Injection Date:	19-Sep-2019 20:55:04	Instrument ID:	10D5		
Lims ID:	LCSD 320-324498/3-A				
Client ID:					
Operator ID:	SMA, ALM	ALS Bottle#:	45	Worklist Smp#:	44
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 1

Processing Integration Results

RT: 31.37
Area: 3409168
Amount: 70.088213
Amount Units: pg/ul

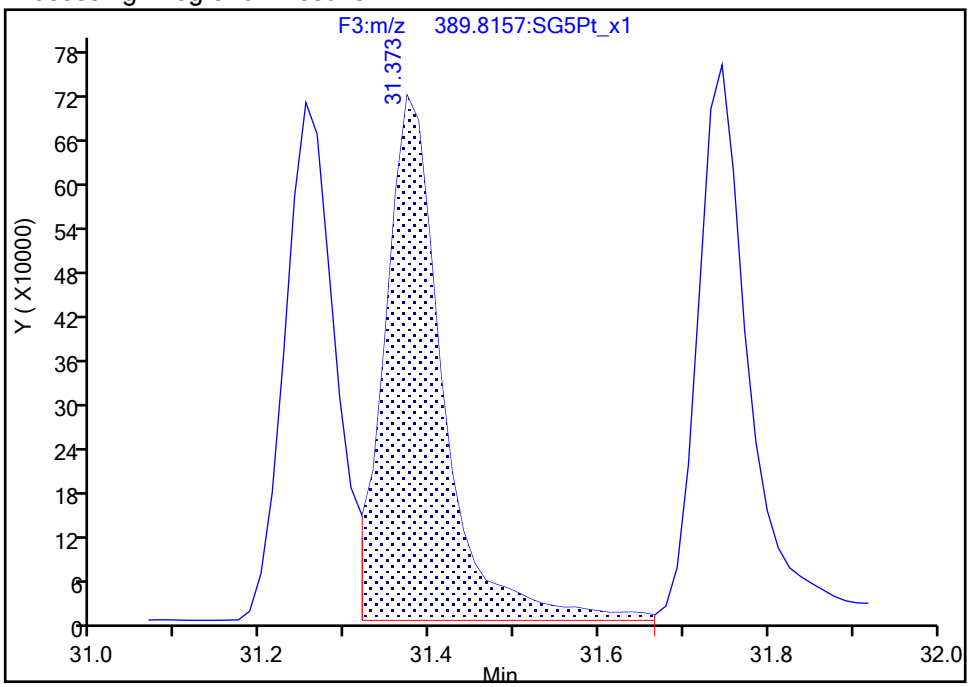

Manual Integration Results

RT: 31.37
Area: 3355955
Amount: 69.061427
Amount Units: pg/ul

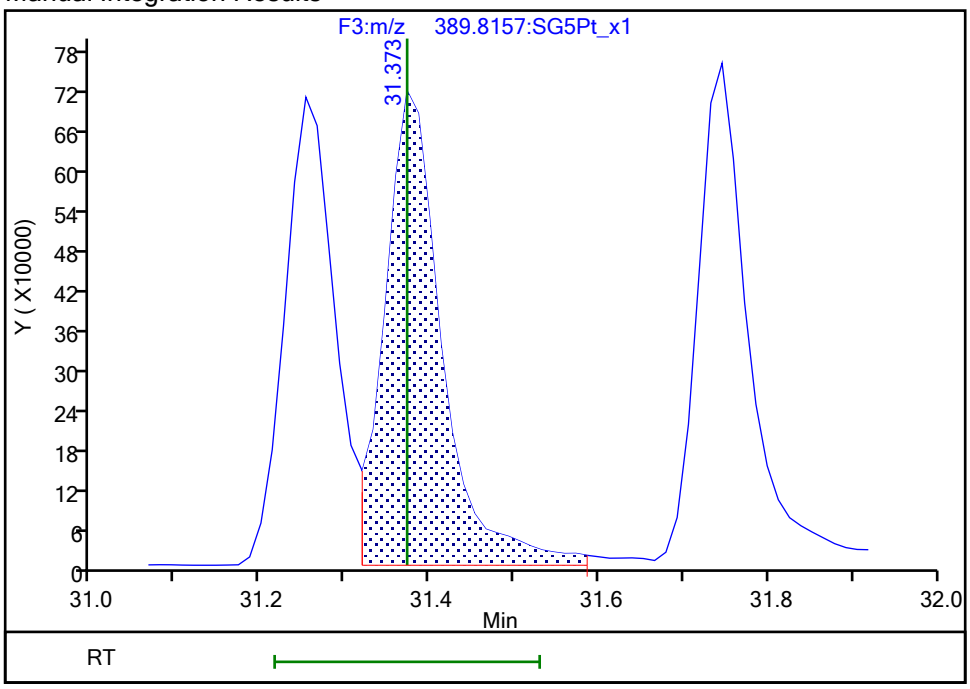

Reviewer: stephensk, 20-Sep-2019 09:49:26

Audit Action: Split an Integrated Peak Audit Reason: Peak Tail

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_44.d				
Injection Date:	19-Sep-2019 20:55:04	Instrument ID:	10D5		
Lims ID:	LCSD 320-324498/3-A				
Client ID:					
Operator ID:	SMA, ALM	ALS Bottle#:	45	Worklist Smp#:	44
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDD, CAS: 57653-85-7

Signal: 2

Processing Integration Results

RT: 31.37
Area: 2699811
Amount: 70.088213
Amount Units: pg/ul

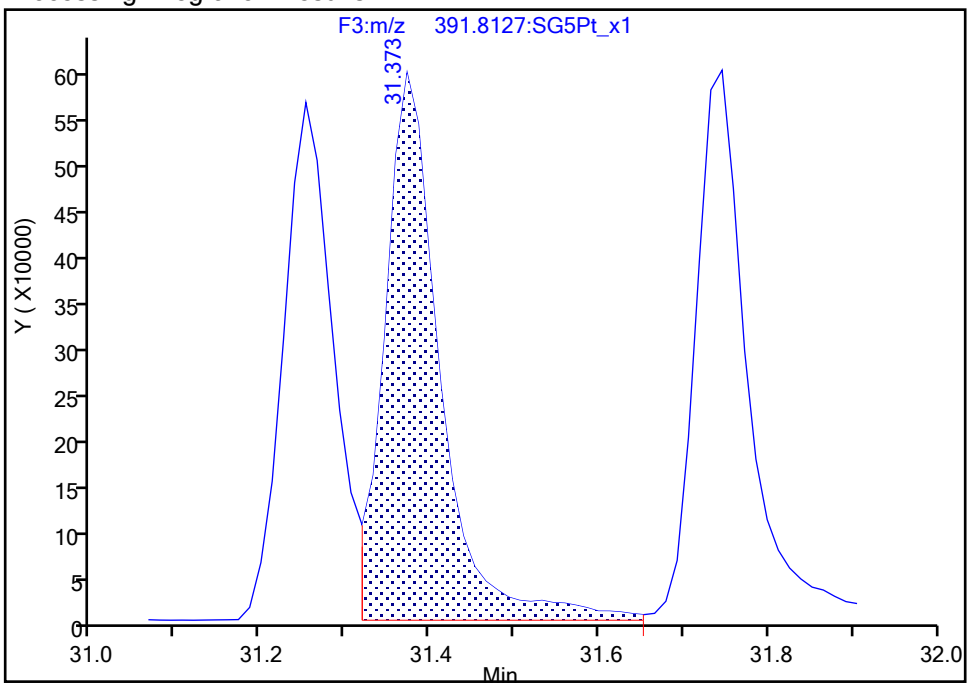

Manual Integration Results

RT: 31.37
Area: 2663528
Amount: 69.061427
Amount Units: pg/ul

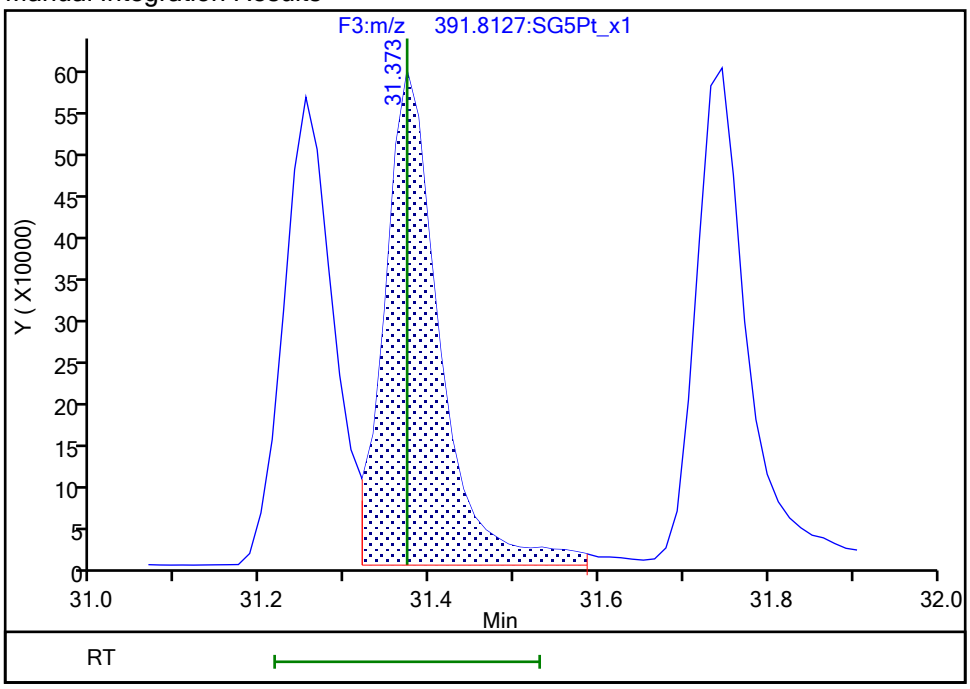

Reviewer: stephensk, 20-Sep-2019 09:49:28

Audit Action: Split an Integrated Peak Audit Reason: Peak Tail

Report Date: 20-Sep-2019 09:56:02 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_44.d		
Injection Date:	19-Sep-2019 20:55:04	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	44
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

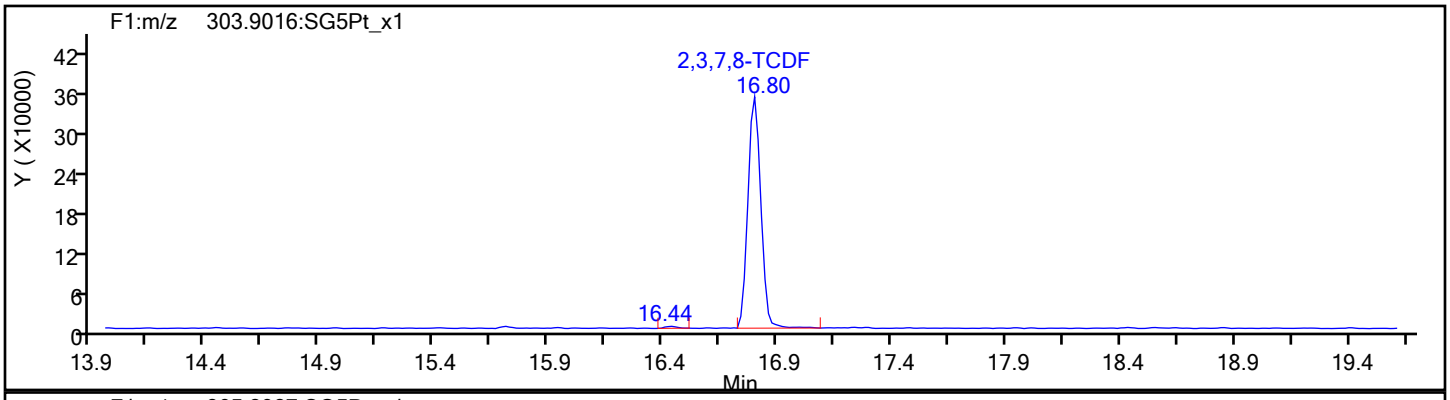

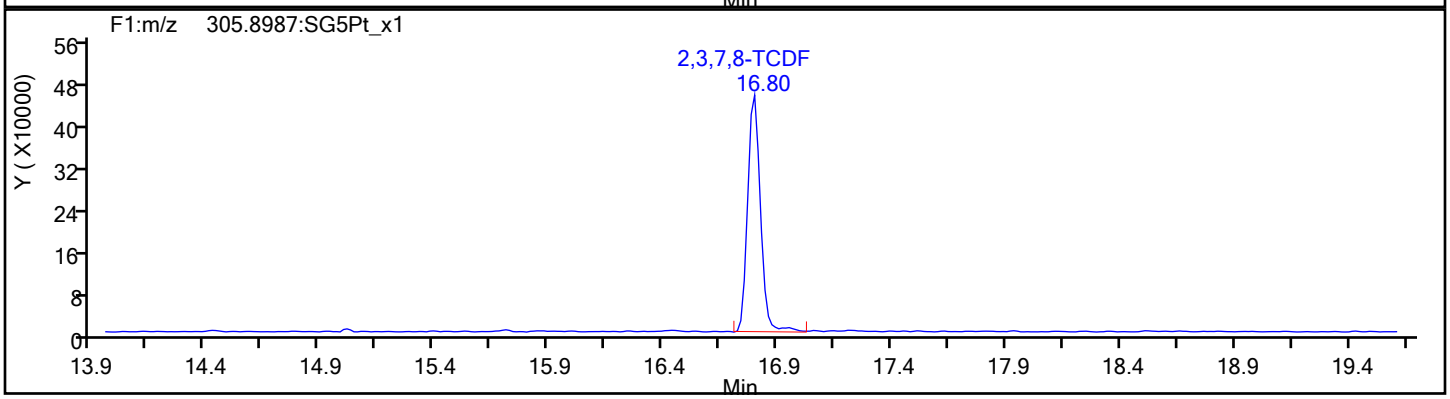

TCDF Standards

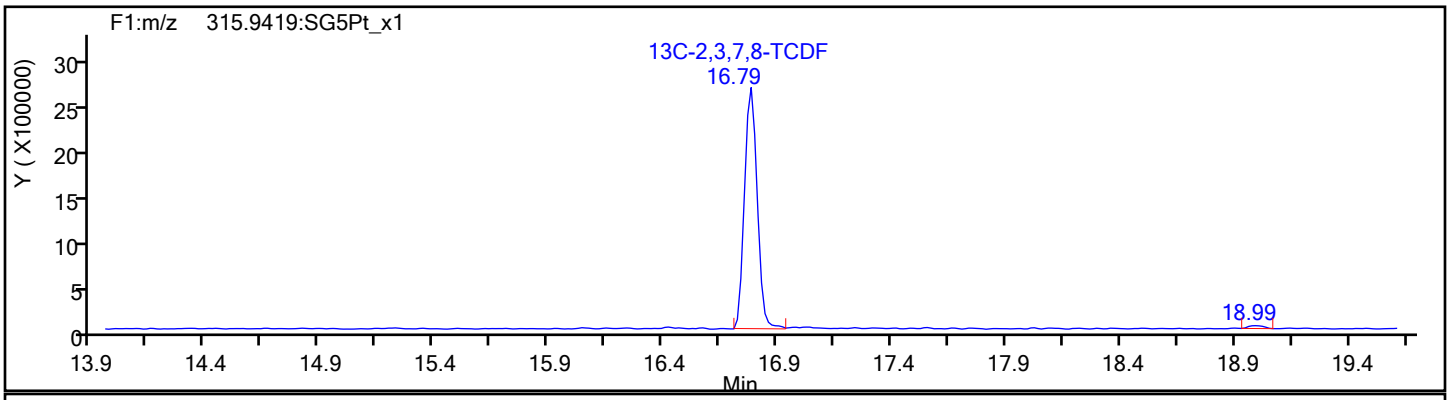

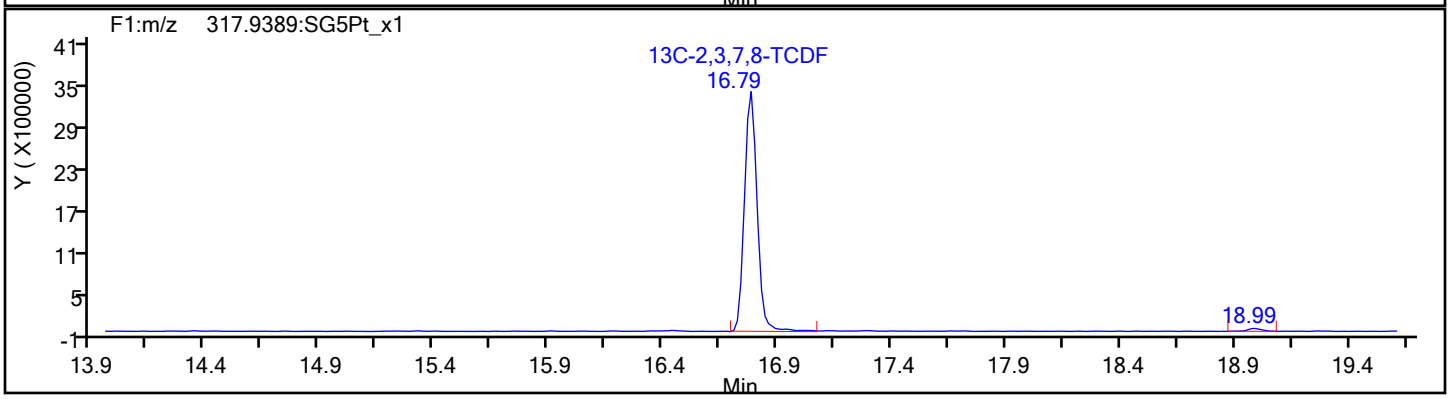

Report Date: 20-Sep-2019 09:56:02 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_44.d		
Injection Date:	19-Sep-2019 20:55:04	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	44
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

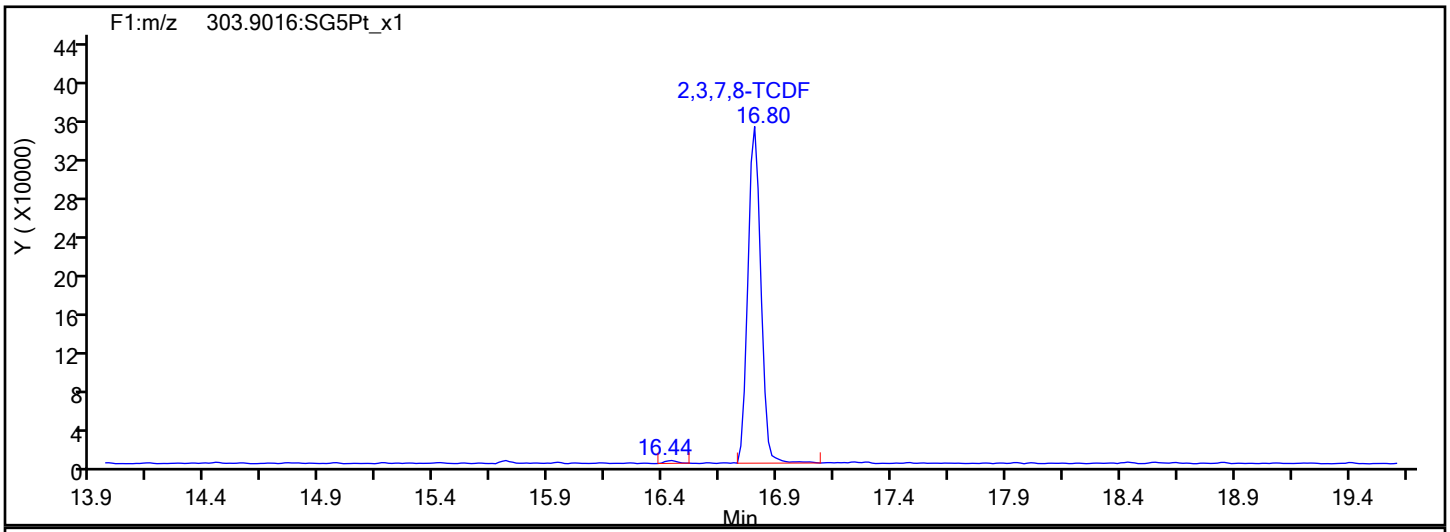

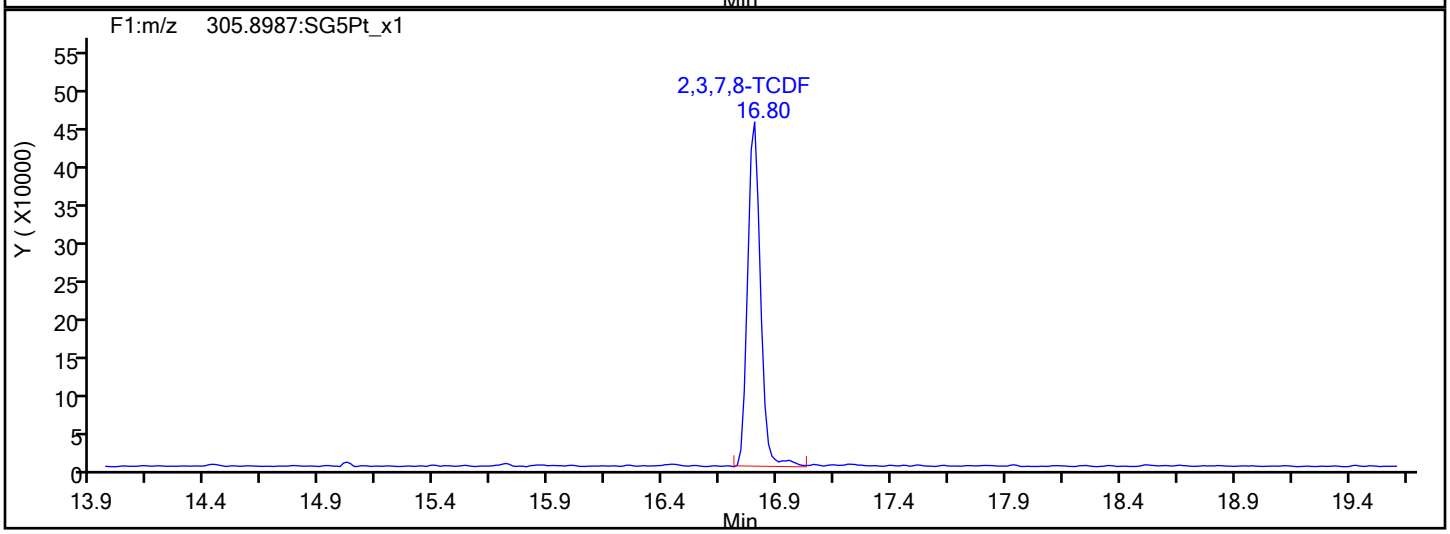

TCDF Interference Mass

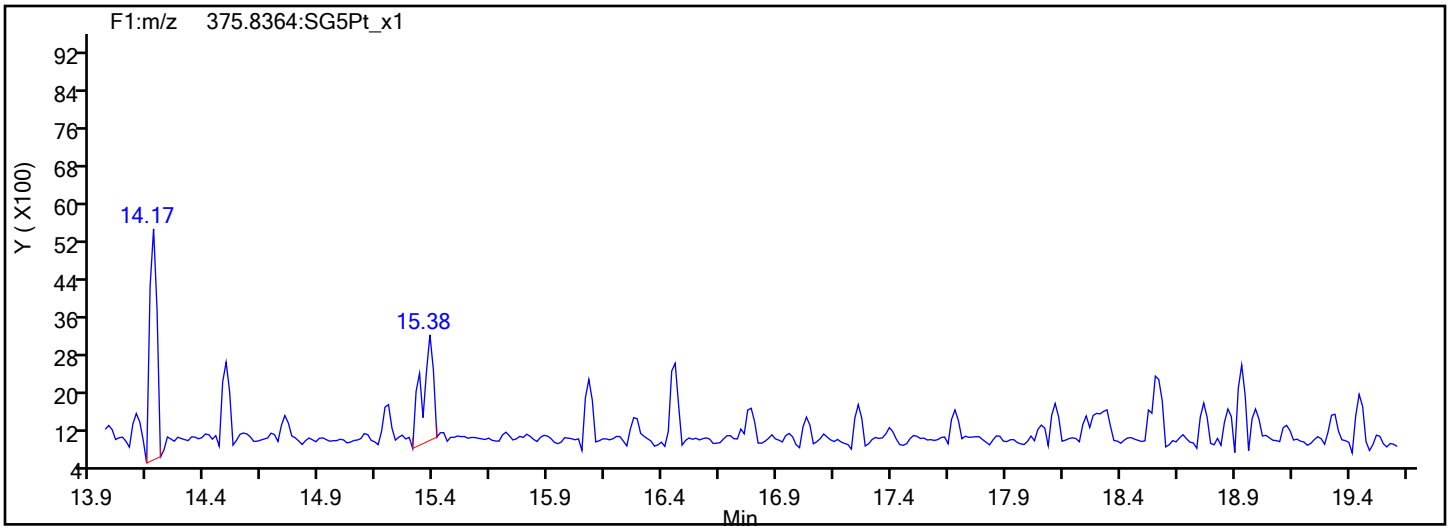

Report Date: 20-Sep-2019 09:56:02 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_44.d		
Injection Date:	19-Sep-2019 20:55:04	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	44
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

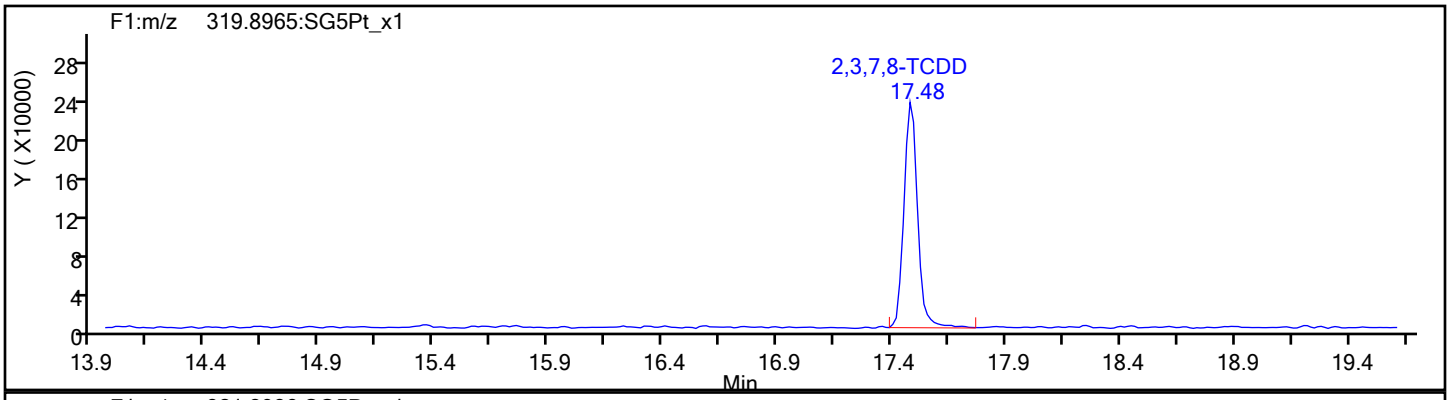

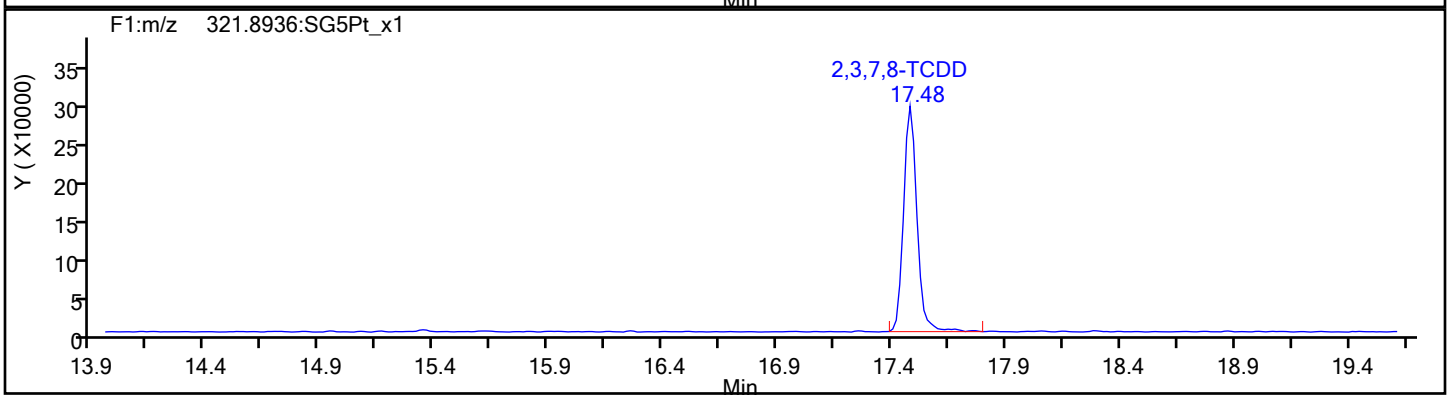

TCDD Standards

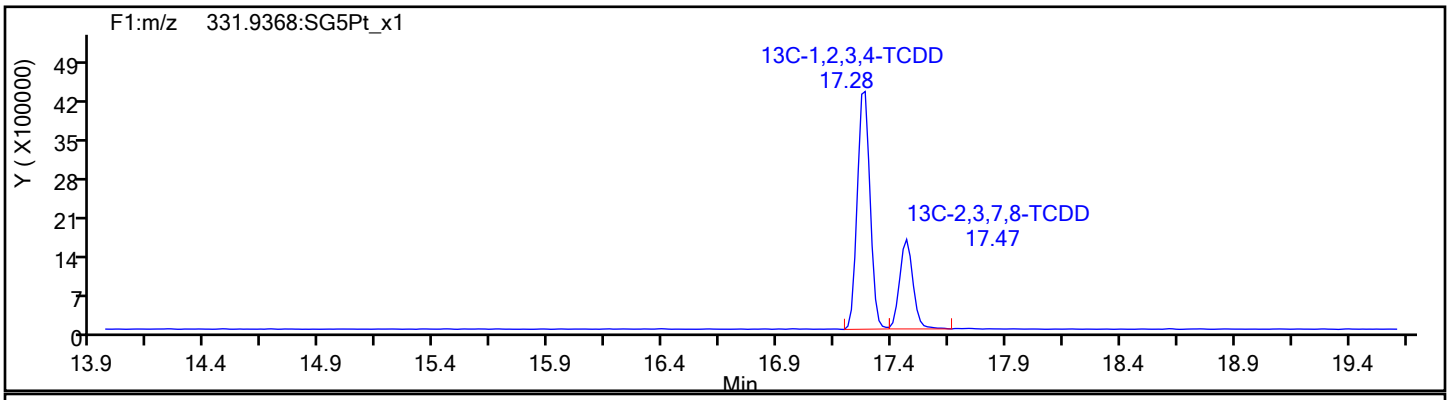

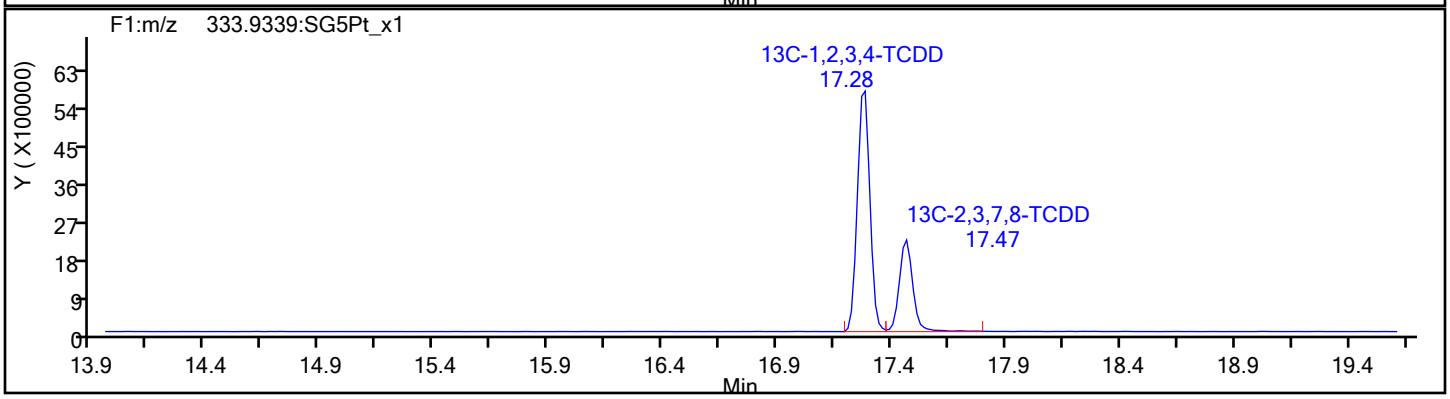

Report Date: 20-Sep-2019 09:56:02 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_44.d		
Injection Date:	19-Sep-2019 20:55:04	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	44
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

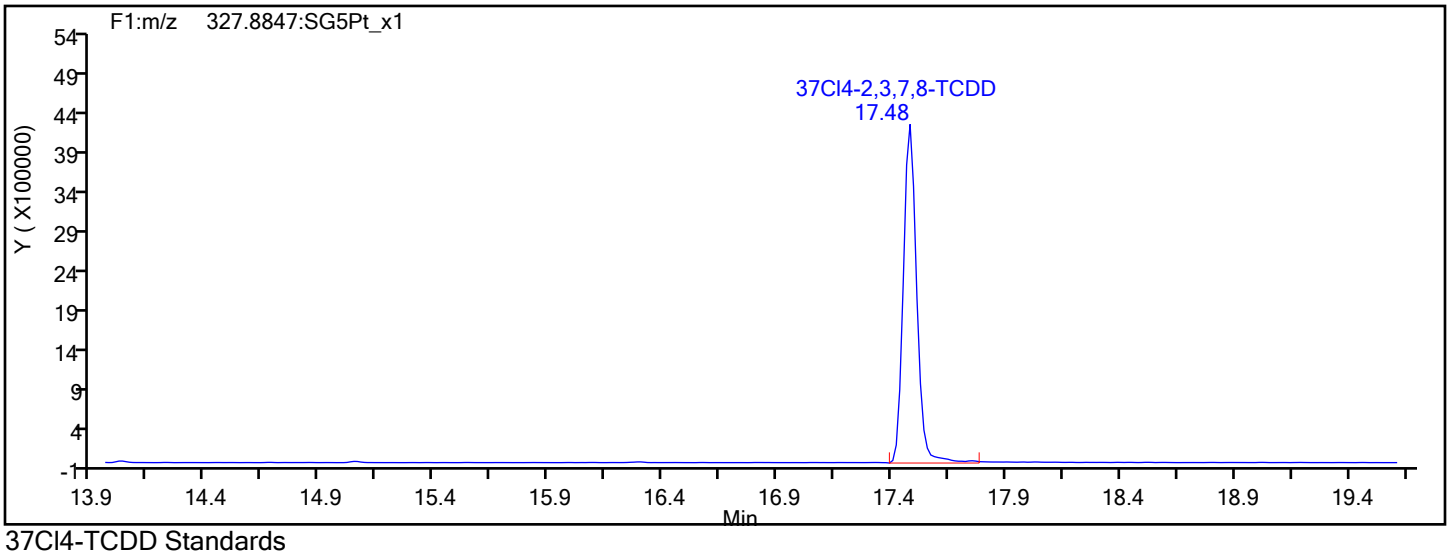

37Cl4-TCDD Standards

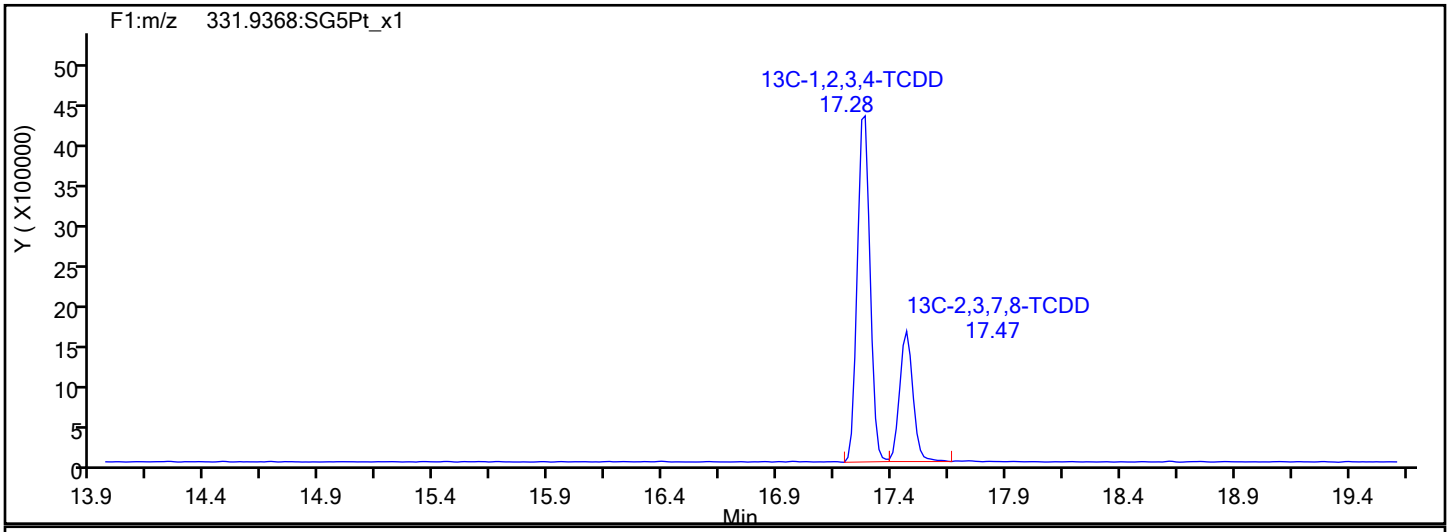

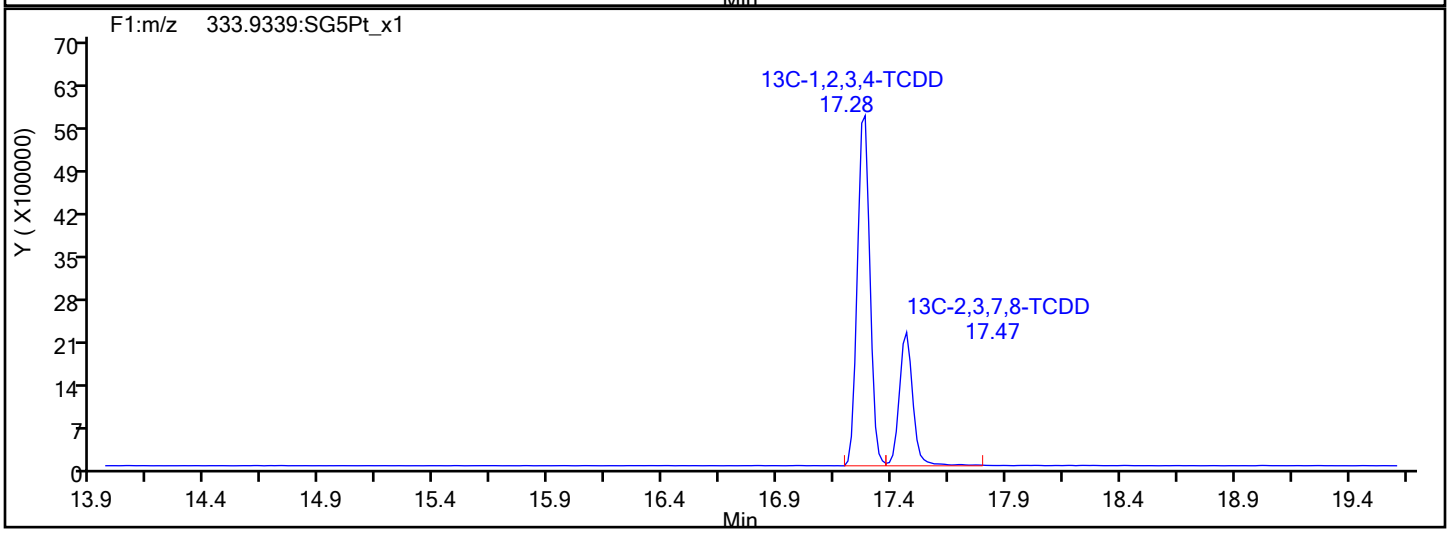

Report Date: 20-Sep-2019 09:56:02 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

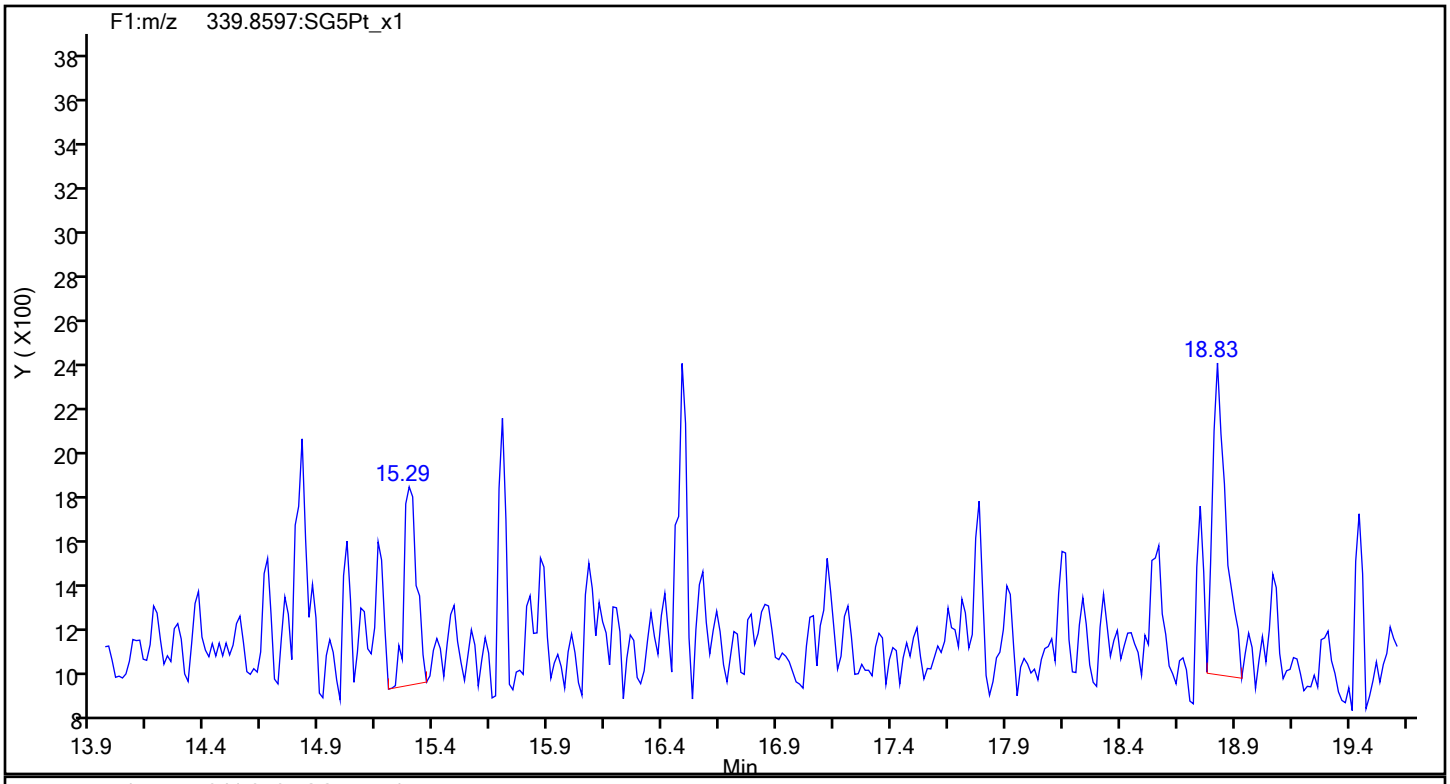

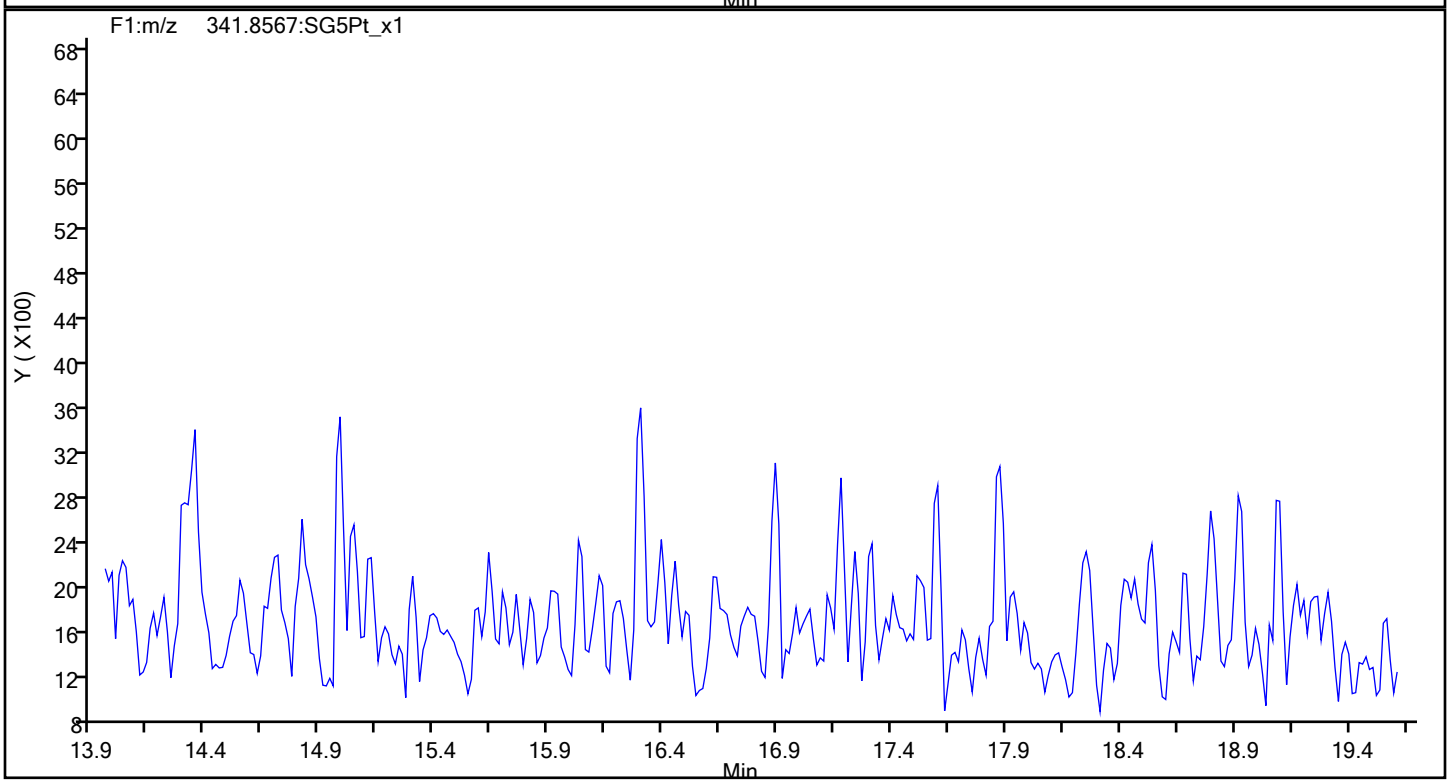

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F1 PeCDFs

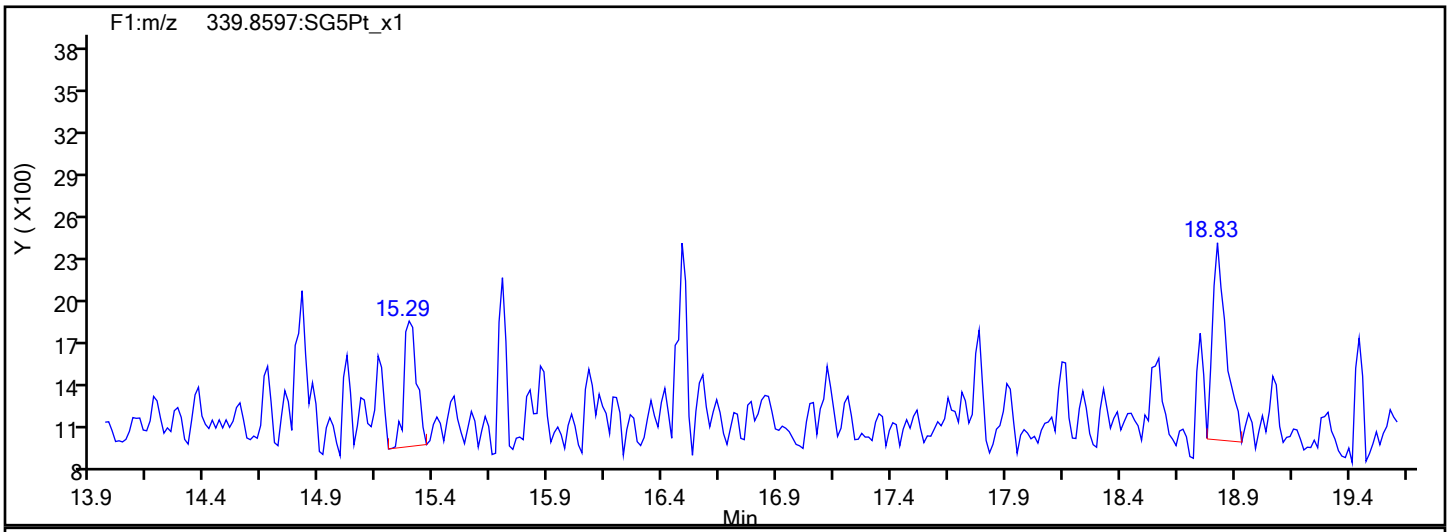

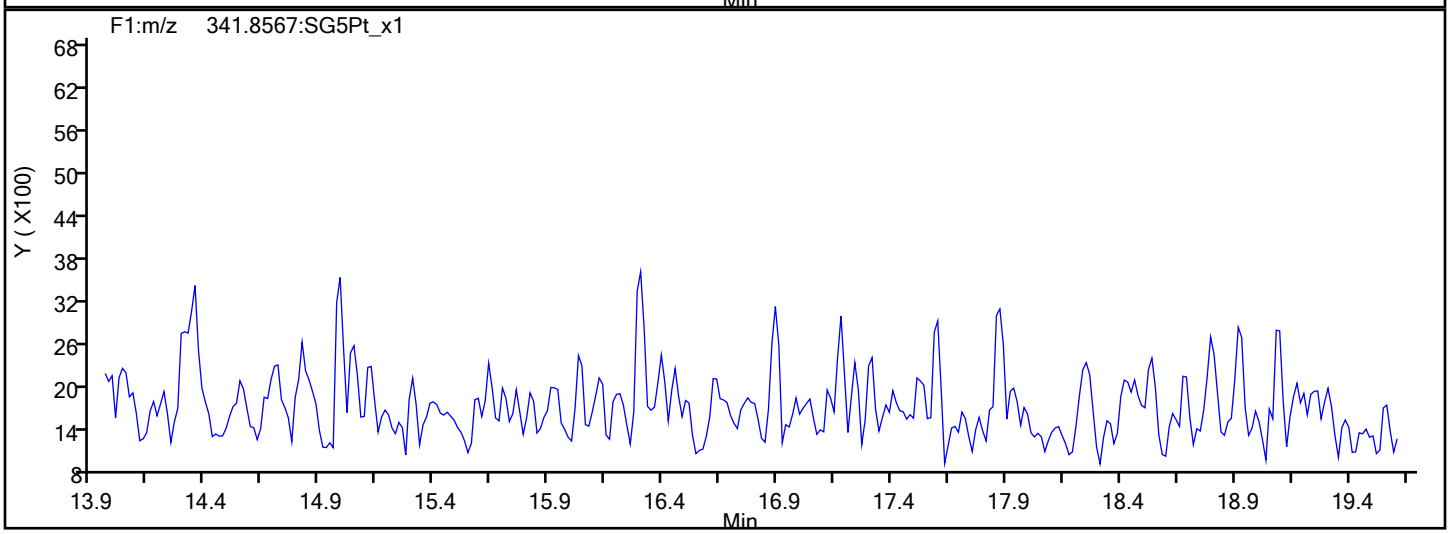

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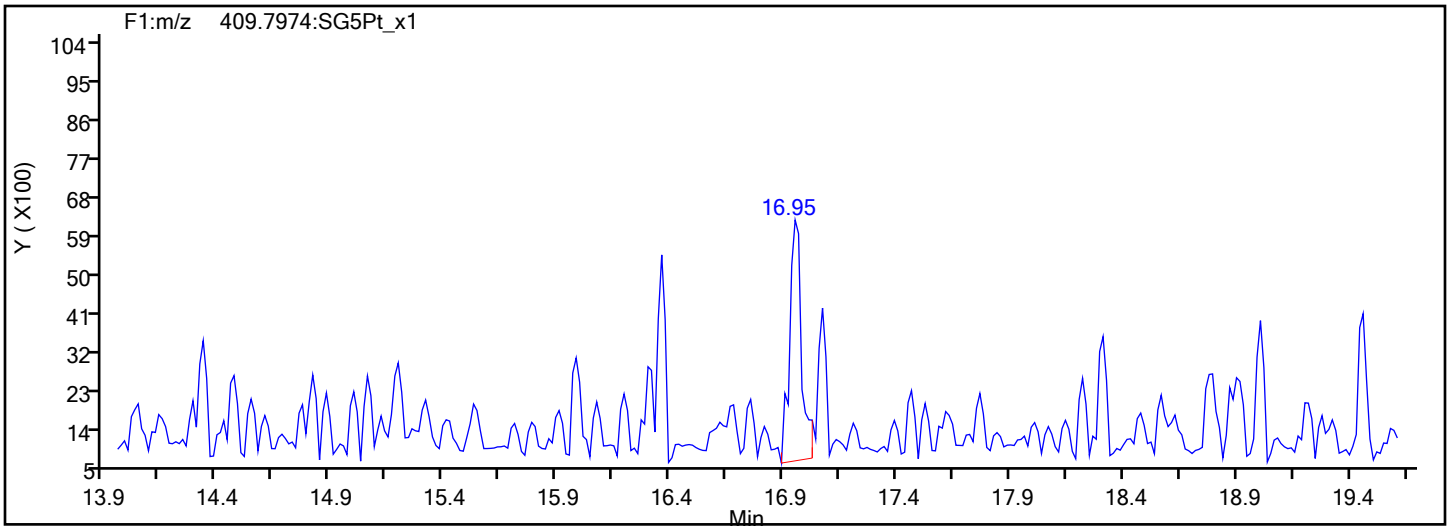

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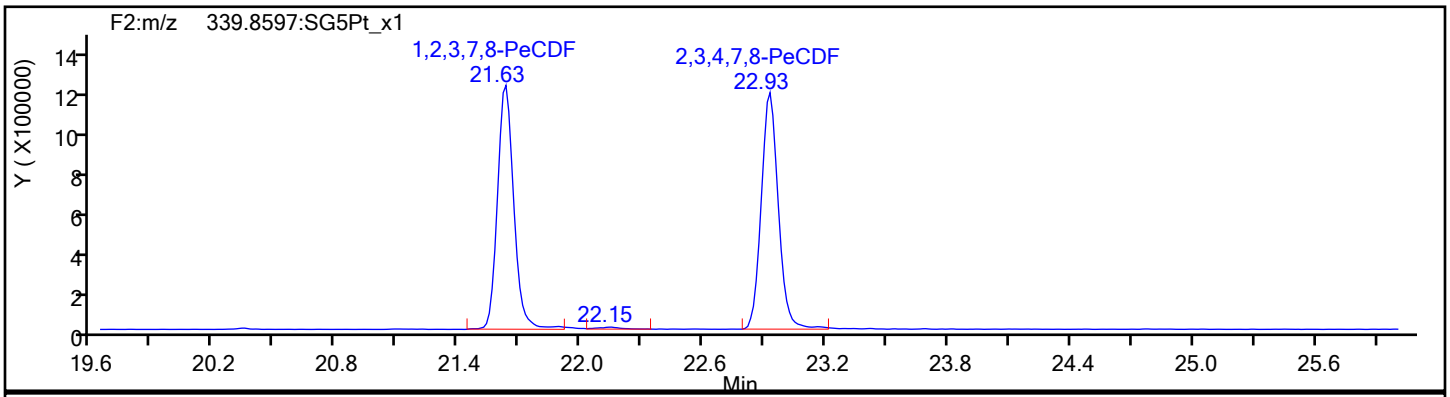

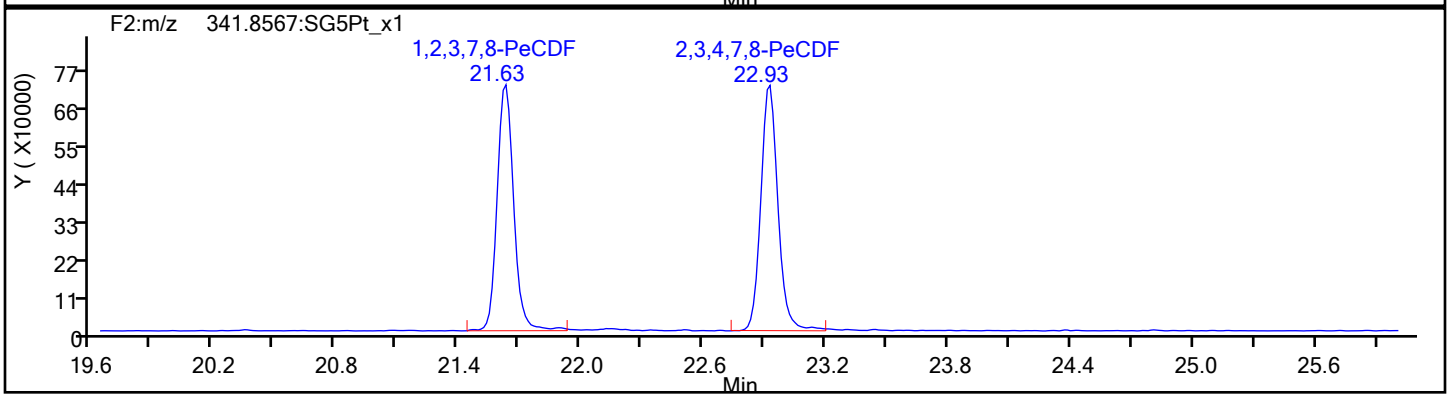

PeCDF Standards

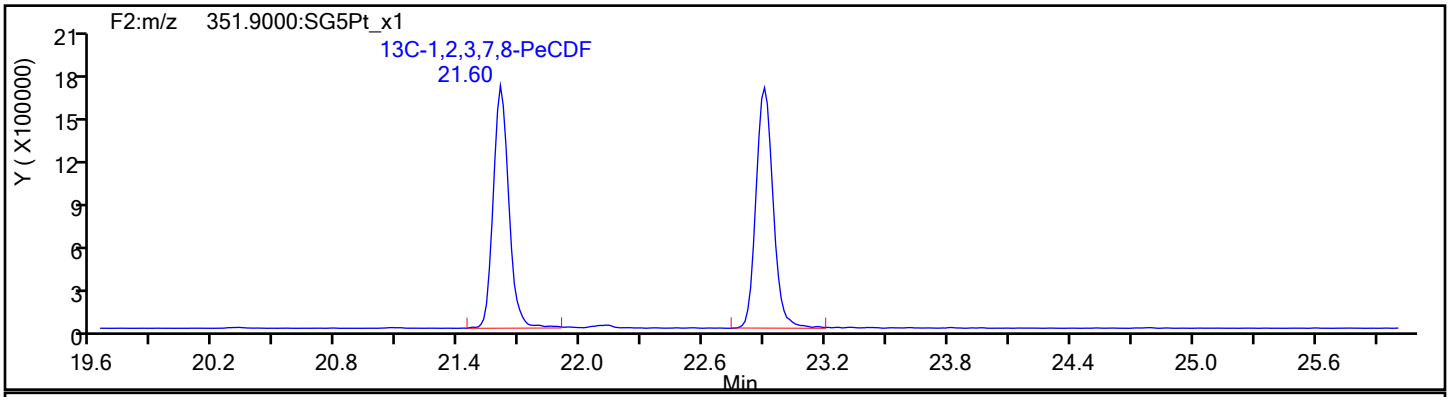

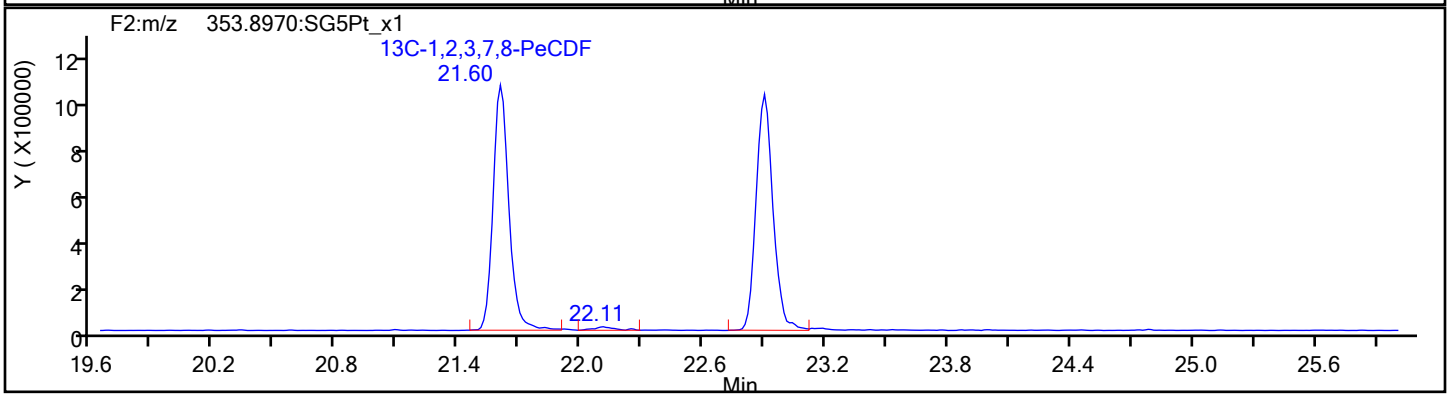

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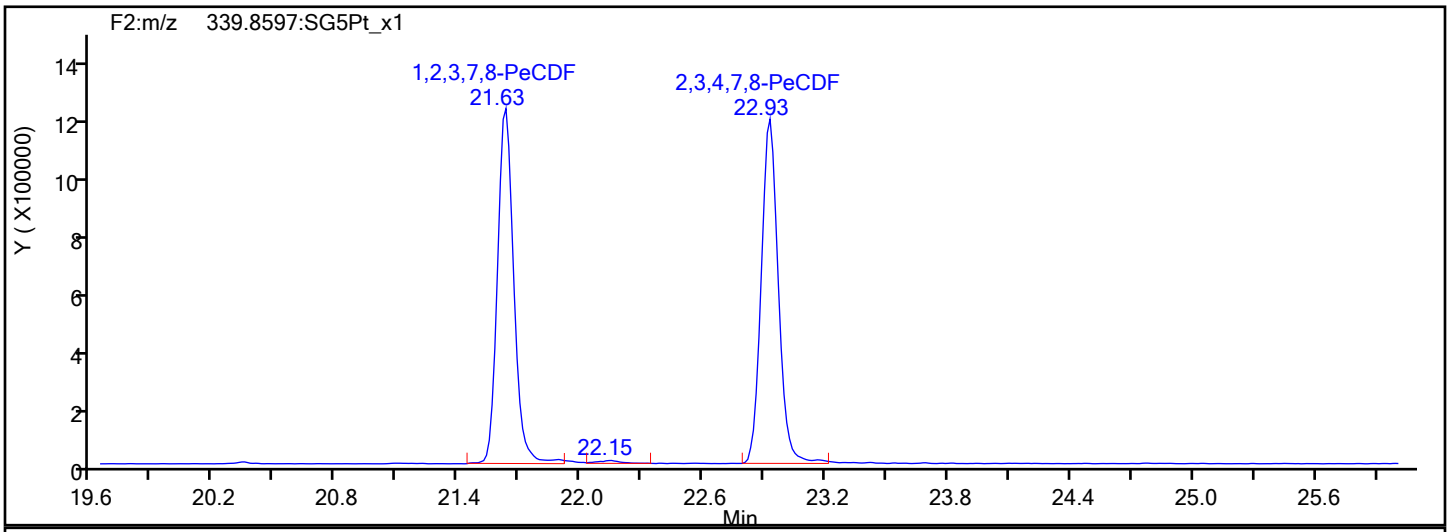

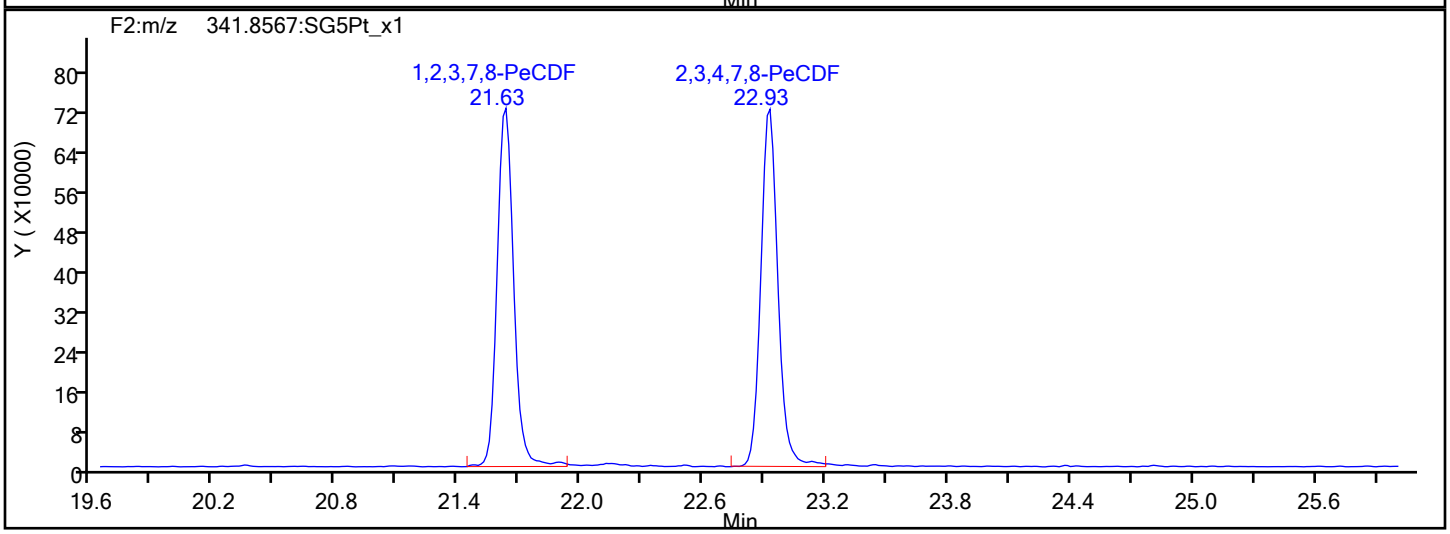

PeCDF Interference Mass

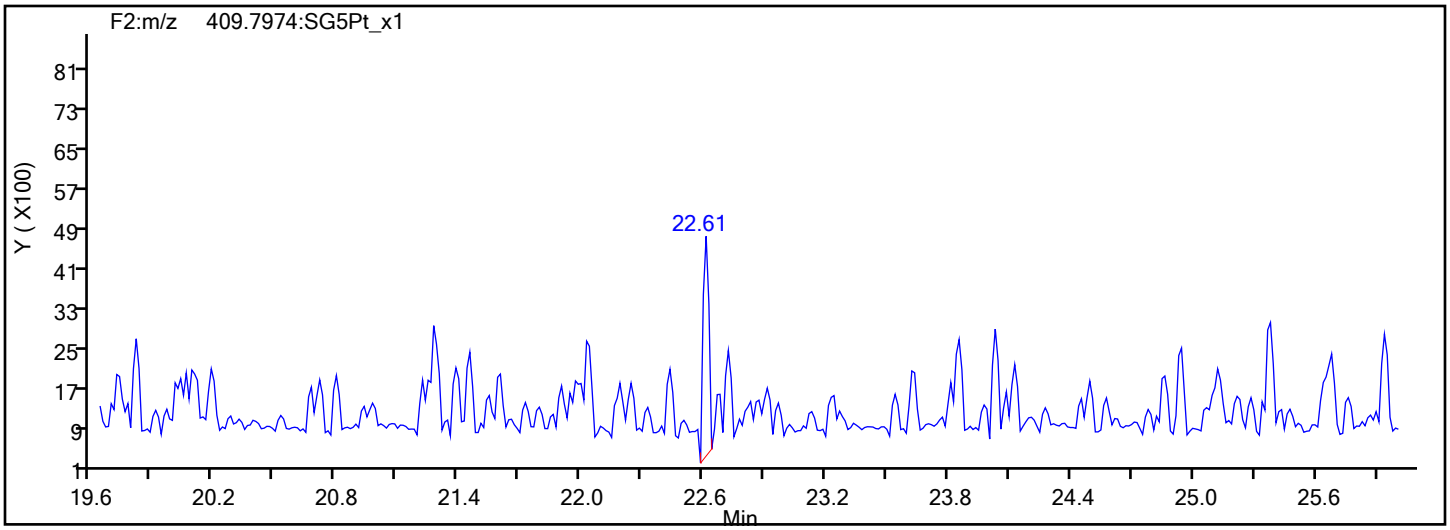

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Eurofins TestAmerica, Sacramento

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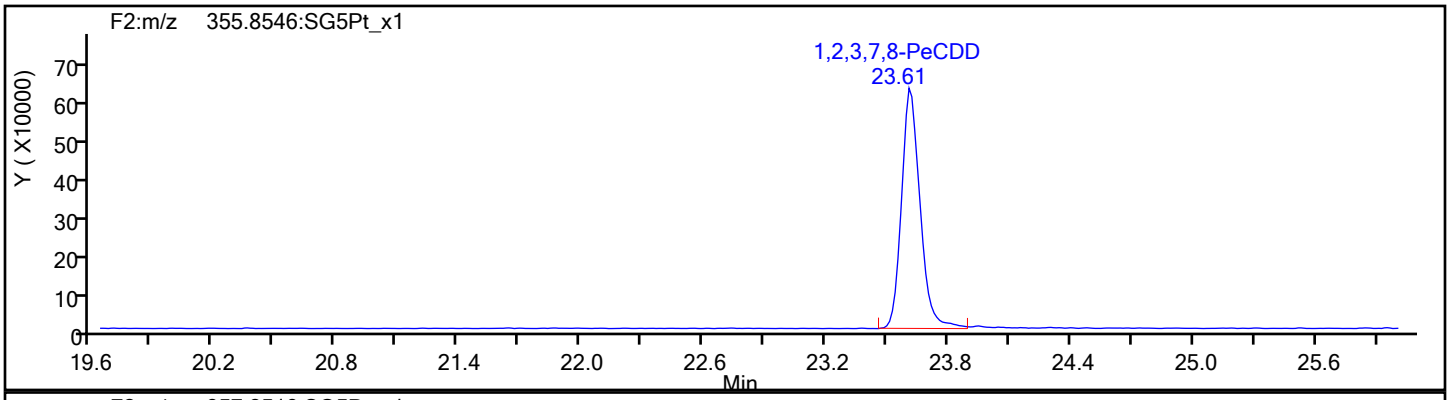

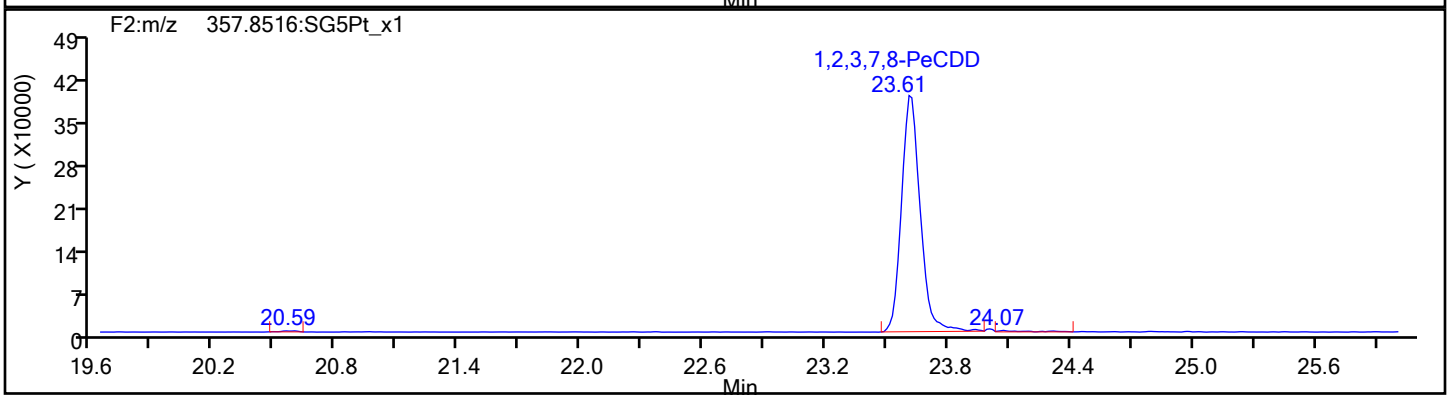

PeCDD Standards

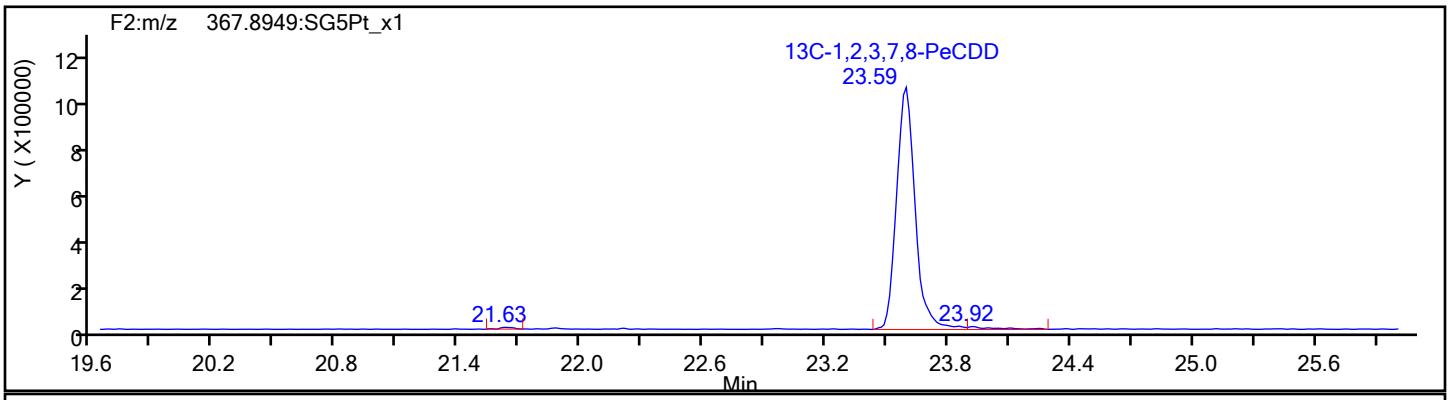

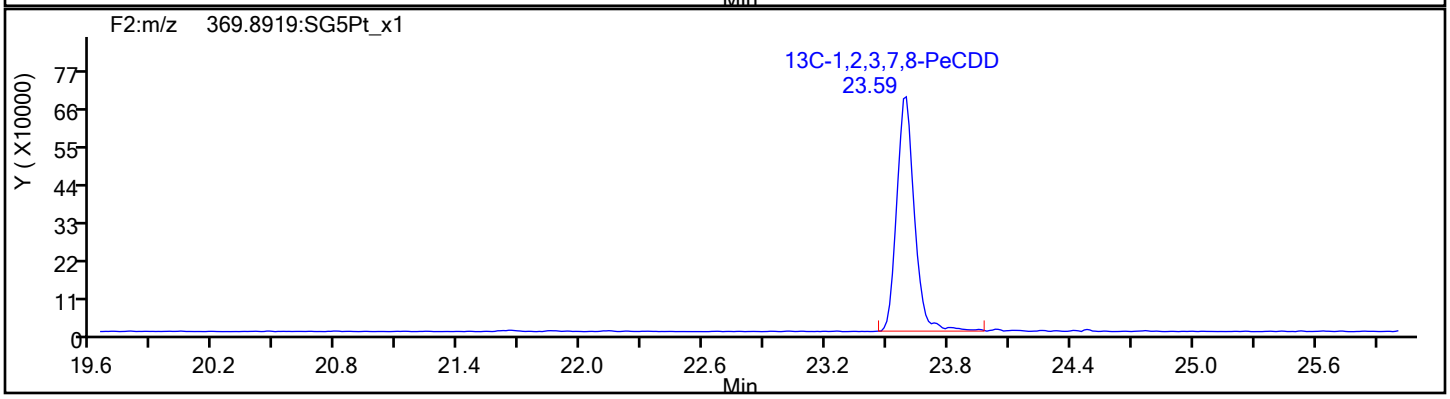

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Eurofins TestAmerica, Sacramento

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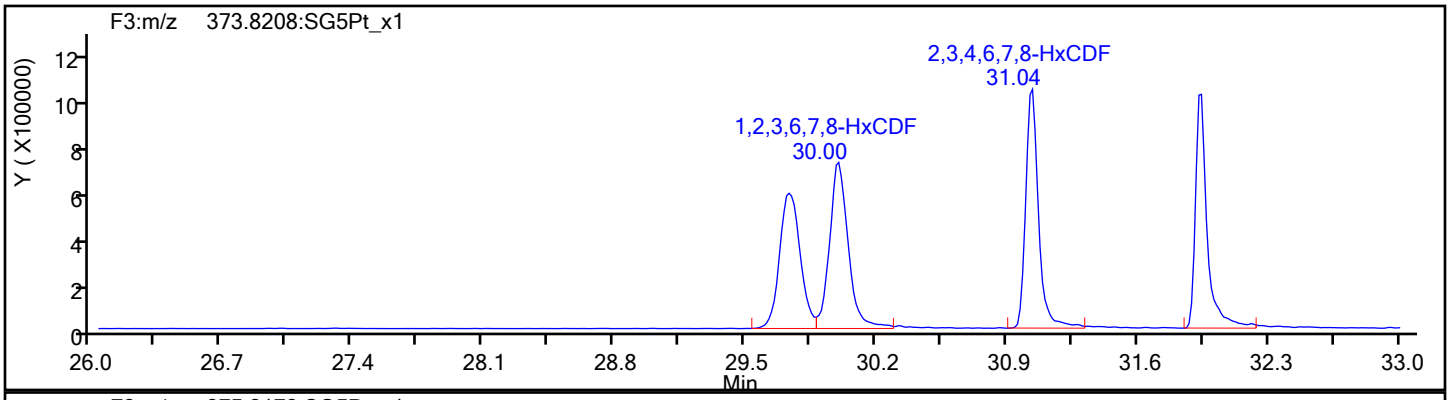

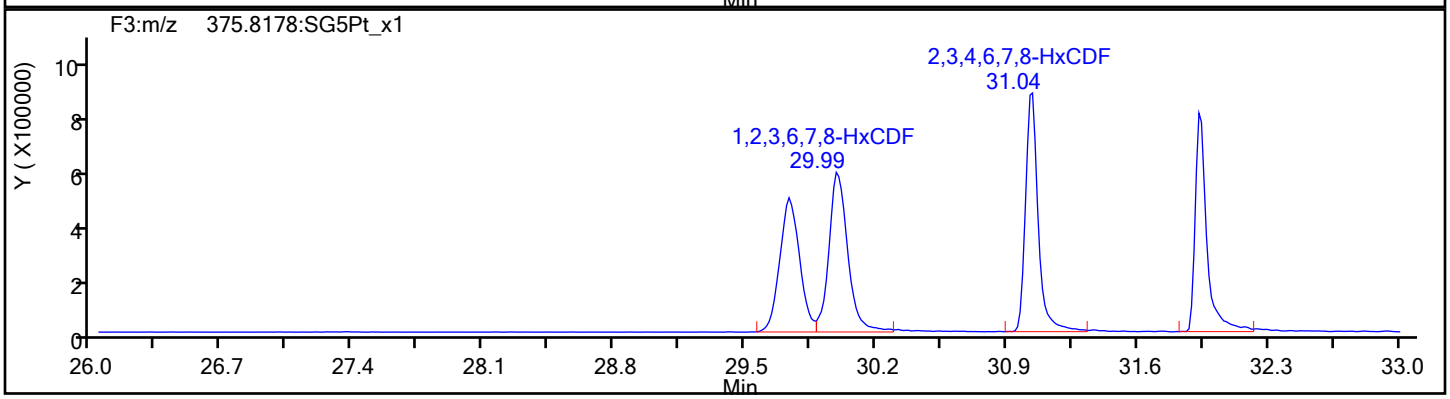

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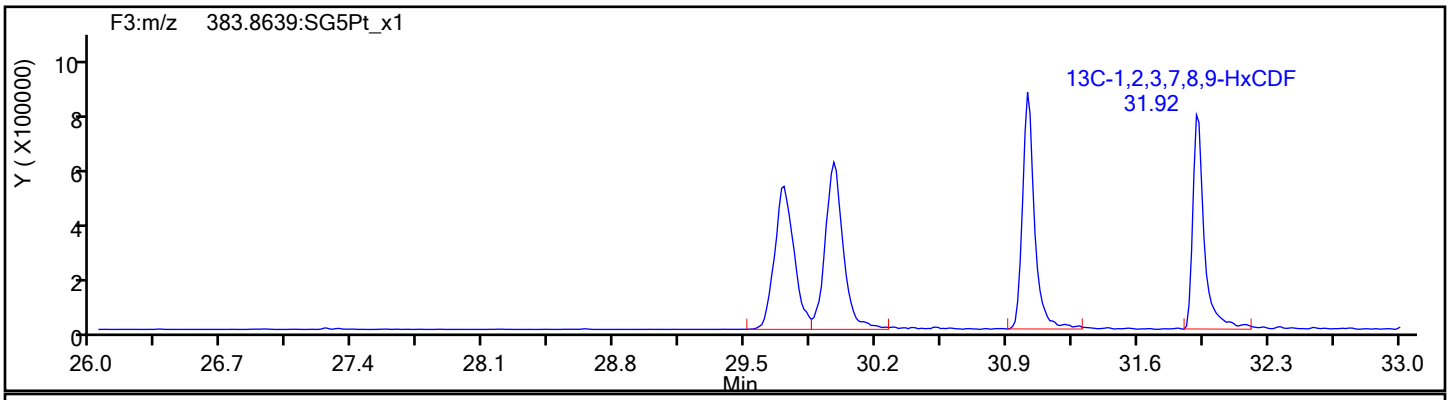

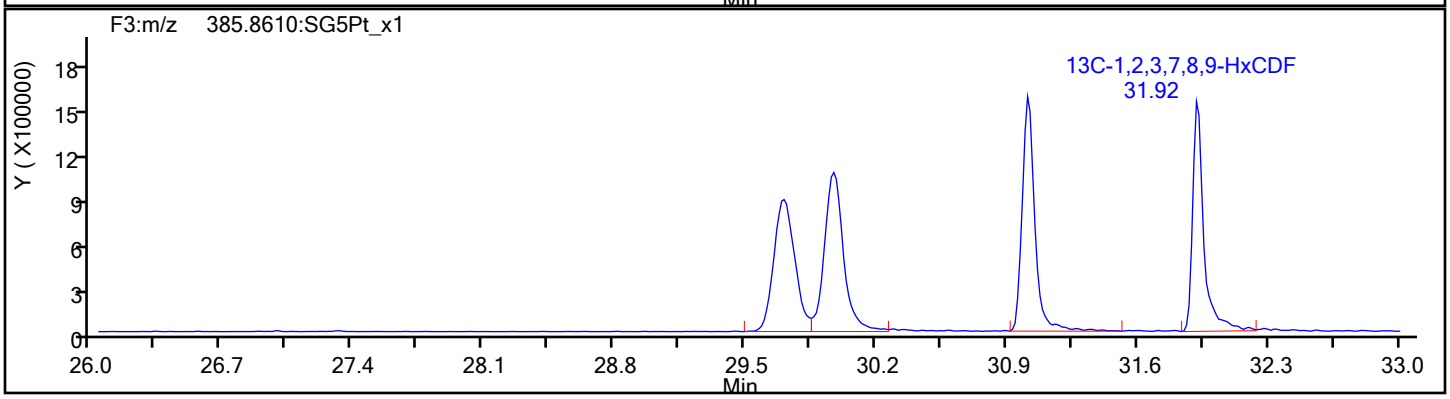

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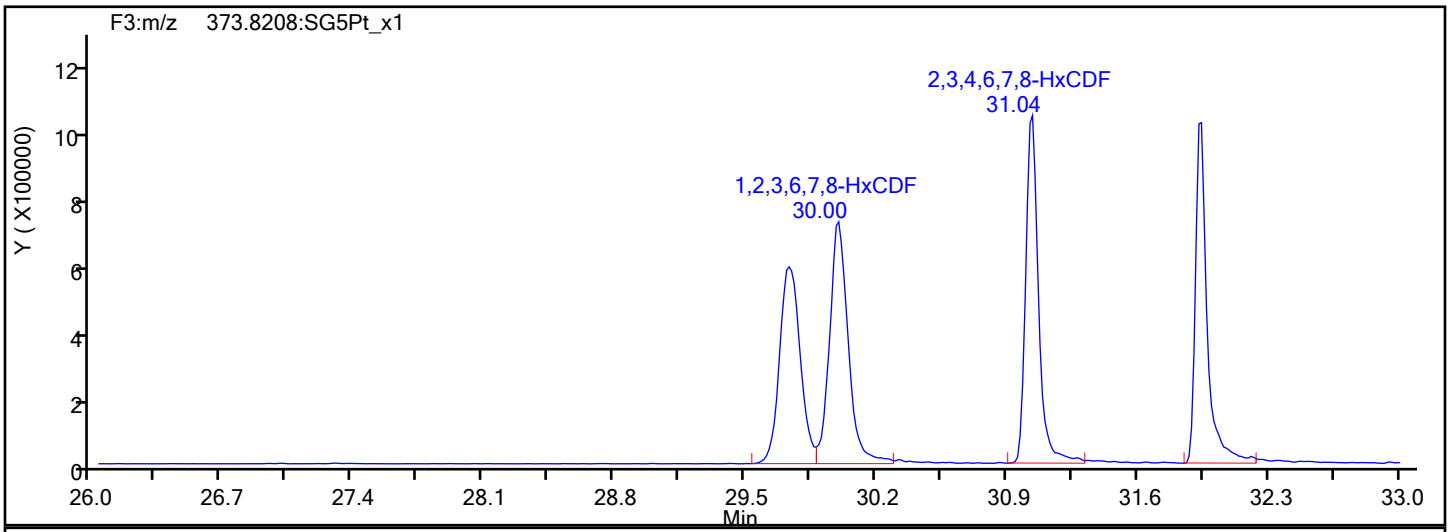

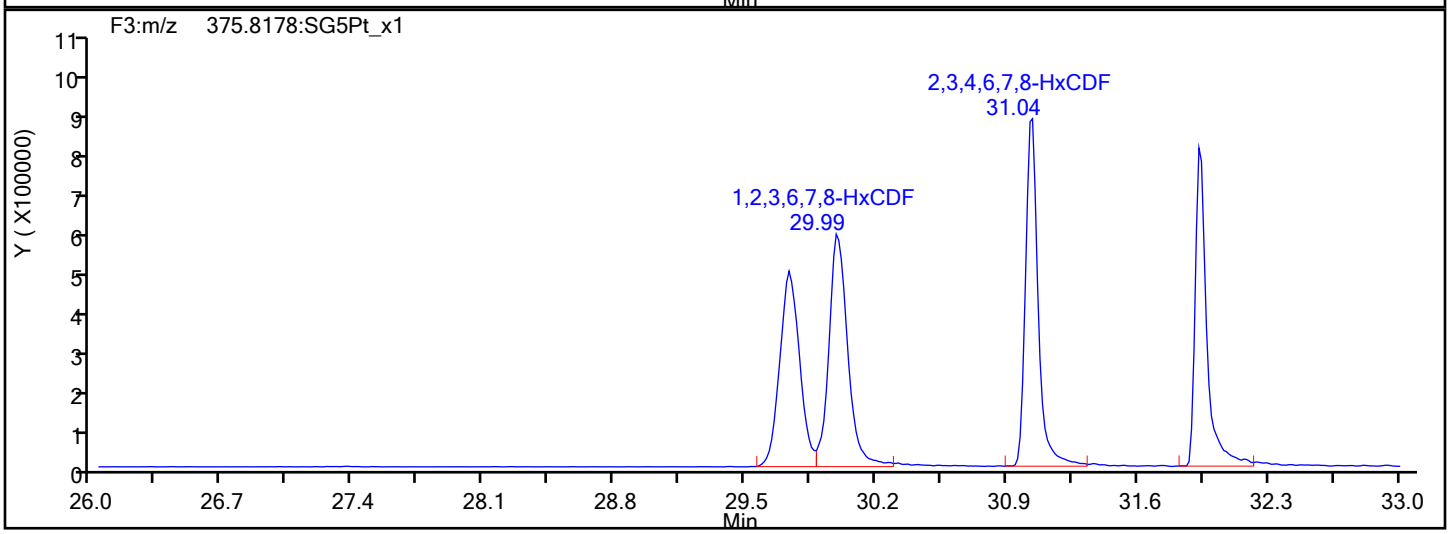

HxCDF Interference Mass

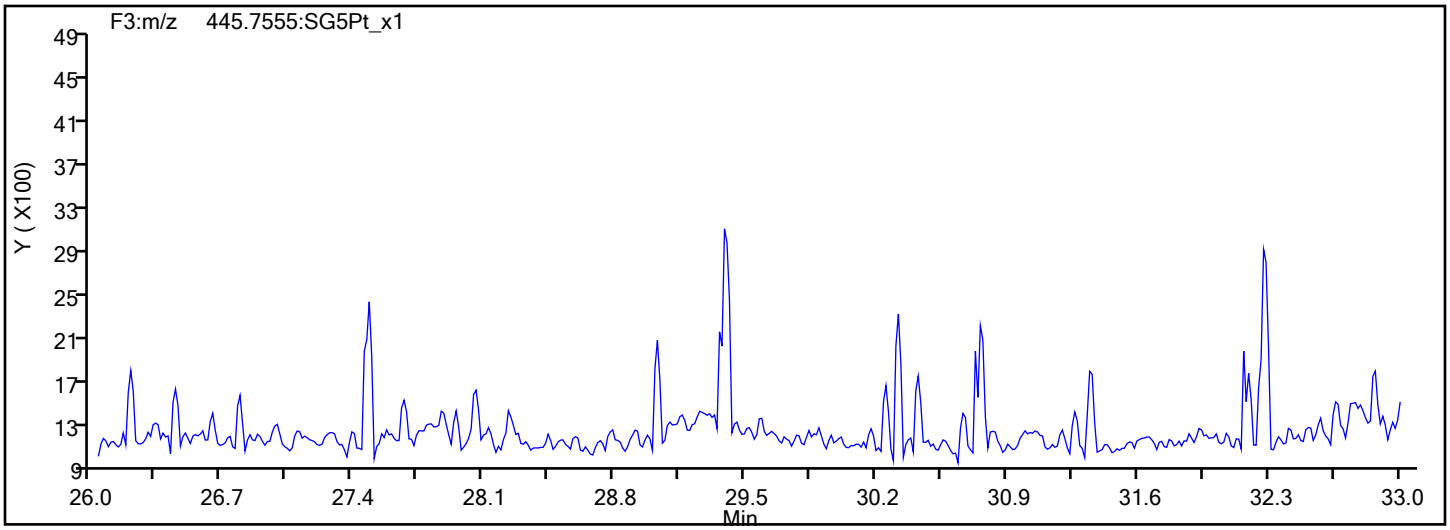

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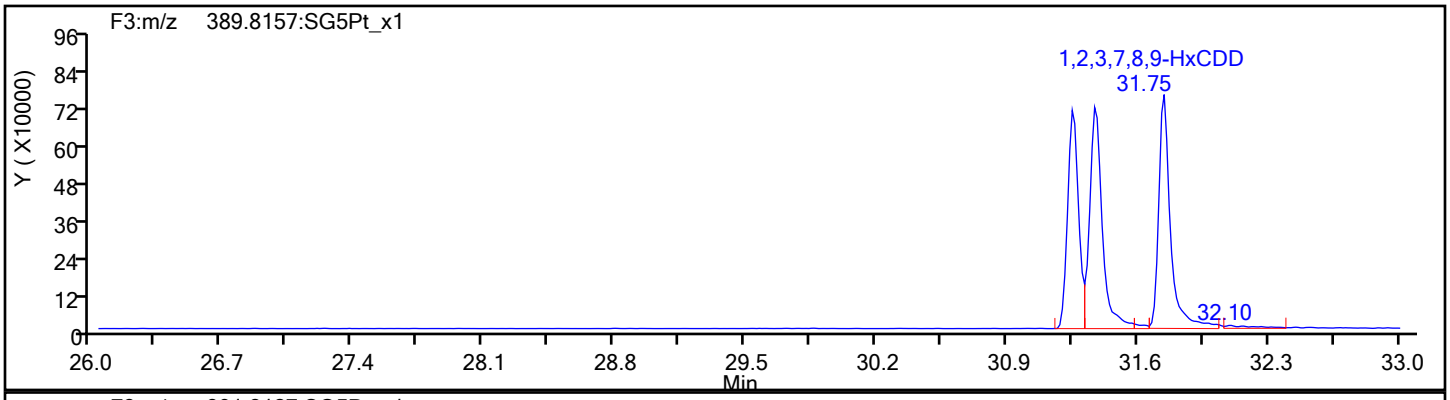

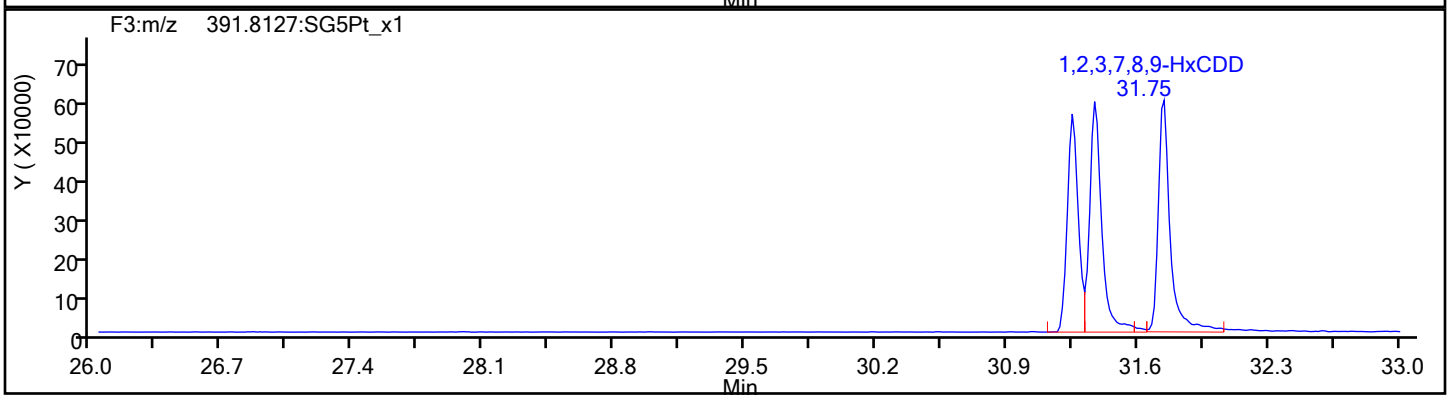

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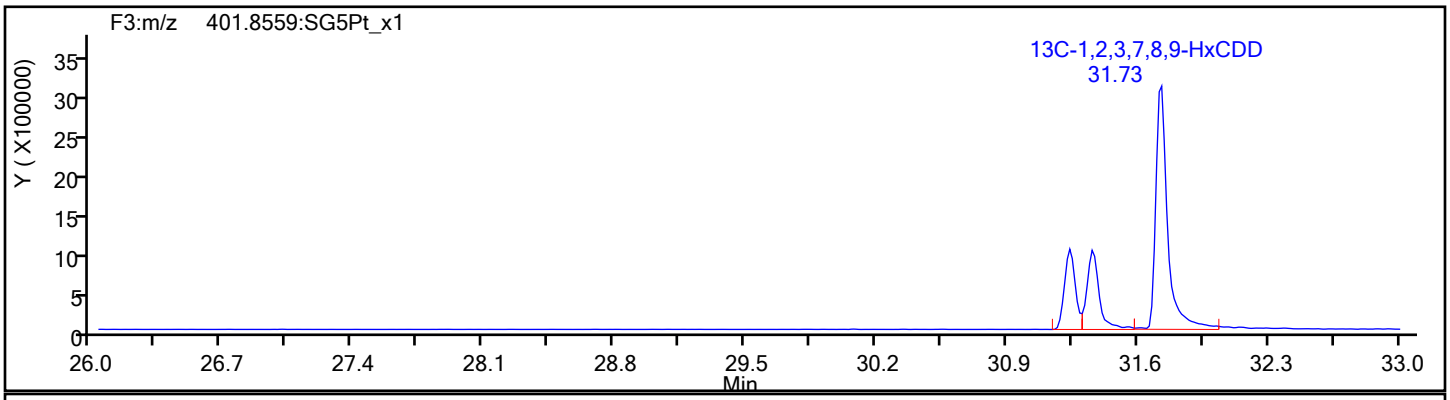

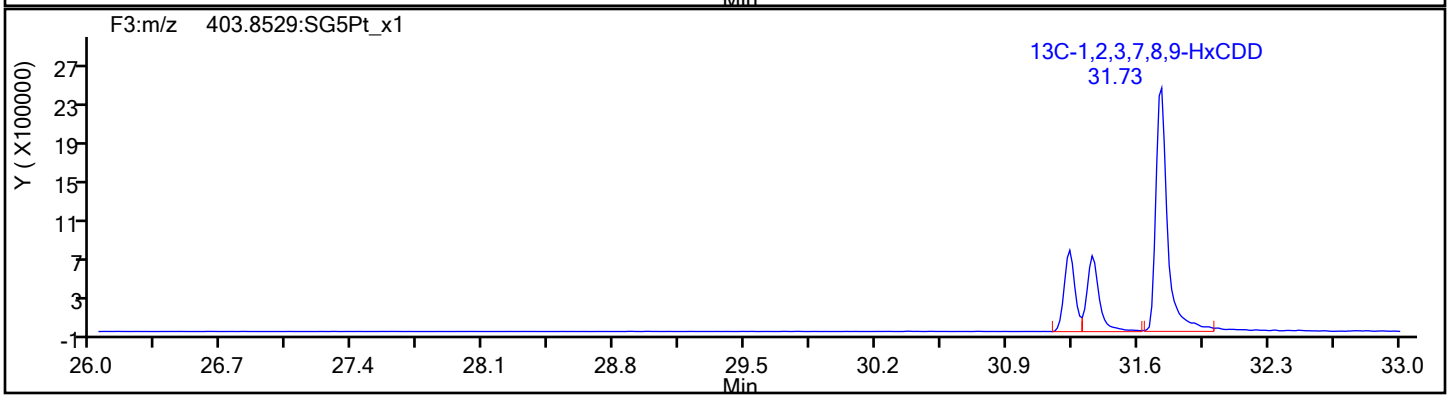

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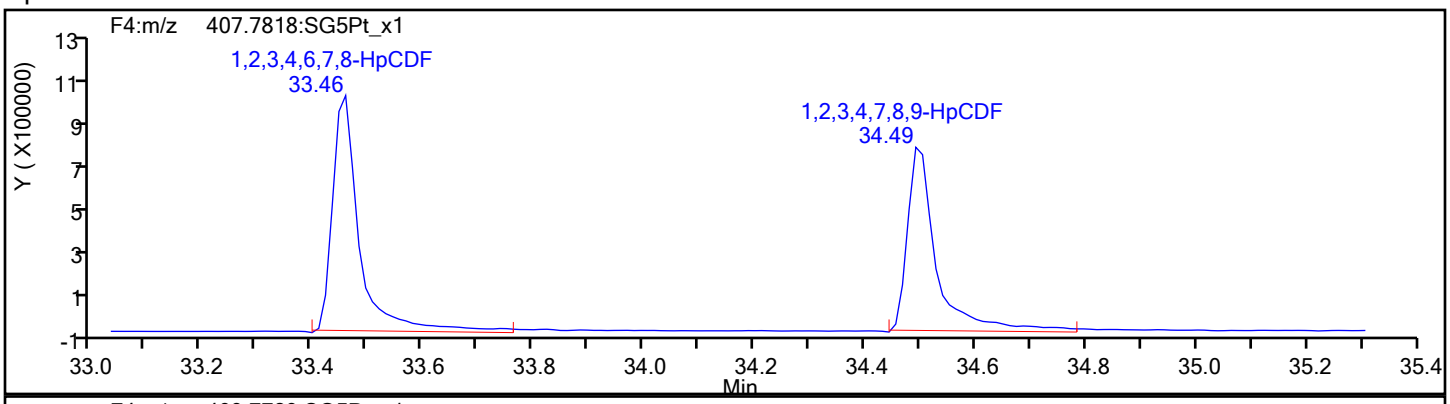

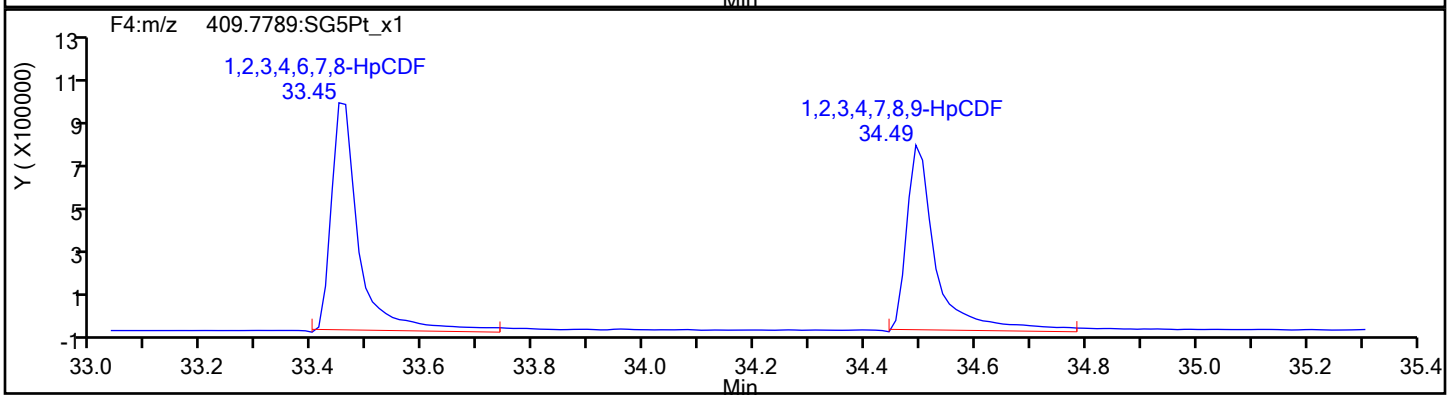

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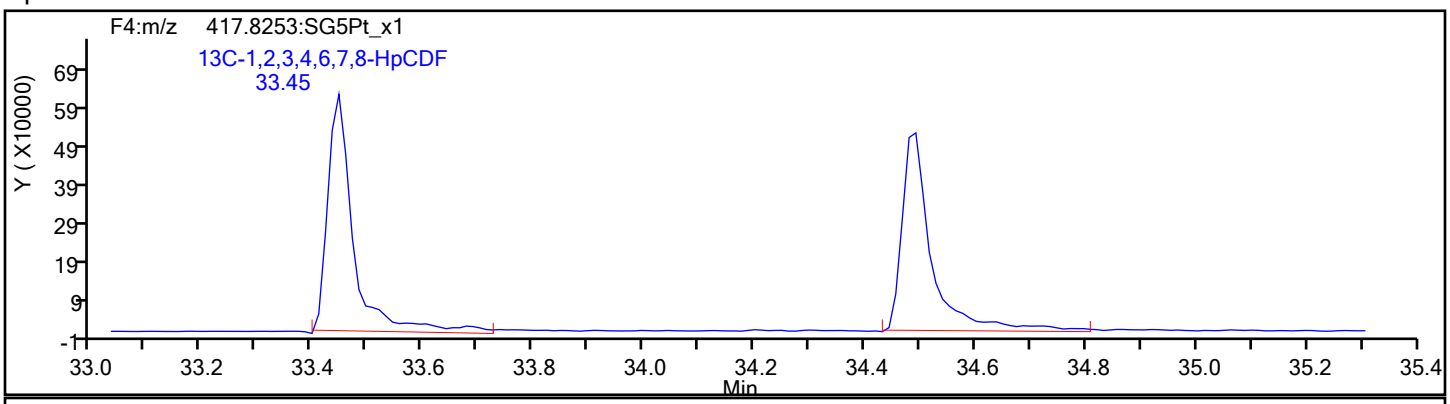

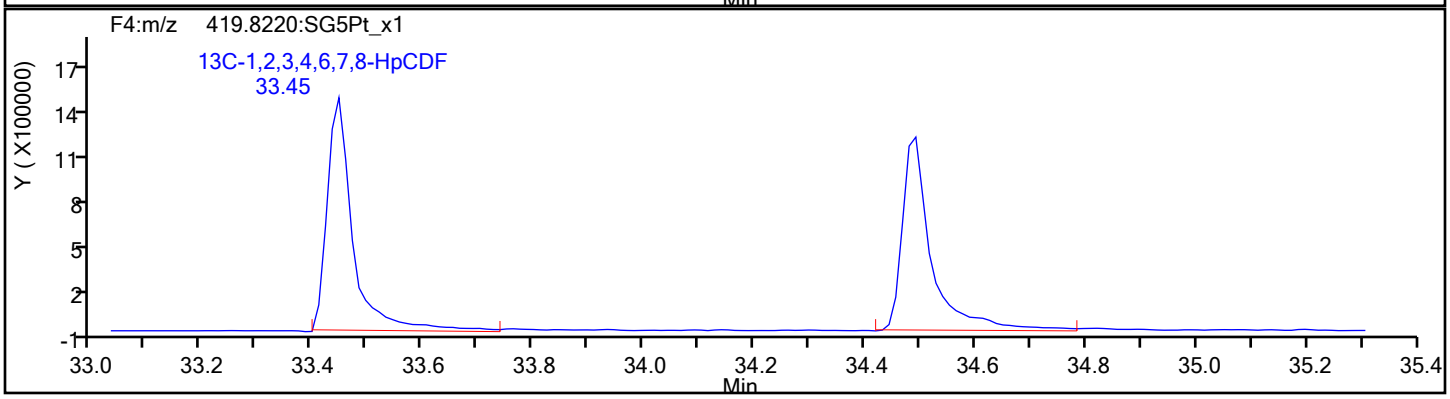

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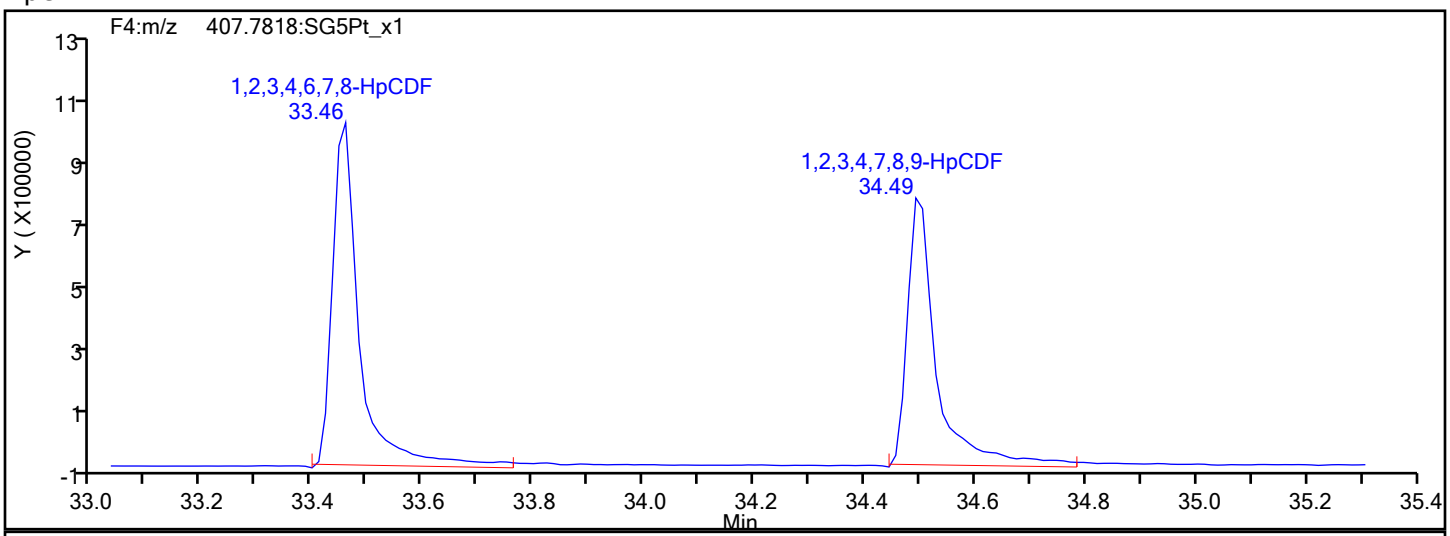

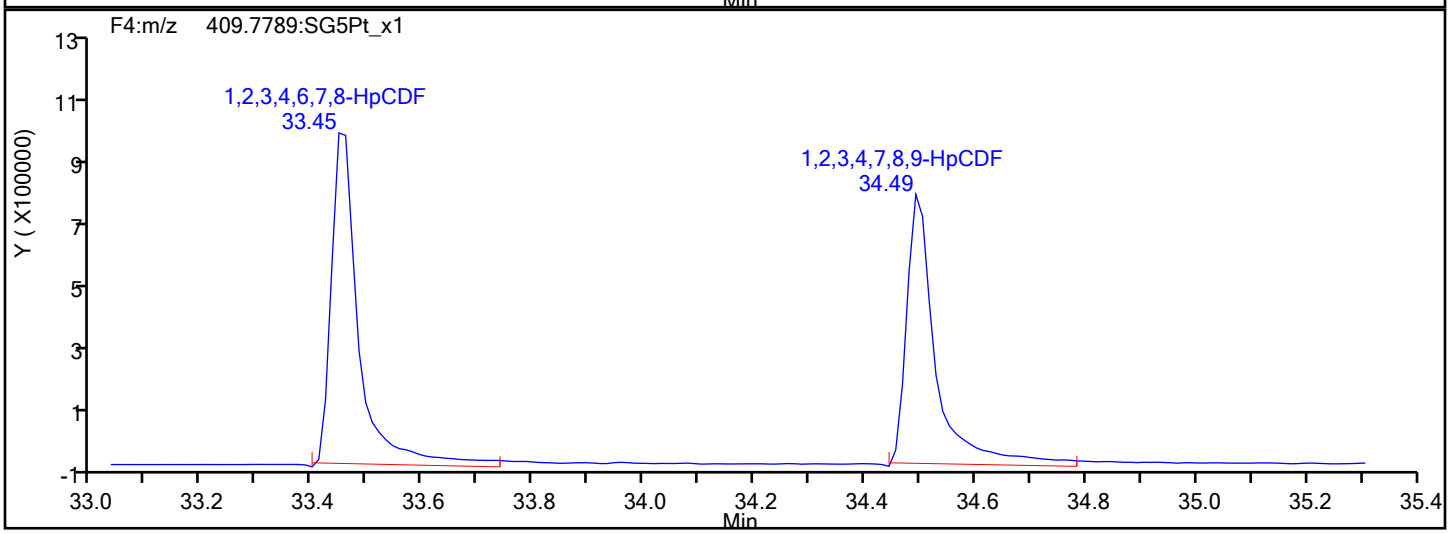

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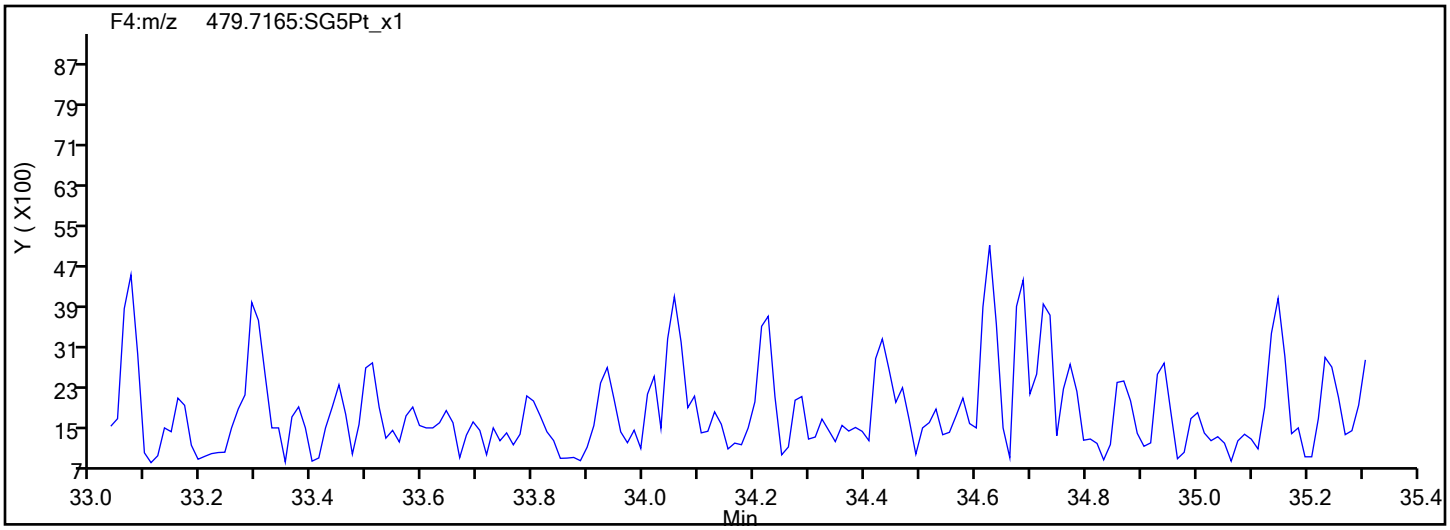

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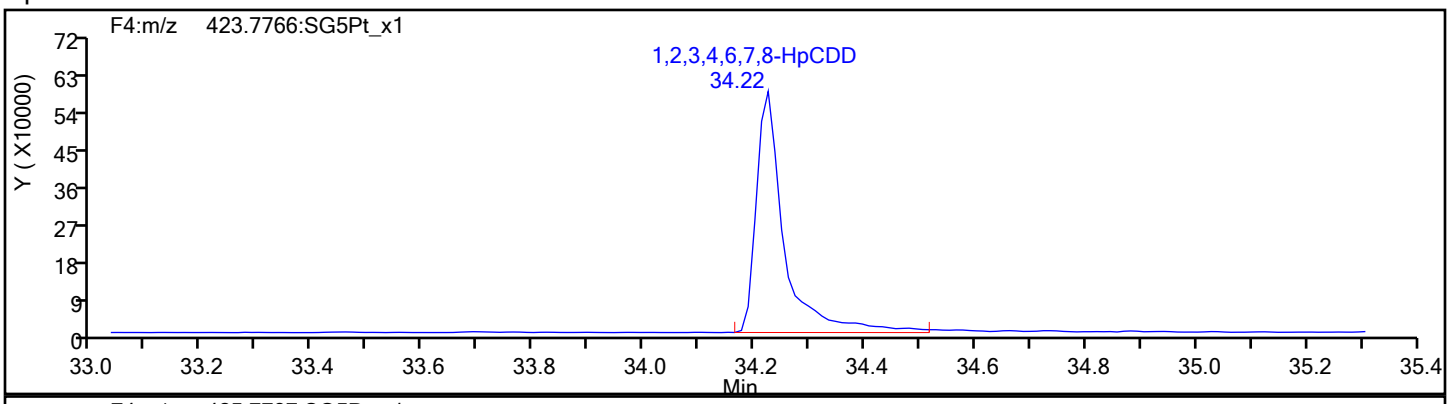

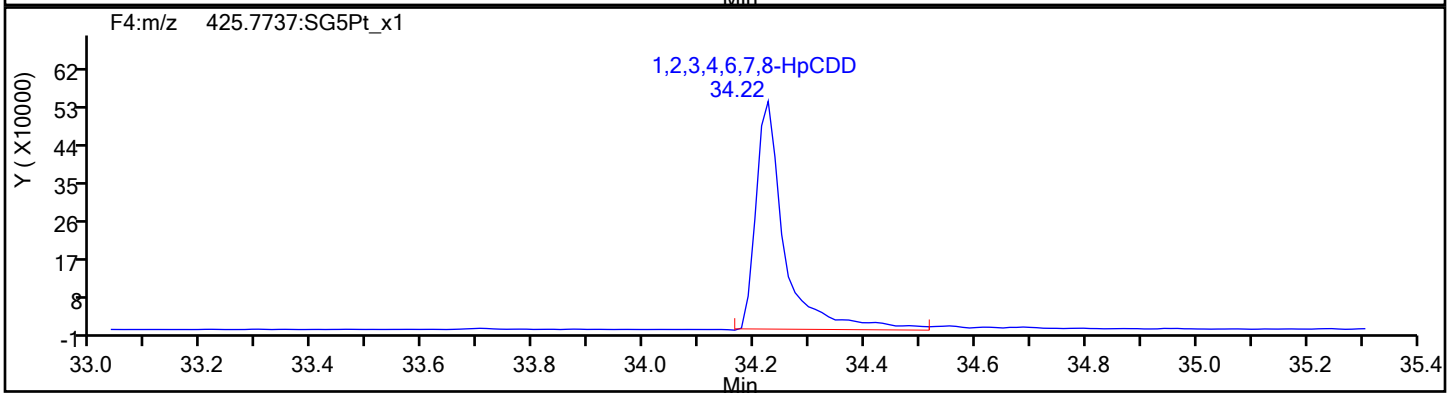

HpCDD Standards

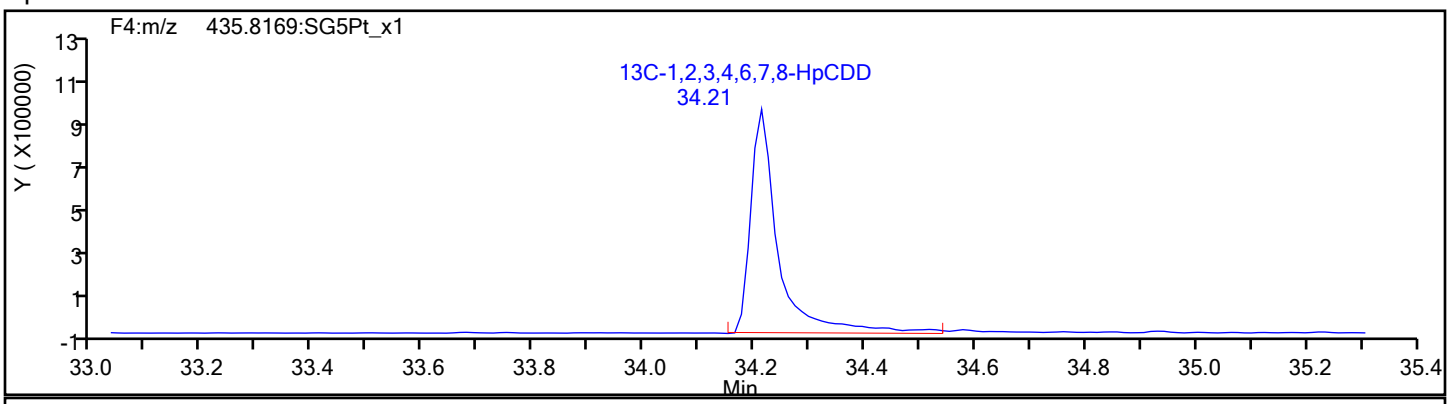

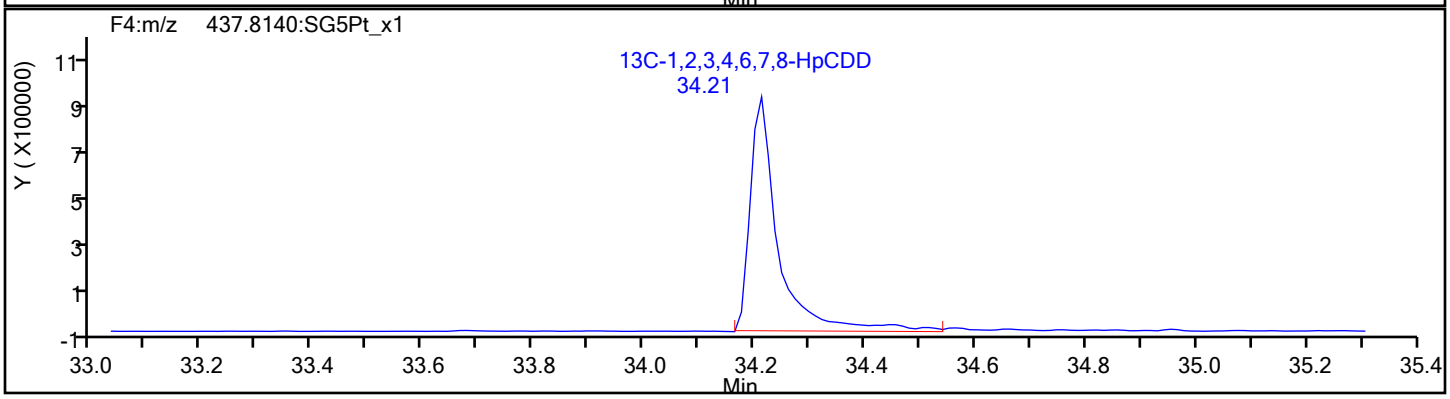

Report Date: 20-Sep-2019 09:56:02 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_44.d		
Injection Date:	19-Sep-2019 20:55:04	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	44
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

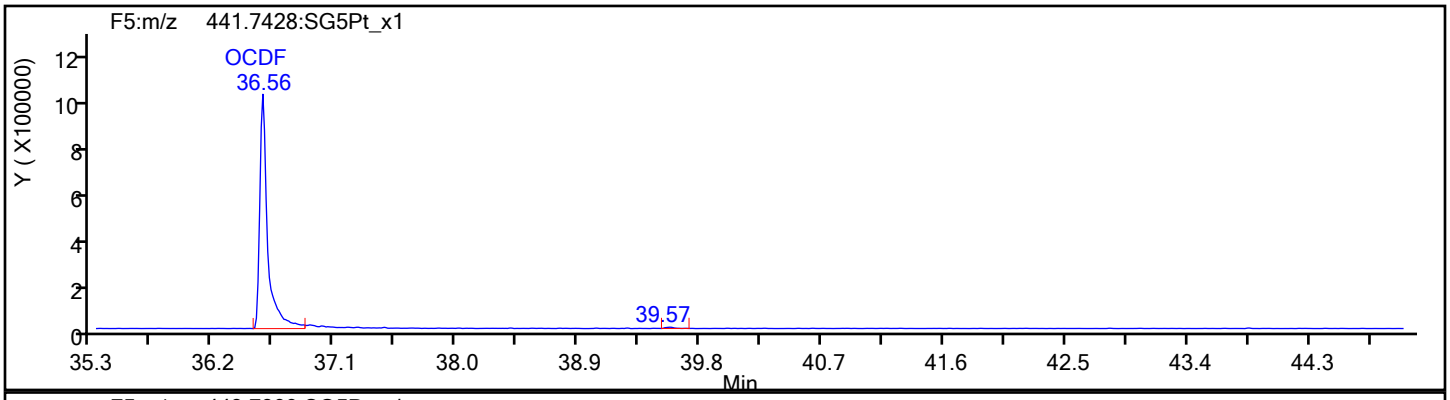

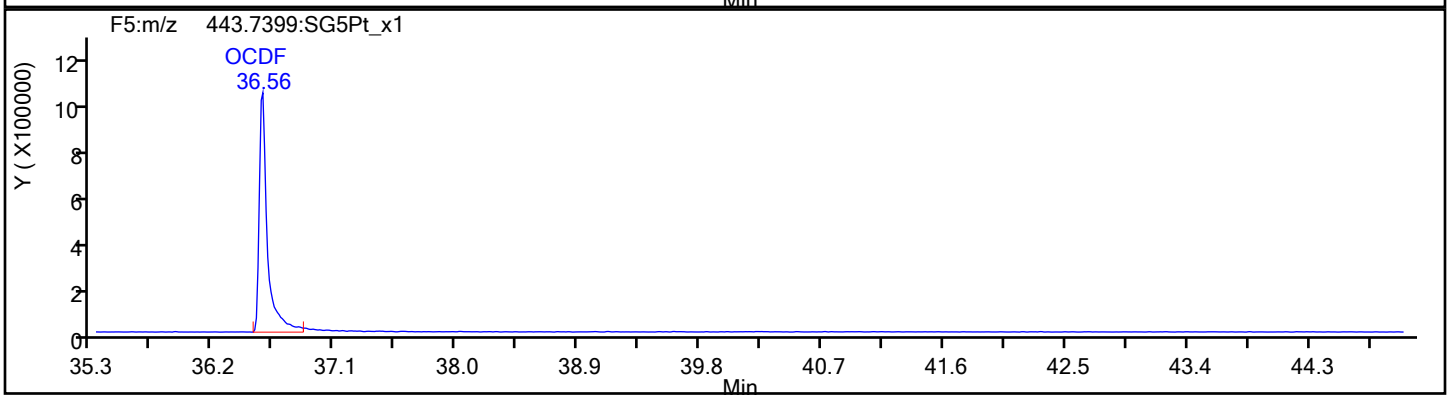

OCDF Standards

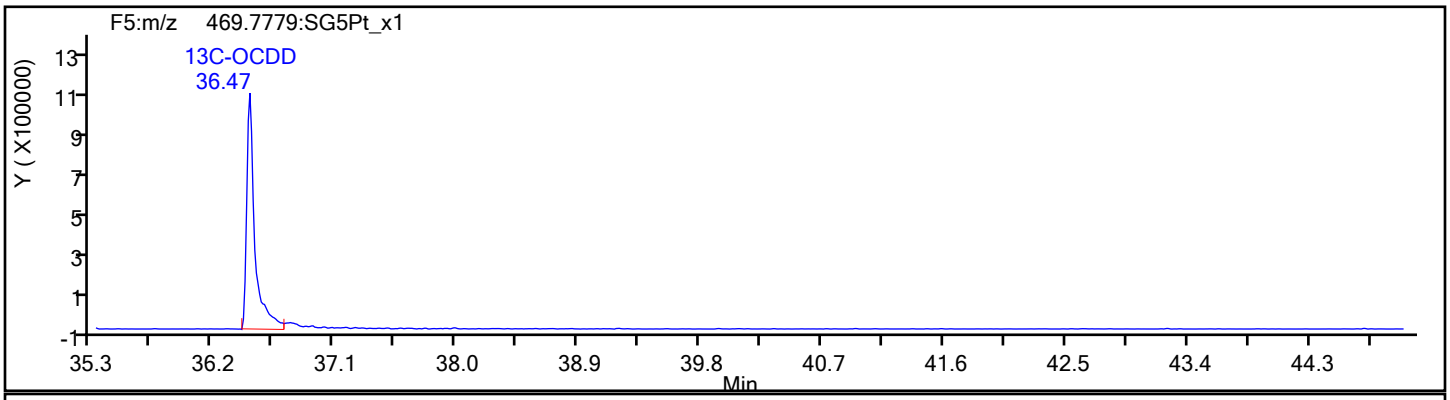

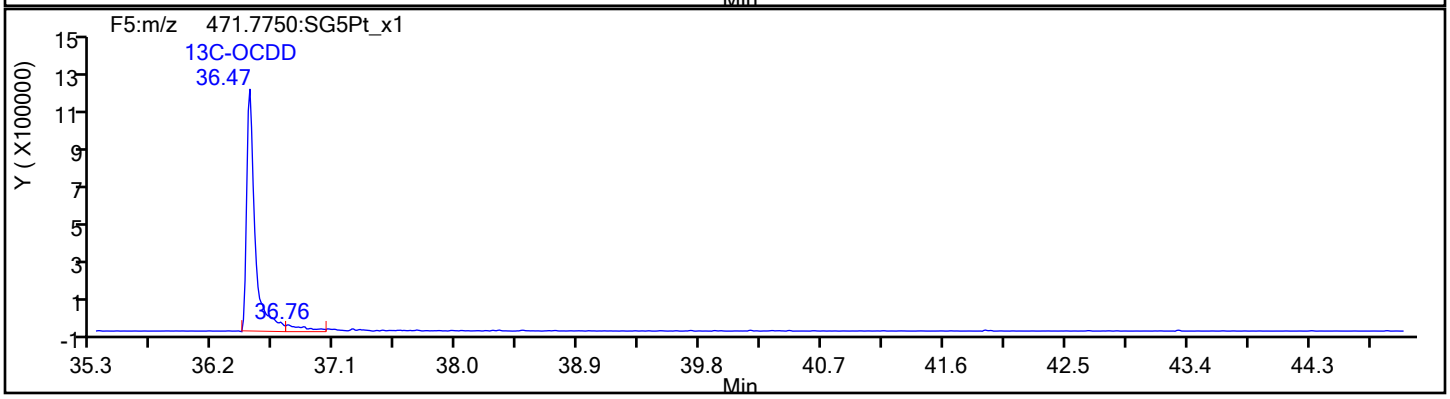

Report Date: 20-Sep-2019 09:56:02 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_44.d		
Injection Date:	19-Sep-2019 20:55:04	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	44
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

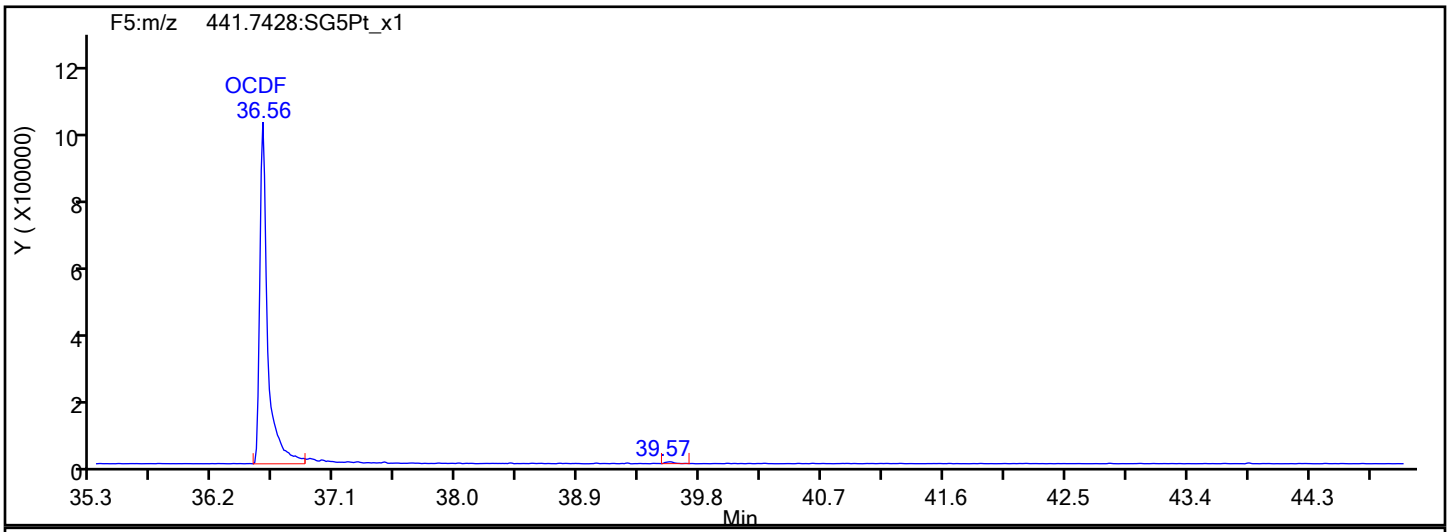

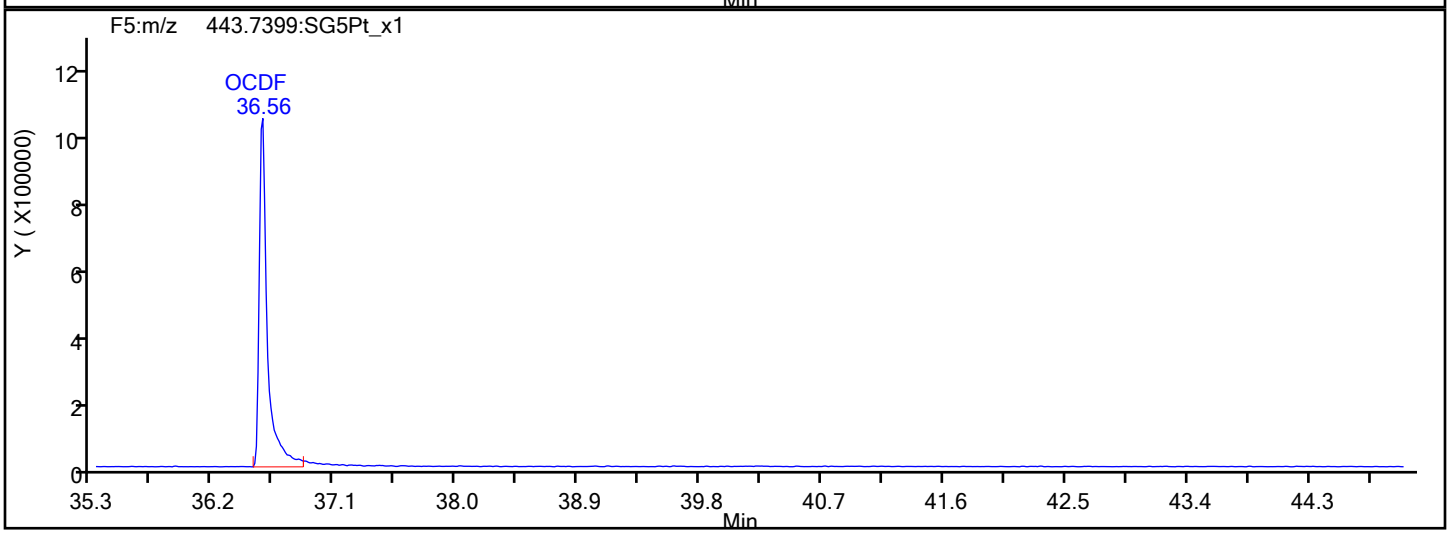

OCDF Interference Mass

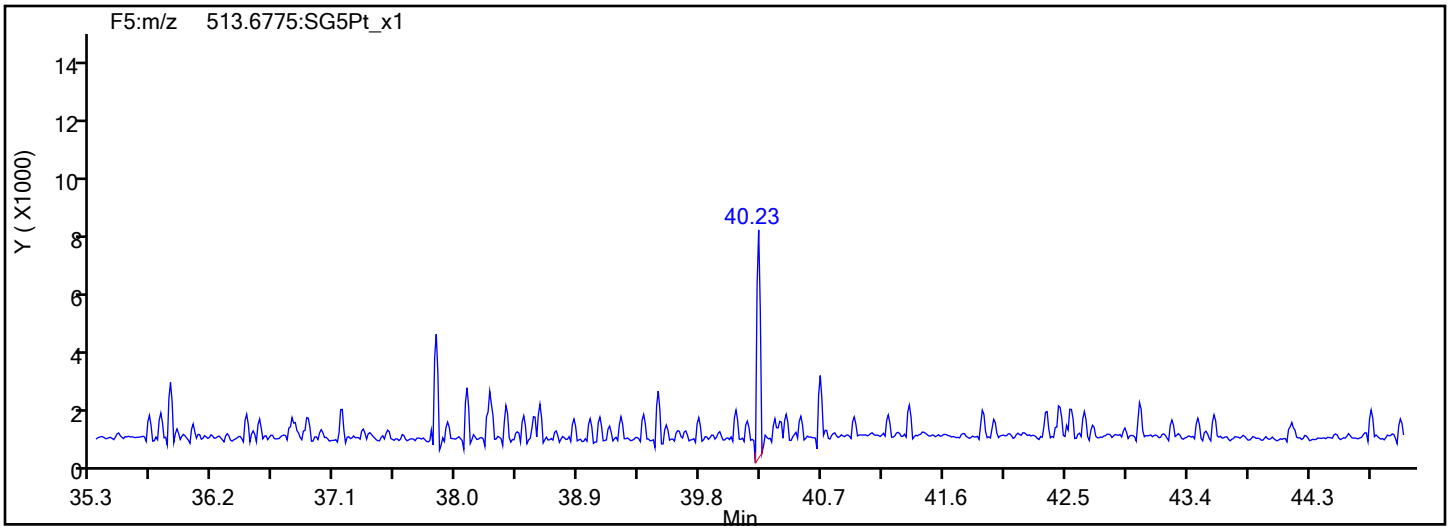

Report Date: 20-Sep-2019 09:56:02 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_44.d		
Injection Date:	19-Sep-2019 20:55:04	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	44
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

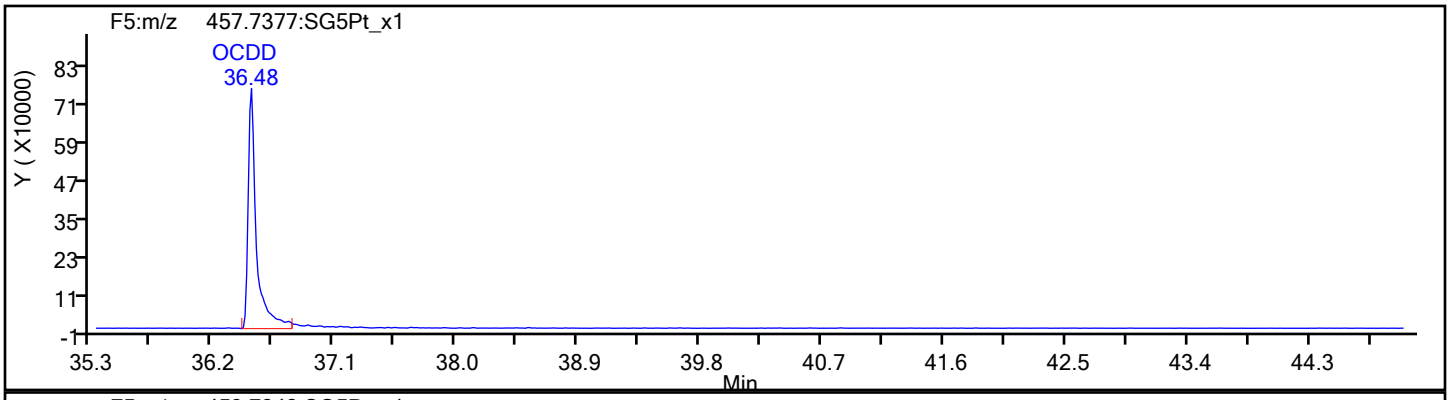

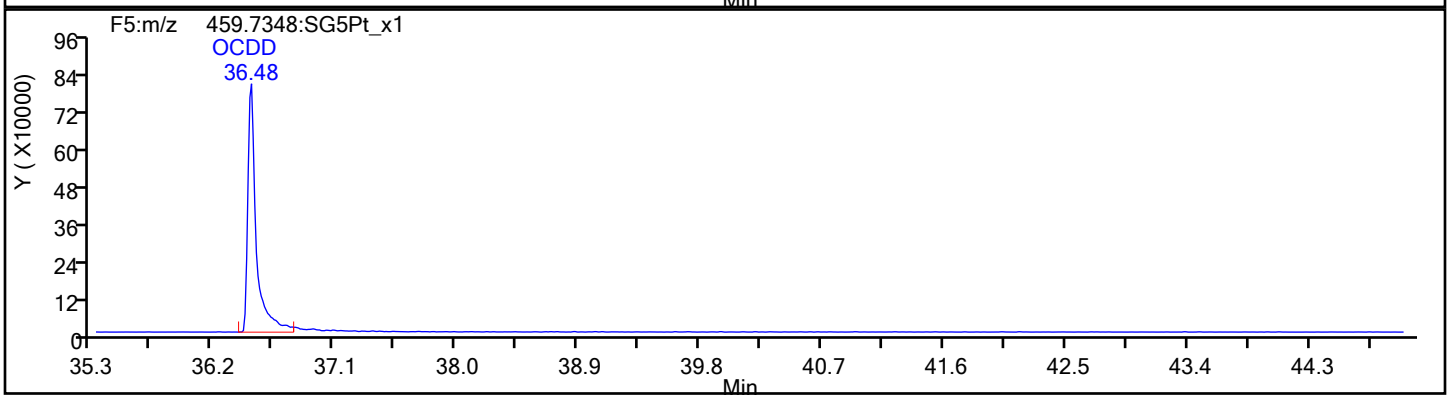

OCDD Standards

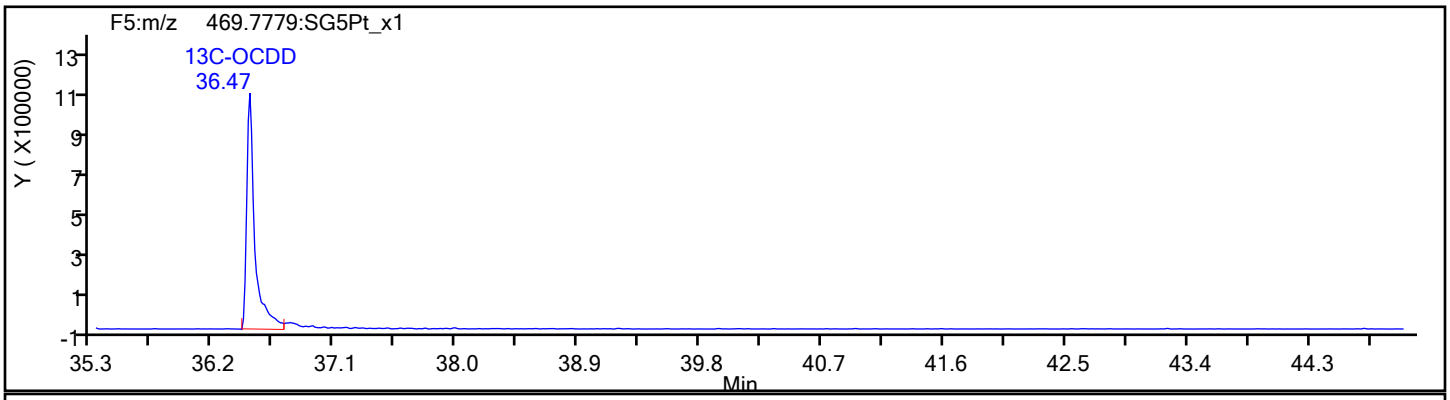

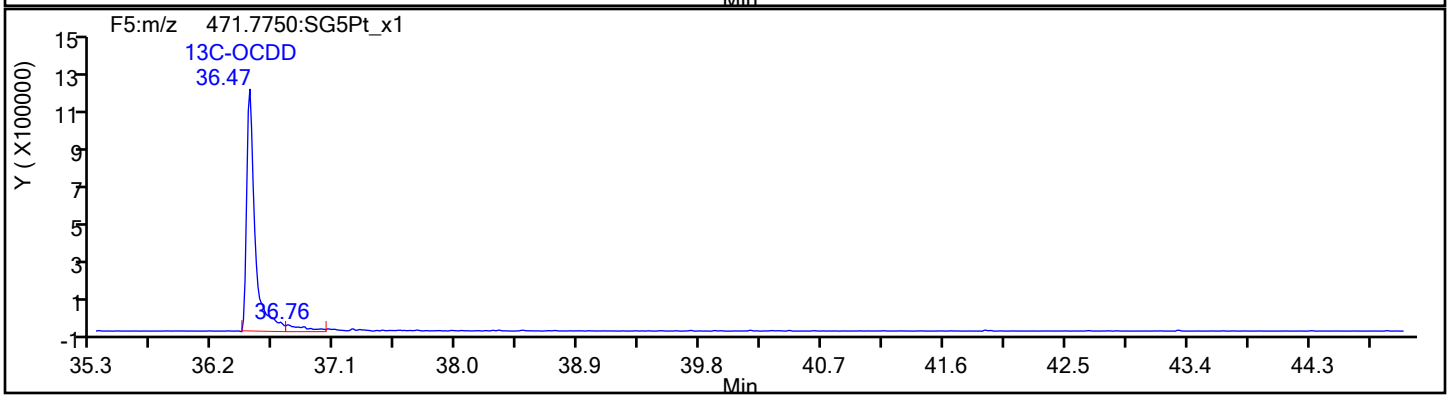

Report Date: 20-Sep-2019 09:56:03 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_44.d		
Injection Date:	19-Sep-2019 20:55:04	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	44
Column Type:	DB-5	Column Dia:	0.32 mm

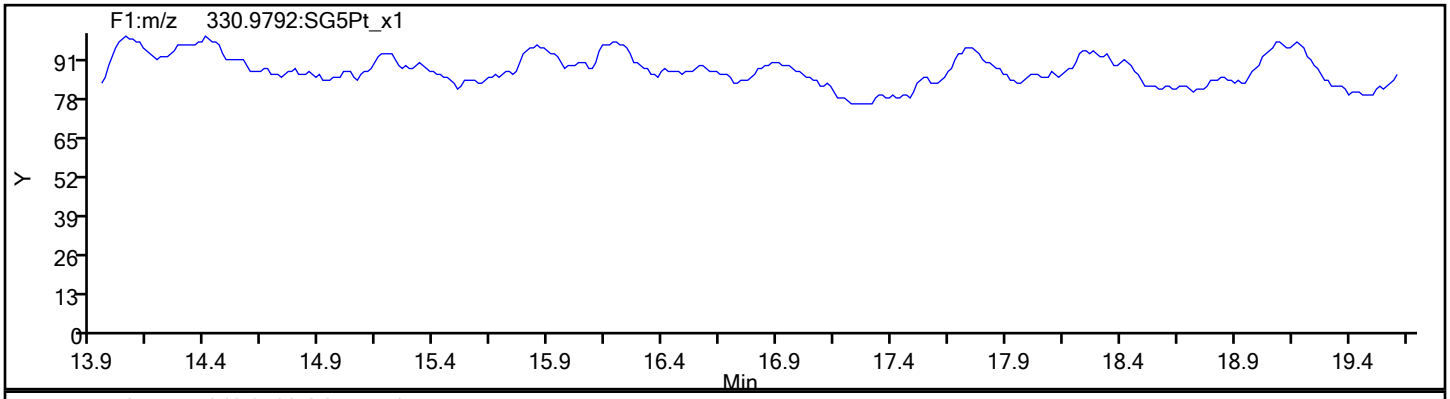

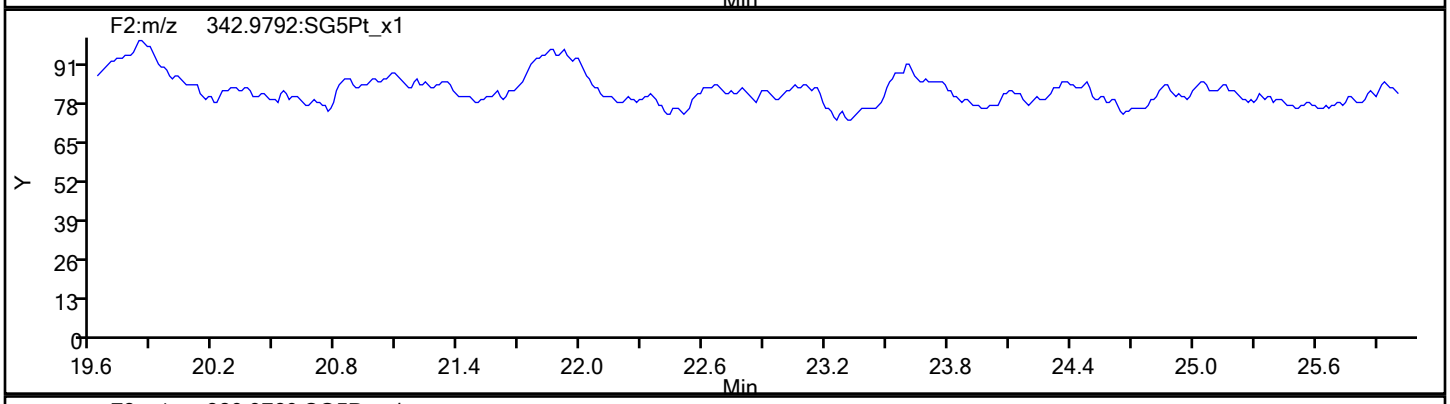

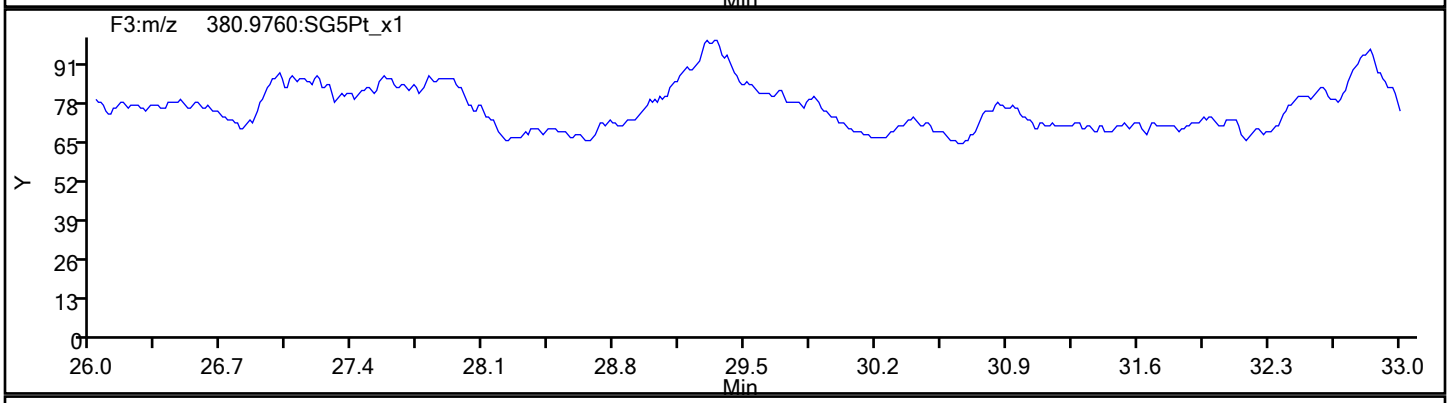

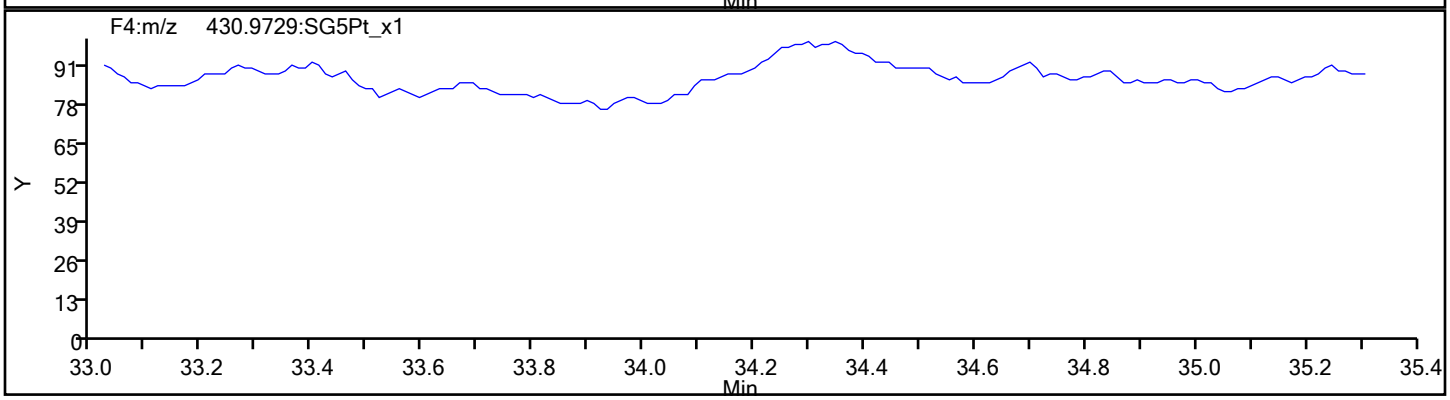

Report Date: 20-Sep-2019 09:56:03 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_44.d		
Injection Date:	19-Sep-2019 20:55:04	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	44
Column Type:	DB-5	Column Dia:	0.32 mm

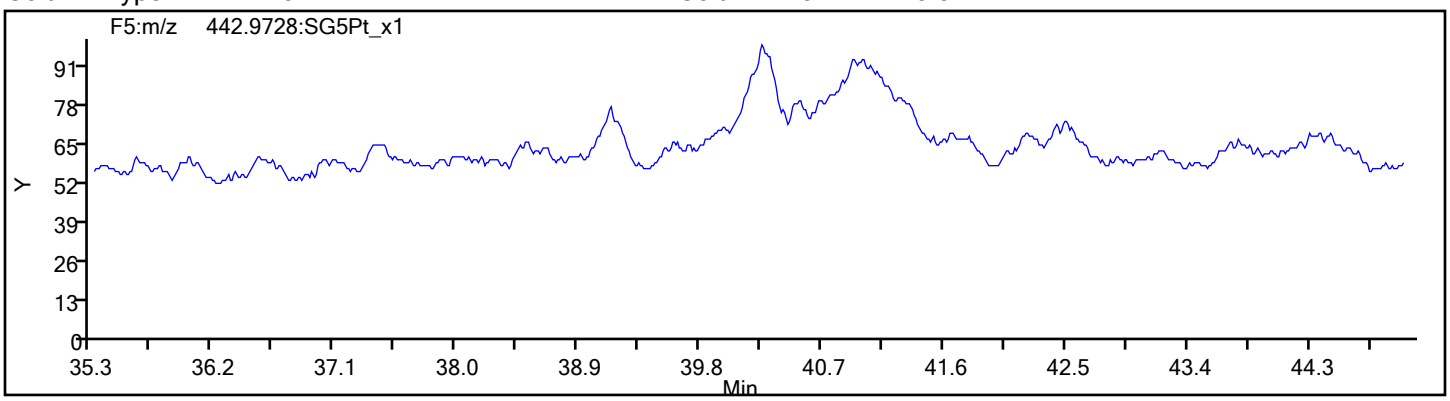

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-1

SDG No.:

Instrument ID: 11D2 Start Date: 08/02/2019 01:35

Analysis Batch Number: 312067 End Date: 08/02/2019 06:03

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CPS 320-312067/1		08/02/2019 01:35	1		DB-225 0.32(mm)
IC 320-312067/3		08/02/2019 02:52	1	02AU1911D2_003.d	DB-225 0.32(mm)
IC 320-312067/4		08/02/2019 03:30	1	02AU1911D2_004.d	DB-225 0.32(mm)
IC 320-312067/5		08/02/2019 04:08	1	02AU1911D2_005.d	DB-225 0.32(mm)
IC 320-312067/6		08/02/2019 04:46	1	02AU1911D2_006.d	DB-225 0.32(mm)
IC 320-312067/7		08/02/2019 05:25	1	02AU1911D2_007.d	DB-225 0.32(mm)
ICV 320-312067/8		08/02/2019 06:03	1		DB-225 0.32(mm)

1613B

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-1

SDG No.:

Instrument ID: 10D5 Start Date: 09/17/2019 11:28

Analysis Batch Number: 324128 End Date: 09/17/2019 18:27

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
WDM 320-324128/1		09/17/2019 11:28	1		DB-5 0.32(mm)
IC 320-324128/3		09/17/2019 13:03	1	17SE1910D5_3.d	DB-5 0.32(mm)
IC 320-324128/4		09/17/2019 13:49	1	17SE1910D5_4.d	DB-5 0.32(mm)
IC 320-324128/6		09/17/2019 15:21	1	17SE1910D5_6.d	DB-5 0.32(mm)
IC 320-324128/7		09/17/2019 16:09	1	17SE1910D5_7.d	DB-5 0.32(mm)
IC 320-324128/8		09/17/2019 16:55	1	17SE1910D5_8.d	DB-5 0.32(mm)
ICV 320-324128/10		09/17/2019 18:27	1		DB-5 0.32(mm)

1613B

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-1

SDG No.:

Instrument ID: 10D5 Start Date: 09/19/2019 17:18

Analysis Batch Number: 324876 End Date: 09/20/2019 03:48

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 320-324876/40		09/19/2019 17:18	1		DB-5 0.32(mm)
WDM 320-324876/41		09/19/2019 18:21	1		DB-5 0.32(mm)
ZZZZZ		09/19/2019 19:23	1		DB-5 0.32(mm)
ZZZZZ		09/19/2019 20:09	1		DB-5 0.32(mm)
ZZZZZ		09/19/2019 20:55	1		DB-5 0.32(mm)
ZZZZZ		09/19/2019 21:41	1		DB-5 0.32(mm)
600-191956-2		09/19/2019 22:26	1	18SE1910D5_46.d	DB-5 0.32(mm)
ZZZZZ		09/19/2019 23:12	1		DB-5 0.32(mm)
ZZZZZ		09/19/2019 23:58	1		DB-5 0.32(mm)
ZZZZZ		09/20/2019 00:44	1		DB-5 0.32(mm)
ZZZZZ		09/20/2019 01:30	1		DB-5 0.32(mm)
ZZZZZ		09/20/2019 02:16	1		DB-5 0.32(mm)
ZZZZZ		09/20/2019 03:02	1		DB-5 0.32(mm)
ZZZZZ		09/20/2019 03:48	1		DB-5 0.32(mm)

1613B

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-1

SDG No.:

Instrument ID: 11D2 Start Date: 09/20/2019 09:55

Analysis Batch Number: 325151 End Date: 09/20/2019 15:02

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CPS 320-325151/1		09/20/2019 09:55	1		DB-225 0.32(mm)
CCV 320-325151/2		09/20/2019 10:33	1		DB-225 0.32(mm)
ZZZZZ		09/20/2019 11:50	1		DB-225 0.32(mm)
600-191956-2 RA		09/20/2019 12:28	1	20SE1911D2_005.d	DB-225 0.32(mm)
ZZZZZ		09/20/2019 13:07	1		DB-225 0.32(mm)
ZZZZZ		09/20/2019 13:45	1		DB-225 0.32(mm)
ZZZZZ		09/20/2019 14:24	1		DB-225 0.32(mm)
ZZZZZ		09/20/2019 15:02	1		DB-225 0.32(mm)

1613B

DIOXIN BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Sacramen Job No.: 600-191956-1

SDG No.:

Batch Number: 324498 Batch Start Date: 09/18/19 13:22 Batch Analyst: Ruiz, Noe I

Batch Method: 1613B Batch End Date: 09/19/19 11:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	ExtractionID	RotoVapID
600-191956-A-2	11187072-091319-LL-EXC-1	1613B, 1613B	T	1526.0 g	504.92 g	1021.1 mL	20 uL	5	8

Lab Sample ID	Client Sample ID	Method Chain	Basis	HRDXNIDA 00389	HRDXNIS 00117	HRDXNSU 00219			
600-191956-A-2	11187072-091319-LL-EXC-1	1613B, 1613B	T	1 mL	20 uL	1 mL			

Batch Notes	
20% DCM:Hexane ID	1708149 mL
65% DCM:Hexane ID	1724834 mL
Acid Silica Gel ID	1742612
Acid Alumina ID	18X
Balance ID	QA-73
C14 ID	NR 09/18/19 STBJ0716
Hexane ID	0000226435 mL
IFB Clean Up	GLB 9-19-19
MeCL2 ID	0000235262 mL
Na2SO4 ID	0000220237
Analyst ID - IDA Reagent Drop	A1A 09/18/19 HD05018 B 3/4
Analyst ID - IDA Reagent Drop Witness	NR 09/18/19
Analyst ID - IS Reagent Drop	GLB 9-19-18 DB15270 B-4/4
Analyst ID - IS Reagent Drop Witness	NR 9-19-19
Analyst ID - SU Reagent Drop	GLB 9-19-18 HD05018 B 3/4
Analyst ID - SU Reagent Drop Witness	TGL 9-19-19
Analyst ID - TA Reagent Drop	A1A 09/18/19 DB15270 B 1/10
Analyst ID - TA Reagent Drop Witness	NR 09/18/19
Silica Gel ID	1727681
Soxhlet/Soxtherm End	NR 09/18/19 17:00
Soxhlet/Soxtherm Start	NR 09/18/19 14:00
Storage Box ID	DXN 93
Toluene ID	0000218357 mL

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

DIOXIN BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Sacramen Job No.: 600-191956-1

SDG No.:

Batch Number: 324498 Batch Start Date: 09/18/19 13:22 Batch Analyst: Ruiz, Noe I

Batch Method: 1613B Batch End Date: 09/19/19 11:00

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS

COVER PAGE
METALS

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-191956-1

SDG No.:

Project: San Jacinto River Waste Pits Superfund

Client Sample ID	Lab Sample ID
11187072-091319-LL-EXC-1	600-191956-2

Comments:

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: 11187072-091319-LL-EXC-1
Lab Sample ID: 600-191956-2
Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-191956-1
SDG ID.:
Matrix: Water
Date Sampled: 09/13/2019 08:00
Reporting Basis: WET
Date Received: 09/13/2019 12:55

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-22-4	Silver	ND	0.010	0.0013	mg/L			1	6010C
7440-38-2	Arsenic	0.089	0.010	0.0029	mg/L			1	6010C
7440-39-3	Barium	2.1	0.020	0.00053	mg/L		B	1	6010C
7440-42-8	Boron	1.1	0.20	0.012	mg/L			1	6010C
7440-41-7	Beryllium	ND	0.0050	0.00042	mg/L			1	6010C
7440-70-2	Calcium	250	1.0	0.024	mg/L			1	6010C
7440-43-9	Cadmium	0.00080	0.0050	0.00028	mg/L	J		1	6010C
7440-48-4	Cobalt	0.0066	0.010	0.00031	mg/L	J		1	6010C
7440-47-3	Chromium	0.0017	0.010	0.0016	mg/L	J		1	6010C
7440-50-8	Copper	ND	0.010	0.0081	mg/L			1	6010C
7439-89-6	Iron	13	0.40	0.027	mg/L			1	6010C
7440-09-7	Potassium	27	1.0	0.037	mg/L			1	6010C
7439-95-4	Magnesium	250	1.0	0.056	mg/L			1	6010C
7439-96-5	Manganese	2.7	0.010	0.00036	mg/L			1	6010C
7440-23-5	Sodium	2400	20	0.43	mg/L			20	6010C
7440-02-0	Nickel	0.0036	0.010	0.00080	mg/L	J		1	6010C
7439-92-1	Lead	ND	0.010	0.0022	mg/L			1	6010C
7440-36-0	Antimony	ND	0.050	0.0039	mg/L			1	6010C
7782-49-2	Selenium	ND	0.040	0.0029	mg/L			1	6010C
7439-98-7	Molybdenum	0.0068	0.010	0.00054	mg/L	J		1	6010C
7440-62-2	Vanadium	ND	0.010	0.00047	mg/L			1	6010C
7440-66-6	Zinc	0.031	0.030	0.0040	mg/L		B	1	6010C
7440-31-5	Tin	ND	0.010	0.00059	mg/L			1	6010C
7440-24-6	Strontium	2.5	0.0050	0.00034	mg/L			1	6010C
7440-32-6	Titanium	0.0077	0.010	0.00051	mg/L	J		1	6010C
7440-28-0	Thallium	ND	0.50	0.14	ug/L			1	6020A
7439-97-6	Mercury	ND	0.25	0.10	ug/L			1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: 11187072-091319-LL-EXC-1
Lab Sample ID: 600-191956-2
Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-191956-1
SDG ID.:
Matrix: Water
Date Sampled: 09/13/2019 08:00
Reporting Basis: WET
Date Received: 09/13/2019 12:55

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-22-4	Silver	ND	0.010	0.0013	mg/L			1	6010C
7440-38-2	Arsenic	0.037	0.010	0.0029	mg/L			1	6010C
7440-42-8	Boron	1.1	0.20	0.012	mg/L			1	6010C
7440-39-3	Barium	1.9	0.020	0.00053	mg/L		B	1	6010C
7440-41-7	Beryllium	ND	0.0050	0.00042	mg/L			1	6010C
7440-70-2	Calcium	240	1.0	0.024	mg/L		B	1	6010C
7440-43-9	Cadmium	0.00080	0.0050	0.00028	mg/L	J		1	6010C
7440-48-4	Cobalt	0.0064	0.010	0.00031	mg/L	J		1	6010C
7440-47-3	Chromium	ND	0.010	0.0016	mg/L			1	6010C
7440-50-8	Copper	ND	0.010	0.0081	mg/L			1	6010C
7439-89-6	Iron	0.12	0.40	0.027	mg/L	J		1	6010C
7440-09-7	Potassium	27	1.0	0.037	mg/L			1	6010C
7439-95-4	Magnesium	250	1.0	0.056	mg/L			1	6010C
7439-96-5	Manganese	2.6	0.010	0.00036	mg/L			1	6010C
7439-98-7	Molybdenum	0.011	0.010	0.00054	mg/L			1	6010C
7440-23-5	Sodium	2400	20	0.43	mg/L		B	20	6010C
7440-02-0	Nickel	0.0050	0.010	0.00080	mg/L	J		1	6010C
7439-92-1	Lead	ND	0.010	0.0022	mg/L			1	6010C
7440-36-0	Antimony	ND	0.050	0.0039	mg/L			1	6010C
7782-49-2	Selenium	ND	0.040	0.0029	mg/L			1	6010C
7440-31-5	Tin	0.0014	0.010	0.00059	mg/L	J		1	6010C
7440-24-6	Strontium	2.4	0.0050	0.00034	mg/L			1	6010C
7440-32-6	Titanium	0.0022	0.010	0.00051	mg/L	J		1	6010C
7440-62-2	Vanadium	ND	0.010	0.00047	mg/L			1	6010C
7440-66-6	Zinc	0.015	0.030	0.0040	mg/L	J	B	1	6010C
7440-28-0	Thallium	0.14	0.50	0.14	ug/L	J		1	6020A
7439-97-6	Mercury	ND	0.25	0.10	ug/L			1	7470A

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

ICV Source: METICPCCV_00019 Concentration Units: mg/L

CCV Source: METICPCCV_00019

Analyte	ICV 600-275213/14 09/19/2019 07:45				CCV 600-275213/19 09/19/2019 07:57				CCV 600-275213/32 09/19/2019 08:23			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Antimony	2.06		2.00	103	2.07		2.00	104	2.08		2.00	104
Arsenic	0.998		1.00	100	0.995		1.00	99	1.00		1.00	100
Barium	1.01		1.00	101	1.01		1.00	101	1.01		1.00	101
Beryllium	0.975		1.00	97	0.977		1.00	98	0.971		1.00	97
Boron	1.03		1.00	103	0.996		1.00	100	1.00		1.00	100
Cadmium	0.987		1.00	99	0.984		1.00	98	0.990		1.00	99
Calcium	20.2		20.0	101	20.1		20.0	100	19.8		20.0	99
Chromium	1.00		1.00	100	0.992		1.00	99	0.987		1.00	99
Cobalt	0.994		1.00	99	0.990		1.00	99	0.988		1.00	99
Copper	1.01		1.00	101	0.998		1.00	100	1.01		1.00	101
Iron	20.1		20.0	101	20.0		20.0	100	19.8		20.0	99
Lead	0.992		1.00	99	0.990		1.00	99	0.987		1.00	99
Magnesium	20.0		20.0	100	20.3		20.0	101	20.0		20.0	100
Manganese	0.996		1.00	100	0.999		1.00	100	0.997		1.00	100
Nickel	0.989		1.00	99	0.987		1.00	99	0.984		1.00	98
Potassium	20.3		20.0	101	20.1		20.0	100	19.9		20.0	99
Silver	0.494		0.500	99	0.497		0.500	99	0.498		0.500	100
Sodium	19.9		20.0	100	19.9		20.0	100	19.8		20.0	99
Strontium	1.01		1.00	101	1.01		1.00	101	1.00		1.00	100
Tin	0.995		1.00	99	0.993		1.00	99	0.991		1.00	99
Titanium	0.990		1.00	99	0.992		1.00	99	0.990		1.00	99
Vanadium	0.992		1.00	99	0.987		1.00	99	0.986		1.00	99
Zinc	0.991		1.00	99	0.986		1.00	99	0.980		1.00	98
Molybdenum	0.993		1.00	99	0.989		1.00	99	0.988		1.00	99
Selenium	0.996		1.00	100	1.00		1.00	100	1.01		1.00	101

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

ICV Source: METICPCCV_00019 Concentration Units: mg/L

CCV Source: METICPCCV_00019

Analyte	CCV 600-275213/45 09/19/2019 08:50				CCV 600-275213/58 09/19/2019 09:15							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Antimony	2.07		2.00	103	2.11		2.00	105				
Arsenic	1.00		1.00	100	1.02		1.00	102				
Barium	1.01		1.00	101	1.01		1.00	101				
Beryllium	0.974		1.00	97	0.976		1.00	98				
Boron	0.989		1.00	99	1.00		1.00	100				
Cadmium	0.985		1.00	99	1.00		1.00	100				
Calcium	19.8		20.0	99	19.8		20.0	99				
Chromium	0.985		1.00	98	0.988		1.00	99				
Cobalt	0.987		1.00	99	1.00		1.00	100				
Copper	0.999		1.00	100	1.00		1.00	100				
Iron	19.9		20.0	100	19.9		20.0	99				
Lead	0.985		1.00	98	0.995		1.00	100				
Magnesium	19.9		20.0	100	20.0		20.0	100				
Manganese	0.998		1.00	100	1.01		1.00	101				
Nickel	0.984		1.00	98	1.00		1.00	100				
Potassium	19.8		20.0	99	19.9		20.0	100				
Silver	0.497		0.500	99	0.500		0.500	100				
Sodium	19.9		20.0	99	19.9		20.0	100				
Strontium	0.999		1.00	100	1.00		1.00	100				
Tin	0.988		1.00	99	0.999		1.00	100				
Titanium	0.990		1.00	99	0.999		1.00	100				
Vanadium	0.985		1.00	99	0.992		1.00	99				
Zinc	0.982		1.00	98	0.997		1.00	100				
Molybdenum	0.996		1.00	100	1.00		1.00	100				
Selenium	1.00		1.00	100	1.01		1.00	101				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

ICV Source: MET0919CCVL_00002 Concentration Units: mg/L

CCV Source: MET0919CCVL_00002

Analyte	ICVL 600-275213/15 09/19/2019 07:48				CCVL 600-275213/20 09/19/2019 07:59				CCVL 600-275213/33 09/19/2019 08:25			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Antimony	0.0584		0.0500	117	0.0614		0.0500	123	0.0581		0.0500	116
Arsenic	0.0214		0.0200	107	0.0238		0.0200	119	0.0210		0.0200	105
Barium	0.0222		0.0200	111	0.0223		0.0200	112	0.0220		0.0200	110
Beryllium	0.0112		0.0100	112	0.0112		0.0100	112	0.0110		0.0100	110
Boron	0.216		0.200	108	0.212		0.200	106	0.222		0.200	111
Cadmium	0.0109		0.0100	109	0.0109		0.0100	109	0.0110		0.0100	110
Calcium	1.04		1.00	104	1.07		1.00	107	1.06		1.00	106
Chromium	0.0109		0.0100	109	0.0109		0.0100	109	0.0110		0.0100	110
Cobalt	0.0106		0.0100	106	0.0106		0.0100	106	0.0107		0.0100	107
Copper	0.0119		0.0100	119	0.0115		0.0100	115	0.0118		0.0100	118
Iron	0.204	J	0.200	102	0.224	J	0.200	112	0.213	J	0.200	106
Lead	0.0122		0.0100	122	0.0112		0.0100	112	0.0109		0.0100	109
Magnesium	1.08		1.00	108	1.08		1.00	108	1.10		1.00	110
Manganese	0.0110		0.0100	110	0.0111		0.0100	111	0.0110		0.0100	110
Nickel	0.0106		0.0100	106	0.0103		0.0100	103	0.0106		0.0100	106
Potassium	1.09		1.00	109	1.11		1.00	111	1.11		1.00	111
Silver	0.0101		0.0100	101	0.0101		0.0100	101	0.0104		0.0100	104
Sodium	1.08		1.00	108	1.08		1.00	108	1.10		1.00	110
Strontium	0.0109		0.0100	109	0.0110		0.0100	110	0.0107		0.0100	107
Tin	0.0234		0.0200	117	0.0227		0.0200	114	0.0227		0.0200	114
Titanium	0.0117		0.0100	117	0.0108		0.0100	108	0.0110		0.0100	110
Vanadium	0.0109		0.0100	109	0.0108		0.0100	108	0.0109		0.0100	109
Zinc	0.0206		0.0200	103	0.0206		0.0200	103	0.0202		0.0200	101
Selenium	0.0208	J	0.0200	104	0.0247	J	0.0200	124				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

ICV Source: MET0919CCVL_00002 Concentration Units: mg/L

CCV Source: MET0919CCVL_00002

Analyte	CCVL 600-275213/46 09/19/2019 08:51				CCVL 600-275213/59 09/19/2019 09:17							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Antimony	0.0591		0.0500	118	0.0576		0.0500	115				
Arsenic	0.0208		0.0200	104	0.0216		0.0200	108				
Barium	0.0224		0.0200	112	0.0229		0.0200	115				
Beryllium	0.0111		0.0100	111	0.0112		0.0100	112				
Boron	0.217		0.200	109	0.216		0.200	108				
Cadmium	0.0111		0.0100	111	0.0111		0.0100	111				
Calcium	1.07		1.00	107	1.05		1.00	105				
Chromium	0.0109		0.0100	109	0.0109		0.0100	109				
Cobalt	0.0106		0.0100	106	0.0108		0.0100	108				
Copper	0.0120		0.0100	120	0.0123		0.0100	123				
Iron	0.207	J	0.200	103	0.220	J	0.200	110				
Lead	0.0112		0.0100	112	0.0122		0.0100	122				
Magnesium	1.06		1.00	106	1.09		1.00	109				
Manganese	0.0113		0.0100	113	0.0113		0.0100	113				
Nickel	0.0107		0.0100	107	0.0108		0.0100	108				
Potassium	1.12		1.00	112	1.11		1.00	111				
Silver	0.0106		0.0100	106	0.0100		0.0100	100				
Sodium	1.13		1.00	113	1.12		1.00	112				
Strontium	0.0111		0.0100	111	0.0111		0.0100	111				
Tin	0.0227		0.0200	114	0.0226		0.0200	113				
Titanium	0.0117		0.0100	117	0.0118		0.0100	118				
Vanadium	0.0110		0.0100	110	0.0110		0.0100	110				
Zinc	0.0205		0.0200	103	0.0202		0.0200	101				
Selenium	0.0240	J	0.0200	120	0.0233	J	0.0200	117				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

ICV Source: METICPCCV_00019 Concentration Units: mg/L

CCV Source: METICPCCV_00019

Analyte	ICV 600-275405/14 09/23/2019 09:08				CCV 600-275405/20 09/23/2019 09:27				CCV 600-275405/34 09/23/2019 10:05			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Antimony	2.07		2.00	103	2.11		2.00	105	2.10		2.00	105
Arsenic	0.998		1.00	100	1.01		1.00	101	1.01		1.00	101
Barium	1.02		1.00	102	0.999		1.00	100	1.00		1.00	100
Beryllium	0.987		1.00	99	0.967		1.00	97	0.964		1.00	96
Boron	1.01		1.00	101	0.990		1.00	99	0.977		1.00	98
Cadmium	0.986		1.00	99	0.988		1.00	99	0.981		1.00	98
Calcium	19.9		20.0	100	19.9		20.0	99	19.7		20.0	98
Chromium	0.992		1.00	99	0.966		1.00	97	0.956		1.00	96
Cobalt	0.992		1.00	99	0.987		1.00	99	0.972		1.00	97
Copper	0.993		1.00	99	0.976		1.00	98	0.980		1.00	98
Iron	20.0		20.0	100	20.1		20.0	100	19.9		20.0	100
Lead	0.988		1.00	99	0.983		1.00	98	0.981		1.00	98
Magnesium	20.2		20.0	101	20.1		20.0	101	19.7		20.0	99
Manganese	0.995		1.00	100	0.993		1.00	99	0.992		1.00	99
Nickel	0.985		1.00	98	0.988		1.00	99	0.979		1.00	98
Potassium	20.3		20.0	102	20.0		20.0	100	19.9		20.0	100
Silver	0.498		0.500	100	0.501		0.500	100	0.501		0.500	100
Sodium	20.1		20.0	101	19.7		20.0	99	19.7		20.0	99
Strontium	1.01		1.00	101	0.991		1.00	99	0.988		1.00	99
Tin	0.994		1.00	99	0.988		1.00	99	0.980		1.00	98
Titanium	0.991		1.00	99	0.992		1.00	99	0.990		1.00	99
Vanadium	0.986		1.00	99	0.977		1.00	98	0.971		1.00	97
Zinc	0.986		1.00	99	0.983		1.00	98	0.969		1.00	97
Molybdenum	0.990		1.00	99	0.992		1.00	99	0.999		1.00	100
Selenium	1.00		1.00	100	1.00		1.00	100	1.00		1.00	100

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

ICV Source: METICPCCV_00019 Concentration Units: mg/L

CCV Source: METICPCCV_00019

Analyte	CCV 600-275405/48 09/23/2019 10:33				CCV 600-275405/74 09/23/2019 11:31				CCV 600-275405/87 09/23/2019 12:08			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Antimony	2.09		2.00	104	2.12		2.00	106	2.16		2.00	108
Arsenic	1.00		1.00	100	1.03		1.00	103	1.05		1.00	105
Barium	0.999		1.00	100	1.01		1.00	101	1.01		1.00	101
Beryllium	0.962		1.00	96	0.962		1.00	96	0.956		1.00	96
Boron	0.965		1.00	96	0.988		1.00	99	0.959		1.00	96
Cadmium	0.975		1.00	98	0.981		1.00	98	0.986		1.00	99
Calcium	19.5		20.0	98	19.6		20.0	98	19.3		20.0	97
Chromium	0.949		1.00	95	0.949		1.00	95	0.925		1.00	93
Cobalt	0.963		1.00	96	0.955		1.00	96	0.949		1.00	95
Copper	0.969		1.00	97	0.979		1.00	98	0.964		1.00	96
Iron	19.8		20.0	99	19.9		20.0	99	19.8		20.0	99
Lead	0.973		1.00	97	0.972		1.00	97	0.968		1.00	97
Magnesium	19.8		20.0	99	20.0		20.0	100	19.9		20.0	100
Manganese	0.991		1.00	99	0.993		1.00	99	0.986		1.00	99
Nickel	0.976		1.00	98	0.977		1.00	98	0.983		1.00	98
Potassium	19.9		20.0	99	19.7		20.0	98	19.6		20.0	98
Silver	0.501		0.500	100	0.501		0.500	100	0.504		0.500	101
Sodium	19.5		20.0	98	19.7		20.0	99	19.5		20.0	98
Strontium	0.983		1.00	98	1.00		1.00	100	0.989		1.00	99
Tin	0.973		1.00	97	0.984		1.00	98	0.980		1.00	98
Titanium	0.988		1.00	99	0.997		1.00	100	1.00		1.00	100
Vanadium	0.965		1.00	97	0.970		1.00	97	0.962		1.00	96
Zinc	0.964		1.00	96	0.957		1.00	96	0.945		1.00	95
Molybdenum	0.988		1.00	99	1.01		1.00	101	1.02		1.00	102
Selenium	0.994		1.00	99	1.01		1.00	101	1.02		1.00	102

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

ICV Source: METICPCCV_00019 Concentration Units: mg/L

CCV Source: METICPCCV_00019

Analyte	CCV 600-275405/100 09/23/2019 12:34				CCV 600-275405/113 09/23/2019 13:00							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Antimony	2.17		2.00	108	2.13		2.00	106				
Arsenic	1.06		1.00	106	1.04		1.00	104				
Barium	1.02		1.00	102	1.02		1.00	102				
Beryllium	0.961		1.00	96	0.958		1.00	96				
Boron	0.978		1.00	98	0.986		1.00	99				
Cadmium	0.994		1.00	99	0.980		1.00	98				
Calcium	19.2		20.0	96	19.3		20.0	97				
Chromium	0.928		1.00	93	0.944		1.00	94				
Cobalt	0.944		1.00	94	0.944		1.00	94				
Copper	0.979		1.00	98	0.975		1.00	97				
Iron	19.6		20.0	98	19.7		20.0	99				
Lead	0.962		1.00	96	0.960		1.00	96				
Magnesium	19.9		20.0	100	19.8		20.0	99				
Manganese	0.983		1.00	98	0.986		1.00	99				
Nickel	0.977		1.00	98	0.970		1.00	97				
Potassium	19.5		20.0	97	19.5		20.0	97				
Silver	0.503		0.500	101	0.498		0.500	100				
Sodium	19.7		20.0	99	19.8		20.0	99				
Strontium	1.00		1.00	100	1.00		1.00	100				
Tin	0.971		1.00	97	0.975		1.00	97				
Titanium	1.00		1.00	100	0.998		1.00	100				
Vanadium	0.966		1.00	97	0.968		1.00	97				
Zinc	0.937		1.00	94	0.937		1.00	94				
Molybdenum	1.03		1.00	103	1.01		1.00	101				
Selenium	1.03		1.00	103	1.01		1.00	101				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

ICV Source: MET0919CCVL_00002 Concentration Units: mg/L

CCV Source: MET0919CCVL_00002

Analyte	ICVL 600-275405/16 09/23/2019 09:17				CCVL 600-275405/21 09/23/2019 09:29				CCVL 600-275405/36 09/23/2019 10:09			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Antimony	0.0536		0.0500	107	0.0556		0.0500	111	0.0518		0.0500	104
Arsenic	0.0234		0.0200	117	0.0242		0.0200	121	0.0236		0.0200	118
Barium	0.0225		0.0200	113	0.0227		0.0200	114	0.0224		0.0200	112
Beryllium	0.0110		0.0100	110	0.0112		0.0100	112	0.0111		0.0100	111
Boron	0.209		0.200	105	0.216		0.200	108	0.205		0.200	102
Cadmium	0.0110		0.0100	110	0.0113		0.0100	113	0.0110		0.0100	110
Calcium	1.04		1.00	104	1.06		1.00	106	1.03		1.00	103
Chromium	0.0111		0.0100	111	0.0112		0.0100	112	0.0107		0.0100	107
Cobalt	0.0106		0.0100	106	0.0107		0.0100	107	0.0104		0.0100	104
Copper	0.0112		0.0100	112	0.0118		0.0100	118	0.0123		0.0100	123
Iron	0.217	J	0.200	108	0.217	J	0.200	109	0.206	J	0.200	103
Lead	0.0104		0.0100	104	0.0125		0.0100	125	0.0119		0.0100	119
Magnesium	1.09		1.00	109	1.08		1.00	108	1.09		1.00	109
Manganese	0.0112		0.0100	112	0.0113		0.0100	113	0.0113		0.0100	113
Nickel	0.0110		0.0100	110	0.0109		0.0100	109	0.0108		0.0100	108
Potassium	1.07		1.00	107	1.10		1.00	110	1.10		1.00	110
Silver	0.0101		0.0100	101	0.0100		0.0100	100	0.00990	J	0.0100	99
Sodium	1.06		1.00	106	1.06		1.00	106	1.09		1.00	109
Strontium	0.0112		0.0100	112	0.0112		0.0100	112	0.0110		0.0100	110
Tin	0.0221		0.0200	111	0.0233		0.0200	117	0.0213		0.0200	107
Titanium	0.0108		0.0100	108	0.0112		0.0100	112	0.0110		0.0100	110
Vanadium	0.0108		0.0100	108	0.0108		0.0100	108	0.0108		0.0100	108
Zinc	0.0199		0.0200	100	0.0204		0.0200	102	0.0189		0.0200	95
Molybdenum	0.0226		0.0200	113					0.0234		0.0200	117
Selenium	0.0250	J	0.0200	125								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

ICV Source: MET0919CCVL_00002 Concentration Units: mg/L

CCV Source: MET0919CCVL_00002

Analyte	CCVL 600-275405/49 09/23/2019 10:41				CCVL 600-275405/75 09/23/2019 11:33				CCVL 600-275405/88 09/23/2019 12:10			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Antimony	0.0536		0.0500	107	0.0584		0.0500	117	0.0523		0.0500	105
Arsenic	0.0241		0.0200	121	0.0256		0.0200	128	0.0244		0.0200	122
Barium	0.0221		0.0200	111	0.0229		0.0200	115	0.0225		0.0200	113
Beryllium	0.0108		0.0100	108	0.0110		0.0100	110	0.0111		0.0100	111
Boron	0.205		0.200	103	0.216		0.200	108	0.212		0.200	106
Cadmium	0.0111		0.0100	111	0.0112		0.0100	112	0.0111		0.0100	111
Calcium	1.02		1.00	102	1.06		1.00	106	1.01		1.00	101
Chromium	0.0107		0.0100	107	0.0108		0.0100	108	0.0102		0.0100	102
Cobalt	0.0102		0.0100	102	0.0101		0.0100	101	0.0103		0.0100	103
Copper	0.0129		0.0100	129								
Iron	0.202	J	0.200	101	0.229	J	0.200	115	0.221	J	0.200	110
Lead	0.0116		0.0100	116	0.0112		0.0100	112	0.0110		0.0100	110
Magnesium	1.10		1.00	110	1.09		1.00	109	1.09		1.00	109
Manganese	0.0113		0.0100	113	0.0118		0.0100	118	0.0111		0.0100	111
Nickel	0.0112		0.0100	112	0.0114		0.0100	114	0.0111		0.0100	111
Potassium	1.07		1.00	107	1.06		1.00	106	1.04		1.00	104
Silver	0.00940	J	0.0100	94	0.0100		0.0100	100	0.00980	J	0.0100	98
Sodium	1.06		1.00	106	1.05		1.00	105	1.04		1.00	104
Strontium	0.0109		0.0100	109	0.0114		0.0100	114	0.0112		0.0100	112
Tin	0.0222		0.0200	111	0.0224		0.0200	112	0.0225		0.0200	113
Titanium	0.0114		0.0100	114	0.0119		0.0100	119	0.0115		0.0100	115
Vanadium	0.0105		0.0100	105	0.0109		0.0100	109	0.0110		0.0100	110
Zinc	0.0187		0.0200	94	0.0189		0.0200	95	0.0184		0.0200	92
Molybdenum												
Selenium	0.0249	J	0.0200	125					0.0218	J	0.0200	109

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

ICV Source: MET0919CCVL_00002 Concentration Units: mg/L

CCV Source: MET0919CCVL_00002

Analyte	CCVL 600-275405/101 09/23/2019 12:36				CCVL 600-275405/114 09/23/2019 13:04							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Antimony	0.0555		0.0500	111	0.0545		0.0500	109				
Arsenic	0.0231		0.0200	116	0.0244		0.0200	122				
Barium	0.0229		0.0200	115	0.0228		0.0200	114				
Beryllium	0.0111		0.0100	111	0.0110		0.0100	110				
Boron	0.219		0.200	109	0.213		0.200	107				
Cadmium	0.0112		0.0100	112	0.0112		0.0100	112				
Calcium	1.02		1.00	102	1.02		1.00	102				
Chromium	0.0103		0.0100	103	0.0109		0.0100	109				
Cobalt	0.0103		0.0100	103	0.0103		0.0100	103				
Copper					0.0121		0.0100	121				
Iron	0.202	J	0.200	101	0.202	J	0.200	101				
Lead	0.0111		0.0100	111	0.0113		0.0100	113				
Magnesium	1.10		1.00	110	1.06		1.00	106				
Manganese	0.0111		0.0100	111	0.0114		0.0100	114				
Nickel	0.0109		0.0100	109	0.0113		0.0100	113				
Potassium	1.00		1.00	100	1.04		1.00	104				
Silver	0.0101		0.0100	101	0.0104		0.0100	104				
Sodium	1.05		1.00	105	1.05		1.00	105				
Strontium	0.0112		0.0100	112	0.0111		0.0100	111				
Tin	0.0221		0.0200	111	0.0220		0.0200	110				
Titanium	0.0118		0.0100	118	0.0114		0.0100	114				
Vanadium	0.0105		0.0100	105	0.0109		0.0100	109				
Zinc	0.0180		0.0200	90	0.0184		0.0200	92				
Molybdenum												
Selenium												

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

ICV Source: METICPCCV_00019 Concentration Units: mg/L

CCV Source: METICPCCV_00019

Analyte	ICV 600-275538/14 09/24/2019 08:57				CCV 600-275538/20 09/24/2019 09:12				CCV 600-275538/34 09/24/2019 09:45			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Molybdenum	1.01		1.00	101	0.997		1.00	100	1.00		1.00	100
Selenium	1.01		1.00	101	1.00		1.00	100	1.01		1.00	101
Zinc	1.00		1.00	100	0.993		1.00	99	0.983		1.00	98
Antimony	2.09		2.00	105	2.10		2.00	105	2.10		2.00	105
Arsenic	1.01		1.00	101	1.01		1.00	101	1.01		1.00	101
Barium	1.01		1.00	101	1.00		1.00	100	1.00		1.00	100
Beryllium	0.980		1.00	98	0.974		1.00	97	0.969		1.00	97
Boron	1.02		1.00	102	1.00		1.00	100	0.975		1.00	97
Cadmium	0.999		1.00	100	0.996		1.00	100	0.996		1.00	100
Calcium	20.0		20.0	100	19.8		20.0	99	19.6		20.0	98
Chromium	1.00		1.00	100	0.979		1.00	98	0.965		1.00	96
Cobalt	1.00		1.00	100	0.994		1.00	99	0.985		1.00	99
Copper	1.01		1.00	101	0.991		1.00	99	0.990		1.00	99
Iron	20.0		20.0	100	19.9		20.0	100	19.8		20.0	99
Lead	1.01		1.00	101	0.994		1.00	99	0.989		1.00	99
Magnesium	20.1		20.0	100	20.1		20.0	100	19.7		20.0	98
Manganese	1.00		1.00	100	0.997		1.00	100	0.990		1.00	99
Nickel	0.996		1.00	100	0.994		1.00	99	0.991		1.00	99
Potassium	20.1		20.0	100	20.1		20.0	100	19.9		20.0	99
Silver	0.499		0.500	100	0.500		0.500	100	0.501		0.500	100
Sodium	20.0		20.0	100	19.8		20.0	99	19.7		20.0	99
Strontium	1.01		1.00	101	0.996		1.00	100	0.993		1.00	99
Tin	1.01		1.00	101	0.995		1.00	100	0.991		1.00	99
Titanium	0.994		1.00	99	0.991		1.00	99	0.988		1.00	99
Vanadium	0.995		1.00	100	0.980		1.00	98	0.974		1.00	97

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

ICV Source: METICPCCV_00019 Concentration Units: mg/L

CCV Source: METICPCCV_00019

Analyte	CCV 600-275538/47 09/24/2019 10:15											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Molybdenum	1.00		1.00	100								
Selenium	1.01		1.00	101								
Zinc	0.975		1.00	98								
Antimony	2.11		2.00	106								
Arsenic	1.03		1.00	103								
Barium	1.01		1.00	101								
Beryllium	0.973		1.00	97								
Boron	0.988		1.00	99								
Cadmium	0.996		1.00	100								
Calcium	19.6		20.0	98								
Chromium	0.968		1.00	97								
Cobalt	0.979		1.00	98								
Copper	0.988		1.00	99								
Iron	19.7		20.0	99								
Lead	0.984		1.00	98								
Magnesium	20.1		20.0	100								
Manganese	0.994		1.00	99								
Nickel	0.988		1.00	99								
Potassium	20.0		20.0	100								
Silver	0.500		0.500	100								
Sodium	19.9		20.0	99								
Strontium	1.00		1.00	100								
Tin	0.989		1.00	99								
Titanium	0.992		1.00	99								
Vanadium	0.976		1.00	98								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

ICV Source: MET0919CCVL_00003 Concentration Units: mg/L

CCV Source: MET0919CCVL_00003

Analyte	ICVL 600-275538/16 09/24/2019 09:04				CCVL 600-275538/22 09/24/2019 09:17				CCVL 600-275538/35 09/24/2019 09:51			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Molybdenum	0.0236		0.0200	118	0.0230		0.0200	115	0.0228		0.0200	114
Selenium	0.0212	J	0.0200	106	0.0198	J	0.0200	99	0.0218	J	0.0200	109
Zinc	0.0204		0.0200	102	0.0203		0.0200	102	0.0190		0.0200	95
Antimony	0.0573		0.0500	115	0.0549		0.0500	110	0.0539		0.0500	108
Arsenic	0.0211		0.0200	106	0.0221		0.0200	111	0.0223		0.0200	112
Barium	0.0227		0.0200	114	0.0226		0.0200	113	0.0222		0.0200	111
Beryllium	0.0111		0.0100	111	0.0110		0.0100	110	0.0112		0.0100	112
Boron	0.218		0.200	109	0.215		0.200	107	0.218		0.200	109
Cadmium	0.0113		0.0100	113	0.0111		0.0100	111	0.0108		0.0100	108
Calcium	1.04		1.00	104	1.03		1.00	103	1.02		1.00	102
Chromium	0.0113		0.0100	113	0.0113		0.0100	113	0.0107		0.0100	107
Cobalt	0.0109		0.0100	109	0.0105		0.0100	105	0.0105		0.0100	105
Copper	0.0114		0.0100	114	0.0128		0.0100	128				
Iron	0.209	J	0.200	105	0.189	J	0.200	95	0.186	J	0.200	93
Lead	0.0110		0.0100	110	0.0114		0.0100	114	0.0109		0.0100	109
Magnesium	1.05		1.00	105	1.08		1.00	108	1.03		1.00	103
Manganese	0.0113		0.0100	113	0.0113		0.0100	113	0.0110		0.0100	110
Nickel	0.0105		0.0100	105	0.0106		0.0100	106	0.0105		0.0100	105
Potassium	1.07		1.00	107	1.06		1.00	106	1.02		1.00	102
Silver	0.00850	J	0.0100	85	0.00900	J	0.0100	90	0.00870	J	0.0100	87
Sodium	1.08		1.00	108	1.06		1.00	106	1.06		1.00	106
Strontium	0.0112		0.0100	112	0.0109		0.0100	109	0.0111		0.0100	111
Tin	0.0227		0.0200	114	0.0226		0.0200	113	0.0223		0.0200	112
Titanium	0.0107		0.0100	107	0.0110		0.0100	110	0.0107		0.0100	107
Vanadium	0.0109		0.0100	109	0.0109		0.0100	109	0.0106		0.0100	106

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

ICV Source: MET0919CCVL_00003 Concentration Units: mg/L

CCV Source: MET0919CCVL_00003

Analyte	CCVL 600-275538/48 09/24/2019 10:27											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Molybdenum	0.0228		0.0200	114								
Selenium	0.0212	J	0.0200	106								
Zinc	0.0190		0.0200	95								
Antimony	0.0552		0.0500	110								
Arsenic	0.0236		0.0200	118								
Barium	0.0223		0.0200	112								
Beryllium	0.0107		0.0100	107								
Boron	0.199	J	0.200	100								
Cadmium	0.0109		0.0100	109								
Calcium	0.999	J	1.00	100								
Chromium	0.0108		0.0100	108								
Cobalt	0.0103		0.0100	103								
Copper	0.0125		0.0100	125								
Iron	0.197	J	0.200	99								
Lead	0.0113		0.0100	113								
Magnesium	0.994	J	1.00	99								
Manganese	0.0111		0.0100	111								
Nickel	0.0105		0.0100	105								
Potassium	1.03		1.00	103								
Silver	0.00910	J	0.0100	91								
Sodium	1.05		1.00	105								
Strontium	0.0109		0.0100	109								
Tin	0.0218		0.0200	109								
Titanium	0.0105		0.0100	105								
Vanadium	0.0107		0.0100	107								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

ICV Source: METICPMSICV_00013 Concentration Units: ug/L

CCV Source: METICPMSCAL4_00007

Analyte	ICV 600-275654/9 09/25/2019 11:19				CCV 600-275654/16 09/25/2019 11:41				CCV 600-275654/29 09/25/2019 12:23			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Thallium	247		250	99	245		250	98	243		250	97

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

ICV Source: METICPMSICV_00013 Concentration Units: ug/L

CCV Source: METICPMSCAL4_00007

Analyte	CCV 600-275654/42 09/25/2019 13:04											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Thallium	245		250	98								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

ICV Source: MER0519S2_00087 Concentration Units: ug/L

CCV Source: MER0519S2_00087

Analyte	ICV 600-275463/8 09/23/2019 11:55				CCV 600-275463/11 09/23/2019 12:02				CCV 600-275463/23 09/23/2019 12:26			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	3.01		3.00	100	3.04		3.00	101	3.09		3.00	103

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

ICV Source: MER0519S2_00087 Concentration Units: ug/L

CCV Source: MER0519S2_00087

Analyte	CCV 600-275463/35 09/23/2019 12:50				CCV 600-275463/47 09/23/2019 13:15				CCV 600-275463/54 09/23/2019 13:29			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	2.95		3.00	98	2.95		3.00	98	2.94		3.00	98

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Method: 7470A Instrument ID: MHG01

Lab Sample ID: CRA 600-275463/10 Concentration Units: ug/L

CRQL Check Standard Source: MER0519S1_00087

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Mercury	0.200	0.227		113	50-150

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

3-IN
METHOD BLANK
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Concentration Units: mg/L Lab Sample ID: MB 600-275026/1-A

Instrument Code: Thermo6500 Batch No.: 275405

CAS No.	Analyte	Concentration	C	Q	Method
7440-23-5	Sodium	ND			6010C

FORM III-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab Sample ID: ICSA 600-275213/17 Instrument ID: Thermo6500

Lab File ID: A091919.asc ICS Source: METISA_00134

Concentration Units: mg/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Antimony		**-0.0028**	
Arsenic		**0.0030**	
Barium		**0.0003**	
Beryllium		**0.0001**	
Boron		**0.0047**	
Cadmium		**0.0028**	
Calcium	**500**	**493**	**99**
Chromium		**0.0024**	
Cobalt		**-0.0002**	
Copper		**-0.0018**	
Iron	**200**	**192**	**96**
Lead		**-0.0116**	
Magnesium	**500**	**496**	**99**
Manganese		**-0.0039**	
Nickel		**-0.0057**	
Potassium		**0.0313**	
Silver		**-0.0004**	
Sodium		**0.0124**	
Strontium		**0.0043**	
Tin		**0.0009**	
Titanium		**0.0028**	
Vanadium		**-0.0043**	
Zinc		**-0.0027**	
Aluminum	*500*	*537*	*107*
Lithium		*0.0103*	
Molybdenum		*0.0010*	
Phosphorus		*0.0022*	
Selenium		*-0.0155*	
Silicon		*0.0306*	
Uranium		*1.56*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab Sample ID: ICSAB 600-275213/18 Instrument ID: Thermo6500

Lab File ID: A091919.asc ICS Source: METISB_00134

Concentration Units: mg/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Antimony	**2.00**	**2.10**	**105**
Arsenic	**2.00**	**1.99**	**99**
Barium	**2.00**	**1.97**	**98**
Beryllium	**1.00**	**0.959**	**96**
Boron	**0.500**	**0.503**	**101**
Cadmium	**1.00**	**1.02**	**102**
Calcium	**500**	**498**	**100**
Chromium	**1.00**	**0.965**	**97**
Cobalt	**1.00**	**1.01**	**101**
Copper	**1.00**	**1.06**	**106**
Iron	**200**	**194**	**97**
Lead	**1.00**	**0.974**	**97**
Magnesium	**500**	**501**	**100**
Manganese	**1.00**	**0.958**	**96**
Nickel	**1.00**	**0.994**	**99**
Potassium	**10.0**	**10.6**	**106**
Silver	**0.250**	**0.271**	**108**
Sodium	**10.0**	**10.5**	**105**
Strontium	**1.00**	**0.988**	**99**
Tin	**2.00**	**2.03**	**101**
Titanium	**1.00**	**0.992**	**99**
Vanadium	**1.00**	**0.973**	**97**
Zinc	**0.500**	**0.514**	**103**
Aluminum	*500*	*540*	*108*
Lithium	*1.00*	*1.04*	*104*
Molybdenum	*1.00*	*0.941*	*94*
Phosphorus	*10.0*	*10.9*	*109*
Selenium	*2.00*	*1.92*	*96*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab Sample ID: ICSA 600-275405/18 Instrument ID: Thermo6500

Lab File ID: A092319.asc ICS Source: METISA_00134

Concentration Units: mg/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Antimony		**-0.0047**	
Arsenic		**0.0023**	
Barium		**-0.0002**	
Beryllium		**0.0000**	
Boron		**0.0068**	
Cadmium		**0.0024**	
Calcium	**500**	**491**	**98**
Chromium		**0.0023**	
Cobalt		**-0.0003**	
Copper		**-0.0019**	
Iron	**200**	**194**	**97**
Lead		**-0.0140**	
Magnesium	**500**	**490**	**98**
Manganese		**-0.0040**	
Nickel		**-0.0054**	
Potassium		**0.0281**	
Silver		**0.0001**	
Sodium		**0.0204**	
Strontium		**0.0040**	
Tin		**-0.0010**	
Titanium		**0.0028**	
Vanadium		**-0.0042**	
Zinc		**-0.0023**	
Aluminum	*500*	*537*	*107*
Lithium		*0.0108*	
Molybdenum		*0.0006*	
Phosphorus		*-0.0009*	
Selenium		*-0.0192*	
Silicon		*-0.0009*	
Uranium		*1.27*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab Sample ID: ICSAB 600-275405/19 Instrument ID: Thermo6500

Lab File ID: A092319.asc ICS Source: METISB_00134

Concentration Units: mg/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Antimony	**2.00**	**2.10**	**105**
Arsenic	**2.00**	**2.00**	**100**
Barium	**2.00**	**1.95**	**97**
Beryllium	**1.00**	**0.953**	**95**
Boron	**0.500**	**0.505**	**101**
Cadmium	**1.00**	**1.02**	**102**
Calcium	**500**	**492**	**98**
Chromium	**1.00**	**0.930**	**93**
Cobalt	**1.00**	**1.01**	**101**
Copper	**1.00**	**1.03**	**103**
Iron	**200**	**194**	**97**
Lead	**1.00**	**0.971**	**97**
Magnesium	**500**	**495**	**99**
Manganese	**1.00**	**0.944**	**94**
Nickel	**1.00**	**0.994**	**99**
Potassium	**10.0**	**10.5**	**105**
Silver	**0.250**	**0.273**	**109**
Sodium	**10.0**	**10.4**	**104**
Strontium	**1.00**	**0.975**	**98**
Tin	**2.00**	**2.01**	**101**
Titanium	**1.00**	**0.984**	**98**
Vanadium	**1.00**	**0.954**	**95**
Zinc	**0.500**	**0.509**	**102**
Aluminum	*500*	*535*	*107*
Lithium	*1.00*	*1.02*	*102*
Molybdenum	*1.00*	*0.943*	*94*
Phosphorus	*10.0*	*10.9*	*109*
Selenium	*2.00*	*1.92*	*96*
Silicon	*2.00*	*1.65*	*83*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab Sample ID: ICSA 600-275538/18 Instrument ID: Thermo6500

Lab File ID: A092419.asc ICS Source: METISA_00134

Concentration Units: mg/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Molybdenum		**0.0007**	
Selenium		**-0.0166**	
Zinc		**-0.0025**	
Aluminum	*500*	*540*	*108*
Antimony		*-0.0046*	
Arsenic		*0.0006*	
Barium		*0.0000*	
Beryllium		*-0.0001*	
Boron		*0.0121*	
Cadmium		*0.0026*	
Calcium	*500*	*499*	*100*
Chromium		*0.0025*	
Cobalt		*-0.0004*	
Copper		*-0.0012*	
Iron	*200*	*195*	*98*
Lead		*-0.0132*	
Lithium		*0.0126*	
Magnesium	*500*	*494*	*99*
Manganese		*-0.0040*	
Nickel		*-0.0055*	
Phosphorus		*0.0025*	
Potassium		*0.0013*	
Silicon		*0.0159*	
Silver		*-0.0001*	
Sodium		*0.0113*	
Strontium		*0.0044*	
Tin		*-0.0005*	
Titanium		*0.0034*	
Uranium		*1.18*	
Vanadium		*-0.0045*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab Sample ID: ICSAB 600-275538/19 Instrument ID: Thermo6500

Lab File ID: A092419.asc ICS Source: METISB_00134

Concentration Units: mg/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Molybdenum	**1.00**	**0.950**	**95**
Selenium	**2.00**	**1.94**	**97**
Zinc	**0.500**	**0.514**	**103**
Aluminum	*500*	*532*	*106*
Antimony	*2.00*	*2.11*	*105*
Arsenic	*2.00*	*2.00*	*100*
Barium	*2.00*	*1.95*	*98*
Beryllium	*1.00*	*0.959*	*96*
Boron	*0.500*	*0.503*	*101*
Cadmium	*1.00*	*1.02*	*102*
Calcium	*500*	*494*	*99*
Chromium	*1.00*	*0.945*	*95*
Cobalt	*1.00*	*1.01*	*101*
Copper	*1.00*	*1.04*	*104*
Iron	*200*	*193*	*97*
Lead	*1.00*	*0.983*	*98*
Lithium	*1.00*	*1.03*	*103*
Magnesium	*500*	*500*	*100*
Manganese	*1.00*	*0.950*	*95*
Nickel	*1.00*	*0.998*	*100*
Phosphorus	*10.0*	*11.0*	*110*
Potassium	*10.0*	*10.5*	*105*
Silicon	*2.00*	*1.74*	*87*
Silver	*0.250*	*0.272*	*109*
Sodium	*10.0*	*10.4*	*104*
Strontium	*1.00*	*0.978*	*98*
Tin	*2.00*	*2.03*	*102*
Titanium	*1.00*	*0.985*	*99*
Vanadium	*1.00*	*0.962*	*96*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab Sample ID: ICSA 600-275654/12 Instrument ID: ICPMS7800

Lab File ID: 012ICSA.d ICS Source: METICPMSICSA_00007

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Thallium		**0.0250**	
Aluminum	*10000*	*9815*	*98*
Antimony		*0.0560*	
Arsenic		*0.0550*	
Barium		*0.242*	
Beryllium		*0.0130*	
Boron		*2.35*	
Cadmium		*0.0540*	
Calcium	*10000*	*9684*	*97*
Chromium		*0.423*	
Cobalt		*0.0150*	
Copper		*0.133*	
Iron	*10000*	*9789*	*98*
Lead		*0.0500*	
Lithium		*0.0760*	
Magnesium	*10000*	*9804*	*98*
Manganese		*0.154*	
Molybdenum	*200*	*201*	*101*
Nickel		*0.243*	
Potassium	*10000*	*9849*	*98*
Selenium		*-1.40*	
Silver		*0.171*	
Sodium	*10000*	*9967*	*100*
Strontium		*0.168*	
Tin		*0.233*	
Titanium	*200*	*197*	*99*
Vanadium		*-0.0070*	
Zinc		*5.58*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Lab Sample ID: ICSAB 600-275654/13 Instrument ID: ICPMS7800

Lab File ID: 013ICSB.d ICS Source: METICPMSICSAB_00007

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Thallium	**50.0**	**49.3**	**99**
Aluminum	*10000*	*9746*	*97*
Antimony	*50.0*	*49.0*	*98*
Arsenic	*100*	*101*	*101*
Barium	*100*	*103*	*103*
Beryllium	*100*	*98.5*	*98*
Boron		*2.30*	
Cadmium	*100*	*101*	*101*
Calcium	*10000*	*9708*	*97*
Chromium	*100*	*98.2*	*98*
Cobalt	*100*	*99.2*	*99*
Copper	*100*	*99.4*	*99*
Iron	*10000*	*9900*	*99*
Lead	*100*	*98.4*	*98*
Lithium	*100*	*98.5*	*98*
Magnesium	*10000*	*9772*	*98*
Manganese	*100*	*98.1*	*98*
Molybdenum	*200*	*205*	*103*
Nickel	*100*	*98.6*	*99*
Potassium	*10000*	*9868*	*99*
Selenium	*100*	*99.3*	*99*
Silver	*100*	*100*	*100*
Sodium	*10000*	*9978*	*100*
Strontium	*100*	*103*	*103*
Tin	*100*	*100*	*100*
Titanium	*200*	*194*	*97*
Vanadium	*100*	*97.7*	*98*
Zinc	*100*	*100*	*100*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: 11187072-091319-LL-INF-2 MS
Lab ID: 600-191956-3 MS
Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-191956-1
SDG No.:
Matrix: Water
Concentration Units: ug/L
% Solids:

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Thallium	95.1		ND		100	95	75-125		6020A

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VA - IN

6-IN
DUPLICATES
METALS - DISSOLVED

Client ID: 11187072-091319-LL-INF-2 DU
Lab ID: 600-191956-3 DU
Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-191956-1
SDG No.:
% Solids for Sample:
% Solids for Duplicate:
Matrix: Water
Concentration Units: ug/L

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Thallium	0.50	ND		ND		NC		6020A

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VI-IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 600-275026/2-A

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

Sample Matrix: Water LCS Source: ICPMSCALMIX2S_00001

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Sodium	10.0	10.3		103	80	120		6010C

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

8-IN
ICP-AES AND ICP-MS SERIAL DILUTIONS
METALS - DISSOLVED

Lab ID: 600-191956-3

SDG No:

Lab Name: Eurofins TestAmerica, Houston Job No: 600-191956-1

Matrix: Water Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	Method
Thallium	ND		ND		NC		6020A

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIII-IN

9-IN
DETECTION LIMITS
METALS

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-191956-1

SDG Number:

Matrix: Water Instrument ID: Thermo6500

Method: 6010C MDL Date: 02/26/2018 16:36

Prep Method: 3010A

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Antimony		0.05	0.00393
Arsenic		0.01	0.00285
Barium		0.02	0.00053
Beryllium		0.005	0.00042
Boron		0.2	0.0116
Cadmium		0.005	0.00028
Calcium		1	0.024
Chromium		0.01	0.00159
Cobalt		0.01	0.00031
Copper		0.01	0.00813
Iron		0.4	0.027
Lead		0.01	0.00219
Magnesium		1	0.0555
Manganese		0.01	0.00036
Molybdenum		0.01	0.00054
Nickel		0.01	0.0008
Potassium		1	0.0374
Selenium		0.04	0.00287
Silver		0.01	0.00129
Sodium		1	0.0214
Strontium		0.005	0.00034
Tin		0.01	0.00059
Titanium		0.01	0.00051
Vanadium		0.01	0.00047
Zinc		0.03	0.004

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-191956-1

SDG Number:

Matrix: Water Instrument ID: Thermo6500

Method: 6010C XMDL Date: 09/01/2011 12:56

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Antimony		0.05	0.0063
Arsenic		0.01	0.00328
Barium		0.02	0.0022
Beryllium		0.005	0.00134
Boron		0.2	0.00771
Cadmium		0.005	0.00073
Calcium		1	0.0219
Chromium		0.01	0.00155
Cobalt		0.01	0.00063
Copper		0.01	0.00145
Iron		0.4	0.0866
Lead		0.01	0.0029
Magnesium		1	0.0191
Manganese		0.01	0.00084
Molybdenum		0.01	0.00273
Nickel		0.01	0.00179
Potassium		1	0.129
Selenium		0.04	0.00417
Silver		0.01	0.00125
Sodium		1	0.02
Strontium		0.005	0.00026
Tin		0.01	0.00278
Titanium		0.01	0.00108
Vanadium		0.01	0.00169
Zinc		0.01	0.00217

9-IN
DETECTION LIMITS
METALS - DISSOLVED

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-191956-1

SDG Number:

Matrix: Water Instrument ID: Thermo6500

Method: 6010C MDL Date: 02/26/2018 16:36

Prep Method: 3010A

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Antimony		0.05	0.00393
Arsenic		0.01	0.00285
Barium		0.02	0.00053
Beryllium		0.005	0.00042
Boron		0.2	0.0116
Cadmium		0.005	0.00028
Calcium		1	0.024
Chromium		0.01	0.00159
Cobalt		0.01	0.00031
Copper		0.01	0.00813
Iron		0.4	0.027
Lead		0.01	0.00219
Magnesium		1	0.0555
Manganese		0.01	0.00036
Molybdenum		0.01	0.00054
Nickel		0.01	0.0008
Potassium		1	0.0374
Selenium		0.04	0.00287
Silver		0.01	0.00129
Sodium		1	0.0214
Strontium		0.005	0.00034
Tin		0.01	0.00059
Titanium		0.01	0.00051
Vanadium		0.01	0.00047
Zinc		0.03	0.004

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - DISSOLVED

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-191956-1

SDG Number:

Matrix: Water Instrument ID: Thermo6500

Method: 6010C XMDL Date: 09/01/2011 12:56

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Antimony		0.05	0.0063
Arsenic		0.01	0.00328
Barium		0.02	0.0022
Beryllium		0.005	0.00134
Boron		0.2	0.00771
Cadmium		0.005	0.00073
Calcium		1	0.0219
Chromium		0.01	0.00155
Cobalt		0.01	0.00063
Copper		0.01	0.00145
Iron		0.4	0.0866
Lead		0.01	0.0029
Magnesium		1	0.0191
Manganese		0.01	0.00084
Molybdenum		0.01	0.00273
Nickel		0.01	0.00179
Potassium		1	0.129
Selenium		0.04	0.00417
Silver		0.01	0.00125
Sodium		1	0.02
Strontium		0.005	0.00026
Tin		0.01	0.00278
Titanium		0.01	0.00108
Vanadium		0.01	0.00169
Zinc		0.01	0.00217

FORM IX - IN

9-IN
DETECTION LIMITS
METALS

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-191956-1

SDG Number:

Matrix: Water Instrument ID: ICPMS7800

Method: 6020A MDL Date: 06/04/2019 16:28

Prep Method: 3010A

Analyte	Wavelength/ Mass	RL (ug/L)	MDL (ug/L)
Thallium		0.5	0.14

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-191956-1

SDG Number:

Matrix: Water Instrument ID: ICPMS7800

Method: 6020A XMDL Date: 06/04/2019 16:45

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Thallium		0.5	0.14

FORM IX - IN

9-IN
DETECTION LIMITS
METALS - DISSOLVED

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-191956-1

SDG Number:

Matrix: Water Instrument ID: ICPMS7800

Method: 6020A MDL Date: 06/04/2019 16:28

Prep Method: 3010A

Analyte	Wavelength/ Mass	RL (ug/L)	MDL (ug/L)
Thallium		0.5	0.14

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - DISSOLVED

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-191956-1

SDG Number:

Matrix: Water Instrument ID: ICPMS7800

Method: 6020A XMDL Date: 06/04/2019 16:45

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Thallium		0.5	0.14

FORM IX - IN

9-IN
DETECTION LIMITS
METALS

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-191956-1

SDG Number:

Matrix: Water Instrument ID: MHG01

Method: 7470A MDL Date: 01/30/2013 13:08

Prep Method: 7470A

Analyte	Wavelength/ Mass	RL (ug/L)	MDL (ug/L)
Mercury		0.2	0.082

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-191956-1

SDG Number:

Matrix: Water Instrument ID: MHG01

Method: 7470A XMDL Date: 05/16/2008 15:13

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Mercury		0.2	0.082

FORM IX - IN

9-IN
DETECTION LIMITS
METALS - DISSOLVED

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-191956-1

SDG Number:

Matrix: Water Instrument ID: MHG01

Method: 7470A MDL Date: 01/30/2013 13:08

Prep Method: 7470A

Analyte	Wavelength/ Mass	RL (ug/L)	MDL (ug/L)
Mercury		0.2	0.082

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - DISSOLVED

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-191956-1

SDG Number:

Matrix: Water Instrument ID: MHG01

Method: 7470A XMDL Date: 05/16/2008 15:13

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Mercury		0.2	0.082

FORM IX - IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-191956-1

SDG No.:

ICP-AES Instrument ID: Thermo6500 Date: 12/11/2018

Analyte	Wave Length	Ag	Al	As	B	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Li
Aluminum													0.000088		
Antimony			-0.000021								0.013941		0.000007		
Arsenic											0.000632		-0.000059		
Barium															
Beryllium															
Boron													-0.000004		
Cadmium				0.016373									-0.000010		
Calcium													0.001053		
Chromium															
Cobalt															
Copper													0.000019		
Iron															
Lead			0.000117					0.000001		-0.000608		0.000928	-0.000046		
Lithium															
Magnesium													-0.000344		
Manganese													0.000011		
Molybdenum													-0.000010		
Nickel													0.000033		
Potassium													-0.000137		
Selenium													0.000007		
Silicon													-0.000029		
Silver															
Sodium													0.000050		
Strontium													0.000001		
Thallium										003101	0.000237				
Tin													0.000013		
Titanium											0.000188				
Vanadium													0.000016		
Zinc								-0.000004			-0.000095		0.000023		

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-191956-1

SDG No.:

ICP-AES Instrument ID: Thermo6500 Date: 12/11/2018

Analyte	Wave Length	Mg	Mn	Mo	Na	Ni	Pb	Sb	Se	Si	Sn	Sr	Ti	Tl	V
Aluminum				0.021995											0.045833
Antimony															
Arsenic				0.000902											
Barium															
Beryllium															0.000250
Boron															
Cadmium															0.000105
Calcium															
Chromium															
Cobalt						0.000120							0.002255		
Copper				-0.000202											-0.000268
Iron															
Lead				-0.002542		-0.000020									
Lithium															
Magnesium															
Manganese		0.000003													
Molybdenum															
Nickel				0.000860										0.000721	
Potassium															
Selenium				-0.013246											
Silicon				-0.013246											
Silver															0.000089
Sodium															
Strontium				0.000001											
Thallium			0.000748												0.000872
Tin															
Titanium				0.001410											
Vanadium				0.002508											
Zinc				0.000285											

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-191956-1

SDG No.:

ICP-AES Instrument ID: Thermo6500 Date: 12/11/2018

Analyte	Wave Length	Zn													
Aluminum															
Antimony															
Arsenic															
Barium															
Beryllium															
Boron															
Cadmium															
Calcium															
Chromium															
Cobalt															
Copper															
Iron															
Lead															
Lithium															
Magnesium															
Manganese															
Molybdenum															
Nickel															
Potassium															
Selenium															
Silicon															
Silver															
Sodium															
Strontium															
Thallium															
Tin															
Titanium															
Vanadium															
Zinc															

X-IN

11-IN
LINEAR RANGES
METALS

Lab Name: Eurofins TestAmerica, Houston Job No: 600-191956-1

SDG No.:

Instrument ID: Thermo6500 Date: 04/04/2016 09:34

Analyte	Integ. Time (Sec.)	Concentration (mg/L)	Method
Silver		2.00	6010C
Arsenic		50.0	6010C
Barium		40.0	6010C
Boron		5.00	6010C
Beryllium		5.00	6010C
Calcium		2000	6010C
Cadmium		10.0	6010C
Cobalt		25.0	6010C
Chromium		50.0	6010C
Copper		50.0	6010C
Iron		1000	6010C
Potassium		200.	6010C
Magnesium		500.	6010C
Manganese		10.0	6010C
Sodium		200.	6010C
Nickel		50.0	6010C
Lead		50.0	6010C
Antimony		25.0	6010C
Molybdenum		10.0	6010C
Selenium		25.0	6010C
Tin		5.00	6010C
Strontium		5.00	6010C
Vanadium		50.0	6010C
Titanium		10.0	6010C
Zinc		10.0	6010C

11-IN
LINEAR RANGES
METALS

Lab Name: Eurofins TestAmerica, Houston Job No: 600-191956-1

SDG No.:

Instrument ID: ICPMS7800 Date: 08/06/2019 15:10

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Thallium		1000	6020A

FORM XI - IN

12-IN
PREPARATION LOG
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Prep Method: 3010A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 600-275026/1-A	09/17/2019 16:24	275026		50	50
LCS 600-275026/2-A	09/17/2019 16:24	275026		50	50
600-191956-2	09/17/2019 16:24	275026		50	50

FORM XII-IN

12-IN
PREPARATION LOG
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Prep Method: 3010A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
600-191956-2	09/19/2019 10:01	275211		50	50

FORM XII-IN

12-IN
PREPARATION LOG
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Prep Method: 3010A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
600-191956-2	09/24/2019 08:53	275511		50	50
600-191956-2	09/24/2019 10:03	275511		50	50

FORM XII-IN

12-IN
PREPARATION LOG
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Prep Method: 7470A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
600-191956-2	09/20/2019 14:32	275328		40	50
600-191956-2	09/20/2019 14:32	275328		40	50

FORM XII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: Thermo6500 Analysis Method: 6010C

Start Date: 09/19/2019 07:19 End Date: 09/19/2019 12:40

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	As	B	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Ni	Pb	Sb	Sn	Sr	Ti	V	Zn				
ZZZZZZ			07:19																										
ZZZZZZ			07:21																										
ZZZZZZ			07:23																										
ZZZZZZ			07:25																										
ZZZZZZ			07:27																										
ZZZZZZ			07:30																										
ZZZZZZ			07:32																										
ZZZZZZ			07:34																										
CALIBSTD 600-275213/9 IC			07:36	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
CALIBSTD 600-275213/10 IC			07:38	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
CALIBSTD 600-275213/11 IC			07:40	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
CALIBSTD 600-275213/12 IC			07:41	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
ZZZZZZ			07:43																										
ICV 600-275213/14			07:45																										
ICVL 600-275213/15			07:48																										
ICBIS 600-275213/16			07:51																										
ICSA 600-275213/17			07:53																										
ICSAB 600-275213/18			07:55																										
CCV 600-275213/19			07:57																										
CCVL 600-275213/20			07:59																										
CCB 600-275213/21			08:01																										
ZZZZZZ			08:03																										
ZZZZZZ			08:05																										
ZZZZZZ			08:07																										
ZZZZZZ			08:09																										
ZZZZZZ			08:11																										
ZZZZZZ			08:13																										
ZZZZZZ			08:15																										
ZZZZZZ			08:17																										
ZZZZZZ			08:19																										
ZZZZZZ			08:21																										
CCV 600-275213/32			08:23																										
CCVL 600-275213/33			08:25																										
CCB 600-275213/34			08:27																										
ZZZZZZ			08:29																										
ZZZZZZ			08:31																										
ZZZZZZ			08:33																										
ZZZZZZ			08:35																										
ZZZZZZ			08:37																										
600-191956-2	1	T	08:39	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
ZZZZZZ			08:42																										
ZZZZZZ			08:44																										

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: Thermo6500 Analysis Method: 6010C

Start Date: 09/19/2019 07:19 End Date: 09/19/2019 12:40

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	As	B	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Ni	Pb	Sb	Sn	Sr	Ti	V	Zn				
ZZZZZZ			08:46																										
ZZZZZZ			08:48																										
CCV 600-275213/45			08:50																										
CCVL 600-275213/46			08:51																										
CCB 600-275213/47			08:53																										
ZZZZZZ			08:56																										
ZZZZZZ			08:58																										
ZZZZZZ			09:00																										
ZZZZZZ			09:02																										
ZZZZZZ			09:04																										
ZZZZZZ			09:06																										
ZZZZZZ			09:08																										
ZZZZZZ			09:09																										
ZZZZZZ			09:11																										
ZZZZZZ			09:13																										
CCV 600-275213/58			09:15																										
CCVL 600-275213/59			09:17																										
CCB 600-275213/60			09:19																										
ZZZZZZ			09:21																										
ZZZZZZ			09:23																										
ZZZZZZ			09:25																										
ZZZZZZ			09:27																										
ZZZZZZ			09:29																										
ZZZZZZ			09:31																										
ZZZZZZ			09:33																										
ZZZZZZ			09:35																										
ZZZZZZ			09:37																										
ZZZZZZ			09:39																										
CCV 600-275213/71			09:41																										
CCVL 600-275213/72			09:43																										
CCB 600-275213/73			09:45																										
ZZZZZZ			09:47																										
ZZZZZZ			09:49																										
ZZZZZZ			09:51																										
ZZZZZZ			09:53																										
ZZZZZZ			09:55																										
ZZZZZZ			09:57																										
ZZZZZZ			09:59																										
ZZZZZZ			10:01																										
ZZZZZZ			10:03																										
ZZZZZZ			10:05																										
CCV 600-275213/84			10:07																										

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: Thermo6500 Analysis Method: 6010C

Start Date: 09/19/2019 07:19 End Date: 09/19/2019 12:40

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	As	B	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Ni	Pb	Sb	Sn	Sr	Ti	V	Zn				
CCVL 600-275213/85			10:09																										
CCB 600-275213/86			10:11																										
ZZZZZZ			10:13																										
ZZZZZZ			10:15																										
ZZZZZZ			10:17																										
ZZZZZZ			10:19																										
ZZZZZZ			10:21																										
ZZZZZZ			10:23																										
ZZZZZZ			10:25																										
ZZZZZZ			10:28																										
ZZZZZZ			10:30																										
ZZZZZZ			10:32																										
CCV 600-275213/97			10:34																										
CCVL 600-275213/98			10:36																										
CCB 600-275213/99			10:38																										
ZZZZZZ			10:40																										
ZZZZZZ			10:42																										
ZZZZZZ			10:44																										
ZZZZZZ			10:46																										
ZZZZZZ			10:48																										
ZZZZZZ			10:50																										
ZZZZZZ			10:52																										
ZZZZZZ			10:54																										
ZZZZZZ			10:55																										
ZZZZZZ			10:58																										
CCV 600-275213/110			10:59																										
CCVL 600-275213/111			11:01																										
CCB 600-275213/112			11:03																										
ZZZZZZ			11:05																										
ZZZZZZ			11:07																										
ZZZZZZ			11:09																										
ZZZZZZ			11:11																										
ZZZZZZ			11:13																										
ZZZZZZ			11:15																										
ZZZZZZ			11:17																										
ZZZZZZ			11:19																										
ZZZZZZ			11:22																										
ZZZZZZ			11:24																										
CCV 600-275213/123			11:26																										
CCVL 600-275213/124			11:28																										
CCB 600-275213/125			11:30																										
ZZZZZZ			11:32																										

FORM XIII-IN

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ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: Thermo6500 Analysis Method: 6010C

Start Date: 09/19/2019 07:19 End Date: 09/19/2019 12:40

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	As	B	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Ni	Pb	Sb	Sn	Sr	Ti	V	Zn				
ZZZZZZ			11:34																										
ZZZZZZ			11:36																										
ZZZZZZ			11:38																										
ZZZZZZ			11:40																										
ZZZZZZ			11:42																										
ZZZZZZ			11:44																										
ZZZZZZ			11:46																										
ZZZZZZ			11:48																										
ZZZZZZ			11:50																										
CCV 600-275213/136			11:52																										
CCVL 600-275213/137			11:54																										
CCB 600-275213/138			11:56																										
ZZZZZZ			11:58																										
ZZZZZZ			12:00																										
ZZZZZZ			12:02																										
ZZZZZZ			12:04																										
ZZZZZZ			12:06																										
ZZZZZZ			12:08																										
ZZZZZZ			12:10																										
ZZZZZZ			12:12																										
ZZZZZZ			12:14																										
ZZZZZZ			12:16																										
CCV 600-275213/149			12:18																										
CCVL 600-275213/150			12:20																										
CCB 600-275213/151			12:22																										
ZZZZZZ			12:24																										
ZZZZZZ			12:26																										
ZZZZZZ			12:28																										
ZZZZZZ			12:30																										
ZZZZZZ			12:34																										
CCV 600-275213/157			12:36																										
CCVL 600-275213/158			12:38																										
CCB 600-275213/159			12:40																										

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: Thermo6500 Analysis Method: 6010C

Start Date: 09/23/2019 08:41 End Date: 09/23/2019 13:56

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	As	B	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Na	Ni	Pb	Sb	Sn	Sr	Ti	V	Zn			
ZZZZZZ			08:41																										
ZZZZZZ			08:43																										
ZZZZZZ			08:45																										
ZZZZZZ			08:47																										
ZZZZZZ			08:49																										
ZZZZZZ			08:51																										
ZZZZZZ			08:53																										
ZZZZZZ			08:56																										
CALIBSTD 600-275405/9 IC			08:58	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
CALIBSTD 600-275405/10 IC			09:00	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
CALIBSTD 600-275405/11 IC			09:01	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
CALIBSTD 600-275405/12 IC			09:03	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
ZZZZZZ			09:05																										
ICV 600-275405/14			09:08																										
ZZZZZZ			09:10																										
ICVL 600-275405/16			09:17																										
ICBIS 600-275405/17			09:20																										
ICSA 600-275405/18			09:22																										
ICSAB 600-275405/19			09:25																										
CCV 600-275405/20			09:27																										
CCVL 600-275405/21			09:29																										
ZZZZZZ			09:37																										
CCB 600-275405/23			09:43																										
ZZZZZZ			09:45																										
ZZZZZZ			09:47																										
ZZZZZZ			09:49																										
ZZZZZZ			09:51																										
ZZZZZZ			09:53																										
ZZZZZZ			09:55																										
600-191956-2	1	D	09:57	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ZZZZZZ			09:59																										
ZZZZZZ			10:01																										
ZZZZZZ			10:03																										
CCV 600-275405/34			10:05																										
CCVL 600-275405/35			10:07																										
CCVL 600-275405/36	1		10:09	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
CCB 600-275405/37			10:11																										
MB 600-275026/1-A	1	T	10:13															X											
LCS 600-275026/2-A	1	T	10:15															X											
ZZZZZZ			10:17																										
ZZZZZZ			10:19																										
ZZZZZZ			10:21																										

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: Thermo6500 Analysis Method: 6010C

Start Date: 09/23/2019 08:41 End Date: 09/23/2019 13:56

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	As	B	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Na	Ni	Pb	Sb	Sn	Sr	Ti	V	Zn			
ZZZZZZ			10:23																										
ZZZZZZ			10:25																										
600-191956-2	20	T	10:27															X											
ZZZZZZ			10:29																										
ZZZZZZ			10:31																										
CCV 600-275405/48	1		10:33	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
CCVL 600-275405/49	1		10:41	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
CCB 600-275405/50	1		10:43	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
ZZZZZZ			10:45																										
ZZZZZZ			10:47																										
ZZZZZZ			10:49																										
ZZZZZZ			10:51																										
ZZZZZZ			10:53																										
ZZZZZZ			10:55																										
ZZZZZZ			10:57																										
ZZZZZZ			10:59																										
ZZZZZZ			11:01																										
ZZZZZZ			11:03																										
CCV 600-275405/61			11:05																										
CCVL 600-275405/62			11:07																										
CCB 600-275405/63			11:09																										
ZZZZZZ			11:11																										
ZZZZZZ			11:13																										
ZZZZZZ			11:15																										
ZZZZZZ			11:17																										
ZZZZZZ			11:19																										
ZZZZZZ			11:21																										
ZZZZZZ			11:23																										
ZZZZZZ			11:25																										
ZZZZZZ			11:27																										
ZZZZZZ			11:29																										
CCV 600-275405/74			11:31																										
CCVL 600-275405/75			11:33																										
CCB 600-275405/76			11:35																										
ZZZZZZ			11:37																										
ZZZZZZ			11:39																										
ZZZZZZ			11:41																										
ZZZZZZ			11:43																										
ZZZZZZ			11:56																										
ZZZZZZ			11:58																										
ZZZZZZ			12:00																										
ZZZZZZ			12:02																										

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: Thermo6500 Analysis Method: 6010C

Start Date: 09/23/2019 08:41 End Date: 09/23/2019 13:56

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	As	B	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Na	Ni	Pb	Sb	Sn	Sr	Ti	V	Zn			
ZZZZZZ			12:04																										
ZZZZZZ			12:06																										
CCV 600-275405/87			12:08																										
CCVL 600-275405/88			12:10																										
CCB 600-275405/89			12:12																										
ZZZZZZ			12:14																										
ZZZZZZ			12:16																										
ZZZZZZ			12:18																										
ZZZZZZ			12:20																										
ZZZZZZ			12:22																										
ZZZZZZ			12:24																										
ZZZZZZ			12:26																										
ZZZZZZ			12:28																										
ZZZZZZ			12:30																										
ZZZZZZ			12:32																										
CCV 600-275405/100			12:34																										
CCVL 600-275405/101			12:36																										
CCB 600-275405/102			12:38																										
ZZZZZZ			12:40																										
600-191956-2	20	D	12:42															X											
ZZZZZZ			12:44																										
ZZZZZZ			12:46																										
ZZZZZZ			12:48																										
ZZZZZZ			12:50																										
ZZZZZZ			12:52																										
ZZZZZZ			12:54																										
ZZZZZZ			12:56																										
ZZZZZZ			12:58																										
CCV 600-275405/113			13:00																										
CCVL 600-275405/114			13:04																										
CCB 600-275405/115			13:06																										
ZZZZZZ			13:08																										
ZZZZZZ			13:10																										
ZZZZZZ			13:12																										
ZZZZZZ			13:14																										
ZZZZZZ			13:16																										
ZZZZZZ			13:17																										
ZZZZZZ			13:19																										
ZZZZZZ			13:21																										
ZZZZZZ			13:23																										
ZZZZZZ			13:25																										
CCV 600-275405/126			13:28																										

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: Thermo6500 Analysis Method: 6010C

Start Date: 09/23/2019 08:41 End Date: 09/23/2019 13:56

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	As	B	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Na	Ni	Pb	Sb	Sn	Sr	Ti	V	Zn			
CCVL 600-275405/127			13:29																										
CCB 600-275405/128			13:31																										
ZZZZZZ			13:34																										
ZZZZZZ			13:36																										
ZZZZZZ			13:38																										
ZZZZZZ			13:39																										
ZZZZZZ			13:42																										
ZZZZZZ			13:44																										
ZZZZZZ			13:46																										
ZZZZZZ			13:48																										
ZZZZZZ			13:50																										
CCV 600-275405/138			13:52																										
CCVL 600-275405/139			13:54																										
CCB 600-275405/140			13:56																										

Prep Types:
D = Dissolved
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: Thermo6500 Analysis Method: 6010C

Start Date: 09/24/2019 08:31 End Date: 09/24/2019 10:56

Lab Sample Id	D/F	Type	Time	Analytes																							
				Mo	Se																						
ZZZZZZ			08:31																								
ZZZZZZ			08:34																								
ZZZZZZ			08:36																								
ZZZZZZ			08:38																								
ZZZZZZ			08:40																								
ZZZZZZ			08:42																								
ZZZZZZ			08:44																								
ZZZZZZ			08:46																								
CALIBSTD 600-275538/9 IC			08:48	X	X																						
CALIBSTD 600-275538/10 IC			08:50	X	X																						
CALIBSTD 600-275538/11 IC			08:52	X	X																						
CALIBSTD 600-275538/12 IC			08:54	X	X																						
ZZZZZZ			08:56																								
ICV 600-275538/14			08:57																								
ICVL 600-275538/15			09:00																								
ICVL 600-275538/16			09:04																								
ICBIS 600-275538/17			09:06																								
ICSA 600-275538/18			09:08																								
ICSAB 600-275538/19			09:10																								
CCV 600-275538/20			09:12																								
CCVL 600-275538/21			09:14																								
CCVL 600-275538/22			09:17																								
CCB 600-275538/23			09:20																								
ZZZZZZ			09:22																								
ZZZZZZ			09:24																								
ZZZZZZ			09:26																								
ZZZZZZ			09:28																								
ZZZZZZ			09:30																								
ZZZZZZ			09:32																								
600-191956-2	1	D	09:34	X	X																						
ZZZZZZ			09:36																								
ZZZZZZ			09:38																								
ZZZZZZ			09:40																								
CCV 600-275538/34			09:45																								
CCVL 600-275538/35			09:51																								
CCB 600-275538/36			09:53																								
ZZZZZZ			09:55																								
ZZZZZZ			09:57																								
ZZZZZZ			09:59																								
ZZZZZZ			10:01																								
ZZZZZZ			10:03																								
ZZZZZZ			10:05																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: Thermo6500 Analysis Method: 6010C

Start Date: 09/24/2019 08:31 End Date: 09/24/2019 10:56

Lab Sample Id	D/F	Type	Time	Analytes																							
				Mo	Se																						
ZZZZZZ			10:07																								
600-191956-2	1	T	10:09	X	X																						
ZZZZZZ			10:11																								
ZZZZZZ			10:13																								
CCV 600-275538/47			10:15																								
CCVL 600-275538/48			10:27																								
CCB 600-275538/49			10:32																								
ZZZZZZ			10:34																								
ZZZZZZ			10:36																								
ZZZZZZ			10:38																								
ZZZZZZ			10:40																								
ZZZZZZ			10:42																								
ZZZZZZ			10:44																								
ZZZZZZ			10:46																								
CCVL 600-275538/57			10:52																								
CCV 600-275538/58			10:54																								
CCB 600-275538/59			10:56																								

Prep Types:
D = Dissolved
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: ICPMS7800 Analysis Method: 6020A

Start Date: 09/25/2019 10:52 End Date: 09/25/2019 17:01

Lab Sample Id	D/F	Type	Time	Analytes																							
				Tl																							
RINSE 600-275654/1			10:52																								
RINSE 600-275654/2			10:56																								
IC 600-275654/3			10:59	X																							
IC 600-275654/4			11:02	X																							
IC 600-275654/5			11:06	X																							
IC 600-275654/6			11:09	X																							
IC 600-275654/7			11:12	X																							
IC 600-275654/8			11:16	X																							
ICV 600-275654/9			11:19																								
ICVL 600-275654/10			11:22																								
ICB 600-275654/11			11:25																								
ICSA 600-275654/12			11:28																								
ICSAB 600-275654/13			11:31																								
RINSE 600-275654/14			11:35																								
RINSE 600-275654/15			11:38																								
CCV 600-275654/16			11:41																								
CCVL 600-275654/17			11:44																								
CCB 600-275654/18			11:48																								
ZZZZZZ			11:52																								
ZZZZZZ			11:55																								
ZZZZZZ			11:58																								
ZZZZZZ			12:01																								
ZZZZZZ			12:04																								
ZZZZZZ			12:07																								
ZZZZZZ			12:10																								
ZZZZZZ			12:14																								
ZZZZZZ			12:17																								
600-191956-2	1	T	12:20	X																							
CCV 600-275654/29			12:23																								
CCVL 600-275654/30			12:26																								
CCB 600-275654/31			12:29																								
ZZZZZZ			12:32																								
ZZZZZZ			12:36																								
ZZZZZZ			12:39																								
ZZZZZZ			12:42																								
ZZZZZZ			12:45																								
ZZZZZZ			12:48																								
ZZZZZZ			12:51																								
600-191956-2	1	D	12:54	X																							
ZZZZZZ			12:58																								
ZZZZZZ			13:01																								
CCV 600-275654/42			13:04																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: ICPMS7800 Analysis Method: 6020A

Start Date: 09/25/2019 10:52 End Date: 09/25/2019 17:01

Lab Sample Id	D/F	Type	Time	Analytes																							
				Tl																							
CCVL 600-275654/43			13:07																								
CCB 600-275654/44			13:10																								
ZZZZZZ			13:13																								
ZZZZZZ			13:16																								
ZZZZZZ			13:20																								
ZZZZZZ			13:23																								
ZZZZZZ			13:26																								
ZZZZZZ			13:29																								
ZZZZZZ			13:32																								
ZZZZZZ			13:35																								
ZZZZZZ			13:39																								
CCV 600-275654/54			13:42																								
CCVL 600-275654/55			13:45																								
CCB 600-275654/56			13:48																								
ZZZZZZ			13:51																								
CCV 600-275654/58			13:54																								
CCVL 600-275654/59			13:57																								
CCB 600-275654/60			14:00																								
ZZZZZZ			14:35																								
CCV 600-275654/62			14:38																								
CCVL 600-275654/63			14:41																								
CCB 600-275654/64			14:44																								
ZZZZZZ			16:10																								
ZZZZZZ			16:14																								
ZZZZZZ			16:17																								
ZZZZZZ			16:20																								
ZZZZZZ			16:23																								
ZZZZZZ			16:26																								
ZZZZZZ			16:29																								
ZZZZZZ			16:33																								
ZZZZZZ			16:36																								
ZZZZZZ			16:39																								
CCV 600-275654/75			16:42																								
CCVL 600-275654/76			16:45																								
CCB 600-275654/77			16:48																								
RINSE 600-275654/78			16:51																								
RINSE 600-275654/79			16:55																								
RINSE 600-275654/80			16:58																								
RINSE 600-275654/81			17:01																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: ICPMS7800 Analysis Method: 6020A

Start Date: 09/25/2019 10:52 End Date: 09/25/2019 17:01

Lab Sample Id	D/F	Type	Time	Analytes																							
				Tl																							

Prep Types:
D = Dissolved
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: MHG01 Analysis Method: 7470A

Start Date: 09/23/2019 11:41 End Date: 09/23/2019 15:58

Lab Sample Id	D/F	Type	Time	Analytes																							
				Hg																							
ZZZZZZ			11:41																								
ZZZZZZ			11:43																								
ZZZZZZ			11:45																								
ZZZZZZ			11:47																								
ZZZZZZ			11:49																								
ZZZZZZ			11:51																								
ZZZZZZ			11:53																								
ICV 600-275463/8			11:55																								
ICB 600-275463/9			11:58																								
CRA 600-275463/10			12:00																								
CCV 600-275463/11			12:02																								
CCB 600-275463/12			12:04																								
ZZZZZZ			12:06																								
ZZZZZZ			12:08																								
ZZZZZZ			12:10																								
ZZZZZZ			12:12																								
ZZZZZZ			12:14																								
ZZZZZZ			12:16																								
ZZZZZZ			12:18																								
ZZZZZZ			12:20																								
ZZZZZZ			12:22																								
ZZZZZZ			12:24																								
CCV 600-275463/23			12:26																								
CCB 600-275463/24			12:28																								
ZZZZZZ			12:30																								
ZZZZZZ			12:32																								
ZZZZZZ			12:34																								
ZZZZZZ			12:36																								
ZZZZZZ			12:38																								
ZZZZZZ			12:40																								
ZZZZZZ			12:42																								
ZZZZZZ			12:44																								
ZZZZZZ			12:46																								
ZZZZZZ			12:48																								
CCV 600-275463/35			12:50																								
CCB 600-275463/36			12:52																								
ZZZZZZ			12:55																								
ZZZZZZ			12:57																								
ZZZZZZ			12:59																								
600-191956-2	1	T	13:01	X																							
600-191956-2	1	D	13:03	X																							
ZZZZZZ			13:05																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: MHG01 Analysis Method: 7470A

Start Date: 09/23/2019 11:41 End Date: 09/23/2019 15:58

Lab Sample Id	D/F	Type	Time	Analytes																							
				Hg																							
ZZZZZZ			13:07																								
ZZZZZZ			13:09																								
ZZZZZZ			13:11																								
ZZZZZZ			13:13																								
CCV 600-275463/47			13:15																								
CCB 600-275463/48			13:17																								
ZZZZZZ			13:19																								
ZZZZZZ			13:21																								
ZZZZZZ			13:23																								
ZZZZZZ			13:25																								
ZZZZZZ			13:27																								
CCV 600-275463/54			13:29																								
CCB 600-275463/55			13:31																								
CCV 600-275463/56			14:23																								
CCB 600-275463/57			14:25																								
ZZZZZZ			14:27																								
ZZZZZZ			14:29																								
ZZZZZZ			14:31																								
ZZZZZZ			14:33																								
ZZZZZZ			14:35																								
ZZZZZZ			14:37																								
ZZZZZZ			14:39																								
ZZZZZZ			14:41																								
ZZZZZZ			14:43																								
ZZZZZZ			14:45																								
CCV 600-275463/68			14:47																								
CCB 600-275463/69			14:49																								
ZZZZZZ			14:51																								
ZZZZZZ			14:53																								
ZZZZZZ			14:55																								
ZZZZZZ			14:57																								
ZZZZZZ			14:59																								
ZZZZZZ			15:02																								
ZZZZZZ			15:03																								
ZZZZZZ			15:05																								
ZZZZZZ			15:07																								
ZZZZZZ			15:09																								
CCV 600-275463/80			15:11																								
CCB 600-275463/81			15:13																								
ZZZZZZ			15:16																								
ZZZZZZ			15:18																								
ZZZZZZ			15:20																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: MHG01 Analysis Method: 7470A

Start Date: 09/23/2019 11:41 End Date: 09/23/2019 15:58

Lab Sample Id	D/F	Type	Time	Analytes																							
				Hg																							
ZZZZZZ			15:22																								
ZZZZZZ			15:24																								
ZZZZZZ			15:26																								
ZZZZZZ			15:28																								
ZZZZZZ			15:30																								
ZZZZZZ			15:32																								
ZZZZZZ			15:34																								
CCV 600-275463/92			15:36																								
CCB 600-275463/93			15:38																								
ZZZZZZ			15:40																								
ZZZZZZ			15:42																								
ZZZZZZ			15:44																								
ZZZZZZ			15:46																								
ZZZZZZ			15:48																								
ZZZZZZ			15:50																								
ZZZZZZ			15:52																								
ZZZZZZ			15:54																								
CCV 600-275463/102			15:56																								
CCB 600-275463/103			15:58																								

Prep Types:
D = Dissolved
T = Total/NA

FORM XIII-IN

15-IN
ICP INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

ICP Instrument ID: Thermo6500 Start Date: 09/19/2019 End Date: 09/19/2019

Lab Sample ID	Time	Internal Standards %RI For:									
		Element In 230.606	Q	Element Y 224.306	Q	Element Y 360.073	Q	Element Y 371.030	Q	Element	Q
600-191956-2	08:39	87		81		80		92			

FORM XV - IN

15-IN
ICP INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

ICP Instrument ID: Thermo6500 Start Date: 09/23/2019 End Date: 09/23/2019

Lab Sample ID	Time	Internal Standards %RI For:									
		Element In 230.606	Q	Element Y 224.306	Q	Element Y 360.073	Q	Element Y 371.030	Q	Element	Q
600-191956-2	09:57	90		81		80		94			
CCVL 600-275405/36	10:09	102		99		99		101			
MB 600-275026/1-A	10:13	103		100		99		103			
LCS 600-275026/2-A	10:15	99		98		98		102			
600-191956-2	10:27	98		95		95		100			
CCV 600-275405/48	10:33	98		97		96		101			
CCVL 600-275405/49	10:41	102		99		99		101			
CCB 600-275405/50	10:43	103		99		99		101			
600-191956-2	12:42	99		93		93		100			

FORM XV - IN

15-IN
ICP INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

ICP Instrument ID: Thermo6500 Start Date: 09/24/2019 End Date: 09/24/2019

Lab Sample ID	Time	Internal Standards %RI For:									
		Element In 230.606	Q	Element Y 224.306	Q	Element Y 360.073	Q	Element Y 371.030	Q	Element	Q
600-191956-2	09:34	89		81		83		93			
600-191956-2	10:09	89		81		80		93			

FORM XV - IN

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

ICP-MS Instrument ID: ICPMS7800 Start Date: 09/25/2019 End Date: 09/25/2019

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Li-6	Q	Element Sc/2	Q	Element Sc/3	Q	Element Ge	Q	Element Ge	Q
600-191956-2	12:20	83		88		89		82		82	
600-191956-2	12:54	86		88		90		81		81	

FORM XV - IN

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

ICP-MS Instrument ID: ICPMS7800 Start Date: 09/25/2019 End Date: 09/25/2019

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Tb	Q	Element Bi/2	Q	Element Bi/3	Q	Element	Q	Element	Q
600-191956-2	12:20	79		70		73					
600-191956-2	12:54	77		70		73					

FORM XV - IN

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Batch Number: 275026 Batch Start Date: 09/17/19 16:24 Batch Analyst: Johnson, Phoenix Q

Batch Method: 3010A Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	ICPMSCALMIX1 00002	ICPMSCALMIX2S 00001	ICPMSCALMIX3S 00001
MB 600-275026/1		3010A, 6010C			50 mL	50 mL			
LCS 600-275026/2		3010A, 6010C			50 mL	50 mL	0.5 mL	0.25 mL	0.25 mL
600-191956-X-2	11187072-091319-LL-EXC-1	3010A, 6010C	T	<2	50 mL	50 mL			

Lab Sample ID	Client Sample ID	Method Chain	Basis	ICPMSCALMIX4S 00002	METHCL 00273	METHNO3 00323			
MB 600-275026/1		3010A, 6010C			2.5 mL	2.5 mL			
LCS 600-275026/2		3010A, 6010C		0.25 mL	2.5 mL	2.5 mL			
600-191956-X-2	11187072-091319-LL-EXC-1	3010A, 6010C	T		2.5 mL	2.5 mL			

Batch Notes	
Hot Block ID	05
Oven, Bath or Block Temperature 1	94.4
Oven, Bath or Block Temperature 2	94.4
Pipette ID	M12
Thermometer ID	615 CF+0.4
Digestion Tube/Cup ID	1904119
Uncorrected Temperature	94 Celsius
Uncorrected Temperature 2	94 Celsius

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Batch Number: 275211 Batch Start Date: 09/19/19 10:01 Batch Analyst: Davis, Corey L

Batch Method: 3010A Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	METHCL 00274	METHNO3 00323		
600-191956-S-2-A	11187072-091319-LL-EXC-1	3010A, 6010C	D	50 mL	50 mL	2.5 mL	2.5 mL		

Batch Notes	
Hot Block ID	04
Oven, Bath or Block Temperature 1	95.4
Oven, Bath or Block Temperature 2	95.4
Pipette ID	M10, M12
Thermometer ID	615
Digestion Tube/Cup ID	1904119
Uncorrected Temperature	95 Celsius
Uncorrected Temperature 2	95 Celsius

Basis	Basis Description
D	Dissolved

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Batch Number: 275511 Batch Start Date: 09/24/19 08:53 Batch Analyst: Lige, Derrick C

Batch Method: 3010A Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	METHCL 00274	METHNO3 00324	
600-191956-X-2	11187072-091319-LL-EXC-1	3010A, 6020A	T	<2	50 mL	50 mL	0.5 mL	2.5 mL	
600-191956-R-2-A	11187072-091319-LL-EXC-1	3010A, 6020A	D		50 mL	50 mL	0.5 mL	2.5 mL	

Batch Notes	
Hot Block ID	#2
Oven, Bath or Block Temperature 1	94.4 Degrees C
pH Paper ID	HC991818
Pipette ID	M3A
Thermometer ID	# 615
Digestion Tube/Cup ID	# 1504103
Uncorrected Temperature	94 Celsius

Basis	Basis Description
T	Total/NA
D	Dissolved

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Batch Number: 275328 Batch Start Date: 09/20/19 14:32 Batch Analyst: Taylor, Sean O

Batch Method: 7470A Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MER0119HS 00023	MER0119PP 00020	MER0219KM 00024	MERSUL0219 00013
600-191956-X-2	11187072-091319-LL-EXC-1	7470A, 7470A	T	40 mL	50 mL	3 mL	3 mL	5 mL	2 mL
600-191956-S-2-A	11187072-091319-LL-EXC-1	7470A, 7470A	D	40 mL	50 mL	3 mL	3 mL	5 mL	2 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	METHNO3 00323					
600-191956-X-2	11187072-091319-LL-EXC-1	7470A, 7470A	T	1 mL					
600-191956-S-2-A	11187072-091319-LL-EXC-1	7470A, 7470A	D	1 mL					

Batch Notes	
Digestion End Time	09/20/2019 18:00
Digestion Start Time	09/20/2019 16:00
Digestion Unit ID	06
Sulfuric Acid Lot Number	See Worksheet
Nitric Acid ID	See Worksheet
Hydroxylamine ID	SeeWorksheet
Potassium Persulfate ID	See Worksheet
Potassium Permanganate ID	See Worksheet
Pipette/Syringe/Dispenser ID	M9/M11
Thermometer ID	587
Digestion Tube/Cup ID	1904119
Temperature - Uncorrected - End	94 Degrees C
Temperature - Uncorrected - Start	94 Degrees C

Basis	Basis Description
T	Total/NA
D	Dissolved

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)
Ag 328.068 {103}	9/19/2019 7:43:37	9/19/2019 7:43:37	Full Fit	1/Conc	-0.000077	0.078742	0.000656	0.990000
Al 308.215 {109}	9/19/2019 7:43:37	9/19/2019 7:43:37	Linear	1/Conc	0.038776	0.558761	0.000000	1.000000
As 189.042 {478}	9/19/2019 7:43:37	9/19/2019 7:43:37	Linear	1/Conc	-0.000011	0.028259	0.000000	1.000000
B 249.678 {135}	9/19/2019 7:43:37	9/19/2019 7:43:37	Linear	1/Conc	0.000146	0.018152	0.000000	1.000000
Ba 455.403 { 74}	9/19/2019 7:43:37	9/19/2019 7:43:37	Linear	1/Conc	0.002955	2.302452	0.000000	1.000000
Be 313.042 {108}	9/19/2019 7:43:37	9/19/2019 7:43:37	Linear	1/Conc	-0.000167	2.334149	0.000000	1.000000
Ca 315.887 {107}	9/19/2019 7:43:37	9/19/2019 7:43:37	Linear	1/Conc	-0.015633	1.096722	0.000000	1.000000
Cd 228.802 {447}	9/19/2019 7:43:37	9/19/2019 7:43:37	Linear	1/Conc	0.000412	0.692731	0.000000	1.000000
Co 228.616 {447}	9/19/2019 7:43:37	9/19/2019 7:43:37	Linear	1/Conc	-0.000031	0.586555	0.000000	1.000000
Cr 267.716 {126}	9/19/2019 7:43:37	9/19/2019 7:43:37	Linear	1/Conc	0.000033	0.087515	0.000000	1.000000
Cu 324.754 {104}	9/19/2019 7:43:37	9/19/2019 7:43:37	Linear	1/Conc	0.004085	0.135903	0.000000	1.000000
Fe 240.488 {140}	9/19/2019 7:43:37	9/19/2019 7:43:37	Linear	1/Conc	0.015566	0.668135	0.000000	1.000000
In 230.606 {146}*	<not fit>	<Never Calibrated>	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
In 230.606 {446}*	<not fit>	<Never Calibrated>	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
K 766.490 { 44}	9/19/2019 7:43:37	9/19/2019 7:43:37	Linear	1/Conc	0.003855	0.036441	0.000000	1.000000
Li 670.784 { 50}	9/19/2019 7:43:37	9/19/2019 7:43:37	Linear	1/Conc	-0.000570	0.977127	0.000000	1.000000
Mg 279.079 {121}	9/19/2019 7:43:37	9/19/2019 7:43:37	Linear	1/Conc	-0.000018	0.004489	0.000000	1.000000
Mn 257.610 {131}	9/19/2019 7:43:37	9/19/2019 7:43:37	Linear	1/Conc	0.000092	0.539564	0.000000	1.000000
Mo 202.030 {467}	9/19/2019 7:43:37	9/19/2019 7:43:37	Linear	1/Conc	0.000142	0.171582	0.000000	1.000000
Na 589.592 { 57}	9/19/2019 7:43:37	9/19/2019 7:43:37	Linear	1/Conc	0.005207	0.136552	0.000000	1.000000
Ni 231.604 {445}	9/19/2019 7:43:37	9/19/2019 7:43:37	Linear	1/Conc	-0.000101	0.368512	0.000000	1.000000
P 178.284 {489}	9/19/2019 7:43:37	9/19/2019 7:43:37	Linear	1/Conc	0.000116	0.027351	0.000000	1.000000
Pb 220.353 {453}	9/19/2019 7:43:37	9/19/2019 7:43:37	Linear	1/Conc	-0.000191	0.092685	0.000000	1.000000
S 182.034 {485}	9/19/2019 7:43:37	9/19/2019 7:43:37	Linear	1/Conc	0.038397	0.011190	0.000000	1.000000
Sb 206.833 {463}	9/19/2019 7:43:37	9/19/2019 7:43:37	Linear	1/Conc	0.000085	0.043148	0.000000	1.000000
Se 196.090 {472}	9/19/2019 7:43:37	9/19/2019 7:43:37	Linear	1/Conc	-0.000082	0.017202	0.000000	1.000000
Si 251.611 {134}	9/19/2019 7:43:37	9/19/2019 7:43:37	Linear	1/Conc	0.000336	0.012346	0.000000	1.000000
Sn 189.989 {477}	9/19/2019 7:43:37	9/19/2019 7:43:37	Linear	1/Conc	-0.000009	0.146830	0.000000	1.000000
Sr 421.552 { 80}	9/19/2019 7:43:37	9/19/2019 7:43:37	Linear	1/Conc	-0.000272	2.522167	0.000000	1.000000
Ti 334.904 {101}	9/19/2019 7:43:37	9/19/2019 7:43:37	Linear	1/Conc	-0.000150	0.103437	0.000000	1.000000
Tl 190.856 {477}	9/19/2019 7:43:37	9/19/2019 7:43:37	Linear	1/Conc	-0.000151	0.024913	0.000000	1.000000
U 367.007 { 92}	9/19/2019 7:43:37	9/19/2019 7:43:37	Linear	1/Conc	0.000162	0.000206	0.000000	1.000000
V 292.402 {115}	9/19/2019 7:43:37	9/19/2019 7:43:37	Linear	1/Conc	-0.000376	0.119572	0.000000	1.000000
W 239.709 {140}	9/19/2019 7:43:37	9/19/2019 7:43:37	Linear	1/Conc	-0.000059	0.000931	0.000000	1.000000
Y 224.306 {450}*	7/31/2019 11:37:15	8/2/2010 18:01:14	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
Y 360.073 { 94}*	<not fit>	<Never Calibrated>	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
Y 371.030 { 91}*	7/31/2019 11:37:15	8/2/2010 18:01:14	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
Zn 206.200 {463}	9/19/2019 7:43:37	9/19/2019 7:43:37	Linear	1/Conc	0.001111	0.734509	0.000000	1.000000

Element, Wavelength and Order	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Reslope		QC Norm	
						Slope	Y-int	Slope factor	Offset
Ag 328.068 {103}	0.999999	0.000001	0.000707	0.002356	Warnin	1.000000	0.000000	1	0
Al 308.215 {109}	0.999827	0.000793	0.026362	0.087872	OK.	1.000000	0.000000	1	0
As 189.042 {478}	0.999985	0.000002	0.002858	0.009528	OK.	1.000000	0.000000	1	0
B 249.678 {135}	0.999989	0.000001	0.010135	0.033782	OK.	1.000000	0.000000	1	0
Ba 455.403 { 74}	0.999903	0.000483	0.000298	0.000993	OK.	1.000000	0.000000	1	0
Be 313.042 {108}	0.999928	0.000210	0.000169	0.000562	OK.	1.000000	0.000000	1	0
Ca 315.887 {107}	0.999928	0.004971	0.010524	0.035081	OK.	1.000000	0.000000	1	0
Cd 228.802 {447}	0.999938	0.000060	0.000174	0.000579	OK.	1.000000	0.000000	1	0
Co 228.616 {447}	0.999973	0.000032	0.000271	0.000904	OK.	1.000000	0.000000	1	0
Cr 267.716 {126}	0.999920	0.000008	0.000377	0.001255	OK.	1.000000	0.000000	1	0
Cu 324.754 {104}	0.999933	0.000012	0.000414	0.001380	OK.	1.000000	0.000000	1	0
Fe 240.488 {140}	0.999912	0.000668	0.011454	0.038180	OK.	1.000000	0.000000	1	0
In 230.606 {146}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
In 230.606 {446}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
K 766.490 { 44}	0.999847	0.000240	0.042320	0.141066	OK.	1.000000	0.000000	1	0
Li 670.784 { 50}	0.999884	0.000112	0.001493	0.004977	OK.	1.000000	0.000000	1	0
Mg 279.079 {121}	0.999925	0.000021	0.042043	0.140143	OK.	1.000000	0.000000	1	0
Mn 257.610 {131}	0.999919	0.000052	0.000055	0.000185	OK.	1.000000	0.000000	1	0
Mo 202.030 {467}	0.999920	0.000016	0.000413	0.001378	OK.	1.000000	0.000000	1	0
Na 589.592 { 57}	0.999907	0.000703	0.009507	0.031689	OK.	1.000000	0.000000	1	0
Ni 231.604 {445}	0.999982	0.000017	0.000437	0.001456	OK.	1.000000	0.000000	1	0
P 178.284 {489}	0.999820	0.000125	0.002540	0.008465	OK.	1.000000	0.000000	1	0
Pb 220.353 {453}	0.999967	0.000006	0.001966	0.006554	OK.	1.000000	0.000000	1	0
S 182.034 {485}	0.625272	0.001685	0.005474	0.018246	OK.	1.000000	0.000000	1	0
Sb 206.833 {463}	0.999917	0.000010	0.002536	0.008454	OK.	1.000000	0.000000	1	0
Se 196.090 {472}	0.999977	0.000002	0.003944	0.013145	OK.	1.000000	0.000000	1	0
Si 251.611 {134}	0.999824	0.000006	0.017035	0.056785	OK.	1.000000	0.000000	1	0
Sn 189.989 {477}	0.999971	0.000017	0.000593	0.001976	OK.	1.000000	0.000000	1	0
Sr 421.552 { 80}	0.999891	0.000280	0.000218	0.000727	OK.	1.000000	0.000000	1	0
Ti 334.904 {101}	0.999987	0.000004	0.000525	0.001749	OK.	1.000000	0.000000	1	0
Tl 190.856 {477}	0.991999	0.000048	0.003704	0.012348	OK.	1.000000	0.000000	1	0
U 367.007 { 92}	0.989444	0.000001	0.142138	0.473792	OK.	1.000000	0.000000	1	0
V 292.402 {115}	0.999956	0.000008	0.000464	0.001547	OK.	1.000000	0.000000	1	0
W 239.709 {140}	0.972287	0.000003	0.088636	0.295453	OK.	1.000000	0.000000	1	0
Y 224.306 {450}*	0.000000	0.000000	0.000830	0.002767	Warnin	1.000000	0.000000	1	0
Y 360.073 { 94}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
Y 371.030 { 91}*	0.000000	0.000000	0.000248	0.000826	Warnin	1.000000	0.000000	1	0
Zn 206.200 {463}	0.999951	0.000077	0.000171	0.000569	OK.	1.000000	0.000000	1	0

```
[Sample Header]
Method=ICP6500Metals_TRY3(v4958)
SampleName=Rinse1
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/19/2019 7:19:10
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0003,.0000,11.28, .0002, .0003
Al3082,308.215 {109},In2306,ppm, 1.621,2.234,137.8, 3.201, .0411
As1890,189.042 {478},Y_2243,ppm, .0045,.0017,36.94, .0056, .0033
B_2496,249.678 {135},Y_3710,ppm, 5.591,7.917,141.6, 11.19, -.0065
Ba4554,455.403 { 74},Y_3710,ppm, .8079,1.141,141.2, 1.615, .0012
Be3130,313.042 {108},Y_3710,ppm, .0527,.0746,141.6, .1054, -.0001
Ca3158,315.887 {107},In2306,ppm, -.3245,.4473,137.8, -.6407, -.0082
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0000,86.43, -.0000, -.0001
Co2286,228.616 {447},In2306,ppm, .0001,.0001,141.7, -.0000, .0002
Cr2677,267.716 {126},Y_3600,ppm, .0003,.0002,81.57, .0001, .0005
Cu3247,324.754 {104},Y_3600,ppm, -.0049,.0002,4.964, -.0051, -.0048
Fe2404,240.488 {140},In2306,ppm, 1.243,1.763,141.9, 2.489, -.0040
K_7664,766.490 { 44},Y_3710,ppm, 61.56,86.89,141.1, 123.0, .1184
Li6707,670.784 { 50},Y_3710,ppm, -1.172,1.650,140.8, -2.339, -.0048
Mg2790,279.079 {121},Y_3710,ppm, -.6699,.9169,136.9, -1.318, -.0215
Mn2576,257.610 {131},Y_3600,ppm, .0001,.0000,5.062, .0001, .0001
Mo2020,202.030 {467},Y_2243,ppm, .0007,.0003,51.88, .0009, .0004
Na5895,589.592 { 57},Y_3710,ppm, 19.49,27.53,141.2, 38.96, .0274
Ni2316,231.604 {445},In2306,ppm, -.0004,.0002,52.21, -.0005, -.0002
P_1782,178.284 {489},In2306,ppm, -.0002,.0010,622.0, .0005, -.0009
Pb2203,220.353 {453},In2306,ppm, -.0046,.0066,143.0, -.0093, .0001
S_1820,182.034 {485},Y_2243,ppm, 2.160,.0026,.1221, 2.162, 2.158
Sb2068,206.833 {463},Y_2243,ppm, .0011,.0006,51.91, .0015, .0007
Se1960,196.090 {472},Y_2243,ppm, .0004,.0016,367.5, .0015, -.0007
Si2516,251.611 {134},Y_3710,ppm, 14.67,20.75,141.5, 29.35, -.0036
Sn1899,189.989 {477},In2306,ppm, -.0006,.0002,24.77, -.0007, -.0005
Sr4215,421.552 { 80},Y_3710,ppm, -.1438,.2036,141.6, -.2878, .0002
Ti3349,334.904 {101},Y_3600,ppm, -.0004,.0003,74.99, -.0006, -.0002
Tl1908,190.856 {477},In2306,ppm, .0029,.0017,58.09, .0041, .0017
U_3670,367.007 { 92},Y_3600,ppm, -2.299,.5467,23.78, -2.686, -1.913
V_2924,292.402 {115},Y_3600,ppm, -.0016,.0000,2.903, -.0017, -.0016
W_2397,239.709 {140},Y_2243,ppm, -.0003,.0107,3442., .0073, -.0079
Zn2062,206.200 {463},In2306,ppm, .0029,.0001,2.737, .0030, .0029

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 88.467,120.49,136.20,3.2667,173.67
In2306,230.606 {446},Cts/S, 13155.,55.203,.41964,13116.,13194.
Y_2243,224.306 {450},Cts/S, 17902.,137.52,.76816,17805.,17999.
Y_3600,360.073 { 94},Cts/S, 157900.,1371.7,.86873,156930.,158870.
Y_3710,371.030 { 91},Cts/S, 4163.2,5875.6,141.13,8.5750,8317.9

[Sample Header]
Method=ICP6500Metals_TRY3(v4958)
SampleName=Rinse2
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/19/2019 7:21:29
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Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0001,.0000,55.33, .0000, .0001
Al3082,308.215 {109},In2306,ppm, .0325,.0115,35.48, .0407, .0244
As1890,189.042 {478},Y_2243,ppm, .0036,.0011,30.56, .0028, .0043
B_2496,249.678 {135},Y_3710,ppm, -.0004,.0000,13.59, -.0003, -.0004
Ba4554,455.403 { 74},Y_3710,ppm, .0008,.0001,14.41, .0007, .0009
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,142.4, -.0000, .0002
Ca3158,315.887 {107},In2306,ppm, -.0020,.0095,485.1, .0047, -.0087
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0000,123.6, -.0000, -.0001
Co2286,228.616 {447},In2306,ppm, -.0001,.0002,197.0, .0000, -.0002
Cr2677,267.716 {126},Y_3600,ppm, .0001,.0006,1152., -.0004, .0005
Cu3247,324.754 {104},Y_3600,ppm, -.0048,.0007,14.17, -.0043, -.0053
Fe2404,240.488 {140},In2306,ppm, .0021,.0042,204.0, .0050, -.0009
K_7664,766.490 { 44},Y_3710,ppm, .1504,.0092,6.106, .1439, .1569
Li6707,670.784 { 50},Y_3710,ppm, -.0050,.0001,2.401, -.0051, -.0049
Mg2790,279.079 {121},Y_3710,ppm, .0023,.0422,1823., -.0275, .0322
Mn2576,257.610 {131},Y_3600,ppm, .0001,.0000,10.91, .0001, .0001
Mo2020,202.030 {467},Y_2243,ppm, -.0001,.0004,458.5, -.0004, .0002
Na5895,589.592 { 57},Y_3710,ppm, .0244,.0021,8.492, .0258, .0229
Ni2316,231.604 {445},In2306,ppm, -.0007,.0006,81.64, -.0011, -.0003
P_1782,178.284 {489},In2306,ppm, -.0017,.0023,131.3, -.0034, -.0001
Pb2203,220.353 {453},In2306,ppm, .0004,.0011,273.7, -.0004, .0012
S_1820,182.034 {485},Y_2243,ppm, 2.138,.0036,.1684, 2.135, 2.140
Sb2068,206.833 {463},Y_2243,ppm, .0001,.0016,1895., .0012, -.0010
Se1960,196.090 {472},Y_2243,ppm, -.0016,.0003,18.35, -.0018, -.0014
Si2516,251.611 {134},Y_3710,ppm, -.0023,.0008,34.98, -.0029, -.0018
Sn1899,189.989 {477},In2306,ppm, .0002,.0000,1.639, .0002, .0002
Sr4215,421.552 { 80},Y_3710,ppm, -.0001,.0001,177.2, -.0001, .0000
Ti3349,334.904 {101},Y_3600,ppm, .0002,.0001,70.42, .0003, .0001
Tl1908,190.856 {477},In2306,ppm, .0031,.0028,88.13, .0051, .0012
U_3670,367.007 { 92},Y_3600,ppm, -1.651,.0319,1.932, -1.628, -1.674
V_2924,292.402 {115},Y_3600,ppm, -.0016,.0002,11.29, -.0015, -.0017
W_2397,239.709 {140},Y_2243,ppm, -.0396,.0726,183.5, .0118, -.0909
Zn2062,206.200 {463},In2306,ppm, .0022,.0001,6.248, .0023, .0021

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 212.94,1.5316,.71929,214.02,211.85
In2306,230.606 {446},Cts/S, 13377.,30.970,.23153,13355.,13399.
Y_2243,224.306 {450},Cts/S, 18272.,31.551,.17267,18250.,18295.
Y_3600,360.073 { 94},Cts/S, 163420.,246.78,.15101,163250.,163600.
Y_3710,371.030 { 91},Cts/S, 10179.,40.889,.40168,10208.,10151.

[Sample Header]
Method=ICP6500Metals_TRY3(v4958)
SampleName=Rinse3
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/19/2019 7:23:48
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0000,.0005,1085., -.0004, .0003
Al3082,308.215 {109},In2306,ppm, .0188,.0023,12.31, .0172, .0205
As1890,189.042 {478},Y_2243,ppm, .0038,.0013,32.90, .0047, .0029
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B_2496,249.678 {135},Y_3710,ppm, -.0014,.0070,504.3, .0036, -.0063
Ba4554,455.403 { 74},Y_3710,ppm, .0006,.0001,16.29, .0007, .0006
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,43.11, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, .0022,.0077,341.6, .0077, -.0032
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0001,76.68, -.0000, -.0001
Co2286,228.616 {447},In2306,ppm, -.0001,.0003,366.0, -.0003, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0001,.0003,328.1, .0003, -.0001
Cu3247,324.754 {104},Y_3600,ppm, -.0045,.0004,8.301, -.0042, -.0047
Fe2404,240.488 {140},In2306,ppm, -.0000,.0087,31310., -.0062, .0061
K_7664,766.490 { 44},Y_3710,ppm, .1368,.0133,9.721, .1274, .1462
Li6707,670.784 { 50},Y_3710,ppm, -.0047,.0009,20.01, -.0053, -.0040
Mg2790,279.079 {121},Y_3710,ppm, .0139,.0160,115.0, .0026, .0252
Mn2576,257.610 {131},Y_3600,ppm, .0002,.0000,12.32, .0002, .0001
Mo2020,202.030 {467},Y_2243,ppm, -.0002,.0001,36.00, -.0001, -.0002
Na5895,589.592 { 57},Y_3710,ppm, .0333,.0004,1.211, .0336, .0330
Ni2316,231.604 {445},In2306,ppm, -.0008,.0000,1.349, -.0008, -.0008
P_1782,178.284 {489},In2306,ppm, .0002,.0002,92.77, .0004, .0001
Pb2203,220.353 {453},In2306,ppm, -.0001,.0006,452.3, .0003, -.0006
S_1820,182.034 {485},Y_2243,ppm, 2.145,.0159,.7397, 2.157, 2.134
Sb2068,206.833 {463},Y_2243,ppm, .0015,.0008,54.25, .0020, .0009
Se1960,196.090 {472},Y_2243,ppm, -.0025,.0029,118.8, -.0045, -.0004
Si2516,251.611 {134},Y_3710,ppm, -.0044,.0066,149.8, -.0091, .0003
Sn1899,189.989 {477},In2306,ppm, -.0003,.0002,46.25, -.0004, -.0002
Sr4215,421.552 { 80},Y_3710,ppm, -.0001,.0000,36.12, -.0001, -.0000
Ti3349,334.904 {101},Y_3600,ppm, .0000,.0002,401.5, -.0001, .0002
Tl1908,190.856 {477},In2306,ppm, .0025,.0001,4.852, .0026, .0024
U_3670,367.007 { 92},Y_3600,ppm, -1.765,.0676,3.830, -1.813, -1.717
V_2924,292.402 {115},Y_3600,ppm, -.0019,.0001,4.769, -.0018, -.0020
W_2397,239.709 {140},Y_2243,ppm, -.0075,.0157,207.7, .0035, -.0186
Zn2062,206.200 {463},In2306,ppm, .0020,.0000,1.971, .0020, .0020

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 213.61,.10660,.04990,213.68,213.53
In2306,230.606 {446},Cts/S, 13421.,35.349,.26339,13446.,13396.
Y_2243,224.306 {450},Cts/S, 18305.,29.315,.16015,18326.,18284.
Y_3600,360.073 { 94},Cts/S, 164480.,554.46,.33711,164870.,164080.
Y_3710,371.030 { 91},Cts/S, 10154.,48.194,.47461,10189.,10120.

[Sample Header]
Method=ICP6500Metals_TRY3(v4958)
SampleName=Rinse4
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/19/2019 7:25:53
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0003,.0006,167.6, .0001, -.0007
Al3082,308.215 {109},In2306,ppm, .0616,.0043,6.929, .0585, .0646
As1890,189.042 {478},Y_2243,ppm, .0016,.0015,90.97, .0006, .0026
B_2496,249.678 {135},Y_3710,ppm, -.0042,.0058,138.7, -.0001, -.0082
Ba4554,455.403 { 74},Y_3710,ppm, .0005,.0001,23.05, .0006, .0004
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,91.39, .0000, .0001
Ca3158,315.887 {107},In2306,ppm, -.0011,.0017,153.7, -.0023, .0001
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0001,414.9, .0001, -.0001
Co2286,228.616 {447},In2306,ppm, -.0002,.0000,.8084, -.0002, -.0002
Cr2677,267.716 {126},Y_3600,ppm, -.0001,.0001,158.6, .0000, -.0002
Cu3247,324.754 {104},Y_3600,ppm, -.0050,.0002,4.058, -.0051, -.0048
Fe2404,240.488 {140},In2306,ppm, .0011,.0125,1193., .0099, -.0078
K_7664,766.490 { 44},Y_3710,ppm, .1485,.0320,21.56, .1711, .1259
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Li6707,670.784 { 50},Y_3710,ppm, -.0041,.0001,2.931, -.0040, -.0042
Mg2790,279.079 {121},Y_3710,ppm, .0359,.0113,31.38, .0279, .0439
Mn2576,257.610 {131},Y_3600,ppm, .0001,.0000,.0628, .0001, .0001
Mo2020,202.030 {467},Y_2243,ppm, -.0003,.0000,8.928, -.0003, -.0003
Na5895,589.592 { 57},Y_3710,ppm, .0299,.0077,25.74, .0354, .0245
Ni2316,231.604 {445},In2306,ppm, -.0007,.0003,49.77, -.0004, -.0009
P_1782,178.284 {489},In2306,ppm, -.0007,.0004,57.73, -.0009, -.0004
Pb2203,220.353 {453},In2306,ppm, .0024,.0004,16.69, .0021, .0027
S_1820,182.034 {485},Y_2243,ppm, 2.070,.0056,.2715, 2.074, 2.066
Sb2068,206.833 {463},Y_2243,ppm, .0013,.0034,261.8, .0037, -.0011
Se1960,196.090 {472},Y_2243,ppm, -.0024,.0006,24.76, -.0020, -.0028
Si2516,251.611 {134},Y_3710,ppm, -.0040,.0039,96.10, -.0068, -.0013
Sn1899,189.989 {477},In2306,ppm, -.0002,.0000,15.89, -.0003, -.0002
Sr4215,421.552 { 80},Y_3710,ppm, -.0001,.0000,15.41, -.0001, -.0001
Ti3349,334.904 {101},Y_3600,ppm, -.0000,.0003,1680., -.0002, .0002
Tl1908,190.856 {477},In2306,ppm, -.0011,.0006,53.95, -.0007, -.0015
U_3670,367.007 { 92},Y_3600,ppm, -1.673,.0057,.3421, -1.669, -1.677
V_2924,292.402 {115},Y_3600,ppm, -.0017,.0001,8.311, -.0016, -.0018
W_2397,239.709 {140},Y_2243,ppm, -.0173,.0535,309.2, .0205, -.0551
Zn2062,206.200 {463},In2306,ppm, .0016,.0001,4.422, .0017, .0016

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 213.09,.07714,.03620,213.03,213.14
In2306,230.606 {446},Cts/S, 13413.,15.400,.11481,13424.,13402.
Y_2243,224.306 {450},Cts/S, 18355.,2.1317,.01161,18356.,18353.
Y_3600,360.073 { 94},Cts/S, 164230.,295.89,.18017,164020.,164440.
Y_3710,371.030 { 91},Cts/S, 10142.,16.675,.16441,10154.,10130.

[Sample Header]
Method=ICP6500Metals_TRY3(v4958)
SampleName=Rinse5
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/19/2019 7:27:58
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0001,.0002,215.9, .0003, -.0001
Al3082,308.215 {109},In2306,ppm, .0344,.0140,40.74, .0443, .0245
As1890,189.042 {478},Y_2243,ppm, .0037,.0014,37.14, .0027, .0047
B_2496,249.678 {135},Y_3710,ppm, -.0063,.0087,138.4, -.0001, -.0124
Ba4554,455.403 { 74},Y_3710,ppm, .0008,.0002,29.20, .0010, .0006
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,125.0, .0000, .0002
Ca3158,315.887 {107},In2306,ppm, -.0010,.0012,125.1, -.0018, -.0001
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0000,.6007, -.0001, -.0001
Co2286,228.616 {447},In2306,ppm, -.0002,.0000,.7095, -.0002, -.0002
Cr2677,267.716 {126},Y_3600,ppm, -.0001,.0000,34.28, -.0001, -.0001
Cu3247,324.754 {104},Y_3600,ppm, -.0042,.0000,.8168, -.0041, -.0042
Fe2404,240.488 {140},In2306,ppm, .0003,.0057,1910., .0043, -.0037
K_7664,766.490 { 44},Y_3710,ppm, .1389,.0335,24.12, .1626, .1152
Li6707,670.784 { 50},Y_3710,ppm, -.0038,.0003,7.588, -.0040, -.0036
Mg2790,279.079 {121},Y_3710,ppm, -.0187,.0168,89.99, -.0306, -.0068
Mn2576,257.610 {131},Y_3600,ppm, .0001,.0000,1.621, .0001, .0001
Mo2020,202.030 {467},Y_2243,ppm, -.0001,.0002,132.8, -.0003, -.0000
Na5895,589.592 { 57},Y_3710,ppm, .0263,.0040,15.21, .0291, .0234
Ni2316,231.604 {445},In2306,ppm, -.0011,.0001,8.926, -.0011, -.0012
P_1782,178.284 {489},In2306,ppm, -.0008,.0004,53.00, -.0005, -.0011
Pb2203,220.353 {453},In2306,ppm, -.0003,.0011,330.6, .0004, -.0011
S_1820,182.034 {485},Y_2243,ppm, 2.084,.0071,.3406, 2.089, 2.079
Sb2068,206.833 {463},Y_2243,ppm, .0023,.0007,27.95, .0028, .0019
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Se1960,196.090 {472},Y_2243,ppm, -.0030,.0005,15.99, -.0033, -.0026
Si2516,251.611 {134},Y_3710,ppm, -.0152,.0125,82.47, -.0241, -.0063
Sn1899,189.989 {477},In2306,ppm, -.0009,.0002,16.22, -.0010, -.0008
Sr4215,421.552 { 80},Y_3710,ppm, .0002,.0001,66.35, .0003, .0001
Ti3349,334.904 {101},Y_3600,ppm, .0003,.0000,13.36, .0003, .0002
Tl1908,190.856 {477},In2306,ppm, .0014,.0017,125.0, .0026, .0002
U_3670,367.007 { 92},Y_3600,ppm, -1.790,.0113,.6333, -1.782, -1.798
V_2924,292.402 {115},Y_3600,ppm, -.0015,.0000,1.665, -.0015, -.0015
W_2397,239.709 {140},Y_2243,ppm, .0357,.0264,73.93, .0171, .0544
Zn2062,206.200 {463},In2306,ppm, .0013,.0001,7.141, .0013, .0014

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 214.52,4.5875,2.1385,211.28,217.77
In2306,230.606 {446},Cts/S, 13400.,21.260,.15865,13415.,13385.
Y_2243,224.306 {450},Cts/S, 18285.,33.640,.18397,18309.,18261.
Y_3600,360.073 { 94},Cts/S, 164460.,228.52,.13895,164620.,164300.
Y_3710,371.030 { 91},Cts/S, 10170.,82.057,.80686,10228.,10112.

[Sample Header]
Method=ICP6500Metals_TRY3(v4958)
SampleName=Rinse6
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/19/2019 7:30:03
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0007,.0005,71.18, -.0004, -.0011
Al3082,308.215 {109},In2306,ppm, .0277,.0109,39.20, .0200, .0354
As1890,189.042 {478},Y_2243,ppm, .0035,.0006,17.20, .0031, .0040
B_2496,249.678 {135},Y_3710,ppm, -.0030,.0024,80.62, -.0013, -.0048
Ba4554,455.403 { 74},Y_3710,ppm, .0007,.0001,7.717, .0006, .0007
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,79.30, .0001, .0000
Ca3158,315.887 {107},In2306,ppm, .0007,.0035,470.5, -.0017, .0032
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0000,28.08, -.0001, -.0001
Co2286,228.616 {447},In2306,ppm, .0001,.0001,85.96, .0002, .0001
Cr2677,267.716 {126},Y_3600,ppm, -.0002,.0000,3.133, -.0002, -.0002
Cu3247,324.754 {104},Y_3600,ppm, -.0046,.0003,5.484, -.0047, -.0044
Fe2404,240.488 {140},In2306,ppm, -.0075,.0068,90.51, -.0027, -.0123
K_7664,766.490 { 44},Y_3710,ppm, .1480,.0191,12.92, .1344, .1615
Li6707,670.784 { 50},Y_3710,ppm, -.0051,.0015,28.67, -.0041, -.0061
Mg2790,279.079 {121},Y_3710,ppm, -.0047,.0569,1212., .0356, -.0450
Mn2576,257.610 {131},Y_3600,ppm, .0001,.0000,32.27, .0001, .0001
Mo2020,202.030 {467},Y_2243,ppm, -.0005,.0001,25.03, -.0004, -.0006
Na5895,589.592 { 57},Y_3710,ppm, .0301,.0040,13.26, .0329, .0273
Ni2316,231.604 {445},In2306,ppm, -.0007,.0002,25.93, -.0009, -.0006
P_1782,178.284 {489},In2306,ppm, -.0000,.0007,5010., -.0005, .0005
Pb2203,220.353 {453},In2306,ppm, -.0007,.0009,122.0, -.0001, -.0014
S_1820,182.034 {485},Y_2243,ppm, 2.079,.0024,.1150, 2.077, 2.081
Sb2068,206.833 {463},Y_2243,ppm, .0002,.0000,11.33, .0002, .0002
Se1960,196.090 {472},Y_2243,ppm, -.0010,.0005,51.94, -.0006, -.0013
Si2516,251.611 {134},Y_3710,ppm, -.0101,.0068,67.07, -.0149, -.0053
Sn1899,189.989 {477},In2306,ppm, -.0002,.0000,15.01, -.0002, -.0002
Sr4215,421.552 { 80},Y_3710,ppm, -.0000,.0002,5845., .0001, -.0001
Ti3349,334.904 {101},Y_3600,ppm, -.0000,.0000,595.4, .0000, -.0000
Tl1908,190.856 {477},In2306,ppm, -.0001,.0012,1036., -.0010, .0008
U_3670,367.007 { 92},Y_3600,ppm, -1.799,.0228,1.266, -1.815, -1.783
V_2924,292.402 {115},Y_3600,ppm, -.0016,.0001,7.521, -.0016, -.0015
W_2397,239.709 {140},Y_2243,ppm, -.0128,.0525,410.6, -.0499, .0243
Zn2062,206.200 {463},In2306,ppm, .0015,.0001,6.431, .0015, .0014
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[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 214.61,.18111,.08439,214.73,214.48
In2306,230.606 {446},Cts/S, 13410.,10.472,.07809,13418.,13403.
Y_2243,224.306 {450},Cts/S, 18324.,6.1637,.03364,18329.,18320.
Y_3600,360.073 { 94},Cts/S, 164290.,389.47,.23707,164010.,164560.
Y_3710,371.030 { 91},Cts/S, 10185.,21.496,.21106,10200.,10170.

[Sample Header]
Method=ICP6500Metals_TRY3(v4958)
SampleName=Blank
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/19/2019 7:32:10
Sample Type=Cal
Mode=IR
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,Cts/S, -.0001,.0000,18.25, -.0001, -.0001
Al3082,308.215 {109},In2306,Cts/S, .0388,.0050,12.83, .0353, .0423
As1890,189.042 {478},Y_2243,Cts/S, -.0000,.0000,83.90, -.0000, -.0000
B_2496,249.678 {135},Y_3710,Cts/S, .0001,.0000,4.861, .0002, .0001
Ba4554,455.403 { 74},Y_3710,Cts/S, .0029,.0000,.6523, .0029, .0030
Be3130,313.042 {108},Y_3710,Cts/S, -.0002,.0001,76.13, -.0001, -.0003
Ca3158,315.887 {107},In2306,Cts/S, -.0157,.0070,44.66, -.0206, -.0107
Cd2288,228.802 {447},Y_2243,Cts/S, .0004,.0000,3.829, .0004, .0004
Co2286,228.616 {447},In2306,Cts/S, -.0000,.0000,138.4, -.0000, -.0001
Cr2677,267.716 {126},Y_3600,Cts/S, .0000,.0000,57.04, .0000, .0000
Cu3247,324.754 {104},Y_3600,Cts/S, .0041,.0000,.5283, .0041, .0041
Fe2404,240.488 {140},In2306,Cts/S, .0156,.0042,27.18, .0126, .0185
K_7664,766.490 { 44},Y_3710,Cts/S, .0039,.0020,51.19, .0025, .0052
Li6707,670.784 { 50},Y_3710,Cts/S, -.0006,.0009,160.5, -.0012, .0001
Mg2790,279.079 {121},Y_3710,Cts/S, -.0000,.0001,486.5, -.0001, .0000
Mn2576,257.610 {131},Y_3600,Cts/S, .0001,.0000,27.21, .0001, .0001
Mo2020,202.030 {467},Y_2243,Cts/S, .0001,.0000,6.271, .0001, .0001
Na5895,589.592 { 57},Y_3710,Cts/S, .0052,.0007,14.23, .0047, .0057
Ni2316,231.604 {445},In2306,Cts/S, -.0001,.0000,31.45, -.0001, -.0001
P_1782,178.284 {489},In2306,Cts/S, .0001,.0000,20.81, .0001, .0001
Pb2203,220.353 {453},In2306,Cts/S, -.0002,.0002,79.56, -.0003, -.0001
S_1820,182.034 {485},Y_2243,Cts/S, .0384,.0000,.1111, .0385, .0384
Sb2068,206.833 {463},Y_2243,Cts/S, .0001,.0000,3.176, .0001, .0001
Se1960,196.090 {472},Y_2243,Cts/S, -.0001,.0000,58.76, -.0001, -.0000
Si2516,251.611 {134},Y_3710,Cts/S, .0003,.0002,73.96, .0005, .0002
Sn1899,189.989 {477},In2306,Cts/S, -.0000,.0000,300.6, .0000, -.0000
Sr4215,421.552 { 80},Y_3710,Cts/S, -.0003,.0001,51.49, -.0004, -.0002
Ti3349,334.904 {101},Y_3600,Cts/S, -.0002,.0000,26.41, -.0002, -.0001
Tl1908,190.856 {477},In2306,Cts/S, -.0002,.0000,9.397, -.0001, -.0002
U_3670,367.007 { 92},Y_3600,Cts/S, .0002,.0000,3.430, .0002, .0002
V_2924,292.402 {115},Y_3600,Cts/S, -.0004,.0000,1.609, -.0004, -.0004
W_2397,239.709 {140},Y_2243,Cts/S, -.0001,.0001,129.6, -.0000, -.0001
Zn2062,206.200 {463},In2306,Cts/S, .0011,.0000,4.199, .0011, .0011

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 215.38,1.8738,.87000,214.05,216.70
In2306,230.606 {446},Cts/S, 13419.,23.738,.17689,13403.,13436.
Y_2243,224.306 {450},Cts/S, 18307.,2.6439,.01444,18305.,18309.
Y_3600,360.073 { 94},Cts/S, 163200.,158.70,.09724,163090.,163310.
Y_3710,371.030 { 91},Cts/S, 10191.,94.301,.92533,10124.,10258.

[Sample Header]
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Method=ICP6500Metals_TRY3(v4958)
SampleName=CalibStd-1
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/19/2019 7:34:14
Sample Type=Cal
Mode=IR
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,Cts/S, .0007,.0000,1.129, .0007, .0007
Al3082,308.215 {109},In2306,Cts/S, .1449,.0073,5.059, .1398, .1501
As1890,189.042 {478},Y_2243,Cts/S, .0006,.0000,.0624, .0006, .0006
B_2496,249.678 {135},Y_3710,Cts/S, .0005,.0003,65.64, .0003, .0008
Ba4554,455.403 { 74},Y_3710,Cts/S, .0548,.0004,.6751, .0545, .0550
Be3130,313.042 {108},Y_3710,Cts/S, .0257,.0003,1.297, .0255, .0260
Ca3158,315.887 {107},In2306,Cts/S, 1.143,.0156,1.363, 1.132, 1.154
Cd2288,228.802 {447},Y_2243,Cts/S, .0084,.0000,.2511, .0083, .0084
Co2286,228.616 {447},In2306,Cts/S, .0063,.0000,.1467, .0063, .0063
Cr2677,267.716 {126},Y_3600,Cts/S, .0010,.0000,.1676, .0010, .0010
Cu3247,324.754 {104},Y_3600,Cts/S, .0057,.0000,.2353, .0057, .0057
Fe2404,240.488 {140},In2306,Cts/S, .1592,.0001,.0811, .1591, .1593
K_7664,766.490 { 44},Y_3710,Cts/S, .0444,.0000,.0238, .0444, .0444
Li6707,670.784 { 50},Y_3710,Cts/S, .0084,.0002,2.619, .0086, .0083
Mg2790,279.079 {121},Y_3710,Cts/S, .0048,.0001,1.455, .0048, .0047
Mn2576,257.610 {131},Y_3600,Cts/S, .0062,.0000,.1402, .0062, .0063
Mo2020,202.030 {467},Y_2243,Cts/S, .0021,.0000,.5441, .0021, .0021
Na5895,589.592 { 57},Y_3710,Cts/S, .1542,.0009,.5887, .1535, .1548
Ni2316,231.604 {445},In2306,Cts/S, .0039,.0000,.3446, .0039, .0039
P_1782,178.284 {489},In2306,Cts/S, .0260,.0001,.3835, .0259, .0261
Pb2203,220.353 {453},In2306,Cts/S, .0009,.0001,16.55, .0008, .0010
S_1820,182.034 {485},Y_2243,Cts/S, .0077,.0001,1.155, .0078, .0077
Sb2068,206.833 {463},Y_2243,Cts/S, .0024,.0000,.8982, .0024, .0024
Se1960,196.090 {472},Y_2243,Cts/S, .0003,.0000,16.09, .0003, .0003
Si2516,251.611 {134},Y_3710,Cts/S, .0008,.0000,3.000, .0008, .0008
Sn1899,189.989 {477},In2306,Cts/S, .0032,.0000,.2393, .0032, .0032
Sr4215,421.552 { 80},Y_3710,Cts/S, .0280,.0004,1.571, .0277, .0283
Ti3349,334.904 {101},Y_3600,Cts/S, .0009,.0000,.4508, .0010, .0009
Tl1908,190.856 {477},In2306,Cts/S, .0000,.0000,75.01, .0000, .0000
U_3670,367.007 { 92},Y_3600,Cts/S, .0002,.0000,9.218, .0002, .0002
V_2924,292.402 {115},Y_3600,Cts/S, .0010,.0001,6.741, .0009, .0010
W_2397,239.709 {140},Y_2243,Cts/S, .0000,.0000,196.3, .0000, -.0000
Zn2062,206.200 {463},In2306,Cts/S, .0164,.0000,.2223, .0164, .0164

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 212.32,1.3366,.62953,213.26,211.37
In2306,230.606 {446},Cts/S, 13377.,2.7814,.02079,13379.,13375.
Y_2243,224.306 {450},Cts/S, 18284.,31.274,.17105,18261.,18306.
Y_3600,360.073 { 94},Cts/S, 163070.,101.24,.06208,163140.,163000.
Y_3710,371.030 { 91},Cts/S, 10107.,.96753,.00957,10106.,10107.

[Sample Header]
Method=ICP6500Metals_TRY3(v4958)
SampleName=CalibStd-2
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/19/2019 7:36:18
Sample Type=Cal
Mode=IR
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CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,Cts/S, .0100,.0002,1.870, .0099, .0101
Al3082,308.215 {109},In2306,Cts/S, .7334,.0184,2.505, .7464, .7204
As1890,189.042 {478},Y_2243,Cts/S, .0143,.0001,.3617, .0143, .0142
B_2496,249.678 {135},Y_3710,Cts/S, .0047,.0001,1.376, .0046, .0047
Ba4554,455.403 { 74},Y_3710,Cts/S, 1.198,.0024,.2013, 1.197, 1.200
Be3130,313.042 {108},Y_3710,Cts/S, .6014,.0019,.3125, .6000, .6027
Ca3158,315.887 {107},In2306,Cts/S, 6.709,.0495,.7383, 6.674, 6.744
Cd2288,228.802 {447},Y_2243,Cts/S, .1842,.0005,.2606, .1845, .1838
Co2286,228.616 {447},In2306,Cts/S, .1474,.0010,.6585, .1481, .1467
Cr2677,267.716 {126},Y_3600,Cts/S, .0225,.0005,2.226, .0221, .0228
Cu3247,324.754 {104},Y_3600,Cts/S, .0387,.0006,1.659, .0382, .0391
Fe2404,240.488 {140},In2306,Cts/S, .8510,.0053,.6176, .8473, .8548
K_7664,766.490 { 44},Y_3710,Cts/S, .2327,.0018,.7595, .2315, .2340
Li6707,670.784 { 50},Y_3710,Cts/S, .2538,.0012,.4741, .2530, .2547
Mg2790,279.079 {121},Y_3710,Cts/S, .0277,.0004,1.498, .0274, .0280
Mn2576,257.610 {131},Y_3600,Cts/S, .1387,.0021,1.492, .1373, .1402
Mo2020,202.030 {467},Y_2243,Cts/S, .0441,.0003,.5916, .0443, .0439
Na5895,589.592 { 57},Y_3710,Cts/S, .8582,.0058,.6814, .8541, .8624
Ni2316,231.604 {445},In2306,Cts/S, .0927,.0005,.4904, .0930, .0924
P_1782,178.284 {489},In2306,Cts/S, .0662,.0002,.2609, .0663, .0660
Pb2203,220.353 {453},In2306,Cts/S, .0231,.0001,.5881, .0232, .0230
S_1820,182.034 {485},Y_2243,Cts/S, .0193,.0001,.3338, .0193, .0193
Sb2068,206.833 {463},Y_2243,Cts/S, .0113,.0000,.3915, .0112, .0113
Se1960,196.090 {472},Y_2243,Cts/S, .0086,.0000,.0643, .0086, .0087
Si2516,251.611 {134},Y_3710,Cts/S, .0100,.0006,5.735, .0096, .0104
Sn1899,189.989 {477},In2306,Cts/S, .0729,.0003,.4224, .0732, .0727
Sr4215,421.552 { 80},Y_3710,Cts/S, .6560,.0028,.4240, .6541, .6580
Ti3349,334.904 {101},Y_3600,Cts/S, .0261,.0004,1.454, .0258, .0263
Tl1908,190.856 {477},In2306,Cts/S, .0071,.0003,3.765, .0072, .0069
U_3670,367.007 { 92},Y_3600,Cts/S, .0002,.0000,10.41, .0002, .0002
V_2924,292.402 {115},Y_3600,Cts/S, .0301,.0005,1.739, .0297, .0305
W_2397,239.709 {140},Y_2243,Cts/S, .0001,.0000,23.39, .0001, .0001
Zn2062,206.200 {463},In2306,Cts/S, .1829,.0009,.4699, .1835, .1823

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 211.54,2.1884,1.0345,213.08,209.99
In2306,230.606 {446},Cts/S, 13099.,40.572,.30973,13070.,13128.
Y_2243,224.306 {450},Cts/S, 18185.,44.136,.24271,18154.,18216.
Y_3600,360.073 { 94},Cts/S, 162730.,1365.3,.83897,163700.,161770.
Y_3710,371.030 { 91},Cts/S, 10111.,81.354,.80461,10169.,10054.

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Mode=IR
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
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Al3082,308.215 {109},In2306,Cts/S, 1.489,.0123,.8244, 1.481, 1.498
As1890,189.042 {478},Y_2243,Cts/S, .0285,.0000,.1203, .0285, .0285
B_2496,249.678 {135},Y_3710,Cts/S, .0093,.0001,1.353, .0092, .0093
Ba4554,455.403 { 74},Y_3710,Cts/S, 2.334,.0485,2.075, 2.300, 2.369

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Be3130,313.042 {108},Y_3710,Cts/S, 1.180,.0258,2.184, 1.162, 1.198
Ca3158,315.887 {107},In2306,Cts/S, 13.92,.2278,1.637, 13.76, 14.08
Cd2288,228.802 {447},Y_2243,Cts/S, .3620,.0005,.1271, .3617, .3623
Co2286,228.616 {447},In2306,Cts/S, .2913,.0001,.0514, .2911, .2914
Cr2677,267.716 {126},Y_3600,Cts/S, .0445,.0002,.4180, .0444, .0446
Cu3247,324.754 {104},Y_3600,Cts/S, .0726,.0002,.2763, .0724, .0727
Fe2404,240.488 {140},In2306,Cts/S, 1.717,.0406,2.364, 1.689, 1.746
K_7664,766.490 { 44},Y_3710,Cts/S, .4737,.0070,1.471, .4688, .4786
Li6707,670.784 { 50},Y_3710,Cts/S, .4978,.0084,1.682, .4919, .5037
Mg2790,279.079 {121},Y_3710,Cts/S, .0575,.0007,1.304, .0569, .0580
Mn2576,257.610 {131},Y_3600,Cts/S, .2727,.0004,.1598, .2724, .2730
Mo2020,202.030 {467},Y_2243,Cts/S, .0870,.0003,.3314, .0872, .0868
Na5895,589.592 { 57},Y_3710,Cts/S, 1.753,.0320,1.824, 1.730, 1.775
Ni2316,231.604 {445},In2306,Cts/S, .1835,.0000,.0120, .1835, .1835
P_1782,178.284 {489},In2306,Cts/S, .1341,.0001,.0631, .1340, .1341
Pb2203,220.353 {453},In2306,Cts/S, .0459,.0001,.1453, .0458, .0459
S_1820,182.034 {485},Y_2243,Cts/S, .0765,.0001,.1508, .0764, .0766
Sb2068,206.833 {463},Y_2243,Cts/S, .0221,.0001,.2589, .0222, .0221
Se1960,196.090 {472},Y_2243,Cts/S, .0171,.0001,.3188, .0171, .0172
Si2516,251.611 {134},Y_3710,Cts/S, .0185,.0006,3.271, .0180, .0189
Sn1899,189.989 {477},In2306,Cts/S, .1453,.0000,.0312, .1453, .1452
Sr4215,421.552 { 80},Y_3710,Cts/S, 1.279,.0256,2.003, 1.261, 1.297
Ti3349,334.904 {101},Y_3600,Cts/S, .0518,.0001,.2490, .0517, .0519
Tl1908,190.856 {477},In2306,Cts/S, .0227,.0003,1.393, .0229, .0224
U_3670,367.007 { 92},Y_3600,Cts/S, .0002,.0000,1.124, .0002, .0003
V_2924,292.402 {115},Y_3600,Cts/S, .0600,.0001,.1848, .0599, .0600
W_2397,239.709 {140},Y_2243,Cts/S, .0003,.0001,27.15, .0003, .0002
Zn2062,206.200 {463},In2306,Cts/S, .3650,.0009,.2550, .3643, .3656

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 208.50,1.1037,.52936,209.28,207.72
In2306,230.606 {446},Cts/S, 12768.,3.7555,.02941,12770.,12765.
Y_2243,224.306 {450},Cts/S, 17963.,1.0312,.00574,17963.,17962.
Y_3600,360.073 { 94},Cts/S, 160040.,123.20,.07698,160130.,159960.
Y_3710,371.030 { 91},Cts/S, 10070.,83.216,.82634,10129.,10012.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,Cts/S, .0397,.0000,.1103, .0398, .0397
Al3082,308.215 {109},In2306,Cts/S, 2.800,.0153,.5470, 2.789, 2.811
As1890,189.042 {478},Y_2243,Cts/S, .0565,.0000,.0315, .0565, .0565
B_2496,249.678 {135},Y_3710,Cts/S, .0183,.0001,.5648, .0182, .0184
Ba4554,455.403 { 74},Y_3710,Cts/S, 4.603,.0066,.1436, 4.598, 4.608
Be3130,313.042 {108},Y_3710,Cts/S, 2.338,.0003,.0138, 2.338, 2.338
Ca3158,315.887 {107},In2306,Cts/S, 27.05,.1990,.7357, 26.91, 27.19
Cd2288,228.802 {447},Y_2243,Cts/S, .7163,.0002,.0301, .7162, .7165
Co2286,228.616 {447},In2306,Cts/S, .5839,.0015,.2514, .5850, .5829
Cr2677,267.716 {126},Y_3600,Cts/S, .0876,.0003,.2921, .0878, .0874
Cu3247,324.754 {104},Y_3600,Cts/S, .1395,.0004,.3170, .1398, .1392
Fe2404,240.488 {140},In2306,Cts/S, 3.302,.0447,1.354, 3.271, 3.334
K_7664,766.490 { 44},Y_3710,Cts/S, .9079,.0022,.2425, .9063, .9095
Li6707,670.784 { 50},Y_3710,Cts/S, .9757,.0010,.1061, .9750, .9765
Mg2790,279.079 {121},Y_3710,Cts/S, .1117,.0007,.6044, .1122, .1113
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Mn2576,257.610 {131},Y_3600,Cts/S, .5418,.0010,.1837, .5425, .5411
Mo2020,202.030 {467},Y_2243,Cts/S, .1723,.0003,.1564, .1725, .1721
Na5895,589.592 { 57},Y_3710,Cts/S, 3.390,.0012,.0357, 3.389, 3.391
Ni2316,231.604 {445},In2306,Cts/S, .3676,.0011,.2947, .3684, .3668
P_1782,178.284 {489},In2306,Cts/S, .2713,.0002,.0875, .2714, .2711
Pb2203,220.353 {453},In2306,Cts/S, .0919,.0000,.0534, .0919, .0919
S_1820,182.034 {485},Y_2243,Cts/S, .1142,.0000,.0019, .1142, .1142
Sb2068,206.833 {463},Y_2243,Cts/S, .0439,.0002,.5099, .0441, .0438
Se1960,196.090 {472},Y_2243,Cts/S, .0343,.0001,.4303, .0344, .0342
Si2516,251.611 {134},Y_3710,Cts/S, .0367,.0007,2.024, .0362, .0373
Sn1899,189.989 {477},In2306,Cts/S, .2922,.0016,.5553, .2933, .2910
Sr4215,421.552 { 80},Y_3710,Cts/S, 2.520,.0098,.3886, 2.513, 2.527
Ti3349,334.904 {101},Y_3600,Cts/S, .1036,.0003,.2524, .1038, .1034
Tl1908,190.856 {477},In2306,Cts/S, .0517,.0004,.8490, .0520, .0514
U_3670,367.007 { 92},Y_3600,Cts/S, .0004,.0000,.6477, .0004, .0004
V_2924,292.402 {115},Y_3600,Cts/S, .1197,.0003,.2747, .1199, .1195
W_2397,239.709 {140},Y_2243,Cts/S, .0004,.0000,.4320, .0004, .0004
Zn2062,206.200 {463},In2306,Cts/S, .7279,.0017,.2321, .7291, .7268

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 211.20,1.5708,.74375,212.31,210.09
In2306,230.606 {446},Cts/S, 12434.,22.773,.18314,12451.,12418.
Y_2243,224.306 {450},Cts/S, 17873.,33.354,.18662,17897.,17850.
Y_3600,360.073 { 94},Cts/S, 159390.,167.31,.10497,159270.,159510.
Y_3710,371.030 { 91},Cts/S, 10186.,20.727,.20349,10171.,10201.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,Cts/S, .0793,.0000,.0402, .0794, .0793
Al3082,308.215 {109},In2306,Cts/S, 5.758,.0433,.7520, 5.727, 5.788
As1890,189.042 {478},Y_2243,Cts/S, .1128,.0000,.0283, .1128, .1127
B_2496,249.678 {135},Y_3710,Cts/S, .0364,.0006,1.595, .0360, .0368
Ba4554,455.403 { 74},Y_3710,Cts/S, 9.139,.0491,.5376, 9.104, 9.174
Be3130,313.042 {108},Y_3710,Cts/S, 4.633,.0267,.5761, 4.614, 4.651
Ca3158,315.887 {107},In2306,Cts/S, 55.04,.5354,.9727, 54.66, 55.42
Cd2288,228.802 {447},Y_2243,Cts/S, 1.421,.0055,.3900, 1.417, 1.425
Co2286,228.616 {447},In2306,Cts/S, 1.182,.0028,.2351, 1.180, 1.184
Cr2677,267.716 {126},Y_3600,Cts/S, .1737,.0006,.3462, .1732, .1741
Cu3247,324.754 {104},Y_3600,Cts/S, .2748,.0008,.3029, .2742, .2754
Fe2404,240.488 {140},In2306,Cts/S, 6.709,.1052,1.568, 6.635, 6.783
K_7664,766.490 { 44},Y_3710,Cts/S, 1.813,.0126,.6972, 1.804, 1.822
Li6707,670.784 { 50},Y_3710,Cts/S, 1.935,.0068,.3528, 1.931, 1.940
Mg2790,279.079 {121},Y_3710,Cts/S, .2235,.0019,.8309, .2222, .2248
Mn2576,257.610 {131},Y_3600,Cts/S, 1.070,.0010,.0965, 1.069, 1.071
Mo2020,202.030 {467},Y_2243,Cts/S, .3404,.0001,.0236, .3403, .3404
Na5895,589.592 { 57},Y_3710,Cts/S, 6.810,.0353,.5181, 6.785, 6.834
Ni2316,231.604 {445},In2306,Cts/S, .7407,.0018,.2390, .7394, .7419
P_1782,178.284 {489},In2306,Cts/S, .5561,.0013,.2257, .5552, .5570
Pb2203,220.353 {453},In2306,Cts/S, .1855,.0011,.5713, .1847, .1862
S_1820,182.034 {485},Y_2243,Cts/S, .1907,.0006,.2906, .1903, .1911
Sb2068,206.833 {463},Y_2243,Cts/S, .0869,.0000,.0227, .0869, .0869
Se1960,196.090 {472},Y_2243,Cts/S, .0685,.0001,.1573, .0685, .0686
Si2516,251.611 {134},Y_3710,Cts/S, .0751,.0015,1.934, .0740, .0761
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Sn1899,189.989 {477},In2306,Cts/S, .5906,.0015,.2589, .5895, .5917
Sr4215,421.552 { 80},Y_3710,Cts/S, 4.999,.0331,.6626, 4.976, 5.022
Ti3349,334.904 {101},Y_3600,Cts/S, .2064,.0003,.1529, .2062, .2066
Tl1908,190.856 {477},In2306,Cts/S, .1056,.0002,.2312, .1057, .1054
U_3670,367.007 { 92},Y_3600,Cts/S, .0006,.0000,6.556, .0006, .0006
V_2924,292.402 {115},Y_3600,Cts/S, .2381,.0008,.3548, .2375, .2387
W_2397,239.709 {140},Y_2243,Cts/S, .0007,.0001,8.873, .0008, .0007
Zn2062,206.200 {463},In2306,Cts/S, 1.483,.0027,.1849, 1.481, 1.485

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 204.44,1.6627,.81327,205.62,203.27
In2306,230.606 {446},Cts/S, 11852.,37.772,.31871,11878.,11825.
Y_2243,224.306 {450},Cts/S, 17597.,51.060,.29016,17633.,17561.
Y_3600,360.073 { 94},Cts/S, 155630.,44.873,.02883,155660.,155600.
Y_3710,371.030 { 91},Cts/S, 10138.,73.454,.72455,10190.,10086.

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Al3082,308.215 {109},In2306,ppm, 10.09,.0054,.0540, 10.08, 10.09
As1890,189.042 {478},Y_2243,ppm, 3.987,.0006,.0150, 3.987, 3.987
B_2496,249.678 {135},Y_3710,ppm, 1.992,.0102,.5099, 1.985, 1.999
Ba4554,455.403 { 74},Y_3710,ppm, 3.967,.0109,.2743, 3.959, 3.975
Be3130,313.042 {108},Y_3710,ppm, 1.979,.0116,.5880, 1.970, 1.987
Ca3158,315.887 {107},In2306,ppm, 50.03,.2817,.5630, 49.83, 50.23
Cd2288,228.802 {447},Y_2243,ppm, 1.982,.0057,.2886, 1.978, 1.986
Co2286,228.616 {447},In2306,ppm, 2.001,.0000,.0001, 2.001, 2.001
Cr2677,267.716 {126},Y_3600,ppm, 1.982,.0061,.3073, 1.986, 1.978
Cu3247,324.754 {104},Y_3600,ppm, 1.982,.0073,.3662, 1.977, 1.987
Fe2404,240.488 {140},In2306,ppm, 9.966,.0290,.2910, 9.946, 9.987
K_7664,766.490 { 44},Y_3710,ppm, 49.70,.0079,.0160, 49.70, 49.69
Li6707,670.784 { 50},Y_3710,ppm, 1.979,.0070,.3556, 1.974, 1.984
Mg2790,279.079 {121},Y_3710,ppm, 49.84,.2028,.4068, 49.70, 49.99
Mn2576,257.610 {131},Y_3600,ppm, 1.978,.0044,.2232, 1.981, 1.975
Mo2020,202.030 {467},Y_2243,ppm, 1.986,.0002,.0102, 1.986, 1.986
Na5895,589.592 { 57},Y_3710,ppm, 49.64,.0808,.1629, 49.58, 49.70
Ni2316,231.604 {445},In2306,ppm, 1.999,.0001,.0055, 1.999, 1.999
P_1782,178.284 {489},In2306,ppm, 20.33,.0263,.1294, 20.31, 20.35
Pb2203,220.353 {453},In2306,ppm, 1.995,.0043,.2137, 1.992, 1.998
S_1820,182.034 {485},Y_2243,ppm, 13.61,.0274,.2012, 13.59, 13.63
Sb2068,206.833 {463},Y_2243,ppm, 1.996,.0116,.5822, 1.987, 2.004
Se1960,196.090 {472},Y_2243,ppm, 3.982,.0096,.2402, 3.975, 3.989
Si2516,251.611 {134},Y_3710,ppm, 6.004,.1892,3.152, 5.870, 6.138
Sn1899,189.989 {477},In2306,ppm, 4.013,.0017,.0429, 4.014, 4.011
Sr4215,421.552 { 80},Y_3710,ppm, 1.983,.0063,.3171, 1.978, 1.987
Ti3349,334.904 {101},Y_3600,ppm, 1.988,.0029,.1447, 1.990, 1.986
Tl1908,190.856 {477},In2306,ppm, 4.452,.0109,.2450, 4.459, 4.444
U_3670,367.007 { 92},Y_3600,ppm, 2.220,.0404,1.821, 2.249, 2.192
V_2924,292.402 {115},Y_3600,ppm, 1.988,.0005,.0237, 1.987, 1.988
W_2397,239.709 {140},Y_2243,ppm, .9416,.0551,5.849, .9805, .9027
Zn2062,206.200 {463},In2306,ppm, 2.017,.0058,.2858, 2.021, 2.013

[Internal Standards]
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Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 204.18,.31712,.15531,203.96,204.41
In2306,230.606 {446},Cts/S, 11843.,27.818,.23489,11863.,11823.
Y_2243,224.306 {450},Cts/S, 17559.,62.514,.35602,17603.,17515.
Y_3600,360.073 { 94},Cts/S, 155560.,659.81,.42414,155100.,156030.
Y_3710,371.030 { 91},Cts/S, 10085.,23.837,.23637,10068.,10101.

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Al3082,308.215 {109},In2306,ppm, 20.21,.2277,1.127, 20.05, 20.37
As1890,189.042 {478},Y_2243,ppm, .9977,.0030,.3003, .9999, .9956
B_2496,249.678 {135},Y_3710,ppm, 1.034,.0150,1.455, 1.023, 1.045
Ba4554,455.403 { 74},Y_3710,ppm, 1.008,.0015,.1492, 1.007, 1.009
Be3130,313.042 {108},Y_3710,ppm, .9749,.0040,.4112, .9721, .9778
Ca3158,315.887 {107},In2306,ppm, 20.18,.2321,1.150, 20.01, 20.34
Cd2288,228.802 {447},Y_2243,ppm, .9870,.0009,.0933, .9864, .9877
Co2286,228.616 {447},In2306,ppm, .9935,.0037,.3723, .9909, .9961
Cr2677,267.716 {126},Y_3600,ppm, 1.003,.0023,.2327, 1.005, 1.002
Cu3247,324.754 {104},Y_3600,ppm, 1.012,.0005,.0458, 1.012, 1.011
Fe2404,240.488 {140},In2306,ppm, 20.11,.2680,1.333, 19.92, 20.30
K_7664,766.490 { 44},Y_3710,ppm, 20.25,.0323,.1595, 20.27, 20.23
Li6707,670.784 { 50},Y_3710,ppm, 1.006,.0000,.0002, 1.006, 1.006
Mg2790,279.079 {121},Y_3710,ppm, 20.02,.1238,.6183, 19.93, 20.11
Mn2576,257.610 {131},Y_3600,ppm, .9957,.0005,.0509, .9960, .9953
Mo2020,202.030 {467},Y_2243,ppm, .9933,.0033,.3310, .9956, .9910
Na5895,589.592 { 57},Y_3710,ppm, 19.94,.0256,.1282, 19.92, 19.96
Ni2316,231.604 {445},In2306,ppm, .9885,.0008,.0821, .9890, .9879
P_1782,178.284 {489},In2306,ppm, 9.941,.0113,.1133, 9.949, 9.933
Pb2203,220.353 {453},In2306,ppm, .9921,.0012,.1173, .9913, .9929
S_1820,182.034 {485},Y_2243,ppm, 10.62,.0588,.5538, 10.66, 10.57
Sb2068,206.833 {463},Y_2243,ppm, 2.055,.0034,.1632, 2.057, 2.053
Se1960,196.090 {472},Y_2243,ppm, .9958,.0014,.1357, .9967, .9948
Si2516,251.611 {134},Y_3710,ppm, 13.76,.1745,1.268, 13.64, 13.88
Sn1899,189.989 {477},In2306,ppm, .9949,.0033,.3315, .9972, .9925
Sr4215,421.552 { 80},Y_3710,ppm, 1.006,.0024,.2379, 1.004, 1.008
Ti3349,334.904 {101},Y_3600,ppm, .9896,.0015,.1520, .9885, .9907
Tl1908,190.856 {477},In2306,ppm, 1.402,.0017,.1229, 1.401, 1.403
U_3670,367.007 { 92},Y_3600,ppm, 1.198,.2066,17.24, 1.344, 1.052
V_2924,292.402 {115},Y_3600,ppm, .9915,.0004,.0422, .9912, .9918
W_2397,239.709 {140},Y_2243,ppm, 1.206,.1531,12.70, 1.098, 1.314
Zn2062,206.200 {463},In2306,ppm, .9912,.0049,.4921, .9877, .9946

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 206.52,2.7186,1.3164,208.44,204.60
In2306,230.606 {446},Cts/S, 12415.,12.123,.09765,12423.,12406.
Y_2243,224.306 {450},Cts/S, 17901.,14.997,.08378,17890.,17911.
Y_3600,360.073 { 94},Cts/S, 159080.,349.27,.21955,158830.,159330.
Y_3710,371.030 { 91},Cts/S, 10121.,25.371,.25067,10139.,10104.

[Sample Header]
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Ag3280,328.068 {103},Y_3600,ppm, .0101,.0004,4.428, .0098, .0104
Al3082,308.215 {109},In2306,ppm, .1994,.0043,2.135, .2025, .1964
As1890,189.042 {478},Y_2243,ppm, .0214,.0009,4.029, .0220, .0208
B_2496,249.678 {135},Y_3710,ppm, .2157,.0031,1.416, .2135, .2178
Ba4554,455.403 { 74},Y_3710,ppm, .0222,.0000,.0472, .0222, .0222
Be3130,313.042 {108},Y_3710,ppm, .0112,.0003,2.801, .0110, .0114
Ca3158,315.887 {107},In2306,ppm, 1.043,.0004,.0388, 1.043, 1.043
Cd2288,228.802 {447},Y_2243,ppm, .0109,.0000,.0498, .0109, .0109
Co2286,228.616 {447},In2306,ppm, .0106,.0001,1.104, .0105, .0107
Cr2677,267.716 {126},Y_3600,ppm, .0109,.0001,1.188, .0110, .0108
Cu3247,324.754 {104},Y_3600,ppm, .0119,.0000,.1731, .0119, .0119
Fe2404,240.488 {140},In2306,ppm, .2041,.0157,7.690, .2152, .1930
K_7664,766.490 { 44},Y_3710,ppm, 1.091,.0054,.4966, 1.087, 1.095
Li6707,670.784 { 50},Y_3710,ppm, .0108,.0010,8.846, .0115, .0102
Mg2790,279.079 {121},Y_3710,ppm, 1.082,.0138,1.275, 1.092, 1.073
Mn2576,257.610 {131},Y_3600,ppm, .0110,.0000,.2960, .0110, .0110
Mo2020,202.030 {467},Y_2243,ppm, .0273,.0008,2.889, .0268, .0279
Na5895,589.592 { 57},Y_3710,ppm, 1.084,.0018,.1628, 1.085, 1.082
Ni2316,231.604 {445},In2306,ppm, .0106,.0002,1.572, .0107, .0104
P_1782,178.284 {489},In2306,ppm, .9564,.0025,.2636, .9546, .9582
Pb2203,220.353 {453},In2306,ppm, .0122,.0011,9.267, .0130, .0114
S_1820,182.034 {485},Y_2243,ppm, -2.733,.0006,.0216, -2.733, -2.732
Sb2068,206.833 {463},Y_2243,ppm, .0584,.0022,3.791, .0568, .0600
Se1960,196.090 {472},Y_2243,ppm, .0208,.0002,.8823, .0207, .0210
Si2516,251.611 {134},Y_3710,ppm, .2996,.0033,1.118, .2972, .3019
Sn1899,189.989 {477},In2306,ppm, .0234,.0000,.0876, .0234, .0234
Sr4215,421.552 { 80},Y_3710,ppm, .0109,.0002,2.035, .0107, .0110
Ti3349,334.904 {101},Y_3600,ppm, .0117,.0000,.2907, .0117, .0117
Tl1908,190.856 {477},In2306,ppm, .3776,.0093,2.467, .3710, .3842
U_3670,367.007 { 92},Y_3600,ppm, -.0028,.0713,2514., .0476, -.0533
V_2924,292.402 {115},Y_3600,ppm, .0109,.0005,4.815, .0105, .0112
W_2397,239.709 {140},Y_2243,ppm, .1010,.0191,18.91, .0875, .1146
Zn2062,206.200 {463},In2306,ppm, .0206,.0001,.6950, .0205, .0207

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 213.09,.30751,.14431,213.31,212.87
In2306,230.606 {446},Cts/S, 13337.,6.4165,.04811,13332.,13341.
Y_2243,224.306 {450},Cts/S, 18231.,.24751,.00136,18231.,18231.
Y_3600,360.073 { 94},Cts/S, 164010.,683.67,.41686,164490.,163520.
Y_3710,371.030 { 91},Cts/S, 10136.,62.950,.62104,10181.,10092.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0001,.0001,103.0, .0000, .0002
Al3082,308.215 {109},In2306,ppm, -.0168,.0163,97.35, -.0283, -.0052
As1890,189.042 {478},Y_2243,ppm, -.0020,.0006,31.82, -.0016, -.0025
B_2496,249.678 {135},Y_3710,ppm, .0015,.0024,158.7, .0033, -.0002
Ba4554,455.403 { 74},Y_3710,ppm, .0000,.0000,5.483, .0000, .0000
Be3130,313.042 {108},Y_3710,ppm, .0002,.0000,15.39, .0002, .0002
Ca3158,315.887 {107},In2306,ppm, -.0023,.0011,47.14, -.0015, -.0031
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0001,1183., -.0001, .0001
Co2286,228.616 {447},In2306,ppm, .0000,.0000,81.34, .0000, .0001
Cr2677,267.716 {126},Y_3600,ppm, -.0001,.0000,21.43, -.0001, -.0001
Cu3247,324.754 {104},Y_3600,ppm, .0006,.0004,69.97, .0009, .0003
Fe2404,240.488 {140},In2306,ppm, .0137,.0076,55.64, .0083, .0191
K_7664,766.490 { 44},Y_3710,ppm, .0463,.0147,31.65, .0567, .0360
Li6707,670.784 { 50},Y_3710,ppm, -.0003,.0007,242.7, -.0008, .0002
Mg2790,279.079 {121},Y_3710,ppm, -.0023,.0343,1482., .0219, -.0266
Mn2576,257.610 {131},Y_3600,ppm, .0001,.0000,52.99, .0001, .0001
Mo2020,202.030 {467},Y_2243,ppm, .0012,.0001,9.351, .0012, .0013
Na5895,589.592 { 57},Y_3710,ppm, .0015,.0040,269.5, .0043, -.0013
Ni2316,231.604 {445},In2306,ppm, -.0001,.0003,233.6, -.0004, .0001
P_1782,178.284 {489},In2306,ppm, .0010,.0002,24.20, .0009, .0012
Pb2203,220.353 {453},In2306,ppm, .0013,.0033,248.8, -.0010, .0037
S_1820,182.034 {485},Y_2243,ppm, -.0028,.0071,256.7, -.0078, .0023
Sb2068,206.833 {463},Y_2243,ppm, .0023,.0012,53.36, .0015, .0032
Se1960,196.090 {472},Y_2243,ppm, .0042,.0022,52.70, .0026, .0057
Si2516,251.611 {134},Y_3710,ppm, .0233,.0098,41.95, .0164, .0302
Sn1899,189.989 {477},In2306,ppm, .0005,.0002,45.71, .0006, .0003
Sr4215,421.552 { 80},Y_3710,ppm, .0000,.0001,1872., -.0001, .0001
Ti3349,334.904 {101},Y_3600,ppm, .0001,.0002,178.8, -.0000, .0003
Tl1908,190.856 {477},In2306,ppm, .2727,.0057,2.098, .2687, .2767
U_3670,367.007 { 92},Y_3600,ppm, -.1979,.0178,8.972, -.1853, -.2104
V_2924,292.402 {115},Y_3600,ppm, .0005,.0001,24.79, .0006, .0004
W_2397,239.709 {140},Y_2243,ppm, .0416,.0556,133.7, .0810, .0023
Zn2062,206.200 {463},In2306,ppm, -.0004,.0001,15.90, -.0004, -.0003

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 215.92,2.3553,1.0908,214.25,217.58
In2306,230.606 {446},Cts/S, 13447.,15.322,.11394,13436.,13458.
Y_2243,224.306 {450},Cts/S, 18349.,35.626,.19415,18324.,18374.
Y_3600,360.073 { 94},Cts/S, 164790.,695.60,.42211,165280.,164300.
Y_3710,371.030 { 91},Cts/S, 10264.,8.8630,.08635,10270.,10258.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0004,.0008,216.1, -.0009, .0002
Al3082,308.215 {109},In2306,ppm, 536.9,3.577,.6663, 539.4, 534.4
As1890,189.042 {478},Y_2243,ppm, .0030,.0056,186.4, .0070, -.0010
B_2496,249.678 {135},Y_3710,ppm, .0047,.0107,224.8, -.0028, .0123
Ba4554,455.403 { 74},Y_3710,ppm, .0003,.0000,11.52, .0003, .0004
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,31.72, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, 492.5,2.168,.4402, 494.0, 491.0
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Cd2288,228.802 {447},Y_2243,ppm, .0028,.0000,1.760, .0027, .0028
Co2286,228.616 {447},In2306,ppm, -.0002,.0002,91.55, -.0001, -.0004
Cr2677,267.716 {126},Y_3600,ppm, .0024,.0001,5.239, .0025, .0023
Cu3247,324.754 {104},Y_3600,ppm, -.0018,.0002,11.71, -.0016, -.0019
Fe2404,240.488 {140},In2306,ppm, 192.2,1.272,.6616, 193.1, 191.3
K_7664,766.490 { 44},Y_3710,ppm, .0313,.0207,66.03, .0167, .0459
Li6707,670.784 { 50},Y_3710,ppm, .0103,.0002,2.042, .0105, .0102
Mg2790,279.079 {121},Y_3710,ppm, 495.7,5.216,1.052, 492.0, 499.4
Mn2576,257.610 {131},Y_3600,ppm, -.0039,.0000,.3115, -.0039, -.0039
Mo2020,202.030 {467},Y_2243,ppm, .0010,.0001,8.787, .0010, .0009
Na5895,589.592 { 57},Y_3710,ppm, .0124,.0040,32.66, .0152, .0095
Ni2316,231.604 {445},In2306,ppm, -.0057,.0004,6.374, -.0060, -.0054
P_1782,178.284 {489},In2306,ppm, .0022,.0008,36.88, .0016, .0028
Pb2203,220.353 {453},In2306,ppm, -.0116,.0009,7.767, -.0122, -.0109
S_1820,182.034 {485},Y_2243,ppm,F -4.385,.0106,.2412, -4.393, -4.378
Sb2068,206.833 {463},Y_2243,ppm, -.0028,.0027,95.82, -.0009, -.0048
Se1960,196.090 {472},Y_2243,ppm, -.0155,.0027,17.37, -.0174, -.0136
Si2516,251.611 {134},Y_3710,ppm, .0306,.0010,3.357, .0313, .0299
Sn1899,189.989 {477},In2306,ppm, .0009,.0002,18.59, .0011, .0008
Sr4215,421.552 { 80},Y_3710,ppm, .0043,.0002,5.357, .0042, .0045
Ti3349,334.904 {101},Y_3600,ppm, .0028,.0002,8.373, .0030, .0027
Tl1908,190.856 {477},In2306,ppm,F .3015,.0008,.2795, .3021, .3009
U_3670,367.007 { 92},Y_3600,ppm,F 1.557,.0686,4.404, 1.508, 1.605
V_2924,292.402 {115},Y_3600,ppm, -.0043,.0000,.3977, -.0043, -.0043
W_2397,239.709 {140},Y_2243,ppm,F .0734,.0366,49.91, .0475, .0993
Zn2062,206.200 {463},In2306,ppm, -.0027,.0003,9.341, -.0025, -.0029

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 189.65,2.1483,1.1328,188.13,191.17
In2306,230.606 {446},Cts/S, 9838.2,12.271,.12473,9829.5,9846.8
Y_2243,224.306 {450},Cts/S, 15912.,27.190,.17088,15893.,15931.
Y_3600,360.073 { 94},Cts/S, 140230.,778.77,.55536,140780.,139680.
Y_3710,371.030 { 91},Cts/S, 9858.6,39.313,.39877,9886.4,9830.9

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Ag3280,328.068 {103},Y_3600,ppm, .2709,.0029,1.062, .2689, .2730
Al3082,308.215 {109},In2306,ppm, 539.5,6.710,1.244, 534.8, 544.3
As1890,189.042 {478},Y_2243,ppm, 1.989,.0022,.1082, 1.991, 1.988
B_2496,249.678 {135},Y_3710,ppm, .5034,.0025,.5038, .5016, .5052
Ba4554,455.403 { 74},Y_3710,ppm, 1.965,.0151,.7692, 1.954, 1.975
Be3130,313.042 {108},Y_3710,ppm, .9592,.0054,.5677, .9553, .9630
Ca3158,315.887 {107},In2306,ppm, 498.2,5.014,1.006, 494.6, 501.7
Cd2288,228.802 {447},Y_2243,ppm, 1.016,.0023,.2285, 1.018, 1.015
Co2286,228.616 {447},In2306,ppm, 1.014,.0006,.0575, 1.015, 1.014
Cr2677,267.716 {126},Y_3600,ppm, .9654,.0059,.6150, .9612, .9696
Cu3247,324.754 {104},Y_3600,ppm, 1.058,.0063,.5983, 1.054, 1.063
Fe2404,240.488 {140},In2306,ppm, 194.3,2.136,1.099, 192.8, 195.8
K_7664,766.490 { 44},Y_3710,ppm, 10.55,.0534,.5063, 10.52, 10.59
Li6707,670.784 { 50},Y_3710,ppm, 1.039,.0065,.6290, 1.035, 1.044
Mg2790,279.079 {121},Y_3710,ppm, 500.5,1.968,.3931, 499.1, 501.9
Mn2576,257.610 {131},Y_3600,ppm, .9582,.0033,.3440, .9559, .9605
Mo2020,202.030 {467},Y_2243,ppm, .9405,.0043,.4556, .9435, .9375
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Na5895,589.592 { 57},Y_3710,ppm, 10.46,.0378,.3613, 10.43, 10.49
Ni2316,231.604 {445},In2306,ppm, .9942,.0001,.0133, .9943, .9941
P_1782,178.284 {489},In2306,ppm, 10.94,.0249,.2273, 10.95, 10.92
Pb2203,220.353 {453},In2306,ppm, .9735,.0040,.4090, .9763, .9706
S_1820,182.034 {485},Y_2243,ppm, 2.394,.0610,2.547, 2.437, 2.351
Sb2068,206.833 {463},Y_2243,ppm, 2.097,.0110,.5254, 2.105, 2.089
Se1960,196.090 {472},Y_2243,ppm, 1.922,.0202,1.051, 1.936, 1.908
Si2516,251.611 {134},Y_3710,ppm, 2.688,.0031,.1145, 2.685, 2.690
Sn1899,189.989 {477},In2306,ppm, 2.025,.0104,.5158, 2.032, 2.017
Sr4215,421.552 { 80},Y_3710,ppm, .9876,.0063,.6358, .9832, .9921
Ti3349,334.904 {101},Y_3600,ppm, .9916,.0042,.4200, .9887, .9946
Tl1908,190.856 {477},In2306,ppm, .7832,.0481,6.139, .8172, .7492
U_3670,367.007 { 92},Y_3600,ppm, 2.515,.0223,.8878, 2.499, 2.531
V_2924,292.402 {115},Y_3600,ppm, .9730,.0034,.3447, .9706, .9753
W_2397,239.709 {140},Y_2243,ppm, .2858,.0924,32.34, .3511, .2204
Zn2062,206.200 {463},In2306,ppm, .5136,.0010,.1964, .5143, .5129

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 188.42,1.6007,.84954,189.56,187.29
In2306,230.606 {446},Cts/S, 9938.3,6.9297,.06973,9943.2,9933.4
Y_2243,224.306 {450},Cts/S, 16243.,6.8375,.04209,16239.,16248.
Y_3600,360.073 { 94},Cts/S, 141680.,289.21,.20413,141880.,141470.
Y_3710,371.030 { 91},Cts/S, 9897.7,36.824,.37204,9923.7,9871.7

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .4974,.0013,.2588, .4983, .4965
Al3082,308.215 {109},In2306,ppm, 20.13,.2655,1.319, 19.94, 20.31
As1890,189.042 {478},Y_2243,ppm, .9949,.0008,.0851, .9943, .9955
B_2496,249.678 {135},Y_3710,ppm, .9958,.0111,1.113, .9880, 1.004
Ba4554,455.403 { 74},Y_3710,ppm, 1.010,.0062,.6113, 1.005, 1.014
Be3130,313.042 {108},Y_3710,ppm, .9765,.0046,.4695, .9733, .9798
Ca3158,315.887 {107},In2306,ppm, 20.08,.1592,.7930, 19.96, 20.19
Cd2288,228.802 {447},Y_2243,ppm, .9839,.0043,.4382, .9808, .9869
Co2286,228.616 {447},In2306,ppm, .9902,.0017,.1668, .9890, .9914
Cr2677,267.716 {126},Y_3600,ppm, .9921,.0026,.2622, .9939, .9903
Cu3247,324.754 {104},Y_3600,ppm, .9981,.0013,.1295, .9990, .9972
Fe2404,240.488 {140},In2306,ppm, 19.96,.2313,1.159, 19.79, 20.12
K_7664,766.490 { 44},Y_3710,ppm, 20.06,.1231,.6138, 19.97, 20.15
Li6707,670.784 { 50},Y_3710,ppm, .9999,.0051,.5052, .9963, 1.003
Mg2790,279.079 {121},Y_3710,ppm, 20.29,.1177,.5799, 20.38, 20.21
Mn2576,257.610 {131},Y_3600,ppm, .9990,.0006,.0578, .9994, .9986
Mo2020,202.030 {467},Y_2243,ppm, .9887,.0027,.2740, .9868, .9906
Na5895,589.592 { 57},Y_3710,ppm, 19.91,.1042,.5234, 19.84, 19.99
Ni2316,231.604 {445},In2306,ppm, .9870,.0004,.0359, .9872, .9867
P_1782,178.284 {489},In2306,ppm, 9.989,.0620,.6207, 9.945, 10.03
Pb2203,220.353 {453},In2306,ppm, .9898,.0040,.4075, .9870, .9927
S_1820,182.034 {485},Y_2243,ppm, 10.61,.0756,.7131, 10.55, 10.66
Sb2068,206.833 {463},Y_2243,ppm, 2.074,.0114,.5479, 2.066, 2.082
Se1960,196.090 {472},Y_2243,ppm, 1.000,.0072,.7193, .9950, 1.005
Si2516,251.611 {134},Y_3710,ppm, 13.73,.0580,.4225, 13.68, 13.77
Sn1899,189.989 {477},In2306,ppm, .9926,.0033,.3343, .9903, .9950
Sr4215,421.552 { 80},Y_3710,ppm, 1.005,.0053,.5319, 1.001, 1.009
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Ti3349,334.904 {101},Y_3600,ppm, .9921,.0038,.3827, .9948, .9894
Tl1908,190.856 {477},In2306,ppm, 1.380,.0019,.1366, 1.379, 1.382
U_3670,367.007 { 92},Y_3600,ppm, 1.082,.0821,7.586, 1.024, 1.140
V_2924,292.402 {115},Y_3600,ppm, .9870,.0036,.3693, .9895, .9844
W_2397,239.709 {140},Y_2243,ppm, 1.315,.0171,1.303, 1.303, 1.327
Zn2062,206.200 {463},In2306,ppm, .9859,.0039,.3912, .9832, .9887

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 208.04,2.9076,1.3976,210.10,205.99
In2306,230.606 {446},Cts/S, 12488.,8.7405,.06999,12482.,12494.
Y_2243,224.306 {450},Cts/S, 17956.,.92802,.00517,17957.,17956.
Y_3600,360.073 { 94},Cts/S, 159260.,866.76,.54424,158650.,159870.
Y_3710,371.030 { 91},Cts/S, 10105.,23.469,.23225,10088.,10122.

[Sample Header]
Method=ICP6500Metals_TRY3(v4958)
SampleName=CCVL 3282419
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/19/2019 7:59:23
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0101,.0007,6.819, .0106, .0096
Al3082,308.215 {109},In2306,ppm, .2127,.0188,8.856, .2260, .1994
As1890,189.042 {478},Y_2243,ppm, .0238,.0013,5.460, .0229, .0247
B_2496,249.678 {135},Y_3710,ppm, .2115,.0029,1.377, .2094, .2135
Ba4554,455.403 { 74},Y_3710,ppm, .0223,.0002,1.023, .0221, .0225
Be3130,313.042 {108},Y_3710,ppm, .0112,.0001,.4495, .0112, .0112
Ca3158,315.887 {107},In2306,ppm, 1.066,.0084,.7914, 1.072, 1.060
Cd2288,228.802 {447},Y_2243,ppm, .0109,.0001,.9696, .0109, .0108
Co2286,228.616 {447},In2306,ppm, .0106,.0002,1.558, .0107, .0105
Cr2677,267.716 {126},Y_3600,ppm, .0109,.0004,3.833, .0106, .0112
Cu3247,324.754 {104},Y_3600,ppm, .0115,.0002,1.854, .0116, .0113
Fe2404,240.488 {140},In2306,ppm, .2239,.0014,.6374, .2249, .2229
K_7664,766.490 { 44},Y_3710,ppm, 1.112,.0006,.0562, 1.112, 1.111
Li6707,670.784 { 50},Y_3710,ppm, .0098,.0011,11.57, .0106, .0090
Mg2790,279.079 {121},Y_3710,ppm, 1.084,.0053,.4934, 1.080, 1.088
Mn2576,257.610 {131},Y_3600,ppm, .0111,.0000,.3378, .0111, .0111
Mo2020,202.030 {467},Y_2243,ppm, .0270,.0005,1.777, .0266, .0273
Na5895,589.592 { 57},Y_3710,ppm, 1.084,.0018,.1620, 1.086, 1.083
Ni2316,231.604 {445},In2306,ppm, .0103,.0002,1.632, .0105, .0102
P_1782,178.284 {489},In2306,ppm, .9550,.0005,.0547, .9554, .9546
Pb2203,220.353 {453},In2306,ppm, .0112,.0000,.2850, .0112, .0112
S_1820,182.034 {485},Y_2243,ppm, -2.741,.0053,.1942, -2.745, -2.737
Sb2068,206.833 {463},Y_2243,ppm, .0614,.0001,.1989, .0614, .0615
Se1960,196.090 {472},Y_2243,ppm, .0247,.0014,5.522, .0256, .0237
Si2516,251.611 {134},Y_3710,ppm, .2972,.0165,5.554, .3088, .2855
Sn1899,189.989 {477},In2306,ppm, .0227,.0005,1.991, .0230, .0224
Sr4215,421.552 { 80},Y_3710,ppm, .0110,.0002,1.649, .0111, .0109
Ti3349,334.904 {101},Y_3600,ppm, .0108,.0001,1.323, .0109, .0107
Tl1908,190.856 {477},In2306,ppm, .3860,.0060,1.557, .3818, .3903
U_3670,367.007 { 92},Y_3600,ppm, -.0889,.0446,50.14, -.0574, -.1205
V_2924,292.402 {115},Y_3600,ppm, .0108,.0000,.4110, .0109, .0108
W_2397,239.709 {140},Y_2243,ppm, .1030,.0360,34.94, .0776, .1285
Zn2062,206.200 {463},In2306,ppm, .0206,.0002,.7397, .0205, .0207

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 212.29,2.5337,1.1935,210.50,214.09
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In2306,230.606 {446},Cts/S, 13410.,2.1442,.01599,13409.,13412.
Y_2243,224.306 {450},Cts/S, 18299.,10.860,.05935,18291.,18306.
Y_3600,360.073 { 94},Cts/S, 164340.,154.10,.09377,164450.,164230.
Y_3710,371.030 { 91},Cts/S, 10132.,15.848,.15642,10121.,10143.

[Sample Header]
Method=ICP6500Metals_TRY3(v4958)
SampleName=CCB
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/19/2019 8:01:28
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0002,.0002,127.3, -.0000, -.0004
Al3082,308.215 {109},In2306,ppm, -.0203,.0044,21.67, -.0172, -.0234
As1890,189.042 {478},Y_2243,ppm, -.0011,.0009,78.28, -.0005, -.0018
B_2496,249.678 {135},Y_3710,ppm, -.0082,.0022,27.15, -.0098, -.0066
Ba4554,455.403 { 74},Y_3710,ppm, -.0001,.0000,38.77, -.0001, -.0000
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,20.00, .0002, .0001
Ca3158,315.887 {107},In2306,ppm, .0059,.0025,42.44, .0077, .0041
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,29.64, .0001, .0000
Co2286,228.616 {447},In2306,ppm, .0001,.0001,118.7, .0000, .0002
Cr2677,267.716 {126},Y_3600,ppm, -.0002,.0001,50.41, -.0002, -.0003
Cu3247,324.754 {104},Y_3600,ppm, .0003,.0001,36.41, .0004, .0002
Fe2404,240.488 {140},In2306,ppm, .0010,.0031,313.0, .0032, -.0012
K_7664,766.490 { 44},Y_3710,ppm, -.0316,.0343,108.5, -.0559, -.0074
Li6707,670.784 { 50},Y_3710,ppm, -.0022,.0010,46.45, -.0015, -.0029
Mg2790,279.079 {121},Y_3710,ppm, -.0064,.0218,342.5, .0090, -.0218
Mn2576,257.610 {131},Y_3600,ppm, .0001,.0001,105.0, .0001, .0000
Mo2020,202.030 {467},Y_2243,ppm, .0012,.0002,19.59, .0010, .0014
Na5895,589.592 { 57},Y_3710,ppm, .0043,.0005,11.47, .0039, .0046
Ni2316,231.604 {445},In2306,ppm, -.0000,.0004,883.7, .0002, -.0003
P_1782,178.284 {489},In2306,ppm, .0016,.0004,27.59, .0013, .0019
Pb2203,220.353 {453},In2306,ppm, .0007,.0003,43.48, .0009, .0005
S_1820,182.034 {485},Y_2243,ppm, -.0033,.0185,569.1, -.0164, .0099
Sb2068,206.833 {463},Y_2243,ppm, .0020,.0006,30.73, .0016, .0025
Se1960,196.090 {472},Y_2243,ppm, .0028,.0007,25.16, .0023, .0032
Si2516,251.611 {134},Y_3710,ppm, .0007,.0038,568.1, -.0020, .0034
Sn1899,189.989 {477},In2306,ppm, .0010,.0001,8.543, .0010, .0009
Sr4215,421.552 { 80},Y_3710,ppm, -.0002,.0001,53.13, -.0002, -.0001
Ti3349,334.904 {101},Y_3600,ppm, .0004,.0003,80.20, .0002, .0006
Tl1908,190.856 {477},In2306,ppm, .2893,.0105,3.644, .2818, .2968
U_3670,367.007 { 92},Y_3600,ppm, -.1296,.0166,12.80, -.1179, -.1414
V_2924,292.402 {115},Y_3600,ppm, .0003,.0002,63.93, .0001, .0004
W_2397,239.709 {140},Y_2243,ppm, .0275,.0368,133.5, .0015, .0535
Zn2062,206.200 {463},In2306,ppm, -.0002,.0001,72.54, -.0003, -.0001

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 215.28,8.0071,3.7193,209.62,220.95
In2306,230.606 {446},Cts/S, 13411.,.57811,.00431,13410.,13411.
Y_2243,224.306 {450},Cts/S, 18233.,48.049,.26352,18267.,18199.
Y_3600,360.073 { 94},Cts/S, 164080.,55.510,.03383,164120.,164040.
Y_3710,371.030 { 91},Cts/S, 10214.,144.11,1.4109,10112.,10315.

[Sample Header]
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SampleName=MB 600-275026/1-A
Username=admin
Comment=
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Custom ID2=
Custom ID3=
Run Time=9/19/2019 8:03:34
Sample Type=Unk
Mode=CONC
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0005,.0002,36.95, -.0006, -.0003
Al3082,308.215 {109},In2306,ppm, .0153,.0060,39.24, .0111, .0196
As1890,189.042 {478},Y_2243,ppm, .0000,.0016,4240., -.0011, .0012
B_2496,249.678 {135},Y_3710,ppm, -.0093,.0055,59.78, -.0054, -.0132
Ba4554,455.403 { 74},Y_3710,ppm, .0016,.0002,11.12, .0015, .0018
Be3130,313.042 {108},Y_3710,ppm, .0000,.0001,514.1, -.0001, .0001
Ca3158,315.887 {107},In2306,ppm, .0005,.0021,425.0, .0020, -.0010
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0001,1020., .0001, -.0001
Co2286,228.616 {447},In2306,ppm, -.0001,.0001,142.7, -.0002, .0000
Cr2677,267.716 {126},Y_3600,ppm, .0001,.0002,438.3, -.0001, .0002
Cu3247,324.754 {104},Y_3600,ppm, .0014,.0002,13.40, .0012, .0015
Fe2404,240.488 {140},In2306,ppm, .0117,.0013,10.91, .0108, .0126
K_7664,766.490 { 44},Y_3710,ppm, .0282,.0117,41.37, .0200, .0365
Li6707,670.784 { 50},Y_3710,ppm, -.0008,.0002,24.95, -.0010, -.0007
Mg2790,279.079 {121},Y_3710,ppm, .0184,.0172,93.31, .0305, .0063
Mn2576,257.610 {131},Y_3600,ppm, .0001,.0000,2.178, .0001, .0001
Mo2020,202.030 {467},Y_2243,ppm, .0004,.0001,20.14, .0003, .0004
Na5895,589.592 { 57},Y_3710,ppm, .0054,.0039,72.28, .0082, .0026
Ni2316,231.604 {445},In2306,ppm, .0001,.0003,526.4, .0002, -.0001
P_1782,178.284 {489},In2306,ppm, -.0010,.0000,4.936, -.0010, -.0009
Pb2203,220.353 {453},In2306,ppm, .0004,.0005,124.4, .0008, .0001
S_1820,182.034 {485},Y_2243,ppm, -.1078,.0096,8.931, -.1010, -.1146
Sb2068,206.833 {463},Y_2243,ppm, -.0008,.0007,90.45, -.0014, -.0003
Se1960,196.090 {472},Y_2243,ppm, .0008,.0007,82.99, .0013, .0003
Si2516,251.611 {134},Y_3710,ppm, .0127,.0073,57.47, .0075, .0178
Sn1899,189.989 {477},In2306,ppm, .0009,.0003,29.75, .0007, .0011
Sr4215,421.552 { 80},Y_3710,ppm, -.0001,.0002,286.3, -.0002, .0001
Ti3349,334.904 {101},Y_3600,ppm, .0000,.0000,23.25, .0001, .0000
Tl1908,190.856 {477},In2306,ppm, .2101,.0063,2.990, .2056, .2145
U_3670,367.007 { 92},Y_3600,ppm, -.1438,.0699,48.62, -.0944, -.1933
V_2924,292.402 {115},Y_3600,ppm, .0004,.0001,33.07, .0003, .0005
W_2397,239.709 {140},Y_2243,ppm, .0068,.0253,373.6, -.0111, .0247
Zn2062,206.200 {463},In2306,ppm, .0047,.0001,1.429, .0048, .0047

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 216.40,.66587,.30770,215.93,216.87
In2306,230.606 {446},Cts/S, 13554.,2.9643,.02187,13557.,13552.
Y_2243,224.306 {450},Cts/S, 18360.,8.6702,.04722,18366.,18354.
Y_3600,360.073 { 94},Cts/S, 165320.,207.03,.12523,165470.,165180.
Y_3710,371.030 { 91},Cts/S, 10281.,57.700,.56124,10240.,10322.

[Sample Header]
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SampleName=LCS 600-275026/2-A
Username=admin
Comment=
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Custom ID3=
Run Time=9/19/2019 8:05:39
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[Results]
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Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2481,.0015,.5879, .2470, .2491
Al3082,308.215 {109},In2306,ppm, 10.38,.1154,1.111, 10.30, 10.47
As1890,189.042 {478},Y_2243,ppm, 1.018,.0038,.3737, 1.020, 1.015
B_2496,249.678 {135},Y_3710,ppm, .5096,.0026,.5150, .5078, .5115
Ba4554,455.403 { 74},Y_3710,ppm, 1.027,.0022,.2111, 1.026, 1.029
Be3130,313.042 {108},Y_3710,ppm, .9962,.0031,.3079, .9941, .9984
Ca3158,315.887 {107},In2306,ppm, 10.30,.0367,.3560, 10.27, 10.32
Cd2288,228.802 {447},Y_2243,ppm, 1.010,.0011,.1112, 1.011, 1.010
Co2286,228.616 {447},In2306,ppm, .9975,.0000,.0022, .9975, .9975
Cr2677,267.716 {126},Y_3600,ppm, 1.003,.0031,.3129, 1.000, 1.005
Cu3247,324.754 {104},Y_3600,ppm, 1.021,.0004,.0438, 1.022, 1.021
Fe2404,240.488 {140},In2306,ppm, 10.35,.0521,.5040, 10.31, 10.38
K_7664,766.490 { 44},Y_3710,ppm, 10.45,.0632,.6042, 10.41, 10.50
Li6707,670.784 { 50},Y_3710,ppm, 1.019,.0016,.1565, 1.018, 1.020
Mg2790,279.079 {121},Y_3710,ppm, 10.36,.1090,1.052, 10.28, 10.44
Mn2576,257.610 {131},Y_3600,ppm, 1.018,.0015,.1513, 1.017, 1.019
Mo2020,202.030 {467},Y_2243,ppm, 1.009,.0045,.4507, 1.012, 1.006
Na5895,589.592 { 57},Y_3710,ppm, 10.40,.0116,.1117, 10.39, 10.40
Ni2316,231.604 {445},In2306,ppm, .9941,.0004,.0404, .9943, .9938
P_1782,178.284 {489},In2306,ppm, 5.001,.0222,.4439, 5.017, 4.985
Pb2203,220.353 {453},In2306,ppm, .9995,.0019,.1943, 1.001, .9982
S_1820,182.034 {485},Y_2243,ppm, 7.120,.0516,.7251, 7.156, 7.083
Sb2068,206.833 {463},Y_2243,ppm, 1.588,.0079,.4999, 1.594, 1.583
Se1960,196.090 {472},Y_2243,ppm, 1.017,.0021,.2082, 1.019, 1.016
Si2516,251.611 {134},Y_3710,ppm, 12.48,.0882,.7062, 12.42, 12.55
Sn1899,189.989 {477},In2306,ppm, .9964,.0036,.3663, .9990, .9938
Sr4215,421.552 { 80},Y_3710,ppm, 1.018,.0027,.2700, 1.016, 1.020
Ti3349,334.904 {101},Y_3600,ppm, 1.005,.0010,.0965, 1.004, 1.005
Tl1908,190.856 {477},In2306,ppm, .4867,.0155,3.190, .4977, .4757
U_3670,367.007 { 92},Y_3600,ppm, .4943,.0097,1.968, .4874, .5011
V_2924,292.402 {115},Y_3600,ppm, 1.001,.0014,.1405, 1.000, 1.002
W_2397,239.709 {140},Y_2243,ppm, .4867,.0832,17.09, .5455, .4279
Zn2062,206.200 {463},In2306,ppm, .5080,.0010,.1873, .5087, .5073

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 213.98,1.2803,.59833,213.07,214.88
In2306,230.606 {446},Cts/S, 12823.,24.920,.19434,12841.,12805.
Y_2243,224.306 {450},Cts/S, 17972.,28.637,.15934,17993.,17952.
Y_3600,360.073 { 94},Cts/S, 160940.,351.50,.21841,160690.,161190.
Y_3710,371.030 { 91},Cts/S, 10405.,3.7298,.03585,10408.,10402.

[Sample Header]
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SampleName=600-192033-D-1-A
Username=admin
Comment=
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Custom ID2=
Custom ID3=
Run Time=9/19/2019 8:07:29
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0002,.0001,26.28, -.0002, -.0003
Al3082,308.215 {109},In2306,ppm, .0622,.0020,3.230, .0608, .0637
As1890,189.042 {478},Y_2243,ppm, .0072,.0027,37.71, .0091, .0053
B_2496,249.678 {135},Y_3710,ppm, .5823,.0090,1.539, .5887, .5760
Ba4554,455.403 { 74},Y_3710,ppm, .1198,.0000,.0339, .1199, .1198
Be3130,313.042 {108},Y_3710,ppm, .0005,.0003,68.08, .0007, .0003
Ca3158,315.887 {107},In2306,ppm, 53.22,.2595,.4875, 53.04, 53.41
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0002,111.5, .0000, .0003
Co2286,228.616 {447},In2306,ppm, .0003,.0000,6.504, .0003, .0003
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Cr2677,267.716 {126},Y_3600,ppm, .0016,.0004,23.25, .0014, .0019
Cu3247,324.754 {104},Y_3600,ppm, .0045,.0002,5.306, .0046, .0043
Fe2404,240.488 {140},In2306,ppm, .4290,.0067,1.564, .4338, .4243
K_7664,766.490 { 44},Y_3710,ppm, 14.41,.0157,.1092, 14.42, 14.40
Li6707,670.784 { 50},Y_3710,ppm, .0994,.0020,1.999, .1008, .0980
Mg2790,279.079 {121},Y_3710,ppm, 6.009,.0090,.1498, 6.015, 6.003
Mn2576,257.610 {131},Y_3600,ppm, .0253,.0000,.1179, .0253, .0253
Mo2020,202.030 {467},Y_2243,ppm, .0139,.0006,4.591, .0135, .0144
Na5895,589.592 { 57},Y_3710,ppm, 751.7,3.221,.4284, 754.0, 749.4
Ni2316,231.604 {445},In2306,ppm, .0028,.0003,9.050, .0027, .0030
P_1782,178.284 {489},In2306,ppm, 1.731,.0098,.5688, 1.724, 1.738
Pb2203,220.353 {453},In2306,ppm, -.0000,.0020,28510., .0014, -.0014
S_1820,182.034 {485},Y_2243,ppm, 434.3,.0666,.0153, 434.4, 434.3
Sb2068,206.833 {463},Y_2243,ppm, .0064,.0012,19.05, .0072, .0055
Se1960,196.090 {472},Y_2243,ppm, .1114,.0010,.8912, .1121, .1107
Si2516,251.611 {134},Y_3710,ppm, 6.744,.0241,.3571, 6.761, 6.727
Sn1899,189.989 {477},In2306,ppm, .0020,.0007,35.05, .0015, .0025
Sr4215,421.552 { 80},Y_3710,ppm, 1.212,.0012,.1026, 1.212, 1.211
Ti3349,334.904 {101},Y_3600,ppm, .0017,.0003,15.22, .0015, .0018
Tl1908,190.856 {477},In2306,ppm, .2999,.0047,1.553, .2966, .3032
U_3670,367.007 { 92},Y_3600,ppm, -.0928,.0030,3.222, -.0907, -.0950
V_2924,292.402 {115},Y_3600,ppm, .0092,.0003,3.484, .0090, .0094
W_2397,239.709 {140},Y_2243,ppm, .1350,.0143,10.62, .1452, .1249
Zn2062,206.200 {463},In2306,ppm, .0738,.0006,.8206, .0734, .0743

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 207.66,.89513,.43106,208.29,207.03
In2306,230.606 {446},Cts/S, 10730.,34.972,.32593,10705.,10755.
Y_2243,224.306 {450},Cts/S, 16637.,56.210,.33786,16597.,16677.
Y_3600,360.073 { 94},Cts/S, 147100.,288.46,.19610,146900.,147300.
Y_3710,371.030 { 91},Cts/S, 9992.0,49.491,.49531,9957.0,10027.

[Sample Header]
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Username=admin
Comment=
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Custom ID2=
Custom ID3=
Run Time=9/19/2019 8:09:36
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0003,.0000,7.730, -.0003, -.0004
Al3082,308.215 {109},In2306,ppm, .0705,.0040,5.628, .0677, .0734
As1890,189.042 {478},Y_2243,ppm, .0063,.0027,43.26, .0044, .0082
B_2496,249.678 {135},Y_3710,ppm, .5949,.0016,.2634, .5960, .5938
Ba4554,455.403 { 74},Y_3710,ppm, .1209,.0002,.1726, .1207, .1210
Be3130,313.042 {108},Y_3710,ppm, .0000,.0002,3084., -.0001, .0001
Ca3158,315.887 {107},In2306,ppm, 54.06,.1620,.2996, 54.18, 53.95
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0002,162.8, .0000, -.0002
Co2286,228.616 {447},In2306,ppm, .0003,.0002,58.80, .0004, .0002
Cr2677,267.716 {126},Y_3600,ppm, .0016,.0002,15.52, .0017, .0014
Cu3247,324.754 {104},Y_3600,ppm, .0041,.0001,3.178, .0040, .0042
Fe2404,240.488 {140},In2306,ppm, .4495,.0014,.3152, .4485, .4505
K_7664,766.490 { 44},Y_3710,ppm, 14.53,.1416,.9748, 14.43, 14.63
Li6707,670.784 { 50},Y_3710,ppm, .1004,.0007,.6546, .1009, .1000
Mg2790,279.079 {121},Y_3710,ppm, 6.053,.0216,.3563, 6.037, 6.068
Mn2576,257.610 {131},Y_3600,ppm, .0257,.0000,.0844, .0256, .0257
Mo2020,202.030 {467},Y_2243,ppm, .0089,.0002,2.146, .0088, .0091
Na5895,589.592 { 57},Y_3710,ppm, 749.0,6.596,.8807, 744.3, 753.6
Ni2316,231.604 {445},In2306,ppm, .0038,.0001,1.470, .0037, .0038
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P_1782,178.284 {489},In2306,ppm, 1.744,.0124,.7136, 1.735, 1.753
Pb2203,220.353 {453},In2306,ppm, .0002,.0005,227.2, .0006, -.0001
S_1820,182.034 {485},Y_2243,ppm, 436.9,.2378,.0544, 436.7, 437.1
Sb2068,206.833 {463},Y_2243,ppm, .0026,.0011,42.93, .0018, .0034
Se1960,196.090 {472},Y_2243,ppm, .1095,.0031,2.812, .1116, .1073
Si2516,251.611 {134},Y_3710,ppm, 6.883,.0821,1.193, 6.942, 6.825
Sn1899,189.989 {477},In2306,ppm, .0013,.0011,83.01, .0021, .0005
Sr4215,421.552 { 80},Y_3710,ppm, 1.218,.0054,.4442, 1.214, 1.222
Ti3349,334.904 {101},Y_3600,ppm, .0017,.0000,.4769, .0017, .0017
Tl1908,190.856 {477},In2306,ppm, .2173,.0074,3.425, .2120, .2225
U_3670,367.007 { 92},Y_3600,ppm, -.0978,.1018,104.1, -.1698, -.0258
V_2924,292.402 {115},Y_3600,ppm, .0089,.0000,.2359, .0089, .0090
W_2397,239.709 {140},Y_2243,ppm, .1154,.0216,18.68, .1001, .1306
Zn2062,206.200 {463},In2306,ppm, .0611,.0002,.3758, .0613, .0610

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 206.66,1.4331,.69346,205.65,207.68
In2306,230.606 {446},Cts/S, 10729.,28.159,.26246,10749.,10709.
Y_2243,224.306 {450},Cts/S, 16675.,61.585,.36932,16719.,16632.
Y_3600,360.073 { 94},Cts/S, 147010.,53.169,.03617,147050.,146970.
Y_3710,371.030 { 91},Cts/S, 10018.,15.723,.15694,10029.,10007.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2652,.0006,.2440, .2648, .2657
Al3082,308.215 {109},In2306,ppm, 10.87,.1783,1.640, 10.74, 11.00
As1890,189.042 {478},Y_2243,ppm, 1.099,.0023,.2136, 1.097, 1.100
B_2496,249.678 {135},Y_3710,ppm, 1.123,.0127,1.127, 1.132, 1.114
Ba4554,455.403 { 74},Y_3710,ppm, 1.160,.0048,.4116, 1.164, 1.157
Be3130,313.042 {108},Y_3710,ppm, 1.030,.0008,.0782, 1.029, 1.030
Ca3158,315.887 {107},In2306,ppm, 65.82,.8890,1.351, 65.19, 66.45
Cd2288,228.802 {447},Y_2243,ppm, 1.060,.0009,.0857, 1.060, 1.061
Co2286,228.616 {447},In2306,ppm, 1.083,.0024,.2251, 1.081, 1.085
Cr2677,267.716 {126},Y_3600,ppm, .9972,.0062,.6180, .9928, 1.002
Cu3247,324.754 {104},Y_3600,ppm, 1.041,.0033,.3128, 1.043, 1.039
Fe2404,240.488 {140},In2306,ppm, 11.05,.1722,1.558, 10.93, 11.17
K_7664,766.490 { 44},Y_3710,ppm, 25.13,.2146,.8538, 25.28, 24.98
Li6707,670.784 { 50},Y_3710,ppm, 1.125,.0075,.6680, 1.131, 1.120
Mg2790,279.079 {121},Y_3710,ppm, 16.44,.0838,.5098, 16.38, 16.50
Mn2576,257.610 {131},Y_3600,ppm, 1.035,.0021,.2057, 1.034, 1.037
Mo2020,202.030 {467},Y_2243,ppm, 1.016,.0022,.2126, 1.014, 1.017
Na5895,589.592 { 57},Y_3710,ppm, 771.8,2.239,.2901, 770.2, 773.4
Ni2316,231.604 {445},In2306,ppm, 1.084,.0052,.4836, 1.080, 1.088
P_1782,178.284 {489},In2306,ppm, 7.891,.0312,.3950, 7.869, 7.913
Pb2203,220.353 {453},In2306,ppm, 1.042,.0055,.5248, 1.039, 1.046
S_1820,182.034 {485},Y_2243,ppm, 446.5,.0135,.0030, 446.5, 446.5
Sb2068,206.833 {463},Y_2243,ppm, 1.638,.0104,.6345, 1.631, 1.645
Se1960,196.090 {472},Y_2243,ppm, 1.216,.0022,.1841, 1.214, 1.217
Si2516,251.611 {134},Y_3710,ppm, 20.65,.0540,.2614, 20.61, 20.69
Sn1899,189.989 {477},In2306,ppm, 1.078,.0056,.5168, 1.074, 1.082
Sr4215,421.552 { 80},Y_3710,ppm, 2.264,.0103,.4564, 2.272, 2.257
Ti3349,334.904 {101},Y_3600,ppm, 1.024,.0021,.2070, 1.023, 1.026
Tl1908,190.856 {477},In2306,ppm, .5210,.0159,3.056, .5323, .5098
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U_3670,367.007 { 92},Y_3600,ppm, .4789,.1196,24.97, .3944, .5634
V_2924,292.402 {115},Y_3600,ppm, 1.026,.0028,.2747, 1.024, 1.028
W_2397,239.709 {140},Y_2243,ppm, .6014,.0069,1.140, .6062, .5965
Zn2062,206.200 {463},In2306,ppm, .6485,.0032,.4912, .6463, .6508

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 202.38,1.4980,.74019,203.44,201.32
In2306,230.606 {446},Cts/S, 10550.,3.2111,.03044,10552.,10548.
Y_2243,224.306 {450},Cts/S, 16585.,11.666,.07034,16577.,16593.
Y_3600,360.073 { 94},Cts/S, 147140.,388.24,.26386,147420.,146870.
Y_3710,371.030 { 91},Cts/S, 10022.,31.462,.31395,9999.3,10044.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .2613,.0009,.3486, .2620, .2607
Al3082,308.215 {109},In2306,ppm, 10.71,.0782,.7308, 10.76, 10.65
As1890,189.042 {478},Y_2243,ppm, 1.082,.0029,.2716, 1.084, 1.080
B_2496,249.678 {135},Y_3710,ppm, 1.119,.0074,.6589, 1.124, 1.114
Ba4554,455.403 { 74},Y_3710,ppm, 1.143,.0002,.0145, 1.143, 1.143
Be3130,313.042 {108},Y_3710,ppm, 1.016,.0045,.4407, 1.019, 1.013
Ca3158,315.887 {107},In2306,ppm, 63.89,.3375,.5282, 64.13, 63.65
Cd2288,228.802 {447},Y_2243,ppm, 1.046,.0010,.0925, 1.047, 1.045
Co2286,228.616 {447},In2306,ppm, 1.067,.0034,.3162, 1.069, 1.064
Cr2677,267.716 {126},Y_3600,ppm, .9926,.0030,.3010, .9905, .9947
Cu3247,324.754 {104},Y_3600,ppm, 1.031,.0023,.2241, 1.032, 1.029
Fe2404,240.488 {140},In2306,ppm, 10.85,.0284,.2615, 10.87, 10.83
K_7664,766.490 { 44},Y_3710,ppm, 24.70,.1665,.6740, 24.58, 24.82
Li6707,670.784 { 50},Y_3710,ppm, 1.109,.0044,.4006, 1.106, 1.112
Mg2790,279.079 {121},Y_3710,ppm, 16.30,.0394,.2417, 16.27, 16.33
Mn2576,257.610 {131},Y_3600,ppm, 1.022,.0012,.1203, 1.022, 1.023
Mo2020,202.030 {467},Y_2243,ppm, 1.008,.0019,.1909, 1.009, 1.006
Na5895,589.592 { 57},Y_3710,ppm, 763.5,2.969,.3889, 761.4, 765.6
Ni2316,231.604 {445},In2306,ppm, 1.069,.0002,.0222, 1.069, 1.069
P_1782,178.284 {489},In2306,ppm, 7.818,.0292,.3741, 7.797, 7.839
Pb2203,220.353 {453},In2306,ppm, 1.034,.0012,.1140, 1.033, 1.035
S_1820,182.034 {485},Y_2243,ppm, 436.5,.4315,.0989, 436.8, 436.2
Sb2068,206.833 {463},Y_2243,ppm, 1.611,.0001,.0045, 1.611, 1.611
Se1960,196.090 {472},Y_2243,ppm, 1.196,.0031,.2564, 1.194, 1.199
Si2516,251.611 {134},Y_3710,ppm, 20.38,.1941,.9523, 20.25, 20.52
Sn1899,189.989 {477},In2306,ppm, 1.066,.0022,.2070, 1.068, 1.065
Sr4215,421.552 { 80},Y_3710,ppm, 2.219,.0009,.0414, 2.218, 2.220
Ti3349,334.904 {101},Y_3600,ppm, 1.012,.0011,.1077, 1.011, 1.013
Tl1908,190.856 {477},In2306,ppm, .6753,.0094,1.392, .6819, .6686
U_3670,367.007 { 92},Y_3600,ppm, .5208,.0193,3.715, .5345, .5071
V_2924,292.402 {115},Y_3600,ppm, 1.016,.0010,.1020, 1.015, 1.016
W_2397,239.709 {140},Y_2243,ppm, .5497,.0031,.5565, .5475, .5518
Zn2062,206.200 {463},In2306,ppm, .6411,.0003,.0482, .6409, .6413

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 204.39,1.2369,.60518,203.52,205.27
In2306,230.606 {446},Cts/S, 10551.,21.765,.20628,10536.,10567.
Y_2243,224.306 {450},Cts/S, 16573.,51.934,.31337,16536.,16610.
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Y_3600,360.073 { 94},Cts/S, 147510.,19.479,.01321,147520.,147500.
Y_3710,371.030 { 91},Cts/S, 9966.8,3.8993,.03912,9969.6,9964.1

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0000,.0002,429.0, -.0002, .0001
Al3082,308.215 {109},In2306,ppm, -.0120,.0040,33.79, -.0148, -.0091
As1890,189.042 {478},Y_2243,ppm, .0072,.0007,9.364, .0068, .0077
B_2496,249.678 {135},Y_3710,ppm, .1221,.0031,2.573, .1199, .1244
Ba4554,455.403 { 74},Y_3710,ppm, .0635,.0005,.7598, .0632, .0639
Be3130,313.042 {108},Y_3710,ppm, .0004,.0001,28.13, .0003, .0005
Ca3158,315.887 {107},In2306,ppm, 70.51,.4937,.7003, 70.86, 70.16
Cd2288,228.802 {447},Y_2243,ppm, .0003,.0001,25.96, .0004, .0003
Co2286,228.616 {447},In2306,ppm, -.0001,.0002,196.2, -.0002, .0000
Cr2677,267.716 {126},Y_3600,ppm, .0014,.0001,9.247, .0013, .0015
Cu3247,324.754 {104},Y_3600,ppm, .0022,.0003,15.18, .0024, .0019
Fe2404,240.488 {140},In2306,ppm, .0187,.0068,36.46, .0235, .0139
K_7664,766.490 { 44},Y_3710,ppm, 2.296,.0049,.2133, 2.299, 2.292
Li6707,670.784 { 50},Y_3710,ppm, .0257,.0002,.9582, .0255, .0259
Mg2790,279.079 {121},Y_3710,ppm, 12.52,.0447,.3569, 12.48, 12.55
Mn2576,257.610 {131},Y_3600,ppm, .0004,.0000,1.367, .0004, .0004
Mo2020,202.030 {467},Y_2243,ppm, .0088,.0006,6.744, .0084, .0092
Na5895,589.592 { 57},Y_3710,ppm, 47.66,.0472,.0990, 47.63, 47.70
Ni2316,231.604 {445},In2306,ppm, -.0012,.0003,25.72, -.0014, -.0010
P_1782,178.284 {489},In2306,ppm, .0042,.0022,53.34, .0057, .0026
Pb2203,220.353 {453},In2306,ppm, -.0014,.0001,4.163, -.0014, -.0013
S_1820,182.034 {485},Y_2243,ppm, 25.72,.0002,.0009, 25.72, 25.72
Sb2068,206.833 {463},Y_2243,ppm, .0028,.0002,6.465, .0029, .0026
Se1960,196.090 {472},Y_2243,ppm, .0076,.0005,6.591, .0080, .0073
Si2516,251.611 {134},Y_3710,ppm, 22.98,.0278,.1210, 23.00, 22.96
Sn1899,189.989 {477},In2306,ppm, .0016,.0006,40.10, .0012, .0021
Sr4215,421.552 { 80},Y_3710,ppm, .7183,.0010,.1415, .7175, .7190
Ti3349,334.904 {101},Y_3600,ppm, .0012,.0001,7.250, .0013, .0011
Tl1908,190.856 {477},In2306,ppm, .4081,.0052,1.265, .4045, .4118
U_3670,367.007 { 92},Y_3600,ppm, -.0729,.0259,35.58, -.0912, -.0545
V_2924,292.402 {115},Y_3600,ppm, .0327,.0001,.1548, .0327, .0326
W_2397,239.709 {140},Y_2243,ppm, .0302,.0266,87.90, .0490, .0114
Zn2062,206.200 {463},In2306,ppm, .0231,.0001,.2412, .0232, .0231

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 213.42,2.0523,.96166,211.97,214.87
In2306,230.606 {446},Cts/S, 12309.,46.743,.37975,12342.,12276.
Y_2243,224.306 {450},Cts/S, 17540.,33.693,.19209,17564.,17516.
Y_3600,360.073 { 94},Cts/S, 157780.,906.45,.57450,157140.,158420.
Y_3710,371.030 { 91},Cts/S, 10241.,17.177,.16772,10229.,10254.

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Ag3280,328.068 {103},Y_3600,ppm, -.0006,.0003,54.94, -.0004, -.0009
Al3082,308.215 {109},In2306,ppm, 25.48,.0827,.3248, 25.42, 25.54
As1890,189.042 {478},Y_2243,ppm, .0298,.0005,1.811, .0302, .0294
B_2496,249.678 {135},Y_3710,ppm, .4367,.0126,2.884, .4278, .4456
Ba4554,455.403 { 74},Y_3710,ppm, .3506,.0030,.8422, .3485, .3527
Be3130,313.042 {108},Y_3710,ppm, .0009,.0001,8.067, .0010, .0009
Ca3158,315.887 {107},In2306,ppm, 206.9,.1612,.0779, 207.0, 206.7
Cd2288,228.802 {447},Y_2243,ppm, .0033,.0003,7.701, .0035, .0031
Co2286,228.616 {447},In2306,ppm, .0125,.0000,.2800, .0125, .0125
Cr2677,267.716 {126},Y_3600,ppm, .0351,.0004,1.000, .0348, .0353
Cu3247,324.754 {104},Y_3600,ppm, 1.406,.0024,.1679, 1.407, 1.404
Fe2404,240.488 {140},In2306,ppm, 84.25,.0705,.0837, 84.30, 84.20
K_7664,766.490 { 44},Y_3710,ppm, 11.04,.0310,.2809, 11.02, 11.06
Li6707,670.784 { 50},Y_3710,ppm, .0654,.0006,.9603, .0649, .0658
Mg2790,279.079 {121},Y_3710,ppm, 32.15,.4136,1.287, 31.85, 32.44
Mn2576,257.610 {131},Y_3600,ppm, .3865,.0004,.1081, .3862, .3868
Mo2020,202.030 {467},Y_2243,ppm, .0063,.0002,3.479, .0061, .0064
Na5895,589.592 { 57},Y_3710,ppm, 115.0,.4982,.4333, 114.6, 115.3
Ni2316,231.604 {445},In2306,ppm, .1028,.0000,.0219, .1028, .1027
P_1782,178.284 {489},In2306,ppm, 3.282,.0177,.5379, 3.294, 3.269
Pb2203,220.353 {453},In2306,ppm, .1409,.0007,.5185, .1414, .1404
S_1820,182.034 {485},Y_2243,ppm, 70.39,.2116,.3006, 70.54, 70.24
Sb2068,206.833 {463},Y_2243,ppm, .0045,.0011,25.04, .0052, .0037
Se1960,196.090 {472},Y_2243,ppm, .0092,.0028,30.36, .0072, .0111
Si2516,251.611 {134},Y_3710,ppm, 56.42,.2172,.3850, 56.26, 56.57
Sn1899,189.989 {477},In2306,ppm, .0102,.0015,15.05, .0113, .0091
Sr4215,421.552 { 80},Y_3710,ppm, .9730,.0068,.6993, .9682, .9778
Ti3349,334.904 {101},Y_3600,ppm, .3601,.0001,.0409, .3600, .3602
Tl1908,190.856 {477},In2306,ppm, .2926,.0083,2.825, .2867, .2984
U_3670,367.007 { 92},Y_3600,ppm, .4648,.0047,1.009, .4681, .4615
V_2924,292.402 {115},Y_3600,ppm, .1113,.0003,.2533, .1111, .1115
W_2397,239.709 {140},Y_2243,ppm, .0569,.0271,47.65, .0377, .0761
Zn2062,206.200 {463},In2306,ppm, 1.475,.0075,.5056, 1.480, 1.470

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 204.68,1.2468,.60915,203.80,205.56
In2306,230.606 {446},Cts/S, 11297.,44.483,.39374,11266.,11329.
Y_2243,224.306 {450},Cts/S, 17290.,71.673,.41453,17239.,17341.
Y_3600,360.073 { 94},Cts/S, 155570.,625.20,.40187,156010.,155130.
Y_3710,371.030 { 91},Cts/S, 10355.,2.5027,.02417,10353.,10356.

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[Results]
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Al3082,308.215 {109},In2306,ppm, .0025,.0316,1277., -.0198, .0248
As1890,189.042 {478},Y_2243,ppm, .0075,.0012,15.87, .0083, .0066
B_2496,249.678 {135},Y_3710,ppm, .1231,.0144,11.74, .1129, .1333
Ba4554,455.403 { 74},Y_3710,ppm, .0670,.0004,.6608, .0667, .0673
Be3130,313.042 {108},Y_3710,ppm, .0000,.0002,1013., -.0001, .0001
Ca3158,315.887 {107},In2306,ppm, 72.24,1.261,1.745, 71.34, 73.13
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Co2286,228.616 {447},In2306,ppm, -.0001,.0002,118.7, -.0003, -.0000
Cr2677,267.716 {126},Y_3600,ppm, .0012,.0001,4.500, .0012, .0011
Cu3247,324.754 {104},Y_3600,ppm, .0020,.0002,12.45, .0021, .0018
Fe2404,240.488 {140},In2306,ppm, .0160,.0072,45.30, .0211, .0108
K_7664,766.490 { 44},Y_3710,ppm, 2.284,.0381,1.667, 2.257, 2.311
Li6707,670.784 { 50},Y_3710,ppm, .0279,.0009,3.106, .0273, .0285
Mg2790,279.079 {121},Y_3710,ppm, 12.11,.1540,1.271, 12.00, 12.22
Mn2576,257.610 {131},Y_3600,ppm, .0005,.0000,.6157, .0005, .0005
Mo2020,202.030 {467},Y_2243,ppm, .0035,.0002,6.446, .0033, .0036
Na5895,589.592 { 57},Y_3710,ppm, 40.86,.2897,.7091, 40.65, 41.06
Ni2316,231.604 {445},In2306,ppm, -.0007,.0002,29.37, -.0006, -.0009
P_1782,178.284 {489},In2306,ppm, .0039,.0013,33.28, .0048, .0030
Pb2203,220.353 {453},In2306,ppm, -.0030,.0027,90.04, -.0050, -.0011
S_1820,182.034 {485},Y_2243,ppm, 27.06,.3977,1.470, 26.78, 27.34
Sb2068,206.833 {463},Y_2243,ppm, .0000,.0016,49880., -.0011, .0011
Se1960,196.090 {472},Y_2243,ppm, .0018,.0010,58.29, .0025, .0010
Si2516,251.611 {134},Y_3710,ppm, 25.84,.0868,.3360, 25.91, 25.78
Sn1899,189.989 {477},In2306,ppm, .0007,.0001,17.80, .0008, .0006
Sr4215,421.552 { 80},Y_3710,ppm, .6781,.0050,.7421, .6746, .6817
Ti3349,334.904 {101},Y_3600,ppm, .0006,.0000,6.302, .0007, .0006
Tl1908,190.856 {477},In2306,ppm, .2142,.0126,5.866, .2053, .2231
U_3670,367.007 { 92},Y_3600,ppm, -.0184,.0309,167.8, .0034, -.0403
V_2924,292.402 {115},Y_3600,ppm, .0343,.0006,1.706, .0347, .0339
W_2397,239.709 {140},Y_2243,ppm, .0933,.0175,18.73, .1057, .0810
Zn2062,206.200 {463},In2306,ppm, .0259,.0005,2.056, .0255, .0263

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 209.42,5.8439,2.7906,213.55,205.28
In2306,230.606 {446},Cts/S, 12400.,127.78,1.0304,12491.,12310.
Y_2243,224.306 {450},Cts/S, 17678.,171.38,.96943,17799.,17557.
Y_3600,360.073 { 94},Cts/S, 157790.,2287.6,1.4498,156170.,159410.
Y_3710,371.030 { 91},Cts/S, 10100.,204.16,2.0214,10244.,9955.6

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Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0003,346.2, .0001, -.0003
Al3082,308.215 {109},In2306,ppm, .0052,.0034,65.75, .0075, .0028
As1890,189.042 {478},Y_2243,ppm, .0065,.0006,9.902, .0070, .0061
B_2496,249.678 {135},Y_3710,ppm, .1275,.0034,2.659, .1251, .1299
Ba4554,455.403 { 74},Y_3710,ppm, .0635,.0005,.7227, .0632, .0639
Be3130,313.042 {108},Y_3710,ppm, .0000,.0001,392.4, -.0001, .0001
Ca3158,315.887 {107},In2306,ppm, 72.82,.2525,.3467, 72.64, 73.00
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0000,13.80, .0002, .0002
Co2286,228.616 {447},In2306,ppm, -.0007,.0001,7.377, -.0007, -.0008
Cr2677,267.716 {126},Y_3600,ppm, .0012,.0000,.6706, .0012, .0012
Cu3247,324.754 {104},Y_3600,ppm, .0015,.0005,33.20, .0012, .0019
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Fe2404,240.488 {140},In2306,ppm, .0259,.0047,18.30, .0225, .0292
K_7664,766.490 { 44},Y_3710,ppm, 2.356,.0345,1.466, 2.332, 2.380
Li6707,670.784 { 50},Y_3710,ppm, .0266,.0012,4.561, .0257, .0274
Mg2790,279.079 {121},Y_3710,ppm, 12.76,.1148,.8994, 12.68, 12.84
Mn2576,257.610 {131},Y_3600,ppm, .0005,.0000,5.612, .0005, .0005
Mo2020,202.030 {467},Y_2243,ppm, .0033,.0001,2.980, .0034, .0032
Na5895,589.592 { 57},Y_3710,ppm, 48.94,.1624,.3319, 48.83, 49.06
Ni2316,231.604 {445},In2306,ppm, -.0010,.0002,15.35, -.0011, -.0009
P_1782,178.284 {489},In2306,ppm, .0046,.0011,23.25, .0039, .0054
Pb2203,220.353 {453},In2306,ppm, -.0038,.0004,10.12, -.0041, -.0036
S_1820,182.034 {485},Y_2243,ppm, 25.69,.0805,.3132, 25.64, 25.75
Sb2068,206.833 {463},Y_2243,ppm, -.0025,.0027,105.3, -.0006, -.0044
Se1960,196.090 {472},Y_2243,ppm, .0047,.0015,32.94, .0036, .0058
Si2516,251.611 {134},Y_3710,ppm, 24.81,.1658,.6684, 24.93, 24.70
Sn1899,189.989 {477},In2306,ppm, .0009,.0006,72.38, .0004, .0013
Sr4215,421.552 { 80},Y_3710,ppm, .7346,.0027,.3668, .7327, .7366
Ti3349,334.904 {101},Y_3600,ppm, .0008,.0001,14.45, .0008, .0007
Tl1908,190.856 {477},In2306,ppm, .1568,.0101,6.464, .1496, .1640
U_3670,367.007 { 92},Y_3600,ppm, -.1256,.0295,23.48, -.1464, -.1047
V_2924,292.402 {115},Y_3600,ppm, .0331,.0003,.9328, .0329, .0333
W_2397,239.709 {140},Y_2243,ppm, .0023,.0525,2274., -.0348, .0394
Zn2062,206.200 {463},In2306,ppm, .0225,.0001,.2915, .0225, .0225

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 207.92,.44766,.21530,208.23,207.60
In2306,230.606 {446},Cts/S, 12313.,29.291,.23789,12334.,12292.
Y_2243,224.306 {450},Cts/S, 17538.,66.029,.37649,17585.,17491.
Y_3600,360.073 { 94},Cts/S, 157520.,131.27,.08333,157430.,157620.
Y_3710,371.030 { 91},Cts/S, 10119.,23.249,.22974,10136.,10103.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .4976,.0003,.0642, .4974, .4978
Al3082,308.215 {109},In2306,ppm, 19.94,.2005,1.006, 19.80, 20.08
As1890,189.042 {478},Y_2243,ppm, 1.002,.0021,.2136, 1.004, 1.001
B_2496,249.678 {135},Y_3710,ppm, 1.002,.0041,.4124, .9994, 1.005
Ba4554,455.403 { 74},Y_3710,ppm, 1.007,.0025,.2504, 1.005, 1.009
Be3130,313.042 {108},Y_3710,ppm, .9707,.0042,.4357, .9677, .9737
Ca3158,315.887 {107},In2306,ppm, 19.75,.1835,.9291, 19.62, 19.88
Cd2288,228.802 {447},Y_2243,ppm, .9900,.0023,.2279, .9884, .9916
Co2286,228.616 {447},In2306,ppm, .9883,.0014,.1421, .9893, .9873
Cr2677,267.716 {126},Y_3600,ppm, .9866,.0017,.1720, .9854, .9878
Cu3247,324.754 {104},Y_3600,ppm, 1.005,.0002,.0175, 1.005, 1.005
Fe2404,240.488 {140},In2306,ppm, 19.82,.1097,.5535, 19.74, 19.89
K_7664,766.490 { 44},Y_3710,ppm, 19.86,.0001,.0007, 19.86, 19.86
Li6707,670.784 { 50},Y_3710,ppm, .9931,.0007,.0721, .9926, .9936
Mg2790,279.079 {121},Y_3710,ppm, 19.97,.1745,.8740, 19.85, 20.10
Mn2576,257.610 {131},Y_3600,ppm, .9972,.0005,.0493, .9968, .9975
Mo2020,202.030 {467},Y_2243,ppm, .9879,.0028,.2878, .9899, .9859
Na5895,589.592 { 57},Y_3710,ppm, 19.84,.0147,.0742, 19.83, 19.85
Ni2316,231.604 {445},In2306,ppm, .9835,.0024,.2463, .9852, .9818
P_1782,178.284 {489},In2306,ppm, 10.05,.0037,.0366, 10.05, 10.04
Pb2203,220.353 {453},In2306,ppm, .9870,.0002,.0227, .9869, .9872
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S_1820,182.034 {485},Y_2243,ppm, 10.74,.0042,.0395, 10.74, 10.75
Sb2068,206.833 {463},Y_2243,ppm, 2.077,.0009,.0428, 2.077, 2.078
Se1960,196.090 {472},Y_2243,ppm, 1.005,.0050,.4958, 1.002, 1.009
Si2516,251.611 {134},Y_3710,ppm, 14.09,.3257,2.312, 13.86, 14.32
Sn1899,189.989 {477},In2306,ppm, .9905,.0021,.2117, .9920, .9890
Sr4215,421.552 { 80},Y_3710,ppm, 1.0000,.0044,.4381, .9969, 1.003
Ti3349,334.904 {101},Y_3600,ppm, .9895,.0001,.0087, .9894, .9895
Tl1908,190.856 {477},In2306,ppm, 1.033,.0049,.4739, 1.036, 1.029
U_3670,367.007 { 92},Y_3600,ppm, 1.211,.0594,4.901, 1.169, 1.253
V_2924,292.402 {115},Y_3600,ppm, .9863,.0009,.0871, .9857, .9869
W_2397,239.709 {140},Y_2243,ppm, 1.298,.0836,6.442, 1.357, 1.239
Zn2062,206.200 {463},In2306,ppm, .9803,.0008,.0861, .9809, .9797

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 212.72,1.7179,.80758,213.93,211.50
In2306,230.606 {446},Cts/S, 12489.,39.810,.31876,12461.,12517.
Y_2243,224.306 {450},Cts/S, 17890.,40.943,.22885,17862.,17919.
Y_3600,360.073 { 94},Cts/S, 158830.,398.37,.25081,159120.,158550.
Y_3710,371.030 { 91},Cts/S, 10350.,42.308,.40875,10380.,10320.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0104,.0006,6.067, .0108, .0099
Al3082,308.215 {109},In2306,ppm, .1887,.0213,11.27, .2038, .1737
As1890,189.042 {478},Y_2243,ppm, .0210,.0038,18.31, .0183, .0237
B_2496,249.678 {135},Y_3710,ppm, .2219,.0050,2.271, .2183, .2255
Ba4554,455.403 { 74},Y_3710,ppm, .0220,.0001,.6508, .0221, .0219
Be3130,313.042 {108},Y_3710,ppm, .0110,.0002,2.021, .0108, .0111
Ca3158,315.887 {107},In2306,ppm, 1.060,.0133,1.253, 1.069, 1.051
Cd2288,228.802 {447},Y_2243,ppm, .0110,.0000,.0814, .0110, .0110
Co2286,228.616 {447},In2306,ppm, .0107,.0000,.2111, .0107, .0106
Cr2677,267.716 {126},Y_3600,ppm, .0110,.0001,.8682, .0111, .0110
Cu3247,324.754 {104},Y_3600,ppm, .0118,.0003,2.626, .0120, .0115
Fe2404,240.488 {140},In2306,ppm, .2127,.0064,3.030, .2173, .2082
K_7664,766.490 { 44},Y_3710,ppm, 1.111,.0010,.0877, 1.111, 1.112
Li6707,670.784 { 50},Y_3710,ppm, .0112,.0003,2.716, .0114, .0110
Mg2790,279.079 {121},Y_3710,ppm, 1.097,.0111,1.013, 1.089, 1.105
Mn2576,257.610 {131},Y_3600,ppm, .0110,.0000,.3290, .0110, .0111
Mo2020,202.030 {467},Y_2243,ppm, .0273,.0006,2.199, .0269, .0277
Na5895,589.592 { 57},Y_3710,ppm, 1.103,.0016,.1485, 1.102, 1.104
Ni2316,231.604 {445},In2306,ppm, .0106,.0003,2.924, .0109, .0104
P_1782,178.284 {489},In2306,ppm, .9650,.0047,.4878, .9616, .9683
Pb2203,220.353 {453},In2306,ppm, .0109,.0021,19.27, .0094, .0123
S_1820,182.034 {485},Y_2243,ppm, -2.722,.0041,.1501, -2.725, -2.719
Sb2068,206.833 {463},Y_2243,ppm, .0581,.0008,1.348, .0587, .0576
Se1960,196.090 {472},Y_2243,ppm, .0261,.0000,.1211, .0261, .0261
Si2516,251.611 {134},Y_3710,ppm, .3980,.0212,5.331, .3830, .4130
Sn1899,189.989 {477},In2306,ppm, .0227,.0001,.5277, .0228, .0226
Sr4215,421.552 { 80},Y_3710,ppm, .0107,.0001,.7364, .0108, .0107
Ti3349,334.904 {101},Y_3600,ppm, .0110,.0000,.1362, .0110, .0109
Tl1908,190.856 {477},In2306,ppm, .1628,.0089,5.481, .1565, .1691
U_3670,367.007 { 92},Y_3600,ppm, -.1507,.1347,89.37, -.2459, -.0555
V_2924,292.402 {115},Y_3600,ppm, .0109,.0006,5.298, .0113, .0105
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W_2397,239.709 {140},Y_2243,ppm, .1374,.0289,21.04, .1169, .1578
Zn2062,206.200 {463},In2306,ppm, .0202,.0003,1.555, .0200, .0205

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 214.97,3.0537,1.4205,212.81,217.13
In2306,230.606 {446},Cts/S, 13289.,34.980,.26321,13314.,13265.
Y_2243,224.306 {450},Cts/S, 18117.,10.121,.05586,18124.,18110.
Y_3600,360.073 { 94},Cts/S, 163620.,651.35,.39810,164080.,163150.
Y_3710,371.030 { 91},Cts/S, 10262.,42.540,.41456,10231.,10292.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0004,.0001,30.67, -.0003, -.0005
Al3082,308.215 {109},In2306,ppm, -.0098,.0044,45.17, -.0130, -.0067
As1890,189.042 {478},Y_2243,ppm, -.0009,.0017,196.0, -.0021, .0003
B_2496,249.678 {135},Y_3710,ppm, -.0018,.0031,171.1, .0004, -.0039
Ba4554,455.403 { 74},Y_3710,ppm, .0002,.0001,59.03, .0003, .0001
Be3130,313.042 {108},Y_3710,ppm, .0001,.0002,155.1, -.0000, .0003
Ca3158,315.887 {107},In2306,ppm, .0008,.0039,510.5, -.0020, .0036
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,45.95, .0001, .0001
Co2286,228.616 {447},In2306,ppm, .0002,.0000,22.91, .0002, .0002
Cr2677,267.716 {126},Y_3600,ppm, -.0002,.0000,30.05, -.0002, -.0001
Cu3247,324.754 {104},Y_3600,ppm, .0012,.0002,13.07, .0011, .0014
Fe2404,240.488 {140},In2306,ppm, .0059,.0017,29.19, .0047, .0071
K_7664,766.490 { 44},Y_3710,ppm, .0197,.0214,108.9, .0045, .0348
Li6707,670.784 { 50},Y_3710,ppm, .0005,.0002,28.86, .0004, .0007
Mg2790,279.079 {121},Y_3710,ppm, -.0003,.0078,2532., .0052, -.0058
Mn2576,257.610 {131},Y_3600,ppm, .0000,.0000,4.402, .0000, .0000
Mo2020,202.030 {467},Y_2243,ppm, .0012,.0002,16.98, .0013, .0011
Na5895,589.592 { 57},Y_3710,ppm, .0160,.0097,60.77, .0228, .0091
Ni2316,231.604 {445},In2306,ppm, -.0004,.0001,22.19, -.0003, -.0005
P_1782,178.284 {489},In2306,ppm, .0016,.0011,67.04, .0024, .0009
Pb2203,220.353 {453},In2306,ppm, .0012,.0010,80.34, .0005, .0019
S_1820,182.034 {485},Y_2243,ppm, .0087,.0192,220.2, -.0049, .0223
Sb2068,206.833 {463},Y_2243,ppm, .0019,.0011,56.60, .0011, .0026
Se1960,196.090 {472},Y_2243,ppm, -.0006,.0003,52.33, -.0008, -.0004
Si2516,251.611 {134},Y_3710,ppm, .0670,.0099,14.82, .0600, .0741
Sn1899,189.989 {477},In2306,ppm, .0010,.0000,4.058, .0010, .0010
Sr4215,421.552 { 80},Y_3710,ppm, -.0000,.0001,489.4, -.0001, .0001
Ti3349,334.904 {101},Y_3600,ppm, -.0002,.0002,108.1, -.0003, -.0000
Tl1908,190.856 {477},In2306,ppm, .1277,.0038,3.011, .1249, .1304
U_3670,367.007 { 92},Y_3600,ppm, -.2346,.0099,4.217, -.2416, -.2276
V_2924,292.402 {115},Y_3600,ppm, .0001,.0002,278.4, .0002, -.0001
W_2397,239.709 {140},Y_2243,ppm, .0035,.0580,1648., -.0375, .0445
Zn2062,206.200 {463},In2306,ppm, -.0005,.0001,20.73, -.0006, -.0004

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 213.49,1.8500,.86659,212.18,214.79
In2306,230.606 {446},Cts/S, 13474.,18.756,.13921,13487.,13461.
Y_2243,224.306 {450},Cts/S, 18233.,20.573,.11284,18218.,18247.
Y_3600,360.073 { 94},Cts/S, 164840.,331.53,.20112,165080.,164610.
Y_3710,371.030 { 91},Cts/S, 10251.,40.691,.39694,10222.,10280.
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Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0000,.0005,1280., -.0003, .0004
Al3082,308.215 {109},In2306,ppm, -.0222,.0450,202.8, -.0540, .0096
As1890,189.042 {478},Y_2243,ppm, .0005,.0006,121.3, .0001, .0009
B_2496,249.678 {135},Y_3710,ppm, -.0018,.0004,22.30, -.0021, -.0015
Ba4554,455.403 { 74},Y_3710,ppm, .0025,.0003,10.46, .0027, .0024
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,54.73, -.0000, -.0001
Ca3158,315.887 {107},In2306,ppm, .0261,.0029,11.24, .0241, .0282
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0002,471.5, -.0001, .0001
Co2286,228.616 {447},In2306,ppm, -.0001,.0000,2.633, -.0001, -.0001
Cr2677,267.716 {126},Y_3600,ppm, -.0001,.0001,119.6, -.0001, -.0000
Cu3247,324.754 {104},Y_3600,ppm, .0018,.0005,25.46, .0015, .0021
Fe2404,240.488 {140},In2306,ppm, .0085,.0088,103.4, .0147, .0023
K_7664,766.490 { 44},Y_3710,ppm, .0397,.0105,26.51, .0472, .0323
Li6707,670.784 { 50},Y_3710,ppm, -.0018,.0004,19.82, -.0020, -.0015
Mg2790,279.079 {121},Y_3710,ppm, .0190,.0394,207.9, .0468, -.0089
Mn2576,257.610 {131},Y_3600,ppm, .0007,.0000,5.795, .0008, .0007
Mo2020,202.030 {467},Y_2243,ppm, .0004,.0002,57.89, .0002, .0006
Na5895,589.592 { 57},Y_3710,ppm, .0305,.0057,18.54, .0265, .0345
Ni2316,231.604 {445},In2306,ppm, .0006,.0001,13.37, .0007, .0006
P_1782,178.284 {489},In2306,ppm, .0030,.0009,29.41, .0036, .0024
Pb2203,220.353 {453},In2306,ppm, .0000,.0005,1438., -.0003, .0004
S_1820,182.034 {485},Y_2243,ppm, -.1186,.0047,3.995, -.1153, -.1220
Sb2068,206.833 {463},Y_2243,ppm, -.0013,.0018,136.8, -.0025, -.0000
Se1960,196.090 {472},Y_2243,ppm, -.0003,.0020,694.3, -.0017, .0011
Si2516,251.611 {134},Y_3710,ppm, .0679,.0087,12.80, .0617, .0740
Sn1899,189.989 {477},In2306,ppm, .0007,.0005,62.59, .0004, .0010
Sr4215,421.552 { 80},Y_3710,ppm, -.0000,.0001,248.0, .0000, -.0001
Ti3349,334.904 {101},Y_3600,ppm, .0003,.0001,37.41, .0004, .0003
Tl1908,190.856 {477},In2306,ppm, .0950,.0014,1.525, .0940, .0961
U_3670,367.007 { 92},Y_3600,ppm, -.2072,.0997,48.12, -.2778, -.1367
V_2924,292.402 {115},Y_3600,ppm, .0003,.0002,52.33, .0004, .0002
W_2397,239.709 {140},Y_2243,ppm, .0185,.0094,51.00, .0118, .0252
Zn2062,206.200 {463},In2306,ppm, .0263,.0004,1.351, .0261, .0266

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 214.80,1.9552,.91023,213.42,216.19
In2306,230.606 {446},Cts/S, 13551.,23.238,.17149,13534.,13567.
Y_2243,224.306 {450},Cts/S, 18322.,49.338,.26928,18287.,18357.
Y_3600,360.073 { 94},Cts/S, 166120.,882.81,.53142,165500.,166750.
Y_3710,371.030 { 91},Cts/S, 10422.,175.44,1.6834,10298.,10546.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0002,.0006,331.0, .0002, -.0006
Al3082,308.215 {109},In2306,ppm, 9.161,.1863,2.034, 9.293, 9.030
As1890,189.042 {478},Y_2243,ppm, .0048,.0018,37.54, .0035, .0060
B_2496,249.678 {135},Y_3710,ppm, .3802,.0112,2.947, .3723, .3881
Ba4554,455.403 { 74},Y_3710,ppm, .1571,.0005,.3461, .1568, .1575
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,58.92, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, 732.7,15.60,2.130, 743.7, 721.7
Cd2288,228.802 {447},Y_2243,ppm, .0003,.0001,22.09, .0003, .0002
Co2286,228.616 {447},In2306,ppm, .0487,.0001,.1183, .0486, .0487
Cr2677,267.716 {126},Y_3600,ppm, 11.02,.0295,.2674, 11.00, 11.04
Cu3247,324.754 {104},Y_3600,ppm, .0104,.0002,2.060, .0103, .0106
Fe2404,240.488 {140},In2306,ppm, 1.555,.0195,1.253, 1.569, 1.541
K_7664,766.490 { 44},Y_3710,ppm, 76.52,.2116,.2765, 76.67, 76.37
Li6707,670.784 { 50},Y_3710,ppm, .0339,.0005,1.346, .0342, .0336
Mg2790,279.079 {121},Y_3710,ppm, 3.549,.0114,.3219, 3.557, 3.541
Mn2576,257.610 {131},Y_3600,ppm, .0893,.0003,.3910, .0891, .0896
Mo2020,202.030 {467},Y_2243,ppm, .7107,.0024,.3375, .7124, .7090
Na5895,589.592 { 57},Y_3710,ppm, 497.5,1.144,.2299, 496.7, 498.3
Ni2316,231.604 {445},In2306,ppm, 2.179,.0048,.2218, 2.175, 2.182
P_1782,178.284 {489},In2306,ppm, 2.766,.0134,.4845, 2.776, 2.757
Pb2203,220.353 {453},In2306,ppm, .0014,.0008,60.55, .0020, .0008
S_1820,182.034 {485},Y_2243,ppm, 1259.,2.744,.2178, 1261., 1258.
Sb2068,206.833 {463},Y_2243,ppm, -.0264,.0017,6.442, -.0276, -.0252
Se1960,196.090 {472},Y_2243,ppm, .0003,.0001,34.16, .0003, .0002
Si2516,251.611 {134},Y_3710,ppm, 13.39,.0679,.5076, 13.34, 13.43
Sn1899,189.989 {477},In2306,ppm, .0001,.0002,193.4, -.0000, .0003
Sr4215,421.552 { 80},Y_3710,ppm, .7594,.0029,.3757, .7614, .7574
Ti3349,334.904 {101},Y_3600,ppm, .0181,.0002,1.290, .0182, .0179
Tl1908,190.856 {477},In2306,ppm, .0745,.0016,2.151, .0757, .0734
U_3670,367.007 { 92},Y_3600,ppm, -.0424,.0072,16.94, -.0374, -.0475
V_2924,292.402 {115},Y_3600,ppm, .0081,.0000,.1738, .0081, .0081
W_2397,239.709 {140},Y_2243,ppm, .0105,.0622,594.0, .0544, -.0335
Zn2062,206.200 {463},In2306,ppm, 13.88,.0404,.2909, 13.86, 13.91

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 198.31,3.5092,1.7695,195.83,200.79
In2306,230.606 {446},Cts/S, 10041.,33.918,.33779,10017.,10065.
Y_2243,224.306 {450},Cts/S, 15848.,86.152,.54363,15787.,15909.
Y_3600,360.073 { 94},Cts/S, 143910.,175.25,.12177,144040.,143790.
Y_3710,371.030 { 91},Cts/S, 9850.7,11.929,.12110,9859.2,9842.3

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0005,.0000,8.349, -.0005, -.0006
Al3082,308.215 {109},In2306,ppm, 8.114,.1004,1.238, 8.043, 8.185
As1890,189.042 {478},Y_2243,ppm, .0028,.0018,64.22, .0041, .0016
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B_2496,249.678 {135},Y_3710,ppm, .4004,.0063,1.580, .4049, .3959
Ba4554,455.403 { 74},Y_3710,ppm, .1235,.0010,.8449, .1228, .1243
Be3130,313.042 {108},Y_3710,ppm, .0003,.0000,1.877, .0003, .0003
Ca3158,315.887 {107},In2306,ppm, 827.7,17.13,2.070, 815.6, 839.8
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0000,16.56, .0002, .0002
Co2286,228.616 {447},In2306,ppm, .0503,.0021,4.220, .0518, .0488
Cr2677,267.716 {126},Y_3600,ppm, 10.20,.1491,1.463, 10.09, 10.30
Cu3247,324.754 {104},Y_3600,ppm, .0046,.0000,.6053, .0046, .0046
Fe2404,240.488 {140},In2306,ppm, 1.357,.0243,1.787, 1.340, 1.375
K_7664,766.490 { 44},Y_3710,ppm, 81.57,.6615,.8109, 81.10, 82.04
Li6707,670.784 { 50},Y_3710,ppm, .0359,.0004,1.056, .0362, .0356
Mg2790,279.079 {121},Y_3710,ppm, 3.415,.0661,1.936, 3.368, 3.462
Mn2576,257.610 {131},Y_3600,ppm, .0807,.0011,1.358, .0799, .0814
Mo2020,202.030 {467},Y_2243,ppm, .7572,.0271,3.573, .7763, .7380
Na5895,589.592 { 57},Y_3710,ppm, 524.2,3.842,.7329, 521.5, 526.9
Ni2316,231.604 {445},In2306,ppm, 2.255,.0843,3.739, 2.315, 2.195
P_1782,178.284 {489},In2306,ppm, 1.748,.0605,3.464, 1.790, 1.705
Pb2203,220.353 {453},In2306,ppm, -.0007,.0020,297.7, .0007, -.0021
S_1820,182.034 {485},Y_2243,ppm, 1362.,48.37,3.552, 1396., 1328.
Sb2068,206.833 {463},Y_2243,ppm, -.0160,.0064,39.85, -.0115, -.0205
Se1960,196.090 {472},Y_2243,ppm, .0022,.0017,75.68, .0034, .0010
Si2516,251.611 {134},Y_3710,ppm, 13.72,.0648,.4721, 13.68, 13.77
Sn1899,189.989 {477},In2306,ppm, .0016,.0004,24.92, .0013, .0019
Sr4215,421.552 { 80},Y_3710,ppm, .8020,.0069,.8602, .7971, .8069
Ti3349,334.904 {101},Y_3600,ppm, .0175,.0002,1.387, .0173, .0176
Tl1908,190.856 {477},In2306,ppm, .0568,.0011,1.877, .0575, .0560
U_3670,367.007 { 92},Y_3600,ppm, .0245,.0627,255.9, .0688, -.0198
V_2924,292.402 {115},Y_3600,ppm, .0084,.0004,4.176, .0082, .0087
W_2397,239.709 {140},Y_2243,ppm, .1167,.0607,52.03, .1597, .0738
Zn2062,206.200 {463},In2306,ppm, 13.71,.5227,3.813, 14.08, 13.34

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 195.16,3.5360,1.8118,197.66,192.66
In2306,230.606 {446},Cts/S, 9905.6,284.49,2.8720,9704.5,10107.
Y_2243,224.306 {450},Cts/S, 15673.,455.87,2.9086,15351.,15996.
Y_3600,360.073 { 94},Cts/S, 140860.,1238.9,.87952,141740.,139990.
Y_3710,371.030 { 91},Cts/S, 9729.6,67.236,.69105,9777.1,9682.1

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Ag3280,328.068 {103},Y_3600,ppm, -.0002,.0001,57.20, -.0001, -.0003
Al3082,308.215 {109},In2306,ppm, 6.090,.1944,3.192, 6.228, 5.953
As1890,189.042 {478},Y_2243,ppm, .0029,.0011,38.54, .0038, .0021
B_2496,249.678 {135},Y_3710,ppm, .3839,.0226,5.888, .3999, .3679
Ba4554,455.403 { 74},Y_3710,ppm, .1173,.0036,3.076, .1198, .1147
Be3130,313.042 {108},Y_3710,ppm, .0003,.0000,6.122, .0003, .0002
Ca3158,315.887 {107},In2306,ppm, 796.7,35.67,4.477, 822.0, 771.5
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0001,2088., -.0001, .0001
Co2286,228.616 {447},In2306,ppm, .0421,.0002,.4940, .0423, .0420
Cr2677,267.716 {126},Y_3600,ppm, 7.917,.5061,6.393, 8.275, 7.559
Cu3247,324.754 {104},Y_3600,ppm, .0036,.0003,9.194, .0039, .0034
Fe2404,240.488 {140},In2306,ppm, 1.034,.0298,2.879, 1.055, 1.013
K_7664,766.490 { 44},Y_3710,ppm, 80.05,2.778,3.470, 82.02, 78.09
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Li6707,670.784 { 50},Y_3710,ppm, .0349,.0003,.8224, .0351, .0347
Mg2790,279.079 {121},Y_3710,ppm, 3.196,.1491,4.666, 3.301, 3.090
Mn2576,257.610 {131},Y_3600,ppm, .0736,.0043,5.833, .0767, .0706
Mo2020,202.030 {467},Y_2243,ppm, .7356,.0008,.1143, .7362, .7351
Na5895,589.592 { 57},Y_3710,ppm, 527.7,24.10,4.568, 544.8, 510.7
Ni2316,231.604 {445},In2306,ppm, 1.855,.0003,.0143, 1.855, 1.855
P_1782,178.284 {489},In2306,ppm, 1.329,.0012,.0892, 1.329, 1.328
Pb2203,220.353 {453},In2306,ppm, -.0001,.0003,340.7, -.0003, .0001
S_1820,182.034 {485},Y_2243,ppm, 1325.,3.365,.2539, 1328., 1323.
Sb2068,206.833 {463},Y_2243,ppm, -.0116,.0081,70.18, -.0173, -.0058
Se1960,196.090 {472},Y_2243,ppm, .0011,.0008,69.75, .0016, .0006
Si2516,251.611 {134},Y_3710,ppm, 13.44,.6529,4.859, 13.90, 12.97
Sn1899,189.989 {477},In2306,ppm, -.0002,.0009,471.5, .0004, -.0008
Sr4215,421.552 { 80},Y_3710,ppm, .7857,.0248,3.157, .8033, .7682
Ti3349,334.904 {101},Y_3600,ppm, .0145,.0014,9.506, .0154, .0135
Tl1908,190.856 {477},In2306,ppm, .0493,.0050,10.07, .0458, .0528
U_3670,367.007 { 92},Y_3600,ppm, -.0323,.0240,74.28, -.0493, -.0154
V_2924,292.402 {115},Y_3600,ppm, .0068,.0004,5.654, .0071, .0066
W_2397,239.709 {140},Y_2243,ppm, .1230,.0316,25.66, .1453, .1007
Zn2062,206.200 {463},In2306,ppm, 10.94,.0009,.0078, 10.94, 10.94

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 195.95,8.3019,4.2367,190.08,201.82
In2306,230.606 {446},Cts/S, 9942.3,8.5091,.08559,9948.3,9936.2
Y_2243,224.306 {450},Cts/S, 15712.,16.130,.10266,15723.,15700.
Y_3600,360.073 { 94},Cts/S, 138830.,6709.6,4.8330,134090.,143570.
Y_3710,371.030 { 91},Cts/S, 9746.1,341.94,3.5084,9504.3,9987.9

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0002,.0004,202.4, .0001, -.0005
Al3082,308.215 {109},In2306,ppm, 22.96,.2829,1.232, 23.16, 22.76
As1890,189.042 {478},Y_2243,ppm, .0072,.0018,25.15, .0084, .0059
B_2496,249.678 {135},Y_3710,ppm, .1775,.0014,.8082, .1785, .1765
Ba4554,455.403 { 74},Y_3710,ppm, .3483,.0002,.0642, .3481, .3484
Be3130,313.042 {108},Y_3710,ppm, .0010,.0000,4.447, .0011, .0010
Ca3158,315.887 {107},In2306,ppm, 40.72,.6895,1.693, 41.21, 40.24
Cd2288,228.802 {447},Y_2243,ppm, .0006,.0000,.4536, .0006, .0007
Co2286,228.616 {447},In2306,ppm, .0065,.0002,3.433, .0064, .0067
Cr2677,267.716 {126},Y_3600,ppm, .0198,.0001,.2806, .0199, .0198
Cu3247,324.754 {104},Y_3600,ppm, .0143,.0002,1.151, .0144, .0141
Fe2404,240.488 {140},In2306,ppm, 14.56,.1994,1.369, 14.71, 14.42
K_7664,766.490 { 44},Y_3710,ppm, 17.54,.0055,.0311, 17.53, 17.54
Li6707,670.784 { 50},Y_3710,ppm, .0233,.0008,3.261, .0227, .0238
Mg2790,279.079 {121},Y_3710,ppm, 26.12,.0573,.2194, 26.08, 26.16
Mn2576,257.610 {131},Y_3600,ppm, .2290,.0000,.0126, .2290, .2290
Mo2020,202.030 {467},Y_2243,ppm, .0129,.0012,8.955, .0121, .0137
Na5895,589.592 { 57},Y_3710,ppm, 259.0,.8039,.3104, 258.4, 259.6
Ni2316,231.604 {445},In2306,ppm, .0112,.0006,5.031, .0108, .0116
P_1782,178.284 {489},In2306,ppm, .1555,.0027,1.711, .1537, .1574
Pb2203,220.353 {453},In2306,ppm, .0060,.0005,8.809, .0063, .0056
S_1820,182.034 {485},Y_2243,ppm, 4.892,.1409,2.880, 4.792, 4.991
Sb2068,206.833 {463},Y_2243,ppm, .0009,.0026,305.1, .0027, -.0010
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Se1960,196.090 {472},Y_2243,ppm, -.0011,.0003,28.79, -.0009, -.0014
Si2516,251.611 {134},Y_3710,ppm, 50.13,1.306,2.606, 51.05, 49.21
Sn1899,189.989 {477},In2306,ppm, .0012,.0008,71.08, .0006, .0018
Sr4215,421.552 { 80},Y_3710,ppm, .3841,.0010,.2496, .3835, .3848
Ti3349,334.904 {101},Y_3600,ppm, .1072,.0001,.0606, .1073, .1072
Tl1908,190.856 {477},In2306,ppm, .0404,.0002,.5124, .0402, .0405
U_3670,367.007 { 92},Y_3600,ppm, .0420,.1252,298.0, .1306, -.0465
V_2924,292.402 {115},Y_3600,ppm, .0370,.0000,.0005, .0370, .0370
W_2397,239.709 {140},Y_2243,ppm, -.0371,.0665,179.6, .0100, -.0841
Zn2062,206.200 {463},In2306,ppm, .0660,.0020,2.984, .0646, .0674

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 209.08,3.6206,1.7317,206.52,211.64
In2306,230.606 {446},Cts/S, 11363.,165.45,1.4560,11480.,11246.
Y_2243,224.306 {450},Cts/S, 17267.,245.48,1.4216,17441.,17094.
Y_3600,360.073 { 94},Cts/S, 155240.,217.92,.14038,155400.,155090.
Y_3710,371.030 { 91},Cts/S, 10261.,42.904,.41812,10231.,10291.

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Ag3280,328.068 {103},Y_3600,ppm, -.0006,.0008,128.9, -.0001, -.0012
Al3082,308.215 {109},In2306,ppm, .9193,.0120,1.307, .9278, .9108
As1890,189.042 {478},Y_2243,ppm, .0887,.0031,3.508, .0865, .0909
B_2496,249.678 {135},Y_3710,ppm, 1.097,.0189,1.722, 1.110, 1.083
Ba4554,455.403 { 74},Y_3710,ppm, 2.102,.0012,.0559, 2.102, 2.101
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,94.38, .0002, .0000
Ca3158,315.887 {107},In2306,ppm, 247.1,.4838,.1958, 246.7, 247.4
Cd2288,228.802 {447},Y_2243,ppm, .0008,.0002,22.45, .0009, .0007
Co2286,228.616 {447},In2306,ppm, .0066,.0003,4.362, .0068, .0063
Cr2677,267.716 {126},Y_3600,ppm, .0017,.0007,37.68, .0013, .0022
Cu3247,324.754 {104},Y_3600,ppm, .0039,.0001,3.067, .0038, .0040
Fe2404,240.488 {140},In2306,ppm, 12.66,.0615,.4859, 12.61, 12.70
K_7664,766.490 { 44},Y_3710,ppm, 27.21,.0250,.0920, 27.23, 27.19
Li6707,670.784 { 50},Y_3710,ppm, .0309,.0003,.9113, .0307, .0311
Mg2790,279.079 {121},Y_3710,ppm, 254.2,1.178,.4634, 253.4, 255.1
Mn2576,257.610 {131},Y_3600,ppm, 2.743,.0001,.0047, 2.743, 2.743
Mo2020,202.030 {467},Y_2243,ppm, .0081,.0002,1.950, .0080, .0082
Na5895,589.592 { 57},Y_3710,ppm, 2283.,18.74,.8210, 2269., 2296.
Ni2316,231.604 {445},In2306,ppm, .0036,.0006,16.90, .0040, .0031
P_1782,178.284 {489},In2306,ppm, .1618,.0032,1.978, .1596, .1641
Pb2203,220.353 {453},In2306,ppm, -.0045,.0005,10.14, -.0042, -.0049
S_1820,182.034 {485},Y_2243,ppm, 6.499,.0182,.2797, 6.512, 6.486
Sb2068,206.833 {463},Y_2243,ppm, .0005,.0016,335.1, .0016, -.0007
Se1960,196.090 {472},Y_2243,ppm, .0038,.0011,28.62, .0046, .0031
Si2516,251.611 {134},Y_3710,ppm, 30.21,.4251,1.407, 30.51, 29.91
Sn1899,189.989 {477},In2306,ppm, .0005,.0010,182.9, .0012, -.0002
Sr4215,421.552 { 80},Y_3710,ppm, 2.536,.0045,.1791, 2.540, 2.533
Ti3349,334.904 {101},Y_3600,ppm, .0077,.0003,4.178, .0079, .0075
Tl1908,190.856 {477},In2306,ppm, .0228,.0024,10.75, .0245, .0211
U_3670,367.007 { 92},Y_3600,ppm, -.0195,.1800,923.8, .1078, -.1467
V_2924,292.402 {115},Y_3600,ppm, -.0000,.0002,1233., .0001, -.0001
W_2397,239.709 {140},Y_2243,ppm, .0264,.0359,135.7, .0011, .0518
Zn2062,206.200 {463},In2306,ppm, .0305,.0006,2.035, .0309, .0301
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[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 188.69,1.3666,.72424,189.66,187.73
In2306,230.606 {446},Cts/S, 9010.2,16.297,.18088,9021.7,8998.6
Y_2243,224.306 {450},Cts/S, 14778.,39.035,.26414,14806.,14751.
Y_3600,360.073 { 94},Cts/S, 131340.,183.08,.13939,131470.,131210.
Y_3710,371.030 { 91},Cts/S, 9480.0,55.595,.58645,9519.3,9440.6

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Ag3280,328.068 {103},Y_3600,ppm, -.0000,.0002,696.8, .0001, -.0002
Al3082,308.215 {109},In2306,ppm, 12.60,.0086,.0685, 12.61, 12.59
As1890,189.042 {478},Y_2243,ppm, .0045,.0010,20.95, .0052, .0039
B_2496,249.678 {135},Y_3710,ppm, .1192,.0029,2.427, .1213, .1172
Ba4554,455.403 { 74},Y_3710,ppm, .2323,.0005,.2283, .2319, .2327
Be3130,313.042 {108},Y_3710,ppm, .0005,.0001,29.12, .0006, .0004
Ca3158,315.887 {107},In2306,ppm, 33.32,.0575,.1724, 33.36, 33.28
Cd2288,228.802 {447},Y_2243,ppm, .0006,.0001,18.61, .0006, .0005
Co2286,228.616 {447},In2306,ppm, .0031,.0002,6.362, .0032, .0029
Cr2677,267.716 {126},Y_3600,ppm, .0112,.0000,.1126, .0112, .0112
Cu3247,324.754 {104},Y_3600,ppm, .0100,.0002,1.882, .0099, .0101
Fe2404,240.488 {140},In2306,ppm, 7.683,.0112,.1464, 7.675, 7.690
K_7664,766.490 { 44},Y_3710,ppm, 8.126,.0827,1.017, 8.068, 8.185
Li6707,670.784 { 50},Y_3710,ppm, .0182,.0006,3.054, .0186, .0178
Mg2790,279.079 {121},Y_3710,ppm, 15.75,.0676,.4293, 15.70, 15.80
Mn2576,257.610 {131},Y_3600,ppm, .1377,.0004,.2948, .1380, .1375
Mo2020,202.030 {467},Y_2243,ppm, .0046,.0000,.3850, .0046, .0046
Na5895,589.592 { 57},Y_3710,ppm, 123.0,.5324,.4328, 122.7, 123.4
Ni2316,231.604 {445},In2306,ppm, .0042,.0004,9.157, .0040, .0045
P_1782,178.284 {489},In2306,ppm, .1511,.0011,.7506, .1503, .1519
Pb2203,220.353 {453},In2306,ppm, .0033,.0006,17.59, .0029, .0037
S_1820,182.034 {485},Y_2243,ppm, 4.502,.0507,1.126, 4.466, 4.538
Sb2068,206.833 {463},Y_2243,ppm, -.0020,.0022,112.4, -.0004, -.0035
Se1960,196.090 {472},Y_2243,ppm, .0016,.0023,142.2, -.0000, .0032
Si2516,251.611 {134},Y_3710,ppm, 36.93,.0259,.0700, 36.95, 36.92
Sn1899,189.989 {477},In2306,ppm, .0016,.0000,.7403, .0016, .0016
Sr4215,421.552 { 80},Y_3710,ppm, .2890,.0004,.1326, .2888, .2893
Ti3349,334.904 {101},Y_3600,ppm, .0728,.0002,.3382, .0727, .0730
Tl1908,190.856 {477},In2306,ppm, .0251,.0013,5.200, .0260, .0242
U_3670,367.007 { 92},Y_3600,ppm, -.1123,.1275,113.5, -.2025, -.0222
V_2924,292.402 {115},Y_3600,ppm, .0266,.0004,1.417, .0268, .0263
W_2397,239.709 {140},Y_2243,ppm, -.0149,.0114,76.21, -.0069, -.0229
Zn2062,206.200 {463},In2306,ppm, .0452,.0001,.2159, .0453, .0452

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 209.61,.17599,.08396,209.74,209.49
In2306,230.606 {446},Cts/S, 11961.,28.347,.23698,11981.,11941.
Y_2243,224.306 {450},Cts/S, 17568.,36.459,.20753,17593.,17542.
Y_3600,360.073 { 94},Cts/S, 156880.,289.96,.18482,157090.,156680.
Y_3710,371.030 { 91},Cts/S, 10278.,58.544,.56959,10320.,10237.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0004,.0005,126.6, -.0007, -.0000
Al3082,308.215 {109},In2306,ppm, .2558,.0188,7.349, .2691, .2425
As1890,189.042 {478},Y_2243,ppm, .0043,.0008,18.31, .0049, .0038
B_2496,249.678 {135},Y_3710,ppm, .0955,.0006,.6747, .0950, .0959
Ba4554,455.403 { 74},Y_3710,ppm, .0742,.0006,.7498, .0738, .0745
Be3130,313.042 {108},Y_3710,ppm, .0004,.0000,9.681, .0004, .0005
Ca3158,315.887 {107},In2306,ppm, 32.77,.3975,1.213, 32.49, 33.06
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0001,38.43, .0002, .0001
Co2286,228.616 {447},In2306,ppm, .0009,.0002,21.07, .0010, .0008
Cr2677,267.716 {126},Y_3600,ppm, .0223,.0003,1.385, .0221, .0226
Cu3247,324.754 {104},Y_3600,ppm, .1608,.0015,.9477, .1597, .1619
Fe2404,240.488 {140},In2306,ppm, 2.463,.0419,1.699, 2.434, 2.493
K_7664,766.490 { 44},Y_3710,ppm, 5.911,.0151,.2556, 5.901, 5.922
Li6707,670.784 { 50},Y_3710,ppm, .0076,.0006,8.146, .0080, .0072
Mg2790,279.079 {121},Y_3710,ppm, 3.490,.0222,.6361, 3.505, 3.474
Mn2576,257.610 {131},Y_3600,ppm, .0798,.0003,.3610, .0796, .0801
Mo2020,202.030 {467},Y_2243,ppm, .0113,.0001,.5533, .0113, .0114
Na5895,589.592 { 57},Y_3710,ppm, 84.83,.2080,.2452, 84.69, 84.98
Ni2316,231.604 {445},In2306,ppm, .0727,.0003,.3597, .0726, .0729
P_1782,178.284 {489},In2306,ppm, 1.087,.0040,.3679, 1.085, 1.090
Pb2203,220.353 {453},In2306,ppm, .0018,.0002,14.23, .0016, .0019
S_1820,182.034 {485},Y_2243,ppm, 36.92,.0104,.0281, 36.93, 36.91
Sb2068,206.833 {463},Y_2243,ppm, .0009,.0002,18.26, .0007, .0010
Se1960,196.090 {472},Y_2243,ppm, .0012,.0020,163.3, .0026, -.0002
Si2516,251.611 {134},Y_3710,ppm, 7.129,.1117,1.567, 7.050, 7.208
Sn1899,189.989 {477},In2306,ppm, .0018,.0002,10.94, .0020, .0017
Sr4215,421.552 { 80},Y_3710,ppm, .2422,.0013,.5278, .2413, .2431
Ti3349,334.904 {101},Y_3600,ppm, .0066,.0004,5.709, .0068, .0063
Tl1908,190.856 {477},In2306,ppm, .0246,.0008,3.369, .0240, .0252
U_3670,367.007 { 92},Y_3600,ppm, -.2086,.0334,15.99, -.2322, -.1850
V_2924,292.402 {115},Y_3600,ppm, .0039,.0004,9.231, .0037, .0042
W_2397,239.709 {140},Y_2243,ppm, .0394,.0174,44.08, .0271, .0517
Zn2062,206.200 {463},In2306,ppm, .1226,.0005,.4373, .1222, .1230

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 215.24,1.8128,.84222,216.52,213.95
In2306,230.606 {446},Cts/S, 12322.,23.130,.18772,12338.,12305.
Y_2243,224.306 {450},Cts/S, 17402.,12.673,.07283,17411.,17393.
Y_3600,360.073 { 94},Cts/S, 157530.,861.90,.54713,156920.,158140.
Y_3710,371.030 { 91},Cts/S, 10323.,.28321,.00274,10323.,10323.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0001,.0002,155.6, .0002, -.0000
Al3082,308.215 {109},In2306,ppm, .2200,.0059,2.681, .2158, .2241
As1890,189.042 {478},Y_2243,ppm, .0056,.0012,20.60, .0048, .0064
B_2496,249.678 {135},Y_3710,ppm, .0789,.0054,6.900, .0828, .0751
Ba4554,455.403 { 74},Y_3710,ppm, .1128,.0006,.5395, .1123, .1132
Be3130,313.042 {108},Y_3710,ppm, .0000,.0001,118.9, .0001, .0000
Ca3158,315.887 {107},In2306,ppm, 25.45,.1118,.4393, 25.37, 25.53
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,57.58, .0002, .0001
Co2286,228.616 {447},In2306,ppm, -.0008,.0000,2.338, -.0008, -.0008
Cr2677,267.716 {126},Y_3600,ppm, .0039,.0006,15.18, .0043, .0034
Cu3247,324.754 {104},Y_3600,ppm, .0353,.0005,1.296, .0356, .0350
Fe2404,240.488 {140},In2306,ppm, .5859,.0064,1.097, .5814, .5904
K_7664,766.490 { 44},Y_3710,ppm, 7.044,.0657,.9329, 6.998, 7.091
Li6707,670.784 { 50},Y_3710,ppm, .0098,.0003,2.908, .0096, .0100
Mg2790,279.079 {121},Y_3710,ppm, 6.894,.0055,.0803, 6.890, 6.898
Mn2576,257.610 {131},Y_3600,ppm, .0402,.0001,.3698, .0403, .0401
Mo2020,202.030 {467},Y_2243,ppm, 1.336,.0083,.6217, 1.342, 1.330
Na5895,589.592 { 57},Y_3710,ppm, 90.46,.2249,.2486, 90.30, 90.62
Ni2316,231.604 {445},In2306,ppm, .0030,.0007,21.88, .0035, .0026
P_1782,178.284 {489},In2306,ppm, 3.820,.0190,.4984, 3.834, 3.807
Pb2203,220.353 {453},In2306,ppm, .0002,.0000,15.12, .0002, .0002
S_1820,182.034 {485},Y_2243,ppm, 16.35,.0753,.4606, 16.40, 16.29
Sb2068,206.833 {463},Y_2243,ppm, -.0015,.0007,48.58, -.0020, -.0010
Se1960,196.090 {472},Y_2243,ppm, .0021,.0037,174.0, .0047, -.0005
Si2516,251.611 {134},Y_3710,ppm, 14.91,.1115,.7476, 14.99, 14.83
Sn1899,189.989 {477},In2306,ppm, .0011,.0005,44.94, .0014, .0007
Sr4215,421.552 { 80},Y_3710,ppm, .2019,.0005,.2329, .2015, .2022
Ti3349,334.904 {101},Y_3600,ppm, .0024,.0000,1.744, .0024, .0023
Tl1908,190.856 {477},In2306,ppm, .0184,.0003,1.649, .0186, .0181
U_3670,367.007 { 92},Y_3600,ppm, -.1212,.0875,72.19, -.1831, -.0593
V_2924,292.402 {115},Y_3600,ppm, -.0041,.0000,.4749, -.0041, -.0041
W_2397,239.709 {140},Y_2243,ppm, .0118,.0270,229.4, -.0073, .0308
Zn2062,206.200 {463},In2306,ppm, .2272,.0013,.5525, .2281, .2263

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 210.57,1.0783,.51207,209.81,211.34
In2306,230.606 {446},Cts/S, 12276.,5.5911,.04555,12280.,12272.
Y_2243,224.306 {450},Cts/S, 17527.,29.846,.17029,17548.,17506.
Y_3600,360.073 { 94},Cts/S, 158360.,568.45,.35897,157960.,158760.
Y_3710,371.030 { 91},Cts/S, 10208.,60.631,.59394,10165.,10251.

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Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0002,.0005,309.7, -.0005, .0002
Al3082,308.215 {109},In2306,ppm, .2693,.0115,4.288, .2611, .2774
As1890,189.042 {478},Y_2243,ppm, .0057,.0005,9.114, .0061, .0054
B_2496,249.678 {135},Y_3710,ppm, .0694,.0025,3.544, .0712, .0677
Ba4554,455.403 { 74},Y_3710,ppm, .1138,.0010,.8626, .1131, .1145
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Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,120.8, .0000, .0001
Ca3158,315.887 {107},In2306,ppm, 25.44,.0775,.3047, 25.38, 25.49
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0001,29.02, .0003, .0002
Co2286,228.616 {447},In2306,ppm, -.0005,.0000,9.686, -.0005, -.0005
Cr2677,267.716 {126},Y_3600,ppm, .0040,.0003,7.049, .0042, .0038
Cu3247,324.754 {104},Y_3600,ppm, .0262,.0001,.2421, .0262, .0262
Fe2404,240.488 {140},In2306,ppm, .6111,.0064,1.048, .6066, .6156
K_7664,766.490 { 44},Y_3710,ppm, 7.070,.1040,1.470, 6.997, 7.144
Li6707,670.784 { 50},Y_3710,ppm, .0097,.0008,7.804, .0092, .0103
Mg2790,279.079 {121},Y_3710,ppm, 6.984,.0522,.7470, 7.021, 6.947
Mn2576,257.610 {131},Y_3600,ppm, .0400,.0002,.4650, .0401, .0398
Mo2020,202.030 {467},Y_2243,ppm, 1.351,.0003,.0196, 1.351, 1.351
Na5895,589.592 { 57},Y_3710,ppm, 90.92,.5558,.6113, 90.53, 91.32
Ni2316,231.604 {445},In2306,ppm, .0033,.0001,3.357, .0034, .0032
P_1782,178.284 {489},In2306,ppm, 3.894,.0132,.3381, 3.884, 3.903
Pb2203,220.353 {453},In2306,ppm, -.0003,.0003,82.69, -.0005, -.0001
S_1820,182.034 {485},Y_2243,ppm, 16.43,.0388,.2363, 16.46, 16.40
Sb2068,206.833 {463},Y_2243,ppm, -.0008,.0027,359.5, -.0027, .0012
Se1960,196.090 {472},Y_2243,ppm, .0014,.0013,89.27, .0005, .0023
Si2516,251.611 {134},Y_3710,ppm, 15.17,.1027,.6769, 15.10, 15.24
Sn1899,189.989 {477},In2306,ppm, .0013,.0001,9.397, .0012, .0014
Sr4215,421.552 { 80},Y_3710,ppm, .2027,.0017,.8602, .2015, .2040
Ti3349,334.904 {101},Y_3600,ppm, .0027,.0001,4.406, .0026, .0028
Tl1908,190.856 {477},In2306,ppm, .0132,.0016,12.18, .0143, .0120
U_3670,367.007 { 92},Y_3600,ppm, -.0542,.1058,195.3, -.1290, .0206
V_2924,292.402 {115},Y_3600,ppm, -.0045,.0005,10.51, -.0042, -.0048
W_2397,239.709 {140},Y_2243,ppm, -.0058,.0256,444.5, -.0239, .0124
Zn2062,206.200 {463},In2306,ppm, .2264,.0001,.0352, .2263, .2264

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 212.93,1.1891,.55847,213.77,212.09
In2306,230.606 {446},Cts/S, 12285.,20.049,.16321,12299.,12270.
Y_2243,224.306 {450},Cts/S, 17564.,2.0375,.01160,17563.,17565.
Y_3600,360.073 { 94},Cts/S, 158620.,333.86,.21047,158860.,158390.
Y_3710,371.030 { 91},Cts/S, 10284.,73.058,.71042,10335.,10232.

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Ag3280,328.068 {103},Y_3600,ppm, .4971,.0017,.3449, .4983, .4959
Al3082,308.215 {109},In2306,ppm, 20.02,.1404,.7014, 20.12, 19.92
As1890,189.042 {478},Y_2243,ppm, 1.001,.0005,.0534, 1.001, 1.002
B_2496,249.678 {135},Y_3710,ppm, .9894,.0110,1.112, .9972, .9816
Ba4554,455.403 { 74},Y_3710,ppm, 1.007,.0028,.2741, 1.005, 1.009
Be3130,313.042 {108},Y_3710,ppm, .9738,.0011,.1088, .9746, .9731
Ca3158,315.887 {107},In2306,ppm, 19.77,.1133,.5733, 19.85, 19.69
Cd2288,228.802 {447},Y_2243,ppm, .9854,.0046,.4698, .9886, .9821
Co2286,228.616 {447},In2306,ppm, .9874,.0053,.5390, .9912, .9836
Cr2677,267.716 {126},Y_3600,ppm, .9847,.0002,.0181, .9848, .9846
Cu3247,324.754 {104},Y_3600,ppm, .9989,.0033,.3259, 1.001, .9966
Fe2404,240.488 {140},In2306,ppm, 19.92,.0644,.3233, 19.96, 19.87
K_7664,766.490 { 44},Y_3710,ppm, 19.80,.0182,.0920, 19.79, 19.81
Li6707,670.784 { 50},Y_3710,ppm, .9908,.0032,.3232, .9885, .9930
Mg2790,279.079 {121},Y_3710,ppm, 19.92,.0470,.2361, 19.96, 19.89
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Mn2576,257.610 {131},Y_3600,ppm, .9983,.0002,.0181, .9982, .9985
Mo2020,202.030 {467},Y_2243,ppm, .9963,.0013,.1353, .9972, .9953
Na5895,589.592 { 57},Y_3710,ppm, 19.86,.0252,.1267, 19.84, 19.88
Ni2316,231.604 {445},In2306,ppm, .9843,.0049,.4972, .9878, .9809
P_1782,178.284 {489},In2306,ppm, 10.06,.0012,.0120, 10.06, 10.06
Pb2203,220.353 {453},In2306,ppm, .9846,.0004,.0381, .9848, .9843
S_1820,182.034 {485},Y_2243,ppm, 10.70,.0234,.2189, 10.72, 10.69
Sb2068,206.833 {463},Y_2243,ppm, 2.068,.0046,.2215, 2.071, 2.064
Se1960,196.090 {472},Y_2243,ppm, 1.003,.0081,.8033, 1.008, .9969
Si2516,251.611 {134},Y_3710,ppm, 14.21,.3076,2.164, 14.00, 14.43
Sn1899,189.989 {477},In2306,ppm, .9884,.0014,.1434, .9894, .9874
Sr4215,421.552 { 80},Y_3710,ppm, .9989,.0030,.3039, .9967, 1.001
Ti3349,334.904 {101},Y_3600,ppm, .9902,.0009,.0888, .9896, .9908
Tl1908,190.856 {477},In2306,ppm, .9048,.0072,.7952, .9099, .8997
U_3670,367.007 { 92},Y_3600,ppm, 1.115,.0292,2.617, 1.094, 1.135
V_2924,292.402 {115},Y_3600,ppm, .9850,.0001,.0106, .9849, .9851
W_2397,239.709 {140},Y_2243,ppm, 1.252,.0156,1.246, 1.241, 1.263
Zn2062,206.200 {463},In2306,ppm, .9817,.0036,.3671, .9842, .9791

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 209.32,2.5487,1.2176,207.52,211.12
In2306,230.606 {446},Cts/S, 12427.,71.731,.57722,12376.,12478.
Y_2243,224.306 {450},Cts/S, 17815.,99.741,.55986,17745.,17886.
Y_3600,360.073 { 94},Cts/S, 158790.,123.76,.07794,158880.,158700.
Y_3710,371.030 { 91},Cts/S, 10252.,56.162,.54781,10212.,10292.

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Ag3280,328.068 {103},Y_3600,ppm, .0106,.0000,.3817, .0106, .0107
Al3082,308.215 {109},In2306,ppm, .2013,.0181,8.989, .2141, .1885
As1890,189.042 {478},Y_2243,ppm, .0208,.0009,4.397, .0201, .0214
B_2496,249.678 {135},Y_3710,ppm, .2172,.0015,.7001, .2162, .2183
Ba4554,455.403 { 74},Y_3710,ppm, .0224,.0001,.2896, .0224, .0223
Be3130,313.042 {108},Y_3710,ppm, .0111,.0000,.2889, .0111, .0111
Ca3158,315.887 {107},In2306,ppm, 1.073,.0168,1.568, 1.085, 1.062
Cd2288,228.802 {447},Y_2243,ppm, .0111,.0002,1.786, .0109, .0112
Co2286,228.616 {447},In2306,ppm, .0106,.0002,2.189, .0104, .0108
Cr2677,267.716 {126},Y_3600,ppm, .0109,.0003,2.591, .0107, .0111
Cu3247,324.754 {104},Y_3600,ppm, .0120,.0003,2.499, .0118, .0122
Fe2404,240.488 {140},In2306,ppm, .2069,.0009,.4445, .2063, .2076
K_7664,766.490 { 44},Y_3710,ppm, 1.119,.0019,.1665, 1.120, 1.117
Li6707,670.784 { 50},Y_3710,ppm, .0095,.0006,6.079, .0091, .0099
Mg2790,279.079 {121},Y_3710,ppm, 1.057,.0231,2.190, 1.073, 1.041
Mn2576,257.610 {131},Y_3600,ppm, .0113,.0002,1.819, .0112, .0115
Mo2020,202.030 {467},Y_2243,ppm, .0288,.0008,2.863, .0282, .0294
Na5895,589.592 { 57},Y_3710,ppm, 1.132,.0046,.4061, 1.135, 1.128
Ni2316,231.604 {445},In2306,ppm, .0107,.0001,1.304, .0106, .0108
P_1782,178.284 {489},In2306,ppm, .9698,.0081,.8376, .9641, .9755
Pb2203,220.353 {453},In2306,ppm, .0112,.0010,8.840, .0105, .0119
S_1820,182.034 {485},Y_2243,ppm, -2.706,.0046,.1715, -2.709, -2.702
Sb2068,206.833 {463},Y_2243,ppm, .0591,.0012,2.062, .0582, .0599
Se1960,196.090 {472},Y_2243,ppm, .0240,.0006,2.608, .0235, .0244
Si2516,251.611 {134},Y_3710,ppm, .4229,.0281,6.637, .4030, .4427
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Sn1899,189.989 {477},In2306,ppm, .0227,.0004,1.633, .0225, .0230
Sr4215,421.552 { 80},Y_3710,ppm, .0111,.0003,2.655, .0113, .0109
Ti3349,334.904 {101},Y_3600,ppm, .0117,.0006,5.467, .0112, .0121
Tl1908,190.856 {477},In2306,ppm, .0767,.0019,2.495, .0780, .0753
U_3670,367.007 { 92},Y_3600,ppm, -.0489,.1117,228.4, -.1279, .0301
V_2924,292.402 {115},Y_3600,ppm, .0110,.0004,3.649, .0107, .0112
W_2397,239.709 {140},Y_2243,ppm, .1177,.0577,49.04, .1586, .0769
Zn2062,206.200 {463},In2306,ppm, .0205,.0002,1.012, .0203, .0206

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 209.28,3.6832,1.7599,206.68,211.89
In2306,230.606 {446},Cts/S, 13340.,60.142,.45084,13383.,13298.
Y_2243,224.306 {450},Cts/S, 18174.,80.284,.44176,18230.,18117.
Y_3600,360.073 { 94},Cts/S, 161480.,3013.8,1.8664,163610.,159350.
Y_3710,371.030 { 91},Cts/S, 10092.,118.76,1.1768,10008.,10176.

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Custom ID2=
Custom ID3=
Run Time=9/19/2019 8:53:56
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Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0001,.0001,38.80, .0002, .0001
Al3082,308.215 {109},In2306,ppm, -.0050,.0015,30.34, -.0039, -.0061
As1890,189.042 {478},Y_2243,ppm, -.0016,.0009,52.83, -.0010, -.0022
B_2496,249.678 {135},Y_3710,ppm, -.0012,.0013,108.4, -.0003, -.0021
Ba4554,455.403 { 74},Y_3710,ppm, -.0002,.0002,91.28, -.0001, -.0004
Be3130,313.042 {108},Y_3710,ppm, .0001,.0002,169.2, .0003, -.0000
Ca3158,315.887 {107},In2306,ppm, .0011,.0010,93.73, .0004, .0018
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0002,170.7, -.0000, .0003
Co2286,228.616 {447},In2306,ppm, -.0001,.0000,24.67, -.0001, -.0001
Cr2677,267.716 {126},Y_3600,ppm, -.0002,.0001,31.14, -.0002, -.0003
Cu3247,324.754 {104},Y_3600,ppm, .0010,.0001,9.036, .0011, .0009
Fe2404,240.488 {140},In2306,ppm, .0074,.0015,20.50, .0084, .0063
K_7664,766.490 { 44},Y_3710,ppm, .0305,.0282,92.57, .0505, .0105
Li6707,670.784 { 50},Y_3710,ppm, -.0012,.0009,75.33, -.0005, -.0018
Mg2790,279.079 {121},Y_3710,ppm, -.0138,.0054,39.21, -.0176, -.0100
Mn2576,257.610 {131},Y_3600,ppm, .0000,.0001,232.0, .0001, -.0000
Mo2020,202.030 {467},Y_2243,ppm, .0020,.0002,11.11, .0018, .0021
Na5895,589.592 { 57},Y_3710,ppm, .0253,.0042,16.55, .0223, .0283
Ni2316,231.604 {445},In2306,ppm, -.0003,.0001,26.03, -.0004, -.0003
P_1782,178.284 {489},In2306,ppm, .0014,.0011,77.24, .0006, .0022
Pb2203,220.353 {453},In2306,ppm, .0011,.0007,61.92, .0006, .0016
S_1820,182.034 {485},Y_2243,ppm, -.0030,.0653,2200., -.0491, .0432
Sb2068,206.833 {463},Y_2243,ppm, .0009,.0010,112.1, .0002, .0016
Se1960,196.090 {472},Y_2243,ppm, .0017,.0000,.2190, .0017, .0017
Si2516,251.611 {134},Y_3710,ppm, .0748,.0266,35.51, .0560, .0936
Sn1899,189.989 {477},In2306,ppm, .0007,.0004,67.43, .0003, .0010
Sr4215,421.552 { 80},Y_3710,ppm, -.0000,.0000,126.5, -.0000, -.0000
Ti3349,334.904 {101},Y_3600,ppm, -.0000,.0004,1054., .0003, -.0004
Tl1908,190.856 {477},In2306,ppm, .0599,.0037,6.140, .0573, .0625
U_3670,367.007 { 92},Y_3600,ppm, -.1929,.1257,65.17, -.2818, -.1040
V_2924,292.402 {115},Y_3600,ppm, .0004,.0002,45.25, .0003, .0005
W_2397,239.709 {140},Y_2243,ppm, .0242,.1061,437.6, .0992, -.0508
Zn2062,206.200 {463},In2306,ppm, -.0006,.0002,39.86, -.0004, -.0008

[Internal Standards]
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Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 215.34,6.0424,2.8059,211.07,219.62
In2306,230.606 {446},Cts/S, 13525.,156.87,1.1599,13635.,13414.
Y_2243,224.306 {450},Cts/S, 18353.,239.84,1.3068,18523.,18183.
Y_3600,360.073 { 94},Cts/S, 163730.,294.00,.17956,163520.,163940.
Y_3710,371.030 { 91},Cts/S, 10213.,87.815,.85986,10151.,10275.

[Sample Header]
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Custom ID2=
Custom ID3=
Run Time=9/19/2019 8:56:02
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0005,.0003,50.44, -.0007, -.0003
Al3082,308.215 {109},In2306,ppm, .2476,.0194,7.845, .2338, .2613
As1890,189.042 {478},Y_2243,ppm, .0053,.0007,14.16, .0048, .0058
B_2496,249.678 {135},Y_3710,ppm, .0728,.0023,3.109, .0712, .0744
Ba4554,455.403 { 74},Y_3710,ppm, .1135,.0000,.0244, .1135, .1135
Be3130,313.042 {108},Y_3710,ppm, .0000,.0001,338.3, .0001, -.0000
Ca3158,315.887 {107},In2306,ppm, 25.31,.1232,.4869, 25.22, 25.40
Cd2288,228.802 {447},Y_2243,ppm, .0004,.0000,.4054, .0004, .0004
Co2286,228.616 {447},In2306,ppm, -.0007,.0000,3.020, -.0007, -.0007
Cr2677,267.716 {126},Y_3600,ppm, .0039,.0001,1.650, .0039, .0038
Cu3247,324.754 {104},Y_3600,ppm, .0236,.0001,.5004, .0235, .0237
Fe2404,240.488 {140},In2306,ppm, .6064,.0168,2.764, .5945, .6182
K_7664,766.490 { 44},Y_3710,ppm, 6.957,.0091,.1308, 6.963, 6.950
Li6707,670.784 { 50},Y_3710,ppm, .0109,.0013,12.28, .0118, .0099
Mg2790,279.079 {121},Y_3710,ppm, 6.943,.0117,.1692, 6.935, 6.952
Mn2576,257.610 {131},Y_3600,ppm, .0386,.0001,.2490, .0385, .0386
Mo2020,202.030 {467},Y_2243,ppm, 1.341,.0008,.0611, 1.341, 1.340
Na5895,589.592 { 57},Y_3710,ppm, 90.62,.1147,.1266, 90.54, 90.70
Ni2316,231.604 {445},In2306,ppm, .0033,.0000,.1667, .0033, .0033
P_1782,178.284 {489},In2306,ppm, 3.786,.0033,.0876, 3.789, 3.784
Pb2203,220.353 {453},In2306,ppm, -.0016,.0007,42.91, -.0011, -.0021
S_1820,182.034 {485},Y_2243,ppm, 16.32,.0525,.3218, 16.35, 16.28
Sb2068,206.833 {463},Y_2243,ppm, .0012,.0015,124.8, .0001, .0022
Se1960,196.090 {472},Y_2243,ppm, .0024,.0036,152.8, .0050, -.0002
Si2516,251.611 {134},Y_3710,ppm, 14.43,.1364,.9450, 14.53, 14.33
Sn1899,189.989 {477},In2306,ppm, .0010,.0000,4.394, .0011, .0010
Sr4215,421.552 { 80},Y_3710,ppm, .2015,.0004,.1928, .2012, .2018
Ti3349,334.904 {101},Y_3600,ppm, .0028,.0002,6.042, .0029, .0027
Tl1908,190.856 {477},In2306,ppm, .0510,.0053,10.40, .0472, .0547
U_3670,367.007 { 92},Y_3600,ppm, -.1826,.0204,11.18, -.1682, -.1971
V_2924,292.402 {115},Y_3600,ppm, -.0041,.0001,2.389, -.0042, -.0041
W_2397,239.709 {140},Y_2243,ppm, .0859,.0830,96.61, .0272, .1446
Zn2062,206.200 {463},In2306,ppm, .2203,.0000,.0048, .2203, .2204

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 209.79,.72193,.34412,209.28,210.30
In2306,230.606 {446},Cts/S, 12243.,14.543,.11878,12233.,12254.
Y_2243,224.306 {450},Cts/S, 17492.,16.520,.09444,17480.,17504.
Y_3600,360.073 { 94},Cts/S, 157580.,114.35,.07257,157660.,157500.
Y_3710,371.030 { 91},Cts/S, 10209.,9.9046,.09701,10216.,10202.

[Sample Header]
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Custom ID1=
Custom ID2=
Custom ID3=
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0003,.0002,49.30, -.0002, -.0004
Al3082,308.215 {109},In2306,ppm, .1329,.0251,18.88, .1507, .1152
As1890,189.042 {478},Y_2243,ppm, .0062,.0017,27.11, .0050, .0074
B_2496,249.678 {135},Y_3710,ppm, .0736,.0056,7.582, .0775, .0696
Ba4554,455.403 { 74},Y_3710,ppm, .1130,.0055,4.859, .1169, .1091
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,100.9, -.0001, -.0000
Ca3158,315.887 {107},In2306,ppm, 25.35,1.152,4.544, 26.16, 24.53
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0000,27.58, .0002, .0001
Co2286,228.616 {447},In2306,ppm, -.0010,.0002,18.97, -.0009, -.0012
Cr2677,267.716 {126},Y_3600,ppm, .0028,.0002,6.875, .0029, .0026
Cu3247,324.754 {104},Y_3600,ppm, .0170,.0008,4.776, .0176, .0164
Fe2404,240.488 {140},In2306,ppm, .4760,.0177,3.726, .4885, .4635
K_7664,766.490 { 44},Y_3710,ppm, 6.861,.3086,4.497, 7.079, 6.643
Li6707,670.784 { 50},Y_3710,ppm, .0109,.0007,6.705, .0114, .0103
Mg2790,279.079 {121},Y_3710,ppm, 7.044,.2428,3.447, 7.216, 6.872
Mn2576,257.610 {131},Y_3600,ppm, .0375,.0021,5.559, .0390, .0360
Mo2020,202.030 {467},Y_2243,ppm, 1.351,.0012,.0893, 1.350, 1.352
Na5895,589.592 { 57},Y_3710,ppm, 91.16,4.620,5.068, 94.43, 87.90
Ni2316,231.604 {445},In2306,ppm, .0032,.0002,5.058, .0031, .0033
P_1782,178.284 {489},In2306,ppm, 3.783,.0054,.1425, 3.779, 3.787
Pb2203,220.353 {453},In2306,ppm, -.0004,.0013,307.0, -.0013, .0005
S_1820,182.034 {485},Y_2243,ppm, 16.64,.0015,.0089, 16.64, 16.64
Sb2068,206.833 {463},Y_2243,ppm, -.0012,.0031,246.8, -.0034, .0009
Se1960,196.090 {472},Y_2243,ppm, .0022,.0042,193.1, -.0008, .0051
Si2516,251.611 {134},Y_3710,ppm, 14.20,.8976,6.323, 14.83, 13.56
Sn1899,189.989 {477},In2306,ppm, .0003,.0000,4.770, .0003, .0003
Sr4215,421.552 { 80},Y_3710,ppm, .2054,.0104,5.062, .2128, .1981
Ti3349,334.904 {101},Y_3600,ppm, .0017,.0005,27.82, .0020, .0013
Tl1908,190.856 {477},In2306,ppm, .0391,.0010,2.435, .0384, .0398
U_3670,367.007 { 92},Y_3600,ppm, -.1083,.0225,20.74, -.0924, -.1242
V_2924,292.402 {115},Y_3600,ppm, -.0046,.0002,5.017, -.0047, -.0044
W_2397,239.709 {140},Y_2243,ppm, .0164,.0523,318.2, -.0205, .0534
Zn2062,206.200 {463},In2306,ppm, .1767,.0001,.0536, .1766, .1768

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 213.43,7.5615,3.5428,208.08,218.78
In2306,230.606 {446},Cts/S, 12260.,4.5928,.03746,12263.,12257.
Y_2243,224.306 {450},Cts/S, 17478.,16.692,.09550,17490.,17466.
Y_3600,360.073 { 94},Cts/S, 153240.,6322.3,4.1259,148760.,157710.
Y_3710,371.030 { 91},Cts/S, 10266.,387.50,3.7746,9992.2,10540.

[Sample Header]
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Custom ID2=
Custom ID3=
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Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0002,185.0, .0000, -.0002
Al3082,308.215 {109},In2306,ppm, .0958,.0121,12.67, .0873, .1044
As1890,189.042 {478},Y_2243,ppm, -.0009,.0022,254.2, -.0024, .0007
B_2496,249.678 {135},Y_3710,ppm, .0067,.0048,70.99, .0033, .0101
Ba4554,455.403 { 74},Y_3710,ppm, .0071,.0002,3.001, .0069, .0072
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,1265., -.0000, .0000
Ca3158,315.887 {107},In2306,ppm, 2.718,.0560,2.059, 2.678, 2.757
Cd2288,228.802 {447},Y_2243,ppm, .0003,.0001,22.18, .0003, .0002
Co2286,228.616 {447},In2306,ppm, -.0001,.0001,109.5, -.0002, -.0000
Cr2677,267.716 {126},Y_3600,ppm, .0014,.0001,4.116, .0015, .0014
Cu3247,324.754 {104},Y_3600,ppm, .0044,.0001,1.400, .0044, .0045
Fe2404,240.488 {140},In2306,ppm, .3121,.0068,2.175, .3073, .3169
K_7664,766.490 { 44},Y_3710,ppm, .2144,.0497,23.20, .1792, .2495
Li6707,670.784 { 50},Y_3710,ppm, -.0004,.0000,.8363, -.0004, -.0004
Mg2790,279.079 {121},Y_3710,ppm, .2046,.0253,12.37, .1867, .2225
Mn2576,257.610 {131},Y_3600,ppm, .0205,.0001,.3119, .0205, .0204
Mo2020,202.030 {467},Y_2243,ppm, .1035,.0013,1.264, .1026, .1044
Na5895,589.592 { 57},Y_3710,ppm, 1.251,.0096,.7664, 1.258, 1.244
Ni2316,231.604 {445},In2306,ppm, .0010,.0000,.2866, .0010, .0010
P_1782,178.284 {489},In2306,ppm, .0506,.0009,1.813, .0499, .0512
Pb2203,220.353 {453},In2306,ppm, .0005,.0012,235.7, -.0003, .0013
S_1820,182.034 {485},Y_2243,ppm, .1066,.0124,11.61, .0978, .1153
Sb2068,206.833 {463},Y_2243,ppm, -.0000,.0021,5849., .0014, -.0015
Se1960,196.090 {472},Y_2243,ppm, .0028,.0003,10.08, .0026, .0030
Si2516,251.611 {134},Y_3710,ppm, 3.460,.0406,1.173, 3.431, 3.489
Sn1899,189.989 {477},In2306,ppm, .0004,.0003,72.92, .0002, .0006
Sr4215,421.552 { 80},Y_3710,ppm, .0054,.0001,1.178, .0055, .0054
Ti3349,334.904 {101},Y_3600,ppm, .0739,.0003,.3854, .0741, .0737
Tl1908,190.856 {477},In2306,ppm, .0305,.0011,3.526, .0312, .0297
U_3670,367.007 { 92},Y_3600,ppm, -.2054,.1229,59.85, -.1185, -.2923
V_2924,292.402 {115},Y_3600,ppm, .0001,.0003,620.4, .0003, -.0002
W_2397,239.709 {140},Y_2243,ppm, -.0065,.0060,91.64, -.0023, -.0107
Zn2062,206.200 {463},In2306,ppm, .2396,.0009,.3798, .2390, .2403

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 216.06,4.3187,1.9988,219.12,213.01
In2306,230.606 {446},Cts/S, 13384.,33.125,.24750,13407.,13360.
Y_2243,224.306 {450},Cts/S, 18152.,49.844,.27458,18188.,18117.
Y_3600,360.073 { 94},Cts/S, 164230.,6.3668,.00388,164240.,164230.
Y_3710,371.030 { 91},Cts/S, 10286.,47.823,.46493,10320.,10252.

[Sample Header]
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Username=admin
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Custom ID3=
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CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0000,21.05, -.0001, -.0001
Al3082,308.215 {109},In2306,ppm, .3539,.0038,1.073, .3566, .3512
As1890,189.042 {478},Y_2243,ppm, -.0006,.0013,215.4, -.0016, .0003
B_2496,249.678 {135},Y_3710,ppm, .0342,.0037,10.73, .0368, .0316
Ba4554,455.403 { 74},Y_3710,ppm, .0630,.0001,.1404, .0631, .0630
Be3130,313.042 {108},Y_3710,ppm, .0002,.0001,72.37, .0003, .0001
Ca3158,315.887 {107},In2306,ppm, 16.71,.0107,.0639, 16.71, 16.72
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Cd2288,228.802 {447},Y_2243,ppm, .0003,.0000,6.685, .0003, .0004
Co2286,228.616 {447},In2306,ppm, -.0002,.0001,33.41, -.0002, -.0003
Cr2677,267.716 {126},Y_3600,ppm, .0011,.0004,32.90, .0014, .0009
Cu3247,324.754 {104},Y_3600,ppm, .0064,.0001,1.995, .0063, .0065
Fe2404,240.488 {140},In2306,ppm, .9438,.0022,.2338, .9454, .9423
K_7664,766.490 { 44},Y_3710,ppm, 2.533,.0520,2.051, 2.569, 2.496
Li6707,670.784 { 50},Y_3710,ppm, .0036,.0011,31.53, .0028, .0044
Mg2790,279.079 {121},Y_3710,ppm, 2.469,.0432,1.748, 2.438, 2.499
Mn2576,257.610 {131},Y_3600,ppm, .1768,.0001,.0535, .1769, .1768
Mo2020,202.030 {467},Y_2243,ppm, .3670,.0005,.1291, .3667, .3673
Na5895,589.592 { 57},Y_3710,ppm, 16.04,.0101,.0629, 16.03, 16.04
Ni2316,231.604 {445},In2306,ppm, .0008,.0000,1.907, .0008, .0008
P_1782,178.284 {489},In2306,ppm, .0518,.0009,1.705, .0524, .0512
Pb2203,220.353 {453},In2306,ppm, .0008,.0007,84.20, .0003, .0013
S_1820,182.034 {485},Y_2243,ppm, 4.379,.0108,.2455, 4.387, 4.372
Sb2068,206.833 {463},Y_2243,ppm, -.0016,.0003,16.29, -.0014, -.0017
Se1960,196.090 {472},Y_2243,ppm, .0027,.0005,17.44, .0023, .0030
Si2516,251.611 {134},Y_3710,ppm, 7.121,.0392,.5503, 7.149, 7.093
Sn1899,189.989 {477},In2306,ppm, .0007,.0001,15.01, .0006, .0008
Sr4215,421.552 { 80},Y_3710,ppm, .0842,.0002,.2142, .0843, .0840
Ti3349,334.904 {101},Y_3600,ppm, .0057,.0003,4.732, .0055, .0059
Tl1908,190.856 {477},In2306,ppm, .0235,.0040,17.05, .0207, .0263
U_3670,367.007 { 92},Y_3600,ppm, -.1626,.1050,64.57, -.0884, -.2369
V_2924,292.402 {115},Y_3600,ppm, -.0010,.0002,20.01, -.0011, -.0008
W_2397,239.709 {140},Y_2243,ppm, .0097,.0399,413.8, -.0186, .0379
Zn2062,206.200 {463},In2306,ppm, .3081,.0016,.5094, .3092, .3070

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 214.11,1.6114,.75259,215.25,212.97
In2306,230.606 {446},Cts/S, 12941.,29.785,.23016,12920.,12962.
Y_2243,224.306 {450},Cts/S, 17751.,5.2902,.02980,17748.,17755.
Y_3600,360.073 { 94},Cts/S, 161040.,1.6082,.00100,161040.,161040.
Y_3710,371.030 { 91},Cts/S, 10264.,11.633,.11334,10256.,10272.

[Sample Header]
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SampleName=600-192044-A-1-A
Username=admin
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Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/19/2019 9:04:02
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Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0005,.0002,50.14, -.0007, -.0003
Al3082,308.215 {109},In2306,ppm, .2184,.0160,7.345, .2071, .2298
As1890,189.042 {478},Y_2243,ppm, .0074,.0000,.0496, .0074, .0074
B_2496,249.678 {135},Y_3710,ppm, .0957,.0062,6.521, .1001, .0913
Ba4554,455.403 { 74},Y_3710,ppm, .1092,.0005,.4124, .1089, .1095
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,134.1, .0001, .0000
Ca3158,315.887 {107},In2306,ppm, 23.39,.0358,.1532, 23.37, 23.42
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,51.48, .0001, .0000
Co2286,228.616 {447},In2306,ppm, .0000,.0004,2054., -.0003, .0003
Cr2677,267.716 {126},Y_3600,ppm, .0008,.0001,7.373, .0008, .0007
Cu3247,324.754 {104},Y_3600,ppm, .0052,.0002,3.033, .0051, .0053
Fe2404,240.488 {140},In2306,ppm, .2318,.0030,1.285, .2297, .2339
K_7664,766.490 { 44},Y_3710,ppm, 1.844,.0093,.5017, 1.851, 1.838
Li6707,670.784 { 50},Y_3710,ppm, .0116,.0005,4.078, .0119, .0112
Mg2790,279.079 {121},Y_3710,ppm, 4.040,.0016,.0385, 4.041, 4.039
Mn2576,257.610 {131},Y_3600,ppm, .0210,.0000,.0414, .0210, .0210
Mo2020,202.030 {467},Y_2243,ppm, .0065,.0003,3.965, .0063, .0067
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Na5895,589.592 { 57},Y_3710,ppm, 65.72,.0997,.1517, 65.65, 65.79
Ni2316,231.604 {445},In2306,ppm, .0008,.0002,30.83, .0009, .0006
P_1782,178.284 {489},In2306,ppm, .1311,.0001,.1038, .1310, .1312
Pb2203,220.353 {453},In2306,ppm, -.0002,.0001,42.58, -.0003, -.0002
S_1820,182.034 {485},Y_2243,ppm, 11.00,.0449,.4085, 11.03, 10.96
Sb2068,206.833 {463},Y_2243,ppm, -.0020,.0013,61.54, -.0012, -.0029
Se1960,196.090 {472},Y_2243,ppm, .0029,.0007,22.31, .0034, .0025
Si2516,251.611 {134},Y_3710,ppm, 10.39,.1039,1.000, 10.32, 10.46
Sn1899,189.989 {477},In2306,ppm, .0003,.0004,131.0, .0006, .0000
Sr4215,421.552 { 80},Y_3710,ppm, .2527,.0014,.5485, .2518, .2537
Ti3349,334.904 {101},Y_3600,ppm, .0013,.0005,43.32, .0017, .0009
Tl1908,190.856 {477},In2306,ppm, .0191,.0012,6.363, .0183, .0200
U_3670,367.007 { 92},Y_3600,ppm, -.2391,.0928,38.79, -.3047, -.1735
V_2924,292.402 {115},Y_3600,ppm, .0018,.0002,11.39, .0017, .0020
W_2397,239.709 {140},Y_2243,ppm, .0739,.0399,53.95, .0457, .1020
Zn2062,206.200 {463},In2306,ppm, .0314,.0001,.2024, .0313, .0314

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 211.51,2.1215,1.0030,210.01,213.01
In2306,230.606 {446},Cts/S, 12469.,24.896,.19967,12487.,12451.
Y_2243,224.306 {450},Cts/S, 17549.,21.143,.12048,17564.,17534.
Y_3600,360.073 { 94},Cts/S, 158390.,70.730,.04466,158340.,158440.
Y_3710,371.030 { 91},Cts/S, 10132.,27.460,.27103,10113.,10151.

[Sample Header]
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Custom ID2=
Custom ID3=
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0004,.0007,195.0, .0009, -.0001
Al3082,308.215 {109},In2306,ppm, .2238,.0180,8.043, .2111, .2366
As1890,189.042 {478},Y_2243,ppm, .0039,.0023,59.82, .0023, .0056
B_2496,249.678 {135},Y_3710,ppm, .0890,.0007,.8024, .0895, .0884
Ba4554,455.403 { 74},Y_3710,ppm, .1108,.0000,.0005, .1108, .1108
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,1341., .0000, -.0000
Ca3158,315.887 {107},In2306,ppm, 23.12,.1524,.6592, 23.23, 23.01
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0001,38.60, .0001, .0002
Co2286,228.616 {447},In2306,ppm, -.0003,.0003,91.19, -.0001, -.0005
Cr2677,267.716 {126},Y_3600,ppm, .0009,.0005,56.55, .0012, .0005
Cu3247,324.754 {104},Y_3600,ppm, .0056,.0002,2.953, .0057, .0055
Fe2404,240.488 {140},In2306,ppm, .2323,.0000,.0054, .2323, .2323
K_7664,766.490 { 44},Y_3710,ppm, 1.841,.0315,1.709, 1.863, 1.819
Li6707,670.784 { 50},Y_3710,ppm, .0110,.0012,11.05, .0102, .0119
Mg2790,279.079 {121},Y_3710,ppm, 3.972,.0136,.3423, 3.963, 3.982
Mn2576,257.610 {131},Y_3600,ppm, .0208,.0001,.3988, .0208, .0209
Mo2020,202.030 {467},Y_2243,ppm, .0043,.0001,1.324, .0044, .0043
Na5895,589.592 { 57},Y_3710,ppm, 65.29,.1570,.2405, 65.18, 65.40
Ni2316,231.604 {445},In2306,ppm, .0012,.0002,20.55, .0014, .0010
P_1782,178.284 {489},In2306,ppm, .1305,.0023,1.763, .1289, .1321
Pb2203,220.353 {453},In2306,ppm, -.0001,.0016,1961., .0011, -.0012
S_1820,182.034 {485},Y_2243,ppm, 10.73,.0159,.1482, 10.72, 10.74
Sb2068,206.833 {463},Y_2243,ppm, -.0012,.0000,1.065, -.0012, -.0013
Se1960,196.090 {472},Y_2243,ppm, .0012,.0013,103.8, .0021, .0003
Si2516,251.611 {134},Y_3710,ppm, 10.37,.0998,.9619, 10.44, 10.30
Sn1899,189.989 {477},In2306,ppm, .0007,.0003,42.79, .0005, .0010
Sr4215,421.552 { 80},Y_3710,ppm, .2511,.0002,.0686, .2512, .2510
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Ti3349,334.904 {101},Y_3600,ppm, .0012,.0004,32.61, .0015, .0009
Tl1908,190.856 {477},In2306,ppm, .0194,.0027,14.07, .0175, .0214
U_3670,367.007 { 92},Y_3600,ppm, -.1613,.0576,35.73, -.1205, -.2020
V_2924,292.402 {115},Y_3600,ppm, .0027,.0002,6.930, .0029, .0026
W_2397,239.709 {140},Y_2243,ppm, .0158,.0304,193.2, -.0058, .0373
Zn2062,206.200 {463},In2306,ppm, .0355,.0002,.5612, .0357, .0354

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 212.41,2.1410,1.0080,210.89,213.92
In2306,230.606 {446},Cts/S, 12575.,24.351,.19364,12558.,12593.
Y_2243,224.306 {450},Cts/S, 17690.,31.566,.17844,17667.,17712.
Y_3600,360.073 { 94},Cts/S, 158610.,458.89,.28932,158930.,158280.
Y_3710,371.030 { 91},Cts/S, 10129.,94.097,.92901,10062.,10195.

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Custom ID3=
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2502,.0002,.0881, .2500, .2503
Al3082,308.215 {109},In2306,ppm, 10.76,.0386,.3585, 10.73, 10.78
As1890,189.042 {478},Y_2243,ppm, 1.034,.0047,.4525, 1.037, 1.031
B_2496,249.678 {135},Y_3710,ppm, .6063,.0067,1.109, .6016, .6111
Ba4554,455.403 { 74},Y_3710,ppm, 1.127,.0058,.5151, 1.123, 1.131
Be3130,313.042 {108},Y_3710,ppm, .9981,.0045,.4498, .9950, 1.001
Ca3158,315.887 {107},In2306,ppm, 33.48,.0931,.2780, 33.41, 33.54
Cd2288,228.802 {447},Y_2243,ppm, 1.009,.0027,.2680, 1.011, 1.007
Co2286,228.616 {447},In2306,ppm, 1.007,.0024,.2357, 1.006, 1.009
Cr2677,267.716 {126},Y_3600,ppm, .9795,.0020,.2046, .9780, .9809
Cu3247,324.754 {104},Y_3600,ppm, 1.018,.0030,.2906, 1.016, 1.020
Fe2404,240.488 {140},In2306,ppm, 10.61,.0202,.1900, 10.60, 10.62
K_7664,766.490 { 44},Y_3710,ppm, 12.12,.0980,.8086, 12.05, 12.19
Li6707,670.784 { 50},Y_3710,ppm, 1.005,.0053,.5263, 1.001, 1.009
Mg2790,279.079 {121},Y_3710,ppm, 14.27,.0250,.1753, 14.29, 14.25
Mn2576,257.610 {131},Y_3600,ppm, 1.021,.0002,.0152, 1.022, 1.021
Mo2020,202.030 {467},Y_2243,ppm, 1.006,.0041,.4105, 1.009, 1.003
Na5895,589.592 { 57},Y_3710,ppm, 74.89,.3249,.4339, 74.66, 75.12
Ni2316,231.604 {445},In2306,ppm, 1.013,.0023,.2270, 1.015, 1.011
P_1782,178.284 {489},In2306,ppm, 5.444,.0198,.3631, 5.458, 5.430
Pb2203,220.353 {453},In2306,ppm, 1.004,.0016,.1553, 1.003, 1.005
S_1820,182.034 {485},Y_2243,ppm, 17.98,.0888,.4940, 18.04, 17.91
Sb2068,206.833 {463},Y_2243,ppm, 1.591,.0147,.9228, 1.601, 1.580
Se1960,196.090 {472},Y_2243,ppm, 1.026,.0088,.8564, 1.032, 1.019
Si2516,251.611 {134},Y_3710,ppm, 22.77,.2862,1.257, 22.57, 22.98
Sn1899,189.989 {477},In2306,ppm, 1.011,.0003,.0253, 1.011, 1.011
Sr4215,421.552 { 80},Y_3710,ppm, 1.255,.0066,.5251, 1.251, 1.260
Ti3349,334.904 {101},Y_3600,ppm, 1.007,.0014,.1411, 1.008, 1.006
Tl1908,190.856 {477},In2306,ppm, .3282,.0238,7.257, .3450, .3114
U_3670,367.007 { 92},Y_3600,ppm, .4515,.0528,11.71, .4889, .4141
V_2924,292.402 {115},Y_3600,ppm, .9969,.0003,.0281, .9967, .9971
W_2397,239.709 {140},Y_2243,ppm, .4993,.0479,9.592, .4655, .5332
Zn2062,206.200 {463},In2306,ppm, .5481,.0024,.4433, .5464, .5498

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 209.76,2.9651,1.4136,207.66,211.85
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In2306,230.606 {446},Cts/S, 12102.,22.969,.18980,12118.,12085.
Y_2243,224.306 {450},Cts/S, 17517.,18.513,.10569,17504.,17530.
Y_3600,360.073 { 94},Cts/S, 158140.,391.16,.24735,157860.,158420.
Y_3710,371.030 { 91},Cts/S, 10270.,103.73,1.0100,10197.,10344.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .2512,.0003,.1301, .2514, .2510
Al3082,308.215 {109},In2306,ppm, 10.81,.0544,.5038, 10.84, 10.77
As1890,189.042 {478},Y_2243,ppm, 1.033,.0061,.5935, 1.028, 1.037
B_2496,249.678 {135},Y_3710,ppm, .6055,.0073,1.198, .6004, .6107
Ba4554,455.403 { 74},Y_3710,ppm, 1.125,.0029,.2607, 1.123, 1.127
Be3130,313.042 {108},Y_3710,ppm, 1.002,.0026,.2589, 1.001, 1.004
Ca3158,315.887 {107},In2306,ppm, 33.60,.0066,.0196, 33.60, 33.61
Cd2288,228.802 {447},Y_2243,ppm, 1.009,.0009,.0857, 1.009, 1.008
Co2286,228.616 {447},In2306,ppm, 1.008,.0036,.3618, 1.010, 1.005
Cr2677,267.716 {126},Y_3600,ppm, .9906,.0034,.3475, .9882, .9930
Cu3247,324.754 {104},Y_3600,ppm, 1.019,.0009,.0914, 1.018, 1.020
Fe2404,240.488 {140},In2306,ppm, 10.63,.0267,.2506, 10.62, 10.65
K_7664,766.490 { 44},Y_3710,ppm, 12.21,.0395,.3237, 12.18, 12.24
Li6707,670.784 { 50},Y_3710,ppm, 1.010,.0011,.1093, 1.009, 1.011
Mg2790,279.079 {121},Y_3710,ppm, 14.37,.1358,.9454, 14.27, 14.46
Mn2576,257.610 {131},Y_3600,ppm, 1.025,.0014,.1413, 1.024, 1.026
Mo2020,202.030 {467},Y_2243,ppm, 1.014,.0032,.3121, 1.011, 1.016
Na5895,589.592 { 57},Y_3710,ppm, 75.05,.1656,.2206, 74.93, 75.17
Ni2316,231.604 {445},In2306,ppm, 1.011,.0049,.4894, 1.015, 1.008
P_1782,178.284 {489},In2306,ppm, 5.447,.0015,.0280, 5.448, 5.446
Pb2203,220.353 {453},In2306,ppm, 1.004,.0008,.0833, 1.004, 1.005
S_1820,182.034 {485},Y_2243,ppm, 18.17,.0371,.2041, 18.14, 18.19
Sb2068,206.833 {463},Y_2243,ppm, 1.596,.0044,.2740, 1.593, 1.599
Se1960,196.090 {472},Y_2243,ppm, 1.029,.0007,.0633, 1.030, 1.029
Si2516,251.611 {134},Y_3710,ppm, 22.42,.1783,.7955, 22.29, 22.54
Sn1899,189.989 {477},In2306,ppm, 1.014,.0027,.2669, 1.016, 1.012
Sr4215,421.552 { 80},Y_3710,ppm, 1.257,.0040,.3162, 1.254, 1.259
Ti3349,334.904 {101},Y_3600,ppm, 1.007,.0011,.1072, 1.008, 1.006
Tl1908,190.856 {477},In2306,ppm, .5416,.0284,5.238, .5617, .5216
U_3670,367.007 { 92},Y_3600,ppm, .5626,.1042,18.53, .6363, .4889
V_2924,292.402 {115},Y_3600,ppm, 1.001,.0030,.3019, .9987, 1.003
W_2397,239.709 {140},Y_2243,ppm, .4953,.1204,24.31, .4102, .5805
Zn2062,206.200 {463},In2306,ppm, .5497,.0030,.5517, .5519, .5476

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 211.25,.42169,.19961,211.55,210.95
In2306,230.606 {446},Cts/S, 12140.,28.113,.23157,12160.,12120.
Y_2243,224.306 {450},Cts/S, 17581.,66.414,.37777,17628.,17534.
Y_3600,360.073 { 94},Cts/S, 157500.,678.79,.43097,157980.,157020.
Y_3710,371.030 { 91},Cts/S, 10322.,36.981,.35827,10348.,10296.

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Ag3280,328.068 {103},Y_3600,ppm, .2462,.0000,.0119, .2462, .2463
Al3082,308.215 {109},In2306,ppm, 9.937,.0171,.1722, 9.949, 9.925
As1890,189.042 {478},Y_2243,ppm, 1.038,.0068,.6543, 1.034, 1.043
B_2496,249.678 {135},Y_3710,ppm, 1.049,.0134,1.276, 1.040, 1.059
Ba4554,455.403 { 74},Y_3710,ppm, 1.101,.0021,.1921, 1.103, 1.100
Be3130,313.042 {108},Y_3710,ppm, .9740,.0013,.1306, .9749, .9731
Ca3158,315.887 {107},In2306,ppm, 62.53,.2617,.4184, 62.72, 62.35
Cd2288,228.802 {447},Y_2243,ppm, .9949,.0096,.9640, .9881, 1.002
Co2286,228.616 {447},In2306,ppm, 1.007,.0114,1.134, .9992, 1.015
Cr2677,267.716 {126},Y_3600,ppm, .9492,.0000,.0007, .9492, .9493
Cu3247,324.754 {104},Y_3600,ppm, .9833,.0021,.2091, .9819, .9848
Fe2404,240.488 {140},In2306,ppm, 10.12,.0110,.1090, 10.13, 10.12
K_7664,766.490 { 44},Y_3710,ppm, 23.66,.0864,.3652, 23.60, 23.72
Li6707,670.784 { 50},Y_3710,ppm, 1.066,.0014,.1352, 1.067, 1.065
Mg2790,279.079 {121},Y_3710,ppm, 15.47,.0339,.2189, 15.44, 15.49
Mn2576,257.610 {131},Y_3600,ppm, .9811,.0003,.0323, .9813, .9809
Mo2020,202.030 {467},Y_2243,ppm, .9616,.0099,1.034, .9545, .9686
Na5895,589.592 { 57},Y_3710,ppm, 744.3,6.844,.9194, 749.2, 739.5
Ni2316,231.604 {445},In2306,ppm, 1.013,.0129,1.279, 1.003, 1.022
P_1782,178.284 {489},In2306,ppm, 7.325,.0918,1.253, 7.260, 7.390
Pb2203,220.353 {453},In2306,ppm, .9776,.0152,1.555, .9669, .9884
S_1820,182.034 {485},Y_2243,ppm, 427.8,4.096,.9575, 424.9, 430.7
Sb2068,206.833 {463},Y_2243,ppm, 1.526,.0099,.6480, 1.519, 1.533
Se1960,196.090 {472},Y_2243,ppm, 1.151,.0071,.6196, 1.146, 1.156
Si2516,251.611 {134},Y_3710,ppm, 23.79,.7705,3.239, 23.24, 24.33
Sn1899,189.989 {477},In2306,ppm, 1.012,.0098,.9698, 1.005, 1.019
Sr4215,421.552 { 80},Y_3710,ppm, 2.162,.0034,.1578, 2.165, 2.160
Ti3349,334.904 {101},Y_3600,ppm, .9721,.0000,.0041, .9720, .9721
Tl1908,190.856 {477},In2306,ppm, 1.336,.0150,1.122, 1.326, 1.347
U_3670,367.007 { 92},Y_3600,ppm, .3766,.0933,24.78, .3106, .4425
V_2924,292.402 {115},Y_3600,ppm, .9742,.0007,.0716, .9747, .9737
W_2397,239.709 {140},Y_2243,ppm, .4705,.0834,17.72, .5295, .4116
Zn2062,206.200 {463},In2306,ppm, .5802,.0078,1.345, .5747, .5858

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 203.87,.54071,.26522,203.49,204.25
In2306,230.606 {446},Cts/S, 10692.,115.33,1.0787,10773.,10610.
Y_2243,224.306 {450},Cts/S, 16674.,167.37,1.0038,16793.,16556.
Y_3600,360.073 { 94},Cts/S, 147550.,276.53,.18742,147740.,147350.
Y_3710,371.030 { 91},Cts/S, 9993.4,1.6515,.01653,9994.6,9992.3

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Al3082,308.215 {109},In2306,ppm, .0145,.0189,130.0, .0279, .0012
As1890,189.042 {478},Y_2243,ppm, .0011,.0016,147.8, -.0000, .0022
B_2496,249.678 {135},Y_3710,ppm, .1300,.0111,8.515, .1378, .1222
Ba4554,455.403 { 74},Y_3710,ppm, .0245,.0002,.6778, .0244, .0246
Be3130,313.042 {108},Y_3710,ppm, .0002,.0001,43.00, .0001, .0002
Ca3158,315.887 {107},In2306,ppm, 11.11,.1084,.9756, 11.03, 11.18
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,134.0, .0000, .0002
Co2286,228.616 {447},In2306,ppm, .0000,.0001,566.7, -.0001, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0003,.0003,125.4, .0005, .0000
Cu3247,324.754 {104},Y_3600,ppm, .0020,.0001,4.650, .0019, .0021
Fe2404,240.488 {140},In2306,ppm, .0996,.0007,.7225, .0991, .1002
K_7664,766.490 { 44},Y_3710,ppm, 2.917,.0342,1.173, 2.893, 2.941
Li6707,670.784 { 50},Y_3710,ppm, .0196,.0010,5.102, .0203, .0189
Mg2790,279.079 {121},Y_3710,ppm, 1.242,.0180,1.449, 1.255, 1.230
Mn2576,257.610 {131},Y_3600,ppm, .0053,.0000,.1894, .0053, .0053
Mo2020,202.030 {467},Y_2243,ppm, .0093,.0008,8.927, .0087, .0099
Na5895,589.592 { 57},Y_3710,ppm, 156.2,.1506,.0964, 156.1, 156.3
Ni2316,231.604 {445},In2306,ppm, .0005,.0002,36.63, .0004, .0006
P_1782,178.284 {489},In2306,ppm, .3206,.0028,.8628, .3225, .3186
Pb2203,220.353 {453},In2306,ppm, .0002,.0023,1463., .0018, -.0015
S_1820,182.034 {485},Y_2243,ppm, 85.45,.0737,.0862, 85.50, 85.39
Sb2068,206.833 {463},Y_2243,ppm, .0059,.0006,10.57, .0063, .0055
Se1960,196.090 {472},Y_2243,ppm, .0238,.0020,8.432, .0224, .0252
Si2516,251.611 {134},Y_3710,ppm, 1.644,.0051,.3111, 1.647, 1.640
Sn1899,189.989 {477},In2306,ppm, .0019,.0003,17.32, .0016, .0021
Sr4215,421.552 { 80},Y_3710,ppm, .2516,.0027,1.073, .2497, .2535
Ti3349,334.904 {101},Y_3600,ppm, .0008,.0003,43.87, .0010, .0005
Tl1908,190.856 {477},In2306,ppm, .2503,.0004,.1453, .2505, .2500
U_3670,367.007 { 92},Y_3600,ppm, -.2329,.0110,4.719, -.2251, -.2407
V_2924,292.402 {115},Y_3600,ppm, .0018,.0001,5.297, .0019, .0017
W_2397,239.709 {140},Y_2243,ppm, .0210,.0300,143.1, .0422, -.0003
Zn2062,206.200 {463},In2306,ppm, .0125,.0002,1.200, .0124, .0126

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 208.83,.21709,.10396,208.98,208.67
In2306,230.606 {446},Cts/S, 12113.,55.503,.45820,12152.,12074.
Y_2243,224.306 {450},Cts/S, 17406.,56.816,.32643,17446.,17365.
Y_3600,360.073 { 94},Cts/S, 155610.,446.11,.28668,155930.,155300.
Y_3710,371.030 { 91},Cts/S, 10119.,21.005,.20758,10104.,10133.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .5004,.0019,.3835, .5018, .4990
Al3082,308.215 {109},In2306,ppm, 19.98,.1332,.6667, 19.89, 20.08
As1890,189.042 {478},Y_2243,ppm, 1.016,.0091,.8925, 1.023, 1.010
B_2496,249.678 {135},Y_3710,ppm, 1.003,.0093,.9245, .9962, 1.009
Ba4554,455.403 { 74},Y_3710,ppm, 1.011,.0089,.8841, 1.005, 1.017
Be3130,313.042 {108},Y_3710,ppm, .9755,.0020,.2008, .9741, .9769
Ca3158,315.887 {107},In2306,ppm, 19.81,.0879,.4438, 19.75, 19.87
Cd2288,228.802 {447},Y_2243,ppm, 1.002,.0020,.1983, 1.004, 1.001
Co2286,228.616 {447},In2306,ppm, .9995,.0050,.4956, 1.003, .9960
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Cr2677,267.716 {126},Y_3600,ppm, .9882,.0041,.4165, .9911, .9853
Cu3247,324.754 {104},Y_3600,ppm, 1.003,.0007,.0722, 1.004, 1.003
Fe2404,240.488 {140},In2306,ppm, 19.88,.1633,.8216, 19.76, 19.99
K_7664,766.490 { 44},Y_3710,ppm, 19.90,.1234,.6205, 19.81, 19.98
Li6707,670.784 { 50},Y_3710,ppm, .9926,.0097,.9734, .9858, .9995
Mg2790,279.079 {121},Y_3710,ppm, 19.98,.0174,.0871, 19.97, 19.99
Mn2576,257.610 {131},Y_3600,ppm, 1.005,.0032,.3148, 1.007, 1.002
Mo2020,202.030 {467},Y_2243,ppm, 1.004,.0055,.5438, 1.008, 1.001
Na5895,589.592 { 57},Y_3710,ppm, 19.93,.1344,.6747, 19.83, 20.02
Ni2316,231.604 {445},In2306,ppm, 1.002,.0051,.5087, 1.006, .9985
P_1782,178.284 {489},In2306,ppm, 10.23,.0799,.7804, 10.29, 10.18
Pb2203,220.353 {453},In2306,ppm, .9953,.0108,1.090, 1.003, .9876
S_1820,182.034 {485},Y_2243,ppm, 10.90,.0660,.6054, 10.95, 10.85
Sb2068,206.833 {463},Y_2243,ppm, 2.105,.0161,.7647, 2.116, 2.094
Se1960,196.090 {472},Y_2243,ppm, 1.014,.0001,.0064, 1.014, 1.014
Si2516,251.611 {134},Y_3710,ppm, 14.12,.3859,2.733, 13.84, 14.39
Sn1899,189.989 {477},In2306,ppm, .9992,.0105,1.052, 1.007, .9918
Sr4215,421.552 { 80},Y_3710,ppm, 1.002,.0076,.7573, .9970, 1.008
Ti3349,334.904 {101},Y_3600,ppm, .9987,.0006,.0619, .9991, .9983
Tl1908,190.856 {477},In2306,ppm, 1.170,.0107,.9106, 1.178, 1.163
U_3670,367.007 { 92},Y_3600,ppm, 1.062,.1440,13.56, .9601, 1.164
V_2924,292.402 {115},Y_3600,ppm, .9916,.0037,.3756, .9943, .9890
W_2397,239.709 {140},Y_2243,ppm, 1.422,.0666,4.680, 1.469, 1.375
Zn2062,206.200 {463},In2306,ppm, .9974,.0068,.6797, 1.002, .9926

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 208.68,.56952,.27292,208.28,209.08
In2306,230.606 {446},Cts/S, 12253.,27.144,.22153,12234.,12272.
Y_2243,224.306 {450},Cts/S, 17502.,10.309,.05890,17494.,17509.
Y_3600,360.073 { 94},Cts/S, 157910.,385.82,.24432,157640.,158190.
Y_3710,371.030 { 91},Cts/S, 10174.,29.078,.28579,10154.,10195.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0100,.0005,4.959, .0104, .0097
Al3082,308.215 {109},In2306,ppm, .2182,.0127,5.826, .2272, .2092
As1890,189.042 {478},Y_2243,ppm, .0216,.0021,9.509, .0201, .0230
B_2496,249.678 {135},Y_3710,ppm, .2159,.0065,3.009, .2205, .2113
Ba4554,455.403 { 74},Y_3710,ppm, .0229,.0001,.2972, .0228, .0229
Be3130,313.042 {108},Y_3710,ppm, .0112,.0000,.0667, .0112, .0112
Ca3158,315.887 {107},In2306,ppm, 1.054,.0103,.9811, 1.062, 1.047
Cd2288,228.802 {447},Y_2243,ppm, .0111,.0001,1.127, .0112, .0110
Co2286,228.616 {447},In2306,ppm, .0108,.0002,1.680, .0107, .0109
Cr2677,267.716 {126},Y_3600,ppm, .0109,.0003,2.700, .0111, .0107
Cu3247,324.754 {104},Y_3600,ppm, .0123,.0003,2.624, .0125, .0121
Fe2404,240.488 {140},In2306,ppm, .2197,.0200,9.085, .2338, .2055
K_7664,766.490 { 44},Y_3710,ppm, 1.105,.0069,.6283, 1.110, 1.100
Li6707,670.784 { 50},Y_3710,ppm, .0105,.0003,2.723, .0103, .0107
Mg2790,279.079 {121},Y_3710,ppm, 1.086,.0060,.5482, 1.091, 1.082
Mn2576,257.610 {131},Y_3600,ppm, .0113,.0001,.5136, .0112, .0113
Mo2020,202.030 {467},Y_2243,ppm, .0281,.0008,2.977, .0275, .0286
Na5895,589.592 { 57},Y_3710,ppm, 1.122,.0064,.5723, 1.127, 1.118
Ni2316,231.604 {445},In2306,ppm, .0108,.0001,.5423, .0109, .0108
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P_1782,178.284 {489},In2306,ppm, .9727,.0001,.0070, .9727, .9728
Pb2203,220.353 {453},In2306,ppm, .0122,.0012,10.02, .0130, .0113
S_1820,182.034 {485},Y_2243,ppm, -2.711,.0044,.1629, -2.714, -2.708
Sb2068,206.833 {463},Y_2243,ppm, .0576,.0003,.4684, .0575, .0578
Se1960,196.090 {472},Y_2243,ppm, .0233,.0028,11.81, .0214, .0253
Si2516,251.611 {134},Y_3710,ppm, .3391,.0190,5.613, .3256, .3525
Sn1899,189.989 {477},In2306,ppm, .0226,.0004,1.981, .0223, .0230
Sr4215,421.552 { 80},Y_3710,ppm, .0111,.0002,1.882, .0113, .0110
Ti3349,334.904 {101},Y_3600,ppm, .0118,.0002,1.370, .0119, .0117
Tl1908,190.856 {477},In2306,ppm, .1925,.0027,1.402, .1906, .1944
U_3670,367.007 { 92},Y_3600,ppm, -.1204,.0059,4.917, -.1162, -.1246
V_2924,292.402 {115},Y_3600,ppm, .0110,.0001,.6463, .0109, .0110
W_2397,239.709 {140},Y_2243,ppm, .0644,.0656,101.8, .1108, .0180
Zn2062,206.200 {463},In2306,ppm, .0202,.0001,.6049, .0201, .0203

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 213.25,1.3563,.63601,212.29,214.21
In2306,230.606 {446},Cts/S, 13276.,5.7129,.04303,13280.,13272.
Y_2243,224.306 {450},Cts/S, 18022.,8.7718,.04867,18028.,18015.
Y_3600,360.073 { 94},Cts/S, 162780.,473.36,.29080,163120.,162450.
Y_3710,371.030 { 91},Cts/S, 10201.,84.778,.83109,10141.,10261.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0004,.0007,192.5, .0009, -.0001
Al3082,308.215 {109},In2306,ppm, -.0281,.0230,81.81, -.0444, -.0118
As1890,189.042 {478},Y_2243,ppm, -.0005,.0003,62.46, -.0003, -.0008
B_2496,249.678 {135},Y_3710,ppm, -.0023,.0076,323.2, .0030, -.0077
Ba4554,455.403 { 74},Y_3710,ppm, -.0001,.0000,27.56, -.0001, -.0001
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,72.90, .0002, .0001
Ca3158,315.887 {107},In2306,ppm, .0004,.0014,321.5, .0014, -.0005
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0000,260.6, .0000, -.0000
Co2286,228.616 {447},In2306,ppm, -.0003,.0001,19.51, -.0003, -.0002
Cr2677,267.716 {126},Y_3600,ppm, -.0001,.0002,246.0, -.0002, .0001
Cu3247,324.754 {104},Y_3600,ppm, .0012,.0002,14.95, .0011, .0013
Fe2404,240.488 {140},In2306,ppm, .0051,.0091,180.3, .0115, -.0014
K_7664,766.490 { 44},Y_3710,ppm, .0355,.0050,14.10, .0390, .0319
Li6707,670.784 { 50},Y_3710,ppm, -.0008,.0013,173.7, .0002, -.0017
Mg2790,279.079 {121},Y_3710,ppm, -.0012,.0123,1050., -.0099, .0075
Mn2576,257.610 {131},Y_3600,ppm, .0000,.0000,38.08, .0000, .0001
Mo2020,202.030 {467},Y_2243,ppm, .0016,.0001,3.870, .0015, .0016
Na5895,589.592 { 57},Y_3710,ppm, .0329,.0014,4.392, .0340, .0319
Ni2316,231.604 {445},In2306,ppm, -.0001,.0004,366.5, -.0004, .0002
P_1782,178.284 {489},In2306,ppm, .0008,.0005,63.54, .0012, .0005
Pb2203,220.353 {453},In2306,ppm, .0011,.0013,120.5, .0002, .0021
S_1820,182.034 {485},Y_2243,ppm, .0414,.0164,39.73, .0530, .0297
Sb2068,206.833 {463},Y_2243,ppm, -.0010,.0015,147.2, .0000, -.0020
Se1960,196.090 {472},Y_2243,ppm, .0017,.0046,263.1, .0050, -.0015
Si2516,251.611 {134},Y_3710,ppm, .0358,.0068,18.98, .0310, .0406
Sn1899,189.989 {477},In2306,ppm, .0008,.0002,25.86, .0007, .0010
Sr4215,421.552 { 80},Y_3710,ppm, .0000,.0001,1207., -.0001, .0001
Ti3349,334.904 {101},Y_3600,ppm, .0000,.0001,487.5, .0001, -.0000
Tl1908,190.856 {477},In2306,ppm, .1468,.0032,2.148, .1446, .1491
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U_3670,367.007 { 92},Y_3600,ppm, -.2526,.0476,18.84, -.2863, -.2190
V_2924,292.402 {115},Y_3600,ppm, .0003,.0001,21.79, .0004, .0003
W_2397,239.709 {140},Y_2243,ppm, .0525,.0590,112.5, .0107, .0942
Zn2062,206.200 {463},In2306,ppm, -.0007,.0001,21.00, -.0008, -.0006

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 215.39,.87575,.40659,214.77,216.01
In2306,230.606 {446},Cts/S, 13415.,18.989,.14155,13401.,13428.
Y_2243,224.306 {450},Cts/S, 18136.,69.567,.38358,18087.,18185.
Y_3600,360.073 { 94},Cts/S, 163510.,38.651,.02364,163490.,163540.
Y_3710,371.030 { 91},Cts/S, 10212.,32.120,.31452,10190.,10235.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0001,.0001,86.79, .0002, .0001
Al3082,308.215 {109},In2306,ppm, -.0054,.0110,201.4, .0023, -.0132
As1890,189.042 {478},Y_2243,ppm, .0005,.0003,60.70, .0007, .0003
B_2496,249.678 {135},Y_3710,ppm, .0648,.0002,.3846, .0646, .0650
Ba4554,455.403 { 74},Y_3710,ppm, .0125,.0000,.1431, .0124, .0125
Be3130,313.042 {108},Y_3710,ppm, .0002,.0000,19.84, .0002, .0002
Ca3158,315.887 {107},In2306,ppm, 5.546,.0248,.4467, 5.528, 5.563
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0001,90.27, -.0001, -.0000
Co2286,228.616 {447},In2306,ppm, .0001,.0001,117.2, .0000, .0001
Cr2677,267.716 {126},Y_3600,ppm, -.0001,.0001,172.9, .0000, -.0001
Cu3247,324.754 {104},Y_3600,ppm, .0016,.0003,21.44, .0013, .0018
Fe2404,240.488 {140},In2306,ppm, .0502,.0098,19.53, .0571, .0432
K_7664,766.490 { 44},Y_3710,ppm, 1.482,.0148,1.001, 1.471, 1.492
Li6707,670.784 { 50},Y_3710,ppm, .0086,.0004,4.433, .0089, .0083
Mg2790,279.079 {121},Y_3710,ppm, .5933,.0452,7.622, .5613, .6253
Mn2576,257.610 {131},Y_3600,ppm, .0026,.0000,1.603, .0026, .0025
Mo2020,202.030 {467},Y_2243,ppm, .0016,.0000,2.439, .0016, .0016
Na5895,589.592 { 57},Y_3710,ppm, 78.71,.2106,.2676, 78.56, 78.86
Ni2316,231.604 {445},In2306,ppm, .0001,.0003,444.9, .0003, -.0002
P_1782,178.284 {489},In2306,ppm, .1564,.0033,2.078, .1587, .1541
Pb2203,220.353 {453},In2306,ppm, .0007,.0008,111.0, .0001, .0012
S_1820,182.034 {485},Y_2243,ppm, 41.47,.8512,2.053, 42.07, 40.87
Sb2068,206.833 {463},Y_2243,ppm, -.0002,.0010,585.2, -.0009, .0005
Se1960,196.090 {472},Y_2243,ppm, .0140,.0043,30.74, .0109, .0170
Si2516,251.611 {134},Y_3710,ppm, .7865,.0139,1.764, .7963, .7767
Sn1899,189.989 {477},In2306,ppm, .0008,.0002,28.53, .0009, .0006
Sr4215,421.552 { 80},Y_3710,ppm, .1260,.0009,.6781, .1254, .1266
Ti3349,334.904 {101},Y_3600,ppm, .0002,.0004,177.0, .0005, -.0001
Tl1908,190.856 {477},In2306,ppm, .1080,.0002,.1643, .1079, .1082
U_3670,367.007 { 92},Y_3600,ppm, -.3089,.1410,45.66, -.4086, -.2091
V_2924,292.402 {115},Y_3600,ppm, .0012,.0006,44.92, .0016, .0009
W_2397,239.709 {140},Y_2243,ppm, -.0254,.0509,200.3, -.0614, .0106
Zn2062,206.200 {463},In2306,ppm, .0075,.0001,1.703, .0076, .0074

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 210.79,.87493,.41506,210.18,211.41
In2306,230.606 {446},Cts/S, 12460.,127.05,1.0197,12370.,12550.
Y_2243,224.306 {450},Cts/S, 17504.,226.76,1.2955,17343.,17664.
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Y_3600,360.073 { 94},Cts/S, 161210.,1560.3,.96791,160100.,162310.
Y_3710,371.030 { 91},Cts/S, 10077.,64.605,.64113,10031.,10123.

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Ag3280,328.068 {103},Y_3600,ppm, -.0002,.0004,171.9, -.0005, .0000
Al3082,308.215 {109},In2306,ppm, -.0134,.0019,13.84, -.0147, -.0121
As1890,189.042 {478},Y_2243,ppm, -.0002,.0000,21.47, -.0002, -.0002
B_2496,249.678 {135},Y_3710,ppm, .0621,.0029,4.660, .0642, .0601
Ba4554,455.403 { 74},Y_3710,ppm, .0126,.0000,.0699, .0126, .0125
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,132.9, .0002, .0000
Ca3158,315.887 {107},In2306,ppm, 5.643,.0190,.3370, 5.630, 5.657
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,30.23, .0000, .0001
Co2286,228.616 {447},In2306,ppm, .0001,.0002,195.7, .0002, -.0000
Cr2677,267.716 {126},Y_3600,ppm, -.0002,.0003,156.2, -.0004, .0000
Cu3247,324.754 {104},Y_3600,ppm, .0017,.0000,2.010, .0017, .0016
Fe2404,240.488 {140},In2306,ppm, .0436,.0088,20.25, .0499, .0374
K_7664,766.490 { 44},Y_3710,ppm, 1.490,.0098,.6556, 1.483, 1.497
Li6707,670.784 { 50},Y_3710,ppm, .0095,.0001,1.575, .0094, .0096
Mg2790,279.079 {121},Y_3710,ppm, .6388,.0062,.9698, .6344, .6431
Mn2576,257.610 {131},Y_3600,ppm, .0027,.0000,.4487, .0027, .0027
Mo2020,202.030 {467},Y_2243,ppm, .0013,.0003,26.94, .0010, .0015
Na5895,589.592 { 57},Y_3710,ppm, 80.44,.8661,1.077, 79.83, 81.05
Ni2316,231.604 {445},In2306,ppm, .0001,.0001,146.8, .0002, -.0000
P_1782,178.284 {489},In2306,ppm, .1577,.0025,1.564, .1594, .1560
Pb2203,220.353 {453},In2306,ppm, -.0006,.0000,4.255, -.0006, -.0006
S_1820,182.034 {485},Y_2243,ppm, 41.88,.2632,.6285, 42.07, 41.70
Sb2068,206.833 {463},Y_2243,ppm, .0003,.0013,458.4, -.0006, .0012
Se1960,196.090 {472},Y_2243,ppm, .0130,.0054,41.74, .0092, .0169
Si2516,251.611 {134},Y_3710,ppm, .7832,.0222,2.835, .7989, .7675
Sn1899,189.989 {477},In2306,ppm, .0003,.0012,402.1, .0012, -.0006
Sr4215,421.552 { 80},Y_3710,ppm, .1290,.0016,1.205, .1279, .1301
Ti3349,334.904 {101},Y_3600,ppm, .0001,.0002,146.2, .0002, -.0000
Tl1908,190.856 {477},In2306,ppm, .0856,.0039,4.605, .0828, .0884
U_3670,367.007 { 92},Y_3600,ppm, -.1004,.0457,45.46, -.1327, -.0682
V_2924,292.402 {115},Y_3600,ppm, .0010,.0002,17.74, .0011, .0009
W_2397,239.709 {140},Y_2243,ppm, .0265,.0243,91.53, .0437, .0094
Zn2062,206.200 {463},In2306,ppm, .0064,.0000,.1140, .0064, .0064

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 209.35,.15834,.07563,209.46,209.24
In2306,230.606 {446},Cts/S, 12501.,68.673,.54935,12452.,12549.
Y_2243,224.306 {450},Cts/S, 17566.,91.449,.52061,17501.,17630.
Y_3600,360.073 { 94},Cts/S, 159450.,1526.2,.95715,160530.,158370.
Y_3710,371.030 { 91},Cts/S, 9994.2,83.808,.83856,10054.,9935.0

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0261,.0004,1.491, .0263, .0258
Al3082,308.215 {109},In2306,ppm, 1.101,.0265,2.406, 1.120, 1.083
As1890,189.042 {478},Y_2243,ppm, .1107,.0004,.3760, .1110, .1104
B_2496,249.678 {135},Y_3710,ppm, .1176,.0020,1.683, .1190, .1162
Ba4554,455.403 { 74},Y_3710,ppm, .1254,.0003,.2419, .1251, .1256
Be3130,313.042 {108},Y_3710,ppm, .1102,.0002,.1636, .1104, .1101
Ca3158,315.887 {107},In2306,ppm, 6.919,.0843,1.218, 6.979, 6.860
Cd2288,228.802 {447},Y_2243,ppm, .1116,.0004,.3709, .1119, .1113
Co2286,228.616 {447},In2306,ppm, .1106,.0003,.2275, .1108, .1104
Cr2677,267.716 {126},Y_3600,ppm, .1082,.0004,.3843, .1085, .1079
Cu3247,324.754 {104},Y_3600,ppm, .1108,.0010,.8701, .1115, .1101
Fe2404,240.488 {140},In2306,ppm, 1.169,.0209,1.788, 1.183, 1.154
K_7664,766.490 { 44},Y_3710,ppm, 2.724,.0381,1.400, 2.751, 2.697
Li6707,670.784 { 50},Y_3710,ppm, .1207,.0005,.4285, .1211, .1203
Mg2790,279.079 {121},Y_3710,ppm, 1.777,.0145,.8144, 1.787, 1.767
Mn2576,257.610 {131},Y_3600,ppm, .1124,.0002,.1621, .1123, .1125
Mo2020,202.030 {467},Y_2243,ppm, .1117,.0003,.3120, .1120, .1115
Na5895,589.592 { 57},Y_3710,ppm, 84.38,.0365,.0432, 84.36, 84.41
Ni2316,231.604 {445},In2306,ppm, .1105,.0001,.0677, .1105, .1104
P_1782,178.284 {489},In2306,ppm, .7445,.0015,.2045, .7456, .7434
Pb2203,220.353 {453},In2306,ppm, .1103,.0008,.7591, .1109, .1097
S_1820,182.034 {485},Y_2243,ppm, 44.44,.0592,.1333, 44.40, 44.48
Sb2068,206.833 {463},Y_2243,ppm, .1688,.0011,.6541, .1696, .1680
Se1960,196.090 {472},Y_2243,ppm, .1233,.0013,1.057, .1224, .1242
Si2516,251.611 {134},Y_3710,ppm, 2.222,.0367,1.654, 2.248, 2.196
Sn1899,189.989 {477},In2306,ppm, .1107,.0009,.8351, .1114, .1101
Sr4215,421.552 { 80},Y_3710,ppm, .2449,.0001,.0535, .2448, .2450
Ti3349,334.904 {101},Y_3600,ppm, .1094,.0006,.5528, .1090, .1099
Tl1908,190.856 {477},In2306,ppm, .0972,.0012,1.276, .0981, .0963
U_3670,367.007 { 92},Y_3600,ppm, -.1279,.0756,59.09, -.1814, -.0745
V_2924,292.402 {115},Y_3600,ppm, .1097,.0003,.3075, .1095, .1099
W_2397,239.709 {140},Y_2243,ppm, .1314,.0163,12.38, .1429, .1199
Zn2062,206.200 {463},In2306,ppm, .0636,.0004,.6376, .0639, .0633

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 213.54,3.5389,1.6573,211.04,216.05
In2306,230.606 {446},Cts/S, 12393.,29.224,.23581,12372.,12414.
Y_2243,224.306 {450},Cts/S, 17593.,42.863,.24364,17563.,17623.
Y_3600,360.073 { 94},Cts/S, 159020.,46.943,.02952,159050.,158990.
Y_3710,371.030 { 91},Cts/S, 10165.,52.505,.51650,10128.,10203.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0249,.0008,3.222, .0255, .0244
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Al3082,308.215 {109},In2306,ppm, 1.048,.0558,5.322, 1.009, 1.088
As1890,189.042 {478},Y_2243,ppm, .1068,.0027,2.547, .1049, .1088
B_2496,249.678 {135},Y_3710,ppm, .1134,.0062,5.510, .1090, .1178
Ba4554,455.403 { 74},Y_3710,ppm, .1195,.0005,.4308, .1191, .1198
Be3130,313.042 {108},Y_3710,ppm, .1053,.0002,.2335, .1055, .1051
Ca3158,315.887 {107},In2306,ppm, 6.567,.0485,.7382, 6.532, 6.601
Cd2288,228.802 {447},Y_2243,ppm, .1045,.0004,.3363, .1043, .1048
Co2286,228.616 {447},In2306,ppm, .1041,.0004,.3412, .1038, .1043
Cr2677,267.716 {126},Y_3600,ppm, .1056,.0056,5.307, .1096, .1017
Cu3247,324.754 {104},Y_3600,ppm, .1065,.0037,3.511, .1091, .1038
Fe2404,240.488 {140},In2306,ppm, 1.108,.0157,1.412, 1.097, 1.119
K_7664,766.490 { 44},Y_3710,ppm, 2.564,.0133,.5202, 2.555, 2.574
Li6707,670.784 { 50},Y_3710,ppm, .1124,.0002,.1833, .1123, .1126
Mg2790,279.079 {121},Y_3710,ppm, 1.729,.0397,2.296, 1.701, 1.758
Mn2576,257.610 {131},Y_3600,ppm, .1087,.0054,5.001, .1126, .1049
Mo2020,202.030 {467},Y_2243,ppm, .1056,.0007,.6654, .1051, .1061
Na5895,589.592 { 57},Y_3710,ppm, 79.33,.3210,.4046, 79.10, 79.56
Ni2316,231.604 {445},In2306,ppm, .1047,.0008,.7930, .1041, .1053
P_1782,178.284 {489},In2306,ppm, .6964,.0059,.8411, .6923, .7005
Pb2203,220.353 {453},In2306,ppm, .1058,.0004,.4181, .1061, .1055
S_1820,182.034 {485},Y_2243,ppm, 41.22,.0743,.1802, 41.17, 41.27
Sb2068,206.833 {463},Y_2243,ppm, .1608,.0009,.5343, .1602, .1614
Se1960,196.090 {472},Y_2243,ppm, .1158,.0008,.6869, .1152, .1163
Si2516,251.611 {134},Y_3710,ppm, 2.140,.0567,2.648, 2.100, 2.180
Sn1899,189.989 {477},In2306,ppm, .1049,.0008,.7653, .1043, .1055
Sr4215,421.552 { 80},Y_3710,ppm, .2307,.0007,.2833, .2312, .2303
Ti3349,334.904 {101},Y_3600,ppm, .1051,.0047,4.503, .1084, .1017
Tl1908,190.856 {477},In2306,ppm, .0994,.0018,1.762, .0982, .1007
U_3670,367.007 { 92},Y_3600,ppm, -.0577,.1349,234.0, .0377, -.1531
V_2924,292.402 {115},Y_3600,ppm, .1059,.0048,4.577, .1093, .1024
W_2397,239.709 {140},Y_2243,ppm, .0381,.0086,22.55, .0320, .0442
Zn2062,206.200 {463},In2306,ppm, .0599,.0006,1.066, .0594, .0603

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 208.59,7.1668,3.4358,213.66,203.52
In2306,230.606 {446},Cts/S, 12504.,15.547,.12434,12515.,12493.
Y_2243,224.306 {450},Cts/S, 17781.,26.441,.14870,17763.,17800.
Y_3600,360.073 { 94},Cts/S, 157180.,5560.9,3.5378,153250.,161120.
Y_3710,371.030 { 91},Cts/S, 9928.4,339.30,3.4175,10168.,9688.5

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .7854,.0025,.3190, .7872, .7836
Al3082,308.215 {109},In2306,ppm, .9839,.0025,.2533, .9857, .9822
As1890,189.042 {478},Y_2243,ppm, .0095,.0012,12.48, .0104, .0087
B_2496,249.678 {135},Y_3710,ppm, .1744,.0075,4.298, .1691, .1797
Ba4554,455.403 { 74},Y_3710,ppm, .2635,.0098,3.713, .2565, .2704
Be3130,313.042 {108},Y_3710,ppm, .0002,.0001,49.64, .0002, .0003
Ca3158,315.887 {107},In2306,ppm, 2.503,.1048,4.187, 2.429, 2.577
Cd2288,228.802 {447},Y_2243,ppm, .0901,.0004,.4385, .0904, .0898
Co2286,228.616 {447},In2306,ppm, .0216,.0001,.6553, .0217, .0215
Cr2677,267.716 {126},Y_3600,ppm, .3719,.0040,1.071, .3747, .3691
Cu3247,324.754 {104},Y_3600,ppm, .5915,.0005,.0852, .5911, .5919
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Fe2404,240.488 {140},In2306,ppm, 7.676,.3402,4.432, 7.436, 7.917
K_7664,766.490 { 44},Y_3710,ppm, 67.57,2.787,4.125, 65.60, 69.54
Li6707,670.784 { 50},Y_3710,ppm, .1204,.0039,3.221, .1176, .1231
Mg2790,279.079 {121},Y_3710,ppm, .3874,.0217,5.607, .4027, .3720
Mn2576,257.610 {131},Y_3600,ppm, .0975,.0009,.8748, .0982, .0969
Mo2020,202.030 {467},Y_2243,ppm, .1502,.0003,.2286, .1504, .1500
Na5895,589.592 { 57},Y_3710,ppm, 218.5,5.538,2.534, 214.6, 222.4
Ni2316,231.604 {445},In2306,ppm, .5259,.0001,.0242, .5258, .5260
P_1782,178.284 {489},In2306,ppm, 9.628,.0502,.5214, 9.663, 9.592
Pb2203,220.353 {453},In2306,ppm, .1607,.0023,1.412, .1624, .1591
S_1820,182.034 {485},Y_2243,ppm, 16.53,.1144,.6923, 16.61, 16.45
Sb2068,206.833 {463},Y_2243,ppm, 1.116,.0090,.8069, 1.122, 1.109
Se1960,196.090 {472},Y_2243,ppm, .0033,.0010,28.81, .0026, .0040
Si2516,251.611 {134},Y_3710,ppm, 5.262,.2012,3.824, 5.120, 5.405
Sn1899,189.989 {477},In2306,ppm, .1375,.0007,.4860, .1379, .1370
Sr4215,421.552 { 80},Y_3710,ppm, .0137,.0005,3.450, .0133, .0140
Ti3349,334.904 {101},Y_3600,ppm, .0522,.0000,.0401, .0522, .0522
Tl1908,190.856 {477},In2306,ppm, .0784,.0023,2.917, .0768, .0800
U_3670,367.007 { 92},Y_3600,ppm, -.0978,.0950,97.15, -.0306, -.1649
V_2924,292.402 {115},Y_3600,ppm, .0229,.0001,.5125, .0228, .0230
W_2397,239.709 {140},Y_2243,ppm, .0685,.0493,71.94, .0337, .1033
Zn2062,206.200 {463},In2306,ppm, 2.620,.0011,.0429, 2.621, 2.619

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 208.19,8.6586,4.1590,214.31,202.07
In2306,230.606 {446},Cts/S, 11670.,1.5436,.01323,11671.,11669.
Y_2243,224.306 {450},Cts/S, 17228.,23.952,.13903,17211.,17245.
Y_3600,360.073 { 94},Cts/S, 151490.,1480.0,.97697,150440.,152530.
Y_3710,371.030 { 91},Cts/S, 10017.,397.29,3.9662,10298.,9736.1

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .9235,.0037,.4000, .9261, .9209
Al3082,308.215 {109},In2306,ppm, 11.75,.0177,.1506, 11.74, 11.76
As1890,189.042 {478},Y_2243,ppm, 1.046,.0136,1.301, 1.036, 1.055
B_2496,249.678 {135},Y_3710,ppm, .6960,.0110,1.574, .7038, .6883
Ba4554,455.403 { 74},Y_3710,ppm, 1.302,.0039,.2963, 1.305, 1.300
Be3130,313.042 {108},Y_3710,ppm, 1.025,.0023,.2213, 1.027, 1.023
Ca3158,315.887 {107},In2306,ppm, 13.18,.0392,.2977, 13.15, 13.21
Cd2288,228.802 {447},Y_2243,ppm, 1.099,.0090,.8185, 1.093, 1.106
Co2286,228.616 {447},In2306,ppm, 1.053,.0089,.8489, 1.046, 1.059
Cr2677,267.716 {126},Y_3600,ppm, 1.380,.0028,.2025, 1.378, 1.382
Cu3247,324.754 {104},Y_3600,ppm, 1.617,.0082,.5039, 1.623, 1.612
Fe2404,240.488 {140},In2306,ppm, 18.53,.0891,.4808, 18.47, 18.59
K_7664,766.490 { 44},Y_3710,ppm, 79.26,.2381,.3005, 79.42, 79.09
Li6707,670.784 { 50},Y_3710,ppm, 1.138,.0050,.4361, 1.141, 1.134
Mg2790,279.079 {121},Y_3710,ppm, 10.85,.0572,.5274, 10.89, 10.81
Mn2576,257.610 {131},Y_3600,ppm, 1.115,.0017,.1537, 1.113, 1.116
Mo2020,202.030 {467},Y_2243,ppm, 1.136,.0076,.6709, 1.131, 1.142
Na5895,589.592 { 57},Y_3710,ppm, 227.3,2.819,1.241, 225.3, 229.3
Ni2316,231.604 {445},In2306,ppm, 1.551,.0150,.9696, 1.541, 1.562
P_1782,178.284 {489},In2306,ppm, 15.22,.1628,1.070, 15.10, 15.33
Pb2203,220.353 {453},In2306,ppm, 1.174,.0124,1.060, 1.165, 1.183
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S_1820,182.034 {485},Y_2243,ppm, 23.48,.2005,.8540, 23.34, 23.62
Sb2068,206.833 {463},Y_2243,ppm, 2.690,.0147,.5465, 2.680, 2.700
Se1960,196.090 {472},Y_2243,ppm, 1.022,.0071,.6905, 1.017, 1.027
Si2516,251.611 {134},Y_3710,ppm, 17.74,.1554,.8758, 17.63, 17.85
Sn1899,189.989 {477},In2306,ppm, 1.162,.0062,.5294, 1.158, 1.166
Sr4215,421.552 { 80},Y_3710,ppm, 1.044,.0028,.2638, 1.046, 1.042
Ti3349,334.904 {101},Y_3600,ppm, 1.071,.0000,.0045, 1.071, 1.071
Tl1908,190.856 {477},In2306,ppm, .3517,.0128,3.625, .3607, .3427
U_3670,367.007 { 92},Y_3600,ppm, .5329,.1071,20.09, .6087, .4572
V_2924,292.402 {115},Y_3600,ppm, 1.037,.0003,.0262, 1.037, 1.037
W_2397,239.709 {140},Y_2243,ppm, .4350,.0575,13.23, .3943, .4757
Zn2062,206.200 {463},In2306,ppm, 3.151,.0292,.9280, 3.130, 3.172

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 202.27,.27217,.13456,202.46,202.07
In2306,230.606 {446},Cts/S, 11594.,107.24,.92499,11670.,11518.
Y_2243,224.306 {450},Cts/S, 17453.,129.89,.74420,17545.,17362.
Y_3600,360.073 { 94},Cts/S, 152170.,366.02,.24053,152430.,151910.
Y_3710,371.030 { 91},Cts/S, 9956.9,28.613,.28737,9977.2,9936.7

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0003,.0001,15.15, -.0003, -.0004
Al3082,308.215 {109},In2306,ppm, .2605,.0095,3.652, .2538, .2672
As1890,189.042 {478},Y_2243,ppm, .0013,.0002,14.13, .0012, .0014
B_2496,249.678 {135},Y_3710,ppm, .1962,.0105,5.350, .2036, .1887
Ba4554,455.403 { 74},Y_3710,ppm, .0366,.0002,.4236, .0367, .0365
Be3130,313.042 {108},Y_3710,ppm, .0002,.0001,66.26, .0002, .0001
Ca3158,315.887 {107},In2306,ppm, 19.13,.2152,1.125, 18.97, 19.28
Cd2288,228.802 {447},Y_2243,ppm, .0052,.0001,2.151, .0052, .0051
Co2286,228.616 {447},In2306,ppm, .0094,.0002,2.337, .0092, .0095
Cr2677,267.716 {126},Y_3600,ppm, .0025,.0002,7.316, .0027, .0024
Cu3247,324.754 {104},Y_3600,ppm, .0263,.0004,1.630, .0260, .0266
Fe2404,240.488 {140},In2306,ppm, 2.088,.0485,2.322, 2.054, 2.122
K_7664,766.490 { 44},Y_3710,ppm, 7.450,.1352,1.815, 7.354, 7.546
Li6707,670.784 { 50},Y_3710,ppm, .0164,.0015,8.953, .0154, .0175
Mg2790,279.079 {121},Y_3710,ppm, .5364,.0100,1.863, .5435, .5294
Mn2576,257.610 {131},Y_3600,ppm, .8561,.0016,.1815, .8572, .8550
Mo2020,202.030 {467},Y_2243,ppm, .0876,.0003,.2999, .0874, .0878
Na5895,589.592 { 57},Y_3710,ppm, 154.0,.2517,.1634, 153.8, 154.2
Ni2316,231.604 {445},In2306,ppm, 1.028,.0010,.0978, 1.029, 1.027
P_1782,178.284 {489},In2306,ppm, 2.753,.0070,.2555, 2.758, 2.748
Pb2203,220.353 {453},In2306,ppm, -.0003,.0009,309.7, .0003, -.0009
S_1820,182.034 {485},Y_2243,ppm, 13.18,.0364,.2764, 13.15, 13.20
Sb2068,206.833 {463},Y_2243,ppm, .1913,.0043,2.259, .1883, .1944
Se1960,196.090 {472},Y_2243,ppm, .0022,.0012,52.39, .0031, .0014
Si2516,251.611 {134},Y_3710,ppm, .3572,.0062,1.725, .3529, .3616
Sn1899,189.989 {477},In2306,ppm, .0102,.0004,3.872, .0104, .0099
Sr4215,421.552 { 80},Y_3710,ppm, .0511,.0005,.8934, .0508, .0514
Ti3349,334.904 {101},Y_3600,ppm, .0027,.0002,8.674, .0026, .0029
Tl1908,190.856 {477},In2306,ppm, .2036,.0041,2.038, .2006, .2065
U_3670,367.007 { 92},Y_3600,ppm, -.1531,.0630,41.15, -.1085, -.1976
V_2924,292.402 {115},Y_3600,ppm, .3296,.0003,.0897, .3298, .3294
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W_2397,239.709 {140},Y_2243,ppm, -.0220,.0147,66.76, -.0324, -.0116
Zn2062,206.200 {463},In2306,ppm, 3.026,.0200,.6612, 3.040, 3.012

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 208.61,.82873,.39726,209.20,208.03
In2306,230.606 {446},Cts/S, 12016.,10.993,.09149,12009.,12024.
Y_2243,224.306 {450},Cts/S, 17263.,17.076,.09892,17275.,17251.
Y_3600,360.073 { 94},Cts/S, 155360.,62.781,.04041,155410.,155320.
Y_3710,371.030 { 91},Cts/S, 10059.,5.3580,.05326,10055.,10063.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0002,.0001,29.49, .0002, .0001
Al3082,308.215 {109},In2306,ppm, .3440,.0187,5.433, .3308, .3572
As1890,189.042 {478},Y_2243,ppm, .0012,.0000,1.017, .0012, .0012
B_2496,249.678 {135},Y_3710,ppm, .0102,.0014,13.88, .0112, .0092
Ba4554,455.403 { 74},Y_3710,ppm, .0310,.0005,1.759, .0306, .0314
Be3130,313.042 {108},Y_3710,ppm, .0000,.0002,1513., -.0001, .0002
Ca3158,315.887 {107},In2306,ppm, 33.39,.1333,.3994, 33.48, 33.29
Cd2288,228.802 {447},Y_2243,ppm, .0004,.0001,26.90, .0005, .0004
Co2286,228.616 {447},In2306,ppm, .0022,.0002,10.27, .0024, .0021
Cr2677,267.716 {126},Y_3600,ppm, .0014,.0001,6.446, .0013, .0014
Cu3247,324.754 {104},Y_3600,ppm, .2980,.0016,.5537, .2992, .2968
Fe2404,240.488 {140},In2306,ppm, .1069,.0021,1.922, .1054, .1083
K_7664,766.490 { 44},Y_3710,ppm, .3596,.0007,.2081, .3591, .3601
Li6707,670.784 { 50},Y_3710,ppm, .0064,.0004,6.604, .0061, .0067
Mg2790,279.079 {121},Y_3710,ppm, .4678,.0554,11.85, .4286, .5070
Mn2576,257.610 {131},Y_3600,ppm, .0907,.0000,.0074, .0907, .0907
Mo2020,202.030 {467},Y_2243,ppm, .0018,.0002,10.84, .0016, .0019
Na5895,589.592 { 57},Y_3710,ppm, 144.2,.4305,.2986, 144.5, 143.9
Ni2316,231.604 {445},In2306,ppm, .0070,.0003,4.507, .0067, .0072
P_1782,178.284 {489},In2306,ppm, .0528,.0002,.3020, .0527, .0529
Pb2203,220.353 {453},In2306,ppm, .0021,.0008,38.75, .0015, .0026
S_1820,182.034 {485},Y_2243,ppm, 4.377,.0108,.2458, 4.384, 4.369
Sb2068,206.833 {463},Y_2243,ppm, .0040,.0005,11.78, .0036, .0043
Se1960,196.090 {472},Y_2243,ppm, .0040,.0034,86.43, .0015, .0064
Si2516,251.611 {134},Y_3710,ppm, .1611,.0056,3.454, .1571, .1650
Sn1899,189.989 {477},In2306,ppm, .0021,.0000,.3988, .0021, .0021
Sr4215,421.552 { 80},Y_3710,ppm, .0349,.0002,.4389, .0348, .0350
Ti3349,334.904 {101},Y_3600,ppm, .0010,.0005,44.94, .0014, .0007
Tl1908,190.856 {477},In2306,ppm, .1642,.0005,.2951, .1638, .1645
U_3670,367.007 { 92},Y_3600,ppm, -.2412,.0463,19.21, -.2739, -.2084
V_2924,292.402 {115},Y_3600,ppm, .0006,.0003,51.23, .0004, .0008
W_2397,239.709 {140},Y_2243,ppm, .0452,.0970,214.4, .1138, -.0233
Zn2062,206.200 {463},In2306,ppm, .3573,.0018,.5165, .3560, .3586

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 211.52,2.4555,1.1609,209.78,213.26
In2306,230.606 {446},Cts/S, 12027.,5.1505,.04283,12023.,12030.
Y_2243,224.306 {450},Cts/S, 17288.,48.710,.28175,17254.,17323.
Y_3600,360.073 { 94},Cts/S, 156230.,282.18,.18062,156030.,156430.
Y_3710,371.030 { 91},Cts/S, 10266.,44.903,.43741,10234.,10298.
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0000,.0003,2778., -.0003, .0002
Al3082,308.215 {109},In2306,ppm, .4199,.0058,1.393, .4240, .4158
As1890,189.042 {478},Y_2243,ppm, .0017,.0031,182.8, -.0005, .0039
B_2496,249.678 {135},Y_3710,ppm, .0345,.0060,17.49, .0388, .0302
Ba4554,455.403 { 74},Y_3710,ppm, .0588,.0009,1.610, .0581, .0595
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,2097., .0001, -.0001
Ca3158,315.887 {107},In2306,ppm, 8.079,.0518,.6416, 8.042, 8.115
Cd2288,228.802 {447},Y_2243,ppm, .0031,.0001,2.437, .0031, .0032
Co2286,228.616 {447},In2306,ppm, .0035,.0002,4.619, .0034, .0037
Cr2677,267.716 {126},Y_3600,ppm, .0021,.0002,10.46, .0022, .0019
Cu3247,324.754 {104},Y_3600,ppm, .0245,.0002,.8862, .0246, .0243
Fe2404,240.488 {140},In2306,ppm, .5455,.0141,2.580, .5356, .5555
K_7664,766.490 { 44},Y_3710,ppm, 8.648,.1019,1.179, 8.576, 8.720
Li6707,670.784 { 50},Y_3710,ppm, .0134,.0002,1.478, .0133, .0135
Mg2790,279.079 {121},Y_3710,ppm, .2333,.0065,2.806, .2287, .2379
Mn2576,257.610 {131},Y_3600,ppm, .0974,.0005,.5392, .0978, .0971
Mo2020,202.030 {467},Y_2243,ppm, .0014,.0002,17.03, .0012, .0016
Na5895,589.592 { 57},Y_3710,ppm, 154.8,.5320,.3436, 154.5, 155.2
Ni2316,231.604 {445},In2306,ppm, .0184,.0002,.9422, .0186, .0183
P_1782,178.284 {489},In2306,ppm, .0616,.0002,.3931, .0614, .0617
Pb2203,220.353 {453},In2306,ppm, -.0005,.0011,223.9, -.0012, .0003
S_1820,182.034 {485},Y_2243,ppm, .5488,.0235,4.281, .5322, .5654
Sb2068,206.833 {463},Y_2243,ppm, .0063,.0032,50.99, .0040, .0086
Se1960,196.090 {472},Y_2243,ppm, .0002,.0009,371.1, -.0004, .0009
Si2516,251.611 {134},Y_3710,ppm, 1.631,.0222,1.362, 1.615, 1.647
Sn1899,189.989 {477},In2306,ppm, .0009,.0001,12.20, .0010, .0008
Sr4215,421.552 { 80},Y_3710,ppm, .0222,.0002,1.054, .0220, .0224
Ti3349,334.904 {101},Y_3600,ppm, .0001,.0003,199.5, .0003, -.0001
Tl1908,190.856 {477},In2306,ppm, .1017,.0046,4.497, .0985, .1049
U_3670,367.007 { 92},Y_3600,ppm, -.2117,.0046,2.193, -.2084, -.2150
V_2924,292.402 {115},Y_3600,ppm, .0004,.0000,6.226, .0003, .0004
W_2397,239.709 {140},Y_2243,ppm, .0640,.0016,2.477, .0651, .0629
Zn2062,206.200 {463},In2306,ppm, .2010,.0005,.2664, .2007, .2014

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 211.80,1.7601,.83101,210.56,213.04
In2306,230.606 {446},Cts/S, 12138.,18.503,.15244,12125.,12151.
Y_2243,224.306 {450},Cts/S, 17403.,20.185,.11598,17389.,17418.
Y_3600,360.073 { 94},Cts/S, 157040.,694.75,.44240,156550.,157530.
Y_3710,371.030 { 91},Cts/S, 10175.,42.803,.42066,10145.,10205.

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Custom ID2=
Custom ID3=
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0000,.0004,1159., -.0002, .0003
Al3082,308.215 {109},In2306,ppm, .0044,.0076,171.5, .0098, -.0009
As1890,189.042 {478},Y_2243,ppm, .0018,.0009,49.61, .0011, .0024
B_2496,249.678 {135},Y_3710,ppm, .0125,.0032,25.41, .0147, .0102
Ba4554,455.403 { 74},Y_3710,ppm, .0954,.0003,.2943, .0952, .0956
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,95.80, .0001, .0000
Ca3158,315.887 {107},In2306,ppm, 75.47,1.050,1.391, 76.21, 74.73
Cd2288,228.802 {447},Y_2243,ppm, .0003,.0000,10.03, .0003, .0004
Co2286,228.616 {447},In2306,ppm, .0026,.0001,2.519, .0026, .0027
Cr2677,267.716 {126},Y_3600,ppm, .0005,.0000,5.683, .0005, .0005
Cu3247,324.754 {104},Y_3600,ppm, .0075,.0001,.9639, .0075, .0074
Fe2404,240.488 {140},In2306,ppm, .0021,.0033,154.3, .0045, -.0002
K_7664,766.490 { 44},Y_3710,ppm, .3215,.0166,5.178, .3097, .3333
Li6707,670.784 { 50},Y_3710,ppm, .0012,.0005,40.62, .0009, .0016
Mg2790,279.079 {121},Y_3710,ppm, .7727,.0107,1.388, .7803, .7651
Mn2576,257.610 {131},Y_3600,ppm, .1780,.0003,.1727, .1778, .1782
Mo2020,202.030 {467},Y_2243,ppm, .0421,.0001,.2530, .0422, .0420
Na5895,589.592 { 57},Y_3710,ppm, 139.9,.2410,.1723, 139.7, 140.1
Ni2316,231.604 {445},In2306,ppm, .0547,.0001,.2169, .0548, .0546
P_1782,178.284 {489},In2306,ppm, .0052,.0011,20.83, .0060, .0045
Pb2203,220.353 {453},In2306,ppm, .0008,.0002,29.08, .0006, .0009
S_1820,182.034 {485},Y_2243,ppm, -2.918,.0049,.1691, -2.922, -2.915
Sb2068,206.833 {463},Y_2243,ppm, .0004,.0026,712.9, -.0015, .0022
Se1960,196.090 {472},Y_2243,ppm, .0021,.0004,17.54, .0018, .0023
Si2516,251.611 {134},Y_3710,ppm, .4820,.0038,.7800, .4847, .4793
Sn1899,189.989 {477},In2306,ppm, .0011,.0004,37.61, .0014, .0008
Sr4215,421.552 { 80},Y_3710,ppm, .1205,.0006,.5198, .1200, .1209
Ti3349,334.904 {101},Y_3600,ppm, -.0001,.0002,293.5, -.0002, .0001
Tl1908,190.856 {477},In2306,ppm, .0745,.0036,4.869, .0770, .0719
U_3670,367.007 { 92},Y_3600,ppm, -.2068,.0371,17.93, -.2330, -.1806
V_2924,292.402 {115},Y_3600,ppm, .0026,.0003,11.50, .0024, .0028
W_2397,239.709 {140},Y_2243,ppm, -.0116,.0349,300.1, .0131, -.0363
Zn2062,206.200 {463},In2306,ppm, .8504,.0046,.5369, .8537, .8472

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 208.10,2.8754,1.3818,206.06,210.13
In2306,230.606 {446},Cts/S, 11858.,43.028,.36287,11827.,11888.
Y_2243,224.306 {450},Cts/S, 17156.,51.027,.29743,17120.,17192.
Y_3600,360.073 { 94},Cts/S, 155620.,162.93,.10470,155510.,155740.
Y_3710,371.030 { 91},Cts/S, 10139.,75.235,.74205,10192.,10086.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .4997,.0013,.2626, .4988, .5006
Al3082,308.215 {109},In2306,ppm, 20.00,.1169,.5845, 19.92, 20.08
As1890,189.042 {478},Y_2243,ppm, 1.005,.0142,1.409, 1.015, .9948
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B_2496,249.678 {135},Y_3710,ppm, .9936,.0064,.6445, .9891, .9981
Ba4554,455.403 { 74},Y_3710,ppm, 1.012,.0069,.6834, 1.007, 1.017
Be3130,313.042 {108},Y_3710,ppm, .9748,.0071,.7290, .9698, .9798
Ca3158,315.887 {107},In2306,ppm, 19.77,.0712,.3600, 19.72, 19.82
Cd2288,228.802 {447},Y_2243,ppm, .9804,.0131,1.341, .9896, .9711
Co2286,228.616 {447},In2306,ppm, .9780,.0119,1.217, .9864, .9696
Cr2677,267.716 {126},Y_3600,ppm, .9771,.0018,.1852, .9784, .9758
Cu3247,324.754 {104},Y_3600,ppm, 1.002,.0053,.5277, .9982, 1.006
Fe2404,240.488 {140},In2306,ppm, 19.88,.0772,.3881, 19.83, 19.94
K_7664,766.490 { 44},Y_3710,ppm, 19.85,.1085,.5463, 19.78, 19.93
Li6707,670.784 { 50},Y_3710,ppm, .9948,.0045,.4475, .9917, .9980
Mg2790,279.079 {121},Y_3710,ppm, 19.93,.3158,1.585, 19.70, 20.15
Mn2576,257.610 {131},Y_3600,ppm, .9998,.0004,.0435, .9995, 1.000
Mo2020,202.030 {467},Y_2243,ppm, .9868,.0161,1.629, .9982, .9754
Na5895,589.592 { 57},Y_3710,ppm, 19.93,.1284,.6442, 19.84, 20.02
Ni2316,231.604 {445},In2306,ppm, .9803,.0112,1.148, .9883, .9724
P_1782,178.284 {489},In2306,ppm, 10.09,.1444,1.431, 10.19, 9.988
Pb2203,220.353 {453},In2306,ppm, .9795,.0154,1.567, .9903, .9686
S_1820,182.034 {485},Y_2243,ppm, 10.66,.2065,1.938, 10.80, 10.51
Sb2068,206.833 {463},Y_2243,ppm, 2.064,.0285,1.381, 2.084, 2.044
Se1960,196.090 {472},Y_2243,ppm, 1.005,.0116,1.150, 1.013, .9969
Si2516,251.611 {134},Y_3710,ppm, 13.91,.3381,2.431, 13.67, 14.15
Sn1899,189.989 {477},In2306,ppm, .9827,.0135,1.379, .9923, .9731
Sr4215,421.552 { 80},Y_3710,ppm, 1.006,.0091,.9080, .9998, 1.013
Ti3349,334.904 {101},Y_3600,ppm, .9918,.0014,.1428, .9908, .9928
Tl1908,190.856 {477},In2306,ppm, 1.012,.0286,2.826, 1.032, .9920
U_3670,367.007 { 92},Y_3600,ppm, 1.001,.0164,1.641, .9890, 1.012
V_2924,292.402 {115},Y_3600,ppm, .9845,.0001,.0130, .9846, .9844
W_2397,239.709 {140},Y_2243,ppm, 1.237,.0903,7.301, 1.300, 1.173
Zn2062,206.200 {463},In2306,ppm, .9736,.0100,1.031, .9807, .9665

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 209.58,.25197,.12023,209.40,209.76
In2306,230.606 {446},Cts/S, 12467.,121.03,.97076,12382.,12553.
Y_2243,224.306 {450},Cts/S, 17787.,186.70,1.0497,17654.,17919.
Y_3600,360.073 { 94},Cts/S, 158910.,645.22,.40603,158450.,159370.
Y_3710,371.030 { 91},Cts/S, 10218.,46.935,.45933,10251.,10185.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
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Al3082,308.215 {109},In2306,ppm, .2037,.0105,5.165, .1962, .2111
As1890,189.042 {478},Y_2243,ppm, .0231,.0021,8.959, .0246, .0216
B_2496,249.678 {135},Y_3710,ppm, .2230,.0010,.4450, .2237, .2223
Ba4554,455.403 { 74},Y_3710,ppm, .0226,.0004,1.866, .0223, .0229
Be3130,313.042 {108},Y_3710,ppm, .0113,.0001,.7613, .0113, .0114
Ca3158,315.887 {107},In2306,ppm, 1.045,.0090,.8648, 1.051, 1.039
Cd2288,228.802 {447},Y_2243,ppm, .0113,.0001,.8579, .0112, .0113
Co2286,228.616 {447},In2306,ppm, .0106,.0001,1.218, .0105, .0107
Cr2677,267.716 {126},Y_3600,ppm, .0108,.0002,1.673, .0106, .0109
Cu3247,324.754 {104},Y_3600,ppm, .0125,.0001,.8685, .0125, .0124
Fe2404,240.488 {140},In2306,ppm, .2221,.0061,2.728, .2264, .2179
K_7664,766.490 { 44},Y_3710,ppm, 1.104,.0454,4.108, 1.072, 1.137
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Li6707,670.784 { 50},Y_3710,ppm, .0113,.0003,2.483, .0111, .0115
Mg2790,279.079 {121},Y_3710,ppm, 1.088,.0146,1.344, 1.099, 1.078
Mn2576,257.610 {131},Y_3600,ppm, .0113,.0001,.8997, .0113, .0112
Mo2020,202.030 {467},Y_2243,ppm, .0280,.0010,3.411, .0273, .0287
Na5895,589.592 { 57},Y_3710,ppm, 1.121,.0093,.8297, 1.114, 1.127
Ni2316,231.604 {445},In2306,ppm, .0108,.0000,.0301, .0108, .0108
P_1782,178.284 {489},In2306,ppm, .9786,.0012,.1186, .9794, .9778
Pb2203,220.353 {453},In2306,ppm, .0119,.0003,2.869, .0122, .0117
S_1820,182.034 {485},Y_2243,ppm, -2.715,.0045,.1642, -2.718, -2.712
Sb2068,206.833 {463},Y_2243,ppm, .0588,.0003,.5910, .0590, .0585
Se1960,196.090 {472},Y_2243,ppm, .0238,.0009,3.768, .0244, .0231
Si2516,251.611 {134},Y_3710,ppm, .3078,.0021,.6779, .3063, .3093
Sn1899,189.989 {477},In2306,ppm, .0226,.0005,2.116, .0223, .0230
Sr4215,421.552 { 80},Y_3710,ppm, .0109,.0001,1.201, .0110, .0108
Ti3349,334.904 {101},Y_3600,ppm, .0115,.0004,3.590, .0117, .0112
Tl1908,190.856 {477},In2306,ppm, .1057,.0002,.2019, .1055, .1058
U_3670,367.007 { 92},Y_3600,ppm, -.0784,.0284,36.24, -.0984, -.0583
V_2924,292.402 {115},Y_3600,ppm, .0113,.0001,.5045, .0114, .0113
W_2397,239.709 {140},Y_2243,ppm, .0860,.0506,58.88, .1218, .0502
Zn2062,206.200 {463},In2306,ppm, .0202,.0000,.2400, .0202, .0203

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 213.94,1.1289,.52767,213.14,214.74
In2306,230.606 {446},Cts/S, 13308.,2.9768,.02237,13310.,13306.
Y_2243,224.306 {450},Cts/S, 18053.,1.3862,.00768,18054.,18053.
Y_3600,360.073 { 94},Cts/S, 163890.,592.81,.36171,163470.,164310.
Y_3710,371.030 { 91},Cts/S, 10207.,15.208,.14900,10218.,10196.

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Al3082,308.215 {109},In2306,ppm, -.0195,.0185,95.24, -.0064, -.0326
As1890,189.042 {478},Y_2243,ppm, .0002,.0005,278.6, -.0002, .0006
B_2496,249.678 {135},Y_3710,ppm, -.0003,.0052,1920., .0034, -.0039
Ba4554,455.403 { 74},Y_3710,ppm, -.0001,.0001,97.68, -.0001, -.0000
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,4.168, .0000, .0000
Ca3158,315.887 {107},In2306,ppm, -.0000,.0046,33210., -.0032, .0032
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,64.60, .0001, .0000
Co2286,228.616 {447},In2306,ppm, .0000,.0002,2680., -.0001, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0003,.0001,51.77, .0002, .0004
Cu3247,324.754 {104},Y_3600,ppm, .0012,.0000,.5269, .0012, .0012
Fe2404,240.488 {140},In2306,ppm, -.0102,.0021,20.50, -.0117, -.0088
K_7664,766.490 { 44},Y_3710,ppm, .0164,.0544,331.9, .0548, -.0221
Li6707,670.784 { 50},Y_3710,ppm, -.0001,.0020,1679., .0013, -.0015
Mg2790,279.079 {121},Y_3710,ppm, .0021,.0625,3043., .0463, -.0422
Mn2576,257.610 {131},Y_3600,ppm, .0000,.0000,89.84, .0000, .0001
Mo2020,202.030 {467},Y_2243,ppm, .0010,.0001,14.48, .0009, .0011
Na5895,589.592 { 57},Y_3710,ppm, .0096,.0070,73.20, .0046, .0145
Ni2316,231.604 {445},In2306,ppm, .0001,.0002,167.3, -.0000, .0003
P_1782,178.284 {489},In2306,ppm, .0019,.0000,1.296, .0019, .0020
Pb2203,220.353 {453},In2306,ppm, .0008,.0016,213.8, .0019, -.0004
S_1820,182.034 {485},Y_2243,ppm, -1.941,.0040,.2041, -1.943, -1.938
Sb2068,206.833 {463},Y_2243,ppm, -.0001,.0009,831.3, -.0007, .0005
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Se1960,196.090 {472},Y_2243,ppm, .0000,.0017,35910., -.0012, .0012
Si2516,251.611 {134},Y_3710,ppm, .0231,.0162,70.01, .0345, .0117
Sn1899,189.989 {477},In2306,ppm, .0007,.0001,18.99, .0008, .0006
Sr4215,421.552 { 80},Y_3710,ppm, -.0001,.0000,22.14, -.0001, -.0001
Ti3349,334.904 {101},Y_3600,ppm, .0001,.0006,982.2, .0005, -.0004
Tl1908,190.856 {477},In2306,ppm, .0788,.0000,.0262, .0788, .0788
U_3670,367.007 { 92},Y_3600,ppm, -.2958,.1551,52.44, -.4054, -.1861
V_2924,292.402 {115},Y_3600,ppm, .0002,.0001,23.58, .0003, .0002
W_2397,239.709 {140},Y_2243,ppm, .0192,.0884,459.8, .0818, -.0433
Zn2062,206.200 {463},In2306,ppm, .0034,.0001,2.989, .0035, .0034

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 214.30,4.6657,2.1772,211.00,217.60
In2306,230.606 {446},Cts/S, 13363.,27.058,.20249,13382.,13344.
Y_2243,224.306 {450},Cts/S, 18089.,4.2556,.02353,18092.,18086.
Y_3600,360.073 { 94},Cts/S, 164010.,464.63,.28329,164340.,163680.
Y_3710,371.030 { 91},Cts/S, 10157.,198.23,1.9517,10016.,10297.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0004,.0001,31.45, -.0005, -.0003
Al3082,308.215 {109},In2306,ppm, -.0199,.0219,109.8, -.0044, -.0354
As1890,189.042 {478},Y_2243,ppm, .0027,.0032,119.7, .0050, .0004
B_2496,249.678 {135},Y_3710,ppm, .0027,.0130,486.0, .0119, -.0065
Ba4554,455.403 { 74},Y_3710,ppm, .0201,.0007,3.707, .0196, .0206
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,110.3, .0002, .0000
Ca3158,315.887 {107},In2306,ppm, 23.38,.8954,3.830, 22.75, 24.01
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0002,445.2, -.0001, .0002
Co2286,228.616 {447},In2306,ppm, .0018,.0001,4.371, .0019, .0017
Cr2677,267.716 {126},Y_3600,ppm, .0003,.0002,59.48, .0005, .0002
Cu3247,324.754 {104},Y_3600,ppm, .0048,.0006,11.93, .0044, .0052
Fe2404,240.488 {140},In2306,ppm, 7.679,.3417,4.449, 7.437, 7.920
K_7664,766.490 { 44},Y_3710,ppm, .2058,.0465,22.59, .1729, .2387
Li6707,670.784 { 50},Y_3710,ppm, -.0002,.0006,318.6, .0002, -.0006
Mg2790,279.079 {121},Y_3710,ppm, .0615,.0189,30.73, .0481, .0749
Mn2576,257.610 {131},Y_3600,ppm, .8118,.0004,.0482, .8115, .8120
Mo2020,202.030 {467},Y_2243,ppm, .0006,.0003,49.09, .0008, .0004
Na5895,589.592 { 57},Y_3710,ppm, 137.3,5.893,4.291, 133.2, 141.5
Ni2316,231.604 {445},In2306,ppm, .0315,.0004,1.284, .0318, .0313
P_1782,178.284 {489},In2306,ppm, .0054,.0020,36.44, .0068, .0040
Pb2203,220.353 {453},In2306,ppm, .0012,.0005,44.37, .0016, .0008
S_1820,182.034 {485},Y_2243,ppm, 47.60,.1259,.2646, 47.69, 47.51
Sb2068,206.833 {463},Y_2243,ppm, -.0002,.0027,1104., .0017, -.0022
Se1960,196.090 {472},Y_2243,ppm, .0022,.0014,64.46, .0012, .0033
Si2516,251.611 {134},Y_3710,ppm, .2700,.0016,.5761, .2711, .2689
Sn1899,189.989 {477},In2306,ppm, .0006,.0001,12.81, .0006, .0007
Sr4215,421.552 { 80},Y_3710,ppm, .0637,.0032,4.953, .0614, .0659
Ti3349,334.904 {101},Y_3600,ppm, .0000,.0002,1232., .0002, -.0001
Tl1908,190.856 {477},In2306,ppm, .0587,.0021,3.591, .0572, .0602
U_3670,367.007 { 92},Y_3600,ppm, -.2185,.0141,6.447, -.2085, -.2285
V_2924,292.402 {115},Y_3600,ppm, -.0001,.0001,60.57, -.0001, -.0001
W_2397,239.709 {140},Y_2243,ppm, .0286,.0044,15.20, .0256, .0317
Zn2062,206.200 {463},In2306,ppm, .1820,.0001,.0622, .1821, .1819
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[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 211.40,4.5882,2.1704,214.65,208.16
In2306,230.606 {446},Cts/S, 12134.,13.075,.10775,12144.,12125.
Y_2243,224.306 {450},Cts/S, 17372.,33.008,.19000,17396.,17349.
Y_3600,360.073 { 94},Cts/S, 155990.,232.05,.14876,156150.,155830.
Y_3710,371.030 { 91},Cts/S, 10095.,270.70,2.6816,10286.,9903.3

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2564,.0004,.1636, .2567, .2561
Al3082,308.215 {109},In2306,ppm, 10.48,.0878,.8381, 10.42, 10.54
As1890,189.042 {478},Y_2243,ppm, 1.064,.0006,.0571, 1.064, 1.063
B_2496,249.678 {135},Y_3710,ppm, .5279,.0151,2.861, .5173, .5386
Ba4554,455.403 { 74},Y_3710,ppm, 1.051,.0056,.5332, 1.047, 1.055
Be3130,313.042 {108},Y_3710,ppm, 1.009,.0081,.8002, 1.004, 1.015
Ca3158,315.887 {107},In2306,ppm, 34.33,.5046,1.470, 33.97, 34.69
Cd2288,228.802 {447},Y_2243,ppm, 1.020,.0011,.1059, 1.019, 1.020
Co2286,228.616 {447},In2306,ppm, 1.023,.0005,.0512, 1.023, 1.024
Cr2677,267.716 {126},Y_3600,ppm, .9930,.0026,.2626, .9949, .9912
Cu3247,324.754 {104},Y_3600,ppm, 1.021,.0001,.0143, 1.021, 1.020
Fe2404,240.488 {140},In2306,ppm, 18.21,.0947,.5202, 18.14, 18.27
K_7664,766.490 { 44},Y_3710,ppm, 10.73,.0916,.8538, 10.67, 10.80
Li6707,670.784 { 50},Y_3710,ppm, 1.009,.0104,1.035, 1.001, 1.016
Mg2790,279.079 {121},Y_3710,ppm, 10.42,.0208,.1994, 10.40, 10.43
Mn2576,257.610 {131},Y_3600,ppm, 1.841,.0034,.1872, 1.843, 1.839
Mo2020,202.030 {467},Y_2243,ppm, 1.017,.0010,.1031, 1.016, 1.018
Na5895,589.592 { 57},Y_3710,ppm, 150.3,1.121,.7460, 149.5, 151.1
Ni2316,231.604 {445},In2306,ppm, 1.058,.0015,.1388, 1.059, 1.057
P_1782,178.284 {489},In2306,ppm, 5.587,.0168,.3013, 5.575, 5.599
Pb2203,220.353 {453},In2306,ppm, 1.017,.0014,.1399, 1.016, 1.018
S_1820,182.034 {485},Y_2243,ppm, 55.00,.0663,.1206, 54.95, 55.05
Sb2068,206.833 {463},Y_2243,ppm, 1.607,.0036,.2242, 1.604, 1.609
Se1960,196.090 {472},Y_2243,ppm, 1.050,.0024,.2333, 1.048, 1.052
Si2516,251.611 {134},Y_3710,ppm, 12.64,.2651,2.097, 12.45, 12.83
Sn1899,189.989 {477},In2306,ppm, 1.035,.0039,.3759, 1.032, 1.038
Sr4215,421.552 { 80},Y_3710,ppm, 1.085,.0075,.6922, 1.080, 1.090
Ti3349,334.904 {101},Y_3600,ppm, 1.016,.0015,.1477, 1.017, 1.015
Tl1908,190.856 {477},In2306,ppm, .3589,.0195,5.438, .3727, .3451
U_3670,367.007 { 92},Y_3600,ppm, .3890,.1119,28.75, .3099, .4681
V_2924,292.402 {115},Y_3600,ppm, 1.006,.0009,.0854, 1.006, 1.005
W_2397,239.709 {140},Y_2243,ppm, .5044,.0732,14.51, .5561, .4527
Zn2062,206.200 {463},In2306,ppm, .7149,.0007,.1026, .7144, .7154

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 209.90,2.5737,1.2262,211.71,208.08
In2306,230.606 {446},Cts/S, 11857.,8.3680,.07058,11851.,11863.
Y_2243,224.306 {450},Cts/S, 17306.,20.528,.11861,17292.,17321.
Y_3600,360.073 { 94},Cts/S, 155490.,.21990,.00014,155490.,155490.
Y_3710,371.030 { 91},Cts/S, 10207.,87.761,.85983,10269.,10145.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0000,.0004,1644., .0003, -.0003
Al3082,308.215 {109},In2306,ppm, -.0117,.0132,112.7, -.0024, -.0211
As1890,189.042 {478},Y_2243,ppm, .0018,.0016,89.97, .0029, .0006
B_2496,249.678 {135},Y_3710,ppm, .0134,.0066,49.36, .0181, .0087
Ba4554,455.403 { 74},Y_3710,ppm, .1030,.0001,.0997, .1030, .1031
Be3130,313.042 {108},Y_3710,ppm, .0002,.0001,24.26, .0003, .0002
Ca3158,315.887 {107},In2306,ppm, 81.65,.6030,.7386, 81.22, 82.07
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0001,189.0, -.0000, .0001
Co2286,228.616 {447},In2306,ppm, -.0001,.0003,269.7, -.0003, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0002,.0001,78.78, .0001, .0003
Cu3247,324.754 {104},Y_3600,ppm, .0024,.0004,15.83, .0021, .0026
Fe2404,240.488 {140},In2306,ppm, .0173,.0145,83.78, .0070, .0275
K_7664,766.490 { 44},Y_3710,ppm, .1062,.0584,54.97, .1474, .0649
Li6707,670.784 { 50},Y_3710,ppm, .0004,.0001,32.23, .0005, .0003
Mg2790,279.079 {121},Y_3710,ppm, .7923,.0450,5.681, .7605, .8242
Mn2576,257.610 {131},Y_3600,ppm, .0284,.0000,.0698, .0284, .0284
Mo2020,202.030 {467},Y_2243,ppm, .0070,.0009,13.23, .0064, .0077
Na5895,589.592 { 57},Y_3710,ppm, 142.2,.4804,.3378, 141.9, 142.6
Ni2316,231.604 {445},In2306,ppm, .0001,.0001,173.8, -.0000, .0002
P_1782,178.284 {489},In2306,ppm, .0009,.0002,20.29, .0008, .0011
Pb2203,220.353 {453},In2306,ppm, .0004,.0012,276.8, -.0004, .0012
S_1820,182.034 {485},Y_2243,ppm, -3.123,.0017,.0557, -3.124, -3.122
Sb2068,206.833 {463},Y_2243,ppm, .0029,.0022,78.27, .0013, .0045
Se1960,196.090 {472},Y_2243,ppm, .0024,.0008,32.71, .0019, .0030
Si2516,251.611 {134},Y_3710,ppm, .1652,.0002,.1329, .1653, .1650
Sn1899,189.989 {477},In2306,ppm, .0021,.0002,7.250, .0020, .0022
Sr4215,421.552 { 80},Y_3710,ppm, .1074,.0003,.3103, .1076, .1072
Ti3349,334.904 {101},Y_3600,ppm, .0010,.0006,57.67, .0006, .0014
Tl1908,190.856 {477},In2306,ppm, .2082,.0024,1.133, .2099, .2066
U_3670,367.007 { 92},Y_3600,ppm, -.2691,.0206,7.665, -.2837, -.2545
V_2924,292.402 {115},Y_3600,ppm, .0005,.0001,16.13, .0004, .0006
W_2397,239.709 {140},Y_2243,ppm, -.0249,.0060,23.93, -.0207, -.0292
Zn2062,206.200 {463},In2306,ppm, .0236,.0001,.3540, .0237, .0236

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 210.75,1.3462,.63878,211.70,209.80
In2306,230.606 {446},Cts/S, 11920.,39.729,.33329,11892.,11948.
Y_2243,224.306 {450},Cts/S, 17174.,51.109,.29760,17138.,17210.
Y_3600,360.073 { 94},Cts/S, 155420.,87.992,.05662,155480.,155360.
Y_3710,371.030 { 91},Cts/S, 10126.,16.723,.16515,10138.,10114.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0002,273.1, .0001, -.0002
Al3082,308.215 {109},In2306,ppm, -.0219,.0049,22.48, -.0254, -.0184
As1890,189.042 {478},Y_2243,ppm, .0005,.0002,30.24, .0004, .0007
B_2496,249.678 {135},Y_3710,ppm, .0055,.0022,40.44, .0070, .0039
Ba4554,455.403 { 74},Y_3710,ppm, .0562,.0023,4.015, .0546, .0578
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,50.59, .0000, .0001
Ca3158,315.887 {107},In2306,ppm, 80.43,3.223,4.008, 78.15, 82.71
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0001,266.5, -.0001, .0000
Co2286,228.616 {447},In2306,ppm, -.0002,.0000,11.43, -.0002, -.0001
Cr2677,267.716 {126},Y_3600,ppm, .0003,.0000,12.82, .0003, .0003
Cu3247,324.754 {104},Y_3600,ppm, .0024,.0002,6.295, .0025, .0023
Fe2404,240.488 {140},In2306,ppm, .0102,.0159,156.3, .0214, -.0011
K_7664,766.490 { 44},Y_3710,ppm, .1329,.0015,1.113, .1319, .1340
Li6707,670.784 { 50},Y_3710,ppm, .0003,.0008,298.8, -.0003, .0008
Mg2790,279.079 {121},Y_3710,ppm, .8541,.0430,5.037, .8236, .8845
Mn2576,257.610 {131},Y_3600,ppm, .0096,.0005,4.766, .0092, .0099
Mo2020,202.030 {467},Y_2243,ppm, .0014,.0000,3.532, .0013, .0014
Na5895,589.592 { 57},Y_3710,ppm, 142.8,6.140,4.299, 138.5, 147.2
Ni2316,231.604 {445},In2306,ppm, .0007,.0000,2.034, .0007, .0007
P_1782,178.284 {489},In2306,ppm, .0040,.0032,78.14, .0063, .0018
Pb2203,220.353 {453},In2306,ppm, .0002,.0005,265.4, .0005, -.0002
S_1820,182.034 {485},Y_2243,ppm, -3.150,.0044,.1386, -3.153, -3.147
Sb2068,206.833 {463},Y_2243,ppm, -.0012,.0018,151.3, .0001, -.0025
Se1960,196.090 {472},Y_2243,ppm, -.0001,.0019,3182., -.0014, .0013
Si2516,251.611 {134},Y_3710,ppm, .1268,.0057,4.497, .1228, .1308
Sn1899,189.989 {477},In2306,ppm, .0012,.0001,4.390, .0012, .0013
Sr4215,421.552 { 80},Y_3710,ppm, .0456,.0023,4.996, .0440, .0472
Ti3349,334.904 {101},Y_3600,ppm, .0006,.0002,37.79, .0008, .0005
Tl1908,190.856 {477},In2306,ppm, .1506,.0022,1.462, .1491, .1522
U_3670,367.007 { 92},Y_3600,ppm, -.3238,.0106,3.282, -.3313, -.3163
V_2924,292.402 {115},Y_3600,ppm, .0009,.0002,23.78, .0010, .0007
W_2397,239.709 {140},Y_2243,ppm, .0193,.0930,481.0, -.0464, .0851
Zn2062,206.200 {463},In2306,ppm, .0139,.0001,1.015, .0138, .0140

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 209.19,6.2481,2.9868,213.61,204.77
In2306,230.606 {446},Cts/S, 11865.,57.917,.48812,11906.,11824.
Y_2243,224.306 {450},Cts/S, 17134.,80.754,.47131,17191.,17077.
Y_3600,360.073 { 94},Cts/S, 154160.,6315.8,4.0968,158630.,149700.
Y_3710,371.030 { 91},Cts/S, 9980.7,349.33,3.5001,10228.,9733.6

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0003,.0002,85.44, -.0005, -.0001
Al3082,308.215 {109},In2306,ppm, .0049,.0173,354.6, .0171, -.0074
As1890,189.042 {478},Y_2243,ppm, .0004,.0002,60.29, .0002, .0005
B_2496,249.678 {135},Y_3710,ppm, .0011,.0021,182.5, .0026, -.0003
Ba4554,455.403 { 74},Y_3710,ppm, .0168,.0002,1.193, .0169, .0166
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Be3130,313.042 {108},Y_3710,ppm, .0008,.0001,7.086, .0007, .0008
Ca3158,315.887 {107},In2306,ppm, 137.6,2.235,1.624, 136.1, 139.2
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0001,85.59, -.0000, -.0001
Co2286,228.616 {447},In2306,ppm, .0001,.0001,49.68, .0001, .0002
Cr2677,267.716 {126},Y_3600,ppm, .0006,.0002,25.90, .0008, .0005
Cu3247,324.754 {104},Y_3600,ppm, .0021,.0004,17.11, .0018, .0023
Fe2404,240.488 {140},In2306,ppm, .0033,.0122,368.6, .0119, -.0053
K_7664,766.490 { 44},Y_3710,ppm, .2237,.0509,22.77, .1877, .2597
Li6707,670.784 { 50},Y_3710,ppm, .0036,.0004,10.86, .0033, .0038
Mg2790,279.079 {121},Y_3710,ppm, 1.143,.0160,1.401, 1.132, 1.154
Mn2576,257.610 {131},Y_3600,ppm, .0933,.0002,.2381, .0931, .0934
Mo2020,202.030 {467},Y_2243,ppm, .0025,.0001,3.478, .0024, .0026
Na5895,589.592 { 57},Y_3710,ppm, 142.2,.4240,.2982, 141.9, 142.5
Ni2316,231.604 {445},In2306,ppm, .0016,.0002,11.66, .0015, .0017
P_1782,178.284 {489},In2306,ppm, .0032,.0016,51.62, .0020, .0043
Pb2203,220.353 {453},In2306,ppm, .0000,.0018,10630., -.0012, .0013
S_1820,182.034 {485},Y_2243,ppm, 67.63,.4427,.6547, 67.94, 67.32
Sb2068,206.833 {463},Y_2243,ppm, .0002,.0002,90.30, .0003, .0001
Se1960,196.090 {472},Y_2243,ppm, -.0018,.0014,76.90, -.0028, -.0008
Si2516,251.611 {134},Y_3710,ppm, 1.395,.0256,1.832, 1.377, 1.413
Sn1899,189.989 {477},In2306,ppm, .0007,.0006,91.76, .0012, .0002
Sr4215,421.552 { 80},Y_3710,ppm, .1852,.0015,.8209, .1842, .1863
Ti3349,334.904 {101},Y_3600,ppm, .0012,.0005,44.68, .0008, .0015
Tl1908,190.856 {477},In2306,ppm, .1162,.0006,.4786, .1158, .1166
U_3670,367.007 { 92},Y_3600,ppm, -.0844,.0216,25.65, -.0997, -.0691
V_2924,292.402 {115},Y_3600,ppm, .0010,.0004,39.70, .0012, .0007
W_2397,239.709 {140},Y_2243,ppm, .0509,.0975,191.5, .1198, -.0180
Zn2062,206.200 {463},In2306,ppm, .0186,.0001,.3654, .0185, .0186

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 209.22,2.0060,.95877,210.64,207.81
In2306,230.606 {446},Cts/S, 11672.,30.778,.26370,11650.,11693.
Y_2243,224.306 {450},Cts/S, 16830.,82.029,.48741,16772.,16888.
Y_3600,360.073 { 94},Cts/S, 152790.,12.532,.00820,152800.,152780.
Y_3710,371.030 { 91},Cts/S, 9983.1,23.833,.23873,9966.3,10000.0

[Sample Header]
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Custom ID3=
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CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0006,.0003,45.65, -.0004, -.0008
Al3082,308.215 {109},In2306,ppm, .0105,.0145,137.5, .0207, .0003
As1890,189.042 {478},Y_2243,ppm, .0016,.0006,33.97, .0020, .0012
B_2496,249.678 {135},Y_3710,ppm, .0210,.0091,43.63, .0274, .0145
Ba4554,455.403 { 74},Y_3710,ppm, .0164,.0001,.4821, .0165, .0164
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,133.9, .0002, .0000
Ca3158,315.887 {107},In2306,ppm, 7.443,.0564,.7571, 7.483, 7.403
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0000,23.28, -.0001, -.0001
Co2286,228.616 {447},In2306,ppm, .0004,.0000,8.771, .0004, .0003
Cr2677,267.716 {126},Y_3600,ppm, -.0002,.0002,106.8, -.0000, -.0003
Cu3247,324.754 {104},Y_3600,ppm, .0067,.0003,4.031, .0065, .0069
Fe2404,240.488 {140},In2306,ppm, .0104,.0062,59.58, .0147, .0060
K_7664,766.490 { 44},Y_3710,ppm, .7866,.0035,.4467, .7841, .7891
Li6707,670.784 { 50},Y_3710,ppm, -.0011,.0005,43.80, -.0014, -.0007
Mg2790,279.079 {121},Y_3710,ppm, .0409,.0163,39.82, .0524, .0294
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Mn2576,257.610 {131},Y_3600,ppm, .0012,.0000,3.806, .0012, .0013
Mo2020,202.030 {467},Y_2243,ppm, .0146,.0001,.8307, .0147, .0145
Na5895,589.592 { 57},Y_3710,ppm, 10.85,.0847,.7809, 10.91, 10.79
Ni2316,231.604 {445},In2306,ppm, .0006,.0007,107.6, .0011, .0002
P_1782,178.284 {489},In2306,ppm, .0053,.0002,3.583, .0054, .0052
Pb2203,220.353 {453},In2306,ppm, .0009,.0000,4.295, .0008, .0009
S_1820,182.034 {485},Y_2243,ppm, 9.575,.0033,.0340, 9.572, 9.577
Sb2068,206.833 {463},Y_2243,ppm, .0006,.0001,12.10, .0005, .0006
Se1960,196.090 {472},Y_2243,ppm, .0013,.0012,93.16, .0004, .0022
Si2516,251.611 {134},Y_3710,ppm, .6982,.0083,1.182, .7041, .6924
Sn1899,189.989 {477},In2306,ppm, .0010,.0002,24.20, .0012, .0008
Sr4215,421.552 { 80},Y_3710,ppm, .0299,.0004,1.207, .0301, .0296
Ti3349,334.904 {101},Y_3600,ppm, .0002,.0001,41.33, .0003, .0002
Tl1908,190.856 {477},In2306,ppm, .0921,.0020,2.205, .0935, .0907
U_3670,367.007 { 92},Y_3600,ppm, -.3150,.0186,5.909, -.3018, -.3281
V_2924,292.402 {115},Y_3600,ppm, .0011,.0000,3.046, .0012, .0011
W_2397,239.709 {140},Y_2243,ppm, -.0376,.0892,237.5, -.1006, .0255
Zn2062,206.200 {463},In2306,ppm, .0065,.0001,2.112, .0066, .0064

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 216.92,.77590,.35769,216.37,217.47
In2306,230.606 {446},Cts/S, 13237.,54.019,.40809,13275.,13199.
Y_2243,224.306 {450},Cts/S, 17902.,63.841,.35661,17947.,17857.
Y_3600,360.073 { 94},Cts/S, 161040.,2958.9,1.8374,163130.,158950.
Y_3710,371.030 { 91},Cts/S, 10342.,97.395,.94170,10274.,10411.

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Custom ID3=
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0002,.0001,38.10, -.0003, -.0002
Al3082,308.215 {109},In2306,ppm, -.0162,.0122,75.37, -.0248, -.0075
As1890,189.042 {478},Y_2243,ppm, .0015,.0006,41.95, .0019, .0010
B_2496,249.678 {135},Y_3710,ppm, .0092,.0086,94.00, .0153, .0031
Ba4554,455.403 { 74},Y_3710,ppm, .1027,.0009,.8663, .1021, .1034
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,80.93, .0000, .0001
Ca3158,315.887 {107},In2306,ppm, 68.44,1.141,1.667, 67.63, 69.25
Cd2288,228.802 {447},Y_2243,ppm, .0003,.0001,28.28, .0002, .0003
Co2286,228.616 {447},In2306,ppm, .0011,.0000,2.807, .0011, .0011
Cr2677,267.716 {126},Y_3600,ppm, .0003,.0001,27.80, .0002, .0003
Cu3247,324.754 {104},Y_3600,ppm, .0020,.0006,30.99, .0016, .0025
Fe2404,240.488 {140},In2306,ppm, .0199,.0017,8.528, .0211, .0187
K_7664,766.490 { 44},Y_3710,ppm, .1579,.0142,8.970, .1680, .1479
Li6707,670.784 { 50},Y_3710,ppm, .0000,.0007,3234., .0005, -.0005
Mg2790,279.079 {121},Y_3710,ppm, .9454,.0140,1.481, .9355, .9553
Mn2576,257.610 {131},Y_3600,ppm, .1421,.0001,.0875, .1422, .1421
Mo2020,202.030 {467},Y_2243,ppm, .0006,.0001,17.40, .0007, .0006
Na5895,589.592 { 57},Y_3710,ppm, 136.5,.3729,.2732, 136.2, 136.7
Ni2316,231.604 {445},In2306,ppm, .0014,.0002,16.57, .0013, .0016
P_1782,178.284 {489},In2306,ppm, -.0000,.0017,3337., -.0012, .0011
Pb2203,220.353 {453},In2306,ppm, .0009,.0003,34.99, .0011, .0007
S_1820,182.034 {485},Y_2243,ppm, -1.579,.0108,.6832, -1.571, -1.586
Sb2068,206.833 {463},Y_2243,ppm, -.0000,.0017,16740., -.0012, .0012
Se1960,196.090 {472},Y_2243,ppm, .0020,.0003,14.54, .0018, .0022
Si2516,251.611 {134},Y_3710,ppm, .7852,.0060,.7606, .7894, .7810
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Sn1899,189.989 {477},In2306,ppm, .0013,.0001,4.330, .0013, .0013
Sr4215,421.552 { 80},Y_3710,ppm, .0735,.0001,.1971, .0734, .0736
Ti3349,334.904 {101},Y_3600,ppm, .0006,.0001,21.83, .0005, .0007
Tl1908,190.856 {477},In2306,ppm, .0710,.0008,1.168, .0704, .0716
U_3670,367.007 { 92},Y_3600,ppm, -.3266,.1433,43.87, -.2253, -.4279
V_2924,292.402 {115},Y_3600,ppm, .0002,.0006,321.6, -.0003, .0007
W_2397,239.709 {140},Y_2243,ppm, .0967,.0361,37.34, .1222, .0711
Zn2062,206.200 {463},In2306,ppm, .0180,.0001,.4661, .0181, .0179

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 210.68,3.1357,1.4884,212.89,208.46
In2306,230.606 {446},Cts/S, 11854.,36.833,.31072,11828.,11880.
Y_2243,224.306 {450},Cts/S, 17040.,80.538,.47265,16983.,17097.
Y_3600,360.073 { 94},Cts/S, 153820.,76.121,.04949,153870.,153770.
Y_3710,371.030 { 91},Cts/S, 10070.,4.5845,.04553,10073.,10066.

[Sample Header]
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Custom ID2=
Custom ID3=
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0002,.0007,453.3, -.0004, .0007
Al3082,308.215 {109},In2306,ppm, -.0194,.0054,27.88, -.0232, -.0156
As1890,189.042 {478},Y_2243,ppm, -.0001,.0025,2890., -.0018, .0017
B_2496,249.678 {135},Y_3710,ppm, -.0005,.0021,389.8, -.0020, .0009
Ba4554,455.403 { 74},Y_3710,ppm, .1004,.0051,5.095, .1041, .0968
Be3130,313.042 {108},Y_3710,ppm, .0002,.0001,61.41, .0001, .0002
Ca3158,315.887 {107},In2306,ppm, 71.19,4.011,5.635, 74.02, 68.35
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0001,6085., .0000, -.0000
Co2286,228.616 {447},In2306,ppm, .0010,.0001,10.37, .0011, .0009
Cr2677,267.716 {126},Y_3600,ppm, .0003,.0001,21.22, .0003, .0002
Cu3247,324.754 {104},Y_3600,ppm, .0019,.0002,13.28, .0017, .0020
Fe2404,240.488 {140},In2306,ppm, .0025,.0064,259.7, -.0021, .0070
K_7664,766.490 { 44},Y_3710,ppm, .1783,.0133,7.470, .1877, .1689
Li6707,670.784 { 50},Y_3710,ppm, .0001,.0008,1089., .0006, -.0005
Mg2790,279.079 {121},Y_3710,ppm, .9675,.0767,7.926, 1.022, .9133
Mn2576,257.610 {131},Y_3600,ppm, .1413,.0000,.0205, .1413, .1413
Mo2020,202.030 {467},Y_2243,ppm, .0005,.0006,122.2, .0001, .0009
Na5895,589.592 { 57},Y_3710,ppm, 141.0,6.094,4.323, 145.3, 136.7
Ni2316,231.604 {445},In2306,ppm, .0012,.0003,26.98, .0014, .0009
P_1782,178.284 {489},In2306,ppm, .0008,.0001,17.82, .0007, .0009
Pb2203,220.353 {453},In2306,ppm, .0000,.0025,16640., .0018, -.0017
S_1820,182.034 {485},Y_2243,ppm, -1.602,.0027,.1689, -1.600, -1.604
Sb2068,206.833 {463},Y_2243,ppm, -.0018,.0013,71.22, -.0027, -.0009
Se1960,196.090 {472},Y_2243,ppm, -.0020,.0022,106.8, -.0005, -.0036
Si2516,251.611 {134},Y_3710,ppm, .8207,.0479,5.837, .8546, .7868
Sn1899,189.989 {477},In2306,ppm, .0010,.0005,45.92, .0007, .0013
Sr4215,421.552 { 80},Y_3710,ppm, .0762,.0035,4.659, .0787, .0736
Ti3349,334.904 {101},Y_3600,ppm, .0007,.0001,17.31, .0006, .0008
Tl1908,190.856 {477},In2306,ppm, .0529,.0038,7.208, .0556, .0502
U_3670,367.007 { 92},Y_3600,ppm, -.4014,.0423,10.53, -.4313, -.3715
V_2924,292.402 {115},Y_3600,ppm, .0007,.0001,12.13, .0006, .0007
W_2397,239.709 {140},Y_2243,ppm, .0703,.0631,89.69, .1149, .0257
Zn2062,206.200 {463},In2306,ppm, .0154,.0001,.8751, .0155, .0153

[Internal Standards]
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Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 204.25,10.631,5.2051,196.73,211.77
In2306,230.606 {446},Cts/S, 11940.,15.533,.13009,11929.,11951.
Y_2243,224.306 {450},Cts/S, 17145.,41.101,.23972,17116.,17174.
Y_3600,360.073 { 94},Cts/S, 154820.,407.08,.26293,154540.,155110.
Y_3710,371.030 { 91},Cts/S, 9829.8,385.80,3.9248,9557.0,10103.

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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2586,.0005,.1977, .2589, .2582
Al3082,308.215 {109},In2306,ppm, 10.50,.0140,.1337, 10.49, 10.51
As1890,189.042 {478},Y_2243,ppm, 1.067,.0067,.6275, 1.072, 1.063
B_2496,249.678 {135},Y_3710,ppm, .5189,.0022,.4293, .5174, .5205
Ba4554,455.403 { 74},Y_3710,ppm, 1.129,.0047,.4140, 1.125, 1.132
Be3130,313.042 {108},Y_3710,ppm, 1.007,.0032,.3168, 1.005, 1.009
Ca3158,315.887 {107},In2306,ppm, 78.79,.3576,.4538, 78.53, 79.04
Cd2288,228.802 {447},Y_2243,ppm, 1.012,.0008,.0796, 1.012, 1.013
Co2286,228.616 {447},In2306,ppm, 1.011,.0029,.2831, 1.009, 1.013
Cr2677,267.716 {126},Y_3600,ppm, .9827,.0003,.0313, .9830, .9825
Cu3247,324.754 {104},Y_3600,ppm, 1.016,.0013,.1283, 1.017, 1.015
Fe2404,240.488 {140},In2306,ppm, 10.33,.0904,.8752, 10.26, 10.39
K_7664,766.490 { 44},Y_3710,ppm, 10.55,.0528,.4999, 10.52, 10.59
Li6707,670.784 { 50},Y_3710,ppm, 1.001,.0062,.6236, .9963, 1.005
Mg2790,279.079 {121},Y_3710,ppm, 11.29,.0874,.7739, 11.23, 11.35
Mn2576,257.610 {131},Y_3600,ppm, 1.145,.0012,.1065, 1.146, 1.144
Mo2020,202.030 {467},Y_2243,ppm, 1.009,.0066,.6518, 1.014, 1.005
Na5895,589.592 { 57},Y_3710,ppm, 145.8,.4845,.3324, 145.4, 146.1
Ni2316,231.604 {445},In2306,ppm, 1.026,.0057,.5513, 1.030, 1.022
P_1782,178.284 {489},In2306,ppm, 5.699,.0456,.7997, 5.731, 5.667
Pb2203,220.353 {453},In2306,ppm, 1.012,.0091,.9026, 1.018, 1.005
S_1820,182.034 {485},Y_2243,ppm, 5.889,.0882,1.499, 5.951, 5.826
Sb2068,206.833 {463},Y_2243,ppm, 1.607,.0177,1.104, 1.619, 1.594
Se1960,196.090 {472},Y_2243,ppm, 1.043,.0054,.5197, 1.047, 1.039
Si2516,251.611 {134},Y_3710,ppm, 13.15,.1204,.9158, 13.07, 13.24
Sn1899,189.989 {477},In2306,ppm, 1.031,.0087,.8431, 1.037, 1.025
Sr4215,421.552 { 80},Y_3710,ppm, 1.090,.0073,.6666, 1.084, 1.095
Ti3349,334.904 {101},Y_3600,ppm, 1.018,.0022,.2120, 1.019, 1.016
Tl1908,190.856 {477},In2306,ppm, .3405,.0255,7.501, .3585, .3224
U_3670,367.007 { 92},Y_3600,ppm, .3096,.0614,19.82, .2662, .3530
V_2924,292.402 {115},Y_3600,ppm, 1.001,.0005,.0504, 1.001, 1.000
W_2397,239.709 {140},Y_2243,ppm, .5625,.0204,3.622, .5769, .5481
Zn2062,206.200 {463},In2306,ppm, .5399,.0021,.3874, .5414, .5384

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 207.80,.44748,.21534,208.12,207.48
In2306,230.606 {446},Cts/S, 11730.,15.773,.13447,11741.,11719.
Y_2243,224.306 {450},Cts/S, 17225.,3.8444,.02232,17228.,17222.
Y_3600,360.073 { 94},Cts/S, 154010.,307.54,.19969,154230.,153790.
Y_3710,371.030 { 91},Cts/S, 10113.,34.179,.33798,10137.,10088.

[Sample Header]
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Custom ID3=
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0008,.0001,10.35, -.0007, -.0008
Al3082,308.215 {109},In2306,ppm, .0073,.0209,286.9, -.0075, .0220
As1890,189.042 {478},Y_2243,ppm, .0015,.0015,103.9, .0004, .0025
B_2496,249.678 {135},Y_3710,ppm, .0154,.0057,37.13, .0194, .0114
Ba4554,455.403 { 74},Y_3710,ppm, .0506,.0000,.0162, .0506, .0506
Be3130,313.042 {108},Y_3710,ppm, .0003,.0000,5.120, .0003, .0003
Ca3158,315.887 {107},In2306,ppm, 71.64,.5583,.7794, 71.24, 72.03
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,25.52, .0001, .0001
Co2286,228.616 {447},In2306,ppm, .0004,.0000,2.698, .0004, .0004
Cr2677,267.716 {126},Y_3600,ppm, .0096,.0001,1.539, .0097, .0095
Cu3247,324.754 {104},Y_3600,ppm, .0099,.0000,.4960, .0098, .0099
Fe2404,240.488 {140},In2306,ppm, .0288,.0088,30.45, .0226, .0350
K_7664,766.490 { 44},Y_3710,ppm, 1.050,.0052,.4973, 1.047, 1.054
Li6707,670.784 { 50},Y_3710,ppm, .0019,.0011,55.85, .0026, .0011
Mg2790,279.079 {121},Y_3710,ppm, -.0002,.0084,5444., -.0061, .0058
Mn2576,257.610 {131},Y_3600,ppm, .0006,.0000,2.129, .0006, .0006
Mo2020,202.030 {467},Y_2243,ppm, .0149,.0010,6.762, .0142, .0157
Na5895,589.592 { 57},Y_3710,ppm, 142.2,.0709,.0498, 142.3, 142.2
Ni2316,231.604 {445},In2306,ppm, .0027,.0002,7.435, .0026, .0029
P_1782,178.284 {489},In2306,ppm, .0048,.0047,97.96, .0081, .0015
Pb2203,220.353 {453},In2306,ppm, -.0007,.0008,105.1, -.0002, -.0013
S_1820,182.034 {485},Y_2243,ppm, -.4874,.0222,4.551, -.4717, -.5031
Sb2068,206.833 {463},Y_2243,ppm, .0015,.0006,41.78, .0019, .0010
Se1960,196.090 {472},Y_2243,ppm, .0010,.0022,221.1, .0026, -.0006
Si2516,251.611 {134},Y_3710,ppm, 3.055,.0202,.6612, 3.040, 3.069
Sn1899,189.989 {477},In2306,ppm, .0017,.0008,50.83, .0011, .0023
Sr4215,421.552 { 80},Y_3710,ppm, .1186,.0002,.1529, .1185, .1187
Ti3349,334.904 {101},Y_3600,ppm, .0011,.0002,18.04, .0009, .0012
Tl1908,190.856 {477},In2306,ppm, .2010,.0033,1.629, .1987, .2034
U_3670,367.007 { 92},Y_3600,ppm, -.2993,.1085,36.24, -.2226, -.3760
V_2924,292.402 {115},Y_3600,ppm, .0072,.0004,4.958, .0075, .0070
W_2397,239.709 {140},Y_2243,ppm, .0219,.0156,71.52, .0108, .0329
Zn2062,206.200 {463},In2306,ppm, .0034,.0000,1.203, .0033, .0034

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 205.87,.76513,.37165,206.41,205.33
In2306,230.606 {446},Cts/S, 11941.,67.296,.56358,11893.,11988.
Y_2243,224.306 {450},Cts/S, 17182.,101.27,.58938,17110.,17254.
Y_3600,360.073 { 94},Cts/S, 153750.,.64256,.00042,153750.,153750.
Y_3710,371.030 { 91},Cts/S, 10024.,48.360,.48247,9989.3,10058.

[Sample Header]
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Custom ID3=
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Mode=CONC
CorrFactor=1.000
Repeats=2
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .4998,.0004,.0755, .5001, .4995
Al3082,308.215 {109},In2306,ppm, 20.41,.3664,1.795, 20.67, 20.15
As1890,189.042 {478},Y_2243,ppm, 1.028,.0009,.0834, 1.027, 1.029
B_2496,249.678 {135},Y_3710,ppm, 1.026,.0216,2.101, 1.041, 1.011
Ba4554,455.403 { 74},Y_3710,ppm, 1.042,.0269,2.578, 1.061, 1.023
Be3130,313.042 {108},Y_3710,ppm, .9991,.0240,2.405, 1.016, .9821
Ca3158,315.887 {107},In2306,ppm, 20.29,.3326,1.639, 20.53, 20.06
Cd2288,228.802 {447},Y_2243,ppm, .9863,.0002,.0186, .9864, .9861
Co2286,228.616 {447},In2306,ppm, .9763,.0008,.0834, .9769, .9758
Cr2677,267.716 {126},Y_3600,ppm, .9830,.0005,.0542, .9833, .9826
Cu3247,324.754 {104},Y_3600,ppm, 1.003,.0008,.0822, 1.002, 1.003
Fe2404,240.488 {140},In2306,ppm, 20.36,.2988,1.467, 20.57, 20.15
K_7664,766.490 { 44},Y_3710,ppm, 20.32,.4331,2.131, 20.63, 20.02
Li6707,670.784 { 50},Y_3710,ppm, 1.015,.0281,2.772, 1.034, .9947
Mg2790,279.079 {121},Y_3710,ppm, 20.65,.3728,1.805, 20.92, 20.39
Mn2576,257.610 {131},Y_3600,ppm, 1.003,.0010,.0979, 1.002, 1.003
Mo2020,202.030 {467},Y_2243,ppm, 1.003,.0005,.0537, 1.003, 1.002
Na5895,589.592 { 57},Y_3710,ppm, 20.39,.4804,2.356, 20.73, 20.05
Ni2316,231.604 {445},In2306,ppm, .9853,.0002,.0235, .9855, .9851
P_1782,178.284 {489},In2306,ppm, 10.36,.0049,.0476, 10.36, 10.37
Pb2203,220.353 {453},In2306,ppm, .9901,.0018,.1853, .9888, .9914
S_1820,182.034 {485},Y_2243,ppm, 10.79,.0096,.0888, 10.78, 10.80
Sb2068,206.833 {463},Y_2243,ppm, 2.106,.0060,.2847, 2.102, 2.110
Se1960,196.090 {472},Y_2243,ppm, 1.014,.0032,.3116, 1.012, 1.016
Si2516,251.611 {134},Y_3710,ppm, 14.29,.0201,.1408, 14.31, 14.28
Sn1899,189.989 {477},In2306,ppm, .9992,.0010,.0994, .9985, 1.0000
Sr4215,421.552 { 80},Y_3710,ppm, 1.031,.0258,2.501, 1.049, 1.013
Ti3349,334.904 {101},Y_3600,ppm, .9988,.0012,.1209, .9980, .9997
Tl1908,190.856 {477},In2306,ppm, 1.131,.0014,.1237, 1.132, 1.130
U_3670,367.007 { 92},Y_3600,ppm, .8047,.0279,3.470, .8244, .7849
V_2924,292.402 {115},Y_3600,ppm, .9833,.0024,.2487, .9816, .9851
W_2397,239.709 {140},Y_2243,ppm, 1.284,.1031,8.025, 1.211, 1.357
Zn2062,206.200 {463},In2306,ppm, .9748,.0022,.2211, .9764, .9733

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 205.03,2.0132,.98191,203.61,206.46
In2306,230.606 {446},Cts/S, 12412.,23.822,.19193,12395.,12429.
Y_2243,224.306 {450},Cts/S, 17594.,20.637,.11729,17579.,17608.
Y_3600,360.073 { 94},Cts/S, 157660.,217.51,.13796,157810.,157510.
Y_3710,371.030 { 91},Cts/S, 9929.1,154.00,1.5510,9820.2,10038.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0100,.0003,2.853, .0098, .0102
Al3082,308.215 {109},In2306,ppm, .2004,.0140,6.982, .2103, .1905
As1890,189.042 {478},Y_2243,ppm, .0209,.0010,4.919, .0216, .0201
B_2496,249.678 {135},Y_3710,ppm, .2050,.0078,3.814, .1994, .2105
Ba4554,455.403 { 74},Y_3710,ppm, .0226,.0001,.5441, .0227, .0225
Be3130,313.042 {108},Y_3710,ppm, .0113,.0001,1.045, .0113, .0112
Ca3158,315.887 {107},In2306,ppm, 1.047,.0133,1.267, 1.056, 1.038
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Cd2288,228.802 {447},Y_2243,ppm, .0111,.0002,1.551, .0110, .0113
Co2286,228.616 {447},In2306,ppm, .0105,.0001,.8880, .0106, .0105
Cr2677,267.716 {126},Y_3600,ppm, .0108,.0004,3.494, .0111, .0105
Cu3247,324.754 {104},Y_3600,ppm, .0123,.0004,3.439, .0120, .0126
Fe2404,240.488 {140},In2306,ppm, .2084,.0108,5.191, .2160, .2007
K_7664,766.490 { 44},Y_3710,ppm, 1.093,.0215,1.968, 1.077, 1.108
Li6707,670.784 { 50},Y_3710,ppm, .0110,.0011,10.03, .0102, .0118
Mg2790,279.079 {121},Y_3710,ppm, 1.092,.0381,3.487, 1.119, 1.065
Mn2576,257.610 {131},Y_3600,ppm, .0113,.0001,.8131, .0112, .0113
Mo2020,202.030 {467},Y_2243,ppm, .0276,.0009,3.136, .0269, .0282
Na5895,589.592 { 57},Y_3710,ppm, 1.110,.0009,.0855, 1.109, 1.111
Ni2316,231.604 {445},In2306,ppm, .0109,.0001,.5061, .0109, .0108
P_1782,178.284 {489},In2306,ppm, .9915,.0036,.3635, .9889, .9940
Pb2203,220.353 {453},In2306,ppm, .0112,.0002,1.430, .0113, .0110
S_1820,182.034 {485},Y_2243,ppm, -2.732,.0032,.1157, -2.735, -2.730
Sb2068,206.833 {463},Y_2243,ppm, .0583,.0005,.8387, .0579, .0586
Se1960,196.090 {472},Y_2243,ppm, .0248,.0002,.8119, .0249, .0246
Si2516,251.611 {134},Y_3710,ppm, .2917,.0136,4.652, .2821, .3013
Sn1899,189.989 {477},In2306,ppm, .0234,.0001,.4146, .0233, .0234
Sr4215,421.552 { 80},Y_3710,ppm, .0112,.0002,1.887, .0113, .0110
Ti3349,334.904 {101},Y_3600,ppm, .0114,.0001,.7189, .0113, .0114
Tl1908,190.856 {477},In2306,ppm, .1664,.0035,2.082, .1640, .1689
U_3670,367.007 { 92},Y_3600,ppm, -.2034,.0734,36.07, -.1515, -.2553
V_2924,292.402 {115},Y_3600,ppm, .0109,.0001,1.237, .0110, .0108
W_2397,239.709 {140},Y_2243,ppm, .1304,.0598,45.88, .1727, .0881
Zn2062,206.200 {463},In2306,ppm, .0201,.0000,.0692, .0201, .0201

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 214.55,1.7410,.81147,213.32,215.78
In2306,230.606 {446},Cts/S, 13346.,.27678,.00207,13346.,13345.
Y_2243,224.306 {450},Cts/S, 18018.,14.947,.08296,18008.,18029.
Y_3600,360.073 { 94},Cts/S, 162530.,46.521,.02862,162560.,162490.
Y_3710,371.030 { 91},Cts/S, 10068.,8.3652,.08309,10062.,10074.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0005,.0002,51.79, -.0003, -.0006
Al3082,308.215 {109},In2306,ppm, -.0070,.0029,41.32, -.0090, -.0049
As1890,189.042 {478},Y_2243,ppm, .0006,.0030,479.6, -.0015, .0027
B_2496,249.678 {135},Y_3710,ppm, -.0038,.0014,35.60, -.0028, -.0048
Ba4554,455.403 { 74},Y_3710,ppm, .0002,.0001,59.73, .0001, .0003
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,6.221, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, .0005,.0042,763.6, -.0024, .0035
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0001,593.6, .0001, -.0001
Co2286,228.616 {447},In2306,ppm, -.0001,.0000,27.83, -.0001, -.0001
Cr2677,267.716 {126},Y_3600,ppm, .0001,.0002,113.3, .0003, .0000
Cu3247,324.754 {104},Y_3600,ppm, .0016,.0004,22.61, .0014, .0019
Fe2404,240.488 {140},In2306,ppm, .0132,.0059,44.90, .0090, .0174
K_7664,766.490 { 44},Y_3710,ppm, .0401,.0030,7.407, .0422, .0380
Li6707,670.784 { 50},Y_3710,ppm, -.0004,.0003,71.56, -.0005, -.0002
Mg2790,279.079 {121},Y_3710,ppm, -.0119,.0466,391.4, .0210, -.0449
Mn2576,257.610 {131},Y_3600,ppm, .0000,.0000,11.60, .0000, .0000
Mo2020,202.030 {467},Y_2243,ppm, .0010,.0001,14.03, .0009, .0011
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Na5895,589.592 { 57},Y_3710,ppm, .0142,.0051,36.11, .0106, .0178
Ni2316,231.604 {445},In2306,ppm, .0004,.0000,1.243, .0004, .0004
P_1782,178.284 {489},In2306,ppm, .0013,.0009,70.47, .0020, .0007
Pb2203,220.353 {453},In2306,ppm, .0011,.0012,106.8, .0003, .0020
S_1820,182.034 {485},Y_2243,ppm, -1.950,.0105,.5387, -1.957, -1.942
Sb2068,206.833 {463},Y_2243,ppm, .0016,.0010,65.24, .0009, .0023
Se1960,196.090 {472},Y_2243,ppm, -.0003,.0013,416.0, -.0012, .0006
Si2516,251.611 {134},Y_3710,ppm, .0252,.0122,48.38, .0166, .0338
Sn1899,189.989 {477},In2306,ppm, .0004,.0000,13.43, .0003, .0004
Sr4215,421.552 { 80},Y_3710,ppm, .0000,.0001,322.0, .0001, -.0000
Ti3349,334.904 {101},Y_3600,ppm, .0001,.0004,674.2, -.0002, .0003
Tl1908,190.856 {477},In2306,ppm, .1255,.0041,3.242, .1226, .1283
U_3670,367.007 { 92},Y_3600,ppm, -.3703,.0735,19.85, -.4223, -.3183
V_2924,292.402 {115},Y_3600,ppm, .0000,.0002,2858., .0001, -.0001
W_2397,239.709 {140},Y_2243,ppm, .0356,.0573,161.0, .0761, -.0049
Zn2062,206.200 {463},In2306,ppm, .0034,.0002,5.179, .0036, .0033

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 214.26,1.2593,.58773,215.15,213.37
In2306,230.606 {446},Cts/S, 13432.,49.618,.36941,13467.,13397.
Y_2243,224.306 {450},Cts/S, 18063.,86.980,.48154,18124.,18001.
Y_3600,360.073 { 94},Cts/S, 163230.,474.28,.29056,162890.,163560.
Y_3710,371.030 { 91},Cts/S, 10056.,9.2148,.09164,10062.,10049.


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Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0002,.0002,94.53, -.0001, -.0003
Al3082,308.215 {109},In2306,ppm, -.0200,.0145,72.44, -.0097, -.0302
As1890,189.042 {478},Y_2243,ppm, -.0014,.0013,94.48, -.0023, -.0005
B_2496,249.678 {135},Y_3710,ppm, .0005,.0030,590.2, .0026, -.0016
Ba4554,455.403 { 74},Y_3710,ppm, .0009,.0000,1.033, .0009, .0009
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,63.00, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, .0068,.0065,95.04, .0114, .0022
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,114.7, .0000, .0001
Co2286,228.616 {447},In2306,ppm, -.0001,.0002,278.7, .0001, -.0002
Cr2677,267.716 {126},Y_3600,ppm, -.0001,.0001,83.50, -.0001, -.0002
Cu3247,324.754 {104},Y_3600,ppm, .0015,.0001,5.092, .0015, .0016
Fe2404,240.488 {140},In2306,ppm, -.0008,.0079,954.2, .0048, -.0064
K_7664,766.490 { 44},Y_3710,ppm, .0067,.0084,125.7, .0127, .0007
Li6707,670.784 { 50},Y_3710,ppm, -.0004,.0006,149.2, .0000, -.0008
Mg2790,279.079 {121},Y_3710,ppm, -.0111,.0296,267.6, -.0320, .0099
Mn2576,257.610 {131},Y_3600,ppm, .0003,.0000,18.03, .0003, .0002
Mo2020,202.030 {467},Y_2243,ppm, .0003,.0002,52.03, .0002, .0005
Na5895,589.592 { 57},Y_3710,ppm, .0215,.0028,12.80, .0196, .0235
Ni2316,231.604 {445},In2306,ppm, .0003,.0000,3.128, .0003, .0003
P_1782,178.284 {489},In2306,ppm, .0010,.0018,178.6, .0023, -.0003
Pb2203,220.353 {453},In2306,ppm, .0010,.0002,19.26, .0008, .0011
S_1820,182.034 {485},Y_2243,ppm, -.1983,.0006,.2879, -.1987, -.1979
Sb2068,206.833 {463},Y_2243,ppm, -.0015,.0012,76.64, -.0023, -.0007
Se1960,196.090 {472},Y_2243,ppm, .0024,.0051,212.5, -.0012, .0060
Si2516,251.611 {134},Y_3710,ppm, .0217,.0095,43.75, .0150, .0284
Sn1899,189.989 {477},In2306,ppm, .0006,.0002,24.85, .0007, .0005
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Sr4215,421.552 { 80},Y_3710,ppm, -.0001,.0001,81.49, -.0000, -.0001
Ti3349,334.904 {101},Y_3600,ppm, -.0003,.0001,24.54, -.0002, -.0003
Tl1908,190.856 {477},In2306,ppm, .0972,.0041,4.260, .0943, .1001
U_3670,367.007 { 92},Y_3600,ppm, -.3428,.0766,22.36, -.2886, -.3970
V_2924,292.402 {115},Y_3600,ppm, .0003,.0002,74.74, .0004, .0001
W_2397,239.709 {140},Y_2243,ppm, .0687,.0196,28.56, .0548, .0826
Zn2062,206.200 {463},In2306,ppm, .0038,.0000,1.128, .0039, .0038

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 217.15,2.0960,.96524,218.64,215.67
In2306,230.606 {446},Cts/S, 13464.,9.5302,.07078,13457.,13471.
Y_2243,224.306 {450},Cts/S, 18080.,.59626,.00330,18079.,18080.
Y_3600,360.073 { 94},Cts/S, 164000.,481.73,.29374,164340.,163660.
Y_3710,371.030 { 91},Cts/S, 10197.,82.214,.80630,10138.,10255.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .2499,.0007,.2683, .2494, .2504
Al3082,308.215 {109},In2306,ppm, 10.07,.4094,4.063, 10.36, 9.786
As1890,189.042 {478},Y_2243,ppm, 1.043,.0024,.2259, 1.045, 1.041
B_2496,249.678 {135},Y_3710,ppm, .5015,.0098,1.955, .5084, .4946
Ba4554,455.403 { 74},Y_3710,ppm, 1.007,.0342,3.398, 1.032, .9833
Be3130,313.042 {108},Y_3710,ppm, .9687,.0328,3.384, .9918, .9455
Ca3158,315.887 {107},In2306,ppm, 9.992,.3428,3.431, 10.23, 9.750
Cd2288,228.802 {447},Y_2243,ppm, 1.010,.0008,.0831, 1.011, 1.010
Co2286,228.616 {447},In2306,ppm, .9866,.0024,.2469, .9883, .9848
Cr2677,267.716 {126},Y_3600,ppm, .9986,.0010,.1001, .9979, .9993
Cu3247,324.754 {104},Y_3600,ppm, 1.023,.0003,.0275, 1.023, 1.023
Fe2404,240.488 {140},In2306,ppm, 10.05,.3917,3.899, 10.32, 9.770
K_7664,766.490 { 44},Y_3710,ppm, 10.12,.2985,2.950, 10.33, 9.908
Li6707,670.784 { 50},Y_3710,ppm, .9850,.0347,3.522, 1.010, .9605
Mg2790,279.079 {121},Y_3710,ppm, 10.23,.2248,2.197, 10.39, 10.07
Mn2576,257.610 {131},Y_3600,ppm, 1.027,.0034,.3311, 1.025, 1.030
Mo2020,202.030 {467},Y_2243,ppm, 1.023,.0031,.3014, 1.026, 1.021
Na5895,589.592 { 57},Y_3710,ppm, 10.16,.3202,3.151, 10.39, 9.938
Ni2316,231.604 {445},In2306,ppm, 1.006,.0018,.1830, 1.004, 1.007
P_1782,178.284 {489},In2306,ppm, 5.192,.0167,.3218, 5.204, 5.180
Pb2203,220.353 {453},In2306,ppm, 1.002,.0024,.2441, 1.004, 1.000
S_1820,182.034 {485},Y_2243,ppm, 7.085,.0171,.2414, 7.072, 7.097
Sb2068,206.833 {463},Y_2243,ppm, 1.618,.0036,.2248, 1.621, 1.615
Se1960,196.090 {472},Y_2243,ppm, 1.029,.0020,.1957, 1.030, 1.028
Si2516,251.611 {134},Y_3710,ppm, 12.82,.2586,2.018, 13.00, 12.63
Sn1899,189.989 {477},In2306,ppm, 1.004,.0018,.1824, 1.006, 1.003
Sr4215,421.552 { 80},Y_3710,ppm, .9942,.0348,3.499, 1.019, .9696
Ti3349,334.904 {101},Y_3600,ppm, 1.018,.0020,.1976, 1.016, 1.019
Tl1908,190.856 {477},In2306,ppm, .3813,.0235,6.161, .3979, .3647
U_3670,367.007 { 92},Y_3600,ppm, .3296,.1119,33.95, .2505, .4087
V_2924,292.402 {115},Y_3600,ppm, 1.004,.0011,.1066, 1.003, 1.004
W_2397,239.709 {140},Y_2243,ppm, .5251,.0609,11.59, .4821, .5682
Zn2062,206.200 {463},In2306,ppm, .5095,.0021,.4144, .5110, .5080

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
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In2306,230.606 {146},Cts/S, 216.51,6.8047,3.1429,211.70,221.32
In2306,230.606 {446},Cts/S, 12747.,24.235,.19012,12730.,12765.
Y_2243,224.306 {450},Cts/S, 17667.,25.556,.14465,17649.,17685.
Y_3600,360.073 { 94},Cts/S, 159340.,315.31,.19788,159570.,159120.
Y_3710,371.030 { 91},Cts/S, 10463.,304.35,2.9089,10248.,10678.

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Ag3280,328.068 {103},Y_3600,ppm, -.0003,.0004,132.9, -.0006, -.0000
Al3082,308.215 {109},In2306,ppm, -.0208,.0262,125.7, -.0023, -.0393
As1890,189.042 {478},Y_2243,ppm, .0015,.0020,129.5, .0001, .0029
B_2496,249.678 {135},Y_3710,ppm, .0007,.0013,204.1, .0016, -.0003
Ba4554,455.403 { 74},Y_3710,ppm, .0014,.0003,18.44, .0016, .0012
Be3130,313.042 {108},Y_3710,ppm, .0002,.0001,26.78, .0003, .0002
Ca3158,315.887 {107},In2306,ppm, .0071,.0012,17.54, .0062, .0080
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0000,14.26, .0002, .0002
Co2286,228.616 {447},In2306,ppm, .0002,.0000,18.75, .0002, .0002
Cr2677,267.716 {126},Y_3600,ppm, .0000,.0001,329.2, .0001, -.0000
Cu3247,324.754 {104},Y_3600,ppm, .0030,.0001,2.369, .0030, .0031
Fe2404,240.488 {140},In2306,ppm, .0070,.0057,82.18, .0111, .0029
K_7664,766.490 { 44},Y_3710,ppm, .0295,.0053,18.10, .0258, .0333
Li6707,670.784 { 50},Y_3710,ppm, -.0008,.0001,13.85, -.0007, -.0009
Mg2790,279.079 {121},Y_3710,ppm, -.0339,.0018,5.407, -.0326, -.0352
Mn2576,257.610 {131},Y_3600,ppm, .0002,.0000,3.793, .0002, .0002
Mo2020,202.030 {467},Y_2243,ppm, .0059,.0012,20.38, .0051, .0068
Na5895,589.592 { 57},Y_3710,ppm, 141.6,5.966,4.215, 145.8, 137.3
Ni2316,231.604 {445},In2306,ppm, .0001,.0001,102.6, .0001, .0000
P_1782,178.284 {489},In2306,ppm, .0031,.0005,16.15, .0034, .0027
Pb2203,220.353 {453},In2306,ppm, .0002,.0003,121.0, .0000, .0004
S_1820,182.034 {485},Y_2243,ppm, -.0740,.0129,17.44, -.0832, -.0649
Sb2068,206.833 {463},Y_2243,ppm, -.0001,.0002,186.5, .0000, -.0003
Se1960,196.090 {472},Y_2243,ppm, .0008,.0021,260.7, -.0007, .0023
Si2516,251.611 {134},Y_3710,ppm, .0142,.0225,159.1, .0301, -.0018
Sn1899,189.989 {477},In2306,ppm, .0032,.0006,19.15, .0028, .0037
Sr4215,421.552 { 80},Y_3710,ppm, .0000,.0001,162.4, .0001, -.0000
Ti3349,334.904 {101},Y_3600,ppm, .0008,.0000,4.756, .0008, .0008
Tl1908,190.856 {477},In2306,ppm, .2258,.0033,1.446, .2234, .2281
U_3670,367.007 { 92},Y_3600,ppm, -.2510,.0748,29.80, -.3039, -.1981
V_2924,292.402 {115},Y_3600,ppm, .0003,.0001,37.20, .0002, .0004
W_2397,239.709 {140},Y_2243,ppm, .0809,.0481,59.43, .0469, .1148
Zn2062,206.200 {463},In2306,ppm, .0041,.0001,1.625, .0041, .0042

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 213.97,8.7896,4.1079,207.75,220.18
In2306,230.606 {446},Cts/S, 12321.,10.946,.08884,12329.,12313.
Y_2243,224.306 {450},Cts/S, 17345.,4.4414,.02561,17348.,17342.
Y_3600,360.073 { 94},Cts/S, 156140.,814.16,.52141,156720.,155570.
Y_3710,371.030 { 91},Cts/S, 10357.,404.76,3.9080,10071.,10643.

[Sample Header]
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Username=admin
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Custom ID2=
Custom ID3=
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CorrFactor=1.000
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0000,9.391, -.0001, -.0001
Al3082,308.215 {109},In2306,ppm, -.0233,.0032,13.65, -.0256, -.0211
As1890,189.042 {478},Y_2243,ppm, .0021,.0007,32.85, .0016, .0026
B_2496,249.678 {135},Y_3710,ppm, .0058,.0045,77.93, .0026, .0090
Ba4554,455.403 { 74},Y_3710,ppm, .0264,.0003,1.125, .0267, .0262
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,7.786, -.0001, -.0000
Ca3158,315.887 {107},In2306,ppm, 71.63,.9238,1.290, 72.29, 70.98
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0001,48.62, -.0001, -.0001
Co2286,228.616 {447},In2306,ppm, -.0003,.0001,20.81, -.0003, -.0002
Cr2677,267.716 {126},Y_3600,ppm, .0112,.0004,3.496, .0114, .0109
Cu3247,324.754 {104},Y_3600,ppm, .0034,.0001,2.140, .0034, .0033
Fe2404,240.488 {140},In2306,ppm, .0074,.0047,63.75, .0108, .0041
K_7664,766.490 { 44},Y_3710,ppm, 1.831,.0329,1.797, 1.855, 1.808
Li6707,670.784 { 50},Y_3710,ppm, .0051,.0016,30.82, .0040, .0062
Mg2790,279.079 {121},Y_3710,ppm, .0181,.0033,18.06, .0158, .0204
Mn2576,257.610 {131},Y_3600,ppm, .0001,.0000,66.51, .0001, .0000
Mo2020,202.030 {467},Y_2243,ppm, .0043,.0000,.1606, .0043, .0043
Na5895,589.592 { 57},Y_3710,ppm, 141.5,.5980,.4226, 141.9, 141.1
Ni2316,231.604 {445},In2306,ppm, -.0000,.0001,1928., .0001, -.0001
P_1782,178.284 {489},In2306,ppm, .0021,.0015,71.95, .0031, .0010
Pb2203,220.353 {453},In2306,ppm, .0005,.0021,453.1, .0019, -.0010
S_1820,182.034 {485},Y_2243,ppm, 1.561,.2174,13.92, 1.715, 1.407
Sb2068,206.833 {463},Y_2243,ppm, .0040,.0004,10.69, .0037, .0043
Se1960,196.090 {472},Y_2243,ppm, -.0009,.0036,398.2, -.0034, .0016
Si2516,251.611 {134},Y_3710,ppm, 2.865,.0041,.1428, 2.862, 2.868
Sn1899,189.989 {477},In2306,ppm, .0006,.0001,16.06, .0007, .0006
Sr4215,421.552 { 80},Y_3710,ppm, .1805,.0009,.4807, .1811, .1799
Ti3349,334.904 {101},Y_3600,ppm, .0010,.0001,10.19, .0010, .0011
Tl1908,190.856 {477},In2306,ppm, .1806,.0013,.7170, .1816, .1797
U_3670,367.007 { 92},Y_3600,ppm, -.2457,.0524,21.35, -.2086, -.2827
V_2924,292.402 {115},Y_3600,ppm, .0026,.0002,5.916, .0027, .0025
W_2397,239.709 {140},Y_2243,ppm, .1452,.0700,48.23, .1947, .0957
Zn2062,206.200 {463},In2306,ppm, .0032,.0000,.5831, .0032, .0032

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 207.93,2.6396,1.2695,206.06,209.80
In2306,230.606 {446},Cts/S, 11688.,355.82,3.0444,11436.,11939.
Y_2243,224.306 {450},Cts/S, 16695.,511.13,3.0615,16334.,17057.
Y_3600,360.073 { 94},Cts/S, 155850.,344.22,.22086,155610.,156100.
Y_3710,371.030 { 91},Cts/S, 10040.,74.645,.74350,9986.9,10092.

[Sample Header]
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Custom ID3=
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0003,316.0, .0001, -.0003
Al3082,308.215 {109},In2306,ppm, -.0209,.0081,38.61, -.0266, -.0152
As1890,189.042 {478},Y_2243,ppm, .0005,.0022,415.4, -.0010, .0020
B_2496,249.678 {135},Y_3710,ppm, .0262,.0049,18.81, .0297, .0227
Ba4554,455.403 { 74},Y_3710,ppm, .0804,.0001,.1017, .0805, .0803
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,1422., -.0001, .0001
Ca3158,315.887 {107},In2306,ppm, 49.84,.0475,.0953, 49.81, 49.88
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0001,34.14, .0003, .0002
Co2286,228.616 {447},In2306,ppm, 5.627,.0078,.1386, 5.632, 5.621
Cr2677,267.716 {126},Y_3600,ppm, .0007,.0001,19.96, .0006, .0008
Cu3247,324.754 {104},Y_3600,ppm, .0028,.0001,4.104, .0027, .0028
Fe2404,240.488 {140},In2306,ppm, 1.232,.0223,1.813, 1.248, 1.216
K_7664,766.490 { 44},Y_3710,ppm, .1810,.0221,12.21, .1966, .1654
Li6707,670.784 { 50},Y_3710,ppm, .0001,.0007,689.2, -.0004, .0006
Mg2790,279.079 {121},Y_3710,ppm, 3.836,.0171,.4462, 3.848, 3.824
Mn2576,257.610 {131},Y_3600,ppm, .0552,.0001,.1377, .0553, .0551
Mo2020,202.030 {467},Y_2243,ppm, .0035,.0001,1.558, .0034, .0035
Na5895,589.592 { 57},Y_3710,ppm, 137.1,.1924,.1403, 137.3, 137.0
Ni2316,231.604 {445},In2306,ppm, .1527,.0005,.3091, .1531, .1524
P_1782,178.284 {489},In2306,ppm, .0046,.0013,29.31, .0055, .0036
Pb2203,220.353 {453},In2306,ppm, -.0024,.0002,7.578, -.0022, -.0025
S_1820,182.034 {485},Y_2243,ppm, -3.092,.0009,.0293, -3.092, -3.091
Sb2068,206.833 {463},Y_2243,ppm, .0001,.0000,15.24, .0001, .0001
Se1960,196.090 {472},Y_2243,ppm, .0026,.0032,120.5, .0049, .0004
Si2516,251.611 {134},Y_3710,ppm, 3.576,.0352,.9849, 3.601, 3.551
Sn1899,189.989 {477},In2306,ppm, .0007,.0000,1.802, .0007, .0007
Sr4215,421.552 { 80},Y_3710,ppm, .0168,.0000,.1000, .0169, .0168
Ti3349,334.904 {101},Y_3600,ppm, .0004,.0003,72.97, .0006, .0002
Tl1908,190.856 {477},In2306,ppm, .1326,.0083,6.277, .1267, .1385
U_3670,367.007 { 92},Y_3600,ppm, -.2876,.0214,7.446, -.3027, -.2725
V_2924,292.402 {115},Y_3600,ppm, .0003,.0003,92.60, .0001, .0005
W_2397,239.709 {140},Y_2243,ppm, -2.531,.0016,.0652, -2.532, -2.530
Zn2062,206.200 {463},In2306,ppm, .2628,.0009,.3502, .2634, .2621

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 209.45,.97158,.46387,210.14,208.77
In2306,230.606 {446},Cts/S, 12029.,4.2610,.03542,12026.,12032.
Y_2243,224.306 {450},Cts/S, 17194.,6.1479,.03576,17190.,17198.
Y_3600,360.073 { 94},Cts/S, 155310.,187.47,.12071,155440.,155180.
Y_3710,371.030 { 91},Cts/S, 10052.,26.760,.26622,10071.,10033.

[Sample Header]
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Custom ID3=
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0000,.0003,2577., -.0002, .0002
Al3082,308.215 {109},In2306,ppm, -.0085,.0211,249.0, -.0234, .0064
As1890,189.042 {478},Y_2243,ppm, .0016,.0001,5.249, .0016, .0017
B_2496,249.678 {135},Y_3710,ppm, .0209,.0108,51.86, .0286, .0132
Ba4554,455.403 { 74},Y_3710,ppm, .0392,.0004,.9232, .0389, .0394
Be3130,313.042 {108},Y_3710,ppm, .0002,.0001,36.94, .0001, .0002
Ca3158,315.887 {107},In2306,ppm, 1.286,.0091,.7069, 1.279, 1.292
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0001,395.1, .0000, -.0001
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Co2286,228.616 {447},In2306,ppm, .0208,.0002,1.000, .0206, .0209
Cr2677,267.716 {126},Y_3600,ppm, -.0002,.0002,115.2, -.0000, -.0003
Cu3247,324.754 {104},Y_3600,ppm, .0022,.0000,1.869, .0022, .0022
Fe2404,240.488 {140},In2306,ppm, .1182,.0014,1.216, .1192, .1171
K_7664,766.490 { 44},Y_3710,ppm, .4008,.0088,2.196, .3946, .4071
Li6707,670.784 { 50},Y_3710,ppm, -.0013,.0010,75.87, -.0020, -.0006
Mg2790,279.079 {121},Y_3710,ppm, .1023,.0222,21.70, .1179, .0866
Mn2576,257.610 {131},Y_3600,ppm, .0130,.0001,.7821, .0131, .0129
Mo2020,202.030 {467},Y_2243,ppm, .0006,.0002,30.77, .0005, .0008
Na5895,589.592 { 57},Y_3710,ppm, .7824,.0025,.3147, .7842, .7807
Ni2316,231.604 {445},In2306,ppm, .0010,.0001,5.822, .0010, .0010
P_1782,178.284 {489},In2306,ppm, .0316,.0011,3.404, .0324, .0309
Pb2203,220.353 {453},In2306,ppm, .0005,.0019,405.0, -.0009, .0018
S_1820,182.034 {485},Y_2243,ppm, -3.234,.0066,.2028, -3.238, -3.229
Sb2068,206.833 {463},Y_2243,ppm, .0003,.0005,154.5, -.0000, .0007
Se1960,196.090 {472},Y_2243,ppm, -.0003,.0053,1775., .0035, -.0041
Si2516,251.611 {134},Y_3710,ppm, .3724,.0110,2.957, .3646, .3801
Sn1899,189.989 {477},In2306,ppm, .0010,.0002,19.84, .0009, .0012
Sr4215,421.552 { 80},Y_3710,ppm, .0047,.0002,3.206, .0046, .0048
Ti3349,334.904 {101},Y_3600,ppm, -.0001,.0003,297.1, -.0003, .0001
Tl1908,190.856 {477},In2306,ppm, .1015,.0026,2.570, .0997, .1034
U_3670,367.007 { 92},Y_3600,ppm, -.4525,.0598,13.22, -.4102, -.4948
V_2924,292.402 {115},Y_3600,ppm, .0003,.0001,37.49, .0004, .0002
W_2397,239.709 {140},Y_2243,ppm, -.0422,.0720,170.3, -.0931, .0086
Zn2062,206.200 {463},In2306,ppm, .0167,.0003,1.593, .0169, .0165

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 216.43,1.2284,.56756,217.30,215.56
In2306,230.606 {446},Cts/S, 13465.,103.96,.77207,13391.,13538.
Y_2243,224.306 {450},Cts/S, 17977.,122.38,.68079,17890.,18063.
Y_3600,360.073 { 94},Cts/S, 162740.,580.31,.35658,162330.,163150.
Y_3710,371.030 { 91},Cts/S, 10295.,53.199,.51674,10333.,10258.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0002,.0003,104.8, -.0004, -.0001
Al3082,308.215 {109},In2306,ppm, -.0224,.0144,64.54, -.0122, -.0326
As1890,189.042 {478},Y_2243,ppm, -.0005,.0000,7.300, -.0005, -.0006
B_2496,249.678 {135},Y_3710,ppm, .0420,.0036,8.606, .0446, .0395
Ba4554,455.403 { 74},Y_3710,ppm, .1576,.0072,4.587, .1627, .1525
Be3130,313.042 {108},Y_3710,ppm, .0002,.0001,46.30, .0003, .0002
Ca3158,315.887 {107},In2306,ppm, 42.47,1.674,3.942, 43.65, 41.28
Cd2288,228.802 {447},Y_2243,ppm, .0008,.0002,21.28, .0009, .0007
Co2286,228.616 {447},In2306,ppm, .0359,.0000,.0625, .0359, .0359
Cr2677,267.716 {126},Y_3600,ppm, .0005,.0001,10.60, .0005, .0005
Cu3247,324.754 {104},Y_3600,ppm, .0743,.0000,.0302, .0744, .0743
Fe2404,240.488 {140},In2306,ppm, .0190,.0049,25.77, .0224, .0155
K_7664,766.490 { 44},Y_3710,ppm, .5217,.0114,2.179, .5136, .5297
Li6707,670.784 { 50},Y_3710,ppm, .0003,.0014,525.5, -.0007, .0013
Mg2790,279.079 {121},Y_3710,ppm, .6158,.0097,1.580, .6227, .6089
Mn2576,257.610 {131},Y_3600,ppm, .1041,.0003,.2776, .1039, .1043
Mo2020,202.030 {467},Y_2243,ppm, .0002,.0003,172.2, .0004, -.0000
Na5895,589.592 { 57},Y_3710,ppm, 126.6,5.407,4.271, 130.4, 122.8
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Ni2316,231.604 {445},In2306,ppm, .0049,.0001,1.982, .0049, .0048
P_1782,178.284 {489},In2306,ppm, .2434,.0013,.5507, .2424, .2443
Pb2203,220.353 {453},In2306,ppm, .0003,.0001,33.90, .0004, .0002
S_1820,182.034 {485},Y_2243,ppm, -2.990,.0003,.0086, -2.990, -2.990
Sb2068,206.833 {463},Y_2243,ppm, .0010,.0009,91.64, .0017, .0004
Se1960,196.090 {472},Y_2243,ppm, .0008,.0002,23.31, .0009, .0007
Si2516,251.611 {134},Y_3710,ppm, 1.078,.0516,4.781, 1.115, 1.042
Sn1899,189.989 {477},In2306,ppm, .0004,.0003,69.88, .0006, .0002
Sr4215,421.552 { 80},Y_3710,ppm, .2427,.0104,4.305, .2501, .2353
Ti3349,334.904 {101},Y_3600,ppm, .0001,.0001,119.6, .0002, .0000
Tl1908,190.856 {477},In2306,ppm, .0781,.0008,.9736, .0786, .0775
U_3670,367.007 { 92},Y_3600,ppm, -.3091,.0417,13.50, -.3386, -.2796
V_2924,292.402 {115},Y_3600,ppm, .0004,.0000,3.466, .0004, .0004
W_2397,239.709 {140},Y_2243,ppm, -.0361,.0637,176.3, -.0812, .0089
Zn2062,206.200 {463},In2306,ppm, .8609,.0003,.0349, .8607, .8611

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 204.01,7.6006,3.7257,198.63,209.38
In2306,230.606 {446},Cts/S, 12103.,11.244,.09291,12111.,12095.
Y_2243,224.306 {450},Cts/S, 17195.,18.428,.10717,17208.,17182.
Y_3600,360.073 { 94},Cts/S, 156190.,244.51,.15655,156020.,156360.
Y_3710,371.030 { 91},Cts/S, 9811.5,410.48,4.1837,9521.2,10102.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0005,.0001,31.74, -.0004, -.0006
Al3082,308.215 {109},In2306,ppm, 4.509,.0222,.4932, 4.493, 4.524
As1890,189.042 {478},Y_2243,ppm, .0025,.0008,34.05, .0031, .0019
B_2496,249.678 {135},Y_3710,ppm, .1840,.0033,1.794, .1816, .1863
Ba4554,455.403 { 74},Y_3710,ppm, .0796,.0005,.6562, .0793, .0800
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,15.34, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, 369.8,2.297,.6211, 371.5, 368.2
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,59.35, .0001, .0000
Co2286,228.616 {447},In2306,ppm, .0239,.0003,1.422, .0241, .0236
Cr2677,267.716 {126},Y_3600,ppm, 5.520,.0240,.4357, 5.503, 5.537
Cu3247,324.754 {104},Y_3600,ppm, .0070,.0003,4.505, .0073, .0068
Fe2404,240.488 {140},In2306,ppm, .7787,.0123,1.576, .7700, .7874
K_7664,766.490 { 44},Y_3710,ppm, 37.38,.0400,.1070, 37.36, 37.41
Li6707,670.784 { 50},Y_3710,ppm, .0162,.0010,6.431, .0154, .0169
Mg2790,279.079 {121},Y_3710,ppm, 1.887,.0009,.0460, 1.886, 1.887
Mn2576,257.610 {131},Y_3600,ppm, .0458,.0000,.0369, .0458, .0458
Mo2020,202.030 {467},Y_2243,ppm, .3597,.0028,.7892, .3617, .3577
Na5895,589.592 { 57},Y_3710,ppm, 247.7,1.175,.4744, 246.9, 248.6
Ni2316,231.604 {445},In2306,ppm, 1.083,.0087,.8055, 1.089, 1.076
P_1782,178.284 {489},In2306,ppm, 1.333,.0085,.6383, 1.340, 1.327
Pb2203,220.353 {453},In2306,ppm, .0001,.0004,678.0, .0003, -.0002
S_1820,182.034 {485},Y_2243,ppm, 668.8,3.979,.5949, 671.7, 666.0
Sb2068,206.833 {463},Y_2243,ppm, -.0044,.0019,42.12, -.0031, -.0057
Se1960,196.090 {472},Y_2243,ppm, -.0021,.0027,123.6, -.0003, -.0040
Si2516,251.611 {134},Y_3710,ppm, 6.744,.0930,1.380, 6.678, 6.809
Sn1899,189.989 {477},In2306,ppm, .0006,.0002,26.25, .0005, .0007
Sr4215,421.552 { 80},Y_3710,ppm, .3817,.0005,.1260, .3820, .3814
Ti3349,334.904 {101},Y_3600,ppm, .0095,.0005,5.543, .0091, .0099
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Tl1908,190.856 {477},In2306,ppm, .0588,.0000,.0117, .0588, .0588
U_3670,367.007 { 92},Y_3600,ppm, -.2826,.0816,28.87, -.2249, -.3404
V_2924,292.402 {115},Y_3600,ppm, .0040,.0007,16.84, .0035, .0044
W_2397,239.709 {140},Y_2243,ppm, .0917,.1153,125.8, .1733, .0101
Zn2062,206.200 {463},In2306,ppm, 6.800,.0564,.8299, 6.840, 6.760

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 200.78,.60606,.30186,200.35,201.21
In2306,230.606 {446},Cts/S, 10957.,72.144,.65840,10906.,11008.
Y_2243,224.306 {450},Cts/S, 16410.,100.26,.61099,16339.,16481.
Y_3600,360.073 { 94},Cts/S, 148830.,65.817,.04422,148780.,148880.
Y_3710,371.030 { 91},Cts/S, 9880.0,5.8789,.05950,9884.2,9875.9

[Sample Header]
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Custom ID3=
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Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0000,55.02, -.0000, -.0001
Al3082,308.215 {109},In2306,ppm, 3.005,.0004,.0131, 3.005, 3.004
As1890,189.042 {478},Y_2243,ppm, .0005,.0004,70.57, .0008, .0003
B_2496,249.678 {135},Y_3710,ppm, .1895,.0032,1.688, .1917, .1872
Ba4554,455.403 { 74},Y_3710,ppm, .0600,.0004,.6938, .0598, .0603
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,73.86, .0001, .0002
Ca3158,315.887 {107},In2306,ppm, 402.2,1.211,.3011, 401.4, 403.1
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0001,183.5, -.0001, .0000
Co2286,228.616 {447},In2306,ppm, .0210,.0003,1.278, .0208, .0212
Cr2677,267.716 {126},Y_3600,ppm, 3.807,.0074,.1942, 3.802, 3.812
Cu3247,324.754 {104},Y_3600,ppm, .0037,.0001,1.876, .0036, .0037
Fe2404,240.488 {140},In2306,ppm, .5278,.0030,.5710, .5300, .5257
K_7664,766.490 { 44},Y_3710,ppm, 39.30,.0150,.0382, 39.29, 39.31
Li6707,670.784 { 50},Y_3710,ppm, .0176,.0011,6.069, .0183, .0168
Mg2790,279.079 {121},Y_3710,ppm, 1.674,.0266,1.590, 1.693, 1.656
Mn2576,257.610 {131},Y_3600,ppm, .0369,.0001,.3180, .0368, .0370
Mo2020,202.030 {467},Y_2243,ppm, .3772,.0011,.2820, .3764, .3780
Na5895,589.592 { 57},Y_3710,ppm, 259.8,1.633,.6287, 260.9, 258.6
Ni2316,231.604 {445},In2306,ppm, .9290,.0008,.0914, .9284, .9296
P_1782,178.284 {489},In2306,ppm, .6476,.0026,.4066, .6458, .6495
Pb2203,220.353 {453},In2306,ppm, .0007,.0000,3.612, .0007, .0007
S_1820,182.034 {485},Y_2243,ppm, 713.0,.4271,.0599, 713.3, 712.7
Sb2068,206.833 {463},Y_2243,ppm, .0050,.0008,15.58, .0045, .0056
Se1960,196.090 {472},Y_2243,ppm, -.0001,.0014,1014., .0009, -.0011
Si2516,251.611 {134},Y_3710,ppm, 6.648,.0066,.0987, 6.643, 6.653
Sn1899,189.989 {477},In2306,ppm, .0004,.0008,196.0, .0010, -.0002
Sr4215,421.552 { 80},Y_3710,ppm, .4003,.0000,.0015, .4003, .4003
Ti3349,334.904 {101},Y_3600,ppm, .0072,.0002,2.537, .0071, .0073
Tl1908,190.856 {477},In2306,ppm, .0454,.0004,.7792, .0457, .0452
U_3670,367.007 { 92},Y_3600,ppm, -.3076,.0662,21.52, -.3544, -.2607
V_2924,292.402 {115},Y_3600,ppm, .0034,.0000,.7598, .0034, .0033
W_2397,239.709 {140},Y_2243,ppm, .0288,.0066,22.92, .0242, .0335
Zn2062,206.200 {463},In2306,ppm, 5.347,.0022,.0413, 5.349, 5.346

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 202.23,.55169,.27280,202.62,201.84
In2306,230.606 {446},Cts/S, 10836.,.78517,.00725,10835.,10836.
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Y_2243,224.306 {450},Cts/S, 16250.,23.799,.14645,16233.,16267.
Y_3600,360.073 { 94},Cts/S, 147790.,242.07,.16380,147960.,147620.
Y_3710,371.030 { 91},Cts/S, 9937.1,29.968,.30157,9915.9,9958.3

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0000,.0001,267.4, .0001, -.0000
Al3082,308.215 {109},In2306,ppm, .1138,.0006,.5343, .1143, .1134
As1890,189.042 {478},Y_2243,ppm, .0354,.0026,7.380, .0373, .0336
B_2496,249.678 {135},Y_3710,ppm, .0130,.0043,33.03, .0100, .0161
Ba4554,455.403 { 74},Y_3710,ppm, .0402,.0008,2.081, .0396, .0408
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,632.5, .0000, -.0001
Ca3158,315.887 {107},In2306,ppm, .3335,.0208,6.244, .3482, .3188
Cd2288,228.802 {447},Y_2243,ppm, -.0005,.0002,36.73, -.0003, -.0006
Co2286,228.616 {447},In2306,ppm, .0003,.0001,37.87, .0002, .0004
Cr2677,267.716 {126},Y_3600,ppm, .0007,.0003,41.08, .0009, .0005
Cu3247,324.754 {104},Y_3600,ppm, .0027,.0005,16.94, .0030, .0024
Fe2404,240.488 {140},In2306,ppm, .0176,.0079,44.98, .0120, .0232
K_7664,766.490 { 44},Y_3710,ppm, .1591,.0381,23.94, .1322, .1860
Li6707,670.784 { 50},Y_3710,ppm, .0043,.0000,1.052, .0043, .0043
Mg2790,279.079 {121},Y_3710,ppm, 27.63,.1826,.6608, 27.50, 27.76
Mn2576,257.610 {131},Y_3600,ppm, .0040,.0000,.1704, .0040, .0040
Mo2020,202.030 {467},Y_2243,ppm, .0038,.0005,13.36, .0034, .0041
Na5895,589.592 { 57},Y_3710,ppm, 126.0,.7314,.5804, 125.5, 126.5
Ni2316,231.604 {445},In2306,ppm, .0009,.0001,15.11, .0008, .0010
P_1782,178.284 {489},In2306,ppm, .0373,.0007,1.792, .0368, .0378
Pb2203,220.353 {453},In2306,ppm, .0000,.0004,2002., .0003, -.0002
S_1820,182.034 {485},Y_2243,ppm, .4063,.0227,5.592, .3903, .4224
Sb2068,206.833 {463},Y_2243,ppm, -.0021,.0018,86.04, -.0034, -.0008
Se1960,196.090 {472},Y_2243,ppm, .0005,.0045,865.5, -.0026, .0037
Si2516,251.611 {134},Y_3710,ppm, 2.497,.0353,1.416, 2.472, 2.522
Sn1899,189.989 {477},In2306,ppm, .0008,.0005,66.47, .0004, .0011
Sr4215,421.552 { 80},Y_3710,ppm, .0027,.0000,.7541, .0027, .0027
Ti3349,334.904 {101},Y_3600,ppm, .0005,.0002,32.12, .0004, .0006
Tl1908,190.856 {477},In2306,ppm, .0364,.0015,4.034, .0353, .0374
U_3670,367.007 { 92},Y_3600,ppm, -.3395,.0415,12.23, -.3688, -.3101
V_2924,292.402 {115},Y_3600,ppm, .0260,.0001,.2037, .0260, .0260
W_2397,239.709 {140},Y_2243,ppm, .0255,.0129,50.49, .0346, .0164
Zn2062,206.200 {463},In2306,ppm, .0185,.0002,1.102, .0183, .0186

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 209.30,1.3173,.62940,208.37,210.23
In2306,230.606 {446},Cts/S, 12284.,6.4109,.05219,12280.,12289.
Y_2243,224.306 {450},Cts/S, 17400.,8.8436,.05083,17393.,17406.
Y_3600,360.073 { 94},Cts/S, 157120.,843.52,.53686,157720.,156520.
Y_3710,371.030 { 91},Cts/S, 10152.,5.7078,.05623,10156.,10148.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .4987,.0012,.2347, .4996, .4979
Al3082,308.215 {109},In2306,ppm, 19.50,.2646,1.357, 19.69, 19.32
As1890,189.042 {478},Y_2243,ppm, 1.023,.0041,.4005, 1.020, 1.026
B_2496,249.678 {135},Y_3710,ppm, 1.001,.0072,.7232, 1.006, .9959
Ba4554,455.403 { 74},Y_3710,ppm, 1.018,.0051,.4988, 1.014, 1.021
Be3130,313.042 {108},Y_3710,ppm, .9716,.0049,.5050, .9682, .9751
Ca3158,315.887 {107},In2306,ppm, 19.42,.0918,.4726, 19.48, 19.35
Cd2288,228.802 {447},Y_2243,ppm, .9817,.0004,.0437, .9814, .9820
Co2286,228.616 {447},In2306,ppm, .9698,.0013,.1313, .9689, .9707
Cr2677,267.716 {126},Y_3600,ppm, .9679,.0001,.0124, .9678, .9679
Cu3247,324.754 {104},Y_3600,ppm, .9910,.0006,.0594, .9905, .9914
Fe2404,240.488 {140},In2306,ppm, 19.53,.1766,.9040, 19.66, 19.41
K_7664,766.490 { 44},Y_3710,ppm, 19.64,.0939,.4784, 19.57, 19.70
Li6707,670.784 { 50},Y_3710,ppm, .9765,.0076,.7776, .9711, .9818
Mg2790,279.079 {121},Y_3710,ppm, 20.31,.2630,1.295, 20.13, 20.50
Mn2576,257.610 {131},Y_3600,ppm, .9991,.0014,.1409, .9981, 1.000
Mo2020,202.030 {467},Y_2243,ppm, .9961,.0031,.3145, .9939, .9983
Na5895,589.592 { 57},Y_3710,ppm, 19.92,.0712,.3576, 19.87, 19.97
Ni2316,231.604 {445},In2306,ppm, .9826,.0003,.0313, .9828, .9824
P_1782,178.284 {489},In2306,ppm, 10.31,.0235,.2282, 10.29, 10.33
Pb2203,220.353 {453},In2306,ppm, .9801,.0046,.4666, .9768, .9833
S_1820,182.034 {485},Y_2243,ppm, 10.66,.0333,.3128, 10.64, 10.68
Sb2068,206.833 {463},Y_2243,ppm, 2.092,.0044,.2115, 2.089, 2.096
Se1960,196.090 {472},Y_2243,ppm, 1.008,.0014,.1427, 1.009, 1.007
Si2516,251.611 {134},Y_3710,ppm, 13.85,.3052,2.204, 13.63, 14.06
Sn1899,189.989 {477},In2306,ppm, .9916,.0039,.3957, .9944, .9889
Sr4215,421.552 { 80},Y_3710,ppm, 1.003,.0053,.5326, .9989, 1.006
Ti3349,334.904 {101},Y_3600,ppm, .9973,.0006,.0636, .9968, .9977
Tl1908,190.856 {477},In2306,ppm, .9862,.0127,1.285, .9951, .9772
U_3670,367.007 { 92},Y_3600,ppm, .8344,.1376,16.49, .9317, .7371
V_2924,292.402 {115},Y_3600,ppm, .9779,.0012,.1188, .9771, .9787
W_2397,239.709 {140},Y_2243,ppm, 1.403,.0480,3.421, 1.370, 1.437
Zn2062,206.200 {463},In2306,ppm, .9699,.0004,.0368, .9696, .9701

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 212.94,4.7149,2.2142,209.60,216.27
In2306,230.606 {446},Cts/S, 12521.,8.3985,.06708,12527.,12515.
Y_2243,224.306 {450},Cts/S, 17665.,23.309,.13195,17682.,17649.
Y_3600,360.073 { 94},Cts/S, 158860.,254.24,.16005,159040.,158680.
Y_3710,371.030 { 91},Cts/S, 10152.,18.497,.18219,10139.,10166.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
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Ag3280,328.068 {103},Y_3600,ppm, .0105,.0002,1.789, .0106, .0103
Al3082,308.215 {109},In2306,ppm, .1555,.0013,.8532, .1546, .1565
As1890,189.042 {478},Y_2243,ppm, .0234,.0012,5.020, .0242, .0225
B_2496,249.678 {135},Y_3710,ppm, .2161,.0054,2.492, .2199, .2123
Ba4554,455.403 { 74},Y_3710,ppm, .0225,.0001,.4662, .0226, .0224
Be3130,313.042 {108},Y_3710,ppm, .0110,.0004,3.217, .0113, .0108
Ca3158,315.887 {107},In2306,ppm, 1.037,.0025,.2453, 1.035, 1.039
Cd2288,228.802 {447},Y_2243,ppm, .0109,.0000,.3426, .0109, .0109
Co2286,228.616 {447},In2306,ppm, .0106,.0002,1.874, .0104, .0107
Cr2677,267.716 {126},Y_3600,ppm, .0109,.0004,3.759, .0111, .0106
Cu3247,324.754 {104},Y_3600,ppm, .0125,.0003,2.725, .0128, .0123
Fe2404,240.488 {140},In2306,ppm, .2057,.0034,1.643, .2081, .2033
K_7664,766.490 { 44},Y_3710,ppm, 1.072,.0157,1.463, 1.061, 1.083
Li6707,670.784 { 50},Y_3710,ppm, .0102,.0000,.1966, .0102, .0102
Mg2790,279.079 {121},Y_3710,ppm, 1.052,.0073,.6918, 1.058, 1.047
Mn2576,257.610 {131},Y_3600,ppm, .0113,.0000,.2796, .0113, .0113
Mo2020,202.030 {467},Y_2243,ppm, .0274,.0006,2.266, .0270, .0278
Na5895,589.592 { 57},Y_3710,ppm, 1.100,.0080,.7285, 1.106, 1.094
Ni2316,231.604 {445},In2306,ppm, .0107,.0005,4.695, .0103, .0110
P_1782,178.284 {489},In2306,ppm, .9911,.0079,.7963, .9855, .9966
Pb2203,220.353 {453},In2306,ppm, .0106,.0005,4.868, .0109, .0102
S_1820,182.034 {485},Y_2243,ppm, -2.711,.0060,.2196, -2.715, -2.707
Sb2068,206.833 {463},Y_2243,ppm, .0592,.0016,2.769, .0581, .0604
Se1960,196.090 {472},Y_2243,ppm, .0233,.0020,8.662, .0218, .0247
Si2516,251.611 {134},Y_3710,ppm, .2926,.0131,4.477, .3018, .2833
Sn1899,189.989 {477},In2306,ppm, .0227,.0002,.9255, .0226, .0229
Sr4215,421.552 { 80},Y_3710,ppm, .0112,.0001,.6125, .0113, .0112
Ti3349,334.904 {101},Y_3600,ppm, .0113,.0002,1.703, .0115, .0112
Tl1908,190.856 {477},In2306,ppm, .0809,.0003,.4093, .0811, .0807
U_3670,367.007 { 92},Y_3600,ppm, -.2896,.0470,16.24, -.2563, -.3229
V_2924,292.402 {115},Y_3600,ppm, .0109,.0001,.7361, .0110, .0108
W_2397,239.709 {140},Y_2243,ppm, .0812,.0751,92.41, .0281, .1343
Zn2062,206.200 {463},In2306,ppm, .0201,.0002,.8807, .0200, .0202

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 215.37,.19204,.08917,215.51,215.23
In2306,230.606 {446},Cts/S, 13471.,20.344,.15102,13486.,13457.
Y_2243,224.306 {450},Cts/S, 18058.,23.120,.12803,18074.,18041.
Y_3600,360.073 { 94},Cts/S, 163440.,82.458,.05045,163380.,163500.
Y_3710,371.030 { 91},Cts/S, 10235.,46.374,.45311,10202.,10267.

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[Results]
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Al3082,308.215 {109},In2306,ppm, -.0084,.0031,37.21, -.0062, -.0106
As1890,189.042 {478},Y_2243,ppm, -.0008,.0014,177.4, .0002, -.0017
B_2496,249.678 {135},Y_3710,ppm, -.0078,.0105,133.6, -.0152, -.0004
Ba4554,455.403 { 74},Y_3710,ppm, -.0000,.0000,124.5, -.0000, -.0000
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,81.87, .0000, .0001
Ca3158,315.887 {107},In2306,ppm, .0034,.0036,106.5, .0059, .0008
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0000,146.9, -.0000, .0000
Co2286,228.616 {447},In2306,ppm, -.0000,.0000,127.4, -.0000, -.0000
Cr2677,267.716 {126},Y_3600,ppm, .0001,.0005,712.7, .0004, -.0003
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Cu3247,324.754 {104},Y_3600,ppm, .0019,.0004,18.16, .0017, .0022
Fe2404,240.488 {140},In2306,ppm, -.0012,.0079,686.3, -.0068, .0044
K_7664,766.490 { 44},Y_3710,ppm, .0471,.0320,67.90, .0696, .0245
Li6707,670.784 { 50},Y_3710,ppm, -.0002,.0004,209.0, -.0005, .0001
Mg2790,279.079 {121},Y_3710,ppm, -.0110,.0454,413.2, -.0431, .0211
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,1523., -.0000, .0000
Mo2020,202.030 {467},Y_2243,ppm, .0011,.0002,20.62, .0010, .0013
Na5895,589.592 { 57},Y_3710,ppm, .0136,.0033,24.41, .0112, .0159
Ni2316,231.604 {445},In2306,ppm, -.0001,.0001,75.63, -.0000, -.0001
P_1782,178.284 {489},In2306,ppm, .0001,.0010,1405., -.0006, .0008
Pb2203,220.353 {453},In2306,ppm, -.0004,.0005,132.9, -.0000, -.0007
S_1820,182.034 {485},Y_2243,ppm, -1.935,.0039,.1993, -1.933, -1.938
Sb2068,206.833 {463},Y_2243,ppm, -.0004,.0001,35.93, -.0003, -.0005
Se1960,196.090 {472},Y_2243,ppm, -.0013,.0016,118.0, -.0024, -.0002
Si2516,251.611 {134},Y_3710,ppm, .0202,.0013,6.285, .0193, .0211
Sn1899,189.989 {477},In2306,ppm, .0004,.0000,9.041, .0004, .0004
Sr4215,421.552 { 80},Y_3710,ppm, .0000,.0000,995.1, .0000, -.0000
Ti3349,334.904 {101},Y_3600,ppm, .0002,.0001,54.11, .0003, .0001
Tl1908,190.856 {477},In2306,ppm, .0627,.0002,.3261, .0625, .0628
U_3670,367.007 { 92},Y_3600,ppm, -.2848,.1513,53.15, -.3918, -.1778
V_2924,292.402 {115},Y_3600,ppm, -.0002,.0003,133.7, -.0000, -.0004
W_2397,239.709 {140},Y_2243,ppm, .0755,.0964,127.6, .1437, .0074
Zn2062,206.200 {463},In2306,ppm, .0034,.0000,1.133, .0034, .0034

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 211.93,2.0132,.94992,213.36,210.51
In2306,230.606 {446},Cts/S, 13531.,10.887,.08046,13523.,13538.
Y_2243,224.306 {450},Cts/S, 18058.,8.8967,.04927,18065.,18052.
Y_3600,360.073 { 94},Cts/S, 163750.,134.34,.08204,163850.,163660.
Y_3710,371.030 { 91},Cts/S, 10130.,28.989,.28617,10151.,10110.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0002,.0001,80.92, -.0002, -.0001
Al3082,308.215 {109},In2306,ppm, .0743,.0190,25.61, .0609, .0878
As1890,189.042 {478},Y_2243,ppm, .0372,.0005,1.356, .0375, .0368
B_2496,249.678 {135},Y_3710,ppm, .0145,.0030,20.77, .0124, .0166
Ba4554,455.403 { 74},Y_3710,ppm, .0398,.0002,.5519, .0396, .0399
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,88.23, .0002, .0000
Ca3158,315.887 {107},In2306,ppm, .2762,.0017,.6051, .2750, .2774
Cd2288,228.802 {447},Y_2243,ppm, -.0004,.0001,24.43, -.0005, -.0004
Co2286,228.616 {447},In2306,ppm, -.0000,.0001,2142., .0001, -.0001
Cr2677,267.716 {126},Y_3600,ppm, .0001,.0002,166.9, .0003, -.0000
Cu3247,324.754 {104},Y_3600,ppm, .0036,.0003,9.011, .0034, .0039
Fe2404,240.488 {140},In2306,ppm, .0220,.0004,1.591, .0218, .0223
K_7664,766.490 { 44},Y_3710,ppm, .1494,.0159,10.65, .1382, .1607
Li6707,670.784 { 50},Y_3710,ppm, .0047,.0008,16.34, .0053, .0042
Mg2790,279.079 {121},Y_3710,ppm, 28.10,.0191,.0680, 28.09, 28.12
Mn2576,257.610 {131},Y_3600,ppm, .0040,.0000,.5574, .0041, .0040
Mo2020,202.030 {467},Y_2243,ppm, .0018,.0003,18.28, .0016, .0020
Na5895,589.592 { 57},Y_3710,ppm, 127.3,.1012,.0795, 127.3, 127.4
Ni2316,231.604 {445},In2306,ppm, .0008,.0002,26.73, .0006, .0009
P_1782,178.284 {489},In2306,ppm, .0367,.0010,2.826, .0374, .0360
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Pb2203,220.353 {453},In2306,ppm, -.0009,.0013,146.1, .0000, -.0018
S_1820,182.034 {485},Y_2243,ppm, .3530,.0138,3.920, .3432, .3628
Sb2068,206.833 {463},Y_2243,ppm, .0001,.0020,1967., .0016, -.0013
Se1960,196.090 {472},Y_2243,ppm, .0003,.0008,249.6, -.0002, .0009
Si2516,251.611 {134},Y_3710,ppm, 2.493,.0085,.3419, 2.487, 2.499
Sn1899,189.989 {477},In2306,ppm, .0002,.0005,210.6, .0006, -.0001
Sr4215,421.552 { 80},Y_3710,ppm, .0029,.0001,2.169, .0030, .0029
Ti3349,334.904 {101},Y_3600,ppm, .0004,.0001,30.47, .0005, .0003
Tl1908,190.856 {477},In2306,ppm, .0465,.0052,11.16, .0428, .0501
U_3670,367.007 { 92},Y_3600,ppm, -.4432,.0091,2.047, -.4368, -.4497
V_2924,292.402 {115},Y_3600,ppm, .0256,.0002,.7223, .0257, .0255
W_2397,239.709 {140},Y_2243,ppm, .0019,.1209,6531., -.0837, .0874
Zn2062,206.200 {463},In2306,ppm, .0184,.0002,.9849, .0183, .0186

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 208.33,2.2447,1.0775,206.74,209.91
In2306,230.606 {446},Cts/S, 12239.,1.5004,.01226,12240.,12238.
Y_2243,224.306 {450},Cts/S, 17308.,2.0810,.01202,17307.,17310.
Y_3600,360.073 { 94},Cts/S, 157330.,1057.8,.67234,156590.,158080.
Y_3710,371.030 { 91},Cts/S, 10048.,70.247,.69909,9998.7,10098.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2524,.0009,.3523, .2530, .2518
Al3082,308.215 {109},In2306,ppm, 10.55,.1015,.9622, 10.48, 10.62
As1890,189.042 {478},Y_2243,ppm, 1.104,.0016,.1459, 1.105, 1.103
B_2496,249.678 {135},Y_3710,ppm, .5206,.0054,1.030, .5244, .5168
Ba4554,455.403 { 74},Y_3710,ppm, 1.079,.0018,.1637, 1.078, 1.081
Be3130,313.042 {108},Y_3710,ppm, 1.012,.0014,.1346, 1.011, 1.013
Ca3158,315.887 {107},In2306,ppm, 10.61,.0851,.8019, 10.55, 10.67
Cd2288,228.802 {447},Y_2243,ppm, 1.017,.0014,.1342, 1.016, 1.018
Co2286,228.616 {447},In2306,ppm, 1.001,.0014,.1447, 1.000, 1.002
Cr2677,267.716 {126},Y_3600,ppm, .9795,.0024,.2464, .9812, .9778
Cu3247,324.754 {104},Y_3600,ppm, 1.010,.0011,.1070, 1.009, 1.011
Fe2404,240.488 {140},In2306,ppm, 10.44,.0766,.7338, 10.39, 10.50
K_7664,766.490 { 44},Y_3710,ppm, 10.42,.0284,.2730, 10.40, 10.44
Li6707,670.784 { 50},Y_3710,ppm, .9988,.0035,.3503, 1.001, .9964
Mg2790,279.079 {121},Y_3710,ppm, 38.28,.3081,.8048, 38.06, 38.50
Mn2576,257.610 {131},Y_3600,ppm, 1.018,.0012,.1165, 1.019, 1.017
Mo2020,202.030 {467},Y_2243,ppm, 1.018,.0017,.1625, 1.016, 1.019
Na5895,589.592 { 57},Y_3710,ppm, 137.1,.0022,.0016, 137.1, 137.1
Ni2316,231.604 {445},In2306,ppm, 1.021,.0003,.0310, 1.021, 1.021
P_1782,178.284 {489},In2306,ppm, 5.616,.0228,.4056, 5.600, 5.632
Pb2203,220.353 {453},In2306,ppm, 1.006,.0063,.6300, 1.001, 1.010
S_1820,182.034 {485},Y_2243,ppm, 7.785,.0596,.7652, 7.742, 7.827
Sb2068,206.833 {463},Y_2243,ppm, 1.629,.0104,.6386, 1.622, 1.636
Se1960,196.090 {472},Y_2243,ppm, 1.047,.0090,.8560, 1.041, 1.054
Si2516,251.611 {134},Y_3710,ppm, 15.56,.0142,.0914, 15.55, 15.57
Sn1899,189.989 {477},In2306,ppm, 1.027,.0085,.8293, 1.021, 1.033
Sr4215,421.552 { 80},Y_3710,ppm, 1.031,.0004,.0425, 1.030, 1.031
Ti3349,334.904 {101},Y_3600,ppm, 1.022,.0004,.0344, 1.022, 1.023
Tl1908,190.856 {477},In2306,ppm, .3401,.0219,6.425, .3556, .3247
U_3670,367.007 { 92},Y_3600,ppm, .3515,.0754,21.45, .2982, .4047
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V_2924,292.402 {115},Y_3600,ppm, 1.028,.0008,.0779, 1.029, 1.027
W_2397,239.709 {140},Y_2243,ppm, .5025,.0675,13.44, .5503, .4548
Zn2062,206.200 {463},In2306,ppm, .5384,.0029,.5453, .5363, .5405

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 208.55,1.6639,.79784,209.73,207.38
In2306,230.606 {446},Cts/S, 12044.,12.297,.10210,12053.,12036.
Y_2243,224.306 {450},Cts/S, 17376.,5.5928,.03219,17380.,17372.
Y_3600,360.073 { 94},Cts/S, 156320.,248.69,.15909,156150.,156500.
Y_3710,371.030 { 91},Cts/S, 10193.,2.8689,.02815,10191.,10195.

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Custom ID2=
Custom ID3=
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Mode=CONC
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0002,.0002,147.0, .0003, -.0000
Al3082,308.215 {109},In2306,ppm, .0116,.0012,9.950, .0108, .0124
As1890,189.042 {478},Y_2243,ppm, .0016,.0035,214.6, .0041, -.0008
B_2496,249.678 {135},Y_3710,ppm, .0420,.0046,10.86, .0387, .0452
Ba4554,455.403 { 74},Y_3710,ppm, .1881,.0004,.2351, .1877, .1884
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,87.20, .0001, .0002
Ca3158,315.887 {107},In2306,ppm, 3.441,.0088,.2556, 3.447, 3.435
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0003,178.1, -.0000, .0004
Co2286,228.616 {447},In2306,ppm, .0003,.0003,101.2, .0005, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0021,.0001,6.585, .0022, .0020
Cu3247,324.754 {104},Y_3600,ppm, .0058,.0002,2.720, .0059, .0057
Fe2404,240.488 {140},In2306,ppm, .1332,.0065,4.890, .1286, .1378
K_7664,766.490 { 44},Y_3710,ppm, .3234,.0031,.9708, .3212, .3257
Li6707,670.784 { 50},Y_3710,ppm, .0010,.0008,79.19, .0016, .0004
Mg2790,279.079 {121},Y_3710,ppm, .5876,.0226,3.841, .5716, .6036
Mn2576,257.610 {131},Y_3600,ppm, .0158,.0000,.0643, .0158, .0158
Mo2020,202.030 {467},Y_2243,ppm, .0058,.0013,22.68, .0048, .0067
Na5895,589.592 { 57},Y_3710,ppm, 139.7,.0858,.0614, 139.6, 139.7
Ni2316,231.604 {445},In2306,ppm, .0008,.0000,4.607, .0008, .0008
P_1782,178.284 {489},In2306,ppm, .0257,.0004,1.514, .0255, .0260
Pb2203,220.353 {453},In2306,ppm, .0034,.0009,28.03, .0040, .0027
S_1820,182.034 {485},Y_2243,ppm, .2070,.0060,2.890, .2028, .2113
Sb2068,206.833 {463},Y_2243,ppm, .0013,.0007,52.67, .0008, .0018
Se1960,196.090 {472},Y_2243,ppm, .0009,.0018,200.8, -.0004, .0021
Si2516,251.611 {134},Y_3710,ppm, .1476,.0243,16.46, .1304, .1648
Sn1899,189.989 {477},In2306,ppm, .0018,.0005,27.52, .0015, .0022
Sr4215,421.552 { 80},Y_3710,ppm, .0504,.0000,.0919, .0503, .0504
Ti3349,334.904 {101},Y_3600,ppm, .0005,.0004,95.15, .0008, .0001
Tl1908,190.856 {477},In2306,ppm, .1990,.0044,2.218, .1959, .2022
U_3670,367.007 { 92},Y_3600,ppm, -.4002,.0468,11.70, -.3671, -.4333
V_2924,292.402 {115},Y_3600,ppm, .0007,.0001,9.935, .0006, .0007
W_2397,239.709 {140},Y_2243,ppm, .0845,.0591,69.89, .0427, .1263
Zn2062,206.200 {463},In2306,ppm, .0834,.0003,.3845, .0832, .0836

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 212.34,1.8157,.85507,211.06,213.63
In2306,230.606 {446},Cts/S, 12403.,27.399,.22090,12422.,12384.
Y_2243,224.306 {450},Cts/S, 17391.,42.831,.24628,17421.,17360.
Y_3600,360.073 { 94},Cts/S, 157120.,241.35,.15361,156950.,157290.
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Y_3710,371.030 { 91},Cts/S, 10163.,56.528,.55624,10123.,10203.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2495,.0008,.3344, .2501, .2489
Al3082,308.215 {109},In2306,ppm, 10.42,.1315,1.262, 10.32, 10.51
As1890,189.042 {478},Y_2243,ppm, 1.069,.0064,.5953, 1.073, 1.064
B_2496,249.678 {135},Y_3710,ppm, .5505,.0093,1.681, .5570, .5440
Ba4554,455.403 { 74},Y_3710,ppm, 1.221,.0051,.4173, 1.217, 1.225
Be3130,313.042 {108},Y_3710,ppm, 1.001,.0038,.3792, .9981, 1.003
Ca3158,315.887 {107},In2306,ppm, 13.88,.2319,1.671, 13.71, 14.04
Cd2288,228.802 {447},Y_2243,ppm, 1.016,.0019,.1857, 1.017, 1.014
Co2286,228.616 {447},In2306,ppm, 1.006,.0008,.0770, 1.005, 1.006
Cr2677,267.716 {126},Y_3600,ppm, .9777,.0014,.1473, .9787, .9767
Cu3247,324.754 {104},Y_3600,ppm, 1.008,.0062,.6103, 1.012, 1.003
Fe2404,240.488 {140},In2306,ppm, 10.60,.1561,1.472, 10.49, 10.71
K_7664,766.490 { 44},Y_3710,ppm, 10.58,.0457,.4317, 10.55, 10.61
Li6707,670.784 { 50},Y_3710,ppm, .9879,.0100,1.015, .9808, .9950
Mg2790,279.079 {121},Y_3710,ppm, 11.06,.0535,.4837, 11.02, 11.10
Mn2576,257.610 {131},Y_3600,ppm, 1.024,.0029,.2855, 1.026, 1.022
Mo2020,202.030 {467},Y_2243,ppm, 1.018,.0053,.5231, 1.021, 1.014
Na5895,589.592 { 57},Y_3710,ppm, 151.2,.5466,.3615, 150.8, 151.6
Ni2316,231.604 {445},In2306,ppm, 1.024,.0006,.0631, 1.024, 1.025
P_1782,178.284 {489},In2306,ppm, 5.601,.0114,.2039, 5.610, 5.593
Pb2203,220.353 {453},In2306,ppm, 1.012,.0009,.0844, 1.013, 1.012
S_1820,182.034 {485},Y_2243,ppm, 7.635,.0516,.6755, 7.672, 7.599
Sb2068,206.833 {463},Y_2243,ppm, 1.612,.0062,.3820, 1.617, 1.608
Se1960,196.090 {472},Y_2243,ppm, 1.050,.0099,.9429, 1.057, 1.043
Si2516,251.611 {134},Y_3710,ppm, 12.95,.1611,1.244, 12.83, 13.06
Sn1899,189.989 {477},In2306,ppm, 1.026,.0039,.3818, 1.028, 1.023
Sr4215,421.552 { 80},Y_3710,ppm, 1.069,.0052,.4883, 1.065, 1.073
Ti3349,334.904 {101},Y_3600,ppm, 1.015,.0025,.2450, 1.017, 1.013
Tl1908,190.856 {477},In2306,ppm, .4665,.0203,4.357, .4808, .4521
U_3670,367.007 { 92},Y_3600,ppm, .2512,.0325,12.95, .2742, .2282
V_2924,292.402 {115},Y_3600,ppm, .9968,.0017,.1665, .9980, .9956
W_2397,239.709 {140},Y_2243,ppm, .4959,.0589,11.89, .4543, .5376
Zn2062,206.200 {463},In2306,ppm, .6139,.0020,.3188, .6152, .6125

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 209.30,2.6131,1.2485,211.15,207.45
In2306,230.606 {446},Cts/S, 12044.,18.454,.15322,12057.,12031.
Y_2243,224.306 {450},Cts/S, 17407.,8.6562,.04973,17400.,17413.
Y_3600,360.073 { 94},Cts/S, 156920.,66.014,.04207,156870.,156960.
Y_3710,371.030 { 91},Cts/S, 10244.,21.788,.21268,10260.,10229.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0003,243.1, .0001, -.0003
Al3082,308.215 {109},In2306,ppm, -.0125,.0180,143.6, -.0252, .0002
As1890,189.042 {478},Y_2243,ppm, .0004,.0020,548.3, .0017, -.0010
B_2496,249.678 {135},Y_3710,ppm, .0082,.0054,65.76, .0120, .0044
Ba4554,455.403 { 74},Y_3710,ppm, .0472,.0025,5.270, .0489, .0454
Be3130,313.042 {108},Y_3710,ppm, .0002,.0001,48.45, .0003, .0002
Ca3158,315.887 {107},In2306,ppm, 89.16,5.515,6.186, 93.06, 85.26
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,14.05, .0001, .0001
Co2286,228.616 {447},In2306,ppm, .0002,.0001,36.70, .0001, .0002
Cr2677,267.716 {126},Y_3600,ppm, .0005,.0000,1.808, .0005, .0005
Cu3247,324.754 {104},Y_3600,ppm, .0031,.0001,4.470, .0032, .0030
Fe2404,240.488 {140},In2306,ppm, .0382,.0007,1.743, .0387, .0378
K_7664,766.490 { 44},Y_3710,ppm, .0974,.0248,25.47, .0799, .1150
Li6707,670.784 { 50},Y_3710,ppm, .0003,.0012,430.2, .0011, -.0005
Mg2790,279.079 {121},Y_3710,ppm, .7367,.0498,6.753, .7719, .7016
Mn2576,257.610 {131},Y_3600,ppm, .0146,.0001,.5997, .0146, .0145
Mo2020,202.030 {467},Y_2243,ppm, .0058,.0008,13.70, .0052, .0063
Na5895,589.592 { 57},Y_3710,ppm, 152.1,7.787,5.121, 157.6, 146.5
Ni2316,231.604 {445},In2306,ppm, .0002,.0001,62.60, .0003, .0001
P_1782,178.284 {489},In2306,ppm, .0061,.0012,19.53, .0069, .0052
Pb2203,220.353 {453},In2306,ppm, -.0002,.0030,1778., -.0023, .0019
S_1820,182.034 {485},Y_2243,ppm, .1601,.0027,1.676, .1619, .1582
Sb2068,206.833 {463},Y_2243,ppm, .0025,.0001,5.748, .0026, .0024
Se1960,196.090 {472},Y_2243,ppm, .0021,.0027,129.3, .0040, .0002
Si2516,251.611 {134},Y_3710,ppm, .0656,.0027,4.136, .0637, .0675
Sn1899,189.989 {477},In2306,ppm, .0026,.0005,19.68, .0030, .0022
Sr4215,421.552 { 80},Y_3710,ppm, .0601,.0034,5.591, .0625, .0578
Ti3349,334.904 {101},Y_3600,ppm, .0010,.0000,.5490, .0010, .0010
Tl1908,190.856 {477},In2306,ppm, .2919,.0032,1.108, .2896, .2942
U_3670,367.007 { 92},Y_3600,ppm, -.4735,.0562,11.88, -.4337, -.5133
V_2924,292.402 {115},Y_3600,ppm, .0004,.0001,36.36, .0003, .0005
W_2397,239.709 {140},Y_2243,ppm, .0437,.0659,150.6, .0903, -.0028
Zn2062,206.200 {463},In2306,ppm, .0424,.0001,.2654, .0425, .0423

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 201.58,9.8505,4.8868,194.61,208.54
In2306,230.606 {446},Cts/S, 11929.,16.103,.13499,11918.,11941.
Y_2243,224.306 {450},Cts/S, 17016.,15.634,.09188,17027.,17005.
Y_3600,360.073 { 94},Cts/S, 155470.,548.88,.35306,155850.,155080.
Y_3710,371.030 { 91},Cts/S, 9814.3,432.40,4.4058,9508.5,10120.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0001,.0003,199.4, .0004, -.0001
Al3082,308.215 {109},In2306,ppm, -.0002,.0048,2742., .0032, -.0036
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As1890,189.042 {478},Y_2243,ppm, .0045,.0001,2.316, .0044, .0045
B_2496,249.678 {135},Y_3710,ppm, .0003,.0036,1236., -.0022, .0028
Ba4554,455.403 { 74},Y_3710,ppm, .2170,.0005,.2381, .2174, .2167
Be3130,313.042 {108},Y_3710,ppm, .0003,.0000,7.163, .0003, .0003
Ca3158,315.887 {107},In2306,ppm, 60.83,.8384,1.378, 61.42, 60.24
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,81.42, .0001, .0000
Co2286,228.616 {447},In2306,ppm, .0004,.0003,81.57, .0002, .0007
Cr2677,267.716 {126},Y_3600,ppm, .0002,.0004,168.5, -.0000, .0005
Cu3247,324.754 {104},Y_3600,ppm, .0032,.0001,3.627, .0033, .0031
Fe2404,240.488 {140},In2306,ppm, .0533,.0032,5.942, .0511, .0556
K_7664,766.490 { 44},Y_3710,ppm, .3426,.0103,3.017, .3499, .3353
Li6707,670.784 { 50},Y_3710,ppm, .0004,.0008,183.6, -.0001, .0010
Mg2790,279.079 {121},Y_3710,ppm, 1.786,.0172,.9607, 1.774, 1.799
Mn2576,257.610 {131},Y_3600,ppm, .2798,.0138,4.940, .2701, .2896
Mo2020,202.030 {467},Y_2243,ppm, .0011,.0002,18.20, .0009, .0012
Na5895,589.592 { 57},Y_3710,ppm, 138.0,.7426,.5381, 138.5, 137.5
Ni2316,231.604 {445},In2306,ppm, .0009,.0003,33.84, .0007, .0012
P_1782,178.284 {489},In2306,ppm, .0105,.0003,2.826, .0107, .0103
Pb2203,220.353 {453},In2306,ppm, .0004,.0001,18.10, .0004, .0003
S_1820,182.034 {485},Y_2243,ppm, .2219,.0121,5.469, .2305, .2133
Sb2068,206.833 {463},Y_2243,ppm, -.0001,.0018,3030., .0012, -.0013
Se1960,196.090 {472},Y_2243,ppm, -.0004,.0024,538.7, -.0022, .0013
Si2516,251.611 {134},Y_3710,ppm, .2919,.0089,3.062, .2982, .2855
Sn1899,189.989 {477},In2306,ppm, .0008,.0002,20.82, .0007, .0009
Sr4215,421.552 { 80},Y_3710,ppm, .1065,.0008,.7055, .1070, .1060
Ti3349,334.904 {101},Y_3600,ppm, .0004,.0000,7.428, .0004, .0004
Tl1908,190.856 {477},In2306,ppm, .2061,.0077,3.741, .2006, .2115
U_3670,367.007 { 92},Y_3600,ppm, -.4272,.0015,.3463, -.4261, -.4282
V_2924,292.402 {115},Y_3600,ppm, .0009,.0004,44.92, .0012, .0006
W_2397,239.709 {140},Y_2243,ppm, .0164,.0162,98.75, .0279, .0050
Zn2062,206.200 {463},In2306,ppm, .0168,.0002,1.404, .0170, .0167

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 207.27,2.6505,1.2788,205.40,209.15
In2306,230.606 {446},Cts/S, 11960.,43.363,.36257,11929.,11991.
Y_2243,224.306 {450},Cts/S, 17073.,113.24,.66323,16993.,17153.
Y_3600,360.073 { 94},Cts/S, 160320.,6689.4,4.1726,165050.,155590.
Y_3710,371.030 { 91},Cts/S, 10160.,59.385,.58452,10118.,10202.

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Ag3280,328.068 {103},Y_3600,ppm, -.0004,.0003,80.64, -.0006, -.0002
Al3082,308.215 {109},In2306,ppm, -.0019,.0211,1113., -.0168, .0130
As1890,189.042 {478},Y_2243,ppm, .0009,.0005,60.81, .0005, .0012
B_2496,249.678 {135},Y_3710,ppm, .0271,.0036,13.20, .0246, .0296
Ba4554,455.403 { 74},Y_3710,ppm, .1951,.0006,.2843, .1948, .1955
Be3130,313.042 {108},Y_3710,ppm, .0002,.0001,28.16, .0003, .0002
Ca3158,315.887 {107},In2306,ppm, 17.55,.0130,.0739, 17.56, 17.54
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0000,25.67, .0000, .0000
Co2286,228.616 {447},In2306,ppm, .0066,.0002,3.590, .0067, .0064
Cr2677,267.716 {126},Y_3600,ppm, .0009,.0001,14.85, .0010, .0008
Cu3247,324.754 {104},Y_3600,ppm, .0039,.0000,.3634, .0039, .0039
Fe2404,240.488 {140},In2306,ppm, .1964,.0071,3.593, .1914, .2014
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K_7664,766.490 { 44},Y_3710,ppm, .1755,.0339,19.31, .1994, .1515
Li6707,670.784 { 50},Y_3710,ppm, .0005,.0014,270.2, .0015, -.0005
Mg2790,279.079 {121},Y_3710,ppm, 2.764,.0601,2.176, 2.721, 2.806
Mn2576,257.610 {131},Y_3600,ppm, .9352,.0074,.7924, .9404, .9299
Mo2020,202.030 {467},Y_2243,ppm, .0003,.0003,110.9, .0001, .0005
Na5895,589.592 { 57},Y_3710,ppm, 133.7,.3453,.2582, 133.9, 133.5
Ni2316,231.604 {445},In2306,ppm, .0022,.0000,.2992, .0022, .0022
P_1782,178.284 {489},In2306,ppm, .0109,.0001,1.350, .0110, .0108
Pb2203,220.353 {453},In2306,ppm, .0012,.0006,53.56, .0016, .0007
S_1820,182.034 {485},Y_2243,ppm, .2148,.0025,1.183, .2130, .2166
Sb2068,206.833 {463},Y_2243,ppm, -.0011,.0008,73.17, -.0017, -.0005
Se1960,196.090 {472},Y_2243,ppm, .0015,.0003,17.82, .0013, .0016
Si2516,251.611 {134},Y_3710,ppm, 1.567,.0309,1.971, 1.545, 1.589
Sn1899,189.989 {477},In2306,ppm, .0008,.0009,100.9, .0014, .0002
Sr4215,421.552 { 80},Y_3710,ppm, .0681,.0002,.3075, .0682, .0679
Ti3349,334.904 {101},Y_3600,ppm, -.0004,.0003,94.14, -.0001, -.0006
Tl1908,190.856 {477},In2306,ppm, .1486,.0020,1.363, .1500, .1471
U_3670,367.007 { 92},Y_3600,ppm, -.5243,.0196,3.745, -.5382, -.5104
V_2924,292.402 {115},Y_3600,ppm, .0001,.0002,129.5, .0000, .0003
W_2397,239.709 {140},Y_2243,ppm, .0380,.0280,73.58, .0182, .0578
Zn2062,206.200 {463},In2306,ppm, .0604,.0001,.2190, .0605, .0603

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 210.87,.34852,.16527,210.63,211.12
In2306,230.606 {446},Cts/S, 12243.,3.9451,.03222,12246.,12241.
Y_2243,224.306 {450},Cts/S, 17329.,14.829,.08558,17339.,17318.
Y_3600,360.073 { 94},Cts/S, 156220.,1065.0,.68173,155470.,156970.
Y_3710,371.030 { 91},Cts/S, 10084.,25.228,.25018,10102.,10066.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2528,.0005,.2046, .2532, .2525
Al3082,308.215 {109},In2306,ppm, 10.25,.0722,.7043, 10.30, 10.20
As1890,189.042 {478},Y_2243,ppm, 1.064,.0043,.4023, 1.067, 1.061
B_2496,249.678 {135},Y_3710,ppm, .5395,.0091,1.688, .5331, .5460
Ba4554,455.403 { 74},Y_3710,ppm, 1.221,.0080,.6545, 1.215, 1.226
Be3130,313.042 {108},Y_3710,ppm, 1.004,.0072,.7141, .9987, 1.009
Ca3158,315.887 {107},In2306,ppm, 27.40,.1673,.6104, 27.52, 27.28
Cd2288,228.802 {447},Y_2243,ppm, 1.013,.0028,.2803, 1.015, 1.011
Co2286,228.616 {447},In2306,ppm, 1.010,.0008,.0774, 1.011, 1.010
Cr2677,267.716 {126},Y_3600,ppm, .9803,.0113,1.157, .9884, .9723
Cu3247,324.754 {104},Y_3600,ppm, 1.010,.0063,.6233, 1.014, 1.005
Fe2404,240.488 {140},In2306,ppm, 10.41,.0347,.3332, 10.44, 10.39
K_7664,766.490 { 44},Y_3710,ppm, 10.41,.0040,.0380, 10.41, 10.41
Li6707,670.784 { 50},Y_3710,ppm, .9847,.0046,.4691, .9814, .9879
Mg2790,279.079 {121},Y_3710,ppm, 13.05,.0142,.1085, 13.06, 13.04
Mn2576,257.610 {131},Y_3600,ppm, 1.939,.0156,.8021, 1.950, 1.928
Mo2020,202.030 {467},Y_2243,ppm, 1.010,.0007,.0734, 1.011, 1.009
Na5895,589.592 { 57},Y_3710,ppm, 141.4,.7711,.5453, 140.9, 141.9
Ni2316,231.604 {445},In2306,ppm, 1.023,.0012,.1197, 1.024, 1.022
P_1782,178.284 {489},In2306,ppm, 5.565,.0036,.0653, 5.563, 5.568
Pb2203,220.353 {453},In2306,ppm, 1.010,.0018,.1807, 1.012, 1.009
S_1820,182.034 {485},Y_2243,ppm, 7.513,.0318,.4230, 7.535, 7.490
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Sb2068,206.833 {463},Y_2243,ppm, 1.618,.0032,.1970, 1.620, 1.615
Se1960,196.090 {472},Y_2243,ppm, 1.050,.0064,.6062, 1.046, 1.055
Si2516,251.611 {134},Y_3710,ppm, 14.21,.0268,.1886, 14.19, 14.23
Sn1899,189.989 {477},In2306,ppm, 1.029,.0026,.2535, 1.027, 1.031
Sr4215,421.552 { 80},Y_3710,ppm, 1.080,.0045,.4183, 1.077, 1.083
Ti3349,334.904 {101},Y_3600,ppm, 1.024,.0064,.6211, 1.029, 1.020
Tl1908,190.856 {477},In2306,ppm, .4305,.0223,5.179, .4463, .4147
U_3670,367.007 { 92},Y_3600,ppm, .2672,.0090,3.354, .2735, .2609
V_2924,292.402 {115},Y_3600,ppm, 1.002,.0088,.8779, 1.008, .9959
W_2397,239.709 {140},Y_2243,ppm, .5455,.0570,10.44, .5052, .5858
Zn2062,206.200 {463},In2306,ppm, .5812,.0013,.2180, .5803, .5821

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 211.41,1.4583,.68979,210.37,212.44
In2306,230.606 {446},Cts/S, 12010.,42.251,.35180,12040.,11980.
Y_2243,224.306 {450},Cts/S, 17362.,43.931,.25303,17393.,17330.
Y_3600,360.073 { 94},Cts/S, 155530.,1123.1,.72212,154730.,156320.
Y_3710,371.030 { 91},Cts/S, 10214.,20.383,.19956,10200.,10228.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0003,.0003,102.0, .0001, .0006
Al3082,308.215 {109},In2306,ppm, .0080,.0063,79.02, .0035, .0125
As1890,189.042 {478},Y_2243,ppm, .0018,.0012,70.06, .0026, .0009
B_2496,249.678 {135},Y_3710,ppm, .0152,.0031,20.41, .0174, .0130
Ba4554,455.403 { 74},Y_3710,ppm, .0324,.0001,.1772, .0323, .0324
Be3130,313.042 {108},Y_3710,ppm, .0003,.0001,36.23, .0004, .0003
Ca3158,315.887 {107},In2306,ppm, 67.88,.2661,.3921, 67.69, 68.06
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0003,158.3, -.0000, .0003
Co2286,228.616 {447},In2306,ppm, .0001,.0002,133.8, .0000, .0003
Cr2677,267.716 {126},Y_3600,ppm, .0039,.0001,3.020, .0040, .0038
Cu3247,324.754 {104},Y_3600,ppm, .0033,.0000,1.316, .0032, .0033
Fe2404,240.488 {140},In2306,ppm, .0240,.0047,19.65, .0206, .0273
K_7664,766.490 { 44},Y_3710,ppm, 1.803,.0191,1.061, 1.790, 1.817
Li6707,670.784 { 50},Y_3710,ppm, .0055,.0004,7.841, .0058, .0052
Mg2790,279.079 {121},Y_3710,ppm, .2489,.0121,4.881, .2575, .2403
Mn2576,257.610 {131},Y_3600,ppm, .0003,.0000,3.174, .0003, .0004
Mo2020,202.030 {467},Y_2243,ppm, .0066,.0009,13.59, .0059, .0072
Na5895,589.592 { 57},Y_3710,ppm, 142.0,1.054,.7422, 141.2, 142.7
Ni2316,231.604 {445},In2306,ppm, -.0001,.0001,65.53, -.0002, -.0001
P_1782,178.284 {489},In2306,ppm, .0061,.0013,21.57, .0051, .0070
Pb2203,220.353 {453},In2306,ppm, -.0006,.0011,170.9, .0001, -.0014
S_1820,182.034 {485},Y_2243,ppm, 3.098,.1645,5.311, 2.981, 3.214
Sb2068,206.833 {463},Y_2243,ppm, .0006,.0012,182.4, -.0002, .0015
Se1960,196.090 {472},Y_2243,ppm, -.0005,.0027,563.5, .0014, -.0024
Si2516,251.611 {134},Y_3710,ppm, 4.254,.0542,1.274, 4.215, 4.292
Sn1899,189.989 {477},In2306,ppm, .0022,.0007,30.80, .0017, .0027
Sr4215,421.552 { 80},Y_3710,ppm, .2086,.0022,1.073, .2070, .2102
Ti3349,334.904 {101},Y_3600,ppm, .0010,.0004,36.02, .0007, .0012
Tl1908,190.856 {477},In2306,ppm, .2692,.0085,3.145, .2632, .2752
U_3670,367.007 { 92},Y_3600,ppm, -.4066,.1612,39.64, -.2926, -.5205
V_2924,292.402 {115},Y_3600,ppm, .0038,.0002,4.062, .0037, .0040
W_2397,239.709 {140},Y_2243,ppm, -.0626,.0164,26.11, -.0742, -.0511
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Zn2062,206.200 {463},In2306,ppm, .0069,.0001,2.161, .0068, .0070

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 209.84,.00651,.00310,209.84,209.85
In2306,230.606 {446},Cts/S, 11775.,310.37,2.6358,11995.,11556.
Y_2243,224.306 {450},Cts/S, 16802.,432.63,2.5748,17108.,16496.
Y_3600,360.073 { 94},Cts/S, 155870.,786.70,.50472,155310.,156430.
Y_3710,371.030 { 91},Cts/S, 10108.,12.350,.12219,10116.,10099.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2539,.0076,3.009, .2485, .2593
Al3082,308.215 {109},In2306,ppm, 11.05,.2903,2.627, 10.85, 11.26
As1890,189.042 {478},Y_2243,ppm, 1.073,.0015,.1366, 1.074, 1.072
B_2496,249.678 {135},Y_3710,ppm, .5436,.0032,.5892, .5459, .5414
Ba4554,455.403 { 74},Y_3710,ppm, 1.127,.0350,3.109, 1.103, 1.152
Be3130,313.042 {108},Y_3710,ppm, 1.071,.0352,3.290, 1.046, 1.096
Ca3158,315.887 {107},In2306,ppm, 83.25,2.128,2.557, 81.74, 84.75
Cd2288,228.802 {447},Y_2243,ppm, 1.014,.0005,.0524, 1.015, 1.014
Co2286,228.616 {447},In2306,ppm, 1.004,.0019,.1909, 1.006, 1.003
Cr2677,267.716 {126},Y_3600,ppm, .9945,.0316,3.180, .9722, 1.017
Cu3247,324.754 {104},Y_3600,ppm, 1.028,.0275,2.677, 1.009, 1.048
Fe2404,240.488 {140},In2306,ppm, 10.90,.2504,2.297, 10.72, 11.08
K_7664,766.490 { 44},Y_3710,ppm, 12.77,.3187,2.496, 12.54, 12.99
Li6707,670.784 { 50},Y_3710,ppm, 1.060,.0299,2.821, 1.039, 1.081
Mg2790,279.079 {121},Y_3710,ppm, 11.21,.2576,2.298, 11.03, 11.39
Mn2576,257.610 {131},Y_3600,ppm, 1.017,.0323,3.180, .9943, 1.040
Mo2020,202.030 {467},Y_2243,ppm, 1.014,.0003,.0322, 1.014, 1.014
Na5895,589.592 { 57},Y_3710,ppm, 160.6,4.523,2.817, 157.4, 163.8
Ni2316,231.604 {445},In2306,ppm, 1.022,.0021,.2044, 1.021, 1.024
P_1782,178.284 {489},In2306,ppm, 5.730,.0127,.2221, 5.721, 5.739
Pb2203,220.353 {453},In2306,ppm, 1.008,.0065,.6496, 1.004, 1.013
S_1820,182.034 {485},Y_2243,ppm, 10.37,.0458,.4418, 10.34, 10.40
Sb2068,206.833 {463},Y_2243,ppm, 1.628,.0041,.2545, 1.625, 1.631
Se1960,196.090 {472},Y_2243,ppm, 1.050,.0023,.2239, 1.048, 1.051
Si2516,251.611 {134},Y_3710,ppm, 18.10,.6773,3.742, 17.62, 18.58
Sn1899,189.989 {477},In2306,ppm, 1.029,.0014,.1372, 1.028, 1.030
Sr4215,421.552 { 80},Y_3710,ppm, 1.298,.0410,3.156, 1.269, 1.327
Ti3349,334.904 {101},Y_3600,ppm, 1.033,.0317,3.066, 1.011, 1.055
Tl1908,190.856 {477},In2306,ppm, .5188,.0125,2.417, .5276, .5099
U_3670,367.007 { 92},Y_3600,ppm, .2150,.0643,29.92, .1695, .2605
V_2924,292.402 {115},Y_3600,ppm, 1.017,.0337,3.314, .9928, 1.040
W_2397,239.709 {140},Y_2243,ppm, .4912,.0100,2.030, .4842, .4983
Zn2062,206.200 {463},In2306,ppm, .5278,.0010,.1906, .5270, .5285

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 199.16,3.4809,1.7478,201.62,196.70
In2306,230.606 {446},Cts/S, 11735.,30.495,.25986,11714.,11757.
Y_2243,224.306 {450},Cts/S, 17142.,44.140,.25749,17111.,17174.
Y_3600,360.073 { 94},Cts/S, 152470.,3654.5,2.3968,155050.,149890.
Y_3710,371.030 { 91},Cts/S, 9709.5,206.67,2.1285,9855.6,9563.4

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Ag3280,328.068 {103},Y_3600,ppm, .4994,.0001,.0210, .4995, .4994
Al3082,308.215 {109},In2306,ppm, 19.86,.0073,.0369, 19.86, 19.85
As1890,189.042 {478},Y_2243,ppm, 1.026,.0025,.2428, 1.028, 1.025
B_2496,249.678 {135},Y_3710,ppm, .9971,.0110,1.103, .9893, 1.005
Ba4554,455.403 { 74},Y_3710,ppm, 1.022,.0017,.1625, 1.020, 1.023
Be3130,313.042 {108},Y_3710,ppm, .9765,.0036,.3681, .9740, .9791
Ca3158,315.887 {107},In2306,ppm, 19.77,.1693,.8561, 19.65, 19.89
Cd2288,228.802 {447},Y_2243,ppm, .9848,.0021,.2135, .9833, .9863
Co2286,228.616 {447},In2306,ppm, .9681,.0018,.1849, .9669, .9694
Cr2677,267.716 {126},Y_3600,ppm, .9666,.0041,.4255, .9695, .9637
Cu3247,324.754 {104},Y_3600,ppm, .9881,.0020,.2035, .9867, .9895
Fe2404,240.488 {140},In2306,ppm, 19.89,.1197,.6017, 19.81, 19.98
K_7664,766.490 { 44},Y_3710,ppm, 19.72,.0768,.3895, 19.77, 19.67
Li6707,670.784 { 50},Y_3710,ppm, .9863,.0001,.0065, .9862, .9863
Mg2790,279.079 {121},Y_3710,ppm, 20.25,.1459,.7205, 20.15, 20.35
Mn2576,257.610 {131},Y_3600,ppm, 1.0000,.0029,.2900, 1.002, .9979
Mo2020,202.030 {467},Y_2243,ppm, 1.004,.0026,.2583, 1.006, 1.002
Na5895,589.592 { 57},Y_3710,ppm, 19.99,.0131,.0658, 19.98, 19.99
Ni2316,231.604 {445},In2306,ppm, .9855,.0023,.2349, .9871, .9839
P_1782,178.284 {489},In2306,ppm, 10.35,.0358,.3461, 10.38, 10.33
Pb2203,220.353 {453},In2306,ppm, .9809,.0082,.8391, .9868, .9751
S_1820,182.034 {485},Y_2243,ppm, 10.68,.0303,.2836, 10.71, 10.66
Sb2068,206.833 {463},Y_2243,ppm, 2.102,.0090,.4263, 2.108, 2.096
Se1960,196.090 {472},Y_2243,ppm, 1.004,.0014,.1409, 1.005, 1.003
Si2516,251.611 {134},Y_3710,ppm, 14.04,.3063,2.181, 13.82, 14.26
Sn1899,189.989 {477},In2306,ppm, .9864,.0033,.3372, .9888, .9841
Sr4215,421.552 { 80},Y_3710,ppm, 1.008,.0009,.0867, 1.009, 1.008
Ti3349,334.904 {101},Y_3600,ppm, 1.001,.0010,.1017, 1.001, .9998
Tl1908,190.856 {477},In2306,ppm, 1.306,.0043,.3266, 1.309, 1.303
U_3670,367.007 { 92},Y_3600,ppm, .8271,.0982,11.88, .8965, .7576
V_2924,292.402 {115},Y_3600,ppm, .9780,.0026,.2707, .9799, .9761
W_2397,239.709 {140},Y_2243,ppm, 1.383,.0171,1.237, 1.395, 1.371
Zn2062,206.200 {463},In2306,ppm, .9684,.0009,.0918, .9677, .9690

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 210.79,.87105,.41324,211.40,210.17
In2306,230.606 {446},Cts/S, 12501.,15.756,.12603,12513.,12490.
Y_2243,224.306 {450},Cts/S, 17587.,21.242,.12078,17602.,17572.
Y_3600,360.073 { 94},Cts/S, 158470.,99.364,.06270,158400.,158540.
Y_3710,371.030 { 91},Cts/S, 10185.,28.576,.28058,10205.,10164.

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Ag3280,328.068 {103},Y_3600,ppm, .0100,.0005,5.464, .0096, .0104
Al3082,308.215 {109},In2306,ppm, .1772,.0137,7.704, .1869, .1675
As1890,189.042 {478},Y_2243,ppm, .0216,.0025,11.55, .0199, .0234
B_2496,249.678 {135},Y_3710,ppm, .2193,.0192,8.735, .2057, .2328
Ba4554,455.403 { 74},Y_3710,ppm, .0227,.0001,.6088, .0228, .0226
Be3130,313.042 {108},Y_3710,ppm, .0113,.0000,.1190, .0113, .0113
Ca3158,315.887 {107},In2306,ppm, 1.047,.0008,.0788, 1.047, 1.046
Cd2288,228.802 {447},Y_2243,ppm, .0111,.0001,1.166, .0110, .0112
Co2286,228.616 {447},In2306,ppm, .0108,.0001,1.234, .0109, .0107
Cr2677,267.716 {126},Y_3600,ppm, .0109,.0002,1.460, .0110, .0108
Cu3247,324.754 {104},Y_3600,ppm, .0133,.0001,.8063, .0134, .0133
Fe2404,240.488 {140},In2306,ppm, .2225,.0071,3.192, .2275, .2175
K_7664,766.490 { 44},Y_3710,ppm, 1.062,.0220,2.067, 1.047, 1.078
Li6707,670.784 { 50},Y_3710,ppm, .0107,.0010,9.758, .0114, .0099
Mg2790,279.079 {121},Y_3710,ppm, 1.095,.0019,.1698, 1.096, 1.094
Mn2576,257.610 {131},Y_3600,ppm, .0113,.0001,.4898, .0113, .0112
Mo2020,202.030 {467},Y_2243,ppm, .0282,.0003,.9546, .0280, .0284
Na5895,589.592 { 57},Y_3710,ppm, 1.099,.0030,.2775, 1.097, 1.101
Ni2316,231.604 {445},In2306,ppm, .0104,.0002,1.769, .0103, .0106
P_1782,178.284 {489},In2306,ppm, .9928,.0015,.1559, .9917, .9939
Pb2203,220.353 {453},In2306,ppm, .0124,.0016,12.71, .0112, .0135
S_1820,182.034 {485},Y_2243,ppm, -2.733,.0019,.0682, -2.732, -2.735
Sb2068,206.833 {463},Y_2243,ppm, .0593,.0024,4.126, .0610, .0576
Se1960,196.090 {472},Y_2243,ppm, .0247,.0043,17.54, .0217, .0278
Si2516,251.611 {134},Y_3710,ppm, .3137,.0058,1.838, .3096, .3177
Sn1899,189.989 {477},In2306,ppm, .0235,.0001,.5239, .0235, .0234
Sr4215,421.552 { 80},Y_3710,ppm, .0111,.0001,1.322, .0112, .0110
Ti3349,334.904 {101},Y_3600,ppm, .0118,.0001,1.268, .0119, .0117
Tl1908,190.856 {477},In2306,ppm, .2927,.0039,1.347, .2899, .2955
U_3670,367.007 { 92},Y_3600,ppm, -.3049,.1260,41.32, -.2158, -.3939
V_2924,292.402 {115},Y_3600,ppm, .0108,.0003,3.138, .0105, .0110
W_2397,239.709 {140},Y_2243,ppm, .0713,.1141,160.1, -.0094, .1519
Zn2062,206.200 {463},In2306,ppm, .0197,.0003,1.358, .0195, .0199

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 213.17,1.2650,.59346,214.06,212.27
In2306,230.606 {446},Cts/S, 13516.,29.119,.21544,13537.,13496.
Y_2243,224.306 {450},Cts/S, 18095.,24.077,.13306,18112.,18078.
Y_3600,360.073 { 94},Cts/S, 163780.,448.00,.27353,163470.,164100.
Y_3710,371.030 { 91},Cts/S, 10182.,85.277,.83753,10242.,10122.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0003,.0001,37.95, .0003, .0002
Al3082,308.215 {109},In2306,ppm, -.0192,.0138,72.01, -.0094, -.0290
As1890,189.042 {478},Y_2243,ppm, .0003,.0029,868.1, .0024, -.0017
B_2496,249.678 {135},Y_3710,ppm, -.0025,.0053,212.6, -.0062, .0013
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Ba4554,455.403 { 74},Y_3710,ppm, -.0004,.0001,25.52, -.0004, -.0003
Be3130,313.042 {108},Y_3710,ppm, .0000,.0001,395.0, -.0000, .0001
Ca3158,315.887 {107},In2306,ppm, .0014,.0047,330.0, .0047, -.0019
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0000,168.5, .0000, -.0000
Co2286,228.616 {447},In2306,ppm, .0002,.0001,37.75, .0003, .0002
Cr2677,267.716 {126},Y_3600,ppm, .0002,.0001,39.93, .0002, .0001
Cu3247,324.754 {104},Y_3600,ppm, .0015,.0000,2.099, .0015, .0016
Fe2404,240.488 {140},In2306,ppm, .0027,.0011,39.61, .0035, .0020
K_7664,766.490 { 44},Y_3710,ppm, .0086,.0348,405.5, .0331, -.0160
Li6707,670.784 { 50},Y_3710,ppm, .0005,.0002,41.80, .0006, .0003
Mg2790,279.079 {121},Y_3710,ppm, .0037,.0187,507.9, -.0095, .0169
Mn2576,257.610 {131},Y_3600,ppm, .0001,.0000,21.91, .0001, .0001
Mo2020,202.030 {467},Y_2243,ppm, .0014,.0001,9.455, .0013, .0015
Na5895,589.592 { 57},Y_3710,ppm, .0122,.0046,38.14, .0154, .0089
Ni2316,231.604 {445},In2306,ppm, .0001,.0003,440.2, .0003, -.0001
P_1782,178.284 {489},In2306,ppm, .0010,.0009,91.49, .0003, .0016
Pb2203,220.353 {453},In2306,ppm, -.0003,.0028,888.3, .0017, -.0023
S_1820,182.034 {485},Y_2243,ppm, -2.389,.0000,.0008, -2.389, -2.389
Sb2068,206.833 {463},Y_2243,ppm, .0000,.0005,1175., .0004, -.0003
Se1960,196.090 {472},Y_2243,ppm, .0021,.0002,7.575, .0020, .0022
Si2516,251.611 {134},Y_3710,ppm, .0256,.0133,52.04, .0350, .0162
Sn1899,189.989 {477},In2306,ppm, .0003,.0005,140.4, .0007, .0000
Sr4215,421.552 { 80},Y_3710,ppm, -.0000,.0000,303.0, .0000, -.0000
Ti3349,334.904 {101},Y_3600,ppm, -.0001,.0002,117.9, -.0003, -.0000
Tl1908,190.856 {477},In2306,ppm, .2170,.0038,1.738, .2143, .2196
U_3670,367.007 { 92},Y_3600,ppm, -.3372,.0300,8.912, -.3159, -.3584
V_2924,292.402 {115},Y_3600,ppm, .0002,.0004,179.3, -.0001, .0005
W_2397,239.709 {140},Y_2243,ppm, .0735,.0263,35.82, .0549, .0921
Zn2062,206.200 {463},In2306,ppm, .0042,.0001,2.468, .0041, .0042

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 213.84,2.8181,1.3179,215.83,211.84
In2306,230.606 {446},Cts/S, 13513.,87.575,.64809,13575.,13451.
Y_2243,224.306 {450},Cts/S, 18089.,70.117,.38762,18139.,18040.
Y_3600,360.073 { 94},Cts/S, 163550.,226.93,.13875,163720.,163390.
Y_3710,371.030 { 91},Cts/S, 10173.,16.204,.15929,10184.,10161.

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Custom ID3=
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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0002,.0002,107.5, -.0000, -.0004
Al3082,308.215 {109},In2306,ppm, -.0071,.0357,500.9, -.0324, .0181
As1890,189.042 {478},Y_2243,ppm, -.0024,.0030,124.8, -.0003, -.0046
B_2496,249.678 {135},Y_3710,ppm, .0746,.0027,3.598, .0764, .0727
Ba4554,455.403 { 74},Y_3710,ppm, .0354,.0001,.1548, .0354, .0354
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,30.15, .0001, .0002
Ca3158,315.887 {107},In2306,ppm, .3966,.0015,.3900, .3955, .3977
Cd2288,228.802 {447},Y_2243,ppm, .0071,.0002,2.222, .0070, .0072
Co2286,228.616 {447},In2306,ppm, .0002,.0000,5.537, .0002, .0002
Cr2677,267.716 {126},Y_3600,ppm, .0000,.0002,741.6, -.0001, .0002
Cu3247,324.754 {104},Y_3600,ppm, .0025,.0001,5.964, .0024, .0026
Fe2404,240.488 {140},In2306,ppm, .0093,.0026,28.03, .0075, .0112
K_7664,766.490 { 44},Y_3710,ppm, .1289,.0016,1.237, .1278, .1300
Li6707,670.784 { 50},Y_3710,ppm, -.0009,.0006,61.61, -.0013, -.0005
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Mg2790,279.079 {121},Y_3710,ppm, .0077,.0048,62.48, .0043, .0111
Mn2576,257.610 {131},Y_3600,ppm, .0022,.0000,1.490, .0022, .0023
Mo2020,202.030 {467},Y_2243,ppm, .0007,.0001,11.84, .0006, .0007
Na5895,589.592 { 57},Y_3710,ppm, 141.3,.4044,.2862, 141.0, 141.6
Ni2316,231.604 {445},In2306,ppm, .0001,.0001,62.16, .0002, .0001
P_1782,178.284 {489},In2306,ppm, .2096,.0013,.6100, .2087, .2105
Pb2203,220.353 {453},In2306,ppm, .0013,.0003,21.46, .0014, .0011
S_1820,182.034 {485},Y_2243,ppm, .2388,.0109,4.562, .2311, .2465
Sb2068,206.833 {463},Y_2243,ppm, .0006,.0015,256.9, -.0005, .0017
Se1960,196.090 {472},Y_2243,ppm, -.0008,.0004,52.17, -.0005, -.0011
Si2516,251.611 {134},Y_3710,ppm, .0944,.0156,16.49, .0834, .1054
Sn1899,189.989 {477},In2306,ppm, .0009,.0002,20.76, .0007, .0010
Sr4215,421.552 { 80},Y_3710,ppm, .0007,.0000,7.013, .0007, .0007
Ti3349,334.904 {101},Y_3600,ppm, .0002,.0001,60.19, .0001, .0003
Tl1908,190.856 {477},In2306,ppm, .1543,.0029,1.884, .1523, .1564
U_3670,367.007 { 92},Y_3600,ppm, -.3826,.0491,12.84, -.4173, -.3478
V_2924,292.402 {115},Y_3600,ppm, .0002,.0002,96.75, .0001, .0003
W_2397,239.709 {140},Y_2243,ppm, .0071,.0995,1410., .0774, -.0633
Zn2062,206.200 {463},In2306,ppm, .3543,.0007,.2033, .3549, .3538

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 214.97,.92971,.43249,215.63,214.31
In2306,230.606 {446},Cts/S, 12349.,19.667,.15926,12363.,12336.
Y_2243,224.306 {450},Cts/S, 17366.,39.975,.23020,17394.,17337.
Y_3600,360.073 { 94},Cts/S, 157070.,193.06,.12291,157210.,156940.
Y_3710,371.030 { 91},Cts/S, 10150.,47.343,.46645,10183.,10116.

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Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2458,.0026,1.068, .2440, .2477
Al3082,308.215 {109},In2306,ppm, 10.44,.0242,.2320, 10.43, 10.46
As1890,189.042 {478},Y_2243,ppm, 1.063,.0015,.1444, 1.062, 1.064
B_2496,249.678 {135},Y_3710,ppm, .6063,.0035,.5734, .6088, .6038
Ba4554,455.403 { 74},Y_3710,ppm, 1.096,.0079,.7183, 1.102, 1.091
Be3130,313.042 {108},Y_3710,ppm, 1.014,.0002,.0167, 1.014, 1.014
Ca3158,315.887 {107},In2306,ppm, 10.74,.0199,.1852, 10.73, 10.76
Cd2288,228.802 {447},Y_2243,ppm, 1.019,.0025,.2492, 1.017, 1.021
Co2286,228.616 {447},In2306,ppm, 1.001,.0033,.3280, .9987, 1.003
Cr2677,267.716 {126},Y_3600,ppm, .9810,.0070,.7157, .9761, .9860
Cu3247,324.754 {104},Y_3600,ppm, 1.011,.0149,1.470, 1.000, 1.021
Fe2404,240.488 {140},In2306,ppm, 10.39,.0396,.3808, 10.36, 10.42
K_7664,766.490 { 44},Y_3710,ppm, 10.44,.0878,.8414, 10.50, 10.38
Li6707,670.784 { 50},Y_3710,ppm, 1.001,.0110,1.104, 1.009, .9930
Mg2790,279.079 {121},Y_3710,ppm, 10.49,.0043,.0409, 10.49, 10.50
Mn2576,257.610 {131},Y_3600,ppm, 1.014,.0078,.7655, 1.008, 1.019
Mo2020,202.030 {467},Y_2243,ppm, 1.012,.0007,.0702, 1.012, 1.013
Na5895,589.592 { 57},Y_3710,ppm, 151.3,1.127,.7446, 152.1, 150.5
Ni2316,231.604 {445},In2306,ppm, 1.021,.0029,.2797, 1.019, 1.023
P_1782,178.284 {489},In2306,ppm, 5.663,.0144,.2550, 5.653, 5.674
Pb2203,220.353 {453},In2306,ppm, 1.004,.0005,.0530, 1.005, 1.004
S_1820,182.034 {485},Y_2243,ppm, 7.481,.0280,.3744, 7.461, 7.501
Sb2068,206.833 {463},Y_2243,ppm, 1.616,.0039,.2394, 1.613, 1.618
Se1960,196.090 {472},Y_2243,ppm, 1.044,.0039,.3718, 1.047, 1.041
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Si2516,251.611 {134},Y_3710,ppm, 13.52,.0201,.1484, 13.51, 13.54
Sn1899,189.989 {477},In2306,ppm, 1.020,.0058,.5726, 1.016, 1.024
Sr4215,421.552 { 80},Y_3710,ppm, 1.031,.0082,.7964, 1.036, 1.025
Ti3349,334.904 {101},Y_3600,ppm, 1.018,.0096,.9422, 1.011, 1.025
Tl1908,190.856 {477},In2306,ppm, .4353,.0238,5.475, .4521, .4184
U_3670,367.007 { 92},Y_3600,ppm, .2187,.0014,.6467, .2177, .2197
V_2924,292.402 {115},Y_3600,ppm, .9973,.0085,.8569, .9913, 1.003
W_2397,239.709 {140},Y_2243,ppm, .4900,.0957,19.53, .4224, .5577
Zn2062,206.200 {463},In2306,ppm, .8788,.0037,.4175, .8762, .8814

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 208.68,.38217,.18314,208.41,208.95
In2306,230.606 {446},Cts/S, 12087.,31.826,.26330,12110.,12065.
Y_2243,224.306 {450},Cts/S, 17433.,33.052,.18960,17456.,17409.
Y_3600,360.073 { 94},Cts/S, 156640.,1222.1,.78014,157510.,155780.
Y_3710,371.030 { 91},Cts/S, 10149.,75.885,.74772,10095.,10202.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0002,.0001,57.04, -.0001, -.0003
Al3082,308.215 {109},In2306,ppm, -.0039,.0058,149.1, .0002, -.0079
As1890,189.042 {478},Y_2243,ppm, .0005,.0003,51.64, .0003, .0007
B_2496,249.678 {135},Y_3710,ppm, .0296,.0047,15.95, .0262, .0329
Ba4554,455.403 { 74},Y_3710,ppm, .0908,.0016,1.737, .0919, .0897
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,64.23, .0002, .0001
Ca3158,315.887 {107},In2306,ppm, .1784,.0061,3.394, .1827, .1741
Cd2288,228.802 {447},Y_2243,ppm, .0003,.0001,31.56, .0003, .0004
Co2286,228.616 {447},In2306,ppm, .0005,.0002,37.28, .0006, .0004
Cr2677,267.716 {126},Y_3600,ppm, .0001,.0002,350.4, .0002, -.0001
Cu3247,324.754 {104},Y_3600,ppm, .0024,.0000,1.337, .0024, .0024
Fe2404,240.488 {140},In2306,ppm, .0416,.0060,14.49, .0458, .0373
K_7664,766.490 { 44},Y_3710,ppm, .1522,.0252,16.57, .1700, .1343
Li6707,670.784 { 50},Y_3710,ppm, .0010,.0003,30.65, .0008, .0013
Mg2790,279.079 {121},Y_3710,ppm, -.0059,.0004,6.433, -.0057, -.0062
Mn2576,257.610 {131},Y_3600,ppm, .0055,.0001,1.474, .0055, .0054
Mo2020,202.030 {467},Y_2243,ppm, .0058,.0005,8.605, .0054, .0061
Na5895,589.592 { 57},Y_3710,ppm, 128.9,2.530,1.962, 130.7, 127.1
Ni2316,231.604 {445},In2306,ppm, .0004,.0001,13.29, .0005, .0004
P_1782,178.284 {489},In2306,ppm, .0948,.0027,2.854, .0967, .0929
Pb2203,220.353 {453},In2306,ppm, .0011,.0002,13.28, .0013, .0010
S_1820,182.034 {485},Y_2243,ppm, .1763,.0135,7.631, .1858, .1668
Sb2068,206.833 {463},Y_2243,ppm, -.0014,.0007,48.53, -.0009, -.0019
Se1960,196.090 {472},Y_2243,ppm, .0046,.0036,79.86, .0071, .0020
Si2516,251.611 {134},Y_3710,ppm, .0410,.0016,3.909, .0399, .0421
Sn1899,189.989 {477},In2306,ppm, .0020,.0002,11.20, .0018, .0021
Sr4215,421.552 { 80},Y_3710,ppm, .0018,.0001,6.865, .0019, .0018
Ti3349,334.904 {101},Y_3600,ppm, .0006,.0002,37.74, .0007, .0004
Tl1908,190.856 {477},In2306,ppm, .2703,.0041,1.532, .2674, .2733
U_3670,367.007 { 92},Y_3600,ppm, -.2708,.0829,30.61, -.2122, -.3294
V_2924,292.402 {115},Y_3600,ppm, .0001,.0003,212.3, .0003, -.0001
W_2397,239.709 {140},Y_2243,ppm, .0378,.0550,145.4, .0767, -.0011
Zn2062,206.200 {463},In2306,ppm, 2.439,.0042,.1736, 2.442, 2.436
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[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 214.93,2.8648,1.3329,212.91,216.96
In2306,230.606 {446},Cts/S, 12352.,13.785,.11160,12343.,12362.
Y_2243,224.306 {450},Cts/S, 17323.,37.117,.21427,17297.,17349.
Y_3600,360.073 { 94},Cts/S, 156000.,1730.6,1.1094,154780.,157230.
Y_3710,371.030 { 91},Cts/S, 10329.,120.97,1.1712,10243.,10415.

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Repeats=2

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Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0002,.0001,48.21, .0001, .0002
Al3082,308.215 {109},In2306,ppm, .1891,.0342,18.08, .1649, .2133
As1890,189.042 {478},Y_2243,ppm, -.0001,.0008,720.7, -.0006, .0004
B_2496,249.678 {135},Y_3710,ppm, .0114,.0010,8.504, .0107, .0120
Ba4554,455.403 { 74},Y_3710,ppm, .0715,.0028,3.899, .0735, .0695
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,62.75, .0000, .0000
Ca3158,315.887 {107},In2306,ppm, 3.930,.0676,1.721, 3.978, 3.883
Cd2288,228.802 {447},Y_2243,ppm, .0047,.0002,3.552, .0048, .0046
Co2286,228.616 {447},In2306,ppm, .0002,.0001,67.91, .0001, .0003
Cr2677,267.716 {126},Y_3600,ppm, .0006,.0000,.7923, .0006, .0006
Cu3247,324.754 {104},Y_3600,ppm, .0087,.0002,2.022, .0088, .0086
Fe2404,240.488 {140},In2306,ppm, .1604,.0046,2.867, .1636, .1571
K_7664,766.490 { 44},Y_3710,ppm, .3445,.0092,2.672, .3380, .3510
Li6707,670.784 { 50},Y_3710,ppm, -.0006,.0005,91.75, -.0010, -.0002
Mg2790,279.079 {121},Y_3710,ppm, .2904,.0102,3.516, .2977, .2832
Mn2576,257.610 {131},Y_3600,ppm, .0209,.0001,.5662, .0210, .0208
Mo2020,202.030 {467},Y_2243,ppm, .0010,.0000,2.347, .0009, .0010
Na5895,589.592 { 57},Y_3710,ppm, 142.9,5.343,3.739, 146.7, 139.1
Ni2316,231.604 {445},In2306,ppm, .0014,.0000,.1932, .0014, .0014
P_1782,178.284 {489},In2306,ppm, .0309,.0015,4.781, .0319, .0298
Pb2203,220.353 {453},In2306,ppm, .0010,.0017,165.4, .0022, -.0002
S_1820,182.034 {485},Y_2243,ppm, .0419,.0013,3.086, .0428, .0410
Sb2068,206.833 {463},Y_2243,ppm, .0002,.0016,650.3, .0014, -.0009
Se1960,196.090 {472},Y_2243,ppm, -.0014,.0038,277.9, -.0041, .0013
Si2516,251.611 {134},Y_3710,ppm, .6265,.0159,2.545, .6378, .6153
Sn1899,189.989 {477},In2306,ppm, .0010,.0001,9.901, .0009, .0011
Sr4215,421.552 { 80},Y_3710,ppm, .0170,.0004,2.307, .0173, .0167
Ti3349,334.904 {101},Y_3600,ppm, .0044,.0000,.1432, .0044, .0044
Tl1908,190.856 {477},In2306,ppm, .1969,.0011,.5504, .1962, .1977
U_3670,367.007 { 92},Y_3600,ppm, -.3344,.0270,8.084, -.3535, -.3153
V_2924,292.402 {115},Y_3600,ppm, .0003,.0001,36.78, .0004, .0002
W_2397,239.709 {140},Y_2243,ppm, .0682,.0179,26.17, .0808, .0556
Zn2062,206.200 {463},In2306,ppm, .3214,.0018,.5596, .3201, .3227

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 207.02,2.8375,1.3707,205.01,209.02
In2306,230.606 {446},Cts/S, 12312.,21.326,.17321,12328.,12297.
Y_2243,224.306 {450},Cts/S, 17361.,22.068,.12711,17346.,17377.
Y_3600,360.073 { 94},Cts/S, 156890.,413.94,.26384,156600.,157180.
Y_3710,371.030 { 91},Cts/S, 9864.1,317.42,3.2179,9639.7,10089.

[Sample Header]
Method=ICP6500Metals_TRY3(v4958)
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Custom ID3=
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Mode=CONC
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0004,.0000,3.987, .0004, .0004
Al3082,308.215 {109},In2306,ppm, .2888,.0097,3.345, .2819, .2956
As1890,189.042 {478},Y_2243,ppm, .0026,.0024,89.15, .0043, .0010
B_2496,249.678 {135},Y_3710,ppm, .0206,.0015,7.381, .0217, .0196
Ba4554,455.403 { 74},Y_3710,ppm, .0858,.0005,.5637, .0861, .0855
Be3130,313.042 {108},Y_3710,ppm, .0002,.0000,.2078, .0002, .0002
Ca3158,315.887 {107},In2306,ppm, 1.590,.0334,2.100, 1.567, 1.614
Cd2288,228.802 {447},Y_2243,ppm, .0005,.0000,.5509, .0005, .0005
Co2286,228.616 {447},In2306,ppm, .0009,.0001,6.309, .0009, .0009
Cr2677,267.716 {126},Y_3600,ppm, .0197,.0002,1.023, .0198, .0195
Cu3247,324.754 {104},Y_3600,ppm, .0186,.0001,.4393, .0186, .0187
Fe2404,240.488 {140},In2306,ppm, .1509,.0066,4.381, .1556, .1462
K_7664,766.490 { 44},Y_3710,ppm, .3751,.0317,8.453, .3527, .3976
Li6707,670.784 { 50},Y_3710,ppm, -.0019,.0002,9.698, -.0018, -.0021
Mg2790,279.079 {121},Y_3710,ppm, .3936,.0252,6.412, .4115, .3758
Mn2576,257.610 {131},Y_3600,ppm, .0553,.0001,.1533, .0553, .0554
Mo2020,202.030 {467},Y_2243,ppm, .0006,.0001,13.27, .0006, .0007
Na5895,589.592 { 57},Y_3710,ppm, 137.0,.1501,.1096, 136.9, 137.1
Ni2316,231.604 {445},In2306,ppm, .0007,.0000,3.052, .0007, .0008
P_1782,178.284 {489},In2306,ppm, .0449,.0007,1.488, .0445, .0454
Pb2203,220.353 {453},In2306,ppm, .0025,.0017,67.41, .0013, .0036
S_1820,182.034 {485},Y_2243,ppm, .0783,.0019,2.392, .0796, .0770
Sb2068,206.833 {463},Y_2243,ppm, -.0006,.0003,42.73, -.0008, -.0004
Se1960,196.090 {472},Y_2243,ppm, .0029,.0013,43.18, .0020, .0038
Si2516,251.611 {134},Y_3710,ppm, .5576,.0160,2.863, .5689, .5463
Sn1899,189.989 {477},In2306,ppm, .0019,.0010,52.46, .0027, .0012
Sr4215,421.552 { 80},Y_3710,ppm, .0453,.0001,.2887, .0452, .0454
Ti3349,334.904 {101},Y_3600,ppm, .0059,.0002,3.107, .0061, .0058
Tl1908,190.856 {477},In2306,ppm, .1456,.0030,2.089, .1435, .1478
U_3670,367.007 { 92},Y_3600,ppm, -.3564,.0215,6.040, -.3412, -.3716
V_2924,292.402 {115},Y_3600,ppm, .0009,.0001,10.04, .0010, .0008
W_2397,239.709 {140},Y_2243,ppm, .0744,.0907,121.9, .1385, .0103
Zn2062,206.200 {463},In2306,ppm, .2131,.0006,.2647, .2135, .2127

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 211.57,2.3298,1.1012,213.21,209.92
In2306,230.606 {446},Cts/S, 12349.,11.558,.09359,12357.,12341.
Y_2243,224.306 {450},Cts/S, 17408.,31.150,.17894,17430.,17386.
Y_3600,360.073 { 94},Cts/S, 157210.,51.883,.03300,157250.,157170.
Y_3710,371.030 { 91},Cts/S, 10141.,44.160,.43547,10109.,10172.

[Sample Header]
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Custom ID3=
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Mode=CONC
CorrFactor=1.000

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0006,.0005,77.83, .0009, .0003
Al3082,308.215 {109},In2306,ppm, .6516,.0217,3.337, .6670, .6363
As1890,189.042 {478},Y_2243,ppm, .0005,.0002,43.53, .0004, .0007
B_2496,249.678 {135},Y_3710,ppm, .0017,.0001,4.427, .0017, .0018
Ba4554,455.403 { 74},Y_3710,ppm, .0645,.0006,.8750, .0641, .0649
Be3130,313.042 {108},Y_3710,ppm, .0002,.0000,24.58, .0002, .0001
Ca3158,315.887 {107},In2306,ppm, 1.887,.0016,.0828, 1.886, 1.889
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0002,83.87, .0001, .0004
Co2286,228.616 {447},In2306,ppm, .0002,.0003,134.7, .0000, .0004
Cr2677,267.716 {126},Y_3600,ppm, .0009,.0001,16.43, .0008, .0010
Cu3247,324.754 {104},Y_3600,ppm, .0124,.0007,5.700, .0129, .0119
Fe2404,240.488 {140},In2306,ppm, .4154,.0152,3.668, .4261, .4046
K_7664,766.490 { 44},Y_3710,ppm, .2076,.0161,7.766, .2190, .1962
Li6707,670.784 { 50},Y_3710,ppm, -.0012,.0002,19.34, -.0013, -.0010
Mg2790,279.079 {121},Y_3710,ppm, .3070,.0005,.1627, .3074, .3067
Mn2576,257.610 {131},Y_3600,ppm, .0424,.0022,5.088, .0439, .0409
Mo2020,202.030 {467},Y_2243,ppm, .0003,.0001,26.22, .0004, .0002
Na5895,589.592 { 57},Y_3710,ppm, 140.4,.5511,.3926, 140.0, 140.8
Ni2316,231.604 {445},In2306,ppm, .0023,.0001,3.543, .0022, .0023
P_1782,178.284 {489},In2306,ppm, .0128,.0006,4.367, .0132, .0124
Pb2203,220.353 {453},In2306,ppm, .0010,.0003,24.99, .0008, .0012
S_1820,182.034 {485},Y_2243,ppm, .0863,.0074,8.537, .0811, .0915
Sb2068,206.833 {463},Y_2243,ppm, -.0008,.0007,89.10, -.0013, -.0003
Se1960,196.090 {472},Y_2243,ppm, .0003,.0005,154.3, .0006, -.0000
Si2516,251.611 {134},Y_3710,ppm, 1.797,.0434,2.418, 1.766, 1.827
Sn1899,189.989 {477},In2306,ppm, .0013,.0000,1.602, .0013, .0013
Sr4215,421.552 { 80},Y_3710,ppm, .0109,.0001,.4965, .0109, .0109
Ti3349,334.904 {101},Y_3600,ppm, .0212,.0011,5.318, .0220, .0204
Tl1908,190.856 {477},In2306,ppm, .1135,.0044,3.889, .1104, .1167
U_3670,367.007 { 92},Y_3600,ppm, -.3606,.0234,6.477, -.3771, -.3441
V_2924,292.402 {115},Y_3600,ppm, .0013,.0000,2.498, .0014, .0013
W_2397,239.709 {140},Y_2243,ppm, .0145,.0085,58.43, .0085, .0205
Zn2062,206.200 {463},In2306,ppm, .1087,.0007,.6245, .1082, .1092

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 213.00,1.1728,.55059,212.17,213.83
In2306,230.606 {446},Cts/S, 12326.,13.036,.10576,12335.,12316.
Y_2243,224.306 {450},Cts/S, 17367.,4.8960,.02819,17370.,17363.
Y_3600,360.073 { 94},Cts/S, 152880.,6338.4,4.1459,148400.,157370.
Y_3710,371.030 { 91},Cts/S, 10171.,6.4789,.06370,10176.,10167.

[Sample Header]
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Custom ID3=
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0001,.0001,79.47, .0000, .0002
Al3082,308.215 {109},In2306,ppm, .0273,.0129,47.07, .0364, .0182
As1890,189.042 {478},Y_2243,ppm, .0026,.0012,47.80, .0034, .0017
B_2496,249.678 {135},Y_3710,ppm, .0167,.0124,74.51, .0255, .0079
Ba4554,455.403 { 74},Y_3710,ppm, .1554,.0003,.1948, .1556, .1552
Be3130,313.042 {108},Y_3710,ppm, .0000,.0001,313.8, -.0000, .0001
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Ca3158,315.887 {107},In2306,ppm, 66.99,1.088,1.624, 66.22, 67.76
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0000,6.637, -.0000, -.0000
Co2286,228.616 {447},In2306,ppm, .0012,.0001,8.185, .0013, .0011
Cr2677,267.716 {126},Y_3600,ppm, .0003,.0000,.3621, .0003, .0003
Cu3247,324.754 {104},Y_3600,ppm, .0030,.0000,1.610, .0030, .0030
Fe2404,240.488 {140},In2306,ppm, .2056,.0049,2.394, .2021, .2091
K_7664,766.490 { 44},Y_3710,ppm, .2107,.0079,3.766, .2051, .2163
Li6707,670.784 { 50},Y_3710,ppm, .0020,.0004,18.19, .0023, .0018
Mg2790,279.079 {121},Y_3710,ppm, .3757,.0384,10.21, .4028, .3485
Mn2576,257.610 {131},Y_3600,ppm, .1676,.0003,.1694, .1678, .1674
Mo2020,202.030 {467},Y_2243,ppm, .0008,.0004,44.70, .0005, .0010
Na5895,589.592 { 57},Y_3710,ppm, 135.9,.2623,.1930, 136.1, 135.7
Ni2316,231.604 {445},In2306,ppm, .0014,.0004,29.70, .0011, .0017
P_1782,178.284 {489},In2306,ppm, .0150,.0004,2.854, .0147, .0153
Pb2203,220.353 {453},In2306,ppm, .0002,.0006,223.6, .0006, -.0001
S_1820,182.034 {485},Y_2243,ppm, .3621,.0073,2.015, .3569, .3672
Sb2068,206.833 {463},Y_2243,ppm, -.0011,.0001,11.65, -.0010, -.0012
Se1960,196.090 {472},Y_2243,ppm, -.0001,.0002,198.8, .0000, -.0003
Si2516,251.611 {134},Y_3710,ppm, .1908,.0028,1.447, .1927, .1888
Sn1899,189.989 {477},In2306,ppm, .0017,.0001,3.214, .0017, .0016
Sr4215,421.552 { 80},Y_3710,ppm, .0604,.0001,.1469, .0603, .0604
Ti3349,334.904 {101},Y_3600,ppm, .0013,.0001,8.980, .0014, .0012
Tl1908,190.856 {477},In2306,ppm, .0862,.0006,.7452, .0867, .0858
U_3670,367.007 { 92},Y_3600,ppm, -.4453,.0411,9.230, -.4162, -.4743
V_2924,292.402 {115},Y_3600,ppm, .0008,.0000,5.348, .0008, .0008
W_2397,239.709 {140},Y_2243,ppm, .0569,.0346,60.76, .0814, .0325
Zn2062,206.200 {463},In2306,ppm, .0303,.0002,.5261, .0304, .0301

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 208.89,3.3862,1.6211,211.28,206.49
In2306,230.606 {446},Cts/S, 12036.,44.798,.37220,12004.,12068.
Y_2243,224.306 {450},Cts/S, 17131.,63.147,.36861,17087.,17176.
Y_3600,360.073 { 94},Cts/S, 155730.,95.894,.06158,155800.,155660.
Y_3710,371.030 { 91},Cts/S, 10050.,42.274,.42065,10020.,10080.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0004,.0002,57.51, -.0005, -.0002
Al3082,308.215 {109},In2306,ppm, .0298,.0280,93.91, .0496, .0100
As1890,189.042 {478},Y_2243,ppm, .0033,.0029,86.58, .0013, .0054
B_2496,249.678 {135},Y_3710,ppm, .0112,.0033,29.64, .0135, .0089
Ba4554,455.403 { 74},Y_3710,ppm, .1690,.0008,.4586, .1695, .1684
Be3130,313.042 {108},Y_3710,ppm, .0000,.0001,307.5, .0001, -.0000
Ca3158,315.887 {107},In2306,ppm, 77.74,.5284,.6797, 77.36, 78.11
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0000,65.27, -.0000, -.0000
Co2286,228.616 {447},In2306,ppm, .0002,.0001,61.44, .0003, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0004,.0001,33.26, .0005, .0003
Cu3247,324.754 {104},Y_3600,ppm, .0027,.0001,4.115, .0028, .0026
Fe2404,240.488 {140},In2306,ppm, .0362,.0127,35.18, .0272, .0453
K_7664,766.490 { 44},Y_3710,ppm, .3258,.0125,3.836, .3169, .3346
Li6707,670.784 { 50},Y_3710,ppm, .0024,.0004,17.75, .0028, .0021
Mg2790,279.079 {121},Y_3710,ppm, .6203,.0311,5.014, .6423, .5983
Mn2576,257.610 {131},Y_3600,ppm, .0104,.0001,.8827, .0105, .0103
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Mo2020,202.030 {467},Y_2243,ppm, .0006,.0002,30.57, .0007, .0005
Na5895,589.592 { 57},Y_3710,ppm, 139.3,.2869,.2060, 139.5, 139.1
Ni2316,231.604 {445},In2306,ppm, .0004,.0002,54.50, .0003, .0006
P_1782,178.284 {489},In2306,ppm, .0055,.0017,30.73, .0067, .0043
Pb2203,220.353 {453},In2306,ppm, .0010,.0001,8.290, .0011, .0010
S_1820,182.034 {485},Y_2243,ppm, .3349,.0215,6.416, .3501, .3197
Sb2068,206.833 {463},Y_2243,ppm, -.0003,.0014,442.4, .0007, -.0013
Se1960,196.090 {472},Y_2243,ppm, -.0006,.0017,296.5, -.0017, .0006
Si2516,251.611 {134},Y_3710,ppm, .4027,.0220,5.474, .4182, .3871
Sn1899,189.989 {477},In2306,ppm, .0009,.0001,8.899, .0009, .0010
Sr4215,421.552 { 80},Y_3710,ppm, .0721,.0005,.7068, .0724, .0717
Ti3349,334.904 {101},Y_3600,ppm, .0015,.0001,9.661, .0016, .0014
Tl1908,190.856 {477},In2306,ppm, .0699,.0017,2.390, .0711, .0688
U_3670,367.007 { 92},Y_3600,ppm, -.3971,.0852,21.44, -.4573, -.3369
V_2924,292.402 {115},Y_3600,ppm, .0008,.0001,14.64, .0007, .0009
W_2397,239.709 {140},Y_2243,ppm, .0697,.0384,55.08, .0969, .0426
Zn2062,206.200 {463},In2306,ppm, .0326,.0003,.9540, .0324, .0328

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 209.44,.25839,.12337,209.62,209.26
In2306,230.606 {446},Cts/S, 11921.,29.020,.24343,11942.,11901.
Y_2243,224.306 {450},Cts/S, 17026.,3.2739,.01923,17028.,17024.
Y_3600,360.073 { 94},Cts/S, 155480.,118.78,.07639,155570.,155400.
Y_3710,371.030 { 91},Cts/S, 10090.,59.254,.58724,10048.,10132.

[Sample Header]
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Custom ID3=
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CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0005,.0006,135.8, .0009, .0000
Al3082,308.215 {109},In2306,ppm, -.0007,.0105,1444., .0067, -.0082
As1890,189.042 {478},Y_2243,ppm, .0024,.0000,1.536, .0025, .0024
B_2496,249.678 {135},Y_3710,ppm, .0086,.0061,70.64, .0043, .0128
Ba4554,455.403 { 74},Y_3710,ppm, .2377,.0005,.1899, .2374, .2380
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,59.28, .0001, .0002
Ca3158,315.887 {107},In2306,ppm, 75.64,.0280,.0371, 75.66, 75.62
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0001,2641., -.0001, .0001
Co2286,228.616 {447},In2306,ppm, -.0001,.0000,68.97, -.0001, -.0000
Cr2677,267.716 {126},Y_3600,ppm, .0003,.0002,91.14, .0001, .0005
Cu3247,324.754 {104},Y_3600,ppm, .0024,.0006,25.40, .0020, .0029
Fe2404,240.488 {140},In2306,ppm, .0052,.0114,218.4, -.0028, .0133
K_7664,766.490 { 44},Y_3710,ppm, .3590,.0248,6.908, .3766, .3415
Li6707,670.784 { 50},Y_3710,ppm, .0016,.0000,1.927, .0016, .0016
Mg2790,279.079 {121},Y_3710,ppm, .5461,.0369,6.765, .5723, .5200
Mn2576,257.610 {131},Y_3600,ppm, .0273,.0001,.3167, .0272, .0274
Mo2020,202.030 {467},Y_2243,ppm, .0001,.0000,18.85, .0001, .0001
Na5895,589.592 { 57},Y_3710,ppm, 139.3,.0469,.0337, 139.3, 139.3
Ni2316,231.604 {445},In2306,ppm, .0002,.0003,146.2, .0004, -.0000
P_1782,178.284 {489},In2306,ppm, .0098,.0014,14.26, .0088, .0108
Pb2203,220.353 {453},In2306,ppm, .0006,.0003,47.63, .0008, .0004
S_1820,182.034 {485},Y_2243,ppm, .2265,.0114,5.036, .2345, .2184
Sb2068,206.833 {463},Y_2243,ppm, .0011,.0027,239.9, -.0008, .0030
Se1960,196.090 {472},Y_2243,ppm, .0015,.0023,152.1, .0031, -.0001
Si2516,251.611 {134},Y_3710,ppm, .2278,.0069,3.037, .2229, .2326
Sn1899,189.989 {477},In2306,ppm, .0006,.0002,32.61, .0008, .0005
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Sr4215,421.552 { 80},Y_3710,ppm, .0368,.0001,.2766, .0369, .0367
Ti3349,334.904 {101},Y_3600,ppm, .0004,.0008,199.4, -.0002, .0009
Tl1908,190.856 {477},In2306,ppm, .0555,.0051,9.272, .0519, .0592
U_3670,367.007 { 92},Y_3600,ppm, -.3669,.0918,25.03, -.3020, -.4318
V_2924,292.402 {115},Y_3600,ppm, .0008,.0004,53.84, .0005, .0011
W_2397,239.709 {140},Y_2243,ppm, .0487,.0578,118.7, .0078, .0896
Zn2062,206.200 {463},In2306,ppm, .0246,.0001,.5159, .0247, .0245

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 206.48,.55657,.26955,206.88,206.09
In2306,230.606 {446},Cts/S, 11984.,24.151,.20152,11967.,12002.
Y_2243,224.306 {450},Cts/S, 17093.,.69997,.00410,17093.,17094.
Y_3600,360.073 { 94},Cts/S, 154970.,334.21,.21566,154730.,155200.
Y_3710,371.030 { 91},Cts/S, 10037.,2.0881,.02080,10039.,10036.

[Sample Header]
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Username=admin
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Custom ID2=
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Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0000,.0010,5435., .0007, -.0007
Al3082,308.215 {109},In2306,ppm, .0759,.0016,2.084, .0748, .0770
As1890,189.042 {478},Y_2243,ppm, -.0006,.0005,75.30, -.0003, -.0010
B_2496,249.678 {135},Y_3710,ppm, .0590,.0000,.0830, .0590, .0589
Ba4554,455.403 { 74},Y_3710,ppm, .1899,.0005,.2371, .1903, .1896
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,32.47, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, 6.004,.0217,.3618, 5.988, 6.019
Cd2288,228.802 {447},Y_2243,ppm, .0003,.0001,49.32, .0003, .0002
Co2286,228.616 {447},In2306,ppm, .0050,.0000,.1509, .0050, .0050
Cr2677,267.716 {126},Y_3600,ppm, 22.64,.0398,.1760, 22.67, 22.62
Cu3247,324.754 {104},Y_3600,ppm, .0033,.0003,10.37, .0030, .0035
Fe2404,240.488 {140},In2306,ppm, .0138,.0010,7.346, .0145, .0131
K_7664,766.490 { 44},Y_3710,ppm, .2564,.0052,2.011, .2528, .2600
Li6707,670.784 { 50},Y_3710,ppm, -.0008,.0001,14.66, -.0007, -.0009
Mg2790,279.079 {121},Y_3710,ppm, .1770,.0037,2.076, .1796, .1744
Mn2576,257.610 {131},Y_3600,ppm, .0062,.0001,1.372, .0061, .0062
Mo2020,202.030 {467},Y_2243,ppm, .0013,.0002,14.42, .0014, .0012
Na5895,589.592 { 57},Y_3710,ppm, 142.3,.0710,.0499, 142.2, 142.3
Ni2316,231.604 {445},In2306,ppm, .0001,.0001,166.0, .0002, -.0000
P_1782,178.284 {489},In2306,ppm, .0567,.0014,2.390, .0558, .0577
Pb2203,220.353 {453},In2306,ppm, -.0001,.0008,947.9, .0005, -.0007
S_1820,182.034 {485},Y_2243,ppm, 6.005,.0562,.9364, 5.965, 6.045
Sb2068,206.833 {463},Y_2243,ppm, -.0540,.0017,3.112, -.0552, -.0528
Se1960,196.090 {472},Y_2243,ppm, .0054,.0063,115.6, .0099, .0010
Si2516,251.611 {134},Y_3710,ppm, .0498,.0010,2.016, .0491, .0505
Sn1899,189.989 {477},In2306,ppm, .0001,.0002,173.6, .0003, -.0000
Sr4215,421.552 { 80},Y_3710,ppm, 53.93,.0049,.0091, 53.93, 53.94
Ti3349,334.904 {101},Y_3600,ppm, .0009,.0006,60.31, .0005, .0013
Tl1908,190.856 {477},In2306,ppm, .0430,.0014,3.358, .0420, .0440
U_3670,367.007 { 92},Y_3600,ppm, -.4313,.1098,25.45, -.5089, -.3537
V_2924,292.402 {115},Y_3600,ppm, .0036,.0001,3.907, .0037, .0035
W_2397,239.709 {140},Y_2243,ppm, -.0445,.0160,36.09, -.0331, -.0558
Zn2062,206.200 {463},In2306,ppm, .0906,.0005,.5407, .0902, .0909

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
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In2306,230.606 {146},Cts/S, 209.47,.97751,.46665,210.17,208.78
In2306,230.606 {446},Cts/S, 12072.,13.980,.11581,12082.,12062.
Y_2243,224.306 {450},Cts/S, 17179.,2.5885,.01507,17181.,17177.
Y_3600,360.073 { 94},Cts/S, 156010.,504.74,.32353,156360.,155650.
Y_3710,371.030 { 91},Cts/S, 10082.,14.193,.14078,10072.,10092.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .4989,.0012,.2312, .4997, .4981
Al3082,308.215 {109},In2306,ppm, 20.05,.0269,.1340, 20.04, 20.07
As1890,189.042 {478},Y_2243,ppm, 1.019,.0065,.6347, 1.024, 1.015
B_2496,249.678 {135},Y_3710,ppm, 1.014,.0019,.1896, 1.013, 1.016
Ba4554,455.403 { 74},Y_3710,ppm, 1.019,.0073,.7130, 1.014, 1.025
Be3130,313.042 {108},Y_3710,ppm, .9740,.0044,.4513, .9709, .9771
Ca3158,315.887 {107},In2306,ppm, 20.00,.1053,.5267, 19.93, 20.08
Cd2288,228.802 {447},Y_2243,ppm, .9841,.0002,.0235, .9843, .9839
Co2286,228.616 {447},In2306,ppm, .9658,.0003,.0266, .9657, .9660
Cr2677,267.716 {126},Y_3600,ppm, .9644,.0045,.4659, .9613, .9676
Cu3247,324.754 {104},Y_3600,ppm, .9909,.0011,.1094, .9901, .9917
Fe2404,240.488 {140},In2306,ppm, 20.15,.1355,.6723, 20.06, 20.25
K_7664,766.490 { 44},Y_3710,ppm, 19.66,.1696,.8628, 19.54, 19.78
Li6707,670.784 { 50},Y_3710,ppm, .9851,.0047,.4729, .9818, .9884
Mg2790,279.079 {121},Y_3710,ppm, 20.43,.0454,.2224, 20.40, 20.46
Mn2576,257.610 {131},Y_3600,ppm, .9944,.0002,.0250, .9946, .9942
Mo2020,202.030 {467},Y_2243,ppm, .9951,.0043,.4343, .9982, .9921
Na5895,589.592 { 57},Y_3710,ppm, 19.94,.1293,.6485, 19.85, 20.03
Ni2316,231.604 {445},In2306,ppm, .9823,.0023,.2321, .9807, .9839
P_1782,178.284 {489},In2306,ppm, 10.37,.0146,.1404, 10.38, 10.36
Pb2203,220.353 {453},In2306,ppm, .9823,.0002,.0241, .9821, .9824
S_1820,182.034 {485},Y_2243,ppm, 10.70,.0277,.2590, 10.72, 10.68
Sb2068,206.833 {463},Y_2243,ppm, 2.099,.0019,.0908, 2.100, 2.098
Se1960,196.090 {472},Y_2243,ppm, 1.008,.0039,.3845, 1.011, 1.005
Si2516,251.611 {134},Y_3710,ppm, 13.96,.2871,2.057, 13.76, 14.16
Sn1899,189.989 {477},In2306,ppm, .9868,.0006,.0637, .9873, .9864
Sr4215,421.552 { 80},Y_3710,ppm, 1.010,.0037,.3621, 1.008, 1.013
Ti3349,334.904 {101},Y_3600,ppm, .9946,.0017,.1738, .9934, .9958
Tl1908,190.856 {477},In2306,ppm, .9729,.0110,1.126, .9806, .9652
U_3670,367.007 { 92},Y_3600,ppm, .9303,.1433,15.41, 1.032, .8289
V_2924,292.402 {115},Y_3600,ppm, .9754,.0023,.2369, .9738, .9771
W_2397,239.709 {140},Y_2243,ppm, 1.400,.1020,7.287, 1.472, 1.328
Zn2062,206.200 {463},In2306,ppm, .9664,.0014,.1448, .9654, .9674

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 207.81,2.0607,.99162,209.27,206.36
In2306,230.606 {446},Cts/S, 12562.,11.934,.09500,12554.,12571.
Y_2243,224.306 {450},Cts/S, 17683.,49.763,.28142,17647.,17718.
Y_3600,360.073 { 94},Cts/S, 159570.,189.60,.11882,159440.,159710.
Y_3710,371.030 { 91},Cts/S, 10156.,94.857,.93400,10223.,10089.

[Sample Header]
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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0100,.0000,.0916, .0100, .0100
Al3082,308.215 {109},In2306,ppm, .2062,.0183,8.864, .1933, .2192
As1890,189.042 {478},Y_2243,ppm, .0212,.0010,4.645, .0219, .0205
B_2496,249.678 {135},Y_3710,ppm, .2194,.0074,3.365, .2142, .2247
Ba4554,455.403 { 74},Y_3710,ppm, .0224,.0000,.0443, .0224, .0224
Be3130,313.042 {108},Y_3710,ppm, .0112,.0001,.5216, .0113, .0112
Ca3158,315.887 {107},In2306,ppm, 1.029,.0145,1.410, 1.019, 1.039
Cd2288,228.802 {447},Y_2243,ppm, .0113,.0001,.7034, .0114, .0112
Co2286,228.616 {447},In2306,ppm, .0105,.0001,.9155, .0104, .0105
Cr2677,267.716 {126},Y_3600,ppm, .0115,.0000,.3304, .0115, .0115
Cu3247,324.754 {104},Y_3600,ppm, .0126,.0005,4.051, .0122, .0129
Fe2404,240.488 {140},In2306,ppm, .2189,.0003,.1429, .2191, .2186
K_7664,766.490 { 44},Y_3710,ppm, 1.080,.0238,2.202, 1.097, 1.063
Li6707,670.784 { 50},Y_3710,ppm, .0103,.0002,2.352, .0101, .0104
Mg2790,279.079 {121},Y_3710,ppm, 1.052,.0071,.6767, 1.047, 1.057
Mn2576,257.610 {131},Y_3600,ppm, .0112,.0000,.3351, .0112, .0113
Mo2020,202.030 {467},Y_2243,ppm, .0276,.0002,.6982, .0275, .0278
Na5895,589.592 { 57},Y_3710,ppm, 1.106,.0061,.5498, 1.102, 1.110
Ni2316,231.604 {445},In2306,ppm, .0109,.0003,2.862, .0107, .0111
P_1782,178.284 {489},In2306,ppm, 1.002,.0112,1.114, 1.010, .9944
Pb2203,220.353 {453},In2306,ppm, .0115,.0001,.7609, .0115, .0116
S_1820,182.034 {485},Y_2243,ppm, -2.733,.0091,.3341, -2.727, -2.740
Sb2068,206.833 {463},Y_2243,ppm, .0609,.0016,2.642, .0620, .0597
Se1960,196.090 {472},Y_2243,ppm, .0242,.0033,13.80, .0265, .0218
Si2516,251.611 {134},Y_3710,ppm, .3057,.0057,1.863, .3017, .3098
Sn1899,189.989 {477},In2306,ppm, .0237,.0003,1.412, .0234, .0239
Sr4215,421.552 { 80},Y_3710,ppm, .0124,.0001,1.107, .0123, .0125
Ti3349,334.904 {101},Y_3600,ppm, .0114,.0001,.4455, .0115, .0114
Tl1908,190.856 {477},In2306,ppm, .0864,.0017,1.934, .0852, .0875
U_3670,367.007 { 92},Y_3600,ppm, -.3062,.1277,41.71, -.3965, -.2159
V_2924,292.402 {115},Y_3600,ppm, .0108,.0003,2.341, .0110, .0106
W_2397,239.709 {140},Y_2243,ppm, .1557,.0404,25.95, .1271, .1843
Zn2062,206.200 {463},In2306,ppm, .0198,.0001,.4310, .0199, .0197

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 215.60,.90636,.42040,216.24,214.96
In2306,230.606 {446},Cts/S, 13461.,14.550,.10809,13450.,13471.
Y_2243,224.306 {450},Cts/S, 18009.,3.9005,.02166,18006.,18012.
Y_3600,360.073 { 94},Cts/S, 163210.,663.42,.40649,162740.,163680.
Y_3710,371.030 { 91},Cts/S, 10144.,23.918,.23578,10128.,10161.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0002,.0001,31.83, -.0002, -.0002
Al3082,308.215 {109},In2306,ppm, -.0098,.0016,16.55, -.0087, -.0110
As1890,189.042 {478},Y_2243,ppm, -.0006,.0023,375.8, -.0023, .0010
B_2496,249.678 {135},Y_3710,ppm, -.0013,.0005,40.82, -.0009, -.0017
Ba4554,455.403 { 74},Y_3710,ppm, -.0002,.0004,223.8, .0001, -.0005
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,166.3, -.0000, .0002
Ca3158,315.887 {107},In2306,ppm, -.0016,.0030,189.7, .0005, -.0037
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0001,214.4, .0000, -.0001
Co2286,228.616 {447},In2306,ppm, -.0001,.0001,73.80, -.0001, -.0000
Cr2677,267.716 {126},Y_3600,ppm, .0004,.0003,70.64, .0006, .0002
Cu3247,324.754 {104},Y_3600,ppm, .0015,.0000,1.047, .0015, .0015
Fe2404,240.488 {140},In2306,ppm, .0042,.0005,12.99, .0038, .0046
K_7664,766.490 { 44},Y_3710,ppm, .0116,.0327,282.5, .0347, -.0115
Li6707,670.784 { 50},Y_3710,ppm, -.0013,.0004,30.57, -.0016, -.0010
Mg2790,279.079 {121},Y_3710,ppm, -.0145,.0012,8.495, -.0136, -.0153
Mn2576,257.610 {131},Y_3600,ppm, .0000,.0001,566.1, .0001, -.0000
Mo2020,202.030 {467},Y_2243,ppm, .0011,.0001,6.369, .0011, .0012
Na5895,589.592 { 57},Y_3710,ppm, .0090,.0004,4.996, .0093, .0087
Ni2316,231.604 {445},In2306,ppm, .0006,.0004,70.10, .0003, .0009
P_1782,178.284 {489},In2306,ppm, .0031,.0018,58.94, .0044, .0018
Pb2203,220.353 {453},In2306,ppm, .0001,.0001,136.4, .0002, .0000
S_1820,182.034 {485},Y_2243,ppm, -2.379,.0285,1.197, -2.359, -2.399
Sb2068,206.833 {463},Y_2243,ppm, -.0009,.0017,192.1, .0003, -.0020
Se1960,196.090 {472},Y_2243,ppm, -.0010,.0004,43.92, -.0013, -.0007
Si2516,251.611 {134},Y_3710,ppm, .0334,.0218,65.38, .0488, .0179
Sn1899,189.989 {477},In2306,ppm, .0006,.0002,33.37, .0004, .0007
Sr4215,421.552 { 80},Y_3710,ppm, .0006,.0001,9.506, .0006, .0007
Ti3349,334.904 {101},Y_3600,ppm, -.0000,.0000,2187., .0000, -.0000
Tl1908,190.856 {477},In2306,ppm, .0661,.0011,1.670, .0669, .0654
U_3670,367.007 { 92},Y_3600,ppm, -.6488,.1879,28.96, -.7816, -.5159
V_2924,292.402 {115},Y_3600,ppm, .0004,.0002,51.12, .0005, .0002
W_2397,239.709 {140},Y_2243,ppm, -.0278,.0230,82.81, -.0440, -.0115
Zn2062,206.200 {463},In2306,ppm, .0044,.0002,3.761, .0043, .0045

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 207.78,15.547,7.4828,196.78,218.77
In2306,230.606 {446},Cts/S, 13276.,190.44,1.4345,13141.,13411.
Y_2243,224.306 {450},Cts/S, 17771.,265.39,1.4934,17583.,17959.
Y_3600,360.073 { 94},Cts/S, 164440.,784.20,.47690,163880.,164990.
Y_3710,371.030 { 91},Cts/S, 9814.1,691.07,7.0416,9325.4,10303.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0002,.0007,312.3, -.0007, .0003
Al3082,308.215 {109},In2306,ppm, .0763,.0088,11.58, .0826, .0701
As1890,189.042 {478},Y_2243,ppm, .0038,.0007,17.64, .0034, .0043
B_2496,249.678 {135},Y_3710,ppm, .0609,.0025,4.086, .0627, .0591
Ba4554,455.403 { 74},Y_3710,ppm, .1898,.0006,.3341, .1893, .1902
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,125.7, .0002, .0000
Ca3158,315.887 {107},In2306,ppm, 6.002,.0055,.0910, 6.006, 5.999
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,44.56, .0001, .0002
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Co2286,228.616 {447},In2306,ppm, .0049,.0004,7.635, .0052, .0047
Cr2677,267.716 {126},Y_3600,ppm, 22.69,.1666,.7342, 22.81, 22.57
Cu3247,324.754 {104},Y_3600,ppm, .0045,.0005,11.76, .0041, .0049
Fe2404,240.488 {140},In2306,ppm, .0180,.0062,34.78, .0224, .0135
K_7664,766.490 { 44},Y_3710,ppm, .2582,.0067,2.591, .2535, .2629
Li6707,670.784 { 50},Y_3710,ppm, -.0007,.0009,126.1, -.0001, -.0014
Mg2790,279.079 {121},Y_3710,ppm, .1995,.0102,5.105, .1923, .2067
Mn2576,257.610 {131},Y_3600,ppm, .0064,.0001,.8236, .0063, .0064
Mo2020,202.030 {467},Y_2243,ppm, .0015,.0002,13.01, .0014, .0016
Na5895,589.592 { 57},Y_3710,ppm, 141.7,.6542,.4617, 141.2, 142.2
Ni2316,231.604 {445},In2306,ppm, .0003,.0001,17.35, .0004, .0003
P_1782,178.284 {489},In2306,ppm, .0538,.0016,3.004, .0550, .0527
Pb2203,220.353 {453},In2306,ppm, -.0008,.0006,79.96, -.0003, -.0013
S_1820,182.034 {485},Y_2243,ppm, 5.968,.0748,1.253, 6.021, 5.915
Sb2068,206.833 {463},Y_2243,ppm, -.0557,.0009,1.634, -.0563, -.0550
Se1960,196.090 {472},Y_2243,ppm, .0081,.0036,44.55, .0056, .0107
Si2516,251.611 {134},Y_3710,ppm, .0625,.0010,1.664, .0617, .0632
Sn1899,189.989 {477},In2306,ppm, .0002,.0001,63.65, .0002, .0001
Sr4215,421.552 { 80},Y_3710,ppm, 53.19,.9474,1.781, 52.52, 53.86
Ti3349,334.904 {101},Y_3600,ppm, .0007,.0003,40.66, .0009, .0005
Tl1908,190.856 {477},In2306,ppm, .0483,.0015,3.121, .0494, .0473
U_3670,367.007 { 92},Y_3600,ppm, -.4641,.0436,9.386, -.4333, -.4949
V_2924,292.402 {115},Y_3600,ppm, .0035,.0001,2.272, .0036, .0035
W_2397,239.709 {140},Y_2243,ppm, .0764,.0538,70.41, .1144, .0384
Zn2062,206.200 {463},In2306,ppm, .0927,.0005,.5210, .0931, .0924

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 208.46,1.7739,.85096,209.72,207.21
In2306,230.606 {446},Cts/S, 12100.,15.676,.12956,12088.,12111.
Y_2243,224.306 {450},Cts/S, 17234.,60.574,.35147,17191.,17277.
Y_3600,360.073 { 94},Cts/S, 155280.,231.36,.14900,155110.,155440.
Y_3710,371.030 { 91},Cts/S, 9997.8,56.457,.56469,10038.,9957.9

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2517,.0008,.3270, .2523, .2511
Al3082,308.215 {109},In2306,ppm, 10.50,.0858,.8172, 10.43, 10.56
As1890,189.042 {478},Y_2243,ppm, 1.059,.0015,.1395, 1.058, 1.060
B_2496,249.678 {135},Y_3710,ppm, .5853,.0045,.7748, .5821, .5885
Ba4554,455.403 { 74},Y_3710,ppm, 1.223,.0035,.2873, 1.225, 1.220
Be3130,313.042 {108},Y_3710,ppm, 1.006,.0006,.0586, 1.006, 1.006
Ca3158,315.887 {107},In2306,ppm, 16.26,.0596,.3668, 16.21, 16.30
Cd2288,228.802 {447},Y_2243,ppm, 1.012,.0021,.2044, 1.011, 1.014
Co2286,228.616 {447},In2306,ppm, 1.004,.0036,.3576, 1.007, 1.002
Cr2677,267.716 {126},Y_3600,ppm, 23.29,.1287,.5526, 23.38, 23.20
Cu3247,324.754 {104},Y_3600,ppm, 1.012,.0011,.1073, 1.011, 1.013
Fe2404,240.488 {140},In2306,ppm, 10.33,.0209,.2021, 10.31, 10.34
K_7664,766.490 { 44},Y_3710,ppm, 10.61,.0033,.0316, 10.60, 10.61
Li6707,670.784 { 50},Y_3710,ppm, .9955,.0077,.7762, 1.001, .9900
Mg2790,279.079 {121},Y_3710,ppm, 10.57,.0301,.2853, 10.54, 10.59
Mn2576,257.610 {131},Y_3600,ppm, 1.006,.0012,.1205, 1.007, 1.006
Mo2020,202.030 {467},Y_2243,ppm, 1.010,.0015,.1516, 1.011, 1.009
Na5895,589.592 { 57},Y_3710,ppm, 151.3,.2814,.1860, 151.5, 151.1
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Ni2316,231.604 {445},In2306,ppm, 1.018,.0044,.4288, 1.021, 1.015
P_1782,178.284 {489},In2306,ppm, 5.574,.0260,.4671, 5.592, 5.556
Pb2203,220.353 {453},In2306,ppm, 1.002,.0042,.4199, 1.005, .9992
S_1820,182.034 {485},Y_2243,ppm, 13.13,.0087,.0660, 13.14, 13.13
Sb2068,206.833 {463},Y_2243,ppm, 1.559,.0007,.0450, 1.559, 1.560
Se1960,196.090 {472},Y_2243,ppm, 1.047,.0049,.4651, 1.043, 1.050
Si2516,251.611 {134},Y_3710,ppm, 13.39,.1860,1.389, 13.26, 13.52
Sn1899,189.989 {477},In2306,ppm, 1.022,.0111,1.082, 1.029, 1.014
Sr4215,421.552 { 80},Y_3710,ppm, 54.51,.2553,.4684, 54.33, 54.69
Ti3349,334.904 {101},Y_3600,ppm, 1.012,.0003,.0345, 1.012, 1.011
Tl1908,190.856 {477},In2306,ppm, .3101,.0191,6.164, .3236, .2966
U_3670,367.007 { 92},Y_3600,ppm, .2230,.0159,7.122, .2118, .2342
V_2924,292.402 {115},Y_3600,ppm, .9979,.0009,.0929, .9986, .9973
W_2397,239.709 {140},Y_2243,ppm, .5275,.0570,10.81, .5678, .4872
Zn2062,206.200 {463},In2306,ppm, .6103,.0070,1.144, .6153, .6054

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 207.76,.55324,.26629,208.15,207.37
In2306,230.606 {446},Cts/S, 11889.,31.567,.26552,11866.,11911.
Y_2243,224.306 {450},Cts/S, 17236.,8.5334,.04951,17242.,17230.
Y_3600,360.073 { 94},Cts/S, 155120.,206.24,.13296,154970.,155260.
Y_3710,371.030 { 91},Cts/S, 10048.,35.260,.35092,10073.,10023.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0002,237.6, -.0002, .0001
Al3082,308.215 {109},In2306,ppm, .1103,.0172,15.64, .0981, .1225
As1890,189.042 {478},Y_2243,ppm, .0377,.0023,6.143, .0361, .0393
B_2496,249.678 {135},Y_3710,ppm, .0635,.0067,10.54, .0587, .0682
Ba4554,455.403 { 74},Y_3710,ppm, .0395,.0045,11.28, .0363, .0426
Be3130,313.042 {108},Y_3710,ppm, .0003,.0002,67.79, .0005, .0002
Ca3158,315.887 {107},In2306,ppm, 4.396,.4436,10.09, 4.083, 4.710
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0000,22.62, .0002, .0002
Co2286,228.616 {447},In2306,ppm, .0081,.0002,2.041, .0079, .0082
Cr2677,267.716 {126},Y_3600,ppm, .0070,.0000,.6041, .0071, .0070
Cu3247,324.754 {104},Y_3600,ppm, .0096,.0004,3.796, .0093, .0098
Fe2404,240.488 {140},In2306,ppm, .4158,.0494,11.88, .3809, .4507
K_7664,766.490 { 44},Y_3710,ppm, 140.3,13.76,9.804, 130.6, 150.1
Li6707,670.784 { 50},Y_3710,ppm, .0026,.0010,39.56, .0019, .0033
Mg2790,279.079 {121},Y_3710,ppm, 17.78,2.072,11.66, 16.31, 19.24
Mn2576,257.610 {131},Y_3600,ppm, 1.046,.0022,.2133, 1.047, 1.044
Mo2020,202.030 {467},Y_2243,ppm, .0092,.0004,4.203, .0089, .0095
Na5895,589.592 { 57},Y_3710,ppm, 76.24,7.717,10.12, 70.79, 81.70
Ni2316,231.604 {445},In2306,ppm, .0056,.0002,4.121, .0055, .0058
P_1782,178.284 {489},In2306,ppm, 147.0,.3416,.2324, 147.2, 146.7
Pb2203,220.353 {453},In2306,ppm, .0047,.0002,3.699, .0046, .0049
S_1820,182.034 {485},Y_2243,ppm, 23.73,.0835,.3517, 23.67, 23.79
Sb2068,206.833 {463},Y_2243,ppm, .0013,.0019,149.0, -.0001, .0026
Se1960,196.090 {472},Y_2243,ppm, .0354,.0006,1.559, .0350, .0358
Si2516,251.611 {134},Y_3710,ppm, 5.759,.6363,11.05, 5.309, 6.209
Sn1899,189.989 {477},In2306,ppm, .0169,.0012,6.803, .0161, .0177
Sr4215,421.552 { 80},Y_3710,ppm, .0501,.0010,1.959, .0494, .0508
Ti3349,334.904 {101},Y_3600,ppm, .0018,.0007,39.21, .0013, .0023
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Tl1908,190.856 {477},In2306,ppm, .2103,.0021,.9906, .2117, .2088
U_3670,367.007 { 92},Y_3600,ppm, -.4134,.0510,12.33, -.3774, -.4495
V_2924,292.402 {115},Y_3600,ppm, .0043,.0002,3.511, .0042, .0044
W_2397,239.709 {140},Y_2243,ppm, -.0305,.0937,307.2, -.0968, .0358
Zn2062,206.200 {463},In2306,ppm, .2697,.0015,.5485, .2707, .2686

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 205.59,19.078,9.2796,219.08,192.10
In2306,230.606 {446},Cts/S, 12677.,9.4206,.07431,12684.,12671.
Y_2243,224.306 {450},Cts/S, 16931.,42.798,.25279,16961.,16900.
Y_3600,360.073 { 94},Cts/S, 157770.,270.74,.17160,157580.,157960.
Y_3710,371.030 { 91},Cts/S, 9854.1,924.33,9.3802,10508.,9200.5

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0002,.0003,142.5, .0000, -.0004
Al3082,308.215 {109},In2306,ppm, -.0042,.0000,.2057, -.0043, -.0042
As1890,189.042 {478},Y_2243,ppm, .0053,.0009,16.44, .0059, .0047
B_2496,249.678 {135},Y_3710,ppm, .0046,.0089,193.3, -.0017, .0109
Ba4554,455.403 { 74},Y_3710,ppm, .0071,.0000,.0109, .0071, .0071
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,26.85, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, .8305,.0124,1.493, .8218, .8393
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0001,39.32, .0002, .0003
Co2286,228.616 {447},In2306,ppm, .0017,.0000,1.072, .0017, .0017
Cr2677,267.716 {126},Y_3600,ppm, .0015,.0000,2.431, .0015, .0015
Cu3247,324.754 {104},Y_3600,ppm, .0044,.0001,3.141, .0045, .0043
Fe2404,240.488 {140},In2306,ppm, .0767,.0027,3.481, .0748, .0786
K_7664,766.490 { 44},Y_3710,ppm, 26.79,.0291,.1086, 26.81, 26.76
Li6707,670.784 { 50},Y_3710,ppm, -.0002,.0008,435.0, .0004, -.0008
Mg2790,279.079 {121},Y_3710,ppm, 3.404,.0130,.3813, 3.414, 3.395
Mn2576,257.610 {131},Y_3600,ppm, .2137,.0000,.0039, .2137, .2137
Mo2020,202.030 {467},Y_2243,ppm, .0024,.0003,13.68, .0022, .0027
Na5895,589.592 { 57},Y_3710,ppm, 14.65,.0179,.1221, 14.64, 14.67
Ni2316,231.604 {445},In2306,ppm, .0011,.0003,29.96, .0013, .0009
P_1782,178.284 {489},In2306,ppm, 32.03,.0265,.0828, 32.01, 32.05
Pb2203,220.353 {453},In2306,ppm, .0008,.0014,182.7, .0018, -.0002
S_1820,182.034 {485},Y_2243,ppm, 2.536,.0001,.0055, 2.536, 2.536
Sb2068,206.833 {463},Y_2243,ppm, .0007,.0006,84.54, .0011, .0003
Se1960,196.090 {472},Y_2243,ppm, .0043,.0048,112.8, .0009, .0076
Si2516,251.611 {134},Y_3710,ppm, 1.079,.0094,.8686, 1.072, 1.085
Sn1899,189.989 {477},In2306,ppm, .0037,.0002,6.285, .0035, .0039
Sr4215,421.552 { 80},Y_3710,ppm, .0088,.0000,.4335, .0088, .0088
Ti3349,334.904 {101},Y_3600,ppm, .0003,.0000,12.71, .0002, .0003
Tl1908,190.856 {477},In2306,ppm, .1504,.0027,1.824, .1523, .1484
U_3670,367.007 { 92},Y_3600,ppm, -.4732,.0380,8.027, -.5001, -.4464
V_2924,292.402 {115},Y_3600,ppm, .0008,.0003,35.34, .0010, .0006
W_2397,239.709 {140},Y_2243,ppm, .0062,.0325,522.4, .0292, -.0168
Zn2062,206.200 {463},In2306,ppm, .0538,.0000,.0358, .0538, .0539

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 214.79,1.0622,.49453,215.55,214.04
In2306,230.606 {446},Cts/S, 13266.,10.180,.07674,13273.,13259.
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Y_2243,224.306 {450},Cts/S, 17646.,15.392,.08723,17657.,17635.
Y_3600,360.073 { 94},Cts/S, 162490.,284.48,.17508,162690.,162290.
Y_3710,371.030 { 91},Cts/S, 10291.,67.160,.65264,10243.,10338.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2417,.0009,.3726, .2411, .2424
Al3082,308.215 {109},In2306,ppm, 10.41,.1384,1.329, 10.32, 10.51
As1890,189.042 {478},Y_2243,ppm, 1.193,.0094,.7882, 1.186, 1.199
B_2496,249.678 {135},Y_3710,ppm, .5754,.0078,1.349, .5809, .5699
Ba4554,455.403 { 74},Y_3710,ppm, 1.091,.0003,.0273, 1.090, 1.091
Be3130,313.042 {108},Y_3710,ppm, 1.020,.0002,.0210, 1.020, 1.021
Ca3158,315.887 {107},In2306,ppm, 14.60,.2098,1.437, 14.45, 14.74
Cd2288,228.802 {447},Y_2243,ppm, 1.010,.0020,.1958, 1.009, 1.012
Co2286,228.616 {447},In2306,ppm, .9670,.0004,.0408, .9667, .9673
Cr2677,267.716 {126},Y_3600,ppm, .9937,.0038,.3863, .9964, .9910
Cu3247,324.754 {104},Y_3600,ppm, 1.020,.0004,.0399, 1.020, 1.020
Fe2404,240.488 {140},In2306,ppm, 10.80,.1027,.9505, 10.73, 10.88
K_7664,766.490 { 44},Y_3710,ppm, 146.5,.6355,.4338, 146.9, 146.0
Li6707,670.784 { 50},Y_3710,ppm, 1.012,.0011,.1119, 1.013, 1.011
Mg2790,279.079 {121},Y_3710,ppm, 27.52,.1344,.4883, 27.61, 27.42
Mn2576,257.610 {131},Y_3600,ppm, 2.074,.0038,.1818, 2.076, 2.071
Mo2020,202.030 {467},Y_2243,ppm, 1.060,.0053,.4978, 1.056, 1.064
Na5895,589.592 { 57},Y_3710,ppm, 83.92,.0807,.0962, 83.97, 83.86
Ni2316,231.604 {445},In2306,ppm, .9833,.0008,.0769, .9827, .9838
P_1782,178.284 {489},In2306,ppm, 157.0,.1640,.1044, 156.9, 157.1
Pb2203,220.353 {453},In2306,ppm, .9215,.0071,.7734, .9165, .9266
S_1820,182.034 {485},Y_2243,ppm, 31.02,.0507,.1633, 30.98, 31.05
Sb2068,206.833 {463},Y_2243,ppm, 1.626,.0104,.6412, 1.619, 1.634
Se1960,196.090 {472},Y_2243,ppm, 1.327,.0072,.5413, 1.322, 1.332
Si2516,251.611 {134},Y_3710,ppm, 17.51,.0267,.1525, 17.53, 17.49
Sn1899,189.989 {477},In2306,ppm, .9341,.0011,.1198, .9349, .9333
Sr4215,421.552 { 80},Y_3710,ppm, 1.075,.0007,.0679, 1.074, 1.075
Ti3349,334.904 {101},Y_3600,ppm, 1.019,.0009,.0877, 1.020, 1.019
Tl1908,190.856 {477},In2306,ppm, .4664,.0091,1.950, .4729, .4600
U_3670,367.007 { 92},Y_3600,ppm, .3024,.0524,17.32, .2654, .3395
V_2924,292.402 {115},Y_3600,ppm, 1.011,.0027,.2626, 1.013, 1.009
W_2397,239.709 {140},Y_2243,ppm, .4601,.1647,35.79, .5765, .3436
Zn2062,206.200 {463},In2306,ppm, .7845,.0002,.0315, .7843, .7847

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 210.42,2.0394,.96921,211.86,208.97
In2306,230.606 {446},Cts/S, 12373.,2.8711,.02320,12371.,12375.
Y_2243,224.306 {450},Cts/S, 16870.,9.9648,.05907,16877.,16863.
Y_3600,360.073 { 94},Cts/S, 156620.,26.272,.01677,156600.,156640.
Y_3710,371.030 { 91},Cts/S, 10239.,50.201,.49031,10203.,10274.

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Ag3280,328.068 {103},Y_3600,ppm, .0489,.0010,1.952, .0496, .0483
Al3082,308.215 {109},In2306,ppm, 2.033,.0004,.0191, 2.033, 2.033
As1890,189.042 {478},Y_2243,ppm, .2214,.0039,1.759, .2242, .2187
B_2496,249.678 {135},Y_3710,ppm, .1197,.0070,5.863, .1247, .1147
Ba4554,455.403 { 74},Y_3710,ppm, .2200,.0022,1.017, .2184, .2216
Be3130,313.042 {108},Y_3710,ppm, .2055,.0022,1.093, .2039, .2071
Ca3158,315.887 {107},In2306,ppm, 2.844,.0218,.7656, 2.829, 2.859
Cd2288,228.802 {447},Y_2243,ppm, .2073,.0007,.3275, .2068, .2078
Co2286,228.616 {447},In2306,ppm, .1970,.0003,.1479, .1968, .1972
Cr2677,267.716 {126},Y_3600,ppm, .1977,.0007,.3736, .1982, .1972
Cu3247,324.754 {104},Y_3600,ppm, .2088,.0010,.4687, .2095, .2081
Fe2404,240.488 {140},In2306,ppm, 2.127,.0001,.0030, 2.127, 2.127
K_7664,766.490 { 44},Y_3710,ppm, 29.32,.0522,.1782, 29.28, 29.35
Li6707,670.784 { 50},Y_3710,ppm, .2042,.0019,.9172, .2029, .2055
Mg2790,279.079 {121},Y_3710,ppm, 5.589,.0046,.0816, 5.585, 5.592
Mn2576,257.610 {131},Y_3600,ppm, .4219,.0008,.1790, .4213, .4224
Mo2020,202.030 {467},Y_2243,ppm, .2141,.0006,.2771, .2137, .2145
Na5895,589.592 { 57},Y_3710,ppm, 17.04,.0949,.5569, 16.97, 17.10
Ni2316,231.604 {445},In2306,ppm, .2006,.0010,.5090, .1999, .2013
P_1782,178.284 {489},In2306,ppm, 34.01,.0216,.0636, 34.03, 34.00
Pb2203,220.353 {453},In2306,ppm, .1972,.0007,.3364, .1967, .1977
S_1820,182.034 {485},Y_2243,ppm, 4.110,.0267,.6492, 4.091, 4.129
Sb2068,206.833 {463},Y_2243,ppm, .3294,.0011,.3208, .3286, .3301
Se1960,196.090 {472},Y_2243,ppm, .2310,.0043,1.845, .2280, .2340
Si2516,251.611 {134},Y_3710,ppm, 3.509,.0166,.4721, 3.497, 3.521
Sn1899,189.989 {477},In2306,ppm, .2128,.0041,1.945, .2098, .2157
Sr4215,421.552 { 80},Y_3710,ppm, .2169,.0025,1.161, .2152, .2187
Ti3349,334.904 {101},Y_3600,ppm, .2072,.0003,.1421, .2070, .2074
Tl1908,190.856 {477},In2306,ppm, .3387,.0024,.7116, .3370, .3404
U_3670,367.007 { 92},Y_3600,ppm, -.3063,.0008,.2769, -.3057, -.3069
V_2924,292.402 {115},Y_3600,ppm, .2013,.0007,.3544, .2008, .2018
W_2397,239.709 {140},Y_2243,ppm, .0243,.0362,149.3, .0499, -.0014
Zn2062,206.200 {463},In2306,ppm, .1542,.0000,.0090, .1542, .1543

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 217.04,1.6736,.77108,215.86,218.22
In2306,230.606 {446},Cts/S, 13113.,25.585,.19512,13095.,13131.
Y_2243,224.306 {450},Cts/S, 17607.,32.745,.18598,17584.,17630.
Y_3600,360.073 { 94},Cts/S, 161540.,324.77,.20104,161770.,161310.
Y_3710,371.030 { 91},Cts/S, 10260.,40.412,.39387,10232.,10289.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
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Ag3280,328.068 {103},Y_3600,ppm, .2353,.0019,.8017, .2367, .2340
Al3082,308.215 {109},In2306,ppm, 9.913,.0718,.7241, 9.863, 9.964
As1890,189.042 {478},Y_2243,ppm, 1.055,.0141,1.335, 1.045, 1.065
B_2496,249.678 {135},Y_3710,ppm, .4840,.0017,.3547, .4827, .4852
Ba4554,455.403 { 74},Y_3710,ppm, 1.031,.0001,.0082, 1.031, 1.031
Be3130,313.042 {108},Y_3710,ppm, .9612,.0009,.0982, .9619, .9605
Ca3158,315.887 {107},In2306,ppm, 10.01,.1020,1.020, 9.936, 10.08
Cd2288,228.802 {447},Y_2243,ppm, .9746,.0122,1.248, .9660, .9832
Co2286,228.616 {447},In2306,ppm, .9613,.0078,.8108, .9558, .9669
Cr2677,267.716 {126},Y_3600,ppm, .9362,.0022,.2366, .9377, .9346
Cu3247,324.754 {104},Y_3600,ppm, .9490,.0070,.7407, .9540, .9441
Fe2404,240.488 {140},In2306,ppm, 9.871,.0916,.9276, 9.806, 9.936
K_7664,766.490 { 44},Y_3710,ppm, 9.869,.0054,.0549, 9.865, 9.872
Li6707,670.784 { 50},Y_3710,ppm, .9484,.0000,.0002, .9484, .9484
Mg2790,279.079 {121},Y_3710,ppm, 37.07,.2759,.7443, 37.26, 36.87
Mn2576,257.610 {131},Y_3600,ppm, .9740,.0036,.3659, .9765, .9715
Mo2020,202.030 {467},Y_2243,ppm, .9732,.0084,.8644, .9673, .9792
Na5895,589.592 { 57},Y_3710,ppm, 132.2,.1168,.0884, 132.2, 132.1
Ni2316,231.604 {445},In2306,ppm, .9823,.0066,.6693, .9777, .9870
P_1782,178.284 {489},In2306,ppm, 5.400,.0333,.6167, 5.377, 5.424
Pb2203,220.353 {453},In2306,ppm, .9687,.0083,.8601, .9628, .9746
S_1820,182.034 {485},Y_2243,ppm, 7.312,.1257,1.718, 7.224, 7.401
Sb2068,206.833 {463},Y_2243,ppm, 1.513,.0201,1.326, 1.499, 1.527
Se1960,196.090 {472},Y_2243,ppm, 1.001,.0133,1.328, .9912, 1.010
Si2516,251.611 {134},Y_3710,ppm, 15.60,.0797,.5109, 15.55, 15.66
Sn1899,189.989 {477},In2306,ppm, .9847,.0061,.6220, .9804, .9890
Sr4215,421.552 { 80},Y_3710,ppm, .9809,.0008,.0805, .9814, .9803
Ti3349,334.904 {101},Y_3600,ppm, .9760,.0055,.5649, .9799, .9721
Tl1908,190.856 {477},In2306,ppm, 1.414,.0133,.9430, 1.405, 1.424
U_3670,367.007 { 92},Y_3600,ppm, .1440,.0853,59.24, .2043, .0837
V_2924,292.402 {115},Y_3600,ppm, .9804,.0026,.2646, .9823, .9786
W_2397,239.709 {140},Y_2243,ppm, .3562,.0781,21.93, .4115, .3010
Zn2062,206.200 {463},In2306,ppm, .4960,.0011,.2196, .4952, .4968

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 206.94,1.2519,.60495,207.83,206.06
In2306,230.606 {446},Cts/S, 12049.,77.002,.63910,12103.,11994.
Y_2243,224.306 {450},Cts/S, 17388.,157.75,.90722,17499.,17276.
Y_3600,360.073 { 94},Cts/S, 156200.,352.59,.22574,156450.,155950.
Y_3710,371.030 { 91},Cts/S, 10074.,52.779,.52392,10036.,10111.

[Sample Header]
Method=ICP6500Metals_TRY3(v4958)
SampleName=sd 600-191957-A-1G@5
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Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/19/2019 11:46:08
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0005,.0002,31.91, -.0006, -.0004
Al3082,308.215 {109},In2306,ppm, .0132,.0252,190.2, .0310, -.0046
As1890,189.042 {478},Y_2243,ppm, .0077,.0000,.1196, .0077, .0077
B_2496,249.678 {135},Y_3710,ppm, -.0008,.0077,975.3, .0046, -.0062
Ba4554,455.403 { 74},Y_3710,ppm, .0081,.0000,.4895, .0081, .0080
Be3130,313.042 {108},Y_3710,ppm, .0002,.0001,57.95, .0001, .0003
Ca3158,315.887 {107},In2306,ppm, .0540,.0018,3.331, .0527, .0553
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0001,73.78, -.0001, -.0000
Co2286,228.616 {447},In2306,ppm, .0001,.0000,54.32, .0001, .0000
Cr2677,267.716 {126},Y_3600,ppm, .0001,.0000,46.49, .0001, .0000
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Cu3247,324.754 {104},Y_3600,ppm, .0023,.0000,.0355, .0023, .0023
Fe2404,240.488 {140},In2306,ppm, .0032,.0042,130.9, .0002, .0061
K_7664,766.490 { 44},Y_3710,ppm, .0500,.0205,41.01, .0355, .0645
Li6707,670.784 { 50},Y_3710,ppm, .0008,.0015,172.8, .0019, -.0002
Mg2790,279.079 {121},Y_3710,ppm, 5.692,.0198,.3480, 5.678, 5.706
Mn2576,257.610 {131},Y_3600,ppm, .0009,.0000,3.067, .0009, .0009
Mo2020,202.030 {467},Y_2243,ppm, .0079,.0009,11.87, .0072, .0085
Na5895,589.592 { 57},Y_3710,ppm, 25.89,.0239,.0923, 25.87, 25.90
Ni2316,231.604 {445},In2306,ppm, .0001,.0002,231.5, -.0001, .0002
P_1782,178.284 {489},In2306,ppm, .0108,.0004,3.590, .0106, .0111
Pb2203,220.353 {453},In2306,ppm, .0007,.0007,93.25, .0012, .0002
S_1820,182.034 {485},Y_2243,ppm, -2.427,.0062,.2562, -2.422, -2.431
Sb2068,206.833 {463},Y_2243,ppm, .0124,.0015,11.78, .0114, .0135
Se1960,196.090 {472},Y_2243,ppm, -.0007,.0019,260.2, -.0021, .0006
Si2516,251.611 {134},Y_3710,ppm, .5294,.0161,3.043, .5180, .5408
Sn1899,189.989 {477},In2306,ppm, .0026,.0000,1.475, .0027, .0026
Sr4215,421.552 { 80},Y_3710,ppm, .0006,.0001,14.67, .0007, .0006
Ti3349,334.904 {101},Y_3600,ppm, .0004,.0003,63.95, .0006, .0002
Tl1908,190.856 {477},In2306,ppm, .1584,.0030,1.875, .1563, .1605
U_3670,367.007 { 92},Y_3600,ppm, -.3465,.0216,6.228, -.3313, -.3618
V_2924,292.402 {115},Y_3600,ppm, .0054,.0002,4.605, .0055, .0052
W_2397,239.709 {140},Y_2243,ppm, -.0012,.0186,1583., -.0143, .0120
Zn2062,206.200 {463},In2306,ppm, .0040,.0001,1.408, .0041, .0040

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 212.06,1.9190,.90496,213.42,210.70
In2306,230.606 {446},Cts/S, 13166.,111.29,.84525,13087.,13245.
Y_2243,224.306 {450},Cts/S, 17881.,149.57,.83651,17775.,17986.
Y_3600,360.073 { 94},Cts/S, 161000.,695.35,.43190,161490.,160500.
Y_3710,371.030 { 91},Cts/S, 10055.,83.851,.83397,10114.,9995.2

[Sample Header]
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Custom ID2=
Custom ID3=
Run Time=9/19/2019 11:48:13
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0004,.0003,84.89, -.0006, -.0002
Al3082,308.215 {109},In2306,ppm, -.0164,.0228,139.2, -.0003, -.0325
As1890,189.042 {478},Y_2243,ppm, -.0016,.0021,135.3, -.0001, -.0031
B_2496,249.678 {135},Y_3710,ppm, -.0074,.0036,47.86, -.0049, -.0100
Ba4554,455.403 { 74},Y_3710,ppm, .0019,.0002,11.17, .0018, .0021
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,125.7, -.0000, -.0001
Ca3158,315.887 {107},In2306,ppm, .1265,.0008,.6060, .1271, .1260
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,73.52, .0002, .0001
Co2286,228.616 {447},In2306,ppm, .0001,.0002,342.4, .0002, -.0001
Cr2677,267.716 {126},Y_3600,ppm, -.0003,.0000,8.639, -.0003, -.0003
Cu3247,324.754 {104},Y_3600,ppm, .0029,.0002,7.166, .0027, .0030
Fe2404,240.488 {140},In2306,ppm, .0057,.0058,100.3, .0098, .0017
K_7664,766.490 { 44},Y_3710,ppm, .1175,.0164,13.99, .1059, .1291
Li6707,670.784 { 50},Y_3710,ppm, .0002,.0006,308.0, .0006, -.0002
Mg2790,279.079 {121},Y_3710,ppm, .0097,.0032,33.32, .0074, .0120
Mn2576,257.610 {131},Y_3600,ppm, .0002,.0001,45.00, .0001, .0002
Mo2020,202.030 {467},Y_2243,ppm, .0022,.0006,28.68, .0018, .0027
Na5895,589.592 { 57},Y_3710,ppm, .6592,.0093,1.408, .6657, .6526
Ni2316,231.604 {445},In2306,ppm, .0003,.0001,51.17, .0002, .0004
P_1782,178.284 {489},In2306,ppm, .0196,.0010,4.892, .0202, .0189
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Pb2203,220.353 {453},In2306,ppm, .0012,.0017,140.5, .0024, .0000
S_1820,182.034 {485},Y_2243,ppm, -2.609,.0038,.1453, -2.606, -2.611
Sb2068,206.833 {463},Y_2243,ppm, .0024,.0006,25.31, .0020, .0028
Se1960,196.090 {472},Y_2243,ppm, .0028,.0002,5.800, .0027, .0029
Si2516,251.611 {134},Y_3710,ppm, .0487,.0168,34.61, .0606, .0367
Sn1899,189.989 {477},In2306,ppm, .0018,.0001,7.669, .0017, .0019
Sr4215,421.552 { 80},Y_3710,ppm, .0011,.0000,3.667, .0011, .0012
Ti3349,334.904 {101},Y_3600,ppm, -.0001,.0004,630.5, -.0004, .0002
Tl1908,190.856 {477},In2306,ppm, .1169,.0037,3.197, .1142, .1195
U_3670,367.007 { 92},Y_3600,ppm, -.5247,.0490,9.330, -.4901, -.5594
V_2924,292.402 {115},Y_3600,ppm, .0000,.0001,397.6, .0001, -.0000
W_2397,239.709 {140},Y_2243,ppm, .0167,.0062,37.01, .0124, .0211
Zn2062,206.200 {463},In2306,ppm, .0363,.0003,.8804, .0365, .0361

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 212.19,.61720,.29086,212.63,211.76
In2306,230.606 {446},Cts/S, 13628.,32.216,.23640,13651.,13605.
Y_2243,224.306 {450},Cts/S, 17947.,98.647,.54967,18016.,17877.
Y_3600,360.073 { 94},Cts/S, 164120.,227.94,.13888,163960.,164280.
Y_3710,371.030 { 91},Cts/S, 10026.,56.370,.56221,9986.6,10066.

[Sample Header]
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Custom ID2=
Custom ID3=
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Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0003,.0003,113.0, .0005, .0001
Al3082,308.215 {109},In2306,ppm, -.0211,.0182,86.36, -.0340, -.0082
As1890,189.042 {478},Y_2243,ppm, -.0004,.0012,278.4, .0004, -.0013
B_2496,249.678 {135},Y_3710,ppm, -.0040,.0009,23.81, -.0046, -.0033
Ba4554,455.403 { 74},Y_3710,ppm, .0000,.0002,500.5, .0002, -.0001
Be3130,313.042 {108},Y_3710,ppm, .0003,.0001,27.60, .0003, .0002
Ca3158,315.887 {107},In2306,ppm, .0298,.0107,35.96, .0373, .0222
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0002,71.06, .0003, .0001
Co2286,228.616 {447},In2306,ppm, -.0001,.0001,153.1, -.0001, .0000
Cr2677,267.716 {126},Y_3600,ppm, -.0001,.0002,173.9, -.0002, .0000
Cu3247,324.754 {104},Y_3600,ppm, .0032,.0001,3.835, .0032, .0033
Fe2404,240.488 {140},In2306,ppm, -.0109,.0038,35.05, -.0082, -.0136
K_7664,766.490 { 44},Y_3710,ppm, .0494,.0273,55.23, .0301, .0687
Li6707,670.784 { 50},Y_3710,ppm, -.0012,.0013,104.1, -.0003, -.0021
Mg2790,279.079 {121},Y_3710,ppm, -.0064,.0123,191.9, .0023, -.0151
Mn2576,257.610 {131},Y_3600,ppm, .0001,.0000,14.09, .0001, .0001
Mo2020,202.030 {467},Y_2243,ppm, .0011,.0000,.1249, .0011, .0011
Na5895,589.592 { 57},Y_3710,ppm, .1445,.0037,2.550, .1471, .1419
Ni2316,231.604 {445},In2306,ppm, .0000,.0001,237.6, .0001, -.0000
P_1782,178.284 {489},In2306,ppm, .0087,.0026,29.53, .0069, .0105
Pb2203,220.353 {453},In2306,ppm, .0006,.0001,14.15, .0006, .0005
S_1820,182.034 {485},Y_2243,ppm, -2.997,.0151,.5024, -3.008, -2.986
Sb2068,206.833 {463},Y_2243,ppm, .0006,.0016,265.1, -.0005, .0017
Se1960,196.090 {472},Y_2243,ppm, .0026,.0016,61.29, .0037, .0015
Si2516,251.611 {134},Y_3710,ppm, .0133,.0036,26.98, .0107, .0158
Sn1899,189.989 {477},In2306,ppm, .0008,.0003,34.90, .0006, .0010
Sr4215,421.552 { 80},Y_3710,ppm, .0003,.0001,19.05, .0003, .0004
Ti3349,334.904 {101},Y_3600,ppm, -.0002,.0002,122.4, -.0004, -.0000
Tl1908,190.856 {477},In2306,ppm, .0945,.0082,8.716, .0887, .1004
U_3670,367.007 { 92},Y_3600,ppm, -.4071,.1871,45.96, -.5395, -.2748
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V_2924,292.402 {115},Y_3600,ppm, -.0001,.0000,5.264, -.0000, -.0001
W_2397,239.709 {140},Y_2243,ppm, .0637,.0610,95.76, .0206, .1069
Zn2062,206.200 {463},In2306,ppm, .0023,.0002,7.239, .0022, .0024

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 216.47,1.4512,.67040,215.45,217.50
In2306,230.606 {446},Cts/S, 13659.,65.745,.48134,13705.,13612.
Y_2243,224.306 {450},Cts/S, 17986.,74.605,.41479,18039.,17934.
Y_3600,360.073 { 94},Cts/S, 163920.,132.01,.08053,164010.,163820.
Y_3710,371.030 { 91},Cts/S, 10221.,14.808,.14488,10210.,10231.

[Sample Header]
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Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/19/2019 11:52:24
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .5024,.0005,.0963, .5027, .5020
Al3082,308.215 {109},In2306,ppm, 19.82,.1305,.6584, 19.91, 19.72
As1890,189.042 {478},Y_2243,ppm, 1.029,.0094,.9170, 1.023, 1.036
B_2496,249.678 {135},Y_3710,ppm, 1.002,.0076,.7630, 1.007, .9961
Ba4554,455.403 { 74},Y_3710,ppm, 1.016,.0029,.2854, 1.014, 1.018
Be3130,313.042 {108},Y_3710,ppm, .9736,.0019,.1969, .9723, .9750
Ca3158,315.887 {107},In2306,ppm, 19.77,.2503,1.266, 19.95, 19.59
Cd2288,228.802 {447},Y_2243,ppm, .9895,.0026,.2581, .9877, .9913
Co2286,228.616 {447},In2306,ppm, .9647,.0033,.3378, .9624, .9670
Cr2677,267.716 {126},Y_3600,ppm, .9670,.0022,.2275, .9686, .9655
Cu3247,324.754 {104},Y_3600,ppm, .9982,.0018,.1834, .9969, .9995
Fe2404,240.488 {140},In2306,ppm, 19.94,.3558,1.785, 20.19, 19.69
K_7664,766.490 { 44},Y_3710,ppm, 19.62,.0113,.0574, 19.61, 19.63
Li6707,670.784 { 50},Y_3710,ppm, .9796,.0009,.0954, .9790, .9803
Mg2790,279.079 {121},Y_3710,ppm, 20.34,.0691,.3396, 20.39, 20.29
Mn2576,257.610 {131},Y_3600,ppm, 1.000,.0020,.1998, 1.002, .9988
Mo2020,202.030 {467},Y_2243,ppm, .9973,.0043,.4330, .9942, 1.000
Na5895,589.592 { 57},Y_3710,ppm, 19.93,.0390,.1955, 19.91, 19.96
Ni2316,231.604 {445},In2306,ppm, .9831,.0033,.3392, .9807, .9854
P_1782,178.284 {489},In2306,ppm, 10.42,.0800,.7670, 10.37, 10.48
Pb2203,220.353 {453},In2306,ppm, .9825,.0047,.4772, .9791, .9858
S_1820,182.034 {485},Y_2243,ppm, 10.77,.0874,.8114, 10.71, 10.83
Sb2068,206.833 {463},Y_2243,ppm, 2.107,.0087,.4118, 2.101, 2.113
Se1960,196.090 {472},Y_2243,ppm, 1.008,.0007,.0709, 1.008, 1.009
Si2516,251.611 {134},Y_3710,ppm, 13.88,.0768,.5531, 13.83, 13.94
Sn1899,189.989 {477},In2306,ppm, .9902,.0074,.7497, .9849, .9954
Sr4215,421.552 { 80},Y_3710,ppm, 1.001,.0020,.1965, .9996, 1.002
Ti3349,334.904 {101},Y_3600,ppm, .9981,.0004,.0361, .9978, .9983
Tl1908,190.856 {477},In2306,ppm, .9994,.0097,.9692, 1.006, .9926
U_3670,367.007 { 92},Y_3600,ppm, .7787,.0827,10.62, .8371, .7202
V_2924,292.402 {115},Y_3600,ppm, .9790,.0004,.0444, .9787, .9793
W_2397,239.709 {140},Y_2243,ppm, 1.429,.0102,.7123, 1.422, 1.436
Zn2062,206.200 {463},In2306,ppm, .9682,.0035,.3585, .9658, .9707

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 205.96,2.6474,1.2854,204.09,207.84
In2306,230.606 {446},Cts/S, 12544.,16.553,.13196,12556.,12533.
Y_2243,224.306 {450},Cts/S, 17601.,17.876,.10156,17614.,17589.
Y_3600,360.073 { 94},Cts/S, 157840.,305.75,.19371,157620.,158050.
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Y_3710,371.030 { 91},Cts/S, 9971.0,33.941,.34040,9947.0,9995.0

[Sample Header]
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Username=admin
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Run Time=9/19/2019 11:54:14
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0104,.0012,11.15, .0112, .0096
Al3082,308.215 {109},In2306,ppm, .2011,.0133,6.636, .1916, .2105
As1890,189.042 {478},Y_2243,ppm, .0203,.0027,13.19, .0222, .0184
B_2496,249.678 {135},Y_3710,ppm, .2269,.0029,1.296, .2248, .2289
Ba4554,455.403 { 74},Y_3710,ppm, .0232,.0004,1.520, .0230, .0235
Be3130,313.042 {108},Y_3710,ppm, .0116,.0002,1.924, .0114, .0117
Ca3158,315.887 {107},In2306,ppm, 1.062,.0112,1.059, 1.054, 1.070
Cd2288,228.802 {447},Y_2243,ppm, .0114,.0003,2.305, .0112, .0115
Co2286,228.616 {447},In2306,ppm, .0105,.0000,.4711, .0105, .0106
Cr2677,267.716 {126},Y_3600,ppm, .0104,.0001,.7556, .0103, .0104
Cu3247,324.754 {104},Y_3600,ppm, .0131,.0000,.2010, .0131, .0131
Fe2404,240.488 {140},In2306,ppm, .2104,.0018,.8626, .2117, .2091
K_7664,766.490 { 44},Y_3710,ppm, 1.114,.0132,1.188, 1.123, 1.104
Li6707,670.784 { 50},Y_3710,ppm, .0110,.0003,2.670, .0113, .0108
Mg2790,279.079 {121},Y_3710,ppm, 1.101,.0301,2.733, 1.079, 1.122
Mn2576,257.610 {131},Y_3600,ppm, .0112,.0002,1.928, .0113, .0110
Mo2020,202.030 {467},Y_2243,ppm, .0276,.0011,3.893, .0268, .0284
Na5895,589.592 { 57},Y_3710,ppm, 1.127,.0171,1.518, 1.115, 1.139
Ni2316,231.604 {445},In2306,ppm, .0107,.0001,1.252, .0106, .0108
P_1782,178.284 {489},In2306,ppm, 1.003,.0135,1.350, .9933, 1.012
Pb2203,220.353 {453},In2306,ppm, .0098,.0001,.5586, .0097, .0098
S_1820,182.034 {485},Y_2243,ppm, -2.731,.0019,.0682, -2.733, -2.730
Sb2068,206.833 {463},Y_2243,ppm, .0606,.0028,4.570, .0587, .0626
Se1960,196.090 {472},Y_2243,ppm, .0247,.0032,12.94, .0270, .0225
Si2516,251.611 {134},Y_3710,ppm, .2995,.0078,2.609, .2940, .3050
Sn1899,189.989 {477},In2306,ppm, .0233,.0004,1.599, .0230, .0236
Sr4215,421.552 { 80},Y_3710,ppm, .0115,.0001,.6894, .0114, .0115
Ti3349,334.904 {101},Y_3600,ppm, .0112,.0001,1.206, .0113, .0111
Tl1908,190.856 {477},In2306,ppm, .1119,.0045,4.038, .1087, .1151
U_3670,367.007 { 92},Y_3600,ppm, -.2674,.0252,9.413, -.2852, -.2496
V_2924,292.402 {115},Y_3600,ppm, .0105,.0004,4.217, .0109, .0102
W_2397,239.709 {140},Y_2243,ppm, .0901,.0164,18.22, .1017, .0785
Zn2062,206.200 {463},In2306,ppm, .0195,.0002,.8551, .0193, .0196

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 211.10,1.3615,.64494,212.07,210.14
In2306,230.606 {446},Cts/S, 13556.,133.27,.98312,13650.,13462.
Y_2243,224.306 {450},Cts/S, 17975.,161.88,.90060,18089.,17860.
Y_3600,360.073 { 94},Cts/S, 165890.,2827.7,1.7045,163890.,167890.
Y_3710,371.030 { 91},Cts/S, 9948.0,16.716,.16804,9959.8,9936.2

[Sample Header]
Method=ICP6500Metals_TRY3(v4958)
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Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
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Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0007,.0004,53.61, -.0010, -.0004
Al3082,308.215 {109},In2306,ppm, -.0296,.0156,52.73, -.0185, -.0406
As1890,189.042 {478},Y_2243,ppm, -.0032,.0015,45.73, -.0021, -.0042
B_2496,249.678 {135},Y_3710,ppm, .0049,.0089,182.3, -.0014, .0112
Ba4554,455.403 { 74},Y_3710,ppm, -.0003,.0003,129.4, -.0005, -.0000
Be3130,313.042 {108},Y_3710,ppm, .0002,.0001,84.12, .0003, .0001
Ca3158,315.887 {107},In2306,ppm, .0023,.0031,136.7, .0001, .0045
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0003,233.0, .0003, -.0001
Co2286,228.616 {447},In2306,ppm, .0000,.0000,527.2, -.0000, .0000
Cr2677,267.716 {126},Y_3600,ppm, .0003,.0000,8.138, .0003, .0004
Cu3247,324.754 {104},Y_3600,ppm, .0027,.0002,6.596, .0028, .0025
Fe2404,240.488 {140},In2306,ppm, .0059,.0007,11.51, .0064, .0054
K_7664,766.490 { 44},Y_3710,ppm, .0182,.0038,20.74, .0208, .0155
Li6707,670.784 { 50},Y_3710,ppm, -.0011,.0002,14.95, -.0010, -.0013
Mg2790,279.079 {121},Y_3710,ppm, -.0194,.0057,29.31, -.0153, -.0234
Mn2576,257.610 {131},Y_3600,ppm, .0001,.0000,.3951, .0001, .0001
Mo2020,202.030 {467},Y_2243,ppm, .0014,.0002,12.95, .0015, .0013
Na5895,589.592 { 57},Y_3710,ppm, .0145,.0058,39.98, .0186, .0104
Ni2316,231.604 {445},In2306,ppm, .0003,.0000,5.719, .0003, .0003
P_1782,178.284 {489},In2306,ppm, .0012,.0011,93.90, .0020, .0004
Pb2203,220.353 {453},In2306,ppm, -.0008,.0023,291.9, -.0025, .0009
S_1820,182.034 {485},Y_2243,ppm, -2.386,.0018,.0757, -2.388, -2.385
Sb2068,206.833 {463},Y_2243,ppm, .0013,.0004,33.09, .0016, .0010
Se1960,196.090 {472},Y_2243,ppm, .0002,.0000,3.405, .0002, .0002
Si2516,251.611 {134},Y_3710,ppm, .0032,.0107,331.4, .0108, -.0043
Sn1899,189.989 {477},In2306,ppm, .0004,.0004,110.3, .0001, .0007
Sr4215,421.552 { 80},Y_3710,ppm, -.0001,.0001,138.7, -.0000, -.0002
Ti3349,334.904 {101},Y_3600,ppm, .0000,.0003,1401., .0003, -.0002
Tl1908,190.856 {477},In2306,ppm, .0882,.0026,2.944, .0864, .0901
U_3670,367.007 { 92},Y_3600,ppm, -.4011,.0467,11.64, -.4341, -.3680
V_2924,292.402 {115},Y_3600,ppm, .0007,.0004,58.94, .0004, .0010
W_2397,239.709 {140},Y_2243,ppm, .0219,.0948,432.2, .0890, -.0451
Zn2062,206.200 {463},In2306,ppm, .0042,.0001,1.420, .0042, .0042

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 216.70,2.0565,.94900,215.25,218.16
In2306,230.606 {446},Cts/S, 13614.,25.348,.18620,13632.,13596.
Y_2243,224.306 {450},Cts/S, 18060.,59.296,.32833,18102.,18018.
Y_3600,360.073 { 94},Cts/S, 162360.,3045.6,1.8758,160210.,164520.
Y_3710,371.030 { 91},Cts/S, 10158.,110.18,1.0847,10080.,10236.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0002,.0004,171.0, -.0005, .0001
Al3082,308.215 {109},In2306,ppm, -.0293,.0043,14.61, -.0324, -.0263
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As1890,189.042 {478},Y_2243,ppm, -.0015,.0026,169.1, -.0034, .0003
B_2496,249.678 {135},Y_3710,ppm, .0008,.0008,95.31, .0014, .0003
Ba4554,455.403 { 74},Y_3710,ppm, .0018,.0003,16.64, .0020, .0016
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,25.40, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, .0120,.0050,41.85, .0084, .0155
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0001,37.59, .0003, .0002
Co2286,228.616 {447},In2306,ppm, -.0001,.0001,120.9, -.0002, -.0000
Cr2677,267.716 {126},Y_3600,ppm, -.0000,.0001,224.9, -.0001, .0000
Cu3247,324.754 {104},Y_3600,ppm, .0028,.0003,11.61, .0025, .0030
Fe2404,240.488 {140},In2306,ppm, .0064,.0050,78.28, .0099, .0028
K_7664,766.490 { 44},Y_3710,ppm, .0425,.0039,9.153, .0398, .0453
Li6707,670.784 { 50},Y_3710,ppm, -.0019,.0000,1.590, -.0019, -.0018
Mg2790,279.079 {121},Y_3710,ppm, -.0054,.0428,799.5, .0249, -.0356
Mn2576,257.610 {131},Y_3600,ppm, .0002,.0000,2.843, .0003, .0002
Mo2020,202.030 {467},Y_2243,ppm, .0006,.0004,64.57, .0003, .0009
Na5895,589.592 { 57},Y_3710,ppm, .0115,.0053,46.06, .0077, .0152
Ni2316,231.604 {445},In2306,ppm, .0005,.0001,32.18, .0006, .0004
P_1782,178.284 {489},In2306,ppm, .0026,.0003,12.05, .0028, .0024
Pb2203,220.353 {453},In2306,ppm, .0026,.0005,18.63, .0029, .0023
S_1820,182.034 {485},Y_2243,ppm, -.0788,.0101,12.85, -.0859, -.0716
Sb2068,206.833 {463},Y_2243,ppm, -.0018,.0010,59.71, -.0025, -.0010
Se1960,196.090 {472},Y_2243,ppm, .0001,.0001,139.9, .0002, .0000
Si2516,251.611 {134},Y_3710,ppm, -.0010,.0014,137.3, -.0020, -.0000
Sn1899,189.989 {477},In2306,ppm, .0002,.0001,45.58, .0001, .0003
Sr4215,421.552 { 80},Y_3710,ppm, -.0004,.0001,34.90, -.0003, -.0005
Ti3349,334.904 {101},Y_3600,ppm, -.0001,.0000,5.151, -.0001, -.0001
Tl1908,190.856 {477},In2306,ppm, .0659,.0019,2.937, .0646, .0673
U_3670,367.007 { 92},Y_3600,ppm, -.3559,.0105,2.938, -.3485, -.3633
V_2924,292.402 {115},Y_3600,ppm, .0002,.0004,175.1, .0005, -.0000
W_2397,239.709 {140},Y_2243,ppm, .0716,.0165,23.08, .0599, .0833
Zn2062,206.200 {463},In2306,ppm, .0035,.0000,.2714, .0035, .0035

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 220.01,.84117,.38233,219.42,220.61
In2306,230.606 {446},Cts/S, 13646.,25.362,.18586,13628.,13664.
Y_2243,224.306 {450},Cts/S, 18091.,15.017,.08301,18080.,18101.
Y_3600,360.073 { 94},Cts/S, 164320.,905.95,.55133,164960.,163680.
Y_3710,371.030 { 91},Cts/S, 10318.,105.29,1.0204,10393.,10244.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .2555,.0000,.0026, .2555, .2555
Al3082,308.215 {109},In2306,ppm, 10.57,.1189,1.125, 10.48, 10.65
As1890,189.042 {478},Y_2243,ppm, 1.043,.0051,.4881, 1.039, 1.046
B_2496,249.678 {135},Y_3710,ppm, .5267,.0112,2.135, .5346, .5187
Ba4554,455.403 { 74},Y_3710,ppm, 1.042,.0068,.6489, 1.037, 1.047
Be3130,313.042 {108},Y_3710,ppm, .9977,.0043,.4312, .9946, 1.001
Ca3158,315.887 {107},In2306,ppm, 10.56,.0801,.7589, 10.50, 10.61
Cd2288,228.802 {447},Y_2243,ppm, 1.002,.0022,.2233, 1.000, 1.003
Co2286,228.616 {447},In2306,ppm, .9706,.0027,.2787, .9687, .9725
Cr2677,267.716 {126},Y_3600,ppm, .9895,.0011,.1122, .9903, .9887
Cu3247,324.754 {104},Y_3600,ppm, 1.019,.0015,.1470, 1.020, 1.018
Fe2404,240.488 {140},In2306,ppm, 10.67,.1239,1.161, 10.58, 10.76
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K_7664,766.490 { 44},Y_3710,ppm, 10.51,.0430,.4086, 10.48, 10.54
Li6707,670.784 { 50},Y_3710,ppm, 1.007,.0054,.5411, 1.003, 1.011
Mg2790,279.079 {121},Y_3710,ppm, 10.78,.0039,.0357, 10.78, 10.78
Mn2576,257.610 {131},Y_3600,ppm, 1.028,.0003,.0327, 1.028, 1.028
Mo2020,202.030 {467},Y_2243,ppm, 1.018,.0071,.6926, 1.013, 1.023
Na5895,589.592 { 57},Y_3710,ppm, 10.73,.0648,.6045, 10.68, 10.77
Ni2316,231.604 {445},In2306,ppm, .9945,.0079,.7940, .9889, 1.000
P_1782,178.284 {489},In2306,ppm, 5.408,.0229,.4229, 5.392, 5.425
Pb2203,220.353 {453},In2306,ppm, .9983,.0061,.6124, .9940, 1.003
S_1820,182.034 {485},Y_2243,ppm, 7.432,.0654,.8798, 7.386, 7.478
Sb2068,206.833 {463},Y_2243,ppm, 1.605,.0076,.4714, 1.599, 1.610
Se1960,196.090 {472},Y_2243,ppm, 1.025,.0014,.1390, 1.026, 1.024
Si2516,251.611 {134},Y_3710,ppm, 12.83,.1169,.9112, 12.75, 12.92
Sn1899,189.989 {477},In2306,ppm, 1.002,.0045,.4541, .9988, 1.005
Sr4215,421.552 { 80},Y_3710,ppm, 1.022,.0058,.5714, 1.018, 1.026
Ti3349,334.904 {101},Y_3600,ppm, 1.018,.0008,.0794, 1.019, 1.017
Tl1908,190.856 {477},In2306,ppm, .3705,.0196,5.302, .3844, .3566
U_3670,367.007 { 92},Y_3600,ppm, .1940,.0071,3.636, .1990, .1890
V_2924,292.402 {115},Y_3600,ppm, .9966,.0002,.0226, .9964, .9967
W_2397,239.709 {140},Y_2243,ppm, .4450,.0125,2.813, .4539, .4362
Zn2062,206.200 {463},In2306,ppm, .5132,.0032,.6198, .5110, .5155

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 211.95,1.4830,.69968,213.00,210.90
In2306,230.606 {446},Cts/S, 12956.,48.329,.37304,12990.,12921.
Y_2243,224.306 {450},Cts/S, 17889.,63.896,.35718,17934.,17844.
Y_3600,360.073 { 94},Cts/S, 160350.,305.33,.19041,160140.,160570.
Y_3710,371.030 { 91},Cts/S, 10295.,9.3983,.09129,10301.,10288.


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Ag3280,328.068 {103},Y_3600,ppm, -.0002,.0000,10.33, -.0002, -.0002
Al3082,308.215 {109},In2306,ppm, .3482,.0170,4.874, .3362, .3602
As1890,189.042 {478},Y_2243,ppm, .0118,.0010,8.405, .0125, .0111
B_2496,249.678 {135},Y_3710,ppm, .7484,.0022,.2915, .7499, .7468
Ba4554,455.403 { 74},Y_3710,ppm, .3759,.0027,.7112, .3740, .3778
Be3130,313.042 {108},Y_3710,ppm, .0005,.0000,2.471, .0005, .0005
Ca3158,315.887 {107},In2306,ppm, 80.60,.5480,.6799, 80.22, 80.99
Cd2288,228.802 {447},Y_2243,ppm, .0005,.0001,20.92, .0004, .0006
Co2286,228.616 {447},In2306,ppm, .0010,.0001,6.256, .0010, .0011
Cr2677,267.716 {126},Y_3600,ppm, .0014,.0001,10.02, .0013, .0015
Cu3247,324.754 {104},Y_3600,ppm, .0040,.0003,7.961, .0043, .0038
Fe2404,240.488 {140},In2306,ppm, .0709,.0006,.7835, .0705, .0713
K_7664,766.490 { 44},Y_3710,ppm, 68.14,.3925,.5760, 67.86, 68.41
Li6707,670.784 { 50},Y_3710,ppm, .0834,.0008,.9243, .0840, .0829
Mg2790,279.079 {121},Y_3710,ppm, 24.45,.2425,.9920, 24.28, 24.62
Mn2576,257.610 {131},Y_3600,ppm, .0956,.0006,.6169, .0960, .0952
Mo2020,202.030 {467},Y_2243,ppm, .0454,.0034,7.454, .0477, .0430
Na5895,589.592 { 57},Y_3710,ppm, 680.2,5.944,.8738, 676.0, 684.4
Ni2316,231.604 {445},In2306,ppm, .0466,.0046,9.849, .0498, .0433
P_1782,178.284 {489},In2306,ppm, .2431,.0211,8.671, .2580, .2282
Pb2203,220.353 {453},In2306,ppm, -.0018,.0019,108.4, -.0032, -.0004
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S_1820,182.034 {485},Y_2243,ppm, 260.7,22.77,8.733, 276.8, 244.6
Sb2068,206.833 {463},Y_2243,ppm, .0123,.0003,2.556, .0125, .0120
Se1960,196.090 {472},Y_2243,ppm, .2243,.0147,6.544, .2347, .2139
Si2516,251.611 {134},Y_3710,ppm, 9.811,.0374,.3814, 9.837, 9.784
Sn1899,189.989 {477},In2306,ppm, .0028,.0006,22.68, .0033, .0024
Sr4215,421.552 { 80},Y_3710,ppm, 2.416,.0139,.5774, 2.406, 2.425
Ti3349,334.904 {101},Y_3600,ppm, .0022,.0000,1.575, .0022, .0022
Tl1908,190.856 {477},In2306,ppm, .2285,.0209,9.141, .2433, .2137
U_3670,367.007 { 92},Y_3600,ppm, -.1524,.0041,2.666, -.1552, -.1495
V_2924,292.402 {115},Y_3600,ppm, .0311,.0004,1.220, .0308, .0313
W_2397,239.709 {140},Y_2243,ppm, .0634,.0827,130.6, .1219, .0049
Zn2062,206.200 {463},In2306,ppm, .1294,.0134,10.39, .1389, .1199

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 206.98,1.1387,.55017,207.78,206.17
In2306,230.606 {446},Cts/S, 10228.,756.92,7.4007,9692.5,10763.
Y_2243,224.306 {450},Cts/S, 15568.,1140.2,7.3242,14762.,16374.
Y_3600,360.073 { 94},Cts/S, 145770.,425.60,.29198,145460.,146070.
Y_3710,371.030 { 91},Cts/S, 9873.0,56.542,.57269,9913.0,9833.1

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Ag3280,328.068 {103},Y_3600,ppm, -.0004,.0003,65.98, -.0006, -.0002
Al3082,308.215 {109},In2306,ppm, .3016,.0006,.2064, .3011, .3020
As1890,189.042 {478},Y_2243,ppm, .0106,.0002,1.836, .0104, .0107
B_2496,249.678 {135},Y_3710,ppm, .7597,.0047,.6121, .7564, .7629
Ba4554,455.403 { 74},Y_3710,ppm, .3715,.0006,.1708, .3719, .3710
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,25.29, -.0000, -.0000
Ca3158,315.887 {107},In2306,ppm, 80.63,.3650,.4527, 80.38, 80.89
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0002,125.5, .0000, .0004
Co2286,228.616 {447},In2306,ppm, .0007,.0002,29.78, .0005, .0008
Cr2677,267.716 {126},Y_3600,ppm, .0014,.0001,5.764, .0013, .0014
Cu3247,324.754 {104},Y_3600,ppm, .0039,.0004,10.85, .0043, .0036
Fe2404,240.488 {140},In2306,ppm, .0787,.0126,16.03, .0698, .0876
K_7664,766.490 { 44},Y_3710,ppm, 67.24,.0178,.0265, 67.26, 67.23
Li6707,670.784 { 50},Y_3710,ppm, .0826,.0009,1.081, .0819, .0832
Mg2790,279.079 {121},Y_3710,ppm, 24.52,.1473,.6007, 24.62, 24.41
Mn2576,257.610 {131},Y_3600,ppm, .0953,.0006,.6734, .0958, .0949
Mo2020,202.030 {467},Y_2243,ppm, .0362,.0005,1.366, .0359, .0366
Na5895,589.592 { 57},Y_3710,ppm, 675.9,9.439,1.396, 669.3, 682.6
Ni2316,231.604 {445},In2306,ppm, .0441,.0002,.4702, .0439, .0442
P_1782,178.284 {489},In2306,ppm, .2180,.0033,1.504, .2203, .2156
Pb2203,220.353 {453},In2306,ppm, .0003,.0028,874.3, -.0016, .0023
S_1820,182.034 {485},Y_2243,ppm, 245.6,.9184,.3740, 244.9, 246.2
Sb2068,206.833 {463},Y_2243,ppm, .0033,.0023,68.51, .0049, .0017
Se1960,196.090 {472},Y_2243,ppm, .2089,.0018,.8794, .2076, .2102
Si2516,251.611 {134},Y_3710,ppm, 10.56,.1097,1.039, 10.63, 10.48
Sn1899,189.989 {477},In2306,ppm, .0006,.0006,110.6, .0001, .0010
Sr4215,421.552 { 80},Y_3710,ppm, 2.404,.0031,.1285, 2.406, 2.402
Ti3349,334.904 {101},Y_3600,ppm, .0015,.0006,41.25, .0011, .0020
Tl1908,190.856 {477},In2306,ppm, .1544,.0011,.7263, .1551, .1536
U_3670,367.007 { 92},Y_3600,ppm, -.3562,.0599,16.83, -.3986, -.3139
V_2924,292.402 {115},Y_3600,ppm, .0304,.0002,.6676, .0306, .0303
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W_2397,239.709 {140},Y_2243,ppm, .1317,.0146,11.08, .1420, .1214
Zn2062,206.200 {463},In2306,ppm, .1050,.0003,.2940, .1052, .1048

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 205.38,.17526,.08534,205.50,205.25
In2306,230.606 {446},Cts/S, 10781.,3.9706,.03683,10778.,10784.
Y_2243,224.306 {450},Cts/S, 16389.,21.461,.13095,16404.,16374.
Y_3600,360.073 { 94},Cts/S, 146280.,39.442,.02696,146250.,146300.
Y_3710,371.030 { 91},Cts/S, 9880.9,54.894,.55555,9842.1,9919.8

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Ag3280,328.068 {103},Y_3600,ppm, .2695,.0048,1.784, .2661, .2729
Al3082,308.215 {109},In2306,ppm, 11.30,.2409,2.132, 11.47, 11.13
As1890,189.042 {478},Y_2243,ppm, 1.119,.0094,.8414, 1.125, 1.112
B_2496,249.678 {135},Y_3710,ppm, 1.279,.0203,1.589, 1.265, 1.294
Ba4554,455.403 { 74},Y_3710,ppm, 1.413,.0012,.0816, 1.414, 1.413
Be3130,313.042 {108},Y_3710,ppm, 1.012,.0007,.0737, 1.012, 1.011
Ca3158,315.887 {107},In2306,ppm, 92.58,1.712,1.850, 93.79, 91.37
Cd2288,228.802 {447},Y_2243,ppm, 1.046,.0101,.9668, 1.053, 1.039
Co2286,228.616 {447},In2306,ppm, 1.044,.0090,.8611, 1.050, 1.037
Cr2677,267.716 {126},Y_3600,ppm, .9740,.0186,1.913, .9609, .9872
Cu3247,324.754 {104},Y_3600,ppm, 1.033,.0187,1.807, 1.019, 1.046
Fe2404,240.488 {140},In2306,ppm, 10.87,.1891,1.739, 11.01, 10.74
K_7664,766.490 { 44},Y_3710,ppm, 77.44,.0171,.0221, 77.42, 77.45
Li6707,670.784 { 50},Y_3710,ppm, 1.079,.0018,.1629, 1.077, 1.080
Mg2790,279.079 {121},Y_3710,ppm, 35.08,.1409,.4015, 34.98, 35.18
Mn2576,257.610 {131},Y_3600,ppm, 1.096,.0195,1.783, 1.082, 1.110
Mo2020,202.030 {467},Y_2243,ppm, 1.038,.0097,.9378, 1.045, 1.032
Na5895,589.592 { 57},Y_3710,ppm, 681.5,1.689,.2478, 680.3, 682.7
Ni2316,231.604 {445},In2306,ppm, 1.100,.0081,.7342, 1.106, 1.094
P_1782,178.284 {489},In2306,ppm, 6.803,.0452,.6648, 6.835, 6.771
Pb2203,220.353 {453},In2306,ppm, 1.020,.0070,.6870, 1.025, 1.015
S_1820,182.034 {485},Y_2243,ppm, 251.9,2.375,.9428, 253.6, 250.3
Sb2068,206.833 {463},Y_2243,ppm, 1.658,.0143,.8617, 1.668, 1.647
Se1960,196.090 {472},Y_2243,ppm, 1.293,.0070,.5437, 1.298, 1.288
Si2516,251.611 {134},Y_3710,ppm, 24.67,.2351,.9528, 24.50, 24.84
Sn1899,189.989 {477},In2306,ppm, 1.065,.0101,.9469, 1.072, 1.058
Sr4215,421.552 { 80},Y_3710,ppm, 3.413,.0007,.0197, 3.414, 3.413
Ti3349,334.904 {101},Y_3600,ppm, 1.026,.0185,1.799, 1.013, 1.039
Tl1908,190.856 {477},In2306,ppm, .4298,.0168,3.911, .4417, .4179
U_3670,367.007 { 92},Y_3600,ppm, .4452,.0219,4.915, .4298, .4607
V_2924,292.402 {115},Y_3600,ppm, 1.035,.0180,1.741, 1.022, 1.048
W_2397,239.709 {140},Y_2243,ppm, .4784,.0575,12.03, .4378, .5191
Zn2062,206.200 {463},In2306,ppm, .6780,.0035,.5150, .6804, .6755

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 202.53,3.8330,1.8926,199.82,205.24
In2306,230.606 {446},Cts/S, 10626.,81.635,.76825,10568.,10684.
Y_2243,224.306 {450},Cts/S, 16383.,127.61,.77895,16292.,16473.
Y_3600,360.073 { 94},Cts/S, 146870.,2427.4,1.6527,148590.,145150.
Y_3710,371.030 { 91},Cts/S, 10007.,22.535,.22519,10023.,9991.2
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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .2705,.0008,.2830, .2711, .2700
Al3082,308.215 {109},In2306,ppm, 11.36,.0961,.8461, 11.43, 11.29
As1890,189.042 {478},Y_2243,ppm, 1.110,.0013,.1159, 1.109, 1.110
B_2496,249.678 {135},Y_3710,ppm, 1.295,.0061,.4697, 1.299, 1.290
Ba4554,455.403 { 74},Y_3710,ppm, 1.403,.0005,.0382, 1.403, 1.403
Be3130,313.042 {108},Y_3710,ppm, 1.013,.0039,.3802, 1.016, 1.010
Ca3158,315.887 {107},In2306,ppm, 92.52,1.891,2.043, 93.86, 91.19
Cd2288,228.802 {447},Y_2243,ppm, 1.037,.0006,.0599, 1.037, 1.038
Co2286,228.616 {447},In2306,ppm, 1.037,.0023,.2209, 1.038, 1.035
Cr2677,267.716 {126},Y_3600,ppm, .9662,.0005,.0478, .9659, .9665
Cu3247,324.754 {104},Y_3600,ppm, 1.019,.0019,.1858, 1.021, 1.018
Fe2404,240.488 {140},In2306,ppm, 10.86,.1414,1.303, 10.96, 10.76
K_7664,766.490 { 44},Y_3710,ppm, 77.58,.0157,.0202, 77.59, 77.57
Li6707,670.784 { 50},Y_3710,ppm, 1.077,.0023,.2096, 1.079, 1.076
Mg2790,279.079 {121},Y_3710,ppm, 35.46,.0377,.1064, 35.44, 35.49
Mn2576,257.610 {131},Y_3600,ppm, 1.091,.0006,.0526, 1.090, 1.091
Mo2020,202.030 {467},Y_2243,ppm, 1.037,.0075,.7247, 1.042, 1.031
Na5895,589.592 { 57},Y_3710,ppm, 699.1,11.05,1.581, 691.3, 706.9
Ni2316,231.604 {445},In2306,ppm, 1.093,.0033,.3017, 1.095, 1.091
P_1782,178.284 {489},In2306,ppm, 6.782,.0371,.5464, 6.808, 6.756
Pb2203,220.353 {453},In2306,ppm, 1.019,.0067,.6543, 1.023, 1.014
S_1820,182.034 {485},Y_2243,ppm, 251.0,.4351,.1734, 250.7, 251.3
Sb2068,206.833 {463},Y_2243,ppm, 1.651,.0112,.6766, 1.659, 1.643
Se1960,196.090 {472},Y_2243,ppm, 1.283,.0034,.2640, 1.285, 1.280
Si2516,251.611 {134},Y_3710,ppm, 24.70,.2650,1.073, 24.51, 24.88
Sn1899,189.989 {477},In2306,ppm, 1.062,.0072,.6814, 1.067, 1.057
Sr4215,421.552 { 80},Y_3710,ppm, 3.419,.0052,.1511, 3.423, 3.416
Ti3349,334.904 {101},Y_3600,ppm, 1.020,.0025,.2454, 1.018, 1.022
Tl1908,190.856 {477},In2306,ppm, .6099,.0252,4.127, .6277, .5921
U_3670,367.007 { 92},Y_3600,ppm, .1719,.0282,16.43, .1918, .1519
V_2924,292.402 {115},Y_3600,ppm, 1.025,.0001,.0096, 1.025, 1.025
W_2397,239.709 {140},Y_2243,ppm, .5592,.1968,35.19, .4200, .6983
Zn2062,206.200 {463},In2306,ppm, .6724,.0048,.7094, .6758, .6690

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 202.34,3.3221,1.6419,199.99,204.68
In2306,230.606 {446},Cts/S, 10644.,1.0334,.00971,10645.,10643.
Y_2243,224.306 {450},Cts/S, 16462.,8.4545,.05136,16468.,16456.
Y_3600,360.073 { 94},Cts/S, 147520.,16.237,.01101,147510.,147530.
Y_3710,371.030 { 91},Cts/S, 9923.6,20.291,.20447,9937.9,9909.2

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2520,.0000,.0064, .2520, .2519
Al3082,308.215 {109},In2306,ppm, 10.29,.0326,.3165, 10.26, 10.31
As1890,189.042 {478},Y_2243,ppm, 1.075,.0046,.4280, 1.072, 1.078
B_2496,249.678 {135},Y_3710,ppm, 1.219,.0032,.2633, 1.217, 1.221
Ba4554,455.403 { 74},Y_3710,ppm, 1.357,.0031,.2278, 1.359, 1.354
Be3130,313.042 {108},Y_3710,ppm, .9793,.0021,.2137, .9779, .9808
Ca3158,315.887 {107},In2306,ppm, 88.93,1.090,1.225, 88.16, 89.70
Cd2288,228.802 {447},Y_2243,ppm, .9977,.0003,.0335, .9975, .9980
Co2286,228.616 {447},In2306,ppm, .9965,.0007,.0664, .9961, .9970
Cr2677,267.716 {126},Y_3600,ppm, .9327,.0061,.6560, .9371, .9284
Cu3247,324.754 {104},Y_3600,ppm, .9881,.0033,.3326, .9858, .9905
Fe2404,240.488 {140},In2306,ppm, 9.878,.0829,.8391, 9.820, 9.937
K_7664,766.490 { 44},Y_3710,ppm, 75.08,.0139,.0185, 75.09, 75.07
Li6707,670.784 { 50},Y_3710,ppm, 1.042,.0011,.1031, 1.042, 1.041
Mg2790,279.079 {121},Y_3710,ppm, 33.62,.1008,.2998, 33.55, 33.70
Mn2576,257.610 {131},Y_3600,ppm, 1.049,.0040,.3783, 1.052, 1.047
Mo2020,202.030 {467},Y_2243,ppm, 1.003,.0022,.2186, 1.002, 1.005
Na5895,589.592 { 57},Y_3710,ppm, 679.0,5.340,.7865, 675.2, 682.8
Ni2316,231.604 {445},In2306,ppm, 1.053,.0025,.2371, 1.052, 1.055
P_1782,178.284 {489},In2306,ppm, 6.103,.0385,.6311, 6.076, 6.130
Pb2203,220.353 {453},In2306,ppm, .9838,.0016,.1612, .9827, .9849
S_1820,182.034 {485},Y_2243,ppm, 243.1,.4914,.2021, 242.7, 243.4
Sb2068,206.833 {463},Y_2243,ppm, 1.578,.0014,.0906, 1.577, 1.579
Se1960,196.090 {472},Y_2243,ppm, 1.238,.0007,.0553, 1.238, 1.239
Si2516,251.611 {134},Y_3710,ppm, 25.13,.1622,.6453, 25.02, 25.25
Sn1899,189.989 {477},In2306,ppm, 1.026,.0056,.5491, 1.022, 1.030
Sr4215,421.552 { 80},Y_3710,ppm, 3.319,.0027,.0822, 3.321, 3.317
Ti3349,334.904 {101},Y_3600,ppm, .9832,.0018,.1860, .9845, .9819
Tl1908,190.856 {477},In2306,ppm, .9403,.0003,.0268, .9401, .9405
U_3670,367.007 { 92},Y_3600,ppm, .2968,.0361,12.18, .2712, .3223
V_2924,292.402 {115},Y_3600,ppm, .9886,.0026,.2583, .9904, .9868
W_2397,239.709 {140},Y_2243,ppm, .5123,.0448,8.736, .5440, .4807
Zn2062,206.200 {463},In2306,ppm, .6134,.0030,.4939, .6113, .6156

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 202.49,1.9634,.96963,203.88,201.10
In2306,230.606 {446},Cts/S, 10702.,8.3258,.07779,10708.,10696.
Y_2243,224.306 {450},Cts/S, 16513.,.52355,.00317,16512.,16513.
Y_3600,360.073 { 94},Cts/S, 147650.,853.77,.57822,147050.,148260.
Y_3710,371.030 { 91},Cts/S, 9857.7,29.475,.29900,9878.5,9836.8

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0000,.0004,911.0, .0003, -.0002
Al3082,308.215 {109},In2306,ppm, .0641,.0190,29.68, .0775, .0506
As1890,189.042 {478},Y_2243,ppm, .0005,.0003,52.61, .0007, .0003
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B_2496,249.678 {135},Y_3710,ppm, .1545,.0073,4.743, .1597, .1494
Ba4554,455.403 { 74},Y_3710,ppm, .0752,.0005,.6910, .0756, .0748
Be3130,313.042 {108},Y_3710,ppm, .0002,.0003,175.0, .0004, -.0000
Ca3158,315.887 {107},In2306,ppm, 16.48,.0489,.2966, 16.51, 16.44
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,12.63, .0001, .0002
Co2286,228.616 {447},In2306,ppm, .0001,.0001,105.8, .0002, .0000
Cr2677,267.716 {126},Y_3600,ppm, .0002,.0002,103.9, .0003, .0000
Cu3247,324.754 {104},Y_3600,ppm, .0019,.0001,4.337, .0020, .0018
Fe2404,240.488 {140},In2306,ppm, .0216,.0100,46.27, .0145, .0287
K_7664,766.490 { 44},Y_3710,ppm, 13.61,.0267,.1958, 13.63, 13.59
Li6707,670.784 { 50},Y_3710,ppm, .0171,.0005,2.674, .0167, .0174
Mg2790,279.079 {121},Y_3710,ppm, 4.969,.0237,.4767, 4.986, 4.952
Mn2576,257.610 {131},Y_3600,ppm, .0197,.0001,.3881, .0197, .0196
Mo2020,202.030 {467},Y_2243,ppm, .0144,.0008,5.506, .0138, .0150
Na5895,589.592 { 57},Y_3710,ppm, 138.6,.2260,.1631, 138.8, 138.4
Ni2316,231.604 {445},In2306,ppm, .0087,.0002,2.580, .0085, .0088
P_1782,178.284 {489},In2306,ppm, .0479,.0013,2.810, .0488, .0469
Pb2203,220.353 {453},In2306,ppm, -.0002,.0017,928.5, -.0014, .0010
S_1820,182.034 {485},Y_2243,ppm, 45.48,.0845,.1857, 45.54, 45.42
Sb2068,206.833 {463},Y_2243,ppm, .0046,.0003,6.870, .0044, .0048
Se1960,196.090 {472},Y_2243,ppm, .0412,.0015,3.567, .0402, .0422
Si2516,251.611 {134},Y_3710,ppm, 2.081,.0040,.1925, 2.078, 2.084
Sn1899,189.989 {477},In2306,ppm, .0023,.0007,32.36, .0028, .0018
Sr4215,421.552 { 80},Y_3710,ppm, .4875,.0020,.4073, .4889, .4861
Ti3349,334.904 {101},Y_3600,ppm, .0002,.0002,87.07, .0003, .0001
Tl1908,190.856 {477},In2306,ppm, .3843,.0092,2.399, .3778, .3908
U_3670,367.007 { 92},Y_3600,ppm, -.3327,.0169,5.078, -.3446, -.3207
V_2924,292.402 {115},Y_3600,ppm, .0062,.0001,1.599, .0063, .0062
W_2397,239.709 {140},Y_2243,ppm, -.0177,.0350,197.5, .0070, -.0424
Zn2062,206.200 {463},In2306,ppm, .0194,.0001,.4496, .0194, .0193

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 210.71,.90487,.42944,210.07,211.35
In2306,230.606 {446},Cts/S, 12217.,4.5013,.03685,12213.,12220.
Y_2243,224.306 {450},Cts/S, 17352.,28.973,.16697,17332.,17373.
Y_3600,360.073 { 94},Cts/S, 155150.,367.75,.23703,154890.,155410.
Y_3710,371.030 { 91},Cts/S, 10074.,24.428,.24247,10092.,10057.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0000,.0005,2127., .0003, -.0003
Al3082,308.215 {109},In2306,ppm, .0164,.0052,31.48, .0127, .0200
As1890,189.042 {478},Y_2243,ppm, .0007,.0006,95.75, .0002, .0011
B_2496,249.678 {135},Y_3710,ppm, .0764,.0124,16.28, .0852, .0676
Ba4554,455.403 { 74},Y_3710,ppm, .0383,.0002,.5403, .0385, .0382
Be3130,313.042 {108},Y_3710,ppm, .0002,.0000,17.65, .0001, .0002
Ca3158,315.887 {107},In2306,ppm, 8.293,.0776,.9361, 8.238, 8.348
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,68.74, .0001, .0000
Co2286,228.616 {447},In2306,ppm, .0002,.0002,128.4, .0000, .0004
Cr2677,267.716 {126},Y_3600,ppm, .0001,.0002,303.4, .0002, -.0001
Cu3247,324.754 {104},Y_3600,ppm, .0018,.0009,52.91, .0011, .0025
Fe2404,240.488 {140},In2306,ppm, .0189,.0084,44.72, .0248, .0129
K_7664,766.490 { 44},Y_3710,ppm, 6.992,.0594,.8489, 7.034, 6.950
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Li6707,670.784 { 50},Y_3710,ppm, .0099,.0018,18.45, .0112, .0086
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Mn2576,257.610 {131},Y_3600,ppm, .0100,.0001,.6137, .0100, .0101
Mo2020,202.030 {467},Y_2243,ppm, .0057,.0002,3.869, .0058, .0055
Na5895,589.592 { 57},Y_3710,ppm, 70.28,.0373,.0530, 70.31, 70.26
Ni2316,231.604 {445},In2306,ppm, .0046,.0002,4.328, .0045, .0048
P_1782,178.284 {489},In2306,ppm, .0259,.0002,.8229, .0261, .0258
Pb2203,220.353 {453},In2306,ppm, -.0004,.0006,156.9, -.0008, .0000
S_1820,182.034 {485},Y_2243,ppm, 21.43,.0407,.1897, 21.46, 21.41
Sb2068,206.833 {463},Y_2243,ppm, .0019,.0016,82.48, .0008, .0030
Se1960,196.090 {472},Y_2243,ppm, .0200,.0028,13.99, .0180, .0220
Si2516,251.611 {134},Y_3710,ppm, 1.089,.0140,1.289, 1.099, 1.079
Sn1899,189.989 {477},In2306,ppm, .0011,.0001,9.442, .0012, .0010
Sr4215,421.552 { 80},Y_3710,ppm, .2499,.0012,.4741, .2507, .2491
Ti3349,334.904 {101},Y_3600,ppm, .0004,.0001,33.18, .0003, .0005
Tl1908,190.856 {477},In2306,ppm, .2670,.0065,2.430, .2624, .2716
U_3670,367.007 { 92},Y_3600,ppm, -.3764,.1721,45.74, -.2547, -.4981
V_2924,292.402 {115},Y_3600,ppm, .0035,.0004,10.88, .0037, .0032
W_2397,239.709 {140},Y_2243,ppm, .0216,.0436,201.6, .0524, -.0092
Zn2062,206.200 {463},In2306,ppm, .0125,.0000,.2318, .0124, .0125

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 214.18,2.4518,1.1447,215.92,212.45
In2306,230.606 {446},Cts/S, 12655.,33.077,.26137,12679.,12632.
Y_2243,224.306 {450},Cts/S, 17670.,39.347,.22268,17698.,17642.
Y_3600,360.073 { 94},Cts/S, 157760.,96.737,.06132,157690.,157820.
Y_3710,371.030 { 91},Cts/S, 10056.,34.570,.34376,10032.,10081.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0007,.0002,35.25, -.0005, -.0009
Al3082,308.215 {109},In2306,ppm, -.0062,.0059,95.90, -.0020, -.0104
As1890,189.042 {478},Y_2243,ppm, .0010,.0010,100.1, .0003, .0017
B_2496,249.678 {135},Y_3710,ppm, .0763,.0066,8.615, .0717, .0810
Ba4554,455.403 { 74},Y_3710,ppm, .0388,.0002,.5770, .0387, .0390
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,5.569, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, 8.461,.0190,.2240, 8.475, 8.448
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Co2286,228.616 {447},In2306,ppm, .0000,.0002,2917., .0002, -.0001
Cr2677,267.716 {126},Y_3600,ppm, .0002,.0001,58.07, .0001, .0003
Cu3247,324.754 {104},Y_3600,ppm, .0011,.0002,21.23, .0009, .0013
Fe2404,240.488 {140},In2306,ppm, .0033,.0004,11.65, .0030, .0035
K_7664,766.490 { 44},Y_3710,ppm, 7.105,.0207,.2908, 7.091, 7.120
Li6707,670.784 { 50},Y_3710,ppm, .0072,.0006,7.695, .0076, .0068
Mg2790,279.079 {121},Y_3710,ppm, 2.551,.0166,.6515, 2.539, 2.562
Mn2576,257.610 {131},Y_3600,ppm, .0101,.0000,.3168, .0102, .0101
Mo2020,202.030 {467},Y_2243,ppm, .0045,.0000,.9134, .0045, .0046
Na5895,589.592 { 57},Y_3710,ppm, 71.66,.2129,.2971, 71.51, 71.81
Ni2316,231.604 {445},In2306,ppm, .0046,.0001,1.136, .0046, .0045
P_1782,178.284 {489},In2306,ppm, .0241,.0006,2.452, .0237, .0246
Pb2203,220.353 {453},In2306,ppm, .0008,.0009,110.5, .0015, .0002
S_1820,182.034 {485},Y_2243,ppm, 21.80,.0266,.1221, 21.81, 21.78
Sb2068,206.833 {463},Y_2243,ppm, .0004,.0003,89.60, .0001, .0006
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Se1960,196.090 {472},Y_2243,ppm, .0226,.0001,.2776, .0225, .0226
Si2516,251.611 {134},Y_3710,ppm, 1.096,.0012,.1067, 1.096, 1.095
Sn1899,189.989 {477},In2306,ppm, .0002,.0001,21.01, .0002, .0003
Sr4215,421.552 { 80},Y_3710,ppm, .2539,.0019,.7312, .2526, .2553
Ti3349,334.904 {101},Y_3600,ppm, .0002,.0004,259.1, -.0001, .0004
Tl1908,190.856 {477},In2306,ppm, .1888,.0031,1.666, .1866, .1910
U_3670,367.007 { 92},Y_3600,ppm, -.2697,.0567,21.01, -.3097, -.2296
V_2924,292.402 {115},Y_3600,ppm, .0031,.0002,7.811, .0033, .0029
W_2397,239.709 {140},Y_2243,ppm, .0616,.0313,50.88, .0838, .0394
Zn2062,206.200 {463},In2306,ppm, .0109,.0002,2.151, .0111, .0108

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 213.17,.46931,.22016,212.84,213.50
In2306,230.606 {446},Cts/S, 12686.,.24568,.00194,12686.,12686.
Y_2243,224.306 {450},Cts/S, 17702.,36.381,.20552,17728.,17676.
Y_3600,360.073 { 94},Cts/S, 157660.,86.177,.05466,157600.,157720.
Y_3710,371.030 { 91},Cts/S, 10046.,10.207,.10160,10039.,10054.

[Sample Header]
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Username=admin
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Custom ID3=
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Mode=CONC
CorrFactor=1.000
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Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .4954,.0010,.2118, .4947, .4961
Al3082,308.215 {109},In2306,ppm, 19.60,.2473,1.262, 19.42, 19.77
As1890,189.042 {478},Y_2243,ppm, 1.012,.0142,1.403, 1.022, 1.002
B_2496,249.678 {135},Y_3710,ppm, .9930,.0198,1.992, .9790, 1.007
Ba4554,455.403 { 74},Y_3710,ppm, 1.004,.0039,.3870, 1.007, 1.001
Be3130,313.042 {108},Y_3710,ppm, .9611,.0037,.3830, .9637, .9585
Ca3158,315.887 {107},In2306,ppm, 19.54,.1732,.8863, 19.42, 19.66
Cd2288,228.802 {447},Y_2243,ppm, .9740,.0004,.0433, .9743, .9737
Co2286,228.616 {447},In2306,ppm, .9626,.0002,.0225, .9627, .9624
Cr2677,267.716 {126},Y_3600,ppm, .9706,.0008,.0799, .9700, .9711
Cu3247,324.754 {104},Y_3600,ppm, .9863,.0036,.3698, .9837, .9889
Fe2404,240.488 {140},In2306,ppm, 19.68,.2335,1.187, 19.52, 19.85
K_7664,766.490 { 44},Y_3710,ppm, 19.49,.1038,.5328, 19.56, 19.41
Li6707,670.784 { 50},Y_3710,ppm, .9698,.0064,.6609, .9743, .9653
Mg2790,279.079 {121},Y_3710,ppm, 20.03,.0262,.1310, 20.04, 20.01
Mn2576,257.610 {131},Y_3600,ppm, .9924,.0025,.2528, .9906, .9942
Mo2020,202.030 {467},Y_2243,ppm, .9866,.0071,.7176, .9916, .9816
Na5895,589.592 { 57},Y_3710,ppm, 19.66,.0591,.3005, 19.70, 19.62
Ni2316,231.604 {445},In2306,ppm, .9747,.0005,.0471, .9744, .9750
P_1782,178.284 {489},In2306,ppm, 10.34,.0828,.8009, 10.40, 10.28
Pb2203,220.353 {453},In2306,ppm, .9750,.0050,.5086, .9785, .9715
S_1820,182.034 {485},Y_2243,ppm, 10.67,.0587,.5505, 10.71, 10.63
Sb2068,206.833 {463},Y_2243,ppm, 2.075,.0121,.5829, 2.083, 2.066
Se1960,196.090 {472},Y_2243,ppm, .9982,.0055,.5484, 1.002, .9943
Si2516,251.611 {134},Y_3710,ppm, 13.89,.2022,1.456, 13.75, 14.03
Sn1899,189.989 {477},In2306,ppm, .9885,.0018,.1788, .9898, .9873
Sr4215,421.552 { 80},Y_3710,ppm, .9886,.0007,.0749, .9891, .9881
Ti3349,334.904 {101},Y_3600,ppm, .9880,.0038,.3808, .9854, .9907
Tl1908,190.856 {477},In2306,ppm, 1.067,.0062,.5833, 1.071, 1.062
U_3670,367.007 { 92},Y_3600,ppm, .8327,.0591,7.097, .7909, .8745
V_2924,292.402 {115},Y_3600,ppm, .9723,.0030,.3087, .9702, .9744
W_2397,239.709 {140},Y_2243,ppm, 1.284,.0116,.9056, 1.276, 1.292
Zn2062,206.200 {463},In2306,ppm, .9634,.0027,.2787, .9615, .9653
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[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 210.77,1.5888,.75380,211.89,209.65
In2306,230.606 {446},Cts/S, 12608.,9.1139,.07229,12601.,12614.
Y_2243,224.306 {450},Cts/S, 17847.,12.848,.07199,17838.,17856.
Y_3600,360.073 { 94},Cts/S, 159630.,318.37,.19945,159850.,159400.
Y_3710,371.030 { 91},Cts/S, 10221.,45.453,.44468,10189.,10254.

[Sample Header]
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Custom ID3=
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Mode=CONC
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0099,.0003,3.404, .0097, .0102
Al3082,308.215 {109},In2306,ppm, .1944,.0076,3.894, .1890, .1997
As1890,189.042 {478},Y_2243,ppm, .0219,.0015,6.730, .0209, .0230
B_2496,249.678 {135},Y_3710,ppm, .2154,.0043,2.000, .2184, .2123
Ba4554,455.403 { 74},Y_3710,ppm, .0226,.0002,.9911, .0224, .0227
Be3130,313.042 {108},Y_3710,ppm, .0111,.0003,2.290, .0109, .0113
Ca3158,315.887 {107},In2306,ppm, 1.040,.0100,.9618, 1.033, 1.047
Cd2288,228.802 {447},Y_2243,ppm, .0112,.0002,1.346, .0113, .0111
Co2286,228.616 {447},In2306,ppm, .0105,.0001,.8941, .0106, .0104
Cr2677,267.716 {126},Y_3600,ppm, .0111,.0002,1.498, .0112, .0110
Cu3247,324.754 {104},Y_3600,ppm, .0127,.0002,1.826, .0125, .0128
Fe2404,240.488 {140},In2306,ppm, .2266,.0021,.9190, .2281, .2251
K_7664,766.490 { 44},Y_3710,ppm, 1.113,.0230,2.063, 1.096, 1.129
Li6707,670.784 { 50},Y_3710,ppm, .0113,.0002,1.879, .0115, .0112
Mg2790,279.079 {121},Y_3710,ppm, 1.108,.0319,2.881, 1.085, 1.131
Mn2576,257.610 {131},Y_3600,ppm, .0114,.0000,.0226, .0114, .0114
Mo2020,202.030 {467},Y_2243,ppm, .0280,.0000,.0939, .0280, .0280
Na5895,589.592 { 57},Y_3710,ppm, 1.125,.0074,.6624, 1.119, 1.130
Ni2316,231.604 {445},In2306,ppm, .0110,.0002,1.416, .0109, .0111
P_1782,178.284 {489},In2306,ppm, .9969,.0137,1.376, 1.007, .9872
Pb2203,220.353 {453},In2306,ppm, .0110,.0002,2.191, .0111, .0108
S_1820,182.034 {485},Y_2243,ppm, -2.723,.0028,.1025, -2.721, -2.725
Sb2068,206.833 {463},Y_2243,ppm, .0611,.0019,3.031, .0598, .0625
Se1960,196.090 {472},Y_2243,ppm, .0248,.0027,10.95, .0268, .0229
Si2516,251.611 {134},Y_3710,ppm, .3405,.0080,2.353, .3348, .3461
Sn1899,189.989 {477},In2306,ppm, .0233,.0001,.5343, .0232, .0234
Sr4215,421.552 { 80},Y_3710,ppm, .0110,.0001,.8798, .0109, .0111
Ti3349,334.904 {101},Y_3600,ppm, .0117,.0001,.4486, .0117, .0117
Tl1908,190.856 {477},In2306,ppm, .1733,.0002,.0986, .1734, .1731
U_3670,367.007 { 92},Y_3600,ppm, -.2407,.1017,42.26, -.3127, -.1688
V_2924,292.402 {115},Y_3600,ppm, .0109,.0004,3.609, .0106, .0112
W_2397,239.709 {140},Y_2243,ppm, .1068,.0275,25.72, .0874, .1262
Zn2062,206.200 {463},In2306,ppm, .0198,.0004,1.955, .0201, .0196

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 216.91,.20207,.09316,217.05,216.77
In2306,230.606 {446},Cts/S, 13485.,37.453,.27775,13458.,13511.
Y_2243,224.306 {450},Cts/S, 18152.,49.408,.27219,18117.,18187.
Y_3600,360.073 { 94},Cts/S, 163220.,255.10,.15629,163400.,163040.
Y_3710,371.030 { 91},Cts/S, 10154.,15.731,.15493,10143.,10165.

[Sample Header]
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Custom ID3=
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Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0003,.0002,64.59, -.0002, -.0005
Al3082,308.215 {109},In2306,ppm, -.0191,.0099,51.85, -.0121, -.0260
As1890,189.042 {478},Y_2243,ppm, -.0013,.0001,6.486, -.0013, -.0012
B_2496,249.678 {135},Y_3710,ppm, -.0012,.0083,683.5, .0046, -.0071
Ba4554,455.403 { 74},Y_3710,ppm, -.0001,.0000,32.24, -.0001, -.0001
Be3130,313.042 {108},Y_3710,ppm, .0000,.0001,1419., .0001, -.0000
Ca3158,315.887 {107},In2306,ppm, -.0004,.0060,1331., .0038, -.0047
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0001,41.07, .0002, .0003
Co2286,228.616 {447},In2306,ppm, .0001,.0002,170.3, .0003, -.0000
Cr2677,267.716 {126},Y_3600,ppm, .0003,.0004,156.3, .0006, -.0000
Cu3247,324.754 {104},Y_3600,ppm, .0015,.0001,3.727, .0014, .0015
Fe2404,240.488 {140},In2306,ppm, -.0014,.0039,288.2, .0014, -.0041
K_7664,766.490 { 44},Y_3710,ppm, .0441,.0274,62.23, .0635, .0247
Li6707,670.784 { 50},Y_3710,ppm, -.0010,.0002,21.46, -.0009, -.0012
Mg2790,279.079 {121},Y_3710,ppm, -.0319,.0054,16.86, -.0281, -.0357
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,430.3, -.0000, .0000
Mo2020,202.030 {467},Y_2243,ppm, .0010,.0002,19.38, .0011, .0009
Na5895,589.592 { 57},Y_3710,ppm, .0242,.0093,38.50, .0176, .0308
Ni2316,231.604 {445},In2306,ppm, .0002,.0005,243.5, -.0001, .0005
P_1782,178.284 {489},In2306,ppm, .0012,.0005,39.45, .0009, .0016
Pb2203,220.353 {453},In2306,ppm, .0029,.0011,37.20, .0036, .0021
S_1820,182.034 {485},Y_2243,ppm, -2.380,.0021,.0868, -2.382, -2.379
Sb2068,206.833 {463},Y_2243,ppm, -.0007,.0036,487.5, -.0033, .0018
Se1960,196.090 {472},Y_2243,ppm, .0042,.0030,73.05, .0063, .0020
Si2516,251.611 {134},Y_3710,ppm, .0292,.0001,.5124, .0291, .0293
Sn1899,189.989 {477},In2306,ppm, .0006,.0000,1.480, .0007, .0006
Sr4215,421.552 { 80},Y_3710,ppm, .0001,.0000,66.96, .0001, .0000
Ti3349,334.904 {101},Y_3600,ppm, -.0003,.0003,129.1, -.0005, -.0000
Tl1908,190.856 {477},In2306,ppm, .1319,.0066,4.978, .1273, .1365
U_3670,367.007 { 92},Y_3600,ppm, -.3657,.0262,7.158, -.3842, -.3471
V_2924,292.402 {115},Y_3600,ppm, .0003,.0001,35.72, .0003, .0002
W_2397,239.709 {140},Y_2243,ppm, .0562,.0242,43.11, .0391, .0734
Zn2062,206.200 {463},In2306,ppm, .0042,.0002,3.739, .0043, .0041

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 212.66,7.6758,3.6095,207.23,218.08
In2306,230.606 {446},Cts/S, 13557.,8.1616,.06020,13562.,13551.
Y_2243,224.306 {450},Cts/S, 18169.,11.248,.06191,18177.,18161.
Y_3600,360.073 { 94},Cts/S, 164260.,126.09,.07676,164350.,164170.
Y_3710,371.030 { 91},Cts/S, 10094.,292.60,2.8989,9886.8,10301.

[Sample Header]
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Custom ID3=
Run Time=9/19/2019 12:24:23
Sample Type=Unk
Mode=CONC
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CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0264,.0003,1.275, .0267, .0262
Al3082,308.215 {109},In2306,ppm, 1.137,.0022,.1906, 1.138, 1.135
As1890,189.042 {478},Y_2243,ppm, .1135,.0012,1.082, .1126, .1144
B_2496,249.678 {135},Y_3710,ppm, .1378,.0036,2.634, .1404, .1353
Ba4554,455.403 { 74},Y_3710,ppm, .1523,.0002,.1027, .1522, .1524
Be3130,313.042 {108},Y_3710,ppm, .1092,.0008,.7416, .1098, .1086
Ca3158,315.887 {107},In2306,ppm, 9.797,.1230,1.255, 9.884, 9.710
Cd2288,228.802 {447},Y_2243,ppm, .1087,.0007,.6859, .1092, .1081
Co2286,228.616 {447},In2306,ppm, .1064,.0009,.8542, .1070, .1057
Cr2677,267.716 {126},Y_3600,ppm, .1056,.0000,.0468, .1055, .1056
Cu3247,324.754 {104},Y_3600,ppm, .1098,.0007,.6694, .1093, .1103
Fe2404,240.488 {140},In2306,ppm, 1.150,.0197,1.712, 1.164, 1.136
K_7664,766.490 { 44},Y_3710,ppm, 8.366,.0111,.1330, 8.374, 8.358
Li6707,670.784 { 50},Y_3710,ppm, .1148,.0007,.6283, .1153, .1143
Mg2790,279.079 {121},Y_3710,ppm, 3.745,.0609,1.625, 3.788, 3.702
Mn2576,257.610 {131},Y_3600,ppm, .1191,.0001,.0526, .1191, .1190
Mo2020,202.030 {467},Y_2243,ppm, .1127,.0010,.8980, .1134, .1120
Na5895,589.592 { 57},Y_3710,ppm, 74.19,.0112,.0150, 74.20, 74.18
Ni2316,231.604 {445},In2306,ppm, .1119,.0015,1.297, .1130, .1109
P_1782,178.284 {489},In2306,ppm, .6233,.0057,.9173, .6273, .6192
Pb2203,220.353 {453},In2306,ppm, .1076,.0002,.2316, .1074, .1078
S_1820,182.034 {485},Y_2243,ppm, 22.88,.1940,.8477, 23.02, 22.75
Sb2068,206.833 {463},Y_2243,ppm, .1698,.0012,.6820, .1706, .1690
Se1960,196.090 {472},Y_2243,ppm, .1347,.0003,.2090, .1349, .1345
Si2516,251.611 {134},Y_3710,ppm, 2.637,.0035,.1323, 2.639, 2.634
Sn1899,189.989 {477},In2306,ppm, .1073,.0014,1.306, .1083, .1063
Sr4215,421.552 { 80},Y_3710,ppm, .3678,.0006,.1632, .3674, .3682
Ti3349,334.904 {101},Y_3600,ppm, .1096,.0004,.4005, .1093, .1099
Tl1908,190.856 {477},In2306,ppm, .1297,.0017,1.273, .1309, .1286
U_3670,367.007 { 92},Y_3600,ppm, -.2787,.0155,5.553, -.2897, -.2678
V_2924,292.402 {115},Y_3600,ppm, .1109,.0003,.2630, .1107, .1111
W_2397,239.709 {140},Y_2243,ppm, .0488,.0534,109.6, .0866, .0110
Zn2062,206.200 {463},In2306,ppm, .0674,.0007,.9809, .0679, .0669

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 211.46,1.2409,.58685,210.58,212.34
In2306,230.606 {446},Cts/S, 12620.,13.384,.10606,12610.,12629.
Y_2243,224.306 {450},Cts/S, 17713.,5.5196,.03116,17709.,17717.
Y_3600,360.073 { 94},Cts/S, 159050.,468.33,.29446,159380.,158720.
Y_3710,371.030 { 91},Cts/S, 10060.,24.233,.24088,10077.,10043.

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Repeats=2

[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0258,.0000,.1877, .0257, .0258
Al3082,308.215 {109},In2306,ppm, 1.057,.0606,5.731, 1.100, 1.015
As1890,189.042 {478},Y_2243,ppm, .1092,.0019,1.780, .1105, .1078
B_2496,249.678 {135},Y_3710,ppm, .1206,.0128,10.61, .1116, .1297
Ba4554,455.403 { 74},Y_3710,ppm, .1403,.0070,4.989, .1452, .1353
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Be3130,313.042 {108},Y_3710,ppm, .1013,.0055,5.435, .1052, .0974
Ca3158,315.887 {107},In2306,ppm, 9.136,.4977,5.448, 9.488, 8.784
Cd2288,228.802 {447},Y_2243,ppm, .1054,.0000,.0130, .1054, .1054
Co2286,228.616 {447},In2306,ppm, .1028,.0003,.2858, .1030, .1026
Cr2677,267.716 {126},Y_3600,ppm, .1030,.0004,.3497, .1032, .1027
Cu3247,324.754 {104},Y_3600,ppm, .1054,.0005,.4420, .1057, .1050
Fe2404,240.488 {140},In2306,ppm, 1.064,.0279,2.626, 1.084, 1.044
K_7664,766.490 { 44},Y_3710,ppm, 7.826,.3481,4.448, 8.072, 7.580
Li6707,670.784 { 50},Y_3710,ppm, .1081,.0064,5.899, .1126, .1035
Mg2790,279.079 {121},Y_3710,ppm, 3.517,.1563,4.445, 3.628, 3.407
Mn2576,257.610 {131},Y_3600,ppm, .1156,.0003,.2762, .1159, .1154
Mo2020,202.030 {467},Y_2243,ppm, .1100,.0011,.9810, .1108, .1092
Na5895,589.592 { 57},Y_3710,ppm, 69.34,3.438,4.959, 71.77, 66.90
Ni2316,231.604 {445},In2306,ppm, .1085,.0003,.2385, .1087, .1084
P_1782,178.284 {489},In2306,ppm, .6042,.0004,.0643, .6045, .6039
Pb2203,220.353 {453},In2306,ppm, .1029,.0011,1.082, .1021, .1037
S_1820,182.034 {485},Y_2243,ppm, 22.27,.0970,.4355, 22.34, 22.20
Sb2068,206.833 {463},Y_2243,ppm, .1658,.0012,.7429, .1649, .1666
Se1960,196.090 {472},Y_2243,ppm, .1278,.0006,.4884, .1282, .1273
Si2516,251.611 {134},Y_3710,ppm, 2.445,.1250,5.111, 2.533, 2.356
Sn1899,189.989 {477},In2306,ppm, .1052,.0000,.0294, .1051, .1052
Sr4215,421.552 { 80},Y_3710,ppm, .3430,.0172,5.004, .3551, .3309
Ti3349,334.904 {101},Y_3600,ppm, .1056,.0004,.3720, .1058, .1053
Tl1908,190.856 {477},In2306,ppm, .1216,.0024,1.984, .1199, .1233
U_3670,367.007 { 92},Y_3600,ppm, -.2252,.1140,50.64, -.3058, -.1445
V_2924,292.402 {115},Y_3600,ppm, .1076,.0003,.2435, .1078, .1074
W_2397,239.709 {140},Y_2243,ppm, .0716,.0108,15.05, .0792, .0640
Zn2062,206.200 {463},In2306,ppm, .0646,.0002,.2881, .0647, .0644

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 219.07,9.1592,4.1809,212.59,225.55
In2306,230.606 {446},Cts/S, 12603.,35.439,.28121,12578.,12628.
Y_2243,224.306 {450},Cts/S, 17643.,62.660,.35516,17598.,17687.
Y_3600,360.073 { 94},Cts/S, 158700.,184.38,.11618,158570.,158830.
Y_3710,371.030 { 91},Cts/S, 10430.,404.34,3.8767,10144.,10716.

[Sample Header]
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Custom ID2=
Custom ID3=
Run Time=9/19/2019 12:28:17
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Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0005,.0003,64.94, .0007, .0003
Al3082,308.215 {109},In2306,ppm, .0414,.0033,7.855, .0391, .0437
As1890,189.042 {478},Y_2243,ppm, .0002,.0017,1162., .0014, -.0011
B_2496,249.678 {135},Y_3710,ppm, .0480,.0095,19.84, .0413, .0547
Ba4554,455.403 { 74},Y_3710,ppm, .0843,.0004,.4211, .0841, .0846
Be3130,313.042 {108},Y_3710,ppm, .0002,.0000,.6477, .0002, .0002
Ca3158,315.887 {107},In2306,ppm, 38.19,.2073,.5429, 38.33, 38.04
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0001,52.31, .0001, .0002
Co2286,228.616 {447},In2306,ppm, .0006,.0002,45.25, .0007, .0004
Cr2677,267.716 {126},Y_3600,ppm, .0011,.0002,19.41, .0009, .0012
Cu3247,324.754 {104},Y_3600,ppm, .0062,.0003,4.523, .0064, .0060
Fe2404,240.488 {140},In2306,ppm, .3253,.0086,2.654, .3192, .3314
K_7664,766.490 { 44},Y_3710,ppm, 3.193,.0078,.2442, 3.187, 3.198
Li6707,670.784 { 50},Y_3710,ppm, .0088,.0015,16.45, .0078, .0098
Mg2790,279.079 {121},Y_3710,ppm, 3.137,.0296,.9445, 3.158, 3.116
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Mn2576,257.610 {131},Y_3600,ppm, .0219,.0001,.6390, .0220, .0218
Mo2020,202.030 {467},Y_2243,ppm, .0150,.0002,1.574, .0151, .0148
Na5895,589.592 { 57},Y_3710,ppm, 3329.,15.22,.4571, 3318., 3340.
Ni2316,231.604 {445},In2306,ppm, .0025,.0002,9.411, .0026, .0023
P_1782,178.284 {489},In2306,ppm, .8143,.0014,.1688, .8152, .8133
Pb2203,220.353 {453},In2306,ppm, -.0029,.0004,12.52, -.0032, -.0027
S_1820,182.034 {485},Y_2243,ppm, 43.06,.0514,.1194, 43.09, 43.02
Sb2068,206.833 {463},Y_2243,ppm, .0016,.0007,41.02, .0021, .0011
Se1960,196.090 {472},Y_2243,ppm, .0003,.0032,1136., .0025, -.0020
Si2516,251.611 {134},Y_3710,ppm, 6.608,.0259,.3920, 6.626, 6.590
Sn1899,189.989 {477},In2306,ppm, .0003,.0006,235.4, .0007, -.0002
Sr4215,421.552 { 80},Y_3710,ppm, .2328,.0002,.0781, .2329, .2327
Ti3349,334.904 {101},Y_3600,ppm, .0004,.0002,45.65, .0005, .0003
Tl1908,190.856 {477},In2306,ppm, .0909,.0006,.6386, .0905, .0914
U_3670,367.007 { 92},Y_3600,ppm, -.2746,.0213,7.764, -.2897, -.2595
V_2924,292.402 {115},Y_3600,ppm, .0006,.0002,32.50, .0004, .0007
W_2397,239.709 {140},Y_2243,ppm, .1550,.0762,49.19, .1011, .2089
Zn2062,206.200 {463},In2306,ppm, .0609,.0003,.5041, .0607, .0611

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 191.37,1.6851,.88056,190.17,192.56
In2306,230.606 {446},Cts/S, 9226.0,43.183,.46806,9195.4,9256.5
Y_2243,224.306 {450},Cts/S, 15067.,79.998,.53095,15011.,15124.
Y_3600,360.073 { 94},Cts/S, 129070.,116.27,.09009,128980.,129150.
Y_3710,371.030 { 91},Cts/S, 9286.9,11.512,.12396,9295.0,9278.7

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0001,.0002,198.5, .0002, -.0000
Al3082,308.215 {109},In2306,ppm, -.0350,.0121,34.44, -.0436, -.0265
As1890,189.042 {478},Y_2243,ppm, .0007,.0010,136.9, .0000, .0014
B_2496,249.678 {135},Y_3710,ppm, .0012,.0048,418.8, .0046, -.0023
Ba4554,455.403 { 74},Y_3710,ppm, .0053,.0001,.9995, .0053, .0052
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,85.38, .0001, .0000
Ca3158,315.887 {107},In2306,ppm, 2.478,.0289,1.166, 2.458, 2.499
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0001,955.8, .0001, -.0001
Co2286,228.616 {447},In2306,ppm, .0003,.0001,21.32, .0002, .0003
Cr2677,267.716 {126},Y_3600,ppm, -.0001,.0000,12.48, -.0001, -.0001
Cu3247,324.754 {104},Y_3600,ppm, .0023,.0002,10.32, .0021, .0024
Fe2404,240.488 {140},In2306,ppm, .0211,.0012,5.863, .0220, .0202
K_7664,766.490 { 44},Y_3710,ppm, .2352,.0063,2.662, .2308, .2396
Li6707,670.784 { 50},Y_3710,ppm, .0013,.0007,54.74, .0018, .0008
Mg2790,279.079 {121},Y_3710,ppm, .1803,.0318,17.65, .1578, .2028
Mn2576,257.610 {131},Y_3600,ppm, .0015,.0000,.8678, .0015, .0014
Mo2020,202.030 {467},Y_2243,ppm, .0017,.0002,11.87, .0015, .0018
Na5895,589.592 { 57},Y_3710,ppm, 239.3,2.353,.9829, 237.7, 241.0
Ni2316,231.604 {445},In2306,ppm, .0002,.0003,137.2, .0004, .0000
P_1782,178.284 {489},In2306,ppm, .0441,.0023,5.190, .0425, .0457
Pb2203,220.353 {453},In2306,ppm, -.0003,.0000,3.629, -.0003, -.0003
S_1820,182.034 {485},Y_2243,ppm, -.2926,.0126,4.322, -.3015, -.2836
Sb2068,206.833 {463},Y_2243,ppm, -.0002,.0016,739.2, .0009, -.0013
Se1960,196.090 {472},Y_2243,ppm, .0013,.0004,33.06, .0016, .0010
Si2516,251.611 {134},Y_3710,ppm, .4303,.0100,2.322, .4374, .4233
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Sn1899,189.989 {477},In2306,ppm, .0011,.0006,55.58, .0015, .0007
Sr4215,421.552 { 80},Y_3710,ppm, .0150,.0002,1.336, .0149, .0151
Ti3349,334.904 {101},Y_3600,ppm, .0000,.0002,673.5, -.0001, .0002
Tl1908,190.856 {477},In2306,ppm, .0711,.0027,3.855, .0691, .0730
U_3670,367.007 { 92},Y_3600,ppm, -.4945,.0313,6.337, -.5167, -.4723
V_2924,292.402 {115},Y_3600,ppm, -.0000,.0000,92.65, -.0000, -.0000
W_2397,239.709 {140},Y_2243,ppm, .0727,.0941,129.5, .0061, .1392
Zn2062,206.200 {463},In2306,ppm, .0046,.0000,.5744, .0046, .0045

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 210.48,.48290,.22943,210.82,210.14
In2306,230.606 {446},Cts/S, 11948.,27.556,.23063,11968.,11929.
Y_2243,224.306 {450},Cts/S, 17268.,24.441,.14154,17286.,17251.
Y_3600,360.073 { 94},Cts/S, 154190.,473.07,.30681,153860.,154530.
Y_3710,371.030 { 91},Cts/S, 9991.4,11.766,.11776,9983.1,9999.7

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0000,.0001,378.1, .0000, -.0001
Al3082,308.215 {109},In2306,ppm, -.0021,.0006,28.75, -.0025, -.0017
As1890,189.042 {478},Y_2243,ppm, -.0035,.0031,86.65, -.0057, -.0014
B_2496,249.678 {135},Y_3710,ppm, -.0015,.0057,380.5, -.0055, .0025
Ba4554,455.403 { 74},Y_3710,ppm, .0008,.0002,25.75, .0007, .0010
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,81.07, .0001, .0000
Ca3158,315.887 {107},In2306,ppm, .4160,.0116,2.789, .4078, .4242
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0001,132.8, -.0000, -.0001
Co2286,228.616 {447},In2306,ppm, .0000,.0001,278.2, .0001, -.0000
Cr2677,267.716 {126},Y_3600,ppm, -.0000,.0004,8902., .0003, -.0003
Cu3247,324.754 {104},Y_3600,ppm, .0018,.0000,2.302, .0018, .0018
Fe2404,240.488 {140},In2306,ppm, -.0013,.0038,290.6, -.0040, .0014
K_7664,766.490 { 44},Y_3710,ppm, .0715,.0369,51.55, .0454, .0975
Li6707,670.784 { 50},Y_3710,ppm, -.0003,.0011,410.5, -.0010, .0005
Mg2790,279.079 {121},Y_3710,ppm, .0212,.0007,3.232, .0217, .0207
Mn2576,257.610 {131},Y_3600,ppm, .0002,.0001,21.59, .0003, .0002
Mo2020,202.030 {467},Y_2243,ppm, .0001,.0004,286.2, .0004, -.0001
Na5895,589.592 { 57},Y_3710,ppm, 40.19,.1331,.3312, 40.10, 40.29
Ni2316,231.604 {445},In2306,ppm, -.0000,.0003,662.5, -.0002, .0001
P_1782,178.284 {489},In2306,ppm, .0074,.0004,5.829, .0071, .0077
Pb2203,220.353 {453},In2306,ppm, -.0001,.0021,3229., -.0015, .0014
S_1820,182.034 {485},Y_2243,ppm, -2.644,.0013,.0482, -2.645, -2.643
Sb2068,206.833 {463},Y_2243,ppm, .0012,.0001,10.82, .0012, .0011
Se1960,196.090 {472},Y_2243,ppm, .0024,.0002,6.665, .0025, .0022
Si2516,251.611 {134},Y_3710,ppm, .0730,.0005,.7038, .0734, .0727
Sn1899,189.989 {477},In2306,ppm, .0010,.0003,33.52, .0008, .0012
Sr4215,421.552 { 80},Y_3710,ppm, .0025,.0000,1.151, .0024, .0025
Ti3349,334.904 {101},Y_3600,ppm, -.0004,.0003,72.18, -.0002, -.0007
Tl1908,190.856 {477},In2306,ppm, .0544,.0005,.8395, .0547, .0541
U_3670,367.007 { 92},Y_3600,ppm, -.3853,.1249,32.43, -.4736, -.2970
V_2924,292.402 {115},Y_3600,ppm, -.0000,.0001,340.2, .0000, -.0001
W_2397,239.709 {140},Y_2243,ppm, .0203,.0183,90.56, .0073, .0332
Zn2062,206.200 {463},In2306,ppm, .0015,.0001,8.809, .0014, .0016

[Internal Standards]
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Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 213.66,1.7021,.79666,212.45,214.86
In2306,230.606 {446},Cts/S, 13054.,2.7674,.02120,13056.,13052.
Y_2243,224.306 {450},Cts/S, 17921.,28.673,.16000,17941.,17901.
Y_3600,360.073 { 94},Cts/S, 161420.,194.79,.12067,161560.,161290.
Y_3710,371.030 { 91},Cts/S, 10132.,30.616,.30218,10110.,10153.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .4974,.0005,.1014, .4970, .4977
Al3082,308.215 {109},In2306,ppm, 19.91,.2763,1.388, 19.71, 20.10
As1890,189.042 {478},Y_2243,ppm, 1.015,.0044,.4314, 1.018, 1.012
B_2496,249.678 {135},Y_3710,ppm, .9893,.0067,.6814, .9845, .9941
Ba4554,455.403 { 74},Y_3710,ppm, 1.014,.0036,.3599, 1.011, 1.016
Be3130,313.042 {108},Y_3710,ppm, .9726,.0045,.4598, .9695, .9758
Ca3158,315.887 {107},In2306,ppm, 19.79,.4123,2.083, 19.50, 20.09
Cd2288,228.802 {447},Y_2243,ppm, .9790,.0007,.0758, .9785, .9795
Co2286,228.616 {447},In2306,ppm, .9662,.0021,.2214, .9647, .9678
Cr2677,267.716 {126},Y_3600,ppm, .9699,.0017,.1773, .9687, .9711
Cu3247,324.754 {104},Y_3600,ppm, .9894,.0008,.0859, .9888, .9900
Fe2404,240.488 {140},In2306,ppm, 19.93,.4017,2.016, 19.64, 20.21
K_7664,766.490 { 44},Y_3710,ppm, 19.61,.0893,.4553, 19.55, 19.68
Li6707,670.784 { 50},Y_3710,ppm, .9813,.0018,.1867, .9800, .9826
Mg2790,279.079 {121},Y_3710,ppm, 20.19,.1159,.5739, 20.11, 20.27
Mn2576,257.610 {131},Y_3600,ppm, .9969,.0009,.0949, .9963, .9976
Mo2020,202.030 {467},Y_2243,ppm, .9877,.0036,.3642, .9902, .9851
Na5895,589.592 { 57},Y_3710,ppm, 19.88,.0183,.0919, 19.87, 19.90
Ni2316,231.604 {445},In2306,ppm, .9773,.0028,.2894, .9753, .9793
P_1782,178.284 {489},In2306,ppm, 10.38,.0170,.1640, 10.39, 10.36
Pb2203,220.353 {453},In2306,ppm, .9741,.0009,.0914, .9748, .9735
S_1820,182.034 {485},Y_2243,ppm, 10.62,.0309,.2907, 10.64, 10.59
Sb2068,206.833 {463},Y_2243,ppm, 2.075,.0044,.2103, 2.079, 2.072
Se1960,196.090 {472},Y_2243,ppm, .9974,.0017,.1711, .9986, .9962
Si2516,251.611 {134},Y_3710,ppm, 13.79,.2971,2.155, 13.58, 14.00
Sn1899,189.989 {477},In2306,ppm, .9832,.0016,.1580, .9843, .9821
Sr4215,421.552 { 80},Y_3710,ppm, .9995,.0045,.4510, .9963, 1.003
Ti3349,334.904 {101},Y_3600,ppm, .9947,.0004,.0445, .9944, .9951
Tl1908,190.856 {477},In2306,ppm, .9439,.0047,.4976, .9472, .9405
U_3670,367.007 { 92},Y_3600,ppm, .8169,.0386,4.731, .8443, .7896
V_2924,292.402 {115},Y_3600,ppm, .9768,.0022,.2205, .9783, .9752
W_2397,239.709 {140},Y_2243,ppm, 1.287,.1421,11.04, 1.187, 1.388
Zn2062,206.200 {463},In2306,ppm, .9655,.0037,.3836, .9629, .9681

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 210.34,1.7540,.83390,211.58,209.10
In2306,230.606 {446},Cts/S, 12628.,9.3558,.07409,12622.,12635.
Y_2243,224.306 {450},Cts/S, 17853.,44.163,.24737,17822.,17884.
Y_3600,360.073 { 94},Cts/S, 160580.,130.45,.08124,160480.,160670.
Y_3710,371.030 { 91},Cts/S, 10257.,3.0837,.03007,10254.,10259.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0102,.0001,1.073, .0101, .0102
Al3082,308.215 {109},In2306,ppm, .2000,.0069,3.435, .2048, .1951
As1890,189.042 {478},Y_2243,ppm, .0217,.0015,6.744, .0207, .0228
B_2496,249.678 {135},Y_3710,ppm, .2174,.0080,3.694, .2117, .2231
Ba4554,455.403 { 74},Y_3710,ppm, .0225,.0002,.8766, .0226, .0223
Be3130,313.042 {108},Y_3710,ppm, .0112,.0002,1.668, .0110, .0113
Ca3158,315.887 {107},In2306,ppm, 1.038,.0023,.2224, 1.036, 1.040
Cd2288,228.802 {447},Y_2243,ppm, .0111,.0001,1.260, .0110, .0112
Co2286,228.616 {447},In2306,ppm, .0105,.0002,1.973, .0103, .0106
Cr2677,267.716 {126},Y_3600,ppm, .0105,.0004,4.238, .0102, .0108
Cu3247,324.754 {104},Y_3600,ppm, .0125,.0001,.5298, .0125, .0126
Fe2404,240.488 {140},In2306,ppm, .2004,.0099,4.945, .1934, .2074
K_7664,766.490 { 44},Y_3710,ppm, 1.073,.0309,2.885, 1.094, 1.051
Li6707,670.784 { 50},Y_3710,ppm, .0104,.0013,12.34, .0095, .0113
Mg2790,279.079 {121},Y_3710,ppm, 1.076,.0179,1.667, 1.089, 1.064
Mn2576,257.610 {131},Y_3600,ppm, .0112,.0000,.2836, .0113, .0112
Mo2020,202.030 {467},Y_2243,ppm, .0270,.0009,3.246, .0264, .0276
Na5895,589.592 { 57},Y_3710,ppm, 1.118,.0021,.1847, 1.117, 1.120
Ni2316,231.604 {445},In2306,ppm, .0109,.0000,.0236, .0109, .0109
P_1782,178.284 {489},In2306,ppm, .9984,.0064,.6409, .9939, 1.003
Pb2203,220.353 {453},In2306,ppm, .0113,.0003,2.215, .0112, .0115
S_1820,182.034 {485},Y_2243,ppm, -2.735,.0066,.2405, -2.740, -2.730
Sb2068,206.833 {463},Y_2243,ppm, .0594,.0016,2.655, .0583, .0605
Se1960,196.090 {472},Y_2243,ppm, .0257,.0027,10.42, .0276, .0238
Si2516,251.611 {134},Y_3710,ppm, .2976,.0017,.5818, .2964, .2989
Sn1899,189.989 {477},In2306,ppm, .0235,.0004,1.793, .0232, .0238
Sr4215,421.552 { 80},Y_3710,ppm, .0110,.0001,.7860, .0111, .0109
Ti3349,334.904 {101},Y_3600,ppm, .0111,.0000,.3366, .0111, .0112
Tl1908,190.856 {477},In2306,ppm, .0966,.0037,3.813, .0940, .0992
U_3670,367.007 { 92},Y_3600,ppm, -.3110,.0095,3.064, -.3043, -.3178
V_2924,292.402 {115},Y_3600,ppm, .0110,.0005,4.736, .0106, .0114
W_2397,239.709 {140},Y_2243,ppm, .1539,.0170,11.07, .1419, .1660
Zn2062,206.200 {463},In2306,ppm, .0197,.0001,.3338, .0197, .0196

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 214.84,2.1371,.99473,213.33,216.35
In2306,230.606 {446},Cts/S, 13582.,5.2375,.03856,13578.,13585.
Y_2243,224.306 {450},Cts/S, 18249.,16.668,.09134,18261.,18237.
Y_3600,360.073 { 94},Cts/S, 164990.,407.59,.24705,165270.,164700.
Y_3710,371.030 { 91},Cts/S, 10201.,4.2799,.04196,10198.,10204.

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[Results]
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Al3082,308.215 {109},In2306,ppm, -.0218,.0028,12.74, -.0238, -.0198
As1890,189.042 {478},Y_2243,ppm, .0014,.0019,130.8, .0028, .0001
B_2496,249.678 {135},Y_3710,ppm, .0050,.0024,47.75, .0067, .0033
Ba4554,455.403 { 74},Y_3710,ppm, -.0001,.0002,121.6, -.0003, -.0000
Be3130,313.042 {108},Y_3710,ppm, .0000,.0001,723.9, -.0001, .0001
Ca3158,315.887 {107},In2306,ppm, -.0011,.0005,40.11, -.0008, -.0015
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0000,1403., -.0000, .0000
Co2286,228.616 {447},In2306,ppm, -.0002,.0001,40.63, -.0002, -.0001
Cr2677,267.716 {126},Y_3600,ppm, .0005,.0005,93.53, .0002, .0008
Cu3247,324.754 {104},Y_3600,ppm, .0017,.0001,8.312, .0016, .0018
Fe2404,240.488 {140},In2306,ppm, -.0004,.0052,1308., .0033, -.0041
K_7664,766.490 { 44},Y_3710,ppm, .0487,.0574,117.8, .0081, .0893
Li6707,670.784 { 50},Y_3710,ppm, .0005,.0002,42.38, .0004, .0007
Mg2790,279.079 {121},Y_3710,ppm, -.0053,.0005,8.923, -.0050, -.0057
Mn2576,257.610 {131},Y_3600,ppm, .0000,.0000,330.2, .0000, -.0000
Mo2020,202.030 {467},Y_2243,ppm, .0012,.0009,77.13, .0005, .0018
Na5895,589.592 { 57},Y_3710,ppm, .0357,.0066,18.41, .0403, .0310
Ni2316,231.604 {445},In2306,ppm, .0004,.0003,94.73, .0001, .0006
P_1782,178.284 {489},In2306,ppm, .0021,.0029,139.2, .0041, .0000
Pb2203,220.353 {453},In2306,ppm, .0010,.0001,9.031, .0011, .0010
S_1820,182.034 {485},Y_2243,ppm, -2.388,.0016,.0668, -2.389, -2.387
Sb2068,206.833 {463},Y_2243,ppm, .0013,.0000,.8285, .0013, .0013
Se1960,196.090 {472},Y_2243,ppm, -.0004,.0002,39.76, -.0005, -.0003
Si2516,251.611 {134},Y_3710,ppm, .0223,.0121,54.39, .0137, .0308
Sn1899,189.989 {477},In2306,ppm, .0004,.0003,60.69, .0006, .0002
Sr4215,421.552 { 80},Y_3710,ppm, .0000,.0001,813.1, -.0001, .0001
Ti3349,334.904 {101},Y_3600,ppm, -.0004,.0002,42.33, -.0005, -.0003
Tl1908,190.856 {477},In2306,ppm, .0760,.0030,4.008, .0738, .0781
U_3670,367.007 { 92},Y_3600,ppm, -.4475,.0630,14.08, -.4921, -.4030
V_2924,292.402 {115},Y_3600,ppm, .0001,.0002,328.5, .0002, -.0001
W_2397,239.709 {140},Y_2243,ppm, .0179,.0104,58.30, .0105, .0253
Zn2062,206.200 {463},In2306,ppm, .0041,.0002,3.862, .0042, .0040

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 215.45,1.2775,.59295,214.55,216.35
In2306,230.606 {446},Cts/S, 13644.,96.261,.70551,13576.,13712.
Y_2243,224.306 {450},Cts/S, 18318.,115.30,.62943,18237.,18400.
Y_3600,360.073 { 94},Cts/S, 165000.,243.00,.14728,165170.,164830.
Y_3710,371.030 { 91},Cts/S, 10207.,44.013,.43122,10175.,10238.
```

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)
Ag 328.068 {103}	9/23/2019 9:05:27	9/23/2019 9:05:27	Full Fit	1/Conc	-0.000078	0.080190	0.003716	0.980000
Al 308.215 {109}	9/23/2019 9:05:27	9/23/2019 9:05:27	Linear	1/Conc	0.032484	0.562391	0.000000	1.000000
As 189.042 {478}	9/23/2019 9:05:27	9/23/2019 9:05:27	Linear	1/Conc	-0.000088	0.028499	0.000000	1.000000
B 249.678 {135}	9/23/2019 9:05:27	9/23/2019 9:05:27	Linear	1/Conc	0.000085	0.017808	0.000000	1.000000
Ba 455.403 { 74}	9/23/2019 9:05:27	9/23/2019 9:05:27	Linear	1/Conc	0.002893	2.309562	0.000000	1.000000
Be 313.042 {108}	9/23/2019 9:05:27	9/23/2019 9:05:27	Linear	1/Conc	0.000011	2.370656	0.000000	1.000000
Ca 315.887 {107}	9/23/2019 9:05:27	9/23/2019 9:05:27	Linear	1/Conc	-0.020505	1.092251	0.000000	1.000000
Cd 228.802 {447}	9/23/2019 9:05:27	9/23/2019 9:05:27	Linear	1/Conc	0.000407	0.695412	0.000000	1.000000
Co 228.616 {447}	9/23/2019 9:05:27	9/23/2019 9:05:27	Linear	1/Conc	0.000093	0.606537	0.000000	1.000000
Cr 267.716 {126}	9/23/2019 9:05:27	9/23/2019 9:05:27	Linear	1/Conc	0.000028	0.085212	0.000000	1.000000
Cu 324.754 {104}	9/23/2019 9:05:27	9/23/2019 9:05:27	Linear	1/Conc	0.004862	0.129318	0.000000	1.000000
Fe 240.488 {140}	9/23/2019 9:05:27	9/23/2019 9:05:27	Linear	1/Conc	0.023270	0.673683	0.000000	1.000000
In 230.606 {146}*	<not fit>	<Never Calibrated>	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
In 230.606 {446}*	<not fit>	<Never Calibrated>	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
K 766.490 { 44}	9/23/2019 9:05:27	9/23/2019 9:05:27	Linear	1/Conc	0.003094	0.036548	0.000000	1.000000
Li 670.784 { 50}	9/23/2019 9:05:27	9/23/2019 9:05:27	Linear	1/Conc	-0.000152	0.932795	0.000000	1.000000
Mg 279.079 {121}	9/23/2019 9:05:27	9/23/2019 9:05:27	Linear	1/Conc	-0.000101	0.004633	0.000000	1.000000
Mn 257.610 {131}	9/23/2019 9:05:27	9/23/2019 9:05:27	Linear	1/Conc	0.000167	0.563825	0.000000	1.000000
Mo 202.030 {467}	9/23/2019 9:05:27	9/23/2019 9:05:27	Linear	1/Conc	0.000183	0.168984	0.000000	1.000000
Na 589.592 { 57}	9/23/2019 9:05:27	9/23/2019 9:05:27	Linear	1/Conc	0.009709	0.135998	0.000000	1.000000
Ni 231.604 {445}	9/23/2019 9:05:27	9/23/2019 9:05:27	Linear	1/Conc	-0.000133	0.378740	0.000000	1.000000
P 178.284 {489}	9/23/2019 9:05:27	9/23/2019 9:05:27	Linear	1/Conc	0.000182	0.027264	0.000000	1.000000
Pb 220.353 {453}	9/23/2019 9:05:27	9/23/2019 9:05:27	Linear	1/Conc	-0.000211	0.094796	0.000000	1.000000
S 182.034 {485}	9/23/2019 9:05:27	9/23/2019 9:05:27	Linear	1/Conc	0.039296	0.010421	0.000000	1.000000
Sb 206.833 {463}	9/23/2019 9:05:27	9/23/2019 9:05:27	Linear	1/Conc	0.000192	0.043537	0.000000	1.000000
Se 196.090 {472}	9/23/2019 9:05:27	9/23/2019 9:05:27	Linear	1/Conc	-0.000135	0.017109	0.000000	1.000000
Si 251.611 {134}	9/23/2019 9:05:27	9/23/2019 9:05:27	Linear	1/Conc	0.000532	0.019301	0.000000	1.000000
Sn 189.989 {477}	9/23/2019 9:05:27	9/23/2019 9:05:27	Linear	1/Conc	0.000046	0.148374	0.000000	1.000000
Sr 421.552 { 80}	9/23/2019 9:05:27	9/23/2019 9:05:27	Linear	1/Conc	-0.000298	2.494395	0.000000	1.000000
Ti 334.904 {101}	9/23/2019 9:05:27	9/23/2019 9:05:27	Linear	1/Conc	-0.000150	0.106545	0.000000	1.000000
Tl 190.856 {477}	9/23/2019 9:05:27	9/23/2019 9:05:27	Linear	1/Conc	0.000200	0.018516	0.000000	1.000000
U 367.007 { 92}	9/23/2019 9:05:27	9/23/2019 9:05:27	Linear	1/Conc	0.000092	0.000236	0.000000	1.000000
V 292.402 {115}	9/23/2019 9:05:27	9/23/2019 9:05:27	Linear	1/Conc	-0.000336	0.120509	0.000000	1.000000
W 239.709 {140}	9/23/2019 9:05:27	9/23/2019 9:05:27	Linear	1/Conc	-0.000034	0.000649	0.000000	1.000000
Y 224.306 {450}*	7/31/2019 11:37:15	8/2/2010 18:01:14	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
Y 360.073 { 94}*	<not fit>	<Never Calibrated>	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
Y 371.030 { 91}*	7/31/2019 11:37:15	8/2/2010 18:01:14	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
Zn 206.200 {463}	9/23/2019 9:05:27	9/23/2019 9:05:27	Linear	1/Conc	0.001923	0.761058	0.000000	1.000000

Element, Wavelength and Order	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Reslope		QC Norm	
						Slope	Y-int	Slope factor	Offset
Ag 328.068 {103}	0.999994	0.000002	0.000714	0.002382	Warnin	1.000000	0.000000	1	0
Al 308.215 {109}	0.999925	0.000525	0.027116	0.090386	OK.	1.000000	0.000000	1	0
As 189.042 {478}	0.999935	0.000005	0.002945	0.009816	OK.	1.000000	0.000000	1	0
B 249.678 {135}	0.999867	0.000003	0.010305	0.034350	OK.	1.000000	0.000000	1	0
Ba 455.403 { 74}	0.999949	0.000352	0.000302	0.001007	OK.	1.000000	0.000000	1	0
Be 313.042 {108}	0.999954	0.000171	0.000169	0.000563	OK.	1.000000	0.000000	1	0
Ca 315.887 {107}	0.999945	0.004331	0.010872	0.036239	OK.	1.000000	0.000000	1	0
Cd 228.802 {447}	0.999941	0.000058	0.000178	0.000594	OK.	1.000000	0.000000	1	0
Co 228.616 {447}	0.999949	0.000046	0.000273	0.000910	OK.	1.000000	0.000000	1	0
Cr 267.716 {126}	0.999945	0.000007	0.000378	0.001259	OK.	1.000000	0.000000	1	0
Cu 324.754 {104}	0.999960	0.000009	0.000427	0.001422	OK.	1.000000	0.000000	1	0
Fe 240.488 {140}	0.999979	0.000333	0.011498	0.038327	OK.	1.000000	0.000000	1	0
In 230.606 {146}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
In 230.606 {446}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
K 766.490 { 44}	0.999941	0.000149	0.039602	0.132007	OK.	1.000000	0.000000	1	0
Li 670.784 { 50}	0.999950	0.000070	0.001589	0.005296	OK.	1.000000	0.000000	1	0
Mg 279.079 {121}	0.999926	0.000021	0.041395	0.137982	OK.	1.000000	0.000000	1	0
Mn 257.610 {131}	0.999947	0.000044	0.000054	0.000180	OK.	1.000000	0.000000	1	0
Mo 202.030 {467}	0.999961	0.000011	0.000427	0.001424	OK.	1.000000	0.000000	1	0
Na 589.592 { 57}	0.999940	0.000563	0.009613	0.032044	OK.	1.000000	0.000000	1	0
Ni 231.604 {445}	0.999953	0.000027	0.000443	0.001475	OK.	1.000000	0.000000	1	0
P 178.284 {489}	0.999698	0.000161	0.002616	0.008721	OK.	1.000000	0.000000	1	0
Pb 220.353 {453}	0.999896	0.000010	0.001999	0.006663	OK.	1.000000	0.000000	1	0
S 182.034 {485}	0.598138	0.001684	0.005973	0.019910	OK.	1.000000	0.000000	1	0
Sb 206.833 {463}	0.999963	0.000006	0.002603	0.008675	OK.	1.000000	0.000000	1	0
Se 196.090 {472}	0.999831	0.000005	0.004073	0.013576	OK.	1.000000	0.000000	1	0
Si 251.611 {134}	0.999472	0.000009	0.010710	0.035698	OK.	1.000000	0.000000	1	0
Sn 189.989 {477}	0.999933	0.000026	0.000604	0.002014	OK.	1.000000	0.000000	1	0
Sr 421.552 { 80}	0.999939	0.000207	0.000223	0.000745	OK.	1.000000	0.000000	1	0
Ti 334.904 {101}	0.999974	0.000006	0.000517	0.001725	OK.	1.000000	0.000000	1	0
Tl 190.856 {477}	0.971896	0.000067	0.005154	0.017180	OK.	1.000000	0.000000	1	0
U 367.007 { 92}	0.999761	0.000000	0.122967	0.409889	OK.	1.000000	0.000000	1	0
V 292.402 {115}	0.999975	0.000006	0.000458	0.001526	OK.	1.000000	0.000000	1	0
W 239.709 {140}	0.957540	0.000002	0.131182	0.437275	OK.	1.000000	0.000000	1	0
Y 224.306 {450}*	0.000000	0.000000	0.000830	0.002767	Warnin	1.000000	0.000000	1	0
Y 360.073 { 94}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
Y 371.030 { 91}*	0.000000	0.000000	0.000248	0.000826	Warnin	1.000000	0.000000	1	0
Zn 206.200 {463}	0.999911	0.000108	0.000171	0.000570	OK.	1.000000	0.000000	1	0

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[Sample Header]
Method=ICP6500Metals_TRY3(v4963)
SampleName=Rinse1
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/23/2019 8:41:21
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0001,.0001,98.75, .0000, .0002
Al3082,308.215 {109},In2306,ppm, .0004,.0039,994.8, -.0024, .0031
As1890,189.042 {478},Y_2243,ppm, -.0000,.0005,1741., .0003, -.0003
B_2496,249.678 {135},Y_3710,ppm, .0105,.0133,127.0, .0199, .0011
Ba4554,455.403 { 74},Y_3710,ppm, .0003,.0000,11.12, .0003, .0004
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,164.5, .0000, -.0000
Ca3158,315.887 {107},In2306,ppm, -.0060,.0025,42.25, -.0042, -.0078
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0002,262.7, -.0002, .0001
Co2286,228.616 {447},In2306,ppm, -.0001,.0001,119.8, -.0002, -.0000
Cr2677,267.716 {126},Y_3600,ppm, -.0001,.0001,80.85, -.0002, -.0001
Cu3247,324.754 {104},Y_3600,ppm, -.0001,.0005,1040., .0003, -.0004
Fe2404,240.488 {140},In2306,ppm, -.0075,.0100,133.3, -.0146, -.0004
K_7664,766.490 { 44},Y_3710,ppm, -.0359,.0165,46.14, -.0242, -.0476
Li6707,670.784 { 50},Y_3710,ppm, .0007,.0011,169.2, -.0001, .0015
Mg2790,279.079 {121},Y_3710,ppm, -.0309,.0249,80.51, -.0485, -.0133
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,698.5, .0000, -.0000
Mo2020,202.030 {467},Y_2243,ppm, .0081,.0010,12.39, .0088, .0074
Na5895,589.592 { 57},Y_3710,ppm, -.0256,.0052,20.45, -.0293, -.0219
Ni2316,231.604 {445},In2306,ppm, -.0004,.0002,56.69, -.0002, -.0006
P_1782,178.284 {489},In2306,ppm, -.0009,.0024,266.5, .0008, -.0026
Pb2203,220.353 {453},In2306,ppm, -.0001,.0014,1370., .0009, -.0011
S_1820,182.034 {485},Y_2243,ppm, -.1363,.0271,19.86, -.1171, -.1554
Sb2068,206.833 {463},Y_2243,ppm, .0484,.0011,2.344, .0492, .0476
Se1960,196.090 {472},Y_2243,ppm, -.0014,.0007,51.94, -.0009, -.0020
Si2516,251.611 {134},Y_3710,ppm, -.0166,.0032,19.13, -.0188, -.0143
Sn1899,189.989 {477},In2306,ppm, .0008,.0003,39.15, .0010, .0006
Sr4215,421.552 { 80},Y_3710,ppm, .0004,.0000,11.83, .0003, .0004
Ti3349,334.904 {101},Y_3600,ppm, .0001,.0002,163.3, -.0000, .0003
Tl1908,190.856 {477},In2306,ppm, .0289,.0042,14.65, .0259, .0319
U_3670,367.007 { 92},Y_3600,ppm, -.1514,.0541,35.72, -.1896, -.1132
V_2924,292.402 {115},Y_3600,ppm, -.0000,.0002,416.1, .0001, -.0002
W_2397,239.709 {140},Y_2243,ppm, -.0326,.1340,411.0, .0622, -.1274
Zn2062,206.200 {463},In2306,ppm, .0065,.0006,9.686, .0069, .0061

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 205.33,.89021,.43356,204.70,205.96
In2306,230.606 {446},Cts/S, 13361.,155.38,1.1629,13251.,13471.
Y_2243,224.306 {450},Cts/S, 18510.,177.73,.96021,18384.,18636.
Y_3600,360.073 { 94},Cts/S, 167880.,1856.6,1.1059,169200.,166570.
Y_3710,371.030 { 91},Cts/S, 9929.9,56.558,.56957,9889.9,9969.9

[Sample Header]
Method=ICP6500Metals_TRY3(v4963)
SampleName=Rinse2
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/23/2019 8:43:27
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Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0002,.0005,307.4, .0002, -.0005
Al3082,308.215 {109},In2306,ppm, -.0235,.0082,34.74, -.0293, -.0178
As1890,189.042 {478},Y_2243,ppm, -.0008,.0009,121.7, -.0001, -.0014
B_2496,249.678 {135},Y_3710,ppm, -.0047,.0017,36.07, -.0059, -.0035
Ba4554,455.403 { 74},Y_3710,ppm, .0001,.0000,36.34, .0001, .0000
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,15.97, .0001, .0000
Ca3158,315.887 {107},In2306,ppm, -.0005,.0036,699.1, .0021, -.0031
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0001,83.34, -.0001, -.0000
Co2286,228.616 {447},In2306,ppm, .0000,.0001,1149., .0001, -.0001
Cr2677,267.716 {126},Y_3600,ppm, .0000,.0002,806.9, .0002, -.0001
Cu3247,324.754 {104},Y_3600,ppm, -.0002,.0002,67.78, -.0004, -.0001
Fe2404,240.488 {140},In2306,ppm, .0117,.0011,9.419, .0109, .0125
K_7664,766.490 { 44},Y_3710,ppm, -.0018,.0242,1347., .0153, -.0189
Li6707,670.784 { 50},Y_3710,ppm, -.0000,.0017,6553., -.0012, .0012
Mg2790,279.079 {121},Y_3710,ppm, .0176,.0097,55.22, .0107, .0245
Mn2576,257.610 {131},Y_3600,ppm, .0000,.0000,183.0, -.0000, .0001
Mo2020,202.030 {467},Y_2243,ppm, .0013,.0005,34.91, .0010, .0016
Na5895,589.592 { 57},Y_3710,ppm, -.0230,.0016,6.949, -.0241, -.0219
Ni2316,231.604 {445},In2306,ppm, -.0001,.0003,308.6, -.0003, .0001
P_1782,178.284 {489},In2306,ppm, -.0012,.0012,103.1, -.0003, -.0021
Pb2203,220.353 {453},In2306,ppm, .0010,.0010,92.99, .0017, .0004
S_1820,182.034 {485},Y_2243,ppm, -.1724,.0071,4.126, -.1674, -.1775
Sb2068,206.833 {463},Y_2243,ppm, .0128,.0015,11.88, .0117, .0138
Se1960,196.090 {472},Y_2243,ppm, .0000,.0005,3234., -.0004, .0004
Si2516,251.611 {134},Y_3710,ppm, -.0178,.0043,24.04, -.0209, -.0148
Sn1899,189.989 {477},In2306,ppm, .0002,.0000,5.102, .0002, .0002
Sr4215,421.552 { 80},Y_3710,ppm, -.0003,.0000,15.11, -.0003, -.0003
Ti3349,334.904 {101},Y_3600,ppm, .0002,.0003,128.3, .0000, .0004
Tl1908,190.856 {477},In2306,ppm, .0157,.0037,23.62, .0131, .0184
U_3670,367.007 { 92},Y_3600,ppm, -.0685,.0539,78.71, -.1067, -.0304
V_2924,292.402 {115},Y_3600,ppm, -.0004,.0002,42.89, -.0006, -.0003
W_2397,239.709 {140},Y_2243,ppm, -.0148,.0651,438.7, -.0609, .0312
Zn2062,206.200 {463},In2306,ppm, .0042,.0001,1.905, .0043, .0042

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 204.62,3.9506,1.9307,207.41,201.82
In2306,230.606 {446},Cts/S, 13488.,39.762,.29481,13459.,13516.
Y_2243,224.306 {450},Cts/S, 18659.,64.602,.34623,18613.,18704.
Y_3600,360.073 { 94},Cts/S, 164820.,694.40,.42129,164330.,165320.
Y_3710,371.030 { 91},Cts/S, 9983.9,46.652,.46727,10017.,9950.9

[Sample Header]
Method=ICP6500Metals_TRY3(v4963)
SampleName=Rinse3
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/23/2019 8:45:32
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0002,.0005,218.0, -.0001, .0006
Al3082,308.215 {109},In2306,ppm, -.0066,.0040,61.00, -.0038, -.0095
As1890,189.042 {478},Y_2243,ppm, -.0017,.0009,51.40, -.0023, -.0011
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B_2496,249.678 {135},Y_3710,ppm, .0039,.0104,270.0, -.0035, .0113
Ba4554,455.403 { 74},Y_3710,ppm, .0002,.0005,246.7, .0005, -.0001
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0002,621.0, .0001, -.0002
Ca3158,315.887 {107},In2306,ppm, .0054,.0106,198.2, -.0022, .0129
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0000,134.0, -.0000, -.0000
Co2286,228.616 {447},In2306,ppm, -.0002,.0001,57.40, -.0003, -.0001
Cr2677,267.716 {126},Y_3600,ppm, .0002,.0007,421.6, .0007, -.0003
Cu3247,324.754 {104},Y_3600,ppm, .0002,.0002,108.6, .0000, .0003
Fe2404,240.488 {140},In2306,ppm, .0183,.0089,48.26, .0246, .0121
K_7664,766.490 { 44},Y_3710,ppm, .0448,.0226,50.48, .0608, .0288
Li6707,670.784 { 50},Y_3710,ppm, -.0003,.0007,198.5, .0001, -.0008
Mg2790,279.079 {121},Y_3710,ppm, -.0227,.0219,96.63, -.0382, -.0072
Mn2576,257.610 {131},Y_3600,ppm, .0000,.0000,232.0, .0000, -.0000
Mo2020,202.030 {467},Y_2243,ppm, .0006,.0002,33.19, .0005, .0008
Na5895,589.592 { 57},Y_3710,ppm, -.0127,.0042,33.45, -.0097, -.0157
Ni2316,231.604 {445},In2306,ppm, -.0004,.0000,6.537, -.0004, -.0004
P_1782,178.284 {489},In2306,ppm, .0017,.0027,157.9, -.0002, .0036
Pb2203,220.353 {453},In2306,ppm, -.0001,.0012,1991., -.0009, .0008
S_1820,182.034 {485},Y_2243,ppm, -.1812,.0008,.4455, -.1818, -.1806
Sb2068,206.833 {463},Y_2243,ppm, .0054,.0002,3.438, .0055, .0052
Se1960,196.090 {472},Y_2243,ppm, -.0000,.0025,12550., -.0018, .0018
Si2516,251.611 {134},Y_3710,ppm, -.0236,.0015,6.537, -.0246, -.0225
Sn1899,189.989 {477},In2306,ppm, -.0001,.0001,95.02, -.0002, -.0000
Sr4215,421.552 { 80},Y_3710,ppm, .0001,.0000,26.71, .0001, .0001
Ti3349,334.904 {101},Y_3600,ppm, .0004,.0002,61.25, .0006, .0002
Tl1908,190.856 {477},In2306,ppm, .0098,.0004,3.876, .0101, .0096
U_3670,367.007 { 92},Y_3600,ppm, -.1769,.1255,70.92, -.2657, -.0882
V_2924,292.402 {115},Y_3600,ppm, -.0000,.0004,1049., .0002, -.0003
W_2397,239.709 {140},Y_2243,ppm, .0470,.0263,56.00, .0284, .0656
Zn2062,206.200 {463},In2306,ppm, .0032,.0003,8.239, .0034, .0030

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 190.52,18.289,9.5996,177.58,203.45
In2306,230.606 {446},Cts/S, 13479.,27.613,.20486,13459.,13498.
Y_2243,224.306 {450},Cts/S, 18631.,36.919,.19815,18605.,18658.
Y_3600,360.073 { 94},Cts/S, 165130.,181.20,.10973,165000.,165260.
Y_3710,371.030 { 91},Cts/S, 9307.6,968.33,10.404,8622.9,9992.3

[Sample Header]
Method=ICP6500Metals_TRY3(v4963)
SampleName=Rinse4
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/23/2019 8:47:37
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0006,.0001,22.54, .0006, .0005
Al3082,308.215 {109},In2306,ppm, -.0070,.0023,33.51, -.0087, -.0053
As1890,189.042 {478},Y_2243,ppm, -.0008,.0017,205.6, -.0021, .0004
B_2496,249.678 {135},Y_3710,ppm, .0084,.0031,36.41, .0106, .0063
Ba4554,455.403 { 74},Y_3710,ppm, .0001,.0001,67.60, .0001, .0001
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,1167., .0000, -.0000
Ca3158,315.887 {107},In2306,ppm, .0074,.0059,79.44, .0032, .0115
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,99.11, .0000, .0002
Co2286,228.616 {447},In2306,ppm, .0001,.0000,14.59, .0002, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0002,.0001,42.77, .0002, .0003
Cu3247,324.754 {104},Y_3600,ppm, .0001,.0000,2.810, .0001, .0001
Fe2404,240.488 {140},In2306,ppm, -.0047,.0090,191.9, -.0110, .0017
K_7664,766.490 { 44},Y_3710,ppm, -.0131,.0261,198.8, .0053, -.0316
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Li6707,670.784 { 50},Y_3710,ppm, .0001,.0001,104.9, .0001, .0000
Mg2790,279.079 {121},Y_3710,ppm, -.0108,.0130,120.4, -.0016, -.0200
Mn2576,257.610 {131},Y_3600,ppm, .0000,.0000,62.59, .0000, .0000
Mo2020,202.030 {467},Y_2243,ppm, .0001,.0003,561.3, -.0002, .0003
Na5895,589.592 { 57},Y_3710,ppm, -.0164,.0011,6.824, -.0171, -.0156
Ni2316,231.604 {445},In2306,ppm, -.0001,.0004,569.9, -.0004, .0002
P_1782,178.284 {489},In2306,ppm, .0001,.0014,973.7, .0011, -.0008
Pb2203,220.353 {453},In2306,ppm, -.0000,.0007,1687., -.0005, .0004
S_1820,182.034 {485},Y_2243,ppm, -.2242,.0162,7.219, -.2356, -.2127
Sb2068,206.833 {463},Y_2243,ppm, .0035,.0004,11.34, .0038, .0032
Se1960,196.090 {472},Y_2243,ppm, -.0002,.0022,1019., .0013, -.0017
Si2516,251.611 {134},Y_3710,ppm, -.0167,.0033,19.77, -.0143, -.0190
Sn1899,189.989 {477},In2306,ppm, .0002,.0002,65.05, .0001, .0004
Sr4215,421.552 { 80},Y_3710,ppm, -.0001,.0001,70.48, -.0001, -.0000
Ti3349,334.904 {101},Y_3600,ppm, .0005,.0002,30.87, .0004, .0007
Tl1908,190.856 {477},In2306,ppm, .0036,.0007,20.16, .0041, .0030
U_3670,367.007 { 92},Y_3600,ppm, -.1282,.0394,30.77, -.1561, -.1003
V_2924,292.402 {115},Y_3600,ppm, -.0002,.0001,57.70, -.0003, -.0001
W_2397,239.709 {140},Y_2243,ppm, -.0442,.0167,37.90, -.0560, -.0323
Zn2062,206.200 {463},In2306,ppm, .0025,.0001,3.565, .0024, .0025

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 205.84,1.4949,.72623,204.79,206.90
In2306,230.606 {446},Cts/S, 13525.,44.471,.32881,13556.,13493.
Y_2243,224.306 {450},Cts/S, 18691.,88.473,.47334,18754.,18629.
Y_3600,360.073 { 94},Cts/S, 164810.,93.380,.05666,164750.,164880.
Y_3710,371.030 { 91},Cts/S, 10068.,5.2363,.05201,10072.,10064.

[Sample Header]
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SampleName=Rinse5
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/23/2019 8:49:43
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0001,.0001,51.19, .0001, .0002
Al3082,308.215 {109},In2306,ppm, -.0127,.0006,4.790, -.0132, -.0123
As1890,189.042 {478},Y_2243,ppm, -.0027,.0005,19.98, -.0023, -.0031
B_2496,249.678 {135},Y_3710,ppm, .0035,.0011,32.57, .0027, .0043
Ba4554,455.403 { 74},Y_3710,ppm, .0002,.0001,22.79, .0003, .0002
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,30.73, -.0000, -.0000
Ca3158,315.887 {107},In2306,ppm, .0061,.0049,79.63, .0096, .0027
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0001,208.5, -.0001, .0000
Co2286,228.616 {447},In2306,ppm, .0001,.0000,.6665, .0001, .0001
Cr2677,267.716 {126},Y_3600,ppm, -.0002,.0000,.3163, -.0002, -.0002
Cu3247,324.754 {104},Y_3600,ppm, .0010,.0001,5.832, .0010, .0010
Fe2404,240.488 {140},In2306,ppm, .0015,.0067,448.7, .0062, -.0032
K_7664,766.490 { 44},Y_3710,ppm, -.0000,.0103,65620., -.0073, .0073
Li6707,670.784 { 50},Y_3710,ppm, -.0008,.0002,28.21, -.0007, -.0010
Mg2790,279.079 {121},Y_3710,ppm, .0024,.0134,547.4, .0119, -.0070
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,102.6, -.0001, -.0000
Mo2020,202.030 {467},Y_2243,ppm, .0002,.0001,35.17, .0002, .0003
Na5895,589.592 { 57},Y_3710,ppm, -.0208,.0123,59.22, -.0121, -.0296
Ni2316,231.604 {445},In2306,ppm, -.0006,.0004,66.16, -.0003, -.0008
P_1782,178.284 {489},In2306,ppm, -.0001,.0000,83.01, -.0001, -.0000
Pb2203,220.353 {453},In2306,ppm, .0017,.0013,73.52, .0026, .0008
S_1820,182.034 {485},Y_2243,ppm, -.2118,.0050,2.364, -.2153, -.2083
Sb2068,206.833 {463},Y_2243,ppm, .0017,.0003,19.42, .0019, .0014
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Se1960,196.090 {472},Y_2243,ppm, .0010,.0022,230.9, .0025, -.0006
Si2516,251.611 {134},Y_3710,ppm, -.0393,.0025,6.372, -.0375, -.0410
Sn1899,189.989 {477},In2306,ppm, -.0005,.0001,18.11, -.0004, -.0005
Sr4215,421.552 { 80},Y_3710,ppm, .0001,.0001,114.0, .0002, .0000
Ti3349,334.904 {101},Y_3600,ppm, .0004,.0003,72.40, .0006, .0002
Tl1908,190.856 {477},In2306,ppm, -.0008,.0004,55.17, -.0011, -.0005
U_3670,367.007 { 92},Y_3600,ppm, -.0888,.0225,25.30, -.0729, -.1047
V_2924,292.402 {115},Y_3600,ppm, -.0006,.0001,12.52, -.0005, -.0006
W_2397,239.709 {140},Y_2243,ppm, -.1330,.0221,16.61, -.1486, -.1173
Zn2062,206.200 {463},In2306,ppm, .0021,.0001,4.155, .0022, .0020

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 205.06,.58738,.28644,204.65,205.48
In2306,230.606 {446},Cts/S, 13473.,13.051,.09687,13482.,13464.
Y_2243,224.306 {450},Cts/S, 18649.,2.6085,.01399,18647.,18651.
Y_3600,360.073 { 94},Cts/S, 165390.,73.311,.04433,165440.,165330.
Y_3710,371.030 { 91},Cts/S, 10030.,62.702,.62517,10074.,9985.3

[Sample Header]
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Custom ID3=
Run Time=9/23/2019 8:51:48
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0000,.0008,4484., .0006, -.0006
Al3082,308.215 {109},In2306,ppm, .0238,.0102,42.92, .0311, .0166
As1890,189.042 {478},Y_2243,ppm, -.0012,.0025,211.1, .0006, -.0030
B_2496,249.678 {135},Y_3710,ppm, -.0103,.0063,61.00, -.0058, -.0147
Ba4554,455.403 { 74},Y_3710,ppm, .0002,.0004,198.6, .0005, -.0001
Be3130,313.042 {108},Y_3710,ppm, .0000,.0001,324.0, .0001, -.0000
Ca3158,315.887 {107},In2306,ppm, -.0006,.0055,961.6, -.0045, .0033
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,93.96, .0000, .0001
Co2286,228.616 {447},In2306,ppm, -.0001,.0001,135.2, -.0002, -.0000
Cr2677,267.716 {126},Y_3600,ppm, .0001,.0002,150.9, -.0000, .0002
Cu3247,324.754 {104},Y_3600,ppm, .0009,.0005,61.45, .0005, .0013
Fe2404,240.488 {140},In2306,ppm, .0068,.0042,61.10, .0039, .0098
K_7664,766.490 { 44},Y_3710,ppm, -.0022,.0100,451.9, -.0092, .0048
Li6707,670.784 { 50},Y_3710,ppm, .0002,.0006,291.3, -.0002, .0007
Mg2790,279.079 {121},Y_3710,ppm, .0142,.0250,176.2, .0318, -.0035
Mn2576,257.610 {131},Y_3600,ppm, .0000,.0000,85.79, .0000, .0000
Mo2020,202.030 {467},Y_2243,ppm, .0002,.0003,180.8, .0004, -.0001
Na5895,589.592 { 57},Y_3710,ppm, -.0163,.0011,6.772, -.0171, -.0155
Ni2316,231.604 {445},In2306,ppm, -.0005,.0001,20.46, -.0006, -.0004
P_1782,178.284 {489},In2306,ppm, -.0005,.0025,463.3, -.0023, .0012
Pb2203,220.353 {453},In2306,ppm, .0011,.0001,9.419, .0012, .0010
S_1820,182.034 {485},Y_2243,ppm, -.2126,.0228,10.71, -.2287, -.1965
Sb2068,206.833 {463},Y_2243,ppm, .0022,.0014,64.05, .0032, .0012
Se1960,196.090 {472},Y_2243,ppm, -.0024,.0005,19.35, -.0020, -.0027
Si2516,251.611 {134},Y_3710,ppm, -.0234,.0061,25.94, -.0191, -.0277
Sn1899,189.989 {477},In2306,ppm, .0003,.0001,20.97, .0002, .0003
Sr4215,421.552 { 80},Y_3710,ppm, -.0001,.0002,240.1, -.0003, .0001
Ti3349,334.904 {101},Y_3600,ppm, .0002,.0001,27.91, .0002, .0003
Tl1908,190.856 {477},In2306,ppm, -.0038,.0032,83.92, -.0061, -.0016
U_3670,367.007 { 92},Y_3600,ppm, -.0842,.0332,39.38, -.0608, -.1076
V_2924,292.402 {115},Y_3600,ppm, -.0000,.0003,1039., -.0002, .0002
W_2397,239.709 {140},Y_2243,ppm, .0043,.0143,334.3, -.0058, .0144
Zn2062,206.200 {463},In2306,ppm, .0019,.0000,.4215, .0019, .0019
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[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 204.96,.45176,.22042,204.64,205.28
In2306,230.606 {446},Cts/S, 13484.,12.998,.09640,13493.,13474.
Y_2243,224.306 {450},Cts/S, 18610.,9.7540,.05241,18617.,18603.
Y_3600,360.073 { 94},Cts/S, 166130.,557.09,.33533,165740.,166530.
Y_3710,371.030 { 91},Cts/S, 9966.6,7.1465,.07170,9971.6,9961.5

[Sample Header]
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Comment=
Custom ID1=
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Custom ID3=
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Sample Type=Cal
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,Cts/S, -.0001,.0000,47.04, -.0001, -.0001
Al3082,308.215 {109},In2306,Cts/S, .0325,.0090,27.64, .0261, .0388
As1890,189.042 {478},Y_2243,Cts/S, -.0001,.0000,9.535, -.0001, -.0001
B_2496,249.678 {135},Y_3710,Cts/S, .0001,.0001,114.0, .0002, .0000
Ba4554,455.403 { 74},Y_3710,Cts/S, .0029,.0000,.4923, .0029, .0029
Be3130,313.042 {108},Y_3710,Cts/S, .0000,.0001,1755., -.0001, .0001
Ca3158,315.887 {107},In2306,Cts/S, -.0206,.0066,32.09, -.0159, -.0252
Cd2288,228.802 {447},Y_2243,Cts/S, .0004,.0000,10.16, .0004, .0004
Co2286,228.616 {447},In2306,Cts/S, .0001,.0001,124.0, .0002, .0000
Cr2677,267.716 {126},Y_3600,Cts/S, .0000,.0000,23.07, .0000, .0000
Cu3247,324.754 {104},Y_3600,Cts/S, .0049,.0000,.6187, .0048, .0049
Fe2404,240.488 {140},In2306,Cts/S, .0233,.0041,17.79, .0262, .0203
K_7664,766.490 { 44},Y_3710,Cts/S, .0031,.0003,9.725, .0029, .0033
Li6707,670.784 { 50},Y_3710,Cts/S, -.0002,.0013,873.7, .0008, -.0011
Mg2790,279.079 {121},Y_3710,Cts/S, -.0001,.0000,38.43, -.0001, -.0001
Mn2576,257.610 {131},Y_3600,Cts/S, .0002,.0000,12.15, .0002, .0002
Mo2020,202.030 {467},Y_2243,Cts/S, .0002,.0000,8.696, .0002, .0002
Na5895,589.592 { 57},Y_3710,Cts/S, .0097,.0010,10.12, .0104, .0090
Ni2316,231.604 {445},In2306,Cts/S, -.0001,.0002,132.4, -.0000, -.0003
P_1782,178.284 {489},In2306,Cts/S, .0002,.0000,25.58, .0002, .0002
Pb2203,220.353 {453},In2306,Cts/S, -.0002,.0000,15.02, -.0002, -.0002
S_1820,182.034 {485},Y_2243,Cts/S, .0393,.0007,1.775, .0398, .0388
Sb2068,206.833 {463},Y_2243,Cts/S, .0002,.0000,18.95, .0002, .0002
Se1960,196.090 {472},Y_2243,Cts/S, -.0001,.0000,13.43, -.0001, -.0001
Si2516,251.611 {134},Y_3710,Cts/S, .0005,.0000,7.162, .0005, .0006
Sn1899,189.989 {477},In2306,Cts/S, .0000,.0000,29.26, .0000, .0001
Sr4215,421.552 { 80},Y_3710,Cts/S, -.0003,.0004,145.8, .0000, -.0006
Ti3349,334.904 {101},Y_3600,Cts/S, -.0002,.0000,6.030, -.0002, -.0001
Tl1908,190.856 {477},In2306,Cts/S, .0002,.0000,4.817, .0002, .0002
U_3670,367.007 { 92},Y_3600,Cts/S, .0001,.0000,14.85, .0001, .0001
V_2924,292.402 {115},Y_3600,Cts/S, -.0003,.0000,5.296, -.0003, -.0003
W_2397,239.709 {140},Y_2243,Cts/S, -.0000,.0001,187.5, -.0001, .0000
Zn2062,206.200 {463},In2306,Cts/S, .0019,.0000,.7580, .0019, .0019

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 206.72,.23900,.11561,206.89,206.56
In2306,230.606 {446},Cts/S, 13087.,186.51,1.4252,12955.,13219.
Y_2243,224.306 {450},Cts/S, 18035.,223.99,1.2420,17876.,18193.
Y_3600,360.073 { 94},Cts/S, 165960.,554.69,.33423,165570.,166350.
Y_3710,371.030 { 91},Cts/S, 10074.,5.3504,.05311,10078.,10071.

[Sample Header]
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Username=admin
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Custom ID1=
Custom ID2=
Custom ID3=
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Sample Type=Cal
Mode=IR
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,Cts/S, .0008,.0000,2.065, .0008, .0008
Al3082,308.215 {109},In2306,Cts/S, .1542,.0091,5.894, .1478, .1606
As1890,189.042 {478},Y_2243,Cts/S, .0006,.0001,12.05, .0006, .0005
B_2496,249.678 {135},Y_3710,Cts/S, .0005,.0001,16.08, .0004, .0005
Ba4554,455.403 { 74},Y_3710,Cts/S, .0547,.0001,.1297, .0546, .0547
Be3130,313.042 {108},Y_3710,Cts/S, .0264,.0002,.7633, .0262, .0265
Ca3158,315.887 {107},In2306,Cts/S, 1.143,.0056,.4914, 1.139, 1.147
Cd2288,228.802 {447},Y_2243,Cts/S, .0084,.0001,1.033, .0085, .0084
Co2286,228.616 {447},In2306,Cts/S, .0065,.0001,1.556, .0066, .0065
Cr2677,267.716 {126},Y_3600,Cts/S, .0010,.0000,.5584, .0010, .0010
Cu3247,324.754 {104},Y_3600,Cts/S, .0062,.0000,.0954, .0062, .0062
Fe2404,240.488 {140},In2306,Cts/S, .1612,.0039,2.404, .1585, .1640
K_7664,766.490 { 44},Y_3710,Cts/S, .0427,.0003,.7126, .0425, .0429
Li6707,670.784 { 50},Y_3710,Cts/S, .0096,.0003,3.479, .0093, .0098
Mg2790,279.079 {121},Y_3710,Cts/S, .0050,.0001,2.194, .0051, .0049
Mn2576,257.610 {131},Y_3600,Cts/S, .0065,.0000,.6321, .0065, .0065
Mo2020,202.030 {467},Y_2243,Cts/S, .0020,.0000,.0259, .0020, .0020
Na5895,589.592 { 57},Y_3710,Cts/S, .1574,.0010,.6388, .1581, .1567
Ni2316,231.604 {445},In2306,Cts/S, .0040,.0000,.7959, .0041, .0040
P_1782,178.284 {489},In2306,Cts/S, .0259,.0001,.2242, .0260, .0259
Pb2203,220.353 {453},In2306,Cts/S, .0009,.0002,16.18, .0008, .0011
S_1820,182.034 {485},Y_2243,Cts/S, .0082,.0000,.5676, .0082, .0082
Sb2068,206.833 {463},Y_2243,Cts/S, .0025,.0000,1.451, .0025, .0025
Se1960,196.090 {472},Y_2243,Cts/S, .0003,.0001,16.98, .0004, .0003
Si2516,251.611 {134},Y_3710,Cts/S, .0010,.0001,11.42, .0009, .0011
Sn1899,189.989 {477},In2306,Cts/S, .0032,.0001,3.431, .0032, .0031
Sr4215,421.552 { 80},Y_3710,Cts/S, .0277,.0001,.2500, .0276, .0277
Ti3349,334.904 {101},Y_3600,Cts/S, .0010,.0000,2.335, .0010, .0010
Tl1908,190.856 {477},In2306,Cts/S, .0002,.0000,.8978, .0002, .0002
U_3670,367.007 { 92},Y_3600,Cts/S, .0001,.0000,24.23, .0001, .0001
V_2924,292.402 {115},Y_3600,Cts/S, .0009,.0001,5.756, .0010, .0009
W_2397,239.709 {140},Y_2243,Cts/S, -.0000,.0001,2933., .0000, -.0001
Zn2062,206.200 {463},In2306,Cts/S, .0175,.0000,.1826, .0175, .0175

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 206.47,.64610,.31293,206.93,206.01
In2306,230.606 {446},Cts/S, 13436.,12.947,.09636,13445.,13426.
Y_2243,224.306 {450},Cts/S, 18570.,8.7688,.04722,18576.,18564.
Y_3600,360.073 { 94},Cts/S, 164550.,363.25,.22076,164290.,164810.
Y_3710,371.030 { 91},Cts/S, 10066.,46.021,.45718,10034.,10099.

[Sample Header]
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Repeats=2

[Results]
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Ag3280,328.068 {103},Y_3600,Cts/S, .0105,.0000,.4486, .0106, .0105
Al3082,308.215 {109},In2306,Cts/S, .7323,.0032,.4368, .7346, .7301
As1890,189.042 {478},Y_2243,Cts/S, .0145,.0000,.0503, .0145, .0145
B_2496,249.678 {135},Y_3710,Cts/S, .0047,.0001,2.570, .0048, .0046
Ba4554,455.403 { 74},Y_3710,Cts/S, 1.192,.0011,.0950, 1.193, 1.191
Be3130,313.042 {108},Y_3710,Cts/S, .6093,.0015,.2488, .6082, .6103
Ca3158,315.887 {107},In2306,Cts/S, 6.670,.0312,.4679, 6.648, 6.692
Cd2288,228.802 {447},Y_2243,Cts/S, .1859,.0002,.1056, .1860, .1858
Co2286,228.616 {447},In2306,Cts/S, .1528,.0001,.0647, .1529, .1528
Cr2677,267.716 {126},Y_3600,Cts/S, .0220,.0000,.2064, .0220, .0220
Cu3247,324.754 {104},Y_3600,Cts/S, .0378,.0002,.4903, .0379, .0376
Fe2404,240.488 {140},In2306,Cts/S, .8517,.0002,.0211, .8518, .8516
K_7664,766.490 { 44},Y_3710,Cts/S, .2292,.0007,.3197, .2287, .2297
Li6707,670.784 { 50},Y_3710,Cts/S, .2415,.0006,.2681, .2420, .2411
Mg2790,279.079 {121},Y_3710,Cts/S, .0287,.0001,.3498, .0286, .0287
Mn2576,257.610 {131},Y_3600,Cts/S, .1453,.0000,.0160, .1453, .1453
Mo2020,202.030 {467},Y_2243,Cts/S, .0436,.0002,.4579, .0437, .0435
Na5895,589.592 { 57},Y_3710,Cts/S, .8533,.0011,.1233, .8540, .8525
Ni2316,231.604 {445},In2306,Cts/S, .0951,.0002,.1787, .0950, .0953
P_1782,178.284 {489},In2306,Cts/S, .0658,.0004,.6231, .0661, .0656
Pb2203,220.353 {453},In2306,Cts/S, .0236,.0002,.9164, .0238, .0235
S_1820,182.034 {485},Y_2243,Cts/S, .0194,.0000,.1734, .0194, .0193
Sb2068,206.833 {463},Y_2243,Cts/S, .0114,.0001,.7879, .0113, .0114
Se1960,196.090 {472},Y_2243,Cts/S, .0085,.0000,.3539, .0085, .0086
Si2516,251.611 {134},Y_3710,Cts/S, .0102,.0000,.2451, .0102, .0101
Sn1899,189.989 {477},In2306,Cts/S, .0740,.0000,.0097, .0740, .0740
Sr4215,421.552 { 80},Y_3710,Cts/S, .6443,.0024,.3673, .6426, .6459
Ti3349,334.904 {101},Y_3600,Cts/S, .0271,.0000,.0512, .0270, .0271
Tl1908,190.856 {477},In2306,Cts/S, .0039,.0004,9.169, .0042, .0037
U_3670,367.007 { 92},Y_3600,Cts/S, .0002,.0000,16.14, .0001, .0002
V_2924,292.402 {115},Y_3600,Cts/S, .0305,.0000,.0503, .0305, .0305
W_2397,239.709 {140},Y_2243,Cts/S, .0001,.0000,25.71, .0002, .0001
Zn2062,206.200 {463},In2306,Cts/S, .1898,.0005,.2723, .1902, .1894

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 202.38,1.5518,.76673,203.48,201.29
In2306,230.606 {446},Cts/S, 12992.,20.888,.16078,13006.,12977.
Y_2243,224.306 {450},Cts/S, 18173.,19.044,.10479,18187.,18160.
Y_3600,360.073 { 94},Cts/S, 161230.,243.72,.15117,161400.,161050.
Y_3710,371.030 { 91},Cts/S, 9883.2,25.020,.25316,9900.8,9865.5

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[Results]
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Al3082,308.215 {109},In2306,Cts/S, 1.455,.0038,.2595, 1.453, 1.458
As1890,189.042 {478},Y_2243,Cts/S, .0284,.0002,.6706, .0283, .0286
B_2496,249.678 {135},Y_3710,Cts/S, .0090,.0001,.8426, .0091, .0090
Ba4554,455.403 { 74},Y_3710,Cts/S, 2.305,.0046,.2017, 2.309, 2.302
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Be3130,313.042 {108},Y_3710,Cts/S, 1.186,.0011,.0904, 1.186, 1.187
Ca3158,315.887 {107},In2306,Cts/S, 13.65,.0911,.6673, 13.59, 13.72
Cd2288,228.802 {447},Y_2243,Cts/S, .3593,.0023,.6506, .3576, .3609
Co2286,228.616 {447},In2306,Cts/S, .3000,.0027,.8920, .2981, .3019
Cr2677,267.716 {126},Y_3600,Cts/S, .0425,.0002,.4154, .0424, .0427
Cu3247,324.754 {104},Y_3600,Cts/S, .0686,.0002,.3518, .0688, .0684
Fe2404,240.488 {140},In2306,Cts/S, 1.710,.0250,1.462, 1.692, 1.728
K_7664,766.490 { 44},Y_3710,Cts/S, .4650,.0009,.1863, .4644, .4656
Li6707,670.784 { 50},Y_3710,Cts/S, .4661,.0003,.0644, .4659, .4663
Mg2790,279.079 {121},Y_3710,Cts/S, .0585,.0002,.3054, .0586, .0583
Mn2576,257.610 {131},Y_3600,Cts/S, .2820,.0002,.0848, .2819, .2822
Mo2020,202.030 {467},Y_2243,Cts/S, .0848,.0007,.8680, .0843, .0853
Na5895,589.592 { 57},Y_3710,Cts/S, 1.725,.0045,.2634, 1.729, 1.722
Ni2316,231.604 {445},In2306,Cts/S, .1874,.0012,.6294, .1866, .1883
P_1782,178.284 {489},In2306,Cts/S, .1321,.0014,1.080, .1311, .1331
Pb2203,220.353 {453},In2306,Cts/S, .0465,.0005,1.176, .0461, .0469
S_1820,182.034 {485},Y_2243,Cts/S, .0737,.0008,1.088, .0732, .0743
Sb2068,206.833 {463},Y_2243,Cts/S, .0224,.0003,1.123, .0222, .0226
Se1960,196.090 {472},Y_2243,Cts/S, .0169,.0002,1.247, .0168, .0171
Si2516,251.611 {134},Y_3710,Cts/S, .0188,.0004,2.338, .0185, .0191
Sn1899,189.989 {477},In2306,Cts/S, .1458,.0013,.8723, .1449, .1467
Sr4215,421.552 { 80},Y_3710,Cts/S, 1.245,.0034,.2769, 1.247, 1.242
Ti3349,334.904 {101},Y_3600,Cts/S, .0530,.0001,.2435, .0529, .0531
Tl1908,190.856 {477},In2306,Cts/S, .0125,.0004,3.083, .0128, .0123
U_3670,367.007 { 92},Y_3600,Cts/S, .0002,.0000,4.881, .0002, .0002
V_2924,292.402 {115},Y_3600,Cts/S, .0596,.0001,.1285, .0597, .0596
W_2397,239.709 {140},Y_2243,Cts/S, .0001,.0000,27.06, .0001, .0001
Zn2062,206.200 {463},In2306,Cts/S, .3761,.0022,.5732, .3746, .3776

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 202.33,.53372,.26379,202.71,201.95
In2306,230.606 {446},Cts/S, 12750.,62.468,.48996,12794.,12706.
Y_2243,224.306 {450},Cts/S, 18133.,76.211,.42030,18186.,18079.
Y_3600,360.073 { 94},Cts/S, 160450.,60.934,.03798,160410.,160500.
Y_3710,371.030 { 91},Cts/S, 9961.7,56.552,.56769,9921.7,10002.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,Cts/S, .0414,.0000,.0748, .0414, .0414
Al3082,308.215 {109},In2306,Cts/S, 2.849,.0159,.5586, 2.837, 2.860
As1890,189.042 {478},Y_2243,Cts/S, .0565,.0000,.0081, .0565, .0565
B_2496,249.678 {135},Y_3710,Cts/S, .0177,.0003,1.769, .0179, .0175
Ba4554,455.403 { 74},Y_3710,Cts/S, 4.608,.0052,.1135, 4.605, 4.612
Be3130,313.042 {108},Y_3710,Cts/S, 2.369,.0006,.0254, 2.368, 2.369
Ca3158,315.887 {107},In2306,Cts/S, 27.04,.2290,.8470, 26.88, 27.20
Cd2288,228.802 {447},Y_2243,Cts/S, .7148,.0016,.2308, .7160, .7137
Co2286,228.616 {447},In2306,Cts/S, .6013,.0017,.2898, .6025, .6001
Cr2677,267.716 {126},Y_3600,Cts/S, .0853,.0001,.1418, .0852, .0854
Cu3247,324.754 {104},Y_3600,Cts/S, .1331,.0007,.4906, .1326, .1335
Fe2404,240.488 {140},In2306,Cts/S, 3.371,.0607,1.801, 3.328, 3.414
K_7664,766.490 { 44},Y_3710,Cts/S, .9089,.0022,.2455, .9105, .9073
Li6707,670.784 { 50},Y_3710,Cts/S, .9295,.0006,.0645, .9299, .9291
Mg2790,279.079 {121},Y_3710,Cts/S, .1146,.0005,.4295, .1150, .1143
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Mn2576,257.610 {131},Y_3600,Cts/S, .5628,.0007,.1160, .5623, .5632
Mo2020,202.030 {467},Y_2243,Cts/S, .1686,.0001,.0647, .1687, .1685
Na5895,589.592 { 57},Y_3710,Cts/S, 3.376,.0004,.0116, 3.376, 3.376
Ni2316,231.604 {445},In2306,Cts/S, .3759,.0001,.0298, .3760, .3758
P_1782,178.284 {489},In2306,Cts/S, .2692,.0003,.0937, .2693, .2690
Pb2203,220.353 {453},In2306,Cts/S, .0935,.0000,.0401, .0936, .0935
S_1820,182.034 {485},Y_2243,Cts/S, .1106,.0001,.0494, .1107, .1106
Sb2068,206.833 {463},Y_2243,Cts/S, .0441,.0001,.1514, .0441, .0440
Se1960,196.090 {472},Y_2243,Cts/S, .0339,.0000,.0355, .0339, .0339
Si2516,251.611 {134},Y_3710,Cts/S, .0381,.0011,2.879, .0373, .0389
Sn1899,189.989 {477},In2306,Cts/S, .2935,.0009,.3165, .2942, .2929
Sr4215,421.552 { 80},Y_3710,Cts/S, 2.489,.0008,.0312, 2.489, 2.488
Ti3349,334.904 {101},Y_3600,Cts/S, .1061,.0001,.1188, .1060, .1062
Tl1908,190.856 {477},In2306,Cts/S, .0360,.0008,2.183, .0366, .0355
U_3670,367.007 { 92},Y_3600,Cts/S, .0003,.0000,3.450, .0003, .0003
V_2924,292.402 {115},Y_3600,Cts/S, .1201,.0002,.1595, .1200, .1202
W_2397,239.709 {140},Y_2243,Cts/S, .0002,.0000,10.86, .0002, .0002
Zn2062,206.200 {463},In2306,Cts/S, .7530,.0013,.1721, .7539, .7521

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 198.79,3.3116,1.6659,201.13,196.45
In2306,230.606 {446},Cts/S, 12365.,17.712,.14324,12353.,12378.
Y_2243,224.306 {450},Cts/S, 17982.,24.674,.13721,17965.,18000.
Y_3600,360.073 { 94},Cts/S, 157860.,143.23,.09073,157960.,157760.
Y_3710,371.030 { 91},Cts/S, 9911.0,58.101,.58622,9952.1,9869.9

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[Results]
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Al3082,308.215 {109},In2306,Cts/S, 5.773,.1208,2.092, 5.688, 5.859
As1890,189.042 {478},Y_2243,Cts/S, .1140,.0001,.0624, .1141, .1140
B_2496,249.678 {135},Y_3710,Cts/S, .0356,.0002,.6650, .0354, .0357
Ba4554,455.403 { 74},Y_3710,Cts/S, 9.222,.0055,.0598, 9.226, 9.218
Be3130,313.042 {108},Y_3710,Cts/S, 4.725,.0222,.4693, 4.741, 4.710
Ca3158,315.887 {107},In2306,Cts/S, 54.91,.7492,1.365, 54.38, 55.44
Cd2288,228.802 {447},Y_2243,Cts/S, 1.434,.0028,.1963, 1.436, 1.432
Co2286,228.616 {447},In2306,Cts/S, 1.226,.0016,.1303, 1.227, 1.225
Cr2677,267.716 {126},Y_3600,Cts/S, .1697,.0005,.2945, .1701, .1694
Cu3247,324.754 {104},Y_3600,Cts/S, .2647,.0005,.1760, .2651, .2644
Fe2404,240.488 {140},In2306,Cts/S, 6.789,.0949,1.398, 6.721, 6.856
K_7664,766.490 { 44},Y_3710,Cts/S, 1.832,.0061,.3321, 1.837, 1.828
Li6707,670.784 { 50},Y_3710,Cts/S, 1.860,.0021,.1117, 1.861, 1.858
Mg2790,279.079 {121},Y_3710,Cts/S, .2317,.0009,.3816, .2323, .2311
Mn2576,257.610 {131},Y_3600,Cts/S, 1.124,.0016,.1413, 1.126, 1.123
Mo2020,202.030 {467},Y_2243,Cts/S, .3373,.0004,.1177, .3376, .3370
Na5895,589.592 { 57},Y_3710,Cts/S, 6.822,.0111,.1631, 6.830, 6.815
Ni2316,231.604 {445},In2306,Cts/S, .7643,.0011,.1453, .7651, .7635
P_1782,178.284 {489},In2306,Cts/S, .5575,.0006,.1110, .5571, .5580
Pb2203,220.353 {453},In2306,Cts/S, .1904,.0003,.1772, .1901, .1906
S_1820,182.034 {485},Y_2243,Cts/S, .1861,.0006,.3409, .1865, .1856
Sb2068,206.833 {463},Y_2243,Cts/S, .0883,.0001,.0754, .0883, .0884
Se1960,196.090 {472},Y_2243,Cts/S, .0683,.0002,.2532, .0682, .0685
Si2516,251.611 {134},Y_3710,Cts/S, .0797,.0025,3.114, .0780, .0815
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Sn1899,189.989 {477},In2306,Cts/S, .5995,.0001,.0143, .5995, .5994
Sr4215,421.552 { 80},Y_3710,Cts/S, 4.972,.0134,.2692, 4.981, 4.963
Ti3349,334.904 {101},Y_3600,Cts/S, .2134,.0004,.1870, .2136, .2131
Tl1908,190.856 {477},In2306,Cts/S, .0879,.0015,1.751, .0889, .0868
U_3670,367.007 { 92},Y_3600,Cts/S, .0006,.0000,2.810, .0006, .0006
V_2924,292.402 {115},Y_3600,Cts/S, .2414,.0002,.0953, .2416, .2413
W_2397,239.709 {140},Y_2243,Cts/S, .0006,.0001,15.87, .0005, .0007
Zn2062,206.200 {463},In2306,Cts/S, 1.543,.0014,.0915, 1.542, 1.544

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 195.08,2.3094,1.1838,196.71,193.44
In2306,230.606 {446},Cts/S, 11700.,11.937,.10202,11692.,11709.
Y_2243,224.306 {450},Cts/S, 17542.,20.697,.11798,17528.,17557.
Y_3600,360.073 { 94},Cts/S, 154180.,511.94,.33204,153820.,154540.
Y_3710,371.030 { 91},Cts/S, 9790.7,67.032,.68465,9743.3,9838.1

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Al3082,308.215 {109},In2306,ppm, 10.01,.0416,.4158, 9.982, 10.04
As1890,189.042 {478},Y_2243,ppm, 3.983,.0011,.0283, 3.983, 3.984
B_2496,249.678 {135},Y_3710,ppm, 2.004,.0266,1.330, 1.985, 2.023
Ba4554,455.403 { 74},Y_3710,ppm, 3.954,.0213,.5383, 3.939, 3.969
Be3130,313.042 {108},Y_3710,ppm, 1.971,.0059,.2974, 1.967, 1.975
Ca3158,315.887 {107},In2306,ppm, 49.83,.0374,.0750, 49.85, 49.80
Cd2288,228.802 {447},Y_2243,ppm, 1.982,.0006,.0318, 1.982, 1.983
Co2286,228.616 {447},In2306,ppm, 2.007,.0035,.1745, 2.005, 2.010
Cr2677,267.716 {126},Y_3600,ppm, 1.987,.0137,.6876, 1.977, 1.997
Cu3247,324.754 {104},Y_3600,ppm, 1.986,.0006,.0301, 1.987, 1.986
Fe2404,240.488 {140},In2306,ppm, 9.968,.0148,.1487, 9.957, 9.978
K_7664,766.490 { 44},Y_3710,ppm, 49.46,.3090,.6248, 49.24, 49.68
Li6707,670.784 { 50},Y_3710,ppm, 1.975,.0036,.1829, 1.973, 1.978
Mg2790,279.079 {121},Y_3710,ppm, 49.19,.1363,.2772, 49.09, 49.28
Mn2576,257.610 {131},Y_3600,ppm, 1.981,.0064,.3208, 1.976, 1.985
Mo2020,202.030 {467},Y_2243,ppm, 1.983,.0013,.0651, 1.984, 1.982
Na5895,589.592 { 57},Y_3710,ppm, 49.53,.1761,.3556, 49.40, 49.65
Ni2316,231.604 {445},In2306,ppm, 1.999,.0029,.1470, 1.997, 2.001
P_1782,178.284 {489},In2306,ppm, 20.38,.0393,.1927, 20.35, 20.41
Pb2203,220.353 {453},In2306,ppm, 2.001,.0013,.0656, 2.000, 2.002
S_1820,182.034 {485},Y_2243,ppm, 14.05,.0079,.0560, 14.05, 14.06
Sb2068,206.833 {463},Y_2243,ppm, 1.995,.0062,.3123, 1.999, 1.990
Se1960,196.090 {472},Y_2243,ppm, 3.997,.0065,.1629, 4.002, 3.992
Si2516,251.611 {134},Y_3710,ppm, 3.948,.1571,3.980, 3.837, 4.059
Sn1899,189.989 {477},In2306,ppm, 4.029,.0125,.3094, 4.021, 4.038
Sr4215,421.552 { 80},Y_3710,ppm, 1.972,.0075,.3820, 1.967, 1.978
Ti3349,334.904 {101},Y_3600,ppm, 1.991,.0036,.1799, 1.989, 1.994
Tl1908,190.856 {477},In2306,ppm, 5.882,.0486,.8256, 5.917, 5.848
U_3670,367.007 { 92},Y_3600,ppm, 2.077,.0168,.8074, 2.065, 2.089
V_2924,292.402 {115},Y_3600,ppm, 1.990,.0047,.2341, 1.987, 1.994
W_2397,239.709 {140},Y_2243,ppm, .9590,.0334,3.479, .9826, .9354
Zn2062,206.200 {463},In2306,ppm, 2.016,.0034,.1669, 2.014, 2.019

[Internal Standards]
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Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 195.97,.79367,.40499,195.41,196.53
In2306,230.606 {446},Cts/S, 11737.,22.412,.19095,11753.,11722.
Y_2243,224.306 {450},Cts/S, 17634.,21.095,.11962,17649.,17619.
Y_3600,360.073 { 94},Cts/S, 154790.,411.80,.26603,155090.,154500.
Y_3710,371.030 { 91},Cts/S, 9875.1,10.075,.10203,9868.0,9882.2

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[Results]
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Al3082,308.215 {109},In2306,ppm, 20.16,.5381,2.669, 20.54, 19.78
As1890,189.042 {478},Y_2243,ppm, .9977,.0003,.0314, .9975, .9979
B_2496,249.678 {135},Y_3710,ppm, 1.012,.0104,1.032, 1.020, 1.005
Ba4554,455.403 { 74},Y_3710,ppm, 1.017,.0186,1.830, 1.030, 1.003
Be3130,313.042 {108},Y_3710,ppm, .9873,.0182,1.848, 1.000, .9744
Ca3158,315.887 {107},In2306,ppm, 19.94,.5024,2.520, 20.29, 19.58
Cd2288,228.802 {447},Y_2243,ppm, .9864,.0002,.0182, .9862, .9865
Co2286,228.616 {447},In2306,ppm, .9915,.0014,.1408, .9905, .9925
Cr2677,267.716 {126},Y_3600,ppm, .9917,.0027,.2739, .9897, .9936
Cu3247,324.754 {104},Y_3600,ppm, .9928,.0021,.2074, .9914, .9943
Fe2404,240.488 {140},In2306,ppm, 20.04,.5236,2.613, 20.41, 19.67
K_7664,766.490 { 44},Y_3710,ppm, 20.32,.3033,1.493, 20.53, 20.10
Li6707,670.784 { 50},Y_3710,ppm, 1.009,.0151,1.493, 1.019, .9981
Mg2790,279.079 {121},Y_3710,ppm, 20.24,.3756,1.856, 20.50, 19.97
Mn2576,257.610 {131},Y_3600,ppm, .9950,.0001,.0134, .9951, .9949
Mo2020,202.030 {467},Y_2243,ppm, .9898,.0028,.2822, .9878, .9918
Na5895,589.592 { 57},Y_3710,ppm, 20.11,.3376,1.679, 20.35, 19.87
Ni2316,231.604 {445},In2306,ppm, .9845,.0026,.2618, .9827, .9863
P_1782,178.284 {489},In2306,ppm, 9.935,.0293,.2944, 9.914, 9.956
Pb2203,220.353 {453},In2306,ppm, .9884,.0032,.3274, .9861, .9907
S_1820,182.034 {485},Y_2243,ppm, 10.96,.0060,.0544, 10.96, 10.95
Sb2068,206.833 {463},Y_2243,ppm, 2.066,.0028,.1365, 2.068, 2.064
Se1960,196.090 {472},Y_2243,ppm, 1.002,.0022,.2191, 1.003, 1.000
Si2516,251.611 {134},Y_3710,ppm, 8.754,.0587,.6701, 8.795, 8.712
Sn1899,189.989 {477},In2306,ppm, .9941,.0044,.4389, .9910, .9972
Sr4215,421.552 { 80},Y_3710,ppm, 1.012,.0170,1.680, 1.024, 1.0000
Ti3349,334.904 {101},Y_3600,ppm, .9914,.0013,.1313, .9905, .9924
Tl1908,190.856 {477},In2306,ppm, 1.908,.0057,.2963, 1.912, 1.904
U_3670,367.007 { 92},Y_3600,ppm, 1.019,.0261,2.564, 1.000, 1.037
V_2924,292.402 {115},Y_3600,ppm, .9858,.0022,.2190, .9843, .9873
W_2397,239.709 {140},Y_2243,ppm, 1.654,.0447,2.706, 1.622, 1.685
Zn2062,206.200 {463},In2306,ppm, .9855,.0062,.6317, .9811, .9899

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 199.06,4.9145,2.4689,195.59,202.54
In2306,230.606 {446},Cts/S, 12357.,43.860,.35495,12388.,12326.
Y_2243,224.306 {450},Cts/S, 17944.,58.250,.32463,17985.,17902.
Y_3600,360.073 { 94},Cts/S, 158750.,296.52,.18679,158540.,158960.
Y_3710,371.030 { 91},Cts/S, 9820.0,170.32,1.7344,9699.6,9940.5

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0097,.0001,.9312, .0098, .0097
Al3082,308.215 {109},In2306,ppm, .2044,.0115,5.621, .1963, .2125
As1890,189.042 {478},Y_2243,ppm, .0261,.0020,7.528, .0247, .0275
B_2496,249.678 {135},Y_3710,ppm, .2133,.0015,.6865, .2123, .2144
Ba4554,455.403 { 74},Y_3710,ppm, .0227,.0000,.1810, .0227, .0227
Be3130,313.042 {108},Y_3710,ppm, .0113,.0000,.1363, .0113, .0113
Ca3158,315.887 {107},In2306,ppm, 1.038,.0094,.9074, 1.045, 1.032
Cd2288,228.802 {447},Y_2243,ppm, .0113,.0001,1.131, .0112, .0113
Co2286,228.616 {447},In2306,ppm, .0107,.0005,4.312, .0104, .0111
Cr2677,267.716 {126},Y_3600,ppm, .0111,.0003,2.447, .0113, .0110
Cu3247,324.754 {104},Y_3600,ppm, .0104,.0002,2.046, .0105, .0102
Fe2404,240.488 {140},In2306,ppm, .2114,.0133,6.278, .2020, .2208
K_7664,766.490 { 44},Y_3710,ppm, 1.102,.0131,1.188, 1.111, 1.093
Li6707,670.784 { 50},Y_3710,ppm, .0105,.0001,.5524, .0105, .0105
Mg2790,279.079 {121},Y_3710,ppm, 1.082,.0151,1.392, 1.093, 1.072
Mn2576,257.610 {131},Y_3600,ppm, .0114,.0001,1.122, .0115, .0113
Mo2020,202.030 {467},Y_2243,ppm, .0272,.0009,3.489, .0266, .0279
Na5895,589.592 { 57},Y_3710,ppm, 1.064,.0126,1.182, 1.055, 1.073
Ni2316,231.604 {445},In2306,ppm, .0106,.0004,3.615, .0103, .0109
P_1782,178.284 {489},In2306,ppm, .9498,.0014,.1511, .9488, .9509
Pb2203,220.353 {453},In2306,ppm, .0119,.0004,3.205, .0122, .0116
S_1820,182.034 {485},Y_2243,ppm, -2.987,.0007,.0236, -2.987, -2.988
Sb2068,206.833 {463},Y_2243,ppm, .0545,.0007,1.235, .0550, .0540
Se1960,196.090 {472},Y_2243,ppm, .0255,.0001,.4417, .0254, .0256
Si2516,251.611 {134},Y_3710,ppm, .1663,.0026,1.536, .1681, .1645
Sn1899,189.989 {477},In2306,ppm, .0227,.0002,.9660, .0225, .0228
Sr4215,421.552 { 80},Y_3710,ppm, .0112,.0003,2.266, .0110, .0114
Ti3349,334.904 {101},Y_3600,ppm, .0112,.0001,.8648, .0112, .0111
Tl1908,190.856 {477},In2306,ppm, .8970,.0325,3.618, .8740, .9199
U_3670,367.007 { 92},Y_3600,ppm, .0744,.0084,11.30, .0684, .0803
V_2924,292.402 {115},Y_3600,ppm, .0110,.0002,1.984, .0109, .0112
W_2397,239.709 {140},Y_2243,ppm, -.0206,.0643,311.5, -.0661, .0248
Zn2062,206.200 {463},In2306,ppm, .0202,.0000,.1222, .0202, .0202

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 204.43,.28163,.13776,204.63,204.23
In2306,230.606 {446},Cts/S, 13212.,1.9593,.01483,13214.,13211.
Y_2243,224.306 {450},Cts/S, 18214.,19.163,.10521,18228.,18201.
Y_3600,360.073 { 94},Cts/S, 162110.,16.779,.01035,162130.,162100.
Y_3710,371.030 { 91},Cts/S, 9968.0,69.749,.69973,10017.,9918.6

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Al3082,308.215 {109},In2306,ppm, .2063,.0206,9.973, .2208, .1917
As1890,189.042 {478},Y_2243,ppm, .0234,.0009,3.834, .0240, .0228
B_2496,249.678 {135},Y_3710,ppm, .2091,.0101,4.809, .2019, .2162
Ba4554,455.403 { 74},Y_3710,ppm, .0225,.0006,2.605, .0221, .0229
Be3130,313.042 {108},Y_3710,ppm, .0110,.0001,.7370, .0111, .0110
Ca3158,315.887 {107},In2306,ppm, 1.036,.0115,1.112, 1.028, 1.045
Cd2288,228.802 {447},Y_2243,ppm, .0110,.0001,.4963, .0110, .0110
Co2286,228.616 {447},In2306,ppm, .0106,.0001,.6516, .0106, .0105
Cr2677,267.716 {126},Y_3600,ppm, .0111,.0003,2.445, .0113, .0109
Cu3247,324.754 {104},Y_3600,ppm, .0112,.0000,.3420, .0112, .0112
Fe2404,240.488 {140},In2306,ppm, .2168,.0052,2.395, .2205, .2131
K_7664,766.490 { 44},Y_3710,ppm, 1.072,.0304,2.833, 1.051, 1.094
Li6707,670.784 { 50},Y_3710,ppm, .0106,.0003,2.636, .0108, .0104
Mg2790,279.079 {121},Y_3710,ppm, 1.087,.0355,3.264, 1.062, 1.112
Mn2576,257.610 {131},Y_3600,ppm, .0112,.0001,.5653, .0112, .0112
Mo2020,202.030 {467},Y_2243,ppm, .0226,.0002,1.082, .0228, .0224
Na5895,589.592 { 57},Y_3710,ppm, 1.064,.0107,1.010, 1.057, 1.072
Ni2316,231.604 {445},In2306,ppm, .0110,.0001,.9992, .0111, .0109
P_1782,178.284 {489},In2306,ppm, .9503,.0020,.2129, .9489, .9517
Pb2203,220.353 {453},In2306,ppm, .0104,.0002,2.054, .0103, .0106
S_1820,182.034 {485},Y_2243,ppm, -2.999,.0057,.1893, -2.995, -3.003
Sb2068,206.833 {463},Y_2243,ppm, .0536,.0029,5.444, .0557, .0516
Se1960,196.090 {472},Y_2243,ppm, .0250,.0002,.9461, .0248, .0251
Si2516,251.611 {134},Y_3710,ppm, .1556,.0061,3.928, .1600, .1513
Sn1899,189.989 {477},In2306,ppm, .0221,.0003,1.296, .0223, .0219
Sr4215,421.552 { 80},Y_3710,ppm, .0112,.0000,.3613, .0112, .0112
Ti3349,334.904 {101},Y_3600,ppm, .0108,.0005,5.074, .0112, .0104
Tl1908,190.856 {477},In2306,ppm, .4087,.0162,3.969, .3973, .4202
U_3670,367.007 { 92},Y_3600,ppm, .0247,.0044,17.64, .0217, .0278
V_2924,292.402 {115},Y_3600,ppm, .0108,.0001,.6328, .0108, .0107
W_2397,239.709 {140},Y_2243,ppm, .1268,.1665,131.3, .0091, .2446
Zn2062,206.200 {463},In2306,ppm, .0199,.0001,.3401, .0199, .0198

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 205.29,1.0358,.50455,206.03,204.56
In2306,230.606 {446},Cts/S, 13261.,6.0854,.04589,13257.,13266.
Y_2243,224.306 {450},Cts/S, 18191.,22.035,.12114,18206.,18175.
Y_3600,360.073 { 94},Cts/S, 162680.,99.785,.06134,162750.,162610.
Y_3710,371.030 { 91},Cts/S, 9971.1,19.901,.19958,9985.1,9957.0

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Al3082,308.215 {109},In2306,ppm, .0156,.0032,20.35, .0179, .0134
As1890,189.042 {478},Y_2243,ppm, -.0012,.0013,110.0, -.0021, -.0003
B_2496,249.678 {135},Y_3710,ppm, -.0005,.0021,416.4, .0010, -.0020
Ba4554,455.403 { 74},Y_3710,ppm, .0001,.0002,137.6, .0002, .0000
Be3130,313.042 {108},Y_3710,ppm, .0000,.0001,963.7, -.0001, .0001
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Ca3158,315.887 {107},In2306,ppm, -.0001,.0070,12390., -.0050, .0049
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0002,369.1, .0001, -.0002
Co2286,228.616 {447},In2306,ppm, -.0003,.0002,60.21, -.0004, -.0002
Cr2677,267.716 {126},Y_3600,ppm, -.0002,.0001,45.63, -.0002, -.0001
Cu3247,324.754 {104},Y_3600,ppm, .0005,.0005,97.66, .0002, .0008
Fe2404,240.488 {140},In2306,ppm, -.0046,.0008,16.98, -.0051, -.0040
K_7664,766.490 { 44},Y_3710,ppm, .0054,.0010,17.79, .0061, .0047
Li6707,670.784 { 50},Y_3710,ppm, -.0013,.0001,6.737, -.0013, -.0012
Mg2790,279.079 {121},Y_3710,ppm, .0391,.0006,1.419, .0395, .0387
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,16.63, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, .0003,.0001,17.48, .0003, .0004
Na5895,589.592 { 57},Y_3710,ppm, -.0123,.0041,33.15, -.0152, -.0094
Ni2316,231.604 {445},In2306,ppm, -.0001,.0002,270.1, -.0002, .0001
P_1782,178.284 {489},In2306,ppm, -.0023,.0002,8.858, -.0021, -.0024
Pb2203,220.353 {453},In2306,ppm, .0008,.0018,229.2, .0020, -.0005
S_1820,182.034 {485},Y_2243,ppm, -3.574,.0010,.0281, -3.574, -3.575
Sb2068,206.833 {463},Y_2243,ppm, -.0019,.0021,112.8, -.0004, -.0034
Se1960,196.090 {472},Y_2243,ppm, .0055,.0014,25.05, .0045, .0065
Si2516,251.611 {134},Y_3710,ppm, .0055,.0018,32.10, .0042, .0067
Sn1899,189.989 {477},In2306,ppm, -.0002,.0000,16.69, -.0002, -.0003
Sr4215,421.552 { 80},Y_3710,ppm, -.0000,.0001,637.9, .0001, -.0001
Ti3349,334.904 {101},Y_3600,ppm, -.0002,.0002,94.80, -.0003, -.0001
Tl1908,190.856 {477},In2306,ppm, .2977,.0225,7.563, .2817, .3136
U_3670,367.007 { 92},Y_3600,ppm, -.0958,.0436,45.44, -.1266, -.0650
V_2924,292.402 {115},Y_3600,ppm, .0001,.0002,140.4, .0000, .0002
W_2397,239.709 {140},Y_2243,ppm, .0799,.0502,62.76, .1154, .0445
Zn2062,206.200 {463},In2306,ppm, .0022,.0001,4.285, .0021, .0022

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 201.44,.10082,.05005,201.51,201.37
In2306,230.606 {446},Cts/S, 13370.,33.106,.24762,13346.,13393.
Y_2243,224.306 {450},Cts/S, 18202.,16.286,.08947,18190.,18213.
Y_3600,360.073 { 94},Cts/S, 163940.,288.52,.17599,163740.,164150.
Y_3710,371.030 { 91},Cts/S, 9919.7,26.488,.26703,9900.9,9938.4

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Al3082,308.215 {109},In2306,ppm, 536.8,1.077,.2006, 536.0, 537.5
As1890,189.042 {478},Y_2243,ppm, .0023,.0015,67.10, .0033, .0012
B_2496,249.678 {135},Y_3710,ppm, .0068,.0055,80.13, .0030, .0107
Ba4554,455.403 { 74},Y_3710,ppm, -.0002,.0001,56.88, -.0001, -.0003
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,.7911, .0000, .0000
Ca3158,315.887 {107},In2306,ppm, 491.1,.3345,.0681, 491.4, 490.9
Cd2288,228.802 {447},Y_2243,ppm, .0024,.0002,6.367, .0026, .0023
Co2286,228.616 {447},In2306,ppm, -.0003,.0006,221.0, -.0007, .0002
Cr2677,267.716 {126},Y_3600,ppm, .0023,.0004,16.34, .0020, .0026
Cu3247,324.754 {104},Y_3600,ppm, -.0019,.0002,8.796, -.0017, -.0020
Fe2404,240.488 {140},In2306,ppm, 193.7,.2658,.1372, 193.6, 193.9
K_7664,766.490 { 44},Y_3710,ppm, .0281,.0405,144.2, -.0005, .0568
Li6707,670.784 { 50},Y_3710,ppm, .0108,.0012,10.92, .0116, .0100
Mg2790,279.079 {121},Y_3710,ppm, 489.5,.5894,.1204, 489.9, 489.1
Mn2576,257.610 {131},Y_3600,ppm, -.0040,.0001,1.933, -.0040, -.0041
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Na5895,589.592 { 57},Y_3710,ppm, .0204,.0066,32.16, .0157, .0250
Ni2316,231.604 {445},In2306,ppm, -.0054,.0002,3.326, -.0053, -.0055
P_1782,178.284 {489},In2306,ppm, -.0009,.0003,29.07, -.0011, -.0007
Pb2203,220.353 {453},In2306,ppm, -.0140,.0030,21.73, -.0119, -.0162
S_1820,182.034 {485},Y_2243,ppm,F -4.667,.0069,.1473, -4.672, -4.662
Sb2068,206.833 {463},Y_2243,ppm, -.0047,.0024,51.01, -.0063, -.0030
Se1960,196.090 {472},Y_2243,ppm, -.0192,.0074,38.88, -.0244, -.0139
Si2516,251.611 {134},Y_3710,ppm, -.0009,.0026,287.1, -.0027, .0009
Sn1899,189.989 {477},In2306,ppm, -.0010,.0009,82.72, -.0004, -.0016
Sr4215,421.552 { 80},Y_3710,ppm, .0040,.0002,3.860, .0041, .0039
Ti3349,334.904 {101},Y_3600,ppm, .0028,.0002,5.856, .0030, .0027
Tl1908,190.856 {477},In2306,ppm,F .3410,.0168,4.928, .3291, .3529
U_3670,367.007 { 92},Y_3600,ppm,F 1.273,.1722,13.53, 1.151, 1.395
V_2924,292.402 {115},Y_3600,ppm, -.0042,.0002,3.927, -.0041, -.0043
W_2397,239.709 {140},Y_2243,ppm,F -.0882,.0920,104.3, -.0231, -.1532
Zn2062,206.200 {463},In2306,ppm, -.0023,.0000,1.485, -.0023, -.0024

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 178.76,1.4742,.82469,177.72,179.81
In2306,230.606 {446},Cts/S, 9781.3,6.2505,.06390,9776.8,9785.7
Y_2243,224.306 {450},Cts/S, 15860.,13.510,.08518,15851.,15870.
Y_3600,360.073 { 94},Cts/S, 137820.,4488.1,3.2564,141000.,134650.
Y_3710,371.030 { 91},Cts/S, 9738.4,93.765,.96283,9672.1,9804.7

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As1890,189.042 {478},Y_2243,ppm, 1.995,.0022,.1126, 1.993, 1.996
B_2496,249.678 {135},Y_3710,ppm, .5049,.0127,2.522, .5139, .4959
Ba4554,455.403 { 74},Y_3710,ppm, 1.948,.0054,.2766, 1.944, 1.952
Be3130,313.042 {108},Y_3710,ppm, .9527,.0047,.4974, .9493, .9560
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Co2286,228.616 {447},In2306,ppm, 1.007,.0018,.1813, 1.009, 1.006
Cr2677,267.716 {126},Y_3600,ppm, .9302,.0033,.3554, .9326, .9279
Cu3247,324.754 {104},Y_3600,ppm, 1.032,.0016,.1557, 1.033, 1.031
Fe2404,240.488 {140},In2306,ppm, 193.9,2.928,1.510, 191.9, 196.0
K_7664,766.490 { 44},Y_3710,ppm, 10.45,.0366,.3504, 10.42, 10.47
Li6707,670.784 { 50},Y_3710,ppm, 1.017,.0017,.1629, 1.016, 1.018
Mg2790,279.079 {121},Y_3710,ppm, 494.9,4.802,.9703, 491.5, 498.3
Mn2576,257.610 {131},Y_3600,ppm, .9441,.0003,.0366, .9443, .9439
Mo2020,202.030 {467},Y_2243,ppm, .9425,.0009,.0906, .9419, .9431
Na5895,589.592 { 57},Y_3710,ppm, 10.35,.0044,.0423, 10.34, 10.35
Ni2316,231.604 {445},In2306,ppm, .9940,.0022,.2232, .9956, .9925
P_1782,178.284 {489},In2306,ppm, 10.94,.0131,.1194, 10.93, 10.95
Pb2203,220.353 {453},In2306,ppm, .9708,.0074,.7598, .9761, .9656
S_1820,182.034 {485},Y_2243,ppm, 2.402,.0123,.5101, 2.394, 2.411
Sb2068,206.833 {463},Y_2243,ppm, 2.100,.0116,.5519, 2.091, 2.108
Se1960,196.090 {472},Y_2243,ppm, 1.924,.0052,.2680, 1.920, 1.927
Si2516,251.611 {134},Y_3710,ppm, 1.650,.0031,.1862, 1.648, 1.653
Sn1899,189.989 {477},In2306,ppm, 2.014,.0062,.3083, 2.018, 2.010
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Sr4215,421.552 { 80},Y_3710,ppm, .9750,.0039,.3975, .9723, .9777
Ti3349,334.904 {101},Y_3600,ppm, .9838,.0003,.0318, .9836, .9840
Tl1908,190.856 {477},In2306,ppm, 1.073,.0639,5.950, 1.119, 1.028
U_3670,367.007 { 92},Y_3600,ppm, 2.287,.0890,3.890, 2.224, 2.350
V_2924,292.402 {115},Y_3600,ppm, .9538,.0020,.2091, .9552, .9524
W_2397,239.709 {140},Y_2243,ppm, .3321,.0372,11.21, .3058, .3584
Zn2062,206.200 {463},In2306,ppm, .5089,.0019,.3729, .5103, .5076

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 179.35,2.7145,1.5135,181.27,177.43
In2306,230.606 {446},Cts/S, 9898.9,12.288,.12414,9890.2,9907.6
Y_2243,224.306 {450},Cts/S, 16215.,28.257,.17426,16235.,16195.
Y_3600,360.073 { 94},Cts/S, 142500.,201.32,.14127,142360.,142650.
Y_3710,371.030 { 91},Cts/S, 9722.0,78.909,.81165,9777.8,9666.2

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .5005,.0009,.1728, .4999, .5011
Al3082,308.215 {109},In2306,ppm, 20.07,.2678,1.335, 19.88, 20.26
As1890,189.042 {478},Y_2243,ppm, 1.005,.0020,.1948, 1.003, 1.006
B_2496,249.678 {135},Y_3710,ppm, .9900,.0174,1.759, .9776, 1.002
Ba4554,455.403 { 74},Y_3710,ppm, .9990,.0012,.1161, .9982, .9998
Be3130,313.042 {108},Y_3710,ppm, .9667,.0002,.0184, .9669, .9666
Ca3158,315.887 {107},In2306,ppm, 19.87,.3255,1.638, 19.64, 20.10
Cd2288,228.802 {447},Y_2243,ppm, .9878,.0024,.2443, .9895, .9861
Co2286,228.616 {447},In2306,ppm, .9868,.0008,.0779, .9873, .9863
Cr2677,267.716 {126},Y_3600,ppm, .9658,.0015,.1524, .9669, .9648
Cu3247,324.754 {104},Y_3600,ppm, .9758,.0003,.0336, .9760, .9755
Fe2404,240.488 {140},In2306,ppm, 20.05,.4183,2.086, 19.76, 20.35
K_7664,766.490 { 44},Y_3710,ppm, 19.97,.0351,.1756, 19.99, 19.94
Li6707,670.784 { 50},Y_3710,ppm, .9737,.0004,.0387, .9734, .9740
Mg2790,279.079 {121},Y_3710,ppm, 20.11,.1096,.5450, 20.04, 20.19
Mn2576,257.610 {131},Y_3600,ppm, .9928,.0015,.1497, .9938, .9917
Mo2020,202.030 {467},Y_2243,ppm, .9917,.0032,.3256, .9940, .9894
Na5895,589.592 { 57},Y_3710,ppm, 19.70,.0020,.0104, 19.70, 19.70
Ni2316,231.604 {445},In2306,ppm, .9884,.0005,.0511, .9881, .9888
P_1782,178.284 {489},In2306,ppm, 9.994,.0164,.1636, 9.983, 10.01
Pb2203,220.353 {453},In2306,ppm, .9833,.0019,.1972, .9820, .9847
S_1820,182.034 {485},Y_2243,ppm, 11.02,.0336,.3043, 11.05, 11.00
Sb2068,206.833 {463},Y_2243,ppm, 2.106,.0035,.1642, 2.108, 2.103
Se1960,196.090 {472},Y_2243,ppm, 1.003,.0026,.2552, 1.001, 1.005
Si2516,251.611 {134},Y_3710,ppm, 8.557,.1108,1.295, 8.478, 8.635
Sn1899,189.989 {477},In2306,ppm, .9884,.0040,.4020, .9912, .9855
Sr4215,421.552 { 80},Y_3710,ppm, .9912,.0002,.0234, .9914, .9910
Ti3349,334.904 {101},Y_3600,ppm, .9921,.0032,.3178, .9943, .9898
Tl1908,190.856 {477},In2306,ppm, 1.312,.0273,2.080, 1.332, 1.293
U_3670,367.007 { 92},Y_3600,ppm, .9227,.0693,7.513, .8737, .9717
V_2924,292.402 {115},Y_3600,ppm, .9770,.0023,.2320, .9786, .9754
W_2397,239.709 {140},Y_2243,ppm, 1.735,.0549,3.164, 1.774, 1.696
Zn2062,206.200 {463},In2306,ppm, .9828,.0020,.2070, .9842, .9813

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
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In2306,230.606 {146},Cts/S, 198.27,1.6786,.84665,199.45,197.08
In2306,230.606 {446},Cts/S, 12394.,3.4154,.02756,12396.,12392.
Y_2243,224.306 {450},Cts/S, 17855.,29.178,.16341,17835.,17876.
Y_3600,360.073 { 94},Cts/S, 159100.,135.71,.08530,159010.,159200.
Y_3710,371.030 { 91},Cts/S, 9969.6,63.447,.63640,9924.8,10014.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0100,.0002,1.972, .0102, .0099
Al3082,308.215 {109},In2306,ppm, .2581,.0138,5.349, .2483, .2678
As1890,189.042 {478},Y_2243,ppm, .0242,.0009,3.644, .0236, .0248
B_2496,249.678 {135},Y_3710,ppm, .2162,.0077,3.563, .2108, .2217
Ba4554,455.403 { 74},Y_3710,ppm, .0227,.0000,.1651, .0227, .0227
Be3130,313.042 {108},Y_3710,ppm, .0112,.0001,.6478, .0112, .0113
Ca3158,315.887 {107},In2306,ppm, 1.061,.0290,2.731, 1.040, 1.081
Cd2288,228.802 {447},Y_2243,ppm, .0113,.0001,1.005, .0114, .0112
Co2286,228.616 {447},In2306,ppm, .0107,.0001,1.288, .0106, .0108
Cr2677,267.716 {126},Y_3600,ppm, .0112,.0002,1.513, .0113, .0111
Cu3247,324.754 {104},Y_3600,ppm, .0118,.0005,4.659, .0122, .0114
Fe2404,240.488 {140},In2306,ppm, .2173,.0160,7.365, .2286, .2059
K_7664,766.490 { 44},Y_3710,ppm, 1.100,.0023,.2046, 1.098, 1.102
Li6707,670.784 { 50},Y_3710,ppm, .0096,.0028,29.51, .0076, .0116
Mg2790,279.079 {121},Y_3710,ppm, 1.083,.0200,1.850, 1.097, 1.069
Mn2576,257.610 {131},Y_3600,ppm, .0113,.0000,.1804, .0113, .0112
Mo2020,202.030 {467},Y_2243,ppm, .0268,.0005,1.860, .0264, .0271
Na5895,589.592 { 57},Y_3710,ppm, 1.057,.0009,.0818, 1.057, 1.058
Ni2316,231.604 {445},In2306,ppm, .0109,.0005,4.127, .0106, .0113
P_1782,178.284 {489},In2306,ppm, .9545,.0025,.2625, .9527, .9563
Pb2203,220.353 {453},In2306,ppm, .0125,.0005,4.221, .0129, .0121
S_1820,182.034 {485},Y_2243,ppm, -2.991,.0040,.1339, -2.994, -2.989
Sb2068,206.833 {463},Y_2243,ppm, .0556,.0016,2.825, .0545, .0567
Se1960,196.090 {472},Y_2243,ppm, .0266,.0005,1.739, .0270, .0263
Si2516,251.611 {134},Y_3710,ppm, .1727,.0090,5.204, .1663, .1790
Sn1899,189.989 {477},In2306,ppm, .0233,.0001,.5183, .0232, .0234
Sr4215,421.552 { 80},Y_3710,ppm, .0112,.0001,1.332, .0113, .0111
Ti3349,334.904 {101},Y_3600,ppm, .0112,.0001,.6323, .0111, .0112
Tl1908,190.856 {477},In2306,ppm, .6051,.0154,2.540, .5942, .6160
U_3670,367.007 { 92},Y_3600,ppm, .0254,.0626,246.5, .0697, -.0189
V_2924,292.402 {115},Y_3600,ppm, .0108,.0003,2.844, .0106, .0110
W_2397,239.709 {140},Y_2243,ppm, .1434,.0424,29.59, .1134, .1735
Zn2062,206.200 {463},In2306,ppm, .0204,.0001,.4074, .0203, .0204

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 203.99,4.7581,2.3324,207.36,200.63
In2306,230.606 {446},Cts/S, 13330.,1.0412,.00781,13330.,13331.
Y_2243,224.306 {450},Cts/S, 18274.,7.5838,.04150,18268.,18279.
Y_3600,360.073 { 94},Cts/S, 163460.,191.46,.11713,163320.,163600.
Y_3710,371.030 { 91},Cts/S, 9997.0,49.042,.49057,10032.,9962.3

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0004,.0003,78.87, -.0005, -.0002
Al3082,308.215 {109},In2306,ppm, -.0041,.0105,253.2, .0033, -.0116
As1890,189.042 {478},Y_2243,ppm, .0019,.0024,125.3, .0002, .0036
B_2496,249.678 {135},Y_3710,ppm, .0026,.0023,87.30, .0010, .0042
Ba4554,455.403 { 74},Y_3710,ppm, -.0003,.0002,85.23, -.0004, -.0001
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,41.89, -.0000, -.0000
Ca3158,315.887 {107},In2306,ppm, .0064,.0008,12.27, .0069, .0058
Cd2288,228.802 {447},Y_2243,ppm, -.0002,.0000,6.901, -.0002, -.0002
Co2286,228.616 {447},In2306,ppm, -.0003,.0001,21.27, -.0003, -.0004
Cr2677,267.716 {126},Y_3600,ppm, -.0001,.0000,23.30, -.0001, -.0001
Cu3247,324.754 {104},Y_3600,ppm, .0013,.0002,15.98, .0015, .0012
Fe2404,240.488 {140},In2306,ppm, -.0055,.0005,9.957, -.0051, -.0059
K_7664,766.490 { 44},Y_3710,ppm, .0330,.0128,38.73, .0420, .0239
Li6707,670.784 { 50},Y_3710,ppm, -.0012,.0004,31.05, -.0009, -.0014
Mg2790,279.079 {121},Y_3710,ppm, .0164,.0076,46.49, .0217, .0110
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,10.43, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, .0292,.0002,.6245, .0291, .0294
Na5895,589.592 { 57},Y_3710,ppm, -.0126,.0058,45.84, -.0167, -.0085
Ni2316,231.604 {445},In2306,ppm, .0000,.0002,56730., .0002, -.0002
P_1782,178.284 {489},In2306,ppm, -.0024,.0010,41.53, -.0017, -.0031
Pb2203,220.353 {453},In2306,ppm, .0012,.0001,6.423, .0013, .0012
S_1820,182.034 {485},Y_2243,ppm, -1.475,.0074,.5016, -1.470, -1.480
Sb2068,206.833 {463},Y_2243,ppm, -.0002,.0011,692.2, .0006, -.0009
Se1960,196.090 {472},Y_2243,ppm, .0310,.0033,10.55, .0287, .0333
Si2516,251.611 {134},Y_3710,ppm, .0015,.0083,543.5, .0074, -.0044
Sn1899,189.989 {477},In2306,ppm, -.0001,.0007,674.4, .0004, -.0006
Sr4215,421.552 { 80},Y_3710,ppm, -.0001,.0000,17.88, -.0001, -.0001
Ti3349,334.904 {101},Y_3600,ppm, .0003,.0001,34.85, .0004, .0002
Tl1908,190.856 {477},In2306,ppm, .3790,.0121,3.195, .3704, .3876
U_3670,367.007 { 92},Y_3600,ppm, -.0956,.0223,23.35, -.0798, -.1114
V_2924,292.402 {115},Y_3600,ppm, .0002,.0000,.8408, .0002, .0002
W_2397,239.709 {140},Y_2243,ppm, .1079,.0100,9.245, .1150, .1009
Zn2062,206.200 {463},In2306,ppm, -.0008,.0001,13.11, -.0009, -.0007

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 206.28,.56214,.27251,205.88,206.68
In2306,230.606 {446},Cts/S, 13413.,18.716,.13954,13426.,13399.
Y_2243,224.306 {450},Cts/S, 18220.,47.167,.25887,18253.,18187.
Y_3600,360.073 { 94},Cts/S, 163350.,148.24,.09075,163450.,163240.
Y_3710,371.030 { 91},Cts/S, 10037.,32.624,.32504,10060.,10014.

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Ag3280,328.068 {103},Y_3600,ppm, -.0002,.0004,176.3, .0001, -.0006
Al3082,308.215 {109},In2306,ppm, .0114,.0026,22.98, .0132, .0095
As1890,189.042 {478},Y_2243,ppm, -.0017,.0004,22.90, -.0020, -.0014
B_2496,249.678 {135},Y_3710,ppm, .0016,.0037,231.3, -.0010, .0042
Ba4554,455.403 { 74},Y_3710,ppm, .0001,.0004,652.2, .0004, -.0002
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0001,224.3, .0000, -.0001
Ca3158,315.887 {107},In2306,ppm, .0054,.0056,104.6, .0093, .0014
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,14.92, .0001, .0001
Co2286,228.616 {447},In2306,ppm, -.0000,.0000,174.8, .0000, -.0001
Cr2677,267.716 {126},Y_3600,ppm, -.0002,.0002,100.4, -.0000, -.0003
Cu3247,324.754 {104},Y_3600,ppm, .0010,.0003,34.76, .0012, .0007
Fe2404,240.488 {140},In2306,ppm, -.0094,.0080,84.95, -.0037, -.0150
K_7664,766.490 { 44},Y_3710,ppm, -.0099,.0025,25.63, -.0117, -.0081
Li6707,670.784 { 50},Y_3710,ppm, -.0019,.0016,87.28, -.0007, -.0030
Mg2790,279.079 {121},Y_3710,ppm, .0037,.0233,633.5, -.0128, .0201
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,48.99, -.0000, -.0001
Mo2020,202.030 {467},Y_2243,ppm, -.0001,.0003,276.9, -.0004, .0001
Na5895,589.592 { 57},Y_3710,ppm, -.0202,.0121,59.64, -.0117, -.0288
Ni2316,231.604 {445},In2306,ppm, .0002,.0002,81.74, .0003, .0001
P_1782,178.284 {489},In2306,ppm, -.0012,.0004,35.87, -.0009, -.0014
Pb2203,220.353 {453},In2306,ppm, .0009,.0011,119.4, .0017, .0001
S_1820,182.034 {485},Y_2243,ppm, -3.580,.0025,.0686, -3.578, -3.581
Sb2068,206.833 {463},Y_2243,ppm, -.0050,.0010,19.05, -.0057, -.0043
Se1960,196.090 {472},Y_2243,ppm, .0038,.0015,39.56, .0027, .0048
Si2516,251.611 {134},Y_3710,ppm, .0049,.0047,96.11, .0016, .0081
Sn1899,189.989 {477},In2306,ppm, -.0000,.0004,1731., .0003, -.0003
Sr4215,421.552 { 80},Y_3710,ppm, -.0001,.0002,170.7, -.0002, .0000
Ti3349,334.904 {101},Y_3600,ppm, -.0002,.0002,110.5, -.0004, -.0000
Tl1908,190.856 {477},In2306,ppm, .2614,.0089,3.399, .2551, .2677
U_3670,367.007 { 92},Y_3600,ppm, -.1693,.1033,61.00, -.0963, -.2424
V_2924,292.402 {115},Y_3600,ppm, .0000,.0004,5228., -.0003, .0003
W_2397,239.709 {140},Y_2243,ppm, -.0031,.0017,55.24, -.0019, -.0043
Zn2062,206.200 {463},In2306,ppm, .0020,.0001,3.522, .0021, .0020

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 203.22,1.9971,.98274,201.80,204.63
In2306,230.606 {446},Cts/S, 13314.,13.822,.10382,13304.,13323.
Y_2243,224.306 {450},Cts/S, 18075.,20.937,.11583,18089.,18060.
Y_3600,360.073 { 94},Cts/S, 162970.,45.662,.02802,162940.,163000.
Y_3710,371.030 { 91},Cts/S, 9985.9,84.200,.84319,9926.3,10045.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0004,.0004,99.61, -.0007, -.0001
Al3082,308.215 {109},In2306,ppm, .0053,.0010,19.23, .0046, .0060
As1890,189.042 {478},Y_2243,ppm, .0009,.0014,145.3, -.0000, .0019
B_2496,249.678 {135},Y_3710,ppm, .0052,.0046,88.56, .0085, .0019
Ba4554,455.403 { 74},Y_3710,ppm, .0029,.0001,4.723, .0028, .0030
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,80.58, .0000, .0000
Ca3158,315.887 {107},In2306,ppm, .0617,.0037,5.959, .0643, .0591
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,75.18, .0000, .0001
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Co2286,228.616 {447},In2306,ppm, -.0002,.0001,59.41, -.0001, -.0003
Cr2677,267.716 {126},Y_3600,ppm, .0001,.0003,193.3, .0003, -.0001
Cu3247,324.754 {104},Y_3600,ppm, .0009,.0006,61.07, .0013, .0005
Fe2404,240.488 {140},In2306,ppm, .0008,.0027,364.0, .0027, -.0012
K_7664,766.490 { 44},Y_3710,ppm, .0205,.0071,34.67, .0154, .0255
Li6707,670.784 { 50},Y_3710,ppm, -.0010,.0009,91.32, -.0003, -.0016
Mg2790,279.079 {121},Y_3710,ppm, .0529,.0140,26.55, .0430, .0628
Mn2576,257.610 {131},Y_3600,ppm, .0003,.0000,6.237, .0003, .0003
Mo2020,202.030 {467},Y_2243,ppm, -.0001,.0002,182.5, .0000, -.0002
Na5895,589.592 { 57},Y_3710,ppm, .1092,.0020,1.834, .1106, .1078
Ni2316,231.604 {445},In2306,ppm, .0004,.0004,86.18, .0002, .0007
P_1782,178.284 {489},In2306,ppm, -.0032,.0015,48.49, -.0042, -.0021
Pb2203,220.353 {453},In2306,ppm, .0004,.0007,167.4, .0009, -.0001
S_1820,182.034 {485},Y_2243,ppm, -.0705,.0031,4.439, -.0683, -.0727
Sb2068,206.833 {463},Y_2243,ppm, -.0048,.0021,43.55, -.0063, -.0033
Se1960,196.090 {472},Y_2243,ppm, .0019,.0003,14.15, .0021, .0017
Si2516,251.611 {134},Y_3710,ppm, -.0088,.0063,71.21, -.0044, -.0133
Sn1899,189.989 {477},In2306,ppm, .0001,.0004,759.9, -.0002, .0003
Sr4215,421.552 { 80},Y_3710,ppm, -.0000,.0002,10660., .0001, -.0001
Ti3349,334.904 {101},Y_3600,ppm, .0000,.0000,144.7, -.0000, .0001
Tl1908,190.856 {477},In2306,ppm, .2028,.0103,5.060, .1955, .2100
U_3670,367.007 { 92},Y_3600,ppm, -.1689,.0397,23.51, -.1408, -.1970
V_2924,292.402 {115},Y_3600,ppm, -.0000,.0004,4613., .0003, -.0003
W_2397,239.709 {140},Y_2243,ppm, .0486,.1210,249.2, -.0370, .1342
Zn2062,206.200 {463},In2306,ppm, .0144,.0001,.7155, .0144, .0145

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 205.05,.59306,.28922,205.47,204.63
In2306,230.606 {446},Cts/S, 13384.,28.343,.21178,13404.,13364.
Y_2243,224.306 {450},Cts/S, 18131.,64.947,.35821,18177.,18085.
Y_3600,360.073 { 94},Cts/S, 163530.,143.77,.08792,163420.,163630.
Y_3710,371.030 { 91},Cts/S, 10146.,7.0668,.06965,10141.,10151.

[Sample Header]
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Custom ID3=
Run Time=9/23/2019 9:47:18
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2361,.0011,.4677, .2369, .2353
Al3082,308.215 {109},In2306,ppm, 9.673,.1127,1.165, 9.593, 9.753
As1890,189.042 {478},Y_2243,ppm, .9267,.0012,.1306, .9258, .9275
B_2496,249.678 {135},Y_3710,ppm, .4793,.0016,.3248, .4782, .4804
Ba4554,455.403 { 74},Y_3710,ppm, .9344,.0070,.7491, .9295, .9394
Be3130,313.042 {108},Y_3710,ppm, .9033,.0085,.9454, .8972, .9093
Ca3158,315.887 {107},In2306,ppm, 9.597,.0799,.8325, 9.540, 9.653
Cd2288,228.802 {447},Y_2243,ppm, .9147,.0020,.2165, .9161, .9133
Co2286,228.616 {447},In2306,ppm, .8959,.0004,.0427, .8957, .8962
Cr2677,267.716 {126},Y_3600,ppm, .8943,.0003,.0327, .8941, .8945
Cu3247,324.754 {104},Y_3600,ppm, .9127,.0031,.3447, .9149, .9105
Fe2404,240.488 {140},In2306,ppm, 9.690,.1057,1.091, 9.616, 9.765
K_7664,766.490 { 44},Y_3710,ppm, 9.841,.0962,.9770, 9.773, 9.909
Li6707,670.784 { 50},Y_3710,ppm, .9049,.0030,.3358, .9028, .9070
Mg2790,279.079 {121},Y_3710,ppm, 9.838,.0566,.5756, 9.798, 9.878
Mn2576,257.610 {131},Y_3600,ppm, .9272,.0009,.0970, .9278, .9265
Mo2020,202.030 {467},Y_2243,ppm, .9170,.0029,.3169, .9191, .9150
Na5895,589.592 { 57},Y_3710,ppm, 9.813,.0879,.8958, 9.751, 9.875
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Ni2316,231.604 {445},In2306,ppm, .9038,.0005,.0517, .9042, .9035
P_1782,178.284 {489},In2306,ppm, 4.708,.0088,.1880, 4.714, 4.701
Pb2203,220.353 {453},In2306,ppm, .9031,.0002,.0196, .9029, .9032
S_1820,182.034 {485},Y_2243,ppm, 7.032,.0449,.6380, 7.064, 7.000
Sb2068,206.833 {463},Y_2243,ppm, 1.444,.0061,.4200, 1.448, 1.440
Se1960,196.090 {472},Y_2243,ppm, .9272,.0044,.4762, .9241, .9303
Si2516,251.611 {134},Y_3710,ppm, 5.766,.0648,1.124, 5.720, 5.812
Sn1899,189.989 {477},In2306,ppm, .9005,.0013,.1474, .9014, .8996
Sr4215,421.552 { 80},Y_3710,ppm, .9155,.0085,.9269, .9095, .9215
Ti3349,334.904 {101},Y_3600,ppm, .9161,.0009,.1001, .9167, .9154
Tl1908,190.856 {477},In2306,ppm, .5452,.0227,4.168, .5613, .5292
U_3670,367.007 { 92},Y_3600,ppm, .3439,.0043,1.251, .3409, .3469
V_2924,292.402 {115},Y_3600,ppm, .9021,.0006,.0617, .9025, .9017
W_2397,239.709 {140},Y_2243,ppm, .4205,.1256,29.86, .5093, .3317
Zn2062,206.200 {463},In2306,ppm, .4906,.0001,.0233, .4907, .4906

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 203.67,2.2255,1.0927,205.25,202.10
In2306,230.606 {446},Cts/S, 12784.,22.551,.17641,12800.,12768.
Y_2243,224.306 {450},Cts/S, 17932.,20.781,.11589,17947.,17918.
Y_3600,360.073 { 94},Cts/S, 160750.,208.77,.12987,160600.,160900.
Y_3710,371.030 { 91},Cts/S, 10119.,98.752,.97590,10189.,10049.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0012,.0000,4.218, -.0011, -.0012
Al3082,308.215 {109},In2306,ppm, .0856,.0247,28.81, .0682, .1031
As1890,189.042 {478},Y_2243,ppm, .0061,.0009,14.55, .0055, .0067
B_2496,249.678 {135},Y_3710,ppm, .1566,.0076,4.846, .1512, .1619
Ba4554,455.403 { 74},Y_3710,ppm, .2249,.0010,.4556, .2242, .2256
Be3130,313.042 {108},Y_3710,ppm, .0002,.0001,66.27, .0001, .0002
Ca3158,315.887 {107},In2306,ppm, 36.04,.4658,1.292, 36.37, 35.71
Cd2288,228.802 {447},Y_2243,ppm, .0003,.0001,28.42, .0004, .0003
Co2286,228.616 {447},In2306,ppm, .0006,.0001,14.08, .0007, .0006
Cr2677,267.716 {126},Y_3600,ppm, .0007,.0000,.3759, .0007, .0007
Cu3247,324.754 {104},Y_3600,ppm, .0015,.0001,8.817, .0016, .0014
Fe2404,240.488 {140},In2306,ppm, .0368,.0031,8.369, .0347, .0390
K_7664,766.490 { 44},Y_3710,ppm, 14.55,.0488,.3353, 14.52, 14.59
Li6707,670.784 { 50},Y_3710,ppm, .0099,.0014,14.61, .0109, .0089
Mg2790,279.079 {121},Y_3710,ppm, 21.72,.0675,.3110, 21.77, 21.67
Mn2576,257.610 {131},Y_3600,ppm, .0650,.0001,.2063, .0649, .0651
Mo2020,202.030 {467},Y_2243,ppm, .0118,.0003,2.675, .0115, .0120
Na5895,589.592 { 57},Y_3710,ppm, 244.5,3.894,1.593, 247.2, 241.7
Ni2316,231.604 {445},In2306,ppm, .0023,.0001,5.775, .0024, .0022
P_1782,178.284 {489},In2306,ppm, .0179,.0001,.5277, .0179, .0178
Pb2203,220.353 {453},In2306,ppm, -.0002,.0009,557.8, .0005, -.0008
S_1820,182.034 {485},Y_2243,ppm, 9.233,.0141,.1531, 9.243, 9.223
Sb2068,206.833 {463},Y_2243,ppm, .0003,.0004,135.9, .0006, .0000
Se1960,196.090 {472},Y_2243,ppm, .0040,.0045,113.2, .0072, .0008
Si2516,251.611 {134},Y_3710,ppm, 5.090,.0941,1.849, 5.156, 5.023
Sn1899,189.989 {477},In2306,ppm, .0008,.0004,49.03, .0005, .0011
Sr4215,421.552 { 80},Y_3710,ppm, .3337,.0016,.4886, .3326, .3349
Ti3349,334.904 {101},Y_3600,ppm, .0068,.0002,2.232, .0069, .0067
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Tl1908,190.856 {477},In2306,ppm, .3192,.0003,.0943, .3189, .3194
U_3670,367.007 { 92},Y_3600,ppm, -.1407,.1058,75.22, -.2155, -.0658
V_2924,292.402 {115},Y_3600,ppm, .0043,.0005,12.32, .0047, .0040
W_2397,239.709 {140},Y_2243,ppm, .0504,.0902,178.9, -.0133, .1142
Zn2062,206.200 {463},In2306,ppm, .0168,.0002,1.206, .0170, .0167

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 200.43,2.2467,1.1210,198.84,202.02
In2306,230.606 {446},Cts/S, 11515.,15.506,.13465,11504.,11526.
Y_2243,224.306 {450},Cts/S, 17085.,10.302,.06030,17078.,17092.
Y_3600,360.073 { 94},Cts/S, 152640.,382.85,.25082,152910.,152360.
Y_3710,371.030 { 91},Cts/S, 10040.,2.2895,.02280,10042.,10038.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0004,.0012,314.0, .0005, -.0013
Al3082,308.215 {109},In2306,ppm, .0548,.0069,12.66, .0499, .0597
As1890,189.042 {478},Y_2243,ppm, .0063,.0009,14.77, .0057, .0070
B_2496,249.678 {135},Y_3710,ppm, .1642,.0079,4.791, .1586, .1698
Ba4554,455.403 { 74},Y_3710,ppm, .2249,.0022,.9580, .2234, .2265
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,13.98, -.0000, -.0000
Ca3158,315.887 {107},In2306,ppm, 36.38,.2766,.7603, 36.18, 36.57
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0000,16.47, .0002, .0002
Co2286,228.616 {447},In2306,ppm, .0004,.0000,9.924, .0004, .0004
Cr2677,267.716 {126},Y_3600,ppm, .0007,.0001,10.20, .0006, .0007
Cu3247,324.754 {104},Y_3600,ppm, .0022,.0002,9.700, .0023, .0020
Fe2404,240.488 {140},In2306,ppm, .0307,.0119,38.87, .0391, .0223
K_7664,766.490 { 44},Y_3710,ppm, 14.61,.0591,.4049, 14.56, 14.65
Li6707,670.784 { 50},Y_3710,ppm, .0109,.0006,5.110, .0113, .0105
Mg2790,279.079 {121},Y_3710,ppm, 21.66,.2777,1.282, 21.47, 21.86
Mn2576,257.610 {131},Y_3600,ppm, .0649,.0002,.3744, .0650, .0647
Mo2020,202.030 {467},Y_2243,ppm, .0082,.0002,2.309, .0084, .0081
Na5895,589.592 { 57},Y_3710,ppm, 242.8,6.248,2.573, 238.4, 247.2
Ni2316,231.604 {445},In2306,ppm, .0022,.0000,.5705, .0021, .0022
P_1782,178.284 {489},In2306,ppm, .0186,.0031,16.57, .0208, .0164
Pb2203,220.353 {453},In2306,ppm, .0005,.0007,121.3, .0001, .0010
S_1820,182.034 {485},Y_2243,ppm, 9.193,.0097,.1056, 9.199, 9.186
Sb2068,206.833 {463},Y_2243,ppm, -.0007,.0018,276.2, .0006, -.0019
Se1960,196.090 {472},Y_2243,ppm, -.0008,.0028,343.3, -.0028, .0012
Si2516,251.611 {134},Y_3710,ppm, 5.749,.0582,1.012, 5.708, 5.790
Sn1899,189.989 {477},In2306,ppm, .0006,.0006,97.67, .0010, .0002
Sr4215,421.552 { 80},Y_3710,ppm, .3334,.0001,.0390, .3333, .3335
Ti3349,334.904 {101},Y_3600,ppm, .0014,.0004,24.80, .0012, .0017
Tl1908,190.856 {477},In2306,ppm, .2555,.0041,1.594, .2526, .2584
U_3670,367.007 { 92},Y_3600,ppm, -.1614,.0532,32.98, -.1990, -.1238
V_2924,292.402 {115},Y_3600,ppm, .0041,.0001,3.309, .0042, .0040
W_2397,239.709 {140},Y_2243,ppm, .0598,.0803,134.3, .0030, .1166
Zn2062,206.200 {463},In2306,ppm, .0142,.0001,.5344, .0143, .0142

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 197.04,.07902,.04010,197.10,196.98
In2306,230.606 {446},Cts/S, 11479.,18.192,.15848,11492.,11466.
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Y_2243,224.306 {450},Cts/S, 17013.,29.772,.17500,17034.,16992.
Y_3600,360.073 { 94},Cts/S, 152430.,198.99,.13054,152290.,152570.
Y_3710,371.030 { 91},Cts/S, 9921.4,47.131,.47505,9954.7,9888.1

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2570,.0005,.1894, .2574, .2567
Al3082,308.215 {109},In2306,ppm, 10.50,.0174,.1662, 10.51, 10.48
As1890,189.042 {478},Y_2243,ppm, 1.074,.0036,.3393, 1.071, 1.076
B_2496,249.678 {135},Y_3710,ppm, .6596,.0065,.9847, .6550, .6642
Ba4554,455.403 { 74},Y_3710,ppm, 1.255,.0016,.1253, 1.254, 1.256
Be3130,313.042 {108},Y_3710,ppm, 1.019,.0014,.1379, 1.018, 1.020
Ca3158,315.887 {107},In2306,ppm, 46.07,.4234,.9191, 46.37, 45.77
Cd2288,228.802 {447},Y_2243,ppm, 1.031,.0008,.0809, 1.032, 1.030
Co2286,228.616 {447},In2306,ppm, 1.043,.0000,.0025, 1.044, 1.043
Cr2677,267.716 {126},Y_3600,ppm, .9816,.0025,.2523, .9799, .9834
Cu3247,324.754 {104},Y_3600,ppm, 1.022,.0040,.3885, 1.019, 1.025
Fe2404,240.488 {140},In2306,ppm, 10.33,.0603,.5835, 10.37, 10.29
K_7664,766.490 { 44},Y_3710,ppm, 24.84,.0197,.0792, 24.83, 24.86
Li6707,670.784 { 50},Y_3710,ppm, 1.012,.0013,.1262, 1.011, 1.013
Mg2790,279.079 {121},Y_3710,ppm, 31.92,.0554,.1735, 31.88, 31.96
Mn2576,257.610 {131},Y_3600,ppm, 1.079,.0013,.1221, 1.078, 1.080
Mo2020,202.030 {467},Y_2243,ppm, 1.031,.0010,.1017, 1.030, 1.032
Na5895,589.592 { 57},Y_3710,ppm, 254.4,1.187,.4663, 253.6, 255.3
Ni2316,231.604 {445},In2306,ppm, 1.049,.0017,.1641, 1.051, 1.048
P_1782,178.284 {489},In2306,ppm, 5.700,.0179,.3138, 5.688, 5.713
Pb2203,220.353 {453},In2306,ppm, 1.032,.0020,.1955, 1.030, 1.033
S_1820,182.034 {485},Y_2243,ppm, 16.92,.0335,.1977, 16.90, 16.95
Sb2068,206.833 {463},Y_2243,ppm, 1.614,.0025,.1549, 1.616, 1.612
Se1960,196.090 {472},Y_2243,ppm, 1.060,.0018,.1654, 1.059, 1.061
Si2516,251.611 {134},Y_3710,ppm, 11.69,.0109,.0929, 11.68, 11.70
Sn1899,189.989 {477},In2306,ppm, 1.054,.0001,.0138, 1.054, 1.054
Sr4215,421.552 { 80},Y_3710,ppm, 1.348,.0026,.1962, 1.346, 1.350
Ti3349,334.904 {101},Y_3600,ppm, 1.031,.0012,.1158, 1.030, 1.032
Tl1908,190.856 {477},In2306,ppm, .6566,.0193,2.941, .6702, .6429
U_3670,367.007 { 92},Y_3600,ppm, .5268,.0406,7.699, .5555, .4981
V_2924,292.402 {115},Y_3600,ppm, 1.013,.0022,.2152, 1.012, 1.015
W_2397,239.709 {140},Y_2243,ppm, .5489,.0714,13.02, .5994, .4984
Zn2062,206.200 {463},In2306,ppm, .5550,.0021,.3746, .5536, .5565

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 198.29,1.8251,.92043,197.00,199.58
In2306,230.606 {446},Cts/S, 11304.,12.761,.11289,11313.,11295.
Y_2243,224.306 {450},Cts/S, 17125.,11.155,.06514,17133.,17117.
Y_3600,360.073 { 94},Cts/S, 152440.,79.975,.05246,152380.,152490.
Y_3710,371.030 { 91},Cts/S, 9960.5,11.815,.11862,9952.2,9968.9

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2580,.0004,.1582, .2577, .2583
Al3082,308.215 {109},In2306,ppm, 10.68,.1217,1.140, 10.76, 10.59
As1890,189.042 {478},Y_2243,ppm, 1.086,.0053,.4873, 1.089, 1.082
B_2496,249.678 {135},Y_3710,ppm, .6697,.0039,.5837, .6669, .6725
Ba4554,455.403 { 74},Y_3710,ppm, 1.264,.0037,.2890, 1.267, 1.261
Be3130,313.042 {108},Y_3710,ppm, 1.027,.0033,.3173, 1.029, 1.025
Ca3158,315.887 {107},In2306,ppm, 46.82,.3242,.6925, 47.05, 46.59
Cd2288,228.802 {447},Y_2243,ppm, 1.044,.0014,.1371, 1.045, 1.043
Co2286,228.616 {447},In2306,ppm, 1.053,.0020,.1942, 1.055, 1.052
Cr2677,267.716 {126},Y_3600,ppm, .9961,.0012,.1159, .9953, .9969
Cu3247,324.754 {104},Y_3600,ppm, 1.030,.0014,.1398, 1.029, 1.031
Fe2404,240.488 {140},In2306,ppm, 10.51,.1139,1.084, 10.59, 10.43
K_7664,766.490 { 44},Y_3710,ppm, 25.04,.0048,.0192, 25.05, 25.04
Li6707,670.784 { 50},Y_3710,ppm, 1.021,.0030,.2922, 1.023, 1.019
Mg2790,279.079 {121},Y_3710,ppm, 32.11,.3400,1.059, 32.35, 31.87
Mn2576,257.610 {131},Y_3600,ppm, 1.089,.0043,.3915, 1.086, 1.092
Mo2020,202.030 {467},Y_2243,ppm, 1.045,.0040,.3791, 1.048, 1.042
Na5895,589.592 { 57},Y_3710,ppm, 258.4,2.445,.9459, 256.7, 260.2
Ni2316,231.604 {445},In2306,ppm, 1.061,.0056,.5315, 1.065, 1.057
P_1782,178.284 {489},In2306,ppm, 5.752,.0192,.3337, 5.765, 5.738
Pb2203,220.353 {453},In2306,ppm, 1.040,.0014,.1346, 1.041, 1.039
S_1820,182.034 {485},Y_2243,ppm, 17.07,.0659,.3862, 17.12, 17.02
Sb2068,206.833 {463},Y_2243,ppm, 1.637,.0067,.4076, 1.642, 1.632
Se1960,196.090 {472},Y_2243,ppm, 1.073,.0018,.1704, 1.074, 1.072
Si2516,251.611 {134},Y_3710,ppm, 12.67,.0285,.2252, 12.69, 12.65
Sn1899,189.989 {477},In2306,ppm, 1.068,.0018,.1717, 1.069, 1.066
Sr4215,421.552 { 80},Y_3710,ppm, 1.358,.0022,.1592, 1.360, 1.357
Ti3349,334.904 {101},Y_3600,ppm, 1.040,.0028,.2724, 1.038, 1.042
Tl1908,190.856 {477},In2306,ppm, .9085,.0185,2.040, .9216, .8953
U_3670,367.007 { 92},Y_3600,ppm, .4994,.0220,4.411, .5149, .4838
V_2924,292.402 {115},Y_3600,ppm, 1.022,.0032,.3091, 1.020, 1.025
W_2397,239.709 {140},Y_2243,ppm, .4933,.1262,25.58, .5825, .4041
Zn2062,206.200 {463},In2306,ppm, .5609,.0005,.0886, .5612, .5605

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 197.05,1.8834,.95579,195.72,198.38
In2306,230.606 {446},Cts/S, 11277.,25.620,.22720,11258.,11295.
Y_2243,224.306 {450},Cts/S, 17076.,51.239,.30006,17040.,17113.
Y_3600,360.073 { 94},Cts/S, 151950.,236.12,.15540,152110.,151780.
Y_3710,371.030 { 91},Cts/S, 9979.0,75.440,.75599,9925.7,10032.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
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Ag3280,328.068 {103},Y_3600,ppm, -.0002,.0003,172.7, -.0004, .0000
Al3082,308.215 {109},In2306,ppm, .0160,.0212,132.4, .0310, .0010
As1890,189.042 {478},Y_2243,ppm, .0374,.0045,12.07, .0405, .0342
B_2496,249.678 {135},Y_3710,ppm, 1.051,.0028,.2700, 1.049, 1.053
Ba4554,455.403 { 74},Y_3710,ppm, 1.875,.0039,.2056, 1.877, 1.872
Be3130,313.042 {108},Y_3710,ppm, .0002,.0001,54.76, .0001, .0003
Ca3158,315.887 {107},In2306,ppm, 236.8,3.100,1.309, 239.0, 234.6
Cd2288,228.802 {447},Y_2243,ppm, .0008,.0004,53.78, .0005, .0011
Co2286,228.616 {447},In2306,ppm, .0064,.0000,.5927, .0064, .0063
Cr2677,267.716 {126},Y_3600,ppm, .0010,.0003,34.08, .0012, .0008
Cu3247,324.754 {104},Y_3600,ppm, .0016,.0008,51.35, .0010, .0022
Fe2404,240.488 {140},In2306,ppm, .1177,.0100,8.503, .1106, .1247
K_7664,766.490 { 44},Y_3710,ppm, 26.90,.0567,.2110, 26.94, 26.86
Li6707,670.784 { 50},Y_3710,ppm, .0299,.0010,3.462, .0306, .0292
Mg2790,279.079 {121},Y_3710,ppm, 245.7,.6386,.2599, 246.1, 245.2
Mn2576,257.610 {131},Y_3600,ppm, 2.627,.0002,.0079, 2.628, 2.627
Mo2020,202.030 {467},Y_2243,ppm, .0117,.0011,9.214, .0110, .0125
Na5895,589.592 { 57},Y_3710,ppm, 2125.,30.16,1.419, 2146., 2104.
Ni2316,231.604 {445},In2306,ppm, .0050,.0001,2.931, .0049, .0051
P_1782,178.284 {489},In2306,ppm, .0480,.0040,8.376, .0508, .0451
Pb2203,220.353 {453},In2306,ppm, -.0013,.0017,128.9, -.0001, -.0026
S_1820,182.034 {485},Y_2243,ppm, 6.586,.0319,.4845, 6.564, 6.609
Sb2068,206.833 {463},Y_2243,ppm, .0006,.0012,179.7, .0015, -.0002
Se1960,196.090 {472},Y_2243,ppm, .0061,.0025,40.70, .0044, .0079
Si2516,251.611 {134},Y_3710,ppm, 16.13,.2613,1.620, 16.31, 15.95
Sn1899,189.989 {477},In2306,ppm, .0014,.0002,12.89, .0013, .0016
Sr4215,421.552 { 80},Y_3710,ppm, 2.433,.0017,.0701, 2.434, 2.432
Ti3349,334.904 {101},Y_3600,ppm, .0022,.0009,38.81, .0016, .0028
Tl1908,190.856 {477},In2306,ppm, .5078,.0085,1.672, .5018, .5138
U_3670,367.007 { 92},Y_3600,ppm, -.0961,.0582,60.55, -.1373, -.0550
V_2924,292.402 {115},Y_3600,ppm, -.0029,.0003,9.253, -.0031, -.0027
W_2397,239.709 {140},Y_2243,ppm, .1647,.0577,35.02, .1239, .2055
Zn2062,206.200 {463},In2306,ppm, .0152,.0002,1.300, .0151, .0154

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 182.13,3.0386,1.6684,179.98,184.28
In2306,230.606 {446},Cts/S, 8982.3,4.1460,.04616,8979.4,8985.2
Y_2243,224.306 {450},Cts/S, 14724.,13.304,.09036,14734.,14715.
Y_3600,360.073 { 94},Cts/S, 130510.,10.984,.00842,130510.,130520.
Y_3710,371.030 { 91},Cts/S, 9304.5,45.147,.48522,9272.6,9336.5

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0008,.0011,130.5, -.0015, -.0001
Al3082,308.215 {109},In2306,ppm, .1377,.0169,12.27, .1497, .1258
As1890,189.042 {478},Y_2243,ppm, .0065,.0034,51.96, .0088, .0041
B_2496,249.678 {135},Y_3710,ppm, .1092,.0001,.0829, .1092, .1093
Ba4554,455.403 { 74},Y_3710,ppm, .1515,.0002,.1532, .1517, .1514
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,16.63, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, 28.37,.1898,.6690, 28.24, 28.50
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,58.90, .0001, .0002
Co2286,228.616 {447},In2306,ppm, .0002,.0001,69.45, .0001, .0002
Cr2677,267.716 {126},Y_3600,ppm, .0002,.0002,94.55, .0001, .0003
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Cu3247,324.754 {104},Y_3600,ppm, .0024,.0003,13.62, .0022, .0026
Fe2404,240.488 {140},In2306,ppm, .0507,.0110,21.70, .0430, .0585
K_7664,766.490 { 44},Y_3710,ppm, 6.579,.0097,.1467, 6.586, 6.572
Li6707,670.784 { 50},Y_3710,ppm, .0109,.0013,12.01, .0099, .0118
Mg2790,279.079 {121},Y_3710,ppm, 13.23,.0657,.4965, 13.28, 13.18
Mn2576,257.610 {131},Y_3600,ppm, .0692,.0001,.1960, .0691, .0693
Mo2020,202.030 {467},Y_2243,ppm, .0049,.0003,6.510, .0047, .0051
Na5895,589.592 { 57},Y_3710,ppm, 117.7,.3401,.2889, 118.0, 117.5
Ni2316,231.604 {445},In2306,ppm, .0008,.0004,53.64, .0005, .0010
P_1782,178.284 {489},In2306,ppm, .0431,.0003,.7169, .0429, .0433
Pb2203,220.353 {453},In2306,ppm, -.0000,.0009,3176., .0006, -.0006
S_1820,182.034 {485},Y_2243,ppm, 3.861,.0355,.9191, 3.886, 3.836
Sb2068,206.833 {463},Y_2243,ppm, -.0012,.0006,46.83, -.0008, -.0016
Se1960,196.090 {472},Y_2243,ppm, .0043,.0007,17.06, .0038, .0048
Si2516,251.611 {134},Y_3710,ppm, 6.547,.0140,.2132, 6.557, 6.537
Sn1899,189.989 {477},In2306,ppm, .0005,.0002,40.39, .0003, .0006
Sr4215,421.552 { 80},Y_3710,ppm, .2496,.0014,.5660, .2506, .2486
Ti3349,334.904 {101},Y_3600,ppm, .0018,.0003,14.32, .0016, .0019
Tl1908,190.856 {477},In2306,ppm, .3502,.0102,2.913, .3430, .3575
U_3670,367.007 { 92},Y_3600,ppm, -.0639,.0538,84.27, -.0258, -.1019
V_2924,292.402 {115},Y_3600,ppm, .0091,.0001,.6402, .0090, .0091
W_2397,239.709 {140},Y_2243,ppm, .0331,.0212,64.14, .0481, .0181
Zn2062,206.200 {463},In2306,ppm, .0319,.0003,.9634, .0317, .0321

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 202.85,3.1652,1.5604,205.09,200.61
In2306,230.606 {446},Cts/S, 12054.,12.881,.10686,12063.,12045.
Y_2243,224.306 {450},Cts/S, 17404.,27.901,.16031,17384.,17424.
Y_3600,360.073 { 94},Cts/S, 156390.,68.331,.04369,156440.,156340.
Y_3710,371.030 { 91},Cts/S, 10049.,64.329,.64018,10094.,10003.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0006,.0007,105.8, -.0002, -.0011
Al3082,308.215 {109},In2306,ppm, .0209,.0115,55.18, .0127, .0290
As1890,189.042 {478},Y_2243,ppm, .0075,.0004,5.913, .0072, .0079
B_2496,249.678 {135},Y_3710,ppm, .0585,.0007,1.138, .0580, .0590
Ba4554,455.403 { 74},Y_3710,ppm, .0964,.0005,.5494, .0960, .0968
Be3130,313.042 {108},Y_3710,ppm, .0000,.0001,1459., -.0000, .0001
Ca3158,315.887 {107},In2306,ppm, 44.32,.1321,.2980, 44.22, 44.41
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,165.9, .0001, -.0000
Co2286,228.616 {447},In2306,ppm, .0000,.0000,122.3, .0001, .0000
Cr2677,267.716 {126},Y_3600,ppm, .0002,.0004,197.2, .0005, -.0001
Cu3247,324.754 {104},Y_3600,ppm, .0030,.0002,7.596, .0032, .0029
Fe2404,240.488 {140},In2306,ppm, .2555,.0171,6.712, .2676, .2433
K_7664,766.490 { 44},Y_3710,ppm, 6.389,.0407,.6369, 6.361, 6.418
Li6707,670.784 { 50},Y_3710,ppm, .0046,.0007,15.47, .0041, .0051
Mg2790,279.079 {121},Y_3710,ppm, 5.124,.0091,.1784, 5.131, 5.118
Mn2576,257.610 {131},Y_3600,ppm, .1043,.0002,.1948, .1045, .1042
Mo2020,202.030 {467},Y_2243,ppm, .0113,.0003,2.978, .0110, .0115
Na5895,589.592 { 57},Y_3710,ppm, 18.42,.0770,.4178, 18.37, 18.48
Ni2316,231.604 {445},In2306,ppm, .0008,.0003,36.23, .0006, .0010
P_1782,178.284 {489},In2306,ppm, .2342,.0000,.0188, .2343, .2342
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Pb2203,220.353 {453},In2306,ppm, -.0003,.0001,38.33, -.0004, -.0002
S_1820,182.034 {485},Y_2243,ppm, 12.27,.0404,.3292, 12.25, 12.30
Sb2068,206.833 {463},Y_2243,ppm, -.0015,.0004,27.79, -.0012, -.0018
Se1960,196.090 {472},Y_2243,ppm, .0017,.0028,162.9, -.0003, .0037
Si2516,251.611 {134},Y_3710,ppm, 4.110,.0260,.6321, 4.092, 4.129
Sn1899,189.989 {477},In2306,ppm, .0003,.0001,55.72, .0002, .0003
Sr4215,421.552 { 80},Y_3710,ppm, .2474,.0010,.4025, .2467, .2482
Ti3349,334.904 {101},Y_3600,ppm, .0011,.0000,3.022, .0011, .0011
Tl1908,190.856 {477},In2306,ppm, .2488,.0061,2.455, .2445, .2531
U_3670,367.007 { 92},Y_3600,ppm, -.0776,.0659,84.85, -.0310, -.1242
V_2924,292.402 {115},Y_3600,ppm, .0013,.0001,10.89, .0012, .0014
W_2397,239.709 {140},Y_2243,ppm, .0003,.0371,13330., .0265, -.0260
Zn2062,206.200 {463},In2306,ppm, .0512,.0001,.1579, .0513, .0511

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 203.72,.26688,.13101,203.53,203.91
In2306,230.606 {446},Cts/S, 12672.,20.897,.16491,12686.,12657.
Y_2243,224.306 {450},Cts/S, 17660.,62.778,.35548,17704.,17616.
Y_3600,360.073 { 94},Cts/S, 159500.,132.14,.08284,159600.,159410.
Y_3710,371.030 { 91},Cts/S, 10091.,47.731,.47302,10124.,10057.

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Ag3280,328.068 {103},Y_3600,ppm, .2431,.0015,.6277, .2420, .2442
Al3082,308.215 {109},In2306,ppm, 10.18,.0722,.7090, 10.13, 10.23
As1890,189.042 {478},Y_2243,ppm, 1.023,.0051,.4945, 1.027, 1.020
B_2496,249.678 {135},Y_3710,ppm, .6322,.0017,.2767, .6335, .6310
Ba4554,455.403 { 74},Y_3710,ppm, 1.200,.0030,.2477, 1.202, 1.198
Be3130,313.042 {108},Y_3710,ppm, .9641,.0005,.0540, .9644, .9637
Ca3158,315.887 {107},In2306,ppm, 45.40,.1201,.2646, 45.32, 45.49
Cd2288,228.802 {447},Y_2243,ppm, .9864,.0030,.3072, .9885, .9843
Co2286,228.616 {447},In2306,ppm, .9904,.0013,.1292, .9913, .9895
Cr2677,267.716 {126},Y_3600,ppm, .9405,.0005,.0498, .9402, .9408
Cu3247,324.754 {104},Y_3600,ppm, .9703,.0007,.0708, .9708, .9698
Fe2404,240.488 {140},In2306,ppm, 10.02,.0953,.9506, 9.954, 10.09
K_7664,766.490 { 44},Y_3710,ppm, 24.04,.0701,.2915, 23.99, 24.09
Li6707,670.784 { 50},Y_3710,ppm, .9646,.0000,.0000, .9646, .9646
Mg2790,279.079 {121},Y_3710,ppm, 31.05,.0675,.2173, 31.10, 31.00
Mn2576,257.610 {131},Y_3600,ppm, 1.028,.0033,.3244, 1.025, 1.030
Mo2020,202.030 {467},Y_2243,ppm, .9801,.0073,.7415, .9852, .9750
Na5895,589.592 { 57},Y_3710,ppm, 247.0,1.228,.4971, 247.8, 246.1
Ni2316,231.604 {445},In2306,ppm, .9953,.0032,.3239, .9976, .9930
P_1782,178.284 {489},In2306,ppm, 5.330,.0230,.4320, 5.347, 5.314
Pb2203,220.353 {453},In2306,ppm, .9840,.0096,.9713, .9907, .9772
S_1820,182.034 {485},Y_2243,ppm, 16.14,.1388,.8598, 16.24, 16.04
Sb2068,206.833 {463},Y_2243,ppm, 1.527,.0077,.5013, 1.532, 1.521
Se1960,196.090 {472},Y_2243,ppm, 1.014,.0006,.0631, 1.013, 1.014
Si2516,251.611 {134},Y_3710,ppm, 13.86,.0354,.2551, 13.83, 13.88
Sn1899,189.989 {477},In2306,ppm, .9999,.0072,.7186, 1.005, .9949
Sr4215,421.552 { 80},Y_3710,ppm, 1.291,.0015,.1190, 1.292, 1.290
Ti3349,334.904 {101},Y_3600,ppm, .9847,.0016,.1593, .9835, .9858
Tl1908,190.856 {477},In2306,ppm, 1.782,.0156,.8756, 1.793, 1.771
U_3670,367.007 { 92},Y_3600,ppm, .3602,.0428,11.88, .3904, .3299
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V_2924,292.402 {115},Y_3600,ppm, .9655,.0021,.2189, .9641, .9670
W_2397,239.709 {140},Y_2243,ppm, .5329,.0725,13.61, .5842, .4816
Zn2062,206.200 {463},In2306,ppm, .5113,.0037,.7189, .5139, .5087

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 197.13,.87423,.44347,197.75,196.51
In2306,230.606 {446},Cts/S, 11359.,2.8136,.02477,11357.,11361.
Y_2243,224.306 {450},Cts/S, 17134.,9.5357,.05565,17127.,17141.
Y_3600,360.073 { 94},Cts/S, 152560.,319.52,.20944,152780.,152330.
Y_3710,371.030 { 91},Cts/S, 9991.5,31.173,.31200,9969.4,10014.

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Al3082,308.215 {109},In2306,ppm, 19.94,.0564,.2828, 19.98, 19.90
As1890,189.042 {478},Y_2243,ppm, 1.006,.0022,.2148, 1.007, 1.004
B_2496,249.678 {135},Y_3710,ppm, .9772,.0007,.0723, .9777, .9767
Ba4554,455.403 { 74},Y_3710,ppm, 1.003,.0019,.1858, 1.002, 1.004
Be3130,313.042 {108},Y_3710,ppm, .9637,.0013,.1329, .9628, .9646
Ca3158,315.887 {107},In2306,ppm, 19.65,.0653,.3321, 19.70, 19.61
Cd2288,228.802 {447},Y_2243,ppm, .9807,.0011,.1118, .9799, .9815
Co2286,228.616 {447},In2306,ppm, .9723,.0018,.1837, .9736, .9711
Cr2677,267.716 {126},Y_3600,ppm, .9563,.0015,.1594, .9573, .9552
Cu3247,324.754 {104},Y_3600,ppm, .9800,.0006,.0631, .9804, .9795
Fe2404,240.488 {140},In2306,ppm, 19.92,.0373,.1870, 19.95, 19.90
K_7664,766.490 { 44},Y_3710,ppm, 19.90,.0180,.0904, 19.89, 19.91
Li6707,670.784 { 50},Y_3710,ppm, .9736,.0015,.1544, .9747, .9725
Mg2790,279.079 {121},Y_3710,ppm, 19.71,.2006,1.018, 19.56, 19.85
Mn2576,257.610 {131},Y_3600,ppm, .9924,.0010,.1044, .9931, .9917
Mo2020,202.030 {467},Y_2243,ppm, .9993,.0016,.1593, 1.000, .9982
Na5895,589.592 { 57},Y_3710,ppm, 19.70,.0130,.0659, 19.71, 19.69
Ni2316,231.604 {445},In2306,ppm, .9793,.0036,.3703, .9819, .9767
P_1782,178.284 {489},In2306,ppm, 10.06,.0571,.5675, 10.10, 10.02
Pb2203,220.353 {453},In2306,ppm, .9805,.0025,.2534, .9822, .9787
S_1820,182.034 {485},Y_2243,ppm, 11.00,.0075,.0681, 11.01, 11.00
Sb2068,206.833 {463},Y_2243,ppm, 2.098,.0037,.1747, 2.100, 2.095
Se1960,196.090 {472},Y_2243,ppm, 1.003,.0019,.1869, 1.001, 1.004
Si2516,251.611 {134},Y_3710,ppm, 8.551,.0780,.9119, 8.496, 8.606
Sn1899,189.989 {477},In2306,ppm, .9797,.0023,.2347, .9813, .9780
Sr4215,421.552 { 80},Y_3710,ppm, .9884,.0009,.0923, .9878, .9891
Ti3349,334.904 {101},Y_3600,ppm, .9898,.0011,.1076, .9905, .9890
Tl1908,190.856 {477},In2306,ppm, .8578,.0202,2.360, .8721, .8435
U_3670,367.007 { 92},Y_3600,ppm, .9932,.0341,3.432, 1.017, .9691
V_2924,292.402 {115},Y_3600,ppm, .9711,.0014,.1419, .9721, .9701
W_2397,239.709 {140},Y_2243,ppm, 1.586,.0964,6.076, 1.654, 1.518
Zn2062,206.200 {463},In2306,ppm, .9691,.0036,.3679, .9716, .9666

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 199.56,1.2106,.60664,198.70,200.41
In2306,230.606 {446},Cts/S, 12329.,50.112,.40645,12294.,12365.
Y_2243,224.306 {450},Cts/S, 17661.,29.517,.16713,17640.,17682.
Y_3600,360.073 { 94},Cts/S, 157680.,199.40,.12646,157540.,157820.
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Y_3710,371.030 { 91},Cts/S, 10102.,36.228,.35863,10076.,10128.

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Al3082,308.215 {109},In2306,ppm, -.0067,.0035,52.64, -.0042, -.0092
As1890,189.042 {478},Y_2243,ppm, .0025,.0004,14.90, .0028, .0023
B_2496,249.678 {135},Y_3710,ppm, .0071,.0001,2.004, .0073, .0070
Ba4554,455.403 { 74},Y_3710,ppm, .0001,.0001,87.96, .0002, .0000
Be3130,313.042 {108},Y_3710,ppm, .0002,.0000,13.27, .0002, .0002
Ca3158,315.887 {107},In2306,ppm, .0152,.0034,22.19, .0176, .0128
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Cr2677,267.716 {126},Y_3600,ppm, .0000,.0000,177.2, -.0000, .0000
Cu3247,324.754 {104},Y_3600,ppm, .0016,.0004,25.73, .0013, .0019
Fe2404,240.488 {140},In2306,ppm, -.0049,.0015,30.90, -.0059, -.0038
K_7664,766.490 { 44},Y_3710,ppm, .0417,.0228,54.68, .0256, .0578
Li6707,670.784 { 50},Y_3710,ppm, -.0009,.0017,191.1, .0003, -.0020
Mg2790,279.079 {121},Y_3710,ppm, -.0207,.0087,41.75, -.0268, -.0146
Mn2576,257.610 {131},Y_3600,ppm, .0000,.0001,675.9, .0001, -.0000
Mo2020,202.030 {467},Y_2243,ppm, .0340,.0002,.5966, .0339, .0342
Na5895,589.592 { 57},Y_3710,ppm, .0389,.0096,24.59, .0457, .0322
Ni2316,231.604 {445},In2306,ppm, .0001,.0001,46.49, .0001, .0002
P_1782,178.284 {489},In2306,ppm, -.0000,.0000,20.31, -.0000, -.0000
Pb2203,220.353 {453},In2306,ppm, .0001,.0016,1699., -.0011, .0013
S_1820,182.034 {485},Y_2243,ppm, -1.475,.0050,.3369, -1.471, -1.478
Sb2068,206.833 {463},Y_2243,ppm, -.0005,.0002,34.17, -.0004, -.0006
Se1960,196.090 {472},Y_2243,ppm, .0330,.0014,4.242, .0340, .0320
Si2516,251.611 {134},Y_3710,ppm, .0241,.0045,18.69, .0209, .0273
Sn1899,189.989 {477},In2306,ppm, .0011,.0005,41.86, .0008, .0015
Sr4215,421.552 { 80},Y_3710,ppm, -.0000,.0001,497.3, -.0001, .0000
Ti3349,334.904 {101},Y_3600,ppm, .0005,.0000,2.069, .0005, .0004
Tl1908,190.856 {477},In2306,ppm, .2991,.0088,2.953, .2929, .3053
U_3670,367.007 { 92},Y_3600,ppm, -.1027,.0242,23.55, -.0856, -.1198
V_2924,292.402 {115},Y_3600,ppm, .0001,.0001,215.4, .0002, -.0000
W_2397,239.709 {140},Y_2243,ppm, -.0041,.0069,166.9, -.0090, .0007
Zn2062,206.200 {463},In2306,ppm, -.0013,.0000,1.256, -.0013, -.0014

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 206.11,1.9240,.93352,204.75,207.47
In2306,230.606 {446},Cts/S, 13388.,44.333,.33114,13419.,13357.
Y_2243,224.306 {450},Cts/S, 18141.,61.524,.33915,18184.,18097.
Y_3600,360.073 { 94},Cts/S, 163210.,179.55,.11001,163330.,163080.
Y_3710,371.030 { 91},Cts/S, 10030.,11.056,.11023,10022.,10037.

[Sample Header]
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SampleName=CCVL 3282419
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
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Run Time=9/23/2019 10:09:16
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0099,.0006,5.983, .0103, .0095
Al3082,308.215 {109},In2306,ppm, .2153,.0028,1.289, .2133, .2172
As1890,189.042 {478},Y_2243,ppm, .0236,.0009,3.634, .0230, .0242
B_2496,249.678 {135},Y_3710,ppm, .2045,.0020,.9658, .2031, .2059
Ba4554,455.403 { 74},Y_3710,ppm, .0224,.0002,.6706, .0223, .0225
Be3130,313.042 {108},Y_3710,ppm, .0111,.0003,2.977, .0108, .0113
Ca3158,315.887 {107},In2306,ppm, 1.033,.0037,.3574, 1.030, 1.035
Cd2288,228.802 {447},Y_2243,ppm, .0110,.0000,.4005, .0111, .0110
Co2286,228.616 {447},In2306,ppm, .0104,.0000,.3795, .0104, .0103
Cr2677,267.716 {126},Y_3600,ppm, .0107,.0000,.1976, .0107, .0107
Cu3247,324.754 {104},Y_3600,ppm, .0123,.0004,3.566, .0126, .0120
Fe2404,240.488 {140},In2306,ppm, .2055,.0082,4.003, .2113, .1997
K_7664,766.490 { 44},Y_3710,ppm, 1.096,.0112,1.018, 1.088, 1.104
Li6707,670.784 { 50},Y_3710,ppm, .0102,.0003,3.344, .0099, .0104
Mg2790,279.079 {121},Y_3710,ppm, 1.086,.0555,5.108, 1.047, 1.125
Mn2576,257.610 {131},Y_3600,ppm, .0113,.0001,.5559, .0113, .0113
Mo2020,202.030 {467},Y_2243,ppm, .0234,.0002,.9563, .0232, .0235
Na5895,589.592 { 57},Y_3710,ppm, 1.091,.0068,.6274, 1.096, 1.087
Ni2316,231.604 {445},In2306,ppm, .0108,.0003,2.999, .0106, .0110
P_1782,178.284 {489},In2306,ppm, .9571,.0069,.7208, .9523, .9620
Pb2203,220.353 {453},In2306,ppm, .0119,.0016,13.35, .0107, .0130
S_1820,182.034 {485},Y_2243,ppm, -3.018,.0018,.0604, -3.017, -3.019
Sb2068,206.833 {463},Y_2243,ppm, .0518,.0009,1.832, .0512, .0525
Se1960,196.090 {472},Y_2243,ppm, .0281,.0011,4.058, .0289, .0273
Si2516,251.611 {134},Y_3710,ppm, .1578,.0083,5.246, .1519, .1637
Sn1899,189.989 {477},In2306,ppm, .0213,.0001,.4941, .0213, .0214
Sr4215,421.552 { 80},Y_3710,ppm, .0110,.0002,1.561, .0111, .0109
Ti3349,334.904 {101},Y_3600,ppm, .0110,.0001,.5489, .0109, .0110
Tl1908,190.856 {477},In2306,ppm, .2138,.0050,2.358, .2102, .2173
U_3670,367.007 { 92},Y_3600,ppm, .0512,.1386,270.7, .1493, -.0468
V_2924,292.402 {115},Y_3600,ppm, .0108,.0001,1.150, .0107, .0109
W_2397,239.709 {140},Y_2243,ppm, .0492,.0392,79.65, .0215, .0769
Zn2062,206.200 {463},In2306,ppm, .0189,.0000,.0038, .0189, .0189

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 205.17,.48389,.23585,204.83,205.51
In2306,230.606 {446},Cts/S, 13317.,6.6508,.04994,13312.,13322.
Y_2243,224.306 {450},Cts/S, 18065.,34.470,.19082,18040.,18089.
Y_3600,360.073 { 94},Cts/S, 161850.,34.004,.02101,161830.,161870.
Y_3710,371.030 { 91},Cts/S, 10063.,31.766,.31565,10041.,10086.

[Sample Header]
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Custom ID3=
Run Time=9/23/2019 10:11:32
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Mode=CONC
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0007,.0004,65.21, -.0010, -.0004
Al3082,308.215 {109},In2306,ppm, -.0081,.0061,75.17, -.0124, -.0038
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As1890,189.042 {478},Y_2243,ppm, .0024,.0004,15.08, .0022, .0027
B_2496,249.678 {135},Y_3710,ppm, .0019,.0111,597.8, .0097, -.0060
Ba4554,455.403 { 74},Y_3710,ppm, -.0001,.0001,75.12, -.0001, -.0002
Be3130,313.042 {108},Y_3710,ppm, -.0002,.0001,33.09, -.0002, -.0001
Ca3158,315.887 {107},In2306,ppm, .0072,.0041,57.25, .0043, .0101
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0000,432.8, .0000, -.0000
Co2286,228.616 {447},In2306,ppm, -.0002,.0002,89.09, -.0003, -.0001
Cr2677,267.716 {126},Y_3600,ppm, -.0001,.0002,178.7, .0000, -.0002
Cu3247,324.754 {104},Y_3600,ppm, .0009,.0000,4.002, .0009, .0009
Fe2404,240.488 {140},In2306,ppm, -.0003,.0049,1712., .0032, -.0037
K_7664,766.490 { 44},Y_3710,ppm, .0020,.0182,902.1, -.0108, .0149
Li6707,670.784 { 50},Y_3710,ppm, -.0023,.0002,6.777, -.0022, -.0024
Mg2790,279.079 {121},Y_3710,ppm, -.0028,.0074,262.6, -.0081, .0024
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,103.4, -.0001, -.0000
Mo2020,202.030 {467},Y_2243,ppm, .0004,.0001,25.07, .0005, .0004
Na5895,589.592 { 57},Y_3710,ppm, .0020,.0012,60.17, .0029, .0012
Ni2316,231.604 {445},In2306,ppm, .0005,.0000,3.263, .0005, .0005
P_1782,178.284 {489},In2306,ppm, -.0006,.0011,174.1, .0001, -.0014
Pb2203,220.353 {453},In2306,ppm, .0000,.0008,6477., -.0006, .0006
S_1820,182.034 {485},Y_2243,ppm, -3.625,.0047,.1296, -3.621, -3.628
Sb2068,206.833 {463},Y_2243,ppm, -.0014,.0009,63.27, -.0007, -.0020
Se1960,196.090 {472},Y_2243,ppm, .0043,.0019,45.05, .0029, .0056
Si2516,251.611 {134},Y_3710,ppm, .0093,.0030,32.51, .0115, .0072
Sn1899,189.989 {477},In2306,ppm, -.0001,.0006,793.8, -.0005, .0003
Sr4215,421.552 { 80},Y_3710,ppm, -.0001,.0000,20.26, -.0001, -.0002
Ti3349,334.904 {101},Y_3600,ppm, -.0001,.0003,226.2, -.0003, .0001
Tl1908,190.856 {477},In2306,ppm, .1578,.0056,3.531, .1539, .1617
U_3670,367.007 { 92},Y_3600,ppm, -.0952,.0431,45.30, -.1257, -.0647
V_2924,292.402 {115},Y_3600,ppm, .0002,.0001,51.74, .0001, .0003
W_2397,239.709 {140},Y_2243,ppm, .1061,.0505,47.62, .1418, .0703
Zn2062,206.200 {463},In2306,ppm, .0016,.0001,6.944, .0015, .0016

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 204.43,.35243,.17239,204.68,204.18
In2306,230.606 {446},Cts/S, 13352.,5.3808,.04030,13355.,13348.
Y_2243,224.306 {450},Cts/S, 18033.,37.869,.21000,18060.,18006.
Y_3600,360.073 { 94},Cts/S, 162420.,179.29,.11039,162550.,162290.
Y_3710,371.030 { 91},Cts/S, 10009.,29.921,.29895,9987.5,10030.

[Sample Header]
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Custom ID2=
Custom ID3=
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Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0002,160.0, .0000, -.0003
Al3082,308.215 {109},In2306,ppm, .0238,.0128,53.94, .0328, .0147
As1890,189.042 {478},Y_2243,ppm, -.0002,.0005,195.0, .0001, -.0006
B_2496,249.678 {135},Y_3710,ppm, -.0025,.0055,218.1, .0014, -.0064
Ba4554,455.403 { 74},Y_3710,ppm, .0018,.0001,4.123, .0019, .0017
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,83.76, .0000, .0000
Ca3158,315.887 {107},In2306,ppm, .0104,.0028,26.60, .0084, .0123
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0001,319.9, -.0001, .0000
Co2286,228.616 {447},In2306,ppm, -.0003,.0001,44.07, -.0002, -.0003
Cr2677,267.716 {126},Y_3600,ppm, -.0001,.0002,157.6, .0000, -.0002
Cu3247,324.754 {104},Y_3600,ppm, .0021,.0002,10.17, .0023, .0020
Fe2404,240.488 {140},In2306,ppm, -.0084,.0072,86.05, -.0033, -.0135
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K_7664,766.490 { 44},Y_3710,ppm, .0029,.0073,256.3, -.0023, .0080
Li6707,670.784 { 50},Y_3710,ppm, -.0020,.0003,15.78, -.0023, -.0018
Mg2790,279.079 {121},Y_3710,ppm, -.0066,.0166,253.2, -.0183, .0052
Mn2576,257.610 {131},Y_3600,ppm, .0000,.0000,73.08, .0001, .0000
Mo2020,202.030 {467},Y_2243,ppm, .0002,.0004,221.0, -.0001, .0004
Na5895,589.592 { 57},Y_3710,ppm, .0090,.0075,83.17, .0143, .0037
Ni2316,231.604 {445},In2306,ppm, .0001,.0001,100.4, .0001, .0000
P_1782,178.284 {489},In2306,ppm, -.0009,.0005,53.58, -.0013, -.0006
Pb2203,220.353 {453},In2306,ppm, .0017,.0006,36.62, .0021, .0012
S_1820,182.034 {485},Y_2243,ppm, -.2440,.0100,4.119, -.2369, -.2511
Sb2068,206.833 {463},Y_2243,ppm, -.0043,.0028,64.21, -.0062, -.0023
Se1960,196.090 {472},Y_2243,ppm, .0033,.0001,2.452, .0033, .0034
Si2516,251.611 {134},Y_3710,ppm, -.0082,.0098,120.2, -.0151, -.0012
Sn1899,189.989 {477},In2306,ppm, -.0000,.0001,1606., -.0001, .0001
Sr4215,421.552 { 80},Y_3710,ppm, -.0001,.0001,117.9, -.0000, -.0002
Ti3349,334.904 {101},Y_3600,ppm, -.0002,.0000,4.966, -.0003, -.0002
Tl1908,190.856 {477},In2306,ppm, .1152,.0095,8.240, .1085, .1219
U_3670,367.007 { 92},Y_3600,ppm, -.0443,.1755,396.2, -.1684, .0798
V_2924,292.402 {115},Y_3600,ppm, .0000,.0000,147.2, .0000, -.0000
W_2397,239.709 {140},Y_2243,ppm, .0271,.0611,226.0, .0703, -.0162
Zn2062,206.200 {463},In2306,ppm, .0050,.0002,3.753, .0049, .0051

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 207.80,1.2889,.62026,208.71,206.89
In2306,230.606 {446},Cts/S, 13443.,21.999,.16364,13428.,13459.
Y_2243,224.306 {450},Cts/S, 18112.,11.486,.06341,18104.,18120.
Y_3600,360.073 { 94},Cts/S, 162770.,1354.1,.83193,163730.,161810.
Y_3710,371.030 { 91},Cts/S, 10197.,19.201,.18830,10183.,10210.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2493,.0027,1.063, .2475, .2512
Al3082,308.215 {109},In2306,ppm, 10.48,.1269,1.211, 10.39, 10.57
As1890,189.042 {478},Y_2243,ppm, 1.020,.0150,1.466, 1.009, 1.030
B_2496,249.678 {135},Y_3710,ppm, .4976,.0057,1.143, .4936, .5017
Ba4554,455.403 { 74},Y_3710,ppm, 1.019,.0024,.2359, 1.017, 1.021
Be3130,313.042 {108},Y_3710,ppm, .9865,.0002,.0218, .9867, .9864
Ca3158,315.887 {107},In2306,ppm, 10.34,.0360,.3484, 10.31, 10.36
Cd2288,228.802 {447},Y_2243,ppm, 1.001,.0141,1.409, .9912, 1.011
Co2286,228.616 {447},In2306,ppm, .9769,.0127,1.295, .9680, .9859
Cr2677,267.716 {126},Y_3600,ppm, .9636,.0093,.9665, .9570, .9701
Cu3247,324.754 {104},Y_3600,ppm, .9925,.0111,1.123, .9847, 1.000
Fe2404,240.488 {140},In2306,ppm, 10.46,.0704,.6733, 10.41, 10.51
K_7664,766.490 { 44},Y_3710,ppm, 10.42,.0174,.1670, 10.41, 10.43
Li6707,670.784 { 50},Y_3710,ppm, .9882,.0060,.6112, .9839, .9924
Mg2790,279.079 {121},Y_3710,ppm, 10.34,.0839,.8110, 10.40, 10.29
Mn2576,257.610 {131},Y_3600,ppm, 1.008,.0099,.9788, 1.001, 1.015
Mo2020,202.030 {467},Y_2243,ppm, 1.011,.0163,1.611, .9991, 1.022
Na5895,589.592 { 57},Y_3710,ppm, 10.26,.0096,.0933, 10.25, 10.26
Ni2316,231.604 {445},In2306,ppm, .9868,.0124,1.255, .9780, .9955
P_1782,178.284 {489},In2306,ppm, 5.006,.0879,1.756, 4.944, 5.069
Pb2203,220.353 {453},In2306,ppm, .9848,.0174,1.771, .9725, .9971
S_1820,182.034 {485},Y_2243,ppm, 7.245,.2013,2.779, 7.103, 7.387
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Sb2068,206.833 {463},Y_2243,ppm, 1.602,.0316,1.975, 1.579, 1.624
Se1960,196.090 {472},Y_2243,ppm, 1.016,.0206,2.030, 1.001, 1.030
Si2516,251.611 {134},Y_3710,ppm, 7.643,.0652,.8525, 7.597, 7.689
Sn1899,189.989 {477},In2306,ppm, .9828,.0121,1.236, .9742, .9914
Sr4215,421.552 { 80},Y_3710,ppm, 1.001,.0029,.2890, .9987, 1.003
Ti3349,334.904 {101},Y_3600,ppm, .9984,.0095,.9466, .9917, 1.005
Tl1908,190.856 {477},In2306,ppm, .5218,.0228,4.376, .5380, .5057
U_3670,367.007 { 92},Y_3600,ppm, .3682,.0285,7.737, .3481, .3884
V_2924,292.402 {115},Y_3600,ppm, .9799,.0095,.9738, .9732, .9867
W_2397,239.709 {140},Y_2243,ppm, .3881,.1030,26.55, .4610, .3153
Zn2062,206.200 {463},In2306,ppm, .4980,.0072,1.436, .4929, .5030

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 199.55,.15480,.07758,199.65,199.44
In2306,230.606 {446},Cts/S, 12729.,98.977,.77755,12799.,12659.
Y_2243,224.306 {450},Cts/S, 17810.,164.55,.92393,17926.,17694.
Y_3600,360.073 { 94},Cts/S, 160890.,1198.4,.74483,161740.,160050.
Y_3710,371.030 { 91},Cts/S, 10155.,65.764,.64761,10108.,10201.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0002,.0003,142.7, -.0004, .0000
Al3082,308.215 {109},In2306,ppm, .0187,.0074,39.52, .0240, .0135
As1890,189.042 {478},Y_2243,ppm, .0029,.0034,117.7, .0053, .0005
B_2496,249.678 {135},Y_3710,ppm, .0340,.0022,6.490, .0324, .0355
Ba4554,455.403 { 74},Y_3710,ppm, .0455,.0002,.3830, .0456, .0454
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,126.0, .0000, .0002
Ca3158,315.887 {107},In2306,ppm, 7.227,.0098,.1352, 7.234, 7.220
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0000,22.05, .0001, .0002
Co2286,228.616 {447},In2306,ppm, -.0002,.0001,69.37, -.0003, -.0001
Cr2677,267.716 {126},Y_3600,ppm, -.0001,.0000,27.11, -.0000, -.0001
Cu3247,324.754 {104},Y_3600,ppm, .0022,.0001,3.809, .0022, .0023
Fe2404,240.488 {140},In2306,ppm, .0079,.0102,128.3, .0151, .0007
K_7664,766.490 { 44},Y_3710,ppm, 2.974,.0172,.5772, 2.962, 2.986
Li6707,670.784 { 50},Y_3710,ppm, .0024,.0003,13.91, .0026, .0022
Mg2790,279.079 {121},Y_3710,ppm, 4.438,.0288,.6491, 4.459, 4.418
Mn2576,257.610 {131},Y_3600,ppm, .0133,.0001,.7794, .0134, .0132
Mo2020,202.030 {467},Y_2243,ppm, .0062,.0005,8.535, .0059, .0066
Na5895,589.592 { 57},Y_3710,ppm, 49.63,.0016,.0033, 49.63, 49.63
Ni2316,231.604 {445},In2306,ppm, .0005,.0001,17.25, .0004, .0005
P_1782,178.284 {489},In2306,ppm, .0022,.0037,166.0, -.0004, .0048
Pb2203,220.353 {453},In2306,ppm, .0001,.0003,222.7, -.0001, .0003
S_1820,182.034 {485},Y_2243,ppm, .5946,.0059,.9987, .5904, .5988
Sb2068,206.833 {463},Y_2243,ppm, -.0017,.0025,146.6, .0001, -.0034
Se1960,196.090 {472},Y_2243,ppm, .0041,.0015,36.98, .0051, .0030
Si2516,251.611 {134},Y_3710,ppm, 1.048,.0277,2.642, 1.067, 1.028
Sn1899,189.989 {477},In2306,ppm, .0017,.0005,31.84, .0013, .0021
Sr4215,421.552 { 80},Y_3710,ppm, .0672,.0001,.1378, .0671, .0673
Ti3349,334.904 {101},Y_3600,ppm, .0020,.0001,4.459, .0021, .0020
Tl1908,190.856 {477},In2306,ppm, .3028,.0072,2.393, .2976, .3079
U_3670,367.007 { 92},Y_3600,ppm, -.0899,.1157,128.7, -.1717, -.0081
V_2924,292.402 {115},Y_3600,ppm, .0009,.0000,4.092, .0009, .0009
W_2397,239.709 {140},Y_2243,ppm, .1127,.0717,63.59, .0620, .1634
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Zn2062,206.200 {463},In2306,ppm, .0026,.0001,2.430, .0026, .0027

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 202.18,1.5374,.76041,201.10,203.27
In2306,230.606 {446},Cts/S, 12603.,31.532,.25018,12626.,12581.
Y_2243,224.306 {450},Cts/S, 17642.,46.638,.26437,17675.,17609.
Y_3600,360.073 { 94},Cts/S, 158650.,326.96,.20609,158420.,158880.
Y_3710,371.030 { 91},Cts/S, 9975.0,56.075,.56216,9935.4,10015.

[Sample Header]
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SampleName=600-192033-D-1-A
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Mode=CONC
CorrFactor=1.000
Repeats=2

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Ag3280,328.068 {103},Y_3600,ppm, -.0005,.0001,18.39, -.0005, -.0004
Al3082,308.215 {109},In2306,ppm, .0906,.0126,13.95, .0817, .0996
As1890,189.042 {478},Y_2243,ppm, .0073,.0003,3.495, .0075, .0072
B_2496,249.678 {135},Y_3710,ppm, .5684,.0046,.8080, .5652, .5717
Ba4554,455.403 { 74},Y_3710,ppm, .1175,.0007,.5751, .1171, .1180
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,1747., -.0001, .0001
Ca3158,315.887 {107},In2306,ppm, 52.49,.1158,.2206, 52.41, 52.57
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0001,191.0, -.0000, .0001
Co2286,228.616 {447},In2306,ppm, .0000,.0001,249.7, .0001, -.0000
Cr2677,267.716 {126},Y_3600,ppm, .0013,.0000,.1741, .0013, .0013
Cu3247,324.754 {104},Y_3600,ppm, .0048,.0001,1.195, .0048, .0047
Fe2404,240.488 {140},In2306,ppm, .4197,.0065,1.540, .4242, .4151
K_7664,766.490 { 44},Y_3710,ppm, 14.19,.0782,.5509, 14.14, 14.25
Li6707,670.784 { 50},Y_3710,ppm, .0973,.0003,.2871, .0971, .0975
Mg2790,279.079 {121},Y_3710,ppm, 5.918,.0378,.6386, 5.891, 5.945
Mn2576,257.610 {131},Y_3600,ppm, .0252,.0001,.2295, .0252, .0252
Mo2020,202.030 {467},Y_2243,ppm, .0087,.0001,.9129, .0087, .0088
Na5895,589.592 { 57},Y_3710,ppm, 740.2,7.220,.9754, 735.0, 745.3
Ni2316,231.604 {445},In2306,ppm, .0032,.0003,9.884, .0034, .0030
P_1782,178.284 {489},In2306,ppm, 1.726,.0016,.0927, 1.725, 1.728
Pb2203,220.353 {453},In2306,ppm, -.0020,.0004,18.81, -.0017, -.0022
S_1820,182.034 {485},Y_2243,ppm, 455.0,.5490,.1207, 454.6, 455.4
Sb2068,206.833 {463},Y_2243,ppm, .0002,.0018,1088., .0014, -.0011
Se1960,196.090 {472},Y_2243,ppm, .1127,.0026,2.344, .1146, .1109
Si2516,251.611 {134},Y_3710,ppm, 4.912,.0235,.4782, 4.896, 4.929
Sn1899,189.989 {477},In2306,ppm, .0007,.0002,33.01, .0009, .0005
Sr4215,421.552 { 80},Y_3710,ppm, 1.188,.0008,.0651, 1.188, 1.189
Ti3349,334.904 {101},Y_3600,ppm, .0015,.0000,2.307, .0016, .0015
Tl1908,190.856 {477},In2306,ppm, .2131,.0049,2.287, .2166, .2097
U_3670,367.007 { 92},Y_3600,ppm, -.1398,.1642,117.4, -.0237, -.2559
V_2924,292.402 {115},Y_3600,ppm, .0093,.0004,3.860, .0091, .0096
W_2397,239.709 {140},Y_2243,ppm, .1722,.0243,14.10, .1894, .1550
Zn2062,206.200 {463},In2306,ppm, .0712,.0003,.4390, .0714, .0710

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 198.06,1.1494,.58035,198.87,197.25
In2306,230.606 {446},Cts/S, 10678.,32.646,.30573,10701.,10655.
Y_2243,224.306 {450},Cts/S, 16459.,65.804,.39981,16506.,16413.
Y_3600,360.073 { 94},Cts/S, 146130.,12.036,.00824,146140.,146120.
Y_3710,371.030 { 91},Cts/S, 9840.1,55.867,.56774,9879.6,9800.6
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Custom ID2=
Custom ID3=
Run Time=9/23/2019 10:21:43
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Mode=CONC
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Repeats=2

[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0007,.0001,17.50, -.0007, -.0006
Al3082,308.215 {109},In2306,ppm, .0892,.0135,15.13, .0797, .0988
As1890,189.042 {478},Y_2243,ppm, .0066,.0009,12.96, .0060, .0072
B_2496,249.678 {135},Y_3710,ppm, .5745,.0149,2.598, .5640, .5851
Ba4554,455.403 { 74},Y_3710,ppm, .1197,.0003,.2222, .1195, .1198
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,74.70, .0001, .0000
Ca3158,315.887 {107},In2306,ppm, 53.69,.6155,1.146, 53.26, 54.13
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0001,150.1, .0001, -.0000
Co2286,228.616 {447},In2306,ppm, .0001,.0001,90.30, .0000, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0016,.0003,20.38, .0013, .0018
Cu3247,324.754 {104},Y_3600,ppm, .0044,.0003,6.746, .0046, .0042
Fe2404,240.488 {140},In2306,ppm, .4305,.0028,.6552, .4285, .4325
K_7664,766.490 { 44},Y_3710,ppm, 14.44,.0293,.2026, 14.42, 14.46
Li6707,670.784 { 50},Y_3710,ppm, .0997,.0006,.6247, .1001, .0993
Mg2790,279.079 {121},Y_3710,ppm, 6.068,.0077,.1267, 6.074, 6.063
Mn2576,257.610 {131},Y_3600,ppm, .0256,.0001,.4931, .0257, .0255
Mo2020,202.030 {467},Y_2243,ppm, .0085,.0002,2.568, .0087, .0083
Na5895,589.592 { 57},Y_3710,ppm, 745.7,9.900,1.328, 738.7, 752.7
Ni2316,231.604 {445},In2306,ppm, .0032,.0001,3.520, .0031, .0033
P_1782,178.284 {489},In2306,ppm, 1.767,.0054,.3029, 1.771, 1.763
Pb2203,220.353 {453},In2306,ppm, -.0005,.0010,208.9, -.0012, .0002
S_1820,182.034 {485},Y_2243,ppm, 461.6,.6054,.1312, 462.1, 461.2
Sb2068,206.833 {463},Y_2243,ppm, .0028,.0034,121.4, .0004, .0053
Se1960,196.090 {472},Y_2243,ppm, .1149,.0009,.7604, .1156, .1143
Si2516,251.611 {134},Y_3710,ppm, 4.895,.0143,.2916, 4.905, 4.885
Sn1899,189.989 {477},In2306,ppm, .0005,.0003,51.59, .0007, .0003
Sr4215,421.552 { 80},Y_3710,ppm, 1.205,.0008,.0661, 1.206, 1.205
Ti3349,334.904 {101},Y_3600,ppm, .0011,.0001,11.01, .0010, .0012
Tl1908,190.856 {477},In2306,ppm, .1465,.0027,1.866, .1446, .1484
U_3670,367.007 { 92},Y_3600,ppm, -.0783,.1452,185.4, .0244, -.1810
V_2924,292.402 {115},Y_3600,ppm, .0090,.0003,2.935, .0092, .0089
W_2397,239.709 {140},Y_2243,ppm, .0760,.0174,22.92, .0636, .0883
Zn2062,206.200 {463},In2306,ppm, .0652,.0003,.3836, .0654, .0650

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 196.84,2.2831,1.1599,198.46,195.23
In2306,230.606 {446},Cts/S, 10674.,3.4718,.03253,10676.,10671.
Y_2243,224.306 {450},Cts/S, 16451.,13.575,.08252,16441.,16460.
Y_3600,360.073 { 94},Cts/S, 146150.,501.24,.34296,145800.,146510.
Y_3710,371.030 { 91},Cts/S, 9904.4,24.797,.25036,9921.9,9886.8

[Sample Header]
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Custom ID3=
Run Time=9/23/2019 10:23:51
Sample Type=Unk
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Mode=CONC
CorrFactor=1.000
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2647,.0216,8.147, .2494, .2799
Al3082,308.215 {109},In2306,ppm, 10.83,.0840,.7759, 10.77, 10.89
As1890,189.042 {478},Y_2243,ppm, 1.108,.0006,.0500, 1.108, 1.109
B_2496,249.678 {135},Y_3710,ppm, 1.104,.0243,2.197, 1.087, 1.121
Ba4554,455.403 { 74},Y_3710,ppm, 1.158,.0007,.0610, 1.158, 1.157
Be3130,313.042 {108},Y_3710,ppm, 1.022,.0004,.0355, 1.022, 1.022
Ca3158,315.887 {107},In2306,ppm, 64.90,.3344,.5153, 64.67, 65.14
Cd2288,228.802 {447},Y_2243,ppm, 1.058,.0021,.1961, 1.056, 1.059
Co2286,228.616 {447},In2306,ppm, 1.062,.0004,.0334, 1.062, 1.062
Cr2677,267.716 {126},Y_3600,ppm, .9569,.0818,8.551, .8990, 1.015
Cu3247,324.754 {104},Y_3600,ppm, 1.015,.0821,8.092, .9568, 1.073
Fe2404,240.488 {140},In2306,ppm, 11.04,.0296,.2680, 11.02, 11.06
K_7664,766.490 { 44},Y_3710,ppm, 25.17,.0350,.1389, 25.19, 25.14
Li6707,670.784 { 50},Y_3710,ppm, 1.107,.0002,.0180, 1.107, 1.107
Mg2790,279.079 {121},Y_3710,ppm, 16.53,.0407,.2462, 16.50, 16.56
Mn2576,257.610 {131},Y_3600,ppm, 1.018,.0871,8.548, .9569, 1.080
Mo2020,202.030 {467},Y_2243,ppm, 1.024,.0031,.3019, 1.022, 1.026
Na5895,589.592 { 57},Y_3710,ppm, 762.6,10.15,1.330, 755.4, 769.8
Ni2316,231.604 {445},In2306,ppm, 1.074,.0019,.1801, 1.072, 1.075
P_1782,178.284 {489},In2306,ppm, 7.980,.0297,.3721, 7.959, 8.001
Pb2203,220.353 {453},In2306,ppm, 1.035,.0017,.1648, 1.036, 1.034
S_1820,182.034 {485},Y_2243,ppm, 469.4,.5796,.1235, 469.0, 469.8
Sb2068,206.833 {463},Y_2243,ppm, 1.663,.0045,.2712, 1.660, 1.666
Se1960,196.090 {472},Y_2243,ppm, 1.220,.0088,.7237, 1.214, 1.226
Si2516,251.611 {134},Y_3710,ppm, 12.84,.0852,.6631, 12.78, 12.90
Sn1899,189.989 {477},In2306,ppm, 1.070,.0019,.1806, 1.069, 1.071
Sr4215,421.552 { 80},Y_3710,ppm, 2.241,.0041,.1830, 2.244, 2.238
Ti3349,334.904 {101},Y_3600,ppm, 1.011,.0887,8.774, .9483, 1.074
Tl1908,190.856 {477},In2306,ppm, .5892,.0236,4.002, .6058, .5725
U_3670,367.007 { 92},Y_3600,ppm, .5828,.2183,37.45, .4284, .7371
V_2924,292.402 {115},Y_3600,ppm, .9999,.0843,8.429, .9403, 1.060
W_2397,239.709 {140},Y_2243,ppm, .5054,.0367,7.266, .5314, .4795
Zn2062,206.200 {463},In2306,ppm, .6225,.0004,.0704, .6222, .6228

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 193.56,.62262,.32167,194.00,193.12
In2306,230.606 {446},Cts/S, 10469.,17.601,.16812,10457.,10482.
Y_2243,224.306 {450},Cts/S, 16394.,11.091,.06765,16386.,16402.
Y_3600,360.073 { 94},Cts/S, 148100.,10076.,6.8037,155220.,140970.
Y_3710,371.030 { 91},Cts/S, 9788.7,6.5962,.06739,9784.0,9793.4

[Sample Header]
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2624,.0007,.2506, .2619, .2629
Al3082,308.215 {109},In2306,ppm, 10.74,.0703,.6546, 10.69, 10.79
As1890,189.042 {478},Y_2243,ppm, 1.091,.0007,.0641, 1.090, 1.091
B_2496,249.678 {135},Y_3710,ppm, 1.084,.0013,.1154, 1.083, 1.085
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Ba4554,455.403 { 74},Y_3710,ppm, 1.146,.0047,.4112, 1.142, 1.149
Be3130,313.042 {108},Y_3710,ppm, 1.011,.0022,.2180, 1.010, 1.013
Ca3158,315.887 {107},In2306,ppm, 63.94,.4391,.6867, 63.63, 64.25
Cd2288,228.802 {447},Y_2243,ppm, 1.042,.0009,.0881, 1.041, 1.043
Co2286,228.616 {447},In2306,ppm, 1.045,.0012,.1102, 1.046, 1.044
Cr2677,267.716 {126},Y_3600,ppm, .9567,.0010,.1038, .9574, .9559
Cu3247,324.754 {104},Y_3600,ppm, 1.007,.0026,.2536, 1.005, 1.009
Fe2404,240.488 {140},In2306,ppm, 10.93,.0423,.3875, 10.90, 10.96
K_7664,766.490 { 44},Y_3710,ppm, 24.84,.0169,.0680, 24.83, 24.85
Li6707,670.784 { 50},Y_3710,ppm, 1.095,.0038,.3464, 1.092, 1.097
Mg2790,279.079 {121},Y_3710,ppm, 16.24,.0323,.1988, 16.21, 16.26
Mn2576,257.610 {131},Y_3600,ppm, 1.017,.0016,.1564, 1.015, 1.018
Mo2020,202.030 {467},Y_2243,ppm, 1.016,.0004,.0361, 1.016, 1.015
Na5895,589.592 { 57},Y_3710,ppm, 749.4,9.312,1.243, 756.0, 742.9
Ni2316,231.604 {445},In2306,ppm, 1.058,.0035,.3331, 1.060, 1.056
P_1782,178.284 {489},In2306,ppm, 7.833,.0073,.0930, 7.828, 7.838
Pb2203,220.353 {453},In2306,ppm, 1.019,.0043,.4198, 1.022, 1.016
S_1820,182.034 {485},Y_2243,ppm, 458.0,.1797,.0392, 457.9, 458.1
Sb2068,206.833 {463},Y_2243,ppm, 1.638,.0014,.0884, 1.636, 1.639
Se1960,196.090 {472},Y_2243,ppm, 1.200,.0011,.0904, 1.200, 1.199
Si2516,251.611 {134},Y_3710,ppm, 12.48,.1259,1.009, 12.39, 12.57
Sn1899,189.989 {477},In2306,ppm, 1.055,.0022,.2110, 1.057, 1.054
Sr4215,421.552 { 80},Y_3710,ppm, 2.206,.0084,.3792, 2.200, 2.212
Ti3349,334.904 {101},Y_3600,ppm, 1.009,.0021,.2036, 1.007, 1.010
Tl1908,190.856 {477},In2306,ppm, .8447,.0241,2.849, .8618, .8277
U_3670,367.007 { 92},Y_3600,ppm, .4786,.0314,6.553, .4564, .5008
V_2924,292.402 {115},Y_3600,ppm, .9980,.0010,.0998, .9973, .9987
W_2397,239.709 {140},Y_2243,ppm, .4903,.0243,4.961, .4731, .5075
Zn2062,206.200 {463},In2306,ppm, .6278,.0040,.6439, .6307, .6249

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 193.09,.55067,.28519,193.48,192.70
In2306,230.606 {446},Cts/S, 10520.,10.333,.09823,10527.,10512.
Y_2243,224.306 {450},Cts/S, 16434.,45.938,.27953,16466.,16401.
Y_3600,360.073 { 94},Cts/S, 147130.,463.75,.31521,147450.,146800.
Y_3710,371.030 { 91},Cts/S, 9818.1,46.228,.47084,9785.4,9850.8

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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0004,.0002,48.88, -.0003, -.0006
Al3082,308.215 {109},In2306,ppm, .0561,.0031,5.595, .0539, .0584
As1890,189.042 {478},Y_2243,ppm, .0067,.0007,10.20, .0062, .0072
B_2496,249.678 {135},Y_3710,ppm, .0579,.0032,5.525, .0557, .0602
Ba4554,455.403 { 74},Y_3710,ppm, .1075,.0002,.2061, .1073, .1076
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,12.76, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, 12.79,.0370,.2890, 12.77, 12.82
Cd2288,228.802 {447},Y_2243,ppm, .0004,.0001,13.68, .0004, .0003
Co2286,228.616 {447},In2306,ppm, .0002,.0001,27.04, .0003, .0002
Cr2677,267.716 {126},Y_3600,ppm, .0001,.0001,246.5, -.0000, .0001
Cu3247,324.754 {104},Y_3600,ppm, .0021,.0003,13.35, .0019, .0023
Fe2404,240.488 {140},In2306,ppm, .6484,.0147,2.270, .6588, .6380
K_7664,766.490 { 44},Y_3710,ppm, 1.372,.0034,.2459, 1.370, 1.374
Li6707,670.784 { 50},Y_3710,ppm, .0021,.0001,6.401, .0020, .0022
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Mg2790,279.079 {121},Y_3710,ppm, 12.73,.0199,.1560, 12.75, 12.72
Mn2576,257.610 {131},Y_3600,ppm, .1443,.0003,.1970, .1441, .1445
Mo2020,202.030 {467},Y_2243,ppm, .0051,.0007,13.66, .0046, .0056
Na5895,589.592 { 57},Y_3710,ppm, 119.7,.0052,.0043, 119.7, 119.7
Ni2316,231.604 {445},In2306,ppm, .0004,.0003,67.60, .0006, .0002
P_1782,178.284 {489},In2306,ppm, .0065,.0004,6.014, .0068, .0063
Pb2203,220.353 {453},In2306,ppm, .0004,.0008,190.9, .0010, -.0002
S_1820,182.034 {485},Y_2243,ppm, -.9852,.0024,.2403, -.9835, -.9868
Sb2068,206.833 {463},Y_2243,ppm, .0000,.0007,3069., -.0005, .0005
Se1960,196.090 {472},Y_2243,ppm, .0062,.0002,3.898, .0063, .0060
Si2516,251.611 {134},Y_3710,ppm, .9850,.0129,1.311, .9941, .9759
Sn1899,189.989 {477},In2306,ppm, .0019,.0000,2.178, .0018, .0019
Sr4215,421.552 { 80},Y_3710,ppm, .1292,.0007,.5780, .1287, .1297
Ti3349,334.904 {101},Y_3600,ppm, .0009,.0000,3.580, .0008, .0009
Tl1908,190.856 {477},In2306,ppm, .4673,.0040,.8648, .4644, .4701
U_3670,367.007 { 92},Y_3600,ppm, -.1503,.0859,57.19, -.2111, -.0895
V_2924,292.402 {115},Y_3600,ppm, .0001,.0000,37.67, .0001, .0001
W_2397,239.709 {140},Y_2243,ppm, .0612,.0089,14.48, .0675, .0549
Zn2062,206.200 {463},In2306,ppm, .0016,.0002,11.93, .0015, .0018

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 196.88,.26421,.13420,196.70,197.07
In2306,230.606 {446},Cts/S, 12071.,58.511,.48473,12030.,12112.
Y_2243,224.306 {450},Cts/S, 17366.,63.995,.36850,17321.,17412.
Y_3600,360.073 { 94},Cts/S, 155090.,312.15,.20127,155310.,154870.
Y_3710,371.030 { 91},Cts/S, 9962.8,50.370,.50558,9927.2,9998.4

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0004,.0001,23.39, -.0004, -.0005
Al3082,308.215 {109},In2306,ppm, 12.31,.0312,.2531, 12.29, 12.33
As1890,189.042 {478},Y_2243,ppm, .0067,.0011,15.84, .0060, .0075
B_2496,249.678 {135},Y_3710,ppm, .1243,.0055,4.416, .1282, .1204
Ba4554,455.403 { 74},Y_3710,ppm, .2293,.0017,.7391, .2281, .2305
Be3130,313.042 {108},Y_3710,ppm, .0006,.0001,10.60, .0007, .0006
Ca3158,315.887 {107},In2306,ppm, 32.55,.0492,.1513, 32.51, 32.58
Cd2288,228.802 {447},Y_2243,ppm, .0004,.0001,11.86, .0005, .0004
Co2286,228.616 {447},In2306,ppm, .0028,.0002,7.748, .0027, .0030
Cr2677,267.716 {126},Y_3600,ppm, .0107,.0004,4.162, .0110, .0104
Cu3247,324.754 {104},Y_3600,ppm, .0102,.0003,2.820, .0104, .0100
Fe2404,240.488 {140},In2306,ppm, 7.571,.0452,.5974, 7.539, 7.603
K_7664,766.490 { 44},Y_3710,ppm, 8.077,.0774,.9585, 8.022, 8.132
Li6707,670.784 { 50},Y_3710,ppm, .0181,.0015,8.207, .0192, .0171
Mg2790,279.079 {121},Y_3710,ppm, 15.61,.1093,.7003, 15.53, 15.68
Mn2576,257.610 {131},Y_3600,ppm, .1371,.0002,.1255, .1370, .1372
Mo2020,202.030 {467},Y_2243,ppm, .0046,.0002,3.926, .0044, .0047
Na5895,589.592 { 57},Y_3710,ppm, 120.9,.5367,.4438, 120.6, 121.3
Ni2316,231.604 {445},In2306,ppm, .0046,.0002,5.285, .0044, .0048
P_1782,178.284 {489},In2306,ppm, .1391,.0034,2.430, .1367, .1415
Pb2203,220.353 {453},In2306,ppm, .0068,.0002,2.692, .0069, .0067
S_1820,182.034 {485},Y_2243,ppm, 4.433,.0050,.1120, 4.436, 4.429
Sb2068,206.833 {463},Y_2243,ppm, -.0046,.0016,35.45, -.0058, -.0035
Se1960,196.090 {472},Y_2243,ppm, .0069,.0031,45.58, .0091, .0047
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Si2516,251.611 {134},Y_3710,ppm, 24.02,.0303,.1263, 24.00, 24.04
Sn1899,189.989 {477},In2306,ppm, .0015,.0002,14.37, .0013, .0016
Sr4215,421.552 { 80},Y_3710,ppm, .2831,.0020,.7179, .2817, .2845
Ti3349,334.904 {101},Y_3600,ppm, .0659,.0007,1.054, .0664, .0654
Tl1908,190.856 {477},In2306,ppm, .3228,.0180,5.589, .3100, .3355
U_3670,367.007 { 92},Y_3600,ppm, -.0578,.0283,48.85, -.0379, -.0778
V_2924,292.402 {115},Y_3600,ppm, .0257,.0002,.8919, .0258, .0255
W_2397,239.709 {140},Y_2243,ppm, -.0305,.0040,12.95, -.0277, -.0333
Zn2062,206.200 {463},In2306,ppm, .0490,.0005,.9657, .0486, .0493

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 201.04,.88947,.44244,200.41,201.67
In2306,230.606 {446},Cts/S, 11954.,64.173,.53685,11999.,11908.
Y_2243,224.306 {450},Cts/S, 17522.,81.325,.46412,17580.,17465.
Y_3600,360.073 { 94},Cts/S, 156490.,249.11,.15918,156670.,156320.
Y_3710,371.030 { 91},Cts/S, 10103.,4.2608,.04217,10100.,10106.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0004,444.7, -.0004, .0002
Al3082,308.215 {109},In2306,ppm, 4.570,.0738,1.614, 4.623, 4.518
As1890,189.042 {478},Y_2243,ppm, .0029,.0024,85.39, .0011, .0046
B_2496,249.678 {135},Y_3710,ppm, .0382,.0007,1.888, .0388, .0377
Ba4554,455.403 { 74},Y_3710,ppm, .0702,.0004,.5624, .0705, .0699
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,42.99, .0001, .0002
Ca3158,315.887 {107},In2306,ppm, 8.136,.1374,1.688, 8.233, 8.039
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,34.42, .0001, .0002
Co2286,228.616 {447},In2306,ppm, .0012,.0001,8.408, .0011, .0012
Cr2677,267.716 {126},Y_3600,ppm, .0037,.0000,1.028, .0038, .0037
Cu3247,324.754 {104},Y_3600,ppm, .0048,.0000,1.001, .0049, .0048
Fe2404,240.488 {140},In2306,ppm, 2.938,.0324,1.101, 2.961, 2.916
K_7664,766.490 { 44},Y_3710,ppm, 3.576,.0046,.1292, 3.573, 3.579
Li6707,670.784 { 50},Y_3710,ppm, .0029,.0002,7.761, .0031, .0028
Mg2790,279.079 {121},Y_3710,ppm, 5.381,.0184,.3417, 5.368, 5.394
Mn2576,257.610 {131},Y_3600,ppm, .0474,.0001,.1329, .0474, .0473
Mo2020,202.030 {467},Y_2243,ppm, .0019,.0003,13.50, .0021, .0017
Na5895,589.592 { 57},Y_3710,ppm, 51.56,.0426,.0826, 51.53, 51.59
Ni2316,231.604 {445},In2306,ppm, .0020,.0003,15.27, .0018, .0022
P_1782,178.284 {489},In2306,ppm, .0270,.0003,.9427, .0272, .0268
Pb2203,220.353 {453},In2306,ppm, .0035,.0010,28.70, .0028, .0042
S_1820,182.034 {485},Y_2243,ppm, -.2132,.0115,5.380, -.2051, -.2213
Sb2068,206.833 {463},Y_2243,ppm, -.0015,.0014,91.61, -.0025, -.0005
Se1960,196.090 {472},Y_2243,ppm, .0028,.0018,62.03, .0041, .0016
Si2516,251.611 {134},Y_3710,ppm, 6.760,.0336,.4974, 6.784, 6.736
Sn1899,189.989 {477},In2306,ppm, -.0003,.0001,48.23, -.0004, -.0002
Sr4215,421.552 { 80},Y_3710,ppm, .0774,.0005,.6138, .0771, .0777
Ti3349,334.904 {101},Y_3600,ppm, .0207,.0003,1.295, .0206, .0209
Tl1908,190.856 {477},In2306,ppm, .2232,.0082,3.687, .2173, .2290
U_3670,367.007 { 92},Y_3600,ppm, -.1967,.0147,7.483, -.1863, -.2072
V_2924,292.402 {115},Y_3600,ppm, .0075,.0004,5.074, .0072, .0077
W_2397,239.709 {140},Y_2243,ppm, .0677,.0210,30.93, .0529, .0826
Zn2062,206.200 {463},In2306,ppm, .0125,.0001,1.111, .0124, .0125
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[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 201.94,3.3453,1.6566,199.57,204.30
In2306,230.606 {446},Cts/S, 12526.,24.924,.19897,12509.,12544.
Y_2243,224.306 {450},Cts/S, 17669.,57.600,.32599,17628.,17710.
Y_3600,360.073 { 94},Cts/S, 158950.,154.69,.09732,158840.,159060.
Y_3710,371.030 { 91},Cts/S, 10076.,7.1539,.07100,10071.,10081.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .5011,.0005,.0903, .5008, .5014
Al3082,308.215 {109},In2306,ppm, 19.81,.1423,.7186, 19.71, 19.91
As1890,189.042 {478},Y_2243,ppm, 1.002,.0049,.4925, 1.005, .9984
B_2496,249.678 {135},Y_3710,ppm, .9648,.0020,.2061, .9634, .9662
Ba4554,455.403 { 74},Y_3710,ppm, .9987,.0012,.1247, .9978, .9996
Be3130,313.042 {108},Y_3710,ppm, .9617,.0016,.1643, .9628, .9606
Ca3158,315.887 {107},In2306,ppm, 19.53,.0807,.4131, 19.48, 19.59
Cd2288,228.802 {447},Y_2243,ppm, .9750,.0053,.5407, .9787, .9713
Co2286,228.616 {447},In2306,ppm, .9632,.0039,.4094, .9660, .9604
Cr2677,267.716 {126},Y_3600,ppm, .9489,.0043,.4547, .9458, .9519
Cu3247,324.754 {104},Y_3600,ppm, .9688,.0019,.1971, .9675, .9702
Fe2404,240.488 {140},In2306,ppm, 19.83,.1279,.6452, 19.74, 19.92
K_7664,766.490 { 44},Y_3710,ppm, 19.86,.0081,.0410, 19.86, 19.87
Li6707,670.784 { 50},Y_3710,ppm, .9585,.0018,.1833, .9573, .9598
Mg2790,279.079 {121},Y_3710,ppm, 19.81,.0378,.1905, 19.84, 19.79
Mn2576,257.610 {131},Y_3600,ppm, .9914,.0014,.1462, .9904, .9925
Mo2020,202.030 {467},Y_2243,ppm, .9884,.0060,.6088, .9926, .9841
Na5895,589.592 { 57},Y_3710,ppm, 19.54,.0184,.0941, 19.55, 19.52
Ni2316,231.604 {445},In2306,ppm, .9758,.0050,.5104, .9793, .9722
P_1782,178.284 {489},In2306,ppm, 10.02,.0439,.4379, 10.05, 9.987
Pb2203,220.353 {453},In2306,ppm, .9728,.0110,1.133, .9805, .9650
S_1820,182.034 {485},Y_2243,ppm, 10.92,.1030,.9434, 10.99, 10.85
Sb2068,206.833 {463},Y_2243,ppm, 2.089,.0139,.6650, 2.099, 2.079
Se1960,196.090 {472},Y_2243,ppm, .9940,.0086,.8684, 1.000, .9879
Si2516,251.611 {134},Y_3710,ppm, 8.574,.0689,.8034, 8.525, 8.623
Sn1899,189.989 {477},In2306,ppm, .9731,.0068,.6958, .9779, .9683
Sr4215,421.552 { 80},Y_3710,ppm, .9828,.0008,.0832, .9822, .9834
Ti3349,334.904 {101},Y_3600,ppm, .9876,.0017,.1723, .9864, .9889
Tl1908,190.856 {477},In2306,ppm, .8416,.0313,3.725, .8638, .8194
U_3670,367.007 { 92},Y_3600,ppm, .7683,.0497,6.468, .8035, .7332
V_2924,292.402 {115},Y_3600,ppm, .9650,.0018,.1829, .9637, .9662
W_2397,239.709 {140},Y_2243,ppm, 1.520,.0493,3.245, 1.485, 1.555
Zn2062,206.200 {463},In2306,ppm, .9638,.0015,.1559, .9649, .9627

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 197.78,.16006,.08093,197.89,197.67
In2306,230.606 {446},Cts/S, 12407.,48.602,.39171,12373.,12442.
Y_2243,224.306 {450},Cts/S, 17709.,80.116,.45239,17653.,17766.
Y_3600,360.073 { 94},Cts/S, 157880.,100.69,.06378,157810.,157950.
Y_3710,371.030 { 91},Cts/S, 9978.9,66.675,.66816,9931.8,10026.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0094,.0001,1.225, .0094, .0095
Al3082,308.215 {109},In2306,ppm, .1979,.0008,.4031, .1985, .1973
As1890,189.042 {478},Y_2243,ppm, .0241,.0001,.4326, .0240, .0242
B_2496,249.678 {135},Y_3710,ppm, .2053,.0006,.3013, .2049, .2058
Ba4554,455.403 { 74},Y_3710,ppm, .0221,.0003,1.272, .0223, .0219
Be3130,313.042 {108},Y_3710,ppm, .0108,.0000,.2670, .0109, .0108
Ca3158,315.887 {107},In2306,ppm, 1.016,.0050,.4966, 1.019, 1.012
Cd2288,228.802 {447},Y_2243,ppm, .0111,.0000,.3493, .0111, .0112
Co2286,228.616 {447},In2306,ppm, .0102,.0003,3.280, .0099, .0104
Cr2677,267.716 {126},Y_3600,ppm, .0107,.0002,1.645, .0106, .0108
Cu3247,324.754 {104},Y_3600,ppm, .0129,.0001,.9346, .0128, .0130
Fe2404,240.488 {140},In2306,ppm, .2023,.0079,3.906, .2078, .1967
K_7664,766.490 { 44},Y_3710,ppm, 1.071,.0081,.7554, 1.065, 1.076
Li6707,670.784 { 50},Y_3710,ppm, .0101,.0003,2.618, .0099, .0103
Mg2790,279.079 {121},Y_3710,ppm, 1.096,.0222,2.022, 1.112, 1.081
Mn2576,257.610 {131},Y_3600,ppm, .0113,.0000,.0835, .0113, .0113
Mo2020,202.030 {467},Y_2243,ppm, .0266,.0006,2.434, .0261, .0270
Na5895,589.592 { 57},Y_3710,ppm, 1.061,.0073,.6891, 1.067, 1.056
Ni2316,231.604 {445},In2306,ppm, .0112,.0000,.2581, .0112, .0111
P_1782,178.284 {489},In2306,ppm, .9639,.0009,.0978, .9632, .9645
Pb2203,220.353 {453},In2306,ppm, .0116,.0010,8.600, .0109, .0123
S_1820,182.034 {485},Y_2243,ppm, -3.013,.0053,.1770, -3.017, -3.010
Sb2068,206.833 {463},Y_2243,ppm, .0536,.0019,3.510, .0523, .0550
Se1960,196.090 {472},Y_2243,ppm, .0249,.0002,.8127, .0247, .0250
Si2516,251.611 {134},Y_3710,ppm, .1773,.0074,4.145, .1721, .1825
Sn1899,189.989 {477},In2306,ppm, .0222,.0001,.6041, .0221, .0223
Sr4215,421.552 { 80},Y_3710,ppm, .0109,.0001,.9250, .0109, .0108
Ti3349,334.904 {101},Y_3600,ppm, .0114,.0001,.5440, .0114, .0113
Tl1908,190.856 {477},In2306,ppm, .2792,.0018,.6492, .2779, .2805
U_3670,367.007 { 92},Y_3600,ppm, -.0221,.0955,431.0, .0454, -.0897
V_2924,292.402 {115},Y_3600,ppm, .0105,.0001,.9574, .0106, .0105
W_2397,239.709 {140},Y_2243,ppm, .1109,.0074,6.715, .1056, .1162
Zn2062,206.200 {463},In2306,ppm, .0187,.0000,.2284, .0187, .0187

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 204.72,1.7494,.85454,203.49,205.96
In2306,230.606 {446},Cts/S, 13353.,3.4701,.02599,13350.,13355.
Y_2243,224.306 {450},Cts/S, 18017.,8.1643,.04531,18011.,18023.
Y_3600,360.073 { 94},Cts/S, 161970.,461.85,.28515,161640.,162290.
Y_3710,371.030 { 91},Cts/S, 10030.,18.207,.18152,10043.,10018.

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Ag3280,328.068 {103},Y_3600,ppm, -.0003,.0002,69.49, -.0004, -.0001
Al3082,308.215 {109},In2306,ppm, .0069,.0018,25.79, .0082, .0057
As1890,189.042 {478},Y_2243,ppm, .0031,.0009,28.69, .0037, .0025
B_2496,249.678 {135},Y_3710,ppm, .0057,.0006,9.787, .0061, .0053
Ba4554,455.403 { 74},Y_3710,ppm, -.0002,.0002,104.7, -.0003, -.0001
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,446.5, .0000, -.0000
Ca3158,315.887 {107},In2306,ppm, .0066,.0046,70.57, .0099, .0033
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0001,616.1, -.0000, .0000
Co2286,228.616 {447},In2306,ppm, -.0003,.0001,43.97, -.0002, -.0004
Cr2677,267.716 {126},Y_3600,ppm, -.0000,.0002,1116., -.0002, .0001
Cu3247,324.754 {104},Y_3600,ppm, .0020,.0003,14.54, .0022, .0018
Fe2404,240.488 {140},In2306,ppm, -.0200,.0023,11.46, -.0184, -.0216
K_7664,766.490 { 44},Y_3710,ppm, .0158,.0002,1.372, .0157, .0160
Li6707,670.784 { 50},Y_3710,ppm, -.0017,.0019,110.3, -.0004, -.0030
Mg2790,279.079 {121},Y_3710,ppm, .0188,.0288,153.0, -.0015, .0392
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,13.48, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, .0006,.0002,43.48, .0008, .0004
Na5895,589.592 { 57},Y_3710,ppm, .0001,.0010,1578., .0007, -.0006
Ni2316,231.604 {445},In2306,ppm, .0003,.0002,73.88, .0005, .0002
P_1782,178.284 {489},In2306,ppm, -.0009,.0001,5.999, -.0009, -.0008
Pb2203,220.353 {453},In2306,ppm, .0000,.0002,389.2, .0002, -.0001
S_1820,182.034 {485},Y_2243,ppm, -3.621,.0015,.0403, -3.622, -3.620
Sb2068,206.833 {463},Y_2243,ppm, -.0012,.0000,1.995, -.0012, -.0012
Se1960,196.090 {472},Y_2243,ppm, .0018,.0010,53.83, .0011, .0025
Si2516,251.611 {134},Y_3710,ppm, .0150,.0072,48.27, .0201, .0099
Sn1899,189.989 {477},In2306,ppm, -.0003,.0003,124.5, -.0000, -.0005
Sr4215,421.552 { 80},Y_3710,ppm, -.0003,.0000,16.04, -.0003, -.0002
Ti3349,334.904 {101},Y_3600,ppm, -.0003,.0003,80.72, -.0005, -.0001
Tl1908,190.856 {477},In2306,ppm, .2007,.0079,3.942, .1951, .2063
U_3670,367.007 { 92},Y_3600,ppm, -.1995,.0335,16.82, -.1757, -.2232
V_2924,292.402 {115},Y_3600,ppm, .0003,.0000,3.862, .0003, .0003
W_2397,239.709 {140},Y_2243,ppm, .0560,.1404,250.6, .1553, -.0433
Zn2062,206.200 {463},In2306,ppm, .0016,.0002,11.90, .0017, .0014

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 207.32,2.4503,1.1819,209.06,205.59
In2306,230.606 {446},Cts/S, 13389.,7.4428,.05559,13394.,13384.
Y_2243,224.306 {450},Cts/S, 18007.,18.449,.10246,18020.,17994.
Y_3600,360.073 { 94},Cts/S, 162100.,184.65,.11391,162230.,161970.
Y_3710,371.030 { 91},Cts/S, 10054.,19.908,.19800,10040.,10068.

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Al3082,308.215 {109},In2306,ppm, .0040,.0066,166.4, .0086, -.0007
As1890,189.042 {478},Y_2243,ppm, -.0008,.0000,6.158, -.0008, -.0007
B_2496,249.678 {135},Y_3710,ppm, .0087,.0061,70.32, .0044, .0130
Ba4554,455.403 { 74},Y_3710,ppm, .0004,.0003,66.98, .0006, .0002
Be3130,313.042 {108},Y_3710,ppm, .0001,.0002,181.1, -.0000, .0003
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Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,24.00, .0001, .0001
Co2286,228.616 {447},In2306,ppm, -.0004,.0002,47.50, -.0002, -.0005
Cr2677,267.716 {126},Y_3600,ppm, .0004,.0000,12.31, .0003, .0004
Cu3247,324.754 {104},Y_3600,ppm, .0022,.0003,15.67, .0024, .0019
Fe2404,240.488 {140},In2306,ppm, .0109,.0120,109.6, .0025, .0194
K_7664,766.490 { 44},Y_3710,ppm, .0580,.0045,7.810, .0548, .0612
Li6707,670.784 { 50},Y_3710,ppm, -.0007,.0002,32.64, -.0009, -.0006
Mg2790,279.079 {121},Y_3710,ppm, -.0113,.0306,271.6, -.0329, .0104
Mn2576,257.610 {131},Y_3600,ppm, .0004,.0000,8.671, .0005, .0004
Mo2020,202.030 {467},Y_2243,ppm, .0008,.0002,29.31, .0006, .0009
Na5895,589.592 { 57},Y_3710,ppm, .0139,.0052,37.56, .0102, .0176
Ni2316,231.604 {445},In2306,ppm, .0006,.0002,39.54, .0008, .0005
P_1782,178.284 {489},In2306,ppm, .0181,.0010,5.582, .0188, .0174
Pb2203,220.353 {453},In2306,ppm, .0015,.0001,5.959, .0016, .0015
S_1820,182.034 {485},Y_2243,ppm, 2.987,.0200,.6687, 3.001, 2.973
Sb2068,206.833 {463},Y_2243,ppm, -.0047,.0030,64.04, -.0068, -.0025
Se1960,196.090 {472},Y_2243,ppm, .0046,.0011,24.06, .0053, .0038
Si2516,251.611 {134},Y_3710,ppm, .0024,.0102,430.5, -.0048, .0095
Sn1899,189.989 {477},In2306,ppm, .0246,.0002,.6416, .0247, .0245
Sr4215,421.552 { 80},Y_3710,ppm, -.0001,.0000,10.29, -.0001, -.0002
Ti3349,334.904 {101},Y_3600,ppm, .0000,.0001,221.0, .0001, -.0000
Tl1908,190.856 {477},In2306,ppm, .2108,.0051,2.413, .2072, .2144
U_3670,367.007 { 92},Y_3600,ppm, -.2343,.0690,29.47, -.2831, -.1854
V_2924,292.402 {115},Y_3600,ppm, .0001,.0002,244.4, -.0001, .0002
W_2397,239.709 {140},Y_2243,ppm, .0339,.0324,95.37, .0568, .0111
Zn2062,206.200 {463},In2306,ppm, .0118,.0002,1.389, .0119, .0117

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 206.40,2.0810,1.0082,207.87,204.92
In2306,230.606 {446},Cts/S, 13399.,19.152,.14293,13413.,13386.
Y_2243,224.306 {450},Cts/S, 17871.,31.810,.17799,17894.,17849.
Y_3600,360.073 { 94},Cts/S, 163590.,628.42,.38415,164030.,163140.
Y_3710,371.030 { 91},Cts/S, 10157.,86.936,.85591,10219.,10096.

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Ag3280,328.068 {103},Y_3600,ppm, .3009,.0006,.2033, .3005, .3014
Al3082,308.215 {109},In2306,ppm, 91.74,.3803,.4146, 92.01, 91.47
As1890,189.042 {478},Y_2243,ppm, 2.734,.0058,.2120, 2.738, 2.730
B_2496,249.678 {135},Y_3710,ppm, 5.138,.0341,.6630, 5.114, 5.162
Ba4554,455.403 { 74},Y_3710,ppm, 2.229,.0131,.5896, 2.219, 2.238
Be3130,313.042 {108},Y_3710,ppm, 1.545,.0057,.3662, 1.541, 1.549
Ca3158,315.887 {107},In2306,ppm, 133.6,1.035,.7745, 134.4, 132.9
Cd2288,228.802 {447},Y_2243,ppm, 1.522,.0026,.1687, 1.524, 1.520
Co2286,228.616 {447},In2306,ppm, 2.444,.0010,.0411, 2.443, 2.445
Cr2677,267.716 {126},Y_3600,ppm, 1.455,.0043,.2978, 1.458, 1.452
Cu3247,324.754 {104},Y_3600,ppm, .8630,.0004,.0516, .8633, .8627
Fe2404,240.488 {140},In2306,ppm, 131.1,1.029,.7844, 131.9, 130.4
K_7664,766.490 { 44},Y_3710,ppm, 93.09,.2870,.3083, 92.89, 93.29
Li6707,670.784 { 50},Y_3710,ppm, 2.237,.0164,.7348, 2.226, 2.249
Mg2790,279.079 {121},Y_3710,ppm, 108.2,.6060,.5603, 107.7, 108.6
Mn2576,257.610 {131},Y_3600,ppm, 10.49,.0099,.0947, 10.48, 10.50
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Mo2020,202.030 {467},Y_2243,ppm, 1.690,.0038,.2277, 1.693, 1.687
Na5895,589.592 { 57},Y_3710,ppm, 116.4,.4958,.4260, 116.0, 116.7
Ni2316,231.604 {445},In2306,ppm, 1.044,.0032,.3088, 1.041, 1.046
P_1782,178.284 {489},In2306,ppm, 4.131,.0150,.3630, 4.120, 4.142
Pb2203,220.353 {453},In2306,ppm, 1.306,.0001,.0055, 1.306, 1.306
S_1820,182.034 {485},Y_2243,ppm, 7.509,.0098,.1308, 7.516, 7.502
Sb2068,206.833 {463},Y_2243,ppm, .2715,.0033,1.219, .2692, .2739
Se1960,196.090 {472},Y_2243,ppm, 2.646,.0021,.0791, 2.644, 2.647
Si2516,251.611 {134},Y_3710,ppm, 8.904,.1107,1.243, 8.826, 8.982
Sn1899,189.989 {477},In2306,ppm, 1.557,.0053,.3374, 1.554, 1.561
Sr4215,421.552 { 80},Y_3710,ppm, .7790,.0040,.5110, .7762, .7818
Ti3349,334.904 {101},Y_3600,ppm, 3.310,.0004,.0113, 3.310, 3.310
Tl1908,190.856 {477},In2306,ppm, 1.323,.0484,3.661, 1.357, 1.288
U_3670,367.007 { 92},Y_3600,ppm, 1.302,.0822,6.311, 1.244, 1.360
V_2924,292.402 {115},Y_3600,ppm, .2277,.0002,.0907, .2279, .2276
W_2397,239.709 {140},Y_2243,ppm, -1.586,.0110,.6963, -1.594, -1.578
Zn2062,206.200 {463},In2306,ppm, 4.413,.0022,.0505, 4.415, 4.412

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 189.77,2.8759,1.5155,187.74,191.80
In2306,230.606 {446},Cts/S, 10895.,26.197,.24046,10876.,10913.
Y_2243,224.306 {450},Cts/S, 17614.,72.376,.41090,17563.,17665.
Y_3600,360.073 { 94},Cts/S, 158520.,153.23,.09666,158630.,158420.
Y_3710,371.030 { 91},Cts/S, 10489.,40.126,.38257,10460.,10517.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0090,.0006,7.071, -.0086, -.0095
Al3082,308.215 {109},In2306,ppm, 348.5,3.465,.9942, 346.1, 351.0
As1890,189.042 {478},Y_2243,ppm, .3670,.0034,.9322, .3694, .3646
B_2496,249.678 {135},Y_3710,ppm, .0392,.0033,8.317, .0369, .0415
Ba4554,455.403 { 74},Y_3710,ppm, .6691,.0047,.6980, .6658, .6724
Be3130,313.042 {108},Y_3710,ppm, .0088,.0001,1.068, .0088, .0089
Ca3158,315.887 {107},In2306,ppm, 35.25,.2017,.5723, 35.11, 35.39
Cd2288,228.802 {447},Y_2243,ppm, .0125,.0001,.9070, .0124, .0125
Co2286,228.616 {447},In2306,ppm, .5346,.0037,.6867, .5320, .5372
Cr2677,267.716 {126},Y_3600,ppm, .2764,.0009,.3218, .2770, .2757
Cu3247,324.754 {104},Y_3600,ppm, .4715,.0019,.3940, .4728, .4702
Fe2404,240.488 {140},In2306,ppm, 513.9,3.373,.6564, 511.5, 516.3
K_7664,766.490 { 44},Y_3710,ppm, 10.76,.0235,.2184, 10.74, 10.77
Li6707,670.784 { 50},Y_3710,ppm, .1187,.0007,.6126, .1182, .1192
Mg2790,279.079 {121},Y_3710,ppm, 13.79,.0032,.0233, 13.78, 13.79
Mn2576,257.610 {131},Y_3600,ppm, 8.490,.0129,.1525, 8.481, 8.499
Mo2020,202.030 {467},Y_2243,ppm, .0327,.0001,.4031, .0328, .0326
Na5895,589.592 { 57},Y_3710,ppm, .2459,.0012,.5048, .2450, .2468
Ni2316,231.604 {445},In2306,ppm, .3072,.0022,.7149, .3056, .3087
P_1782,178.284 {489},In2306,ppm, 7.707,.0173,.2247, 7.695, 7.720
Pb2203,220.353 {453},In2306,ppm, 1.013,.0132,1.306, 1.003, 1.022
S_1820,182.034 {485},Y_2243,ppm, 7.077,.0562,.7938, 7.037, 7.116
Sb2068,206.833 {463},Y_2243,ppm, .0064,.0016,24.71, .0076, .0053
Se1960,196.090 {472},Y_2243,ppm, .0079,.0032,40.16, .0102, .0057
Si2516,251.611 {134},Y_3710,ppm, 7.592,.0687,.9053, 7.543, 7.641
Sn1899,189.989 {477},In2306,ppm, .0485,.0014,2.861, .0475, .0495
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Sr4215,421.552 { 80},Y_3710,ppm, .1795,.0004,.1956, .1793, .1798
Ti3349,334.904 {101},Y_3600,ppm, 1.593,.0022,.1410, 1.594, 1.591
Tl1908,190.856 {477},In2306,ppm, .6717,.0059,.8753, .6675, .6758
U_3670,367.007 { 92},Y_3600,ppm, 2.926,.0186,.6341, 2.940, 2.913
V_2924,292.402 {115},Y_3600,ppm, .8369,.0014,.1695, .8379, .8359
W_2397,239.709 {140},Y_2243,ppm, -.2292,.0213,9.307, -.2141, -.2443
Zn2062,206.200 {463},In2306,ppm, 4.951,.0256,.5162, 4.933, 4.969

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 195.98,.25975,.13254,196.16,195.79
In2306,230.606 {446},Cts/S, 11477.,14.989,.13060,11466.,11487.
Y_2243,224.306 {450},Cts/S, 18396.,58.653,.31885,18354.,18437.
Y_3600,360.073 { 94},Cts/S, 161490.,306.94,.19007,161270.,161710.
Y_3710,371.030 { 91},Cts/S, 10857.,30.575,.28161,10836.,10879.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0031,.0000,1.410, .0030, .0031
Al3082,308.215 {109},In2306,ppm, 64.38,1.159,1.801, 63.56, 65.20
As1890,189.042 {478},Y_2243,ppm, .1184,.0011,.9603, .1192, .1176
B_2496,249.678 {135},Y_3710,ppm, .0311,.0095,30.56, .0378, .0243
Ba4554,455.403 { 74},Y_3710,ppm, .8165,.0007,.0829, .8160, .8170
Be3130,313.042 {108},Y_3710,ppm, .0058,.0002,3.953, .0060, .0056
Ca3158,315.887 {107},In2306,ppm, 40.76,.7768,1.906, 40.21, 41.31
Cd2288,228.802 {447},Y_2243,ppm, .1119,.0001,.1233, .1120, .1118
Co2286,228.616 {447},In2306,ppm, .0905,.0002,.2194, .0906, .0903
Cr2677,267.716 {126},Y_3600,ppm, .3361,.0002,.0540, .3363, .3360
Cu3247,324.754 {104},Y_3600,ppm, 2.016,.0004,.0197, 2.016, 2.015
Fe2404,240.488 {140},In2306,ppm, 248.8,5.046,2.028, 245.3, 252.4
K_7664,766.490 { 44},Y_3710,ppm, 4.532,.0053,.1178, 4.536, 4.528
Li6707,670.784 { 50},Y_3710,ppm, .0330,.0018,5.309, .0342, .0317
Mg2790,279.079 {121},Y_3710,ppm, 6.839,.0864,1.263, 6.778, 6.900
Mn2576,257.610 {131},Y_3600,ppm, 6.092,.0182,.2991, 6.104, 6.079
Mo2020,202.030 {467},Y_2243,ppm, .0222,.0003,1.386, .0220, .0224
Na5895,589.592 { 57},Y_3710,ppm, .2874,.0004,.1528, .2877, .2871
Ni2316,231.604 {445},In2306,ppm, .1618,.0005,.3155, .1622, .1615
P_1782,178.284 {489},In2306,ppm, 5.302,.0053,.0997, 5.298, 5.305
Pb2203,220.353 {453},In2306,ppm, 1.421,.0021,.1480, 1.420, 1.423
S_1820,182.034 {485},Y_2243,ppm, 9.341,.0443,.4746, 9.373, 9.310
Sb2068,206.833 {463},Y_2243,ppm, .0052,.0011,21.12, .0060, .0044
Se1960,196.090 {472},Y_2243,ppm, .0068,.0058,85.39, .0027, .0109
Si2516,251.611 {134},Y_3710,ppm, 7.196,.0227,.3157, 7.180, 7.212
Sn1899,189.989 {477},In2306,ppm, .0675,.0010,1.512, .0668, .0683
Sr4215,421.552 { 80},Y_3710,ppm, .1794,.0004,.2408, .1797, .1791
Ti3349,334.904 {101},Y_3600,ppm, .5242,.0002,.0339, .5243, .5241
Tl1908,190.856 {477},In2306,ppm, .4220,.0136,3.216, .4124, .4316
U_3670,367.007 { 92},Y_3600,ppm, 1.243,.0676,5.436, 1.291, 1.195
V_2924,292.402 {115},Y_3600,ppm, .3318,.0003,.0809, .3316, .3320
W_2397,239.709 {140},Y_2243,ppm, -.0875,.0307,35.10, -.0658, -.1093
Zn2062,206.200 {463},In2306,ppm, 8.045,.0075,.0932, 8.039, 8.050

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
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In2306,230.606 {146},Cts/S, 201.03,3.6248,1.8031,203.59,198.46
In2306,230.606 {446},Cts/S, 12259.,10.770,.08785,12267.,12252.
Y_2243,224.306 {450},Cts/S, 18036.,8.2707,.04586,18042.,18030.
Y_3600,360.073 { 94},Cts/S, 163900.,350.33,.21374,164150.,163660.
Y_3710,371.030 { 91},Cts/S, 10556.,13.765,.13040,10565.,10546.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0038,.0000,1.213, .0038, .0038
Al3082,308.215 {109},In2306,ppm, 59.13,.9090,1.537, 58.49, 59.77
As1890,189.042 {478},Y_2243,ppm, .0494,.0000,.0898, .0494, .0495
B_2496,249.678 {135},Y_3710,ppm, .0379,.0006,1.484, .0383, .0375
Ba4554,455.403 { 74},Y_3710,ppm, .8517,.0001,.0089, .8517, .8518
Be3130,313.042 {108},Y_3710,ppm, .0045,.0000,.3130, .0045, .0045
Ca3158,315.887 {107},In2306,ppm, 44.73,.7028,1.571, 44.24, 45.23
Cd2288,228.802 {447},Y_2243,ppm, .1180,.0002,.1899, .1182, .1179
Co2286,228.616 {447},In2306,ppm, .0946,.0003,.3189, .0948, .0944
Cr2677,267.716 {126},Y_3600,ppm, .1549,.0005,.3167, .1545, .1552
Cu3247,324.754 {104},Y_3600,ppm, 2.040,.0022,.1091, 2.038, 2.041
Fe2404,240.488 {140},In2306,ppm, 157.2,2.674,1.701, 155.3, 159.1
K_7664,766.490 { 44},Y_3710,ppm, 4.624,.0444,.9611, 4.655, 4.592
Li6707,670.784 { 50},Y_3710,ppm, .0331,.0005,1.482, .0334, .0327
Mg2790,279.079 {121},Y_3710,ppm, 7.110,.0208,.2929, 7.095, 7.125
Mn2576,257.610 {131},Y_3600,ppm, 6.162,.0358,.5813, 6.137, 6.188
Mo2020,202.030 {467},Y_2243,ppm, .0103,.0003,3.246, .0101, .0105
Na5895,589.592 { 57},Y_3710,ppm, .3344,.0054,1.621, .3382, .3306
Ni2316,231.604 {445},In2306,ppm, .1393,.0004,.3166, .1396, .1390
P_1782,178.284 {489},In2306,ppm, 5.015,.0303,.6049, 5.036, 4.993
Pb2203,220.353 {453},In2306,ppm, 1.361,.0092,.6770, 1.368, 1.355
S_1820,182.034 {485},Y_2243,ppm, 10.16,.0631,.6210, 10.20, 10.11
Sb2068,206.833 {463},Y_2243,ppm, .0049,.0028,57.64, .0069, .0029
Se1960,196.090 {472},Y_2243,ppm, .0112,.0040,35.33, .0140, .0084
Si2516,251.611 {134},Y_3710,ppm, 7.114,.0120,.1686, 7.106, 7.123
Sn1899,189.989 {477},In2306,ppm, .0844,.0011,1.320, .0852, .0837
Sr4215,421.552 { 80},Y_3710,ppm, .1992,.0003,.1455, .1994, .1990
Ti3349,334.904 {101},Y_3600,ppm, .5239,.0016,.3021, .5228, .5250
Tl1908,190.856 {477},In2306,ppm, .2746,.0126,4.572, .2657, .2835
U_3670,367.007 { 92},Y_3600,ppm, .7409,.1620,21.87, .8555, .6263
V_2924,292.402 {115},Y_3600,ppm, .1960,.0008,.3892, .1954, .1965
W_2397,239.709 {140},Y_2243,ppm, .0032,.0867,2750., .0645, -.0582
Zn2062,206.200 {463},In2306,ppm, 8.500,.0116,.1361, 8.508, 8.491

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 205.19,2.9105,1.4185,207.24,203.13
In2306,230.606 {446},Cts/S, 12340.,20.036,.16237,12326.,12354.
Y_2243,224.306 {450},Cts/S, 18157.,33.691,.18555,18133.,18181.
Y_3600,360.073 { 94},Cts/S, 164920.,16.201,.00982,164910.,164940.
Y_3710,371.030 { 91},Cts/S, 10589.,17.662,.16680,10601.,10576.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .2556,.0005,.2100, .2560, .2553
Al3082,308.215 {109},In2306,ppm, 189.0,3.156,1.670, 186.8, 191.2
As1890,189.042 {478},Y_2243,ppm, 1.028,.0035,.3363, 1.026, 1.030
B_2496,249.678 {135},Y_3710,ppm, .5334,.0025,.4663, .5352, .5317
Ba4554,455.403 { 74},Y_3710,ppm, 2.038,.0010,.0474, 2.037, 2.039
Be3130,313.042 {108},Y_3710,ppm, .9308,.0015,.1626, .9297, .9318
Ca3158,315.887 {107},In2306,ppm, 61.55,.8860,1.440, 60.92, 62.17
Cd2288,228.802 {447},Y_2243,ppm, 1.081,.0002,.0176, 1.081, 1.081
Co2286,228.616 {447},In2306,ppm, 1.081,.0020,.1827, 1.080, 1.083
Cr2677,267.716 {126},Y_3600,ppm, 1.114,.0016,.1465, 1.113, 1.115
Cu3247,324.754 {104},Y_3600,ppm, 3.264,.0129,.3942, 3.273, 3.255
Fe2404,240.488 {140},In2306,ppm, 198.0,2.576,1.301, 196.1, 199.8
K_7664,766.490 { 44},Y_3710,ppm, 22.26,.0368,.1654, 22.29, 22.24
Li6707,670.784 { 50},Y_3710,ppm, 1.030,.0033,.3170, 1.027, 1.032
Mg2790,279.079 {121},Y_3710,ppm, 22.60,.0881,.3898, 22.66, 22.54
Mn2576,257.610 {131},Y_3600,ppm, 6.874,.0111,.1620, 6.882, 6.866
Mo2020,202.030 {467},Y_2243,ppm, .9585,.0025,.2592, .9567, .9602
Na5895,589.592 { 57},Y_3710,ppm, 10.31,.0220,.2135, 10.29, 10.32
Ni2316,231.604 {445},In2306,ppm, 1.200,.0042,.3496, 1.197, 1.203
P_1782,178.284 {489},In2306,ppm, 11.06,.0145,.1307, 11.05, 11.08
Pb2203,220.353 {453},In2306,ppm, 2.348,.0047,.2006, 2.345, 2.351
S_1820,182.034 {485},Y_2243,ppm, 18.35,.0135,.0738, 18.34, 18.36
Sb2068,206.833 {463},Y_2243,ppm, .9309,.0045,.4814, .9341, .9278
Se1960,196.090 {472},Y_2243,ppm, .9599,.0027,.2786, .9618, .9580
Si2516,251.611 {134},Y_3710,ppm, 9.665,.0184,.1906, 9.678, 9.652
Sn1899,189.989 {477},In2306,ppm, 1.002,.0001,.0058, 1.002, 1.002
Sr4215,421.552 { 80},Y_3710,ppm, 1.215,.0032,.2597, 1.213, 1.218
Ti3349,334.904 {101},Y_3600,ppm, 2.001,.0005,.0246, 2.000, 2.001
Tl1908,190.856 {477},In2306,ppm, .7540,.0175,2.319, .7664, .7416
U_3670,367.007 { 92},Y_3600,ppm, 1.404,.0033,.2360, 1.406, 1.401
V_2924,292.402 {115},Y_3600,ppm, 1.231,.0002,.0130, 1.231, 1.231
W_2397,239.709 {140},Y_2243,ppm, .0690,.0674,97.60, .0214, .1166
Zn2062,206.200 {463},In2306,ppm, 10.67,.0368,.3444, 10.65, 10.70

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 197.50,1.3839,.70070,198.48,196.52
In2306,230.606 {446},Cts/S, 11681.,22.142,.18956,11696.,11665.
Y_2243,224.306 {450},Cts/S, 17741.,13.535,.07629,17750.,17731.
Y_3600,360.073 { 94},Cts/S, 161020.,267.58,.16618,160830.,161210.
Y_3710,371.030 { 91},Cts/S, 10594.,93.566,.88322,10528.,10660.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0234,.0001,.3211, .0235, .0234
Al3082,308.215 {109},In2306,ppm, 136.4,.7438,.5454, 136.9, 135.8
As1890,189.042 {478},Y_2243,ppm, 7.032,.0032,.0452, 7.034, 7.030
B_2496,249.678 {135},Y_3710,ppm, .1200,.0044,3.658, .1231, .1169
Ba4554,455.403 { 74},Y_3710,ppm, 1.552,.0033,.2139, 1.555, 1.550
Be3130,313.042 {108},Y_3710,ppm, .0131,.0003,2.351, .0129, .0134
Ca3158,315.887 {107},In2306,ppm, 17.01,.1123,.6600, 17.09, 16.93
Cd2288,228.802 {447},Y_2243,ppm, .0505,.0003,.6556, .0503, .0508
Co2286,228.616 {447},In2306,ppm, .5224,.0016,.3111, .5236, .5213
Cr2677,267.716 {126},Y_3600,ppm, 3.002,.0027,.0907, 3.004, 3.000
Cu3247,324.754 {104},Y_3600,ppm, 6.012,.0136,.2255, 6.021, 6.002
Fe2404,240.488 {140},In2306,ppm, 2232.,22.96,1.029, 2215., 2248.
K_7664,766.490 { 44},Y_3710,ppm, 24.75,.0416,.1682, 24.78, 24.72
Li6707,670.784 { 50},Y_3710,ppm, .0877,.0011,1.230, .0885, .0870
Mg2790,279.079 {121},Y_3710,ppm, 28.50,.0832,.2918, 28.45, 28.56
Mn2576,257.610 {131},Y_3600,ppm, 71.51,.1306,.1826, 71.41, 71.60
Mo2020,202.030 {467},Y_2243,ppm, .6567,.0031,.4691, .6588, .6545
Na5895,589.592 { 57},Y_3710,ppm, 1.328,.0061,.4591, 1.332, 1.324
Ni2316,231.604 {445},In2306,ppm, 3.801,.0163,.4279, 3.813, 3.790
P_1782,178.284 {489},In2306,ppm, 11.40,.0456,.4002, 11.43, 11.37
Pb2203,220.353 {453},In2306,ppm, .7126,.0091,1.275, .7190, .7061
S_1820,182.034 {485},Y_2243,ppm, 93.40,.3642,.3900, 93.66, 93.14
Sb2068,206.833 {463},Y_2243,ppm, 2.101,.0121,.5739, 2.092, 2.109
Se1960,196.090 {472},Y_2243,ppm, .0509,.0005,1.027, .0513, .0506
Si2516,251.611 {134},Y_3710,ppm, 7.640,.0036,.0477, 7.642, 7.637
Sn1899,189.989 {477},In2306,ppm, .4038,.0010,.2390, .4045, .4031
Sr4215,421.552 { 80},Y_3710,ppm, .6628,.0013,.1950, .6637, .6619
Ti3349,334.904 {101},Y_3600,ppm, .8998,.0020,.2176, .8984, .9012
Tl1908,190.856 {477},In2306,ppm, .4882,.0103,2.117, .4955, .4809
U_3670,367.007 { 92},Y_3600,ppm, 15.18,.0254,.1671, 15.20, 15.17
V_2924,292.402 {115},Y_3600,ppm, .7546,.0016,.2082, .7535, .7557
W_2397,239.709 {140},Y_2243,ppm, -.8548,.1220,14.27, -.9411, -.7686
Zn2062,206.200 {463},In2306,ppm, 1.888,.0171,.9079, 1.900, 1.876

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 192.32,.86450,.44952,191.71,192.93
In2306,230.606 {446},Cts/S, 10606.,9.8450,.09283,10599.,10613.
Y_2243,224.306 {450},Cts/S, 16385.,21.335,.13020,16400.,16370.
Y_3600,360.073 { 94},Cts/S, 151180.,175.32,.11597,151310.,151060.
Y_3710,371.030 { 91},Cts/S, 10267.,6.1466,.05987,10272.,10263.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0672,.0002,.2563, .0671, .0674
Al3082,308.215 {109},In2306,ppm, 104.9,.5798,.5527, 105.3, 104.5
As1890,189.042 {478},Y_2243,ppm, .4449,.0009,.2001, .4443, .4455
B_2496,249.678 {135},Y_3710,ppm, .1798,.0073,4.056, .1747, .1850
Ba4554,455.403 { 74},Y_3710,ppm, 2.903,.0108,.3705, 2.896, 2.911
Be3130,313.042 {108},Y_3710,ppm, .0103,.0002,2.236, .0102, .0105
Ca3158,315.887 {107},In2306,ppm, 22.34,.0695,.3112, 22.39, 22.29
Cd2288,228.802 {447},Y_2243,ppm, .0643,.0000,.0098, .0643, .0643
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Co2286,228.616 {447},In2306,ppm, 1.066,.0039,.3616, 1.069, 1.063
Cr2677,267.716 {126},Y_3600,ppm, 4.968,.0049,.0991, 4.964, 4.971
Cu3247,324.754 {104},Y_3600,ppm, 10.16,.0353,.3476, 10.13, 10.18
Fe2404,240.488 {140},In2306,ppm, 3094.,27.83,.8997, 3074., 3113.
K_7664,766.490 { 44},Y_3710,ppm, 24.87,.1282,.5154, 24.78, 24.97
Li6707,670.784 { 50},Y_3710,ppm, .0994,.0000,.0109, .0994, .0995
Mg2790,279.079 {121},Y_3710,ppm, 23.84,.1840,.7717, 23.71, 23.97
Mn2576,257.610 {131},Y_3600,ppm,^ *****,-----,-----,^ -----,^ -----
Mo2020,202.030 {467},Y_2243,ppm, .9954,.0046,.4634, .9987, .9922
Na5895,589.592 { 57},Y_3710,ppm, 2.542,.0116,.4576, 2.534, 2.550
Ni2316,231.604 {445},In2306,ppm,k 6.903,.0183,.2646,k 6.916,k 6.890
P_1782,178.284 {489},In2306,ppm, 16.47,.1102,.6689, 16.55, 16.39
Pb2203,220.353 {453},In2306,ppm,k 1.313,.0034,.2565,k 1.316,k 1.311
S_1820,182.034 {485},Y_2243,ppm, 51.56,.4385,.8504, 51.87, 51.25
Sb2068,206.833 {463},Y_2243,ppm, .2428,.0044,1.809, .2459, .2397
Se1960,196.090 {472},Y_2243,ppm, .1199,.0014,1.129, .1209, .1190
Si2516,251.611 {134},Y_3710,ppm, 8.629,.0492,.5700, 8.594, 8.664
Sn1899,189.989 {477},In2306,ppm, .6980,.0040,.5698, .7008, .6952
Sr4215,421.552 { 80},Y_3710,ppm, .8369,.0027,.3178, .8351, .8388
Ti3349,334.904 {101},Y_3600,ppm, 1.206,.0000,.0023, 1.206, 1.206
Tl1908,190.856 {477},In2306,ppm,k .6770,.0178,2.623,k .6644,k .6895
U_3670,367.007 { 92},Y_3600,ppm, 22.98,.0214,.0931, 22.96, 22.99
V_2924,292.402 {115},Y_3600,ppm, 1.114,.0019,.1662, 1.112, 1.115
W_2397,239.709 {140},Y_2243,ppm, -.9044,.0704,7.786, -.8546, -.9542
Zn2062,206.200 {463},In2306,ppm, 2.436,.0075,.3098, 2.441, 2.430

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 190.77,.61890,.32442,190.33,191.21
In2306,230.606 {446},Cts/S, 9954.1,35.854,.36019,9928.7,9979.4
Y_2243,224.306 {450},Cts/S, 15906.,59.024,.37108,15865.,15948.
Y_3600,360.073 { 94},Cts/S, 149000.,293.94,.19727,149210.,148790.
Y_3710,371.030 { 91},Cts/S, 10203.,73.478,.72018,10255.,10151.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .2366,.0033,1.392, .2389, .2343
Al3082,308.215 {109},In2306,ppm, 72.45,.0589,.0813, 72.49, 72.41
As1890,189.042 {478},Y_2243,ppm, 1.086,.0002,.0213, 1.086, 1.087
B_2496,249.678 {135},Y_3710,ppm, .4722,.0027,.5622, .4741, .4703
Ba4554,455.403 { 74},Y_3710,ppm, 1.746,.0131,.7530, 1.737, 1.755
Be3130,313.042 {108},Y_3710,ppm, .9166,.0057,.6200, .9126, .9206
Ca3158,315.887 {107},In2306,ppm, 48.73,.0759,.1558, 48.78, 48.67
Cd2288,228.802 {447},Y_2243,ppm, 1.049,.0022,.2081, 1.047, 1.050
Co2286,228.616 {447},In2306,ppm, 1.041,.0008,.0728, 1.041, 1.042
Cr2677,267.716 {126},Y_3600,ppm, 1.218,.0119,.9777, 1.226, 1.209
Cu3247,324.754 {104},Y_3600,ppm, 2.925,.0196,.6711, 2.939, 2.911
Fe2404,240.488 {140},In2306,ppm, 250.1,.5468,.2186, 250.5, 249.7
K_7664,766.490 { 44},Y_3710,ppm, 14.01,.0739,.5275, 13.96, 14.06
Li6707,670.784 { 50},Y_3710,ppm, .9613,.0056,.5824, .9573, .9652
Mg2790,279.079 {121},Y_3710,ppm, 16.14,.2149,1.331, 15.99, 16.30
Mn2576,257.610 {131},Y_3600,ppm, 6.872,.1289,1.875, 6.963, 6.781
Mo2020,202.030 {467},Y_2243,ppm, .9793,.0011,.1133, .9801, .9785
Na5895,589.592 { 57},Y_3710,ppm, 9.767,.0501,.5126, 9.732, 9.803
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Ni2316,231.604 {445},In2306,ppm, 1.125,.0006,.0567, 1.125, 1.124
P_1782,178.284 {489},In2306,ppm, 10.08,.0131,.1304, 10.07, 10.09
Pb2203,220.353 {453},In2306,ppm, 2.314,.0014,.0617, 2.313, 2.315
S_1820,182.034 {485},Y_2243,ppm, 15.79,.0410,.2595, 15.76, 15.82
Sb2068,206.833 {463},Y_2243,ppm, 1.493,.0028,.1907, 1.491, 1.495
Se1960,196.090 {472},Y_2243,ppm, .9679,.0038,.3949, .9706, .9652
Si2516,251.611 {134},Y_3710,ppm, 14.45,.1377,.9528, 14.36, 14.55
Sn1899,189.989 {477},In2306,ppm, 1.010,.0001,.0104, 1.010, 1.010
Sr4215,421.552 { 80},Y_3710,ppm, 1.118,.0081,.7279, 1.112, 1.124
Ti3349,334.904 {101},Y_3600,ppm, 1.460,.0183,1.254, 1.473, 1.447
Tl1908,190.856 {477},In2306,ppm, .6591,.0204,3.091, .6735, .6447
U_3670,367.007 { 92},Y_3600,ppm, 1.683,.0308,1.828, 1.704, 1.661
V_2924,292.402 {115},Y_3600,ppm, 1.248,.0118,.9453, 1.256, 1.240
W_2397,239.709 {140},Y_2243,ppm, .2705,.0551,20.36, .3095, .2316
Zn2062,206.200 {463},In2306,ppm, 8.368,.0026,.0313, 8.366, 8.370

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 203.20,1.2164,.59864,202.34,204.06
In2306,230.606 {446},Cts/S, 12100.,7.3468,.06072,12105.,12095.
Y_2243,224.306 {450},Cts/S, 17913.,19.061,.10641,17926.,17899.
Y_3600,360.073 { 94},Cts/S, 162190.,1349.9,.83228,161240.,163150.
Y_3710,371.030 { 91},Cts/S, 10640.,40.992,.38526,10669.,10611.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0004,.0001,39.31, .0003, .0004
Al3082,308.215 {109},In2306,ppm, 13.48,1.157,8.585, 14.29, 12.66
As1890,189.042 {478},Y_2243,ppm, .0271,.0009,3.253, .0265, .0278
B_2496,249.678 {135},Y_3710,ppm, .0071,.0040,56.38, .0043, .0099
Ba4554,455.403 { 74},Y_3710,ppm, .1802,.0157,8.712, .1913, .1691
Be3130,313.042 {108},Y_3710,ppm, .0014,.0002,12.21, .0015, .0013
Ca3158,315.887 {107},In2306,ppm, 8.615,.7548,8.762, 9.148, 8.081
Cd2288,228.802 {447},Y_2243,ppm, .0233,.0000,.0864, .0233, .0232
Co2286,228.616 {447},In2306,ppm, .0183,.0002,.8354, .0184, .0182
Cr2677,267.716 {126},Y_3600,ppm, .0695,.0005,.7867, .0691, .0699
Cu3247,324.754 {104},Y_3600,ppm, .4041,.0005,.1162, .4037, .4044
Fe2404,240.488 {140},In2306,ppm, 53.97,4.700,8.708, 57.29, 50.64
K_7664,766.490 { 44},Y_3710,ppm, .9692,.0923,9.523, 1.034, .9040
Li6707,670.784 { 50},Y_3710,ppm, .0074,.0018,24.22, .0087, .0061
Mg2790,279.079 {121},Y_3710,ppm, 1.502,.1294,8.614, 1.594, 1.411
Mn2576,257.610 {131},Y_3600,ppm, 1.319,.0019,.1458, 1.317, 1.320
Mo2020,202.030 {467},Y_2243,ppm, .0079,.0008,10.57, .0073, .0085
Na5895,589.592 { 57},Y_3710,ppm, .0474,.0115,24.23, .0555, .0393
Ni2316,231.604 {445},In2306,ppm, .0319,.0001,.4658, .0318, .0320
P_1782,178.284 {489},In2306,ppm, 1.035,.0019,.1817, 1.037, 1.034
Pb2203,220.353 {453},In2306,ppm, .2892,.0022,.7450, .2907, .2877
S_1820,182.034 {485},Y_2243,ppm, .7448,.0335,4.497, .7211, .7684
Sb2068,206.833 {463},Y_2243,ppm, .0086,.0009,10.26, .0080, .0093
Se1960,196.090 {472},Y_2243,ppm, .0079,.0018,22.50, .0091, .0066
Si2516,251.611 {134},Y_3710,ppm, 1.584,.1256,7.927, 1.673, 1.495
Sn1899,189.989 {477},In2306,ppm, .0181,.0015,8.450, .0170, .0192
Sr4215,421.552 { 80},Y_3710,ppm, .0396,.0036,9.091, .0422, .0371
Ti3349,334.904 {101},Y_3600,ppm, .1087,.0001,.0484, .1086, .1087
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Tl1908,190.856 {477},In2306,ppm, .3186,.0042,1.328, .3156, .3215
U_3670,367.007 { 92},Y_3600,ppm, -.0273,.0758,277.8, .0263, -.0809
V_2924,292.402 {115},Y_3600,ppm, .0688,.0005,.6809, .0691, .0684
W_2397,239.709 {140},Y_2243,ppm, -.0255,.0792,311.1, .0306, -.0815
Zn2062,206.200 {463},In2306,ppm, 1.616,.0101,.6272, 1.623, 1.609

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 196.96,13.385,6.7959,187.50,206.43
In2306,230.606 {446},Cts/S, 13158.,36.282,.27574,13132.,13184.
Y_2243,224.306 {450},Cts/S, 18125.,9.5429,.05265,18118.,18131.
Y_3600,360.073 { 94},Cts/S, 163650.,342.83,.20949,163890.,163410.
Y_3710,371.030 { 91},Cts/S, 9749.5,659.50,6.7644,9283.2,10216.

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Al3082,308.215 {109},In2306,ppm, 19.82,.1705,.8605, 19.70, 19.94
As1890,189.042 {478},Y_2243,ppm, 1.023,.0006,.0615, 1.023, 1.023
B_2496,249.678 {135},Y_3710,ppm, .9643,.0019,.1970, .9629, .9656
Ba4554,455.403 { 74},Y_3710,ppm, .9983,.0033,.3277, .9960, 1.001
Be3130,313.042 {108},Y_3710,ppm, .9603,.0008,.0823, .9597, .9608
Ca3158,315.887 {107},In2306,ppm, 19.51,.0764,.3913, 19.46, 19.57
Cd2288,228.802 {447},Y_2243,ppm, .9836,.0002,.0186, .9837, .9834
Co2286,228.616 {447},In2306,ppm, .9624,.0031,.3202, .9602, .9646
Cr2677,267.716 {126},Y_3600,ppm, .9311,.0078,.8331, .9366, .9256
Cu3247,324.754 {104},Y_3600,ppm, .9620,.0048,.4995, .9654, .9586
Fe2404,240.488 {140},In2306,ppm, 19.94,.0619,.3105, 19.89, 19.98
K_7664,766.490 { 44},Y_3710,ppm, 19.68,.0102,.0520, 19.69, 19.68
Li6707,670.784 { 50},Y_3710,ppm, .9559,.0056,.5844, .9519, .9598
Mg2790,279.079 {121},Y_3710,ppm, 19.95,.0548,.2746, 19.99, 19.91
Mn2576,257.610 {131},Y_3600,ppm, .9875,.0057,.5738, .9915, .9835
Mo2020,202.030 {467},Y_2243,ppm, 1.002,.0018,.1803, 1.001, 1.004
Na5895,589.592 { 57},Y_3710,ppm, 19.47,.0235,.1206, 19.46, 19.49
Ni2316,231.604 {445},In2306,ppm, .9792,.0054,.5473, .9754, .9830
P_1782,178.284 {489},In2306,ppm, 10.14,.0292,.2883, 10.12, 10.16
Pb2203,220.353 {453},In2306,ppm, .9685,.0012,.1255, .9677, .9694
S_1820,182.034 {485},Y_2243,ppm, 11.06,.0367,.3318, 11.04, 11.09
Sb2068,206.833 {463},Y_2243,ppm, 2.123,.0046,.2156, 2.126, 2.120
Se1960,196.090 {472},Y_2243,ppm, 1.011,.0020,.1992, 1.010, 1.013
Si2516,251.611 {134},Y_3710,ppm, 8.576,.1776,2.071, 8.450, 8.701
Sn1899,189.989 {477},In2306,ppm, .9751,.0024,.2424, .9735, .9768
Sr4215,421.552 { 80},Y_3710,ppm, .9835,.0022,.2240, .9819, .9850
Ti3349,334.904 {101},Y_3600,ppm, .9931,.0027,.2674, .9950, .9912
Tl1908,190.856 {477},In2306,ppm, .8774,.0222,2.531, .8931, .8617
U_3670,367.007 { 92},Y_3600,ppm, .7627,.0766,10.04, .8169, .7085
V_2924,292.402 {115},Y_3600,ppm, .9591,.0033,.3466, .9615, .9568
W_2397,239.709 {140},Y_2243,ppm, 1.511,.0999,6.608, 1.582, 1.441
Zn2062,206.200 {463},In2306,ppm, .9639,.0051,.5278, .9603, .9675

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 200.39,.25337,.12644,200.57,200.21
In2306,230.606 {446},Cts/S, 12502.,39.341,.31468,12530.,12474.
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Y_2243,224.306 {450},Cts/S, 17641.,30.975,.17559,17663.,17619.
Y_3600,360.073 { 94},Cts/S, 158700.,328.68,.20710,158470.,158940.
Y_3710,371.030 { 91},Cts/S, 10110.,19.042,.18835,10096.,10123.

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Al3082,308.215 {109},In2306,ppm, .2136,.0095,4.453, .2068, .2203
As1890,189.042 {478},Y_2243,ppm, .0255,.0010,4.071, .0262, .0248
B_2496,249.678 {135},Y_3710,ppm, .2056,.0062,3.031, .2100, .2012
Ba4554,455.403 { 74},Y_3710,ppm, .0221,.0000,.1356, .0221, .0221
Be3130,313.042 {108},Y_3710,ppm, .0110,.0000,.0393, .0110, .0110
Ca3158,315.887 {107},In2306,ppm, 1.022,.0202,1.974, 1.008, 1.036
Cd2288,228.802 {447},Y_2243,ppm, .0112,.0000,.3643, .0112, .0113
Co2286,228.616 {447},In2306,ppm, .0104,.0001,.6398, .0104, .0105
Cr2677,267.716 {126},Y_3600,ppm, .0108,.0000,.0953, .0108, .0108
Cu3247,324.754 {104},Y_3600,ppm, .0143,.0002,1.269, .0145, .0142
Fe2404,240.488 {140},In2306,ppm, .2246,.0036,1.597, .2220, .2271
K_7664,766.490 { 44},Y_3710,ppm, 1.056,.0016,.1536, 1.057, 1.055
Li6707,670.784 { 50},Y_3710,ppm, .0111,.0007,6.278, .0106, .0116
Mg2790,279.079 {121},Y_3710,ppm, 1.043,.0031,.2970, 1.041, 1.045
Mn2576,257.610 {131},Y_3600,ppm, .0120,.0000,.0004, .0120, .0120
Mo2020,202.030 {467},Y_2243,ppm, .0274,.0003,1.140, .0272, .0277
Na5895,589.592 { 57},Y_3710,ppm, 1.030,.0014,.1376, 1.029, 1.031
Ni2316,231.604 {445},In2306,ppm, .0111,.0001,.4896, .0110, .0111
P_1782,178.284 {489},In2306,ppm, .9738,.0005,.0550, .9734, .9742
Pb2203,220.353 {453},In2306,ppm, .0115,.0008,6.970, .0120, .0109
S_1820,182.034 {485},Y_2243,ppm, -2.999,.0059,.1972, -3.004, -2.995
Sb2068,206.833 {463},Y_2243,ppm, .0569,.0012,2.177, .0578, .0560
Se1960,196.090 {472},Y_2243,ppm, .0250,.0017,6.747, .0238, .0262
Si2516,251.611 {134},Y_3710,ppm, .1782,.0072,4.050, .1834, .1731
Sn1899,189.989 {477},In2306,ppm, .0220,.0004,1.923, .0217, .0223
Sr4215,421.552 { 80},Y_3710,ppm, .0110,.0001,.8888, .0111, .0109
Ti3349,334.904 {101},Y_3600,ppm, .0113,.0000,.1284, .0113, .0113
Tl1908,190.856 {477},In2306,ppm, .3549,.0058,1.628, .3508, .3590
U_3670,367.007 { 92},Y_3600,ppm, -.1501,.2181,145.3, -.3043, .0042
V_2924,292.402 {115},Y_3600,ppm, .0107,.0001,.6952, .0106, .0108
W_2397,239.709 {140},Y_2243,ppm, .1972,.0605,30.71, .2400, .1543
Zn2062,206.200 {463},In2306,ppm, .0205,.0001,.5256, .0206, .0205

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 207.19,.65711,.31715,207.66,206.73
In2306,230.606 {446},Cts/S, 13411.,39.783,.29664,13439.,13383.
Y_2243,224.306 {450},Cts/S, 17962.,4.5107,.02511,17959.,17965.
Y_3600,360.073 { 94},Cts/S, 163140.,743.37,.45567,163670.,162610.
Y_3710,371.030 { 91},Cts/S, 10201.,64.976,.63699,10155.,10246.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0003,.0001,36.40, .0003, .0002
Al3082,308.215 {109},In2306,ppm, -.0084,.0031,36.71, -.0062, -.0105
As1890,189.042 {478},Y_2243,ppm, .0002,.0019,1059., -.0011, .0015
B_2496,249.678 {135},Y_3710,ppm, .0002,.0091,4605., -.0063, .0067
Ba4554,455.403 { 74},Y_3710,ppm, -.0001,.0002,198.9, .0000, -.0002
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0001,153.8, .0000, -.0001
Ca3158,315.887 {107},In2306,ppm, -.0015,.0029,189.8, -.0035, .0005
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0001,226.9, -.0000, .0001
Co2286,228.616 {447},In2306,ppm, -.0002,.0001,42.35, -.0003, -.0002
Cr2677,267.716 {126},Y_3600,ppm, .0000,.0000,47.15, .0001, .0000
Cu3247,324.754 {104},Y_3600,ppm, .0037,.0003,8.817, .0034, .0039
Fe2404,240.488 {140},In2306,ppm, -.0019,.0038,195.5, -.0046, .0007
K_7664,766.490 { 44},Y_3710,ppm, -.0047,.0223,471.9, -.0205, .0110
Li6707,670.784 { 50},Y_3710,ppm, -.0008,.0011,131.7, -.0016, -.0001
Mg2790,279.079 {121},Y_3710,ppm, -.0203,.0124,60.89, -.0116, -.0290
Mn2576,257.610 {131},Y_3600,ppm, .0003,.0000,5.368, .0003, .0003
Mo2020,202.030 {467},Y_2243,ppm, .0006,.0003,49.06, .0004, .0009
Na5895,589.592 { 57},Y_3710,ppm, -.0130,.0016,12.46, -.0142, -.0119
Ni2316,231.604 {445},In2306,ppm, .0004,.0005,115.6, .0007, .0001
P_1782,178.284 {489},In2306,ppm, -.0029,.0010,35.62, -.0022, -.0037
Pb2203,220.353 {453},In2306,ppm, .0003,.0001,46.69, .0004, .0002
S_1820,182.034 {485},Y_2243,ppm, -3.615,.0043,.1196, -3.618, -3.612
Sb2068,206.833 {463},Y_2243,ppm, .0020,.0006,31.39, .0015, .0024
Se1960,196.090 {472},Y_2243,ppm, .0029,.0014,48.59, .0039, .0019
Si2516,251.611 {134},Y_3710,ppm, .0080,.0072,89.83, .0029, .0131
Sn1899,189.989 {477},In2306,ppm, .0005,.0001,29.33, .0004, .0006
Sr4215,421.552 { 80},Y_3710,ppm, -.0000,.0000,57.78, -.0000, -.0000
Ti3349,334.904 {101},Y_3600,ppm, -.0002,.0008,451.8, .0004, -.0007
Tl1908,190.856 {477},In2306,ppm, .2576,.0076,2.946, .2522, .2630
U_3670,367.007 { 92},Y_3600,ppm, -.2450,.0307,12.51, -.2667, -.2233
V_2924,292.402 {115},Y_3600,ppm, .0004,.0001,27.84, .0003, .0005
W_2397,239.709 {140},Y_2243,ppm, -.0083,.0882,1064., -.0706, .0541
Zn2062,206.200 {463},In2306,ppm, .0026,.0000,.3350, .0026, .0026

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 206.41,.32340,.15668,206.18,206.64
In2306,230.606 {446},Cts/S, 13510.,.88498,.00655,13509.,13511.
Y_2243,224.306 {450},Cts/S, 18019.,37.981,.21078,17992.,18046.
Y_3600,360.073 { 94},Cts/S, 163680.,38.501,.02352,163650.,163710.
Y_3710,371.030 { 91},Cts/S, 10074.,27.837,.27634,10093.,10054.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
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Ag3280,328.068 {103},Y_3600,ppm, .0158,.0001,.8687, .0159, .0157
Al3082,308.215 {109},In2306,ppm, 171.7,22.84,13.31, 187.8, 155.5
As1890,189.042 {478},Y_2243,ppm, 2.085,.0809,3.880, 2.028, 2.142
B_2496,249.678 {135},Y_3710,ppm, .1517,.0271,17.88, .1709, .1325
Ba4554,455.403 { 74},Y_3710,ppm, 1.281,.1619,12.64, 1.396, 1.167
Be3130,313.042 {108},Y_3710,ppm, .0159,.0021,13.47, .0175, .0144
Ca3158,315.887 {107},In2306,ppm, 19.21,2.633,13.71, 21.07, 17.34
Cd2288,228.802 {447},Y_2243,ppm, .0435,.0014,3.148, .0444, .0425
Co2286,228.616 {447},In2306,ppm, .4802,.0221,4.599, .4646, .4958
Cr2677,267.716 {126},Y_3600,ppm, 3.116,.0132,.4233, 3.106, 3.125
Cu3247,324.754 {104},Y_3600,ppm, 6.174,.0259,.4198, 6.192, 6.156
Fe2404,240.488 {140},In2306,ppm, 2368.,245.1,10.35, 2542., 2195.
K_7664,766.490 { 44},Y_3710,ppm, 19.36,2.241,11.57, 20.95, 17.78
Li6707,670.784 { 50},Y_3710,ppm, .1055,.0131,12.40, .1147, .0962
Mg2790,279.079 {121},Y_3710,ppm, 38.86,4.972,12.80, 42.38, 35.35
Mn2576,257.610 {131},Y_3600,ppm, 58.98,.3590,.6087, 59.24, 58.73
Mo2020,202.030 {467},Y_2243,ppm, .7698,.0300,3.902, .7486, .7911
Na5895,589.592 { 57},Y_3710,ppm, .9826,.1352,13.76, 1.078, .8870
Ni2316,231.604 {445},In2306,ppm, 4.499,.2118,4.708, 4.350, 4.649
P_1782,178.284 {489},In2306,ppm, 10.81,.4870,4.505, 10.47, 11.15
Pb2203,220.353 {453},In2306,ppm, .6637,.0215,3.235, .6485, .6789
S_1820,182.034 {485},Y_2243,ppm, 435.0,20.77,4.774, 420.3, 449.7
Sb2068,206.833 {463},Y_2243,ppm, 5.591,.2654,4.747, 5.403, 5.778
Se1960,196.090 {472},Y_2243,ppm, .0403,.0051,12.64, .0367, .0439
Si2516,251.611 {134},Y_3710,ppm, 9.647,1.332,13.81, 10.59, 8.705
Sn1899,189.989 {477},In2306,ppm, .3700,.0203,5.480, .3557, .3843
Sr4215,421.552 { 80},Y_3710,ppm, .5857,.0753,12.85, .6389, .5324
Ti3349,334.904 {101},Y_3600,ppm, 1.038,.0003,.0258, 1.037, 1.038
Tl1908,190.856 {477},In2306,ppm, .2767,.0111,4.011, .2688, .2845
U_3670,367.007 { 92},Y_3600,ppm, 14.91,.3744,2.512, 15.17, 14.64
V_2924,292.402 {115},Y_3600,ppm, .7698,.0028,.3631, .7678, .7718
W_2397,239.709 {140},Y_2243,ppm, -.4874,.1443,29.60, -.5895, -.3854
Zn2062,206.200 {463},In2306,ppm, 2.266,.1132,4.994, 2.186, 2.346

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 181.16,18.850,10.405,167.83,194.49
In2306,230.606 {446},Cts/S, 11063.,428.10,3.8695,11366.,10761.
Y_2243,224.306 {450},Cts/S, 16983.,629.14,3.7045,17428.,16538.
Y_3600,360.073 { 94},Cts/S, 153400.,145.82,.09506,153290.,153500.
Y_3710,371.030 { 91},Cts/S, 9735.2,999.23,10.264,9028.6,10442.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0167,.0003,1.770, .0169, .0165
Al3082,308.215 {109},In2306,ppm, 153.2,.5321,.3473, 153.6, 152.8
As1890,189.042 {478},Y_2243,ppm, 7.116,.0094,.1324, 7.109, 7.122
B_2496,249.678 {135},Y_3710,ppm, .1097,.0006,.5450, .1093, .1101
Ba4554,455.403 { 74},Y_3710,ppm, 1.398,.0002,.0174, 1.397, 1.398
Be3130,313.042 {108},Y_3710,ppm, .0132,.0001,1.066, .0133, .0131
Ca3158,315.887 {107},In2306,ppm, 12.77,.0281,.2200, 12.79, 12.75
Cd2288,228.802 {447},Y_2243,ppm, .0586,.0000,.0817, .0586, .0585
Co2286,228.616 {447},In2306,ppm, .4579,.0003,.0638, .4582, .4577
Cr2677,267.716 {126},Y_3600,ppm, 2.678,.0034,.1283, 2.680, 2.675
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Cu3247,324.754 {104},Y_3600,ppm, 5.517,.0181,.3279, 5.530, 5.505
Fe2404,240.488 {140},In2306,ppm, 2052.,4.632,.2258, 2048., 2055.
K_7664,766.490 { 44},Y_3710,ppm, 24.95,.0300,.1204, 24.93, 24.97
Li6707,670.784 { 50},Y_3710,ppm, .1019,.0010,.9481, .1026, .1012
Mg2790,279.079 {121},Y_3710,ppm, 27.95,.0797,.2852, 27.90, 28.01
Mn2576,257.610 {131},Y_3600,ppm, 61.59,.1127,.1831, 61.67, 61.51
Mo2020,202.030 {467},Y_2243,ppm, .5944,.0013,.2130, .5935, .5953
Na5895,589.592 { 57},Y_3710,ppm, 1.408,.0005,.0324, 1.409, 1.408
Ni2316,231.604 {445},In2306,ppm, 3.366,.0050,.1489, 3.370, 3.363
P_1782,178.284 {489},In2306,ppm, 10.56,.0197,.1867, 10.57, 10.55
Pb2203,220.353 {453},In2306,ppm, .6548,.0072,1.104, .6599, .6497
S_1820,182.034 {485},Y_2243,ppm, 145.5,.0991,.0681, 145.5, 145.4
Sb2068,206.833 {463},Y_2243,ppm, 1.890,.0008,.0417, 1.890, 1.891
Se1960,196.090 {472},Y_2243,ppm, .0411,.0049,11.86, .0446, .0377
Si2516,251.611 {134},Y_3710,ppm, 7.467,.0294,.3932, 7.487, 7.446
Sn1899,189.989 {477},In2306,ppm, .3583,.0005,.1487, .3580, .3587
Sr4215,421.552 { 80},Y_3710,ppm, .5720,.0003,.0509, .5723, .5718
Ti3349,334.904 {101},Y_3600,ppm, .8858,.0009,.1007, .8852, .8865
Tl1908,190.856 {477},In2306,ppm, .2255,.0045,2.015, .2287, .2223
U_3670,367.007 { 92},Y_3600,ppm, 13.35,.0601,.4503, 13.39, 13.31
V_2924,292.402 {115},Y_3600,ppm, .7050,.0020,.2869, .7064, .7035
W_2397,239.709 {140},Y_2243,ppm, -.2770,.0003,.1210, -.2767, -.2772
Zn2062,206.200 {463},In2306,ppm, 1.911,.0047,.2472, 1.914, 1.908

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 192.64,1.0604,.55047,191.89,193.39
In2306,230.606 {446},Cts/S, 10782.,10.159,.09422,10789.,10775.
Y_2243,224.306 {450},Cts/S, 16681.,17.010,.10197,16693.,16669.
Y_3600,360.073 { 94},Cts/S, 152320.,176.60,.11594,152190.,152440.
Y_3710,371.030 { 91},Cts/S, 10451.,23.589,.22571,10435.,10468.

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Ag3280,328.068 {103},Y_3600,ppm, -.0008,.0001,8.647, -.0008, -.0009
Al3082,308.215 {109},In2306,ppm, 47.04,.2205,.4687, 47.20, 46.89
As1890,189.042 {478},Y_2243,ppm, .1515,.0015,.9868, .1525, .1504
B_2496,249.678 {135},Y_3710,ppm, .0173,.0054,31.36, .0212, .0135
Ba4554,455.403 { 74},Y_3710,ppm, .3512,.0004,.1156, .3509, .3515
Be3130,313.042 {108},Y_3710,ppm, .0031,.0000,.2570, .0031, .0031
Ca3158,315.887 {107},In2306,ppm, 15.82,.1172,.7406, 15.91, 15.74
Cd2288,228.802 {447},Y_2243,ppm, .0088,.0002,1.849, .0089, .0086
Co2286,228.616 {447},In2306,ppm, .0255,.0002,.7155, .0254, .0256
Cr2677,267.716 {126},Y_3600,ppm, .1231,.0001,.1165, .1230, .1232
Cu3247,324.754 {104},Y_3600,ppm, 4.980,.0117,.2346, 4.989, 4.972
Fe2404,240.488 {140},In2306,ppm, 89.56,.4201,.4691, 89.85, 89.26
K_7664,766.490 { 44},Y_3710,ppm, 3.439,.0254,.7393, 3.421, 3.457
Li6707,670.784 { 50},Y_3710,ppm, .0154,.0014,9.350, .0164, .0144
Mg2790,279.079 {121},Y_3710,ppm, 4.472,.0389,.8690, 4.500, 4.445
Mn2576,257.610 {131},Y_3600,ppm, .8690,.0013,.1444, .8699, .8681
Mo2020,202.030 {467},Y_2243,ppm, .0104,.0002,1.866, .0103, .0106
Na5895,589.592 { 57},Y_3710,ppm, .3136,.0046,1.458, .3104, .3168
Ni2316,231.604 {445},In2306,ppm, .0900,.0000,.0178, .0900, .0900
P_1782,178.284 {489},In2306,ppm, 2.172,.0033,.1518, 2.174, 2.169
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Pb2203,220.353 {453},In2306,ppm, .3326,.0002,.0733, .3324, .3327
S_1820,182.034 {485},Y_2243,ppm, 6.167,.0225,.3642, 6.183, 6.151
Sb2068,206.833 {463},Y_2243,ppm, .1007,.0065,6.479, .1053, .0961
Se1960,196.090 {472},Y_2243,ppm, .0043,.0014,32.61, .0033, .0053
Si2516,251.611 {134},Y_3710,ppm, 6.238,.0225,.3599, 6.254, 6.222
Sn1899,189.989 {477},In2306,ppm, .0338,.0003,1.025, .0336, .0341
Sr4215,421.552 { 80},Y_3710,ppm, .0688,.0005,.7905, .0684, .0692
Ti3349,334.904 {101},Y_3600,ppm, .4087,.0007,.1618, .4091, .4082
Tl1908,190.856 {477},In2306,ppm, .1097,.0114,10.35, .1017, .1177
U_3670,367.007 { 92},Y_3600,ppm, .1606,.1113,69.29, .2393, .0819
V_2924,292.402 {115},Y_3600,ppm, .1494,.0000,.0168, .1494, .1493
W_2397,239.709 {140},Y_2243,ppm, .0261,.0234,89.77, .0426, .0095
Zn2062,206.200 {463},In2306,ppm, 1.892,.0001,.0049, 1.892, 1.891

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 205.13,1.6402,.79958,203.97,206.29
In2306,230.606 {446},Cts/S, 12804.,34.691,.27095,12779.,12828.
Y_2243,224.306 {450},Cts/S, 18328.,67.529,.36845,18280.,18376.
Y_3600,360.073 { 94},Cts/S, 167410.,250.44,.14960,167590.,167230.
Y_3710,371.030 { 91},Cts/S, 10647.,38.092,.35778,10620.,10674.

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Ag3280,328.068 {103},Y_3600,ppm, -.0018,.0003,19.45, -.0015, -.0020
Al3082,308.215 {109},In2306,ppm, 49.26,.8071,1.639, 48.68, 49.83
As1890,189.042 {478},Y_2243,ppm, .0939,.0011,1.220, .0948, .0931
B_2496,249.678 {135},Y_3710,ppm, .0125,.0117,93.13, .0043, .0208
Ba4554,455.403 { 74},Y_3710,ppm, .8117,.0026,.3163, .8099, .8136
Be3130,313.042 {108},Y_3710,ppm, .0039,.0000,.3737, .0039, .0039
Ca3158,315.887 {107},In2306,ppm, 14.38,.2460,1.710, 14.21, 14.56
Cd2288,228.802 {447},Y_2243,ppm, .0062,.0001,.9656, .0063, .0062
Co2286,228.616 {447},In2306,ppm, .0653,.0004,.5886, .0656, .0650
Cr2677,267.716 {126},Y_3600,ppm, .1949,.0094,4.832, .2016, .1882
Cu3247,324.754 {104},Y_3600,ppm, .5417,.0230,4.245, .5580, .5255
Fe2404,240.488 {140},In2306,ppm, 220.4,3.610,1.638, 217.9, 223.0
K_7664,766.490 { 44},Y_3710,ppm, 2.349,.0191,.8137, 2.336, 2.363
Li6707,670.784 { 50},Y_3710,ppm, .0250,.0002,.7735, .0251, .0248
Mg2790,279.079 {121},Y_3710,ppm, 4.120,.0292,.7079, 4.099, 4.141
Mn2576,257.610 {131},Y_3600,ppm, 5.924,.2123,3.584, 6.074, 5.774
Mo2020,202.030 {467},Y_2243,ppm, .0098,.0001,.8921, .0099, .0098
Na5895,589.592 { 57},Y_3710,ppm, .3346,.0067,1.999, .3393, .3299
Ni2316,231.604 {445},In2306,ppm, .0868,.0005,.5759, .0871, .0864
P_1782,178.284 {489},In2306,ppm, 2.158,.0032,.1489, 2.160, 2.156
Pb2203,220.353 {453},In2306,ppm, .5053,.0027,.5348, .5073, .5034
S_1820,182.034 {485},Y_2243,ppm, 4.401,.0447,1.015, 4.432, 4.369
Sb2068,206.833 {463},Y_2243,ppm, .0298,.0018,6.186, .0311, .0285
Se1960,196.090 {472},Y_2243,ppm, .0073,.0053,73.23, .0111, .0035
Si2516,251.611 {134},Y_3710,ppm, 6.672,.0094,.1412, 6.666, 6.679
Sn1899,189.989 {477},In2306,ppm, .0419,.0004,1.005, .0422, .0416
Sr4215,421.552 { 80},Y_3710,ppm, .0899,.0002,.2517, .0901, .0898
Ti3349,334.904 {101},Y_3600,ppm, .4752,.0201,4.240, .4895, .4610
Tl1908,190.856 {477},In2306,ppm, .0676,.0014,2.043, .0666, .0686
U_3670,367.007 { 92},Y_3600,ppm, .9053,.0580,6.402, .9463, .8643
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V_2924,292.402 {115},Y_3600,ppm, .2595,.0114,4.409, .2676, .2514
W_2397,239.709 {140},Y_2243,ppm, -.1059,.0773,72.98, -.0513, -.1606
Zn2062,206.200 {463},In2306,ppm, 2.393,.0040,.1660, 2.396, 2.390

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 204.48,2.6857,1.3134,206.38,202.58
In2306,230.606 {446},Cts/S, 12482.,17.164,.13751,12494.,12470.
Y_2243,224.306 {450},Cts/S, 18067.,29.820,.16505,18089.,18046.
Y_3600,360.073 { 94},Cts/S, 169720.,5262.9,3.1009,166000.,173440.
Y_3710,371.030 { 91},Cts/S, 10623.,25.817,.24303,10605.,10641.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0010,.0003,27.56, .0012, .0008
Al3082,308.215 {109},In2306,ppm, 289.1,2.745,.9496, 291.0, 287.2
As1890,189.042 {478},Y_2243,ppm, .0975,.0010,1.045, .0968, .0982
B_2496,249.678 {135},Y_3710,ppm, .2711,.0148,5.442, .2607, .2815
Ba4554,455.403 { 74},Y_3710,ppm, 3.222,.0035,.1083, 3.220, 3.225
Be3130,313.042 {108},Y_3710,ppm, .0107,.0000,.3957, .0108, .0107
Ca3158,315.887 {107},In2306,ppm, 1330.,2.806,.2110, 1328., 1332.
Cd2288,228.802 {447},Y_2243,ppm, .0185,.0002,1.025, .0187, .0184
Co2286,228.616 {447},In2306,ppm, .1232,.0002,.1992, .1230, .1234
Cr2677,267.716 {126},Y_3600,ppm, .2161,.0004,.1807, .2158, .2164
Cu3247,324.754 {104},Y_3600,ppm, .5652,.0028,.4896, .5672, .5633
Fe2404,240.488 {140},In2306,ppm, 179.6,1.123,.6252, 180.4, 178.8
K_7664,766.490 { 44},Y_3710,ppm, 45.00,.0071,.0157, 45.00, 44.99
Li6707,670.784 { 50},Y_3710,ppm, .1384,.0002,.1098, .1385, .1383
Mg2790,279.079 {121},Y_3710,ppm, 55.68,.0409,.0734, 55.65, 55.71
Mn2576,257.610 {131},Y_3600,ppm, 6.398,.0598,.9346, 6.440, 6.356
Mo2020,202.030 {467},Y_2243,ppm, .0105,.0000,.2499, .0105, .0105
Na5895,589.592 { 57},Y_3710,ppm, 1.423,.0036,.2557, 1.420, 1.426
Ni2316,231.604 {445},In2306,ppm, .2023,.0001,.0414, .2022, .2023
P_1782,178.284 {489},In2306,ppm, 54.12,.1291,.2386, 54.03, 54.21
Pb2203,220.353 {453},In2306,ppm, 5.546,.0282,.5081, 5.526, 5.566
S_1820,182.034 {485},Y_2243,ppm, 28.38,.0917,.3233, 28.31, 28.44
Sb2068,206.833 {463},Y_2243,ppm, .0259,.0054,20.85, .0298, .0221
Se1960,196.090 {472},Y_2243,ppm, -.0044,.0038,86.43, -.0017, -.0071
Si2516,251.611 {134},Y_3710,ppm, 10.17,.0411,.4046, 10.14, 10.20
Sn1899,189.989 {477},In2306,ppm, .0738,.0001,.1166, .0739, .0737
Sr4215,421.552 { 80},Y_3710,ppm, 2.591,.0007,.0289, 2.591, 2.592
Ti3349,334.904 {101},Y_3600,ppm, .3133,.0005,.1491, .3130, .3136
Tl1908,190.856 {477},In2306,ppm, .0070,.0016,22.06, .0081, .0059
U_3670,367.007 { 92},Y_3600,ppm, .9994,.0310,3.106, 1.021, .9774
V_2924,292.402 {115},Y_3600,ppm, .3287,.0013,.3993, .3297, .3278
W_2397,239.709 {140},Y_2243,ppm, -.1315,.0401,30.50, -.1599, -.1032
Zn2062,206.200 {463},In2306,ppm, 25.44,.0919,.3611, 25.38, 25.51

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 185.03,.16240,.08777,184.91,185.14
In2306,230.606 {446},Cts/S, 9847.5,12.007,.12193,9856.0,9839.0
Y_2243,224.306 {450},Cts/S, 17038.,9.7413,.05717,17031.,17045.
Y_3600,360.073 { 94},Cts/S, 152930.,368.44,.24092,152670.,153190.
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Y_3710,371.030 { 91},Cts/S, 10729.,98.093,.91427,10799.,10660.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0043,.0005,11.07, .0047, .0040
Al3082,308.215 {109},In2306,ppm, 167.0,7.111,4.259, 162.0, 172.0
As1890,189.042 {478},Y_2243,ppm, .1428,.0008,.5482, .1434, .1423
B_2496,249.678 {135},Y_3710,ppm, .1616,.0053,3.269, .1653, .1579
Ba4554,455.403 { 74},Y_3710,ppm, 1.778,.0897,5.043, 1.714, 1.841
Be3130,313.042 {108},Y_3710,ppm, .0081,.0003,4.213, .0079, .0083
Ca3158,315.887 {107},In2306,ppm, 1725.,60.67,3.517, 1682., 1768.
Cd2288,228.802 {447},Y_2243,ppm, .0075,.0001,1.344, .0074, .0075
Co2286,228.616 {447},In2306,ppm, .0868,.0002,.2722, .0867, .0870
Cr2677,267.716 {126},Y_3600,ppm, .2710,.0064,2.359, .2665, .2755
Cu3247,324.754 {104},Y_3600,ppm, .9717,.0214,2.197, .9566, .9868
Fe2404,240.488 {140},In2306,ppm, 232.2,9.604,4.135, 225.5, 239.0
K_7664,766.490 { 44},Y_3710,ppm, 33.98,1.566,4.610, 32.87, 35.08
Li6707,670.784 { 50},Y_3710,ppm, .1336,.0081,6.045, .1279, .1393
Mg2790,279.079 {121},Y_3710,ppm, 39.47,1.870,4.736, 38.15, 40.79
Mn2576,257.610 {131},Y_3600,ppm, 4.408,.2400,5.445, 4.238, 4.578
Mo2020,202.030 {467},Y_2243,ppm, .0241,.0003,1.289, .0239, .0243
Na5895,589.592 { 57},Y_3710,ppm, 4.911,.2657,5.411, 4.723, 5.098
Ni2316,231.604 {445},In2306,ppm, .1940,.0012,.6363, .1949, .1932
P_1782,178.284 {489},In2306,ppm, 81.05,.0378,.0466, 81.02, 81.08
Pb2203,220.353 {453},In2306,ppm, .3318,.0022,.6703, .3334, .3303
S_1820,182.034 {485},Y_2243,ppm, 42.46,.0843,.1985, 42.40, 42.52
Sb2068,206.833 {463},Y_2243,ppm, .0123,.0010,7.789, .0116, .0130
Se1960,196.090 {472},Y_2243,ppm, .0064,.0030,47.51, .0085, .0042
Si2516,251.611 {134},Y_3710,ppm, 8.997,.4205,4.674, 8.700, 9.295
Sn1899,189.989 {477},In2306,ppm, .0907,.0006,.6701, .0903, .0911
Sr4215,421.552 { 80},Y_3710,ppm, 2.530,.1287,5.086, 2.439, 2.621
Ti3349,334.904 {101},Y_3600,ppm, .5874,.0133,2.267, .5780, .5968
Tl1908,190.856 {477},In2306,ppm, .0100,.0015,14.70, .0111, .0090
U_3670,367.007 { 92},Y_3600,ppm, 1.654,.0142,.8564, 1.664, 1.644
V_2924,292.402 {115},Y_3600,ppm, .3469,.0069,1.997, .3420, .3518
W_2397,239.709 {140},Y_2243,ppm, -.0861,.0138,15.99, -.0958, -.0764
Zn2062,206.200 {463},In2306,ppm, 2.310,.0026,.1127, 2.309, 2.312

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 187.16,5.5263,2.9527,191.07,183.25
In2306,230.606 {446},Cts/S, 9464.8,1.6472,.01740,9466.0,9463.6
Y_2243,224.306 {450},Cts/S, 17428.,9.3309,.05354,17435.,17422.
Y_3600,360.073 { 94},Cts/S, 155210.,2629.8,1.6943,157070.,153350.
Y_3710,371.030 { 91},Cts/S, 11424.,427.80,3.7447,11727.,11122.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0233,.0000,.1250, -.0233, -.0232
Al3082,308.215 {109},In2306,ppm, 209.1,.3748,.1793, 209.3, 208.8
As1890,189.042 {478},Y_2243,ppm, .2034,.0033,1.633, .2058, .2011
B_2496,249.678 {135},Y_3710,ppm, .1159,.0095,8.202, .1226, .1091
Ba4554,455.403 { 74},Y_3710,ppm, 2.426,.0053,.2164, 2.429, 2.422
Be3130,313.042 {108},Y_3710,ppm, .0133,.0001,.5317, .0134, .0133
Ca3158,315.887 {107},In2306,ppm, 2403.,12.53,.5215, 2394., 2411.
Cd2288,228.802 {447},Y_2243,ppm, .0054,.0001,1.488, .0053, .0054
Co2286,228.616 {447},In2306,ppm, .0879,.0004,.4302, .0876, .0882
Cr2677,267.716 {126},Y_3600,ppm, .1228,.0011,.9338, .1220, .1236
Cu3247,324.754 {104},Y_3600,ppm, .2032,.0009,.4246, .2038, .2026
Fe2404,240.488 {140},In2306,ppm, 240.5,.4194,.1744, 240.8, 240.2
K_7664,766.490 { 44},Y_3710,ppm, 40.09,.1418,.3537, 40.19, 39.99
Li6707,670.784 { 50},Y_3710,ppm, .2702,.0013,.4950, .2711, .2692
Mg2790,279.079 {121},Y_3710,ppm, 40.25,.1778,.4417, 40.37, 40.12
Mn2576,257.610 {131},Y_3600,ppm, 4.040,.0057,.1420, 4.044, 4.036
Mo2020,202.030 {467},Y_2243,ppm, .0059,.0002,3.373, .0058, .0061
Na5895,589.592 { 57},Y_3710,ppm, 1.485,.0017,.1168, 1.486, 1.484
Ni2316,231.604 {445},In2306,ppm, .1309,.0004,.2807, .1306, .1311
P_1782,178.284 {489},In2306,ppm, 27.31,.0960,.3514, 27.25, 27.38
Pb2203,220.353 {453},In2306,ppm, 1.449,.0001,.0090, 1.450, 1.449
S_1820,182.034 {485},Y_2243,ppm, 8.628,.0970,1.125, 8.559, 8.697
Sb2068,206.833 {463},Y_2243,ppm, -.0097,.0018,18.19, -.0085, -.0110
Se1960,196.090 {472},Y_2243,ppm, -.0072,.0021,28.84, -.0057, -.0087
Si2516,251.611 {134},Y_3710,ppm, 7.789,.0400,.5131, 7.817, 7.761
Sn1899,189.989 {477},In2306,ppm, .0798,.0000,.0538, .0798, .0797
Sr4215,421.552 { 80},Y_3710,ppm, 1.748,.0042,.2400, 1.751, 1.745
Ti3349,334.904 {101},Y_3600,ppm, .7675,.0001,.0098, .7675, .7674
Tl1908,190.856 {477},In2306,ppm, -.0069,.0128,184.9, -.0160, .0021
U_3670,367.007 { 92},Y_3600,ppm, 1.224,.0230,1.880, 1.241, 1.208
V_2924,292.402 {115},Y_3600,ppm, .2509,.0003,.1118, .2507, .2511
W_2397,239.709 {140},Y_2243,ppm, -.0756,.0052,6.875, -.0793, -.0720
Zn2062,206.200 {463},In2306,ppm, 5.341,.0252,.4713, 5.359, 5.324

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 180.64,.41417,.22928,180.35,180.94
In2306,230.606 {446},Cts/S, 9050.3,28.700,.31712,9070.6,9030.0
Y_2243,224.306 {450},Cts/S, 22463.,108.61,.48350,22540.,22386.
Y_3600,360.073 { 94},Cts/S, 202450.,158.90,.07849,202560.,202340.
Y_3710,371.030 { 91},Cts/S, 14276.,67.584,.47342,14228.,14324.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0053,.0003,5.913, -.0050, -.0055
Al3082,308.215 {109},In2306,ppm, 195.7,18.77,9.590, 182.5, 209.0
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As1890,189.042 {478},Y_2243,ppm, .0600,.0011,1.789, .0592, .0608
B_2496,249.678 {135},Y_3710,ppm, .0442,.0012,2.679, .0433, .0450
Ba4554,455.403 { 74},Y_3710,ppm, .7230,.0636,8.795, .6781, .7680
Be3130,313.042 {108},Y_3710,ppm, .0125,.0013,10.09, .0116, .0134
Ca3158,315.887 {107},In2306,ppm, 900.7,81.22,9.018, 843.2, 958.1
Cd2288,228.802 {447},Y_2243,ppm, .0047,.0001,2.719, .0046, .0048
Co2286,228.616 {447},In2306,ppm, .1469,.0001,.0876, .1470, .1468
Cr2677,267.716 {126},Y_3600,ppm, .2167,.0034,1.592, .2142, .2191
Cu3247,324.754 {104},Y_3600,ppm, .1699,.0022,1.306, .1684, .1715
Fe2404,240.488 {140},In2306,ppm, 268.5,24.35,9.067, 251.3, 285.7
K_7664,766.490 { 44},Y_3710,ppm, 29.82,2.440,8.180, 28.10, 31.55
Li6707,670.784 { 50},Y_3710,ppm, .1712,.0160,9.363, .1599, .1826
Mg2790,279.079 {121},Y_3710,ppm, 30.20,2.295,7.600, 28.57, 31.82
Mn2576,257.610 {131},Y_3600,ppm, 2.252,.0294,1.305, 2.231, 2.273
Mo2020,202.030 {467},Y_2243,ppm, .0058,.0003,5.543, .0055, .0060
Na5895,589.592 { 57},Y_3710,ppm, 5.724,.4893,8.548, 5.378, 6.070
Ni2316,231.604 {445},In2306,ppm, .3001,.0028,.9317, .3021, .2981
P_1782,178.284 {489},In2306,ppm, 8.030,.0203,.2525, 8.044, 8.016
Pb2203,220.353 {453},In2306,ppm, .1491,.0023,1.538, .1507, .1475
S_1820,182.034 {485},Y_2243,ppm, 4.098,.1283,3.130, 4.189, 4.008
Sb2068,206.833 {463},Y_2243,ppm, .0023,.0001,3.937, .0023, .0022
Se1960,196.090 {472},Y_2243,ppm, -.0033,.0061,182.3, .0010, -.0076
Si2516,251.611 {134},Y_3710,ppm, 10.03,.8860,8.835, 9.402, 10.65
Sn1899,189.989 {477},In2306,ppm, .0300,.0001,.3923, .0301, .0299
Sr4215,421.552 { 80},Y_3710,ppm, 1.811,.1570,8.670, 1.700, 1.922
Ti3349,334.904 {101},Y_3600,ppm, .4135,.0053,1.281, .4098, .4172
Tl1908,190.856 {477},In2306,ppm, -.0023,.0012,52.58, -.0015, -.0032
U_3670,367.007 { 92},Y_3600,ppm, 1.489,.1322,8.875, 1.396, 1.583
V_2924,292.402 {115},Y_3600,ppm, .4143,.0054,1.303, .4105, .4181
W_2397,239.709 {140},Y_2243,ppm, -.2492,.1013,40.65, -.1775, -.3208
Zn2062,206.200 {463},In2306,ppm, .6404,.0052,.8147, .6441, .6367

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 185.26,12.532,6.7642,194.12,176.40
In2306,230.606 {446},Cts/S, 10238.,18.135,.17713,10225.,10251.
Y_2243,224.306 {450},Cts/S, 17198.,8.3480,.04854,17193.,17204.
Y_3600,360.073 { 94},Cts/S, 156950.,1513.0,.96400,158020.,155880.
Y_3710,371.030 { 91},Cts/S, 10558.,654.06,6.1950,11020.,10095.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0074,.0009,12.91, -.0067, -.0080
Al3082,308.215 {109},In2306,ppm, 179.8,2.052,1.141, 178.3, 181.2
As1890,189.042 {478},Y_2243,ppm, .0744,.0033,4.414, .0767, .0721
B_2496,249.678 {135},Y_3710,ppm, .0810,.0130,16.04, .0901, .0718
Ba4554,455.403 { 74},Y_3710,ppm, 5.781,.0169,.2925, 5.769, 5.793
Be3130,313.042 {108},Y_3710,ppm, .0104,.0003,2.584, .0106, .0102
Ca3158,315.887 {107},In2306,ppm, 1723.,36.92,2.143, 1697., 1749.
Cd2288,228.802 {447},Y_2243,ppm, .0076,.0001,.8441, .0076, .0077
Co2286,228.616 {447},In2306,ppm, .0943,.0001,.1245, .0942, .0944
Cr2677,267.716 {126},Y_3600,ppm, .2427,.0003,.1323, .2424, .2429
Cu3247,324.754 {104},Y_3600,ppm, .2429,.0001,.0380, .2428, .2429
Fe2404,240.488 {140},In2306,ppm, 261.2,2.339,.8955, 259.5, 262.8
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K_7664,766.490 { 44},Y_3710,ppm, 19.54,.0654,.3349, 19.59, 19.50
Li6707,670.784 { 50},Y_3710,ppm, .1427,.0005,.3530, .1423, .1430
Mg2790,279.079 {121},Y_3710,ppm, 31.87,.0062,.0196, 31.87, 31.86
Mn2576,257.610 {131},Y_3600,ppm, 2.626,.0003,.0111, 2.626, 2.626
Mo2020,202.030 {467},Y_2243,ppm, .0109,.0001,.5406, .0109, .0110
Na5895,589.592 { 57},Y_3710,ppm, 9.367,.0203,.2169, 9.353, 9.381
Ni2316,231.604 {445},In2306,ppm, .3891,.0010,.2498, .3884, .3898
P_1782,178.284 {489},In2306,ppm, 8.434,.0301,.3564, 8.413, 8.456
Pb2203,220.353 {453},In2306,ppm, .2152,.0011,.5261, .2144, .2160
S_1820,182.034 {485},Y_2243,ppm, 31.87,.0027,.0084, 31.87, 31.87
Sb2068,206.833 {463},Y_2243,ppm, .0059,.0036,60.18, .0084, .0034
Se1960,196.090 {472},Y_2243,ppm, -.0026,.0005,18.73, -.0023, -.0030
Si2516,251.611 {134},Y_3710,ppm, 10.87,.0249,.2287, 10.86, 10.89
Sn1899,189.989 {477},In2306,ppm, .0309,.0004,1.167, .0311, .0306
Sr4215,421.552 { 80},Y_3710,ppm, 7.387,.0293,.3970, 7.366, 7.407
Ti3349,334.904 {101},Y_3600,ppm, .1947,.0001,.0337, .1948, .1947
Tl1908,190.856 {477},In2306,ppm, -.0139,.0027,19.25, -.0120, -.0158
U_3670,367.007 { 92},Y_3600,ppm, 1.797,.0101,.5615, 1.790, 1.804
V_2924,292.402 {115},Y_3600,ppm, .3190,.0006,.1782, .3186, .3194
W_2397,239.709 {140},Y_2243,ppm, -.1853,.0345,18.63, -.1609, -.2098
Zn2062,206.200 {463},In2306,ppm, 1.369,.0011,.0833, 1.370, 1.368

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 182.69,.27233,.14906,182.89,182.50
In2306,230.606 {446},Cts/S, 9469.8,25.587,.27020,9451.7,9487.8
Y_2243,224.306 {450},Cts/S, 16856.,51.455,.30527,16819.,16892.
Y_3600,360.073 { 94},Cts/S, 151170.,47.882,.03167,151140.,151210.
Y_3710,371.030 { 91},Cts/S, 10743.,71.721,.66759,10692.,10794.

[Sample Header]
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Custom ID2=
Custom ID3=
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Mode=CONC
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Repeats=2

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Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0066,.0000,.2757, -.0067, -.0066
Al3082,308.215 {109},In2306,ppm, 205.9,1.089,.5290, 205.1, 206.6
As1890,189.042 {478},Y_2243,ppm, .0682,.0058,8.466, .0723, .0641
B_2496,249.678 {135},Y_3710,ppm, .0738,.0058,7.921, .0779, .0696
Ba4554,455.403 { 74},Y_3710,ppm, 7.589,.0070,.0928, 7.584, 7.594
Be3130,313.042 {108},Y_3710,ppm, .0115,.0000,.0971, .0115, .0115
Ca3158,315.887 {107},In2306,ppm, 878.2,5.309,.6045, 874.5, 882.0
Cd2288,228.802 {447},Y_2243,ppm, .0036,.0002,5.965, .0035, .0038
Co2286,228.616 {447},In2306,ppm, .0813,.0001,.1653, .0814, .0812
Cr2677,267.716 {126},Y_3600,ppm, .2079,.0004,.1949, .2076, .2082
Cu3247,324.754 {104},Y_3600,ppm, .1869,.0013,.7025, .1860, .1878
Fe2404,240.488 {140},In2306,ppm, 256.9,1.466,.5707, 255.9, 258.0
K_7664,766.490 { 44},Y_3710,ppm, 20.49,.0282,.1377, 20.51, 20.47
Li6707,670.784 { 50},Y_3710,ppm, .1376,.0005,.3703, .1372, .1379
Mg2790,279.079 {121},Y_3710,ppm, 33.61,.2175,.6471, 33.46, 33.76
Mn2576,257.610 {131},Y_3600,ppm, 1.388,.0024,.1754, 1.390, 1.386
Mo2020,202.030 {467},Y_2243,ppm, .0028,.0009,31.86, .0022, .0034
Na5895,589.592 { 57},Y_3710,ppm, 7.610,.0182,.2392, 7.597, 7.623
Ni2316,231.604 {445},In2306,ppm, .2519,.0003,.1260, .2521, .2517
P_1782,178.284 {489},In2306,ppm, 8.172,.0027,.0335, 8.174, 8.170
Pb2203,220.353 {453},In2306,ppm, .2448,.0015,.5932, .2458, .2438
S_1820,182.034 {485},Y_2243,ppm, 7.031,.0066,.0935, 7.036, 7.027
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Sb2068,206.833 {463},Y_2243,ppm, .0077,.0031,40.39, .0055, .0099
Se1960,196.090 {472},Y_2243,ppm, -.0049,.0030,61.73, -.0028, -.0070
Si2516,251.611 {134},Y_3710,ppm, 10.17,.0497,.4889, 10.14, 10.21
Sn1899,189.989 {477},In2306,ppm, .0325,.0004,1.126, .0328, .0323
Sr4215,421.552 { 80},Y_3710,ppm, 4.768,.0039,.0828, 4.766, 4.771
Ti3349,334.904 {101},Y_3600,ppm, .2419,.0000,.0115, .2419, .2419
Tl1908,190.856 {477},In2306,ppm, -.0059,.0006,10.55, -.0055, -.0063
U_3670,367.007 { 92},Y_3600,ppm, 1.527,.1002,6.564, 1.598, 1.456
V_2924,292.402 {115},Y_3600,ppm, .3865,.0010,.2468, .3872, .3858
W_2397,239.709 {140},Y_2243,ppm, -.1379,.0234,16.94, -.1545, -.1214
Zn2062,206.200 {463},In2306,ppm, .8989,.0017,.1864, .9001, .8978

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 186.86,.72102,.38587,187.37,186.35
In2306,230.606 {446},Cts/S, 10174.,3.7380,.03674,10171.,10176.
Y_2243,224.306 {450},Cts/S, 17117.,9.7703,.05708,17110.,17124.
Y_3600,360.073 { 94},Cts/S, 154270.,612.92,.39731,153830.,154700.
Y_3710,371.030 { 91},Cts/S, 10562.,21.264,.20133,10577.,10547.

[Sample Header]
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Custom ID3=
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .5005,.0004,.0855, .5002, .5008
Al3082,308.215 {109},In2306,ppm, 19.85,.0384,.1936, 19.82, 19.87
As1890,189.042 {478},Y_2243,ppm, 1.029,.0003,.0331, 1.029, 1.029
B_2496,249.678 {135},Y_3710,ppm, .9880,.0127,1.285, .9790, .9970
Ba4554,455.403 { 74},Y_3710,ppm, 1.013,.0042,.4131, 1.010, 1.016
Be3130,313.042 {108},Y_3710,ppm, .9620,.0033,.3412, .9597, .9643
Ca3158,315.887 {107},In2306,ppm, 19.55,.0585,.2991, 19.51, 19.59
Cd2288,228.802 {447},Y_2243,ppm, .9808,.0015,.1486, .9818, .9797
Co2286,228.616 {447},In2306,ppm, .9550,.0008,.0790, .9556, .9545
Cr2677,267.716 {126},Y_3600,ppm, .9494,.0004,.0392, .9496, .9491
Cu3247,324.754 {104},Y_3600,ppm, .9790,.0009,.0929, .9784, .9797
Fe2404,240.488 {140},In2306,ppm, 19.86,.1374,.6917, 19.77, 19.96
K_7664,766.490 { 44},Y_3710,ppm, 19.65,.0224,.1139, 19.66, 19.63
Li6707,670.784 { 50},Y_3710,ppm, .9708,.0045,.4594, .9676, .9739
Mg2790,279.079 {121},Y_3710,ppm, 19.95,.0115,.0576, 19.95, 19.94
Mn2576,257.610 {131},Y_3600,ppm, .9930,.0013,.1341, .9921, .9939
Mo2020,202.030 {467},Y_2243,ppm, 1.008,.0002,.0179, 1.009, 1.008
Na5895,589.592 { 57},Y_3710,ppm, 19.71,.0396,.2010, 19.68, 19.74
Ni2316,231.604 {445},In2306,ppm, .9766,.0011,.1128, .9758, .9774
P_1782,178.284 {489},In2306,ppm, 10.23,.0038,.0367, 10.24, 10.23
Pb2203,220.353 {453},In2306,ppm, .9717,.0027,.2829, .9698, .9737
S_1820,182.034 {485},Y_2243,ppm, 11.05,.0051,.0465, 11.06, 11.05
Sb2068,206.833 {463},Y_2243,ppm, 2.120,.0004,.0179, 2.120, 2.120
Se1960,196.090 {472},Y_2243,ppm, 1.011,.0034,.3351, 1.008, 1.013
Si2516,251.611 {134},Y_3710,ppm, 8.642,.1078,1.248, 8.566, 8.718
Sn1899,189.989 {477},In2306,ppm, .9839,.0009,.0928, .9846, .9833
Sr4215,421.552 { 80},Y_3710,ppm, .9999,.0034,.3391, .9975, 1.002
Ti3349,334.904 {101},Y_3600,ppm, .9972,.0007,.0654, .9968, .9977
Tl1908,190.856 {477},In2306,ppm, .6520,.0303,4.645, .6734, .6306
U_3670,367.007 { 92},Y_3600,ppm, .9355,.0230,2.463, .9518, .9192
V_2924,292.402 {115},Y_3600,ppm, .9697,.0003,.0323, .9700, .9695
W_2397,239.709 {140},Y_2243,ppm, 1.238,.1137,9.184, 1.158, 1.319
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Zn2062,206.200 {463},In2306,ppm, .9573,.0005,.0522, .9577, .9569

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 203.42,.38837,.19092,203.15,203.70
In2306,230.606 {446},Cts/S, 12453.,29.503,.23692,12474.,12432.
Y_2243,224.306 {450},Cts/S, 17537.,36.396,.20754,17563.,17511.
Y_3600,360.073 { 94},Cts/S, 157460.,368.81,.23423,157720.,157200.
Y_3710,371.030 { 91},Cts/S, 10132.,23.207,.22904,10116.,10149.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0100,.0005,4.681, .0096, .0103
Al3082,308.215 {109},In2306,ppm, .2014,.0078,3.881, .1959, .2070
As1890,189.042 {478},Y_2243,ppm, .0256,.0014,5.583, .0266, .0245
B_2496,249.678 {135},Y_3710,ppm, .2161,.0016,.7237, .2150, .2172
Ba4554,455.403 { 74},Y_3710,ppm, .0229,.0003,1.171, .0231, .0227
Be3130,313.042 {108},Y_3710,ppm, .0110,.0002,1.807, .0111, .0108
Ca3158,315.887 {107},In2306,ppm, 1.064,.0006,.0551, 1.064, 1.064
Cd2288,228.802 {447},Y_2243,ppm, .0112,.0000,.3951, .0112, .0112
Co2286,228.616 {447},In2306,ppm, .0101,.0001,1.283, .0100, .0102
Cr2677,267.716 {126},Y_3600,ppm, .0108,.0004,3.823, .0111, .0105
Cu3247,324.754 {104},Y_3600,ppm, .0132,.0004,3.185, .0129, .0135
Fe2404,240.488 {140},In2306,ppm, .2290,.0002,.0724, .2289, .2291
K_7664,766.490 { 44},Y_3710,ppm, 1.056,.0084,.7955, 1.050, 1.062
Li6707,670.784 { 50},Y_3710,ppm, .0100,.0015,15.19, .0110, .0089
Mg2790,279.079 {121},Y_3710,ppm, 1.087,.0217,1.996, 1.072, 1.103
Mn2576,257.610 {131},Y_3600,ppm, .0118,.0000,.2335, .0119, .0118
Mo2020,202.030 {467},Y_2243,ppm, .0268,.0005,1.680, .0265, .0272
Na5895,589.592 { 57},Y_3710,ppm, 1.048,.0017,.1637, 1.049, 1.047
Ni2316,231.604 {445},In2306,ppm, .0114,.0006,5.459, .0110, .0119
P_1782,178.284 {489},In2306,ppm, .9776,.0000,.0002, .9776, .9776
Pb2203,220.353 {453},In2306,ppm, .0112,.0006,5.080, .0116, .0108
S_1820,182.034 {485},Y_2243,ppm, -3.009,.0029,.0953, -3.011, -3.007
Sb2068,206.833 {463},Y_2243,ppm, .0584,.0015,2.550, .0595, .0574
Se1960,196.090 {472},Y_2243,ppm, .0282,.0005,1.915, .0286, .0278
Si2516,251.611 {134},Y_3710,ppm, .1871,.0066,3.522, .1825, .1918
Sn1899,189.989 {477},In2306,ppm, .0224,.0007,3.342, .0219, .0230
Sr4215,421.552 { 80},Y_3710,ppm, .0114,.0002,1.550, .0115, .0113
Ti3349,334.904 {101},Y_3600,ppm, .0119,.0001,.7386, .0120, .0119
Tl1908,190.856 {477},In2306,ppm, .1791,.0014,.7721, .1801, .1781
U_3670,367.007 { 92},Y_3600,ppm, -.1356,.0089,6.582, -.1419, -.1293
V_2924,292.402 {115},Y_3600,ppm, .0109,.0002,2.201, .0107, .0110
W_2397,239.709 {140},Y_2243,ppm, .1182,.0463,39.14, .1509, .0855
Zn2062,206.200 {463},In2306,ppm, .0189,.0000,.1679, .0189, .0189

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 210.95,1.7506,.82987,212.18,209.71
In2306,230.606 {446},Cts/S, 13347.,15.571,.11666,13336.,13358.
Y_2243,224.306 {450},Cts/S, 17821.,4.8489,.02721,17818.,17824.
Y_3600,360.073 { 94},Cts/S, 161710.,148.24,.09167,161610.,161820.
Y_3710,371.030 { 91},Cts/S, 10072.,8.8789,.08815,10066.,10079.
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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0001,.0002,180.7, .0002, -.0000
Al3082,308.215 {109},In2306,ppm, -.0267,.0034,12.73, -.0291, -.0243
As1890,189.042 {478},Y_2243,ppm, .0016,.0006,40.73, .0020, .0011
B_2496,249.678 {135},Y_3710,ppm, .0057,.0118,207.5, .0140, -.0027
Ba4554,455.403 { 74},Y_3710,ppm, .0001,.0000,28.78, .0001, .0001
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,122.7, -.0000, -.0001
Ca3158,315.887 {107},In2306,ppm, .0280,.0064,22.96, .0235, .0325
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0000,111.3, -.0001, -.0000
Co2286,228.616 {447},In2306,ppm, -.0002,.0001,43.75, -.0001, -.0003
Cr2677,267.716 {126},Y_3600,ppm, -.0000,.0000,232.7, -.0001, .0000
Cu3247,324.754 {104},Y_3600,ppm, .0013,.0006,41.57, .0017, .0009
Fe2404,240.488 {140},In2306,ppm, .0054,.0019,35.44, .0040, .0067
K_7664,766.490 { 44},Y_3710,ppm, .0029,.0043,149.6, .0059, -.0002
Li6707,670.784 { 50},Y_3710,ppm, .0000,.0010,8686., -.0007, .0007
Mg2790,279.079 {121},Y_3710,ppm, .0232,.0094,40.56, .0299, .0166
Mn2576,257.610 {131},Y_3600,ppm, .0001,.0001,61.13, .0002, .0001
Mo2020,202.030 {467},Y_2243,ppm, .0006,.0004,68.79, .0003, .0009
Na5895,589.592 { 57},Y_3710,ppm, -.0142,.0073,51.55, -.0090, -.0194
Ni2316,231.604 {445},In2306,ppm, .0007,.0002,30.63, .0005, .0008
P_1782,178.284 {489},In2306,ppm, -.0009,.0012,133.2, -.0017, -.0001
Pb2203,220.353 {453},In2306,ppm, .0001,.0011,2028., .0009, -.0008
S_1820,182.034 {485},Y_2243,ppm, -3.663,.0015,.0400, -3.664, -3.662
Sb2068,206.833 {463},Y_2243,ppm, .0014,.0010,75.09, .0006, .0021
Se1960,196.090 {472},Y_2243,ppm, .0058,.0029,49.74, .0038, .0079
Si2516,251.611 {134},Y_3710,ppm, .0067,.0021,31.93, .0052, .0082
Sn1899,189.989 {477},In2306,ppm, .0007,.0003,35.88, .0009, .0005
Sr4215,421.552 { 80},Y_3710,ppm, -.0002,.0001,57.54, -.0002, -.0001
Ti3349,334.904 {101},Y_3600,ppm, .0000,.0002,371.7, -.0001, .0002
Tl1908,190.856 {477},In2306,ppm, .1288,.0084,6.544, .1229, .1348
U_3670,367.007 { 92},Y_3600,ppm, -.2755,.0362,13.14, -.2499, -.3011
V_2924,292.402 {115},Y_3600,ppm, .0001,.0003,188.4, -.0000, .0003
W_2397,239.709 {140},Y_2243,ppm, -.0497,.0126,25.36, -.0587, -.0408
Zn2062,206.200 {463},In2306,ppm, .0020,.0001,3.110, .0019, .0020

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 207.11,2.9822,1.4400,205.00,209.21
In2306,230.606 {446},Cts/S, 13432.,.88711,.00660,13432.,13433.
Y_2243,224.306 {450},Cts/S, 17862.,7.6380,.04276,17857.,17868.
Y_3600,360.073 { 94},Cts/S, 160980.,415.32,.25800,161270.,160690.
Y_3710,371.030 { 91},Cts/S, 10095.,5.5118,.05460,10099.,10091.


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Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0065,.0004,6.395, -.0062, -.0068
Al3082,308.215 {109},In2306,ppm, 193.2,1.095,.5670, 193.9, 192.4
As1890,189.042 {478},Y_2243,ppm, .0815,.0021,2.578, .0800, .0830
B_2496,249.678 {135},Y_3710,ppm, .0746,.0033,4.397, .0770, .0723
Ba4554,455.403 { 74},Y_3710,ppm, .5537,.0000,.0003, .5537, .5537
Be3130,313.042 {108},Y_3710,ppm, .0110,.0000,.1450, .0110, .0110
Ca3158,315.887 {107},In2306,ppm, 1364.,5.909,.4333, 1368., 1360.
Cd2288,228.802 {447},Y_2243,ppm, .0040,.0003,6.301, .0042, .0038
Co2286,228.616 {447},In2306,ppm, .0731,.0008,1.120, .0725, .0736
Cr2677,267.716 {126},Y_3600,ppm, .2547,.0013,.5094, .2538, .2556
Cu3247,324.754 {104},Y_3600,ppm, .2629,.0018,.7020, .2616, .2642
Fe2404,240.488 {140},In2306,ppm, 279.3,.9379,.3358, 280.0, 278.7
K_7664,766.490 { 44},Y_3710,ppm, 21.64,.0349,.1612, 21.66, 21.61
Li6707,670.784 { 50},Y_3710,ppm, .1495,.0017,1.152, .1507, .1482
Mg2790,279.079 {121},Y_3710,ppm, 37.52,.1589,.4235, 37.63, 37.41
Mn2576,257.610 {131},Y_3600,ppm, 1.227,.0077,.6303, 1.221, 1.232
Mo2020,202.030 {467},Y_2243,ppm, .0043,.0004,8.058, .0041, .0046
Na5895,589.592 { 57},Y_3710,ppm, 25.93,.0176,.0680, 25.92, 25.95
Ni2316,231.604 {445},In2306,ppm, .3371,.0035,1.025, .3347, .3396
P_1782,178.284 {489},In2306,ppm, 14.64,.1434,.9793, 14.54, 14.74
Pb2203,220.353 {453},In2306,ppm, .3091,.0058,1.887, .3049, .3132
S_1820,182.034 {485},Y_2243,ppm, 8.400,.1155,1.375, 8.318, 8.481
Sb2068,206.833 {463},Y_2243,ppm, .0063,.0006,8.917, .0067, .0059
Se1960,196.090 {472},Y_2243,ppm, .0005,.0062,1232., -.0039, .0049
Si2516,251.611 {134},Y_3710,ppm, 10.39,.0344,.3310, 10.42, 10.37
Sn1899,189.989 {477},In2306,ppm, .0315,.0009,2.859, .0308, .0321
Sr4215,421.552 { 80},Y_3710,ppm, 7.209,.0081,.1126, 7.203, 7.215
Ti3349,334.904 {101},Y_3600,ppm, .2475,.0011,.4563, .2467, .2483
Tl1908,190.856 {477},In2306,ppm, .1213,.0096,7.886, .1145, .1280
U_3670,367.007 { 92},Y_3600,ppm, 1.714,.0477,2.784, 1.680, 1.748
V_2924,292.402 {115},Y_3600,ppm, .3548,.0021,.6039, .3532, .3563
W_2397,239.709 {140},Y_2243,ppm, -.0645,.0470,72.89, -.0312, -.0977
Zn2062,206.200 {463},In2306,ppm, 1.031,.0052,.5065, 1.027, 1.035

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 181.89,2.2304,1.2263,180.31,183.47
In2306,230.606 {446},Cts/S, 9677.2,36.184,.37391,9702.8,9651.6
Y_2243,224.306 {450},Cts/S, 16946.,35.154,.20745,16971.,16921.
Y_3600,360.073 { 94},Cts/S, 155340.,845.85,.54453,155930.,154740.
Y_3710,371.030 { 91},Cts/S, 10734.,76.857,.71600,10680.,10789.

[Sample Header]
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Custom ID2=
Custom ID3=
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Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0070,.0003,4.604, -.0068, -.0073
Al3082,308.215 {109},In2306,ppm, 193.4,2.650,1.370, 195.3, 191.6
As1890,189.042 {478},Y_2243,ppm, .1255,.0018,1.412, .1242, .1267
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B_2496,249.678 {135},Y_3710,ppm, .0700,.0050,7.126, .0735, .0664
Ba4554,455.403 { 74},Y_3710,ppm, 1.025,.0022,.2145, 1.027, 1.024
Be3130,313.042 {108},Y_3710,ppm, .0125,.0000,.0383, .0125, .0125
Ca3158,315.887 {107},In2306,ppm, 1306.,4.566,.3497, 1309., 1303.
Cd2288,228.802 {447},Y_2243,ppm, .0062,.0003,4.475, .0064, .0060
Co2286,228.616 {447},In2306,ppm, .1549,.0001,.0797, .1548, .1550
Cr2677,267.716 {126},Y_3600,ppm, .2440,.0011,.4503, .2447, .2432
Cu3247,324.754 {104},Y_3600,ppm, .2381,.0024,.9941, .2398, .2364
Fe2404,240.488 {140},In2306,ppm, 425.2,5.721,1.345, 429.2, 421.1
K_7664,766.490 { 44},Y_3710,ppm, 19.25,.0846,.4396, 19.31, 19.19
Li6707,670.784 { 50},Y_3710,ppm, .1290,.0009,.6971, .1283, .1296
Mg2790,279.079 {121},Y_3710,ppm, 35.70,.2589,.7251, 35.52, 35.89
Mn2576,257.610 {131},Y_3600,ppm, 2.972,.0013,.0427, 2.973, 2.971
Mo2020,202.030 {467},Y_2243,ppm, .0109,.0001,.4659, .0109, .0109
Na5895,589.592 { 57},Y_3710,ppm, 6.593,.0177,.2692, 6.606, 6.581
Ni2316,231.604 {445},In2306,ppm, .4358,.0006,.1412, .4362, .4354
P_1782,178.284 {489},In2306,ppm, 10.82,.0083,.0763, 10.83, 10.82
Pb2203,220.353 {453},In2306,ppm, .2520,.0016,.6339, .2532, .2509
S_1820,182.034 {485},Y_2243,ppm, 3.326,.0301,.9060, 3.305, 3.348
Sb2068,206.833 {463},Y_2243,ppm, .0120,.0004,3.012, .0118, .0123
Se1960,196.090 {472},Y_2243,ppm, -.0001,.0051,3523., .0035, -.0038
Si2516,251.611 {134},Y_3710,ppm, 11.83,.0959,.8108, 11.76, 11.90
Sn1899,189.989 {477},In2306,ppm, .0323,.0004,1.099, .0320, .0325
Sr4215,421.552 { 80},Y_3710,ppm, 6.072,.0069,.1139, 6.077, 6.067
Ti3349,334.904 {101},Y_3600,ppm, .2171,.0008,.3555, .2176, .2165
Tl1908,190.856 {477},In2306,ppm, .0729,.0104,14.27, .0802, .0655
U_3670,367.007 { 92},Y_3600,ppm, 2.582,.0177,.6873, 2.570, 2.595
V_2924,292.402 {115},Y_3600,ppm, .3909,.0004,.0921, .3911, .3906
W_2397,239.709 {140},Y_2243,ppm, -.1519,.0382,25.13, -.1249, -.1788
Zn2062,206.200 {463},In2306,ppm, 1.699,.0036,.2121, 1.697, 1.702

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 185.14,3.2554,1.7584,182.84,187.44
In2306,230.606 {446},Cts/S, 9678.1,13.370,.13815,9687.6,9668.7
Y_2243,224.306 {450},Cts/S, 16483.,25.713,.15600,16501.,16465.
Y_3600,360.073 { 94},Cts/S, 150040.,227.33,.15151,150200.,149880.
Y_3710,371.030 { 91},Cts/S, 10448.,51.363,.49162,10411.,10484.

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Ag3280,328.068 {103},Y_3600,ppm, -.0004,.0004,107.7, -.0001, -.0006
Al3082,308.215 {109},In2306,ppm, 96.59,.5044,.5222, 96.95, 96.24
As1890,189.042 {478},Y_2243,ppm, .0965,.0034,3.547, .0989, .0941
B_2496,249.678 {135},Y_3710,ppm, .0323,.0007,2.262, .0328, .0318
Ba4554,455.403 { 74},Y_3710,ppm, 2.902,.0055,.1909, 2.898, 2.906
Be3130,313.042 {108},Y_3710,ppm, .0059,.0002,4.100, .0057, .0061
Ca3158,315.887 {107},In2306,ppm, 4232.,48.82,1.154, 4197., 4266.
Cd2288,228.802 {447},Y_2243,ppm, .0059,.0002,3.168, .0060, .0057
Co2286,228.616 {447},In2306,ppm, .2295,.0090,3.902, .2359, .2232
Cr2677,267.716 {126},Y_3600,ppm, .0897,.0002,.2323, .0896, .0899
Cu3247,324.754 {104},Y_3600,ppm, .1004,.0005,.5239, .1008, .1000
Fe2404,240.488 {140},In2306,ppm, 120.2,.3602,.2996, 120.5, 120.0
K_7664,766.490 { 44},Y_3710,ppm, 6.755,.0611,.9047, 6.712, 6.799
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Li6707,670.784 { 50},Y_3710,ppm, .1515,.0020,1.302, .1501, .1529
Mg2790,279.079 {121},Y_3710,ppm, 20.98,.1451,.6915, 20.88, 21.09
Mn2576,257.610 {131},Y_3600,ppm, 22.34,.0124,.0556, 22.33, 22.35
Mo2020,202.030 {467},Y_2243,ppm, .0058,.0000,.1600, .0058, .0058
Na5895,589.592 { 57},Y_3710,ppm, 24.41,.0845,.3460, 24.35, 24.47
Ni2316,231.604 {445},In2306,ppm, .3725,.0142,3.816, .3825, .3624
P_1782,178.284 {489},In2306,ppm, 5.912,.2231,3.774, 6.069, 5.754
Pb2203,220.353 {453},In2306,ppm, .1968,.0088,4.458, .2030, .1906
S_1820,182.034 {485},Y_2243,ppm, 11.51,.5381,4.674, 11.89, 11.13
Sb2068,206.833 {463},Y_2243,ppm, .0051,.0012,23.86, .0059, .0042
Se1960,196.090 {472},Y_2243,ppm, -.0082,.0009,10.96, -.0076, -.0089
Si2516,251.611 {134},Y_3710,ppm, 10.44,.1082,1.036, 10.37, 10.52
Sn1899,189.989 {477},In2306,ppm, .0250,.0021,8.373, .0264, .0235
Sr4215,421.552 { 80},Y_3710,ppm, 6.208,.0110,.1765, 6.200, 6.216
Ti3349,334.904 {101},Y_3600,ppm, .2036,.0011,.5494, .2028, .2044
Tl1908,190.856 {477},In2306,ppm, .0243,.0019,7.766, .0229, .0256
U_3670,367.007 { 92},Y_3600,ppm, 1.368,.0471,3.444, 1.335, 1.402
V_2924,292.402 {115},Y_3600,ppm, .3233,.0008,.2376, .3228, .3239
W_2397,239.709 {140},Y_2243,ppm, -.0155,.0341,219.8, -.0397, .0086
Zn2062,206.200 {463},In2306,ppm, .4018,.0136,3.391, .4114, .3922

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 166.44,.19963,.11994,166.30,166.58
In2306,230.606 {446},Cts/S, 8510.9,241.97,2.8430,8339.8,8682.0
Y_2243,224.306 {450},Cts/S, 15727.,396.16,2.5190,15447.,16007.
Y_3600,360.073 { 94},Cts/S, 140770.,110.39,.07842,140690.,140840.
Y_3710,371.030 { 91},Cts/S, 9903.3,36.644,.37002,9929.2,9877.3

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Al3082,308.215 {109},In2306,ppm, 563.4,.9403,.1669, 562.7, 564.0
As1890,189.042 {478},Y_2243,ppm, 20.03,.0266,.1328, 20.05, 20.01
B_2496,249.678 {135},Y_3710,ppm, 1.587,.0119,.7495, 1.595, 1.578
Ba4554,455.403 { 74},Y_3710,ppm, 12.61,.0887,.7035, 12.67, 12.55
Be3130,313.042 {108},Y_3710,ppm, .0916,.0003,.2788, .0914, .0918
Ca3158,315.887 {107},In2306,ppm, 338.1,.4072,.1204, 337.8, 338.4
Cd2288,228.802 {447},Y_2243,ppm, .8670,.0000,.0015, .8670, .8670
Co2286,228.616 {447},In2306,ppm, 2.969,.0163,.5485, 2.981, 2.958
Cr2677,267.716 {126},Y_3600,ppm, 4.605,.0007,.0154, 4.604, 4.605
Cu3247,324.754 {104},Y_3600,ppm, 113.7,.7688,.6762, 113.1, 114.2
Fe2404,240.488 {140},In2306,ppm, 3899.,17.64,.4525, 3886., 3911.
K_7664,766.490 { 44},Y_3710,ppm, 123.4,.1147,.0929, 123.5, 123.3
Li6707,670.784 { 50},Y_3710,ppm, .3903,.0011,.2794, .3910, .3895
Mg2790,279.079 {121},Y_3710,ppm, 110.7,.2687,.2428, 110.8, 110.5
Mn2576,257.610 {131},Y_3600,ppm, 8.389,.0187,.2232, 8.375, 8.402
Mo2020,202.030 {467},Y_2243,ppm, 22.00,.0831,.3778, 22.06, 21.94
Na5895,589.592 { 57},Y_3710,ppm, 60.66,.1157,.1906, 60.74, 60.58
Ni2316,231.604 {445},In2306,ppm, 3.001,.0123,.4106, 3.010, 2.992
P_1782,178.284 {489},In2306,ppm, 16.06,.0363,.2260, 16.09, 16.03
Pb2203,220.353 {453},In2306,ppm, 23.33,.0909,.3897, 23.39, 23.26
S_1820,182.034 {485},Y_2243,ppm, 66.93,.1267,.1894, 67.02, 66.84
Sb2068,206.833 {463},Y_2243,ppm, .4494,.0063,1.395, .4450, .4538
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Si2516,251.611 {134},Y_3710,ppm, 11.24,.0656,.5835, 11.28, 11.19
Sn1899,189.989 {477},In2306,ppm, 7.670,.0524,.6826, 7.707, 7.633
Sr4215,421.552 { 80},Y_3710,ppm, 5.710,.0132,.2316, 5.719, 5.700
Ti3349,334.904 {101},Y_3600,ppm, 28.10,.0345,.1229, 28.08, 28.13
Tl1908,190.856 {477},In2306,ppm, .0358,.0234,65.51, .0523, .0192
U_3670,367.007 { 92},Y_3600,ppm, 31.38,.0219,.0699, 31.40, 31.37
V_2924,292.402 {115},Y_3600,ppm, 1.586,.0004,.0275, 1.586, 1.587
W_2397,239.709 {140},Y_2243,ppm, -1.561,.1124,7.202, -1.640, -1.481
Zn2062,206.200 {463},In2306,ppm, 184.2,1.663,.9031, 183.0, 185.3

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 178.54,.48054,.26915,178.88,178.20
In2306,230.606 {446},Cts/S, 8554.7,4.8402,.05658,8558.2,8551.3
Y_2243,224.306 {450},Cts/S, 15094.,35.129,.23274,15118.,15069.
Y_3600,360.073 { 94},Cts/S, 145470.,154.27,.10605,145580.,145360.
Y_3710,371.030 { 91},Cts/S, 10532.,14.823,.14074,10521.,10542.

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Al3082,308.215 {109},In2306,ppm, 133.3,.2335,.1752, 133.1, 133.4
As1890,189.042 {478},Y_2243,ppm, .0766,.0009,1.114, .0760, .0773
B_2496,249.678 {135},Y_3710,ppm, .0306,.0080,26.15, .0249, .0362
Ba4554,455.403 { 74},Y_3710,ppm, 1.595,.0047,.2977, 1.592, 1.599
Be3130,313.042 {108},Y_3710,ppm, .0058,.0001,.8778, .0059, .0058
Ca3158,315.887 {107},In2306,ppm, 38.11,.0544,.1426, 38.07, 38.15
Cd2288,228.802 {447},Y_2243,ppm, .0059,.0000,.7284, .0060, .0059
Co2286,228.616 {447},In2306,ppm, .0855,.0001,.1032, .0855, .0856
Cr2677,267.716 {126},Y_3600,ppm, .4591,.0002,.0374, .4589, .4592
Cu3247,324.754 {104},Y_3600,ppm, .3902,.0000,.0023, .3902, .3902
Fe2404,240.488 {140},In2306,ppm, 186.4,.1705,.0915, 186.3, 186.5
K_7664,766.490 { 44},Y_3710,ppm, 7.088,.0140,.1970, 7.078, 7.098
Li6707,670.784 { 50},Y_3710,ppm, .0820,.0001,.1462, .0821, .0819
Mg2790,279.079 {121},Y_3710,ppm, 14.72,.1233,.8374, 14.63, 14.81
Mn2576,257.610 {131},Y_3600,ppm, 7.720,.0033,.0433, 7.717, 7.722
Mo2020,202.030 {467},Y_2243,ppm, .0429,.0028,6.535, .0409, .0449
Na5895,589.592 { 57},Y_3710,ppm, .6258,.0043,.6892, .6288, .6227
Ni2316,231.604 {445},In2306,ppm, .1301,.0014,1.106, .1291, .1311
P_1782,178.284 {489},In2306,ppm, 11.06,.0182,.1649, 11.07, 11.04
Pb2203,220.353 {453},In2306,ppm, .2476,.0021,.8581, .2461, .2491
S_1820,182.034 {485},Y_2243,ppm, 15.80,.0919,.5813, 15.87, 15.74
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Se1960,196.090 {472},Y_2243,ppm, .0103,.0031,29.84, .0082, .0125
Si2516,251.611 {134},Y_3710,ppm, 7.696,.0271,.3519, 7.715, 7.677
Sn1899,189.989 {477},In2306,ppm, .0429,.0008,1.944, .0424, .0435
Sr4215,421.552 { 80},Y_3710,ppm, .2010,.0001,.0555, .2011, .2009
Ti3349,334.904 {101},Y_3600,ppm, 1.251,.0030,.2379, 1.249, 1.253
Tl1908,190.856 {477},In2306,ppm, .0067,.0006,8.843, .0063, .0071
U_3670,367.007 { 92},Y_3600,ppm, .7007,.0069,.9798, .7055, .6958
V_2924,292.402 {115},Y_3600,ppm, .2577,.0000,.0106, .2577, .2577
W_2397,239.709 {140},Y_2243,ppm, -.0732,.0425,58.12, -.1033, -.0431
Zn2062,206.200 {463},In2306,ppm, 1.440,.0102,.7096, 1.433, 1.447
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[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 203.62,.53859,.26450,203.24,204.01
In2306,230.606 {446},Cts/S, 12082.,8.0879,.06694,12077.,12088.
Y_2243,224.306 {450},Cts/S, 18326.,40.268,.21973,18298.,18355.
Y_3600,360.073 { 94},Cts/S, 166980.,56.884,.03407,167020.,166940.
Y_3710,371.030 { 91},Cts/S, 11122.,5.8615,.05270,11126.,11118.

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Al3082,308.215 {109},In2306,ppm, 133.6,.1220,.0913, 133.7, 133.5
As1890,189.042 {478},Y_2243,ppm, .0823,.0005,.6155, .0826, .0819
B_2496,249.678 {135},Y_3710,ppm, .0351,.0064,18.12, .0306, .0396
Ba4554,455.403 { 74},Y_3710,ppm, 1.489,.0030,.1990, 1.487, 1.491
Be3130,313.042 {108},Y_3710,ppm, .0059,.0001,.9883, .0058, .0059
Ca3158,315.887 {107},In2306,ppm, 33.04,.0229,.0693, 33.02, 33.05
Cd2288,228.802 {447},Y_2243,ppm, .0052,.0000,.1204, .0052, .0052
Co2286,228.616 {447},In2306,ppm, .0922,.0016,1.688, .0911, .0933
Cr2677,267.716 {126},Y_3600,ppm, .4235,.0220,5.202, .4391, .4079
Cu3247,324.754 {104},Y_3600,ppm, .2906,.0150,5.171, .3012, .2799
Fe2404,240.488 {140},In2306,ppm, 190.1,.5360,.2819, 190.5, 189.8
K_7664,766.490 { 44},Y_3710,ppm, 6.972,.0115,.1647, 6.980, 6.964
Li6707,670.784 { 50},Y_3710,ppm, .0807,.0009,1.111, .0813, .0800
Mg2790,279.079 {121},Y_3710,ppm, 14.70,.0008,.0055, 14.70, 14.70
Mn2576,257.610 {131},Y_3600,ppm, 8.424,.3900,4.630, 8.700, 8.148
Mo2020,202.030 {467},Y_2243,ppm, .0157,.0006,3.941, .0153, .0161
Na5895,589.592 { 57},Y_3710,ppm, .5789,.0037,.6459, .5762, .5815
Ni2316,231.604 {445},In2306,ppm, .1279,.0018,1.432, .1266, .1292
P_1782,178.284 {489},In2306,ppm, 9.256,.1586,1.714, 9.143, 9.368
Pb2203,220.353 {453},In2306,ppm, .2147,.0011,.4922, .2140, .2155
S_1820,182.034 {485},Y_2243,ppm, 13.33,.2825,2.118, 13.13, 13.53
Sb2068,206.833 {463},Y_2243,ppm, -.0023,.0007,30.43, -.0027, -.0018
Se1960,196.090 {472},Y_2243,ppm, .0063,.0004,6.246, .0060, .0066
Si2516,251.611 {134},Y_3710,ppm, 7.874,.0109,.1386, 7.867, 7.882
Sn1899,189.989 {477},In2306,ppm, .0555,.0022,3.992, .0539, .0571
Sr4215,421.552 { 80},Y_3710,ppm, .1794,.0009,.4775, .1788, .1800
Ti3349,334.904 {101},Y_3600,ppm, 1.213,.0679,5.599, 1.261, 1.165
Tl1908,190.856 {477},In2306,ppm, -.0121,.0026,21.67, -.0140, -.0103
U_3670,367.007 { 92},Y_3600,ppm, .8195,.0453,5.524, .8515, .7875
V_2924,292.402 {115},Y_3600,ppm, .2564,.0142,5.545, .2665, .2464
W_2397,239.709 {140},Y_2243,ppm, -.0567,.0678,119.7, -.1046, -.0087
Zn2062,206.200 {463},In2306,ppm, 1.218,.0166,1.366, 1.206, 1.229

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 203.24,1.4471,.71201,202.21,204.26
In2306,230.606 {446},Cts/S, 12029.,134.00,1.1139,12124.,11934.
Y_2243,224.306 {450},Cts/S, 18174.,225.43,1.2404,18333.,18015.
Y_3600,360.073 { 94},Cts/S, 171770.,7904.7,4.6020,166180.,177360.
Y_3710,371.030 { 91},Cts/S, 10947.,14.781,.13502,10937.,10958.

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Al3082,308.215 {109},In2306,ppm, 278.7,4.528,1.624, 275.5, 281.9
As1890,189.042 {478},Y_2243,ppm, 1.024,.0042,.4107, 1.021, 1.027
B_2496,249.678 {135},Y_3710,ppm, .4997,.0168,3.353, .5115, .4879
Ba4554,455.403 { 74},Y_3710,ppm, 2.615,.0049,.1882, 2.611, 2.618
Be3130,313.042 {108},Y_3710,ppm, .8960,.0006,.0621, .8964, .8956
Ca3158,315.887 {107},In2306,ppm, 43.34,.4882,1.126, 43.00, 43.69
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Co2286,228.616 {447},In2306,ppm, 1.035,.0009,.0883, 1.034, 1.035
Cr2677,267.716 {126},Y_3600,ppm, 1.375,.0056,.4061, 1.379, 1.371
Cu3247,324.754 {104},Y_3600,ppm, 1.291,.0025,.1899, 1.293, 1.290
Fe2404,240.488 {140},In2306,ppm, 210.1,2.877,1.369, 208.0, 212.1
K_7664,766.490 { 44},Y_3710,ppm, 24.84,.0223,.0899, 24.82, 24.85
Li6707,670.784 { 50},Y_3710,ppm, 1.056,.0034,.3261, 1.054, 1.059
Mg2790,279.079 {121},Y_3710,ppm, 30.92,.0892,.2884, 30.86, 30.99
Mn2576,257.610 {131},Y_3600,ppm, 7.970,.0117,.1468, 7.961, 7.978
Mo2020,202.030 {467},Y_2243,ppm, .9249,.0014,.1492, .9239, .9258
Na5895,589.592 { 57},Y_3710,ppm, 10.22,.0148,.1447, 10.21, 10.23
Ni2316,231.604 {445},In2306,ppm, 1.157,.0024,.2049, 1.155, 1.159
P_1782,178.284 {489},In2306,ppm, 14.41,.0286,.1985, 14.39, 14.43
Pb2203,220.353 {453},In2306,ppm, 1.161,.0008,.0693, 1.160, 1.161
S_1820,182.034 {485},Y_2243,ppm, 19.19,.0210,.1096, 19.18, 19.21
Sb2068,206.833 {463},Y_2243,ppm, .6507,.0025,.3812, .6489, .6525
Se1960,196.090 {472},Y_2243,ppm, .9279,.0047,.5070, .9312, .9246
Si2516,251.611 {134},Y_3710,ppm, 9.036,.0401,.4432, 9.065, 9.008
Sn1899,189.989 {477},In2306,ppm, .8922,.0024,.2665, .8905, .8939
Sr4215,421.552 { 80},Y_3710,ppm, 1.145,.0017,.1486, 1.144, 1.147
Ti3349,334.904 {101},Y_3600,ppm, 3.081,.0016,.0534, 3.080, 3.083
Tl1908,190.856 {477},In2306,ppm, .5201,.0169,3.241, .5320, .5081
U_3670,367.007 { 92},Y_3600,ppm, 1.388,.0300,2.159, 1.409, 1.367
V_2924,292.402 {115},Y_3600,ppm, 1.289,.0030,.2338, 1.291, 1.287
W_2397,239.709 {140},Y_2243,ppm, -.0150,.0774,514.8, -.0698, .0397
Zn2062,206.200 {463},In2306,ppm, 1.951,.0107,.5484, 1.944, 1.959

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 198.14,1.7172,.86667,199.35,196.92
In2306,230.606 {446},Cts/S, 11494.,5.3025,.04613,11490.,11497.
Y_2243,224.306 {450},Cts/S, 17852.,25.531,.14301,17834.,17870.
Y_3600,360.073 { 94},Cts/S, 161960.,265.53,.16394,162150.,161770.
Y_3710,371.030 { 91},Cts/S, 10962.,46.223,.42166,10929.,10995.

[Sample Header]
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Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/23/2019 12:02:40
Sample Type=Unk
Mode=CONC
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CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0002,113.2, -.0000, -.0003
Al3082,308.215 {109},In2306,ppm, .0413,.0047,11.34, .0446, .0380
As1890,189.042 {478},Y_2243,ppm, .0024,.0003,12.44, .0022, .0026
B_2496,249.678 {135},Y_3710,ppm, .0288,.0045,15.71, .0256, .0320
Ba4554,455.403 { 74},Y_3710,ppm, .0453,.0004,.9047, .0456, .0450
Be3130,313.042 {108},Y_3710,ppm, .0002,.0002,82.02, .0004, .0001
Ca3158,315.887 {107},In2306,ppm, 7.055,.1191,1.688, 7.139, 6.970
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,29.62, .0001, .0001
Co2286,228.616 {447},In2306,ppm, .0001,.0001,70.27, .0001, .0002
Cr2677,267.716 {126},Y_3600,ppm, -.0001,.0001,108.8, -.0000, -.0002
Cu3247,324.754 {104},Y_3600,ppm, .0047,.0005,10.88, .0050, .0043
Fe2404,240.488 {140},In2306,ppm, .0424,.0099,23.29, .0494, .0354
K_7664,766.490 { 44},Y_3710,ppm, 2.840,.0338,1.191, 2.816, 2.864
Li6707,670.784 { 50},Y_3710,ppm, .0018,.0002,8.803, .0017, .0020
Mg2790,279.079 {121},Y_3710,ppm, 4.457,.0581,1.304, 4.416, 4.498
Mn2576,257.610 {131},Y_3600,ppm, .0138,.0001,1.051, .0140, .0137
Mo2020,202.030 {467},Y_2243,ppm, .0056,.0006,10.19, .0052, .0060
Na5895,589.592 { 57},Y_3710,ppm, 49.18,.0592,.1203, 49.23, 49.14
Ni2316,231.604 {445},In2306,ppm, .0010,.0000,.3559, .0010, .0010
P_1782,178.284 {489},In2306,ppm, .0048,.0018,37.97, .0035, .0061
Pb2203,220.353 {453},In2306,ppm, .0017,.0006,34.01, .0013, .0021
S_1820,182.034 {485},Y_2243,ppm, .6241,.0020,.3255, .6255, .6227
Sb2068,206.833 {463},Y_2243,ppm, -.0004,.0005,142.4, .0000, -.0007
Se1960,196.090 {472},Y_2243,ppm, .0055,.0025,44.86, .0038, .0072
Si2516,251.611 {134},Y_3710,ppm, 1.044,.0096,.9184, 1.051, 1.037
Sn1899,189.989 {477},In2306,ppm, .0040,.0012,28.69, .0032, .0049
Sr4215,421.552 { 80},Y_3710,ppm, .0669,.0001,.1596, .0668, .0669
Ti3349,334.904 {101},Y_3600,ppm, .0040,.0005,12.15, .0037, .0044
Tl1908,190.856 {477},In2306,ppm, .1984,.0002,.1225, .1982, .1986
U_3670,367.007 { 92},Y_3600,ppm, -.3215,.0156,4.849, -.3325, -.3105
V_2924,292.402 {115},Y_3600,ppm, .0011,.0001,12.47, .0010, .0012
W_2397,239.709 {140},Y_2243,ppm, .0852,.1314,154.2, .1781, -.0077
Zn2062,206.200 {463},In2306,ppm, .0035,.0000,.4407, .0035, .0035

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 205.77,2.9208,1.4195,203.70,207.83
In2306,230.606 {446},Cts/S, 12702.,14.252,.11221,12712.,12691.
Y_2243,224.306 {450},Cts/S, 17356.,40.635,.23413,17385.,17327.
Y_3600,360.073 { 94},Cts/S, 157550.,53.419,.03391,157580.,157510.
Y_3710,371.030 { 91},Cts/S, 10026.,86.793,.86564,10088.,9965.1

[Sample Header]
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Custom ID3=
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0002,117.2, -.0003, -.0000
Al3082,308.215 {109},In2306,ppm, .0037,.0154,416.7, -.0072, .0146
As1890,189.042 {478},Y_2243,ppm, .0024,.0036,153.5, .0049, -.0002
B_2496,249.678 {135},Y_3710,ppm, .0325,.0029,9.040, .0346, .0304
Ba4554,455.403 { 74},Y_3710,ppm, .0482,.0035,7.189, .0506, .0457
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Be3130,313.042 {108},Y_3710,ppm, .0000,.0001,394.5, .0001, -.0000
Ca3158,315.887 {107},In2306,ppm, 7.452,.5316,7.133, 7.828, 7.077
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,105.4, .0000, .0001
Co2286,228.616 {447},In2306,ppm, -.0001,.0001,66.12, -.0001, -.0002
Cr2677,267.716 {126},Y_3600,ppm, .0000,.0001,768.1, -.0001, .0001
Cu3247,324.754 {104},Y_3600,ppm, .0049,.0001,1.347, .0048, .0049
Fe2404,240.488 {140},In2306,ppm, .0156,.0012,7.712, .0164, .0147
K_7664,766.490 { 44},Y_3710,ppm, 3.067,.1540,5.020, 3.176, 2.958
Li6707,670.784 { 50},Y_3710,ppm, .0029,.0009,30.11, .0023, .0035
Mg2790,279.079 {121},Y_3710,ppm, 4.739,.3572,7.538, 4.991, 4.486
Mn2576,257.610 {131},Y_3600,ppm, .0133,.0000,.1169, .0133, .0133
Mo2020,202.030 {467},Y_2243,ppm, .0028,.0000,.8583, .0028, .0028
Na5895,589.592 { 57},Y_3710,ppm, 52.35,3.238,6.186, 54.64, 50.06
Ni2316,231.604 {445},In2306,ppm, .0004,.0004,91.80, .0007, .0002
P_1782,178.284 {489},In2306,ppm, .0040,.0018,45.21, .0052, .0027
Pb2203,220.353 {453},In2306,ppm, .0003,.0021,615.6, .0018, -.0011
S_1820,182.034 {485},Y_2243,ppm, .6450,.0108,1.670, .6374, .6526
Sb2068,206.833 {463},Y_2243,ppm, -.0024,.0012,49.89, -.0033, -.0016
Se1960,196.090 {472},Y_2243,ppm, .0045,.0019,42.36, .0058, .0031
Si2516,251.611 {134},Y_3710,ppm, 1.226,.0816,6.654, 1.283, 1.168
Sn1899,189.989 {477},In2306,ppm, .0002,.0002,85.02, .0001, .0003
Sr4215,421.552 { 80},Y_3710,ppm, .0716,.0044,6.102, .0747, .0685
Ti3349,334.904 {101},Y_3600,ppm, .0008,.0002,23.42, .0007, .0009
Tl1908,190.856 {477},In2306,ppm, .1429,.0058,4.051, .1388, .1470
U_3670,367.007 { 92},Y_3600,ppm, -.3461,.0876,25.31, -.4081, -.2842
V_2924,292.402 {115},Y_3600,ppm, .0010,.0004,41.63, .0007, .0013
W_2397,239.709 {140},Y_2243,ppm, .0800,.0873,109.2, .0182, .1418
Zn2062,206.200 {463},In2306,ppm, .0028,.0002,5.850, .0027, .0029

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 200.14,11.178,5.5854,192.23,208.04
In2306,230.606 {446},Cts/S, 12703.,8.0556,.06342,12708.,12697.
Y_2243,224.306 {450},Cts/S, 17303.,7.4844,.04325,17298.,17308.
Y_3600,360.073 { 94},Cts/S, 157760.,217.00,.13755,157610.,157920.
Y_3710,371.030 { 91},Cts/S, 9672.5,502.21,5.1921,9317.4,10028.

[Sample Header]
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Custom ID2=
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0496,.0003,.6783, .0494, .0499
Al3082,308.215 {109},In2306,ppm, 2.046,.0665,3.249, 1.999, 2.093
As1890,189.042 {478},Y_2243,ppm, .2250,.0059,2.603, .2209, .2291
B_2496,249.678 {135},Y_3710,ppm, .1249,.0128,10.27, .1158, .1339
Ba4554,455.403 { 74},Y_3710,ppm, .2599,.0002,.0872, .2597, .2600
Be3130,313.042 {108},Y_3710,ppm, .2075,.0009,.4450, .2068, .2081
Ca3158,315.887 {107},In2306,ppm, 9.215,.1081,1.173, 9.139, 9.292
Cd2288,228.802 {447},Y_2243,ppm, .2096,.0003,.1330, .2098, .2094
Co2286,228.616 {447},In2306,ppm, .1992,.0004,.1964, .1989, .1995
Cr2677,267.716 {126},Y_3600,ppm, .1955,.0004,.2100, .1952, .1957
Cu3247,324.754 {104},Y_3600,ppm, .2065,.0009,.4330, .2059, .2072
Fe2404,240.488 {140},In2306,ppm, 2.079,.0198,.9518, 2.065, 2.093
K_7664,766.490 { 44},Y_3710,ppm, 4.962,.0488,.9831, 4.927, 4.996
Li6707,670.784 { 50},Y_3710,ppm, .2026,.0006,.2932, .2022, .2030
Mg2790,279.079 {121},Y_3710,ppm, 6.528,.0081,.1240, 6.522, 6.533
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Mn2576,257.610 {131},Y_3600,ppm, .2220,.0004,.1713, .2222, .2217
Mo2020,202.030 {467},Y_2243,ppm, .2155,.0003,.1622, .2158, .2153
Na5895,589.592 { 57},Y_3710,ppm, 51.88,.1215,.2342, 51.79, 51.96
Ni2316,231.604 {445},In2306,ppm, .2059,.0005,.2397, .2056, .2063
P_1782,178.284 {489},In2306,ppm, 1.079,.0007,.0616, 1.079, 1.078
Pb2203,220.353 {453},In2306,ppm, .2023,.0028,1.362, .2004, .2043
S_1820,182.034 {485},Y_2243,ppm, 2.165,.0009,.0423, 2.165, 2.166
Sb2068,206.833 {463},Y_2243,ppm, .3313,.0019,.5836, .3299, .3327
Se1960,196.090 {472},Y_2243,ppm, .2188,.0002,.0785, .2187, .2189
Si2516,251.611 {134},Y_3710,ppm, 2.355,.0348,1.479, 2.330, 2.379
Sn1899,189.989 {477},In2306,ppm, .2050,.0009,.4425, .2044, .2056
Sr4215,421.552 { 80},Y_3710,ppm, .2775,.0007,.2378, .2770, .2779
Ti3349,334.904 {101},Y_3600,ppm, .2123,.0004,.1757, .2121, .2126
Tl1908,190.856 {477},In2306,ppm, .1774,.0012,.6668, .1766, .1783
U_3670,367.007 { 92},Y_3600,ppm, -.1098,.0862,78.43, -.0489, -.1708
V_2924,292.402 {115},Y_3600,ppm, .2042,.0010,.4911, .2035, .2049
W_2397,239.709 {140},Y_2243,ppm, .0957,.0156,16.31, .0846, .1067
Zn2062,206.200 {463},In2306,ppm, .1032,.0003,.2677, .1030, .1034

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 204.91,1.5630,.76274,206.02,203.81
In2306,230.606 {446},Cts/S, 12620.,2.3617,.01871,12621.,12618.
Y_2243,224.306 {450},Cts/S, 17336.,20.897,.12054,17321.,17351.
Y_3600,360.073 { 94},Cts/S, 157570.,16.961,.01076,157580.,157550.
Y_3710,371.030 { 91},Cts/S, 10125.,56.724,.56023,10165.,10085.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .5041,.0006,.1119, .5037, .5045
Al3082,308.215 {109},In2306,ppm, 19.76,.0992,.5021, 19.69, 19.83
As1890,189.042 {478},Y_2243,ppm, 1.051,.0022,.2057, 1.053, 1.050
B_2496,249.678 {135},Y_3710,ppm, .9594,.0200,2.087, .9453, .9736
Ba4554,455.403 { 74},Y_3710,ppm, 1.006,.0075,.7494, 1.001, 1.011
Be3130,313.042 {108},Y_3710,ppm, .9562,.0087,.9090, .9501, .9624
Ca3158,315.887 {107},In2306,ppm, 19.34,.2384,1.233, 19.17, 19.50
Cd2288,228.802 {447},Y_2243,ppm, .9859,.0012,.1222, .9851, .9868
Co2286,228.616 {447},In2306,ppm, .9489,.0026,.2784, .9470, .9507
Cr2677,267.716 {126},Y_3600,ppm, .9254,.0035,.3774, .9279, .9230
Cu3247,324.754 {104},Y_3600,ppm, .9642,.0003,.0266, .9644, .9641
Fe2404,240.488 {140},In2306,ppm, 19.82,.3328,1.679, 19.58, 20.05
K_7664,766.490 { 44},Y_3710,ppm, 19.59,.1133,.5784, 19.51, 19.67
Li6707,670.784 { 50},Y_3710,ppm, .9466,.0040,.4217, .9438, .9494
Mg2790,279.079 {121},Y_3710,ppm, 19.90,.3314,1.665, 19.67, 20.14
Mn2576,257.610 {131},Y_3600,ppm, .9860,.0009,.0951, .9866, .9853
Mo2020,202.030 {467},Y_2243,ppm, 1.021,.0024,.2352, 1.019, 1.023
Na5895,589.592 { 57},Y_3710,ppm, 19.50,.0912,.4676, 19.43, 19.56
Ni2316,231.604 {445},In2306,ppm, .9830,.0080,.8127, .9773, .9886
P_1782,178.284 {489},In2306,ppm, 10.32,.0177,.1714, 10.30, 10.33
Pb2203,220.353 {453},In2306,ppm, .9677,.0014,.1471, .9667, .9688
S_1820,182.034 {485},Y_2243,ppm, 11.19,.0389,.3480, 11.16, 11.21
Sb2068,206.833 {463},Y_2243,ppm, 2.159,.0082,.3805, 2.154, 2.165
Se1960,196.090 {472},Y_2243,ppm, 1.024,.0010,.0965, 1.023, 1.025
Si2516,251.611 {134},Y_3710,ppm, 8.460,.2170,2.565, 8.307, 8.614
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Sn1899,189.989 {477},In2306,ppm, .9802,.0014,.1440, .9792, .9812
Sr4215,421.552 { 80},Y_3710,ppm, .9886,.0080,.8127, .9829, .9943
Ti3349,334.904 {101},Y_3600,ppm, 1.003,.0009,.0919, 1.002, 1.003
Tl1908,190.856 {477},In2306,ppm, .7887,.0267,3.392, .8076, .7698
U_3670,367.007 { 92},Y_3600,ppm, .7610,.0448,5.884, .7293, .7927
V_2924,292.402 {115},Y_3600,ppm, .9619,.0019,.1996, .9633, .9606
W_2397,239.709 {140},Y_2243,ppm, 1.440,.0822,5.713, 1.498, 1.382
Zn2062,206.200 {463},In2306,ppm, .9451,.0011,.1125, .9444, .9459

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 201.23,.39950,.19853,201.51,200.95
In2306,230.606 {446},Cts/S, 12432.,66.058,.53135,12479.,12385.
Y_2243,224.306 {450},Cts/S, 17287.,86.355,.49952,17348.,17226.
Y_3600,360.073 { 94},Cts/S, 156610.,335.64,.21431,156380.,156850.
Y_3710,371.030 { 91},Cts/S, 10146.,9.5585,.09421,10153.,10140.

[Sample Header]
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Custom ID3=
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Repeats=2

[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0098,.0004,4.028, .0096, .0101
Al3082,308.215 {109},In2306,ppm, .2062,.0012,.5747, .2054, .2071
As1890,189.042 {478},Y_2243,ppm, .0244,.0001,.2554, .0243, .0244
B_2496,249.678 {135},Y_3710,ppm, .2117,.0068,3.197, .2165, .2069
Ba4554,455.403 { 74},Y_3710,ppm, .0225,.0003,1.144, .0227, .0223
Be3130,313.042 {108},Y_3710,ppm, .0111,.0000,.3428, .0112, .0111
Ca3158,315.887 {107},In2306,ppm, 1.011,.0021,.2035, 1.010, 1.013
Cd2288,228.802 {447},Y_2243,ppm, .0111,.0000,.1745, .0112, .0111
Co2286,228.616 {447},In2306,ppm, .0103,.0001,.5889, .0102, .0103
Cr2677,267.716 {126},Y_3600,ppm, .0102,.0004,3.538, .0105, .0100
Cu3247,324.754 {104},Y_3600,ppm, .0152,.0005,3.252, .0156, .0149
Fe2404,240.488 {140},In2306,ppm, .2207,.0130,5.885, .2299, .2115
K_7664,766.490 { 44},Y_3710,ppm, 1.041,.0193,1.854, 1.027, 1.055
Li6707,670.784 { 50},Y_3710,ppm, .0094,.0013,13.69, .0085, .0103
Mg2790,279.079 {121},Y_3710,ppm, 1.090,.0297,2.727, 1.111, 1.069
Mn2576,257.610 {131},Y_3600,ppm, .0111,.0000,.1396, .0111, .0112
Mo2020,202.030 {467},Y_2243,ppm, .0274,.0007,2.576, .0269, .0279
Na5895,589.592 { 57},Y_3710,ppm, 1.036,.0037,.3562, 1.039, 1.034
Ni2316,231.604 {445},In2306,ppm, .0111,.0001,.6136, .0112, .0111
P_1782,178.284 {489},In2306,ppm, .9753,.0047,.4782, .9786, .9720
Pb2203,220.353 {453},In2306,ppm, .0110,.0028,25.24, .0130, .0091
S_1820,182.034 {485},Y_2243,ppm, -3.027,.0050,.1636, -3.024, -3.031
Sb2068,206.833 {463},Y_2243,ppm, .0523,.0019,3.551, .0537, .0510
Se1960,196.090 {472},Y_2243,ppm, .0218,.0040,18.42, .0247, .0190
Si2516,251.611 {134},Y_3710,ppm, .1854,.0023,1.266, .1838, .1871
Sn1899,189.989 {477},In2306,ppm, .0225,.0000,.2073, .0225, .0225
Sr4215,421.552 { 80},Y_3710,ppm, .0112,.0001,.7795, .0111, .0112
Ti3349,334.904 {101},Y_3600,ppm, .0115,.0001,.5210, .0116, .0115
Tl1908,190.856 {477},In2306,ppm, .2808,.0050,1.793, .2773, .2844
U_3670,367.007 { 92},Y_3600,ppm, -.1591,.0198,12.47, -.1731, -.1451
V_2924,292.402 {115},Y_3600,ppm, .0110,.0003,2.396, .0108, .0112
W_2397,239.709 {140},Y_2243,ppm, .1570,.1125,71.65, .0775, .2365
Zn2062,206.200 {463},In2306,ppm, .0184,.0000,.2660, .0184, .0184

[Internal Standards]
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Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 207.39,.61038,.29431,207.83,206.96
In2306,230.606 {446},Cts/S, 13374.,12.797,.09569,13383.,13365.
Y_2243,224.306 {450},Cts/S, 17689.,9.5185,.05381,17695.,17682.
Y_3600,360.073 { 94},Cts/S, 161580.,206.19,.12761,161430.,161720.
Y_3710,371.030 { 91},Cts/S, 10086.,68.127,.67547,10134.,10038.

[Sample Header]
Method=ICP6500Metals_TRY3(v4963)
SampleName=CCB
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/23/2019 12:12:37
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0006,738.6, .0003, -.0005
Al3082,308.215 {109},In2306,ppm, -.0175,.0084,47.83, -.0116, -.0234
As1890,189.042 {478},Y_2243,ppm, -.0003,.0014,565.1, .0008, -.0013
B_2496,249.678 {135},Y_3710,ppm, .0082,.0022,26.86, .0067, .0098
Ba4554,455.403 { 74},Y_3710,ppm, -.0002,.0001,33.75, -.0003, -.0002
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,216.2, -.0000, .0001
Ca3158,315.887 {107},In2306,ppm, .0068,.0014,20.47, .0058, .0078
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0000,28.37, -.0001, -.0000
Co2286,228.616 {447},In2306,ppm, -.0001,.0000,15.91, -.0001, -.0001
Cr2677,267.716 {126},Y_3600,ppm, .0002,.0004,240.8, .0004, -.0001
Cu3247,324.754 {104},Y_3600,ppm, .0042,.0001,3.537, .0041, .0043
Fe2404,240.488 {140},In2306,ppm, -.0001,.0031,2720., -.0023, .0021
K_7664,766.490 { 44},Y_3710,ppm, -.0113,.0451,400.9, .0207, -.0432
Li6707,670.784 { 50},Y_3710,ppm, -.0010,.0010,98.53, -.0003, -.0018
Mg2790,279.079 {121},Y_3710,ppm, .0006,.0085,1480., .0066, -.0054
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,97.65, -.0000, -.0000
Mo2020,202.030 {467},Y_2243,ppm, .0010,.0003,32.20, .0008, .0013
Na5895,589.592 { 57},Y_3710,ppm, -.0297,.0173,58.24, -.0419, -.0174
Ni2316,231.604 {445},In2306,ppm, .0002,.0001,24.99, .0003, .0002
P_1782,178.284 {489},In2306,ppm, -.0016,.0005,30.57, -.0020, -.0013
Pb2203,220.353 {453},In2306,ppm, .0011,.0012,100.6, .0020, .0003
S_1820,182.034 {485},Y_2243,ppm, -3.659,.0016,.0432, -3.661, -3.658
Sb2068,206.833 {463},Y_2243,ppm, -.0025,.0016,63.67, -.0014, -.0037
Se1960,196.090 {472},Y_2243,ppm, .0044,.0001,1.697, .0045, .0044
Si2516,251.611 {134},Y_3710,ppm, .0061,.0106,175.1, -.0014, .0136
Sn1899,189.989 {477},In2306,ppm, .0003,.0006,214.5, -.0002, .0007
Sr4215,421.552 { 80},Y_3710,ppm, -.0001,.0000,.6386, -.0001, -.0001
Ti3349,334.904 {101},Y_3600,ppm, -.0000,.0002,321.1, -.0002, .0001
Tl1908,190.856 {477},In2306,ppm, .1955,.0013,.6676, .1946, .1964
U_3670,367.007 { 92},Y_3600,ppm, -.3044,.0326,10.71, -.2813, -.3274
V_2924,292.402 {115},Y_3600,ppm, .0002,.0001,45.04, .0002, .0001
W_2397,239.709 {140},Y_2243,ppm, .0322,.0574,178.3, .0727, -.0084
Zn2062,206.200 {463},In2306,ppm, .0019,.0002,13.14, .0020, .0017

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 208.28,2.0108,.96542,209.70,206.85
In2306,230.606 {446},Cts/S, 13385.,21.312,.15922,13370.,13400.
Y_2243,224.306 {450},Cts/S, 17644.,8.1385,.04613,17650.,17638.
Y_3600,360.073 { 94},Cts/S, 160820.,30.803,.01915,160840.,160800.
Y_3710,371.030 { 91},Cts/S, 10181.,22.198,.21803,10197.,10165.

[Sample Header]
Method=ICP6500Metals_TRY3(v4963)
SampleName=MB 600-275296/1-A
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Comment=
Custom ID1=
Custom ID2=
Custom ID3=
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Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0003,.0002,72.18, -.0004, -.0001
Al3082,308.215 {109},In2306,ppm, -.0046,.0085,185.7, .0014, -.0106
As1890,189.042 {478},Y_2243,ppm, .0017,.0010,57.76, .0024, .0010
B_2496,249.678 {135},Y_3710,ppm, .0018,.0017,91.94, .0006, .0030
Ba4554,455.403 { 74},Y_3710,ppm, .0001,.0001,133.0, .0002, .0000
Be3130,313.042 {108},Y_3710,ppm, .0000,.0002,579.4, .0002, -.0001
Ca3158,315.887 {107},In2306,ppm, .0108,.0015,13.65, .0119, .0098
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,20.91, .0001, .0001
Co2286,228.616 {447},In2306,ppm, -.0004,.0001,28.63, -.0004, -.0003
Cr2677,267.716 {126},Y_3600,ppm, -.0003,.0003,119.2, -.0000, -.0005
Cu3247,324.754 {104},Y_3600,ppm, .0036,.0000,.1859, .0035, .0036
Fe2404,240.488 {140},In2306,ppm, .0100,.0131,131.0, .0193, .0007
K_7664,766.490 { 44},Y_3710,ppm, .0035,.0397,1120., .0316, -.0245
Li6707,670.784 { 50},Y_3710,ppm, -.0014,.0007,50.90, -.0009, -.0019
Mg2790,279.079 {121},Y_3710,ppm, .0079,.0007,8.445, .0075, .0084
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,69.68, -.0000, -.0000
Mo2020,202.030 {467},Y_2243,ppm, .0007,.0004,53.30, .0004, .0009
Na5895,589.592 { 57},Y_3710,ppm, -.0281,.0034,11.94, -.0305, -.0257
Ni2316,231.604 {445},In2306,ppm, .0004,.0002,51.21, .0006, .0003
P_1782,178.284 {489},In2306,ppm, .0001,.0003,490.0, -.0002, .0003
Pb2203,220.353 {453},In2306,ppm, .0001,.0004,565.1, .0004, -.0002
S_1820,182.034 {485},Y_2243,ppm, -.2689,.0041,1.537, -.2718, -.2659
Sb2068,206.833 {463},Y_2243,ppm, -.0023,.0006,26.82, -.0018, -.0027
Se1960,196.090 {472},Y_2243,ppm, .0059,.0036,62.08, .0084, .0033
Si2516,251.611 {134},Y_3710,ppm, -.0042,.0051,121.9, -.0078, -.0006
Sn1899,189.989 {477},In2306,ppm, .0004,.0003,66.54, .0002, .0006
Sr4215,421.552 { 80},Y_3710,ppm, -.0001,.0000,29.82, -.0001, -.0001
Ti3349,334.904 {101},Y_3600,ppm, -.0001,.0001,109.4, -.0000, -.0002
Tl1908,190.856 {477},In2306,ppm, .1467,.0003,.1817, .1465, .1469
U_3670,367.007 { 92},Y_3600,ppm, -.2895,.0006,.2015, -.2891, -.2899
V_2924,292.402 {115},Y_3600,ppm, -.0001,.0000,25.72, -.0001, -.0000
W_2397,239.709 {140},Y_2243,ppm, .0269,.1109,412.7, .1053, -.0516
Zn2062,206.200 {463},In2306,ppm, .0014,.0001,7.183, .0015, .0014

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 211.00,2.8244,1.3386,209.01,213.00
In2306,230.606 {446},Cts/S, 13436.,37.482,.27896,13463.,13410.
Y_2243,224.306 {450},Cts/S, 17720.,32.245,.18197,17743.,17698.
Y_3600,360.073 { 94},Cts/S, 161940.,139.81,.08634,161840.,162040.
Y_3710,371.030 { 91},Cts/S, 10213.,26.426,.25874,10195.,10232.

[Sample Header]
Method=ICP6500Metals_TRY3(v4963)
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Custom ID2=
Custom ID3=
Run Time=9/23/2019 12:16:47
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2504,.0017,.6945, .2492, .2516
Al3082,308.215 {109},In2306,ppm, 10.29,.0002,.0017, 10.29, 10.29
As1890,189.042 {478},Y_2243,ppm, 1.049,.0005,.0494, 1.049, 1.049
B_2496,249.678 {135},Y_3710,ppm, .5096,.0002,.0434, .5094, .5097
Ba4554,455.403 { 74},Y_3710,ppm, 1.021,.0024,.2358, 1.019, 1.023
Be3130,313.042 {108},Y_3710,ppm, .9724,.0025,.2562, .9706, .9741
Ca3158,315.887 {107},In2306,ppm, 10.11,.0459,.4543, 10.08, 10.15
Cd2288,228.802 {447},Y_2243,ppm, .9925,.0004,.0380, .9923, .9928
Co2286,228.616 {447},In2306,ppm, .9421,.0004,.0454, .9424, .9418
Cr2677,267.716 {126},Y_3600,ppm, .9400,.0029,.3083, .9380, .9421
Cu3247,324.754 {104},Y_3600,ppm, .9801,.0019,.1926, .9788, .9815
Fe2404,240.488 {140},In2306,ppm, 10.38,.0777,.7485, 10.33, 10.44
K_7664,766.490 { 44},Y_3710,ppm, 10.41,.0772,.7413, 10.36, 10.46
Li6707,670.784 { 50},Y_3710,ppm, .9697,.0005,.0528, .9701, .9694
Mg2790,279.079 {121},Y_3710,ppm, 10.46,.0905,.8647, 10.40, 10.53
Mn2576,257.610 {131},Y_3600,ppm, .9969,.0033,.3280, .9946, .9992
Mo2020,202.030 {467},Y_2243,ppm, 1.022,.0005,.0480, 1.023, 1.022
Na5895,589.592 { 57},Y_3710,ppm, 10.39,.0187,.1797, 10.37, 10.40
Ni2316,231.604 {445},In2306,ppm, .9707,.0021,.2117, .9721, .9692
P_1782,178.284 {489},In2306,ppm, 5.119,.0008,.0155, 5.120, 5.119
Pb2203,220.353 {453},In2306,ppm, .9619,.0020,.2083, .9605, .9633
S_1820,182.034 {485},Y_2243,ppm, 7.368,.0148,.2006, 7.358, 7.379
Sb2068,206.833 {463},Y_2243,ppm, 1.593,.0003,.0217, 1.594, 1.593
Se1960,196.090 {472},Y_2243,ppm, 1.024,.0006,.0560, 1.025, 1.024
Si2516,251.611 {134},Y_3710,ppm, 7.587,.0913,1.203, 7.523, 7.652
Sn1899,189.989 {477},In2306,ppm, .9727,.0002,.0251, .9729, .9726
Sr4215,421.552 { 80},Y_3710,ppm, 1.002,.0032,.3167, .9999, 1.004
Ti3349,334.904 {101},Y_3600,ppm, 1.004,.0033,.3259, 1.002, 1.007
Tl1908,190.856 {477},In2306,ppm, .5490,.0261,4.752, .5674, .5306
U_3670,367.007 { 92},Y_3600,ppm, .3046,.0768,25.21, .2503, .3589
V_2924,292.402 {115},Y_3600,ppm, .9673,.0026,.2683, .9655, .9692
W_2397,239.709 {140},Y_2243,ppm, .2727,.0958,35.12, .2050, .3404
Zn2062,206.200 {463},In2306,ppm, .4842,.0012,.2460, .4850, .4833

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 208.06,.11166,.05367,207.98,208.13
In2306,230.606 {446},Cts/S, 12800.,.79452,.00621,12800.,12801.
Y_2243,224.306 {450},Cts/S, 17430.,.10024,.00058,17430.,17430.
Y_3600,360.073 { 94},Cts/S, 158730.,446.32,.28118,159050.,158420.
Y_3710,371.030 { 91},Cts/S, 10325.,24.532,.23761,10307.,10342.

[Sample Header]
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Custom ID3=
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Sample Type=Unk
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0006,.0005,75.70, -.0003, -.0009
Al3082,308.215 {109},In2306,ppm, -.0045,.0061,134.5, -.0088, -.0002
As1890,189.042 {478},Y_2243,ppm, .0039,.0005,12.58, .0043, .0036
B_2496,249.678 {135},Y_3710,ppm, .0111,.0008,7.513, .0116, .0105
Ba4554,455.403 { 74},Y_3710,ppm, .0032,.0001,1.937, .0031, .0032
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,65.92, .0002, .0001
Ca3158,315.887 {107},In2306,ppm, .0220,.0092,41.73, .0285, .0155
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Cd2288,228.802 {447},Y_2243,ppm, .0002,.0003,202.3, -.0001, .0004
Co2286,228.616 {447},In2306,ppm, -.0000,.0002,1506., -.0001, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0001,.0002,223.3, .0002, -.0001
Cu3247,324.754 {104},Y_3600,ppm, .0032,.0004,13.06, .0034, .0029
Fe2404,240.488 {140},In2306,ppm, .0026,.0082,312.3, -.0032, .0084
K_7664,766.490 { 44},Y_3710,ppm, -.0018,.0342,1949., .0225, -.0260
Li6707,670.784 { 50},Y_3710,ppm, .0006,.0001,20.83, .0007, .0005
Mg2790,279.079 {121},Y_3710,ppm, .0042,.0027,65.30, .0061, .0023
Mn2576,257.610 {131},Y_3600,ppm, .0003,.0001,21.44, .0004, .0003
Mo2020,202.030 {467},Y_2243,ppm, .0048,.0007,15.04, .0043, .0053
Na5895,589.592 { 57},Y_3710,ppm, 141.6,.5375,.3796, 141.2, 142.0
Ni2316,231.604 {445},In2306,ppm, .0005,.0002,31.71, .0004, .0006
P_1782,178.284 {489},In2306,ppm, .0025,.0000,.2297, .0025, .0025
Pb2203,220.353 {453},In2306,ppm, -.0006,.0008,134.7, -.0011, -.0000
S_1820,182.034 {485},Y_2243,ppm, -.0112,.0072,63.98, -.0163, -.0061
Sb2068,206.833 {463},Y_2243,ppm, .0024,.0004,14.49, .0027, .0022
Se1960,196.090 {472},Y_2243,ppm, .0036,.0037,101.6, .0062, .0010
Si2516,251.611 {134},Y_3710,ppm, .0193,.0061,31.30, .0151, .0236
Sn1899,189.989 {477},In2306,ppm, .0014,.0006,40.49, .0010, .0018
Sr4215,421.552 { 80},Y_3710,ppm, .0001,.0001,63.72, .0000, .0001
Ti3349,334.904 {101},Y_3600,ppm, .0005,.0000,4.977, .0005, .0004
Tl1908,190.856 {477},In2306,ppm, .3133,.0122,3.908, .3047, .3220
U_3670,367.007 { 92},Y_3600,ppm, -.2599,.1614,62.09, -.3740, -.1458
V_2924,292.402 {115},Y_3600,ppm, .0000,.0001,416.2, -.0000, .0001
W_2397,239.709 {140},Y_2243,ppm, .0331,.0089,27.00, .0268, .0394
Zn2062,206.200 {463},In2306,ppm, .0027,.0001,3.075, .0027, .0028

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 205.49,1.0787,.52495,206.25,204.73
In2306,230.606 {446},Cts/S, 12205.,18.140,.14863,12218.,12192.
Y_2243,224.306 {450},Cts/S, 17030.,46.177,.27115,17063.,16997.
Y_3600,360.073 { 94},Cts/S, 154800.,97.655,.06308,154730.,154870.
Y_3710,371.030 { 91},Cts/S, 10090.,47.771,.47343,10124.,10057.

[Sample Header]
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SampleName=600-191572-A-1-O
Username=admin
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Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/23/2019 12:20:41
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0000,15.57, -.0002, -.0001
Al3082,308.215 {109},In2306,ppm, -.0029,.0212,736.1, .0121, -.0179
As1890,189.042 {478},Y_2243,ppm, .0001,.0031,4036., -.0021, .0023
B_2496,249.678 {135},Y_3710,ppm, .0132,.0038,28.35, .0159, .0106
Ba4554,455.403 { 74},Y_3710,ppm, .0245,.0000,.0226, .0245, .0245
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,15.21, .0000, .0000
Ca3158,315.887 {107},In2306,ppm, 78.85,.5676,.7199, 78.45, 79.25
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,48.51, .0001, .0001
Co2286,228.616 {447},In2306,ppm, -.0001,.0002,281.7, -.0002, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0003,.0001,40.52, .0004, .0002
Cu3247,324.754 {104},Y_3600,ppm, .0027,.0002,8.338, .0029, .0026
Fe2404,240.488 {140},In2306,ppm, .0130,.0093,71.37, .0196, .0065
K_7664,766.490 { 44},Y_3710,ppm, .2087,.0117,5.614, .2170, .2004
Li6707,670.784 { 50},Y_3710,ppm, .0016,.0007,44.72, .0011, .0021
Mg2790,279.079 {121},Y_3710,ppm, 1.071,.0199,1.856, 1.085, 1.057
Mn2576,257.610 {131},Y_3600,ppm, .0111,.0001,1.306, .0112, .0110
Mo2020,202.030 {467},Y_2243,ppm, .0009,.0000,3.561, .0009, .0010
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Na5895,589.592 { 57},Y_3710,ppm, 136.1,.3215,.2363, 135.8, 136.3
Ni2316,231.604 {445},In2306,ppm, .0004,.0001,25.64, .0005, .0003
P_1782,178.284 {489},In2306,ppm, .0024,.0002,7.271, .0026, .0023
Pb2203,220.353 {453},In2306,ppm, .0026,.0001,1.957, .0025, .0026
S_1820,182.034 {485},Y_2243,ppm, 17.23,.0035,.0204, 17.24, 17.23
Sb2068,206.833 {463},Y_2243,ppm, -.0028,.0005,16.30, -.0025, -.0032
Se1960,196.090 {472},Y_2243,ppm, .0034,.0018,52.26, .0021, .0046
Si2516,251.611 {134},Y_3710,ppm, .1262,.0055,4.362, .1301, .1224
Sn1899,189.989 {477},In2306,ppm, .0010,.0003,26.13, .0011, .0008
Sr4215,421.552 { 80},Y_3710,ppm, .0816,.0003,.4045, .0818, .0813
Ti3349,334.904 {101},Y_3600,ppm, .0010,.0001,6.609, .0010, .0009
Tl1908,190.856 {477},In2306,ppm, .2171,.0048,2.223, .2137, .2205
U_3670,367.007 { 92},Y_3600,ppm, -.2416,.0405,16.78, -.2130, -.2703
V_2924,292.402 {115},Y_3600,ppm, -.0001,.0004,435.5, .0002, -.0004
W_2397,239.709 {140},Y_2243,ppm, .0438,.0172,39.22, .0559, .0316
Zn2062,206.200 {463},In2306,ppm, .0179,.0001,.7085, .0180, .0178

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 204.69,.27783,.13573,204.89,204.49
In2306,230.606 {446},Cts/S, 11834.,16.700,.14113,11822.,11846.
Y_2243,224.306 {450},Cts/S, 16718.,13.173,.07880,16727.,16708.
Y_3600,360.073 { 94},Cts/S, 152900.,3.5923,.00235,152900.,152900.
Y_3710,371.030 { 91},Cts/S, 10063.,12.256,.12180,10071.,10054.

[Sample Header]
Method=ICP6500Metals_TRY3(v4963)
SampleName=600-191572-A-1-P DU
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/23/2019 12:22:44
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0005,.0002,39.61, -.0004, -.0007
Al3082,308.215 {109},In2306,ppm, -.0130,.0093,71.41, -.0064, -.0195
As1890,189.042 {478},Y_2243,ppm, .0027,.0017,62.67, .0015, .0039
B_2496,249.678 {135},Y_3710,ppm, .0136,.0071,52.60, .0085, .0186
Ba4554,455.403 { 74},Y_3710,ppm, .0255,.0001,.3636, .0255, .0256
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,62.71, -.0000, -.0000
Ca3158,315.887 {107},In2306,ppm, 80.12,.8169,1.020, 80.70, 79.54
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0000,6.481, -.0002, -.0001
Co2286,228.616 {447},In2306,ppm, -.0002,.0002,110.7, -.0000, -.0003
Cr2677,267.716 {126},Y_3600,ppm, -.0001,.0001,161.0, -.0002, .0000
Cu3247,324.754 {104},Y_3600,ppm, .0019,.0001,7.453, .0020, .0018
Fe2404,240.488 {140},In2306,ppm, .0179,.0237,132.2, .0347, .0012
K_7664,766.490 { 44},Y_3710,ppm, .2545,.0627,24.62, .2988, .2102
Li6707,670.784 { 50},Y_3710,ppm, .0011,.0002,18.07, .0013, .0010
Mg2790,279.079 {121},Y_3710,ppm, 1.036,.0054,.5229, 1.040, 1.032
Mn2576,257.610 {131},Y_3600,ppm, .0111,.0001,.8954, .0110, .0111
Mo2020,202.030 {467},Y_2243,ppm, .0005,.0002,40.61, .0006, .0003
Na5895,589.592 { 57},Y_3710,ppm, 136.8,.2791,.2041, 136.6, 137.0
Ni2316,231.604 {445},In2306,ppm, .0005,.0003,51.72, .0003, .0007
P_1782,178.284 {489},In2306,ppm, .0012,.0015,129.9, .0023, .0001
Pb2203,220.353 {453},In2306,ppm, .0026,.0000,1.594, .0026, .0025
S_1820,182.034 {485},Y_2243,ppm, 17.32,.0298,.1720, 17.30, 17.34
Sb2068,206.833 {463},Y_2243,ppm, -.0017,.0003,16.03, -.0019, -.0015
Se1960,196.090 {472},Y_2243,ppm, .0010,.0034,329.9, .0035, -.0014
Si2516,251.611 {134},Y_3710,ppm, .1235,.0029,2.336, .1255, .1215
Sn1899,189.989 {477},In2306,ppm, .0007,.0002,25.41, .0009, .0006
Sr4215,421.552 { 80},Y_3710,ppm, .0821,.0005,.6526, .0817, .0825
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Ti3349,334.904 {101},Y_3600,ppm, .0007,.0004,57.87, .0010, .0004
Tl1908,190.856 {477},In2306,ppm, .1542,.0004,.2726, .1539, .1545
U_3670,367.007 { 92},Y_3600,ppm, -.2643,.0658,24.92, -.3108, -.2177
V_2924,292.402 {115},Y_3600,ppm, .0005,.0003,69.05, .0003, .0007
W_2397,239.709 {140},Y_2243,ppm, .0073,.2095,2867., -.1408, .1554
Zn2062,206.200 {463},In2306,ppm, .0173,.0001,.4074, .0174, .0173

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 202.69,2.2507,1.1104,201.10,204.28
In2306,230.606 {446},Cts/S, 11825.,41.804,.35351,11855.,11796.
Y_2243,224.306 {450},Cts/S, 16686.,85.512,.51247,16747.,16626.
Y_3600,360.073 { 94},Cts/S, 151690.,690.45,.45518,152180.,151200.
Y_3710,371.030 { 91},Cts/S, 10026.,15.477,.15437,10037.,10015.

[Sample Header]
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Custom ID3=
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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .2539,.0004,.1531, .2542, .2536
Al3082,308.215 {109},In2306,ppm, 10.32,.0110,.1069, 10.31, 10.33
As1890,189.042 {478},Y_2243,ppm, 1.090,.0017,.1589, 1.091, 1.089
B_2496,249.678 {135},Y_3710,ppm, .5192,.0066,1.263, .5146, .5239
Ba4554,455.403 { 74},Y_3710,ppm, 1.054,.0025,.2396, 1.052, 1.056
Be3130,313.042 {108},Y_3710,ppm, .9884,.0046,.4659, .9852, .9917
Ca3158,315.887 {107},In2306,ppm, 90.37,.3802,.4208, 90.64, 90.10
Cd2288,228.802 {447},Y_2243,ppm, 1.011,.0030,.2952, 1.008, 1.013
Co2286,228.616 {447},In2306,ppm, .9733,.0004,.0409, .9735, .9730
Cr2677,267.716 {126},Y_3600,ppm, .9408,.0004,.0403, .9405, .9411
Cu3247,324.754 {104},Y_3600,ppm, .9993,.0004,.0357, .9996, .9991
Fe2404,240.488 {140},In2306,ppm, 10.24,.0075,.0736, 10.24, 10.25
K_7664,766.490 { 44},Y_3710,ppm, 10.44,.0547,.5244, 10.40, 10.48
Li6707,670.784 { 50},Y_3710,ppm, .9847,.0045,.4572, .9815, .9879
Mg2790,279.079 {121},Y_3710,ppm, 11.10,.0534,.4809, 11.06, 11.13
Mn2576,257.610 {131},Y_3600,ppm, .9949,.0001,.0094, .9950, .9948
Mo2020,202.030 {467},Y_2243,ppm, 1.031,.0026,.2569, 1.029, 1.033
Na5895,589.592 { 57},Y_3710,ppm, 145.8,.2471,.1694, 145.7, 146.0
Ni2316,231.604 {445},In2306,ppm, 1.007,.0002,.0186, 1.007, 1.007
P_1782,178.284 {489},In2306,ppm, 5.745,.0218,.3802, 5.729, 5.760
Pb2203,220.353 {453},In2306,ppm, .9914,.0013,.1293, .9905, .9923
S_1820,182.034 {485},Y_2243,ppm, 24.91,.0855,.3434, 24.85, 24.97
Sb2068,206.833 {463},Y_2243,ppm, 1.622,.0090,.5542, 1.616, 1.628
Se1960,196.090 {472},Y_2243,ppm, 1.060,.0048,.4497, 1.056, 1.063
Si2516,251.611 {134},Y_3710,ppm, 7.903,.0695,.8799, 7.854, 7.952
Sn1899,189.989 {477},In2306,ppm, 1.015,.0005,.0488, 1.015, 1.014
Sr4215,421.552 { 80},Y_3710,ppm, 1.092,.0005,.0433, 1.092, 1.093
Ti3349,334.904 {101},Y_3600,ppm, 1.014,.0007,.0643, 1.014, 1.013
Tl1908,190.856 {477},In2306,ppm, .5679,.0315,5.544, .5902, .5457
U_3670,367.007 { 92},Y_3600,ppm, .3179,.0212,6.674, .3329, .3029
V_2924,292.402 {115},Y_3600,ppm, .9809,.0001,.0069, .9809, .9810
W_2397,239.709 {140},Y_2243,ppm, .3427,.0188,5.473, .3559, .3294
Zn2062,206.200 {463},In2306,ppm, .5265,.0002,.0302, .5264, .5266

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 200.49,.36534,.18222,200.23,200.75
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In2306,230.606 {446},Cts/S, 11594.,16.956,.14625,11582.,11606.
Y_2243,224.306 {450},Cts/S, 16701.,8.8392,.05293,16708.,16695.
Y_3600,360.073 { 94},Cts/S, 151260.,159.35,.10535,151370.,151150.
Y_3710,371.030 { 91},Cts/S, 10040.,42.303,.42133,10070.,10010.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0006,.0001,8.532, -.0007, -.0006
Al3082,308.215 {109},In2306,ppm, -.0016,.0201,1233., .0126, -.0158
As1890,189.042 {478},Y_2243,ppm, .1019,.0002,.2059, .1018, .1021
B_2496,249.678 {135},Y_3710,ppm, .0117,.0063,53.49, .0073, .0162
Ba4554,455.403 { 74},Y_3710,ppm, .0018,.0002,8.263, .0019, .0017
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,71.17, .0002, .0001
Ca3158,315.887 {107},In2306,ppm, .2829,.0083,2.928, .2887, .2770
Cd2288,228.802 {447},Y_2243,ppm, .0008,.0001,10.68, .0007, .0008
Co2286,228.616 {447},In2306,ppm, .0002,.0002,73.05, .0003, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0002,.0001,64.20, .0001, .0003
Cu3247,324.754 {104},Y_3600,ppm, .0093,.0005,4.910, .0096, .0089
Fe2404,240.488 {140},In2306,ppm, 2.203,.0262,1.188, 2.221, 2.184
K_7664,766.490 { 44},Y_3710,ppm, .0095,.0015,15.86, .0106, .0085
Li6707,670.784 { 50},Y_3710,ppm, .0004,.0013,316.9, .0014, -.0005
Mg2790,279.079 {121},Y_3710,ppm, .0247,.0183,73.96, .0118, .0376
Mn2576,257.610 {131},Y_3600,ppm, .0003,.0000,12.02, .0003, .0003
Mo2020,202.030 {467},Y_2243,ppm, .0054,.0008,14.46, .0048, .0060
Na5895,589.592 { 57},Y_3710,ppm, .0616,.0108,17.50, .0693, .0540
Ni2316,231.604 {445},In2306,ppm, .0048,.0001,1.357, .0048, .0049
P_1782,178.284 {489},In2306,ppm, .0156,.0018,11.69, .0143, .0169
Pb2203,220.353 {453},In2306,ppm, -.0002,.0006,327.3, .0002, -.0006
S_1820,182.034 {485},Y_2243,ppm, 7.963,.0424,.5324, 7.933, 7.993
Sb2068,206.833 {463},Y_2243,ppm, .0021,.0008,39.82, .0015, .0026
Se1960,196.090 {472},Y_2243,ppm, .0087,.0006,6.663, .0083, .0091
Si2516,251.611 {134},Y_3710,ppm, .0014,.0084,593.0, -.0045, .0074
Sn1899,189.989 {477},In2306,ppm, .0030,.0005,16.46, .0027, .0034
Sr4215,421.552 { 80},Y_3710,ppm, .0003,.0000,4.766, .0003, .0003
Ti3349,334.904 {101},Y_3600,ppm, .0018,.0000,.3689, .0018, .0018
Tl1908,190.856 {477},In2306,ppm, .4212,.0060,1.432, .4170, .4255
U_3670,367.007 { 92},Y_3600,ppm, -.3024,.0320,10.59, -.2798, -.3250
V_2924,292.402 {115},Y_3600,ppm, -.0000,.0001,1139., .0001, -.0001
W_2397,239.709 {140},Y_2243,ppm, .0058,.0976,1671., .0749, -.0632
Zn2062,206.200 {463},In2306,ppm, .0238,.0001,.3031, .0239, .0238

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 207.91,.53019,.25501,207.53,208.28
In2306,230.606 {446},Cts/S, 13509.,55.041,.40743,13548.,13470.
Y_2243,224.306 {450},Cts/S, 17492.,74.536,.42612,17544.,17439.
Y_3600,360.073 { 94},Cts/S, 159610.,798.52,.50030,159050.,160180.
Y_3710,371.030 { 91},Cts/S, 10103.,176.30,1.7451,10227.,9977.9

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0005,.0002,39.10, -.0006, -.0004
Al3082,308.215 {109},In2306,ppm, -.0132,.0123,93.61, -.0219, -.0045
As1890,189.042 {478},Y_2243,ppm, .0536,.0037,6.952, .0562, .0510
B_2496,249.678 {135},Y_3710,ppm, .0036,.0074,202.9, -.0016, .0089
Ba4554,455.403 { 74},Y_3710,ppm, .0008,.0001,7.367, .0008, .0007
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0001,66.63, -.0001, -.0000
Ca3158,315.887 {107},In2306,ppm, .1280,.0029,2.259, .1300, .1259
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0000,.5546, .0002, .0002
Co2286,228.616 {447},In2306,ppm, -.0002,.0001,46.03, -.0001, -.0003
Cr2677,267.716 {126},Y_3600,ppm, -.0002,.0001,48.52, -.0001, -.0002
Cu3247,324.754 {104},Y_3600,ppm, .0045,.0006,13.23, .0049, .0041
Fe2404,240.488 {140},In2306,ppm, 1.115,.0167,1.502, 1.103, 1.126
K_7664,766.490 { 44},Y_3710,ppm, .0355,.0304,85.66, .0140, .0571
Li6707,670.784 { 50},Y_3710,ppm, -.0001,.0010,999.2, -.0008, .0006
Mg2790,279.079 {121},Y_3710,ppm, -.0087,.0122,140.2, -.0001, -.0173
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0001,83.99, -.0001, -.0000
Mo2020,202.030 {467},Y_2243,ppm, .0009,.0000,2.519, .0009, .0009
Na5895,589.592 { 57},Y_3710,ppm, -.0029,.0094,318.7, .0037, -.0096
Ni2316,231.604 {445},In2306,ppm, .0026,.0001,4.197, .0027, .0025
P_1782,178.284 {489},In2306,ppm, .0093,.0026,28.44, .0074, .0111
Pb2203,220.353 {453},In2306,ppm, .0001,.0024,1806., .0018, -.0015
S_1820,182.034 {485},Y_2243,ppm, 3.304,.0263,.7970, 3.323, 3.285
Sb2068,206.833 {463},Y_2243,ppm, -.0009,.0001,9.693, -.0010, -.0009
Se1960,196.090 {472},Y_2243,ppm, .0032,.0023,71.67, .0016, .0048
Si2516,251.611 {134},Y_3710,ppm, -.0061,.0093,152.3, .0005, -.0127
Sn1899,189.989 {477},In2306,ppm, .0015,.0001,7.863, .0015, .0014
Sr4215,421.552 { 80},Y_3710,ppm, -.0000,.0000,84.58, -.0001, -.0000
Ti3349,334.904 {101},Y_3600,ppm, .0007,.0000,.3567, .0007, .0007
Tl1908,190.856 {477},In2306,ppm, .2489,.0074,2.993, .2436, .2541
U_3670,367.007 { 92},Y_3600,ppm, -.2090,.0022,1.054, -.2105, -.2074
V_2924,292.402 {115},Y_3600,ppm, .0002,.0001,76.58, .0003, .0001
W_2397,239.709 {140},Y_2243,ppm, .0583,.0777,133.2, .1132, .0034
Zn2062,206.200 {463},In2306,ppm, .0105,.0000,.3799, .0104, .0105

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 207.17,1.2458,.60136,208.05,206.29
In2306,230.606 {446},Cts/S, 13469.,67.031,.49767,13516.,13421.
Y_2243,224.306 {450},Cts/S, 17502.,33.961,.19405,17526.,17478.
Y_3600,360.073 { 94},Cts/S, 159660.,22.913,.01435,159670.,159640.
Y_3710,371.030 { 91},Cts/S, 9943.1,37.723,.37939,9969.8,9916.4

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[Results]
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Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2372,.0000,.0098, .2372, .2372
Al3082,308.215 {109},In2306,ppm, 10.06,.1381,1.373, 9.964, 10.16
As1890,189.042 {478},Y_2243,ppm, 1.055,.0038,.3647, 1.053, 1.058
B_2496,249.678 {135},Y_3710,ppm, .4744,.0110,2.321, .4822, .4666
Ba4554,455.403 { 74},Y_3710,ppm, 1.016,.0036,.3553, 1.014, 1.019
Be3130,313.042 {108},Y_3710,ppm, .9519,.0037,.3865, .9493, .9545
Ca3158,315.887 {107},In2306,ppm, 87.85,.4356,.4958, 87.54, 88.16
Cd2288,228.802 {447},Y_2243,ppm, .9858,.0026,.2680, .9839, .9877
Co2286,228.616 {447},In2306,ppm, .9386,.0013,.1374, .9395, .9377
Cr2677,267.716 {126},Y_3600,ppm, .9009,.0005,.0583, .9005, .9013
Cu3247,324.754 {104},Y_3600,ppm, .9688,.0010,.0987, .9681, .9695
Fe2404,240.488 {140},In2306,ppm, 9.914,.1235,1.245, 9.826, 10.00
K_7664,766.490 { 44},Y_3710,ppm, 10.18,.0754,.7408, 10.12, 10.23
Li6707,670.784 { 50},Y_3710,ppm, .9503,.0033,.3468, .9526, .9480
Mg2790,279.079 {121},Y_3710,ppm, 10.83,.0831,.7671, 10.77, 10.89
Mn2576,257.610 {131},Y_3600,ppm, .9528,.0000,.0028, .9528, .9527
Mo2020,202.030 {467},Y_2243,ppm, .9970,.0008,.0810, .9964, .9976
Na5895,589.592 { 57},Y_3710,ppm, 142.5,.0203,.0142, 142.6, 142.5
Ni2316,231.604 {445},In2306,ppm, .9693,.0006,.0651, .9688, .9697
P_1782,178.284 {489},In2306,ppm, 5.450,.0198,.3633, 5.464, 5.436
Pb2203,220.353 {453},In2306,ppm, .9463,.0008,.0873, .9458, .9469
S_1820,182.034 {485},Y_2243,ppm, 24.25,.0499,.2056, 24.21, 24.28
Sb2068,206.833 {463},Y_2243,ppm, 1.561,.0034,.2200, 1.558, 1.563
Se1960,196.090 {472},Y_2243,ppm, 1.040,.0032,.3063, 1.038, 1.042
Si2516,251.611 {134},Y_3710,ppm, 8.334,.1676,2.011, 8.215, 8.452
Sn1899,189.989 {477},In2306,ppm, .9675,.0009,.0900, .9681, .9669
Sr4215,421.552 { 80},Y_3710,ppm, 1.056,.0030,.2877, 1.054, 1.058
Ti3349,334.904 {101},Y_3600,ppm, .9755,.0014,.1446, .9745, .9765
Tl1908,190.856 {477},In2306,ppm, 1.732,.0083,.4781, 1.726, 1.738
U_3670,367.007 { 92},Y_3600,ppm, .2662,.2144,80.54, .4178, .1146
V_2924,292.402 {115},Y_3600,ppm, .9409,.0014,.1501, .9419, .9399
W_2397,239.709 {140},Y_2243,ppm, .2417,.0440,18.22, .2728, .2105
Zn2062,206.200 {463},In2306,ppm, .4726,.0013,.2819, .4736, .4717

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 202.52,.54978,.27147,202.91,202.13
In2306,230.606 {446},Cts/S, 11652.,27.756,.23820,11672.,11633.
Y_2243,224.306 {450},Cts/S, 16635.,72.063,.43319,16686.,16584.
Y_3600,360.073 { 94},Cts/S, 152810.,61.842,.04047,152850.,152760.
Y_3710,371.030 { 91},Cts/S, 10165.,5.1481,.05065,10161.,10168.

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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0002,.0003,110.5, -.0001, -.0004
Al3082,308.215 {109},In2306,ppm, -.0124,.0238,192.7, .0045, -.0292
As1890,189.042 {478},Y_2243,ppm, .0020,.0012,59.63, .0012, .0029
B_2496,249.678 {135},Y_3710,ppm, .0052,.0027,50.99, .0071, .0033
Ba4554,455.403 { 74},Y_3710,ppm, .0049,.0000,.5211, .0049, .0049
Be3130,313.042 {108},Y_3710,ppm, .0002,.0000,19.88, .0003, .0002
Ca3158,315.887 {107},In2306,ppm, 16.02,.0303,.1890, 16.00, 16.04
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,71.77, .0002, .0001
Co2286,228.616 {447},In2306,ppm, -.0001,.0003,196.0, -.0003, .0001
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Cr2677,267.716 {126},Y_3600,ppm, .0002,.0004,175.7, .0006, -.0001
Cu3247,324.754 {104},Y_3600,ppm, .0034,.0004,13.28, .0030, .0037
Fe2404,240.488 {140},In2306,ppm, -.0063,.0002,3.388, -.0061, -.0064
K_7664,766.490 { 44},Y_3710,ppm, .0053,.0175,332.2, -.0071, .0176
Li6707,670.784 { 50},Y_3710,ppm, -.0012,.0001,12.41, -.0013, -.0011
Mg2790,279.079 {121},Y_3710,ppm, .2362,.0182,7.722, .2491, .2233
Mn2576,257.610 {131},Y_3600,ppm, .0022,.0001,2.461, .0022, .0021
Mo2020,202.030 {467},Y_2243,ppm, .0057,.0004,7.701, .0054, .0060
Na5895,589.592 { 57},Y_3710,ppm, 27.58,.1742,.6318, 27.45, 27.70
Ni2316,231.604 {445},In2306,ppm, .0003,.0001,57.70, .0004, .0001
P_1782,178.284 {489},In2306,ppm, .0014,.0001,9.961, .0014, .0013
Pb2203,220.353 {453},In2306,ppm, .0008,.0013,160.2, .0017, -.0001
S_1820,182.034 {485},Y_2243,ppm, 2.250,.0263,1.167, 2.269, 2.232
Sb2068,206.833 {463},Y_2243,ppm, .0049,.0010,20.86, .0056, .0042
Se1960,196.090 {472},Y_2243,ppm, .0018,.0015,86.24, .0029, .0007
Si2516,251.611 {134},Y_3710,ppm, .0276,.0031,11.10, .0255, .0298
Sn1899,189.989 {477},In2306,ppm, .0015,.0005,36.73, .0011, .0019
Sr4215,421.552 { 80},Y_3710,ppm, .0170,.0002,1.033, .0169, .0172
Ti3349,334.904 {101},Y_3600,ppm, .0008,.0001,14.83, .0007, .0009
Tl1908,190.856 {477},In2306,ppm, .1082,.0136,12.53, .0986, .1178
U_3670,367.007 { 92},Y_3600,ppm, -.3131,.0866,27.65, -.2519, -.3743
V_2924,292.402 {115},Y_3600,ppm, .0003,.0003,127.6, .0005, .0000
W_2397,239.709 {140},Y_2243,ppm, .0204,.0217,106.5, .0357, .0050
Zn2062,206.200 {463},In2306,ppm, .0031,.0001,1.657, .0032, .0031

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 210.73,.38278,.18164,210.46,211.00
In2306,230.606 {446},Cts/S, 12790.,19.608,.15331,12803.,12776.
Y_2243,224.306 {450},Cts/S, 17050.,16.282,.09549,17039.,17062.
Y_3600,360.073 { 94},Cts/S, 157710.,399.98,.25361,158000.,157430.
Y_3710,371.030 { 91},Cts/S, 10189.,67.783,.66526,10237.,10141.

[Sample Header]
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SampleName=CCV 3282133
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/23/2019 12:34:40
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .5025,.0010,.1907, .5019, .5032
Al3082,308.215 {109},In2306,ppm, 19.53,.0489,.2503, 19.56, 19.49
As1890,189.042 {478},Y_2243,ppm, 1.059,.0063,.5962, 1.054, 1.063
B_2496,249.678 {135},Y_3710,ppm, .9780,.0109,1.111, .9703, .9856
Ba4554,455.403 { 74},Y_3710,ppm, 1.018,.0007,.0732, 1.019, 1.018
Be3130,313.042 {108},Y_3710,ppm, .9611,.0012,.1273, .9602, .9619
Ca3158,315.887 {107},In2306,ppm, 19.16,.0459,.2395, 19.19, 19.12
Cd2288,228.802 {447},Y_2243,ppm, .9936,.0028,.2807, .9916, .9955
Co2286,228.616 {447},In2306,ppm, .9436,.0007,.0740, .9441, .9431
Cr2677,267.716 {126},Y_3600,ppm, .9280,.0027,.2885, .9261, .9299
Cu3247,324.754 {104},Y_3600,ppm, .9794,.0023,.2387, .9778, .9811
Fe2404,240.488 {140},In2306,ppm, 19.61,.0298,.1521, 19.59, 19.64
K_7664,766.490 { 44},Y_3710,ppm, 19.49,.0974,.4995, 19.56, 19.42
Li6707,670.784 { 50},Y_3710,ppm, .9710,.0021,.2140, .9724, .9695
Mg2790,279.079 {121},Y_3710,ppm, 19.90,.0841,.4228, 19.96, 19.84
Mn2576,257.610 {131},Y_3600,ppm, .9828,.0001,.0088, .9829, .9828
Mo2020,202.030 {467},Y_2243,ppm, 1.029,.0007,.0674, 1.029, 1.030
Na5895,589.592 { 57},Y_3710,ppm, 19.74,.0004,.0020, 19.74, 19.74
Ni2316,231.604 {445},In2306,ppm, .9769,.0028,.2910, .9789, .9749
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P_1782,178.284 {489},In2306,ppm, 10.31,.0019,.0186, 10.31, 10.31
Pb2203,220.353 {453},In2306,ppm, .9620,.0037,.3795, .9646, .9594
S_1820,182.034 {485},Y_2243,ppm, 11.22,.0233,.2075, 11.20, 11.24
Sb2068,206.833 {463},Y_2243,ppm, 2.166,.0072,.3302, 2.161, 2.171
Se1960,196.090 {472},Y_2243,ppm, 1.031,.0013,.1221, 1.030, 1.032
Si2516,251.611 {134},Y_3710,ppm, 8.553,.1470,1.718, 8.449, 8.657
Sn1899,189.989 {477},In2306,ppm, .9713,.0034,.3530, .9737, .9689
Sr4215,421.552 { 80},Y_3710,ppm, 1.004,.0011,.1132, 1.004, 1.005
Ti3349,334.904 {101},Y_3600,ppm, .9998,.0014,.1439, 1.001, .9988
Tl1908,190.856 {477},In2306,ppm, .7556,.0223,2.954, .7714, .7399
U_3670,367.007 { 92},Y_3600,ppm, .7830,.0552,7.049, .7439, .8220
V_2924,292.402 {115},Y_3600,ppm, .9659,.0005,.0533, .9655, .9662
W_2397,239.709 {140},Y_2243,ppm, 1.363,.0622,4.560, 1.320, 1.407
Zn2062,206.200 {463},In2306,ppm, .9367,.0034,.3665, .9391, .9342

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 206.03,2.5780,1.2513,204.21,207.85
In2306,230.606 {446},Cts/S, 12369.,16.582,.13406,12381.,12357.
Y_2243,224.306 {450},Cts/S, 17069.,70.246,.41155,17119.,17019.
Y_3600,360.073 { 94},Cts/S, 156050.,257.48,.16500,155870.,156230.
Y_3710,371.030 { 91},Cts/S, 10143.,95.365,.94021,10076.,10210.

[Sample Header]
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Custom ID2=
Custom ID3=
Run Time=9/23/2019 12:36:31
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0101,.0002,1.773, .0100, .0102
Al3082,308.215 {109},In2306,ppm, .1892,.0021,1.084, .1878, .1907
As1890,189.042 {478},Y_2243,ppm, .0231,.0006,2.400, .0227, .0235
B_2496,249.678 {135},Y_3710,ppm, .2185,.0010,.4644, .2178, .2192
Ba4554,455.403 { 74},Y_3710,ppm, .0229,.0001,.5759, .0230, .0228
Be3130,313.042 {108},Y_3710,ppm, .0111,.0000,.1215, .0111, .0111
Ca3158,315.887 {107},In2306,ppm, 1.016,.0004,.0368, 1.016, 1.016
Cd2288,228.802 {447},Y_2243,ppm, .0112,.0001,1.205, .0111, .0113
Co2286,228.616 {447},In2306,ppm, .0103,.0001,.8085, .0104, .0102
Cr2677,267.716 {126},Y_3600,ppm, .0103,.0001,.8317, .0102, .0103
Cu3247,324.754 {104},Y_3600,ppm, .0142,.0005,3.850, .0146, .0138
Fe2404,240.488 {140},In2306,ppm, .2016,.0167,8.303, .1898, .2135
K_7664,766.490 { 44},Y_3710,ppm, 1.002,.0054,.5391, .9981, 1.006
Li6707,670.784 { 50},Y_3710,ppm, .0095,.0012,12.69, .0103, .0086
Mg2790,279.079 {121},Y_3710,ppm, 1.095,.0221,2.018, 1.080, 1.111
Mn2576,257.610 {131},Y_3600,ppm, .0111,.0000,.2886, .0111, .0111
Mo2020,202.030 {467},Y_2243,ppm, .0274,.0008,3.079, .0268, .0280
Na5895,589.592 { 57},Y_3710,ppm, 1.052,.0003,.0313, 1.052, 1.052
Ni2316,231.604 {445},In2306,ppm, .0109,.0004,3.311, .0106, .0111
P_1782,178.284 {489},In2306,ppm, .9783,.0014,.1456, .9793, .9773
Pb2203,220.353 {453},In2306,ppm, .0111,.0005,4.416, .0108, .0114
S_1820,182.034 {485},Y_2243,ppm, -3.019,.0116,.3837, -3.011, -3.027
Sb2068,206.833 {463},Y_2243,ppm, .0555,.0006,1.127, .0550, .0559
Se1960,196.090 {472},Y_2243,ppm, .0279,.0009,3.237, .0273, .0285
Si2516,251.611 {134},Y_3710,ppm, .1789,.0016,.9197, .1801, .1778
Sn1899,189.989 {477},In2306,ppm, .0221,.0003,1.162, .0219, .0223
Sr4215,421.552 { 80},Y_3710,ppm, .0112,.0001,.6566, .0113, .0112
Ti3349,334.904 {101},Y_3600,ppm, .0118,.0006,4.991, .0114, .0122
Tl1908,190.856 {477},In2306,ppm, .2531,.0059,2.323, .2489, .2572
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U_3670,367.007 { 92},Y_3600,ppm, -.2767,.0073,2.653, -.2715, -.2819
V_2924,292.402 {115},Y_3600,ppm, .0105,.0001,1.104, .0105, .0104
W_2397,239.709 {140},Y_2243,ppm, .0636,.0393,61.82, .0358, .0913
Zn2062,206.200 {463},In2306,ppm, .0180,.0000,.2338, .0181, .0180

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 209.72,.93104,.44394,210.38,209.06
In2306,230.606 {446},Cts/S, 13341.,34.339,.25739,13365.,13317.
Y_2243,224.306 {450},Cts/S, 17511.,31.618,.18056,17534.,17489.
Y_3600,360.073 { 94},Cts/S, 161250.,101.87,.06318,161180.,161320.
Y_3710,371.030 { 91},Cts/S, 10156.,46.064,.45357,10188.,10123.

[Sample Header]
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Comment=
Custom ID1=
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Custom ID3=
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Mode=CONC
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0006,.0001,12.01, .0006, .0007
Al3082,308.215 {109},In2306,ppm, -.0334,.0094,28.09, -.0267, -.0400
As1890,189.042 {478},Y_2243,ppm, .0026,.0017,64.95, .0037, .0014
B_2496,249.678 {135},Y_3710,ppm, .0077,.0071,91.90, .0128, .0027
Ba4554,455.403 { 74},Y_3710,ppm, -.0003,.0002,62.44, -.0002, -.0004
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,73.38, .0000, .0001
Ca3158,315.887 {107},In2306,ppm, .0048,.0010,21.16, .0055, .0041
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0001,284.4, .0001, -.0000
Co2286,228.616 {447},In2306,ppm, -.0002,.0000,22.83, -.0002, -.0001
Cr2677,267.716 {126},Y_3600,ppm, -.0002,.0001,45.84, -.0001, -.0002
Cu3247,324.754 {104},Y_3600,ppm, .0027,.0005,17.28, .0024, .0030
Fe2404,240.488 {140},In2306,ppm, .0051,.0002,3.403, .0052, .0049
K_7664,766.490 { 44},Y_3710,ppm, -.0123,.0188,153.3, -.0256, .0010
Li6707,670.784 { 50},Y_3710,ppm, -.0019,.0004,19.11, -.0021, -.0016
Mg2790,279.079 {121},Y_3710,ppm, .0055,.0066,118.7, .0009, .0102
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,14.97, -.0001, -.0001
Mo2020,202.030 {467},Y_2243,ppm, .0010,.0007,71.16, .0005, .0015
Na5895,589.592 { 57},Y_3710,ppm, -.0291,.0029,9.917, -.0271, -.0311
Ni2316,231.604 {445},In2306,ppm, .0005,.0003,52.90, .0003, .0007
P_1782,178.284 {489},In2306,ppm, -.0007,.0005,67.98, -.0004, -.0010
Pb2203,220.353 {453},In2306,ppm, .0013,.0005,35.23, .0010, .0017
S_1820,182.034 {485},Y_2243,ppm, -3.689,.0021,.0578, -3.691, -3.688
Sb2068,206.833 {463},Y_2243,ppm, -.0026,.0003,12.34, -.0024, -.0028
Se1960,196.090 {472},Y_2243,ppm, .0022,.0022,97.92, .0037, .0007
Si2516,251.611 {134},Y_3710,ppm, .0106,.0086,81.65, .0045, .0167
Sn1899,189.989 {477},In2306,ppm, .0005,.0000,.8760, .0005, .0005
Sr4215,421.552 { 80},Y_3710,ppm, -.0002,.0002,98.60, -.0001, -.0004
Ti3349,334.904 {101},Y_3600,ppm, .0002,.0001,39.56, .0002, .0001
Tl1908,190.856 {477},In2306,ppm, .1781,.0083,4.657, .1723, .1840
U_3670,367.007 { 92},Y_3600,ppm, -.2753,.0825,29.98, -.3336, -.2169
V_2924,292.402 {115},Y_3600,ppm, .0002,.0002,127.7, .0003, .0000
W_2397,239.709 {140},Y_2243,ppm, .0238,.0333,139.6, .0003, .0474
Zn2062,206.200 {463},In2306,ppm, .0015,.0001,5.660, .0016, .0014

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 209.96,1.7074,.81321,211.16,208.75
In2306,230.606 {446},Cts/S, 13364.,10.922,.08173,13356.,13371.
Y_2243,224.306 {450},Cts/S, 17557.,26.863,.15301,17538.,17576.
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Y_3600,360.073 { 94},Cts/S, 160660.,235.12,.14635,160820.,160490.
Y_3710,371.030 { 91},Cts/S, 10129.,58.014,.57275,10170.,10088.


[Sample Header]
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SampleName=600-191956-R-1EMSD@5
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/23/2019 12:40:42
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0488,.0001,.2104, .0488, .0489
Al3082,308.215 {109},In2306,ppm, 1.980,.0735,3.713, 2.032, 1.928
As1890,189.042 {478},Y_2243,ppm, .2283,.0011,.4774, .2291, .2275
B_2496,249.678 {135},Y_3710,ppm, .1339,.0034,2.520, .1362, .1315
Ba4554,455.403 { 74},Y_3710,ppm, .2565,.0102,3.971, .2637, .2493
Be3130,313.042 {108},Y_3710,ppm, .2029,.0089,4.370, .2091, .1966
Ca3158,315.887 {107},In2306,ppm, 9.103,.3755,4.126, 9.368, 8.837
Cd2288,228.802 {447},Y_2243,ppm, .2120,.0015,.7247, .2131, .2109
Co2286,228.616 {447},In2306,ppm, .2009,.0021,1.026, .2023, .1994
Cr2677,267.716 {126},Y_3600,ppm, .1990,.0008,.3938, .1985, .1996
Cu3247,324.754 {104},Y_3600,ppm, .2085,.0002,.1002, .2084, .2087
Fe2404,240.488 {140},In2306,ppm, 2.027,.0703,3.467, 2.077, 1.978
K_7664,766.490 { 44},Y_3710,ppm, 4.888,.2212,4.525, 5.045, 4.732
Li6707,670.784 { 50},Y_3710,ppm, .2026,.0095,4.685, .2094, .1959
Mg2790,279.079 {121},Y_3710,ppm, 6.392,.2565,4.013, 6.573, 6.211
Mn2576,257.610 {131},Y_3600,ppm, .2209,.0002,.1094, .2207, .2211
Mo2020,202.030 {467},Y_2243,ppm, .2190,.0017,.7591, .2201, .2178
Na5895,589.592 { 57},Y_3710,ppm, 51.15,2.126,4.157, 52.65, 49.64
Ni2316,231.604 {445},In2306,ppm, .2079,.0018,.8610, .2091, .2066
P_1782,178.284 {489},In2306,ppm, 1.096,.0059,.5409, 1.100, 1.092
Pb2203,220.353 {453},In2306,ppm, .2049,.0018,.8670, .2062, .2037
S_1820,182.034 {485},Y_2243,ppm, 2.193,.0455,2.076, 2.226, 2.161
Sb2068,206.833 {463},Y_2243,ppm, .3344,.0069,2.066, .3393, .3295
Se1960,196.090 {472},Y_2243,ppm, .2204,.0044,1.981, .2235, .2174
Si2516,251.611 {134},Y_3710,ppm, 2.486,.0952,3.828, 2.553, 2.418
Sn1899,189.989 {477},In2306,ppm, .2070,.0023,1.109, .2086, .2053
Sr4215,421.552 { 80},Y_3710,ppm, .2749,.0108,3.938, .2826, .2673
Ti3349,334.904 {101},Y_3600,ppm, .2115,.0004,.1929, .2117, .2112
Tl1908,190.856 {477},In2306,ppm, .2134,.0014,.6468, .2144, .2124
U_3670,367.007 { 92},Y_3600,ppm, -.1642,.0249,15.14, -.1466, -.1818
V_2924,292.402 {115},Y_3600,ppm, .2050,.0004,.2009, .2047, .2053
W_2397,239.709 {140},Y_2243,ppm, .1065,.0838,78.71, .0472, .1658
Zn2062,206.200 {463},In2306,ppm, .1037,.0011,1.023, .1044, .1029

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 209.77,6.6682,3.1788,205.05,214.48
In2306,230.606 {446},Cts/S, 12419.,54.335,.43750,12381.,12458.
Y_2243,224.306 {450},Cts/S, 17079.,64.055,.37505,17034.,17124.
Y_3600,360.073 { 94},Cts/S, 156490.,126.34,.08073,156580.,156400.
Y_3710,371.030 { 91},Cts/S, 10288.,302.92,2.9444,10074.,10502.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0002,120.8, -.0003, -.0000
Al3082,308.215 {109},In2306,ppm, -.0163,.0008,4.685, -.0169, -.0158
As1890,189.042 {478},Y_2243,ppm, .0062,.0004,6.041, .0064, .0059
B_2496,249.678 {135},Y_3710,ppm, .0611,.0033,5.394, .0588, .0634
Ba4554,455.403 { 74},Y_3710,ppm, .0985,.0012,1.253, .0976, .0993
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,.2858, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, 12.32,.0721,.5851, 12.27, 12.37
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0000,32.29, .0001, .0001
Co2286,228.616 {447},In2306,ppm, .0003,.0001,43.85, .0004, .0002
Cr2677,267.716 {126},Y_3600,ppm, -.0001,.0002,129.4, -.0002, -.0000
Cu3247,324.754 {104},Y_3600,ppm, .0019,.0001,3.756, .0018, .0019
Fe2404,240.488 {140},In2306,ppm, .0029,.0046,159.0, -.0004, .0061
K_7664,766.490 { 44},Y_3710,ppm, 1.304,.0029,.2190, 1.302, 1.306
Li6707,670.784 { 50},Y_3710,ppm, .0013,.0005,42.87, .0009, .0016
Mg2790,279.079 {121},Y_3710,ppm, 12.56,.1187,.9450, 12.48, 12.64
Mn2576,257.610 {131},Y_3600,ppm, .1373,.0001,.0740, .1373, .1372
Mo2020,202.030 {467},Y_2243,ppm, .0015,.0000,1.103, .0015, .0015
Na5895,589.592 { 57},Y_3710,ppm, 119.5,.7406,.6199, 118.9, 120.0
Ni2316,231.604 {445},In2306,ppm, .0006,.0005,86.09, .0002, .0009
P_1782,178.284 {489},In2306,ppm, -.0002,.0002,158.4, -.0003, .0000
Pb2203,220.353 {453},In2306,ppm, -.0002,.0012,642.0, .0007, -.0010
S_1820,182.034 {485},Y_2243,ppm, -1.058,.0071,.6711, -1.063, -1.053
Sb2068,206.833 {463},Y_2243,ppm, .0005,.0020,375.4, .0019, -.0009
Se1960,196.090 {472},Y_2243,ppm, .0067,.0006,8.315, .0071, .0063
Si2516,251.611 {134},Y_3710,ppm, .7940,.0025,.3139, .7958, .7922
Sn1899,189.989 {477},In2306,ppm, .0001,.0004,378.3, .0004, -.0002
Sr4215,421.552 { 80},Y_3710,ppm, .1280,.0013,1.024, .1271, .1289
Ti3349,334.904 {101},Y_3600,ppm, .0002,.0004,242.3, -.0001, .0005
Tl1908,190.856 {477},In2306,ppm, .1408,.0070,4.979, .1358, .1458
U_3670,367.007 { 92},Y_3600,ppm, -.2797,.0074,2.629, -.2849, -.2745
V_2924,292.402 {115},Y_3600,ppm, -.0003,.0000,4.294, -.0004, -.0003
W_2397,239.709 {140},Y_2243,ppm, .1423,.0640,44.97, .0970, .1875
Zn2062,206.200 {463},In2306,ppm, .0002,.0000,28.05, .0001, .0002

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 199.84,.31098,.15561,199.62,200.06
In2306,230.606 {446},Cts/S, 12034.,4.9342,.04100,12031.,12038.
Y_2243,224.306 {450},Cts/S, 16849.,.03154,.00019,16849.,16849.
Y_3600,360.073 { 94},Cts/S, 152970.,319.35,.20876,153200.,152750.
Y_3710,371.030 { 91},Cts/S, 9913.5,.96183,.00970,9914.1,9912.8

[Sample Header]
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SampleName=600-191728-A-2-F
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/23/2019 12:44:40
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
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Ag3280,328.068 {103},Y_3600,ppm, .0720,.0006,.9013, .0715, .0725
Al3082,308.215 {109},In2306,ppm, 104.9,.4645,.4427, 105.3, 104.6
As1890,189.042 {478},Y_2243,ppm, .4428,.0040,.8976, .4457, .4400
B_2496,249.678 {135},Y_3710,ppm, .1911,.0191,9.978, .1776, .2046
Ba4554,455.403 { 74},Y_3710,ppm, 2.955,.0039,.1318, 2.958, 2.952
Be3130,313.042 {108},Y_3710,ppm, .0102,.0002,1.835, .0103, .0100
Ca3158,315.887 {107},In2306,ppm, 22.59,.2249,.9953, 22.75, 22.43
Cd2288,228.802 {447},Y_2243,ppm, .0664,.0005,.6995, .0667, .0660
Co2286,228.616 {447},In2306,ppm, 1.039,.0014,.1329, 1.040, 1.038
Cr2677,267.716 {126},Y_3600,ppm, 5.054,.0055,.1088, 5.050, 5.058
Cu3247,324.754 {104},Y_3600,ppm, 10.49,.0749,.7138, 10.44, 10.54
Fe2404,240.488 {140},In2306,ppm, 3088.,7.224,.2340, 3093., 3082.
K_7664,766.490 { 44},Y_3710,ppm, 24.47,.0615,.2512, 24.51, 24.43
Li6707,670.784 { 50},Y_3710,ppm, .1001,.0000,.0146, .1001, .1001
Mg2790,279.079 {121},Y_3710,ppm, 23.83,.0514,.2157, 23.87, 23.80
Mn2576,257.610 {131},Y_3600,ppm,^ *****,-----,-----,^ -----,^ -----
Mo2020,202.030 {467},Y_2243,ppm, 1.015,.0073,.7219, 1.020, 1.009
Na5895,589.592 { 57},Y_3710,ppm, 2.582,.0124,.4814, 2.591, 2.573
Ni2316,231.604 {445},In2306,ppm,k 6.826,.0148,.2175,k 6.836,k 6.815
P_1782,178.284 {489},In2306,ppm, 16.81,.1024,.6091, 16.88, 16.74
Pb2203,220.353 {453},In2306,ppm,k 1.277,.0064,.5026,k 1.281,k 1.272
S_1820,182.034 {485},Y_2243,ppm, 51.96,.2237,.4306, 52.11, 51.80
Sb2068,206.833 {463},Y_2243,ppm, .2009,.0023,1.133, .2025, .1993
Se1960,196.090 {472},Y_2243,ppm, .1217,.0005,.3990, .1220, .1213
Si2516,251.611 {134},Y_3710,ppm, 8.775,.0430,.4897, 8.805, 8.744
Sn1899,189.989 {477},In2306,ppm, .7003,.0042,.6068, .7033, .6973
Sr4215,421.552 { 80},Y_3710,ppm, .8531,.0006,.0666, .8535, .8527
Ti3349,334.904 {101},Y_3600,ppm, 1.222,.0059,.4858, 1.218, 1.226
Tl1908,190.856 {477},In2306,ppm,k .5037,.0130,2.577,k .4946,k .5129
U_3670,367.007 { 92},Y_3600,ppm, 22.95,.1244,.5421, 22.87, 23.04
V_2924,292.402 {115},Y_3600,ppm, 1.129,.0037,.3289, 1.127, 1.132
W_2397,239.709 {140},Y_2243,ppm, -1.259,.0879,6.982, -1.321, -1.197
Zn2062,206.200 {463},In2306,ppm, 2.368,.0051,.2160, 2.372, 2.364

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 190.71,2.2138,1.1608,189.14,192.27
In2306,230.606 {446},Cts/S, 9869.0,17.843,.18080,9856.4,9881.6
Y_2243,224.306 {450},Cts/S, 15416.,38.276,.24829,15389.,15443.
Y_3600,360.073 { 94},Cts/S, 144670.,511.46,.35354,145030.,144310.
Y_3710,371.030 { 91},Cts/S, 10096.,48.542,.48081,10062.,10130.

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Ag3280,328.068 {103},Y_3600,ppm, .0079,.0002,2.155, .0080, .0078
Al3082,308.215 {109},In2306,ppm, 11.23,.0954,.8494, 11.29, 11.16
As1890,189.042 {478},Y_2243,ppm, .0516,.0023,4.545, .0500, .0533
B_2496,249.678 {135},Y_3710,ppm, .0179,.0004,1.964, .0176, .0181
Ba4554,455.403 { 74},Y_3710,ppm, .3384,.0017,.4894, .3372, .3395
Be3130,313.042 {108},Y_3710,ppm, .0012,.0001,5.220, .0012, .0011
Ca3158,315.887 {107},In2306,ppm, 2.555,.0257,1.004, 2.574, 2.537
Cd2288,228.802 {447},Y_2243,ppm, .0083,.0001,.7506, .0083, .0082
Co2286,228.616 {447},In2306,ppm, .1211,.0001,.1127, .1210, .1212
Cr2677,267.716 {126},Y_3600,ppm, .6265,.0017,.2693, .6253, .6277
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Cu3247,324.754 {104},Y_3600,ppm, 1.127,.0094,.8316, 1.121, 1.134
Fe2404,240.488 {140},In2306,ppm, 443.7,4.817,1.086, 447.1, 440.3
K_7664,766.490 { 44},Y_3710,ppm, 2.723,.0042,.1552, 2.726, 2.720
Li6707,670.784 { 50},Y_3710,ppm, .0107,.0001,.7382, .0108, .0107
Mg2790,279.079 {121},Y_3710,ppm, 3.012,.0579,1.922, 2.971, 3.053
Mn2576,257.610 {131},Y_3600,ppm, 35.09,.2260,.6440, 34.93, 35.25
Mo2020,202.030 {467},Y_2243,ppm, .1260,.0001,.0567, .1261, .1260
Na5895,589.592 { 57},Y_3710,ppm, .2554,.0076,2.968, .2608, .2500
Ni2316,231.604 {445},In2306,ppm, .8069,.0006,.0784, .8064, .8073
P_1782,178.284 {489},In2306,ppm, 1.816,.0039,.2156, 1.813, 1.818
Pb2203,220.353 {453},In2306,ppm, .1637,.0009,.5749, .1631, .1644
S_1820,182.034 {485},Y_2243,ppm, 5.041,.0384,.7618, 5.014, 5.068
Sb2068,206.833 {463},Y_2243,ppm, .0218,.0008,3.797, .0224, .0212
Se1960,196.090 {472},Y_2243,ppm, .0213,.0052,24.54, .0176, .0250
Si2516,251.611 {134},Y_3710,ppm, 1.040,.0001,.0142, 1.040, 1.041
Sn1899,189.989 {477},In2306,ppm, .0827,.0001,.1450, .0828, .0827
Sr4215,421.552 { 80},Y_3710,ppm, .0975,.0008,.8161, .0969, .0980
Ti3349,334.904 {101},Y_3600,ppm, .1463,.0005,.3094, .1460, .1466
Tl1908,190.856 {477},In2306,ppm, .0882,.0007,.7872, .0887, .0877
U_3670,367.007 { 92},Y_3600,ppm, 2.258,.0444,1.966, 2.227, 2.290
V_2924,292.402 {115},Y_3600,ppm, .1335,.0004,.2748, .1332, .1337
W_2397,239.709 {140},Y_2243,ppm, .0147,.0397,270.9, .0428, -.0134
Zn2062,206.200 {463},In2306,ppm, .2820,.0005,.1733, .2823, .2816

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 203.17,3.9798,1.9588,200.36,205.98
In2306,230.606 {446},Cts/S, 12282.,10.309,.08394,12289.,12275.
Y_2243,224.306 {450},Cts/S, 17082.,19.103,.11183,17095.,17068.
Y_3600,360.073 { 94},Cts/S, 155280.,353.39,.22759,155030.,155530.
Y_3710,371.030 { 91},Cts/S, 10086.,66.712,.66145,10038.,10133.

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Ag3280,328.068 {103},Y_3600,ppm, -.0133,.0002,1.372, -.0131, -.0134
Al3082,308.215 {109},In2306,ppm, 102.6,.0400,.0390, 102.6, 102.6
As1890,189.042 {478},Y_2243,ppm, .1259,.0035,2.786, .1283, .1234
B_2496,249.678 {135},Y_3710,ppm, .0692,.0032,4.694, .0669, .0715
Ba4554,455.403 { 74},Y_3710,ppm, 1.477,.0014,.0916, 1.476, 1.478
Be3130,313.042 {108},Y_3710,ppm, .0081,.0000,.5233, .0081, .0081
Ca3158,315.887 {107},In2306,ppm, 1257.,6.479,.5155, 1252., 1261.
Cd2288,228.802 {447},Y_2243,ppm, .0029,.0001,3.395, .0028, .0030
Co2286,228.616 {447},In2306,ppm, .0427,.0002,.5485, .0428, .0425
Cr2677,267.716 {126},Y_3600,ppm, .0767,.0001,.1586, .0766, .0768
Cu3247,324.754 {104},Y_3600,ppm, .1210,.0009,.7679, .1216, .1203
Fe2404,240.488 {140},In2306,ppm, 123.9,.2088,.1685, 123.8, 124.1
K_7664,766.490 { 44},Y_3710,ppm, 23.42,.0085,.0362, 23.41, 23.42
Li6707,670.784 { 50},Y_3710,ppm, .1590,.0015,.9464, .1579, .1600
Mg2790,279.079 {121},Y_3710,ppm, 24.59,.0866,.3523, 24.65, 24.53
Mn2576,257.610 {131},Y_3600,ppm, 2.543,.0119,.4695, 2.552, 2.535
Mo2020,202.030 {467},Y_2243,ppm, .0042,.0004,8.983, .0045, .0039
Na5895,589.592 { 57},Y_3710,ppm, .8692,.0035,.4030, .8717, .8667
Ni2316,231.604 {445},In2306,ppm, .0628,.0001,.1812, .0628, .0627
P_1782,178.284 {489},In2306,ppm, 13.20,.0673,.5099, 13.24, 13.15
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Pb2203,220.353 {453},In2306,ppm, .7190,.0003,.0376, .7192, .7188
S_1820,182.034 {485},Y_2243,ppm, 4.625,.0056,.1203, 4.629, 4.621
Sb2068,206.833 {463},Y_2243,ppm, -.0074,.0021,28.12, -.0059, -.0088
Se1960,196.090 {472},Y_2243,ppm, -.0087,.0004,4.421, -.0090, -.0085
Si2516,251.611 {134},Y_3710,ppm, 4.740,.0202,.4272, 4.725, 4.754
Sn1899,189.989 {477},In2306,ppm, .0394,.0011,2.901, .0402, .0386
Sr4215,421.552 { 80},Y_3710,ppm, 1.067,.0027,.2509, 1.065, 1.069
Ti3349,334.904 {101},Y_3600,ppm, .4642,.0026,.5675, .4661, .4623
Tl1908,190.856 {477},In2306,ppm, .0316,.0166,52.50, .0199, .0433
U_3670,367.007 { 92},Y_3600,ppm, .5593,.0543,9.699, .5210, .5977
V_2924,292.402 {115},Y_3600,ppm, .1541,.0015,.9849, .1552, .1531
W_2397,239.709 {140},Y_2243,ppm, -.0083,.0192,231.7, -.0218, .0053
Zn2062,206.200 {463},In2306,ppm, 2.616,.0131,.5016, 2.625, 2.607

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 186.26,.25396,.13635,186.08,186.44
In2306,230.606 {446},Cts/S, 9938.9,6.9507,.06993,9934.0,9943.9
Y_2243,224.306 {450},Cts/S, 19437.,15.119,.07778,19448.,19427.
Y_3600,360.073 { 94},Cts/S, 174800.,1169.9,.66929,173970.,175630.
Y_3710,371.030 { 91},Cts/S, 12041.,7.8329,.06505,12036.,12047.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0007,.0002,36.38, -.0005, -.0009
Al3082,308.215 {109},In2306,ppm, .0227,.0085,37.46, .0287, .0167
As1890,189.042 {478},Y_2243,ppm, .0025,.0014,56.24, .0035, .0015
B_2496,249.678 {135},Y_3710,ppm, .0140,.0030,21.20, .0119, .0161
Ba4554,455.403 { 74},Y_3710,ppm, .0820,.0003,.3201, .0822, .0818
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,150.3, -.0000, .0001
Ca3158,315.887 {107},In2306,ppm, 73.33,.1101,.1501, 73.41, 73.25
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0000,14.40, .0000, .0000
Co2286,228.616 {447},In2306,ppm, .0004,.0003,83.34, .0001, .0006
Cr2677,267.716 {126},Y_3600,ppm, .0005,.0000,.8103, .0005, .0005
Cu3247,324.754 {104},Y_3600,ppm, .0027,.0002,6.077, .0028, .0026
Fe2404,240.488 {140},In2306,ppm, .0915,.0175,19.09, .1038, .0791
K_7664,766.490 { 44},Y_3710,ppm, .2800,.0004,.1284, .2802, .2797
Li6707,670.784 { 50},Y_3710,ppm, .0021,.0004,18.84, .0024, .0018
Mg2790,279.079 {121},Y_3710,ppm, .9890,.0042,.4293, .9860, .9920
Mn2576,257.610 {131},Y_3600,ppm, .4088,.0007,.1637, .4093, .4084
Mo2020,202.030 {467},Y_2243,ppm, .0001,.0007,769.6, .0006, -.0004
Na5895,589.592 { 57},Y_3710,ppm, 138.0,.0679,.0492, 138.0, 138.1
Ni2316,231.604 {445},In2306,ppm, .0008,.0004,47.48, .0005, .0011
P_1782,178.284 {489},In2306,ppm, .0033,.0029,87.34, .0053, .0013
Pb2203,220.353 {453},In2306,ppm, .0025,.0000,.1292, .0025, .0025
S_1820,182.034 {485},Y_2243,ppm, 4.319,.0019,.0451, 4.321, 4.318
Sb2068,206.833 {463},Y_2243,ppm, -.0010,.0009,85.28, -.0016, -.0004
Se1960,196.090 {472},Y_2243,ppm, .0000,.0018,4731., -.0012, .0013
Si2516,251.611 {134},Y_3710,ppm, .2151,.0030,1.373, .2172, .2130
Sn1899,189.989 {477},In2306,ppm, .0008,.0002,25.38, .0010, .0007
Sr4215,421.552 { 80},Y_3710,ppm, .0951,.0002,.2000, .0950, .0952
Ti3349,334.904 {101},Y_3600,ppm, .0010,.0002,17.09, .0009, .0012
Tl1908,190.856 {477},In2306,ppm, .0311,.0025,8.143, .0293, .0329
U_3670,367.007 { 92},Y_3600,ppm, -.2881,.0414,14.38, -.2588, -.3174
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V_2924,292.402 {115},Y_3600,ppm, .0000,.0003,833.0, .0002, -.0002
W_2397,239.709 {140},Y_2243,ppm, .0128,.0402,313.7, .0413, -.0156
Zn2062,206.200 {463},In2306,ppm, .0174,.0002,1.091, .0175, .0173

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 205.23,1.5569,.75862,204.13,206.33
In2306,230.606 {446},Cts/S, 11836.,16.711,.14118,11824.,11848.
Y_2243,224.306 {450},Cts/S, 16680.,1.8441,.01106,16678.,16681.
Y_3600,360.073 { 94},Cts/S, 152040.,649.96,.42750,151580.,152500.
Y_3710,371.030 { 91},Cts/S, 9998.0,54.818,.54829,9959.2,10037.

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Ag3280,328.068 {103},Y_3600,ppm, -.0009,.0006,70.07, -.0005, -.0014
Al3082,308.215 {109},In2306,ppm, 4.675,.0056,.1207, 4.671, 4.679
As1890,189.042 {478},Y_2243,ppm, -.0001,.0017,1498., -.0013, .0011
B_2496,249.678 {135},Y_3710,ppm, .0355,.0032,9.055, .0332, .0377
Ba4554,455.403 { 74},Y_3710,ppm, .0498,.0004,.8273, .0495, .0501
Be3130,313.042 {108},Y_3710,ppm, .0002,.0000,2.184, .0002, .0002
Ca3158,315.887 {107},In2306,ppm, 118.4,.6272,.5296, 118.9, 118.0
Cd2288,228.802 {447},Y_2243,ppm, .0007,.0000,1.848, .0007, .0007
Co2286,228.616 {447},In2306,ppm, .0083,.0004,5.279, .0080, .0086
Cr2677,267.716 {126},Y_3600,ppm, .0113,.0006,5.181, .0117, .0109
Cu3247,324.754 {104},Y_3600,ppm, .0015,.0000,2.162, .0014, .0015
Fe2404,240.488 {140},In2306,ppm, 58.08,.1430,.2462, 58.18, 57.98
K_7664,766.490 { 44},Y_3710,ppm, 10.79,.0921,.8541, 10.72, 10.85
Li6707,670.784 { 50},Y_3710,ppm, .0088,.0003,3.076, .0086, .0090
Mg2790,279.079 {121},Y_3710,ppm, 3.091,.0317,1.025, 3.069, 3.114
Mn2576,257.610 {131},Y_3600,ppm, 1.529,.0008,.0495, 1.528, 1.529
Mo2020,202.030 {467},Y_2243,ppm, -.0001,.0001,130.6, -.0000, -.0002
Na5895,589.592 { 57},Y_3710,ppm, 198.8,.0325,.0164, 198.8, 198.8
Ni2316,231.604 {445},In2306,ppm, .0403,.0010,2.551, .0396, .0410
P_1782,178.284 {489},In2306,ppm, .0020,.0011,53.29, .0012, .0027
Pb2203,220.353 {453},In2306,ppm, .0027,.0008,28.14, .0032, .0022
S_1820,182.034 {485},Y_2243,ppm, 8.519,.3090,3.627, 8.301, 8.738
Sb2068,206.833 {463},Y_2243,ppm, -.0020,.0017,83.08, -.0008, -.0032
Se1960,196.090 {472},Y_2243,ppm, .0032,.0015,45.11, .0022, .0043
Si2516,251.611 {134},Y_3710,ppm, 6.308,.0853,1.352, 6.368, 6.247
Sn1899,189.989 {477},In2306,ppm, .0002,.0004,188.5, .0005, -.0001
Sr4215,421.552 { 80},Y_3710,ppm, .1340,.0007,.5571, .1335, .1345
Ti3349,334.904 {101},Y_3600,ppm, .0011,.0001,6.727, .0011, .0012
Tl1908,190.856 {477},In2306,ppm, .0160,.0040,24.79, .0132, .0188
U_3670,367.007 { 92},Y_3600,ppm, .1058,.1020,96.38, .1779, .0337
V_2924,292.402 {115},Y_3600,ppm, -.0005,.0000,1.401, -.0005, -.0005
W_2397,239.709 {140},Y_2243,ppm, -.0267,.0223,83.45, -.0110, -.0425
Zn2062,206.200 {463},In2306,ppm, .0528,.0010,1.948, .0521, .0536

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 201.62,1.4714,.72979,200.58,202.66
In2306,230.606 {446},Cts/S, 11580.,244.29,2.1096,11753.,11407.
Y_2243,224.306 {450},Cts/S, 16801.,367.16,2.1854,17060.,16541.
Y_3600,360.073 { 94},Cts/S, 149700.,12.536,.00837,149710.,149690.
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Y_3710,371.030 { 91},Cts/S, 9995.4,23.903,.23914,9978.5,10012.

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Ag3280,328.068 {103},Y_3600,ppm, .2515,.0032,1.262, .2538, .2493
Al3082,308.215 {109},In2306,ppm, 15.20,.0710,.4672, 15.25, 15.15
As1890,189.042 {478},Y_2243,ppm, 1.080,.0141,1.305, 1.070, 1.090
B_2496,249.678 {135},Y_3710,ppm, .5360,.0002,.0386, .5359, .5362
Ba4554,455.403 { 74},Y_3710,ppm, 1.082,.0030,.2789, 1.084, 1.080
Be3130,313.042 {108},Y_3710,ppm, .9918,.0043,.4359, .9948, .9887
Ca3158,315.887 {107},In2306,ppm, 122.3,.3223,.2635, 122.5, 122.1
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Co2286,228.616 {447},In2306,ppm, .9771,.0132,1.354, .9678, .9865
Cr2677,267.716 {126},Y_3600,ppm, .9476,.0007,.0704, .9471, .9480
Cu3247,324.754 {104},Y_3600,ppm, 1.003,.0010,.0979, 1.002, 1.004
Fe2404,240.488 {140},In2306,ppm, 65.42,.0058,.0089, 65.42, 65.41
K_7664,766.490 { 44},Y_3710,ppm, 20.22,.0120,.0596, 20.23, 20.21
Li6707,670.784 { 50},Y_3710,ppm, 1.001,.0020,.2026, 1.003, 1.0000
Mg2790,279.079 {121},Y_3710,ppm, 13.07,.1868,1.429, 13.20, 12.94
Mn2576,257.610 {131},Y_3600,ppm, 2.370,.0028,.1183, 2.372, 2.368
Mo2020,202.030 {467},Y_2243,ppm, 1.015,.0121,1.195, 1.006, 1.023
Na5895,589.592 { 57},Y_3710,ppm, 195.1,.7214,.3697, 195.6, 194.6
Ni2316,231.604 {445},In2306,ppm, 1.034,.0126,1.215, 1.025, 1.043
P_1782,178.284 {489},In2306,ppm, 5.760,.0870,1.510, 5.699, 5.822
Pb2203,220.353 {453},In2306,ppm, .9830,.0135,1.371, .9734, .9925
S_1820,182.034 {485},Y_2243,ppm, 15.82,.2846,1.799, 15.62, 16.02
Sb2068,206.833 {463},Y_2243,ppm, 1.580,.0171,1.083, 1.568, 1.592
Se1960,196.090 {472},Y_2243,ppm, 1.047,.0085,.8075, 1.041, 1.053
Si2516,251.611 {134},Y_3710,ppm, 13.66,.0806,.5903, 13.72, 13.60
Sn1899,189.989 {477},In2306,ppm, 1.010,.0144,1.423, .9994, 1.020
Sr4215,421.552 { 80},Y_3710,ppm, 1.140,.0025,.2206, 1.142, 1.138
Ti3349,334.904 {101},Y_3600,ppm, 1.010,.0003,.0267, 1.009, 1.010
Tl1908,190.856 {477},In2306,ppm, .4193,.0114,2.726, .4274, .4112
U_3670,367.007 { 92},Y_3600,ppm, .5987,.0482,8.053, .6328, .5646
V_2924,292.402 {115},Y_3600,ppm, .9774,.0013,.1368, .9784, .9765
W_2397,239.709 {140},Y_2243,ppm, .2877,.1447,50.31, .1853, .3900
Zn2062,206.200 {463},In2306,ppm, .5408,.0091,1.682, .5344, .5472

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 196.46,.55246,.28120,196.07,196.85
In2306,230.606 {446},Cts/S, 11337.,105.30,.92882,11411.,11262.
Y_2243,224.306 {450},Cts/S, 16578.,132.33,.79824,16671.,16484.
Y_3600,360.073 { 94},Cts/S, 149320.,217.76,.14583,149170.,149480.
Y_3710,371.030 { 91},Cts/S, 9992.7,68.218,.68268,9944.4,10041.

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Custom ID1=
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Custom ID3=
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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0005,.0007,146.3, .0000, -.0010
Al3082,308.215 {109},In2306,ppm, .0222,.0223,100.4, .0064, .0379
As1890,189.042 {478},Y_2243,ppm, .0015,.0025,170.8, -.0003, .0033
B_2496,249.678 {135},Y_3710,ppm, .0304,.0007,2.221, .0300, .0309
Ba4554,455.403 { 74},Y_3710,ppm, .0279,.0002,.7331, .0277, .0280
Be3130,313.042 {108},Y_3710,ppm, .0002,.0002,91.12, .0003, .0001
Ca3158,315.887 {107},In2306,ppm, 55.18,.5263,.9538, 54.80, 55.55
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,101.7, .0002, .0000
Co2286,228.616 {447},In2306,ppm, .0004,.0001,20.55, .0005, .0004
Cr2677,267.716 {126},Y_3600,ppm, .0005,.0001,26.62, .0004, .0007
Cu3247,324.754 {104},Y_3600,ppm, .0022,.0000,.8285, .0022, .0022
Fe2404,240.488 {140},In2306,ppm, .0475,.0054,11.37, .0437, .0514
K_7664,766.490 { 44},Y_3710,ppm, .4615,.0123,2.668, .4702, .4528
Li6707,670.784 { 50},Y_3710,ppm, .0009,.0001,15.13, .0008, .0010
Mg2790,279.079 {121},Y_3710,ppm, .6703,.0083,1.239, .6645, .6762
Mn2576,257.610 {131},Y_3600,ppm, .2343,.0000,.0067, .2343, .2343
Mo2020,202.030 {467},Y_2243,ppm, .0080,.0001,1.532, .0079, .0081
Na5895,589.592 { 57},Y_3710,ppm, 145.6,.0785,.0539, 145.5, 145.6
Ni2316,231.604 {445},In2306,ppm, .0031,.0003,10.94, .0034, .0029
P_1782,178.284 {489},In2306,ppm, .6229,.0050,.7952, .6264, .6194
Pb2203,220.353 {453},In2306,ppm, .0009,.0012,132.4, .0018, .0001
S_1820,182.034 {485},Y_2243,ppm, 1.237,.0109,.8777, 1.245, 1.229
Sb2068,206.833 {463},Y_2243,ppm, .0027,.0020,75.74, .0012, .0041
Se1960,196.090 {472},Y_2243,ppm, .0038,.0006,16.89, .0033, .0042
Si2516,251.611 {134},Y_3710,ppm, 1.305,.0018,.1386, 1.304, 1.307
Sn1899,189.989 {477},In2306,ppm, .0017,.0004,24.98, .0020, .0014
Sr4215,421.552 { 80},Y_3710,ppm, .1058,.0000,.0055, .1058, .1058
Ti3349,334.904 {101},Y_3600,ppm, .0012,.0001,7.686, .0012, .0013
Tl1908,190.856 {477},In2306,ppm, .2423,.0092,3.789, .2358, .2488
U_3670,367.007 { 92},Y_3600,ppm, -.2223,.0904,40.68, -.2863, -.1584
V_2924,292.402 {115},Y_3600,ppm, .0027,.0000,1.701, .0027, .0028
W_2397,239.709 {140},Y_2243,ppm, .0285,.0834,292.1, .0875, -.0304
Zn2062,206.200 {463},In2306,ppm, .7074,.0009,.1271, .7068, .7081

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 204.34,1.1960,.58531,205.18,203.49
In2306,230.606 {446},Cts/S, 11882.,27.813,.23407,11902.,11863.
Y_2243,224.306 {450},Cts/S, 16762.,17.334,.10341,16774.,16750.
Y_3600,360.073 { 94},Cts/S, 152060.,374.41,.24622,152330.,151800.
Y_3710,371.030 { 91},Cts/S, 10050.,1.6690,.01661,10048.,10051.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0001,.0001,126.4, .0002, .0000
Al3082,308.215 {109},In2306,ppm, -.0255,.0128,50.22, -.0346, -.0165
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As1890,189.042 {478},Y_2243,ppm, .0026,.0012,46.87, .0035, .0018
B_2496,249.678 {135},Y_3710,ppm, .0076,.0028,37.47, .0056, .0096
Ba4554,455.403 { 74},Y_3710,ppm, .0195,.0002,1.199, .0197, .0194
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0000,26.47, -.0001, -.0000
Ca3158,315.887 {107},In2306,ppm, .1801,.0045,2.524, .1769, .1833
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0002,386.0, -.0002, .0001
Co2286,228.616 {447},In2306,ppm, -.0002,.0001,59.96, -.0003, -.0001
Cr2677,267.716 {126},Y_3600,ppm, .0003,.0006,165.7, .0007, -.0001
Cu3247,324.754 {104},Y_3600,ppm, .0016,.0000,.2104, .0016, .0016
Fe2404,240.488 {140},In2306,ppm, .0305,.0036,11.93, .0279, .0331
K_7664,766.490 { 44},Y_3710,ppm, .0398,.0430,108.0, .0702, .0094
Li6707,670.784 { 50},Y_3710,ppm, -.0009,.0019,199.5, -.0023, .0004
Mg2790,279.079 {121},Y_3710,ppm, .0335,.0066,19.80, .0288, .0382
Mn2576,257.610 {131},Y_3600,ppm, .0011,.0000,2.223, .0011, .0011
Mo2020,202.030 {467},Y_2243,ppm, .0007,.0003,49.47, .0005, .0009
Na5895,589.592 { 57},Y_3710,ppm, 134.2,.5081,.3787, 133.8, 134.6
Ni2316,231.604 {445},In2306,ppm, .0008,.0004,46.65, .0011, .0005
P_1782,178.284 {489},In2306,ppm, .0047,.0019,40.34, .0033, .0060
Pb2203,220.353 {453},In2306,ppm, .0010,.0005,47.62, .0014, .0007
S_1820,182.034 {485},Y_2243,ppm, .1025,.0011,1.112, .1034, .1017
Sb2068,206.833 {463},Y_2243,ppm, -.0014,.0002,10.77, -.0015, -.0013
Se1960,196.090 {472},Y_2243,ppm, .0010,.0031,294.9, .0032, -.0011
Si2516,251.611 {134},Y_3710,ppm, .0245,.0074,30.36, .0192, .0297
Sn1899,189.989 {477},In2306,ppm, .0003,.0002,58.18, .0005, .0002
Sr4215,421.552 { 80},Y_3710,ppm, .0012,.0001,9.512, .0011, .0013
Ti3349,334.904 {101},Y_3600,ppm, .0001,.0002,204.5, -.0000, .0002
Tl1908,190.856 {477},In2306,ppm, .1689,.0053,3.114, .1651, .1726
U_3670,367.007 { 92},Y_3600,ppm, -.2630,.0556,21.13, -.3023, -.2237
V_2924,292.402 {115},Y_3600,ppm, -.0004,.0003,91.95, -.0006, -.0001
W_2397,239.709 {140},Y_2243,ppm, .1373,.0340,24.73, .1614, .1133
Zn2062,206.200 {463},In2306,ppm, .0116,.0000,.0384, .0116, .0116

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 208.54,1.6182,.77595,207.40,209.69
In2306,230.606 {446},Cts/S, 12162.,27.758,.22824,12181.,12142.
Y_2243,224.306 {450},Cts/S, 16941.,45.836,.27057,16973.,16908.
Y_3600,360.073 { 94},Cts/S, 154380.,121.52,.07871,154470.,154290.
Y_3710,371.030 { 91},Cts/S, 10067.,74.191,.73695,10120.,10015.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .4978,.0005,.0985, .4982, .4975
Al3082,308.215 {109},In2306,ppm, 19.68,.2300,1.168, 19.52, 19.85
As1890,189.042 {478},Y_2243,ppm, 1.041,.0067,.6421, 1.046, 1.036
B_2496,249.678 {135},Y_3710,ppm, .9856,.0029,.2936, .9877, .9836
Ba4554,455.403 { 74},Y_3710,ppm, 1.017,.0008,.0807, 1.017, 1.018
Be3130,313.042 {108},Y_3710,ppm, .9581,.0034,.3557, .9557, .9606
Ca3158,315.887 {107},In2306,ppm, 19.32,.2168,1.122, 19.17, 19.47
Cd2288,228.802 {447},Y_2243,ppm, .9797,.0018,.1802, .9809, .9784
Co2286,228.616 {447},In2306,ppm, .9436,.0010,.1013, .9429, .9443
Cr2677,267.716 {126},Y_3600,ppm, .9439,.0002,.0189, .9440, .9437
Cu3247,324.754 {104},Y_3600,ppm, .9745,.0041,.4238, .9775, .9716
Fe2404,240.488 {140},In2306,ppm, 19.74,.1555,.7875, 19.63, 19.85
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K_7664,766.490 { 44},Y_3710,ppm, 19.45,.0512,.2634, 19.48, 19.41
Li6707,670.784 { 50},Y_3710,ppm, .9754,.0002,.0194, .9755, .9752
Mg2790,279.079 {121},Y_3710,ppm, 19.78,.2112,1.068, 19.63, 19.93
Mn2576,257.610 {131},Y_3600,ppm, .9863,.0019,.1932, .9876, .9849
Mo2020,202.030 {467},Y_2243,ppm, 1.014,.0018,.1755, 1.015, 1.012
Na5895,589.592 { 57},Y_3710,ppm, 19.75,.0452,.2290, 19.71, 19.78
Ni2316,231.604 {445},In2306,ppm, .9703,.0008,.0875, .9697, .9709
P_1782,178.284 {489},In2306,ppm, 10.27,.0303,.2948, 10.29, 10.25
Pb2203,220.353 {453},In2306,ppm, .9595,.0026,.2690, .9613, .9577
S_1820,182.034 {485},Y_2243,ppm, 11.06,.0538,.4863, 11.10, 11.02
Sb2068,206.833 {463},Y_2243,ppm, 2.129,.0134,.6308, 2.138, 2.119
Se1960,196.090 {472},Y_2243,ppm, 1.013,.0001,.0057, 1.013, 1.013
Si2516,251.611 {134},Y_3710,ppm, 8.599,.1751,2.037, 8.475, 8.722
Sn1899,189.989 {477},In2306,ppm, .9746,.0006,.0645, .9750, .9741
Sr4215,421.552 { 80},Y_3710,ppm, 1.003,.0018,.1780, 1.001, 1.004
Ti3349,334.904 {101},Y_3600,ppm, .9978,.0002,.0224, .9976, .9979
Tl1908,190.856 {477},In2306,ppm, .7856,.0237,3.018, .8024, .7689
U_3670,367.007 { 92},Y_3600,ppm, .7696,.0104,1.355, .7769, .7622
V_2924,292.402 {115},Y_3600,ppm, .9680,.0005,.0555, .9684, .9677
W_2397,239.709 {140},Y_2243,ppm, 1.370,.1041,7.598, 1.443, 1.296
Zn2062,206.200 {463},In2306,ppm, .9367,.0042,.4513, .9337, .9397

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 202.95,1.8214,.89746,204.24,201.66
In2306,230.606 {446},Cts/S, 12357.,14.226,.11512,12347.,12367.
Y_2243,224.306 {450},Cts/S, 17208.,48.266,.28049,17174.,17242.
Y_3600,360.073 { 94},Cts/S, 155300.,286.76,.18465,155090.,155500.
Y_3710,371.030 { 91},Cts/S, 10089.,83.806,.83064,10149.,10030.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0104,.0006,5.727, .0108, .0100
Al3082,308.215 {109},In2306,ppm, .2111,.0048,2.288, .2077, .2146
As1890,189.042 {478},Y_2243,ppm, .0244,.0001,.4562, .0245, .0243
B_2496,249.678 {135},Y_3710,ppm, .2134,.0051,2.386, .2098, .2170
Ba4554,455.403 { 74},Y_3710,ppm, .0228,.0000,.1219, .0228, .0227
Be3130,313.042 {108},Y_3710,ppm, .0110,.0001,.8432, .0110, .0111
Ca3158,315.887 {107},In2306,ppm, 1.023,.0057,.5577, 1.019, 1.027
Cd2288,228.802 {447},Y_2243,ppm, .0112,.0001,.8331, .0112, .0111
Co2286,228.616 {447},In2306,ppm, .0103,.0001,1.413, .0104, .0102
Cr2677,267.716 {126},Y_3600,ppm, .0109,.0001,.5418, .0108, .0109
Cu3247,324.754 {104},Y_3600,ppm, .0121,.0001,.6302, .0120, .0121
Fe2404,240.488 {140},In2306,ppm, .2017,.0038,1.898, .1990, .2044
K_7664,766.490 { 44},Y_3710,ppm, 1.044,.0269,2.577, 1.025, 1.063
Li6707,670.784 { 50},Y_3710,ppm, .0105,.0018,17.20, .0118, .0092
Mg2790,279.079 {121},Y_3710,ppm, 1.059,.0023,.2201, 1.061, 1.058
Mn2576,257.610 {131},Y_3600,ppm, .0114,.0001,.5654, .0115, .0114
Mo2020,202.030 {467},Y_2243,ppm, .0278,.0002,.7903, .0276, .0279
Na5895,589.592 { 57},Y_3710,ppm, 1.045,.0028,.2680, 1.043, 1.047
Ni2316,231.604 {445},In2306,ppm, .0113,.0000,.0085, .0113, .0113
P_1782,178.284 {489},In2306,ppm, .9945,.0072,.7234, .9996, .9894
Pb2203,220.353 {453},In2306,ppm, .0113,.0010,9.129, .0120, .0106
S_1820,182.034 {485},Y_2243,ppm, -3.020,.0081,.2692, -3.014, -3.025
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Sb2068,206.833 {463},Y_2243,ppm, .0545,.0012,2.269, .0554, .0536
Se1960,196.090 {472},Y_2243,ppm, .0267,.0011,4.152, .0259, .0275
Si2516,251.611 {134},Y_3710,ppm, .1759,.0114,6.500, .1678, .1840
Sn1899,189.989 {477},In2306,ppm, .0220,.0005,2.137, .0224, .0217
Sr4215,421.552 { 80},Y_3710,ppm, .0111,.0001,.9835, .0112, .0110
Ti3349,334.904 {101},Y_3600,ppm, .0114,.0000,.1877, .0114, .0114
Tl1908,190.856 {477},In2306,ppm, .2747,.0018,.6696, .2734, .2760
U_3670,367.007 { 92},Y_3600,ppm, -.1372,.0141,10.24, -.1472, -.1273
V_2924,292.402 {115},Y_3600,ppm, .0109,.0002,1.518, .0108, .0110
W_2397,239.709 {140},Y_2243,ppm, .0888,.1316,148.1, .1819, -.0042
Zn2062,206.200 {463},In2306,ppm, .0184,.0001,.3101, .0184, .0183

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 208.73,.92927,.44520,209.39,208.08
In2306,230.606 {446},Cts/S, 13180.,66.571,.50510,13133.,13227.
Y_2243,224.306 {450},Cts/S, 17477.,48.225,.27594,17443.,17511.
Y_3600,360.073 { 94},Cts/S, 159920.,38.620,.02415,159890.,159950.
Y_3710,371.030 { 91},Cts/S, 10133.,35.462,.34996,10108.,10158.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0002,.0009,407.7, -.0008, .0004
Al3082,308.215 {109},In2306,ppm, -.0273,.0113,41.33, -.0353, -.0194
As1890,189.042 {478},Y_2243,ppm, .0007,.0002,28.38, .0006, .0008
B_2496,249.678 {135},Y_3710,ppm, .0066,.0014,21.22, .0076, .0056
Ba4554,455.403 { 74},Y_3710,ppm, -.0005,.0002,45.13, -.0003, -.0006
Be3130,313.042 {108},Y_3710,ppm, .0000,.0003,613.5, -.0001, .0002
Ca3158,315.887 {107},In2306,ppm, .0125,.0113,90.32, .0045, .0205
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0001,221.4, -.0000, .0001
Co2286,228.616 {447},In2306,ppm, -.0002,.0001,32.22, -.0002, -.0003
Cr2677,267.716 {126},Y_3600,ppm, -.0001,.0002,337.2, .0001, -.0002
Cu3247,324.754 {104},Y_3600,ppm, .0015,.0001,8.392, .0014, .0016
Fe2404,240.488 {140},In2306,ppm, .0058,.0074,126.8, .0111, .0006
K_7664,766.490 { 44},Y_3710,ppm, .0165,.0217,131.4, .0318, .0012
Li6707,670.784 { 50},Y_3710,ppm, -.0015,.0006,40.51, -.0019, -.0011
Mg2790,279.079 {121},Y_3710,ppm, .0123,.0530,431.0, -.0252, .0498
Mn2576,257.610 {131},Y_3600,ppm, .0003,.0000,14.93, .0003, .0003
Mo2020,202.030 {467},Y_2243,ppm, .0007,.0004,54.59, .0004, .0010
Na5895,589.592 { 57},Y_3710,ppm, -.0230,.0043,18.50, -.0200, -.0260
Ni2316,231.604 {445},In2306,ppm, .0006,.0004,54.88, .0004, .0009
P_1782,178.284 {489},In2306,ppm, -.0019,.0012,62.95, -.0028, -.0011
Pb2203,220.353 {453},In2306,ppm, .0008,.0002,23.69, .0010, .0007
S_1820,182.034 {485},Y_2243,ppm, -3.690,.0000,.0010, -3.690, -3.690
Sb2068,206.833 {463},Y_2243,ppm, -.0023,.0015,65.38, -.0012, -.0033
Se1960,196.090 {472},Y_2243,ppm, .0045,.0007,14.87, .0041, .0050
Si2516,251.611 {134},Y_3710,ppm, .0166,.0101,61.10, .0094, .0237
Sn1899,189.989 {477},In2306,ppm, .0002,.0004,207.6, .0005, -.0001
Sr4215,421.552 { 80},Y_3710,ppm, -.0001,.0001,64.94, -.0001, -.0000
Ti3349,334.904 {101},Y_3600,ppm, -.0002,.0000,5.497, -.0002, -.0002
Tl1908,190.856 {477},In2306,ppm, .1884,.0059,3.120, .1842, .1925
U_3670,367.007 { 92},Y_3600,ppm, -.2565,.0101,3.938, -.2493, -.2636
V_2924,292.402 {115},Y_3600,ppm, .0001,.0000,60.18, .0000, .0001
W_2397,239.709 {140},Y_2243,ppm, -.0159,.1397,881.4, -.1146, .0829
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Zn2062,206.200 {463},In2306,ppm, .0016,.0001,8.179, .0017, .0015

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 210.07,2.6256,1.2499,208.21,211.92
In2306,230.606 {446},Cts/S, 13369.,36.609,.27383,13343.,13395.
Y_2243,224.306 {450},Cts/S, 17642.,43.009,.24379,17611.,17672.
Y_3600,360.073 { 94},Cts/S, 159520.,694.50,.43537,159030.,160010.
Y_3710,371.030 { 91},Cts/S, 10108.,82.345,.81462,10050.,10167.

[Sample Header]
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Custom ID3=
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Repeats=2

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Ag3280,328.068 {103},Y_3600,ppm, .2324,.0009,.3914, .2317, .2330
Al3082,308.215 {109},In2306,ppm, 10.39,.1735,1.670, 10.27, 10.52
As1890,189.042 {478},Y_2243,ppm, 1.063,.0061,.5764, 1.058, 1.067
B_2496,249.678 {135},Y_3710,ppm, .5104,.0018,.3567, .5117, .5091
Ba4554,455.403 { 74},Y_3710,ppm, 1.043,.0008,.0765, 1.044, 1.043
Be3130,313.042 {108},Y_3710,ppm, .9837,.0011,.1111, .9829, .9844
Ca3158,315.887 {107},In2306,ppm, 10.39,.1405,1.352, 10.29, 10.49
Cd2288,228.802 {447},Y_2243,ppm, .9953,.0000,.0018, .9954, .9953
Co2286,228.616 {447},In2306,ppm, .9663,.0005,.0548, .9659, .9667
Cr2677,267.716 {126},Y_3600,ppm, .9475,.0013,.1337, .9466, .9484
Cu3247,324.754 {104},Y_3600,ppm, .9852,.0004,.0401, .9849, .9855
Fe2404,240.488 {140},In2306,ppm, 10.45,.1311,1.255, 10.36, 10.54
K_7664,766.490 { 44},Y_3710,ppm, 10.42,.0231,.2213, 10.44, 10.41
Li6707,670.784 { 50},Y_3710,ppm, .9756,.0021,.2148, .9771, .9741
Mg2790,279.079 {121},Y_3710,ppm, 10.46,.0694,.6638, 10.41, 10.51
Mn2576,257.610 {131},Y_3600,ppm, .9867,.0016,.1637, .9856, .9879
Mo2020,202.030 {467},Y_2243,ppm, 1.018,.0003,.0314, 1.019, 1.018
Na5895,589.592 { 57},Y_3710,ppm, 142.9,.0814,.0569, 143.0, 142.8
Ni2316,231.604 {445},In2306,ppm, .9945,.0005,.0486, .9948, .9942
P_1782,178.284 {489},In2306,ppm, 5.447,.0009,.0161, 5.447, 5.448
Pb2203,220.353 {453},In2306,ppm, .9755,.0024,.2495, .9737, .9772
S_1820,182.034 {485},Y_2243,ppm, 7.700,.0206,.2672, 7.686, 7.715
Sb2068,206.833 {463},Y_2243,ppm, 1.553,.0020,.1278, 1.551, 1.554
Se1960,196.090 {472},Y_2243,ppm, 1.041,.0059,.5671, 1.037, 1.046
Si2516,251.611 {134},Y_3710,ppm, 7.286,.0345,.4741, 7.262, 7.310
Sn1899,189.989 {477},In2306,ppm, .9973,.0025,.2549, .9955, .9991
Sr4215,421.552 { 80},Y_3710,ppm, 1.011,.0022,.2152, 1.013, 1.010
Ti3349,334.904 {101},Y_3600,ppm, 1.006,.0010,.0971, 1.006, 1.007
Tl1908,190.856 {477},In2306,ppm, .5907,.0226,3.824, .6067, .5748
U_3670,367.007 { 92},Y_3600,ppm, .2204,.0426,19.32, .2505, .1903
V_2924,292.402 {115},Y_3600,ppm, .9744,.0016,.1675, .9733, .9756
W_2397,239.709 {140},Y_2243,ppm, .2781,.0087,3.145, .2719, .2843
Zn2062,206.200 {463},In2306,ppm, .5155,.0011,.2148, .5147, .5163

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 204.42,2.8396,1.3891,206.43,202.41
In2306,230.606 {446},Cts/S, 11939.,10.620,.08896,11931.,11946.
Y_2243,224.306 {450},Cts/S, 17047.,6.3848,.03745,17043.,17052.
Y_3600,360.073 { 94},Cts/S, 153820.,199.17,.12948,153960.,153680.
Y_3710,371.030 { 91},Cts/S, 10117.,30.198,.29848,10096.,10139.
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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0002,.0006,291.2, -.0006, .0002
Al3082,308.215 {109},In2306,ppm, .0034,.0005,15.91, .0030, .0038
As1890,189.042 {478},Y_2243,ppm, .0013,.0007,52.58, .0018, .0008
B_2496,249.678 {135},Y_3710,ppm, .0123,.0125,101.8, .0035, .0212
Ba4554,455.403 { 74},Y_3710,ppm, .0370,.0002,.5461, .0371, .0368
Be3130,313.042 {108},Y_3710,ppm, .0002,.0000,.3585, .0002, .0002
Ca3158,315.887 {107},In2306,ppm, .1860,.0036,1.934, .1885, .1834
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0001,339.7, -.0001, .0001
Co2286,228.616 {447},In2306,ppm, -.0004,.0001,22.51, -.0004, -.0003
Cr2677,267.716 {126},Y_3600,ppm, .0004,.0001,33.91, .0005, .0003
Cu3247,324.754 {104},Y_3600,ppm, .0075,.0003,4.243, .0073, .0077
Fe2404,240.488 {140},In2306,ppm, .0063,.0053,84.39, .0026, .0101
K_7664,766.490 { 44},Y_3710,ppm, .1215,.0011,.8780, .1208, .1223
Li6707,670.784 { 50},Y_3710,ppm, .0006,.0001,12.42, .0005, .0006
Mg2790,279.079 {121},Y_3710,ppm, .0172,.0020,11.61, .0158, .0187
Mn2576,257.610 {131},Y_3600,ppm, .0007,.0000,5.476, .0007, .0007
Mo2020,202.030 {467},Y_2243,ppm, .0049,.0003,6.935, .0046, .0051
Na5895,589.592 { 57},Y_3710,ppm, 130.3,1.284,.9853, 131.2, 129.4
Ni2316,231.604 {445},In2306,ppm, .0010,.0001,14.18, .0009, .0011
P_1782,178.284 {489},In2306,ppm, .3957,.0022,.5644, .3973, .3941
Pb2203,220.353 {453},In2306,ppm, .0005,.0008,155.9, .0011, -.0001
S_1820,182.034 {485},Y_2243,ppm, 3.217,.0928,2.886, 3.283, 3.152
Sb2068,206.833 {463},Y_2243,ppm, .0026,.0006,24.84, .0021, .0030
Se1960,196.090 {472},Y_2243,ppm, .0015,.0011,70.55, .0008, .0023
Si2516,251.611 {134},Y_3710,ppm, .0180,.0022,12.03, .0165, .0195
Sn1899,189.989 {477},In2306,ppm, .0013,.0002,12.20, .0014, .0012
Sr4215,421.552 { 80},Y_3710,ppm, .0086,.0002,1.868, .0087, .0085
Ti3349,334.904 {101},Y_3600,ppm, .0020,.0001,2.625, .0020, .0020
Tl1908,190.856 {477},In2306,ppm, .3725,.0022,.5802, .3710, .3741
U_3670,367.007 { 92},Y_3600,ppm, -.2978,.0324,10.89, -.2748, -.3207
V_2924,292.402 {115},Y_3600,ppm, -.0002,.0001,35.21, -.0001, -.0002
W_2397,239.709 {140},Y_2243,ppm, .0387,.0576,148.8, .0795, -.0020
Zn2062,206.200 {463},In2306,ppm, .0252,.0002,.8784, .0253, .0250

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 212.59,3.2251,1.5170,210.31,214.87
In2306,230.606 {446},Cts/S, 12252.,22.338,.18232,12236.,12268.
Y_2243,224.306 {450},Cts/S, 16904.,31.113,.18405,16882.,16926.
Y_3600,360.073 { 94},Cts/S, 155340.,2561.4,1.6488,157160.,153530.
Y_3710,371.030 { 91},Cts/S, 10413.,120.28,1.1552,10328.,10498.

[Sample Header]
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Custom ID3=
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2469,.0003,.1203, .2467, .2471
Al3082,308.215 {109},In2306,ppm, 10.33,.0294,.2842, 10.35, 10.31
As1890,189.042 {478},Y_2243,ppm, 1.070,.0094,.8814, 1.077, 1.063
B_2496,249.678 {135},Y_3710,ppm, .5114,.0034,.6707, .5138, .5089
Ba4554,455.403 { 74},Y_3710,ppm, 1.056,.0014,.1292, 1.057, 1.055
Be3130,313.042 {108},Y_3710,ppm, .9788,.0023,.2397, .9805, .9772
Ca3158,315.887 {107},In2306,ppm, 10.23,.0210,.2051, 10.21, 10.24
Cd2288,228.802 {447},Y_2243,ppm, 1.002,.0004,.0392, 1.001, 1.002
Co2286,228.616 {447},In2306,ppm, .9579,.0008,.0838, .9585, .9573
Cr2677,267.716 {126},Y_3600,ppm, .9282,.0036,.3923, .9308, .9256
Cu3247,324.754 {104},Y_3600,ppm, 1.005,.0009,.0860, 1.005, 1.006
Fe2404,240.488 {140},In2306,ppm, 10.34,.0322,.3111, 10.31, 10.36
K_7664,766.490 { 44},Y_3710,ppm, 10.19,.0431,.4232, 10.22, 10.16
Li6707,670.784 { 50},Y_3710,ppm, .9762,.0031,.3140, .9784, .9740
Mg2790,279.079 {121},Y_3710,ppm, 10.02,.0018,.0181, 10.02, 10.02
Mn2576,257.610 {131},Y_3600,ppm, .9729,.0016,.1611, .9740, .9718
Mo2020,202.030 {467},Y_2243,ppm, 1.021,.0078,.7591, 1.027, 1.016
Na5895,589.592 { 57},Y_3710,ppm, 128.4,.3954,.3080, 128.7, 128.1
Ni2316,231.604 {445},In2306,ppm, .9871,.0019,.1933, .9885, .9858
P_1782,178.284 {489},In2306,ppm, 5.823,.0331,.5683, 5.847, 5.800
Pb2203,220.353 {453},In2306,ppm, .9777,.0057,.5871, .9818, .9737
S_1820,182.034 {485},Y_2243,ppm, 10.77,.0336,.3115, 10.79, 10.75
Sb2068,206.833 {463},Y_2243,ppm, 1.614,.0051,.3160, 1.618, 1.610
Se1960,196.090 {472},Y_2243,ppm, 1.060,.0004,.0395, 1.061, 1.060
Si2516,251.611 {134},Y_3710,ppm, 7.576,.0017,.0224, 7.575, 7.577
Sn1899,189.989 {477},In2306,ppm, .9889,.0084,.8467, .9948, .9830
Sr4215,421.552 { 80},Y_3710,ppm, 1.014,.0016,.1572, 1.015, 1.013
Ti3349,334.904 {101},Y_3600,ppm, 1.001,.0005,.0520, 1.000, 1.001
Tl1908,190.856 {477},In2306,ppm, .7516,.0292,3.886, .7722, .7309
U_3670,367.007 { 92},Y_3600,ppm, .3085,.0049,1.593, .3120, .3050
V_2924,292.402 {115},Y_3600,ppm, .9629,.0009,.0951, .9635, .9623
W_2397,239.709 {140},Y_2243,ppm, .3273,.0504,15.39, .3629, .2917
Zn2062,206.200 {463},In2306,ppm, .5182,.0043,.8215, .5212, .5152

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 204.33,.15733,.07700,204.44,204.22
In2306,230.606 {446},Cts/S, 12043.,14.847,.12329,12053.,12032.
Y_2243,224.306 {450},Cts/S, 17056.,17.447,.10230,17068.,17043.
Y_3600,360.073 { 94},Cts/S, 155400.,328.42,.21134,155170.,155630.
Y_3710,371.030 { 91},Cts/S, 10366.,39.655,.38256,10338.,10394.

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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0003,.0004,167.7, .0005, -.0000
Al3082,308.215 {109},In2306,ppm, -.0156,.0194,124.2, -.0019, -.0294
As1890,189.042 {478},Y_2243,ppm, .0035,.0013,37.52, .0044, .0026
B_2496,249.678 {135},Y_3710,ppm, .0114,.0007,6.070, .0109, .0119
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Ba4554,455.403 { 74},Y_3710,ppm, .0119,.0002,1.534, .0120, .0117
Be3130,313.042 {108},Y_3710,ppm, .0002,.0002,102.3, .0003, .0001
Ca3158,315.887 {107},In2306,ppm, 7.904,.0419,.5303, 7.874, 7.933
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0001,468.7, -.0000, .0000
Co2286,228.616 {447},In2306,ppm, -.0001,.0005,725.9, .0003, -.0004
Cr2677,267.716 {126},Y_3600,ppm, .0016,.0003,21.45, .0018, .0013
Cu3247,324.754 {104},Y_3600,ppm, .0030,.0004,14.23, .0032, .0027
Fe2404,240.488 {140},In2306,ppm, .1485,.0085,5.729, .1424, .1545
K_7664,766.490 { 44},Y_3710,ppm, .1795,.0220,12.23, .1951, .1640
Li6707,670.784 { 50},Y_3710,ppm, .0010,.0000,3.623, .0010, .0010
Mg2790,279.079 {121},Y_3710,ppm, .5913,.0291,4.925, .6119, .5707
Mn2576,257.610 {131},Y_3600,ppm, .0253,.0000,.0075, .0253, .0253
Mo2020,202.030 {467},Y_2243,ppm, .0057,.0008,13.33, .0051, .0062
Na5895,589.592 { 57},Y_3710,ppm, 141.3,.0657,.0465, 141.3, 141.4
Ni2316,231.604 {445},In2306,ppm, .0006,.0001,9.639, .0005, .0006
P_1782,178.284 {489},In2306,ppm, .3835,.0011,.2836, .3827, .3843
Pb2203,220.353 {453},In2306,ppm, -.0003,.0002,59.00, -.0002, -.0004
S_1820,182.034 {485},Y_2243,ppm, 7.145,.0026,.0368, 7.143, 7.147
Sb2068,206.833 {463},Y_2243,ppm, .0005,.0010,205.4, -.0002, .0012
Se1960,196.090 {472},Y_2243,ppm, .0037,.0005,12.32, .0040, .0034
Si2516,251.611 {134},Y_3710,ppm, .2477,.0063,2.529, .2433, .2521
Sn1899,189.989 {477},In2306,ppm, .0017,.0005,29.10, .0014, .0021
Sr4215,421.552 { 80},Y_3710,ppm, .0171,.0001,.8230, .0172, .0170
Ti3349,334.904 {101},Y_3600,ppm, .0011,.0002,15.65, .0012, .0010
Tl1908,190.856 {477},In2306,ppm, .4210,.0093,2.199, .4145, .4276
U_3670,367.007 { 92},Y_3600,ppm, -.2404,.0031,1.308, -.2382, -.2427
V_2924,292.402 {115},Y_3600,ppm, .0027,.0002,6.727, .0026, .0028
W_2397,239.709 {140},Y_2243,ppm, .0076,.0094,122.5, .0010, .0143
Zn2062,206.200 {463},In2306,ppm, .0108,.0001,.7054, .0109, .0108

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 205.82,.69954,.33988,205.33,206.31
In2306,230.606 {446},Cts/S, 12135.,17.656,.14550,12123.,12147.
Y_2243,224.306 {450},Cts/S, 16937.,12.289,.07256,16928.,16946.
Y_3600,360.073 { 94},Cts/S, 154180.,371.27,.24080,154450.,153920.
Y_3710,371.030 { 91},Cts/S, 10129.,53.390,.52710,10091.,10167.

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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2578,.0004,.1467, .2581, .2575
Al3082,308.215 {109},In2306,ppm, 9.866,.1987,2.014, 9.726, 10.01
As1890,189.042 {478},Y_2243,ppm, 1.073,.0072,.6723, 1.068, 1.078
B_2496,249.678 {135},Y_3710,ppm, .5107,.0028,.5391, .5088, .5127
Ba4554,455.403 { 74},Y_3710,ppm, 1.033,.0057,.5515, 1.029, 1.037
Be3130,313.042 {108},Y_3710,ppm, .9857,.0039,.3942, .9830, .9885
Ca3158,315.887 {107},In2306,ppm, 17.76,.3697,2.082, 17.50, 18.02
Cd2288,228.802 {447},Y_2243,ppm, 1.003,.0008,.0835, 1.003, 1.002
Co2286,228.616 {447},In2306,ppm, .9743,.0005,.0532, .9747, .9739
Cr2677,267.716 {126},Y_3600,ppm, .9488,.0039,.4131, .9460, .9516
Cu3247,324.754 {104},Y_3600,ppm, .9995,.0033,.3332, 1.002, .9972
Fe2404,240.488 {140},In2306,ppm, 9.988,.1372,1.374, 9.891, 10.09
K_7664,766.490 { 44},Y_3710,ppm, 9.834,.0917,.9328, 9.769, 9.899
Li6707,670.784 { 50},Y_3710,ppm, .9734,.0025,.2551, .9716, .9751
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Mg2790,279.079 {121},Y_3710,ppm, 10.16,.1108,1.091, 10.08, 10.23
Mn2576,257.610 {131},Y_3600,ppm, 1.009,.0018,.1796, 1.008, 1.010
Mo2020,202.030 {467},Y_2243,ppm, 1.022,.0035,.3450, 1.020, 1.025
Na5895,589.592 { 57},Y_3710,ppm, 151.5,.7814,.5157, 151.0, 152.1
Ni2316,231.604 {445},In2306,ppm, 1.006,.0053,.5288, 1.002, 1.010
P_1782,178.284 {489},In2306,ppm, 6.086,.0221,.3636, 6.070, 6.102
Pb2203,220.353 {453},In2306,ppm, .9889,.0062,.6314, .9845, .9933
S_1820,182.034 {485},Y_2243,ppm, 14.13,.0980,.6937, 14.06, 14.20
Sb2068,206.833 {463},Y_2243,ppm, 1.566,.0029,.1827, 1.564, 1.568
Se1960,196.090 {472},Y_2243,ppm, 1.019,.0058,.5707, 1.015, 1.023
Si2516,251.611 {134},Y_3710,ppm, 7.472,.1010,1.351, 7.401, 7.544
Sn1899,189.989 {477},In2306,ppm, 1.009,.0064,.6388, 1.005, 1.014
Sr4215,421.552 { 80},Y_3710,ppm, 1.023,.0037,.3585, 1.020, 1.025
Ti3349,334.904 {101},Y_3600,ppm, 1.007,.0002,.0178, 1.008, 1.007
Tl1908,190.856 {477},In2306,ppm, .8246,.0233,2.829, .8411, .8081
U_3670,367.007 { 92},Y_3600,ppm, .3620,.0313,8.652, .3399, .3842
V_2924,292.402 {115},Y_3600,ppm, .9778,.0003,.0281, .9776, .9780
W_2397,239.709 {140},Y_2243,ppm, .3323,.1300,39.13, .4243, .2404
Zn2062,206.200 {463},In2306,ppm, .5185,.0018,.3438, .5173, .5198

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 201.63,3.8252,1.8972,204.33,198.92
In2306,230.606 {446},Cts/S, 11851.,33.985,.28677,11827.,11875.
Y_2243,224.306 {450},Cts/S, 17043.,49.301,.28928,17008.,17078.
Y_3600,360.073 { 94},Cts/S, 153020.,463.60,.30296,153350.,152700.
Y_3710,371.030 { 91},Cts/S, 10191.,132.01,1.2953,10285.,10098.

[Sample Header]
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CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0005,.0010,182.5, .0002, -.0012
Al3082,308.215 {109},In2306,ppm, .0245,.0132,54.12, .0151, .0338
As1890,189.042 {478},Y_2243,ppm, .0006,.0013,202.3, .0016, -.0003
B_2496,249.678 {135},Y_3710,ppm, .0362,.0039,10.68, .0335, .0389
Ba4554,455.403 { 74},Y_3710,ppm, .0364,.0003,.8282, .0362, .0366
Be3130,313.042 {108},Y_3710,ppm, .0002,.0001,66.02, .0001, .0003
Ca3158,315.887 {107},In2306,ppm, 2.039,.0210,1.031, 2.024, 2.053
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0001,504.3, -.0000, .0001
Co2286,228.616 {447},In2306,ppm, -.0001,.0000,13.37, -.0001, -.0001
Cr2677,267.716 {126},Y_3600,ppm, .0010,.0001,15.17, .0011, .0009
Cu3247,324.754 {104},Y_3600,ppm, .0030,.0001,4.146, .0031, .0029
Fe2404,240.488 {140},In2306,ppm, .1823,.0093,5.096, .1888, .1757
K_7664,766.490 { 44},Y_3710,ppm, .3497,.0055,1.558, .3459, .3536
Li6707,670.784 { 50},Y_3710,ppm, -.0010,.0001,13.58, -.0011, -.0009
Mg2790,279.079 {121},Y_3710,ppm, .3952,.0240,6.061, .4121, .3783
Mn2576,257.610 {131},Y_3600,ppm, .0052,.0000,.4386, .0052, .0052
Mo2020,202.030 {467},Y_2243,ppm, .0126,.0005,4.270, .0123, .0130
Na5895,589.592 { 57},Y_3710,ppm, 2.386,.0149,.6258, 2.375, 2.396
Ni2316,231.604 {445},In2306,ppm, .0006,.0001,24.09, .0007, .0005
P_1782,178.284 {489},In2306,ppm, .1132,.0006,.4978, .1128, .1136
Pb2203,220.353 {453},In2306,ppm, .0006,.0009,154.7, .0012, -.0001
S_1820,182.034 {485},Y_2243,ppm, 1.967,.0007,.0340, 1.967, 1.966
Sb2068,206.833 {463},Y_2243,ppm, .0027,.0002,8.829, .0028, .0025
Se1960,196.090 {472},Y_2243,ppm, .0322,.0012,3.642, .0331, .0314
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Si2516,251.611 {134},Y_3710,ppm, .2569,.0074,2.899, .2516, .2621
Sn1899,189.989 {477},In2306,ppm, .0013,.0002,16.78, .0011, .0014
Sr4215,421.552 { 80},Y_3710,ppm, .0165,.0002,1.220, .0164, .0166
Ti3349,334.904 {101},Y_3600,ppm, .0015,.0003,17.41, .0013, .0017
Tl1908,190.856 {477},In2306,ppm, .4630,.0094,2.035, .4563, .4696
U_3670,367.007 { 92},Y_3600,ppm, -.3096,.1032,33.35, -.3826, -.2366
V_2924,292.402 {115},Y_3600,ppm, .0002,.0002,88.68, .0004, .0001
W_2397,239.709 {140},Y_2243,ppm, .0662,.0456,68.88, .0340, .0985
Zn2062,206.200 {463},In2306,ppm, .0238,.0004,1.733, .0241, .0235

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 211.12,.81931,.38809,210.54,211.69
In2306,230.606 {446},Cts/S, 13334.,8.7925,.06594,13340.,13328.
Y_2243,224.306 {450},Cts/S, 17661.,38.374,.21729,17688.,17633.
Y_3600,360.073 { 94},Cts/S, 161440.,95.125,.05892,161370.,161510.
Y_3710,371.030 { 91},Cts/S, 10266.,10.838,.10558,10273.,10258.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2527,.0000,.0012, .2527, .2527
Al3082,308.215 {109},In2306,ppm, 10.10,.1421,1.408, 9.995, 10.20
As1890,189.042 {478},Y_2243,ppm, 1.049,.0046,.4366, 1.052, 1.046
B_2496,249.678 {135},Y_3710,ppm, .5422,.0003,.0640, .5425, .5420
Ba4554,455.403 { 74},Y_3710,ppm, 1.070,.0050,.4641, 1.066, 1.073
Be3130,313.042 {108},Y_3710,ppm, .9808,.0051,.5150, .9772, .9843
Ca3158,315.887 {107},In2306,ppm, 11.95,.2231,1.866, 11.79, 12.11
Cd2288,228.802 {447},Y_2243,ppm, .9957,.0014,.1394, .9967, .9948
Co2286,228.616 {447},In2306,ppm, .9494,.0009,.0948, .9500, .9487
Cr2677,267.716 {126},Y_3600,ppm, .9597,.0017,.1745, .9609, .9586
Cu3247,324.754 {104},Y_3600,ppm, .9989,.0000,.0011, .9989, .9989
Fe2404,240.488 {140},In2306,ppm, 10.22,.1454,1.422, 10.12, 10.33
K_7664,766.490 { 44},Y_3710,ppm, 10.16,.0449,.4417, 10.13, 10.20
Li6707,670.784 { 50},Y_3710,ppm, .9950,.0002,.0182, .9949, .9951
Mg2790,279.079 {121},Y_3710,ppm, 10.30,.1505,1.461, 10.19, 10.41
Mn2576,257.610 {131},Y_3600,ppm, 1.002,.0002,.0200, 1.003, 1.002
Mo2020,202.030 {467},Y_2243,ppm, 1.036,.0037,.3575, 1.039, 1.034
Na5895,589.592 { 57},Y_3710,ppm, 12.36,.0286,.2316, 12.34, 12.38
Ni2316,231.604 {445},In2306,ppm, .9752,.0027,.2781, .9771, .9733
P_1782,178.284 {489},In2306,ppm, 5.310,.0023,.0438, 5.311, 5.308
Pb2203,220.353 {453},In2306,ppm, .9712,.0029,.3037, .9733, .9691
S_1820,182.034 {485},Y_2243,ppm, 9.565,.0440,.4605, 9.596, 9.534
Sb2068,206.833 {463},Y_2243,ppm, 1.594,.0075,.4722, 1.599, 1.589
Se1960,196.090 {472},Y_2243,ppm, 1.048,.0002,.0155, 1.048, 1.049
Si2516,251.611 {134},Y_3710,ppm, 7.895,.1212,1.535, 7.809, 7.981
Sn1899,189.989 {477},In2306,ppm, .9813,.0024,.2454, .9830, .9796
Sr4215,421.552 { 80},Y_3710,ppm, 1.034,.0053,.5109, 1.030, 1.038
Ti3349,334.904 {101},Y_3600,ppm, 1.005,.0018,.1822, 1.006, 1.003
Tl1908,190.856 {477},In2306,ppm, .8591,.0278,3.236, .8788, .8395
U_3670,367.007 { 92},Y_3600,ppm, .3333,.0378,11.36, .3065, .3600
V_2924,292.402 {115},Y_3600,ppm, .9771,.0030,.3048, .9792, .9750
W_2397,239.709 {140},Y_2243,ppm, .2598,.0604,23.24, .3024, .2171
Zn2062,206.200 {463},In2306,ppm, .5039,.0005,.1031, .5042, .5035
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[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 204.92,2.4422,1.1918,206.65,203.19
In2306,230.606 {446},Cts/S, 12693.,42.734,.33668,12723.,12663.
Y_2243,224.306 {450},Cts/S, 17417.,44.417,.25503,17448.,17385.
Y_3600,360.073 { 94},Cts/S, 157590.,163.04,.10346,157480.,157710.
Y_3710,371.030 { 91},Cts/S, 10266.,46.092,.44896,10299.,10234.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0004,771.7, .0003, -.0004
Al3082,308.215 {109},In2306,ppm, .0222,.0329,148.1, -.0010, .0455
As1890,189.042 {478},Y_2243,ppm, .1214,.0011,.9435, .1222, .1206
B_2496,249.678 {135},Y_3710,ppm, .1972,.0131,6.631, .2065, .1880
Ba4554,455.403 { 74},Y_3710,ppm, .0141,.0001,.3991, .0140, .0141
Be3130,313.042 {108},Y_3710,ppm, .0000,.0001,136.9, .0001, .0000
Ca3158,315.887 {107},In2306,ppm, .2591,.0059,2.293, .2633, .2549
Cd2288,228.802 {447},Y_2243,ppm, -.0007,.0000,3.132, -.0006, -.0007
Co2286,228.616 {447},In2306,ppm, .0003,.0001,40.20, .0002, .0004
Cr2677,267.716 {126},Y_3600,ppm, .0668,.0005,.7087, .0665, .0672
Cu3247,324.754 {104},Y_3600,ppm, -.0000,.0006,3424., .0004, -.0004
Fe2404,240.488 {140},In2306,ppm, .0315,.0013,4.231, .0305, .0324
K_7664,766.490 { 44},Y_3710,ppm, .6321,.0242,3.827, .6492, .6150
Li6707,670.784 { 50},Y_3710,ppm, .0014,.0003,24.35, .0016, .0012
Mg2790,279.079 {121},Y_3710,ppm, .0196,.0053,26.90, .0158, .0233
Mn2576,257.610 {131},Y_3600,ppm, .0255,.0001,.2615, .0255, .0256
Mo2020,202.030 {467},Y_2243,ppm, .0137,.0002,1.371, .0139, .0136
Na5895,589.592 { 57},Y_3710,ppm, 111.3,.1371,.1231, 111.2, 111.4
Ni2316,231.604 {445},In2306,ppm, .0001,.0001,254.7, .0002, -.0000
P_1782,178.284 {489},In2306,ppm, .1976,.0013,.6799, .1966, .1985
Pb2203,220.353 {453},In2306,ppm, .0016,.0004,23.38, .0013, .0019
S_1820,182.034 {485},Y_2243,ppm, 595.4,.8616,.1447, 596.0, 594.8
Sb2068,206.833 {463},Y_2243,ppm, .0085,.0007,8.637, .0079, .0090
Se1960,196.090 {472},Y_2243,ppm, .1119,.0005,.4107, .1122, .1116
Si2516,251.611 {134},Y_3710,ppm, .4239,.0061,1.438, .4196, .4282
Sn1899,189.989 {477},In2306,ppm, .0424,.0006,1.447, .0420, .0428
Sr4215,421.552 { 80},Y_3710,ppm, .0043,.0001,2.700, .0044, .0043
Ti3349,334.904 {101},Y_3600,ppm, .0021,.0001,3.916, .0021, .0020
Tl1908,190.856 {477},In2306,ppm, .3977,.0035,.8886, .3952, .4002
U_3670,367.007 { 92},Y_3600,ppm, -.1406,.0199,14.13, -.1547, -.1266
V_2924,292.402 {115},Y_3600,ppm, .0005,.0000,6.909, .0005, .0005
W_2397,239.709 {140},Y_2243,ppm, .0571,.0381,66.60, .0841, .0302
Zn2062,206.200 {463},In2306,ppm, .0734,.0003,.4764, .0737, .0732

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 214.44,1.1092,.51727,215.22,213.65
In2306,230.606 {446},Cts/S, 13015.,39.493,.30345,12987.,13043.
Y_2243,224.306 {450},Cts/S, 15584.,24.147,.15494,15567.,15601.
Y_3600,360.073 { 94},Cts/S, 151570.,274.91,.18137,151760.,151370.
Y_3710,371.030 { 91},Cts/S, 10586.,65.583,.61950,10633.,10540.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0002,.0002,84.94, .0004, .0001
Al3082,308.215 {109},In2306,ppm, 266.6,.8115,.3044, 266.0, 267.2
As1890,189.042 {478},Y_2243,ppm, .0052,.0009,16.91, .0046, .0059
B_2496,249.678 {135},Y_3710,ppm, .0339,.0121,35.82, .0253, .0424
Ba4554,455.403 { 74},Y_3710,ppm, .1390,.0006,.4211, .1386, .1394
Be3130,313.042 {108},Y_3710,ppm, .0030,.0001,2.586, .0030, .0031
Ca3158,315.887 {107},In2306,ppm, .3649,.0033,.8931, .3626, .3672
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0001,185.3, -.0002, .0000
Co2286,228.616 {447},In2306,ppm, -.0000,.0001,565.9, -.0001, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0013,.0001,7.602, .0014, .0012
Cu3247,324.754 {104},Y_3600,ppm, .0019,.0006,32.72, .0023, .0015
Fe2404,240.488 {140},In2306,ppm, .0515,.0010,2.027, .0523, .0508
K_7664,766.490 { 44},Y_3710,ppm, .1066,.0341,31.95, .0825, .1307
Li6707,670.784 { 50},Y_3710,ppm, .0058,.0018,30.61, .0071, .0046
Mg2790,279.079 {121},Y_3710,ppm, .0662,.0107,16.22, .0586, .0738
Mn2576,257.610 {131},Y_3600,ppm, .0047,.0000,.8185, .0047, .0046
Mo2020,202.030 {467},Y_2243,ppm, .0011,.0003,24.21, .0009, .0013
Na5895,589.592 { 57},Y_3710,ppm, 127.9,.2914,.2279, 127.7, 128.1
Ni2316,231.604 {445},In2306,ppm, .0023,.0001,4.841, .0022, .0024
P_1782,178.284 {489},In2306,ppm, .0309,.0012,3.995, .0318, .0300
Pb2203,220.353 {453},In2306,ppm, -.0054,.0025,45.79, -.0072, -.0037
S_1820,182.034 {485},Y_2243,ppm, .1303,.0052,4.009, .1266, .1340
Sb2068,206.833 {463},Y_2243,ppm, -.0017,.0021,123.6, -.0002, -.0031
Se1960,196.090 {472},Y_2243,ppm, -.0023,.0007,28.09, -.0019, -.0028
Si2516,251.611 {134},Y_3710,ppm, .0256,.0040,15.70, .0228, .0284
Sn1899,189.989 {477},In2306,ppm, .0015,.0002,12.10, .0014, .0016
Sr4215,421.552 { 80},Y_3710,ppm, .0041,.0000,1.210, .0040, .0041
Ti3349,334.904 {101},Y_3600,ppm, .0011,.0001,10.23, .0010, .0012
Tl1908,190.856 {477},In2306,ppm, .2846,.0046,1.627, .2814, .2879
U_3670,367.007 { 92},Y_3600,ppm, -.1837,.0732,39.86, -.1319, -.2354
V_2924,292.402 {115},Y_3600,ppm, .0010,.0002,19.21, .0011, .0009
W_2397,239.709 {140},Y_2243,ppm, .0966,.0144,14.87, .1068, .0865
Zn2062,206.200 {463},In2306,ppm, .0833,.0004,.5367, .0836, .0830

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 201.84,.32465,.16085,201.61,202.07
In2306,230.606 {446},Cts/S, 11678.,10.738,.09195,11670.,11686.
Y_2243,224.306 {450},Cts/S, 17741.,.80183,.00452,17741.,17742.
Y_3600,360.073 { 94},Cts/S, 152940.,364.50,.23834,152680.,153190.
Y_3710,371.030 { 91},Cts/S, 10381.,32.578,.31382,10358.,10404.

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Ag3280,328.068 {103},Y_3600,ppm, -.0000,.0006,1581., .0004, -.0004
Al3082,308.215 {109},In2306,ppm, .0512,.0060,11.63, .0470, .0555
As1890,189.042 {478},Y_2243,ppm, .0013,.0005,43.11, .0009, .0016
B_2496,249.678 {135},Y_3710,ppm, -.0037,.0054,147.6, -.0075, .0002
Ba4554,455.403 { 74},Y_3710,ppm, .0001,.0001,151.1, .0001, -.0000
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,226.6, .0000, -.0000
Ca3158,315.887 {107},In2306,ppm, .0054,.0064,118.5, .0099, .0009
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0002,528.3, -.0001, .0002
Co2286,228.616 {447},In2306,ppm, .0001,.0000,24.02, .0001, .0001
Cr2677,267.716 {126},Y_3600,ppm, -.0000,.0002,1009., -.0001, .0001
Cu3247,324.754 {104},Y_3600,ppm, .0010,.0003,27.96, .0008, .0012
Fe2404,240.488 {140},In2306,ppm, -.0048,.0073,150.5, .0003, -.0100
K_7664,766.490 { 44},Y_3710,ppm, -.0144,.0090,62.08, -.0081, -.0207
Li6707,670.784 { 50},Y_3710,ppm, -.0009,.0012,130.6, -.0001, -.0018
Mg2790,279.079 {121},Y_3710,ppm, .0174,.0128,73.42, .0084, .0265
Mn2576,257.610 {131},Y_3600,ppm, .0001,.0000,28.78, .0001, .0001
Mo2020,202.030 {467},Y_2243,ppm, .0005,.0002,33.58, .0004, .0006
Na5895,589.592 { 57},Y_3710,ppm, .0177,.0044,25.06, .0208, .0146
Ni2316,231.604 {445},In2306,ppm, .0003,.0002,60.34, .0004, .0002
P_1782,178.284 {489},In2306,ppm, .0008,.0000,.5662, .0008, .0008
Pb2203,220.353 {453},In2306,ppm, .0007,.0005,62.56, .0004, .0010
S_1820,182.034 {485},Y_2243,ppm, -.2534,.0237,9.335, -.2701, -.2367
Sb2068,206.833 {463},Y_2243,ppm, .0005,.0011,240.1, .0012, -.0003
Se1960,196.090 {472},Y_2243,ppm, .0035,.0027,78.64, .0054, .0015
Si2516,251.611 {134},Y_3710,ppm, -.0143,.0034,23.86, -.0167, -.0119
Sn1899,189.989 {477},In2306,ppm, .0008,.0001,12.20, .0008, .0007
Sr4215,421.552 { 80},Y_3710,ppm, -.0001,.0001,59.54, -.0001, -.0002
Ti3349,334.904 {101},Y_3600,ppm, .0002,.0001,60.05, .0003, .0001
Tl1908,190.856 {477},In2306,ppm, .2104,.0043,2.026, .2074, .2134
U_3670,367.007 { 92},Y_3600,ppm, -.2461,.1230,49.96, -.3330, -.1592
V_2924,292.402 {115},Y_3600,ppm, .0003,.0002,68.87, .0004, .0002
W_2397,239.709 {140},Y_2243,ppm, .0325,.1424,438.3, -.0682, .1332
Zn2062,206.200 {463},In2306,ppm, .0019,.0000,2.184, .0019, .0019

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 210.37,1.4306,.68004,209.36,211.39
In2306,230.606 {446},Cts/S, 13382.,17.314,.12939,13394.,13369.
Y_2243,224.306 {450},Cts/S, 17672.,5.3114,.03006,17675.,17668.
Y_3600,360.073 { 94},Cts/S, 161700.,38.705,.02394,161730.,161670.
Y_3710,371.030 { 91},Cts/S, 10207.,6.3140,.06186,10202.,10211.

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Al3082,308.215 {109},In2306,ppm, 19.94,.2819,1.414, 19.74, 20.14
As1890,189.042 {478},Y_2243,ppm, 1.044,.0004,.0349, 1.044, 1.044
B_2496,249.678 {135},Y_3710,ppm, .9937,.0034,.3407, .9913, .9961
Ba4554,455.403 { 74},Y_3710,ppm, 1.017,.0009,.0925, 1.016, 1.018
Be3130,313.042 {108},Y_3710,ppm, .9617,.0007,.0703, .9622, .9613
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Ca3158,315.887 {107},In2306,ppm, 19.60,.1566,.7994, 19.48, 19.71
Cd2288,228.802 {447},Y_2243,ppm, .9814,.0001,.0051, .9814, .9814
Co2286,228.616 {447},In2306,ppm, .9457,.0007,.0743, .9462, .9452
Cr2677,267.716 {126},Y_3600,ppm, .9452,.0013,.1419, .9462, .9443
Cu3247,324.754 {104},Y_3600,ppm, .9807,.0012,.1208, .9816, .9799
Fe2404,240.488 {140},In2306,ppm, 19.96,.1203,.6028, 19.88, 20.05
K_7664,766.490 { 44},Y_3710,ppm, 19.51,.0023,.0119, 19.52, 19.51
Li6707,670.784 { 50},Y_3710,ppm, .9716,.0027,.2751, .9735, .9697
Mg2790,279.079 {121},Y_3710,ppm, 19.81,.1617,.8160, 19.70, 19.93
Mn2576,257.610 {131},Y_3600,ppm, .9844,.0009,.0900, .9850, .9837
Mo2020,202.030 {467},Y_2243,ppm, 1.020,.0053,.5199, 1.016, 1.024
Na5895,589.592 { 57},Y_3710,ppm, 19.71,.0099,.0503, 19.70, 19.71
Ni2316,231.604 {445},In2306,ppm, .9749,.0029,.2950, .9770, .9729
P_1782,178.284 {489},In2306,ppm, 10.37,.0679,.6542, 10.32, 10.42
Pb2203,220.353 {453},In2306,ppm, .9676,.0068,.7044, .9628, .9724
S_1820,182.034 {485},Y_2243,ppm, 11.23,.0747,.6657, 11.17, 11.28
Sb2068,206.833 {463},Y_2243,ppm, 2.138,.0076,.3547, 2.132, 2.143
Se1960,196.090 {472},Y_2243,ppm, 1.021,.0054,.5338, 1.017, 1.025
Si2516,251.611 {134},Y_3710,ppm, 8.518,.0736,.8643, 8.466, 8.570
Sn1899,189.989 {477},In2306,ppm, .9810,.0062,.6304, .9766, .9854
Sr4215,421.552 { 80},Y_3710,ppm, 1.003,.0001,.0070, 1.003, 1.003
Ti3349,334.904 {101},Y_3600,ppm, .9969,.0011,.1128, .9977, .9961
Tl1908,190.856 {477},In2306,ppm, .8148,.0189,2.321, .8281, .8014
U_3670,367.007 { 92},Y_3600,ppm, .9308,.1604,17.23, 1.044, .8174
V_2924,292.402 {115},Y_3600,ppm, .9677,.0003,.0295, .9679, .9675
W_2397,239.709 {140},Y_2243,ppm, 1.382,.0258,1.866, 1.400, 1.364
Zn2062,206.200 {463},In2306,ppm, .9407,.0006,.0624, .9403, .9411

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 201.12,1.2666,.62976,202.02,200.23
In2306,230.606 {446},Cts/S, 12359.,.73308,.00593,12359.,12360.
Y_2243,224.306 {450},Cts/S, 17227.,9.8142,.05697,17220.,17234.
Y_3600,360.073 { 94},Cts/S, 155150.,128.70,.08295,155060.,155250.
Y_3710,371.030 { 91},Cts/S, 10107.,10.723,.10610,10114.,10099.

[Sample Header]
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SampleName=CCVL 3282419
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/23/2019 13:29:50
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0097,.0000,.2893, .0097, .0098
Al3082,308.215 {109},In2306,ppm, .1845,.0312,16.89, .1625, .2066
As1890,189.042 {478},Y_2243,ppm, .0243,.0020,8.262, .0257, .0229
B_2496,249.678 {135},Y_3710,ppm, .2116,.0031,1.461, .2138, .2094
Ba4554,455.403 { 74},Y_3710,ppm, .0226,.0004,1.726, .0223, .0228
Be3130,313.042 {108},Y_3710,ppm, .0110,.0001,1.258, .0111, .0109
Ca3158,315.887 {107},In2306,ppm, 1.027,.0187,1.821, 1.014, 1.040
Cd2288,228.802 {447},Y_2243,ppm, .0111,.0000,.0400, .0111, .0111
Co2286,228.616 {447},In2306,ppm, .0104,.0001,.5667, .0104, .0104
Cr2677,267.716 {126},Y_3600,ppm, .0104,.0000,.0510, .0104, .0104
Cu3247,324.754 {104},Y_3600,ppm, .0122,.0001,.8834, .0122, .0123
Fe2404,240.488 {140},In2306,ppm, .2028,.0035,1.715, .2052, .2003
K_7664,766.490 { 44},Y_3710,ppm, 1.050,.0374,3.561, 1.024, 1.077
Li6707,670.784 { 50},Y_3710,ppm, .0103,.0009,8.959, .0096, .0109
Mg2790,279.079 {121},Y_3710,ppm, 1.084,.0221,2.035, 1.068, 1.100
Mn2576,257.610 {131},Y_3600,ppm, .0112,.0001,.6228, .0111, .0112
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Mo2020,202.030 {467},Y_2243,ppm, .0269,.0002,.7664, .0268, .0271
Na5895,589.592 { 57},Y_3710,ppm, 1.063,.0081,.7604, 1.068, 1.057
Ni2316,231.604 {445},In2306,ppm, .0108,.0000,.3187, .0108, .0108
P_1782,178.284 {489},In2306,ppm, .9837,.0029,.2970, .9858, .9817
Pb2203,220.353 {453},In2306,ppm, .0110,.0008,7.560, .0116, .0104
S_1820,182.034 {485},Y_2243,ppm, -3.004,.0010,.0324, -3.005, -3.004
Sb2068,206.833 {463},Y_2243,ppm, .0551,.0006,1.094, .0547, .0556
Se1960,196.090 {472},Y_2243,ppm, .0259,.0012,4.709, .0268, .0251
Si2516,251.611 {134},Y_3710,ppm, .1748,.0064,3.677, .1794, .1703
Sn1899,189.989 {477},In2306,ppm, .0222,.0004,1.701, .0219, .0224
Sr4215,421.552 { 80},Y_3710,ppm, .0113,.0002,2.163, .0112, .0115
Ti3349,334.904 {101},Y_3600,ppm, .0113,.0002,2.121, .0111, .0115
Tl1908,190.856 {477},In2306,ppm, .3205,.0046,1.421, .3173, .3238
U_3670,367.007 { 92},Y_3600,ppm, -.1769,.1010,57.07, -.2483, -.1055
V_2924,292.402 {115},Y_3600,ppm, .0105,.0005,4.438, .0102, .0108
W_2397,239.709 {140},Y_2243,ppm, .0467,.0921,197.3, -.0184, .1118
Zn2062,206.200 {463},In2306,ppm, .0182,.0000,.0623, .0182, .0182

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 207.85,.62422,.30032,208.29,207.41
In2306,230.606 {446},Cts/S, 13283.,48.253,.36327,13249.,13317.
Y_2243,224.306 {450},Cts/S, 17678.,39.765,.22494,17650.,17706.
Y_3600,360.073 { 94},Cts/S, 160560.,107.06,.06667,160490.,160640.
Y_3710,371.030 { 91},Cts/S, 10100.,37.522,.37150,10073.,10127.

[Sample Header]
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Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/23/2019 13:31:56
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Mode=CONC
CorrFactor=1.000
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0004,.0002,51.95, .0006, .0003
Al3082,308.215 {109},In2306,ppm, -.0252,.0396,157.3, .0028, -.0532
As1890,189.042 {478},Y_2243,ppm, .0024,.0026,110.0, .0005, .0042
B_2496,249.678 {135},Y_3710,ppm, .0010,.0013,123.1, .0001, .0020
Ba4554,455.403 { 74},Y_3710,ppm, -.0001,.0002,128.8, -.0002, -.0000
Be3130,313.042 {108},Y_3710,ppm, .0000,.0001,386.5, .0001, -.0000
Ca3158,315.887 {107},In2306,ppm, .0061,.0003,5.680, .0063, .0058
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0001,583.4, .0001, -.0001
Co2286,228.616 {447},In2306,ppm, -.0002,.0001,39.18, -.0003, -.0002
Cr2677,267.716 {126},Y_3600,ppm, .0000,.0002,22640., .0001, -.0001
Cu3247,324.754 {104},Y_3600,ppm, .0015,.0001,5.584, .0016, .0014
Fe2404,240.488 {140},In2306,ppm, -.0055,.0157,287.1, -.0165, .0056
K_7664,766.490 { 44},Y_3710,ppm, .0202,.0101,50.06, .0274, .0131
Li6707,670.784 { 50},Y_3710,ppm, -.0007,.0017,221.8, .0004, -.0019
Mg2790,279.079 {121},Y_3710,ppm, -.0057,.0227,399.8, -.0218, .0104
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,522.9, .0000, -.0000
Mo2020,202.030 {467},Y_2243,ppm, .0011,.0003,27.33, .0013, .0009
Na5895,589.592 { 57},Y_3710,ppm, -.0245,.0036,14.89, -.0219, -.0271
Ni2316,231.604 {445},In2306,ppm, .0004,.0002,43.08, .0003, .0006
P_1782,178.284 {489},In2306,ppm, -.0020,.0001,6.902, -.0019, -.0021
Pb2203,220.353 {453},In2306,ppm, -.0002,.0006,334.6, .0003, -.0006
S_1820,182.034 {485},Y_2243,ppm, -3.673,.0041,.1129, -3.676, -3.670
Sb2068,206.833 {463},Y_2243,ppm, -.0011,.0012,107.3, -.0020, -.0003
Se1960,196.090 {472},Y_2243,ppm, .0052,.0017,32.67, .0040, .0064
Si2516,251.611 {134},Y_3710,ppm, .0130,.0047,36.50, .0096, .0163
Sn1899,189.989 {477},In2306,ppm, .0003,.0002,60.44, .0005, .0002
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Sr4215,421.552 { 80},Y_3710,ppm, -.0002,.0000,2.794, -.0002, -.0002
Ti3349,334.904 {101},Y_3600,ppm, .0002,.0003,156.9, -.0000, .0004
Tl1908,190.856 {477},In2306,ppm, .2274,.0095,4.167, .2207, .2341
U_3670,367.007 { 92},Y_3600,ppm, -.1658,.1454,87.67, -.2686, -.0630
V_2924,292.402 {115},Y_3600,ppm, .0002,.0004,245.9, -.0001, .0005
W_2397,239.709 {140},Y_2243,ppm, .1222,.0365,29.85, .1480, .0964
Zn2062,206.200 {463},In2306,ppm, .0016,.0001,3.742, .0016, .0016

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 208.47,1.5180,.72813,207.40,209.55
In2306,230.606 {446},Cts/S, 13324.,13.976,.10490,13334.,13314.
Y_2243,224.306 {450},Cts/S, 17671.,2.0482,.01159,17670.,17673.
Y_3600,360.073 { 94},Cts/S, 160660.,224.18,.13954,160500.,160820.
Y_3710,371.030 { 91},Cts/S, 10106.,22.881,.22640,10090.,10122.

[Sample Header]
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Custom ID2=
Custom ID3=
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Mode=CONC
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0003,.0001,20.32, -.0003, -.0002
Al3082,308.215 {109},In2306,ppm, .0418,.0200,47.77, .0560, .0277
As1890,189.042 {478},Y_2243,ppm, .0035,.0014,39.33, .0044, .0025
B_2496,249.678 {135},Y_3710,ppm, .0167,.0113,67.58, .0246, .0087
Ba4554,455.403 { 74},Y_3710,ppm, .0362,.0003,.6993, .0360, .0364
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,62.48, .0002, .0001
Ca3158,315.887 {107},In2306,ppm, 3.088,.0073,.2371, 3.083, 3.093
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,93.06, .0000, .0001
Co2286,228.616 {447},In2306,ppm, .0005,.0000,6.453, .0004, .0005
Cr2677,267.716 {126},Y_3600,ppm, .0007,.0004,64.19, .0004, .0010
Cu3247,324.754 {104},Y_3600,ppm, .0022,.0007,33.24, .0017, .0027
Fe2404,240.488 {140},In2306,ppm, .0399,.0069,17.34, .0447, .0350
K_7664,766.490 { 44},Y_3710,ppm, .4053,.0559,13.80, .3657, .4448
Li6707,670.784 { 50},Y_3710,ppm, .0027,.0002,6.072, .0028, .0026
Mg2790,279.079 {121},Y_3710,ppm, .3533,.0017,.4907, .3520, .3545
Mn2576,257.610 {131},Y_3600,ppm, .2496,.0004,.1740, .2499, .2493
Mo2020,202.030 {467},Y_2243,ppm, .0004,.0001,20.77, .0005, .0004
Na5895,589.592 { 57},Y_3710,ppm, 3.270,.0036,.1105, 3.268, 3.273
Ni2316,231.604 {445},In2306,ppm, .0016,.0004,27.31, .0013, .0019
P_1782,178.284 {489},In2306,ppm, .0210,.0007,3.181, .0205, .0215
Pb2203,220.353 {453},In2306,ppm, .0013,.0019,148.0, .0026, -.0001
S_1820,182.034 {485},Y_2243,ppm, -.0499,.0003,.5233, -.0501, -.0498
Sb2068,206.833 {463},Y_2243,ppm, -.0021,.0001,7.272, -.0020, -.0022
Se1960,196.090 {472},Y_2243,ppm, .0044,.0011,25.72, .0036, .0052
Si2516,251.611 {134},Y_3710,ppm, .3290,.0075,2.272, .3343, .3238
Sn1899,189.989 {477},In2306,ppm, -.0002,.0004,196.7, .0001, -.0005
Sr4215,421.552 { 80},Y_3710,ppm, .0179,.0001,.5351, .0179, .0180
Ti3349,334.904 {101},Y_3600,ppm, .0001,.0004,282.9, -.0001, .0004
Tl1908,190.856 {477},In2306,ppm, .1602,.0087,5.449, .1540, .1664
U_3670,367.007 { 92},Y_3600,ppm, -.1425,.1390,97.57, -.2408, -.0442
V_2924,292.402 {115},Y_3600,ppm, .0002,.0000,14.16, .0002, .0002
W_2397,239.709 {140},Y_2243,ppm, .0407,.1085,266.4, .1175, -.0360
Zn2062,206.200 {463},In2306,ppm, .0871,.0003,.3430, .0873, .0869

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
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In2306,230.606 {146},Cts/S, 211.41,.10846,.05130,211.33,211.49
In2306,230.606 {446},Cts/S, 13286.,18.758,.14118,13300.,13273.
Y_2243,224.306 {450},Cts/S, 17621.,19.527,.11082,17635.,17607.
Y_3600,360.073 { 94},Cts/S, 160320.,958.35,.59777,159640.,161000.
Y_3710,371.030 { 91},Cts/S, 10205.,73.942,.72459,10152.,10257.

[Sample Header]
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Username=admin
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Custom ID1=
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Custom ID3=
Run Time=9/23/2019 13:36:04
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0000,.0001,193.3, .0000, -.0001
Al3082,308.215 {109},In2306,ppm, .0253,.0201,79.57, .0111, .0395
As1890,189.042 {478},Y_2243,ppm, .0016,.0017,101.1, .0005, .0028
B_2496,249.678 {135},Y_3710,ppm, .0202,.0072,35.54, .0151, .0253
Ba4554,455.403 { 74},Y_3710,ppm, .0365,.0001,.3373, .0366, .0364
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,11.51, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, 3.122,.0126,.4048, 3.131, 3.113
Cd2288,228.802 {447},Y_2243,ppm, .0002,.0001,64.56, .0001, .0002
Co2286,228.616 {447},In2306,ppm, .0003,.0001,42.19, .0002, .0004
Cr2677,267.716 {126},Y_3600,ppm, .0006,.0001,22.24, .0005, .0007
Cu3247,324.754 {104},Y_3600,ppm, .0015,.0001,9.380, .0016, .0014
Fe2404,240.488 {140},In2306,ppm, .0406,.0029,7.150, .0385, .0426
K_7664,766.490 { 44},Y_3710,ppm, .4396,.0393,8.935, .4119, .4674
Li6707,670.784 { 50},Y_3710,ppm, .0027,.0001,5.270, .0028, .0026
Mg2790,279.079 {121},Y_3710,ppm, .3243,.0468,14.42, .3573, .2912
Mn2576,257.610 {131},Y_3600,ppm, .2478,.0000,.0114, .2478, .2478
Mo2020,202.030 {467},Y_2243,ppm, -.0000,.0003,720.1, -.0003, .0002
Na5895,589.592 { 57},Y_3710,ppm, 3.257,.0065,.1994, 3.252, 3.261
Ni2316,231.604 {445},In2306,ppm, .0017,.0001,8.360, .0018, .0016
P_1782,178.284 {489},In2306,ppm, .0217,.0009,4.155, .0211, .0223
Pb2203,220.353 {453},In2306,ppm, .0001,.0005,385.3, -.0002, .0005
S_1820,182.034 {485},Y_2243,ppm, -.0609,.0100,16.37, -.0679, -.0538
Sb2068,206.833 {463},Y_2243,ppm, -.0005,.0016,346.6, .0007, -.0016
Se1960,196.090 {472},Y_2243,ppm, .0041,.0002,5.915, .0039, .0043
Si2516,251.611 {134},Y_3710,ppm, .3251,.0069,2.137, .3300, .3202
Sn1899,189.989 {477},In2306,ppm, .0004,.0002,38.14, .0005, .0003
Sr4215,421.552 { 80},Y_3710,ppm, .0180,.0000,.1100, .0180, .0180
Ti3349,334.904 {101},Y_3600,ppm, .0001,.0001,120.7, .0000, .0002
Tl1908,190.856 {477},In2306,ppm, .1172,.0111,9.471, .1094, .1250
U_3670,367.007 { 92},Y_3600,ppm, -.1978,.0666,33.68, -.1507, -.2449
V_2924,292.402 {115},Y_3600,ppm, .0000,.0002,903.8, .0002, -.0001
W_2397,239.709 {140},Y_2243,ppm, -.0014,.1335,9887., .0930, -.0957
Zn2062,206.200 {463},In2306,ppm, .0849,.0005,.6119, .0853, .0845

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 210.56,.05440,.02584,210.52,210.60
In2306,230.606 {446},Cts/S, 13299.,17.215,.12945,13287.,13311.
Y_2243,224.306 {450},Cts/S, 17605.,12.644,.07182,17614.,17596.
Y_3600,360.073 { 94},Cts/S, 160610.,342.43,.21320,160370.,160850.
Y_3710,371.030 { 91},Cts/S, 10271.,35.738,.34795,10296.,10246.

[Sample Header]
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SampleName=600-192014-A-1-K MS
Username=admin
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Custom ID2=
Custom ID3=
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Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2524,.0007,.2640, .2529, .2519
Al3082,308.215 {109},In2306,ppm, 9.982,.0077,.0768, 9.976, 9.987
As1890,189.042 {478},Y_2243,ppm, 1.047,.0017,.1639, 1.048, 1.045
B_2496,249.678 {135},Y_3710,ppm, .5102,.0038,.7505, .5075, .5129
Ba4554,455.403 { 74},Y_3710,ppm, 1.054,.0037,.3519, 1.052, 1.057
Be3130,313.042 {108},Y_3710,ppm, .9705,.0040,.4071, .9677, .9733
Ca3158,315.887 {107},In2306,ppm, 12.92,.0015,.0114, 12.92, 12.93
Cd2288,228.802 {447},Y_2243,ppm, .9893,.0025,.2554, .9911, .9875
Co2286,228.616 {447},In2306,ppm, .9395,.0009,.1008, .9402, .9388
Cr2677,267.716 {126},Y_3600,ppm, .9421,.0016,.1746, .9410, .9433
Cu3247,324.754 {104},Y_3600,ppm, .9798,.0053,.5366, .9835, .9761
Fe2404,240.488 {140},In2306,ppm, 9.991,.0155,.1548, 10.00, 9.980
K_7664,766.490 { 44},Y_3710,ppm, 10.36,.0264,.2549, 10.34, 10.38
Li6707,670.784 { 50},Y_3710,ppm, .9810,.0036,.3665, .9785, .9836
Mg2790,279.079 {121},Y_3710,ppm, 10.30,.1239,1.203, 10.21, 10.39
Mn2576,257.610 {131},Y_3600,ppm, 1.230,.0017,.1391, 1.229, 1.231
Mo2020,202.030 {467},Y_2243,ppm, 1.022,.0052,.5062, 1.025, 1.018
Na5895,589.592 { 57},Y_3710,ppm, 13.26,.0334,.2520, 13.24, 13.28
Ni2316,231.604 {445},In2306,ppm, .9686,.0021,.2179, .9701, .9671
P_1782,178.284 {489},In2306,ppm, 5.169,.0317,.6134, 5.191, 5.147
Pb2203,220.353 {453},In2306,ppm, .9533,.0069,.7197, .9582, .9485
S_1820,182.034 {485},Y_2243,ppm, 7.480,.0478,.6395, 7.514, 7.446
Sb2068,206.833 {463},Y_2243,ppm, 1.613,.0070,.4362, 1.618, 1.608
Se1960,196.090 {472},Y_2243,ppm, 1.027,.0069,.6732, 1.032, 1.022
Si2516,251.611 {134},Y_3710,ppm, 8.244,.1207,1.464, 8.159, 8.329
Sn1899,189.989 {477},In2306,ppm, .9644,.0067,.6985, .9692, .9596
Sr4215,421.552 { 80},Y_3710,ppm, 1.021,.0028,.2766, 1.019, 1.023
Ti3349,334.904 {101},Y_3600,ppm, .9971,.0013,.1340, .9962, .9981
Tl1908,190.856 {477},In2306,ppm, .5174,.0297,5.735, .5384, .4964
U_3670,367.007 { 92},Y_3600,ppm, .2626,.0010,.3925, .2619, .2634
V_2924,292.402 {115},Y_3600,ppm, .9654,.0006,.0572, .9650, .9658
W_2397,239.709 {140},Y_2243,ppm, .3551,.0099,2.793, .3621, .3481
Zn2062,206.200 {463},In2306,ppm, .5609,.0019,.3465, .5623, .5595

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 206.47,.57026,.27620,206.07,206.87
In2306,230.606 {446},Cts/S, 12678.,41.754,.32934,12648.,12707.
Y_2243,224.306 {450},Cts/S, 17299.,57.638,.33319,17258.,17339.
Y_3600,360.073 { 94},Cts/S, 157570.,186.94,.11864,157440.,157700.
Y_3710,371.030 { 91},Cts/S, 10231.,24.062,.23519,10248.,10214.

[Sample Header]
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Mode=CONC
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Repeats=2
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0028,.0001,4.327, .0027, .0029
Al3082,308.215 {109},In2306,ppm, 15.20,.3295,2.168, 14.97, 15.43
As1890,189.042 {478},Y_2243,ppm, .8997,.0376,4.184, .8731, .9263
B_2496,249.678 {135},Y_3710,ppm, .0053,.0025,47.03, .0035, .0070
Ba4554,455.403 { 74},Y_3710,ppm, .1890,.0014,.7608, .1880, .1900
Be3130,313.042 {108},Y_3710,ppm, .0018,.0000,2.177, .0018, .0018
Ca3158,315.887 {107},In2306,ppm, 1.962,.0242,1.235, 1.945, 1.979
Cd2288,228.802 {447},Y_2243,ppm, .0076,.0003,3.949, .0074, .0078
Co2286,228.616 {447},In2306,ppm, .0629,.0024,3.795, .0612, .0645
Cr2677,267.716 {126},Y_3600,ppm, .3921,.0021,.5380, .3906, .3935
Cu3247,324.754 {104},Y_3600,ppm, .7050,.0080,1.136, .6994, .7107
Fe2404,240.488 {140},In2306,ppm, 304.0,5.956,1.959, 299.8, 308.2
K_7664,766.490 { 44},Y_3710,ppm, 2.887,.0392,1.359, 2.859, 2.915
Li6707,670.784 { 50},Y_3710,ppm, .0088,.0005,5.635, .0092, .0085
Mg2790,279.079 {121},Y_3710,ppm, 3.561,.0585,1.643, 3.519, 3.602
Mn2576,257.610 {131},Y_3600,ppm, 15.28,.1570,1.028, 15.16, 15.39
Mo2020,202.030 {467},Y_2243,ppm, .0895,.0042,4.647, .0865, .0924
Na5895,589.592 { 57},Y_3710,ppm, .1249,.0007,.5853, .1254, .1244
Ni2316,231.604 {445},In2306,ppm, .4704,.0187,3.980, .4571, .4836
P_1782,178.284 {489},In2306,ppm, 1.357,.0555,4.090, 1.318, 1.396
Pb2203,220.353 {453},In2306,ppm, .0932,.0042,4.512, .0902, .0961
S_1820,182.034 {485},Y_2243,ppm, 11.08,.5793,5.230, 10.67, 11.49
Sb2068,206.833 {463},Y_2243,ppm, .2618,.0143,5.479, .2516, .2719
Se1960,196.090 {472},Y_2243,ppm, .0144,.0015,10.32, .0133, .0154
Si2516,251.611 {134},Y_3710,ppm, .9190,.0038,.4091, .9217, .9164
Sn1899,189.989 {477},In2306,ppm, .0513,.0023,4.486, .0497, .0529
Sr4215,421.552 { 80},Y_3710,ppm, .0802,.0002,.3036, .0800, .0804
Ti3349,334.904 {101},Y_3600,ppm, .1143,.0015,1.340, .1132, .1154
Tl1908,190.856 {477},In2306,ppm, .3057,.0141,4.618, .2957, .3156
U_3670,367.007 { 92},Y_3600,ppm, 1.452,.0533,3.670, 1.415, 1.490
V_2924,292.402 {115},Y_3600,ppm, .0934,.0016,1.671, .0923, .0945
W_2397,239.709 {140},Y_2243,ppm, .0627,.0003,.4610, .0625, .0629
Zn2062,206.200 {463},In2306,ppm, .2291,.0095,4.162, .2223, .2358

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 204.93,1.9013,.92780,206.27,203.58
In2306,230.606 {446},Cts/S, 12706.,325.06,2.5582,12936.,12476.
Y_2243,224.306 {450},Cts/S, 17515.,449.23,2.5648,17833.,17197.
Y_3600,360.073 { 94},Cts/S, 156920.,449.90,.28670,157240.,156610.
Y_3710,371.030 { 91},Cts/S, 10209.,5.2739,.05166,10205.,10213.

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Ag3280,328.068 {103},Y_3600,ppm, .0017,.0002,11.15, .0018, .0016
Al3082,308.215 {109},In2306,ppm, 15.03,.7118,4.737, 14.52, 15.53
As1890,189.042 {478},Y_2243,ppm, .2359,.0007,.2980, .2364, .2354
B_2496,249.678 {135},Y_3710,ppm, .0141,.0016,11.10, .0152, .0130
Ba4554,455.403 { 74},Y_3710,ppm, .1235,.0059,4.779, .1194, .1277
Be3130,313.042 {108},Y_3710,ppm, .0015,.0000,.0640, .0015, .0015
Ca3158,315.887 {107},In2306,ppm, 1.763,.0937,5.316, 1.696, 1.829
Cd2288,228.802 {447},Y_2243,ppm, .0050,.0004,7.275, .0048, .0053
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Co2286,228.616 {447},In2306,ppm, .0517,.0001,.1182, .0517, .0518
Cr2677,267.716 {126},Y_3600,ppm, .3564,.0010,.2720, .3557, .3571
Cu3247,324.754 {104},Y_3600,ppm, .6305,.0008,.1282, .6300, .6311
Fe2404,240.488 {140},In2306,ppm, 262.9,12.87,4.895, 253.8, 272.0
K_7664,766.490 { 44},Y_3710,ppm, 1.829,.0856,4.682, 1.768, 1.889
Li6707,670.784 { 50},Y_3710,ppm, .0103,.0003,2.537, .0105, .0101
Mg2790,279.079 {121},Y_3710,ppm, 3.877,.2754,7.104, 3.683, 4.072
Mn2576,257.610 {131},Y_3600,ppm, 10.00,.0218,.2176, 9.985, 10.02
Mo2020,202.030 {467},Y_2243,ppm, .0890,.0010,1.106, .0897, .0883
Na5895,589.592 { 57},Y_3710,ppm, .0591,.0054,9.111, .0553, .0629
Ni2316,231.604 {445},In2306,ppm, .4984,.0021,.4169, .4999, .4969
P_1782,178.284 {489},In2306,ppm, 1.140,.0090,.7886, 1.146, 1.134
Pb2203,220.353 {453},In2306,ppm, .0779,.0021,2.698, .0764, .0794
S_1820,182.034 {485},Y_2243,ppm, 51.53,.2266,.4397, 51.69, 51.37
Sb2068,206.833 {463},Y_2243,ppm, .6208,.0037,.5915, .6234, .6182
Se1960,196.090 {472},Y_2243,ppm, .0109,.0065,59.76, .0063, .0155
Si2516,251.611 {134},Y_3710,ppm, .9235,.0530,5.743, .8860, .9610
Sn1899,189.989 {477},In2306,ppm, .0428,.0016,3.658, .0439, .0417
Sr4215,421.552 { 80},Y_3710,ppm, .0559,.0027,4.841, .0539, .0578
Ti3349,334.904 {101},Y_3600,ppm, .1149,.0010,.9072, .1156, .1142
Tl1908,190.856 {477},In2306,ppm, .2106,.0046,2.192, .2073, .2139
U_3670,367.007 { 92},Y_3600,ppm, 1.122,.0887,7.905, 1.060, 1.185
V_2924,292.402 {115},Y_3600,ppm, .0830,.0005,.5635, .0833, .0827
W_2397,239.709 {140},Y_2243,ppm, .0020,.0078,388.0, -.0035, .0075
Zn2062,206.200 {463},In2306,ppm, .2481,.0011,.4513, .2489, .2473

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 209.12,6.9858,3.3406,214.06,204.18
In2306,230.606 {446},Cts/S, 12602.,13.264,.10525,12611.,12592.
Y_2243,224.306 {450},Cts/S, 17396.,4.8647,.02797,17392.,17399.
Y_3600,360.073 { 94},Cts/S, 157630.,67.673,.04293,157590.,157680.
Y_3710,371.030 { 91},Cts/S, 10418.,338.82,3.2522,10658.,10179.

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Ag3280,328.068 {103},Y_3600,ppm, .0018,.0004,24.94, .0021, .0015
Al3082,308.215 {109},In2306,ppm, 16.85,.0574,.3409, 16.89, 16.80
As1890,189.042 {478},Y_2243,ppm, .8777,.0072,.8149, .8828, .8727
B_2496,249.678 {135},Y_3710,ppm, .0080,.0100,125.3, .0151, .0009
Ba4554,455.403 { 74},Y_3710,ppm, .1693,.0003,.1621, .1691, .1695
Be3130,313.042 {108},Y_3710,ppm, .0015,.0000,.4627, .0015, .0015
Ca3158,315.887 {107},In2306,ppm, 1.454,.0159,1.095, 1.465, 1.442
Cd2288,228.802 {447},Y_2243,ppm, .0078,.0001,1.538, .0078, .0077
Co2286,228.616 {447},In2306,ppm, .0535,.0005,.8613, .0538, .0531
Cr2677,267.716 {126},Y_3600,ppm, .3380,.0009,.2580, .3374, .3387
Cu3247,324.754 {104},Y_3600,ppm, .6271,.0010,.1668, .6278, .6263
Fe2404,240.488 {140},In2306,ppm, 272.5,.6903,.2533, 273.0, 272.0
K_7664,766.490 { 44},Y_3710,ppm, 2.922,.0043,.1458, 2.925, 2.919
Li6707,670.784 { 50},Y_3710,ppm, .0112,.0005,4.413, .0116, .0109
Mg2790,279.079 {121},Y_3710,ppm, 3.521,.0558,1.585, 3.561, 3.482
Mn2576,257.610 {131},Y_3600,ppm, 11.41,.0797,.6987, 11.46, 11.35
Mo2020,202.030 {467},Y_2243,ppm, .0742,.0000,.0163, .0742, .0742
Na5895,589.592 { 57},Y_3710,ppm, .1504,.0104,6.900, .1431, .1578
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Ni2316,231.604 {445},In2306,ppm, .3978,.0011,.2689, .3986, .3971
P_1782,178.284 {489},In2306,ppm, 1.202,.0064,.5336, 1.206, 1.197
Pb2203,220.353 {453},In2306,ppm, .0812,.0012,1.539, .0804, .0821
S_1820,182.034 {485},Y_2243,ppm, 17.29,.1020,.5900, 17.36, 17.22
Sb2068,206.833 {463},Y_2243,ppm, .2240,.0036,1.587, .2265, .2215
Se1960,196.090 {472},Y_2243,ppm, .0089,.0019,20.79, .0076, .0102
Si2516,251.611 {134},Y_3710,ppm, .8879,.0055,.6184, .8918, .8841
Sn1899,189.989 {477},In2306,ppm, .0429,.0008,1.867, .0435, .0423
Sr4215,421.552 { 80},Y_3710,ppm, .0687,.0003,.3666, .0685, .0689
Ti3349,334.904 {101},Y_3600,ppm, .1085,.0005,.4449, .1089, .1082
Tl1908,190.856 {477},In2306,ppm, .1522,.0044,2.889, .1491, .1553
U_3670,367.007 { 92},Y_3600,ppm, 1.319,.0853,6.468, 1.259, 1.379
V_2924,292.402 {115},Y_3600,ppm, .0832,.0003,.3505, .0834, .0830
W_2397,239.709 {140},Y_2243,ppm, -.1199,.0216,17.99, -.1047, -.1352
Zn2062,206.200 {463},In2306,ppm, .2225,.0003,.1482, .2227, .2222

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 205.01,2.4214,1.1811,203.30,206.72
In2306,230.606 {446},Cts/S, 12522.,86.056,.68723,12461.,12583.
Y_2243,224.306 {450},Cts/S, 17322.,164.13,.94754,17206.,17438.
Y_3600,360.073 { 94},Cts/S, 156990.,538.16,.34279,156610.,157370.
Y_3710,371.030 { 91},Cts/S, 10238.,62.585,.61127,10194.,10283.

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Al3082,308.215 {109},In2306,ppm, .0052,.0107,204.1, -.0023, .0128
As1890,189.042 {478},Y_2243,ppm, .0116,.0002,1.798, .0115, .0118
B_2496,249.678 {135},Y_3710,ppm, .8491,.0116,1.365, .8572, .8409
Ba4554,455.403 { 74},Y_3710,ppm, .0649,.0008,1.254, .0655, .0643
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0000,27.12, -.0000, -.0001
Ca3158,315.887 {107},In2306,ppm, 205.8,5.084,2.471, 209.4, 202.2
Cd2288,228.802 {447},Y_2243,ppm, .0003,.0001,37.45, .0002, .0004
Co2286,228.616 {447},In2306,ppm, -.0002,.0001,68.98, -.0003, -.0001
Cr2677,267.716 {126},Y_3600,ppm, .0003,.0002,51.19, .0002, .0005
Cu3247,324.754 {104},Y_3600,ppm, .3058,.0012,.3830, .3066, .3049
Fe2404,240.488 {140},In2306,ppm, .1052,.0592,56.25, .1471, .0634
K_7664,766.490 { 44},Y_3710,ppm, 157.1,1.971,1.255, 158.5, 155.7
Li6707,670.784 { 50},Y_3710,ppm, .0459,.0004,.9594, .0462, .0456
Mg2790,279.079 {121},Y_3710,ppm, 64.85,.9843,1.518, 65.55, 64.15
Mn2576,257.610 {131},Y_3600,ppm, .1076,.0017,1.621, .1089, .1064
Mo2020,202.030 {467},Y_2243,ppm, .0314,.0001,.4056, .0315, .0313
Na5895,589.592 { 57},Y_3710,ppm, 140.7,1.810,1.287, 141.9, 139.4
Ni2316,231.604 {445},In2306,ppm, .0011,.0001,8.619, .0011, .0010
P_1782,178.284 {489},In2306,ppm, .5475,.0038,.6931, .5449, .5502
Pb2203,220.353 {453},In2306,ppm, -.0050,.0012,24.85, -.0041, -.0059
S_1820,182.034 {485},Y_2243,ppm, 217.0,.3481,.1604, 217.3, 216.8
Sb2068,206.833 {463},Y_2243,ppm, .0226,.0014,6.070, .0216, .0235
Se1960,196.090 {472},Y_2243,ppm, .0110,.0004,3.223, .0113, .0108
Si2516,251.611 {134},Y_3710,ppm, 39.40,.6282,1.595, 39.84, 38.95
Sn1899,189.989 {477},In2306,ppm, .0003,.0000,7.521, .0003, .0003
Sr4215,421.552 { 80},Y_3710,ppm, 1.896,.0224,1.180, 1.912, 1.880
Ti3349,334.904 {101},Y_3600,ppm, .0017,.0001,4.233, .0017, .0016
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Tl1908,190.856 {477},In2306,ppm, -.0035,.0048,137.5, -.0068, -.0001
U_3670,367.007 { 92},Y_3600,ppm, -.2297,.0115,4.997, -.2378, -.2216
V_2924,292.402 {115},Y_3600,ppm, .0004,.0004,88.74, .0007, .0002
W_2397,239.709 {140},Y_2243,ppm, -.0684,.0212,31.05, -.0534, -.0834
Zn2062,206.200 {463},In2306,ppm, .6369,.0081,1.272, .6426, .6312

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 199.68,3.2464,1.6258,197.38,201.97
In2306,230.606 {446},Cts/S, 11450.,7.2587,.06340,11444.,11455.
Y_2243,224.306 {450},Cts/S, 16755.,24.152,.14415,16738.,16772.
Y_3600,360.073 { 94},Cts/S, 151680.,210.98,.13909,151830.,151530.
Y_3710,371.030 { 91},Cts/S, 9872.1,101.54,1.0286,9800.3,9943.9

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Al3082,308.215 {109},In2306,ppm, 112.7,2.042,1.812, 111.2, 114.1
As1890,189.042 {478},Y_2243,ppm, 4.741,.0123,.2590, 4.750, 4.733
B_2496,249.678 {135},Y_3710,ppm, .3940,.0100,2.546, .3870, .4011
Ba4554,455.403 { 74},Y_3710,ppm, 2.969,.0144,.4838, 2.959, 2.980
Be3130,313.042 {108},Y_3710,ppm, .0224,.0002,.8632, .0222, .0225
Ca3158,315.887 {107},In2306,ppm, 75.34,1.303,1.730, 74.42, 76.26
Cd2288,228.802 {447},Y_2243,ppm, .2010,.0004,.2195, .2013, .2006
Co2286,228.616 {447},In2306,ppm, .6652,.0032,.4783, .6675, .6630
Cr2677,267.716 {126},Y_3600,ppm, 1.180,.0137,1.157, 1.171, 1.190
Cu3247,324.754 {104},Y_3600,ppm, 28.86,.1724,.5974, 28.74, 28.98
Fe2404,240.488 {140},In2306,ppm, 1105.,19.63,1.776, 1091., 1119.
K_7664,766.490 { 44},Y_3710,ppm, 27.41,.1074,.3918, 27.34, 27.49
Li6707,670.784 { 50},Y_3710,ppm, .0870,.0003,.3686, .0873, .0868
Mg2790,279.079 {121},Y_3710,ppm, 27.22,.2270,.8341, 27.06, 27.38
Mn2576,257.610 {131},Y_3600,ppm, 2.168,.0174,.8011, 2.155, 2.180
Mo2020,202.030 {467},Y_2243,ppm, 5.628,.0214,.3808, 5.643, 5.613
Na5895,589.592 { 57},Y_3710,ppm, 13.57,.0485,.3573, 13.53, 13.60
Ni2316,231.604 {445},In2306,ppm, .6637,.0034,.5135, .6661, .6612
P_1782,178.284 {489},In2306,ppm, 3.370,.0071,.2109, 3.375, 3.365
Pb2203,220.353 {453},In2306,ppm, 5.448,.0287,.5259, 5.468, 5.428
S_1820,182.034 {485},Y_2243,ppm, 15.60,.2267,1.453, 15.76, 15.44
Sb2068,206.833 {463},Y_2243,ppm, .1072,.0006,.5731, .1076, .1067
Se1960,196.090 {472},Y_2243,ppm, .0211,.0015,7.223, .0201, .0222
Si2516,251.611 {134},Y_3710,ppm, 2.664,.0032,.1212, 2.667, 2.662
Sn1899,189.989 {477},In2306,ppm, 1.794,.0041,.2281, 1.797, 1.791
Sr4215,421.552 { 80},Y_3710,ppm, 1.322,.0071,.5408, 1.316, 1.327
Ti3349,334.904 {101},Y_3600,ppm, 6.863,.0493,.7178, 6.828, 6.898
Tl1908,190.856 {477},In2306,ppm, .0930,.0034,3.632, .0954, .0906
U_3670,367.007 { 92},Y_3600,ppm, 6.601,.1381,2.092, 6.699, 6.504
V_2924,292.402 {115},Y_3600,ppm, .3856,.0044,1.142, .3825, .3888
W_2397,239.709 {140},Y_2243,ppm, -.2932,.0800,27.30, -.2366, -.3498
Zn2062,206.200 {463},In2306,ppm, 67.09,.7787,1.161, 67.64, 66.54

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 198.53,2.4171,1.2175,200.24,196.83
In2306,230.606 {446},Cts/S, 10933.,55.096,.50395,10894.,10972.
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Y_2243,224.306 {450},Cts/S, 16382.,73.146,.44650,16330.,16434.
Y_3600,360.073 { 94},Cts/S, 149910.,249.62,.16651,150090.,149740.
Y_3710,371.030 { 91},Cts/S, 10264.,40.434,.39392,10293.,10236.

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As1890,189.042 {478},Y_2243,ppm, 2.419,.1382,5.711, 2.517, 2.322
B_2496,249.678 {135},Y_3710,ppm, .2103,.0039,1.842, .2130, .2075
Ba4554,455.403 { 74},Y_3710,ppm, 1.614,.0089,.5507, 1.608, 1.621
Be3130,313.042 {108},Y_3710,ppm, .0123,.0001,.7772, .0123, .0124
Ca3158,315.887 {107},In2306,ppm, 41.51,.4404,1.061, 41.20, 41.82
Cd2288,228.802 {447},Y_2243,ppm, .1030,.0059,5.700, .1071, .0988
Co2286,228.616 {447},In2306,ppm, .3379,.0202,5.969, .3522, .3237
Cr2677,267.716 {126},Y_3600,ppm, .6500,.0013,.1988, .6509, .6491
Cu3247,324.754 {104},Y_3600,ppm, 15.57,.0866,.5561, 15.51, 15.63
Fe2404,240.488 {140},In2306,ppm, 627.1,4.236,.6754, 624.1, 630.1
K_7664,766.490 { 44},Y_3710,ppm, 14.86,.0486,.3271, 14.83, 14.90
Li6707,670.784 { 50},Y_3710,ppm, .0452,.0007,1.564, .0447, .0457
Mg2790,279.079 {121},Y_3710,ppm, 15.05,.1140,.7572, 14.97, 15.13
Mn2576,257.610 {131},Y_3600,ppm, 1.196,.0012,.1042, 1.197, 1.195
Mo2020,202.030 {467},Y_2243,ppm, 2.943,.1761,5.983, 3.068, 2.819
Na5895,589.592 { 57},Y_3710,ppm, 7.310,.0280,.3832, 7.290, 7.330
Ni2316,231.604 {445},In2306,ppm, .3357,.0199,5.920, .3497, .3216
P_1782,178.284 {489},In2306,ppm, 1.673,.1055,6.307, 1.748, 1.598
Pb2203,220.353 {453},In2306,ppm, 2.814,.1610,5.721, 2.928, 2.700
S_1820,182.034 {485},Y_2243,ppm, 6.954,.8186,11.77, 7.533, 6.375
Sb2068,206.833 {463},Y_2243,ppm, .0518,.0044,8.410, .0549, .0487
Se1960,196.090 {472},Y_2243,ppm, .0085,.0029,33.52, .0065, .0105
Si2516,251.611 {134},Y_3710,ppm, 1.439,.0053,.3688, 1.436, 1.443
Sn1899,189.989 {477},In2306,ppm, .9179,.0520,5.665, .9546, .8811
Sr4215,421.552 { 80},Y_3710,ppm, .7172,.0034,.4718, .7148, .7196
Ti3349,334.904 {101},Y_3600,ppm, 3.741,.0013,.0346, 3.742, 3.740
Tl1908,190.856 {477},In2306,ppm, .0720,.0015,2.019, .0730, .0709
U_3670,367.007 { 92},Y_3600,ppm, 3.491,.0539,1.545, 3.452, 3.529
V_2924,292.402 {115},Y_3600,ppm, .2104,.0010,.4689, .2097, .2110
W_2397,239.709 {140},Y_2243,ppm, -.1447,.0040,2.757, -.1418, -.1475
Zn2062,206.200 {463},In2306,ppm, 37.48,1.997,5.329, 38.90, 36.07

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 199.04,.66885,.33605,198.56,199.51
In2306,230.606 {446},Cts/S, 12061.,591.49,4.9042,11643.,12479.
Y_2243,224.306 {450},Cts/S, 17475.,850.98,4.8696,16874.,18077.
Y_3600,360.073 { 94},Cts/S, 153130.,369.59,.24135,152870.,153390.
Y_3710,371.030 { 91},Cts/S, 10186.,64.627,.63444,10141.,10232.

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SampleName=CCV 3282133
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Custom ID3=
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .4975,.0020,.3927, .4962, .4989
Al3082,308.215 {109},In2306,ppm, 19.85,.0443,.2234, 19.88, 19.82
As1890,189.042 {478},Y_2243,ppm, 1.035,.0017,.1678, 1.037, 1.034
B_2496,249.678 {135},Y_3710,ppm, .9883,.0066,.6647, .9837, .9930
Ba4554,455.403 { 74},Y_3710,ppm, 1.015,.0034,.3341, 1.012, 1.017
Be3130,313.042 {108},Y_3710,ppm, .9610,.0050,.5158, .9575, .9646
Ca3158,315.887 {107},In2306,ppm, 19.42,.0344,.1771, 19.45, 19.40
Cd2288,228.802 {447},Y_2243,ppm, .9759,.0030,.3072, .9737, .9780
Co2286,228.616 {447},In2306,ppm, .9474,.0034,.3609, .9450, .9498
Cr2677,267.716 {126},Y_3600,ppm, .9485,.0014,.1509, .9475, .9495
Cu3247,324.754 {104},Y_3600,ppm, .9811,.0001,.0102, .9812, .9810
Fe2404,240.488 {140},In2306,ppm, 19.89,.0846,.4255, 19.95, 19.83
K_7664,766.490 { 44},Y_3710,ppm, 19.50,.0186,.0953, 19.48, 19.51
Li6707,670.784 { 50},Y_3710,ppm, .9770,.0027,.2772, .9751, .9789
Mg2790,279.079 {121},Y_3710,ppm, 19.68,.0987,.5014, 19.61, 19.75
Mn2576,257.610 {131},Y_3600,ppm, .9835,.0029,.2961, .9815, .9856
Mo2020,202.030 {467},Y_2243,ppm, 1.026,.0026,.2541, 1.024, 1.028
Na5895,589.592 { 57},Y_3710,ppm, 19.68,.0575,.2922, 19.64, 19.73
Ni2316,231.604 {445},In2306,ppm, .9715,.0024,.2444, .9699, .9732
P_1782,178.284 {489},In2306,ppm, 10.33,.0282,.2727, 10.31, 10.35
Pb2203,220.353 {453},In2306,ppm, .9670,.0006,.0620, .9675, .9666
S_1820,182.034 {485},Y_2243,ppm, 11.00,.0070,.0639, 10.99, 11.00
Sb2068,206.833 {463},Y_2243,ppm, 2.118,.0021,.0984, 2.117, 2.119
Se1960,196.090 {472},Y_2243,ppm, 1.012,.0041,.4093, 1.015, 1.010
Si2516,251.611 {134},Y_3710,ppm, 8.664,.1691,1.952, 8.545, 8.784
Sn1899,189.989 {477},In2306,ppm, .9805,.0041,.4159, .9777, .9834
Sr4215,421.552 { 80},Y_3710,ppm, 1.003,.0040,.3959, 1.0000, 1.006
Ti3349,334.904 {101},Y_3600,ppm, .9975,.0041,.4115, .9946, 1.000
Tl1908,190.856 {477},In2306,ppm, .6481,.0298,4.602, .6692, .6271
U_3670,367.007 { 92},Y_3600,ppm, .7678,.0411,5.357, .7387, .7969
V_2924,292.402 {115},Y_3600,ppm, .9678,.0032,.3326, .9656, .9701
W_2397,239.709 {140},Y_2243,ppm, 1.316,.0780,5.926, 1.261, 1.371
Zn2062,206.200 {463},In2306,ppm, .9503,.0025,.2658, .9485, .9521

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 203.07,.78195,.38506,202.52,203.62
In2306,230.606 {446},Cts/S, 12346.,47.212,.38239,12380.,12313.
Y_2243,224.306 {450},Cts/S, 17318.,59.386,.34292,17360.,17276.
Y_3600,360.073 { 94},Cts/S, 155360.,851.30,.54795,155960.,154760.
Y_3710,371.030 { 91},Cts/S, 10121.,30.922,.30552,10143.,10099.

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Custom ID3=
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
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Ag3280,328.068 {103},Y_3600,ppm, .0103,.0004,3.972, .0100, .0106
Al3082,308.215 {109},In2306,ppm, .1999,.0273,13.67, .1806, .2192
As1890,189.042 {478},Y_2243,ppm, .0245,.0014,5.823, .0255, .0235
B_2496,249.678 {135},Y_3710,ppm, .2152,.0051,2.349, .2116, .2187
Ba4554,455.403 { 74},Y_3710,ppm, .0228,.0004,1.651, .0225, .0230
Be3130,313.042 {108},Y_3710,ppm, .0110,.0002,1.796, .0111, .0108
Ca3158,315.887 {107},In2306,ppm, 1.010,.0012,.1153, 1.011, 1.010
Cd2288,228.802 {447},Y_2243,ppm, .0111,.0001,.5521, .0111, .0110
Co2286,228.616 {447},In2306,ppm, .0102,.0002,1.723, .0103, .0101
Cr2677,267.716 {126},Y_3600,ppm, .0107,.0004,4.073, .0110, .0104
Cu3247,324.754 {104},Y_3600,ppm, .0134,.0007,5.197, .0139, .0129
Fe2404,240.488 {140},In2306,ppm, .2334,.0131,5.631, .2426, .2241
K_7664,766.490 { 44},Y_3710,ppm, 1.078,.0332,3.079, 1.102, 1.055
Li6707,670.784 { 50},Y_3710,ppm, .0099,.0003,3.393, .0097, .0102
Mg2790,279.079 {121},Y_3710,ppm, 1.058,.0340,3.214, 1.082, 1.034
Mn2576,257.610 {131},Y_3600,ppm, .0113,.0000,.4204, .0113, .0112
Mo2020,202.030 {467},Y_2243,ppm, .0302,.0005,1.747, .0298, .0306
Na5895,589.592 { 57},Y_3710,ppm, 1.037,.0060,.5790, 1.041, 1.033
Ni2316,231.604 {445},In2306,ppm, .0110,.0000,.1544, .0110, .0110
P_1782,178.284 {489},In2306,ppm, .9837,.0003,.0275, .9839, .9835
Pb2203,220.353 {453},In2306,ppm, .0107,.0002,1.839, .0105, .0108
S_1820,182.034 {485},Y_2243,ppm, -3.018,.0012,.0410, -3.017, -3.019
Sb2068,206.833 {463},Y_2243,ppm, .0559,.0008,1.452, .0565, .0553
Se1960,196.090 {472},Y_2243,ppm, .0289,.0031,10.84, .0311, .0267
Si2516,251.611 {134},Y_3710,ppm, .1770,.0001,.0735, .1771, .1769
Sn1899,189.989 {477},In2306,ppm, .0234,.0006,2.384, .0230, .0238
Sr4215,421.552 { 80},Y_3710,ppm, .0110,.0001,1.189, .0111, .0110
Ti3349,334.904 {101},Y_3600,ppm, .0117,.0003,2.605, .0115, .0119
Tl1908,190.856 {477},In2306,ppm, .2321,.0016,.6913, .2309, .2332
U_3670,367.007 { 92},Y_3600,ppm, -.2082,.1004,48.24, -.2792, -.1372
V_2924,292.402 {115},Y_3600,ppm, .0107,.0004,3.564, .0109, .0104
W_2397,239.709 {140},Y_2243,ppm, .0606,.0014,2.363, .0596, .0617
Zn2062,206.200 {463},In2306,ppm, .0208,.0001,.6005, .0209, .0207

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 209.29,1.1289,.53941,210.09,208.49
In2306,230.606 {446},Cts/S, 13214.,68.624,.51932,13263.,13166.
Y_2243,224.306 {450},Cts/S, 17653.,73.128,.41424,17705.,17602.
Y_3600,360.073 { 94},Cts/S, 159980.,410.61,.25666,160270.,159690.
Y_3710,371.030 { 91},Cts/S, 10054.,39.282,.39070,10027.,10082.

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Custom ID3=
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Mode=CONC
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0004,.0002,59.82, -.0005, -.0002
Al3082,308.215 {109},In2306,ppm, -.0101,.0014,14.31, -.0091, -.0112
As1890,189.042 {478},Y_2243,ppm, .0028,.0000,1.682, .0028, .0027
B_2496,249.678 {135},Y_3710,ppm, .0044,.0040,89.88, .0073, .0016
Ba4554,455.403 { 74},Y_3710,ppm, -.0001,.0003,265.7, -.0003, .0001
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0003,344.7, -.0003, .0001
Ca3158,315.887 {107},In2306,ppm, .0138,.0071,51.88, .0188, .0087
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0001,283.2, -.0001, .0000
Co2286,228.616 {447},In2306,ppm, .0001,.0002,224.4, -.0001, .0003
Cr2677,267.716 {126},Y_3600,ppm, .0001,.0002,434.3, .0002, -.0001
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Cu3247,324.754 {104},Y_3600,ppm, .0017,.0006,34.59, .0013, .0021
Fe2404,240.488 {140},In2306,ppm, .0193,.0034,17.61, .0217, .0169
K_7664,766.490 { 44},Y_3710,ppm, .0091,.0183,202.3, .0220, -.0039
Li6707,670.784 { 50},Y_3710,ppm, -.0008,.0001,16.54, -.0009, -.0007
Mg2790,279.079 {121},Y_3710,ppm, .0151,.0105,69.48, .0225, .0077
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,29.63, -.0000, -.0000
Mo2020,202.030 {467},Y_2243,ppm, .0021,.0002,11.03, .0019, .0022
Na5895,589.592 { 57},Y_3710,ppm, -.0289,.0052,18.15, -.0326, -.0252
Ni2316,231.604 {445},In2306,ppm, .0005,.0001,20.85, .0004, .0006
P_1782,178.284 {489},In2306,ppm, -.0020,.0005,26.50, -.0023, -.0016
Pb2203,220.353 {453},In2306,ppm, .0016,.0014,92.52, .0005, .0026
S_1820,182.034 {485},Y_2243,ppm, -3.683,.0067,.1825, -3.678, -3.688
Sb2068,206.833 {463},Y_2243,ppm, -.0014,.0021,157.9, -.0029, .0002
Se1960,196.090 {472},Y_2243,ppm, .0061,.0062,101.9, .0017, .0105
Si2516,251.611 {134},Y_3710,ppm, .0149,.0053,35.54, .0187, .0112
Sn1899,189.989 {477},In2306,ppm, -.0000,.0005,1170., .0003, -.0004
Sr4215,421.552 { 80},Y_3710,ppm, -.0002,.0000,24.98, -.0002, -.0001
Ti3349,334.904 {101},Y_3600,ppm, -.0002,.0003,177.2, -.0004, .0000
Tl1908,190.856 {477},In2306,ppm, .1720,.0012,.6790, .1712, .1728
U_3670,367.007 { 92},Y_3600,ppm, -.2539,.0168,6.618, -.2420, -.2658
V_2924,292.402 {115},Y_3600,ppm, .0002,.0001,36.44, .0003, .0001
W_2397,239.709 {140},Y_2243,ppm, .0201,.0089,44.29, .0264, .0138
Zn2062,206.200 {463},In2306,ppm, .0022,.0001,5.109, .0023, .0022

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 207.67,4.0289,1.9401,204.82,210.52
In2306,230.606 {446},Cts/S, 13326.,30.009,.22519,13305.,13347.
Y_2243,224.306 {450},Cts/S, 17692.,24.677,.13949,17674.,17709.
Y_3600,360.073 { 94},Cts/S, 159930.,841.99,.52646,159340.,160530.
Y_3710,371.030 { 91},Cts/S, 10058.,47.793,.47519,10024.,10091.
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Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)
Ag 328.068 {103}	9/24/2019 8:56:04	9/24/2019 8:56:04	Full Fit	1/Conc	-0.000105	0.078812	0.002316	0.980000
Al 308.215 {109}	9/24/2019 8:56:04	9/24/2019 8:56:04	Linear	1/Conc	0.034386	0.539589	0.000000	1.000000
As 189.042 {478}	9/24/2019 8:56:04	9/24/2019 8:56:04	Linear	1/Conc	-0.000036	0.027180	0.000000	1.000000
B 249.678 {135}	9/24/2019 8:56:04	9/24/2019 8:56:04	Linear	1/Conc	0.000118	0.016701	0.000000	1.000000
Ba 455.403 { 74}	9/24/2019 8:56:04	9/24/2019 8:56:04	Linear	1/Conc	0.002600	2.187195	0.000000	1.000000
Be 313.042 {108}	9/24/2019 8:56:04	9/24/2019 8:56:04	Linear	1/Conc	-0.000108	2.262402	0.000000	1.000000
Ca 315.887 {107}	9/24/2019 8:56:04	9/24/2019 8:56:04	Linear	1/Conc	-0.012751	1.039599	0.000000	1.000000
Cd 228.802 {447}	9/24/2019 8:56:04	9/24/2019 8:56:04	Linear	1/Conc	0.000484	0.660588	0.000000	1.000000
Co 228.616 {447}	9/24/2019 8:56:04	9/24/2019 8:56:04	Linear	1/Conc	0.000059	0.581623	0.000000	1.000000
Cr 267.716 {126}	9/24/2019 8:56:04	9/24/2019 8:56:04	Linear	1/Conc	0.000012	0.079798	0.000000	1.000000
Cu 324.754 {104}	9/24/2019 8:56:04	9/24/2019 8:56:04	Linear	1/Conc	0.004991	0.121081	0.000000	1.000000
Fe 240.488 {140}	9/24/2019 8:56:04	9/24/2019 8:56:04	Linear	1/Conc	0.024319	0.646517	0.000000	1.000000
In 230.606 {146}*	<not fit>	<Never Calibrated>	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
In 230.606 {446}*	<not fit>	<Never Calibrated>	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
K 766.490 { 44}	9/24/2019 8:56:04	9/24/2019 8:56:04	Linear	1/Conc	0.004414	0.034968	0.000000	1.000000
Li 670.784 { 50}	9/24/2019 8:56:04	9/24/2019 8:56:04	Linear	1/Conc	0.001058	0.867951	0.000000	1.000000
Mg 279.079 {121}	9/24/2019 8:56:04	9/24/2019 8:56:04	Linear	1/Conc	-0.000003	0.004374	0.000000	1.000000
Mn 257.610 {131}	9/24/2019 8:56:04	9/24/2019 8:56:04	Linear	1/Conc	0.000168	0.540608	0.000000	1.000000
Mo 202.030 {467}	9/24/2019 8:56:04	9/24/2019 8:56:04	Linear	1/Conc	0.000177	0.160712	0.000000	1.000000
Na 589.592 { 57}	9/24/2019 8:56:04	9/24/2019 8:56:04	Linear	1/Conc	0.005448	0.128302	0.000000	1.000000
Ni 231.604 {445}	9/24/2019 8:56:04	9/24/2019 8:56:04	Linear	1/Conc	-0.000084	0.361480	0.000000	1.000000
P 178.284 {489}	9/24/2019 8:56:04	9/24/2019 8:56:04	Linear	1/Conc	0.000166	0.026105	0.000000	1.000000
Pb 220.353 {453}	9/24/2019 8:56:04	9/24/2019 8:56:04	Linear	1/Conc	-0.000192	0.089930	0.000000	1.000000
S 182.034 {485}	9/24/2019 8:56:04	9/24/2019 8:56:04	Linear	1/Conc	0.037165	0.010229	0.000000	1.000000
Sb 206.833 {463}	9/24/2019 8:56:04	9/24/2019 8:56:04	Linear	1/Conc	0.000052	0.041899	0.000000	1.000000
Se 196.090 {472}	9/24/2019 8:56:04	9/24/2019 8:56:04	Linear	1/Conc	-0.000037	0.016339	0.000000	1.000000
Si 251.611 {134}	9/24/2019 8:56:04	9/24/2019 8:56:04	Linear	1/Conc	0.000321	0.017343	0.000000	1.000000
Sn 189.989 {477}	9/24/2019 8:56:04	9/24/2019 8:56:04	Linear	1/Conc	-0.000029	0.141395	0.000000	1.000000
Sr 421.552 { 80}	9/24/2019 8:56:04	9/24/2019 8:56:04	Linear	1/Conc	-0.000790	2.350273	0.000000	1.000000
Ti 334.904 {101}	9/24/2019 8:56:04	9/24/2019 8:56:04	Linear	1/Conc	-0.000125	0.102330	0.000000	1.000000
Tl 190.856 {477}	9/24/2019 8:56:04	9/24/2019 8:56:04	Linear	1/Conc	0.000333	0.017623	0.000000	1.000000
U 367.007 { 92}	9/24/2019 8:56:04	9/24/2019 8:56:04	Linear	1/Conc	0.000113	0.000229	0.000000	1.000000
V 292.402 {115}	9/24/2019 8:56:04	9/24/2019 8:56:04	Linear	1/Conc	-0.000311	0.114508	0.000000	1.000000
W 239.709 {140}	9/24/2019 8:56:04	9/24/2019 8:56:04	Linear	1/Conc	-0.000027	0.000701	0.000000	1.000000
Y 224.306 {450}*	7/31/2019 11:37:15	8/2/2010 18:01:14	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
Y 360.073 { 94}*	<not fit>	<Never Calibrated>	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
Y 371.030 { 91}*	7/31/2019 11:37:15	8/2/2010 18:01:14	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
Zn 206.200 {463}	9/24/2019 8:56:04	9/24/2019 8:56:04	Linear	1/Conc	0.001504	0.725487	0.000000	1.000000

Element, Wavelength and Order	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Reslope		QC Norm	
						Slope	Y-int	Slope factor	Offset
Ag 328.068 {103}	0.999997	0.000001	0.000717	0.002391	Warnin	1.000000	0.000000	1	0
Al 308.215 {109}	0.999851	0.000711	0.026568	0.088560	OK.	1.000000	0.000000	1	0
As 189.042 {478}	0.999900	0.000006	0.002983	0.009942	OK.	1.000000	0.000000	1	0
B 249.678 {135}	0.999855	0.000003	0.010042	0.033475	OK.	1.000000	0.000000	1	0
Ba 455.403 { 74}	0.999960	0.000292	0.000292	0.000974	OK.	1.000000	0.000000	1	0
Be 313.042 {108}	0.999962	0.000147	0.000164	0.000546	OK.	1.000000	0.000000	1	0
Ca 315.887 {107}	0.999908	0.005323	0.010654	0.035515	OK.	1.000000	0.000000	1	0
Cd 228.802 {447}	0.999795	0.000104	0.000182	0.000607	OK.	1.000000	0.000000	1	0
Co 228.616 {447}	0.999969	0.000034	0.000277	0.000925	OK.	1.000000	0.000000	1	0
Cr 267.716 {126}	0.999913	0.000008	0.000392	0.001307	OK.	1.000000	0.000000	1	0
Cu 324.754 {104}	0.999957	0.000008	0.000443	0.001477	OK.	1.000000	0.000000	1	0
Fe 240.488 {140}	0.999870	0.000784	0.011170	0.037235	OK.	1.000000	0.000000	1	0
In 230.606 {146}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
In 230.606 {446}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
K 766.490 { 44}	0.999928	0.000158	0.037801	0.126002	OK.	1.000000	0.000000	1	0
Li 670.784 { 50}	0.999964	0.000055	0.001561	0.005204	OK.	1.000000	0.000000	1	0
Mg 279.079 {121}	0.999936	0.000019	0.040176	0.133921	OK.	1.000000	0.000000	1	0
Mn 257.610 {131}	0.999926	0.000049	0.000055	0.000183	OK.	1.000000	0.000000	1	0
Mo 202.030 {467}	0.999763	0.000026	0.000436	0.001454	OK.	1.000000	0.000000	1	0
Na 589.592 { 57}	0.999914	0.000634	0.009290	0.030965	OK.	1.000000	0.000000	1	0
Ni 231.604 {445}	0.999952	0.000027	0.000451	0.001504	OK.	1.000000	0.000000	1	0
P 178.284 {489}	0.999942	0.000067	0.002668	0.008893	OK.	1.000000	0.000000	1	0
Pb 220.353 {453}	0.999949	0.000007	0.002056	0.006853	OK.	1.000000	0.000000	1	0
S 182.034 {485}	0.607840	0.001612	0.005951	0.019835	OK.	1.000000	0.000000	1	0
Sb 206.833 {463}	0.999754	0.000016	0.002640	0.008800	OK.	1.000000	0.000000	1	0
Se 196.090 {472}	0.999920	0.000003	0.004139	0.013798	OK.	1.000000	0.000000	1	0
Si 251.611 {134}	0.999680	0.000007	0.010949	0.036498	OK.	1.000000	0.000000	1	0
Sn 189.989 {477}	0.999963	0.000018	0.000620	0.002067	OK.	1.000000	0.000000	1	0
Sr 421.552 { 80}	0.999955	0.000167	0.000218	0.000727	OK.	1.000000	0.000000	1	0
Ti 334.904 {101}	0.999990	0.000003	0.000527	0.001756	OK.	1.000000	0.000000	1	0
Tl 190.856 {477}	0.968903	0.000068	0.005281	0.017604	OK.	1.000000	0.000000	1	0
U 367.007 { 92}	0.996631	0.000000	0.125531	0.418436	OK.	1.000000	0.000000	1	0
V 292.402 {115}	0.999971	0.000007	0.000471	0.001570	OK.	1.000000	0.000000	1	0
W 239.709 {140}	0.978864	0.000002	0.118241	0.394136	OK.	1.000000	0.000000	1	0
Y 224.306 {450}*	0.000000	0.000000	0.000830	0.002767	Warnin	1.000000	0.000000	1	0
Y 360.073 { 94}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
Y 371.030 { 91}*	0.000000	0.000000	0.000248	0.000826	Warnin	1.000000	0.000000	1	0
Zn 206.200 {463}	0.999992	0.000032	0.000176	0.000586	OK.	1.000000	0.000000	1	0

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[Sample Header]
Method=ICP6500Metals_TRY3(v4964)
SampleName=Rinse1
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/24/2019 8:31:57
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0004,619.6, .0002, -.0004
Al3082,308.215 {109},In2306,ppm, .0125,.0157,125.8, .0236, .0014
As1890,189.042 {478},Y_2243,ppm, .0012,.0017,138.0, .0000, .0025
B_2496,249.678 {135},Y_3710,ppm, .0078,.0001,1.836, .0079, .0077
Ba4554,455.403 { 74},Y_3710,ppm, .0004,.0002,58.48, .0005, .0002
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,20.74, .0000, .0000
Ca3158,315.887 {107},In2306,ppm, .0020,.0088,433.2, -.0042, .0082
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0002,629.0, .0001, -.0002
Co2286,228.616 {447},In2306,ppm, -.0003,.0003,108.0, -.0001, -.0005
Cr2677,267.716 {126},Y_3600,ppm, -.0001,.0003,253.4, .0001, -.0004
Cu3247,324.754 {104},Y_3600,ppm, .0006,.0004,66.86, .0010, .0003
Fe2404,240.488 {140},In2306,ppm, .0002,.0007,358.1, -.0003, .0007
K_7664,766.490 { 44},Y_3710,ppm, -.0195,.0192,98.55, -.0331, -.0059
Li6707,670.784 { 50},Y_3710,ppm, .0003,.0003,119.1, .0000, .0005
Mg2790,279.079 {121},Y_3710,ppm, .0149,.0135,90.85, .0053, .0245
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,55.44, -.0000, -.0001
Mo2020,202.030 {467},Y_2243,ppm, .0050,.0007,14.72, .0055, .0045
Na5895,589.592 { 57},Y_3710,ppm, -.0396,.0012,3.139, -.0405, -.0387
Ni2316,231.604 {445},In2306,ppm, .0003,.0002,82.75, .0004, .0001
P_1782,178.284 {489},In2306,ppm, -.0029,.0013,45.60, -.0038, -.0020
Pb2203,220.353 {453},In2306,ppm, .0005,.0017,339.9, .0017, -.0007
S_1820,182.034 {485},Y_2243,ppm, -.4495,.0084,1.858, -.4436, -.4554
Sb2068,206.833 {463},Y_2243,ppm, .0272,.0028,10.19, .0291, .0252
Se1960,196.090 {472},Y_2243,ppm, .0057,.0012,21.79, .0048, .0066
Si2516,251.611 {134},Y_3710,ppm, -.0012,.0021,171.9, .0003, -.0028
Sn1899,189.989 {477},In2306,ppm, .0008,.0002,19.09, .0007, .0010
Sr4215,421.552 { 80},Y_3710,ppm, -.0001,.0001,64.54, -.0001, -.0002
Ti3349,334.904 {101},Y_3600,ppm, .0004,.0001,22.82, .0003, .0004
Tl1908,190.856 {477},In2306,ppm, .0778,.0026,3.356, .0760, .0797
U_3670,367.007 { 92},Y_3600,ppm, .0731,.0772,105.5, .0186, .1277
V_2924,292.402 {115},Y_3600,ppm, .0002,.0000,7.685, .0002, .0002
W_2397,239.709 {140},Y_2243,ppm, .0293,.0469,160.1, -.0039, .0624
Zn2062,206.200 {463},In2306,ppm, .0027,.0003,10.36, .0029, .0025

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 211.13,.08849,.04191,211.07,211.19
In2306,230.606 {446},Cts/S, 13638.,28.505,.20901,13658.,13618.
Y_2243,224.306 {450},Cts/S, 18930.,19.388,.10242,18943.,18916.
Y_3600,360.073 { 94},Cts/S, 167400.,560.66,.33491,167800.,167010.
Y_3710,371.030 { 91},Cts/S, 10393.,14.721,.14164,10383.,10404.

[Sample Header]
Method=ICP6500Metals_TRY3(v4964)
SampleName=Rinse2
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/24/2019 8:34:02
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Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0004,.0000,13.32, -.0003, -.0004
Al3082,308.215 {109},In2306,ppm, -.0036,.0170,466.0, -.0156, .0084
As1890,189.042 {478},Y_2243,ppm, .0014,.0013,87.42, .0006, .0023
B_2496,249.678 {135},Y_3710,ppm, .0054,.0019,34.83, .0040, .0067
Ba4554,455.403 { 74},Y_3710,ppm, .0001,.0001,69.34, .0000, .0001
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,8.425, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, -.0062,.0028,45.03, -.0082, -.0042
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0000,162.5, .0000, -.0000
Co2286,228.616 {447},In2306,ppm, -.0004,.0003,69.55, -.0005, -.0002
Cr2677,267.716 {126},Y_3600,ppm, -.0001,.0004,372.7, .0002, -.0004
Cu3247,324.754 {104},Y_3600,ppm, .0004,.0001,16.83, .0004, .0003
Fe2404,240.488 {140},In2306,ppm, -.0065,.0018,27.49, -.0078, -.0052
K_7664,766.490 { 44},Y_3710,ppm, .0252,.0170,67.65, .0372, .0131
Li6707,670.784 { 50},Y_3710,ppm, -.0005,.0000,1.431, -.0005, -.0005
Mg2790,279.079 {121},Y_3710,ppm, .0101,.0380,376.7, -.0168, .0369
Mn2576,257.610 {131},Y_3600,ppm, .0000,.0000,18.24, .0000, .0000
Mo2020,202.030 {467},Y_2243,ppm, .0005,.0001,19.31, .0005, .0006
Na5895,589.592 { 57},Y_3710,ppm, -.0379,.0064,16.78, -.0425, -.0334
Ni2316,231.604 {445},In2306,ppm, .0003,.0001,23.39, .0003, .0002
P_1782,178.284 {489},In2306,ppm, -.0003,.0003,117.3, -.0005, -.0000
Pb2203,220.353 {453},In2306,ppm, .0004,.0011,284.7, .0011, -.0004
S_1820,182.034 {485},Y_2243,ppm, -.4547,.0036,.7909, -.4573, -.4522
Sb2068,206.833 {463},Y_2243,ppm, .0027,.0001,3.921, .0028, .0026
Se1960,196.090 {472},Y_2243,ppm, .0029,.0023,77.57, .0013, .0045
Si2516,251.611 {134},Y_3710,ppm, -.0138,.0003,2.312, -.0140, -.0136
Sn1899,189.989 {477},In2306,ppm, .0000,.0007,7601., .0005, -.0005
Sr4215,421.552 { 80},Y_3710,ppm, -.0001,.0001,152.3, -.0002, .0000
Ti3349,334.904 {101},Y_3600,ppm, -.0001,.0002,149.7, .0000, -.0003
Tl1908,190.856 {477},In2306,ppm, .0546,.0013,2.352, .0555, .0537
U_3670,367.007 { 92},Y_3600,ppm, .0869,.1462,168.2, -.0164, .1903
V_2924,292.402 {115},Y_3600,ppm, .0002,.0000,17.22, .0003, .0002
W_2397,239.709 {140},Y_2243,ppm, .0686,.1134,165.3, -.0116, .1488
Zn2062,206.200 {463},In2306,ppm, .0013,.0001,5.632, .0013, .0012

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 212.55,3.5751,1.6820,210.02,215.08
In2306,230.606 {446},Cts/S, 13669.,29.888,.21865,13648.,13690.
Y_2243,224.306 {450},Cts/S, 18982.,51.376,.27066,18945.,19018.
Y_3600,360.073 { 94},Cts/S, 167330.,709.16,.42381,167830.,166830.
Y_3710,371.030 { 91},Cts/S, 10504.,38.290,.36454,10477.,10531.

[Sample Header]
Method=ICP6500Metals_TRY3(v4964)
SampleName=Rinse3
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/24/2019 8:36:07
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0003,.0003,124.7, -.0005, -.0000
Al3082,308.215 {109},In2306,ppm, .0090,.0026,28.44, .0072, .0108
As1890,189.042 {478},Y_2243,ppm, .0011,.0023,202.5, -.0005, .0027
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B_2496,249.678 {135},Y_3710,ppm, -.0051,.0107,208.2, -.0127, .0024
Ba4554,455.403 { 74},Y_3710,ppm, .0002,.0001,28.41, .0002, .0001
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,84.99, .0001, .0000
Ca3158,315.887 {107},In2306,ppm, .0009,.0010,105.9, .0002, .0016
Cd2288,228.802 {447},Y_2243,ppm, .0001,.0001,71.21, .0001, .0000
Co2286,228.616 {447},In2306,ppm, -.0002,.0002,104.8, -.0003, -.0000
Cr2677,267.716 {126},Y_3600,ppm, -.0001,.0000,7.455, -.0001, -.0001
Cu3247,324.754 {104},Y_3600,ppm, .0012,.0003,21.57, .0010, .0014
Fe2404,240.488 {140},In2306,ppm, .0205,.0044,21.63, .0174, .0236
K_7664,766.490 { 44},Y_3710,ppm, .0261,.0260,99.48, .0445, .0078
Li6707,670.784 { 50},Y_3710,ppm, -.0004,.0004,106.3, -.0001, -.0007
Mg2790,279.079 {121},Y_3710,ppm, -.0039,.0248,635.9, .0137, -.0215
Mn2576,257.610 {131},Y_3600,ppm, .0000,.0000,715.0, .0000, -.0000
Mo2020,202.030 {467},Y_2243,ppm, .0003,.0001,30.32, .0004, .0003
Na5895,589.592 { 57},Y_3710,ppm, -.0398,.0025,6.379, -.0416, -.0380
Ni2316,231.604 {445},In2306,ppm, .0003,.0004,132.1, .0000, .0005
P_1782,178.284 {489},In2306,ppm, -.0024,.0006,23.36, -.0028, -.0020
Pb2203,220.353 {453},In2306,ppm, .0015,.0003,23.77, .0012, .0017
S_1820,182.034 {485},Y_2243,ppm, -.4534,.0026,.5738, -.4515, -.4552
Sb2068,206.833 {463},Y_2243,ppm, .0008,.0007,88.17, .0003, .0013
Se1960,196.090 {472},Y_2243,ppm, .0037,.0008,21.29, .0031, .0042
Si2516,251.611 {134},Y_3710,ppm, -.0129,.0113,87.22, -.0209, -.0050
Sn1899,189.989 {477},In2306,ppm, -.0002,.0005,221.4, .0001, -.0006
Sr4215,421.552 { 80},Y_3710,ppm, -.0001,.0001,77.01, -.0000, -.0002
Ti3349,334.904 {101},Y_3600,ppm, -.0000,.0001,258.1, -.0001, .0000
Tl1908,190.856 {477},In2306,ppm, .0395,.0022,5.582, .0380, .0411
U_3670,367.007 { 92},Y_3600,ppm, -.0259,.0848,328.1, -.0858, .0341
V_2924,292.402 {115},Y_3600,ppm, .0006,.0003,52.96, .0008, .0004
W_2397,239.709 {140},Y_2243,ppm, .0541,.0117,21.69, .0458, .0624
Zn2062,206.200 {463},In2306,ppm, .0006,.0001,13.32, .0007, .0006

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 209.82,2.2492,1.0720,211.41,208.23
In2306,230.606 {446},Cts/S, 13648.,.58909,.00432,13648.,13649.
Y_2243,224.306 {450},Cts/S, 18904.,3.4794,.01841,18907.,18902.
Y_3600,360.073 { 94},Cts/S, 167770.,90.160,.05374,167710.,167840.
Y_3710,371.030 { 91},Cts/S, 10458.,57.046,.54547,10418.,10498.

[Sample Header]
Method=ICP6500Metals_TRY3(v4964)
SampleName=Rinse4
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/24/2019 8:38:12
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0005,.0003,60.07, -.0007, -.0003
Al3082,308.215 {109},In2306,ppm, .0305,.0015,4.840, .0316, .0295
As1890,189.042 {478},Y_2243,ppm, .0003,.0011,342.7, .0011, -.0005
B_2496,249.678 {135},Y_3710,ppm, -.0021,.0025,119.6, -.0003, -.0038
Ba4554,455.403 { 74},Y_3710,ppm, -.0001,.0002,158.0, .0000, -.0003
Be3130,313.042 {108},Y_3710,ppm, .0000,.0001,526.1, .0000, -.0000
Ca3158,315.887 {107},In2306,ppm, .0054,.0071,130.4, .0004, .0104
Cd2288,228.802 {447},Y_2243,ppm, -.0002,.0001,33.11, -.0001, -.0002
Co2286,228.616 {447},In2306,ppm, -.0002,.0001,53.63, -.0002, -.0001
Cr2677,267.716 {126},Y_3600,ppm, .0000,.0002,2766., .0002, -.0001
Cu3247,324.754 {104},Y_3600,ppm, .0011,.0001,10.46, .0010, .0012
Fe2404,240.488 {140},In2306,ppm, -.0036,.0003,8.554, -.0034, -.0038
K_7664,766.490 { 44},Y_3710,ppm, .0078,.0081,103.7, .0136, .0021
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Li6707,670.784 { 50},Y_3710,ppm, .0001,.0005,405.3, -.0002, .0005
Mg2790,279.079 {121},Y_3710,ppm, .0070,.0230,329.7, -.0093, .0233
Mn2576,257.610 {131},Y_3600,ppm, .0000,.0000,133.0, .0000, .0000
Mo2020,202.030 {467},Y_2243,ppm, -.0002,.0001,55.30, -.0003, -.0001
Na5895,589.592 { 57},Y_3710,ppm, -.0402,.0035,8.617, -.0427, -.0378
Ni2316,231.604 {445},In2306,ppm, .0001,.0003,351.2, -.0001, .0003
P_1782,178.284 {489},In2306,ppm, -.0027,.0003,12.77, -.0025, -.0029
Pb2203,220.353 {453},In2306,ppm, -.0003,.0011,335.5, -.0011, .0004
S_1820,182.034 {485},Y_2243,ppm, -.5680,.1258,22.16, -.4790, -.6569
Sb2068,206.833 {463},Y_2243,ppm, .0003,.0022,878.9, .0018, -.0013
Se1960,196.090 {472},Y_2243,ppm, .0045,.0006,13.60, .0041, .0049
Si2516,251.611 {134},Y_3710,ppm, -.0078,.0011,13.73, -.0071, -.0086
Sn1899,189.989 {477},In2306,ppm, -.0000,.0002,438.0, -.0002, .0001
Sr4215,421.552 { 80},Y_3710,ppm, -.0002,.0001,73.81, -.0001, -.0003
Ti3349,334.904 {101},Y_3600,ppm, .0000,.0002,1796., -.0001, .0001
Tl1908,190.856 {477},In2306,ppm, .0234,.0011,4.876, .0242, .0226
U_3670,367.007 { 92},Y_3600,ppm, -.0082,.0370,450.3, .0179, -.0344
V_2924,292.402 {115},Y_3600,ppm, .0005,.0003,65.75, .0007, .0003
W_2397,239.709 {140},Y_2243,ppm, .1248,.1452,116.3, .0221, .2275
Zn2062,206.200 {463},In2306,ppm, .0005,.0002,41.29, .0006, .0004

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 211.90,2.7114,1.2796,213.82,209.98
In2306,230.606 {446},Cts/S, 13904.,404.77,2.9112,13618.,14190.
Y_2243,224.306 {450},Cts/S, 19259.,563.21,2.9244,18861.,19657.
Y_3600,360.073 { 94},Cts/S, 168000.,169.72,.10102,167880.,168120.
Y_3710,371.030 { 91},Cts/S, 10478.,30.920,.29508,10457.,10500.

[Sample Header]
Method=ICP6500Metals_TRY3(v4964)
SampleName=Rinse5
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/24/2019 8:40:18
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0004,.0002,63.89, -.0006, -.0002
Al3082,308.215 {109},In2306,ppm, .0233,.0034,14.43, .0257, .0209
As1890,189.042 {478},Y_2243,ppm, .0000,.0019,17580., -.0013, .0014
B_2496,249.678 {135},Y_3710,ppm, -.0058,.0005,8.665, -.0054, -.0061
Ba4554,455.403 { 74},Y_3710,ppm, .0000,.0001,456.3, -.0000, .0001
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,27.19, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, .0012,.0014,110.5, .0003, .0022
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0000,1437., .0000, -.0000
Co2286,228.616 {447},In2306,ppm, -.0002,.0001,76.62, -.0001, -.0002
Cr2677,267.716 {126},Y_3600,ppm, -.0002,.0000,5.097, -.0002, -.0002
Cu3247,324.754 {104},Y_3600,ppm, .0009,.0004,41.22, .0007, .0012
Fe2404,240.488 {140},In2306,ppm, -.0059,.0004,6.518, -.0056, -.0062
K_7664,766.490 { 44},Y_3710,ppm, .0156,.0198,127.0, .0296, .0016
Li6707,670.784 { 50},Y_3710,ppm, .0003,.0015,606.3, .0013, -.0008
Mg2790,279.079 {121},Y_3710,ppm, -.0181,.0308,170.2, .0037, -.0399
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,75.78, -.0001, -.0000
Mo2020,202.030 {467},Y_2243,ppm, .0001,.0001,53.45, .0002, .0001
Na5895,589.592 { 57},Y_3710,ppm, -.0375,.0036,9.604, -.0349, -.0400
Ni2316,231.604 {445},In2306,ppm, -.0001,.0002,258.6, .0001, -.0002
P_1782,178.284 {489},In2306,ppm, -.0030,.0012,41.45, -.0021, -.0039
Pb2203,220.353 {453},In2306,ppm, -.0002,.0020,854.4, -.0016, .0012
S_1820,182.034 {485},Y_2243,ppm, -.4673,.0005,.1037, -.4676, -.4669
Sb2068,206.833 {463},Y_2243,ppm, -.0027,.0018,67.38, -.0040, -.0014
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Se1960,196.090 {472},Y_2243,ppm, .0040,.0001,3.710, .0039, .0041
Si2516,251.611 {134},Y_3710,ppm, -.0005,.0091,1723., -.0070, .0059
Sn1899,189.989 {477},In2306,ppm, .0000,.0002,558.1, -.0001, .0002
Sr4215,421.552 { 80},Y_3710,ppm, -.0002,.0001,27.08, -.0002, -.0002
Ti3349,334.904 {101},Y_3600,ppm, .0000,.0002,1074., .0001, -.0001
Tl1908,190.856 {477},In2306,ppm, .0195,.0012,6.016, .0187, .0203
U_3670,367.007 { 92},Y_3600,ppm, .0318,.0110,34.39, .0396, .0241
V_2924,292.402 {115},Y_3600,ppm, .0004,.0000,1.543, .0004, .0004
W_2397,239.709 {140},Y_2243,ppm, .1470,.0583,39.65, .1058, .1882
Zn2062,206.200 {463},In2306,ppm, .0004,.0001,36.25, .0003, .0005

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 212.84,1.0698,.50264,213.60,212.09
In2306,230.606 {446},Cts/S, 13579.,6.3211,.04655,13574.,13583.
Y_2243,224.306 {450},Cts/S, 18787.,41.302,.21985,18758.,18816.
Y_3600,360.073 { 94},Cts/S, 167650.,104.92,.06258,167580.,167730.
Y_3710,371.030 { 91},Cts/S, 10553.,9.3856,.08893,10547.,10560.

[Sample Header]
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SampleName=Rinse6
Username=admin
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/24/2019 8:42:24
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0001,.0003,354.0, .0003, -.0001
Al3082,308.215 {109},In2306,ppm, -.0004,.0330,8584., -.0237, .0229
As1890,189.042 {478},Y_2243,ppm, .0015,.0015,99.70, .0025, .0004
B_2496,249.678 {135},Y_3710,ppm, -.0031,.0022,72.34, -.0015, -.0047
Ba4554,455.403 { 74},Y_3710,ppm, .0002,.0000,7.942, .0002, .0002
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,14690., .0001, -.0001
Ca3158,315.887 {107},In2306,ppm, .0046,.0002,3.389, .0047, .0045
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0001,711.4, .0001, -.0000
Co2286,228.616 {447},In2306,ppm, .0001,.0001,79.72, .0001, .0000
Cr2677,267.716 {126},Y_3600,ppm, .0002,.0000,26.19, .0001, .0002
Cu3247,324.754 {104},Y_3600,ppm, .0012,.0003,20.38, .0014, .0011
Fe2404,240.488 {140},In2306,ppm, -.0112,.0062,55.57, -.0068, -.0156
K_7664,766.490 { 44},Y_3710,ppm, .0180,.0412,228.7, -.0111, .0472
Li6707,670.784 { 50},Y_3710,ppm, -.0003,.0019,565.1, .0010, -.0017
Mg2790,279.079 {121},Y_3710,ppm, .0070,.0051,72.48, .0034, .0106
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,191.4, .0000, -.0000
Mo2020,202.030 {467},Y_2243,ppm, .0001,.0002,134.2, .0000, .0002
Na5895,589.592 { 57},Y_3710,ppm, -.0316,.0109,34.47, -.0393, -.0239
Ni2316,231.604 {445},In2306,ppm, .0000,.0001,280.3, .0001, -.0000
P_1782,178.284 {489},In2306,ppm, -.0013,.0016,124.3, -.0024, -.0002
Pb2203,220.353 {453},In2306,ppm, .0015,.0015,104.7, .0025, .0004
S_1820,182.034 {485},Y_2243,ppm, -.4778,.0058,1.215, -.4737, -.4819
Sb2068,206.833 {463},Y_2243,ppm, -.0027,.0012,42.85, -.0035, -.0019
Se1960,196.090 {472},Y_2243,ppm, .0033,.0001,2.999, .0034, .0032
Si2516,251.611 {134},Y_3710,ppm, -.0127,.0165,129.9, -.0244, -.0010
Sn1899,189.989 {477},In2306,ppm, -.0002,.0003,110.6, -.0004, -.0000
Sr4215,421.552 { 80},Y_3710,ppm, -.0002,.0001,35.16, -.0001, -.0002
Ti3349,334.904 {101},Y_3600,ppm, -.0000,.0003,3386., -.0002, .0002
Tl1908,190.856 {477},In2306,ppm, .0085,.0019,21.97, .0072, .0098
U_3670,367.007 { 92},Y_3600,ppm, .0326,.0901,276.2, .0963, -.0311
V_2924,292.402 {115},Y_3600,ppm, .0006,.0000,7.387, .0005, .0006
W_2397,239.709 {140},Y_2243,ppm, .1046,.0050,4.756, .1081, .1011
Zn2062,206.200 {463},In2306,ppm, .0004,.0002,38.92, .0005, .0003
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[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 211.89,1.7954,.84732,210.62,213.16
In2306,230.606 {446},Cts/S, 13567.,45.591,.33604,13599.,13535.
Y_2243,224.306 {450},Cts/S, 18771.,100.78,.53689,18842.,18700.
Y_3600,360.073 { 94},Cts/S, 167030.,306.47,.18348,167250.,166810.
Y_3710,371.030 { 91},Cts/S, 10562.,49.018,.46409,10597.,10528.

[Sample Header]
Method=ICP6500Metals_TRY3(v4964)
SampleName=Blank
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Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/24/2019 8:44:31
Sample Type=Cal
Mode=IR
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,Cts/S, -.0001,.0000,5.194, -.0001, -.0001
Al3082,308.215 {109},In2306,Cts/S, .0344,.0103,29.85, .0416, .0271
As1890,189.042 {478},Y_2243,Cts/S, -.0000,.0000,23.62, -.0000, -.0000
B_2496,249.678 {135},Y_3710,Cts/S, .0001,.0000,15.12, .0001, .0001
Ba4554,455.403 { 74},Y_3710,Cts/S, .0026,.0000,.3431, .0026, .0026
Be3130,313.042 {108},Y_3710,Cts/S, -.0001,.0002,201.1, -.0003, .0000
Ca3158,315.887 {107},In2306,Cts/S, -.0128,.0019,14.88, -.0141, -.0114
Cd2288,228.802 {447},Y_2243,Cts/S, .0005,.0000,8.758, .0005, .0005
Co2286,228.616 {447},In2306,Cts/S, .0001,.0002,428.7, -.0001, .0002
Cr2677,267.716 {126},Y_3600,Cts/S, .0000,.0000,105.4, .0000, .0000
Cu3247,324.754 {104},Y_3600,Cts/S, .0050,.0000,.6195, .0050, .0050
Fe2404,240.488 {140},In2306,Cts/S, .0243,.0044,17.97, .0212, .0274
K_7664,766.490 { 44},Y_3710,Cts/S, .0044,.0011,24.92, .0052, .0036
Li6707,670.784 { 50},Y_3710,Cts/S, .0011,.0006,52.44, .0007, .0014
Mg2790,279.079 {121},Y_3710,Cts/S, -.0000,.0001,4675., .0001, -.0001
Mn2576,257.610 {131},Y_3600,Cts/S, .0002,.0000,4.121, .0002, .0002
Mo2020,202.030 {467},Y_2243,Cts/S, .0002,.0000,.0495, .0002, .0002
Na5895,589.592 { 57},Y_3710,Cts/S, .0054,.0001,1.480, .0054, .0055
Ni2316,231.604 {445},In2306,Cts/S, -.0001,.0001,95.93, -.0001, -.0000
P_1782,178.284 {489},In2306,Cts/S, .0002,.0000,5.628, .0002, .0002
Pb2203,220.353 {453},In2306,Cts/S, -.0002,.0001,37.40, -.0002, -.0001
S_1820,182.034 {485},Y_2243,Cts/S, .0372,.0013,3.374, .0381, .0363
Sb2068,206.833 {463},Y_2243,Cts/S, .0001,.0000,32.12, .0001, .0000
Se1960,196.090 {472},Y_2243,Cts/S, -.0000,.0000,59.55, -.0001, -.0000
Si2516,251.611 {134},Y_3710,Cts/S, .0003,.0001,17.72, .0004, .0003
Sn1899,189.989 {477},In2306,Cts/S, -.0000,.0000,119.1, -.0001, -.0000
Sr4215,421.552 { 80},Y_3710,Cts/S, -.0008,.0002,28.45, -.0006, -.0010
Ti3349,334.904 {101},Y_3600,Cts/S, -.0001,.0000,6.684, -.0001, -.0001
Tl1908,190.856 {477},In2306,Cts/S, .0003,.0000,9.478, .0004, .0003
U_3670,367.007 { 92},Y_3600,Cts/S, .0001,.0000,8.572, .0001, .0001
V_2924,292.402 {115},Y_3600,Cts/S, -.0003,.0000,2.967, -.0003, -.0003
W_2397,239.709 {140},Y_2243,Cts/S, -.0000,.0001,373.3, -.0001, .0000
Zn2062,206.200 {463},In2306,Cts/S, .0015,.0001,4.955, .0016, .0015

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 220.18,9.0926,4.1296,226.61,213.75
In2306,230.606 {446},Cts/S, 13327.,404.66,3.0365,13041.,13613.
Y_2243,224.306 {450},Cts/S, 18403.,570.88,3.1021,17999.,18807.
Y_3600,360.073 { 94},Cts/S, 167630.,157.48,.09395,167510.,167740.
Y_3710,371.030 { 91},Cts/S, 10983.,469.82,4.2778,11315.,10651.

[Sample Header]
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Method=ICP6500Metals_TRY3(v4964)
SampleName=CalibStd-1
Username=admin
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Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/24/2019 8:46:36
Sample Type=Cal
Mode=IR
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,Cts/S, .0008,.0000,5.262, .0008, .0008
Al3082,308.215 {109},In2306,Cts/S, .1427,.0023,1.627, .1410, .1443
As1890,189.042 {478},Y_2243,Cts/S, .0005,.0000,1.106, .0005, .0006
B_2496,249.678 {135},Y_3710,Cts/S, .0004,.0001,33.31, .0003, .0005
Ba4554,455.403 { 74},Y_3710,Cts/S, .0528,.0003,.5263, .0530, .0526
Be3130,313.042 {108},Y_3710,Cts/S, .0252,.0002,.8457, .0254, .0251
Ca3158,315.887 {107},In2306,Cts/S, 1.080,.0161,1.491, 1.068, 1.091
Cd2288,228.802 {447},Y_2243,Cts/S, .0082,.0001,.6473, .0081, .0082
Co2286,228.616 {447},In2306,Cts/S, .0063,.0001,1.028, .0063, .0064
Cr2677,267.716 {126},Y_3600,Cts/S, .0009,.0000,.1709, .0009, .0009
Cu3247,324.754 {104},Y_3600,Cts/S, .0064,.0000,.7253, .0064, .0063
Fe2404,240.488 {140},In2306,Cts/S, .1528,.0015,.9731, .1538, .1517
K_7664,766.490 { 44},Y_3710,Cts/S, .0414,.0013,3.026, .0405, .0423
Li6707,670.784 { 50},Y_3710,Cts/S, .0102,.0002,2.020, .0100, .0103
Mg2790,279.079 {121},Y_3710,Cts/S, .0046,.0002,3.521, .0045, .0047
Mn2576,257.610 {131},Y_3600,Cts/S, .0063,.0000,.5317, .0063, .0063
Mo2020,202.030 {467},Y_2243,Cts/S, .0020,.0000,.5958, .0020, .0020
Na5895,589.592 { 57},Y_3710,Cts/S, .1451,.0003,.2077, .1453, .1449
Ni2316,231.604 {445},In2306,Cts/S, .0038,.0000,.0630, .0038, .0038
P_1782,178.284 {489},In2306,Cts/S, .0252,.0001,.2112, .0252, .0252
Pb2203,220.353 {453},In2306,Cts/S, .0008,.0002,20.58, .0009, .0007
S_1820,182.034 {485},Y_2243,Cts/S, .0076,.0001,.6825, .0075, .0076
Sb2068,206.833 {463},Y_2243,Cts/S, .0024,.0000,.0467, .0024, .0024
Se1960,196.090 {472},Y_2243,Cts/S, .0003,.0000,2.397, .0003, .0003
Si2516,251.611 {134},Y_3710,Cts/S, .0008,.0001,8.383, .0007, .0008
Sn1899,189.989 {477},In2306,Cts/S, .0031,.0001,3.049, .0032, .0030
Sr4215,421.552 { 80},Y_3710,Cts/S, .0256,.0004,1.418, .0253, .0259
Ti3349,334.904 {101},Y_3600,Cts/S, .0009,.0000,1.368, .0009, .0009
Tl1908,190.856 {477},In2306,Cts/S, .0004,.0001,14.50, .0004, .0004
U_3670,367.007 { 92},Y_3600,Cts/S, .0001,.0000,12.79, .0001, .0001
V_2924,292.402 {115},Y_3600,Cts/S, .0010,.0000,1.817, .0010, .0009
W_2397,239.709 {140},Y_2243,Cts/S, .0000,.0000,6.117, .0000, .0000
Zn2062,206.200 {463},In2306,Cts/S, .0168,.0000,.1808, .0168, .0168

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 211.91,1.3911,.65647,212.89,210.92
In2306,230.606 {446},Cts/S, 13539.,2.8184,.02082,13537.,13541.
Y_2243,224.306 {450},Cts/S, 18753.,36.778,.19612,18727.,18779.
Y_3600,360.073 { 94},Cts/S, 166500.,406.49,.24413,166210.,166790.
Y_3710,371.030 { 91},Cts/S, 10538.,.72549,.00688,10538.,10539.

[Sample Header]
Method=ICP6500Metals_TRY3(v4964)
SampleName=CalibStd-2
Username=admin
Comment=
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Custom ID2=
Custom ID3=
Run Time=9/24/2019 8:48:41
Sample Type=Cal
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CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,Cts/S, .0102,.0000,.0748, .0102, .0102
Al3082,308.215 {109},In2306,Cts/S, .6861,.0241,3.520, .7031, .6690
As1890,189.042 {478},Y_2243,Cts/S, .0138,.0000,.1361, .0138, .0138
B_2496,249.678 {135},Y_3710,Cts/S, .0045,.0002,3.665, .0046, .0044
Ba4554,455.403 { 74},Y_3710,Cts/S, 1.105,.0347,3.138, 1.129, 1.080
Be3130,313.042 {108},Y_3710,Cts/S, .5692,.0195,3.433, .5830, .5553
Ca3158,315.887 {107},In2306,Cts/S, 6.214,.1404,2.259, 6.314, 6.115
Cd2288,228.802 {447},Y_2243,Cts/S, .1779,.0000,.0145, .1779, .1779
Co2286,228.616 {447},In2306,Cts/S, .1478,.0002,.1235, .1480, .1477
Cr2677,267.716 {126},Y_3600,Cts/S, .0206,.0001,.3047, .0205, .0206
Cu3247,324.754 {104},Y_3600,Cts/S, .0358,.0001,.1972, .0358, .0357
Fe2404,240.488 {140},In2306,Cts/S, .7950,.0267,3.355, .8139, .7762
K_7664,766.490 { 44},Y_3710,Cts/S, .2177,.0064,2.943, .2222, .2132
Li6707,670.784 { 50},Y_3710,Cts/S, .2203,.0082,3.701, .2261, .2146
Mg2790,279.079 {121},Y_3710,Cts/S, .0268,.0011,4.262, .0276, .0260
Mn2576,257.610 {131},Y_3600,Cts/S, .1390,.0005,.3876, .1386, .1394
Mo2020,202.030 {467},Y_2243,Cts/S, .0418,.0001,.2994, .0419, .0417
Na5895,589.592 { 57},Y_3710,Cts/S, .7881,.0262,3.322, .8066, .7696
Ni2316,231.604 {445},In2306,Cts/S, .0921,.0003,.3439, .0923, .0919
P_1782,178.284 {489},In2306,Cts/S, .0638,.0002,.2909, .0640, .0637
Pb2203,220.353 {453},In2306,Cts/S, .0227,.0002,.8981, .0226, .0229
S_1820,182.034 {485},Y_2243,Cts/S, .0183,.0001,.2904, .0184, .0183
Sb2068,206.833 {463},Y_2243,Cts/S, .0110,.0000,.0281, .0110, .0110
Se1960,196.090 {472},Y_2243,Cts/S, .0083,.0000,.4965, .0082, .0083
Si2516,251.611 {134},Y_3710,Cts/S, .0089,.0005,5.841, .0093, .0085
Sn1899,189.989 {477},In2306,Cts/S, .0709,.0004,.6003, .0712, .0706
Sr4215,421.552 { 80},Y_3710,Cts/S, .5950,.0185,3.114, .6081, .5819
Ti3349,334.904 {101},Y_3600,Cts/S, .0258,.0001,.4882, .0257, .0259
Tl1908,190.856 {477},In2306,Cts/S, .0036,.0003,8.767, .0039, .0034
U_3670,367.007 { 92},Y_3600,Cts/S, .0002,.0000,15.51, .0001, .0002
V_2924,292.402 {115},Y_3600,Cts/S, .0289,.0001,.3919, .0288, .0290
W_2397,239.709 {140},Y_2243,Cts/S, .0001,.0001,47.39, .0001, .0001
Zn2062,206.200 {463},In2306,Cts/S, .1833,.0007,.3635, .1837, .1828

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 213.37,5.6348,2.6408,209.39,217.36
In2306,230.606 {446},Cts/S, 13275.,17.344,.13065,13287.,13263.
Y_2243,224.306 {450},Cts/S, 18653.,54.527,.29233,18691.,18614.
Y_3600,360.073 { 94},Cts/S, 165770.,46.702,.02817,165800.,165740.
Y_3710,371.030 { 91},Cts/S, 10663.,371.66,3.4856,10400.,10926.

[Sample Header]
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Custom ID2=
Custom ID3=
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Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,Cts/S, .0203,.0000,.0042, .0203, .0203
Al3082,308.215 {109},In2306,Cts/S, 1.414,.0181,1.280, 1.427, 1.401
As1890,189.042 {478},Y_2243,Cts/S, .0275,.0001,.3175, .0274, .0275
B_2496,249.678 {135},Y_3710,Cts/S, .0086,.0000,.0361, .0086, .0086
Ba4554,455.403 { 74},Y_3710,Cts/S, 2.201,.0033,.1492, 2.203, 2.199
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Be3130,313.042 {108},Y_3710,Cts/S, 1.141,.0012,.1052, 1.140, 1.141
Ca3158,315.887 {107},In2306,Cts/S, 13.12,.1034,.7884, 13.05, 13.19
Cd2288,228.802 {447},Y_2243,Cts/S, .3477,.0007,.2068, .3472, .3482
Co2286,228.616 {447},In2306,Cts/S, .2927,.0004,.1474, .2930, .2924
Cr2677,267.716 {126},Y_3600,Cts/S, .0402,.0001,.1300, .0402, .0402
Cu3247,324.754 {104},Y_3600,Cts/S, .0652,.0001,.1830, .0653, .0651
Fe2404,240.488 {140},In2306,Cts/S, 1.661,.0164,.9905, 1.649, 1.672
K_7664,766.490 { 44},Y_3710,Cts/S, .4507,.0014,.3141, .4497, .4517
Li6707,670.784 { 50},Y_3710,Cts/S, .4407,.0004,.0884, .4404, .4410
Mg2790,279.079 {121},Y_3710,Cts/S, .0558,.0000,.0650, .0558, .0558
Mn2576,257.610 {131},Y_3600,Cts/S, .2728,.0001,.0489, .2727, .2729
Mo2020,202.030 {467},Y_2243,Cts/S, .0823,.0001,.0925, .0824, .0823
Na5895,589.592 { 57},Y_3710,Cts/S, 1.639,.0022,.1326, 1.638, 1.641
Ni2316,231.604 {445},In2306,Cts/S, .1818,.0002,.0961, .1819, .1817
P_1782,178.284 {489},In2306,Cts/S, .1294,.0002,.1415, .1292, .1295
Pb2203,220.353 {453},In2306,Cts/S, .0447,.0002,.4360, .0448, .0445
S_1820,182.034 {485},Y_2243,Cts/S, .0721,.0001,.1026, .0720, .0721
Sb2068,206.833 {463},Y_2243,Cts/S, .0217,.0000,.0607, .0217, .0217
Se1960,196.090 {472},Y_2243,Cts/S, .0164,.0001,.4983, .0165, .0163
Si2516,251.611 {134},Y_3710,Cts/S, .0172,.0001,.6992, .0171, .0173
Sn1899,189.989 {477},In2306,Cts/S, .1411,.0004,.2641, .1413, .1408
Sr4215,421.552 { 80},Y_3710,Cts/S, 1.184,.0027,.2244, 1.186, 1.182
Ti3349,334.904 {101},Y_3600,Cts/S, .0511,.0001,.2406, .0512, .0510
Tl1908,190.856 {477},In2306,Cts/S, .0112,.0006,5.335, .0117, .0108
U_3670,367.007 { 92},Y_3600,Cts/S, .0002,.0000,.3924, .0002, .0002
V_2924,292.402 {115},Y_3600,Cts/S, .0570,.0001,.1407, .0571, .0570
W_2397,239.709 {140},Y_2243,Cts/S, .0002,.0000,15.94, .0002, .0001
Zn2062,206.200 {463},In2306,Cts/S, .3650,.0007,.1984, .3655, .3645

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 208.16,2.6399,1.2682,210.02,206.29
In2306,230.606 {446},Cts/S, 12971.,51.783,.39921,13008.,12935.
Y_2243,224.306 {450},Cts/S, 18464.,65.834,.35655,18511.,18418.
Y_3600,360.073 { 94},Cts/S, 163770.,206.89,.12633,163630.,163920.
Y_3710,371.030 { 91},Cts/S, 10509.,48.749,.46389,10543.,10474.

[Sample Header]
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Mode=IR
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,Cts/S, .0405,.0001,.1255, .0405, .0405
Al3082,308.215 {109},In2306,Cts/S, 2.725,.0142,.5201, 2.715, 2.735
As1890,189.042 {478},Y_2243,Cts/S, .0552,.0003,.4699, .0553, .0550
B_2496,249.678 {135},Y_3710,Cts/S, .0168,.0002,.9179, .0167, .0170
Ba4554,455.403 { 74},Y_3710,Cts/S, 4.391,.0029,.0655, 4.393, 4.389
Be3130,313.042 {108},Y_3710,Cts/S, 2.274,.0033,.1468, 2.272, 2.277
Ca3158,315.887 {107},In2306,Cts/S, 25.80,.1598,.6194, 25.68, 25.91
Cd2288,228.802 {447},Y_2243,Cts/S, .6927,.0007,.1080, .6932, .6922
Co2286,228.616 {447},In2306,Cts/S, .5869,.0012,.1966, .5877, .5861
Cr2677,267.716 {126},Y_3600,Cts/S, .0800,.0000,.0223, .0800, .0800
Cu3247,324.754 {104},Y_3600,Cts/S, .1252,.0006,.5160, .1248, .1257
Fe2404,240.488 {140},In2306,Cts/S, 3.213,.0212,.6594, 3.198, 3.228
K_7664,766.490 { 44},Y_3710,Cts/S, .8729,.0015,.1718, .8718, .8739
Li6707,670.784 { 50},Y_3710,Cts/S, .8733,.0038,.4366, .8760, .8706
Mg2790,279.079 {121},Y_3710,Cts/S, .1087,.0009,.8639, .1080, .1093
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Mn2576,257.610 {131},Y_3600,Cts/S, .5434,.0009,.1703, .5440, .5427
Mo2020,202.030 {467},Y_2243,Cts/S, .1637,.0002,.1004, .1638, .1636
Na5895,589.592 { 57},Y_3710,Cts/S, 3.201,.0018,.0577, 3.203, 3.200
Ni2316,231.604 {445},In2306,Cts/S, .3655,.0006,.1696, .3659, .3650
P_1782,178.284 {489},In2306,Cts/S, .2624,.0002,.0752, .2625, .2622
Pb2203,220.353 {453},In2306,Cts/S, .0905,.0002,.1683, .0906, .0904
S_1820,182.034 {485},Y_2243,Cts/S, .1086,.0003,.2624, .1088, .1084
Sb2068,206.833 {463},Y_2243,Cts/S, .0431,.0000,.0249, .0431, .0431
Se1960,196.090 {472},Y_2243,Cts/S, .0331,.0001,.3083, .0331, .0330
Si2516,251.611 {134},Y_3710,Cts/S, .0345,.0010,2.938, .0337, .0352
Sn1899,189.989 {477},In2306,Cts/S, .2857,.0002,.0865, .2858, .2855
Sr4215,421.552 { 80},Y_3710,Cts/S, 2.360,.0045,.1912, 2.363, 2.356
Ti3349,334.904 {101},Y_3600,Cts/S, .1027,.0002,.1738, .1028, .1026
Tl1908,190.856 {477},In2306,Cts/S, .0353,.0009,2.512, .0360, .0347
U_3670,367.007 { 92},Y_3600,Cts/S, .0004,.0000,3.611, .0003, .0004
V_2924,292.402 {115},Y_3600,Cts/S, .1148,.0000,.0386, .1149, .1148
W_2397,239.709 {140},Y_2243,Cts/S, .0002,.0001,48.76, .0003, .0002
Zn2062,206.200 {463},In2306,Cts/S, .7276,.0003,.0392, .7278, .7274

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 207.47,1.6397,.79034,208.63,206.31
In2306,230.606 {446},Cts/S, 12570.,1.7693,.01408,12572.,12569.
Y_2243,224.306 {450},Cts/S, 18270.,3.6106,.01976,18272.,18267.
Y_3600,360.073 { 94},Cts/S, 161510.,341.95,.21172,161270.,161750.
Y_3710,371.030 { 91},Cts/S, 10492.,68.246,.65046,10540.,10444.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,Cts/S, .0810,.0001,.0667, .0811, .0810
Al3082,308.215 {109},In2306,Cts/S, 5.568,.0836,1.501, 5.509, 5.627
As1890,189.042 {478},Y_2243,Cts/S, .1074,.0026,2.448, .1092, .1055
B_2496,249.678 {135},Y_3710,Cts/S, .0332,.0003,1.046, .0329, .0334
Ba4554,455.403 { 74},Y_3710,Cts/S, 8.712,.0477,.5479, 8.678, 8.746
Be3130,313.042 {108},Y_3710,Cts/S, 4.499,.0237,.5263, 4.482, 4.516
Ca3158,315.887 {107},In2306,Cts/S, 52.25,.5654,1.082, 51.85, 52.65
Cd2288,228.802 {447},Y_2243,Cts/S, 1.341,.0341,2.539, 1.365, 1.317
Co2286,228.616 {447},In2306,Cts/S, 1.159,.0288,2.481, 1.179, 1.138
Cr2677,267.716 {126},Y_3600,Cts/S, .1584,.0003,.1960, .1586, .1582
Cu3247,324.754 {104},Y_3600,Cts/S, .2475,.0008,.3130, .2480, .2469
Fe2404,240.488 {140},In2306,Cts/S, 6.552,.0927,1.415, 6.486, 6.617
K_7664,766.490 { 44},Y_3710,Cts/S, 1.752,.0057,.3240, 1.748, 1.756
Li6707,670.784 { 50},Y_3710,Cts/S, 1.724,.0095,.5513, 1.718, 1.731
Mg2790,279.079 {121},Y_3710,Cts/S, .2186,.0022,1.005, .2170, .2201
Mn2576,257.610 {131},Y_3600,Cts/S, 1.072,.0007,.0619, 1.073, 1.072
Mo2020,202.030 {467},Y_2243,Cts/S, .3153,.0088,2.791, .3216, .3091
Na5895,589.592 { 57},Y_3710,Cts/S, 6.410,.0244,.3807, 6.393, 6.427
Ni2316,231.604 {445},In2306,Cts/S, .7187,.0185,2.572, .7318, .7057
P_1782,178.284 {489},In2306,Cts/S, .5251,.0128,2.434, .5341, .5160
Pb2203,220.353 {453},In2306,Cts/S, .1781,.0041,2.309, .1811, .1752
S_1820,182.034 {485},Y_2243,Cts/S, .1771,.0044,2.469, .1802, .1740
Sb2068,206.833 {463},Y_2243,Cts/S, .0835,.0021,2.556, .0850, .0820
Se1960,196.090 {472},Y_2243,Cts/S, .0646,.0014,2.151, .0656, .0636
Si2516,251.611 {134},Y_3710,Cts/S, .0707,.0028,3.996, .0687, .0727
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Sn1899,189.989 {477},In2306,Cts/S, .5624,.0150,2.670, .5731, .5518
Sr4215,421.552 { 80},Y_3710,Cts/S, 4.669,.0210,.4493, 4.654, 4.684
Ti3349,334.904 {101},Y_3600,Cts/S, .2042,.0001,.0673, .2043, .2041
Tl1908,190.856 {477},In2306,Cts/S, .0839,.0032,3.843, .0862, .0816
U_3670,367.007 { 92},Y_3600,Cts/S, .0006,.0000,1.499, .0006, .0006
V_2924,292.402 {115},Y_3600,Cts/S, .2284,.0005,.2077, .2287, .2281
W_2397,239.709 {140},Y_2243,Cts/S, .0007,.0000,3.621, .0007, .0007
Zn2062,206.200 {463},In2306,Cts/S, 1.451,.0364,2.508, 1.476, 1.425

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 202.90,1.4908,.73477,203.95,201.84
In2306,230.606 {446},Cts/S, 12271.,228.74,1.8641,12109.,12433.
Y_2243,224.306 {450},Cts/S, 18439.,346.67,1.8801,18194.,18684.
Y_3600,360.073 { 94},Cts/S, 158760.,86.299,.05436,158700.,158820.
Y_3710,371.030 { 91},Cts/S, 10503.,6.0515,.05762,10508.,10499.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, 1.031,.0336,3.255, 1.008, 1.055
Al3082,308.215 {109},In2306,ppm, 10.02,.0111,.1109, 10.02, 10.03
As1890,189.042 {478},Y_2243,ppm, 4.041,.0144,.3553, 4.031, 4.051
B_2496,249.678 {135},Y_3710,ppm, 2.003,.0034,.1698, 2.006, 2.001
Ba4554,455.403 { 74},Y_3710,ppm, 3.984,.0053,.1333, 3.980, 3.988
Be3130,313.042 {108},Y_3710,ppm, 1.987,.0061,.3054, 1.983, 1.992
Ca3158,315.887 {107},In2306,ppm, 50.01,.3510,.7020, 49.76, 50.26
Cd2288,228.802 {447},Y_2243,ppm, 2.015,.0016,.0789, 2.016, 2.014
Co2286,228.616 {447},In2306,ppm, 2.027,.0026,.1288, 2.025, 2.029
Cr2677,267.716 {126},Y_3600,ppm, 2.052,.0748,3.646, 1.999, 2.105
Cu3247,324.754 {104},Y_3600,ppm, 2.055,.0748,3.643, 2.002, 2.108
Fe2404,240.488 {140},In2306,ppm, 9.975,.0436,.4373, 9.944, 10.01
K_7664,766.490 { 44},Y_3710,ppm, 49.83,.1037,.2080, 49.75, 49.90
Li6707,670.784 { 50},Y_3710,ppm, 2.001,.0003,.0135, 2.001, 2.001
Mg2790,279.079 {121},Y_3710,ppm, 49.68,.0273,.0549, 49.66, 49.70
Mn2576,257.610 {131},Y_3600,ppm, 2.041,.0755,3.701, 1.988, 2.095
Mo2020,202.030 {467},Y_2243,ppm, 2.018,.0022,.1067, 2.016, 2.019
Na5895,589.592 { 57},Y_3710,ppm, 49.94,.0151,.0302, 49.93, 49.95
Ni2316,231.604 {445},In2306,ppm, 2.021,.0045,.2232, 2.018, 2.024
P_1782,178.284 {489},In2306,ppm, 20.58,.0093,.0454, 20.57, 20.59
Pb2203,220.353 {453},In2306,ppm, 2.022,.0020,.1013, 2.021, 2.024
S_1820,182.034 {485},Y_2243,ppm, 14.00,.0434,.3099, 13.97, 14.03
Sb2068,206.833 {463},Y_2243,ppm, 2.020,.0000,.0016, 2.020, 2.020
Se1960,196.090 {472},Y_2243,ppm, 4.046,.0122,.3026, 4.037, 4.055
Si2516,251.611 {134},Y_3710,ppm, 4.008,.1007,2.513, 3.937, 4.079
Sn1899,189.989 {477},In2306,ppm, 4.067,.0046,.1136, 4.070, 4.064
Sr4215,421.552 { 80},Y_3710,ppm, 1.992,.0036,.1814, 1.989, 1.995
Ti3349,334.904 {101},Y_3600,ppm, 2.055,.0770,3.749, 2.000, 2.109
Tl1908,190.856 {477},In2306,ppm, 5.734,.0443,.7724, 5.766, 5.703
U_3670,367.007 { 92},Y_3600,ppm, 2.171,.2081,9.586, 2.024, 2.318
V_2924,292.402 {115},Y_3600,ppm, 2.052,.0799,3.896, 1.995, 2.108
W_2397,239.709 {140},Y_2243,ppm, .9039,.1107,12.25, .9822, .8256
Zn2062,206.200 {463},In2306,ppm, 2.039,.0035,.1733, 2.036, 2.041

[Internal Standards]
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Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 204.85,.70248,.34292,205.35,204.35
In2306,230.606 {446},Cts/S, 12043.,5.8363,.04846,12047.,12039.
Y_2243,224.306 {450},Cts/S, 18038.,4.3472,.02410,18035.,18041.
Y_3600,360.073 { 94},Cts/S, 155630.,4514.1,2.9006,158820.,152440.
Y_3710,371.030 { 91},Cts/S, 10515.,21.359,.20312,10500.,10530.

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Ag3280,328.068 {103},Y_3600,ppm, .4985,.0012,.2314, .4993, .4976
Al3082,308.215 {109},In2306,ppm, 20.03,.0241,.1205, 20.01, 20.05
As1890,189.042 {478},Y_2243,ppm, 1.009,.0029,.2875, 1.011, 1.007
B_2496,249.678 {135},Y_3710,ppm, 1.015,.0164,1.615, 1.003, 1.026
Ba4554,455.403 { 74},Y_3710,ppm, 1.010,.0024,.2394, 1.008, 1.012
Be3130,313.042 {108},Y_3710,ppm, .9795,.0061,.6190, .9752, .9838
Ca3158,315.887 {107},In2306,ppm, 20.01,.0063,.0314, 20.01, 20.02
Cd2288,228.802 {447},Y_2243,ppm, .9994,.0003,.0284, .9992, .9996
Co2286,228.616 {447},In2306,ppm, 1.002,.0003,.0290, 1.002, 1.002
Cr2677,267.716 {126},Y_3600,ppm, 1.004,.0028,.2757, 1.006, 1.002
Cu3247,324.754 {104},Y_3600,ppm, 1.005,.0020,.1982, 1.004, 1.007
Fe2404,240.488 {140},In2306,ppm, 20.04,.0312,.1554, 20.02, 20.06
K_7664,766.490 { 44},Y_3710,ppm, 20.08,.0450,.2241, 20.05, 20.11
Li6707,670.784 { 50},Y_3710,ppm, 1.006,.0001,.0119, 1.006, 1.006
Mg2790,279.079 {121},Y_3710,ppm, 20.08,.0508,.2528, 20.04, 20.11
Mn2576,257.610 {131},Y_3600,ppm, 1.001,.0031,.3070, 1.003, .9984
Mo2020,202.030 {467},Y_2243,ppm, 1.008,.0017,.1702, 1.010, 1.007
Na5895,589.592 { 57},Y_3710,ppm, 19.96,.0309,.1546, 19.94, 19.98
Ni2316,231.604 {445},In2306,ppm, .9964,.0005,.0467, .9961, .9968
P_1782,178.284 {489},In2306,ppm, 10.10,.0317,.3135, 10.12, 10.07
Pb2203,220.353 {453},In2306,ppm, 1.005,.0048,.4824, 1.009, 1.002
S_1820,182.034 {485},Y_2243,ppm, 10.96,.0116,.1054, 10.97, 10.95
Sb2068,206.833 {463},Y_2243,ppm, 2.093,.0002,.0106, 2.093, 2.093
Se1960,196.090 {472},Y_2243,ppm, 1.013,.0046,.4507, 1.017, 1.010
Si2516,251.611 {134},Y_3710,ppm, 9.004,.1484,1.648, 8.899, 9.109
Sn1899,189.989 {477},In2306,ppm, 1.007,.0030,.2972, 1.009, 1.005
Sr4215,421.552 { 80},Y_3710,ppm, 1.007,.0042,.4180, 1.004, 1.010
Ti3349,334.904 {101},Y_3600,ppm, .9942,.0013,.1270, .9950, .9933
Tl1908,190.856 {477},In2306,ppm, 1.888,.0057,.3016, 1.892, 1.884
U_3670,367.007 { 92},Y_3600,ppm, 1.057,.0549,5.191, 1.096, 1.018
V_2924,292.402 {115},Y_3600,ppm, .9950,.0037,.3695, .9976, .9924
W_2397,239.709 {140},Y_2243,ppm, 1.593,.1000,6.277, 1.522, 1.663
Zn2062,206.200 {463},In2306,ppm, 1.002,.0015,.1479, 1.003, 1.001

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 207.67,.30004,.14448,207.46,207.88
In2306,230.606 {446},Cts/S, 12619.,10.299,.08162,12626.,12612.
Y_2243,224.306 {450},Cts/S, 18376.,18.687,.10169,18389.,18363.
Y_3600,360.073 { 94},Cts/S, 161780.,361.67,.22356,161520.,162030.
Y_3710,371.030 { 91},Cts/S, 10512.,27.846,.26490,10532.,10492.

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[Results]
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Al3082,308.215 {109},In2306,ppm, .1960,.0241,12.28, .2130, .1790
As1890,189.042 {478},Y_2243,ppm, .0206,.0003,1.680, .0203, .0208
B_2496,249.678 {135},Y_3710,ppm, .2159,.0010,.4777, .2166, .2151
Ba4554,455.403 { 74},Y_3710,ppm, .0225,.0000,.1120, .0225, .0225
Be3130,313.042 {108},Y_3710,ppm, .0111,.0001,.8703, .0112, .0110
Ca3158,315.887 {107},In2306,ppm, 1.021,.0053,.5227, 1.025, 1.017
Cd2288,228.802 {447},Y_2243,ppm, .0115,.0002,1.877, .0113, .0116
Co2286,228.616 {447},In2306,ppm, .0110,.0001,1.205, .0109, .0111
Cr2677,267.716 {126},Y_3600,ppm, .0112,.0003,2.729, .0114, .0110
Cu3247,324.754 {104},Y_3600,ppm, .0122,.0007,5.706, .0118, .0127
Fe2404,240.488 {140},In2306,ppm, .1952,.0024,1.220, .1968, .1935
K_7664,766.490 { 44},Y_3710,ppm, 1.089,.0481,4.414, 1.123, 1.055
Li6707,670.784 { 50},Y_3710,ppm, .0107,.0003,3.107, .0105, .0110
Mg2790,279.079 {121},Y_3710,ppm, 1.041,.0072,.6947, 1.047, 1.036
Mn2576,257.610 {131},Y_3600,ppm, .0115,.0001,.6229, .0114, .0115
Mo2020,202.030 {467},Y_2243,ppm, .0278,.0002,.6962, .0277, .0279
Na5895,589.592 { 57},Y_3710,ppm, 1.076,.0024,.2272, 1.075, 1.078
Ni2316,231.604 {445},In2306,ppm, .0109,.0004,3.482, .0106, .0112
P_1782,178.284 {489},In2306,ppm, .9627,.0003,.0330, .9629, .9624
Pb2203,220.353 {453},In2306,ppm, .0118,.0002,1.410, .0120, .0117
S_1820,182.034 {485},Y_2243,ppm, -2.904,.0089,.3066, -2.898, -2.910
Sb2068,206.833 {463},Y_2243,ppm, .0547,.0017,3.154, .0559, .0535
Se1960,196.090 {472},Y_2243,ppm, .0204,.0005,2.398, .0200, .0207
Si2516,251.611 {134},Y_3710,ppm, .1872,.0152,8.138, .1764, .1979
Sn1899,189.989 {477},In2306,ppm, .0235,.0004,1.498, .0232, .0237
Sr4215,421.552 { 80},Y_3710,ppm, .0117,.0001,.5415, .0116, .0117
Ti3349,334.904 {101},Y_3600,ppm, .0113,.0000,.1886, .0113, .0112
Tl1908,190.856 {477},In2306,ppm, 1.019,.0278,2.724, .9996, 1.039
U_3670,367.007 { 92},Y_3600,ppm, -.0659,.0501,75.99, -.1014, -.0305
V_2924,292.402 {115},Y_3600,ppm, .0111,.0002,1.946, .0113, .0110
W_2397,239.709 {140},Y_2243,ppm, .0902,.0302,33.43, .1115, .0689
Zn2062,206.200 {463},In2306,ppm, .0205,.0000,.0035, .0205, .0205

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 214.02,2.5967,1.2133,212.18,215.86
In2306,230.606 {446},Cts/S, 13522.,25.592,.18926,13540.,13504.
Y_2243,224.306 {450},Cts/S, 18670.,2.0429,.01094,18668.,18671.
Y_3600,360.073 { 94},Cts/S, 166700.,213.49,.12807,166550.,166850.
Y_3710,371.030 { 91},Cts/S, 10492.,80.302,.76539,10435.,10548.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0085,.0000,.1542, .0085, .0085
Al3082,308.215 {109},In2306,ppm, .1930,.0477,24.69, .2268, .1593
As1890,189.042 {478},Y_2243,ppm, .0211,.0023,11.05, .0228, .0195
B_2496,249.678 {135},Y_3710,ppm, .2182,.0082,3.772, .2240, .2124
Ba4554,455.403 { 74},Y_3710,ppm, .0227,.0000,.2094, .0227, .0227
Be3130,313.042 {108},Y_3710,ppm, .0111,.0001,.7121, .0112, .0110
Ca3158,315.887 {107},In2306,ppm, 1.037,.0078,.7531, 1.043, 1.032
Cd2288,228.802 {447},Y_2243,ppm, .0113,.0001,1.164, .0114, .0112
Co2286,228.616 {447},In2306,ppm, .0109,.0002,1.497, .0110, .0108
Cr2677,267.716 {126},Y_3600,ppm, .0113,.0001,.8551, .0113, .0112
Cu3247,324.754 {104},Y_3600,ppm, .0114,.0004,3.653, .0111, .0117
Fe2404,240.488 {140},In2306,ppm, .2093,.0128,6.117, .2002, .2183
K_7664,766.490 { 44},Y_3710,ppm, 1.069,.0063,.5868, 1.064, 1.073
Li6707,670.784 { 50},Y_3710,ppm, .0093,.0003,2.903, .0091, .0095
Mg2790,279.079 {121},Y_3710,ppm, 1.049,.0076,.7201, 1.055, 1.044
Mn2576,257.610 {131},Y_3600,ppm, .0113,.0000,.0207, .0113, .0113
Mo2020,202.030 {467},Y_2243,ppm, .0236,.0001,.5885, .0235, .0237
Na5895,589.592 { 57},Y_3710,ppm, 1.077,.0011,.1028, 1.076, 1.077
Ni2316,231.604 {445},In2306,ppm, .0105,.0001,1.184, .0106, .0105
P_1782,178.284 {489},In2306,ppm, .9567,.0004,.0462, .9564, .9570
Pb2203,220.353 {453},In2306,ppm, .0110,.0011,9.629, .0118, .0103
S_1820,182.034 {485},Y_2243,ppm, -2.905,.0016,.0555, -2.904, -2.906
Sb2068,206.833 {463},Y_2243,ppm, .0573,.0018,3.169, .0560, .0586
Se1960,196.090 {472},Y_2243,ppm, .0212,.0006,2.706, .0216, .0208
Si2516,251.611 {134},Y_3710,ppm, .1707,.0010,.5983, .1714, .1700
Sn1899,189.989 {477},In2306,ppm, .0227,.0002,.9503, .0228, .0225
Sr4215,421.552 { 80},Y_3710,ppm, .0112,.0000,.0783, .0112, .0112
Ti3349,334.904 {101},Y_3600,ppm, .0107,.0006,5.358, .0111, .0103
Tl1908,190.856 {477},In2306,ppm, .6496,.0192,2.953, .6360, .6631
U_3670,367.007 { 92},Y_3600,ppm, -.0401,.1187,296.0, -.1240, .0438
V_2924,292.402 {115},Y_3600,ppm, .0109,.0000,.1009, .0109, .0109
W_2397,239.709 {140},Y_2243,ppm, .1294,.0063,4.840, .1250, .1338
Zn2062,206.200 {463},In2306,ppm, .0204,.0000,.0283, .0204, .0204

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 213.95,.78770,.36817,213.39,214.50
In2306,230.606 {446},Cts/S, 13559.,12.666,.09342,13550.,13568.
Y_2243,224.306 {450},Cts/S, 18741.,15.138,.08078,18730.,18751.
Y_3600,360.073 { 94},Cts/S, 166640.,541.75,.32511,166250.,167020.
Y_3710,371.030 { 91},Cts/S, 10579.,107.96,1.0205,10503.,10656.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0003,.0002,58.17, .0002, .0004
Al3082,308.215 {109},In2306,ppm, -.0009,.0079,878.8, .0047, -.0065
As1890,189.042 {478},Y_2243,ppm, .0003,.0033,1272., .0026, -.0021
B_2496,249.678 {135},Y_3710,ppm, -.0056,.0043,76.36, -.0026, -.0087
Ba4554,455.403 { 74},Y_3710,ppm, .0000,.0001,131.7, .0001, .0000
Be3130,313.042 {108},Y_3710,ppm, .0002,.0001,23.03, .0003, .0002
Ca3158,315.887 {107},In2306,ppm, -.0023,.0004,15.72, -.0021, -.0026
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Cd2288,228.802 {447},Y_2243,ppm, -.0002,.0000,1.873, -.0002, -.0002
Co2286,228.616 {447},In2306,ppm, .0001,.0001,131.0, .0000, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0002,.0000,13.60, .0002, .0001
Cu3247,324.754 {104},Y_3600,ppm, .0009,.0002,17.02, .0010, .0008
Fe2404,240.488 {140},In2306,ppm, -.0189,.0238,125.7, -.0021, -.0358
K_7664,766.490 { 44},Y_3710,ppm, .0184,.0176,95.42, .0309, .0060
Li6707,670.784 { 50},Y_3710,ppm, -.0011,.0017,151.9, .0001, -.0024
Mg2790,279.079 {121},Y_3710,ppm, -.0047,.0295,631.2, -.0256, .0162
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,48.28, -.0000, -.0000
Mo2020,202.030 {467},Y_2243,ppm, .0004,.0005,112.4, .0008, .0001
Na5895,589.592 { 57},Y_3710,ppm, .0024,.0007,30.54, .0019, .0030
Ni2316,231.604 {445},In2306,ppm, -.0001,.0001,75.27, -.0001, -.0002
P_1782,178.284 {489},In2306,ppm, -.0017,.0025,149.3, .0001, -.0034
Pb2203,220.353 {453},In2306,ppm, .0012,.0007,54.35, .0007, .0017
S_1820,182.034 {485},Y_2243,ppm, -1.904,.0016,.0818, -1.902, -1.905
Sb2068,206.833 {463},Y_2243,ppm, .0019,.0005,28.77, .0023, .0015
Se1960,196.090 {472},Y_2243,ppm, .0003,.0038,1250., .0030, -.0024
Si2516,251.611 {134},Y_3710,ppm, .0186,.0028,15.24, .0166, .0206
Sn1899,189.989 {477},In2306,ppm, .0006,.0002,35.53, .0007, .0004
Sr4215,421.552 { 80},Y_3710,ppm, -.0000,.0001,223.9, .0000, -.0001
Ti3349,334.904 {101},Y_3600,ppm, -.0003,.0004,135.1, -.0006, -.0000
Tl1908,190.856 {477},In2306,ppm, .4467,.0105,2.356, .4392, .4541
U_3670,367.007 { 92},Y_3600,ppm, -.0902,.0666,73.84, -.0431, -.1373
V_2924,292.402 {115},Y_3600,ppm, .0002,.0000,6.810, .0002, .0002
W_2397,239.709 {140},Y_2243,ppm, .0549,.0248,45.20, .0725, .0374
Zn2062,206.200 {463},In2306,ppm, .0011,.0001,5.651, .0011, .0010

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 213.20,3.3646,1.5781,215.58,210.83
In2306,230.606 {446},Cts/S, 13584.,87.709,.64570,13646.,13521.
Y_2243,224.306 {450},Cts/S, 18724.,98.374,.52540,18793.,18654.
Y_3600,360.073 { 94},Cts/S, 167740.,252.82,.15072,167920.,167560.
Y_3710,371.030 { 91},Cts/S, 10569.,94.372,.89290,10636.,10502.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0004,439.1, -.0004, .0002
Al3082,308.215 {109},In2306,ppm, 540.3,4.642,.8591, 537.0, 543.6
As1890,189.042 {478},Y_2243,ppm, .0006,.0057,933.4, .0046, -.0034
B_2496,249.678 {135},Y_3710,ppm, .0121,.0097,80.69, .0190, .0052
Ba4554,455.403 { 74},Y_3710,ppm, .0000,.0002,467.1, -.0001, .0002
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0002,143.4, .0000, -.0002
Ca3158,315.887 {107},In2306,ppm, 498.9,3.430,.6874, 496.5, 501.3
Cd2288,228.802 {447},Y_2243,ppm, .0026,.0002,7.085, .0024, .0027
Co2286,228.616 {447},In2306,ppm, -.0004,.0001,26.28, -.0003, -.0004
Cr2677,267.716 {126},Y_3600,ppm, .0025,.0004,15.30, .0028, .0022
Cu3247,324.754 {104},Y_3600,ppm, -.0012,.0006,48.70, -.0008, -.0016
Fe2404,240.488 {140},In2306,ppm, 195.4,1.254,.6417, 194.5, 196.3
K_7664,766.490 { 44},Y_3710,ppm, .0013,.0054,399.0, -.0024, .0051
Li6707,670.784 { 50},Y_3710,ppm, .0126,.0016,12.90, .0137, .0114
Mg2790,279.079 {121},Y_3710,ppm, 493.9,2.929,.5931, 491.9, 496.0
Mn2576,257.610 {131},Y_3600,ppm, -.0040,.0000,.3321, -.0040, -.0040
Mo2020,202.030 {467},Y_2243,ppm, .0007,.0005,72.48, .0003, .0010
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Na5895,589.592 { 57},Y_3710,ppm, .0113,.0032,28.19, .0135, .0090
Ni2316,231.604 {445},In2306,ppm, -.0055,.0005,8.576, -.0052, -.0058
P_1782,178.284 {489},In2306,ppm, .0025,.0013,52.21, .0035, .0016
Pb2203,220.353 {453},In2306,ppm, -.0132,.0010,7.407, -.0125, -.0139
S_1820,182.034 {485},Y_2243,ppm,F -4.588,.0051,.1110, -4.585, -4.592
Sb2068,206.833 {463},Y_2243,ppm, -.0046,.0006,12.17, -.0042, -.0050
Se1960,196.090 {472},Y_2243,ppm, -.0166,.0067,40.35, -.0118, -.0213
Si2516,251.611 {134},Y_3710,ppm, .0159,.0068,42.73, .0111, .0208
Sn1899,189.989 {477},In2306,ppm, -.0005,.0003,62.15, -.0008, -.0003
Sr4215,421.552 { 80},Y_3710,ppm, .0044,.0001,1.993, .0045, .0044
Ti3349,334.904 {101},Y_3600,ppm, .0034,.0006,17.79, .0030, .0038
Tl1908,190.856 {477},In2306,ppm,F .5033,.0378,7.506, .4766, .5300
U_3670,367.007 { 92},Y_3600,ppm,F 1.183,.0096,.8141, 1.189, 1.176
V_2924,292.402 {115},Y_3600,ppm, -.0045,.0001,1.146, -.0045, -.0045
W_2397,239.709 {140},Y_2243,ppm, -.0040,.0295,740.4, .0169, -.0248
Zn2062,206.200 {463},In2306,ppm, -.0025,.0005,20.35, -.0021, -.0028

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 185.87,.34517,.18571,186.12,185.63
In2306,230.606 {446},Cts/S, 10032.,18.149,.18091,10045.,10019.
Y_2243,224.306 {450},Cts/S, 16239.,42.631,.26253,16269.,16209.
Y_3600,360.073 { 94},Cts/S, 144210.,554.40,.38443,143820.,144610.
Y_3710,371.030 { 91},Cts/S, 10298.,19.660,.19091,10284.,10312.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .2722,.0012,.4228, .2730, .2714
Al3082,308.215 {109},In2306,ppm, 531.9,3.391,.6375, 529.5, 534.3
As1890,189.042 {478},Y_2243,ppm, 2.003,.0119,.5920, 2.012, 1.995
B_2496,249.678 {135},Y_3710,ppm, .5025,.0013,.2551, .5016, .5034
Ba4554,455.403 { 74},Y_3710,ppm, 1.953,.0022,.1134, 1.955, 1.951
Be3130,313.042 {108},Y_3710,ppm, .9590,.0003,.0330, .9592, .9588
Ca3158,315.887 {107},In2306,ppm, 494.3,1.598,.3233, 493.2, 495.5
Cd2288,228.802 {447},Y_2243,ppm, 1.022,.0009,.0864, 1.021, 1.022
Co2286,228.616 {447},In2306,ppm, 1.011,.0004,.0347, 1.011, 1.011
Cr2677,267.716 {126},Y_3600,ppm, .9451,.0020,.2068, .9438, .9465
Cu3247,324.754 {104},Y_3600,ppm, 1.039,.0002,.0220, 1.039, 1.039
Fe2404,240.488 {140},In2306,ppm, 193.3,.9263,.4793, 192.6, 193.9
K_7664,766.490 { 44},Y_3710,ppm, 10.47,.0017,.0166, 10.47, 10.47
Li6707,670.784 { 50},Y_3710,ppm, 1.027,.0016,.1574, 1.025, 1.028
Mg2790,279.079 {121},Y_3710,ppm, 500.2,.3346,.0669, 500.5, 500.0
Mn2576,257.610 {131},Y_3600,ppm, .9502,.0013,.1360, .9493, .9512
Mo2020,202.030 {467},Y_2243,ppm, .9500,.0014,.1467, .9490, .9509
Na5895,589.592 { 57},Y_3710,ppm, 10.39,.0094,.0903, 10.39, 10.40
Ni2316,231.604 {445},In2306,ppm, .9978,.0004,.0367, .9980, .9975
P_1782,178.284 {489},In2306,ppm, 11.00,.0128,.1166, 10.99, 11.01
Pb2203,220.353 {453},In2306,ppm, .9827,.0001,.0128, .9826, .9828
S_1820,182.034 {485},Y_2243,ppm, 2.470,.0223,.9021, 2.486, 2.454
Sb2068,206.833 {463},Y_2243,ppm, 2.105,.0002,.0113, 2.105, 2.105
Se1960,196.090 {472},Y_2243,ppm, 1.944,.0042,.2159, 1.947, 1.941
Si2516,251.611 {134},Y_3710,ppm, 1.737,.0026,.1469, 1.735, 1.739
Sn1899,189.989 {477},In2306,ppm, 2.030,.0035,.1729, 2.028, 2.033
Sr4215,421.552 { 80},Y_3710,ppm, .9778,.0014,.1402, .9769, .9788
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Ti3349,334.904 {101},Y_3600,ppm, .9854,.0026,.2640, .9835, .9872
Tl1908,190.856 {477},In2306,ppm, 1.167,.0503,4.312, 1.203, 1.132
U_3670,367.007 { 92},Y_3600,ppm, 2.153,.0166,.7692, 2.142, 2.165
V_2924,292.402 {115},Y_3600,ppm, .9616,.0005,.0563, .9613, .9620
W_2397,239.709 {140},Y_2243,ppm, .2494,.0620,24.88, .2932, .2055
Zn2062,206.200 {463},In2306,ppm, .5141,.0018,.3408, .5129, .5154

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 188.23,1.1597,.61613,189.05,187.41
In2306,230.606 {446},Cts/S, 10241.,23.232,.22686,10224.,10257.
Y_2243,224.306 {450},Cts/S, 16776.,31.953,.19047,16753.,16799.
Y_3600,360.073 { 94},Cts/S, 146680.,162.54,.11081,146570.,146800.
Y_3710,371.030 { 91},Cts/S, 10320.,7.5760,.07341,10325.,10315.

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[Results]
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Al3082,308.215 {109},In2306,ppm, 19.99,.0748,.3743, 20.04, 19.94
As1890,189.042 {478},Y_2243,ppm, 1.007,.0022,.2201, 1.008, 1.005
B_2496,249.678 {135},Y_3710,ppm, 1.001,.0034,.3398, .9990, 1.004
Ba4554,455.403 { 74},Y_3710,ppm, 1.003,.0030,.2980, 1.001, 1.005
Be3130,313.042 {108},Y_3710,ppm, .9740,.0032,.3335, .9717, .9763
Ca3158,315.887 {107},In2306,ppm, 19.83,.1625,.8197, 19.94, 19.71
Cd2288,228.802 {447},Y_2243,ppm, .9961,.0008,.0765, .9955, .9966
Co2286,228.616 {447},In2306,ppm, .9944,.0016,.1649, .9956, .9932
Cr2677,267.716 {126},Y_3600,ppm, .9791,.0002,.0246, .9789, .9792
Cu3247,324.754 {104},Y_3600,ppm, .9911,.0010,.0983, .9918, .9904
Fe2404,240.488 {140},In2306,ppm, 19.91,.1219,.6122, 20.00, 19.82
K_7664,766.490 { 44},Y_3710,ppm, 20.08,.0842,.4193, 20.02, 20.14
Li6707,670.784 { 50},Y_3710,ppm, .9822,.0002,.0234, .9823, .9820
Mg2790,279.079 {121},Y_3710,ppm, 20.09,.1156,.5754, 20.01, 20.17
Mn2576,257.610 {131},Y_3600,ppm, .9965,.0006,.0595, .9969, .9961
Mo2020,202.030 {467},Y_2243,ppm, .9966,.0000,.0045, .9966, .9967
Na5895,589.592 { 57},Y_3710,ppm, 19.79,.0422,.2134, 19.76, 19.82
Ni2316,231.604 {445},In2306,ppm, .9936,.0007,.0656, .9940, .9931
P_1782,178.284 {489},In2306,ppm, 10.08,.0132,.1308, 10.09, 10.07
Pb2203,220.353 {453},In2306,ppm, .9939,.0046,.4626, .9972, .9907
S_1820,182.034 {485},Y_2243,ppm, 10.88,.0291,.2676, 10.91, 10.86
Sb2068,206.833 {463},Y_2243,ppm, 2.098,.0045,.2147, 2.095, 2.101
Se1960,196.090 {472},Y_2243,ppm, 1.002,.0002,.0166, 1.002, 1.002
Si2516,251.611 {134},Y_3710,ppm, 8.902,.0854,.9589, 8.842, 8.963
Sn1899,189.989 {477},In2306,ppm, .9950,.0033,.3358, .9974, .9927
Sr4215,421.552 { 80},Y_3710,ppm, .9960,.0037,.3764, .9934, .9987
Ti3349,334.904 {101},Y_3600,ppm, .9909,.0004,.0356, .9912, .9907
Tl1908,190.856 {477},In2306,ppm, 1.214,.0158,1.302, 1.225, 1.202
U_3670,367.007 { 92},Y_3600,ppm, .9356,.0289,3.090, .9560, .9152
V_2924,292.402 {115},Y_3600,ppm, .9803,.0016,.1675, .9815, .9792
W_2397,239.709 {140},Y_2243,ppm, 1.474,.0977,6.629, 1.405, 1.543
Zn2062,206.200 {463},In2306,ppm, .9931,.0031,.3132, .9953, .9909

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 207.22,1.0036,.48430,206.51,207.93
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In2306,230.606 {446},Cts/S, 12670.,29.871,.23576,12691.,12649.
Y_2243,224.306 {450},Cts/S, 18346.,41.946,.22864,18375.,18316.
Y_3600,360.073 { 94},Cts/S, 163020.,370.77,.22744,163280.,162760.
Y_3710,371.030 { 91},Cts/S, 10526.,41.530,.39453,10556.,10497.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0083,.0001,1.365, .0084, .0083
Al3082,308.215 {109},In2306,ppm, .2263,.0210,9.298, .2114, .2412
As1890,189.042 {478},Y_2243,ppm, .0206,.0011,5.395, .0214, .0198
B_2496,249.678 {135},Y_3710,ppm, .2121,.0085,3.999, .2061, .2181
Ba4554,455.403 { 74},Y_3710,ppm, .0227,.0000,.1318, .0227, .0226
Be3130,313.042 {108},Y_3710,ppm, .0112,.0000,.0690, .0112, .0112
Ca3158,315.887 {107},In2306,ppm, 1.039,.0326,3.141, 1.062, 1.016
Cd2288,228.802 {447},Y_2243,ppm, .0109,.0003,3.130, .0112, .0107
Co2286,228.616 {447},In2306,ppm, .0103,.0004,3.628, .0106, .0101
Cr2677,267.716 {126},Y_3600,ppm, .0113,.0003,2.411, .0111, .0114
Cu3247,324.754 {104},Y_3600,ppm, .0130,.0005,3.552, .0127, .0134
Fe2404,240.488 {140},In2306,ppm, .2094,.0104,4.966, .2167, .2020
K_7664,766.490 { 44},Y_3710,ppm, 1.067,.0271,2.539, 1.048, 1.086
Li6707,670.784 { 50},Y_3710,ppm, .0088,.0004,4.303, .0090, .0085
Mg2790,279.079 {121},Y_3710,ppm, 1.051,.0031,.2983, 1.054, 1.049
Mn2576,257.610 {131},Y_3600,ppm, .0112,.0001,.8506, .0112, .0113
Mo2020,202.030 {467},Y_2243,ppm, .0263,.0005,1.856, .0266, .0259
Na5895,589.592 { 57},Y_3710,ppm, 1.065,.0177,1.663, 1.078, 1.053
Ni2316,231.604 {445},In2306,ppm, .0103,.0003,2.993, .0105, .0100
P_1782,178.284 {489},In2306,ppm, .9265,.0364,3.930, .9523, .9008
Pb2203,220.353 {453},In2306,ppm, .0111,.0019,17.08, .0125, .0098
S_1820,182.034 {485},Y_2243,ppm, -2.919,.0180,.6169, -2.906, -2.932
Sb2068,206.833 {463},Y_2243,ppm, .0550,.0001,.1159, .0551, .0550
Se1960,196.090 {472},Y_2243,ppm, .0198,.0033,16.77, .0175, .0222
Si2516,251.611 {134},Y_3710,ppm, .1760,.0206,11.70, .1614, .1906
Sn1899,189.989 {477},In2306,ppm, .0225,.0010,4.555, .0232, .0218
Sr4215,421.552 { 80},Y_3710,ppm, .0114,.0001,1.212, .0115, .0113
Ti3349,334.904 {101},Y_3600,ppm, .0112,.0008,7.156, .0106, .0117
Tl1908,190.856 {477},In2306,ppm, .6769,.0202,2.982, .6912, .6626
U_3670,367.007 { 92},Y_3600,ppm, -.0488,.1231,252.3, -.1359, .0383
V_2924,292.402 {115},Y_3600,ppm, .0107,.0002,1.605, .0105, .0108
W_2397,239.709 {140},Y_2243,ppm, .0907,.0206,22.65, .0762, .1053
Zn2062,206.200 {463},In2306,ppm, .0196,.0008,4.127, .0202, .0190

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 212.76,2.4176,1.1363,211.05,214.47
In2306,230.606 {446},Cts/S, 13929.,390.45,2.8032,13653.,14205.
Y_2243,224.306 {450},Cts/S, 19204.,535.10,2.7864,18826.,19582.
Y_3600,360.073 { 94},Cts/S, 167540.,362.22,.21621,167280.,167790.
Y_3710,371.030 { 91},Cts/S, 10612.,19.303,.18190,10598.,10626.

[Sample Header]
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Comment=
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Custom ID2=
Custom ID3=
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Mode=CONC
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0090,.0007,8.046, .0085, .0095
Al3082,308.215 {109},In2306,ppm, .2193,.0236,10.78, .2026, .2360
As1890,189.042 {478},Y_2243,ppm, .0221,.0020,9.112, .0206, .0235
B_2496,249.678 {135},Y_3710,ppm, .2149,.0035,1.607, .2124, .2173
Ba4554,455.403 { 74},Y_3710,ppm, .0226,.0001,.3324, .0226, .0227
Be3130,313.042 {108},Y_3710,ppm, .0110,.0000,.2759, .0110, .0109
Ca3158,315.887 {107},In2306,ppm, 1.025,.0001,.0114, 1.025, 1.025
Cd2288,228.802 {447},Y_2243,ppm, .0111,.0000,.2128, .0111, .0111
Co2286,228.616 {447},In2306,ppm, .0105,.0000,.2005, .0105, .0105
Cr2677,267.716 {126},Y_3600,ppm, .0113,.0000,.2529, .0113, .0113
Cu3247,324.754 {104},Y_3600,ppm, .0128,.0002,1.292, .0127, .0129
Fe2404,240.488 {140},In2306,ppm, .1893,.0103,5.459, .1966, .1820
K_7664,766.490 { 44},Y_3710,ppm, 1.063,.0090,.8455, 1.069, 1.056
Li6707,670.784 { 50},Y_3710,ppm, .0080,.0011,14.40, .0072, .0088
Mg2790,279.079 {121},Y_3710,ppm, 1.081,.0125,1.155, 1.090, 1.072
Mn2576,257.610 {131},Y_3600,ppm, .0113,.0000,.0266, .0113, .0113
Mo2020,202.030 {467},Y_2243,ppm, .0230,.0004,1.752, .0227, .0233
Na5895,589.592 { 57},Y_3710,ppm, 1.058,.0041,.3903, 1.055, 1.061
Ni2316,231.604 {445},In2306,ppm, .0106,.0002,2.188, .0107, .0104
P_1782,178.284 {489},In2306,ppm, .9562,.0011,.1121, .9570, .9555
Pb2203,220.353 {453},In2306,ppm, .0114,.0012,10.13, .0122, .0106
S_1820,182.034 {485},Y_2243,ppm, -2.906,.0025,.0875, -2.908, -2.904
Sb2068,206.833 {463},Y_2243,ppm, .0549,.0010,1.765, .0542, .0555
Se1960,196.090 {472},Y_2243,ppm, .0198,.0015,7.564, .0187, .0208
Si2516,251.611 {134},Y_3710,ppm, .1767,.0007,.4205, .1761, .1772
Sn1899,189.989 {477},In2306,ppm, .0226,.0001,.3791, .0227, .0226
Sr4215,421.552 { 80},Y_3710,ppm, .0109,.0001,.6250, .0108, .0109
Ti3349,334.904 {101},Y_3600,ppm, .0110,.0001,1.095, .0111, .0109
Tl1908,190.856 {477},In2306,ppm, .4859,.0140,2.876, .4760, .4958
U_3670,367.007 { 92},Y_3600,ppm, -.0369,.0348,94.32, -.0614, -.0123
V_2924,292.402 {115},Y_3600,ppm, .0109,.0004,3.234, .0112, .0107
W_2397,239.709 {140},Y_2243,ppm, .0535,.0375,70.05, .0270, .0800
Zn2062,206.200 {463},In2306,ppm, .0203,.0003,1.302, .0205, .0201

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 212.97,2.2678,1.0648,211.37,214.58
In2306,230.606 {446},Cts/S, 13554.,37.897,.27960,13581.,13527.
Y_2243,224.306 {450},Cts/S, 18699.,67.549,.36125,18747.,18651.
Y_3600,360.073 { 94},Cts/S, 166790.,550.04,.32977,167180.,166410.
Y_3710,371.030 { 91},Cts/S, 10602.,92.104,.86876,10537.,10667.

[Sample Header]
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Custom ID2=
Custom ID3=
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[Results]
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Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0005,.0004,79.60, .0008, .0002
Al3082,308.215 {109},In2306,ppm, -.0052,.0180,344.6, -.0179, .0075
As1890,189.042 {478},Y_2243,ppm, -.0003,.0033,986.7, .0020, -.0027
B_2496,249.678 {135},Y_3710,ppm, .0024,.0037,152.0, .0050, -.0002
Ba4554,455.403 { 74},Y_3710,ppm, -.0000,.0001,1799., .0001, -.0001
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,31.75, .0001, .0000
Ca3158,315.887 {107},In2306,ppm, -.0020,.0052,264.9, .0017, -.0057
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0000,64.58, -.0001, -.0000
Co2286,228.616 {447},In2306,ppm, -.0001,.0002,109.5, -.0000, -.0003
Cr2677,267.716 {126},Y_3600,ppm, .0003,.0002,57.14, .0002, .0004
Cu3247,324.754 {104},Y_3600,ppm, .0011,.0001,9.708, .0010, .0012
Fe2404,240.488 {140},In2306,ppm, -.0160,.0155,97.34, -.0270, -.0050
K_7664,766.490 { 44},Y_3710,ppm, -.0006,.0056,977.5, .0034, -.0046
Li6707,670.784 { 50},Y_3710,ppm, -.0005,.0003,57.55, -.0003, -.0007
Mg2790,279.079 {121},Y_3710,ppm, -.0341,.0034,9.968, -.0317, -.0365
Mn2576,257.610 {131},Y_3600,ppm, -.0001,.0000,60.55, -.0000, -.0001
Mo2020,202.030 {467},Y_2243,ppm, -.0000,.0001,475.6, .0000, -.0001
Na5895,589.592 { 57},Y_3710,ppm, -.0031,.0041,133.6, -.0002, -.0060
Ni2316,231.604 {445},In2306,ppm, -.0001,.0003,214.7, .0001, -.0003
P_1782,178.284 {489},In2306,ppm, -.0011,.0006,58.91, -.0015, -.0006
Pb2203,220.353 {453},In2306,ppm, .0009,.0008,92.68, .0003, .0015
S_1820,182.034 {485},Y_2243,ppm, -1.899,.0034,.1786, -1.901, -1.896
Sb2068,206.833 {463},Y_2243,ppm, -.0019,.0009,48.35, -.0025, -.0012
Se1960,196.090 {472},Y_2243,ppm, -.0005,.0002,50.39, -.0003, -.0007
Si2516,251.611 {134},Y_3710,ppm, .0066,.0105,159.8, -.0009, .0140
Sn1899,189.989 {477},In2306,ppm, .0012,.0002,15.20, .0011, .0013
Sr4215,421.552 { 80},Y_3710,ppm, .0001,.0001,82.62, .0000, .0002
Ti3349,334.904 {101},Y_3600,ppm, .0001,.0001,232.2, -.0000, .0002
Tl1908,190.856 {477},In2306,ppm, .3289,.0037,1.136, .3263, .3315
U_3670,367.007 { 92},Y_3600,ppm, -.0712,.0402,56.53, -.0427, -.0996
V_2924,292.402 {115},Y_3600,ppm, .0004,.0004,104.4, .0007, .0001
W_2397,239.709 {140},Y_2243,ppm, .0422,.0225,53.42, .0581, .0262
Zn2062,206.200 {463},In2306,ppm, .0011,.0001,4.609, .0012, .0011

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 220.38,7.4226,3.3681,215.13,225.63
In2306,230.606 {446},Cts/S, 13605.,62.944,.46265,13650.,13561.
Y_2243,224.306 {450},Cts/S, 18701.,80.807,.43211,18758.,18643.
Y_3600,360.073 { 94},Cts/S, 167270.,52.102,.03115,167230.,167300.
Y_3710,371.030 { 91},Cts/S, 11009.,355.21,3.2267,10757.,11260.

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SampleName=MB 600-275139/1-B
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Custom ID2=
Custom ID3=
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Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0003,.0002,79.84, .0001, .0005
Al3082,308.215 {109},In2306,ppm, .0135,.0114,84.25, .0216, .0055
As1890,189.042 {478},Y_2243,ppm, -.0009,.0010,118.4, -.0001, -.0016
B_2496,249.678 {135},Y_3710,ppm, .0048,.0000,.6907, .0048, .0047
Ba4554,455.403 { 74},Y_3710,ppm, .0025,.0002,6.082, .0026, .0024
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,456.9, -.0001, .0001
Ca3158,315.887 {107},In2306,ppm, .0587,.0001,.1291, .0587, .0588
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0000,8.191, -.0001, -.0001
Co2286,228.616 {447},In2306,ppm, -.0000,.0000,146.6, .0000, -.0001
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Cr2677,267.716 {126},Y_3600,ppm, -.0000,.0001,346.8, .0000, -.0001
Cu3247,324.754 {104},Y_3600,ppm, .0021,.0003,14.41, .0019, .0024
Fe2404,240.488 {140},In2306,ppm, -.0038,.0062,164.1, -.0082, .0006
K_7664,766.490 { 44},Y_3710,ppm, -.0106,.0080,75.77, -.0049, -.0162
Li6707,670.784 { 50},Y_3710,ppm, -.0021,.0001,2.426, -.0021, -.0021
Mg2790,279.079 {121},Y_3710,ppm, .0026,.0456,1776., -.0297, .0348
Mn2576,257.610 {131},Y_3600,ppm, .0003,.0000,14.47, .0003, .0003
Mo2020,202.030 {467},Y_2243,ppm, -.0001,.0000,38.29, -.0001, -.0001
Na5895,589.592 { 57},Y_3710,ppm, .1210,.0074,6.132, .1263, .1158
Ni2316,231.604 {445},In2306,ppm, -.0003,.0002,60.19, -.0004, -.0002
P_1782,178.284 {489},In2306,ppm, -.0019,.0009,46.56, -.0013, -.0026
Pb2203,220.353 {453},In2306,ppm, .0010,.0016,159.8, -.0001, .0021
S_1820,182.034 {485},Y_2243,ppm, -.0167,.0048,28.87, -.0201, -.0133
Sb2068,206.833 {463},Y_2243,ppm, .0022,.0020,92.22, .0036, .0008
Se1960,196.090 {472},Y_2243,ppm, -.0007,.0009,118.5, -.0013, -.0001
Si2516,251.611 {134},Y_3710,ppm, .0060,.0076,125.7, .0007, .0114
Sn1899,189.989 {477},In2306,ppm, .0008,.0002,30.15, .0006, .0009
Sr4215,421.552 { 80},Y_3710,ppm, .0001,.0001,69.56, .0002, .0001
Ti3349,334.904 {101},Y_3600,ppm, -.0002,.0001,37.03, -.0003, -.0002
Tl1908,190.856 {477},In2306,ppm, .2365,.0068,2.856, .2317, .2413
U_3670,367.007 { 92},Y_3600,ppm, -.2354,.0355,15.07, -.2103, -.2604
V_2924,292.402 {115},Y_3600,ppm, .0001,.0003,333.8, -.0001, .0003
W_2397,239.709 {140},Y_2243,ppm, .0796,.0130,16.32, .0888, .0704
Zn2062,206.200 {463},In2306,ppm, .0153,.0001,.4648, .0154, .0153

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 215.58,1.9351,.89764,216.95,214.21
In2306,230.606 {446},Cts/S, 13763.,56.930,.41363,13804.,13723.
Y_2243,224.306 {450},Cts/S, 18842.,56.016,.29729,18882.,18802.
Y_3600,360.073 { 94},Cts/S, 168580.,146.84,.08710,168480.,168690.
Y_3710,371.030 { 91},Cts/S, 10679.,31.186,.29203,10657.,10701.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2349,.0002,.0656, .2348, .2351
Al3082,308.215 {109},In2306,ppm, 9.749,.1045,1.072, 9.675, 9.822
As1890,189.042 {478},Y_2243,ppm, .9376,.0019,.1988, .9363, .9389
B_2496,249.678 {135},Y_3710,ppm, .4841,.0088,1.822, .4778, .4903
Ba4554,455.403 { 74},Y_3710,ppm, .9474,.0017,.1832, .9486, .9462
Be3130,313.042 {108},Y_3710,ppm, .9182,.0022,.2388, .9198, .9167
Ca3158,315.887 {107},In2306,ppm, 9.760,.0930,.9533, 9.694, 9.825
Cd2288,228.802 {447},Y_2243,ppm, .9280,.0006,.0690, .9276, .9285
Co2286,228.616 {447},In2306,ppm, .9101,.0002,.0260, .9099, .9102
Cr2677,267.716 {126},Y_3600,ppm, .9079,.0012,.1269, .9087, .9071
Cu3247,324.754 {104},Y_3600,ppm, .9245,.0044,.4787, .9276, .9214
Fe2404,240.488 {140},In2306,ppm, 9.772,.0956,.9782, 9.704, 9.840
K_7664,766.490 { 44},Y_3710,ppm, 9.935,.0194,.1951, 9.949, 9.921
Li6707,670.784 { 50},Y_3710,ppm, .9266,.0022,.2347, .9282, .9251
Mg2790,279.079 {121},Y_3710,ppm, 9.891,.0211,.2133, 9.906, 9.876
Mn2576,257.610 {131},Y_3600,ppm, .9279,.0009,.0919, .9285, .9273
Mo2020,202.030 {467},Y_2243,ppm, .9242,.0000,.0008, .9242, .9242
Na5895,589.592 { 57},Y_3710,ppm, 9.974,.0276,.2765, 9.993, 9.954
Ni2316,231.604 {445},In2306,ppm, .9152,.0025,.2682, .9135, .9170
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P_1782,178.284 {489},In2306,ppm, 4.758,.0154,.3227, 4.748, 4.769
Pb2203,220.353 {453},In2306,ppm, .9147,.0065,.7127, .9101, .9193
S_1820,182.034 {485},Y_2243,ppm, 7.022,.0072,.1028, 7.027, 7.017
Sb2068,206.833 {463},Y_2243,ppm, 1.457,.0000,.0033, 1.457, 1.457
Se1960,196.090 {472},Y_2243,ppm, .9297,.0056,.6061, .9257, .9337
Si2516,251.611 {134},Y_3710,ppm, 6.094,.0102,.1667, 6.101, 6.087
Sn1899,189.989 {477},In2306,ppm, .9121,.0024,.2593, .9104, .9137
Sr4215,421.552 { 80},Y_3710,ppm, .9330,.0013,.1434, .9339, .9320
Ti3349,334.904 {101},Y_3600,ppm, .9166,.0016,.1765, .9177, .9154
Tl1908,190.856 {477},In2306,ppm, .5786,.0191,3.301, .5921, .5651
U_3670,367.007 { 92},Y_3600,ppm, .3930,.0030,.7662, .3908, .3951
V_2924,292.402 {115},Y_3600,ppm, .9082,.0000,.0040, .9082, .9082
W_2397,239.709 {140},Y_2243,ppm, .2886,.0764,26.49, .2345, .3426
Zn2062,206.200 {463},In2306,ppm, .4981,.0017,.3351, .4970, .4993

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 211.77,1.1481,.54214,212.58,210.95
In2306,230.606 {446},Cts/S, 13162.,35.697,.27122,13136.,13187.
Y_2243,224.306 {450},Cts/S, 18566.,60.386,.32525,18524.,18609.
Y_3600,360.073 { 94},Cts/S, 165130.,354.93,.21494,164880.,165380.
Y_3710,371.030 { 91},Cts/S, 10696.,65.100,.60866,10650.,10742.

[Sample Header]
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Custom ID2=
Custom ID3=
Run Time=9/24/2019 9:26:13
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0002,.0001,58.45, .0003, .0001
Al3082,308.215 {109},In2306,ppm, .0776,.0022,2.844, .0791, .0760
As1890,189.042 {478},Y_2243,ppm, .0038,.0017,45.13, .0050, .0026
B_2496,249.678 {135},Y_3710,ppm, .1584,.0061,3.832, .1627, .1541
Ba4554,455.403 { 74},Y_3710,ppm, .2285,.0016,.7187, .2273, .2297
Be3130,313.042 {108},Y_3710,ppm, .0002,.0001,29.89, .0003, .0002
Ca3158,315.887 {107},In2306,ppm, 36.67,.0680,.1853, 36.72, 36.62
Cd2288,228.802 {447},Y_2243,ppm, .0003,.0001,38.67, .0004, .0002
Co2286,228.616 {447},In2306,ppm, .0007,.0000,6.817, .0007, .0008
Cr2677,267.716 {126},Y_3600,ppm, .0006,.0001,23.30, .0007, .0005
Cu3247,324.754 {104},Y_3600,ppm, .0034,.0005,13.65, .0038, .0031
Fe2404,240.488 {140},In2306,ppm, .0307,.0142,46.30, .0207, .0408
K_7664,766.490 { 44},Y_3710,ppm, 14.86,.0813,.5474, 14.80, 14.91
Li6707,670.784 { 50},Y_3710,ppm, .0103,.0007,6.571, .0098, .0108
Mg2790,279.079 {121},Y_3710,ppm, 22.34,.0925,.4141, 22.27, 22.41
Mn2576,257.610 {131},Y_3600,ppm, .0656,.0002,.3449, .0658, .0655
Mo2020,202.030 {467},Y_2243,ppm, .0119,.0005,4.515, .0116, .0123
Na5895,589.592 { 57},Y_3710,ppm, 251.7,3.349,1.331, 249.3, 254.1
Ni2316,231.604 {445},In2306,ppm, .0020,.0001,6.235, .0019, .0021
P_1782,178.284 {489},In2306,ppm, .0186,.0003,1.643, .0184, .0188
Pb2203,220.353 {453},In2306,ppm, -.0009,.0003,32.07, -.0007, -.0011
S_1820,182.034 {485},Y_2243,ppm, 9.232,.0741,.8021, 9.180, 9.285
Sb2068,206.833 {463},Y_2243,ppm, .0040,.0016,39.83, .0052, .0029
Se1960,196.090 {472},Y_2243,ppm, -.0032,.0033,100.8, -.0056, -.0009
Si2516,251.611 {134},Y_3710,ppm, 5.506,.0375,.6811, 5.533, 5.480
Sn1899,189.989 {477},In2306,ppm, .0018,.0004,24.03, .0015, .0021
Sr4215,421.552 { 80},Y_3710,ppm, .3384,.0008,.2310, .3378, .3389
Ti3349,334.904 {101},Y_3600,ppm, .0035,.0002,4.511, .0034, .0036
Tl1908,190.856 {477},In2306,ppm, .3331,.0086,2.581, .3271, .3392
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U_3670,367.007 { 92},Y_3600,ppm, -.2102,.0189,8.991, -.1968, -.2235
V_2924,292.402 {115},Y_3600,ppm, .0050,.0006,12.57, .0046, .0055
W_2397,239.709 {140},Y_2243,ppm, .0366,.1012,276.4, .1082, -.0350
Zn2062,206.200 {463},In2306,ppm, .0287,.0001,.3946, .0286, .0287

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 206.49,.22634,.10961,206.65,206.33
In2306,230.606 {446},Cts/S, 11825.,25.754,.21779,11844.,11807.
Y_2243,224.306 {450},Cts/S, 17577.,59.714,.33973,17619.,17535.
Y_3600,360.073 { 94},Cts/S, 157050.,195.36,.12439,157180.,156910.
Y_3710,371.030 { 91},Cts/S, 10410.,59.556,.57210,10452.,10368.

[Sample Header]
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Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/24/2019 9:28:20
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=2

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Ag3280,328.068 {103},Y_3600,ppm, .0002,.0004,228.5, .0005, -.0001
Al3082,308.215 {109},In2306,ppm, .0437,.0090,20.52, .0374, .0501
As1890,189.042 {478},Y_2243,ppm, .0047,.0004,9.007, .0050, .0044
B_2496,249.678 {135},Y_3710,ppm, .1534,.0031,2.021, .1512, .1556
Ba4554,455.403 { 74},Y_3710,ppm, .2226,.0047,2.105, .2192, .2259
Be3130,313.042 {108},Y_3710,ppm, .0000,.0002,1312., -.0001, .0001
Ca3158,315.887 {107},In2306,ppm, 35.60,.8364,2.349, 35.01, 36.20
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0001,95.11, -.0000, -.0002
Co2286,228.616 {447},In2306,ppm, .0007,.0002,34.77, .0005, .0009
Cr2677,267.716 {126},Y_3600,ppm, .0007,.0001,14.69, .0007, .0008
Cu3247,324.754 {104},Y_3600,ppm, .0038,.0009,22.16, .0044, .0032
Fe2404,240.488 {140},In2306,ppm, .0292,.0067,23.03, .0340, .0245
K_7664,766.490 { 44},Y_3710,ppm, 14.48,.4036,2.787, 14.20, 14.77
Li6707,670.784 { 50},Y_3710,ppm, .0106,.0011,10.31, .0099, .0114
Mg2790,279.079 {121},Y_3710,ppm, 21.68,.6057,2.794, 21.25, 22.11
Mn2576,257.610 {131},Y_3600,ppm, .0650,.0002,.2385, .0649, .0651
Mo2020,202.030 {467},Y_2243,ppm, .0083,.0004,5.445, .0079, .0086
Na5895,589.592 { 57},Y_3710,ppm, 239.4,16.24,6.786, 227.9, 250.9
Ni2316,231.604 {445},In2306,ppm, .0021,.0000,.4551, .0021, .0020
P_1782,178.284 {489},In2306,ppm, .0173,.0027,15.77, .0154, .0192
Pb2203,220.353 {453},In2306,ppm, .0006,.0000,6.704, .0006, .0006
S_1820,182.034 {485},Y_2243,ppm, 9.198,.0453,.4924, 9.230, 9.166
Sb2068,206.833 {463},Y_2243,ppm, .0015,.0009,58.44, .0022, .0009
Se1960,196.090 {472},Y_2243,ppm, -.0002,.0026,1175., .0016, -.0020
Si2516,251.611 {134},Y_3710,ppm, 5.991,.1917,3.200, 5.856, 6.127
Sn1899,189.989 {477},In2306,ppm, .0008,.0004,44.02, .0006, .0011
Sr4215,421.552 { 80},Y_3710,ppm, .3313,.0071,2.158, .3263, .3364
Ti3349,334.904 {101},Y_3600,ppm, .0007,.0001,19.30, .0006, .0008
Tl1908,190.856 {477},In2306,ppm, .2731,.0071,2.589, .2681, .2781
U_3670,367.007 { 92},Y_3600,ppm, -.2463,.0175,7.088, -.2586, -.2339
V_2924,292.402 {115},Y_3600,ppm, .0044,.0003,7.713, .0046, .0042
W_2397,239.709 {140},Y_2243,ppm, .0791,.0466,58.92, .0461, .1120
Zn2062,206.200 {463},In2306,ppm, .0258,.0003,1.167, .0260, .0256

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 210.55,4.6585,2.2125,213.85,207.26
In2306,230.606 {446},Cts/S, 11832.,17.770,.15018,11845.,11820.
Y_2243,224.306 {450},Cts/S, 17527.,35.277,.20127,17552.,17502.
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Y_3600,360.073 { 94},Cts/S, 156800.,234.97,.14985,156970.,156640.
Y_3710,371.030 { 91},Cts/S, 10595.,244.21,2.3049,10768.,10422.

[Sample Header]
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Custom ID2=
Custom ID3=
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2548,.0004,.1391, .2546, .2551
Al3082,308.215 {109},In2306,ppm, 10.82,.1777,1.642, 10.94, 10.69
As1890,189.042 {478},Y_2243,ppm, 1.086,.0012,.1063, 1.086, 1.087
B_2496,249.678 {135},Y_3710,ppm, .6632,.0050,.7594, .6667, .6596
Ba4554,455.403 { 74},Y_3710,ppm, 1.265,.0017,.1378, 1.266, 1.263
Be3130,313.042 {108},Y_3710,ppm, 1.031,.0012,.1138, 1.031, 1.030
Ca3158,315.887 {107},In2306,ppm, 47.54,.7817,1.644, 48.09, 46.98
Cd2288,228.802 {447},Y_2243,ppm, 1.052,.0016,.1540, 1.051, 1.053
Co2286,228.616 {447},In2306,ppm, 1.058,.0024,.2298, 1.060, 1.056
Cr2677,267.716 {126},Y_3600,ppm, 1.001,.0021,.2087, 1.002, .9992
Cu3247,324.754 {104},Y_3600,ppm, 1.033,.0039,.3738, 1.030, 1.036
Fe2404,240.488 {140},In2306,ppm, 10.59,.1398,1.321, 10.69, 10.49
K_7664,766.490 { 44},Y_3710,ppm, 25.10,.0634,.2524, 25.14, 25.05
Li6707,670.784 { 50},Y_3710,ppm, 1.027,.0007,.0671, 1.027, 1.028
Mg2790,279.079 {121},Y_3710,ppm, 32.17,.0819,.2546, 32.23, 32.11
Mn2576,257.610 {131},Y_3600,ppm, 1.082,.0017,.1542, 1.084, 1.081
Mo2020,202.030 {467},Y_2243,ppm, 1.043,.0047,.4507, 1.047, 1.040
Na5895,589.592 { 57},Y_3710,ppm, 255.9,1.949,.7614, 257.3, 254.6
Ni2316,231.604 {445},In2306,ppm, 1.064,.0073,.6826, 1.069, 1.059
P_1782,178.284 {489},In2306,ppm, 5.754,.0112,.1951, 5.762, 5.746
Pb2203,220.353 {453},In2306,ppm, 1.043,.0042,.4034, 1.046, 1.040
S_1820,182.034 {485},Y_2243,ppm, 16.90,.0087,.0515, 16.90, 16.89
Sb2068,206.833 {463},Y_2243,ppm, 1.634,.0037,.2262, 1.637, 1.632
Se1960,196.090 {472},Y_2243,ppm, 1.074,.0045,.4166, 1.077, 1.071
Si2516,251.611 {134},Y_3710,ppm, 12.26,.0102,.0833, 12.26, 12.25
Sn1899,189.989 {477},In2306,ppm, 1.063,.0066,.6239, 1.067, 1.058
Sr4215,421.552 { 80},Y_3710,ppm, 1.364,.0009,.0637, 1.364, 1.363
Ti3349,334.904 {101},Y_3600,ppm, 1.032,.0013,.1231, 1.031, 1.032
Tl1908,190.856 {477},In2306,ppm, .6626,.0363,5.475, .6883, .6370
U_3670,367.007 { 92},Y_3600,ppm, .4083,.1112,27.25, .4869, .3296
V_2924,292.402 {115},Y_3600,ppm, 1.022,.0002,.0192, 1.022, 1.021
W_2397,239.709 {140},Y_2243,ppm, .4518,.0358,7.916, .4771, .4265
Zn2062,206.200 {463},In2306,ppm, .5775,.0052,.8925, .5811, .5738

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 202.52,3.1786,1.5695,200.28,204.77
In2306,230.606 {446},Cts/S, 11627.,10.958,.09424,11635.,11620.
Y_2243,224.306 {450},Cts/S, 17596.,36.014,.20468,17621.,17570.
Y_3600,360.073 { 94},Cts/S, 157160.,55.125,.03508,157200.,157120.
Y_3710,371.030 { 91},Cts/S, 10587.,5.1845,.04897,10583.,10590.

[Sample Header]
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Custom ID3=
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2570,.0002,.0786, .2568, .2571
Al3082,308.215 {109},In2306,ppm, 10.73,.0572,.5335, 10.77, 10.69
As1890,189.042 {478},Y_2243,ppm, 1.091,.0066,.6021, 1.086, 1.095
B_2496,249.678 {135},Y_3710,ppm, .6780,.0032,.4708, .6758, .6803
Ba4554,455.403 { 74},Y_3710,ppm, 1.277,.0025,.1925, 1.279, 1.275
Be3130,313.042 {108},Y_3710,ppm, 1.039,.0003,.0253, 1.039, 1.040
Ca3158,315.887 {107},In2306,ppm, 47.18,.6613,1.402, 47.64, 46.71
Cd2288,228.802 {447},Y_2243,ppm, 1.056,.0008,.0739, 1.055, 1.056
Co2286,228.616 {447},In2306,ppm, 1.064,.0001,.0057, 1.064, 1.064
Cr2677,267.716 {126},Y_3600,ppm, 1.000,.0034,.3369, .9977, 1.002
Cu3247,324.754 {104},Y_3600,ppm, 1.039,.0001,.0080, 1.040, 1.039
Fe2404,240.488 {140},In2306,ppm, 10.48,.1427,1.362, 10.58, 10.38
K_7664,766.490 { 44},Y_3710,ppm, 25.24,.0312,.1238, 25.26, 25.22
Li6707,670.784 { 50},Y_3710,ppm, 1.039,.0008,.0780, 1.038, 1.039
Mg2790,279.079 {121},Y_3710,ppm, 32.52,.0540,.1659, 32.56, 32.49
Mn2576,257.610 {131},Y_3600,ppm, 1.087,.0039,.3612, 1.085, 1.090
Mo2020,202.030 {467},Y_2243,ppm, 1.054,.0050,.4788, 1.051, 1.058
Na5895,589.592 { 57},Y_3710,ppm, 259.2,2.622,1.012, 261.0, 257.3
Ni2316,231.604 {445},In2306,ppm, 1.072,.0079,.7415, 1.066, 1.077
P_1782,178.284 {489},In2306,ppm, 5.800,.0203,.3504, 5.786, 5.815
Pb2203,220.353 {453},In2306,ppm, 1.053,.0054,.5135, 1.049, 1.057
S_1820,182.034 {485},Y_2243,ppm, 16.91,.0663,.3920, 16.87, 16.96
Sb2068,206.833 {463},Y_2243,ppm, 1.650,.0011,.0667, 1.650, 1.651
Se1960,196.090 {472},Y_2243,ppm, 1.076,.0087,.8072, 1.070, 1.082
Si2516,251.611 {134},Y_3710,ppm, 13.30,.0026,.0196, 13.30, 13.30
Sn1899,189.989 {477},In2306,ppm, 1.075,.0040,.3677, 1.072, 1.077
Sr4215,421.552 { 80},Y_3710,ppm, 1.379,.0004,.0256, 1.379, 1.379
Ti3349,334.904 {101},Y_3600,ppm, 1.039,.0043,.4187, 1.036, 1.042
Tl1908,190.856 {477},In2306,ppm, .9020,.0166,1.841, .9138, .8903
U_3670,367.007 { 92},Y_3600,ppm, .4017,.0416,10.36, .3722, .4311
V_2924,292.402 {115},Y_3600,ppm, 1.025,.0029,.2827, 1.023, 1.027
W_2397,239.709 {140},Y_2243,ppm, .5364,.0406,7.573, .5077, .5651
Zn2062,206.200 {463},In2306,ppm, .5811,.0016,.2753, .5800, .5822

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 205.93,3.2304,1.5687,203.65,208.22
In2306,230.606 {446},Cts/S, 11656.,6.3005,.05405,11660.,11651.
Y_2243,224.306 {450},Cts/S, 17669.,21.323,.12068,17684.,17653.
Y_3600,360.073 { 94},Cts/S, 157010.,1300.4,.82824,157930.,156090.
Y_3710,371.030 { 91},Cts/S, 10542.,78.805,.74754,10486.,10598.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0002,.0001,54.26, .0003, .0001
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Al3082,308.215 {109},In2306,ppm, .0348,.0004,1.013, .0345, .0350
As1890,189.042 {478},Y_2243,ppm, .0361,.0044,12.10, .0330, .0392
B_2496,249.678 {135},Y_3710,ppm, 1.064,.0137,1.289, 1.074, 1.055
Ba4554,455.403 { 74},Y_3710,ppm, 1.868,.0060,.3200, 1.873, 1.864
Be3130,313.042 {108},Y_3710,ppm, .0002,.0000,3.660, .0002, .0002
Ca3158,315.887 {107},In2306,ppm, 238.9,1.136,.4755, 239.7, 238.0
Cd2288,228.802 {447},Y_2243,ppm, .0005,.0000,5.714, .0005, .0005
Co2286,228.616 {447},In2306,ppm, .0064,.0003,4.245, .0066, .0062
Cr2677,267.716 {126},Y_3600,ppm, .0012,.0000,1.537, .0012, .0012
Cu3247,324.754 {104},Y_3600,ppm, .0031,.0003,9.674, .0029, .0033
Fe2404,240.488 {140},In2306,ppm, .1021,.0020,1.911, .1035, .1007
K_7664,766.490 { 44},Y_3710,ppm, 26.95,.1002,.3718, 27.02, 26.88
Li6707,670.784 { 50},Y_3710,ppm, .0306,.0007,2.325, .0301, .0311
Mg2790,279.079 {121},Y_3710,ppm, 247.8,.9001,.3632, 248.5, 247.2
Mn2576,257.610 {131},Y_3600,ppm, 2.548,.1158,4.544, 2.466, 2.630
Mo2020,202.030 {467},Y_2243,ppm, .0113,.0005,4.035, .0109, .0116
Na5895,589.592 { 57},Y_3710,ppm, 2230.,10.98,.4925, 2238., 2222.
Ni2316,231.604 {445},In2306,ppm, .0050,.0002,4.867, .0051, .0048
P_1782,178.284 {489},In2306,ppm, .0476,.0019,3.910, .0463, .0489
Pb2203,220.353 {453},In2306,ppm, -.0019,.0021,108.5, -.0005, -.0034
S_1820,182.034 {485},Y_2243,ppm, 6.563,.0117,.1788, 6.571, 6.555
Sb2068,206.833 {463},Y_2243,ppm, .0021,.0007,33.06, .0026, .0016
Se1960,196.090 {472},Y_2243,ppm, -.0026,.0025,96.43, -.0043, -.0008
Si2516,251.611 {134},Y_3710,ppm, 16.84,.3539,2.101, 17.09, 16.59
Sn1899,189.989 {477},In2306,ppm, .0023,.0002,6.485, .0024, .0022
Sr4215,421.552 { 80},Y_3710,ppm, 2.433,.0077,.3181, 2.439, 2.428
Ti3349,334.904 {101},Y_3600,ppm, .0023,.0002,9.756, .0021, .0024
Tl1908,190.856 {477},In2306,ppm, .5029,.0022,.4323, .5013, .5044
U_3670,367.007 { 92},Y_3600,ppm, .0130,.2449,1882., -.1601, .1862
V_2924,292.402 {115},Y_3600,ppm, -.0026,.0011,43.97, -.0018, -.0034
W_2397,239.709 {140},Y_2243,ppm, .1153,.0422,36.58, .1452, .0855
Zn2062,206.200 {463},In2306,ppm, .0259,.0004,1.504, .0262, .0256

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 188.74,.55268,.29282,188.35,189.13
In2306,230.606 {446},Cts/S, 9297.3,10.093,.10856,9290.1,9304.4
Y_2243,224.306 {450},Cts/S, 15215.,16.480,.10832,15203.,15226.
Y_3600,360.073 { 94},Cts/S, 138520.,4997.6,3.6078,142060.,134990.
Y_3710,371.030 { 91},Cts/S, 9847.1,13.758,.13972,9837.4,9856.9

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0004,315.1, .0002, -.0004
Al3082,308.215 {109},In2306,ppm, .1022,.0110,10.78, .0944, .1100
As1890,189.042 {478},Y_2243,ppm, .0053,.0005,8.918, .0056, .0050
B_2496,249.678 {135},Y_3710,ppm, .1200,.0061,5.085, .1157, .1243
Ba4554,455.403 { 74},Y_3710,ppm, .1537,.0024,1.582, .1519, .1554
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,972.7, -.0000, .0000
Ca3158,315.887 {107},In2306,ppm, 28.61,.0524,.1832, 28.65, 28.57
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0002,2308., .0001, -.0001
Co2286,228.616 {447},In2306,ppm, .0003,.0000,8.374, .0003, .0003
Cr2677,267.716 {126},Y_3600,ppm, .0005,.0000,6.464, .0005, .0005
Cu3247,324.754 {104},Y_3600,ppm, .0036,.0002,6.861, .0038, .0034
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Fe2404,240.488 {140},In2306,ppm, .0559,.0219,39.08, .0714, .0405
K_7664,766.490 { 44},Y_3710,ppm, 6.564,.0962,1.465, 6.496, 6.632
Li6707,670.784 { 50},Y_3710,ppm, .0111,.0018,16.03, .0098, .0123
Mg2790,279.079 {121},Y_3710,ppm, 13.41,.2500,1.865, 13.23, 13.58
Mn2576,257.610 {131},Y_3600,ppm, .0695,.0005,.6808, .0692, .0698
Mo2020,202.030 {467},Y_2243,ppm, .0048,.0005,10.27, .0045, .0052
Na5895,589.592 { 57},Y_3710,ppm, 119.9,1.470,1.226, 118.9, 120.9
Ni2316,231.604 {445},In2306,ppm, .0003,.0004,117.7, .0001, .0006
P_1782,178.284 {489},In2306,ppm, .0498,.0021,4.227, .0513, .0483
Pb2203,220.353 {453},In2306,ppm, .0004,.0018,405.8, -.0008, .0017
S_1820,182.034 {485},Y_2243,ppm, 4.005,.0055,.1366, 4.001, 4.009
Sb2068,206.833 {463},Y_2243,ppm, -.0011,.0002,19.50, -.0009, -.0012
Se1960,196.090 {472},Y_2243,ppm, .0003,.0002,71.70, .0001, .0004
Si2516,251.611 {134},Y_3710,ppm, 6.976,.0638,.9149, 6.930, 7.021
Sn1899,189.989 {477},In2306,ppm, .0015,.0001,5.615, .0015, .0016
Sr4215,421.552 { 80},Y_3710,ppm, .2527,.0038,1.501, .2501, .2554
Ti3349,334.904 {101},Y_3600,ppm, .0013,.0005,34.03, .0016, .0010
Tl1908,190.856 {477},In2306,ppm, .3603,.0164,4.544, .3487, .3719
U_3670,367.007 { 92},Y_3600,ppm, -.1935,.1003,51.82, -.2643, -.1226
V_2924,292.402 {115},Y_3600,ppm, .0091,.0001,1.362, .0092, .0090
W_2397,239.709 {140},Y_2243,ppm, .0254,.1058,416.7, .1002, -.0494
Zn2062,206.200 {463},In2306,ppm, .0330,.0000,.1453, .0330, .0330

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 212.63,1.0404,.48930,211.90,213.37
In2306,230.606 {446},Cts/S, 12403.,26.876,.21669,12384.,12422.
Y_2243,224.306 {450},Cts/S, 17931.,.95947,.00535,17931.,17932.
Y_3600,360.073 { 94},Cts/S, 161270.,937.44,.58128,161930.,160610.
Y_3710,371.030 { 91},Cts/S, 10711.,158.20,1.4770,10823.,10599.

[Sample Header]
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Sample Type=Unk
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CorrFactor=1.000
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0001,.0002,245.3, .0003, -.0001
Al3082,308.215 {109},In2306,ppm, -.0050,.0005,10.57, -.0046, -.0053
As1890,189.042 {478},Y_2243,ppm, -.0007,.0005,69.01, -.0010, -.0003
B_2496,249.678 {135},Y_3710,ppm, .0086,.0095,110.4, .0019, .0153
Ba4554,455.403 { 74},Y_3710,ppm, .0026,.0003,11.17, .0024, .0028
Be3130,313.042 {108},Y_3710,ppm, .0002,.0001,43.39, .0001, .0002
Ca3158,315.887 {107},In2306,ppm, .4035,.0109,2.698, .4112, .3958
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0000,2.474, -.0001, -.0001
Co2286,228.616 {447},In2306,ppm, -.0003,.0000,2.500, -.0003, -.0003
Cr2677,267.716 {126},Y_3600,ppm, .0002,.0002,88.42, .0003, .0001
Cu3247,324.754 {104},Y_3600,ppm, .0026,.0001,4.304, .0027, .0025
Fe2404,240.488 {140},In2306,ppm, -.0133,.0013,10.10, -.0123, -.0142
K_7664,766.490 { 44},Y_3710,ppm, .1702,.0197,11.58, .1842, .1563
Li6707,670.784 { 50},Y_3710,ppm, -.0014,.0003,17.74, -.0016, -.0013
Mg2790,279.079 {121},Y_3710,ppm, .2397,.0158,6.610, .2285, .2509
Mn2576,257.610 {131},Y_3600,ppm, .0007,.0000,2.817, .0007, .0007
Mo2020,202.030 {467},Y_2243,ppm, .0005,.0003,58.24, .0003, .0008
Na5895,589.592 { 57},Y_3710,ppm, 2.954,.0166,.5625, 2.942, 2.966
Ni2316,231.604 {445},In2306,ppm, .0001,.0001,74.01, .0002, .0001
P_1782,178.284 {489},In2306,ppm, .0052,.0000,.7470, .0052, .0052
Pb2203,220.353 {453},In2306,ppm, .0003,.0004,121.6, .0006, .0000
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S_1820,182.034 {485},Y_2243,ppm, -2.033,.0149,.7349, -2.022, -2.043
Sb2068,206.833 {463},Y_2243,ppm, -.0002,.0009,491.2, -.0009, .0005
Se1960,196.090 {472},Y_2243,ppm, -.0069,.0008,11.59, -.0063, -.0074
Si2516,251.611 {134},Y_3710,ppm, .0822,.0123,14.97, .0735, .0909
Sn1899,189.989 {477},In2306,ppm, .0001,.0003,251.5, -.0001, .0004
Sr4215,421.552 { 80},Y_3710,ppm, .0040,.0000,.4147, .0040, .0040
Ti3349,334.904 {101},Y_3600,ppm, -.0002,.0003,186.1, .0001, -.0004
Tl1908,190.856 {477},In2306,ppm, .2564,.0072,2.789, .2514, .2615
U_3670,367.007 { 92},Y_3600,ppm, -.1254,.0823,65.57, -.1836, -.0673
V_2924,292.402 {115},Y_3600,ppm, .0000,.0001,247.9, .0001, -.0000
W_2397,239.709 {140},Y_2243,ppm, .0329,.0898,272.8, -.0306, .0964
Zn2062,206.200 {463},In2306,ppm, -.0000,.0000,74.46, -.0000, -.0001

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 218.17,.50918,.23338,218.53,217.81
In2306,230.606 {446},Cts/S, 13606.,78.161,.57444,13551.,13662.
Y_2243,224.306 {450},Cts/S, 18559.,117.19,.63144,18477.,18642.
Y_3600,360.073 { 94},Cts/S, 166840.,587.66,.35222,166430.,167260.
Y_3710,371.030 { 91},Cts/S, 10831.,62.009,.57250,10875.,10787.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0000,.0005,926.1, -.0003, .0004
Al3082,308.215 {109},In2306,ppm, .0008,.0014,178.9, .0018, -.0002
As1890,189.042 {478},Y_2243,ppm, .0013,.0020,151.7, .0028, -.0001
B_2496,249.678 {135},Y_3710,ppm, .0166,.0012,7.167, .0157, .0174
Ba4554,455.403 { 74},Y_3710,ppm, .0212,.0003,1.256, .0210, .0214
Be3130,313.042 {108},Y_3710,ppm, .0000,.0000,33.26, .0000, .0000
Ca3158,315.887 {107},In2306,ppm, 2.696,.0036,.1351, 2.699, 2.694
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0000,27.44, -.0001, -.0001
Co2286,228.616 {447},In2306,ppm, .0000,.0002,389.6, .0002, -.0001
Cr2677,267.716 {126},Y_3600,ppm, -.0000,.0001,602.4, .0001, -.0001
Cu3247,324.754 {104},Y_3600,ppm, .0041,.0000,.9922, .0041, .0041
Fe2404,240.488 {140},In2306,ppm, -.0064,.0043,67.18, -.0095, -.0034
K_7664,766.490 { 44},Y_3710,ppm, .2941,.0107,3.630, .2865, .3016
Li6707,670.784 { 50},Y_3710,ppm, -.0023,.0007,32.42, -.0028, -.0018
Mg2790,279.079 {121},Y_3710,ppm, 2.742,.0501,1.826, 2.777, 2.706
Mn2576,257.610 {131},Y_3600,ppm, .0306,.0000,.0370, .0306, .0306
Mo2020,202.030 {467},Y_2243,ppm, .0003,.0000,.6870, .0003, .0004
Na5895,589.592 { 57},Y_3710,ppm, 26.20,.1191,.4544, 26.12, 26.29
Ni2316,231.604 {445},In2306,ppm, .0002,.0002,67.94, .0001, .0003
P_1782,178.284 {489},In2306,ppm, .0031,.0018,57.18, .0018, .0043
Pb2203,220.353 {453},In2306,ppm, -.0002,.0010,593.2, -.0009, .0006
S_1820,182.034 {485},Y_2243,ppm, -2.059,.0010,.0479, -2.060, -2.059
Sb2068,206.833 {463},Y_2243,ppm, .0003,.0010,299.8, .0011, -.0004
Se1960,196.090 {472},Y_2243,ppm, -.0017,.0011,65.38, -.0025, -.0009
Si2516,251.611 {134},Y_3710,ppm, .1925,.0044,2.278, .1894, .1956
Sn1899,189.989 {477},In2306,ppm, .0009,.0004,41.34, .0006, .0011
Sr4215,421.552 { 80},Y_3710,ppm, .0281,.0000,.1118, .0282, .0281
Ti3349,334.904 {101},Y_3600,ppm, -.0006,.0000,1.135, -.0006, -.0006
Tl1908,190.856 {477},In2306,ppm, .1883,.0125,6.663, .1795, .1972
U_3670,367.007 { 92},Y_3600,ppm, -.1515,.0545,35.95, -.1900, -.1130
V_2924,292.402 {115},Y_3600,ppm, .0000,.0001,722.9, .0001, -.0001
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W_2397,239.709 {140},Y_2243,ppm, .0451,.0264,58.65, .0264, .0637
Zn2062,206.200 {463},In2306,ppm, .0001,.0001,52.36, .0001, .0001

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 213.27,.15540,.07287,213.16,213.38
In2306,230.606 {446},Cts/S, 13219.,29.785,.22533,13198.,13240.
Y_2243,224.306 {450},Cts/S, 18360.,49.255,.26827,18326.,18395.
Y_3600,360.073 { 94},Cts/S, 165150.,347.35,.21032,164900.,165400.
Y_3710,371.030 { 91},Cts/S, 10611.,63.988,.60305,10656.,10566.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .5005,.0006,.1167, .5001, .5009
Al3082,308.215 {109},In2306,ppm, 19.86,.0076,.0384, 19.85, 19.86
As1890,189.042 {478},Y_2243,ppm, 1.012,.0086,.8512, 1.006, 1.019
B_2496,249.678 {135},Y_3710,ppm, .9745,.0046,.4682, .9777, .9713
Ba4554,455.403 { 74},Y_3710,ppm, 1.003,.0047,.4690, .9997, 1.006
Be3130,313.042 {108},Y_3710,ppm, .9690,.0032,.3278, .9668, .9713
Ca3158,315.887 {107},In2306,ppm, 19.64,.0498,.2536, 19.68, 19.61
Cd2288,228.802 {447},Y_2243,ppm, .9964,.0007,.0690, .9959, .9969
Co2286,228.616 {447},In2306,ppm, .9854,.0001,.0132, .9853, .9855
Cr2677,267.716 {126},Y_3600,ppm, .9647,.0018,.1913, .9634, .9660
Cu3247,324.754 {104},Y_3600,ppm, .9902,.0007,.0686, .9906, .9897
Fe2404,240.488 {140},In2306,ppm, 19.75,.0233,.1180, 19.76, 19.73
K_7664,766.490 { 44},Y_3710,ppm, 19.89,.0002,.0012, 19.89, 19.89
Li6707,670.784 { 50},Y_3710,ppm, .9806,.0067,.6796, .9759, .9853
Mg2790,279.079 {121},Y_3710,ppm, 19.68,.1843,.9366, 19.55, 19.81
Mn2576,257.610 {131},Y_3600,ppm, .9900,.0012,.1181, .9892, .9908
Mo2020,202.030 {467},Y_2243,ppm, 1.001,.0027,.2696, .9986, 1.002
Na5895,589.592 { 57},Y_3710,ppm, 19.73,.0553,.2801, 19.69, 19.77
Ni2316,231.604 {445},In2306,ppm, .9914,.0025,.2556, .9896, .9932
P_1782,178.284 {489},In2306,ppm, 10.18,.0281,.2757, 10.16, 10.19
Pb2203,220.353 {453},In2306,ppm, .9893,.0018,.1861, .9880, .9906
S_1820,182.034 {485},Y_2243,ppm, 10.96,.0198,.1807, 10.95, 10.98
Sb2068,206.833 {463},Y_2243,ppm, 2.103,.0115,.5477, 2.095, 2.111
Se1960,196.090 {472},Y_2243,ppm, 1.007,.0064,.6384, 1.003, 1.012
Si2516,251.611 {134},Y_3710,ppm, 8.853,.1351,1.526, 8.757, 8.948
Sn1899,189.989 {477},In2306,ppm, .9910,.0057,.5707, .9870, .9950
Sr4215,421.552 { 80},Y_3710,ppm, .9929,.0052,.5202, .9892, .9965
Ti3349,334.904 {101},Y_3600,ppm, .9881,.0001,.0051, .9880, .9881
Tl1908,190.856 {477},In2306,ppm, .6449,.0174,2.702, .6572, .6326
U_3670,367.007 { 92},Y_3600,ppm, .9282,.0430,4.631, .9586, .8978
V_2924,292.402 {115},Y_3600,ppm, .9739,.0002,.0225, .9738, .9741
W_2397,239.709 {140},Y_2243,ppm, 1.549,.0669,4.318, 1.501, 1.596
Zn2062,206.200 {463},In2306,ppm, .9829,.0022,.2245, .9814, .9845

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 209.25,1.6391,.78331,208.09,210.41
In2306,230.606 {446},Cts/S, 12706.,.70955,.00558,12706.,12707.
Y_2243,224.306 {450},Cts/S, 18244.,4.4017,.02413,18247.,18241.
Y_3600,360.073 { 94},Cts/S, 162920.,194.34,.11929,162780.,163060.
Y_3710,371.030 { 91},Cts/S, 10687.,4.5481,.04256,10684.,10690.
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0087,.0005,5.685, .0091, .0084
Al3082,308.215 {109},In2306,ppm, .1747,.0226,12.93, .1907, .1587
As1890,189.042 {478},Y_2243,ppm, .0223,.0005,2.165, .0220, .0226
B_2496,249.678 {135},Y_3710,ppm, .2175,.0029,1.337, .2155, .2196
Ba4554,455.403 { 74},Y_3710,ppm, .0222,.0000,.0755, .0222, .0222
Be3130,313.042 {108},Y_3710,ppm, .0112,.0001,1.088, .0111, .0113
Ca3158,315.887 {107},In2306,ppm, 1.018,.0219,2.149, 1.003, 1.034
Cd2288,228.802 {447},Y_2243,ppm, .0108,.0000,.3498, .0108, .0109
Co2286,228.616 {447},In2306,ppm, .0105,.0002,1.506, .0104, .0107
Cr2677,267.716 {126},Y_3600,ppm, .0107,.0002,2.265, .0105, .0109
Cu3247,324.754 {104},Y_3600,ppm, .0137,.0002,1.619, .0135, .0138
Fe2404,240.488 {140},In2306,ppm, .1857,.0024,1.271, .1841, .1874
K_7664,766.490 { 44},Y_3710,ppm, 1.015,.0244,2.404, .9977, 1.032
Li6707,670.784 { 50},Y_3710,ppm, .0081,.0003,3.324, .0079, .0082
Mg2790,279.079 {121},Y_3710,ppm, 1.032,.0333,3.222, 1.056, 1.009
Mn2576,257.610 {131},Y_3600,ppm, .0110,.0000,.0127, .0110, .0110
Mo2020,202.030 {467},Y_2243,ppm, .0228,.0004,1.589, .0225, .0230
Na5895,589.592 { 57},Y_3710,ppm, 1.056,.0013,.1187, 1.055, 1.056
Ni2316,231.604 {445},In2306,ppm, .0105,.0001,.8942, .0104, .0105
P_1782,178.284 {489},In2306,ppm, .9507,.0030,.3207, .9485, .9528
Pb2203,220.353 {453},In2306,ppm, .0109,.0009,8.284, .0116, .0103
S_1820,182.034 {485},Y_2243,ppm, -2.861,.0107,.3729, -2.854, -2.869
Sb2068,206.833 {463},Y_2243,ppm, .0539,.0032,5.970, .0516, .0562
Se1960,196.090 {472},Y_2243,ppm, .0218,.0011,5.201, .0226, .0210
Si2516,251.611 {134},Y_3710,ppm, .1740,.0065,3.728, .1694, .1786
Sn1899,189.989 {477},In2306,ppm, .0223,.0005,2.038, .0226, .0220
Sr4215,421.552 { 80},Y_3710,ppm, .0111,.0001,1.176, .0112, .0111
Ti3349,334.904 {101},Y_3600,ppm, .0107,.0001,.8325, .0108, .0107
Tl1908,190.856 {477},In2306,ppm, .2357,.0049,2.084, .2322, .2391
U_3670,367.007 { 92},Y_3600,ppm, -.0732,.1051,143.6, -.1475, .0011
V_2924,292.402 {115},Y_3600,ppm, .0106,.0001,.6998, .0107, .0106
W_2397,239.709 {140},Y_2243,ppm, .1014,.0104,10.27, .0940, .1088
Zn2062,206.200 {463},In2306,ppm, .0190,.0001,.4612, .0190, .0189

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 213.43,2.2352,1.0473,215.01,211.85
In2306,230.606 {446},Cts/S, 13627.,34.357,.25213,13651.,13603.
Y_2243,224.306 {450},Cts/S, 18596.,29.630,.15934,18617.,18575.
Y_3600,360.073 { 94},Cts/S, 167170.,263.65,.15772,166980.,167360.
Y_3710,371.030 { 91},Cts/S, 10593.,41.623,.39292,10564.,10623.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0000,.0001,2084., -.0001, .0001
Al3082,308.215 {109},In2306,ppm, -.0143,.0022,15.37, -.0159, -.0128
As1890,189.042 {478},Y_2243,ppm, -.0020,.0019,98.58, -.0006, -.0033
B_2496,249.678 {135},Y_3710,ppm, .0036,.0004,11.26, .0033, .0039
Ba4554,455.403 { 74},Y_3710,ppm, .0000,.0001,222.1, -.0000, .0001
Be3130,313.042 {108},Y_3710,ppm, .0001,.0000,47.09, .0001, .0001
Ca3158,315.887 {107},In2306,ppm, -.0107,.0021,19.91, -.0092, -.0122
Cd2288,228.802 {447},Y_2243,ppm, -.0003,.0001,43.29, -.0003, -.0002
Co2286,228.616 {447},In2306,ppm, -.0003,.0001,22.32, -.0002, -.0003
Cr2677,267.716 {126},Y_3600,ppm, .0002,.0004,211.4, -.0001, .0005
Cu3247,324.754 {104},Y_3600,ppm, .0025,.0008,33.04, .0019, .0031
Fe2404,240.488 {140},In2306,ppm, -.0065,.0080,124.0, -.0008, -.0122
K_7664,766.490 { 44},Y_3710,ppm, -.0053,.0031,57.89, -.0032, -.0075
Li6707,670.784 { 50},Y_3710,ppm, -.0020,.0003,16.71, -.0022, -.0018
Mg2790,279.079 {121},Y_3710,ppm, .0065,.0073,111.5, .0014, .0117
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0001,137.5, -.0000, -.0001
Mo2020,202.030 {467},Y_2243,ppm, -.0000,.0001,626.9, -.0001, .0001
Na5895,589.592 { 57},Y_3710,ppm, .0103,.0058,56.34, .0144, .0062
Ni2316,231.604 {445},In2306,ppm, .0001,.0001,166.8, -.0000, .0001
P_1782,178.284 {489},In2306,ppm, .0003,.0012,346.8, .0012, -.0005
Pb2203,220.353 {453},In2306,ppm, -.0008,.0013,160.6, -.0017, .0001
S_1820,182.034 {485},Y_2243,ppm, -1.386,.0042,.3016, -1.389, -1.383
Sb2068,206.833 {463},Y_2243,ppm, .0004,.0000,5.996, .0004, .0004
Se1960,196.090 {472},Y_2243,ppm, -.0023,.0000,1.593, -.0023, -.0024
Si2516,251.611 {134},Y_3710,ppm, .0096,.0032,33.33, .0119, .0073
Sn1899,189.989 {477},In2306,ppm, .0002,.0002,96.27, .0003, .0001
Sr4215,421.552 { 80},Y_3710,ppm, -.0000,.0001,1188., .0001, -.0001
Ti3349,334.904 {101},Y_3600,ppm, -.0000,.0002,3687., -.0001, .0001
Tl1908,190.856 {477},In2306,ppm, .1614,.0032,1.963, .1592, .1637
U_3670,367.007 { 92},Y_3600,ppm, -.2155,.1146,53.20, -.2965, -.1344
V_2924,292.402 {115},Y_3600,ppm, .0004,.0001,21.25, .0003, .0004
W_2397,239.709 {140},Y_2243,ppm, -.0524,.0623,119.0, -.0965, -.0083
Zn2062,206.200 {463},In2306,ppm, .0003,.0001,17.20, .0003, .0003

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 215.97,2.1105,.97722,217.46,214.48
In2306,230.606 {446},Cts/S, 13616.,5.9749,.04388,13620.,13612.
Y_2243,224.306 {450},Cts/S, 18588.,8.4649,.04554,18594.,18582.
Y_3600,360.073 { 94},Cts/S, 166050.,2901.2,1.7472,164000.,168100.
Y_3710,371.030 { 91},Cts/S, 10690.,3.4814,.03257,10688.,10693.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0000,8.523, -.0001, -.0001
Al3082,308.215 {109},In2306,ppm, -.0052,.0345,664.0, -.0296, .0192
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As1890,189.042 {478},Y_2243,ppm, -.0021,.0000,1.335, -.0021, -.0021
B_2496,249.678 {135},Y_3710,ppm, -.0002,.0081,3362., -.0060, .0055
Ba4554,455.403 { 74},Y_3710,ppm, .0018,.0000,.9067, .0018, .0018
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,94.61, .0000, .0001
Ca3158,315.887 {107},In2306,ppm, .0066,.0074,112.3, .0014, .0119
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0001,107.4, -.0000, -.0002
Co2286,228.616 {447},In2306,ppm, -.0003,.0000,2.949, -.0003, -.0003
Cr2677,267.716 {126},Y_3600,ppm, .0001,.0003,224.3, .0003, -.0001
Cu3247,324.754 {104},Y_3600,ppm, .0040,.0000,.4772, .0040, .0040
Fe2404,240.488 {140},In2306,ppm, .0036,.0015,41.82, .0047, .0025
K_7664,766.490 { 44},Y_3710,ppm, -.0332,.0160,48.35, -.0218, -.0445
Li6707,670.784 { 50},Y_3710,ppm, -.0030,.0005,15.96, -.0033, -.0027
Mg2790,279.079 {121},Y_3710,ppm, .0044,.0766,1743., .0586, -.0498
Mn2576,257.610 {131},Y_3600,ppm, .0000,.0001,217.4, .0001, -.0000
Mo2020,202.030 {467},Y_2243,ppm, .0001,.0003,408.7, -.0001, .0003
Na5895,589.592 { 57},Y_3710,ppm, .0166,.0030,17.92, .0145, .0187
Ni2316,231.604 {445},In2306,ppm, .0001,.0002,120.5, .0002, .0000
P_1782,178.284 {489},In2306,ppm, .0003,.0008,248.6, .0009, -.0002
Pb2203,220.353 {453},In2306,ppm, .0005,.0018,348.3, .0018, -.0008
S_1820,182.034 {485},Y_2243,ppm, -.0807,.1187,147.0, -.1646, .0032
Sb2068,206.833 {463},Y_2243,ppm, .0001,.0008,541.0, -.0004, .0007
Se1960,196.090 {472},Y_2243,ppm, -.0022,.0002,9.703, -.0023, -.0020
Si2516,251.611 {134},Y_3710,ppm, .0086,.0096,111.0, .0019, .0154
Sn1899,189.989 {477},In2306,ppm, .0006,.0001,25.66, .0005, .0007
Sr4215,421.552 { 80},Y_3710,ppm, .0002,.0002,99.28, .0003, .0001
Ti3349,334.904 {101},Y_3600,ppm, -.0001,.0003,457.1, -.0003, .0002
Tl1908,190.856 {477},In2306,ppm, .1118,.0074,6.666, .1065, .1170
U_3670,367.007 { 92},Y_3600,ppm, -.2064,.0348,16.86, -.2310, -.1818
V_2924,292.402 {115},Y_3600,ppm, .0001,.0002,143.7, -.0000, .0002
W_2397,239.709 {140},Y_2243,ppm, -.0582,.1081,185.8, .0183, -.1346
Zn2062,206.200 {463},In2306,ppm, .0061,.0001,2.398, .0060, .0062

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 217.59,1.3345,.61333,216.65,218.53
In2306,230.606 {446},Cts/S, 13466.,400.23,2.9722,13749.,13183.
Y_2243,224.306 {450},Cts/S, 18265.,562.29,3.0786,18662.,17867.
Y_3600,360.073 { 94},Cts/S, 167630.,49.885,.02976,167670.,167600.
Y_3710,371.030 { 91},Cts/S, 10787.,67.726,.62782,10740.,10835.

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Custom ID2=
Custom ID3=
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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .2502,.0009,.3441, .2508, .2495
Al3082,308.215 {109},In2306,ppm, 10.05,.8607,8.568, 9.437, 10.65
As1890,189.042 {478},Y_2243,ppm, 1.041,.0003,.0329, 1.041, 1.042
B_2496,249.678 {135},Y_3710,ppm, .4913,.0305,6.209, .4697, .5128
Ba4554,455.403 { 74},Y_3710,ppm, .9964,.0755,7.576, .9430, 1.050
Be3130,313.042 {108},Y_3710,ppm, .9645,.0711,7.370, .9143, 1.015
Ca3158,315.887 {107},In2306,ppm, 9.992,.6867,6.872, 9.506, 10.48
Cd2288,228.802 {447},Y_2243,ppm, 1.021,.0001,.0055, 1.021, 1.021
Co2286,228.616 {447},In2306,ppm, .9928,.0010,.0976, .9935, .9921
Cr2677,267.716 {126},Y_3600,ppm, .9818,.0009,.0886, .9812, .9824
Cu3247,324.754 {104},Y_3600,ppm, 1.009,.0017,.1678, 1.010, 1.008
Fe2404,240.488 {140},In2306,ppm, 10.07,.7889,7.837, 9.509, 10.62
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K_7664,766.490 { 44},Y_3710,ppm, 10.19,.7473,7.331, 9.666, 10.72
Li6707,670.784 { 50},Y_3710,ppm, .9733,.0750,7.706, .9202, 1.026
Mg2790,279.079 {121},Y_3710,ppm, 10.07,.7559,7.509, 9.532, 10.60
Mn2576,257.610 {131},Y_3600,ppm, 1.017,.0006,.0625, 1.016, 1.017
Mo2020,202.030 {467},Y_2243,ppm, 1.025,.0003,.0258, 1.025, 1.025
Na5895,589.592 { 57},Y_3710,ppm, 10.03,.7387,7.363, 9.511, 10.56
Ni2316,231.604 {445},In2306,ppm, 1.003,.0009,.0918, 1.004, 1.002
P_1782,178.284 {489},In2306,ppm, 5.114,.0123,.2398, 5.122, 5.105
Pb2203,220.353 {453},In2306,ppm, 1.002,.0043,.4273, 1.005, .9988
S_1820,182.034 {485},Y_2243,ppm, 7.339,.0058,.0792, 7.343, 7.335
Sb2068,206.833 {463},Y_2243,ppm, 1.619,.0010,.0637, 1.620, 1.619
Se1960,196.090 {472},Y_2243,ppm, 1.029,.0005,.0439, 1.029, 1.029
Si2516,251.611 {134},Y_3710,ppm, 7.805,.6398,8.198, 7.353, 8.257
Sn1899,189.989 {477},In2306,ppm, 1.001,.0002,.0198, 1.001, 1.001
Sr4215,421.552 { 80},Y_3710,ppm, .9815,.0751,7.647, .9284, 1.035
Ti3349,334.904 {101},Y_3600,ppm, 1.007,.0003,.0296, 1.008, 1.007
Tl1908,190.856 {477},In2306,ppm, .5279,.0311,5.888, .5499, .5059
U_3670,367.007 { 92},Y_3600,ppm, .4084,.0355,8.702, .4336, .3833
V_2924,292.402 {115},Y_3600,ppm, .9907,.0004,.0406, .9910, .9904
W_2397,239.709 {140},Y_2243,ppm, .3750,.1484,39.56, .2701, .4799
Zn2062,206.200 {463},In2306,ppm, .5079,.0019,.3695, .5092, .5065

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 216.17,12.514,5.7890,225.02,207.32
In2306,230.606 {446},Cts/S, 13065.,4.8560,.03717,13069.,13062.
Y_2243,224.306 {450},Cts/S, 18308.,13.053,.07130,18317.,18299.
Y_3600,360.073 { 94},Cts/S, 164580.,247.82,.15058,164400.,164750.
Y_3710,371.030 { 91},Cts/S, 11104.,644.84,5.8074,11560.,10648.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0001,.0001,105.0, -.0000, -.0001
Al3082,308.215 {109},In2306,ppm, .0847,.0262,30.97, .1032, .0661
As1890,189.042 {478},Y_2243,ppm, .0041,.0008,20.57, .0047, .0035
B_2496,249.678 {135},Y_3710,ppm, .5820,.0128,2.206, .5729, .5911
Ba4554,455.403 { 74},Y_3710,ppm, .1188,.0004,.3048, .1186, .1191
Be3130,313.042 {108},Y_3710,ppm, .0003,.0001,24.70, .0002, .0003
Ca3158,315.887 {107},In2306,ppm, 53.34,.3884,.7281, 53.62, 53.07
Cd2288,228.802 {447},Y_2243,ppm, .0003,.0004,154.5, -.0000, .0005
Co2286,228.616 {447},In2306,ppm, .0003,.0000,5.361, .0003, .0003
Cr2677,267.716 {126},Y_3600,ppm, .0017,.0002,14.12, .0019, .0016
Cu3247,324.754 {104},Y_3600,ppm, .0063,.0007,10.41, .0068, .0059
Fe2404,240.488 {140},In2306,ppm, .4210,.0064,1.516, .4255, .4164
K_7664,766.490 { 44},Y_3710,ppm, 14.44,.1038,.7192, 14.36, 14.51
Li6707,670.784 { 50},Y_3710,ppm, .0974,.0003,.3518, .0971, .0976
Mg2790,279.079 {121},Y_3710,ppm, 6.022,.0296,.4918, 6.001, 6.043
Mn2576,257.610 {131},Y_3600,ppm, .0251,.0001,.2724, .0252, .0251
Mo2020,202.030 {467},Y_2243,ppm, .0130,.0008,6.075, .0125, .0136
Na5895,589.592 { 57},Y_3710,ppm, 750.0,3.956,.5275, 752.8, 747.2
Ni2316,231.604 {445},In2306,ppm, .0030,.0001,4.018, .0029, .0031
P_1782,178.284 {489},In2306,ppm, 1.755,.0004,.0248, 1.755, 1.755
Pb2203,220.353 {453},In2306,ppm, -.0002,.0018,932.1, .0011, -.0015
S_1820,182.034 {485},Y_2243,ppm, 454.0,.3810,.0839, 454.2, 453.7
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Sb2068,206.833 {463},Y_2243,ppm, .0081,.0020,24.45, .0067, .0095
Se1960,196.090 {472},Y_2243,ppm, .1133,.0037,3.223, .1107, .1158
Si2516,251.611 {134},Y_3710,ppm, 5.244,.0461,.8782, 5.212, 5.277
Sn1899,189.989 {477},In2306,ppm, .0021,.0004,17.04, .0024, .0019
Sr4215,421.552 { 80},Y_3710,ppm, 1.206,.0040,.3314, 1.203, 1.209
Ti3349,334.904 {101},Y_3600,ppm, .0017,.0001,5.569, .0017, .0018
Tl1908,190.856 {477},In2306,ppm, .2942,.0028,.9685, .2962, .2922
U_3670,367.007 { 92},Y_3600,ppm, -.2591,.0298,11.50, -.2802, -.2380
V_2924,292.402 {115},Y_3600,ppm, .0088,.0003,3.550, .0090, .0085
W_2397,239.709 {140},Y_2243,ppm, -.1500,.0593,39.56, -.1919, -.1080
Zn2062,206.200 {463},In2306,ppm, .0778,.0001,.1097, .0779, .0778

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 204.90,.95922,.46814,204.22,205.58
In2306,230.606 {446},Cts/S, 10991.,16.528,.15038,10979.,11002.
Y_2243,224.306 {450},Cts/S, 16921.,33.842,.19999,16897.,16945.
Y_3600,360.073 { 94},Cts/S, 150920.,66.462,.04404,150870.,150970.
Y_3710,371.030 { 91},Cts/S, 10414.,25.822,.24796,10432.,10396.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0006,.0002,23.94, .0008, .0005
Al3082,308.215 {109},In2306,ppm, .0985,.0115,11.68, .1066, .0903
As1890,189.042 {478},Y_2243,ppm, .0049,.0001,1.288, .0049, .0049
B_2496,249.678 {135},Y_3710,ppm, .5758,.0018,.3092, .5771, .5746
Ba4554,455.403 { 74},Y_3710,ppm, .1207,.0005,.4073, .1203, .1210
Be3130,313.042 {108},Y_3710,ppm, -.0000,.0001,347.0, -.0001, .0000
Ca3158,315.887 {107},In2306,ppm, 54.24,.4413,.8136, 53.93, 54.56
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0001,317.7, -.0000, .0001
Co2286,228.616 {447},In2306,ppm, .0003,.0003,85.93, .0005, .0001
Cr2677,267.716 {126},Y_3600,ppm, .0016,.0002,10.61, .0015, .0017
Cu3247,324.754 {104},Y_3600,ppm, .0062,.0003,4.138, .0061, .0064
Fe2404,240.488 {140},In2306,ppm, .4417,.0049,1.119, .4452, .4382
K_7664,766.490 { 44},Y_3710,ppm, 14.59,.0526,.3607, 14.62, 14.55
Li6707,670.784 { 50},Y_3710,ppm, .0986,.0009,.9252, .0980, .0993
Mg2790,279.079 {121},Y_3710,ppm, 6.142,.0128,.2092, 6.151, 6.133
Mn2576,257.610 {131},Y_3600,ppm, .0257,.0001,.4947, .0256, .0258
Mo2020,202.030 {467},Y_2243,ppm, .0091,.0002,1.651, .0092, .0090
Na5895,589.592 { 57},Y_3710,ppm, 760.8,7.875,1.035, 755.3, 766.4
Ni2316,231.604 {445},In2306,ppm, .0029,.0004,13.02, .0027, .0032
P_1782,178.284 {489},In2306,ppm, 1.787,.0090,.5011, 1.793, 1.781
Pb2203,220.353 {453},In2306,ppm, -.0006,.0005,88.86, -.0009, -.0002
S_1820,182.034 {485},Y_2243,ppm, 459.2,1.073,.2336, 458.4, 459.9
Sb2068,206.833 {463},Y_2243,ppm, .0047,.0003,6.538, .0049, .0045
Se1960,196.090 {472},Y_2243,ppm, .1107,.0039,3.543, .1079, .1134
Si2516,251.611 {134},Y_3710,ppm, 5.256,.0510,.9713, 5.292, 5.220
Sn1899,189.989 {477},In2306,ppm, .0006,.0002,34.18, .0008, .0005
Sr4215,421.552 { 80},Y_3710,ppm, 1.221,.0022,.1795, 1.219, 1.222
Ti3349,334.904 {101},Y_3600,ppm, .0011,.0001,10.76, .0010, .0012
Tl1908,190.856 {477},In2306,ppm, .2053,.0002,.1052, .2052, .2055
U_3670,367.007 { 92},Y_3600,ppm, -.2062,.1064,51.62, -.2814, -.1309
V_2924,292.402 {115},Y_3600,ppm, .0086,.0001,.6797, .0086, .0086
W_2397,239.709 {140},Y_2243,ppm, -.0010,.0913,9042., -.0655, .0635
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Zn2062,206.200 {463},In2306,ppm, .0661,.0003,.4596, .0663, .0659

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 203.87,1.8278,.89654,205.16,202.58
In2306,230.606 {446},Cts/S, 11011.,3.0128,.02736,11013.,11008.
Y_2243,224.306 {450},Cts/S, 16991.,40.094,.23597,17020.,16963.
Y_3600,360.073 { 94},Cts/S, 151080.,76.803,.05084,151030.,151140.
Y_3710,371.030 { 91},Cts/S, 10383.,38.799,.37369,10355.,10410.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .2661,.0004,.1562, .2664, .2658
Al3082,308.215 {109},In2306,ppm, 10.82,.0066,.0611, 10.83, 10.82
As1890,189.042 {478},Y_2243,ppm, 1.122,.0004,.0344, 1.122, 1.122
B_2496,249.678 {135},Y_3710,ppm, 1.109,.0045,.4091, 1.106, 1.113
Ba4554,455.403 { 74},Y_3710,ppm, 1.168,.0010,.0832, 1.167, 1.168
Be3130,313.042 {108},Y_3710,ppm, 1.032,.0011,.1025, 1.031, 1.032
Ca3158,315.887 {107},In2306,ppm, 65.24,.1900,.2912, 65.11, 65.37
Cd2288,228.802 {447},Y_2243,ppm, 1.073,.0003,.0290, 1.073, 1.073
Co2286,228.616 {447},In2306,ppm, 1.076,.0016,.1501, 1.075, 1.077
Cr2677,267.716 {126},Y_3600,ppm, .9813,.0028,.2884, .9833, .9793
Cu3247,324.754 {104},Y_3600,ppm, 1.037,.0006,.0546, 1.036, 1.037
Fe2404,240.488 {140},In2306,ppm, 11.00,.0708,.6437, 10.95, 11.05
K_7664,766.490 { 44},Y_3710,ppm, 25.41,.0264,.1038, 25.39, 25.43
Li6707,670.784 { 50},Y_3710,ppm, 1.123,.0034,.3037, 1.121, 1.126
Mg2790,279.079 {121},Y_3710,ppm, 16.48,.0575,.3489, 16.44, 16.52
Mn2576,257.610 {131},Y_3600,ppm, 1.033,.0013,.1236, 1.034, 1.032
Mo2020,202.030 {467},Y_2243,ppm, 1.032,.0014,.1352, 1.031, 1.033
Na5895,589.592 { 57},Y_3710,ppm, 772.7,7.468,.9666, 777.9, 767.4
Ni2316,231.604 {445},In2306,ppm, 1.085,.0038,.3486, 1.082, 1.087
P_1782,178.284 {489},In2306,ppm, 8.051,.0196,.2431, 8.038, 8.065
Pb2203,220.353 {453},In2306,ppm, 1.047,.0040,.3866, 1.045, 1.050
S_1820,182.034 {485},Y_2243,ppm, 466.0,.6329,.1358, 466.4, 465.5
Sb2068,206.833 {463},Y_2243,ppm, 1.677,.0031,.1846, 1.675, 1.679
Se1960,196.090 {472},Y_2243,ppm, 1.224,.0038,.3073, 1.222, 1.227
Si2516,251.611 {134},Y_3710,ppm, 13.40,.1054,.7872, 13.32, 13.47
Sn1899,189.989 {477},In2306,ppm, 1.082,.0044,.4057, 1.079, 1.085
Sr4215,421.552 { 80},Y_3710,ppm, 2.271,.0008,.0360, 2.270, 2.272
Ti3349,334.904 {101},Y_3600,ppm, 1.028,.0015,.1448, 1.029, 1.027
Tl1908,190.856 {477},In2306,ppm, .6340,.0243,3.839, .6512, .6168
U_3670,367.007 { 92},Y_3600,ppm, .4854,.0550,11.33, .5243, .4466
V_2924,292.402 {115},Y_3600,ppm, 1.017,.0019,.1907, 1.019, 1.016
W_2397,239.709 {140},Y_2243,ppm, .5569,.0172,3.095, .5690, .5447
Zn2062,206.200 {463},In2306,ppm, .6316,.0041,.6417, .6287, .6345

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 202.69,.11771,.05807,202.77,202.61
In2306,230.606 {446},Cts/S, 10784.,2.4927,.02311,10786.,10782.
Y_2243,224.306 {450},Cts/S, 16891.,17.266,.10222,16879.,16903.
Y_3600,360.073 { 94},Cts/S, 151050.,334.53,.22147,150810.,151280.
Y_3710,371.030 { 91},Cts/S, 10425.,14.431,.13842,10415.,10436.
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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .2626,.0007,.2636, .2621, .2631
Al3082,308.215 {109},In2306,ppm, 10.74,.0770,.7172, 10.69, 10.80
As1890,189.042 {478},Y_2243,ppm, 1.109,.0007,.0636, 1.108, 1.109
B_2496,249.678 {135},Y_3710,ppm, 1.107,.0029,.2622, 1.105, 1.109
Ba4554,455.403 { 74},Y_3710,ppm, 1.153,.0025,.2194, 1.151, 1.155
Be3130,313.042 {108},Y_3710,ppm, 1.022,.0008,.0801, 1.021, 1.022
Ca3158,315.887 {107},In2306,ppm, 64.05,.2219,.3464, 63.89, 64.21
Cd2288,228.802 {447},Y_2243,ppm, 1.061,.0018,.1736, 1.062, 1.060
Co2286,228.616 {447},In2306,ppm, 1.061,.0010,.0939, 1.061, 1.060
Cr2677,267.716 {126},Y_3600,ppm, .9698,.0016,.1631, .9687, .9709
Cu3247,324.754 {104},Y_3600,ppm, 1.022,.0011,.1057, 1.022, 1.023
Fe2404,240.488 {140},In2306,ppm, 10.98,.1010,.9203, 10.91, 11.05
K_7664,766.490 { 44},Y_3710,ppm, 24.91,.1045,.4194, 24.83, 24.98
Li6707,670.784 { 50},Y_3710,ppm, 1.113,.0020,.1799, 1.111, 1.114
Mg2790,279.079 {121},Y_3710,ppm, 16.34,.0912,.5581, 16.27, 16.40
Mn2576,257.610 {131},Y_3600,ppm, 1.017,.0013,.1283, 1.016, 1.018
Mo2020,202.030 {467},Y_2243,ppm, 1.029,.0011,.1049, 1.030, 1.028
Na5895,589.592 { 57},Y_3710,ppm, 750.6,7.766,1.035, 745.1, 756.1
Ni2316,231.604 {445},In2306,ppm, 1.072,.0003,.0315, 1.072, 1.072
P_1782,178.284 {489},In2306,ppm, 7.954,.0068,.0861, 7.958, 7.949
Pb2203,220.353 {453},In2306,ppm, 1.032,.0010,.0936, 1.032, 1.033
S_1820,182.034 {485},Y_2243,ppm, 455.2,.6741,.1481, 455.7, 454.7
Sb2068,206.833 {463},Y_2243,ppm, 1.662,.0105,.6305, 1.669, 1.654
Se1960,196.090 {472},Y_2243,ppm, 1.222,.0015,.1209, 1.221, 1.223
Si2516,251.611 {134},Y_3710,ppm, 13.18,.1832,1.390, 13.05, 13.31
Sn1899,189.989 {477},In2306,ppm, 1.072,.0007,.0643, 1.071, 1.072
Sr4215,421.552 { 80},Y_3710,ppm, 2.234,.0068,.3035, 2.229, 2.239
Ti3349,334.904 {101},Y_3600,ppm, 1.011,.0007,.0648, 1.011, 1.012
Tl1908,190.856 {477},In2306,ppm, .8714,.0221,2.535, .8870, .8558
U_3670,367.007 { 92},Y_3600,ppm, .3358,.0035,1.045, .3333, .3383
V_2924,292.402 {115},Y_3600,ppm, 1.001,.0000,.0027, 1.001, 1.001
W_2397,239.709 {140},Y_2243,ppm, .5132,.1314,25.59, .6061, .4204
Zn2062,206.200 {463},In2306,ppm, .6360,.0000,.0034, .6360, .6361

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 203.46,1.3745,.67555,204.43,202.49
In2306,230.606 {446},Cts/S, 10827.,45.148,.41701,10795.,10859.
Y_2243,224.306 {450},Cts/S, 16916.,62.065,.36690,16872.,16960.
Y_3600,360.073 { 94},Cts/S, 151140.,83.597,.05531,151200.,151080.
Y_3710,371.030 { 91},Cts/S, 10472.,64.523,.61617,10517.,10426.

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Custom ID2=
Custom ID3=
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Sample Type=Unk
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CorrFactor=1.000
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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0006,.0001,10.06, -.0005, -.0006
Al3082,308.215 {109},In2306,ppm, 22.91,.1427,.6228, 22.81, 23.01
As1890,189.042 {478},Y_2243,ppm, .0083,.0040,47.87, .0111, .0055
B_2496,249.678 {135},Y_3710,ppm, .1766,.0050,2.857, .1801, .1730
Ba4554,455.403 { 74},Y_3710,ppm, .3496,.0003,.0858, .3498, .3494
Be3130,313.042 {108},Y_3710,ppm, .0011,.0000,1.203, .0011, .0011
Ca3158,315.887 {107},In2306,ppm, 40.69,.3791,.9317, 40.42, 40.96
Cd2288,228.802 {447},Y_2243,ppm, .0007,.0001,12.03, .0006, .0007
Co2286,228.616 {447},In2306,ppm, .0062,.0002,3.492, .0064, .0061
Cr2677,267.716 {126},Y_3600,ppm, .0199,.0001,.3234, .0199, .0198
Cu3247,324.754 {104},Y_3600,ppm, .0160,.0002,1.295, .0158, .0161
Fe2404,240.488 {140},In2306,ppm, 14.59,.1134,.7768, 14.51, 14.67
K_7664,766.490 { 44},Y_3710,ppm, 17.80,.0240,.1350, 17.79, 17.82
Li6707,670.784 { 50},Y_3710,ppm, .0223,.0005,2.357, .0220, .0227
Mg2790,279.079 {121},Y_3710,ppm, 26.38,.1962,.7440, 26.52, 26.24
Mn2576,257.610 {131},Y_3600,ppm, .2315,.0007,.2930, .2311, .2320
Mo2020,202.030 {467},Y_2243,ppm, .0115,.0005,4.550, .0111, .0118
Na5895,589.592 { 57},Y_3710,ppm, 258.4,1.747,.6758, 259.7, 257.2
Ni2316,231.604 {445},In2306,ppm, .0109,.0008,7.678, .0103, .0115
P_1782,178.284 {489},In2306,ppm, .1581,.0055,3.450, .1542, .1619
Pb2203,220.353 {453},In2306,ppm, .0115,.0019,16.69, .0129, .0101
S_1820,182.034 {485},Y_2243,ppm, 4.862,.0201,.4136, 4.876, 4.848
Sb2068,206.833 {463},Y_2243,ppm, .0006,.0014,215.4, -.0003, .0016
Se1960,196.090 {472},Y_2243,ppm, -.0032,.0001,1.957, -.0031, -.0032
Si2516,251.611 {134},Y_3710,ppm, 35.00,.6258,1.788, 35.44, 34.56
Sn1899,189.989 {477},In2306,ppm, .0030,.0002,6.376, .0028, .0031
Sr4215,421.552 { 80},Y_3710,ppm, .3846,.0004,.1091, .3843, .3849
Ti3349,334.904 {101},Y_3600,ppm, .1045,.0000,.0460, .1045, .1045
Tl1908,190.856 {477},In2306,ppm, .5037,.0066,1.315, .4990, .5084
U_3670,367.007 { 92},Y_3600,ppm, -.1639,.1012,61.73, -.0923, -.2354
V_2924,292.402 {115},Y_3600,ppm, .0364,.0002,.6036, .0362, .0366
W_2397,239.709 {140},Y_2243,ppm, .0444,.0034,7.551, .0421, .0468
Zn2062,206.200 {463},In2306,ppm, .0650,.0001,.1094, .0649, .0650

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 206.75,1.6324,.78955,207.90,205.60
In2306,230.606 {446},Cts/S, 11643.,3.5789,.03074,11645.,11640.
Y_2243,224.306 {450},Cts/S, 17630.,32.404,.18380,17608.,17653.
Y_3600,360.073 { 94},Cts/S, 157750.,305.03,.19337,157960.,157530.
Y_3710,371.030 { 91},Cts/S, 10563.,66.001,.62480,10517.,10610.

[Sample Header]
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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0000,.0005,1063., .0003, -.0004
Al3082,308.215 {109},In2306,ppm, .9434,.0085,.8971, .9494, .9374
As1890,189.042 {478},Y_2243,ppm, .0887,.0008,.9075, .0881, .0892
B_2496,249.678 {135},Y_3710,ppm, 1.101,.0136,1.235, 1.092, 1.111
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Ba4554,455.403 { 74},Y_3710,ppm, 2.121,.0004,.0195, 2.121, 2.121
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,90.62, .0001, .0002
Ca3158,315.887 {107},In2306,ppm, 247.3,2.612,1.056, 249.1, 245.4
Cd2288,228.802 {447},Y_2243,ppm, .0009,.0000,3.952, .0009, .0008
Co2286,228.616 {447},In2306,ppm, .0065,.0002,3.128, .0063, .0066
Cr2677,267.716 {126},Y_3600,ppm, .0020,.0007,37.25, .0025, .0015
Cu3247,324.754 {104},Y_3600,ppm, .0035,.0002,5.916, .0037, .0034
Fe2404,240.488 {140},In2306,ppm, 12.62,.1858,1.472, 12.75, 12.49
K_7664,766.490 { 44},Y_3710,ppm, 27.80,.1207,.4342, 27.71, 27.88
Li6707,670.784 { 50},Y_3710,ppm, .0324,.0006,1.845, .0320, .0328
Mg2790,279.079 {121},Y_3710,ppm, 255.7,.8702,.3404, 255.0, 256.3
Mn2576,257.610 {131},Y_3600,ppm, 2.743,.0103,.3743, 2.751, 2.736
Mo2020,202.030 {467},Y_2243,ppm, .0068,.0004,5.182, .0065, .0070
Na5895,589.592 { 57},Y_3710,ppm, 2262.,24.94,1.103, 2244., 2280.
Ni2316,231.604 {445},In2306,ppm, .0034,.0003,8.182, .0036, .0032
P_1782,178.284 {489},In2306,ppm, .1821,.0000,.0236, .1821, .1821
Pb2203,220.353 {453},In2306,ppm, -.0009,.0019,208.9, -.0023, .0004
S_1820,182.034 {485},Y_2243,ppm, 6.729,.0410,.6090, 6.700, 6.758
Sb2068,206.833 {463},Y_2243,ppm, -.0014,.0003,19.62, -.0016, -.0012
Se1960,196.090 {472},Y_2243,ppm, -.0023,.0020,84.67, -.0009, -.0038
Si2516,251.611 {134},Y_3710,ppm, 21.32,.1485,.6966, 21.42, 21.21
Sn1899,189.989 {477},In2306,ppm, .0010,.0003,26.31, .0012, .0008
Sr4215,421.552 { 80},Y_3710,ppm, 2.555,.0012,.0475, 2.556, 2.554
Ti3349,334.904 {101},Y_3600,ppm, .0080,.0005,6.451, .0076, .0084
Tl1908,190.856 {477},In2306,ppm, .3219,.0098,3.039, .3150, .3288
U_3670,367.007 { 92},Y_3600,ppm, -.1359,.0182,13.37, -.1487, -.1230
V_2924,292.402 {115},Y_3600,ppm, -.0005,.0001,19.18, -.0006, -.0004
W_2397,239.709 {140},Y_2243,ppm, .1204,.0418,34.73, .1499, .0908
Zn2062,206.200 {463},In2306,ppm, .0377,.0001,.3301, .0378, .0376

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 189.20,1.5020,.79388,188.14,190.26
In2306,230.606 {446},Cts/S, 9201.3,24.861,.27019,9218.8,9183.7
Y_2243,224.306 {450},Cts/S, 15094.,45.239,.29971,15126.,15062.
Y_3600,360.073 { 94},Cts/S, 134650.,324.41,.24093,134420.,134880.
Y_3710,371.030 { 91},Cts/S, 9829.8,20.305,.20657,9844.2,9815.5

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, -.0000,.0005,3250., .0004, -.0004
Al3082,308.215 {109},In2306,ppm, 12.36,.1490,1.206, 12.25, 12.46
As1890,189.042 {478},Y_2243,ppm, .0054,.0005,9.811, .0050, .0058
B_2496,249.678 {135},Y_3710,ppm, .1210,.0106,8.799, .1135, .1285
Ba4554,455.403 { 74},Y_3710,ppm, .2333,.0021,.8936, .2319, .2348
Be3130,313.042 {108},Y_3710,ppm, .0007,.0000,6.630, .0006, .0007
Ca3158,315.887 {107},In2306,ppm, 32.74,.3336,1.019, 32.51, 32.98
Cd2288,228.802 {447},Y_2243,ppm, .0004,.0000,9.614, .0004, .0005
Co2286,228.616 {447},In2306,ppm, .0033,.0002,5.036, .0035, .0032
Cr2677,267.716 {126},Y_3600,ppm, .0112,.0001,1.215, .0113, .0111
Cu3247,324.754 {104},Y_3600,ppm, .0115,.0000,.0410, .0115, .0115
Fe2404,240.488 {140},In2306,ppm, 7.558,.0996,1.317, 7.487, 7.628
K_7664,766.490 { 44},Y_3710,ppm, 8.115,.0637,.7854, 8.070, 8.160
Li6707,670.784 { 50},Y_3710,ppm, .0180,.0019,10.82, .0194, .0166
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Mg2790,279.079 {121},Y_3710,ppm, 15.69,.0740,.4718, 15.64, 15.74
Mn2576,257.610 {131},Y_3600,ppm, .1381,.0002,.1173, .1382, .1379
Mo2020,202.030 {467},Y_2243,ppm, .0043,.0001,2.465, .0042, .0044
Na5895,589.592 { 57},Y_3710,ppm, 123.1,.3032,.2463, 122.9, 123.3
Ni2316,231.604 {445},In2306,ppm, .0058,.0007,11.73, .0062, .0053
P_1782,178.284 {489},In2306,ppm, .1530,.0054,3.528, .1568, .1492
Pb2203,220.353 {453},In2306,ppm, .0068,.0022,31.65, .0084, .0053
S_1820,182.034 {485},Y_2243,ppm, 4.581,.0159,.3471, 4.592, 4.569
Sb2068,206.833 {463},Y_2243,ppm, .0011,.0011,105.5, .0003, .0019
Se1960,196.090 {472},Y_2243,ppm, .0010,.0019,181.5, .0024, -.0003
Si2516,251.611 {134},Y_3710,ppm, 25.94,.2301,.8870, 25.78, 26.10
Sn1899,189.989 {477},In2306,ppm, .0025,.0003,12.14, .0023, .0027
Sr4215,421.552 { 80},Y_3710,ppm, .2892,.0027,.9306, .2873, .2911
Ti3349,334.904 {101},Y_3600,ppm, .0667,.0001,.1654, .0666, .0667
Tl1908,190.856 {477},In2306,ppm, .2392,.0112,4.675, .2313, .2472
U_3670,367.007 { 92},Y_3600,ppm, -.1731,.0306,17.70, -.1514, -.1947
V_2924,292.402 {115},Y_3600,ppm, .0253,.0005,1.928, .0250, .0256
W_2397,239.709 {140},Y_2243,ppm, .0154,.1321,858.9, .1088, -.0781
Zn2062,206.200 {463},In2306,ppm, .0524,.0005,.8813, .0520, .0527

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 212.06,.40370,.19037,212.35,211.78
In2306,230.606 {446},Cts/S, 12203.,4.1561,.03406,12206.,12200.
Y_2243,224.306 {450},Cts/S, 17921.,5.9601,.03326,17917.,17925.
Y_3600,360.073 { 94},Cts/S, 160660.,301.93,.18793,160450.,160870.
Y_3710,371.030 { 91},Cts/S, 10708.,12.167,.11362,10717.,10700.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0002,.0005,258.6, -.0002, .0006
Al3082,308.215 {109},In2306,ppm, .0126,.0039,30.73, .0099, .0154
As1890,189.042 {478},Y_2243,ppm, -.0001,.0000,62.02, -.0000, -.0001
B_2496,249.678 {135},Y_3710,ppm, .0231,.0052,22.76, .0194, .0268
Ba4554,455.403 { 74},Y_3710,ppm, .0244,.0004,1.774, .0241, .0247
Be3130,313.042 {108},Y_3710,ppm, .0001,.0001,106.4, .0002, .0000
Ca3158,315.887 {107},In2306,ppm, 2.796,.0060,.2150, 2.791, 2.800
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0001,225.0, .0001, -.0000
Co2286,228.616 {447},In2306,ppm, -.0002,.0002,72.89, -.0003, -.0001
Cr2677,267.716 {126},Y_3600,ppm, .0001,.0000,31.69, .0001, .0002
Cu3247,324.754 {104},Y_3600,ppm, .0026,.0005,19.63, .0022, .0029
Fe2404,240.488 {140},In2306,ppm, .1281,.0137,10.66, .1377, .1184
K_7664,766.490 { 44},Y_3710,ppm, .3285,.0315,9.588, .3507, .3062
Li6707,670.784 { 50},Y_3710,ppm, -.0016,.0018,111.7, -.0003, -.0029
Mg2790,279.079 {121},Y_3710,ppm, 2.876,.0226,.7868, 2.860, 2.892
Mn2576,257.610 {131},Y_3600,ppm, .0322,.0000,.0700, .0322, .0322
Mo2020,202.030 {467},Y_2243,ppm, .0001,.0003,269.0, -.0001, .0003
Na5895,589.592 { 57},Y_3710,ppm, 27.10,.0668,.2463, 27.05, 27.15
Ni2316,231.604 {445},In2306,ppm, .0000,.0000,177.6, -.0000, .0001
P_1782,178.284 {489},In2306,ppm, .0034,.0017,49.36, .0022, .0046
Pb2203,220.353 {453},In2306,ppm, -.0017,.0006,34.48, -.0013, -.0021
S_1820,182.034 {485},Y_2243,ppm, -2.022,.0031,.1551, -2.020, -2.024
Sb2068,206.833 {463},Y_2243,ppm, .0010,.0018,173.6, .0023, -.0002
Se1960,196.090 {472},Y_2243,ppm, .0001,.0008,752.8, .0007, -.0005
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Si2516,251.611 {134},Y_3710,ppm, .3486,.0239,6.861, .3317, .3655
Sn1899,189.989 {477},In2306,ppm, .0005,.0003,53.88, .0007, .0003
Sr4215,421.552 { 80},Y_3710,ppm, .0289,.0004,1.336, .0286, .0292
Ti3349,334.904 {101},Y_3600,ppm, -.0003,.0001,38.04, -.0003, -.0002
Tl1908,190.856 {477},In2306,ppm, .1661,.0093,5.576, .1595, .1726
U_3670,367.007 { 92},Y_3600,ppm, -.2159,.0083,3.844, -.2100, -.2217
V_2924,292.402 {115},Y_3600,ppm, -.0000,.0000,21.40, -.0000, -.0000
W_2397,239.709 {140},Y_2243,ppm, .0863,.0197,22.85, .1003, .0724
Zn2062,206.200 {463},In2306,ppm, -.0000,.0000,123.3, -.0000, -.0000

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 213.20,1.7409,.81654,211.97,214.44
In2306,230.606 {446},Cts/S, 13215.,29.826,.22570,13236.,13194.
Y_2243,224.306 {450},Cts/S, 18263.,29.176,.15976,18283.,18242.
Y_3600,360.073 { 94},Cts/S, 163910.,201.76,.12309,164060.,163770.
Y_3710,371.030 { 91},Cts/S, 10635.,30.181,.28379,10614.,10656.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .5003,.0016,.3247, .4992, .5015
Al3082,308.215 {109},In2306,ppm, 19.75,.0083,.0420, 19.75, 19.74
As1890,189.042 {478},Y_2243,ppm, 1.027,.0049,.4797, 1.031, 1.024
B_2496,249.678 {135},Y_3710,ppm, .9879,.0038,.3888, .9906, .9852
Ba4554,455.403 { 74},Y_3710,ppm, 1.011,.0039,.3898, 1.009, 1.014
Be3130,313.042 {108},Y_3710,ppm, .9734,.0035,.3547, .9710, .9758
Ca3158,315.887 {107},In2306,ppm, 19.62,.0986,.5027, 19.55, 19.69
Cd2288,228.802 {447},Y_2243,ppm, .9963,.0024,.2359, .9980, .9947
Co2286,228.616 {447},In2306,ppm, .9789,.0015,.1573, .9800, .9778
Cr2677,267.716 {126},Y_3600,ppm, .9683,.0027,.2785, .9702, .9664
Cu3247,324.754 {104},Y_3600,ppm, .9881,.0015,.1542, .9892, .9870
Fe2404,240.488 {140},In2306,ppm, 19.71,.1001,.5081, 19.64, 19.78
K_7664,766.490 { 44},Y_3710,ppm, 20.04,.0544,.2714, 20.00, 20.08
Li6707,670.784 { 50},Y_3710,ppm, .9851,.0039,.3947, .9824, .9879
Mg2790,279.079 {121},Y_3710,ppm, 20.06,.0557,.2778, 20.02, 20.10
Mn2576,257.610 {131},Y_3600,ppm, .9942,.0022,.2205, .9958, .9927
Mo2020,202.030 {467},Y_2243,ppm, 1.003,.0018,.1786, 1.005, 1.002
Na5895,589.592 { 57},Y_3710,ppm, 19.88,.0373,.1875, 19.85, 19.91
Ni2316,231.604 {445},In2306,ppm, .9879,.0009,.0899, .9885, .9873
P_1782,178.284 {489},In2306,ppm, 10.24,.0020,.0196, 10.24, 10.24
Pb2203,220.353 {453},In2306,ppm, .9837,.0089,.9066, .9900, .9774
S_1820,182.034 {485},Y_2243,ppm, 10.99,.0170,.1549, 11.00, 10.98
Sb2068,206.833 {463},Y_2243,ppm, 2.113,.0081,.3848, 2.119, 2.107
Se1960,196.090 {472},Y_2243,ppm, 1.010,.0043,.4294, 1.013, 1.007
Si2516,251.611 {134},Y_3710,ppm, 9.104,.1515,1.665, 8.996, 9.211
Sn1899,189.989 {477},In2306,ppm, .9891,.0015,.1472, .9901, .9880
Sr4215,421.552 { 80},Y_3710,ppm, .9999,.0051,.5116, .9963, 1.004
Ti3349,334.904 {101},Y_3600,ppm, .9923,.0019,.1956, .9936, .9909
Tl1908,190.856 {477},In2306,ppm, .6220,.0366,5.877, .6479, .5962
U_3670,367.007 { 92},Y_3600,ppm, .8731,.1135,13.00, .9534, .7929
V_2924,292.402 {115},Y_3600,ppm, .9757,.0033,.3364, .9780, .9734
W_2397,239.709 {140},Y_2243,ppm, 1.378,.1155,8.381, 1.296, 1.459
Zn2062,206.200 {463},In2306,ppm, .9751,.0010,.1034, .9744, .9758
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[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 211.07,.57008,.27009,210.67,211.47
In2306,230.606 {446},Cts/S, 12692.,53.384,.42062,12654.,12730.
Y_2243,224.306 {450},Cts/S, 18112.,85.473,.47193,18051.,18172.
Y_3600,360.073 { 94},Cts/S, 161780.,340.00,.21016,161540.,162020.
Y_3710,371.030 { 91},Cts/S, 10649.,39.084,.36701,10622.,10677.


[Sample Header]
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Mode=CONC
CorrFactor=1.000
Repeats=2

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0091,.0009,9.633, .0098, .0085
Al3082,308.215 {109},In2306,ppm, .2073,.0131,6.299, .2165, .1981
As1890,189.042 {478},Y_2243,ppm, .0236,.0025,10.40, .0253, .0218
B_2496,249.678 {135},Y_3710,ppm, .1990,.0064,3.198, .2035, .1945
Ba4554,455.403 { 74},Y_3710,ppm, .0223,.0008,3.603, .0229, .0217
Be3130,313.042 {108},Y_3710,ppm, .0107,.0002,1.661, .0109, .0106
Ca3158,315.887 {107},In2306,ppm, .9990,.0294,2.938, 1.020, .9783
Cd2288,228.802 {447},Y_2243,ppm, .0109,.0001,1.056, .0108, .0110
Co2286,228.616 {447},In2306,ppm, .0103,.0002,1.568, .0104, .0102
Cr2677,267.716 {126},Y_3600,ppm, .0108,.0005,4.392, .0112, .0105
Cu3247,324.754 {104},Y_3600,ppm, .0125,.0013,10.14, .0116, .0134
Fe2404,240.488 {140},In2306,ppm, .1972,.0220,11.17, .2128, .1816
K_7664,766.490 { 44},Y_3710,ppm, 1.032,.0453,4.390, 1.064, 1.000
Li6707,670.784 { 50},Y_3710,ppm, .0097,.0017,17.58, .0109, .0085
Mg2790,279.079 {121},Y_3710,ppm, .9939,.0595,5.983, .9519, 1.036
Mn2576,257.610 {131},Y_3600,ppm, .0111,.0001,.4557, .0111, .0110
Mo2020,202.030 {467},Y_2243,ppm, .0228,.0001,.2326, .0228, .0227
Na5895,589.592 { 57},Y_3710,ppm, 1.054,.0336,3.186, 1.077, 1.030
Ni2316,231.604 {445},In2306,ppm, .0105,.0003,2.696, .0103, .0107
P_1782,178.284 {489},In2306,ppm, .9654,.0016,.1627, .9665, .9643
Pb2203,220.353 {453},In2306,ppm, .0113,.0002,1.857, .0115, .0112
S_1820,182.034 {485},Y_2243,ppm, -2.854,.0020,.0696, -2.853, -2.856
Sb2068,206.833 {463},Y_2243,ppm, .0552,.0005,.9740, .0549, .0556
Se1960,196.090 {472},Y_2243,ppm, .0212,.0000,.0369, .0212, .0212
Si2516,251.611 {134},Y_3710,ppm, .1744,.0033,1.899, .1767, .1720
Sn1899,189.989 {477},In2306,ppm, .0218,.0004,1.751, .0221, .0215
Sr4215,421.552 { 80},Y_3710,ppm, .0109,.0003,2.905, .0111, .0107
Ti3349,334.904 {101},Y_3600,ppm, .0105,.0003,2.900, .0108, .0103
Tl1908,190.856 {477},In2306,ppm, .2094,.0006,.2747, .2098, .2089
U_3670,367.007 { 92},Y_3600,ppm, -.1509,.0176,11.65, -.1385, -.1634
V_2924,292.402 {115},Y_3600,ppm, .0107,.0005,4.431, .0103, .0110
W_2397,239.709 {140},Y_2243,ppm, .1011,.0322,31.88, .1239, .0783
Zn2062,206.200 {463},In2306,ppm, .0190,.0000,.0318, .0190, .0190

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 214.24,4.4424,2.0735,211.10,217.38
In2306,230.606 {446},Cts/S, 13567.,39.407,.29047,13539.,13594.
Y_2243,224.306 {450},Cts/S, 18433.,57.373,.31125,18393.,18474.
Y_3600,360.073 { 94},Cts/S, 165120.,253.38,.15345,164940.,165300.
Y_3710,371.030 { 91},Cts/S, 10678.,285.77,2.6761,10476.,10881.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0006,.0001,20.29, .0007, .0005
Al3082,308.215 {109},In2306,ppm, .0015,.0164,1093., -.0101, .0131
As1890,189.042 {478},Y_2243,ppm, .0001,.0025,2026., -.0016, .0019
B_2496,249.678 {135},Y_3710,ppm, .0094,.0044,46.60, .0063, .0126
Ba4554,455.403 { 74},Y_3710,ppm, .0001,.0000,4.795, .0001, .0001
Be3130,313.042 {108},Y_3710,ppm, .0001,.0002,282.6, .0002, -.0001
Ca3158,315.887 {107},In2306,ppm, -.0030,.0004,14.82, -.0027, -.0033
Cd2288,228.802 {447},Y_2243,ppm, -.0002,.0000,9.726, -.0002, -.0002
Co2286,228.616 {447},In2306,ppm, -.0002,.0002,102.3, -.0003, -.0001
Cr2677,267.716 {126},Y_3600,ppm, .0001,.0001,84.82, .0001, .0002
Cu3247,324.754 {104},Y_3600,ppm, .0029,.0003,11.51, .0032, .0027
Fe2404,240.488 {140},In2306,ppm, -.0058,.0094,162.1, -.0125, .0009
K_7664,766.490 { 44},Y_3710,ppm, .0218,.0041,18.76, .0189, .0247
Li6707,670.784 { 50},Y_3710,ppm, -.0006,.0020,365.1, -.0020, .0009
Mg2790,279.079 {121},Y_3710,ppm, -.0138,.0062,45.23, -.0182, -.0094
Mn2576,257.610 {131},Y_3600,ppm, -.0000,.0000,1411., -.0000, .0000
Mo2020,202.030 {467},Y_2243,ppm, -.0001,.0001,125.3, -.0000, -.0002
Na5895,589.592 { 57},Y_3710,ppm, .0137,.0068,49.67, .0089, .0185
Ni2316,231.604 {445},In2306,ppm, -.0001,.0006,923.9, .0003, -.0005
P_1782,178.284 {489},In2306,ppm, .0006,.0019,310.6, .0020, -.0007
Pb2203,220.353 {453},In2306,ppm, -.0000,.0014,3503., -.0011, .0010
S_1820,182.034 {485},Y_2243,ppm, -1.387,.0010,.0709, -1.388, -1.386
Sb2068,206.833 {463},Y_2243,ppm, -.0010,.0011,117.9, -.0018, -.0002
Se1960,196.090 {472},Y_2243,ppm, -.0015,.0009,59.20, -.0009, -.0022
Si2516,251.611 {134},Y_3710,ppm, .0128,.0010,7.480, .0135, .0122
Sn1899,189.989 {477},In2306,ppm, .0001,.0001,49.82, .0001, .0001
Sr4215,421.552 { 80},Y_3710,ppm, -.0001,.0000,34.39, -.0001, -.0002
Ti3349,334.904 {101},Y_3600,ppm, .0001,.0002,322.1, -.0001, .0002
Tl1908,190.856 {477},In2306,ppm, .1356,.0026,1.937, .1337, .1374
U_3670,367.007 { 92},Y_3600,ppm, -.1942,.0516,26.58, -.2307, -.1577
V_2924,292.402 {115},Y_3600,ppm, -.0000,.0003,11810., -.0002, .0002
W_2397,239.709 {140},Y_2243,ppm, -.0094,.0521,557.0, .0275, -.0462
Zn2062,206.200 {463},In2306,ppm, .0002,.0001,52.22, .0002, .0001

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 212.78,.11211,.05269,212.70,212.86
In2306,230.606 {446},Cts/S, 13629.,70.159,.51478,13579.,13679.
Y_2243,224.306 {450},Cts/S, 18461.,100.88,.54644,18390.,18532.
Y_3600,360.073 { 94},Cts/S, 166740.,65.932,.03954,166690.,166790.
Y_3710,371.030 { 91},Cts/S, 10643.,48.354,.45433,10677.,10609.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0003,.0001,28.43, .0002, .0004
Al3082,308.215 {109},In2306,ppm, -.0065,.0008,12.34, -.0071, -.0059
As1890,189.042 {478},Y_2243,ppm, -.0023,.0011,49.36, -.0015, -.0031
B_2496,249.678 {135},Y_3710,ppm, .0044,.0065,147.3, .0090, -.0002
Ba4554,455.403 { 74},Y_3710,ppm, .0006,.0000,3.600, .0006, .0005
Be3130,313.042 {108},Y_3710,ppm, -.0001,.0001,202.3, .0000, -.0001
Ca3158,315.887 {107},In2306,ppm, .0116,.0069,59.35, .0165, .0068
Cd2288,228.802 {447},Y_2243,ppm, .0000,.0001,424.2, -.0001, .0001
Co2286,228.616 {447},In2306,ppm, -.0003,.0002,54.38, -.0004, -.0002
Cr2677,267.716 {126},Y_3600,ppm, .0006,.0001,18.45, .0007, .0005
Cu3247,324.754 {104},Y_3600,ppm, .0034,.0001,3.418, .0033, .0035
Fe2404,240.488 {140},In2306,ppm, .0106,.0147,137.9, .0003, .0210
K_7664,766.490 { 44},Y_3710,ppm, .0009,.0009,97.46, .0016, .0003
Li6707,670.784 { 50},Y_3710,ppm, -.0016,.0016,101.1, -.0027, -.0004
Mg2790,279.079 {121},Y_3710,ppm, -.0124,.0231,185.6, -.0288, .0039
Mn2576,257.610 {131},Y_3600,ppm, .0004,.0000,9.139, .0004, .0004
Mo2020,202.030 {467},Y_2243,ppm, .0001,.0000,21.42, .0001, .0002
Na5895,589.592 { 57},Y_3710,ppm, .0295,.0005,1.660, .0291, .0298
Ni2316,231.604 {445},In2306,ppm, .0002,.0000,3.616, .0002, .0002
P_1782,178.284 {489},In2306,ppm, .0202,.0032,16.00, .0225, .0179
Pb2203,220.353 {453},In2306,ppm, .0017,.0005,29.62, .0014, .0021
S_1820,182.034 {485},Y_2243,ppm, 3.081,.0137,.4443, 3.090, 3.071
Sb2068,206.833 {463},Y_2243,ppm, .0011,.0002,15.96, .0010, .0012
Se1960,196.090 {472},Y_2243,ppm, -.0021,.0023,105.1, -.0006, -.0037
Si2516,251.611 {134},Y_3710,ppm, .0163,.0058,35.58, .0204, .0122
Sn1899,189.989 {477},In2306,ppm, .0250,.0004,1.424, .0247, .0252
Sr4215,421.552 { 80},Y_3710,ppm, .0000,.0000,85.38, .0001, .0000
Ti3349,334.904 {101},Y_3600,ppm, -.0004,.0002,47.85, -.0003, -.0006
Tl1908,190.856 {477},In2306,ppm, .1468,.0026,1.783, .1450, .1487
U_3670,367.007 { 92},Y_3600,ppm, -.1721,.0751,43.65, -.2252, -.1190
V_2924,292.402 {115},Y_3600,ppm, .0000,.0002,514.6, -.0001, .0001
W_2397,239.709 {140},Y_2243,ppm, .0474,.0591,124.6, .0057, .0892
Zn2062,206.200 {463},In2306,ppm, .0135,.0002,1.194, .0137, .0134

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 215.39,.78929,.36645,214.83,215.95
In2306,230.606 {446},Cts/S, 13563.,3.0825,.02273,13561.,13566.
Y_2243,224.306 {450},Cts/S, 18234.,19.268,.10567,18221.,18248.
Y_3600,360.073 { 94},Cts/S, 166320.,11.370,.00684,166330.,166310.
Y_3710,371.030 { 91},Cts/S, 10714.,28.326,.26439,10734.,10694.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .3004,.0005,.1648, .3008, .3001
Al3082,308.215 {109},In2306,ppm, 91.95,3.243,3.527, 89.66, 94.24
As1890,189.042 {478},Y_2243,ppm, 2.763,.0008,.0279, 2.762, 2.763
B_2496,249.678 {135},Y_3710,ppm, 5.217,.0932,1.787, 5.151, 5.283
Ba4554,455.403 { 74},Y_3710,ppm, 2.270,.0339,1.493, 2.246, 2.294
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Be3130,313.042 {108},Y_3710,ppm, 1.563,.0231,1.479, 1.546, 1.579
Ca3158,315.887 {107},In2306,ppm, 134.2,4.259,3.175, 131.1, 137.2
Cd2288,228.802 {447},Y_2243,ppm, 1.544,.0015,.0993, 1.542, 1.545
Co2286,228.616 {447},In2306,ppm, 2.461,.0019,.0755, 2.463, 2.460
Cr2677,267.716 {126},Y_3600,ppm, 1.478,.0037,.2484, 1.481, 1.475
Cu3247,324.754 {104},Y_3600,ppm, .8845,.0001,.0083, .8844, .8845
Fe2404,240.488 {140},In2306,ppm, 130.7,4.583,3.508, 127.4, 133.9
K_7664,766.490 { 44},Y_3710,ppm, 93.88,.9523,1.014, 93.21, 94.56
Li6707,670.784 { 50},Y_3710,ppm, 2.304,.0356,1.545, 2.279, 2.329
Mg2790,279.079 {121},Y_3710,ppm, 109.4,1.166,1.066, 108.5, 110.2
Mn2576,257.610 {131},Y_3600,ppm, 10.50,.1199,1.142, 10.58, 10.41
Mo2020,202.030 {467},Y_2243,ppm, 1.707,.0010,.0581, 1.706, 1.708
Na5895,589.592 { 57},Y_3710,ppm, 118.4,1.412,1.193, 117.4, 119.4
Ni2316,231.604 {445},In2306,ppm, 1.052,.0019,.1790, 1.053, 1.050
P_1782,178.284 {489},In2306,ppm, 4.189,.0060,.1427, 4.193, 4.184
Pb2203,220.353 {453},In2306,ppm, 1.318,.0058,.4375, 1.314, 1.322
S_1820,182.034 {485},Y_2243,ppm, 7.574,.0358,.4727, 7.600, 7.549
Sb2068,206.833 {463},Y_2243,ppm, .2667,.0021,.8039, .2682, .2652
Se1960,196.090 {472},Y_2243,ppm, 2.686,.0050,.1851, 2.690, 2.682
Si2516,251.611 {134},Y_3710,ppm, 13.47,.1975,1.466, 13.33, 13.61
Sn1899,189.989 {477},In2306,ppm, 1.573,.0003,.0186, 1.573, 1.573
Sr4215,421.552 { 80},Y_3710,ppm, .7943,.0119,1.504, .7859, .8028
Ti3349,334.904 {101},Y_3600,ppm, 3.376,.0089,.2638, 3.383, 3.370
Tl1908,190.856 {477},In2306,ppm, 1.297,.0657,5.069, 1.344, 1.251
U_3670,367.007 { 92},Y_3600,ppm, 1.364,.0780,5.718, 1.419, 1.309
V_2924,292.402 {115},Y_3600,ppm, .2304,.0010,.4230, .2311, .2297
W_2397,239.709 {140},Y_2243,ppm, -1.454,.0561,3.861, -1.493, -1.414
Zn2062,206.200 {463},In2306,ppm, 4.472,.0038,.0842, 4.470, 4.475

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 199.20,4.2147,2.1158,202.18,196.22
In2306,230.606 {446},Cts/S, 11202.,23.517,.20992,11219.,11186.
Y_2243,224.306 {450},Cts/S, 18061.,62.260,.34473,18105.,18017.
Y_3600,360.073 { 94},Cts/S, 162560.,379.47,.23344,162290.,162830.
Y_3710,371.030 { 91},Cts/S, 11046.,13.559,.12274,11056.,11037.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0017,.0001,5.180, -.0018, -.0017
Al3082,308.215 {109},In2306,ppm, 50.20,.0405,.0807, 50.23, 50.17
As1890,189.042 {478},Y_2243,ppm, .0911,.0005,.5189, .0914, .0907
B_2496,249.678 {135},Y_3710,ppm, .0298,.0045,14.98, .0267, .0330
Ba4554,455.403 { 74},Y_3710,ppm, .8245,.0088,1.073, .8183, .8308
Be3130,313.042 {108},Y_3710,ppm, .0042,.0000,.7322, .0042, .0042
Ca3158,315.887 {107},In2306,ppm, 14.77,.0789,.5343, 14.82, 14.71
Cd2288,228.802 {447},Y_2243,ppm, .0066,.0001,.9494, .0065, .0066
Co2286,228.616 {447},In2306,ppm, .0662,.0004,.5872, .0660, .0665
Cr2677,267.716 {126},Y_3600,ppm, .2081,.0009,.4217, .2087, .2074
Cu3247,324.754 {104},Y_3600,ppm, .5774,.0008,.1409, .5780, .5768
Fe2404,240.488 {140},In2306,ppm, 223.7,.1436,.0642, 223.8, 223.6
K_7664,766.490 { 44},Y_3710,ppm, 2.401,.0232,.9652, 2.385, 2.418
Li6707,670.784 { 50},Y_3710,ppm, .0244,.0001,.4979, .0243, .0245
Mg2790,279.079 {121},Y_3710,ppm, 4.194,.0901,2.148, 4.130, 4.257
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Mn2576,257.610 {131},Y_3600,ppm, 6.154,.0054,.0879, 6.158, 6.150
Mo2020,202.030 {467},Y_2243,ppm, .0156,.0009,5.514, .0150, .0162
Na5895,589.592 { 57},Y_3710,ppm, .3892,.0021,.5373, .3907, .3877
Ni2316,231.604 {445},In2306,ppm, .0876,.0014,1.599, .0886, .0866
P_1782,178.284 {489},In2306,ppm, 2.168,.0019,.0894, 2.167, 2.169
Pb2203,220.353 {453},In2306,ppm, .5148,.0020,.3975, .5134, .5163
S_1820,182.034 {485},Y_2243,ppm, 4.355,.0115,.2631, 4.347, 4.363
Sb2068,206.833 {463},Y_2243,ppm, .0060,.0016,27.03, .0072, .0049
Se1960,196.090 {472},Y_2243,ppm, .0024,.0000,1.585, .0024, .0024
Si2516,251.611 {134},Y_3710,ppm, 8.626,.0469,.5435, 8.593, 8.659
Sn1899,189.989 {477},In2306,ppm, .0446,.0002,.4000, .0445, .0447
Sr4215,421.552 { 80},Y_3710,ppm, .0917,.0009,.9273, .0911, .0923
Ti3349,334.904 {101},Y_3600,ppm, .4991,.0020,.3992, .5006, .4977
Tl1908,190.856 {477},In2306,ppm, .6938,.0060,.8635, .6896, .6980
U_3670,367.007 { 92},Y_3600,ppm, .9892,.1355,13.69, 1.085, .8934
V_2924,292.402 {115},Y_3600,ppm, .2718,.0018,.6519, .2730, .2705
W_2397,239.709 {140},Y_2243,ppm, -.0178,.0692,388.6, .0311, -.0667
Zn2062,206.200 {463},In2306,ppm, 2.442,.0086,.3530, 2.436, 2.448

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 209.19,2.4751,1.1832,207.44,210.94
In2306,230.606 {446},Cts/S, 12702.,41.079,.32341,12731.,12673.
Y_2243,224.306 {450},Cts/S, 18625.,67.166,.36063,18672.,18577.
Y_3600,360.073 { 94},Cts/S, 167570.,248.38,.14823,167390.,167740.
Y_3710,371.030 { 91},Cts/S, 11061.,.58878,.00532,11061.,11060.

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Ag3280,328.068 {103},Y_3600,ppm, -.0011,.0000,2.415, -.0011, -.0011
Al3082,308.215 {109},In2306,ppm, 134.1,1.517,1.132, 135.1, 133.0
As1890,189.042 {478},Y_2243,ppm, .0704,.0004,.5733, .0701, .0707
B_2496,249.678 {135},Y_3710,ppm, .0309,.0026,8.406, .0291, .0328
Ba4554,455.403 { 74},Y_3710,ppm, 1.602,.0025,.1531, 1.600, 1.604
Be3130,313.042 {108},Y_3710,ppm, .0060,.0000,.6557, .0060, .0060
Ca3158,315.887 {107},In2306,ppm, 38.79,.6319,1.629, 39.23, 38.34
Cd2288,228.802 {447},Y_2243,ppm, .0060,.0002,3.512, .0062, .0059
Co2286,228.616 {447},In2306,ppm, .0888,.0003,.3753, .0890, .0885
Cr2677,267.716 {126},Y_3600,ppm, .4796,.0013,.2782, .4787, .4806
Cu3247,324.754 {104},Y_3600,ppm, .3975,.0013,.3307, .3984, .3966
Fe2404,240.488 {140},In2306,ppm, 186.9,2.906,1.555, 189.0, 184.9
K_7664,766.490 { 44},Y_3710,ppm, 7.299,.0005,.0070, 7.299, 7.300
Li6707,670.784 { 50},Y_3710,ppm, .0836,.0001,.0917, .0837, .0836
Mg2790,279.079 {121},Y_3710,ppm, 15.10,.0135,.0891, 15.09, 15.11
Mn2576,257.610 {131},Y_3600,ppm, 7.859,.0299,.3802, 7.838, 7.880
Mo2020,202.030 {467},Y_2243,ppm, .0126,.0004,3.242, .0123, .0129
Na5895,589.592 { 57},Y_3710,ppm, .6742,.0075,1.120, .6796, .6689
Ni2316,231.604 {445},In2306,ppm, .1329,.0003,.1964, .1327, .1331
P_1782,178.284 {489},In2306,ppm, 11.13,.0169,.1516, 11.15, 11.12
Pb2203,220.353 {453},In2306,ppm, .2533,.0023,.9212, .2550, .2517
S_1820,182.034 {485},Y_2243,ppm, 15.81,.0609,.3854, 15.77, 15.86
Sb2068,206.833 {463},Y_2243,ppm, -.0023,.0053,234.1, .0015, -.0060
Se1960,196.090 {472},Y_2243,ppm, -.0009,.0030,329.3, .0012, -.0030
Si2516,251.611 {134},Y_3710,ppm, 10.52,.0346,.3287, 10.55, 10.50
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Sn1899,189.989 {477},In2306,ppm, .0329,.0011,3.208, .0321, .0336
Sr4215,421.552 { 80},Y_3710,ppm, .2029,.0006,.3074, .2024, .2033
Ti3349,334.904 {101},Y_3600,ppm, 1.256,.0012,.0917, 1.255, 1.257
Tl1908,190.856 {477},In2306,ppm, .4141,.0137,3.300, .4045, .4238
U_3670,367.007 { 92},Y_3600,ppm, .7959,.0619,7.777, .7522, .8397
V_2924,292.402 {115},Y_3600,ppm, .2650,.0019,.7135, .2636, .2663
W_2397,239.709 {140},Y_2243,ppm, -.0276,.0356,129.2, -.0024, -.0527
Zn2062,206.200 {463},In2306,ppm, 1.485,.0070,.4727, 1.490, 1.480

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 211.04,3.7821,1.7921,208.37,213.72
In2306,230.606 {446},Cts/S, 12346.,28.889,.23400,12325.,12366.
Y_2243,224.306 {450},Cts/S, 19056.,23.098,.12121,19040.,19073.
Y_3600,360.073 { 94},Cts/S, 172040.,250.75,.14575,171870.,172220.
Y_3710,371.030 { 91},Cts/S, 11572.,63.513,.54884,11527.,11617.

[Sample Header]
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Custom ID3=
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CorrFactor=1.000
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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, -.0011,.0005,44.29, -.0014, -.0008
Al3082,308.215 {109},In2306,ppm, 136.6,2.179,1.595, 135.1, 138.2
As1890,189.042 {478},Y_2243,ppm, .0786,.0026,3.303, .0804, .0767
B_2496,249.678 {135},Y_3710,ppm, .0320,.0020,6.366, .0335, .0306
Ba4554,455.403 { 74},Y_3710,ppm, 1.497,.0130,.8698, 1.488, 1.506
Be3130,313.042 {108},Y_3710,ppm, .0059,.0000,.1313, .0059, .0059
Ca3158,315.887 {107},In2306,ppm, 33.72,.4419,1.311, 33.41, 34.03
Cd2288,228.802 {447},Y_2243,ppm, .0051,.0000,.8261, .0050, .0051
Co2286,228.616 {447},In2306,ppm, .0947,.0010,1.010, .0941, .0954
Cr2677,267.716 {126},Y_3600,ppm, .4523,.0082,1.803, .4466, .4581
Cu3247,324.754 {104},Y_3600,ppm, .3052,.0036,1.196, .3026, .3077
Fe2404,240.488 {140},In2306,ppm, 192.3,2.799,1.456, 190.3, 194.3
K_7664,766.490 { 44},Y_3710,ppm, 7.154,.1320,1.845, 7.060, 7.247
Li6707,670.784 { 50},Y_3710,ppm, .0841,.0020,2.393, .0827, .0855
Mg2790,279.079 {121},Y_3710,ppm, 14.78,.1231,.8324, 14.70, 14.87
Mn2576,257.610 {131},Y_3600,ppm, 8.723,.1682,1.928, 8.604, 8.842
Mo2020,202.030 {467},Y_2243,ppm, .0114,.0002,1.925, .0116, .0113
Na5895,589.592 { 57},Y_3710,ppm, .6256,.0029,.4573, .6235, .6276
Ni2316,231.604 {445},In2306,ppm, .1304,.0005,.3769, .1300, .1307
P_1782,178.284 {489},In2306,ppm, 9.275,.0601,.6482, 9.232, 9.317
Pb2203,220.353 {453},In2306,ppm, .2195,.0017,.7689, .2183, .2207
S_1820,182.034 {485},Y_2243,ppm, 13.31,.1097,.8238, 13.24, 13.39
Sb2068,206.833 {463},Y_2243,ppm, .0006,.0008,132.2, .0012, .0000
Se1960,196.090 {472},Y_2243,ppm, .0031,.0019,63.75, .0017, .0044
Si2516,251.611 {134},Y_3710,ppm, 10.06,.0895,.8896, 9.992, 10.12
Sn1899,189.989 {477},In2306,ppm, .0545,.0002,.3976, .0547, .0543
Sr4215,421.552 { 80},Y_3710,ppm, .1813,.0024,1.350, .1795, .1830
Ti3349,334.904 {101},Y_3600,ppm, 1.269,.0118,.9315, 1.261, 1.277
Tl1908,190.856 {477},In2306,ppm, .2686,.0125,4.649, .2597, .2774
U_3670,367.007 { 92},Y_3600,ppm, .8900,.0550,6.182, .8511, .9289
V_2924,292.402 {115},Y_3600,ppm, .2700,.0036,1.326, .2674, .2725
W_2397,239.709 {140},Y_2243,ppm, -.0365,.0046,12.53, -.0398, -.0333
Zn2062,206.200 {463},In2306,ppm, 1.257,.0128,1.021, 1.248, 1.266

[Internal Standards]
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Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 208.92,2.3760,1.1373,210.60,207.24
In2306,230.606 {446},Cts/S, 12321.,111.87,.90795,12400.,12242.
Y_2243,224.306 {450},Cts/S, 18921.,177.43,.93774,19046.,18795.
Y_3600,360.073 { 94},Cts/S, 173040.,1394.0,.80561,174020.,172050.
Y_3710,371.030 { 91},Cts/S, 11551.,56.050,.48525,11590.,11511.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .2413,.0013,.5421, .2422, .2404
Al3082,308.215 {109},In2306,ppm, 279.1,.2677,.0959, 279.2, 278.9
As1890,189.042 {478},Y_2243,ppm, 1.014,.0032,.3193, 1.017, 1.012
B_2496,249.678 {135},Y_3710,ppm, .5002,.0049,.9795, .5037, .4968
Ba4554,455.403 { 74},Y_3710,ppm, 2.616,.0010,.0381, 2.615, 2.616
Be3130,313.042 {108},Y_3710,ppm, .9109,.0040,.4375, .9081, .9137
Ca3158,315.887 {107},In2306,ppm, 43.83,.0785,.1790, 43.78, 43.89
Cd2288,228.802 {447},Y_2243,ppm, .9387,.0020,.2103, .9401, .9373
Co2286,228.616 {447},In2306,ppm, 1.070,.0036,.3376, 1.067, 1.072
Cr2677,267.716 {126},Y_3600,ppm, 1.426,.0067,.4677, 1.431, 1.421
Cu3247,324.754 {104},Y_3600,ppm, 1.322,.0027,.2035, 1.324, 1.320
Fe2404,240.488 {140},In2306,ppm, 209.5,.7476,.3568, 209.0, 210.1
K_7664,766.490 { 44},Y_3710,ppm, 25.30,.0141,.0557, 25.31, 25.29
Li6707,670.784 { 50},Y_3710,ppm, 1.082,.0041,.3831, 1.085, 1.079
Mg2790,279.079 {121},Y_3710,ppm, 31.14,.4012,1.288, 30.86, 31.43
Mn2576,257.610 {131},Y_3600,ppm, 8.121,.0017,.0207, 8.120, 8.122
Mo2020,202.030 {467},Y_2243,ppm, .9202,.0038,.4163, .9229, .9175
Na5895,589.592 { 57},Y_3710,ppm, 10.33,.0172,.1663, 10.32, 10.34
Ni2316,231.604 {445},In2306,ppm, 1.178,.0025,.2111, 1.176, 1.179
P_1782,178.284 {489},In2306,ppm, 14.45,.0386,.2673, 14.48, 14.42
Pb2203,220.353 {453},In2306,ppm, 1.187,.0053,.4498, 1.183, 1.191
S_1820,182.034 {485},Y_2243,ppm, 19.07,.0651,.3416, 19.12, 19.02
Sb2068,206.833 {463},Y_2243,ppm, .6449,.0028,.4275, .6469, .6430
Se1960,196.090 {472},Y_2243,ppm, .9210,.0133,1.446, .9305, .9116
Si2516,251.611 {134},Y_3710,ppm, 11.54,.0119,.1030, 11.53, 11.54
Sn1899,189.989 {477},In2306,ppm, .9028,.0009,.0978, .9034, .9022
Sr4215,421.552 { 80},Y_3710,ppm, 1.150,.0005,.0397, 1.151, 1.150
Ti3349,334.904 {101},Y_3600,ppm, 3.103,.0070,.2268, 3.108, 3.098
Tl1908,190.856 {477},In2306,ppm, .7492,.0162,2.165, .7607, .7377
U_3670,367.007 { 92},Y_3600,ppm, 1.489,.0575,3.863, 1.530, 1.448
V_2924,292.402 {115},Y_3600,ppm, 1.309,.0056,.4302, 1.313, 1.305
W_2397,239.709 {140},Y_2243,ppm, .0514,.0575,111.9, .0921, .0107
Zn2062,206.200 {463},In2306,ppm, 2.009,.0103,.5137, 2.002, 2.016

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 205.81,.14114,.06858,205.90,205.71
In2306,230.606 {446},Cts/S, 11762.,18.584,.15801,11749.,11775.
Y_2243,224.306 {450},Cts/S, 18585.,65.351,.35164,18538.,18631.
Y_3600,360.073 { 94},Cts/S, 167440.,648.01,.38702,166980.,167890.
Y_3710,371.030 { 91},Cts/S, 11485.,70.975,.61799,11535.,11435.

[Sample Header]
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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0005,.0008,167.8, .0010, -.0001
Al3082,308.215 {109},In2306,ppm, 1.503,.0087,.5777, 1.509, 1.497
As1890,189.042 {478},Y_2243,ppm, .0020,.0003,16.08, .0022, .0018
B_2496,249.678 {135},Y_3710,ppm, .0106,.0000,.4403, .0106, .0105
Ba4554,455.403 { 74},Y_3710,ppm, .0196,.0001,.4470, .0196, .0195
Be3130,313.042 {108},Y_3710,ppm, .0002,.0000,21.93, .0002, .0001
Ca3158,315.887 {107},In2306,ppm, .4430,.0158,3.560, .4542, .4319
Cd2288,228.802 {447},Y_2243,ppm, -.0000,.0002,435.6, .0001, -.0002
Co2286,228.616 {447},In2306,ppm, .0010,.0002,16.40, .0008, .0011
Cr2677,267.716 {126},Y_3600,ppm, .0059,.0002,3.259, .0058, .0061
Cu3247,324.754 {104},Y_3600,ppm, .0098,.0003,3.141, .0096, .0100
Fe2404,240.488 {140},In2306,ppm, 2.153,.0075,.3492, 2.147, 2.158
K_7664,766.490 { 44},Y_3710,ppm, .1144,.0122,10.68, .1057, .1230
Li6707,670.784 { 50},Y_3710,ppm, -.0017,.0005,30.37, -.0014, -.0021
Mg2790,279.079 {121},Y_3710,ppm, .2117,.0069,3.237, .2165, .2068
Mn2576,257.610 {131},Y_3600,ppm, .1010,.0002,.1775, .1011, .1009
Mo2020,202.030 {467},Y_2243,ppm, .0036,.0008,22.44, .0030, .0042
Na5895,589.592 { 57},Y_3710,ppm, .0229,.0131,57.43, .0322, .0136
Ni2316,231.604 {445},In2306,ppm, .0015,.0001,8.498, .0016, .0014
P_1782,178.284 {489},In2306,ppm, .1155,.0022,1.895, .1139, .1170
Pb2203,220.353 {453},In2306,ppm, .0020,.0015,77.38, .0009, .0031
S_1820,182.034 {485},Y_2243,ppm, -1.982,.0430,2.168, -2.013, -1.952
Sb2068,206.833 {463},Y_2243,ppm, .0008,.0004,42.44, .0011, .0006
Se1960,196.090 {472},Y_2243,ppm, -.0022,.0025,114.1, -.0040, -.0004
Si2516,251.611 {134},Y_3710,ppm, .1407,.0169,12.03, .1287, .1526
Sn1899,189.989 {477},In2306,ppm, .0056,.0023,40.54, .0040, .0072
Sr4215,421.552 { 80},Y_3710,ppm, .0027,.0000,1.644, .0027, .0028
Ti3349,334.904 {101},Y_3600,ppm, .0167,.0006,3.840, .0163, .0172
Tl1908,190.856 {477},In2306,ppm, .2954,.0132,4.469, .2860, .3047
U_3670,367.007 { 92},Y_3600,ppm, -.2915,.0454,15.56, -.3236, -.2594
V_2924,292.402 {115},Y_3600,ppm, .0036,.0003,7.232, .0038, .0034
W_2397,239.709 {140},Y_2243,ppm, .0057,.0742,1295., .0582, -.0467
Zn2062,206.200 {463},In2306,ppm, .0161,.0005,3.180, .0157, .0165

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 213.57,1.2502,.58540,214.45,212.69
In2306,230.606 {446},Cts/S, 13866.,238.10,1.7172,14034.,13697.
Y_2243,224.306 {450},Cts/S, 18794.,256.96,1.3672,18976.,18612.
Y_3600,360.073 { 94},Cts/S, 167510.,166.57,.09944,167390.,167630.
Y_3710,371.030 { 91},Cts/S, 10658.,29.611,.27784,10637.,10678.


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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .0086,.0003,2.953, .0088, .0084
Al3082,308.215 {109},In2306,ppm, .1833,.0016,.8667, .1822, .1844
As1890,189.042 {478},Y_2243,ppm, .0232,.0012,5.306, .0223, .0241
B_2496,249.678 {135},Y_3710,ppm, .2092,.0065,3.125, .2139, .2046
Ba4554,455.403 { 74},Y_3710,ppm, .0227,.0002,.6682, .0228, .0226
Be3130,313.042 {108},Y_3710,ppm, .0111,.0001,.9065, .0111, .0112
Ca3158,315.887 {107},In2306,ppm, 1.022,.0105,1.025, 1.030, 1.015
Cd2288,228.802 {447},Y_2243,ppm, .0111,.0000,.2241, .0111, .0111
Co2286,228.616 {447},In2306,ppm, .0105,.0002,2.052, .0103, .0106
Cr2677,267.716 {126},Y_3600,ppm, .0111,.0000,.1013, .0111, .0111
Cu3247,324.754 {104},Y_3600,ppm, .0149,.0001,.8642, .0148, .0150
Fe2404,240.488 {140},In2306,ppm, .1928,.0101,5.224, .1999, .1856
K_7664,766.490 { 44},Y_3710,ppm, 1.028,.0015,.1501, 1.029, 1.026
Li6707,670.784 { 50},Y_3710,ppm, .0083,.0007,8.489, .0078, .0088
Mg2790,279.079 {121},Y_3710,ppm, 1.072,.0176,1.641, 1.059, 1.084
Mn2576,257.610 {131},Y_3600,ppm, .0111,.0001,.5074, .0112, .0111
Mo2020,202.030 {467},Y_2243,ppm, .0233,.0001,.5396, .0232, .0234
Na5895,589.592 { 57},Y_3710,ppm, 1.074,.0007,.0634, 1.075, 1.074
Ni2316,231.604 {445},In2306,ppm, .0110,.0005,4.640, .0113, .0106
P_1782,178.284 {489},In2306,ppm, .9764,.0007,.0685, .9759, .9769
Pb2203,220.353 {453},In2306,ppm, .0108,.0002,2.189, .0110, .0107
S_1820,182.034 {485},Y_2243,ppm, -2.884,.0034,.1188, -2.881, -2.886
Sb2068,206.833 {463},Y_2243,ppm, .0545,.0014,2.550, .0555, .0535
Se1960,196.090 {472},Y_2243,ppm, .0192,.0017,9.072, .0179, .0204
Si2516,251.611 {134},Y_3710,ppm, .1741,.0054,3.074, .1704, .1779
Sn1899,189.989 {477},In2306,ppm, .0223,.0008,3.809, .0229, .0217
Sr4215,421.552 { 80},Y_3710,ppm, .0114,.0004,3.628, .0117, .0111
Ti3349,334.904 {101},Y_3600,ppm, .0108,.0003,3.097, .0105, .0110
Tl1908,190.856 {477},In2306,ppm, .1622,.0104,6.441, .1548, .1695
U_3670,367.007 { 92},Y_3600,ppm, -.2134,.1895,88.78, -.0794, -.3474
V_2924,292.402 {115},Y_3600,ppm, .0109,.0004,3.504, .0107, .0112
W_2397,239.709 {140},Y_2243,ppm, .0741,.0655,88.33, .1205, .0278
Zn2062,206.200 {463},In2306,ppm, .0193,.0000,.1195, .0193, .0193

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 210.84,2.9511,1.3997,212.93,208.76
In2306,230.606 {446},Cts/S, 13590.,19.022,.13997,13577.,13604.
Y_2243,224.306 {450},Cts/S, 18397.,30.060,.16339,18376.,18419.
Y_3600,360.073 { 94},Cts/S, 166130.,144.69,.08709,166030.,166230.
Y_3710,371.030 { 91},Cts/S, 10491.,26.054,.24835,10509.,10473.

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[Results]
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Ag3280,328.068 {103},Y_3600,ppm, .5008,.0008,.1588, .5014, .5002
Al3082,308.215 {109},In2306,ppm, 19.95,.5057,2.535, 19.59, 20.31
As1890,189.042 {478},Y_2243,ppm, 1.037,.0005,.0463, 1.037, 1.037
B_2496,249.678 {135},Y_3710,ppm, .9997,.0033,.3259, .9974, 1.002
Ba4554,455.403 { 74},Y_3710,ppm, 1.029,.0138,1.337, 1.019, 1.039
Be3130,313.042 {108},Y_3710,ppm, .9884,.0155,1.571, .9774, .9994

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Ca3158,315.887 {107},In2306,ppm, 19.79,.5543,2.801, 19.40, 20.18
Cd2288,228.802 {447},Y_2243,ppm, 1.001,.0009,.0908, 1.002, 1.001
Co2286,228.616 {447},In2306,ppm, .9745,.0020,.2065, .9760, .9731
Cr2677,267.716 {126},Y_3600,ppm, .9612,.0000,.0034, .9611, .9612
Cu3247,324.754 {104},Y_3600,ppm, .9899,.0054,.5450, .9937, .9860
Fe2404,240.488 {140},In2306,ppm, 19.92,.5525,2.773, 19.53, 20.31
K_7664,766.490 { 44},Y_3710,ppm, 20.27,.3177,1.567, 20.05, 20.50
Li6707,670.784 { 50},Y_3710,ppm, .9925,.0154,1.552, .9816, 1.003
Mg2790,279.079 {121},Y_3710,ppm, 20.36,.2630,1.292, 20.17, 20.54
Mn2576,257.610 {131},Y_3600,ppm, .9954,.0010,.0979, .9948, .9961
Mo2020,202.030 {467},Y_2243,ppm, 1.014,.0014,.1407, 1.015, 1.013
Na5895,589.592 { 57},Y_3710,ppm, 20.14,.2673,1.328, 19.95, 20.32
Ni2316,231.604 {445},In2306,ppm, .9905,.0003,.0341, .9902, .9907
P_1782,178.284 {489},In2306,ppm, 10.35,.0097,.0937, 10.35, 10.36
Pb2203,220.353 {453},In2306,ppm, .9821,.0034,.3463, .9797, .9845
S_1820,182.034 {485},Y_2243,ppm, 11.07,.0059,.0534, 11.07, 11.08
Sb2068,206.833 {463},Y_2243,ppm, 2.136,.0006,.0272, 2.135, 2.136
Se1960,196.090 {472},Y_2243,ppm, 1.013,.0040,.3971, 1.010, 1.016
Si2516,251.611 {134},Y_3710,ppm, 9.096,.2309,2.538, 8.932, 9.259
Sn1899,189.989 {477},In2306,ppm, .9893,.0005,.0529, .9889, .9897
Sr4215,421.552 { 80},Y_3710,ppm, 1.016,.0138,1.354, 1.006, 1.026
Ti3349,334.904 {101},Y_3600,ppm, .9999,.0042,.4159, .9970, 1.003
Tl1908,190.856 {477},In2306,ppm, .6114,.0207,3.380, .6261, .5968
U_3670,367.007 { 92},Y_3600,ppm, .8359,.0877,10.49, .8980, .7739
V_2924,292.402 {115},Y_3600,ppm, .9778,.0013,.1319, .9769, .9787
W_2397,239.709 {140},Y_2243,ppm, 1.379,.0218,1.580, 1.395, 1.364
Zn2062,206.200 {463},In2306,ppm, .9732,.0026,.2622, .9750, .9714

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 207.45,4.6870,2.2593,210.77,204.14
In2306,230.606 {446},Cts/S, 12705.,15.892,.12509,12694.,12716.
Y_2243,224.306 {450},Cts/S, 17966.,27.105,.15087,17947.,17985.
Y_3600,360.073 { 94},Cts/S, 162050.,196.55,.12129,162190.,161910.
Y_3710,371.030 { 91},Cts/S, 10444.,118.27,1.1324,10528.,10361.

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[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2
Ag3280,328.068 {103},Y_3600,ppm, .0008,.0006,73.61, .0013, .0004
Al3082,308.215 {109},In2306,ppm, -.0070,.0142,202.9, .0030, -.0170
As1890,189.042 {478},Y_2243,ppm, -.0019,.0007,38.11, -.0024, -.0014
B_2496,249.678 {135},Y_3710,ppm, -.0051,.0038,74.68, -.0024, -.0078
Ba4554,455.403 { 74},Y_3710,ppm, -.0000,.0000,2141., .0000, -.0000
Be3130,313.042 {108},Y_3710,ppm, .0002,.0000,14.57, .0002, .0002
Ca3158,315.887 {107},In2306,ppm, -.0007,.0016,220.8, .0004, -.0018
Cd2288,228.802 {447},Y_2243,ppm, -.0001,.0002,317.6, -.0002, .0001
Co2286,228.616 {447},In2306,ppm, -.0001,.0000,22.95, -.0001, -.0001
Cr2677,267.716 {126},Y_3600,ppm, .0003,.0001,26.31, .0003, .0002
Cu3247,324.754 {104},Y_3600,ppm, .0051,.0008,15.04, .0056, .0045
Fe2404,240.488 {140},In2306,ppm, -.0119,.0039,32.91, -.0092, -.0147
K_7664,766.490 { 44},Y_3710,ppm, -.0207,.0294,142.3, .0001, -.0415
Li6707,670.784 { 50},Y_3710,ppm, -.0023,.0015,65.39, -.0012, -.0034
Mg2790,279.079 {121},Y_3710,ppm, .0004,.0316,8090., .0228, -.0220
Mn2576,257.610 {131},Y_3600,ppm, .0000,.0000,250.1, -.0000, .0001
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Mo2020,202.030 {467},Y_2243,ppm, .0043,.0004,8.603, .0040, .0045
Na5895,589.592 { 57},Y_3710,ppm, .0169,.0013,7.752, .0160, .0178
Ni2316,231.604 {445},In2306,ppm, .0002,.0001,54.02, .0001, .0003
P_1782,178.284 {489},In2306,ppm, .0012,.0048,405.5, -.0022, .0046
Pb2203,220.353 {453},In2306,ppm, .0011,.0003,26.80, .0013, .0009
S_1820,182.034 {485},Y_2243,ppm, -1.142,.0062,.5435, -1.138, -1.147
Sb2068,206.833 {463},Y_2243,ppm, -.0008,.0005,59.48, -.0005, -.0012
Se1960,196.090 {472},Y_2243,ppm, .0009,.0021,234.8, -.0006, .0024
Si2516,251.611 {134},Y_3710,ppm, .0184,.0072,39.19, .0236, .0133
Sn1899,189.989 {477},In2306,ppm, .0011,.0008,71.22, .0006, .0017
Sr4215,421.552 { 80},Y_3710,ppm, .0002,.0001,45.91, .0002, .0001
Ti3349,334.904 {101},Y_3600,ppm, .0006,.0000,5.501, .0006, .0006
Tl1908,190.856 {477},In2306,ppm, .2992,.0011,.3630, .2984, .2999
U_3670,367.007 { 92},Y_3600,ppm, -.2762,.0680,24.60, -.2282, -.3243
V_2924,292.402 {115},Y_3600,ppm, -.0000,.0002,1238., -.0001, .0001
W_2397,239.709 {140},Y_2243,ppm, -.0029,.1035,3564., .0703, -.0761
Zn2062,206.200 {463},In2306,ppm, .0002,.0000,23.20, .0002, .0001

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2
In2306,230.606 {146},Cts/S, 214.49,.16479,.07683,214.38,214.61
In2306,230.606 {446},Cts/S, 13729.,15.025,.10944,13740.,13718.
Y_2243,224.306 {450},Cts/S, 18474.,33.014,.17870,18498.,18451.
Y_3600,360.073 { 94},Cts/S, 167580.,207.44,.12378,167730.,167430.
Y_3710,371.030 { 91},Cts/S, 10674.,6.2327,.05839,10678.,10669.
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Sample Report

File Name	001SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 10:52:56 AM
Sample Name	**rinse**
Comment	---
Dilution	**1.0000**
Vial #	5

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas		ppb			
Be	9	6	No Gas		ppb		1000	
B	11	6	No Gas		ppb		500	
Na	23	45	He		ppb		200000	
Mg	24	45	He		ppb		150000	
Al	27	45	He		ppb		50000	
Si	28	45	No Gas		ppb			
P	31	45	No Gas		ppb			
K	39	45	He		ppb		200000	
Ca	44	45	He		ppb			
Ti	47	45	He		ppb		1000	
V	51	45	He		ppb		2000	
Cr	52	45	He		ppb		4000	
Mn	55	45	He		ppb		5000	
Fe	56	45	He		ppb		100000	
Co	59	74	He		ppb		1000	
Ni	60	74	He		ppb		1000	
Cu	63	74	He		ppb		1000	
Zn	66	74	He		ppb		1000	
As	75	74	He		ppb		2000	
Se	78	115	He		ppb		1000	
Sr	88	115	He		ppb		2000	
Mo	95	115	He		ppb		1000	
Ag	107	115	He		ppb		100	
Cd	111	115	He		ppb		2000	
Sn	118	115	He		ppb		100	
Sb	121	159	He		ppb		100	
Ba	135	159	He		ppb		5000	
Tl	205	209	He		ppb		1000	
Pb	208	209	He		ppb		5000	
U	238		No Gas		ppb			

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	2011680.34	1.5		70	120	
Sc (IS)	45	He	77592.31	4.3		70	120	
Sc (IS)	45	No Gas	2826847.46	0.8		70	120	
Ge (IS)	72	He	61487.29	5.8				
Ge (IS)	74	He	94701.63	5.2		70	120	

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	426789.28	6.1		70	120	
In (IS)	115	He	596969.24	6.4		70	120	
Tb (IS)	159	He	3184711.51	3.7		70	120	
Bi (IS)	209	He	2769583.71	5.1		70	120	
Bi (IS)	209	No Gas	5737634.84	0.3				

Sample Report

File Name	002SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 10:56:05 AM
Sample Name	**rinse**
Comment	---
Dilution	**1.0000**
Vial #	5

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas		ppb			
Be	9	6	No Gas		ppb		1000	
B	11	6	No Gas		ppb		500	
Na	23	45	He		ppb		200000	
Mg	24	45	He		ppb		150000	
Al	27	45	He		ppb		50000	
Si	28	45	No Gas		ppb			
P	31	45	No Gas		ppb			
K	39	45	He		ppb		200000	
Ca	44	45	He		ppb			
Ti	47	45	He		ppb		1000	
V	51	45	He		ppb		2000	
Cr	52	45	He		ppb		4000	
Mn	55	45	He		ppb		5000	
Fe	56	45	He		ppb		100000	
Co	59	74	He		ppb		1000	
Ni	60	74	He		ppb		1000	
Cu	63	74	He		ppb		1000	
Zn	66	74	He		ppb		1000	
As	75	74	He		ppb		2000	
Se	78	115	He		ppb		1000	
Sr	88	115	He		ppb		2000	
Mo	95	115	He		ppb		1000	
Ag	107	115	He		ppb		100	
Cd	111	115	He		ppb		2000	
Sn	118	115	He		ppb		100	
Sb	121	159	He		ppb		100	
Ba	135	159	He		ppb		5000	
Tl	205	209	He		ppb		1000	
Pb	208	209	He		ppb		5000	
U	238		No Gas		ppb			

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	2056039.03	1.4		70	120	
Sc (IS)	45	He	82873.78	2.3		70	120	
Sc (IS)	45	No Gas	2820190.44	1.9		70	120	
Ge (IS)	72	He	66062.95	0.1				
Ge (IS)	74	He	101369.45	0.9		70	120	

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	459990.22	2.3		70	120	
In (IS)	115	He	635365.82	1.9		70	120	
Tb (IS)	159	He	3364442.62	2.1		70	120	
Bi (IS)	209	He	2868591.38	2.6		70	120	
Bi (IS)	209	No Gas	5752345.82	1.0				

Initial Calibration Verification (ICV)

File Name 009_ICV.d

File Path D:\Agilent\ICPMH\1\DATA\092519HOUa.b

Acq Time 2019-09-25 11:19:24 AM

Sample Name **ICV 3221013**

Comment ---

Dilution 1.0000

Vial # 1301

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	ExpectedValue	Lower Lmt	Upper Lmt	QC Flag
Li	7	6	No Gas	248.831	ppb	3.1	250	225	275	
Be	9	6	No Gas	257.327	ppb	0.7	250	225	275	
B	11	6	No Gas	248.748	ppb	0.4	250	225	275	
Na	23	45	He	5031.016	ppb	0.9	5000	4500	5500	
Mg	24	45	He	5008.593	ppb	0.9	5000	4500	5500	
Al	27	45	He	4961.160	ppb	0.4	5000	4500	5500	
Si	28	45	No Gas	2613.680	ppb	0.9	2500	2250	2750	
P	31	45	No Gas	2549.030	ppb	0.6	2500	2250	2750	
K	39	45	He	4984.994	ppb	1.4	5000	4500	5500	
Ca	44	45	He	4647.039	ppb	4.4	5000	4500	5500	
Ti	47	45	He	251.254	ppb	0.7	250	225	275	
V	51	45	He	246.329	ppb	0.5	250	225	275	
Cr	52	45	He	247.967	ppb	0.3	250	225	275	
Mn	55	45	He	250.924	ppb	1.2	250	225	275	
Fe	56	45	He	5032.799	ppb	0.8	5000	4500	5500	
Co	59	74	He	253.345	ppb	1.0	250	225	275	
Ni	60	74	He	254.215	ppb	1.6	250	225	275	
Cu	63	74	He	249.957	ppb	1.1	250	225	275	
Zn	66	74	He	251.660	ppb	2.1	250	225	275	
As	75	74	He	252.777	ppb	0.7	250	225	275	
Se	78	115	He	251.360	ppb	1.1	250	225	275	
Sr	88	115	He	253.615	ppb	0.6	250	225	275	
Mo	95	115	He	255.142	ppb	1.9	250	225	275	
Ag	107	115	He	121.634	ppb	1.0	100	90	110	failed
Cd	111	115	He	254.018	ppb	0.3	250	225	275	
Sn	118	115	He	248.750	ppb	0.4	250	225	275	
Sb	121	159	He	269.798	ppb	1.3	250	225	275	
Ba	135	159	He	261.917	ppb	1.4	250	225	275	
Tl	205	209	He	247.441	ppb	1.5	250	225	275	
Pb	208	209	He	246.703	ppb	1.5	250	225	275	
U	238		No Gas	260.764	ppb	0.6	250	225	275	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower %Lmt	Upper %Lmt	QC Flag
Li (IS)	6	No Gas	1983426.64	0.7	96.0	70	120	
Sc (IS)	45	He	78631.02	0.9	94.8	70	120	
Sc (IS)	45	No Gas	2565757.70	0.7	93.1	70	120	
Ge (IS)	72	He	62914.54	1.7	94.7			

Initial Calibration Verification (ICV)

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower %Lmt	Upper %Lmt	QC Flag
Ge (IS)	74	He	95679.90	2.3	93.7	70	120	
Y (IS)	89	He	427514.68	1.9	94.2	70	120	
In (IS)	115	He	590547.63	2.2	94.7	70	120	
Tb (IS)	159	He	3092440.65	2.2	94.3	70	120	
Bi (IS)	209	He	2635379.54	1.8	93.6	70	120	
Bi (IS)	209	No Gas	5360099.47	0.2	95.3			

Initial/Continuing Calibration Verification (ICVL/CCVL)

File Name 010CCVL.d

File Path D:\Agilent\ICPMH\1\DATA\092519HOUa.b

Acq Time 2019-09-25 11:22:29 AM

Sample Name **ICVL**

Comment ---

Dilution 1.0000

Vial # 1101

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	ExpectedValue	Lower Lmt	Upper Lmt	QC Flag
Li	7	6	No Gas	2.553	ppb	2.0	1	0.7	1.3	CCVL Main CR1 Failed
Be	9	6	No Gas	0.659	ppb	2.3	1	0.7	1.3	CCVL Main CR1 Failed
B	11	6	No Gas	24.778	ppb	1.3	1	0.7	1.3	CCVL Main CR1 Failed
Na	23	45	He	24.857	ppb	14.8	20	14	26	
Mg	24	45	He	23.021	ppb	4.5	20	14	26	
Al	27	45	He	25.180	ppb	8.8	20	14	26	
Si	28	45	No Gas	3.278	ppb	4.9	10	7	13	CCVL Main CR1 Failed
P	31	45	No Gas	-1.281	ppb	N/A	10	7	13	CCVL Main CR1 Failed
K	39	45	He	55.203	ppb	5.3	20	14	26	CCVL Main CR1 Failed
Ca	44	45	He	101.821	ppb	38.7	20	14	26	CCVL Main CR1 Failed
Ti	47	45	He	1.339	ppb	36.6	1	0.7	1.3	CCVL Main CR1 Failed
V	51	45	He	5.297	ppb	4.2	1	0.7	1.3	CCVL Main CR1 Failed
Cr	52	45	He	2.269	ppb	1.4	1	0.7	1.3	CCVL Main CR1 Failed
Mn	55	45	He	1.236	ppb	1.5	1	0.7	1.3	
Fe	56	45	He	14.083	ppb	4.7	20	14	26	
Co	59	74	He	0.411	ppb	18.4	1	0.7	1.3	CCVL Main CR1 Failed
Ni	60	74	He	2.288	ppb	6.6	1	0.7	1.3	CCVL Main CR1 Failed
Cu	63	74	He	2.545	ppb	4.8	1	0.7	1.3	CCVL Main CR1 Failed
Zn	66	74	He	6.090	ppb	4.3	1	0.7	1.3	CCVL Main CR1 Failed
As	75	74	He	1.182	ppb	7.4	1	0.7	1.3	
Se	78	115	He	5.062	ppb	16.4	1	0.7	1.3	CCVL Main CR1 Failed
Sr	88	115	He	1.203	ppb	11.6	1	0.7	1.3	
Mo	95	115	He	1.240	ppb	7.8	1	0.7	1.3	
Ag	107	115	He	1.145	ppb	0.2	0.5	0.35	0.65	CCVL Main CR1 Failed
Cd	111	115	He	1.196	ppb	5.0	1	0.7	1.3	
Sn	118	115	He	5.592	ppb	4.9	1	0.7	1.3	CCVL Main CR1 Failed
Sb	121	159	He	5.607	ppb	3.8	1	0.7	1.3	CCVL Main CR1 Failed
Ba	135	159	He	3.297	ppb	8.6	1	0.7	1.3	CCVL Main CR1 Failed
Tl	205	209	He	0.657	ppb	2.5	1	0.7	1.3	CCVL Main CR1 Failed
Pb	208	209	He	0.664	ppb	4.1	1	0.7	1.3	CCVL Main CR1 Failed
U	238		No Gas	0.087	ppb	1.9	1	0.7	1.3	CCVL Main CR1 Failed

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower %Lmt	Upper %Lmt	QC Flag
Li (IS)	6	No Gas	2004470.16	0.0	97.1	70	120	
Sc (IS)	45	He	79058.03	2.4	95.3	70	120	
Sc (IS)	45	No Gas	2632565.33	0.8	95.5	70	120	
Ge (IS)	72	He	63772.80	1.4	96.0			

Initial/Continuing Calibration Verification (ICVL/CCVL)

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower %Lmt	Upper %Lmt	QC Flag
Ge (IS)	74	He	96221.40	2.4	94.3	70	120	
Y (IS)	89	He	436417.34	1.8	96.1	70	120	
In (IS)	115	He	591296.76	3.0	94.8	70	120	
Tb (IS)	159	He	3093310.75	3.0	94.4	70	120	
Bi (IS)	209	He	2643652.06	2.2	93.9	70	120	
Bi (IS)	209	No Gas	5481542.69	1.3	97.5			

Initial/Continuing Calibration Blank (ICB/CCB)

File Name 011_CCB.d

File Path D:\Agilent\ICPMH\1\DATA\092519HOUa.b

Acq Time 2019-09-25 11:25:40 AM

Sample Name **ICB**

Comment ---

Dilution 1.0000

Method **Full Quant Table** 1306

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	ExpectedValue	Lower Lmt	Upper Lmt	QC Flag
Li	7	6	No Gas	0.247	ppb	388.4				
Be	9	6	No Gas	0.024	ppb	11.4	0.2	-0.2	0.2	
B	11	6	No Gas	2.999	ppb	5.7	20	-20	20	
Na	23	45	He	1.859	ppb	55.3	50	-50	50	
Mg	24	45	He	0.679	ppb	25.9	50	-50	50	
Al	27	45	He	0.571	ppb	167.3	10	-10	10	
Si	28	45	No Gas	-1.250	ppb	N/A				
P	31	45	No Gas	0.275	ppb	472.8				
K	39	45	He	-7.132	ppb	N/A	50	-50	50	
Ca	44	45	He	-11.202	ppb	N/A				
Ti	47	45	He	0.246	ppb	123.4	1	-1	1	
V	51	45	He	-0.009	ppb	N/A	1	-1	1	
Cr	52	45	He	0.015	ppb	388.5	1	-1	1	
Mn	55	45	He	0.050	ppb	152.8	2	-2	2	
Fe	56	45	He	0.552	ppb	86.8	30	-30	30	
Co	59	74	He	0.026	ppb	39.9	1	-1	1	
Ni	60	74	He	0.039	ppb	195.4	1	-1	1	
Cu	63	74	He	0.065	ppb	155.1	1	-1	1	
Zn	66	74	He	0.457	ppb	102.0	4	-4	4	
As	75	74	He	0.091	ppb	12.5	0.5	-0.5	0.5	
Se	78	115	He	-1.410	ppb	N/A	0.5	-0.5	0.5	failed
Sr	88	115	He	0.022	ppb	68.3	1	-1	1	
Mo	95	115	He	0.043	ppb	47.5	1	-1	1	
Ag	107	115	He	0.015	ppb	21.8	1	-1	1	
Cd	111	115	He	0.055	ppb	28.6	0.5	-0.5	0.5	
Sn	118	115	He	0.179	ppb	44.4	4	-4	4	
Sb	121	159	He	0.018	ppb	77.7	0.5	-0.5	0.5	
Ba	135	159	He	0.138	ppb	73.7				
Tl	205	209	He	0.045	ppb	20.9	0.2	-0.2	0.2	
Pb	208	209	He	0.020	ppb	72.2	0.3	-0.3	0.3	
U	238		No Gas	0.017	ppb	9.1				

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower %Lmt	Upper %Lmt	QC Flag
Li (IS)	6	No Gas	2018588.16	3.1	97.7	70	120	
Sc (IS)	45	He	80165.11	2.7	96.6	70	120	
Sc (IS)	45	No Gas	2616442.53	0.5	94.9	70	120	
Ge (IS)	72	He	63790.41	2.6	96.0			
Ge (IS)	74	He	97345.77	2.6	95.4	70	120	

Initial/Continuing Calibration Blank (ICB/CCB)

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower %Lmt	Upper %Lmt	QC Flag
Y (IS)	89	He	433598.91	2.4	95.5	70	120	
In (IS)	115	He	587900.01	2.1	94.3	70	120	
Tb (IS)	159	He	3094171.48	1.8	94.4	70	120	
Bi (IS)	209	He	2683727.49	2.5	95.3	70	120	
Bi (IS)	209	No Gas	5397669.02	1.1	96.0			

Interference Check Standard-A (ICSA)

File Name 012ICSA.d

File Path D:\Agilent\ICPMH\1\DATA\092519HOUa.b

Acq Time 2019-09-25 11:28:48 AM

Sample Name **ICSA 3279731**

Comment ---

Dilution 1.0000

Vial # 1

Method 1303

Full Quant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	ExpectedValue	Lower Lmt	Upper Lmt	QC Flag
Li	7	6	No Gas	0.076	ppb	242.9				
Be	9	6	No Gas	0.013	ppb	46.4	0.2	-0.4	0.4	
B	11	6	No Gas	2.349	ppb	7.2	20	-40	40	
Na	23	45	He	9967.072	ppb	2.2	10000	8000	12000	
Mg	24	45	He	9803.727	ppb	0.5	10000	8000	12000	
Al	27	45	He	9814.888	ppb	1.1	10000	8000	12000	
Si	28	45	No Gas	19.458	ppb	4.3				
P	31	45	No Gas	9581.527	ppb	3.1	10000	8000	12000	
K	39	45	He	9849.365	ppb	1.3	10000	8000	12000	
Ca	44	45	He	9684.195	ppb	2.3	10000	8000	12000	
Ti	47	45	He	197.223	ppb	1.7	200	160	240	
V	51	45	He	-0.007	ppb	N/A	1	-2	2	
Cr	52	45	He	0.423	ppb	3.9	1	-2	2	
Mn	55	45	He	0.154	ppb	7.3	2	-4	4	
Fe	56	45	He	9789.409	ppb	0.8	10000	8000	12000	
Co	59	74	He	0.015	ppb	26.4	1	-2	2	
Ni	60	74	He	0.243	ppb	51.1	1	-2	2	
Cu	63	74	He	0.133	ppb	94.9	1	-2	2	
Zn	66	74	He	5.575	ppb	9.7	4	-8	8	
As	75	74	He	0.055	ppb	59.8	0.5	-1	1	
Se	78	115	He	-1.398	ppb	N/A	0.5	-1	1	failed
Sr	88	115	He	0.168	ppb	38.8	1	-2	2	
Mo	95	115	He	201.466	ppb	1.8	200	160	240	
Ag	107	115	He	0.171	ppb	10.9	1	-2	2	
Cd	111	115	He	0.054	ppb	8.3	1	-2	2	
Sn	118	115	He	0.233	ppb	20.9	4	-8	8	
Sb	121	159	He	0.056	ppb	60.6	1	-2	2	
Ba	135	159	He	0.242	ppb	69.0				
Tl	205	209	He	0.025	ppb	6.8	0.2	-0.4	0.4	
Pb	208	209	He	0.050	ppb	27.5	0.3	-0.6	0.6	
U	238		No Gas	0.022	ppb	10.3				

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower %Lmt	Upper %Lmt	QC Flag
Li (IS)	6	No Gas	1999991.36	0.4	96.8	70	120	
Sc (IS)	45	He	78233.39	1.6	94.3	70	120	
Sc (IS)	45	No Gas	2582938.68	1.6	93.7	70	120	
Ge (IS)	72	He	62845.20	2.7	94.6			

Interference Check Standard-A (ICSA)

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower %Lmt	Upper %Lmt	QC Flag
Ge (IS)	74	He	95384.49	1.3	93.4	70	120	
Y (IS)	89	He	427829.78	2.1	94.2	70	120	
In (IS)	115	He	579828.52	2.2	93.0	70	120	
Tb (IS)	159	He	3106211.55	1.5	94.8	70	120	
Bi (IS)	209	He	2582049.40	0.4	91.7	70	120	
Bi (IS)	209	No Gas	5316987.46	0.4	94.5			

Interference Check Standard-AB (ICSAB)

File Name 013ICSB.d

File Path D:\Agilent\ICPMH\1\DATA\092519HOUa.b

Acq Time 2019-09-25 11:31:57 AM

Sample Name **ICSAB 3196899**

Comment ---

Dilution 1.0000

Method 1304

Full Quant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	ExpectedValue	Lower Lmt	Upper Lmt	QC Flag
Li	7	6	No Gas	98.463	ppb	1.0	100	80	120	
Be	9	6	No Gas	98.482	ppb	0.4	100	80	120	
B	11	6	No Gas	2.296	ppb	6.5				
Na	23	45	He	9978.342	ppb	1.1	10000	8000	12000	
Mg	24	45	He	9772.282	ppb	0.6	10000	8000	12000	
Al	27	45	He	9746.368	ppb	1.2	10000	8000	12000	
Si	28	45	No Gas	183.607	ppb	1.1	100	80	120	failed
P	31	45	No Gas	9544.949	ppb	2.9	10000	8000	12000	
K	39	45	He	9868.397	ppb	0.3	10000	8000	12000	
Ca	44	45	He	9707.767	ppb	2.1	10000	8000	12000	
Ti	47	45	He	194.448	ppb	1.7	250	200	1200	failed
V	51	45	He	97.687	ppb	0.4	100	80	120	
Cr	52	45	He	98.161	ppb	1.1	100	80	120	
Mn	55	45	He	98.084	ppb	0.8	100	80	120	
Fe	56	45	He	9899.582	ppb	0.3	10000	8000	12000	
Co	59	74	He	99.162	ppb	0.4	100	80	120	
Ni	60	74	He	98.622	ppb	0.6	100	80	120	
Cu	63	74	He	99.351	ppb	0.2	100	80	120	
Zn	66	74	He	100.049	ppb	2.0				
As	75	74	He	100.682	ppb	0.4	100	80	120	
Se	78	115	He	99.290	ppb	0.7	100	80	120	
Sr	88	115	He	102.952	ppb	1.4	100	80	120	
Mo	95	115	He	205.281	ppb	0.2	200	160	240	
Ag	107	115	He	100.059	ppb	1.3				
Cd	111	115	He	101.020	ppb	1.0	100	80	120	
Sn	118	115	He	100.425	ppb	0.9	100	80	120	
Sb	121	159	He	49.002	ppb	0.9	50	40	60	
Ba	135	159	He	103.120	ppb	3.8	100	80	80	failed
Tl	205	209	He	49.346	ppb	1.2				
Pb	208	209	He	98.366	ppb	1.1	100	80	120	
U	238		No Gas	0.019	ppb	16.3				

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower %Lmt	Upper %Lmt	QC Flag
Li (IS)	6	No Gas	1970741.04	0.7	95.4	70	120	
Sc (IS)	45	He	78192.00	1.0	94.2	70	120	
Sc (IS)	45	No Gas	2538531.30	0.5	92.1	70	120	
Ge (IS)	72	He	62451.27	1.6	94.0			

Interference Check Standard-AB (ICSAB)

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower %Lmt	Upper %Lmt	QC Flag
Ge (IS)	74	He	95271.69	1.2	93.3	70	120	
Y (IS)	89	He	423896.64	1.4	93.4	70	120	
In (IS)	115	He	573011.99	1.9	91.9	70	120	
Tb (IS)	159	He	3069731.93	1.8	93.6	70	120	
Bi (IS)	209	He	2565628.92	0.3	91.1	70	120	
Bi (IS)	209	No Gas	5224514.30	0.6	92.9			

Sample Report

File Name	014SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 11:35:05 AM
Sample Name	**rinse**
Comment	---
Dilution	**1.0000**
Vial #	5

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	0.459	ppb	81.4		
Be	9	6	No Gas	0.039	ppb	9.8	1000	
B	11	6	No Gas	1.544	ppb	10.0	500	
Na	23	45	He	16.026	ppb	6.4	200000	
Mg	24	45	He	6.204	ppb	13.7	150000	
Al	27	45	He	6.783	ppb	26.7	50000	
Si	28	45	No Gas	1.780	ppb	24.4		
P	31	45	No Gas	12.146	ppb	4.4		
K	39	45	He	-0.233	ppb	N/A	200000	
Ca	44	45	He	30.086	ppb	76.5		
Ti	47	45	He	0.111	ppb	45.9	1000	
V	51	45	He	-0.008	ppb	N/A	2000	
Cr	52	45	He	0.019	ppb	187.2	4000	
Mn	55	45	He	0.101	ppb	30.7	5000	
Fe	56	45	He	5.652	ppb	12.3	100000	
Co	59	74	He	0.022	ppb	53.8	1000	
Ni	60	74	He	0.122	ppb	73.5	1000	
Cu	63	74	He	0.139	ppb	71.7	1000	
Zn	66	74	He	0.455	ppb	23.7	1000	
As	75	74	He	0.066	ppb	17.7	2000	
Se	78	115	He	0.026	ppb	2932.4	1000	
Sr	88	115	He	0.058	ppb	100.2	2000	
Mo	95	115	He	0.081	ppb	32.2	1000	
Ag	107	115	He	0.030	ppb	22.5	100	
Cd	111	115	He	0.057	ppb	41.8	2000	
Sn	118	115	He	0.082	ppb	97.2	100	
Sb	121	159	He	0.012	ppb	187.0	100	
Ba	135	159	He	0.014	ppb	822.0	5000	
Tl	205	209	He	0.042	ppb	11.5	1000	
Pb	208	209	He	0.031	ppb	21.5	5000	
U	238		No Gas	0.004	ppb	37.3		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	2022929.02	1.6	97.9	70	120	
Sc (IS)	45	He	79523.83	2.7	95.8	70	120	
Sc (IS)	45	No Gas	2623642.39	0.5	95.2	70	120	
Ge (IS)	72	He	63740.23	1.0	95.9			
Ge (IS)	74	He	97523.64	2.3	95.5	70	120	

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	440259.77	1.0	97.0	70	120	
In (IS)	115	He	602538.83	2.9	96.6	70	120	
Tb (IS)	159	He	3101936.52	1.9	94.6	70	120	
Bi (IS)	209	He	2642240.43	1.9	93.8	70	120	
Bi (IS)	209	No Gas	5450971.27	2.2	96.9			

Sample Report

File Name	015SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 11:38:16 AM
Sample Name	**rinse**
Comment	---
Dilution	**1.0000**
Vial #	5

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	-0.363	ppb	N/A		
Be	9	6	No Gas	0.011	ppb	23.2	1000	
B	11	6	No Gas	1.183	ppb	13.2	500	
Na	23	45	He	14.301	ppb	34.0	200000	
Mg	24	45	He	1.799	ppb	32.8	150000	
Al	27	45	He	1.402	ppb	62.0	50000	
Si	28	45	No Gas	0.044	ppb	217.9		
P	31	45	No Gas	8.376	ppb	5.0		
K	39	45	He	-3.898	ppb	N/A	200000	
Ca	44	45	He	0.883	ppb	1945.6		
Ti	47	45	He	0.020	ppb	447.5	1000	
V	51	45	He	-0.030	ppb	N/A	2000	
Cr	52	45	He	0.058	ppb	36.0	4000	
Mn	55	45	He	0.067	ppb	152.2	5000	
Fe	56	45	He	2.229	ppb	16.5	100000	
Co	59	74	He	0.007	ppb	58.1	1000	
Ni	60	74	He	0.006	ppb	1097.4	1000	
Cu	63	74	He	0.087	ppb	89.0	1000	
Zn	66	74	He	0.532	ppb	150.6	1000	
As	75	74	He	0.031	ppb	75.6	2000	
Se	78	115	He	-0.363	ppb	N/A	1000	
Sr	88	115	He	0.041	ppb	82.1	2000	
Mo	95	115	He	0.024	ppb	87.1	1000	
Ag	107	115	He	0.014	ppb	56.4	100	
Cd	111	115	He	0.017	ppb	89.2	2000	
Sn	118	115	He	0.143	ppb	116.7	100	
Sb	121	159	He	-0.011	ppb	N/A	100	
Ba	135	159	He	-0.002	ppb	N/A	5000	
Tl	205	209	He	0.025	ppb	20.5	1000	
Pb	208	209	He	-0.002	ppb	N/A	5000	
U	238		No Gas	0.005	ppb	6.9		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	2068322.37	0.7	100.1	70	120	
Sc (IS)	45	He	80285.72	3.0	96.8	70	120	
Sc (IS)	45	No Gas	2656853.09	1.1	96.4	70	120	
Ge (IS)	72	He	63618.55	2.5	95.8			
Ge (IS)	74	He	97926.31	1.7	95.9	70	120	

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	440824.26	2.7	97.1	70	120	
In (IS)	115	He	605106.30	2.1	97.0	70	120	
Tb (IS)	159	He	3124219.64	1.4	95.3	70	120	
Bi (IS)	209	He	2675517.31	0.9	95.0	70	120	
Bi (IS)	209	No Gas	5445647.38	0.5	96.8			

Continuing Calibration Verification (CCV)

File Name 016_CCV.d

File Path D:\Agilent\ICPMH\1\DATA\092519HOUa.b

Acq Time 2019-09-25 11:41:24 AM

Sample Name **CCV 3198218**

Comment ---

Dilution 1.0000

Vial # 1105

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	ExpectedValue	Lower Lmt	Upper Lmt	QC Flag
Li	7	6	No Gas	244.316	ppb	3.3	250	225	275	
Be	9	6	No Gas	245.099	ppb	1.3	250	225	275	
B	11	6	No Gas	243.567	ppb	2.9	250	225	275	
Na	23	45	He	5181.492	ppb	1.1	5000	4500	5500	
Mg	24	45	He	5045.550	ppb	1.6	5000	4500	5500	
Al	27	45	He	5016.098	ppb	0.9	5000	4500	5500	
Si	28	45	No Gas	2512.744	ppb	1.9	2500	2250	2750	
P	31	45	No Gas	2468.492	ppb	1.8	2500	2250	2750	
K	39	45	He	5019.021	ppb	1.7	5000	4500	5500	
Ca	44	45	He	4778.753	ppb	3.4	5000	4500	5500	
Ti	47	45	He	248.811	ppb	1.3	250	225	275	
V	51	45	He	247.928	ppb	2.1	250	225	275	
Cr	52	45	He	247.240	ppb	1.7	250	225	275	
Mn	55	45	He	250.324	ppb	1.8	250	225	275	
Fe	56	45	He	5052.107	ppb	1.3	5000	4500	5500	
Co	59	74	He	248.050	ppb	1.3	250	225	275	
Ni	60	74	He	250.694	ppb	1.7	250	225	275	
Cu	63	74	He	248.238	ppb	1.7	250	225	275	
Zn	66	74	He	247.441	ppb	2.8	250	225	275	
As	75	74	He	248.613	ppb	2.1	250	225	275	
Se	78	115	He	250.525	ppb	0.7	250	225	275	
Sr	88	115	He	252.673	ppb	0.3	250	225	275	
Mo	95	115	He	253.392	ppb	1.3	250	225	275	
Ag	107	115	He	125.968	ppb	2.5	125	112.5	137.5	
Cd	111	115	He	251.896	ppb	0.9	250	225	275	
Sn	118	115	He	248.812	ppb	1.3	250	225	275	
Sb	121	159	He	247.475	ppb	0.6	250	225	275	
Ba	135	159	He	245.200	ppb	1.9	250	225	275	
Tl	205	209	He	245.008	ppb	1.3	250	225	275	
Pb	208	209	He	245.474	ppb	2.4	250	225	275	
U	238		No Gas	251.021	ppb	0.5	250	225	275	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower %Lmt	Upper %Lmt	QC Flag
Li (IS)	6	No Gas	1983139.63	1.7	96.0	70	120	
Sc (IS)	45	He	77725.03	2.8	93.7	70	120	
Sc (IS)	45	No Gas	2549878.04	1.6	92.5	70	120	

Continuing Calibration Verification (CCV)

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower %Lmt	Upper %Lmt	QC Flag
Ge (IS)	72	He	62178.87	1.7	93.6			
Ge (IS)	74	He	96288.53	3.4	94.3	70	120	
Y (IS)	89	He	424651.36	2.2	93.5	70	120	
In (IS)	115	He	576794.56	2.5	92.5	70	120	
Tb (IS)	159	He	3048999.81	1.7	93.0	70	120	
Bi (IS)	209	He	2559370.05	3.2	90.9	70	120	
Bi (IS)	209	No Gas	5270600.16	1.1	93.7			

Initial/Continuing Calibration Verification (ICVL/CCVL)

File Name 017CCVL.d

File Path D:\Agilent\ICPMH\1\DATA\092519HOUa.b

Acq Time 2019-09-25 11:44:31 AM

Sample Name **CCVL**

Comment ---

Dilution 1.0000

Vial # 1101

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	ExpectedValue	Lower Lmt	Upper Lmt	QC Flag
Li	7	6	No Gas	2.220	ppb	35.7	1	0.7	1.3	CCVL Main CR1 Failed
Be	9	6	No Gas	0.583	ppb	4.9	1	0.7	1.3	CCVL Main CR1 Failed
B	11	6	No Gas	22.282	ppb	3.8	1	0.7	1.3	CCVL Main CR1 Failed
Na	23	45	He	23.566	ppb	29.6	20	14	26	
Mg	24	45	He	22.967	ppb	6.6	20	14	26	
Al	27	45	He	23.512	ppb	6.5	20	14	26	
Si	28	45	No Gas	1.563	ppb	16.6	10	7	13	CCVL Main CR1 Failed
P	31	45	No Gas	-0.965	ppb	N/A	10	7	13	CCVL Main CR1 Failed
K	39	45	He	49.908	ppb	7.3	20	14	26	CCVL Main CR1 Failed
Ca	44	45	He	85.007	ppb	20.5	20	14	26	CCVL Main CR1 Failed
Ti	47	45	He	0.954	ppb	29.2	1	0.7	1.3	
V	51	45	He	5.095	ppb	4.9	1	0.7	1.3	CCVL Main CR1 Failed
Cr	52	45	He	2.129	ppb	3.6	1	0.7	1.3	CCVL Main CR1 Failed
Mn	55	45	He	1.195	ppb	11.5	1	0.7	1.3	
Fe	56	45	He	13.128	ppb	2.7	20	14	26	CCVL Main CR1 Failed
Co	59	74	He	0.387	ppb	8.1	1	0.7	1.3	CCVL Main CR1 Failed
Ni	60	74	He	2.216	ppb	6.0	1	0.7	1.3	CCVL Main CR1 Failed
Cu	63	74	He	2.558	ppb	3.7	1	0.7	1.3	CCVL Main CR1 Failed
Zn	66	74	He	6.267	ppb	10.7	1	0.7	1.3	CCVL Main CR1 Failed
As	75	74	He	1.012	ppb	8.4	1	0.7	1.3	
Se	78	115	He	5.245	ppb	11.5	1	0.7	1.3	CCVL Main CR1 Failed
Sr	88	115	He	1.173	ppb	5.4	1	0.7	1.3	
Mo	95	115	He	1.075	ppb	13.5	1	0.7	1.3	
Ag	107	115	He	1.020	ppb	3.5	0.5	0.35	0.65	CCVL Main CR1 Failed
Cd	111	115	He	1.074	ppb	9.5	1	0.7	1.3	
Sn	118	115	He	5.323	ppb	3.3	1	0.7	1.3	CCVL Main CR1 Failed
Sb	121	159	He	5.600	ppb	4.7	1	0.7	1.3	CCVL Main CR1 Failed
Ba	135	159	He	3.566	ppb	1.7	1	0.7	1.3	CCVL Main CR1 Failed
Tl	205	209	He	0.587	ppb	3.2	1	0.7	1.3	CCVL Main CR1 Failed
Pb	208	209	He	0.572	ppb	5.8	1	0.7	1.3	CCVL Main CR1 Failed
U	238		No Gas	0.047	ppb	5.0	1	0.7	1.3	CCVL Main CR1 Failed

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower %Lmt	Upper %Lmt	QC Flag
Li (IS)	6	No Gas	2001648.18	1.5	96.9	70	120	
Sc (IS)	45	He	79841.22	2.6	96.2	70	120	
Sc (IS)	45	No Gas	2570705.38	0.7	93.3	70	120	
Ge (IS)	72	He	62825.07	2.1	94.6			

Initial/Continuing Calibration Verification (ICVL/CCVL)

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower %Lmt	Upper %Lmt	QC Flag
Ge (IS)	74	He	97289.87	2.2	95.3	70	120	
Y (IS)	89	He	428335.96	2.0	94.3	70	120	
In (IS)	115	He	588468.21	2.5	94.4	70	120	
Tb (IS)	159	He	3081374.67	2.2	94.0	70	120	
Bi (IS)	209	He	2666891.91	0.9	94.7	70	120	
Bi (IS)	209	No Gas	5421502.14	1.0	96.4			

Initial/Continuing Calibration Blank (ICB/CCB)

File Name 018_CCB.d

File Path D:\Agilent\ICPMH\1\DATA\092519HOUa.b

Acq Time 2019-09-25 11:48:53 AM

Sample Name **CCB**

Comment ---

Dilution 1.0000

Method **Full Quant Table** 1306

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	ExpectedValue	Lower Lmt	Upper Lmt	QC Flag
Li	7	6	No Gas	-0.288	ppb	N/A				
Be	9	6	No Gas	0.005	ppb	56.2	0.2	-0.2	0.2	
B	11	6	No Gas	1.453	ppb	5.1	20	-20	20	
Na	23	45	He	2.893	ppb	160.5	50	-50	50	
Mg	24	45	He	0.270	ppb	229.2	50	-50	50	
Al	27	45	He	0.480	ppb	214.0	10	-10	10	
Si	28	45	No Gas	-1.880	ppb	N/A				
P	31	45	No Gas	-0.035	ppb	N/A				
K	39	45	He	-1.069	ppb	N/A	50	-50	50	
Ca	44	45	He	-20.417	ppb	N/A				
Ti	47	45	He	0.117	ppb	245.9	1	-1	1	
V	51	45	He	0.004	ppb	359.1	1	-1	1	
Cr	52	45	He	-0.079	ppb	N/A	1	-1	1	
Mn	55	45	He	0.062	ppb	99.2	2	-2	2	
Fe	56	45	He	-0.022	ppb	N/A	30	-30	30	
Co	59	74	He	0.004	ppb	204.3	1	-1	1	
Ni	60	74	He	0.050	ppb	123.6	1	-1	1	
Cu	63	74	He	0.096	ppb	90.4	1	-1	1	
Zn	66	74	He	0.090	ppb	869.6	4	-4	4	
As	75	74	He	0.010	ppb	112.1	0.5	-0.5	0.5	
Se	78	115	He	0.052	ppb	713.1	0.5	-0.5	0.5	
Sr	88	115	He	0.019	ppb	114.2	1	-1	1	
Mo	95	115	He	-0.009	ppb	N/A	1	-1	1	
Ag	107	115	He	0.012	ppb	30.3	1	-1	1	
Cd	111	115	He	0.020	ppb	29.6	0.5	-0.5	0.5	
Sn	118	115	He	0.162	ppb	35.5	4	-4	4	
Sb	121	159	He	-0.004	ppb	N/A	0.5	-0.5	0.5	
Ba	135	159	He	-0.038	ppb	N/A				
Tl	205	209	He	0.024	ppb	17.8	0.2	-0.2	0.2	
Pb	208	209	He	0.013	ppb	91.2	0.3	-0.3	0.3	
U	238		No Gas	0.007	ppb	23.2				

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower %Lmt	Upper %Lmt	QC Flag
Li (IS)	6	No Gas	2063102.89	0.5	99.9	70	120	
Sc (IS)	45	He	81956.28	0.3	98.8	70	120	
Sc (IS)	45	No Gas	2571027.10	1.9	93.3	70	120	
Ge (IS)	72	He	65720.33	1.1	98.9			
Ge (IS)	74	He	100451.65	0.1	98.4	70	120	

Initial/Continuing Calibration Blank (ICB/CCB)

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower %Lmt	Upper %Lmt	QC Flag
Y (IS)	89	He	447552.80	0.7	98.6	70	120	
In (IS)	115	He	606225.17	0.6	97.2	70	120	
Tb (IS)	159	He	3211139.12	2.7	98.0	70	120	
Bi (IS)	209	He	2677447.88	0.2	95.1	70	120	
Bi (IS)	209	No Gas	5341870.96	0.7	95.0			

Sample Report

File Name	019SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 11:52:04 AM
Sample Name	**MB 600-275511/1-A**
Comment	---
Dilution	**1.0000**
Vial #	3101

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	-0.070	ppb	N/A		
Be	9	6	No Gas	0.004	ppb	78.7	1000	
B	11	6	No Gas	1.428	ppb	7.0	500	
Na	23	45	He	1.498	ppb	270.8	200000	
Mg	24	45	He	0.613	ppb	84.6	150000	
Al	27	45	He	2.079	ppb	85.3	50000	
Si	28	45	No Gas	-0.781	ppb	N/A		
P	31	45	No Gas	7.882	ppb	39.2		
K	39	45	He	-5.920	ppb	N/A	200000	
Ca	44	45	He	-5.852	ppb	N/A		
Ti	47	45	He	0.065	ppb	5.7	1000	
V	51	45	He	0.004	ppb	1045.5	2000	
Cr	52	45	He	-0.004	ppb	N/A	4000	
Mn	55	45	He	0.070	ppb	215.0	5000	
Fe	56	45	He	0.391	ppb	49.6	100000	
Co	59	74	He	0.007	ppb	85.6	1000	
Ni	60	74	He	0.030	ppb	44.7	1000	
Cu	63	74	He	0.220	ppb	58.9	1000	
Zn	66	74	He	0.690	ppb	134.9	1000	
As	75	74	He	0.014	ppb	109.0	2000	
Se	78	115	He	-0.711	ppb	N/A	1000	
Sr	88	115	He	-0.013	ppb	N/A	2000	
Mo	95	115	He	0.008	ppb	161.0	1000	
Ag	107	115	He	0.004	ppb	170.4	100	
Cd	111	115	He	0.012	ppb	40.5	2000	
Sn	118	115	He	0.148	ppb	50.1	100	
Sb	121	159	He	0.006	ppb	210.4	100	
Ba	135	159	He	0.278	ppb	84.6	5000	
Tl	205	209	He	0.010	ppb	49.3	1000	
Pb	208	209	He	0.201	ppb	7.3	5000	
U	238		No Gas	0.001	ppb	12.4		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	2042422.53	1.3	98.9	70	120	
Sc (IS)	45	He	79692.68	2.1	96.0	70	120	
Sc (IS)	45	No Gas	2575088.19	1.3	93.4	70	120	
Ge (IS)	72	He	64087.50	3.3	96.5			
Ge (IS)	74	He	97166.68	1.9	95.2	70	120	

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	433877.05	2.3	95.6	70	120	
In (IS)	115	He	584959.98	1.6	93.8	70	120	
Tb (IS)	159	He	3127369.19	2.7	95.4	70	120	
Bi (IS)	209	He	2575364.96	2.0	91.4	70	120	
Bi (IS)	209	No Gas	5312048.22	1.0	94.4			

Sample Report

File Name	020SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 11:55:13 AM
Sample Name	**LCS 600-275511/2-A**
Comment	---
Dilution	**1.0000**
Vial #	3102

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	94.786	ppb	2.5		
Be	9	6	No Gas	98.482	ppb	1.8	1000	
B	11	6	No Gas	48.172	ppb	1.0	500	
Na	23	45	He	1042.254	ppb	1.2	200000	
Mg	24	45	He	1024.269	ppb	1.5	150000	
Al	27	45	He	1009.618	ppb	1.1	50000	
Si	28	45	No Gas	959.304	ppb	2.6		
P	31	45	No Gas	502.279	ppb	3.0		
K	39	45	He	1018.485	ppb	3.0	200000	
Ca	44	45	He	1048.523	ppb	20.4		
Ti	47	45	He	99.227	ppb	2.6	1000	
V	51	45	He	97.743	ppb	1.1	2000	
Cr	52	45	He	98.905	ppb	1.2	4000	
Mn	55	45	He	98.501	ppb	1.1	5000	
Fe	56	45	He	1046.089	ppb	1.3	100000	
Co	59	74	He	99.836	ppb	0.5	1000	
Ni	60	74	He	101.632	ppb	1.7	1000	
Cu	63	74	He	100.220	ppb	1.9	1000	
Zn	66	74	He	48.627	ppb	1.7	1000	
As	75	74	He	98.350	ppb	0.8	2000	
Se	78	115	He	97.706	ppb	1.4	1000	
Sr	88	115	He	99.485	ppb	1.4	2000	
Mo	95	115	He	100.407	ppb	0.4	1000	
Ag	107	115	He	24.891	ppb	0.6	100	
Cd	111	115	He	98.344	ppb	1.1	2000	
Sn	118	115	He	97.732	ppb	2.5	100	
Sb	121	159	He	148.434	ppb	1.3	100	failed
Ba	135	159	He	101.533	ppb	3.0	5000	
Tl	205	209	He	96.420	ppb	1.7	1000	
Pb	208	209	He	96.387	ppb	0.9	5000	
U	238		No Gas	48.735	ppb	0.5		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	2037456.34	1.0	98.6	70	120	
Sc (IS)	45	He	78382.98	2.0	94.5	70	120	
Sc (IS)	45	No Gas	2547361.33	1.4	92.4	70	120	
Ge (IS)	72	He	62548.32	2.2	94.1			
Ge (IS)	74	He	95873.33	2.2	93.9	70	120	

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	429831.37	2.5	94.7	70	120	
In (IS)	115	He	579693.72	1.9	93.0	70	120	
Tb (IS)	159	He	3076986.17	2.4	93.9	70	120	
Bi (IS)	209	He	2603950.27	1.9	92.4	70	120	
Bi (IS)	209	No Gas	5306027.56	0.2	94.3			

Sample Report

File Name	021SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 11:58:23 AM
Sample Name	**600-192361-B-1-A**
Comment	---
Dilution	**1.0000**
Vial #	3103

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	18.556	ppb	2.7		
Be	9	6	No Gas	0.043	ppb	20.6	1000	
B	11	6	No Gas	45.444	ppb	0.5	500	
Na	23	45	He	12774.567	ppb	1.2	200000	
Mg	24	45	He	2127.049	ppb	0.6	150000	
Al	27	45	He	24.684	ppb	5.9	50000	
Si	28	45	No Gas	9458.690	ppb	2.7		
P	31	45	No Gas	31.006	ppb	5.5		
K	39	45	He	10042.193	ppb	1.8	200000	
Ca	44	45	He	20988.068	ppb	3.1		
Ti	47	45	He	0.486	ppb	20.1	1000	
V	51	45	He	18.417	ppb	2.9	2000	
Cr	52	45	He	22.892	ppb	1.2	4000	
Mn	55	45	He	1.301	ppb	6.7	5000	
Fe	56	45	He	42.823	ppb	3.0	100000	
Co	59	74	He	0.198	ppb	6.1	1000	
Ni	60	74	He	0.882	ppb	4.8	1000	
Cu	63	74	He	2.825	ppb	5.6	1000	
Zn	66	74	He	10.331	ppb	6.1	1000	
As	75	74	He	3.051	ppb	3.6	2000	
Se	78	115	He	16.284	ppb	13.1	1000	
Sr	88	115	He	145.976	ppb	1.3	2000	
Mo	95	115	He	6.947	ppb	4.0	1000	
Ag	107	115	He	1.651	ppb	5.8	100	
Cd	111	115	He	0.033	ppb	39.3	2000	
Sn	118	115	He	0.605	ppb	15.9	100	
Sb	121	159	He	0.698	ppb	6.8	100	
Ba	135	159	He	56.490	ppb	1.1	5000	
Tl	205	209	He	0.048	ppb	16.3	1000	
Pb	208	209	He	0.300	ppb	4.4	5000	
U	238		No Gas	0.322	ppb	3.9		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	1966029.06	0.7	95.2	70	120	
Sc (IS)	45	He	79019.96	1.2	95.2	70	120	
Sc (IS)	45	No Gas	2554897.20	1.4	92.7	70	120	
Ge (IS)	72	He	61888.74	2.5	93.2			
Ge (IS)	74	He	95605.08	2.5	93.7	70	120	

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	428169.06	2.3	94.3	70	120	
In (IS)	115	He	582885.46	2.5	93.5	70	120	
Tb (IS)	159	He	3096876.48	1.3	94.5	70	120	
Bi (IS)	209	He	2579724.34	1.3	91.6	70	120	
Bi (IS)	209	No Gas	5316841.87	0.8	94.5			

Sample Report

File Name	022SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 12:01:31 PM
Sample Name	**600-192361-B-1-B DU**
Comment	---
Dilution	**1.0000**
Vial #	3104

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	17.768	ppb	8.4		
Be	9	6	No Gas	0.012	ppb	28.4	1000	
B	11	6	No Gas	44.147	ppb	4.0	500	
Na	23	45	He	12894.357	ppb	1.5	200000	
Mg	24	45	He	2143.647	ppb	1.6	150000	
Al	27	45	He	26.544	ppb	6.4	50000	
Si	28	45	No Gas	9485.251	ppb	1.1		
P	31	45	No Gas	31.782	ppb	17.0		
K	39	45	He	10042.968	ppb	1.3	200000	
Ca	44	45	He	20747.561	ppb	1.7		
Ti	47	45	He	0.566	ppb	16.0	1000	
V	51	45	He	18.348	ppb	1.2	2000	
Cr	52	45	He	22.949	ppb	1.8	4000	
Mn	55	45	He	1.274	ppb	6.6	5000	
Fe	56	45	He	41.823	ppb	3.4	100000	
Co	59	74	He	0.168	ppb	13.9	1000	
Ni	60	74	He	0.864	ppb	5.2	1000	
Cu	63	74	He	2.420	ppb	3.2	1000	
Zn	66	74	He	10.278	ppb	6.4	1000	
As	75	74	He	3.159	ppb	3.3	2000	
Se	78	115	He	17.240	ppb	7.0	1000	
Sr	88	115	He	143.875	ppb	0.6	2000	
Mo	95	115	He	7.317	ppb	2.3	1000	
Ag	107	115	He	1.653	ppb	6.0	100	
Cd	111	115	He	0.031	ppb	36.5	2000	
Sn	118	115	He	0.546	ppb	14.6	100	
Sb	121	159	He	0.657	ppb	8.4	100	
Ba	135	159	He	57.362	ppb	2.3	5000	
Tl	205	209	He	0.027	ppb	22.1	1000	
Pb	208	209	He	0.158	ppb	1.5	5000	
U	238		No Gas	0.301	ppb	6.5		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	1994270.69	3.1	96.6	70	120	
Sc (IS)	45	He	78577.61	2.0	94.7	70	120	
Sc (IS)	45	No Gas	2580200.27	1.9	93.6	70	120	
Ge (IS)	72	He	62707.84	2.3	94.4			
Ge (IS)	74	He	95230.29	2.1	93.3	70	120	

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	423638.28	2.2	93.3	70	120	
In (IS)	115	He	582329.08	2.0	93.4	70	120	
Tb (IS)	159	He	3059441.52	1.6	93.3	70	120	
Bi (IS)	209	He	2585028.33	0.4	91.8	70	120	
Bi (IS)	209	No Gas	5275175.61	0.7	93.8			

Sample Report

File Name	023SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 12:04:40 PM
Sample Name	**600-192361-B-1-C MS**
Comment	---
Dilution	**1.0000**
Vial #	3105

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	114.609	ppb	1.9		
Be	9	6	No Gas	101.299	ppb	1.8	1000	
B	11	6	No Gas	91.896	ppb	1.6	500	
Na	23	45	He	13640.177	ppb	1.3	200000	
Mg	24	45	He	3108.967	ppb	1.8	150000	
Al	27	45	He	1004.623	ppb	0.5	50000	
Si	28	45	No Gas	10461.830	ppb	3.1		
P	31	45	No Gas	543.866	ppb	2.6		
K	39	45	He	11016.329	ppb	0.9	200000	
Ca	44	45	He	21725.373	ppb	2.9		
Ti	47	45	He	96.971	ppb	1.8	1000	
V	51	45	He	115.455	ppb	1.1	2000	
Cr	52	45	He	119.281	ppb	0.2	4000	
Mn	55	45	He	97.483	ppb	0.4	5000	
Fe	56	45	He	1065.186	ppb	2.2	100000	
Co	59	74	He	99.806	ppb	1.2	1000	
Ni	60	74	He	101.427	ppb	0.8	1000	
Cu	63	74	He	103.007	ppb	2.0	1000	
Zn	66	74	He	58.989	ppb	1.7	1000	
As	75	74	He	102.018	ppb	1.3	2000	
Se	78	115	He	112.927	ppb	4.8	1000	
Sr	88	115	He	246.001	ppb	1.3	2000	
Mo	95	115	He	107.905	ppb	1.3	1000	
Ag	107	115	He	26.392	ppb	0.4	100	
Cd	111	115	He	99.046	ppb	0.7	2000	
Sn	118	115	He	100.747	ppb	0.9	100	failed
Sb	121	159	He	152.249	ppb	0.2	100	failed
Ba	135	159	He	157.515	ppb	2.4	5000	
Tl	205	209	He	94.922	ppb	1.1	1000	
Pb	208	209	He	96.117	ppb	1.2	5000	
U	238		No Gas	48.941	ppb	0.6		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	1950726.52	1.7	94.4	70	120	
Sc (IS)	45	He	78333.94	1.2	94.4	70	120	
Sc (IS)	45	No Gas	2521858.04	1.6	91.5	70	120	
Ge (IS)	72	He	61796.17	2.6	93.0			
Ge (IS)	74	He	94890.25	2.6	93.0	70	120	

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	418869.11	2.1	92.3	70	120	
In (IS)	115	He	575057.20	2.1	92.2	70	120	
Tb (IS)	159	He	3041442.87	1.5	92.8	70	120	
Bi (IS)	209	He	2563916.30	1.6	91.0	70	120	
Bi (IS)	209	No Gas	5251175.76	0.4	93.4			

Sample Report

File Name	024SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 12:07:48 PM
Sample Name	**600-192361-B-1-D MSD**
Comment	---
Dilution	**1.0000**
Vial #	3106

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	115.855	ppb	1.0		
Be	9	6	No Gas	101.897	ppb	1.3	1000	
B	11	6	No Gas	93.638	ppb	1.7	500	
Na	23	45	He	13727.288	ppb	1.3	200000	
Mg	24	45	He	3146.354	ppb	0.8	150000	
Al	27	45	He	1026.362	ppb	2.2	50000	
Si	28	45	No Gas	10663.166	ppb	2.7		
P	31	45	No Gas	542.570	ppb	3.6		
K	39	45	He	11041.993	ppb	0.6	200000	
Ca	44	45	He	22092.422	ppb	1.5		
Ti	47	45	He	98.420	ppb	3.3	1000	
V	51	45	He	114.506	ppb	1.7	2000	
Cr	52	45	He	118.940	ppb	0.1	4000	
Mn	55	45	He	98.936	ppb	2.8	5000	
Fe	56	45	He	1071.525	ppb	0.9	100000	
Co	59	74	He	99.700	ppb	1.4	1000	
Ni	60	74	He	101.761	ppb	2.2	1000	
Cu	63	74	He	102.637	ppb	0.3	1000	
Zn	66	74	He	58.852	ppb	3.4	1000	
As	75	74	He	101.087	ppb	0.6	2000	
Se	78	115	He	113.107	ppb	3.2	1000	
Sr	88	115	He	246.194	ppb	1.1	2000	
Mo	95	115	He	107.637	ppb	2.2	1000	
Ag	107	115	He	26.682	ppb	0.2	100	
Cd	111	115	He	98.463	ppb	0.1	2000	
Sn	118	115	He	99.388	ppb	1.1	100	
Sb	121	159	He	148.960	ppb	1.6	100	failed
Ba	135	159	He	159.287	ppb	1.6	5000	
Tl	205	209	He	94.826	ppb	1.6	1000	
Pb	208	209	He	95.953	ppb	1.1	5000	
U	238		No Gas	49.075	ppb	1.0		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	1930140.72	0.9	93.5	70	120	
Sc (IS)	45	He	78046.83	1.6	94.1	70	120	
Sc (IS)	45	No Gas	2505792.48	1.5	90.9	70	120	
Ge (IS)	72	He	61706.86	2.0	92.9			
Ge (IS)	74	He	94406.83	1.5	92.5	70	120	

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	417797.05	3.0	92.0	70	120	
In (IS)	115	He	570678.95	2.3	91.5	70	120	
Tb (IS)	159	He	3023340.13	1.8	92.2	70	120	
Bi (IS)	209	He	2548627.24	0.9	90.5	70	120	
Bi (IS)	209	No Gas	5239092.91	0.6	93.2			

Sample Report

File Name	025SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 12:10:58 PM
Sample Name	**600-192359-B-1-A**
Comment	---
Dilution	**1.0000**
Vial #	3107

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	1.267	ppb	43.8		
Be	9	6	No Gas	0.030	ppb	13.6	1000	
B	11	6	No Gas	13.365	ppb	1.5	500	
Na	23	45	He	6170.918	ppb	1.7	200000	
Mg	24	45	He	511.685	ppb	1.8	150000	
Al	27	45	He	39.393	ppb	26.2	50000	
Si	28	45	No Gas	481.000	ppb	2.2		
P	31	45	No Gas	50.679	ppb	8.9		
K	39	45	He	969.561	ppb	2.1	200000	
Ca	44	45	He	5245.042	ppb	6.2		
Ti	47	45	He	0.631	ppb	18.9	1000	
V	51	45	He	0.439	ppb	16.7	2000	
Cr	52	45	He	0.574	ppb	16.0	4000	
Mn	55	45	He	0.950	ppb	15.3	5000	
Fe	56	45	He	18.593	ppb	5.4	100000	
Co	59	74	He	0.097	ppb	3.0	1000	
Ni	60	74	He	0.637	ppb	9.2	1000	
Cu	63	74	He	10.151	ppb	1.9	1000	
Zn	66	74	He	14.228	ppb	4.8	1000	
As	75	74	He	0.291	ppb	12.5	2000	
Se	78	115	He	-0.509	ppb	N/A	1000	
Sr	88	115	He	24.539	ppb	3.1	2000	
Mo	95	115	He	0.357	ppb	9.5	1000	
Ag	107	115	He	0.020	ppb	40.0	100	
Cd	111	115	He	0.059	ppb	1.6	2000	
Sn	118	115	He	0.267	ppb	25.4	100	
Sb	121	159	He	0.199	ppb	3.8	100	
Ba	135	159	He	5.053	ppb	11.6	5000	
Tl	205	209	He	0.069	ppb	5.9	1000	
Pb	208	209	He	0.142	ppb	25.5	5000	
U	238		No Gas	0.072	ppb	10.8		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	1942280.26	1.2	94.0	70	120	
Sc (IS)	45	He	78066.87	1.1	94.1	70	120	
Sc (IS)	45	No Gas	2532439.74	0.9	91.9	70	120	
Ge (IS)	72	He	62348.57	2.3	93.8			
Ge (IS)	74	He	94876.62	1.8	92.9	70	120	

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	421819.63	1.3	92.9	70	120	
In (IS)	115	He	576057.55	1.5	92.4	70	120	
Tb (IS)	159	He	3069258.95	2.1	93.6	70	120	
Bi (IS)	209	He	2569946.78	3.2	91.2	70	120	
Bi (IS)	209	No Gas	5254295.37	0.9	93.4			

Sample Report

File Name	026SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 12:14:06 PM
Sample Name	**600-192316-A-14-A**
Comment	---
Dilution	**1.0000**
Vial #	3108

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	5.884	ppb	20.4		
Be	9	6	No Gas	0.025	ppb	15.6	1000	
B	11	6	No Gas	117.104	ppb	3.1	500	
Na	23	45	He	56536.459	ppb	2.5	200000	
Mg	24	45	He	1135.596	ppb	1.6	150000	
Al	27	45	He	336.522	ppb	0.4	50000	
Si	28	45	No Gas	2595.900	ppb	0.5		
P	31	45	No Gas	261.518	ppb	3.1		
K	39	45	He	2680.404	ppb	2.2	200000	
Ca	44	45	He	10503.567	ppb	3.3		
Ti	47	45	He	3.715	ppb	7.2	1000	
V	51	45	He	2.121	ppb	3.0	2000	
Cr	52	45	He	0.837	ppb	19.4	4000	
Mn	55	45	He	12.147	ppb	6.6	5000	
Fe	56	45	He	220.282	ppb	2.3	100000	
Co	59	74	He	0.163	ppb	15.2	1000	
Ni	60	74	He	0.882	ppb	7.9	1000	
Cu	63	74	He	5.086	ppb	4.1	1000	
Zn	66	74	He	103.862	ppb	1.6	1000	
As	75	74	He	0.994	ppb	18.4	2000	
Se	78	115	He	-0.411	ppb	N/A	1000	
Sr	88	115	He	48.305	ppb	2.2	2000	
Mo	95	115	He	4.587	ppb	3.1	1000	
Ag	107	115	He	0.007	ppb	68.1	100	
Cd	111	115	He	0.108	ppb	36.4	2000	
Sn	118	115	He	0.219	ppb	1.6	100	
Sb	121	159	He	2.671	ppb	5.2	100	
Ba	135	159	He	47.652	ppb	1.3	5000	
Tl	205	209	He	0.022	ppb	16.7	1000	
Pb	208	209	He	0.681	ppb	3.5	5000	
U	238		No Gas	0.106	ppb	4.7		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	1935592.75	2.2	93.7	70	120	
Sc (IS)	45	He	77824.73	2.8	93.8	70	120	
Sc (IS)	45	No Gas	2492694.08	0.5	90.4	70	120	
Ge (IS)	72	He	62056.13	2.3	93.4			
Ge (IS)	74	He	95203.46	2.9	93.3	70	120	

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	417650.99	2.8	92.0	70	120	
In (IS)	115	He	568528.91	2.8	91.2	70	120	
Tb (IS)	159	He	3010316.38	1.3	91.8	70	120	
Bi (IS)	209	He	2521038.36	1.8	89.5	70	120	
Bi (IS)	209	No Gas	5209415.75	1.3	92.6			

Sample Report

File Name	027SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 12:17:16 PM
Sample Name	**600-191956-X-1-E**
Comment	---
Dilution	**1.0000**
Vial #	3109

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	26.686	ppb	1.4		
Be	9	6	No Gas	1.107	ppb	2.3	1000	
B	11	6	No Gas	179.348	ppb	0.8	500	
Na	23	45	He	239885.570	ppb	0.1	200000	failed
Mg	24	45	He	27177.550	ppb	0.4	150000	
Al	27	45	He	30076.040	ppb	0.5	50000	
Si	28	45	No Gas	42630.725	ppb	0.9		
P	31	45	No Gas	170.271	ppb	3.2		
K	39	45	He	17354.034	ppb	0.4	200000	
Ca	44	45	He	38727.995	ppb	1.1		
Ti	47	45	He	108.207	ppb	2.5	1000	
V	51	45	He	45.697	ppb	1.3	2000	
Cr	52	45	He	27.109	ppb	1.1	4000	
Mn	55	45	He	234.707	ppb	1.4	5000	
Fe	56	45	He	19801.816	ppb	0.6	100000	
Co	59	74	He	8.443	ppb	2.2	1000	
Ni	60	74	He	16.158	ppb	1.4	1000	
Cu	63	74	He	15.315	ppb	1.5	1000	
Zn	66	74	He	65.988	ppb	2.4	1000	
As	75	74	He	5.949	ppb	4.6	2000	
Se	78	115	He	3.783	ppb	14.5	1000	
Sr	88	115	He	391.885	ppb	0.3	2000	
Mo	95	115	He	9.625	ppb	3.5	1000	
Ag	107	115	He	0.095	ppb	0.5	100	
Cd	111	115	He	0.130	ppb	4.3	2000	
Sn	118	115	He	1.150	ppb	29.6	100	
Sb	121	159	He	0.507	ppb	11.5	100	
Ba	135	159	He	352.367	ppb	0.9	5000	
Tl	205	209	He	0.243	ppb	5.2	1000	
Pb	208	209	He	16.448	ppb	0.2	5000	
U	238		No Gas	3.134	ppb	1.4		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	1840173.70	1.2	89.1	70	120	
Sc (IS)	45	He	75583.65	1.8	91.1	70	120	
Sc (IS)	45	No Gas	2437283.23	0.8	88.4	70	120	
Ge (IS)	72	He	58882.74	2.7	88.6			
Ge (IS)	74	He	90199.64	2.2	88.4	70	120	

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	413262.36	2.2	91.0	70	120	
In (IS)	115	He	536738.66	2.1	86.1	70	120	
Tb (IS)	159	He	2920777.08	1.1	89.1	70	120	
Bi (IS)	209	He	2349869.12	1.9	83.4	70	120	
Bi (IS)	209	No Gas	4842694.34	1.0	86.1			

Sample Report

File Name 028SMPL.d

File Path D:\Agilent\ICPMH\1\DATA\092519HOUa.b

Acq Time 2019-09-25 12:20:23 PM

Sample Name **600-191956-X-2-C**

Comment ---

Dilution **1.0000**

Vial # 3110

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	23.898	ppb	3.7		
Be	9	6	No Gas	0.070	ppb	18.8	1000	
B	11	6	No Gas	1071.860	ppb	1.3	500	failed
Na	23	45	He	2156358.911	ppb	1.0	200000	failed
Mg	24	45	He	225946.242	ppb	0.6	150000	failed
Al	27	45	He	895.946	ppb	2.6	50000	
Si	28	45	No Gas	22793.989	ppb	2.2		
P	31	45	No Gas	122.305	ppb	4.5		
K	39	45	He	24745.378	ppb	0.5	200000	
Ca	44	45	He	233846.559	ppb	0.3		
Ti	47	45	He	6.689	ppb	7.2	1000	
V	51	45	He	3.310	ppb	2.1	2000	
Cr	52	45	He	1.083	ppb	12.7	4000	
Mn	55	45	He	2503.444	ppb	0.5	5000	
Fe	56	45	He	11342.186	ppb	1.6	100000	
Co	59	74	He	6.379	ppb	3.8	1000	
Ni	60	74	He	5.468	ppb	2.9	1000	
Cu	63	74	He	1.571	ppb	7.9	1000	
Zn	66	74	He	26.404	ppb	1.5	1000	
As	75	74	He	75.712	ppb	0.6	2000	
Se	78	115	He	0.444	ppb	289.6	1000	
Sr	88	115	He	2593.140	ppb	0.5	2000	failed
Mo	95	115	He	7.254	ppb	3.9	1000	
Ag	107	115	He	0.009	ppb	71.9	100	
Cd	111	115	He	0.032	ppb	57.3	2000	
Sn	118	115	He	0.265	ppb	10.5	100	
Sb	121	159	He	0.523	ppb	16.4	100	
Ba	135	159	He	2026.682	ppb	1.6	5000	
Tl	205	209	He	0.014	ppb	15.6	1000	
Pb	208	209	He	1.043	ppb	2.3	5000	
U	238		No Gas	1.468	ppb	1.3		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	1716164.57	1.5	83.1	70	120	
Sc (IS)	45	He	73178.19	1.7	88.2	70	120	
Sc (IS)	45	No Gas	2458210.62	0.8	89.2	70	120	
Ge (IS)	72	He	54681.33	1.3	82.3			
Ge (IS)	74	He	83547.92	1.6	81.8	70	120	

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	376063.83	2.6	82.8	70	120	
In (IS)	115	He	477994.29	1.8	76.6	70	120	
Tb (IS)	159	He	2593027.44	1.0	79.1	70	120	
Bi (IS)	209	He	1960459.31	1.9	69.6	70	120	failed
Bi (IS)	209	No Gas	4087976.29	1.0	72.7			

Sample Report

File Name	032SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 12:32:55 PM
Sample Name	**600-191956-X-3-C**
Comment	---
Dilution	**1.0000**
Vial #	3111

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	17.731	ppb	2.7		
Be	9	6	No Gas	0.566	ppb	6.2	1000	
B	11	6	No Gas	121.341	ppb	1.3	500	
Na	23	45	He	116025.889	ppb	1.6	200000	
Mg	24	45	He	15460.481	ppb	1.1	150000	
Al	27	45	He	12716.651	ppb	0.1	50000	
Si	28	45	No Gas	27295.692	ppb	1.0		
P	31	45	No Gas	144.216	ppb	4.8		
K	39	45	He	7732.444	ppb	1.0	200000	
Ca	44	45	He	31261.253	ppb	0.9		
Ti	47	45	He	67.030	ppb	2.0	1000	
V	51	45	He	25.876	ppb	1.6	2000	
Cr	52	45	He	11.501	ppb	1.3	4000	
Mn	55	45	He	131.533	ppb	1.4	5000	
Fe	56	45	He	7964.490	ppb	0.7	100000	
Co	59	74	He	3.985	ppb	2.7	1000	
Ni	60	74	He	7.501	ppb	4.3	1000	
Cu	63	74	He	9.000	ppb	1.8	1000	
Zn	66	74	He	45.209	ppb	1.8	1000	
As	75	74	He	4.964	ppb	5.0	2000	
Se	78	115	He	2.625	ppb	53.3	1000	
Sr	88	115	He	283.646	ppb	1.2	2000	
Mo	95	115	He	4.530	ppb	4.3	1000	
Ag	107	115	He	0.054	ppb	28.1	100	
Cd	111	115	He	0.096	ppb	64.5	2000	
Sn	118	115	He	1.195	ppb	6.5	100	
Sb	121	159	He	0.486	ppb	10.6	100	
Ba	135	159	He	229.664	ppb	1.2	5000	
Tl	205	209	He	0.108	ppb	8.7	1000	
Pb	208	209	He	10.422	ppb	1.6	5000	
U	238		No Gas	3.208	ppb	0.8		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	1939412.51	1.1	93.9	70	120	
Sc (IS)	45	He	76702.06	2.6	92.4	70	120	
Sc (IS)	45	No Gas	2511054.70	2.0	91.1	70	120	
Ge (IS)	72	He	59543.14	2.8	89.6			
Ge (IS)	74	He	91292.44	3.5	89.4	70	120	

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	413731.93	2.0	91.1	70	120	
In (IS)	115	He	549886.45	1.7	88.2	70	120	
Tb (IS)	159	He	2938737.94	2.9	89.6	70	120	
Bi (IS)	209	He	2420066.04	1.9	85.9	70	120	
Bi (IS)	209	No Gas	5028898.99	1.8	89.4			

Sample Report

File Name	033SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 12:36:04 PM
Sample Name	**600-192361-B-1-A sd@5**
Comment	---
Dilution	**1.0000**
Vial #	3112

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	3.748	ppb	14.8		
Be	9	6	No Gas	0.006	ppb	63.8	1000	
B	11	6	No Gas	12.229	ppb	3.0	500	
Na	23	45	He	2739.531	ppb	0.1	200000	
Mg	24	45	He	438.875	ppb	0.6	150000	
Al	27	45	He	8.989	ppb	3.5	50000	
Si	28	45	No Gas	2008.842	ppb	2.2		
P	31	45	No Gas	6.243	ppb	53.0		
K	39	45	He	1972.268	ppb	0.4	200000	
Ca	44	45	He	4134.543	ppb	2.4		
Ti	47	45	He	0.176	ppb	69.2	1000	
V	51	45	He	3.737	ppb	5.3	2000	
Cr	52	45	He	4.518	ppb	3.3	4000	
Mn	55	45	He	0.324	ppb	6.3	5000	
Fe	56	45	He	10.543	ppb	5.8	100000	
Co	59	74	He	0.029	ppb	59.6	1000	
Ni	60	74	He	0.096	ppb	60.7	1000	
Cu	63	74	He	0.709	ppb	13.7	1000	
Zn	66	74	He	2.485	ppb	10.6	1000	
As	75	74	He	0.678	ppb	6.9	2000	
Se	78	115	He	2.434	ppb	57.4	1000	
Sr	88	115	He	28.426	ppb	4.3	2000	
Mo	95	115	He	1.381	ppb	6.3	1000	
Ag	107	115	He	0.321	ppb	7.7	100	
Cd	111	115	He	0.002	ppb	5.9	2000	
Sn	118	115	He	0.177	ppb	76.7	100	
Sb	121	159	He	0.181	ppb	32.8	100	
Ba	135	159	He	10.843	ppb	2.4	5000	
Tl	205	209	He	0.008	ppb	63.7	1000	
Pb	208	209	He	0.053	ppb	5.8	5000	
U	238		No Gas	0.059	ppb	7.2		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	2006719.99	1.6	97.2	70	120	
Sc (IS)	45	He	78176.49	2.4	94.2	70	120	
Sc (IS)	45	No Gas	2513335.52	0.3	91.2	70	120	
Ge (IS)	72	He	62421.22	3.1	94.0			
Ge (IS)	74	He	95151.92	1.6	93.2	70	120	

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	421687.85	2.3	92.9	70	120	
In (IS)	115	He	580393.53	2.2	93.1	70	120	
Tb (IS)	159	He	3052461.52	2.8	93.1	70	120	
Bi (IS)	209	He	2590903.17	1.4	92.0	70	120	
Bi (IS)	209	No Gas	5274676.34	1.4	93.8			

Sample Report

File Name	034SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 12:39:13 PM
Sample Name	**MB 600-275519/1-B**
Comment	---
Dilution	**1.0000**
Vial #	3201

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	0.170	ppb	203.9		
Be	9	6	No Gas	0.007	ppb	81.9	1000	
B	11	6	No Gas	3.415	ppb	1.6	500	
Na	23	45	He	87.074	ppb	24.0	200000	
Mg	24	45	He	3.853	ppb	8.0	150000	
Al	27	45	He	4.598	ppb	13.5	50000	
Si	28	45	No Gas	17.842	ppb	7.8		
P	31	45	No Gas	6.143	ppb	57.7		
K	39	45	He	-3.248	ppb	N/A	200000	
Ca	44	45	He	16.198	ppb	90.9		
Ti	47	45	He	0.050	ppb	421.7	1000	
V	51	45	He	0.020	ppb	343.2	2000	
Cr	52	45	He	0.053	ppb	120.9	4000	
Mn	55	45	He	0.081	ppb	34.6	5000	
Fe	56	45	He	4.142	ppb	6.6	100000	
Co	59	74	He	0.007	ppb	87.3	1000	
Ni	60	74	He	0.058	ppb	46.0	1000	
Cu	63	74	He	0.240	ppb	42.0	1000	
Zn	66	74	He	2.018	ppb	18.8	1000	
As	75	74	He	0.012	ppb	45.5	2000	
Se	78	115	He	-0.330	ppb	N/A	1000	
Sr	88	115	He	0.095	ppb	53.3	2000	
Mo	95	115	He	-0.005	ppb	N/A	1000	
Ag	107	115	He	0.002	ppb	247.1	100	
Cd	111	115	He	0.002	ppb	259.4	2000	
Sn	118	115	He	0.094	ppb	38.1	100	
Sb	121	159	He	0.026	ppb	81.9	100	
Ba	135	159	He	0.775	ppb	13.5	5000	
Tl	205	209	He	0.014	ppb	32.0	1000	
Pb	208	209	He	0.032	ppb	64.0	5000	
U	238		No Gas	0.000	ppb	N/A		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	2009511.50	0.8	97.3	70	120	
Sc (IS)	45	He	78393.15	2.6	94.5	70	120	
Sc (IS)	45	No Gas	2546489.04	1.8	92.4	70	120	
Ge (IS)	72	He	61972.54	3.0	93.3			
Ge (IS)	74	He	95355.81	3.5	93.4	70	120	

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	420925.02	2.4	92.7	70	120	
In (IS)	115	He	576038.18	2.3	92.4	70	120	
Tb (IS)	159	He	3082982.59	1.0	94.0	70	120	
Bi (IS)	209	He	2566708.40	0.4	91.1	70	120	
Bi (IS)	209	No Gas	5262842.84	0.9	93.6			

Sample Report

File Name	035SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 12:42:24 PM
Sample Name	**LCS 600-275519/2-B**
Comment	---
Dilution	**1.0000**
Vial #	3202

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	89.457	ppb	1.9		
Be	9	6	No Gas	93.386	ppb	1.8	1000	
B	11	6	No Gas	47.257	ppb	0.9	500	
Na	23	45	He	1145.093	ppb	0.5	200000	
Mg	24	45	He	976.487	ppb	2.1	150000	
Al	27	45	He	957.971	ppb	1.0	50000	
Si	28	45	No Gas	921.559	ppb	1.9		
P	31	45	No Gas	493.780	ppb	2.5		
K	39	45	He	1054.465	ppb	2.2	200000	
Ca	44	45	He	953.250	ppb	3.0		
Ti	47	45	He	92.555	ppb	1.2	1000	
V	51	45	He	90.700	ppb	0.8	2000	
Cr	52	45	He	92.086	ppb	1.7	4000	
Mn	55	45	He	92.796	ppb	0.7	5000	
Fe	56	45	He	979.287	ppb	0.7	100000	
Co	59	74	He	96.913	ppb	1.2	1000	
Ni	60	74	He	97.605	ppb	2.9	1000	
Cu	63	74	He	98.773	ppb	0.8	1000	
Zn	66	74	He	49.104	ppb	2.5	1000	
As	75	74	He	94.652	ppb	1.2	2000	
Se	78	115	He	90.300	ppb	3.5	1000	
Sr	88	115	He	95.952	ppb	2.1	2000	
Mo	95	115	He	94.103	ppb	0.8	1000	
Ag	107	115	He	23.656	ppb	1.6	100	
Cd	111	115	He	93.349	ppb	1.0	2000	
Sn	118	115	He	93.465	ppb	2.5	100	
Sb	121	159	He	137.843	ppb	2.3	100	failed
Ba	135	159	He	97.744	ppb	1.9	5000	
Tl	205	209	He	89.763	ppb	2.0	1000	
Pb	208	209	He	90.492	ppb	0.9	5000	
U	238		No Gas	46.506	ppb	0.4		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	2052368.65	0.9	99.4	70	120	
Sc (IS)	45	He	78590.86	1.9	94.7	70	120	
Sc (IS)	45	No Gas	2531431.65	1.3	91.8	70	120	
Ge (IS)	72	He	61842.95	2.5	93.1			
Ge (IS)	74	He	93841.25	1.9	91.9	70	120	

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	422295.62	0.7	93.0	70	120	
In (IS)	115	He	574399.04	1.9	92.1	70	120	
Tb (IS)	159	He	3051468.39	1.5	93.1	70	120	
Bi (IS)	209	He	2559266.25	1.8	90.9	70	120	
Bi (IS)	209	No Gas	5211703.36	1.3	92.7			

Sample Report

File Name	036SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 12:45:32 PM
Sample Name	**600-191956-Q-3-B**
Comment	---
Dilution	**1.0000**
Vial #	3203

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	11.119	ppb	2.2		
Be	9	6	No Gas	0.052	ppb	28.8	1000	
B	11	6	No Gas	112.744	ppb	0.5	500	
Na	23	45	He	112838.003	ppb	0.4	200000	
Mg	24	45	He	13054.836	ppb	0.2	150000	
Al	27	45	He	144.095	ppb	2.8	50000	
Si	28	45	No Gas	8120.151	ppb	0.7		
P	31	45	No Gas	45.031	ppb	9.4		
K	39	45	He	6279.607	ppb	1.2	200000	
Ca	44	45	He	27672.690	ppb	1.2		
Ti	47	45	He	5.131	ppb	12.8	1000	
V	51	45	He	9.043	ppb	0.5	2000	
Cr	52	45	He	0.281	ppb	14.5	4000	
Mn	55	45	He	1.657	ppb	1.9	5000	
Fe	56	45	He	83.580	ppb	2.4	100000	
Co	59	74	He	0.167	ppb	22.9	1000	
Ni	60	74	He	1.008	ppb	14.5	1000	
Cu	63	74	He	1.717	ppb	4.8	1000	
Zn	66	74	He	19.513	ppb	3.7	1000	
As	75	74	He	3.852	ppb	4.7	2000	
Se	78	115	He	0.517	ppb	140.1	1000	
Sr	88	115	He	253.175	ppb	1.7	2000	
Mo	95	115	He	4.719	ppb	4.6	1000	
Ag	107	115	He	0.012	ppb	28.8	100	
Cd	111	115	He	0.029	ppb	79.9	2000	
Sn	118	115	He	0.552	ppb	14.9	100	
Sb	121	159	He	0.724	ppb	13.0	100	
Ba	135	159	He	151.110	ppb	1.5	5000	
Tl	205	209	He	0.085	ppb	14.3	1000	
Pb	208	209	He	0.495	ppb	1.9	5000	
U	238		No Gas	2.859	ppb	2.1		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	1976258.64	0.5	95.7	70	120	
Sc (IS)	45	He	77697.26	2.1	93.6	70	120	
Sc (IS)	45	No Gas	2490899.48	1.4	90.4	70	120	
Ge (IS)	72	He	60777.23	1.6	91.5			
Ge (IS)	74	He	92439.44	2.5	90.5	70	120	

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	410858.87	2.2	90.5	70	120	
In (IS)	115	He	556575.78	2.2	89.2	70	120	
Tb (IS)	159	He	2956348.81	3.4	90.2	70	120	
Bi (IS)	209	He	2436579.91	1.9	86.5	70	120	
Bi (IS)	209	No Gas	5053668.05	0.8	89.9			

Sample Report

File Name	037SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 12:48:42 PM
Sample Name	**600-191956-Q-3-C DU**
Comment	---
Dilution	**1.0000**
Vial #	3204

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	11.254	ppb	1.8		
Be	9	6	No Gas	0.020	ppb	26.0	1000	
B	11	6	No Gas	113.622	ppb	1.2	500	
Na	23	45	He	114669.798	ppb	2.7	200000	
Mg	24	45	He	13232.477	ppb	1.0	150000	
Al	27	45	He	148.549	ppb	3.2	50000	
Si	28	45	No Gas	8147.416	ppb	2.0		
P	31	45	No Gas	46.800	ppb	5.4		
K	39	45	He	6352.007	ppb	1.3	200000	
Ca	44	45	He	28124.285	ppb	0.9		
Ti	47	45	He	3.868	ppb	29.7	1000	
V	51	45	He	9.247	ppb	3.1	2000	
Cr	52	45	He	0.235	ppb	30.9	4000	
Mn	55	45	He	1.602	ppb	8.4	5000	
Fe	56	45	He	79.946	ppb	2.2	100000	
Co	59	74	He	0.122	ppb	28.4	1000	
Ni	60	74	He	1.132	ppb	2.7	1000	
Cu	63	74	He	1.801	ppb	2.6	1000	
Zn	66	74	He	19.130	ppb	5.3	1000	
As	75	74	He	3.901	ppb	6.7	2000	
Se	78	115	He	0.059	ppb	1574.7	1000	
Sr	88	115	He	252.850	ppb	1.4	2000	
Mo	95	115	He	4.409	ppb	4.6	1000	
Ag	107	115	He	0.007	ppb	66.3	100	
Cd	111	115	He	0.029	ppb	48.2	2000	
Sn	118	115	He	0.462	ppb	9.0	100	
Sb	121	159	He	0.616	ppb	4.6	100	
Ba	135	159	He	147.601	ppb	3.5	5000	
Tl	205	209	He	0.077	ppb	14.9	1000	
Pb	208	209	He	0.447	ppb	3.6	5000	
U	238		No Gas	2.855	ppb	2.0		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	1969595.87	1.4	95.4	70	120	
Sc (IS)	45	He	77090.60	1.5	92.9	70	120	
Sc (IS)	45	No Gas	2493995.34	0.8	90.5	70	120	
Ge (IS)	72	He	60494.95	2.2	91.1			
Ge (IS)	74	He	91898.36	2.5	90.0	70	120	

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	413366.16	2.2	91.0	70	120	
In (IS)	115	He	558175.31	2.4	89.5	70	120	
Tb (IS)	159	He	3008614.02	2.5	91.8	70	120	
Bi (IS)	209	He	2441562.08	3.4	86.7	70	120	
Bi (IS)	209	No Gas	4952824.13	2.4	88.1			

Sample Report

File Name	038SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 12:51:49 PM
Sample Name	**600-191956-Q-3-D MS**
Comment	---
Dilution	**1.0000**
Vial #	3205

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	105.172	ppb	2.6		
Be	9	6	No Gas	99.935	ppb	2.2	1000	
B	11	6	No Gas	162.869	ppb	2.5	500	
Na	23	45	He	117135.495	ppb	1.3	200000	
Mg	24	45	He	14437.679	ppb	0.6	150000	
Al	27	45	He	1239.162	ppb	1.7	50000	
Si	28	45	No Gas	9299.684	ppb	1.9		
P	31	45	No Gas	564.508	ppb	0.9		
K	39	45	He	7402.396	ppb	1.7	200000	
Ca	44	45	He	29433.415	ppb	2.9		
Ti	47	45	He	97.784	ppb	1.2	1000	
V	51	45	He	104.746	ppb	1.6	2000	
Cr	52	45	He	95.447	ppb	1.4	4000	
Mn	55	45	He	95.123	ppb	1.4	5000	
Fe	56	45	He	1113.773	ppb	0.7	100000	
Co	59	74	He	97.335	ppb	1.2	1000	
Ni	60	74	He	97.528	ppb	1.9	1000	
Cu	63	74	He	99.015	ppb	0.9	1000	
Zn	66	74	He	59.662	ppb	0.7	1000	
As	75	74	He	100.437	ppb	2.5	2000	
Se	78	115	He	95.254	ppb	1.1	1000	
Sr	88	115	He	348.230	ppb	0.7	2000	
Mo	95	115	He	103.841	ppb	0.6	1000	
Ag	107	115	He	23.937	ppb	1.5	100	
Cd	111	115	He	96.122	ppb	0.7	2000	
Sn	118	115	He	96.717	ppb	1.4	100	
Sb	121	159	He	148.163	ppb	1.6	100	failed
Ba	135	159	He	250.129	ppb	1.5	5000	
Tl	205	209	He	95.071	ppb	2.1	1000	
Pb	208	209	He	95.706	ppb	2.4	5000	
U	238		No Gas	49.726	ppb	0.6		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	1926760.94	1.8	93.3	70	120	
Sc (IS)	45	He	75690.97	1.6	91.2	70	120	
Sc (IS)	45	No Gas	2431012.85	0.7	88.2	70	120	
Ge (IS)	72	He	59959.46	2.9	90.3			
Ge (IS)	74	He	91853.87	2.4	90.0	70	120	

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	406316.87	2.4	89.5	70	120	
In (IS)	115	He	551339.78	1.6	88.4	70	120	
Tb (IS)	159	He	2930689.12	1.5	89.4	70	120	
Bi (IS)	209	He	2427767.65	0.8	86.2	70	120	
Bi (IS)	209	No Gas	4998649.99	0.2	88.9			

Sample Report

File Name	039SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 12:54:59 PM
Sample Name	**600-191956-R-2-B**
Comment	---
Dilution	**1.0000**
Vial #	3206

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	23.165	ppb	1.7		
Be	9	6	No Gas	0.043	ppb	9.6	1000	
B	11	6	No Gas	1053.287	ppb	0.2	500	failed
Na	23	45	He	2158141.661	ppb	1.6	200000	failed
Mg	24	45	He	226339.900	ppb	0.7	150000	failed
Al	27	45	He	6.345	ppb	22.3	50000	
Si	28	45	No Gas	19624.096	ppb	1.3		
P	31	45	No Gas	20.320	ppb	9.8		
K	39	45	He	24267.820	ppb	2.1	200000	
Ca	44	45	He	228166.517	ppb	1.6		
Ti	47	45	He	0.195	ppb	100.9	1000	
V	51	45	He	0.673	ppb	14.0	2000	
Cr	52	45	He	0.150	ppb	29.6	4000	
Mn	55	45	He	2178.644	ppb	1.7	5000	
Fe	56	45	He	90.383	ppb	3.3	100000	
Co	59	74	He	5.450	ppb	1.3	1000	
Ni	60	74	He	5.597	ppb	3.0	1000	
Cu	63	74	He	2.679	ppb	2.4	1000	
Zn	66	74	He	8.740	ppb	7.5	1000	
As	75	74	He	9.517	ppb	6.7	2000	
Se	78	115	He	1.336	ppb	75.9	1000	
Sr	88	115	He	2552.342	ppb	1.0	2000	failed
Mo	95	115	He	7.356	ppb	5.1	1000	
Ag	107	115	He	0.018	ppb	29.8	100	
Cd	111	115	He	0.088	ppb	37.1	2000	
Sn	118	115	He	0.222	ppb	32.4	100	
Sb	121	159	He	0.558	ppb	19.0	100	
Ba	135	159	He	1845.181	ppb	1.3	5000	
Tl	205	209	He	0.137	ppb	13.3	1000	
Pb	208	209	He	0.682	ppb	3.0	5000	
U	238		No Gas	1.488	ppb	0.6		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	1776559.33	0.7	86.0	70	120	
Sc (IS)	45	He	72939.13	0.3	87.9	70	120	
Sc (IS)	45	No Gas	2468649.36	0.2	89.6	70	120	
Ge (IS)	72	He	54001.02	1.1	81.3			
Ge (IS)	74	He	82442.58	1.5	80.8	70	120	

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	371317.55	1.1	81.8	70	120	
In (IS)	115	He	474384.45	0.7	76.1	70	120	
Tb (IS)	159	He	2529904.39	0.5	77.2	70	120	
Bi (IS)	209	He	1971206.92	1.1	70.0	70	120	failed
Bi (IS)	209	No Gas	4111445.53	0.7	73.1			

Sample Report

File Name 040SMPL.d

File Path D:\Agilent\ICPMH\1\DATA\092519HOUa.b

Acq Time 2019-09-25 12:58:07 PM

Sample Name **600-191956-Q-1-B**

Comment ---

Dilution **1.0000**

Vial # 3207

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	10.671	ppb	5.0		
Be	9	6	No Gas	0.018	ppb	24.7	1000	
B	11	6	No Gas	165.420	ppb	1.5	500	
Na	23	45	He	240356.418	ppb	1.0	200000	failed
Mg	24	45	He	21889.400	ppb	2.0	150000	
Al	27	45	He	185.578	ppb	4.6	50000	
Si	28	45	No Gas	6573.194	ppb	1.9		
P	31	45	No Gas	32.432	ppb	1.2		
K	39	45	He	14016.413	ppb	0.7	200000	
Ca	44	45	He	34665.469	ppb	0.9		
Ti	47	45	He	6.151	ppb	7.7	1000	
V	51	45	He	6.341	ppb	0.9	2000	
Cr	52	45	He	0.398	ppb	9.4	4000	
Mn	55	45	He	4.487	ppb	3.2	5000	
Fe	56	45	He	111.416	ppb	1.2	100000	
Co	59	74	He	0.205	ppb	6.1	1000	
Ni	60	74	He	1.864	ppb	5.2	1000	
Cu	63	74	He	1.828	ppb	7.2	1000	
Zn	66	74	He	19.328	ppb	8.5	1000	
As	75	74	He	2.441	ppb	4.8	2000	
Se	78	115	He	1.276	ppb	93.1	1000	
Sr	88	115	He	335.705	ppb	0.6	2000	
Mo	95	115	He	7.695	ppb	2.8	1000	
Ag	107	115	He	0.013	ppb	22.9	100	
Cd	111	115	He	0.023	ppb	35.9	2000	
Sn	118	115	He	0.105	ppb	67.8	100	
Sb	121	159	He	0.661	ppb	9.8	100	
Ba	135	159	He	215.534	ppb	0.9	5000	
Tl	205	209	He	0.070	ppb	7.3	1000	
Pb	208	209	He	0.387	ppb	2.5	5000	
U	238		No Gas	2.583	ppb	2.7		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	1973044.13	1.2	95.5	70	120	
Sc (IS)	45	He	74991.68	2.0	90.4	70	120	
Sc (IS)	45	No Gas	2511748.22	0.3	91.1	70	120	
Ge (IS)	72	He	58856.93	0.9	88.6			
Ge (IS)	74	He	90913.09	2.4	89.1	70	120	

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	403003.22	2.0	88.8	70	120	
In (IS)	115	He	536225.40	2.6	86.0	70	120	
Tb (IS)	159	He	2956831.17	0.8	90.2	70	120	
Bi (IS)	209	He	2362874.65	1.8	83.9	70	120	
Bi (IS)	209	No Gas	4862076.98	1.8	86.4			

Sample Report

File Name	041SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 1:01:17 PM
Sample Name	**600-191956-Q-3-B sd@5**
Comment	---
Dilution	**1.0000**
Vial #	3208

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	2.323	ppb	12.0		
Be	9	6	No Gas	0.004	ppb	52.3	1000	
B	11	6	No Gas	28.944	ppb	0.9	500	
Na	23	45	He	24169.491	ppb	2.9	200000	
Mg	24	45	He	2780.753	ppb	1.5	150000	
Al	27	45	He	32.048	ppb	5.6	50000	
Si	28	45	No Gas	1676.134	ppb	3.9		
P	31	45	No Gas	8.026	ppb	45.1		
K	39	45	He	1297.443	ppb	2.2	200000	
Ca	44	45	He	5691.448	ppb	5.8		
Ti	47	45	He	0.818	ppb	44.7	1000	
V	51	45	He	1.837	ppb	5.5	2000	
Cr	52	45	He	-0.029	ppb	N/A	4000	
Mn	55	45	He	0.693	ppb	15.8	5000	
Fe	56	45	He	17.265	ppb	1.7	100000	
Co	59	74	He	0.038	ppb	50.7	1000	
Ni	60	74	He	0.338	ppb	5.9	1000	
Cu	63	74	He	0.430	ppb	22.1	1000	
Zn	66	74	He	5.300	ppb	14.9	1000	
As	75	74	He	0.713	ppb	17.6	2000	
Se	78	115	He	-0.849	ppb	N/A	1000	
Sr	88	115	He	51.031	ppb	0.4	2000	
Mo	95	115	He	0.925	ppb	7.4	1000	
Ag	107	115	He	0.002	ppb	119.9	100	
Cd	111	115	He	-0.003	ppb	0.0	2000	
Sn	118	115	He	0.106	ppb	59.1	100	
Sb	121	159	He	0.079	ppb	46.3	100	
Ba	135	159	He	31.006	ppb	6.2	5000	
Tl	205	209	He	0.011	ppb	33.2	1000	
Pb	208	209	He	0.106	ppb	14.5	5000	
U	238		No Gas	0.580	ppb	1.4		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	2040667.36	0.9	98.8	70	120	
Sc (IS)	45	He	77467.15	1.8	93.4	70	120	
Sc (IS)	45	No Gas	2545087.71	1.2	92.3	70	120	
Ge (IS)	72	He	61264.99	0.8	92.2			
Ge (IS)	74	He	93465.12	1.8	91.6	70	120	

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	415488.93	1.6	91.5	70	120	
In (IS)	115	He	562673.95	2.0	90.2	70	120	
Tb (IS)	159	He	2945784.16	1.9	89.9	70	120	
Bi (IS)	209	He	2500652.93	2.2	88.8	70	120	
Bi (IS)	209	No Gas	5108041.49	1.4	90.8			

Sample Report

File Name	045SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 1:13:50 PM
Sample Name	**600-192169-F-2-A@5**
Comment	---
Dilution	**1.0000**
Vial #	3209

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	11.632	ppb	6.8		
Be	9	6	No Gas	0.015	ppb	22.6	1000	
B	11	6	No Gas	188.423	ppb	2.2	500	
Na	23	45	He	55893.346	ppb	1.7	200000	
Mg	24	45	He	9304.616	ppb	1.8	150000	
Al	27	45	He	4.380	ppb	32.5	50000	
Si	28	45	No Gas	5069.327	ppb	0.4		
P	31	45	No Gas	3.607	ppb	14.3		
K	39	45	He	1227.122	ppb	1.2	200000	
Ca	44	45	He	51681.983	ppb	1.1		
Ti	47	45	He	0.059	ppb	98.1	1000	
V	51	45	He	1.134	ppb	7.4	2000	
Cr	52	45	He	-0.025	ppb	N/A	4000	
Mn	55	45	He	258.960	ppb	1.3	5000	
Fe	56	45	He	1647.155	ppb	0.7	100000	
Co	59	74	He	0.927	ppb	3.2	1000	
Ni	60	74	He	16.101	ppb	1.4	1000	
Cu	63	74	He	0.094	ppb	15.0	1000	
Zn	66	74	He	1.121	ppb	37.4	1000	
As	75	74	He	1.688	ppb	6.4	2000	
Se	78	115	He	-0.476	ppb	N/A	1000	
Sr	88	115	He	404.892	ppb	1.0	2000	
Mo	95	115	He	0.179	ppb	20.5	1000	
Ag	107	115	He	-0.001	ppb	N/A	100	
Cd	111	115	He	0.017	ppb	20.6	2000	
Sn	118	115	He	0.048	ppb	64.4	100	
Sb	121	159	He	0.040	ppb	28.1	100	
Ba	135	159	He	44.347	ppb	3.5	5000	
Tl	205	209	He	0.017	ppb	39.8	1000	
Pb	208	209	He	0.113	ppb	7.3	5000	
U	238		No Gas	0.926	ppb	1.2		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	2030337.82	1.9	98.3	70	120	
Sc (IS)	45	He	75681.96	2.0	91.2	70	120	
Sc (IS)	45	No Gas	2413217.08	1.3	87.6	70	120	
Ge (IS)	72	He	59625.80	2.3	89.8			
Ge (IS)	74	He	91225.25	2.3	89.4	70	120	

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	405259.91	3.2	89.3	70	120	
In (IS)	115	He	548272.59	2.1	87.9	70	120	
Tb (IS)	159	He	2908311.38	2.3	88.7	70	120	
Bi (IS)	209	He	2456903.07	0.9	87.2	70	120	
Bi (IS)	209	No Gas	4941448.19	0.6	87.9			

Sample Report

File Name	046SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 1:16:57 PM
Sample Name	**600-192169-F-2-B DU@5**
Comment	---
Dilution	**1.0000**
Vial #	3210

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	12.621	ppb	6.1		
Be	9	6	No Gas	0.018	ppb	5.2	1000	
B	11	6	No Gas	193.708	ppb	1.8	500	
Na	23	45	He	57024.142	ppb	1.9	200000	
Mg	24	45	He	9468.732	ppb	0.8	150000	
Al	27	45	He	2.281	ppb	35.9	50000	
Si	28	45	No Gas	5021.789	ppb	0.8		
P	31	45	No Gas	1.055	ppb	321.1		
K	39	45	He	1259.334	ppb	1.6	200000	
Ca	44	45	He	53008.735	ppb	1.3		
Ti	47	45	He	0.172	ppb	55.0	1000	
V	51	45	He	1.272	ppb	1.4	2000	
Cr	52	45	He	0.020	ppb	211.6	4000	
Mn	55	45	He	264.478	ppb	1.4	5000	
Fe	56	45	He	1669.824	ppb	1.3	100000	
Co	59	74	He	0.984	ppb	5.9	1000	
Ni	60	74	He	16.151	ppb	2.6	1000	
Cu	63	74	He	0.142	ppb	95.6	1000	
Zn	66	74	He	0.782	ppb	70.6	1000	
As	75	74	He	1.516	ppb	0.5	2000	
Se	78	115	He	-0.616	ppb	N/A	1000	
Sr	88	115	He	406.659	ppb	0.8	2000	
Mo	95	115	He	0.090	ppb	52.9	1000	
Ag	107	115	He	0.001	ppb	1136.3	100	
Cd	111	115	He	0.000	ppb	819.2	2000	
Sn	118	115	He	0.108	ppb	70.5	100	
Sb	121	159	He	-0.005	ppb	N/A	100	
Ba	135	159	He	45.951	ppb	1.2	5000	
Tl	205	209	He	0.015	ppb	21.1	1000	
Pb	208	209	He	0.023	ppb	32.2	5000	
U	238		No Gas	0.933	ppb	1.7		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	1973018.63	1.2	95.5	70	120	
Sc (IS)	45	He	74662.35	1.9	90.0	70	120	
Sc (IS)	45	No Gas	2433872.78	0.5	88.3	70	120	
Ge (IS)	72	He	59418.23	2.7	89.4			
Ge (IS)	74	He	90905.17	2.0	89.0	70	120	

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	401005.32	2.7	88.3	70	120	
In (IS)	115	He	545906.13	2.6	87.5	70	120	
Tb (IS)	159	He	2931218.81	2.4	89.4	70	120	
Bi (IS)	209	He	2434420.97	1.8	86.4	70	120	
Bi (IS)	209	No Gas	4963503.26	0.4	88.3			

Sample Report

File Name	047SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 1:20:08 PM
Sample Name	**600-192169-F-2-C MS@5**
Comment	---
Dilution	**1.0000**
Vial #	3211

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	31.895	ppb	3.7		
Be	9	6	No Gas	20.209	ppb	0.5	1000	
B	11	6	No Gas	201.978	ppb	1.2	500	
Na	23	45	He	55269.071	ppb	0.1	200000	
Mg	24	45	He	9411.145	ppb	1.6	150000	
Al	27	45	He	203.242	ppb	3.2	50000	
Si	28	45	No Gas	5164.894	ppb	2.2		
P	31	45	No Gas	103.011	ppb	3.7		
K	39	45	He	1428.655	ppb	0.8	200000	
Ca	44	45	He	52316.294	ppb	0.9		
Ti	47	45	He	19.415	ppb	5.2	1000	
V	51	45	He	20.208	ppb	1.0	2000	
Cr	52	45	He	19.095	ppb	1.3	4000	
Mn	55	45	He	279.429	ppb	1.7	5000	
Fe	56	45	He	1797.683	ppb	0.9	100000	
Co	59	74	He	20.752	ppb	1.3	1000	
Ni	60	74	He	34.933	ppb	1.3	1000	
Cu	63	74	He	19.789	ppb	1.5	1000	
Zn	66	74	He	11.931	ppb	8.9	1000	
As	75	74	He	21.256	ppb	1.0	2000	
Se	78	115	He	20.147	ppb	12.9	1000	
Sr	88	115	He	420.023	ppb	1.1	2000	
Mo	95	115	He	20.482	ppb	1.6	1000	
Ag	107	115	He	4.972	ppb	2.6	100	
Cd	111	115	He	19.479	ppb	1.1	2000	
Sn	118	115	He	19.145	ppb	3.4	100	
Sb	121	159	He	29.150	ppb	3.9	100	
Ba	135	159	He	61.093	ppb	4.4	5000	
Tl	205	209	He	19.156	ppb	1.1	1000	
Pb	208	209	He	19.077	ppb	0.6	5000	
U	238		No Gas	10.072	ppb	1.4		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	1964168.06	1.4	95.1	70	120	
Sc (IS)	45	He	75561.39	2.4	91.1	70	120	
Sc (IS)	45	No Gas	2444382.96	0.7	88.7	70	120	
Ge (IS)	72	He	58980.82	2.7	88.8			
Ge (IS)	74	He	90924.36	2.6	89.1	70	120	

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	400086.62	2.7	88.1	70	120	
In (IS)	115	He	551054.31	2.6	88.4	70	120	
Tb (IS)	159	He	2970091.31	2.4	90.6	70	120	
Bi (IS)	209	He	2438759.63	1.3	86.6	70	120	
Bi (IS)	209	No Gas	4924571.59	1.2	87.6			

Sample Report

File Name	048SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 1:23:15 PM
Sample Name	**600-192169-F-2-D MSD@5**
Comment	---
Dilution	**1.0000**
Vial #	3212

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	30.892	ppb	2.3		
Be	9	6	No Gas	20.112	ppb	0.3	1000	
B	11	6	No Gas	200.829	ppb	0.8	500	
Na	23	45	He	55772.430	ppb	1.3	200000	
Mg	24	45	He	9502.977	ppb	2.4	150000	
Al	27	45	He	200.256	ppb	4.4	50000	
Si	28	45	No Gas	5169.619	ppb	2.1		
P	31	45	No Gas	105.571	ppb	3.9		
K	39	45	He	1451.818	ppb	3.6	200000	
Ca	44	45	He	51815.258	ppb	1.2		
Ti	47	45	He	19.625	ppb	7.0	1000	
V	51	45	He	20.787	ppb	2.9	2000	
Cr	52	45	He	19.240	ppb	1.9	4000	
Mn	55	45	He	272.011	ppb	0.1	5000	
Fe	56	45	He	1838.571	ppb	0.9	100000	
Co	59	74	He	20.522	ppb	0.9	1000	
Ni	60	74	He	35.904	ppb	2.8	1000	
Cu	63	74	He	20.122	ppb	2.6	1000	
Zn	66	74	He	10.990	ppb	4.2	1000	
As	75	74	He	21.575	ppb	1.1	2000	
Se	78	115	He	18.551	ppb	3.6	1000	
Sr	88	115	He	421.713	ppb	1.7	2000	
Mo	95	115	He	20.650	ppb	2.7	1000	
Ag	107	115	He	4.971	ppb	0.6	100	
Cd	111	115	He	19.797	ppb	3.7	2000	
Sn	118	115	He	19.400	ppb	2.5	100	
Sb	121	159	He	30.485	ppb	1.0	100	
Ba	135	159	He	64.755	ppb	0.8	5000	
Tl	205	209	He	19.066	ppb	1.3	1000	
Pb	208	209	He	18.987	ppb	1.0	5000	
U	238		No Gas	10.238	ppb	0.9		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	1990723.65	0.5	96.4	70	120	
Sc (IS)	45	He	75354.85	3.0	90.8	70	120	
Sc (IS)	45	No Gas	2449495.05	1.0	88.9	70	120	
Ge (IS)	72	He	58800.08	1.2	88.5			
Ge (IS)	74	He	90354.04	2.3	88.5	70	120	

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	403323.16	2.8	88.8	70	120	
In (IS)	115	He	546280.08	2.1	87.6	70	120	
Tb (IS)	159	He	2917476.24	2.1	89.0	70	120	
Bi (IS)	209	He	2448931.58	1.8	86.9	70	120	
Bi (IS)	209	No Gas	5002237.46	1.1	88.9			

Sample Report

File Name	049SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 1:26:26 PM
Sample Name	**600-192169-F-3-A@5**
Comment	---
Dilution	**1.0000**
Vial #	3301

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	10.200	ppb	6.5		
Be	9	6	No Gas	0.027	ppb	11.3	1000	
B	11	6	No Gas	111.658	ppb	0.1	500	
Na	23	45	He	77905.352	ppb	2.3	200000	
Mg	24	45	He	7557.181	ppb	0.5	150000	
Al	27	45	He	4.035	ppb	15.4	50000	
Si	28	45	No Gas	5372.766	ppb	0.7		
P	31	45	No Gas	54.589	ppb	6.4		
K	39	45	He	1209.218	ppb	2.9	200000	
Ca	44	45	He	46549.624	ppb	1.6		
Ti	47	45	He	0.062	ppb	166.3	1000	
V	51	45	He	0.450	ppb	8.7	2000	
Cr	52	45	He	0.078	ppb	30.8	4000	
Mn	55	45	He	433.383	ppb	0.7	5000	
Fe	56	45	He	9099.495	ppb	1.5	100000	
Co	59	74	He	1.458	ppb	2.4	1000	
Ni	60	74	He	8.664	ppb	0.4	1000	
Cu	63	74	He	0.092	ppb	100.8	1000	
Zn	66	74	He	1.128	ppb	29.7	1000	
As	75	74	He	14.522	ppb	1.2	2000	
Se	78	115	He	-0.053	ppb	N/A	1000	
Sr	88	115	He	353.824	ppb	1.5	2000	
Mo	95	115	He	0.017	ppb	126.3	1000	
Ag	107	115	He	0.000	ppb	N/A	100	
Cd	111	115	He	0.006	ppb	193.1	2000	
Sn	118	115	He	0.119	ppb	40.8	100	
Sb	121	159	He	0.077	ppb	42.3	100	
Ba	135	159	He	178.374	ppb	2.0	5000	
Tl	205	209	He	0.015	ppb	22.8	1000	
Pb	208	209	He	0.062	ppb	13.1	5000	
U	238		No Gas	0.060	ppb	12.7		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	1962590.37	1.2	95.0	70	120	
Sc (IS)	45	He	74625.56	2.0	89.9	70	120	
Sc (IS)	45	No Gas	2409856.67	0.6	87.4	70	120	
Ge (IS)	72	He	59187.20	1.2	89.1			
Ge (IS)	74	He	89925.91	1.8	88.1	70	120	

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	403770.05	2.0	88.9	70	120	
In (IS)	115	He	541690.19	1.7	86.9	70	120	
Tb (IS)	159	He	2940969.99	2.7	89.7	70	120	
Bi (IS)	209	He	2410797.10	0.6	85.6	70	120	
Bi (IS)	209	No Gas	4962546.70	1.7	88.2			

Sample Report

File Name	050SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 1:29:34 PM
Sample Name	**600-192169-F-4-A**
Comment	---
Dilution	**1.0000**
Vial #	3302

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	62.299	ppb	2.7		
Be	9	6	No Gas	0.152	ppb	9.3	1000	
B	11	6	No Gas	970.177	ppb	2.1	500	failed
Na	23	45	He	269376.624	ppb	1.3	200000	failed
Mg	24	45	He	42187.327	ppb	1.5	150000	
Al	27	45	He	21.642	ppb	11.5	50000	
Si	28	45	No Gas	25097.302	ppb	1.3		
P	31	45	No Gas	21.430	ppb	10.9		
K	39	45	He	5640.898	ppb	0.3	200000	
Ca	44	45	He	259340.396	ppb	0.5		
Ti	47	45	He	0.066	ppb	151.3	1000	
V	51	45	He	9.460	ppb	1.8	2000	
Cr	52	45	He	0.214	ppb	38.4	4000	
Mn	55	45	He	94.629	ppb	0.2	5000	
Fe	56	45	He	95.644	ppb	1.2	100000	
Co	59	74	He	3.245	ppb	3.1	1000	
Ni	60	74	He	69.319	ppb	1.3	1000	
Cu	63	74	He	0.081	ppb	50.8	1000	
Zn	66	74	He	1.317	ppb	29.8	1000	
As	75	74	He	2.204	ppb	3.8	2000	
Se	78	115	He	0.572	ppb	61.2	1000	
Sr	88	115	He	1917.615	ppb	0.9	2000	
Mo	95	115	He	0.059	ppb	47.7	1000	
Ag	107	115	He	0.000	ppb	N/A	100	
Cd	111	115	He	0.001	ppb	1239.5	2000	
Sn	118	115	He	0.076	ppb	39.1	100	
Sb	121	159	He	0.177	ppb	20.8	100	
Ba	135	159	He	131.536	ppb	3.1	5000	
Tl	205	209	He	0.005	ppb	58.2	1000	
Pb	208	209	He	-0.004	ppb	N/A	5000	
U	238		No Gas	5.007	ppb	0.6		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	1852059.73	2.3	89.7	70	120	
Sc (IS)	45	He	72524.93	3.5	87.4	70	120	
Sc (IS)	45	No Gas	2361567.01	1.4	85.7	70	120	
Ge (IS)	72	He	56713.85	3.4	85.4			
Ge (IS)	74	He	86910.26	1.7	85.1	70	120	

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	390431.91	2.5	86.0	70	120	
In (IS)	115	He	521669.39	2.7	83.7	70	120	
Tb (IS)	159	He	2845443.71	1.4	86.8	70	120	
Bi (IS)	209	He	2287830.49	1.9	81.2	70	120	
Bi (IS)	209	No Gas	4707337.99	2.1	83.7			

Sample Report

File Name	051SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 1:32:43 PM
Sample Name	**600-192169-F-5-A@5**
Comment	---
Dilution	**1.0000**
Vial #	3303

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	10.963	ppb	6.1		
Be	9	6	No Gas	0.061	ppb	13.0	1000	
B	11	6	No Gas	149.366	ppb	1.0	500	
Na	23	45	He	44709.931	ppb	0.6	200000	
Mg	24	45	He	6652.085	ppb	0.7	150000	
Al	27	45	He	1.862	ppb	32.7	50000	
Si	28	45	No Gas	5127.006	ppb	0.4		
P	31	45	No Gas	3.314	ppb	45.5		
K	39	45	He	726.427	ppb	1.2	200000	
Ca	44	45	He	47626.611	ppb	1.7		
Ti	47	45	He	0.044	ppb	224.8	1000	
V	51	45	He	0.836	ppb	3.4	2000	
Cr	52	45	He	0.050	ppb	47.1	4000	
Mn	55	45	He	285.703	ppb	0.7	5000	
Fe	56	45	He	1511.031	ppb	0.7	100000	
Co	59	74	He	0.074	ppb	7.9	1000	
Ni	60	74	He	6.192	ppb	1.8	1000	
Cu	63	74	He	0.247	ppb	11.7	1000	
Zn	66	74	He	1.282	ppb	16.2	1000	
As	75	74	He	0.765	ppb	9.5	2000	
Se	78	115	He	-0.924	ppb	N/A	1000	
Sr	88	115	He	319.857	ppb	0.5	2000	
Mo	95	115	He	0.054	ppb	38.0	1000	
Ag	107	115	He	0.000	ppb	1357.9	100	
Cd	111	115	He	0.000	ppb	829.7	2000	
Sn	118	115	He	0.061	ppb	16.0	100	
Sb	121	159	He	0.011	ppb	53.2	100	
Ba	135	159	He	33.332	ppb	5.8	5000	
Tl	205	209	He	0.005	ppb	37.8	1000	
Pb	208	209	He	0.001	ppb	1571.8	5000	
U	238		No Gas	0.573	ppb	2.3		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	1977562.72	1.0	95.7	70	120	
Sc (IS)	45	He	75511.08	2.1	91.0	70	120	
Sc (IS)	45	No Gas	2412802.38	1.2	87.5	70	120	
Ge (IS)	72	He	59671.48	1.8	89.8			
Ge (IS)	74	He	90485.60	1.3	88.6	70	120	

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	403279.92	2.5	88.8	70	120	
In (IS)	115	He	547372.31	2.1	87.8	70	120	
Tb (IS)	159	He	2915669.68	1.0	88.9	70	120	
Bi (IS)	209	He	2446118.75	1.4	86.8	70	120	
Bi (IS)	209	No Gas	4982885.97	1.7	88.6			

Sample Report

File Name	052SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 1:35:52 PM
Sample Name	**600-192169-F-6-A**
Comment	---
Dilution	**1.0000**
Vial #	3304

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	58.936	ppb	3.2		
Be	9	6	No Gas	0.027	ppb	24.0	1000	
B	11	6	No Gas	763.130	ppb	2.5	500	failed
Na	23	45	He	232591.919	ppb	2.3	200000	failed
Mg	24	45	He	35855.897	ppb	2.1	150000	
Al	27	45	He	4.542	ppb	24.4	50000	
Si	28	45	No Gas	25485.223	ppb	1.1		
P	31	45	No Gas	39.811	ppb	6.1		
K	39	45	He	4119.159	ppb	1.7	200000	
Ca	44	45	He	233686.207	ppb	1.3		
Ti	47	45	He	0.034	ppb	159.3	1000	
V	51	45	He	23.604	ppb	2.7	2000	
Cr	52	45	He	0.626	ppb	6.7	4000	
Mn	55	45	He	762.197	ppb	1.3	5000	
Fe	56	45	He	633.974	ppb	1.0	100000	
Co	59	74	He	3.199	ppb	2.0	1000	
Ni	60	74	He	36.139	ppb	0.7	1000	
Cu	63	74	He	0.235	ppb	63.1	1000	
Zn	66	74	He	2.392	ppb	4.8	1000	
As	75	74	He	4.889	ppb	5.0	2000	
Se	78	115	He	3.518	ppb	33.3	1000	
Sr	88	115	He	1739.745	ppb	0.7	2000	
Mo	95	115	He	0.768	ppb	5.6	1000	
Ag	107	115	He	-0.002	ppb	N/A	100	
Cd	111	115	He	0.004	ppb	72.0	2000	
Sn	118	115	He	0.053	ppb	92.2	100	
Sb	121	159	He	0.152	ppb	47.8	100	
Ba	135	159	He	110.251	ppb	1.3	5000	
Tl	205	209	He	0.057	ppb	9.8	1000	
Pb	208	209	He	0.000	ppb	3159.6	5000	
U	238		No Gas	6.337	ppb	0.9		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	1881775.24	1.7	91.1	70	120	
Sc (IS)	45	He	72790.57	3.3	87.7	70	120	
Sc (IS)	45	No Gas	2397094.29	0.2	87.0	70	120	
Ge (IS)	72	He	56759.38	0.8	85.4			
Ge (IS)	74	He	86563.60	1.9	84.8	70	120	

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	386469.54	1.7	85.1	70	120	
In (IS)	115	He	519888.44	2.2	83.4	70	120	
Tb (IS)	159	He	2817703.26	1.3	86.0	70	120	
Bi (IS)	209	He	2287321.89	2.0	81.2	70	120	
Bi (IS)	209	No Gas	4772109.75	2.1	84.8			

Sample Report

File Name	053SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 1:39:01 PM
Sample Name	**600-192169-F-7-A@5**
Comment	---
Dilution	**1.0000**
Vial #	3305

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	11.409	ppb	4.8		
Be	9	6	No Gas	0.072	ppb	4.9	1000	
B	11	6	No Gas	151.627	ppb	1.5	500	
Na	23	45	He	44246.658	ppb	1.0	200000	
Mg	24	45	He	6691.450	ppb	1.0	150000	
Al	27	45	He	1.991	ppb	67.8	50000	
Si	28	45	No Gas	5109.304	ppb	1.1		
P	31	45	No Gas	3.373	ppb	104.2		
K	39	45	He	721.580	ppb	2.1	200000	
Ca	44	45	He	47407.862	ppb	0.8		
Ti	47	45	He	-0.019	ppb	N/A	1000	
V	51	45	He	0.919	ppb	6.4	2000	
Cr	52	45	He	0.011	ppb	83.5	4000	
Mn	55	45	He	281.081	ppb	0.5	5000	
Fe	56	45	He	1497.898	ppb	0.6	100000	
Co	59	74	He	0.093	ppb	38.9	1000	
Ni	60	74	He	6.266	ppb	2.4	1000	
Cu	63	74	He	0.278	ppb	8.8	1000	
Zn	66	74	He	0.796	ppb	81.3	1000	
As	75	74	He	0.817	ppb	10.0	2000	
Se	78	115	He	-0.441	ppb	N/A	1000	
Sr	88	115	He	319.364	ppb	2.0	2000	
Mo	95	115	He	0.047	ppb	61.9	1000	
Ag	107	115	He	0.002	ppb	228.6	100	
Cd	111	115	He	0.002	ppb	437.5	2000	
Sn	118	115	He	0.049	ppb	119.8	100	
Sb	121	159	He	0.011	ppb	504.6	100	
Ba	135	159	He	35.517	ppb	2.5	5000	
Tl	205	209	He	0.008	ppb	55.7	1000	
Pb	208	209	He	0.012	ppb	38.6	5000	
U	238		No Gas	0.580	ppb	2.0		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	1952889.94	0.6	94.6	70	120	
Sc (IS)	45	He	75294.38	1.9	90.7	70	120	
Sc (IS)	45	No Gas	2421131.88	0.6	87.8	70	120	
Ge (IS)	72	He	59050.05	1.8	88.9			
Ge (IS)	74	He	90300.22	2.9	88.5	70	120	

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	399351.22	1.8	88.0	70	120	
In (IS)	115	He	544543.45	2.8	87.3	70	120	
Tb (IS)	159	He	2894653.99	1.4	88.3	70	120	
Bi (IS)	209	He	2456477.52	2.1	87.2	70	120	
Bi (IS)	209	No Gas	4996424.75	1.3	88.8			

Sample Report

File Name	057SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 1:51:35 PM
Sample Name	**600-192316-A-14-A**
Comment	---
Dilution	**1.0000**
Vial #	3306

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	4.788	ppb	20.9		
Be	9	6	No Gas	0.024	ppb	20.4	1000	
B	11	6	No Gas	116.951	ppb	3.7	500	
Na	23	45	He	57413.858	ppb	0.7	200000	
Mg	24	45	He	1158.947	ppb	0.6	150000	
Al	27	45	He	428.431	ppb	9.8	50000	
Si	28	45	No Gas	2809.203	ppb	6.2		
P	31	45	No Gas	261.361	ppb	0.5		
K	39	45	He	2676.589	ppb	1.7	200000	
Ca	44	45	He	10461.022	ppb	1.8		
Ti	47	45	He	14.062	ppb	30.8	1000	
V	51	45	He	1.998	ppb	9.1	2000	
Cr	52	45	He	0.890	ppb	10.7	4000	
Mn	55	45	He	12.037	ppb	3.2	5000	
Fe	56	45	He	244.198	ppb	5.8	100000	
Co	59	74	He	0.145	ppb	25.6	1000	
Ni	60	74	He	1.048	ppb	5.9	1000	
Cu	63	74	He	4.900	ppb	2.2	1000	
Zn	66	74	He	79.377	ppb	0.7	1000	
As	75	74	He	1.223	ppb	6.0	2000	
Se	78	115	He	-0.080	ppb	N/A	1000	
Sr	88	115	He	48.651	ppb	0.6	2000	
Mo	95	115	He	4.709	ppb	1.9	1000	
Ag	107	115	He	0.006	ppb	93.8	100	
Cd	111	115	He	0.098	ppb	21.8	2000	
Sn	118	115	He	0.335	ppb	75.9	100	
Sb	121	159	He	2.411	ppb	6.3	100	
Ba	135	159	He	47.352	ppb	3.4	5000	
Tl	205	209	He	0.015	ppb	48.7	1000	
Pb	208	209	He	0.651	ppb	7.2	5000	
U	238		No Gas	0.099	ppb	3.8		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	2003064.70	2.8	97.0	70	120	
Sc (IS)	45	He	74037.99	2.4	89.2	70	120	
Sc (IS)	45	No Gas	2416656.09	0.8	87.7	70	120	
Ge (IS)	72	He	58457.53	3.2	88.0			
Ge (IS)	74	He	88757.27	2.2	86.9	70	120	

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	397373.77	2.0	87.5	70	120	
In (IS)	115	He	543409.17	2.2	87.1	70	120	
Tb (IS)	159	He	2914988.71	2.0	88.9	70	120	
Bi (IS)	209	He	2417689.15	1.2	85.8	70	120	
Bi (IS)	209	No Gas	4986743.74	1.6	88.7			

Sample Report

File Name	061SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 2:35:16 PM
Sample Name	**Suez (As)**
Comment	---
Dilution	**1.0000**
Vial #	3307

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	0.200	ppb	208.3		
Be	9	6	No Gas	0.002	ppb	36.3	1000	
B	11	6	No Gas	1.304	ppb	3.7	500	
Na	23	45	He	25.483	ppb	10.3	200000	
Mg	24	45	He	1.067	ppb	88.5	150000	
Al	27	45	He	4.808	ppb	11.8	50000	
Si	28	45	No Gas	-1.495	ppb	N/A		
P	31	45	No Gas	6.539	ppb	60.3		
K	39	45	He	0.318	ppb	3354.7	200000	
Ca	44	45	He	-4.623	ppb	N/A		
Ti	47	45	He	-0.037	ppb	N/A	1000	
V	51	45	He	0.040	ppb	55.2	2000	
Cr	52	45	He	0.046	ppb	231.7	4000	
Mn	55	45	He	0.662	ppb	12.4	5000	
Fe	56	45	He	8.096	ppb	3.1	100000	
Co	59	74	He	0.007	ppb	127.6	1000	
Ni	60	74	He	0.008	ppb	190.8	1000	
Cu	63	74	He	0.060	ppb	157.4	1000	
Zn	66	74	He	2.681	ppb	31.5	1000	
As	75	74	He	0.052	ppb	32.8	2000	
Se	78	115	He	-0.578	ppb	N/A	1000	
Sr	88	115	He	0.026	ppb	186.4	2000	
Mo	95	115	He	0.028	ppb	24.8	1000	
Ag	107	115	He	-0.001	ppb	N/A	100	
Cd	111	115	He	-0.001	ppb	N/A	2000	
Sn	118	115	He	0.700	ppb	16.6	100	
Sb	121	159	He	0.006	ppb	577.3	100	
Ba	135	159	He	0.377	ppb	45.2	5000	
Tl	205	209	He	-0.001	ppb	N/A	1000	
Pb	208	209	He	-0.027	ppb	N/A	5000	
U	238		No Gas	0.000	ppb	N/A		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	2056629.07	1.2	99.6	70	120	
Sc (IS)	45	He	76743.25	0.4	92.5	70	120	
Sc (IS)	45	No Gas	2435274.15	1.5	88.4	70	120	
Ge (IS)	72	He	61248.14	1.2	92.2			
Ge (IS)	74	He	92817.56	1.6	90.9	70	120	

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	415249.91	0.8	91.5	70	120	
In (IS)	115	He	558043.49	1.6	89.5	70	120	
Tb (IS)	159	He	2957417.60	2.0	90.2	70	120	
Bi (IS)	209	He	2504628.30	1.2	88.9	70	120	
Bi (IS)	209	No Gas	5067799.54	0.8	90.1			

Sample Report

File Name	065SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 4:10:57 PM
Sample Name	**400-176631-C-1-A**
Comment	---
Dilution	**1.0000**
Vial #	3308

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	6.832	ppb	14.6		
Be	9	6	No Gas	0.016	ppb	16.6	1000	
B	11	6	No Gas	32.313	ppb	2.7	500	
Na	23	45	He	23125.697	ppb	0.7	200000	
Mg	24	45	He	11187.154	ppb	1.0	150000	
Al	27	45	He	245.602	ppb	7.2	50000	
Si	28	45	No Gas	2486.461	ppb	2.7		
P	31	45	No Gas	38.512	ppb	6.6		
K	39	45	He	2479.289	ppb	0.2	200000	
Ca	44	45	He	19115.958	ppb	0.5		
Ti	47	45	He	5.173	ppb	9.6	1000	
V	51	45	He	0.690	ppb	5.3	2000	
Cr	52	45	He	0.319	ppb	6.9	4000	
Mn	55	45	He	70.009	ppb	0.9	5000	
Fe	56	45	He	196.218	ppb	2.6	100000	
Co	59	74	He	0.169	ppb	18.7	1000	
Ni	60	74	He	0.985	ppb	8.9	1000	
Cu	63	74	He	1.753	ppb	2.4	1000	
Zn	66	74	He	2.625	ppb	8.3	1000	
As	75	74	He	0.739	ppb	18.6	2000	
Se	78	115	He	-4.239	ppb	N/A	1000	
Sr	88	115	He	107.448	ppb	2.0	2000	
Mo	95	115	He	0.876	ppb	3.4	1000	
Ag	107	115	He	0.002	ppb	127.3	100	
Cd	111	115	He	0.002	ppb	240.3	2000	
Sn	118	115	He	0.173	ppb	46.9	100	
Sb	121	159	He	0.081	ppb	5.0	100	
Ba	135	159	He	57.688	ppb	2.0	5000	
Tl	205	209	He	0.014	ppb	23.5	1000	
Pb	208	209	He	0.586	ppb	5.2	5000	
U	238		No Gas	0.182	ppb	5.1		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	2044554.90	1.9	99.0	70	120	
Sc (IS)	45	He	76953.24	0.1	92.7	70	120	
Sc (IS)	45	No Gas	2398881.72	1.3	87.0	70	120	
Ge (IS)	72	He	60256.20	0.9	90.7			
Ge (IS)	74	He	90829.29	0.7	89.0	70	120	

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	404482.95	0.5	89.1	70	120	
In (IS)	115	He	542295.61	0.4	87.0	70	120	
Tb (IS)	159	He	2912510.72	1.0	88.8	70	120	
Bi (IS)	209	He	2380883.21	1.5	84.5	70	120	
Bi (IS)	209	No Gas	4893594.58	1.8	87.0			

Sample Report

File Name	066SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 4:14:04 PM
Sample Name	**400-176631-C-2-A**
Comment	---
Dilution	**1.0000**
Vial #	3309

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	6.494	ppb	7.6		
Be	9	6	No Gas	0.015	ppb	36.4	1000	
B	11	6	No Gas	32.028	ppb	2.8	500	
Na	23	45	He	22170.846	ppb	1.0	200000	
Mg	24	45	He	10856.266	ppb	0.8	150000	
Al	27	45	He	283.422	ppb	14.8	50000	
Si	28	45	No Gas	2567.945	ppb	2.3		
P	31	45	No Gas	41.262	ppb	5.8		
K	39	45	He	2505.484	ppb	0.9	200000	
Ca	44	45	He	18835.734	ppb	1.5		
Ti	47	45	He	5.714	ppb	34.7	1000	
V	51	45	He	0.771	ppb	3.9	2000	
Cr	52	45	He	0.337	ppb	18.8	4000	
Mn	55	45	He	67.545	ppb	2.8	5000	
Fe	56	45	He	250.661	ppb	1.4	100000	
Co	59	74	He	0.217	ppb	5.1	1000	
Ni	60	74	He	1.286	ppb	7.0	1000	
Cu	63	74	He	4.640	ppb	5.6	1000	
Zn	66	74	He	2.569	ppb	1.3	1000	
As	75	74	He	0.933	ppb	7.3	2000	
Se	78	115	He	-4.226	ppb	N/A	1000	
Sr	88	115	He	106.353	ppb	1.5	2000	
Mo	95	115	He	0.998	ppb	7.3	1000	
Ag	107	115	He	0.000	ppb	982.7	100	
Cd	111	115	He	0.010	ppb	30.2	2000	
Sn	118	115	He	0.137	ppb	22.1	100	
Sb	121	159	He	0.105	ppb	0.6	100	
Ba	135	159	He	56.720	ppb	0.9	5000	
Tl	205	209	He	0.013	ppb	53.6	1000	
Pb	208	209	He	0.713	ppb	2.4	5000	
U	238		No Gas	0.179	ppb	3.2		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	2022296.83	1.4	97.9	70	120	
Sc (IS)	45	He	74616.60	2.2	89.9	70	120	
Sc (IS)	45	No Gas	2376838.94	0.5	86.2	70	120	
Ge (IS)	72	He	58334.80	1.1	87.8			
Ge (IS)	74	He	88516.92	2.7	86.7	70	120	

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	391332.43	2.7	86.2	70	120	
In (IS)	115	He	531010.00	2.0	85.1	70	120	
Tb (IS)	159	He	2853473.67	2.9	87.0	70	120	
Bi (IS)	209	He	2354031.30	1.2	83.6	70	120	
Bi (IS)	209	No Gas	4885275.90	0.6	86.9			

Sample Report

File Name	067SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 4:17:14 PM
Sample Name	**400-176631-C-3-A**
Comment	---
Dilution	**1.0000**
Vial #	3310

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	6.801	ppb	3.7		
Be	9	6	No Gas	0.013	ppb	21.7	1000	
B	11	6	No Gas	31.258	ppb	1.4	500	
Na	23	45	He	21519.450	ppb	1.2	200000	
Mg	24	45	He	10717.994	ppb	0.9	150000	
Al	27	45	He	237.719	ppb	7.7	50000	
Si	28	45	No Gas	2431.218	ppb	2.7		
P	31	45	No Gas	47.072	ppb	38.4		
K	39	45	He	2455.067	ppb	1.7	200000	
Ca	44	45	He	18437.656	ppb	1.7		
Ti	47	45	He	7.641	ppb	38.5	1000	
V	51	45	He	0.649	ppb	3.4	2000	
Cr	52	45	He	0.871	ppb	3.0	4000	
Mn	55	45	He	67.177	ppb	3.6	5000	
Fe	56	45	He	257.312	ppb	1.2	100000	
Co	59	74	He	0.281	ppb	11.3	1000	
Ni	60	74	He	1.299	ppb	9.0	1000	
Cu	63	74	He	5.229	ppb	4.7	1000	
Zn	66	74	He	7.868	ppb	5.6	1000	
As	75	74	He	1.043	ppb	8.3	2000	
Se	78	115	He	-4.243	ppb	N/A	1000	
Sr	88	115	He	106.631	ppb	1.8	2000	
Mo	95	115	He	1.057	ppb	5.3	1000	
Ag	107	115	He	-0.002	ppb	N/A	100	
Cd	111	115	He	0.016	ppb	118.9	2000	
Sn	118	115	He	0.159	ppb	33.2	100	
Sb	121	159	He	0.117	ppb	29.5	100	
Ba	135	159	He	69.811	ppb	3.6	5000	
Tl	205	209	He	0.014	ppb	42.1	1000	
Pb	208	209	He	4.517	ppb	1.7	5000	
U	238		No Gas	0.171	ppb	3.5		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	2025856.32	1.0	98.1	70	120	
Sc (IS)	45	He	74708.23	1.7	90.0	70	120	
Sc (IS)	45	No Gas	2405345.14	0.5	87.3	70	120	
Ge (IS)	72	He	58639.31	0.8	88.3			
Ge (IS)	74	He	89736.47	1.1	87.9	70	120	

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	397502.75	2.5	87.6	70	120	
In (IS)	115	He	529528.05	2.7	84.9	70	120	
Tb (IS)	159	He	2864823.29	2.6	87.4	70	120	
Bi (IS)	209	He	2351955.42	0.5	83.5	70	120	
Bi (IS)	209	No Gas	4942997.60	0.6	87.9			

Sample Report

File Name	068SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 4:20:21 PM
Sample Name	**400-176631-C-4-A**
Comment	---
Dilution	**1.0000**
Vial #	3311

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	-0.056	ppb	N/A		
Be	9	6	No Gas	0.006	ppb	80.9	1000	
B	11	6	No Gas	0.494	ppb	21.8	500	
Na	23	45	He	32.523	ppb	2.7	200000	
Mg	24	45	He	6.510	ppb	4.8	150000	
Al	27	45	He	9.106	ppb	16.4	50000	
Si	28	45	No Gas	2.461	ppb	20.0		
P	31	45	No Gas	15.174	ppb	2.5		
K	39	45	He	2.209	ppb	307.5	200000	
Ca	44	45	He	22.006	ppb	101.1		
Ti	47	45	He	0.284	ppb	74.9	1000	
V	51	45	He	0.035	ppb	120.8	2000	
Cr	52	45	He	0.407	ppb	16.9	4000	
Mn	55	45	He	1.995	ppb	3.0	5000	
Fe	56	45	He	15.269	ppb	7.8	100000	
Co	59	74	He	0.040	ppb	26.5	1000	
Ni	60	74	He	0.163	ppb	105.5	1000	
Cu	63	74	He	1.258	ppb	6.3	1000	
Zn	66	74	He	5.403	ppb	10.0	1000	
As	75	74	He	0.040	ppb	38.8	2000	
Se	78	115	He	-4.888	ppb	N/A	1000	
Sr	88	115	He	0.343	ppb	2.9	2000	
Mo	95	115	He	0.029	ppb	86.1	1000	
Ag	107	115	He	0.000	ppb	N/A	100	
Cd	111	115	He	0.006	ppb	52.3	2000	
Sn	118	115	He	0.286	ppb	10.2	100	
Sb	121	159	He	0.039	ppb	17.9	100	
Ba	135	159	He	6.339	ppb	8.1	5000	
Tl	205	209	He	0.006	ppb	131.8	1000	
Pb	208	209	He	4.293	ppb	2.0	5000	
U	238		No Gas	0.001	ppb	308.1		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	2036653.92	0.6	98.6	70	120	
Sc (IS)	45	He	74360.55	0.9	89.6	70	120	
Sc (IS)	45	No Gas	2381886.67	1.2	86.4	70	120	
Ge (IS)	72	He	58534.56	3.5	88.1			
Ge (IS)	74	He	87521.80	3.1	85.7	70	120	

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	395479.06	2.6	87.1	70	120	
In (IS)	115	He	531955.61	2.1	85.3	70	120	
Tb (IS)	159	He	2851941.45	2.5	87.0	70	120	
Bi (IS)	209	He	2410392.31	2.2	85.6	70	120	
Bi (IS)	209	No Gas	4893958.61	0.4	87.0			

Sample Report

File Name	069SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 4:23:32 PM
Sample Name	**400-176631-C-4-B DU**
Comment	---
Dilution	**1.0000**
Vial #	3312

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	0.332	ppb	47.7		
Be	9	6	No Gas	0.004	ppb	38.2	1000	
B	11	6	No Gas	0.368	ppb	19.0	500	
Na	23	45	He	30.849	ppb	8.9	200000	
Mg	24	45	He	3.569	ppb	23.2	150000	
Al	27	45	He	22.780	ppb	12.1	50000	
Si	28	45	No Gas	2.120	ppb	24.2		
P	31	45	No Gas	12.136	ppb	23.1		
K	39	45	He	5.232	ppb	46.7	200000	
Ca	44	45	He	60.779	ppb	14.8		
Ti	47	45	He	0.237	ppb	32.5	1000	
V	51	45	He	0.053	ppb	107.4	2000	
Cr	52	45	He	0.392	ppb	9.7	4000	
Mn	55	45	He	1.805	ppb	0.9	5000	
Fe	56	45	He	18.843	ppb	2.0	100000	
Co	59	74	He	0.040	ppb	44.6	1000	
Ni	60	74	He	0.191	ppb	44.9	1000	
Cu	63	74	He	1.590	ppb	9.6	1000	
Zn	66	74	He	7.174	ppb	12.6	1000	
As	75	74	He	0.020	ppb	50.0	2000	
Se	78	115	He	-4.654	ppb	N/A	1000	
Sr	88	115	He	0.406	ppb	24.9	2000	
Mo	95	115	He	0.051	ppb	12.8	1000	
Ag	107	115	He	0.005	ppb	19.1	100	
Cd	111	115	He	0.010	ppb	143.4	2000	
Sn	118	115	He	3.126	ppb	4.8	100	
Sb	121	159	He	0.001	ppb	2954.0	100	
Ba	135	159	He	12.990	ppb	1.2	5000	
Tl	205	209	He	0.007	ppb	94.3	1000	
Pb	208	209	He	2.406	ppb	1.5	5000	
U	238		No Gas	0.001	ppb	154.5		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	1980924.40	1.2	95.9	70	120	
Sc (IS)	45	He	74445.51	1.4	89.7	70	120	
Sc (IS)	45	No Gas	2384153.19	0.8	86.5	70	120	
Ge (IS)	72	He	57854.97	1.1	87.1			
Ge (IS)	74	He	88070.56	2.0	86.3	70	120	

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	394168.59	2.7	86.8	70	120	
In (IS)	115	He	531657.06	2.0	85.3	70	120	
Tb (IS)	159	He	2835720.86	2.1	86.5	70	120	
Bi (IS)	209	He	2407527.53	3.1	85.5	70	120	
Bi (IS)	209	No Gas	4912769.41	0.6	87.3			

Sample Report

File Name	070SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 4:26:41 PM
Sample Name	**400-176631-C-4-C MS**
Comment	---
Dilution	**1.0000**
Vial #	3401

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	92.698	ppb	3.2		
Be	9	6	No Gas	96.107	ppb	2.5	1000	
B	11	6	No Gas	46.955	ppb	3.1	500	
Na	23	45	He	1042.900	ppb	0.5	200000	
Mg	24	45	He	1022.802	ppb	2.0	150000	
Al	27	45	He	1022.706	ppb	1.5	50000	
Si	28	45	No Gas	933.538	ppb	0.6		
P	31	45	No Gas	515.241	ppb	1.6		
K	39	45	He	987.479	ppb	2.1	200000	
Ca	44	45	He	953.232	ppb	4.9		
Ti	47	45	He	96.228	ppb	2.4	1000	
V	51	45	He	94.632	ppb	0.5	2000	
Cr	52	45	He	96.014	ppb	0.7	4000	
Mn	55	45	He	97.210	ppb	3.3	5000	
Fe	56	45	He	1012.374	ppb	0.7	100000	
Co	59	74	He	99.715	ppb	1.2	1000	
Ni	60	74	He	97.564	ppb	0.9	1000	
Cu	63	74	He	102.776	ppb	1.0	1000	
Zn	66	74	He	52.717	ppb	3.2	1000	
As	75	74	He	95.134	ppb	1.6	2000	
Se	78	115	He	89.598	ppb	4.5	1000	
Sr	88	115	He	96.385	ppb	0.7	2000	
Mo	95	115	He	99.899	ppb	0.9	1000	
Ag	107	115	He	24.708	ppb	0.6	100	
Cd	111	115	He	97.353	ppb	0.4	2000	
Sn	118	115	He	97.127	ppb	1.2	100	
Sb	121	159	He	144.410	ppb	1.2	100	failed
Ba	135	159	He	100.994	ppb	1.5	5000	
Tl	205	209	He	93.542	ppb	1.3	1000	
Pb	208	209	He	96.608	ppb	1.4	5000	
U	238		No Gas	43.781	ppb	1.8		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	1950876.76	2.2	94.5	70	120	
Sc (IS)	45	He	73298.61	1.8	88.3	70	120	
Sc (IS)	45	No Gas	2343013.30	0.8	85.0	70	120	
Ge (IS)	72	He	57812.70	2.8	87.0			
Ge (IS)	74	He	87579.80	2.5	85.8	70	120	

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	387665.13	2.5	85.4	70	120	
In (IS)	115	He	521460.20	1.8	83.6	70	120	
Tb (IS)	159	He	2837309.82	1.4	86.6	70	120	
Bi (IS)	209	He	2381630.56	1.6	84.6	70	120	
Bi (IS)	209	No Gas	4865737.25	1.5	86.5			

Sample Report

File Name	071SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 4:29:51 PM
Sample Name	**400-176631-C-4-D MSD**
Comment	---
Dilution	**1.0000**
Vial #	3402

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	96.753	ppb	0.3		
Be	9	6	No Gas	101.456	ppb	0.7	1000	
B	11	6	No Gas	47.793	ppb	0.7	500	
Na	23	45	He	1072.298	ppb	2.3	200000	
Mg	24	45	He	1027.122	ppb	2.6	150000	
Al	27	45	He	1033.126	ppb	2.8	50000	
Si	28	45	No Gas	994.888	ppb	0.5		
P	31	45	No Gas	520.052	ppb	1.4		
K	39	45	He	1008.422	ppb	1.5	200000	
Ca	44	45	He	1005.080	ppb	1.9		
Ti	47	45	He	99.378	ppb	1.9	1000	
V	51	45	He	96.914	ppb	0.8	2000	
Cr	52	45	He	97.985	ppb	3.3	4000	
Mn	55	45	He	98.517	ppb	2.7	5000	
Fe	56	45	He	1035.421	ppb	1.7	100000	
Co	59	74	He	102.623	ppb	1.7	1000	
Ni	60	74	He	102.906	ppb	1.0	1000	
Cu	63	74	He	102.207	ppb	1.2	1000	
Zn	66	74	He	51.693	ppb	1.1	1000	
As	75	74	He	97.572	ppb	1.1	2000	
Se	78	115	He	86.945	ppb	1.4	1000	
Sr	88	115	He	100.762	ppb	0.7	2000	
Mo	95	115	He	101.149	ppb	0.9	1000	
Ag	107	115	He	24.635	ppb	0.8	100	
Cd	111	115	He	97.794	ppb	0.3	2000	
Sn	118	115	He	97.626	ppb	1.0	100	
Sb	121	159	He	142.664	ppb	1.7	100	failed
Ba	135	159	He	103.578	ppb	1.8	5000	
Tl	205	209	He	98.007	ppb	0.5	1000	
Pb	208	209	He	99.557	ppb	0.6	5000	
U	238		No Gas	44.341	ppb	0.9		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	1906032.31	0.5	92.3	70	120	
Sc (IS)	45	He	73208.27	3.1	88.2	70	120	
Sc (IS)	45	No Gas	2319876.58	0.1	84.2	70	120	
Ge (IS)	72	He	57177.81	1.9	86.1			
Ge (IS)	74	He	87389.94	2.9	85.6	70	120	

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	387525.40	1.6	85.4	70	120	
In (IS)	115	He	527890.56	1.9	84.6	70	120	
Tb (IS)	159	He	2872843.74	2.8	87.6	70	120	
Bi (IS)	209	He	2335742.55	0.6	82.9	70	120	
Bi (IS)	209	No Gas	4882915.45	0.6	86.8			

Sample Report

File Name	072SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 4:33:00 PM
Sample Name	**600-192524-A-2-A**
Comment	---
Dilution	**1.0000**
Vial #	3403

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	16.478	ppb	11.0		
Be	9	6	No Gas	0.053	ppb	6.6	1000	
B	11	6	No Gas	107.490	ppb	2.0	500	
Na	23	45	He	11802825.127	ppb	2.5	200000	failed
Mg	24	45	He	6718.750	ppb	1.7	150000	
Al	27	45	He	155.488	ppb	1.4	50000	
Si	28	45	No Gas	6861.639	ppb	1.8		
P	31	45	No Gas	1364.302	ppb	2.6		
K	39	45	He	11544.204	ppb	1.8	200000	
Ca	44	45	He	79449.392	ppb	1.8		
Ti	47	45	He	15.087	ppb	11.4	1000	
V	51	45	He	9.893	ppb	4.5	2000	
Cr	52	45	He	10.289	ppb	4.2	4000	
Mn	55	45	He	26.285	ppb	1.9	5000	
Fe	56	45	He	308.225	ppb	3.2	100000	
Co	59	74	He	0.594	ppb	5.7	1000	
Ni	60	74	He	20.355	ppb	0.5	1000	
Cu	63	74	He	7.500	ppb	2.6	1000	
Zn	66	74	He	95.254	ppb	0.5	1000	
As	75	74	He	5.042	ppb	8.1	2000	
Se	78	115	He	-3.249	ppb	N/A	1000	
Sr	88	115	He	580.459	ppb	0.2	2000	
Mo	95	115	He	16.779	ppb	3.4	1000	
Ag	107	115	He	0.182	ppb	7.2	100	
Cd	111	115	He	0.091	ppb	16.0	2000	
Sn	118	115	He	8.916	ppb	6.7	100	
Sb	121	159	He	1.941	ppb	6.6	100	
Ba	135	159	He	110.997	ppb	3.6	5000	
Tl	205	209	He	0.059	ppb	5.3	1000	
Pb	208	209	He	5.649	ppb	1.3	5000	
U	238		No Gas	0.240	ppb	3.0		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	1231355.23	4.1	59.6	70	120	failed
Sc (IS)	45	He	58853.71	2.9	70.9	70	120	
Sc (IS)	45	No Gas	1859795.06	1.5	67.5	70	120	failed
Ge (IS)	72	He	41745.04	1.3	62.8			
Ge (IS)	74	He	63417.89	0.8	62.1	70	120	failed

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	274756.06	0.9	60.5	70	120	failed
In (IS)	115	He	330264.42	0.7	53.0	70	120	failed
Tb (IS)	159	He	1716794.11	0.9	52.4	70	120	failed
Bi (IS)	209	He	1182378.88	0.7	42.0	70	120	failed
Bi (IS)	209	No Gas	2622827.17	0.5	46.6			

Sample Report

File Name	073SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 4:36:11 PM
Sample Name	**600-192524-A-2-A@2**
Comment	---
Dilution	**1.0000**
Vial #	3404

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	8.947	ppb	5.3		
Be	9	6	No Gas	0.013	ppb	29.2	1000	
B	11	6	No Gas	56.791	ppb	1.5	500	
Na	23	45	He	6002615.916	ppb	0.8	200000	failed
Mg	24	45	He	3468.631	ppb	1.0	150000	
Al	27	45	He	81.920	ppb	5.5	50000	
Si	28	45	No Gas	3487.476	ppb	1.2		
P	31	45	No Gas	686.106	ppb	1.5		
K	39	45	He	5823.876	ppb	1.8	200000	
Ca	44	45	He	40714.253	ppb	2.6		
Ti	47	45	He	7.947	ppb	7.1	1000	
V	51	45	He	5.361	ppb	3.9	2000	
Cr	52	45	He	5.297	ppb	4.0	4000	
Mn	55	45	He	13.129	ppb	3.7	5000	
Fe	56	45	He	156.963	ppb	2.1	100000	
Co	59	74	He	0.309	ppb	2.2	1000	
Ni	60	74	He	10.783	ppb	3.0	1000	
Cu	63	74	He	3.943	ppb	1.9	1000	
Zn	66	74	He	50.913	ppb	3.3	1000	
As	75	74	He	2.489	ppb	2.8	2000	
Se	78	115	He	-3.371	ppb	N/A	1000	
Sr	88	115	He	288.106	ppb	0.8	2000	
Mo	95	115	He	8.348	ppb	5.9	1000	
Ag	107	115	He	0.086	ppb	20.4	100	
Cd	111	115	He	0.038	ppb	31.1	2000	
Sn	118	115	He	4.604	ppb	5.3	100	
Sb	121	159	He	0.889	ppb	7.7	100	
Ba	135	159	He	55.511	ppb	1.3	5000	
Tl	205	209	He	0.028	ppb	14.7	1000	
Pb	208	209	He	2.772	ppb	1.2	5000	
U	238		No Gas	0.147	ppb	4.4		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	1464633.99	1.7	70.9	70	120	
Sc (IS)	45	He	68125.58	0.8	82.1	70	120	
Sc (IS)	45	No Gas	2284156.25	1.3	82.9	70	120	
Ge (IS)	72	He	48173.23	0.9	72.5			
Ge (IS)	74	He	72840.91	1.2	71.4	70	120	

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	315555.00	0.8	69.5	70	120	failed
In (IS)	115	He	388165.77	0.3	62.2	70	120	failed
Tb (IS)	159	He	1983513.08	1.7	60.5	70	120	failed
Bi (IS)	209	He	1443284.87	2.1	51.2	70	120	failed
Bi (IS)	209	No Gas	3199108.11	1.4	56.9			

Sample Report

File Name	074SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 4:39:20 PM
Sample Name	**600-192524-A-2-A@5**
Comment	---
Dilution	**1.0000**
Vial #	3405

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	3.925	ppb	15.7		
Be	9	6	No Gas	0.005	ppb	86.1	1000	
B	11	6	No Gas	23.623	ppb	2.1	500	
Na	23	45	He	2383585.439	ppb	0.8	200000	failed
Mg	24	45	He	1392.453	ppb	1.6	150000	
Al	27	45	He	34.343	ppb	5.9	50000	
Si	28	45	No Gas	1445.656	ppb	1.6		
P	31	45	No Gas	289.441	ppb	2.0		
K	39	45	He	2310.471	ppb	0.6	200000	
Ca	44	45	He	16340.680	ppb	1.1		
Ti	47	45	He	2.754	ppb	17.9	1000	
V	51	45	He	2.001	ppb	3.9	2000	
Cr	52	45	He	2.161	ppb	7.6	4000	
Mn	55	45	He	5.396	ppb	9.2	5000	
Fe	56	45	He	65.224	ppb	1.1	100000	
Co	59	74	He	0.120	ppb	33.5	1000	
Ni	60	74	He	4.557	ppb	5.9	1000	
Cu	63	74	He	1.877	ppb	1.5	1000	
Zn	66	74	He	22.612	ppb	4.1	1000	
As	75	74	He	1.031	ppb	7.1	2000	
Se	78	115	He	-3.637	ppb	N/A	1000	
Sr	88	115	He	112.643	ppb	0.9	2000	
Mo	95	115	He	3.202	ppb	3.0	1000	
Ag	107	115	He	0.033	ppb	65.5	100	
Cd	111	115	He	0.019	ppb	81.3	2000	
Sn	118	115	He	1.871	ppb	9.3	100	
Sb	121	159	He	0.400	ppb	18.7	100	
Ba	135	159	He	22.159	ppb	4.3	5000	
Tl	205	209	He	0.002	ppb	7.1	1000	
Pb	208	209	He	1.065	ppb	1.2	5000	
U	238		No Gas	0.065	ppb	9.8		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	1739866.41	1.3	84.2	70	120	
Sc (IS)	45	He	78197.44	0.5	94.2	70	120	
Sc (IS)	45	No Gas	2562368.71	1.5	93.0	70	120	
Ge (IS)	72	He	55366.23	1.6	83.3			
Ge (IS)	74	He	83407.11	1.1	81.7	70	120	

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	367323.15	0.9	80.9	70	120	
In (IS)	115	He	455023.25	0.4	73.0	70	120	
Tb (IS)	159	He	2358761.08	1.8	72.0	70	120	
Bi (IS)	209	He	1790254.54	1.2	63.6	70	120	failed
Bi (IS)	209	No Gas	3858618.14	0.9	68.6			

Sample Report

File Name	078SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 4:51:54 PM
Sample Name	**rinse**
Comment	---
Dilution	**1.0000**
Vial #	4

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	17.222	ppb	32.9		
Be	9	6	No Gas	1.965	ppb	78.3	1000	
B	11	6	No Gas	752.606	ppb	3.6	500	failed
Na	23	45	He	3481717.141	ppb	107.2	200000	failed
Mg	24	45	He	4668.706	ppb	98.0	150000	
Al	27	45	He	29705.416	ppb	103.8	50000	
Si	28	45	No Gas	64296.506	ppb	4.5		
P	31	45	No Gas	28151.154	ppb	7.1		
K	39	45	He	629680.056	ppb	102.2	200000	failed
Ca	44	45	He	156142.363	ppb	137.9		
Ti	47	45	He	408.413	ppb	69.8	1000	
V	51	45	He	200.969	ppb	123.8	2000	
Cr	52	45	He	369.940	ppb	80.1	4000	
Mn	55	45	He	375.593	ppb	90.5	5000	
Fe	56	45	He	3191.472	ppb	122.7	100000	
Co	59	74	He	5.026	ppb	42.2	1000	
Ni	60	74	He	82.239	ppb	36.6	1000	
Cu	63	74	He	3490.160	ppb	32.2	1000	failed
Zn	66	74	He	2179.323	ppb	37.4	1000	failed
As	75	74	He	12.265	ppb	115.8	2000	
Se	78	115	He	1146.824	ppb	16.8	1000	failed
Sr	88	115	He	18.481	ppb	65.4	2000	
Mo	95	115	He	12.306	ppb	96.6	1000	
Ag	107	115	He	3.032	ppb	75.2	100	
Cd	111	115	He	6.321	ppb	59.3	2000	
Sn	118	115	He	59.257	ppb	29.1	100	
Sb	121	159	He	7.124	ppb	98.2	100	
Ba	135	159	He	261.677	ppb	69.8	5000	
Tl	205	209	He	14.535	ppb	45.0	1000	
Pb	208	209	He	393.890	ppb	43.6	5000	
U	238		No Gas	0.002	ppb	52.7		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	5912.46	3.9	0.3	70	120	failed
Sc (IS)	45	He	38.89	108.5	0.0	70	120	failed
Sc (IS)	45	No Gas	1398.96	4.3	0.1	70	120	failed
Ge (IS)	72	He	153.33	56.9	0.2			
Ge (IS)	74	He	245.56	38.3	0.2	70	120	failed

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	742.25	36.8	0.2	70	120	failed
In (IS)	115	He	1211.62	21.1	0.2	70	120	failed
Tb (IS)	159	He	5172.34	38.7	0.2	70	120	failed
Bi (IS)	209	He	1729.07	51.1	0.1	70	120	failed
Bi (IS)	209	No Gas	1861.26	3.4	0.0			

Sample Report

File Name	079SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 4:55:08 PM
Sample Name	**rinse**
Comment	---
Dilution	**1.0000**
Vial #	4

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	14.471	ppb	12.5		
Be	9	6	No Gas	2.463	ppb	24.4	1000	
B	11	6	No Gas	890.385	ppb	3.6	500	failed
Na	23	45	He	6121028.348	ppb	96.0	200000	failed
Mg	24	45	He	6265.911	ppb	78.8	150000	
Al	27	45	He	64104.578	ppb	91.5	50000	failed
Si	28	45	No Gas	62702.790	ppb	2.6		
P	31	45	No Gas	29658.172	ppb	1.5		
K	39	45	He	1362704.879	ppb	93.4	200000	failed
Ca	44	45	He	320896.868	ppb	112.1		
Ti	47	45	He	1147.077	ppb	74.9	1000	failed
V	51	45	He	174.058	ppb	155.7	2000	
Cr	52	45	He	529.659	ppb	90.9	4000	
Mn	55	45	He	531.902	ppb	109.9	5000	
Fe	56	45	He	4411.227	ppb	81.0	100000	
Co	59	74	He	3.564	ppb	41.9	1000	
Ni	60	74	He	204.263	ppb	24.1	1000	
Cu	63	74	He	6566.280	ppb	10.4	1000	failed
Zn	66	74	He	4109.877	ppb	20.7	1000	failed
As	75	74	He	18.769	ppb	67.8	2000	
Se	78	115	He	1641.086	ppb	20.4	1000	failed
Sr	88	115	He	9.412	ppb	105.7	2000	
Mo	95	115	He	4.980	ppb	174.5	1000	
Ag	107	115	He	1.252	ppb	101.3	100	
Cd	111	115	He	1.116	ppb	173.7	2000	
Sn	118	115	He	46.967	ppb	53.8	100	
Sb	121	159	He	13.253	ppb	113.9	100	
Ba	135	159	He	535.801	ppb	54.0	5000	
Tl	205	209	He	21.418	ppb	44.7	1000	
Pb	208	209	He	621.452	ppb	2.8	5000	
U	238		No Gas	-0.001	ppb	N/A		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	4397.88	0.8	0.2	70	120	failed
Sc (IS)	45	He	14.44	96.1	0.0	70	120	failed
Sc (IS)	45	No Gas	1464.53	2.3	0.1	70	120	failed
Ge (IS)	72	He	90.00	25.9	0.1			
Ge (IS)	74	He	123.33	10.8	0.1	70	120	failed

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	388.90	11.4	0.1	70	120	failed
In (IS)	115	He	849.64	7.6	0.1	70	120	failed
Tb (IS)	159	He	2620.28	5.4	0.1	70	120	failed
Bi (IS)	209	He	881.15	3.3	0.0	70	120	failed
Bi (IS)	209	No Gas	1631.23	2.7	0.0			

Sample Report

File Name	080SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 4:58:20 PM
Sample Name	**rinse**
Comment	---
Dilution	**1.0000**
Vial #	4

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	5.632	ppb	61.0		
Be	9	6	No Gas	1.327	ppb	48.4	1000	
B	11	6	No Gas	814.949	ppb	4.6	500	failed
Na	23	45	He	2480405.668	ppb	90.7	200000	failed
Mg	24	45	He	1820.957	ppb	111.0	150000	
Al	27	45	He	37110.946	ppb	78.8	50000	
Si	28	45	No Gas	41447.672	ppb	47.3		
P	31	45	No Gas	20277.608	ppb	51.3		
K	39	45	He	710198.309	ppb	91.2	200000	failed
Ca	44	45	He	170978.684	ppb	113.6		
Ti	47	45	He	8900.584	ppb	162.6	1000	failed
V	51	45	He	26.844	ppb	174.0	2000	
Cr	52	45	He	396.723	ppb	96.5	4000	
Mn	55	45	He	358.382	ppb	130.2	5000	
Fe	56	45	He	2608.608	ppb	96.6	100000	
Co	59	74	He	7.433	ppb	53.1	1000	
Ni	60	74	He	194.359	ppb	10.9	1000	
Cu	63	74	He	8479.523	ppb	16.0	1000	failed
Zn	66	74	He	5316.266	ppb	21.6	1000	failed
As	75	74	He	7.723	ppb	18.9	2000	
Se	78	115	He	1418.695	ppb	26.5	1000	failed
Sr	88	115	He	59.677	ppb	173.4	2000	
Mo	95	115	He	1.693	ppb	176.9	1000	
Ag	107	115	He	1.406	ppb	102.2	100	
Cd	111	115	He	1.155	ppb	173.7	2000	
Sn	118	115	He	44.281	ppb	51.6	100	
Sb	121	159	He	3.055	ppb	176.8	100	
Ba	135	159	He	381.691	ppb	32.9	5000	
Tl	205	209	He	10.039	ppb	65.8	1000	
Pb	208	209	He	693.191	ppb	11.1	5000	
U	238		No Gas	-0.001	ppb	N/A		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	4066.02	3.1	0.2	70	120	failed
Sc (IS)	45	He	21.11	59.8	0.0	70	120	failed
Sc (IS)	45	No Gas	2750.93	63.9	0.1	70	120	failed
Ge (IS)	72	He	60.00	16.7	0.1			
Ge (IS)	74	He	96.67	21.0	0.1	70	120	failed

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	362.23	1.9	0.1	70	120	failed
In (IS)	115	He	817.45	5.7	0.1	70	120	failed
Tb (IS)	159	He	2595.82	4.8	0.1	70	120	failed
Bi (IS)	209	He	801.14	9.8	0.0	70	120	failed
Bi (IS)	209	No Gas	1686.79	2.3	0.0			

Sample Report

File Name	081SMPL.d
File Path	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq Time	2019-09-25 5:01:35 PM
Sample Name	**rinse**
Comment	---
Dilution	**1.0000**
Vial #	4

FullQuant Table

Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	High Value	QC Flag
Li	7	6	No Gas	10.196	ppb	25.8		
Be	9	6	No Gas	2.154	ppb	88.0	1000	
B	11	6	No Gas	801.640	ppb	5.4	500	failed
Na	23	45	He	713073.172	ppb	22.0	200000	failed
Mg	24	45	He	787.706	ppb	40.3	150000	
Al	27	45	He	12974.785	ppb	15.5	50000	
Si	28	45	No Gas	46678.146	ppb	3.0		
P	31	45	No Gas	22221.453	ppb	3.3		
K	39	45	He	244852.886	ppb	28.0	200000	failed
Ca	44	45	He	32346.406	ppb	36.3		
Ti	47	45	He	292.152	ppb	65.8	1000	
V	51	45	He	14.226	ppb	23.2	2000	
Cr	52	45	He	109.736	ppb	55.1	4000	
Mn	55	45	He	177.118	ppb	27.1	5000	
Fe	56	45	He	1045.583	ppb	23.7	100000	
Co	59	74	He	7.437	ppb	64.5	1000	
Ni	60	74	He	203.458	ppb	44.8	1000	
Cu	63	74	He	7825.400	ppb	38.6	1000	failed
Zn	66	74	He	4513.538	ppb	33.0	1000	failed
As	75	74	He	8.853	ppb	34.1	2000	
Se	78	115	He	2122.185	ppb	13.3	1000	failed
Sr	88	115	He	18.693	ppb	120.6	2000	
Mo	95	115	He	10.382	ppb	124.4	1000	
Ag	107	115	He	6.728	ppb	57.8	100	
Cd	111	115	He	4.199	ppb	99.1	2000	
Sn	118	115	He	52.379	ppb	39.7	100	
Sb	121	159	He	6.387	ppb	174.9	100	
Ba	135	159	He	508.733	ppb	22.8	5000	
Tl	205	209	He	20.109	ppb	20.5	1000	
Pb	208	209	He	666.151	ppb	5.2	5000	
U	238		No Gas	-0.001	ppb	0.0		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Li (IS)	6	No Gas	3852.71	3.9	0.2	70	120	failed
Sc (IS)	45	He	38.89	21.6	0.0	70	120	failed
Sc (IS)	45	No Gas	1965.70	2.7	0.1	70	120	failed
Ge (IS)	72	He	81.11	11.9	0.1			
Ge (IS)	74	He	112.22	30.1	0.1	70	120	failed

Sample Report

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Recovery %	Lower Limit	Upper Limit	QC Flag
Y (IS)	89	He	372.23	9.8	0.1	70	120	failed
In (IS)	115	He	680.80	8.3	0.1	70	120	failed
Tb (IS)	159	He	2553.60	4.9	0.1	70	120	failed
Bi (IS)	209	He	867.82	2.4	0.0	70	120	failed
Bi (IS)	209	No Gas	1586.78	5.6	0.0			

Batch Log

Acq/Data Batch D:\Agilent\ICPMH\1\DATA\092519HOUa.b

Batch Log Summary

#	Acquired Date and Time	Sample Name	Sample Type	File Name	Acquisition Result	Error Message
1	2019-09-25 10:52:19 AM	rinse	Sample	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\001SMPL.d	Pass	-
2	2019-09-25 10:55:32 AM	rinse	Sample	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\002SMPL.d	Pass	-
3	2019-09-25 10:58:43 AM	IC CAL-Blk	CalBlk	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\003CALB.d	Pass	-
4	2019-09-25 11:02:07 AM	IC CAL1 6290593	CalStd	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\004CALS.d	Pass	-
5	2019-09-25 11:05:31 AM	IC CAL2 6290595	CalStd	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\005CALS.d	Pass	-
6	2019-09-25 11:08:52 AM	IC CAL3 6290597	CalStd	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\006CALS.d	Pass	-
7	2019-09-25 11:12:16 AM	IC CAL4 6290599	CalStd	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\007CALS.d	Pass	-
8	2019-09-25 11:15:35 AM	IC CAL5 6290612	CalStd	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\008CALS.d	Pass	-
9	2019-09-25 11:18:52 AM	ICV 3221013	ICV	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\009_ICV.d	Pass	-
10	2019-09-25 11:21:57 AM	ICVL	CCVL	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\010CCVL.d	Pass	-

Batch Log

11	2019-09-25 11:25:07 AM	ICB	ICB_CCB	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\011_CCB.d	Pass	-
12	2019-09-25 11:28:15 AM	ICSA 3279731	ICSA	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\012ICSA.d	Pass	-
13	2019-09-25 11:31:25 AM	ICSAB 3196899	ICSAB	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\013ICSB.d	Pass	-
14	2019-09-25 11:34:32 AM	rinse	Sample	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\014SMPL.d	Pass	-
15	2019-09-25 11:37:43 AM	rinse	Sample	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\015SMPL.d	Pass	-
16	2019-09-25 11:40:51 AM	CCV 3198218	CCV	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\016_CCV.d	Pass	-
17	2019-09-25 11:43:58 AM	CCVL	CCVL	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\017CCVL.d	Pass	-
18	2019-09-25 11:43:58 AM	-	<Pause>	-	Pass	-
19	2019-09-25 11:48:20 AM	CCB	ICB_CCB	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\018_CCB.d	Pass	-
20	2019-09-25 11:51:31 AM	MB 600-275511/1-A	Sample	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\019SMPL.d	Pass	-
21	2019-09-25 11:54:40 AM	LCS 600-275511/2-A	Sample	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\020SMPL.d	Pass	-
22	2019-09-25 11:57:50 AM	600-192361-B-1-A	Sample	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\021SMPL.d	Pass	-
23	2019-09-25	600-192361-B	Sample	D:\Agilent\ICP	Pass	-

Batch Log

	12:00:57 PM	-1-B DU		MH\1\DATA\0 92519HOUa.b \022SMPL.d9 2519HOUa.b\ 022SMPL.d		
24	2019-09-25 12:04:07 PM	600-192361-B -1-C MS	Sample	D:\Agilent\ICP MH\1\DATA\0 92519HOUa.b \023SMPL.d	Pass	-
25	2019-09-25 12:07:15 PM	600-192361-B -1-D MSD	Sample	D:\Agilent\ICP MH\1\DATA\0 92519HOUa.b \024SMPL.d	Pass	-
26	2019-09-25 12:10:24 PM	600-192359-B -1-A	Sample	D:\Agilent\ICP MH\1\DATA\0 92519HOUa.b \025SMPL.d	Pass	-
27	2019-09-25 12:13:33 PM	600-192316-A -14-A	Sample	D:\Agilent\ICP MH\1\DATA\0 92519HOUa.b \026SMPL.d	Pass	-
28	2019-09-25 12:16:43 PM	600-191956-X -1-E	Sample	D:\Agilent\ICP MH\1\DATA\0 92519HOUa.b \027SMPL.d	Pass	-
29	2019-09-25 12:19:49 PM	600-191956-X -2-C	Sample	D:\Agilent\ICP MH\1\DATA\0 92519HOUa.b \028SMPL.d	Pass	-
30	2019-09-25 12:22:59 PM	CCV 3198218	CCV	D:\Agilent\ICP MH\1\DATA\0 92519HOUa.b \029_CCV.d	Pass	-
31	2019-09-25 12:26:04 PM	CCVL	CCVL	D:\Agilent\ICP MH\1\DATA\0 92519HOUa.b \030CCVL.d	Pass	-
32	2019-09-25 12:29:14 PM	CCB	ICB_CCB	D:\Agilent\ICP MH\1\DATA\0 92519HOUa.b \031_CCB.d	Pass	-
33	2019-09-25 12:32:22 PM	600-191956-X -3-C	Sample	D:\Agilent\ICP MH\1\DATA\0 92519HOUa.b \032SMPL.d	Pass	-
34	2019-09-25 12:35:31 PM	600-192361-B -1-A sd@5	Sample	D:\Agilent\ICP MH\1\DATA\0 92519HOUa.b	Pass	-

Batch Log

				\033SMPL.d		
35	2019-09-25 12:38:39 PM	MB 600-275519/1-B	Sample	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\034SMPL.d	Pass	-
36	2019-09-25 12:41:50 PM	LCS 600-275519/2-B	Sample	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\035SMPL.d	Pass	-
37	2019-09-25 12:44:58 PM	600-191956-Q-3-B	Sample	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\036SMPL.d	Pass	-
38	2019-09-25 12:48:08 PM	600-191956-Q-3-C DU	Sample	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\037SMPL.d	Pass	-
39	2019-09-25 12:51:16 PM	600-191956-Q-3-D MS	Sample	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\038SMPL.d	Pass	-
40	2019-09-25 12:54:25 PM	600-191956-R-2-B	Sample	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\039SMPL.d	Pass	-
41	2019-09-25 12:57:33 PM	600-191956-Q-1-B	Sample	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\040SMPL.d	Pass	-
42	2019-09-25 1:00:43 PM	600-191956-Q-3-B sd@5	Sample	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\041SMPL.d	Pass	-
43	2019-09-25 1:03:51 PM	CCV 3198218	CCV	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\042_CCV.d	Pass	-
44	2019-09-25 1:06:58 PM	CCVL	CCVL	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\043CCVL.d	Pass	-
45	2019-09-25 1:10:07 PM	CCB	ICB_CCB	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\044_CCB.d	Pass	-
46	2019-09-25 1:13:17 PM	600-192169-F-2-A@5	Sample	D:\Agilent\ICPMH\1\DATA\0	Pass	-

Batch Log

				92519HOUa.b \045SMPL.d \045SMPL.d		
47	2019-09-25 1:16:24 PM	600-192169-F -2-B DU@5	Sample	D:\Agilent\ICP MH\1\DATA\0 92519HOUa.b \046SMPL.d	Pass	-
48	2019-09-25 1:19:34 PM	600-192169-F -2-C MS@5	Sample	D:\Agilent\ICP MH\1\DATA\0 92519HOUa.b \047SMPL.d	Pass	-
49	2019-09-25 1:22:42 PM	600-192169-F -2-D MSD@5	Sample	D:\Agilent\ICP MH\1\DATA\0 92519HOUa.b \048SMPL.d	Pass	-
50	2019-09-25 1:25:52 PM	600-192169-F -3-A@5	Sample	D:\Agilent\ICP MH\1\DATA\0 92519HOUa.b \049SMPL.d	Pass	-
51	2019-09-25 1:29:00 PM	600-192169-F -4-A	Sample	D:\Agilent\ICP MH\1\DATA\0 92519HOUa.b \050SMPL.d	Pass	-
52	2019-09-25 1:32:10 PM	600-192169-F -5-A@5	Sample	D:\Agilent\ICP MH\1\DATA\0 92519HOUa.b \051SMPL.d	Pass	-
53	2019-09-25 1:35:18 PM	600-192169-F -6-A	Sample	D:\Agilent\ICP MH\1\DATA\0 92519HOUa.b \052SMPL.d	Pass	-
54	2019-09-25 1:38:28 PM	600-192169-F -7-A@5	Sample	D:\Agilent\ICP MH\1\DATA\0 92519HOUa.b \053SMPL.d	Pass	-
55	2019-09-25 1:41:36 PM	CCV 3198218	CCV	D:\Agilent\ICP MH\1\DATA\0 92519HOUa.b \054_CCV.d	Pass	-
56	2019-09-25 1:44:43 PM	CCVL	CCVL	D:\Agilent\ICP MH\1\DATA\0 92519HOUa.b \055CCVL.d	Pass	-
57	2019-09-25 1:47:51 PM	CCB	ICB_CCB	D:\Agilent\ICP MH\1\DATA\0 92519HOUa.b \056_CCB.d	Pass	-

Batch Log

58	2019-09-25 1:51:01 PM	600-192316-A -14-A	Sample	D:\Agilent\ICP MH\1\DATA\0 92519HOUa.b \057SMPL.d	Pass	-
59	2019-09-25 1:54:09 PM	CCV 3198218	CCV	D:\Agilent\ICP MH\1\DATA\0 92519HOUa.b \058_CCV.d	Pass	-
60	2019-09-25 1:57:16 PM	CCVL	CCVL	D:\Agilent\ICP MH\1\DATA\0 92519HOUa.b \059CCVL.d	Pass	-
61	2019-09-25 2:00:24 PM	CCB	ICB_CCB	D:\Agilent\ICP MH\1\DATA\0 92519HOUa.b \060_CCB.d	Pass	-
62	2019-09-25 2:34:26 PM	rinse	Sample	-	Skip	-
63	2019-09-25 2:34:26 PM	rinse	Sample	-	Skip	-
64	2019-09-25 2:34:26 PM	IC CAL-Blk	CalBlk	-	Skip	-
65	2019-09-25 2:34:26 PM	IC CAL1 6290593	CalStd	-	Skip	-
66	2019-09-25 2:34:26 PM	IC CAL2 6290595	CalStd	-	Skip	-
67	2019-09-25 2:34:26 PM	IC CAL3 6290597	CalStd	-	Skip	-
68	2019-09-25 2:34:26 PM	IC CAL4 6290599	CalStd	-	Skip	-
69	2019-09-25 2:34:26 PM	IC CAL5 6290612	CalStd	-	Skip	-
70	2019-09-25 2:34:26 PM	ICV 3221013	ICV	-	Skip	-
71	2019-09-25 2:34:26 PM	ICVL	CCVL	-	Skip	-
72	2019-09-25 2:34:26 PM	ICB	ICB_CCB	-	Skip	-
73	2019-09-25 2:34:26 PM	ICSA 3279731	ICSA	-	Skip	-
74	2019-09-25 2:34:26 PM	ICSAB 3196899	ICSAB	-	Skip	-
75	2019-09-25 2:34:26 PM	rinse	Sample	-	Skip	-

Batch Log

76	2019-09-25 2:34:26 PM	rinse	Sample	-	Skip	-
77	2019-09-25 2:34:26 PM	CCV 3198218	CCV	-	Skip	-
78	2019-09-25 2:34:26 PM	CCVL	CCVL	-	Skip	-
79	2019-09-25 2:34:26 PM	CCB	ICB_CCB	-	Skip	-
80	2019-09-25 2:34:26 PM	MB 600-27551 1/1-A	Sample	-	Skip	-
81	2019-09-25 2:34:26 PM	LCS 600-2755 11/2-A	Sample	-	Skip	-
82	2019-09-25 2:34:26 PM	600-192361-B -1-A	Sample	-	Skip	-
83	2019-09-25 2:34:26 PM	600-192361-B -1-B DU	Sample	-	Skip	-
84	2019-09-25 2:34:26 PM	600-192361-B -1-C MS	Sample	-	Skip	-
85	2019-09-25 2:34:26 PM	600-192361-B -1-D MSD	Sample	-	Skip	-
86	2019-09-25 2:34:26 PM	600-192359-B -1-A	Sample	-	Skip	-
87	2019-09-25 2:34:26 PM	600-192316-A -14-A	Sample	-	Skip	-
88	2019-09-25 2:34:26 PM	600-191956-X -1-E	Sample	-	Skip	-
89	2019-09-25 2:34:26 PM	600-191956-X -2-C	Sample	-	Skip	-
90	2019-09-25 2:34:26 PM	CCV 3198218	CCV	-	Skip	-
91	2019-09-25 2:34:26 PM	CCVL	CCVL	-	Skip	-
92	2019-09-25 2:34:26 PM	CCB	ICB_CCB	-	Skip	-
93	2019-09-25 2:34:26 PM	600-191956-X -3-C	Sample	-	Skip	-
94	2019-09-25 2:34:26 PM	600-192361-B -1-A sd@5	Sample	-	Skip	-
95	2019-09-25 2:34:26 PM	MB 600-27551 9/1-B	Sample	-	Skip	-
96	2019-09-25 2:34:26 PM	LCS 600-2755 19/2-B	Sample	-	Skip	-

Batch Log

97	2019-09-25 2:34:26 PM	600-191956-Q -3-B	Sample	-	Skip	-
98	2019-09-25 2:34:26 PM	600-191956-Q -3-C DU	Sample	-	Skip	-
99	2019-09-25 2:34:26 PM	600-191956-Q -3-D MS	Sample	-	Skip	-
100	2019-09-25 2:34:26 PM	600-191956-R -2-B	Sample	-	Skip	-
101	2019-09-25 2:34:26 PM	600-191956-Q -1-B	Sample	-	Skip	-
102	2019-09-25 2:34:26 PM	600-191956-Q -3-B sd@5	Sample	-	Skip	-
103	2019-09-25 2:34:26 PM	CCV 3198218	CCV	-	Skip	-
104	2019-09-25 2:34:26 PM	CCVL	CCVL	-	Skip	-
105	2019-09-25 2:34:26 PM	CCB	ICB_CCB	-	Skip	-
106	2019-09-25 2:34:26 PM	600-192169-F -2-A@5	Sample	-	Skip	-
107	2019-09-25 2:34:26 PM	600-192169-F -2-B DU@5	Sample	-	Skip	-
108	2019-09-25 2:34:26 PM	600-192169-F -2-C MS@5	Sample	-	Skip	-
109	2019-09-25 2:34:26 PM	600-192169-F -2-D MSD@5	Sample	-	Skip	-
110	2019-09-25 2:34:26 PM	600-192169-F -3-A@5	Sample	-	Skip	-
111	2019-09-25 2:34:26 PM	600-192169-F -4-A	Sample	-	Skip	-
112	2019-09-25 2:34:26 PM	600-192169-F -5-A@5	Sample	-	Skip	-
113	2019-09-25 2:34:26 PM	600-192169-F -6-A	Sample	-	Skip	-
114	2019-09-25 2:34:26 PM	600-192169-F -7-A@5	Sample	-	Skip	-
115	2019-09-25 2:34:26 PM	CCV 3198218	CCV	-	Skip	-
116	2019-09-25 2:34:26 PM	CCVL	CCVL	-	Skip	-
117	2019-09-25 2:34:26 PM	CCB	ICB_CCB	-	Skip	-

Batch Log

118	2019-09-25 2:34:26 PM	600-192316-A -14-A	Sample	-	Skip	-
119	2019-09-25 2:34:26 PM	CCV 3198218	CCV	-	Skip	-
120	2019-09-25 2:34:26 PM	CCVL	CCVL	-	Skip	-
121	2019-09-25 2:34:26 PM	CCB	ICB_CCB	-	Skip	-
122	2019-09-25 2:34:44 PM	Suez (As)	Sample	D:\Agilent\ICP MH\1\DATA\0 92519HOUa.b \061SMPL.d	Pass	-
123	2019-09-25 2:37:52 PM	CCV 3198218	CCV	D:\Agilent\ICP MH\1\DATA\0 92519HOUa.b \062_CCV.d	Pass	-
124	2019-09-25 2:40:59 PM	CCVL	CCVL	D:\Agilent\ICP MH\1\DATA\0 92519HOUa.b \063CCVL.d	Pass	-
125	2019-09-25 2:44:07 PM	CCB	ICB_CCB	D:\Agilent\ICP MH\1\DATA\0 92519HOUa.b \064_CCB.d	Pass	-
126	2019-09-25 4:10:07 PM	rinse	Sample	-	Skip	-
127	2019-09-25 4:10:07 PM	rinse	Sample	-	Skip	-
128	2019-09-25 4:10:07 PM	IC CAL-Blk	CalBlk	-	Skip	-
129	2019-09-25 4:10:07 PM	IC CAL1 6290593	CalStd	-	Skip	-
130	2019-09-25 4:10:07 PM	IC CAL2 6290595	CalStd	-	Skip	-
131	2019-09-25 4:10:07 PM	IC CAL3 6290597	CalStd	-	Skip	-
132	2019-09-25 4:10:07 PM	IC CAL4 6290599	CalStd	-	Skip	-
133	2019-09-25 4:10:07 PM	IC CAL5 6290612	CalStd	-	Skip	-
134	2019-09-25 4:10:07 PM	ICV 3221013	ICV	-	Skip	-
135	2019-09-25 4:10:07 PM	ICVL	CCVL	-	Skip	-

Batch Log

136	2019-09-25 4:10:07 PM	ICB	ICB_CCB	-	Skip	-
137	2019-09-25 4:10:07 PM	ICSA 3279731	ICSA	-	Skip	-
138	2019-09-25 4:10:07 PM	ICSAB 3196899	ICSAB	-	Skip	-
139	2019-09-25 4:10:07 PM	rinse	Sample	-	Skip	-
140	2019-09-25 4:10:07 PM	rinse	Sample	-	Skip	-
141	2019-09-25 4:10:07 PM	CCV 3198218	CCV	-	Skip	-
142	2019-09-25 4:10:07 PM	CCVL	CCVL	-	Skip	-
143	2019-09-25 4:10:07 PM	CCB	ICB_CCB	-	Skip	-
144	2019-09-25 4:10:07 PM	MB 600-27551 1/1-A	Sample	-	Skip	-
145	2019-09-25 4:10:07 PM	LCS 600-2755 11/2-A	Sample	-	Skip	-
146	2019-09-25 4:10:07 PM	600-192361-B -1-A	Sample	-	Skip	-
147	2019-09-25 4:10:07 PM	600-192361-B -1-B DU	Sample	-	Skip	-
148	2019-09-25 4:10:07 PM	600-192361-B -1-C MS	Sample	-	Skip	-
149	2019-09-25 4:10:07 PM	600-192361-B -1-D MSD	Sample	-	Skip	-
150	2019-09-25 4:10:07 PM	600-192359-B -1-A	Sample	-	Skip	-
151	2019-09-25 4:10:07 PM	600-192316-A -14-A	Sample	-	Skip	-
152	2019-09-25 4:10:07 PM	600-191956-X -1-E	Sample	-	Skip	-
153	2019-09-25 4:10:07 PM	600-191956-X -2-C	Sample	-	Skip	-
154	2019-09-25 4:10:07 PM	CCV 3198218	CCV	-	Skip	-
155	2019-09-25 4:10:07 PM	CCVL	CCVL	-	Skip	-
156	2019-09-25 4:10:07 PM	CCB	ICB_CCB	-	Skip	-

Batch Log

157	2019-09-25 4:10:07 PM	600-191956-X -3-C	Sample	-	Skip	-
158	2019-09-25 4:10:07 PM	600-192361-B -1-A sd@5	Sample	-	Skip	-
159	2019-09-25 4:10:07 PM	MB 600-27551 9/1-B	Sample	-	Skip	-
160	2019-09-25 4:10:07 PM	LCS 600-2755 19/2-B	Sample	-	Skip	-
161	2019-09-25 4:10:07 PM	600-191956-Q -3-B	Sample	-	Skip	-
162	2019-09-25 4:10:07 PM	600-191956-Q -3-C DU	Sample	-	Skip	-
163	2019-09-25 4:10:07 PM	600-191956-Q -3-D MS	Sample	-	Skip	-
164	2019-09-25 4:10:07 PM	600-191956-R -2-B	Sample	-	Skip	-
165	2019-09-25 4:10:07 PM	600-191956-Q -1-B	Sample	-	Skip	-
166	2019-09-25 4:10:07 PM	600-191956-Q -3-B sd@5	Sample	-	Skip	-
167	2019-09-25 4:10:07 PM	CCV 3198218	CCV	-	Skip	-
168	2019-09-25 4:10:07 PM	CCVL	CCVL	-	Skip	-
169	2019-09-25 4:10:07 PM	CCB	ICB_CCB	-	Skip	-
170	2019-09-25 4:10:07 PM	600-192169-F -2-A@5	Sample	-	Skip	-
171	2019-09-25 4:10:07 PM	600-192169-F -2-B DU@5	Sample	-	Skip	-
172	2019-09-25 4:10:07 PM	600-192169-F -2-C MS@5	Sample	-	Skip	-
173	2019-09-25 4:10:07 PM	600-192169-F -2-D MSD@5	Sample	-	Skip	-
174	2019-09-25 4:10:07 PM	600-192169-F -3-A@5	Sample	-	Skip	-
175	2019-09-25 4:10:07 PM	600-192169-F -4-A	Sample	-	Skip	-
176	2019-09-25 4:10:07 PM	600-192169-F -5-A@5	Sample	-	Skip	-
177	2019-09-25 4:10:07 PM	600-192169-F -6-A	Sample	-	Skip	-

Batch Log

178	2019-09-25 4:10:07 PM	600-192169-F-7-A@5	Sample	-	Skip	-
179	2019-09-25 4:10:07 PM	CCV 3198218	CCV	-	Skip	-
180	2019-09-25 4:10:07 PM	CCVL	CCVL	-	Skip	-
181	2019-09-25 4:10:07 PM	CCB	ICB_CCB	-	Skip	-
182	2019-09-25 4:10:07 PM	600-192316-A-14-A	Sample	-	Skip	-
183	2019-09-25 4:10:07 PM	CCV 3198218	CCV	-	Skip	-
184	2019-09-25 4:10:07 PM	CCVL	CCVL	-	Skip	-
185	2019-09-25 4:10:07 PM	CCB	ICB_CCB	-	Skip	-
186	2019-09-25 4:10:07 PM	Suez (As)	Sample	-	Skip	-
187	2019-09-25 4:10:07 PM	CCV 3198218	CCV	-	Skip	-
188	2019-09-25 4:10:07 PM	CCVL	CCVL	-	Skip	-
189	2019-09-25 4:10:07 PM	CCB	ICB_CCB	-	Skip	-
190	2019-09-25 4:10:25 PM	400-176631-C-1-A	Sample	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\065SMPL.d	Pass	-
191	2019-09-25 4:13:31 PM	400-176631-C-2-A	Sample	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\066SMPL.d	Pass	-
192	2019-09-25 4:16:40 PM	400-176631-C-3-A	Sample	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\067SMPL.d	Pass	-
193	2019-09-25 4:19:48 PM	400-176631-C-4-A	Sample	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\068SMPL.d	Pass	-
194	2019-09-25 4:22:59 PM	400-176631-C-4-B DU	Sample	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\069SMPL.d	Pass	-

Batch Log

195	2019-09-25 4:26:07 PM	400-176631-C-4-C MS	Sample	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\070SMPL.d	Pass	-
196	2019-09-25 4:29:18 PM	400-176631-C-4-D MSD	Sample	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\071SMPL.d	Pass	-
197	2019-09-25 4:32:26 PM	600-192524-A-2-A	Sample	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\072SMPL.d	Pass	-
198	2019-09-25 4:35:38 PM	600-192524-A-2-A@2	Sample	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\073SMPL.d	Pass	-
199	2019-09-25 4:38:47 PM	600-192524-A-2-A@5	Sample	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\074SMPL.d	Pass	-
200	2019-09-25 4:41:58 PM	CCV 3198218	CCV	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\075_CCV.d	Pass	-
201	2019-09-25 4:45:03 PM	CCVL	CCVL	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\076CCVL.d	Pass	-
202	2019-09-25 4:48:13 PM	CCB	ICB_CCB	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\077_CCB.d	Pass	-
203	2019-09-25 4:51:21 PM	rinse	Sample	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\078SMPL.d	Pass	-
204	2019-09-25 4:54:35 PM	rinse	Sample	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\079SMPL.d	Pass	-
205	2019-09-25 4:57:48 PM	rinse	Sample	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\080SMPL.d	Pass	-
206	2019-09-25 5:01:02 PM	rinse	Sample	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\081SMPL.d	Pass	-

Batch Log

Acq/Data Batch D:\Agilent\ICPMH\1\DATA\092519HOUa.b

#:1

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 10:52:19 AM	Sample	rinse	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\001SMPL.d	-	5
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:2

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 10:55:32 AM	Sample	rinse	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\002SMPL.d	-	5
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

Batch Log

#:3

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 10:58:43 AM	CalBlk	IC CAL-Blk	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\003CALB.d	-	1307
Dilution Result	**Operator**	**Acquisition Result**	**Error Action**	**Error Message**	**Replicates**
1	admin	Pass	-	-	-
Level	**ISTD Conc**	**Auto Dilution (ISIS 2)**	**Total Dil.**	**Final Weight or Volume**	**Sample Weight or Volume**
Level 1	-	-	-	-	-
Dilution Multiplier	**Sublist**	**Total Acq Time**	**Max. Daily Dose**	**%J**	**User Def. 1**
-	-	-	-	-	-
User Def. 2	**User Def. 3**				
-	-				

#:4

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 11:02:07 AM	CalStd	IC CAL1 6290593	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\004CALS.d	-	1102
Dilution Result	**Operator**	**Acquisition Result**	**Error Action**	**Error Message**	**Replicates**
1	admin	Pass	-	-	-
Level	**ISTD Conc**	**Auto Dilution (ISIS 2)**	**Total Dil.**	**Final Weight or Volume**	**Sample Weight or Volume**
Level 2	-	-	-	-	-
Dilution Multiplier	**Sublist**	**Total Acq Time**	**Max. Daily Dose**	**%J**	**User Def. 1**
-	-	-	-	-	-
User Def. 2	**User Def. 3**				
-	-				

#:5

Acquired	Sample Type	Sample Name	File Name	Comment	Vial#

Batch Log

Date and Time					
2019-09-25 11:05:31 AM	CalStd	IC CAL2 6290595	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\005CALS.d	-	1103
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
Level 3	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:6

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 11:08:52 AM	CalStd	IC CAL3 6290597	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\006CALS.d	-	1104
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
Level 4	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:7

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#

Batch Log

2019-09-25 11:12:16 AM	CalStd	IC CAL4 6290599	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\007CALS.d	-	1105
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
Level 5	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:8

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 11:15:35 AM	CalStd	IC CAL5 6290612	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\008CALS.d	-	1106
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
Level 6	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:9

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 11:18:52 AM	ICV	ICV 3221013	D:\Agilent\ICPMH\1\DATA\09251	-	1301

Batch Log

			9HOUa.b\009_ICV.dV.d		
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:10

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 11:21:57 AM	CCVL	ICVL	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\010CCVL.d	-	1101
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:11

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 11:25:07 AM	ICB_CCB	ICB	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\011_CCB.d	-	1306

Batch Log

Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:12

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 11:28:15 AM	ICSA	ICSA 3279731	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\012ICSA.d	-	1303
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:13

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 11:31:25 AM	ICSAB	ICSAB 3196899	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\013ICSB.d	-	1304
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates

1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:14

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 11:34:32 AM	Sample	rinse	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\014SMPL.d	-	5
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:15

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 11:37:43 AM	Sample	rinse	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\015SMPL.d	-	5
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-

Batch Log

Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:16

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 11:40:51 AM	CCV	CCV 3198218	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\016_CCV.d	-	1105
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:17

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 11:43:58 AM	CCVL	CCVL	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\017CCVL.d	-	1101
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or	Sample Weight or

Batch Log

				Volume	Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:18

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 11:43:58 AM	<Pause>	-	-	-	-
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:19

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 11:48:20 AM	ICB_CCB	CCB	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\018_CCB.d	-	1306
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-

Batch Log

Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:20

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 11:51:31 AM	Sample	MB 600-275511/1-A	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\019SMPL.d	-	3101
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:21

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 11:54:40 AM	Sample	LCS 600-275511/2-A	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\020SMPL.d	-	3102
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1

-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:22

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 11:57:50 AM	Sample	600-192361-B-1-A	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\021SMPL.d	-	3103
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:23

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 12:00:57 PM	Sample	600-192361-B-1-B DU	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\022SMPL.d	-	3104
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-

Batch Log

User Def. 2	User Def. 3
-	-

#:24

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 12:04:07 PM	Sample	600-192361-B-1-C MS	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\023SMPL.d	-	3105
Dilution Result	**Operator**	**Acquisition Result**	**Error Action**	**Error Message**	**Replicates**
1	admin	Pass	-	-	-
Level	**ISTD Conc**	**Auto Dilution (ISIS 2)**	**Total Dil.**	**Final Weight or Volume**	**Sample Weight or Volume**
-	-	-	-	-	-
Dilution Multiplier	**Sublist**	**Total Acq Time**	**Max. Daily Dose**	**%J**	**User Def. 1**
-	-	-	-	-	-
User Def. 2	**User Def. 3**				
-	-				

#:25

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 12:07:15 PM	Sample	600-192361-B-1-D MSD	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\024SMPL.d	-	3106
Dilution Result	**Operator**	**Acquisition Result**	**Error Action**	**Error Message**	**Replicates**
1	admin	Pass	-	-	-
Level	**ISTD Conc**	**Auto Dilution (ISIS 2)**	**Total Dil.**	**Final Weight or Volume**	**Sample Weight or Volume**
-	-	-	-	-	-
Dilution Multiplier	**Sublist**	**Total Acq Time**	**Max. Daily Dose**	**%J**	**User Def. 1**
-	-	-	-	-	-
User Def. 2	**User Def. 3**				

Batch Log

-	-

#:26

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 12:10:24 PM	Sample	600-192359-B-1-A	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\025SMPL.d	-	3107
Dilution Result	**Operator**	**Acquisition Result**	**Error Action**	**Error Message**	**Replicates**
1	admin	Pass	-	-	-
Level	**ISTD Conc**	**Auto Dilution (ISIS 2)**	**Total Dil.**	**Final Weight or Volume**	**Sample Weight or Volume**
-	-	-	-	-	-
Dilution Multiplier	**Sublist**	**Total Acq Time**	**Max. Daily Dose**	**%J**	**User Def. 1**
-	-	-	-	-	-
User Def. 2	**User Def. 3**				
-	-				

#:27

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 12:13:33 PM	Sample	600-192316-A-14-A	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\026SMPL.d	-	3108
Dilution Result	**Operator**	**Acquisition Result**	**Error Action**	**Error Message**	**Replicates**
1	admin	Pass	-	-	-
Level	**ISTD Conc**	**Auto Dilution (ISIS 2)**	**Total Dil.**	**Final Weight or Volume**	**Sample Weight or Volume**
-	-	-	-	-	-
Dilution Multiplier	**Sublist**	**Total Acq Time**	**Max. Daily Dose**	**%J**	**User Def. 1**
-	-	-	-	-	-
User Def. 2	**User Def. 3**				
-	-				

Batch Log

#:28

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 12:16:43 PM	Sample	600-191956-X-1-E	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\027SMPL.d	-	3109
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:29

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 12:19:49 PM	Sample	600-191956-X-2-C	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\028SMPL.d	-	3110
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

Batch Log

#:30

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 12:22:59 PM	CCV	CCV 3198218	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\029_CCV.d	-	1105
Dilution Result	**Operator**	**Acquisition Result**	**Error Action**	**Error Message**	**Replicates**
1	admin	Pass	-	-	-
Level	**ISTD Conc**	**Auto Dilution (ISIS 2)**	**Total Dil.**	**Final Weight or Volume**	**Sample Weight or Volume**
-	-	-	-	-	-
Dilution Multiplier	**Sublist**	**Total Acq Time**	**Max. Daily Dose**	**%J**	**User Def. 1**
-	-	-	-	-	-
User Def. 2	**User Def. 3**				
-	-				

#:31

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 12:26:04 PM	CCVL	CCVL	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\030CCVL.d	-	1101
Dilution Result	**Operator**	**Acquisition Result**	**Error Action**	**Error Message**	**Replicates**
1	admin	Pass	-	-	-
Level	**ISTD Conc**	**Auto Dilution (ISIS 2)**	**Total Dil.**	**Final Weight or Volume**	**Sample Weight or Volume**
-	-	-	-	-	-
Dilution Multiplier	**Sublist**	**Total Acq Time**	**Max. Daily Dose**	**%J**	**User Def. 1**
-	-	-	-	-	-
User Def. 2	**User Def. 3**				
-	-				

#:32

Acquired	Sample Type	Sample Name	File Name	Comment	Vial#

Batch Log

Date and Time					
2019-09-25 12:29:14 PM	ICB_CCB	CCB	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\031_CCB.d	-	1306
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:33

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 12:32:22 PM	Sample	600-191956-X-3-C	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\032SMPL.d	-	3111
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:34

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#

Batch Log

2019-09-25 12:35:31 PM	Sample	600-192361-B-1-A sd@5	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\033SMPL.d	-	3112
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:35

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 12:38:39 PM	Sample	MB 600-275519/1-B	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\034SMPL.d	-	3201
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:36

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 12:41:50 PM	Sample	LCS 600-275519/2-B	D:\Agilent\ICPMH\1\DATA\09251	-	3202

Batch Log

			9HOUa.b\035SMPL.dPL.d		
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:37

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 12:44:58 PM	Sample	600-191956-Q-3-B	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\036SMPL.d	-	3203
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:38

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 12:48:08 PM	Sample	600-191956-Q-3-C DU	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\037SMPL.d	-	3204

Batch Log

Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:39

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 12:51:16 PM	Sample	600-191956-Q-3-D MS	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\038SMPL.d	-	3205
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:40

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 12:54:25 PM	Sample	600-191956-R-2-B	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\039SMPL.d	-	3206
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates

1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:41

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 12:57:33 PM	Sample	600-191956-Q-1-B	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\040SMPL.d	-	3207
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:42

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 1:00:43 PM	Sample	600-191956-Q-3-B sd@5	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\041SMPL.d	-	3208
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-

Batch Log

Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:43

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 1:03:51 PM	CCV	CCV 3198218	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\042_CCV.d	-	1105
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:44

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 1:06:58 PM	CCVL	CCVL	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\043CCVL.d	-	1101
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or	Sample Weight or

Batch Log

				Volume	Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:45

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 1:10:07 PM	ICB_CCB	CCB	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\044_CCB.d	-	1306
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:46

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 1:13:17 PM	Sample	600-192169-F-2-A@5	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\045SMPL.d	-	3209
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume

-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:47

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 1:16:24 PM	Sample	600-192169-F-2-B DU@5	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\046SMPL.d	-	3210
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:48

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 1:19:34 PM	Sample	600-192169-F-2-C MS@5	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\047SMPL.d	-	3211
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-

Batch Log

Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:49

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 1:22:42 PM	Sample	600-192169-F-2-D MSD@5	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\048SMPL.d	-	3212
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:50

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 1:25:52 PM	Sample	600-192169-F-3-A@5	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\049SMPL.d	-	3301
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1

-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:51

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 1:29:00 PM	Sample	600-192169-F-4-A	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\050SMPL.d	-	3302
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:52

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 1:32:10 PM	Sample	600-192169-F-5-A@5	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\051SMPL.d	-	3303
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-

Batch Log

User Def. 2	User Def. 3
-	-

#:53

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 1:35:18 PM	Sample	600-192169-F-6-A	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\052SMPL.d	-	3304
Dilution Result	**Operator**	**Acquisition Result**	**Error Action**	**Error Message**	**Replicates**
1	admin	Pass	-	-	-
Level	**ISTD Conc**	**Auto Dilution (ISIS 2)**	**Total Dil.**	**Final Weight or Volume**	**Sample Weight or Volume**
-	-	-	-	-	-
Dilution Multiplier	**Sublist**	**Total Acq Time**	**Max. Daily Dose**	**%J**	**User Def. 1**
-	-	-	-	-	-
User Def. 2	**User Def. 3**				
-	-				

#:54

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 1:38:28 PM	Sample	600-192169-F-7-A@5	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\053SMPL.d	-	3305
Dilution Result	**Operator**	**Acquisition Result**	**Error Action**	**Error Message**	**Replicates**
1	admin	Pass	-	-	-
Level	**ISTD Conc**	**Auto Dilution (ISIS 2)**	**Total Dil.**	**Final Weight or Volume**	**Sample Weight or Volume**
-	-	-	-	-	-
Dilution Multiplier	**Sublist**	**Total Acq Time**	**Max. Daily Dose**	**%J**	**User Def. 1**
-	-	-	-	-	-
User Def. 2	**User Def. 3**				

Batch Log

-	-

#:55

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 1:41:36 PM	CCV	CCV 3198218	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\054_CCV.d	-	1105
Dilution Result	**Operator**	**Acquisition Result**	**Error Action**	**Error Message**	**Replicates**
1	admin	Pass	-	-	-
Level	**ISTD Conc**	**Auto Dilution (ISIS 2)**	**Total Dil.**	**Final Weight or Volume**	**Sample Weight or Volume**
-	-	-	-	-	-
Dilution Multiplier	**Sublist**	**Total Acq Time**	**Max. Daily Dose**	**%J**	**User Def. 1**
-	-	-	-	-	-
User Def. 2	**User Def. 3**				
-	-				

#:56

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 1:44:43 PM	CCVL	CCVL	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\055CCVL.d	-	1101
Dilution Result	**Operator**	**Acquisition Result**	**Error Action**	**Error Message**	**Replicates**
1	admin	Pass	-	-	-
Level	**ISTD Conc**	**Auto Dilution (ISIS 2)**	**Total Dil.**	**Final Weight or Volume**	**Sample Weight or Volume**
-	-	-	-	-	-
Dilution Multiplier	**Sublist**	**Total Acq Time**	**Max. Daily Dose**	**%J**	**User Def. 1**
-	-	-	-	-	-
User Def. 2	**User Def. 3**				
-	-				

Batch Log

#:57

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 1:47:51 PM	ICB_CCB	CCB	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\056_CCB.d	-	1306
Dilution Result	**Operator**	**Acquisition Result**	**Error Action**	**Error Message**	**Replicates**
1	admin	Pass	-	-	-
Level	**ISTD Conc**	**Auto Dilution (ISIS 2)**	**Total Dil.**	**Final Weight or Volume**	**Sample Weight or Volume**
-	-	-	-	-	-
Dilution Multiplier	**Sublist**	**Total Acq Time**	**Max. Daily Dose**	**%J**	**User Def. 1**
-	-	-	-	-	-
User Def. 2	**User Def. 3**				
-	-				

#:58

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 1:51:01 PM	Sample	600-192316-A-14-A	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\057SMPL.d	-	3306
Dilution Result	**Operator**	**Acquisition Result**	**Error Action**	**Error Message**	**Replicates**
1	admin	Pass	-	-	-
Level	**ISTD Conc**	**Auto Dilution (ISIS 2)**	**Total Dil.**	**Final Weight or Volume**	**Sample Weight or Volume**
-	-	-	-	-	-
Dilution Multiplier	**Sublist**	**Total Acq Time**	**Max. Daily Dose**	**%J**	**User Def. 1**
-	-	-	-	-	-
User Def. 2	**User Def. 3**				
-	-				

Batch Log

#:59

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 1:54:09 PM	CCV	CCV 3198218	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\058_CCV.d	-	1105
Dilution Result	**Operator**	**Acquisition Result**	**Error Action**	**Error Message**	**Replicates**
1	admin	Pass	-	-	-
Level	**ISTD Conc**	**Auto Dilution (ISIS 2)**	**Total Dil.**	**Final Weight or Volume**	**Sample Weight or Volume**
-	-	-	-	-	-
Dilution Multiplier	**Sublist**	**Total Acq Time**	**Max. Daily Dose**	**%J**	**User Def. 1**
-	-	-	-	-	-
User Def. 2	**User Def. 3**				
-	-				

#:60

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 1:57:16 PM	CCVL	CCVL	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\059CCVL.d	-	1101
Dilution Result	**Operator**	**Acquisition Result**	**Error Action**	**Error Message**	**Replicates**
1	admin	Pass	-	-	-
Level	**ISTD Conc**	**Auto Dilution (ISIS 2)**	**Total Dil.**	**Final Weight or Volume**	**Sample Weight or Volume**
-	-	-	-	-	-
Dilution Multiplier	**Sublist**	**Total Acq Time**	**Max. Daily Dose**	**%J**	**User Def. 1**
-	-	-	-	-	-
User Def. 2	**User Def. 3**				
-	-				

#:61

Acquired	Sample Type	Sample Name	File Name	Comment	Vial#

Batch Log

Date and Time					
2019-09-25 2:00:24 PM	ICB_CCB	CCB	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\060_CCB.d	-	1306
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:62

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	Sample	rinse	-	-	5
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:63

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	Sample	rinse	-	-	5

Batch Log

Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:64

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	CalBlk	IC CAL-Blk	-	-	1307
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
Level 1	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:65

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	CalStd	IC CAL1 6290593	-	-	1102
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution	Total Dil.	Final	Sample

Batch Log

		(ISIS 2)		Weight or Volume	Weight or Volume
Level 2	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:66

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	CalStd	IC CAL2 6290595	-	-	1103
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
Level 3	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:67

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	CalStd	IC CAL3 6290597	-	-	1104
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
Level 4	-	-	-	-	-
Dilution	Sublist	Total Acq Time	Max. Daily	%J	User Def. 1

Batch Log

Multiplier			Dose		
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:68

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	CalStd	IC CAL4 6290599	-	-	1105
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
Level 5	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:69

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	CalStd	IC CAL5 6290612	-	-	1106
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
Level 6	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

Batch Log

#:70

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	ICV	ICV 3221013	-	-	1301
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:71

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	CCVL	ICVL	-	-	1101
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:72

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25	ICB_CCB	ICB	-	-	1306

2:34:26 PM					
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:73

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	ICSA	ICSA 3279731	-	-	1303
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:74

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	ICSAB	ICSAB 3196899	-	-	1304
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-

Batch Log

Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:75

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	Sample	rinse	-	-	5
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:76

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	Sample	rinse	-	-	5
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-

Batch Log

Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:77

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	CCV	CCV 3198218	-	-	1105
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:78

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	CCVL	CCVL	-	-	1101
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				

Batch Log

-	-

#:79

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	ICB_CCB	CCB	-	-	1306
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:80

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	Sample	MB 600-275511/1-A	-	-	3101
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:81

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#

Batch Log

2019-09-25 2:34:26 PM	Sample	LCS 600-275511/2-A	-	-	3102
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:82

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	Sample	600-192361-B-1-A	-	-	3103
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:83

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	Sample	600-192361-B-1-B DU	-	-	3104
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates

-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:84

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	Sample	600-192361-B-1-C MS	-	-	3105
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:85

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	Sample	600-192361-B-1-D MSD	-	-	3106
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume

-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:86

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	Sample	600-192359-B-1-A	-	-	3107
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:87

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	Sample	600-192316-A-14-A	-	-	3108
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-

Batch Log

User Def. 2	User Def. 3
-	-

#:88

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	Sample	600-191956-X-1-E	-	-	3109
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:89

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	Sample	600-191956-X-2-C	-	-	3110
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

Batch Log

#:90

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	CCV	CCV 3198218	-	-	1105
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:91

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	CCVL	CCVL	-	-	1101
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:92

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	ICB_CCB	CCB	-	-	1306

Batch Log

Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:93

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	Sample	600-191956-X-3-C	-	-	3111
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:94

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	Sample	600-192361-B-1-A sd@5	-	-	3112
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution	Total Dil.	Final	Sample

Batch Log

		(ISIS 2)		Weight or Volume	Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:95

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	Sample	MB 600-275519/1-B	-	-	3201
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:96

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	Sample	LCS 600-275519/2-B	-	-	3202
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution	Sublist	Total Acq Time	Max. Daily	%J	User Def. 1

Batch Log

Multiplier			Dose		
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:97

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	Sample	600-191956-Q-3-B	-	-	3203
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:98

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	Sample	600-191956-Q-3-C DU	-	-	3204
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

Batch Log

#:99

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	Sample	600-191956-Q-3-D MS	-	-	3205
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:100

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	Sample	600-191956-R-2-B	-	-	3206
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:101

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25	Sample	600-191956-Q-1-	-	-	3207

Batch Log

2:34:26 PM		B			
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:102

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	Sample	600-191956-Q-3-B sd@5	-	-	3208
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:103

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	CCV	CCV 3198218	-	-	1105
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-

Batch Log

Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:104

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	CCVL	CCVL	-	-	1101
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:105

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	ICB_CCB	CCB	-	-	1306
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-

Batch Log

Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:106

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	Sample	600-192169-F-2-A@5	-	-	3209
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:107

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	Sample	600-192169-F-2-B DU@5	-	-	3210
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				

Batch Log

-	-

#:108

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	Sample	600-192169-F-2-C MS@5	-	-	3211
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:109

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	Sample	600-192169-F-2-D MSD@5	-	-	3212
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:110

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#

Batch Log

2019-09-25 2:34:26 PM	Sample	600-192169-F-3-A@5	-	-	3301
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:111

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	Sample	600-192169-F-4-A	-	-	3302
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:112

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	Sample	600-192169-F-5-A@5	-	-	3303
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates

-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:113

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	Sample	600-192169-F-6-A	-	-	3304
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:114

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	Sample	600-192169-F-7-A@5	-	-	3305
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume

-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:115

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	CCV	CCV 3198218	-	-	1105
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:116

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	CCVL	CCVL	-	-	1101
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-

Batch Log

User Def. 2	User Def. 3
-	-

#:117

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	ICB_CCB	CCB	-	-	1306
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:118

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	Sample	600-192316-A-14-A	-	-	3306
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

Batch Log

#:119

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	CCV	CCV 3198218	-	-	1105
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:120

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	CCVL	CCVL	-	-	1101
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:121

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:26 PM	ICB_CCB	CCB	-	-	1306

Batch Log

Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:122

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:34:44 PM	Sample	Suez (As)	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\061SMPL.d	-	3307
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:123

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:37:52 PM	CCV	CCV 3198218	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\062_CCV.d	-	1105
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates

1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:124

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:40:59 PM	CCVL	CCVL	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\063CCVL.d	-	1101
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:125

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 2:44:07 PM	ICB_CCB	CCB	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\064_CCB.d	-	1306
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-

Batch Log

Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:126

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	Sample	rinse	-	-	5
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:127

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	Sample	rinse	-	-	5
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-

Batch Log

Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:128

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	CalBlk	IC CAL-Blk	-	-	1307
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
Level 1	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:129

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	CalStd	IC CAL1 6290593	-	-	1102
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
Level 2	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				

Batch Log

-	-

#:130

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	CalStd	IC CAL2 6290595	-	-	1103
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
Level 3	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:131

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	CalStd	IC CAL3 6290597	-	-	1104
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
Level 4	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:132

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#

Batch Log

2019-09-25 4:10:07 PM	CalStd	IC CAL4 6290599	-	-	1105
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
Level 5	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:133

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	CalStd	IC CAL5 6290612	-	-	1106
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
Level 6	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:134

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	ICV	ICV 3221013	-	-	1301
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates

-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:135

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	CCVL	ICVL	-	-	1101
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:136

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	ICB_CCB	ICB	-	-	1306
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume

-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:137

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	ICSA	ICSA 3279731	-	-	1303
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:138

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	ICSAB	ICSAB 3196899	-	-	1304
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-

Batch Log

User Def. 2	User Def. 3
-	-

#:139

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	Sample	rinse	-	-	5
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:140

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	Sample	rinse	-	-	5
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

Batch Log

#:141

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	CCV	CCV 3198218	-	-	1105
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:142

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	CCVL	CCVL	-	-	1101
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:143

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	ICB_CCB	CCB	-	-	1306

Batch Log

Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:144

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	Sample	MB 600-275511/1-A	-	-	3101
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:145

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	Sample	LCS 600-275511/2-A	-	-	3102
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution	Total Dil.	Final	Sample

Batch Log

		(ISIS 2)		Weight or Volume	Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:146

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	Sample	600-192361-B-1-A	-	-	3103
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:147

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	Sample	600-192361-B-1-B DU	-	-	3104
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution	Sublist	Total Acq Time	Max. Daily	%J	User Def. 1

Batch Log

Multiplier			Dose		
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:148

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	Sample	600-192361-B-1-C MS	-	-	3105
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:149

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	Sample	600-192361-B-1-D MSD	-	-	3106
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

Batch Log

#:150

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	Sample	600-192359-B-1-A	-	-	3107
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:151

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	Sample	600-192316-A-14-A	-	-	3108
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:152

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25	Sample	600-191956-X-1-	-	-	3109

Batch Log

4:10:07 PM		E			
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:153

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	Sample	600-191956-X-2-C	-	-	3110
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:154

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	CCV	CCV 3198218	-	-	1105
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-

Batch Log

Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:155

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	CCVL	CCVL	-	-	1101
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:156

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	ICB_CCB	CCB	-	-	1306
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-

Batch Log

Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:157

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	Sample	600-191956-X-3-C	-	-	3111
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:158

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	Sample	600-192361-B-1-A sd@5	-	-	3112
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				

Batch Log

-	-

#:159

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	Sample	MB 600-275519/1-B	-	-	3201
Dilution Result	**Operator**	**Acquisition Result**	**Error Action**	**Error Message**	**Replicates**
-	admin	Skip	-	-	-
Level	**ISTD Conc**	**Auto Dilution (ISIS 2)**	**Total Dil.**	**Final Weight or Volume**	**Sample Weight or Volume**
-	-	-	-	-	-
Dilution Multiplier	**Sublist**	**Total Acq Time**	**Max. Daily Dose**	**%J**	**User Def. 1**
-	-	-	-	-	-
User Def. 2	**User Def. 3**				
-	-				

#:160

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	Sample	LCS 600-275519/2-B	-	-	3202
Dilution Result	**Operator**	**Acquisition Result**	**Error Action**	**Error Message**	**Replicates**
-	admin	Skip	-	-	-
Level	**ISTD Conc**	**Auto Dilution (ISIS 2)**	**Total Dil.**	**Final Weight or Volume**	**Sample Weight or Volume**
-	-	-	-	-	-
Dilution Multiplier	**Sublist**	**Total Acq Time**	**Max. Daily Dose**	**%J**	**User Def. 1**
-	-	-	-	-	-
User Def. 2	**User Def. 3**				
-	-				

#:161

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#

Batch Log

2019-09-25 4:10:07 PM	Sample	600-191956-Q-3-B	-	-	3203
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:162

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	Sample	600-191956-Q-3-C DU	-	-	3204
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:163

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	Sample	600-191956-Q-3-D MS	-	-	3205
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates

Batch Log

-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:164

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	Sample	600-191956-R-2-B	-	-	3206
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:165

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	Sample	600-191956-Q-1-B	-	-	3207
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume

-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:166

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	Sample	600-191956-Q-3-B sd@5	-	-	3208
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:167

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	CCV	CCV 3198218	-	-	1105
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-

Batch Log

User Def. 2	User Def. 3
-	-

#:168

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	CCVL	CCVL	-	-	1101
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:169

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	ICB_CCB	CCB	-	-	1306
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

Batch Log

#:170

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	Sample	600-192169-F-2-A@5	-	-	3209
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:171

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	Sample	600-192169-F-2-B DU@5	-	-	3210
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:172

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	Sample	600-192169-F-2-C MS@5	-	-	3211

Batch Log

Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:173

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	Sample	600-192169-F-2-D MSD@5	-	-	3212
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:174

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	Sample	600-192169-F-3-A@5	-	-	3301
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution	Total Dil.	Final	Sample

Batch Log

		(ISIS 2)		Weight or Volume	Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:175

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	Sample	600-192169-F-4-A	-	-	3302
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:176

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	Sample	600-192169-F-5-A@5	-	-	3303
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution	Sublist	Total Acq Time	Max. Daily	%J	User Def. 1

Batch Log

Multiplier			Dose		
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:177

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	Sample	600-192169-F-6-A	-	-	3304
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:178

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	Sample	600-192169-F-7-A@5	-	-	3305
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

Batch Log

#:179

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	CCV	CCV 3198218	-	-	1105
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:180

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	CCVL	CCVL	-	-	1101
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:181

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25	ICB_CCB	CCB	-	-	1306

Batch Log

4:10:07 PM					
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:182

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	Sample	600-192316-A-14-A	-	-	3306
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:183

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	CCV	CCV 3198218	-	-	1105
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-

Batch Log

Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:184

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	CCVL	CCVL	-	-	1101
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:185

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	ICB_CCB	CCB	-	-	1306
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-

Batch Log

Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:186

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	Sample	Suez (As)	-	-	3307
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:187

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	CCV	CCV 3198218	-	-	1105
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				

Batch Log

-	-

#:188

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	CCVL	CCVL	-	-	1101
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:189

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:10:07 PM	ICB_CCB	CCB	-	-	1306
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
-	admin	Skip	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:190

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#

Batch Log

2019-09-25 4:10:25 PM	Sample	400-176631-C-1-A	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\065SMPL.d	-	3308
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:191

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:13:31 PM	Sample	400-176631-C-2-A	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\066SMPL.d	-	3309
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:192

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:16:40 PM	Sample	400-176631-C-3-A	D:\Agilent\ICPMH\1\DATA\09251	-	3310

Batch Log

			9HOUa.b\067SMPL.dPL.d		
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:193

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:19:48 PM	Sample	400-176631-C-4-A	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\068SMPL.d	-	3311
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:194

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:22:59 PM	Sample	400-176631-C-4-B DU	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\069SMPL.d	-	3312

Batch Log

Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:195

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:26:07 PM	Sample	400-176631-C-4-C MS	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\070SMPL.d	-	3401
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:196

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:29:18 PM	Sample	400-176631-C-4-D MSD	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\071SMPL.d	-	3402
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates

Batch Log

1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:197

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:32:26 PM	Sample	600-192524-A-2-A	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\072SMPL.d	-	3403
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:198

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:35:38 PM	Sample	600-192524-A-2-A@2	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\073SMPL.d	-	3404
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-

Batch Log

Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:199

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:38:47 PM	Sample	600-192524-A-2-A@5	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\074SMPL.d	-	3405
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:200

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:41:58 PM	CCV	CCV 3198218	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\075_CCV.d	-	1105
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or	Sample Weight or

Batch Log

				Volume	Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:201

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:45:03 PM	CCVL	CCVL	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\076CCVL.d	-	1101
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:202

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:48:13 PM	ICB_CCB	CCB	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\077_CCB.d	-	1306
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume

-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:203

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:51:21 PM	Sample	rinse	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\078SMPL.d	-	4
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:204

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:54:35 PM	Sample	rinse	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\079SMPL.d	-	4
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-

Batch Log

Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:205

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 4:57:48 PM	Sample	rinse	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\080SMPL.d	-	4
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1
-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

#:206

Acquired Date and Time	Sample Type	Sample Name	File Name	Comment	Vial#
2019-09-25 5:01:02 PM	Sample	rinse	D:\Agilent\ICPMH\1\DATA\092519HOUa.b\081SMPL.d	-	4
Dilution Result	Operator	Acquisition Result	Error Action	Error Message	Replicates
1	admin	Pass	-	-	-
Level	ISTD Conc	Auto Dilution (ISIS 2)	Total Dil.	Final Weight or Volume	Sample Weight or Volume
-	-	-	-	-	-
Dilution Multiplier	Sublist	Total Acq Time	Max. Daily Dose	%J	User Def. 1

Batch Log

-	-	-	-	-	-
User Def. 2	User Def. 3				
-	-				

US EPA Tune Check Report

Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\092519HOUa.b
Acq. Date-Time	2019-09-25 10:38:04 AM
Report Comment	EPA TUNE REPORT
Instrument Name	G8421A SG18293266

[He]

Sensitivity

Mass	Conc. [ug/l]	Count	CPS	RSD%	RSD% (Required)	RSD% (Flag)
59	1.00	2559	25593.83	0.904	5.000	
89	1.00	1429	14291.26	2.430	5.000	
140	1.00	5406	54060.32	0.761	5.000	
205	1.00	8273	82729.84	0.795	5.000	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count
59	2533	2552	2565	2588
89	1393	1407	1454	1463
140	5349	5418	5409	5448
205	8179	8276	8316	8321

Integration Time [sec] 0.1

Resolution/Axis

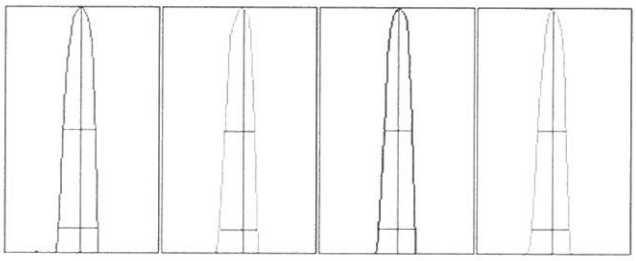

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
59	4235.68	59.00	58.90 - 59.10	
89	2485.54	89.10	88.90 - 89.10	
140	9999.50	140.05	139.90 - 140.10	
205	15179.31	205.00	204.90 - 205.10	

Mass	W-50%	W-10%	W-10% (Required)	W-10% (Flag)
59	0.63	0.758	0.900	
89	0.59	0.748	0.900	
140	0.55	0.710	0.900	
205	0.57	0.738	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	100.656
Y Axis	Linear

Tune Parameters

Plasma Parameters

US EPA Tune Check Report

Plasma Mode	---	Nebulizer Gas	0.65 L/min	Dilution Gas	0.40 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.80 V	Nebulizer Pump	0.11 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	1 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	7.8 V	Deflect	1.8 V
Extract 2	-200.0 V	Cell Entrance	-40 V	Plate Bias	-55 V
Omega Bias	-110 V	Cell Exit	-60 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	4.5 mL/min	OctP Bias	-18.0 V		
H2 Flow	0.0 mL/min	OctP RF	200 V		

QP Parameters

Mass Gain	124	Axis Gain	0.9993	QP Bias	-13.0 V
Mass Offset	124	Axis Offset	0.00		

Hardware Settings

Torch

Torch H	0.4 mm	Torch V	0.0 mm

EM

Discriminator	3.5 mV	Analog HV	2161 V	Pulse HV	1051 V

[No Gas]

Sensitivity

Mass	Conc. [ug/l]	Count	CPS	RSD%	RSD% (Required)	RSD% (Flag)
7	1.00	5079	50787.12	0.336	5.000	
59	1.00	9513	95131.55	0.153	5.000	
89	1.00	15265	152650.17	0.499	5.000	
140	1.00	15713	157133.79	0.397	5.000	
205	1.00	13831	138305.90	0.122	5.000	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count
7	5072	5059	5085	5099
59	9529	9515	9514	9494
89	15310	15288	15310	15152
140	15717	15782	15631	15723
205	13840	13849	13812	13822

Integration Time [sec] 0.1

Resolution/Axis

US EPA Tune Check Report

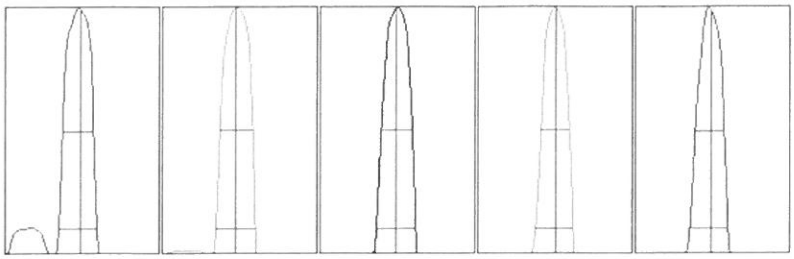

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
7	8539.83	7.00	6.90 - 7.10	
59	15389.82	58.95	58.90 - 59.10	
89	25972.29	89.00	88.90 - 89.10	
140	28782.39	140.05	139.90 - 140.10	
205	25214.52	205.00	204.90 - 205.10	

Mass	W-50%	W-10%	W-10% (Required)	W-10% (Flag)
7	0.62	0.755	0.900	
59	0.65	0.766	0.900	
89	0.61	0.762	0.900	
140	0.57	0.729	0.900	
205	0.57	0.748	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	125.839999999999
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.65 L/min	Dilution Gas	0.40 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.80 V	Nebulizer Pump	0.11 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.1 V	Deflect	13.4 V
Extract 2	-175.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-105 V	Cell Exit	-50 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	200 V		

QP Parameters

Mass Gain	124	Axis Gain	0.9993	QP Bias	-3.0 V
Mass Offset	124	Axis Offset	0.00		

Hardware Settings

Torch

Torch H	0.4 mm	Torch V	0.0 mm

US EPA Tune Check Report

EM

Discriminator	3.5 mV	Analog HV	2161 V	Pulse HV	1051 V

TW092319

Method: 245.1 Operator: Admin Date of Analysis: 23 Sep 2019 11:41:19

91171 µ Abs

A:0.0000e+000

B:1.1001e-004

C:-4.1003e-002

R:0.9999769

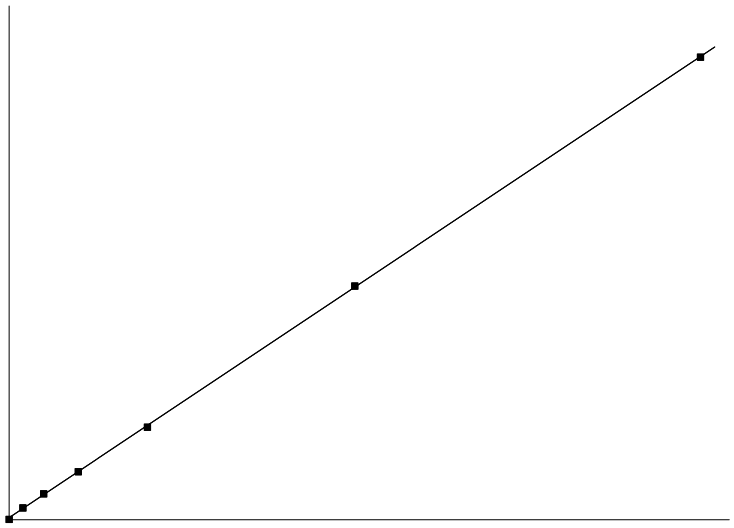

Conc 10.0000

Sample ID	Mean	Units	RSD	Method	Date
0.0	-375	ppb	-2.0027	245.1	23 Sep 2019 11:41:26
0.2	1330	ppb	1.5789	245.1	23 Sep 2019 11:43:24
0.5	3621	ppb	1.4501	245.1	23 Sep 2019 11:45:23
1.0	6942	ppb	2.4489	245.1	23 Sep 2019 11:47:24
2.0	13611	ppb	1.2821	245.1	23 Sep 2019 11:49:25
5.0	35028	ppb	0.3197	245.1	23 Sep 2019 11:51:26
10.0	68893	ppb	1.0197	245.1	23 Sep 2019 11:53:33

68893 µ Abs

A:0.0000e+000

B:1.4458e-004

C:5.9634e-003

R:0.9999375

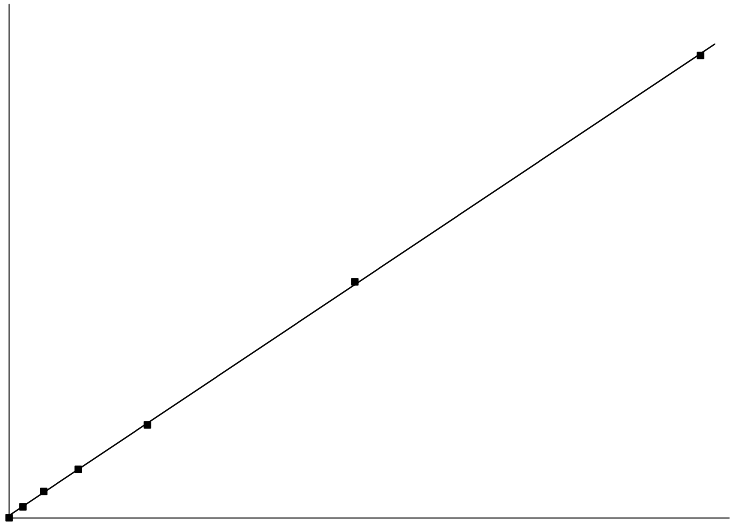

Conc 10.0000

ICV	100.2% 3.0053	ppb	0.5557	245.1	23 Sep 2019 11:55:49
ICB	-0.0411	ppb	-0.1759	245.1	23 Sep 2019 11:58:13
CRA	113.4% 0.2269	ppb	1.2745	245.1	23 Sep 2019 12:00:24
CCV	101.4% 3.0420	ppb	1.3427	245.1	23 Sep 2019 12:02:23
CCB	-0.0390	ppb	0.0000	245.1	23 Sep 2019 12:04:24
mb 600-275328/1-a	0.1065	ppb	1.0180	245.1	23 Sep 2019 12:06:34
lcs 600-275328/2-a	3.3497	ppb	0.3043	245.1	23 Sep 2019 12:08:32
lb 600-274942/1-f	0.0730	ppb	0.7917	245.1	23 Sep 2019 12:10:30
600-191946-a-1-l	0.1182	ppb	1.5907	245.1	23 Sep 2019 12:12:38
600-191946-a-1-m du	0.1618	ppb	1.1615	245.1	23 Sep 2019 12:14:37
600-191946-a-1-n ms	3.7008	ppb	0.8322	245.1	23 Sep 2019 12:16:35
600-191948-a-1-o	-0.0642	ppb	-1.3521	245.1	23 Sep 2019 12:18:34
600-191948-a-1-p ms	0.0370	ppb	1.5610	245.1	23 Sep 2019 12:20:41
600-191948-a-2-g@10	0.0662	ppb	1.2015	245.1	23 Sep 2019 12:22:39
600-191957-a-1-q	0.0770	ppb	1.0324	245.1	23 Sep 2019 12:24:37
CCV	102.9% 3.0865	ppb	0.4755	245.1	23 Sep 2019 12:26:38
CCB	-0.0384	ppb	-0.1885	245.1	23 Sep 2019 12:28:37
600-191957-a-1-r ms	3.4524	ppb	0.8418	245.1	23 Sep 2019 12:30:47
600-191959-a-1-i	0.0734	ppb	2.2649	245.1	23 Sep 2019 12:32:46
600-191960-a-1-k	0.1137	ppb	1.1447	245.1	23 Sep 2019 12:34:56
600-191961-a-1-g	0.1427	ppb	1.0641	245.1	23 Sep 2019 12:36:54
600-191961-a-1-h ms	3.7306	ppb	2.2381	245.1	23 Sep 2019 12:38:52
lb 600-274817/1-h	0.1073	ppb	0.1347	245.1	23 Sep 2019 12:40:51
600-191951-a-1-e	0.1265	ppb	0.7431	245.1	23 Sep 2019 12:42:58
600-191953-a-1-e	0.1614	ppb	1.0750	245.1	23 Sep 2019 12:44:57
600-191950-a-1-e	0.1081	ppb	2.0739	245.1	23 Sep 2019 12:46:57
600-191956-x-1-b	0.2528	ppb	0.1430	245.1	23 Sep 2019 12:48:56

TW092319

Method: 245.1 Operator: Admin Date of Analysis: 23 Sep 2019 11:41:19

Sample ID	Mean	Units	RSD	Method	Date
CCV	98.4% 2.9531	ppb	1.4859	245.1	23 Sep 2019 12:50:57
CCB	-0.0321	ppb	-0.4509	245.1	23 Sep 2019 12:52:58
600-191956-x-1-c du	0.3277	ppb	0.8603	245.1	23 Sep 2019 12:55:08
600-191956-x-1-d ms	3.9363	ppb	1.1937	245.1	23 Sep 2019 12:57:09
600-191956-r-1-f	0.1219	ppb	0.8301	245.1	23 Sep 2019 12:59:11
600-191956-x-2-b	0.0245	ppb	3.5451	245.1	23 Sep 2019 13:01:19
600-191956-s-2-c	0.0287	ppb	2.0177	245.1	23 Sep 2019 13:03:20
600-191956-x-3-b	0.1300	ppb	1.8905	245.1	23 Sep 2019 13:05:19
600-191956-s-3-c	0.1607	ppb	0.8545	245.1	23 Sep 2019 13:07:19
lb 600-275059/1-g	0.1101	ppb	0.7882	245.1	23 Sep 2019 13:09:17
600-192041-a-1-n	0.1083	ppb	1.2012	245.1	23 Sep 2019 13:11:16
lb 600-275058/1-d	0.0888	ppb	1.1396	245.1	23 Sep 2019 13:13:15
CCV	98.2% 2.9471	ppb	1.4914	245.1	23 Sep 2019 13:15:12
CCB	-0.0244	ppb	0.0000	245.1	23 Sep 2019 13:17:11
600-191997-a-1-i	0.1012	ppb	1.0718	245.1	23 Sep 2019 13:19:21
600-191997-a-1-j ms	0.1716	ppb	1.2218	245.1	23 Sep 2019 13:21:20
600-191997-a-2-f	3.4808	ppb	1.0530	245.1	23 Sep 2019 13:23:19
600-191997-a-3-e	0.1168	ppb	1.6713	245.1	23 Sep 2019 13:25:18
SD 600-191946-a-1-l@5	0.0718	ppb	1.3085	245.1	23 Sep 2019 13:27:29
CCV	98.1% 2.9435	ppb	1.2452	245.1	23 Sep 2019 13:29:29
CCB	-0.0285	ppb	-1.7744	245.1	23 Sep 2019 13:31:27
CCV	91.0% 2.7289	ppb	1.4517	245.1	23 Sep 2019 14:23:10
CCB	-0.0567	ppb	-1.1472	245.1	23 Sep 2019 14:25:12
mb 600-275393/7-b	0.0608	ppb	0.1188	245.1	23 Sep 2019 14:27:23
lcs 600-275393/8-b	3.4749	ppb	1.4417	245.1	23 Sep 2019 14:29:21
lb 600-275187/1-f	0.0381	ppb	0.7597	245.1	23 Sep 2019 14:31:17
600-191572-a-1-u	0.0878	ppb	0.8234	245.1	23 Sep 2019 14:33:26
600-191572-a-1-v du	0.0688	ppb	1.7867	245.1	23 Sep 2019 14:35:24
600-191572-a-1-w ms	3.6546	ppb	1.6596	245.1	23 Sep 2019 14:37:22
600-191572-a-2-l	0.0235	ppb	3.6981	245.1	23 Sep 2019 14:39:20
600-192160-a-1-g	1.9110	ppb	1.2257	245.1	23 Sep 2019 14:41:27
600-192089-a-1-m	0.0057	ppb	5.0961	245.1	23 Sep 2019 14:43:25
600-192089-a-1-n ms	3.6839	ppb	1.1087	245.1	23 Sep 2019 14:45:31
CCV	94.4% 2.8334	ppb	1.5895	245.1	23 Sep 2019 14:47:30
CCB	-0.0206	ppb	0.0000	245.1	23 Sep 2019 14:49:37
600-192132-a-1-n	0.1298	ppb	1.3924	245.1	23 Sep 2019 14:51:47
600-192132-a-1-o ms	3.4968	ppb	1.2673	245.1	23 Sep 2019 14:53:45
600-192133-a-1-l	0.0584	ppb	1.1146	245.1	23 Sep 2019 14:55:46
600-192133-a-1-m ms	3.1772	ppb	2.3982	245.1	23 Sep 2019 14:57:53
600-192134-a-1-g	-0.0350	ppb	-0.4136	245.1	23 Sep 2019 14:59:51
600-192138-a-1-j	0.0195	ppb	1.8554	245.1	23 Sep 2019 15:02:01
600-192138-a-1-k ms	0.9429	ppb	0.6057	245.1	23 Sep 2019 15:03:59
lb 600-274942/1-h	0.0621	ppb	1.3978	245.1	23 Sep 2019 15:05:56
600-191884-a-1-l	0.0981	ppb	0.8846	245.1	23 Sep 2019 15:07:55
600-191884-a-1-m ms	3.6733	ppb	0.9958	245.1	23 Sep 2019 15:09:53
CCV	93.9% 2.8165	ppb	1.3142	245.1	23 Sep 2019 15:11:50
CCB	-0.0132	ppb	-1.6438	245.1	23 Sep 2019 15:13:58
600-192001-b-2-e	0.0798	ppb	0.9054	245.1	23 Sep 2019 15:16:07
600-192001-a-1-i	0.0730	ppb	0.8915	245.1	23 Sep 2019 15:18:08
600-192001-a-1-j du	0.0782	ppb	1.3870	245.1	23 Sep 2019 15:20:05
600-192001-a-1-k ms	3.2502	ppb	1.3412	245.1	23 Sep 2019 15:22:03
600-191885-a-1-h	0.0454	ppb	1.9093	245.1	23 Sep 2019 15:24:01
600-191885-a-1-i ms	3.9089	ppb	0.0684	245.1	23 Sep 2019 15:26:10
lb 600-275190/1-e	0.0438	ppb	1.4864	245.1	23 Sep 2019 15:28:07
600-192014-a-1-s	0.0804	ppb	1.6180	245.1	23 Sep 2019 15:30:11
600-192014-a-1-t ms	3.5208	ppb	0.8521	245.1	23 Sep 2019 15:32:08
lb 600-274567/1-f	0.0262	ppb	2.7587	245.1	23 Sep 2019 15:34:05
CCV	98.5% 2.9542	ppb	0.9960	245.1	23 Sep 2019 15:36:12
CCB	-0.0164	ppb	-4.3954	245.1	23 Sep 2019 15:38:09
600-191776-a-1-e	0.0842	ppb	0.8587	245.1	23 Sep 2019 15:40:18
600-191738-e-5-d	0.0698	ppb	0.9322	245.1	23 Sep 2019 15:42:14
600-192046-a-18-c	0.0887	ppb	1.2220	245.1	23 Sep 2019 15:44:11
600-191886-d-1-c	0.1003	ppb	2.6667	245.1	23 Sep 2019 15:46:08
600-191945-c-1-b	0.0889	ppb	1.3827	245.1	23 Sep 2019 15:48:05
600-191945-c-2-b	0.0890	ppb	1.7053	245.1	23 Sep 2019 15:50:04
PDS 600-192138-a-1-j	3.1046	ppb	0.7195	245.1	23 Sep 2019 15:52:02
SD 600-191572-a-1-u@5	0.0261	ppb	1.9364	245.1	23 Sep 2019 15:54:00
CCV	95.4% 2.8620	ppb	1.6090	245.1	23 Sep 2019 15:56:07
CCB	-0.0092	ppb	0.0000	245.1	23 Sep 2019 15:58:05

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-191956-1

SDG No.:

Project: San Jacinto River Waste Pits Superfund

Client Sample ID	Lab Sample ID
11187072-091319-LL-EXC-1	600-191956-2

Comments:

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: 11187072-091319-LL-EXC-1
Lab Sample ID: 600-191956-2
Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-191956-1
SDG ID.:
Matrix: Water
Date Sampled: 09/13/2019 08:00
Reporting Basis: WET
Date Received: 09/13/2019 12:55

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7664-41-7	Ammonia	7.1	0.20	0.067	mg/L			1	350.1
57-12-5	Cyanide, Total	ND	10	3.1	ug/L			1	9012B
18496-25-8	Sulfide	ND	0.050	0.045	mg/L			5	4500 S2 D-2000
	Sulfide as H2S	ND	0.053	0.048	mg/L			5	4500 S2 D-2000
7723-14-0	Phosphorus as P	0.031	0.050	0.021	mg/L	J		1	SM4500 P E-1999
	Phosphorus as PO4	0.095	0.15	0.065	mg/L	J		1	SM4500 P E-1999
	Alkalinity	1000	20	20	mg/L			1	2320B-1997
	Bicarbonate Alkalinity as CaCO3	1000	20	20	mg/L			1	2320B-1997
	Carbonate Alkalinity as CaCO3	ND	20	20	mg/L			1	2320B-1997
	Total Dissolved Solids	8800	100	100	mg/L			1	2540 C-1997
	Total Suspended Solids	240	10	10	mg/L			1	2540 D-1997
	Biochemical Oxygen Demand	ND	10	10	mg/L			1	5210B
	Chemical Oxygen Demand	82	10	2.5	mg/L			1	8000
15438-31-0	Ferrous Iron	ND	0.10	0.016	mg/L		HF	1	8146
	pH	6.9	0.01	0.01	SU		HF	1	9040B
7440-44-0	TOC	24	2.0	1.1	mg/L			2	9060

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Analyst: DTN Batch Start Date: 09/16/2019

Reporting Units: mg/L Analytical Batch No.: 274836

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
33	CCV	10:08	Chemical Oxygen Demand	74.2	75.0	99	90-110		WETSCODCAL_00032
34	CCB	10:08	Chemical Oxygen Demand	ND					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Analyst: KRD Batch Start Date: 09/20/2019

Reporting Units: mg/L Analytical Batch No.: 275313

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
7	ICV	12:52	Ferrous Iron	0.552	0.500	110	90-110		FERSLCS_00145
8	ICB	12:52	Ferrous Iron	ND					
23	CCV	12:52	Ferrous Iron	0.530	0.500	106	90-110		FERSCAL_00105
24	CCB	12:52	Ferrous Iron	ND					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Analyst: KLR Batch Start Date: 09/17/2019

Reporting Units: mg/L Analytical Batch No.: 275040

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
3	ICV	10:39	TOC	10.9	10.0	109	85-115		TOCSLCS_00271
4	ICB	10:51	TOC	ND					
15	CCV	13:05	TOC	10.0	10.0	100	85-115		TOCISCAL_00450
16	CCB	13:17	TOC	ND					
27	CCV	15:30	TOC	10.1	10.0	101	85-115		TOCISCAL_00450
28	CCB	15:43	TOC	ND					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 275313	Date: 09/20/2019 12:52						
8146	MB 600-275313/9	Ferrous Iron	ND		mg/L	0.10	1
Batch ID: 275040	Date: 09/17/2019 11:03						
9060	MB 600-275040/5	TOC	ND		mg/L	1.0	1

FORM III-IN

5-IN
MATRIX SPIKE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 275313 Date: 09/20/2019 12:52											
8146	600-191956-2	Ferrous Iron	ND		mg/L						HF
8146	600-191956-2 MS	Ferrous Iron	0.595		mg/L	0.500	119	75-125			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM V-IN

5-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 275313 Date: 09/20/2019 12:52											
8146	600-191956-2 MSD	Ferrous Iron	0.609		mg/L	0.500	122	75-125	2	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM V-IN

7A-IN
LAB CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 275313	Date: 09/20/2019 12:52										
						LCS Source: FERSLCS_00145					
8146	LCS 600-275313/10	Ferrous Iron	0.537		mg/L	0.500	107	90-110			
Batch ID: 275040	Date: 09/17/2019 11:15										
						LCS Source: TOCSLCS_00271					
9060	LCS 600-275040/6	TOC	10.7		mg/L	10.0	107	85-115			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-191956-1

SDG Number:

Matrix: Water Instrument ID: WC07

Method: 350.1 MDL Date: 04/30/2014 10:41

Prep Method: 350.1

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Ammonia		0.2	0.067487

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-191956-1

SDG Number:

Matrix: Water Instrument ID: WC07

Method: 350.1 XMDL Date: 04/30/2014 10:42

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Ammonia		0.2	0.067487

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-191956-1

SDG Number:

Matrix: Water Instrument ID: WC05

Method: 9012B MDL Date: 04/30/2014 15:10

Prep Method: 9012B

Analyte	Wavelength/ Mass	RL (ug/L)	MDL (ug/L)
Cyanide, Total		10	3.07503

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-191956-1

SDG Number:

Matrix: Water Instrument ID: WC05

Method: 9012B XMDL Date: 04/30/2014 16:36

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Cyanide, Total		10	3.07503

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-191956-1

SDG Number:

Matrix: Water Instrument ID: WC24-Spec

Method: 4500 S2 D-2000 MDL Date: 07/10/2012 13:27

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Sulfide		0.01	0.009
Sulfide as H2S		0.0106	0.00954

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-191956-1

SDG Number:

Matrix: Water Instrument ID: WC24-Spec

Method: 4500 S2 D-2000 XMDL Date: 07/10/2012 13:27

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Sulfide		0.01	0.009
Sulfide as H2S		0.0106	0.00954

FORM IX - IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-191956-1

SDG Number:

Matrix: Water Instrument ID: WC24-Spec

Method: SM4500 P E-1999 MDL Date: 07/10/2012 11:38

Prep Method: SM 4500 P B

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Phosphorus as P		0.05	0.021
Phosphorus as PO4		0.154	0.0646

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-191956-1

SDG Number:

Matrix: Water Instrument ID: WC24-Spec

Method: SM4500 P E-1999 XMDL Date: 03/05/2008 15:17

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Phosphorus as P		0.05	0.007226
Phosphorus as PO4		0.05	0.02214769

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-191956-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: 2320B-1997 MDL Date: 01/12/2017 11:12

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Alkalinity		20	20
Bicarbonate Alkalinity as CaCO3		20	20
Carbonate Alkalinity as CaCO3		20	20

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-191956-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: 2320B-1997 XMDL Date: 04/30/2014 10:35

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Alkalinity		20	2
Bicarbonate Alkalinity as CaCO3		20	2
Carbonate Alkalinity as CaCO3		20	2

FORM IX - IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-191956-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: 2540 C-1997 MDL Date: 07/10/2012 13:36

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Total Dissolved Solids		10	3.564

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-191956-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: 2540 C-1997 XMDL Date: 07/10/2012 13:37

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Total Dissolved Solids		10	3.564

FORM IX - IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-191956-1

SDG Number:

Matrix: Water Instrument ID: B1

Method: 2540 D-1997 MDL Date: 07/24/2012 15:15

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Total Suspended Solids		2	0.613

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-191956-1

SDG Number:

Matrix: Water Instrument ID: B1

Method: 2540 D-1997 XMDL Date: 07/24/2012 15:15

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Total Suspended Solids		2	0.613

FORM IX - IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-191956-1

SDG Number:

Matrix: Water Instrument ID: WC18

Method: 5210B RL Date: 11/09/2005 14:49

Analyte	Wavelength/ Mass	RL (mg/L)	
Biochemical Oxygen Demand		2	

FORM IX - IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-191956-1

SDG Number:

Matrix: Water Instrument ID: WC15

Method: 8000 MDL Date: 04/30/2014 17:19

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Chemical Oxygen Demand		10	2.464582

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-191956-1

SDG Number:

Matrix: Water Instrument ID: WC15

Method: 8000 XMDL Date: 04/30/2014 17:19

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Chemical Oxygen Demand		10	2.464582

FORM IX - IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-191956-1

SDG Number:

Matrix: Water Instrument ID: WC24-Spec

Method: 8146 MDL Date: 07/09/2012 10:12

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Ferrous Iron		0.1	0.0157

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-191956-1

SDG Number:

Matrix: Water Instrument ID: WC24-Spec

Method: 8146 XMDL Date: 05/05/2014 08:06

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Ferrous Iron		0.1	0.0157

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-191956-1

SDG Number:

Matrix: Water Instrument ID: WC23

Method: 9040B XRL Date: 07/03/2008 13:54

Analyte	Wavelength/ Mass	XRL (SU)	
pH		0.01	

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-191956-1

SDG Number:

Matrix: Water Instrument ID: WC23

Method: 9040B MDL Date: 08/01/2019 13:57

Analyte	Wavelength/ Mass	RL (SU)	MDL (S.U.)
pH		0.01	0.01

FORM IX - IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-191956-1

SDG Number:

Matrix: Water Instrument ID: WC01

Method: 9060 MDL Date: 01/18/2018 09:39

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
TOC		1	0.559

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job Number: 600-191956-1

SDG Number:

Matrix: Water Instrument ID: WC01

Method: 9060 XMDL Date: 01/18/2018 09:39

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
TOC		1	0.559

FORM IX - IN

12-IN
PREPARATION LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Prep Method: 350.1

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
600-191956-2	09/17/2019 07:21	274926		100	100

FORM XII-IN

12-IN
PREPARATION LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Prep Method: 9012B

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
600-191956-2	09/17/2019 10:36	274977		6.0	6.0

FORM XII-IN

12-IN
PREPARATION LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Prep Method: SM 4500 P B

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
600-191956-2	09/17/2019 03:44	274916		50	50

FORM XII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: WC07 Analysis Method: 350.1

Start Date: 09/17/2019 10:45 End Date: 09/17/2019 11:55

Lab Sample Id	D/F	Type	Time	Analytes																							
				NH3																							
ZZZZZZ			10:45																								
ZZZZZZ			10:46																								
ZZZZZZ			10:47																								
ZZZZZZ			10:48																								
ZZZZZZ			10:50																								
ZZZZZZ			10:51																								
ZZZZZZ			10:52																								
ZZZZZZ			10:53																								
ICV 600-274993/9			10:54																								
ICB 600-274993/10			10:55																								
ZZZZZZ			10:56																								
ZZZZZZ			10:58																								
ZZZZZZ			10:59																								
ZZZZZZ			11:00																								
ZZZZZZ			11:01																								
ZZZZZZ			11:02																								
ZZZZZZ			11:03																								
ZZZZZZ			11:04																								
ZZZZZZ			11:05																								
ZZZZZZ			11:07																								
CCV 600-274993/21			11:08																								
CCB 600-274993/22			11:09																								
ZZZZZZ			11:10																								
ZZZZZZ			11:11																								
ZZZZZZ			11:12																								
ZZZZZZ			11:13																								
ZZZZZZ			11:14																								
ZZZZZZ			11:16																								
ZZZZZZ			11:17																								
ZZZZZZ			11:18																								
ZZZZZZ			11:19																								
ZZZZZZ			11:20																								
CCV 600-274993/33			11:21																								
CCB 600-274993/34			11:22																								
ZZZZZZ			11:23																								
ZZZZZZ			11:25																								
ZZZZZZ			11:26																								
ZZZZZZ			11:27																								
ZZZZZZ			11:28																								
ZZZZZZ			11:29																								
ZZZZZZ			11:30																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: WC07 Analysis Method: 350.1

Start Date: 09/17/2019 10:45 End Date: 09/17/2019 11:55

Lab Sample Id	D/F	Type	Time	Analytes																							
				NH3																							
ZZZZZZ			11:31																								
ZZZZZZ			11:33																								
600-191956-2	1	T	11:34	X																							
CCV 600-274993/45			11:35																								
CCB 600-274993/46			11:36																								
ZZZZZZ			11:37																								
ZZZZZZ			11:38																								
ZZZZZZ			11:39																								
ZZZZZZ			11:40																								
ZZZZZZ			11:42																								
ZZZZZZ			11:43																								
ZZZZZZ			11:44																								
ZZZZZZ			11:45																								
ZZZZZZ			11:46																								
ZZZZZZ			11:47																								
CCV 600-274993/57			11:48																								
CCB 600-274993/58			11:49																								
ZZZZZZ			11:51																								
ZZZZZZ			11:52																								
ZZZZZZ			11:53																								
CCV 600-274993/62			11:54																								
CCB 600-274993/63			11:55																								

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: WC05 Analysis Method: 9012B

Start Date: 09/18/2019 20:11 End Date: 09/18/2019 20:58

Lab Sample Id	D/F	Type	Time	Analytes																							
				CN																							
ZZZZZZ			20:11																								
ZZZZZZ			20:12																								
ZZZZZZ			20:13																								
ZZZZZZ			20:13																								
ZZZZZZ			20:14																								
ZZZZZZ			20:15																								
ZZZZZZ			20:16																								
ICV 600-275153/8			20:16																								
ICB 600-275153/9			20:17																								
ZZZZZZ			20:18																								
ZZZZZZ			20:19																								
ZZZZZZ			20:20																								
ZZZZZZ			20:20																								
ZZZZZZ			20:21																								
ZZZZZZ			20:22																								
ZZZZZZ			20:23																								
ZZZZZZ			20:23																								
ZZZZZZ			20:24																								
ZZZZZZ			20:25																								
CCV 600-275153/20			20:26																								
CCB 600-275153/21			20:27																								
ZZZZZZ			20:27																								
ZZZZZZ			20:28																								
ZZZZZZ			20:29																								
ZZZZZZ			20:30																								
ZZZZZZ			20:30																								
ZZZZZZ			20:31																								
ZZZZZZ			20:32																								
ZZZZZZ			20:33																								
ZZZZZZ			20:34																								
ZZZZZZ			20:34																								
CCV 600-275153/32			20:35																								
CCB 600-275153/33			20:36																								
ZZZZZZ			20:37																								
600-191956-2	1	T	20:37	X																							
ZZZZZZ			20:38																								
ZZZZZZ			20:39																								
ZZZZZZ			20:40																								
ZZZZZZ			20:40																								
ZZZZZZ			20:41																								
ZZZZZZ			20:42																								
ZZZZZZ			20:43																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: WC05 Analysis Method: 9012B

Start Date: 09/18/2019 20:11 End Date: 09/18/2019 20:58

Lab Sample Id	D/F	Type	Time	Analytes																							
				CN																							
ZZZZZZ			20:44																								
CCV 600-275153/44			20:44																								
CCB 600-275153/45			20:45																								
ZZZZZZ			20:46																								
ZZZZZZ			20:47																								
ZZZZZZ			20:47																								
ZZZZZZ			20:48																								
ZZZZZZ			20:49																								
ZZZZZZ			20:50																								
ZZZZZZ			20:51																								
ZZZZZZ			20:51																								
ZZZZZZ			20:52																								
ZZZZZZ			20:53																								
CCV 600-275153/56			20:54																								
CCB 600-275153/57			20:54																								
ZZZZZZ			20:55																								
ZZZZZZ			20:56																								
CCV 600-275153/60			20:57																								
CCB 600-275153/61			20:58																								

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: WC24-Spec Analysis Method: 4500 S2 D-2000

Start Date: 09/18/2019 09:12 End Date: 09/18/2019 09:14

Lab Sample Id	D/F	Type	Time	Analytes	
				S-H2S	S2
CCV 600-275067/1			09:12		
ICB 600-275067/2			09:12		
ZZZZZZ			09:12		
ZZZZZZ			09:12		
ZZZZZZ			09:12		
ZZZZZZ			09:12		
ZZZZZZ			09:12		
ZZZZZZ			09:12		
ZZZZZZ			09:12		
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ZZZZZZ			09:12		
ZZZZZZ			09:12		
ZZZZZZ			09:12		
ZZZZZZ			09:12		
ZZZZZZ			09:12		
CCV 600-275067/17			09:12		
CCB 600-275067/18			09:12		
ZZZZZZ			09:12		
ZZZZZZ			09:12		
ZZZZZZ			09:13		
ZZZZZZ			09:13		
600-191956-2	5	T	09:13	X	X
ZZZZZZ			09:13		
CCV 600-275067/25			09:13		
CCB 600-275067/26			09:14		

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: WC24-Spec Analysis Method: SM4500 P E-1999

Start Date: 09/17/2019 06:51 End Date: 09/17/2019 06:51

Lab Sample Id	D/F	Type	Time	Analytes																							
				P	P-PO4																						
ICV 600-274916/1-A			06:51																								
ICB 600-274916/2-A			06:51																								
ZZZZZZ			06:51																								
ZZZZZZ			06:51																								
ZZZZZZ			06:51																								
ZZZZZZ			06:51																								
ZZZZZZ			06:51																								
ZZZZZZ			06:51																								
ZZZZZZ			06:51																								
600-191956-2	1	T	06:51	X	X																						
ZZZZZZ			06:51																								
ZZZZZZ			06:51																								
CCV 600-274916/13-A			06:51																								
CCB 600-274916/14-A			06:51																								
ZZZZZZ			06:51																								
ZZZZZZ			06:51																								
ZZZZZZ			06:51																								
CCV 600-274916/18-A			06:51																								
CCB 600-274916/19-A			06:51																								

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: 2320B-1997

Start Date: 09/16/2019 14:38 End Date: 09/16/2019 14:38

Lab Sample Id	D/F	Type	Time	Analytes																								
				Alk	BALKCC	CarAlk																						
ZZZZZZ			14:38																									
ZZZZZZ			14:38																									
ZZZZZZ			14:38																									
ZZZZZZ			14:38																									
ZZZZZZ			14:38																									
ZZZZZZ			14:38																									
600-191956-2	1	T	14:38	X	X	X																						
ZZZZZZ			14:38																									
ZZZZZZ			14:38																									
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Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: 2540 C-1997

Start Date: 09/16/2019 13:50 End Date: 09/16/2019 13:50

Lab Sample Id	D/F	Type	Time	Analytes																							
				TDS																							
ZZZZZZ			13:50																								
ZZZZZZ			13:50																								
ZZZZZZ			13:50																								
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600-191956-2	1	T	13:50	X																							
ZZZZZZ			13:50																								
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ZZZZZZ			13:50																								

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: B1 Analysis Method: 2540 D-1997

Start Date: 09/16/2019 08:13 End Date: 09/16/2019 08:15

Lab Sample Id	D/F	Type	Time	Analytes																							
				TSS																							
ZZZZZZ			08:13																								
ZZZZZZ			08:13																								
CCV 600-274874/3			08:13																								
ZZZZZZ			08:13																								
ZZZZZZ			08:13																								
ZZZZZZ			08:13																								
ZZZZZZ			08:13																								
ZZZZZZ			08:14																								
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ZZZZZZ			08:15																								
ZZZZZZ			08:15																								
ZZZZZZ			08:15																								
600-191956-2	1	T	08:15	X																							
ZZZZZZ			08:15																								
ZZZZZZ			08:15																								

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: WC18 Analysis Method: 5210B

Start Date: 09/13/2019 11:00 End Date: 09/13/2019 11:00

Lab Sample Id	D/F	Type	Time	Analytes																							
				BOD																							
ZZZZZZ			11:00																								
ZZZZZZ			11:00																								
ZZZZZZ			11:00																								
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ZZZZZZ			11:00																								
600-191956-2	1	T	11:00	X																							
ZZZZZZ			11:00																								
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ZZZZZZ			11:00																								
ZZZZZZ			11:00																								
ZZZZZZ			11:00																								

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: WC15 Analysis Method: 8000

Start Date: 09/16/2019 10:08 End Date: 09/16/2019 10:08

Lab Sample Id	D/F	Type	Time	Analytes																							
				COD																							
CCV 600-274836/1			10:08																								
ICB 600-274836/2			10:08																								
ZZZZZZ			10:08																								
ZZZZZZ			10:08																								
ZZZZZZ			10:08																								
ZZZZZZ			10:08																								
ZZZZZZ			10:08																								
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ZZZZZZ			10:08																								
ZZZZZZ			10:08																								
CCV 600-274836/17			10:08																								
CCB 600-274836/18			10:08																								
ZZZZZZ			10:08																								
ZZZZZZ			10:08																								
ZZZZZZ			10:08																								
600-191956-2	1	T	10:08	X																							
ZZZZZZ			10:08																								
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ZZZZZZ			10:08																								
ZZZZZZ			10:08																								
ZZZZZZ			10:08																								
CCV 600-274836/33	1		10:08	X																							
CCB 600-274836/34	1		10:08	X																							

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: WC24-Spec Analysis Method: 8146

Start Date: 09/20/2019 12:52 End Date: 09/20/2019 12:52

Lab Sample Id	D/F	Type	Time	Analytes																							
				Fe2																							
IC 600-275313/1			12:52	X																							
IC 600-275313/2			12:52	X																							
IC 600-275313/3			12:52	X																							
IC 600-275313/4			12:52	X																							
IC 600-275313/5			12:52	X																							
IC 600-275313/6			12:52	X																							
ICV 600-275313/7	1		12:52	X																							
ICB 600-275313/8	1		12:52	X																							
MB 600-275313/9	1	T	12:52	X																							
LCS 600-275313/10	1	T	12:52	X																							
600-191956-2	1	T	12:52	X																							
600-191956-2 MS	1	T	12:52	X																							
600-191956-2 MSD	1	T	12:52	X																							
ZZZZZZ			12:52																								
ZZZZZZ			12:52																								
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ZZZZZZ			12:52																								
ZZZZZZ			12:52																								
ZZZZZZ			12:52																								
CCV 600-275313/23	1		12:52	X																							
CCB 600-275313/24	1		12:52	X																							
ZZZZZZ			12:52																								
ZZZZZZ			12:52																								
ZZZZZZ			12:52																								
ZZZZZZ			12:52																								
CCV 600-275313/29			12:52																								
CCB 600-275313/30			12:52																								

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: WC23 Analysis Method: 9040B

Start Date: 09/17/2019 14:53 End Date: 09/17/2019 16:28

Lab Sample Id	D/F	Type	Time	Analytes																							
				pH																							
ZZZZZZ			14:53																								
ZZZZZZ			14:56																								
ZZZZZZ			14:59																								
ZZZZZZ			15:02																								
ZZZZZZ			15:04																								
ZZZZZZ			15:08																								
ZZZZZZ			15:10																								
ZZZZZZ			15:13																								
ZZZZZZ			15:16																								
ZZZZZZ			15:20																								
ZZZZZZ			15:23																								
600-191956-2	1	T	15:27	X																							
CCV 600-275028/13			15:30																								
ZZZZZZ			15:33																								
ZZZZZZ			15:36																								
ZZZZZZ			15:40																								
ZZZZZZ			15:44																								
ZZZZZZ			15:47																								
ZZZZZZ			15:51																								
CCV 600-275028/20			15:55																								
ZZZZZZ			16:06																								
ZZZZZZ			16:09																								
ZZZZZZ			16:12																								
ZZZZZZ			16:15																								
ZZZZZZ			16:18																								
ZZZZZZ			16:21																								
ZZZZZZ			16:24																								
CCV 600-275028/28			16:28																								

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: WC01 Analysis Method: 9060

Start Date: 09/17/2019 10:14 End Date: 09/17/2019 20:22

Lab Sample Id	D/F	Type	Time	Analytes																							
				TOC																							
RINSE 600-275040/1			10:14																								
RINSE 600-275040/2			10:26																								
ICV 600-275040/3	1		10:39	X																							
ICB 600-275040/4	1		10:51	X																							
MB 600-275040/5	1	T	11:03	X																							
LCS 600-275040/6	1	T	11:15	X																							
ZZZZZZ			11:27																								
ZZZZZZ			11:39																								
ZZZZZZ			11:52																								
ZZZZZZ			12:04																								
ZZZZZZ			12:16																								
ZZZZZZ			12:28																								
ZZZZZZ			12:40																								
ZZZZZZ			12:53																								
CCV 600-275040/15	1		13:05	X																							
CCB 600-275040/16	1		13:17	X																							
ZZZZZZ			13:29																								
ZZZZZZ			13:41																								
ZZZZZZ			13:53																								
ZZZZZZ			14:05																								
ZZZZZZ			14:18																								
ZZZZZZ			14:30																								
ZZZZZZ			14:42																								
ZZZZZZ			14:54																								
ZZZZZZ			15:06																								
600-191956-2	2	T	15:18	X																							
CCV 600-275040/27	1		15:30	X																							
CCB 600-275040/28	1		15:43	X																							
ZZZZZZ			15:55																								
ZZZZZZ			16:07																								
ZZZZZZ			16:19																								
ZZZZZZ			16:31																								
ZZZZZZ			16:43																								
ZZZZZZ			16:56																								
ZZZZZZ			17:08																								
ZZZZZZ			17:20																								
ZZZZZZ			17:32																								
ZZZZZZ			17:44																								
CCV 600-275040/39			17:56																								
CCB 600-275040/40			18:08																								
ZZZZZZ			18:21																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Instrument ID: WC01 Analysis Method: 9060

Start Date: 09/17/2019 10:14 End Date: 09/17/2019 20:22

Lab Sample Id	D/F	Type	Time	Analytes																							
				TOC																							
ZZZZZZ			18:33																								
ZZZZZZ			18:45																								
ZZZZZZ			18:57																								
ZZZZZZ			19:09																								
ZZZZZZ			19:21																								
ZZZZZZ			19:33																								
ZZZZZZ			19:46																								
ZZZZZZ			19:58																								
CCV 600-275040/50			20:10																								
CCB 600-275040/51			20:22																								

Prep Types:
T = Total/NA

FORM XIII-IN

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Batch Number: 274926 Batch Start Date: 09/17/19 07:21 Batch Analyst: Cemer, Sejfudin

Batch Method: 350.1 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH			
600-191956-U-2	11187072-091319-LL-EXC-1	350.1, 350.1	T	100 mL	100 mL	<2 SU			

Batch Notes	
Buffer Reagent ID	3111563

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Batch Number: 274993 Batch Start Date: 09/17/19 10:45 Batch Analyst: Cemer, Sejfudin

Batch Method: 350.1 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount				
600-191956-U-2-D	11187072-091319-LL-EXC-1	350.1	T	5 mL	5 mL				

Batch Notes	
Carrier Identification	3111563
EDTA Buffer ID	3111563
Hypochlorite ID	3222396
Sodium Nitroprusside ID	3222397
Sodium Phenolate ID	3235863

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Batch Number: 274977 Batch Start Date: 09/17/19 10:36 Batch Analyst: Lopez, Amairani M

Batch Method: 9012B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	SulfideCheck	ChlorineCheck	DigestBlockID	DigestBlockPos
600-191956-V-2	11187072-091319-LL-EXC-1	9012B, 9012B	T	6.0 mL	6.0 mL	N/A	N/A	M3	9

Lab Sample ID	Client Sample ID	Method Chain	Basis	DistillpHCheck					
600-191956-V-2	11187072-091319-LL-EXC-1	9012B, 9012B	T	14					

Batch Notes	
Pipette/Syringe/Dispenser ID	WC70,WC72,WC44
Thermometer ID	M3

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Batch Number: 267101 Batch Start Date: 06/12/19 18:43 Batch Analyst: Daniel, Kevin R

Batch Method: 4500 S2 D-2000 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	WETSMETBSU 00024			
IC 600-267101/54		4500 S2 D-2000		7.5 mL	7.5 mL				
IC 600-267101/55		4500 S2 D-2000		7.5 mL	7.5 mL	5 uL			
IC 600-267101/56		4500 S2 D-2000		7.5 mL	7.5 mL	25 uL			
IC 600-267101/57		4500 S2 D-2000		7.5 mL	7.5 mL	50 uL			
IC 600-267101/58		4500 S2 D-2000		7.5 mL	7.5 mL	150 uL			
IC 600-267101/59		4500 S2 D-2000		7.5 mL	7.5 mL	250 uL			
IC 600-267101/60		4500 S2 D-2000		7.5 mL	7.5 mL	375 uL			

Batch Notes	
1:1 Sulfuric + Water Lot ID	3007268
Amine Sulfuric Acid ID	3089888
Ammonium Phosphate ID	2922258
Ferric Chloride ID	2979633
Pipette ID	wc62wc45a

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Batch Number: 275067 Batch Start Date: 09/18/19 09:12 Batch Analyst: Nguyen, Davis T

Batch Method: 4500 S2 D-2000 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	UnCorResp	ColorBlk		
600-191956-S-2 ^5	11187072-091319-LL-EXC-1	4500 S2 D-2000	T	7.5 mL	7.5 mL	0.012 Absorbance	0.000 Absorbance		

Batch Notes	
1:1 Sulfuric + Water Lot ID	3007268
Amine Sulfuric Acid ID	2955108
Ammonium Phosphate ID	3103681
Ferric Chloride ID	2979633
Pipette ID	wc62

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Batch Number: 256660 Batch Start Date: 01/22/19 04:47 Batch Analyst: Cemer, Sejfudin

Batch Method: SM 4500 P B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	ReceivedpH	InitialAmount	FinalAmount			
IC 600-256660/1		SM 4500 P B, SM4500 P E-1999		<2 S.U.	50 mL	50 mL			
IC 600-256660/2		SM 4500 P B, SM4500 P E-1999		<2 S.U.	50 mL	50 mL			
IC 600-256660/3		SM 4500 P B, SM4500 P E-1999		<2 S.U.	50 mL	50 mL			
IC 600-256660/4		SM 4500 P B, SM4500 P E-1999		<2 S.U.	50 mL	50 mL			
IC 600-256660/5		SM 4500 P B, SM4500 P E-1999		<2 S.U.	50 mL	50 mL			
IC 600-256660/6		SM 4500 P B, SM4500 P E-1999		<2 S.U.	50 mL	50 mL			
IC 600-256660/7		SM 4500 P B, SM4500 P E-1999		<2 S.U.	50 mL	50 mL			

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Batch Number: 256661 Batch Start Date: 01/22/19 05:06 Batch Analyst: Cemer, Sejfudin

Batch Method: SM4500 P E-1999 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	WETSPHOSCS 00030			
IC 600-256660/1-A		SM4500 P E-1999		5 mL	5 mL				
IC 600-256660/2-A		SM4500 P E-1999		5 mL	5 mL	1 uL			
IC 600-256660/3-A		SM4500 P E-1999		5 mL	5 mL	5 uL			
IC 600-256660/4-A		SM4500 P E-1999		5 mL	5 mL	10 uL			
IC 600-256660/5-A		SM4500 P E-1999		5 mL	5 mL	25 uL			
IC 600-256660/6-A		SM4500 P E-1999		5 mL	5 mL	50 uL			
IC 600-256660/7-A		SM4500 P E-1999		5 mL	5 mL	100 uL			

Batch Notes	
Ascorbic Acid ID	3048135
Color Reagent ID	3048136

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Batch Number: 274916 Batch Start Date: 09/17/19 03:44 Batch Analyst: Cemer, Sejfudin

Batch Method: SM 4500 P B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	ReceivedpH	InitialAmount	FinalAmount			
600-191956-U-2	11187072-091319-LL-EXC-1	SM 4500 P B, SM4500 P E-1999	T	<2 S.U.	50 mL	50 mL			

Batch Notes	

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Batch Number: 274925 Batch Start Date: 09/17/19 06:51 Batch Analyst: Cemer, Sejfudin

Batch Method: SM4500 P E-1999 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount				
600-191956-U-2-B	11187072-091319-LL-EXC-1	SM4500 P E-1999	T	5 mL	5 mL				

Batch Notes	
Ascorbic Acid ID	3280510
Color Reagent ID	3280511

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Batch Number: 274896 Batch Start Date: 09/16/19 14:38 Batch Analyst: Nguyen, Davis T

Batch Method: 2320B-1997 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	Initial pH	BuretStart1	BuretStop1	TitrantVolume1	BuretStart2
600-191956-S-2	11187072-091319-LL-EXC-1	2320B-1997	T	50 mL	7.14 SU	0.0 mL	0.0 mL	0 mL	0.0 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	BuretStop2	TitrantVolume2	CalcMsg	carb	hydr	bCarb
600-191956-S-2	11187072-091319-LL-EXC-1	2320B-1997	T	11.00 mL	11 mL	Case 1	0 mg/L	0 mg/L	1024.078 mg/L

Lab Sample ID	Client Sample ID	Method Chain	Basis	pAlk	tAlk	FinalAmount			
600-191956-S-2	11187072-091319-LL-EXC-1	2320B-1997	T	0 mg/L	1024.078 mg/L	50 mL			

Batch Notes	
Acid ID	2744048
Nominal Amount Used	50 mL
pH Meter ID	2
Normality of First Titrant	0.0930980 N

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Batch Number: 274884 Batch Start Date: 09/16/19 13:50 Batch Analyst: Le, Tony N

Batch Method: 2540 C-1997 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	Conductivity	TareWeight	InitialAmount	Weight1	Weight2	WeightOne%Diff
600-191956-Q-2	11187072-091319-LL-EXC-1	2540 C-1997	T	12610 umhos/cm	126.0395 g	10 mL	126.1276 g	126.1276 g	Pass No Unit

Lab Sample ID	Client Sample ID	Method Chain	Basis	WeightTwo%Diff	Weight4OK	Residue	Residue2	Residue3	Residue4
600-191956-Q-2	11187072-091319-LL-EXC-1	2540 C-1997	T	N/A No Unit	N/A	0.0881 g	0.0881 g	N/A g	N/A g

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	CalcMsg				
600-191956-Q-2	11187072-091319-LL-EXC-1	2540 C-1997	T	100 mL	OK				

Batch Notes	
Balance ID	b31
Date/Time - In - CW (WT2)	09/17/2019 08:30
Date/Time - Out - CW (WT2)	09/17/2019 10:00
Temperature - Start - CW (WT2) - Correct	179.4 Celsius
Temperature - End - CW (WT2) - Correct	179.4 Celsius
Temperature - Start-CW(WT2) -Uncorrected	180 Celsius
Temperature - End-CW(WT2) -Uncorrected	180 Celsius
Filter ID	600022-9128
Nominal Amount Used	100 mL
Oven ID	o-13
Pipette/Syringe/Dispenser ID	wc73
Thermometer ID	562
Weight(WT1) Start Date/Time	09/16/2019 15:21 No Unit
Weight(WT1) Date/Time Out	09/17/2019 07:00
Weight(WT1) Start Temp	179.4 Celsius
Weight(WT1) Temp Out	179.4 Celsius
Uncorrected Weight(WT1) Start Temp	180 Celsius
Uncorrected Weight(WT1) Temp Out	180 Celsius

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Batch Number: 274884 Batch Start Date: 09/16/19 13:50 Batch Analyst: Le, Tony N

Batch Method: 2540 C-1997 Batch End Date:

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Batch Number: 274874 Batch Start Date: 09/16/19 08:13 Batch Analyst: Le, Tony N

Batch Method: 2540 D-1997 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	CrucibleID	TareWeight	InitialAmount	Weight1	Weight2	Weight3
600-191956-S-2	11187072-091319-LL-EXC-1	2540 D-1997	T	23	0.1147 g	100 g	0.139 g	0.1389 g	0 g

Lab Sample ID	Client Sample ID	Method Chain	Basis	WeightOne%Diff	Residue	Residue2	FinalAmount	ResDishWt	DishWeight
600-191956-S-2	11187072-091319-LL-EXC-1	2540 D-1997	T	PASS <0.5mg	0.0243 g	0.0242 g	500 mL	0.1389 g	0.1147 g

Batch Notes	
Balance ID	b31
Date/Time - In - CW (WT2)	09/16/2019 11:10
Date/Time - Out - CW (WT2)	09/16/2019 12:10
Temperature - Start - CW (WT2) - Correct	104.4 Celsius
Temperature - End - CW (WT2) - Correct	104.4 Celsius
Temperature - Start-CW(WT2) -Uncorrected	104 Celsius
Temperature - End-CW(WT2) -Uncorrected	104 Celsius
Temperature - Start - Corrected	104.4 Celsius
Temperature - End - Corrected	104.4 Celsius
Date/Time - In	09/16/2019 09:50
Date/Time - Out	09/16/2019 10:50
Filter ID	600022-9128
Nominal Amount Used	500 mL
Oven ID	o-10
Perform Calculation (0=No, 1=Yes)	1
Thermometer ID	367
Temperature - Start - Uncorrected	104 Celsius
Temperature - End - Uncorrected	104 Celsius

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Batch Number: 274757 Batch Start Date: 09/13/19 11:00 Batch Analyst: Xu, Yuanhang

Batch Method: 5210B Batch End Date: 09/18/19 00:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	InstResult	CalcMsg		
600-191956-Q-2	11187072-091319-LL-EXC-1	5210B	T	60 mL	300 mL	0 mg/L	OK		

Batch Notes	
Bottle Lot ID	d1001
Corrected Incubator Temp - Final	20.0 Celsius
Corrected Incubator Temp - Initial	20.0 Celsius
Incubator ID	bod
Nutrient Buffer Pillow ID	3279253
Pipette/Syringe/Dispenser ID	wc50
Perform Calculation (0=No, 1=Yes)	1
Seed ID	3279254
Thermometer ID	bod1
Uncorrected Incubator Temp - Final	20.0 Celsius
Uncorrected Incubator Temp - Initial	20.0 Celsius

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Batch Number: 261746 Batch Start Date: 04/01/19 11:44 Batch Analyst: Daniel, Kevin R

Batch Method: 8000 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ChlorideScrn	WETSCODCAL 00032		
IC 600-261746/1		8000		2 mL	2 mL	N			
IC 600-261746/2		8000		2 mL	2 mL	N	0.02 mL		
IC 600-261746/3		8000		2 mL	2 mL	N	0.05 mL		
IC 600-261746/4		8000		2 mL	2 mL	N	0.1 mL		
IC 600-261746/5		8000		2 mL	2 mL	N	0.2 mL		
IC 600-261746/6		8000		2 mL	2 mL	N	0.3 mL		

Batch Notes	
Temperature - Corrected - End	150 Degrees C
Temperature - Corrected - Start	150 Degrees C
Digestion End Time	04/02/2019 13:44
Digestion Start Time	04/02/2019 11:44
Temperature - Uncorrected - End	150 Degrees C
Temperature - Uncorrected - Start	150 Degrees C

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Batch Number: 274836 Batch Start Date: 09/16/19 10:08 Batch Analyst: Nguyen, Davis T

Batch Method: 8000 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ChlorideScrn	WETSCODCAL 00032		
600-191956-T-2	11187072-091319-LL-EXC-1	8000	T	2 mL	2 mL	y			
CCV 600-274836/33		8000		2 mL	2 mL	n	0.15 mL		
CCB 600-274836/34		8000		2 mL	2 mL	n			

Batch Notes	
Batch Comment	mercury sulfate 3243127
Block Digestor ID	1
Temperature - Corrected - End	150 Degrees C
Temperature - Corrected - Start	150 Degrees C
Digestion End Time	09/16/2019 12:09
Digestion Start Time	09/16/2019 10:09
Pipette/Syringe/Dispenser ID	wc32, wc49
Thermometer ID	454
Temperature - Uncorrected - End	150 Degrees C
Temperature - Uncorrected - Start	150 Degrees C
Vial Lot Number	12883

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Batch Number: 275313 Batch Start Date: 09/20/19 12:52 Batch Analyst: Daniel, Kevin R

Batch Method: 8146 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ColorBlk	UnCorResp	CalcMsg	FERSCAL 00105
ICV 600-275313/7		8146		25 mL	25 mL	0.000 Absorbance	0.082 Absorbance	OK	
ICB 600-275313/8		8146		25 mL	25 mL	0.000 Absorbance	0.000 Absorbance	OK	
MB 600-275313/9		8146		25 mL	25 mL	0.000 Absorbance	0.000 Absorbance	OK	
LCS 600-275313/10		8146		25 mL	25 mL	0.000 Absorbance	0.080 Absorbance	OK	
600-191956-R-2	11187072-091319-LL-EXC-1	8146	T	25 mL	25 mL	0.002 Absorbance	0.005 Absorbance	OK	
600-191956-R-2 MS	11187072-091319-LL-EXC-1	8146	T	25 mL	25 mL	0.002 Absorbance	0.090 Absorbance	OK	
600-191956-R-2 MSD	11187072-091319-LL-EXC-1	8146	T	25 mL	25 mL	0.002 Absorbance	0.092 Absorbance	OK	
CCV 600-275313/23		8146		25 mL	25 mL	0.000 Absorbance	0.079 Absorbance	OK	0.125 mL
CCB 600-275313/24		8146		25 mL	25 mL	0.000 Absorbance	0.000 Absorbance	OK	

Lab Sample ID	Client Sample ID	Method Chain	Basis	FERSLCS 00145					
ICV 600-275313/7		8146		0.125 mL					
ICB 600-275313/8		8146							
MB 600-275313/9		8146							
LCS 600-275313/10		8146		0.125 mL					
600-191956-R-2	11187072-091319-LL-EXC-1	8146	T						
600-191956-R-2 MS	11187072-091319-LL-EXC-1	8146	T	0.125 mL					
600-191956-R-2 MSD	11187072-091319-LL-EXC-1	8146	T	0.125 mL					
CCV 600-275313/23		8146							
CCB 600-275313/24		8146							

Batch Notes	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Batch Number: 275313 Batch Start Date: 09/20/19 12:52 Batch Analyst: Daniel, Kevin R

Batch Method: 8146 Batch End Date:

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Batch Number: 275028 Batch Start Date: 09/17/19 14:53 Batch Analyst: Daniel, Kevin R

Batch Method: 9040B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount					
600-191956-Y-2	11187072-091319-LL-EXC-1	9040B	T	50 mL					

Batch Notes	
pH Meter ID	wc23

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-1

SDG No.:

Batch Number: 275040 Batch Start Date: 09/17/19 10:14 Batch Analyst: Ramshur, Keith L

Batch Method: 9060 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	TOCISCAL 00450	TOCSLCS 00271		
ICV 600-275040/3		9060		12 mL	12 mL		12 mL		
ICB 600-275040/4		9060		12 mL	12 mL				
MB 600-275040/5		9060		12 mL	12 mL				
LCS 600-275040/6		9060		12 mL	12 mL		12 mL		
CCV 600-275040/15		9060		12 mL	12 mL	12 mL			
CCB 600-275040/16		9060		12 mL	12 mL				
600-191956-J-2 ^2	11187072-091319-LL-EXC-1	9060	T	12 mL	12 mL				
CCV 600-275040/27		9060		12 mL	12 mL	12 mL			
CCB 600-275040/28		9060		12 mL	12 mL				

Batch Notes	
Pipette/Syringe/Dispenser ID	wc32,wc49,wc60

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

B # 274926/274993

Author: Houston_WetChem_Inst

Date : 9/17/2019

Original Run Filename: OM_9-17-2019_10-44-41AM.OMN created 9/17/2019 10:44:41 AM
Original Run Author's Signature: [Houston_WetChem_Inst]
Current Run Filename: OM_9-17-2019_10-44-41AM.OMN last modified 9/17/2019 11:57:40 AM
Current Run Author's Signature: [Houston_WetChem_Inst]
Description: AMMONIA 350.1

Sample	Rep.	Cup No.	Channel 1 AMMONIA (mg/L)
CAL STD 20	1	S1	20.0000
CAL STD 10	1	S2	10.0000
CAL STD 5	1	S3	5.0000
CAL STD 2	1	S4	2.0000
CAL STD 1	1	S5	1.0000
CAL STD 0.5	1	S6	0.5000
CAL STD 0.1	1	S7	0.1000
CAL STD 0	1	S8	0.0000
icv	1	1	4.9377
		Calibration:	Table/Fig. 1
icb	1	2	-0.0141
mb	1	3	-0.0257
lcs	1	4	4.9478
600-192008-c-3	1	5	0.0231
MS 600-192008-c-3	1	6	5.2608
MSD 600-192008-c-3	1	7	5.1745
600-191682-a-1	1	8	0.4801
600-191917-a-1	1	9	-0.0396
600-192008-c-5	1	10	7.3518
mb 600-274926/1-a	1	11	0.6774
lcs 600-274926/2-a	1	12	-0.0212
ccv	1	13	4.9186
ccb	1	14	-0.0251
600-191605-c-1-a	1	15	4.9425
600-191605-c-1-b ms	1	16	5.3495
600-191605-c-1-c msd	1	17	5.0232
600-191804-f-1-a@50	1	18	8.5838
600-191965-a-1-a@100	1	19	20.2280
600-191087-b-1-a	1	20	0.7353
600-191426-c-1-a@5	1	21	1.6037
600-191455-h-4-a	1	22	0.1184
600-191455-h-5-a	1	23	0.4481
600-191455-h-6-a	1	24	0.4242
ccv	1	25	4.9141
ccb	1	26	-0.0227
600-191877-c-1-a	1	27	0.0718
600-191944-a-4-a	1	28	0.1618
600-191786-b-1-a	1	29	0.5136
600-191786-b-1-b ms	1	30	5.2484
600-191786-b-1-c msd	1	31	5.2276
600-192000-c-4-a	1	32	0.5132
600-191503-a-1-a	1	33	0.0378
600-191716-d-1-a	1	34	0.6779
600-191956-t-1-d	1	35	1.8070
600-191956-u-2-d	1	36	7.0579
ccv	1	37	4.8749
ccb	1	38	-0.0228
600-191956-t-3-d	1	39	1.1523
600-192005-c-1-a	1	40	0.1049
600-192009-c-4-a	1	41	5.1579
600-192010-a-6-b	1	42	0.4123
mb 600-274926/27-a	1	43	-0.0225
lcs 600-274926/28-a	1	44	4.8336
600-191667-a-1-b	1	45	1.0669
600-191667-a-1-c ms	1	46	5.9889
600-191667-a-1-d msd	1	47	6.0543
600-191605-c-1-a	1	48	0.6675
ccv	1	49	4.8620

KO 9/17/19

ccb	1	50	-0.0224
MB 600-274926/1-A	1	51	-0.0202
LCS 600-274926/2-A	1	52	4.8735
600-191965-a-1-a@500	1	53	5.8167
ccv	1	54	4.8653
ccb	1	55	-0.0233

Channel 1 (Detector 1) : Set 1 of 7

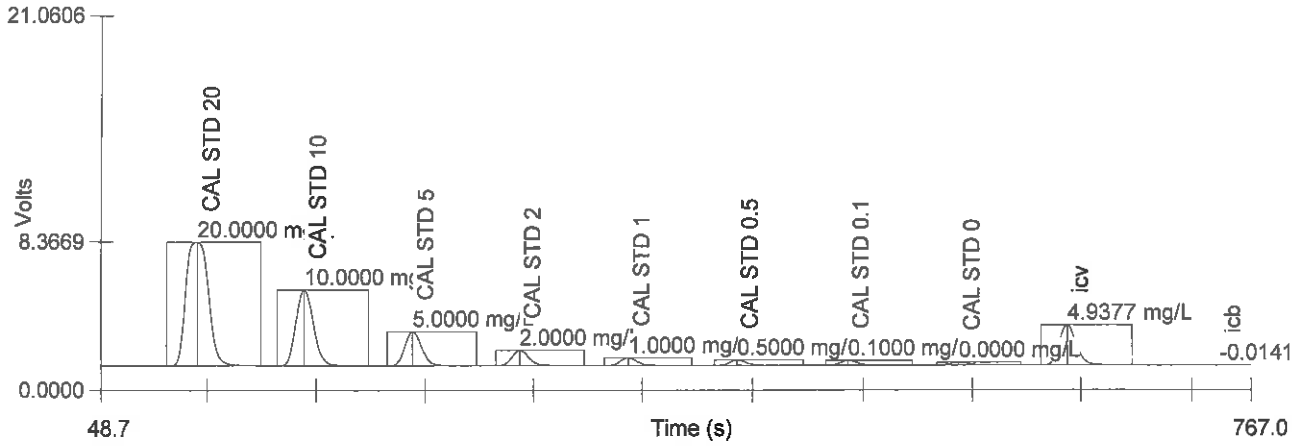

Channel 1 (Detector 1) : Set 2 of 7

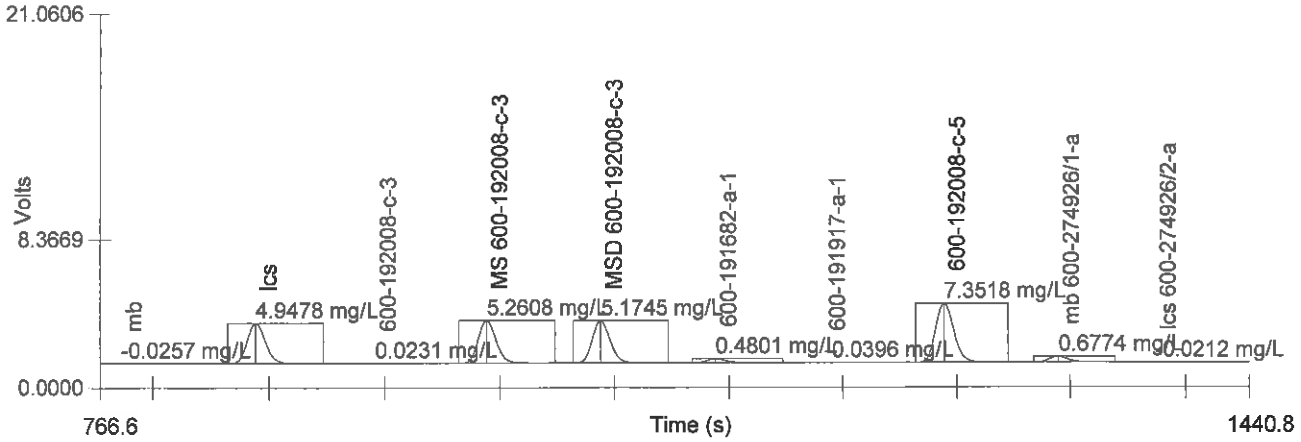

Author: Houston_WetChem_Inst

Date : 9/17/2019

Channel 1 (Detector 1) : Set 3 of 7

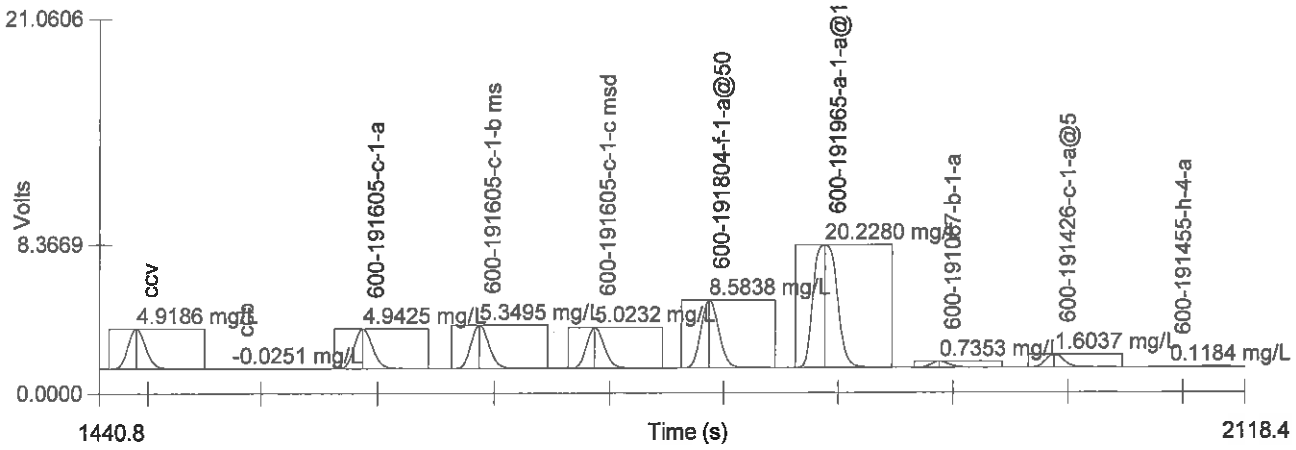

Channel 1 (Detector 1) : Set 4 of 7

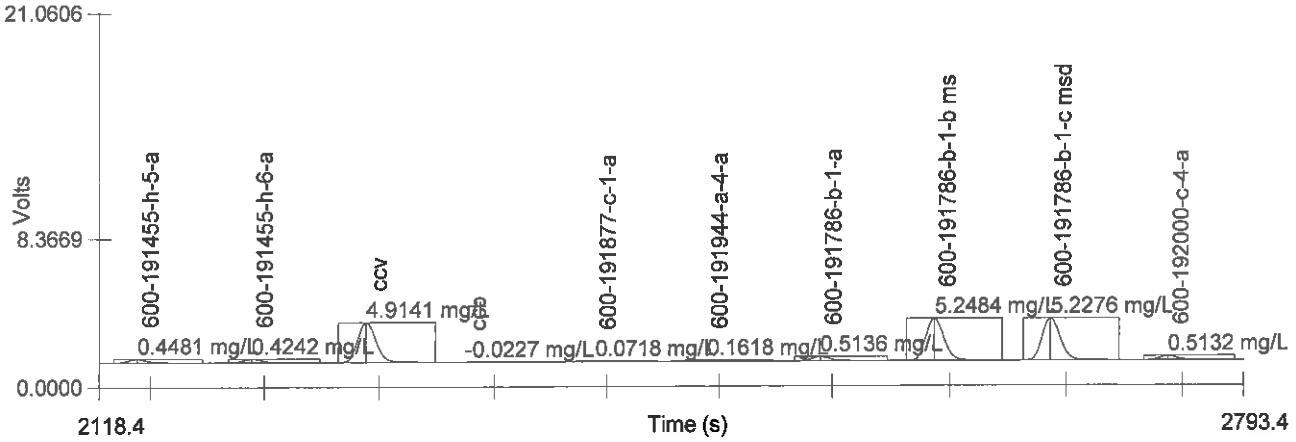

Channel 1 (Detector 1) : Set 5 of 7

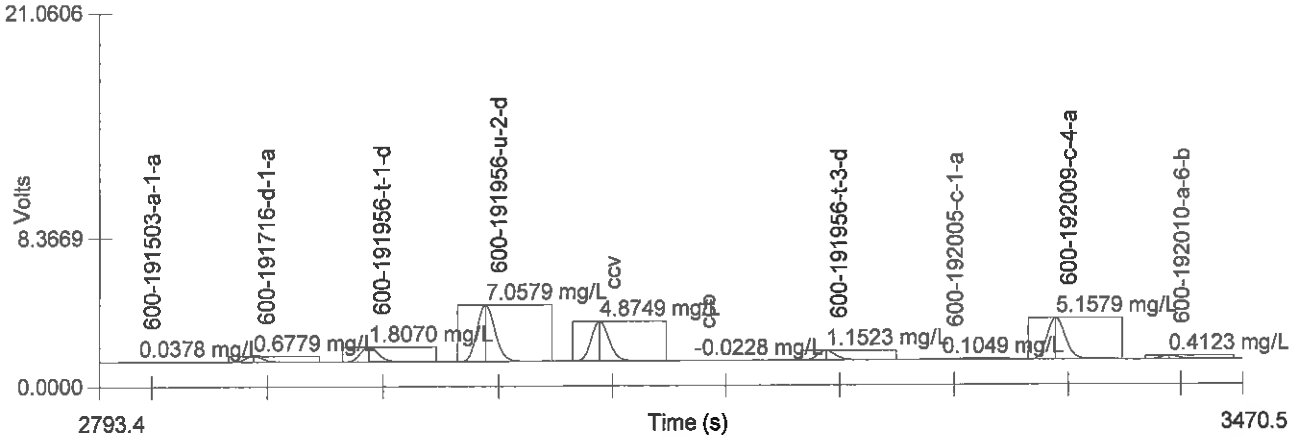

Author: Houston_WetChem_Inst

Date : 9/17/2019

Channel 1 (Detector 1) : Set 6 of 7

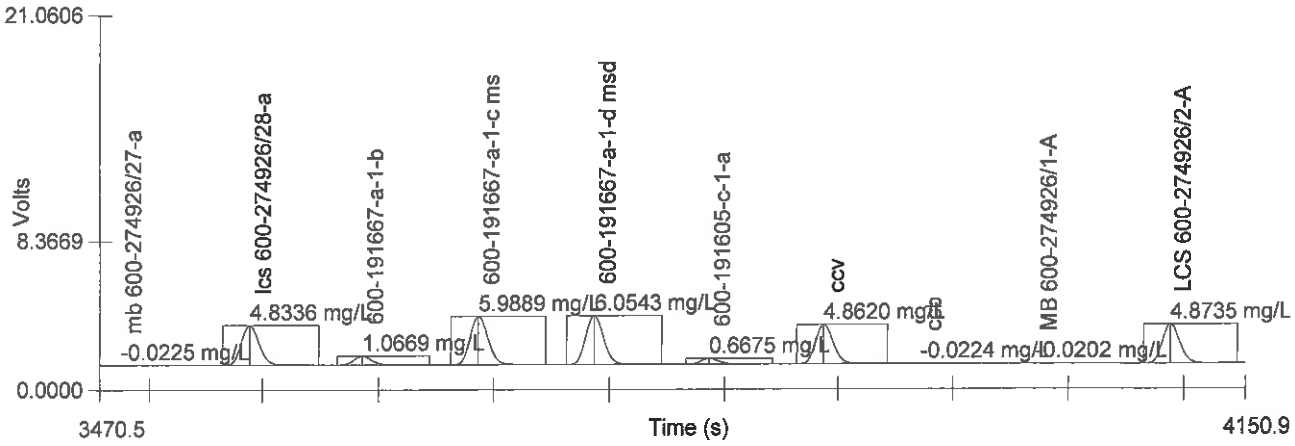

Channel 1 (Detector 1) : Set 7 of 7

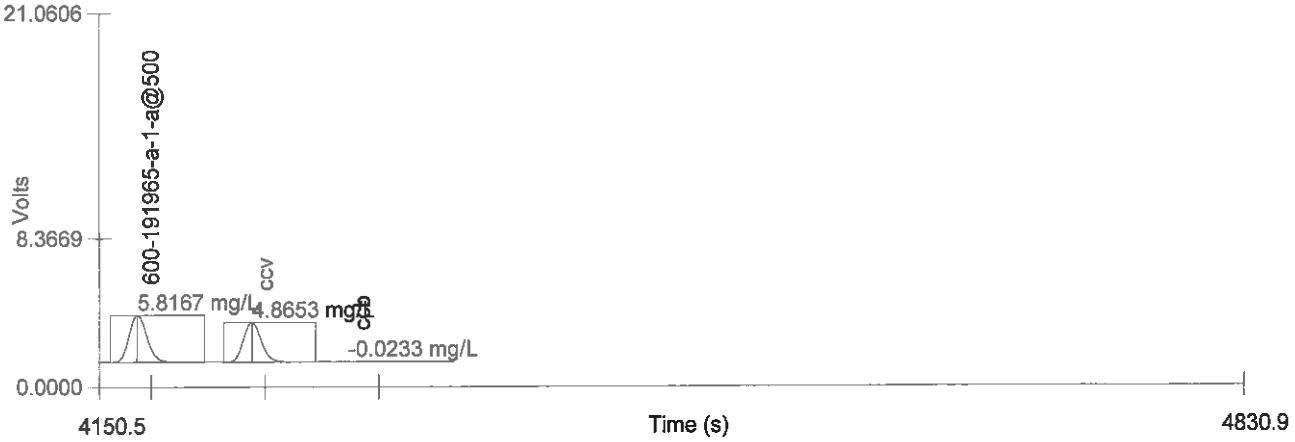

Table 1: AMMONIA

	Conc. (mg/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	20.0000	1	112.1607	6.9633	-1.9	9/17/2019	10:47:17 AM
2	10.0000	1	53.4588	4.2738	3.0	9/17/2019	10:48:24 AM
3	5.0000	1	23.0984	1.9043	16.5	9/17/2019	10:49:31 AM
4	2.0000	1	10.3658	0.8610	7.1	9/17/2019	10:50:39 AM
5	1.0000	1	5.2830	0.4404	6.6	9/17/2019	10:51:47 AM
6	0.5000	1	3.6508	0.3011	-25.5	9/17/2019	10:52:56 AM
7	0.1000	1	3.3948	0.2810	-378.9	9/17/2019	10:54:05 AM
8	0.0000	1	2.0805	0.1708		9/17/2019	10:55:14 AM

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Date : 9/17/2019

Figure 1: AMMONIA

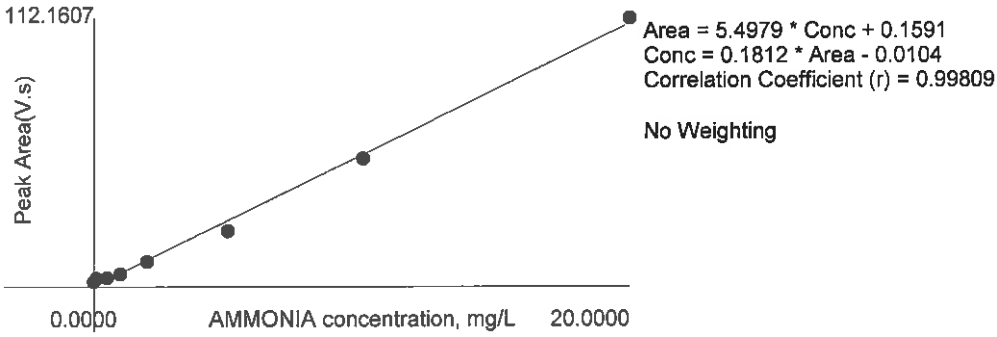

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Author: Houston_Wetchem_Inst

Date : 9/18/2019

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Original Run Author's Signature: [Houston_Wetchem_Inst]
Current Run Filename: OM_9-18-2019_08-10-49PM.OMN Last Modified: 9/18/2019 8:59:21 PM
Current Run Author's Signature: [Houston_Wetchem_Inst]
Description: 10-204-00-1-A

Sample (Avg. Only)	Cup No.	Channel 1 Cyanide Conc. (mg CN/L)	Area (V.s)	Height (V)	
300 PPB	S1	300.0000	5.0219	0.4815	
200 PPB	S2	200.0000	3.4469	0.3544	
100 PPB	S3	100.0000	1.7565	0.1711	
40 PPB	S4	40.0000	0.7351	0.0741	
20 PPB	S5	20.0000	0.3735	0.0355	
10 PPB	S6	10.0000	0.1833	0.0160	
0 PPB	S7	0.0000	0.0578	0.0112	
ICV	1	109.1037	1.8778	0.1744	
Calibration:		Table/Fig. : 1			
ICB	2	-2.5295	-0.0030	-0.0016	
mb 600-275143/1-a	3	-1.3328	0.0171	0.0028	
lcs 600-275143/2-a	4	102.2108	1.7616	0.1684	
600-191960-a-1-g	5	4.4323	0.1143	0.0089	
600-191960-a-1-h ms	6	95.4600	1.6479	0.1687	
600-191960-a-1-i msd	7	98.2600	1.6951	0.1787	
600-192072-a-1-b	8	921.2740	15.5610	1.5790	rerun @10xdilution
600-191957-a-1-l	9	10.6094	0.2183	0.0215	
600-191959-a-1-g	10	0.5883	0.0495	0.0065	
600-191946-a-1-k	11	3.4172	0.0972	0.0075	
600-191930-a-1-b	12	203.7549	3.4724	0.3476	
CCV	13	105.9630	1.8248	0.1816	
CCB	14	-1.1152	0.0208	0.0380	
600-191930-b-2-b	15	1615.8445	27.2630	2.7395	rerun @20xdilution
600-191930-b-3-b	16	79.0132	1.3708	0.1294	
600-192072-a-1-b@10	17	173.1400	2.9566	0.3121	
mb 600-274977/1-a	18	1.1819	0.0595	0.0059	
hlcs 600-274977/2-a	19	311.8427	5.2935	0.5229	
llcs 600-274977/3-a	20	37.3553	0.6690	0.0694	
600-192009-d-4-a	21	2.9522	0.0893	0.0088	
600-192009-d-4-b ms	22	103.2676	1.7794	0.2038	
600-192009-d-4-c msd	23	104.0040	1.7918	0.1776	
600-191804-g-1-a	24	41.4184	0.7374	0.0693	
CCV	25	104.9962	1.8086	0.1845	
CCB	26	-2.2583	0.0016	-0.0022	
600-191956-v-1-a	27	2.8067	0.0869	0.0057	
600-191956-v-2-a	28	1.9553	0.0725	0.0080	
600-191956-v-3-a	29	0.5304	0.0485	0.0044	
600-192006-a-1-a	30	9.0812	0.1926	0.0505	
600-191930-b-2-b@20	31	163.7308	2.7981	0.2922	
mb 600-275142/1-a	32	2.2025	0.0767	0.0061	
hlcs 600-275142/2-a	33	307.5300	5.2208	0.5209	
llcs 600-275142/3-a	34	40.1190	0.7155	0.0818	
600-191763-a-1-a	35	16.7342	0.3215	0.1171	
600-191763-a-1-b ms	36	90.3507	1.5618	0.1467	
CCV	37	106.5284	1.8344	0.1778	
CCB	38	0.6349	0.0503	0.0093	
600-191763-a-1-c msd	39	81.4946	1.4126	0.1369	
600-192165-a-1-a	40	-3.4459	-0.0185	0.0036	
600-191886-c-1-a	41	158.9043	2.7168	0.2810	
600-191948-a-1-n	42	26.3845	0.4841	0.0357	
600-191829-a-5-a	43	301.9748	5.1272	0.4943	Amm-CN
600-191829-a-5-b	44	178.1906	3.0417	0.2699	Amm CN chlorinated
600-191829-a-11-a	45	311.2883	5.2841	0.5138	Amm CN
600-191829-a-11-b	46	119.7083	2.0564	0.1790	Amm CN chlorinated
600-192207-d-1-a	47	27.4398	0.5019	0.0527	Total preserved
600-192207-d-1-b	48	151.5270	2.5925	0.2193	total preserved chlorinated
CCV	49	102.1016	1.7598	0.1709	
CCB	50	-0.7790	0.0265	0.0111	

Author: Houston_Wetchem_Inst

Date : 9/18/2019

600-192207-a-1-a	51	3.8236	0.1040	0.0099
600-192207-a-1-b	52	147.7760	2.5293	0.2308
CCV	53	101.6619	1.7524	0.1777
CCB	54	0.3295	0.0452	0.0030

Total unpreserved
Total unpreserved chlorinated

Channel 1 (Cyanide) - Set: 1 / 7

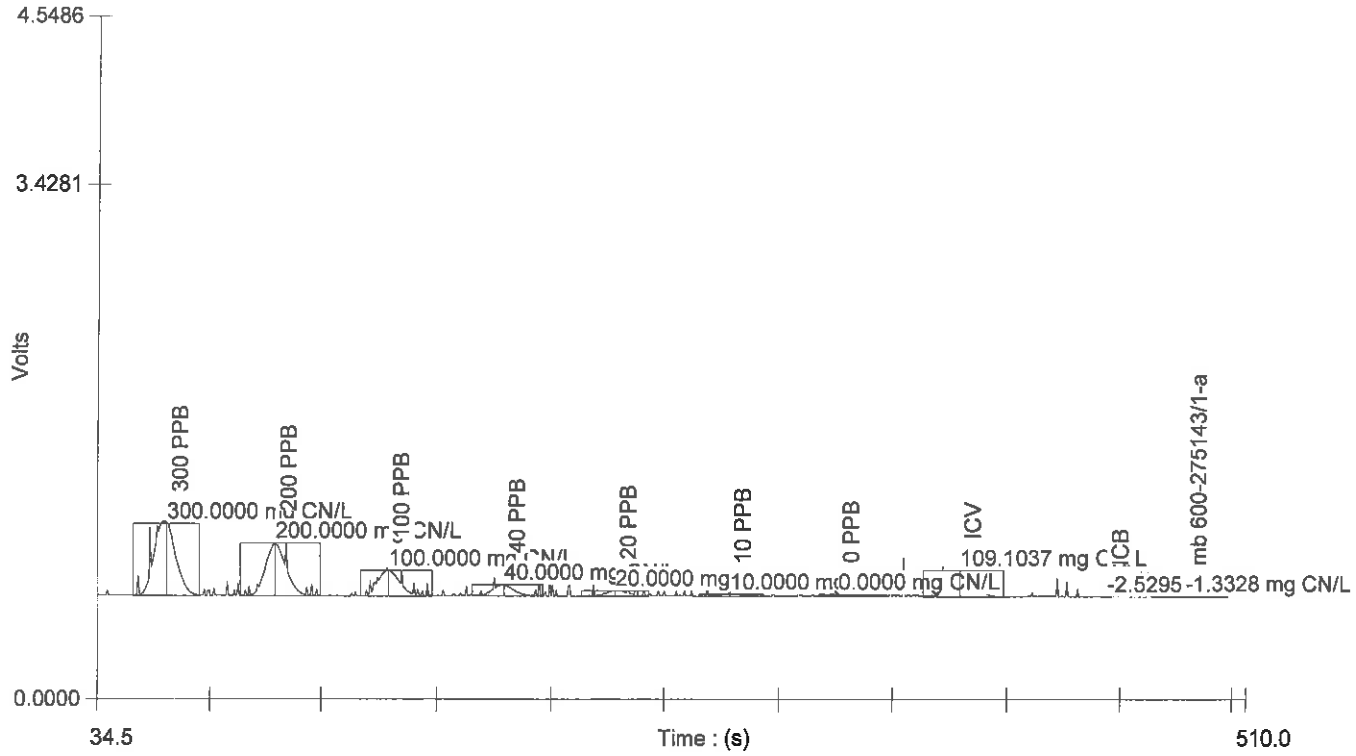

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Date : 9/18/2019

Channel 1 (Cyanide) - Set: 2 / 7

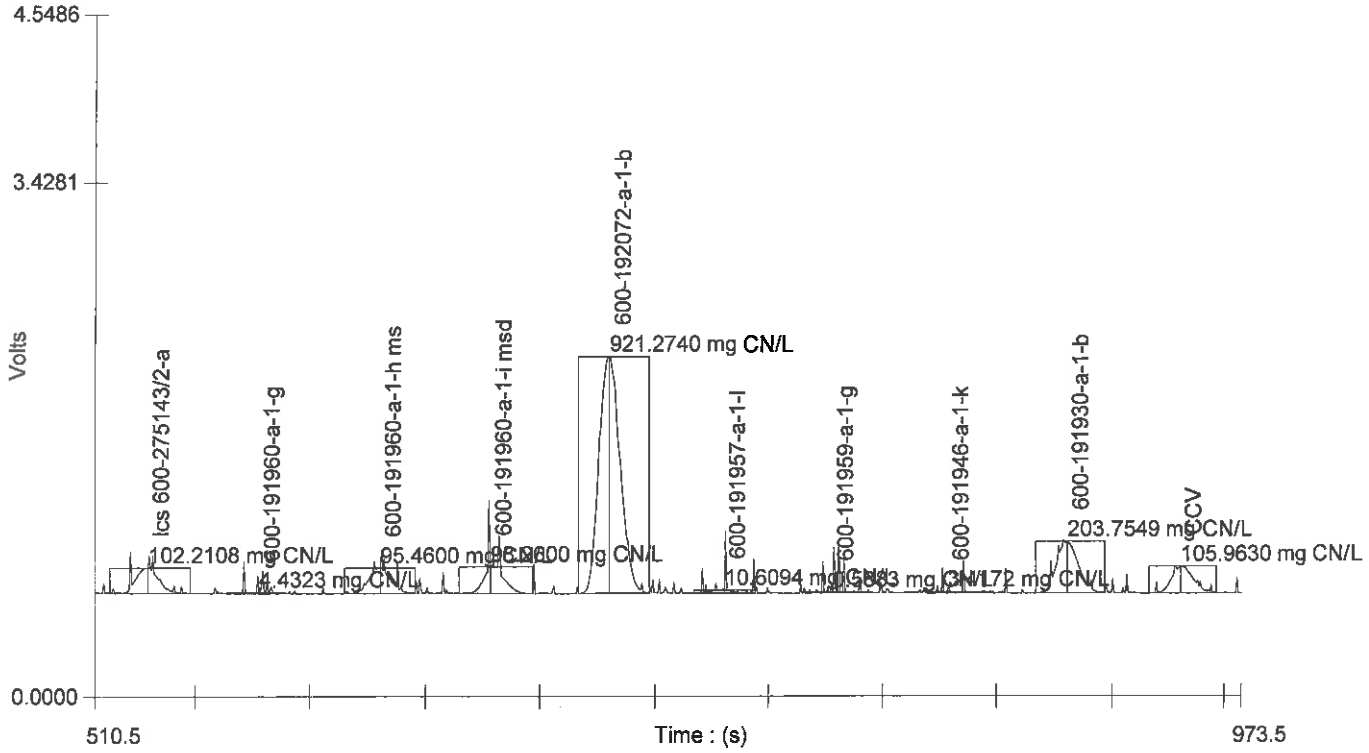

Channel 1 (Cyanide) - Set: 3 / 7

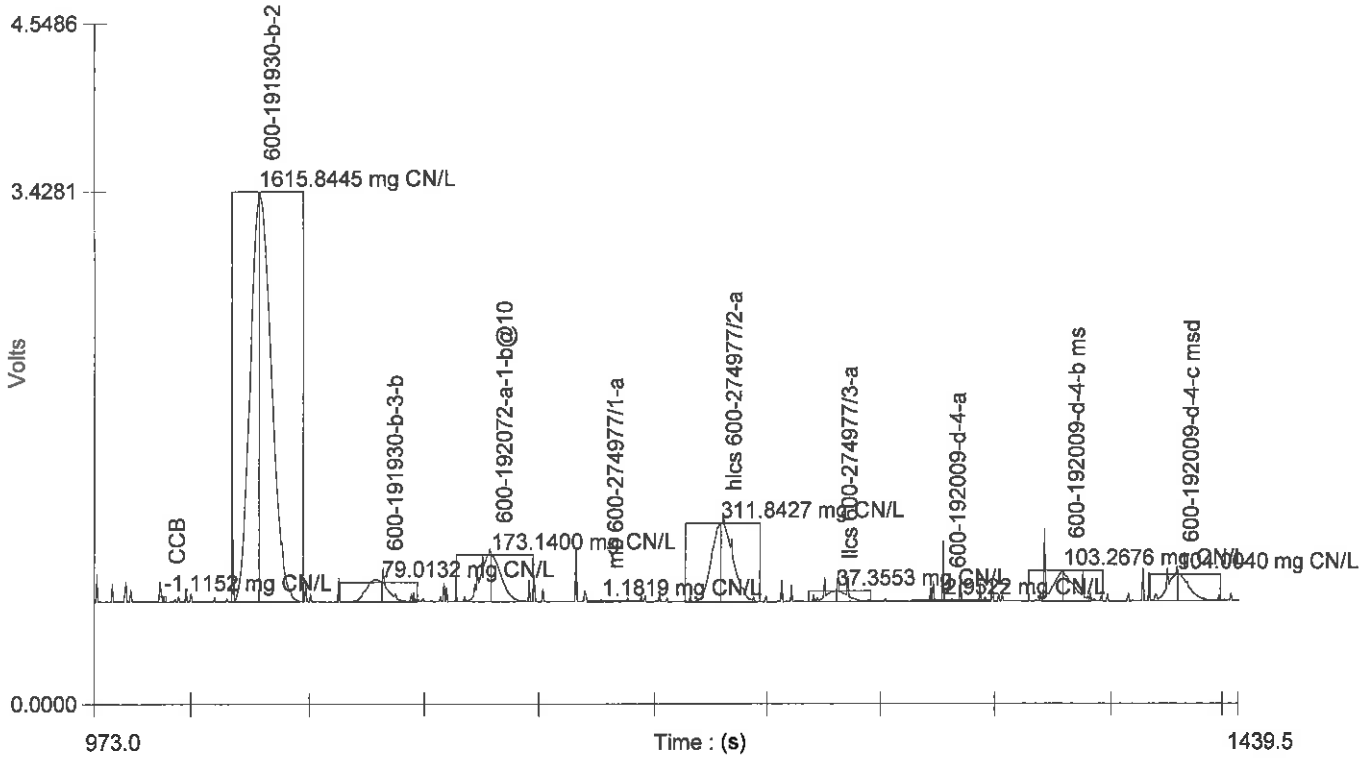

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Date : 9/18/2019

Channel 1 (Cyanide) - Set: 4 / 7

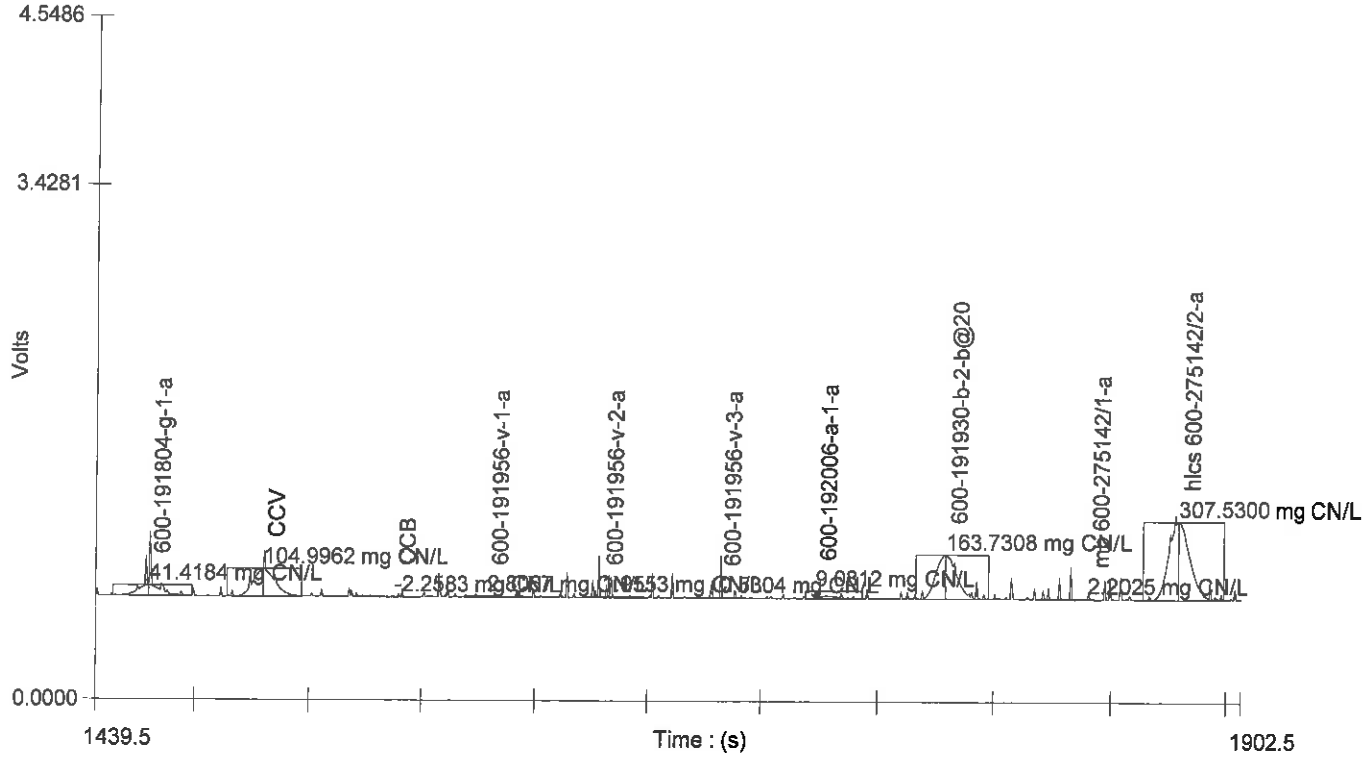

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Date : 9/18/2019

Channel 1 (Cyanide) - Set: 5 / 7

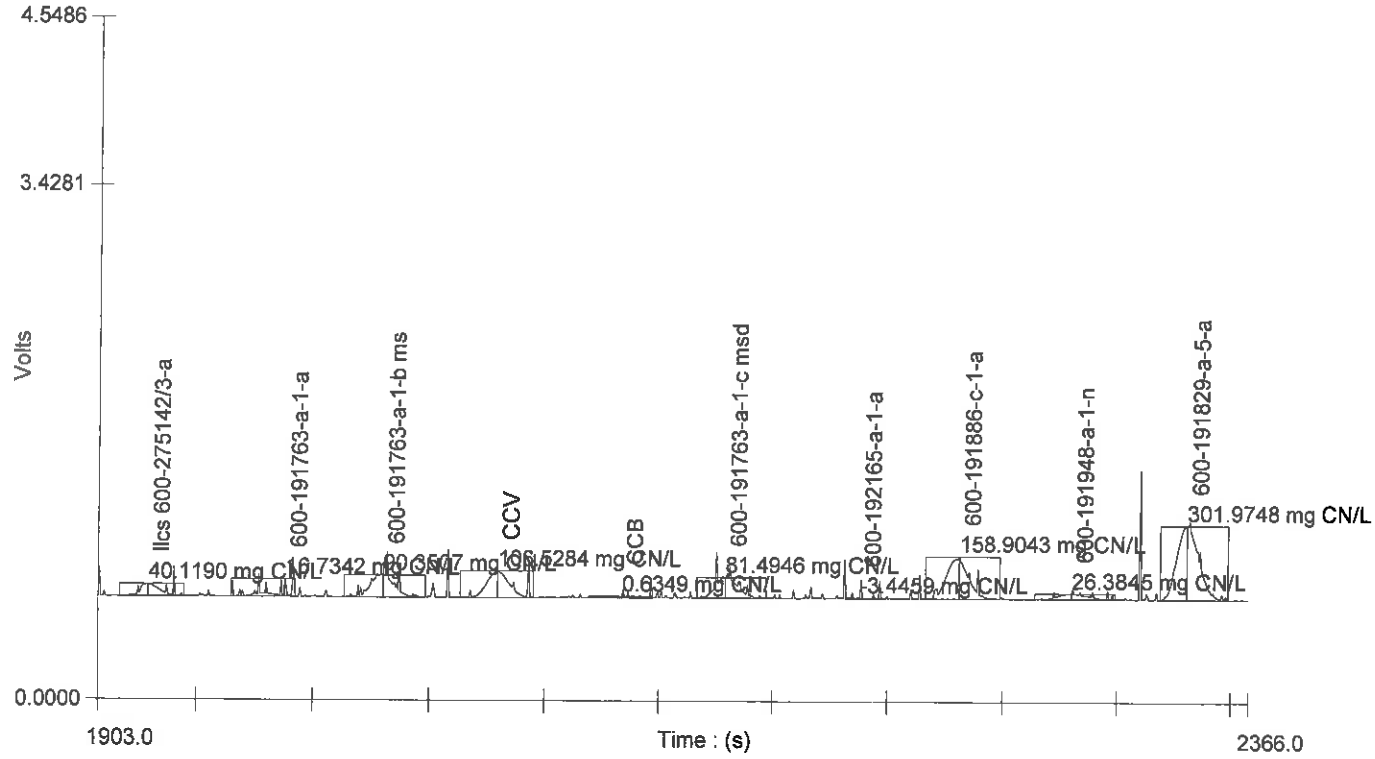

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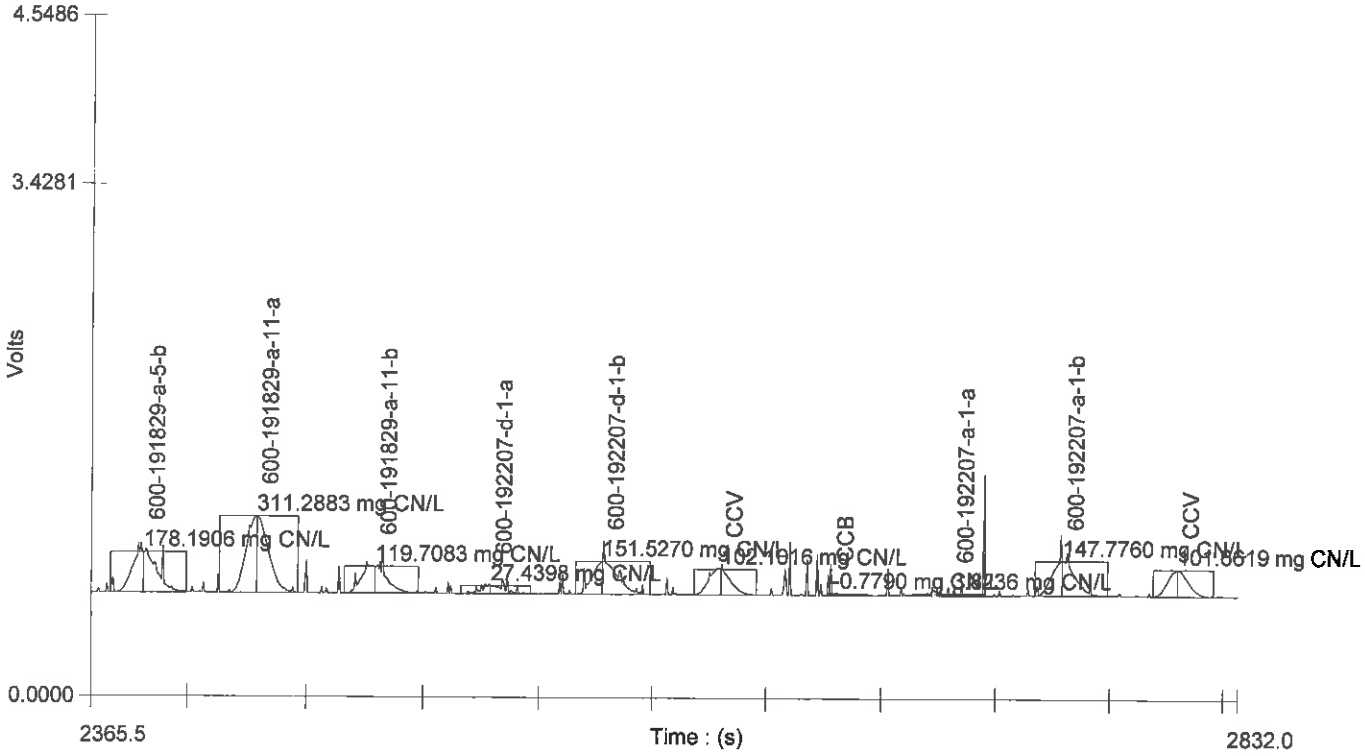

Author: Houston_Wetchem_Inst

Date : 9/18/2019

Channel 1 (Cyanide) - Set: 7 / 7

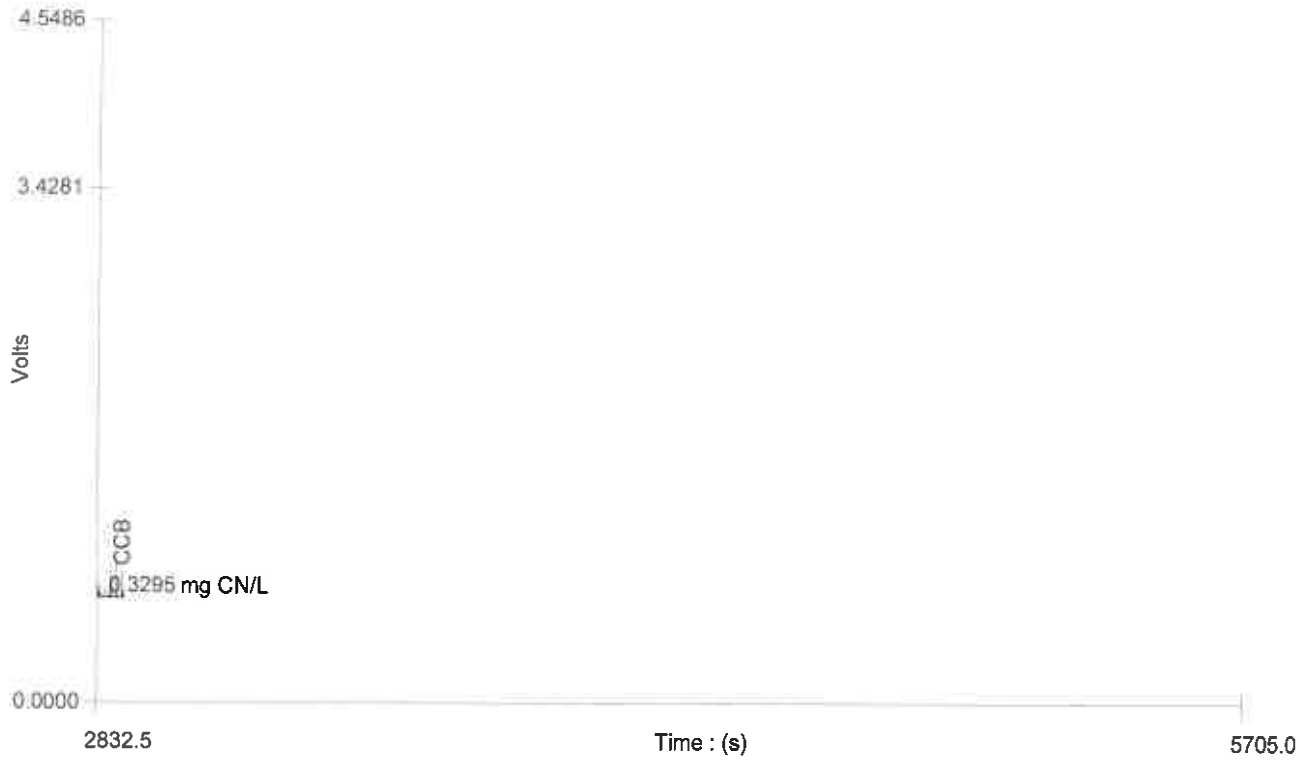

Table : 1 (Cyanide)

	Known Conc. (mg CN/L)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (mg CN/L)	Detection Date	Detection Time
1	300.0000	1	5.0219	0.4815	0.0	1.3	295.7215	9/18/2019	8:11:26 PM
2	200.0000	1	3.4469	0.3544	0.0	-1.2	202.2419	9/18/2019	8:12:13 PM
3	100.0000	1	1.7565	0.1711	0.0	-1.9	101.9062	9/18/2019	8:13:00 PM
4	40.0000	1	0.7351	0.0741	0.0	-3.1	41.2809	9/18/2019	8:13:47 PM
5	20.0000	1	0.3735	0.0355	0.0	0.8	19.8211	9/18/2019	8:14:34 PM
6	10.0000	1	0.1833	0.0160	0.0	12.0	8.5315	9/18/2019	8:15:22 PM
7	0.0000	1	0.0578	0.0112			1.0776	9/18/2019	8:16:10 PM

Figure : 1 (Cyanide)

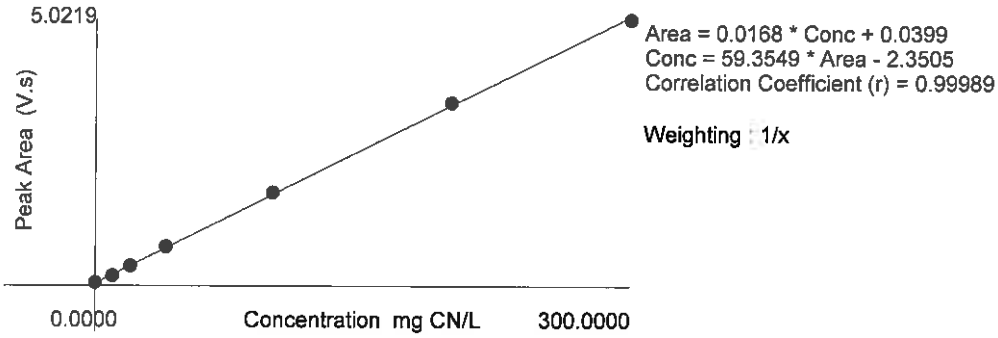

Distill_CN Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 600-275143

Analyst: Lopez, Amairani M

Batch Open: 9/18/2019 4:48:00PM

Batch End:

Distillation, Cyanide

	Input Sample Lab ID (Analytical Method)	SDG (Job #)	Matrix	Initial Amount	Final Amount	Due Date	Analytical TAT	Div Rank	Comments	Output Sample Lab ID
1	MB~600-275143/1 N/A	N/A		6.0 mL	6.0 mL	N/A	N/A	N/A		MB 600-275143/1-A
2	LCS~600-275143/2 N/A	N/A		6.0 mL	6.0 mL	N/A	N/A	N/A		LCS 600-275143/2-A
3	600-191960-A-1 (9012A)	N/A (600-191960-1)	Solid	0.540 g	6.0 mL	9/19/19	4_Days	2		600-191960-A-1-G
	600-191960-A-1~MS (9012A)	N/A (600-191960-1)	Solid	0.523 g	6.0 mL	9/19/19	4_Days	2		600-191960-A-1-H MS
	600-191960-A-1~MSD (9012A)	N/A (600-191960-1)	Solid	0.580 g	6.0 mL	9/19/19	4_Days	2		600-191960-A-1-I MSD
	600-192072-A-1 (9012B)	N/A (600-192072-1)	Solid	0.517 g	6.0 mL	9/20/19	3_Day_RUSH	2		600-192072-A-1-B
	600-191957-A-1 (9012A)	N/A (600-191957-1)	Solid	0.520 g	6.0 mL	9/19/19	4_Days	2		600-191957-A-1-L
8	600-191959-A-1 (9012A)	N/A (600-191959-1)	Solid	0.473 g	6.0 mL	9/19/19	4_Days	2		600-191959-A-1-G
9	600-191946-A-1 (9012A)	N/A (600-191946-1)	Solid	0.540 g	6.0 mL	9/19/19	4_Days	2		600-191946-A-1-K
10	600-191930-A-1 (9012B)	N/A (600-191930-1)	Solid	0.559 g	6.0 mL	9/23/19	6_Days	2		600-191930-A-1-B
11	600-191930-B-2 (9012B)	N/A (600-191930-1)	Solid	0.540 g	6.0 mL	9/23/19	6_Days	2		600-191930-B-2-B
12	600-191930-B-3 (9012B)	N/A (600-191930-1)	Solid	0.582 g	6.0 mL	9/23/19	6_Days	2		600-191930-B-3-B

Distill_CN Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 600-274977

Analyst: Lopez, Amairani M

Batch Open: 9/17/2019 10:36:00AM

Batch End:

Distillation, Cyanide

	Input Sample Lab ID (Analytical Method)	SDG (Job #)	Matrix	Initial Amount	Final Amount	Due Date	Analytical TAT	Div Rank	Comments	Output Sample Lab ID
1	MB~600-274977/1 N/A	N/A		6.0 mL	6.0 mL	N/A	N/A	N/A		MB 600-274977/1-A
2	HLCS~600-274977/2 N/A	N/A		6.0 mL	6.0 mL	N/A	N/A	N/A		HLCS 600-274977/2-A
3	LLCS~600-274977/3 N/A	N/A		6.0 mL	6.0 mL	N/A	N/A	N/A		LLCS 600-274977/3-A
	600-192009-D-4 (335.1)	N/A (600-192009-1)	Water	6.0 mL	6.0 mL	9/20/19	4_Days	2		600-192009-D-4-A
	600-192009-D-4 (335.4)	N/A (600-192009-1)	Water	6.0 mL	6.0 mL	9/20/19	4_Days	2		600-192009-D-4-A
	600-192009-D-4~MS (335.1)	N/A (600-192009-1)	Water	6.0 mL	6.0 mL	9/20/19	4_Days	2		600-192009-D-4-B MS
	600-192009-D-4~MS (335.4)	N/A (600-192009-1)	Water	6.0 mL	6.0 mL	9/20/19	4_Days	2		600-192009-D-4-B MS
6	600-192009-D-4~MSD (335.1)	N/A (600-192009-1)	Water	6.0 mL	6.0 mL	9/20/19	4_Days	2		600-192009-D-4-C MSD
6	600-192009-D-4~MSD (335.4)	N/A (600-192009-1)	Water	6.0 mL	6.0 mL	9/20/19	4_Days	2		600-192009-D-4-C MSD
7	600-191804-G-1 (335.4)	N/A (600-191804-1)	Water	6.0 mL	6.0 mL	9/19/19	6_Days	2		600-191804-G-1-A
8	600-191956-V-1 (9012B)	N/A (600-191956-1)	Water	6.0 mL	6.0 mL	9/19/19	4_Day_RUSH	4		600-191956-V-1-A
9	600-191956-V-2 (9012B)	N/A (600-191956-1)	Water	6.0 mL	6.0 mL	9/19/19	4_Day_RUSH	4		600-191956-V-2-A
10	600-191956-V-3 (9012B)	N/A (600-191956-1)	Water	6.0 mL	6.0 mL	9/19/19	4_Day_RUSH	4		600-191956-V-3-A
11	600-192006-A-1 (335.4)	N/A (600-192006-1)	Water	0.6 mL	6.0 mL	9/20/19	4_Days	2		600-192006-A-1-A

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Author: Houston_Wetchem_Inst

Date : 9/18/2019

Original Run Filename: OM_9-18-2019_08-10-49PM.OMN Created: 9/18/2019 8:10:49 PM
Original Run Author's Signature: [Houston_Wetchem_Inst]
Current Run Filename: OM_9-18-2019_08-10-49PM.OMN Last Modified: 9/18/2019 8:59:21 PM
Current Run Author's Signature: [Houston_Wetchem_Inst]
Description: 10-204-00-1-A

Sample (Avg. Only)	Cup No.	Channel 1 Cyanide Conc. (mg CN/L)	Area (V.s)	Height (V)	
300 PPB	S1	300.0000	5.0219	0.4815	
200 PPB	S2	200.0000	3.4469	0.3544	
100 PPB	S3	100.0000	1.7565	0.1711	
40 PPB	S4	40.0000	0.7351	0.0741	
20 PPB	S5	20.0000	0.3735	0.0355	
10 PPB	S6	10.0000	0.1833	0.0160	
0 PPB	S7	0.0000	0.0578	0.0112	
ICV	1	109.1037	1.8778	0.1744	
	Calibration:	Table/Fig. : 1			
ICB	2	-2.5295	-0.0030	-0.0016	
mb 600-275143/1-a	3	-1.3328	0.0171	0.0028	
lcs 600-275143/2-a	4	102.2108	1.7616	0.1684	
600-191960-a-1-g	5	4.4323	0.1143	0.0089	
600-191960-a-1-h ms	6	95.4600	1.6479	0.1687	
600-191960-a-1-i msd	7	98.2600	1.6951	0.1787	
600-192072-a-1-b	8	921.2740	15.5610	1.5790	rerun @10xdilution
600-191957-a-1-l	9	10.6094	0.2183	0.0215	
600-191959-a-1-g	10	0.5883	0.0495	0.0065	
600-191946-a-1-k	11	3.4172	0.0972	0.0075	
600-191930-a-1-b	12	203.7549	3.4724	0.3476	
CCV	13	105.9630	1.8248	0.1816	
CCB	14	-1.1152	0.0208	0.0380	
600-191930-b-2-b	15	1615.8445	27.2630	2.7395	rerun @20xdilution
600-191930-b-3-b	16	79.0132	1.3708	0.1294	
600-192072-a-1-b@10	17	173.1400	2.9566	0.3121	
mb 600-274977/1-a	18	1.1819	0.0595	0.0059	
hlcs 600-274977/2-a	19	311.8427	5.2935	0.5229	
llcs 600-274977/3-a	20	37.3553	0.6690	0.0694	
600-192009-d-4-a	21	2.9522	0.0893	0.0088	
600-192009-d-4-b ms	22	103.2676	1.7794	0.2038	
600-192009-d-4-c msd	23	104.0040	1.7918	0.1776	
600-191804-g-1-a	24	41.4184	0.7374	0.0693	
CCV	25	104.9962	1.8086	0.1845	
CCB	26	-2.2583	0.0016	-0.0022	
600-191956-v-1-a	27	2.8067	0.0869	0.0057	
600-191956-v-2-a	28	1.9553	0.0725	0.0080	
600-191956-v-3-a	29	0.5304	0.0485	0.0044	
600-192006-a-1-a	30	9.0812	0.1926	0.0505	
600-191930-b-2-b@20	31	163.7308	2.7981	0.2922	
mb 600-275142/1-a	32	2.2025	0.0767	0.0061	
hlcs 600-275142/2-a	33	307.5300	5.2208	0.5209	
llcs 600-275142/3-a	34	40.1190	0.7155	0.0818	
600-191763-a-1-a	35	16.7342	0.3215	0.1171	
600-191763-a-1-b ms	36	90.3507	1.5618	0.1467	
CCV	37	106.5284	1.8344	0.1778	
CCB	38	0.6349	0.0503	0.0093	
600-191763-a-1-c msd	39	81.4946	1.4126	0.1369	
600-192165-a-1-a	40	-3.4459	-0.0185	0.0036	
600-191886-c-1-a	41	158.9043	2.7168	0.2810	
600-191948-a-1-n	42	26.3845	0.4841	0.0357	
600-191829-a-5-a	43	301.9748	5.1272	0.4943	Amm-CN
600-191829-a-5-b	44	178.1906	3.0417	0.2699	Amm CN chlorinated
600-191829-a-11-a	45	311.2883	5.2841	0.5138	Amm CN
600-191829-a-11-b	46	119.7083	2.0564	0.1790	Amm CN chlorinated
600-192207-d-1-a	47	27.4398	0.5019	0.0527	Total preserved
600-192207-d-1-b	48	151.5270	2.5925	0.2193	total preserved chlorinated
CCV	49	102.1016	1.7598	0.1709	
CCB	50	-0.7790	0.0265	0.0111	

Author: Houston_Wetchem_Inst

Date : 9/18/2019

600-192207-a-1-a	51	3.8236	0.1040	0.0099
600-192207-a-1-b	52	147.7760	2.5293	0.2308
CCV	53	101.6619	1.7524	0.1777
CCB	54	0.3295	0.0452	0.0030

Total unpreserved
Total unpreserved chlorinated

Channel 1 (Cyanide) - Set: 1 / 7

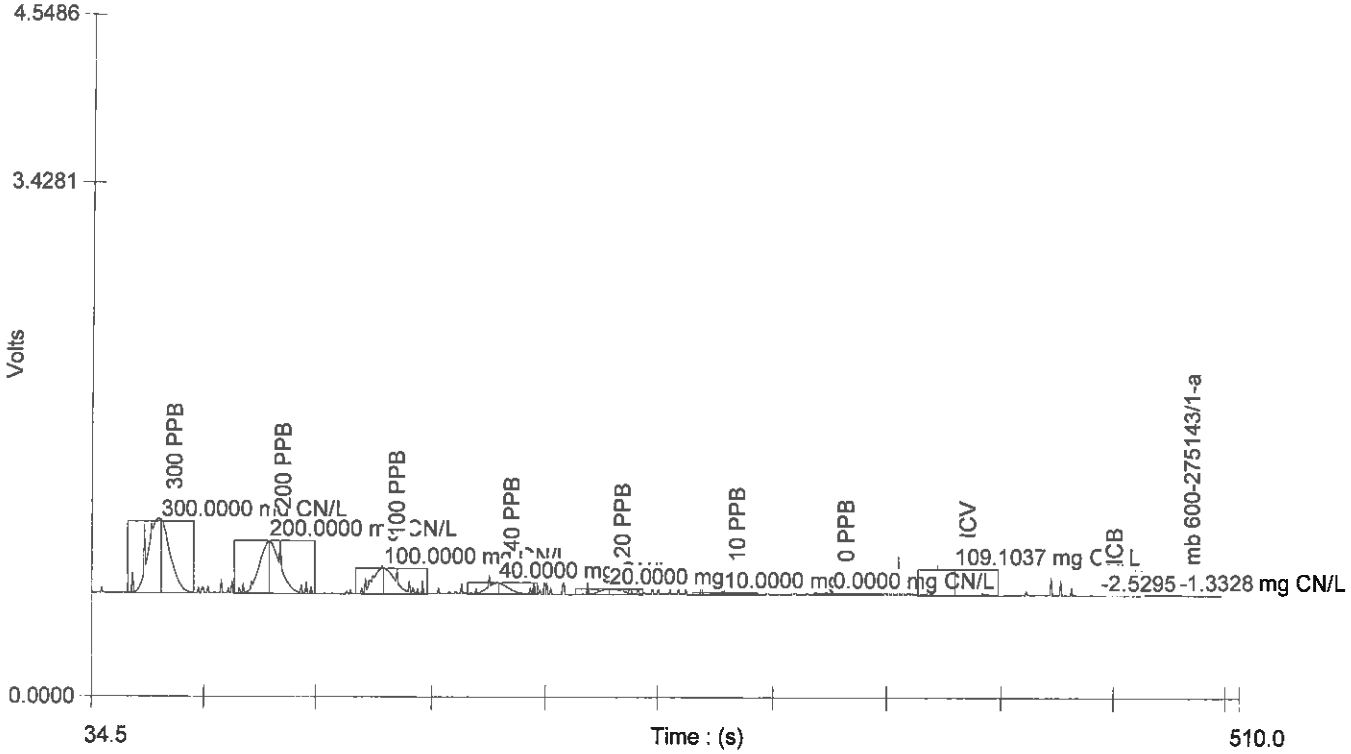

Author: Houston_Wetchem_Inst

Date : 9/18/2019

Channel 1 (Cyanide) - Set: 2 / 7

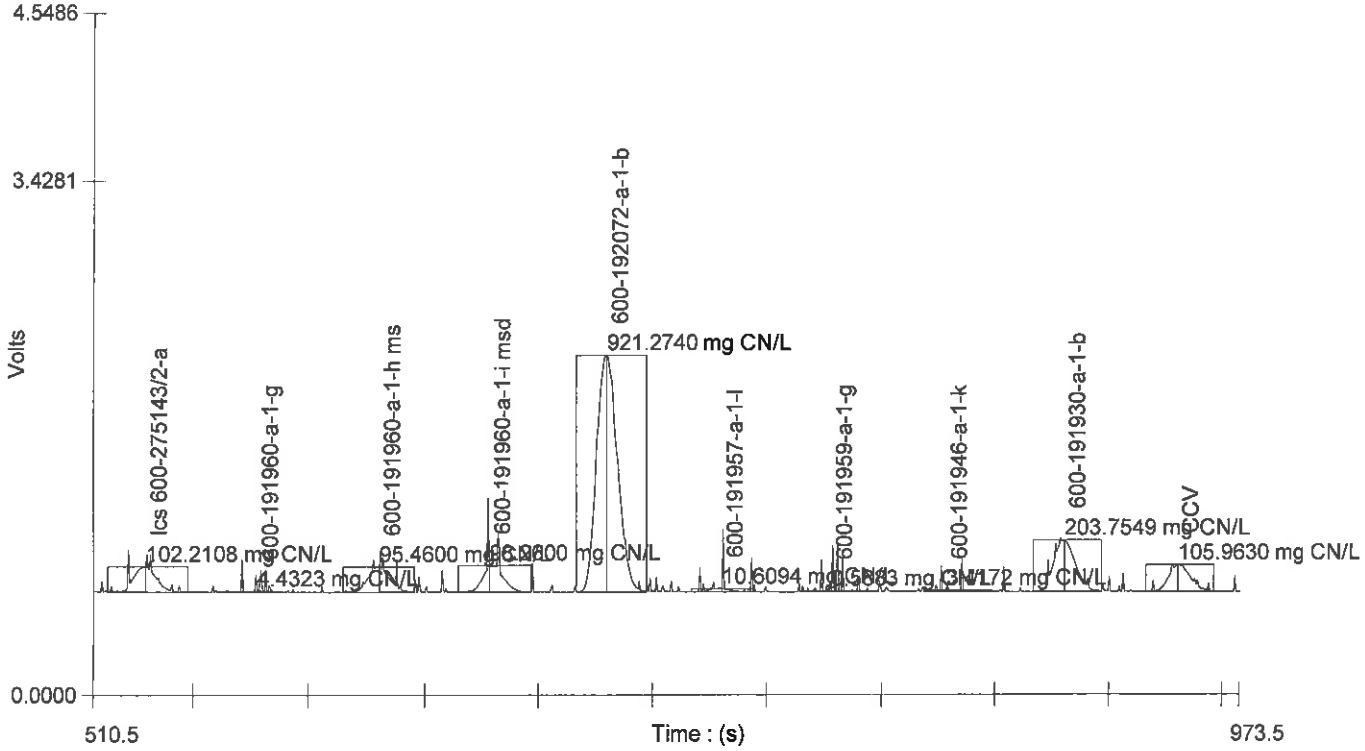

Channel 1 (Cyanide) - Set: 3 / 7

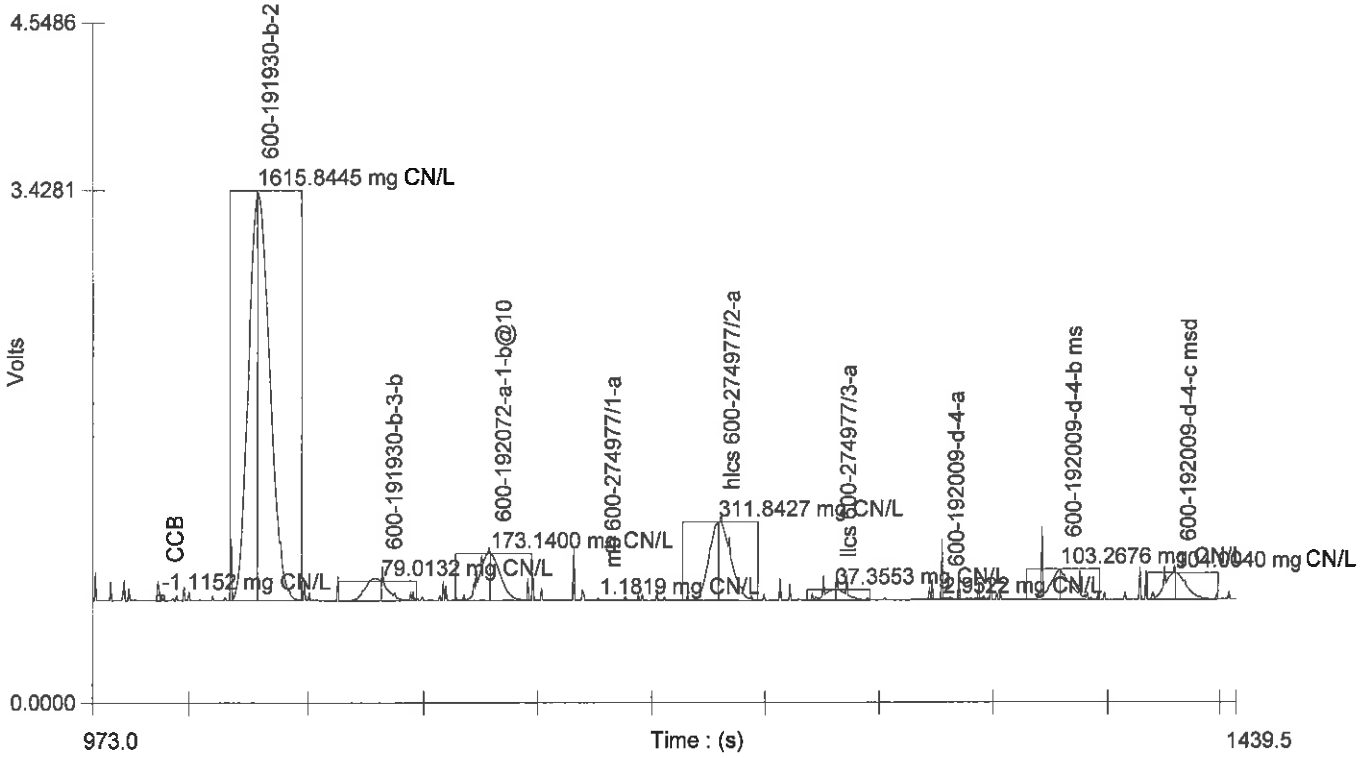

Author: Houston_Wetchem_Inst

Date : 9/18/2019

Channel 1 (Cyanide) - Set: 4 / 7

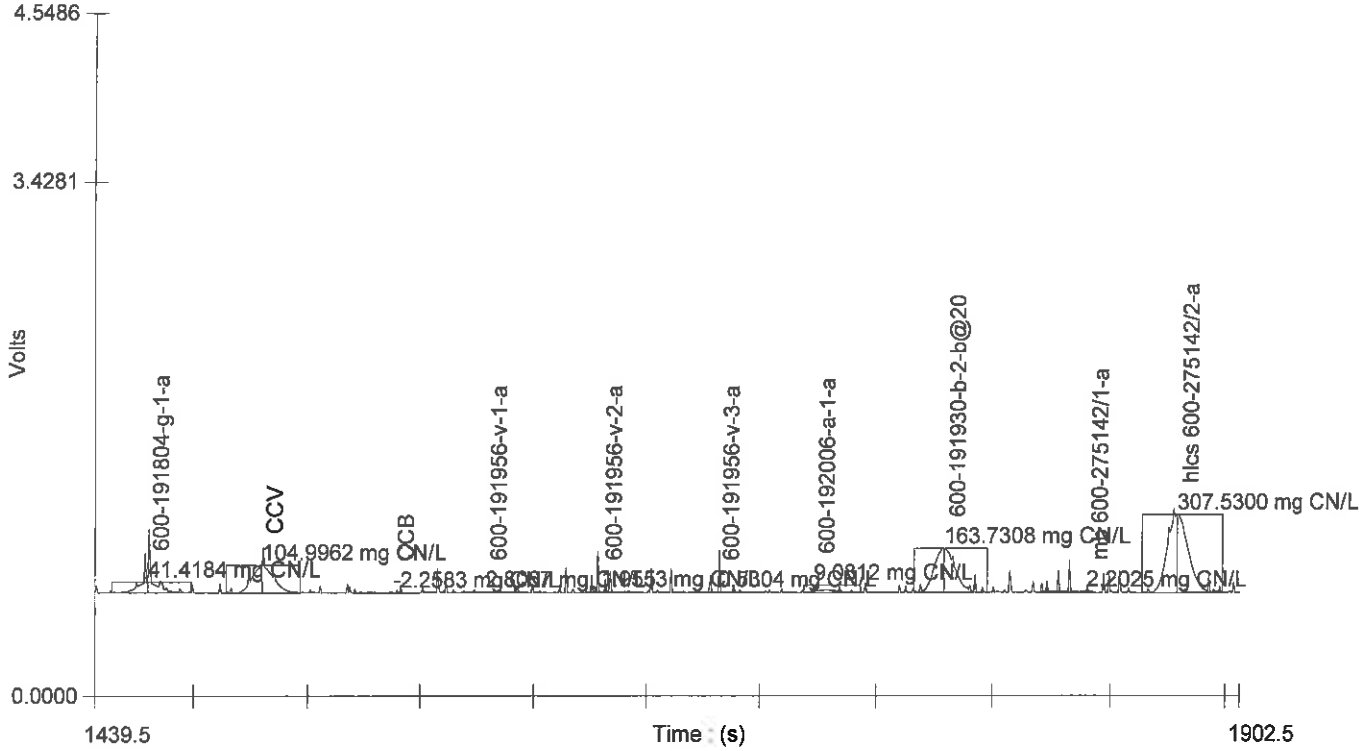

Author: Houston_Wetchem_Inst

Date : 9/18/2019

Channel 1 (Cyanide) - Set: 5 / 7

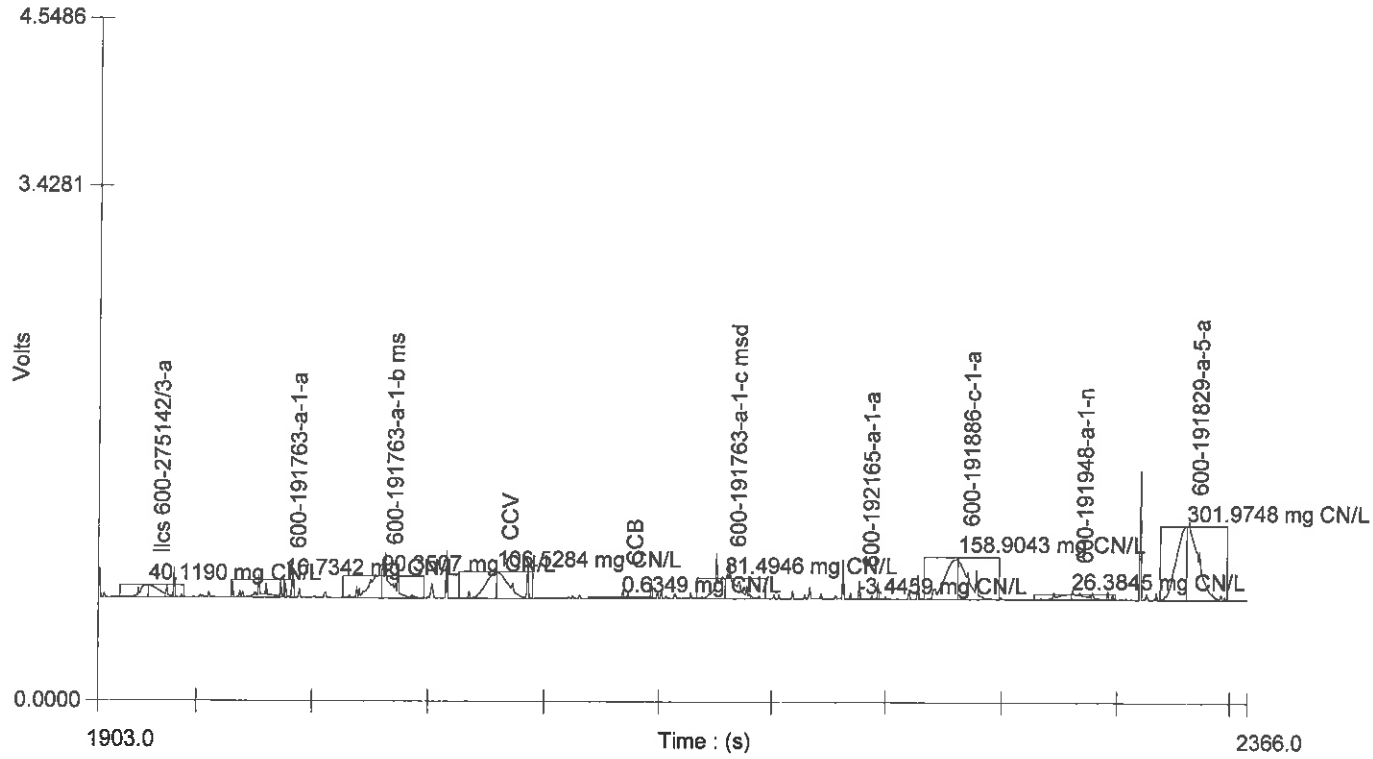

Channel 1 (Cyanide) - Set: 6 / 7

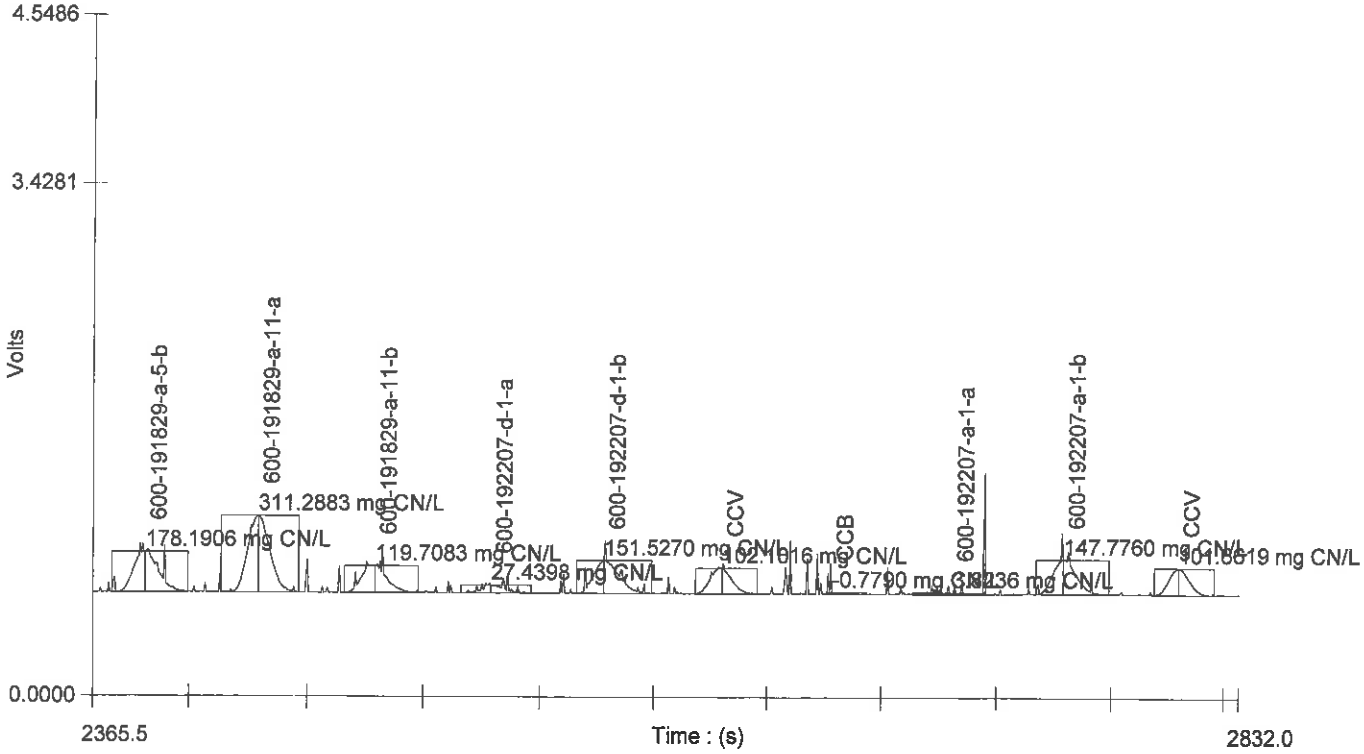

Author: Houston_Wetchem_Inst

Date : 9/18/2019

Channel 1 (Cyanide) - Set: 7 / 7

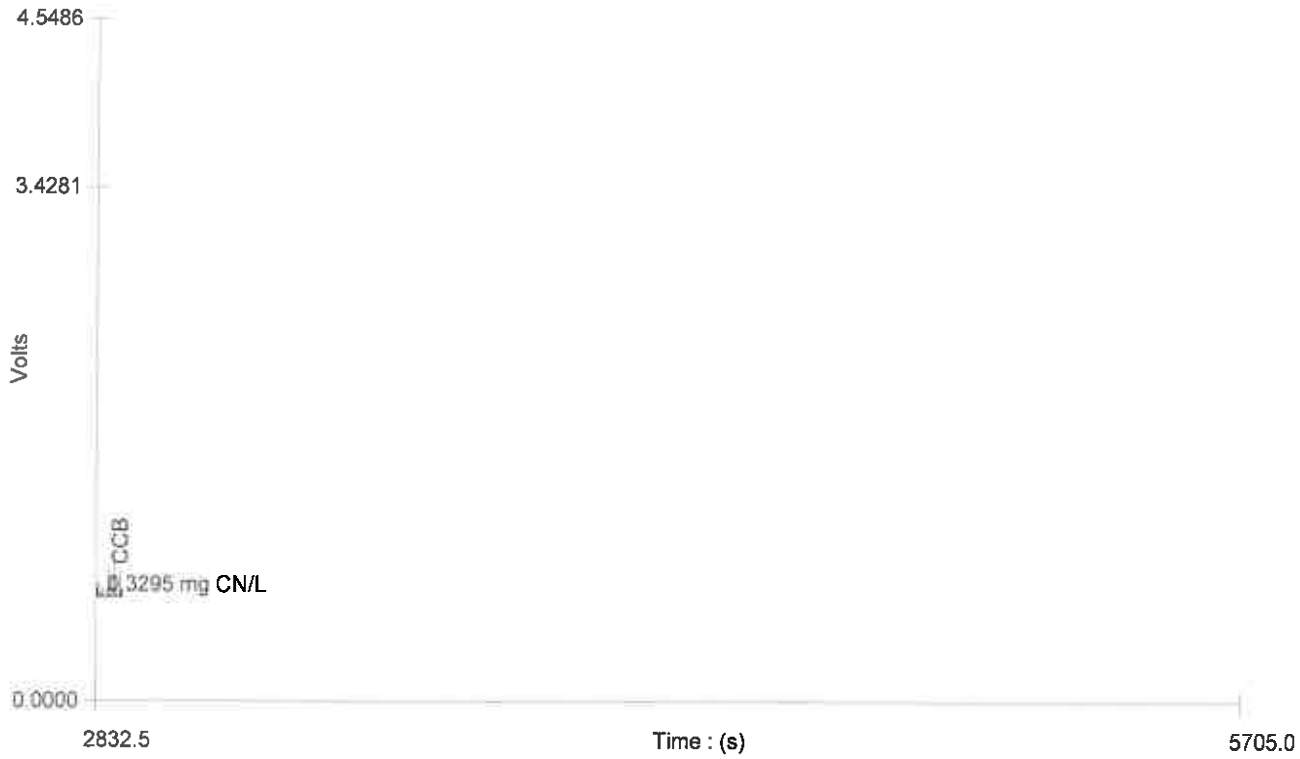

Table : 1 (Cyanide)

	Known Conc. (mg CN/L)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (mg CN/L)	Detection Date	Detection Time
1	300.0000	1	5.0219	0.4815	0.0	1.3	295.7215	9/18/2019	8:11:26 PM
2	200.0000	1	3.4469	0.3544	0.0	-1.2	202.2419	9/18/2019	8:12:13 PM
3	100.0000	1	1.7565	0.1711	0.0	-1.9	101.9062	9/18/2019	8:13:00 PM
4	40.0000	1	0.7351	0.0741	0.0	-3.1	41.2809	9/18/2019	8:13:47 PM
5	20.0000	1	0.3735	0.0355	0.0	0.8	19.8211	9/18/2019	8:14:34 PM
6	10.0000	1	0.1833	0.0160	0.0	12.0	8.5315	9/18/2019	8:15:22 PM
7	0.0000	1	0.0578	0.0112			1.0776	9/18/2019	8:16:10 PM

Figure : 1 (Cyanide)

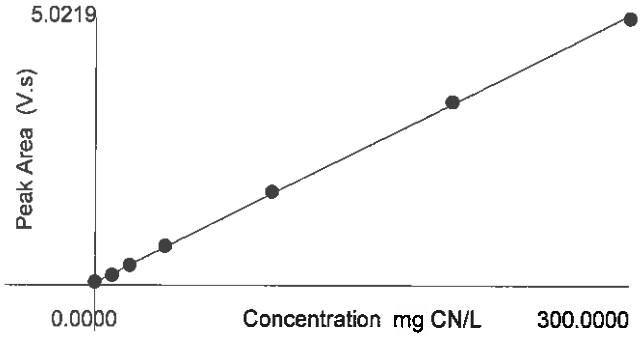

Area = 0.0168 * Conc + 0.0399
Conc = 59.3549 * Area - 2.3505
Correlation Coefficient (r) = 0.99989

Weighting : 1/x

Distill_CN Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 600-275143

Analyst: Lopez, Amairani M

Batch Open: 9/18/2019 4:48:00PM

Batch End:

Distillation, Cyanide

	Input Sample Lab ID (Analytical Method)	SDG (Job #)	Matrix	Initial Amount	Final Amount	Due Date	Analytical TAT	Div Rank	Comments	Output Sample Lab ID
1	MB~600-275143/1 N/A	N/A		6.0 mL	6.0 mL	N/A	N/A	N/A		MB 600-275143/1-A
2	LCS~600-275143/2 N/A	N/A		6.0 mL	6.0 mL	N/A	N/A	N/A		LCS 600-275143/2-A
3	600-191960-A-1 (9012A)	N/A (600-191960-1)	Solid	0.540 g	6.0 mL	9/19/19	4_Days	2		600-191960-A-1-G
4	600-191960-A-1~MS (9012A)	N/A (600-191960-1)	Solid	0.523 g	6.0 mL	9/19/19	4_Days	2		600-191960-A-1-H MS
5	600-191960-A-1~MSD (9012A)	N/A (600-191960-1)	Solid	0.580 g	6.0 mL	9/19/19	4_Days	2		600-191960-A-1-I MSD
6	600-192072-A-1 (9012B)	N/A (600-192072-1)	Solid	0.517 g	6.0 mL	9/20/19	3_Day_RUSH	2		600-192072-A-1-B
7	600-191957-A-1 (9012A)	N/A (600-191957-1)	Solid	0.520 g	6.0 mL	9/19/19	4_Days	2		600-191957-A-1-L
8	600-191959-A-1 (9012A)	N/A (600-191959-1)	Solid	0.473 g	6.0 mL	9/19/19	4_Days	2		600-191959-A-1-G
9	600-191946-A-1 (9012A)	N/A (600-191946-1)	Solid	0.540 g	6.0 mL	9/19/19	4_Days	2		600-191946-A-1-K
10	600-191930-A-1 (9012B)	N/A (600-191930-1)	Solid	0.559 g	6.0 mL	9/23/19	6_Days	2		600-191930-A-1-B
11	600-191930-B-2 (9012B)	N/A (600-191930-1)	Solid	0.540 g	6.0 mL	9/23/19	6_Days	2		600-191930-B-2-B
12	600-191930-B-3 (9012B)	N/A (600-191930-1)	Solid	0.582 g	6.0 mL	9/23/19	6_Days	2		600-191930-B-3-B

Distill_CN Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 600-274977

Analyst: Lopez, Amairani M

Batch Open: 9/17/2019 10:36:00AM

Batch End:

Distillation, Cyanide

	Input Sample Lab ID (Analytical Method)	SDG (Job #)	Matrix	Initial Amount	Final Amount	Due Date	Analytical TAT	Div Rank	Comments	Output Sample Lab ID
1	MB~600-274977/1 N/A	N/A		6.0 mL	6.0 mL	N/A	N/A	N/A		MB 600-274977/1-A
2	HLCS~600-274977/2 N/A	N/A		6.0 mL	6.0 mL	N/A	N/A	N/A		HLCS 600-274977/2-A
3	LLCS~600-274977/3 N/A	N/A		6.0 mL	6.0 mL	N/A	N/A	N/A		LLCS 600-274977/3-A
	600-192009-D-4 (335.1)	N/A (600-192009-1)	Water	6.0 mL	6.0 mL	9/20/19	4_Days	2		600-192009-D-4-A
	600-192009-D-4 (335.4)	N/A (600-192009-1)	Water	6.0 mL	6.0 mL	9/20/19	4_Days	2		600-192009-D-4-A
	600-192009-D-4~MS (335.1)	N/A (600-192009-1)	Water	6.0 mL	6.0 mL	9/20/19	4_Days	2		600-192009-D-4-B MS
	600-192009-D-4~MS (335.4)	N/A (600-192009-1)	Water	6.0 mL	6.0 mL	9/20/19	4_Days	2		600-192009-D-4-B MS
6	600-192009-D-4~MSD (335.1)	N/A (600-192009-1)	Water	6.0 mL	6.0 mL	9/20/19	4_Days	2		600-192009-D-4-C MSD
6	600-192009-D-4~MSD (335.4)	N/A (600-192009-1)	Water	6.0 mL	6.0 mL	9/20/19	4_Days	2		600-192009-D-4-C MSD
7	600-191804-G-1 (335.4)	N/A (600-191804-1)	Water	6.0 mL	6.0 mL	9/19/19	6_Days	2		600-191804-G-1-A
8	600-191956-V-1 (9012B)	N/A (600-191956-1)	Water	6.0 mL	6.0 mL	9/19/19	4_Day_RUSH	4		600-191956-V-1-A
9	600-191956-V-2 (9012B)	N/A (600-191956-1)	Water	6.0 mL	6.0 mL	9/19/19	4_Day_RUSH	4		600-191956-V-2-A
10	600-191956-V-3 (9012B)	N/A (600-191956-1)	Water	6.0 mL	6.0 mL	9/19/19	4_Day_RUSH	4		600-191956-V-3-A
11	600-192006-A-1 (335.4)	N/A (600-192006-1)	Water	0.6 mL	6.0 mL	9/20/19	4_Days	2		600-192006-A-1-A

Distill_CN Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 600-275142

Analyst: Lopez, Amairani M

Batch Open: 9/18/2019 4:40:00PM

Batch End:

Distillation, Cyanide

	Input Sample Lab ID (Analytical Method)	SDG (Job #)	Matrix	Initial Amount	Final Amount	Due Date	Analytical TAT	Div Rank	Comments	Output Sample Lab ID
1	MB~600-275142/1 N/A	N/A		6.0 mL	6.0 mL	N/A	N/A	N/A		MB 600-275142/1-A
2	HLCS~600-275142/2 N/A	N/A		6.0 mL	6.0 mL	N/A	N/A	N/A		HLCS 600-275142/2-A
3	LLCS~600-275142/3 N/A	N/A		6.0 mL	6.0 mL	N/A	N/A	N/A		LLCS 600-275142/3-A
	600-191763-A-1 (335.4)	N/A (600-191763-1)	Water	6.0 mL	6.0 mL	9/18/19	5_Day_RUSH	2		600-191763-A-1-A
	600-191763-A-1~MS (335.4)	N/A (600-191763-1)	Water	6.0 mL	6.0 mL	9/18/19	5_Day_RUSH	2		600-191763-A-1-B MS
	600-191763-A-1~MSD (335.4)	N/A (600-191763-1)	Water	6.0 mL	6.0 mL	9/18/19	5_Day_RUSH	2		600-191763-A-1-C MSD
	600-192165-A-1 (335.4)	N/A (600-192165-1)	Water	6.0 mL	6.0 mL	9/19/19	24_Hour_RUSH	2		600-192165-A-1-A
8	600-191886-C-1 (335.4)	N/A (600-191886-1)	Water	6.0 mL	6.0 mL	9/25/19	9_Days	2		600-191886-C-1-A
9	600-191948-A-1 (9012A)	N/A (600-191948-1)	Water	0.6 mL	6.0 mL	9/19/19	4_Days	2		600-191948-A-1-N
10	600-191829-A-5 (335.1)	N/A (600-191829-1)	Water	6.0 mL	6.0 mL	9/30/19	12_Days	4	Am CN	600-191829-A-5-A
10	600-191829-A-5 (335.4)	N/A (600-191829-1)	Water	6.0 mL	6.0 mL	9/30/19	12_Days	4		600-191829-A-5-A
11	600-191829-A-5 (335.1)	N/A (600-191829-1)	Water	6.0 mL	6.0 mL	9/30/19	12_Days	4	Am CN chlor	600-191829-A-5-B
11	600-191829-A-5 (335.4)	N/A (600-191829-1)	Water	6.0 mL	6.0 mL	9/30/19	12_Days	4		600-191829-A-5-B
12	600-191829-A-11 (335.1)	N/A (600-191829-1)	Water	6.0 mL	6.0 mL	9/30/19	12_Days	4	Am CN	600-191829-A-11-A

Distill_CN Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 600-275142 Analyst: Lopez, Amairani M Batch Open: 9/18/2019 4:40:00PM

Batch End:

12	600-191829-A-11 (335.4)	N/A (600-191829-1)	Water	6.0 mL	6.0 mL	9/30/19	12_Days	4		600-191829-A-11-A
13	600-191829-A-11 (335.1)	N/A (600-191829-1)	Water	6.0 mL	6.0 mL	9/30/19	12_Days	4	Am CN chlor	600-191829-A-11-B
13	600-191829-A-11 (335.4)	N/A (600-191829-1)	Water	6.0 mL	6.0 mL	9/30/19	12_Days	4		600-191829-A-11-B
14	600-192207-D-1 N/A	N/A				N/A	N/A	N/A	Pre Total	600-192207-D-1-A
15	600-192207-D-1 N/A	N/A				N/A	N/A	N/A	Pre Chlo Total	600-192207-D-1-B
16	600-192207-A-1 N/A	N/A				N/A	N/A	N/A	unpre. Total	600-192207-A-1-A
	600-192207-A-1 N/A	N/A				N/A	N/A	N/A	chlori unp Total	600-192207-A-1-B

Curve Type:	Linear
Weighting:	None
Origin:	None
Dependency:	Concentration
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	-0.01536
Slope:	0.9889

Error Coefficients

Standard Error:	0.0213
Relative Standard Error:	68.0
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.995 (0.995)

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	Calib 600-250191/1	0.0	0.0			NaN	Y
2	Calib 600-250191/2	0.01	0.012			1.2	Y
3	Calib 600-250191/3	0.05	0.065			1.3	Y
4	Calib 600-250191/4	0.1	0.129			1.29	Y
5	Calib 600-250191/5	0.3	0.348			1.16	Y
6	Calib 600-250191/6	0.5	0.536			1.072	Y
7	Calib 600-250191/7	0.75	0.748			0.997333	Y

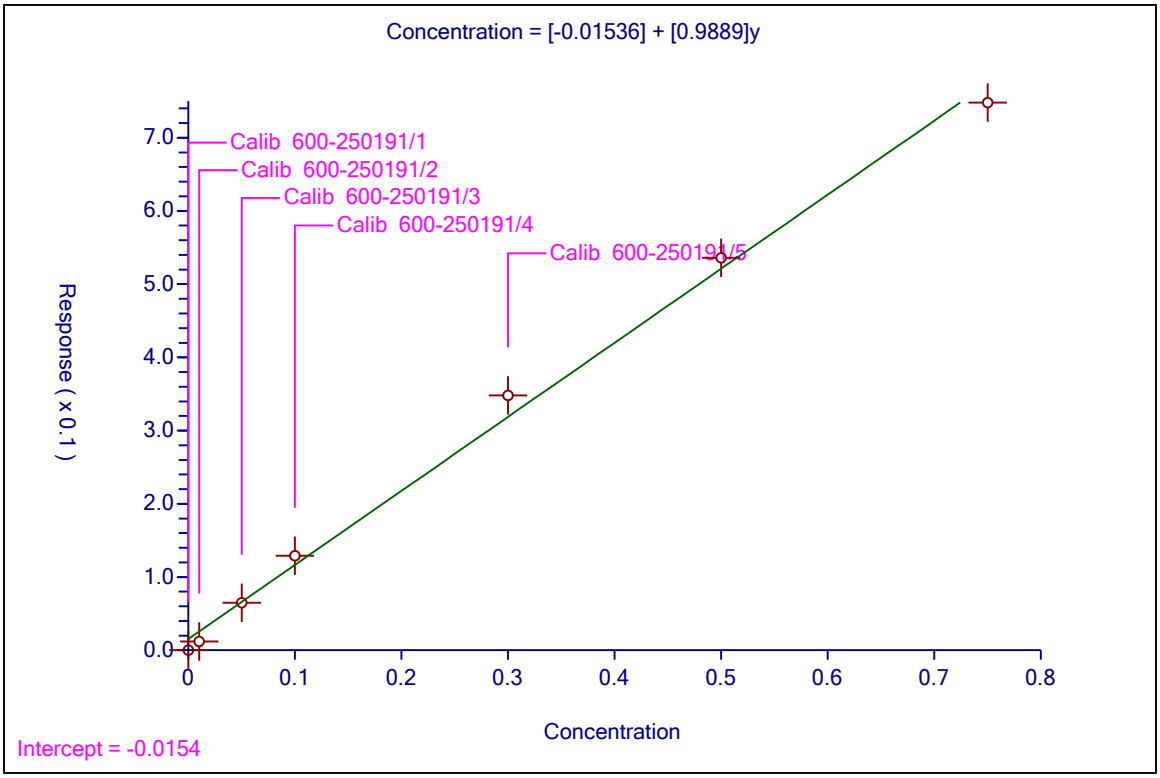

Curve Type:	Linear
Weighting:	None
Origin:	None
Dependency:	Concentration
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0.0002423
Slope:	1.61

Error Coefficients

Standard Error:	0.000316
Relative Standard Error:	0.5
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	1.000 (1.000)

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 600-256660/1-A	0.0	0.0			NaN	Y
2	IC 600-256660/2-A	0.01	0.006			0.6	Y
3	IC 600-256660/3-A	0.05	0.031			0.62	Y
4	IC 600-256660/4-A	0.1	0.062			0.62	Y
5	IC 600-256660/5-A	0.25	0.155			0.62	Y
6	IC 600-256660/6-A	0.5	0.31			0.62	Y
7	IC 600-256660/7-A	1.0	0.621			0.621	Y

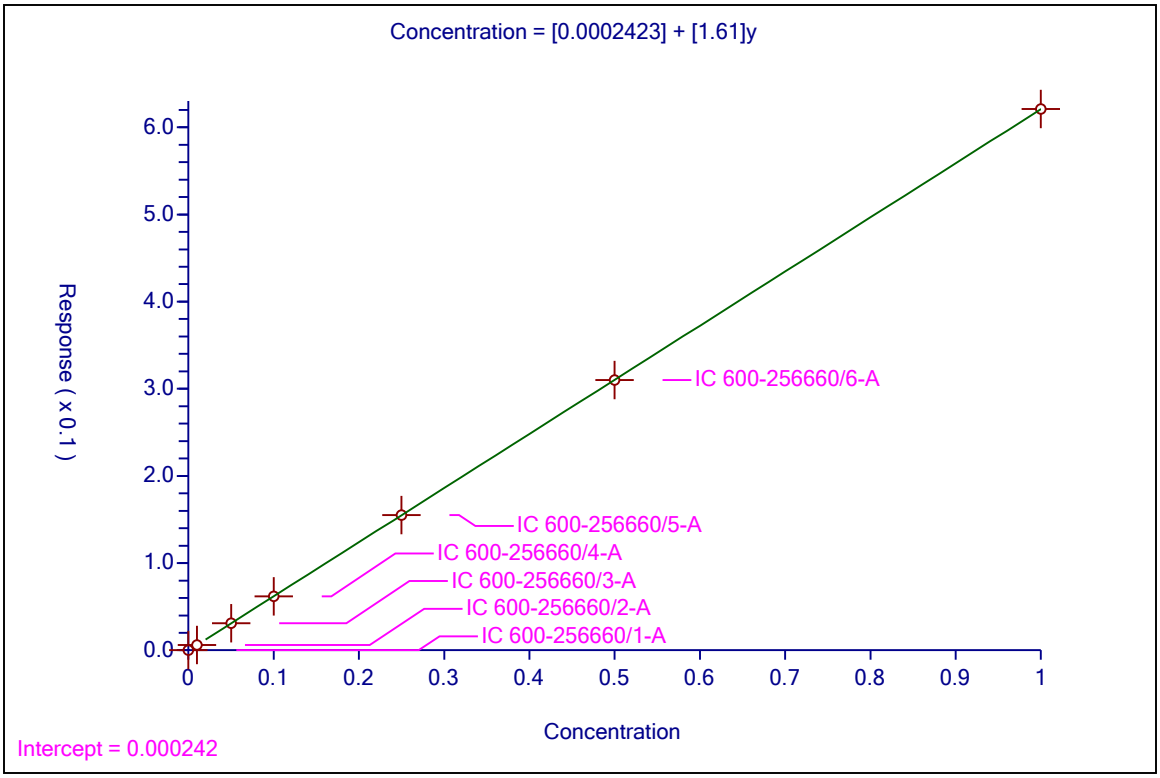

TestAmerica Houston - Alkalinity by Titrimetry

Date/Time: 9/16/19 11:00 Analyst: DN Batch #: 274896 H_2SO_4 Normality: 0.0930980

0.02 N H_2SO_4 ID: N/A 0.1 N H_2SO_4 ID: 2744048 0.05N Na_2CO_3 ID(MS): N/A

Buffer IDs: 4: 2934781 7: 3096380 10: 2738590 7 (ICV): 3065255 LCS/ICV ID: 3182255

Sample ID	Sample Vol. (mL)	Sample pH	Buret Reading to 8.3	Buret Reading to 4.5	Total Alkalinity	P Alkalinity	HCO3 Alkalinity	CO3 Alkalinity	OH Alkalinity
Buffer 7.00	50	7.00						Slope= 97.1%	
Buffer 4.00	50	4.00							
Buffer 10.00	50	10.00							
7.00 (2nd Source)	50	7.00							
0.05 N Na_2CO_3	15	10.79		7.6					
MB	100	6.91		0.01	0.93098				
LCS/ICV (TV= 1000)	5	10.20		1.0	93.098				
600 191797-C2	50	8.24		5.1	474.7998				
-C2du	50	8.27		5.2	484.1096				
191797-C3	50	8.58	0.2	10.4	986.8386				
191956-S1	50	8.01		2.5	232.745				
↓ -S2	50	7.14		11.00	1024.078				
↓ -S3	50	8.22		1.9	176.886				
191918-A9	50	6.66		3.9	383.082				
↓ -A10	50	4.02		0.0	0				
191501-A4	50	8.05		1.1	102.4078				
↓ -A5	50	6.69		0.02	1.86196				
191643-B1	50	9.30	17.8	5.9	2206.42				
600 191854-A1	50	7.03		2.0	186.196				
-A1du	50	7.01		2.0	186.196				
-A4	50	7.22		4.1	381.701				
-A5	50	7.06		2.1	195.505				
-A6	50	6.95		2.4	223.435				
-A7	50	7.15		7.5	698.235				
-A8	50	7.24		17.0	1582.666				
~~-A9~~	~~50~~								
DN ~~-A10~~	~~50~~								
9/16/19 ~~-A2~~	~~50~~								
~~-A3~~	~~50~~								
			DN 9/16/19						

WET114 Rev. 18 6/11

Reviewed By: [illegible] 9/16/19

BOD 274757
CBOD 274758

PC-BOD Final Report

Flag Definitions

SR	Standard - Out of range
SAR	Standard average out of range
bSS	Blank supersaturated
bDe	Blank - Depletion
cD	Seed - Depletion
cF	Seed - Final DO
cR	Seed - Range
sD	
sF	Sample Limit - Depletion
	Sample Limit - Final DO
gF	Group Failure - Final DO
gD	Group Failure - Depletion
gT	Group Failure - Toxicity
In+	
In-	Incubation too long
iT	Incubation too short
fT	Intial temperature out of range
	Final temperature out of range

Initials Operator:

Finals Operator:

Run Number: 14472

OrderNumber: PC_BOD_20190913-4

Start Time: 2:27 PM

Start Date: 9/13/2019

Finish Time: 12:33 PM

Finish Date: 9/18/2019

Correction Factor: 1.00

BOD Blank Average Depletion: -.02

CBOD Blank Average Depletion: .00

BOD Seed Correction: (per ml of seed) 0.274388889

CBOD Seed Correction: (per ml of seed) 0.249777778

Initial Cal Reading: 9.00

Initial Pressure: .00 mmHg

Final Cal Reading: 9.00

Final Pressure: .00 mmHg

Rack #	Bottle #	Sample Name	Sample ID	Predilution Factor	Sample Volume	Seed Volume	Initial DO	Initial Temp	Final DO	Final Temp	Depletion	BOD\ CBOD	BOD\CBOD Average	Flags
266	1	rinse blk		1.00	.00	.00	8.51	19.60	6.61	17.20	1.90	< .00	0.00	sD
266	2	rinse blk		1.00	.00	.00	8.47	20.00	8.30	17.30	.17	< .00	< 2.00	sDgD
266	3	usb		1.00	.00	.00	8.44	20.10	8.46	17.30	-.02	.00	0.00	
266	4	scb		1.00	.00	10.00	8.34	19.90	5.65	17.30	2.69	.00	~~0.00~~	
266	5	scb		1.00	.00	15.00	8.28	19.80	4.04	17.30	4.24	.00	0.00	In-
266	6	scb		1.00	.00	20.00	8.27	19.70	2.84	17.30	5.43	.00	0.00	In-
266	7	GGA_BOD		1.00	6.00	3.00	8.42	19.90	3.47	17.20	4.95	206.34	0.00	In-
266	8	GGA_BOD		1.00	6.00	3.00	8.38	20.10	3.57	17.20	4.81	199.34	0.00	In-
266	9	GGA_BOD		1.00	6.00	3.00	8.37	20.10	3.47	17.20	4.90	203.84	203.17	In-
266	10	scb		1.00	.00	10.00	8.36	19.90	5.83	17.20	2.53	.00	0.00	In-
266	11	scb		1.00	.00	15.00	8.32	19.90	4.67	17.20	3.65	.00	0.00	In-
266	12	scb		1.00	.00	20.00	8.29	19.80	3.23	17.20	5.06	.00	0.00	In-
266	13	GGA_cBOD		1.00	6.00	3.00	8.44	20.00	3.52	17.10	4.92	208.53	0.00	In-
266	14	GGA_cBOD		1.00	6.00	3.00	8.39	20.10	3.52	17.10	4.87	206.03	0.00	In-

0.85 0.82

0.75

9/18/19

Rack #	Bottle #	Sample Name	Sample ID	Predilution Factor	Sample Volume	Seed Volume	Initial DO	Initial Temp	Final DO	Final Temp	Depletion	BOD\ CBOD	BOD\CBOD Average	Flags
266	15	GGA_cBOD		1.00	6.00	3.00	8.38	20.20	3.43	17.00	4.95	210.03	208.20	In-
266	16	Paradox BOD	600-191898-B-1	1.00	.50	3.00	8.40	20.10	7.28	17.10	1.12	< 178.10	0.00	In- sD
266	17	Paradox BOD		1.00	1.00	3.00	8.39	20.20	6.98	17.20	1.41	< 176.05	0.00	In- sD
266	18	Paradox BOD		1.00	3.00	3.00	8.38	20.20	5.34	17.10	3.04	221.68	221.68	In-
266	19	Sweeny BOD	600-191891-B-1	1.00	10.00	3.00	8.38	20.10	7.50	17.10	.88	< 1.70	0.00	In- sD
266	20	Sweeny BOD		1.00	30.00	3.00	8.36	20.00	7.36	17.00	1.00	< 1.77	0.00	In- sD
266	21	Sweeny BOD		1.00	125.00	3.00	8.30	19.40	6.54	17.10	1.76	< 2.25	< 2.25	In- sDgD
266	22	Total Petrochem BOD	600-191931-A-1	1.00	30.00	3.00	8.48	19.90	7.52	17.10	.96	< 1.37	0.00	In- sD
266	23	Total Petrochem BOD		1.00	60.00	3.00	8.61	19.80	7.57	17.00	1.04	< 1.08	0.00	In- sD
266	24	Total Petrochem BOD		1.00	125.00	3.00	8.92	19.50	7.65	17.00	1.27	< 1.07	< 1.07	In- sDgD
23	1	Lyondell Acetyls BOD	600-191849-A-1	1.00	60.00	3.00	8.23	19.80	6.44	17.00	1.79	< 4.83	0.00	In- sD
23	2	Lyondell Acetyls BOD		1.00	125.00	3.00	8.04	19.50	5.49	17.00	2.55	4.14	0.00	In-
23	3	Lyondell Acetyls BOD		1.00	250.00	3.00	7.34	18.80	3.12	17.00	4.22	4.08	0.00	In-
23	4	Lyondell Acetyls BOD	du	1.00	60.00	3.00	8.26	19.80	6.43	16.90	1.83	< 5.03	0.00	fTIn- sD
23	5	Lyondell Acetyls BOD		1.00	125.00	3.00	8.00	19.50	5.43	17.00	2.57	4.19	0.00	In-
23	6	Lyondell Acetyls BOD		1.00	250.00	3.00	7.34	18.60	3.16	16.90	4.18	4.03	4.11	fTIn-
23	7	Brio BOD	600-191850-G-1	1.00	60.00	3.00	8.37	19.80	7.01	16.90	1.36	< 2.68	0.00	fTIn- sD
23	8	Brio BOD		1.00	125.00	3.00	8.27	19.50	6.71	16.90	1.56	< 1.77	0.00	fTIn- sD
23	9	Brio BOD		1.00	250.00	3.00	8.03	18.60	5.96	16.90	2.07	1.50	0.00	fTIn-
23	10	Brio BOD	du	1.00	60.00	3.00	8.39	19.80	7.14	16.90	1.25	< 2.13	0.00	fTIn- sD
23	11	Brio BOD		1.00	125.00	3.00	8.29	19.40	6.82	16.90	1.47	< 1.55	0.00	fTIn- sD
23	12	Brio BOD		1.00	250.00	3.00	8.04	18.60	6.04	16.90	2.00	< 1.41	1.50	fTIn- sDgT
23	13	MUD 16 EFF CBOD	600-191853-A-2	1.00	60.00	3.00	8.44	19.70	7.03	16.90	1.41	< 3.30	0.00	fTIn- sD
23	14	MUD 16 EFF CBOD		1.00	125.00	3.00	8.44	19.40	6.55	16.90	1.89	< 2.74	0.00	fTIn- sD
23	15	MUD 16 EFF CBOD		1.00	250.00	3.00	8.36	18.60	5.65	16.80	2.71	2.35	2.35	fTIn-
23	16	M371 Eff CBOD	600-191860-A-2	1.00	60.00	3.00	8.42	19.80	6.80	16.80	1.62	< 4.35	0.00	fTIn- sD
23	17	M371 Eff CBOD		1.00	125.00	3.00	8.35	19.40	5.99	16.80	2.36	3.87	0.00	fTIn-

Rack #	Bottle #	Sample Name	Sample ID	Predilution Factor	Sample Volume	Seed Volume	Initial DO	Initial Temp	Final DO	Final Temp	Depletion	BOD\ CBOD	BOD\CBOD Average	Flags	
23	18	M371 Eff CBOD		1.00	250.00	3.00	8.21	18.50	4.93	16.80	3.28	3.04	0.00	fTIn-	
23	19	M371 Eff CBOD	du	1.00	60.00	3.00	8.43	19.70	6.83	16.80	1.60	< 4.25	0.00	fTIn-	sD
23	20	M371 Eff CBOD		1.00	125.00	3.00	8.39	19.40	6.37	16.80	2.02	3.05	0.00	fTIn-	
23	21	M371 Eff CBOD		1.00	250.00	3.00	8.34	18.60	5.30	16.70	3.04	2.75	3.18	fTIn-	gT
23	22	Albermale Outfall CB	600-191940-A-1	1.00	60.00	3.00	8.63	19.60	6.39	16.70	2.24	7.45	0.00	fTIn-	
23	23	Albermale Outfall CB		1.00	125.00	3.00	8.91	19.50	6.12	16.70	2.79	4.90	0.00	fTIn-	
23	24	Albermale Outfall CB		1.00	250.00	3.00	9.59	18.80	5.58	16.80	4.01	3.91	5.42	fTIn-	gT
5	1	Braskeem LaPoete BO	600-191941-B-1	1.00	60.00	3.00	8.45	20.10	5.92	16.60	2.53	8.53	0.00	fTIn-	
5	2	Braskeem LaPoete BO		1.00	125.00	3.00	8.58	20.00	4.55	16.50	4.03	7.70	0.00	fTIn-	
5	3	Braskeem LaPoete BO		1.00	250.00	3.00	8.92	19.60	1.64	16.50	7.28	7.75	0.00	fTIn-	
5	4	Braskeem LaPoete BO	600-191942-B-1	1.00	60.00	3.00	8.07	20.20	4.97	16.60	3.10	11.38	0.00	fTIn-	
5	5	Braskeem LaPoete BO		1.00	125.00	3.00	7.60	20.00	2.72	16.50	4.88	9.74	0.00	fTIn-	
5	6	Braskeem LaPoete BO		1.00	250.00	3.00	6.40	19.60	.34	16.40	6.06	> 6.28	9.02	fTIn-	sFgT
5	7	Valero Outfall BOD	600-191949-A-1	1.00	10.00	3.00	8.35	20.40	7.34	16.40	1.01	< 5.60	0.00	fTIn-	sD
5	8	Valero Outfall BOD		1.00	30.00	3.00	8.37	20.40	7.36	16.50	1.01	< 1.87	0.00	fTIn-	sD
5	9	Valero Outfall BOD		1.00	100.00	3.00	8.51	20.10	6.93	16.50	1.58	< 2.27	0.00	fTIn-	sD
5	10	Valero Outfall BOD		1.00	250.00	3.00	9.04	19.50	5.70	16.40	3.34	3.02	3.02	fTIn-	gT
5	11	Shell SET004 BOD	600-191923-B-1	1.00	25.00	3.00	8.36	20.30	7.41	16.40	.95	< 1.52	0.00	fTIn-	sD
5	12	Shell SET004 BOD		1.00	75.00	3.00	8.34	20.40	6.80	16.50	1.54	< 2.87	0.00	fTIn-	sD
5	13	Shell SET004 BOD		1.00	150.00	3.00	8.37	20.20	6.04	16.60	2.33	3.01	0.00	fTIn-	
5	14	Shell SET004 BOD		1.00	200.00	3.00	8.36	20.20	5.27	16.50	3.09	3.40	0.00	fTIn-	
5	15	Shell SET004 BOD		1.00	300.00	3.00	8.38	20.10	3.72	16.50	4.66	3.84	3.42	fTIn-	gT
5	16	DuPont BOD	600-191944-B-5	1.00	10.00	3.00	8.32	20.40	7.44	16.60	.88	< 1.70	0.00	fTIn-	sD
5	17	DuPont BOD		1.00	50.00	3.00	8.04	20.30	6.68	16.60	1.36	< 3.22	0.00	fTIn-	sD
5	18	DuPont BOD		1.00	100.00	3.00	7.62	20.10	5.54	16.50	2.08	3.77	3.77	fTIn-	gT
5	19	Precoat BOD	600-191926-A-6	1.00	10.00	3.00	8.33	20.40	7.72	16.50	.61	< -6.40	0.00	fTIn-	sD
5	20	Precoat BOD		1.00	30.00	3.00	8.23	20.40	7.66	16.60	.57	< -2.53	0.00	fTIn-	sD

> 3.45
> 2.90
> 7.99
> 10.56

Rack #	Bottle #	Sample Name	Sample ID	Predilution Factor	Sample Volume	Seed Volume	Initial DO	Initial Temp	Final DO	Final Temp	Depletion	BOD\ CBOD	BOD\CBOD Average	Flags
5	21	Precoat BOD		1.00	125.00	3.00	7.60	20.10	7.02	16.60	.58	< -.58	0.00	fTIn- sD
5	22	Precoat BOD	600-191926-A-7	1.00	10.00	3.00	8.30	20.40	7.78	16.50	.52	< -9.10	0.00	fTIn- sD
5	23	Precoat BOD		1.00	30.00	3.00	8.18	20.30	7.65	16.50	.53	< -2.93	0.00	fTIn- sD
5	24	Precoat BOD		1.00	125.00	3.00	7.48	20.00	6.94	16.60	.54	< -.68	< 1.00	fTIn- sDgD
31	1	GHD Service BOD	600-191956-R-1	1.00	10.00	3.00	8.35	20.30	7.56	17.00	.79	< -1.00	0.00	In- sD
31	2	GHD Service BOD		1.00	30.00	3.00	8.32	20.30	7.58	17.00	.74	< -.83	0.00	In- sD
31	3	GHD Service BOD		1.00	60.00	3.00	8.24	20.10	7.39	16.90	.85	< .13	0.00	fTIn- sD
31	4	GHD Service BOD	600-191956-Q-2	1.00	10.00	3.00	8.32	20.40	7.62	16.80	.70	< -3.70	0.00	fTIn- sD
31	5	GHD Service BOD		1.00	30.00	3.00	8.25	20.40	7.31	16.90	.94	< 1.17	0.00	fTIn- sD
31	6	GHD Service BOD		1.00	60.00	3.00	8.13	20.40	6.61	16.80	1.52	< 3.48	0.00	fTIn- sD
31	7	GHD Service BOD	600-191956-R-3	1.00	10.00	3.00	8.34	20.50	7.74	16.80	.60	< -6.70	0.00	fTIn- sD
31	8	GHD Service BOD		1.00	30.00	3.00	8.30	20.40	7.75	16.70	.55	< -2.73	0.00	fTIn- sD
31	9	GHD Service BOD		1.00	60.00	3.00	8.23	20.40	7.65	16.80	.58	< -1.22	< 1.00	fTIn- sDgDgT

Curve Type:	Linear
Weighting:	None
Origin:	None
Dependency:	Concentration
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients	
Intercept:	-1.895
Slope:	-342.9

Error Coefficients	
Standard Error:	1.28
Relative Standard Error:	6.9
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	1.000 (1.000)

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 600-261746/1	0.0	0.0			NaN	Y
2	IC 600-261746/2	10.0	-0.038			-0.0038	Y
3	IC 600-261746/3	25.0	-0.081			-0.00324	Y
4	IC 600-261746/4	50.0	-0.153			-0.00306	Y
5	IC 600-261746/5	100.0	-0.295			-0.00295	Y
6	IC 600-261746/6	150.0	-0.443			-0.002953	Y

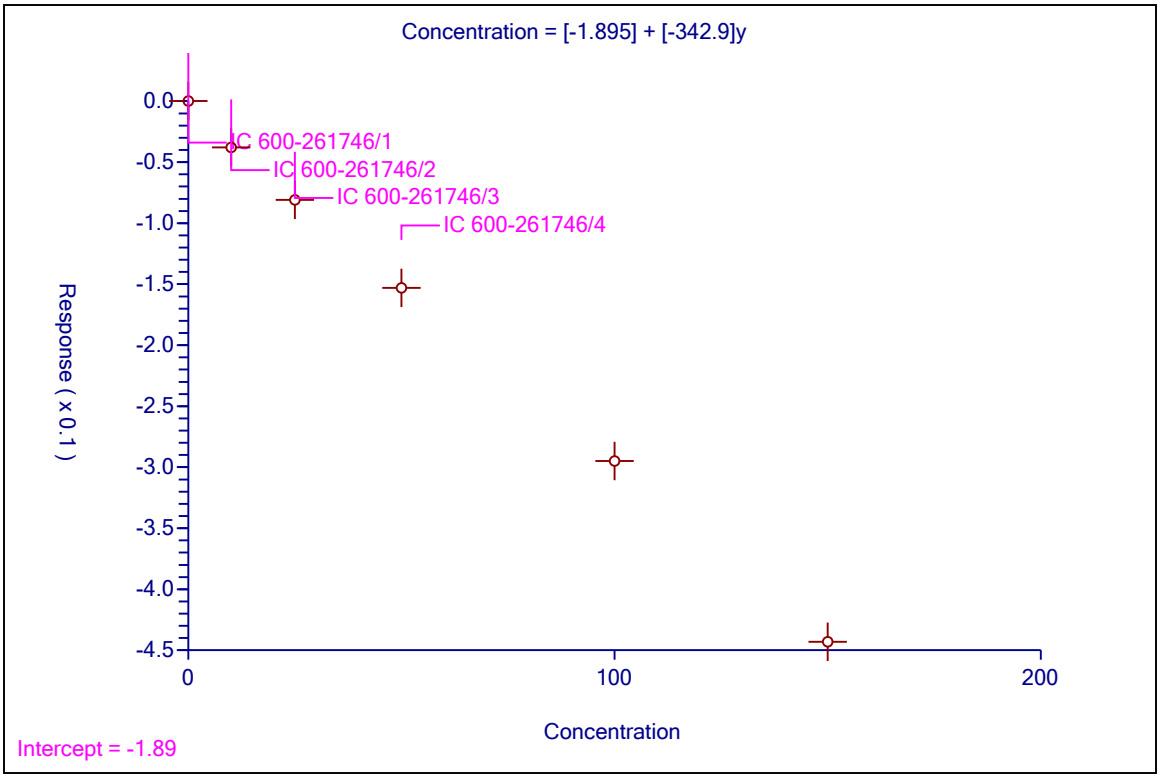

TALS Raw Data Report

Job Number: 600-182468-1
LIMS Batch: 261746
Equipment: WC15

Laboratory: Eurofins TestAmerica, Houstor

RS# 7 Lab ID: **ICV 600-261746/7** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.243	81.42970 mg/L	mg/L	109	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 8 Lab ID: **ICB 600-261746/8** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.015	3.248500 mg/L	3.249 J mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 9 Lab ID: **MB 600-261746/9** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.011	1.876900 mg/L	2.46 U mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 10 Lab ID: **LCS 600-261746/10** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.236	79.02940 mg/L	mg/L	105	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 19 Lab ID: **CCV 600-261746/19** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.214	71.48560 mg/L	mg/L	95	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 20 Lab ID: **CCB 600-261746/20** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.003	0.8663000 mg/L	2.46 U mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 28 Lab ID: **600-182469-D-1** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.023	5.991700 mg/L	5.99 J mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 29 Lab ID: **600-182469-D-1 MS** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.246	82.45840 mg/L	mg/L	102	75 125		
Chemical Oxygen De		mg/L	mg/L				

RS# 30 Lab ID: **600-182469-D-1 MSD** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.246	82.45840 mg/L	mg/L	102	75 125	0	20
Chemical Oxygen De		mg/L	mg/L				

RS# 31 Lab ID: **CCV 600-261746/31** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.227	75.94330 mg/L	mg/L	101	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

TALS Raw Data Report

RS# 32 Lab ID: **CCB 600-261746/32** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.004	0.5234000 mg/L	2.46 U mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 37 Lab ID: **600-182468-D-1** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.053	16.27870 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 38 Lab ID: **CCV 600-261746/38** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.230	76.97200 mg/L	mg/L	103	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 39 Lab ID: **CCB 600-261746/39** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.004	0.5234000 mg/L	2.46 U mg/L				
Chemical Oxygen De		mg/L	mg/L				

TALS Raw Data Report

Job Number: 600-182469-1
LIMS Batch: 261746
Equipment: WC15

Laboratory: Eurofins TestAmerica, Houstor

RS# 7 Lab ID: **ICV 600-261746/7** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.243	81.42970 mg/L	mg/L	109	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 8 Lab ID: **ICB 600-261746/8** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.015	3.248500 mg/L	3.249 J mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 9 Lab ID: **MB 600-261746/9** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.011	1.876900 mg/L	2.46 U mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 10 Lab ID: **LCS 600-261746/10** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.236	79.02940 mg/L	mg/L	105	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 16 Lab ID: **600-182757-A-1** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.154	50.91160 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 17 Lab ID: **600-182757-A-1 MS** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.319	107.4901 mg/L	mg/L	75	75 125		
Chemical Oxygen De		mg/L	mg/L				

RS# 18 Lab ID: **600-182757-A-1 MSD** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.319	107.4901 mg/L	mg/L	75	75 125	0	20
Chemical Oxygen De		mg/L	mg/L				

RS# 19 Lab ID: **CCV 600-261746/19** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.214	71.48560 mg/L	mg/L	95	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 20 Lab ID: **CCB 600-261746/20** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.003	0.8663000 mg/L	2.46 U mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 28 Lab ID: **600-182469-D-1** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.023	5.991700 mg/L	5.99 J mg/L				
Chemical Oxygen De		mg/L	mg/L				

TALS Raw Data Report

RS# 29 Lab ID: **600-182469-D-1 MS** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.246	82.45840 mg/L	mg/L	102	75	125		
Chemical Oxygen De		mg/L	mg/L					

RS# 30 Lab ID: **600-182469-D-1 MSD** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.246	82.45840 mg/L	mg/L	102	75	125	0	20
Chemical Oxygen De		mg/L	mg/L					

RS# 31 Lab ID: **CCV 600-261746/31** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.227	75.94330 mg/L	mg/L	101	90	110		
Chemical Oxygen De		mg/L	mg/L	NaN	90	110		

RS# 32 Lab ID: **CCB 600-261746/32** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.004	0.5234000 mg/L	2.46 U mg/L					
Chemical Oxygen De		mg/L	mg/L					

TALS Raw Data Report

Job Number: 600-182562-4
LIMS Batch: 261746
Equipment: WC15

Laboratory: Eurofins TestAmerica, Houstor

RS# 7 Lab ID: **ICV 600-261746/7** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.243	81.42970 mg/L	mg/L	109	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 8 Lab ID: **ICB 600-261746/8** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.015	3.248500 mg/L	3.25 J mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 9 Lab ID: **MB 600-261746/9** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.011	1.876900 mg/L	2.5 U mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 10 Lab ID: **LCS 600-261746/10** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.236	79.02940 mg/L	mg/L	105	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 16 Lab ID: **600-182757-A-1** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.154	50.91160 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 17 Lab ID: **600-182757-A-1 MS** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.319	107.4901 mg/L	mg/L	75	75 125		
Chemical Oxygen De		mg/L	mg/L				

RS# 18 Lab ID: **600-182757-A-1 MSD** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.319	107.4901 mg/L	mg/L	75	75 125	0	20
Chemical Oxygen De		mg/L	mg/L				

RS# 19 Lab ID: **CCV 600-261746/19** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.214	71.48560 mg/L	mg/L	95	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 20 Lab ID: **CCB 600-261746/20** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.003	0.8663000 mg/L	2.5 U mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 27 Lab ID: **600-182562-E-1 ^2** Inj Date: 4/1/2019 11:44:00AM Dil: 2 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.143	47.13970 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

TALS Raw Data Report

RS# 31 Lab ID: **CCV 600-261746/31** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.227	75.94330 mg/L	mg/L	101	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 32 Lab ID: **CCB 600-261746/32** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.004	0.5234000 mg/L	2.5 U mg/L				
Chemical Oxygen De		mg/L	mg/L				

TALS Raw Data Report

Job Number: 600-182566-1
LIMS Batch: 261746
Equipment: WC15

Laboratory: Eurofins TestAmerica, Houstor

RS# 7 Lab ID: **ICV 600-261746/7** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.243	81.42970 mg/L	mg/L	109	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 8 Lab ID: **ICB 600-261746/8** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.015	3.248500 mg/L	3.25 J mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 9 Lab ID: **MB 600-261746/9** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.011	1.876900 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 10 Lab ID: **LCS 600-261746/10** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.236	79.02940 mg/L	mg/L	105	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 19 Lab ID: **CCV 600-261746/19** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.214	71.48560 mg/L	mg/L	95	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 20 Lab ID: **CCB 600-261746/20** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.003	0.8663000 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 28 Lab ID: **600-182469-D-1** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.023	5.991700 mg/L	6.0 J mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 29 Lab ID: **600-182469-D-1 MS** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.246	82.45840 mg/L	mg/L	102	75 125		
Chemical Oxygen De		mg/L	mg/L				

RS# 30 Lab ID: **600-182469-D-1 MSD** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.246	82.45840 mg/L	mg/L	102	75 125	0	20
Chemical Oxygen De		mg/L	mg/L				

RS# 31 Lab ID: **CCV 600-261746/31** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.227	75.94330 mg/L	mg/L	101	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

TALS Raw Data Report

RS# 32 Lab ID: **CCB 600-261746/32** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.004	0.5234000 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 33 Lab ID: **600-182566-J-1** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De		189.7861 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

TALS Raw Data Report

Job Number: 600-182756-1
LIMS Batch: 261746
Equipment: WC15

Laboratory: Eurofins TestAmerica, Houstor

RS# 7 Lab ID: **ICV 600-261746/7** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.243	81.42970 mg/L	mg/L	109	90	110		
Chemical Oxygen De		mg/L	mg/L	NaN	90	110		

RS# 8 Lab ID: **ICB 600-261746/8** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.015	3.248500 mg/L	mg/L					
Chemical Oxygen De		mg/L	mg/L					

RS# 9 Lab ID: **MB 600-261746/9** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.011	1.876900 mg/L	mg/L					
Chemical Oxygen De		mg/L	mg/L					

RS# 10 Lab ID: **LCS 600-261746/10** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.236	79.02940 mg/L	mg/L	105	90	110		
Chemical Oxygen De		mg/L	mg/L	NaN	90	110		

RS# 19 Lab ID: **CCV 600-261746/19** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.214	71.48560 mg/L	mg/L	95	90	110		
Chemical Oxygen De		mg/L	mg/L	NaN	90	110		

RS# 20 Lab ID: **CCB 600-261746/20** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.003	0.8663000 mg/L	mg/L					
Chemical Oxygen De		mg/L	mg/L					

RS# 28 Lab ID: **600-182469-D-1** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.023	5.991700 mg/L	mg/L					
Chemical Oxygen De		mg/L	mg/L					

RS# 29 Lab ID: **600-182469-D-1 MS** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.246	82.45840 mg/L	mg/L	102	75	125		
Chemical Oxygen De		mg/L	mg/L					

RS# 30 Lab ID: **600-182469-D-1 MSD** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.246	82.45840 mg/L	mg/L	102	75	125	0	20
Chemical Oxygen De		mg/L	mg/L					

RS# 31 Lab ID: **CCV 600-261746/31** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.227	75.94330 mg/L	mg/L	101	90	110		
Chemical Oxygen De		mg/L	mg/L	NaN	90	110		

TALS Raw Data Report

RS# 32 Lab ID: **CCB 600-261746/32** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.004	0.5234000 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 35 Lab ID: **600-182756-E-1** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.199	66.34210 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 36 Lab ID: **600-182756-A-2** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.206	68.74240 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 38 Lab ID: **CCV 600-261746/38** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.230	76.97200 mg/L	mg/L	103	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 39 Lab ID: **CCB 600-261746/39** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.004	0.5234000 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

TALS Raw Data Report

Job Number: 600-182757-1
LIMS Batch: 261746
Equipment: WC15

Laboratory: Eurofins TestAmerica, Houstor

RS# 7 Lab ID: **ICV 600-261746/7** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.243	81.42970 mg/L	mg/L	109	90	110		
Chemical Oxygen De		mg/L	mg/L	NaN	90	110		

RS# 8 Lab ID: **ICB 600-261746/8** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.015	3.248500 mg/L	mg/L					
Chemical Oxygen De		mg/L	mg/L					

RS# 9 Lab ID: **MB 600-261746/9** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.011	1.876900 mg/L	mg/L					
Chemical Oxygen De		mg/L	mg/L					

RS# 10 Lab ID: **LCS 600-261746/10** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.236	79.02940 mg/L	mg/L	105	90	110		
Chemical Oxygen De		mg/L	mg/L	NaN	90	110		

RS# 16 Lab ID: **600-182757-A-1** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.154	50.91160 mg/L	mg/L					
Chemical Oxygen De		mg/L	mg/L					

RS# 17 Lab ID: **600-182757-A-1 MS** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.319	107.4901 mg/L	mg/L	75	75	125		
Chemical Oxygen De		mg/L	mg/L					

RS# 18 Lab ID: **600-182757-A-1 MSD** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.319	107.4901 mg/L	mg/L	75	75	125	0	20
Chemical Oxygen De		mg/L	mg/L					

RS# 19 Lab ID: **CCV 600-261746/19** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.214	71.48560 mg/L	mg/L	95	90	110		
Chemical Oxygen De		mg/L	mg/L	NaN	90	110		

RS# 20 Lab ID: **CCB 600-261746/20** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.003	0.8663000 mg/L	mg/L					
Chemical Oxygen De		mg/L	mg/L					

RS# 31 Lab ID: **CCV 600-261746/31** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt		% RPD	RPD Lmt
Chemical Oxygen De	-0.227	75.94330 mg/L	mg/L	101	90	110		
Chemical Oxygen De		mg/L	mg/L	NaN	90	110		

TALS Raw Data Report

RS# 32 Lab ID: **CCB 600-261746/32** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.004	0.5234000 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 34 Lab ID: **600-182757-A-2** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.155	51.25450 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 38 Lab ID: **CCV 600-261746/38** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.230	76.97200 mg/L	mg/L	103	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 39 Lab ID: **CCB 600-261746/39** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.004	0.5234000 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

TALS Raw Data Report

Job Number: 600-182779-1
LIMS Batch: 261746
Equipment: WC15

Laboratory: Eurofins TestAmerica, Houstor

RS# 7 Lab ID: **ICV 600-261746/7** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.243	81.42970 mg/L	mg/L	109	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 8 Lab ID: **ICB 600-261746/8** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.015	3.248500 mg/L	3.249 J mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 9 Lab ID: **MB 600-261746/9** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.011	1.876900 mg/L	2.46 U mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 10 Lab ID: **LCS 600-261746/10** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.236	79.02940 mg/L	mg/L	105	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 11 Lab ID: **600-182779-C-1** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.286	96.17440 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 12 Lab ID: **600-182779-C-2** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.235	78.68650 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 16 Lab ID: **600-182757-A-1** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.154	50.91160 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 17 Lab ID: **600-182757-A-1 MS** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.319	107.4901 mg/L	mg/L	75	75 125		
Chemical Oxygen De		mg/L	mg/L				

RS# 18 Lab ID: **600-182757-A-1 MSD** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.319	107.4901 mg/L	mg/L	75	75 125	0	20
Chemical Oxygen De		mg/L	mg/L				

RS# 19 Lab ID: **CCV 600-261746/19** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.214	71.48560 mg/L	mg/L	95	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

TALS Raw Data Report

RS# 20 Lab ID: **CCB 600-261746/20** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.003	0.8663000 mg/L	2.46 U mg/L				
Chemical Oxygen De		mg/L	mg/L				

TALS Raw Data Report

Job Number: 600-182780-1
LIMS Batch: 261746
Equipment: WC15

Laboratory: Eurofins TestAmerica, Houstor

RS# 7 Lab ID: **ICV 600-261746/7** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.243	81.42970 mg/L	mg/L	109	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 8 Lab ID: **ICB 600-261746/8** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.015	3.248500 mg/L	3.249 J mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 9 Lab ID: **MB 600-261746/9** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.011	1.876900 mg/L	2.46 U mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 10 Lab ID: **LCS 600-261746/10** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.236	79.02940 mg/L	mg/L	105	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 13 Lab ID: **600-182780-C-1** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.191	63.59890 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 14 Lab ID: **600-182780-C-2** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.142	46.79680 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 16 Lab ID: **600-182757-A-1** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.154	50.91160 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 17 Lab ID: **600-182757-A-1 MS** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.319	107.4901 mg/L	mg/L	75	75 125		
Chemical Oxygen De		mg/L	mg/L				

RS# 18 Lab ID: **600-182757-A-1 MSD** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.319	107.4901 mg/L	mg/L	75	75 125	0	20
Chemical Oxygen De		mg/L	mg/L				

RS# 19 Lab ID: **CCV 600-261746/19** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.214	71.48560 mg/L	mg/L	95	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

TALS Raw Data Report

RS# 20 Lab ID: **CCB 600-261746/20** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units		Final Res/Qual/Units		% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.003	0.8663000	mg/L	2.46 U	mg/L				
Chemical Oxygen De			mg/L		mg/L				

TALS Raw Data Report

Job Number: 600-182782-1
LIMS Batch: 261746
Equipment: WC15

Laboratory: Eurofins TestAmerica, Houstor

RS# 7 Lab ID: **ICV 600-261746/7** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.243	81.42970 mg/L	mg/L	109	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 8 Lab ID: **ICB 600-261746/8** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.015	3.248500 mg/L	3.249 J mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 9 Lab ID: **MB 600-261746/9** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.011	1.876900 mg/L	2.46 U mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 10 Lab ID: **LCS 600-261746/10** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.236	79.02940 mg/L	mg/L	105	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 15 Lab ID: **600-182782-C-1** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.266	89.31640 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 16 Lab ID: **600-182757-A-1** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.154	50.91160 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 17 Lab ID: **600-182757-A-1 MS** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.319	107.4901 mg/L	mg/L	75	75 125		
Chemical Oxygen De		mg/L	mg/L				

RS# 18 Lab ID: **600-182757-A-1 MSD** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.319	107.4901 mg/L	mg/L	75	75 125	0	20
Chemical Oxygen De		mg/L	mg/L				

RS# 19 Lab ID: **CCV 600-261746/19** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.214	71.48560 mg/L	mg/L	95	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 20 Lab ID: **CCB 600-261746/20** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.003	0.8663000 mg/L	2.46 U mg/L				
Chemical Oxygen De		mg/L	mg/L				

TALS Raw Data Report

Job Number: 600-182783-1
LIMS Batch: 261746
Equipment: WC15

Laboratory: Eurofins TestAmerica, Houstor

RS# 7 Lab ID: **ICV 600-261746/7** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.243	81.42970 mg/L	mg/L	109	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 8 Lab ID: **ICB 600-261746/8** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.015	3.248500 mg/L	3.249 J mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 9 Lab ID: **MB 600-261746/9** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.011	1.876900 mg/L	2.46 U mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 10 Lab ID: **LCS 600-261746/10** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.236	79.02940 mg/L	mg/L	105	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 16 Lab ID: **600-182757-A-1** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.154	50.91160 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 17 Lab ID: **600-182757-A-1 MS** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.319	107.4901 mg/L	mg/L	75	75 125		
Chemical Oxygen De		mg/L	mg/L				

RS# 18 Lab ID: **600-182757-A-1 MSD** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.319	107.4901 mg/L	mg/L	75	75 125	0	20
Chemical Oxygen De		mg/L	mg/L				

RS# 19 Lab ID: **CCV 600-261746/19** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.214	71.48560 mg/L	mg/L	95	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 20 Lab ID: **CCB 600-261746/20** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.003	0.8663000 mg/L	2.46 U mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 22 Lab ID: **600-182783-C-1** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.206	68.74240 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

TALS Raw Data Report

RS# 23 Lab ID: **600-182783-C-2** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.193	64.28470 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 24 Lab ID: **600-182783-C-3** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.244	81.77260 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 31 Lab ID: **CCV 600-261746/31** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.227	75.94330 mg/L	mg/L	101	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 32 Lab ID: **CCB 600-261746/32** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.004	0.5234000 mg/L	2.46 U mg/L				
Chemical Oxygen De		mg/L	mg/L				

TALS Raw Data Report

Job Number: 600-182784-1
LIMS Batch: 261746
Equipment: WC15

Laboratory: Eurofins TestAmerica, Houstor

RS# 7 Lab ID: **ICV 600-261746/7** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.243	81.42970 mg/L	mg/L	109	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 8 Lab ID: **ICB 600-261746/8** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.015	3.248500 mg/L	3.249 J mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 9 Lab ID: **MB 600-261746/9** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.011	1.876900 mg/L	2.46 U mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 10 Lab ID: **LCS 600-261746/10** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.236	79.02940 mg/L	mg/L	105	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 16 Lab ID: **600-182757-A-1** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.154	50.91160 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 17 Lab ID: **600-182757-A-1 MS** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.319	107.4901 mg/L	mg/L	75	75 125		
Chemical Oxygen De		mg/L	mg/L				

RS# 18 Lab ID: **600-182757-A-1 MSD** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.319	107.4901 mg/L	mg/L	75	75 125	0	20
Chemical Oxygen De		mg/L	mg/L				

RS# 19 Lab ID: **CCV 600-261746/19** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.214	71.48560 mg/L	mg/L	95	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 20 Lab ID: **CCB 600-261746/20** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.003	0.8663000 mg/L	2.46 U mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 25 Lab ID: **600-182784-C-4** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.289	97.20310 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

TALS Raw Data Report

RS# 26 Lab ID: **600-182784-C-5** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.255	85.54450 mg/L	mg/L				
Chemical Oxygen De		mg/L	mg/L				

RS# 31 Lab ID: **CCV 600-261746/31** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.227	75.94330 mg/L	mg/L	101	90 110		
Chemical Oxygen De		mg/L	mg/L	NaN	90 110		

RS# 32 Lab ID: **CCB 600-261746/32** Inj Date: 4/1/2019 11:44:00AM Dil: 1.0 Meth: HACH8000_NP

Analyte	Rspnse	Raw Res/Units	Final Res/Qual/Units	% Rec	Rec Lmt	% RPD	RPD Lmt
Chemical Oxygen De	-0.004	0.5234000 mg/L	2.46 U mg/L				
Chemical Oxygen De		mg/L	mg/L				

PC-TitratION PLUS
TAL Houston-General Results Historical Report

9/17/19
#275028

Run Number 9517 **Order Number** 20190917-1

SampleID	Schedule Name	RunDate	RunTime	pH	palk-mg/L	talk-mg/L	bcarb-mg/L	carb-mg/L	hydr-mg/L
lcs	PH ONLY	09/17/2019	2:53 PM	7.04	-1.00	-1.00	-1.00	-1.00	-1.00
600-191963-B-2	PH ONLY	09/17/2019	2:56 PM	6.93	-1.00	-1.00	-1.00	-1.00	-1.00
du 600-191963-B-2	PH ONLY	09/17/2019	2:59 PM	6.94	-1.00	-1.00	-1.00	-1.00	-1.00
600-191963-B-3	PH ONLY	09/17/2019	3:02 PM	6.89	-1.00	-1.00	-1.00	-1.00	-1.00
600-191963-B-1	PH ONLY	09/17/2019	3:04 PM	6.68	-1.00	-1.00	-1.00	-1.00	-1.00
600-191956-Y-3	PH ONLY	09/17/2019	3:08 PM	8.02	-1.00	-1.00	-1.00	-1.00	-1.00
600-191945-D-2	PH ONLY	09/17/2019	3:10 PM	9.76	-1.00	-1.00	-1.00	-1.00	-1.00
600-191956-Y-1	PH ONLY	09/17/2019	3:13 PM	8.00	-1.00	-1.00	-1.00	-1.00	-1.00
600-191951-A-1	PH ONLY	09/17/2019	3:16 PM	6.73	-1.00	-1.00	-1.00	-1.00	-1.00
600-191945-D-1	PH ONLY	09/17/2019	3:20 PM	8.05	-1.00	-1.00	-1.00	-1.00	-1.00
600-192043-A-1	PH ONLY	09/17/2019	3:23 PM	9.31	-1.00	-1.00	-1.00	-1.00	-1.00
600-191956-Y-2	PH ONLY	09/17/2019	3:27 PM	6.88	-1.00	-1.00	-1.00	-1.00	-1.00
ccv	PH ONLY	09/17/2019	3:30 PM	7.04	-1.00	-1.00	-1.00	-1.00	-1.00
600-192018-A-5	PH ONLY	09/17/2019	3:33 PM	7.26	-1.00	-1.00	-1.00	-1.00	-1.00
du 600-192018-A-5	PH ONLY	09/17/2019	3:36 PM	7.28	-1.00	-1.00	-1.00	-1.00	-1.00
600-192018-A-10	PH ONLY	09/17/2019	3:40 PM	6.93	-1.00	-1.00	-1.00	-1.00	-1.00
600-191976-C-2	PH ONLY	09/17/2019	3:44 PM	6.46	-1.00	-1.00	-1.00	-1.00	-1.00
600-191976-C-1	PH ONLY	09/17/2019	3:47 PM	6.19	-1.00	-1.00	-1.00	-1.00	-1.00
600-191976-C-3	PH ONLY	09/17/2019	3:51 PM	6.09	-1.00	-1.00	-1.00	-1.00	-1.00
ccv	PH ONLY	09/17/2019	3:55 PM	5.92	-1.00	-1.00	-1.00	-1.00	-1.00
ccv	PH ONLY	09/17/2019	4:06 PM	7.04	-1.00	-1.00	-1.00	-1.00	-1.00
600-192018-A-5	PH ONLY	09/17/2019	4:09 PM	7.26	-1.00	-1.00	-1.00	-1.00	-1.00
du 600-192018-A-5	PH ONLY	09/17/2019	4:12 PM	7.29	-1.00	-1.00	-1.00	-1.00	-1.00
600-192018-A-10	PH ONLY	09/17/2019	4:15 PM	7.97	-1.00	-1.00	-1.00	-1.00	-1.00
600-191976-C-2	PH ONLY	09/17/2019	4:18 PM	7.33	-1.00	-1.00	-1.00	-1.00	-1.00
600-191976-C-1	PH ONLY	09/17/2019	4:21 PM	7.15	-1.00	-1.00	-1.00	-1.00	-1.00
600-191976-C-3	PH ONLY	09/17/2019	4:24 PM	7.85	-1.00	-1.00	-1.00	-1.00	-1.00
ccv	PH ONLY	09/17/2019	4:28 PM	7.05	-1.00	-1.00	-1.00	-1.00	-1.00

9/18/19

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****
** SEQUENCE 275040 **
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9/18/19
ICR

TOC Unit: toc
091719A A Tue Sep 17 09:07:12 2019

Pos/ Vial	Sample Name	Method	Run Type	# Rep	Vol (mL)	# Blk	Dil Fact	Ovr Rng	Remarks
1	RINSE	TOC	Sample	1	5.000	0	1.00	No	
2	RINSE	TOC	Sample	1	5.000	0	1.00	No	
3	ICV	TOC	Sample	1	5.000	0	1.00	No	
4	ICB	TOC	Sample	1	5.000	0	1.00	No	
5	MB	TOC	Sample	1	5.000	0	1.00	No	
6	LCS	TOC	Sample	1	5.000	0	1.00	No	
7	600-191944-A-2	TOC	Sample	1	5.000	0	1.00	No	
8	ms 191944-A-2	TOC	Sample	1	5.000	0	1.00	No	
9	msd 191944-A-2	TOC	Sample	1	5.000	0	1.00	No	
10	191931-D-1@2	TOC	Sample	1	5.000	0	1.00	No	
11	192005-D-1@2	TOC	Sample	1	5.000	0	1.00	No	
12	192016-C-1@2	TOC	Sample	1	5.000	0	1.00	No	
13	192020-C-1@2	TOC	Sample	1	5.000	0	1.00	No	
14	191441-A-2@2	TOC	Sample	1	5.000	0	1.00	No	
15	CCV	TOC	Sample	1	5.000	0	1.00	No	
16	CCB	TOC	Sample	1	5.000	0	1.00	No	
17	192000-E-4@4	TOC	Sample	1	5.000	0	1.00	No	
18	191944-A-6@4	TOC	Sample	1	5.000	0	1.00	No	
19	192010-A-9@4	TOC	Sample	1	5.000	0	1.00	No	
20	600-191931-B-5	TOC	Sample	1	5.000	0	1.00	No	
21	600-191944-A-8	TOC	Sample	1	5.000	0	1.00	No	
22	ms 191944-A-8	TOC	Sample	1	5.000	0	1.00	No	
23	msd 191944-A-8	TOC	Sample	1	5.000	0	1.00	No	
24	600-192005-B-4	TOC	Sample	1	5.000	0	1.00	No	
25	600-192010-A-4	TOC	Sample	1	5.000	0	1.00	No	
26	600-191956-J-2	TOC 2x	Sample	1	5.000	0	1.00	No	
27	ccv	TOC	Sample	1	5.000	0	1.00	No	
28	ccb	TOC	Sample	1	5.000	0	1.00	No	
29	600-191956-J-1	TOC Rx	Sample	1	5.000	0	1.00	No	
30	600-192022-C-1	TOC	Sample	1	5.000	0	1.00	No	
31	600-192005-B-6	TOC	Sample	1	5.000	0	1.00	No	
32	600-192005-B-8	TOC	Sample	1	5.000	0	1.00	No	
33	600-191931-B-3	TOC	Sample	1	5.000	0	1.00	No	
34	600-192005-B-9	TOC	Sample	1	5.000	0	1.00	No	
35	MB	TOC	Sample	1	5.000	0	1.00	No	
36	LCS	TOC	Sample	1	5.000	0	1.00	No	
37	600-192010-A-11	TOC	Sample	1	5.000	0	1.00	No	
38	ms 192010-A-11	TOC	Sample	1	5.000	0	1.00	No	
39	CCV	TOC	Sample	1	5.000	0	1.00	No	
40	CCB	TOC	Sample	1	5.000	0	1.00	No	
41	msd192010-A-11	TOC	Sample	1	5.000	0	1.00	No	
42	600-192005-B-5	TOC	Sample	1	5.000	0	1.00	No	
43	600-191931-B-4	TOC	Sample	1	5.000	0	1.00	No	
44	600-191931-B-6	TOC	Sample	1	5.000	0	1.00	No	

9/18/19

****
** SEQUENCE **
****

TOC Unit: toc
091719AA Tue Sep 17 09:07:12 2019

Pos/ Vial	Sample Name	Method	Run Type	# Rep	Vol (mL)	# Blk	Dil Fact	Ovr Rng	Remarks
45	600-191956-J-3	TOC 2x	Sample	1	5.000	0	1.00	No	
46	600-191420-A-1	TOC	Sample	1	5.000	0	1.00	No	
47	600-192005-B-7	TOC	Sample	1	5.000	0	1.00	No	
48	600-192010-A-2	TOC	Sample	1	5.000	0	1.00	No	
49	600-192006-a-1	TOC	Sample	1	5.000	0	1.00	No	
50	ccv	TOC	Sample	1	5.000	0	1.00	No	
51	ccb	TOC	Sample	1	5.000	0	1.00	No	

```
*******************************************************************
**                  OI Analytical Model 1010 TOC                 **
**                           RUN SETUP                           **
*******************************************************************

TOC Unit: toc
Operator:   Unknown
Data Path:  C:\PROGRA~1\OIANAL~1\TOCREP~1\DATA10\091719AA
WinTOC Version:  5.2                        Firmware Version:   5.2
WinTOC Revision:  rev 242                     Firmware Revision:  rev 365

Report To File:  Enabled                    Naming Mode:  Automatic
Prefix:  KR    Index:    1

*******************************************************************
**                         CONFIGURATION                         **
*******************************************************************

TOC Unit: toc
Analysis Mode:  TIC/TOC     Spl Intro:  Autosampler 88
Remote Start :  OFF

Loop Size:  5 mL        Actual Volume  1mL   5mL   10mL   25mL
                        -------------  ----  ----  -----  -----
                         Loop A (uL):  1009  4970  10000  25000
                         Loop B (uL):  1008  4980  10000  25000

Tray Type:              88 Vial  Vial Option:        Preacidification
Needle Depth:           95 %     Preacid Volume (uL):             500
Wash Needle Depth:      94 %     Preacid Purge Time (min:sec):   1:30

            TIC    TOC    TC
Blank      ----   ----   ----            Linearization Coeff:  60000
 Average:    58    523      0

                          Sample Transfer Times (sec)
          Initial Fill          |        Loop Fill          | Sample Inject
     Non-AS    AS  AS w/Sep     | Non-AS    AS  AS w/Sep    |    (all)
     ------  ----- --------     | ------  ----- --------    | -------------
1mL:    0.0    0.0      0.0     |    0.0    0.0      0.0    |      0.0
5mL:   10.0   10.0      6.8     |    6.0    6.0      4.2    |      9.3
10mL:   0.0    0.0      0.0     |    0.0    0.0      0.0    |      0.0
25mL:   0.0    0.0      0.0     |    n/a    n/a      n/a    |      0.0

Analog Concentration Signal indicates TIC
Analog Conc. Signal Timer is ON, Timer duration (h:m:s): 30350:26:59
Min Signal Range:   0.000 ppmC,  Max Signal Range:   0.000 ppmC

Alarms DISABLED
Alarm Relay Timer is OFF, Timer duration (h:m:s): 00:00:00
       Conc. Alarm Setpoints (ppm C)
          Low       |     High
      -----------   | -----------
TIC:     0.000           0.000
TOC:     0.000           0.000
TC:      0.000           0.000

*******************************************************************
**                         CALIBRATION                           **
*******************************************************************

TOC Unit: toc
CAL090919  Tue Sep 10 08:43:10 2019

Std. #  Used  Conc. (ppm)  Volume (mL)
------  ----  -----------  -----------      RF (ugC/k-cts):    1.407
   1    Yes        0.000        5.000       R-Squared:        1.0000
   2    Yes        1.000        5.000       Offset (cts):         1403
   3    Yes       10.000        5.000       Offset (ugC):      -1.975
   4    Yes       25.000        5.000       Calibration Mode:    TOC
   5    No         0.000        5.000       Allow Editing:     No
```

Rep	Std. 1	Std. 2	Std. 3	Std. 4	Std. 5
1	1361	5066	36621	89826	-
2	-	-	-	-	-
3	-	-	-	-	-
4	-	-	-	-	-
5	-	-	-	-	-
6	-	-	-	-	-
7	-	-	-	-	-
8	-	-	-	-	-
9	-	-	-	-	-
10	-	-	-	-	-

(* = unused)

****
** METHODS **
****

TOC Unit: toc
TOC Tue Mar 08 14:06:13 2016

Acid Volume: 200 uL
Oxidant Volume: 1000 uL
Auto-Repeat Time: 00:00:00 (hr:min:sec)

Rinse Volume (mL): 25
Rinses Per Rep: 0
Rinses Per Sample: 1

	TIC	TOC	TC
React: (min:sec):	02:00	02:30	02:30
Detect: (min:sec):	01:00	01:30	01:30

****
** SEQUENCE **
****

TOC Unit: toc
091719AA Tue Sep 17 10:01:38 2019

Start Pos/Vial #: 1, Stop Pos/Vial #: 51

Pos/ Vial	Sample Name	Method	Run Type	# Rep	Vol (mL)	# Blk	Dil Fact	Ovr Rng	Remarks
1	RINSE	toc	Sample	1	5.000	0	1.00	No	
2	RINSE	toc	Sample	1	5.000	0	1.00	No	
3	ICV	toc	Sample	1	5.000	0	1.00	No	
4	ICB	toc	Sample	1	5.000	0	1.00	No	
5	MB	toc	Sample	1	5.000	0	1.00	No	
6	LCS	toc	Sample	1	5.000	0	1.00	No	
7	600-191944-A-2	toc	Sample	1	5.000	0	1.00	No	
8	ms 191944-A-2	toc	Sample	1	5.000	0	1.00	No	
9	msd 191944-A-2	toc	Sample	1	5.000	0	1.00	No	
10	191931-D-1@2	toc	Sample	1	5.000	0	1.00	No	
11	192005-D-1@2	toc	Sample	1	5.000	0	1.00	No	
12	192016-C-1@2	toc	Sample	1	5.000	0	1.00	No	
13	192020-C-1@2	toc	Sample	1	5.000	0	1.00	No	
14	191441-A-2@2	toc	Sample	1	5.000	0	1.00	No	
15	CCV	toc	Sample	1	5.000	0	1.00	No	
16	CCB	toc	Sample	1	5.000	0	1.00	No	
17	192000-E-4@4	toc	Sample	1	5.000	0	1.00	No	
18	191944-A-6@4	toc	Sample	1	5.000	0	1.00	No	
19	192010-A-9@4	toc	Sample	1	5.000	0	1.00	No	
20	600-191931-B-5	toc	Sample	1	5.000	0	1.00	No	
21	600-191944-A-8	toc	Sample	1	5.000	0	1.00	No	
22	ms 191944-A-8	toc	Sample	1	5.000	0	1.00	No	
23	msd 191944-A-8	toc	Sample	1	5.000	0	1.00	No	
24	600-192005-B-4	toc	Sample	1	5.000	0	1.00	No	
25	600-192010-A-4	toc	Sample	1	5.000	0	1.00	No	
26	600-191956-J-2	toc	Sample	1	5.000	0	1.00	No	
27	ccv	toc	Sample	1	5.000	0	1.00	No	
28	ccb	toc	Sample	1	5.000	0	1.00	No	
29	600-191956-J-1	toc	Sample	1	5.000	0	1.00	No	
30	600-192022-C-1	toc	Sample	1	5.000	0	1.00	No	
31	600-192005-B-6	toc	Sample	1	5.000	0	1.00	No	
32	600-192005-B-8	toc	Sample	1	5.000	0	1.00	No	
33	600-191931-B-3	toc	Sample	1	5.000	0	1.00	No	

33	600-191931-B-3	toc	Sample	1	5.000	0	1.00	No
34	600-192005-B-9	toc	Sample	1	5.000	0	1.00	No
35	MB	toc	Sample	1	5.000	0	1.00	No
36	LCS	toc	Sample	1	5.000	0	1.00	No
37	600-192010-A-11	toc	Sample	1	5.000	0	1.00	No
38	ms 192010-A-11	toc	Sample	1	5.000	0	1.00	No
39	CCV	toc	Sample	1	5.000	0	1.00	No
40	CCB	toc	Sample	1	5.000	0	1.00	No
41	msd192010-A-11	toc	Sample	1	5.000	0	1.00	No
42	600-192005-B-5	toc	Sample	1	5.000	0	1.00	No
43	600-191931-B-4	toc	Sample	1	5.000	0	1.00	No
44	600-191931-B-6	toc	Sample	1	5.000	0	1.00	No
45	600-191956-J-3	toc	Sample	1	5.000	0	1.00	No
46	600-191420-A-1	toc	Sample	1	5.000	0	1.00	No
47	600-192005-B-7	toc	Sample	1	5.000	0	1.00	No
48	600-192010-A-2	toc	Sample	1	5.000	0	1.00	No
49	600-192006-a-1	toc	Sample	1	5.000	0	1.00	No
50	ccv	toc	Sample	1	5.000	0	1.00	No
51	ccb	toc	Sample	1	5.000	0	1.00	No

****
** RESULTS - 091719AA **
****

TOC Unit: toc

Pos/Vial: 1 Name: RINSE Analyzed: 17Sep2019 10:14
Run ID: 1 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES

Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR001	17Sep2019	10:14	142	0.118	0.024	3627	4.368	0.878	-	-

Pos/Vial: 2 Name: RINSE Analyzed: 17Sep2019 10:26
Run ID: 1 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES

Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR002	17Sep2019	10:26	137	0.111	0.022	1747	1.723	0.346	-	-

Pos/Vial: 3 Name: ICV Analyzed: 17Sep2019 10:39
Run ID: 2 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES

Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR003	17Sep2019	10:39	133	0.106	0.021	39071	54.251	10.905	-	-

Pos/Vial: 4 Name: ICB Analyzed: 17Sep2019 10:51
Run ID: 3 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES

Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR004	17Sep2019	10:51	136	0.110	0.022	1850	1.868	0.375	-	-

Pos/Vial: 5 Name: MB Analyzed: 17Sep2019 11:03
Run ID: 4 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR005	17Sep2019	11:03	100	0.059	0.012	1630	1.558	0.313	-	-

Pos/Vial: 6 Name: LCS Analyzed: 17Sep2019 11:15
Run ID: 5 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR006	17Sep2019	11:15	121	0.089	0.018	38389	53.291	10.712	-	-

Pos/Vial: 7 Name: 600-191944-A-2 Analyzed: 17Sep2019 11:27
Run ID: 6 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR007	17Sep2019	11:27	1520	2.058	0.414	19607	26.858	5.399	-	-

Pos/Vial: 8 Name: ms 191944-A-2 Analyzed: 17Sep2019 11:39
Run ID: 7 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR008	17Sep2019	11:39	1477	1.997	0.401	55905	77.942	15.667	-	-

Pos/Vial: 9 Name: msd 191944-A-2 Analyzed: 17Sep2019 11:52
Run ID: 8 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR009	17Sep2019	11:52	1548	2.097	0.421	55686	77.634	15.605	-	-

Pos/Vial: 10 Name: 191931-D-1@2 Analyzed: 17Sep2019 12:04
Run ID: 9 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR010	17Sep2019	12:04	9246	12.931	2.599	36423	50.524	10.156	-	-

Pos/Vial: 11 Name: 192005-D-1@2 Analyzed: 17Sep2019 12:16
Run ID: 10 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR011	17Sep2019	12:16	9177	12.834	2.580	37630	52.223	10.497	-	-

/Vial: 12 Name: 192016-C-1@2 Analyzed: 17Sep2019 12:28
Run ID: 11 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR012	17Sep2019	12:28	2943	4.060	0.816	9689	12.900	2.593	-	-

Pos/Vial: 13 Name: 192020-C-1@2 Analyzed: 17Sep2019 12:40
Run ID: 12 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR013	17Sep2019	12:40	4140	5.745	1.155	41711	57.966	11.651	-	-

Pos/Vial: 14 Name: 191441-A-2@2 Analyzed: 17Sep2019 12:53
Run ID: 13 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR014	17Sep2019	12:53	7111	9.926	1.995	23868	32.855	6.604	-	-

Pos/Vial: 15 Name: CCV Analyzed: 17Sep2019 13:05
Run ID: 14 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR015	17Sep2019	13:05	165	0.151	0.030	35917	49.812	10.012	-	-

Pos/Vial: 16 Name: CCB Analyzed: 17Sep2019 13:17
Run ID: 15 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR016	17Sep2019	13:17	156	0.138	0.028	1551	1.447	0.291	-	-

Pos/Vial: 17 Name: 192000-E-4@4 Analyzed: 17Sep2019 13:29
Run ID: 16 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR017	17Sep2019	13:29	2549	3.506	0.705	19501	26.709	5.369	-	-

Pos/Vial: 18 Name: 191944-A-6@4 Analyzed: 17Sep2019 13:41
Run ID: 17 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)

1	KR018	17Sep2019	13:41	3474	4.808	0.966	21455	29.459	5.921	-	-

Pos/Vial: 19 Name: 192010-A-9@4 Analyzed: 17Sep2019 13:53
Run ID: 18 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES				TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
Rep	Datafile	Date	Time								
1	KR019	17Sep2019	13:53	3084	4.259	0.856	19637	26.900	5.407	-	-

Pos/Vial: 20 Name: 600-191931-B-5 Analyzed: 17Sep2019 14:05
Run ID: 19 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES				TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
Rep	Datafile	Date	Time								
1	KR020	17Sep2019	14:05	2398	3.293	0.662	15285	20.775	4.176	-	-

Pos/Vial: 21 Name: 600-191944-A-8 Analyzed: 17Sep2019 14:18
Run ID: 20 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES				TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
Rep	Datafile	Date	Time								
1	KR021	17Sep2019	14:18	667	0.857	0.172	18845	25.786	5.183	-	-

Pos/Vial: 22 Name: ms 191944-A-8 Analyzed: 17Sep2019 14:30
Run ID: 21 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES				TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
Rep	Datafile	Date	Time								
1	KR022	17Sep2019	14:30	668	0.858	0.173	55236	77.001	15.477	-	-

Pos/Vial: 23 Name: msd 191944-A-8 Analyzed: 17Sep2019 14:42
Run ID: 22 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES				TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
Rep	Datafile	Date	Time								
1	KR023	17Sep2019	14:42	756	0.982	0.198	55846	77.859	15.650	-	-

Pos/Vial: 24 Name: 600-192005-B-4 Analyzed: 17Sep2019 14:54
Run ID: 23 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES				TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
Rep	Datafile	Date	Time								
1	KR024	17Sep2019	14:54	12310	17.243	3.466	60533	84.455	16.976	-	-

Pos/Vial: 25 Name: 600-192010-A-4 Analyzed: 17Sep2019 15:06
Run ID: 24 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES

Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR025	17Sep2019	15:06	816	1.067	0.214	20328	27.873	5.602	-	-

Pos/Vial: 26 Name: 600-191956-J-2 Analyzed: 17Sep2019 15:18
Run ID: 25 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES

Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR026	17Sep2019	15:18	54020	75.944	15.265	42331	58.839	11.827	-	-

Pos/Vial: 27 Name: ccv Analyzed: 17Sep2019 15:30
Run ID: 26 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES

Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR027	17Sep2019	15:30	158	0.141	0.028	36289	50.335	10.118	-	-

Pos/Vial: 28 Name: ccb Analyzed: 17Sep2019 15:43
Run ID: 27 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES

Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR028	17Sep2019	15:43	158	0.141	0.028	1351	1.165	0.234	-	-

Pos/Vial: 29 Name: 600-191956-J-1 Analyzed: 17Sep2019 15:55
Run ID: 28 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES

Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR029	17Sep2019	15:55	7302	10.195	2.049	13546	18.328	3.684	-	-

Pos/Vial: 30 Name: 600-192022-C-1 Analyzed: 17Sep2019 16:07
Run ID: 29 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES

Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR030	17Sep2019	16:07	5627	7.838	1.575	45856	63.800	12.824	-	-

Pos/Vial: 31 Name: 600-192005-B-6 Analyzed: 17Sep2019 16:19
Run ID: 30 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES

Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR031	17Sep2019	16:19	2138	2.927	0.588	13647	18.470	3.713	-	-

Pos/Vial: 32 Name: 600-192005-B-8 Analyzed: 17Sep2019 16:31
Run ID: 31 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES				TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
Rep	Datafile	Date	Time								
1	KR032	17Sep2019	16:31	2297	3.151	0.633	14381	19.503	3.920	-	-

Pos/Vial: 33 Name: 600-191931-B-3 Analyzed: 17Sep2019 16:43
Run ID: 32 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES				TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
Rep	Datafile	Date	Time								
1	KR033	17Sep2019	16:43	2317	3.179	0.639	13497	18.259	3.670	-	-

Pos/Vial: 34 Name: 600-192005-B-9 Analyzed: 17Sep2019 16:56
Run ID: 33 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES				TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
Rep	Datafile	Date	Time								
1	KR034	17Sep2019	16:56	7033	9.816	1.973	51403	71.606	14.393	-	-

Pos/Vial: 35 Name: MB Analyzed: 17Sep2019 17:08
Run ID: 34 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES				TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
Rep	Datafile	Date	Time								
1	KR035	17Sep2019	17:08	216	0.222	0.045	1588	1.499	0.301	-	-

Pos/Vial: 36 Name: LCS Analyzed: 17Sep2019 17:20
Run ID: 35 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES				TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
Rep	Datafile	Date	Time								
1	KR036	17Sep2019	17:20	143	0.120	0.024	37762	52.408	10.534	-	-

Pos/Vial: 37 Name: 600-192010-A-11 Analyzed: 17Sep2019 17:32
Run ID: 36 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES				TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
Rep	Datafile	Date	Time								
1	KR037	17Sep2019	17:32	497	0.618	0.124	18858	25.804	5.187	-	-

Pos/Vial: 38 Name: ms 192010-A-11 Analyzed: 17Sep2019 17:44
Run ID: 37 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES	TIC Area	TIC Mass	TIC Conc	TOC Area	TOC Mass	TOC Conc	TC Area	TC Mass

Rep	Datafile	Date	Time	(cts)	(ugC)	(ppm)	(cts)	(ugC)	(ppm)	(cts)	(ugC)
1	KR038	17Sep2019	17:44	560	0.706	0.142	56010	78.090	15.696	-	-

Pos/Vial: 39 Name: CCV Analyzed: 17Sep2019 17:56
Run ID: 38 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR039	17Sep2019	17:56	137	0.111	0.022	35568	49.321	9.914	-	-

Pos/Vial: 40 Name: CCB Analyzed: 17Sep2019 18:09
Run ID: 39 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR040	17Sep2019	18:08	163	0.148	0.030	1131	0.856	0.172	-	-

Pos/Vial: 41 Name: msd192010-A-11 Analyzed: 17Sep2019 18:21
Run ID: 40 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR041	17Sep2019	18:21	502	0.625	0.126	56822	79.233	15.926	-	-

Pos/Vial: 42 Name: 600-192005-B-5 Analyzed: 17Sep2019 18:33
Run ID: 41 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR042	17Sep2019	18:33	1867	2.546	0.512	10474	14.005	2.815	-	-

Pos/Vial: 43 Name: 600-191931-B-4 Analyzed: 17Sep2019 18:45
Run ID: 42 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR043	17Sep2019	18:45	7089	9.895	1.989	49343	68.707	13.811	-	-

Pos/Vial: 44 Name: 600-191931-B-6 Analyzed: 17Sep2019 18:57
Run ID: 43 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR044	17Sep2019	18:57	6141	8.561	1.721	49741	69.267	13.923	-	-

Pos/Vial: 45 Name: 600-191956-J-3 Analyzed: 17Sep2019 19:09
Run ID: 44 Meth: toc Vol (mL): 4.975

Remarks: <none>

SAMPLES

Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR045	17Sep2019	19:09	6635	9.256	1.860	21847	30.010	6.032	-	-

Pos/Vial: 46 Name: 600-191420-A-1 Analyzed: 17Sep2019 19:21
Run ID: 45 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES

Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR046	17Sep2019	19:21	4890	6.800	1.367	11079	14.856	2.986	-	-

Pos/Vial: 47 Name: 600-192005-B-7 Analyzed: 17Sep2019 19:33
Run ID: 46 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES

Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR047	17Sep2019	19:33	6954	9.705	1.951	57618	80.353	16.151	-	-

Pos/Vial: 48 Name: 600-192010-A-2 Analyzed: 17Sep2019 19:46
Run ID: 47 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES

Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR048	17Sep2019	19:46	462	0.569	0.114	20106	27.560	5.540	-	-

Pos/Vial: 49 Name: 600-192006-a-1 Analyzed: 17Sep2019 19:58
Run ID: 48 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES

Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR049	17Sep2019	19:58	3480	4.816	0.968	7753	10.175	2.045	-	-

Pos/Vial: 50 Name: ccv Analyzed: 17Sep2019 20:10
Run ID: 49 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES

Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)
1	KR050	17Sep2019	20:10	117	0.083	0.017	36591	50.760	10.203	-	-

Pos/Vial: 51 Name: ccb Analyzed: 17Sep2019 20:22
Run ID: 50 Meth: toc Vol (mL): 4.975
Remarks: <none>

SAMPLES

Rep	Datafile	Date	Time	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)	TC Area (cts)	TC Mass (ugC)

1	KR051	17Sep2019 20:22	167	0.153	0.031	1178	0.922	0.185	

Subcontract Data

Shipping and Receiving Documents

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins Environment Testing TestAmerica

Client Information	Sampler: S. SALLER / L LAVERGNE	Lab PM: Gamber, Carrier L	Carrier Tracking No(s):	COC No: 180-54407-11342.1
Client Contact: Janie Smith	Phone: (225) 292-9007	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 3
Company: GHD Services Inc.				Job #: 11187072
Address: 5551 Corporate Boulevard Suite 200	Due Date Requested:			
City: Baton Rouge	TAT Requested (days): 5 DAY			
State, Zip: LA, 70808				
Phone: 225-292-9007(Tel)	PO #: Purchase Order Requested			
Email: janie.smith@ghd.com	WO #:			
Project Name: San Jacinto River Waste Pits Superfund S	Project #: 18020662			
Site: NORTHERN IMPOUNDMENT	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

600-191956 Chain of Custody

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	See Attached SSOW	LAB FILTER	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X			X	
11187072-091219-SS-INF-1	9/12/19	1700	C	W	X		X	X		DRAFT SSOW
11187072-091319-LL-EXC-1	9/13/19	0800	C	W	X		X	X		INCLUDED; CONFIRM
11187072-091319-LL-INF-2	9/13/19	0900	C	W	X		X	X		TO FINAL SSOW
TRIP BLANK	—	—	—	W						
										FIELD FILTERED SAMPLES
										NOT FILTERED; NEED
										LAB TO FILTER

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	9/13/19	GHD	Will Mc	9-13-19 1140	SDS
Will Mc	9-13-19 1255	SDS	[signature]	9-13-19 1255	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

SSOW Ref. Code
11187072-2019-003

Project Name: San Jacinto River Waste Pits Superfund Site Investigation
GHD Project No./Phase/Task: 11187072
Project Location: San Jacinto, Harris County, Texas

Phase/Study Title: Pilot Test Sampling Event
Event Description: Pilot Test Water Sampling

Item	Sample Matrix	Analytical Parameters	Analytical Methods	Unit Prices	Applicable Surcharge Multiplier [1]	Extended Prices	Estimated Sample Qty/Event	Field QC Samples: MS	MSD	Lab Dup	Trip Blk	RBlk	Fld Dup	Other	Total Sample Qty.	Billable Samples	Estimated Cost/Event
Treatability Sampling																	
Water - Surface/Contact (see analyte lists on page 3)																	
1	water	Total Dioxins	1613B	375	1.50	$ 562.50	8	1	1			1	1		12	11	$6,187.50
2	water	Dissolved Dioxins	1613B	375	1.50	$ 562.50	8	1	1			1	1		12	11	$6,187.50
3	water	Total PCBs	8082	48	1.15	$ 55.20	8	1	1			1	1		12	11	$607.20
4	water	Dissolved PCBs	8082	48	1.15	$ 55.20	8	1	1			1	1		12	11	$607.20
5	water	Total Suspended Solids	SM 2540D	15	1.15	$ 17.25	8			1		1	1		11	11	$189.75
6	water	Total Dissolved Solids	SM 2540C	15	1.15	$ 17.25	8			1		1	1		11	11	$189.75
7	water	pH	EPA 9040B	5	1.15	$ 5.75	6			1		1	1		9	9	$51.75
8	water	VOC (see analyte list page 3)	SW846-8260C	110	1.15	$ 126.50	6	1	1		1	1	1	1	12	10	$1,265.00
9	water	SVOC	SW846-8270D	110	1.15	$ 126.50	6	1	1			1	1		10	9	$1,138.50
10	water	Pesticides	SW-846-8081B	72	1.15	$ 82.80	6	1	1			1	1		10	9	$745.20
11	water	Herbicides	SW-846-8151A	119	1.15	$ 136.85	6	1	1			1	1		10	9	$1,231.65
12	water	Total metals (see list on page 3)	SW846-6010C/7470A	69	1.15	$ 79.35	6	1	1			1	1		10	9	$714.15
13	water	Dissolved metals	SW846-6010C/7470A	69	1.15	$ 79.35	6	1	1			1	1		10	9	$714.15
14	water	Ammonia nitrogen	EPA-SW846-350.1	15	1.15	$ 17.25	6	1	1			1	1		10	9	$155.25
15	water	Biochemical Oxygen Demand	SM 5210B	18	1.15	$ 20.70	6			1		1	1		9	9	$186.30
16	water	Chemical Oxygen Demand	HACH8000	18	1.15	$ 20.70	6			1		1	1		9	9	$186.30
17	water	Total Organic Carbon	9060	18	1.15	$ 20.70	6	1	1			1	1		10	9	$186.30
18	water	Ferrous iron	HACH 8146	15	1.15	$ 17.25	6			1		1	1		9	9	$155.25
19	water	Chloride, bromide, sulfate	EPA 300.0	33	1.15	$ 37.95	6	1	1			1	1		10	9	$341.55
20	water	Phosphate as P	4500 P E	25	1.15	$ 28.75	6	1	1			1	1		10	9	$258.75
21	water	Alkalinity - total	SM 2320B	11	1.15	$ 12.65	6			1		1	1		9	9	$113.85
22	water	Alkalinity - carbonate	SM 2320B	11	1.15	$ 12.65	6			1		1	1		9	9	$113.85
23	water	Alkalinity - bicarbonate	SM 2320B	11	1.15	$ 12.65	6			1		1	1		9	9	$113.85
24	water	Nitrate as N*	EPA 300.0	11	1.15	$ 12.65	6	1	1			1	1		10	9	$113.85
25	water	nittrite as N*	EPA 300.0	11	1.15	$ 12.65	6	1	1			1	1		10	9	$113.85
26	water	sulfide	9034	15	1.15	$ 17.25	6			1		1	1		9	9	$155.25
27	water	cyanide	9012B	18	1.15	$ 20.70	6	1	1			1	1		6	9	$186.30

* - 48 hour hold time

NOTE: Please include and extra 6 unpreserved bottles to be used when filtering/decanting aliquots to be filtered.

TestAmerica Houston

Loc: 600
191956

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sample Receipt Chec

Date/Time Received: 09-13-19 12:55

JOB NUMBER: _____

CLIENT: GHD

UNPACKED BY: _____

CARRIER/DRIVER: PC

Custody Seal Present: ☒ YES ☐ NO

Number of Coolers Received: 3

Cooler ID	Temp Blank	Trip Blank	Observed Temp (°C)	Therm ID	Them CF	Corrected Temp (°C)
RW	Y / N	Y / N	0.8	6T8	-0.1	0.9
GR	Y / N	Y / N	1.7	|	|	1.8
BW	Y / N	Y / N	1.2	|	|	1.3
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				

CF = correction factor

Samples received on ice? ☒ YES ☐ NO

LABORATORY PRESERVATION OF SAMPLES REQUIRED: ☒ NO ☐ YES

Base samples are>pH 12: ☒ YES ☐ NO Acid preserved are<pH 2: ☒ YES ☐ NO

pH paper Lot #_____

VOA headspace acceptable (5-6mm): ☒ YES ☐ NO ☐ NA

	YES	NO
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	☒	☐

COMMENTS:

9/13/19

HS-SA-WI-013

Rev. 3; 07/01/2014

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins Environment Testing TestAmerica

Client Information	Sampler: S. SALLER / L LAVERGNE	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-54407-11342.1
Client Contact: Janie Smith	Phone: (225) 292-9007	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 3
Company: GHD Services Inc.				Job #: 11187072
Address: 5551 Corporate Boulevard Suite 200	Due Date Requested:			
City: Baton Rouge	TAT Requested (days): 5 DAY			
State, Zip: LA, 70808				
Phone: 225-292-9007(Tel)	PO #: Purchase Order Requested			
Email: janie.smith@ghd.com	WO #:			
Project Name: San Jacinto River Waste Pits Superfund S	Project #: 18020662			
Site: NORTHERN IMPOUNDMENT	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

600-191956 Chain of Custody

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	See Attached SSOW	Lab Filter	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X			X	
11187072-091219-SS-INF-1	9/12/19	1700	C	W	X		X	X		DRAFT SSOW
11187072-091319-LL-EXC-1	9/13/19	0800	C	W	X		X	X		INCLUDED; CONFIRM
11187072-091319-LL-INF-2	9/13/19	0900	C	W	X		X	X		TO FINAL SSOW
TRIP BLANK	—	—	—	W						
										FIELD FILTERED SAMPLES
										NOT FILTERED; NEED
										LAB TO FILTER

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	9/13/19	GHD	[signature]	9-13-19 1140	SDS
[signature]	9-13-19 1255	SDS	[signature]	9-13-19 1255	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

GHD Simplified Scope of Work (SSOW)/Laboratory Services Purchase Order

SSOW Ref. Code
11187072-2019-003

Project Name: San Jacinto River Waste Pits Superfund Site Investigation

GHD Project No./Phase/Task: 11187072

Project Location: San Jacinto, Harris County, Texas

Phase/Study Title: Pilot Test Sampling Event

Event Description: Pilot Test Water Sampling

Item	Sample Matrix	Analytical Parameters	Analytical Methods	Unit Prices	Applicable Surcharge Multiplier [1]	Extended Prices	Estimated Sample Qty/Event	Field QC Samples: MS	MSD	Lab Dup	Trip Blk	RBlk	Fld Dup	Other	Total Sample Qty.	Billable Samples	Estimated Cost/Event
Treatability Sampling																	
Water - Surface/Contact (see analyte lists on page 3)																	
1	water	Total Dioxins	1613B	375	1.50	$ 562.50	8	1	1			1	1		12	11	$6,187.50
2	water	Dissolved Dioxins	1613B	375	1.50	$ 562.50	8	1	1			1	1		12	11	$6,187.50
3	water	Total PCBs	8082	48	1.15	$ 55.20	8	1	1			1	1		12	11	$607.20
4	water	Dissolved PCBs	8082	48	1.15	$ 55.20	8	1	1			1	1		12	11	$607.20
5	water	Total Suspended Solids	SM 2540D	15	1.15	$ 17.25	8			1		1	1		11	11	$189.75
6	water	Total Dissolved Solids	SM 2540C	15	1.15	$ 17.25	8			1		1	1		11	11	$189.75
7	water	pH	EPA 9040B	5	1.15	$ 5.75	6			1		1	1		9	9	$51.75
8	water	VOC (see analyte list page 3)	SW846-8260C	110	1.15	$ 126.50	6	1	1		1	1	1	1	12	10	$1,265.00
9	water	SVOC	SW846-8270D	110	1.15	$ 126.50	6	1	1			1	1		10	9	$1,138.50
10	water	Pesticides	SW-846-8081B	72	1.15	$ 82.80	6	1	1			1	1		10	9	$745.20
11	water	Herbicides	SW-846-8151A	119	1.15	$ 136.85	6	1	1			1	1		10	9	$1,231.65
12	water	Total metals (see list on page 3)	SW846-6010C/7470A	69	1.15	$ 79.35	6	1	1			1	1		10	9	$714.15
13	water	Dissolved metals	SW846-6010C/7470A	69	1.15	$ 79.35	6	1	1			1	1		10	9	$714.15
14	water	Ammonia nitrogen	EPA-SW846-350.1	15	1.15	$ 17.25	6	1	1			1	1		10	9	$155.25
15	water	Biochemical Oxygen Demand	SM 5210B	18	1.15	$ 20.70	6			1		1	1		9	9	$186.30
16	water	Chemical Oxygen Demand	HACH8000	18	1.15	$ 20.70	6			1		1	1		9	9	$186.30
17	water	Total Organic Carbon	9060	18	1.15	$ 20.70	6	1	1			1	1		10	9	$186.30
18	water	Ferrous iron	HACH 8146	15	1.15	$ 17.25	6			1		1	1		9	9	$155.25
19	water	Chloride, bromide, sulfate	EPA 300.0	33	1.15	$ 37.95	6	1	1			1	1		10	9	$341.55
20	water	Phosphate as P	4500 P E	25	1.15	$ 28.75	6	1	1			1	1		10	9	$258.75
21	water	Alkalinity - total	SM 2320B	11	1.15	$ 12.65	6			1		1	1		9	9	$113.85
22	water	Alkalinity - carbonate	SM 2320B	11	1.15	$ 12.65	6			1		1	1		9	9	$113.85
23	water	Alkalinity - bicarbonate	SM 2320B	11	1.15	$ 12.65	6			1		1	1		9	9	$113.85
24	water	Nitrate as N*	EPA 300.0	11	1.15	$ 12.65	6	1	1			1	1		10	9	$113.85
25	water	nittrite as N*	EPA 300.0	11	1.15	$ 12.65	6	1	1			1	1		10	9	$113.85
26	water	sulfide	9034	15	1.15	$ 17.25	6			1		1	1		9	9	$155.25
27	water	cyanide	9012B	18	1.15	$ 20.70	6	1	1			1	1		6	9	$186.30

* - 48 hour hold time

NOTE: Please include and extra 6 unpreserved bottles to be used when filtering/decanting aliquots to be filtered.

TestAmerica Houston

Loc: 600
191956

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sample Receipt Chec

Date/Time Received: 09-13-19 12:55

JOB NUMBER: _____ CLIENT: GHD

UNPACKED BY: _____ CARRIER/DRIVER: PC

Custody Seal Present: ☒ YES ☐ NO Number of Coolers Received: 3

Cooler ID	Temp Blank	Trip Blank	Observed Temp (℃)	Therm ID	Them CF	Corrected Temp (℃)
RW	Y / N	Y / N	0.8	6T8	-1.1	0.9
GR	Y / N	Y / N	1.7			1.8
BW	Y / N	Y / N	1.2			1.3
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				

CF = correction factor

Samples received on ice? ☒ YES ☐ NO

LABORATORY PRESERVATION OF SAMPLES REQUIRED: ☒ NO ☐ YES

Base samples are>pH 12: ☒ YES ☐ NO Acid preserved are<pH 2: ☒ YES ☐ NO

pH paper Lot #_____

VOA headspace acceptable (5-6mm): ☒ YES ☐ NO ☐ NA

	YES	NO
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	☒	

COMMENTS:

9/13/19

HS-SA-WI-013 Rev. 3; 07/01/2014

Eurofins TestAmerica, Houston
6310 Rothway Street
Houston, TX 77040
Phone: 713-690-4444 Fax: 713-690-5646

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrier L	Carrier Tracking No(s):	COC No: 600-41771.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com	State of Origin: Texas	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Texas		Job #: 600-191956-1
Address: 880 Riverside Parkway, ,	Due Date Requested: 9/19/2019			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: San Jacinto River Waste Pits Superfund	Project #: 18020662			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Full List w/ Totals	Total_TEQ	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
11187072-091219-SS-INF-1 (600-191956-1)	9/12/19	17:00 Central		Water			X	X	4	
11187072-091319-LL-EXC-1 (600-191956-2)	9/13/19	08:00 Central		Water			X	X	4	
11187072-091319-LL-INF-2 (600-191956-3)	9/13/19	09:00 Central		Water			X	X	4	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 4	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:		Time:	Method of Shipment:	
Relinquished by: [signature]	Date/Time: 9/16/19 1100	Company TA	Received by: [signature]	Date/Time: 9/17/19 900	Company ETA-SAC
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.: 947102		Cooler Temperature(s) °C and Other Remarks: ob: 0.9°C corr: 1.0°C		

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 600-191956-1

Login Number: 191956
List Number: 1
Creator: Crafton, Tommie S

List Source: Eurofins TestAmerica, Houston

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.9, 1.8, 1.3
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 600-191956-1

Login Number: 191956
List Number: 2
Creator: Thompson, Sarah W

List Source: Eurofins TestAmerica, Sacramento
List Creation: 09/17/19 01:31 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	947102
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.9c ocr 1.0c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

Job Number: 600-191956-2

Job Description: San Jacinto River Waste Pits Superfund

For:
GHD Services Inc.
5551 Corporate Boulevard
Suite 200
Baton Rouge, LA 70808

Attention: Janie Smith

Approved for release.
Carrie L Gamber
Senior Project Manager
5/27/2020 10:02 AM

Carrie L Gamber, Senior Project Manager
301 Alpha Drive, Pittsburgh, PA, 15238
(412)963-2428
carrie.gamber@testamericainc.com
05/27/2020
Revision: 1

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of TestAmerica and its client. All questions regarding this report should be directed to the TestAmerica Project Manager or designee who has signed this report.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins TestAmerica Project Manager.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Eurofins TestAmerica, Houston
6310 Rothway Street, Houston, TX 77040
Tel (713) 690-4444 Fax (713) 690-5646 www.testamericainc.com

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Qualifiers

Dioxin

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE

Client: GHD Services Inc.

Project: San Jacinto River Waste Pits Superfund

Report Number: 600-191956-2 REVISED

NOTE: This report has been revised to report sample 11187072-091319-LL-EXC-1 (600-191956-2) and the Trip Blanks only and to remove the TEQ summaries per client request.

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 09/13/2019; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 0.9º C, 1.3º C and 1.8º C.

PCBS DISSOLVED

The surrogate recovery for the LCS/LCSD associated with preparation batch 600-275087 and analytical batch 600-275246 was outside the upper control limits.

Compound Tetrachloro-m-xylene eluted outside the retention time window on the RTX-CLPesticides 1 column for the following sample: (LCS 600-274969/2-A). This retention time shift was taken into account when reviewing the samples for target compounds.

DIOXINS DISSOLVED

Several analytes were detected in method blank MB 320-324499/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

The laboratory control sample (LCS 320-324499/2-A) has low recoveries for 1,2,3,4,6,7,8-HpCDF, 1,2,3,4,7,8,9-HpCDF, 1,2,3,6,7,8-HxCDF and OCDD. The laboratory control sample duplicate (LCSD 320-3244993-A) has low recoveries for 1,2,3,4,6,7,8-HpCDF and OCDD. The low LCS and LCSD recoveries were confirmed by reanalysis. Data is reported with this low bias at client's request. 11187072-091319-LL-EXC-1 (600-191956-2), (LCS 320-324499/2-A) and (LCSD 320-324499/3-A).

Detection Summary

Client: GHD Services Inc.
Job ID: 600-191956-2
Project/Site: San Jacinto River Waste Pits Superfund

Client Sample ID: 11187072-091319-LL-EXC-1 — Lab Sample ID: 600-191956-2

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	7.1	J	9.7	1.8	pg/L	1		1613B	Total/NA
1,2,3,7,8-PeCDF	3.4	J q B	49	1.6	pg/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	7.6	J	49	1.2	pg/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	2.7	J *	49	1.1	pg/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	2.0	J q B	49	0.71	pg/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	3.6	J q *	49	0.94	pg/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	2.8	J q *	49	1.2	pg/L	1		1613B	Total/NA
OCDD	17	J B *	97	1.3	pg/L	1		1613B	Total/NA
Total TCDD	7.1	J	9.7	1.8	pg/L	1		1613B	Total/NA
Total TCDF	39	q B	9.7	1.3	pg/L	1		1613B	Total/NA
Total PeCDF	3.4	J q B	49	1.6	pg/L	1		1613B	Total/NA
Total HxCDF	12	J q B	49	0.93	pg/L	1		1613B	Total/NA
Total HpCDF	6.4	J q	49	1.1	pg/L	1		1613B	Total/NA
2,3,7,8-TCDF - RA	21		9.7	1.1	pg/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 600-191956-2

Client Sample ID: 11187072-091319-LL-EXC-1

Lab Sample ID: 600-191956-2

Date Collected: 09/13/19 08:00
Matrix: Water
Date Received: 09/13/19 12:55

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		1.2	0.64	ug/L		09/17/19 10:16	09/19/19 18:16	1
PCB-1221	ND		1.2	0.52	ug/L		09/17/19 10:16	09/19/19 18:16	1
PCB-1232	ND		1.2	0.14	ug/L		09/17/19 10:16	09/19/19 18:16	1
PCB-1242	ND		1.2	0.19	ug/L		09/17/19 10:16	09/19/19 18:16	1
PCB-1248	ND		1.2	0.24	ug/L		09/17/19 10:16	09/19/19 18:16	1
PCB-1254	ND		1.2	0.17	ug/L		09/17/19 10:16	09/19/19 18:16	1
PCB-1260	ND		1.2	0.40	ug/L		09/17/19 10:16	09/19/19 18:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*86*		*32 - 150*	*09/17/19 10:16*	*09/19/19 18:16*	*1*
DCB Decachlorobiphenyl	*108*		*26 - 130*	*09/17/19 10:16*	*09/19/19 18:16*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	**7.1**	**J**	9.7	1.8	pg/L		09/18/19 13:24	09/20/19 03:02	1
1,2,3,7,8-PeCDD	ND		49	1.6	pg/L		09/18/19 13:24	09/20/19 03:02	1
1,2,3,7,8-PeCDF	**3.4**	**J q B**	49	1.6	pg/L		09/18/19 13:24	09/20/19 03:02	1
2,3,4,7,8-PeCDF	ND		49	1.7	pg/L		09/18/19 13:24	09/20/19 03:02	1
1,2,3,4,7,8-HxCDD	ND		49	1.2	pg/L		09/18/19 13:24	09/20/19 03:02	1
1,2,3,6,7,8-HxCDD	ND		49	1.2	pg/L		09/18/19 13:24	09/20/19 03:02	1
1,2,3,7,8,9-HxCDD	ND		49	1.1	pg/L		09/18/19 13:24	09/20/19 03:02	1
1,2,3,4,7,8-HxCDF	**7.6**	**J**	49	1.2	pg/L		09/18/19 13:24	09/20/19 03:02	1
1,2,3,6,7,8-HxCDF	**2.7**	**J ***	49	1.1	pg/L		09/18/19 13:24	09/20/19 03:02	1
1,2,3,7,8,9-HxCDF	**2.0**	**J q B**	49	0.71	pg/L		09/18/19 13:24	09/20/19 03:02	1
2,3,4,6,7,8-HxCDF	ND		49	0.71	pg/L		09/18/19 13:24	09/20/19 03:02	1
1,2,3,4,6,7,8-HpCDD	ND		49	1.1	pg/L		09/18/19 13:24	09/20/19 03:02	1
1,2,3,4,6,7,8-HpCDF	**3.6**	**J q ***	49	0.94	pg/L		09/18/19 13:24	09/20/19 03:02	1
1,2,3,4,7,8,9-HpCDF	**2.8**	**J q ***	49	1.2	pg/L		09/18/19 13:24	09/20/19 03:02	1
OCDD	**17**	**J B ***	97	1.3	pg/L		09/18/19 13:24	09/20/19 03:02	1
OCDF	ND		97	2.1	pg/L		09/18/19 13:24	09/20/19 03:02	1
Total TCDD	**7.1**	**J**	9.7	1.8	pg/L		09/18/19 13:24	09/20/19 03:02	1
Total TCDF	**39**	**q B**	9.7	1.3	pg/L		09/18/19 13:24	09/20/19 03:02	1
Total PeCDD	ND		49	1.6	pg/L		09/18/19 13:24	09/20/19 03:02	1
Total PeCDF	**3.4**	**J q B**	49	1.6	pg/L		09/18/19 13:24	09/20/19 03:02	1
Total HxCDD	ND		49	1.2	pg/L		09/18/19 13:24	09/20/19 03:02	1
Total HxCDF	**12**	**J q B**	49	0.93	pg/L		09/18/19 13:24	09/20/19 03:02	1
Total HpCDD	ND		49	1.1	pg/L		09/18/19 13:24	09/20/19 03:02	1
Total HpCDF	**6.4**	**J q**	49	1.1	pg/L		09/18/19 13:24	09/20/19 03:02	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*36*		*25 - 164*	*09/18/19 13:24*	*09/20/19 03:02*	*1*
13C-2,3,7,8-TCDF	*37*		*24 - 169*	*09/18/19 13:24*	*09/20/19 03:02*	*1*
13C-1,2,3,7,8-PeCDD	*38*		*25 - 181*	*09/18/19 13:24*	*09/20/19 03:02*	*1*
13C-1,2,3,7,8-PeCDF	*36*		*24 - 185*	*09/18/19 13:24*	*09/20/19 03:02*	*1*
13C-2,3,4,7,8-PeCDF	*39*		*21 - 178*	*09/18/19 13:24*	*09/20/19 03:02*	*1*
13C-1,2,3,4,7,8-HxCDD	*36*		*32 - 141*	*09/18/19 13:24*	*09/20/19 03:02*	*1*
13C-1,2,3,6,7,8-HxCDD	*37*		*28 - 130*	*09/18/19 13:24*	*09/20/19 03:02*	*1*
13C-1,2,3,4,7,8-HxCDF	*38*		*26 - 152*	*09/18/19 13:24*	*09/20/19 03:02*	*1*
13C-1,2,3,6,7,8-HxCDF	*36*		*26 - 123*	*09/18/19 13:24*	*09/20/19 03:02*	*1*
13C-1,2,3,7,8,9-HxCDF	*37*		*29 - 147*	*09/18/19 13:24*	*09/20/19 03:02*	*1*
13C-2,3,4,6,7,8-HxCDF	*37*		*28 - 136*	*09/18/19 13:24*	*09/20/19 03:02*	*1*

Client Sample ID: 11187072-091319-LL-EXC-1 Lab Sample ID: 600-191956-2

Date Collected: 09/13/19 08:00 **Matrix: Water**
Date Received: 09/13/19 12:55

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,4,6,7,8-HpCDD	*36*		*23 - 140*	*09/18/19 13:24*	*09/20/19 03:02*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*34*		*28 - 143*	*09/18/19 13:24*	*09/20/19 03:02*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*37*		*26 - 138*	*09/18/19 13:24*	*09/20/19 03:02*	*1*
13C-OCDD	*32*		*17 - 157*	*09/18/19 13:24*	*09/20/19 03:02*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*93*		*35 - 197*	*09/18/19 13:24*	*09/20/19 03:02*	*1*

Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	**21**		9.7	1.1	pg/L		09/18/19 13:24	09/20/19 14:24	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*40*		*24 - 169*	*09/18/19 13:24*	*09/20/19 14:24*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*96*		*35 - 197*	*09/18/19 13:24*	*09/20/19 14:24*	*1*

Default Detection Limits

Client: GHD Services Inc.
Job ID: 600-191956-2
Project/Site: San Jacinto River Waste Pits Superfund

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Prep: 3510C

Analyte	RL	MDL	Units
PCB-1016	0.50	0.27	ug/L
PCB-1221	0.50	0.22	ug/L
PCB-1232	0.50	0.060	ug/L
PCB-1242	0.50	0.080	ug/L
PCB-1248	0.50	0.10	ug/L
PCB-1254	0.50	0.070	ug/L
PCB-1260	0.50	0.17	ug/L

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Prep: 1613B

Analyte	RL		Units
1,2,3,4,6,7,8-HpCDD	50		pg/L
1,2,3,4,6,7,8-HpCDF	50		pg/L
1,2,3,4,7,8,9-HpCDF	50		pg/L
1,2,3,4,7,8-HxCDD	50		pg/L
1,2,3,4,7,8-HxCDF	50		pg/L
1,2,3,6,7,8-HxCDD	50		pg/L
1,2,3,6,7,8-HxCDF	50		pg/L
1,2,3,7,8,9-HxCDD	50		pg/L
1,2,3,7,8,9-HxCDF	50		pg/L
1,2,3,7,8-PeCDD	50		pg/L
1,2,3,7,8-PeCDF	50		pg/L
2,3,4,6,7,8-HxCDF	50		pg/L
2,3,4,7,8-PeCDF	50		pg/L
2,3,7,8-TCDD	10		pg/L
2,3,7,8-TCDF	10		pg/L
OCDD	100		pg/L
OCDF	100		pg/L
Total HpCDD	50		pg/L
Total HpCDF	50		pg/L
Total HxCDD	50		pg/L
Total HxCDF	50		pg/L
Total PeCDD	50		pg/L
Total PeCDF	50		pg/L
Total TCDD	10		pg/L
Total TCDF	10		pg/L

Surrogate Summary

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 600-191956-2

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)								
Lab Sample ID	Client Sample ID	TCX1 (32-150)	DCBP1 (26-130)							
600-191956-2	11187072-091319-LL-EXC-1	86	108							

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCBP = DCB Decachlorobiphenyl

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)								
Lab Sample ID	Client Sample ID	37TCDD (35-197)								
600-191956-2	11187072-091319-LL-EXC-1	93								
600-191956-2 - RA	11187072-091319-LL-EXC-1	96								

Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

Isotope Dilution Summary

Client: GHD Services Inc.
Job ID: 600-191956-2
Project/Site: San Jacinto River Waste Pits Superfund

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water
Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		TCDD	TCDF	PeCDD	PeCDF	PeCF	HxCDD	HxDD	HxCDF
Lab Sample ID	Client Sample ID	(25-164)	(24-169)	(25-181)	(24-185)	(21-178)	(32-141)	(28-130)	(26-152)
600-191956-2	11187072-091319-LL-EXC-1	36	37	38	36	39	36	37	38
600-191956-2 - RA	11187072-091319-LL-EXC-1		40						

		Percent Isotope Dilution Recovery (Acceptance Limits)						
		HxDF	HxCF	13CHxCF	HpCDD	HpCDF	HpCDF2	OCDD
Lab Sample ID	Client Sample ID	(26-123)	(29-147)	(28-136)	(23-140)	(28-143)	(26-138)	(17-157)
600-191956-2	11187072-091319-LL-EXC-1	36	37	37	36	34	37	32
600-191956-2 - RA	11187072-091319-LL-EXC-1							

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDD = 13C-1,2,3,7,8-PeCDD
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
OCDD = 13C-OCDD

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 600-274969/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 275246 **Prep Batch: 274969**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		1.0	0.54	ug/L		09/17/19 10:16	09/19/19 16:23	1
PCB-1221	ND		1.0	0.44	ug/L		09/17/19 10:16	09/19/19 16:23	1
PCB-1232	ND		1.0	0.12	ug/L		09/17/19 10:16	09/19/19 16:23	1
PCB-1242	ND		1.0	0.16	ug/L		09/17/19 10:16	09/19/19 16:23	1
PCB-1248	ND		1.0	0.20	ug/L		09/17/19 10:16	09/19/19 16:23	1
PCB-1254	ND		1.0	0.14	ug/L		09/17/19 10:16	09/19/19 16:23	1
PCB-1260	ND		1.0	0.34	ug/L		09/17/19 10:16	09/19/19 16:23	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*78*		*32 - 150*	*09/17/19 10:16*	*09/19/19 16:23*	*1*
DCB Decachlorobiphenyl	*104*		*26 - 130*	*09/17/19 10:16*	*09/19/19 16:23*	*1*

Lab Sample ID: LCS 600-274969/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 275246 **Prep Batch: 274969**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
PCB-1016			10.0	9.12	*	ug/L		91	68 - 130		
PCB-1260			10.0	9.56	*	ug/L		96	51 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*88*	*	*32 - 150*
DCB Decachlorobiphenyl	*115*	*	*26 - 130*

Lab Sample ID: LCSD 600-274969/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 275246 **Prep Batch: 274969**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-1016			10.0	8.80		ug/L		88	68 - 130	4	20
PCB-1260			10.0	9.70		ug/L		97	51 - 135	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*89*		*32 - 150*
DCB Decachlorobiphenyl	*109*		*26 - 130*

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-324499/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 324876 **Prep Batch: 324499**

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		10	1.0	pg/L		09/18/19 13:24	09/19/19 23:58	1
2,3,7,8-TCDF	ND		10	0.62	pg/L		09/18/19 13:24	09/19/19 23:58	1
1,2,3,7,8-PeCDD	ND		50	1.0	pg/L		09/18/19 13:24	09/19/19 23:58	1
1,2,3,7,8-PeCDF	1.88	J	50	0.73	pg/L		09/18/19 13:24	09/19/19 23:58	1
2,3,4,7,8-PeCDF	ND		50	0.73	pg/L		09/18/19 13:24	09/19/19 23:58	1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-324499/1-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 324876 **Prep Batch: 324499**

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,7,8-HxCDD	ND		50	0.64	pg/L		09/18/19 13:24	09/19/19 23:58	1
1,2,3,6,7,8-HxCDD	ND		50	0.64	pg/L		09/18/19 13:24	09/19/19 23:58	1
1,2,3,7,8,9-HxCDD	ND		50	0.58	pg/L		09/18/19 13:24	09/19/19 23:58	1
1,2,3,4,7,8-HxCDF	ND		50	0.85	pg/L		09/18/19 13:24	09/19/19 23:58	1
1,2,3,6,7,8-HxCDF	ND		50	0.75	pg/L		09/18/19 13:24	09/19/19 23:58	1
1,2,3,7,8,9-HxCDF	1.34	J	50	0.52	pg/L		09/18/19 13:24	09/19/19 23:58	1
2,3,4,6,7,8-HxCDF	ND		50	0.56	pg/L		09/18/19 13:24	09/19/19 23:58	1
1,2,3,4,6,7,8-HpCDD	ND		50	0.52	pg/L		09/18/19 13:24	09/19/19 23:58	1
1,2,3,4,6,7,8-HpCDF	ND		50	0.53	pg/L		09/18/19 13:24	09/19/19 23:58	1
1,2,3,4,7,8,9-HpCDF	ND		50	0.63	pg/L		09/18/19 13:24	09/19/19 23:58	1
OCDD	3.96	J	100	0.86	pg/L		09/18/19 13:24	09/19/19 23:58	1
OCDF	ND		100	1.1	pg/L		09/18/19 13:24	09/19/19 23:58	1
Total TCDD	ND		10	1.0	pg/L		09/18/19 13:24	09/19/19 23:58	1
Total TCDF	1.66	J	10	0.62	pg/L		09/18/19 13:24	09/19/19 23:58	1
Total PeCDD	ND		50	1.0	pg/L		09/18/19 13:24	09/19/19 23:58	1
Total PeCDF	1.88	J	50	0.73	pg/L		09/18/19 13:24	09/19/19 23:58	1
Total HxCDD	ND		50	0.64	pg/L		09/18/19 13:24	09/19/19 23:58	1
Total HxCDF	1.34	J	50	0.67	pg/L		09/18/19 13:24	09/19/19 23:58	1
Total HpCDD	ND		50	0.52	pg/L		09/18/19 13:24	09/19/19 23:58	1
Total HpCDF	ND		50	0.63	pg/L		09/18/19 13:24	09/19/19 23:58	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*64*		*25 - 164*	*09/18/19 13:24*	*09/19/19 23:58*	*1*
13C-2,3,7,8-TCDF	*61*		*24 - 169*	*09/18/19 13:24*	*09/19/19 23:58*	*1*
13C-1,2,3,7,8-PeCDD	*64*		*25 - 181*	*09/18/19 13:24*	*09/19/19 23:58*	*1*
13C-1,2,3,7,8-PeCDF	*59*		*24 - 185*	*09/18/19 13:24*	*09/19/19 23:58*	*1*
13C-2,3,4,7,8-PeCDF	*65*		*21 - 178*	*09/18/19 13:24*	*09/19/19 23:58*	*1*
13C-1,2,3,4,7,8-HxCDD	*66*		*32 - 141*	*09/18/19 13:24*	*09/19/19 23:58*	*1*
13C-1,2,3,6,7,8-HxCDD	*67*		*28 - 130*	*09/18/19 13:24*	*09/19/19 23:58*	*1*
13C-1,2,3,4,7,8-HxCDF	*68*		*26 - 152*	*09/18/19 13:24*	*09/19/19 23:58*	*1*
13C-1,2,3,6,7,8-HxCDF	*66*		*26 - 123*	*09/18/19 13:24*	*09/19/19 23:58*	*1*
13C-1,2,3,7,8,9-HxCDF	*63*		*29 - 147*	*09/18/19 13:24*	*09/19/19 23:58*	*1*
13C-2,3,4,6,7,8-HxCDF	*63*		*28 - 136*	*09/18/19 13:24*	*09/19/19 23:58*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*60*		*23 - 140*	*09/18/19 13:24*	*09/19/19 23:58*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*58*		*28 - 143*	*09/18/19 13:24*	*09/19/19 23:58*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*62*		*26 - 138*	*09/18/19 13:24*	*09/19/19 23:58*	*1*
13C-OCDD	*54*		*17 - 157*	*09/18/19 13:24*	*09/19/19 23:58*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
37Cl4-2,3,7,8-TCDD	*93*		*35 - 197*	*09/18/19 13:24*	*09/19/19 23:58*	*1*

Lab Sample ID: LCS 320-324499/2-A **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 324876 **Prep Batch: 324499**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	200	194		pg/L		97	67 - 158
2,3,7,8-TCDF	200	208		pg/L		104	75 - 158

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-324499/2-A
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 324876
Prep Batch: 324499

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3,7,8-PeCDD	1000	922		pg/L		92	70 - 142
1,2,3,7,8-PeCDF	1000	930		pg/L		93	80 - 134
2,3,4,7,8-PeCDF	1000	912		pg/L		91	68 - 160
1,2,3,4,7,8-HxCDD	1000	814		pg/L		81	70 - 164
1,2,3,6,7,8-HxCDD	1000	812		pg/L		81	76 - 134
1,2,3,7,8,9-HxCDD	1000	737		pg/L		74	64 - 162
1,2,3,4,7,8-HxCDF	1000	796		pg/L		80	72 - 134
1,2,3,6,7,8-HxCDF	1000	830	*	pg/L		83	84 - 130
1,2,3,7,8,9-HxCDF	1000	815		pg/L		81	78 - 130
2,3,4,6,7,8-HxCDF	1000	868		pg/L		87	70 - 156
1,2,3,4,6,7,8-HpCDD	1000	728		pg/L		73	70 - 140
1,2,3,4,6,7,8-HpCDF	1000	710	*	pg/L		71	82 - 122
1,2,3,4,7,8,9-HpCDF	1000	759	*	pg/L		76	78 - 138
OCDD	2000	1350	*	pg/L		68	78 - 144
OCDF	2000	1460		pg/L		73	63 - 170

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*57*		*20 - 175*
13C-2,3,7,8-TCDF	*54*		*22 - 152*
13C-1,2,3,7,8-PeCDD	*55*		*21 - 227*
13C-1,2,3,7,8-PeCDF	*54*		*21 - 192*
13C-2,3,4,7,8-PeCDF	*56*		*13 - 328*
13C-1,2,3,4,7,8-HxCDD	*51*		*21 - 193*
13C-1,2,3,6,7,8-HxCDD	*51*		*25 - 163*
13C-1,2,3,4,7,8-HxCDF	*53*		*19 - 202*
13C-1,2,3,6,7,8-HxCDF	*51*		*21 - 159*
13C-1,2,3,7,8,9-HxCDF	*50*		*17 - 205*
13C-2,3,4,6,7,8-HxCDF	*49*		*22 - 176*
13C-1,2,3,4,6,7,8-HpCDD	*48*		*26 - 166*
13C-1,2,3,4,6,7,8-HpCDF	*49*		*21 - 158*
13C-1,2,3,4,7,8,9-HpCDF	*48*		*20 - 186*
13C-OCDD	*47*		*13 - 199*

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
37Cl4-2,3,7,8-TCDD	*85*		*31 - 191*

Lab Sample ID: LCSD 320-324499/3-A
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 324876
Prep Batch: 324499

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD	200	190		pg/L		95	67 - 158	2	50
2,3,7,8-TCDF	200	198		pg/L		99	75 - 158	5	50
1,2,3,7,8-PeCDD	1000	904		pg/L		90	70 - 142	2	50
1,2,3,7,8-PeCDF	1000	923		pg/L		92	80 - 134	1	50
2,3,4,7,8-PeCDF	1000	902		pg/L		90	68 - 160	1	50
1,2,3,4,7,8-HxCDD	1000	804		pg/L		80	70 - 164	1	50
1,2,3,6,7,8-HxCDD	1000	835		pg/L		83	76 - 134	3	50

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-324499/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 324876 **Prep Batch: 324499**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3,7,8,9-HxCDD	1000	812		pg/L		81	64 - 162	10	50
1,2,3,4,7,8-HxCDF	1000	813		pg/L		81	72 - 134	2	50
1,2,3,6,7,8-HxCDF	1000	854		pg/L		85	84 - 130	3	50
1,2,3,7,8,9-HxCDF	1000	830		pg/L		83	78 - 130	2	50
2,3,4,6,7,8-HxCDF	1000	860		pg/L		86	70 - 156	1	50
1,2,3,4,6,7,8-HpCDD	1000	760		pg/L		76	70 - 140	4	50
1,2,3,4,6,7,8-HpCDF	1000	767	*	pg/L		77	82 - 122	8	50
1,2,3,4,7,8,9-HpCDF	1000	778		pg/L		78	78 - 138	2	50
OCDD	2000	1480	*	pg/L		74	78 - 144	9	50
OCDF	2000	1550		pg/L		78	63 - 170	6	50

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*69*		*20 - 175*
13C-2,3,7,8-TCDF	*55*		*22 - 152*
13C-1,2,3,7,8-PeCDD	*66*		*21 - 227*
13C-1,2,3,7,8-PeCDF	*63*		*21 - 192*
13C-2,3,4,7,8-PeCDF	*70*		*13 - 328*
13C-1,2,3,4,7,8-HxCDD	*67*		*21 - 193*
13C-1,2,3,6,7,8-HxCDD	*64*		*25 - 163*
13C-1,2,3,4,7,8-HxCDF	*64*		*19 - 202*
13C-1,2,3,6,7,8-HxCDF	*65*		*21 - 159*
13C-1,2,3,7,8,9-HxCDF	*67*		*17 - 205*
13C-2,3,4,6,7,8-HxCDF	*66*		*22 - 176*
13C-1,2,3,4,6,7,8-HpCDD	*68*		*26 - 166*
13C-1,2,3,4,6,7,8-HpCDF	*65*		*21 - 158*
13C-1,2,3,4,7,8,9-HpCDF	*71*		*20 - 186*
13C-OCDD	*65*		*13 - 199*

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
37Cl4-2,3,7,8-TCDD	*97*		*31 - 191*

QC Association Summary

Client: GHD Services Inc.
Job ID: 600-191956-2
Project/Site: San Jacinto River Waste Pits Superfund

GC Semi VOA

Prep Batch: 274969

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Total/NA	Water	3510C	

Analysis Batch: 275246

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Total/NA	Water	8082	274969

Specialty Organics

Prep Batch: 324499

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Total/NA	Water	1613B	
600-191956-2 - RA	11187072-091319-LL-EXC-1	Total/NA	Water	1613B	

Analysis Batch: 324876

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2	11187072-091319-LL-EXC-1	Total/NA	Water	1613B	324499

Analysis Batch: 325151

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-191956-2 - RA	11187072-091319-LL-EXC-1	Total/NA	Water	1613B	324499

Lab Chronicle

Client: GHD Services Inc.
Project/Site: San Jacinto River Waste Pits Superfund

Job ID: 600-191956-2

Client Sample ID: 11187072-091319-LL-EXC-1

Lab Sample ID: 600-191956-2

Date Collected: 09/13/19 08:00
Date Received: 09/13/19 12:55

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			274969	09/17/19 10:16	RLK	TAL HOU
Total/NA	Analysis	8082		1	275246	09/19/19 18:16	JAL	TAL HOU
Total/NA	Prep	1613B			324499	09/18/19 13:24	NR	TAL SAC
Total/NA	Analysis	1613B		1	324876	09/20/19 03:02	KSS	TAL SAC
Total/NA	Prep	1613B	RA		324499	09/18/19 13:24	NR	TAL SAC
Total/NA	Analysis	1613B	RA	1	325151	09/20/19 14:24	ALM	TAL SAC

Laboratory References:

TAL HOU = Eurofins TestAmerica, Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GHD Services Inc.
Job ID: 600-191956-2
Project/Site: San Jacinto River Waste Pits Superfund

Laboratory: Eurofins TestAmerica, Houston

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704223-19-25	10-31-20

Laboratory: Eurofins TestAmerica, Pittsburgh

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704528-15-2	03-31-20

Laboratory: Eurofins TestAmerica, Sacramento

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704399	05-31-20

Method Summary

Client: GHD Services Inc.
Job ID: 600-191956-2
Project/Site: San Jacinto River Waste Pits Superfund

Method	Method Description	Protocol	Laboratory
8082	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL HOU
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	TAL SAC
TEQ	Total TEQ Calculation	TAL SOP	TAL SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	TAL SAC
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL HOU

Protocol References:

EPA = US Environmental Protection Agency
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

TAL HOU = Eurofins TestAmerica, Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444
TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: GHD Services Inc.
Job ID: 600-191956-2
Project/Site: San Jacinto River Waste Pits Superfund

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
600-191956-2	11187072-091319-LL-EXC-1	Water	09/13/19 08:00	09/13/19 12:55	

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-191956-2

SDG No.:

Instrument ID: CHECD09 Analysis Batch Number: 270655

Lab Sample ID: IC 600-270655/3 Client Sample ID:

Date Analyzed: 07/29/19 19:42 Lab File ID: M29_003.d GC Column: RTX-CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1232 Peak 5	13.08	Peak assignment corrected	lamj	07/30/19 10:11

Lab Sample ID: IC 600-270655/4 Client Sample ID:

Date Analyzed: 07/29/19 20:10 Lab File ID: M29_004.d GC Column: RTX-CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1242 Peak 2	11.59	Baseline Smoothing	lamj	07/30/19 10:15
PCB-1242 Peak 3	11.71	Baseline Smoothing	lamj	07/30/19 10:15
PCB-1242 Peak 4	12.38	Baseline Smoothing	lamj	07/30/19 10:15
PCB-1242 Peak 5	13.08	Baseline Smoothing	lamj	07/30/19 10:15

Lab Sample ID: IC 600-270655/5 Client Sample ID:

Date Analyzed: 07/29/19 20:38 Lab File ID: M29_005.d GC Column: RTX-CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
PCB-1248 Peak 2	12.55	Baseline Smoothing	lamj	07/30/19 10:12
PCB-1248 Peak 3	13.07	Baseline Smoothing	lamj	07/30/19 10:12

Lab Sample ID: IC 600-270655/16 Client Sample ID:

Date Analyzed: 07/30/19 01:47 Lab File ID: M29_016.d GC Column: RTX-CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
DCB Decachlorobiphenyl	19.33	Baseline Smoothing	lamj	07/30/19 10:21

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-191956-2

SDG No.:

Instrument ID: CHECD09 Analysis Batch Number: 270655

Lab Sample ID: IC 600-270655/16 Client Sample ID:

Date Analyzed: 07/30/19 01:47 Lab File ID: M29_016.d GC Column: RTX-CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
DCB Decachlorobiphenyl	20.44	Baseline Smoothing	lamj	07/30/19 10:21

Lab Sample ID: IC 600-270655/17 Client Sample ID:

Date Analyzed: 07/30/19 02:15 Lab File ID: M29_017.d GC Column: RTX-CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
DCB Decachlorobiphenyl	19.33	Baseline Smoothing	lamj	07/30/19 10:22

Lab Sample ID: IC 600-270655/17 Client Sample ID:

Date Analyzed: 07/30/19 02:15 Lab File ID: M29_017.d GC Column: RTX-CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
DCB Decachlorobiphenyl	20.45	Baseline Smoothing	lamj	07/30/19 10:22

Lab Sample ID: IC 600-270655/18 Client Sample ID:

Date Analyzed: 07/30/19 02:43 Lab File ID: M29_018.d GC Column: RTX-CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
DCB Decachlorobiphenyl	19.33	Baseline Smoothing	lamj	07/30/19 10:22

Lab Sample ID: IC 600-270655/18 Client Sample ID:

Date Analyzed: 07/30/19 02:43 Lab File ID: M29_018.d GC Column: RTX-CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
DCB Decachlorobiphenyl	20.44	Baseline Smoothing	lamj	07/30/19 10:22

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-191956-2

SDG No.:

Instrument ID: CHECD09 Analysis Batch Number: 270655

Lab Sample ID: ICIS 600-270655/19 Client Sample ID:

Date Analyzed: 07/30/19 03:11 Lab File ID: M29_019.d GC Column: RTX-CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
DCB Decachlorobiphenyl	19.33	Baseline Smoothing	lamj	07/30/19 10:23

Lab Sample ID: ICIS 600-270655/19 Client Sample ID:

Date Analyzed: 07/30/19 03:11 Lab File ID: M29_019.d GC Column: RTX-CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
DCB Decachlorobiphenyl	20.44	Baseline Smoothing	lamj	07/30/19 10:23

Lab Sample ID: IC 600-270655/20 Client Sample ID:

Date Analyzed: 07/30/19 03:39 Lab File ID: M29_020.d GC Column: RTX-CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
DCB Decachlorobiphenyl	19.33	Baseline Smoothing	lamj	07/30/19 10:23

Lab Sample ID: IC 600-270655/20 Client Sample ID:

Date Analyzed: 07/30/19 03:39 Lab File ID: M29_020.d GC Column: RTX-CLP2 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
DCB Decachlorobiphenyl	20.44	Baseline Smoothing	lamj	07/30/19 10:23

PCBS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Housto Job No.: 600-191956-2

SDG No.:

Instrument ID: CHECD09 Analysis Batch Number: 275246

Lab Sample ID: 600-191956-2 Client Sample ID: 11187072-091319-LL-EXC-1

Date Analyzed: 09/19/19 18:16 Lab File ID: L19_022.d GC Column: RTX-CLP1 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Tetrachloro-m-xylene	8.80	Split Peak	lamj	09/20/19 10:38
DCB Decachlorobiphenyl	19.26	Split Peak	lamj	09/20/19 10:39

8082

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Sacram Job No.: 600-191956-2

SDG No.:

Instrument ID: 10D5 Analysis Batch Number: 324128

Lab Sample ID: IC 320-324128/3 Client Sample ID:

Date Analyzed: 09/17/19 13:03 Lab File ID: 17SE1910D5_3.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2,3,7,8,9-HxCDD	31.76	Invalid Compound ID	shardaa	09/17/19 18:02

1613B

DIOXIN MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins TestAmerica, Sacram Job No.: 600-191956-2

SDG No.:

Instrument ID: 10D5 Analysis Batch Number: 324876

Lab Sample ID: 600-191956-2 Client Sample ID: 11187072-091319-LL-EXC-1

Date Analyzed: 09/20/19 03:02 Lab File ID: 18SE1910D5_52.d GC Column: DB-5 ID: 0.32(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,3,7,8-TCDF	16.80	Poor chromatography	stephensk	09/20/19 11:33
2,3,7,8-TCDD	17.47	Poor chromatography	stephensk	09/20/19 11:34
1,2,3,4,7,8-HxCDF	29.70	Poor chromatography	stephensk	09/20/19 11:35
1,2,3,6,7,8-HxCDF	29.95	Poor chromatography	stephensk	09/20/19 11:35
1,2,3,7,8,9-HxCDF	31.93	Poor chromatography	stephensk	09/20/19 11:36
1,2,3,4,6,7,8-HpCDF	33.44	Missed Peak	stephensk	09/20/19 11:36
OCDD	36.46	Poor chromatography	stephensk	09/20/19 11:37

1613B

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
AR1221STD4_00018	09/01/19	03/01/19	HEXANE, Lot EX_HEXANE_00037	10 mL	AR1221INTM_00019	500 uL	PCB-1221 Peak 1	0.5 ug/mL
							PCB-1221 Peak 2	0.5 ug/mL
							PCB-1221 Peak 3	0.5 ug/mL
.AR1221INTM_00019	09/01/19	03/01/19	HEXANE, Lot EX_HEXANE_00037	10 mL	PCB_AR1221_00005	100 uL	PCB-1221 Peak 1	10 ug/mL
							PCB-1221 Peak 2	10 ug/mL
							PCB-1221 Peak 3	10 ug/mL
..PCB_AR1221_00005	12/24/24	RESTEK, Lot A0141291			(Purchased Reagent)		PCB-1221 Peak 1	1000 ug/mL
							PCB-1221 Peak 2	1000 ug/mL
							PCB-1221 Peak 3	1000 ug/mL
AR1232STD4_00017	11/30/19	01/09/19	HEXANE, Lot EX_HEXANE_00034	10 mL	AR1232INTM_00018	500 uL	PCB-1232 Peak 1	0.5 ug/mL
							PCB-1232 Peak 2	0.5 ug/mL
							PCB-1232 Peak 3	0.5 ug/mL
							PCB-1232 Peak 4	0.5 ug/mL
							PCB-1232 Peak 5	0.5 ug/mL
.AR1232INTM_00018	11/30/19	01/09/19	HEXANE, Lot EX_Hexane_00034	10 mL	PCB_AR1232_00004	100 uL	PCB-1232 Peak 1	10 ug/mL
							PCB-1232 Peak 2	10 ug/mL
							PCB-1232 Peak 3	10 ug/mL
							PCB-1232 Peak 4	10 ug/mL
							PCB-1232 Peak 5	10 ug/mL
..PCB_AR1232_00004	11/30/19	RESTEK, Lot A090290			(Purchased Reagent)		PCB-1232 Peak 1	1000 ug/mL
							PCB-1232 Peak 2	1000 ug/mL
							PCB-1232 Peak 3	1000 ug/mL
							PCB-1232 Peak 4	1000 ug/mL
							PCB-1232 Peak 5	1000 ug/mL
AR1242STD4_00023	11/01/19	05/01/19	HEXANE, Lot EX_HEXANE_00037	10 mL	AR1242INTM_00022	500 uL	PCB-1242 Peak 1	0.5 ug/mL
							PCB-1242 Peak 2	0.5 ug/mL
							PCB-1242 Peak 3	0.5 ug/mL
							PCB-1242 Peak 4	0.5 ug/mL
							PCB-1242 Peak 5	0.5 ug/mL
.AR1242INTM_00022	11/01/19	05/01/19	HEXANE, Lot EX_Hexane_00037	10 mL	PCB_AR1242_00005	100 uL	PCB-1242 Peak 1	10 ug/mL
							PCB-1242 Peak 2	10 ug/mL
							PCB-1242 Peak 3	10 ug/mL
							PCB-1242 Peak 4	10 ug/mL
							PCB-1242 Peak 5	10 ug/mL
..PCB_AR1242_00005	12/31/24	RESTEK, Lot A0141840			(Purchased Reagent)		PCB-1242 Peak 1	1000 ug/mL
							PCB-1242 Peak 2	1000 ug/mL
							PCB-1242 Peak 3	1000 ug/mL
							PCB-1242 Peak 4	1000 ug/mL
							PCB-1242 Peak 5	1000 ug/mL
AR1248STD4_00019	11/01/19	05/01/19	HEXANE, Lot EX_HEXANE_00037	10 mL	AR1248INTM_00017	500 uL	PCB-1248 Peak 1	0.5 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							PCB-1248 Peak 2	0.5 ug/mL
							PCB-1248 Peak 3	0.5 ug/mL
							PCB-1248 Peak 4	0.5 ug/mL
							PCB-1248 Peak 5	0.5 ug/mL
.AR1248INTM_00017	11/01/19	05/01/19	HEXANE, Lot EX_Hexane_00037	10 mL	PCB_AR1248_00005	100 uL	PCB-1248 Peak 1	10 ug/mL
							PCB-1248 Peak 2	10 ug/mL
							PCB-1248 Peak 3	10 ug/mL
							PCB-1248 Peak 4	10 ug/mL
							PCB-1248 Peak 5	10 ug/mL
..PCB_AR1248_00005	10/31/24	RESTEK, Lot A0139938			(Purchased Reagent)		PCB-1248 Peak 1	1000 ug/mL
							PCB-1248 Peak 2	1000 ug/mL
							PCB-1248 Peak 3	1000 ug/mL
							PCB-1248 Peak 4	1000 ug/mL
							PCB-1248 Peak 5	1000 ug/mL
AR1254STD4_00027	01/08/20	07/08/19	HEXANE, Lot EX_HEXANE_00037	10 mL	AR1254INTM_00024	500 uL	PCB-1254 Peak 1	0.5 ug/mL
							PCB-1254 Peak 2	0.5 ug/mL
							PCB-1254 Peak 3	0.5 ug/mL
							PCB-1254 Peak 4	0.5 ug/mL
							PCB-1254 Peak 5	0.5 ug/mL
.AR1254INTM_00024	01/08/20	07/08/19	HEXANE, Lot EX_Hexane_00037	10 mL	PCB_AR1254_00007	100 uL	PCB-1254 Peak 1	10 ug/mL
							PCB-1254 Peak 2	10 ug/mL
							PCB-1254 Peak 3	10 ug/mL
							PCB-1254 Peak 4	10 ug/mL
							PCB-1254 Peak 5	10 ug/mL
..PCB_AR1254_00007	02/28/20	RESTEK, Lot A078929			(Purchased Reagent)		PCB-1254 Peak 1	1000 ug/mL
							PCB-1254 Peak 2	1000 ug/mL
							PCB-1254 Peak 3	1000 ug/mL
							PCB-1254 Peak 4	1000 ug/mL
							PCB-1254 Peak 5	1000 ug/mL
PCBCURVE1I_00016	12/01/19	05/25/19	HEXANE, Lot EX_HEXANE_00037	25 mL	PCBCURVE_00029	62.5 uL	DCB Decachlorobiphenyl	0.005 ug/mL
							Tetrachloro-m-xylene	0.005 ug/mL
.PCBCURVE_00029	12/01/19	05/28/19	HEXANE, Lot EX_HEXANE_00031	25 mL	PSURRSRC_00008	250 uL	DCB Decachlorobiphenyl	2 ug/mL
							Tetrachloro-m-xylene	2 ug/mL
..PSURRSRC_00008	12/01/19	RESTEK, Lot A089210			(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
PCBCURVE2I_00017	12/01/19	05/28/19	HEXANE, Lot EX_HEXANE_00037	25 mL	PCBCURVE_00029	125 uL	DCB Decachlorobiphenyl	0.01 ug/mL
							Tetrachloro-m-xylene	0.01 ug/mL
.PCBCURVE_00029	12/01/19	05/28/19	HEXANE, Lot EX_HEXANE_00031	25 mL	PSURRSRC_00008	250 uL	DCB Decachlorobiphenyl	2 ug/mL
							Tetrachloro-m-xylene	2 ug/mL
..PSURRSRC_00008	12/01/19	RESTEK, Lot A089210			(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
PCBCURVE3I_00016	12/01/19	05/28/19	HEXANE, Lot EX_HEXANE_00037	25 mL	PCBCURVE_00029	312.5 uL	DCB Decachlorobiphenyl	0.025 ug/mL
							Tetrachloro-m-xylene	0.025 ug/mL
.PCBCURVE_00029	12/01/19	05/28/19	HEXANE, Lot EX_HEXANE_00031	25 mL	PSURRSRC_00008	250 uL	DCB Decachlorobiphenyl	2 ug/mL
							Tetrachloro-m-xylene	2 ug/mL
..PSURRSRC_00008	12/01/19	RESTEK, Lot A089210			(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
PCBCURVE4I_00022	12/01/19	05/28/19	HEXANE, Lot EX-HEXANE_00034	50 mL	PCBCURVE_00029	1250 uL	DCB Decachlorobiphenyl	0.05 ug/mL
							Tetrachloro-m-xylene	0.05 ug/mL
.PCBCURVE_00029	12/01/19	05/28/19	HEXANE, Lot EX_HEXANE_00031	25 mL	PSURRSRC_00008	250 uL	DCB Decachlorobiphenyl	2 ug/mL
							Tetrachloro-m-xylene	2 ug/mL
..PSURRSRC_00008	12/01/19	RESTEK, Lot A089210			(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
PCBCURVE5I_00017	12/01/19	05/28/19	HEXANE, Lot EX_HEXANE_00034	25 mL	PCBCURVE_00029	937.5 uL	DCB Decachlorobiphenyl	0.075 ug/mL
							Tetrachloro-m-xylene	0.075 ug/mL
.PCBCURVE_00029	12/01/19	05/28/19	HEXANE, Lot EX_HEXANE_00031	25 mL	PSURRSRC_00008	250 uL	DCB Decachlorobiphenyl	2 ug/mL
							Tetrachloro-m-xylene	2 ug/mL
..PSURRSRC_00008	12/01/19	RESTEK, Lot A089210			(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
PCBCURVE6I_00017	12/01/19	05/28/19	HEXANE, Lot EX_HEXANE_00037	25 mL	PCBCURVE_00029	1250 uL	DCB Decachlorobiphenyl	0.1 ug/mL
							Tetrachloro-m-xylene	0.1 ug/mL
.PCBCURVE_00029	12/01/19	05/28/19	HEXANE, Lot EX_HEXANE_00031	25 mL	PSURRSRC_00008	250 uL	DCB Decachlorobiphenyl	2 ug/mL
							Tetrachloro-m-xylene	2 ug/mL
..PSURRSRC_00008	12/01/19	RESTEK, Lot A089210			(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL
PST_IS 2_00063	10/15/19	07/11/19	HEXANE, Lot EX-HEXANE_00037	1 mL	PST_IS_2_00003	50 uL	1-Bromo-2-nitrobenzene	50 ug/mL
.PST_IS_2_00003	10/15/19	Accustandard, Lot 2091101166			(Purchased Reagent)		1-Bromo-2-nitrobenzene	1000 ug/mL
PSURR_00053	12/01/19	08/13/19	ACETONE, Lot 13010015	500 mL	PSURRSRC_00008	500 uL	DCB Decachlorobiphenyl	0.2 ug/mL
							Tetrachloro-m-xylene	0.2 ug/mL
.PSURRSRC_00008	12/01/19	RESTEK, Lot A089210			(Purchased Reagent)		DCB Decachlorobiphenyl	200 ug/mL
							Tetrachloro-m-xylene	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
HRDXNIDA_00389	08/26/20	08/26/19	Acetone, Lot 0000236139	500 mL	HRDXNIDA_00364	5 mL	13C-1,2,3,4,6,7,8-HpCDD	2 pg/uL
							13C-1,2,3,4,6,7,8-HpCDF	2 pg/uL
							13C-2,3,7,8-TCDF	2 pg/uL
							13C-2,3,7,8-TCDD	2 pg/uL
							13C-1,2,3,6,7,8-HxCDF	2 pg/uL
							13C-1,2,3,7,8,9-HxCDF	2 pg/uL
							13C-2,3,4,6,7,8-HxCDF	2 pg/uL
							13C-1,2,3,7,8-PeCDD	2 pg/uL
							13C-1,2,3,7,8-PeCDF	2 pg/uL
							13C-1,2,3,6,7,8-HxCDD	2 pg/uL
							13C-OCDD	4 pg/uL
					HRDXNIDA_00379	2.5 mL	13C-1,2,3,4,7,8,9-HpCDF	2 pg/uL
							13C-2,3,4,7,8-PeCDF	2 pg/uL
							13C-1,2,3,4,7,8-HxCDD	2 pg/uL
							13C-1,2,3,4,7,8-HxCDF	2 pg/uL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIDA_00379	04/11/26	04/11/19	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00375	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00376	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00377	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00378	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00375	05/31/26	CIL, Lot ER04251601			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00376	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00377	06/30/26	CIL, Lot ER04211601			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00378	07/31/27	CIL, Lot ER04211701			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
.HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
..HRDXNIS_00110	09/30/26	CIL, Lot ER08221601			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
..HRDXNIS_00111	01/31/27	CIL, Lot ER11081602			(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
HRDXNL2_00027	04/29/20	07/02/19	C14, Lot STBH7678	1 mL	HRDXNIDA_00303	0.25 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.5 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIS_00117	1 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00217	0.625 mL	37Cl4-2,3,7,8-TCDD	0.5 ng/mL
					HRDXNTA_00113	0.125 mL	1,2,3,4,6,7,8-HpCDD	2.5 ng/mL
							1,2,3,4,6,7,8-HpCDF	2.5 ng/mL
							1,2,3,4,7,8,9-HpCDF	2.5 ng/mL
							1,2,3,4,7,8-HxCDD	2.5 ng/mL
							1,2,3,4,7,8-HxCDF	2.5 ng/mL
							1,2,3,6,7,8-HxCDD	2.5 ng/mL
							1,2,3,6,7,8-HxCDF	2.5 ng/mL
							1,2,3,7,8,9-HxCDD	2.5 ng/mL
							1,2,3,7,8,9-HxCDF	2.5 ng/mL
							1,2,3,7,8-PeCDD	2.5 ng/mL
							1,2,3,7,8-PeCDF	2.5 ng/mL
							2,3,4,6,7,8-HxCDF	2.5 ng/mL
							2,3,4,7,8-PeCDF	2.5 ng/mL
							2,3,7,8-TCDD	0.5 ng/mL
							2,3,7,8-TCDF	0.5 ng/mL
							OCDD	5 ng/mL
							OCDF	5 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNIDA_00297	01/31/27		CIL, Lot ER01061701		(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21		CIL, Lot ER102711-01		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20		CIL, Lot ER072810-02		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20		CIL, Lot ER111010-01		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24		CIL, Lot ER08101404		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26		CIL, Lot ER09131601		(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26		CIL, Lot ER03031601		(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26		CIL, Lot ER02241603		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20		CIL, Lot ER100610-01		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20		CIL, Lot ER100610-02		(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21		CIL, Lot ER012111-01		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28		CIL, Lot ER03151801		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27		CIL, Lot ER04051701		(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26		CIL, Lot ER08221601		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27		CIL, Lot ER11081602		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00217	07/01/20	07/01/19	Isooctane, Lot 0000201867	500 mL	HRDXNSU_00196	1000 uL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
..HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
...HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
....HRDXNSU_00187	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00113	05/29/20	05/29/19	Acetone, Lot 00000197752	25 mL	HRDXNTA_00092	0.25 mL	1,2,3,4,6,7,8-HpCDD	20 ng/mL
							1,2,3,4,6,7,8-HpCDF	20 ng/mL
							1,2,3,4,7,8,9-HpCDF	20 ng/mL
							1,2,3,4,7,8-HxCDD	20 ng/mL
							1,2,3,4,7,8-HxCDF	20 ng/mL
							1,2,3,6,7,8-HxCDD	20 ng/mL
							1,2,3,6,7,8-HxCDF	20 ng/mL
							1,2,3,7,8,9-HxCDD	20 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,7,8,9-HxCDF	20 ng/mL
							1,2,3,7,8-PeCDD	20 ng/mL
							1,2,3,7,8-PeCDF	20 ng/mL
							2,3,4,6,7,8-HxCDF	20 ng/mL
							2,3,4,7,8-PeCDF	20 ng/mL
							2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL
							OCDD	40 ng/mL
							OCDF	40 ng/mL
..HRDXNTA_00092	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL3_00025	04/29/20	07/02/19	C14, Lot STBH7678	0.5 mL	HRDXNIDA_00303	0.125 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.25 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIS_00117	0.5 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00217	1.25 mL	37Cl4-2,3,7,8-TCDD	2 ng/mL
					HRDXNTA_00113	0.25 mL	1,2,3,4,6,7,8-HpCDD	10 ng/mL
							1,2,3,4,6,7,8-HpCDF	10 ng/mL
							1,2,3,4,7,8,9-HpCDF	10 ng/mL

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3,4,7,8-HxCDD	10 ng/mL
							1,2,3,4,7,8-HxCDF	10 ng/mL
							1,2,3,6,7,8-HxCDD	10 ng/mL
							1,2,3,6,7,8-HxCDF	10 ng/mL
							1,2,3,7,8,9-HxCDD	10 ng/mL
							1,2,3,7,8,9-HxCDF	10 ng/mL
							1,2,3,7,8-PeCDD	10 ng/mL
							1,2,3,7,8-PeCDF	10 ng/mL
							2,3,4,6,7,8-HxCDF	10 ng/mL
							2,3,4,7,8-PeCDF	10 ng/mL
							2,3,7,8-TCDD	2 ng/mL
							2,3,7,8-TCDF	2 ng/mL
							OCDD	20 ng/mL
							OCDF	20 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26		CIL, Lot ER053107-02		(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27		CIL, Lot ER01061701		(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21		CIL, Lot ER102711-01		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20		CIL, Lot ER072810-02		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20		CIL, Lot ER111010-01		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24		CIL, Lot ER08101404		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26		CIL, Lot ER09131601		(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26		CIL, Lot ER03031601		(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26		CIL, Lot ER02241603		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20		CIL, Lot ER100610-01		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20		CIL, Lot ER100610-02		(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21		CIL, Lot ER012111-01		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28		CIL, Lot ER03151801		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27		CIL, Lot ER04051701		(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26	CIL, Lot ER08221601			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27	CIL, Lot ER11081602			(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00217	07/01/20	07/01/19	Isooctane, Lot 0000201867	500 mL	HRDXNSU_00196	1000 uL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
..HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
...HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
....HRDXNSU_00187	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00113	05/29/20	05/29/19	Acetone, Lot 00000197752	25 mL	HRDXNTA_00092	0.25 mL	1,2,3,4,6,7,8-HpCDD	20 ng/mL
							1,2,3,4,6,7,8-HpCDF	20 ng/mL
							1,2,3,4,7,8,9-HpCDF	20 ng/mL
							1,2,3,4,7,8-HxCDD	20 ng/mL
							1,2,3,4,7,8-HxCDF	20 ng/mL
							1,2,3,6,7,8-HxCDD	20 ng/mL
							1,2,3,6,7,8-HxCDF	20 ng/mL
							1,2,3,7,8,9-HxCDD	20 ng/mL
							1,2,3,7,8,9-HxCDF	20 ng/mL
							1,2,3,7,8-PeCDD	20 ng/mL
							1,2,3,7,8-PeCDF	20 ng/mL
							2,3,4,6,7,8-HxCDF	20 ng/mL
							2,3,4,7,8-PeCDF	20 ng/mL
							2,3,7,8-TCDD	4 ng/mL
							2,3,7,8-TCDF	4 ng/mL
							OCDD	40 ng/mL
							OCDF	40 ng/mL
..HRDXNTA_00092	04/30/26	CIL, Lot ER02241602			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL4_00084	04/29/20	07/11/19	C14, Lot STBH7678	1 mL	HRDXNIDA_00364	0.5 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIDA_00379	0.25 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIS_00117	1 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00196	0.02 mL	37Cl4-2,3,7,8-TCDD	8 ng/mL
					HRDXNTA_00093	0.025 mL	1,2,3,4,6,7,8-HpCDD	50 ng/mL
							1,2,3,4,6,7,8-HpCDF	50 ng/mL
							1,2,3,4,7,8,9-HpCDF	50 ng/mL
							1,2,3,4,7,8-HxCDD	50 ng/mL
							1,2,3,4,7,8-HxCDF	50 ng/mL
							1,2,3,6,7,8-HxCDD	50 ng/mL
							1,2,3,6,7,8-HxCDF	50 ng/mL
							1,2,3,7,8,9-HxCDD	50 ng/mL
							1,2,3,7,8,9-HxCDF	50 ng/mL
							1,2,3,7,8-PeCDD	50 ng/mL
							1,2,3,7,8-PeCDF	50 ng/mL
							2,3,4,6,7,8-HxCDF	50 ng/mL
							2,3,4,7,8-PeCDF	50 ng/mL
							2,3,7,8-TCDD	10 ng/mL
							2,3,7,8-TCDF	10 ng/mL
							OCDD	100 ng/mL
							OCDF	100 ng/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..HRDXNIDA_00354	09/30/26		CIL, Lot ER09131601		(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26		CIL, Lot ER03031601		(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26		CIL, Lot ER02241603		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20		CIL, Lot ER100610-01		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20		CIL, Lot ER100610-02		(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21		CIL, Lot ER012111-01		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28		CIL, Lot ER03151801		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27		CIL, Lot ER04051701		(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIDA_00379	04/11/26	04/11/19	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00375	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00376	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00377	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00378	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00375	05/31/26		CIL, Lot ER04251601		(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00376	01/31/27		CIL, Lot ER01061701		(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00377	06/30/26		CIL, Lot ER04211601		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00378	07/31/27		CIL, Lot ER04211701		(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26		CIL, Lot ER08221601		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27		CIL, Lot ER11081602		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00093	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL5_00028	04/29/20	07/02/19	C14, Lot STBH7678	0.2 mL	HRDXNIDA_00303	0.05 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.1 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIS_00117	0.2 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00196	0.02 mL	37Cl4-2,3,7,8-TCDD	40 ng/mL
					HRDXNTA_00093	0.02 mL	1,2,3,4,6,7,8-HpCDD	200 ng/mL
							1,2,3,4,6,7,8-HpCDF	200 ng/mL
							1,2,3,4,7,8,9-HpCDF	200 ng/mL
							1,2,3,4,7,8-HxCDD	200 ng/mL
							1,2,3,4,7,8-HxCDF	200 ng/mL
							1,2,3,6,7,8-HxCDD	200 ng/mL
							1,2,3,6,7,8-HxCDF	200 ng/mL
							1,2,3,7,8,9-HxCDD	200 ng/mL
							1,2,3,7,8,9-HxCDF	200 ng/mL
							1,2,3,7,8-PeCDD	200 ng/mL
							1,2,3,7,8-PeCDF	200 ng/mL
							2,3,4,6,7,8-HxCDF	200 ng/mL
							2,3,4,7,8-PeCDF	200 ng/mL
							2,3,7,8-TCDD	40 ng/mL
							2,3,7,8-TCDF	40 ng/mL
							OCDD	400 ng/mL
							OCDF	400 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20		CIL, Lot ER111010-01		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24		CIL, Lot ER08101404		(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26		CIL, Lot ER09131601		(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26		CIL, Lot ER03031601		(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26		CIL, Lot ER02241603		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20		CIL, Lot ER100610-01		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20		CIL, Lot ER100610-02		(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24		CIL, Lot ER08041401		(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21		CIL, Lot ER012111-01		(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28		CIL, Lot ER03151801		(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27		CIL, Lot ER04051701		(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26		CIL, Lot ER08221601		(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27		CIL, Lot ER11081602		(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25		CIL, Lot ER05211501		(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00093	04/30/26		CIL, Lot ER02241602		(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL
HRDXNL6_00024	04/29/20	07/02/19	C14, Lot STBH7678	0.2 mL	HRDXNIDA_00303	0.05 mL	13C-1,2,3,4,7,8,9-HpCDF	100 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C-2,3,4,7,8-PeCDF	100 ng/mL
							13C-1,2,3,4,7,8-HxCDD	100 ng/mL
							13C-1,2,3,4,7,8-HxCDF	100 ng/mL
					HRDXNIDA_00364	0.1 mL	13C-1,2,3,4,6,7,8-HpCDD	100 ng/mL
							13C-1,2,3,4,6,7,8-HpCDF	100 ng/mL
							13C-2,3,7,8-TCDF	100 ng/mL
							13C-2,3,7,8-TCDD	100 ng/mL
							13C-1,2,3,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8,9-HxCDF	100 ng/mL
							13C-2,3,4,6,7,8-HxCDF	100 ng/mL
							13C-1,2,3,7,8-PeCDD	100 ng/mL
							13C-1,2,3,7,8-PeCDF	100 ng/mL
							13C-1,2,3,6,7,8-HxCDD	100 ng/mL
							13C-OCDD	200 ng/mL
					HRDXNIS_00117	0.2 mL	13C-1,2,3,7,8,9-HxCDD	100 ng/mL
							13C-1,2,3,4-TCDD	100 ng/mL
					HRDXNSU_00196	0.1 mL	37Cl4-2,3,7,8-TCDD	200 ng/mL
					HRDXNTA_00093	0.1 mL	1,2,3,4,6,7,8-HpCDD	1000 ng/mL
							1,2,3,4,6,7,8-HpCDF	1000 ng/mL
							1,2,3,4,7,8,9-HpCDF	1000 ng/mL
							1,2,3,4,7,8-HxCDD	1000 ng/mL
							1,2,3,4,7,8-HxCDF	1000 ng/mL
							1,2,3,6,7,8-HxCDD	1000 ng/mL
							1,2,3,6,7,8-HxCDF	1000 ng/mL
							1,2,3,7,8,9-HxCDD	1000 ng/mL
							1,2,3,7,8,9-HxCDF	1000 ng/mL
							1,2,3,7,8-PeCDD	1000 ng/mL
							1,2,3,7,8-PeCDF	1000 ng/mL
							2,3,4,6,7,8-HxCDF	1000 ng/mL
							2,3,4,7,8-PeCDF	1000 ng/mL
							2,3,7,8-TCDD	200 ng/mL
							2,3,7,8-TCDF	200 ng/mL
							OCDD	2000 ng/mL
							OCDF	2000 ng/mL
.HRDXNIDA_00303	07/31/20	09/20/17	Isooctane, Lot 0000134126	100 mL	HRDXNIDA_00247	0.8 mL	13C-1,2,3,4,7,8,9-HpCDF	0.4 ug/mL
					HRDXNIDA_00297	0.8 mL	13C-2,3,4,7,8-PeCDF	0.4 ug/mL
					HRDXNIDA_00301	0.8 mL	13C-1,2,3,4,7,8-HxCDD	0.4 ug/mL
					HRDXNIDA_00302	0.8 mL	13C-1,2,3,4,7,8-HxCDF	0.4 ug/mL
..HRDXNIDA_00247	03/31/26	CIL, Lot ER053107-02			(Purchased Reagent)		13C-1,2,3,4,7,8,9-HpCDF	50 ug/mL
..HRDXNIDA_00297	01/31/27	CIL, Lot ER01061701			(Purchased Reagent)		13C-2,3,4,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00301	10/31/21	CIL, Lot ER102711-01			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00302	07/31/20	CIL, Lot ER072810-02			(Purchased Reagent)		13C-1,2,3,4,7,8-HxCDF	50 ug/mL
.HRDXNIDA_00364	11/30/20	01/28/19	Isooctane, Lot 0000192372	250 mL	HRDXNIDA_00075	1 mL	13C-1,2,3,4,6,7,8-HpCDD	0.2 ug/mL
					HRDXNIDA_00353	1 mL	13C-1,2,3,4,6,7,8-HpCDF	0.2 ug/mL
					HRDXNIDA_00354	1 mL	13C-2,3,7,8-TCDF	0.2 ug/mL
					HRDXNIDA_00355	1 mL	13C-2,3,7,8-TCDD	0.2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					HRDXNIDA_00357	1 mL	13C-1,2,3,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00358	1 mL	13C-1,2,3,7,8,9-HxCDF	0.2 ug/mL
					HRDXNIDA_00359	1 mL	13C-2,3,4,6,7,8-HxCDF	0.2 ug/mL
					HRDXNIDA_00360	1 mL	13C-1,2,3,7,8-PeCDD	0.2 ug/mL
					HRDXNIDA_00361	1 mL	13C-1,2,3,7,8-PeCDF	0.2 ug/mL
					HRDXNIDA_00362	1 mL	13C-1,2,3,6,7,8-HxCDD	0.2 ug/mL
					HRDXNIDA_00365	10 mL	13C-OCDD	0.4 ug/mL
..HRDXNIDA_00075	11/30/20	CIL, Lot ER111010-01			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDD	50 ug/mL
..HRDXNIDA_00353	11/30/24	CIL, Lot ER08101404			(Purchased Reagent)		13C-1,2,3,4,6,7,8-HpCDF	50 ug/mL
..HRDXNIDA_00354	09/30/26	CIL, Lot ER09131601			(Purchased Reagent)		13C-2,3,7,8-TCDF	50 ug/mL
..HRDXNIDA_00355	03/31/26	CIL, Lot ER03031601			(Purchased Reagent)		13C-2,3,7,8-TCDD	50 ug/mL
..HRDXNIDA_00357	04/30/26	CIL, Lot ER02241603			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00358	12/31/20	CIL, Lot ER100610-01			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDF	50 ug/mL
..HRDXNIDA_00359	12/31/20	CIL, Lot ER100610-02			(Purchased Reagent)		13C-2,3,4,6,7,8-HxCDF	50 ug/mL
..HRDXNIDA_00360	08/31/24	CIL, Lot ER08041401			(Purchased Reagent)		13C-1,2,3,7,8-PeCDD	50 ug/mL
..HRDXNIDA_00361	01/31/21	CIL, Lot ER012111-01			(Purchased Reagent)		13C-1,2,3,7,8-PeCDF	50 ug/mL
..HRDXNIDA_00362	03/31/28	CIL, Lot ER03151801			(Purchased Reagent)		13C-1,2,3,6,7,8-HxCDD	50 ug/mL
..HRDXNIDA_00365	04/30/27	CIL, Lot ER04051701			(Purchased Reagent)		13C-OCDD	10 ug/mL
.HRDXNIS_00117	04/29/20	04/29/19	C14, Lot STBH7678	100 mL	HRDXNIS_00112	2 mL	13C-1,2,3,7,8,9-HxCDD	0.1 ug/mL
							13C-1,2,3,4-TCDD	0.1 ug/mL
..HRDXNIS_00112	09/30/26	10/25/18	Isooctane, Lot 0000192372	10 mL	HRDXNIS_00110	1 mL	13C-1,2,3,7,8,9-HxCDD	5 ug/mL
					HRDXNIS_00111	1 mL	13C-1,2,3,4-TCDD	5 ug/mL
...HRDXNIS_00110	09/30/26	CIL, Lot ER08221601			(Purchased Reagent)		13C-1,2,3,7,8,9-HxCDD	50 ug/mL
...HRDXNIS_00111	01/31/27	CIL, Lot ER11081602			(Purchased Reagent)		13C-1,2,3,4-TCDD	50 ug/mL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL
.HRDXNTA_00093	04/30/26	CIL, Lot ER02241602			(Purchased Reagent)		1,2,3,4,6,7,8-HpCDD	2 ug/mL
							1,2,3,4,6,7,8-HpCDF	2 ug/mL
							1,2,3,4,7,8,9-HpCDF	2 ug/mL
							1,2,3,4,7,8-HxCDD	2 ug/mL
							1,2,3,4,7,8-HxCDF	2 ug/mL
							1,2,3,6,7,8-HxCDD	2 ug/mL
							1,2,3,6,7,8-HxCDF	2 ug/mL
							1,2,3,7,8,9-HxCDD	2 ug/mL
							1,2,3,7,8,9-HxCDF	2 ug/mL
							1,2,3,7,8-PeCDD	2 ug/mL
							1,2,3,7,8-PeCDF	2 ug/mL
							2,3,4,6,7,8-HxCDF	2 ug/mL
							2,3,4,7,8-PeCDF	2 ug/mL
							2,3,7,8-TCDD	0.4 ug/mL
							2,3,7,8-TCDF	0.4 ug/mL
							OCDD	4 ug/mL
							OCDF	4 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
HRDXNSU_00219	08/26/20	08/26/19	Isooctane, Lot 0000201867	500 mL	HRDXNSU_00196	1000 uL	37Cl4-2,3,7,8-TCDD	0.8 pg/uL
.HRDXNSU_00196	07/31/25	09/10/18	Isooctane, Lot 0000192372	25 mL	HRDXNSU_00195	2 mL	37Cl4-2,3,7,8-TCDD	0.4 ug/mL
..HRDXNSU_00195	07/31/25	09/10/18	Isooctane, Lot 0000192372	10 mL	HRDXNSU_00187	1 mL	37Cl4-2,3,7,8-TCDD	5 ug/mL
...HRDXNSU_00187	07/31/25	CIL, Lot ER05211501			(Purchased Reagent)		37Cl4-2,3,7,8-TCDD	50 ug/mL

Reagent

PCB_AR1221_00005

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

JE
Rec'd
1/23/19

Catalog No. : 32007 **Lot No.:** A0141291

Description : Aroclor® 1221 Standard

Aroclor® 1221 Standard 1,000 µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : December 31, 2024 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1221		999.3 µg/mL	+/- 5.9357	µg/mL	Gravimetric
	CAS # 11104-28-2	(Lot 6009900)		+/- 31.6861	µg/mL	Unstressed
	Purity —%			+/- 41.3854	µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

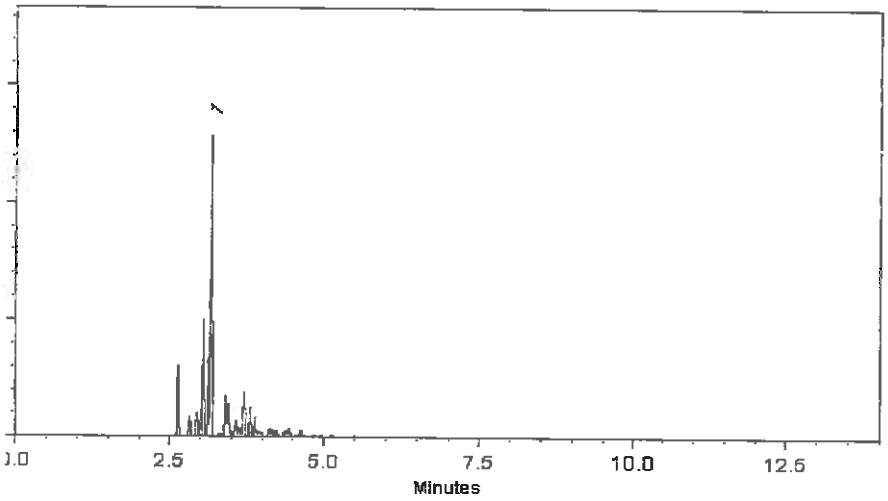

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cydnei L. Crust
Cydnei L. Crust - Mix Technician

Date Mixed: 05-Sep-2018 **Balance:** B251644995

Jennifer L Pollino
Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 07-Sep-2018

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

Reagent

PCB_AR1242_00005

RESTEK® CERTIFIED REFERENCE MATERIAL

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

Certificate of Analysis

ACCREDITED ISO 17034 Accredited Reference Material Producer Certificate #3222.01

ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Je
Rec'd
1/28/19

Catalog No. : 32009 **Lot No.:** A0141840

Description : Aroclor® 1242 Standard

Aroclor® 1242 Standard 1,000 µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : December 31, 2024 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Aroclor 1242	1,000.7 µg/mL	+/- 5.9437 µg/mL	Gravimetric
	CAS # 53469-21-9 (Lot 01141-A)		+/- 31.7284 µg/mL	Unstressed
	Purity —%		+/- 41.4406 µg/mL	Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

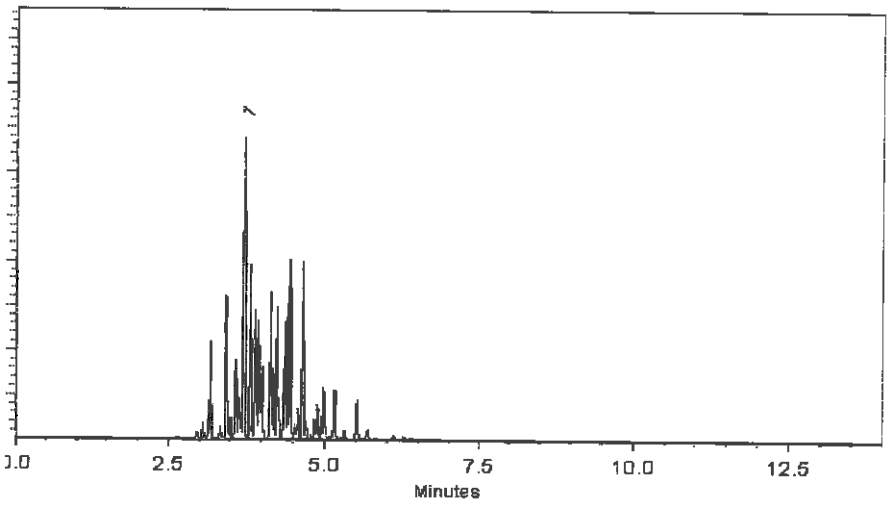

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

F. Joseph Tallon - Mix Technician

Date Mixed: 25-Sep-2018 **Balance:** B251644995

Amanda Miller - Operations Tech-ARM QC

Date Passed: 27-Sep-2018

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

Reagent

PCB_AR1248_00005

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate 43222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate 43222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Je
Rec'd
1/28/19

Catalog No. : 32010 **Lot No.:** A0139938

Description : Aroclor® 1248 Standard

Aroclor® 1248 Standard 1,000µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : October 31, 2024 **Storage:** 25°C nominal

Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Aroclor 1248 CAS # 12672-29-6 Purity ---%	(Lot W-108-07)	1,004.8 µg/mL	+/- 5.8967 µg/mL +/- 31.8461 µg/mL +/- 41.6016 µg/mL		Gravimetric Unstressed Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
200°C to 300°C
@ 25°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

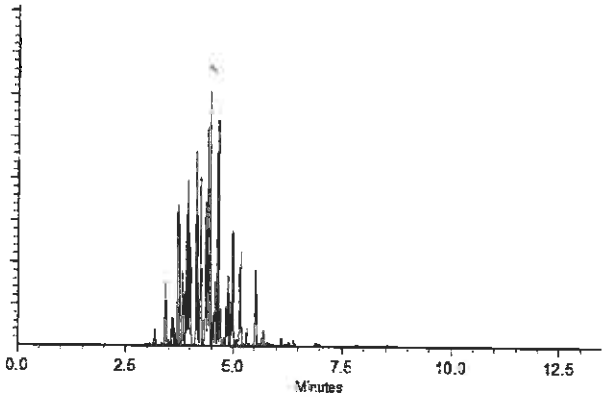

This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Dawn Brownson - Mix Technician

Date Mixed: 24-Jul-2018 **Balance:** 1128360905

Justine Albertson - Operations Tech-ARM QE

Date Passed: 26-Jul-2018

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

Reagent

HRDXNIDA_00075

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-$^{13}C_{12}$

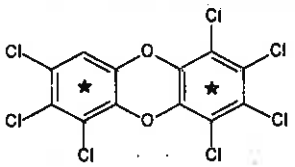

Catalog Number:	ED-972
Solution Lot:	ER111010-01
Expiration Date:	November 2020
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature Do not store cold
Intended Use:	For laboratory use only Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-$^{13}C_{12}$	98.9%	50.03 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER111010-01	50.5	± 5%	0.5	≤ 3%
Previous Lot	ER011807-01	47.4	± 5%	1.8	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

January 15, 2016
Date

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}HO_2Cl_7$
Compound Lot:	ER100110-01	**CAS Number:**	NA
		Molecular Weight:	437.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.9%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.10% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		98.91%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

Spectral and Physical Data

GC/FID

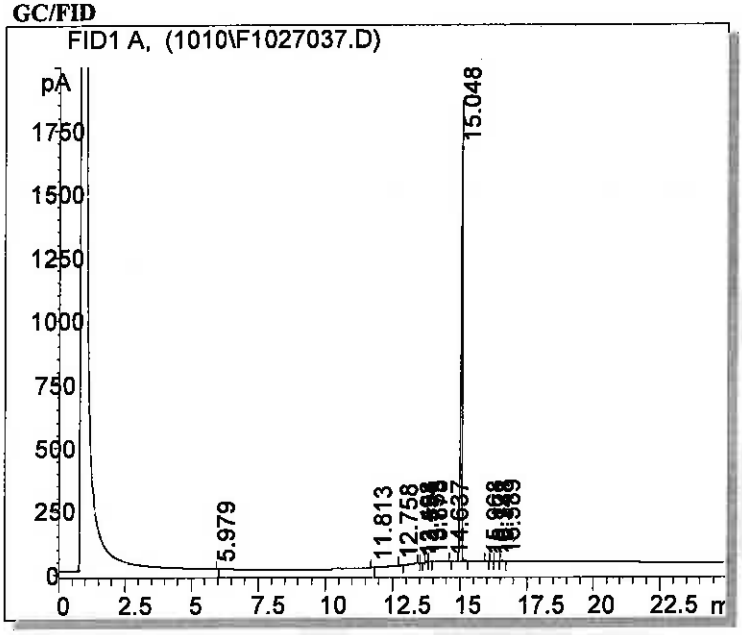

Column:	DB-5ms, 30m x 0.53mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-column
Detector Temp:	325°C
Data File Name:	S:\GC\GC6\2010\1010\F1027037.D
Instrument:	GC#6
Sample Name:	ER100110-01
Acquired:	October 28, 2010

Peak #	Ret Time	Area	Height	Area %
1	5.98	0.34	0.18	0.00
2	11.81	1.00	0.08	0.01
3	12.76	10.96	2.89	0.16
4	13.50	1.19	0.32	0.02
5	13.55	2.63	0.80	0.04
6	13.75	13.39	3.28	0.19
7	13.88	7.04	1.81	0.10
8	14.64	0.86	0.28	0.01
9	15.05	6900.70	1812.09	98.81
10	15.97	3.15	0.73	0.05
11	16.17	2.25	0.55	0.03
12	16.35	5.12	1.10	0.07
13	16.59	18.93	4.26	0.27
14	26.99	15.17	0.35	0.22
15	35.58	0.06	0.21	0.00
16	41.80	0.77	0.13	0.01

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin-13C
Lab Number : [illegible]
Instrument : Agilent 5973N MSD/5890N GC
Operator-Inst ID : [illegible] - 010106
Date Reported : Wed Oct 27 [illegible] 2010
Column Type : [illegible]
Temp. Program : [illegible]
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : [illegible] mL/min
Transfer Line Temp. : [illegible]

Scan Range : 50-650

Total Ion Chromatogram

Mass Spectrum

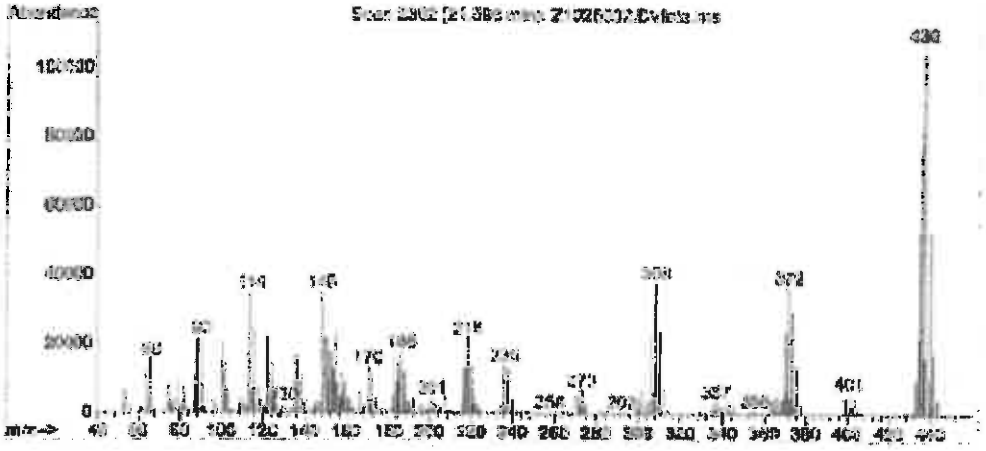

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COA Revision History

Revision No.	Date	Reason for Revision
00	November 24, 2010	Initial version
01	January 15, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Cerilliant Corporation 811 Paloma Drive, Suite A, Round Rock, TX 78665 800-848-7837 / 512-238-9974

Reagent

HRDXNIDA_00247

Received 8-17-16

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$

HpCDF

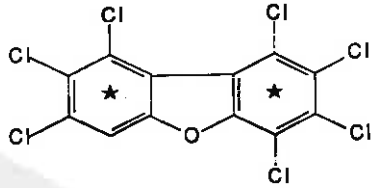

Catalog Number:	EF-988
Solution Lot:	ER04251601
Expiration Date:	March 2026
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	99.1%	49.99 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04251601	49.11	± 5%	0.2	≤ 3%
Previous Lot	ER053107-02	50.58	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

June 21, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}HCl_7O$
Compound Lot:	ER04041602	**CAS Number:**	109719-94-0
		Molecular Weight:	421.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.1%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS SIM	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.16% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.10%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data (cont.)

GC/FID

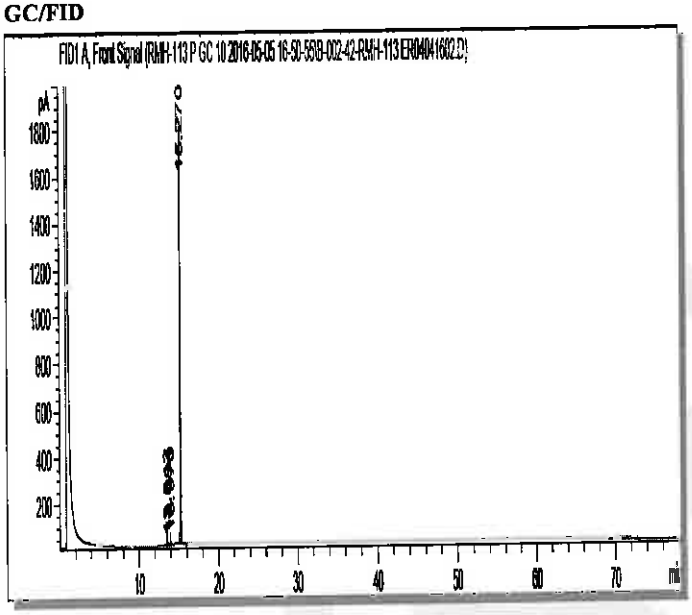

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Data File Name:	RMH-113 P GC 10 2016-05-05 16-50-55\B-002-42.D
Instrument:	GC#10
Sample Name:	ER04041602
Acquired:	May 05, 2016

Peak #	Ret Time	Area	Height	Area %
1	13.51	8.76	2.52	0.12
2	13.68	17.42	7.45	0.24
3	13.97	39.65	15.48	0.54
4	15.27	7226.95	1798.33	99.10

Spectral and Physical Data (cont.)

GC/MS

```
Compound Name          : 1,2,3,4,7,8,9-Heptachlorodibenzofuran-13C12
Lot Number             : ER04041602
Instrument             : Agilent GCMS
Operator               : ECM(SGIUFFRE)
Date Reported          : Wed May 04 15:34:28 2016
Column Type            : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program          : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.         : Cool on-column
Carrier Gas            : Helium
Flow Rate (mL\min)     : 0.80 mL/min
Transfer Line Temp.    : 280°C
Scan Range             : 50-550
```

Total Ion Chromatogram

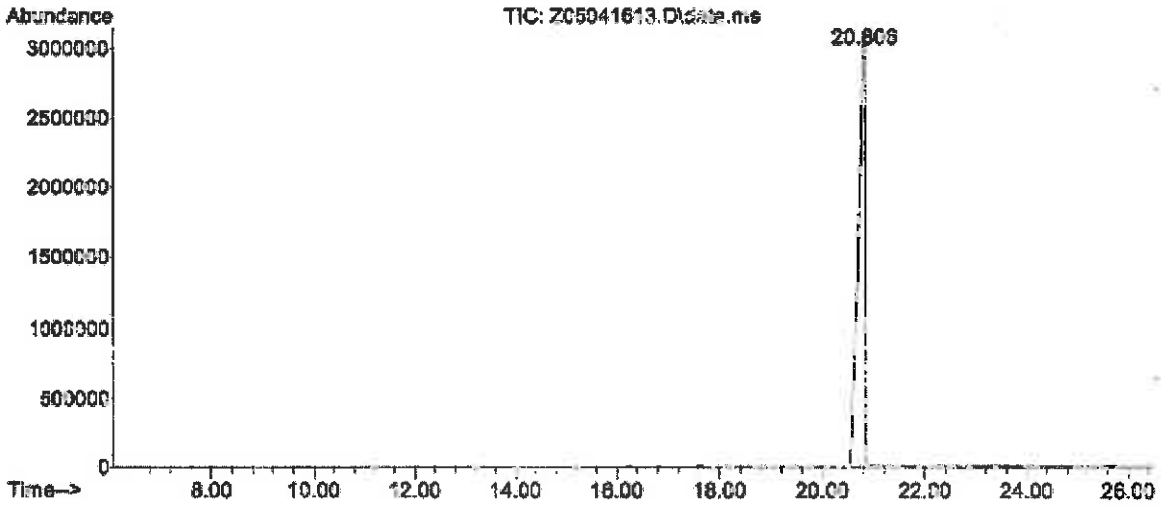

Mass Spectrum

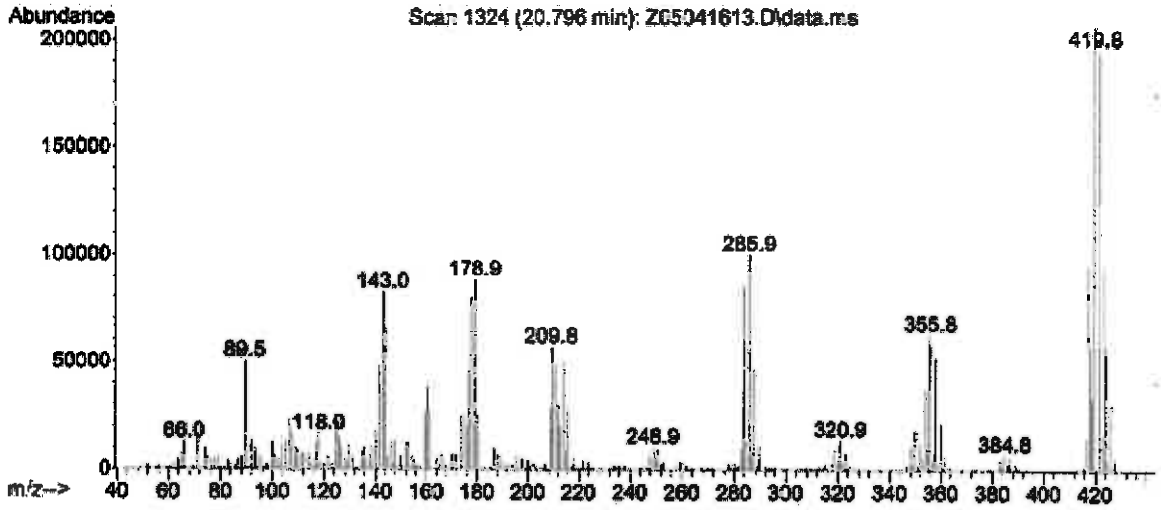

COA Revision History

Revision No.	Date	Reason for Revision
00	June 21, 2016	Initial version

Reagent

HRDXNIDA_00297

r: 9/28/17 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

1042065
ID: HRDXNIDA_00297
Exp: 01/31/27 Prpd: SKV
13C-2,3,4,7,8-PeCDF [50ug

CIL

Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$

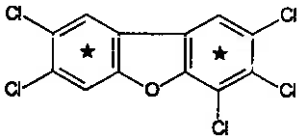

Catalog Number: EF-958
Solution Lot: ER01061701
Expiration Date: January 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	97.9%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s); measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER01061701	50.51	± 5%	0.1	≤ 3%
Previous Lot	ER11041601	49.56	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

January 27, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3Cl_5O$
Compound Lot:	ER11101601	**CAS Number:**	116843-02-8
		Molecular Weight:	352.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0102	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.02% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 0.5%
Mass Balance Purity Factor		98.33%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

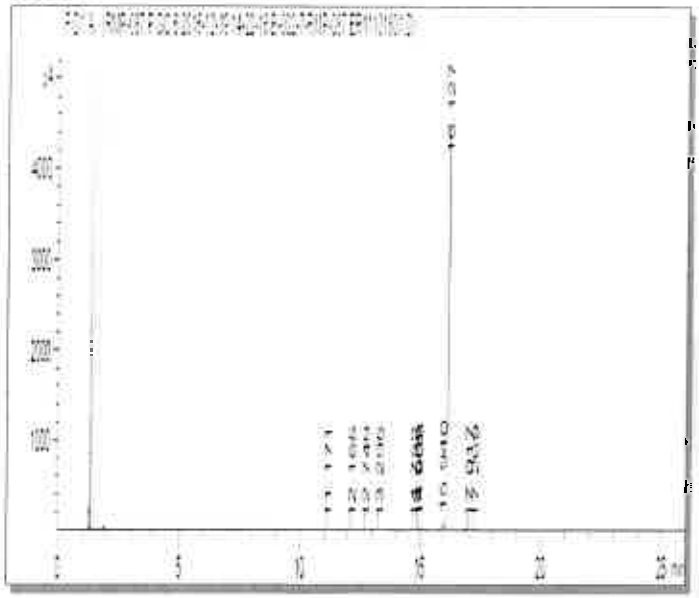

Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 100°C to 300°C at 15°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: RMP-087 P GC 6 2016-12-19 14-22-16\B-002-7.D
Instrument: GC#6
Sample Name: ER11101601
Acquired: December 19, 2016

Peak #	Ret Time	Area	Height	Area %
1	11.17	0.94	0.40	0.01
2	12.17	1.30	0.39	0.01
3	12.75	0.47	0.20	0.00
4	13.30	0.90	0.35	0.01
5	14.75	1.70	0.87	0.02
6	14.91	1.09	0.56	0.01
7	14.97	32.24	17.54	0.29
8	15.94	124.38	64.36	1.13
9	16.13	10866.60	4688.80	98.41
10	17.02	6.31	2.46	0.06
11	17.27	6.76	2.34	0.06

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 2,3,4,7,8-Pentachlorodibenzofuran-13C12
Lot Number	: ER11101601
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRS)
Date Reported	: Tue Dec 20 12:19:55 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.50 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

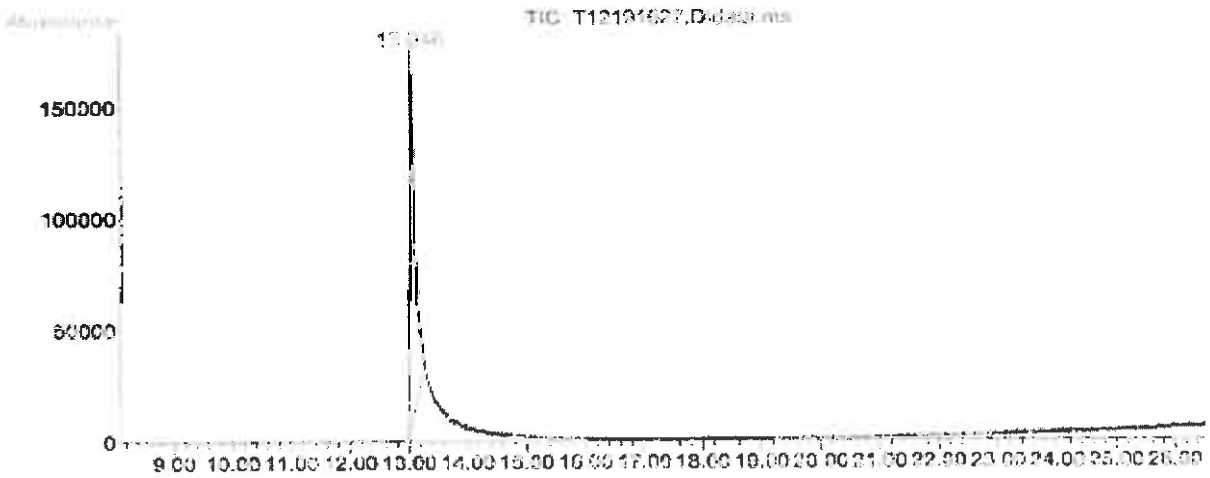

Mass Spectrum

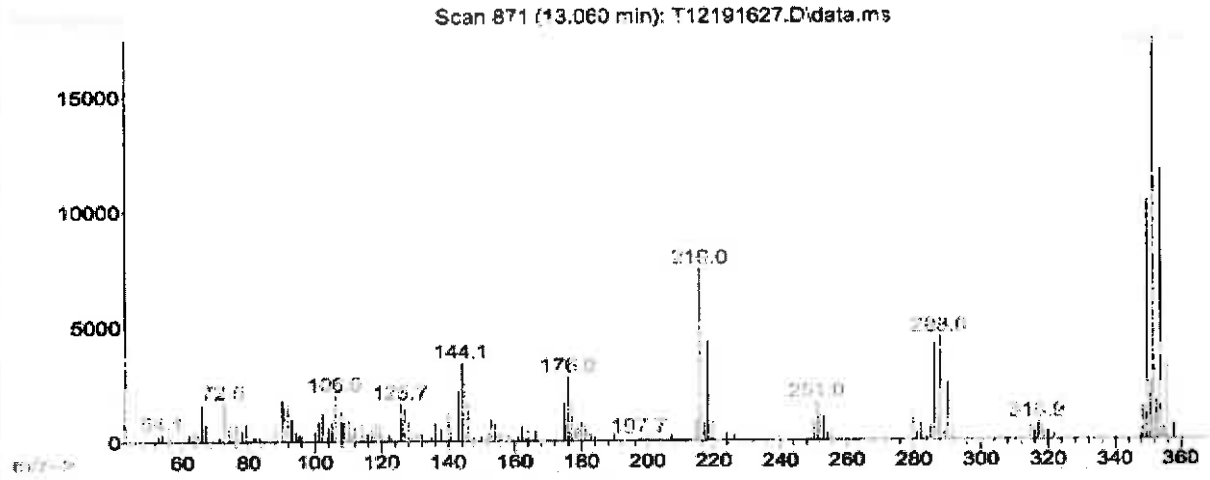

Reagent

HRDXNIDA_00301

n: 9/20/17 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

1042073
ID: HRDXNIDA_00301
Exp: 10/31/21 Prpd: SKV
13C-1,2,3,4,7,8-HxCDD [50

CIL

Certificate of Analysis

Certificate Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 9001
GMP/GLP

1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

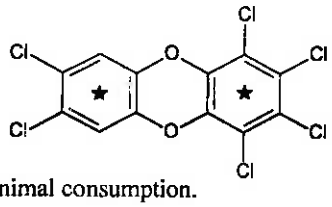

Catalog Number: ED-946
Solution Lot: ER102711-01
Expiration Date: October 2021
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.0%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER102711-01	48.2	± 5%	0.2	≤ 3%
Previous Lot	ER012208-01	49.6	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS ACCREDITED
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

September 17, 2015
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O_2$
Compound Lot:	ER011008-01	**CAS Number:**	109719-80-4
		Molecular Weight:	402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.2%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.08% $^{13}C_0$ vs $^{13}C_{12}$
		0.19% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.19%

- Chromatographic purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

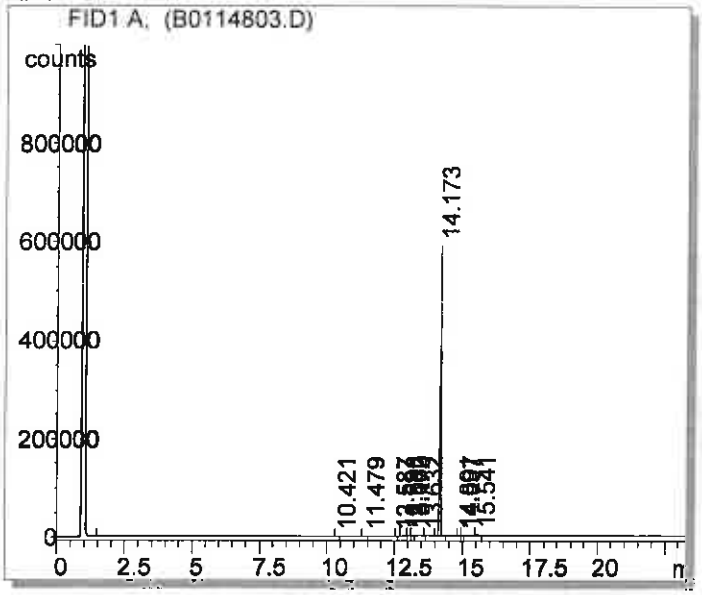

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0114803.D
Instrument:	GC#2
Sample Name:	ER011008-01
Acquired:	January 14, 2008

Peak #	Ret Time	Area	Height	Area %
1	10.42	287.44	132.33	0.02
2	11.48	242.24	92.03	0.01
3	12.59	389.12	196.33	0.02
4	12.90	3015.36	1199.07	0.17
5	13.06	2243.36	788.13	0.13
6	13.17	2243.90	754.45	0.13
7	13.63	2349.03	134.07	0.02
8	14.17	427.02	588610.00	99.20
9	14.89	1731980.00	110.79	0.03
10	15.00	512.26	86.41	0.02
11	15.54	4077.63	1008.44	0.23

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

Compound Name : 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-13C12
Lot Number : [illegible]-01
Instrument : Agilent 5973N MSD/6890N GC
Operator-Inst ID : REC - C1010E
Date Reported : Wed Jan 16 11:15:58 2008
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 300°C@6°C/min (5 min)
Injection Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 280°C

Scan Range : 50-550

Total Ion Chromatogram

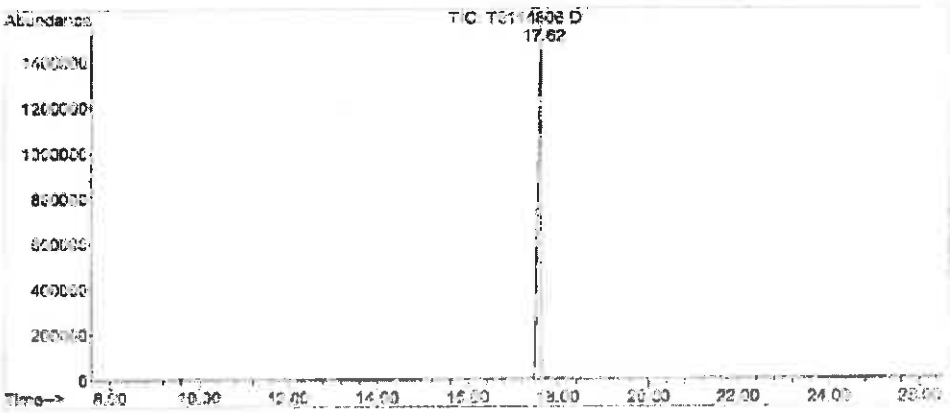

Mass Spectrum

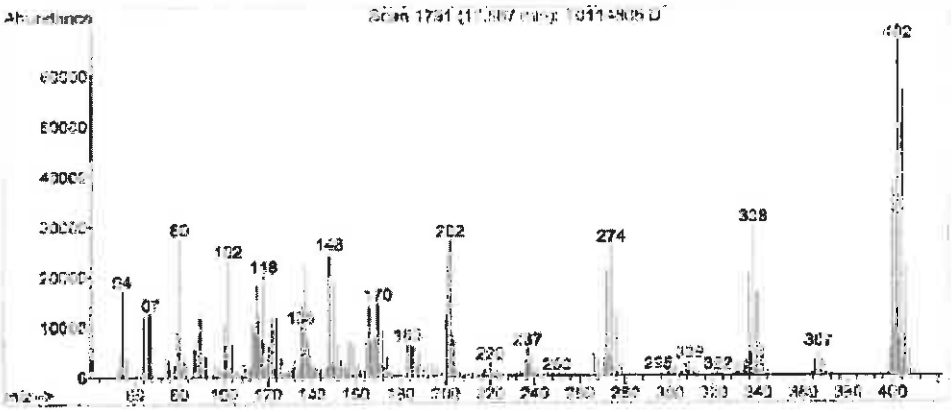

COA Revision History

Revision No.	Date	Reason for Revision
00	November 12, 2011	Initial version
01	September 17, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet"

Reagent

HRDXNIDA_00302

r: 9/20/17 SKV

1042074
ID: HRDXNIDA_00302
Exp: 07/31/20 Prpd: SKV
13C-1,2,3,4,7,8-HxCDF [50

Cerilliant
Analytical Reference Standards
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CIL

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

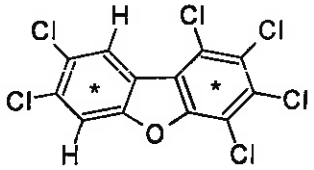

Catalog Number: EF-963
Solution Lot: ER072810-02
Expiration Date: July 2020
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Protect from air and light, store at room temperature. Do not store cold.
Intended Use: For laboratory use only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration.

Component	Chromatographic Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.6%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Acceptance Criteria	%RSD - Homogeneity Actual Results	Acceptance Criteria
New Lot	ER072810-02	47.4	± 5%	0.3	≤ 3%
Previous Lot	LR011907-01	46.6	—	1.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

November 15, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$
Compound Lot:	35135-45

Chemical Formula:	$^{13}C_{12}H_2OCl_6$
CAS Number:	114423-98-2
Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.6%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% C_0 vs C_{12}
		0.13% C_6 vs C_{12}
Purity Factor		99.57%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

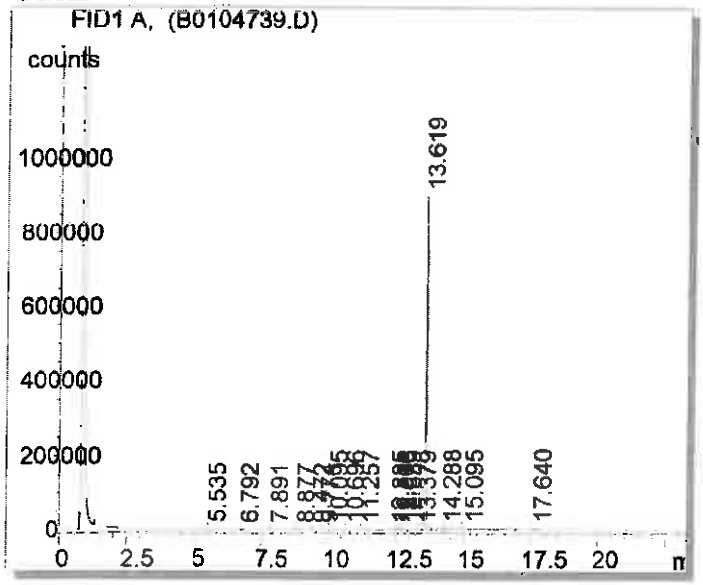

Column:	DB-5ms, 30m x 0.53mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0104739.D
Instrument:	GC#2
Sample Name:	35135-45
Acquired:	January 05, 2007

Peak #	Ret Time	Area	Height	Area %
1	4.21	615.24	161.26	0.02
2	5.21	1024.94	292.85	0.04
3	6.09	326.05	83.67	0.01
4	7.10	301.83	31.69	0.01
5	7.75	169.71	40.31	0.01
6	8.38	136.91	47.17	0.01
7	8.97	123.76	38.29	0.00
8	12.30	2684.80	1153.73	0.10
9	12.48	1162.83	467.42	0.04
10	12.56	1893.94	719.41	0.07
11	12.68	466.69	180.24	0.02
12	12.86	690.32	301.63	0.03
13	13.62	2651450.00	979725.00	99.58
14	14.34	274.11	82.01	0.01
15	15.17	1208.09	320.67	0.05
16	19.00	166.44	32.66	0.01

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

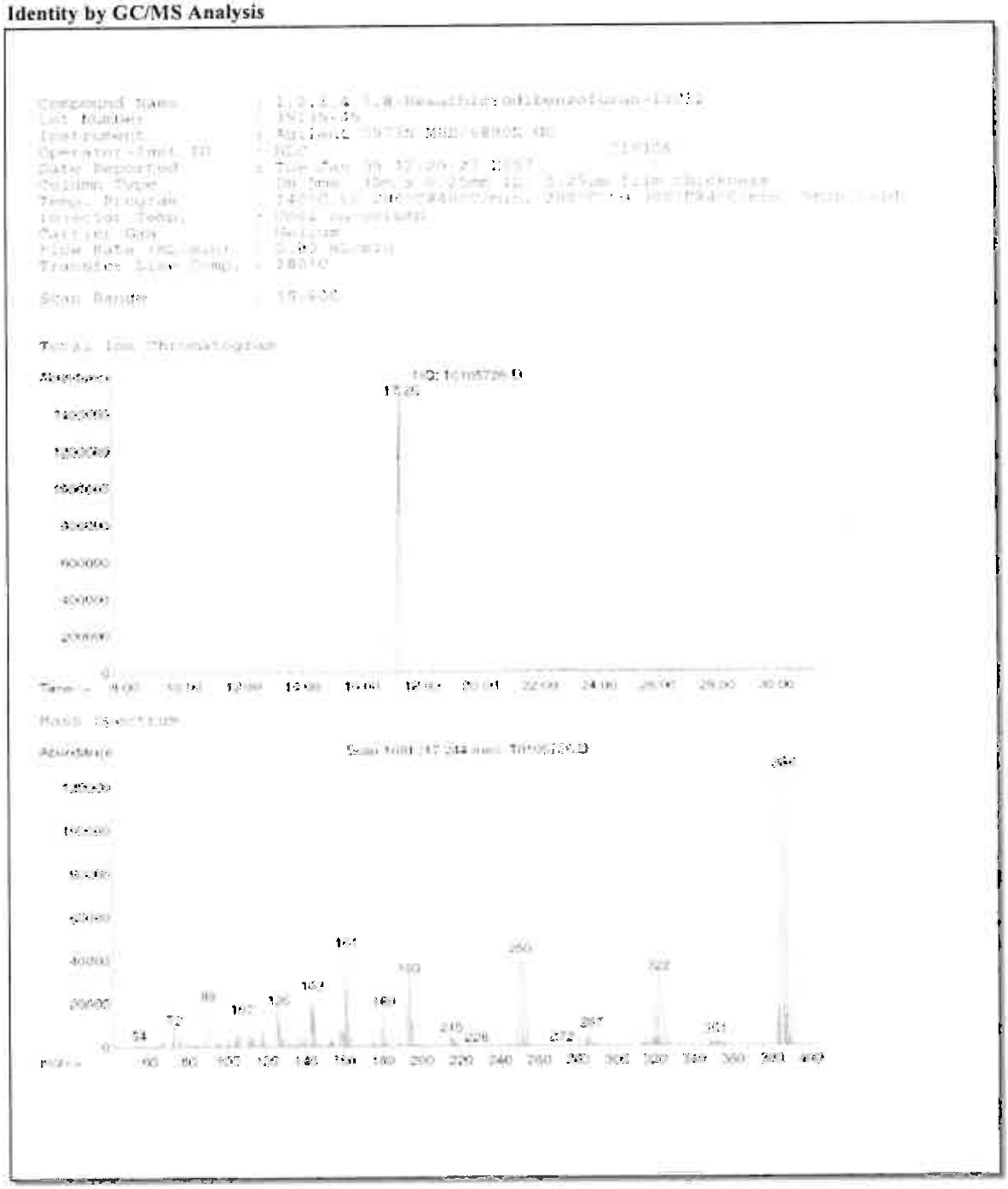

COA Revision History

Revision No.	Date	Reason for Revision
00	September 22, 2010	Initial version
01	September 22, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet"
02	November 15, 2016	Corrected Molecular Weight from 368.77 to 386.77

Reagent

HRDXNIDA_00353

r: 11/28/18 SKV

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Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,6,7,8-Heptachlorodibenzofuran-$^{13}C_{12}$

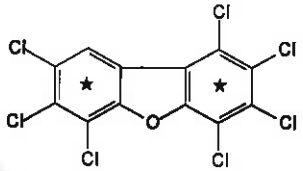

Catalog Number: EF-974
Solution Lot: ER08101404
Expiration Date: November 2024
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,6,7,8-Heptachlorodibenzofuran-$^{13}C_{12}$	98.3%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER08101404	48.75	± 5%	0.3	≤ 3%
Previous Lot	ER102711-02	51.49	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

December 03, 2015
Date

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 60°C to 300°C at 40°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 4
Linearity (r): 1.000

Neat Material Data

Compound Name: 1,2,3,4,6,7,8-Heptachlorodibenzofuran-$^{13}C_{12}$
Compound Lot: ER020507-02

Chemical Formula: $^{13}C_{12}HCl_7O$
CAS Number: 109719-84-8
Molecular Weight: 421.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	98.7%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.16% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS	SP10-0105	Pass
		no single DD/DF impurity ≥1.0%
Purity Factor		98.69%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

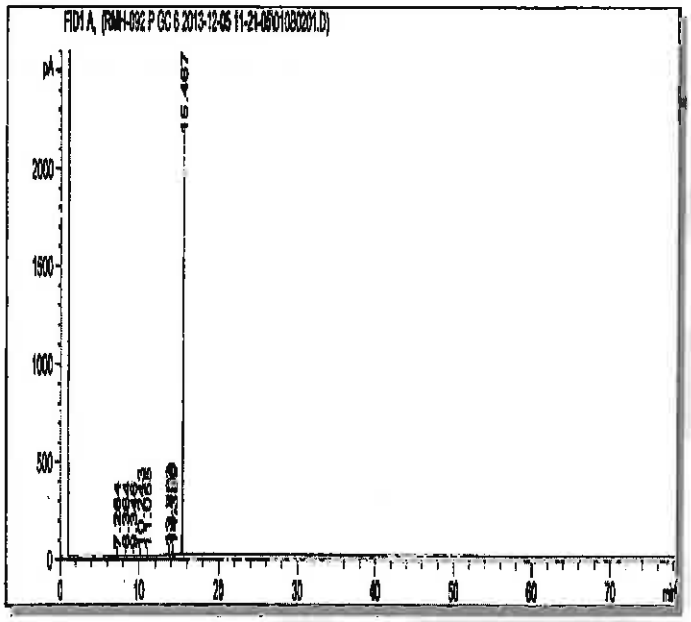

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-092 P GC 6 2013-12-05 11-21-05\010B0201.D
Instrument:	GC#6
Sample Name:	ER020507-02
Acquired:	December 05, 2013

Peak #	Ret Time	Area	Height	Area %
1	7.26	4.41	2.08	0.05
2	8.36	11.76	5.45	0.12
3	9.35	5.20	2.32	0.05
4	10.24	1.47	0.62	0.02
5	11.06	0.34	0.17	0.00
6	13.75	8.81	4.38	0.09
7	13.80	23.67	9.98	0.25
8	14.13	43.07	16.42	0.45
9	14.20	21.73	8.77	0.23
10	14.39	4.79	1.81	0.05
11	15.47	9349.36	2200.33	98.68

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 1,2,3,4,6,7,8-Heptachlorodibenzofuran-13C12
Lot Number : ER020507-02
Instrument : Agilent GCMS
Operator : ECM(BRYAN_DOCKERY)
Date Reported : Tue Dec 17 09:08:58 2013
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL\min) : 0.80 mL/min
Transfer Line Temp. : 280°C
Scan Range : 50-550

Total Ion Chromatogram

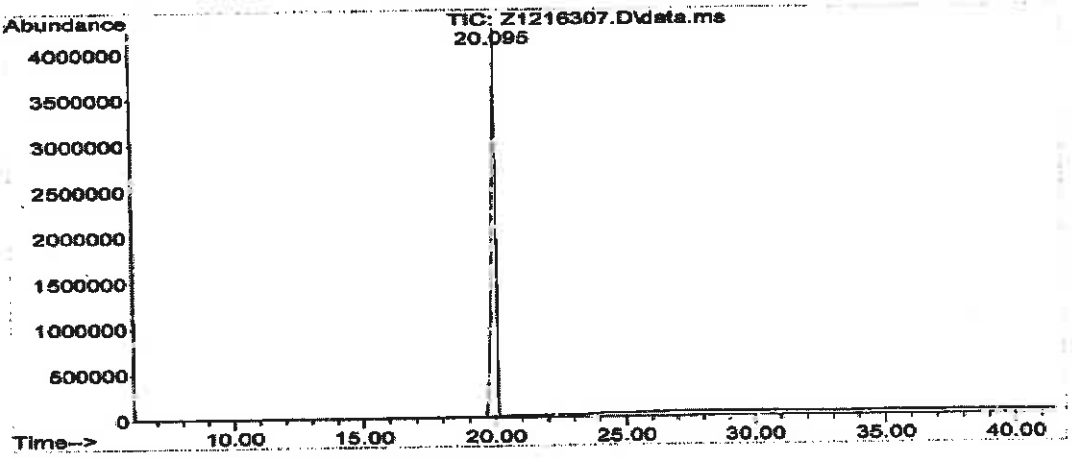

Mass Spectrum

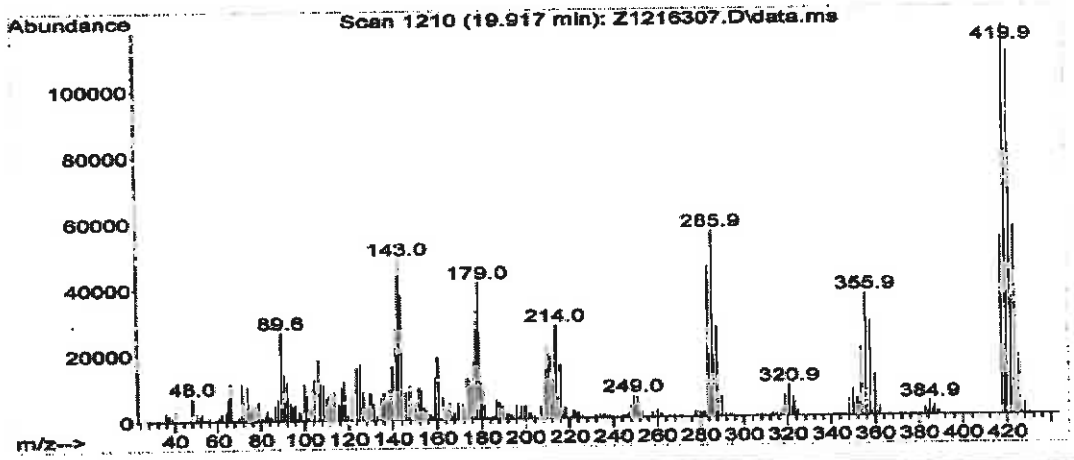

COA Revision History

Revision No.	Date	Reason for Revision
00	January 19, 2015	Initial version
01	December 04, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet"

Reagent

HRDXNIDA_00354

Rec: 11/28/18 SKV

Cerilliant Analytical Reference Standards
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Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$

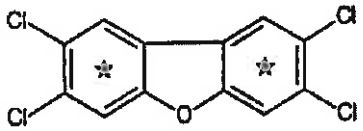

Catalog Number: EF-904
Solution Lot: ER09131601
Expiration Date: September 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	99.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER09131601	49.91	± 5%	0.2	≤ 3%
Previous Lot	ER12101304	51.13	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

November 02, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_4Cl_4O$
Compound Lot:	ER01161401	**CAS Number:**	89059-46-1
		Molecular Weight:	317.88

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.2%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS SIM	SP10-0105	No single DD/DF ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.00% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.24%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

GC/FID

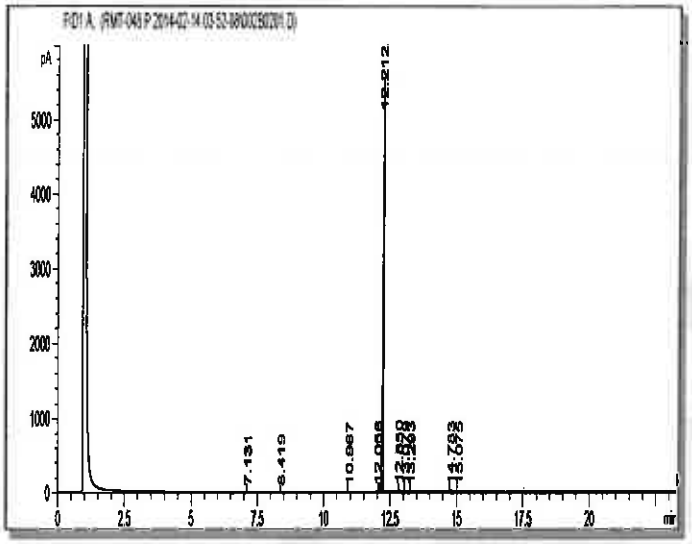

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMT-048 P 2014-02-14 03-52-08\002B0201.D
Instrument:	GC#10
Sample Name:	ER01161401
Acquired:	February 14, 2014

Peak #	Ret Time	Area	Height	Area %
1	7.13	1.19	0.61	0.01
2	8.42	3.23	1.42	0.03
3	10.97	3.57	1.04	0.03
4	12.06	20.86	12.47	0.18
5	12.21	11764.70	5466.96	99.29
6	12.85	30.72	15.48	0.26
7	13.08	7.62	4.03	0.06
8	13.29	5.47	2.91	0.05
9	14.78	7.62	2.76	0.06
10	15.08	3.87	1.33	0.03

GC/MS

Compound Name	: 2,3,7,8-Tetrachlorodibenzofuran-13C12
Lot Number	: ER01161401
Instrument	: Agilent GCMS
Operator	: ECM(SAMUEL_GIUFFRE)
Date Reported	: Thu Feb 13 11:57:07 2014
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

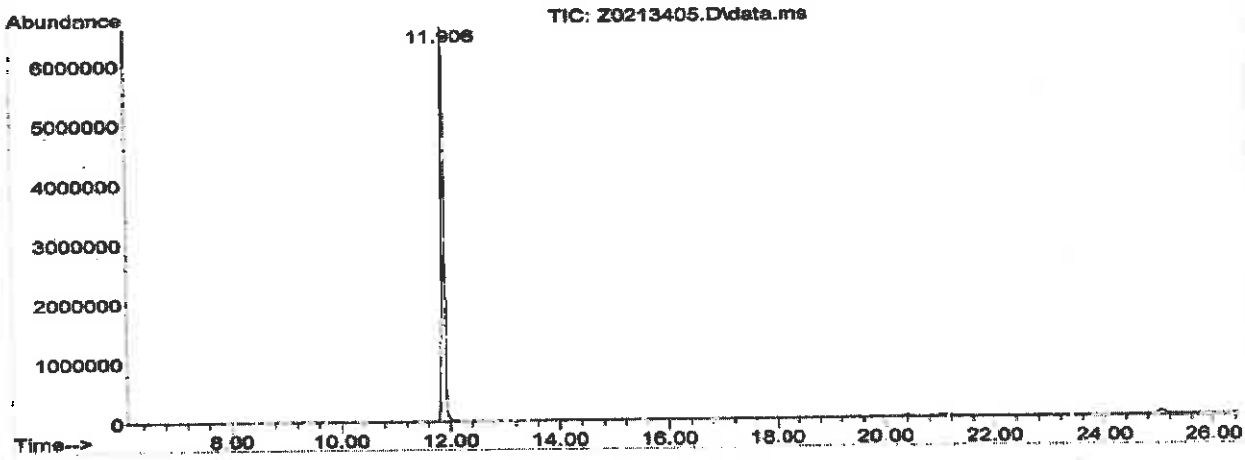

Mass Spectrum

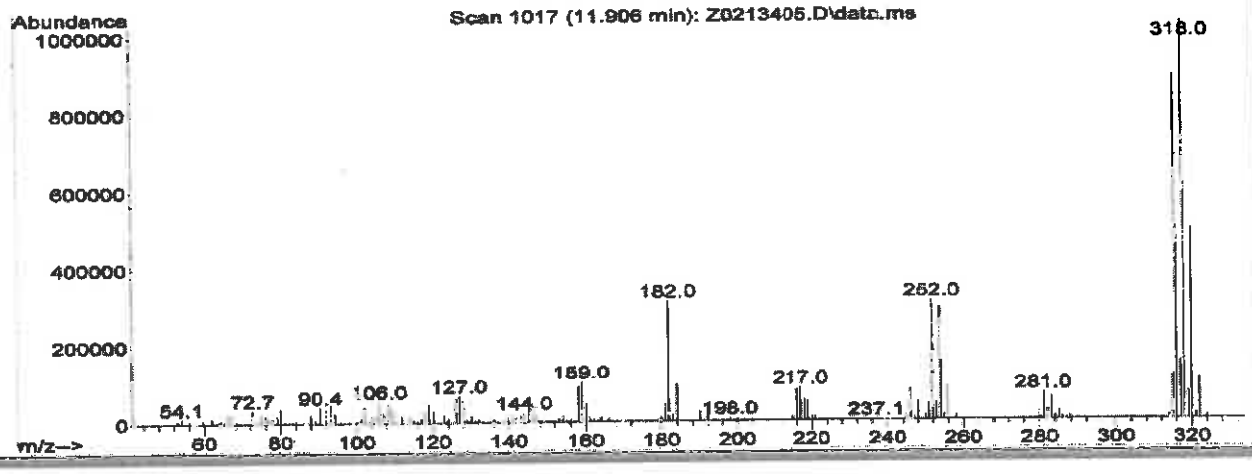

COA Revision History

Revision No.	Date	Reason for Revision
00	November 02, 2016	Initial version

Reagent

HRDXNIDA_00355

Rec: 11/28/18 SJV

Cerilliant Analytical Reference Standards
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Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$

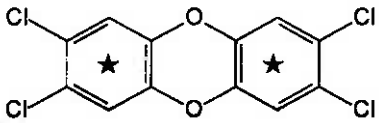

Catalog Number: ED-900
Solution Lot: ER03031601
Expiration Date: March 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.4%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution, and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER03031601	52.66	± 5%	0.3	≤ 3%
Previous Lot	ER01031401	49.83	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

March 24, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-35ms 30 m x 0.53 mm ID, 1.0 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_4Cl_4O_2$
Compound Lot:	ER01201405	**CAS Number:**	76523-40-5
		Molecular Weight:	333.88

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity and Distribution by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.05% $^{13}C_6$ vs $^{13}C_{12}$
Impurities by GC/MS SIM Analysis	SP10-0105	no single DD/DF impurity $\geq$0.5%
Mass Balance Purity Factor		99.34%

- The primary chromatographic purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Mass Balance Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

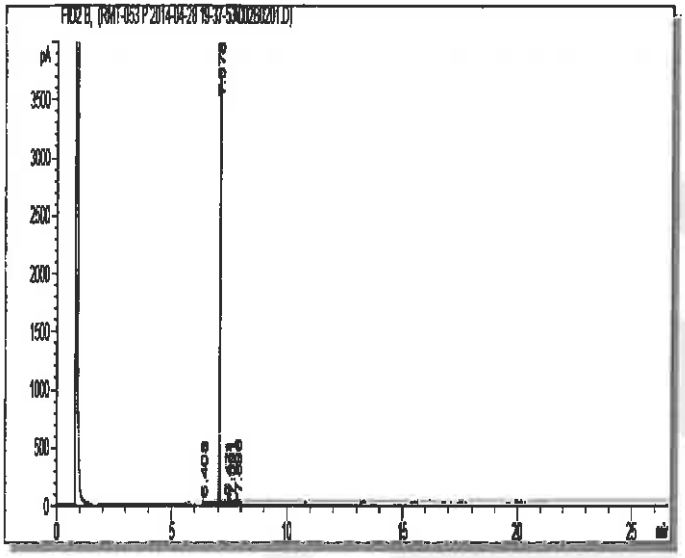

Column:	DB-35ms, 30 m x 0.53 mm ID, 1.0 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMT-053 P 2014-04-28 19-37-53\002B0201.D
Instrument:	GC#6
Sample Name:	ER01201405
Acquired:	April 28, 2014

Peak #	Ret Time	Area	Height	Area %
1	6.41	4 36	2.80	0.08
2	7 08	5225 21	3678.99	99.32
3	7 47	5 29	3.00	0.10
4	7 59	9 11	4.81	0.17
5	7.90	17 05	9.22	0.32

GC/MS

Compound Name	: 2,3,7,8-Tetrachlorodibenzo-p-dioxin-13C12
Lot Number	: ERD1201405
Instrument	: Agilent GCMS
Operator	: ECM(SAMUEL_GIUITRE)
Date Reported	: Tue May 06 09:30:26 2014
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 220°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

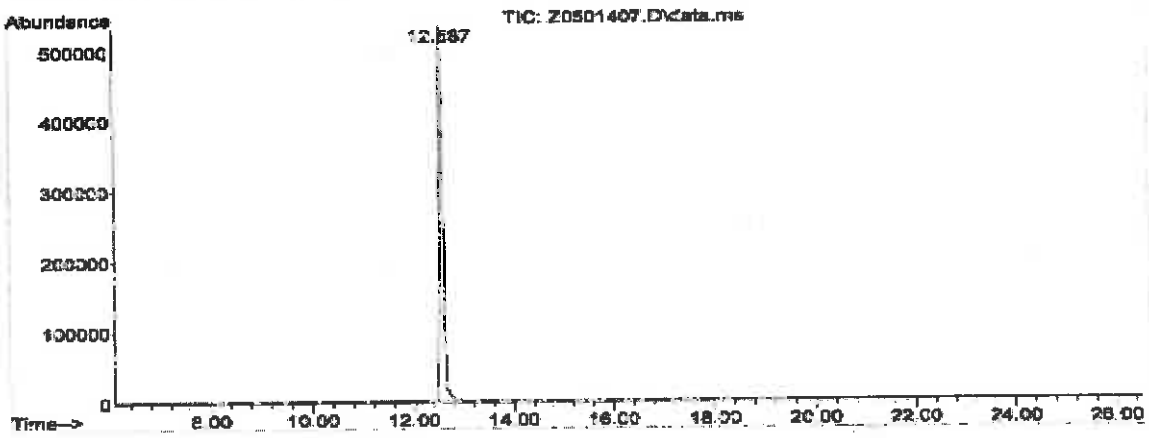

Mass Spectrum

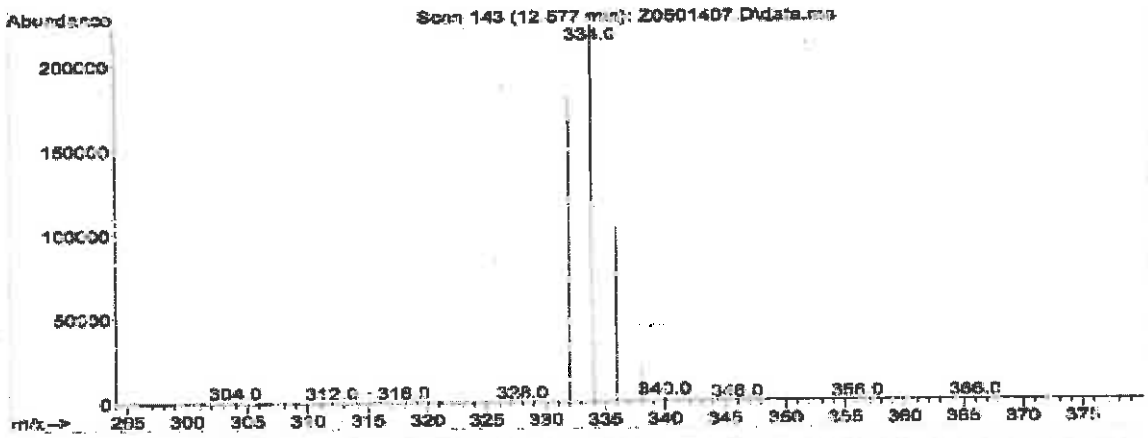

Reagent

HRDXNIDA_00357

r: 1/15/19 SKV

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Analytical Reference Standards
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ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Certificate of Analysis

1,2,3,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

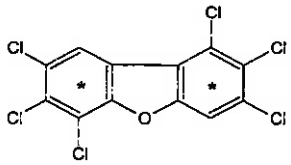

Catalog Number: EF-985
Solution Lot: ER02241603
Expiration Date: April 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.6%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER02241603	50.09	± 5%	0.4	≤ 3%
Previous Lot	ER053107-03	50.81	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

May 04, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O$
Compound Lot:	ER051607-01	**CAS Number:**	116843-03-9
		Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.06% $^{13}C_6$ vs $^{13}C_{12}$
Impurities by GC/MS SIM Analysis	SP10-0105	no single DD/DF impurity ≥ 0.5%
Mass Balance Purity Factor		99.01%

- The chromatographic purity is calculated as the average of two independently performed analyses utilizing two different methods Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Mass Balance Purity Factor
- Mass Balance Purity Factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

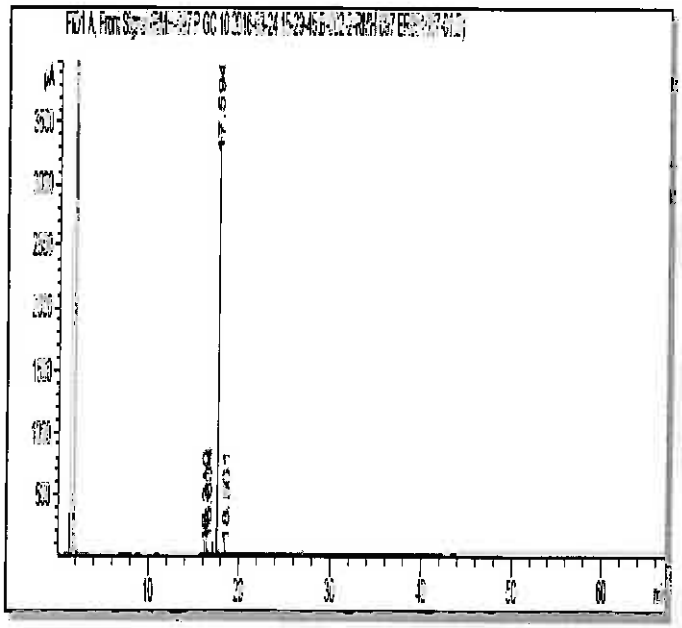

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	40°C to 300°C at 15°C/min hold 50 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-097 P GC 10 2016-03-24 15-29-45\B-002-2.D
Instrument:	GC#10
Sample Name:	ER051607-01
Acquired:	March 24, 2016

Peak #	Ret Time	Area	Height	Area %
1	16.31	6.97	3.21	0.08
2	16.60	77.08	33.51	0.83
3	17.59	9156.82	3458.38	99.00
4	18.56	8.48	2.69	0.09

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 1,2,3,6,7,8-Hexachlorodibenzofuran-13C12
Lot Number	: ER051607-01
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Fri Mar 18 07:08:54 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

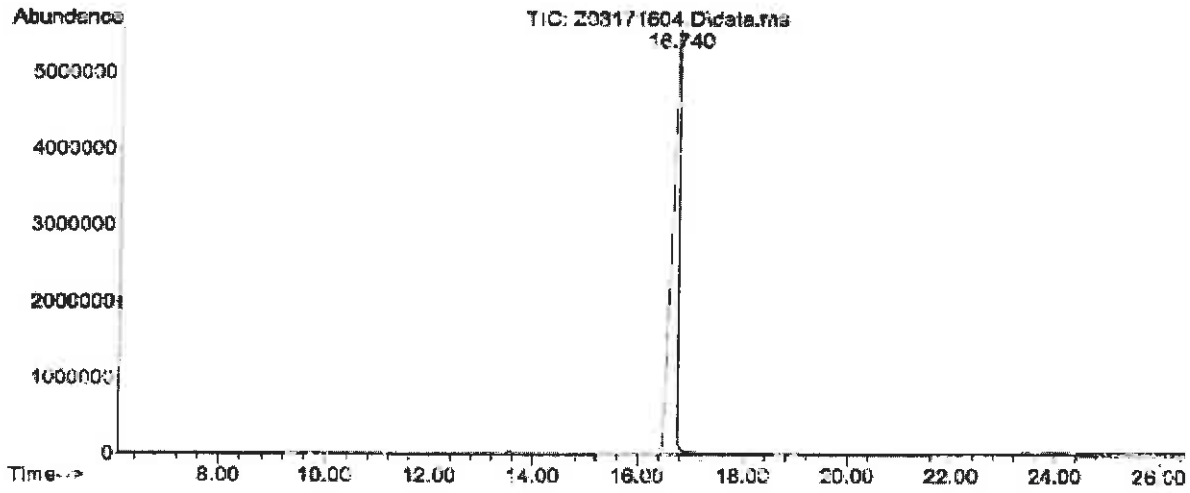

Mass Spectrum

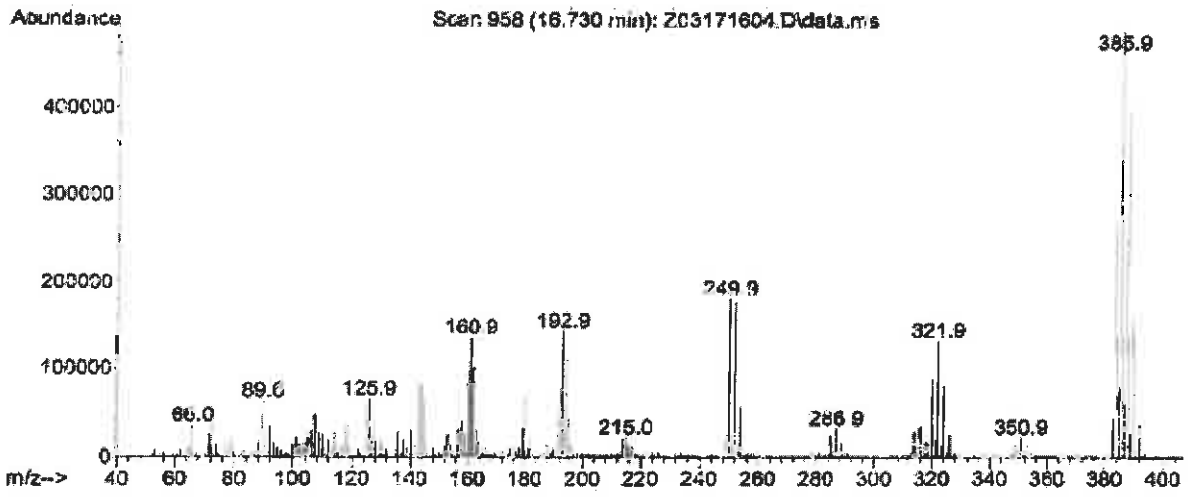

COA Revision History

Revision No.	Date	Reason for Revision
00	May 04, 2016	Initial version

Reagent

HRDXNIDA_00358

r: 1/15/19 SKV

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Analytical Reference Standards
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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,7,8,9-Hexachlorodibenzofuran-$^{13}C_{12}$

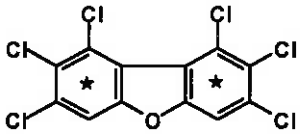

Catalog Number: EF-986
Solution Lot: ER100610-01
Expiration Date: December 2020
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For laboratory use only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
1,2,3,7,8,9-Hexachlorodibenzofuran-$^{13}C_{12}$	99.5%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER100610-01	51.2	± 5%	0.4	≤ 3%
Previous Lot	ER100107-01	49.9	± 5%	1.4	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

February 14, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2OCl_6$
Compound Lot:	ER080108-03	**CAS Number:**	116843-04-0
		Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.5%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.03% $^{13}C_0$ vs $^{13}C_{12}$
		0.09% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.49%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

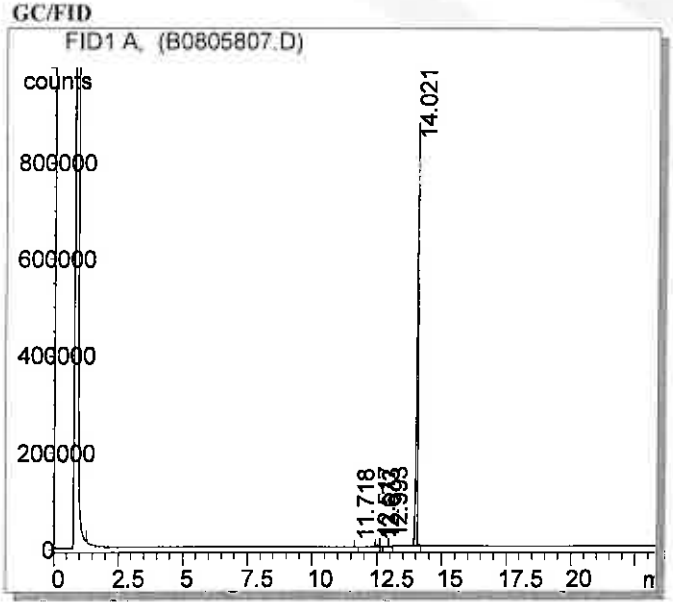

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0805807.D
Instrument:	GC#2
Sample Name:	ER080108-03
Acquired:	August 05, 2008

Peak #	Ret Time	Area	Height	Area %
1	11.72	318.47	152.10	0.01
2	12.52	8294.54	2994.64	0.30
3	12.67	155.17	67.29	0.01
4	12.99	4248.66	1646.53	0.16
5	14.02	2708910.00	880320.00	99.52

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

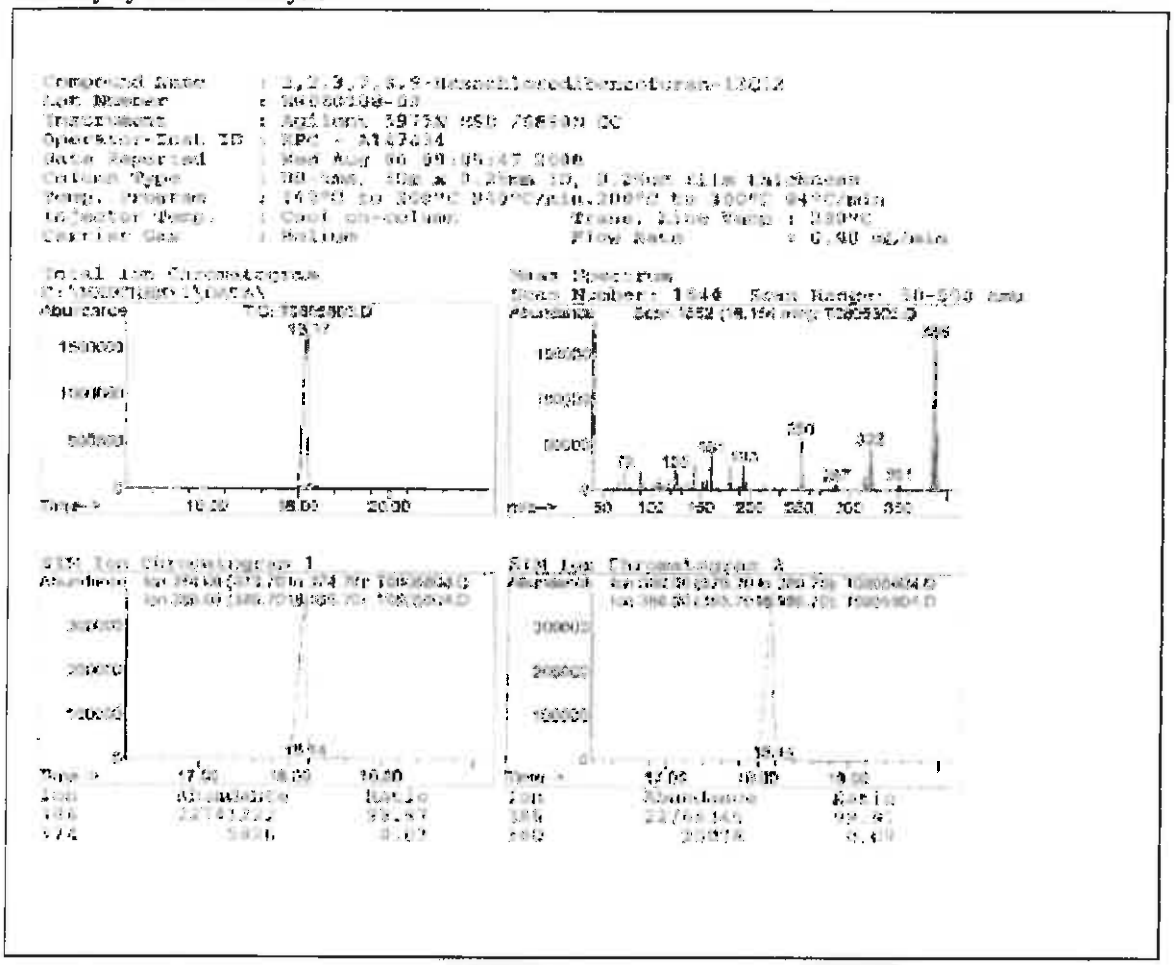

COA Revision History

Revision No.	Date	Reason for Revision
00	January 12, 2011	Initial version
01	November 05, 2015	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".
02	February 14, 2017	Corrected Isotopic Purity by GC/MS SIM from C to ^{13}C.

Reagent

HRDXNIDA_00359

r: 1/15/19 SKV

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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

2,3,4,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

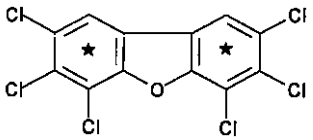

Catalog Number: EF-987
Solution Lot: ER100610-02
Expiration Date: December 2020
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For laboratory use only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
2,3,4,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.4%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER100610-02	50.9	± 5%	0.6	≤ 3%
Previous Lot	ER031507-03	50.3	± 5%	1.8	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

January 15, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,4,6,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O$
Compound Lot:	ER061906-02	**CAS Number:**	116843-05-1
		Molecular Weight:	386.73

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.4%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.04% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.40%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

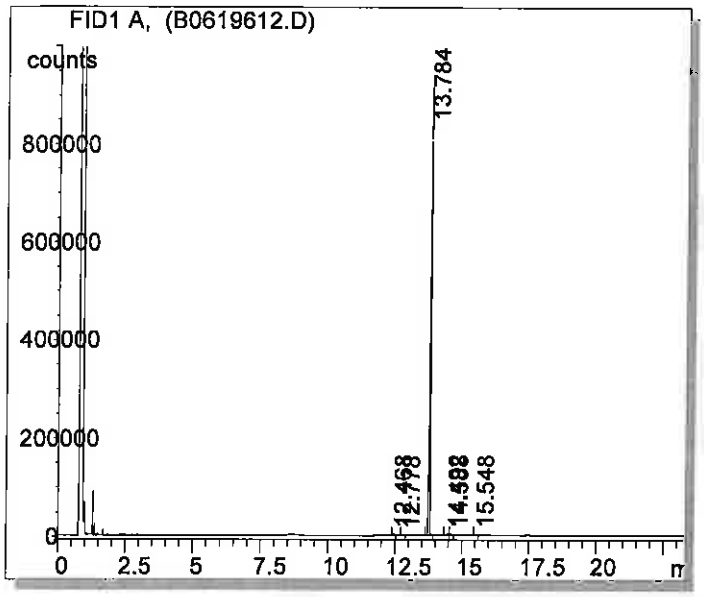

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	C:\HPCHEM\1\DATA\B0619612.D
Instrument:	GC#2
Sample Name:	ER061906-02
Acquired:	June 19, 2006

Peak #	Ret Time	Area	Height	Area %
1	12.47	4458	1822	0.18
2	12.78	3496	1304	0.14
3	13.78	2443150	925399	99.39
4	14.49	1528	387	0.06
5	14.59	4236	1332	0.17
6	15.55	1361	348	0.06

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 2,3,4,6,7,8-Hexachlorodibenzofuran-13C12
Lab Number : ZR061906-02
Instrument : Agilent 5975N MSD /6890N GC
Operator Inst ID : RPC - A147434
Date Reported : Tue Jun 20 08:44:12 2006
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C 8.0°C/min,200°C to 320°C @4°C/min
Injector Temp. : Cool on-column Trans. Line Temp : 280°C
Carrier Gas : Helium Flow Rate : 0.80 mL/min

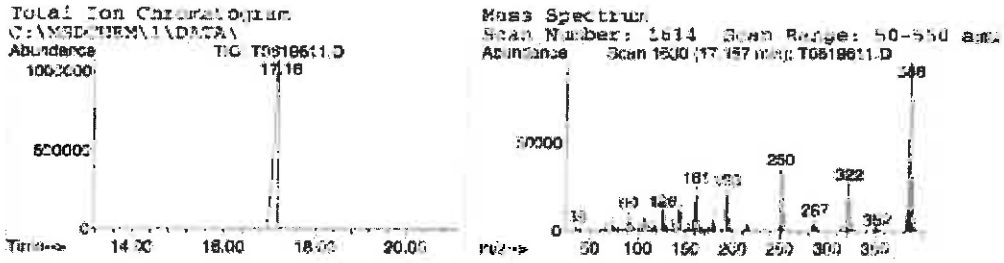

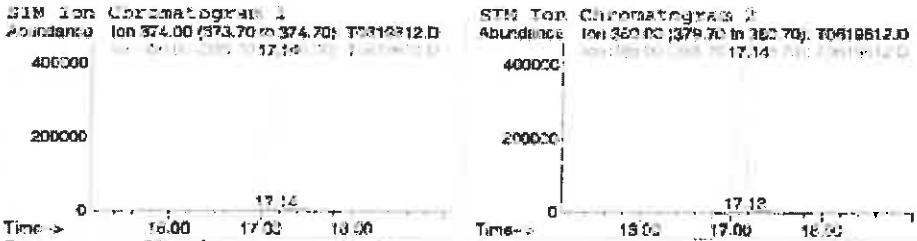

COA Revision History

Revision No.	Date	Reason for Revision
00	January 04, 2011	Initial version
01	January 15, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Reagent

HRDXNIDA_00360

r: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
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Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,7,8-Pentachlorodibenzo-p-dioxin-$^{13}C_{12}$

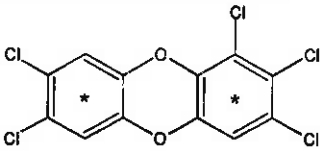

Catalog Number: ED-955
Solution Lot: ER08041401
Expiration Date: August 2024
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,7,8-Pentachlorodibenzo-p-dioxin-$^{13}C_{12}$	98.2%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER08041401	48.80	± 5%	0.3	≤ 3%
Previous Lot	ER030907-02	49.84	± 5%	0.4	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

February 10, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,7,8-Pentachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3Cl_5O_2$
Compound Lot:	ER06241403	**CAS Number:**	109719-79-1
		Molecular Weight:	368.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.9%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS-SIM Analysis	SP10-0105	0.07% $^{13}C_0$ vs $^{13}C_{12}$
		0.14% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS	SP10-0105	No single DD/DF $\geq$ 0.5%
Mass Balance Purity Factor		98.90%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

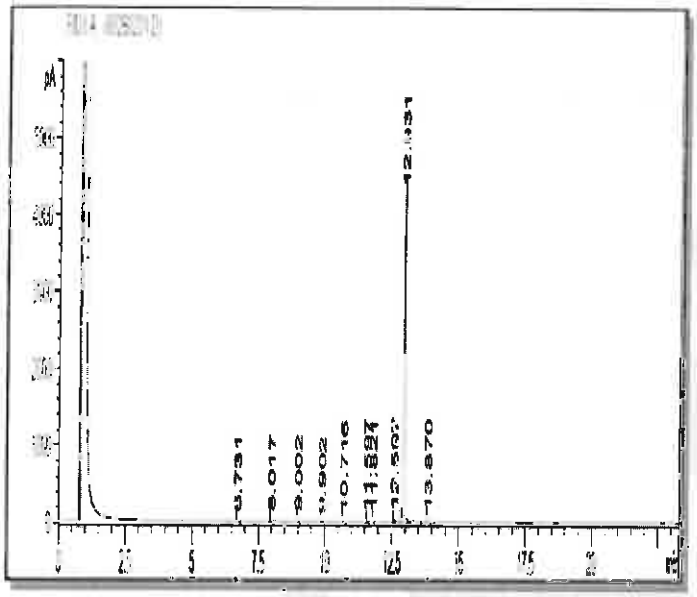

Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 100°C to 300°C at 15°C/min, hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: RMP-085 P GC 6 2014-07-30 18-11-11\002B0201.D
Instrument: GC#6
Sample Name: ER06241403
Acquired: July 30, 2014

Peak #	Ret Time	Area	Height	Area %
1	6.73	7.32	3.42	0.07
2	8.02	3.79	1.60	0.04
3	9.00	8.74	3.64	0.08
4	9.90	3.38	1.35	0.03
5	10.72	1.31	0.45	0.01
6	11.60	14.46	6.69	0.14
7	11.82	2.21	1.11	0.02
8	12.60	68.05	28.10	0.64
9	12.93	10594.10	4235.85	98.91
10	13.87	7.09	2.57	0.07

Spectral and Physical Data (cont.)

GC/MS

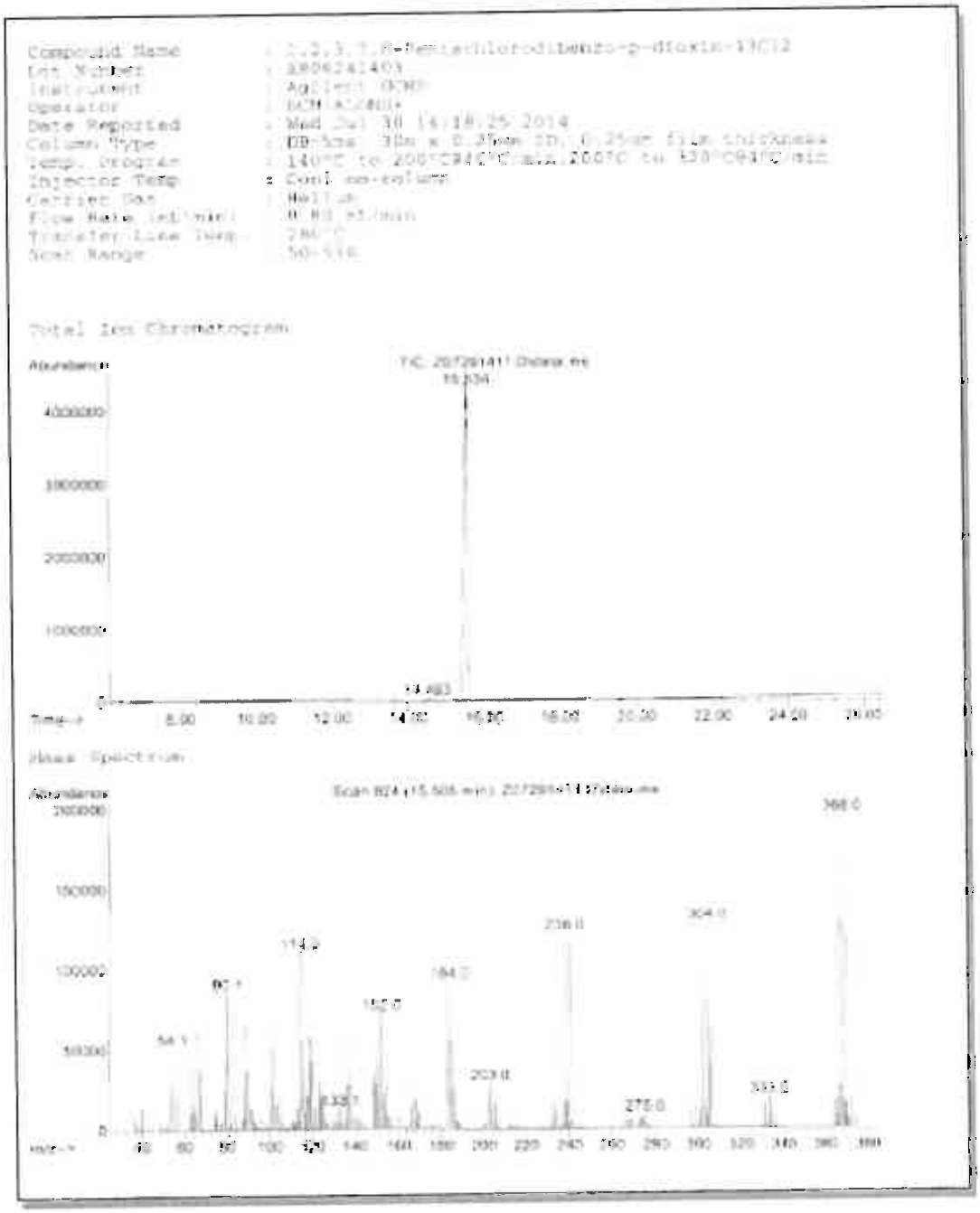

COA Revision History

Revision No.	Date	Reason for Revision
00	September 24, 2014	Initial version
01	February 10, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Reagent

HRDXNIDA_00361

r: 1/15/19 SKV

Cerilliant
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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 9001:2008

1,2,3,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$

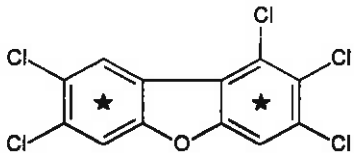

Catalog Number: EF-952
Solution Lot: ER012111-01
Expiration Date: January 2021
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For laboratory use only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume fill. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Chromatographic Purity	Certified Concentration
1,2,3,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	99.2%	50.00 ± 0.32 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Crtieria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Crtieria
New Lot	ER012111-01	50.7	± 5%	0.4	≤ 3%
Previous Lot	ER0100407-02	51.0	± 5%	0.5	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ACLASS

Darron Ellsworth, Quality Assurance Manager

February 15, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3OCl_5$
Compound Lot:	ER090110-01	**CAS Number:**	109719-77-9
		Molecular Weight:	352.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.2%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.03% $^{13}C_6$ vs $^{13}C_{12}$
Purity Factor		99.17%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

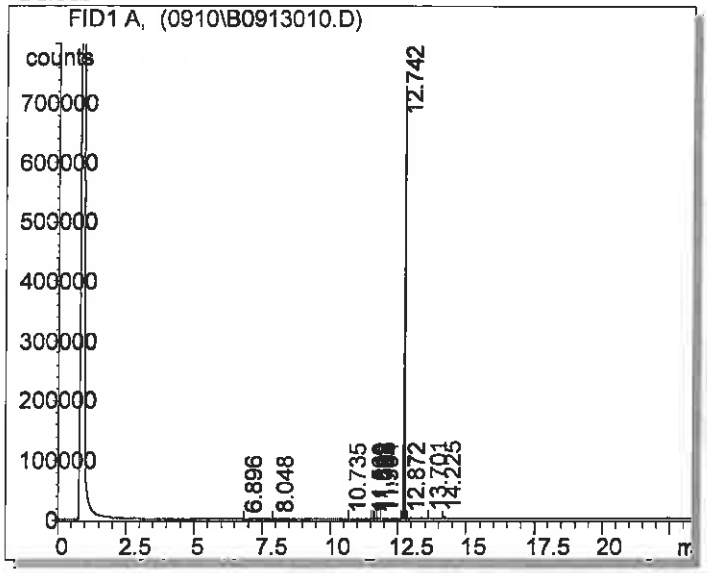

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	S:\GC\GC2\2010\0910\B0913010.D
Instrument:	GC#2
Sample Name:	ER090110-01
Acquired:	September 13, 2010

Peak #	Ret Time	Area	Height	Area %
1	6.90	618.64	296.84	0.04
2	8.05	254 50	102.70	0.01
3	10.74	162 25	70.86	0.01
4	11 57	145 03	82.11	0.01
5	11 62	468 46	216.27	0.03
6	11 69	1863 76	870.51	0.11
7	11.79	1631 76	576.35	0.10
8	11.90	421 31	184.81	0.02
9	12.74	1702290 00	729831.00	99.20
10	12.87	308 15	147.54	0.02
11	13.70	3743 55	1299.40	0.22
12	14.23	4032 24	1491.01	0.23

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

Compound Name : 1,2,3,7,8-Pentachlorodibenzofuran-13C12
Lot Number : EX090110-01
Instrument : Agilent 5973N MSD/6890N GC
Operator-Inst ID : RPC - CI0106
Date Reported : Tue Sep 14 11:05:33 2010
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 280°C

Scan Range : 50-550

Total Ion Chromatogram

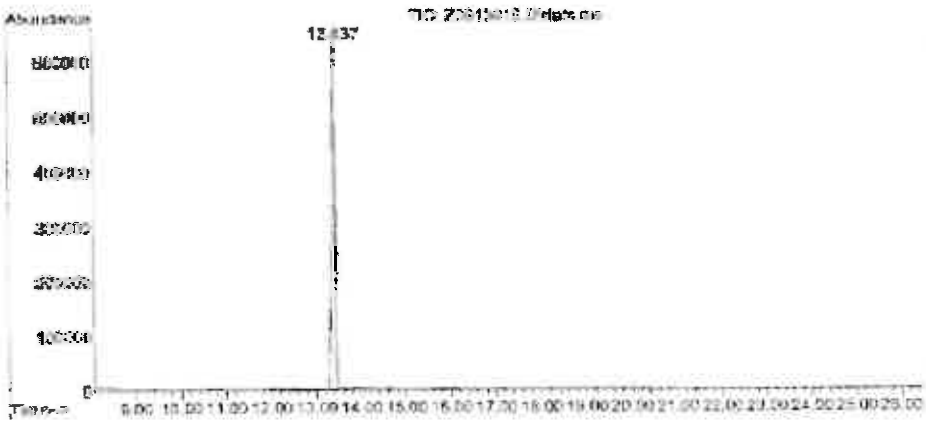

Mass Spectrum

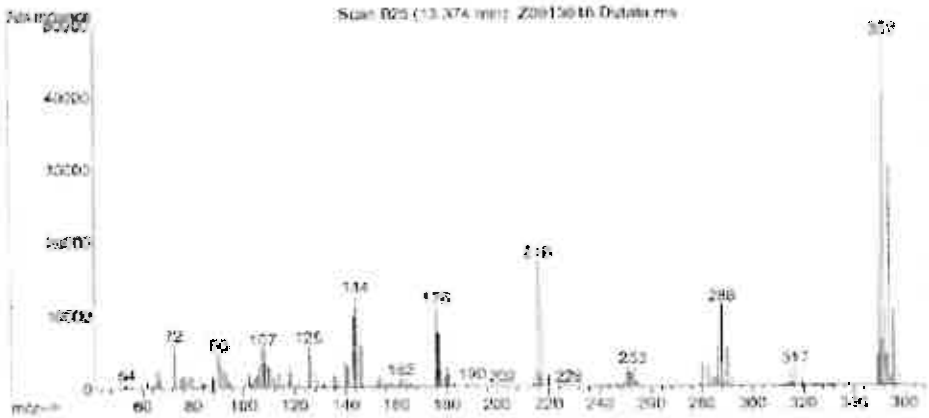

COA Revision History

Revision No.	Date	Reason for Revision
00	February 11, 2011	Initial version
01	March 01, 2011	Corrected typographical error: Chemical Structure
02	February 15, 2016	Updated Safety Section from "Flammable" to "Danger. See Safety Data Sheet".

Reagent

HRDXNIDA_00362

P: 1/15/19 SKV

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

CIL

Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

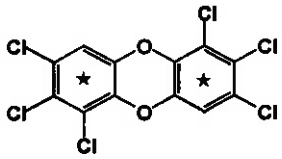

Catalog Number:	ED-966
Solution Lot:	ER03151801
Expiration Date:	March 2028
Solvent:	n-Nonane:Toluene (80:20) (v/v)
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	> 99.9%	50.03 ± 0.28 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER03151801	52.29	± 5%	0.2	≤ 3%
Previous Lot	ER010209-01	48.05	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using balances that have been qualified and calibrated to ISO 17025 requirements. All calibrations utilize NIST traceable weights which are calibrated externally by a qualified ISO 17025 accredited calibration laboratory to NIST standards. Qualification of each balance includes the assignment of a minimum weighing by a qualified and ISO 17025 accredited calibration vendor taking into consideration the balance and installed environmental conditions to ensure compliance with USP tolerances of NMT 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

April 19, 2018
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O_2$
Compound Lot:	FN01151802	**CAS Number:**	109719-81-5
		Molecular Weight:	402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.04% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 1.0%
Mass Balance Purity Factor		98.96%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

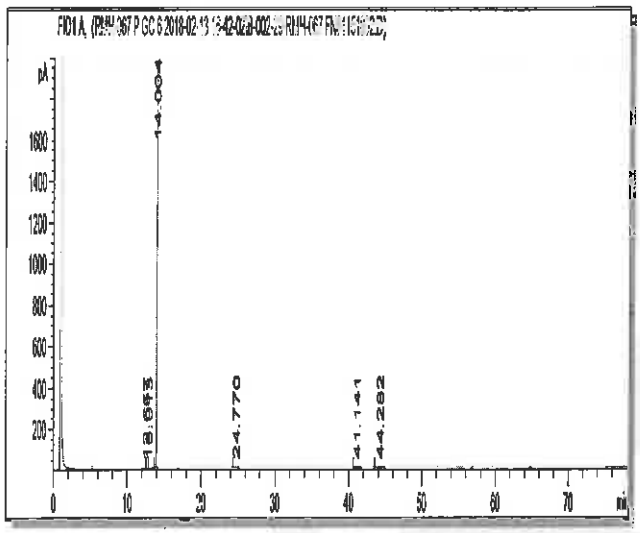

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-067 P GC 6 2018-02-13 16-42-02\B-002-29.D
Instrument:	GC#6
Sample Name:	FN01151802
Acquired:	February 13, 2018

Peak #	Ret Time	Area	Height	Area %
1	12.66	1 69	0.62	0.03
2	13.01	1 96	0.53	0.03
3	14 00	5617 62	1952.76	98.87
4	24 77	5.26	0.34	0.09
5	41 14	10.58	0.38	0.19
6	44 28	44.69	1.49	0.79

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin-13C12
Lot Number	: FN01151802
Instrument	: Agilent GCMS
Operator	: FCM(SGIUFTRE)
Date Reported	: Mon Mar 05 10:17:32 2018
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

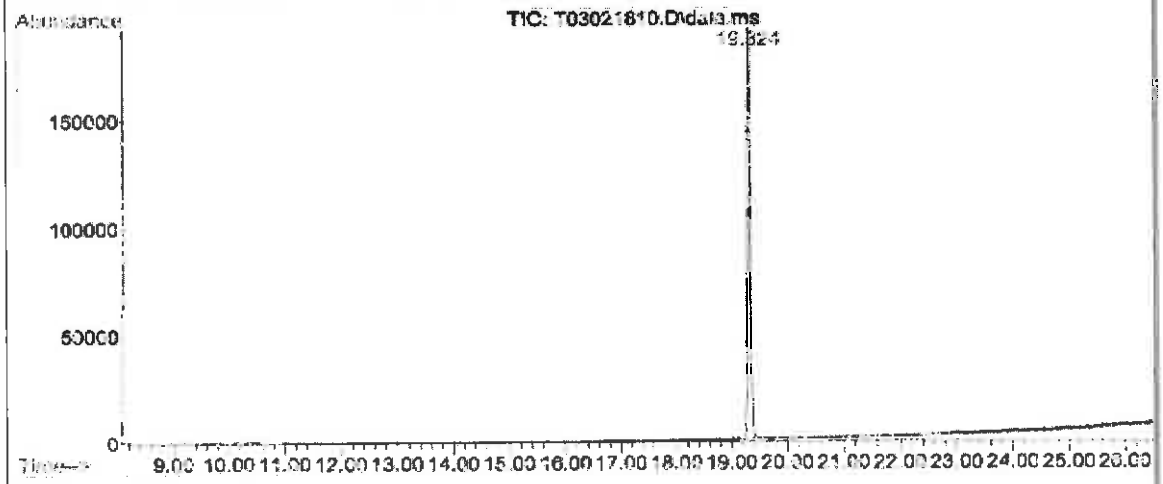

Mass Spectrum

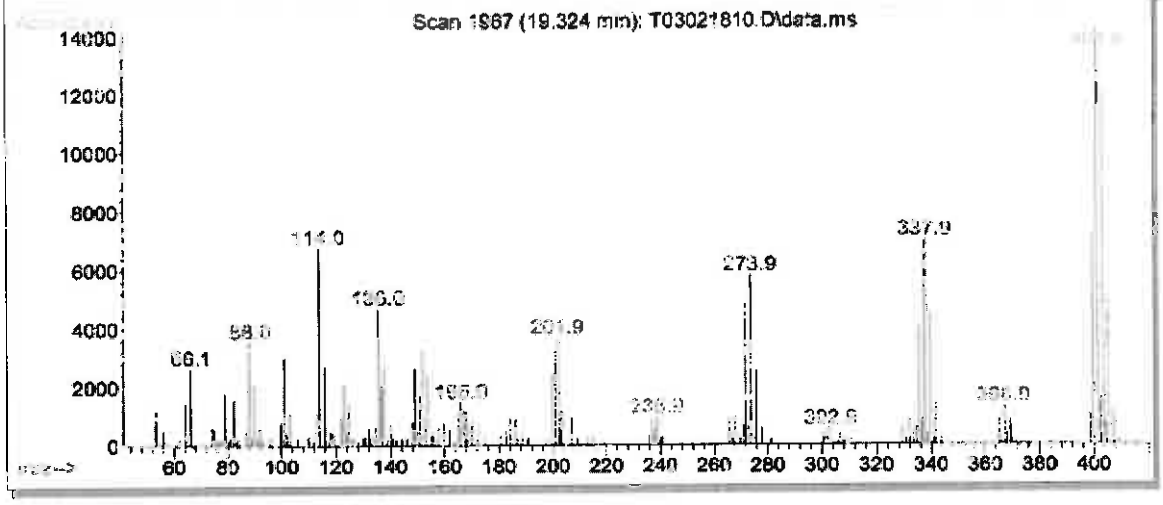

Reagent

HRDXNIDA_00365

Rec 11/28/18 SKV

1450145
ID: HRDXNIDA_00347
Exp: 04/30/27 Prpd: SKV
13C-OCDD [10 ug/mL]

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Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Octachlorodibenzo-p-dioxin-$^{13}C_{12}$

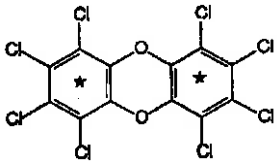

Catalog Number: ED-981-1.2
Solution Lot: ER04051701
Expiration Date: April 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
Octachlorodibenzo-p-dioxin-$^{13}C_{12}$	> 99.9%	10.00 ± 0.05 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04057101	10.22	± 5%	1.1	≤ 5%
Previous Lot	ER06061601	10.17	± 5%	0 8	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

May 19, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.25 mm ID, 0.25 µm film thickness
Temp Program:	70°C to 200°C at 40°C/min 200°C to 280°C at 10°C/min hold 15 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	3
Linearity (r):	0.997

Neat Material Data

Compound Name:	Octachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}Cl_8O_2$
Compound Lot:	ER04041601	**CAS Number:**	114423-97-1
		Molecular Weight:	471.66

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.1%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.07% $^{13}C_0$ vs $^{13}C_{12}$
		0.96% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.15%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

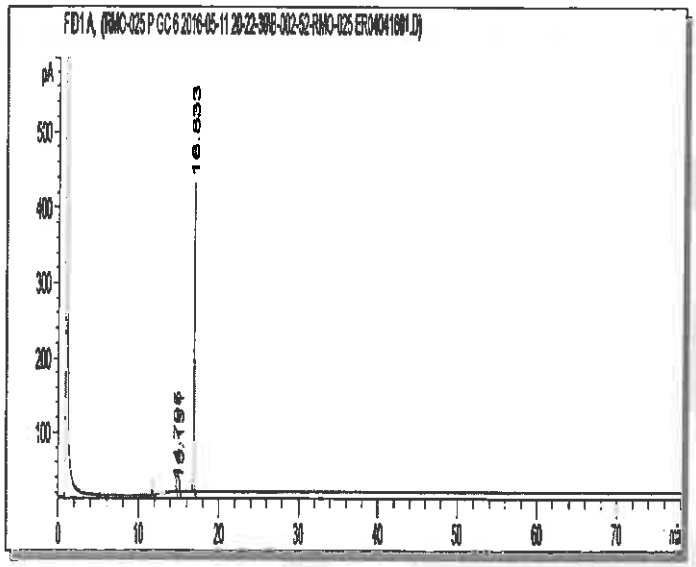

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMO-025 P GC 6 2016-05-11 20-22-39\B-002-52.D
Instrument:	GC#6
Sample Name:	ER04041601
Acquired:	May 11, 2016

Peak #	Ret Time	Area	Height	Area %
1	14.80	12.12	3.62	0.61
2	15.15	4.72	1.32	0.24
3	16.83	1980.56	409.54	99.16

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: Octachlorodibenzo-p-dioxin-13C12
Lot Number	: ERC4041601
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Wed May 04 13:45:40 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

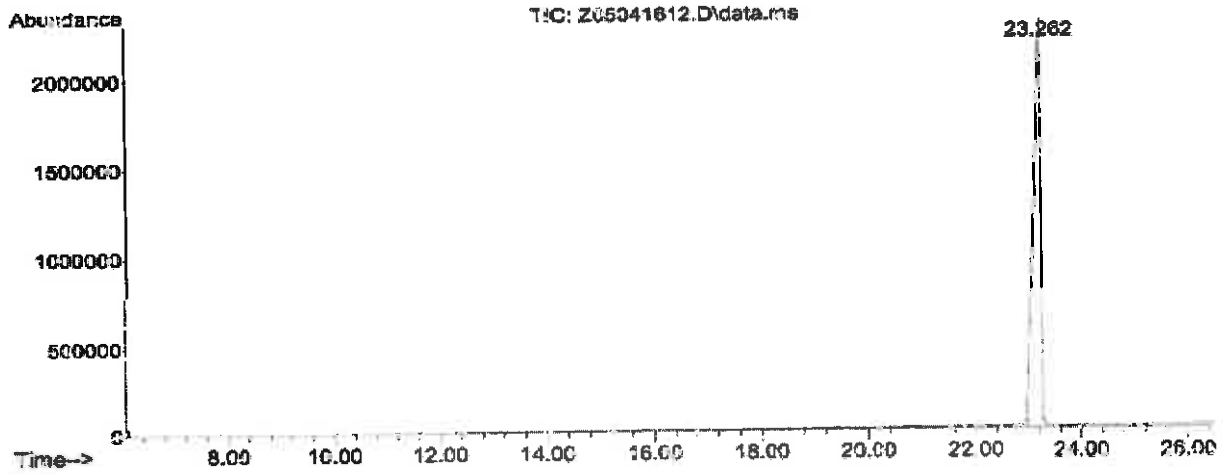

Mass Spectrum

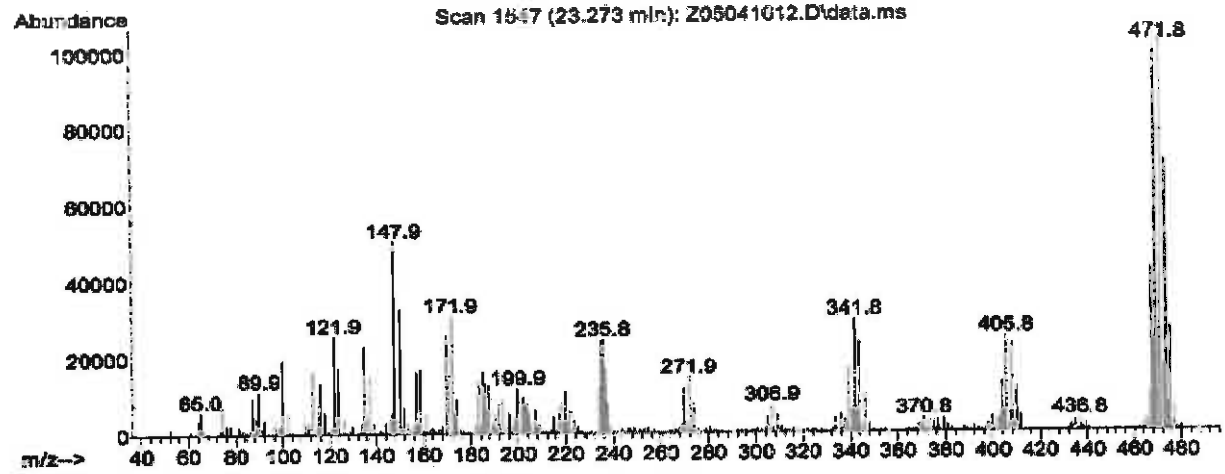

Reagent

HRDXNIDA_00375

nr: 4/8/19 BW

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Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$

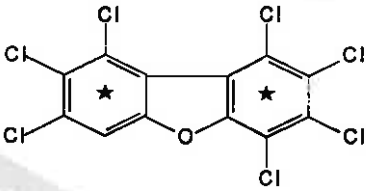

Catalog Number: EF-988
Solution Lot: ER04251601
Expiration Date: May 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	99.1%	49.99 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass, Purity Factor of the analyte(s), measured mass of the solution, and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04251601	49.11	± 5%	0.2	≤ 3%
Previous Lot	ER053107-02	50.58	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED

Darron Ellsworth, Quality Assurance Manager

November 09, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8,9-Heptachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}HCl_7O$
Compound Lot:	ER04041602	**CAS Number:**	109719-94-0
		Molecular Weight:	421.22

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.1%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS SIM	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.02% $^{13}C_0$ vs $^{13}C_{12}$
		0.16% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.10%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The primary chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data (cont.)

GC/FID

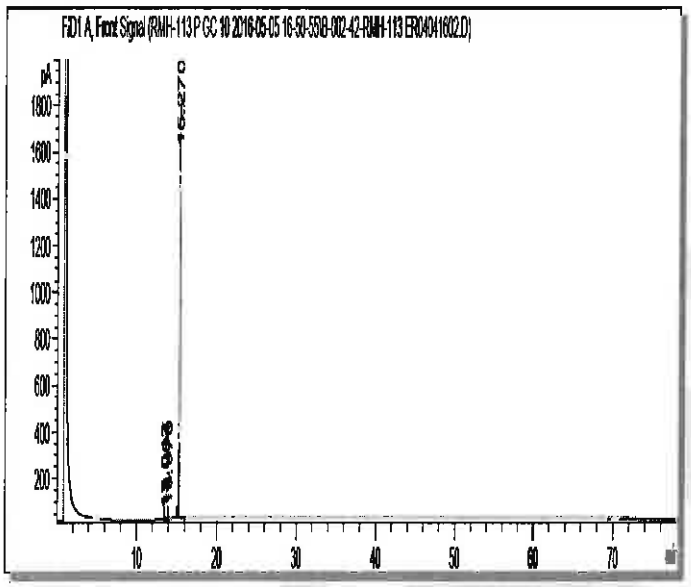

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-113 P GC 10 2016-05-05 16-50-55\B-002-42.D
Instrument:	GC#10
Sample Name:	ER04041602
Acquired:	May 05, 2016

Peak #	Ret Time	Area	Height	Area %
1	13.51	8.76	2.52	0.12
2	13.68	17.42	7.45	0.24
3	13.97	39.65	15.48	0.54
4	15.27	7226.95	1798.33	99.10

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 1,2,3,4,7,8,9-Heptachlorodibenzofuran-13C12
Lot Number	: ER04041602
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Wed May 04 15:34:28 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

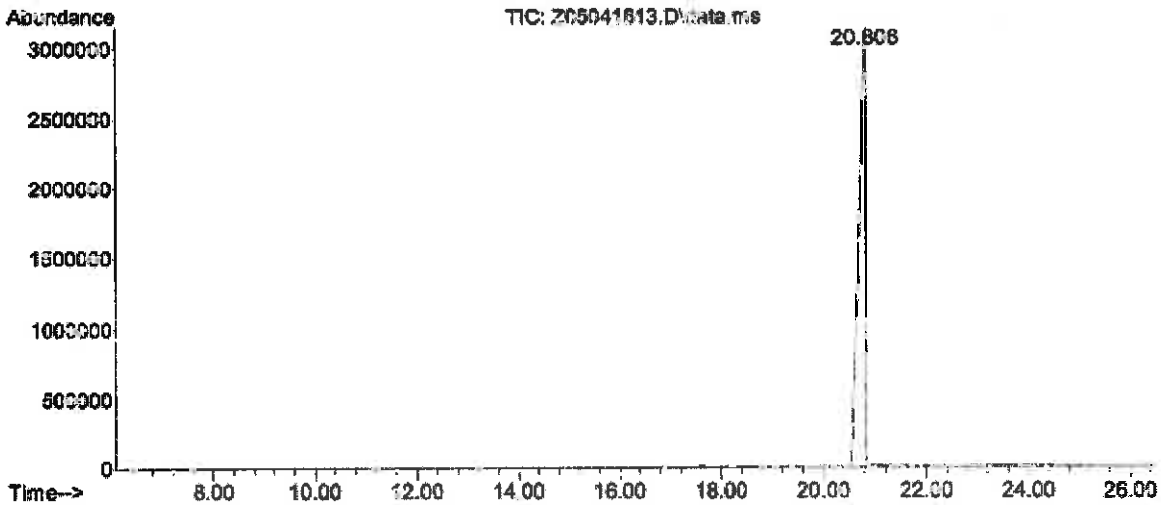

Mass Spectrum

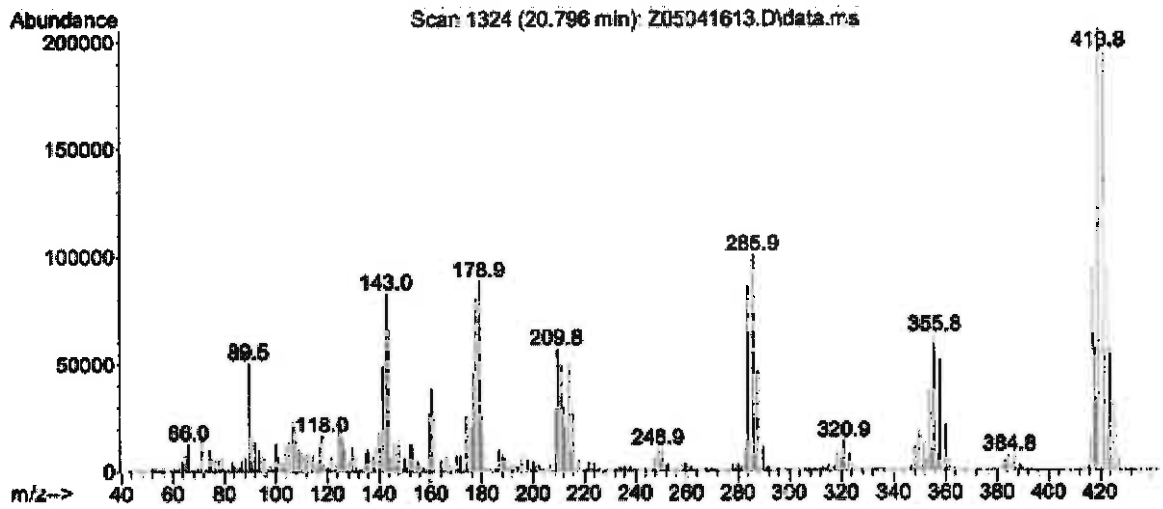

COA Revision History

Revision No.	Date	Reason for Revision
00	June 21, 2016	Initial version
01	November 09, 2016	Corrected Expiration Date from March 2026 to May 2026.

Reagent

HRDXNIDA_00376

N: 4/8/19 SW

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Certificate of Analysis

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$

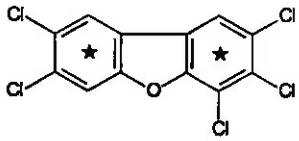

Catalog Number: EF-958
Solution Lot: ER01061701
Expiration Date: January 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	97.9%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass, Purity Factor of the analyte(s), measured mass of the solution, and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Acceptance Criteria	%RSD - Homogeneity Actual Results	Acceptance Criteria
New Lot	ER01061701	50.51	± 5%	0.1	≤ 3%
Previous Lot	ER11041601	49.56	± 5%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

January 27, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,4,7,8-Pentachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_3Cl_5O$
Compound Lot:	ER11101601	**CAS Number:**	116843-02-8
		Molecular Weight:	352.33

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0102	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{13}C_0$ vs $^{13}C_{12}$
		0.02% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 0.5%
Mass Balance Purity Factor		**98.33%**

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

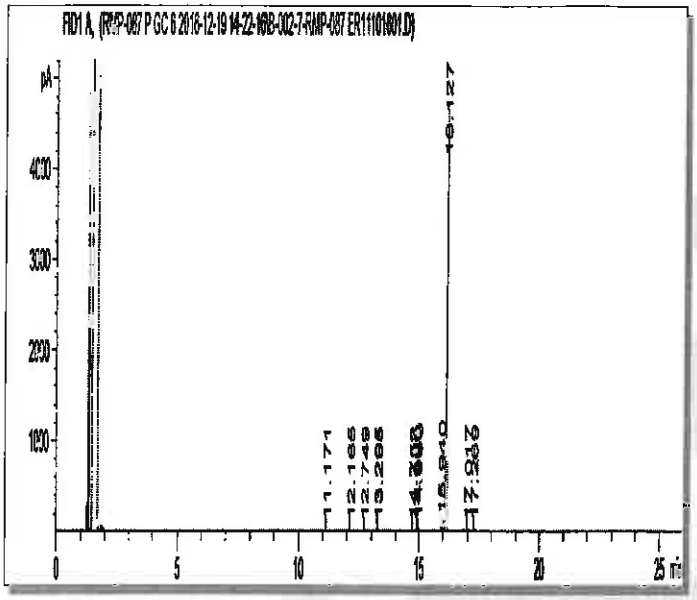

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMP-087 P GC 6 2016-12-19 14-22-16\B-002-7.D
Instrument:	GC#6
Sample Name:	ER11101601
Acquired:	December 19, 2016

Peak #	Ret Time	Area	Height	Area %
1	11.17	0.94	0.40	0.01
2	12.17	1.30	0.39	0.01
3	12.75	0.47	0.20	0.00
4	13.30	0.90	0.35	0.01
5	14.75	1.70	0.87	0.02
6	14.91	1.09	0.56	0.01
7	14.97	32.24	17.54	0.29
8	15.94	124.38	64.36	1.13
9	16.13	10866.60	4688.80	98.41
10	17.02	6.31	2.46	0.06
11	17.27	6.76	2.34	0.06

Spectral and Physical Data (cont.)

GC/MS

Compound Name	: 2,3,4,7,8-Pentachlorodibenzofuran-13C12
Lot Number	: ER11101601
Instrument	: Agilent GCMS
Operator	: ECM(SGIUFFRE)
Date Reported	: Tue Dec 20 12:19:55 2016
Column Type	: DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program	: 140°C to 200°C@40°C/min,200°C to 320°C@4°C/min
Injector Temp.	: Cool on-column
Carrier Gas	: Helium
Flow Rate (mL\min)	: 0.80 mL/min
Transfer Line Temp.	: 280°C
Scan Range	: 50-550

Total Ion Chromatogram

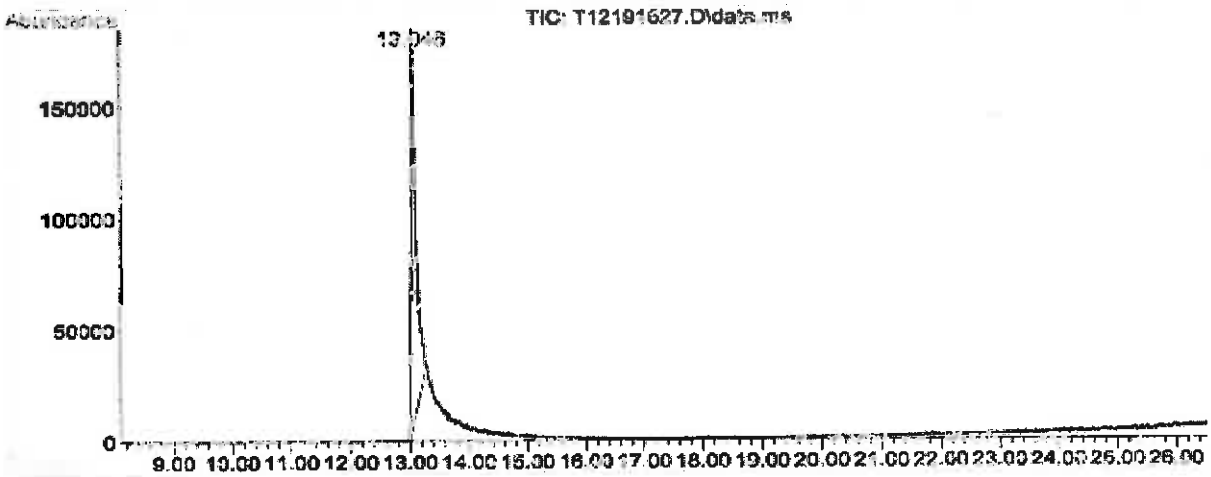

Mass Spectrum

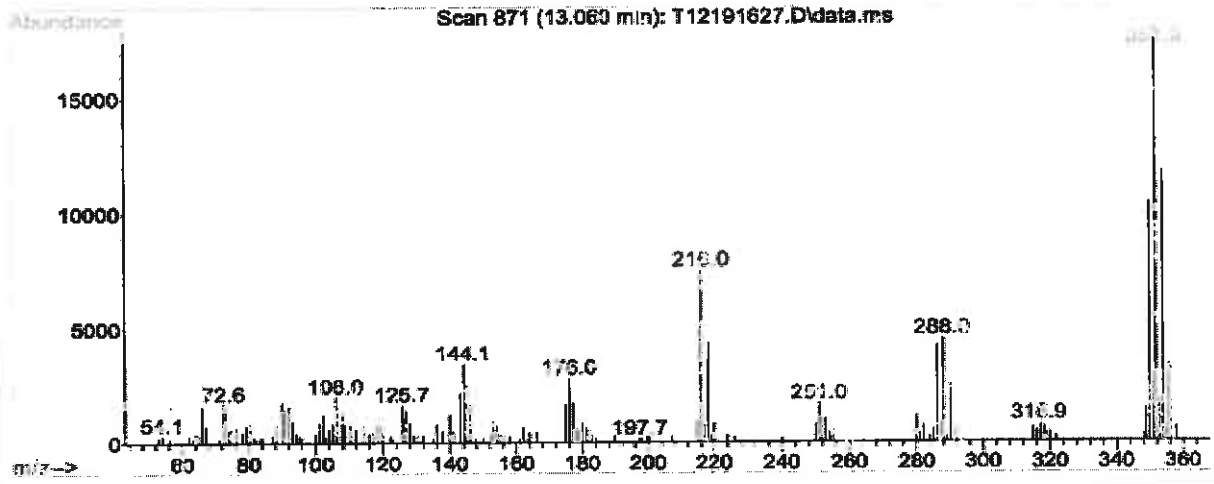

Reagent

HRDXNIDA_00377

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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

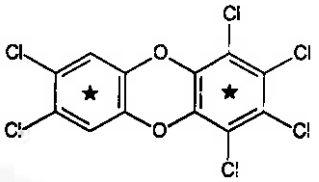

Catalog Number:	ED-946
Solution Lot:	ER04211601
Expiration Date:	June 2026
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.3%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04211601	49.24	± 5%	0.4	≤ 3%
Previous Lot	ER102711-01	49.69	± 5%	0.3	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

August 11, 2016
Date

Standard Solution Assay Parameters

Analysis Method: GC/FID
Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 60°C to 300°C at 40°C/min hold 10 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 4
Linearity (r): 1.000

Neat Material Data

Compound Name: 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$
Compound Lot: ER011008-01

Chemical Formula: $^{13}C_{12}H_2Cl_6O_2$
CAS Number: 109719-80-4
Molecular Weight: 402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS	SP10-0105	no single DD/DF impurity ≥ 0.5%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.08% $^{13}C_0$ vs $^{13}C_{12}$
		0.21% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.26%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

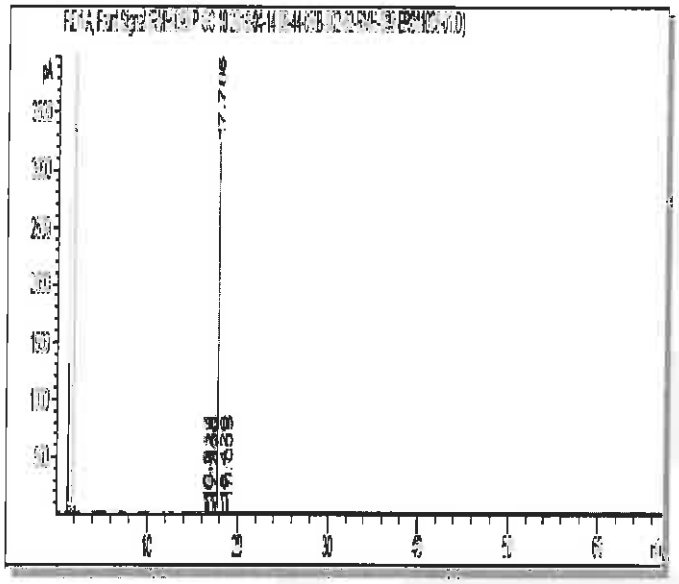

Column: DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program: 40°C to 300°C at 15°C/min hold 50 min
Injector Temp: Cool-on-Column
Detector Temp: 325°C

Data File Name: RMH-098 P GC 10 2016-04-14 08-44-08\B-002-62.D
Instrument: GC#10
Sample Name: ER011008-01
Acquired: April 14, 2016

Peak #	Ret Time	Area	Height	Area %
1	16.56	16.58	7.74	0.19
2	16.72	11.25	5.08	0.13
3	16.83	8.45	4.05	0.10
4	17.30	1.81	0.71	0.02
5	17.48	1.07	0.50	0.01
6	17.79	8682.22	3203.58	99.29
7	18.43	1.99	0.68	0.02
8	19.01	20.62	6.08	0.24

Spectral and Physical Data (cont.)

GC/MS

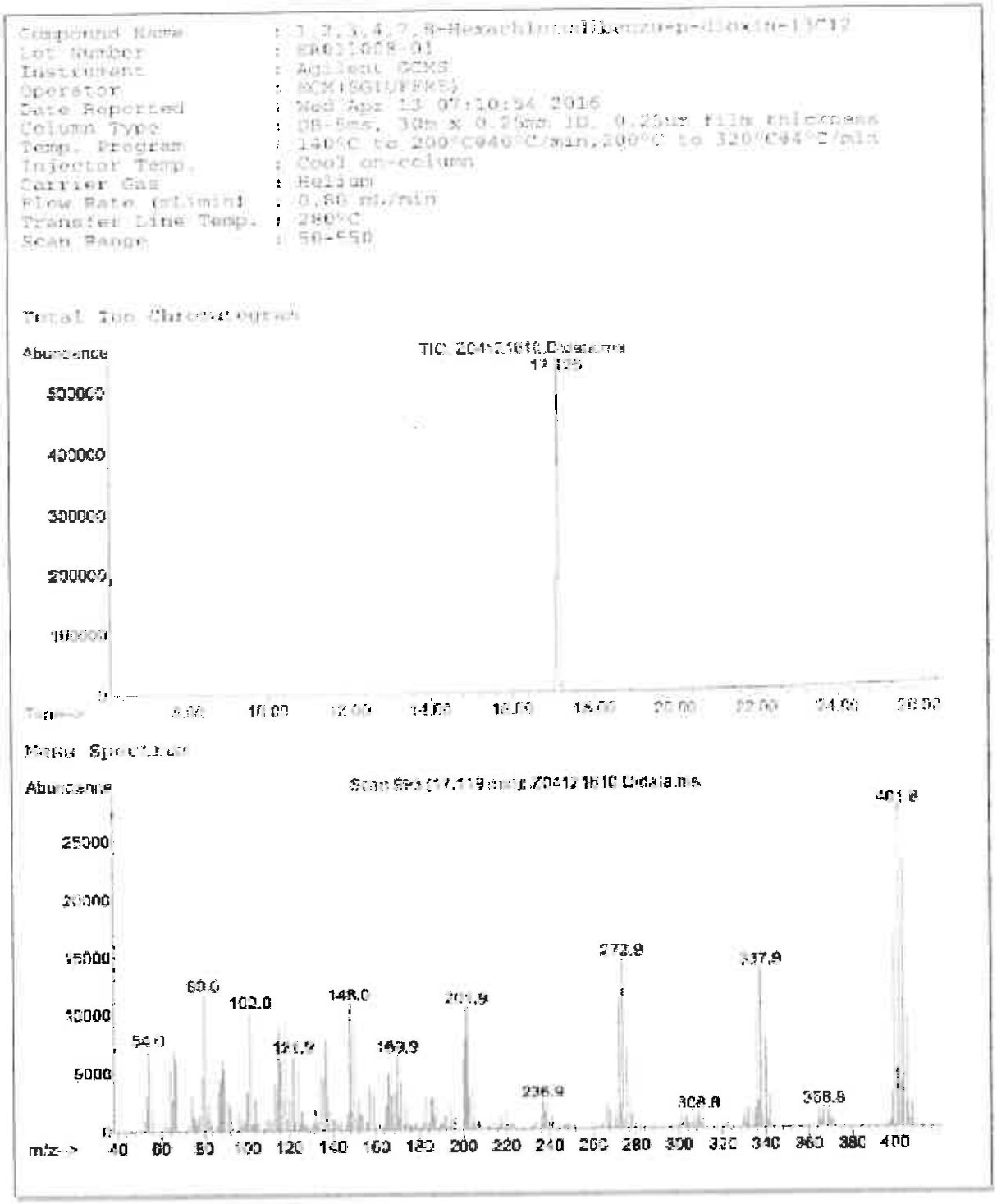

Reagent

HRDXNIDA_00378

r: 4/8/19 SKJ

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Certificate of Analysis

Certified Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$

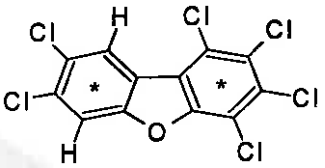

Catalog Number:	EF-963
Solution Lot:	ER04211701
Expiration Date:	July 2027
Solvent:	n-Nonane
Volume per Ampule:	Not less than 1.2 mL
Storage:	Store at room temperature. Do not store cold.
Intended Use:	For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety:	**Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	99.4%	50.00 ± 0.28 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20°C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER04211701	49.47	± 5%	0.2	≤ 3%
Previous Lot	ER072810-02	45.87	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release

Traceability

- Gravemetrically prepared using balances that have been qualified and calibrated to ISO 17025 requirements. All calibrations utilize NIST traceable weights which are calibrated externally by a qualified ISO 17025 accredited calibration laboratory to NIST standards. Qualification of each balance includes the assignment of a minimum weighing by a qualified and ISO 17025 accredited calibration vendor taking into consideration the balance and installed environmental conditions to ensure compliance with USP tolerances of NMT 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

September 11, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4,7,8-Hexachlorodibenzofuran-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}Cl_6H_2O$
Compound Lot:	ER11281601	**CAS Number:**	114423-98-2
		Molecular Weight:	386.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0102	99.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.01% $^{13}C_0$ vs $^{13}C_{12}$
		0.06% $^{13}C_6$ vs $^{13}C_{12}$
Impurity Analysis by GC/MS SIM	SP10-0105	No Single DD/DF ≥ 0.5%
Mass Balance Purity Factor		99.31%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods Acceptance criteria requires the purity values to be within 0.5% of each other.
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

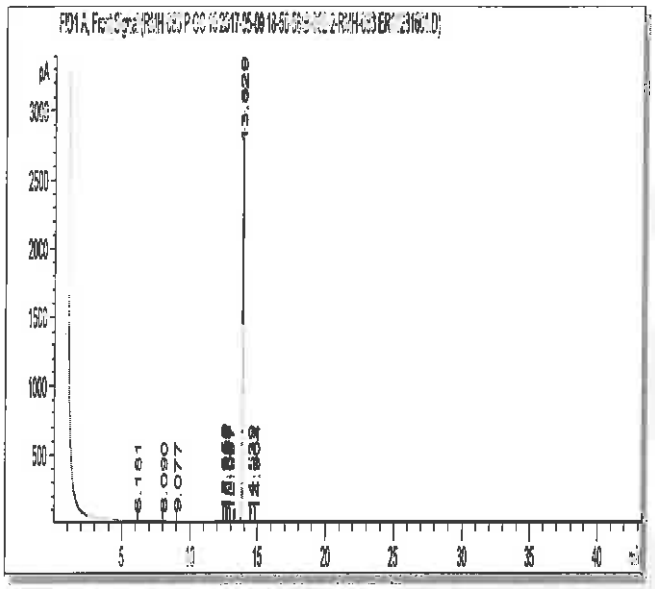

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 30 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMH-083 P GC 10 2017-05-09 18-50-58\B-002-2.D
Instrument:	GC#10
Sample Name:	ER11281601
Acquired:	May 09, 2017

Peak #	Ret Time	Area	Height	Area %
1	6.18	1.10	0.64	0.01
2	8.09	2.00	0.70	0.02
3	9.08	1.17	0.48	0.01
4	12.55	14.76	7.25	0.16
5	12.73	32.67	11.32	0.36
6	12.84	5.45	2.50	0.06
7	13.00	2.51	1.30	0.03
8	13.83	8993.56	3122.16	99.30
9	14.54	1.11	0.20	0.01
10	14.90	2.71	0.86	0.03

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 1,2,3,4,7,8-hexachlorodibenzofuran-13C12
Lot Number : SRI128160[illegible]
Instrument : Agilent GCMS
Operator : ECM(SGIDEFKE)
Date Reported : Mon May 08 09:30:09 2017
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@60°C/min,200°C to 320°C@4°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL\min) : 0.80 mL/min
Transfer Line Temp. : 280°C
Scan Range : 50-550

Total Ion Chromatogram

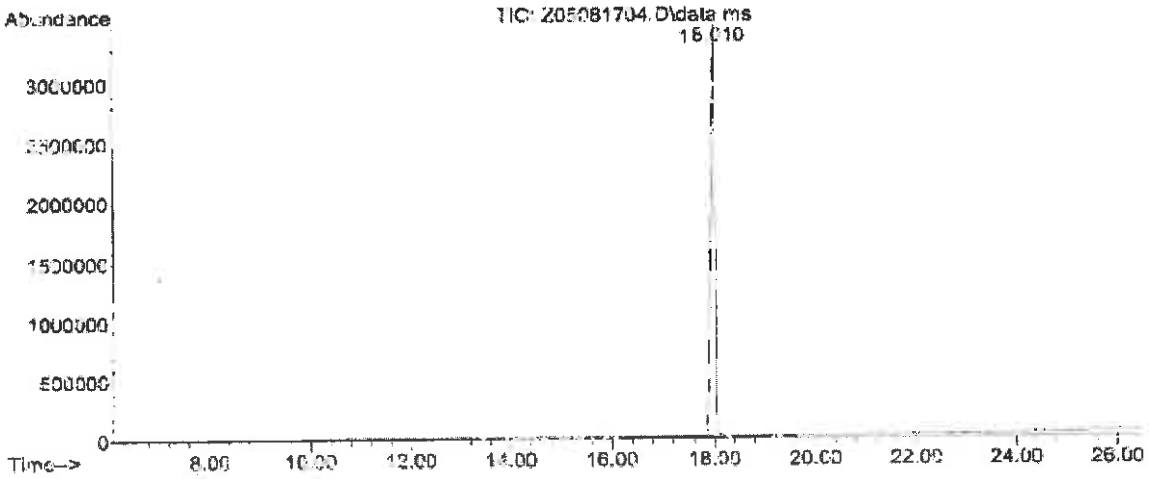

Mass Spectrum

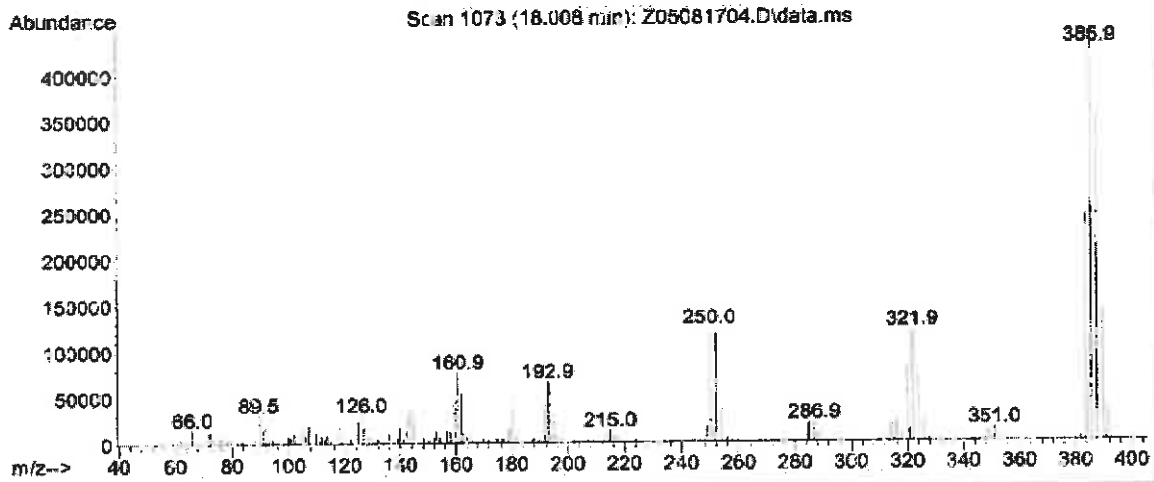

Reagent

HRDXNIS_00110

r: 9/4/18 SKV

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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$

Catalog Number: ED-996
Solution Lot: ER08221601
Expiration Date: September 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampoules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration

Component	Solution Purity	Certified Concentration
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER08221601	49.20	± 5%	0.3	≤ 3%
Previous Lot	ER021313-01	49.56	± 5%	0.2	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

September 28, 2016
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-$^{13}C_{12}$	**Chemical Formula:**	$^{13}C_{12}H_2Cl_6O_2$
Compound Lot:	ER110510-01	**CAS Number:**	109719-82-6
		Molecular Weight:	402.77

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.04% $^{13}C_0$ vs $^{13}C_{12}$
		0.27% $^{13}C_6$ vs $^{13}C_{12}$
Mass Balance Purity Factor		99.02%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

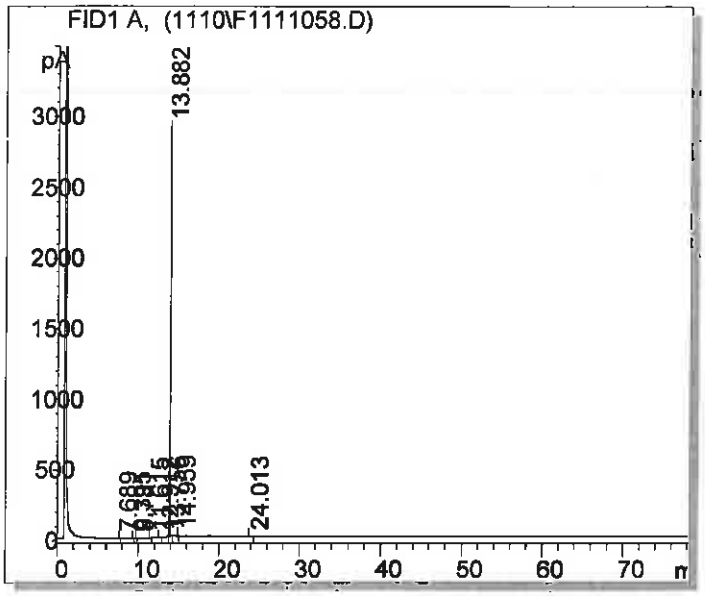

Column:	DB-5ms 30m x 0.53mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 65 min
Injector Temp:	Cool-on-column
Detector Temp:	325°C
Data File Name:	S:\GC\GC6\2010\1110\F1111058.D
Instrument:	GC#6
Sample Name:	ER110510-01
Acquired:	November 12, 2010

Peak #	Ret Time	Area	Height	Area %
1	4 69	0.45	0.10	0.01
2	9.40	0 72	0.14	0.01
3	9.78	0 80	0.13	0.01
4	11 62	7.34	2.54	0.09
5	12 91	2.59	0.23	0.03
6	13 76	1.91	1.00	0.02
7	13 88	8026.07	2938.74	99.11
8	14.96	36.82	11.38	0.45
9	24.01	21.08	1.62	0.26

Spectral and Physical Data (cont.)

GC/MS

Compound Name : 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin-13C12
Lot Number : ER110510-01
Instrument : Agilent 5973N MSD /6890N GC
Operator-Inst ID : RPC - A147434
Date Reported : Fri Nov 12 16:41:14 2010
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C @40°C/min,200°C to 320°C @4°C/min
Injector Temp. : Cool on-column Trans. Line Temp : 280°C
Carrier Gas : Helium Flow Rate : 0.80 mL/min

Total Ion Chromatogram
S:\GCMS\GCMS2\2010\1110\

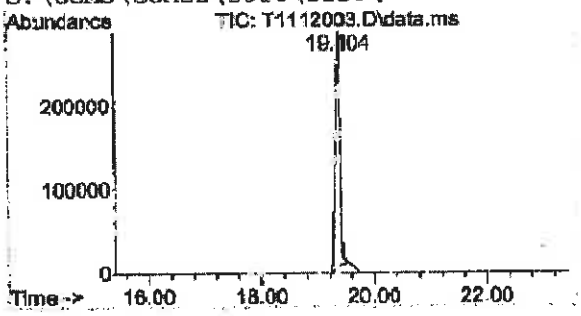

Mass Spectrum
Scan Number: 1976 Scan Range: 50-550 amu

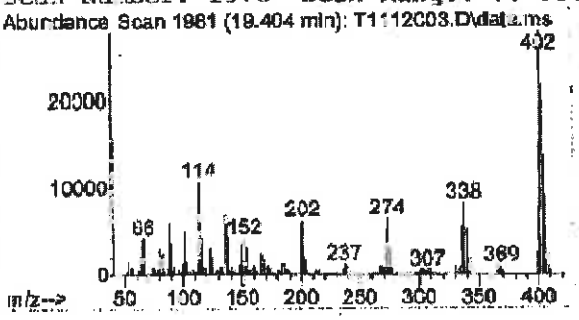

SIM Ion Chromatogram 1

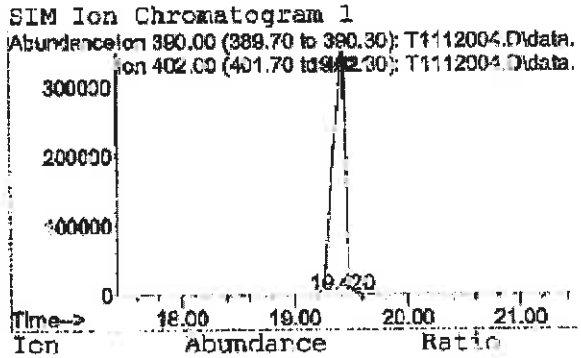

Ion	Abundance	Ratio
402	26368380	99.96
390	9776	0.04

SIM Ion Chromatogram 2

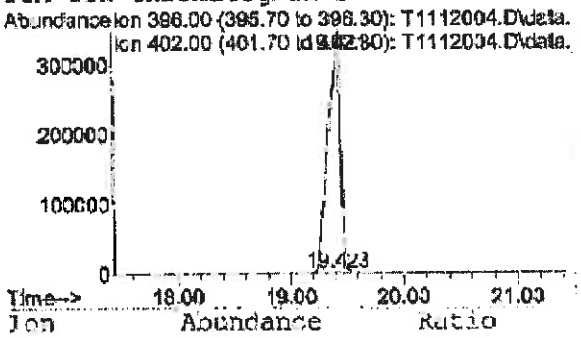

Ion	Abundance	Ratio
402	26368380	99.73
396	71626	0.27

Reagent

HRDXNIS_00111

Rec: 9/4/18 SKV

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Analytical Reference Standards
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Certificate of Analysis

1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$

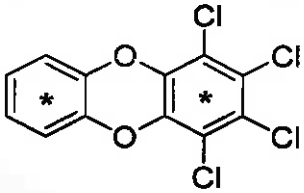

Cerilliant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number: ED-911
Solution Lot: ER11081602
Expiration Date: January 2027
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration.

Component	Solution Purity	Certified Concentration
1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$	99.7%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Verified Concentration (µg/mL) Acceptance Criteria	%RSD - Homogeneity Actual Results	%RSD - Homogeneity Acceptance Criteria
New Lot	ER11081602	51.01	± 10%	0.1	≤ 3%
Previous Lot	ER060710-01	50.59	± 10%	0.1	≤ 3%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB

Darron Ellsworth, Quality Assurance Manager

January 23, 2017
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	1,2,3,4-Tetrachlorodibenzo-p-dioxin-$^{13}C_{12}$
Compound Lot:	ER02021602

Chemical Formula:	$^{13}C_{12}H_4Cl_4O_2$
CAS Number:	114423-99-3
Molecular Weight:	333.88

Neat Material Characterization Summary

Analytical Test	Method	Results
Chromatographic Purity by GC/FID Analysis	SP10-0101	99.0%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Impurity Analysis by GC/MS	SP10-0105	no single DD/DF impurity ≥ 1.0%
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.03% $^{13}C_0$ vs $^{13}C_{12}$
		0.01% $^{13}C_6$ vs $^{13}C_{12}$
Identity by ^{1}H-NMR Analysis	USP <761>, SP10-0116	Consistent with Structure
Residual Solvent by ^{1}H-NMR Analysis	USP <761>, SP10-0116	0.31% Dichloromethane
Mass Balance Purity Factor		98.71%

- Purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other
- The chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity.

Spectral and Physical Data

GC/FID

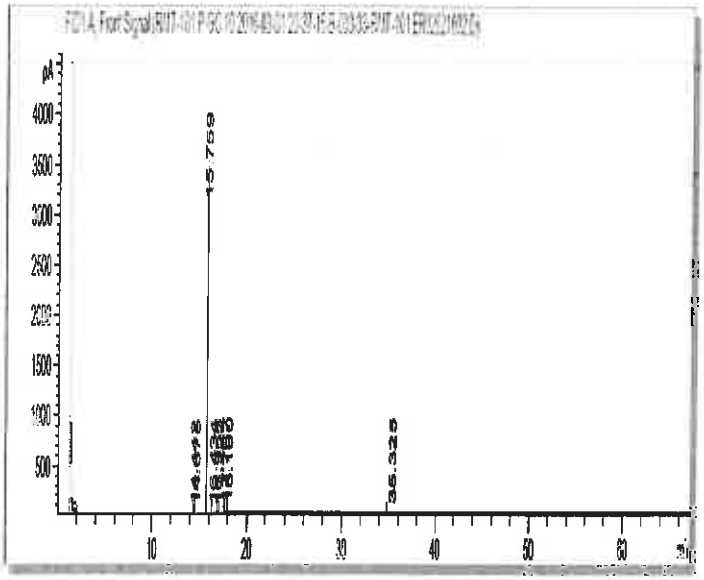

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	40°C to 300°C at 15°C/min hold 50 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	RMT-101 P GC 10 2016-03-01 20-37-15\B-003-33.D
Instrument:	GC#10
Sample Name:	ER02021602
Acquired:	March 01, 2016

Peak #	Ret Time	Area	Height	Area %
1	14.44	1.34	0.53	0.02
2	14.68	3.60	0.58	0.05
3	15.76	7522.29	3054.11	99.22
4	16.43	3.51	0.80	0.05
5	16.96	2.38	1.09	0.03
6	17.13	4.79	2.26	0.06
7	17.77	8.72	3.38	0.11
8	18.10	1.68	0.54	0.02
9	35.33	32.94	1.28	0.43

^{1}H NMR

Instrument:	JEOL ECS 400
Solvent:	Chloroform-D

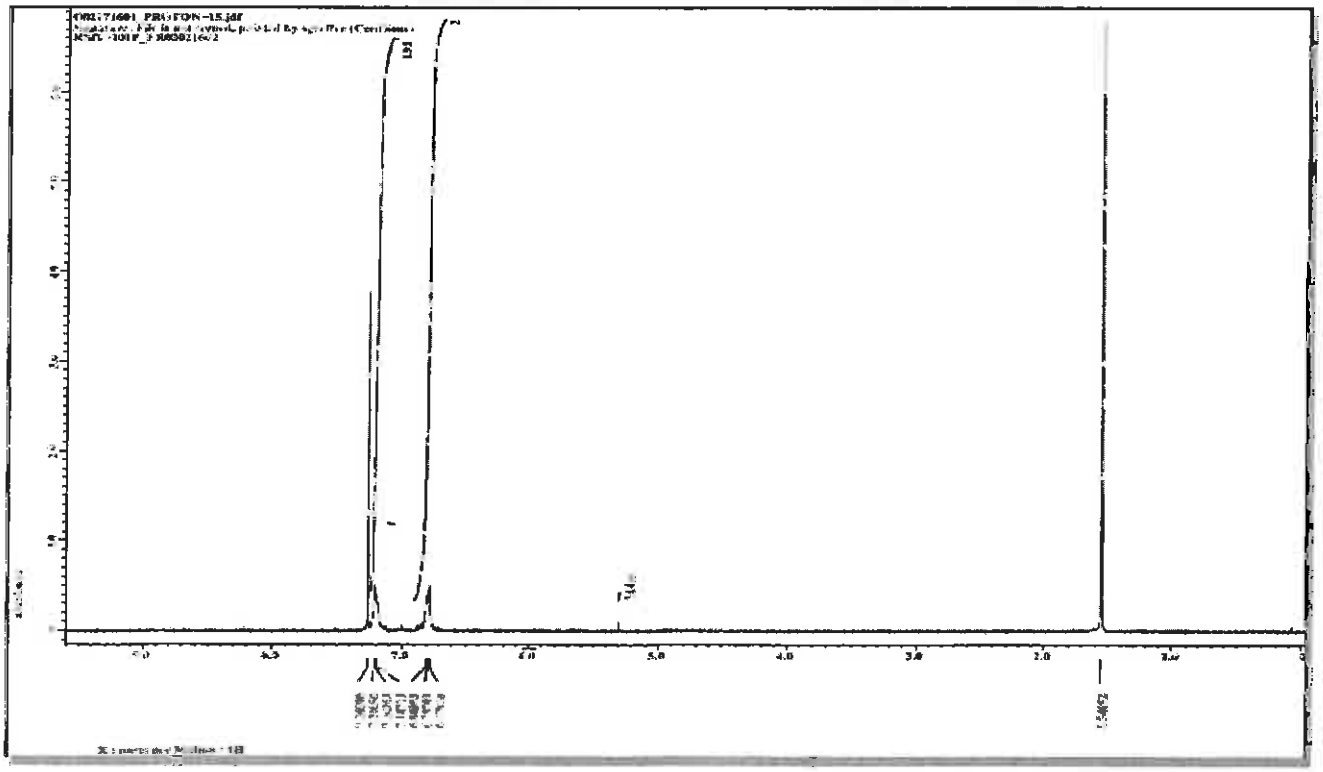

Spectral and Physical Data (cont.)

GC/MS

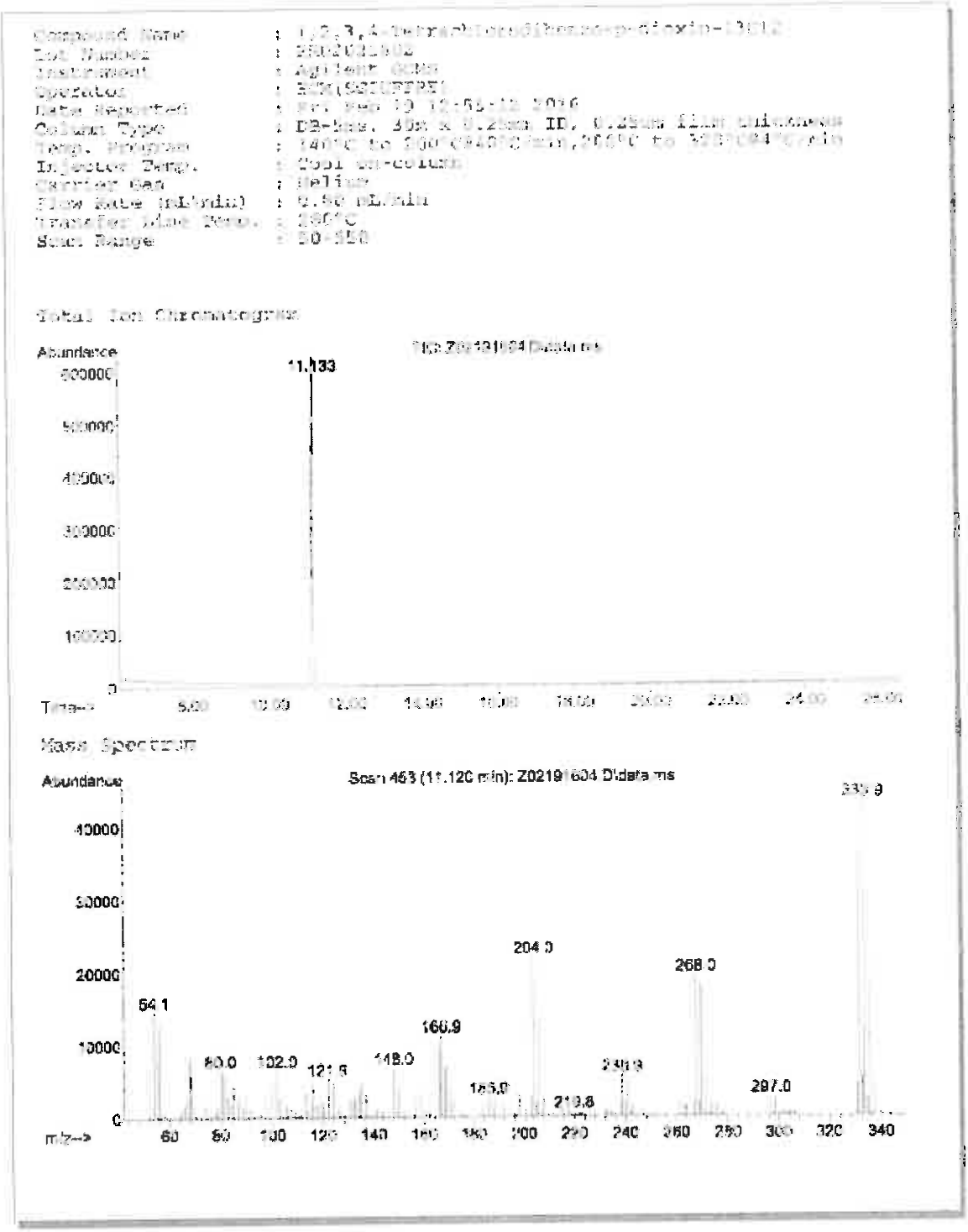

Reagent

HRDXNSU_00187

r: 7/30/18 SKN

Cerilliant
Analytical Reference Standards
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Certificate of Analysis

ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$

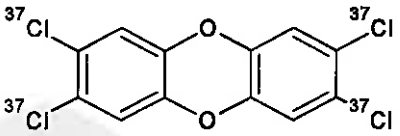

Catalog Number: ED-907
Solution Lot: ER05211501
Expiration Date: July 2025
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold
Shipping: Ambient.
Intended Use: For R&D/analytical purposes only. Not suitable for human or animal consumption.
Instructions for Use: Sonicate before use.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 mL volume. We advise laboratories to quantitatively transfer desired volumes of this standard using established good laboratory practices to dilute to the desired concentration
- For MS Applications, we advise laboratories not to mix lots during a single sequence.

Component	Solution Purity	Certified Concentration
2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$	98.5%	50.00 ± 0.23 µg/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- This standard is prepared gravimetrically and mass results are reported on the conventional basis for weighing in air. Concentration is calculated based on: the actual measured mass; Purity Factor of the analyte(s), measured mass of the solution; and the density of the pure diluent at 20 °C.
- Concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics

Solution Standard Verification and Homogeneity

Standard Solution	Lot Number	Verified Concentration (µg/mL) Actual Results	Acceptance Criteria	%RSD - Homogeneity Actual Results	Acceptance Criteria
New Lot	ER05211501	50.60	± 10%	0.2	≤ 5%
Previous Lot	ER052010-02	49.73	± 10%	0.5	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity of the New Lot is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The % RSD of samples pulled from across the lot demonstrate homogeneity of the New Lot.
- The % RSD of the Previous Lot represents variability of the analysis performed at the time of release.

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.1% relative error.
- Concentration is verified against an independently prepared 4-point calibration curve gravimetrically prepared using balances calibrated to NIST.
- In addition, each neat material utilized has been identified and thoroughly characterized through the use of multiple analytical techniques. Spectral data is provided on subsequent pages of the COA.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after

ACLASS ACCREDITED REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

August 03, 2015
Date

Standard Solution Assay Parameters

Analysis Method:	GC/FID
Column:	DB-5ms 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	60°C to 300°C at 40°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C

Calibration Curve

Calibration Curve:	Linear Regression
Number of Points:	4
Linearity (r):	1.000

Neat Material Data

Compound Name:	2,3,7,8-Tetrachlorodibenzo-p-dioxin-$^{37}Cl_4$	**Chemical Formula:**	$C_{12}H_4O_2{}^{37}Cl_4$
Compound Lot:	ER040510-01	**CAS Number**	85508-50-5
		Molecular Weight	328.02

Neat Material Characterization Summary

Analytical Test	Method	Results
Primary Chromatographic Purity by GC/FID Analysis	SP10-0101	98.3%
Identity by GC/MS Analysis	SP10-0105	Consistent with Structure
Isotopic Purity by GC/MS SIM Analysis	SP10-0105	0.00% $^{37}Cl_0$ vs $^{37}Cl_4$
Identity by ^{1}H-NMR Analysis	USP <761>, SP10-0116	Consistent with Structure
Residual Solvent Analysis by ^{1}H-NMR	USP <761>, SP10-0116	1.2% Chloroform
Purity Factor		97.14%

- Primary purity is calculated as the average of two independently performed analyses utilizing two different methods. Acceptance criteria requires the purity values to be within 0.5% of each other.
- The primary chromatographic purity value is used to calculate the Purity Factor.
- Purity factor does not include adjustment for chiral and/or isotopic purity

Spectral and Physical Data

GC/FID

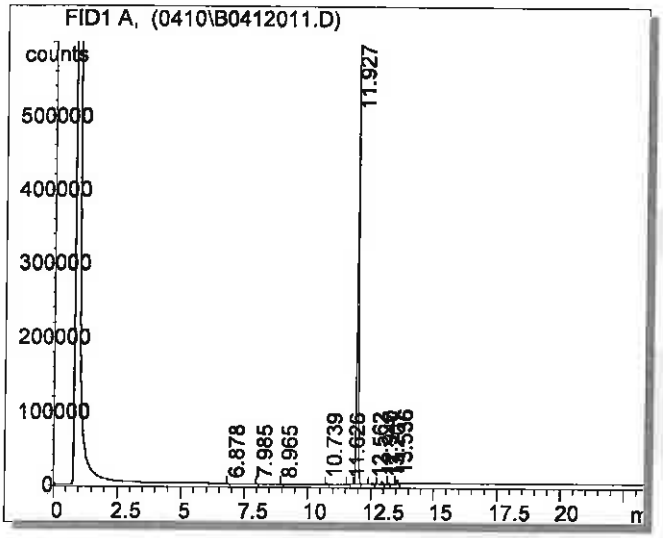

Column:	DB-5ms, 30 m x 0.53 mm ID, 1.5 µm film thickness
Temp Program:	100°C to 300°C at 15°C/min hold 10 min
Injector Temp:	Cool-on-Column
Detector Temp:	325°C
Data File Name:	S:\GC\GC2\2010\0410\B0412011.D
Instrument:	GC#2
Sample Name:	ER040510-01
Acquired:	April 13, 2010

Peak #	Ret Time	Area	Height	Area %
1	6.88	245.58	89.37	0.01
2	7.99	304.03	131.27	0.01
3	8.97	233.91	72.32	0.01
4	10.74	931.14	265.29	0.04
5	11.63	127.86	46.74	0.01
6	11.93	2261830.00	580792.00	98.34
7	12.56	6435.54	1838.17	0.28
8	12.94	13336.80	4373.86	0.58
9	13.20	2178.30	729.98	0.09
10	13.54	14483.80	5038.43	0.63

^{1}H NMR

Instrument:	JEOL ECS 400
Solvent:	Toluene-D_8

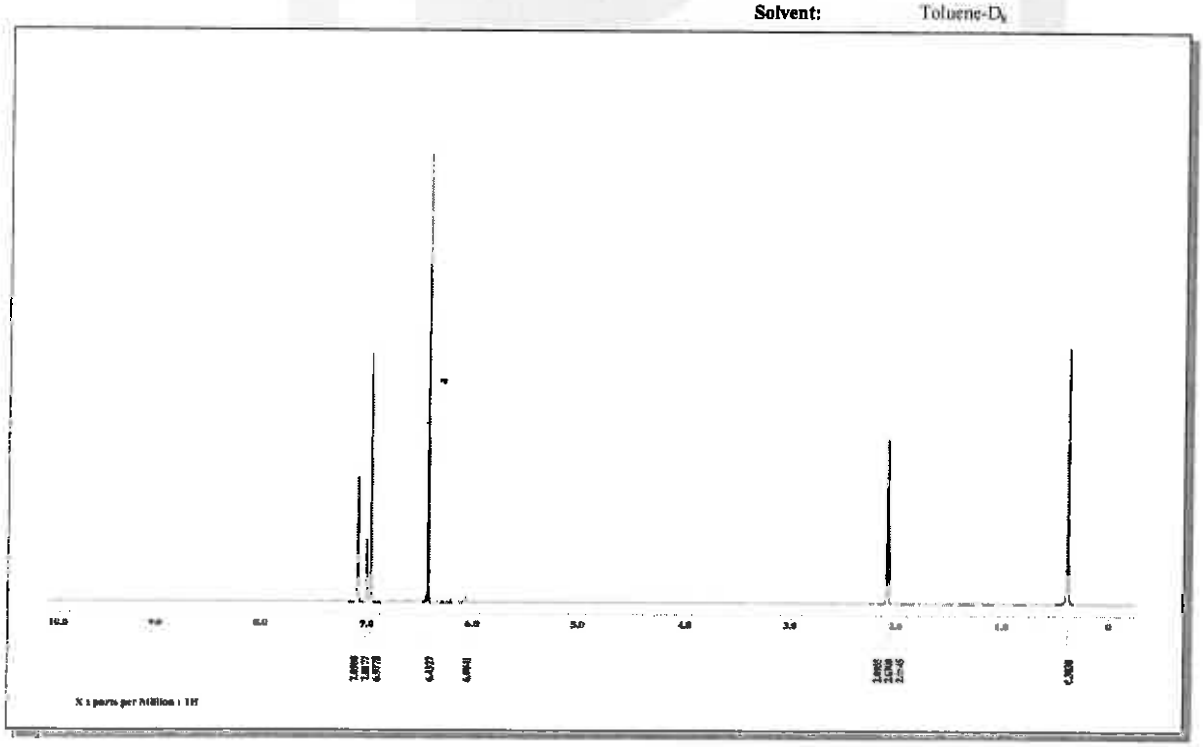

Spectral and Physical Data (cont.)

Identity by GC/MS Analysis

Compound Name : 2,3,7,8-Tetrachlorodibenzo-p-dioxin-37C14
Lot Number : RR060510-02
Instrument : Agilent 5973N MSD/6890N GC
Operator-Inst ID : RPC - C10106
Date Acquired : Mon Apr 19 23:23:00 2010
Column Type : DB-5ms, 30m x 0.25mm ID, 0.25um film thickness
Temp. Program : 140°C to 200°C@40°C/min,200°C to 320°C@10°C/min
Injector Temp. : Cool on-column
Carrier Gas : Helium
Flow Rate (mL/min) : 0.80 mL/min
Transfer Line Temp. : 280°C

Scan Range : 50-550

Total Ion Chromatogram

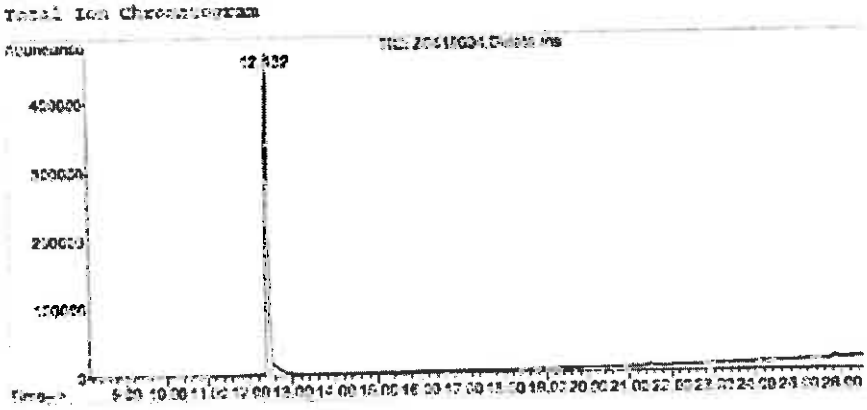

Mass Spectrum

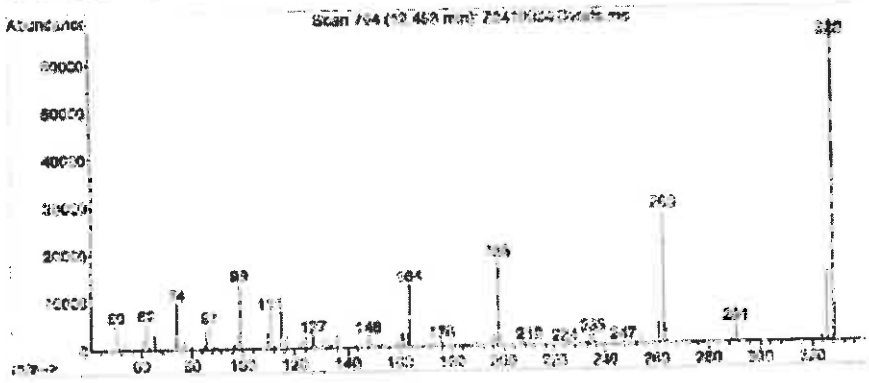

Reagent

HRDXNTA_00092

R: 7/6/18 SKJ

Cerilliant
Analytical Reference Standards
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Certificate of Analysis

Method 1613 PAR Stock Solution

Certificate Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number: EDF-7999-10X
Solution Lot: ER02241602
Expiration Date: April 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/ analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 volume. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

Component	Lot Number	CAS Number	Chemical Formula	Molecular Weight	Chromatographic Purity	Concentration
2,3,7,8-TeCDD	ER04271502	1746-01-6	$C_{12}H_4Cl_4O_2$	321.97	99.2%	399.9 ± 4.0 ng/mL
2,3,7,8-TeCDF	ER101211-02	51207-31-9	$C_{12}H_4Cl_4O$	305.97	99.4%	399.9 ± 4.0 ng/mL
1,2,3,7,8-PeCDD	ER110909-02	40321-76-4	$C_{12}H_3Cl_5O_2$	356.42	99.2%	2000 ± 20 ng/mL
1,2,3,7,8-PeCDF	ER03121401	57117-41-6	$C_{12}H_3Cl_5O$	340.42	99.5%	1999 ± 20 ng/mL
2,3,4,7,8-PeCDF	ER070710-01	57117-31-4	$C_{12}H_3Cl_5O$	340.42	99.4%	1999 ± 20 ng/mL
1,2,3,4,7,8-HxCDD	ER080108-02	39227-28-6	$C_{12}H_2Cl_6O_2$	390.86	98.6%	2000 ± 20 ng/mL
1,2,3,6,7,8-HxCDD	ER03231501	57653-85-7	$C_{12}H_2Cl_6O_2$	390.86	99.6%	2000 ± 20 ng/mL
1,2,3,7,8,9-HxCDD	ER02041601	19408-74-3	$C_{12}H_2Cl_6O_2$	390.86	99.2%	2000 ± 20 ng/mL
1,2,3,4,7,8-HxCDF	ER021110-01	70648-26-9	$C_{12}H_2Cl_6O$	374.86	99.0%	2000 ± 20 ng/mL
1,2,3,6,7,8-HxCDF	ER04161501	57117-44-9	$C_{12}H_2Cl_6O$	374.86	99.8%	2000 ± 20 ng/mL
1,2,3,7,8,9-HxCDF	ER060107-01	72918-21-9	$C_{12}H_2Cl_6O$	374.86	97.5%	1999 ± 20 ng/mL
2,3,4,6,7,8-HxCDF	ER02041602	60851-34-5	$C_{12}H_2Cl_6O$	374.86	99.1%	2001 ± 20 ng/mL
1,2,3,4,6,7,8-HpCDD	ER01201504	35822-46-9	$C_{12}HCl_7O_2$	425.31	98.5%	1999 ± 20 ng/mL
1,2,3,4,6,7,8-HpCDF	ER02281403	67562-39-4	$C_{12}HCl_7O$	409.31	98.9%	1999 ± 20 ng/mL
1,2,3,4,7,8,9-HpCDF	ER01121503	55673-89-7	$C_{12}HCl_7O$	409.31	99.1%	1999 ± 20 ng/mL
OCDD	ER05221301	3268-87-9	$C_{12}Cl_8O_2$	459.75	99.9%	3999 ± 40 ng/mL
OCDF	ER040811-01	39001-02-0	$C_{12}Cl_8O$	443.75	98.9%	4000 ± 40 ng/mL

- Uncertainty of the concentration is expressed as an expanded uncertainty in accordance with ISO 17025 and Guide 34 at the approximate 95% confidence interval using a coverage factor of k = 2 and has been calculated by statistical analysis of our production system and incorporates uncertainty of the purity factor, material density, and balance and weighing technique.
- Stock solution concentration is corrected for chromatographic purity, residual water, residual solvents and residual inorganics.

Cerilliant certifies that this standard meets the specifications stated in this certificate and warrants this product to meet the stated acceptance criteria through the expiration/retest date when stored unopened as recommended. Product should be used shortly after opening to avoid concentration changes due to evaporation. Warranty does not apply to ampoules stored after opening.

ANAB ACCREDITED
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

April 28, 2016
Date

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
- Concentration is verified against an independently prepared calibration solution gravimetrically prepared using balances calibrated to NIST.

Standard Solution Assay Parameters

Analysis Method: GC/ECD
Column: DB-5ms, 30 m x 0.25 mm ID, 0 25 µm film thickness
Temp Program: 140°C to 200°C at 40°C/min, 200°C to 300°C at 4°C/min hold 3 min
Injector Temp: Cool on-column
Detector Temp: 280°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 1

Solution Standard Verification and Homogeneity

Compound	Verified Concentration ng/mL	Acceptance Criteria	%RSD - Homogeneity %	Acceptance Criteria
2,3,7,8-TeCDD	397 1	± 10%	0.7	≤ 5%
2,3,7,8-TeCDF	386 6	± 10%	0.7	≤ 5%
1,2,3,7,8-PeCDD	1937	± 10%	0 8	≤ 5%
1,2,3,7,8-PeCDF	1919	± 10%	0.8	≤ 5%
2,3,4,7,8-PeCDF	1941	± 10%	0.8	≤ 5%
1,2,3,4,7,8-HxCDD	1932	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDD	1987	± 10%	0 8	≤ 5%
1,2,3,7,8,9-HxCDD	1943	± 10%	0 7	≤ 5%
1,2,3,4,7,8-HxCDF	1933	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDF	1909	± 10%	0.9	≤ 5%
1,2,3,7,8,9-HxCDF	1942	± 10%	0.7	≤ 5%
2,3,4,6,7,8-HxCDF	1950	± 10%	0.8	≤ 5%
1.2.3.4.6.7.8-HpCDD	1930	± 10%	0.9	≤ 5%
1,2,3,4,6,7,8-HpCDF	1919	± 10%	0.9	≤ 5%
1,2,3,4,7,8,9-HpCDF	1943	± 10%	1.0	≤ 5%
OCDD	3844	± 10%	1.0	≤ 5%
OCDF	3906	± 10%	0.9	≤ 5%

- Concentration is verified through multiple analyses and is calculated as the average of multiple analyses compared to an independently prepared calibration solution.
- Homogeneity is ensured through rigorous production process controls statistically analyzed to evaluate risk and verified by analysis. The %RSD of samples pulled from across the lot demonstrate homogeneity.
- Product is compared to prior lot and meets acceptance criteria of ± 10%.

Product Analysis

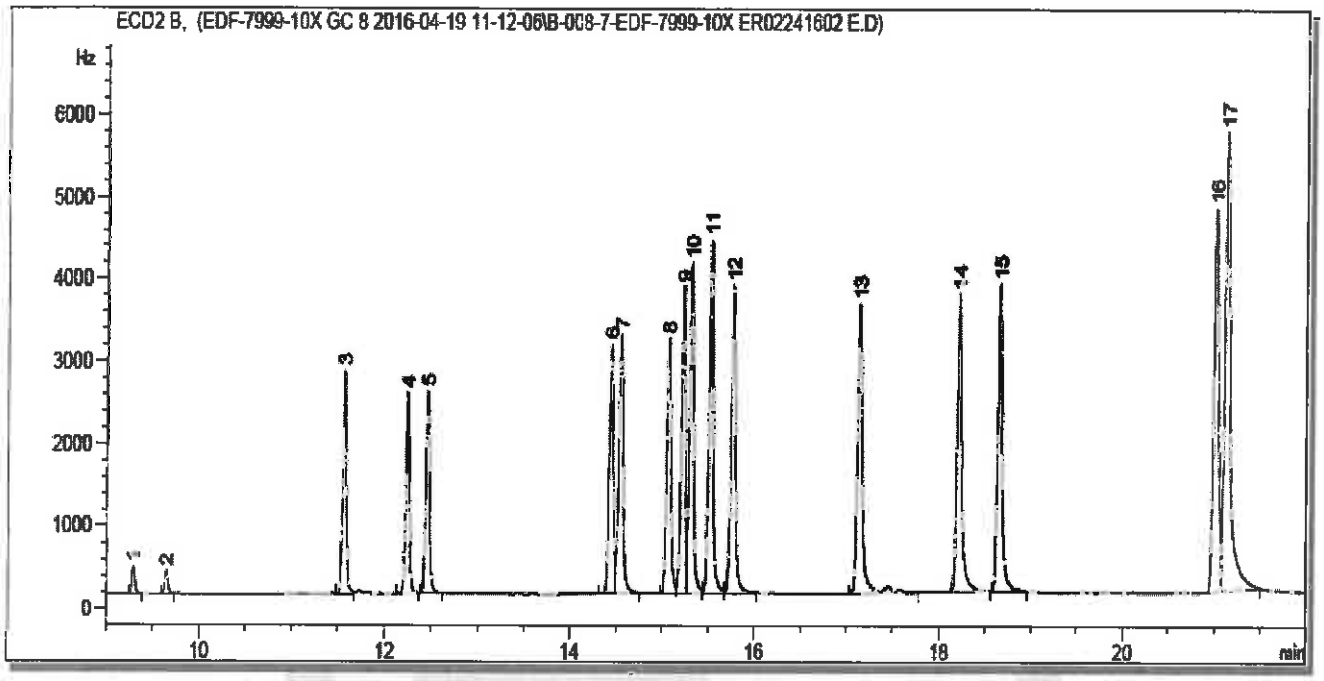

Peak:	Analyte:
1	2,3,7,8-Tetrachlorodibenzofuran
2	2,3,7,8-Tetrachloro-p-dioxin
3	1,2,3,7,8-Pentachlorodibenzofuran
4	2,3,4,7,8-Pentachlorodibenzofuran
5	1,2,3,7,8-Pentachlorodibenzo-p-dioxin
6	1,2,3,4,7,8-Hexachlorodibenzofuran
7	1,2,3,6,7,8-Hexachlorodibenzofuran
8	2,3,4,6,7,8-Hexachlorodibenzofuran
9	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin
10	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin
11	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin
12	1,2,3,7,8,9-Hexachlorodibenzofuran
13	1,2,3,4,6,7,8-Heptachlorodibenzofuran
14	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin
15	1,2,3,4,7,8,9-Heptachlorodibenzofuran
16	Octachlorodibenzo-p-dioxin
17	Octachlorodibenzofuran

COA Revision History

Revision No.	Date	Reason for Revision
00	April 28, 2016	Initial version

Reagent

HRDXNTA_00093

R: 7/6/18 SKJ

Cerilliant
Analytical Reference Standards
a SIGMA-ALDRICH company

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Certificate of Analysis

Method 1613 PAR Stock Solution

Certificant Quality
ISO GUIDE 34
ISO/IEC 17025
ISO 13485
ISO 15194
ISO 9001
GMP/GLP

Catalog Number: EDF-7999-10X
Solution Lot: ER02241602
Expiration Date: April 2026
Solvent: n-Nonane
Volume per Ampule: Not less than 1.2 mL
Storage: Store at room temperature. Do not store cold.
Intended Use: For R&D/ analytical purposes only. Not suitable for human or animal consumption.
Safety: **Danger. See Safety Data Sheet.**

- Expiration Date has been established through real time stability studies
- Ampules are overfilled to ensure a minimum 1.2 volume. We advise laboratories to use measured volumes of this standard solution before diluting to the desired concentration

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2,3,7,8-TeCDF	ER101211-02	51207-31-9	$C_{12}H_4Cl_4O$	305.97	99.4%	399.9 ± 4.0 ng/mL
1,2,3,7,8-PeCDD	ER110909-02	40321-76-4	$C_{12}H_3Cl_5O_2$	356.42	99.2%	2000 ± 20 ng/mL
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2,3,4,7,8-PeCDF	ER070710-01	57117-31-4	$C_{12}H_3Cl_5O$	340.42	99.4%	1999 ± 20 ng/mL
1,2,3,4,7,8-HxCDD	ER080108-02	39227-28-6	$C_{12}H_2Cl_6O_2$	390.86	98.6%	2000 ± 20 ng/mL
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OCDF	ER040811-01	39001-02-0	$C_{12}Cl_8O$	443.75	98.9%	4000 ± 40 ng/mL

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ANAB ACCREDITED
REFERENCE MATERIAL PRODUCER

Darron Ellsworth, Quality Assurance Manager

April 28, 2016
Date

Traceability

- Gravimetrically prepared using qualified balances calibrated semi-annually by Mettler Toledo using NIST traceable weights. Calibration verification performed weekly and prior to each use utilizing NIST traceable weights. Each balance has been assigned a minimum weighing by Mettler Toledo taking into consideration the balance and installed environmental conditions to ensure weighing complies with USP tolerances of no more than 0.10% relative error.
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Injector Temp: Cool on-column
Detector Temp: 280°C

Calibration Curve

Calibration Curve: Linear Regression
Number of Points: 1

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1,2,3,7,8-PeCDF	1919	± 10%	0.8	≤ 5%
2,3,4,7,8-PeCDF	1941	± 10%	0.8	≤ 5%
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1,2,3,7,8,9-HxCDD	1943	± 10%	0 7	≤ 5%
1,2,3,4,7,8-HxCDF	1933	± 10%	0.9	≤ 5%
1,2,3,6,7,8-HxCDF	1909	± 10%	0.9	≤ 5%
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2,3,4,6,7,8-HxCDF	1950	± 10%	0.8	≤ 5%
1.2.3.4.6.7.8-HpCDD	1930	± 10%	0.9	≤ 5%
1,2,3,4,6,7,8-HpCDF	1919	± 10%	0.9	≤ 5%
1,2,3,4,7,8,9-HpCDF	1943	± 10%	1.0	≤ 5%
OCDD	3844	± 10%	1.0	≤ 5%
OCDF	3906	± 10%	0.9	≤ 5%

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- Product is compared to prior lot and meets acceptance criteria of ± 10%.

Product Analysis

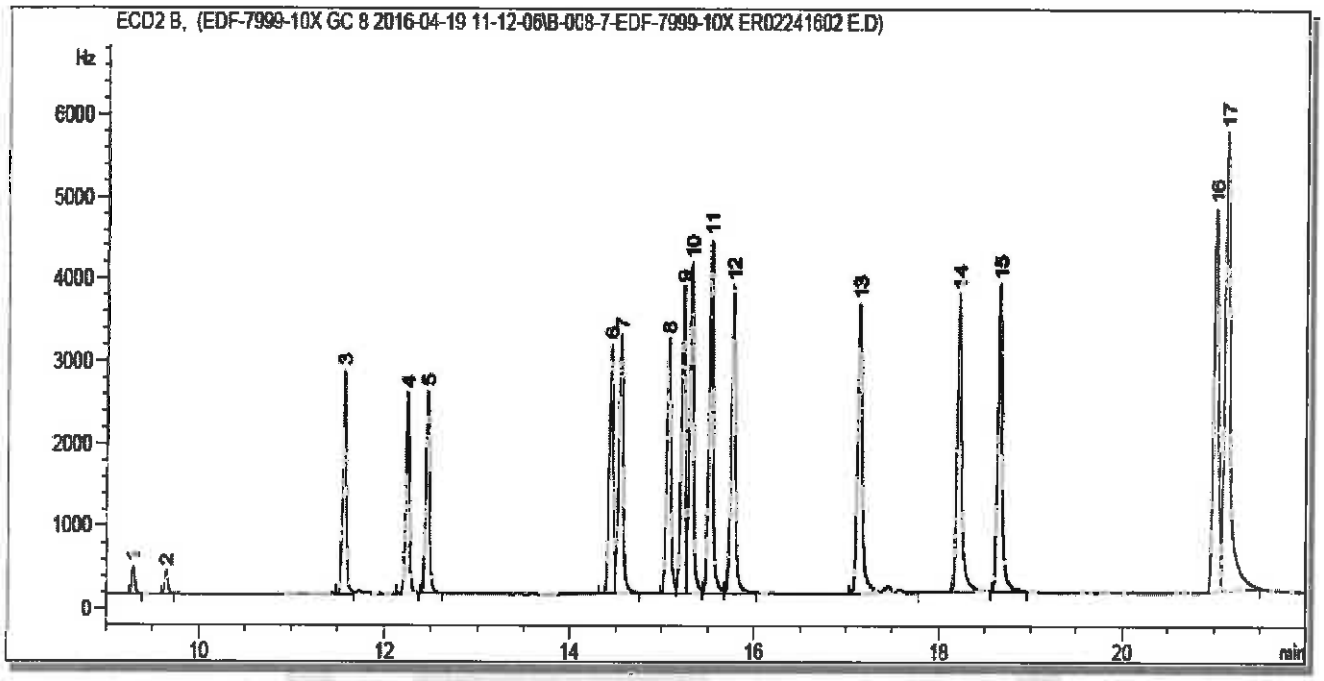

Peak:	Analyte:
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2	2,3,7,8-Tetrachloro-p-dioxin
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7	1,2,3,6,7,8-Hexachlorodibenzofuran
8	2,3,4,6,7,8-Hexachlorodibenzofuran
9	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin
10	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin
11	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin
12	1,2,3,7,8,9-Hexachlorodibenzofuran
13	1,2,3,4,6,7,8-Heptachlorodibenzofuran
14	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin
15	1,2,3,4,7,8,9-Heptachlorodibenzofuran
16	Octachlorodibenzo-p-dioxin
17	Octachlorodibenzofuran

COA Revision History

Revision No.	Date	Reason for Revision
00	April 28, 2016	Initial version

Method 8082A

Polychlorinated Biphenyls (PCBs) (GC) by Method 8082A

FORM II
PCBS SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-2

SDG No.:

Matrix: Water Level: Low

GC Column (1): RTX-CLP1 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCX1 #	DCBP1 #
11187072-091319-LL -EXC-1	600-191956-2	86	108

	QC LIMITS
TCX = Tetrachloro-m-xylene	32-150
DCBP = DCB Decachlorobiphenyl	26-130

Column to be used to flag recovery values

FORM II 8082

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-2

SDG No.:

Client Sample ID: 11187072-091319-LL-EXC-1 Lab Sample ID: 600-191956-2

Matrix: Water Lab File ID: L19_022.d

Analysis Method: 8082 Date Collected: 09/13/2019 08:00

Extraction Method: 3510C Date Extracted: 09/17/2019 10:16

Sample wt/vol: 210(mL) Date Analyzed: 09/19/2019 18:16

Con. Extract Vol.: 5.0(mL) Dilution Factor: 1

Injection Volume: 5(uL) GC Column: RTX-CLP1 ID: 0.32(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 275246 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
12674-11-2	PCB-1016	ND		1.2	0.64
11104-28-2	PCB-1221	ND		1.2	0.52
11141-16-5	PCB-1232	ND		1.2	0.14
53469-21-9	PCB-1242	ND		1.2	0.19
12672-29-6	PCB-1248	ND		1.2	0.24
11097-69-1	PCB-1254	ND		1.2	0.17
11096-82-5	PCB-1260	ND		1.2	0.40

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene	86		32-150
2051-24-3	DCB Decachlorobiphenyl	108		26-130

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_022.d				
Lims ID:	600-191956-G-2-A				
Client ID:	11187072-091319-LL-EXC-1				
Sample Type:	Client				
Inject. Date:	19-Sep-2019 18:16:34	ALS Bottle#:	22	Worklist Smp#:	7
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Sample Info:	600-0031198-007				
Operator ID:	JL	Instrument ID:	CHECD09		
Method:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\LVIPCBCHECD09IS.m				
Limit Group:	GCSV - 8082				
Last Update:	20-Sep-2019 10:43:36	Calib Date:	30-Jul-2019 04:07:48		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d				
Column 1 :			Det: GC ECD1A		
Column 2 :			Det: GC ECD2B		
Process Host:	CTX0334				

First Level Reviewer: lamj Date: 20-Sep-2019 10:39:07

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene						
1	6.884	6.864	0.020	3498163689	50.0	
2	6.938	6.921	0.017	2234106536	50.0	
					RPD = 0.00	
$ 2 Tetrachloro-m-xylene						M
1	8.802	8.795	0.007	122817241	0.0171	M
2	9.133	9.128	0.005	73950958	0.0184	
					RPD = 6.99	
$ 3 DCB Decachlorobiphenyl						M
1	19.257	19.260	-0.003	101968601	0.0215	M
2	20.319	20.319	0.000	73964195	0.0277	
					RPD = 25.06	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

PST_IS 2_00063 Amount Added: 1.00 Units: mL Run Reagent

Report Date: 20-Sep-2019 10:43:50 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_022.d				
Injection Date:	19-Sep-2019 18:16:34	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	600-191956-G-2-A	Lab Sample ID:	600-191956-2	Worklist Smp#:	7
Client ID:	11187072-091319-LL-EXC-1				
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	22
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

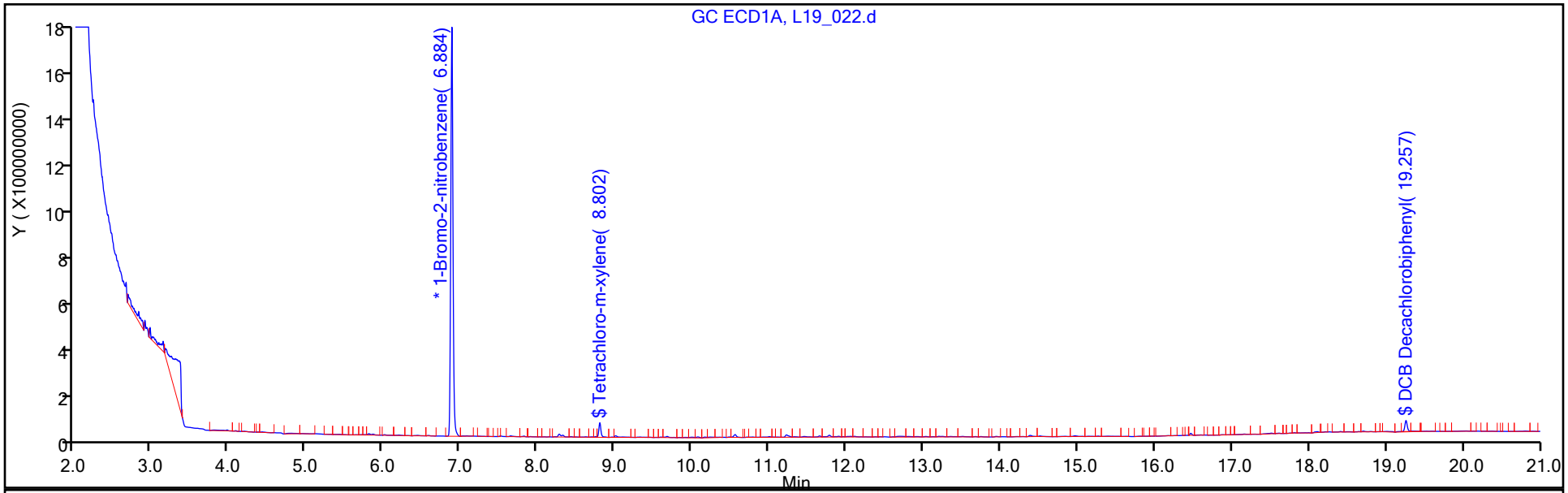

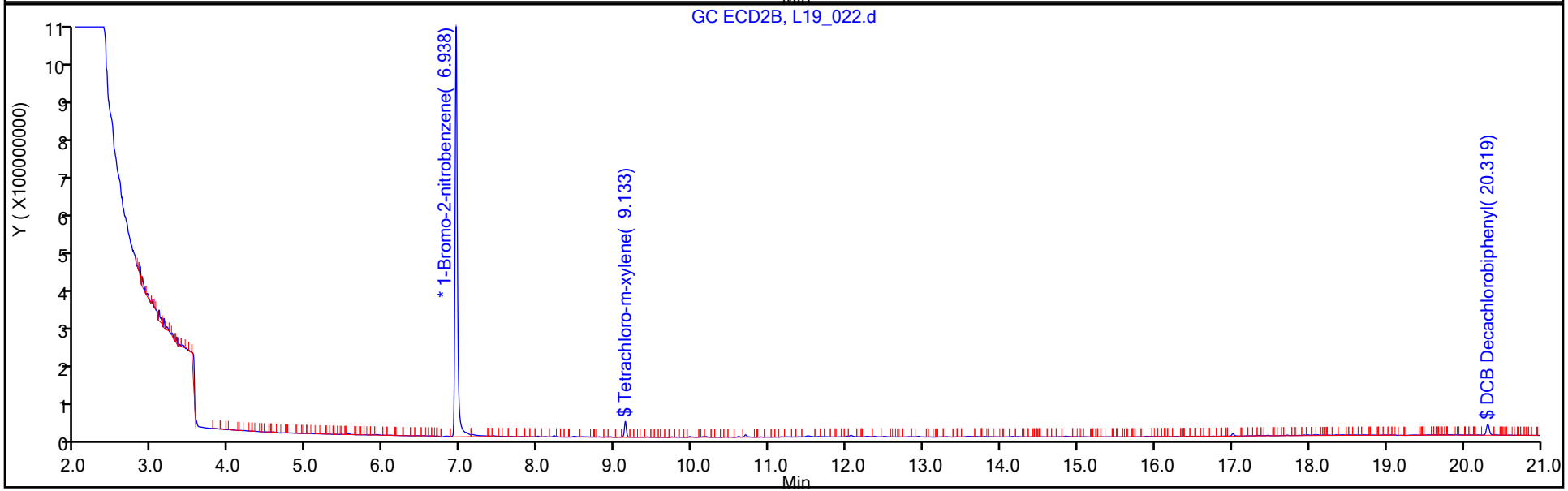

Eurofins TestAmerica, Houston
Recovery Report

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_022.d				
Lims ID:	600-191956-G-2-A				
Client ID:	11187072-091319-LL-EXC-1				
Sample Type:	Client				
Inject. Date:	19-Sep-2019 18:16:34	ALS Bottle#:	22	Worklist Smp#:	7
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Sample Info:	600-0031198-007				
Operator ID:	JL	Instrument ID:	CHECD09		
Method:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\LVIPCBCHECD09IS.m				
Limit Group:	GCSV - 8082				
Last Update:	20-Sep-2019 10:43:36	Calib Date:	30-Jul-2019 04:07:48		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d				
Column 1 :			Det: GC ECD1A		
Column 2 :			Det: GC ECD2B		
Process Host:	CTX0334				
First Level Reviewer: lamj		Date:	20-Sep-2019 10:39:07		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0171	85.74
$ 3 DCB Decachlorobiphenyl	0.0200	0.0215	107.54

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0184	91.95
$ 3 DCB Decachlorobiphenyl	0.0200	0.0277	138.34

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_022.d				
Injection Date:	19-Sep-2019 18:16:34	Instrument ID:	CHECD09		
Lims ID:	600-191956-G-2-A	Lab Sample ID:	600-191956-2		
Client ID:	11187072-091319-LL-EXC-1				
Operator ID:	JL	ALS Bottle#:	22	Worklist Smp#:	7
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD1A		

$ 2 Tetrachloro-m-xylene, CAS: 877-09-8

Signal: 1

Processing Integration Results

RT: 8.80
Area: 128749720
Amount: 0.017976
Amount Units: ug/ml

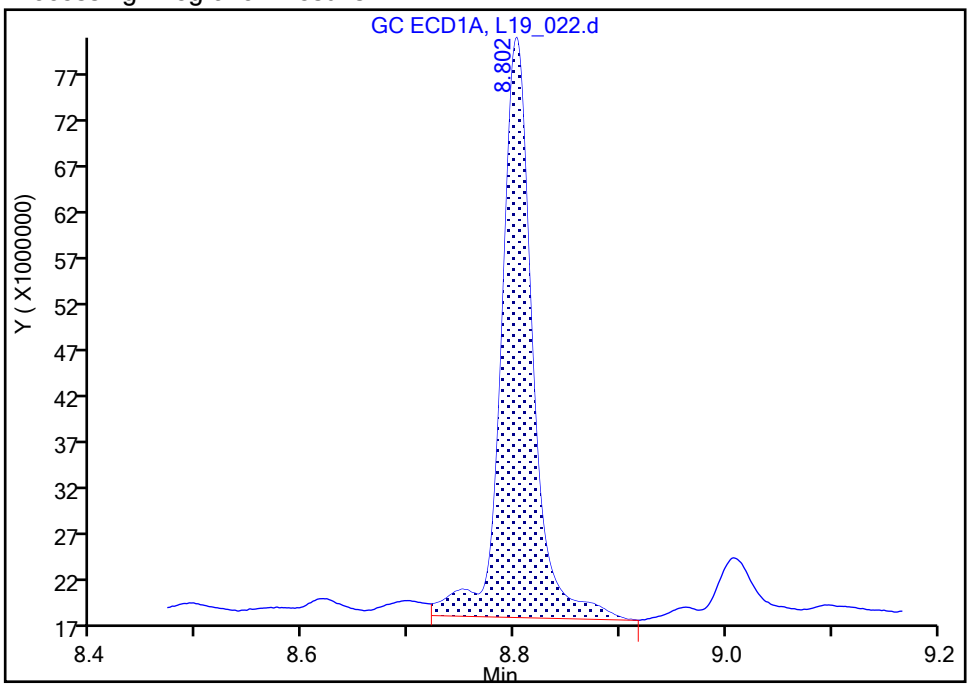

Manual Integration Results

RT: 8.80
Area: 122817241
Amount: 0.017148
Amount Units: ug/ml

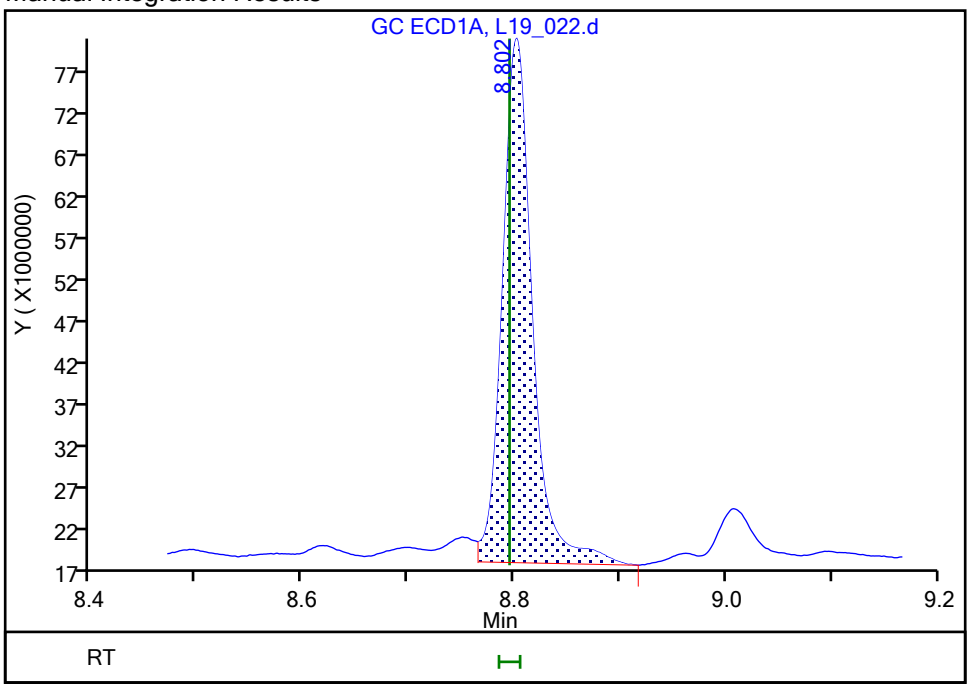

Reviewer: lamj, 20-Sep-2019 10:38:46

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_022.d				
Injection Date:	19-Sep-2019 18:16:34	Instrument ID:	CHECD09		
Lims ID:	600-191956-G-2-A	Lab Sample ID:	600-191956-2		
Client ID:	11187072-091319-LL-EXC-1				
Operator ID:	JL	ALS Bottle#:	22	Worklist Smp#:	7
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD1A		

$ 3 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

Processing Integration Results

RT: 19.26
Area: 132094355
Amount: 0.027861
Amount Units: ug/ml

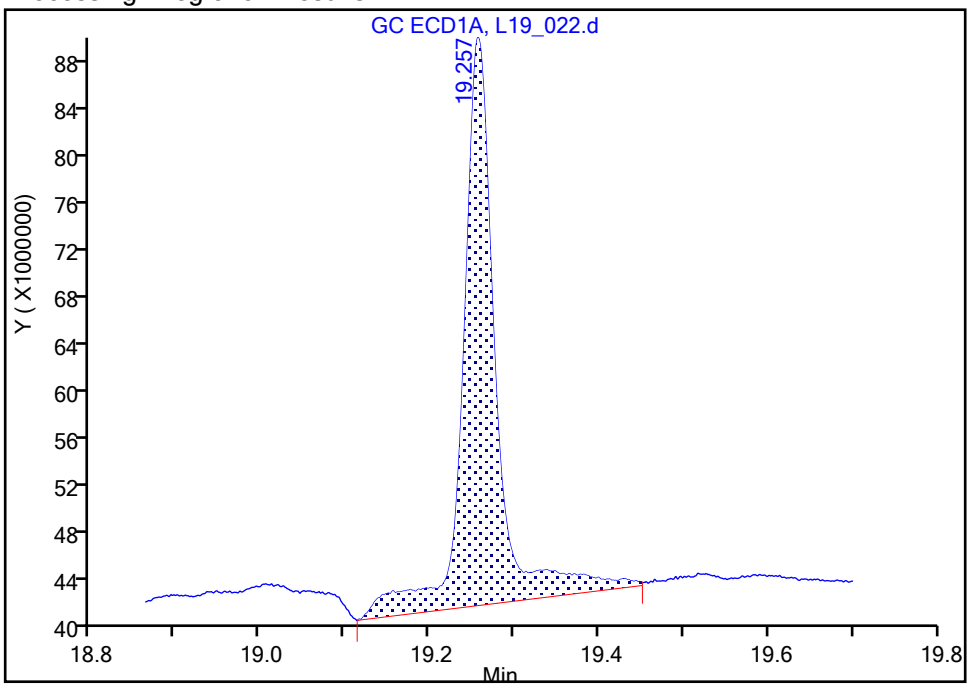

Manual Integration Results

RT: 19.26
Area: 101968601
Amount: 0.021507
Amount Units: ug/ml

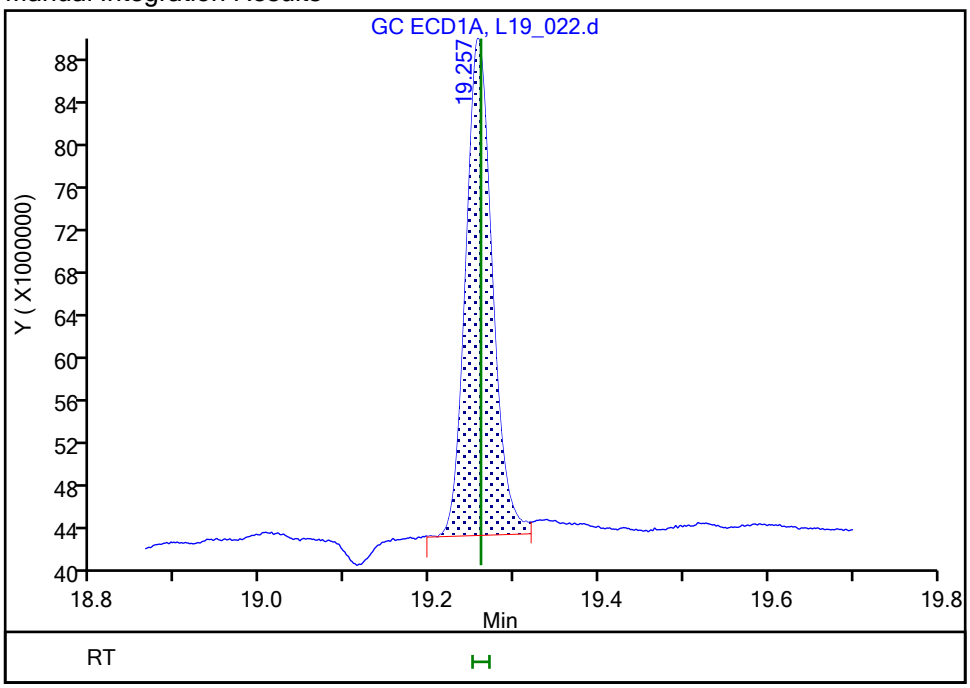

Reviewer: lamj, 20-Sep-2019 10:39:03

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-2 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2019 19:14 Calibration End Date: 07/29/2019 19:14 Calibration ID: 16260

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/2	M29_002.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1221 Peak 1	1.2980					Ave		1.2980						20.0			
PCB-1221 Peak 2	0.7946					Ave		0.7946						20.0			
PCB-1221 Peak 3	3.0501					Ave		3.0501						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-2 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2019 19:14 Calibration End Date: 07/29/2019 19:14 Calibration ID: 16260

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/2	M29_002.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1					LVL 1				
PCB-1221 Peak 1	BNB	Ave	34428258					0.500				
PCB-1221 Peak 2	BNB	Ave	21075599					0.500				
PCB-1221 Peak 3	BNB	Ave	80898411					0.500				

Curve Type Legend:

Ave = Average ISTD

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_002.d				
Lims ID:	ic				
Client ID:					
Sample Type:	IC	Calib Level:	1		
Inject. Date:	29-Jul-2019 19:14:25	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Sample Info:	600-0030284-002				
Operator ID:	JL	Instrument ID:	CHECD09		
Sublist:	chrom-LVIPCBCHECD09IS*sub2				
Method:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m				
Limit Group:	GCSV - 8082				
Last Update:	30-Jul-2019 10:10:45	Calib Date:	30-Jul-2019 03:11:33		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_019.d				
Column 1 :			Det: GC ECD1A		
Column 2 :			Det: GC ECD2B		
Process Host:	CTX0337				

First Level Reviewer: lamj Date: 30-Jul-2019 10:10:45

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.903	6.901	0.002	2652312119	50.0	50.0	
2	6.999	7.001	-0.002	1626006161	50.0	50.0	
						RPD = 0.00	
5 PCB-1221							
1	9.261	9.261	0.000	34428258	0.5000	0.5000	
1	9.587	9.587	0.000	21075599	0.5000	0.5000	
1	9.676	9.676	0.000	80898411	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	9.882	9.882	0.000	18839805	0.5000	0.5000	
2	10.178	10.178	0.000	12269422	0.5000	0.5000	
2	10.303	10.303	0.000	48866668	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	

Reagents:

AR1221STD4_00018	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 30-Jul-2019 10:10:45 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_002.d				
Injection Date:	29-Jul-2019 19:14:25	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	2
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

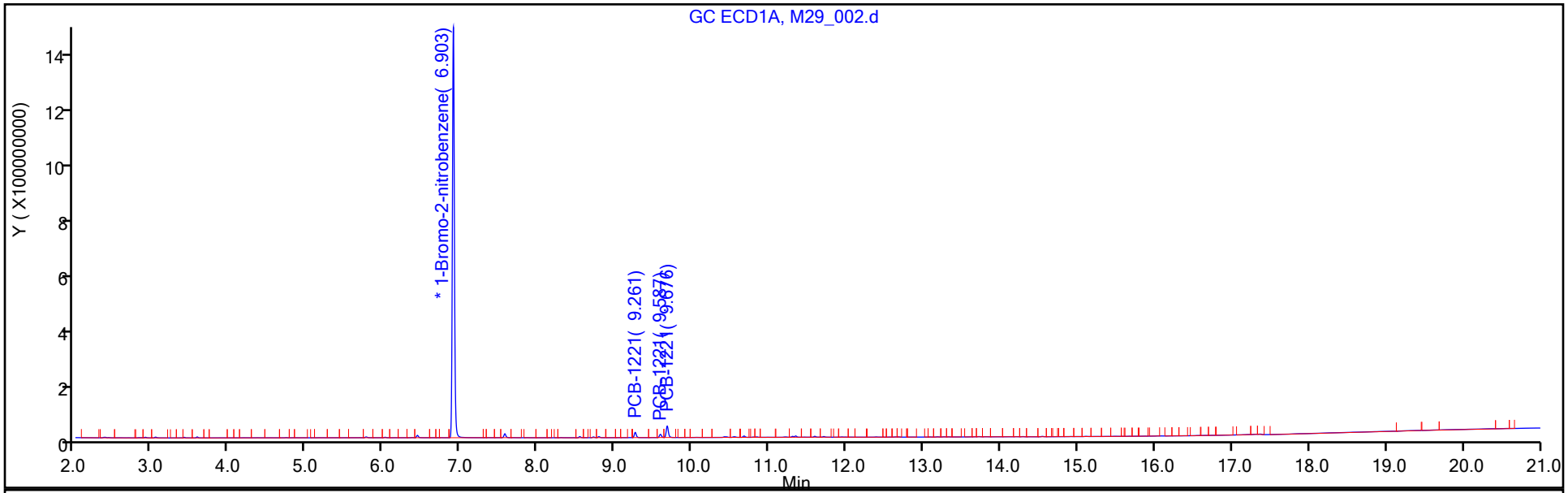

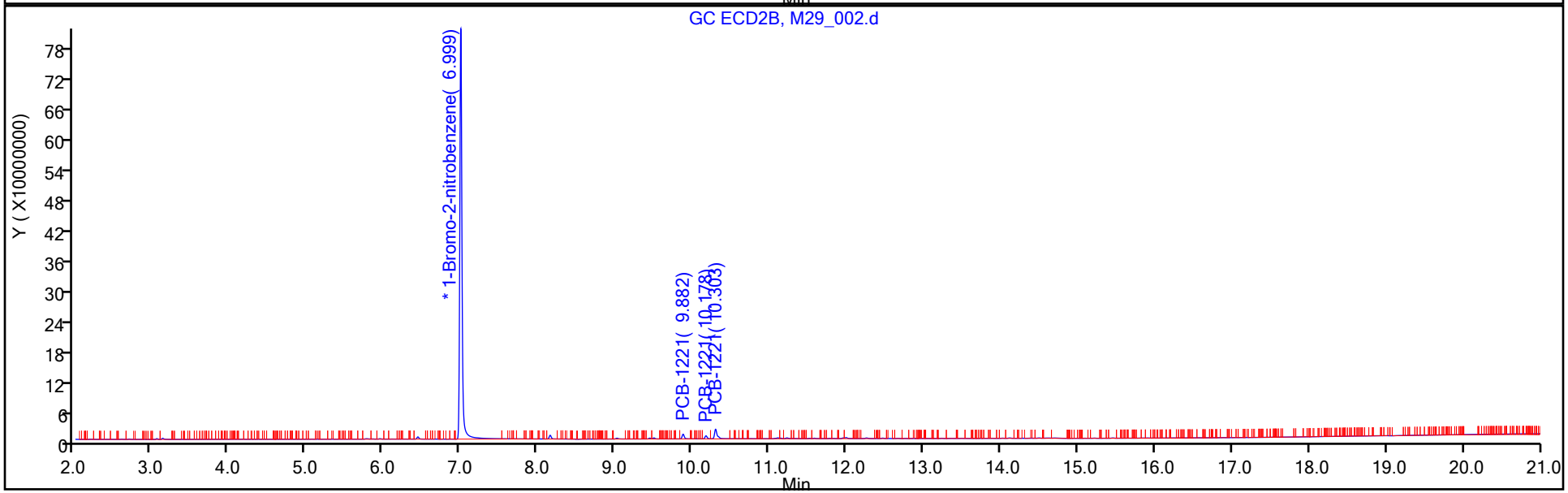

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-2 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2019 19:14 Calibration End Date: 07/29/2019 19:14 Calibration ID: 16261

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/2	M29_002.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1221 Peak 1	1.1587					Ave		1.1587						20.0			
PCB-1221 Peak 2	0.7546					Ave		0.7546						20.0			
PCB-1221 Peak 3	3.0053					Ave		3.0053						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-2 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2019 19:14 Calibration End Date: 07/29/2019 19:14 Calibration ID: 16261

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/2	M29_002.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1					LVL 1				
PCB-1221 Peak 1	BNB	Ave	18839805					0.500				
PCB-1221 Peak 2	BNB	Ave	12269422					0.500				
PCB-1221 Peak 3	BNB	Ave	48866668					0.500				

Curve Type Legend:

Ave = Average ISTD

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_002.d				
Lims ID:	ic				
Client ID:					
Sample Type:	IC	Calib Level:	1		
Inject. Date:	29-Jul-2019 19:14:25	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Sample Info:	600-0030284-002				
Operator ID:	JL	Instrument ID:	CHECD09		
Sublist:	chrom-LVIPCBCHECD09IS*sub2				
Method:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m				
Limit Group:	GCSV - 8082				
Last Update:	30-Jul-2019 10:10:45	Calib Date:	30-Jul-2019 03:11:33		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_019.d				
Column 1 :			Det: GC ECD1A		
Column 2 :			Det: GC ECD2B		
Process Host:	CTX0337				

First Level Reviewer: lamj Date: 30-Jul-2019 10:10:45

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.903	6.901	0.002	2652312119	50.0	50.0	
2	6.999	7.001	-0.002	1626006161	50.0	50.0	
						RPD = 0.00	
5 PCB-1221							
1	9.261	9.261	0.000	34428258	0.5000	0.5000	
1	9.587	9.587	0.000	21075599	0.5000	0.5000	
1	9.676	9.676	0.000	80898411	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	9.882	9.882	0.000	18839805	0.5000	0.5000	
2	10.178	10.178	0.000	12269422	0.5000	0.5000	
2	10.303	10.303	0.000	48866668	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	

Reagents:

AR1221STD4_00018	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 30-Jul-2019 10:10:46 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_002.d				
Injection Date:	29-Jul-2019 19:14:25	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	2
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

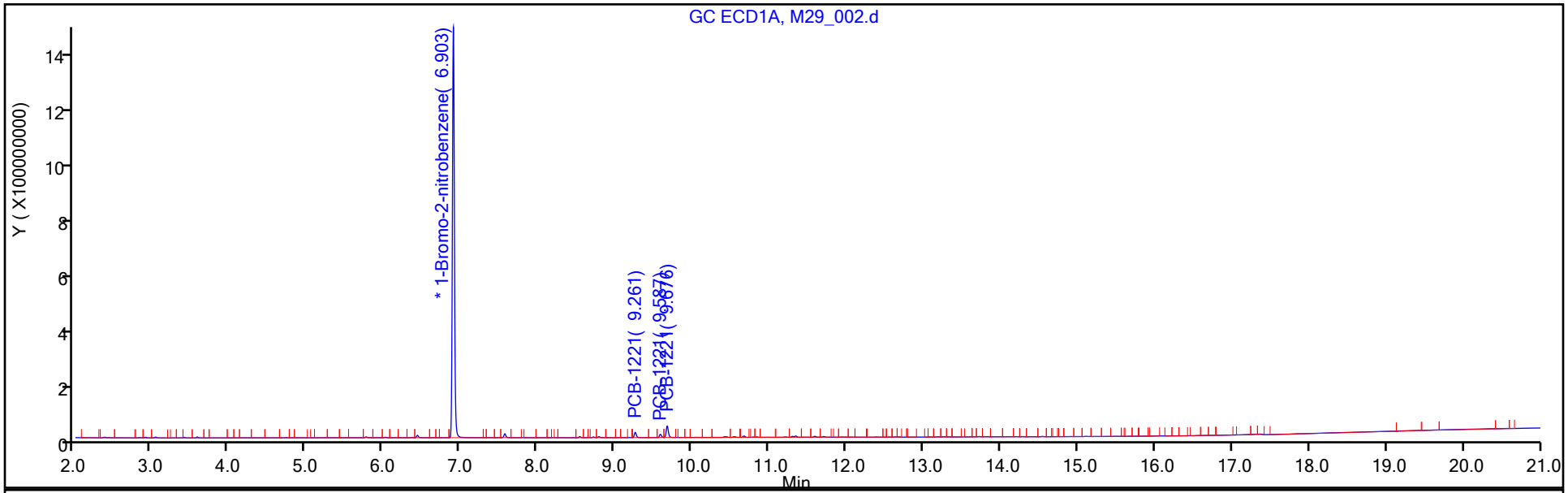

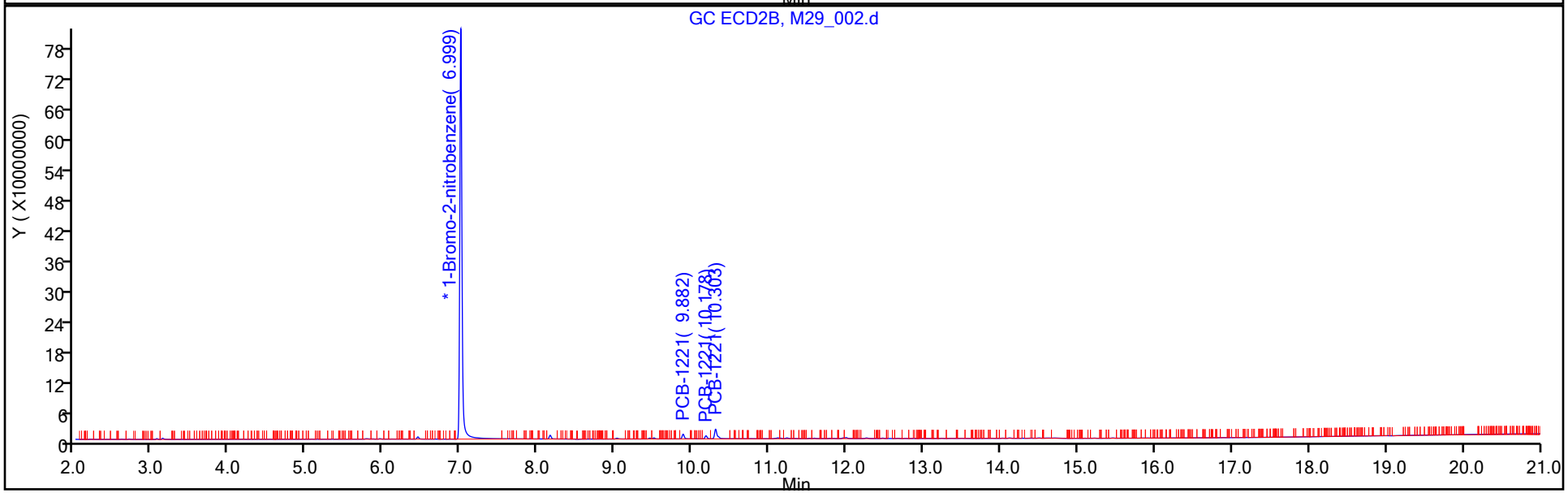

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-2 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2019 19:42 Calibration End Date: 07/29/2019 19:42 Calibration ID: 16264

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/3	M29_003.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1232 Peak 1	0.8938					Ave		0.8938						20.0			
PCB-1232 Peak 2	1.7935					Ave		1.7935						20.0			
PCB-1232 Peak 3	1.5996					Ave		1.5996						20.0			
PCB-1232 Peak 4	1.0625					Ave		1.0625						20.0			
PCB-1232 Peak 5	0.5154					Ave		0.5154						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-2 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2019 19:42 Calibration End Date: 07/29/2019 19:42 Calibration ID: 16264

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/3	M29_003.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1					LVL 1				
PCB-1232 Peak 1	BNB	Ave	22408016					0.500				
PCB-1232 Peak 2	BNB	Ave	44964967					0.500				
PCB-1232 Peak 3	BNB	Ave	40104368					0.500				
PCB-1232 Peak 4	BNB	Ave	26637217					0.500				
PCB-1232 Peak 5	BNB	Ave	12921697					0.500				

Curve Type Legend:
Ave = Average ISTD

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_003.d				
Lims ID:	ic				
Client ID:					
Sample Type:	IC	Calib Level:	1		
Inject. Date:	29-Jul-2019 19:42:26	ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Sample Info:	600-0030284-003				
Operator ID:	JL	Instrument ID:	CHECD09		
Sublist:	chrom-LVIPCBCHECD09IS*sub3				
Method:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m				
Limit Group:	GCSV - 8082				
Last Update:	30-Jul-2019 10:11:23	Calib Date:	30-Jul-2019 03:11:33		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_019.d				
Column 1 :			Det: GC ECD1A		
Column 2 :			Det: GC ECD2B		
Process Host:	CTX0337				

First Level Reviewer: lamj Date: 30-Jul-2019 09:49:15

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.902	6.901	0.001	2507083326	50.0	50.0	
2	7.000	7.001	-0.001	1430075540	50.0	50.0	
						RPD = 0.00	
4 PCB-1232							a
1	9.261	9.261	0.000	22408016	0.5000	0.5000	
1	10.418	10.418	0.000	44964967	0.5000	0.5000	
1	11.588	11.588	0.000	40104368	0.5000	0.5000	
1	11.706	11.706	0.000	26637217	0.5000	0.5000	
1	13.084	13.084	0.000	12921697	0.5000	0.5000	a
		Average of Peak Amounts =				0.5000	
2	9.882	9.882	0.000	11400136	0.5000	0.5000	
2	10.180	10.180	0.000	7946427	0.5000	0.5000	
2	11.522	11.522	0.000	6242943	0.5000	0.5000	
2	11.586	11.586	0.000	9117927	0.5000	0.5000	
2	12.259	12.259	0.000	17943545	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

AR1232STD4_00017	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 30-Jul-2019 10:11:24 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_003.d				
Injection Date:	29-Jul-2019 19:42:26	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	3
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

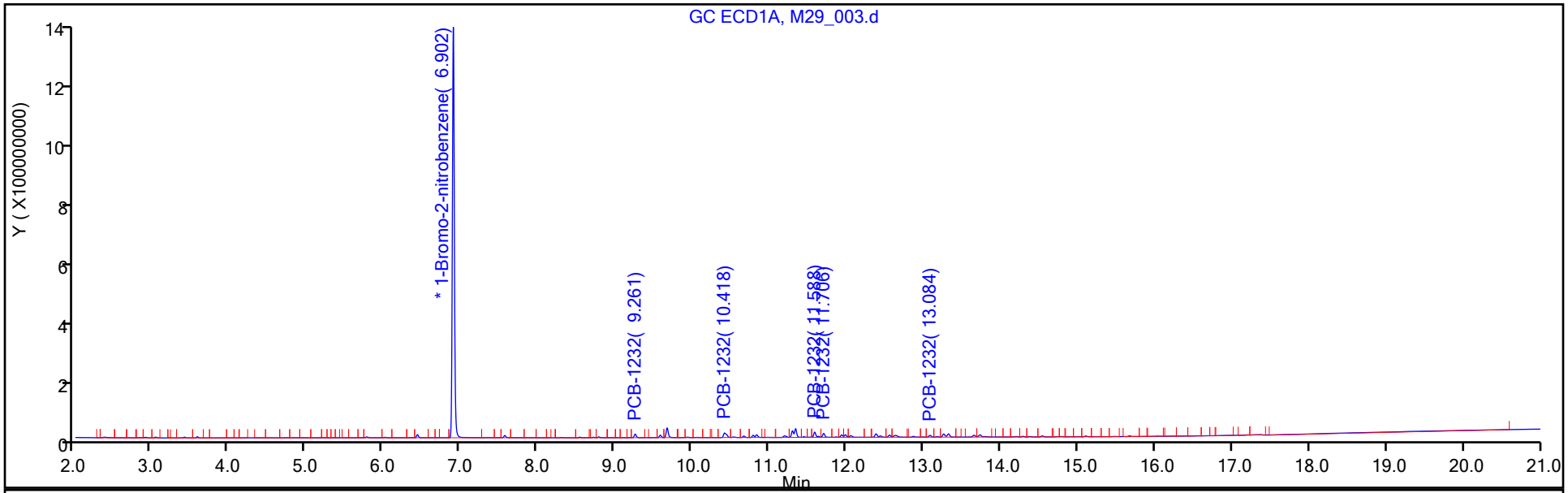

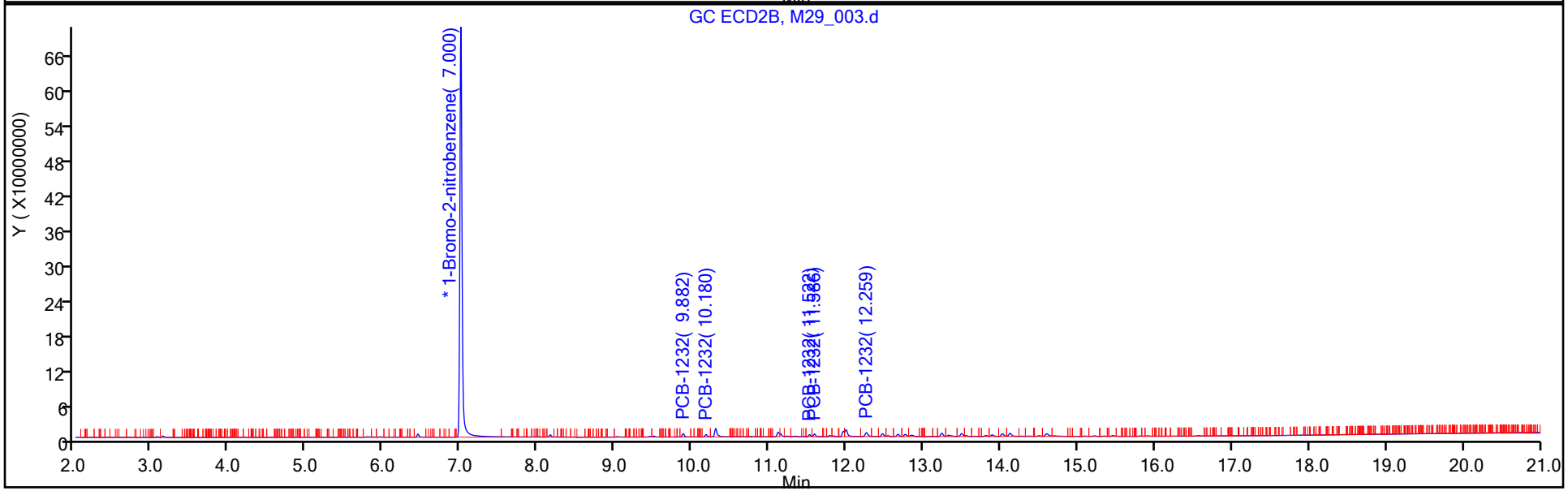

Report Date: 30-Jul-2019 10:11:24 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_003.d

Injection Date: 29-Jul-2019 19:42:26 Instrument ID: CHECD09

Lims ID: ic

Client ID:

Operator ID: JL ALS Bottle#: 3 Worklist Smp#: 3

Injection Vol: 5.0 ul Dil. Factor: 1.0000

Method: LVIPCBCHECD09IS Limit Group: GCSV - 8082

Column: Detector GC ECD1A

4 PCB-1232, CAS: 11141-16-5

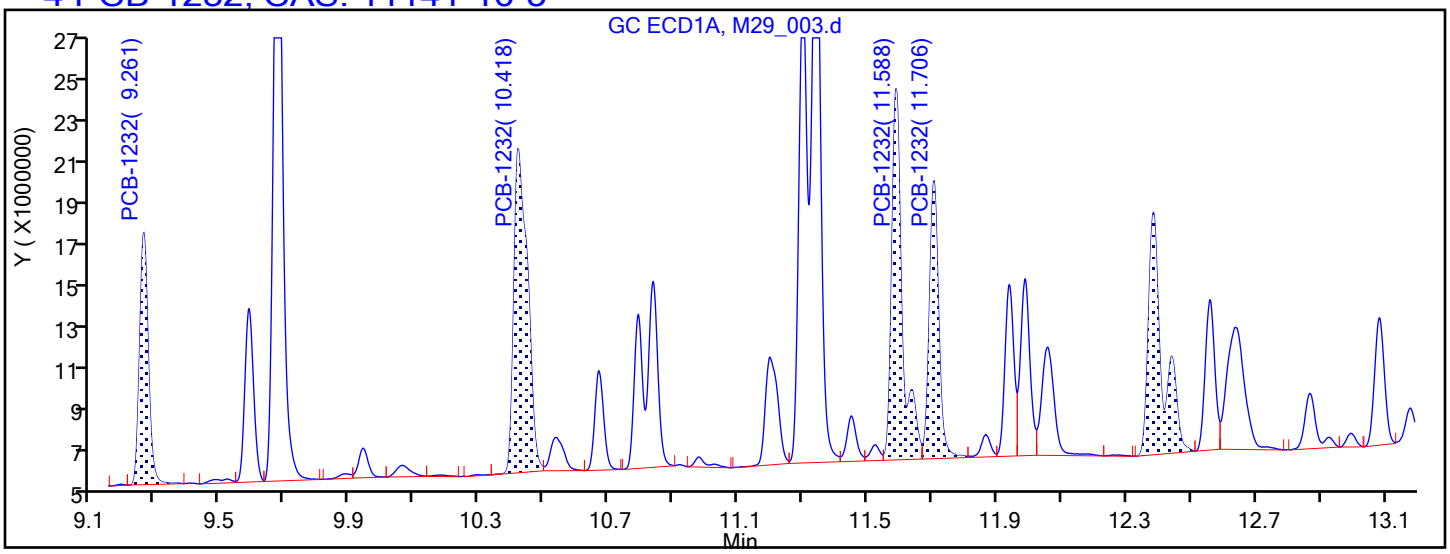

Processing Integration Results

9.261	Response = 22408016
10.418	Response = 44964967
11.588	Response = 40104368
11.706	Response = 26637217
12.385	Response = 35054494

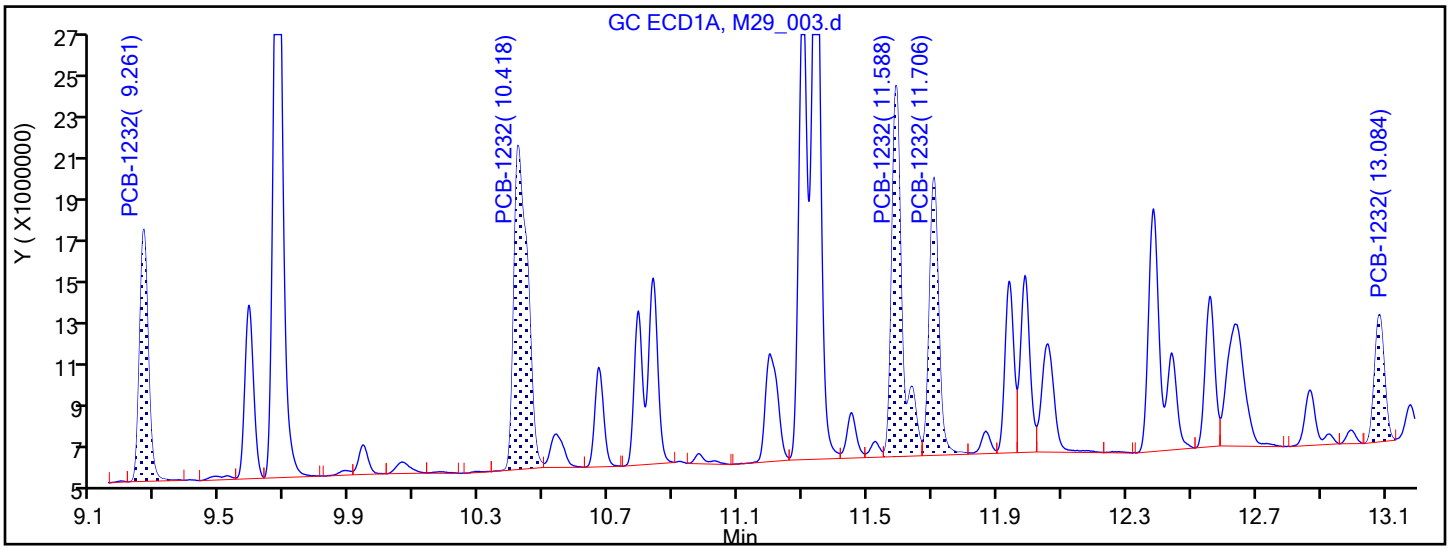

Manual Integration Results

9.261	Response = 22408016	
10.418	Response = 44964967	
11.588	Response = 40104368	
11.706	Response = 26637217	
13.084	Response = 12921697	M

Reviewer: lamj, 30-Jul-2019 10:11:12

Audit Action: Assigned Compound ID Audit Reason:

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-2 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2019 19:42 Calibration End Date: 07/29/2019 19:42 Calibration ID: 16265

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/3	M29_003.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1232 Peak 1	0.7972					Ave		0.7972						20.0			
PCB-1232 Peak 2	0.5557					Ave		0.5557						20.0			
PCB-1232 Peak 3	0.4365					Ave		0.4365						20.0			
PCB-1232 Peak 4	0.6376					Ave		0.6376						20.0			
PCB-1232 Peak 5	1.2547					Ave		1.2547						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-2 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2019 19:42 Calibration End Date: 07/29/2019 19:42 Calibration ID: 16265

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/3	M29_003.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1					LVL 1				
PCB-1232 Peak 1	BNB	Ave	11400136					0.500				
PCB-1232 Peak 2	BNB	Ave	7946427					0.500				
PCB-1232 Peak 3	BNB	Ave	6242943					0.500				
PCB-1232 Peak 4	BNB	Ave	9117927					0.500				
PCB-1232 Peak 5	BNB	Ave	17943545					0.500				

Curve Type Legend:
Ave = Average ISTD

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_003.d				
Lims ID:	ic				
Client ID:					
Sample Type:	IC	Calib Level:	1		
Inject. Date:	29-Jul-2019 19:42:26	ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Sample Info:	600-0030284-003				
Operator ID:	JL	Instrument ID:	CHECD09		
Sublist:	chrom-LVIPCBCHECD09IS*sub3				
Method:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m				
Limit Group:	GCSV - 8082				
Last Update:	30-Jul-2019 10:11:23	Calib Date:	30-Jul-2019 03:11:33		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_019.d				
Column 1 :			Det: GC ECD1A		
Column 2 :			Det: GC ECD2B		
Process Host:	CTX0337				

First Level Reviewer: lamj Date: 30-Jul-2019 09:49:15

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.902	6.901	0.001	2507083326	50.0	50.0	
2	7.000	7.001	-0.001	1430075540	50.0	50.0	
						RPD = 0.00	
4 PCB-1232							a
1	9.261	9.261	0.000	22408016	0.5000	0.5000	
1	10.418	10.418	0.000	44964967	0.5000	0.5000	
1	11.588	11.588	0.000	40104368	0.5000	0.5000	
1	11.706	11.706	0.000	26637217	0.5000	0.5000	
1	13.084	13.084	0.000	12921697	0.5000	0.5000	a
		Average of Peak Amounts =				0.5000	
2	9.882	9.882	0.000	11400136	0.5000	0.5000	
2	10.180	10.180	0.000	7946427	0.5000	0.5000	
2	11.522	11.522	0.000	6242943	0.5000	0.5000	
2	11.586	11.586	0.000	9117927	0.5000	0.5000	
2	12.259	12.259	0.000	17943545	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

AR1232STD4_00017	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 30-Jul-2019 10:11:25 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_003.d				
Injection Date:	29-Jul-2019 19:42:26	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	3
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

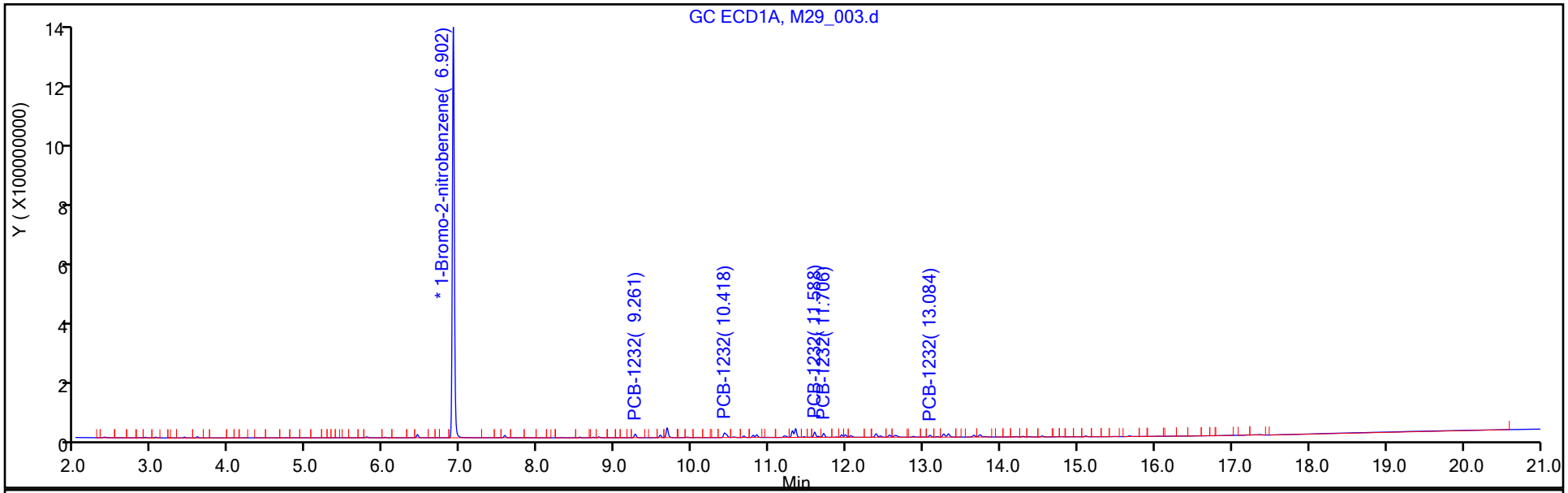

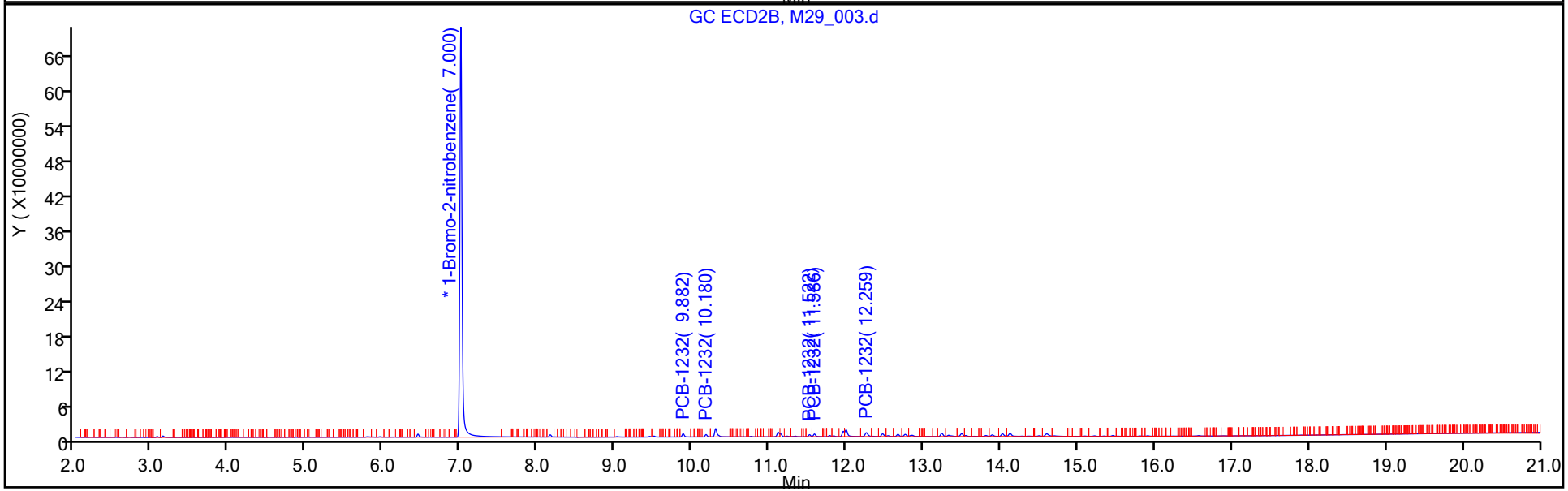

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-2 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2019 20:10 Calibration End Date: 07/29/2019 20:10 Calibration ID: 16288

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/4	M29_004.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1242 Peak 1	1.1610					Ave		1.1610						20.0			
PCB-1242 Peak 2	1.9969					Ave		1.9969						20.0			
PCB-1242 Peak 3	1.3123					Ave		1.3123						20.0			
PCB-1242 Peak 4	1.4239					Ave		1.4239						20.0			
PCB-1242 Peak 5	0.8926					Ave		0.8926						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-2 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2019 20:10 Calibration End Date: 07/29/2019 20:10 Calibration ID: 16288

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/4	M29_004.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1					LVL 1				
PCB-1242 Peak 1	BNB	Ave	42043831					0.500				
PCB-1242 Peak 2	BNB	Ave	72314907					0.500				
PCB-1242 Peak 3	BNB	Ave	47522194					0.500				
PCB-1242 Peak 4	BNB	Ave	51563231					0.500				
PCB-1242 Peak 5	BNB	Ave	32323328					0.500				

Curve Type Legend:
Ave = Average ISTD

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_004.d				
Lims ID:	ic				
Client ID:					
Sample Type:	IC	Calib Level:	1		
Inject. Date:	29-Jul-2019 20:10:29	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Sample Info:	600-0030284-004				
Operator ID:	JL	Instrument ID:	CHECD09		
Sublist:	chrom-LVIPCBCHECD09IS*sub4				
Method:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m				
Limit Group:	GCSV - 8082				
Last Update:	30-Jul-2019 10:15:28	Calib Date:	30-Jul-2019 03:11:33		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_019.d				
Column 1 :			Det: GC ECD1A		
Column 2 :			Det: GC ECD2B		
Process Host:	CTX0337				

First Level Reviewer: lamj Date: 30-Jul-2019 10:15:28

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.903	6.901	0.002	3621298556	50.0	50.0	
2	7.001	7.001	0.000	2069942928	50.0	50.0	
						RPD = 0.00	
6 PCB-1242							M
1	9.676	9.676	0.000	42043831	0.5000	0.5000	
1	11.589	11.589	0.000	72314907	0.5000	0.5000	M
1	11.705	11.705	0.000	47522194	0.5000	0.5000	M
1	12.384	12.384	0.000	51563231	0.5000	0.5000	M
1	13.084	13.084	0.000	32323328	0.5000	0.5000	M
		Average of Peak Amounts =				0.5000	
2	10.304	10.304	0.000	22794162	0.5000	0.5000	
2	11.522	11.522	0.000	12116447	0.5000	0.5000	
2	11.586	11.586	0.000	18308159	0.5000	0.5000	
2	12.259	12.259	0.000	33595608	0.5000	0.5000	
2	12.668	12.668	0.000	18232191	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR1242STD4_00023	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 30-Jul-2019 10:15:30 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_004.d				
Injection Date:	29-Jul-2019 20:10:29	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	4
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

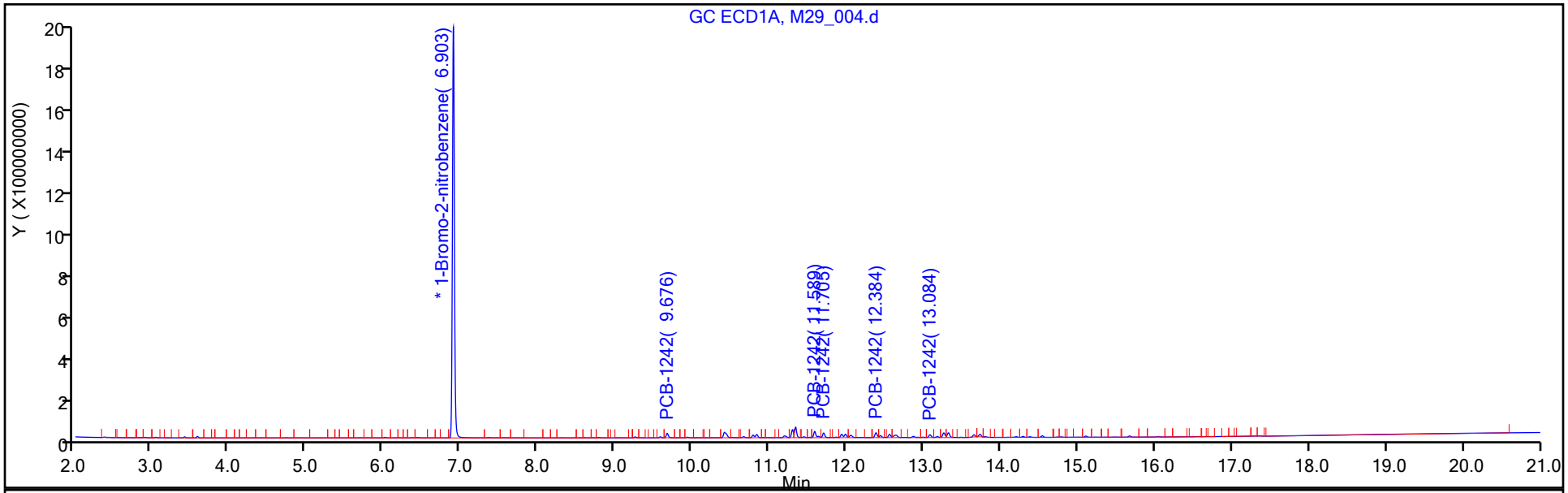

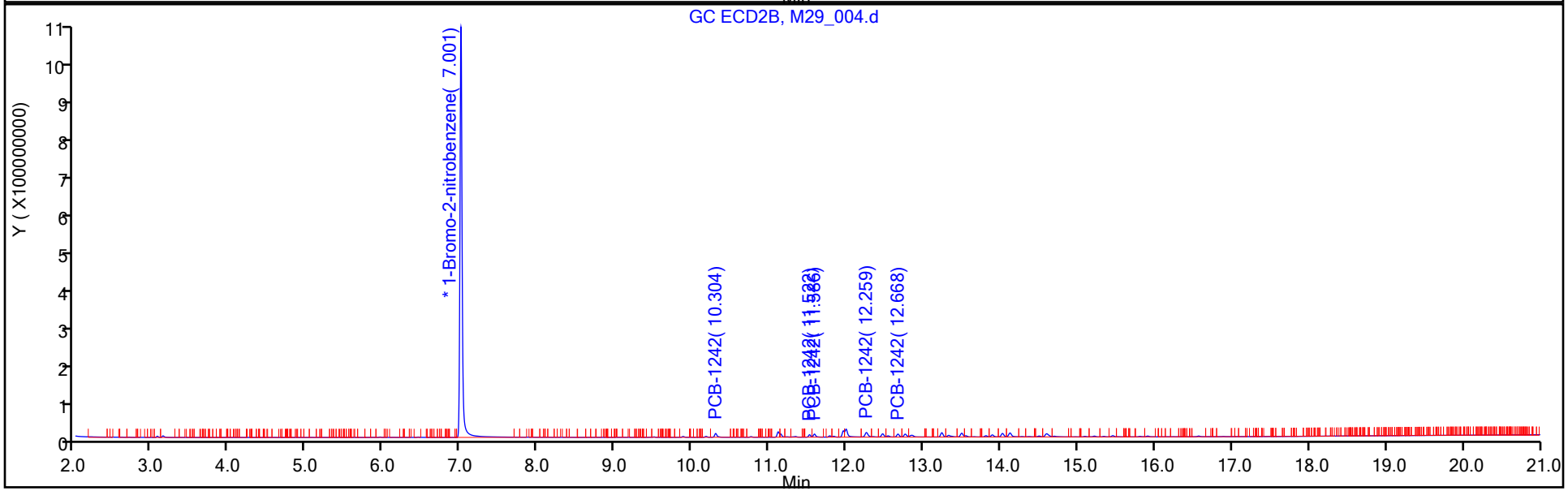

Report Date: 30-Jul-2019 10:15:31 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_004.d				
Injection Date:	29-Jul-2019 20:10:29	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD1A		

6 PCB-1242, CAS: 53469-21-9

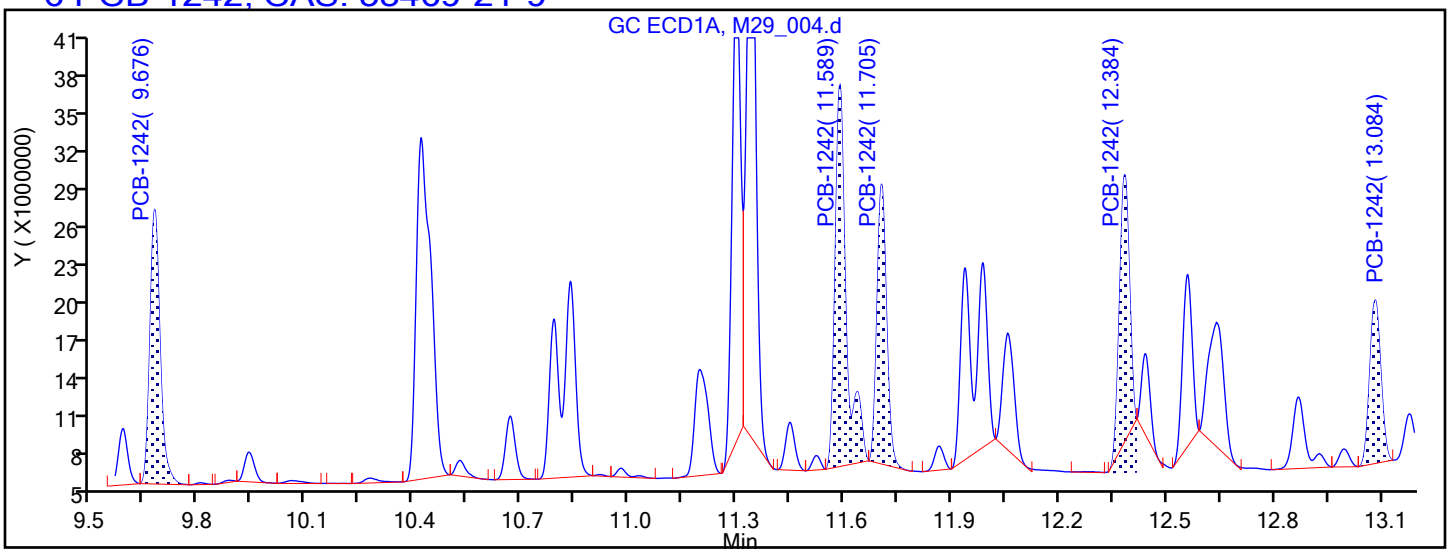

Processing Integration Results

9.676	Response = 42043831
11.589	Response = 64268774
11.705	Response = 40291003
12.384	Response = 39960500
13.084	Response = 27513502

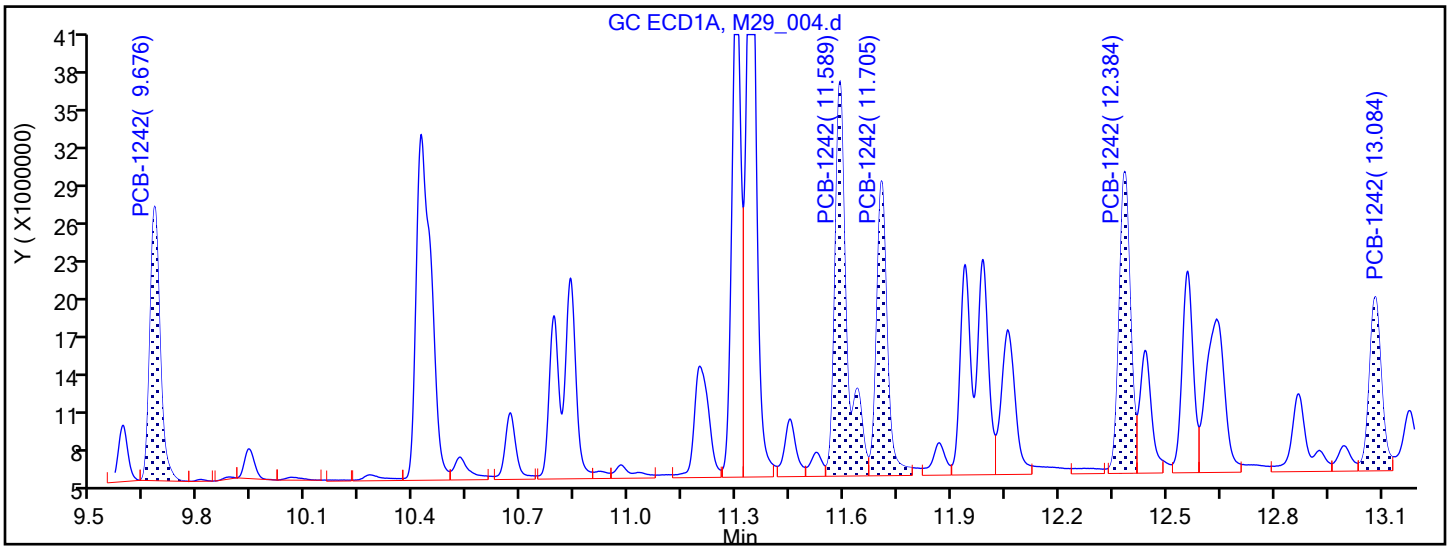

Manual Integration Results

9.676	Response = 42043831	
11.589	Response = 72314907	M
11.705	Response = 47522194	M
12.384	Response = 51563231	M
13.084	Response = 32323328	M

Reviewer: lamj, 30-Jul-2019 10:15:18

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-2 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2019 20:10 Calibration End Date: 07/29/2019 20:10 Calibration ID: 16289

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/4	M29_004.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1242 Peak 1	1.1012					Ave		1.1012						20.0			
PCB-1242 Peak 2	0.5854					Ave		0.5854						20.0			
PCB-1242 Peak 3	0.8845					Ave		0.8845						20.0			
PCB-1242 Peak 4	1.6230					Ave		1.6230						20.0			
PCB-1242 Peak 5	0.8808					Ave		0.8808						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-2 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2019 20:10 Calibration End Date: 07/29/2019 20:10 Calibration ID: 16289

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/4	M29_004.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1					LVL 1				
PCB-1242 Peak 1	BNB	Ave	22794162					0.500				
PCB-1242 Peak 2	BNB	Ave	12116447					0.500				
PCB-1242 Peak 3	BNB	Ave	18308159					0.500				
PCB-1242 Peak 4	BNB	Ave	33595608					0.500				
PCB-1242 Peak 5	BNB	Ave	18232191					0.500				

Curve Type Legend:
Ave = Average ISTD

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_004.d				
Lims ID:	ic				
Client ID:					
Sample Type:	IC	Calib Level:	1		
Inject. Date:	29-Jul-2019 20:10:29	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Sample Info:	600-0030284-004				
Operator ID:	JL	Instrument ID:	CHECD09		
Sublist:	chrom-LVIPCBCHECD09IS*sub4				
Method:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m				
Limit Group:	GCSV - 8082				
Last Update:	30-Jul-2019 10:15:28	Calib Date:	30-Jul-2019 03:11:33		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_019.d				
Column 1 :			Det: GC ECD1A		
Column 2 :			Det: GC ECD2B		
Process Host:	CTX0337				

First Level Reviewer: lamj Date: 30-Jul-2019 10:15:28

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.903	6.901	0.002	3621298556	50.0	50.0	
2	7.001	7.001	0.000	2069942928	50.0	50.0	
						RPD = 0.00	
6 PCB-1242							M
1	9.676	9.676	0.000	42043831	0.5000	0.5000	
1	11.589	11.589	0.000	72314907	0.5000	0.5000	M
1	11.705	11.705	0.000	47522194	0.5000	0.5000	M
1	12.384	12.384	0.000	51563231	0.5000	0.5000	M
1	13.084	13.084	0.000	32323328	0.5000	0.5000	M
		Average of Peak Amounts =				0.5000	
2	10.304	10.304	0.000	22794162	0.5000	0.5000	
2	11.522	11.522	0.000	12116447	0.5000	0.5000	
2	11.586	11.586	0.000	18308159	0.5000	0.5000	
2	12.259	12.259	0.000	33595608	0.5000	0.5000	
2	12.668	12.668	0.000	18232191	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

AR1242STD4_00023	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 30-Jul-2019 10:15:31 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_004.d				
Injection Date:	29-Jul-2019 20:10:29	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	4
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

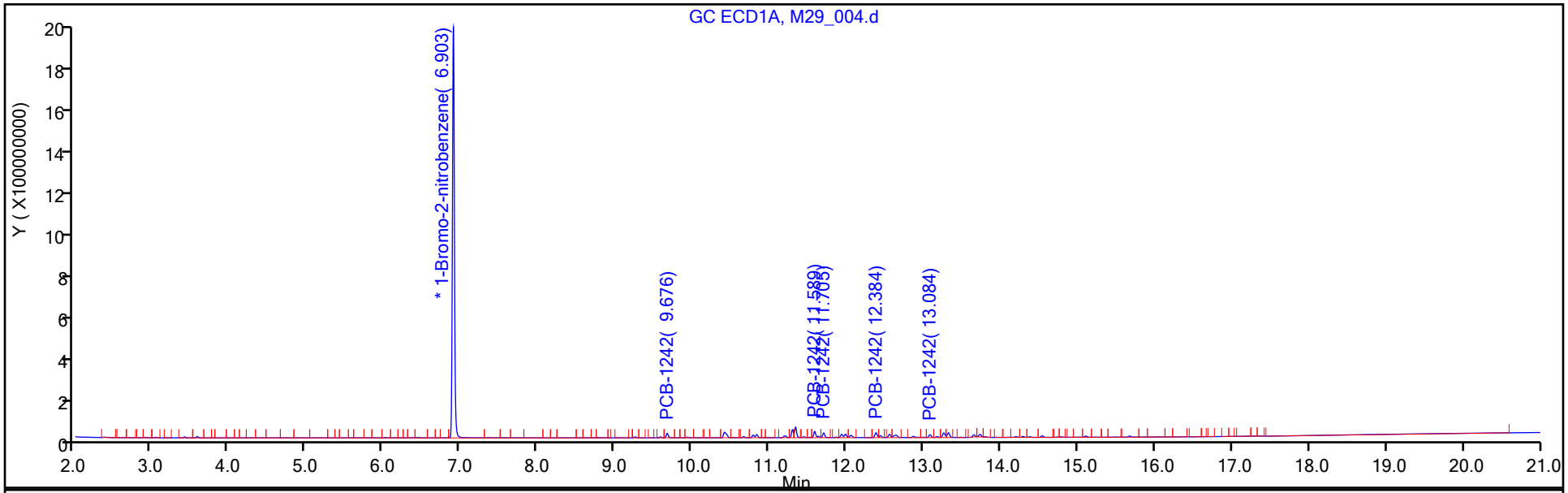

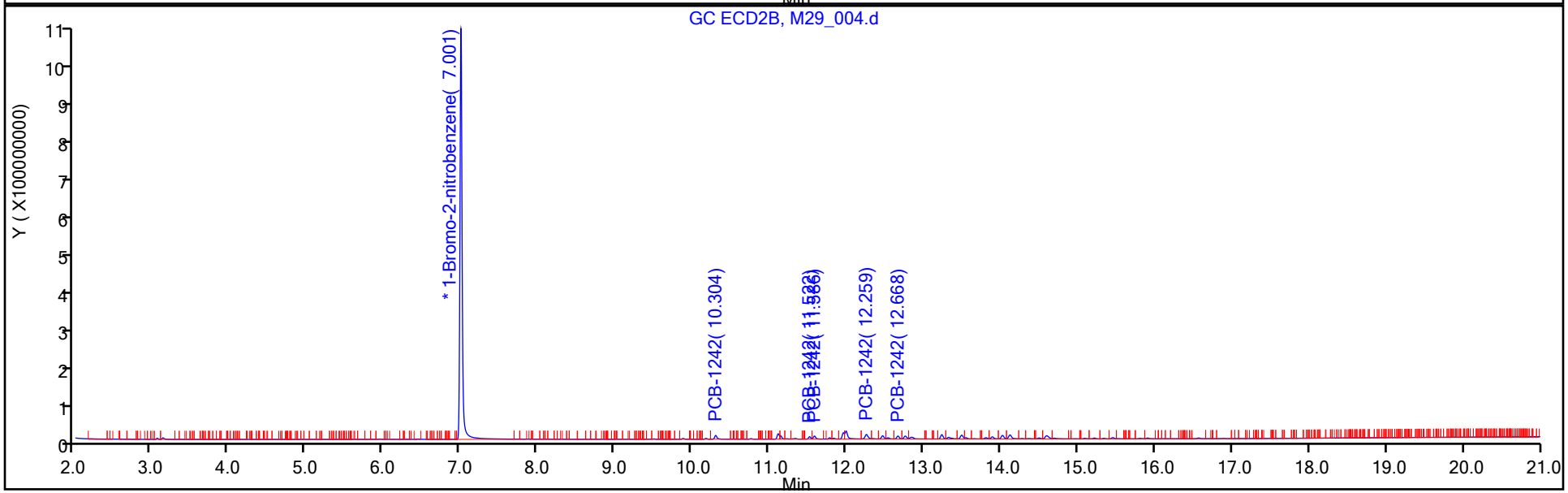

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-2 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2019 20:38 Calibration End Date: 07/29/2019 20:38 Calibration ID: 16272

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/5	M29_005.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1248 Peak 1	1.4798					Ave		1.4798						20.0			
PCB-1248 Peak 2	2.1636					Ave		2.1636						20.0			
PCB-1248 Peak 3	1.9005					Ave		1.9005						20.0			
PCB-1248 Peak 4	1.7304					Ave		1.7304						20.0			
PCB-1248 Peak 5	1.2018					Ave		1.2018						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-2 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2019 20:38 Calibration End Date: 07/29/2019 20:38 Calibration ID: 16272

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/5	M29_005.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1					LVL 1				
PCB-1248 Peak 1	BNB	Ave	43856646					0.500				
PCB-1248 Peak 2	BNB	Ave	64123564					0.500				
PCB-1248 Peak 3	BNB	Ave	56325109					0.500				
PCB-1248 Peak 4	BNB	Ave	51286635					0.500				
PCB-1248 Peak 5	BNB	Ave	35618361					0.500				

Curve Type Legend:
Ave = Average ISTD

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_005.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 29-Jul-2019 20:38:39 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030284-005
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVIPCBCHECD09IS*sub5

Method: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 30-Jul-2019 10:12:29 Calib Date: 30-Jul-2019 03:11:33
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_019.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0337

First Level Reviewer: lamj Date: 30-Jul-2019 09:57:58

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.903	6.901	0.002	2963776998	50.0	50.0	
2	6.999	7.001	-0.002	1662203988	50.0	50.0	
						RPD = 0.00	
8 PCB-1248							M
1	10.414	10.414	0.000	43856646	0.5000	0.5000	
1	12.548	12.548	0.000	64123564	0.5000	0.5000	M
1	13.073	13.073	0.000	56325109	0.5000	0.5000	M
1	14.530	14.530	0.000	51286635	0.5000	0.5000	
1	15.097	15.097	0.000	35618361	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	11.112	11.112	0.000	23437148	0.5000	0.5000	
2	12.250	12.250	0.000	20866588	0.5000	0.5000	
2	13.488	13.488	0.000	46506080	0.5000	0.5000	
2	13.884	13.884	0.000	25773877	0.5000	0.5000	
2	14.592	14.592	0.000	54417732	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

AR1248STD4_00019 Amount Added: 1.00 Units: mL
PST_IS 2_00063 Amount Added: 1.00 Units: mL Run Reagent

Report Date: 30-Jul-2019 10:12:30 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_005.d				
Injection Date:	29-Jul-2019 20:38:39	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	5
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

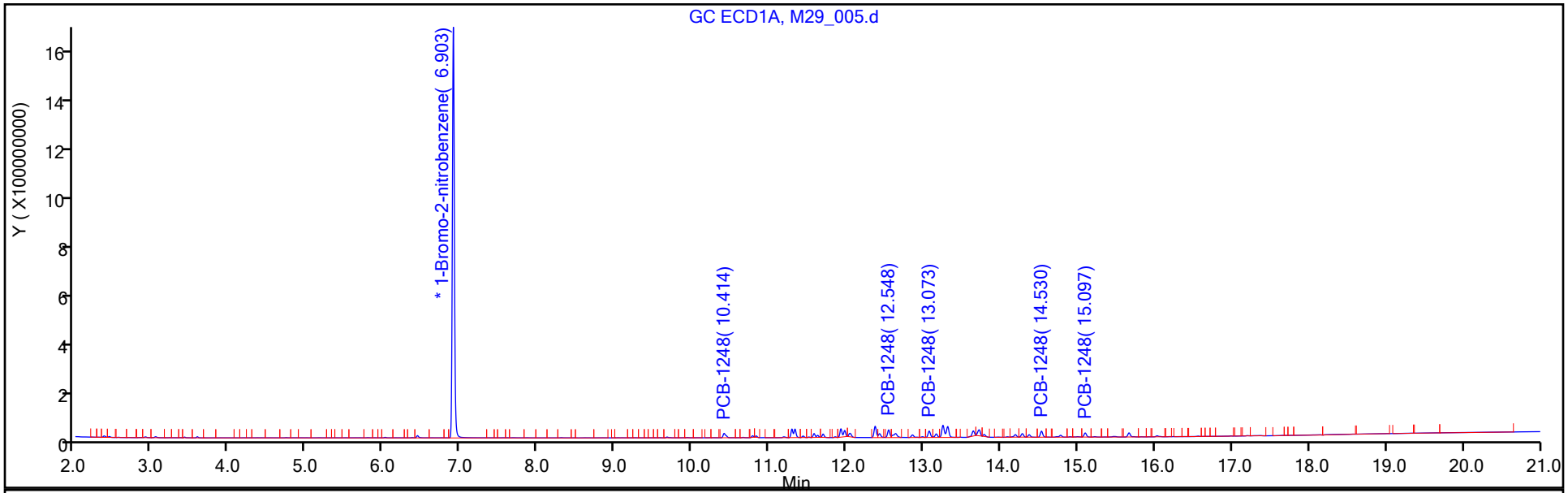

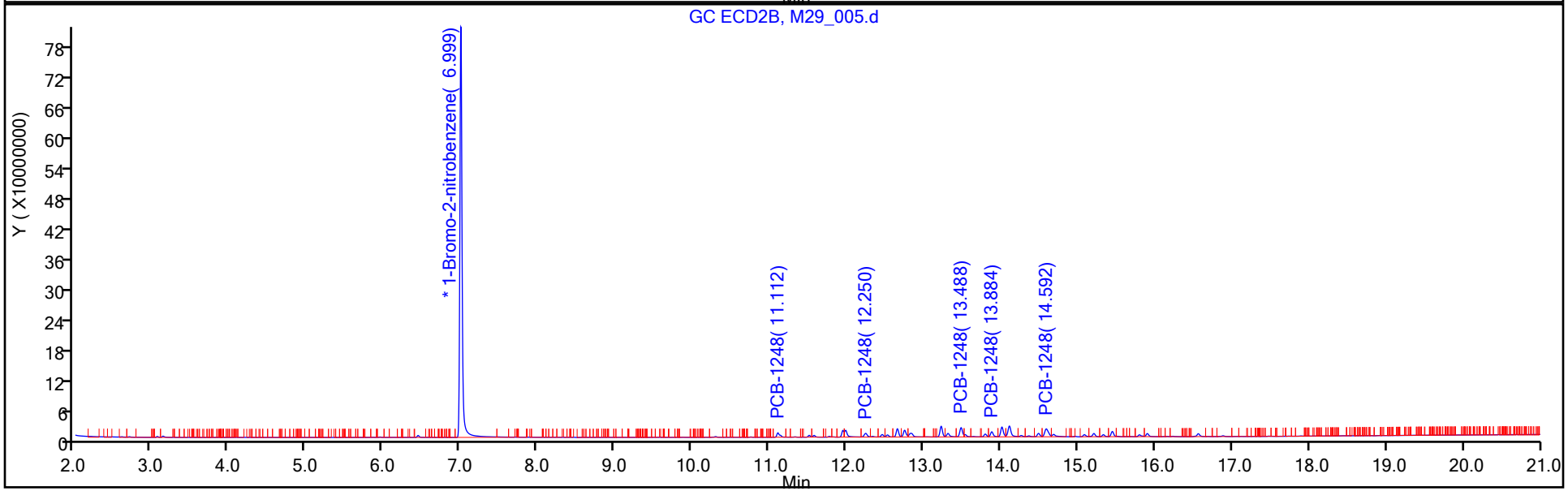

Report Date: 30-Jul-2019 10:12:30 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_005.d
Injection Date: 29-Jul-2019 20:38:39 Instrument ID: CHECD09
Lims ID: ic
Client ID:
Operator ID: JL ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Method: LVIPCBCHECD09IS Limit Group: GCSV - 8082
Column: Detector GC ECD1A

8 PCB-1248, CAS: 12672-29-6

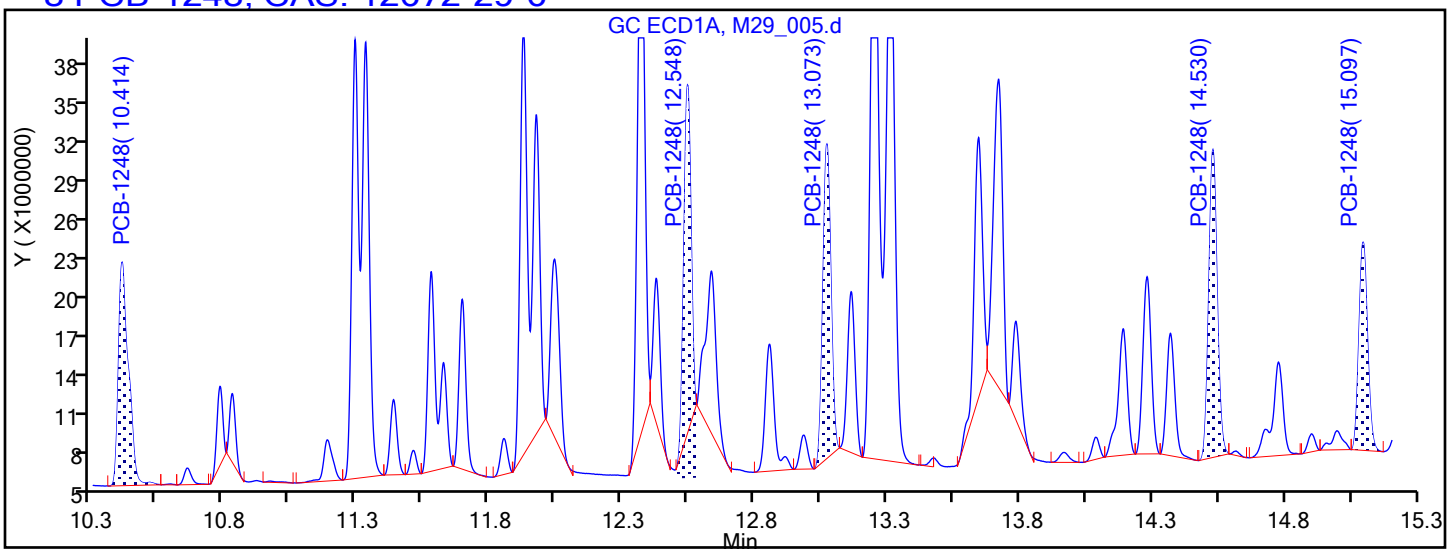

Processing Integration Results

10.414	Response = 43856646
12.548	Response = 49679034
13.073	Response = 49955951
14.530	Response = 51286635
15.097	Response = 35618361

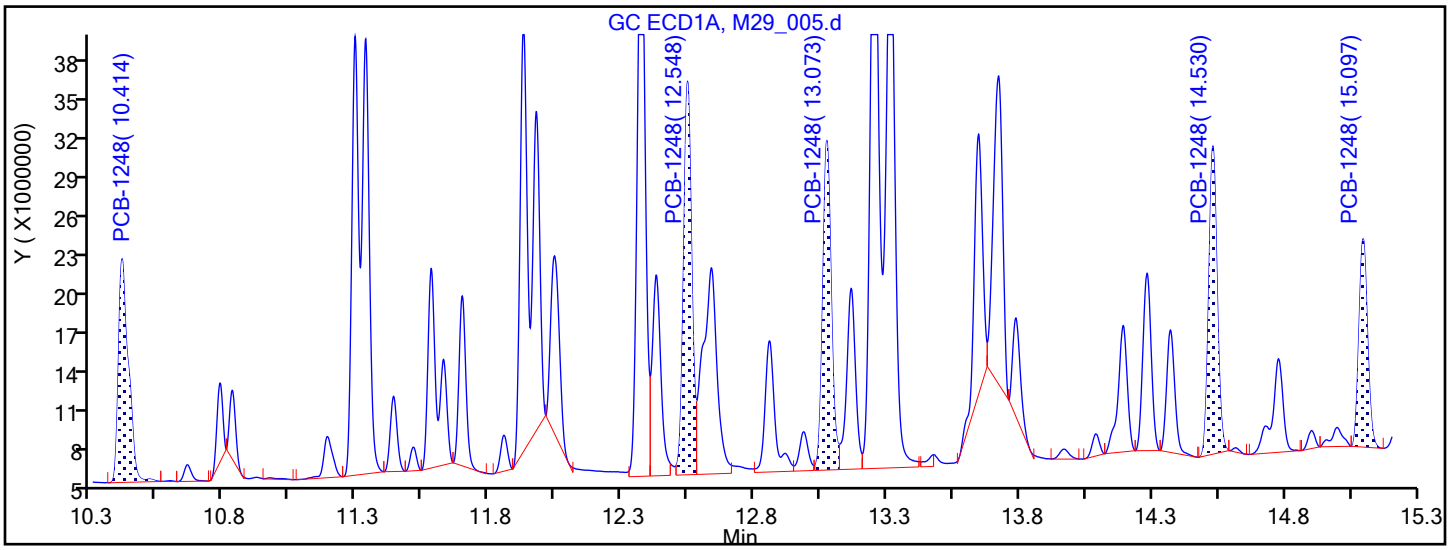

Manual Integration Results

10.414	Response = 43856646	
12.548	Response = 64123564	M
13.073	Response = 56325109	M
14.530	Response = 51286635	
15.097	Response = 35618361	

Reviewer: lamj, 30-Jul-2019 10:12:25
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-2 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2019 20:38 Calibration End Date: 07/29/2019 20:38 Calibration ID: 16273

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/5	M29_005.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1248 Peak 1	1.4100					Ave		1.4100						20.0			
PCB-1248 Peak 2	1.2554					Ave		1.2554						20.0			
PCB-1248 Peak 3	2.7979					Ave		2.7979						20.0			
PCB-1248 Peak 4	1.5506					Ave		1.5506						20.0			
PCB-1248 Peak 5	3.2738					Ave		3.2738						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-2 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2019 20:38 Calibration End Date: 07/29/2019 20:38 Calibration ID: 16273

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/5	M29_005.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1					LVL 1				
PCB-1248 Peak 1	BNB	Ave	23437148					0.500				
PCB-1248 Peak 2	BNB	Ave	20866588					0.500				
PCB-1248 Peak 3	BNB	Ave	46506080					0.500				
PCB-1248 Peak 4	BNB	Ave	25773877					0.500				
PCB-1248 Peak 5	BNB	Ave	54417732					0.500				

Curve Type Legend:
Ave = Average ISTD

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_005.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 29-Jul-2019 20:38:39 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030284-005
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVIPCBCHECD09IS*sub5

Method: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 30-Jul-2019 10:12:29 Calib Date: 30-Jul-2019 03:11:33
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_019.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0337

First Level Reviewer: lamj Date: 30-Jul-2019 09:57:58

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.903	6.901	0.002	2963776998	50.0	50.0	
2	6.999	7.001	-0.002	1662203988	50.0	50.0	
						RPD = 0.00	
8 PCB-1248							M
1	10.414	10.414	0.000	43856646	0.5000	0.5000	
1	12.548	12.548	0.000	64123564	0.5000	0.5000	M
1	13.073	13.073	0.000	56325109	0.5000	0.5000	M
1	14.530	14.530	0.000	51286635	0.5000	0.5000	
1	15.097	15.097	0.000	35618361	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	11.112	11.112	0.000	23437148	0.5000	0.5000	
2	12.250	12.250	0.000	20866588	0.5000	0.5000	
2	13.488	13.488	0.000	46506080	0.5000	0.5000	
2	13.884	13.884	0.000	25773877	0.5000	0.5000	
2	14.592	14.592	0.000	54417732	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

AR1248STD4_00019 Amount Added: 1.00 Units: mL
PST_IS 2_00063 Amount Added: 1.00 Units: mL Run Reagent

Report Date: 30-Jul-2019 10:12:30 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_005.d				
Injection Date:	29-Jul-2019 20:38:39	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	5
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

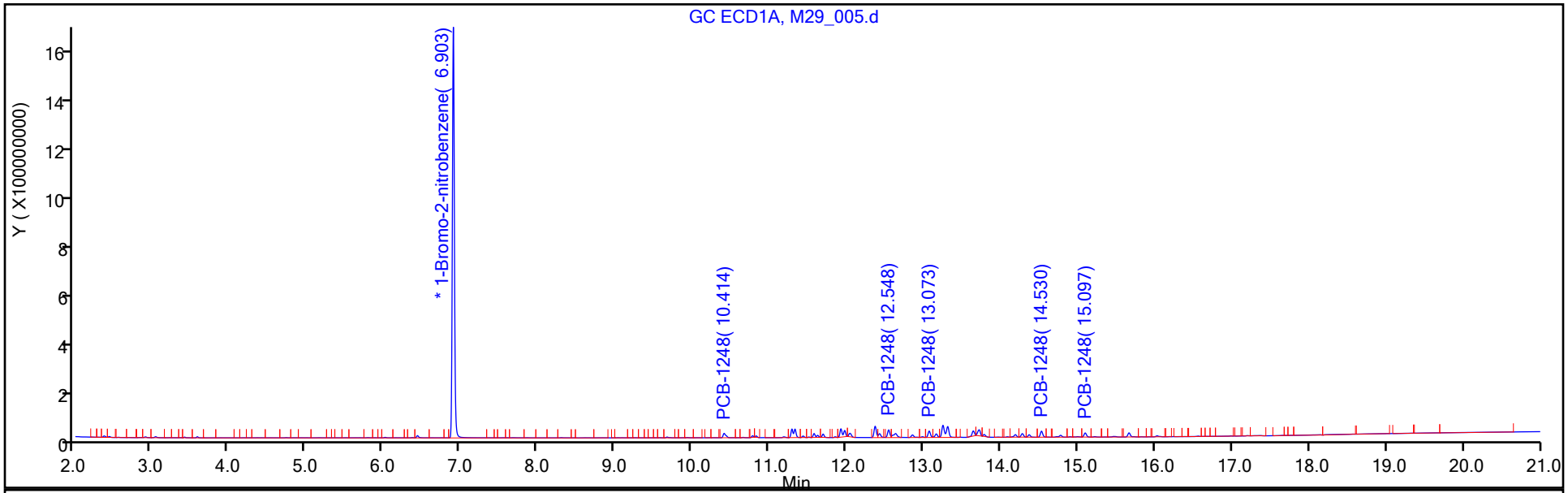

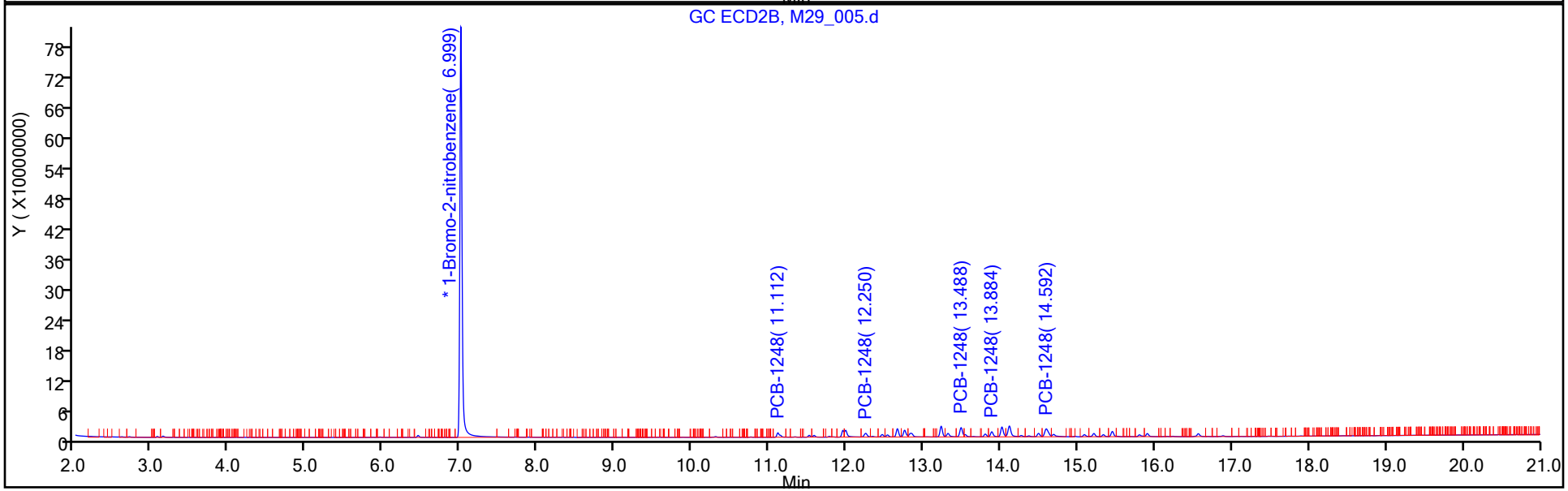

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-2 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2019 21:06 Calibration End Date: 07/29/2019 21:06 Calibration ID: 16276

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/6	M29_006.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1254 Peak 1	2.5757					Ave		2.5757						20.0			
PCB-1254 Peak 2	2.6850					Ave		2.6850						20.0			
PCB-1254 Peak 3	3.7418					Ave		3.7418						20.0			
PCB-1254 Peak 4	3.3866					Ave		3.3866						20.0			
PCB-1254 Peak 5	4.7289					Ave		4.7289						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-2 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2019 21:06 Calibration End Date: 07/29/2019 21:06 Calibration ID: 16276

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/6	M29_006.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1					LVL 1				
PCB-1254 Peak 1	BNB	Ave	90990964					0.500				
PCB-1254 Peak 2	BNB	Ave	94852337					0.500				
PCB-1254 Peak 3	BNB	Ave	132182763					0.500				
PCB-1254 Peak 4	BNB	Ave	119636341					0.500				
PCB-1254 Peak 5	BNB	Ave	167053342					0.500				

Curve Type Legend:
Ave = Average ISTD

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_006.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 29-Jul-2019 21:06:45 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030284-006
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVIPCBCHECD09IS*sub6

Method: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 30-Jul-2019 10:12:48 Calib Date: 30-Jul-2019 03:11:33
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_019.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0337

First Level Reviewer: lamj Date: 30-Jul-2019 09:59:51

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.903	6.901	0.002	3532641749	50.0	50.0	
2	7.001	7.001	0.000	1964037197	50.0	50.0	
						RPD = 0.00	
9 PCB-1254							
1	13.175	13.175	0.000	90990964	0.5000	0.5000	
1	14.285	14.285	0.000	94852337	0.5000	0.5000	
1	15.101	15.101	0.000	132182763	0.5000	0.5000	
1	15.470	15.470	0.000	119636341	0.5000	0.5000	
1	16.032	16.032	0.000	167053342	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	12.667	12.667	0.000	30310941	0.5000	0.5000	
2	13.236	13.236	0.000	17674333	0.5000	0.5000	
2	14.275	14.275	0.000	7607352	0.5000	0.5000	
2	14.372	14.372	0.000	11650612	0.5000	0.5000	
2	15.214	15.214	0.000	47327607	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	

Reagents:

AR1254STD4_00027 Amount Added: 1.00 Units: mL
PST_IS 2_00063 Amount Added: 1.00 Units: mL Run Reagent

Report Date: 30-Jul-2019 10:12:49 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_006.d				
Injection Date:	29-Jul-2019 21:06:45	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	6
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

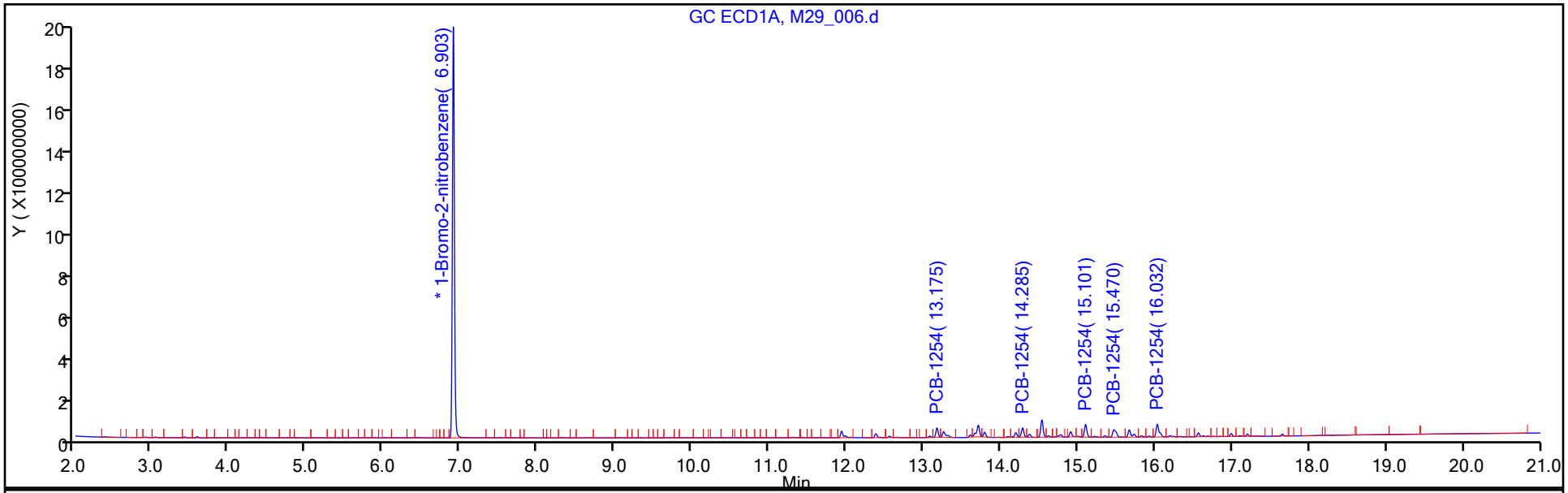

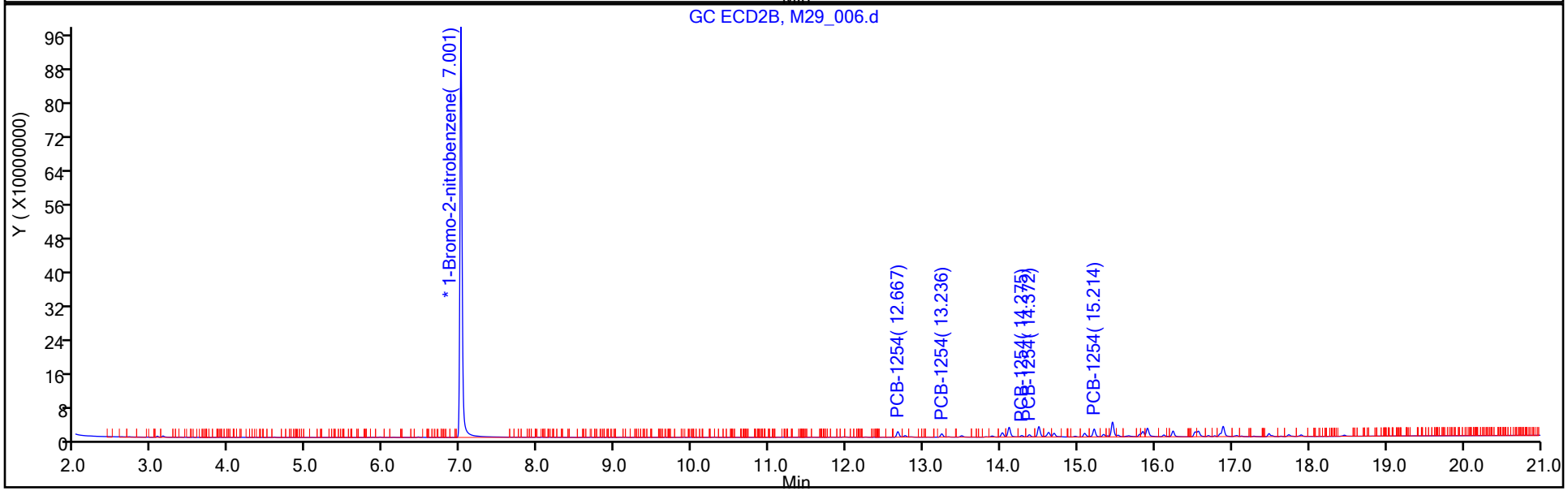

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-2 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2019 21:06 Calibration End Date: 07/29/2019 21:06 Calibration ID: 16277

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/6	M29_006.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1						B	M1	M2								
PCB-1254 Peak 1	1.5433					Ave		1.5433						20.0			
PCB-1254 Peak 2	0.8999					Ave		0.8999						20.0			
PCB-1254 Peak 3	0.3873					Ave		0.3873						20.0			
PCB-1254 Peak 4	0.5932					Ave		0.5932						20.0			
PCB-1254 Peak 5	2.4097					Ave		2.4097						20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-2 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2019 21:06 Calibration End Date: 07/29/2019 21:06 Calibration ID: 16277

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/6	M29_006.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1					LVL 1				
PCB-1254 Peak 1	BNB	Ave	30310941					0.500				
PCB-1254 Peak 2	BNB	Ave	17674333					0.500				
PCB-1254 Peak 3	BNB	Ave	7607352					0.500				
PCB-1254 Peak 4	BNB	Ave	11650612					0.500				
PCB-1254 Peak 5	BNB	Ave	47327607					0.500				

Curve Type Legend:
Ave = Average ISTD

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_006.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 29-Jul-2019 21:06:45 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030284-006
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVIPCBCHECD09IS*sub6

Method: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 30-Jul-2019 10:12:48 Calib Date: 30-Jul-2019 03:11:33
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_019.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0337

First Level Reviewer: lamj Date: 30-Jul-2019 09:59:51

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.903	6.901	0.002	3532641749	50.0	50.0	
2	7.001	7.001	0.000	1964037197	50.0	50.0	
						RPD = 0.00	
9 PCB-1254							
1	13.175	13.175	0.000	90990964	0.5000	0.5000	
1	14.285	14.285	0.000	94852337	0.5000	0.5000	
1	15.101	15.101	0.000	132182763	0.5000	0.5000	
1	15.470	15.470	0.000	119636341	0.5000	0.5000	
1	16.032	16.032	0.000	167053342	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
2	12.667	12.667	0.000	30310941	0.5000	0.5000	
2	13.236	13.236	0.000	17674333	0.5000	0.5000	
2	14.275	14.275	0.000	7607352	0.5000	0.5000	
2	14.372	14.372	0.000	11650612	0.5000	0.5000	
2	15.214	15.214	0.000	47327607	0.5000	0.5000	
		Average of Peak Amounts =				0.5000	
						RPD = 0.00	

Reagents:

AR1254STD4_00027 Amount Added: 1.00 Units: mL
PST_IS 2_00063 Amount Added: 1.00 Units: mL Run Reagent

Report Date: 30-Jul-2019 10:12:49 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_006.d				
Injection Date:	29-Jul-2019 21:06:45	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	6
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

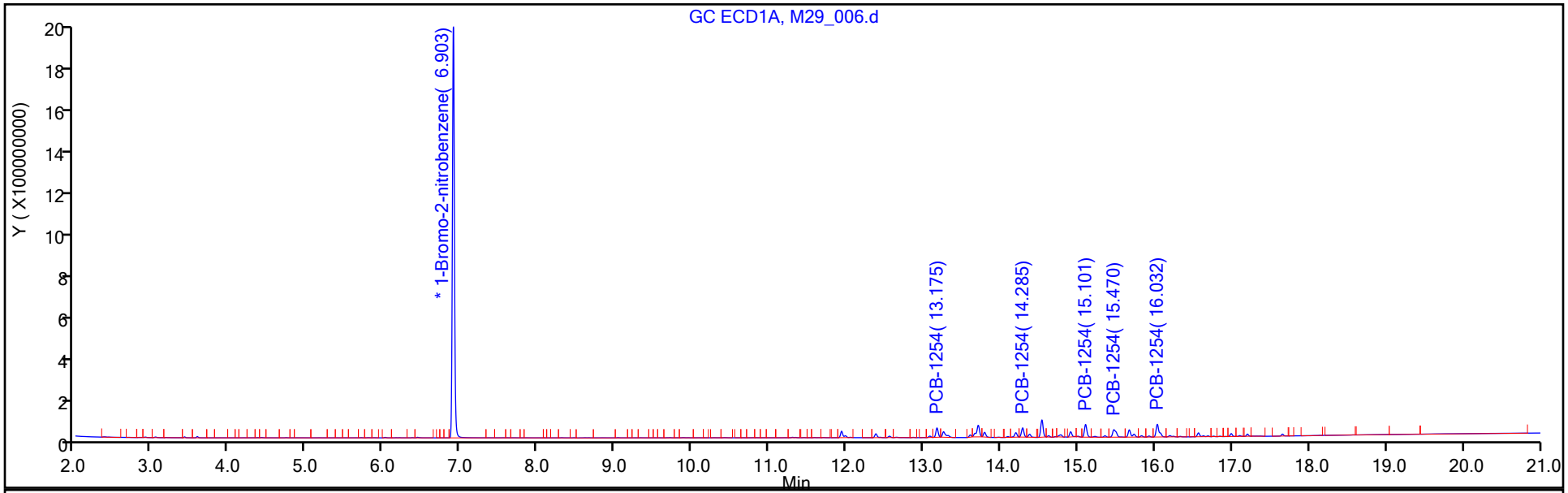

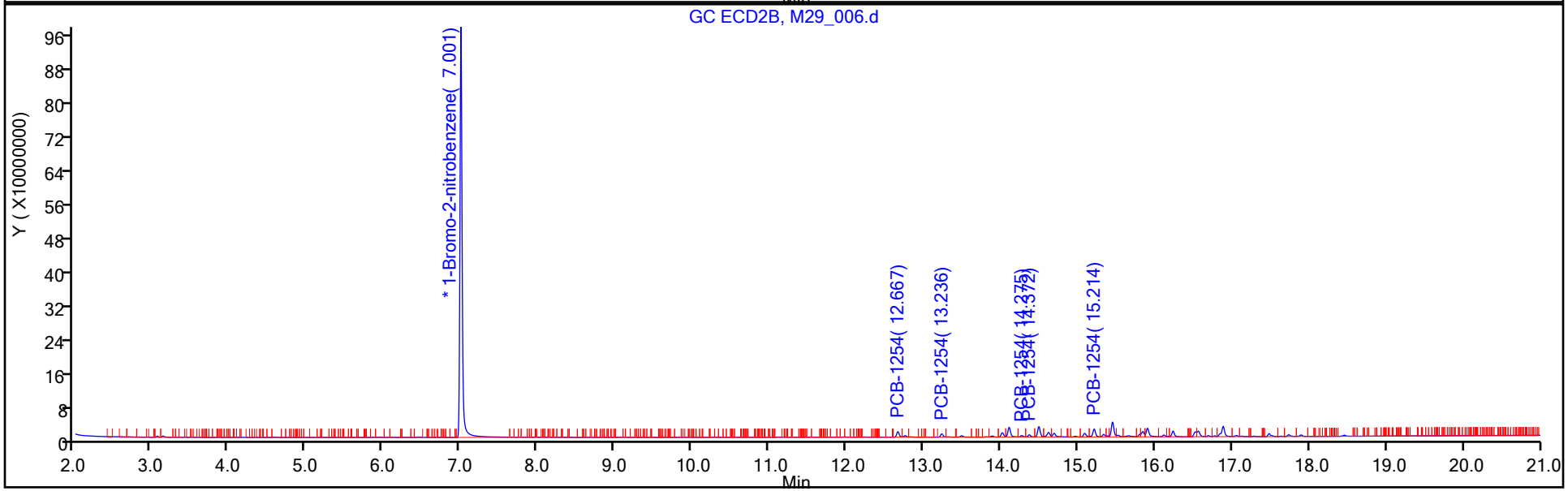

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-2 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/30/2019 01:47 Calibration End Date: 07/30/2019 04:07 Calibration ID: 16292

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/16	M29_016.d
Level 2	IC 600-270655/17	M29_017.d
Level 3	IC 600-270655/18	M29_018.d
Level 4	ICIS 600-270655/19	M29_019.d
Level 5	IC 600-270655/20	M29_020.d
Level 6	IC 600-270655/21	M29_021.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
PCB-1016 Peak 1	2.0170 1.5685	1.7718	1.7007	1.6991	1.5724	Ave		1.7216				9.6		20.0			
PCB-1016 Peak 2	3.4962 2.7673	3.2465	2.9123	2.9467	2.7277	Ave		3.0161				9.9		20.0			
PCB-1016 Peak 3	3.0977 2.5845	2.5956	2.5314	2.7046	2.4456	Ave		2.6599				8.7		20.0			
PCB-1016 Peak 4	2.1829 1.6790	1.6557	1.5959	1.7536	1.5552	Ave		1.7371				13.2		20.0			
PCB-1016 Peak 5	1.1832 1.1530	1.1581	1.1148	1.2205	1.0580	Ave		1.1479				4.9		20.0			
PCB-1260 Peak 1	1.6417 1.4824	1.6415	1.5967	1.5722	1.5219	Ave		1.5761				4.1		20.0			
PCB-1260 Peak 2	3.6052 3.0885	3.5161	3.3452	3.3213	3.2261	Ave		3.3504				5.6		20.0			
PCB-1260 Peak 3	2.1343 1.9606	2.1433	2.0900	2.1381	2.0747	Ave		2.0902				3.3		20.0			
PCB-1260 Peak 4	2.8183 2.8756	3.1821	2.8175	3.0659	3.0203	Ave		2.9633				5.0		20.0			
PCB-1260 Peak 5	2.7366 2.5671	2.7156	2.6321	2.7636	2.7394	Ave		2.6924				2.8		20.0			
Tetrachloro-m-xylene	103.37 102.66	100.62	102.74	104.22	100.61	Ave		102.37				1.4		20.0			
DCB Decachlorobiphenyl	70.549 64.721	69.566	68.712	67.991	65.057	Ave		67.766				3.5		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-2 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP1 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/30/2019 01:47 Calibration End Date: 07/30/2019 04:07 Calibration ID: 16292

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/16	M29_016.d
Level 2	IC 600-270655/17	M29_017.d
Level 3	IC 600-270655/18	M29_018.d
Level 4	ICIS 600-270655/19	M29_019.d
Level 5	IC 600-270655/20	M29_020.d
Level 6	IC 600-270655/21	M29_021.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
PCB-1016 Peak 1	BNB	Ave	6888523 108023479	12173158	28401487	57111458	81167423	0.0500 1.00	0.100	0.250	0.500	0.750
PCB-1016 Peak 2	BNB	Ave	11940561 190586567	22305355	48636179	99046530	140808269	0.0500 1.00	0.100	0.250	0.500	0.750
PCB-1016 Peak 3	BNB	Ave	10579677 177995717	17833300	42275821	90908480	126245604	0.0500 1.00	0.100	0.250	0.500	0.750
PCB-1016 Peak 4	BNB	Ave	7455313 115634657	11376035	26651611	58942860	80283840	0.0500 1.00	0.100	0.250	0.500	0.750
PCB-1016 Peak 5	BNB	Ave	4041051 79408377	7956948	18618130	41025118	54613689	0.0500 1.00	0.100	0.250	0.500	0.750
PCB-1260 Peak 1	BNB	Ave	5606783 102091815	11278042	26665452	52847156	78562334	0.0500 1.00	0.100	0.250	0.500	0.750
PCB-1260 Peak 2	BNB	Ave	12313049 212705982	24157715	55865667	111638087	166536022	0.0500 1.00	0.100	0.250	0.500	0.750
PCB-1260 Peak 3	BNB	Ave	7289351 135026511	14726055	34903608	71867006	107096697	0.0500 1.00	0.100	0.250	0.500	0.750
PCB-1260 Peak 4	BNB	Ave	9625441 198043605	21863388	47052575	103052405	155909688	0.0500 1.00	0.100	0.250	0.500	0.750
PCB-1260 Peak 5	BNB	Ave	9346398 176798380	18657963	43956043	92891317	141412789	0.0500 1.00	0.100	0.250	0.500	0.750
Tetrachloro-m-xylene	BNB	Ave	35305743 707043332	69132044	171577745	350305160	519358163	0.00500 0.100	0.0100	0.0250	0.0500	0.0750
DCB Decachlorobiphenyl	BNB	Ave	24094697 445736962	47796514	114750419	228538635	335835339	0.00500 0.100	0.0100	0.0250	0.0500	0.0750

Curve Type Legend:
Ave = Average ISTD

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_016.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 30-Jul-2019 01:47:23 ALS Bottle#: 16 Worklist Smp#: 16
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030284-016
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVIPCBCHECD09IS*sub1

Method: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 30-Jul-2019 10:24:16 Calib Date: 30-Jul-2019 04:07:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0337

First Level Reviewer: lamj Date: 30-Jul-2019 10:16:48

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.902	6.901	0.001	3415314962	50.0	50.0	
2	7.003	7.001	0.002	1933304566	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	8.836	8.836	0.000	35305743	0.005000	0.005049	
2	9.217	9.217	0.000	16412853	0.005000	0.004716	
						RPD = 6.81	
$ 3 DCB Decachlorobiphenyl							M
1	19.329	19.326	0.003	24094697	0.005000	0.005205	M
2	20.444	20.444	0.000	11641063	0.005000	0.005032	M
						RPD = 3.38	
7 PCB-1016							
1	9.674	9.673	0.001	6888523	0.0500	0.0586	
1	10.419	10.417	0.002	11940561	0.0500	0.0580	
1	11.589	11.586	0.003	10579677	0.0500	0.0582	
1	11.705	11.703	0.002	7455313	0.0500	0.0628	
1	13.179	13.178	0.001	4041051	0.0500	0.0515	
		Average of Peak Amounts =				0.0578	
2	10.306	10.305	0.001	2827829	0.0500	0.0513	
2	11.524	11.522	0.002	1671681	0.0500	0.0541	
2	11.587	11.586	0.001	2298593	0.0500	0.0516	
2	12.262	12.259	0.003	4220979	0.0500	0.0494	
2	12.672	12.667	0.005	2378514	0.0500	0.0501	
		Average of Peak Amounts =				0.0513	
						RPD = 12.02	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 PCB-1260							
1	14.628	14.623	0.005	5606783	0.0500	0.0521	
1	14.912	14.908	0.004	12313049	0.0500	0.0538	
1	15.732	15.728	0.004	7289351	0.0500	0.0511	
1	16.242	16.240	0.002	9625441	0.0500	0.0476	
1	16.689	16.683	0.006	9346398	0.0500	0.0508	
		Average of Peak Amounts =				0.0511	
2	15.526	15.524	0.002	2611022	0.0500	0.0520	
2	15.849	15.845	0.004	5711703	0.0500	0.0525	
2	17.036	17.032	0.004	4121628	0.0500	0.0482	
2	17.128	17.126	0.002	2182475	0.0500	0.0473	
2	17.522	17.521	0.001	4446571	0.0500	0.0494	
		Average of Peak Amounts =				0.0499	
						RPD = 2.35	
S 13 Polychlorinated biphenyls, Total							
1						0.1089	
2						0.1012	
						RPD = 7.37	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

PCBCURVE1I_00016	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 30-Jul-2019 10:24:16 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_016.d				
Injection Date:	30-Jul-2019 01:47:23	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	16
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	16
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

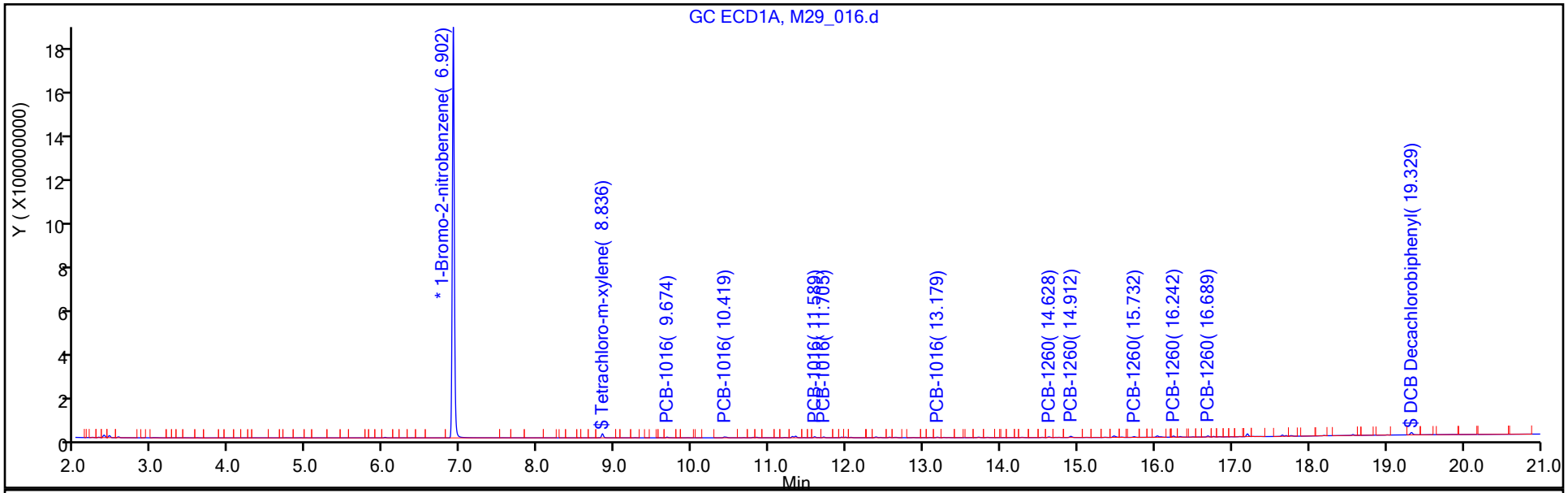

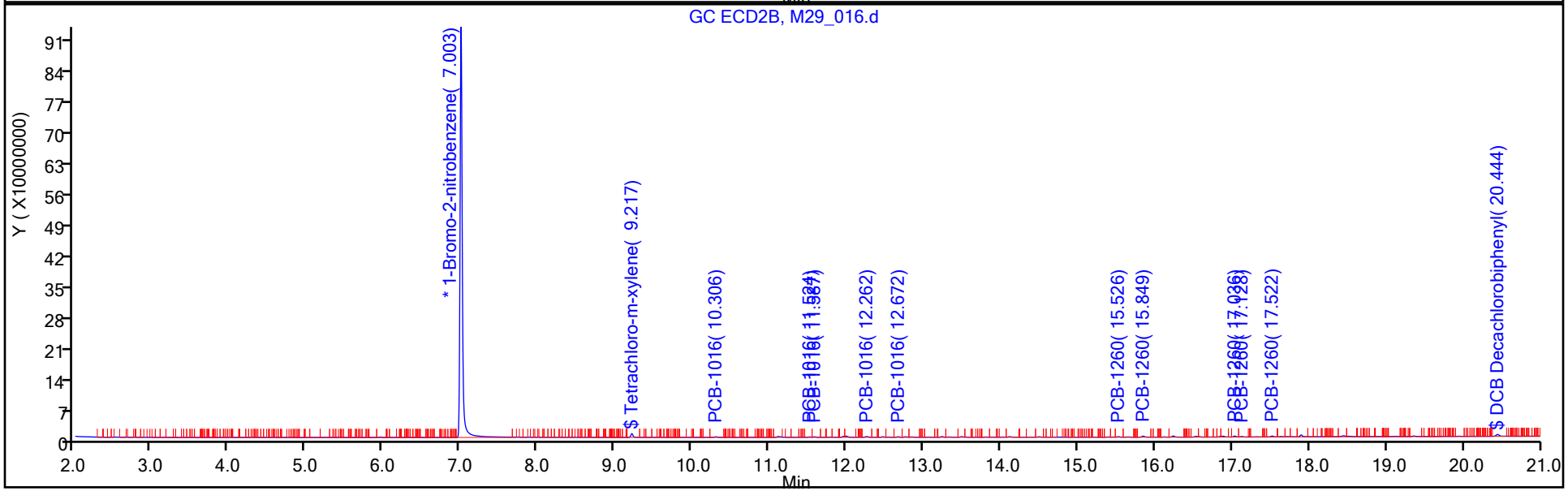

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_016.d				
Injection Date:	30-Jul-2019 01:47:23	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	16	Worklist Smp#:	16
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD1A		

$ 3 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

Processing Integration Results

RT: 19.33
Area: 24893913
Amount: 0.005163
Amount Units: ug/ml

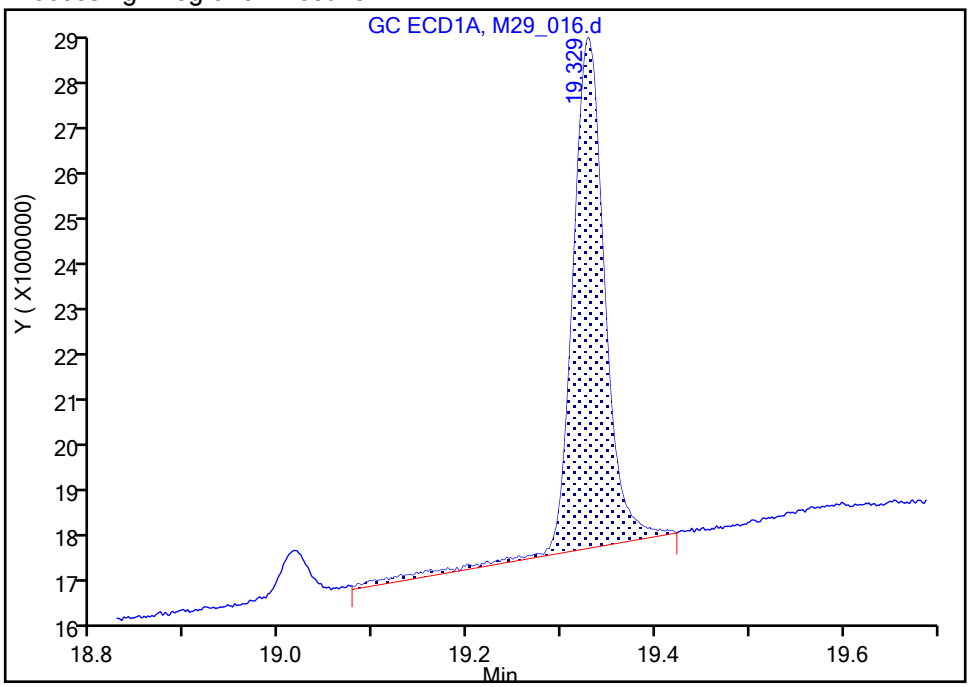

Manual Integration Results

RT: 19.33
Area: 24094697
Amount: 0.005205
Amount Units: ug/ml

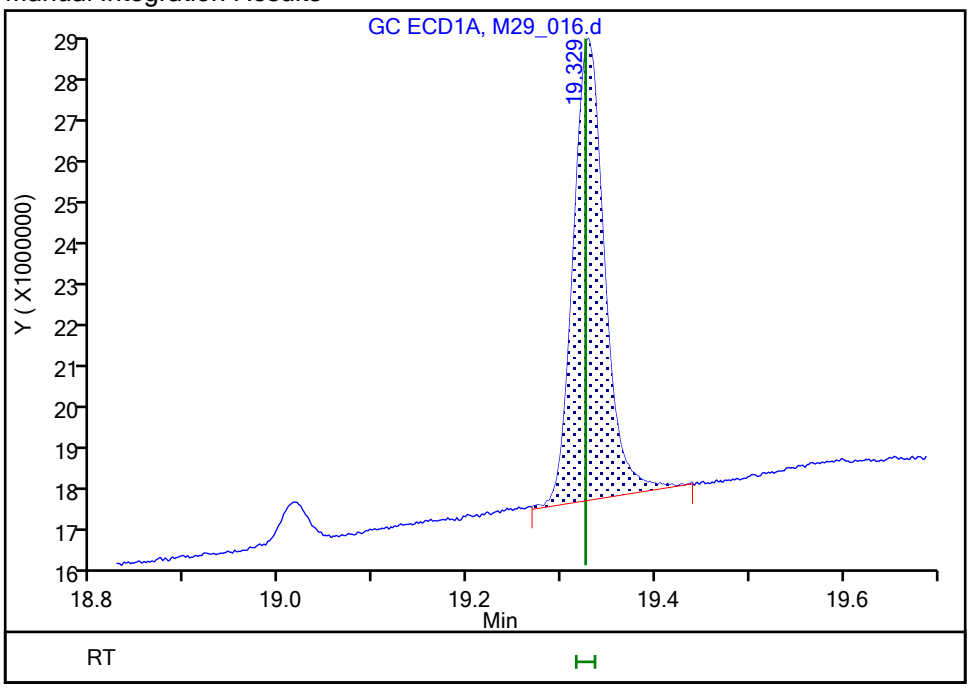

Reviewer: lamj, 30-Jul-2019 10:21:24

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_017.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 30-Jul-2019 02:15:27 ALS Bottle#: 17 Worklist Smp#: 17
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030284-017
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVIPCBCHECD09IS*sub1

Method: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 30-Jul-2019 10:24:19 Calib Date: 30-Jul-2019 04:07:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0337

First Level Reviewer: lamj Date: 30-Jul-2019 10:22:16

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.901	6.901	0.000	3435342631	50.0	50.0	
2	7.002	7.001	0.001	1948024343	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	8.836	8.836	0.000	69132044	0.0100	0.009829	
2	9.217	9.217	0.000	32833380	0.0100	0.009364	
						RPD = 4.85	
$ 3 DCB Decachlorobiphenyl							M
1	19.329	19.326	0.003	47796514	0.0100	0.0103	M
2	20.446	20.444	0.002	24493507	0.0100	0.0105	M
						RPD = 2.34	
7 PCB-1016							
1	9.675	9.673	0.002	12173158	0.1000	0.1029	
1	10.419	10.417	0.002	22305355	0.1000	0.1076	
1	11.589	11.586	0.003	17833300	0.1000	0.0976	
1	11.706	11.703	0.003	11376035	0.1000	0.0953	
1	13.179	13.178	0.001	7956948	0.1000	0.1009	
		Average of Peak Amounts =				0.1009	
2	10.306	10.305	0.001	5476337	0.1000	0.0986	
2	11.523	11.522	0.001	3212273	0.1000	0.1032	
2	11.586	11.586	0.000	4657776	0.1000	0.1037	
2	12.261	12.259	0.002	8706160	0.1000	0.1010	
2	12.670	12.667	0.003	4815442	0.1000	0.1006	
		Average of Peak Amounts =				0.1014	
						RPD = 0.54	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 PCB-1260							
1	14.626	14.623	0.003	11278042	0.1000	0.1042	
1	14.910	14.908	0.002	24157715	0.1000	0.1049	
1	15.731	15.728	0.003	14726055	0.1000	0.1025	
1	16.242	16.240	0.002	21863388	0.1000	0.1074	
1	16.688	16.683	0.005	18657963	0.1000	0.1009	
		Average of Peak Amounts =				0.1040	
2	15.526	15.524	0.002	4779860	0.1000	0.0945	
2	15.847	15.845	0.002	11073311	0.1000	0.1009	
2	17.035	17.032	0.003	8224832	0.1000	0.0955	
2	17.126	17.126	0.000	4248576	0.1000	0.0914	
2	17.521	17.521	0.000	9134817	0.1000	0.1007	
		Average of Peak Amounts =				0.0966	
						RPD = 7.35	
S 13 Polychlorinated biphenyls, Total							
1						0.2048	
2						0.1980	
						RPD = 3.39	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

PCBCURVE2I_00017	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 30-Jul-2019 10:24:19 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_017.d				
Injection Date:	30-Jul-2019 02:15:27	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	17
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	17
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

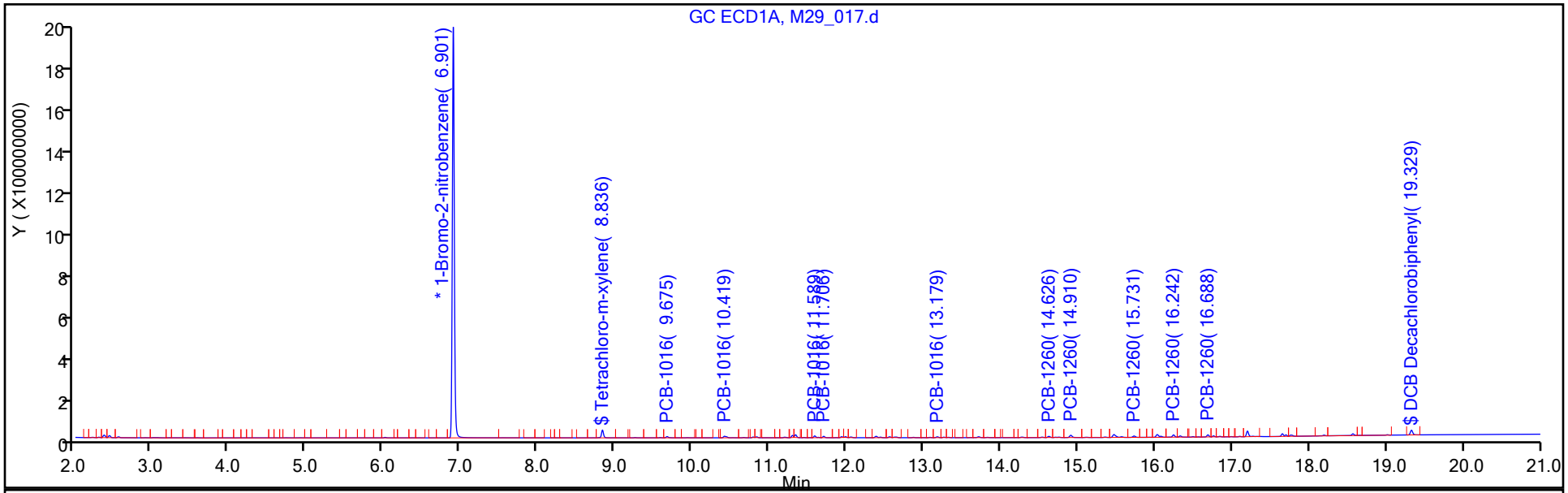

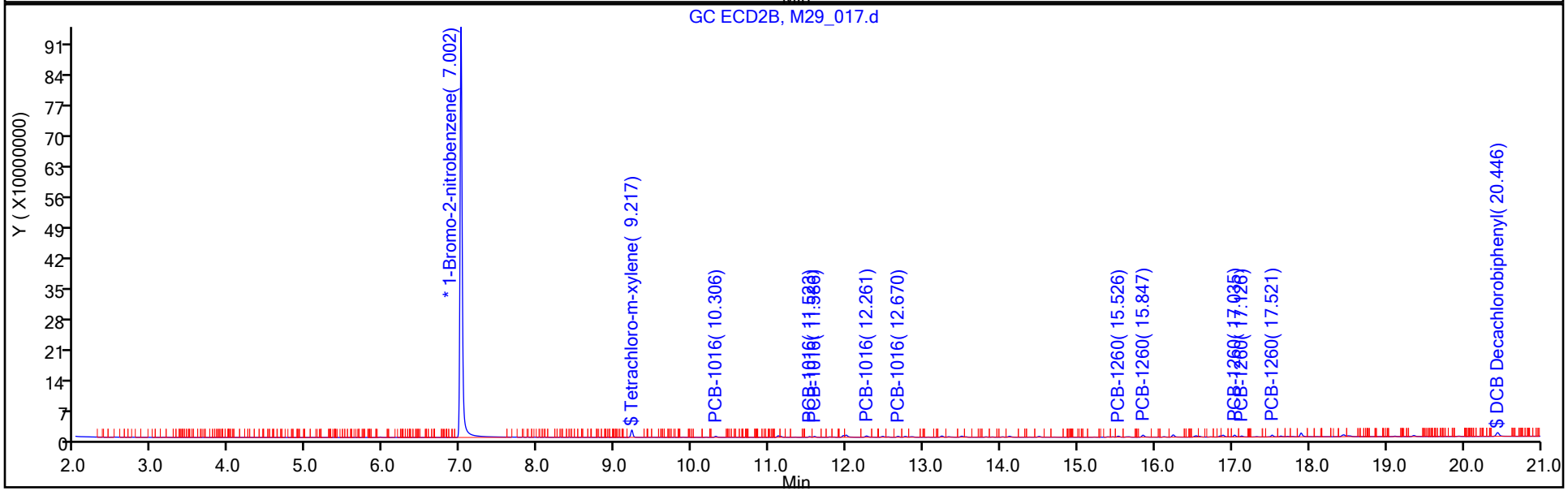

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_017.d				
Injection Date:	30-Jul-2019 02:15:27	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	17	Worklist Smp#:	17
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD1A		

$ 3 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

Processing Integration Results

RT: 19.33
Area: 49292479
Amount: 0.010220
Amount Units: ug/ml

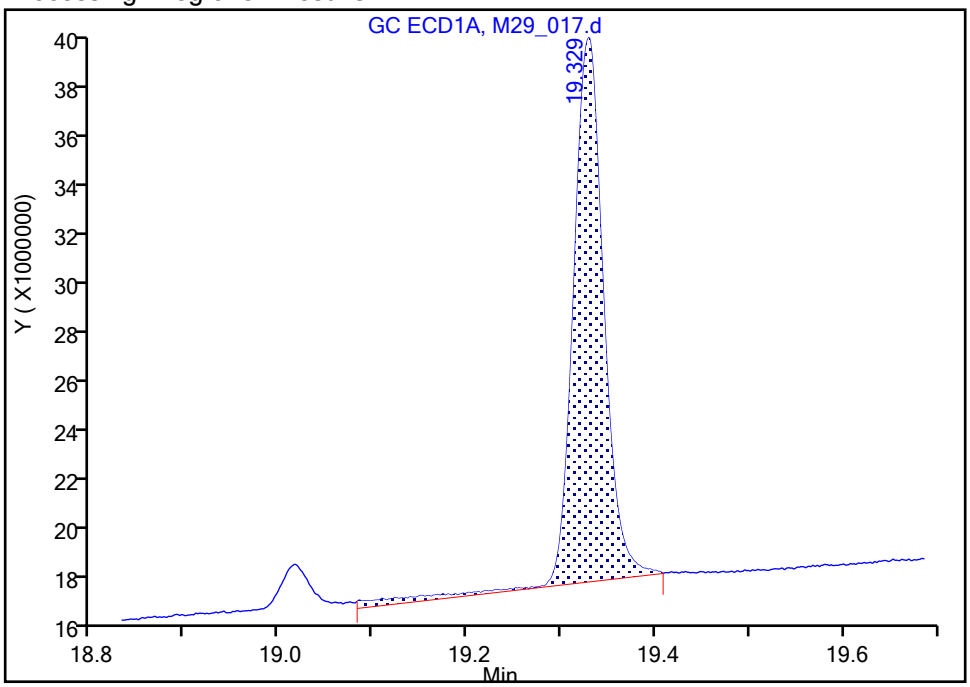

Manual Integration Results

RT: 19.33
Area: 47796514
Amount: 0.010266
Amount Units: ug/ml

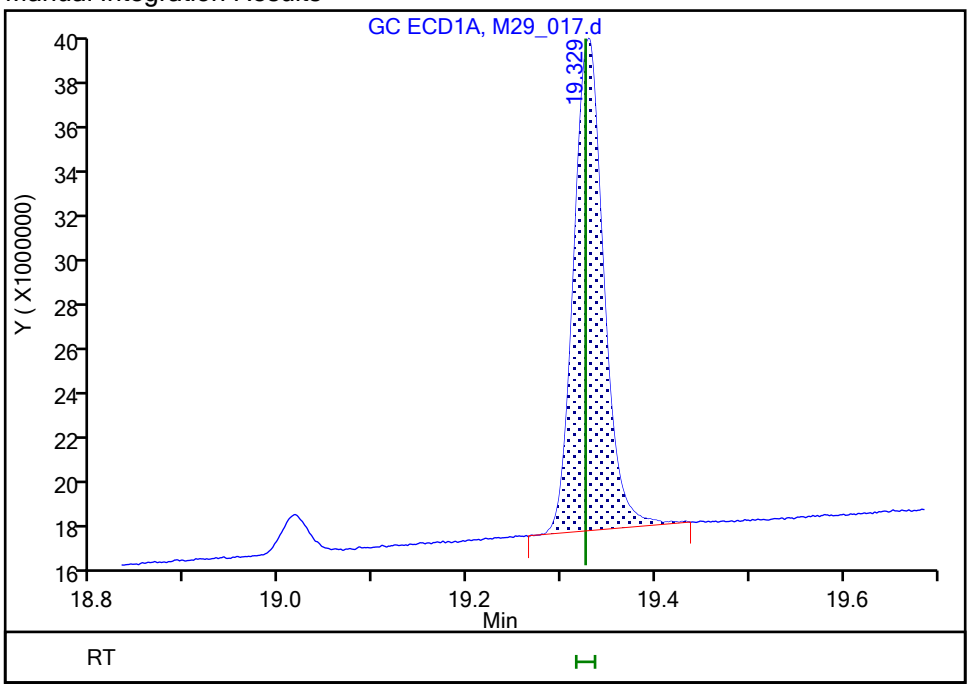

Reviewer: lamj, 30-Jul-2019 10:22:03

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_018.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 30-Jul-2019 02:43:30 ALS Bottle#: 18 Worklist Smp#: 18
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030284-018
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVIPCBCHECD09IS*sub1

Method: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 30-Jul-2019 10:24:22 Calib Date: 30-Jul-2019 04:07:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0337

First Level Reviewer: lamj Date: 30-Jul-2019 10:22:47

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.902	6.901	0.001	3340055147	50.0	50.0	
2	7.001	7.001	0.000	1883696218	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	8.836	8.836	0.000	171577745	0.0250	0.0251	
2	9.216	9.217	-0.001	83152828	0.0250	0.0245	
						RPD = 2.28	
$ 3 DCB Decachlorobiphenyl							M
1	19.326	19.326	0.000	114750419	0.0250	0.0253	M
2	20.444	20.444	0.000	57540296	0.0250	0.0255	M
						RPD = 0.71	
7 PCB-1016							
1	9.674	9.673	0.001	28401487	0.2500	0.2470	
1	10.419	10.417	0.002	48636179	0.2500	0.2414	
1	11.588	11.586	0.002	42275821	0.2500	0.2379	
1	11.704	11.703	0.001	26651611	0.2500	0.2297	
1	13.179	13.178	0.001	18618130	0.2500	0.2428	
		Average of Peak Amounts =				0.2398	
2	10.305	10.305	0.000	13252875	0.2500	0.2467	
2	11.522	11.522	0.000	7180039	0.2500	0.2385	
2	11.585	11.586	-0.001	10166099	0.2500	0.2340	
2	12.260	12.259	0.001	20351100	0.2500	0.2442	
2	12.669	12.667	0.002	11217406	0.2500	0.2423	
		Average of Peak Amounts =				0.2412	
						RPD = 0.58	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 PCB-1260							
1	14.624	14.623	0.001	26665452	0.2500	0.2533	
1	14.909	14.908	0.001	55865667	0.2500	0.2496	
1	15.729	15.728	0.001	34903608	0.2500	0.2500	
1	16.241	16.240	0.001	47052575	0.2500	0.2377	
1	16.686	16.683	0.003	43956043	0.2500	0.2444	
		Average of Peak Amounts =				0.2470	
2	15.524	15.524	0.000	12057456	0.2500	0.2466	
2	15.846	15.845	0.001	26075663	0.2500	0.2458	
2	17.033	17.032	0.001	20659680	0.2500	0.2480	
2	17.125	17.126	-0.001	11049164	0.2500	0.2458	
2	17.520	17.521	-0.001	21772437	0.2500	0.2482	
		Average of Peak Amounts =				0.2469	
						RPD = 0.04	
S 13 Polychlorinated biphenyls, Total							
1						0.4867	
2						0.4880	
						RPD = 0.26	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

PCBCURVE3I_00016	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 30-Jul-2019 10:24:23 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_018.d				
Injection Date:	30-Jul-2019 02:43:30	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	18
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	18
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

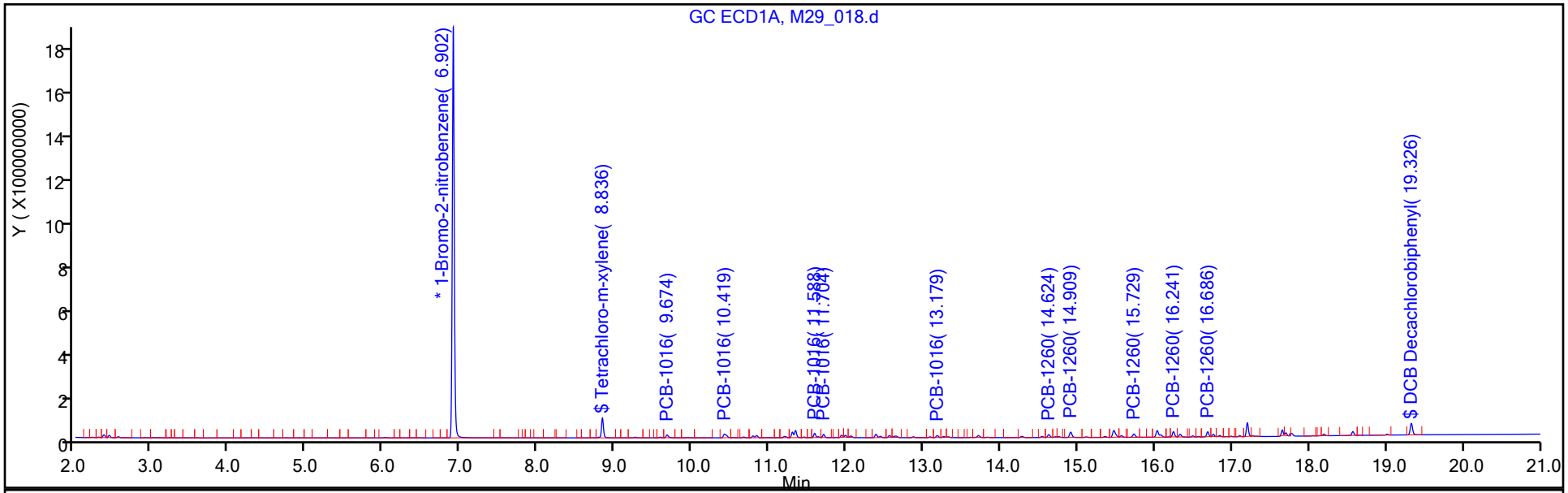

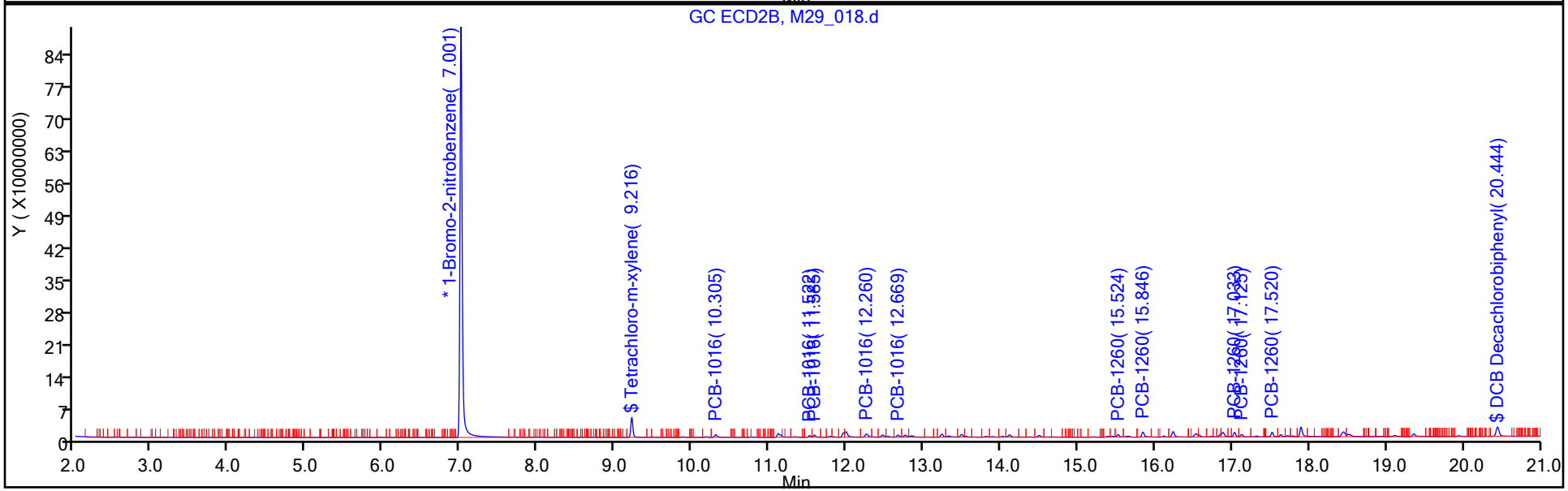

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_018.d				
Injection Date:	30-Jul-2019 02:43:30	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	18	Worklist Smp#:	18
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD1A		

$ 3 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

Processing Integration Results

RT: 19.33
Area: 114508522
Amount: 0.024755
Amount Units: ug/ml

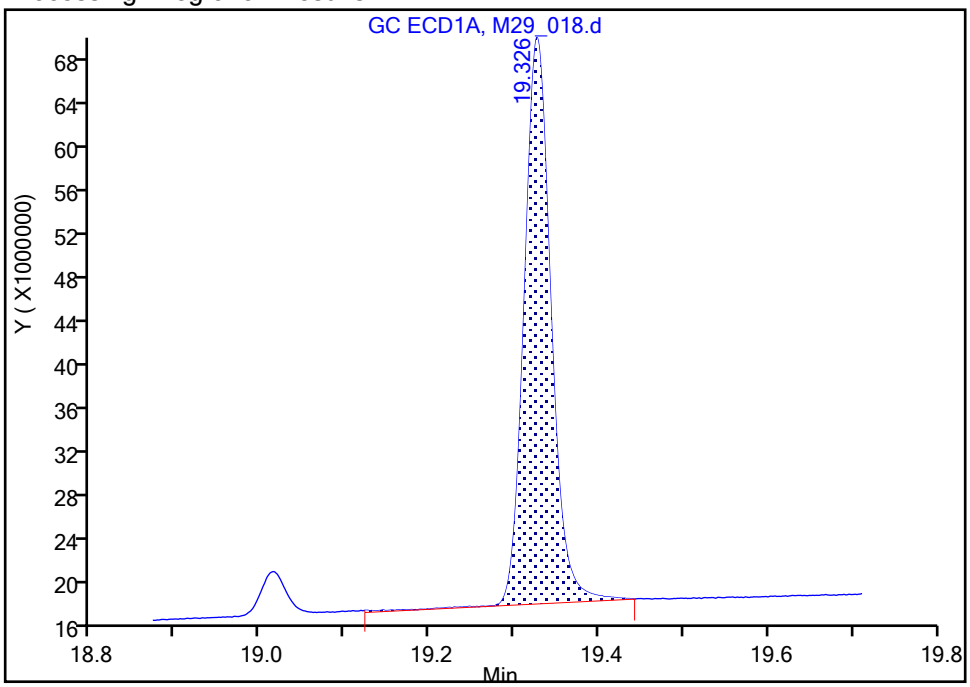

Manual Integration Results

RT: 19.33
Area: 114750419
Amount: 0.025349
Amount Units: ug/ml

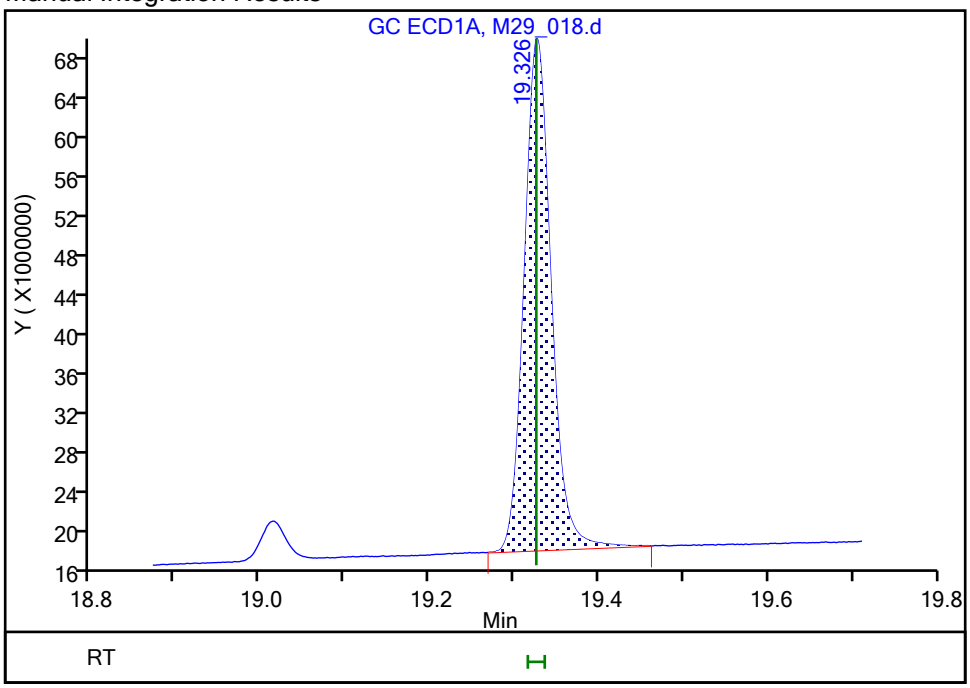

Reviewer: lamj, 30-Jul-2019 10:22:41

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_019.d
Lims ID: icis
Client ID:
Sample Type: ICIS Calib Level: 4
Inject. Date: 30-Jul-2019 03:11:33 ALS Bottle#: 19 Worklist Smp#: 19
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030284-019
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVIPCBCHECD09IS*sub1

Method: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 30-Jul-2019 10:28:31 Calib Date: 30-Jul-2019 04:07:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0337

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.901	6.901	0.000	3361299224	50.0	50.0	
2	7.001	7.001	0.000	1892473718	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	8.836	8.836	0.000	350305160	0.0500	0.0509	
2	9.217	9.217	0.000	177454734	0.0500	0.0521	
						RPD = 2.31	
$ 3 DCB Decachlorobiphenyl							M
1	19.326	19.326	0.000	228538635	0.0500	0.0502	M
2	20.444	20.444	0.000	114387915	0.0500	0.0505	M
						RPD = 0.69	
7 PCB-1016							
1	9.673	9.673	0.000	57111458	0.5000	0.4935	
1	10.417	10.417	0.000	99046530	0.5000	0.4885	
1	11.586	11.586	0.000	90908480	0.5000	0.5084	
1	11.703	11.703	0.000	58942860	0.5000	0.5048	
1	13.178	13.178	0.000	41025118	0.5000	0.5316	
		Average of Peak Amounts =				0.5053	
2	10.305	10.305	0.000	27687967	0.5000	0.5130	
2	11.522	11.522	0.000	15358310	0.5000	0.5078	
2	11.586	11.586	0.000	22770333	0.5000	0.5217	
2	12.259	12.259	0.000	43574274	0.5000	0.5205	
2	12.667	12.667	0.000	24663209	0.5000	0.5303	
		Average of Peak Amounts =				0.5187	
						RPD = 2.60	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 PCB-1260							
1	14.623	14.623	0.000	52847156	0.5000	0.4988	
1	14.908	14.908	0.000	111638087	0.5000	0.4957	
1	15.728	15.728	0.000	71867006	0.5000	0.5115	
1	16.240	16.240	0.000	103052405	0.5000	0.5173	
1	16.683	16.683	0.000	92891317	0.5000	0.5132	
		Average of Peak Amounts =				0.5073	
2	15.524	15.524	0.000	26181256	0.5000	0.5330	
2	15.845	15.845	0.000	54662123	0.5000	0.5128	
2	17.032	17.032	0.000	44820657	0.5000	0.5356	
2	17.126	17.126	0.000	24663675	0.5000	0.5462	
2	17.521	17.521	0.000	45784431	0.5000	0.5194	
		Average of Peak Amounts =				0.5294	
						RPD = 4.27	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

PCBCURVE4I_00022	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 30-Jul-2019 10:28:32 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_019.d				
Injection Date:	30-Jul-2019 03:11:33	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	icis			Worklist Smp#:	19
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	19
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

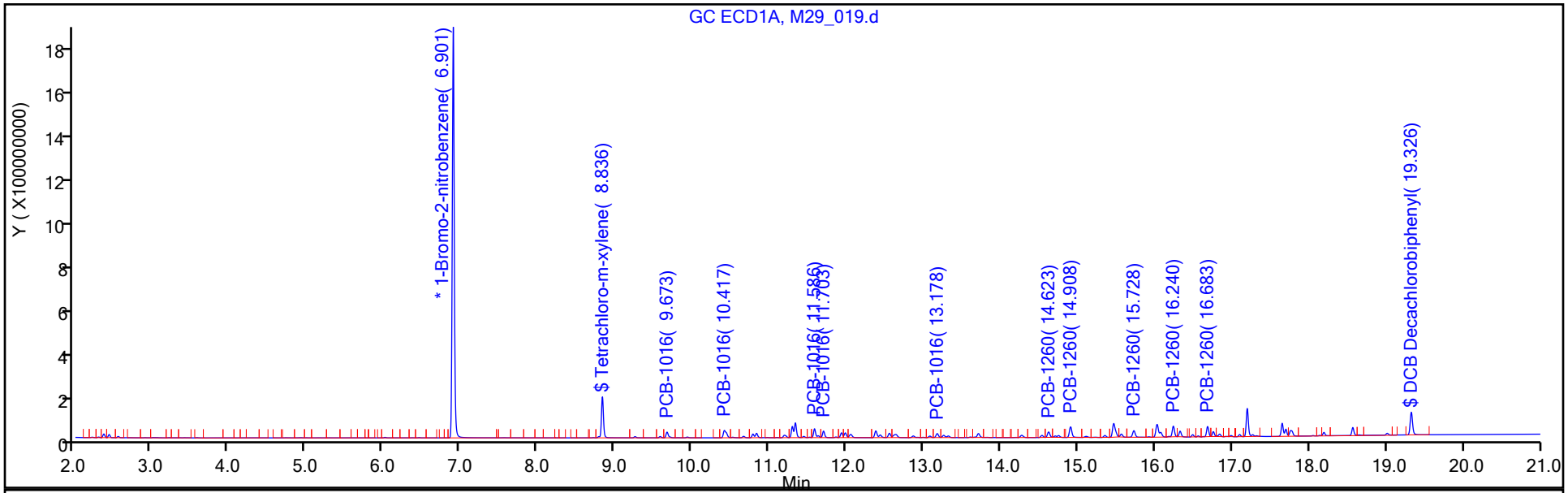

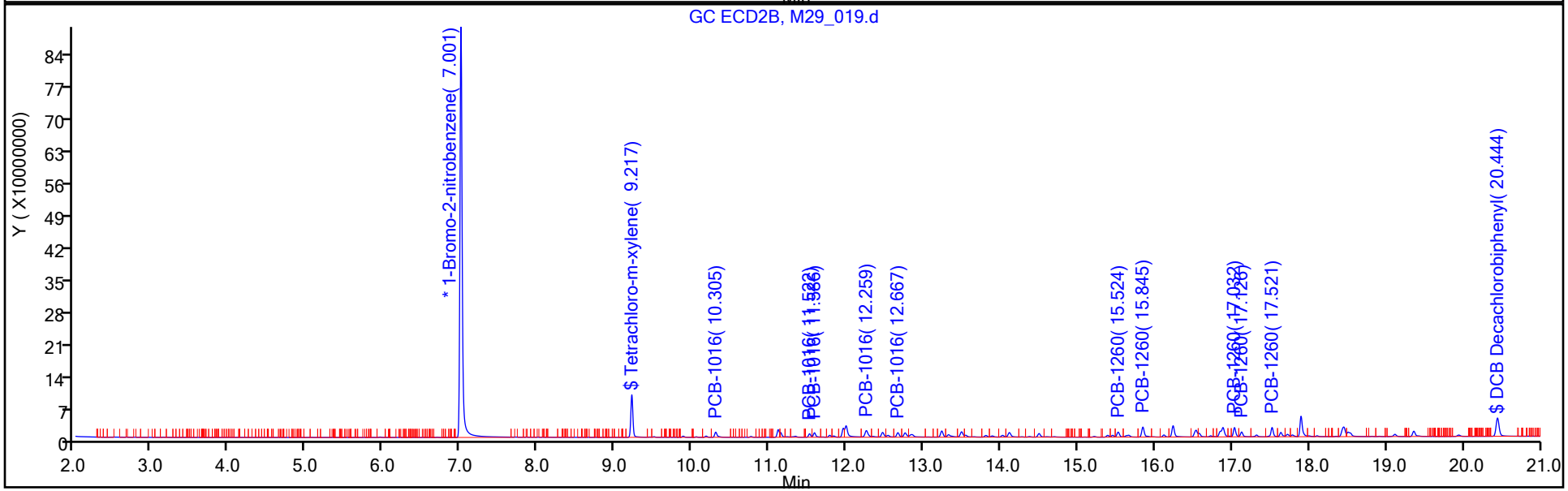

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_019.d				
Injection Date:	30-Jul-2019 03:11:33	Instrument ID:	CHECD09		
Lims ID:	icis				
Client ID:					
Operator ID:	JL	ALS Bottle#:	19	Worklist Smp#:	19
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD1A		

$ 3 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

Processing Integration Results

RT: 19.33
Area: 254503169
Amount: 0.053219
Amount Units: ug/ml

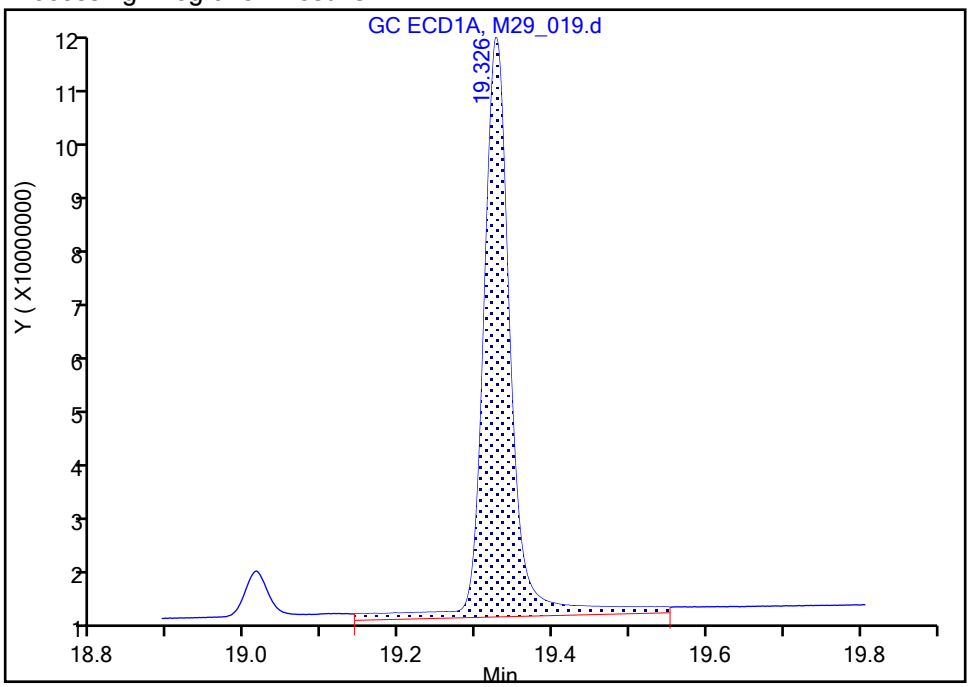

Manual Integration Results

RT: 19.33
Area: 228538635
Amount: 0.050166
Amount Units: ug/ml

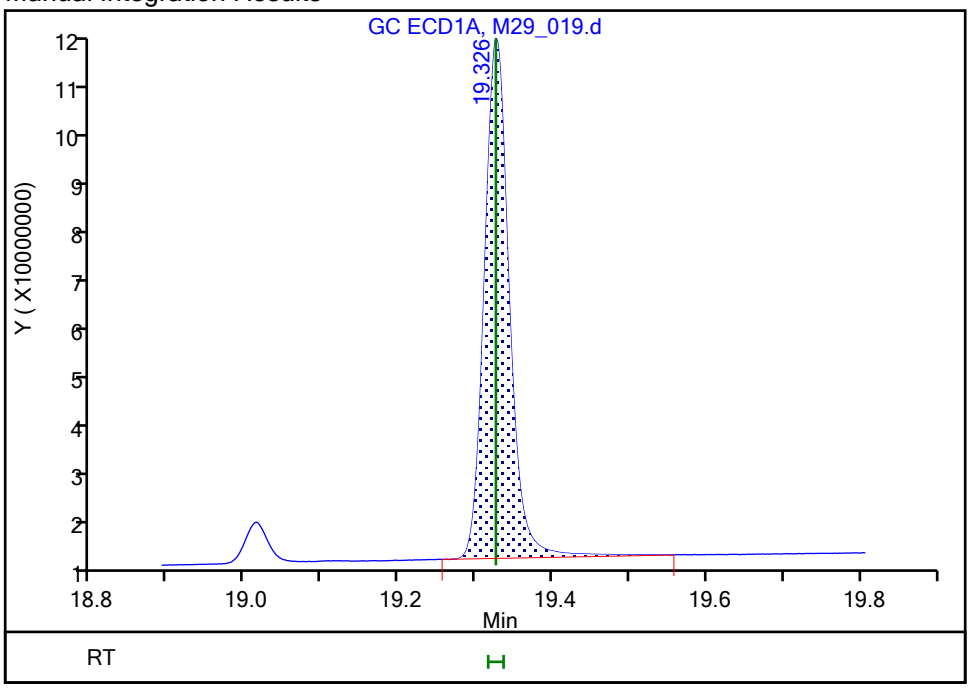

Reviewer: lamj, 30-Jul-2019 10:23:04
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_020.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 30-Jul-2019 03:39:37 ALS Bottle#: 20 Worklist Smp#: 20
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030284-020
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVIPCBCHECD09IS*sub1

Method: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 30-Jul-2019 10:24:28 Calib Date: 30-Jul-2019 04:07:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0337

First Level Reviewer: lamj Date: 30-Jul-2019 10:10:31

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.903	6.901	0.002	3441425258	50.0	50.0	
2	7.003	7.001	0.002	1938013729	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	8.837	8.836	0.001	519358163	0.0750	0.0737	
2	9.218	9.217	0.001	268722798	0.0750	0.0770	
						RPD = 4.41	
$ 3 DCB Decachlorobiphenyl							M
1	19.327	19.326	0.001	335835339	0.0750	0.0720	M
2	20.444	20.444	0.000	168408415	0.0750	0.0726	M
						RPD = 0.86	
7 PCB-1016							
1	9.675	9.673	0.002	81167423	0.7500	0.6850	
1	10.419	10.417	0.002	140808269	0.7500	0.6783	
1	11.587	11.586	0.001	126245604	0.7500	0.6896	
1	11.703	11.703	0.000	80283840	0.7500	0.6715	
1	13.178	13.178	0.000	54613689	0.7500	0.6912	
		Average of Peak Amounts =				0.6831	
2	10.306	10.305	0.001	39861604	0.7500	0.7212	
2	11.522	11.522	0.000	21673151	0.7500	0.6998	
2	11.586	11.586	0.000	31919774	0.7500	0.7141	
2	12.259	12.259	0.000	62622274	0.7500	0.7304	
2	12.668	12.667	0.001	34152010	0.7500	0.7171	
		Average of Peak Amounts =				0.7165	
						RPD = 4.77	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 PCB-1260							
1	14.622	14.623	-0.001	78562334	0.7500	0.7242	
1	14.907	14.908	-0.001	166536022	0.7500	0.7222	
1	15.728	15.728	0.000	107096697	0.7500	0.7444	
1	16.239	16.240	-0.001	155909688	0.7500	0.7644	
1	16.684	16.683	0.001	141412789	0.7500	0.7631	
		Average of Peak Amounts =				0.7437	
2	15.523	15.524	-0.001	36084929	0.7500	0.7174	
2	15.844	15.845	-0.001	79251721	0.7500	0.7260	
2	17.033	17.032	0.001	65641673	0.7500	0.7660	
2	17.126	17.126	0.000	35501291	0.7500	0.7678	
2	17.520	17.521	-0.001	68112361	0.7500	0.7546	
		Average of Peak Amounts =				0.7463	
						RPD = 0.36	
S 13 Polychlorinated biphenyls, Total							
1						1.43	
2						1.46	
						RPD = 2.50	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

PCBCURVE5I_00017	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 30-Jul-2019 10:24:29 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_020.d				
Injection Date:	30-Jul-2019 03:39:37	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	20
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	20
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

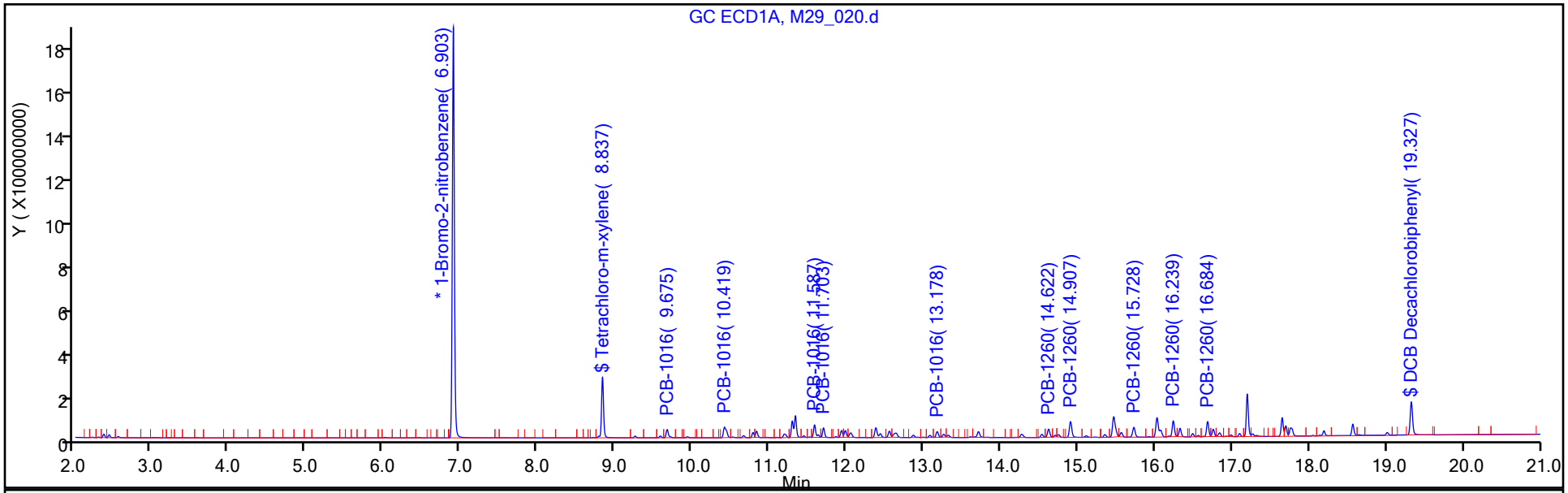

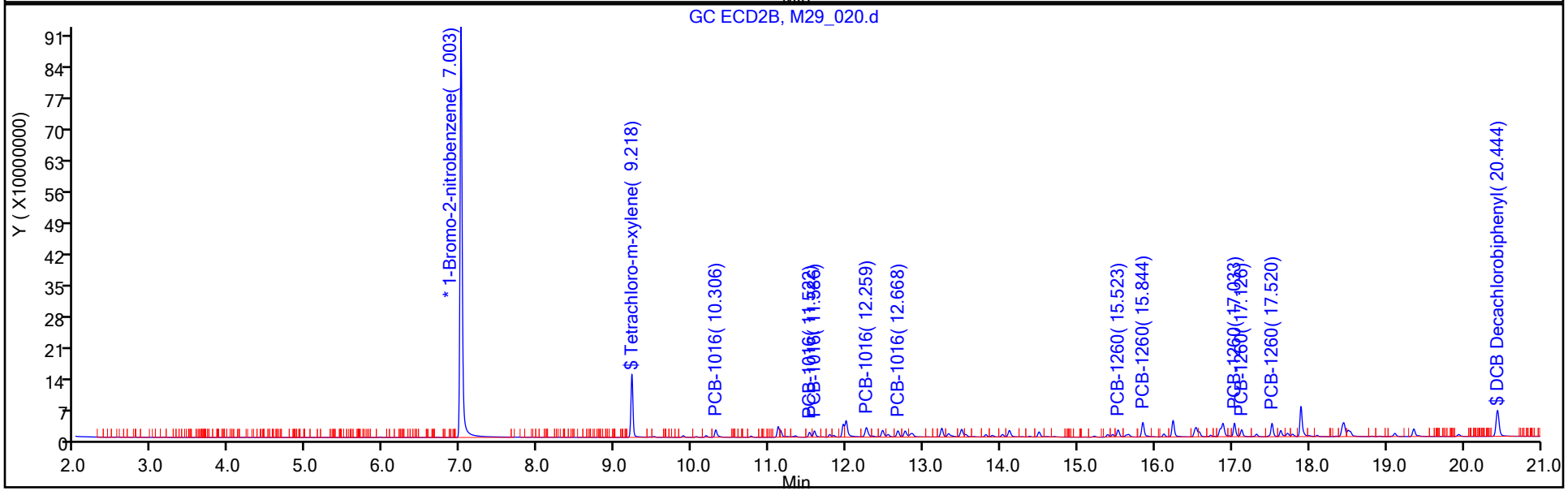

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_020.d				
Injection Date:	30-Jul-2019 03:39:37	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	20	Worklist Smp#:	20
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD1A		

$ 3 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

Processing Integration Results

RT: 19.33
Area: 375449549
Amount: 0.078027
Amount Units: ug/ml

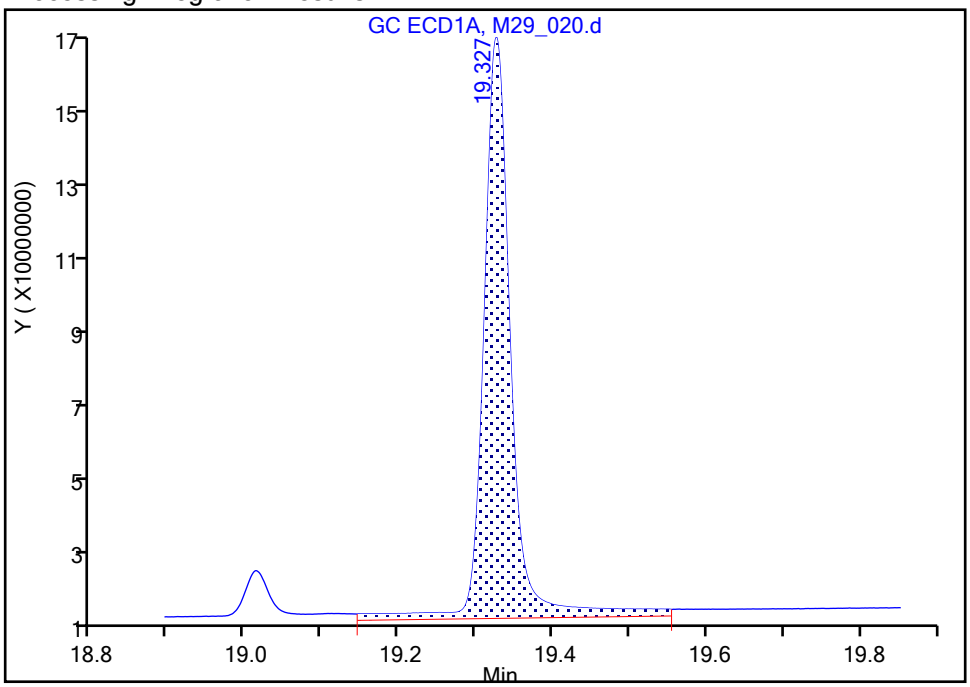

Manual Integration Results

RT: 19.33
Area: 335835339
Amount: 0.072002
Amount Units: ug/ml

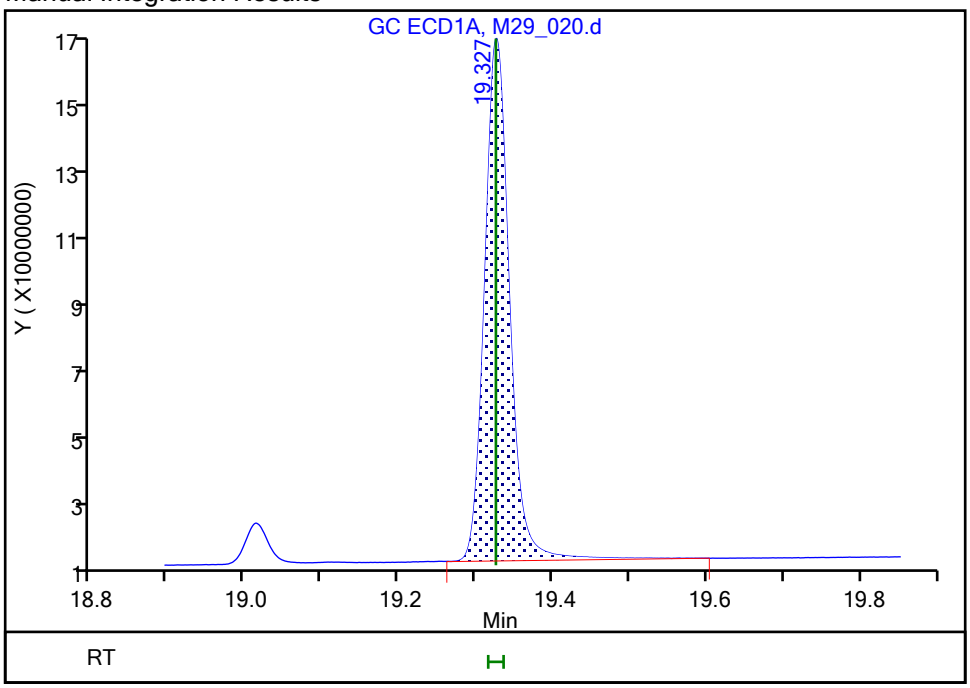

Reviewer: lamj, 30-Jul-2019 10:23:30

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 30-Jul-2019 04:07:48 ALS Bottle#: 21 Worklist Smp#: 21
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030284-021
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVIPCBCHECD09IS*sub1

Method: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 30-Jul-2019 10:24:32 Calib Date: 30-Jul-2019 04:07:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0337

First Level Reviewer: lamj Date: 30-Jul-2019 10:23:54

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.901	6.901	0.000	3443536778	50.0	50.0	
2	7.002	7.001	0.001	1935033196	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	8.836	8.836	0.000	707043332	0.1000	0.1003	
2	9.217	9.217	0.000	372832260	0.1000	0.1070	
						RPD = 6.52	
$ 3 DCB Decachlorobiphenyl							
1	19.327	19.326	0.001	445736962	0.1000	0.0955	
2	20.446	20.444	0.002	218319563	0.1000	0.0943	
						RPD = 1.28	
7 PCB-1016							
1	9.675	9.673	0.002	108023479	1.00	0.9111	
1	10.418	10.417	0.001	190586567	1.00	0.9175	
1	11.586	11.586	0.000	177995717	1.00	0.9717	
1	11.703	11.703	0.000	115634657	1.00	0.9666	
1	13.176	13.178	-0.002	79408377	1.00	1.00	
		Average of Peak Amounts =				0.9543	
2	10.306	10.305	0.001	55986705	1.00	1.01	
2	11.522	11.522	0.000	30405732	1.00	0.9833	
2	11.586	11.586	0.000	44653015	1.00	1.00	
2	12.259	12.259	0.000	86547578	1.00	1.01	
2	12.668	12.667	0.001	47861819	1.00	1.01	
		Average of Peak Amounts =				1.00	
						RPD = 5.00	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 PCB-1260							
1	14.621	14.623	-0.002	102091815	1.00	0.9406	
1	14.907	14.908	-0.001	212705982	1.00	0.9218	
1	15.728	15.728	0.000	135026511	1.00	0.9380	
1	16.240	16.240	0.000	198043605	1.00	0.9704	
1	16.685	16.683	0.002	176798380	1.00	0.9535	
		Average of Peak Amounts =				0.9449	
2	15.525	15.524	0.001	50469023	1.00	1.00	
2	15.846	15.845	0.001	105201018	1.00	0.9652	
2	17.035	17.032	0.003	85234807	1.00	1.00	
2	17.127	17.126	0.001	48024468	1.00	1.04	
2	17.521	17.521	0.000	87225064	1.00	0.9678	
		Average of Peak Amounts =				0.99	
						RPD = 5.16	
S 13 Polychlorinated biphenyls, Total							
1						1.90	
2						2.00	
						RPD = 5.08	

Reagents:

PCBCURVE6I_00017	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 30-Jul-2019 10:24:32 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d				
Injection Date:	30-Jul-2019 04:07:48	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	21
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	21
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

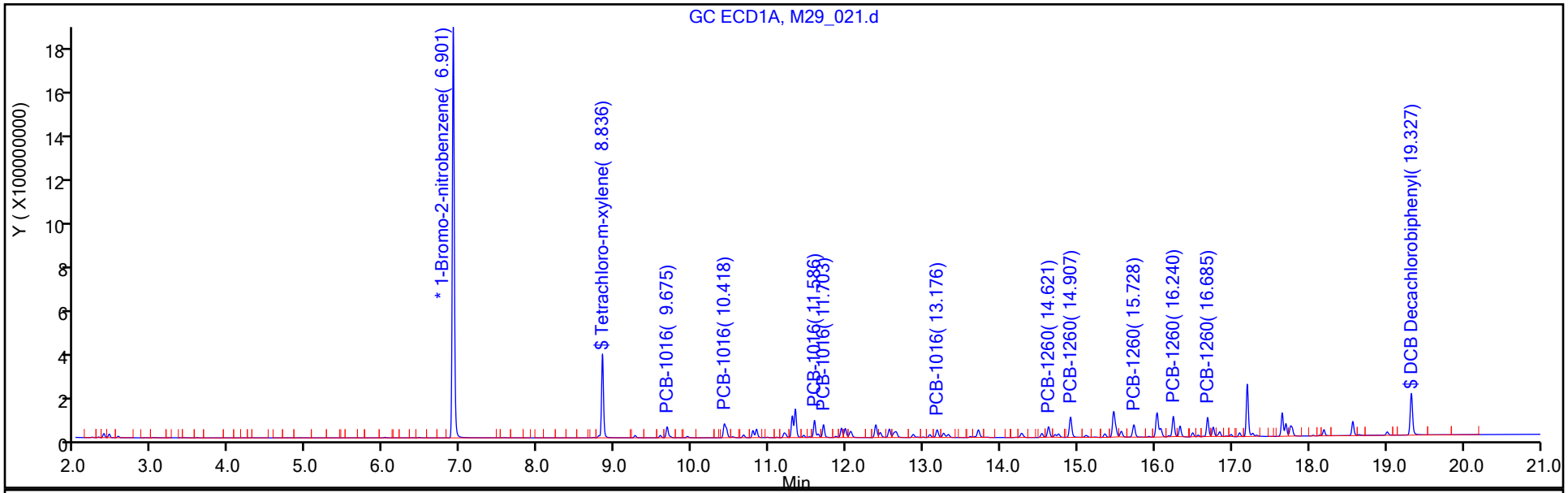

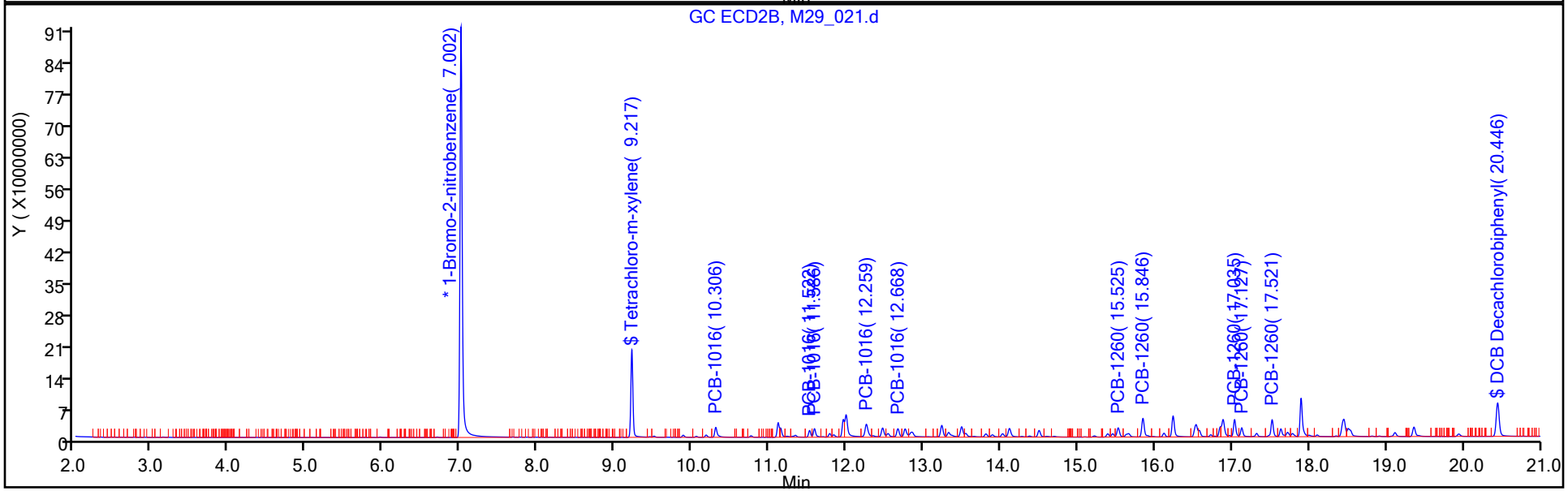

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-2 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/30/2019 01:47 Calibration End Date: 07/30/2019 04:07 Calibration ID: 16293

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/16	M29_016.d
Level 2	IC 600-270655/17	M29_017.d
Level 3	IC 600-270655/18	M29_018.d
Level 4	ICIS 600-270655/19	M29_019.d
Level 5	IC 600-270655/20	M29_020.d
Level 6	IC 600-270655/21	M29_021.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
PCB-1016 Peak 1	1.4627 1.4467	1.4056	1.4071	1.4631	1.3712	Ave		1.4261				2.6		20.0			
PCB-1016 Peak 2	0.8647 0.7857	0.8245	0.7623	0.8115	0.7455	Ave		0.7990				5.5		20.0			
PCB-1016 Peak 3	1.1889 1.1538	1.1955	1.0794	1.2032	1.0980	Ave		1.1531				4.6		20.0			
PCB-1016 Peak 4	2.1833 2.2363	2.2346	2.1608	2.3025	2.1542	Ave		2.2119				2.6		20.0			
PCB-1016 Peak 5	1.2303 1.2367	1.2360	1.1910	1.3032	1.1748	Ave		1.2287				3.6		20.0			
PCB-1260 Peak 1	1.3505 1.3041	1.2268	1.2802	1.3834	1.2413	Ave		1.2977				4.7		20.0			
PCB-1260 Peak 2	2.9544 2.7183	2.8422	2.7686	2.8884	2.7262	Ave		2.8163				3.4		20.0			
PCB-1260 Peak 3	2.1319 2.2024	2.1111	2.1935	2.3684	2.2580	Ave		2.2109				4.2		20.0			
PCB-1260 Peak 4	1.1289 1.2409	1.0905	1.1731	1.3033	1.2212	Ave		1.1930				6.5		20.0			
PCB-1260 Peak 5	2.3000 2.2538	2.3446	2.3117	2.4193	2.3430	Ave		2.3287				2.4		20.0			
Tetrachloro-m-xylene	84.895 96.337	84.274	88.287	93.769	92.439	Ave		90.000				5.5		20.0			
DCB Decachlorobiphenyl	60.213 56.412	62.868	61.093	60.444	57.932	Ave		59.827				3.9		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
PCBS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-2 Analy Batch No.: 270655

SDG No.:

Instrument ID: CHECD09 GC Column: RTX-CLP2 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/30/2019 01:47 Calibration End Date: 07/30/2019 04:07 Calibration ID: 16293

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-270655/16	M29_016.d
Level 2	IC 600-270655/17	M29_017.d
Level 3	IC 600-270655/18	M29_018.d
Level 4	ICIS 600-270655/19	M29_019.d
Level 5	IC 600-270655/20	M29_020.d
Level 6	IC 600-270655/21	M29_021.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
PCB-1016 Peak 1	BNB	Ave	2827829 55986705	5476337	13252875	27687967	39861604	0.0500 1.00	0.100	0.250	0.500	0.750
PCB-1016 Peak 2	BNB	Ave	1671681 30405732	3212273	7180039	15358310	21673151	0.0500 1.00	0.100	0.250	0.500	0.750
PCB-1016 Peak 3	BNB	Ave	2298593 44653015	4657776	10166099	22770333	31919774	0.0500 1.00	0.100	0.250	0.500	0.750
PCB-1016 Peak 4	BNB	Ave	4220979 86547578	8706160	20351100	43574274	62622274	0.0500 1.00	0.100	0.250	0.500	0.750
PCB-1016 Peak 5	BNB	Ave	2378514 47861819	4815442	11217406	24663209	34152010	0.0500 1.00	0.100	0.250	0.500	0.750
PCB-1260 Peak 1	BNB	Ave	2611022 50469023	4779860	12057456	26181256	36084929	0.0500 1.00	0.100	0.250	0.500	0.750
PCB-1260 Peak 2	BNB	Ave	5711703 105201018	11073311	26075663	54662123	79251721	0.0500 1.00	0.100	0.250	0.500	0.750
PCB-1260 Peak 3	BNB	Ave	4121628 85234807	8224832	20659680	44820657	65641673	0.0500 1.00	0.100	0.250	0.500	0.750
PCB-1260 Peak 4	BNB	Ave	2182475 48024468	4248576	11049164	24663675	35501291	0.0500 1.00	0.100	0.250	0.500	0.750
PCB-1260 Peak 5	BNB	Ave	4446571 87225064	9134817	21772437	45784431	68112361	0.0500 1.00	0.100	0.250	0.500	0.750
Tetrachloro-m-xylene	BNB	Ave	16412853 372832260	32833380	83152828	177454734	268722798	0.00500 0.100	0.0100	0.0250	0.0500	0.0750
DCB Decachlorobiphenyl	BNB	Ave	11641063 218319563	24493507	57540296	114387915	168408415	0.00500 0.100	0.0100	0.0250	0.0500	0.0750

Curve Type Legend:
Ave = Average ISTD

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_016.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 30-Jul-2019 01:47:23 ALS Bottle#: 16 Worklist Smp#: 16
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030284-016
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVIPCBCHECD09IS*sub1

Method: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 30-Jul-2019 10:24:16 Calib Date: 30-Jul-2019 04:07:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0337

First Level Reviewer: lamj Date: 30-Jul-2019 10:16:48

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.902	6.901	0.001	3415314962	50.0	50.0	
2	7.003	7.001	0.002	1933304566	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	8.836	8.836	0.000	35305743	0.005000	0.005049	
2	9.217	9.217	0.000	16412853	0.005000	0.004716	
						RPD = 6.81	
$ 3 DCB Decachlorobiphenyl							M
1	19.329	19.326	0.003	24094697	0.005000	0.005205	M
2	20.444	20.444	0.000	11641063	0.005000	0.005032	M
						RPD = 3.38	
7 PCB-1016							
1	9.674	9.673	0.001	6888523	0.0500	0.0586	
1	10.419	10.417	0.002	11940561	0.0500	0.0580	
1	11.589	11.586	0.003	10579677	0.0500	0.0582	
1	11.705	11.703	0.002	7455313	0.0500	0.0628	
1	13.179	13.178	0.001	4041051	0.0500	0.0515	
		Average of Peak Amounts =				0.0578	
2	10.306	10.305	0.001	2827829	0.0500	0.0513	
2	11.524	11.522	0.002	1671681	0.0500	0.0541	
2	11.587	11.586	0.001	2298593	0.0500	0.0516	
2	12.262	12.259	0.003	4220979	0.0500	0.0494	
2	12.672	12.667	0.005	2378514	0.0500	0.0501	
		Average of Peak Amounts =				0.0513	
						RPD = 12.02	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 PCB-1260							
1	14.628	14.623	0.005	5606783	0.0500	0.0521	
1	14.912	14.908	0.004	12313049	0.0500	0.0538	
1	15.732	15.728	0.004	7289351	0.0500	0.0511	
1	16.242	16.240	0.002	9625441	0.0500	0.0476	
1	16.689	16.683	0.006	9346398	0.0500	0.0508	
		Average of Peak Amounts =				0.0511	
2	15.526	15.524	0.002	2611022	0.0500	0.0520	
2	15.849	15.845	0.004	5711703	0.0500	0.0525	
2	17.036	17.032	0.004	4121628	0.0500	0.0482	
2	17.128	17.126	0.002	2182475	0.0500	0.0473	
2	17.522	17.521	0.001	4446571	0.0500	0.0494	
		Average of Peak Amounts =				0.0499	
						RPD = 2.35	
S 13 Polychlorinated biphenyls, Total							
1						0.1089	
2						0.1012	
						RPD = 7.37	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

PCBCURVE1I_00016	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 30-Jul-2019 10:24:17 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_016.d				
Injection Date:	30-Jul-2019 01:47:23	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	16
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	16
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

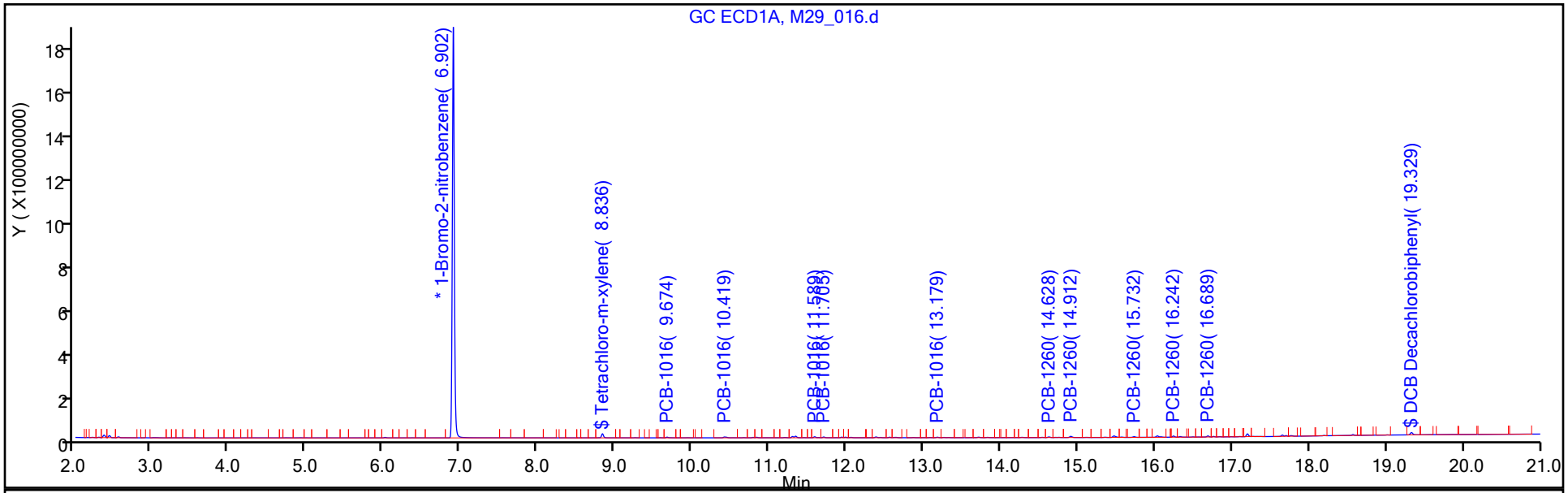

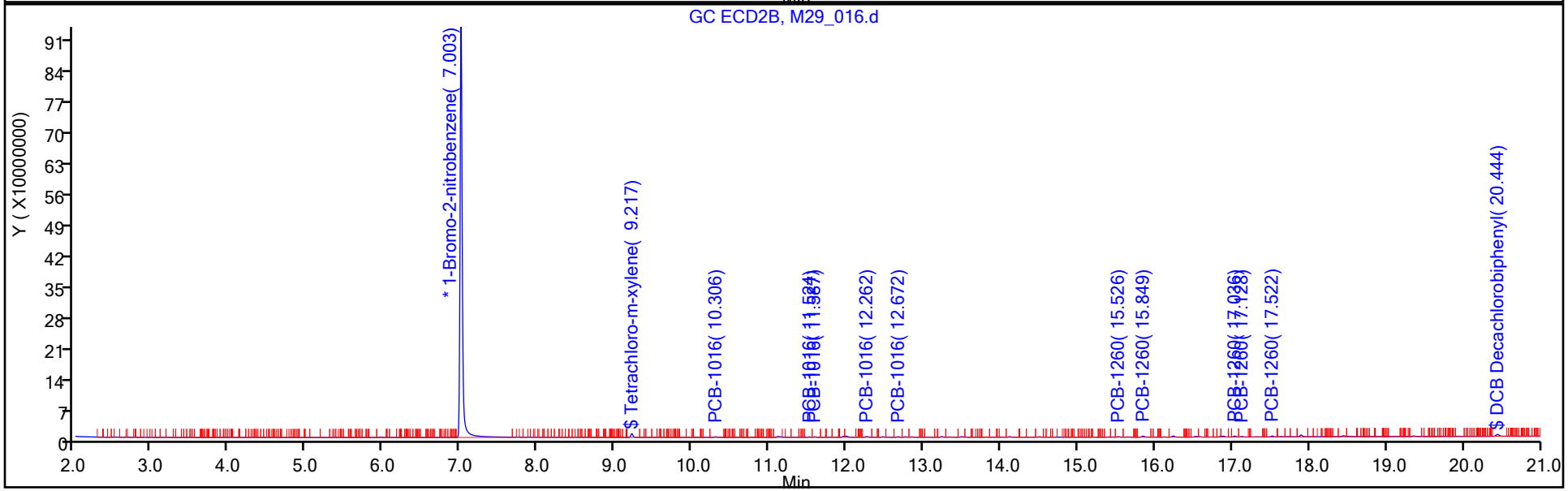

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_016.d				
Injection Date:	30-Jul-2019 01:47:23	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	16	Worklist Smp#:	16
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD2B		

$ 3 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 2

Processing Integration Results

RT: 20.44
Area: 13673367
Amount: 0.005311
Amount Units: ug/ml

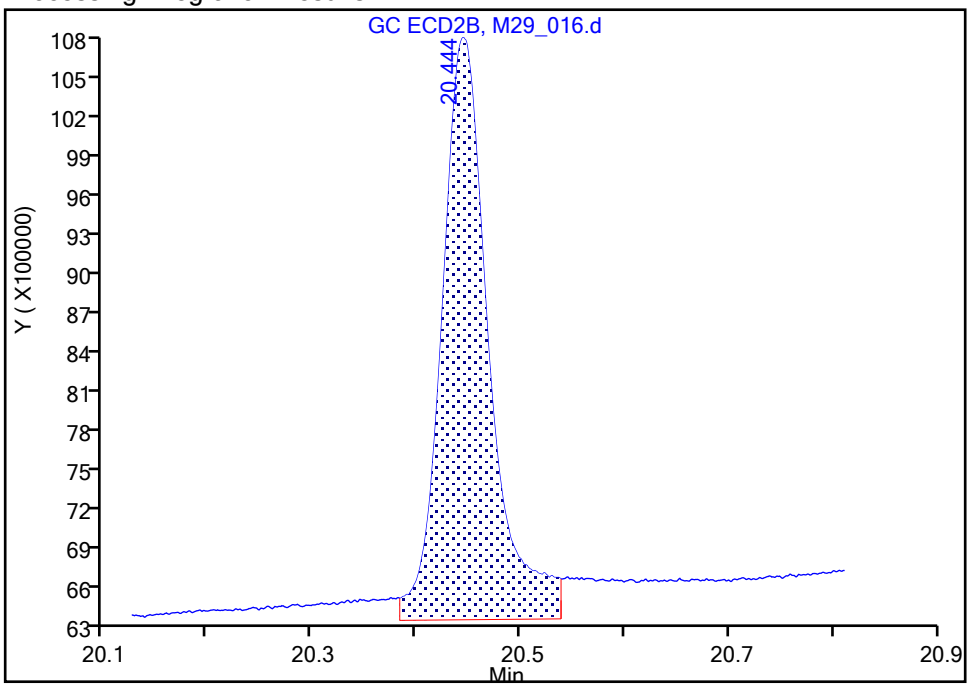

Manual Integration Results

RT: 20.44
Area: 11641063
Amount: 0.005032
Amount Units: ug/ml

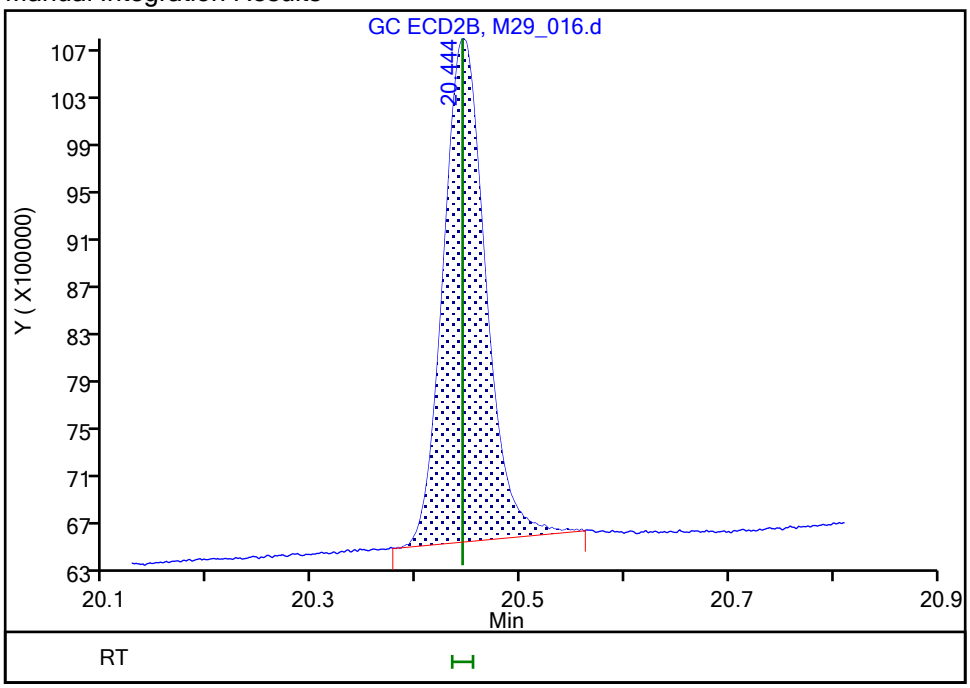

Reviewer: lamj, 30-Jul-2019 10:21:19

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_017.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 30-Jul-2019 02:15:27 ALS Bottle#: 17 Worklist Smp#: 17
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030284-017
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVIPCBCHECD09IS*sub1

Method: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 30-Jul-2019 10:24:19 Calib Date: 30-Jul-2019 04:07:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0337

First Level Reviewer: lamj Date: 30-Jul-2019 10:22:16

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.901	6.901	0.000	3435342631	50.0	50.0	
2	7.002	7.001	0.001	1948024343	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	8.836	8.836	0.000	69132044	0.0100	0.009829	
2	9.217	9.217	0.000	32833380	0.0100	0.009364	
						RPD = 4.85	
$ 3 DCB Decachlorobiphenyl							M
1	19.329	19.326	0.003	47796514	0.0100	0.0103	M
2	20.446	20.444	0.002	24493507	0.0100	0.0105	M
						RPD = 2.34	
7 PCB-1016							
1	9.675	9.673	0.002	12173158	0.1000	0.1029	
1	10.419	10.417	0.002	22305355	0.1000	0.1076	
1	11.589	11.586	0.003	17833300	0.1000	0.0976	
1	11.706	11.703	0.003	11376035	0.1000	0.0953	
1	13.179	13.178	0.001	7956948	0.1000	0.1009	
		Average of Peak Amounts =				0.1009	
2	10.306	10.305	0.001	5476337	0.1000	0.0986	
2	11.523	11.522	0.001	3212273	0.1000	0.1032	
2	11.586	11.586	0.000	4657776	0.1000	0.1037	
2	12.261	12.259	0.002	8706160	0.1000	0.1010	
2	12.670	12.667	0.003	4815442	0.1000	0.1006	
		Average of Peak Amounts =				0.1014	
						RPD = 0.54	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 PCB-1260							
1	14.626	14.623	0.003	11278042	0.1000	0.1042	
1	14.910	14.908	0.002	24157715	0.1000	0.1049	
1	15.731	15.728	0.003	14726055	0.1000	0.1025	
1	16.242	16.240	0.002	21863388	0.1000	0.1074	
1	16.688	16.683	0.005	18657963	0.1000	0.1009	
		Average of Peak Amounts =				0.1040	
2	15.526	15.524	0.002	4779860	0.1000	0.0945	
2	15.847	15.845	0.002	11073311	0.1000	0.1009	
2	17.035	17.032	0.003	8224832	0.1000	0.0955	
2	17.126	17.126	0.000	4248576	0.1000	0.0914	
2	17.521	17.521	0.000	9134817	0.1000	0.1007	
		Average of Peak Amounts =				0.0966	
						RPD = 7.35	
S 13 Polychlorinated biphenyls, Total							
1						0.2048	
2						0.1980	
						RPD = 3.39	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

PCBCURVE2I_00017	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 30-Jul-2019 10:24:19 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_017.d				
Injection Date:	30-Jul-2019 02:15:27	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	17
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	17
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

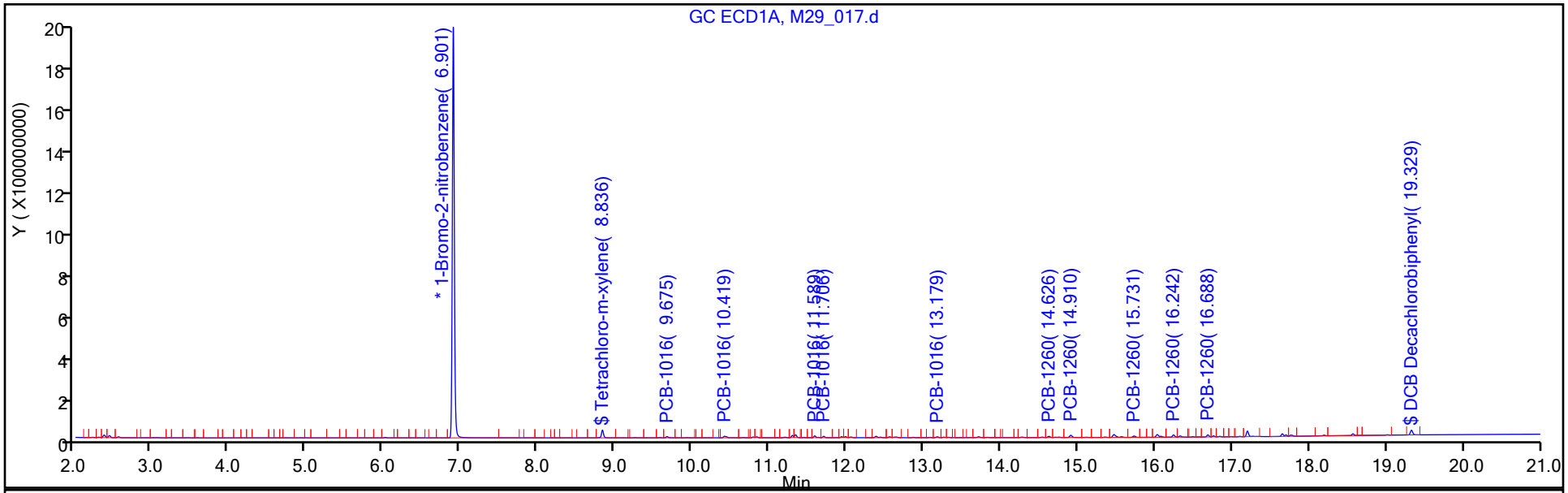

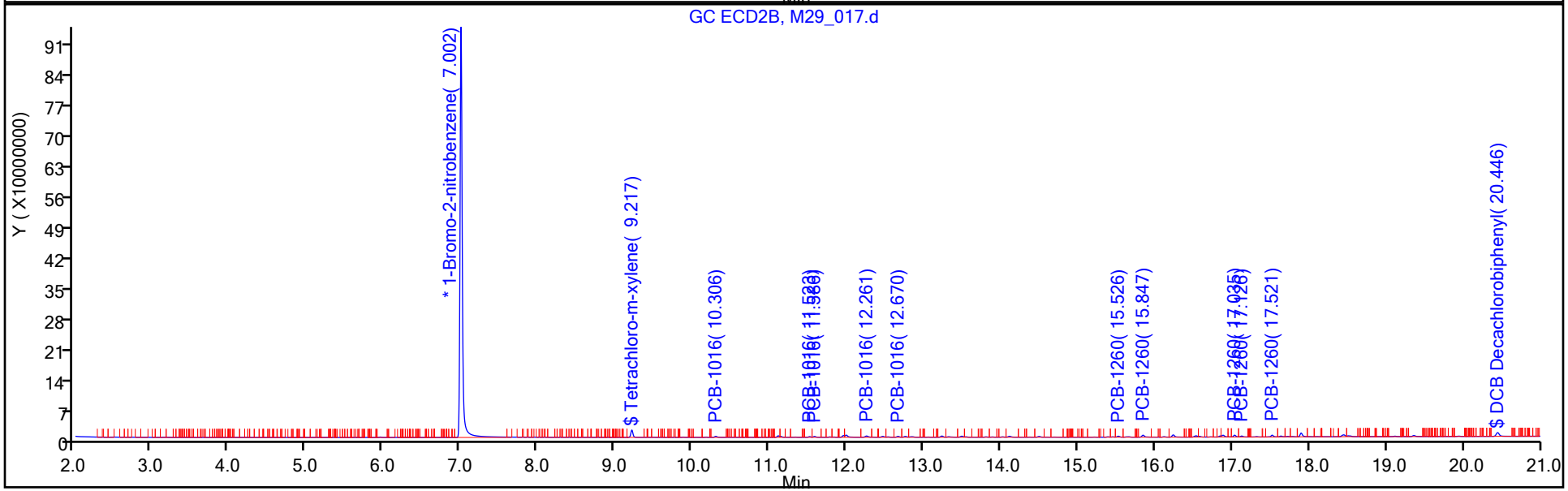

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_017.d				
Injection Date:	30-Jul-2019 02:15:27	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	17	Worklist Smp#:	17
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD2B		

$ 3 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 2

Processing Integration Results

RT: 20.45
Area: 26084542
Amount: 0.010593
Amount Units: ug/ml

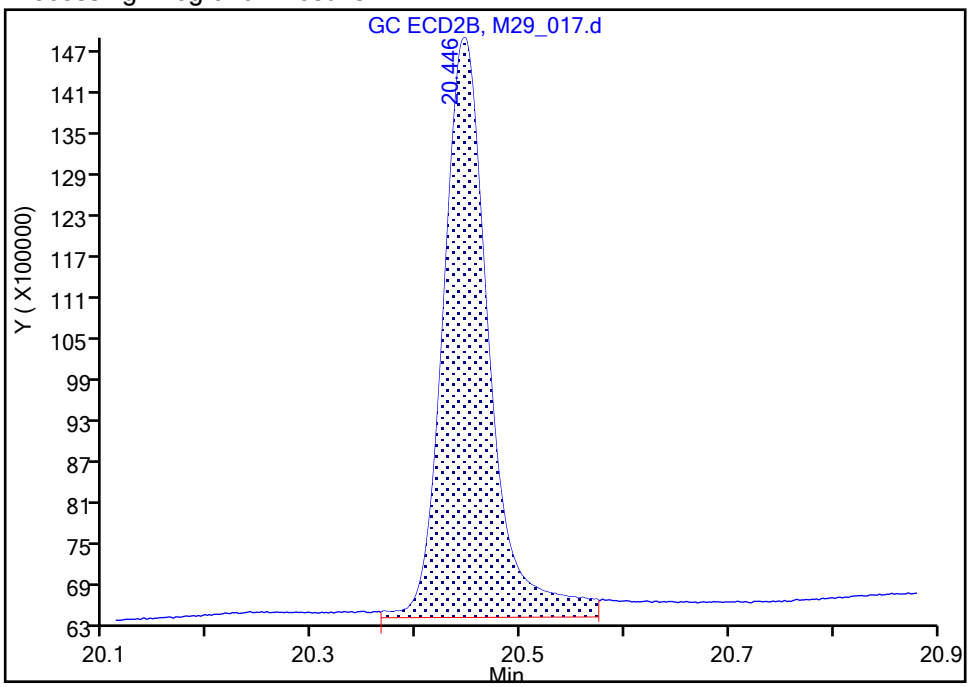

Manual Integration Results

RT: 20.45
Area: 24493507
Amount: 0.010508
Amount Units: ug/ml

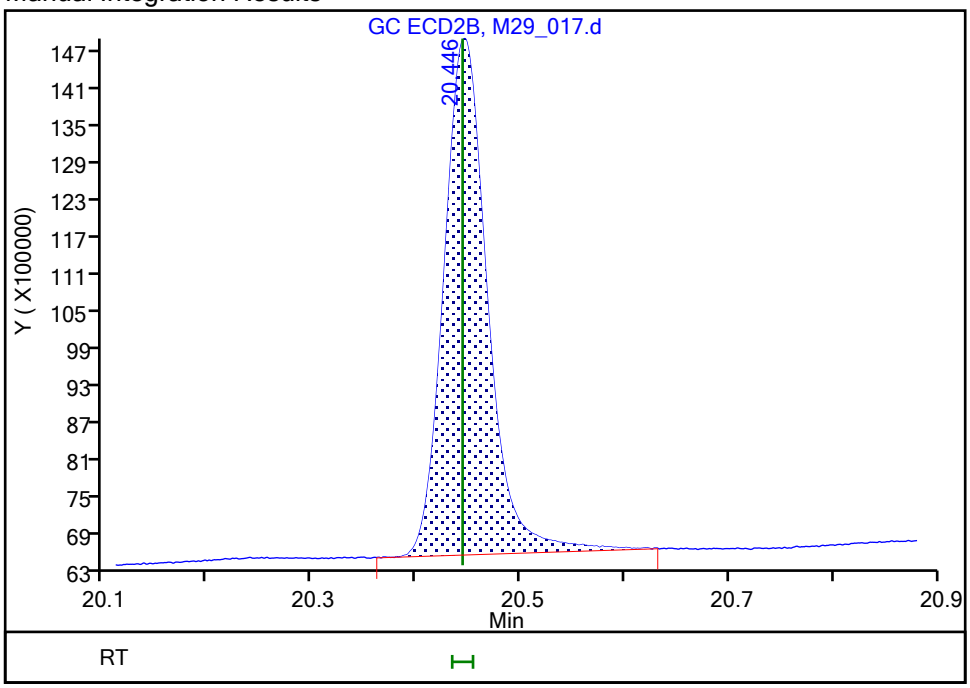

Reviewer: lamj, 30-Jul-2019 10:22:08

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_018.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 30-Jul-2019 02:43:30 ALS Bottle#: 18 Worklist Smp#: 18
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030284-018
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVIPCBCHECD09IS*sub1

Method: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 30-Jul-2019 10:24:22 Calib Date: 30-Jul-2019 04:07:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0337

First Level Reviewer: lamj Date: 30-Jul-2019 10:22:47

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.902	6.901	0.001	3340055147	50.0	50.0	
2	7.001	7.001	0.000	1883696218	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	8.836	8.836	0.000	171577745	0.0250	0.0251	
2	9.216	9.217	-0.001	83152828	0.0250	0.0245	
						RPD = 2.28	
$ 3 DCB Decachlorobiphenyl							M
1	19.326	19.326	0.000	114750419	0.0250	0.0253	M
2	20.444	20.444	0.000	57540296	0.0250	0.0255	M
						RPD = 0.71	
7 PCB-1016							
1	9.674	9.673	0.001	28401487	0.2500	0.2470	
1	10.419	10.417	0.002	48636179	0.2500	0.2414	
1	11.588	11.586	0.002	42275821	0.2500	0.2379	
1	11.704	11.703	0.001	26651611	0.2500	0.2297	
1	13.179	13.178	0.001	18618130	0.2500	0.2428	
		Average of Peak Amounts =				0.2398	
2	10.305	10.305	0.000	13252875	0.2500	0.2467	
2	11.522	11.522	0.000	7180039	0.2500	0.2385	
2	11.585	11.586	-0.001	10166099	0.2500	0.2340	
2	12.260	12.259	0.001	20351100	0.2500	0.2442	
2	12.669	12.667	0.002	11217406	0.2500	0.2423	
		Average of Peak Amounts =				0.2412	
						RPD = 0.58	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 PCB-1260							
1	14.624	14.623	0.001	26665452	0.2500	0.2533	
1	14.909	14.908	0.001	55865667	0.2500	0.2496	
1	15.729	15.728	0.001	34903608	0.2500	0.2500	
1	16.241	16.240	0.001	47052575	0.2500	0.2377	
1	16.686	16.683	0.003	43956043	0.2500	0.2444	
		Average of Peak Amounts =				0.2470	
2	15.524	15.524	0.000	12057456	0.2500	0.2466	
2	15.846	15.845	0.001	26075663	0.2500	0.2458	
2	17.033	17.032	0.001	20659680	0.2500	0.2480	
2	17.125	17.126	-0.001	11049164	0.2500	0.2458	
2	17.520	17.521	-0.001	21772437	0.2500	0.2482	
		Average of Peak Amounts =				0.2469	
						RPD = 0.04	
S 13 Polychlorinated biphenyls, Total							
1						0.4867	
2						0.4880	
						RPD = 0.26	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

PCBCURVE3I_00016	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 30-Jul-2019 10:24:23 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_018.d				
Injection Date:	30-Jul-2019 02:43:30	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	18
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	18
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

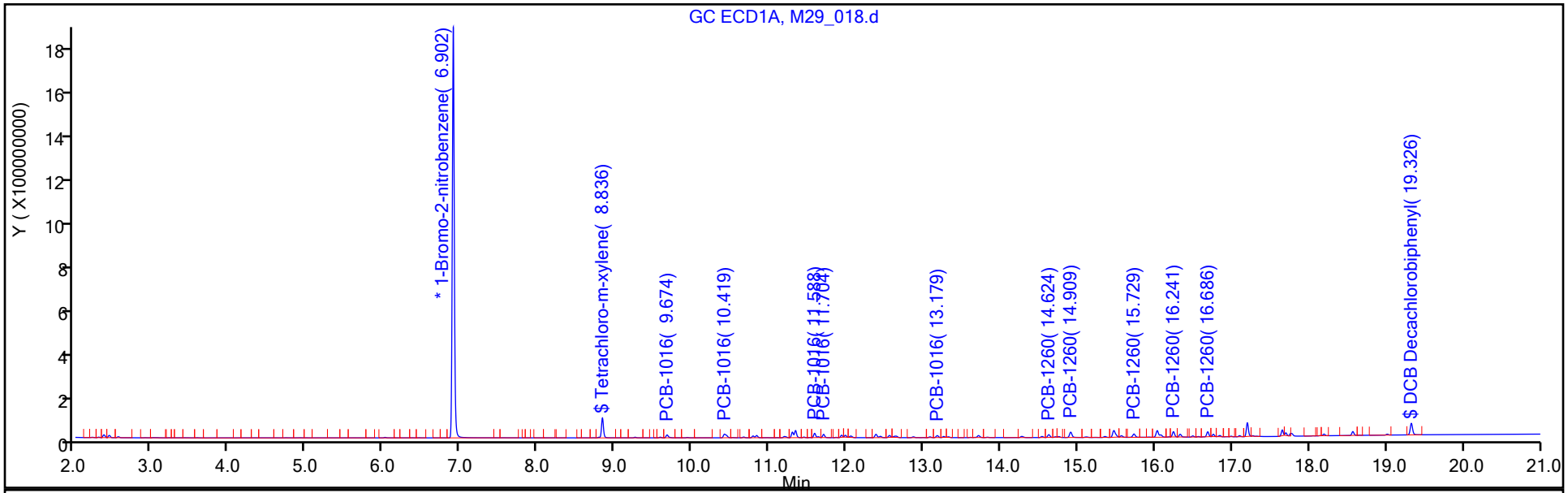

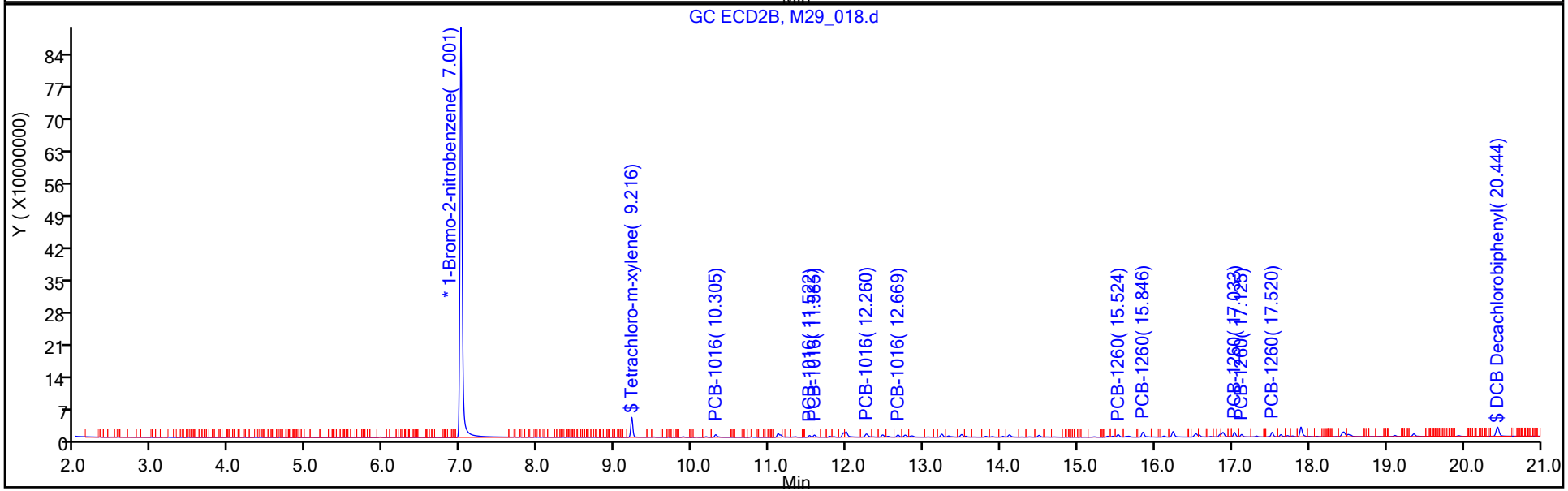

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_018.d				
Injection Date:	30-Jul-2019 02:43:30	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	18	Worklist Smp#:	18
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD2B		

$ 3 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 2

Processing Integration Results

RT: 20.44
Area: 60236167
Amount: 0.025636
Amount Units: ug/ml

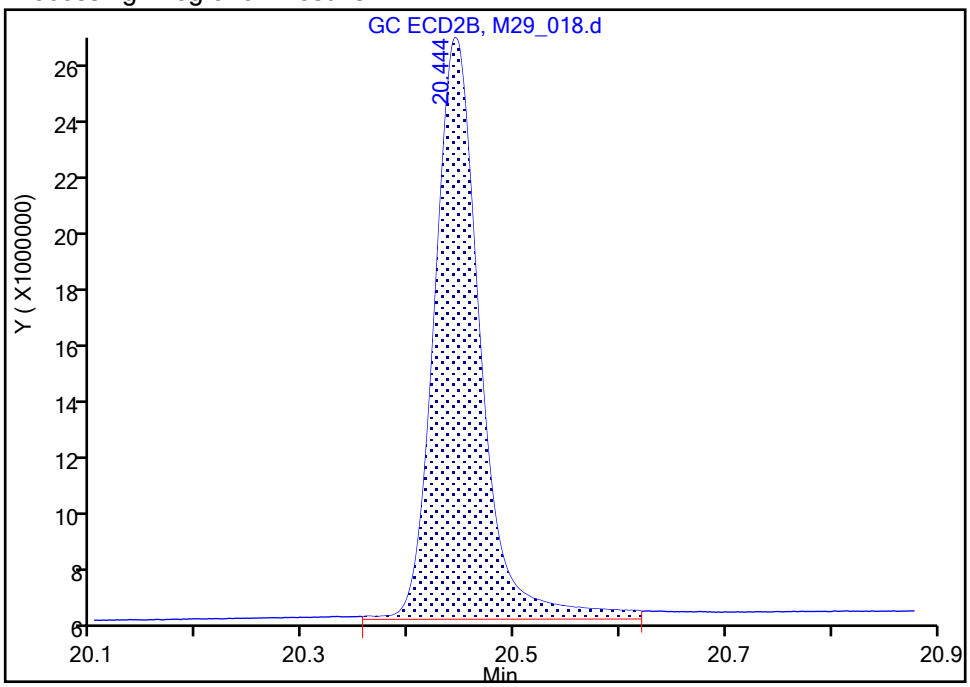

Manual Integration Results

RT: 20.44
Area: 57540296
Amount: 0.025529
Amount Units: ug/ml

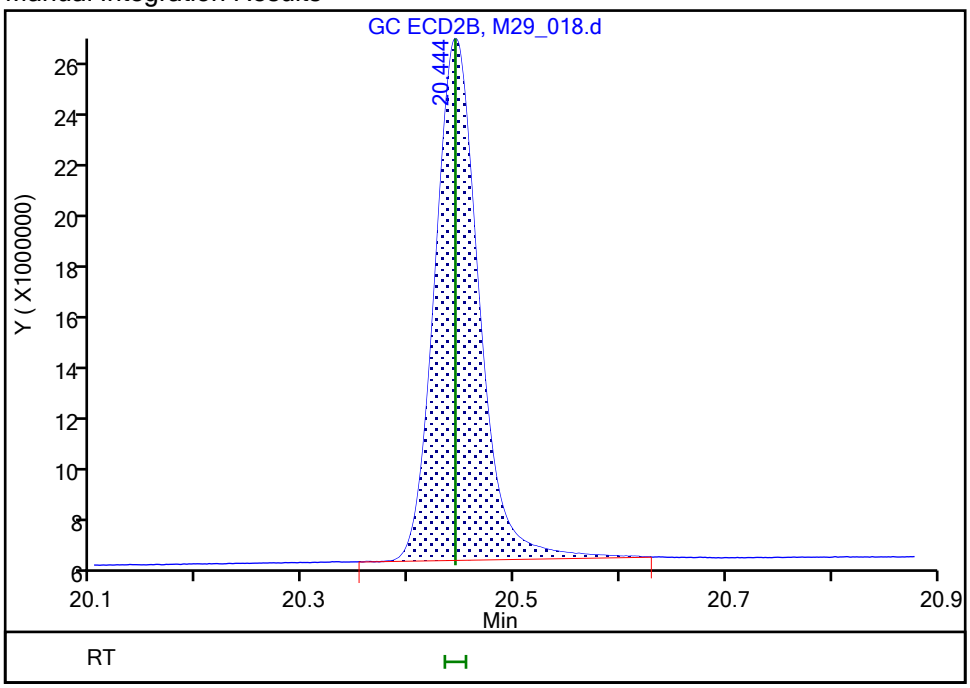

Reviewer: lamj, 30-Jul-2019 10:22:36

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_019.d
Lims ID: icis
Client ID:
Sample Type: ICIS Calib Level: 4
Inject. Date: 30-Jul-2019 03:11:33 ALS Bottle#: 19 Worklist Smp#: 19
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030284-019
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVIPCBCHECD09IS*sub1

Method: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 30-Jul-2019 10:28:31 Calib Date: 30-Jul-2019 04:07:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0337

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.901	6.901	0.000	3361299224	50.0	50.0	
2	7.001	7.001	0.000	1892473718	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	8.836	8.836	0.000	350305160	0.0500	0.0509	
2	9.217	9.217	0.000	177454734	0.0500	0.0521	
						RPD = 2.31	
$ 3 DCB Decachlorobiphenyl							M
1	19.326	19.326	0.000	228538635	0.0500	0.0502	M
2	20.444	20.444	0.000	114387915	0.0500	0.0505	M
						RPD = 0.69	
7 PCB-1016							
1	9.673	9.673	0.000	57111458	0.5000	0.4935	
1	10.417	10.417	0.000	99046530	0.5000	0.4885	
1	11.586	11.586	0.000	90908480	0.5000	0.5084	
1	11.703	11.703	0.000	58942860	0.5000	0.5048	
1	13.178	13.178	0.000	41025118	0.5000	0.5316	
		Average of Peak Amounts =				0.5053	
2	10.305	10.305	0.000	27687967	0.5000	0.5130	
2	11.522	11.522	0.000	15358310	0.5000	0.5078	
2	11.586	11.586	0.000	22770333	0.5000	0.5217	
2	12.259	12.259	0.000	43574274	0.5000	0.5205	
2	12.667	12.667	0.000	24663209	0.5000	0.5303	
		Average of Peak Amounts =				0.5187	
						RPD = 2.60	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 PCB-1260							
1	14.623	14.623	0.000	52847156	0.5000	0.4988	
1	14.908	14.908	0.000	111638087	0.5000	0.4957	
1	15.728	15.728	0.000	71867006	0.5000	0.5115	
1	16.240	16.240	0.000	103052405	0.5000	0.5173	
1	16.683	16.683	0.000	92891317	0.5000	0.5132	
		Average of Peak Amounts =				0.5073	
2	15.524	15.524	0.000	26181256	0.5000	0.5330	
2	15.845	15.845	0.000	54662123	0.5000	0.5128	
2	17.032	17.032	0.000	44820657	0.5000	0.5356	
2	17.126	17.126	0.000	24663675	0.5000	0.5462	
2	17.521	17.521	0.000	45784431	0.5000	0.5194	
		Average of Peak Amounts =				0.5294	
						RPD = 4.27	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

PCBCURVE4I_00022	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 30-Jul-2019 10:28:32 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_019.d				
Injection Date:	30-Jul-2019 03:11:33	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	icis			Worklist Smp#:	19
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	19
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

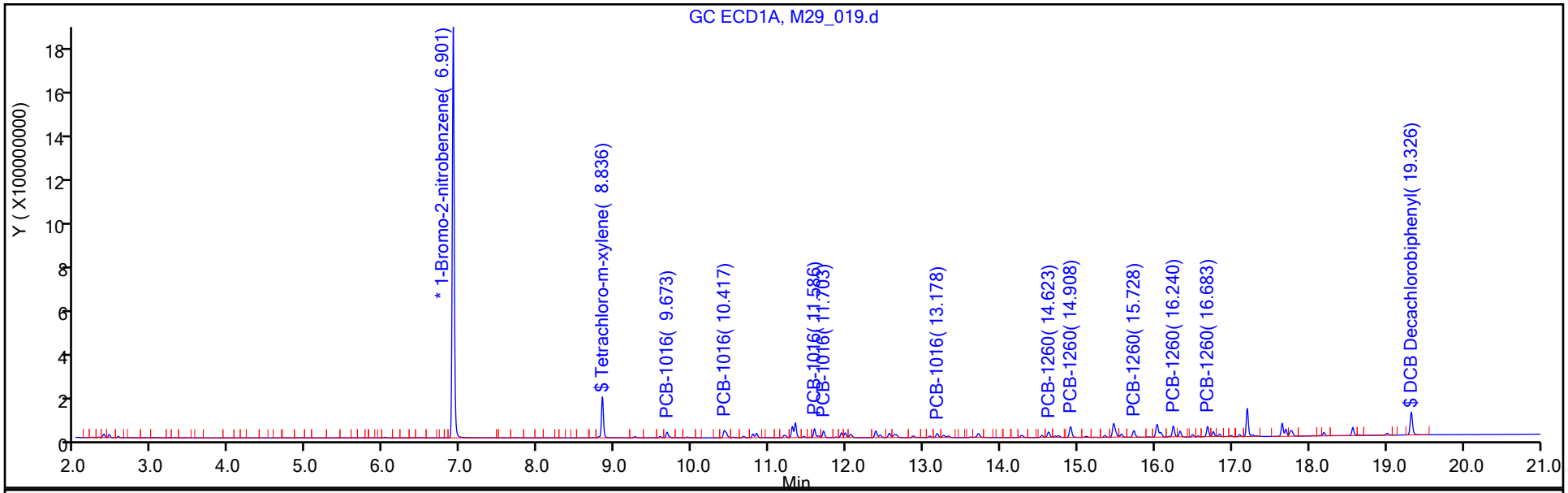

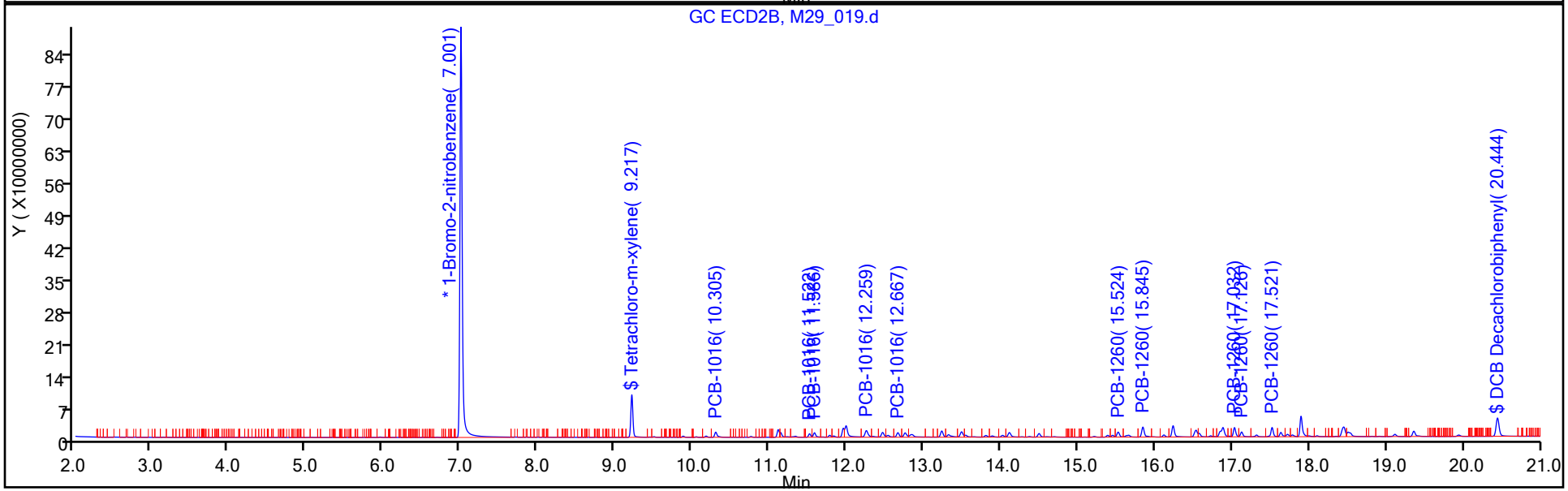

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_019.d				
Injection Date:	30-Jul-2019 03:11:33	Instrument ID:	CHECD09		
Lims ID:	icis				
Client ID:					
Operator ID:	JL	ALS Bottle#:	19	Worklist Smp#:	19
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD2B		

$ 3 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 2

Processing Integration Results

RT: 20.44
Area: 118165704
Amount: 0.050638
Amount Units: ug/ml

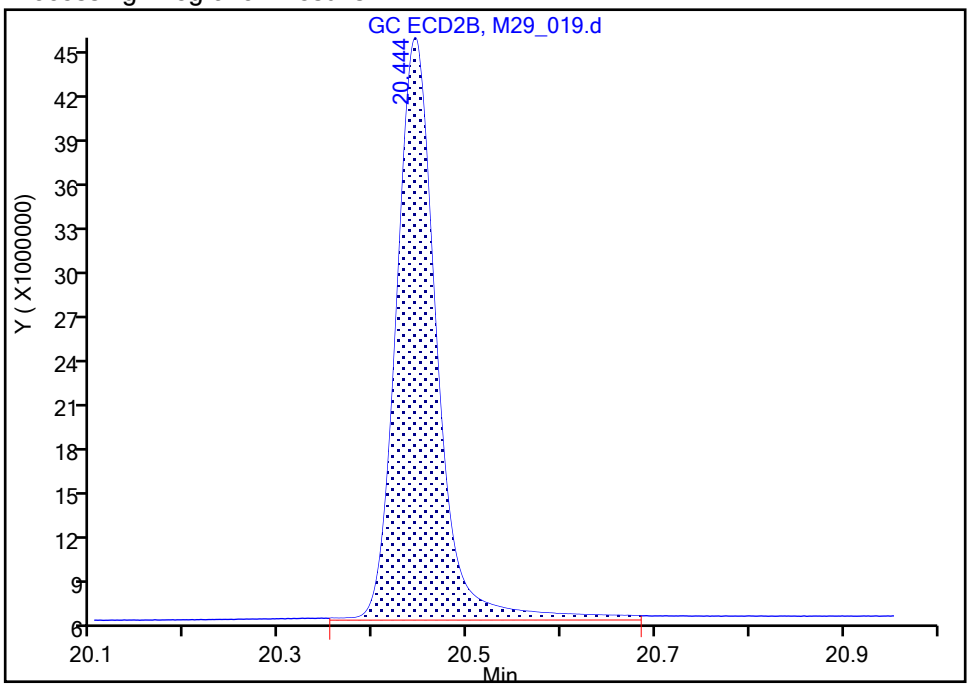

Manual Integration Results

RT: 20.44
Area: 114387915
Amount: 0.050515
Amount Units: ug/ml

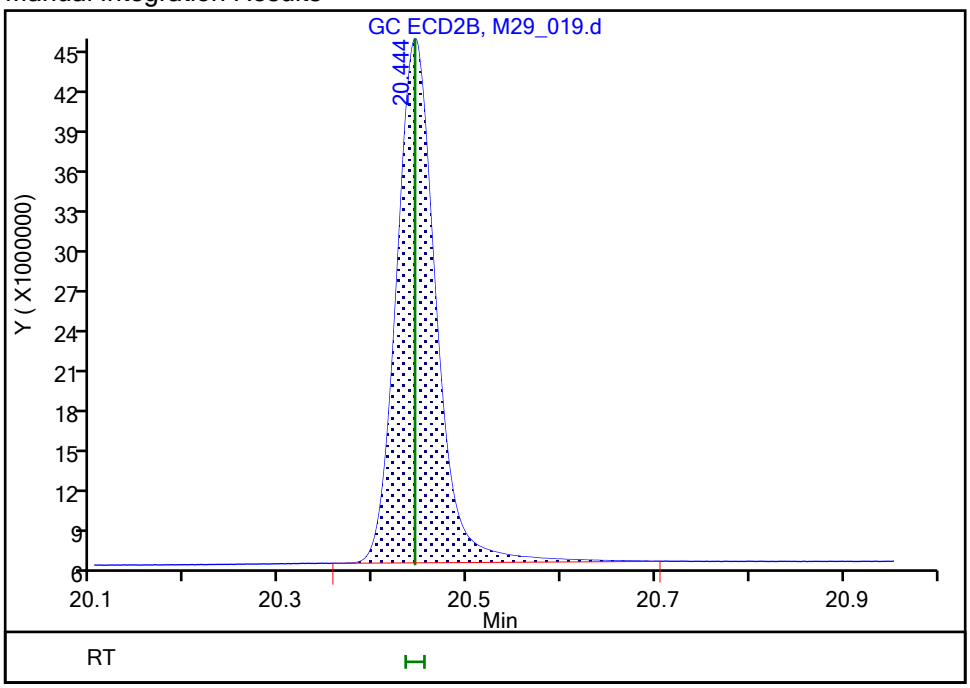

Reviewer: lamj, 30-Jul-2019 10:23:09
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_020.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 30-Jul-2019 03:39:37 ALS Bottle#: 20 Worklist Smp#: 20
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030284-020
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVIPCBCHECD09IS*sub1

Method: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 30-Jul-2019 10:24:28 Calib Date: 30-Jul-2019 04:07:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0337

First Level Reviewer: lamj Date: 30-Jul-2019 10:10:31

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.903	6.901	0.002	3441425258	50.0	50.0	
2	7.003	7.001	0.002	1938013729	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	8.837	8.836	0.001	519358163	0.0750	0.0737	
2	9.218	9.217	0.001	268722798	0.0750	0.0770	
						RPD = 4.41	
$ 3 DCB Decachlorobiphenyl							M
1	19.327	19.326	0.001	335835339	0.0750	0.0720	M
2	20.444	20.444	0.000	168408415	0.0750	0.0726	M
						RPD = 0.86	
7 PCB-1016							
1	9.675	9.673	0.002	81167423	0.7500	0.6850	
1	10.419	10.417	0.002	140808269	0.7500	0.6783	
1	11.587	11.586	0.001	126245604	0.7500	0.6896	
1	11.703	11.703	0.000	80283840	0.7500	0.6715	
1	13.178	13.178	0.000	54613689	0.7500	0.6912	
		Average of Peak Amounts =				0.6831	
2	10.306	10.305	0.001	39861604	0.7500	0.7212	
2	11.522	11.522	0.000	21673151	0.7500	0.6998	
2	11.586	11.586	0.000	31919774	0.7500	0.7141	
2	12.259	12.259	0.000	62622274	0.7500	0.7304	
2	12.668	12.667	0.001	34152010	0.7500	0.7171	
		Average of Peak Amounts =				0.7165	
						RPD = 4.77	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 PCB-1260							
1	14.622	14.623	-0.001	78562334	0.7500	0.7242	
1	14.907	14.908	-0.001	166536022	0.7500	0.7222	
1	15.728	15.728	0.000	107096697	0.7500	0.7444	
1	16.239	16.240	-0.001	155909688	0.7500	0.7644	
1	16.684	16.683	0.001	141412789	0.7500	0.7631	
		Average of Peak Amounts =				0.7437	
2	15.523	15.524	-0.001	36084929	0.7500	0.7174	
2	15.844	15.845	-0.001	79251721	0.7500	0.7260	
2	17.033	17.032	0.001	65641673	0.7500	0.7660	
2	17.126	17.126	0.000	35501291	0.7500	0.7678	
2	17.520	17.521	-0.001	68112361	0.7500	0.7546	
		Average of Peak Amounts =				0.7463	
						RPD = 0.36	
S 13 Polychlorinated biphenyls, Total							
1						1.43	
2						1.46	
						RPD = 2.50	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

PCBCURVE5I_00017	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 30-Jul-2019 10:24:29 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_020.d				
Injection Date:	30-Jul-2019 03:39:37	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	20
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	20
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

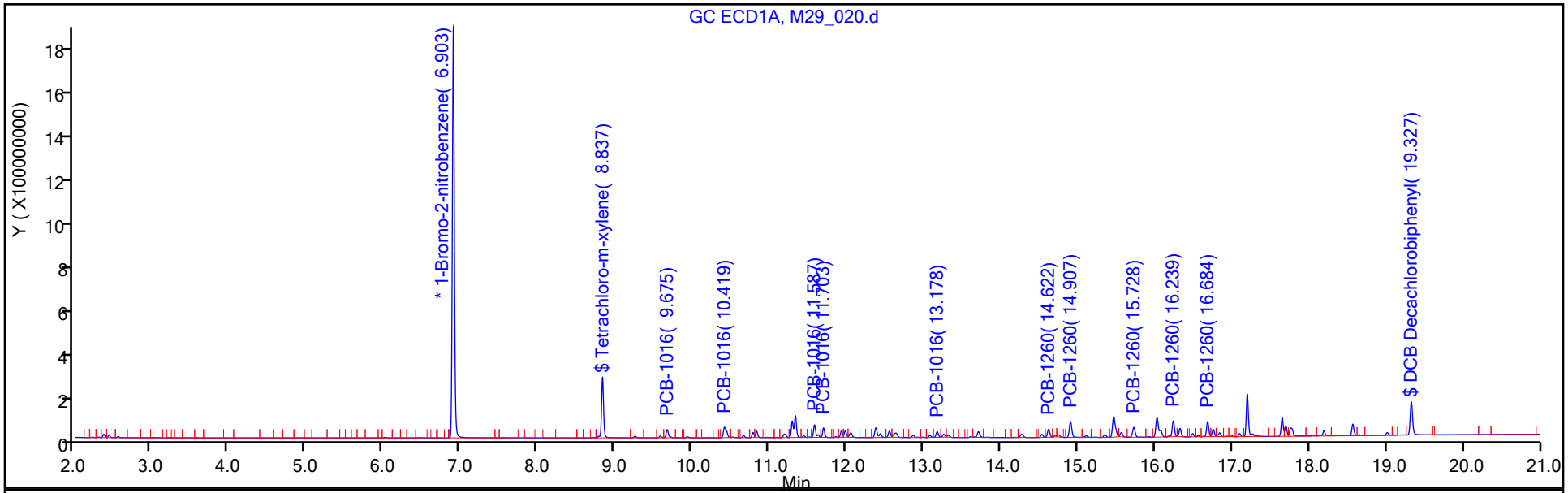

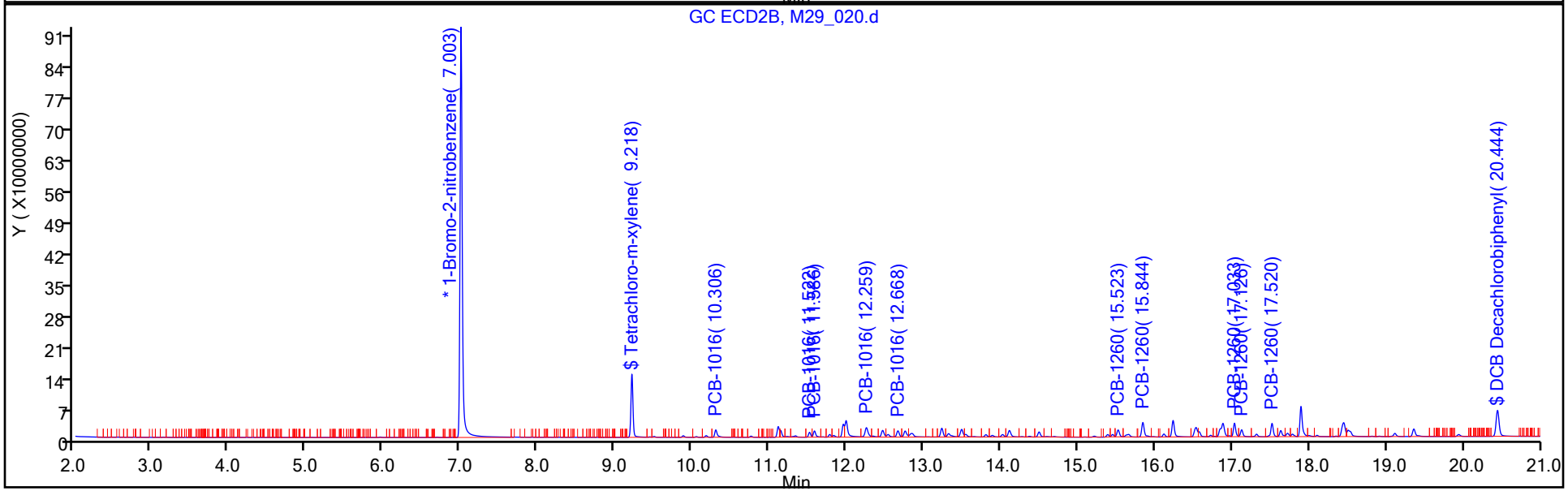

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_020.d				
Injection Date:	30-Jul-2019 03:39:37	Instrument ID:	CHECD09		
Lims ID:	ic				
Client ID:					
Operator ID:	JL	ALS Bottle#:	20	Worklist Smp#:	20
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD2B		

$ 3 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 2

Processing Integration Results

RT: 20.44
Area: 172482981
Amount: 0.073203
Amount Units: ug/ml

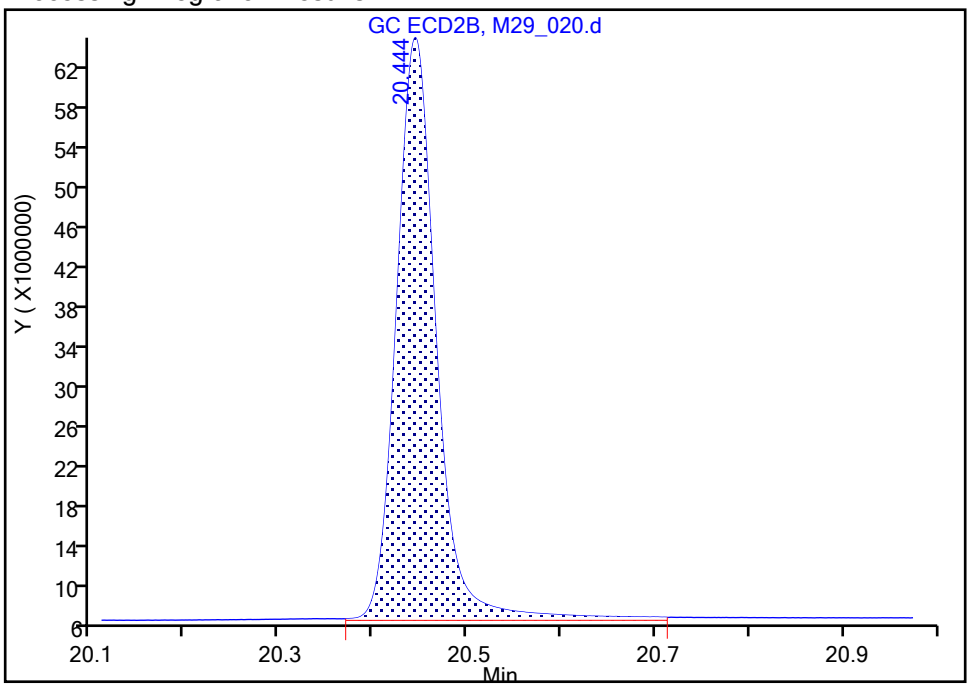

Manual Integration Results

RT: 20.44
Area: 168408415
Amount: 0.072624
Amount Units: ug/ml

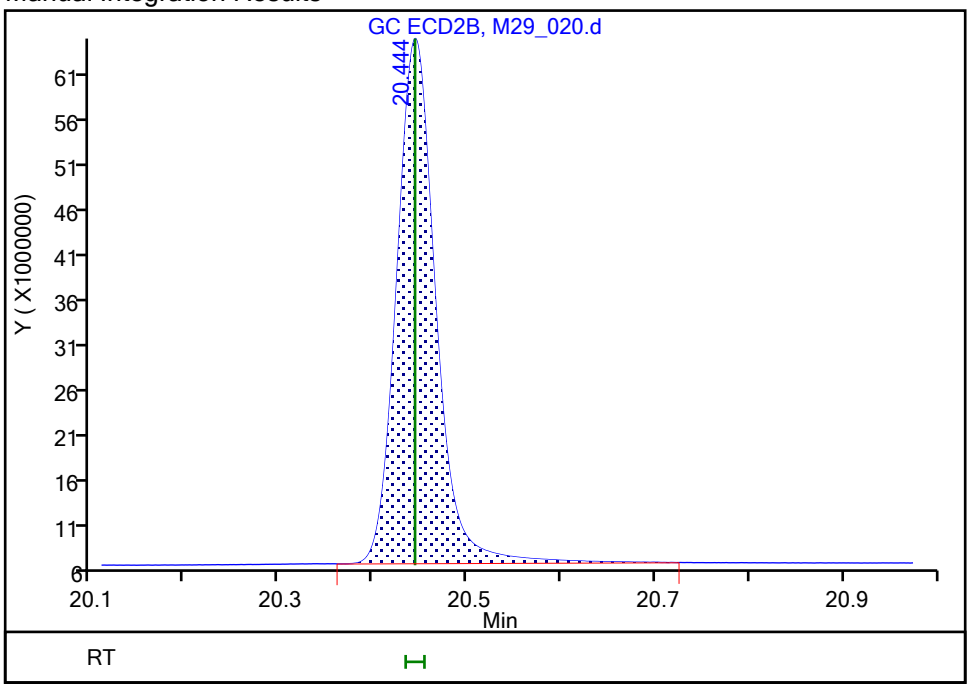

Reviewer: lamj, 30-Jul-2019 10:23:36

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 30-Jul-2019 04:07:48 ALS Bottle#: 21 Worklist Smp#: 21
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0030284-021
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVIPCBCHECD09IS*sub1

Method: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 30-Jul-2019 10:24:32 Calib Date: 30-Jul-2019 04:07:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0337

First Level Reviewer: lamj Date: 30-Jul-2019 10:23:54

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.901	6.901	0.000	3443536778	50.0	50.0	
2	7.002	7.001	0.001	1935033196	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	8.836	8.836	0.000	707043332	0.1000	0.1003	
2	9.217	9.217	0.000	372832260	0.1000	0.1070	
						RPD = 6.52	
$ 3 DCB Decachlorobiphenyl							
1	19.327	19.326	0.001	445736962	0.1000	0.0955	
2	20.446	20.444	0.002	218319563	0.1000	0.0943	
						RPD = 1.28	
7 PCB-1016							
1	9.675	9.673	0.002	108023479	1.00	0.9111	
1	10.418	10.417	0.001	190586567	1.00	0.9175	
1	11.586	11.586	0.000	177995717	1.00	0.9717	
1	11.703	11.703	0.000	115634657	1.00	0.9666	
1	13.176	13.178	-0.002	79408377	1.00	1.00	
		Average of Peak Amounts =				0.9543	
2	10.306	10.305	0.001	55986705	1.00	1.01	
2	11.522	11.522	0.000	30405732	1.00	0.9833	
2	11.586	11.586	0.000	44653015	1.00	1.00	
2	12.259	12.259	0.000	86547578	1.00	1.01	
2	12.668	12.667	0.001	47861819	1.00	1.01	
		Average of Peak Amounts =				1.00	
						RPD = 5.00	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 PCB-1260							
1	14.621	14.623	-0.002	102091815	1.00	0.9406	
1	14.907	14.908	-0.001	212705982	1.00	0.9218	
1	15.728	15.728	0.000	135026511	1.00	0.9380	
1	16.240	16.240	0.000	198043605	1.00	0.9704	
1	16.685	16.683	0.002	176798380	1.00	0.9535	
		Average of Peak Amounts =				0.9449	
2	15.525	15.524	0.001	50469023	1.00	1.00	
2	15.846	15.845	0.001	105201018	1.00	0.9652	
2	17.035	17.032	0.003	85234807	1.00	1.00	
2	17.127	17.126	0.001	48024468	1.00	1.04	
2	17.521	17.521	0.000	87225064	1.00	0.9678	
		Average of Peak Amounts =				0.99	
						RPD = 5.16	
S 13 Polychlorinated biphenyls, Total							
1						1.90	
2						2.00	
						RPD = 5.08	

Reagents:

PCBCURVE6I_00017	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 30-Jul-2019 10:24:33 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d				
Injection Date:	30-Jul-2019 04:07:48	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ic			Worklist Smp#:	21
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	21
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

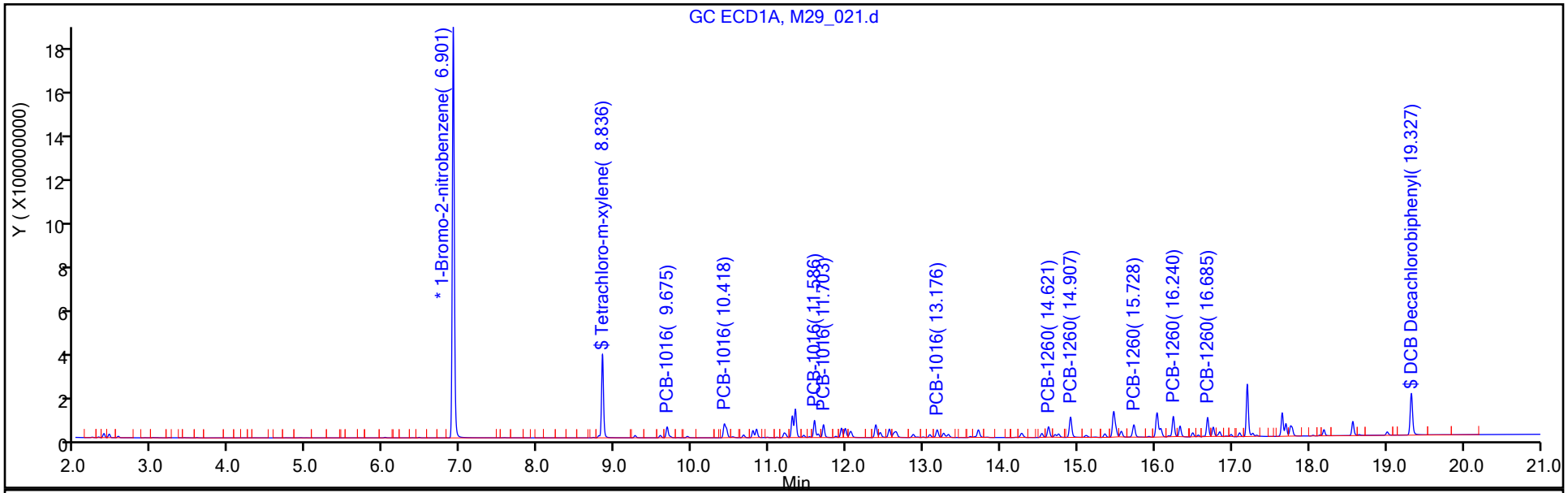

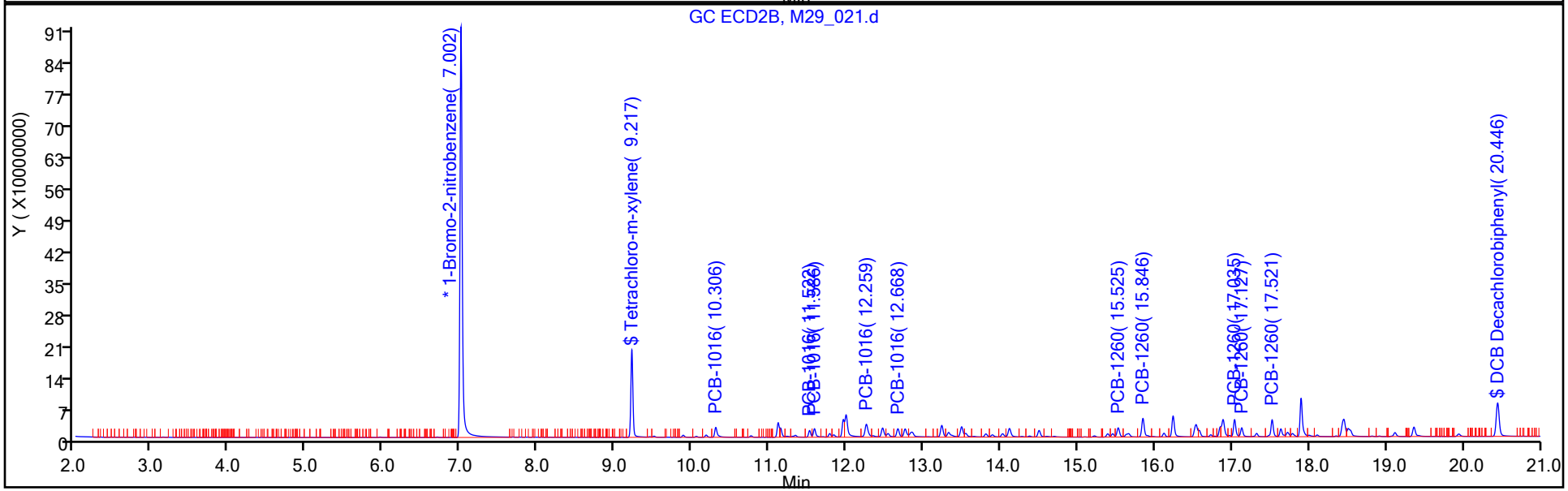

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-2

SDG No.:

Lab Sample ID: CCVIS 600-275246/2 Calibration Date: 09/19/2019 15:55

Instrument ID: CHECD09 Calib Start Date: 07/30/2019 01:47

GC Column: RTX-CLP1 ID: 0.32(mm) Calib End Date: 07/30/2019 04:07

Lab File ID: L19_017.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Tetrachloro-m-xylene	Ave	102.4	104.6		51.1	50.0	2.2	20.0
DCB Decachlorobiphenyl	Ave	67.77	79.92		59.0	50.0	17.9	20.0

FORM VII 8082

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-2

SDG No.:

Lab Sample ID: CCVIS 600-275246/2 Calibration Date: 09/19/2019 15:55

Instrument ID: CHECD09 Calib Start Date: 07/30/2019 01:47

GC Column: RTX-CLP1 ID: 0.32(mm) Calib End Date: 07/30/2019 04:07

Lab File ID: L19_017.d

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	9.63	9.62	9.64
PCB-1016 Peak 2	10.37	10.36	10.38
PCB-1016 Peak 3	11.54	11.53	11.55
PCB-1016 Peak 4	11.65	11.64	11.66
PCB-1016 Peak 5	13.11	13.10	13.12
PCB-1260 Peak 1	14.55	14.54	14.56
PCB-1260 Peak 2	14.84	14.83	14.85
PCB-1260 Peak 3	15.66	15.65	15.67
PCB-1260 Peak 4	16.17	16.16	16.18
PCB-1260 Peak 5	16.62	16.61	16.63
Tetrachloro-m-xylene	8.80	8.79	8.81
DCB Decachlorobiphenyl	19.26	19.25	19.27

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_017.d
Lims ID: ccvis
Client ID:
Sample Type: CCVIS
Inject. Date: 19-Sep-2019 15:55:47 ALS Bottle#: 17 Worklist Smp#: 2
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031198-002
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVIPCBCHECD09IS*sub1

Method: \\chromna\Houston\ChromData\CHECD09\20190919-31198.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 20-Sep-2019 10:43:36 Calib Date: 30-Jul-2019 04:07:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0334

First Level Reviewer: lamj Date: 19-Sep-2019 16:22:59

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							M
1	6.864	6.864	0.000	4573833092	50.0	50.0	M
2	6.921	6.921	0.000	2999966307	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	8.795	8.795	0.000	478403964	0.0500	0.0511	
2	9.128	9.128	0.000	285589830	0.0500	0.0529	
						RPD = 3.46	
$ 3 DCB Decachlorobiphenyl							M
1	19.260	19.260	0.000	365527847	0.0500	0.0590	
2	20.319	20.319	0.000	245779780	0.0500	0.0685	M
						RPD = 14.92	
7 PCB-1016							M
1	9.633	9.633	0.000	76311059	0.5000	0.4846	
1	10.369	10.369	0.000	122103906	0.5000	0.4426	M
1	11.536	11.536	0.000	105474332	0.5000	0.4335	M
1	11.654	11.654	0.000	75534030	0.5000	0.4754	M
1	13.108	13.108	0.000	47533290	0.5000	0.4527	M
		Average of Peak Amounts =				0.4577	
2	10.214	10.214	0.000	40478507	0.5000	0.4731	
2	11.424	11.424	0.000	20295568	0.5000	0.4233	
2	11.487	11.487	0.000	29054942	0.5000	0.4199	
2	12.154	12.154	0.000	62090848	0.5000	0.4678	
2	12.553	12.553	0.000	31488228	0.5000	0.4271	
		Average of Peak Amounts =				0.4423	
						RPD = 3.43	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 PCB-1260							M
1	14.552	14.552	0.000	65448938	0.5000	0.4540	M
1	14.837	14.837	0.000	122246622	0.5000	0.3989	M
1	15.660	15.660	0.000	87498990	0.5000	0.4576	M
1	16.173	16.173	0.000	142451746	0.5000	0.5255	M
1	16.621	16.621	0.000	101891772	0.5000	0.4137	
		Average of Peak Amounts =				0.4499	
2	15.407	15.407	0.000	37893997	0.5000	0.4867	
2	15.730	15.730	0.000	80857015	0.5000	0.4785	
2	16.935	16.935	0.000	74309533	0.5000	0.5602	
2	17.029	17.029	0.000	38863952	0.5000	0.5430	
2	17.426	17.426	0.000	80060150	0.5000	0.5730	
		Average of Peak Amounts =				0.5283	
						RPD = 16.01	
43 1260 Res 1							Ma
1	17.597	17.597	0.000	132713784	NR	NR	M
2	18.359	18.359	0.000	134088488	NR	NR	a
41 1260 Res 2							Ma
1	17.640	17.640	0.000	72948877	NR	NR	M
2	18.417	18.417	0.000	70929338	NR	NR	a
42 1260 Res 3							
1	17.710	17.710	0.000	83623469	NR	NR	
2	18.539	18.539	0.000	2017392	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard
Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

PCBCURVE4I_00022	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 20-Sep-2019 10:43:37 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_017.d				
Injection Date:	19-Sep-2019 15:55:47	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ccvis			Worklist Smp#:	2
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	17
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

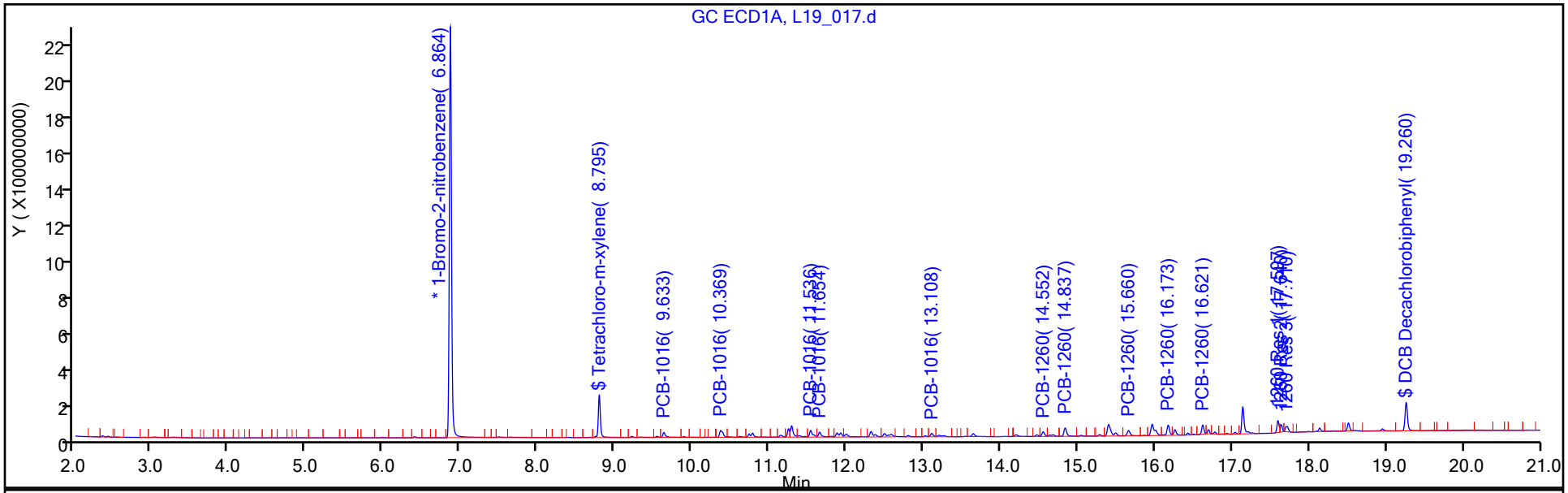

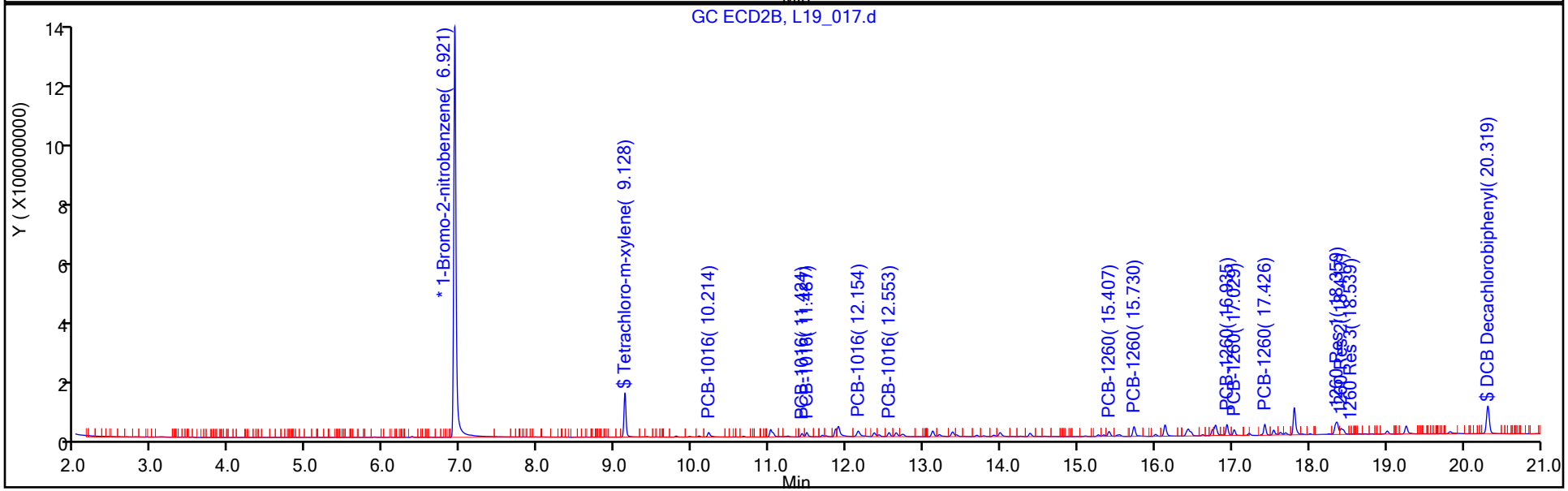

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_017.d				
Injection Date:	19-Sep-2019 15:55:47	Instrument ID:	CHECD09		
Lims ID:	ccvis				
Client ID:					
Operator ID:	JL	ALS Bottle#:	17	Worklist Smp#:	2
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD1A		

* 1 1-Bromo-2-nitrobenzene, CAS: 577-19-5

Signal: 1

Processing Integration Results

RT: 6.86
Area: 4584426225
Amount: 50.000000
Amount Units: ug/ml

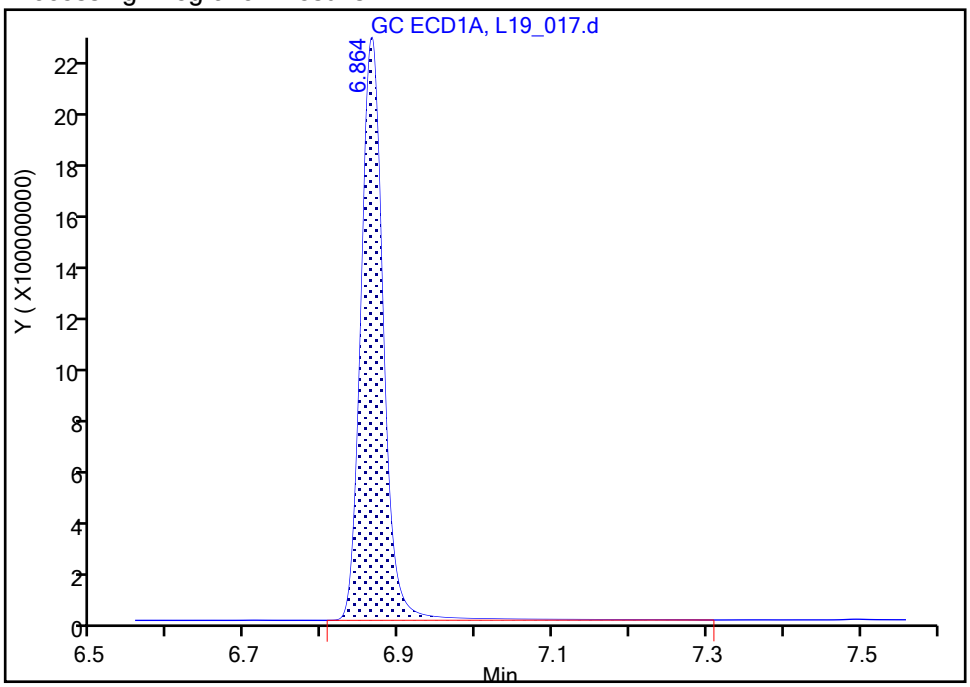

Manual Integration Results

RT: 6.86
Area: 4573833092
Amount: 50.000000
Amount Units: ug/ml

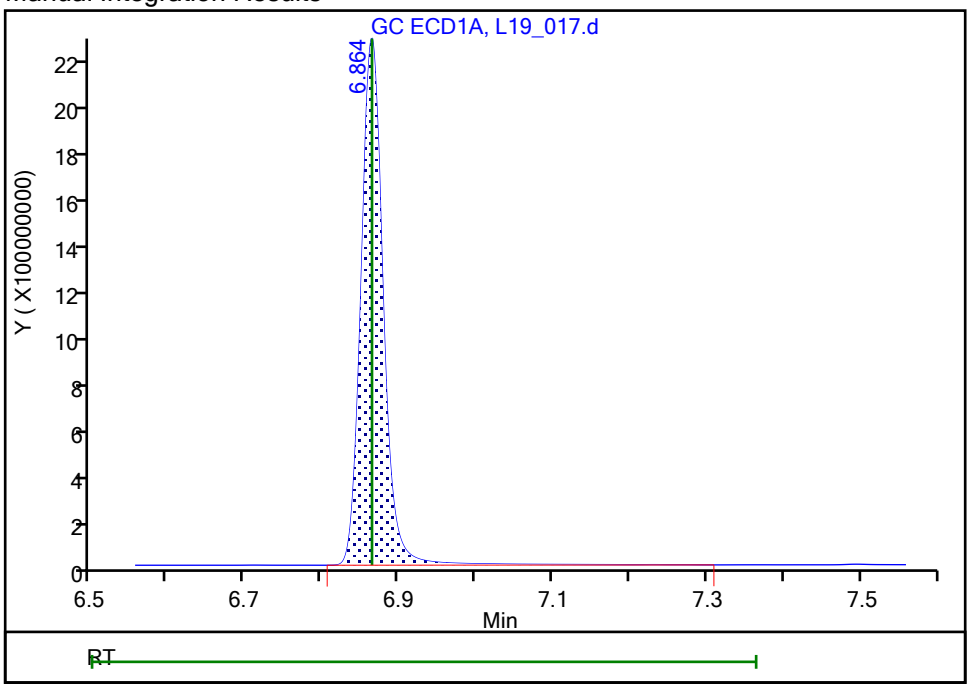

Reviewer: lamj, 19-Sep-2019 16:23:26
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Report Date: 20-Sep-2019 10:43:38 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File: \\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_017.d
Injection Date: 19-Sep-2019 15:55:47 Instrument ID: CHECD09
Lims ID: ccvis
Client ID:
Operator ID: JL ALS Bottle#: 17 Worklist Smp#: 2
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Method: LVIPCBCHECD09IS Limit Group: GCSV - 8082
Column: Detector GC ECD1A

7 PCB-1016, CAS: 12674-11-2

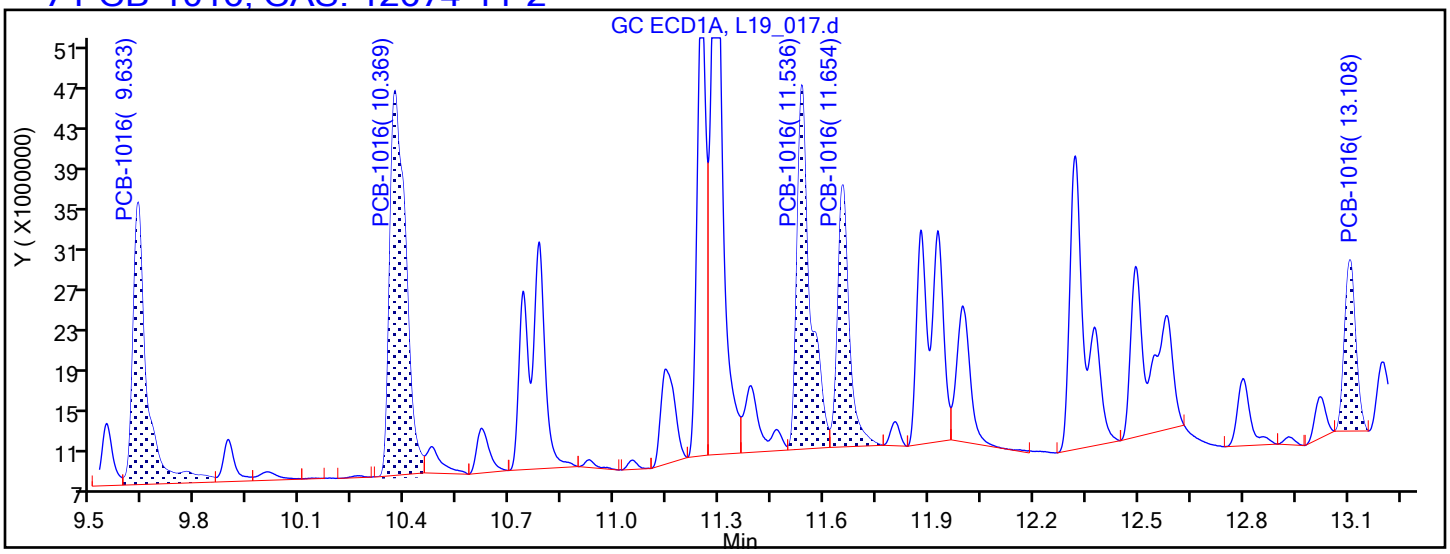

Processing Integration Results

9.633	Response = 76311059
10.369	Response = 119480769
11.536	Response = 93541086
11.654	Response = 59570508
13.108	Response = 37465157

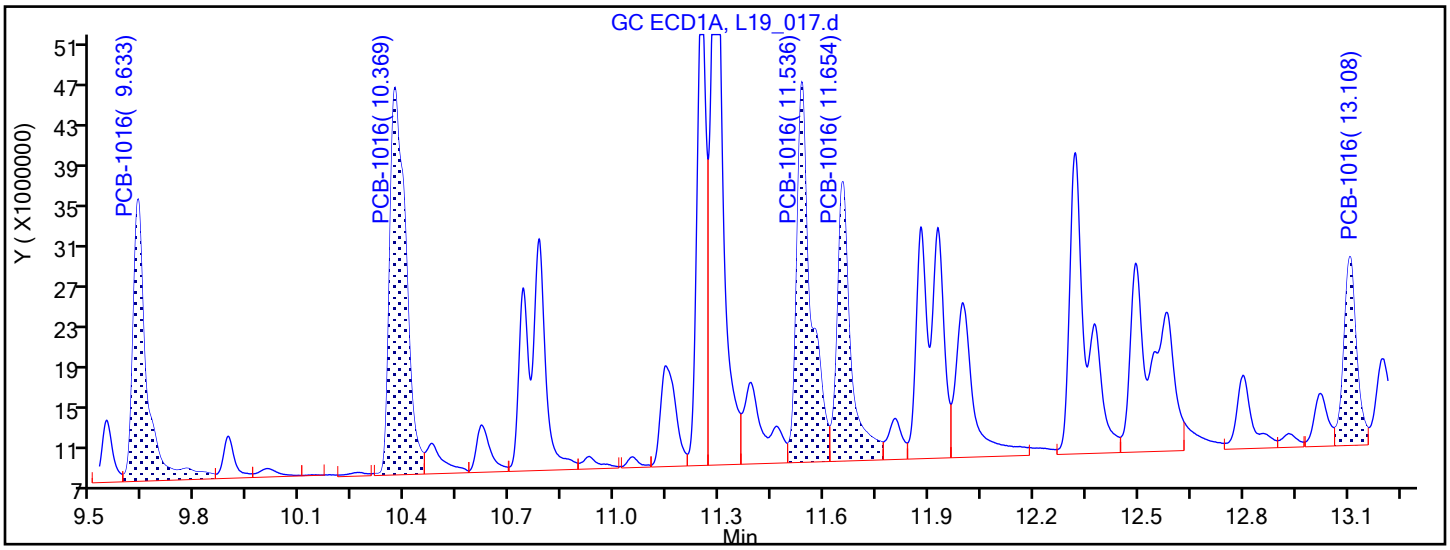

Manual Integration Results

9.633	Response = 76311059	
10.369	Response = 122103906	M
11.536	Response = 105474332	M
11.654	Response = 75534030	M
13.108	Response = 47533290	M

Reviewer: lamj, 19-Sep-2019 16:23:56
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Report Date: 20-Sep-2019 10:43:38 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File: \\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_017.d
Injection Date: 19-Sep-2019 15:55:47 Instrument ID: CHECD09
Lims ID: ccvis
Client ID:
Operator ID: JL ALS Bottle#: 17 Worklist Smp#: 2
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Method: LVIPCBCHECD09IS Limit Group: GCSV - 8082
Column: Detector GC ECD1A

10 PCB-1260, CAS: 11096-82-5

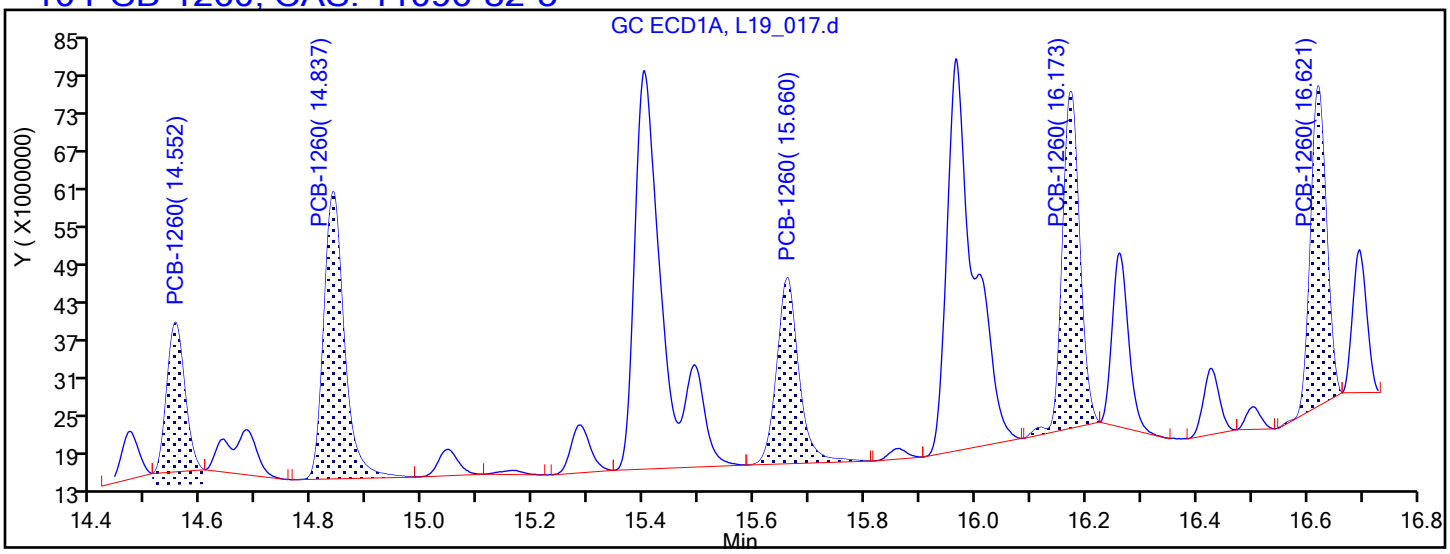

Processing Integration Results

14.552	Response = 53649177
14.837	Response = 117467972
15.660	Response = 81740312
16.173	Response = 116907370
16.621	Response = 101891772

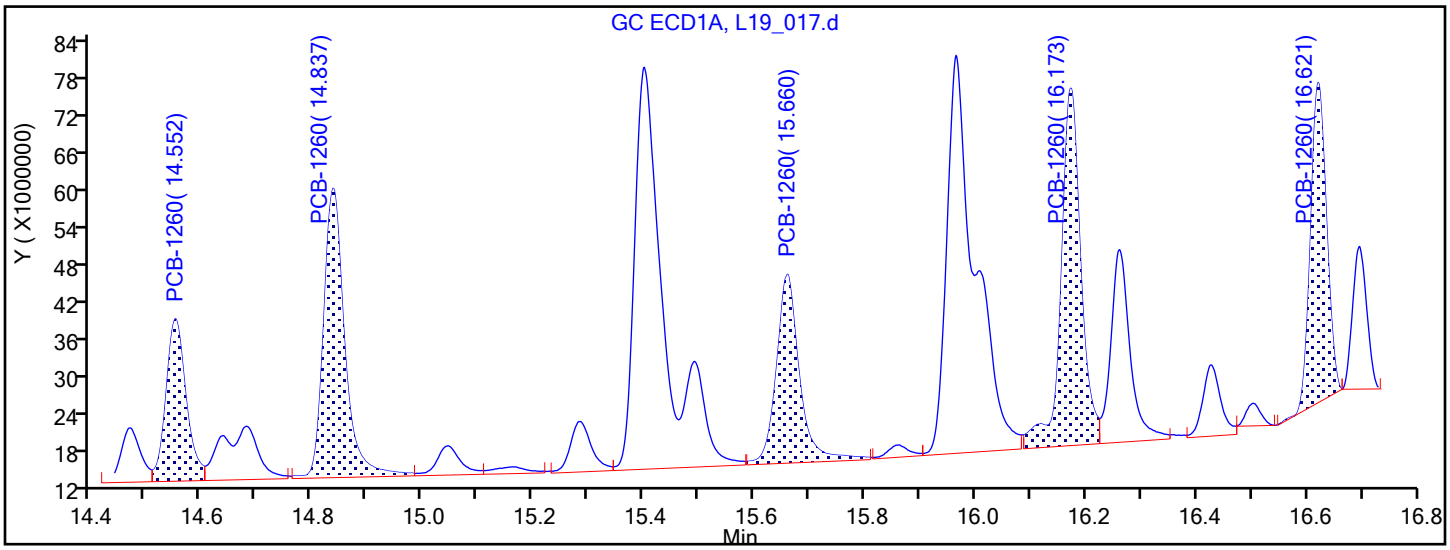

Manual Integration Results

14.552	Response = 65448938	M
14.837	Response = 122246622	M
15.660	Response = 87498990	M
16.173	Response = 142451746	M
16.621	Response = 101891772	

Reviewer: lamj, 19-Sep-2019 16:23:38

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM VII
PCBS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-2

SDG No.:

Lab Sample ID: CCVIS 600-275246/2 Calibration Date: 09/19/2019 15:55

Instrument ID: CHECD09 Calib Start Date: 07/30/2019 01:47

GC Column: RTX-CLP2 ID: 0.32(mm) Calib End Date: 07/30/2019 04:07

Lab File ID: L19_017.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Tetrachloro-m-xylene	Ave	90.00	95.20		52.9	50.0	5.8	20.0
DCB Decachlorobiphenyl	Ave	59.83	81.93		68.5	50.0	36.9*	20.0

FORM VII 8082

FORM VII
PCBS CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-2

SDG No.:

Lab Sample ID: CCVIS 600-275246/2 Calibration Date: 09/19/2019 15:55

Instrument ID: CHECD09 Calib Start Date: 07/30/2019 01:47

GC Column: RTX-CLP2 ID: 0.32(mm) Calib End Date: 07/30/2019 04:07

Lab File ID: L19_017.d

Analyte	RT	RT WINDOW	
		FROM	TO
PCB-1016 Peak 1	10.21	10.20	10.22
PCB-1016 Peak 2	11.42	11.41	11.43
PCB-1016 Peak 3	11.49	11.48	11.50
PCB-1016 Peak 4	12.15	12.14	12.16
PCB-1016 Peak 5	12.55	12.54	12.56
PCB-1260 Peak 1	15.41	15.40	15.42
PCB-1260 Peak 2	15.73	15.72	15.74
PCB-1260 Peak 3	16.94	16.93	16.95
PCB-1260 Peak 4	17.03	17.02	17.04
PCB-1260 Peak 5	17.43	17.42	17.44
Tetrachloro-m-xylene	9.13	9.12	9.14
DCB Decachlorobiphenyl	20.32	20.31	20.33

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_017.d
Lims ID: ccvis
Client ID:
Sample Type: CCVIS
Inject. Date: 19-Sep-2019 15:55:47 ALS Bottle#: 17 Worklist Smp#: 2
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031198-002
Operator ID: JL Instrument ID: CHECD09
Sublist: chrom-LVIPCBCHECD09IS*sub1

Method: \\chromna\Houston\ChromData\CHECD09\20190919-31198.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 20-Sep-2019 10:43:36 Calib Date: 30-Jul-2019 04:07:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0334

First Level Reviewer: lamj Date: 19-Sep-2019 16:22:59

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							M
1	6.864	6.864	0.000	4573833092	50.0	50.0	M
2	6.921	6.921	0.000	2999966307	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	8.795	8.795	0.000	478403964	0.0500	0.0511	
2	9.128	9.128	0.000	285589830	0.0500	0.0529	
						RPD = 3.46	
$ 3 DCB Decachlorobiphenyl							M
1	19.260	19.260	0.000	365527847	0.0500	0.0590	
2	20.319	20.319	0.000	245779780	0.0500	0.0685	M
						RPD = 14.92	
7 PCB-1016							M
1	9.633	9.633	0.000	76311059	0.5000	0.4846	
1	10.369	10.369	0.000	122103906	0.5000	0.4426	M
1	11.536	11.536	0.000	105474332	0.5000	0.4335	M
1	11.654	11.654	0.000	75534030	0.5000	0.4754	M
1	13.108	13.108	0.000	47533290	0.5000	0.4527	M
		Average of Peak Amounts =				0.4577	
2	10.214	10.214	0.000	40478507	0.5000	0.4731	
2	11.424	11.424	0.000	20295568	0.5000	0.4233	
2	11.487	11.487	0.000	29054942	0.5000	0.4199	
2	12.154	12.154	0.000	62090848	0.5000	0.4678	
2	12.553	12.553	0.000	31488228	0.5000	0.4271	
		Average of Peak Amounts =				0.4423	
						RPD = 3.43	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 PCB-1260							M
1	14.552	14.552	0.000	65448938	0.5000	0.4540	M
1	14.837	14.837	0.000	122246622	0.5000	0.3989	M
1	15.660	15.660	0.000	87498990	0.5000	0.4576	M
1	16.173	16.173	0.000	142451746	0.5000	0.5255	M
1	16.621	16.621	0.000	101891772	0.5000	0.4137	
		Average of Peak Amounts =				0.4499	
2	15.407	15.407	0.000	37893997	0.5000	0.4867	
2	15.730	15.730	0.000	80857015	0.5000	0.4785	
2	16.935	16.935	0.000	74309533	0.5000	0.5602	
2	17.029	17.029	0.000	38863952	0.5000	0.5430	
2	17.426	17.426	0.000	80060150	0.5000	0.5730	
		Average of Peak Amounts =				0.5283	
						RPD = 16.01	
43 1260 Res 1							Ma
1	17.597	17.597	0.000	132713784	NR	NR	M
2	18.359	18.359	0.000	134088488	NR	NR	a
41 1260 Res 2							Ma
1	17.640	17.640	0.000	72948877	NR	NR	M
2	18.417	18.417	0.000	70929338	NR	NR	a
42 1260 Res 3							
1	17.710	17.710	0.000	83623469	NR	NR	
2	18.539	18.539	0.000	2017392	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard
Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

PCBCURVE4I_00022	Amount Added:	1.00	Units: mL	
PST_IS 2_00063	Amount Added:	1.00	Units: mL	Run Reagent

Report Date: 20-Sep-2019 10:43:39 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_017.d				
Injection Date:	19-Sep-2019 15:55:47	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	ccvis			Worklist Smp#:	2
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	17
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

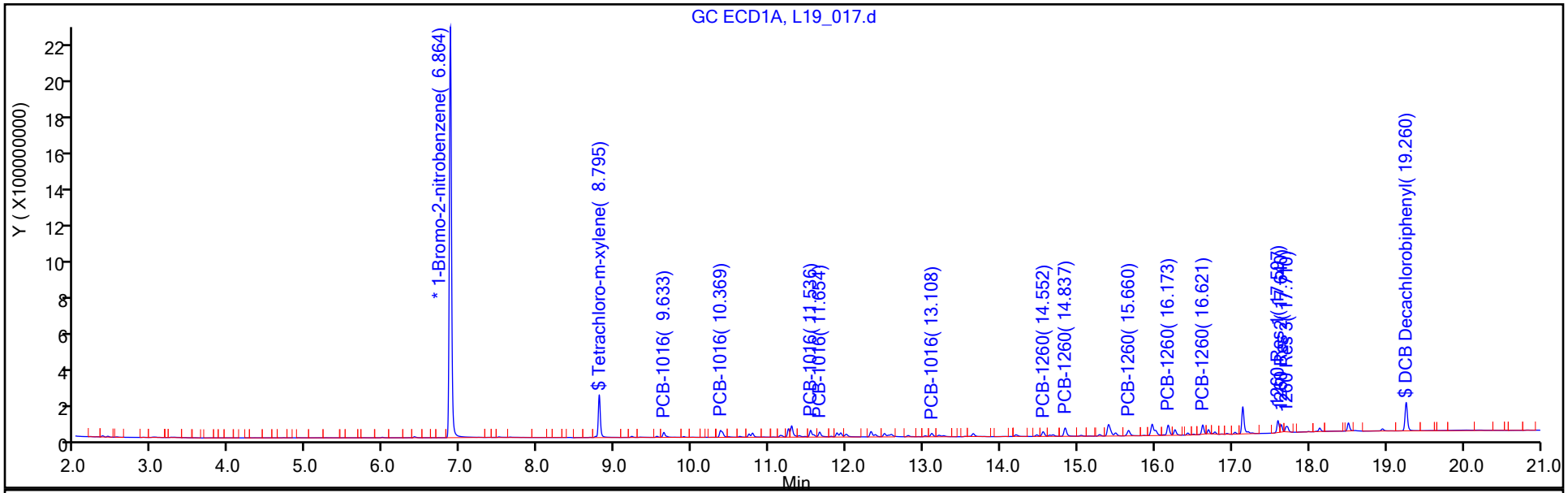

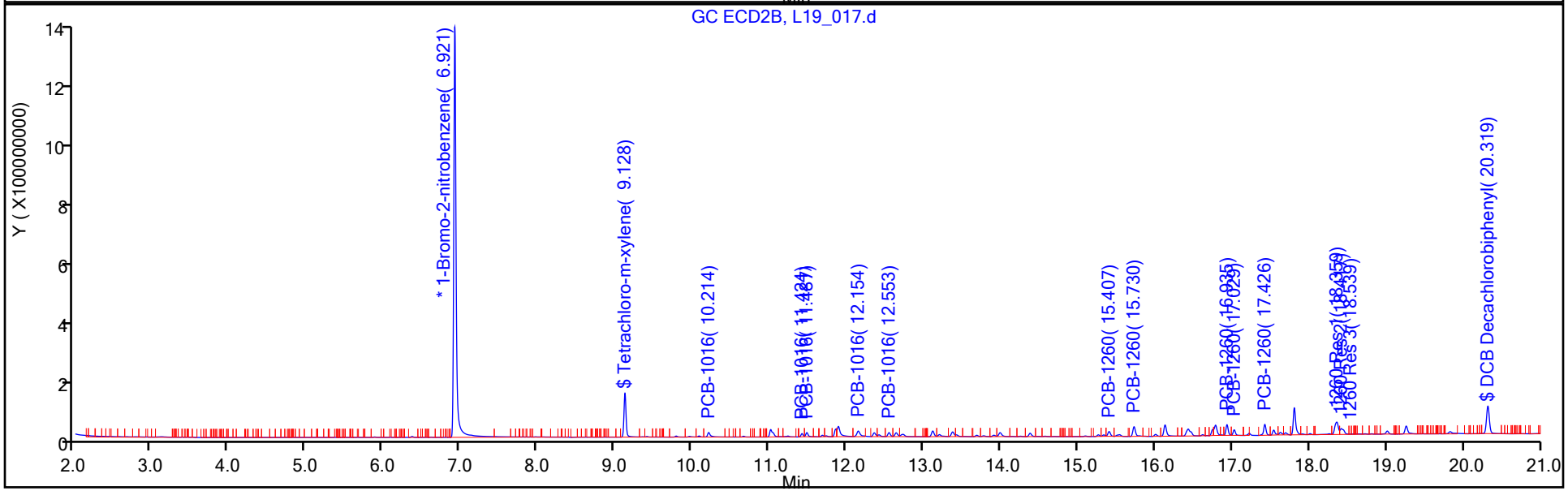

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_017.d				
Injection Date:	19-Sep-2019 15:55:47	Instrument ID:	CHECD09		
Lims ID:	ccvis				
Client ID:					
Operator ID:	JL	ALS Bottle#:	17	Worklist Smp#:	2
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD2B		

$ 3 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 2

Processing Integration Results

RT: 20.32
Area: 258240093
Amount: 0.071942
Amount Units: ug/ml

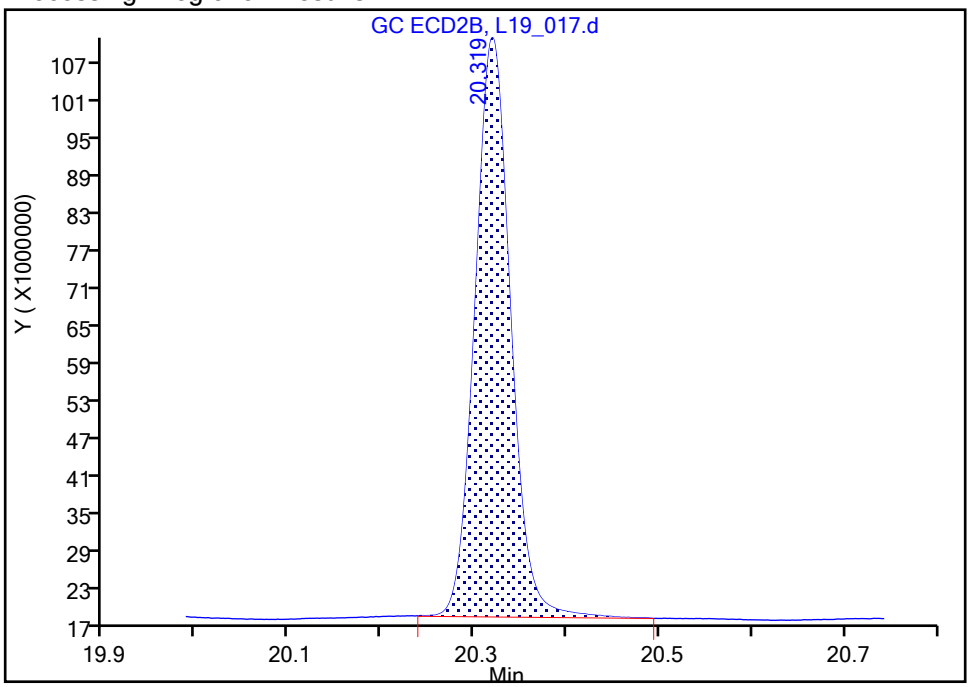

Manual Integration Results

RT: 20.32
Area: 245779780
Amount: 0.068470
Amount Units: ug/ml

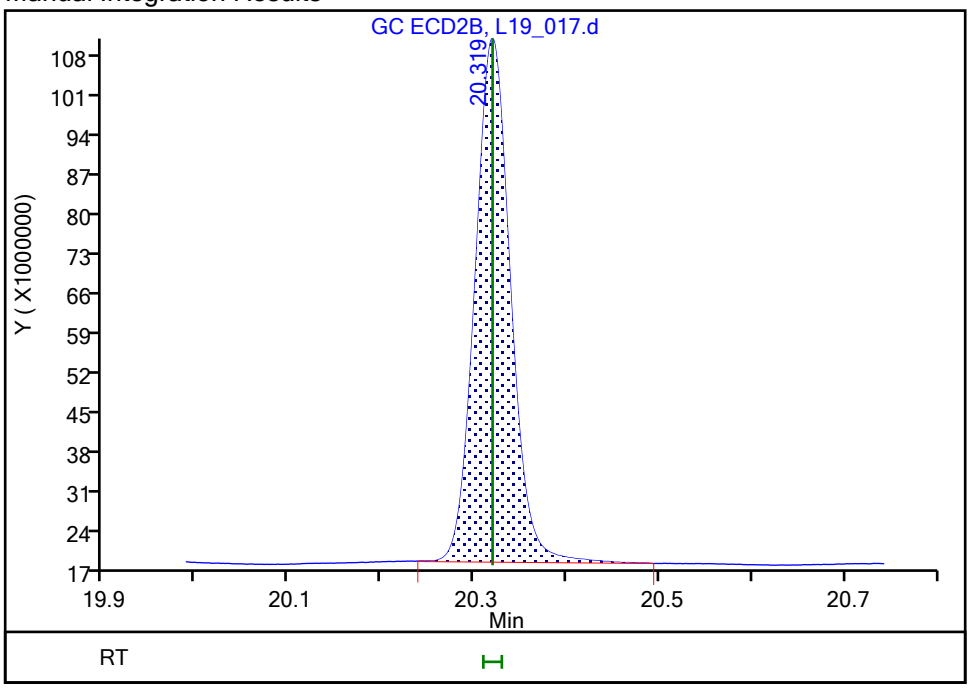

Reviewer: lamj, 19-Sep-2019 16:25:11
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-191956-2
SDG No.:
Client Sample ID:
Lab Sample ID: MB 600-274969/1-A
Matrix: Water
Lab File ID: L19_018.d
Analysis Method: 8082
Date Collected:
Extraction Method: 3510C
Date Extracted: 09/17/2019 10:16
Sample wt/vol: 250(mL)
Date Analyzed: 09/19/2019 16:23
Con. Extract Vol.: 5.0(mL)
Dilution Factor: 1
Injection Volume: 5(uL)
GC Column: RTX-CLP1 ID: 0.32(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 275246
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
12674-11-2	PCB-1016	ND		1.0	0.54
11104-28-2	PCB-1221	ND		1.0	0.44
11141-16-5	PCB-1232	ND		1.0	0.12
53469-21-9	PCB-1242	ND		1.0	0.16
12672-29-6	PCB-1248	ND		1.0	0.20
11097-69-1	PCB-1254	ND		1.0	0.14
11096-82-5	PCB-1260	ND		1.0	0.34

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene	78		32-150
2051-24-3	DCB Decachlorobiphenyl	104		26-130

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_018.d
Lims ID: MB 600-274969/1-A
Client ID:
Sample Type: MB
Inject. Date: 19-Sep-2019 16:23:57 ALS Bottle#: 18 Worklist Smp#: 3
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031198-003
Operator ID: JL Instrument ID: CHECD09

Method: \\chromna\Houston\ChromData\CHECD09\20190919-31198.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 20-Sep-2019 10:43:36 Calib Date: 30-Jul-2019 04:07:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0334

First Level Reviewer: lamj Date: 19-Sep-2019 16:48:59

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.875	6.864	0.011	3930784358	50.0	50.0	
2	6.931	6.921	0.010	2396277710	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							
1	8.799	8.795	0.004	126246285	0.0200	0.0157	
2	9.131	9.128	0.003	73622089	0.0200	0.0171	
						RPD = 8.44	
$ 3 DCB Decachlorobiphenyl							M
1	19.260	19.260	0.000	111128199	0.0200	0.0209	M
2	20.320	20.319	0.001	68080953	0.0200	0.0237	M
						RPD = 12.94	
43 1260 Res 1							
1	17.610	17.597	0.013	2883740		NR	
2	18.445	18.359	0.086	7336460		NR	
42 1260 Res 3							
1	17.696	17.710	-0.014	1459792		NR	
2	18.496	18.539	-0.042	48172117		NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard
Review Flags
M - Manually Integrated

Reagents:

PST_IS 2_00063 Amount Added: 1.00 Units: mL Run Reagent

Report Date: 20-Sep-2019 10:43:42 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_018.d				
Injection Date:	19-Sep-2019 16:23:57	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	MB 600-274969/1-A			Worklist Smp#:	3
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	18
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

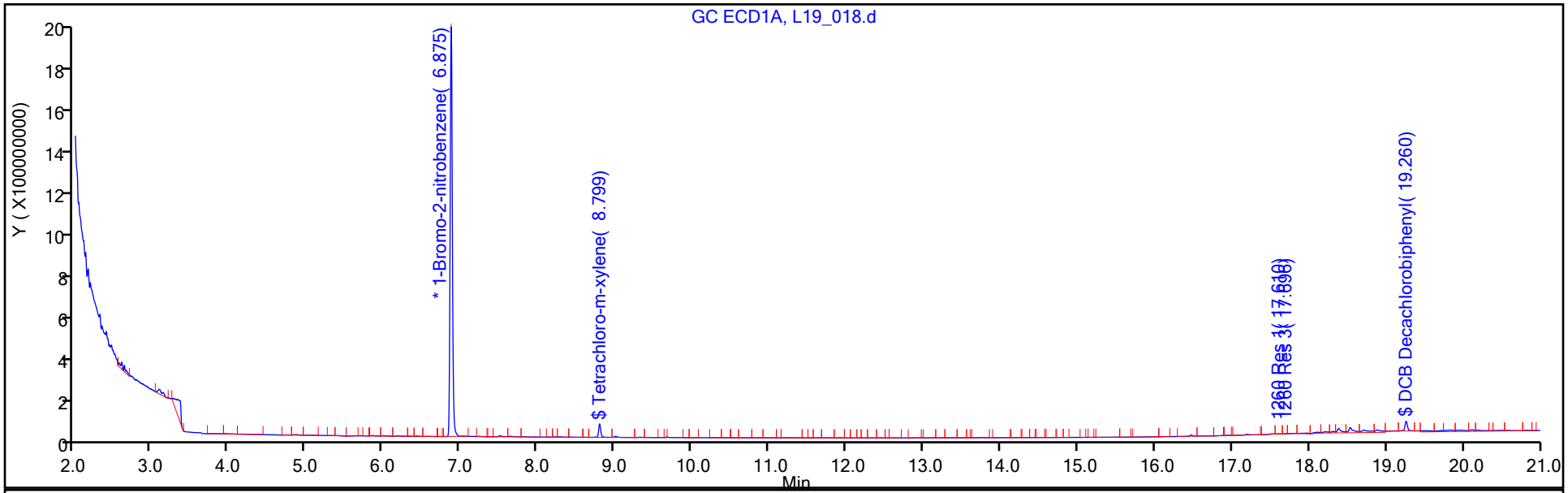

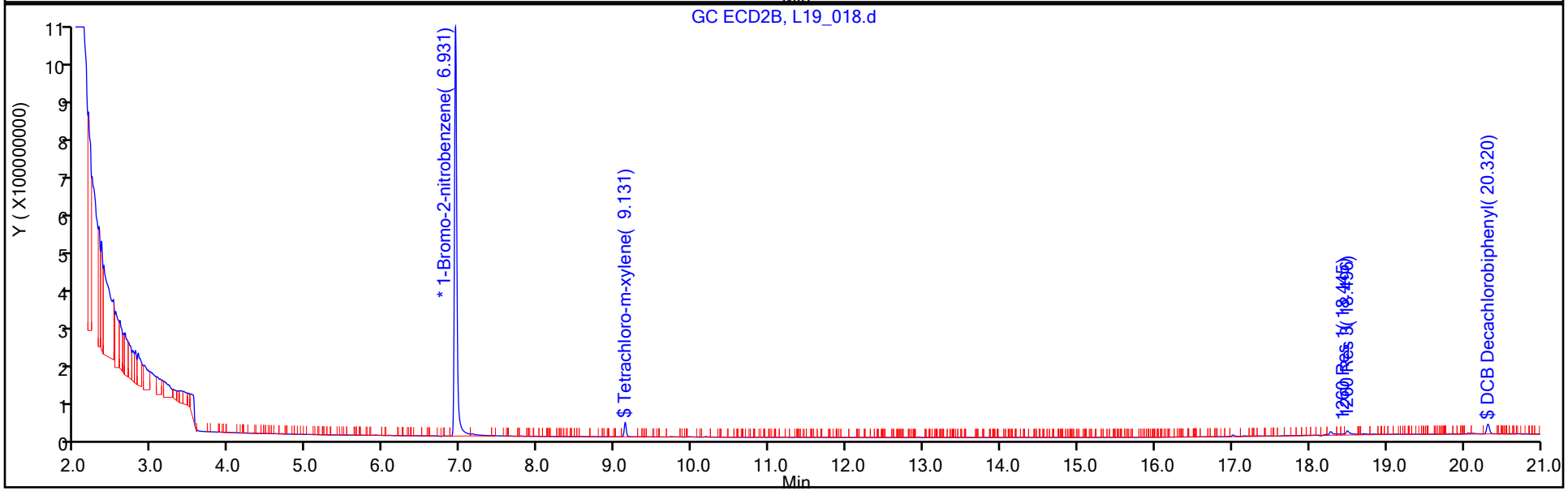

Eurofins TestAmerica, Houston
Recovery Report

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_018.d				
Lims ID:	MB 600-274969/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	19-Sep-2019 16:23:57	ALS Bottle#:	18	Worklist Smp#:	3
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Sample Info:	600-0031198-003				
Operator ID:	JL	Instrument ID:	CHECD09		
Method:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\LVIPCBCHECD09IS.m				
Limit Group:	GCSV - 8082				
Last Update:	20-Sep-2019 10:43:36	Calib Date:	30-Jul-2019 04:07:48		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d				
Column 1 :			Det: GC ECD1A		
Column 2 :			Det: GC ECD2B		
Process Host:	CTX0334				
First Level Reviewer: lamj		Date:	19-Sep-2019 16:48:59		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0157	78.43
$ 3 DCB Decachlorobiphenyl	0.0200	0.0209	104.30

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0171	85.34
$ 3 DCB Decachlorobiphenyl	0.0200	0.0237	118.72

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_018.d				
Injection Date:	19-Sep-2019 16:23:57	Instrument ID:	CHECD09		
Lims ID:	MB 600-274969/1-A				
Client ID:					
Operator ID:	JL	ALS Bottle#:	18	Worklist Smp#:	3
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD1A		

$ 3 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

Processing Integration Results

RT: 19.26
Area: 176696722
Amount: 0.033167
Amount Units: ug/ml

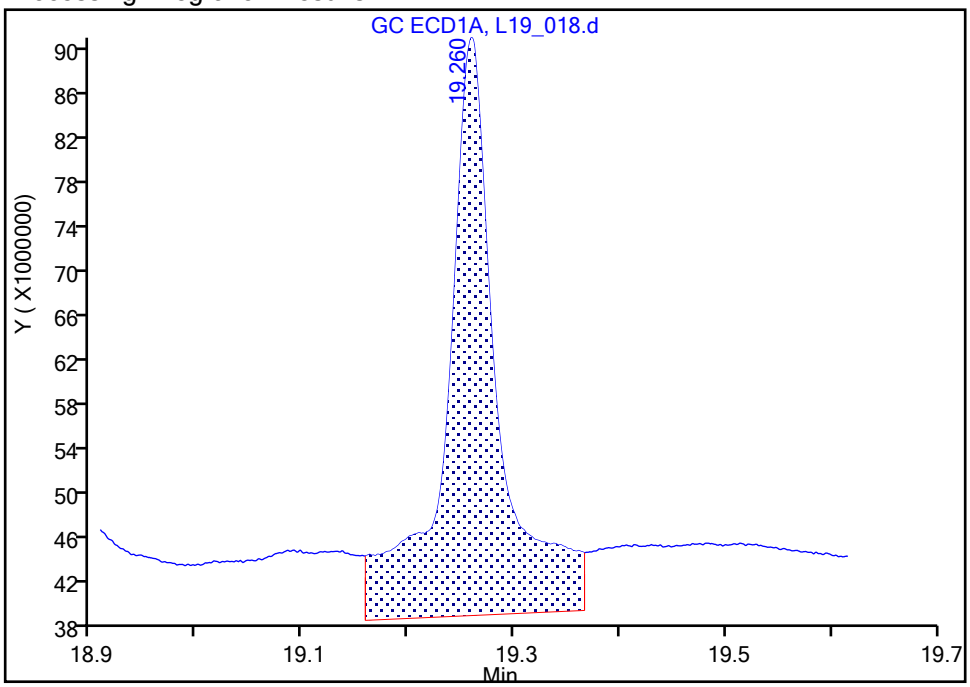

Manual Integration Results

RT: 19.26
Area: 111128199
Amount: 0.020859
Amount Units: ug/ml

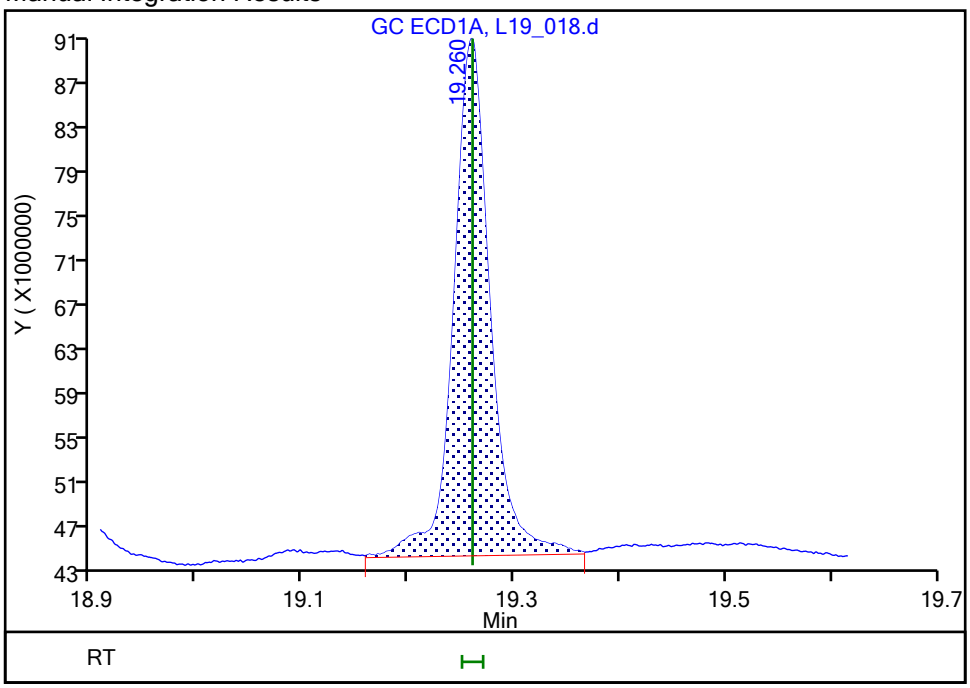

Reviewer: lamj, 19-Sep-2019 16:48:50

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-191956-2
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 600-274969/2-A
Matrix: Water
Lab File ID: L19_019.d
Analysis Method: 8082
Date Collected:
Extraction Method: 3510C
Date Extracted: 09/17/2019 10:16
Sample wt/vol: 250(mL)
Date Analyzed: 09/19/2019 16:52
Con. Extract Vol.: 5.0(mL)
Dilution Factor: 1
Injection Volume: 5(uL)
GC Column: RTX-CLP1 ID: 0.32(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 275246
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
12674-11-2	PCB-1016	9.12		1.0	0.54
11096-82-5	PCB-1260	9.56		1.0	0.34

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene	88	*	32-150
2051-24-3	DCB Decachlorobiphenyl	115	*	26-130

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_019.d
Lims ID: LCS 600-274969/2-A
Client ID:
Sample Type: LCS
Inject. Date: 19-Sep-2019 16:52:13 ALS Bottle#: 19 Worklist Smp#: 4
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031198-004
Operator ID: JL Instrument ID: CHECD09

Method: \\chromna\Houston\ChromData\CHECD09\20190919-31198.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 20-Sep-2019 10:43:36 Calib Date: 30-Jul-2019 04:07:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0334

First Level Reviewer: lamj Date: 20-Sep-2019 10:37:12

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.895	6.864	0.031	3644465321	50.0	50.0	
2	6.949	6.921	0.028	2216955416	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							Ma
1	8.807	8.795	0.012	130909533	0.0200	0.0175	M
2	9.137	9.128	0.009	79137247	0.0200	0.0198	a
						RPD = 12.24	
$ 3 DCB Decachlorobiphenyl							M
1	19.259	19.260	-0.001	113781307	0.0200	0.0230	
2	20.322	20.319	0.003	70026078	0.0200	0.0264	M
						RPD = 13.61	
7 PCB-1016							
1	9.637	9.633	0.004	51097140	0.5000	0.4072	
1	10.373	10.369	0.004	100780487	0.5000	0.4584	
1	11.538	11.536	0.002	81515517	0.5000	0.4204	
1	11.654	11.654	0.000	62984451	0.5000	0.4975	
1	13.109	13.108	0.001	41516773	0.5000	0.4962	
		Average of Peak Amounts =				0.4559	
2	10.217	10.214	0.003	31397492	0.5000	0.4966	
2	11.427	11.424	0.003	15496471	0.5000	0.4374	
2	11.489	11.487	0.002	22836552	0.5000	0.4466	
2	12.158	12.154	0.004	46478679	0.5000	0.4739	
2	12.556	12.553	0.003	23706647	0.5000	0.4352	
		Average of Peak Amounts =				0.4579	
						RPD = 0.44	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 PCB-1260							
1	14.550	14.552	-0.002	46804261	0.5000	0.4074	
1	14.836	14.837	-0.001	110165322	0.5000	0.4511	
1	15.659	15.660	-0.001	66649907	0.5000	0.4375	
1	16.173	16.173	0.000	139289436	0.5000	0.6449	
1	16.619	16.621	-0.002	88171872	0.5000	0.4493	
		Average of Peak Amounts =				0.4780	
2	15.407	15.407	0.000	32244889	0.5000	0.5604	
2	15.731	15.730	0.001	67266996	0.5000	0.5387	
2	16.936	16.935	0.001	55048799	0.5000	0.5616	
2	17.029	17.029	0.000	33387791	0.5000	0.6312	
2	17.428	17.426	0.002	66343957	0.5000	0.6425	
		Average of Peak Amounts =				0.5869	
						RPD = 20.44	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

PST_IS 2_00063 Amount Added: 1.00 Units: mL Run Reagent

Report Date: 20-Sep-2019 10:43:44 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_019.d				
Injection Date:	19-Sep-2019 16:52:13	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	LCS 600-274969/2-A			Worklist Smp#:	4
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	19
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

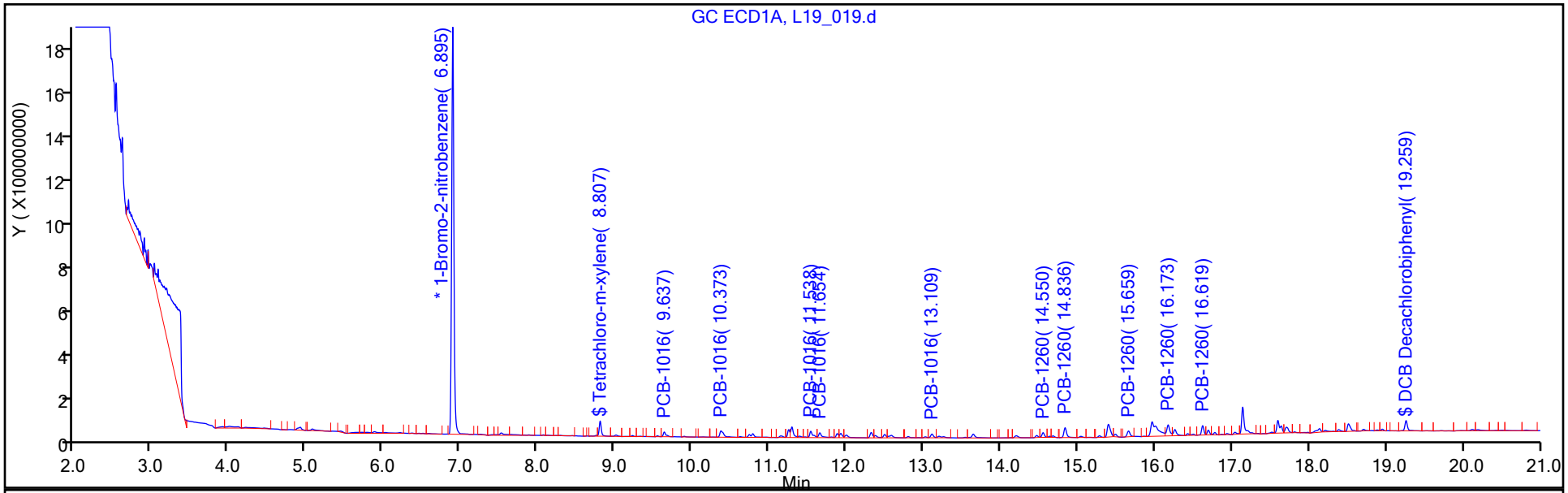

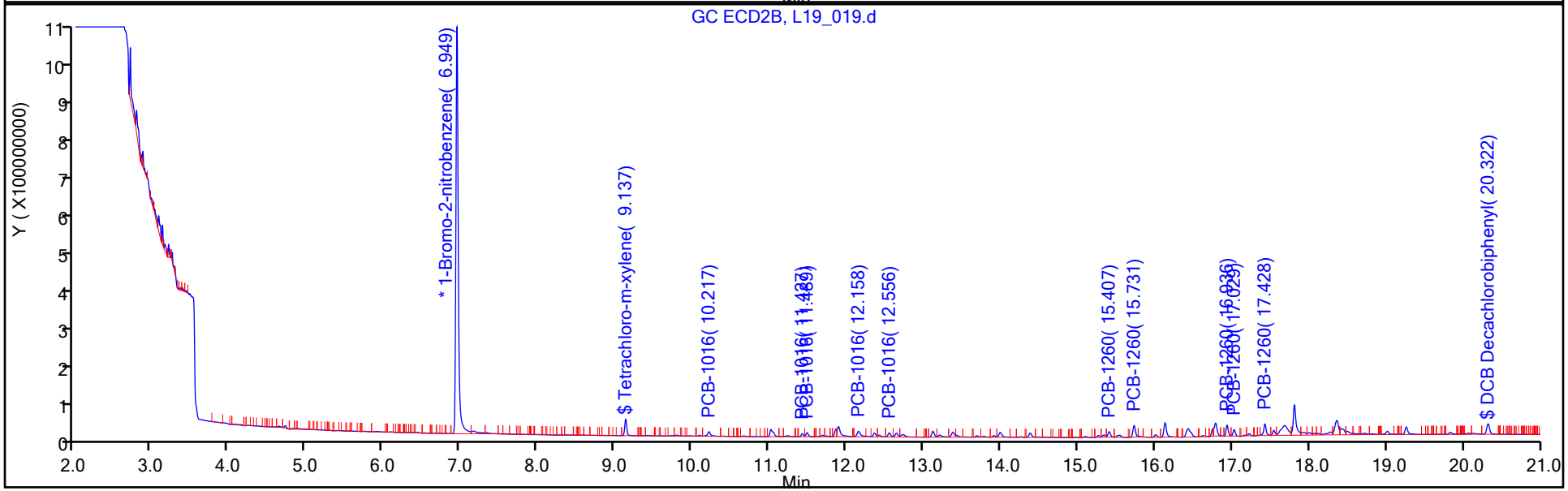

Eurofins TestAmerica, Houston
Recovery Report

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_019.d				
Lims ID:	LCS 600-274969/2-A				
Client ID:					
Sample Type:	LCS				
Inject. Date:	19-Sep-2019 16:52:13	ALS Bottle#:	19	Worklist Smp#:	4
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Sample Info:	600-0031198-004				
Operator ID:	JL	Instrument ID:	CHECD09		
Method:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\LVIPCBCHECD09IS.m				
Limit Group:	GCSV - 8082				
Last Update:	20-Sep-2019 10:43:36	Calib Date:	30-Jul-2019 04:07:48		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d				
Column 1 :			Det: GC ECD1A		
Column 2 :			Det: GC ECD2B		
Process Host:	CTX0334				
First Level Reviewer: lamj		Date:	20-Sep-2019 10:37:12		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0175	87.72
$ 3 DCB Decachlorobiphenyl	0.0200	0.0230	115.18

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0198	99.16
$ 3 DCB Decachlorobiphenyl	0.0200	0.0264	131.99

Report Date: 20-Sep-2019 10:43:44 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_019.d				
Injection Date:	19-Sep-2019 16:52:13	Instrument ID:	CHECD09		
Lims ID:	LCS 600-274969/2-A				
Client ID:					
Operator ID:	JL	ALS Bottle#:	19	Worklist Smp#:	4
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD1A		

7 PCB-1016, CAS: 12674-11-2

Calibration Sample, Level: 6

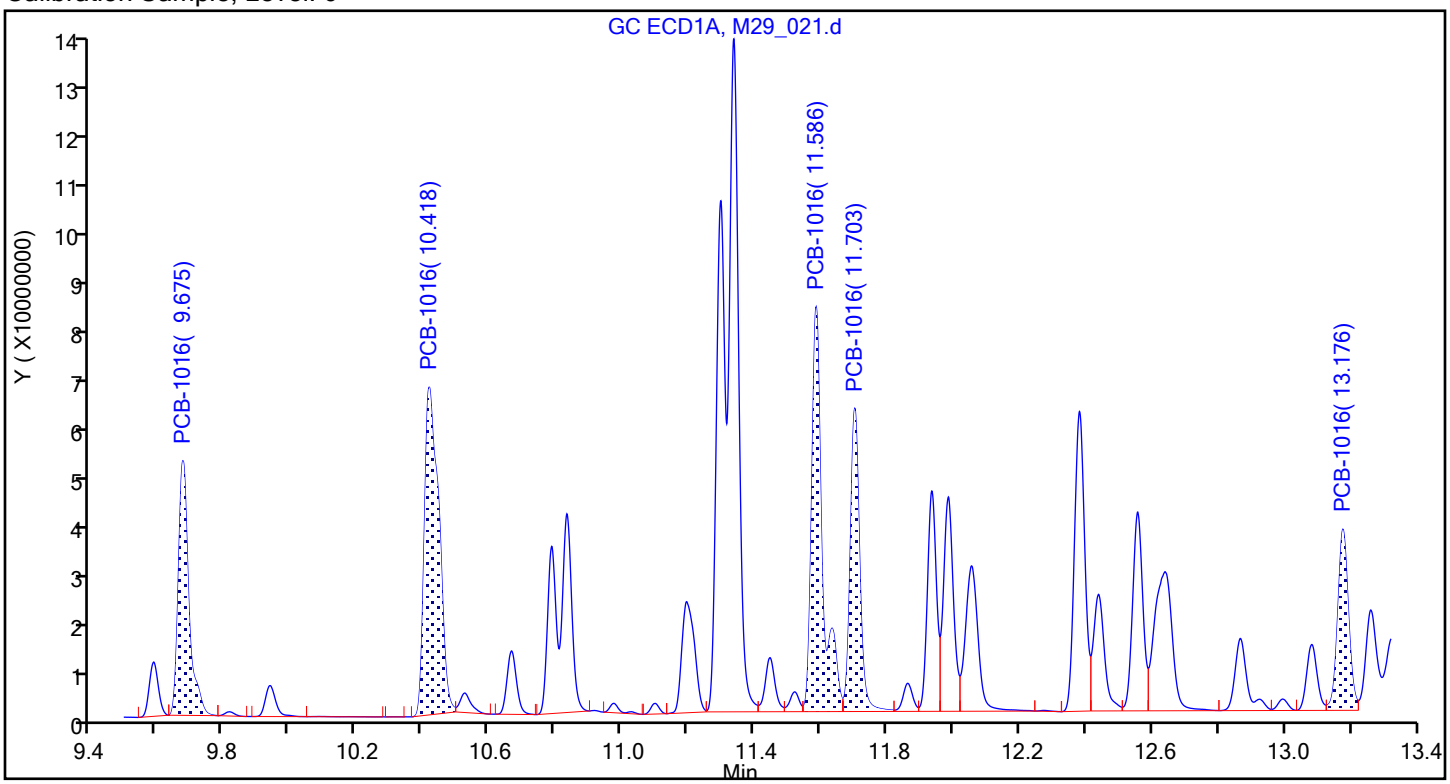

Sample

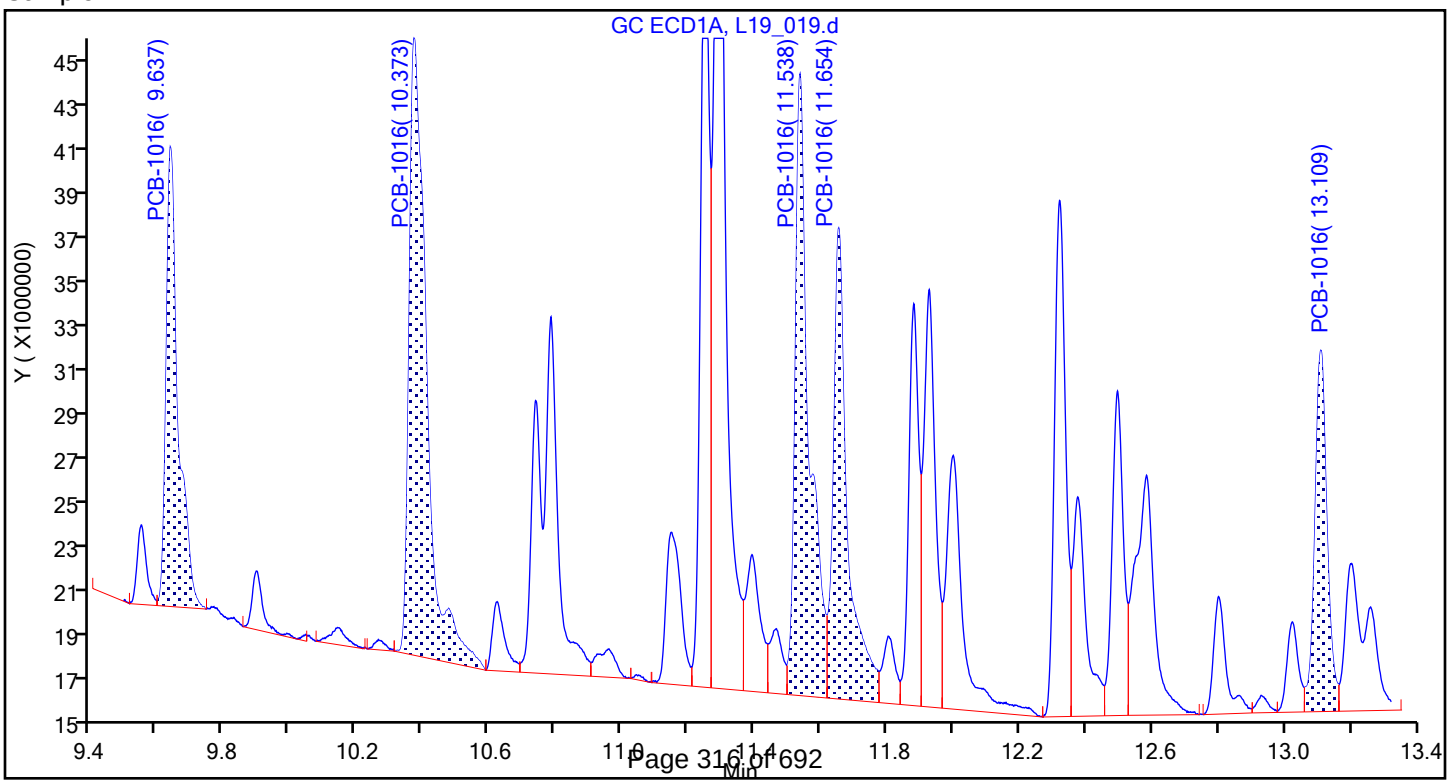

Report Date: 20-Sep-2019 10:43:44 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File: \\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_019.d

Injection Date: 19-Sep-2019 16:52:13 Instrument ID: CHECD09

Lims ID: LCS 600-274969/2-A

Client ID:

Operator ID: JL ALS Bottle#: 19 Worklist Smp#: 4

Injection Vol: 5.0 ul Dil. Factor: 1.0000

Method: LVIPCBCHECD09IS Limit Group: GCSV - 8082

Column: Detector GC ECD1A

10 PCB-1260, CAS: 11096-82-5

Calibration Sample, Level: 6

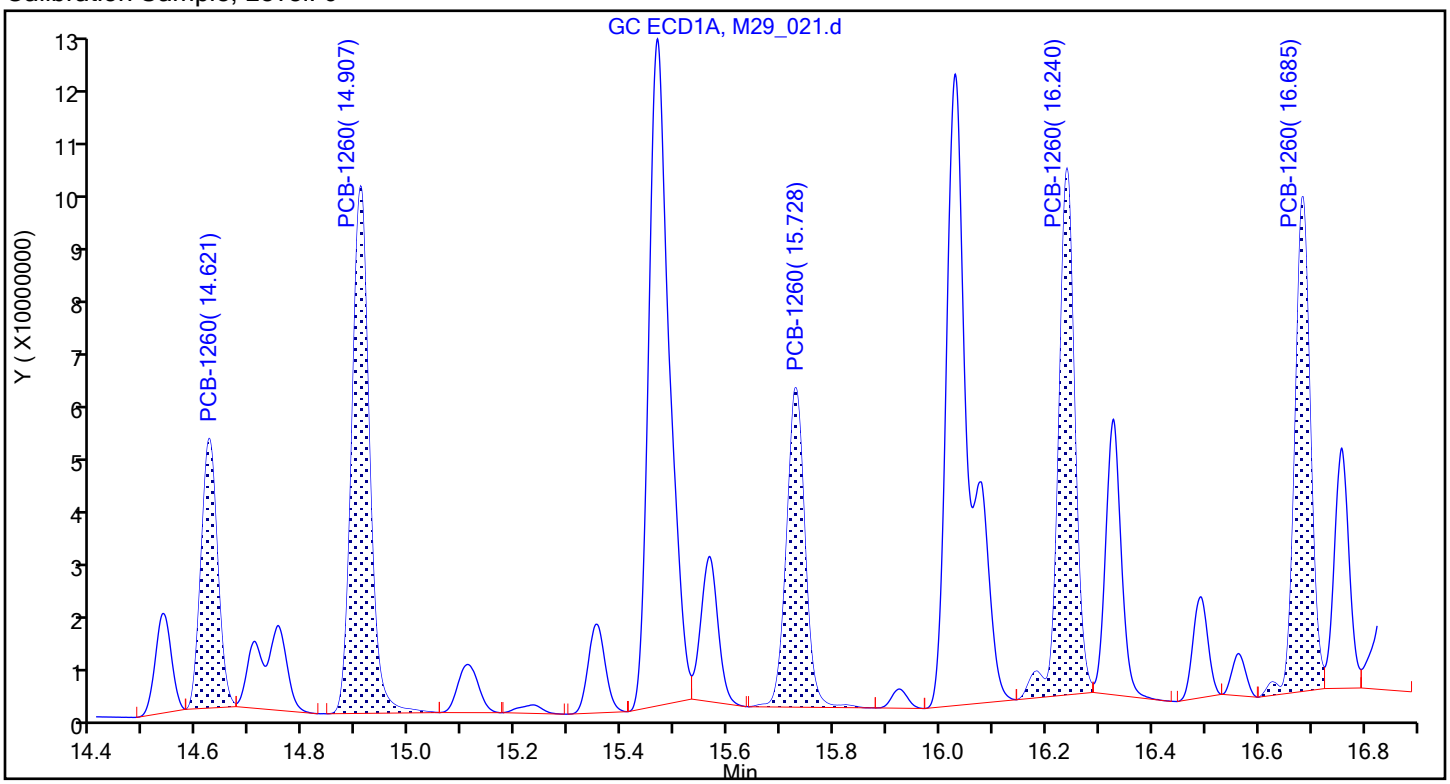

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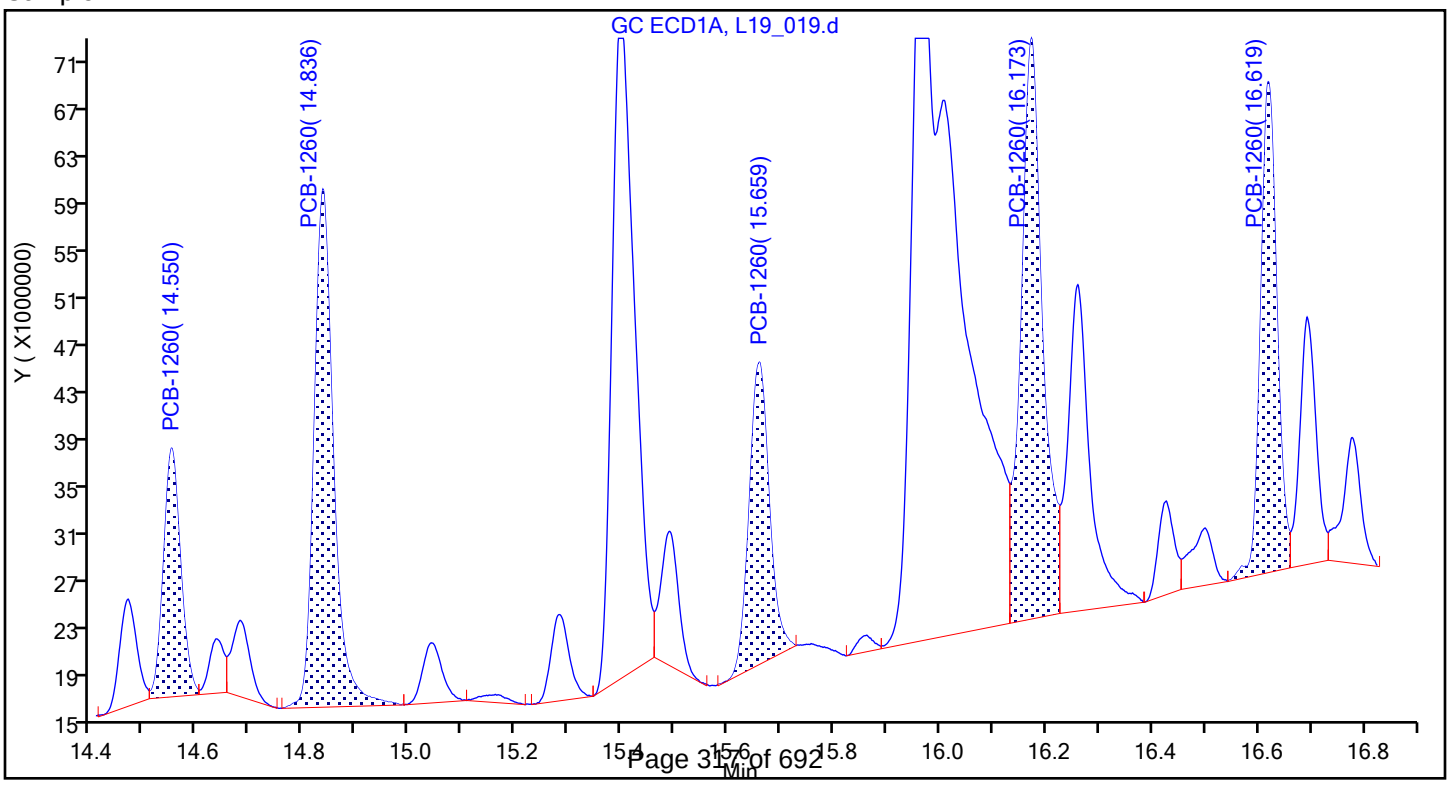

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_019.d				
Injection Date:	19-Sep-2019 16:52:13	Instrument ID:	CHECD09		
Lims ID:	LCS 600-274969/2-A				
Client ID:					
Operator ID:	JL	ALS Bottle#:	19	Worklist Smp#:	4
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD1A		

$ 2 Tetrachloro-m-xylene, CAS: 877-09-8

Signal: 1

Not Detected
Expected RT: 8.80

Processing Integration Results

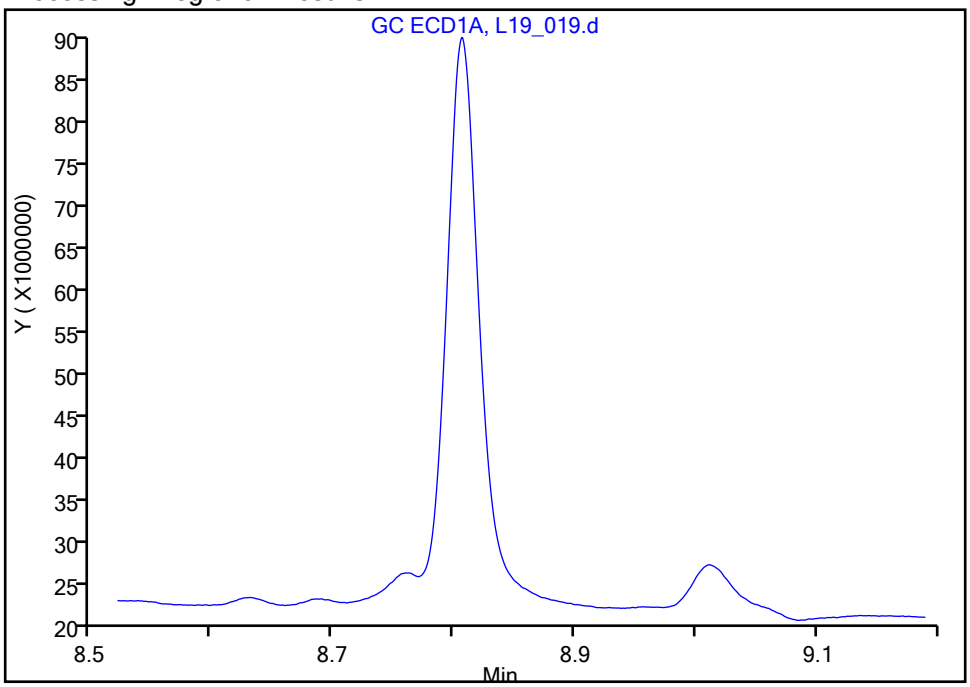

RT: 8.81
Area: 130909533
Amount: 0.017544
Amount Units: ug/ml

Manual Integration Results

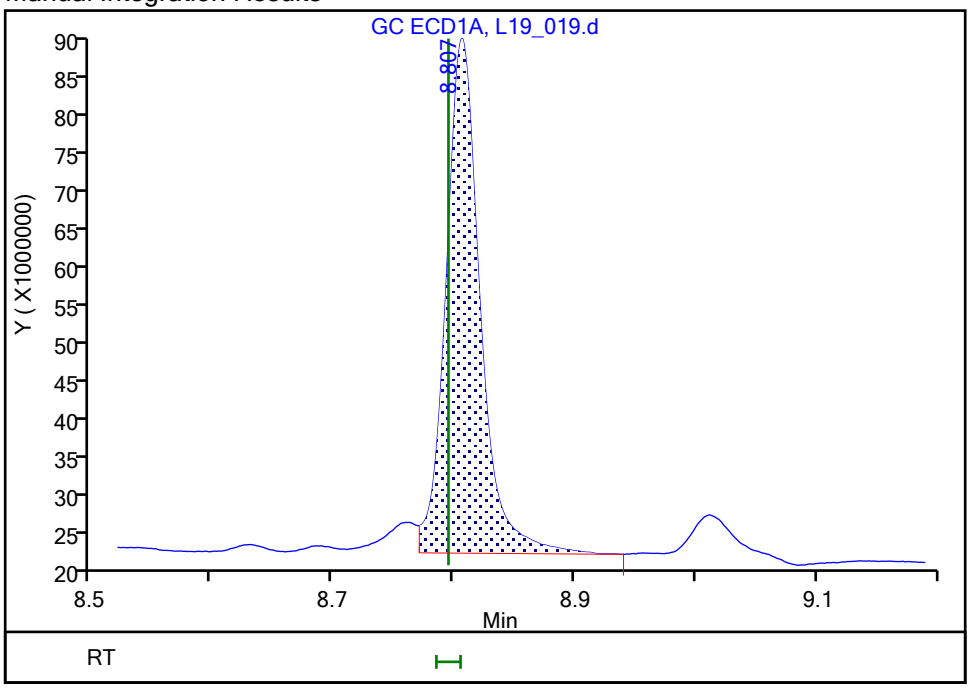

Reviewer: lamj, 20-Sep-2019 10:36:54
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

FORM I
PCBS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Houston
Job No.: 600-191956-2
SDG No.:
Client Sample ID:
Lab Sample ID: LCSD 600-274969/3-A
Matrix: Water
Lab File ID: L19_020.d
Analysis Method: 8082
Date Collected:
Extraction Method: 3510C
Date Extracted: 09/17/2019 10:16
Sample wt/vol: 250(mL)
Date Analyzed: 09/19/2019 17:20
Con. Extract Vol.: 5.0(mL)
Dilution Factor: 1
Injection Volume: 5(uL)
GC Column: RTX-CLP1 ID: 0.32(mm)
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 275246
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
12674-11-2	PCB-1016	8.80		1.0	0.54
11096-82-5	PCB-1260	9.70		1.0	0.34

CAS NO.	SURROGATE	%REC	Q	LIMITS
877-09-8	Tetrachloro-m-xylene	89		32-150
2051-24-3	DCB Decachlorobiphenyl	109		26-130

Eurofins TestAmerica, Houston
Target Compound Quantitation Report

Data File: \\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_020.d
Lims ID: LCSD 600-274969/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 19-Sep-2019 17:20:18 ALS Bottle#: 20 Worklist Smp#: 5
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 600-0031198-005
Operator ID: JL Instrument ID: CHECD09

Method: \\chromna\Houston\ChromData\CHECD09\20190919-31198.b\LVIPCBCHECD09IS.m
Limit Group: GCSV - 8082
Last Update: 20-Sep-2019 10:43:36 Calib Date: 30-Jul-2019 04:07:48
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d

Column 1 : Det: GC ECD1A
Column 2 : Det: GC ECD2B
Process Host: CTX0334

First Level Reviewer: lamj Date: 20-Sep-2019 10:38:05

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 1-Bromo-2-nitrobenzene							
1	6.872	6.864	0.008	3607053633	50.0	50.0	
2	6.929	6.921	0.008	2177234053	50.0	50.0	
						RPD = 0.00	
$ 2 Tetrachloro-m-xylene							M
1	8.797	8.795	0.002	130918554	0.0200	0.0177	M
2	9.130	9.128	0.002	78269916	0.0200	0.0200	
						RPD = 11.91	
$ 3 DCB Decachlorobiphenyl							M
1	19.260	19.260	0.000	106759497	0.0200	0.0218	M
2	20.322	20.319	0.003	72884153	0.0200	0.0280	
						RPD = 24.65	
7 PCB-1016							
1	9.632	9.633	-0.001	57848797	0.5000	0.4658	
1	10.370	10.369	0.001	98722195	0.5000	0.4537	
1	11.538	11.536	0.002	79840975	0.5000	0.4161	
1	11.656	11.654	0.002	59498953	0.5000	0.4748	
1	13.110	13.108	0.002	32348807	0.5000	0.3906	
		Average of Peak Amounts =				0.4402	
2	10.213	10.214	-0.001	35176812	0.5000	0.5665	
2	11.426	11.424	0.002	15643024	0.5000	0.4496	
2	11.490	11.487	0.003	26401322	0.5000	0.5258	
2	12.156	12.154	0.002	54676097	0.5000	0.5677	
2	12.556	12.553	0.003	25782448	0.5000	0.4819	
		Average of Peak Amounts =				0.5183	
						RPD = 16.29	

Col	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
10 PCB-1260							M
1	14.552	14.552	0.000	56174623	0.5000	0.4941	M
1	14.837	14.837	0.000	104840871	0.5000	0.4338	M
1	15.661	15.660	0.001	56619565	0.5000	0.3755	M
1	16.174	16.173	0.001	138524200	0.5000	0.6480	M
1	16.621	16.621	0.000	91906409	0.5000	0.4732	M
		Average of Peak Amounts =				0.4849	
2	15.408	15.407	0.001	29423796	0.5000	0.5207	
2	15.731	15.730	0.001	61604227	0.5000	0.5023	
2	16.936	16.935	0.001	49037122	0.5000	0.5094	
2	17.027	17.029	-0.002	35682019	0.5000	0.6869	
2	17.427	17.426	0.001	60649263	0.5000	0.5981	
		Average of Peak Amounts =				0.5635	
						RPD = 14.99	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

PST_IS 2_00063 Amount Added: 1.00 Units: mL Run Reagent

Report Date: 20-Sep-2019 10:43:46 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_020.d				
Injection Date:	19-Sep-2019 17:20:18	Instrument ID:	CHECD09	Operator ID:	JL
Lims ID:	LCSD 600-274969/3-A			Worklist Smp#:	5
Client ID:					
Injection Vol:	5.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	20
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		

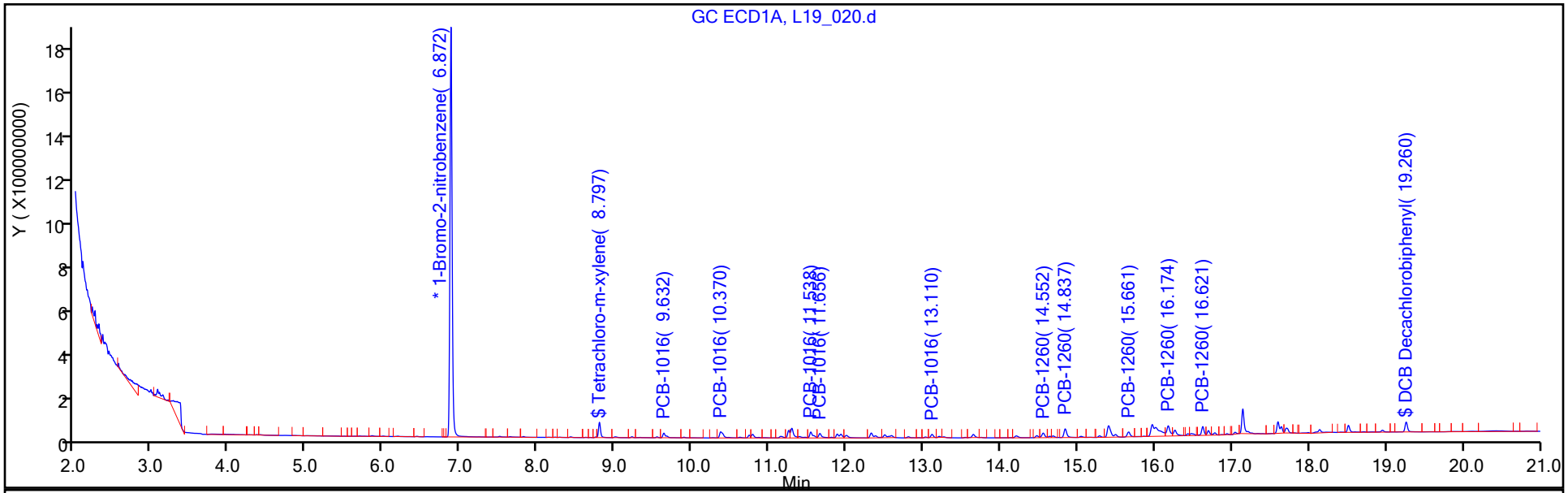

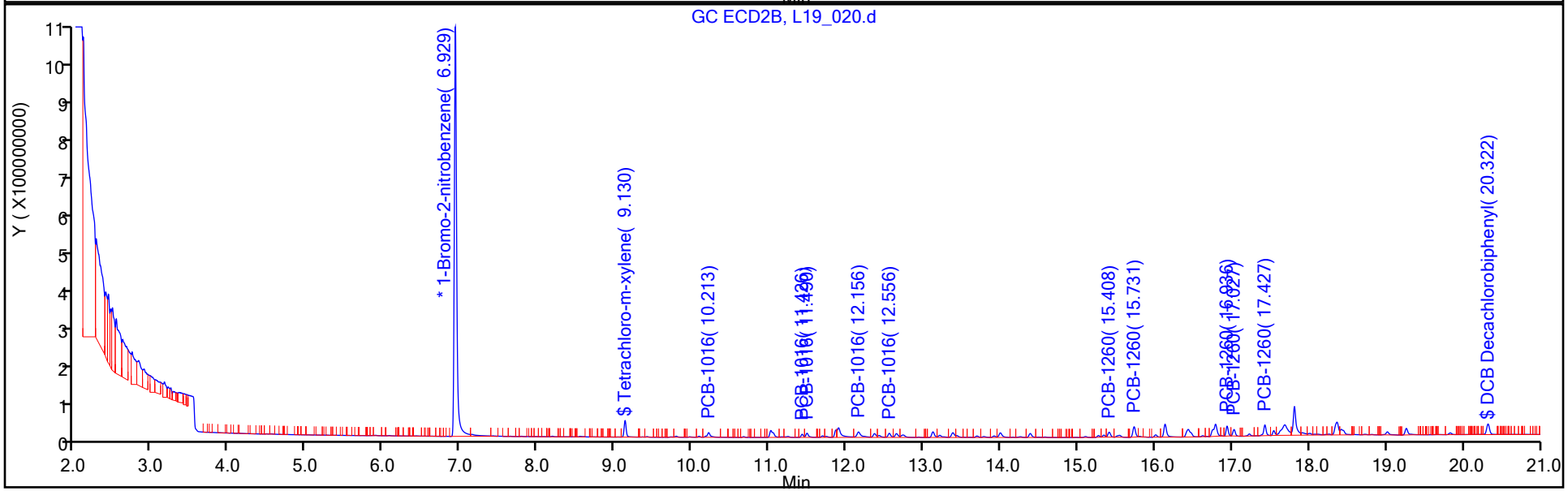

Eurofins TestAmerica, Houston
Recovery Report

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_020.d				
Lims ID:	LCSD 600-274969/3-A				
Client ID:					
Sample Type:	LCSD				
Inject. Date:	19-Sep-2019 17:20:18	ALS Bottle#:	20	Worklist Smp#:	5
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Sample Info:	600-0031198-005				
Operator ID:	JL	Instrument ID:	CHECD09		
Method:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\LVIPCBCHECD09IS.m				
Limit Group:	GCSV - 8082				
Last Update:	20-Sep-2019 10:43:36	Calib Date:	30-Jul-2019 04:07:48		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromna\Houston\ChromData\CHECD09\20190729-30284.b\M29_021.d				
Column 1 :			Det: GC ECD1A		
Column 2 :			Det: GC ECD2B		
Process Host:	CTX0334				
First Level Reviewer: lamj		Date:	20-Sep-2019 10:38:05		

Surrogate Recovery, Detector: GC ECD1A

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0177	88.64
$ 3 DCB Decachlorobiphenyl	0.0200	0.0218	109.19

Surrogate Recovery, Detector: GC ECD2B

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 Tetrachloro-m-xylene	0.0200	0.0200	99.86
$ 3 DCB Decachlorobiphenyl	0.0200	0.0280	139.89

Report Date: 20-Sep-2019 10:43:46 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_020.d				
Injection Date:	19-Sep-2019 17:20:18	Instrument ID:	CHECD09		
Lims ID:	LCSD 600-274969/3-A				
Client ID:					
Operator ID:	JL	ALS Bottle#:	20	Worklist Smp#:	5
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD1A		

7 PCB-1016, CAS: 12674-11-2

Calibration Sample, Level: 6

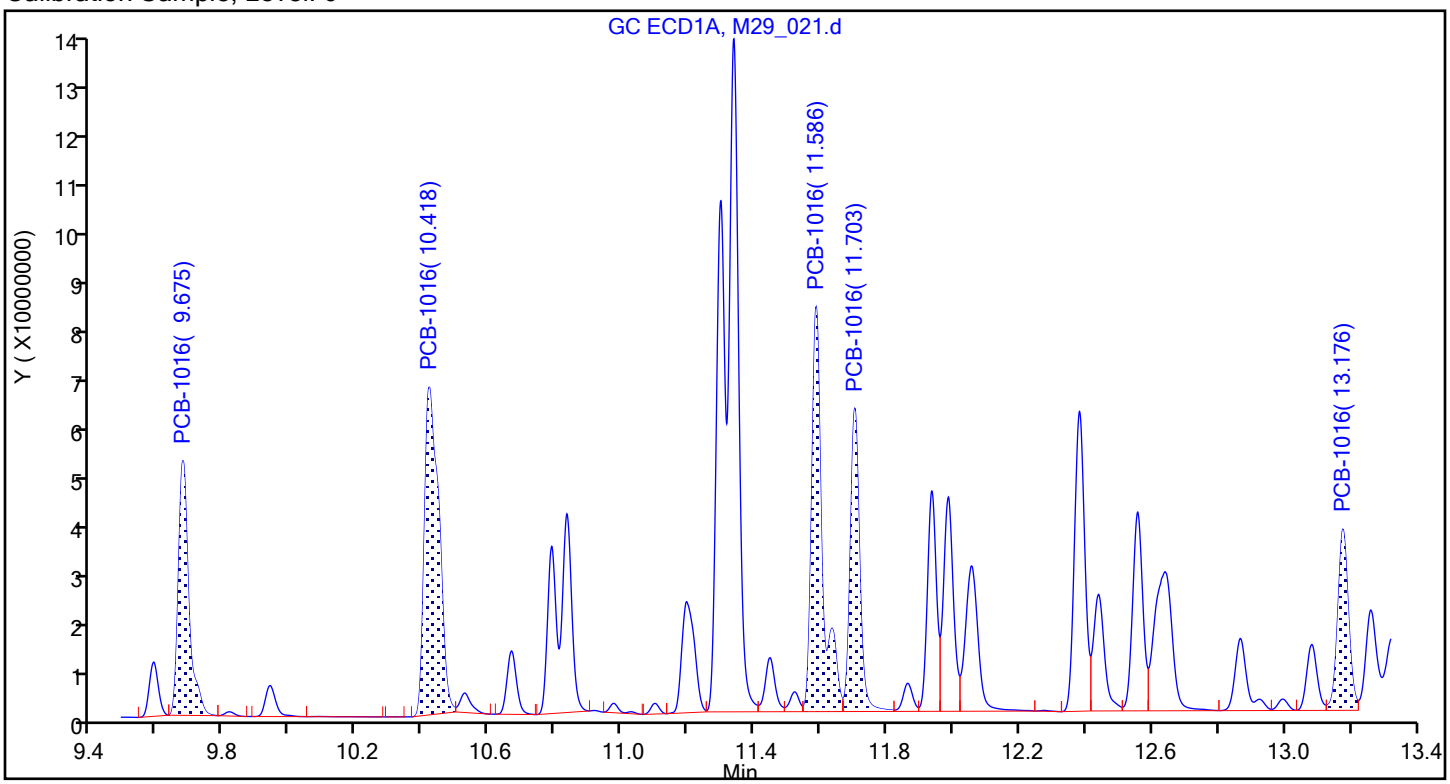

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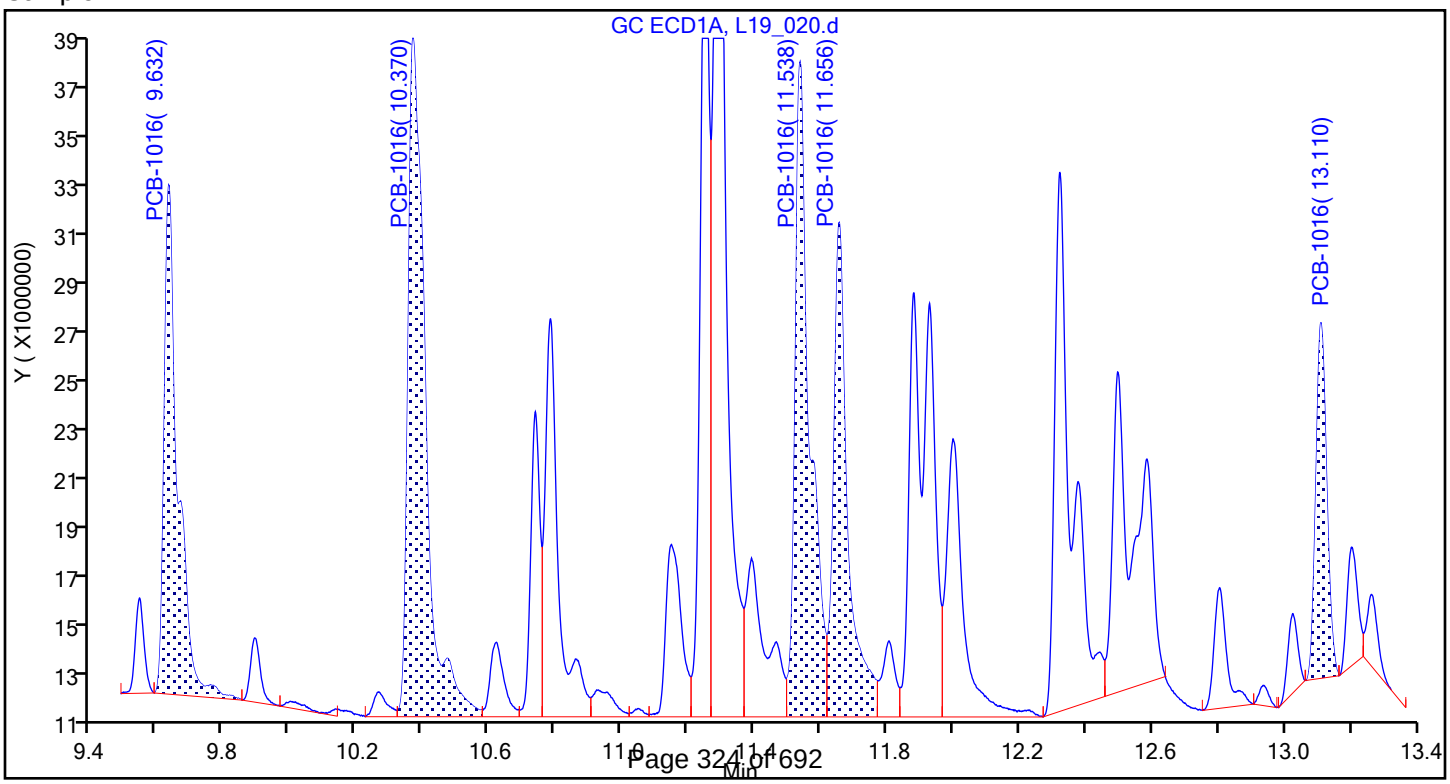

Report Date: 20-Sep-2019 10:43:46 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_020.d				
Injection Date:	19-Sep-2019 17:20:18	Instrument ID:	CHECD09		
Lims ID:	LCSD 600-274969/3-A				
Client ID:					
Operator ID:	JL	ALS Bottle#:	20	Worklist Smp#:	5
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD1A		

10 PCB-1260, CAS: 11096-82-5

Calibration Sample, Level: 6

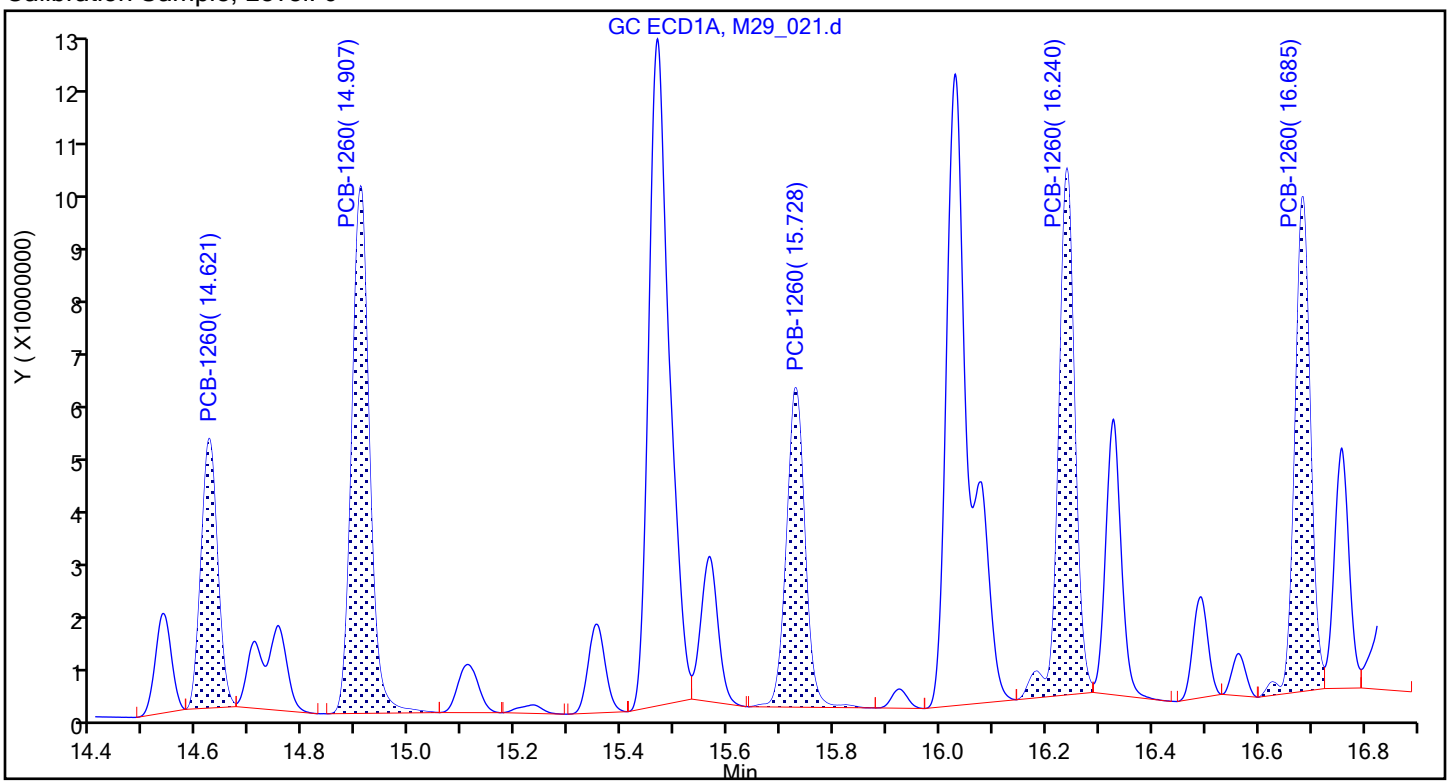

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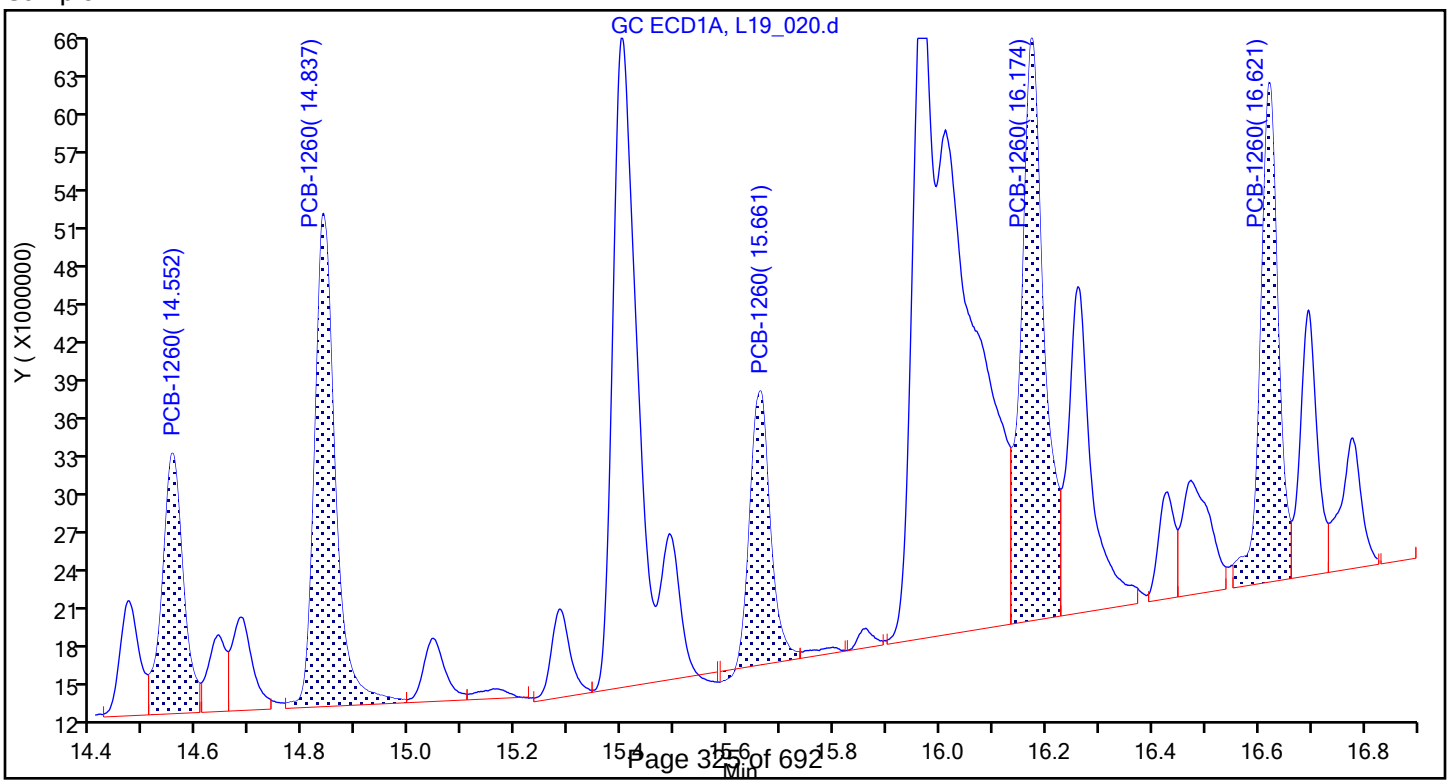

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_020.d				
Injection Date:	19-Sep-2019 17:20:18	Instrument ID:	CHECD09		
Lims ID:	LCSD 600-274969/3-A				
Client ID:					
Operator ID:	JL	ALS Bottle#:	20	Worklist Smp#:	5
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD1A		

$ 2 Tetrachloro-m-xylene, CAS: 877-09-8

Signal: 1

Processing Integration Results

RT: 8.80
Area: 135167612
Amount: 0.018303
Amount Units: ug/ml

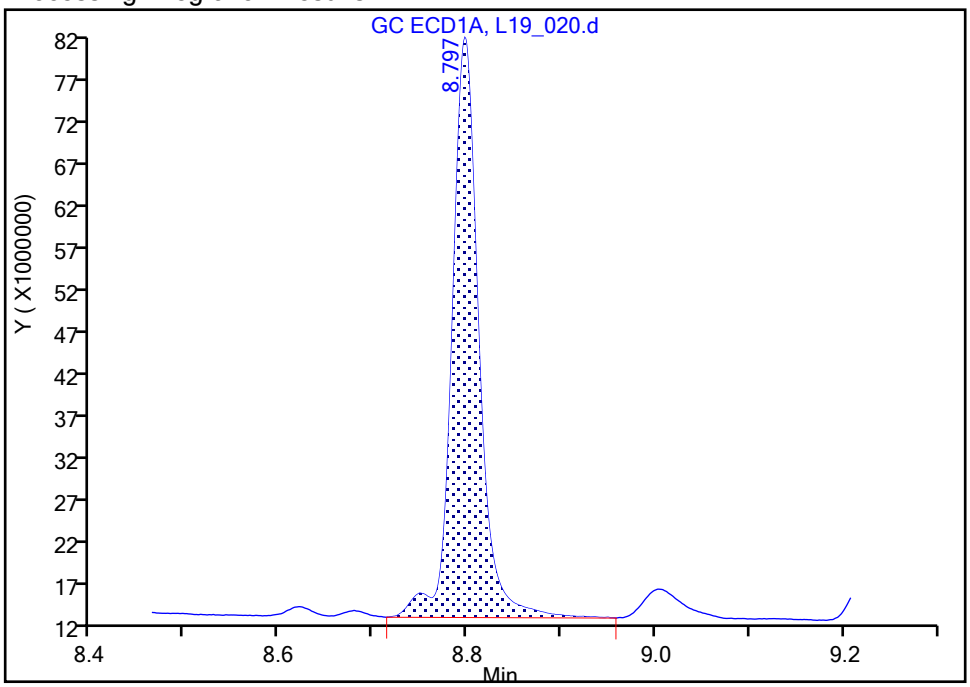

Manual Integration Results

RT: 8.80
Area: 130918554
Amount: 0.017727
Amount Units: ug/ml

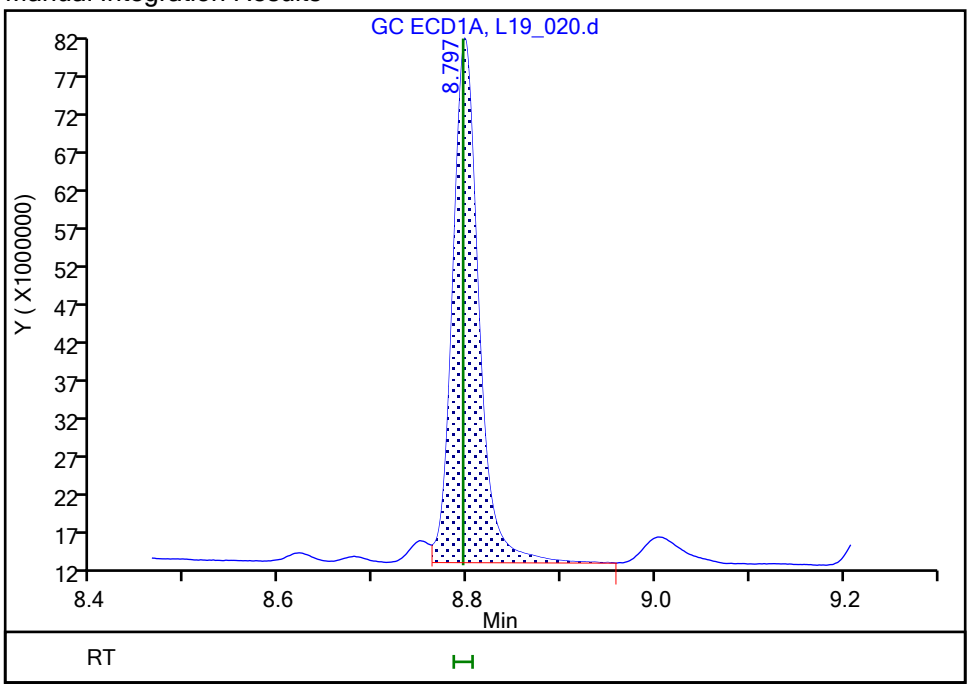

Reviewer: lamj, 20-Sep-2019 10:38:00

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Report Date: 20-Sep-2019 10:43:46 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Houston

Data File: \\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_020.d
Injection Date: 19-Sep-2019 17:20:18 Instrument ID: CHECD09
Lims ID: LCSD 600-274969/3-A
Client ID:
Operator ID: JL ALS Bottle#: 20 Worklist Smp#: 5
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Method: LVIPCBCHECD09IS Limit Group: GCSV - 8082
Column: Detector GC ECD1A

10 PCB-1260, CAS: 11096-82-5

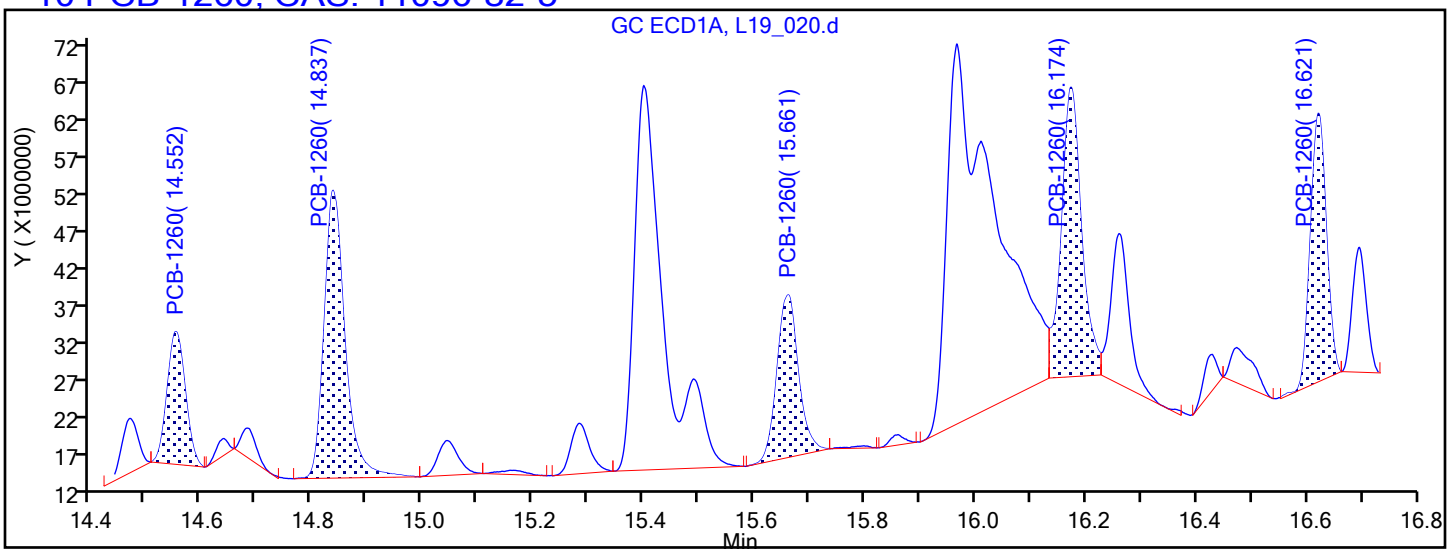

Processing Integration Results

14.552	Response = 40432037
14.837	Response = 100490957
15.661	Response = 58160481
16.174	Response = 98413955
16.621	Response = 71722335

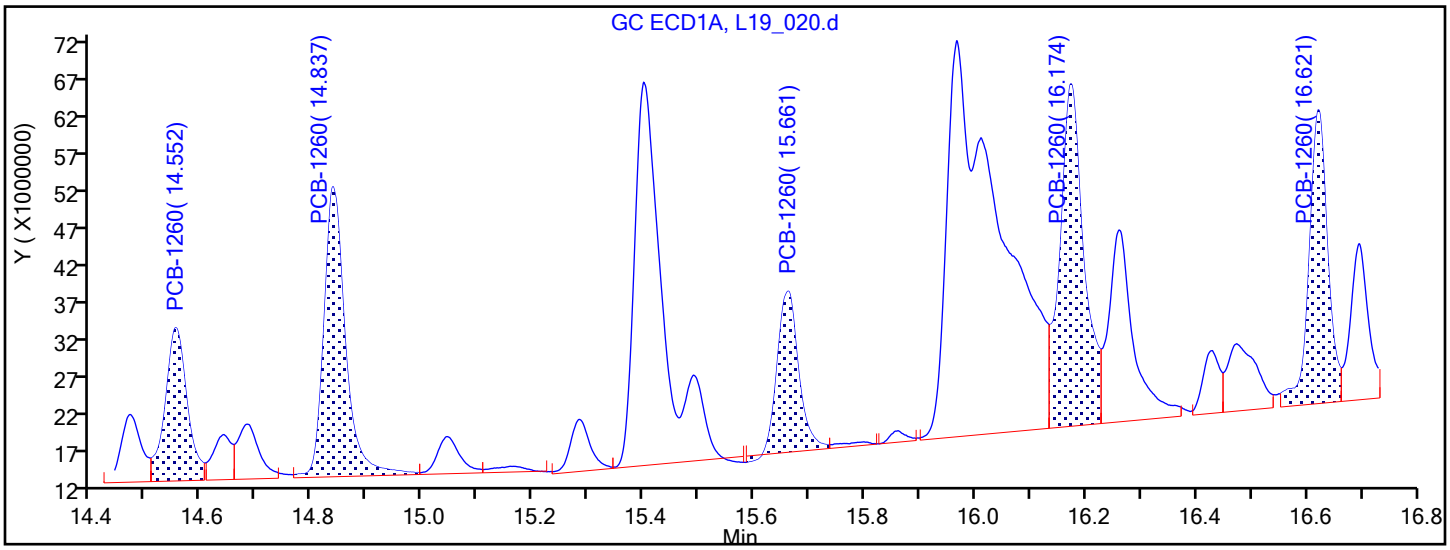

Manual Integration Results

14.552	Response = 56174623	M
14.837	Response = 104840871	M
15.661	Response = 56619565	M
16.174	Response = 138524200	M
16.621	Response = 91906409	M

Reviewer: lamj, 20-Sep-2019 10:37:38
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Eurofins TestAmerica, Houston

Data File:	\\chromna\Houston\ChromData\CHECD09\20190919-31198.b\L19_020.d				
Injection Date:	19-Sep-2019 17:20:18	Instrument ID:	CHECD09		
Lims ID:	LCSD 600-274969/3-A				
Client ID:					
Operator ID:	JL	ALS Bottle#:	20	Worklist Smp#:	5
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	LVIPCBCHECD09IS	Limit Group:	GCSV - 8082		
Column:		Detector	GC ECD1A		

$ 3 DCB Decachlorobiphenyl, CAS: 2051-24-3

Signal: 1

Processing Integration Results

RT: 19.26
Area: 115752939
Amount: 0.023678
Amount Units: ug/ml

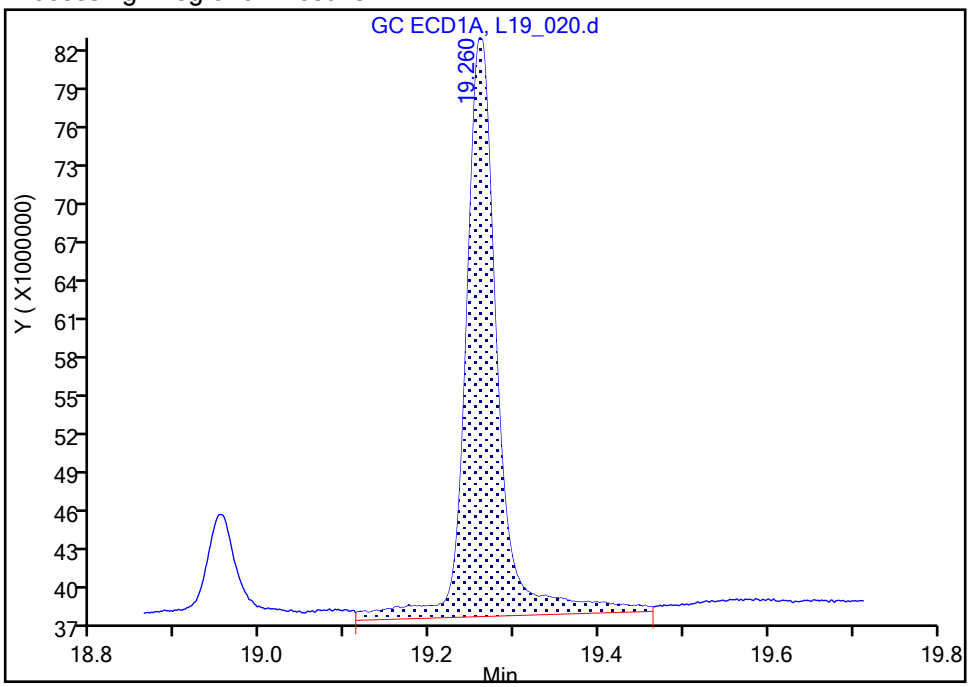

Manual Integration Results

RT: 19.26
Area: 106759497
Amount: 0.021838
Amount Units: ug/ml

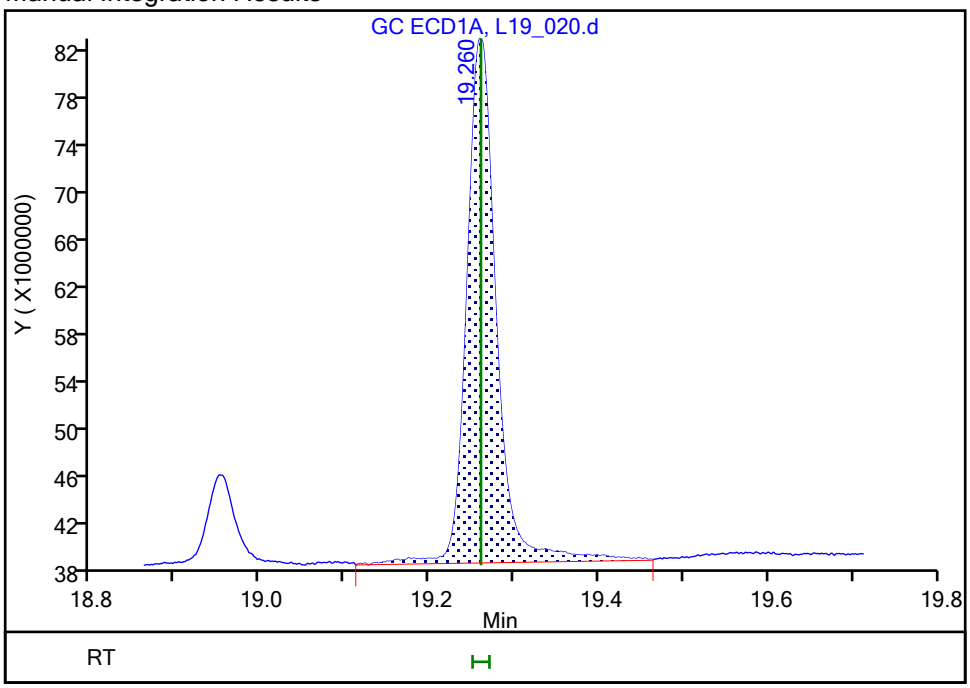

Reviewer: lamj, 20-Sep-2019 10:37:27
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

PCBS ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-2

SDG No.:

Instrument ID: CHECD09 Start Date: 07/29/2019 19:14

Analysis Batch Number: 270655 End Date: 07/30/2019 13:58

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 600-270655/2		07/29/2019 19:14	1	M29_002.d	RTX-CLP1 0.32(mm)
IC 600-270655/2		07/29/2019 19:14	1	M29_002.d	RTX-CLP2 0.32(mm)
IC 600-270655/3		07/29/2019 19:42	1	M29_003.d	RTX-CLP1 0.32(mm)
IC 600-270655/3		07/29/2019 19:42	1	M29_003.d	RTX-CLP2 0.32(mm)
IC 600-270655/4		07/29/2019 20:10	1	M29_004.d	RTX-CLP1 0.32(mm)
IC 600-270655/4		07/29/2019 20:10	1	M29_004.d	RTX-CLP2 0.32(mm)
IC 600-270655/5		07/29/2019 20:38	1	M29_005.d	RTX-CLP1 0.32(mm)
IC 600-270655/5		07/29/2019 20:38	1	M29_005.d	RTX-CLP2 0.32(mm)
IC 600-270655/6		07/29/2019 21:06	1	M29_006.d	RTX-CLP1 0.32(mm)
IC 600-270655/6		07/29/2019 21:06	1	M29_006.d	RTX-CLP2 0.32(mm)
IC 600-270655/7		07/29/2019 21:34	1		RTX-CLP1 0.32(mm)
IC 600-270655/7		07/29/2019 21:34	1		RTX-CLP2 0.32(mm)
IC 600-270655/8		07/29/2019 22:02	1		RTX-CLP1 0.32(mm)
IC 600-270655/8		07/29/2019 22:02	1		RTX-CLP2 0.32(mm)
ICV 600-270655/9		07/29/2019 22:30	1		RTX-CLP1 0.32(mm)
ICV 600-270655/9		07/29/2019 22:30	1		RTX-CLP2 0.32(mm)
ICV 600-270655/10		07/29/2019 22:58	1		RTX-CLP1 0.32(mm)
ICV 600-270655/10		07/29/2019 22:58	1		RTX-CLP2 0.32(mm)
ICV 600-270655/11		07/29/2019 23:27	1		RTX-CLP1 0.32(mm)
ICV 600-270655/11		07/29/2019 23:27	1		RTX-CLP2 0.32(mm)
ICV 600-270655/12		07/29/2019 23:55	1		RTX-CLP1 0.32(mm)
ICV 600-270655/12		07/29/2019 23:55	1		RTX-CLP2 0.32(mm)
ICV 600-270655/13		07/30/2019 00:23	1		RTX-CLP1 0.32(mm)
ICV 600-270655/13		07/30/2019 00:23	1		RTX-CLP2 0.32(mm)
ICV 600-270655/14		07/30/2019 00:51	1		RTX-CLP1 0.32(mm)
ICV 600-270655/14		07/30/2019 00:51	1		RTX-CLP2 0.32(mm)
ICV 600-270655/15		07/30/2019 01:19	1		RTX-CLP1 0.32(mm)
ICV 600-270655/15		07/30/2019 01:19	1		RTX-CLP2 0.32(mm)
IC 600-270655/16		07/30/2019 01:47	1	M29_016.d	RTX-CLP1 0.32(mm)
IC 600-270655/16		07/30/2019 01:47	1	M29_016.d	RTX-CLP2 0.32(mm)
IC 600-270655/17		07/30/2019 02:15	1	M29_017.d	RTX-CLP1 0.32(mm)
IC 600-270655/17		07/30/2019 02:15	1	M29_017.d	RTX-CLP2 0.32(mm)
IC 600-270655/18		07/30/2019 02:43	1	M29_018.d	RTX-CLP1 0.32(mm)
IC 600-270655/18		07/30/2019 02:43	1	M29_018.d	RTX-CLP2 0.32(mm)
ICIS 600-270655/19		07/30/2019 03:11	1	M29_019.d	RTX-CLP1 0.32(mm)
ICIS 600-270655/19		07/30/2019 03:11	1	M29_019.d	RTX-CLP2 0.32(mm)
IC 600-270655/20		07/30/2019 03:39	1	M29_020.d	RTX-CLP1 0.32(mm)
IC 600-270655/20		07/30/2019 03:39	1	M29_020.d	RTX-CLP2 0.32(mm)
IC 600-270655/21		07/30/2019 04:07	1	M29_021.d	RTX-CLP1 0.32(mm)
IC 600-270655/21		07/30/2019 04:07	1	M29_021.d	RTX-CLP2 0.32(mm)
ICV 600-270655/22		07/30/2019 04:35	1		RTX-CLP1 0.32(mm)
ICV 600-270655/22		07/30/2019 04:35	1		RTX-CLP2 0.32(mm)
ZZZZZ		07/30/2019 05:03	1		RTX-CLP1 0.32(mm)
ZZZZZ		07/30/2019 05:03	1		RTX-CLP2 0.32(mm)
ZZZZZ		07/30/2019 05:32	1		RTX-CLP1 0.32(mm)

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PCBS ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-2

SDG No.:

Instrument ID: CHECD09 Start Date: 07/29/2019 19:14

Analysis Batch Number: 270655 End Date: 07/30/2019 13:58

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		07/30/2019 05:32	1		RTX-CLP2 0.32(mm)
ZZZZZ		07/30/2019 06:00	1		RTX-CLP1 0.32(mm)
ZZZZZ		07/30/2019 06:00	1		RTX-CLP2 0.32(mm)
ZZZZZ		07/30/2019 06:28	1		RTX-CLP1 0.32(mm)
ZZZZZ		07/30/2019 06:28	1		RTX-CLP2 0.32(mm)
600-187782-A-16-A MDLV		07/30/2019 06:56	1		RTX-CLP1 0.32(mm)
600-187782-A-16-A MDLV		07/30/2019 06:56	1		RTX-CLP2 0.32(mm)
600-187782-A-17-A MDLV		07/30/2019 07:24	1		RTX-CLP1 0.32(mm)
600-187782-A-17-A MDLV		07/30/2019 07:24	1		RTX-CLP2 0.32(mm)
600-187782-A-18-A MDLV		07/30/2019 07:52	1		RTX-CLP1 0.32(mm)
600-187782-A-18-A MDLV		07/30/2019 07:52	1		RTX-CLP2 0.32(mm)
600-187782-A-23-A MDLV		07/30/2019 08:20	1		RTX-CLP1 0.32(mm)
600-187782-A-23-A MDLV		07/30/2019 08:20	1		RTX-CLP2 0.32(mm)
600-187782-A-24-A MDLV		07/30/2019 08:48	1		RTX-CLP1 0.32(mm)
600-187782-A-24-A MDLV		07/30/2019 08:48	1		RTX-CLP2 0.32(mm)
600-187782-A-25-A MDLV		07/30/2019 09:16	1		RTX-CLP1 0.32(mm)
600-187782-A-25-A MDLV		07/30/2019 09:16	1		RTX-CLP2 0.32(mm)
600-187782-A-30-A MDLV		07/30/2019 09:44	1		RTX-CLP1 0.32(mm)
600-187782-A-30-A MDLV		07/30/2019 09:44	1		RTX-CLP2 0.32(mm)
600-187782-A-31-A MDLV		07/30/2019 10:13	1		RTX-CLP1 0.32(mm)
600-187782-A-31-A MDLV		07/30/2019 10:13	1		RTX-CLP2 0.32(mm)
600-187782-A-32-A MDLV		07/30/2019 10:41	1		RTX-CLP1 0.32(mm)
600-187782-A-32-A MDLV		07/30/2019 10:41	1		RTX-CLP2 0.32(mm)
ZZZZZ		07/30/2019 11:09	1		RTX-CLP1 0.32(mm)
ZZZZZ		07/30/2019 11:09	1		RTX-CLP2 0.32(mm)
ZZZZZ		07/30/2019 11:37	1		RTX-CLP1 0.32(mm)
ZZZZZ		07/30/2019 11:37	1		RTX-CLP2 0.32(mm)
ZZZZZ		07/30/2019 12:34	1		RTX-CLP1 0.32(mm)
ZZZZZ		07/30/2019 12:34	1		RTX-CLP2 0.32(mm)
ZZZZZ		07/30/2019 13:02	1		RTX-CLP1 0.32(mm)
ZZZZZ		07/30/2019 13:02	1		RTX-CLP2 0.32(mm)
ZZZZZ		07/30/2019 13:30	1		RTX-CLP1 0.32(mm)
ZZZZZ		07/30/2019 13:30	1		RTX-CLP2 0.32(mm)
ZZZZZ		07/30/2019 13:58	1		RTX-CLP1 0.32(mm)
ZZZZZ		07/30/2019 13:58	1		RTX-CLP2 0.32(mm)

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PCBS ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-2

SDG No.:

Instrument ID: CHECD09 Start Date: 09/19/2019 15:27

Analysis Batch Number: 275246 End Date: 09/19/2019 22:29

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		09/19/2019 15:27	1		RTX-CLP1 0.32(mm)
ZZZZZ		09/19/2019 15:27	1		RTX-CLP2 0.32(mm)
CCVIS 600-275246/2		09/19/2019 15:55	1		RTX-CLP1 0.32(mm)
CCVIS 600-275246/2		09/19/2019 15:55	1		RTX-CLP2 0.32(mm)
ZZZZZ		09/19/2019 16:23	1		RTX-CLP1 0.32(mm)
ZZZZZ		09/19/2019 16:23	1		RTX-CLP2 0.32(mm)
ZZZZZ		09/19/2019 16:52	1		RTX-CLP1 0.32(mm)
ZZZZZ		09/19/2019 16:52	1		RTX-CLP2 0.32(mm)
ZZZZZ		09/19/2019 17:20	1		RTX-CLP1 0.32(mm)
ZZZZZ		09/19/2019 17:20	1		RTX-CLP2 0.32(mm)
ZZZZZ		09/19/2019 17:48	1		RTX-CLP1 0.32(mm)
ZZZZZ		09/19/2019 17:48	1		RTX-CLP2 0.32(mm)
600-191956-2		09/19/2019 18:16	1	L19_022.d	RTX-CLP1 0.32(mm)
600-191956-2		09/19/2019 18:16	1	L19_022.d	RTX-CLP2 0.32(mm)
ZZZZZ		09/19/2019 18:44	1		RTX-CLP1 0.32(mm)
ZZZZZ		09/19/2019 18:44	1		RTX-CLP2 0.32(mm)
ZZZZZ		09/19/2019 19:12	1		RTX-CLP1 0.32(mm)
ZZZZZ		09/19/2019 19:12	1		RTX-CLP2 0.32(mm)
ZZZZZ		09/19/2019 19:40	1		RTX-CLP1 0.32(mm)
ZZZZZ		09/19/2019 19:40	1		RTX-CLP2 0.32(mm)
ZZZZZ		09/19/2019 20:09	1		RTX-CLP1 0.32(mm)
ZZZZZ		09/19/2019 20:09	1		RTX-CLP2 0.32(mm)
ZZZZZ		09/19/2019 20:37	1		RTX-CLP1 0.32(mm)
ZZZZZ		09/19/2019 20:37	1		RTX-CLP2 0.32(mm)
ZZZZZ		09/19/2019 21:05	5		RTX-CLP1 0.32(mm)
ZZZZZ		09/19/2019 21:05	5		RTX-CLP2 0.32(mm)
ZZZZZ		09/19/2019 21:33	1		RTX-CLP1 0.32(mm)
ZZZZZ		09/19/2019 21:33	1		RTX-CLP2 0.32(mm)
ZZZZZ		09/19/2019 22:01	1		RTX-CLP1 0.32(mm)
ZZZZZ		09/19/2019 22:01	1		RTX-CLP2 0.32(mm)
ZZZZZ		09/19/2019 22:29	1		RTX-CLP1 0.32(mm)
ZZZZZ		09/19/2019 22:29	1		RTX-CLP2 0.32(mm)

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PCBS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-2

SDG No.:

Batch Number: 274969 Batch Start Date: 09/17/19 10:16 Batch Analyst: Kuvent, Robin L

Batch Method: 3510C Batch End Date: 09/17/19 14:25

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ReceivedpH	PSURR 00053	AnalysisComment	
600-191956-G-2	11187072-091319-LL-EXC-1	3510C, 8082	T	210 mL	5.0 mL	7 SU	0.5 mL	Filtered through a 0.45um filter/see another batch for the unfiltered Pest/PCB extraction	

Batch Notes	
Analyst ID - Concentration	430894
Concentration 1 Corrected Temperature	45.0 Degrees C
Equipment ID - Concentration 1	TV1
Exchange Solvent ID	EX-HEXANE_00032
Analyst ID - Extraction	430894
Filter ID	9853773
Glass Wool ID	EX-GLASSWOOL_00005
Method/Fraction	3510LVI/8082
Na2SO4 ID	EX-BAKSODIUM SULF_00034
pH Indicator ID	HC698814
Pipette/Syringe/Dispenser ID	PSURR/PCBLCS
Prep Solvent ID	EX-METHY-CHLO_00256
Prep Solvent Volume Used	90 ML and 15 ML (rinse) per Sample plus QC mL
Analyst ID - Spike Analyst	430894
Analyst ID - Spike Witness Analyst	430894
Sufficient Volume for Batch QC	NO
Thermometer ID - Concentration 1	#610
Concentration 1 Uncorrected Temperature	44.2 Degrees C
Vial Lot Number	16332661
Reagent Water ID	DI

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

PCBS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Houston Job No.: 600-191956-2

SDG No.:

Batch Number: 274969 Batch Start Date: 09/17/19 10:16 Batch Analyst: Kuvent, Robin L

Batch Method: 3510C Batch End Date: 09/17/19 14:25

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Method 1613B

Dioxins and Furans (HRGC/HRMS) by Method 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-2

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-225 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	37TCDD #	TCDF #
11187072-091319-LL -EXC-1 RA	600-191956-2 RA	96	40

	QC LIMITS
37TCDD = 37Cl4-2,3,7,8-TCDD	35-197
TCDF = 13C-2,3,7,8-TCDF	24-169

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-2

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	TCDF #	TCDD #	37TCDD #	PeCDF #	PeCF #	PeCDD #	HxCDF #	HxDF #
11187072-091319-LL -EXC-1	600-191956-2	37	36	93	36	39	38	38	36

	QC LIMITS
TCDF = 13C-2,3,7,8-TCDF	24-169
TCDD = 13C-2,3,7,8-TCDD	25-164
37TCDD = 37Cl4-2,3,7,8-TCDD	35-197
PeCDF = 13C-1,2,3,7,8-PeCDF	24-185
PeCF = 13C-2,3,4,7,8-PeCDF	21-178
PeCDD = 13C-1,2,3,7,8-PeCDD	25-181
HxCDF = 13C-1,2,3,4,7,8-HxCDF	26-152
HxDF = 13C-1,2,3,6,7,8-HxCDF	26-123

Column to be used to flag recovery values

FORM II 1613B

FORM II
DIOXIN SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-2

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-5 ID: 0.32(mm)

Client Sample ID	Lab Sample ID	13CHxCF #	HxCDD #	HxDD #	HxCF #	HpCDF #	HpCDD #	HpCDF2 #	OCDD #
11187072-091319-LL -EXC-1	600-191956-2	37	36	37	37	34	36	37	32

	QC LIMITS
13CHxCF = 13C-2,3,4,6,7,8-HxCDF	28-136
HxCDD = 13C-1,2,3,4,7,8-HxCDD	32-141
HxDD = 13C-1,2,3,6,7,8-HxCDD	28-130
HxCF = 13C-1,2,3,7,8,9-HxCDF	29-147
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF	28-143
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD	23-140
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF	26-138
OCDD = 13C-OCDD	17-157

Column to be used to flag recovery values

FORM II 1613B

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-2

SDG No.:

Client Sample ID: 11187072-091319-LL-EXC-1 Lab Sample ID: 600-191956-2

Matrix: Water Lab File ID: 18SE1910D5_52.d

Analysis Method: 1613B Date Collected: 09/13/2019 08:00

Extract. Method: 1613B Date Extracted: 09/18/2019 13:24

Sample wt/vol: 1027(mL) Date Analyzed: 09/20/2019 03:02

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 324876 Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	7.1	J	9.7	1.8
40321-76-4	1,2,3,7,8-PeCDD	ND		49	1.6
57117-41-6	1,2,3,7,8-PeCDF	3.4	J q B	49	1.6
57117-31-4	2,3,4,7,8-PeCDF	ND		49	1.7
39227-28-6	1,2,3,4,7,8-HxCDD	ND		49	1.2
57653-85-7	1,2,3,6,7,8-HxCDD	ND		49	1.2
19408-74-3	1,2,3,7,8,9-HxCDD	ND		49	1.1
70648-26-9	1,2,3,4,7,8-HxCDF	7.6	J	49	1.2
57117-44-9	1,2,3,6,7,8-HxCDF	2.7	J *	49	1.1
72918-21-9	1,2,3,7,8,9-HxCDF	2.0	J q B	49	0.71
60851-34-5	2,3,4,6,7,8-HxCDF	ND		49	0.71
35822-46-9	1,2,3,4,6,7,8-HpCDD	ND		49	1.1
67562-39-4	1,2,3,4,6,7,8-HpCDF	3.6	J q *	49	0.94
55673-89-7	1,2,3,4,7,8,9-HpCDF	2.8	J q *	49	1.2
3268-87-9	OCDD	17	J B *	97	1.3
39001-02-0	OCDF	ND		97	2.1
41903-57-5	Total TCDD	7.1	J	9.7	1.8
30402-14-3	Total TCDF	39	q B	9.7	1.3
36088-22-9	Total PeCDD	ND		49	1.6
30402-15-4	Total PeCDF	3.4	J q B	49	1.6
34465-46-8	Total HxCDD	ND		49	1.2
55684-94-1	Total HxCDF	12	J q B	49	0.93
37871-00-4	Total HpCDD	ND		49	1.1
38998-75-3	Total HpCDF	6.4	J q	49	1.1

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-2

SDG No.:

Client Sample ID: 11187072-091319-LL-EXC-1 Lab Sample ID: 600-191956-2

Matrix: Water Lab File ID: 18SE1910D5_52.d

Analysis Method: 1613B Date Collected: 09/13/2019 08:00

Extract. Method: 1613B Date Extracted: 09/18/2019 13:24

Sample wt/vol: 1027(mL) Date Analyzed: 09/20/2019 03:02

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 324876 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	36		25-164
89059-46-1	13C-2,3,7,8-TCDF	37		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	38		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	36		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	39		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	36		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	37		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	38		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	36		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	37		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	37		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	36		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	34		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	37		26-138
114423-97-1	13C-OCDD	32		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	93		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_52.d
Lims ID: 600-191956-B-2-D
Client ID: 11187072-091319-LL-EXC-1
Sample Type: Client
Inject. Date: 20-Sep-2019 03:02:46 ALS Bottle#: 53 Worklist Smp#: 52
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 600-191956-B-2-D 600-191956-B-2-D
Misc. Info.: 18SE1910D5
Operator ID: SMA, ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 20-Sep-2019 11:46:59 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0314

First Level Reviewer: stephensk Date: 20-Sep-2019 11:37:13

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.270	42159751	0.76	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.771	22138042	0.79	1.4384	36.5	36.5	0.1941	0.1941	36.51	
2,3,7,8-TCDF	16.801	272230	0.70	1.0507	1.170	1.170	0.0690	0.0690		M
A Non-2,3,7,8-sub-TCDF	16.514	195525	0.77	1.0507	0.8580	0.8406	0.0690	0.5540		RQ
S Total TCDF					2.028	2.011	0.0690	0.0690		RQ
D 13C-2,3,7,8-TCDD	17.451	14575684	0.79	0.9533	36.3	36.3	0.1965	0.1965	36.26	
$ 37Cl4-2,3,7,8-TCDD	17.466	19083299		1.2224	37.0	37.0	0.0437	0.0437	92.57	
2,3,7,8-TCDD	17.466	59028	0.71	1.1064	0.3660	0.3660	0.0899	0.0899		M
A Non-2,3,7,8-sub-TCDD	16.952						0.0899	0.0899		
S Total TCDD					0.3660	0.3660	0.0899	0.0899		
D 13C-1,2,3,7,8-PeCDF	21.590	15726653	1.64	1.0286	36.3	36.3	0.0997	0.0997	36.26	
1,2,3,7,8-PeCDF	21.618	30104	1.55	1.0822	0.2223	0.1769	0.0819	0.0819		RQ
D 13C-2,3,4,7,8-PeCDF	22.886	16158549	1.59	0.9827	39.0	39.0	0.1044	0.1044	39.00	
2,3,4,7,8-PeCDF	22.927						0.0853	0.0853		
A F1 PeCDFs	19.205						0.0881	0.0881		
A Non-2,3,7,8-sub-PeCDF	22.226						0.0835	0.0835		
S Total PeCDF					0.2223	0.1769	0.0836	0.0836		RQ
D 13C-1,2,3,7,8-PeCDD	23.568	12043604	1.54	0.7481	38.2	38.2	0.0958	0.0958	38.19	
1,2,3,7,8-PeCDD	23.622						0.0837	0.0837		
A Non-2,3,7,8-sub-PeCDD	22.559						0.0837	0.0837		
S Total PeCDD							0.0837	0.0837		
D 13C-1,2,3,4,7,8-HxCDF	29.683	12733981	0.51	1.1520	37.6	37.6	0.2743	0.2743	37.56	
1,2,3,4,7,8-HxCDF	29.696	59834	1.07	1.1973	0.3924	0.3924	0.0617	0.0617		Ma
D 13C-1,2,3,6,7,8-HxCDF	29.949	13272045	0.51	1.2434	36.3	36.3	0.2541	0.2541	36.27	
1,2,3,6,7,8-HxCDF	29.949	21385	1.41	1.1807	0.1365	0.1365	0.0556	0.0556		Ma
D 13C-2,3,4,6,7,8-HxCDF	31.000	12717137	0.51	1.1720	36.9	36.9	0.2696	0.2696	36.87	
2,3,4,6,7,8-HxCDF	31.040						0.0366	0.0366		
D 13C-1,2,3,7,8,9-HxCDF	31.905	11549356	0.51	1.0655	36.8	36.8	0.2966	0.2966	36.83	
1,2,3,7,8,9-HxCDF	31.932	14881	1.24	1.2451	0.1168	0.1035	0.0363	0.0363		RQM
A Non-2,3,7,8-sub-HxCDF	29.503						0.0451	0.0451		
S Total HxCDF					0.6457	0.6324	0.0475	0.0475		RQ

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.706	29429860	1.27	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.226	8329382	1.26	0.7812	36.2	36.2	0.3586	0.3586	36.23	
1,2,3,4,7,8-HxCDD	31.253						0.0641	0.0641		
D 13C-1,2,3,6,7,8-HxCDD	31.346	9999737	1.30	0.9175	37.0	37.0	0.3053	0.3053	37.04	
1,2,3,6,7,8-HxCDD	31.373						0.0602	0.0602		
1,2,3,7,8,9-HxCDD	31.746						0.0561	0.0561		
A Non-2,3,7,8-sub-HxCDD	30.089						0.0599	0.0599		
S Total HxCDD							0.0641	0.0641		
D 13C-1,2,3,4,6,7,8-HpCDF	33.435	8692640	0.41	0.8628	34.2	34.2	0.8650	0.8650	34.24	
1,2,3,4,6,7,8-HpCDF	33.435	24857	1.04	1.5555	0.2112	0.1838	0.0481	0.0481		RQMa
D 13C-1,2,3,4,7,8,9-HpCDF	34.480	8595062	0.44	0.7991	36.5	36.5	0.9339	0.9339	36.55	
1,2,3,4,7,8,9-HpCDF	34.480	16960	1.04	1.3862	0.1595	0.1423	0.0615	0.0615		RQ
A Non-2,3,7,8-sub-HpCDF	33.982						0.0541	0.0541		
S Total HpCDF					0.3706	0.3262	0.0548	0.0548		RQ
D 13C-1,2,3,4,6,7,8-HpCDD	34.201	9182528	1.05	0.8739	35.7	35.7	0.3884	0.3884	35.70	
1,2,3,4,6,7,8-HpCDD	34.225						0.0542	0.0542		
A Non-2,3,7,8-sub-HpCDD	34.747						0.0542	0.0542		
S Total HpCDD							0.0542	0.0542		
D 13C-OCDD	36.457	14380070	0.87	0.7744	63.1	63.1	0.2279	0.2279	31.55	
OCDF	36.565						0.1056	0.1056		
OCDD	36.457	65088	0.84	1.0621	0.8523	0.8523	0.0666	0.0666		M

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_52.d
Lims ID: 600-191956-B-2-D
Client ID: 11187072-091319-LL-EXC-1
Sample Type: Client
Inject. Date: 20-Sep-2019 03:02:46 ALS Bottle#: 53 Worklist Smp#: 52
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 600-191956-B-2-D 600-191956-B-2-D
Misc. Info.: 18SE1910D5
Operator ID: SMA, ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 20-Sep-2019 11:46:59 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0314

First Level Reviewer: stephensk Date: 20-Sep-2019 11:37:13

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.270	17.285	-1		18239066	4832584	5352	13380	903		
333.9339	17.270	17.285	-1		23920685	6389359	3055	7637	2091	0.76(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.771	16.786	-1	0.971	9756795	2552328	9111	22777	280		
317.9389	16.771	16.786	-1	0.971	12381247	3197779	3419	8547	935	0.79(0.65-0.89)	
2,3,7,8-TCDF											M
303.9016	16.801	16.816	-1	1.002	111999	24868	480	1200	52		
305.8987	16.786	16.816	-2	1.001	160231	34575	1188	2970	29	0.70(0.65-0.89)	M
A Non-2,3,7,8-sub-TCDF											RQ
303.9016	15.697	16.514	-49	0.936	15496	3060	480	1200	6		
305.8987	15.712	16.514	-48	0.937	24170	7167	1188	2970	6	0.64(0.65-0.89)	
	Empc Correction				20124	3974	1188	2970	3		
303.9016	16.423	16.514	-5	0.979	58694	14358	480	1200	30		
305.8987	16.423	16.514	-5	0.979	70166	19629	1188	2970	17	0.84(0.65-0.89)	
303.9016	17.194	16.514	41	1.025	12717	3455	480	1200	7		
305.8987	17.209	16.514	42	1.026	18328	4539	1188	2970	4	0.69(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.451	17.466	-1	1.011	6425332	1553637	5352	13380	290		
333.9339	17.451	17.466	-1	1.011	8150352	2033443	3055	7637	666	0.79(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.466	17.481	-1	1.011	19083299	4705515	2396	5990	1964		
2,3,7,8-TCDD											M
319.8965	17.466	17.497	-2	1.001	24439	4963	931	2327	5		M
321.8936	17.481	17.497	-1	1.002	34589	7651	496	1240	15	0.71(0.65-0.89)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-TCDD											
319.8965	16.952						931	2327			
321.8936	16.952						496	1240			
13C-1,2,3,7,8-PeCDF											
351.9000	21.590	21.604	-1	1.250	9766698	1786396	2551	6377	700		
353.8970	21.590	21.604	-1	1.250	5959955	1099105	2052	5130	536	1.64(1.32-1.78)	
1,2,3,7,8-PeCDF											RQ
339.8597	21.618	21.631	-1	1.001	18299	3165	262	655	12		
341.8567	21.604	21.631	-2	1.001	19529	3434	761	1902	5	0.94(1.32-1.78)	
	Empc Correction				11805	2041	761	1902	3		
13C-2,3,4,7,8-PeCDF											
351.9000	22.886	22.900	-1	1.325	9909543	1641064	2551	6377	643		
353.8970	22.886	22.900	-1	1.325	6249006	1077290	2052	5130	525	1.59(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.927						262	655			
341.8567	22.927						761	1902			
A F1 PeCDFs											
339.8597	19.205						283	707			
341.8567	19.205						796	1990			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.226						262	655			
341.8567	22.226						761	1902			
13C-1,2,3,7,8-PeCDD											
367.8949	23.568	23.595	-2	1.365	7304237	1180343	1663	4157	710		
369.8919	23.568	23.595	-2	1.365	4739367	732986	1554	3885	472	1.54(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.622						405	1012			
357.8516	23.622						175	437			
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.559						405	1012			
357.8516	22.559						175	437			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.683	29.709	-2	0.936	4328484	560029	3145	7862	178		
385.8610	29.683	29.709	-2	0.936	8405497	1083849	5189	12972	209	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											Ma
373.8208	29.696	29.749	-3	1.000	30915	4572	279	697	16		M
375.8178	29.642	29.749	-6	0.999	28919	3228	207	517	16	1.07(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.949	29.975	-2	0.945	4505796	638028	3145	7862	203		
385.8610	29.962	29.975	-1	0.945	8766249	1214226	5189	12972	234	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											Ma
373.8208	29.949	30.002	-3	1.000	12504	2130	279	697	8		M
375.8178	29.949	30.002	-3	1.000	8881	1395	207	517	7	1.41(1.05-1.43)	M
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.000	31.013	-1	0.978	4321730	901973	3145	7862	287		
385.8610	31.000	31.013	-1	0.978	8395407	1837240	5189	12972	354	0.51(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
2,3,4,6,7,8-HxCDF											
373.8208	31.040						279	697			
375.8178	31.040						207	517			
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.905	31.919	-1	1.006	3904041	917670	3145	7862	292		
385.8610	31.905	31.919	-1	1.006	7645315	1771271	5189	12972	341	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											RQM
373.8208	31.932	31.945	-1	1.001	8238	2328	279	697	8		M
375.8178	31.919	31.945	-2	1.000	8559	2659	207	517	13	0.96(1.05-1.43)	M
	Empc Correction				6643	1877	207	517	9		
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.503						279	697			
375.8178	29.503						207	517			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.706	31.732	-2		16465030	3705167	4778	11945	775		
403.8529	31.719	31.732	-1		12964830	2888344	2610	6525	1107	1.27(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.226	31.240	-1	0.985	4637660	1154979	4778	11945	242		
403.8529	31.226	31.240	-1	0.985	3691722	870471	2610	6525	334	1.26(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.253						244	610			
391.8127	31.253						332	830			
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.346	31.360	-1	0.989	5660242	1226004	4778	11945	257		
403.8529	31.346	31.360	-1	0.989	4339495	986221	2610	6525	378	1.30(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.373						244	610			
391.8127	31.373						332	830			
1,2,3,7,8,9-HxCDD											
389.8157	31.746						244	610			
391.8127	31.746						332	830			
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.089						244	610			
391.8127	30.089						332	830			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.435	33.447	-1	1.055	2525991	771606	5976	14940	129		
419.8220	33.435	33.447	-1	1.055	6166649	1920138	13706	34265	140	0.41(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											RQMa
407.7818	33.435	33.460	-1	1.000	16371	4239	521	1302	8		M
	Empc Correction				12672	3783	521	1302	7		
409.7789	33.447	33.460	-1	1.000	12185	3638	284	710	13	1.34(0.88-1.20)	M
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.480	34.492	-1	1.088	2625581	729536	5976	14940	122		
419.8220	34.480	34.492	-1	1.088	5969481	1631814	13706	34265	119	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											RQ
407.7818	34.480	34.505	-1	1.000	10686	3821	521	1302	7		
	Empc Correction				8646	1886	521	1302	4		
409.7789	34.480	34.505	-1	1.000	8314	1814	284	710	6	1.29(0.88-1.20)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.982						521	1302			
409.7789	33.982						284	710			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.201	34.213	-1	1.079	4696539	1334490	4535	11337	294		
437.8140	34.201	34.213	-1	1.079	4485989	1272490	4418	11045	288	1.05(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.225						357	892			
425.7737	34.225						170	425			
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.747						357	892			
425.7737	34.747						170	425			
13C-OCDD											
469.7779	36.457	36.469	-1	1.150	6692080	1668132	2133	5332	782		
471.7750	36.457	36.469	-1	1.150	7687990	1845232	2521	6302	732	0.87(0.76-1.02)	
OCDF											
441.7428	36.565						290	725			
443.7399	36.565						645	1612			
OCDD											M
457.7377	36.457	36.481	-1	1.000	29697	8771	264	660	33		
459.7348	36.457	36.481	-1	1.000	35391	8398	233	582	36	0.84(0.76-1.02)	M

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- Q - EMPC-Estimated Max. Possible Conc.

Review Flags
- M - Manually Integrated
- a - User Assigned ID

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_52.d
Lims ID: 600-191956-B-2-D
Client ID: 11187072-091319-LL-EXC-1
Inject. Date: 20-Sep-2019 03:02:46 Dil. Factor: 1.0000
Sample Type: Client Sample
Instrument ID: 10D5 Operator: SMA, ALM
Lims Batch ID: 324876 Lims Sample ID: 52

Non-2,3,7,8-sub-TCDF, RT: 16.514

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.051	D 13C-2,3,7,8-TCDF	100.000	22138042	5750107

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.051		100.000	22138042	5750107

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
15.697	15496	3060	24170	7167	0.1705	0.64	RQ
15.697	15496	3060	20124	3974	0.1531		Empc Correction
16.423	58694	14358	70166	19629	0.5540	0.84	
17.194	12717	3455	18328	4539	0.1335	0.69	
Signal Totals:							
	86907	20873	108618	28142			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	199571	52208				0.77	RQ
	195525	49015					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.8580 = (199571 * 100.000) / (22138042 * 1.051)
Empc Amount: 0.8406 = (195525 * 100.000) / (22138042 * 1.051)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_52.d				
Injection Date:	20-Sep-2019 03:02:46	Instrument ID:	10D5		
Lims ID:	600-191956-B-2-D	Lab Sample ID:	320-191956-2		
Client ID:	11187072-091319-LL-EXC-1				
Operator ID:	SMA, ALM	ALS Bottle#:	53	Worklist Smp#:	52
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDF, CAS: 51207-31-9

Signal: 2

Processing Integration Results

RT: 16.79
Area: 169823
Amount: 1.211558
Amount Units: pg/ul

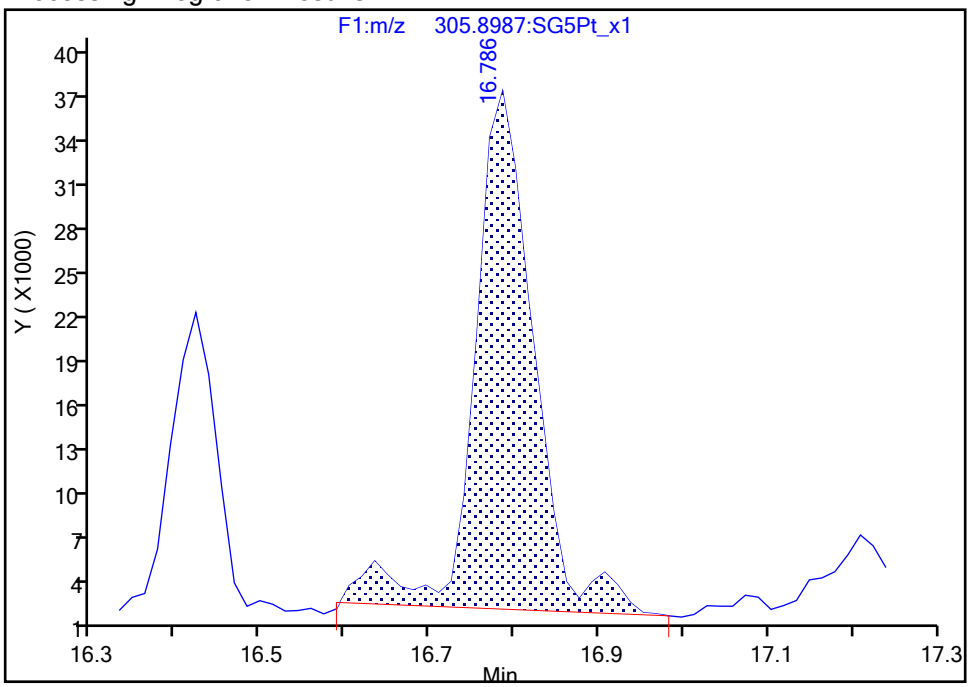

Manual Integration Results

RT: 16.79
Area: 160231
Amount: 1.170322
Amount Units: pg/ul

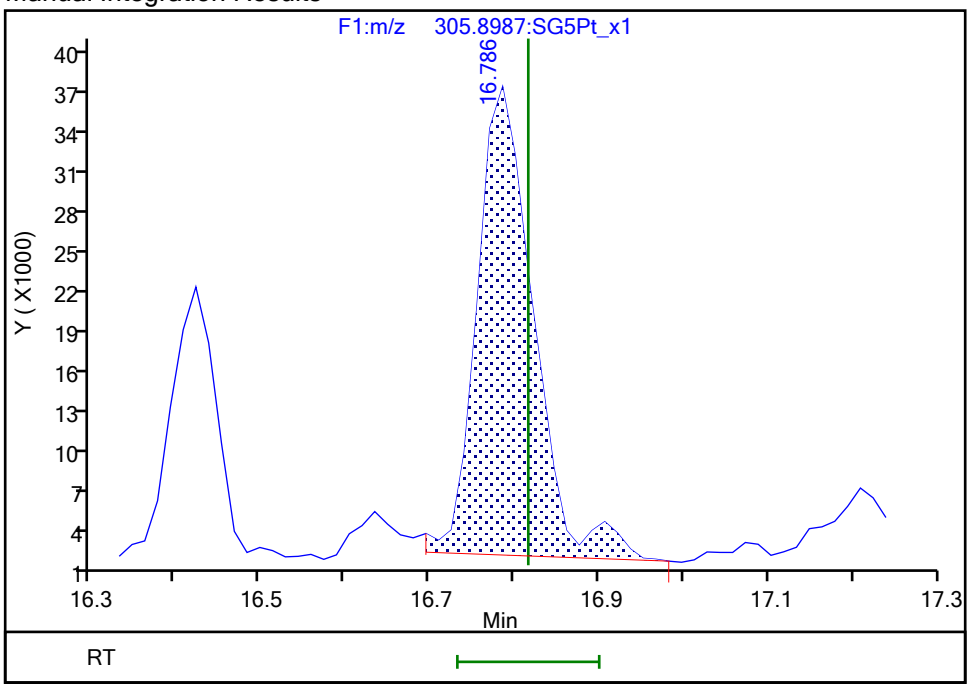

Reviewer: stephensk, 20-Sep-2019 11:33:55

Audit Action: Split an Integrated Peak Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_52.d				
Injection Date:	20-Sep-2019 03:02:46	Instrument ID:	10D5		
Lims ID:	600-191956-B-2-D	Lab Sample ID:	320-191956-2		
Client ID:	11187072-091319-LL-EXC-1				
Operator ID:	SMA, ALM	ALS Bottle#:	53	Worklist Smp#:	52
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F1:HRSIR		

2,3,7,8-TCDD, CAS: 1746-01-6

Signal: 1

Processing Integration Results

RT: 17.47
Area: 24774
Amount: 0.368105
Amount Units: pg/ul

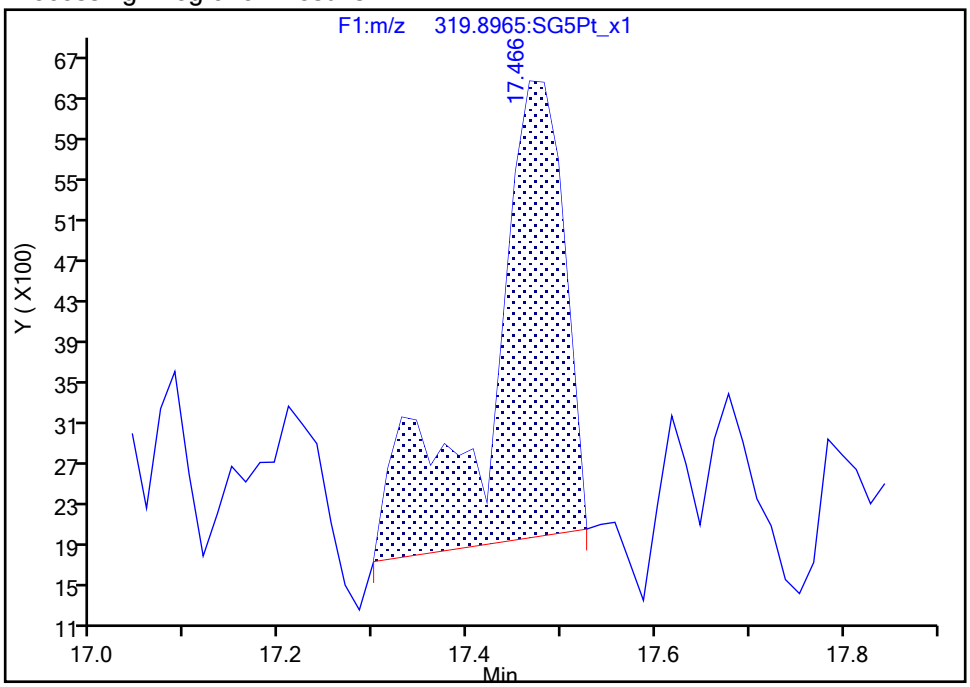

Manual Integration Results

RT: 17.47
Area: 24439
Amount: 0.366028
Amount Units: pg/ul

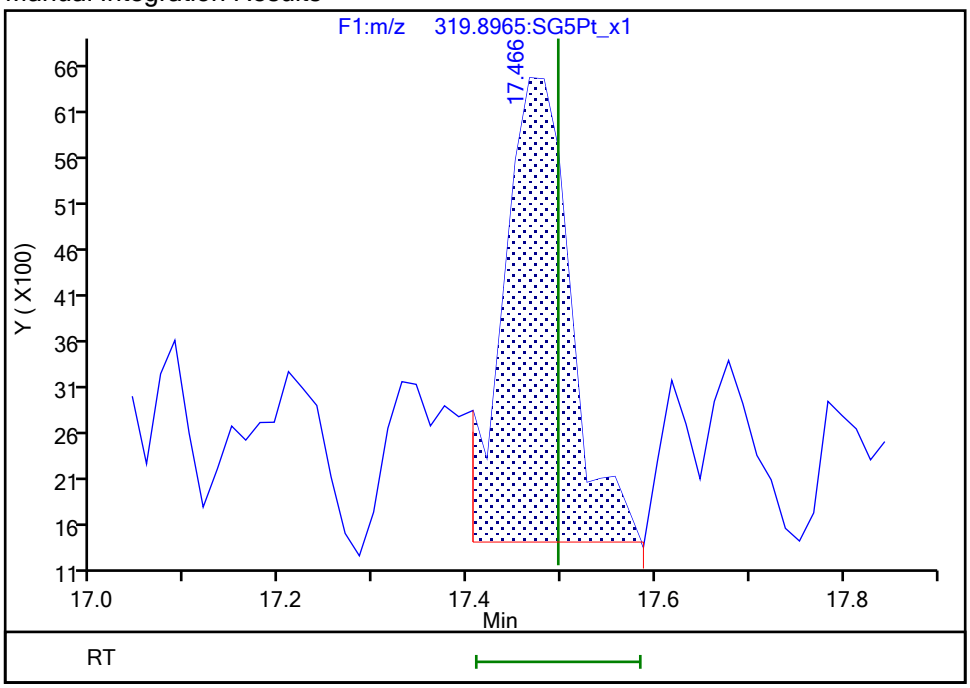

Reviewer: stephensk, 20-Sep-2019 11:34:38

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_52.d				
Injection Date:	20-Sep-2019 03:02:46	Instrument ID:	10D5		
Lims ID:	600-191956-B-2-D	Lab Sample ID:	320-191956-2		
Client ID:	11187072-091319-LL-EXC-1				
Operator ID:	SMA, ALM	ALS Bottle#:	53	Worklist Smp#:	52
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,4,7,8-HxCDF, CAS: 70648-26-9

Signal: 1

Not Detected
Expected RT: 29.75

Processing Integration Results

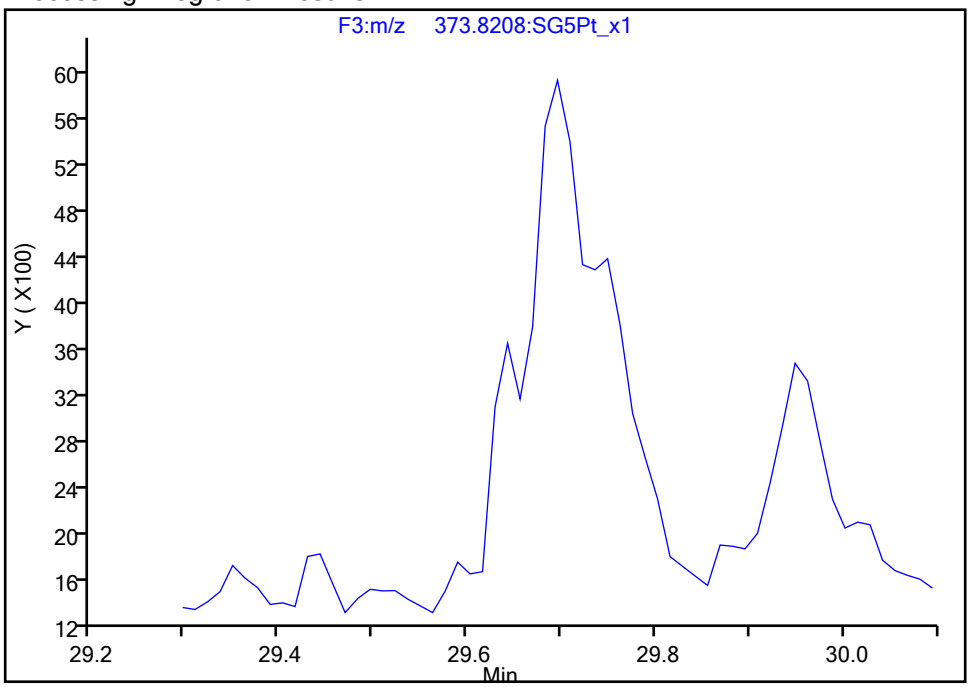

RT: 29.70
Area: 30915
Amount: 0.392435
Amount Units: pg/ul

Manual Integration Results

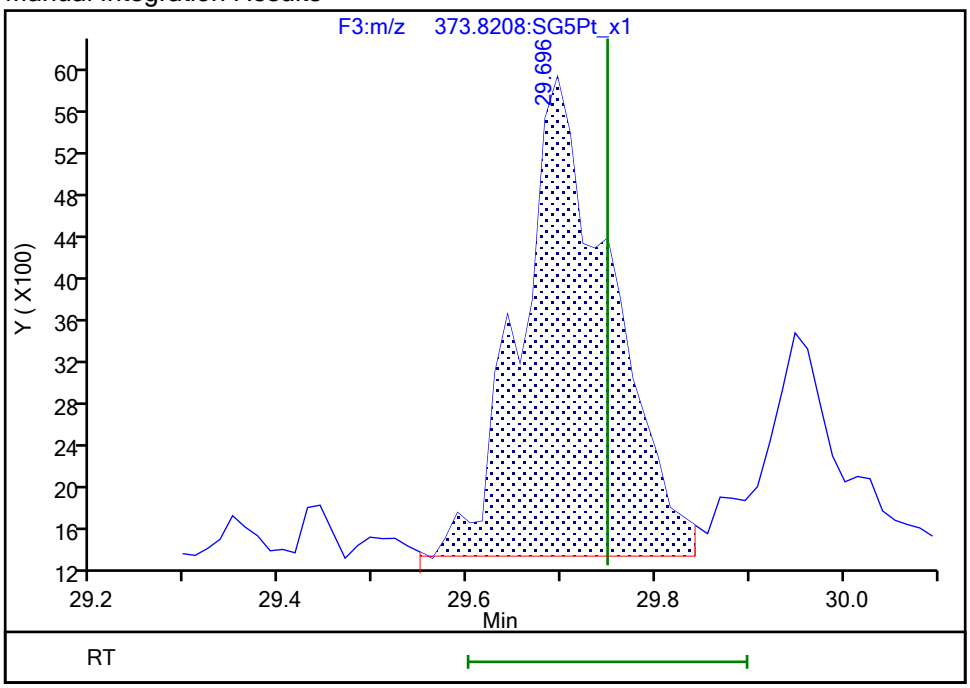

Reviewer: stephensk, 20-Sep-2019 11:35:28
Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_52.d				
Injection Date:	20-Sep-2019 03:02:46	Instrument ID:	10D5		
Lims ID:	600-191956-B-2-D	Lab Sample ID:	320-191956-2		
Client ID:	11187072-091319-LL-EXC-1				
Operator ID:	SMA, ALM	ALS Bottle#:	53	Worklist Smp#:	52
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDF, CAS: 57117-44-9

Signal: 1

Not Detected
Expected RT: 30.00

Processing Integration Results

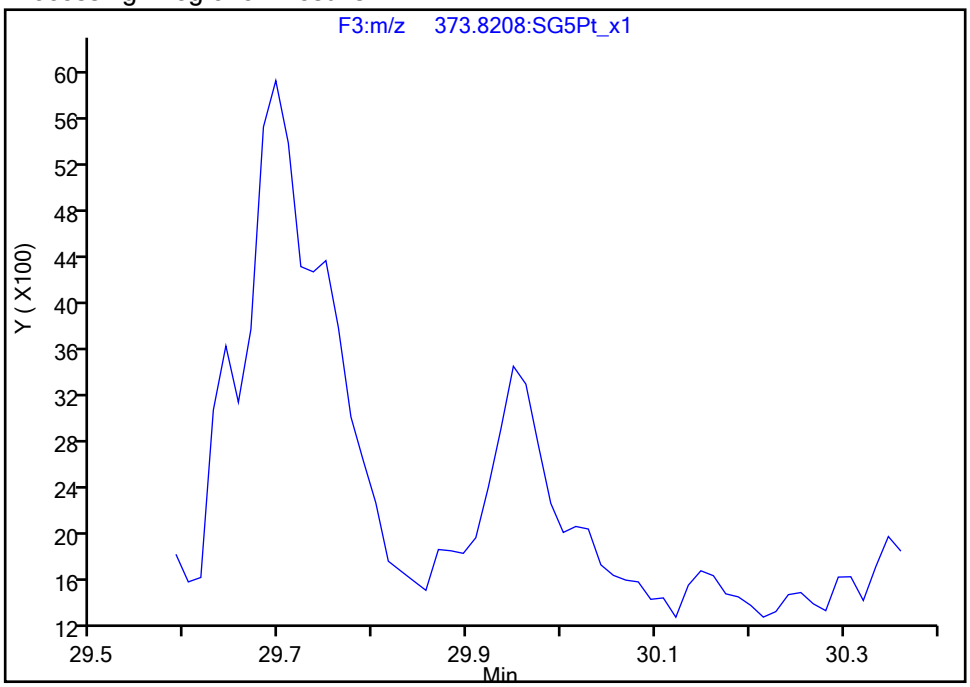

Manual Integration Results

RT: 29.95
Area: 12504
Amount: 0.136473
Amount Units: pg/ul

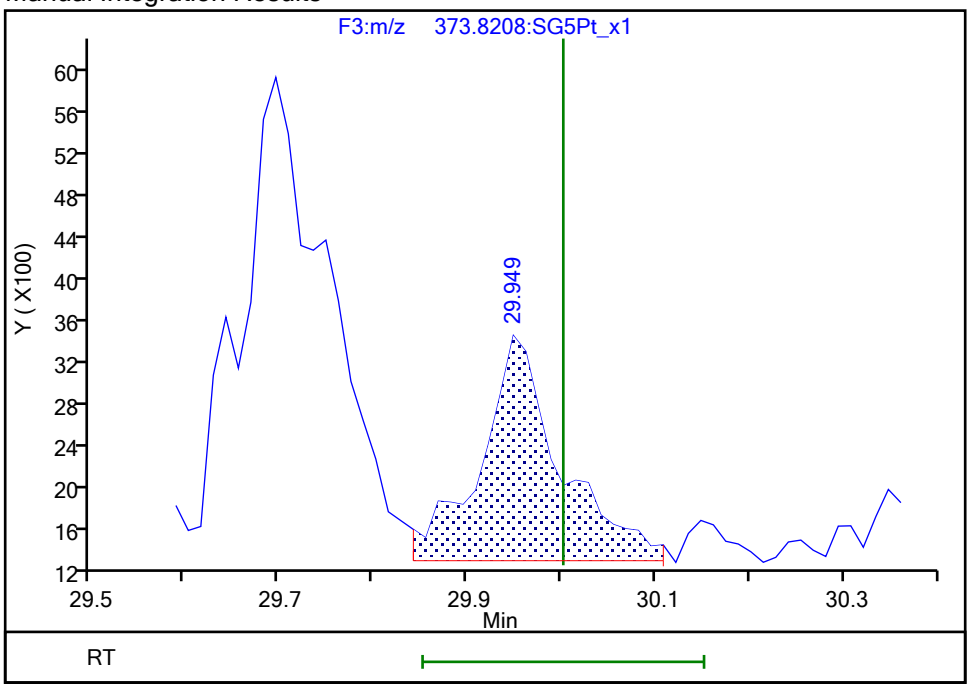

Reviewer: stephensk, 20-Sep-2019 11:35:28
Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_52.d				
Injection Date:	20-Sep-2019 03:02:46	Instrument ID:	10D5		
Lims ID:	600-191956-B-2-D	Lab Sample ID:	320-191956-2		
Client ID:	11187072-091319-LL-EXC-1				
Operator ID:	SMA, ALM	ALS Bottle#:	53	Worklist Smp#:	52
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,6,7,8-HxCDF, CAS: 57117-44-9

Signal: 2

Not Detected
Expected RT: 30.00

Processing Integration Results

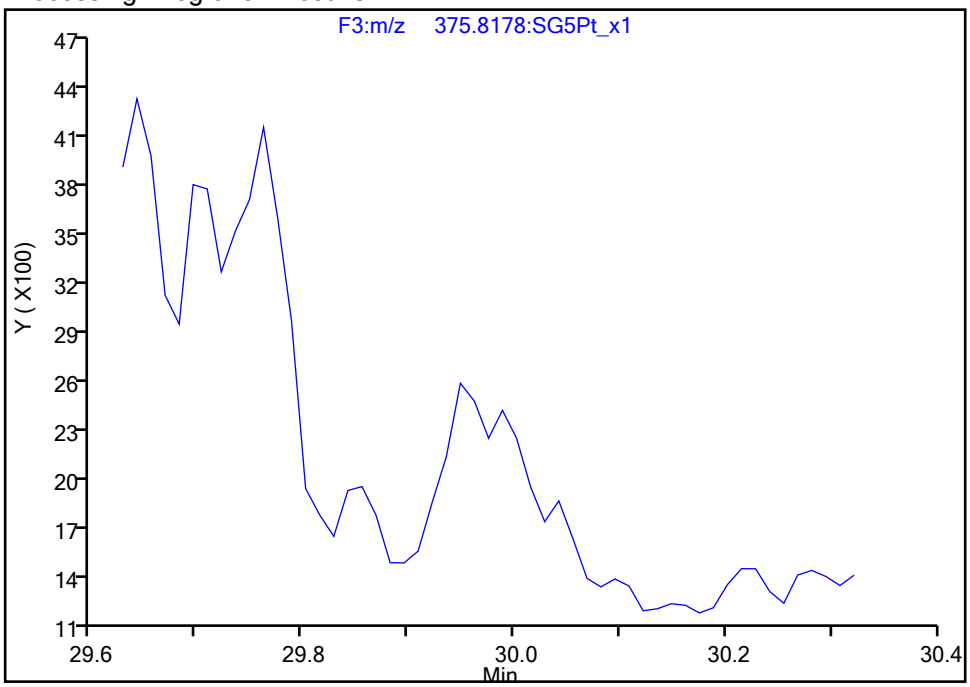

Manual Integration Results

RT: 29.95
Area: 8881
Amount: 0.136473
Amount Units: pg/ul

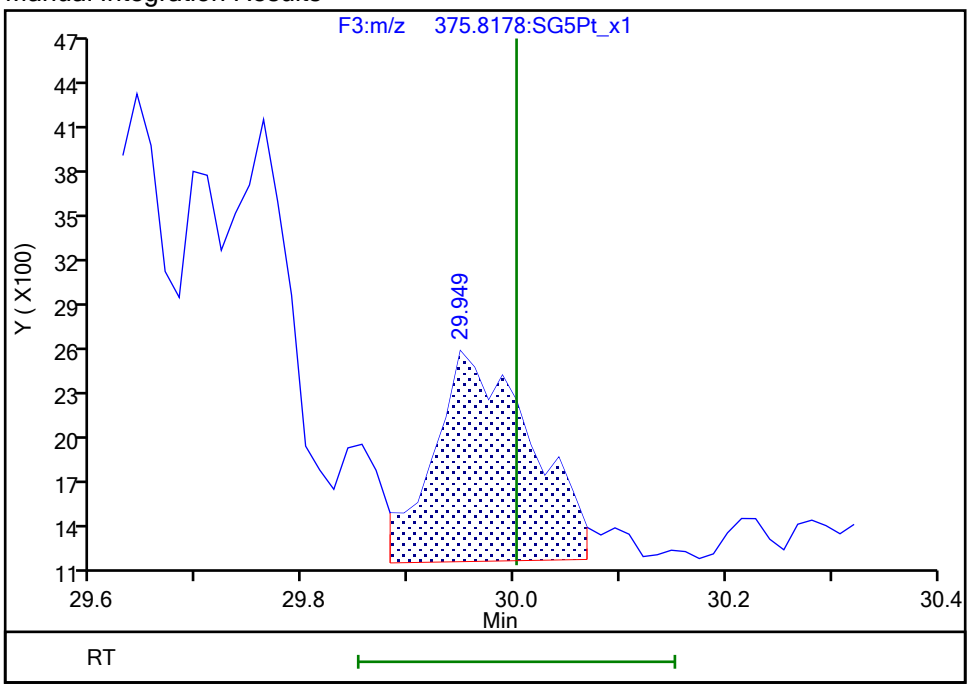

Reviewer: stephensk, 20-Sep-2019 11:35:34
Audit Action: Split an Integrated Peak Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_52.d				
Injection Date:	20-Sep-2019 03:02:46	Instrument ID:	10D5		
Lims ID:	600-191956-B-2-D	Lab Sample ID:	320-191956-2		
Client ID:	11187072-091319-LL-EXC-1				
Operator ID:	SMA, ALM	ALS Bottle#:	53	Worklist Smp#:	52
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 1

Processing Integration Results

RT: 31.93
Area: 6845
Amount: 0.126839
Amount Units: pg/ul

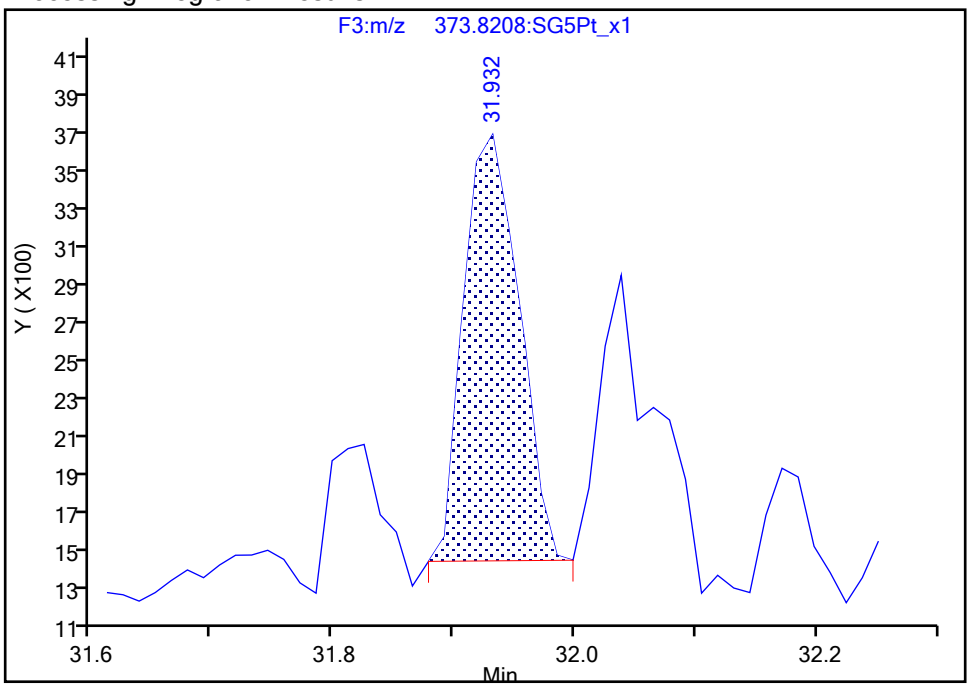

Manual Integration Results

RT: 31.93
Area: 8238
Amount: 0.116805
Amount Units: pg/ul

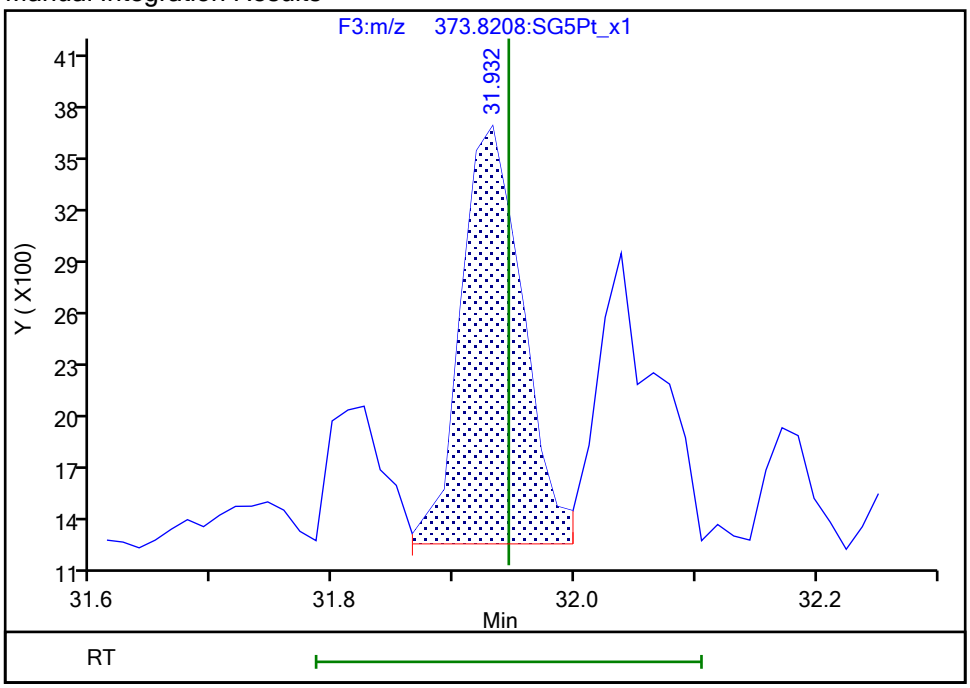

Reviewer: stephensk, 20-Sep-2019 11:36:04

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_52.d				
Injection Date:	20-Sep-2019 03:02:46	Instrument ID:	10D5		
Lims ID:	600-191956-B-2-D	Lab Sample ID:	320-191956-2		
Client ID:	11187072-091319-LL-EXC-1				
Operator ID:	SMA, ALM	ALS Bottle#:	53	Worklist Smp#:	52
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDF, CAS: 72918-21-9

Signal: 2

Processing Integration Results

RT: 31.92
Area: 11395
Amount: 0.126839
Amount Units: pg/ul

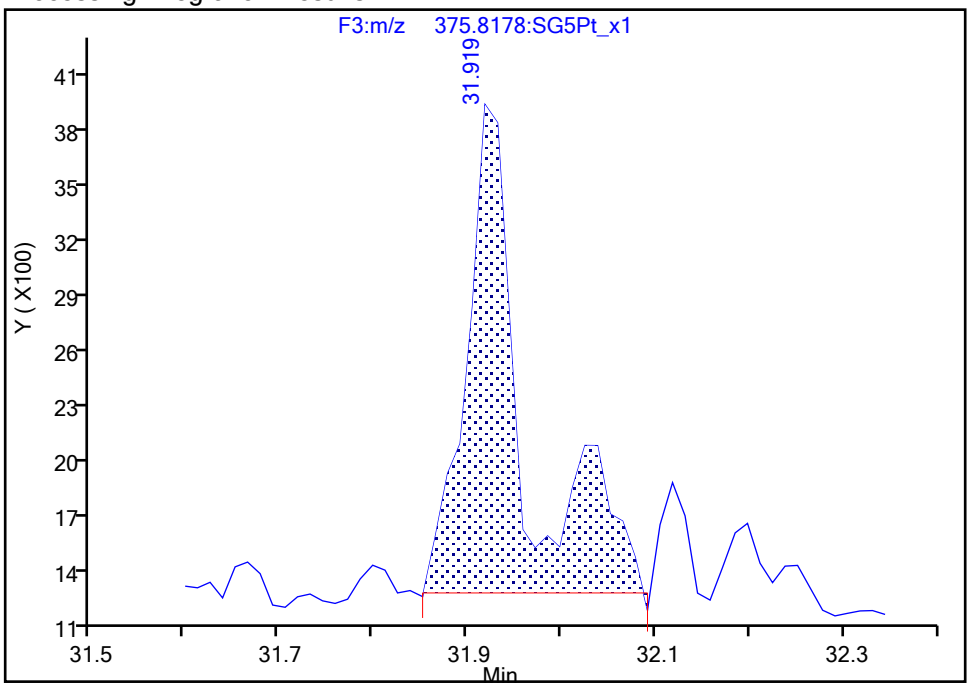

Manual Integration Results

RT: 31.92
Area: 8559
Amount: 0.116805
Amount Units: pg/ul

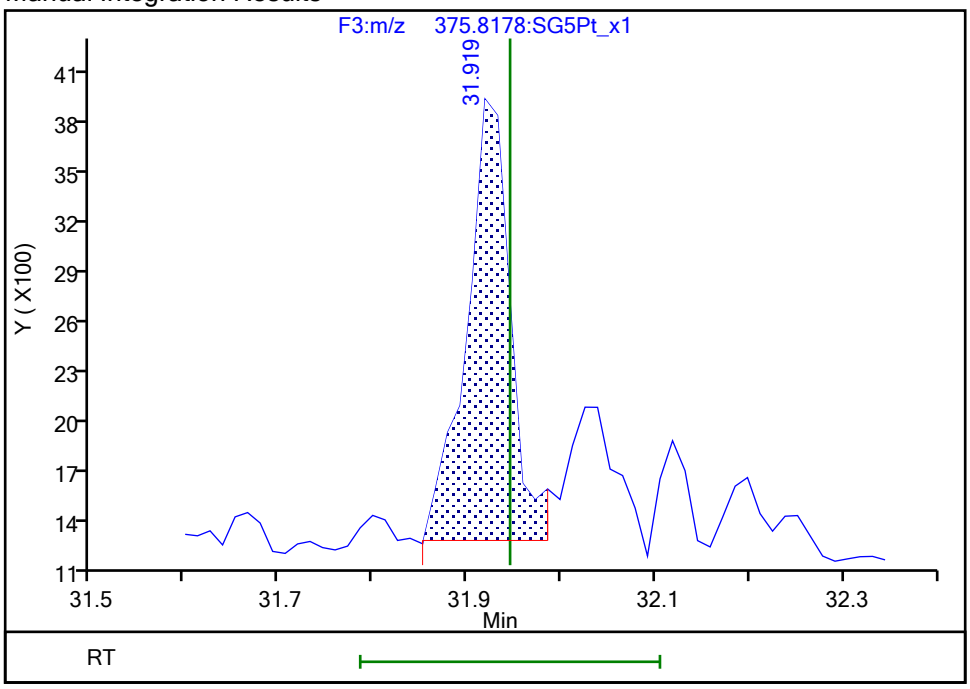

Reviewer: stephensk, 20-Sep-2019 11:36:04

Audit Action: Manually Integrated Audit Reason: Poor chromatography

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_52.d				
Injection Date:	20-Sep-2019 03:02:46	Instrument ID:	10D5		
Lims ID:	600-191956-B-2-D	Lab Sample ID:	320-191956-2		
Client ID:	11187072-091319-LL-EXC-1				
Operator ID:	SMA, ALM	ALS Bottle#:	53	Worklist Smp#:	52
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 1

Not Detected
Expected RT: 33.46

Processing Integration Results

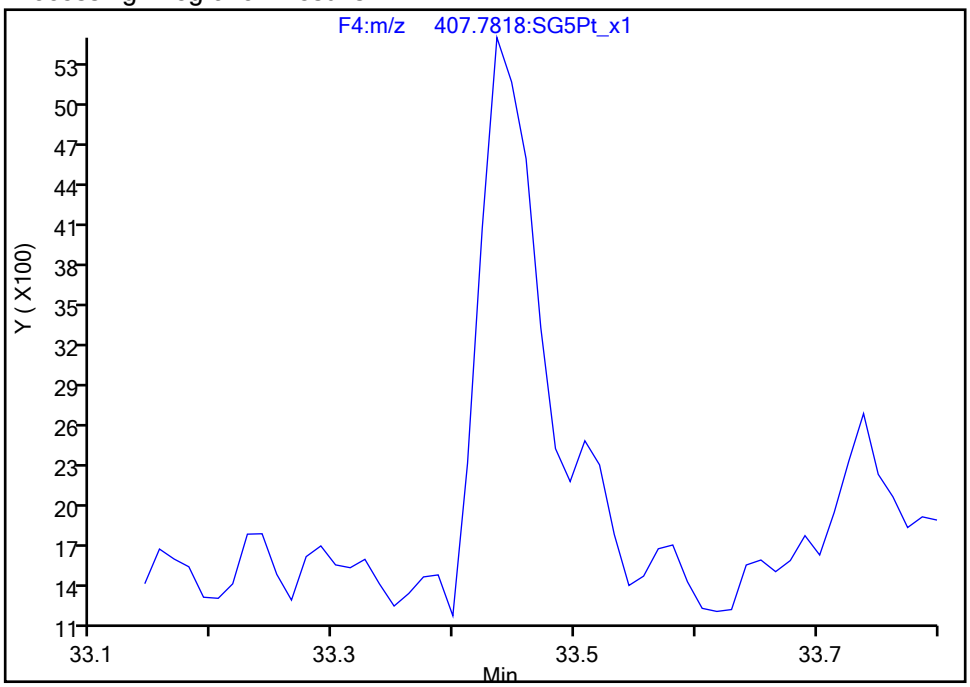

Manual Integration Results

RT: 33.44
Area: 16371
Amount: 0.211184
Amount Units: pg/ul

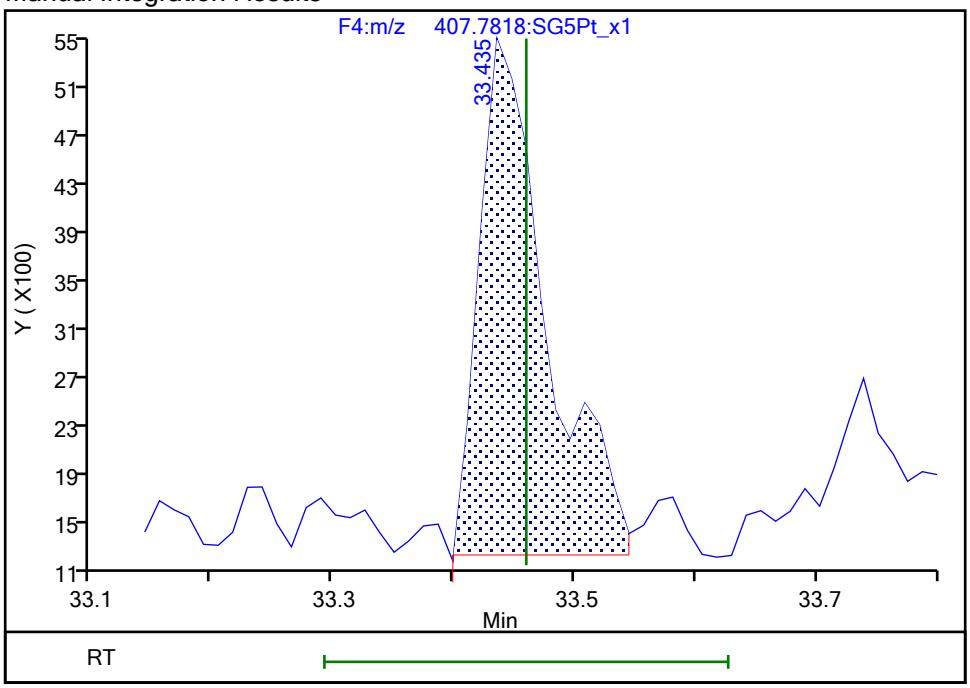

Reviewer: stephensk, 20-Sep-2019 11:36:30
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_52.d				
Injection Date:	20-Sep-2019 03:02:46	Instrument ID:	10D5		
Lims ID:	600-191956-B-2-D	Lab Sample ID:	320-191956-2		
Client ID:	11187072-091319-LL-EXC-1				
Operator ID:	SMA, ALM	ALS Bottle#:	53	Worklist Smp#:	52
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F4:HRSIR		

1,2,3,4,6,7,8-HpCDF, CAS: 67562-39-4

Signal: 2

Not Detected
Expected RT: 33.46

Processing Integration Results

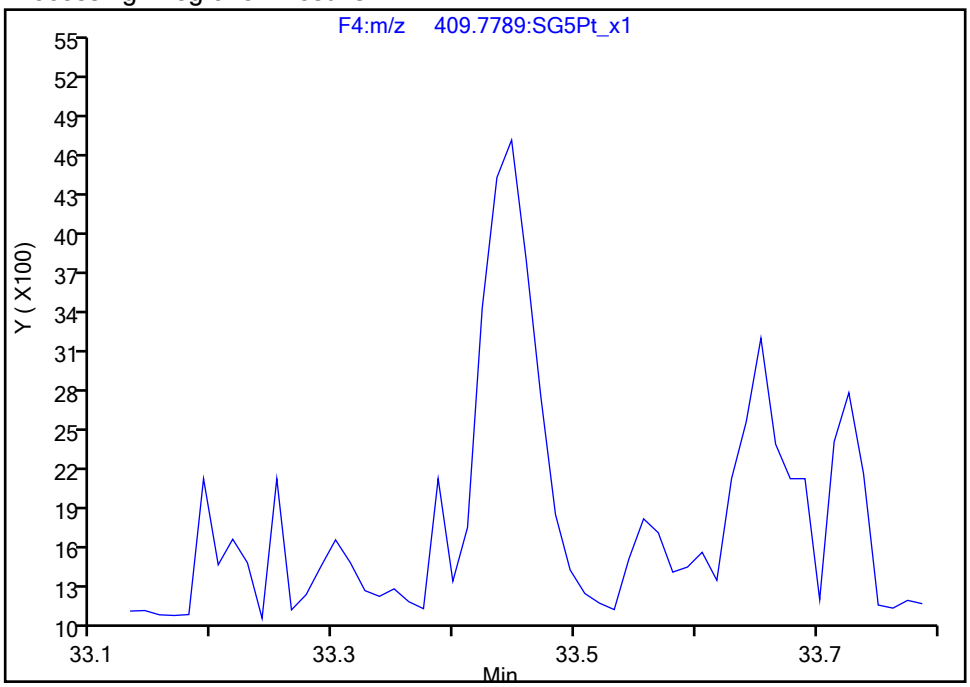

RT: 33.45
Area: 12185
Amount: 0.211184
Amount Units: pg/ul

Manual Integration Results

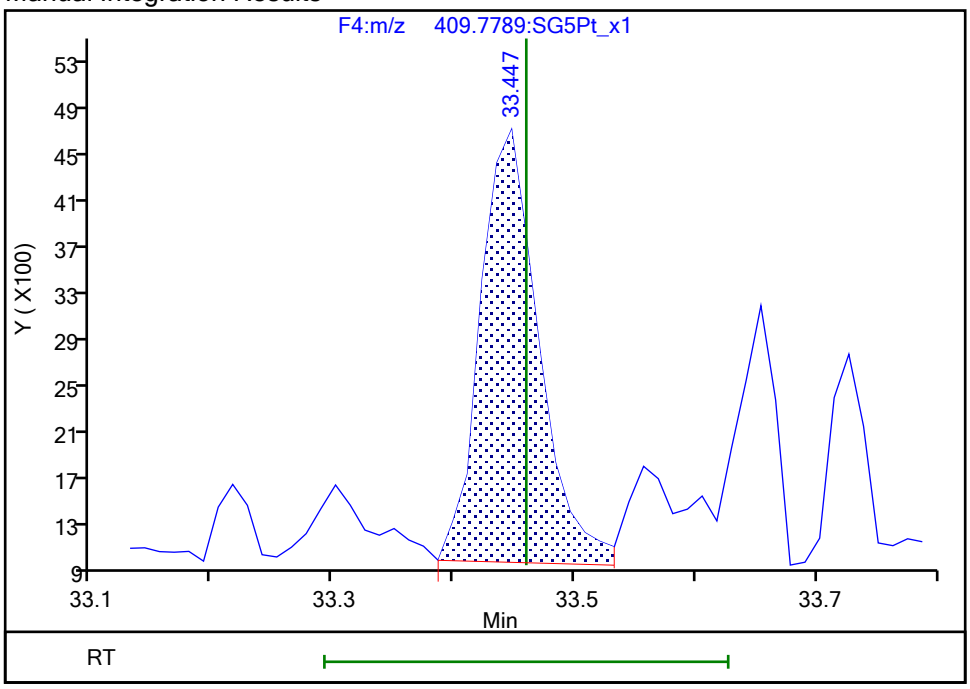

Reviewer: stephensk, 20-Sep-2019 11:36:34
Audit Action: Split an Integrated Peak Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_52.d				
Injection Date:	20-Sep-2019 03:02:46	Instrument ID:	10D5		
Lims ID:	600-191956-B-2-D	Lab Sample ID:	320-191956-2		
Client ID:	11187072-091319-LL-EXC-1				
Operator ID:	SMA, ALM	ALS Bottle#:	53	Worklist Smp#:	52
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5:HRSIR		

OCDD, CAS: 3268-87-9

Signal: 2

Processing Integration Results

RT: 36.46
Area: 43607
Amount: 0.959936
Amount Units: pg/ul

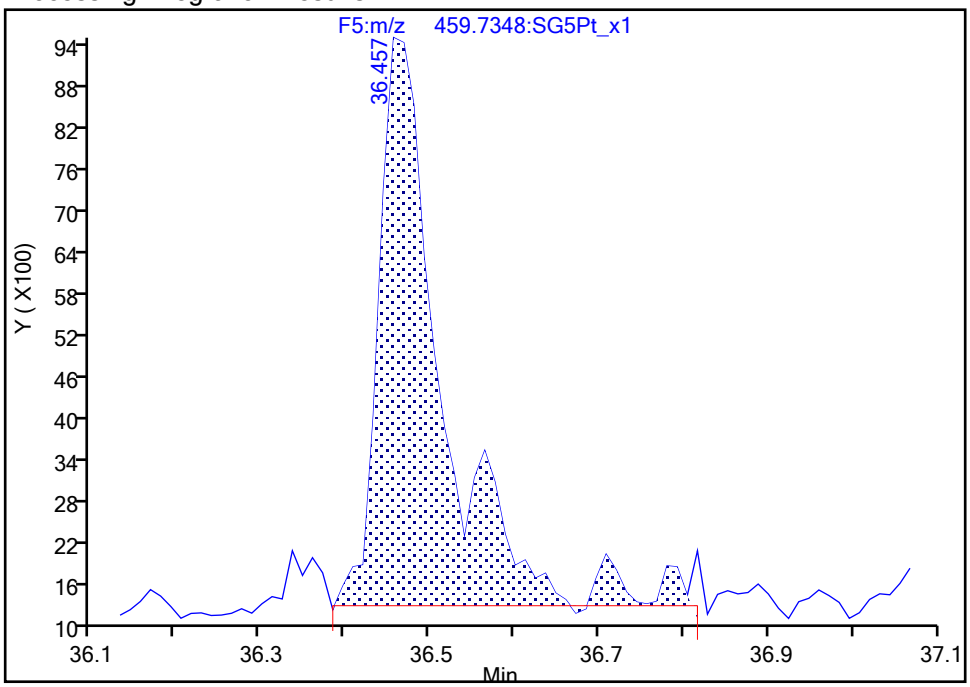

Manual Integration Results

RT: 36.46
Area: 35391
Amount: 0.852345
Amount Units: pg/ul

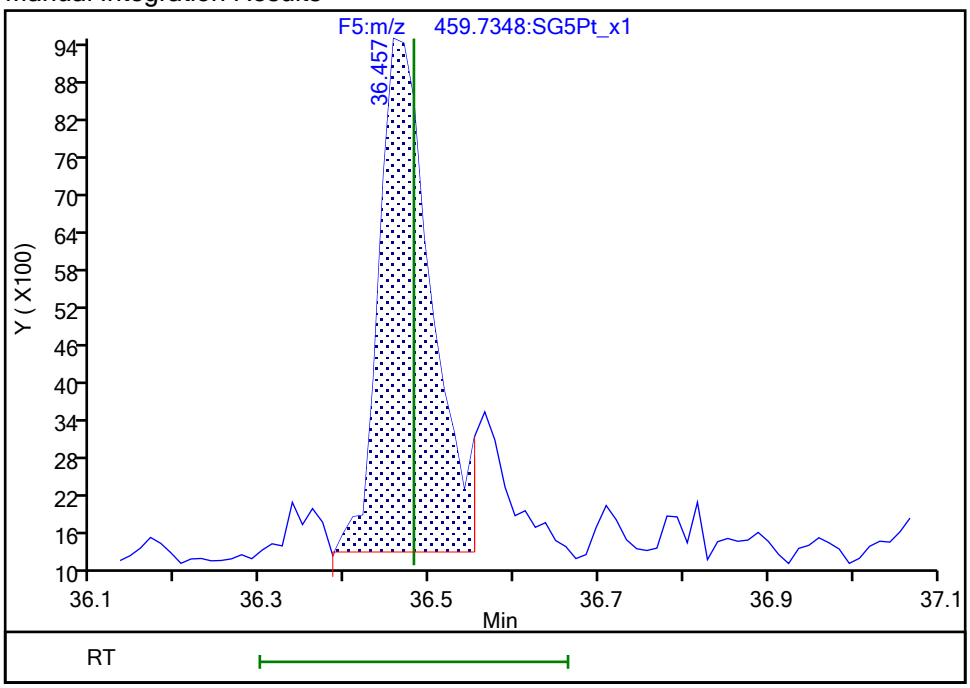

Reviewer: stephensk, 20-Sep-2019 11:37:03

Audit Action: Split an Integrated Peak Audit Reason: Poor chromatography

Report Date: 20-Sep-2019 11:47:32 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_52.d		
Injection Date:	20-Sep-2019 03:02:46	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-091319-LL-EXC-1		
Worklist#:	324876	Sample Line#:	52
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

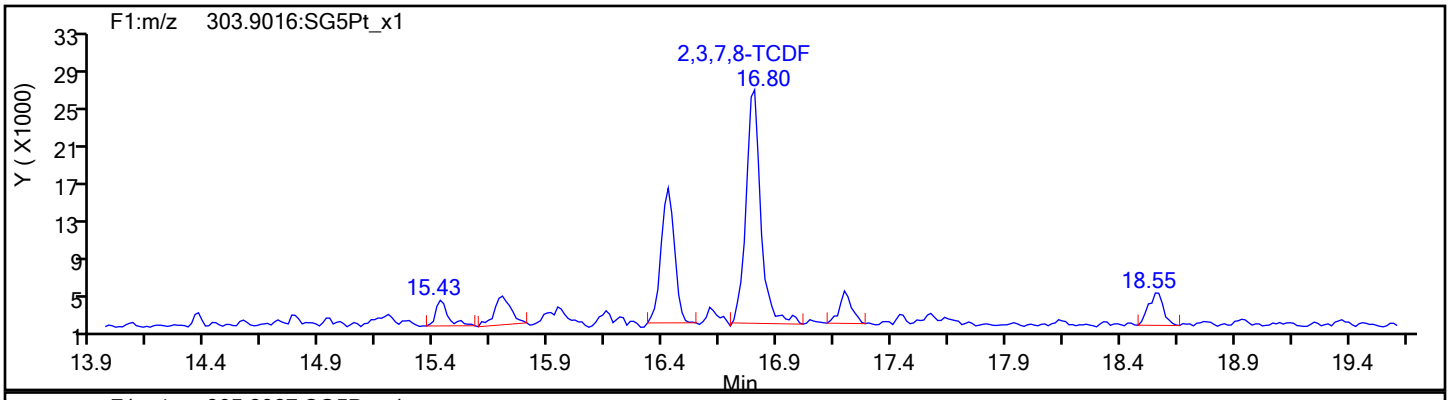

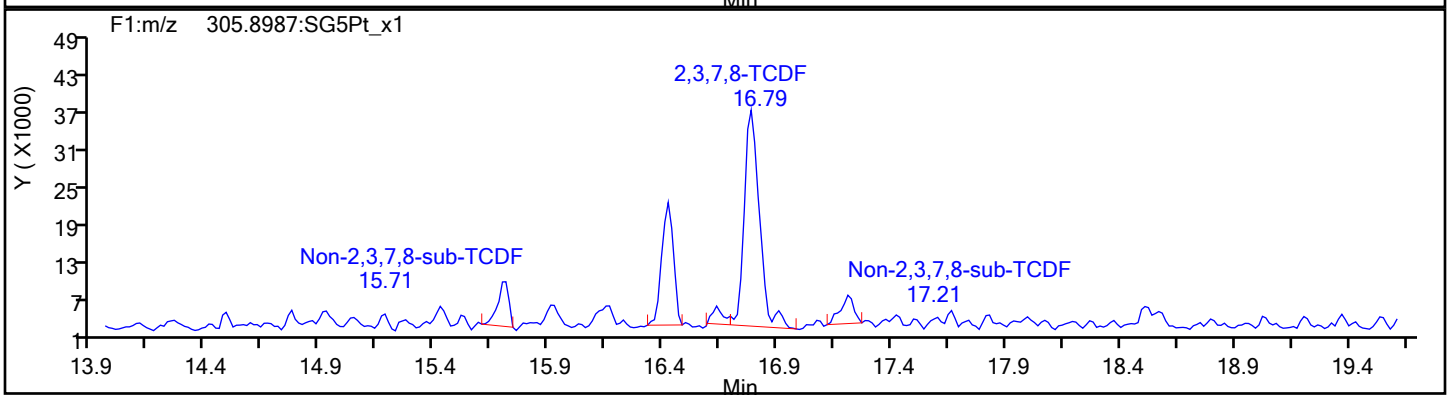

TCDF Standards

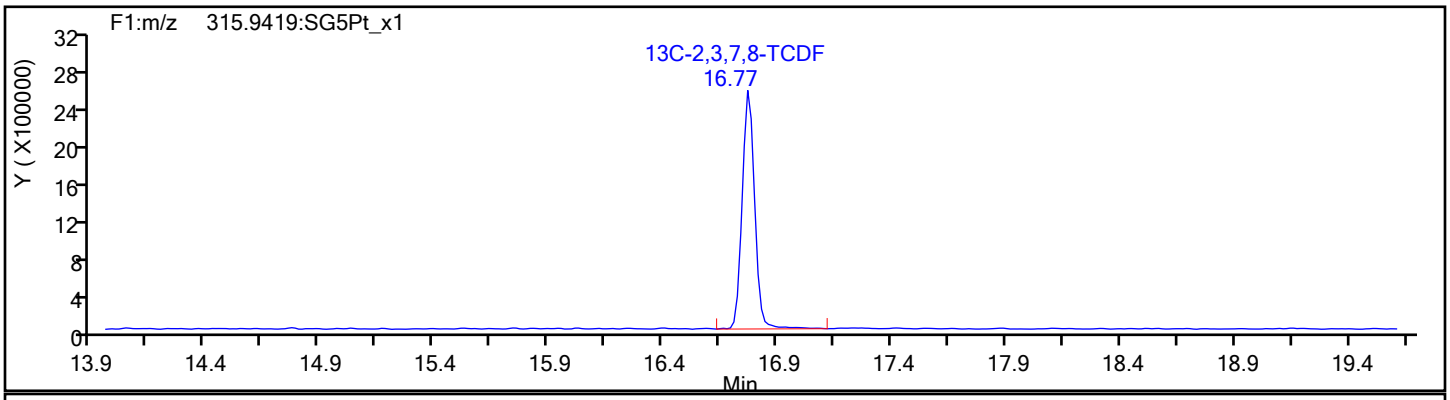

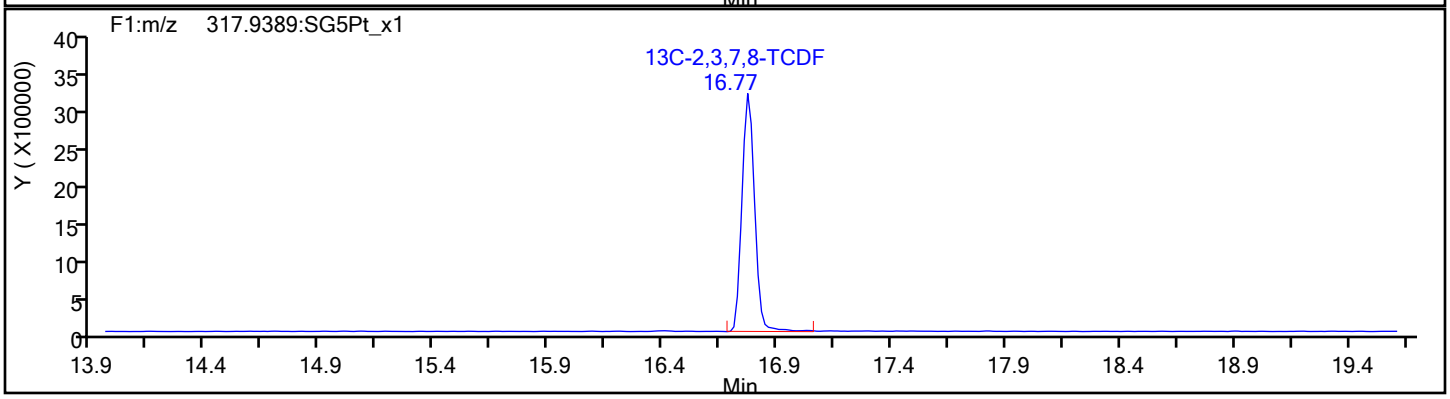

Report Date: 20-Sep-2019 11:47:32 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-091319-LL-EXC-1		
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TCDF

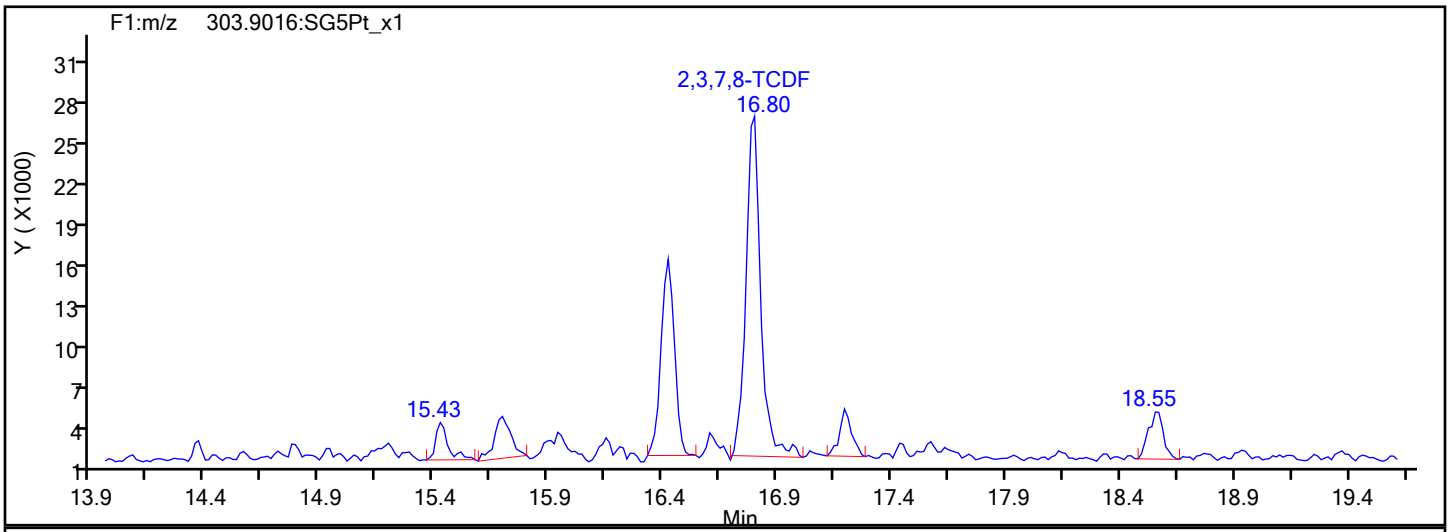

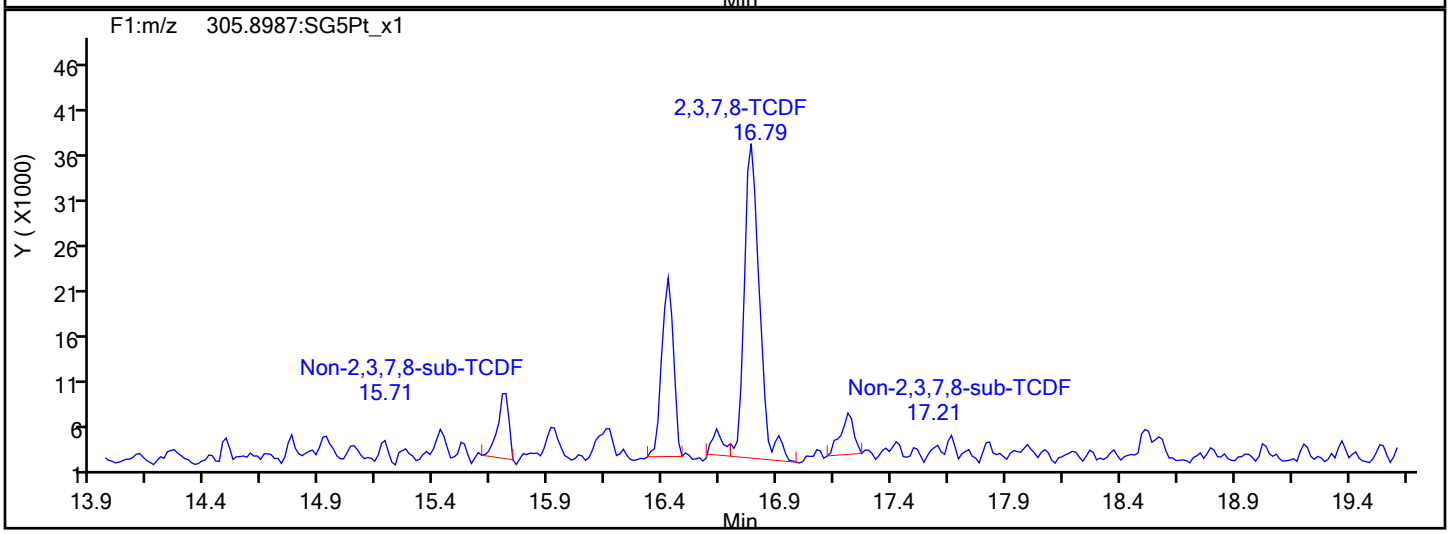

TCDF Interference Mass

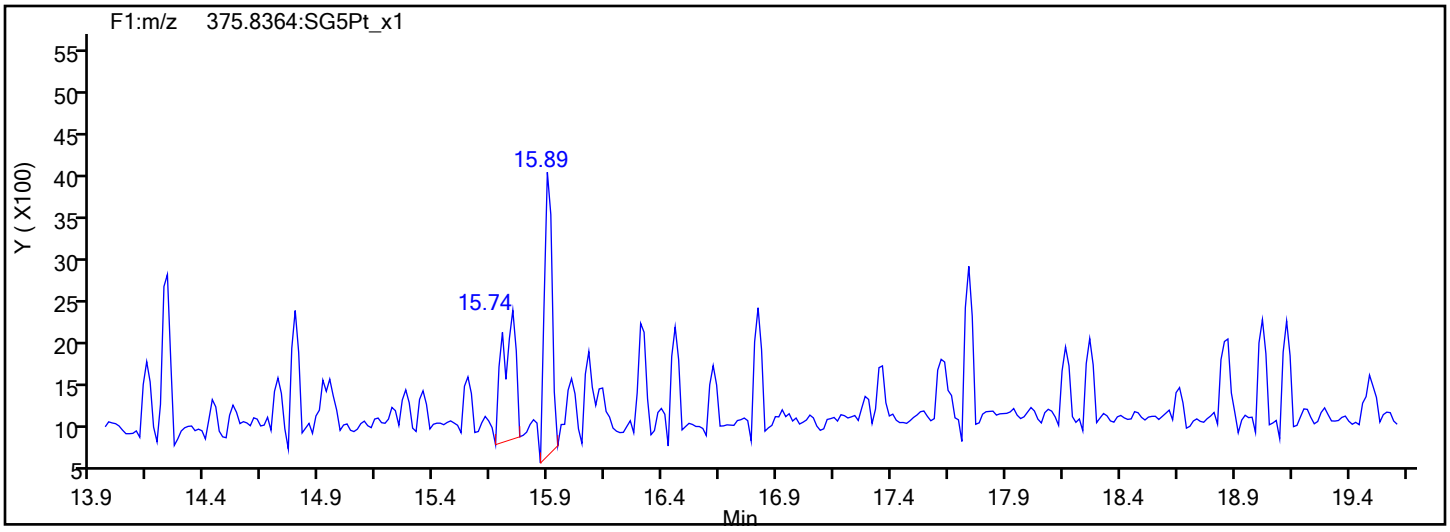

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Eurofins TestAmerica, Sacramento

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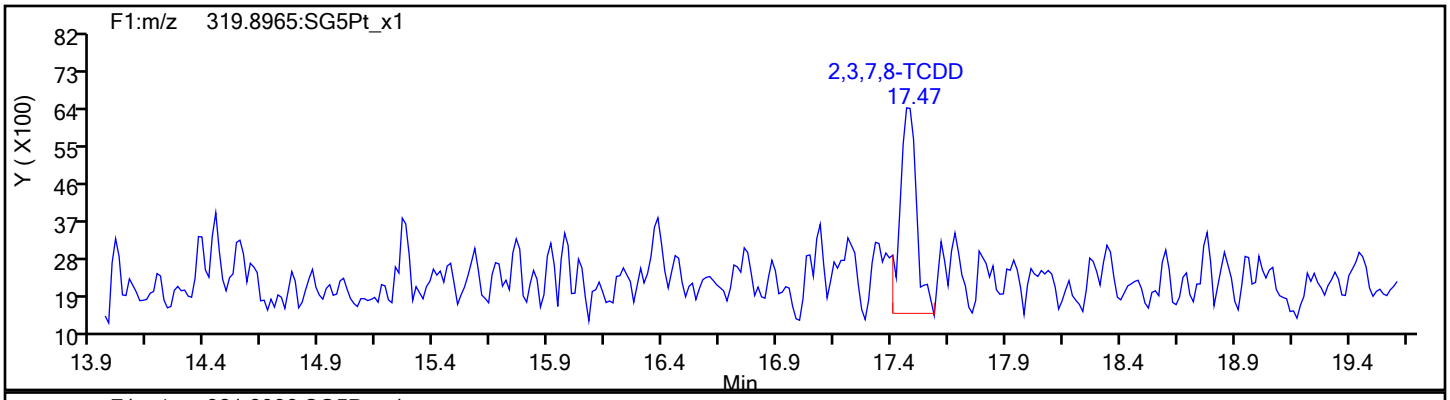

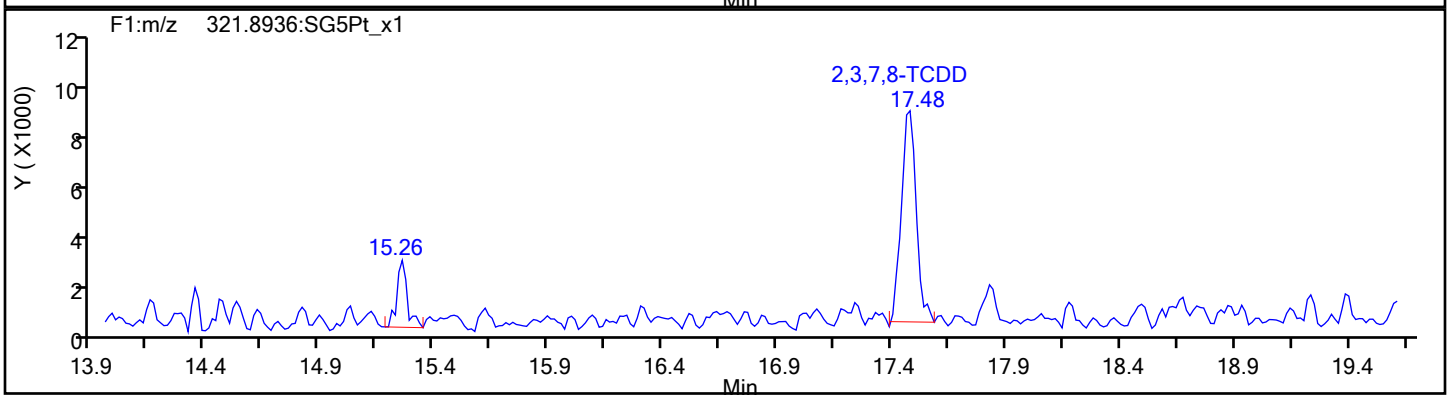

TCDD Standards

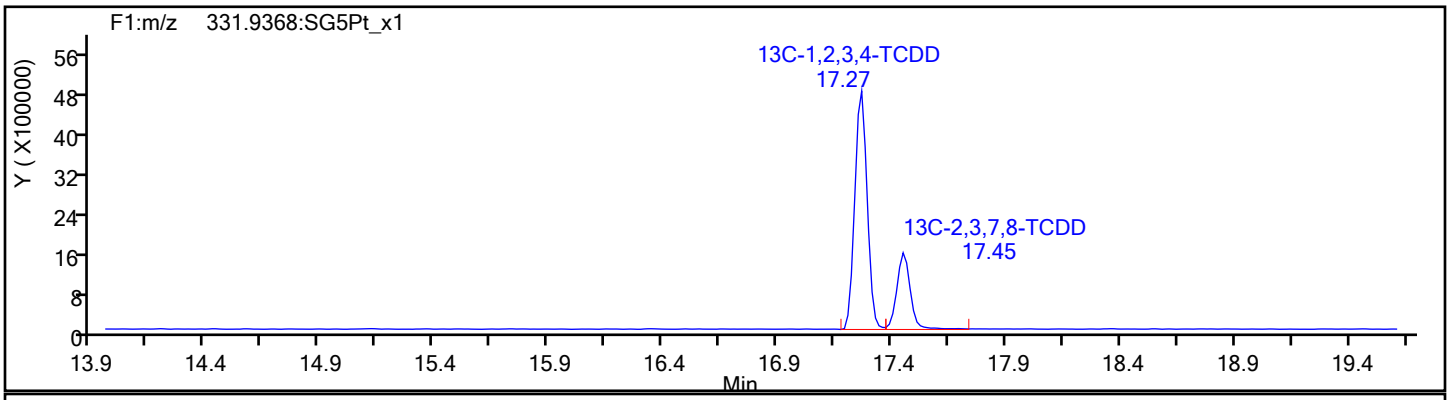

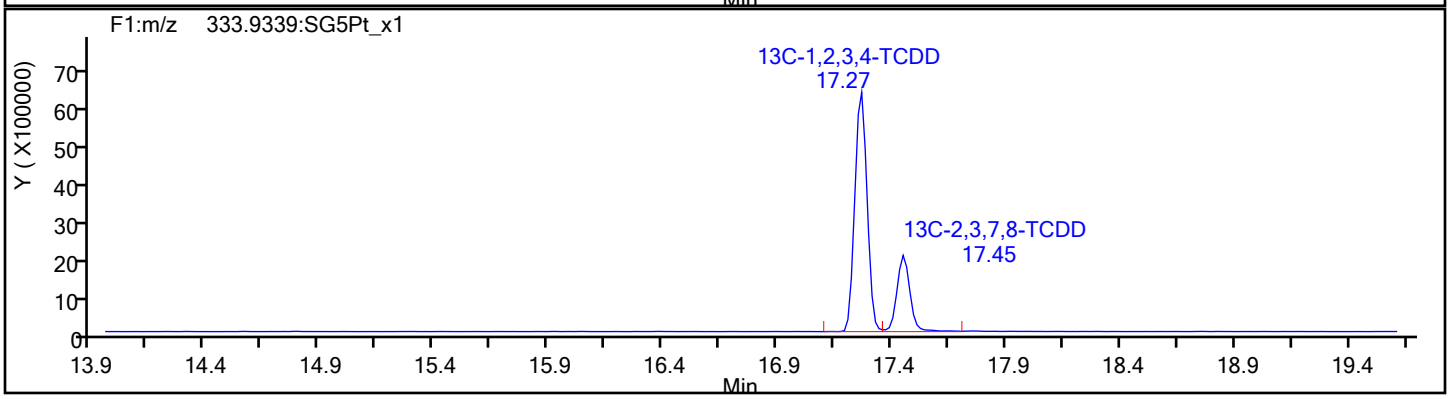

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37Cl4-TCDD

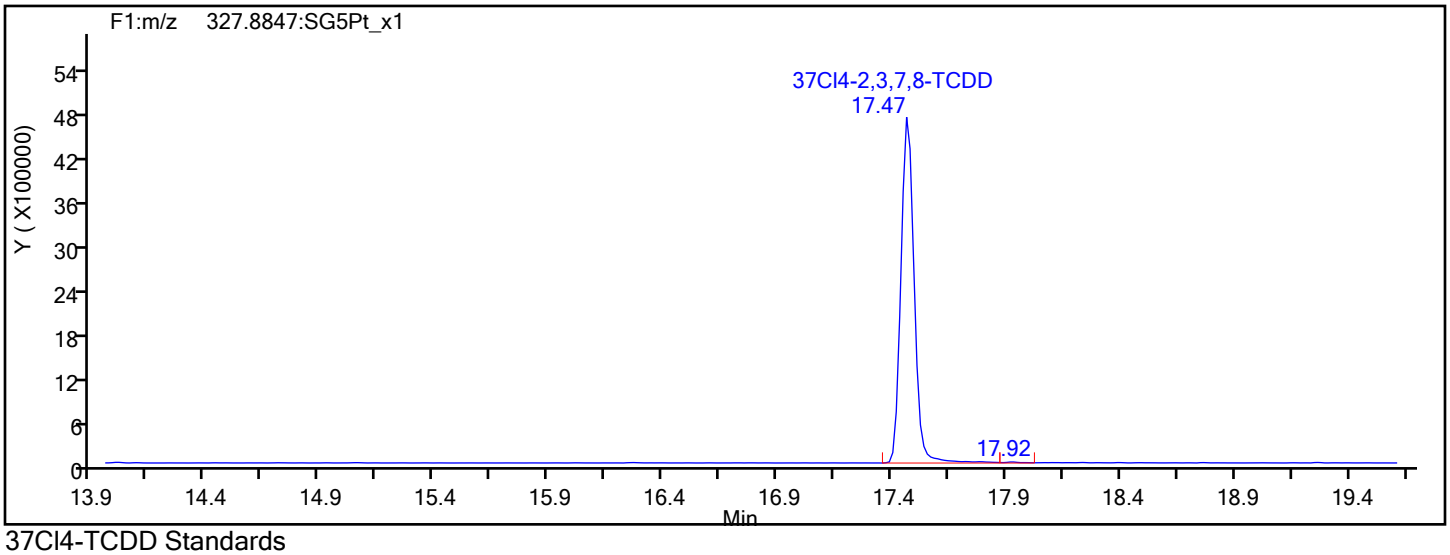

37Cl4-TCDD Standards

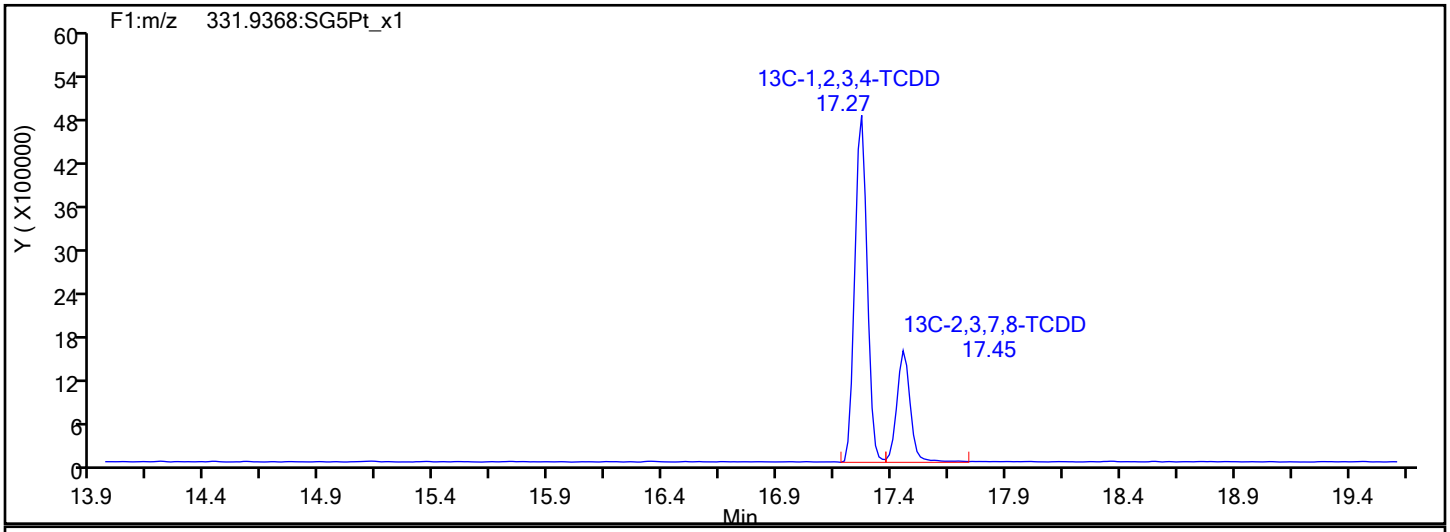

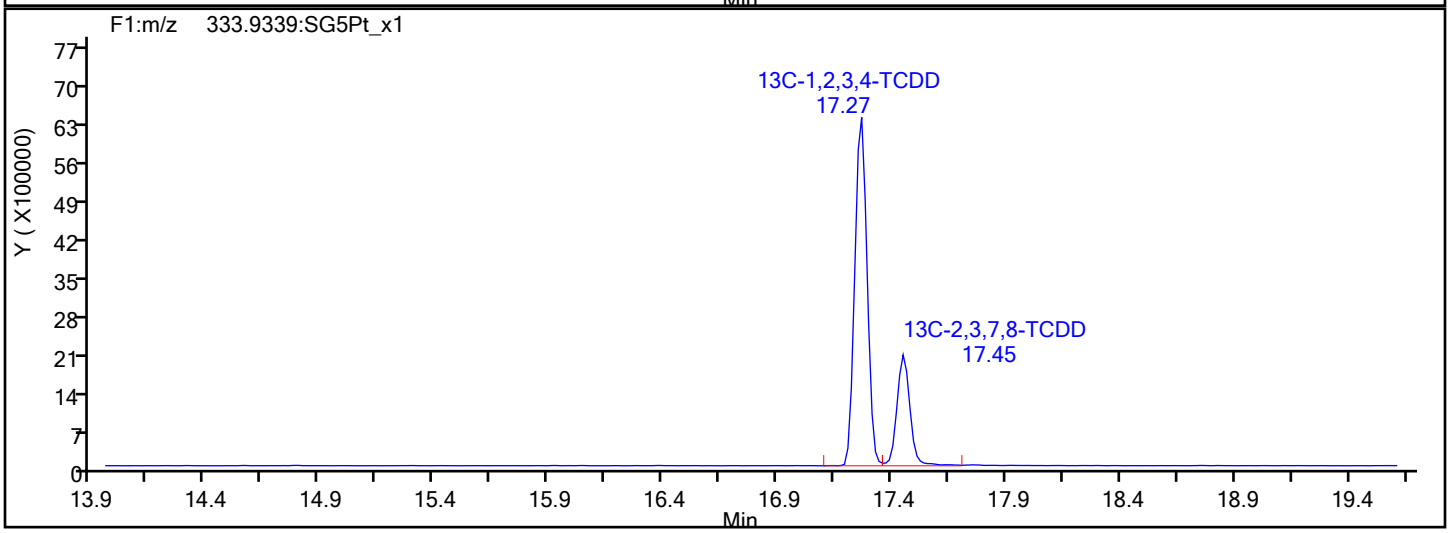

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

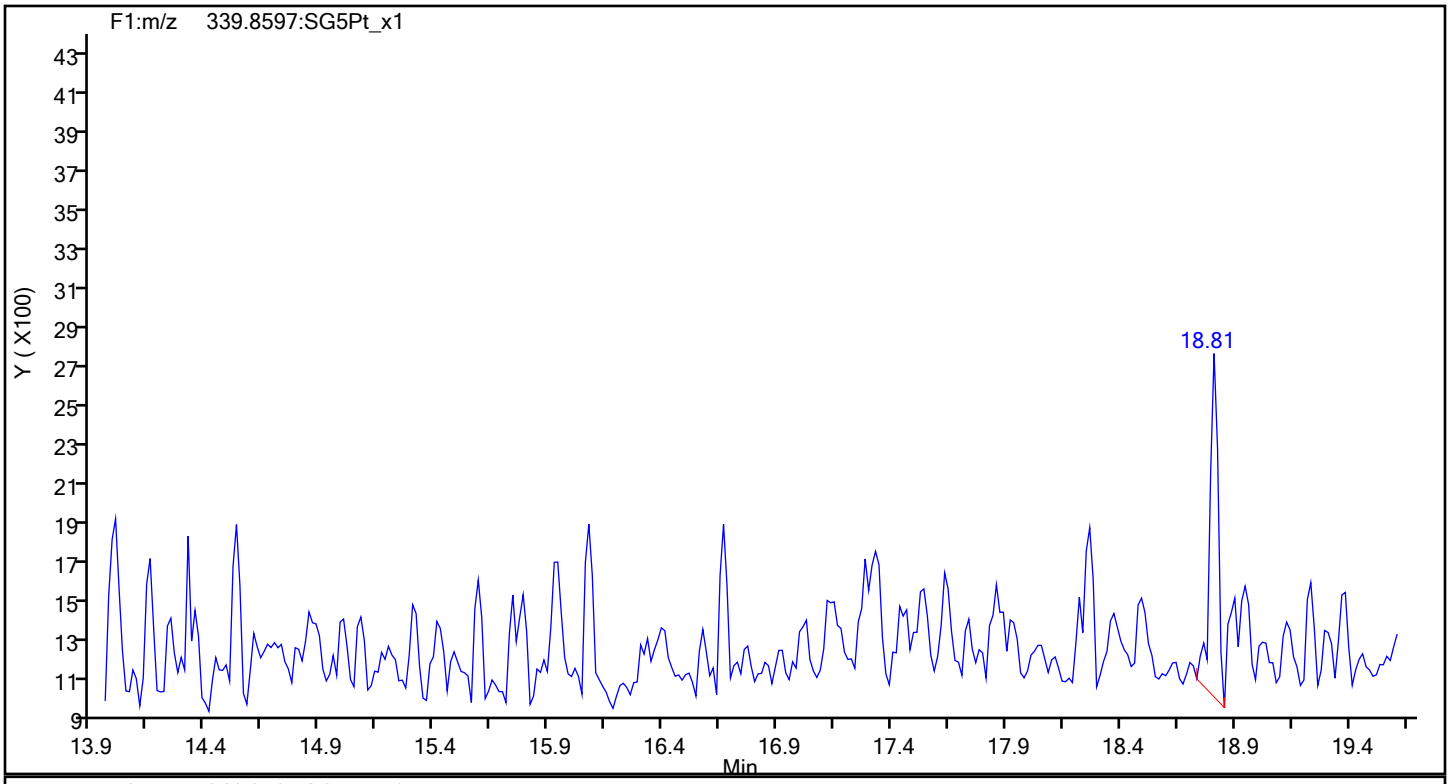

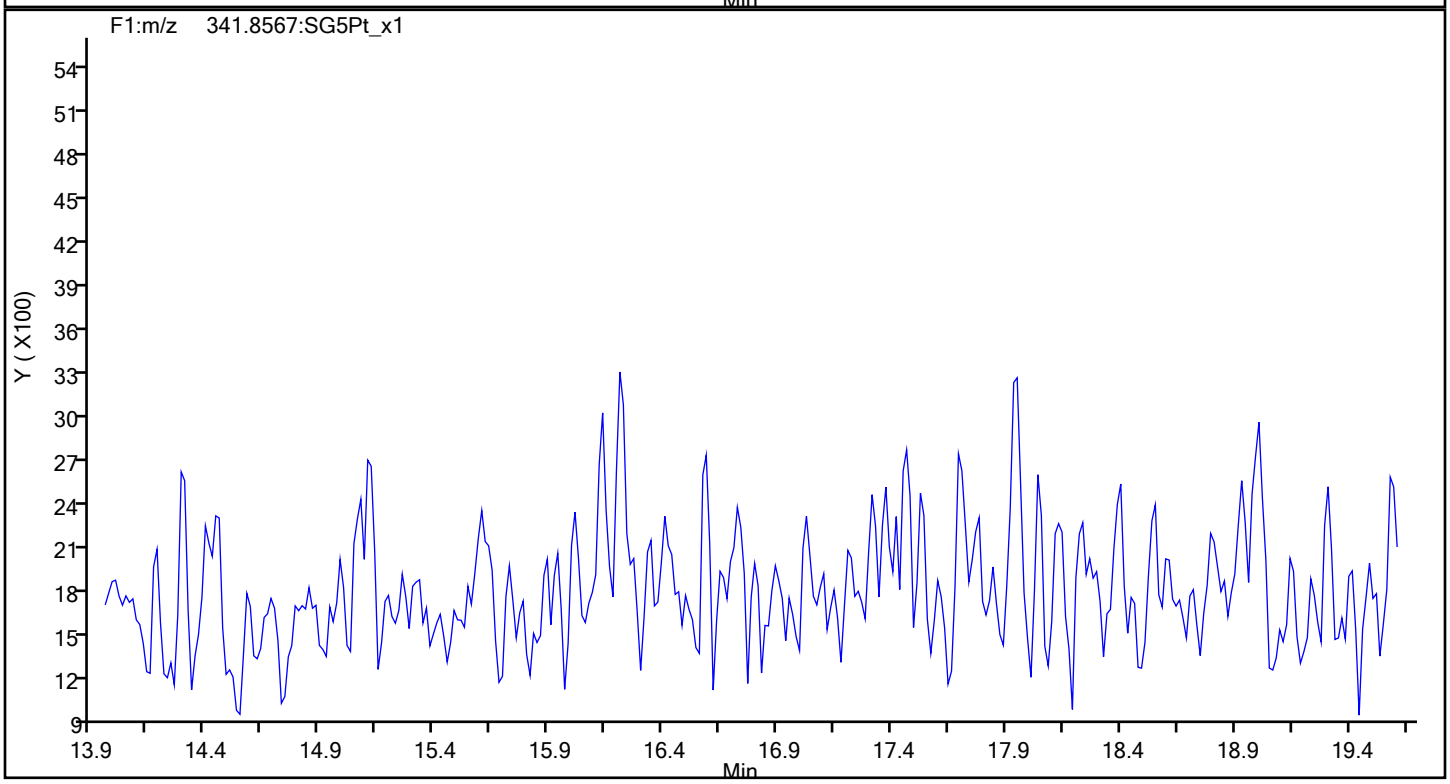

Report Date: 20-Sep-2019 11:47:32 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

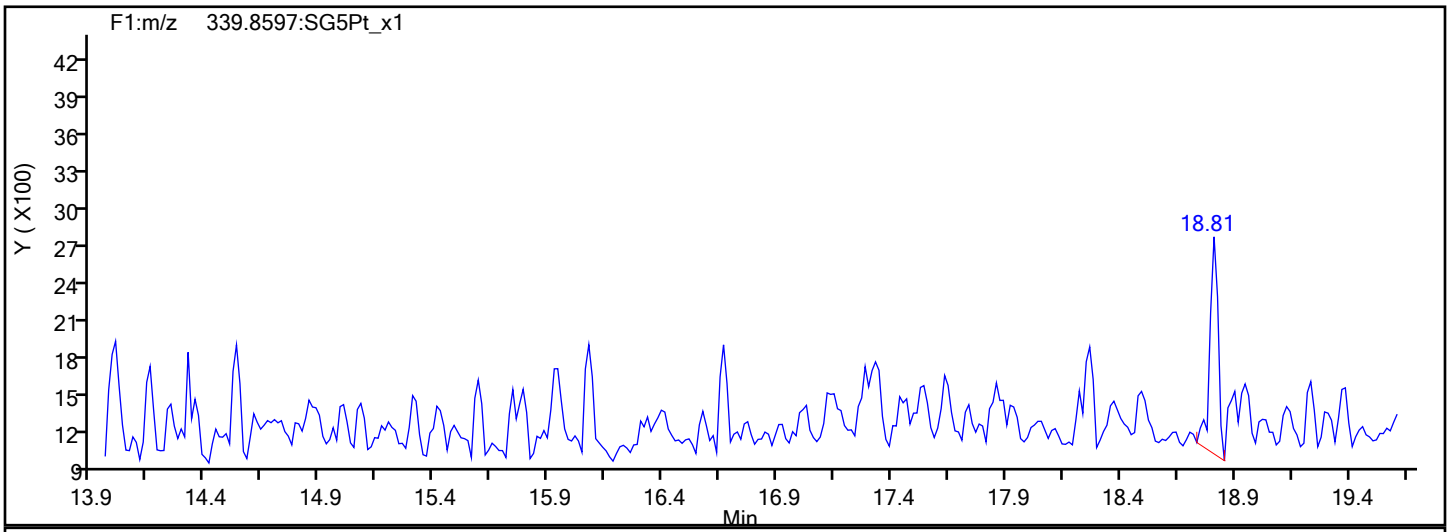

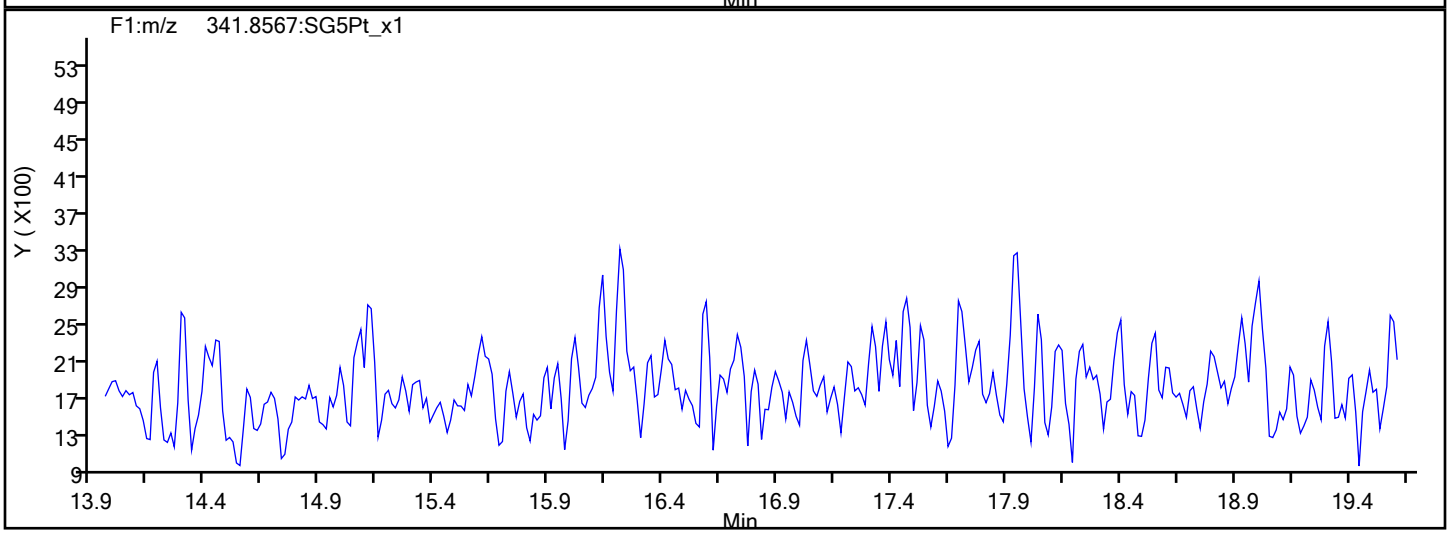

F1 PeCDFs Interference Mass

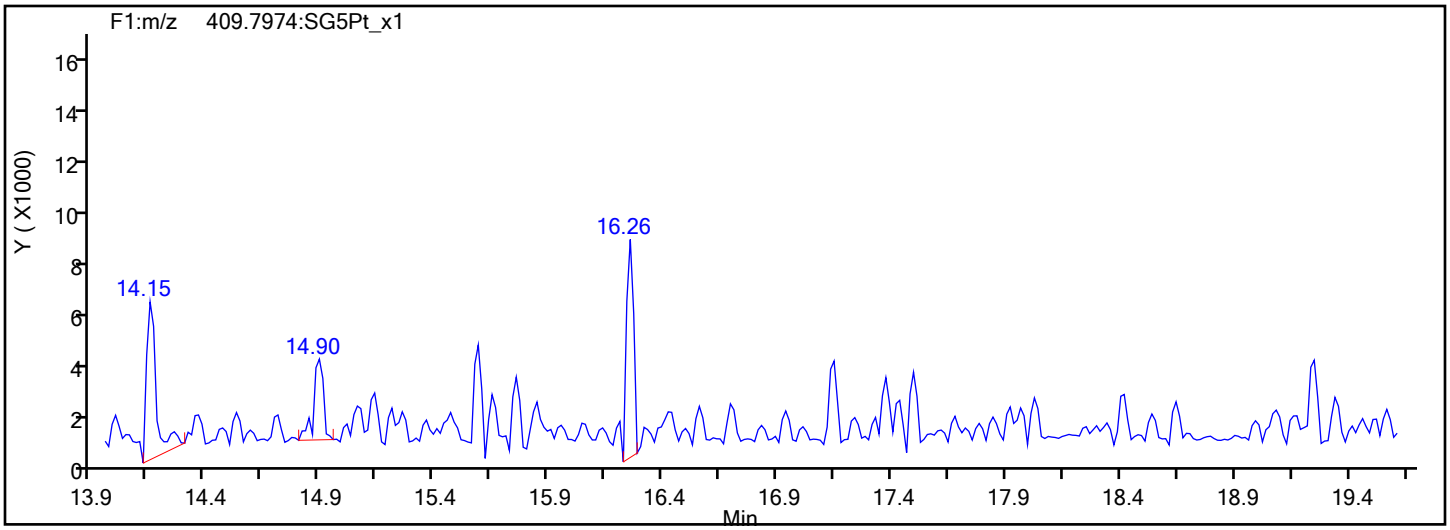

Report Date: 20-Sep-2019 11:47:32 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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PeCDF

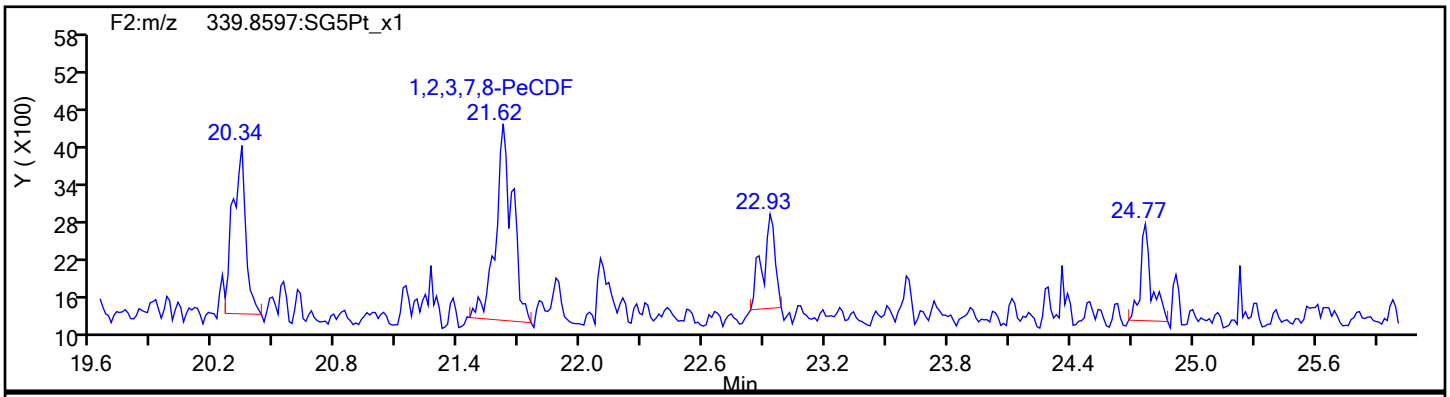

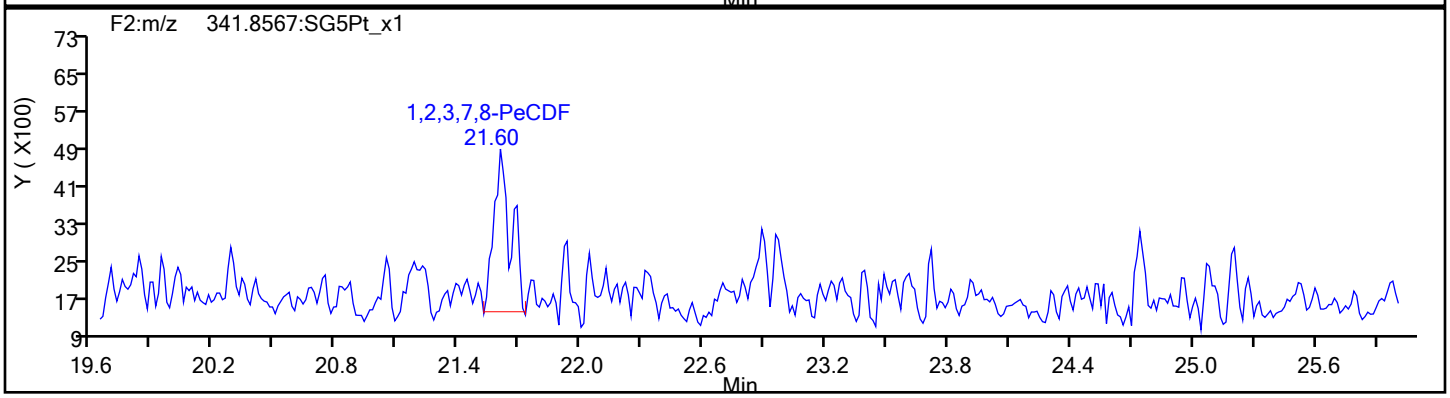

PeCDF Standards

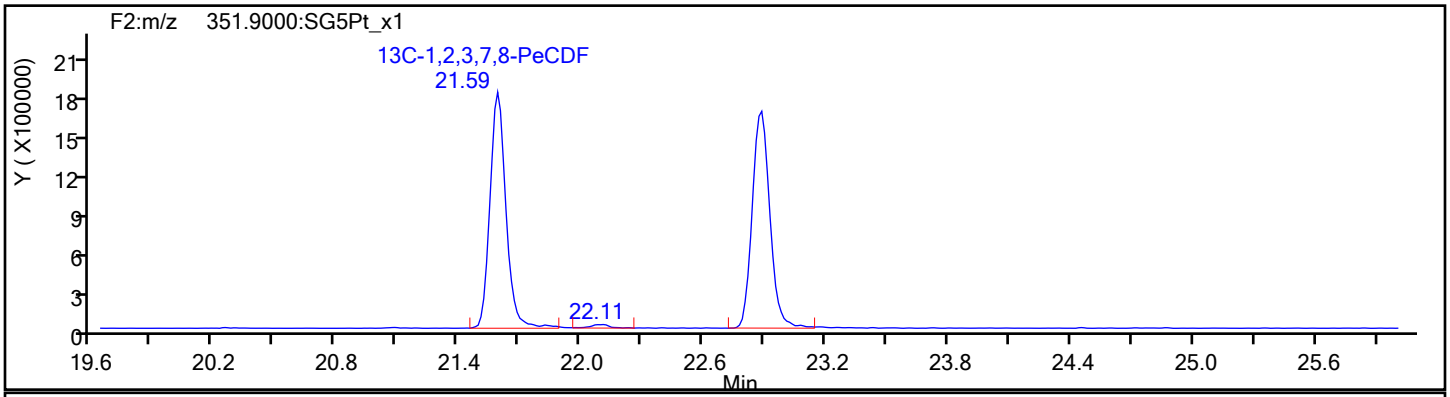

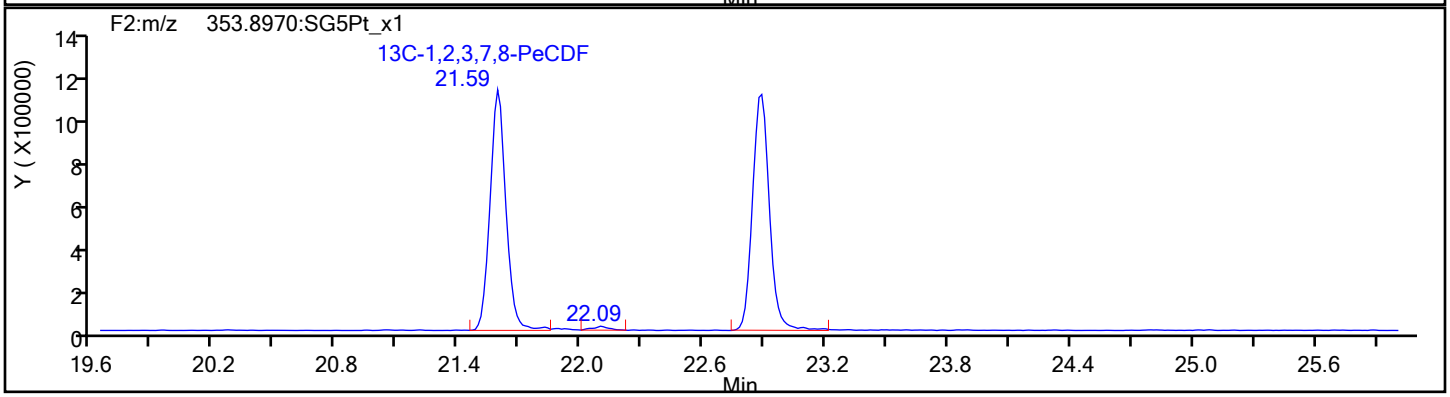

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Eurofins TestAmerica, Sacramento

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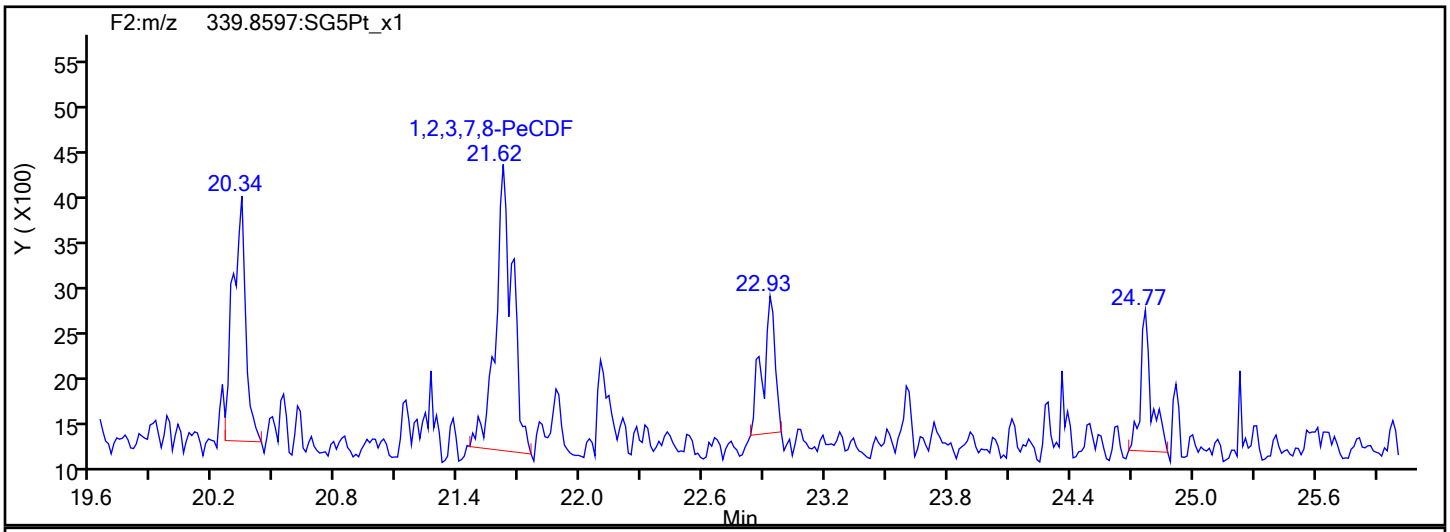

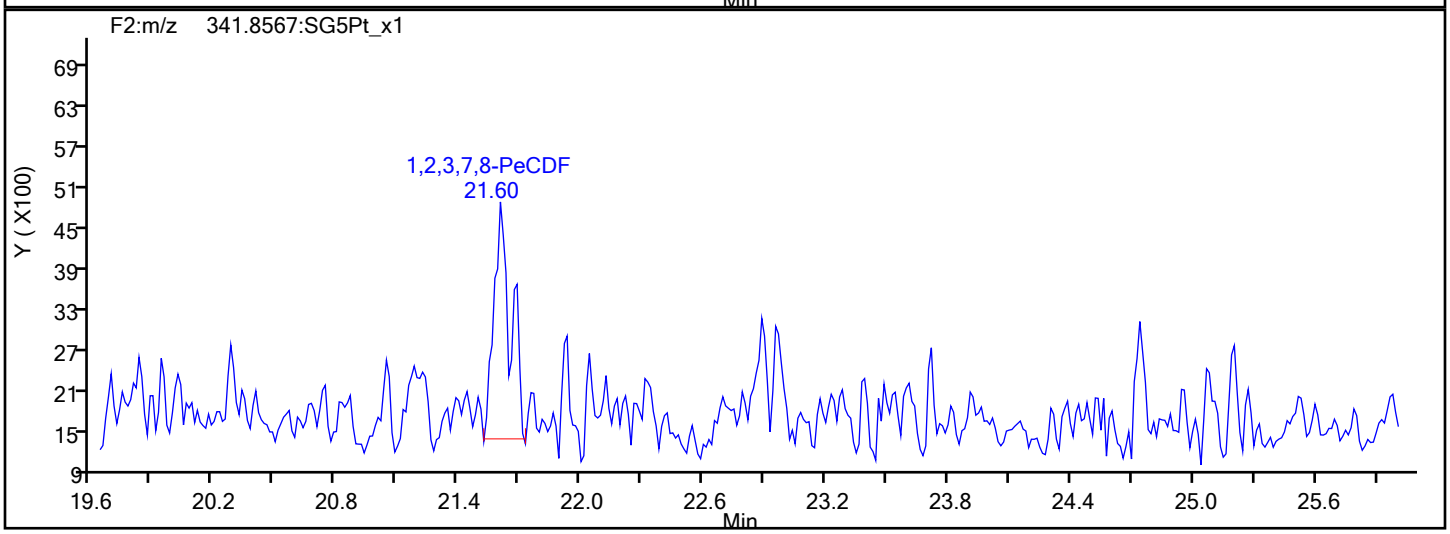

PeCDF Interference Mass

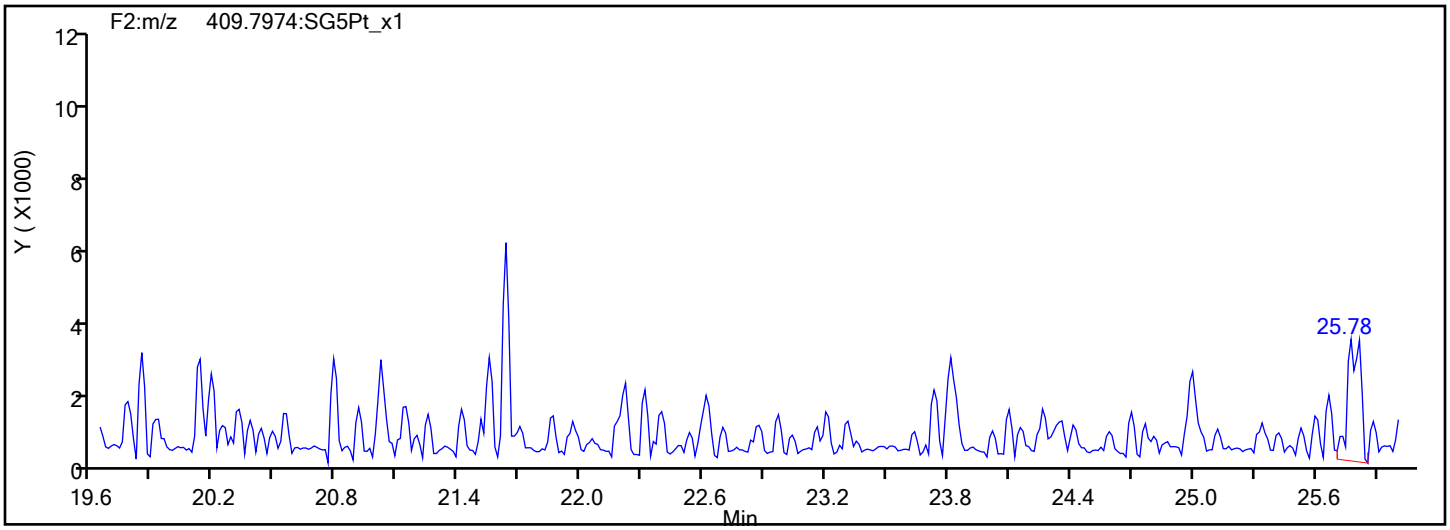

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Eurofins TestAmerica, Sacramento

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PeCDD

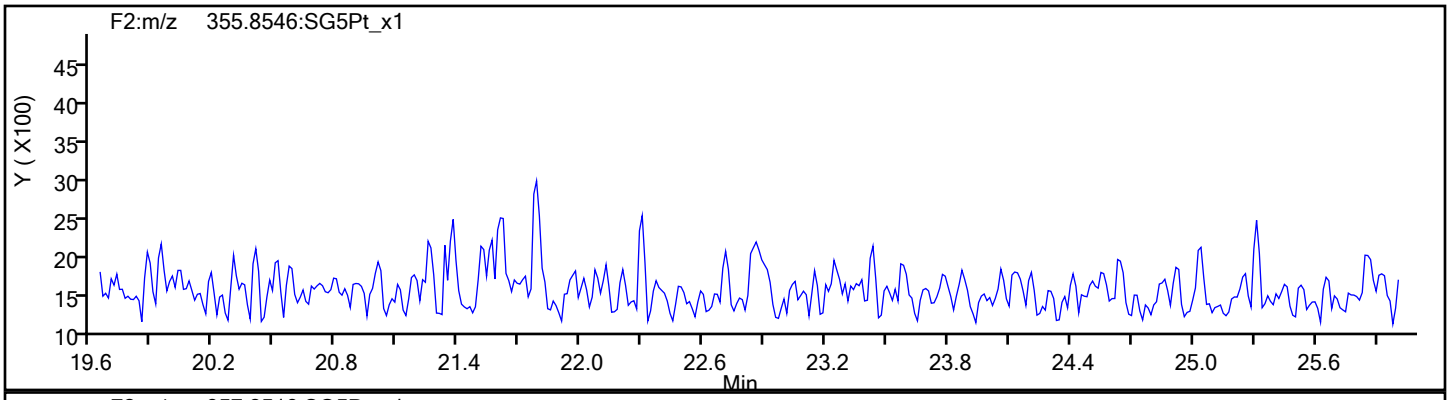

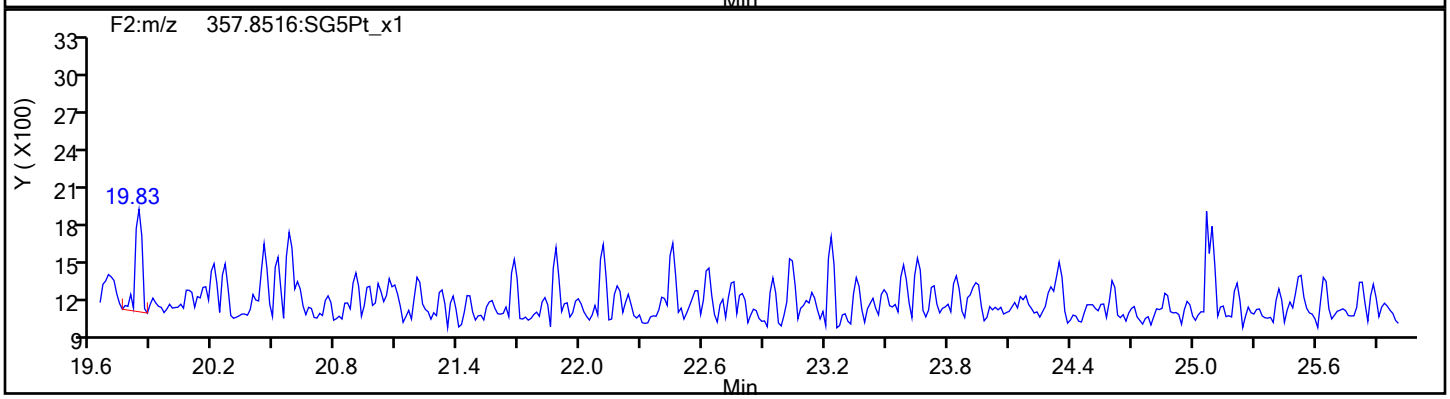

PeCDD Standards

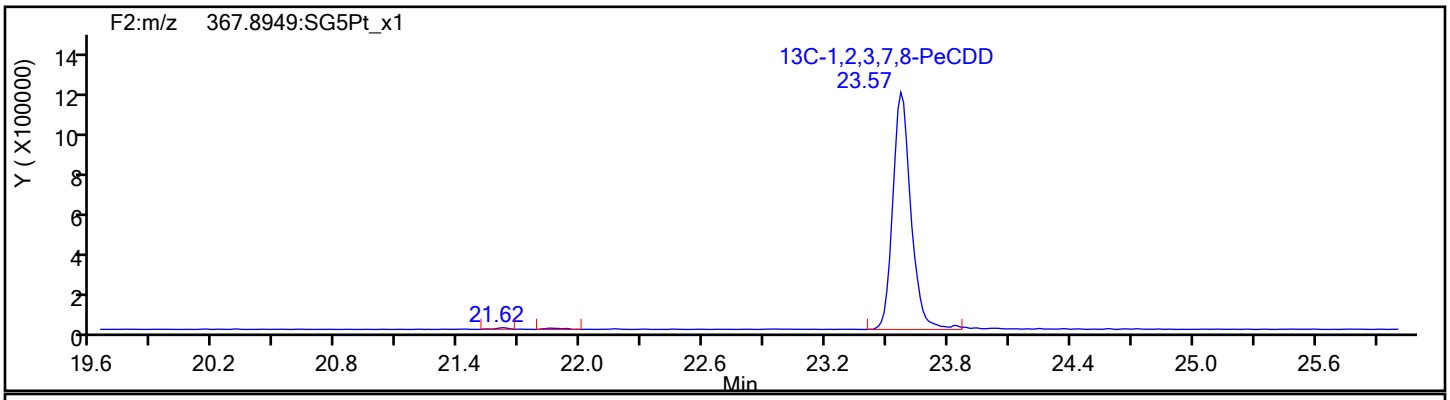

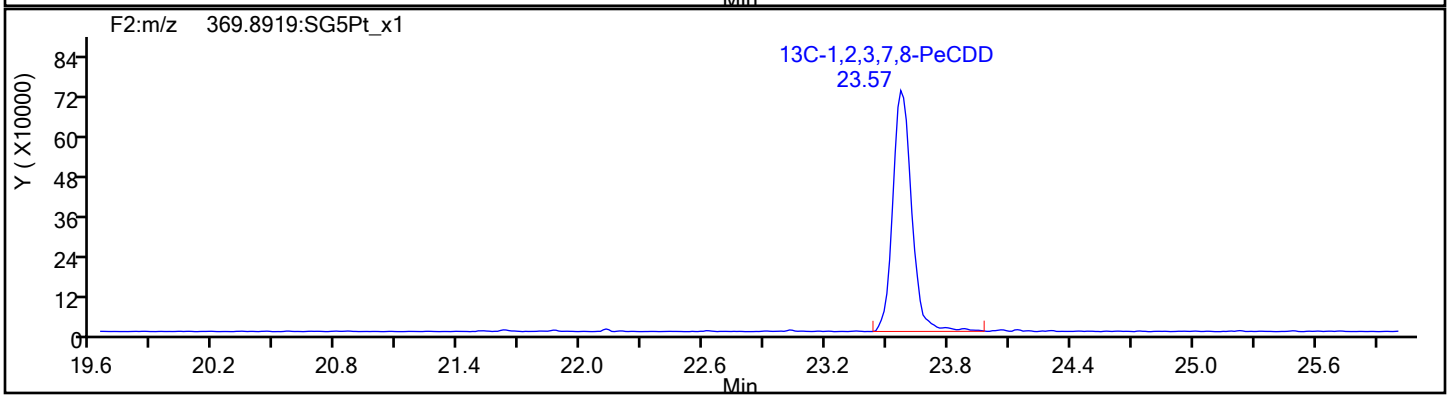

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Eurofins TestAmerica, Sacramento

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HxCDF

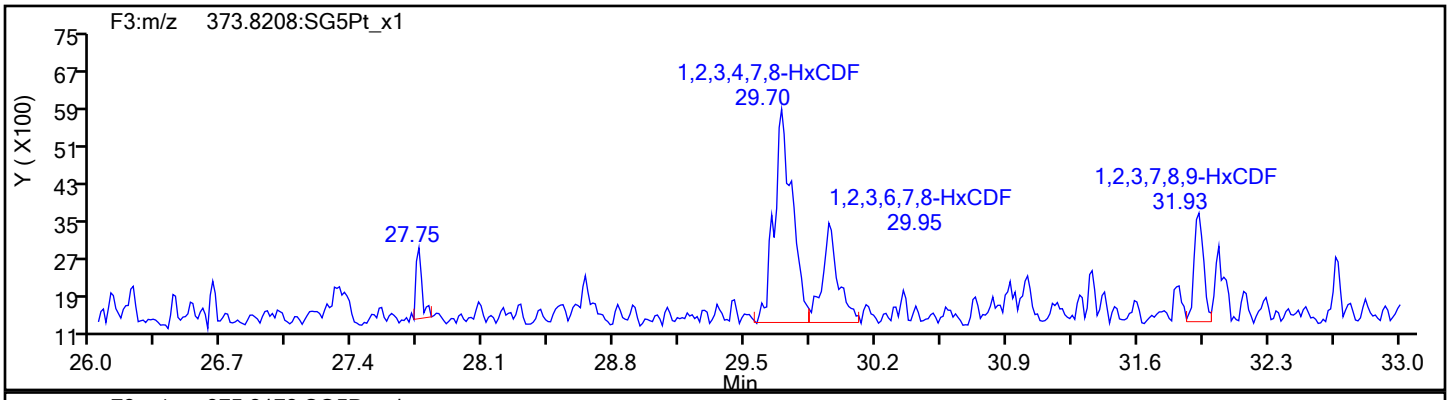

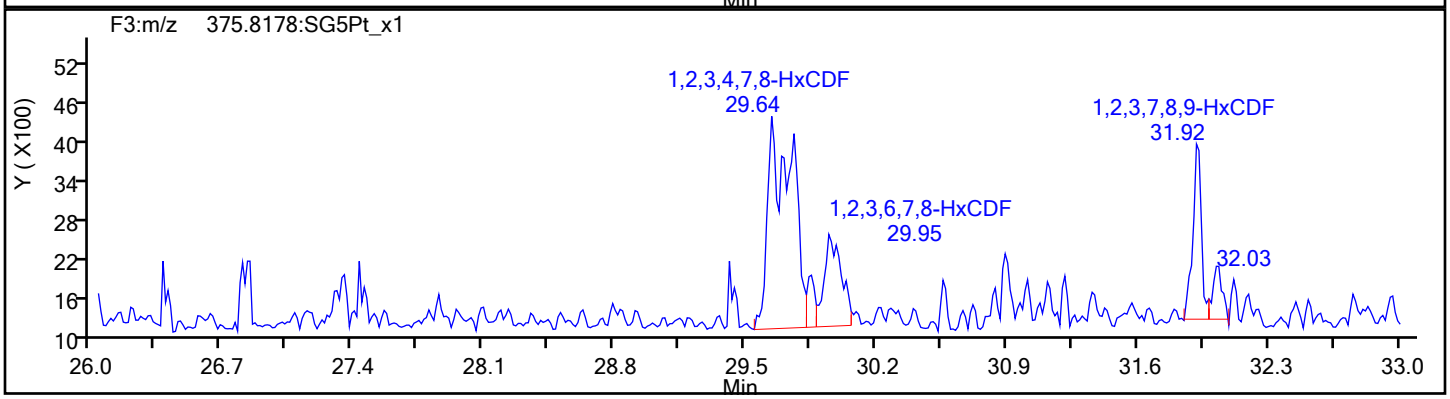

HxCDF Standards

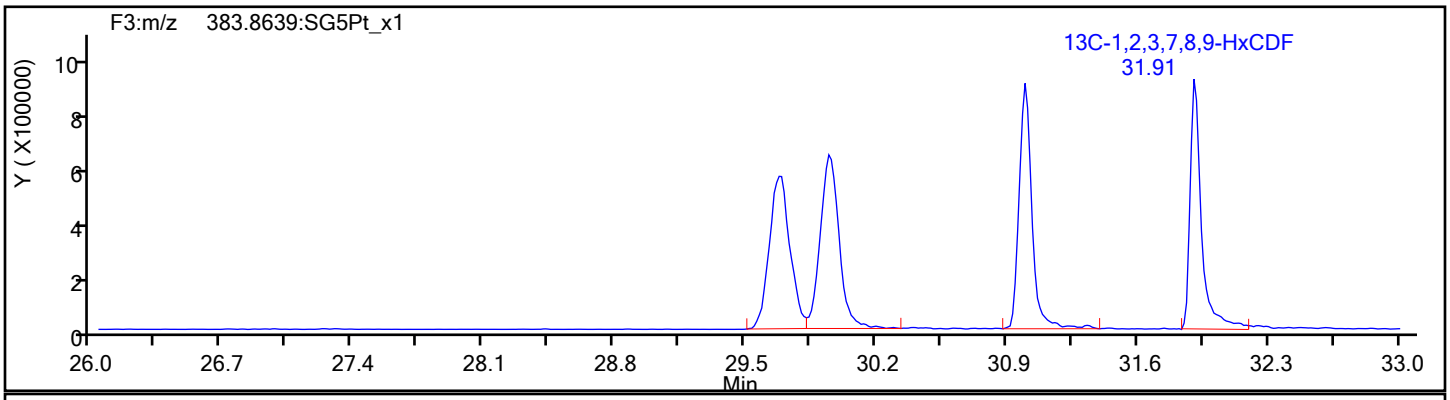

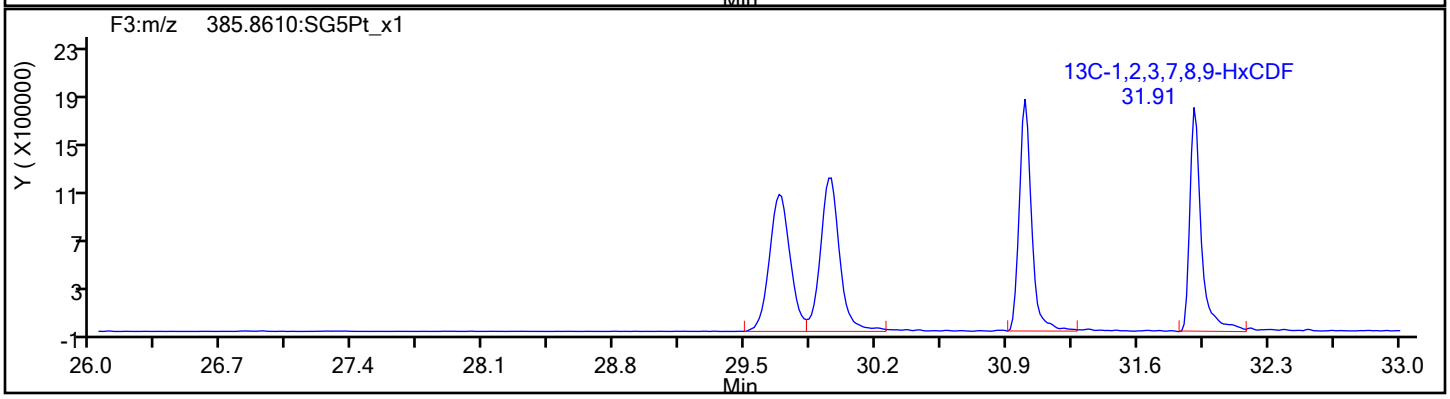

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Eurofins TestAmerica, Sacramento

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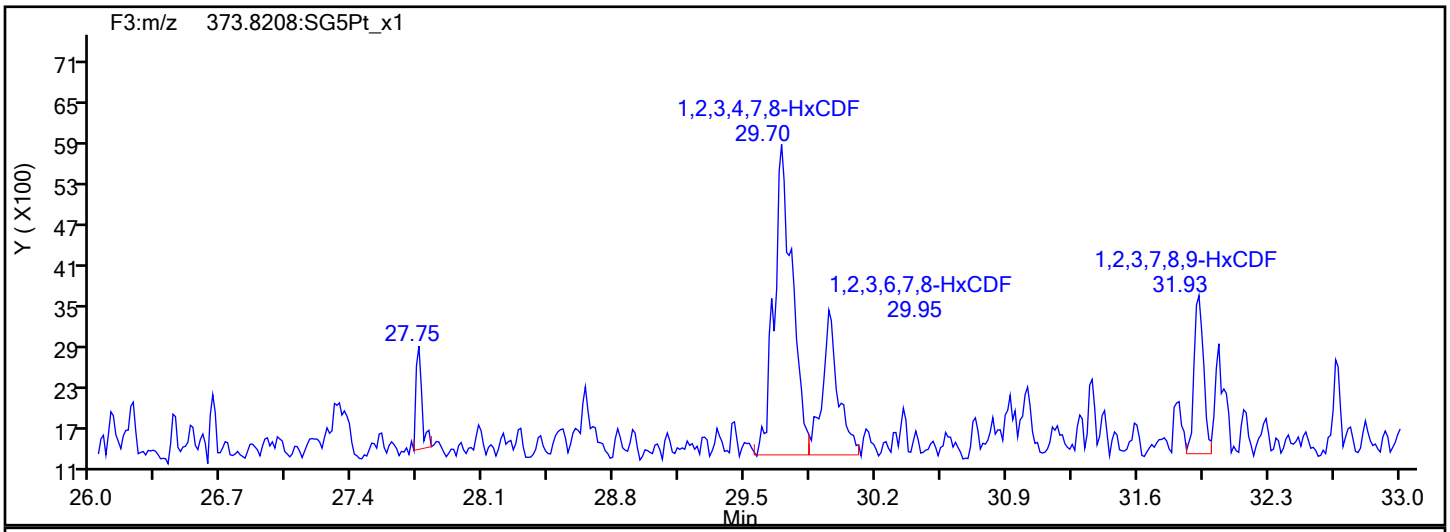

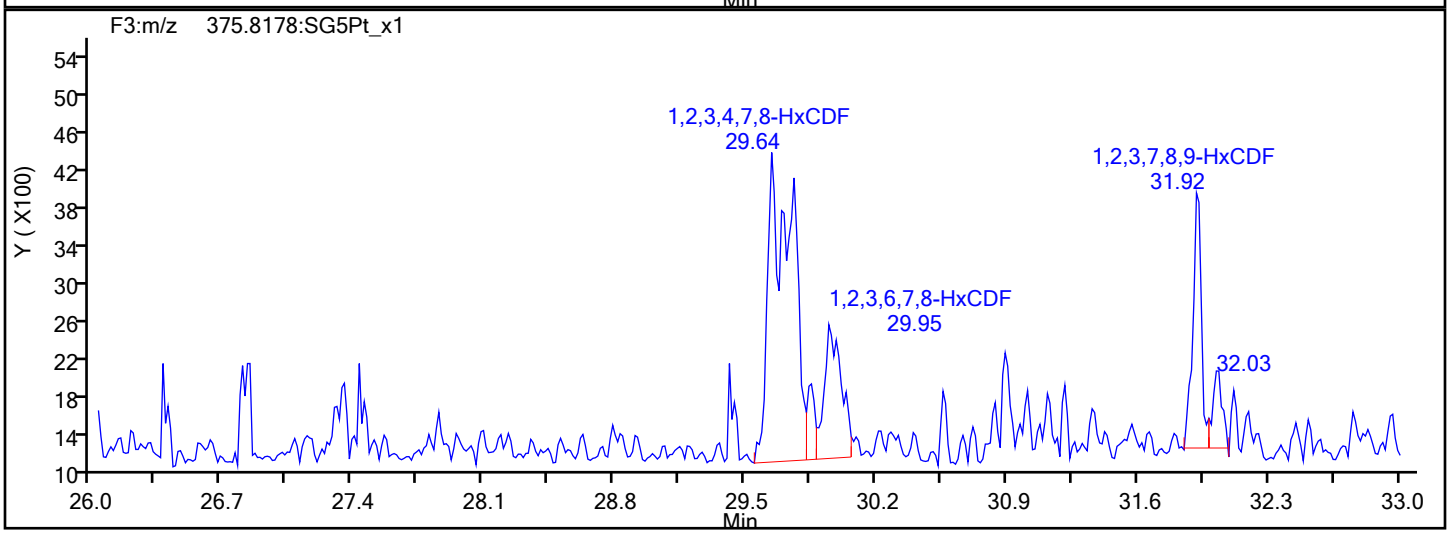

HxCDF Interference Mass

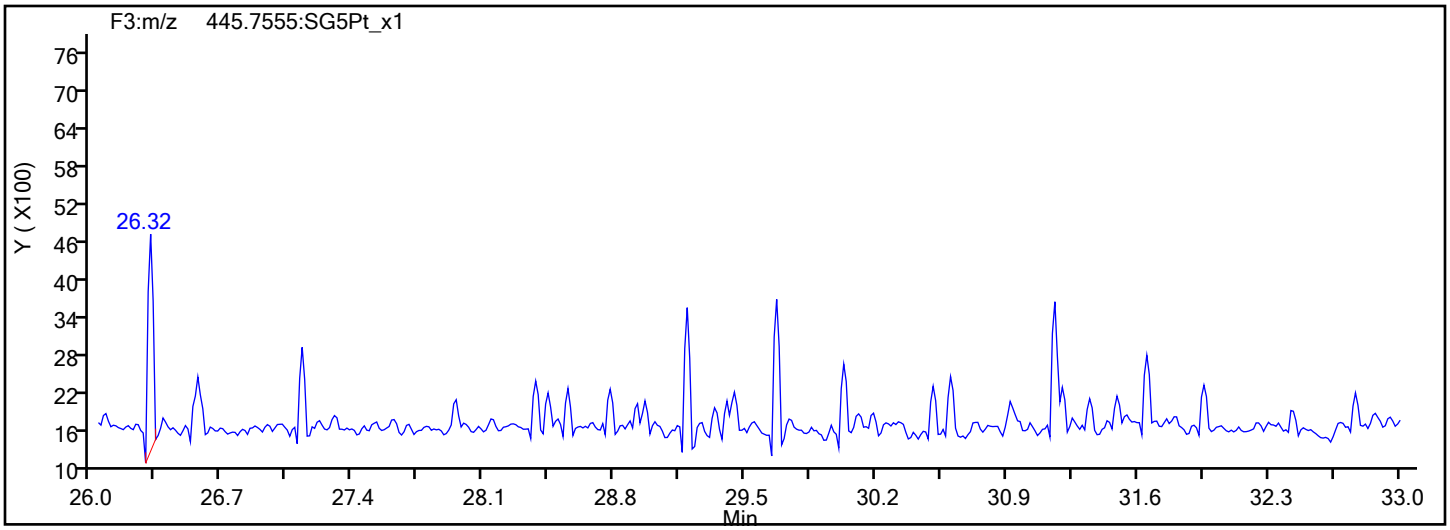

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HxCDD

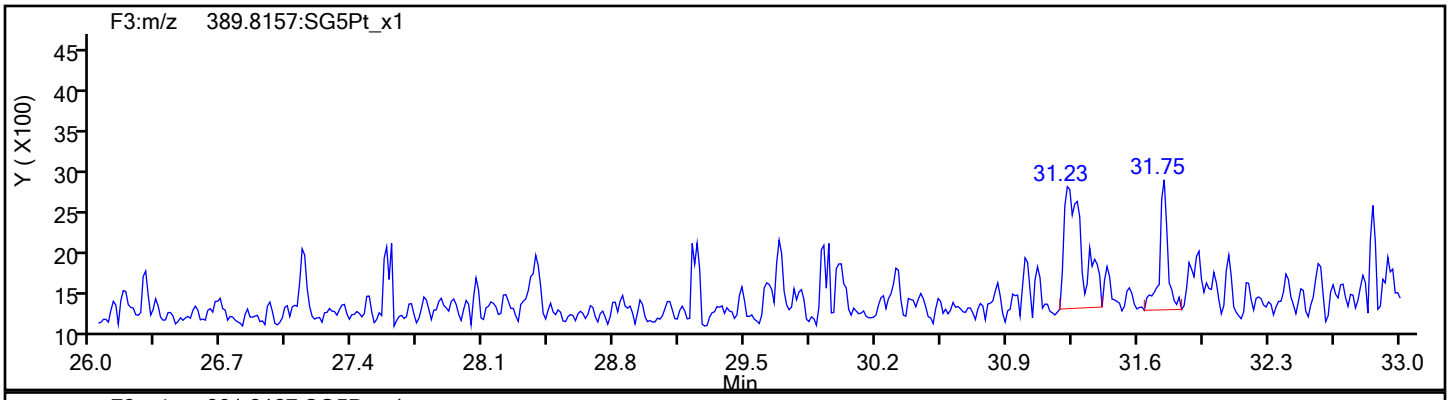

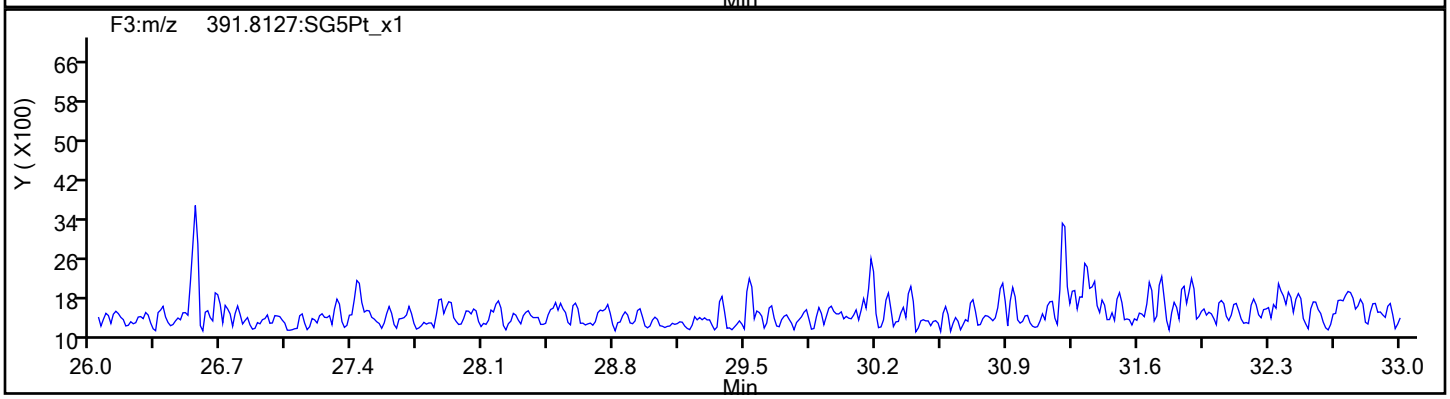

HxCDD Standards

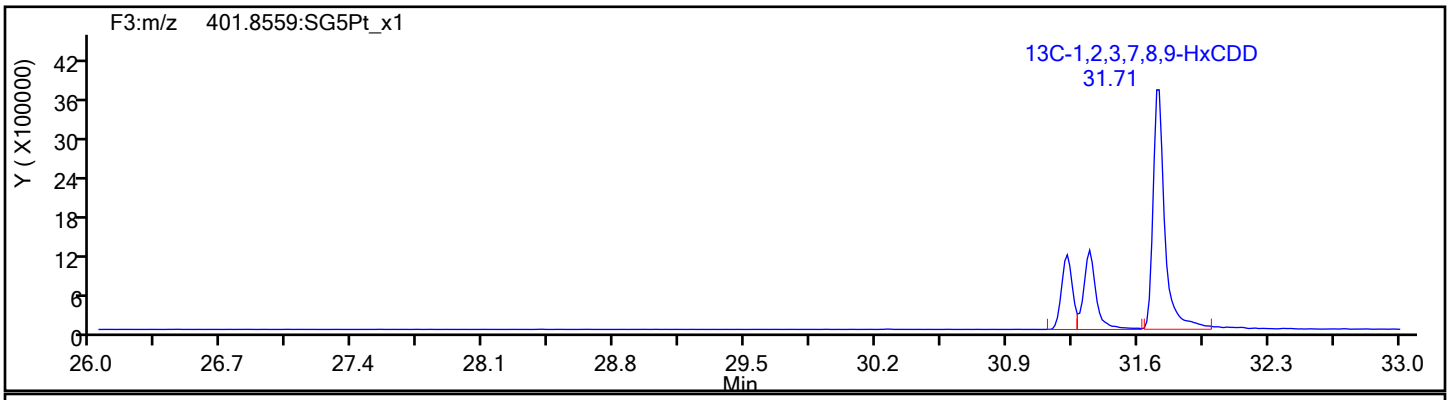

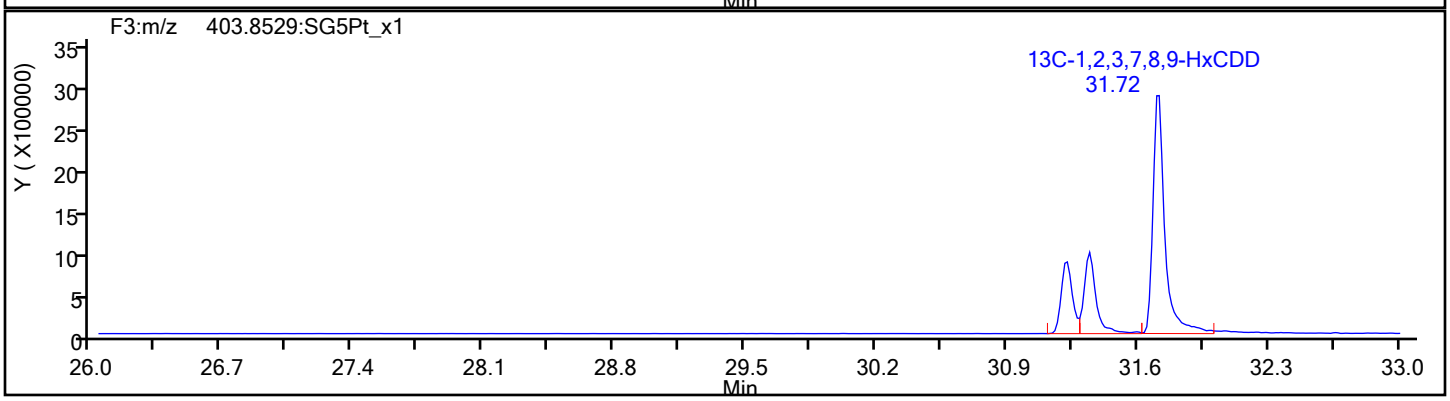

Report Date: 20-Sep-2019 11:47:33 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_52.d		
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Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-091319-LL-EXC-1		
Worklist#:	324876	Sample Line#:	52
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

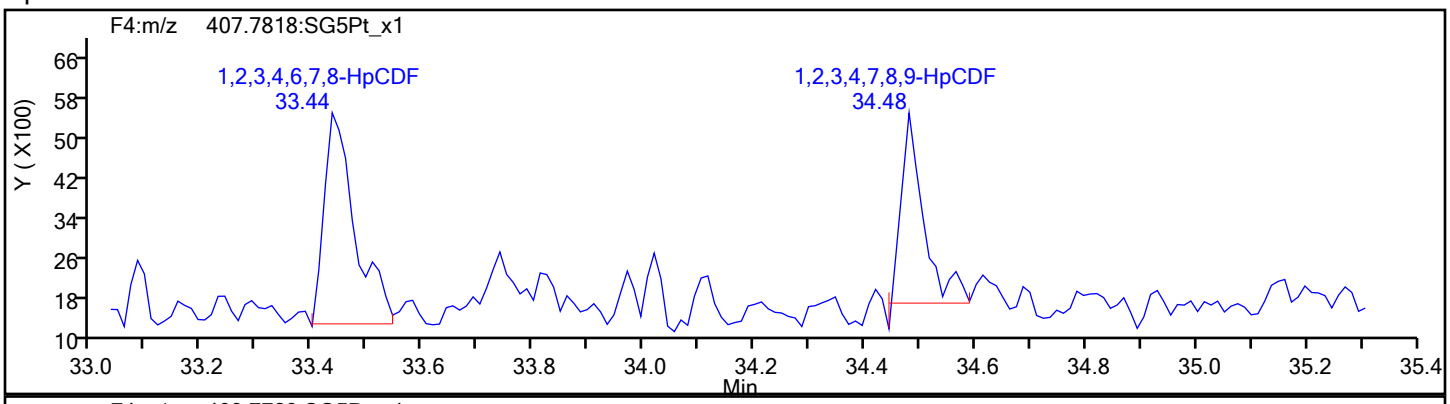

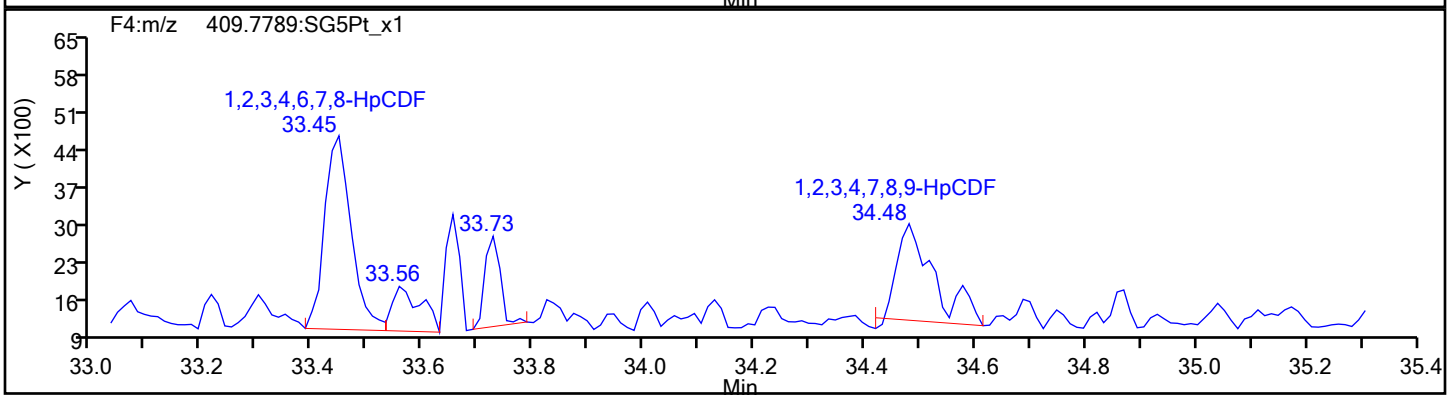

HpCDF Standards

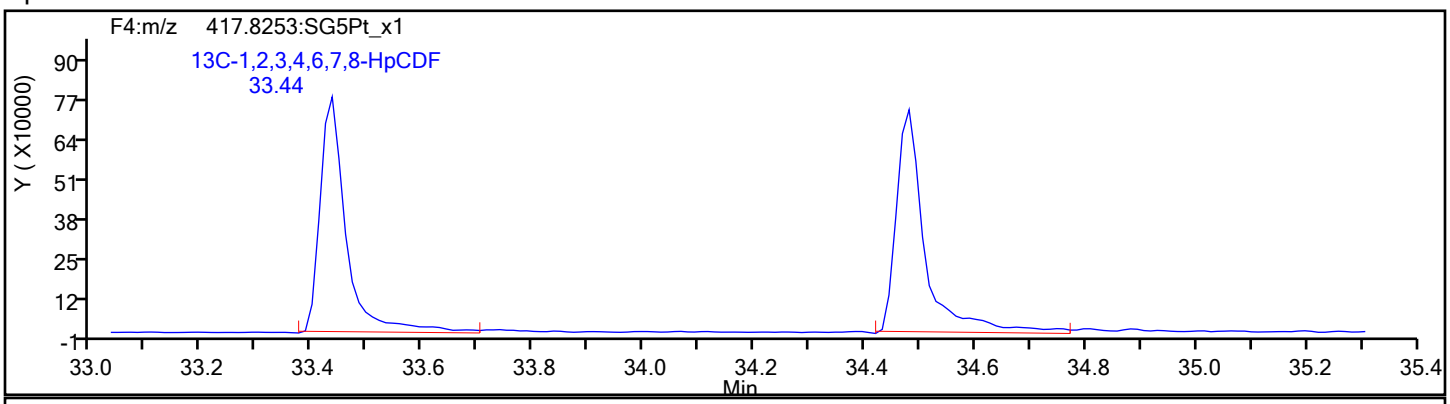

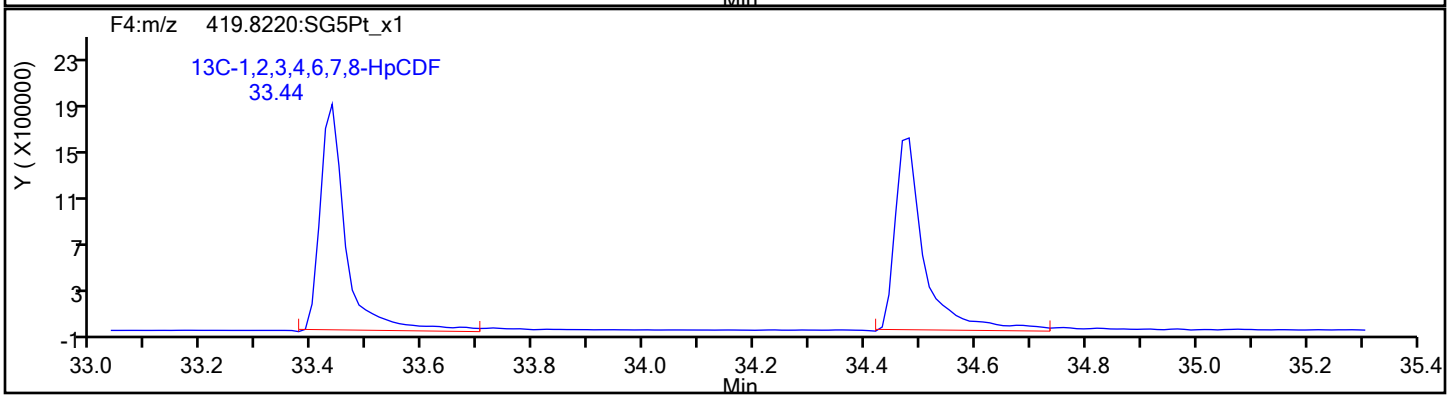

Report Date: 20-Sep-2019 11:47:33 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_52.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-091319-LL-EXC-1		
Worklist#:	324876	Sample Line#:	52
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDF

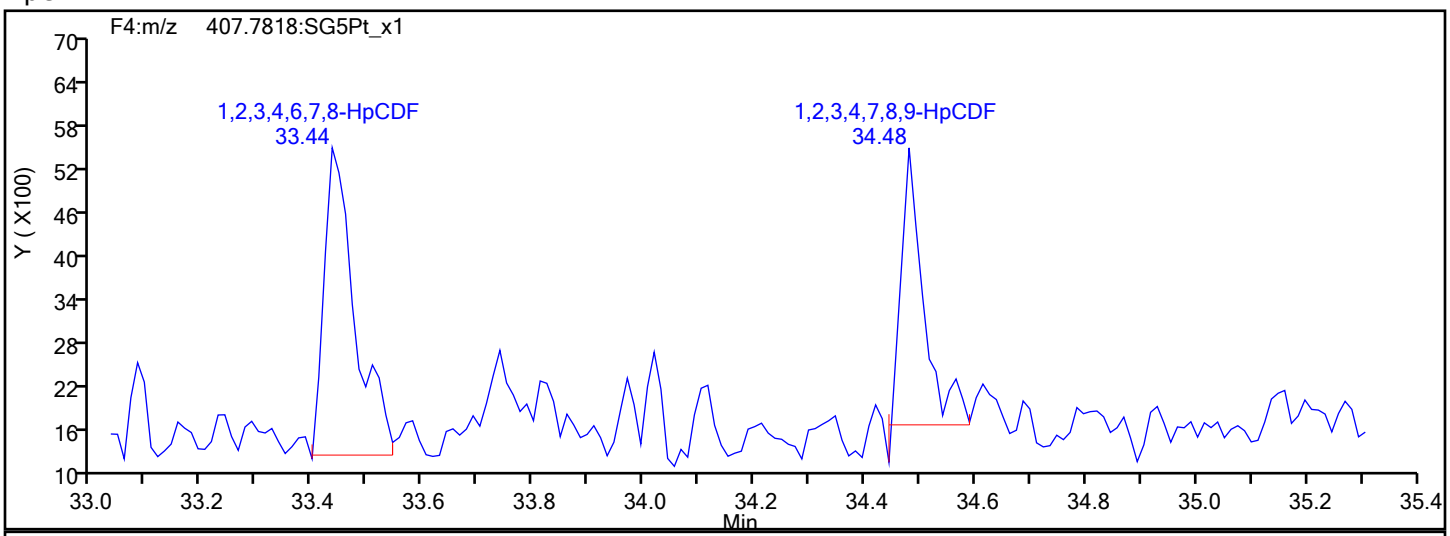

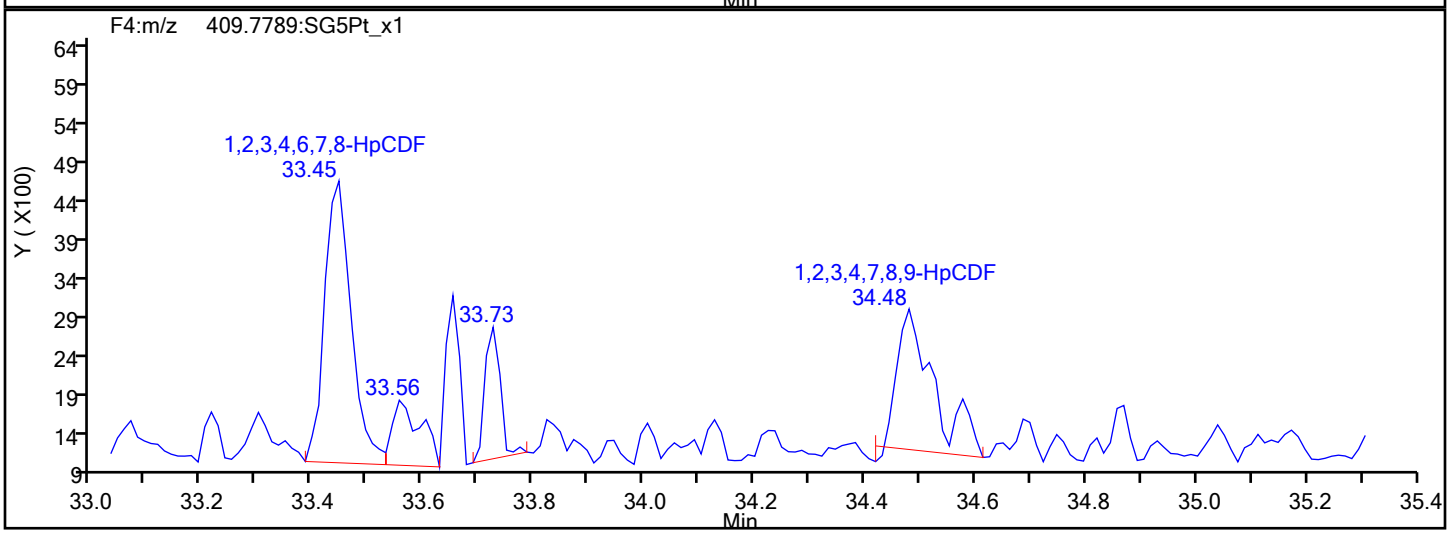

HpCDF Interference Mass

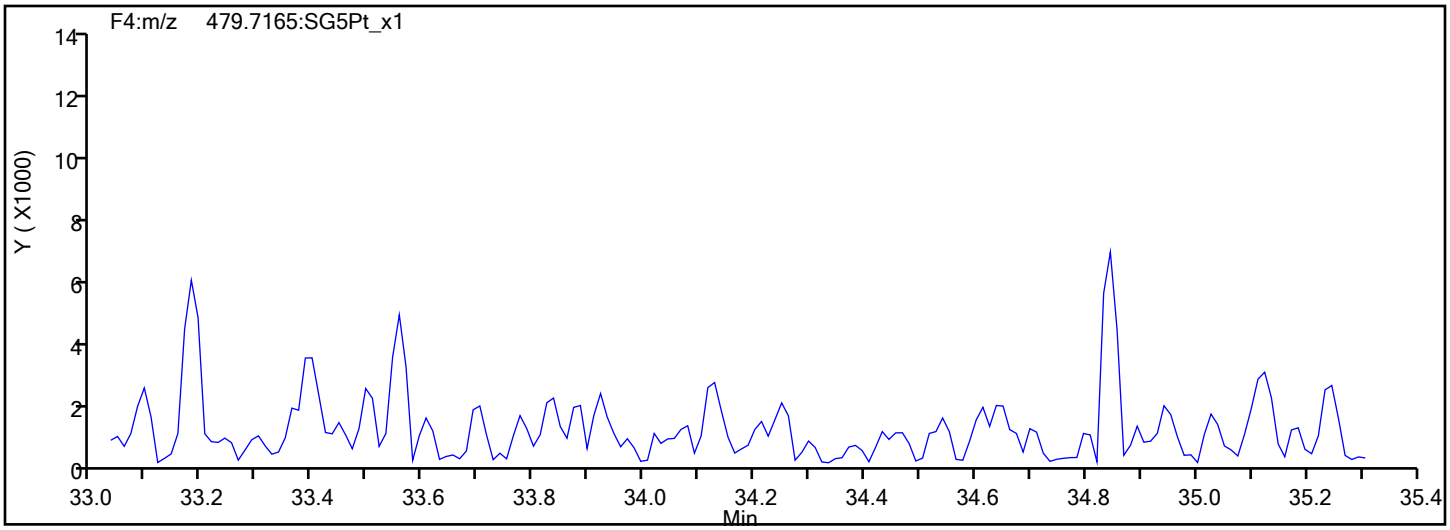

Report Date: 20-Sep-2019 11:47:33 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_52.d		
Injection Date:	20-Sep-2019 03:02:46	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-091319-LL-EXC-1		
Worklist#:	324876	Sample Line#:	52
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

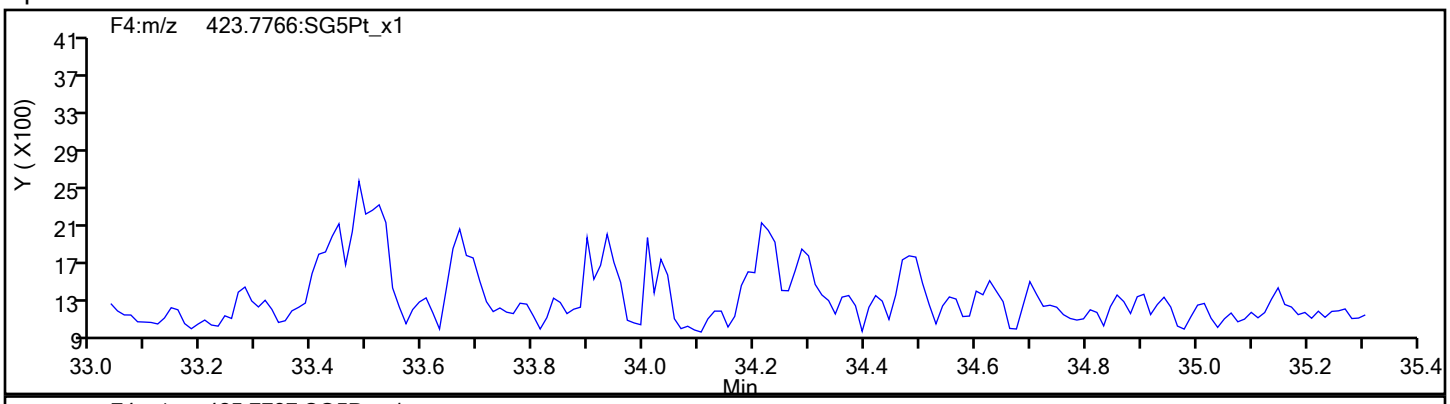

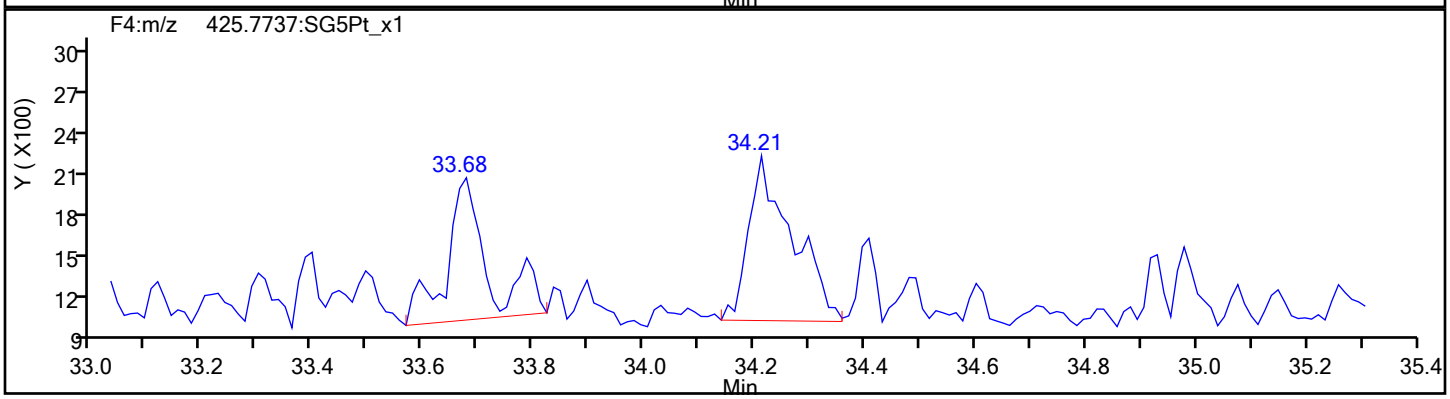

HpCDD Standards

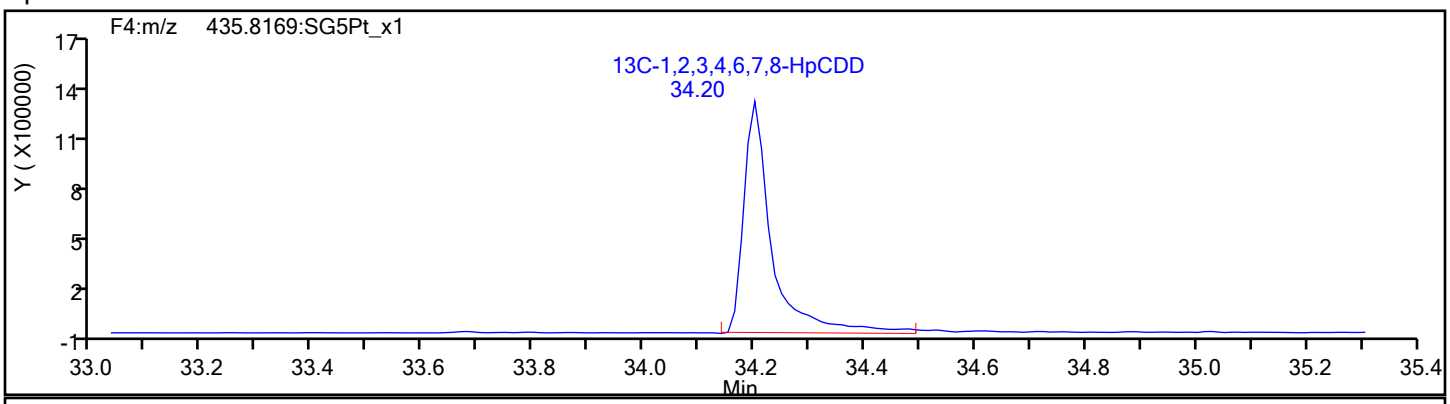

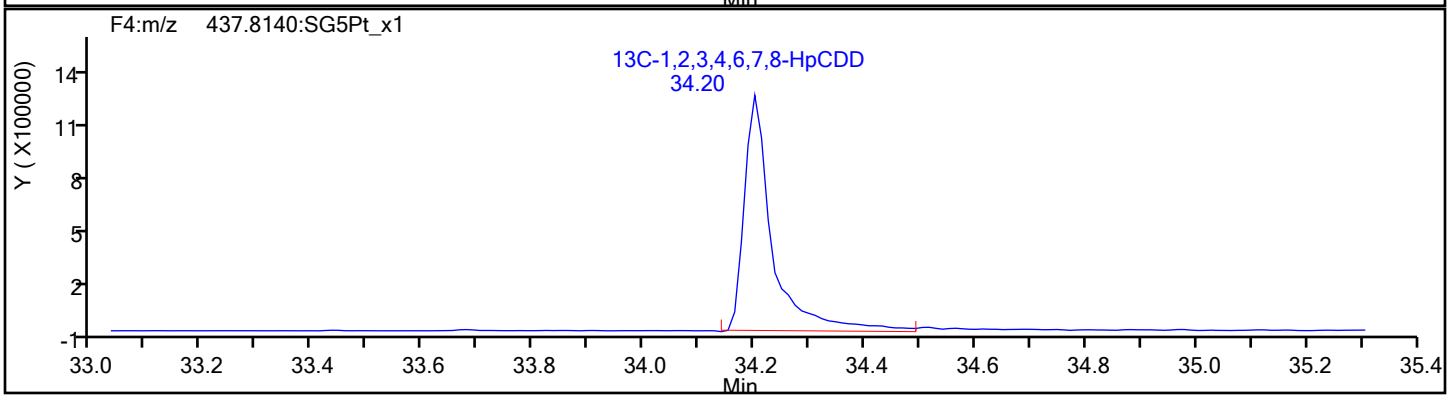

Report Date: 20-Sep-2019 11:47:33 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_52.d		
Injection Date:	20-Sep-2019 03:02:46	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-091319-LL-EXC-1		
Worklist#:	324876	Sample Line#:	52
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

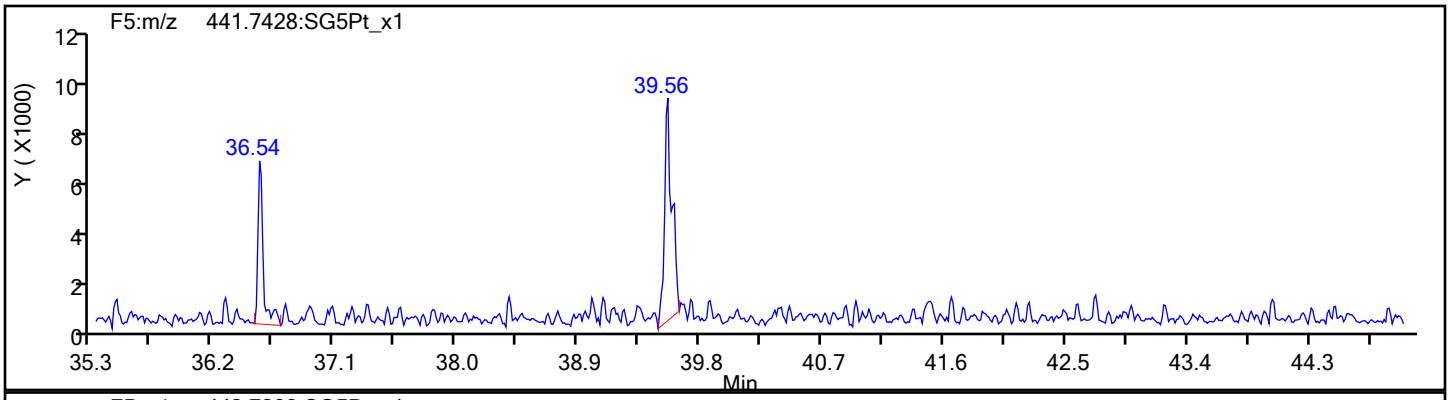

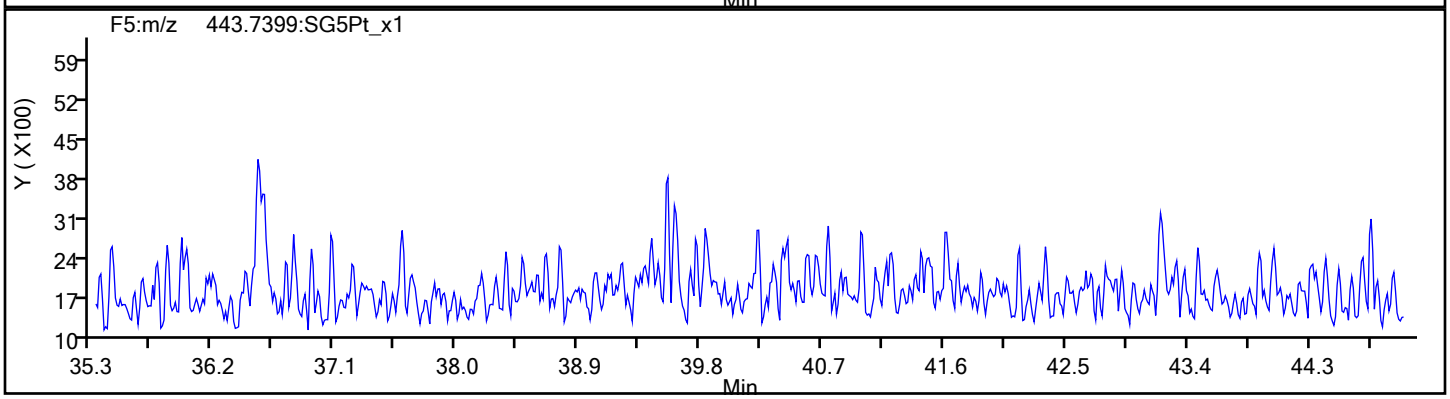

OCDF Standards

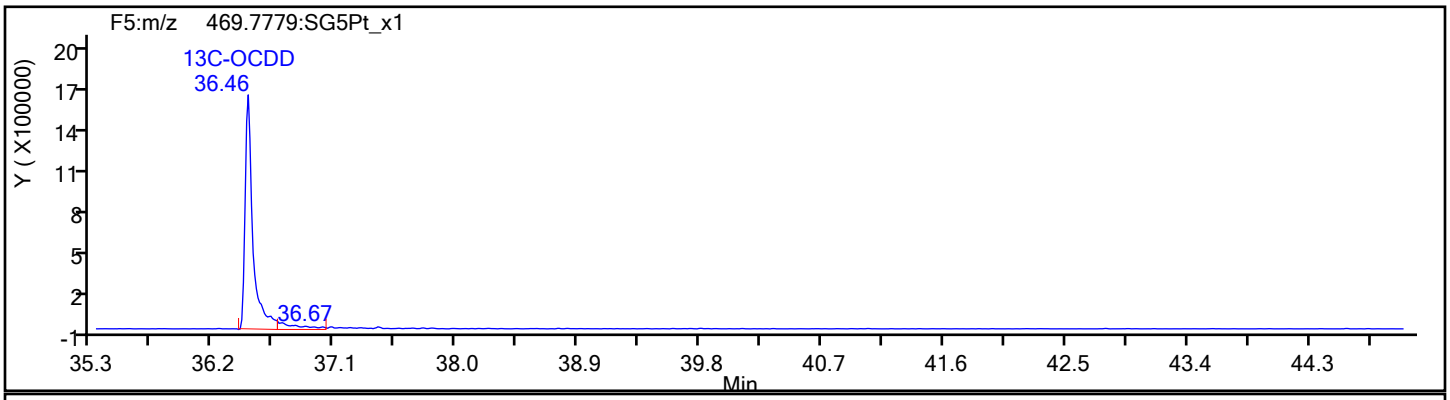

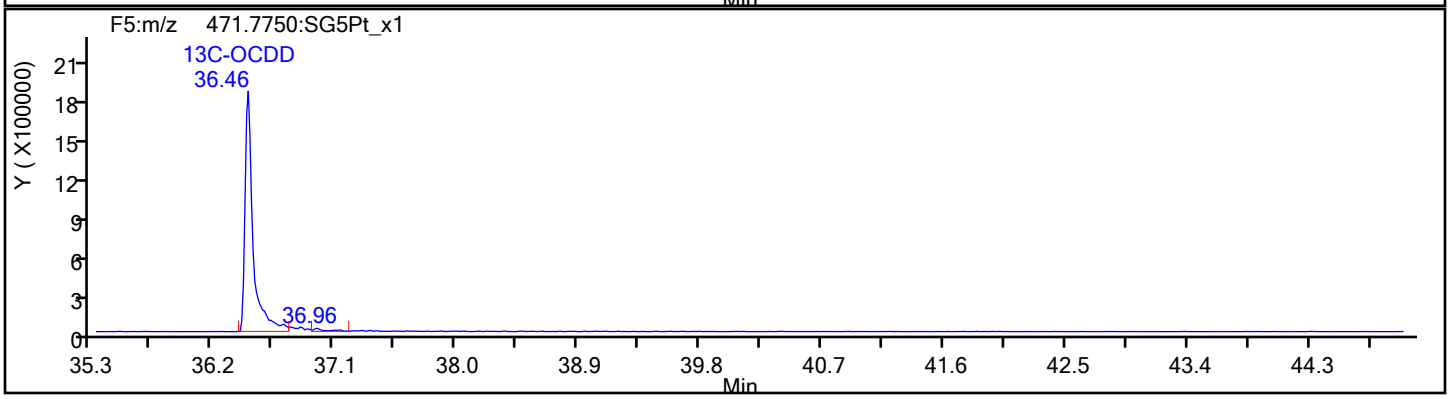

Report Date: 20-Sep-2019 11:47:33 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_52.d		
Injection Date:	20-Sep-2019 03:02:46	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-091319-LL-EXC-1		
Worklist#:	324876	Sample Line#:	52
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

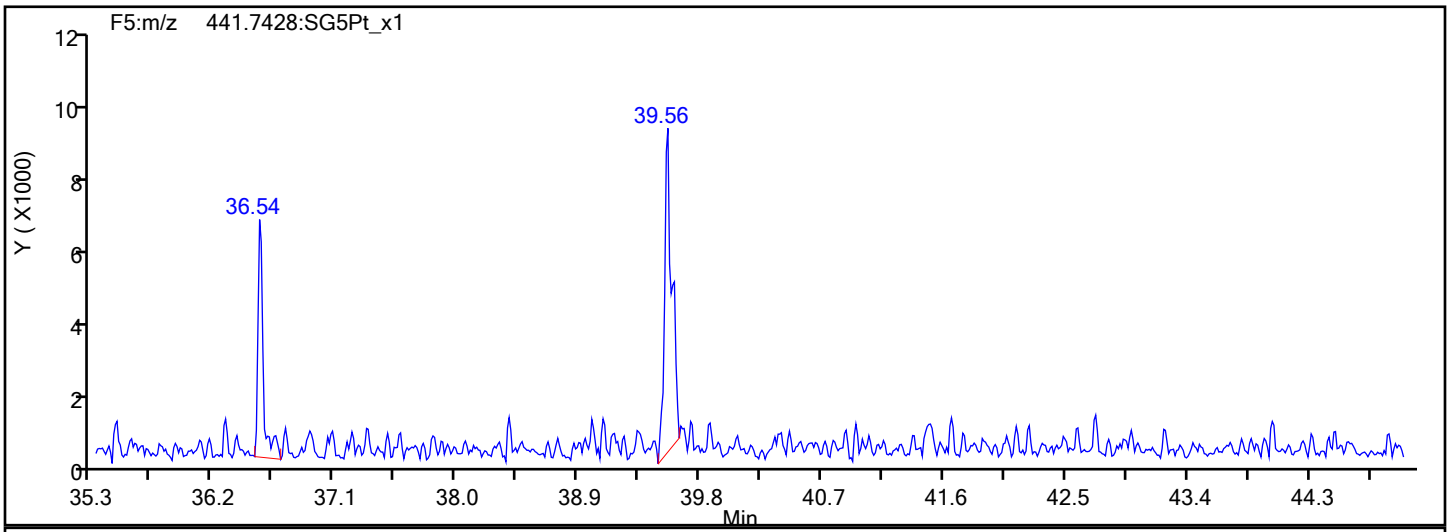

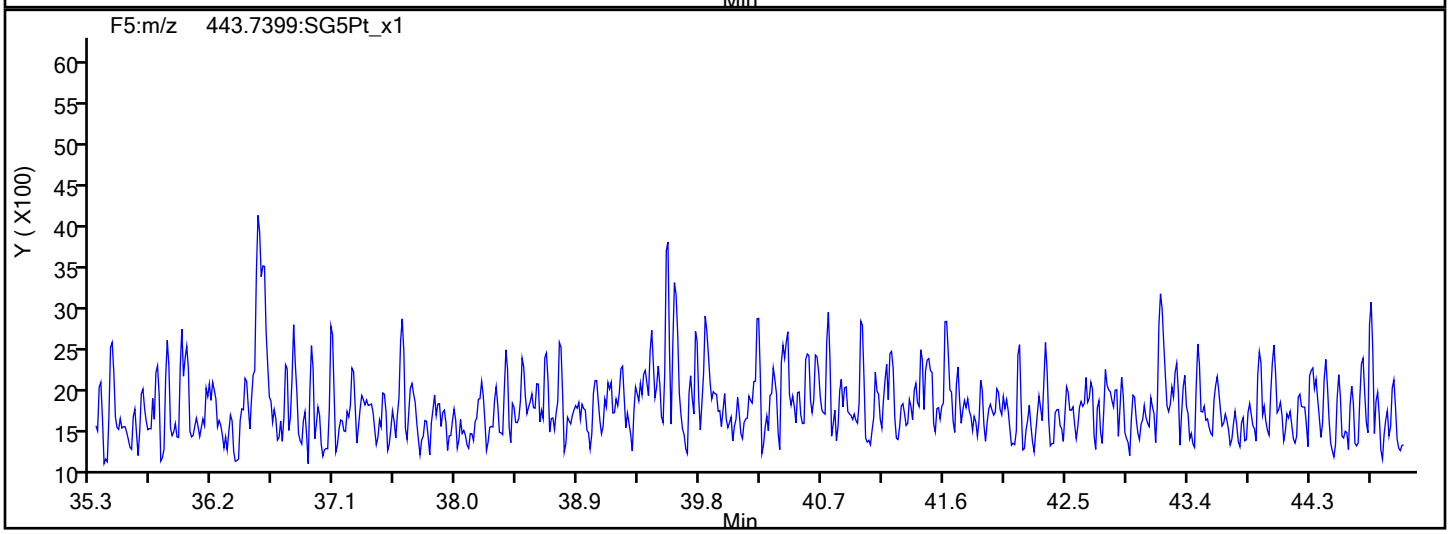

OCDF Interference Mass

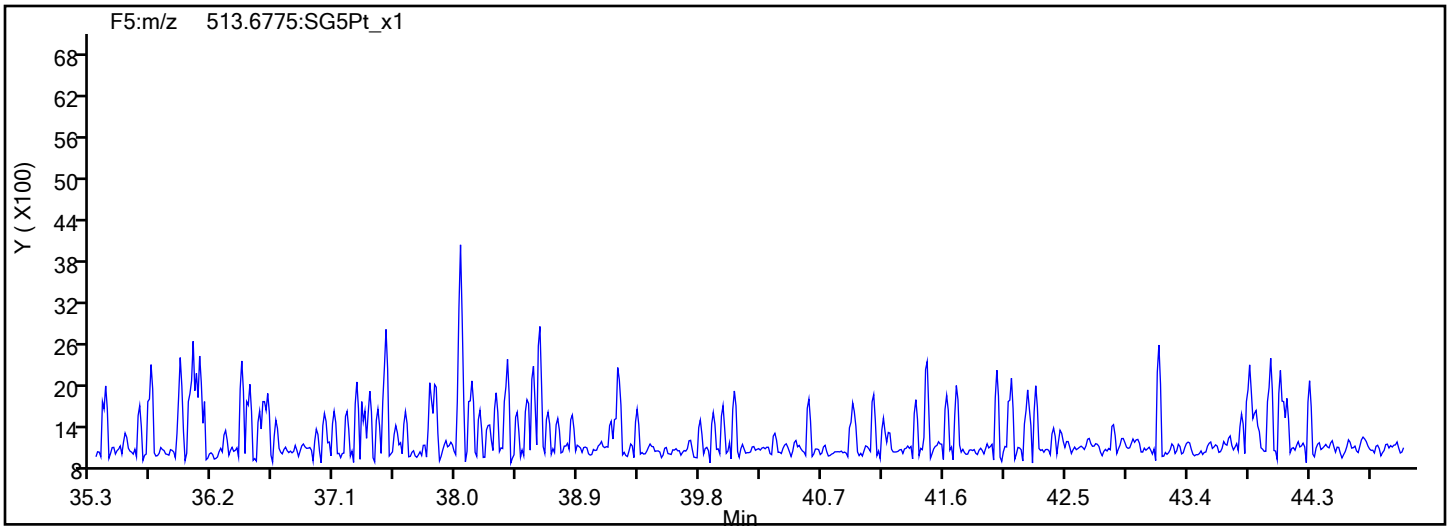

Report Date: 20-Sep-2019 11:47:33 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_52.d		
Injection Date:	20-Sep-2019 03:02:46	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-091319-LL-EXC-1		
Worklist#:	324876	Sample Line#:	52
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

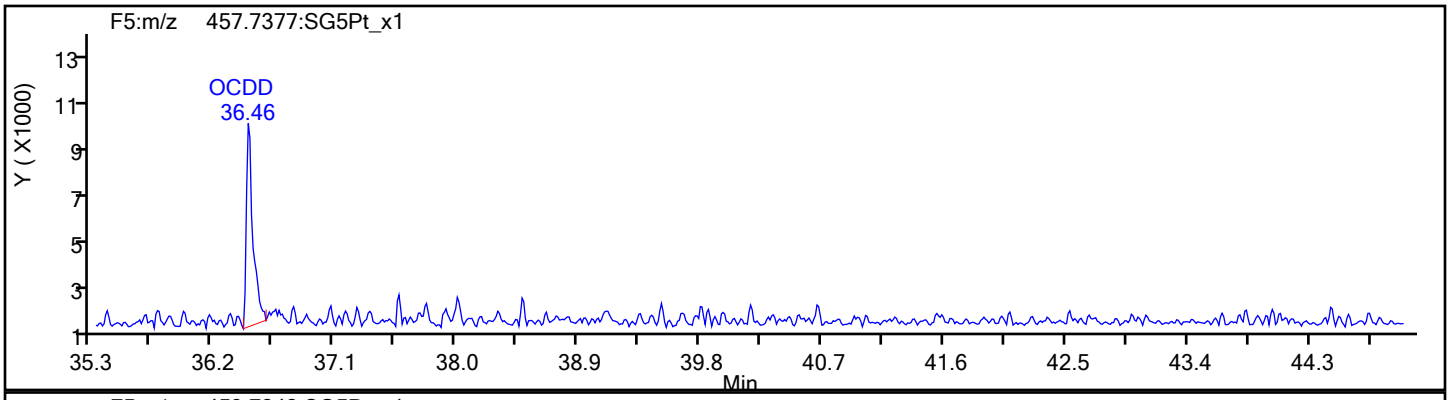

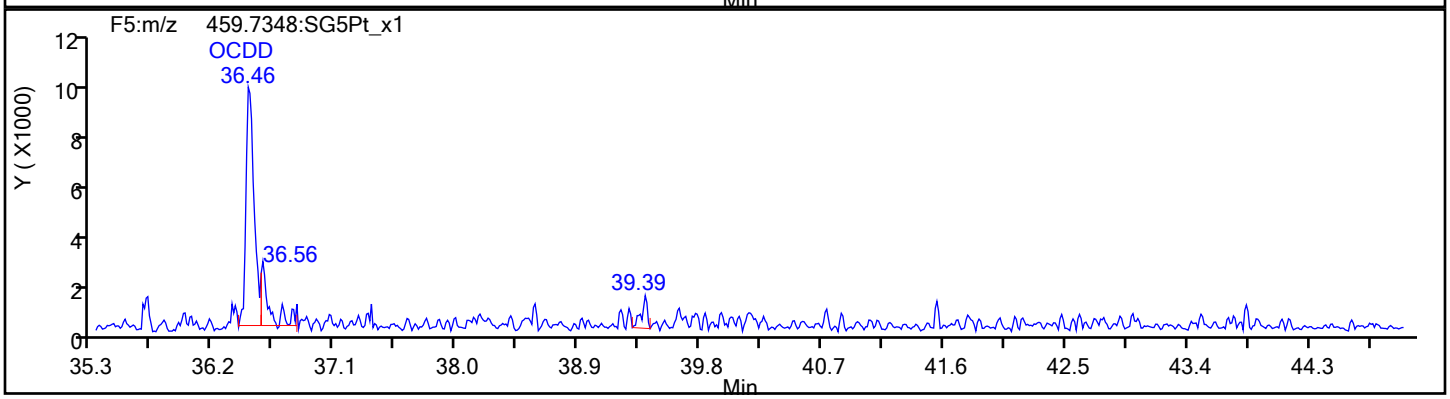

OCDD Standards

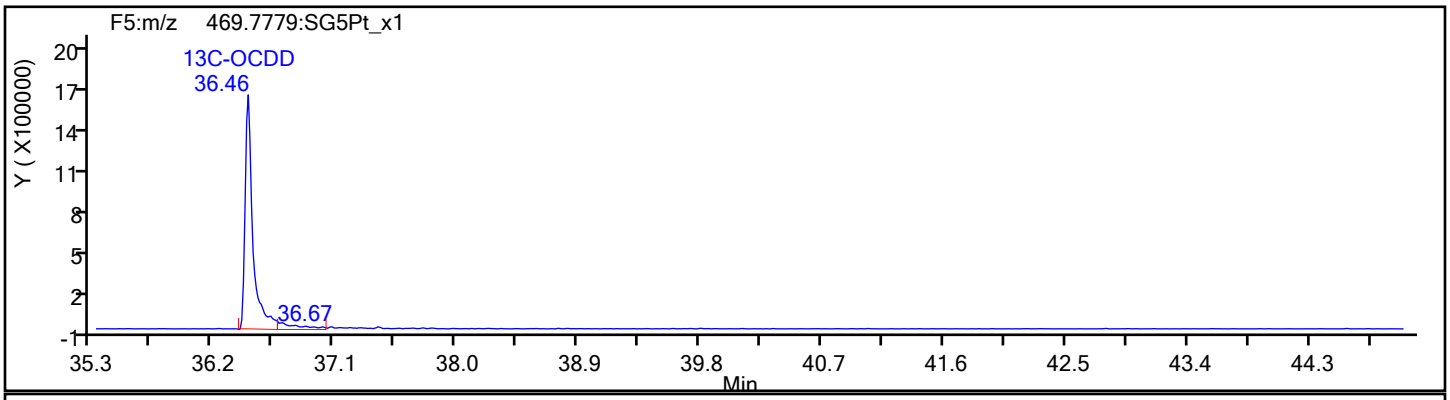

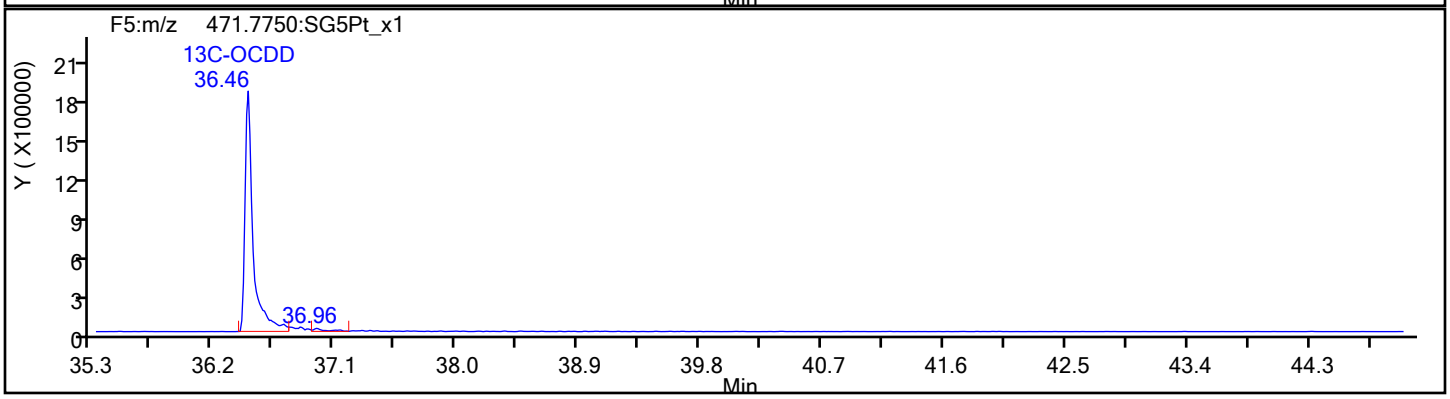

Report Date: 20-Sep-2019 11:47:33 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_52.d		
Injection Date:	20-Sep-2019 03:02:46	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-091319-LL-EXC-1		
Worklist#:	324876	Sample Line#:	52
Column Type:	DB-5	Column Dia:	0.32 mm

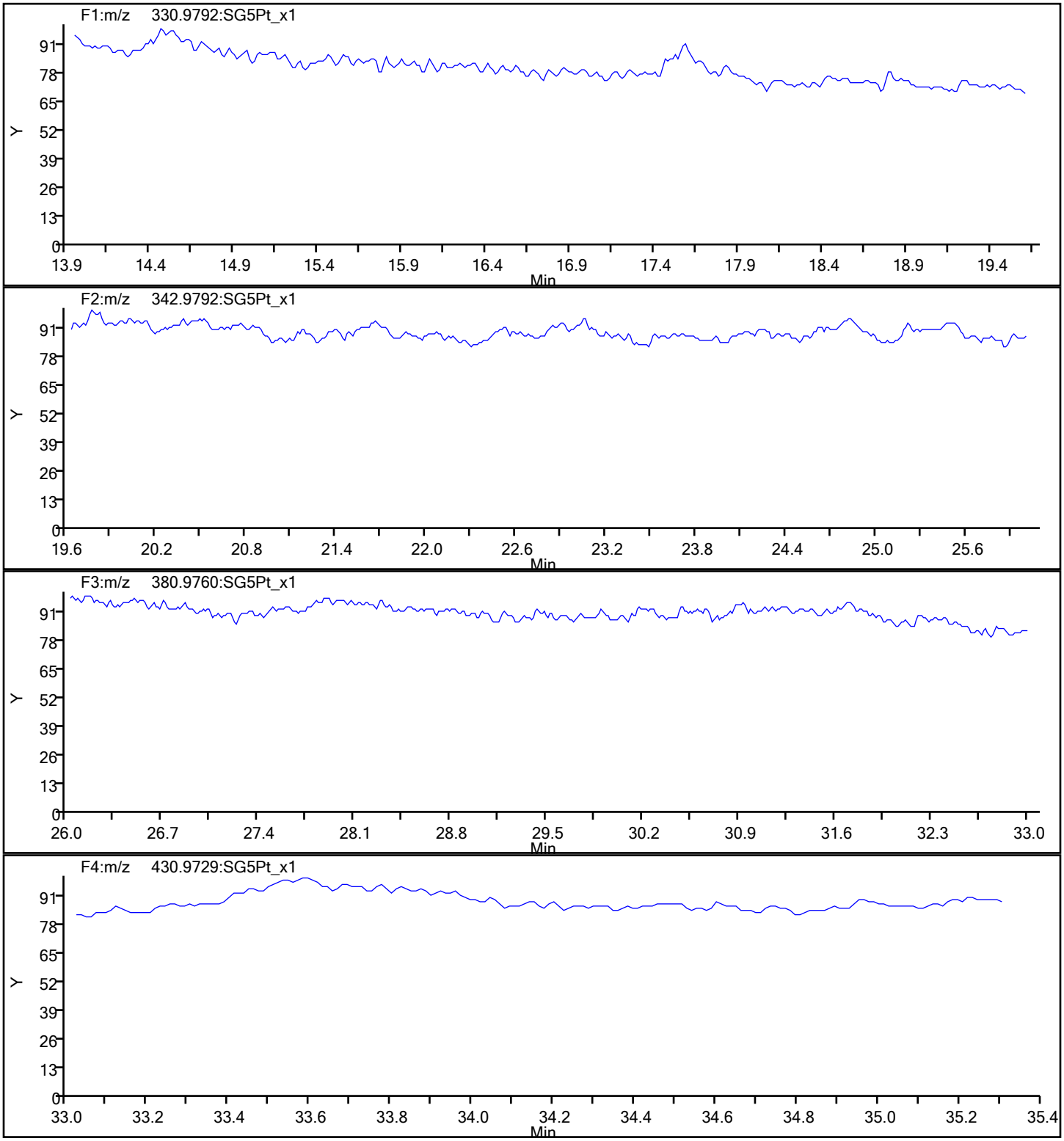

Report Date: 20-Sep-2019 11:47:33 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_52.d		
Injection Date:	20-Sep-2019 03:02:46	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-091319-LL-EXC-1		
Worklist#:	324876	Sample Line#:	52
Column Type:	DB-5	Column Dia:	0.32 mm

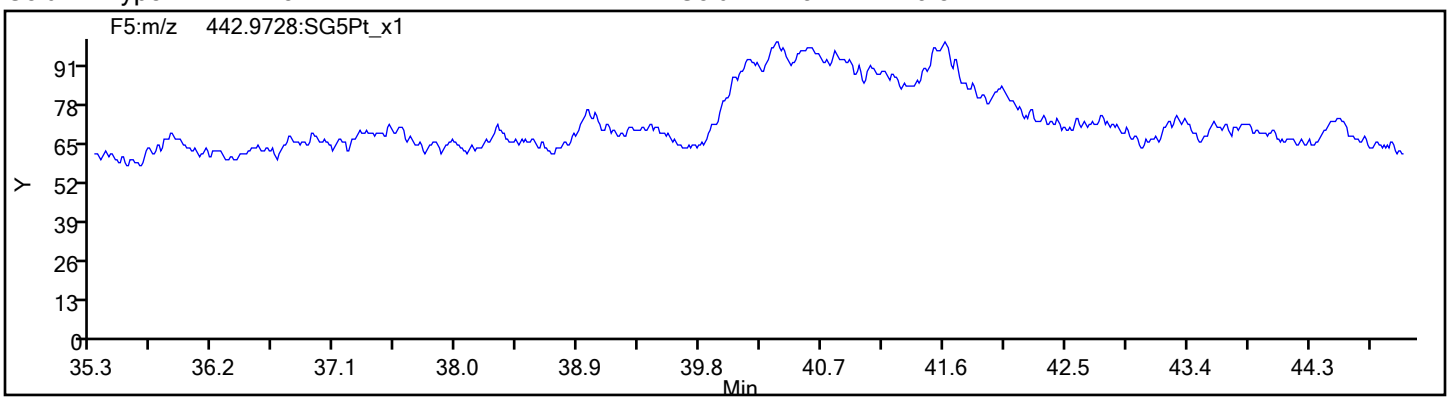

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 600-191956-2
SDG No.:
Client Sample ID: 11187072-091319-LL-EXC-1 RA
Lab Sample ID: 600-191956-2 RA
Matrix: Water
Lab File ID: 20SE1911D2_008.d
Analysis Method: 1613B
Date Collected: 09/13/2019 08:00
Extract. Method: 1613B
Date Extracted: 09/18/2019 13:24
Sample wt/vol: 1027(mL)
Date Analyzed: 09/20/2019 14:24
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 325151
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
51207-31-9	2,3,7,8-TCDF	21		9.7	1.1

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
89059-46-1	13C-2,3,7,8-TCDF	40		24-169

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	96		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190920-83509.b\20SE1911D2_008.d
Lims ID: 600-191956-B-2-D
Client ID: 11187072-091319-LL-EXC-1
Sample Type: Client
Inject. Date: 20-Sep-2019 14:24:01 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 600-191956-B-2-D
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20190920-83509.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 23-Sep-2019 11:20:20 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0303

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.328	187351029	0.81	1.1E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.494	99348480	0.80	1.3379	39.6	39.6	0.1583	0.1583	39.63	
2,3,7,8-TCDF	16.521	900594	0.80	0.8389	1.081	1.081	0.0581	0.0581		
D 13C-2,3,7,8-TCDD	15.081	63698120	0.80	0.9388	36.2	36.2	0.1720	0.1720	36.22	
2,3,7,8-TCDD	15.108	337818	0.71	1.1538	0.4596	0.4596	0.0950	0.0950		
$ 37Cl4-2,3,7,8-TCDD	15.094	84736706		1.1816	38.3	38.3	0.0377	0.0377	95.69	
S Total 2378-Chlorinated							0.000100	0.000100		

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190920-83509.b\20SE1911D2_008.d
Lims ID: 600-191956-B-2-D
Client ID: 11187072-091319-LL-EXC-1
Sample Type: Client
Inject. Date: 20-Sep-2019 14:24:01 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: 600-191956-B-2-D
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2

Method: \\chromna\Sacramento\ChromData\11D2\20190920-83509.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 23-Sep-2019 11:20:20 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0303

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.328	15.341	-1		83762647	18594624	15508	38770	1199		
333.9339	15.328	15.341	-1		103588382	23020973	11372	28430	2024	0.81(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.494	16.511	0	1.076	44251138	8859122	20912	52280	424		
317.9389	16.494	16.511	0	1.076	55097342	11272164	14340	35850	786	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.521	16.535	-1	1.002	400232	80674	1325	3312	61		
305.8987	16.507	16.535	-2	1.001	500362	98177	2602	6505	38	0.80(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.081	15.097	0	0.984	28271832	6120066	15508	38770	395		
333.9339	15.081	15.097	0	0.984	35426288	8064364	11372	28430	709	0.80(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.108	15.108	0	1.002	140428	23759	3741	9352	6		
321.8936	15.108	15.108	0	1.002	197390	41833	2479	6197	17	0.71(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.094	15.108	-1	0.985	84736706	18615356	7407	18517	2513		

Total 2378-Chlorinated Dioxins & Furans
0.0 0

Report Date: 23-Sep-2019 11:21:01 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190920-83509.b\20SE1911D2_008.d		
Injection Date:	20-Sep-2019 14:24:01	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-091319-LL-EXC-1		
Worklist#:	325151	Sample Line#:	8
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

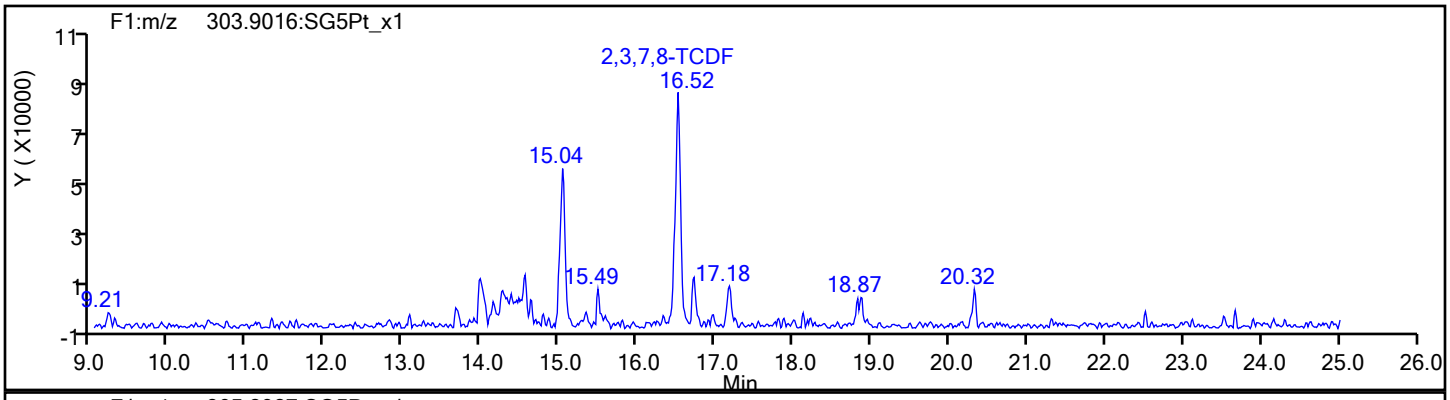

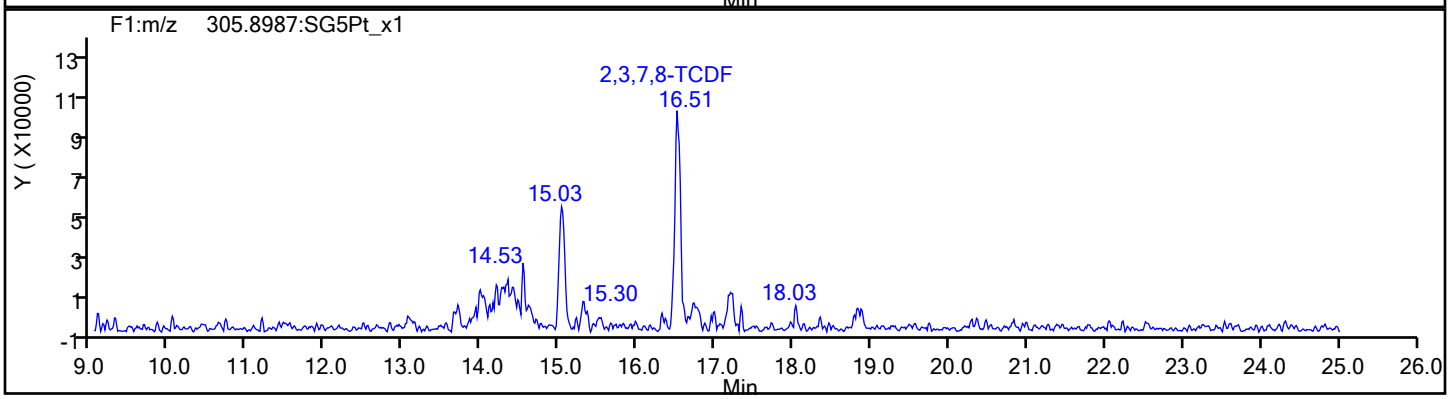

TCDF Standards

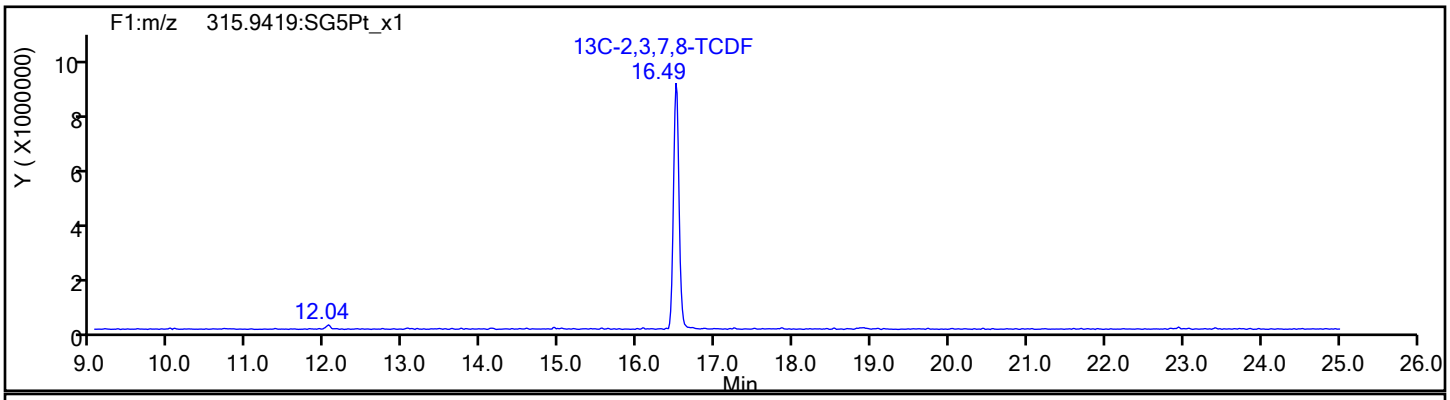

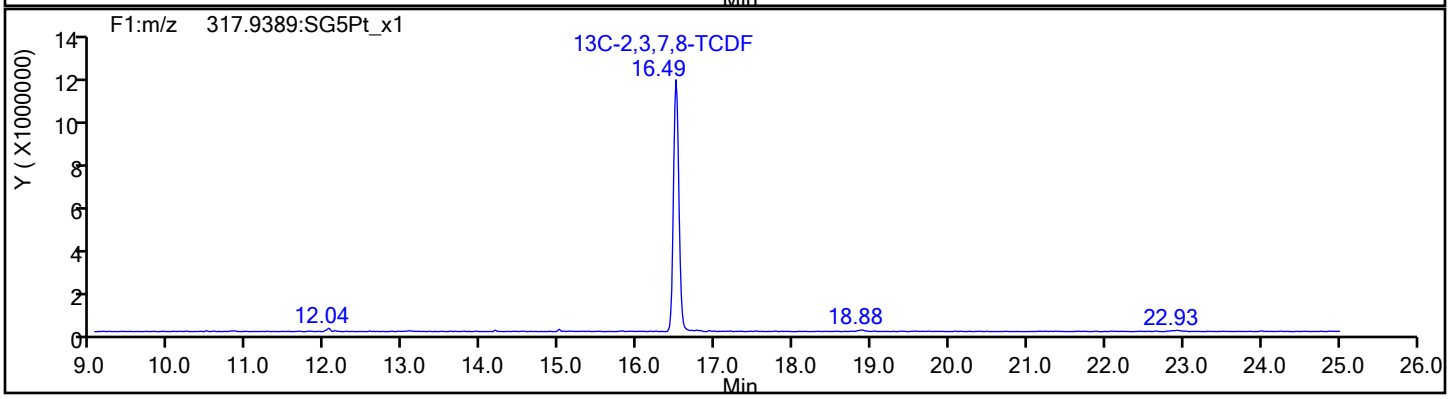

Report Date: 23-Sep-2019 11:21:01 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190920-83509.b\20SE1911D2_008.d		
Injection Date:	20-Sep-2019 14:24:01	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-091319-LL-EXC-1		
Worklist#:	325151	Sample Line#:	8
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

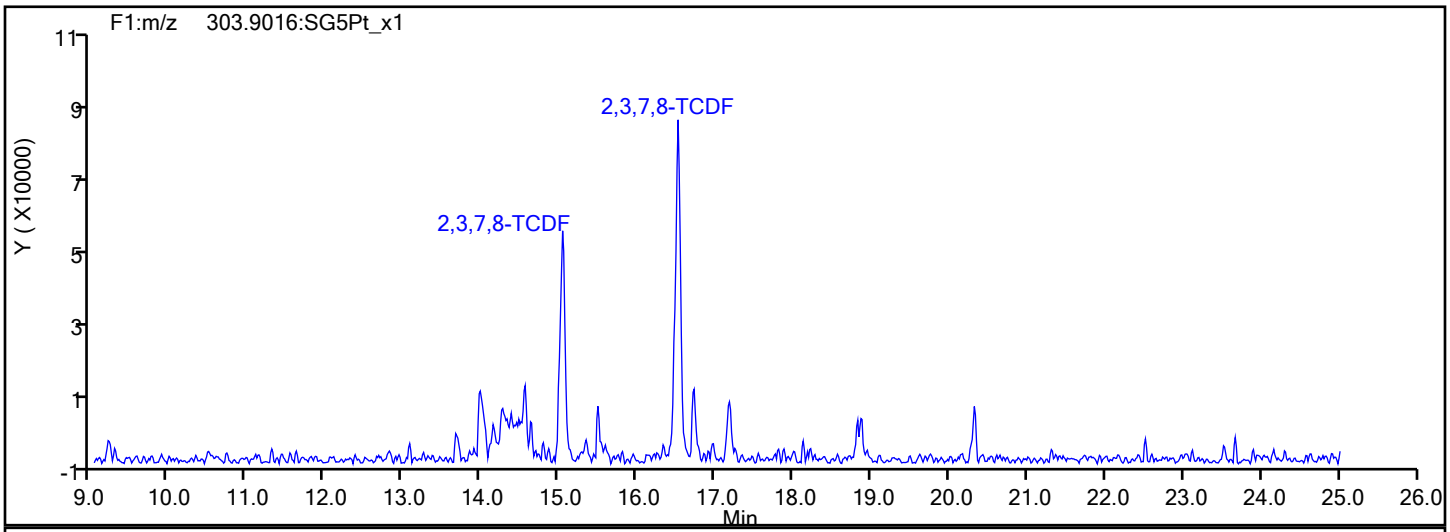

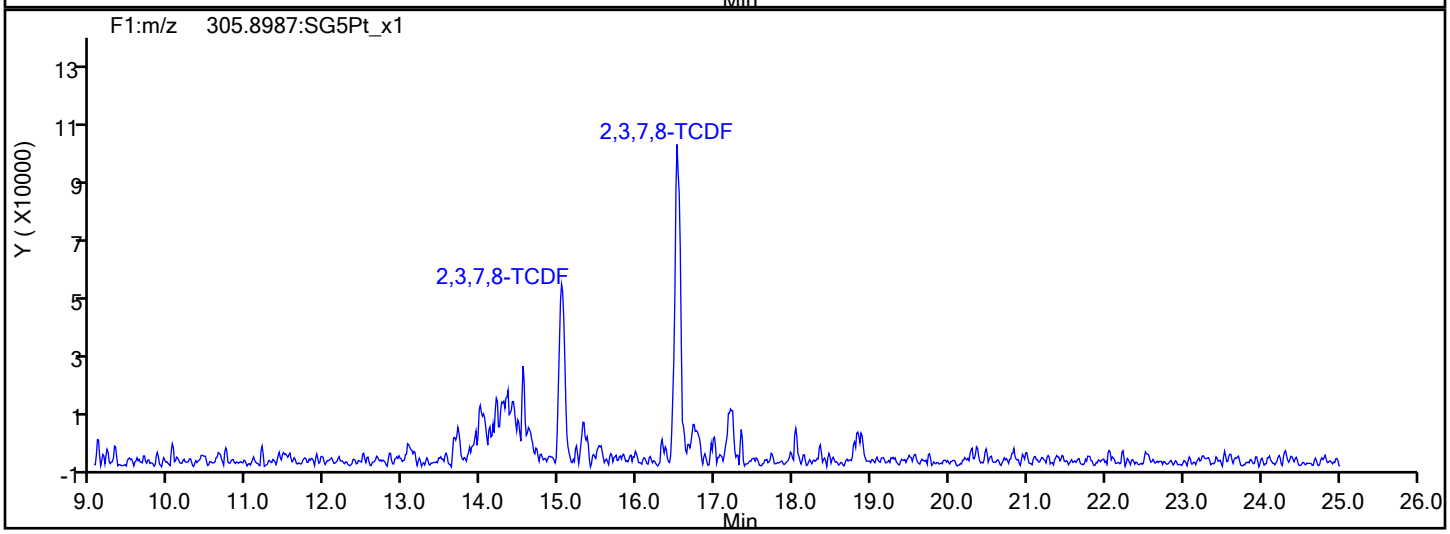

TCDF Interference Mass

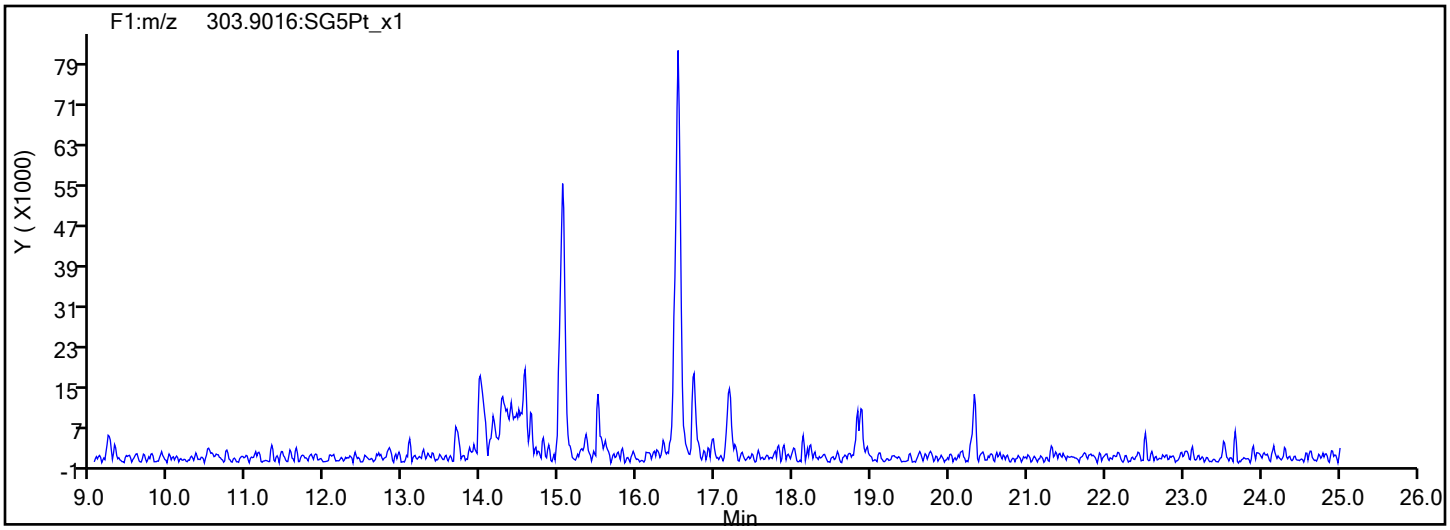

Report Date: 23-Sep-2019 11:21:01 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190920-83509.b\20SE1911D2_008.d		
Injection Date:	20-Sep-2019 14:24:01	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-091319-LL-EXC-1		
Worklist#:	325151	Sample Line#:	8
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

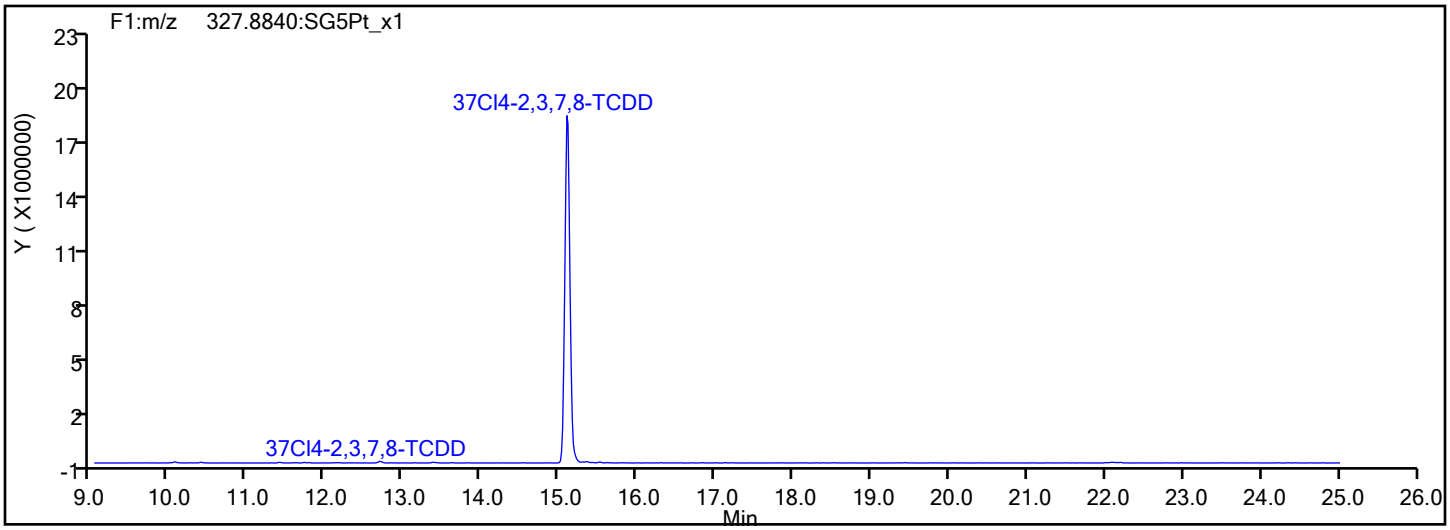

37Cl4-TCDD Standards

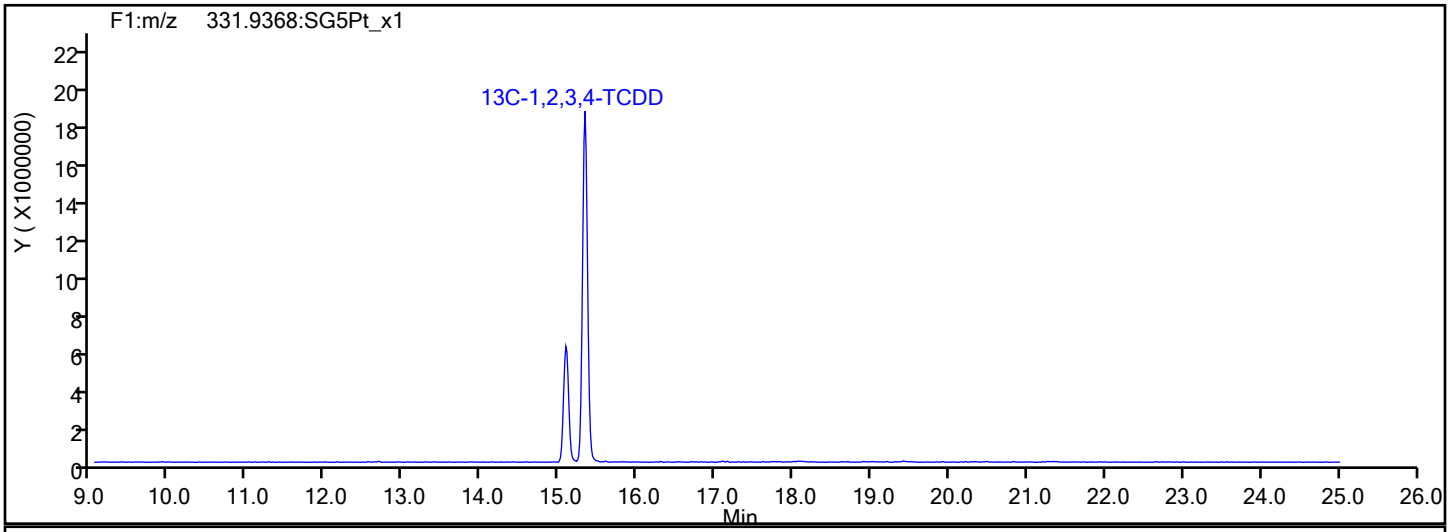

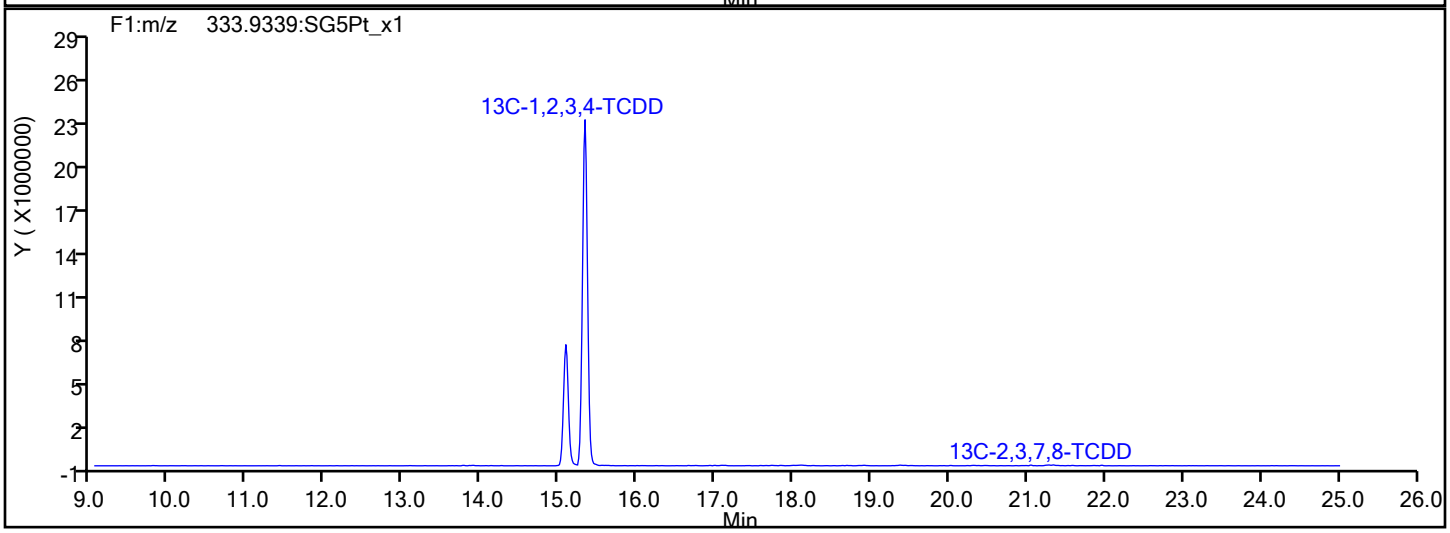

Report Date: 23-Sep-2019 11:21:01 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190920-83509.b\20SE1911D2_008.d		
Injection Date:	20-Sep-2019 14:24:01	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:	11187072-091319-LL-EXC-1		
Worklist#:	325151	Sample Line#:	8
Column Type:	DB-225	Column Dia:	0.32 mm

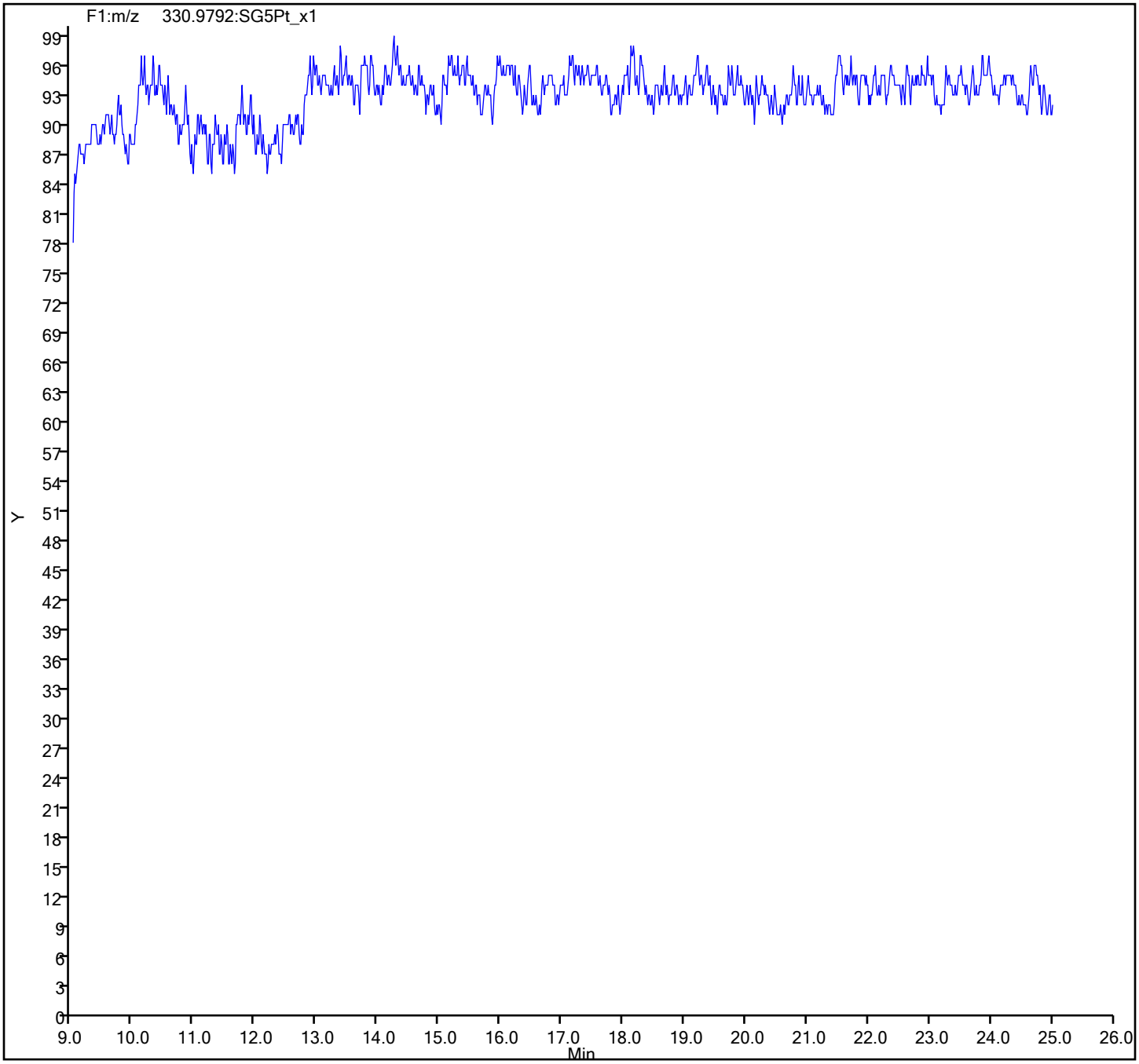

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-2 Analy Batch No.: 324128

SDG No.:

Instrument ID: 10D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 13:03 Calibration End Date: 09/17/2019 16:55 Calibration ID: 47423

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-324128/3	17SE1910D5_3.d
Level 2	IC 320-324128/4	17SE1910D5_4.d
Level 3	IC 320-324128/7	17SE1910D5_7.d
Level 4	IC 320-324128/6	17SE1910D5_6.d
Level 5	IC 320-324128/8	17SE1910D5_8.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
2,3,7,8-TCDF	1.0712	1.1022	0.9929	1.0616	1.0257	AveID		1.0507				4.0		20.0			
2,3,7,8-TCDD	1.1677	1.1266	1.0239	1.1261	1.0877	AveID		1.1064				4.9		20.0			
1,2,3,7,8-PeCDF	1.0011	1.1601	1.0432	1.1331	1.0737	AveID		1.0822				6.0		20.0			
2,3,4,7,8-PeCDF	0.9626	1.1888	1.0864	1.1728	1.1054	AveID		1.1032				8.1		20.0			
1,2,3,7,8-PeCDD	0.8594	0.9576	0.8670	0.9410	0.9001	AveID		0.9050				4.8		20.0			
1,2,3,4,7,8-HxCDF	1.1004	1.2643	1.1561	1.2645	1.2013	AveID		1.1973				5.9		20.0			
1,2,3,6,7,8-HxCDF	1.0669	1.2704	1.1534	1.2334	1.1792	AveID		1.1807				6.6		20.0			
2,3,4,6,7,8-HxCDF	1.1327	1.2683	1.1855	1.2657	1.2056	AveID		1.2116				4.7		20.0			
1,2,3,4,7,8-HxCDD	1.0497	1.1313	1.0762	1.1585	1.1282	AveID		1.1088				4.0		20.0			
1,2,3,6,7,8-HxCDD	1.0225	1.1526	1.0496	1.1177	1.0648	AveID		1.0814				4.9		20.0			
1,2,3,7,8,9-HxCDD	1.1542	1.3138	1.1887	1.2433	1.1615	AveID		1.2123				5.5		20.0			
1,2,3,7,8,9-HxCDF	1.2253	1.2976	1.2100	1.2716	1.2212	AveID		1.2451				3.0		20.0			
1,2,3,4,6,7,8-HpCDF	1.5175	1.6415	1.5201	1.5867	1.5119	AveID		1.5555				3.7		20.0			
1,2,3,4,6,7,8-HpCDD	0.8498	0.9887	0.9182	0.9754	0.9258	AveID		0.9316				5.9		20.0			
1,2,3,4,7,8,9-HpCDF	1.2548	1.4796	1.3480	1.4704	1.3785	AveID		1.3862				6.7		20.0			
OCDD	0.9991	1.1715	1.0189	1.0914	1.0295	AveID		1.0621				6.6		20.0			
OCDF	1.1420	1.3314	1.2399	1.3172	1.2675	AveID		1.2596				6.0		20.0			
13C-2,3,7,8-TCDF	1.4608	1.4445	1.4059	1.4451	1.4357	Ave		1.4384				1.4		35.0			
13C-2,3,7,8-TCDD	0.9625	0.9452	0.9420	0.9578	0.9591	Ave		0.9533				1.0		35.0			
13C-1,2,3,7,8-PeCDF	1.0011	0.9736	1.0018	1.0725	1.0941	Ave		1.0286				5.0		35.0			
13C-2,3,4,7,8-PeCDF	0.9468	0.9409	0.9284	1.0290	1.0682	Ave		0.9827				6.3		35.0			
13C-1,2,3,7,8-PeCDD	0.7126	0.6892	0.7253	0.7912	0.8222	Ave		0.7481				7.5		35.0			
13C-1,2,3,4,7,8-HxCDF	1.1695	1.1696	1.1139	1.1554	1.1519	Ave		1.1520				2.0		35.0			
13C-1,2,3,6,7,8-HxCDF	1.2574	1.2360	1.2152	1.2646	1.2439	Ave		1.2434				1.6		35.0			
13C-2,3,4,6,7,8-HxCDF	1.1808	1.1525	1.1326	1.1890	1.2049	Ave		1.1720				2.5		35.0			
13C-1,2,3,4,7,8-HxCDD	0.7524	0.7624	0.7637	0.8053	0.8223	Ave		0.7812				3.9		35.0			
13C-1,2,3,6,7,8-HxCDD	0.8902	0.8874	0.9034	0.9518	0.9544	Ave		0.9175				3.6		35.0			
13C-1,2,3,7,8,9-HxCDF	1.0743	1.0692	1.0512	1.0728	1.0598	Ave		1.0655				0.9		35.0			
13C-1,2,3,4,6,7,8-HpCDF	0.8693	0.8034	0.8768	0.8898	0.8745	Ave		0.8628				3.9		35.0			
13C-1,2,3,4,6,7,8-HpCDD	0.8645	0.8231	0.8669	0.9030	0.9118	Ave		0.8739				4.0		35.0			
13C-1,2,3,4,7,8,9-HpCDF	0.8125	0.7593	0.7819	0.8143	0.8272	Ave		0.7991				3.5		35.0			
13C-OCDD	0.7944	0.6967	0.7385	0.7965	0.8457	Ave		0.7744				7.4		35.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-2 Analy Batch No.: 324128

SDG No.:

Instrument ID: 10D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 13:03 Calibration End Date: 09/17/2019 16:55 Calibration ID: 47423

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
37Cl4-2,3,7,8-TCDD	1.1192	1.2125	1.2082	1.2900	1.2821	Ave		1.2224				5.7					

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-2 Analy Batch No.: 324128

SDG No.:

Instrument ID: 10D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 13:03 Calibration End Date: 09/17/2019 16:55 Calibration ID: 47423

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-324128/3	17SE1910D5_3.d
Level 2	IC 320-324128/4	17SE1910D5_4.d
Level 3	IC 320-324128/7	17SE1910D5_7.d
Level 4	IC 320-324128/6	17SE1910D5_6.d
Level 5	IC 320-324128/8	17SE1910D5_8.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (PG/UL)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
2,3,7,8-TCDF		AveID	172042	1529056	16312729	83942362	462672519	0.500	2.00	10.0	40.0	200
2,3,7,8-TCDD		AveID	123575	1022744	11272193	59019056	327747086	0.500	2.00	10.0	40.0	200
1,2,3,7,8-PeCDF		AveID	550940	5424212	61060330	332470884	1845377073	2.50	10.0	50.0	200	1000
2,3,4,7,8-PeCDF		AveID	501008	5371777	58935693	330153847	1854754260	2.50	10.0	50.0	200	1000
1,2,3,7,8-PeCDD		AveID	336661	3169429	36740998	203688899	1162563715	2.50	10.0	50.0	200	1000
1,2,3,4,7,8-HxCDF		AveID	452083	4604517	51431784	291651831	1688948701	2.50	10.0	50.0	200	1000
1,2,3,6,7,8-HxCDF		AveID	471238	4889511	55977084	311373058	1790437956	2.50	10.0	50.0	200	1000
2,3,4,6,7,8-HxCDF		AveID	469856	4551517	53626165	300428448	1773083873	2.50	10.0	50.0	200	1000
1,2,3,4,7,8-HxCDD		AveID	277444	2685740	32825472	186227471	1132407299	2.50	10.0	50.0	200	1000
1,2,3,6,7,8-HxCDD		AveID	319747	3184984	37867080	212361866	1240444751	2.50	10.0	50.0	200	1000
1,2,3,7,8,9-HxCDD		AveID	333001	3374687	39571199	218049333	1259477463	2.50	10.0	50.0	200	1000
1,2,3,7,8,9-HxCDF		AveID	462420	4319986	50802364	272303395	1579646001	2.50	10.0	50.0	200	1000
1,2,3,4,6,7,8-HpCDF		AveID	463407	4106440	53230505	281845286	1613842335	2.50	10.0	50.0	200	1000
1,2,3,4,6,7,8-HpCDD		AveID	258090	2534205	31792117	175833007	1030391820	2.50	10.0	50.0	200	1000
1,2,3,4,7,8,9-HpCDF		AveID	358162	3498041	42098592	239010564	1391884877	2.50	10.0	50.0	200	1000
OCDD		AveID	557610	5082981	60102277	347055077	2125514466	5.00	20.0	100	400	2000
OCDF		AveID	637327	5776792	73138090	418862104	2616959337	5.00	20.0	100	400	2000
13C-2,3,7,8-TCDF	13CTC	Ave	32121801	69364385	164292495	197671153	225533576	100	100	100	100	100
13C-2,3,7,8-TCDD	13CTC	Ave	21165335	45389691	110088290	131023361	150666513	100	100	100	100	100
13C-1,2,3,7,8-PeCDF	13CTC	Ave	22013977	46755351	117067384	146707284	171862914	100	100	100	100	100
13C-2,3,4,7,8-PeCDF	13CTC	Ave	20818900	45184985	108494277	140755634	167797734	100	100	100	100	100
13C-1,2,3,7,8-PeCDD	13CTC	Ave	15668897	33098301	84755636	108225317	129152474	100	100	100	100	100
13C-1,2,3,4,7,8-HxCDF	13CHx	Ave	16433122	36418536	88972191	115322048	140595624	100	100	100	100	100
13C-1,2,3,6,7,8-HxCDF	13CHx	Ave	17668349	38486861	97064883	126224651	151833452	100	100	100	100	100
13C-2,3,4,6,7,8-HxCDF	13CHx	Ave	16591902	35886090	90467566	118677202	147071003	100	100	100	100	100
13C-1,2,3,4,7,8-HxCDD	13CHx	Ave	10572054	23739455	61001305	80372897	100374877	100	100	100	100	100
13C-1,2,3,6,7,8-HxCDD	13CHx	Ave	12508423	27633426	72157657	95002970	116499868	100	100	100	100	100
13C-1,2,3,7,8,9-HxCDF	13CHx	Ave	15096147	33293009	83967924	107073331	129353689	100	100	100	100	100
13C-1,2,3,4,6,7,8-HpCDF	13CHx	Ave	12214839	25015698	70034446	88816288	106743815	100	100	100	100	100
13C-1,2,3,4,6,7,8-HpCDD	13CHx	Ave	12148019	25630510	69249272	90130025	111298169	100	100	100	100	100
13C-1,2,3,4,7,8,9-HpCDF	13CHx	Ave	11417456	23641905	62459777	81274920	100973962	100	100	100	100	100
13C-OCDD	13CHx	Ave	22323676	43388861	117978202	158997965	206464776	200	200	200	200	200
37Cl4-2,3,7,8-TCDD	13CTC	Ave	123050	1164531	11295580	70585275	402794059	0.500	2.00	8.00	40.0	200

FORM VI
DIOXIN BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-2 Analy Batch No.: 324128

SDG No.:

Instrument ID: 10D5 GC Column: DB-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/17/2019 13:03 Calibration End Date: 09/17/2019 16:55 Calibration ID: 47423

Curve Type Legend:

Ave = Average ISTD
AveID = Average isotope dilution

	File Name	File Text	Sample ID	Bottle	Method/Matrix	Box #
1	17SE1910D5_1	WDM HRDXNCP_00038	WDM 091719	Tray01:1	---	
2	17SE1910D5_2	Solvent Blank C-14	SB 091719	Tray01:3	---	
3	17SE1910D5_3	CS-2 HRDXNL2_00027	IC 091719	Tray01:4	Dioxin	
4	17SE1910D5_4	CS-3 HRDXNL3_00025	IC 091719A	Tray01:5	Dioxin	
5	17SE1910D5_5	Mis-inject (wrong standard)	Mis-inject (wrong standard)	Tray01:2	Dioxin	
6	17SE1910D5_6	CS-5 HRDXNL5_00028	IC 091719C	Tray01:6	Dioxin	
7	17SE1910D5_7	CS-4 HRDXNL4_00084	IC 091719B	Tray01:2	Dioxin	
8	17SE1910D5_8	CS-6 HRDXNL6_00024	IC 091719D	Tray01:7	Dioxin	
9	17SE1910D5_9	Solvent Blank C-14	SB 091719A	Tray01:3	---	
10	17SE1910D5_10	ICV HRDXNIC_00042	ICV 091719	Tray01:8	Dioxin	
11	17SE1910D5_11	Solvent Blank C-14	SB 091619A	Tray01:3	---	
12	17SE1910D5_12	WDM HRDXNCP_00038	WDM 091719A	Tray01:1	---	
13	17SE1910D5_13	CS-4 HRDXNL4_00084	CCV 091719	Tray01:2	Dioxin	
14	17SE1910D5_14	Solvent Blank C-14	SB 091719B	Tray01:3	---	
15	17SE1910D5_15	MB 320-521530/1-A	MB 320-521530/1-A	Tray01:15	8290/Solid	50
16	17SE1910D5_16	LCS 320-521530/2-A	LCS 320-521530/2-A	Tray01:16	8290/Solid	
17	17SE1910D5_17	320-53987-E-2-A	320-53987-E-2-A	Tray01:17	8290/Solid	
18	17SE1910D5_18	320-53987-E-3-A	320-53987-E-3-A	Tray01:18	8290/Solid	
19	17SE1910D5_19	320-53988-E-2-A	320-53988-E-2-A	Tray01:19	8290/Solid	
20	17SE1910D5_20	320-53989-E-2-A	320-53989-E-2-A	Tray01:20	8290/Solid	
21	17SE1910D5_21	320-53989-E-3-A	320-53989-E-3-A	Tray01:21	8290/Solid	
22	17SE1910D5_22	320-53989-E-4-A	320-53989-E-4-A	Tray01:22	8290/Solid	
23	17SE1910D5_23	320-53989-E-5-A	320-53989-E-5-A	Tray01:23	8290/Solid	
24	17SE1910D5_24	Solvent Blank C-14	SB 091619C	Tray01:3	---	
25	17SE1910D5_25	CS-4 HRDXNL4_00084	CCV 091719A	Tray01:2	Dioxin	
26	17SE1910D5_26	WDM HRDXNCP_00038	WDM 091719B	Tray01:1	---	
27	17SE1910D5_27	Solvent Blank C-14	SB 091719D	Tray01:3	---	
28	17SE1910D5_28	320-53989-E-6-A	320-53989-E-6-A	Tray01:29	8290/Solid	50
29	17SE1910D5_29	320-53989-E-7-A	320-53989-E-7-A	Tray01:30	8290/Solid	
30	17SE1910D5_30	320-53989-E-8-A	320-53989-E-8-A	Tray01:31	8290/Solid	
31	17SE1910D5_31	320-53989-E-9-A	320-53989-E-9-A	Tray01:32	8290/Solid	
32	17SE1910D5_32	320-53989-E-10-A	320-53989-E-10-A	Tray01:33	8290/Solid	
33	17SE1910D5_33	320-53989-E-11-A	320-53989-E-11-A	Tray01:34	8290/Solid	
34	17SE1910D5_34	320-53989-E-12-A	320-53989-E-12-A	Tray01:35	8290/Solid	
35	17SE1910D5_35	320-53989-E-13-A	320-53989-E-13-A	Tray01:36	8290/Solid	
36	17SE1910D5_36	320-53989-E-14-A	320-53989-E-14-A	Tray01:37	8290/Solid	
37	17SE1910D5_37	Solvent Blank C-14	SB 091619E	Tray01:3	---	
38	17SE1910D5_38	CS-4 HRDXNL4_00084	CCV 091719B	Tray01:2	Dioxin	
39	17SE1910D5_39	WDM HRDXNCP_00038	WDM 091719C	Tray01:1	---	
40	17SE1910D5_40	Solvent Blank C-14	SB 091719F	Tray01:3	---	

Logfile checked
09/18/19 SMA

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed: Tuesday, September 17, 2019 11:25:01 Pacific Daylight Time

M 292.9824 R 12824

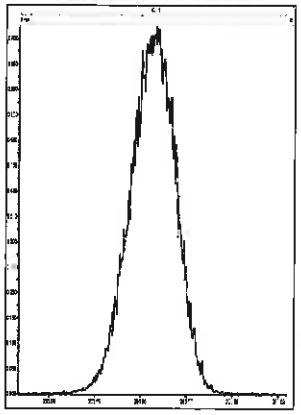

M 304.9824 R 13022

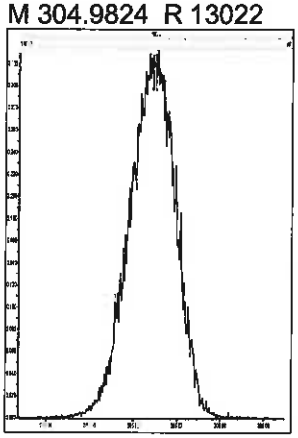

M 318.9792 R 12690

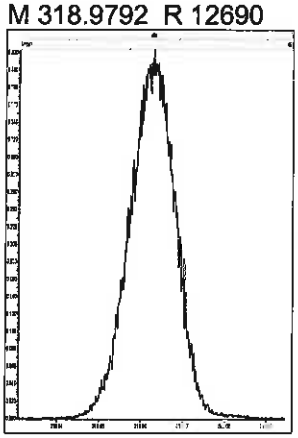

M 330.9792 R 12694

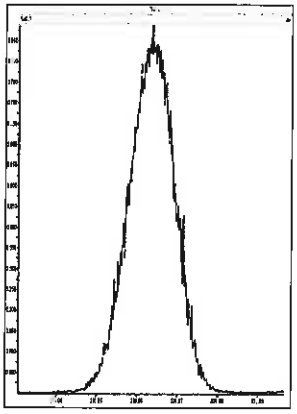

M 342.9792 R 13090

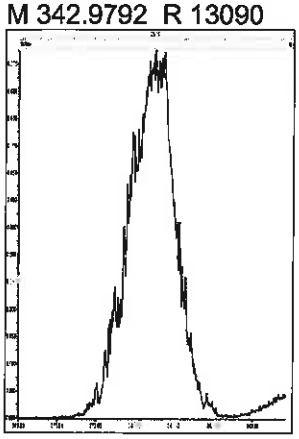

M 354.9792 R 12499

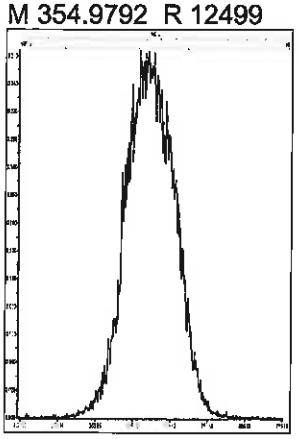

M 366.9792 R 11902

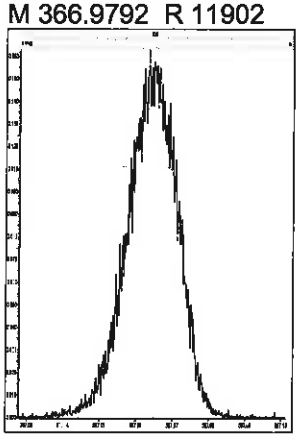

M 380.9760 R 11789

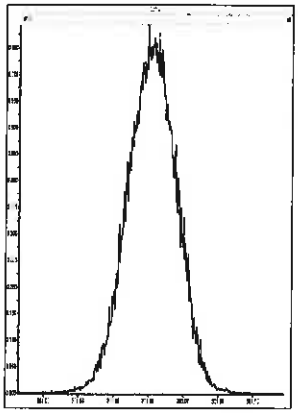

M 392.9760 R 12018

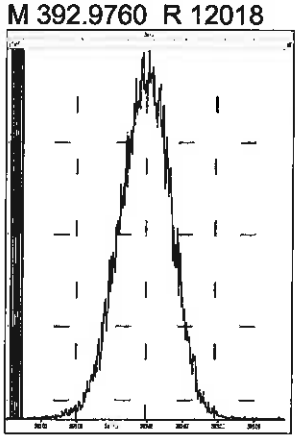

M 404.9760 R 11626

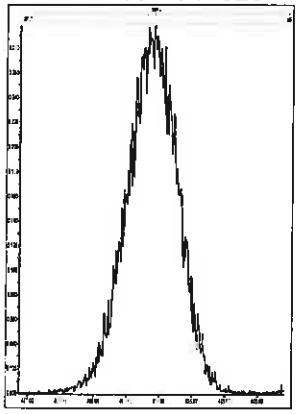

M 416.9760 R 11958

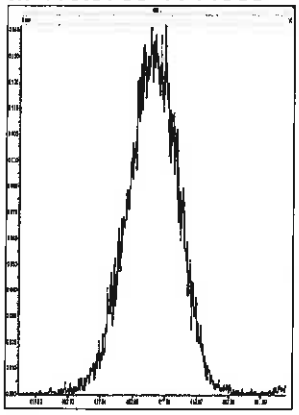

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 2 @ 200 (ppm)

Printed: Tuesday, September 17, 2019 11:25:25 Pacific Daylight Time

M 318.9792 R 13513

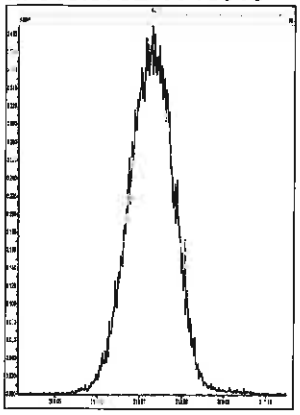

M 330.9792 R 12694

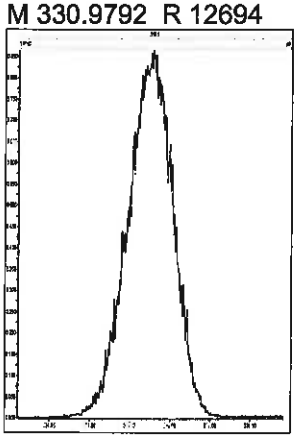

M 342.9792 R 12949

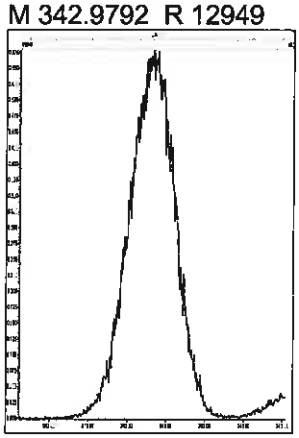

M 354.9792 R 13021

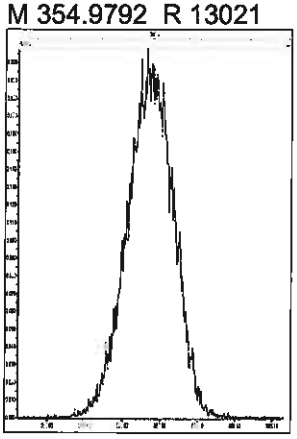

M 366.9792 R 12824

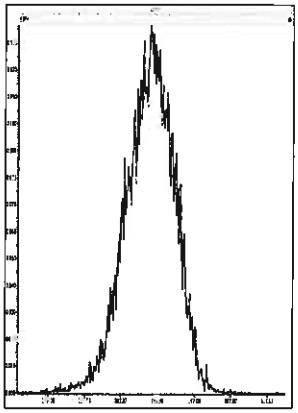

M 380.9760 R 12687

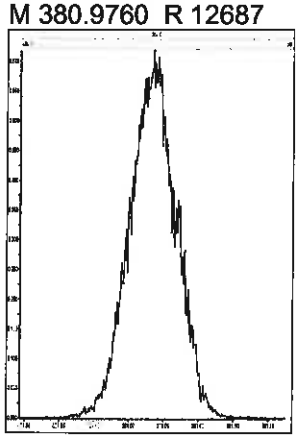

M 392.9760 R 12558

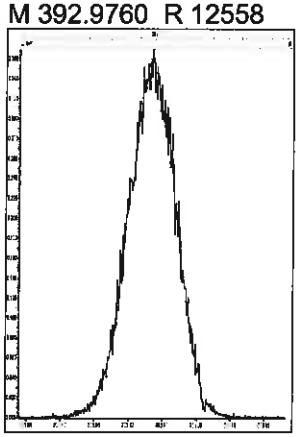

M 404.9760 R 11740

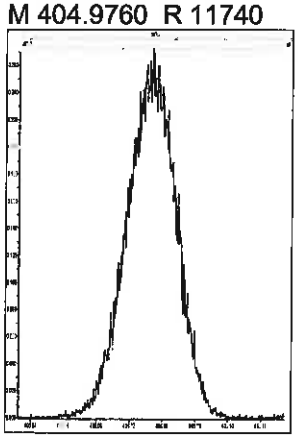

M 416.9760 R 11906

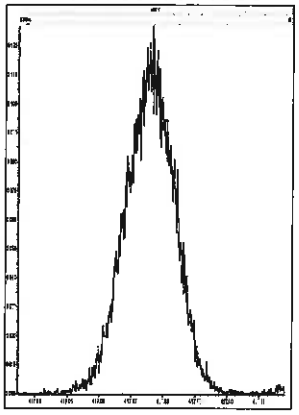

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

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M 366.9792 R 13089

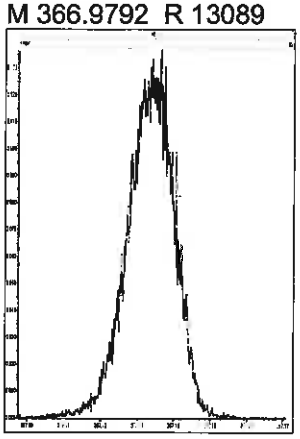

M 380.9760 R 12561

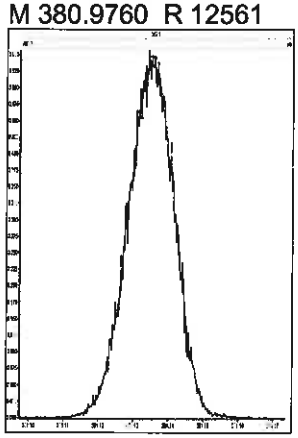

M 392.9760 R 12497

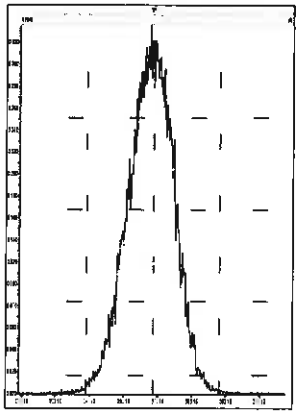

M 404.9760 R 12690

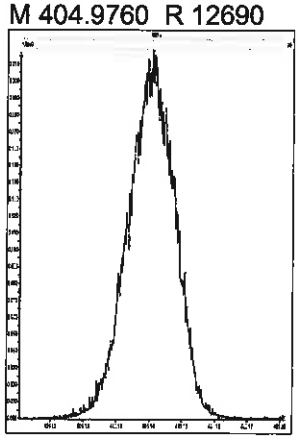

M 416.9760 R 12689

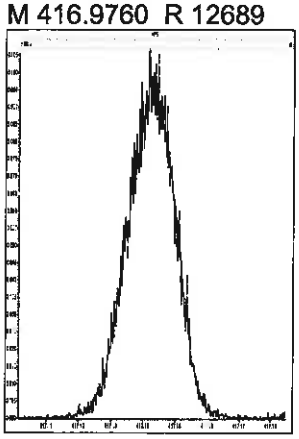

M 430.9728 R 12197

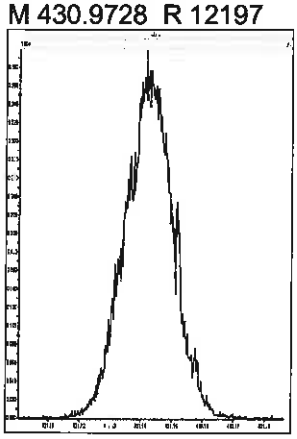

M 442.9728 R 12132

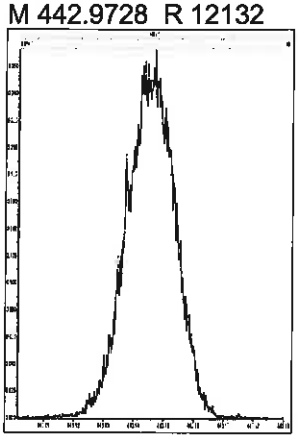

M 454.9728 R 12194

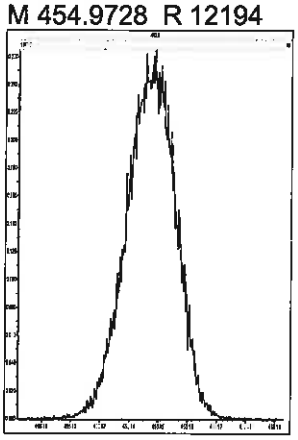

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 4 @ 200 (ppm)

Printed: Tuesday, September 17, 2019 11:26:23 Pacific Daylight Time

M 380.9760 R 12621

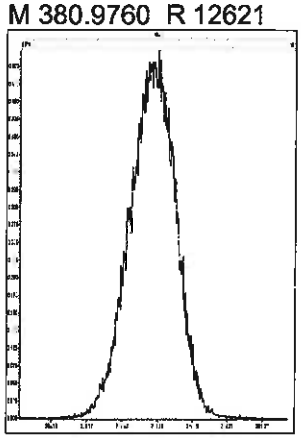

M 392.9760 R 12561

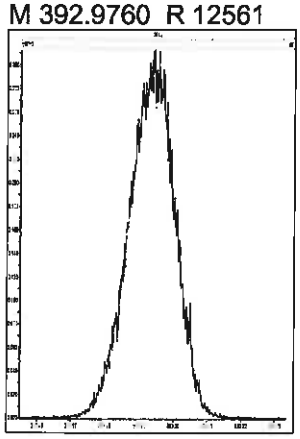

M 404.9760 R 12950

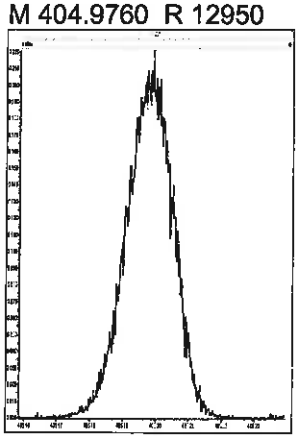

M 416.9760 R 12887

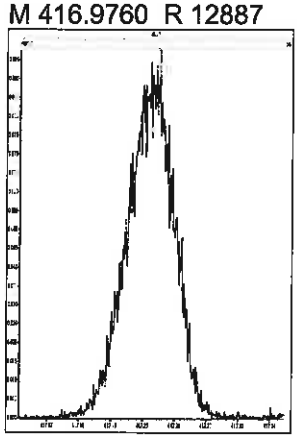

M 430.9728 R 11961

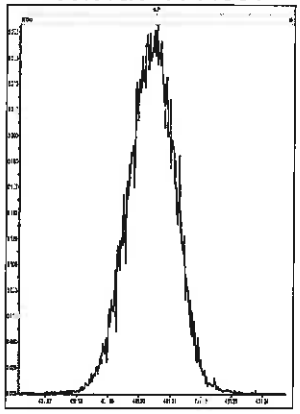

M 442.9728 R 12134

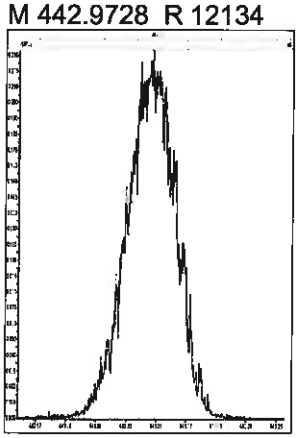

M 454.9728 R 12074

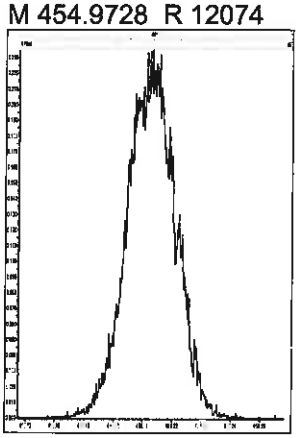

M 466.9728 R 12254

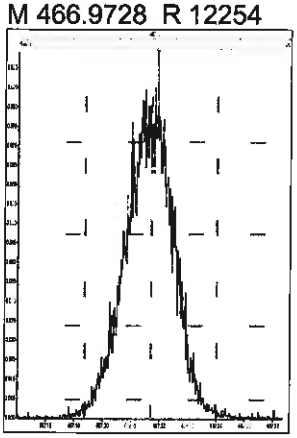

M 480.9696 R 12193

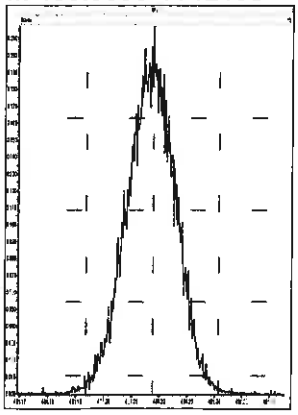

File: Experiment: DIOXIN10D5NEW.exp Reference: Pfk.ref Function: 5 @ 200 (ppm)

Printed: Tuesday, September 17, 2019 11:26:56 Pacific Daylight Time

M 380.9760 R 13158

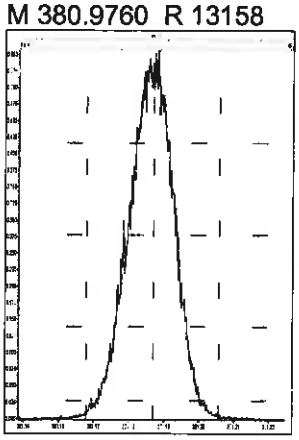

M 392.9760 R 12819

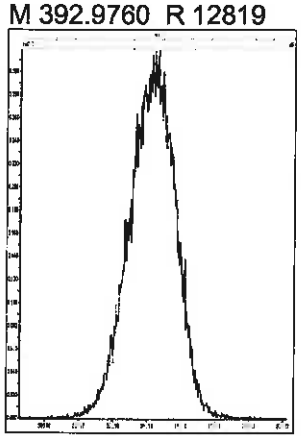

M 404.9760 R 12373

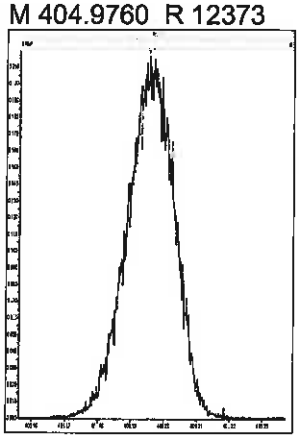

M 416.9760 R 12563

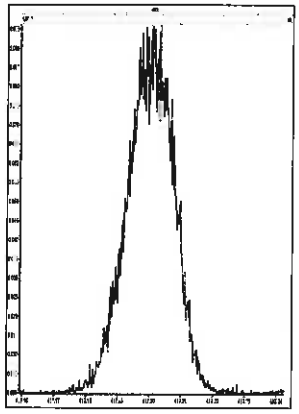

M 430.9728 R 12886

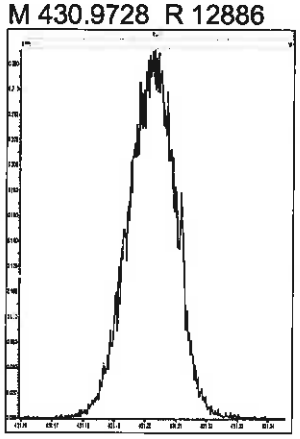

M 442.9728 R 12436

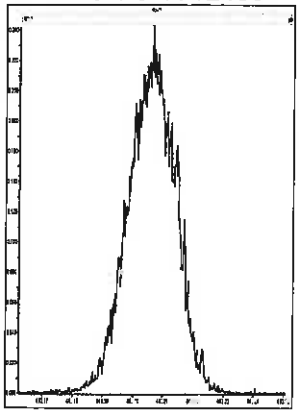

M 454.9728 R 12954

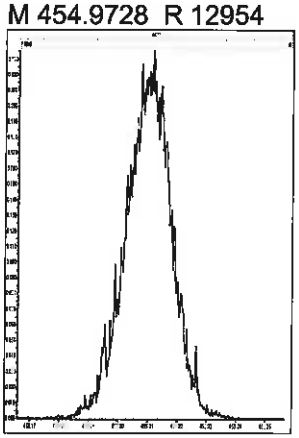

M 466.9728 R 12375

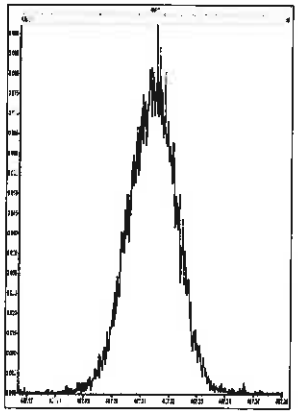

M 480.9696 R 12018

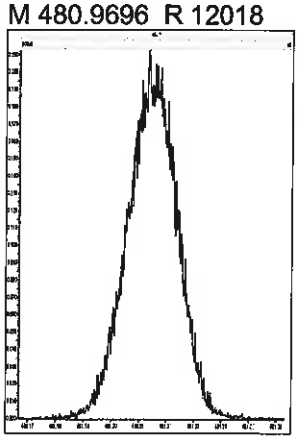

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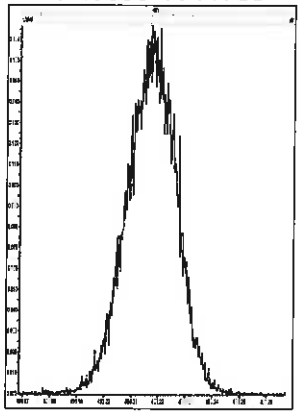

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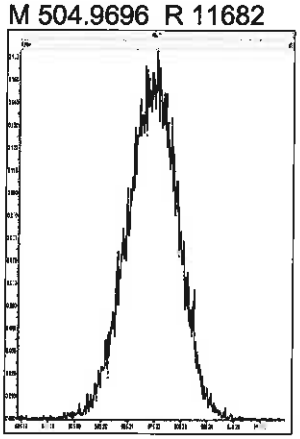

M 516.9697 R 11903

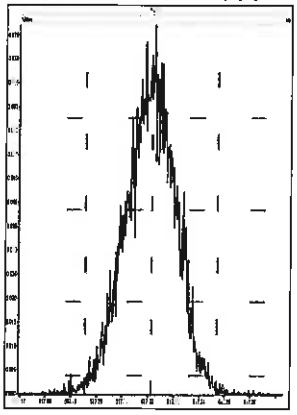

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M 292.9824 R 12757

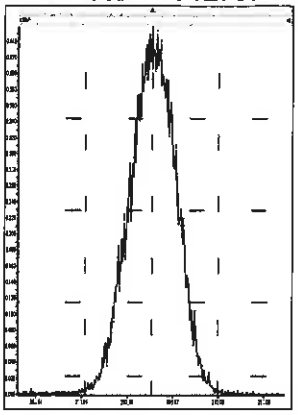

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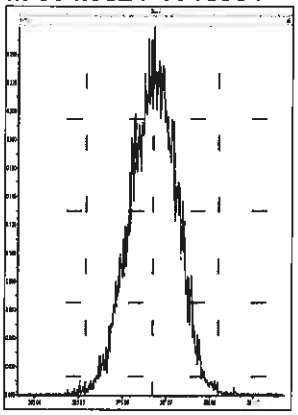

M 318.9792 R 12440

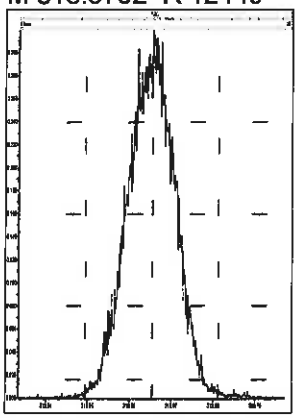

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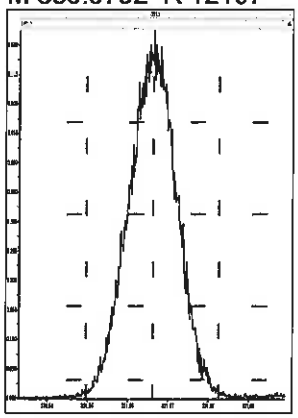

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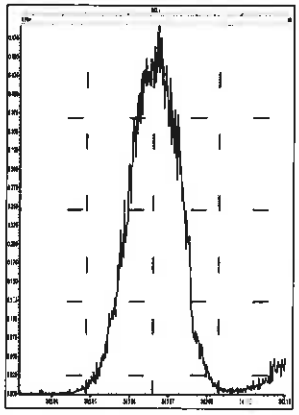

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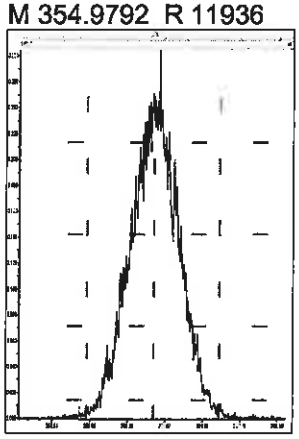

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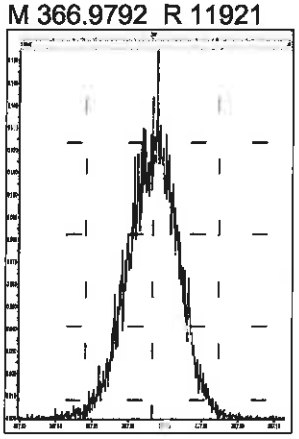

M 380.9760 R 11363

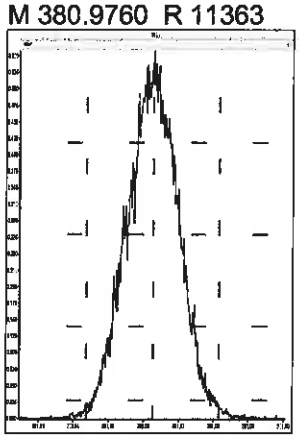

M 392.9760 R 11063

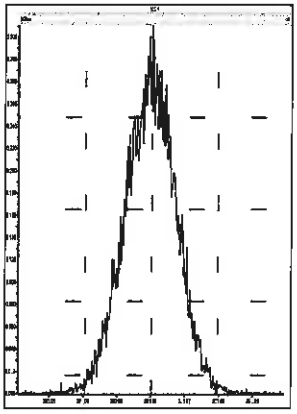

M 404.9760 R 11365

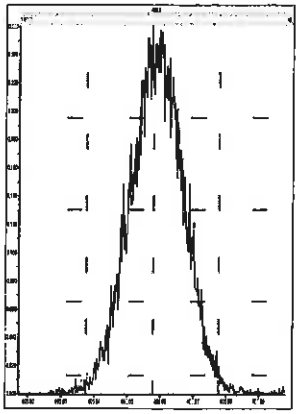

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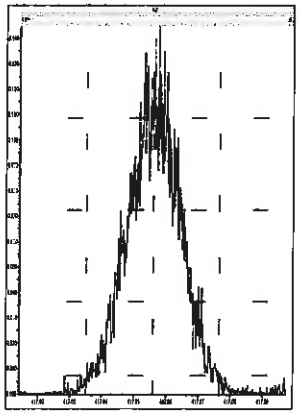

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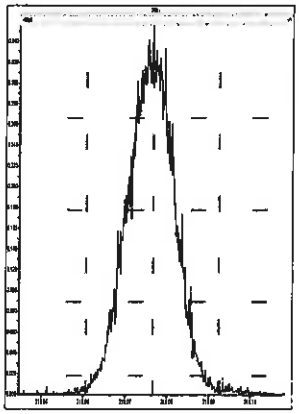

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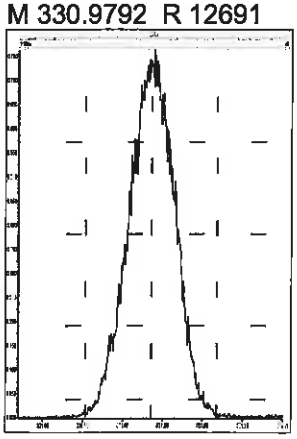

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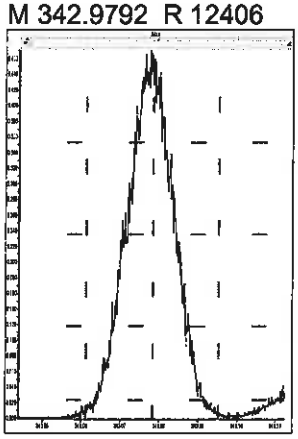

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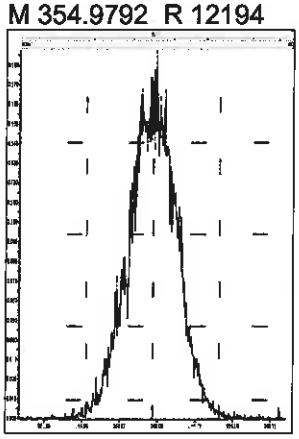

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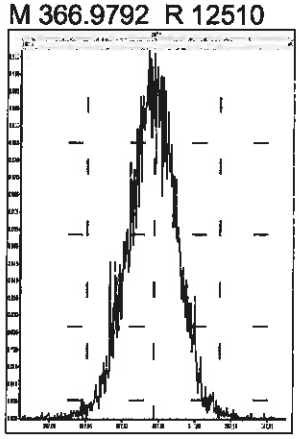

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M 380.9760 R 11961

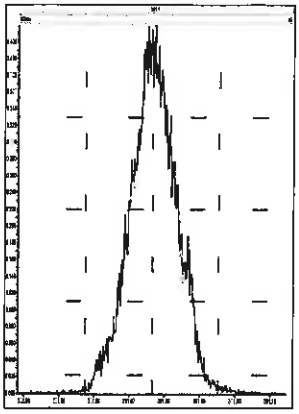

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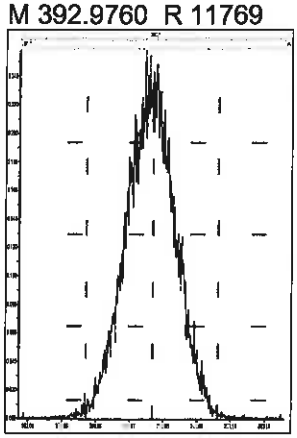

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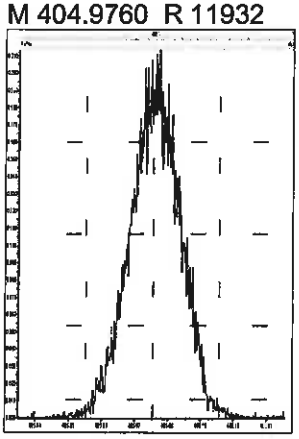

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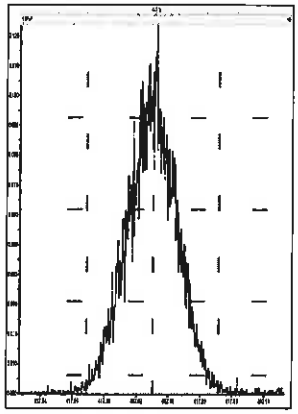

M 366.9792 R 12255

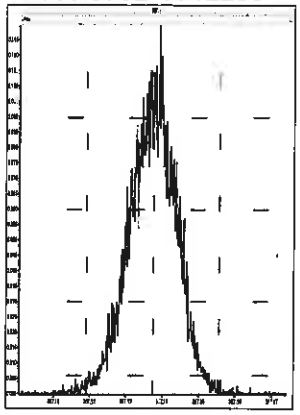

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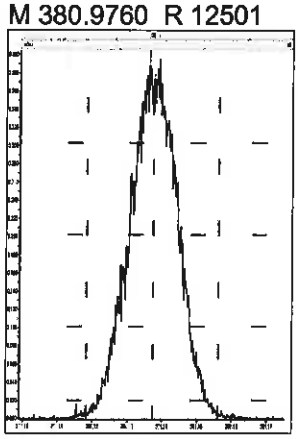

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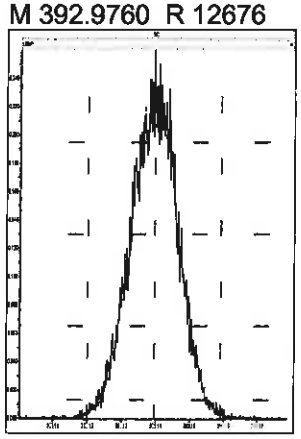

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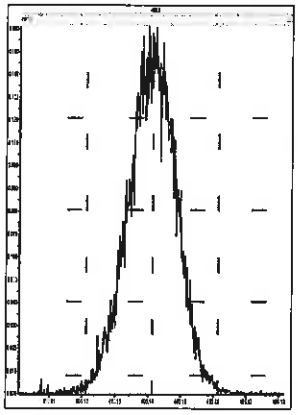

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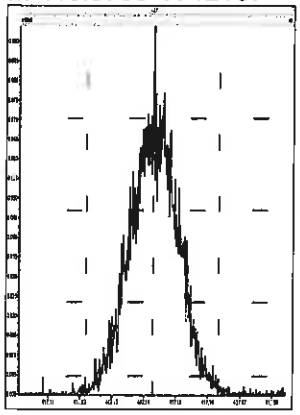

M 430.9728 R 11971

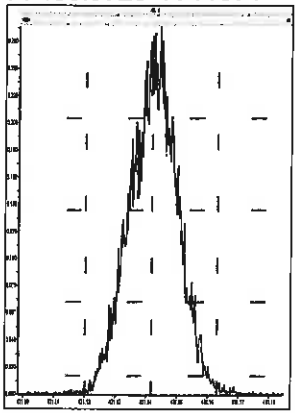

M 442.9728 R 11991

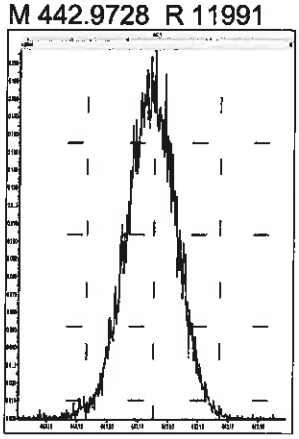

M 454.9728 R 12140

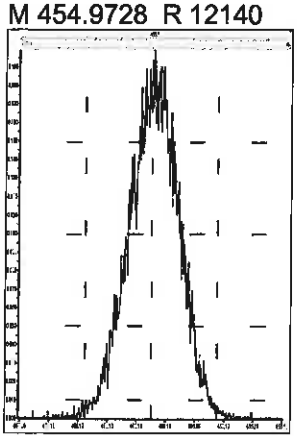

M 380.9760 R 12376

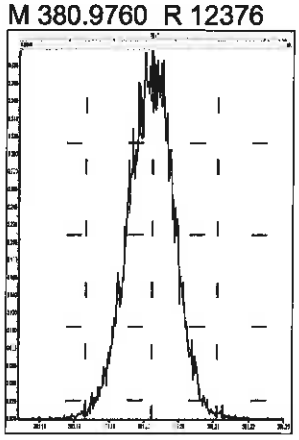

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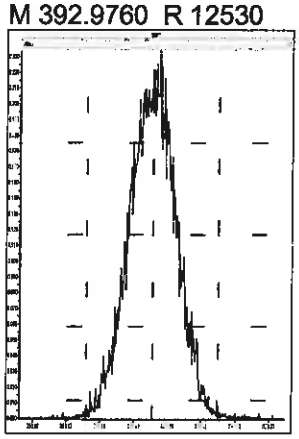

M 404.9760 R 12410

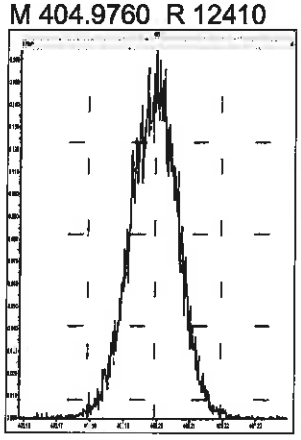

M 416.9760 R 13257

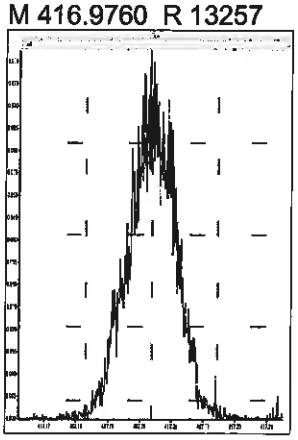

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M 430.9728 R 12118

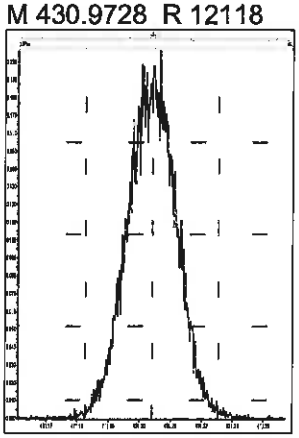

M 442.9728 R 12408

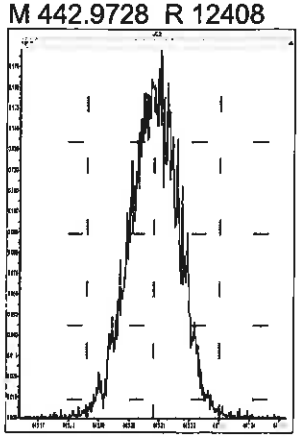

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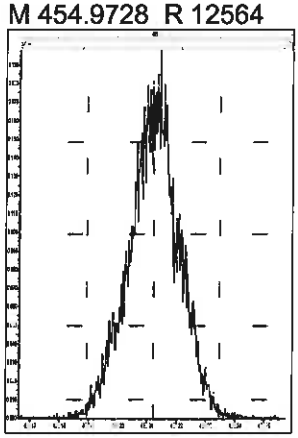

M 466.9728 R 13333

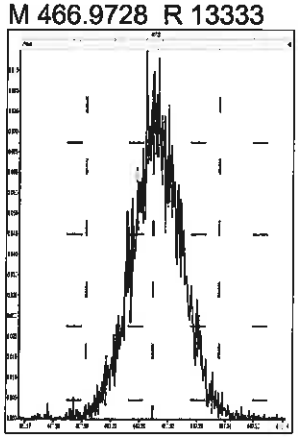

M 480.9696 R 11886

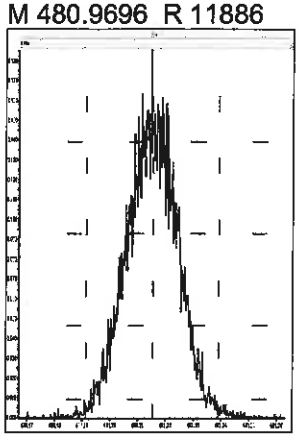

M 380.9760 R 12531

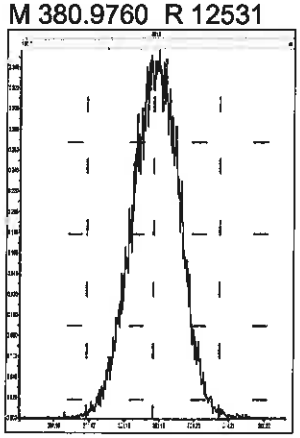

M 392.9760 R 12445

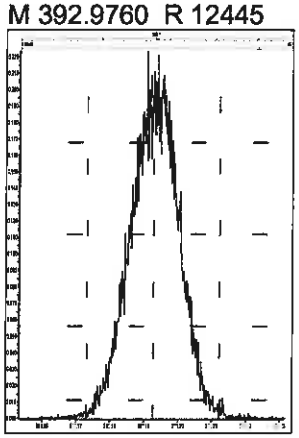

M 404.9760 R 12577

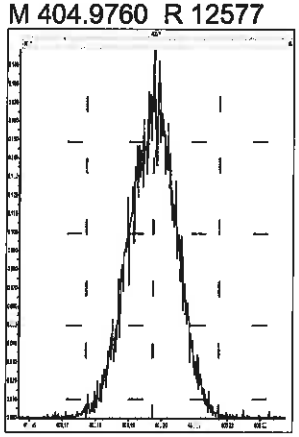

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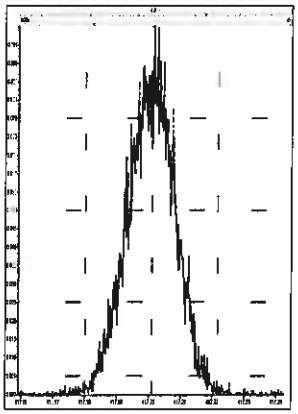

M 430.9728 R 12167

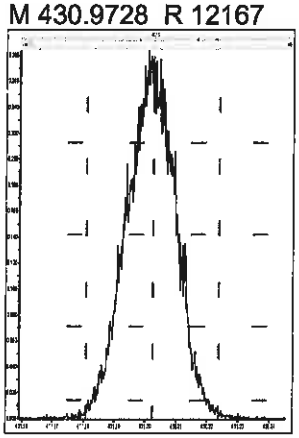

M 442.9728 R 12199

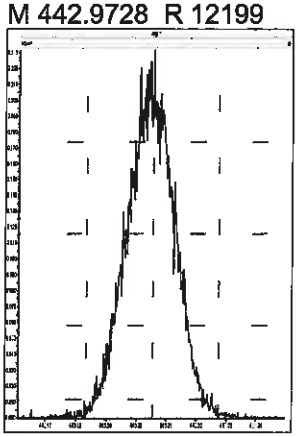

M 454.9728 R 12347

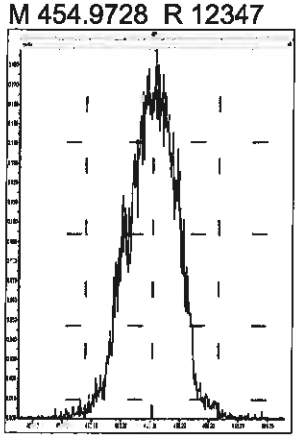

M 466.9728 R 12105

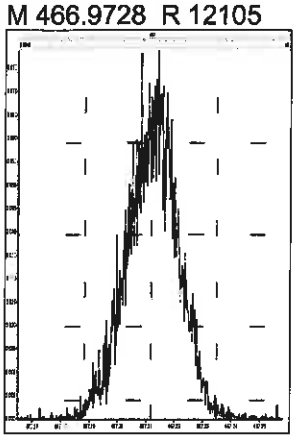

M 480.9696 R 11712

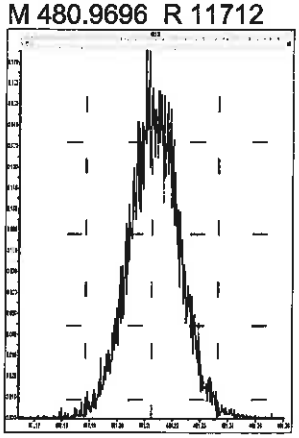

M 492.9696 R 11769

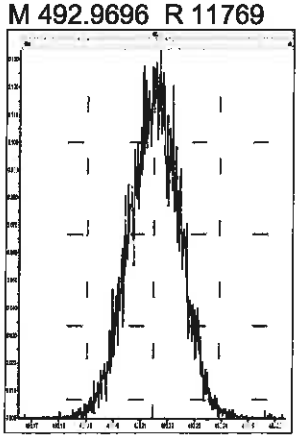

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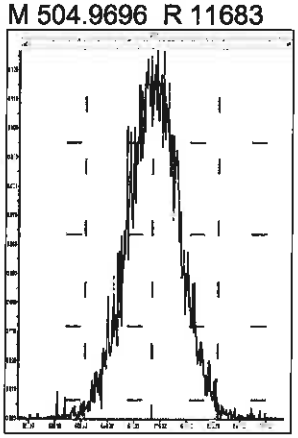

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M 516.9697 R 12766

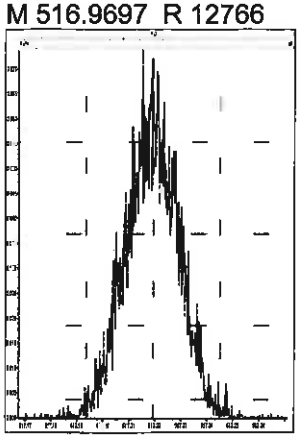

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 17-Sep-2019 13:03:20 ALS Bottle#: 4 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719 CS-2 HRDXNL2_00027
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:08 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:04:52

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.300	21989821	0.79	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.801	32121801	0.77	1.4384	101.6	101.6	0.4773	0.4773	102	
2,3,7,8-TCDF	16.816	172042	0.74	1.0507	0.5097	0.5097	0.0449	0.0449	102	
S Total TCDF					0.5097	0.5097	0.0449	0.0449		
D 13C-2,3,7,8-TCDD	17.481	21165335	0.76	0.9533	101.0	101.0	0.3928	0.3928	101	
$ 37Cl4-2,3,7,8-TCDD	17.496	123050		1.2224	0.4578	0.4578	0.0312	0.0312	91.55	
2,3,7,8-TCDD	17.481	123575	0.80	1.1064	0.5277	0.5277	0.0804	0.0804	106	n
S Total TCDD					0.5277	0.5277	0.0804	0.0804		
D 13C-1,2,3,7,8-PeCDF	21.631	22013977	1.60	1.0286	97.3	97.3	0.2946	0.2946	97.33	
1,2,3,7,8-PeCDF	21.659	550940	1.70	1.0822	2.312	2.312	0.0703	0.0703	92.50	
D 13C-2,3,4,7,8-PeCDF	22.927	20818900	1.62	0.9827	96.3	96.3	0.3084	0.3084	96.35	
2,3,4,7,8-PeCDF	22.940	501008	1.61	1.1032	2.181	2.181	0.0759	0.0759	87.26	
S Total PeCDF					4.494	4.494	0.0731	0.0731		
D 13C-1,2,3,7,8-PeCDD	23.622	15668897	1.56	0.7481	95.3	95.3	0.2373	0.2373	95.25	
1,2,3,7,8-PeCDD	23.649	336661	1.69	0.9050	2.374	2.374	0.1036	0.1036	94.96	
S Total PeCDD					2.374	2.374	0.1036	0.1036		
D 13C-1,2,3,4,7,8-HxCDF	29.749	16433122	0.52	1.1520	101.5	101.5	0.6239	0.6239	102	
1,2,3,4,7,8-HxCDF	29.789	452083	1.14	1.1973	2.298	2.298	0.1101	0.1101	91.91	
D 13C-1,2,3,6,7,8-HxCDF	30.015	17668349	0.51	1.2434	101.1	101.1	0.5781	0.5781	101	
1,2,3,6,7,8-HxCDF	30.028	471238	1.23	1.1807	2.259	2.259	0.0922	0.0922	90.36	
D 13C-2,3,4,6,7,8-HxCDF	31.040	16591902	0.51	1.1720	100.8	100.8	0.6133	0.6133	101	
2,3,4,6,7,8-HxCDF	31.053	469856	1.22	1.2116	2.337	2.337	0.0626	0.0626	93.49	
D 13C-1,2,3,7,8,9-HxCDF	31.932	15096147	0.51	1.0655	100.8	100.8	0.6746	0.6746	101	
1,2,3,7,8,9-HxCDF	31.945	462420	1.18	1.2451	2.460	2.460	0.0606	0.0606	98.40	
S Total HxCDF					9.354	9.354	0.0814	0.0814		
* 13C-1,2,3,7,8,9-HxCDD	31.745	14051438	1.31	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.253	10572054	1.29	0.7812	96.3	96.3	0.6394	0.6394	96.31	
1,2,3,4,7,8-HxCDD	31.266	277444	1.10	1.1088	2.367	2.367	0.0800	0.0800	94.67	
D 13C-1,2,3,6,7,8-HxCDD	31.372	12508423	1.30	0.9175	97.0	97.0	0.5444	0.5444	97.03	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.399	319747	1.23	1.0814	2.364	2.364	0.0780	0.0780	94.55	
1,2,3,7,8,9-HxCDD	31.758	333001	1.05	1.2123	2.380	2.380	0.0713	0.0713	95.21	a
S Total HxCDD					7.111	7.111	0.0764	0.0764		
D 13C-1,2,3,4,6,7,8-HpCDF	33.447	12214839	0.45	0.8628	100.8	100.8	2.432	2.432	101	
1,2,3,4,6,7,8-HpCDF	33.459	463407	1.08	1.5555	2.439	2.439	0.0665	0.0665	97.56	
D 13C-1,2,3,4,7,8,9-HpCDF	34.492	11417456	0.43	0.7991	101.7	101.7	2.626	2.626	102	
1,2,3,4,7,8,9-HpCDF	34.504	358162	1.15	1.3862	2.263	2.263	0.0888	0.0888	90.52	
S Total HpCDF					4.702	4.702	0.0776	0.0776		
D 13C-1,2,3,4,6,7,8-HpCDD	34.225	12148019	1.04	0.8739	98.9	98.9	1.265	1.265	98.93	
1,2,3,4,6,7,8-HpCDD	34.225	258090	1.02	0.9316	2.281	2.281	0.0675	0.0675	91.22	
S Total HpCDD					2.281	2.281	0.0675	0.0675		
D 13C-OCDD	36.481	22323676	0.90	0.7744	205.2	205.2	0.5053	0.5053	103	
OCDF	36.576	637327	0.85	1.2596	4.533	4.533	0.0809	0.0809	90.66	
OCDD	36.493	557610	0.87	1.0621	4.704	4.704	0.0841	0.0841	94.07	

QC Flag Legend

Processing Flags
n - Failed Sig-To-Noise Test
Review Flags
a - User Assigned ID

Reagents:

HRDXNL2_00027 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 17-Sep-2019 13:03:20 ALS Bottle#: 4 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719 CS-2 HRDXNL2_00027
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:08 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:04:52

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.300	17.303	0		9690887	2505804	5138	12845	488		
333.9339	17.300	17.303	0		12298934	3113659	3280	8200	949	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.801	16.810	-1	0.971	14016338	3733692	11470	28675	326		
317.9389	16.801	16.810	-1	0.971	18105463	4683284	3963	9907	1182	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.816	16.825	-1	1.001	73063	16422	605	1512	27		
305.8987	16.816	16.825	-1	1.001	98979	22949	985	2462	23	0.74(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.481	17.490	-1	1.010	9130723	2237743	5138	12845	436		
333.9339	17.481	17.490	-1	1.010	12034612	3027581	3280	8200	923	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.496	17.505	-1	1.011	123050	30762	856	2140	36		
2,3,7,8-TCDD											n
319.8965	17.481	17.505	-1	1.000	55077	9940	1181	2952	8		
321.8936	17.496	17.505	-1	1.001	68498	15008	693	1732	22	0.80(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	21.631	21.637	0	1.250	13538943	2446204	3736	9340	655		
353.8970	21.631	21.637	0	1.250	8475034	1535096	3076	7690	499	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.659	21.661	0	1.001	346537	63107	477	1192	132		
341.8567	21.659	21.661	0	1.001	204403	36937	734	1835	50	1.70(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	22.927	22.932	0	1.325	12876171	2247350	3736	9340	602		
353.8970	22.927	22.932	0	1.325	7942729	1369022	3076	7690	445	1.62(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.940	22.954	-1	1.001	309291	49872	477	1192	105		
341.8567	22.940	22.954	-1	1.001	191717	32344	734	1835	44	1.61(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.622	23.625	0	1.365	9559667	1575307	2284	5710	690		
369.8919	23.622	23.625	0	1.365	6109230	995410	1706	4265	583	1.56(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.649	23.649	0	1.001	211682	31533	616	1540	51		
357.8516	23.636	23.649	-1	1.001	124979	21165	348	870	61	1.69(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.749	29.754	0	0.937	5613748	749447	3310	8275	226		
385.8610	29.749	29.754	0	0.937	10819374	1402669	5959	14897	235	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.789	29.789	0	1.001	240484	35863	546	1365	66		
375.8178	29.762	29.789	-2	1.000	211599	28700	589	1472	49	1.14(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.015	30.015	0	0.945	5969557	865919	3310	8275	262		
385.8610	30.002	30.015	-1	0.945	11698792	1738856	5959	14897	292	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.028	30.039	-1	1.000	259918	40834	546	1365	75		
375.8178	30.028	30.039	-1	1.000	211320	30654	589	1472	52	1.23(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.040	31.043	0	0.978	5612853	1245433	3310	8275	376		
385.8610	31.040	31.043	0	0.978	10979049	2494852	5959	14897	419	0.51(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.053	31.059	0	1.000	257999	59556	546	1365	109		
375.8178	31.053	31.059	0	1.000	211857	47785	589	1472	81	1.22(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.932	31.942	-1	1.006	5127023	1276569	3310	8275	386		
385.8610	31.932	31.942	-1	1.006	9969124	2483754	5959	14897	417	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.945	31.956	-1	1.000	250582	59386	546	1365	109		
375.8178	31.945	31.956	-1	1.000	211838	48028	589	1472	82	1.18(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.745	31.748	0		7962026	1846184	3652	9130	506		
403.8529	31.745	31.748	0		6089412	1377609	2789	6972	494	1.31(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.253	31.261	0	0.984	5953058	1483942	3652	9130	406		
403.8529	31.253	31.261	0	0.984	4618996	1187991	2789	6972	426	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.266	31.280	-1	1.000	145178	36647	426	1065	86		
391.8127	31.266	31.280	-1	1.000	132266	35409	522	1305	68	1.10(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.372	31.383	-1	0.988	7061273	1582952	3652	9130	433		
403.8529	31.372	31.383	-1	0.988	5447150	1228199	2789	6972	440	1.30(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.399	31.402	0	1.001	176287	43996	426	1065	103		
391.8127	31.399	31.402	0	1.001	143460	32388	522	1305	62	1.23(1.05-1.43)	
1,2,3,7,8,9-HxCDD											a
389.8157	31.758	31.761	0	1.016	170841	43295	426	1065	102		a
391.8127	31.745	31.761	-1	1.016	162160	33233	522	1305	64	1.05(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.447	33.457	-1	1.054	3779241	1261566	6785	16962	186		
419.8220	33.447	33.457	-1	1.054	8435598	2721447	20272	50680	134	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.459	33.469	-1	1.000	240121	76906	736	1840	104		
409.7789	33.459	33.469	-1	1.000	223286	71700	913	2282	79	1.08(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.492	34.502	-1	1.087	3454300	1028385	6785	16962	152		
419.8220	34.492	34.502	-1	1.087	7963156	2321827	20272	50680	115	0.43(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.504	34.509	0	1.000	191761	54375	736	1840	74		
409.7789	34.504	34.509	0	1.000	166401	51183	913	2282	56	1.15(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.225	34.227	0	1.078	6191349	1869122	6907	17267	271		
437.8140	34.213	34.227	-1	1.078	5956670	1788163	7344	18360	243	1.04(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.225	34.235	-1	1.000	130161	41792	539	1347	78		
425.7737	34.225	34.235	-1	1.000	127929	39414	381	952	103	1.02(0.88-1.20)	
13C-OCDD											
469.7779	36.481	36.486	0	1.149	10560642	2745879	1937	4842	1418		
471.7750	36.481	36.486	0	1.149	11763034	3056374	3109	7772	983	0.90(0.76-1.02)	
OCDF											
441.7428	36.576	36.581	0	1.003	292923	77485	428	1070	181		
443.7399	36.564	36.581	-1	1.002	344404	90221	754	1885	120	0.85(0.76-1.02)	
OCDD											
457.7377	36.493	36.497	0	1.000	259867	66125	554	1385	119		
459.7348	36.481	36.497	-1	1.000	297743	73262	482	1205	152	0.87(0.76-1.02)	

QC Flag Legend

Processing Flags

n - Failed Sig-To-Noise Test

Review Flags

a - User Assigned ID

Reagents:

HRDXNL2_00027 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d				
Injection Date:	17-Sep-2019 13:03:20	Instrument ID:	10D5		
Lims ID:	IC				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 2

Processing Integration Results

RT: 31.75
Area: 162160
Amount: 2.380231
Amount Units: pg/ul

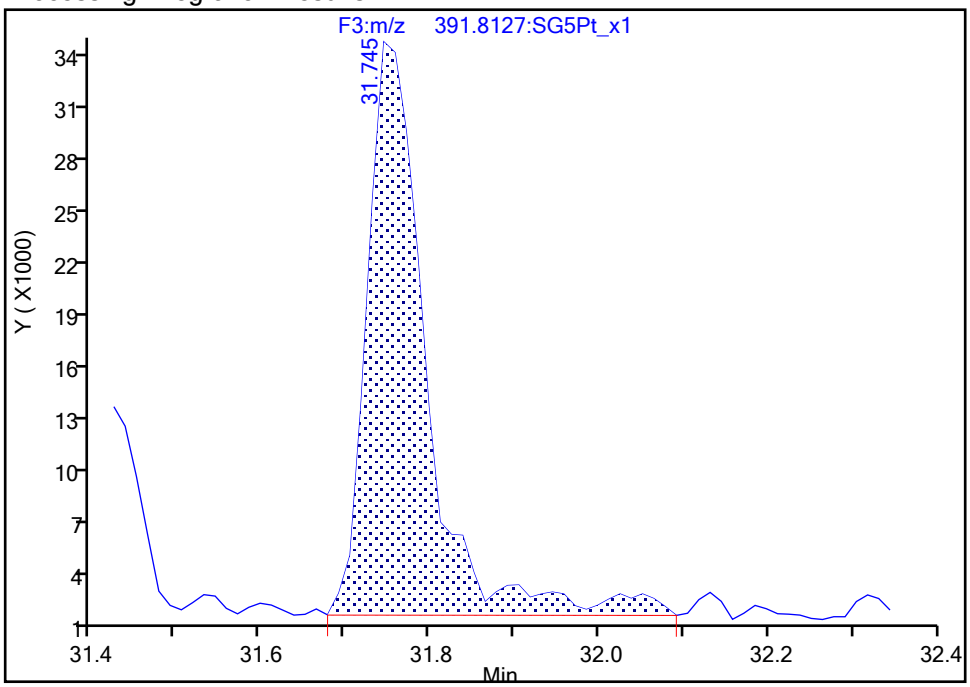

Manual Integration Results

RT: 31.75
Area: 162160
Amount: 2.380231
Amount Units: pg/ul

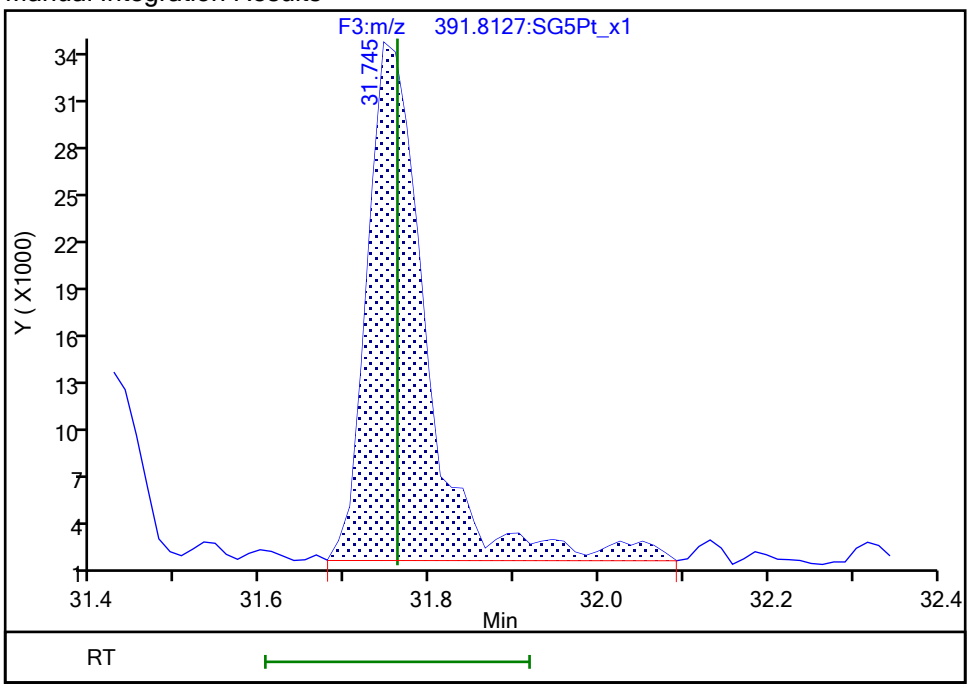

Reviewer: shardaa, 17-Sep-2019 18:02:41
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d				
Injection Date:	17-Sep-2019 13:03:20	Instrument ID:	10D5		
Lims ID:	IC				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 3

Processing Integration Results

RT: 31.76
Area: 333001
Amount: 2.380231
Amount Units: pg/ul

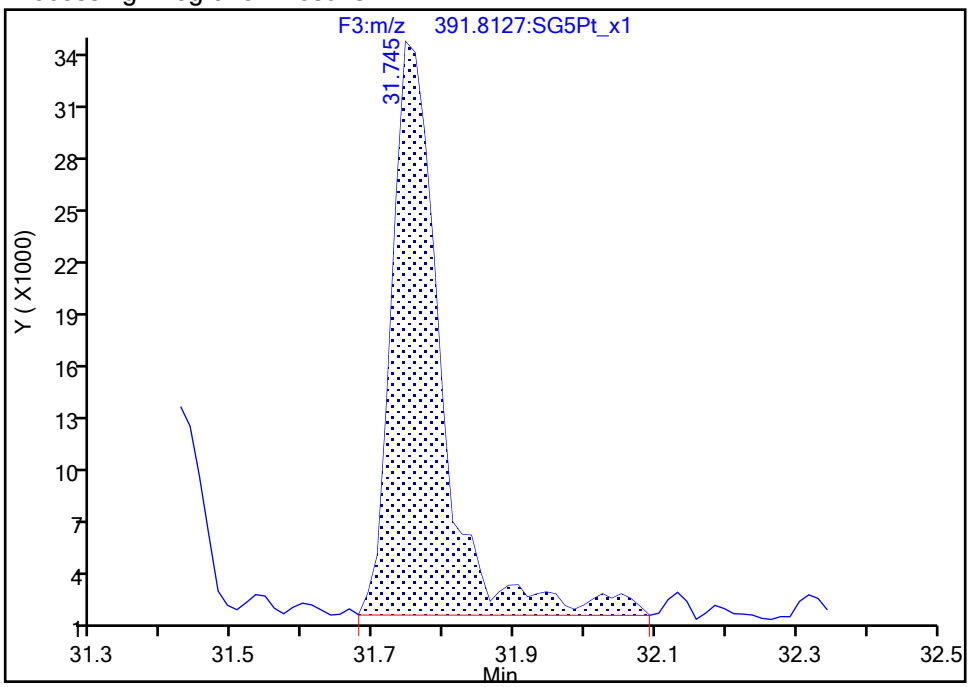

Manual Integration Results

RT: 31.76
Area: 333001
Amount: 2.380231
Amount Units: pg/ul
Reviewer: shardaa, 17-Sep-2019 18:02:41
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d				
Injection Date:	17-Sep-2019 13:03:20	Instrument ID:	10D5		
Lims ID:	IC				
Client ID:					
Operator ID:	AJS	ALS Bottle#:	4	Worklist Smp#:	3
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F3:HRSIR		

1,2,3,7,8,9-HxCDD, CAS: 19408-74-3

Signal: 1

Processing Integration Results

RT: 31.76
Area: 170841
Amount: 2.380231
Amount Units: pg/ul

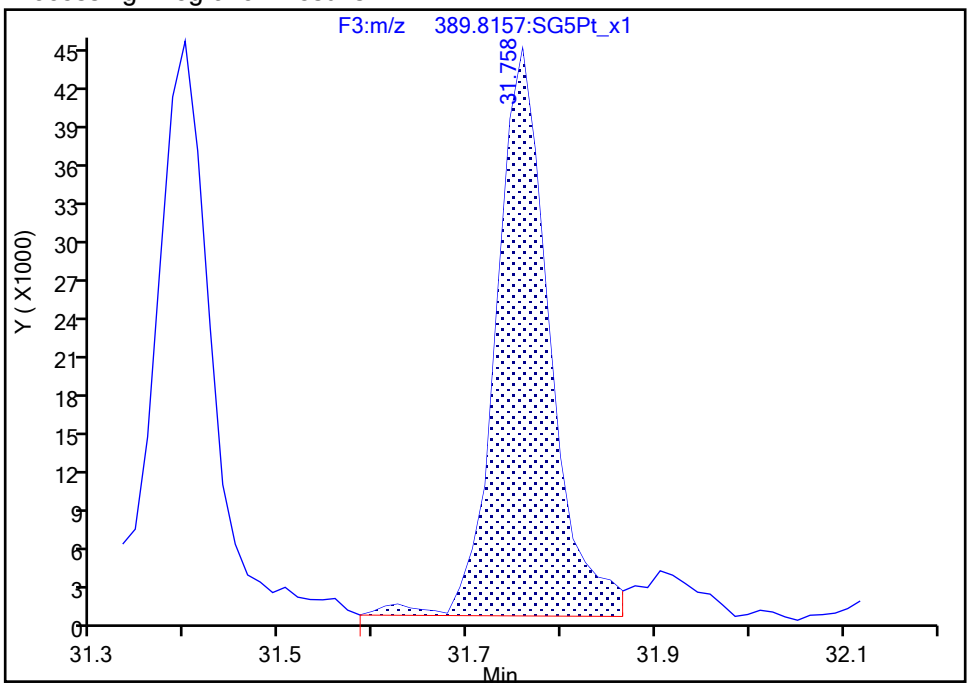

Manual Integration Results

RT: 31.76
Area: 170841
Amount: 2.380231
Amount Units: pg/ul

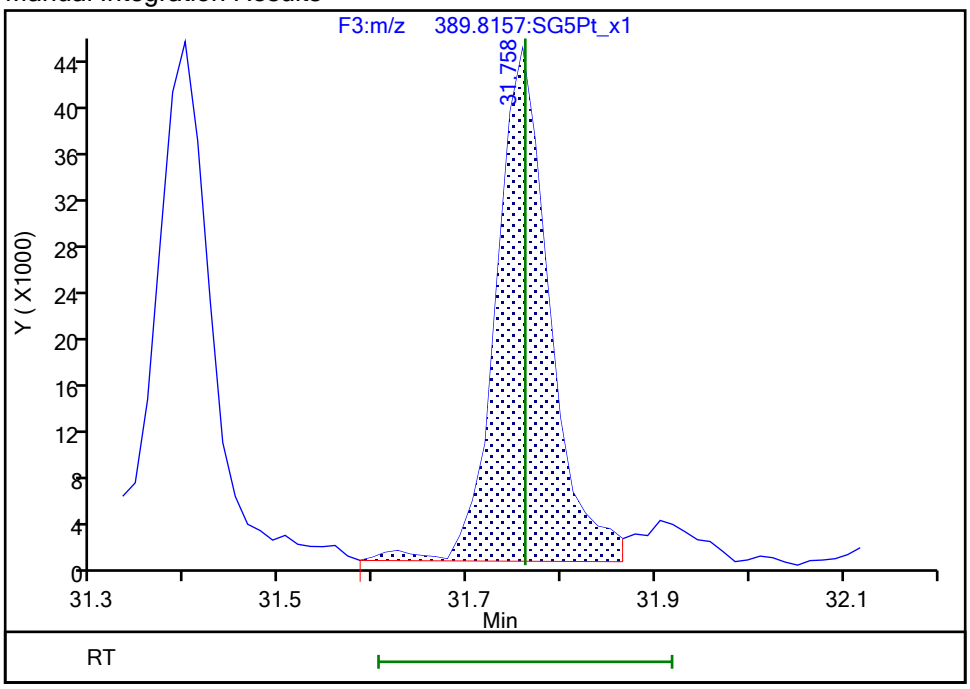

Reviewer: shardaa, 17-Sep-2019 18:02:44

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
Injection Date:	17-Sep-2019 13:03:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

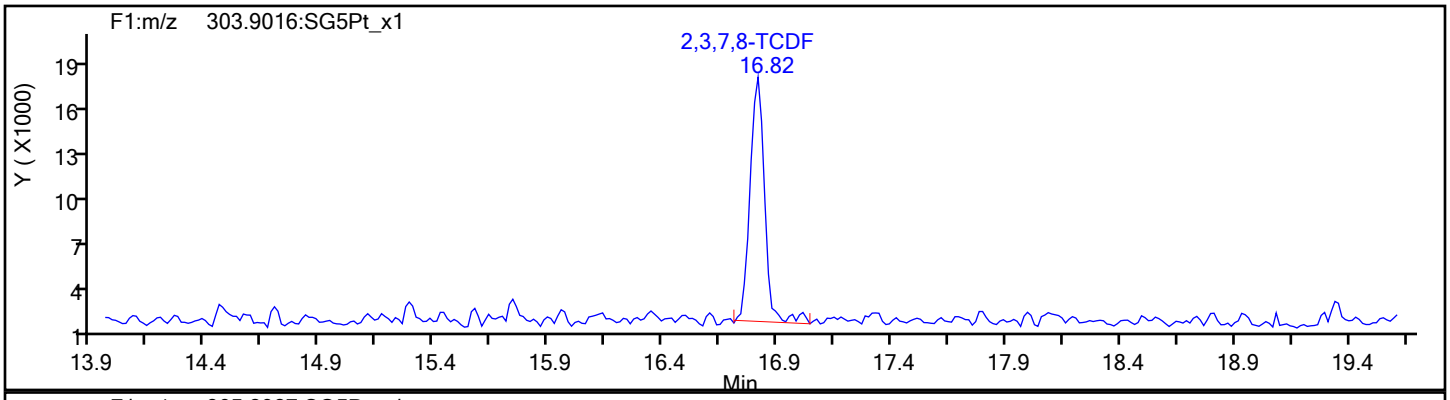

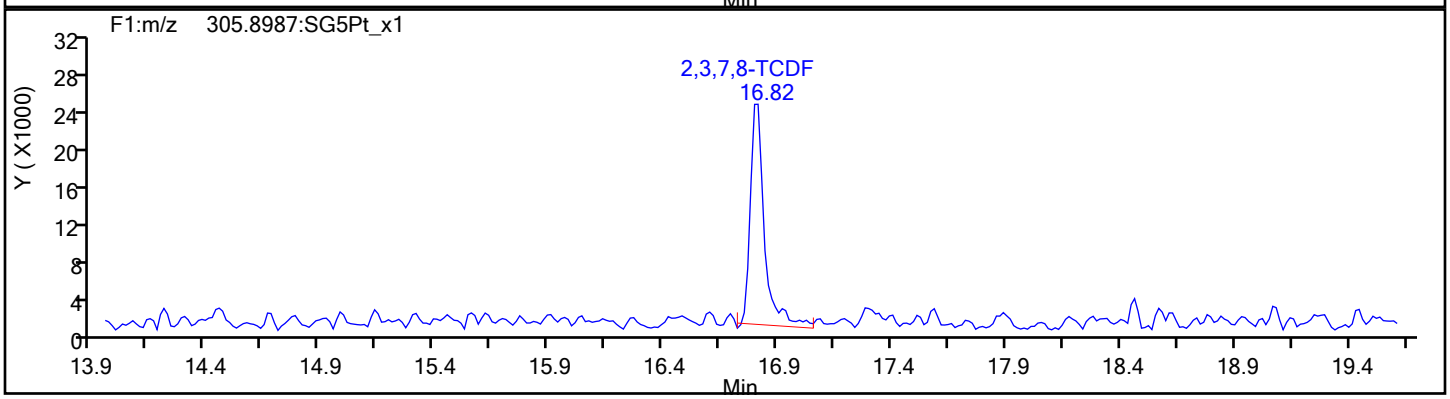

TCDF Standards

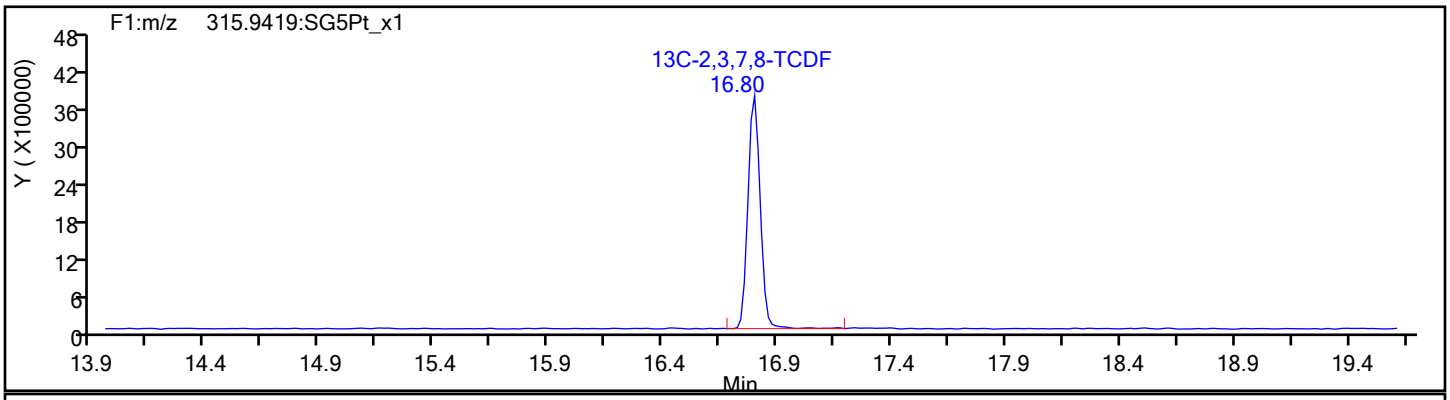

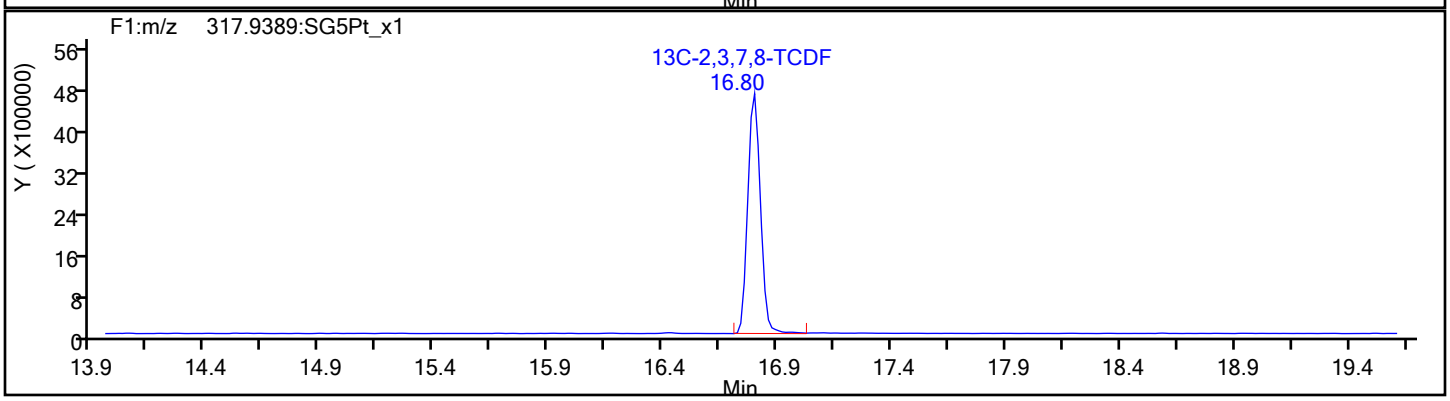

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
Injection Date:	17-Sep-2019 13:03:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

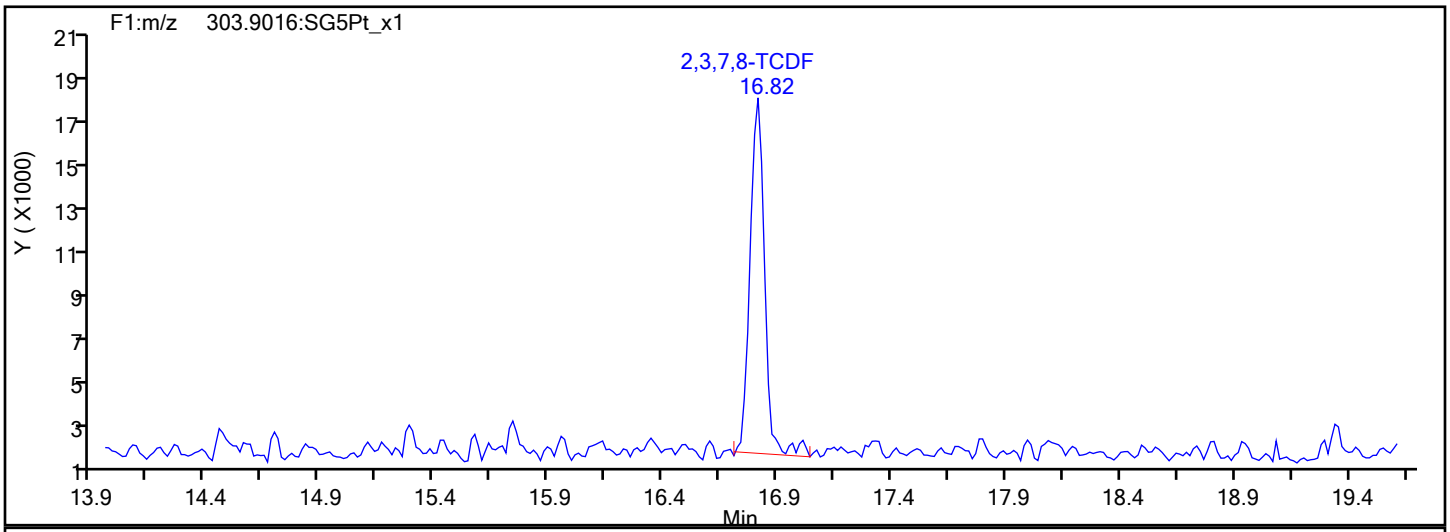

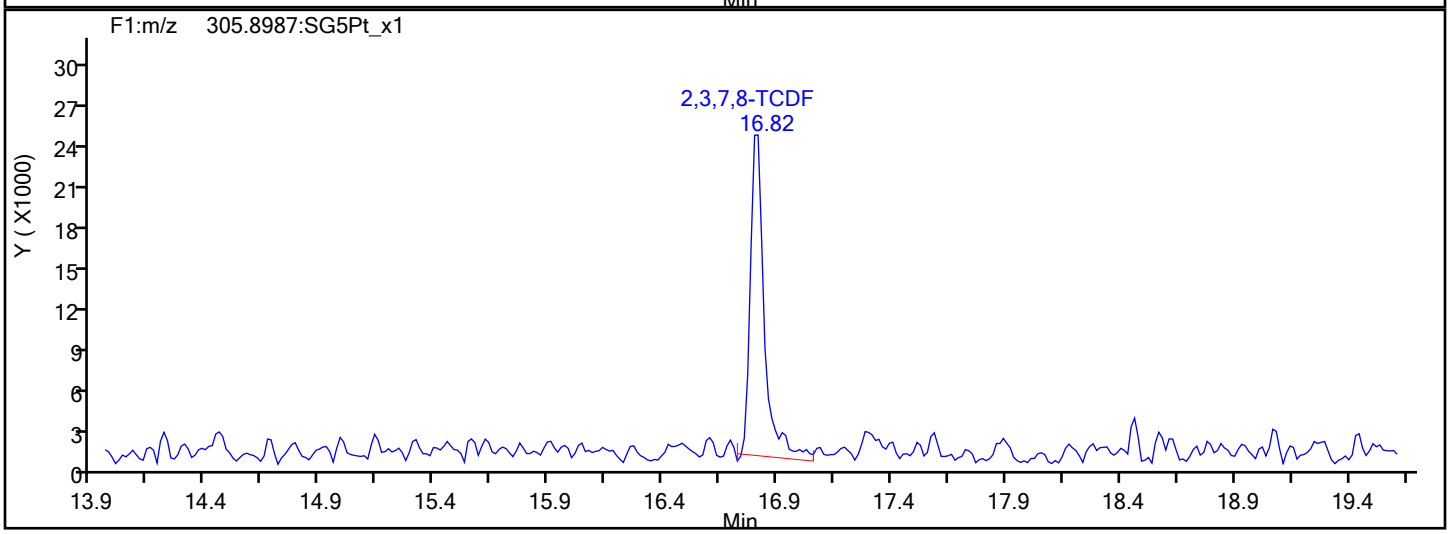

TCDF Interference Mass

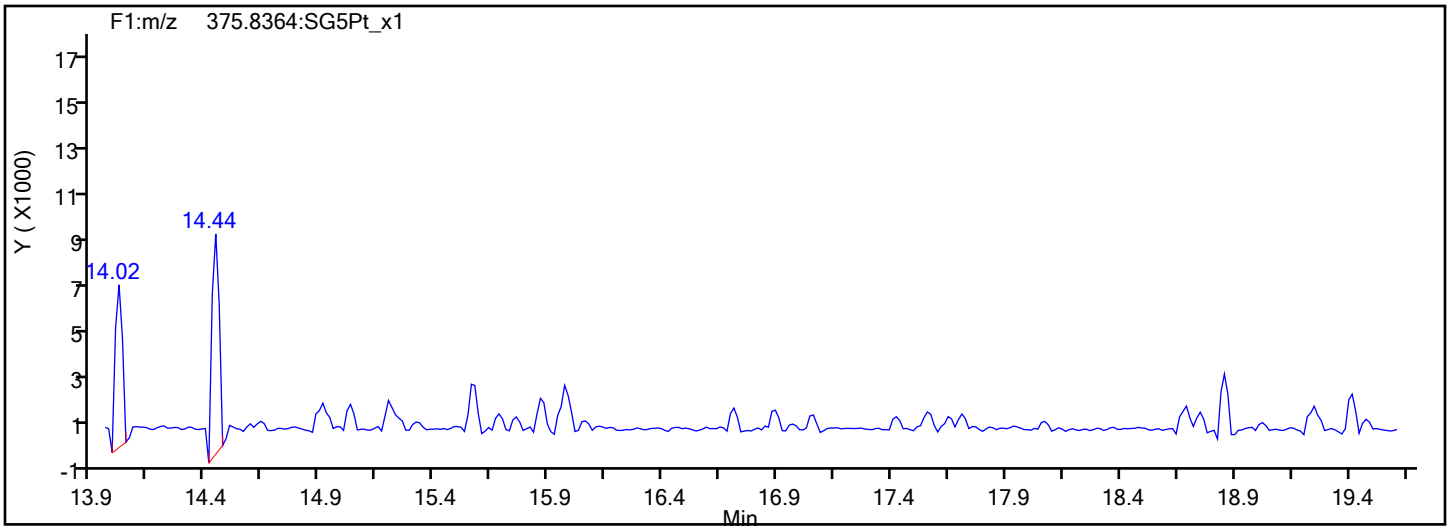

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
Injection Date:	17-Sep-2019 13:03:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

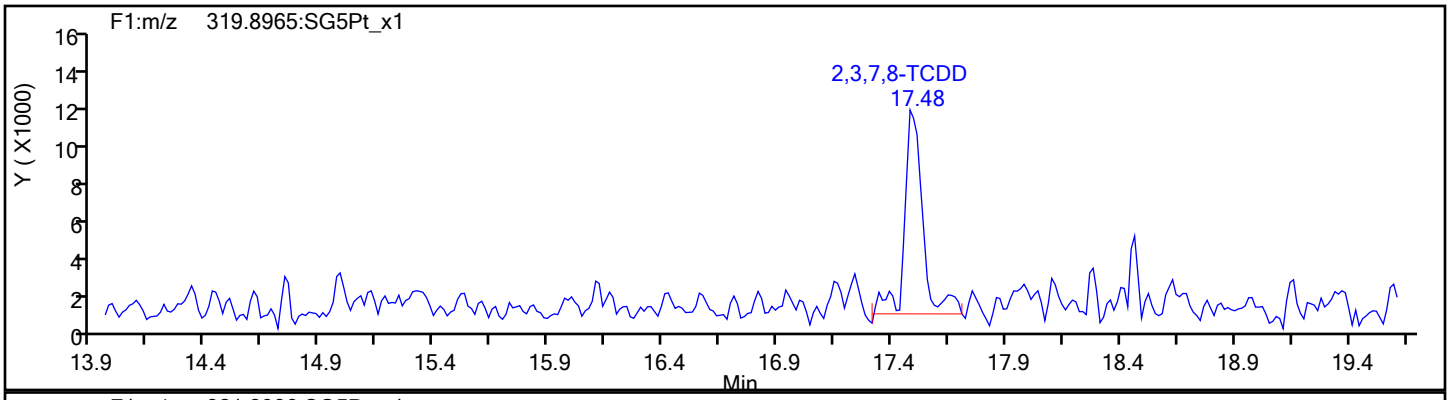

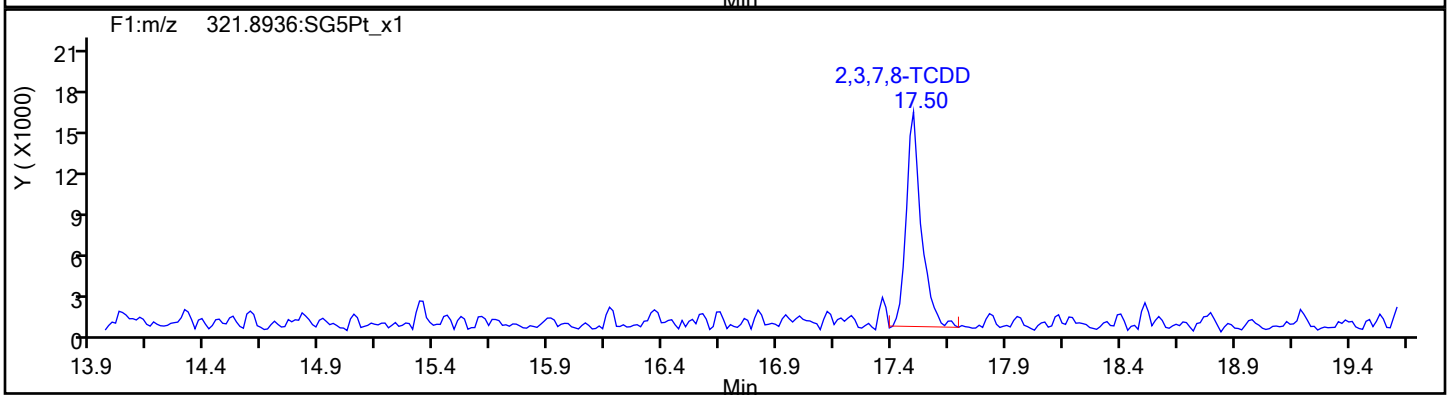

TCDD Standards

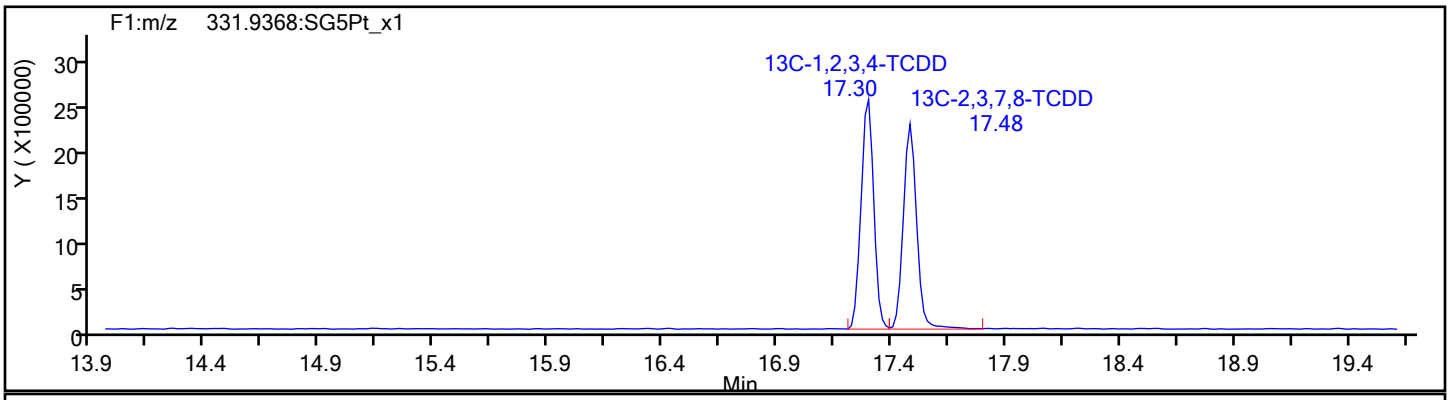

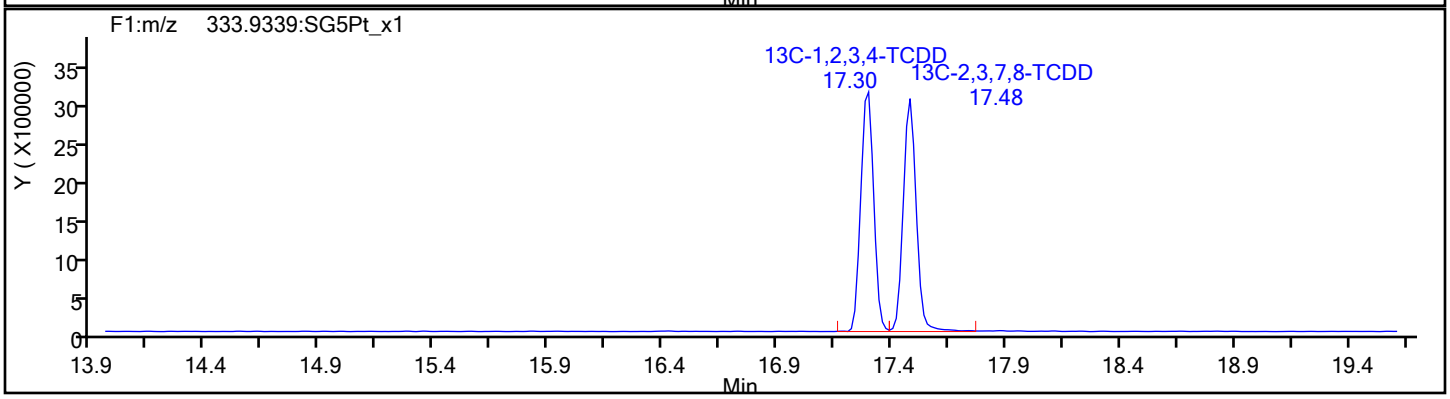

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
Injection Date:	17-Sep-2019 13:03:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

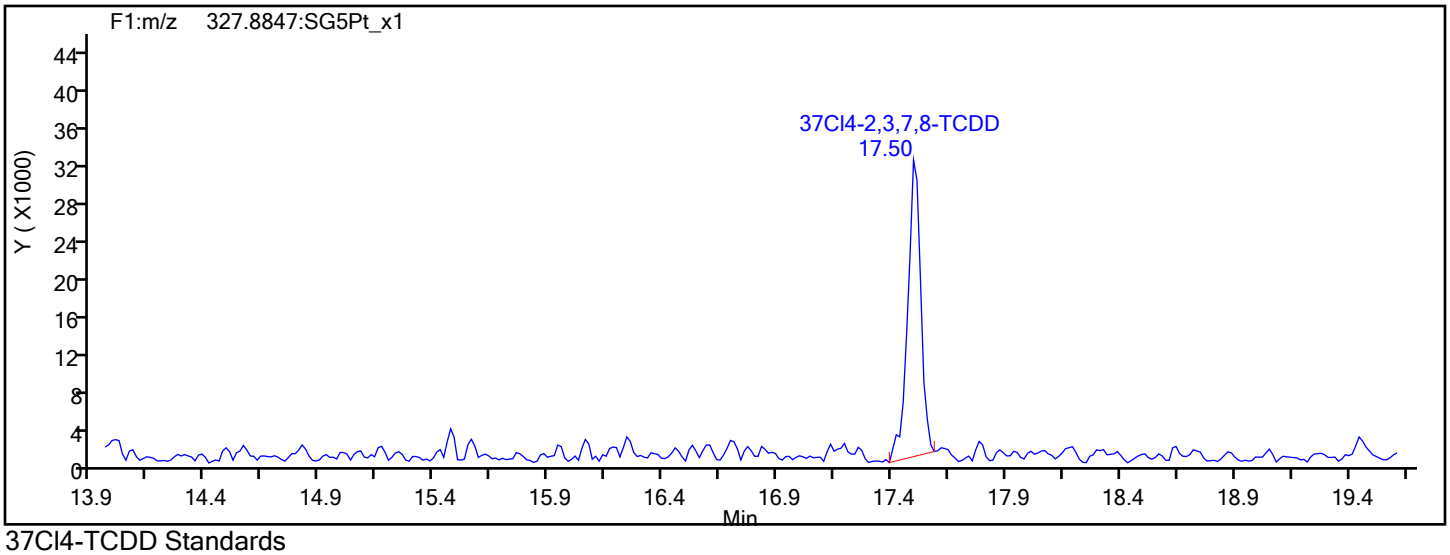

37Cl4-TCDD Standards

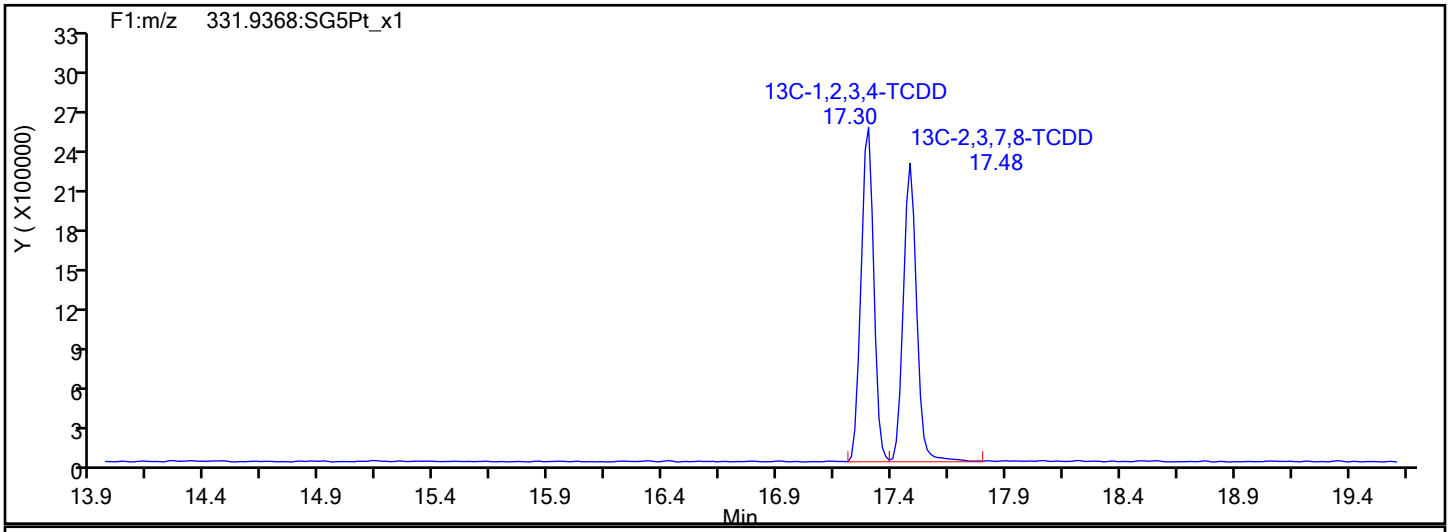

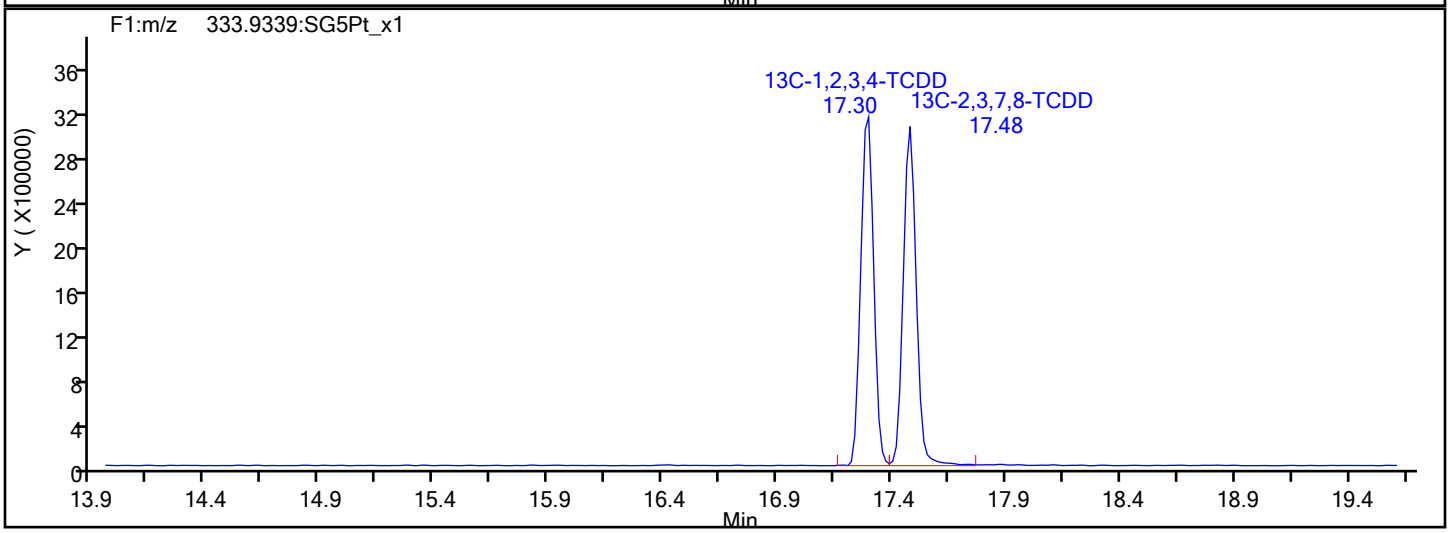

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
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Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

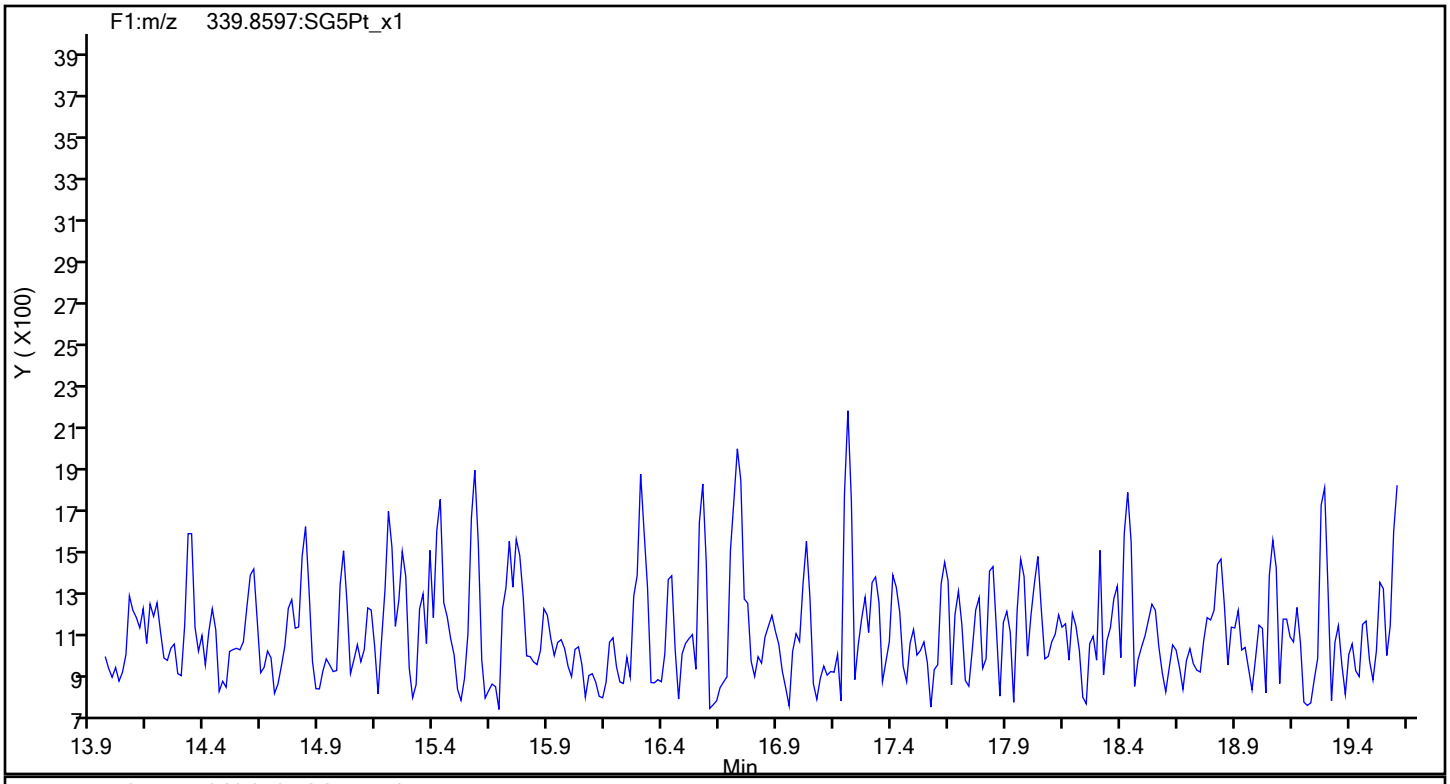

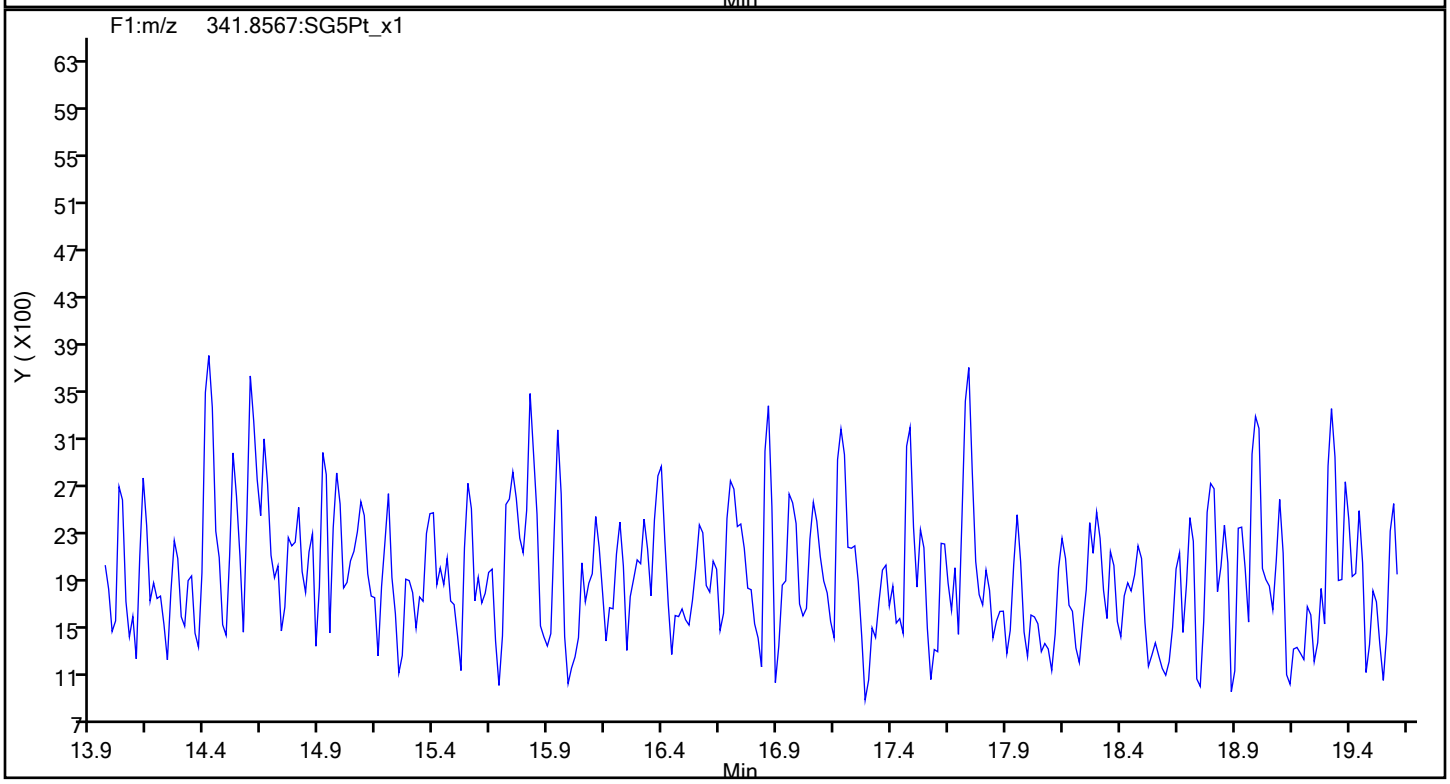

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
Injection Date:	17-Sep-2019 13:03:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

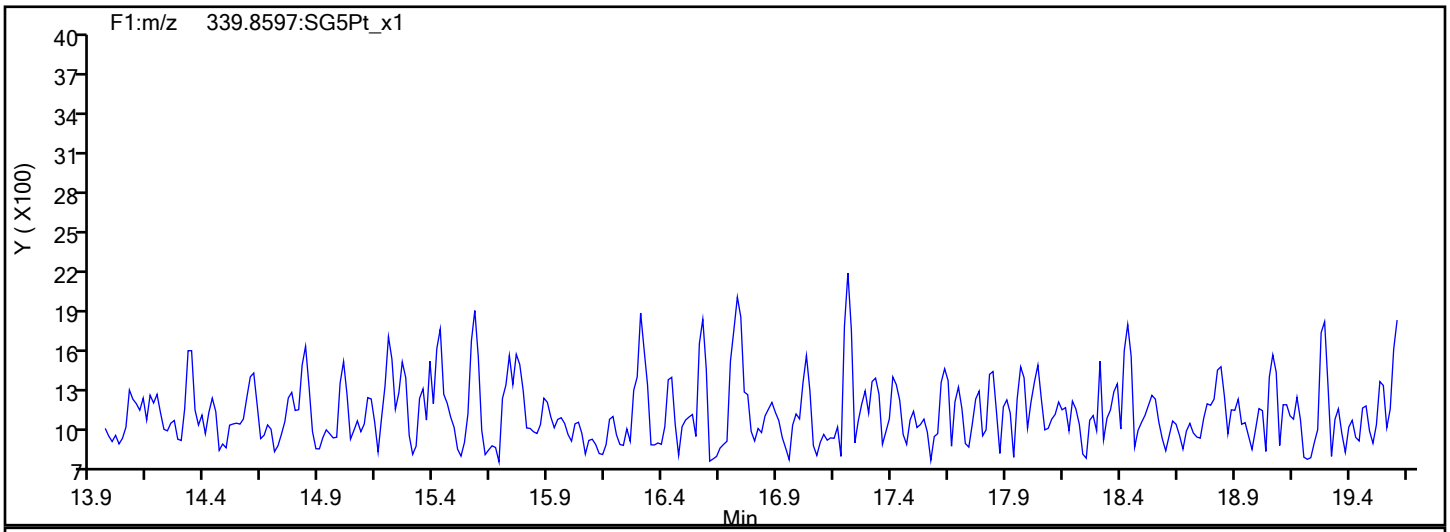

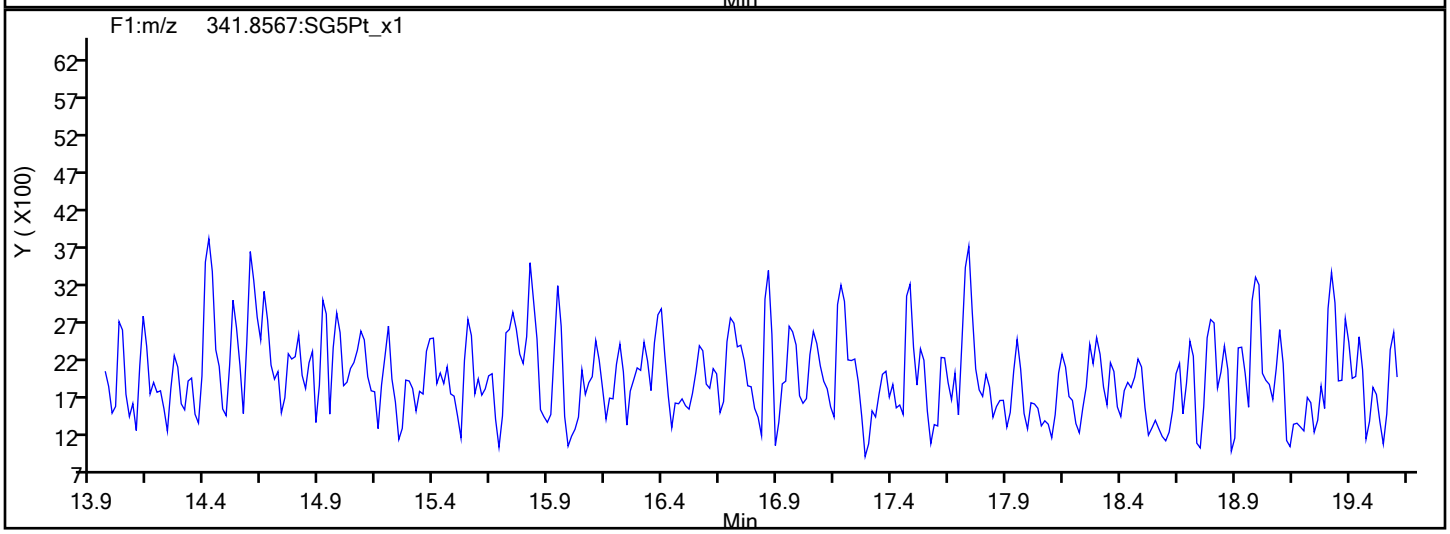

F1 PeCDFs Interference Mass

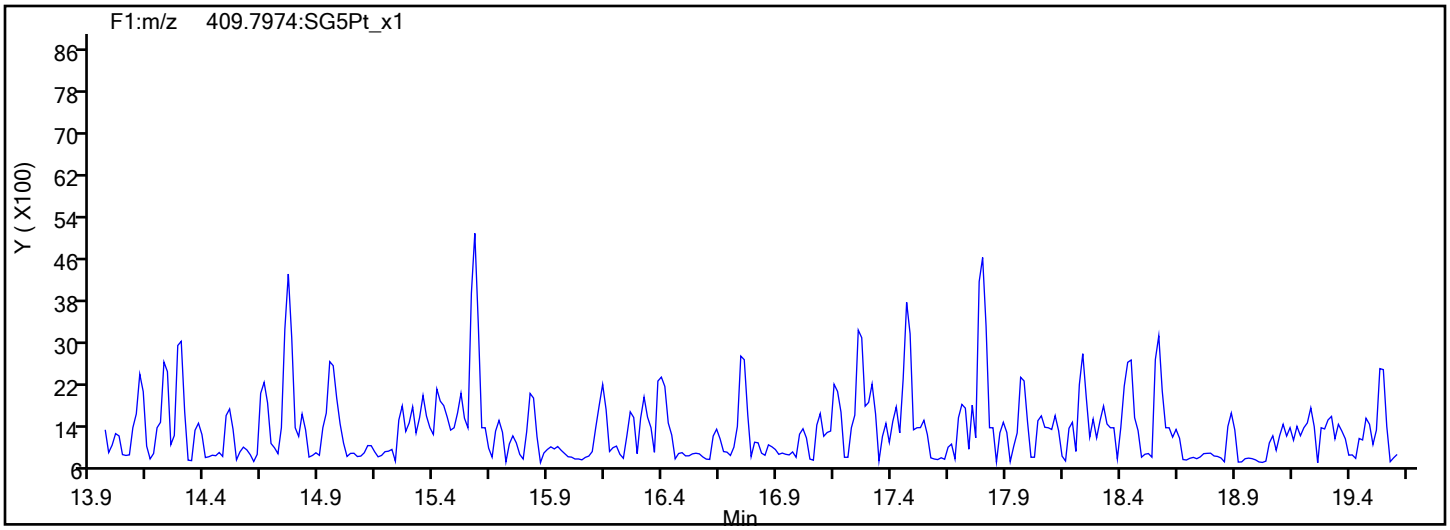

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

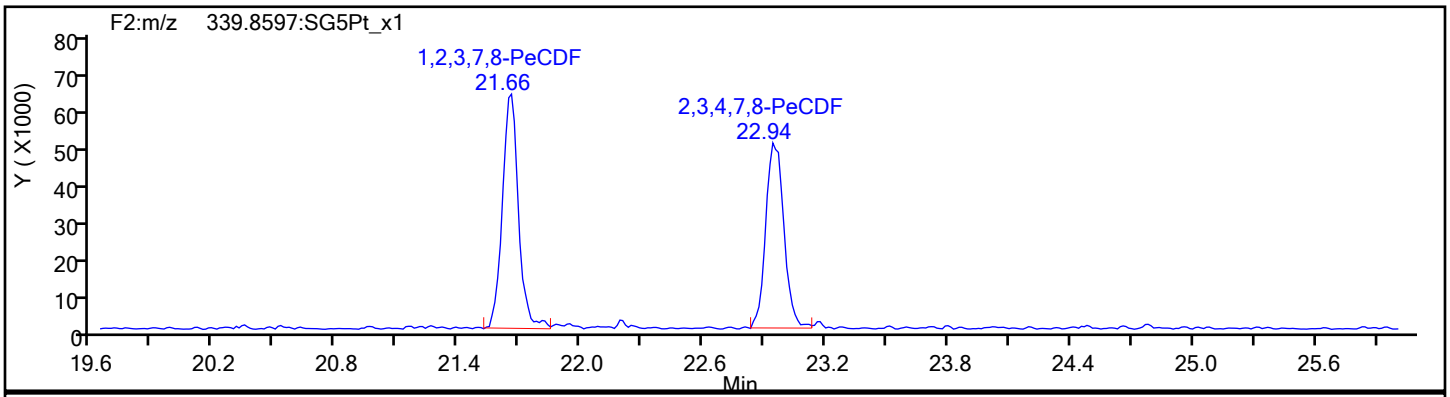

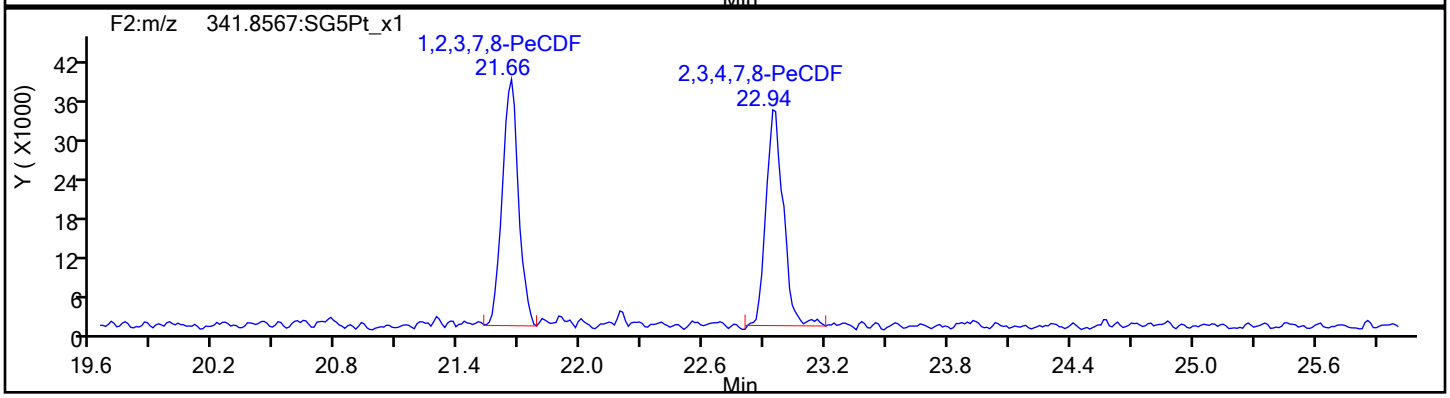

PeCDF Standards

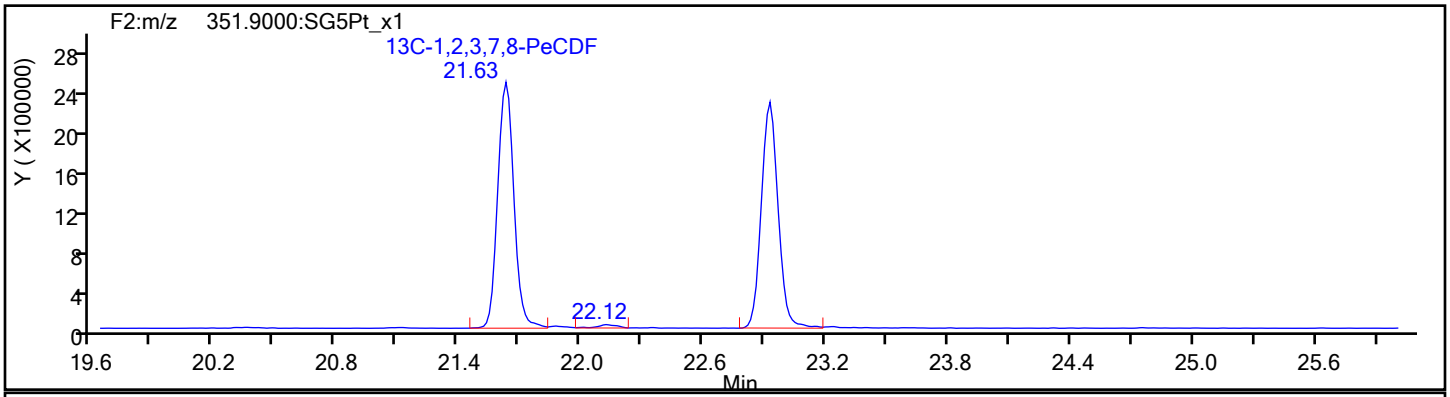

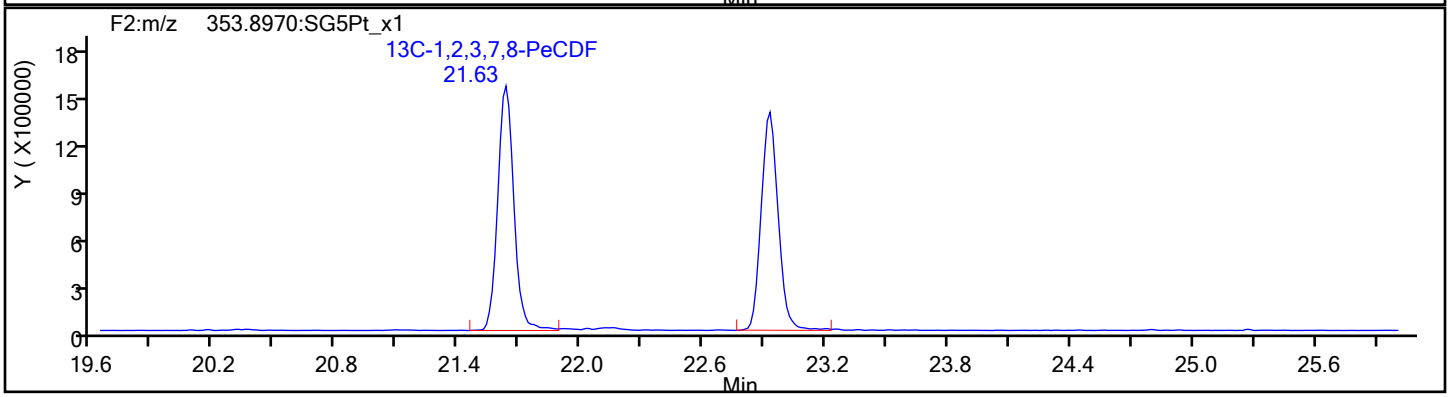

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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PeCDF

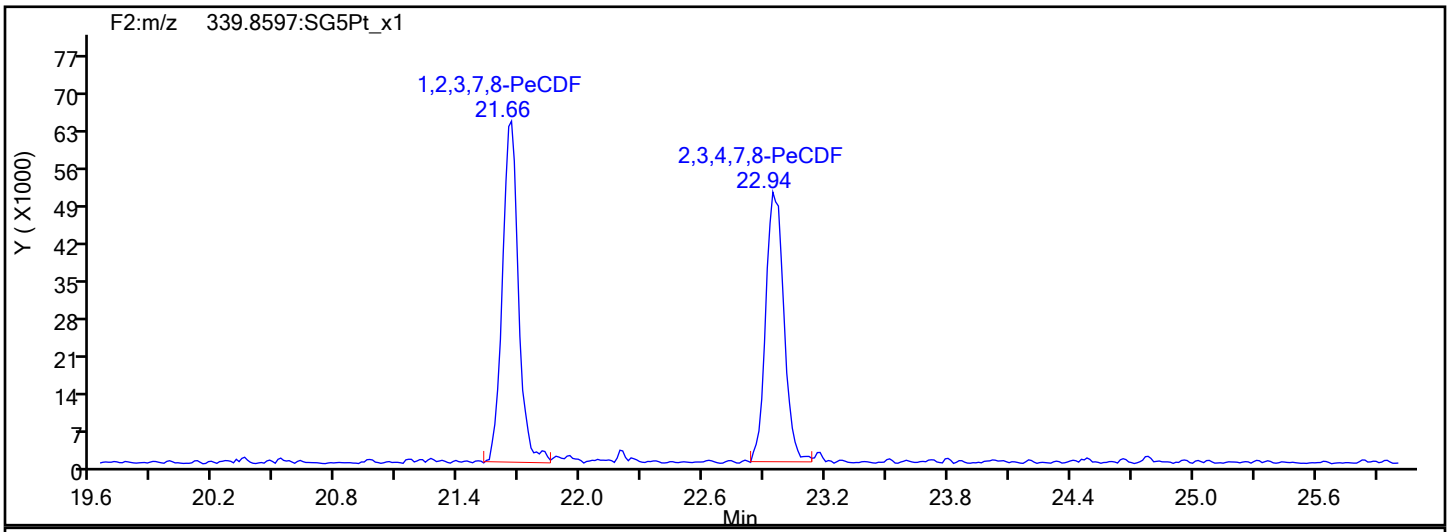

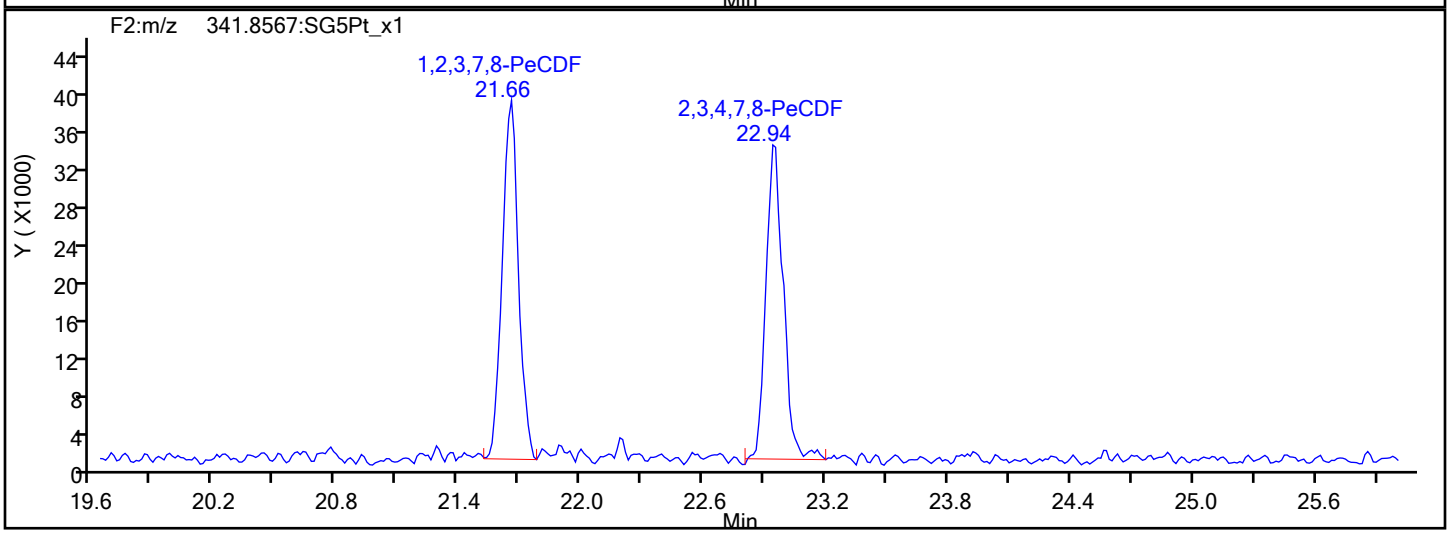

PeCDF Interference Mass

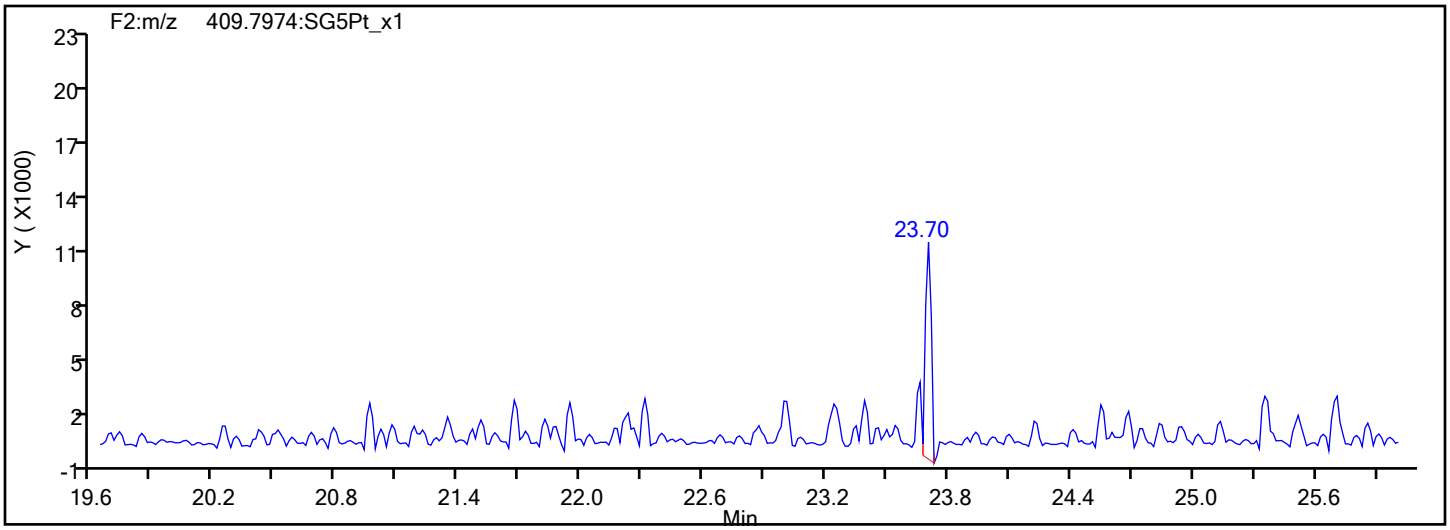

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
Injection Date:	17-Sep-2019 13:03:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

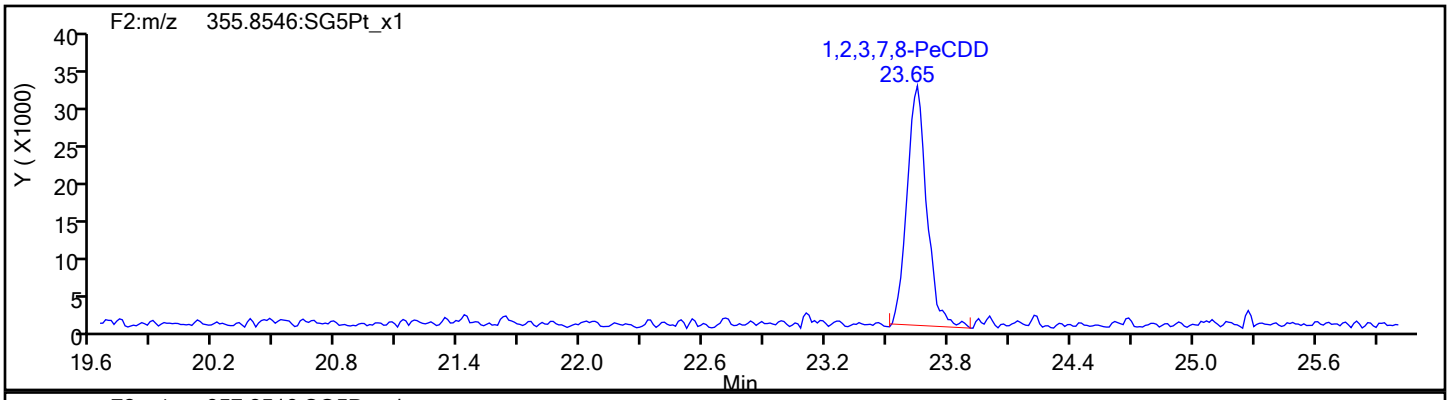

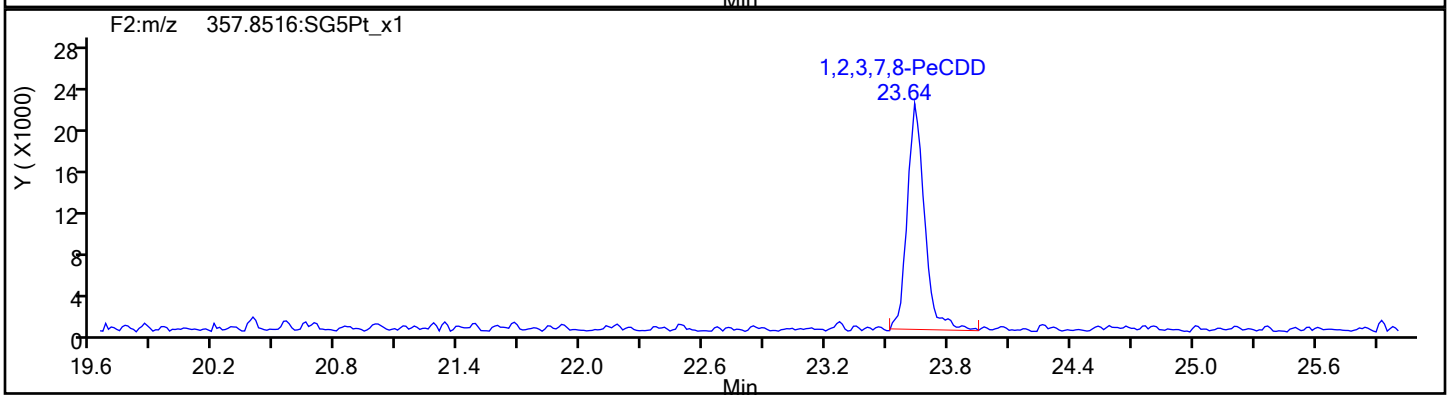

PeCDD Standards

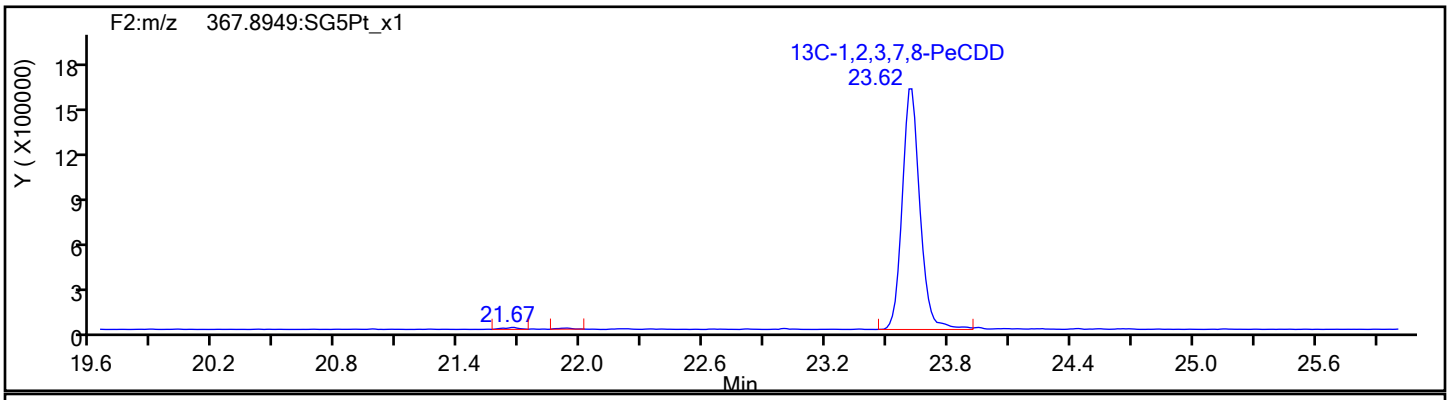

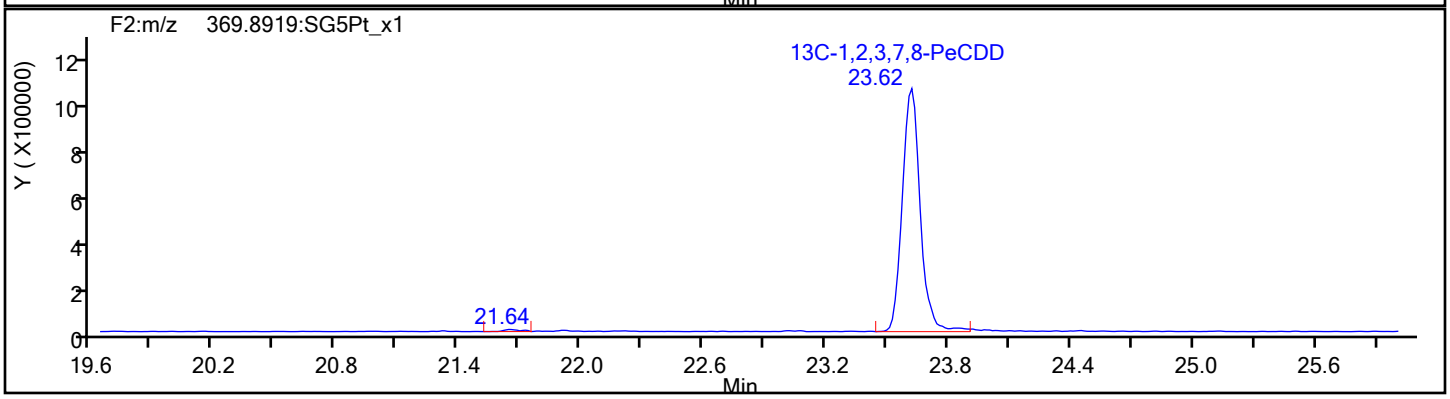

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Injection Date:	17-Sep-2019 13:03:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

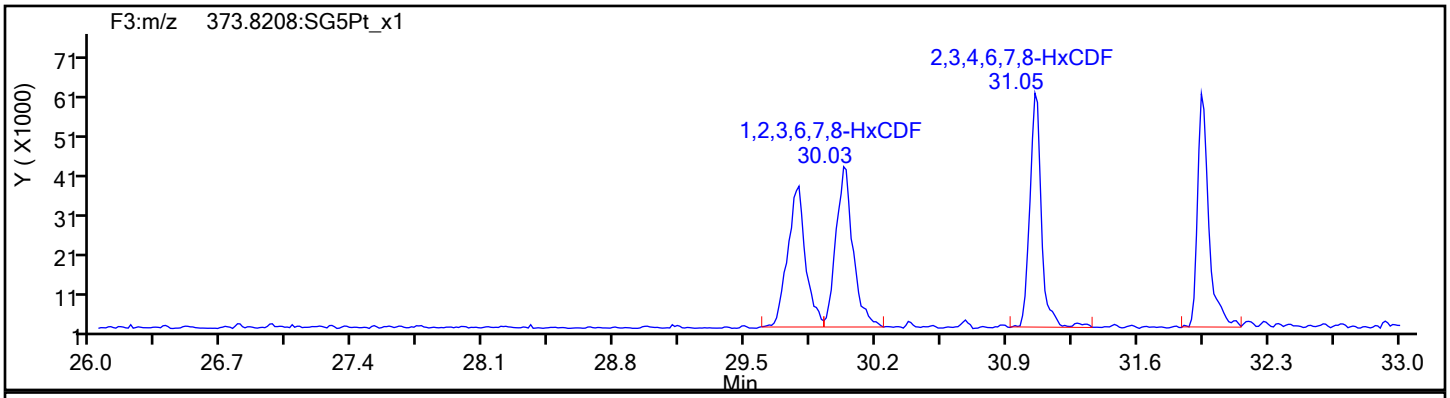

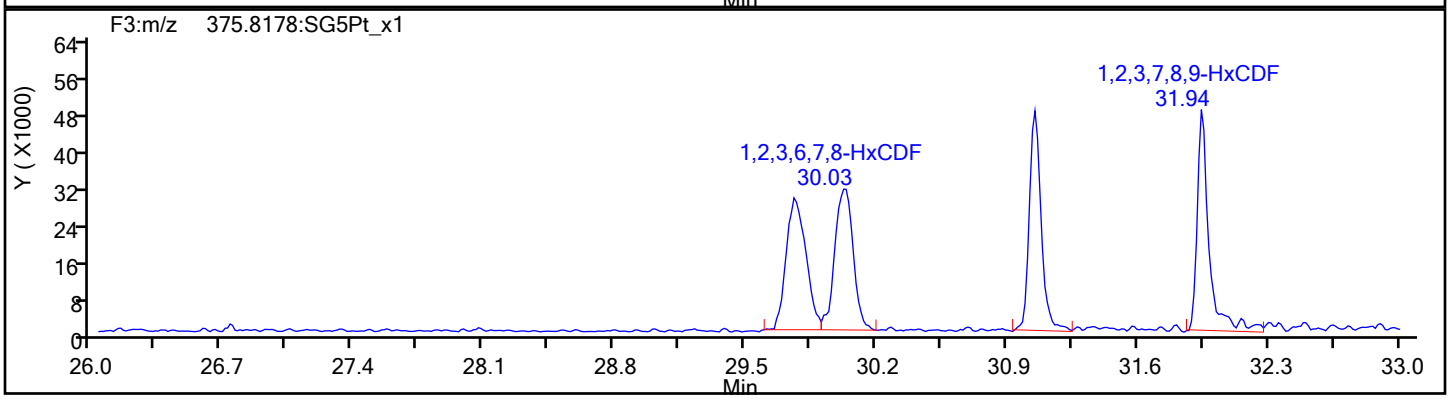

HxCDF Standards

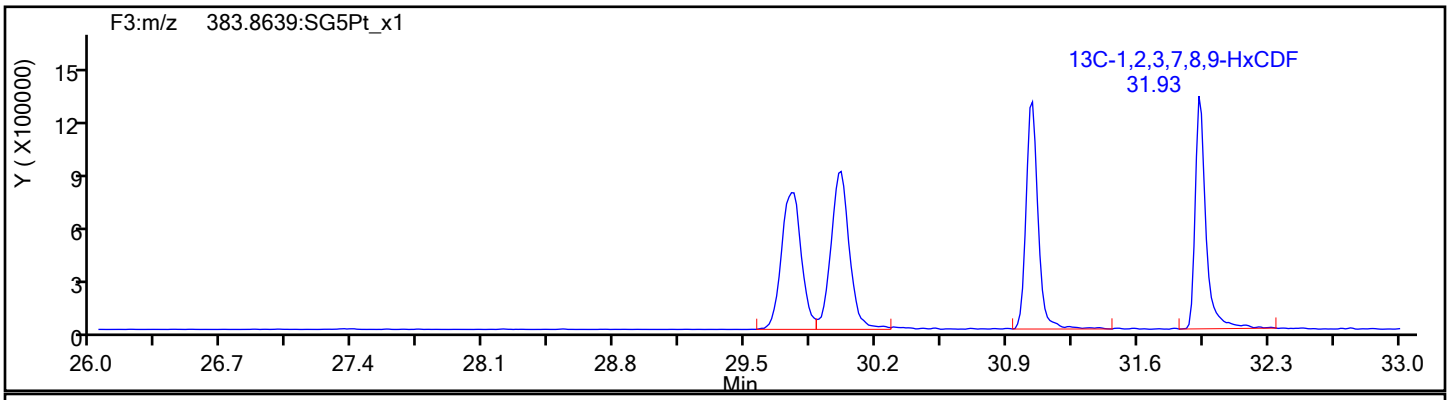

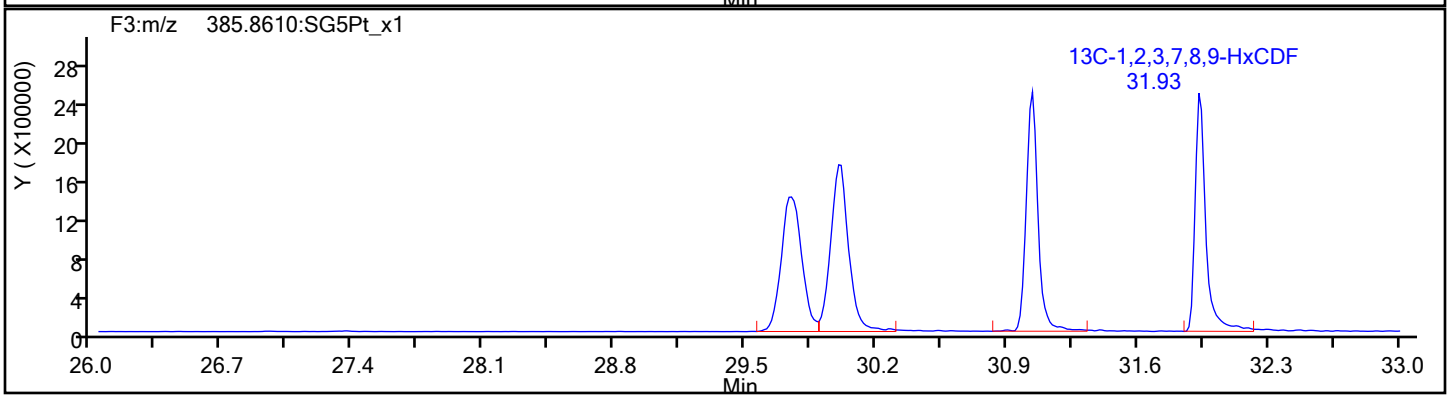

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
Injection Date:	17-Sep-2019 13:03:20	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	3
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

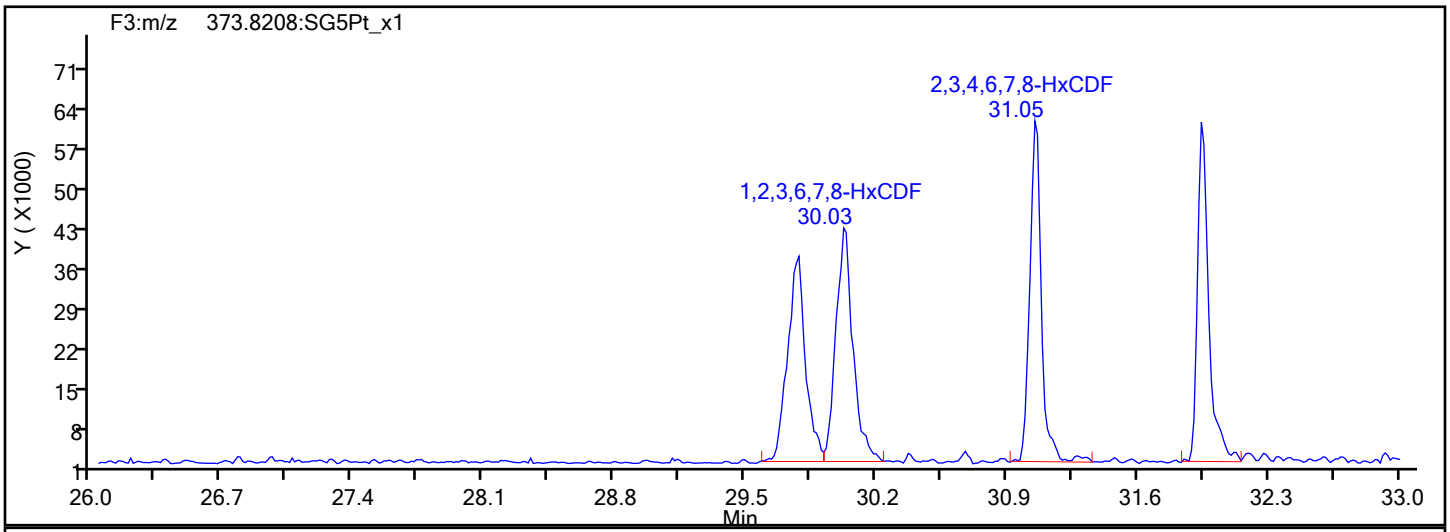

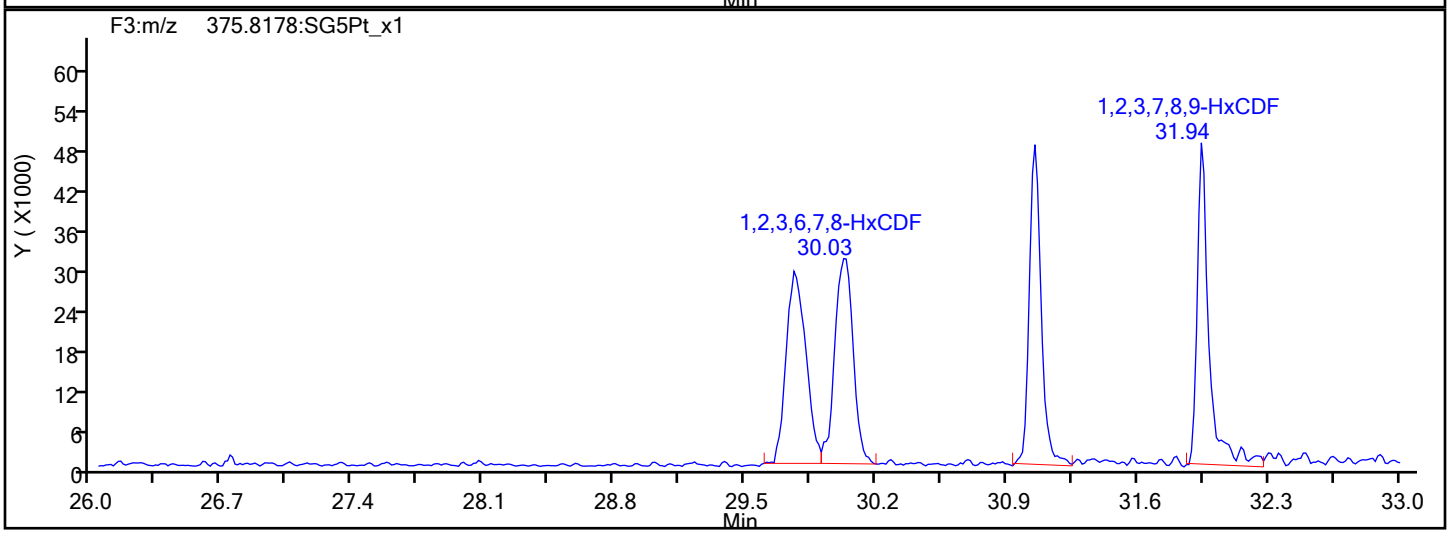

HxCDF Interference Mass

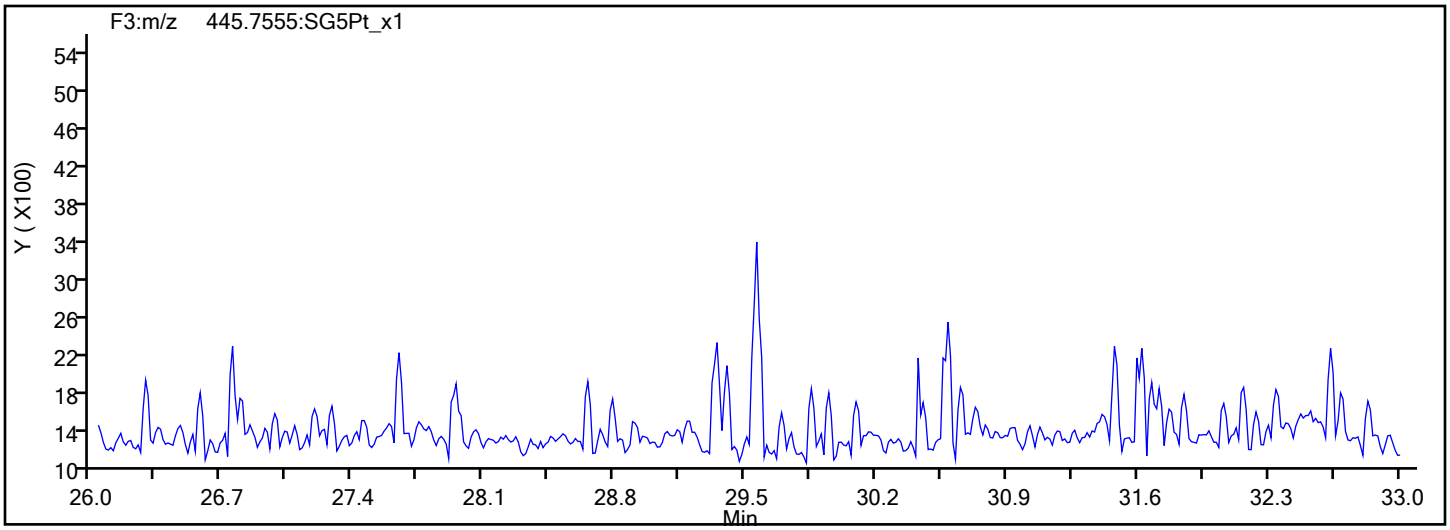

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HxCDD

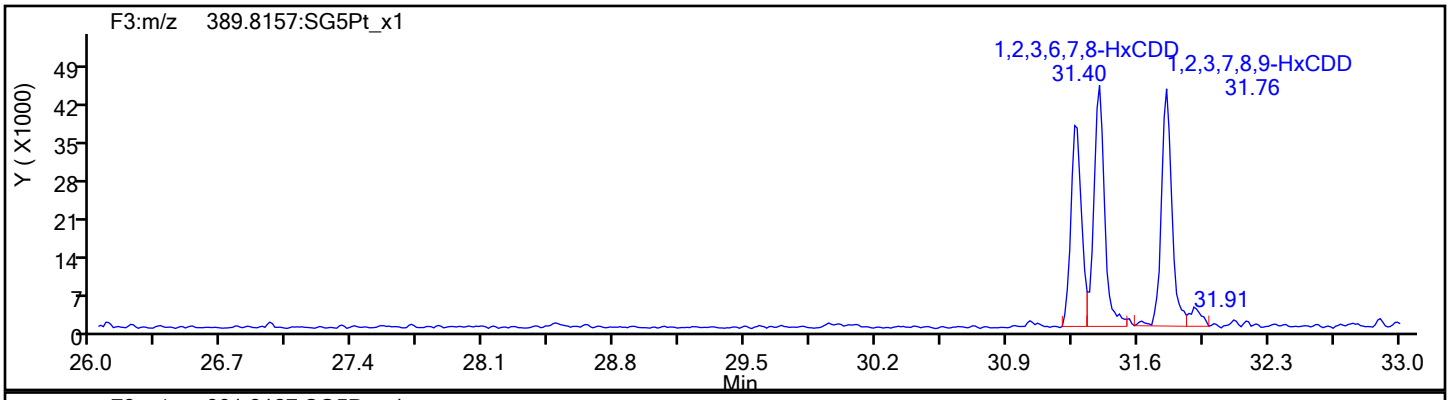

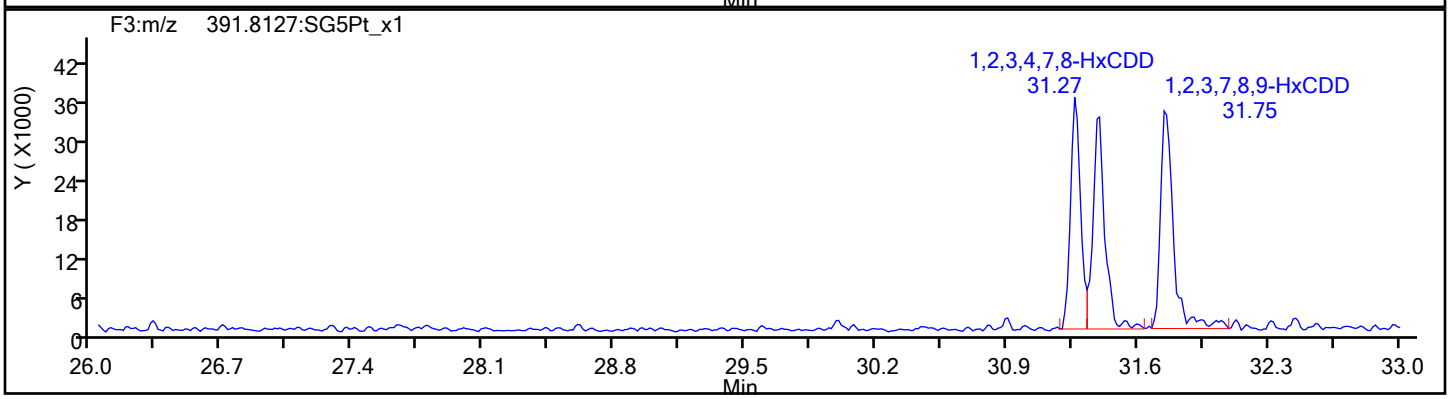

HxCDD Standards

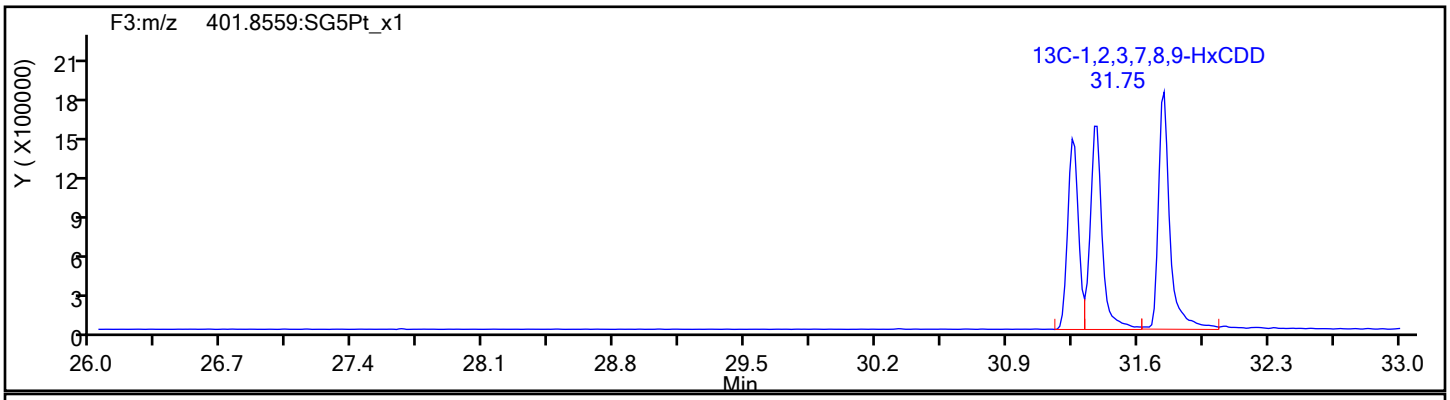

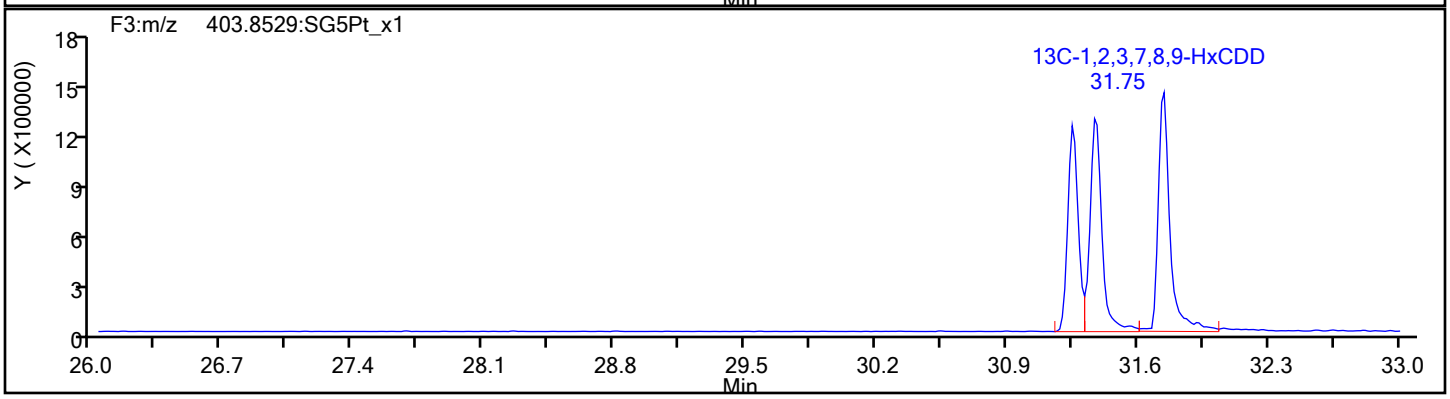

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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HpCDF

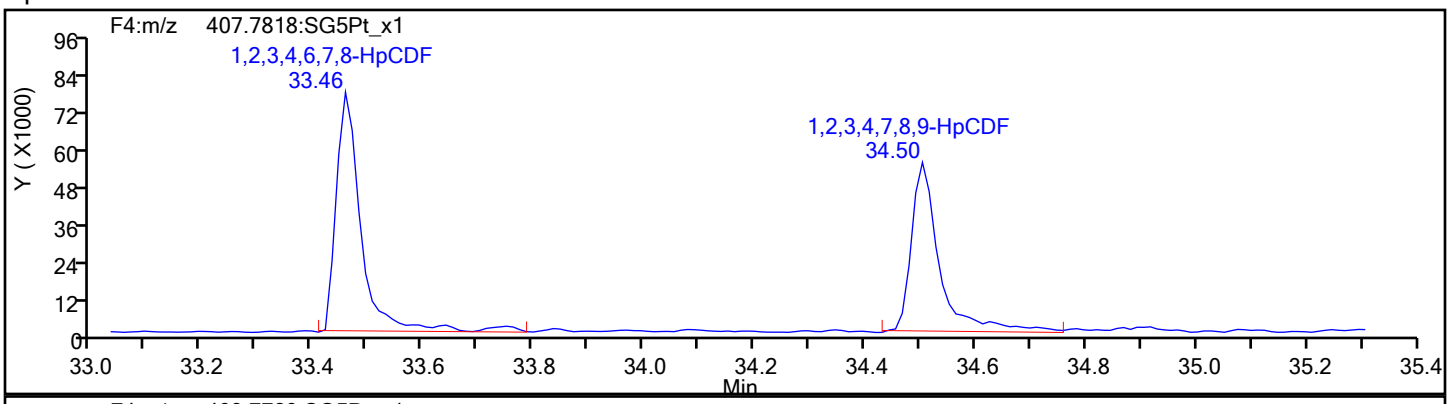

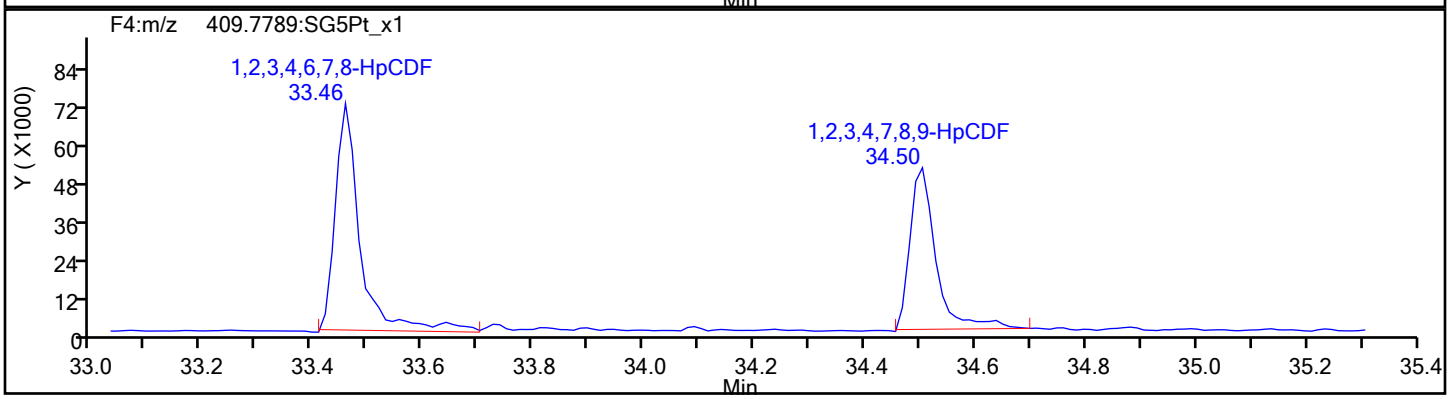

HpCDF Standards

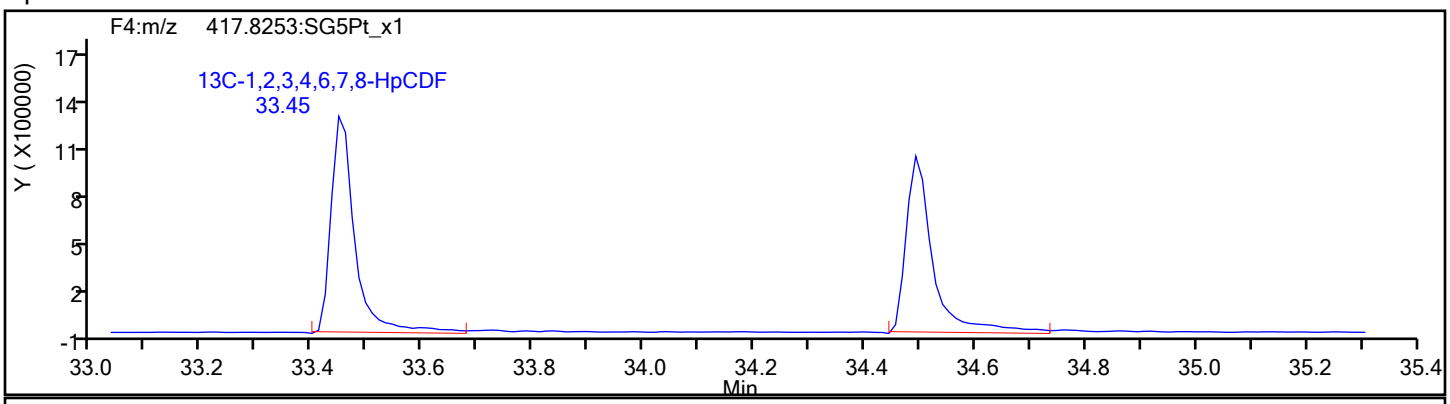

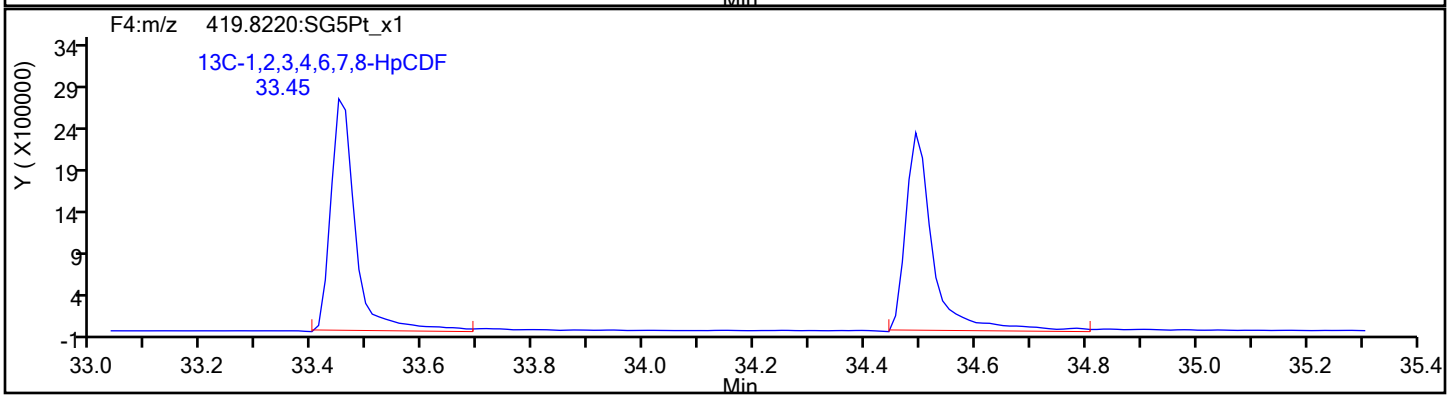

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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HpCDF

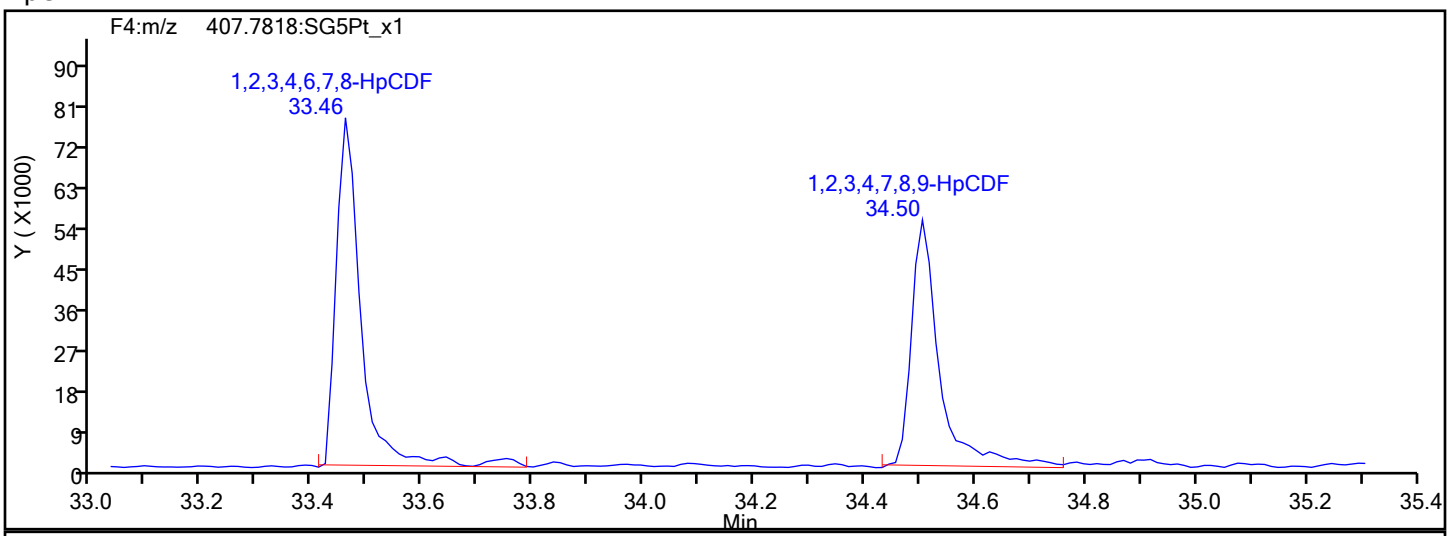

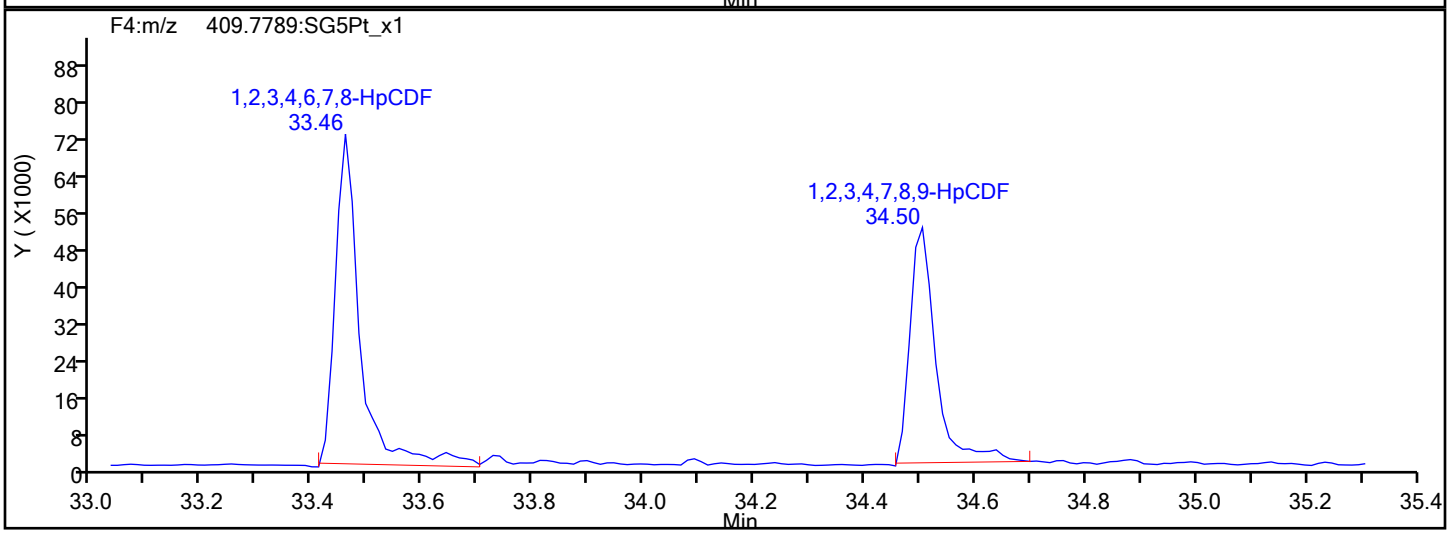

HpCDF Interference Mass

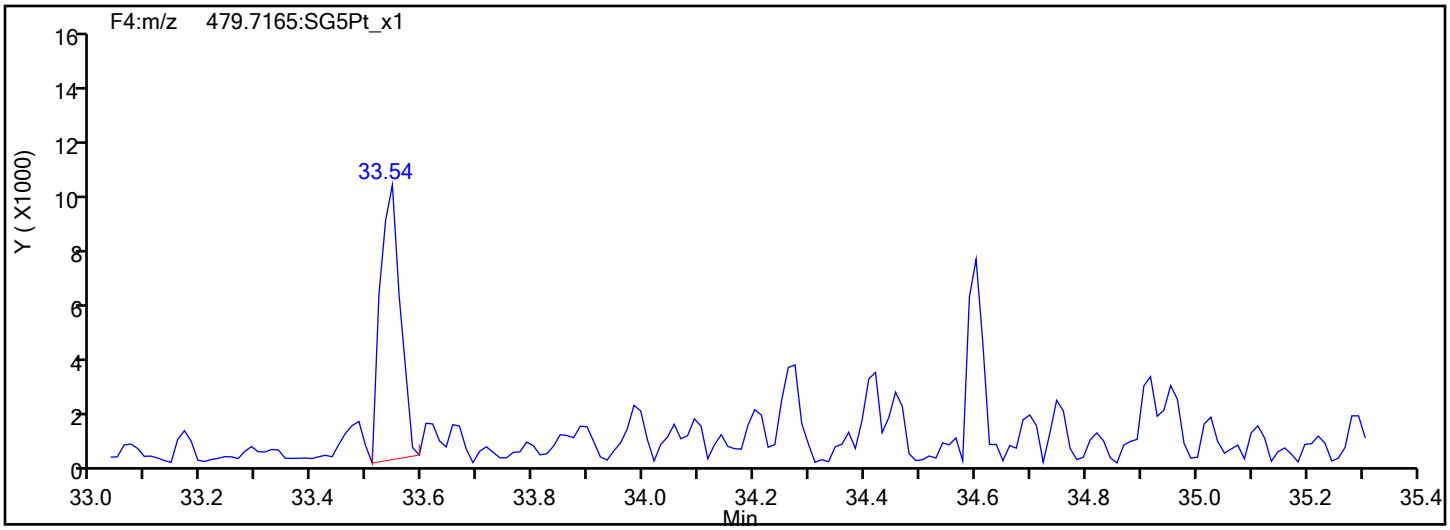

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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HpCDD

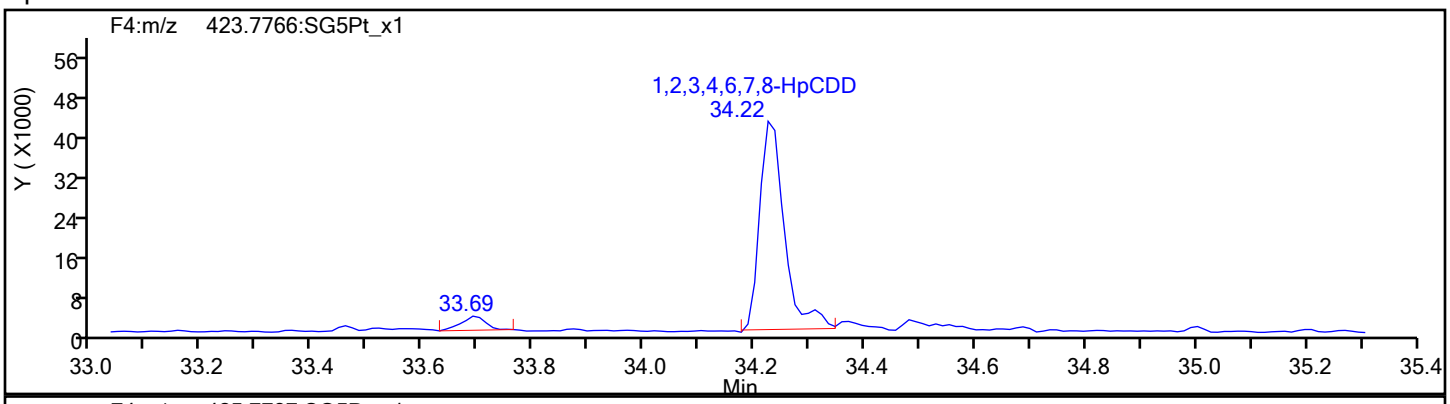

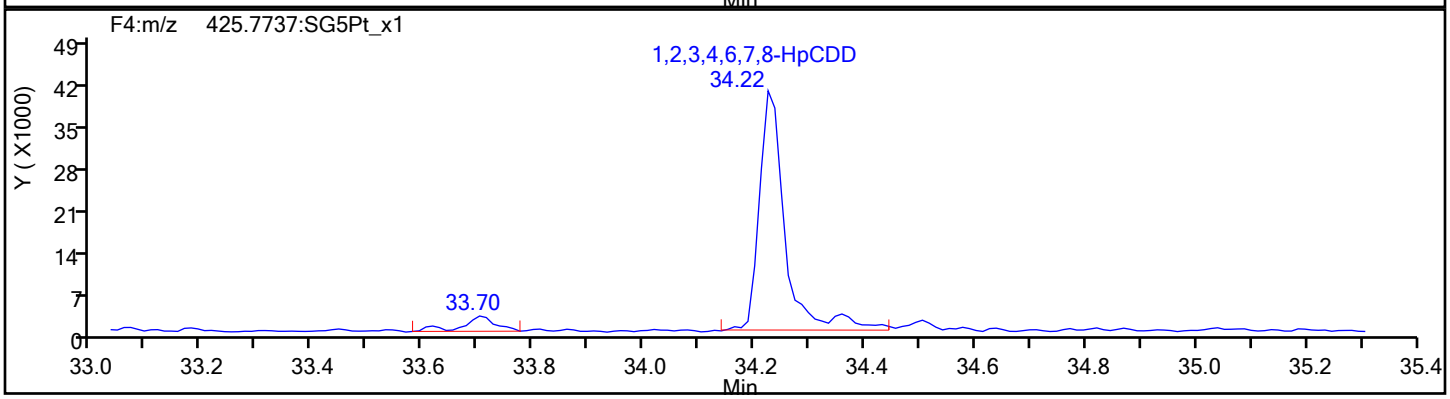

HpCDD Standards

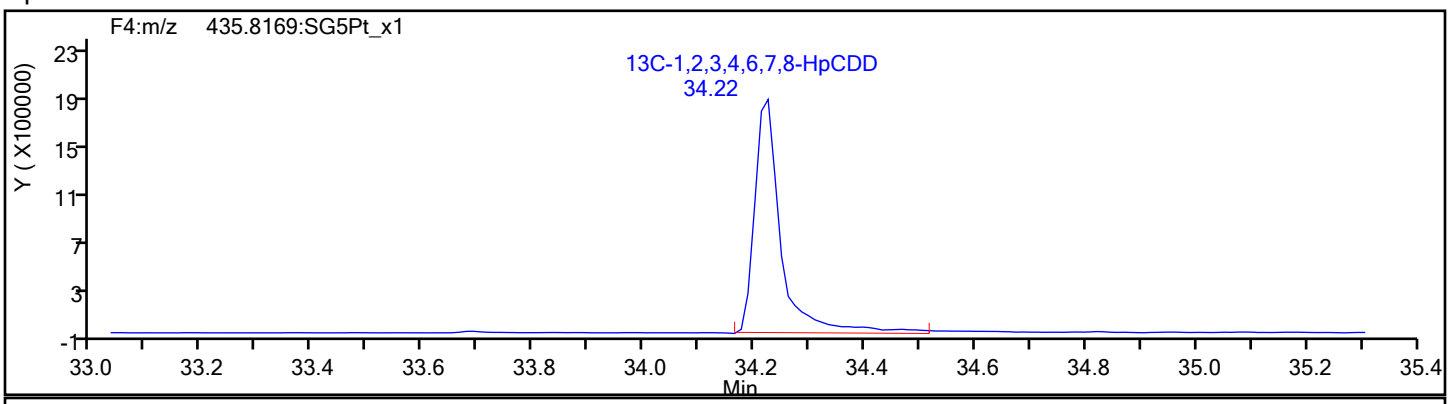

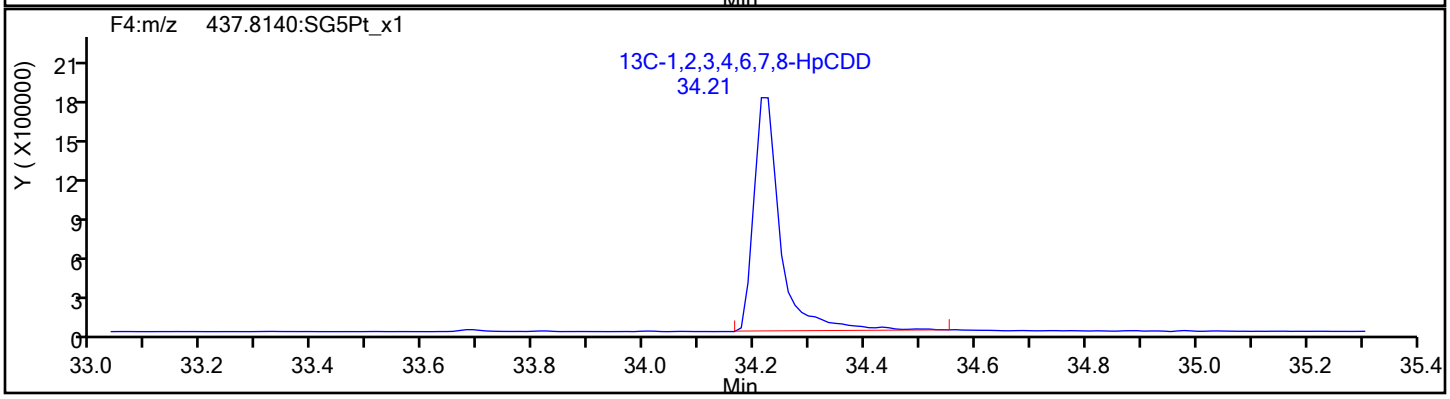

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

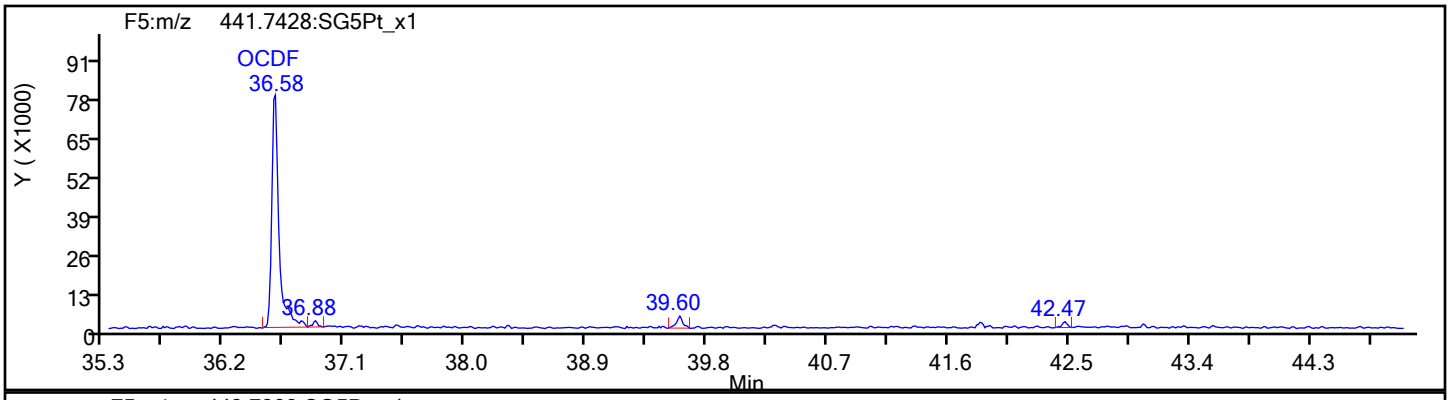

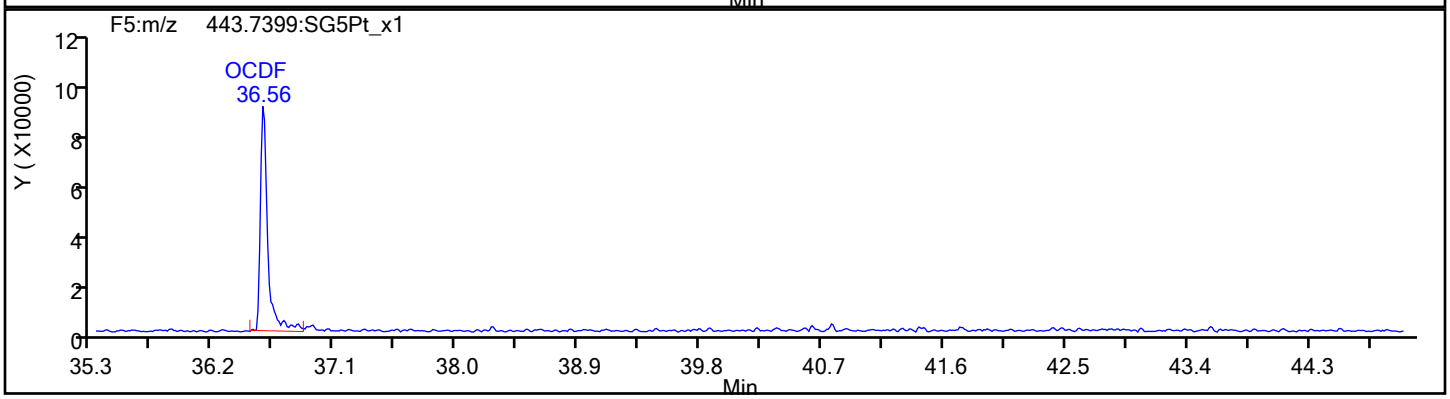

OCDF Standards

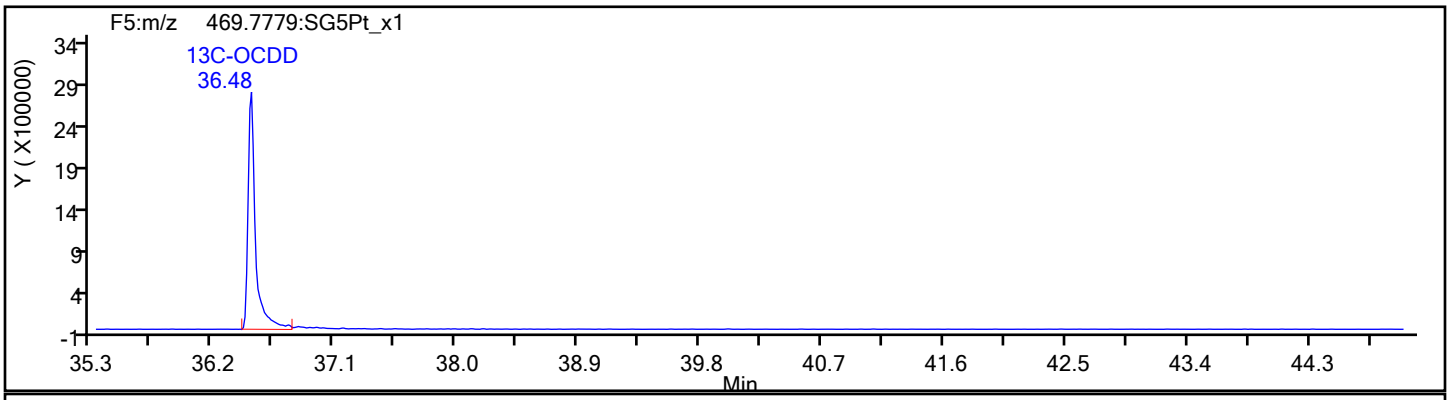

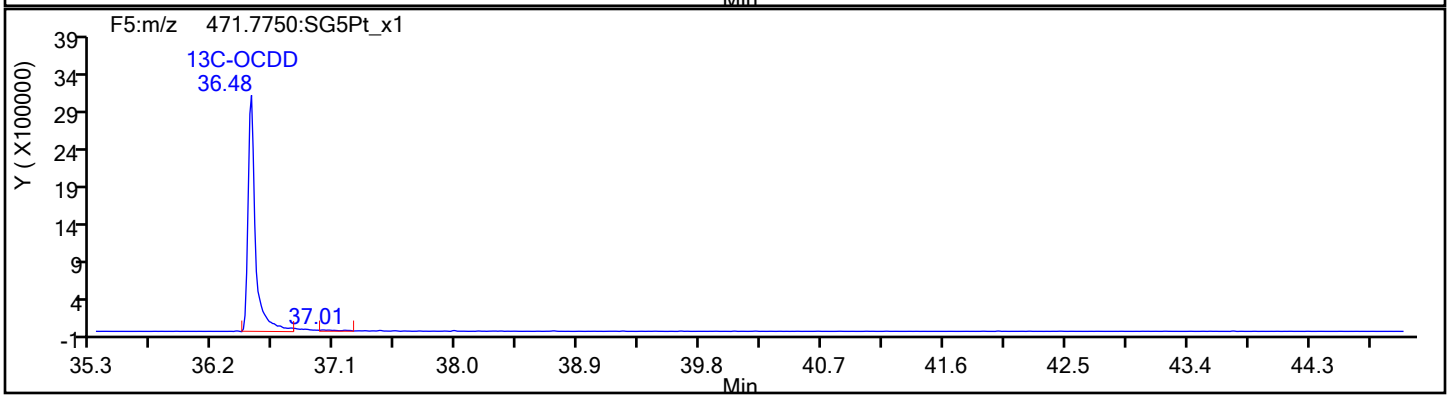

Report Date: 18-Sep-2019 10:22:15 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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OCDF

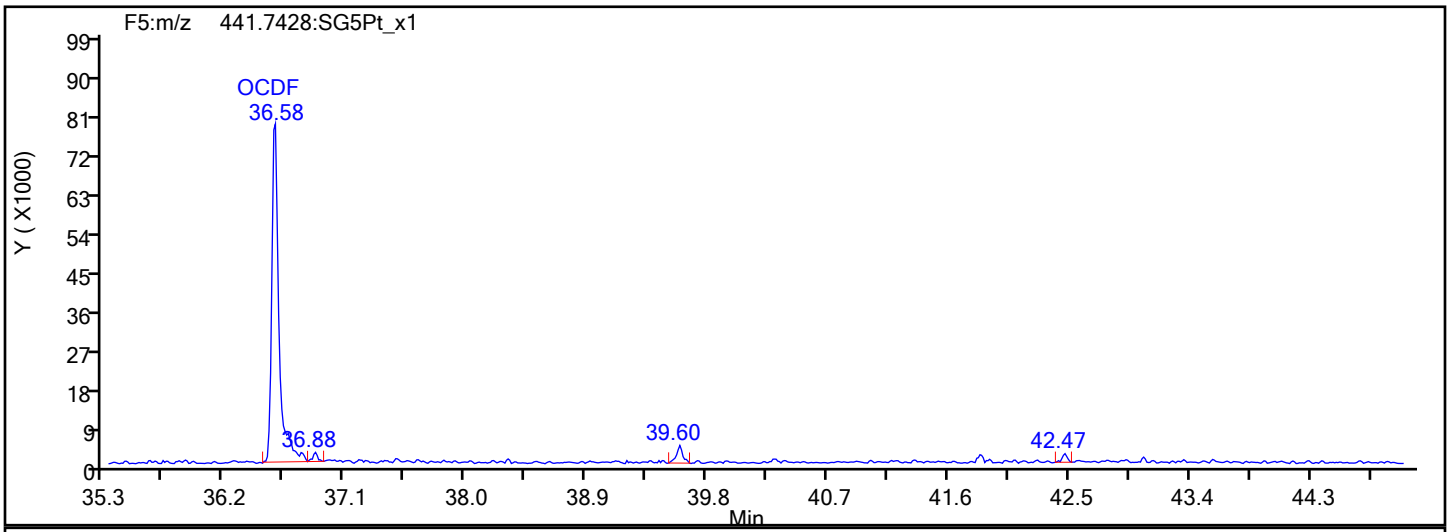

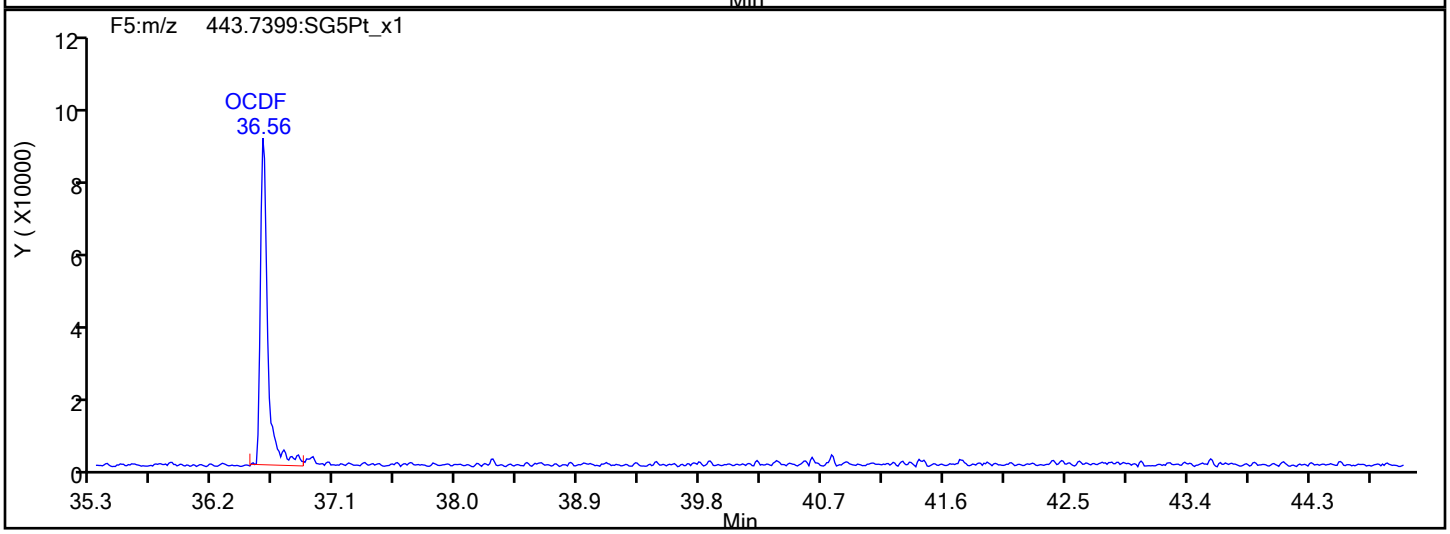

OCDF Interference Mass

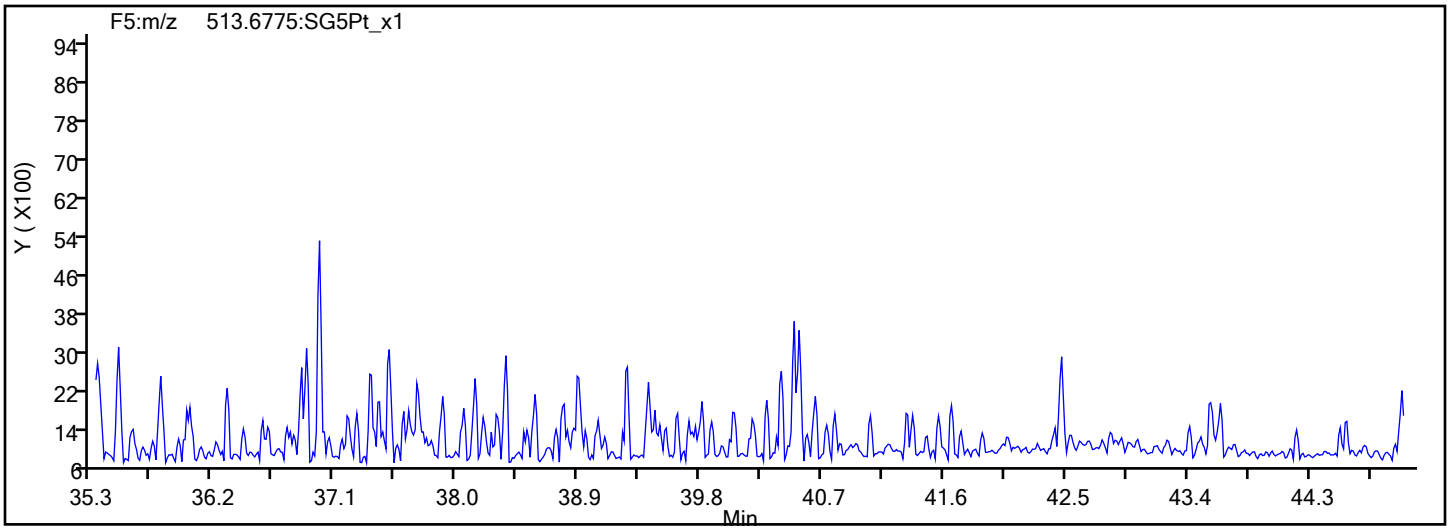

Report Date: 18-Sep-2019 10:22:16 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

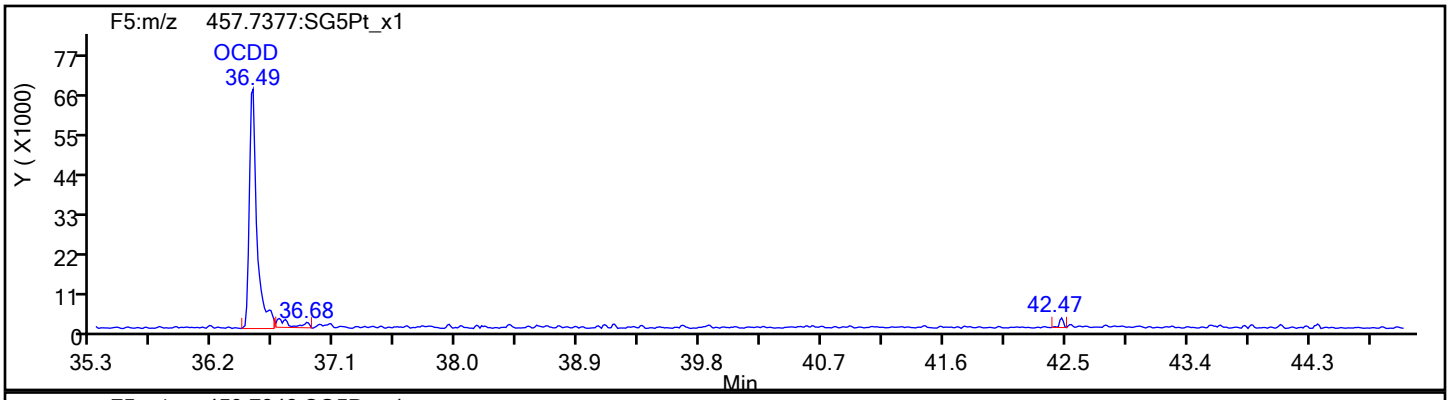

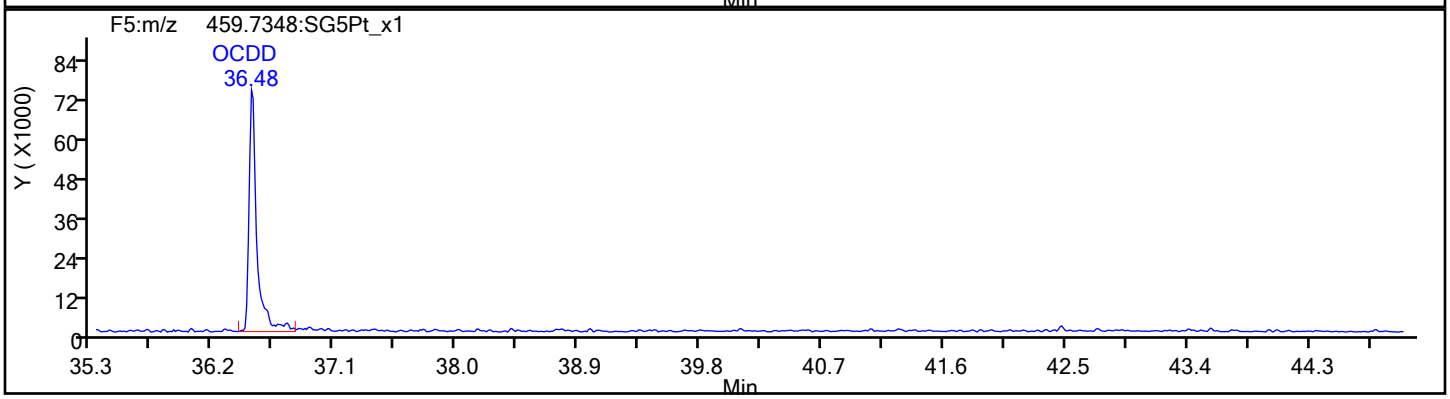

OCDD Standards

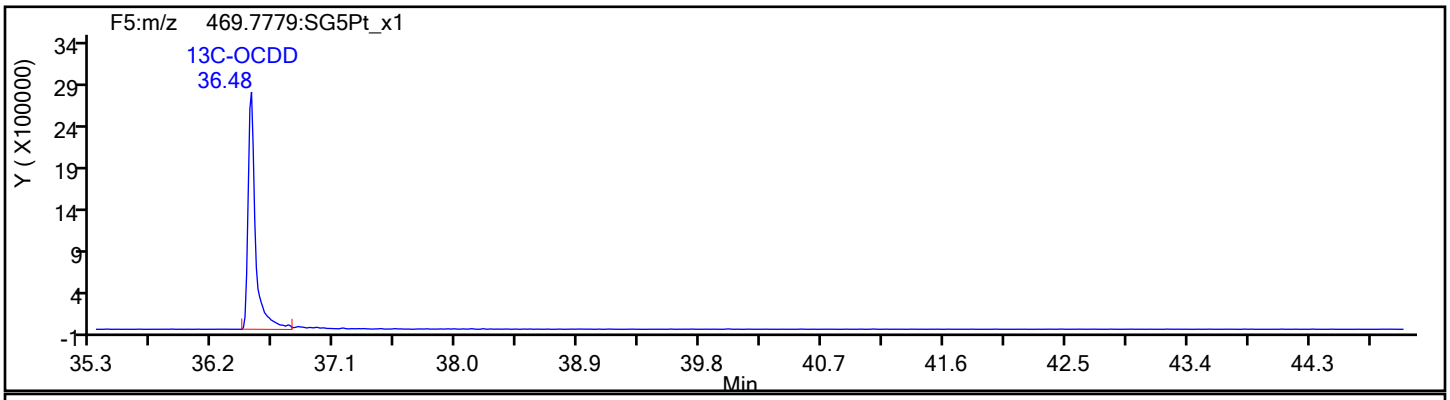

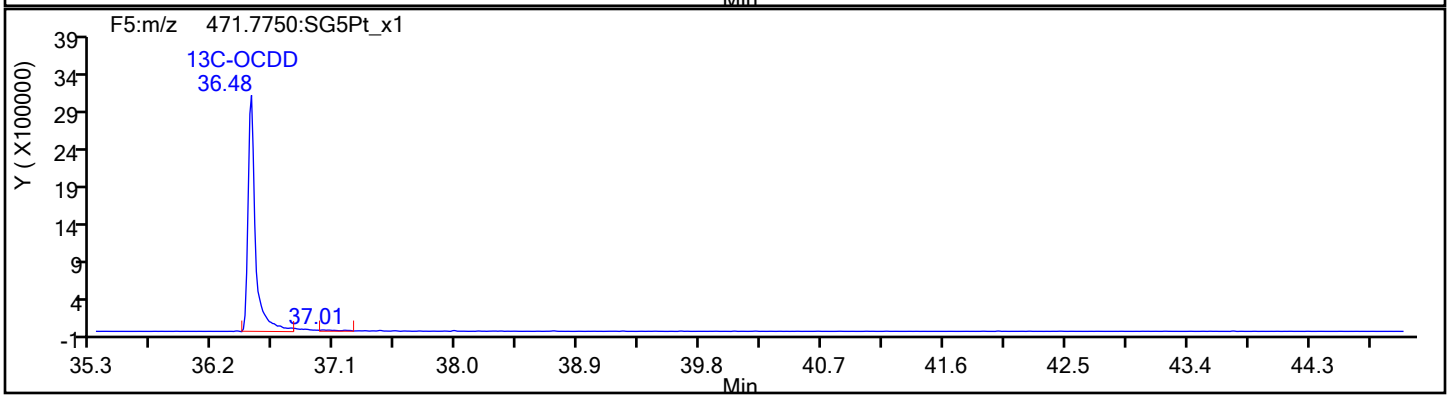

Report Date: 18-Sep-2019 10:22:16 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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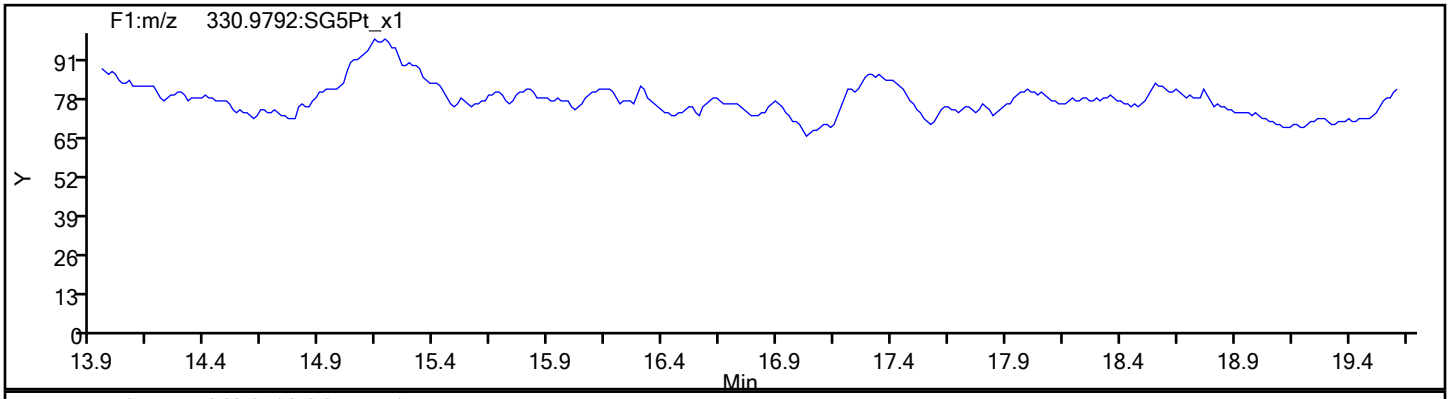

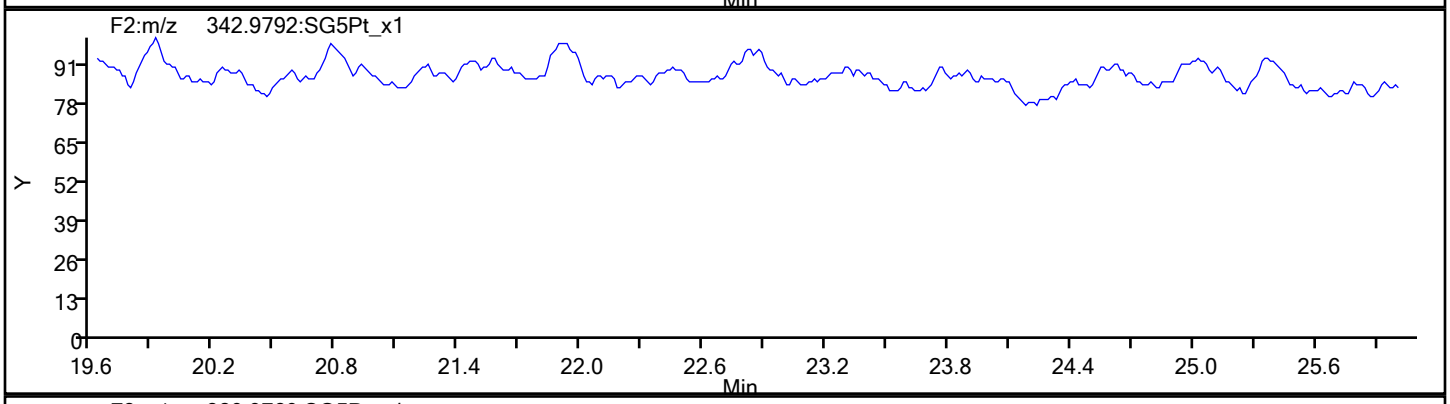

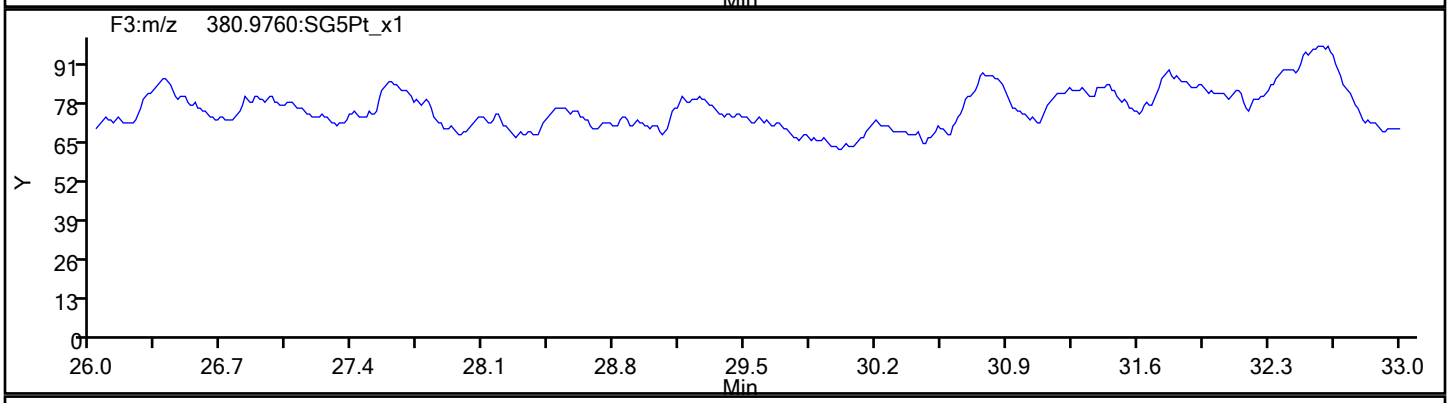

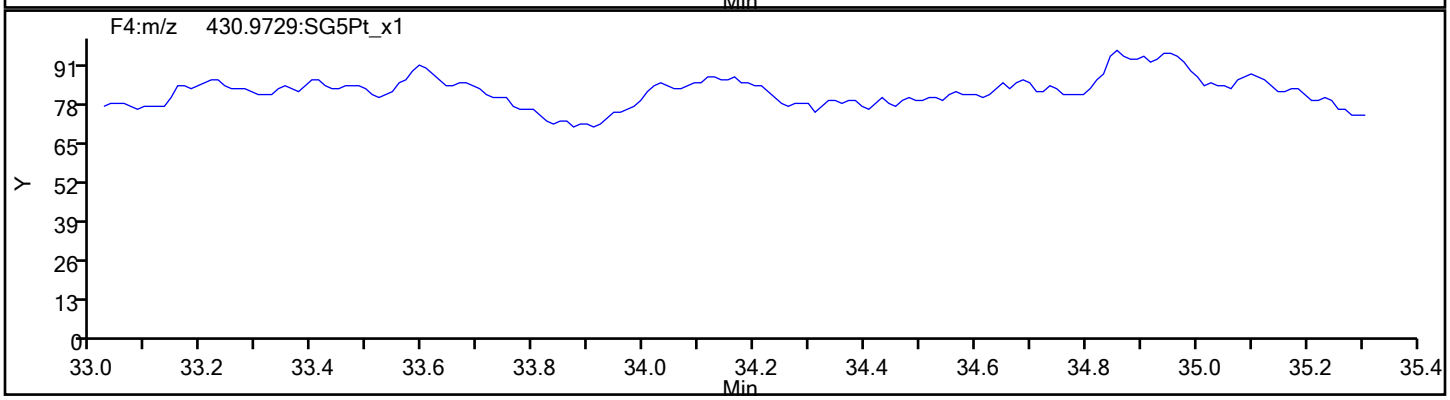

Report Date: 18-Sep-2019 10:22:16 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_3.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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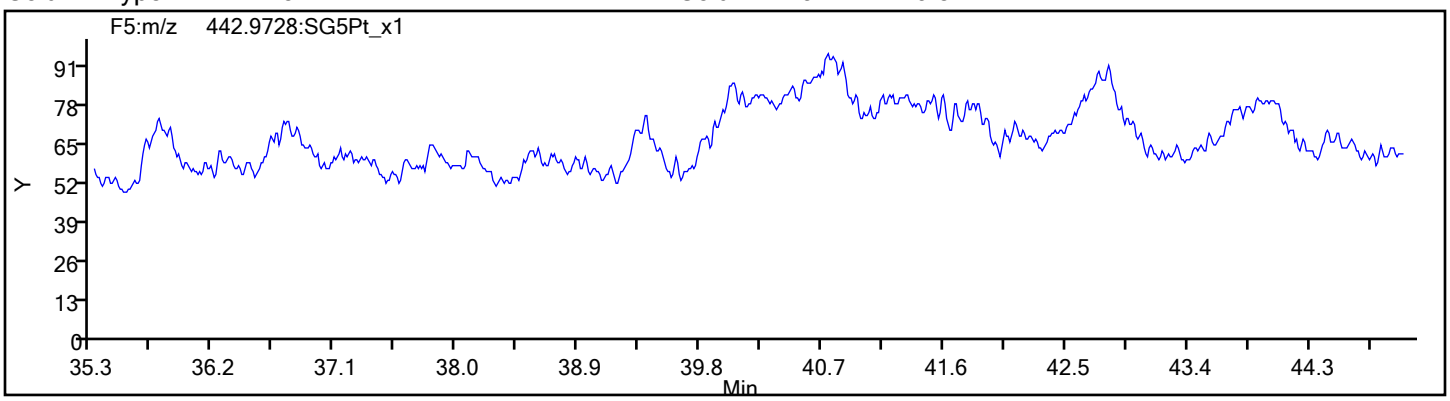

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 17-Sep-2019 13:49:24 ALS Bottle#: 5 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719A CS-3 HRDXNL3_00025
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:19 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:05:30

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.300	48020971	0.78	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.816	69364385	0.79	1.4384	100.4	100.4	0.2642	0.2642	100	
2,3,7,8-TCDF	16.831	1529056	0.76	1.0507	2.098	2.098	0.0285	0.0285	105	
S Total TCDF					2.098	2.098	0.0285	0.0285		
D 13C-2,3,7,8-TCDD	17.497	45389691	0.78	0.9533	99.1	99.1	0.2368	0.2368	99.15	
$ 37Cl4-2,3,7,8-TCDD	17.511	1164531		1.2224	1.984	1.984	0.0211	0.0211	99.19	
2,3,7,8-TCDD	17.511	1022744	0.76	1.1064	2.037	2.037	0.0433	0.0433	102	
S Total TCDD					2.037	2.037	0.0433	0.0433		
D 13C-1,2,3,7,8-PeCDF	21.631	46755351	1.61	1.0286	94.7	94.7	0.2555	0.2555	94.66	
1,2,3,7,8-PeCDF	21.659	5424212	1.59	1.0822	10.7	10.7	0.0895	0.0895	107	
D 13C-2,3,4,7,8-PeCDF	22.927	45184985	1.62	0.9827	95.8	95.8	0.2675	0.2675	95.76	
2,3,4,7,8-PeCDF	22.954	5371777	1.62	1.1032	10.8	10.8	0.0948	0.0948	108	
S Total PeCDF					21.5	21.5	0.0922	0.0922		
D 13C-1,2,3,7,8-PeCDD	23.622	33098301	1.55	0.7481	92.1	92.1	0.1767	0.1767	92.14	
1,2,3,7,8-PeCDD	23.636	3169429	1.60	0.9050	10.6	10.6	0.0951	0.0951	106	
S Total PeCDD					10.6	10.6	0.0951	0.0951		
D 13C-1,2,3,4,7,8-HxCDF	29.736	36418536	0.52	1.1520	101.5	101.5	0.5052	0.5052	102	
1,2,3,4,7,8-HxCDF	29.775	4604517	1.28	1.1973	10.6	10.6	0.1137	0.1137	106	
D 13C-1,2,3,6,7,8-HxCDF	30.002	38486861	0.53	1.2434	99.4	99.4	0.4681	0.4681	99.40	
1,2,3,6,7,8-HxCDF	30.028	4889511	1.24	1.1807	10.8	10.8	0.0994	0.0994	108	
D 13C-2,3,4,6,7,8-HxCDF	31.040	35886090	0.52	1.1720	98.3	98.3	0.4966	0.4966	98.34	
2,3,4,6,7,8-HxCDF	31.053	4551517	1.24	1.2116	10.5	10.5	0.0696	0.0696	105	
D 13C-1,2,3,7,8,9-HxCDF	31.945	33293009	0.51	1.0655	100.4	100.4	0.5463	0.5463	100	
1,2,3,7,8,9-HxCDF	31.958	4319986	1.26	1.2451	10.4	10.4	0.0644	0.0644	104	
S Total HxCDF					42.2	42.2	0.0868	0.0868		
* 13C-1,2,3,7,8,9-HxCDD	31.746	31138249	1.26	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.253	23739455	1.30	0.7812	97.6	97.6	0.5185	0.5185	97.59	
1,2,3,4,7,8-HxCDD	31.280	2685740	1.29	1.1088	10.2	10.2	0.0768	0.0768	102	
D 13C-1,2,3,6,7,8-HxCDD	31.386	27633426	1.27	0.9175	96.7	96.7	0.4415	0.4415	96.73	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.399	3184984	1.24	1.0814	10.7	10.7	0.0746	0.0746	107	
1,2,3,7,8,9-HxCDD	31.759	3374687	1.23	1.2123	10.8	10.8	0.0684	0.0684	108	
S Total HxCDD					31.7	31.7	0.0733	0.0733		
D 13C-1,2,3,4,6,7,8-HpCDF	33.459	25015698	0.45	0.8628	93.1	93.1	1.693	1.693	93.12	
1,2,3,4,6,7,8-HpCDF	33.472	4106440	1.02	1.5555	10.6	10.6	0.1585	0.1585	106	
D 13C-1,2,3,4,7,8,9-HpCDF	34.505	23641905	0.45	0.7991	95.0	95.0	1.828	1.828	95.02	
1,2,3,4,7,8,9-HpCDF	34.517	3498041	1.02	1.3862	10.7	10.7	0.2064	0.2064	107	
S Total HpCDF					21.2	21.2	0.1824	0.1824		
D 13C-1,2,3,4,6,7,8-HpCDD	34.225	25630510	1.05	0.8739	94.2	94.2	0.7704	0.7704	94.19	
1,2,3,4,6,7,8-HpCDD	34.237	2534205	1.08	0.9316	10.6	10.6	0.1098	0.1098	106	
S Total HpCDD					10.6	10.6	0.1098	0.1098		
D 13C-OCDD	36.481	43388861	0.89	0.7744	179.9	179.9	0.3226	0.3226	89.97	
OCDF	36.576	5776792	0.88	1.2596	21.1	21.1	0.0659	0.0659	106	
OCDD	36.493	5082981	0.91	1.0621	22.1	22.1	0.0435	0.0435	110	

Reagents:

HRDXNL3_00025 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 17-Sep-2019 13:49:24 ALS Bottle#: 5 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719A CS-3 HRDXNL3_00025
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:19 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:05:30

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.300	17.303	0		20974964	5440414	6907	17267	788		
333.9339	17.300	17.303	0		27046007	7081542	4401	11002	1609	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.816	16.810	0	0.972	30651979	7996237	9530	23825	839		
317.9389	16.816	16.810	0	0.972	38712406	9934901	9507	23767	1045	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.831	16.825	0	1.001	662231	175822	896	2240	196		
305.8987	16.816	16.825	-1	1.000	866825	219868	1254	3135	175	0.76(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.497	17.490	0	1.011	19932104	4784387	6907	17267	693		
333.9339	17.497	17.490	0	1.011	25457587	6033501	4401	11002	1371	0.78(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.511	17.505	0	1.012	1164531	282528	1292	3230	219		
2,3,7,8-TCDD											
319.8965	17.511	17.505	0	1.001	441524	105506	1328	3320	79		
321.8936	17.511	17.505	0	1.001	581220	143982	745	1862	193	0.76(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	21.631	21.637	0	1.250	28830075	5337132	7805	19512	684		
353.8970	21.631	21.637	0	1.250	17925276	3287495	5360	13400	613	1.61(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.659	21.661	0	1.001	3332281	606608	1384	3460	438		
341.8567	21.659	21.661	0	1.001	2091931	384200	1956	4890	196	1.59(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	22.927	22.932	0	1.325	27936496	4963352	7805	19512	636		
353.8970	22.927	22.932	0	1.325	17248489	3016941	5360	13400	563	1.62(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.954	22.954	0	1.001	3318716	579906	1384	3460	419		
341.8567	22.954	22.954	0	1.001	2053061	350098	1956	4890	179	1.62(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.622	23.625	0	1.365	20140801	3312973	3677	9192	901		
369.8919	23.622	23.625	0	1.365	12957500	2145657	2944	7360	729	1.55(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.636	23.649	-1	1.001	1948199	306163	1167	2917	262		
357.8516	23.636	23.649	-1	1.001	1221230	203548	713	1782	285	1.60(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.736	29.754	-1	0.937	12434463	1670692	6140	15350	272		
385.8610	29.736	29.754	-1	0.937	23984073	3285602	11505	28762	286	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.775	29.789	-1	1.001	2582089	364887	1448	3620	252		
375.8178	29.775	29.789	-1	1.001	2022428	279399	1250	3125	224	1.28(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.002	30.015	-1	0.945	13305598	1990616	6140	15350	324		
385.8610	30.002	30.015	-1	0.945	25181263	3755911	11505	28762	326	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.028	30.039	-1	1.001	2703771	385416	1448	3620	266		
375.8178	30.028	30.039	-1	1.001	2185740	311020	1250	3125	249	1.24(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.040	31.043	0	0.978	12200251	2715531	6140	15350	442		
385.8610	31.040	31.043	0	0.978	23685839	5277600	11505	28762	459	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.053	31.059	0	1.000	2519385	561452	1448	3620	388		
375.8178	31.053	31.059	0	1.000	2032132	450929	1250	3125	361	1.24(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.945	31.942	0	1.006	11294314	2854603	6140	15350	465		
385.8610	31.945	31.942	0	1.006	21998695	5560445	11505	28762	483	0.51(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.958	31.956	0	1.000	2410054	592393	1448	3620	409		
375.8178	31.958	31.956	0	1.000	1909932	473961	1250	3125	379	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.746	31.748	0		17348498	4270052	6927	17317	616		
403.8529	31.746	31.748	0		13789751	3309146	5354	13385	618	1.26(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.253	31.261	0	0.984	13398901	3308138	6927	17317	478		
403.8529	31.266	31.261	0	0.985	10340554	2572354	5354	13385	480	1.30(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.280	31.280	0	1.001	1512390	375482	976	2440	385		
391.8127	31.280	31.280	0	1.001	1173350	295553	1027	2567	288	1.29(1.05-1.43)	

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24
Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.386	31.383	0	0.989	15440618	3468444	6927	17317	501		
403.8529	31.386	31.383	0	0.989	12192808	2735657	5354	13385	511	1.27(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.399	31.402	0	1.000	1761134	403725	976	2440	414		
391.8127	31.399	31.402	0	1.000	1423850	307508	1027	2567	299	1.24(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.759	31.761	0	1.016	1859918	455161	976	2440	466		
391.8127	31.759	31.761	0	1.016	1514769	367872	1027	2567	358	1.23(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.459	33.457	0	1.054	7716742	2566124	14405	36012	178		
419.8220	33.459	33.457	0	1.054	17298956	5707303	29871	74677	191	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.472	33.469	0	1.000	2075359	698893	3992	9980	175		
409.7789	33.472	33.469	0	1.000	2031081	642835	4168	10420	154	1.02(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.505	34.502	0	1.087	7363985	2239195	14405	36012	155		
419.8220	34.505	34.502	0	1.087	16277920	4892131	29871	74677	164	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.517	34.509	0	1.000	1766633	514034	3992	9980	129		
409.7789	34.505	34.509	0	1.000	1731408	520165	4168	10420	125	1.02(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.225	34.227	0	1.078	13114345	4054784	9475	23687	428		
437.8140	34.225	34.227	0	1.078	12516165	3859079	10936	27340	353	1.05(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.237	34.235	0	1.000	1317899	403714	1570	3925	257		
425.7737	34.237	34.235	0	1.000	1216306	375677	1669	4172	225	1.08(0.88-1.20)	
13C-OCDD											
469.7779	36.481	36.486	0	1.149	20384484	5322735	3975	9937	1339		
471.7750	36.481	36.486	0	1.149	23004377	6112123	3599	8997	1698	0.89(0.76-1.02)	
OCDF											
441.7428	36.576	36.581	0	1.003	2698881	719825	815	2037	883		
443.7399	36.576	36.581	0	1.003	3077911	834185	1083	2707	770	0.88(0.76-1.02)	
OCDD											
457.7377	36.493	36.497	0	1.000	2421846	617373	541	1352	1141		
459.7348	36.493	36.497	0	1.000	2661135	682611	516	1290	1323	0.91(0.76-1.02)	

Reagents:

HRDXNL3_00025 Amount Added: 1.00 Units: mL

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d		
Injection Date:	17-Sep-2019 13:49:24	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

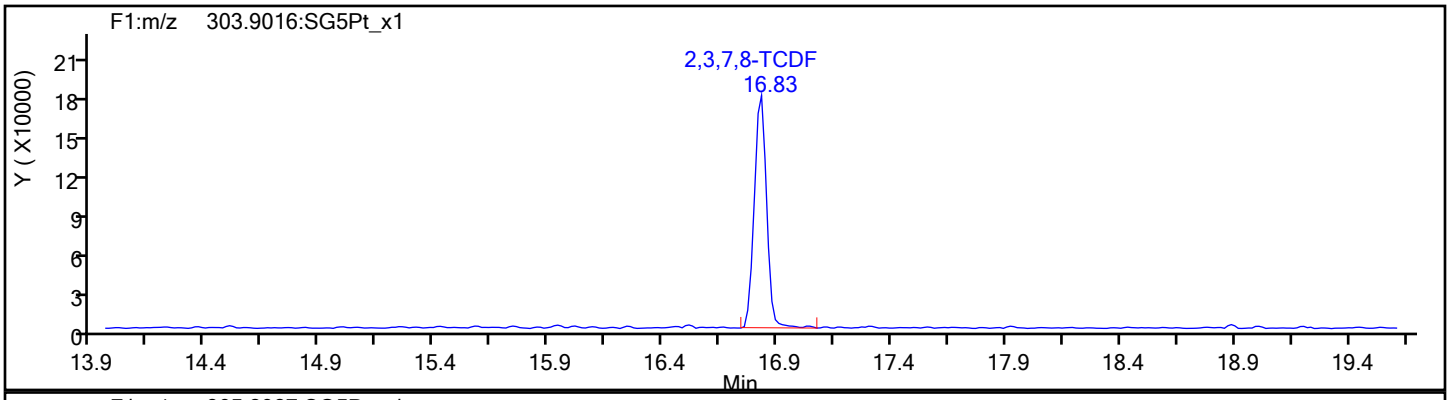

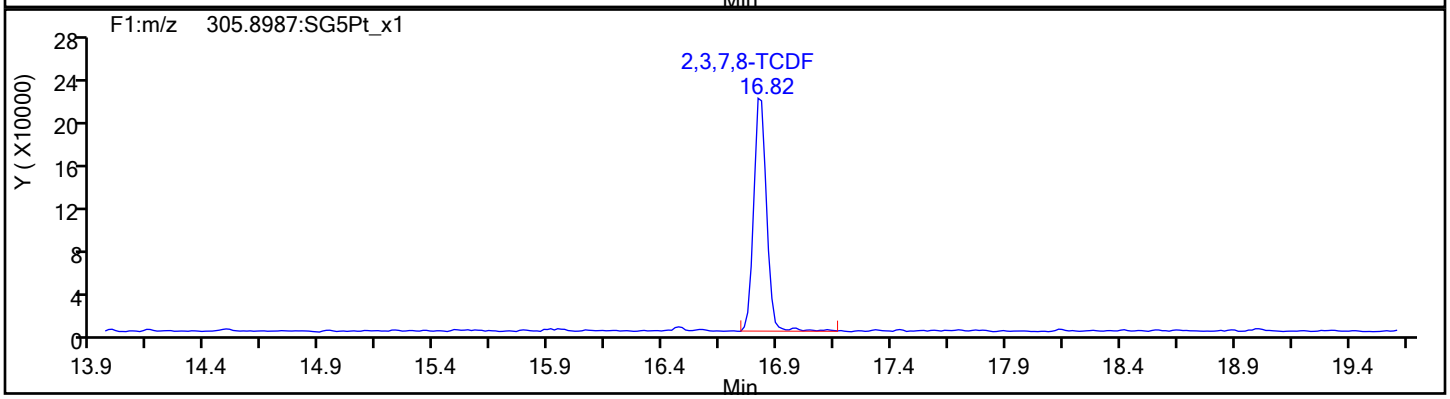

TCDF Standards

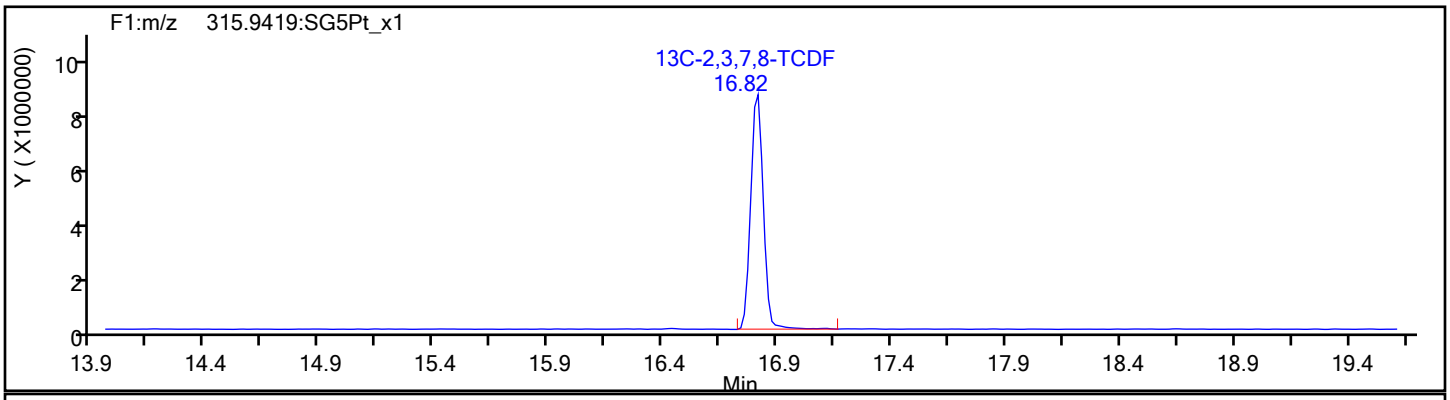

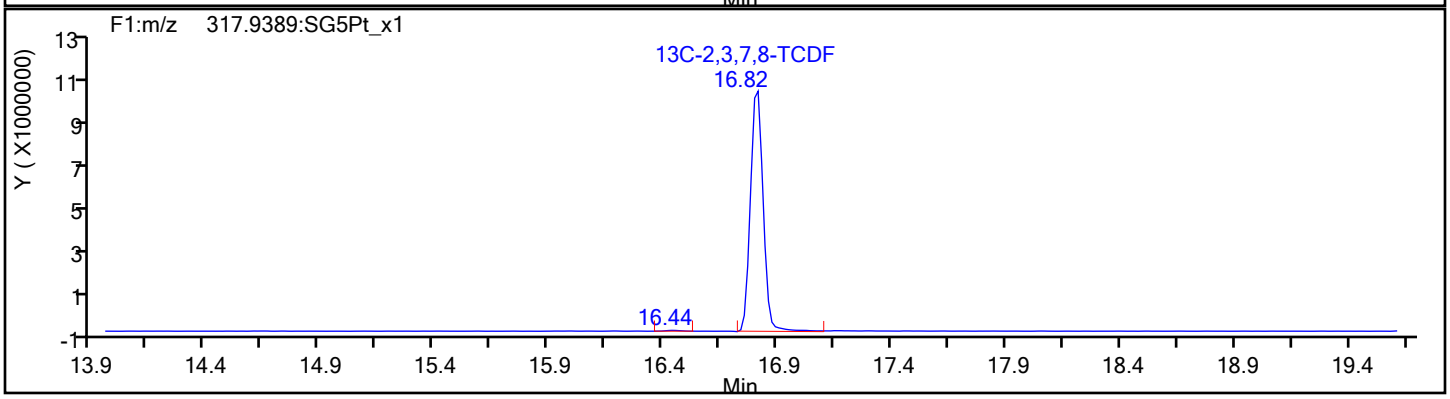

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d		
Injection Date:	17-Sep-2019 13:49:24	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

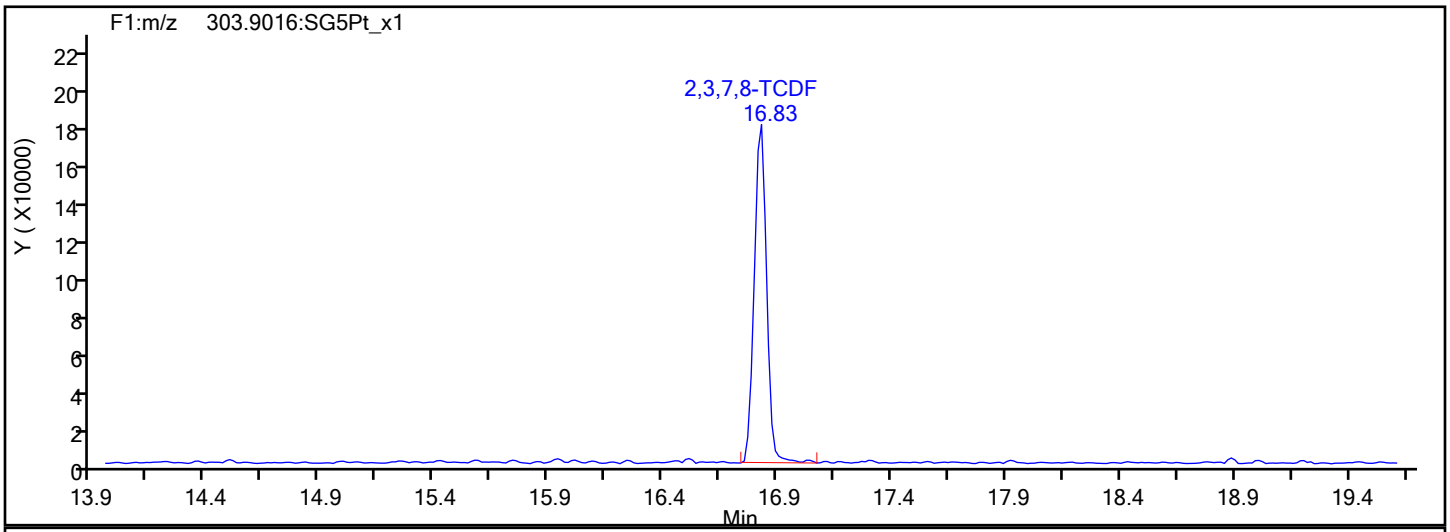

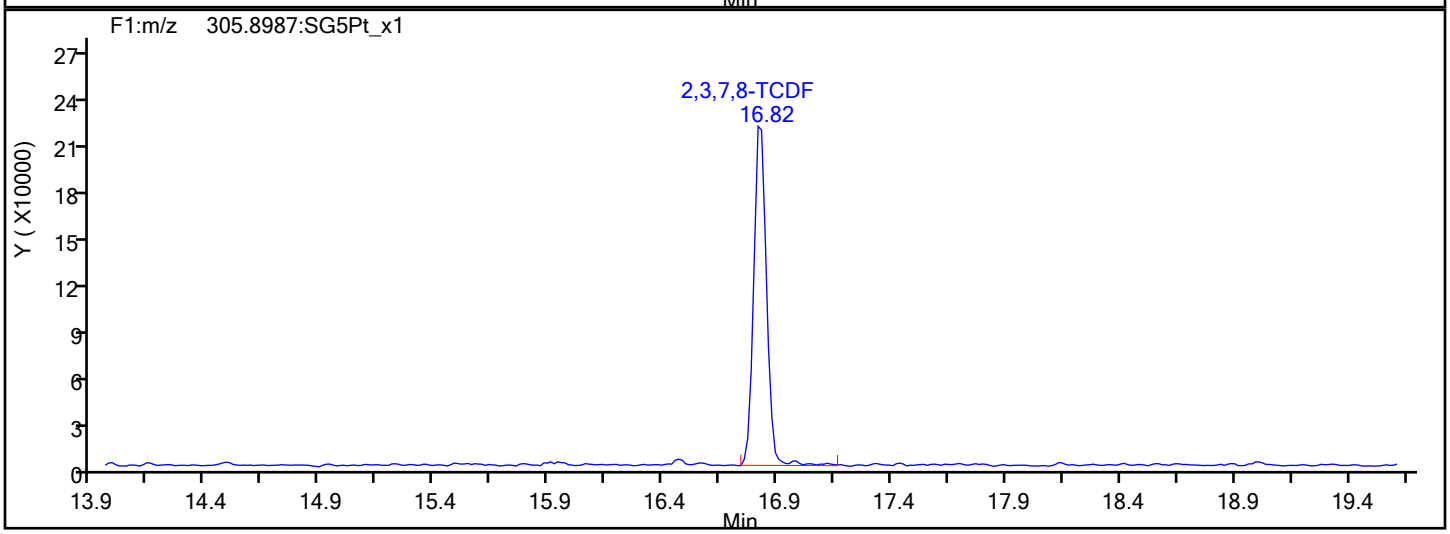

TCDF Interference Mass

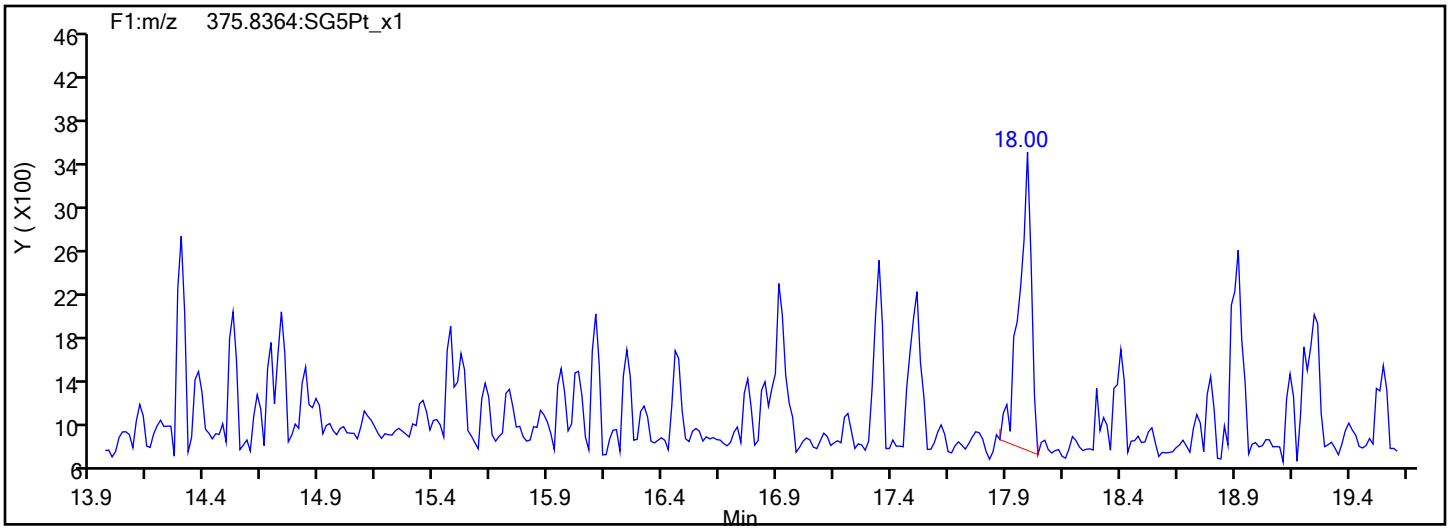

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d		
Injection Date:	17-Sep-2019 13:49:24	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

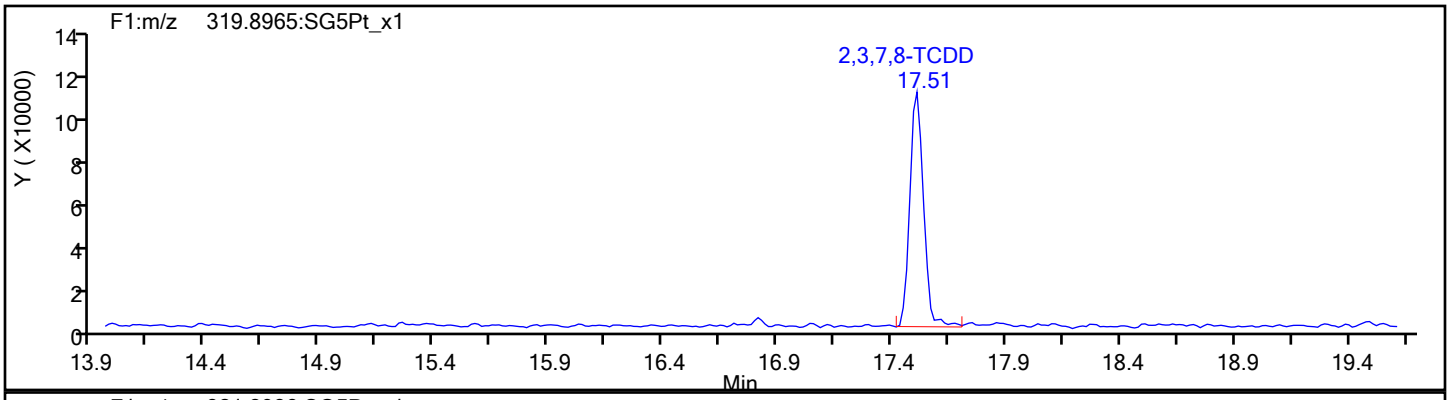

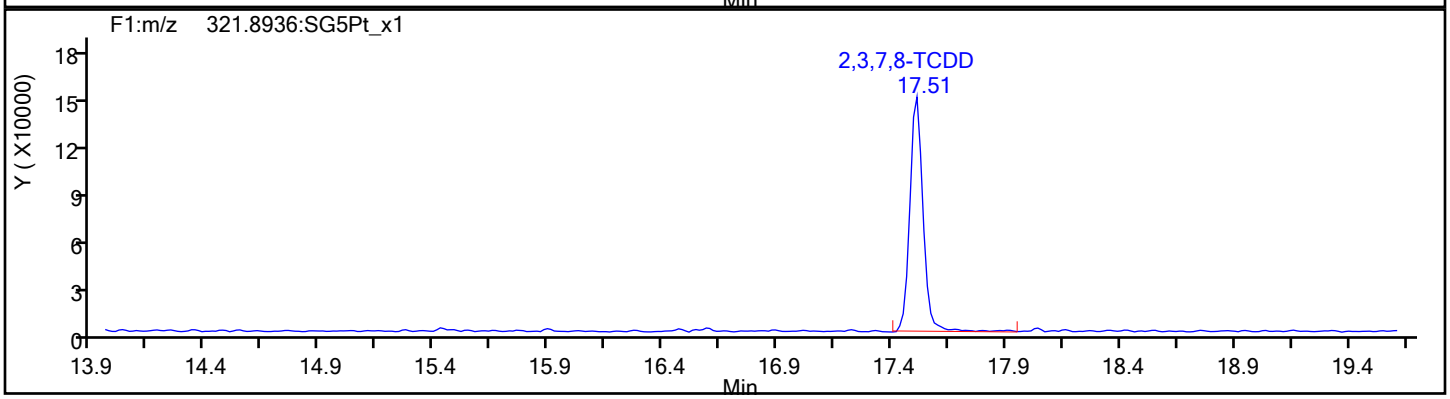

TCDD Standards

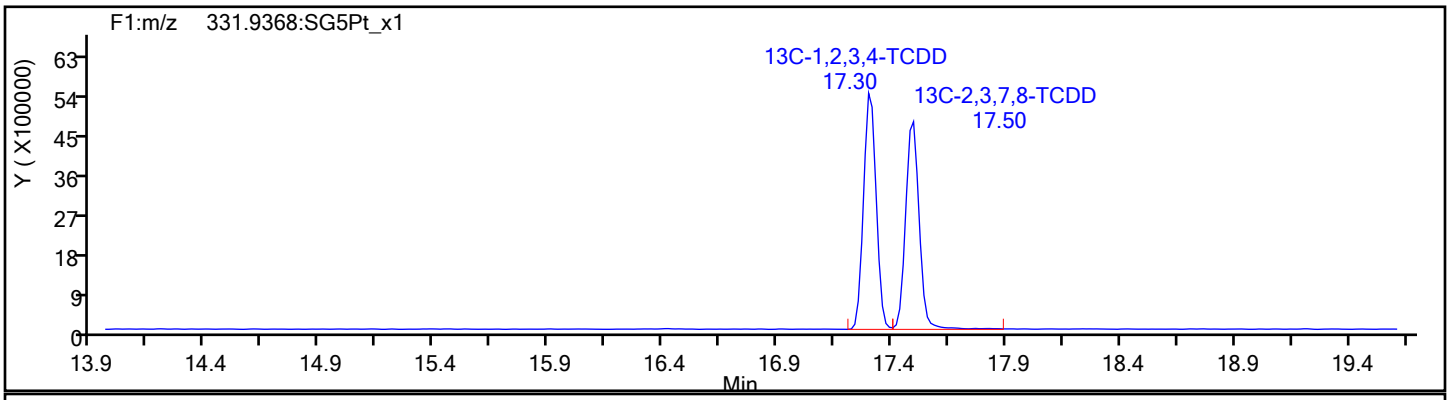

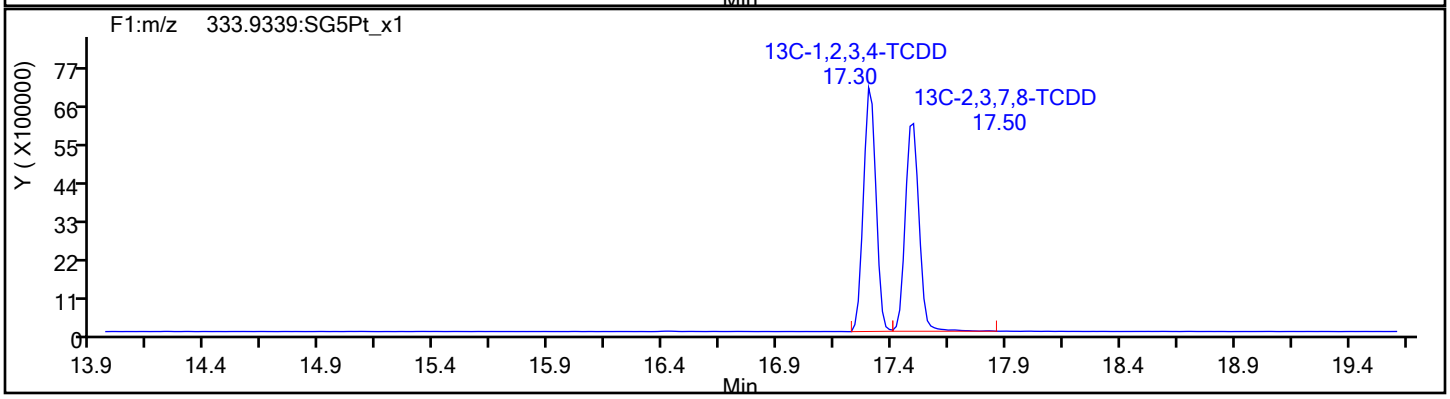

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d		
Injection Date:	17-Sep-2019 13:49:24	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

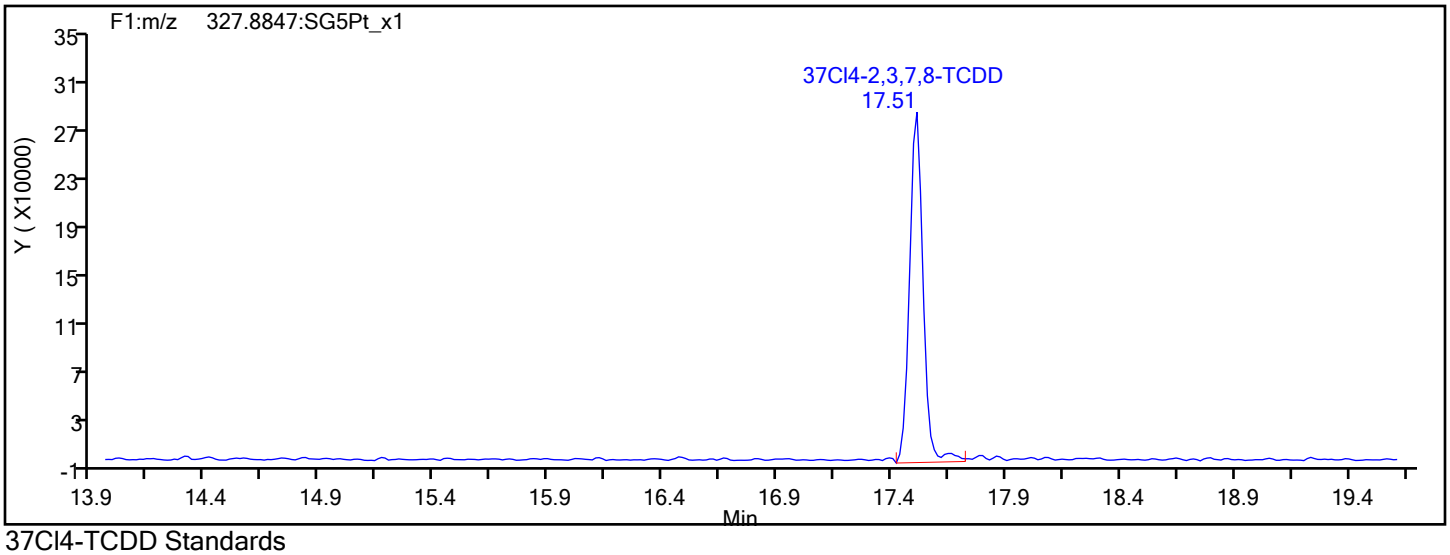

37Cl4-TCDD Standards

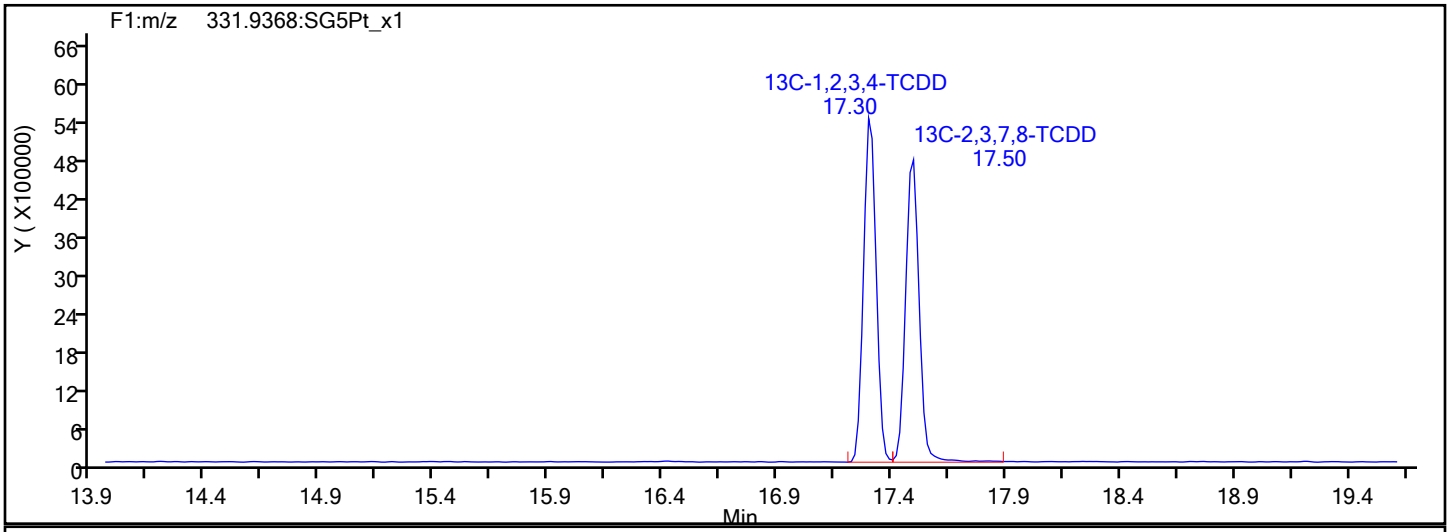

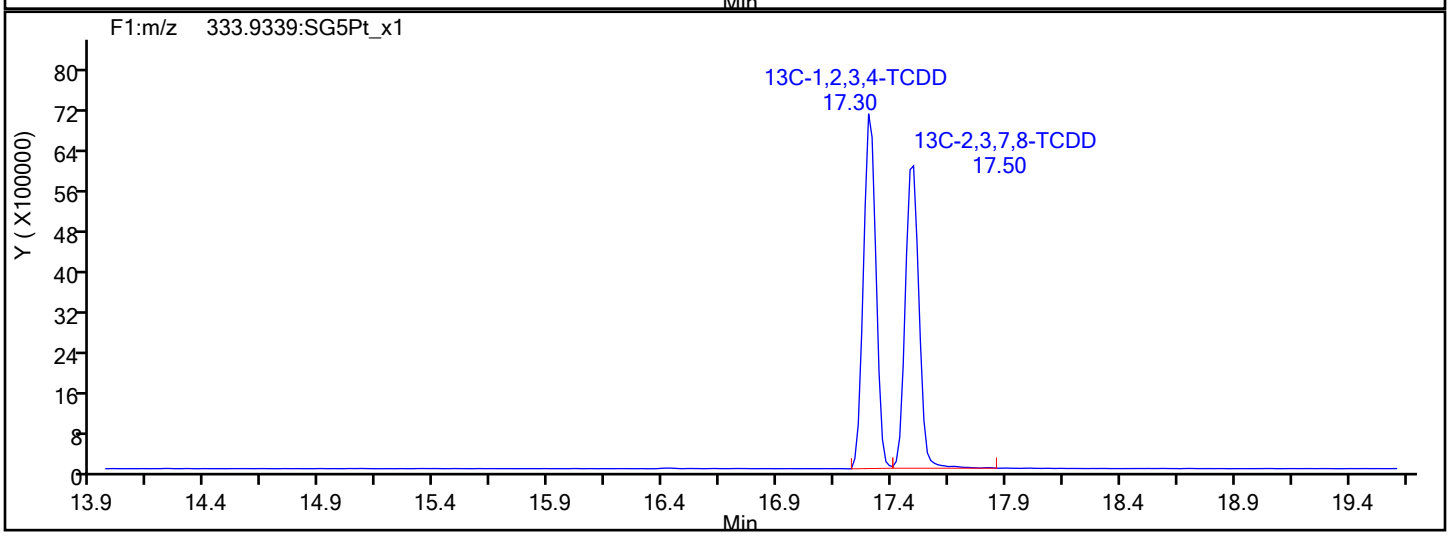

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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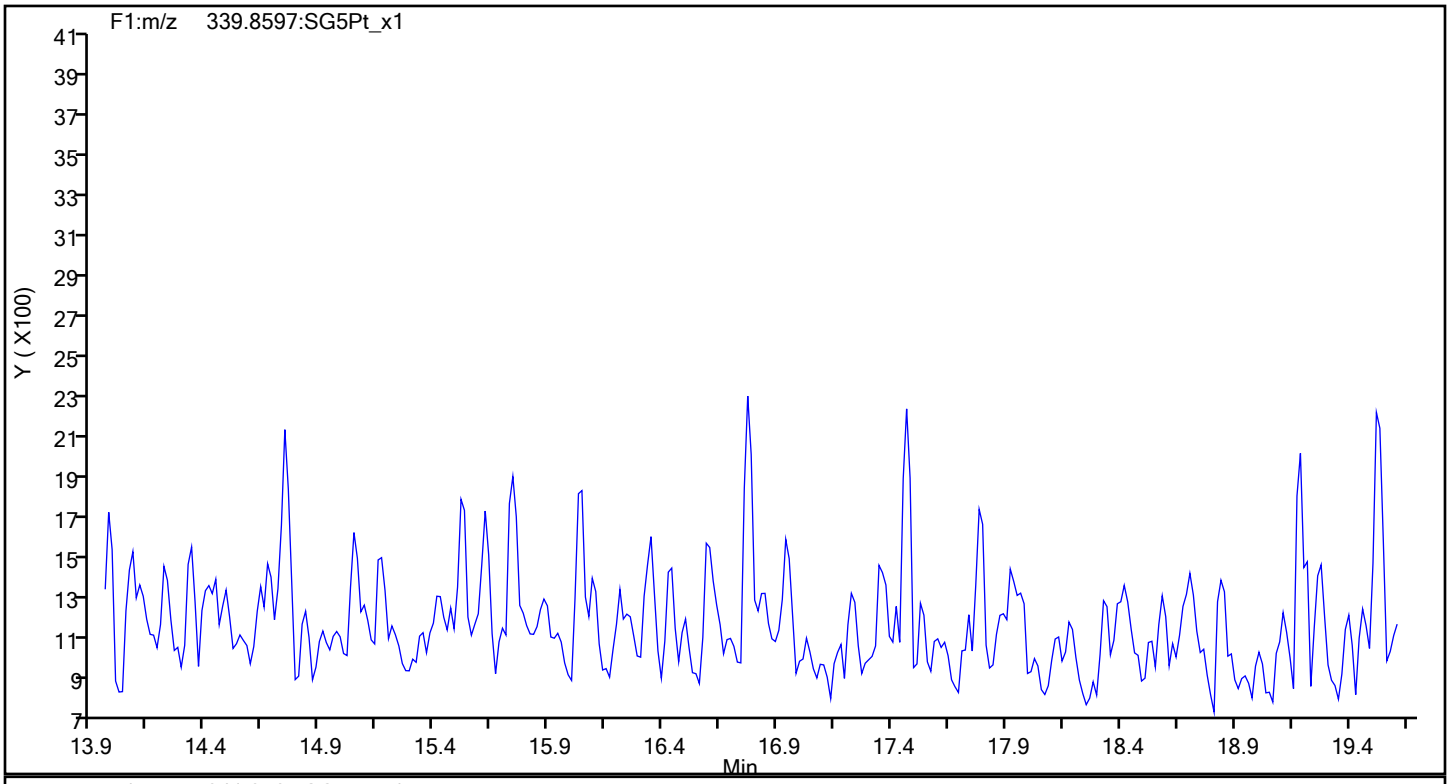

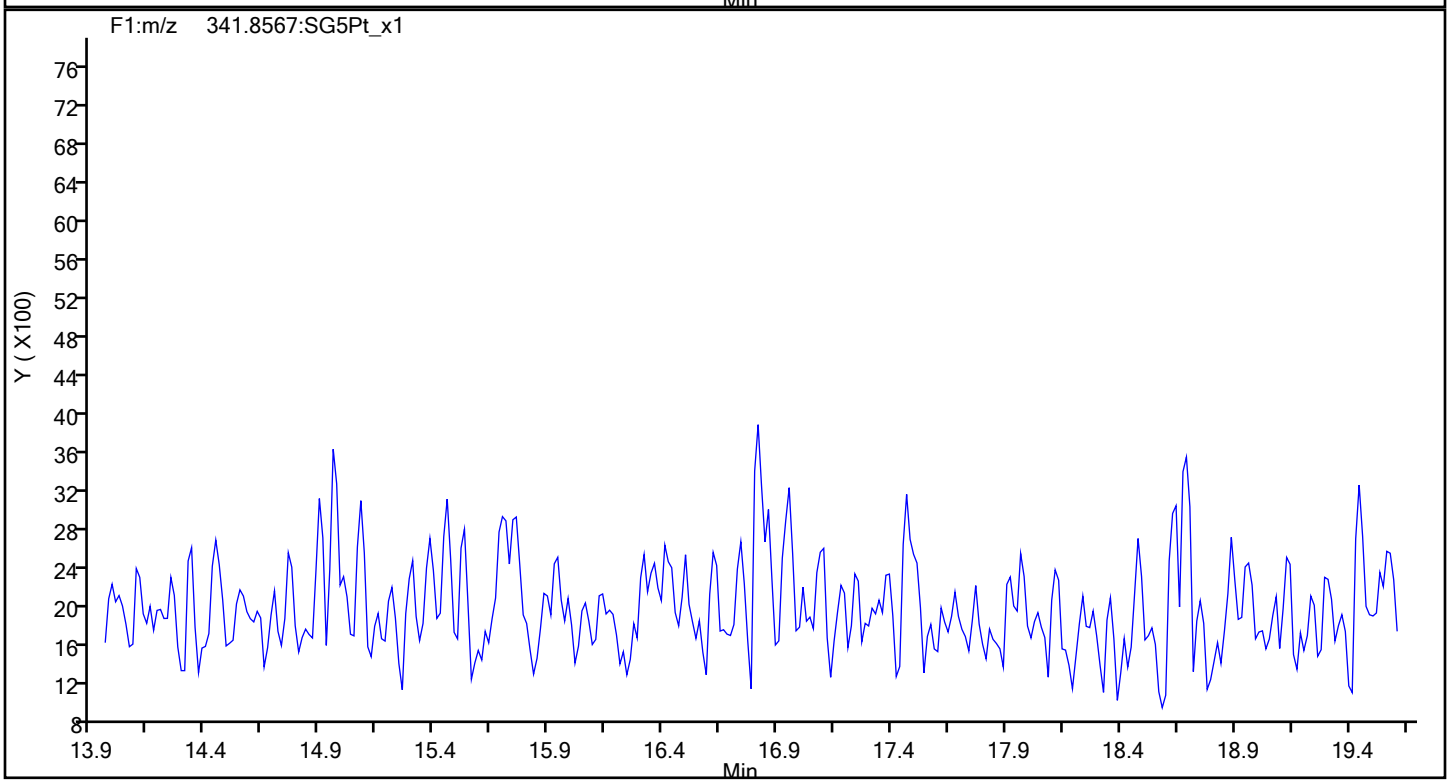

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Eurofins TestAmerica, Sacramento

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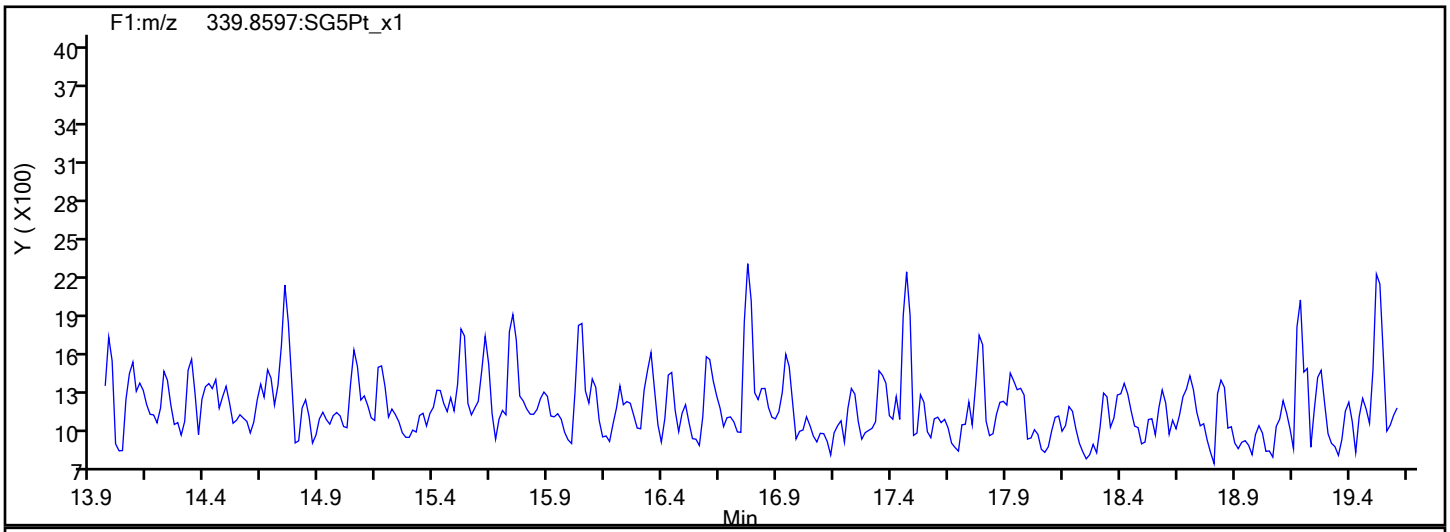

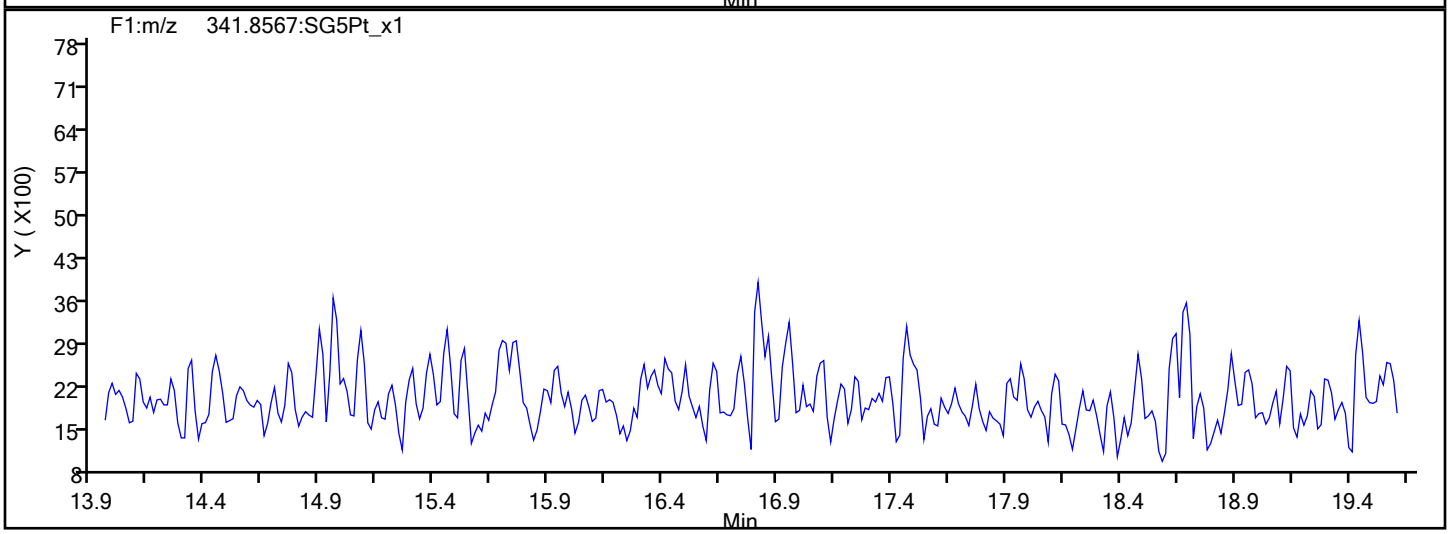

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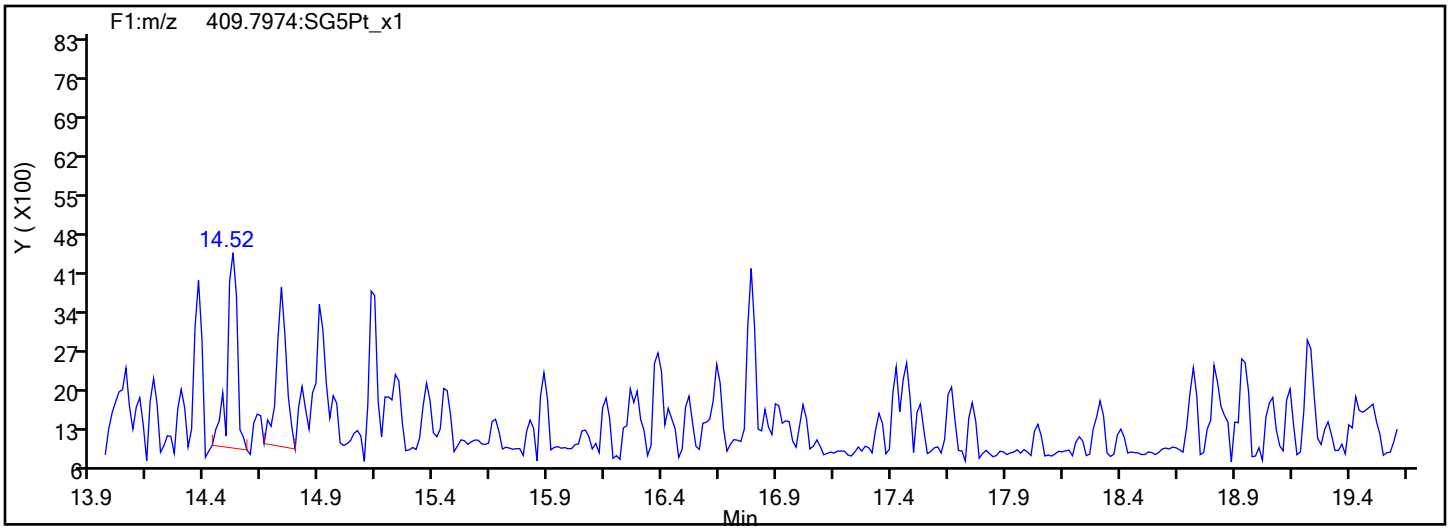

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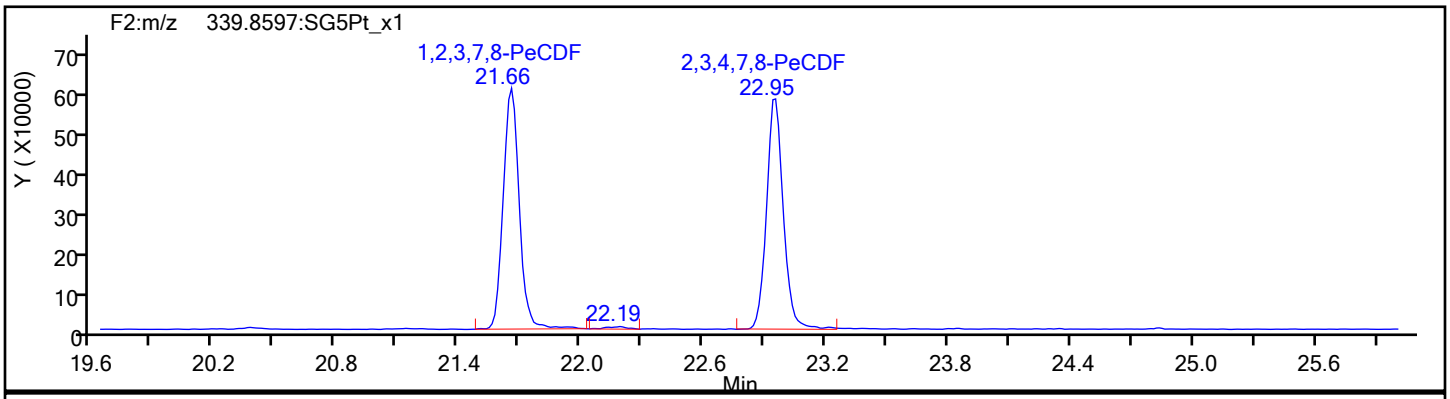

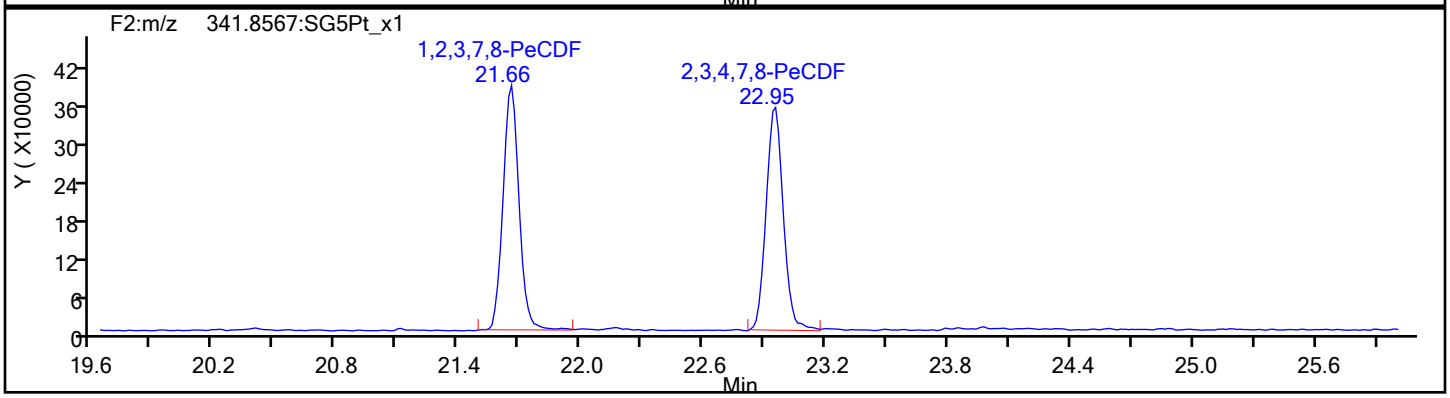

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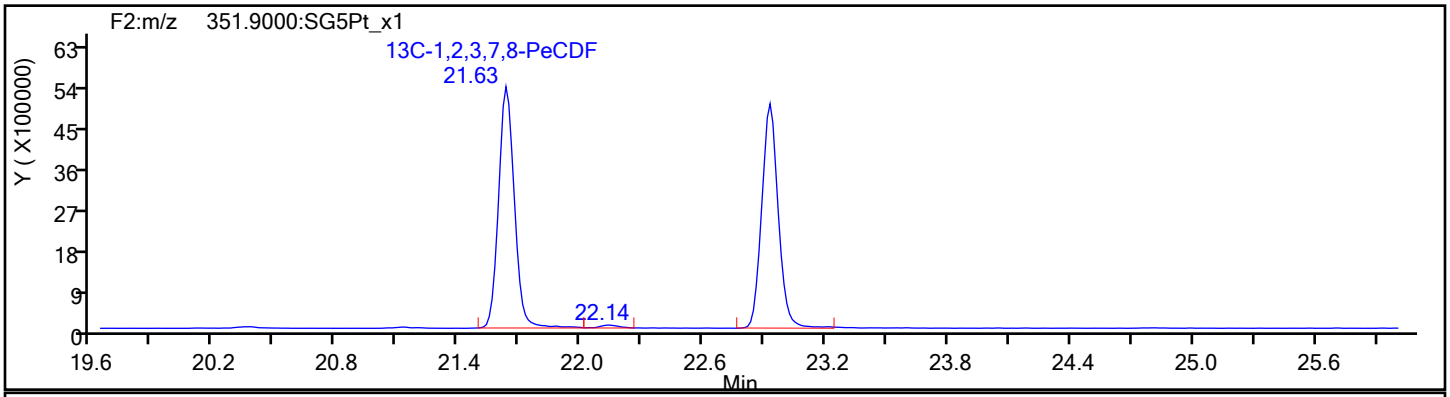

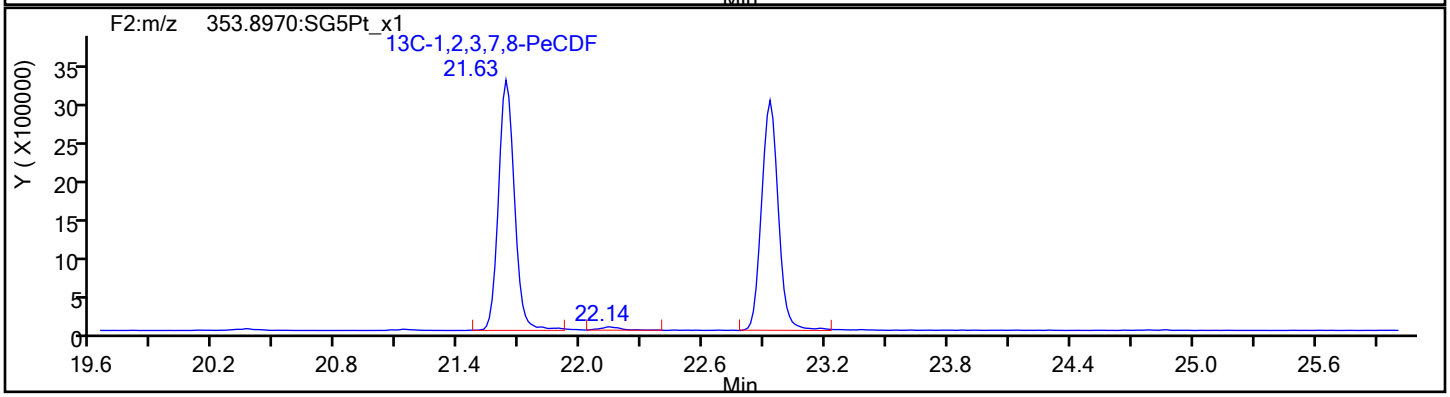

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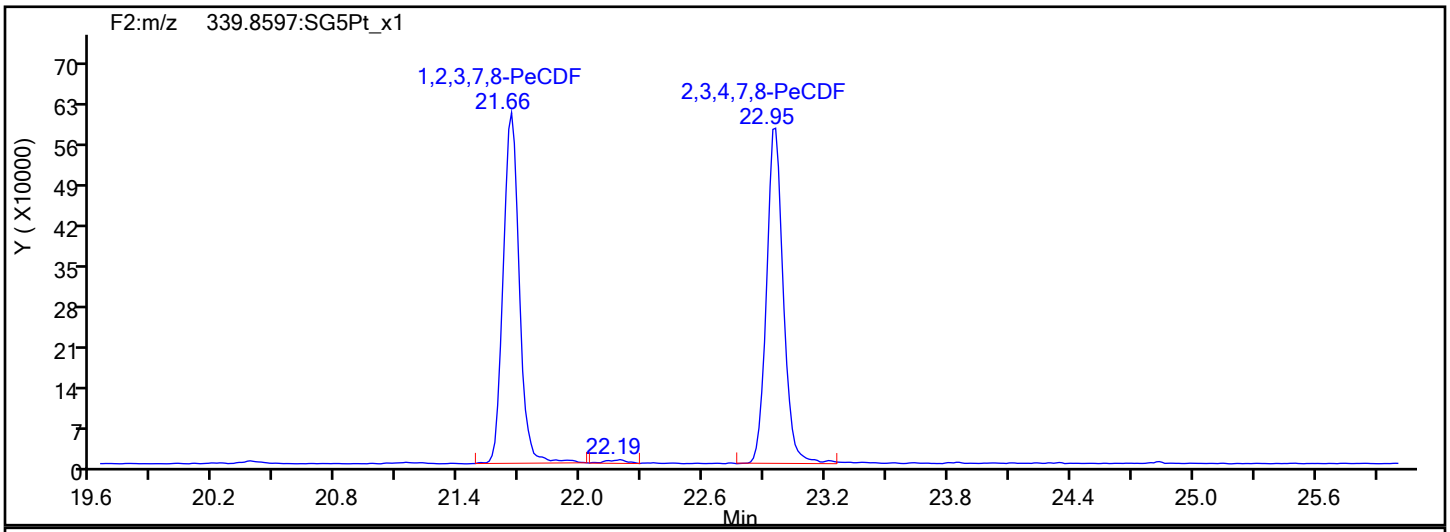

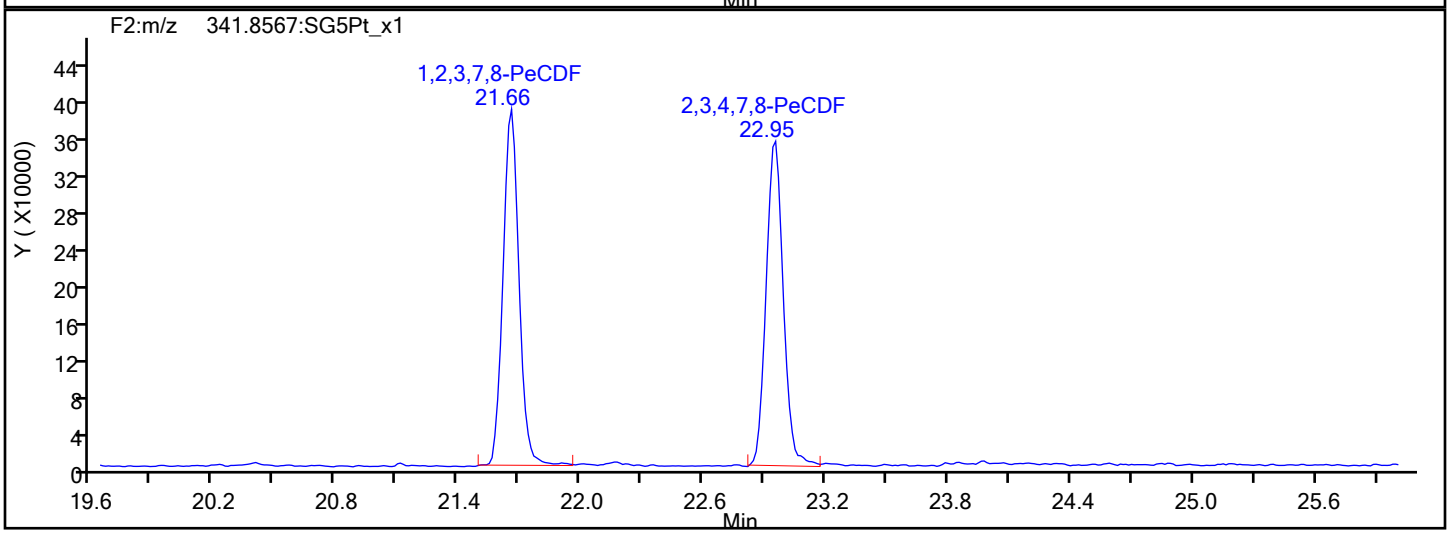

PeCDF Interference Mass

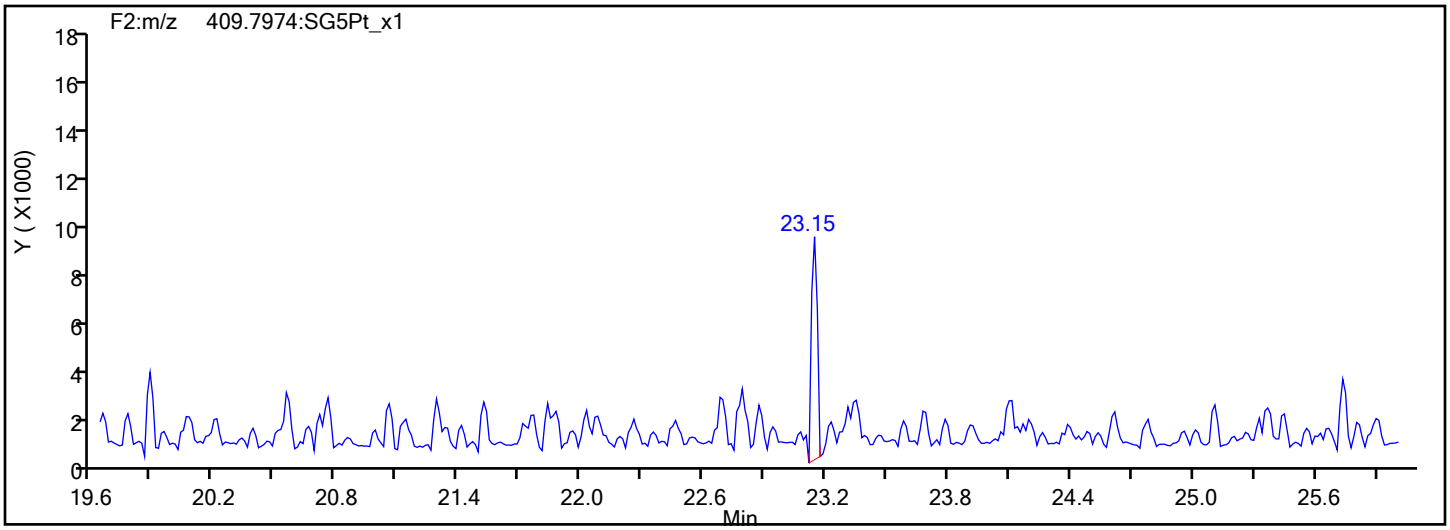

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Eurofins TestAmerica, Sacramento

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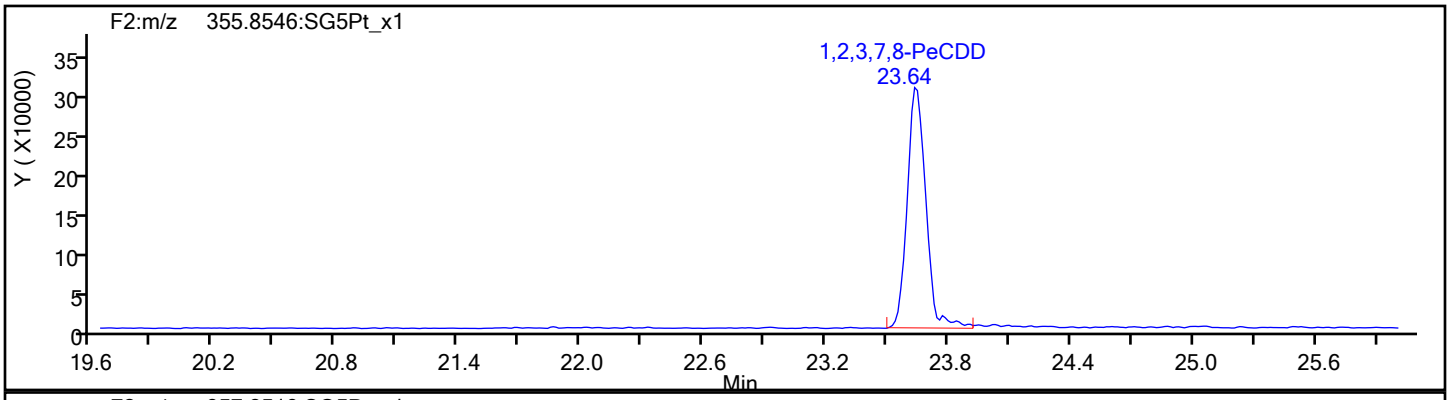

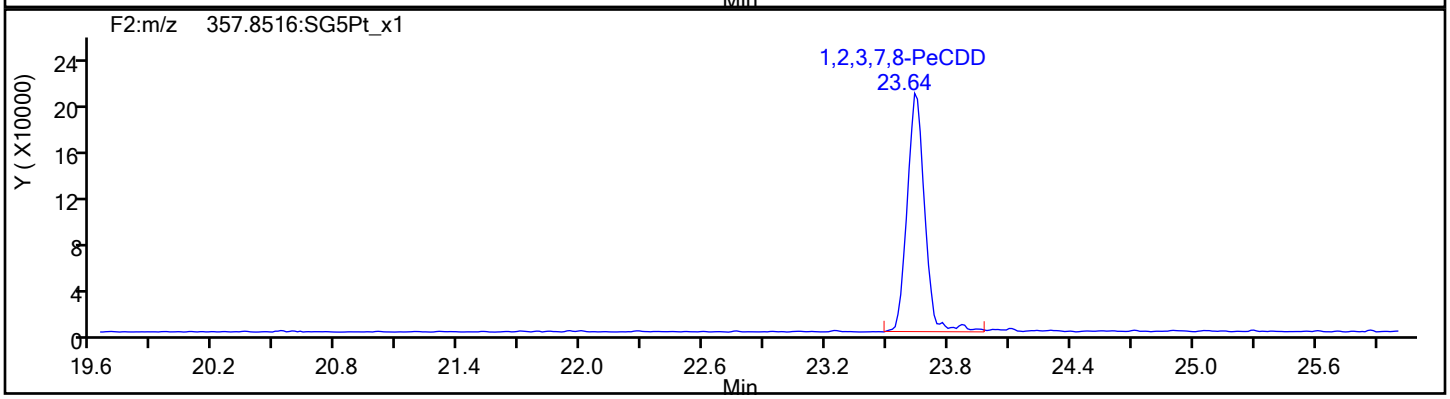

PeCDD Standards

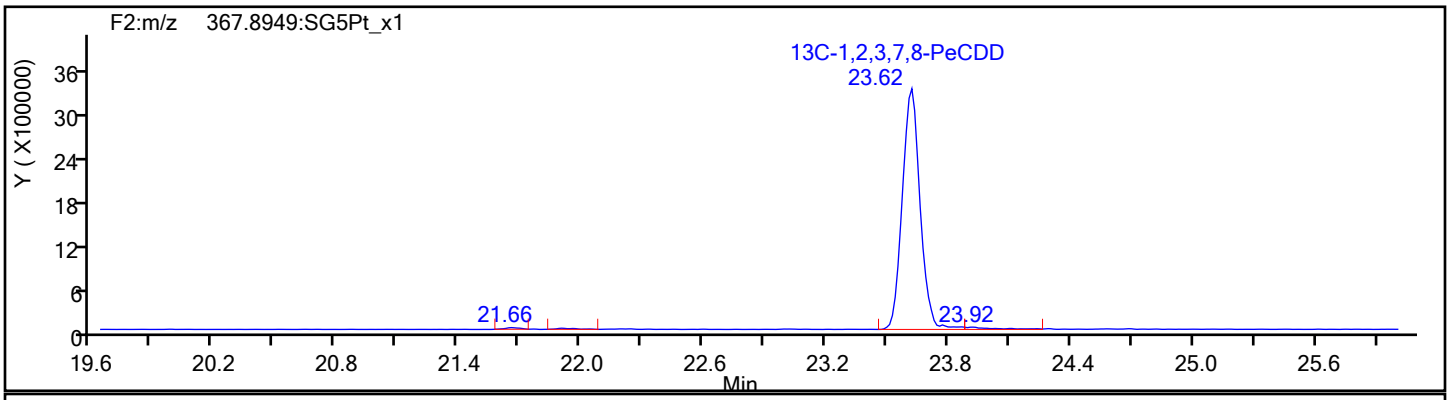

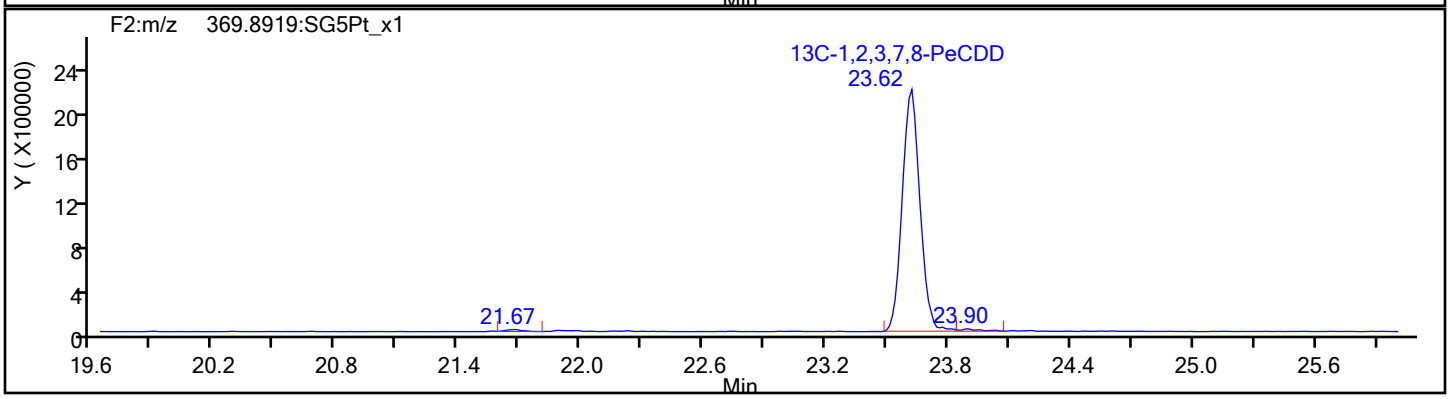

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Eurofins TestAmerica, Sacramento

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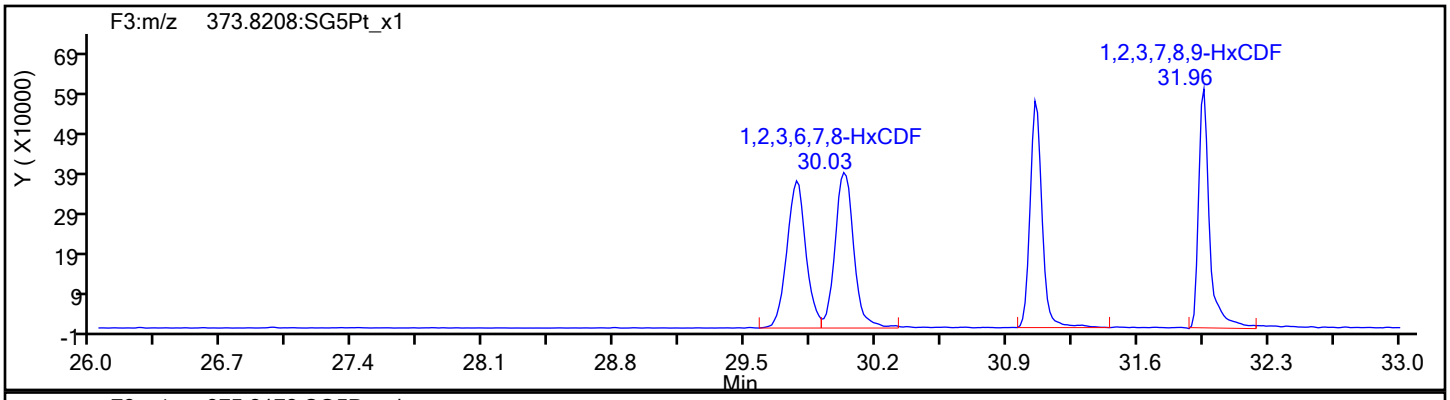

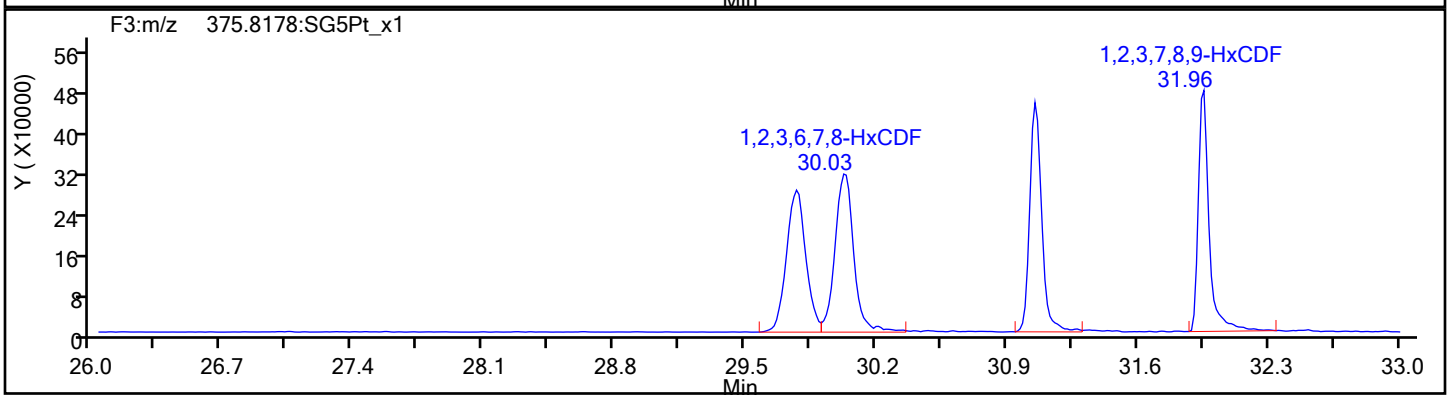

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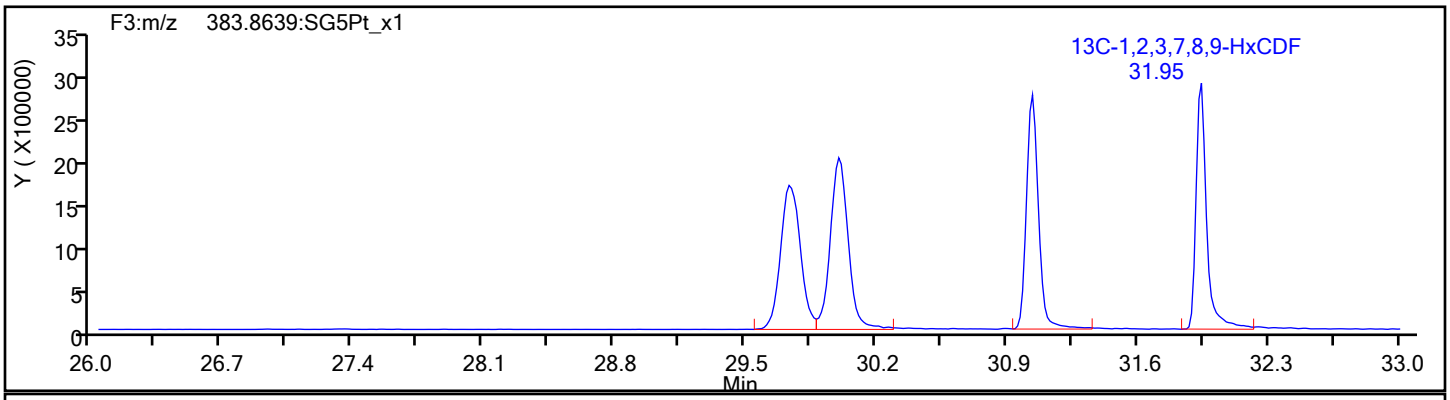

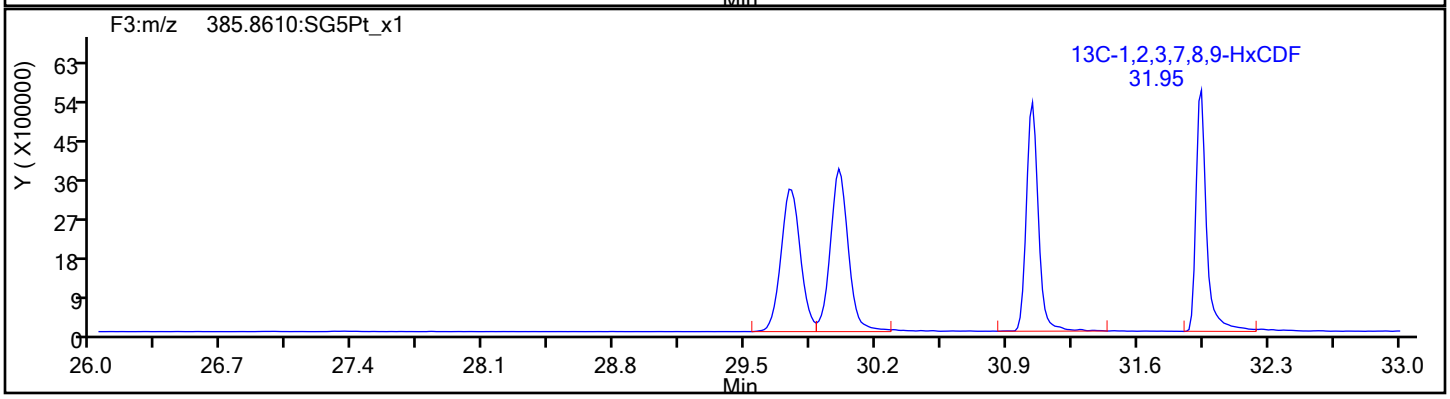

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Eurofins TestAmerica, Sacramento

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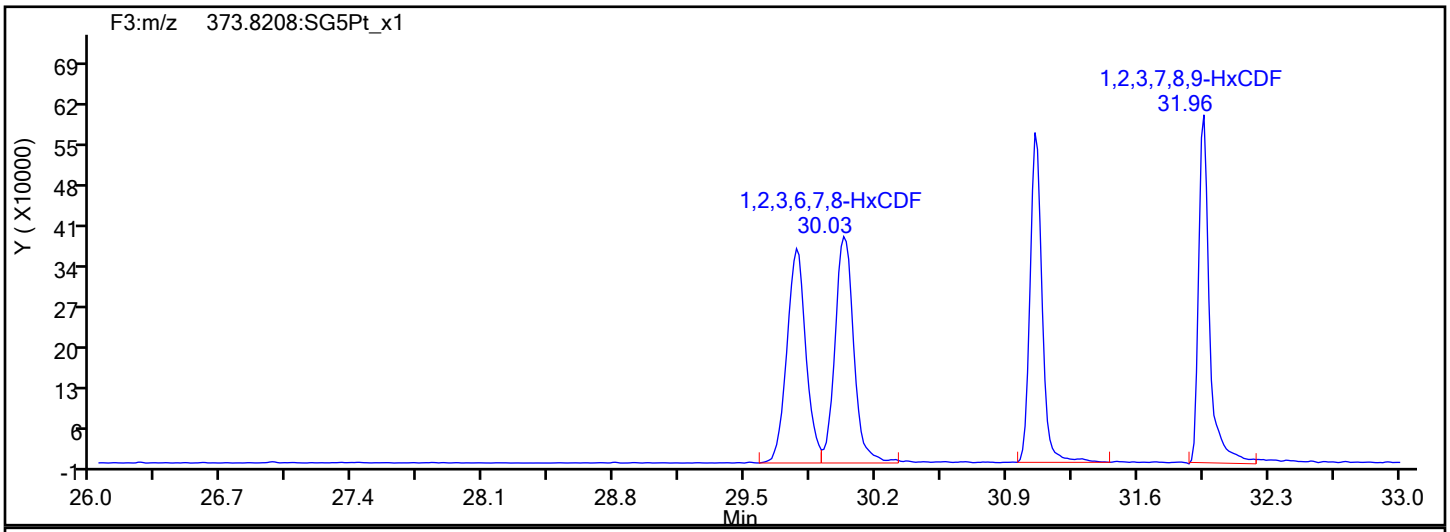

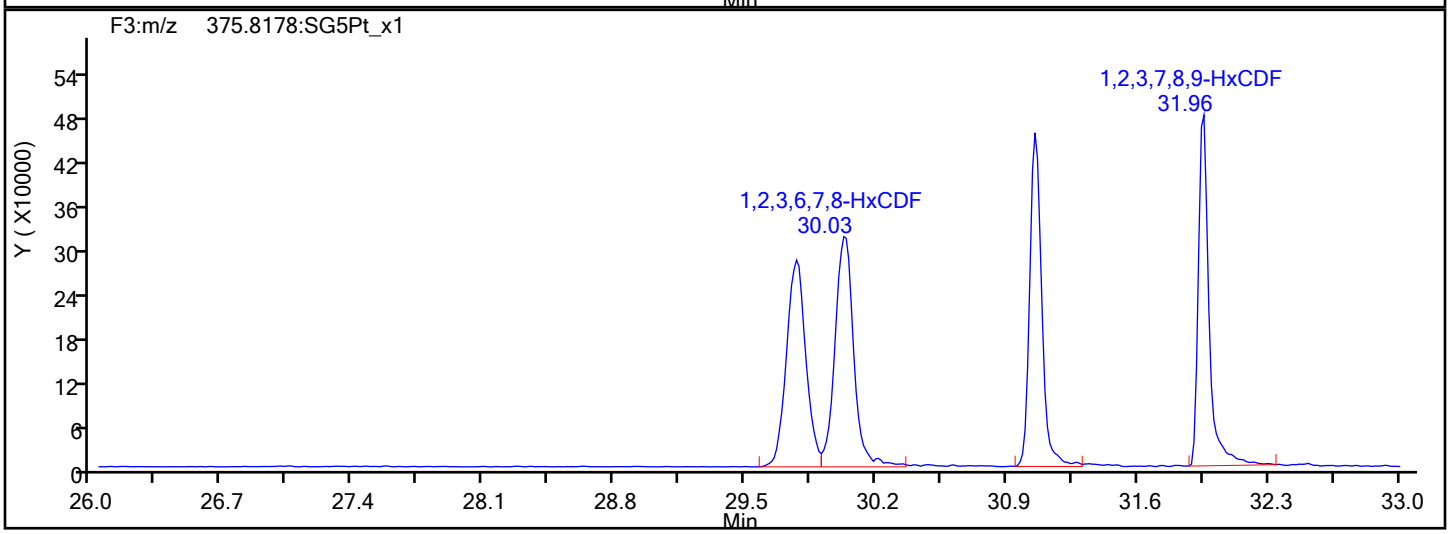

HxCDF Interference Mass

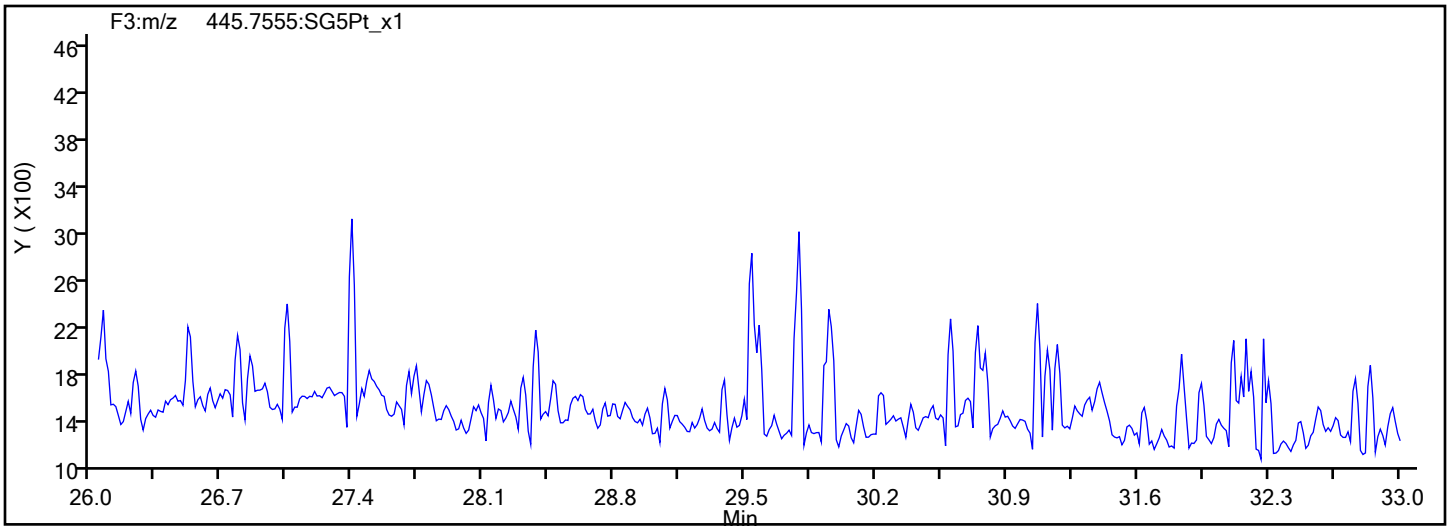

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Eurofins TestAmerica, Sacramento

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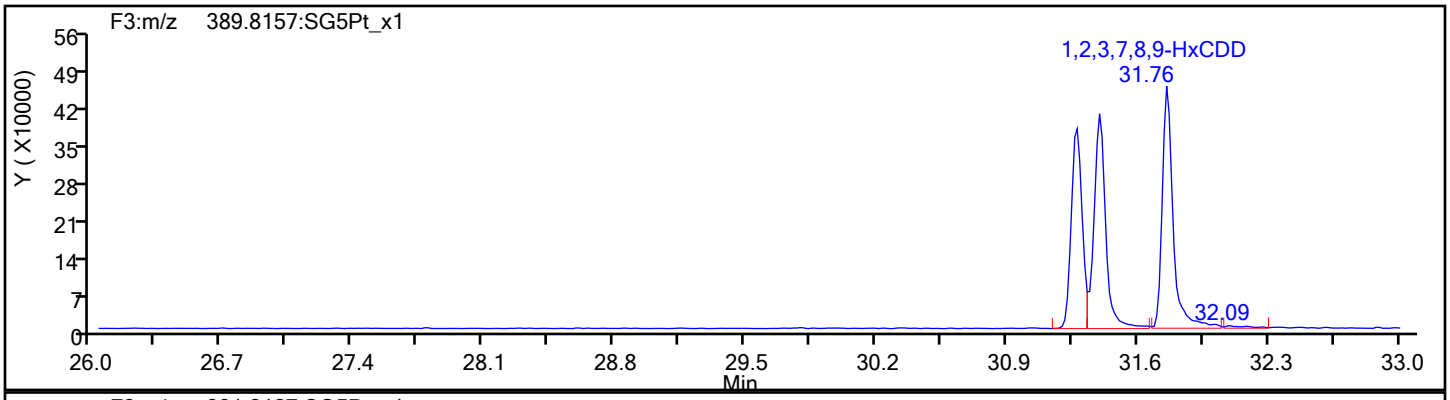

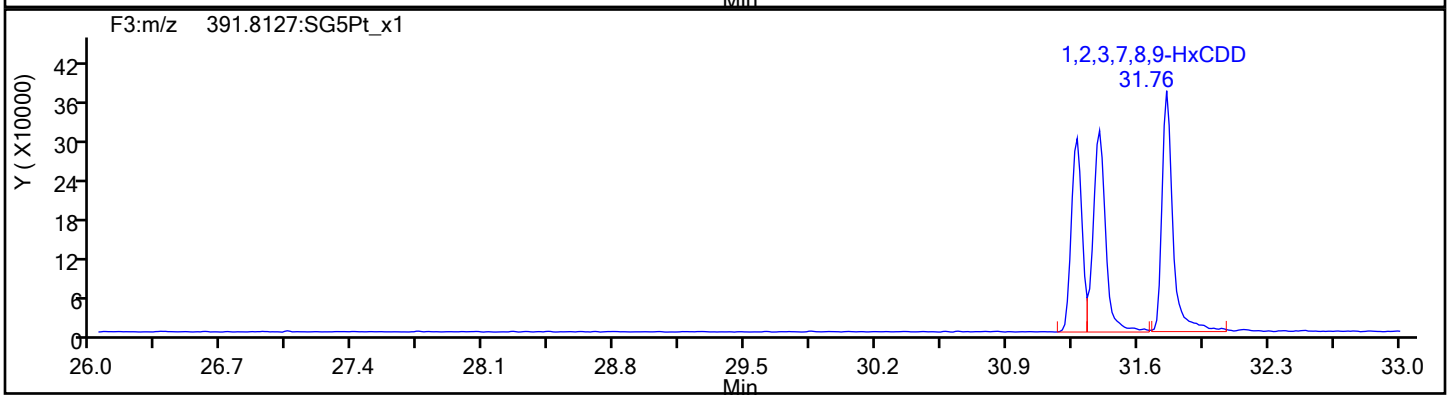

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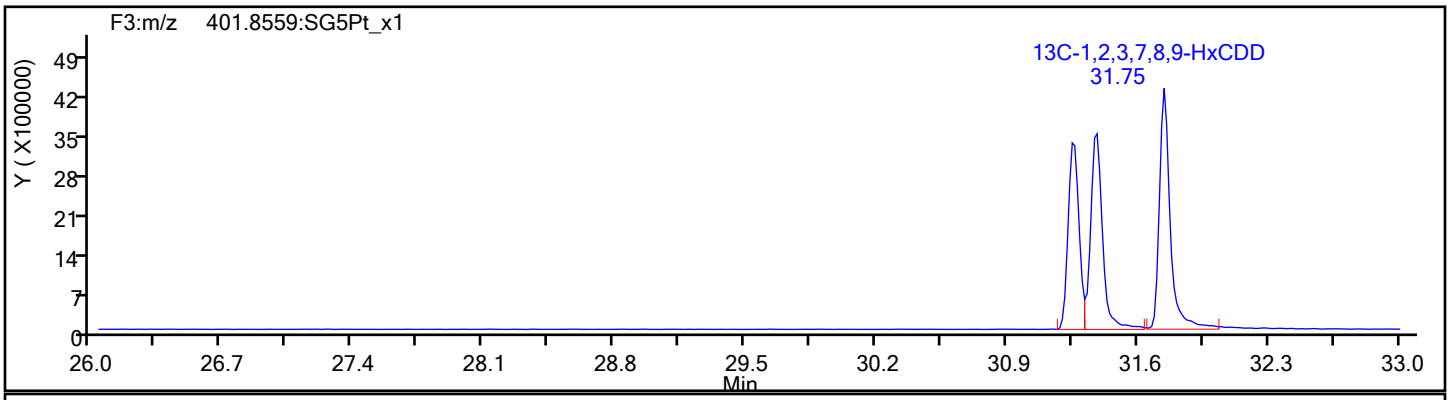

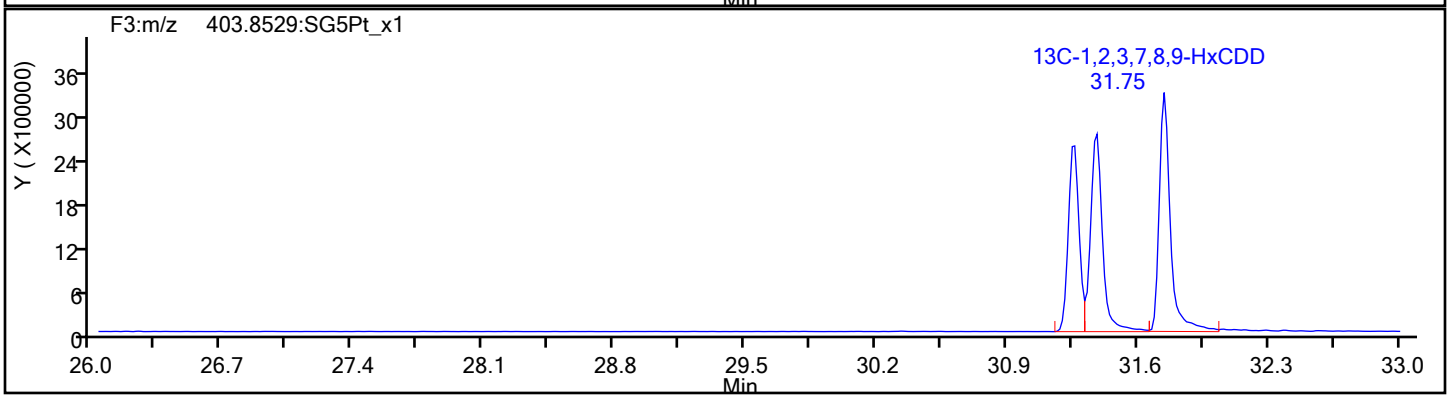

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Eurofins TestAmerica, Sacramento

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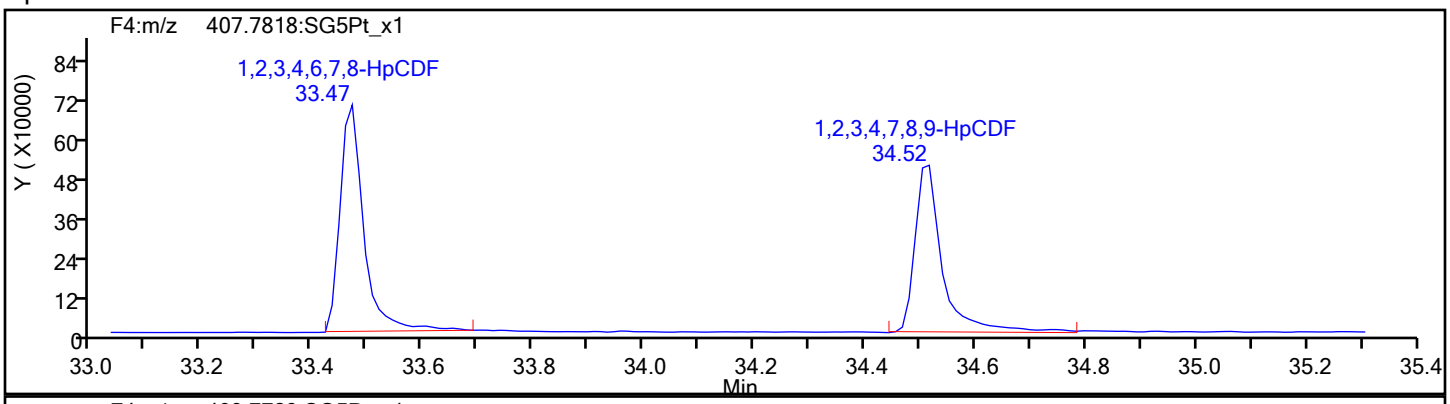

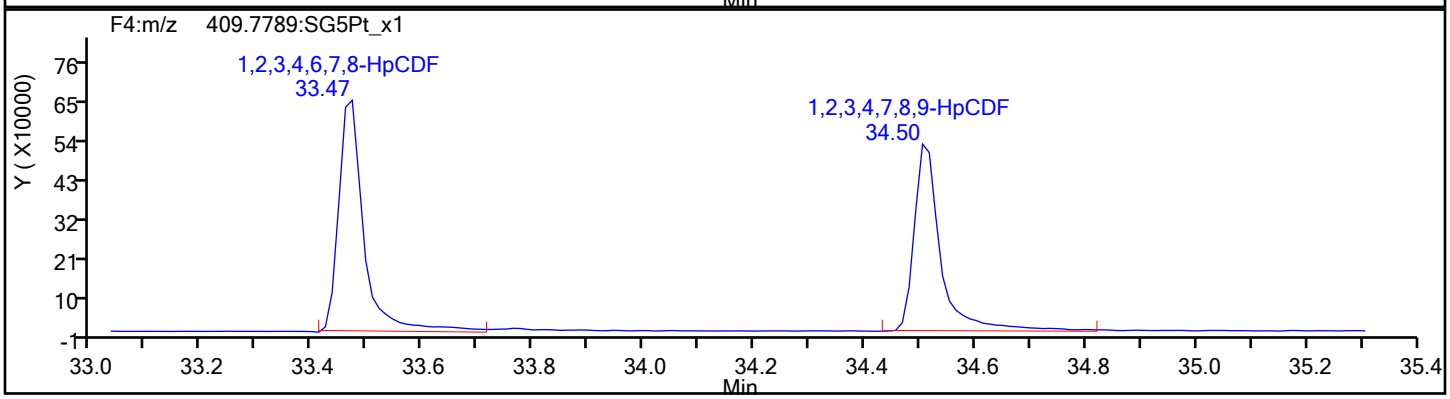

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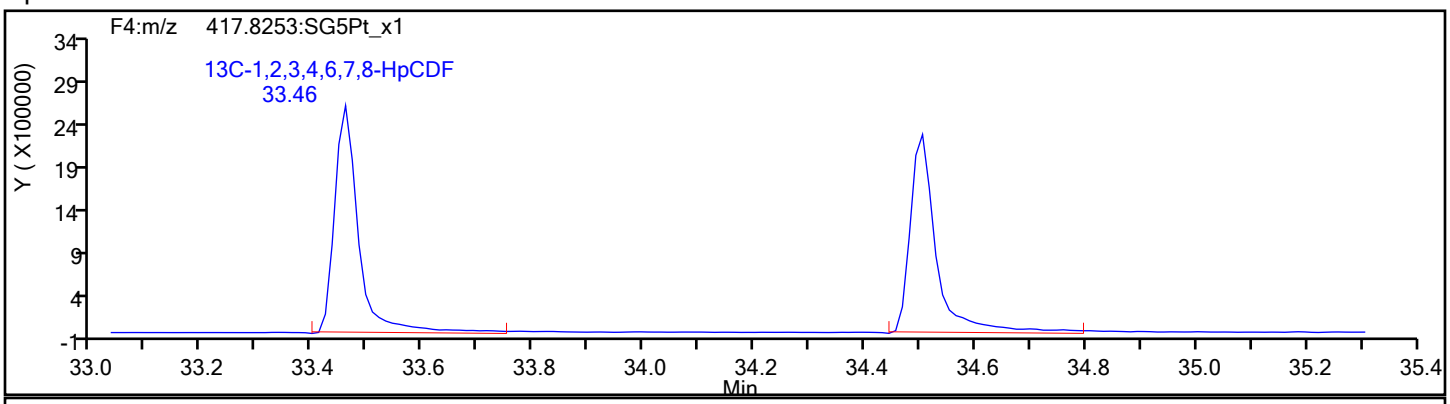

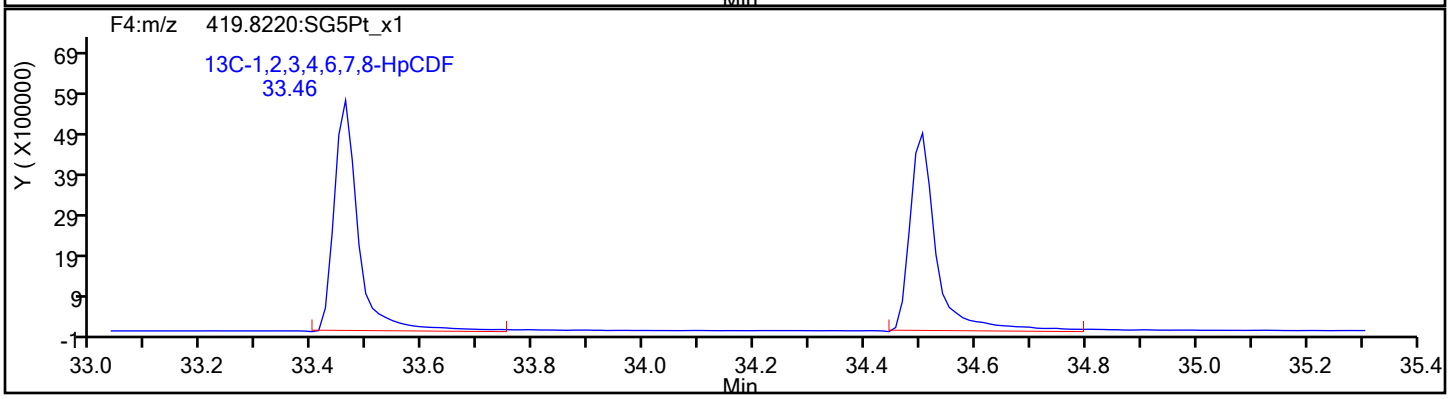

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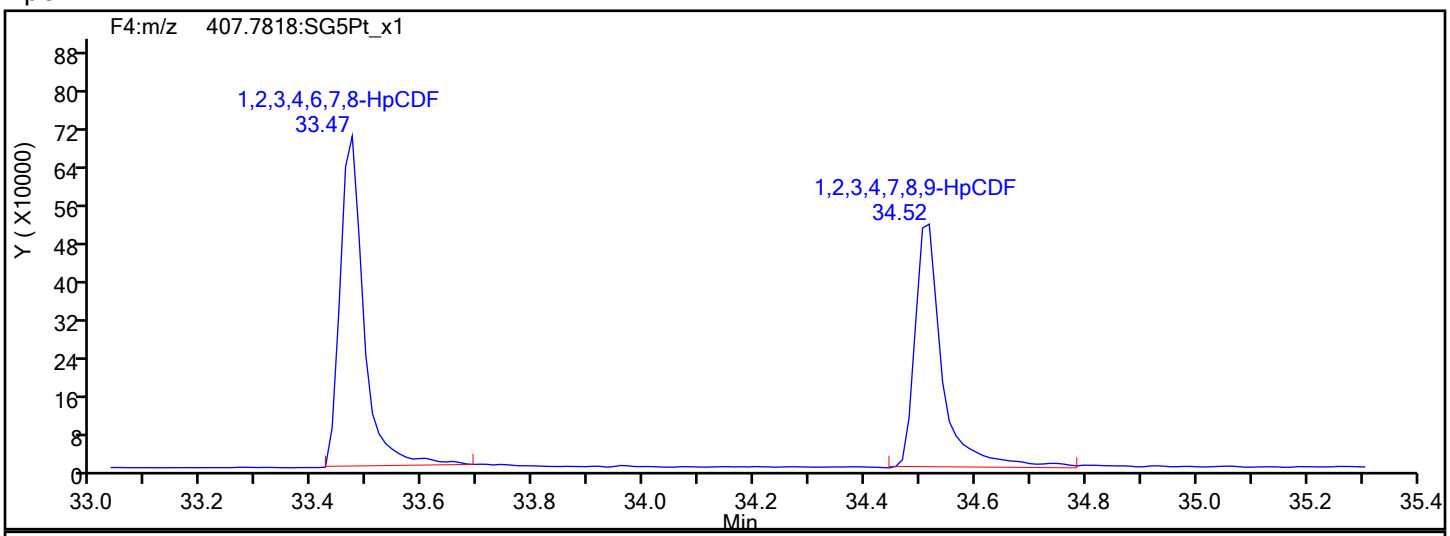

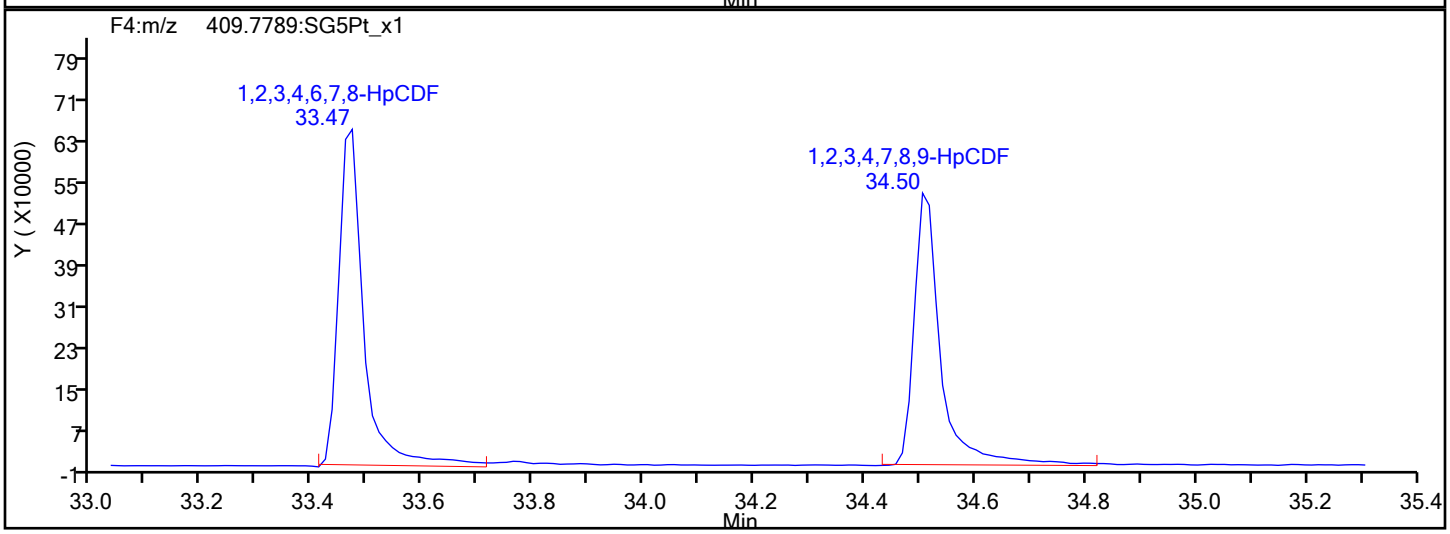

HpCDF Interference Mass

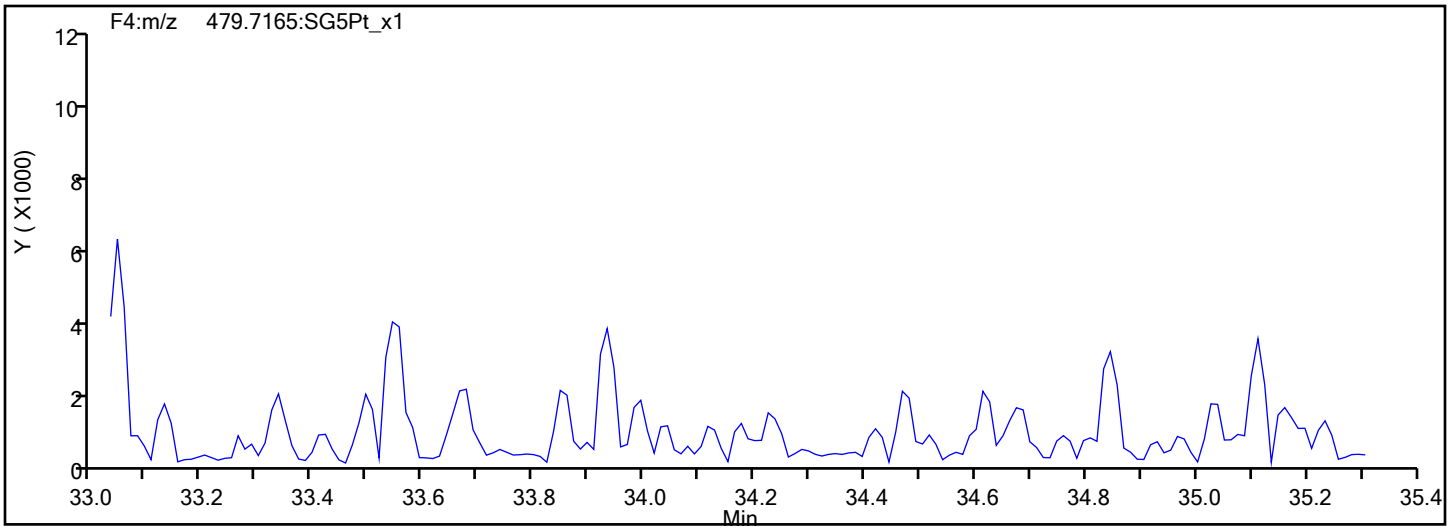

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Eurofins TestAmerica, Sacramento

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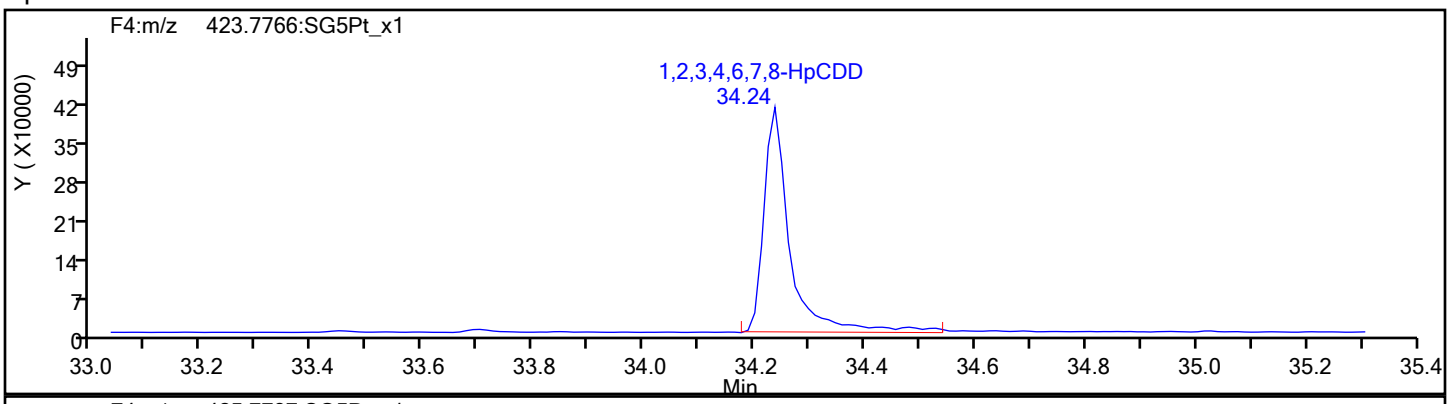

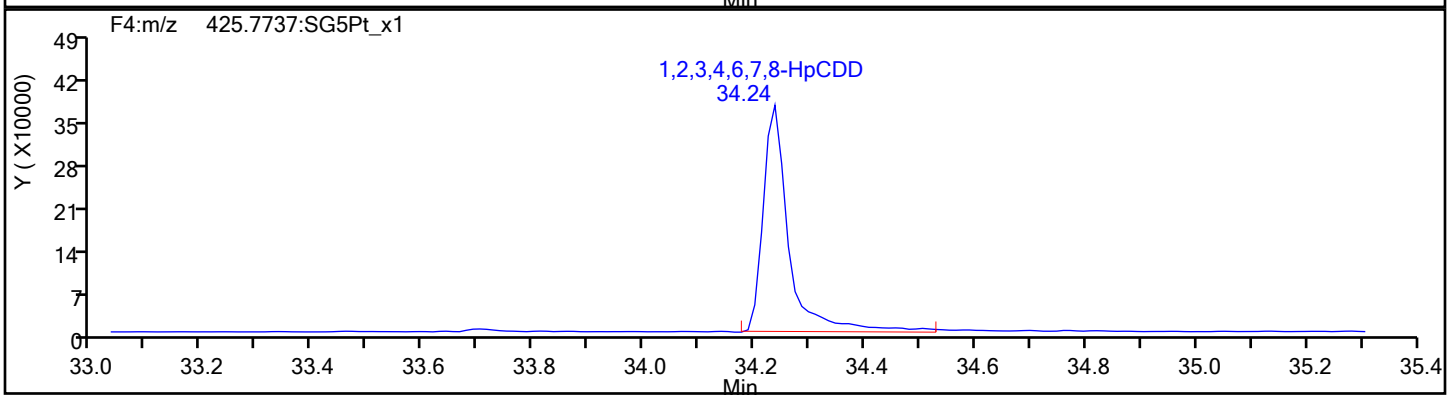

HpCDD Standards

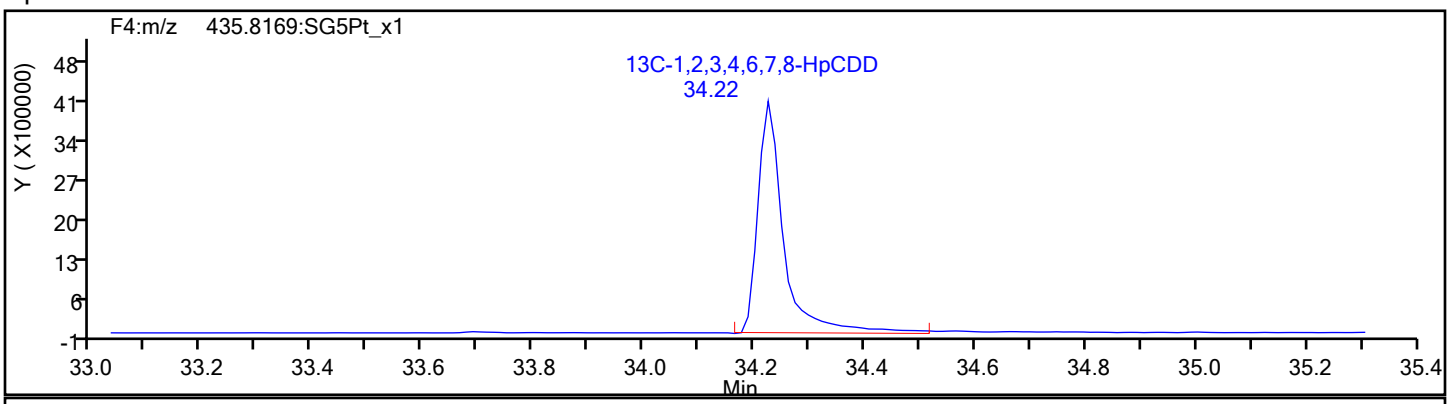

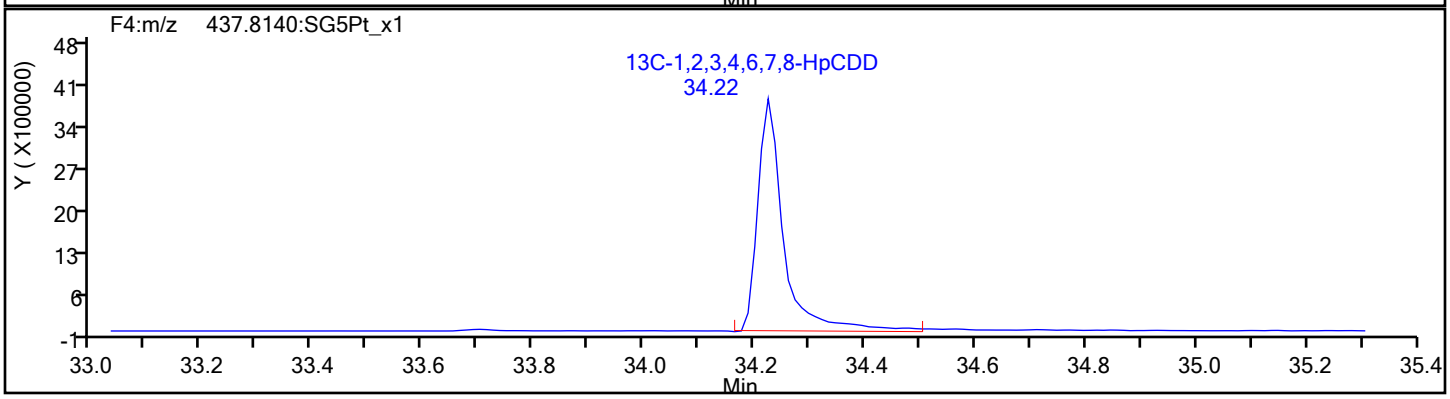

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OCDF

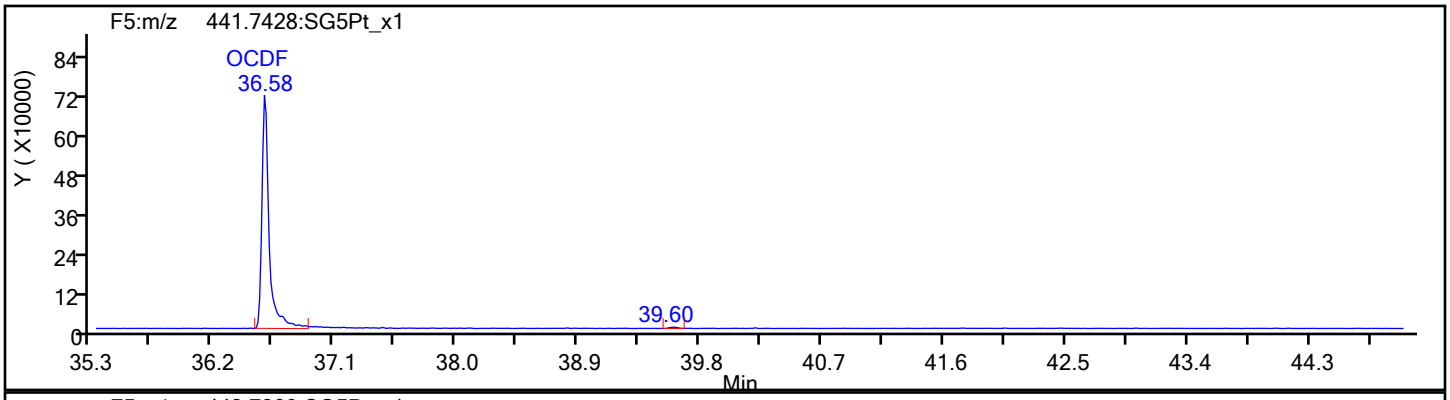

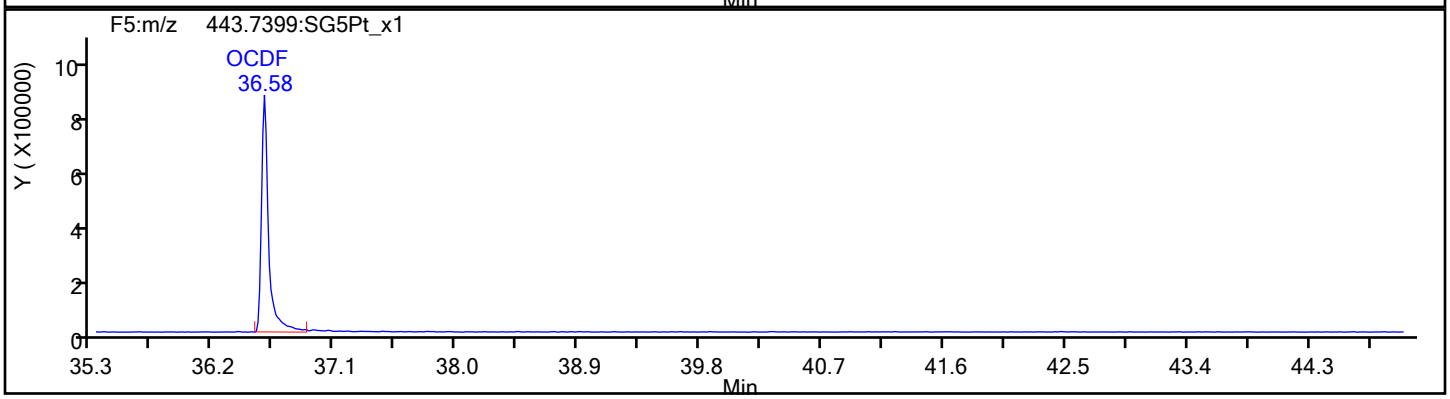

OCDF Standards

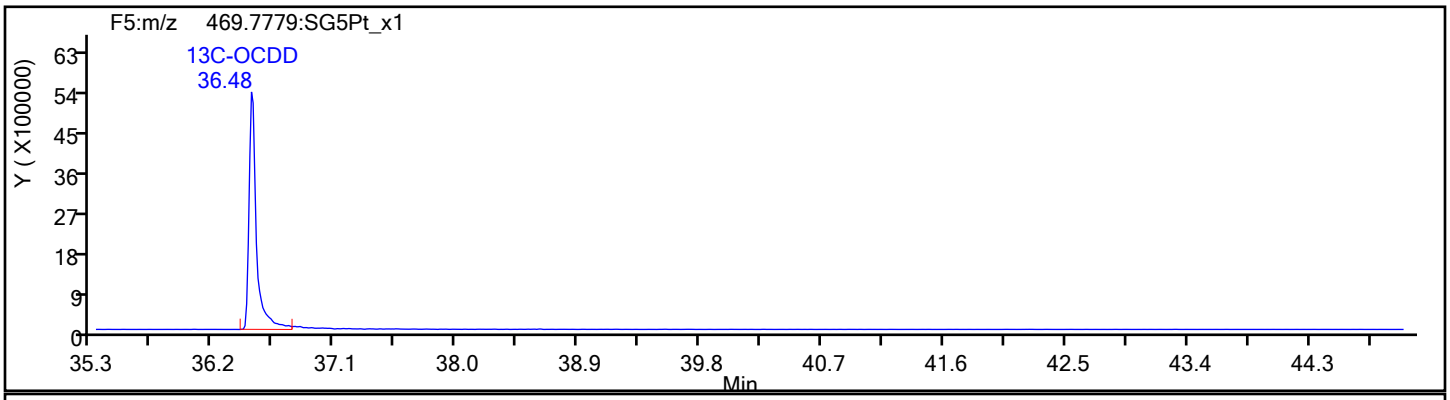

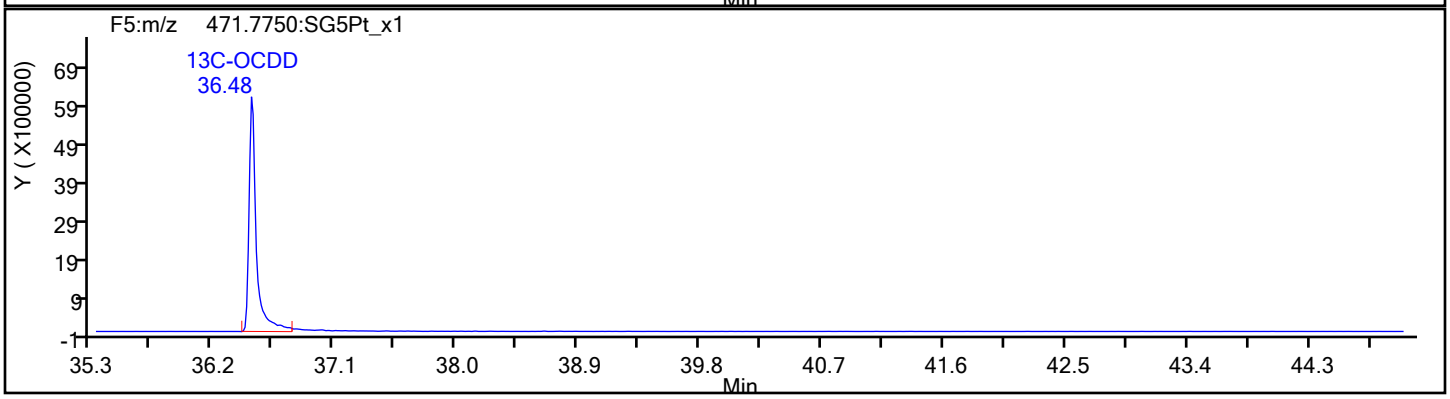

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d		
Injection Date:	17-Sep-2019 13:49:24	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

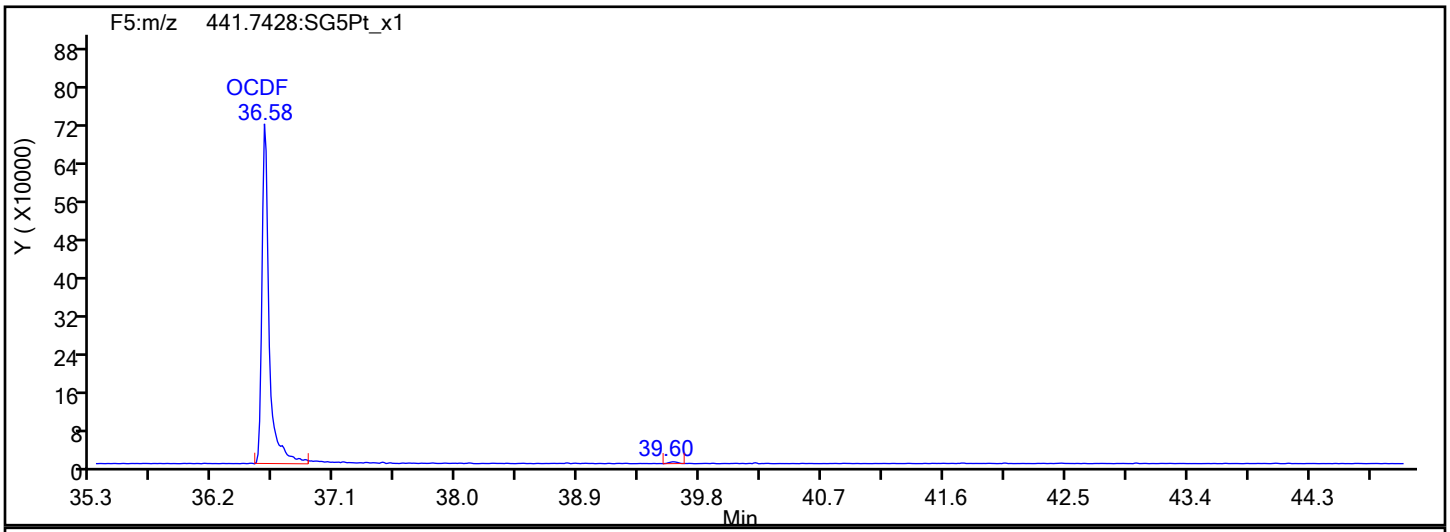

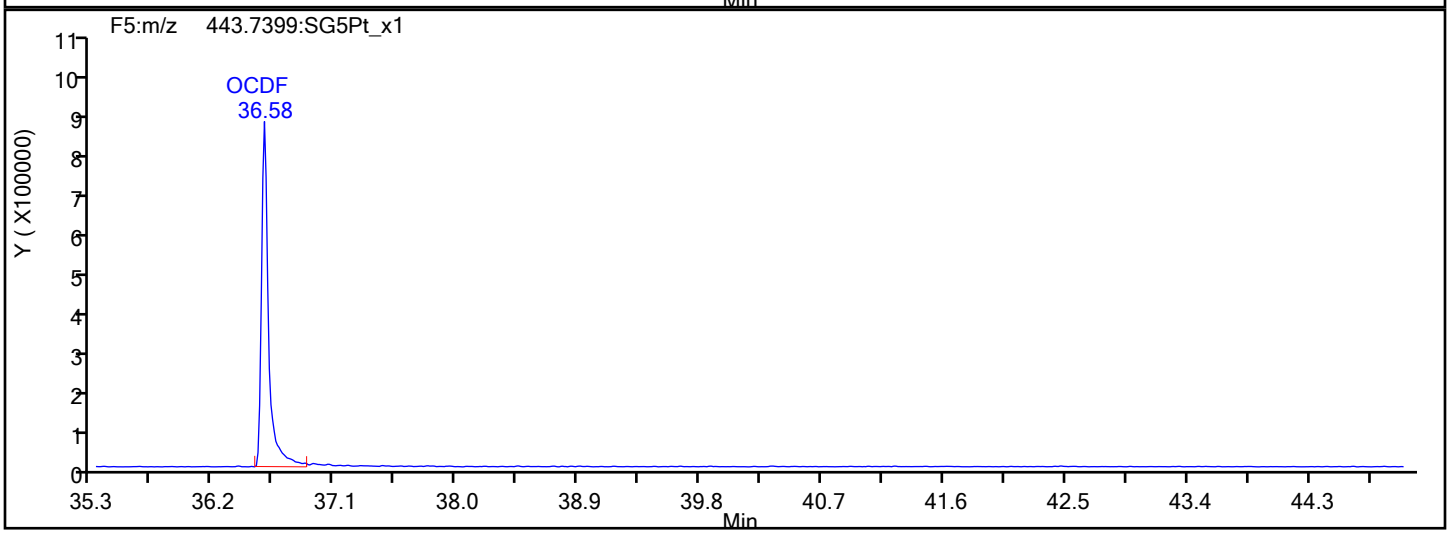

OCDF Interference Mass

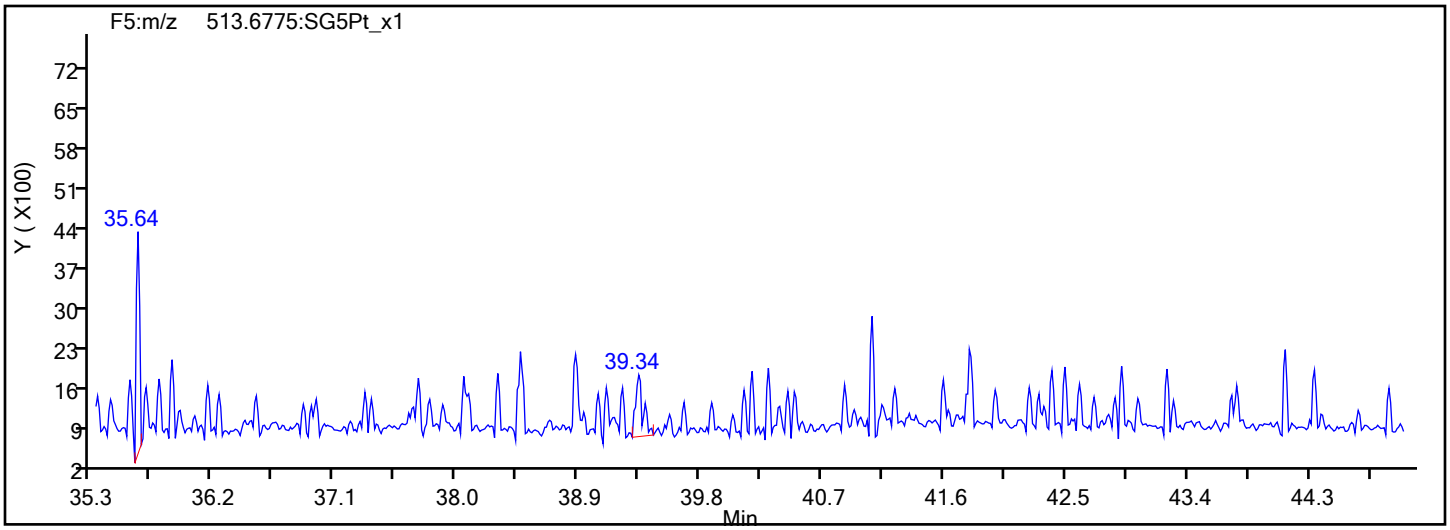

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d		
Injection Date:	17-Sep-2019 13:49:24	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

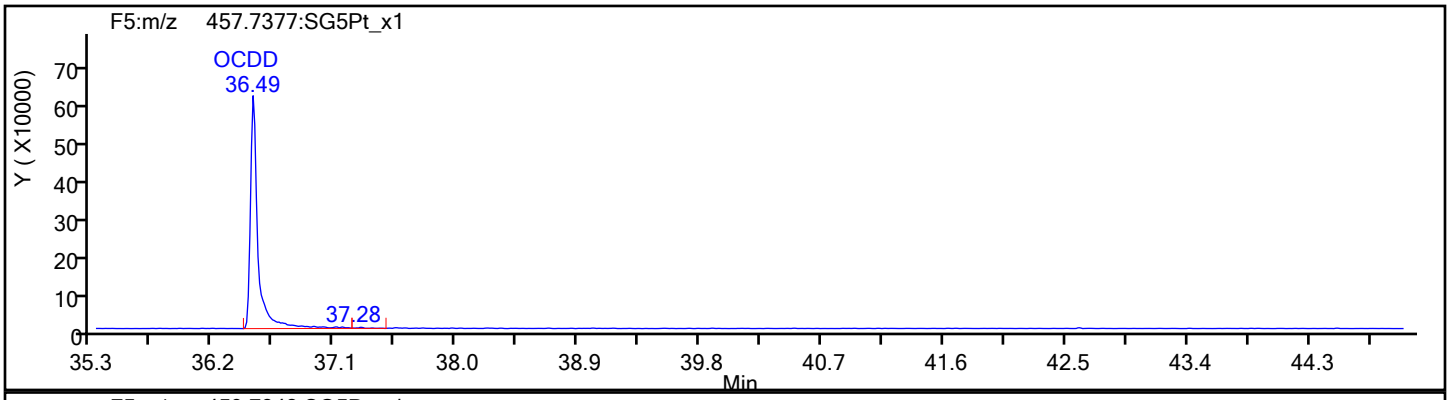

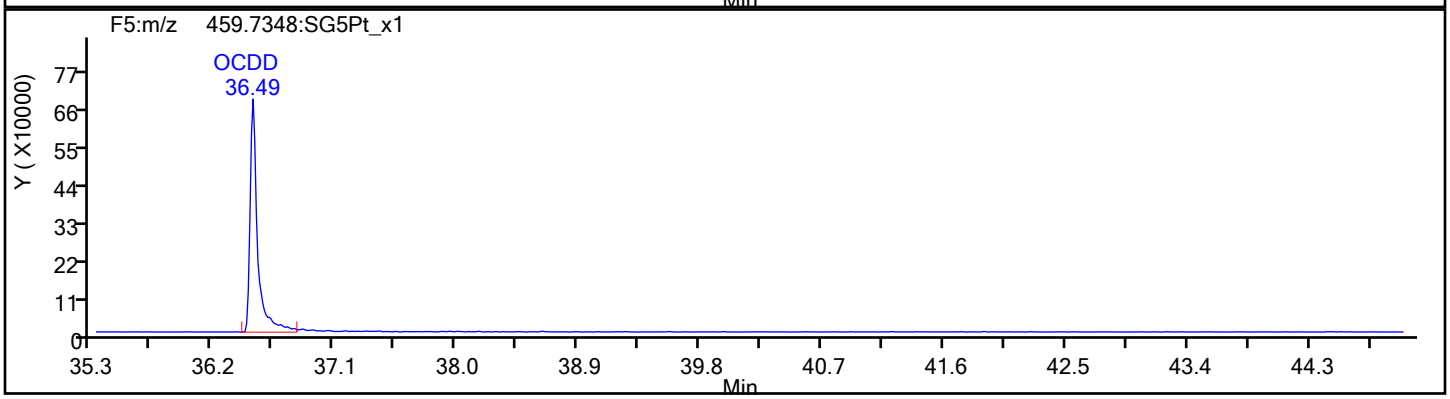

OCDD Standards

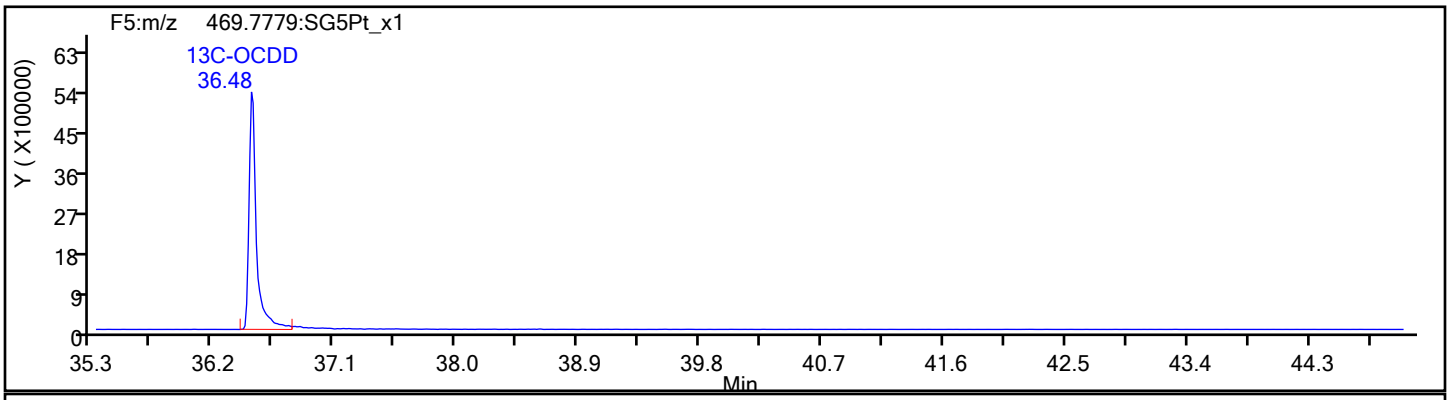

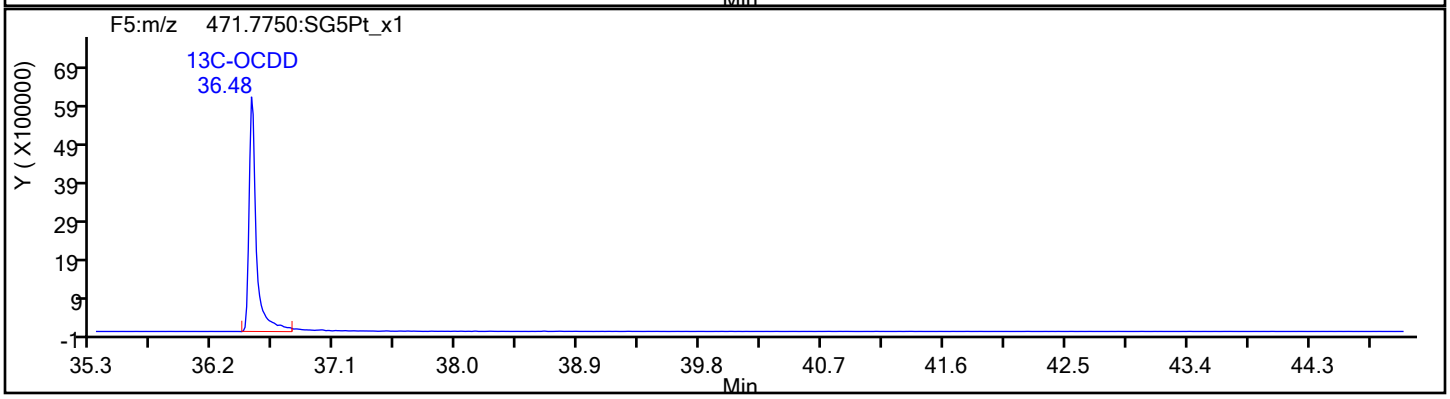

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d		
Injection Date:	17-Sep-2019 13:49:24	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

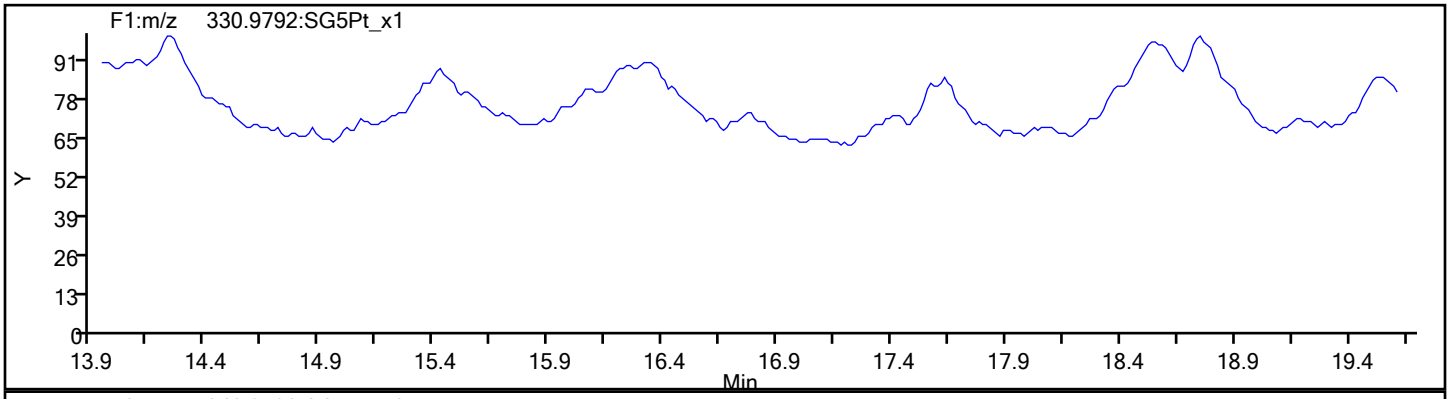

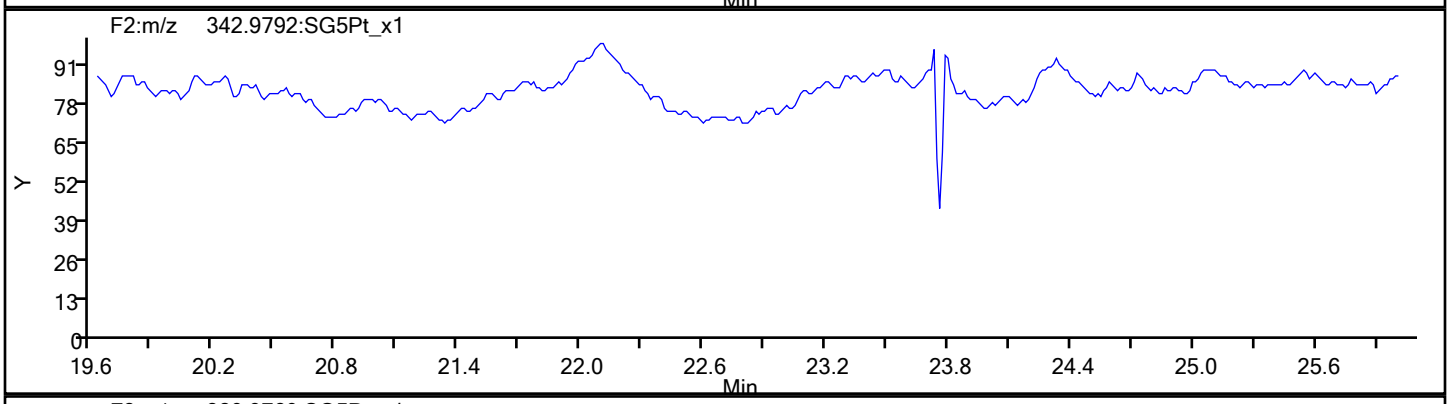

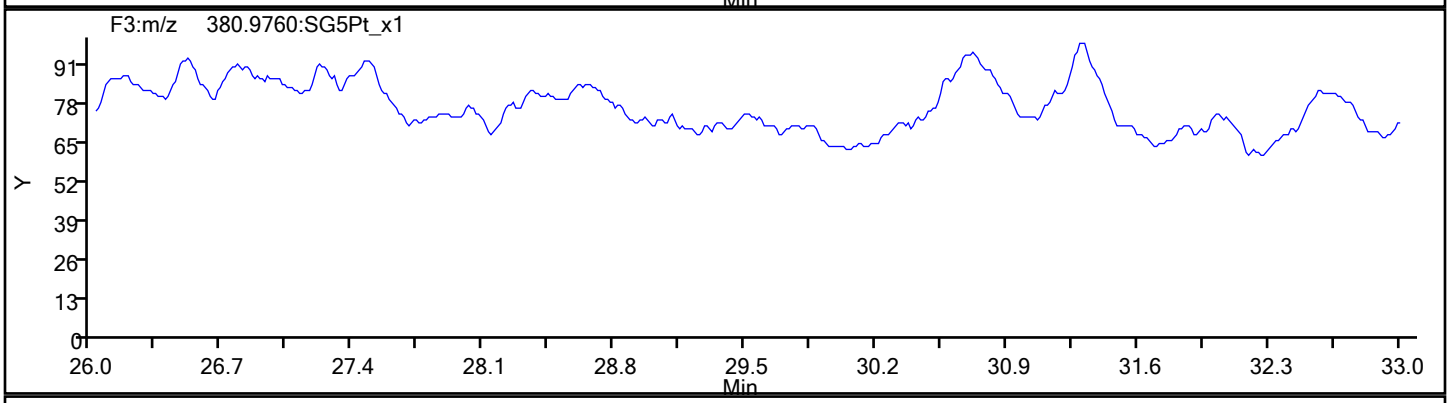

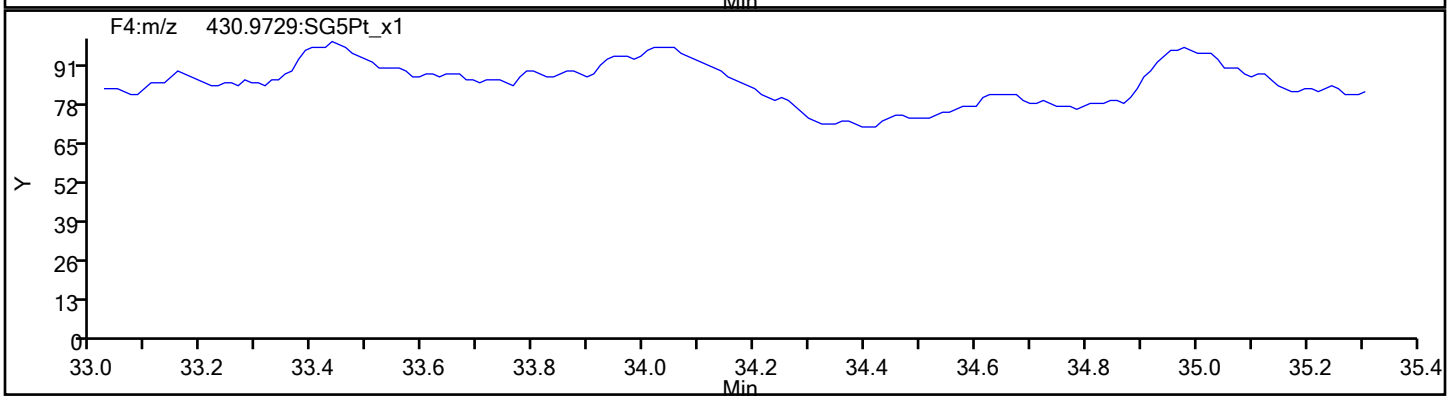

Report Date: 18-Sep-2019 10:22:25 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_4.d		
Injection Date:	17-Sep-2019 13:49:24	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	4
Column Type:	DB-5	Column Dia:	0.32 mm

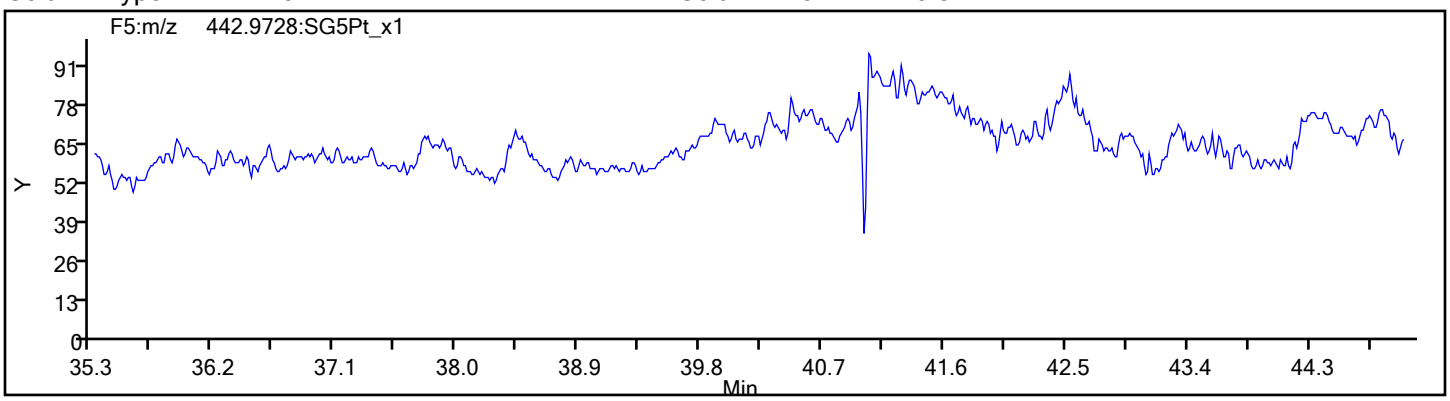

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_6.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 17-Sep-2019 15:21:22 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719C CS-5 HRDXNL5_00028
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:28 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:06:18

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.315	136791650	0.77	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.816	197671153	0.80	1.4384	100.5	100.5	0.1444	0.1444	100	
2,3,7,8-TCDF	16.831	83942362	0.79	1.0507	40.4	40.4	0.0684	0.0684	101	
S Total TCDF					40.4	40.4	0.0684	0.0684		
D 13C-2,3,7,8-TCDD	17.496	131023361	0.76	0.9533	100.5	100.5	0.1754	0.1754	100	
$ 37Cl4-2,3,7,8-TCDD	17.511	70585275		1.2224	42.2	42.2	0.0502	0.0502	106	
2,3,7,8-TCDD	17.511	59019056	0.79	1.1064	40.7	40.7	0.0423	0.0423	102	
S Total TCDD					40.7	40.7	0.0423	0.0423		
D 13C-1,2,3,7,8-PeCDF	21.645	146707284	1.60	1.0286	104.3	104.3	0.2271	0.2271	104	
1,2,3,7,8-PeCDF	21.672	332470884	1.58	1.0822	209.4	209.4	0.5823	0.5823	105	
D 13C-2,3,4,7,8-PeCDF	22.940	140755634	1.62	0.9827	104.7	104.7	0.2377	0.2377	105	
2,3,4,7,8-PeCDF	22.968	330153847	1.57	1.1032	212.6	212.6	0.6510	0.6510	106	
S Total PeCDF					422.0	422.0	0.6166	0.6166		
D 13C-1,2,3,7,8-PeCDD	23.636	108225317	1.55	0.7481	105.8	105.8	0.1282	0.1282	106	
1,2,3,7,8-PeCDD	23.663	203688899	1.58	0.9050	208.0	208.0	0.2341	0.2341	104	
S Total PeCDD					208.0	208.0	0.2341	0.2341		
D 13C-1,2,3,4,7,8-HxCDF	29.762	115322048	0.51	1.1520	100.3	100.3	0.4565	0.4565	100	
1,2,3,4,7,8-HxCDF	29.802	291651831	1.26	1.1973	211.2	211.2	1.539	1.539	106	
D 13C-1,2,3,6,7,8-HxCDF	30.028	126224651	0.53	1.2434	101.7	101.7	0.4229	0.4229	102	
1,2,3,6,7,8-HxCDF	30.055	311373058	1.26	1.1807	208.9	208.9	1.338	1.338	104	
D 13C-2,3,4,6,7,8-HxCDF	31.053	118677202	0.52	1.1720	101.5	101.5	0.4487	0.4487	101	
2,3,4,6,7,8-HxCDF	31.067	300428448	1.26	1.2116	208.9	208.9	0.9123	0.9123	104	
D 13C-1,2,3,7,8,9-HxCDF	31.945	107073331	0.52	1.0655	100.7	100.7	0.4935	0.4935	101	
1,2,3,7,8,9-HxCDF	31.958	272303395	1.26	1.2451	204.2	204.2	0.8892	0.8892	102	
S Total HxCDF					833.3	833.3	1.170	1.170		
* 13C-1,2,3,7,8,9-HxCDD	31.759	99810625	1.29	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.266	80372897	1.29	0.7812	103.1	103.1	0.3822	0.3822	103	
1,2,3,4,7,8-HxCDD	31.293	186227471	1.26	1.1088	209.0	209.0	0.6104	0.6104	104	
D 13C-1,2,3,6,7,8-HxCDD	31.386	95002970	1.27	0.9175	103.7	103.7	0.3254	0.3254	104	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.413	212361866	1.27	1.0814	206.7	206.7	0.5785	0.5785	103	
1,2,3,7,8,9-HxCDD	31.772	218049333	1.25	1.2123	205.1	205.1	0.5363	0.5363	103	
S Total HxCDD					620.8	620.8	0.5751	0.5751		
D 13C-1,2,3,4,6,7,8-HpCDF	33.459	88816288	0.46	0.8628	103.1	103.1	2.079	2.079	103	
1,2,3,4,6,7,8-HpCDF	33.472	281845286	1.05	1.5555	204.0	204.0	3.635	3.635	102	
D 13C-1,2,3,4,7,8,9-HpCDF	34.504	81274920	0.45	0.7991	101.9	101.9	2.245	2.245	102	
1,2,3,4,7,8,9-HpCDF	34.516	239010564	1.05	1.3862	212.1	212.1	4.800	4.800	106	
S Total HpCDF					416.1	416.1	4.218	4.218		
D 13C-1,2,3,4,6,7,8-HpCDD	34.237	90130025	1.04	0.8739	103.3	103.3	1.148	1.148	103	
1,2,3,4,6,7,8-HpCDD	34.237	175833007	1.05	0.9316	209.4	209.4	2.167	2.167	105	
S Total HpCDD					209.4	209.4	2.167	2.167		
D 13C-OCDD	36.493	158997965	0.88	0.7744	205.7	205.7	0.3551	0.3551	103	
OCDF	36.589	418862104	0.89	1.2596	418.3	418.3	0.4537	0.4537	105	
OCDD	36.505	347055077	0.89	1.0621	411.0	411.0	0.6571	0.6571	103	

Reagents:

HRDXNL5_00028 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_6.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 17-Sep-2019 15:21:22 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719C CS-5 HRDXNL5_00028
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:28 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:06:18

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.315	17.303	1		59594664	15287135	9225	23062	1657		
333.9339	17.315	17.303	1		77196986	19734133	14193	35482	1390	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.816	16.810	0	0.971	87712948	23127802	13754	34385	1682		
317.9389	16.816	16.810	0	0.971	109958205	28845594	15339	38347	1881	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.831	16.825	0	1.001	36949180	9674667	6043	15107	1601		
305.8987	16.831	16.825	0	1.001	46993182	12302542	8902	22255	1382	0.79(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.496	17.490	0	1.010	56708135	13975530	9225	23062	1515		
333.9339	17.496	17.490	0	1.010	74315226	18338786	14193	35482	1292	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.511	17.505	0	1.011	70585275	17605066	8592	21480	2049		
2,3,7,8-TCDD											
319.8965	17.511	17.505	0	1.001	26067676	6503532	2993	7482	2173		
321.8936	17.511	17.505	0	1.001	32951380	8185513	3053	7632	2681	0.79(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	21.645	21.637	0	1.250	90246004	16955643	19974	49935	849		
353.8970	21.645	21.637	0	1.250	56461280	10556577	12749	31872	828	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.672	21.661	1	1.001	203793856	37432282	42262	105655	886		
341.8567	21.672	21.661	1	1.001	128677028	23626725	27084	67710	872	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	22.940	22.932	0	1.325	87007765	14859467	19974	49935	744		
353.8970	22.940	22.932	0	1.325	53747869	9280455	12749	31872	728	1.62(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.968	22.954	1	1.001	201570262	34626412	42262	105655	819		
341.8567	22.968	22.954	1	1.001	128583585	22276079	27084	67710	822	1.57(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.636	23.625	1	1.365	65730378	10862933	7904	19760	1374		
369.8919	23.636	23.625	1	1.365	42494939	6954914	5526	13815	1259	1.55(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.663	23.649	1	1.001	124750517	20269910	9274	23185	2186		
357.8516	23.663	23.649	1	1.001	78938382	12735405	5825	14562	2186	1.58(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.762	29.754	0	0.937	39196947	5461495	18152	45380	301		
385.8610	29.762	29.754	0	0.937	76125101	10409265	31962	79905	326	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.802	29.789	1	1.001	162403041	22433624	65844	164610	341		
375.8178	29.789	29.789	0	1.001	129248790	17859839	51149	127872	349	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.028	30.015	1	0.946	43639188	6387099	18152	45380	352		
385.8610	30.028	30.015	1	0.946	82585463	12130808	31962	79905	380	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.055	30.039	1	1.001	173687895	26264182	65844	164610	399		
375.8178	30.055	30.039	1	1.001	137685163	20987234	51149	127872	410	1.26(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.053	31.043	1	0.978	40788407	9120663	18152	45380	502		
385.8610	31.053	31.043	1	0.978	77888795	17340792	31962	79905	543	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.067	31.059	0	1.000	167309786	37576842	65844	164610	571		
375.8178	31.067	31.059	0	1.000	133118662	29904554	51149	127872	585	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.945	31.942	0	1.006	36791830	9139865	18152	45380	504		
385.8610	31.945	31.942	0	1.006	70281501	17276995	31962	79905	541	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.958	31.956	0	1.000	151855406	36977671	65844	164610	562		
375.8178	31.958	31.956	0	1.000	120447989	30006929	51149	127872	587	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.759	31.748	1		56270617	13452314	14607	36517	921		
403.8529	31.759	31.748	1		43540008	10372903	13848	34620	749	1.29(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.266	31.261	0	0.984	45227277	11150175	14607	36517	763		
403.8529	31.266	31.261	0	0.984	35145620	8735365	13848	34620	631	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.293	31.280	1	1.001	103691748	26080947	29902	74755	872		
391.8127	31.279	31.280	0	1.000	82535723	20584143	23933	59832	860	1.26(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.386	31.383	0	0.988	53174636	12056504	14607	36517	825		
403.8529	31.386	31.383	0	0.988	41828334	9455739	13848	34620	683	1.27(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.413	31.402	1	1.001	118924223	27338827	29902	74755	914		
391.8127	31.413	31.402	1	1.001	93437643	21365407	23933	59832	893	1.27(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.772	31.761	1	1.016	121151996	28954994	29902	74755	968		
391.8127	31.772	31.761	1	1.016	96897337	23073240	23933	59832	964	1.25(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.459	33.457	0	1.054	28029452	9006809	51228	128070	176		
419.8220	33.459	33.457	0	1.054	60786836	19574017	119701	299252	164	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.472	33.469	0	1.000	144194629	47922295	320097	800242	150		
409.7789	33.472	33.469	0	1.000	137650657	45921753	326367	815917	141	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.504	34.502	0	1.086	25205698	7508483	51228	128070	147		
419.8220	34.504	34.502	0	1.086	56069222	16780818	119701	299252	140	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.516	34.509	0	1.000	122343291	36942029	320097	800242	115		
409.7789	34.516	34.509	0	1.000	116667273	34848749	326367	815917	107	1.05(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.237	34.227	1	1.078	45952113	13244990	41516	103790	319		
437.8140	34.225	34.227	0	1.078	44177912	12813430	54131	135327	237	1.04(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.237	34.235	0	1.000	90154256	26778982	103826	259565	258		
425.7737	34.237	34.235	0	1.000	85678751	25940196	106590	266475	243	1.05(0.88-1.20)	
13C-OCDD											
469.7779	36.493	36.486	0	1.149	74572520	18801270	9864	24660	1906		
471.7750	36.493	36.486	0	1.149	84425445	21269549	16343	40857	1301	0.88(0.76-1.02)	
OCDF											
441.7428	36.589	36.581	0	1.003	197544150	51410039	20935	52337	2456		
443.7399	36.589	36.581	0	1.003	221317954	56864509	24864	62160	2287	0.89(0.76-1.02)	
OCDD											
457.7377	36.505	36.497	0	1.000	163350934	40607331	33690	84225	1205		
459.7348	36.505	36.497	0	1.000	183704143	44957614	22242	55605	2021	0.89(0.76-1.02)	

Reagents:

HRDXNL5_00028 Amount Added: 1.00 Units: mL

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

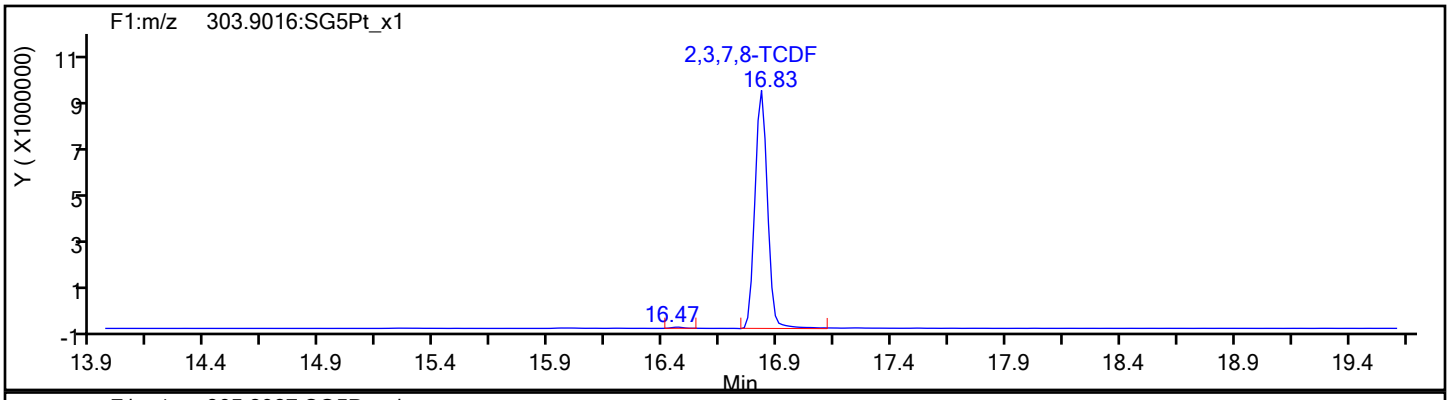

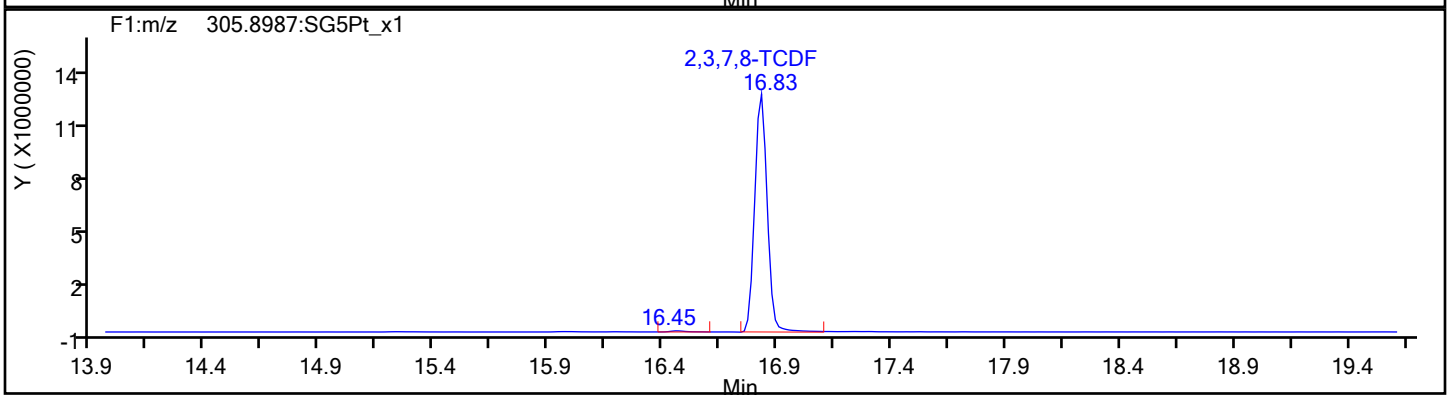

TCDF Standards

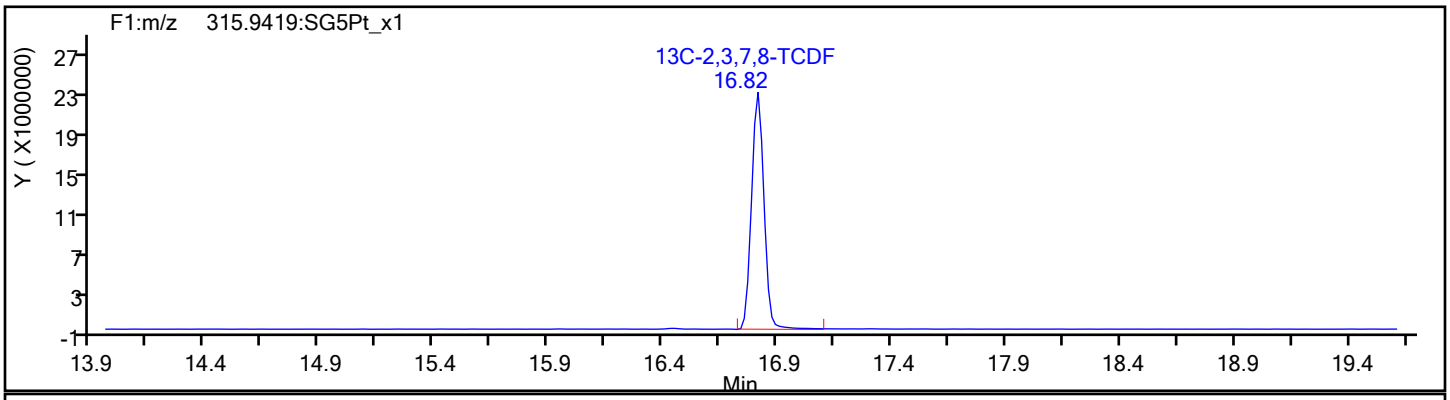

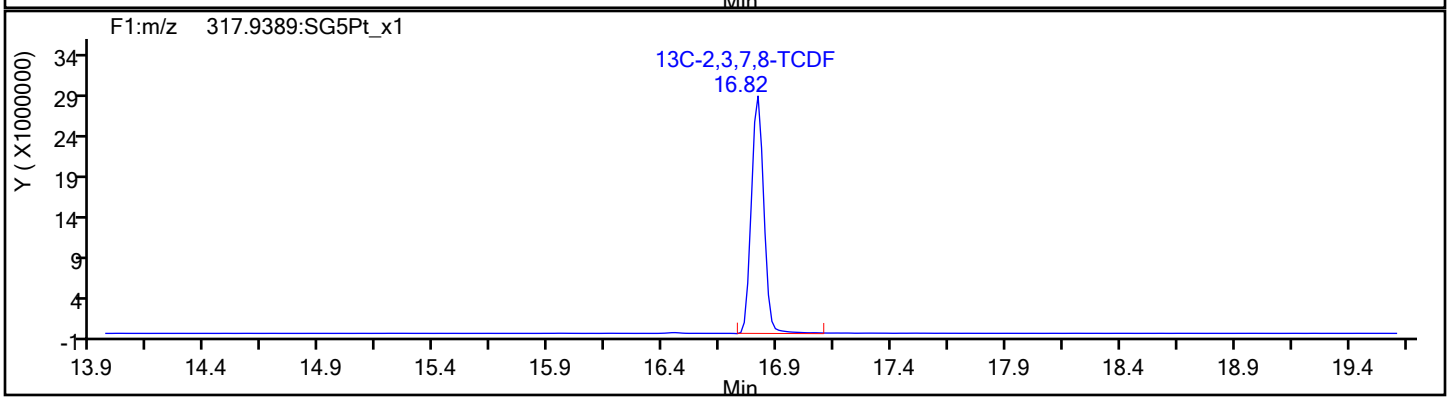

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Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

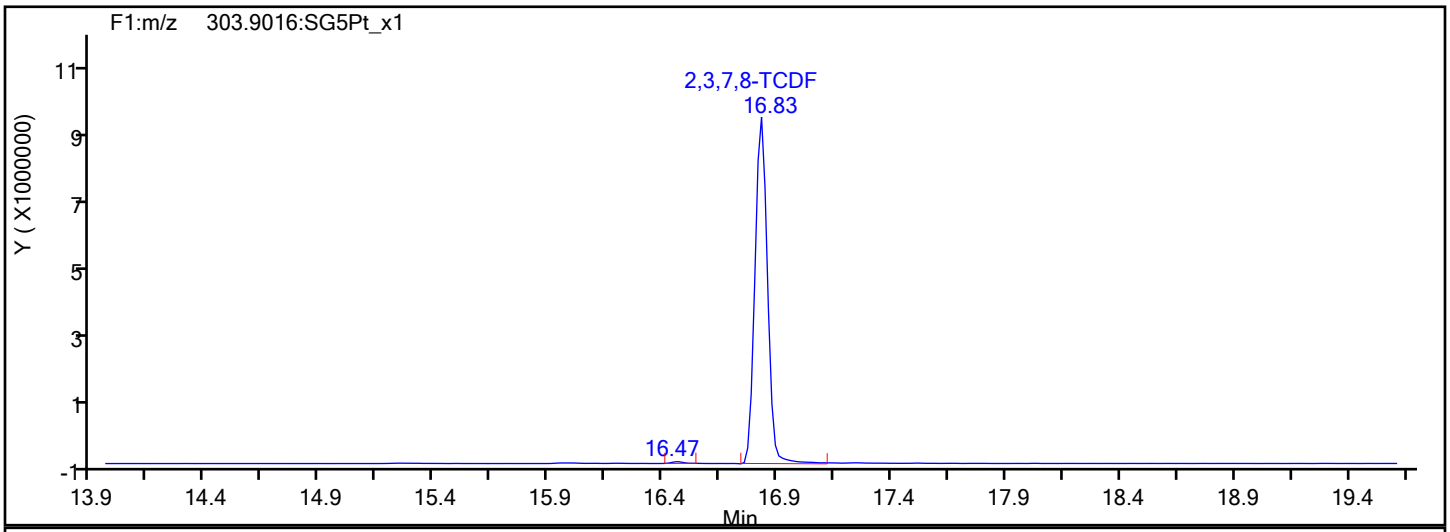

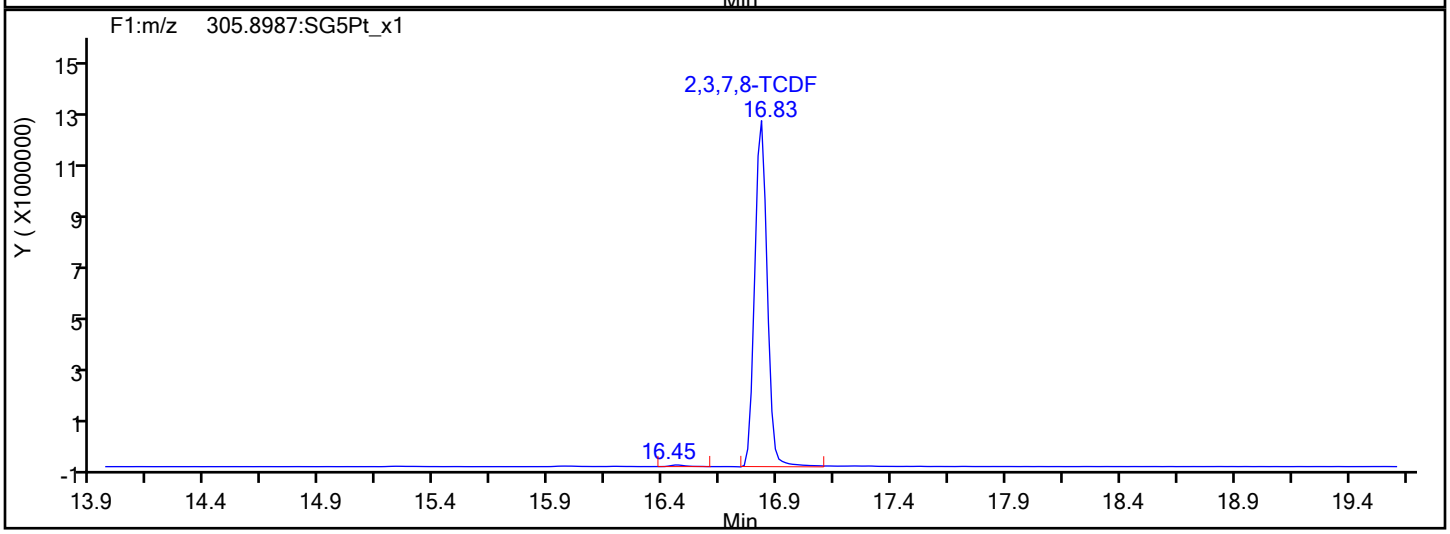

TCDF Interference Mass

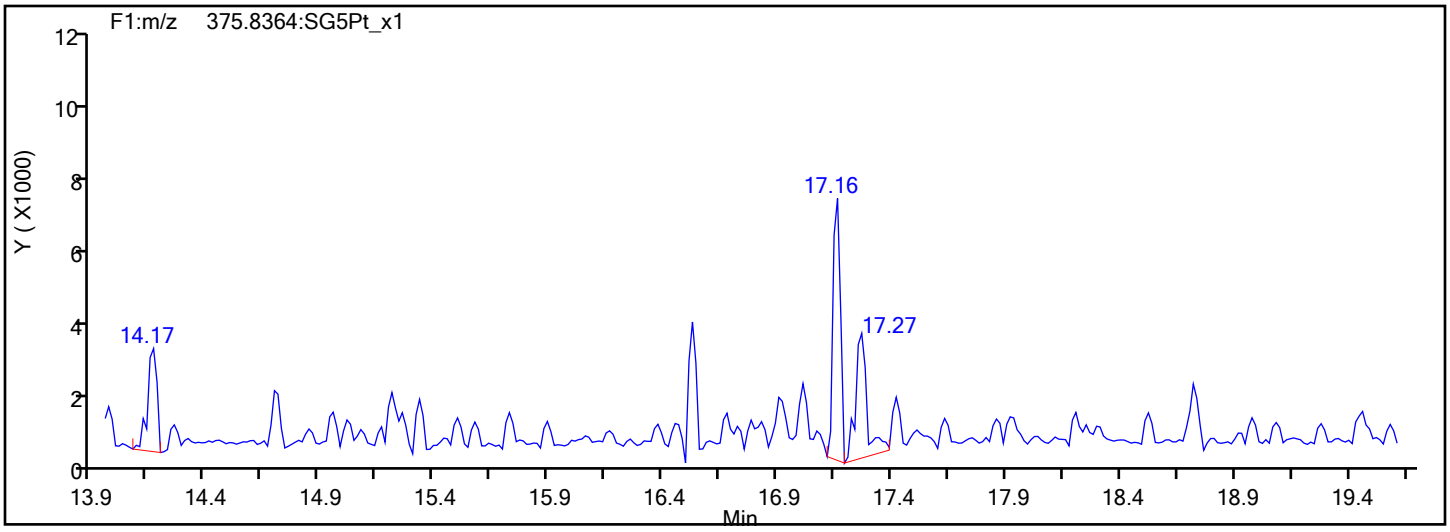

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

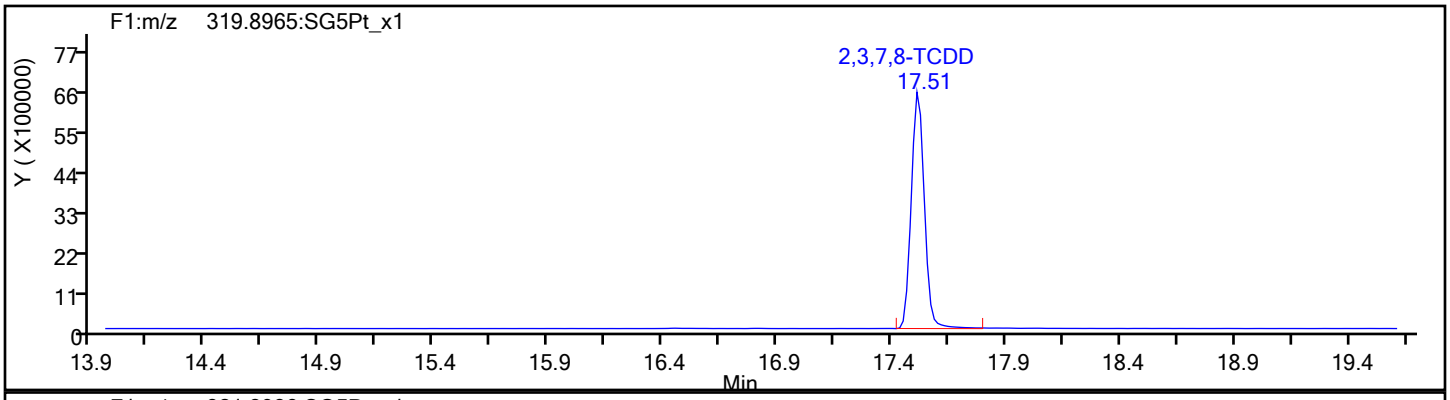

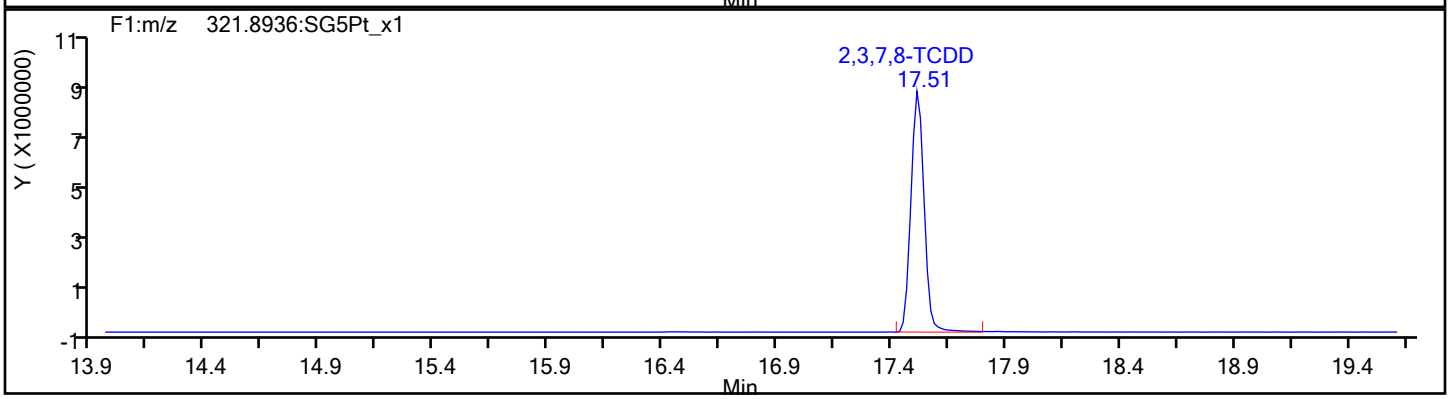

TCDD Standards

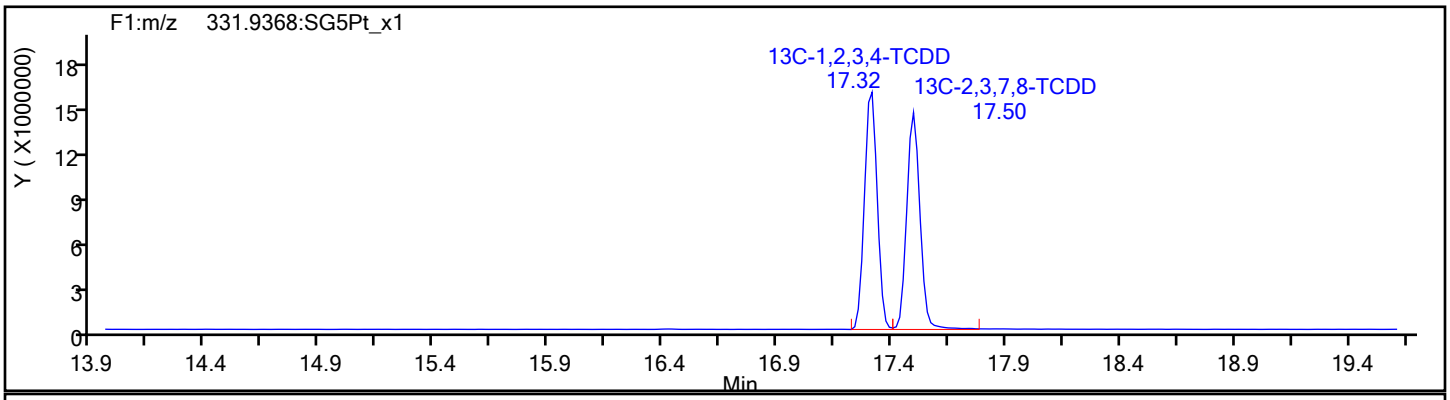

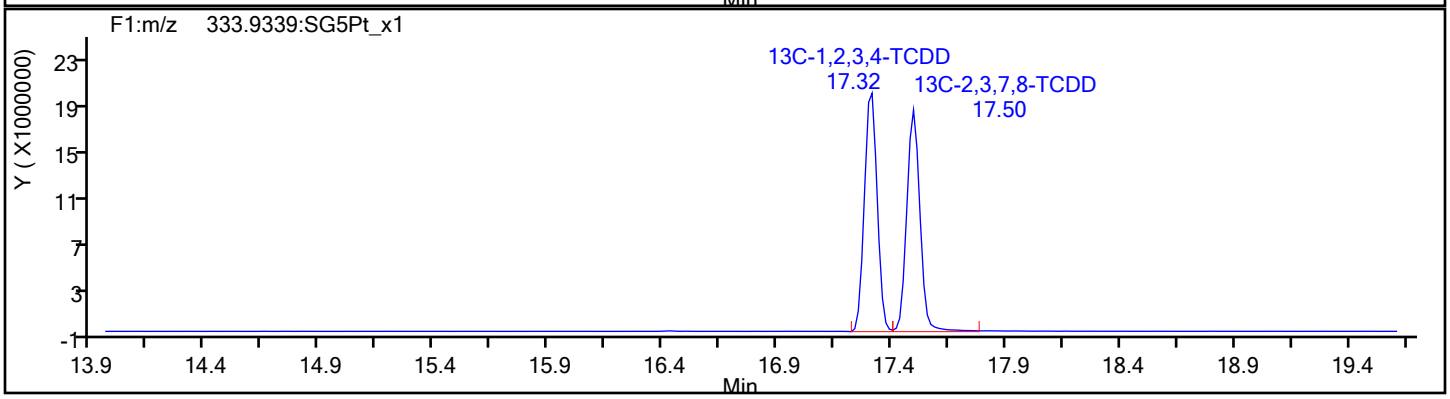

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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37Cl4-TCDD

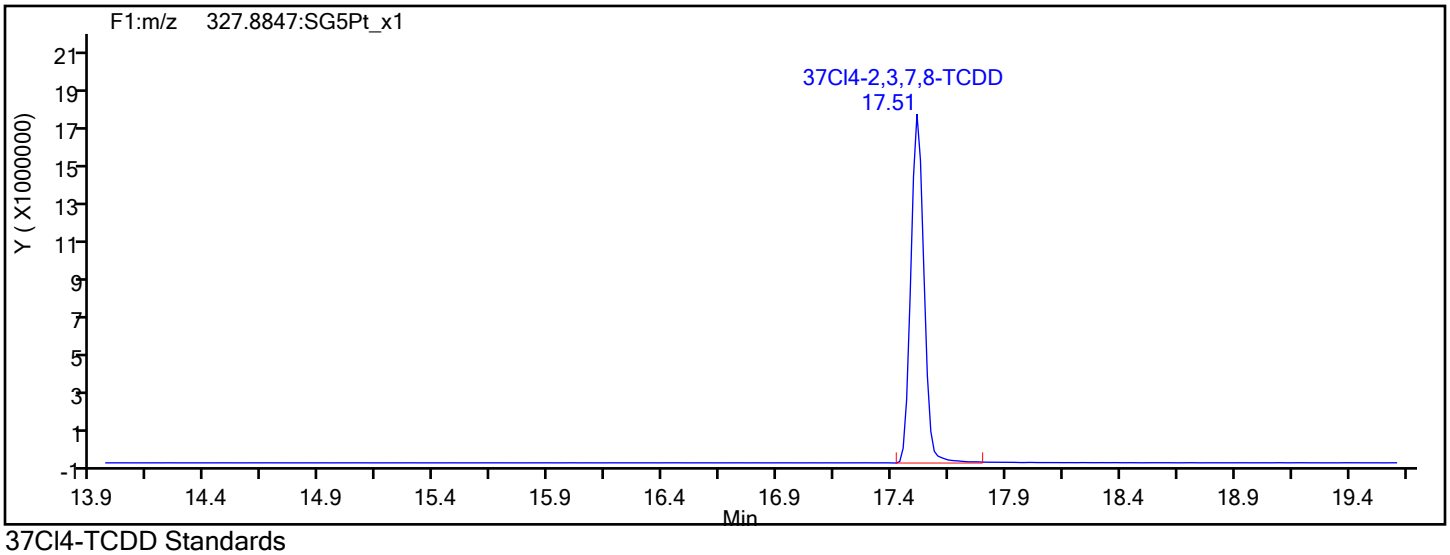

37Cl4-TCDD Standards

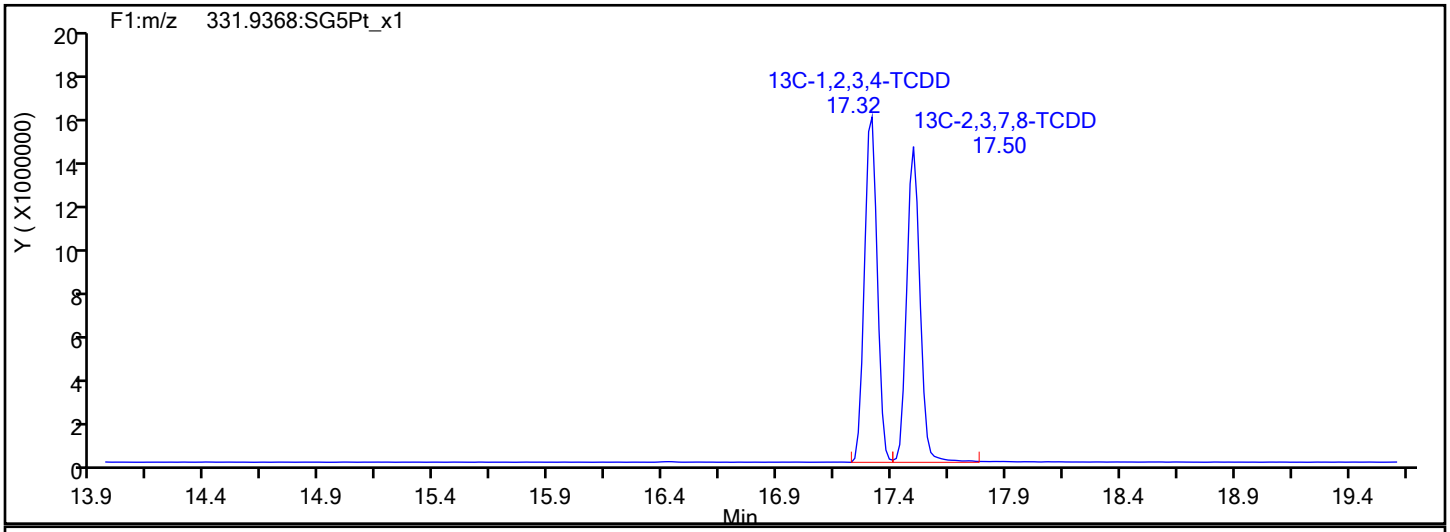

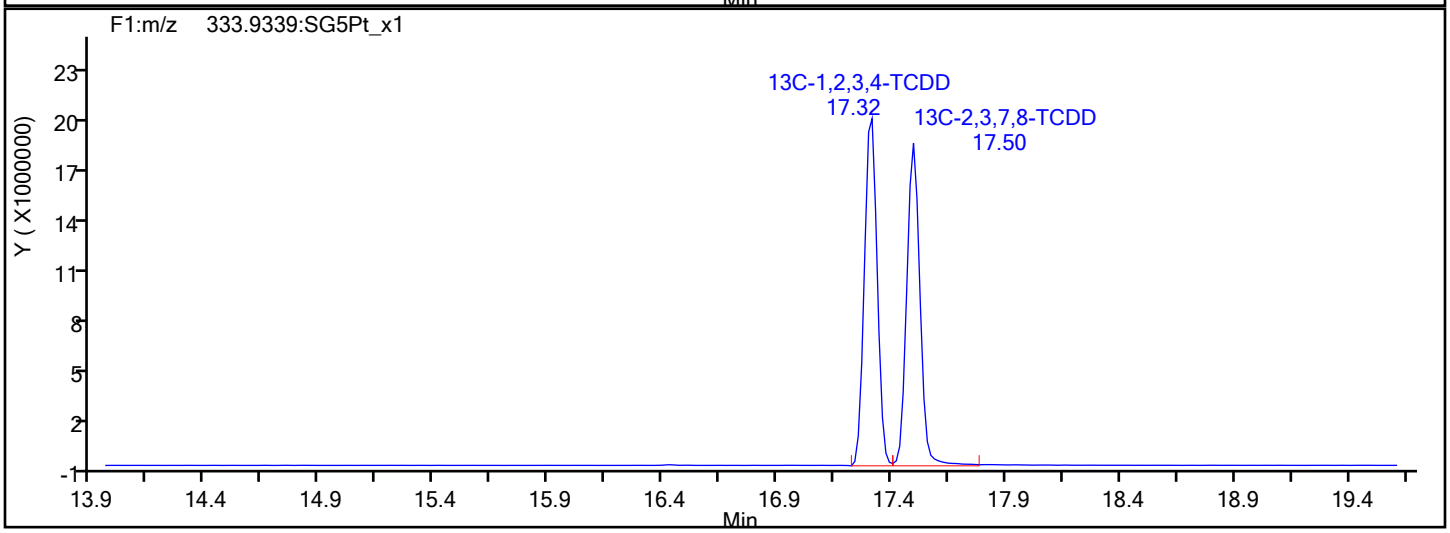

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

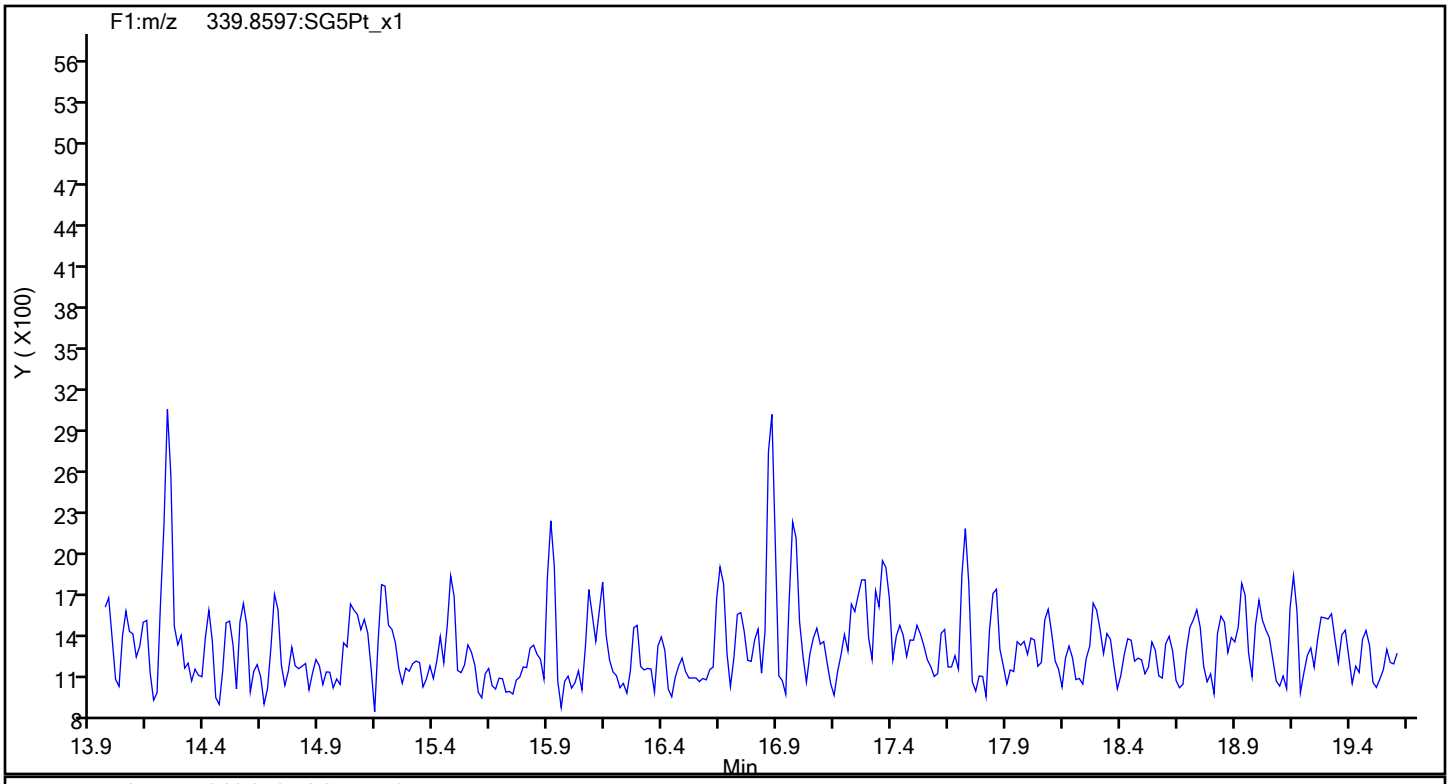

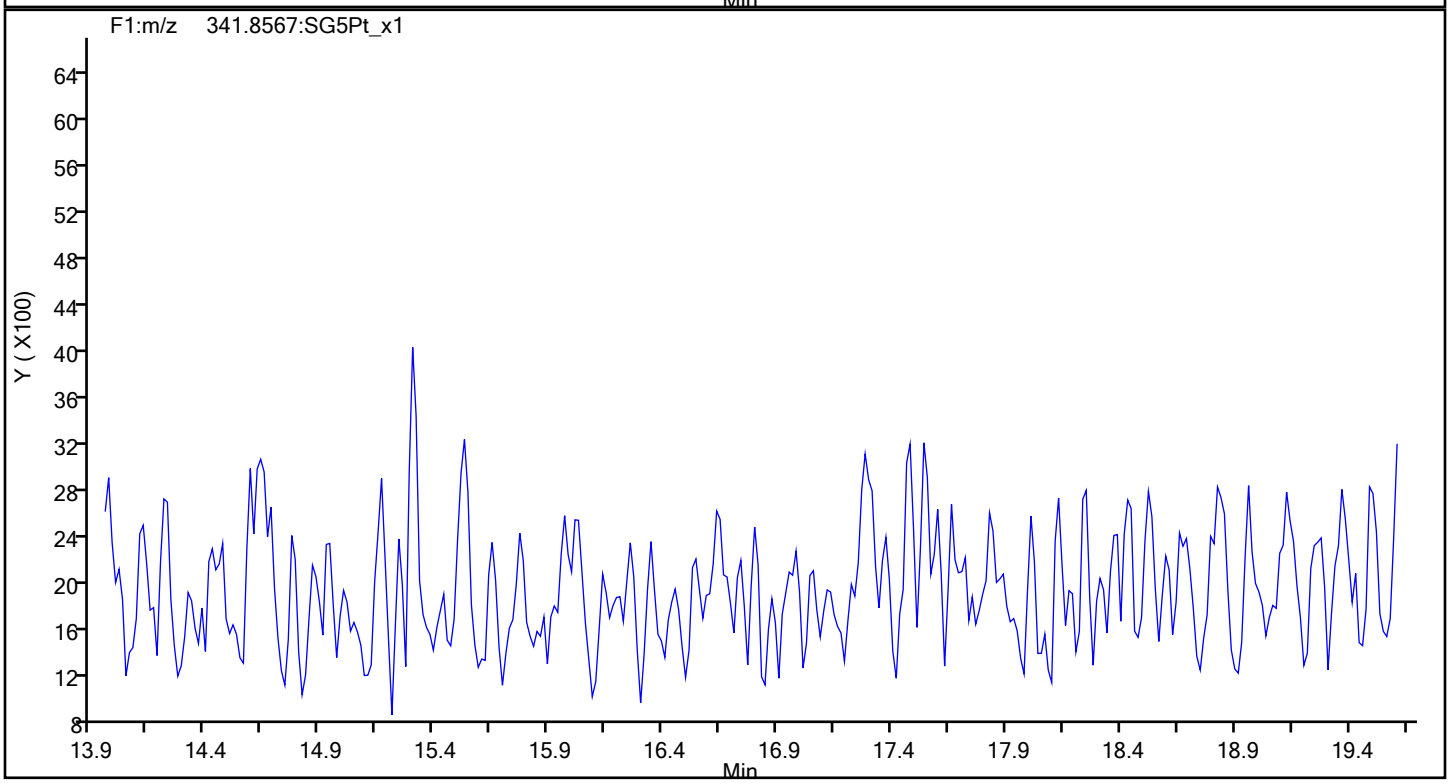

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

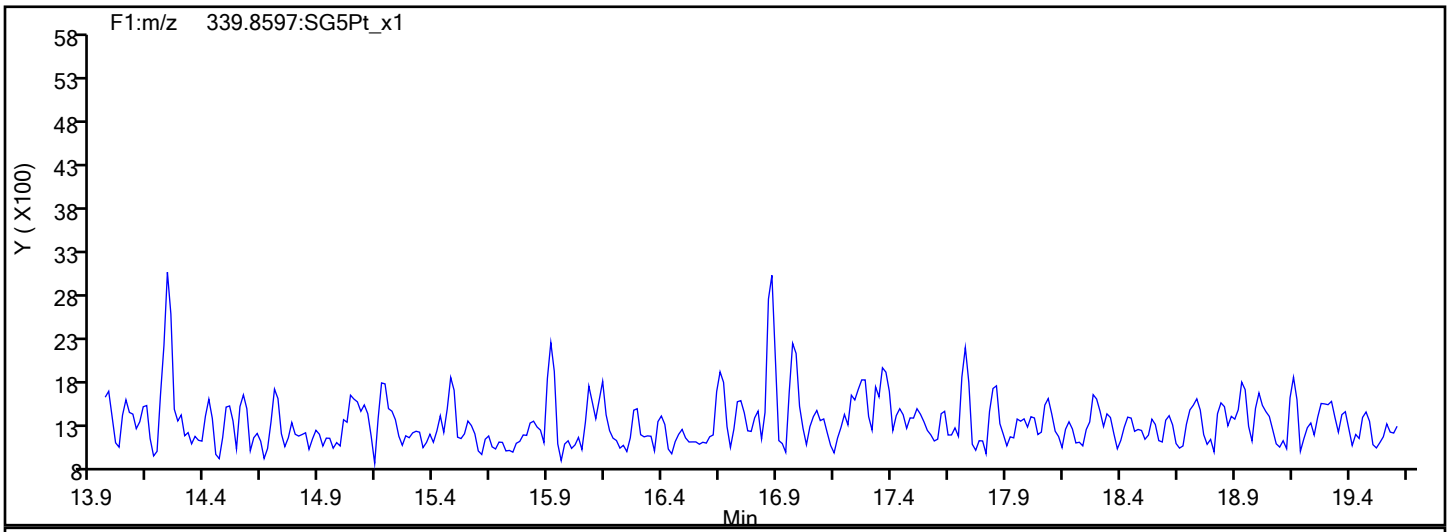

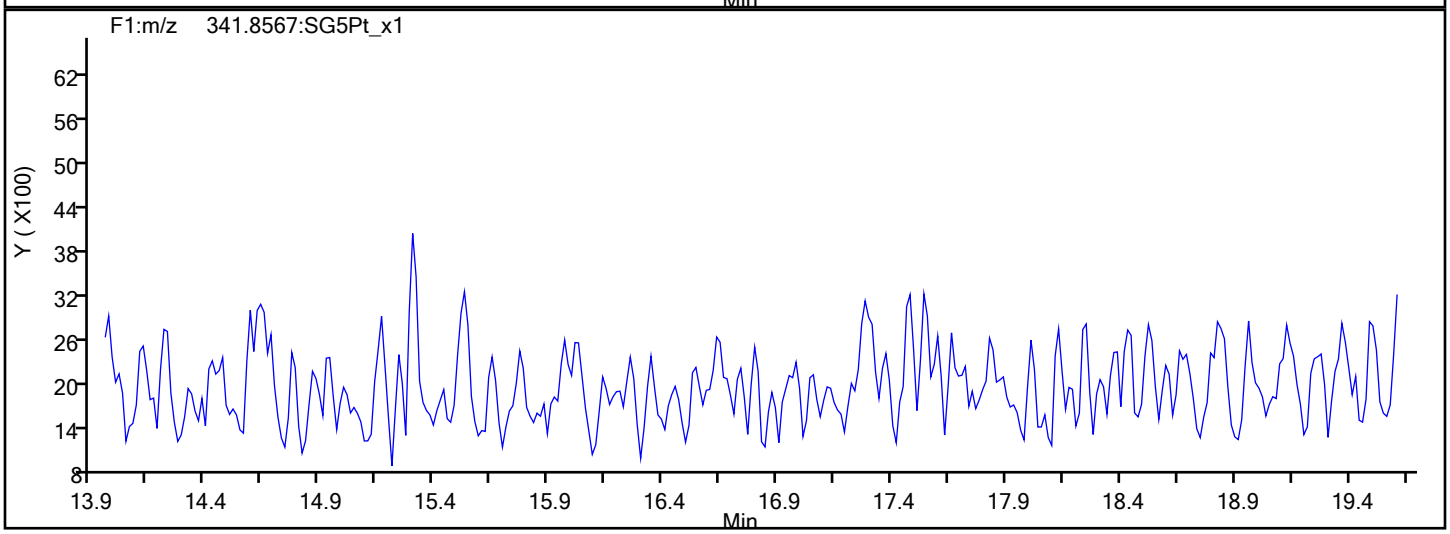

F1 PeCDFs Interference Mass

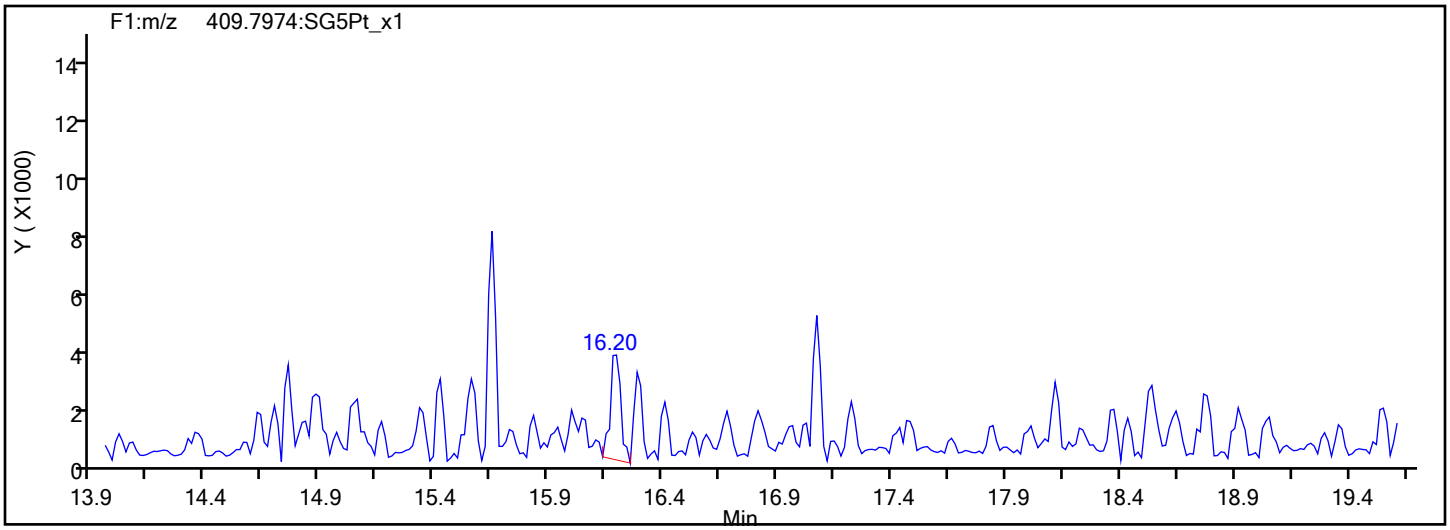

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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PeCDF

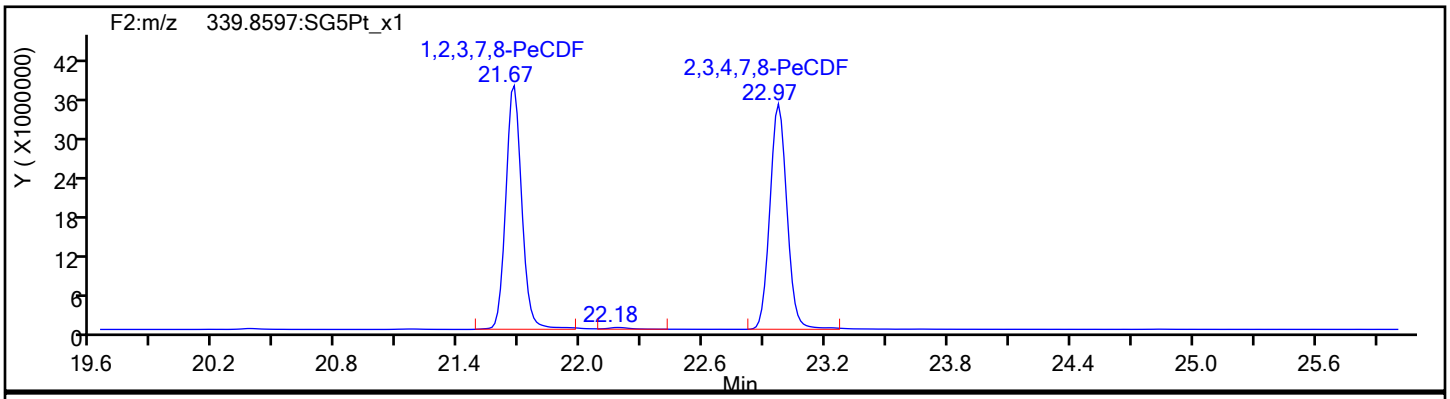

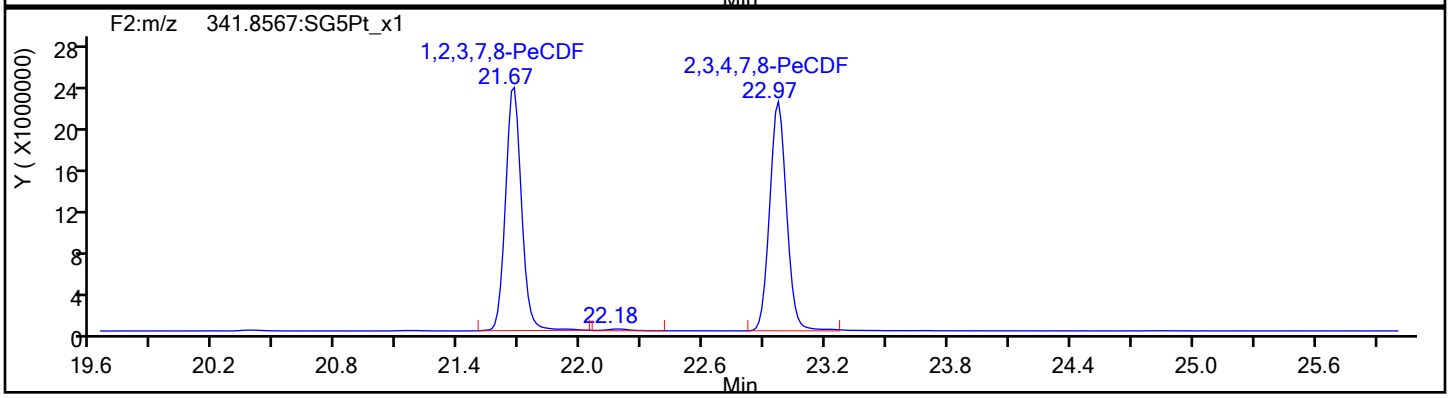

PeCDF Standards

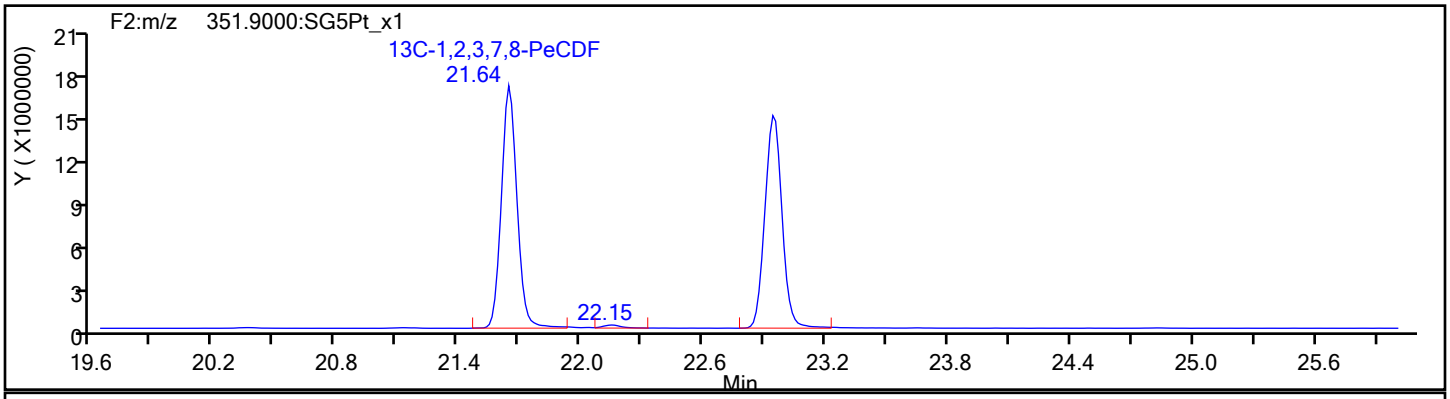

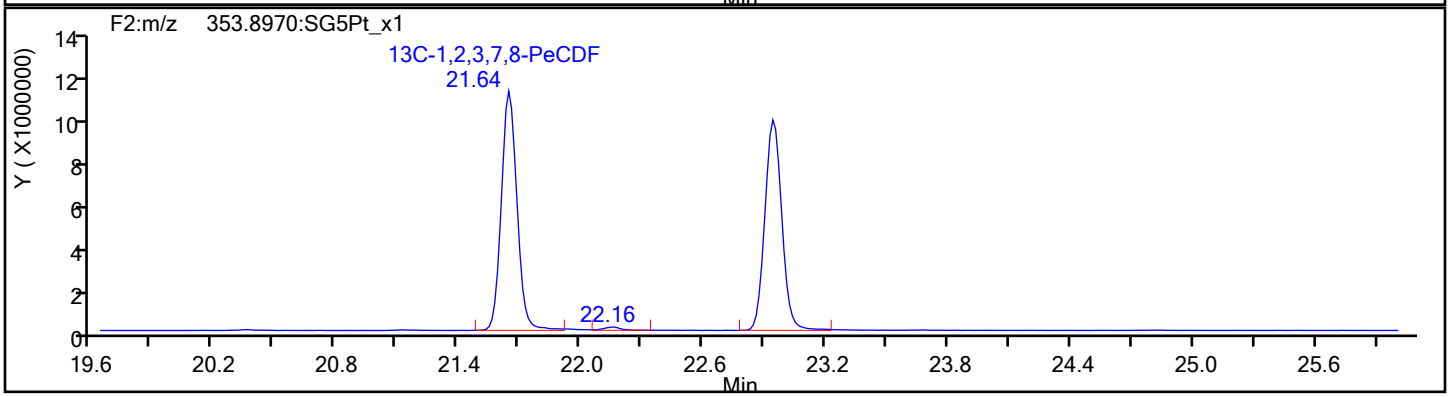

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Eurofins TestAmerica, Sacramento

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PeCDF

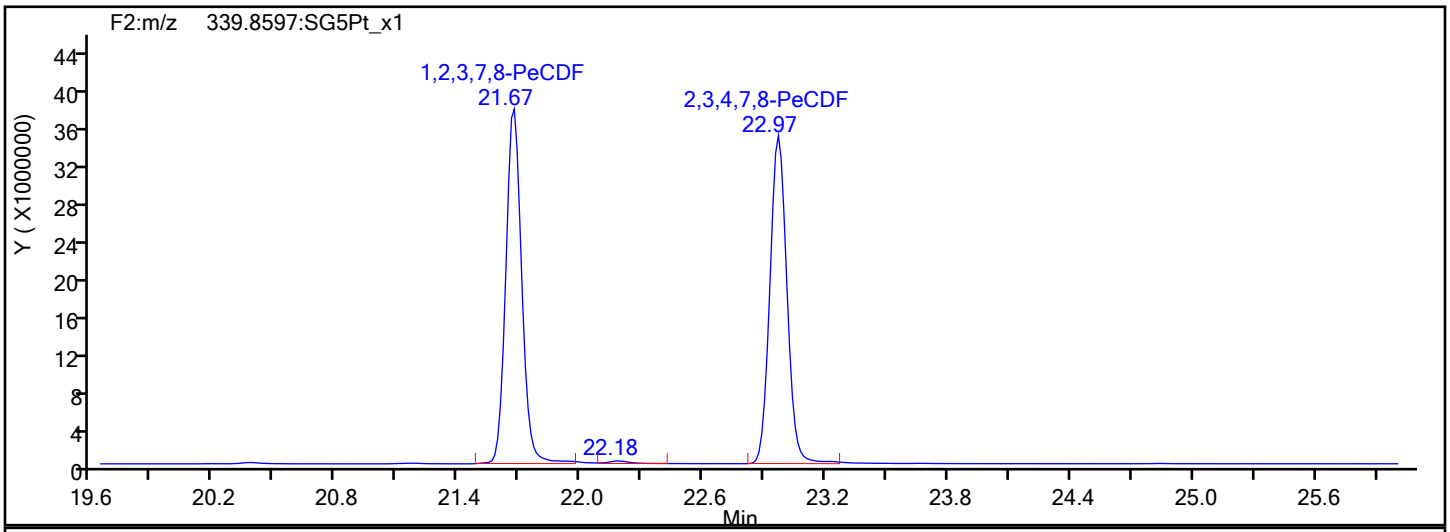

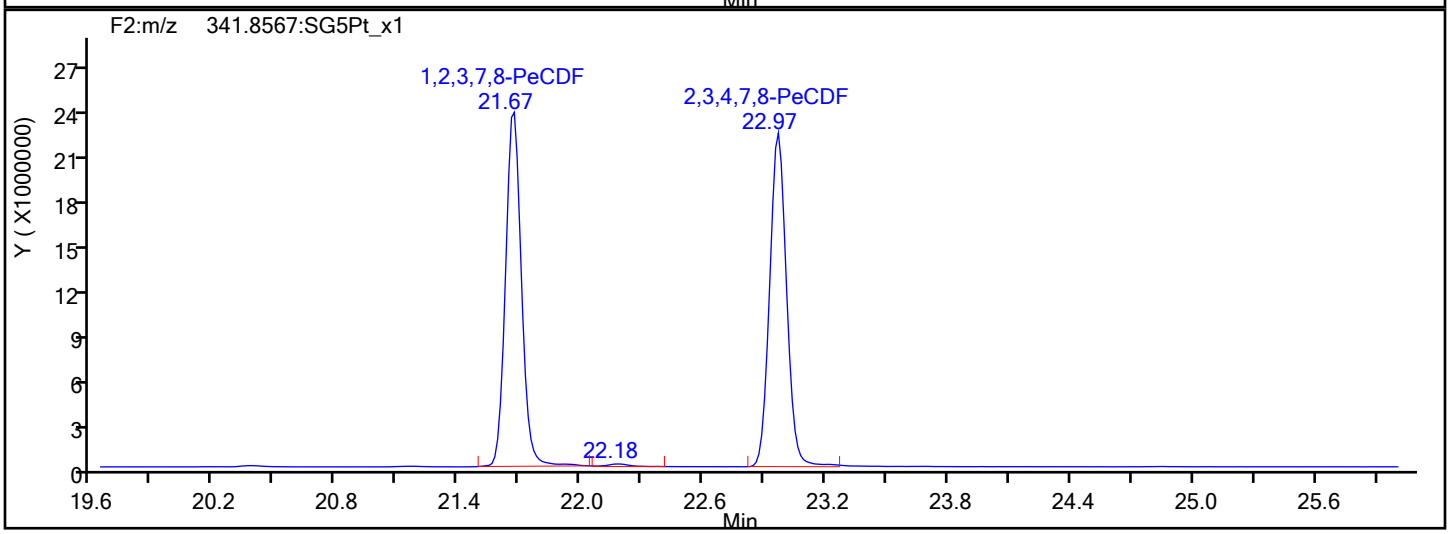

PeCDF Interference Mass

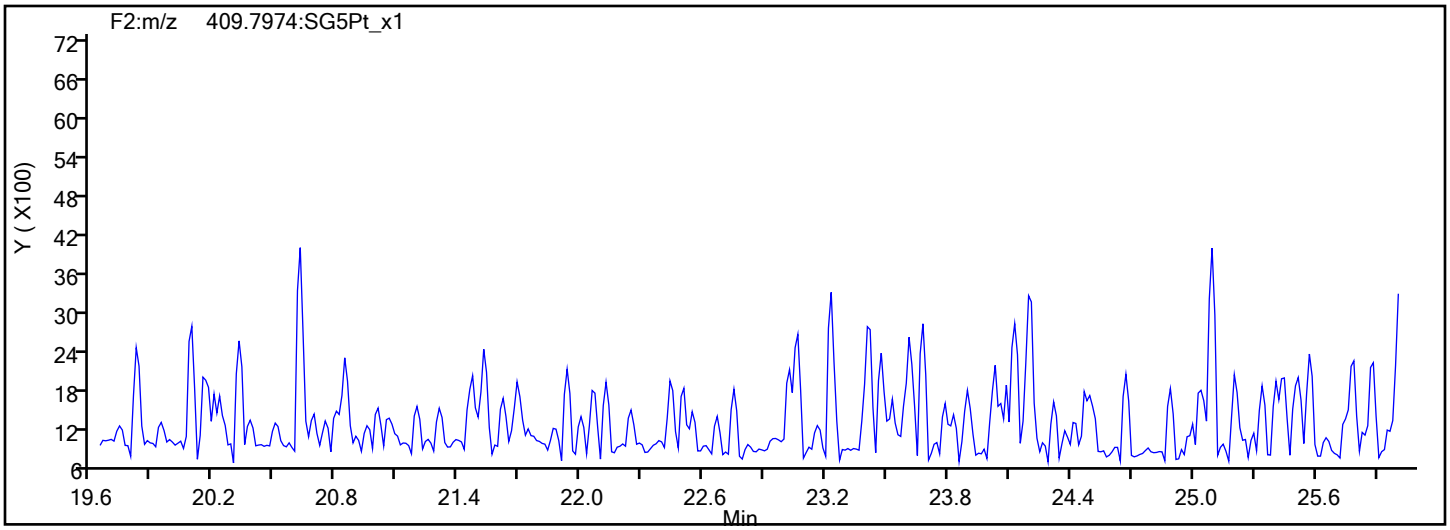

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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PeCDD

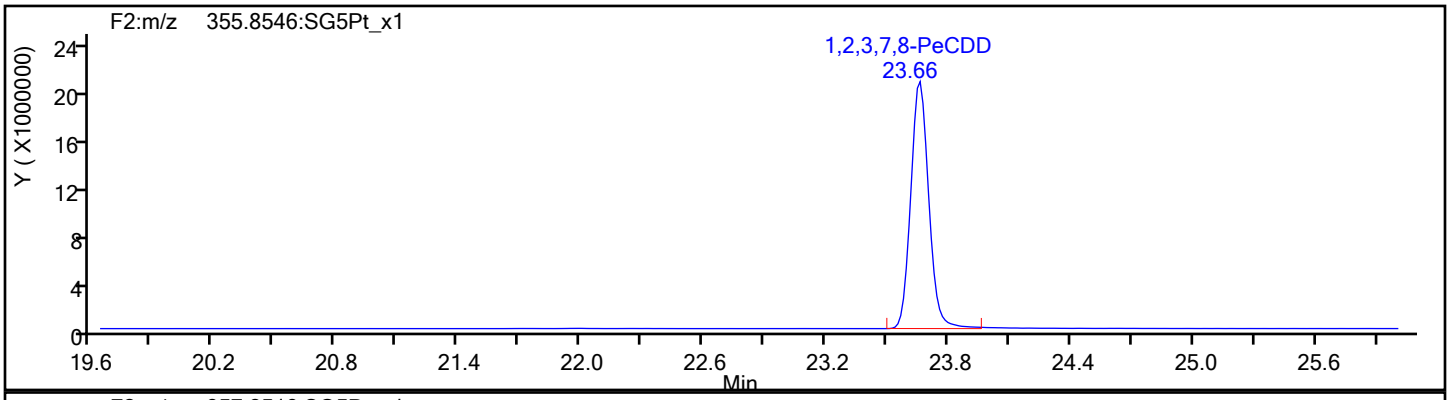

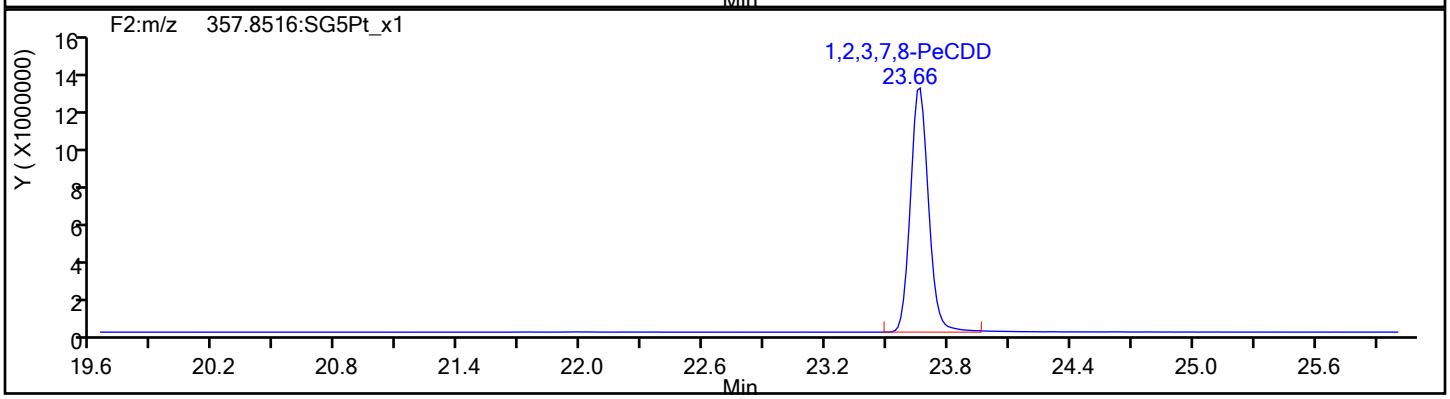

PeCDD Standards

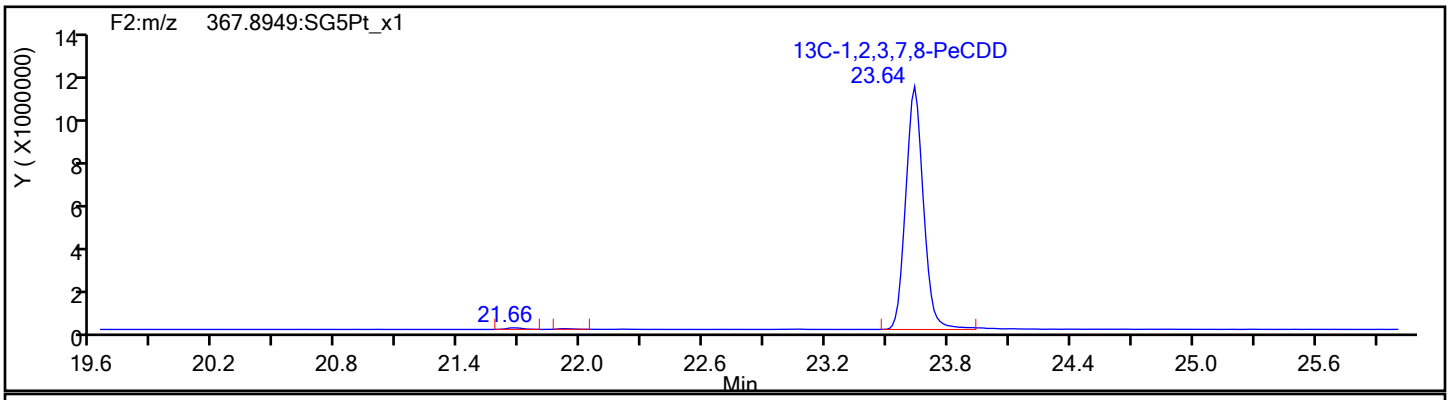

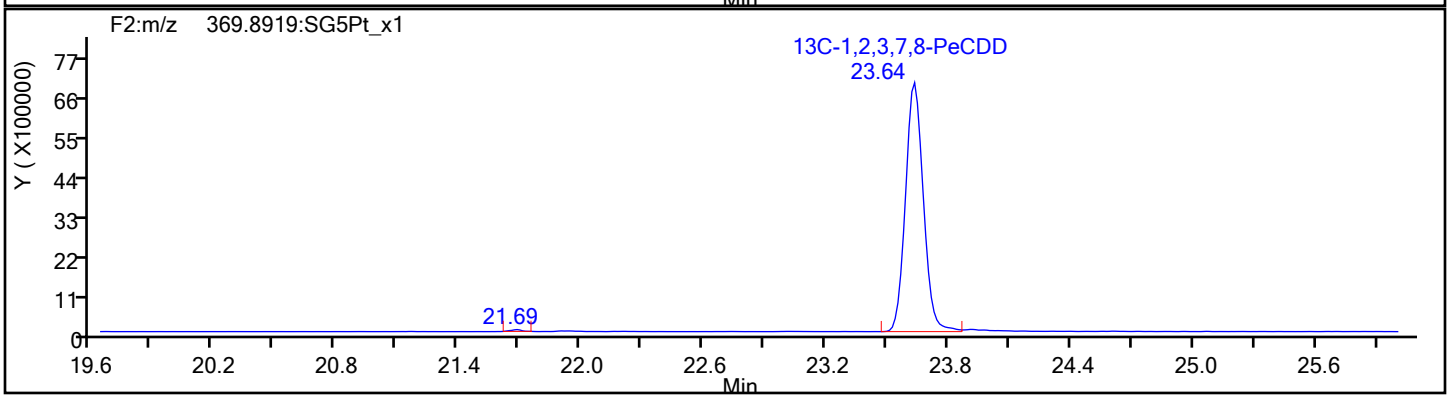

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_6.d		
Injection Date:	17-Sep-2019 15:21:22	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	6
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

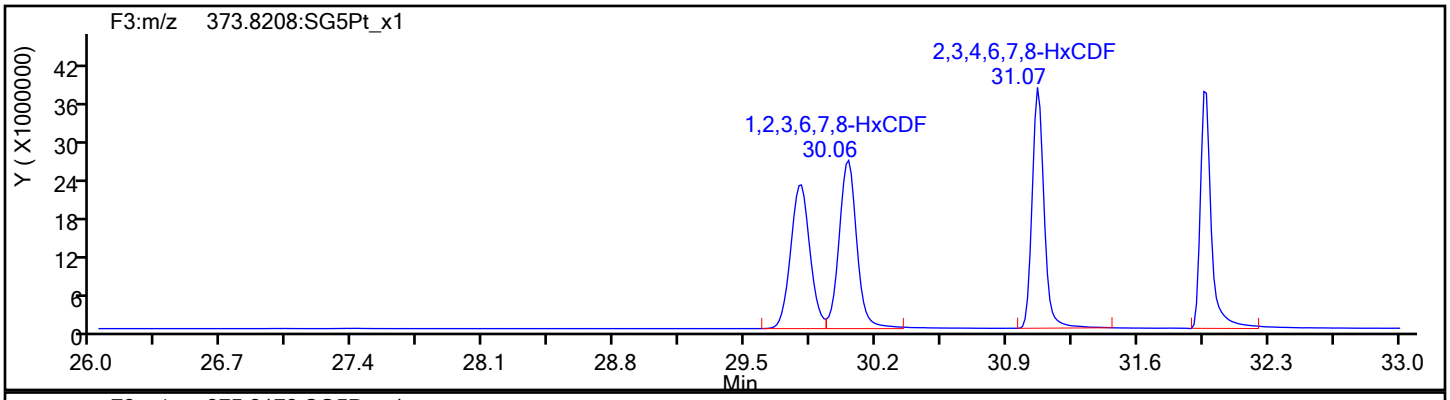

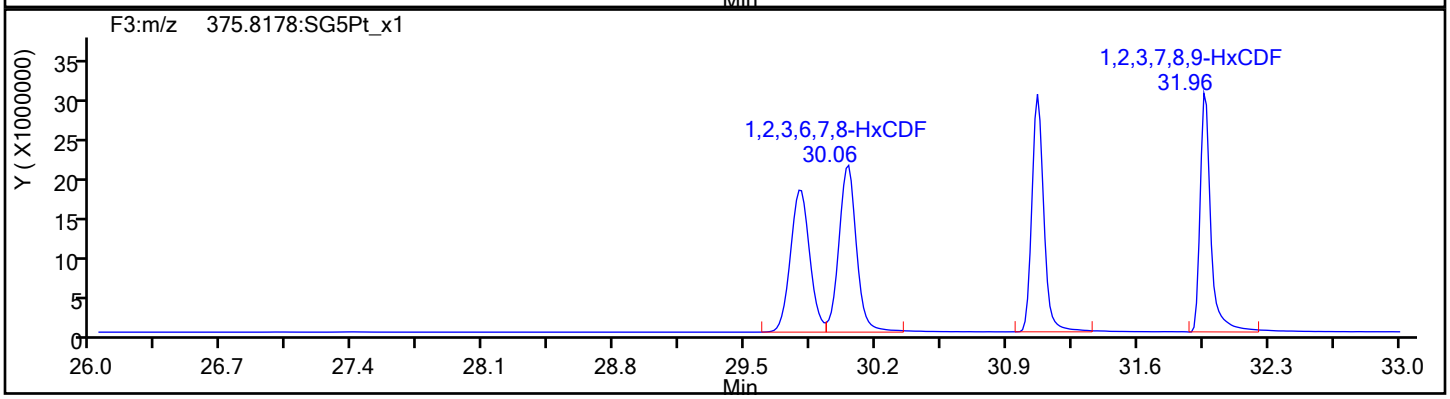

HxCDF Standards

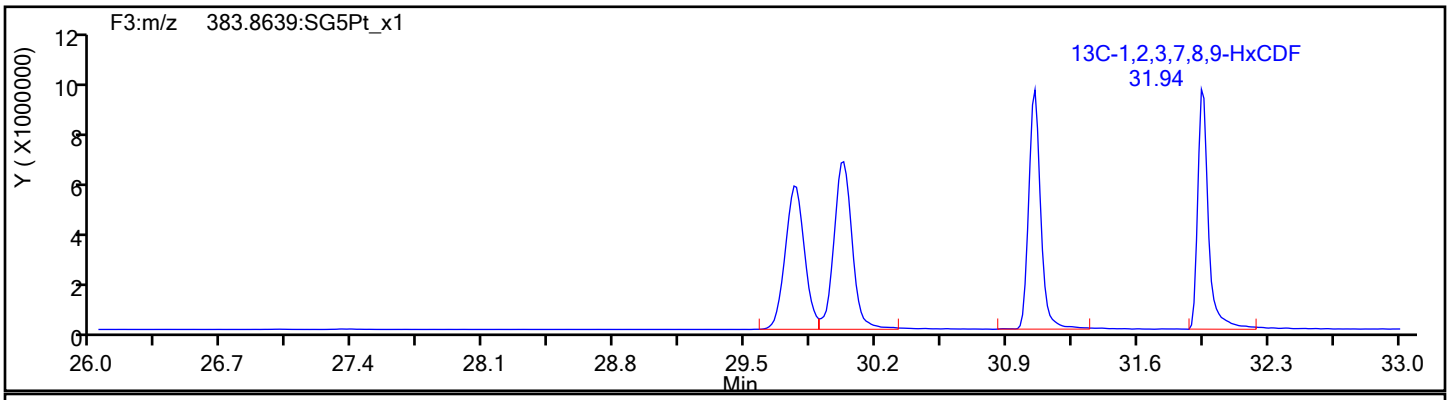

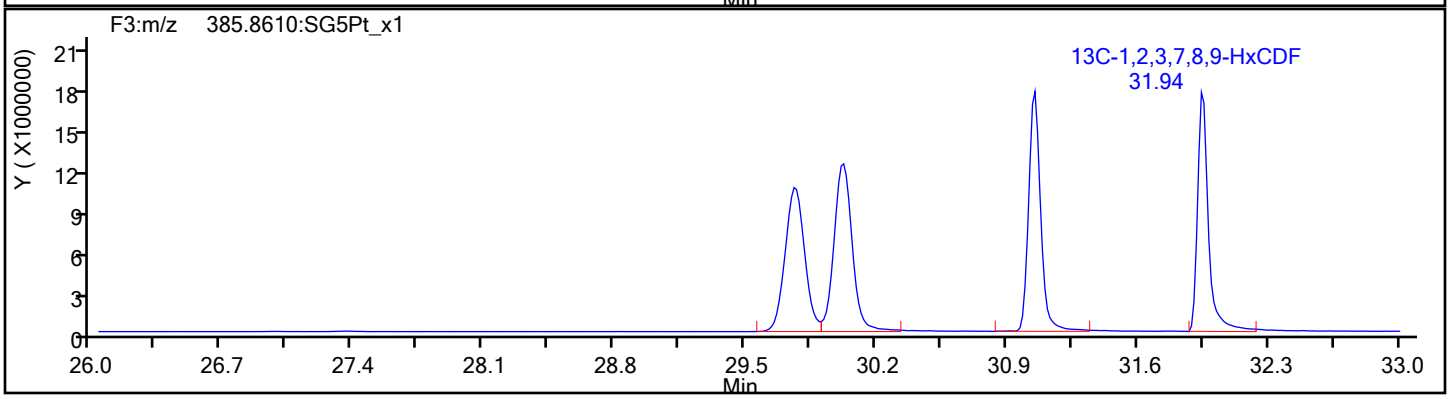

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_6.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	6
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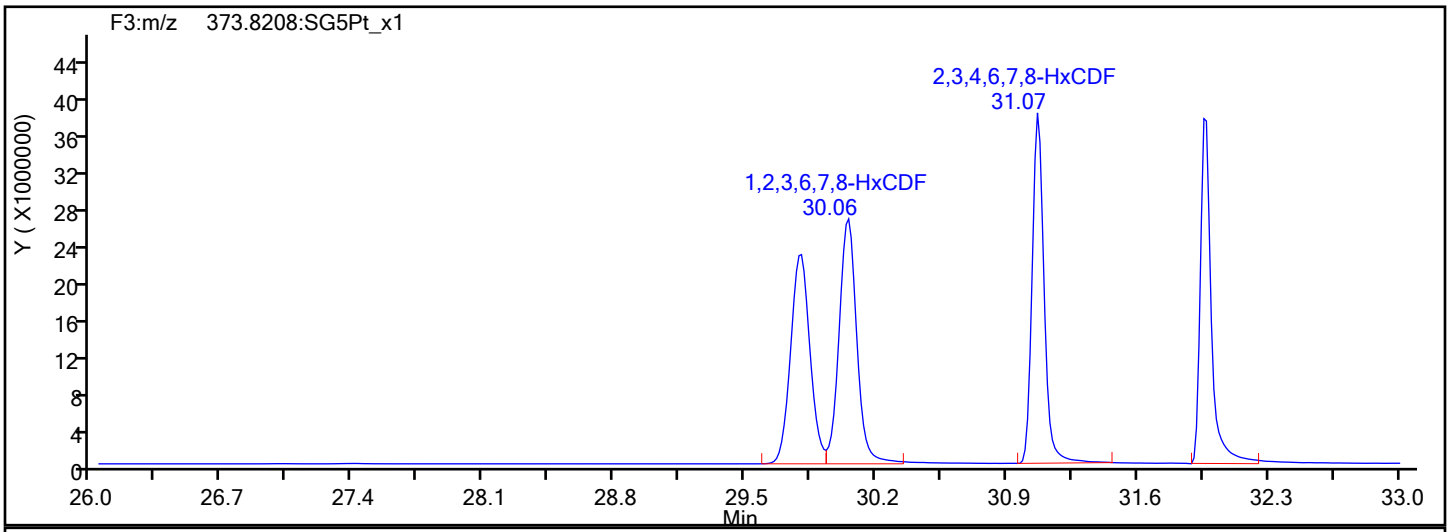

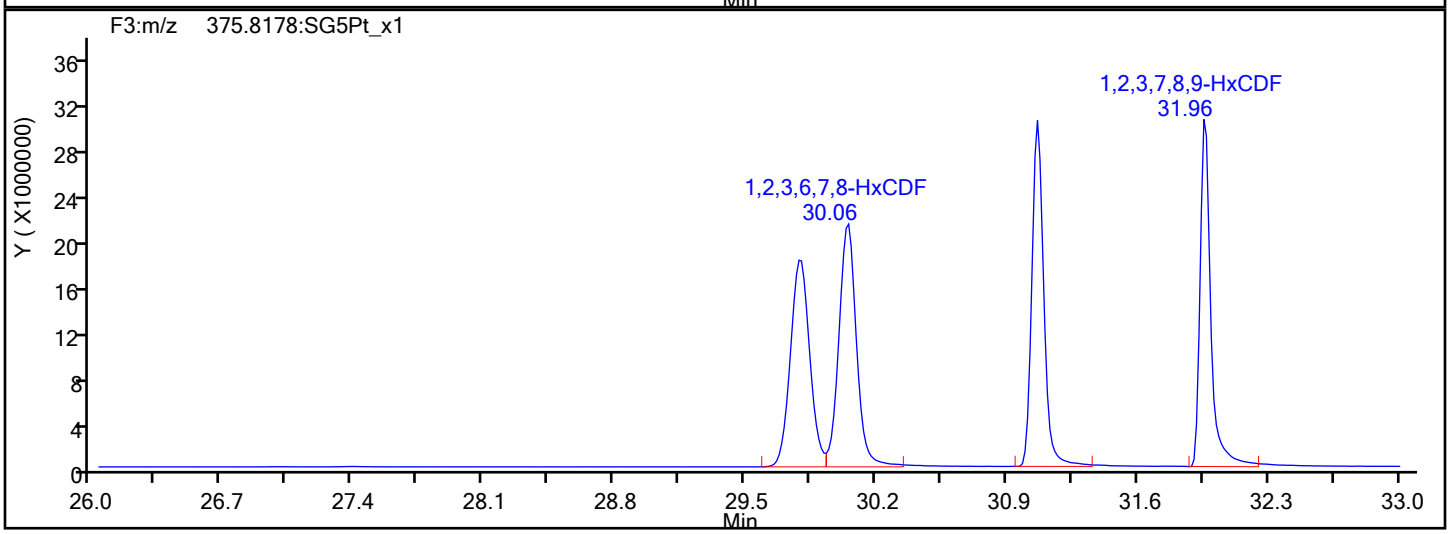

HxCDF Interference Mass

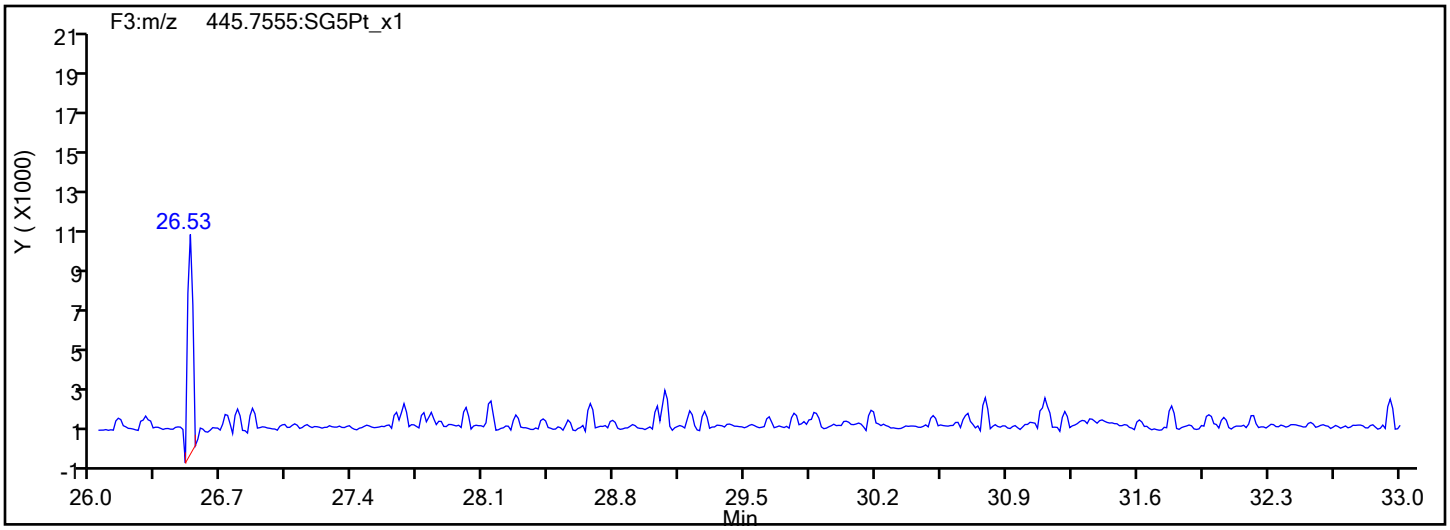

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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HxCDD

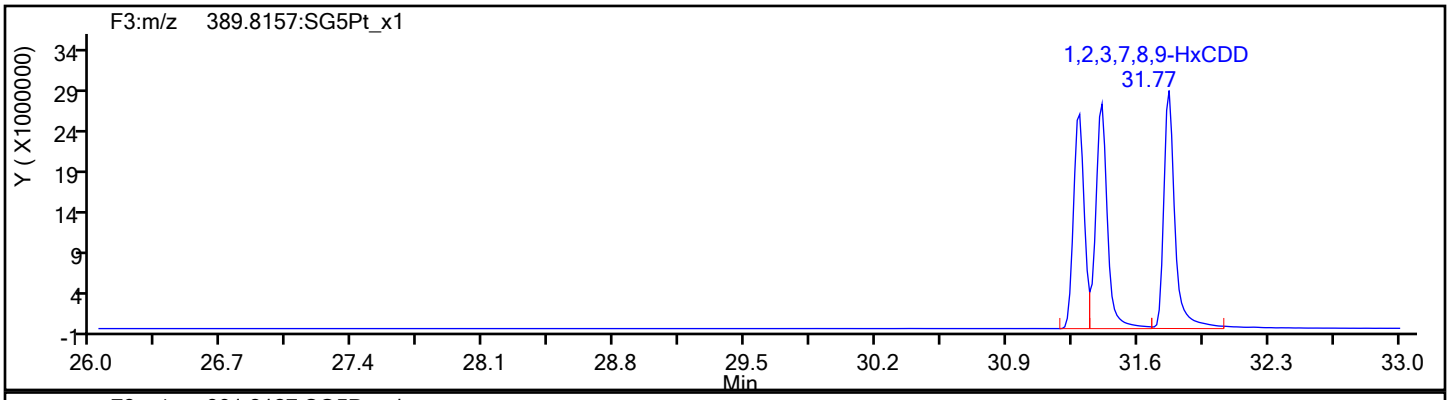

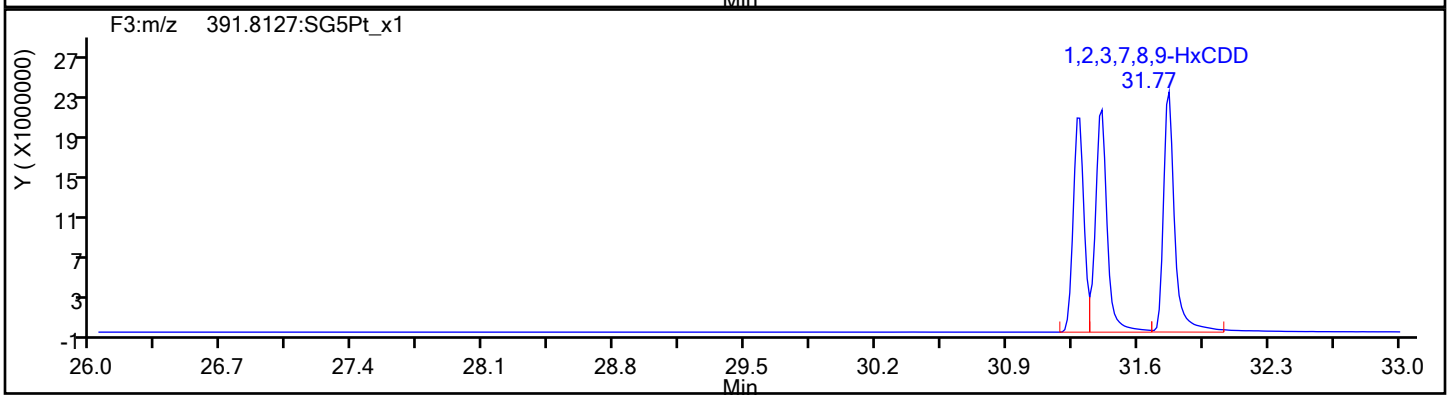

HxCDD Standards

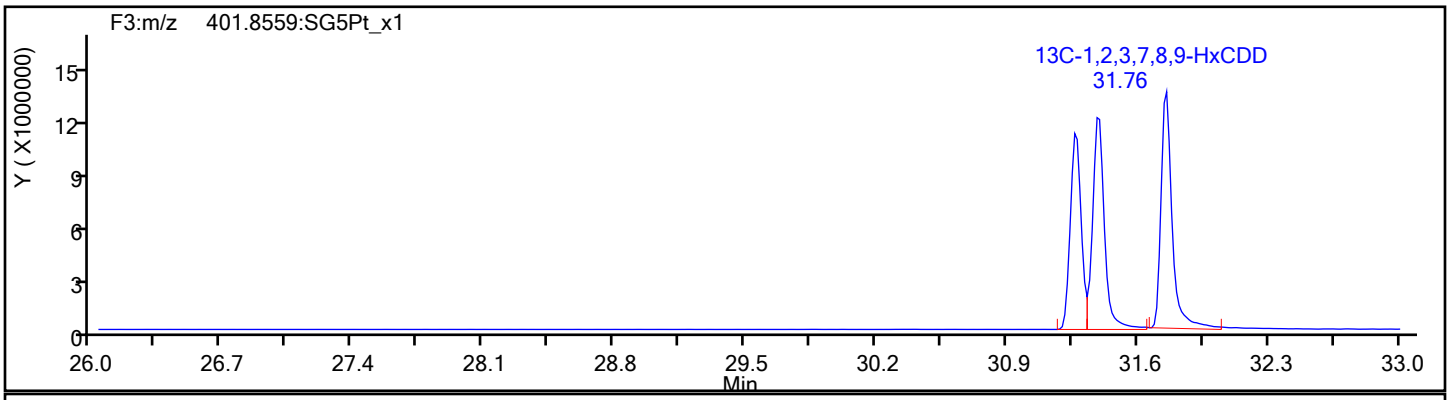

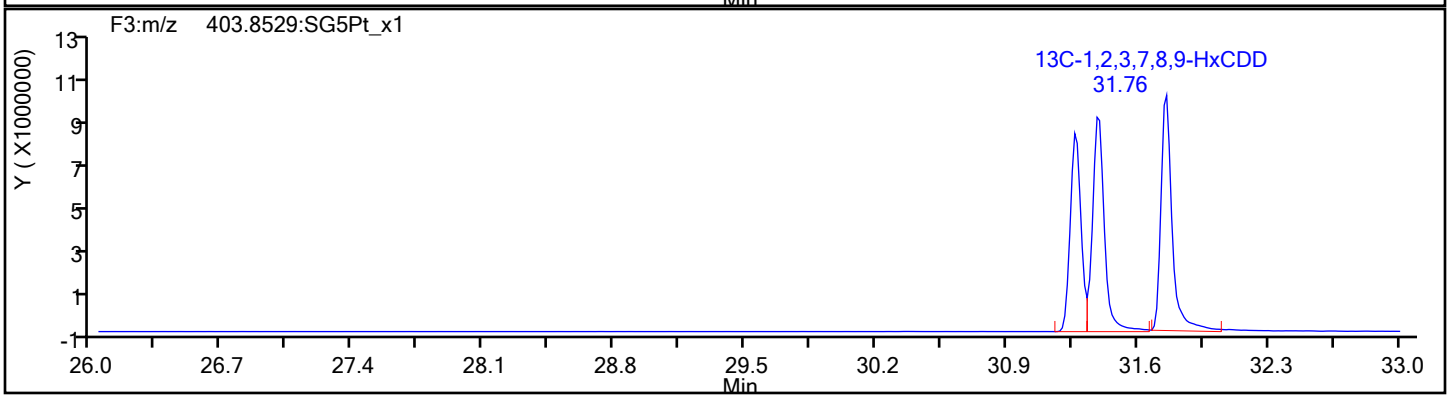

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Eurofins TestAmerica, Sacramento

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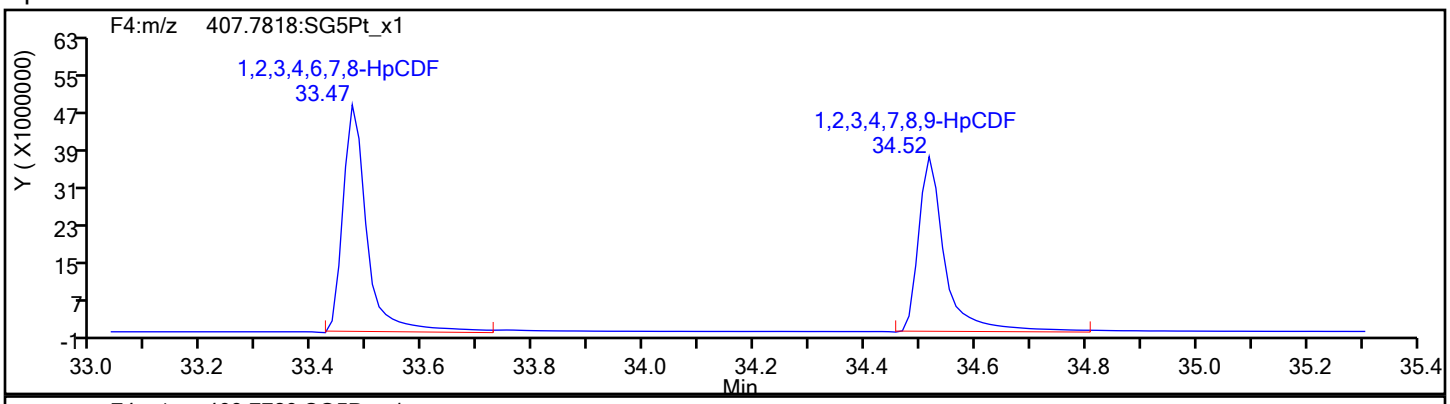

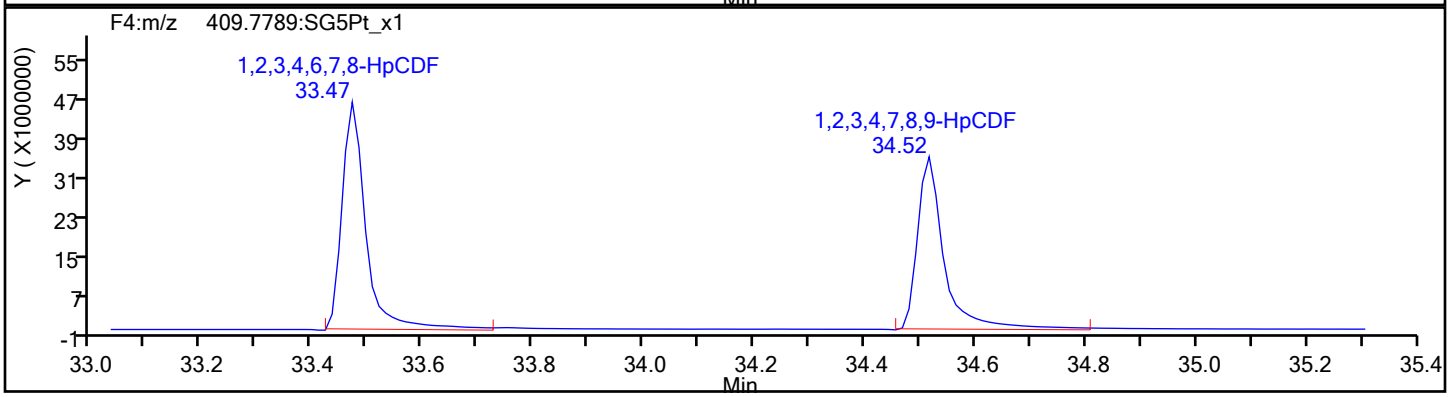

HpCDF Standards

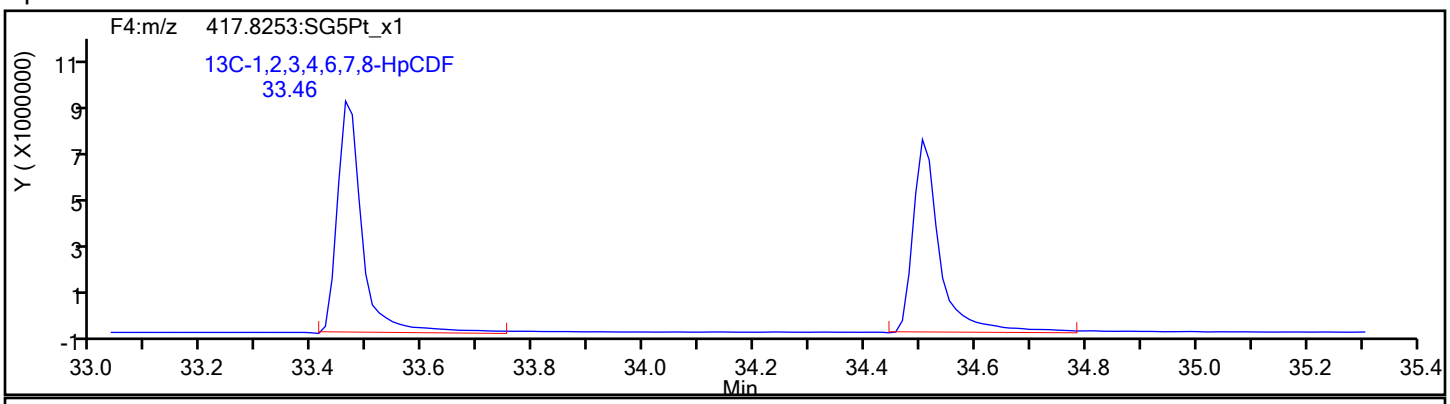

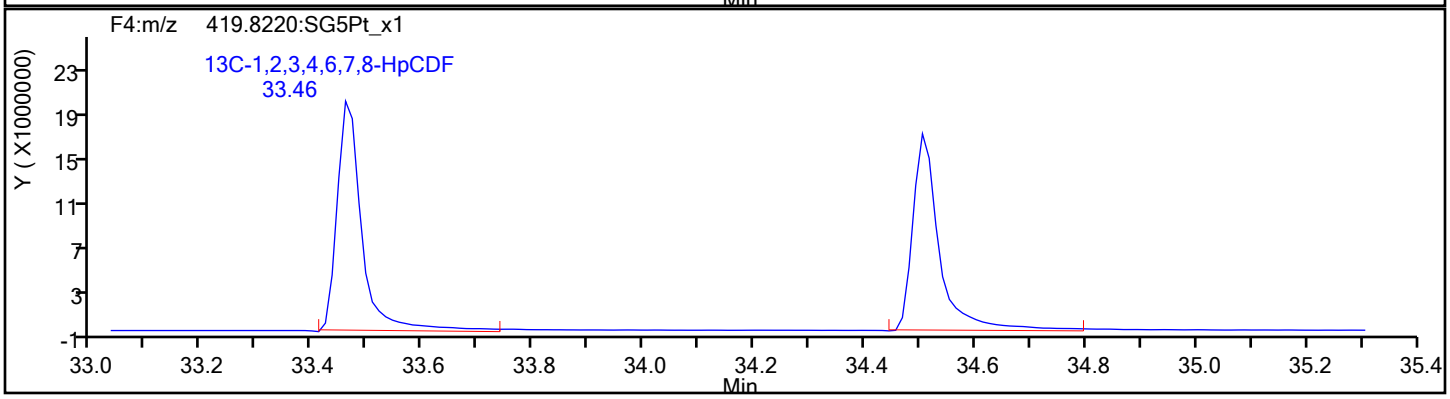

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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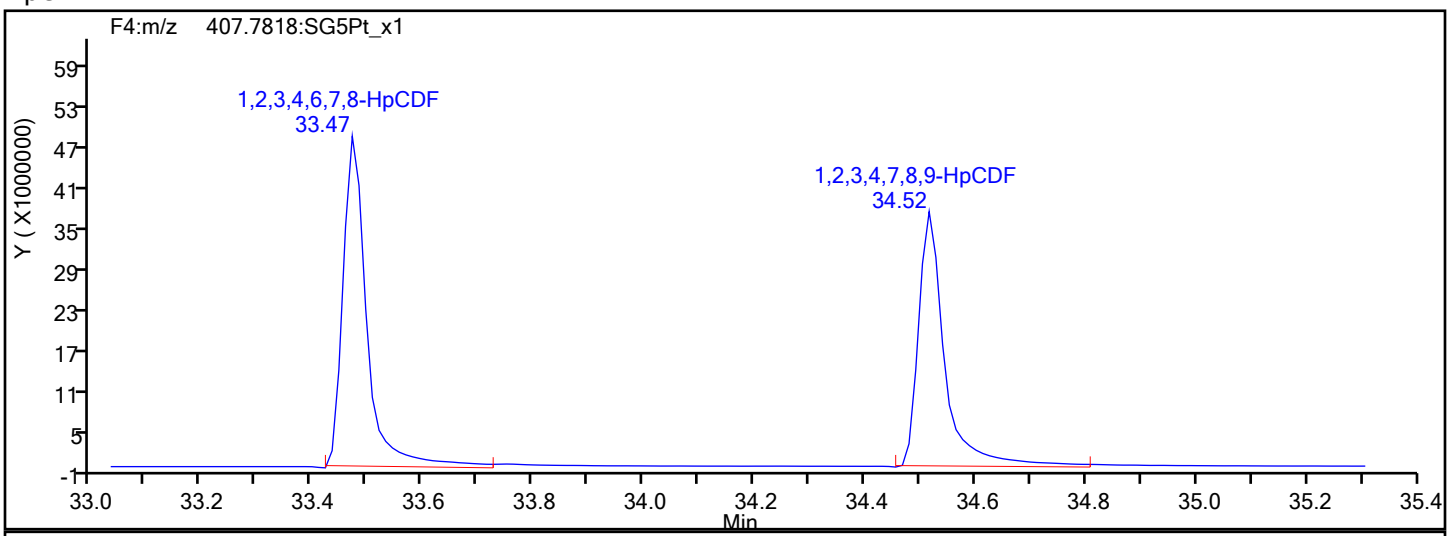

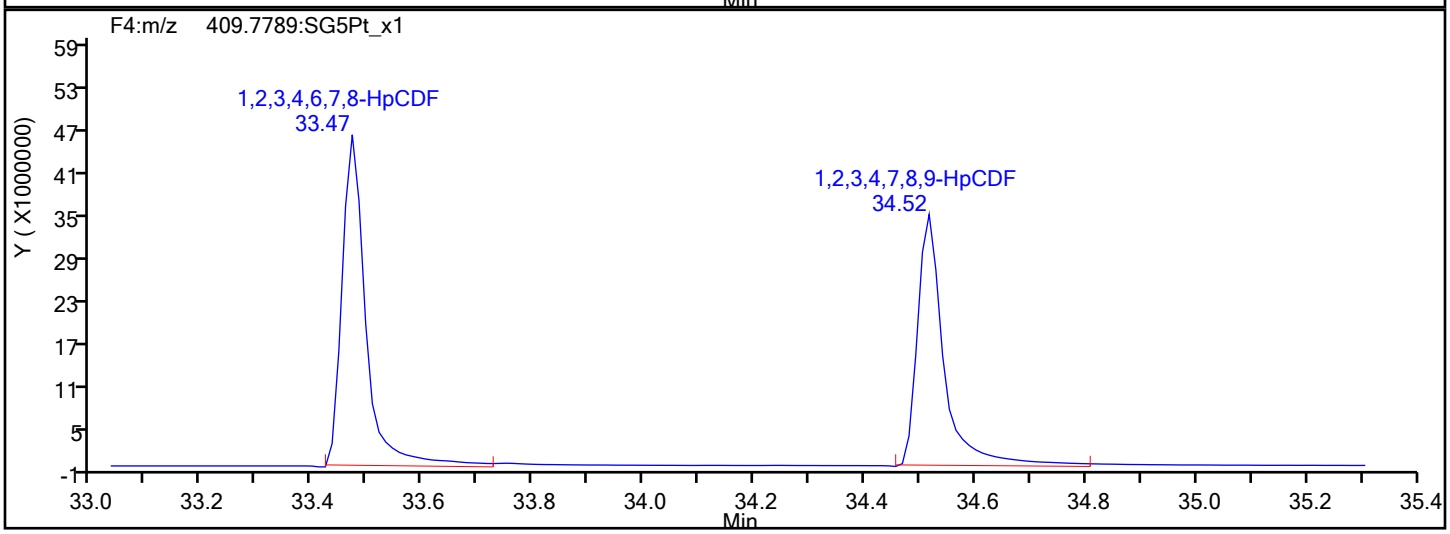

HpCDF Interference Mass

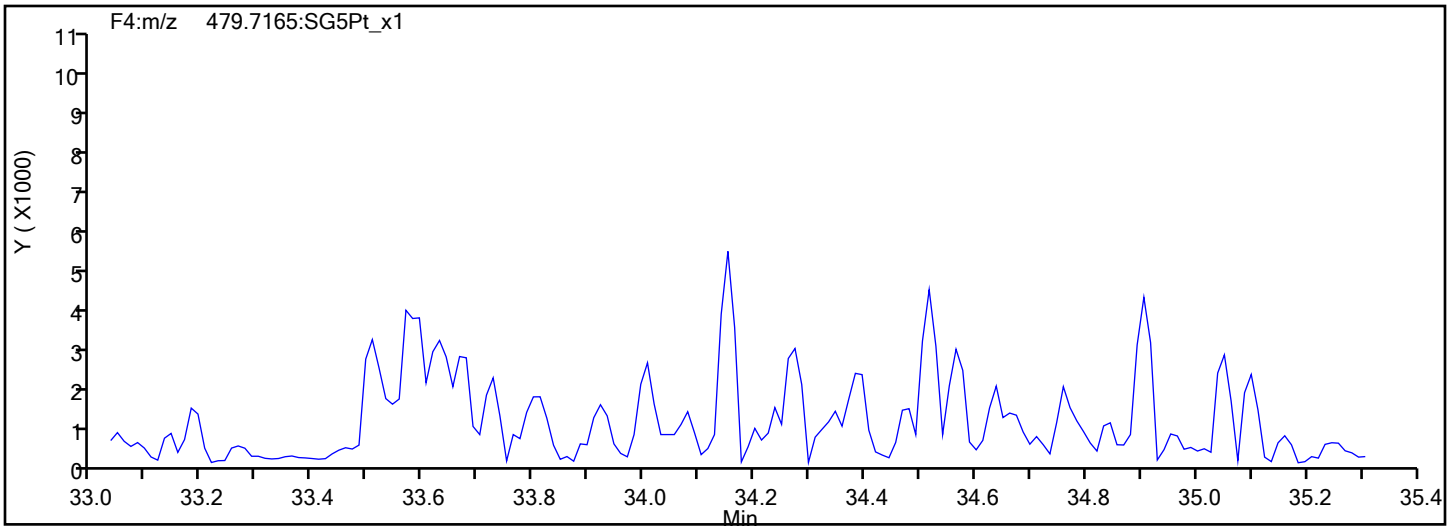

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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HpCDD

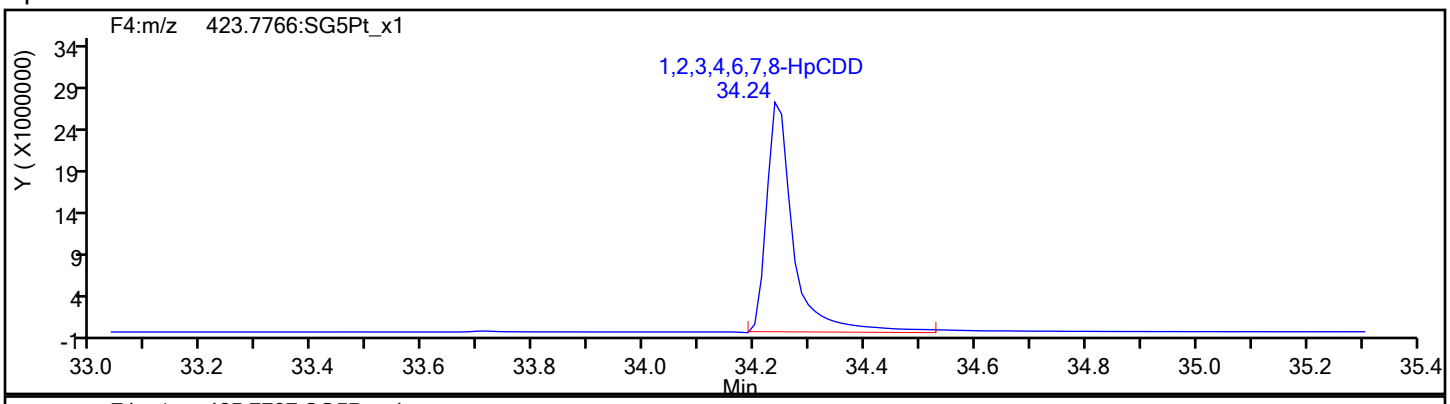

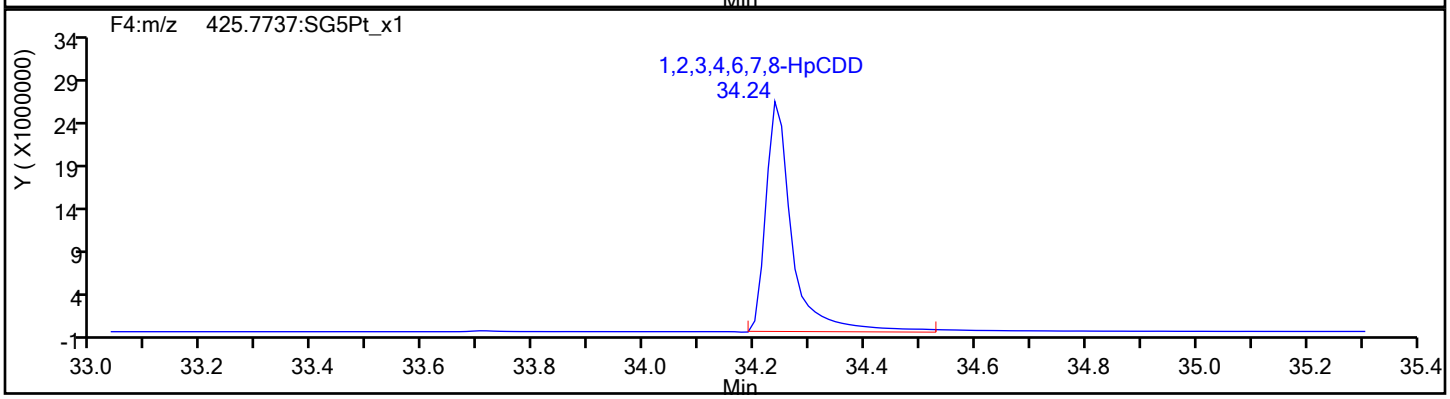

HpCDD Standards

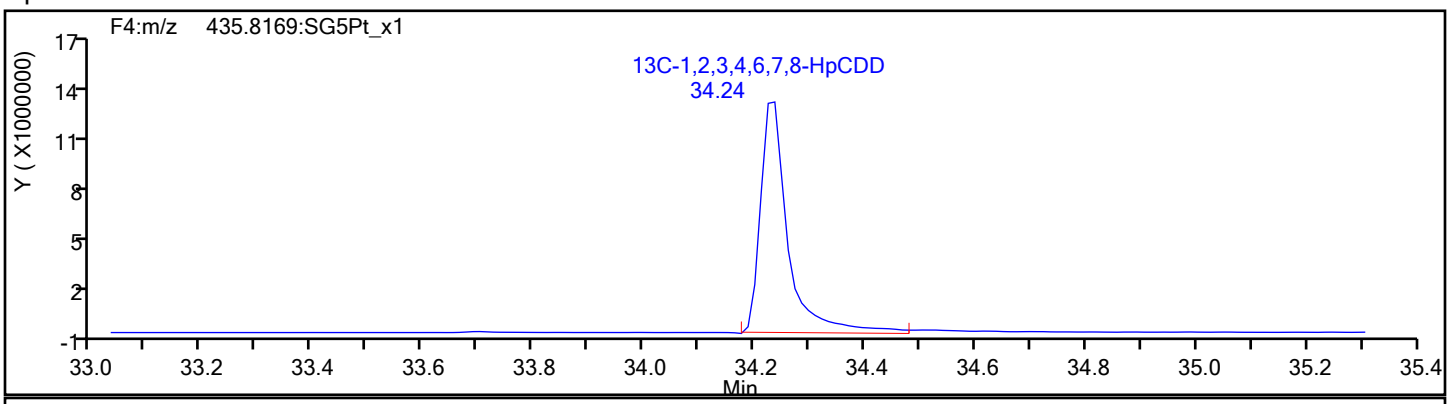

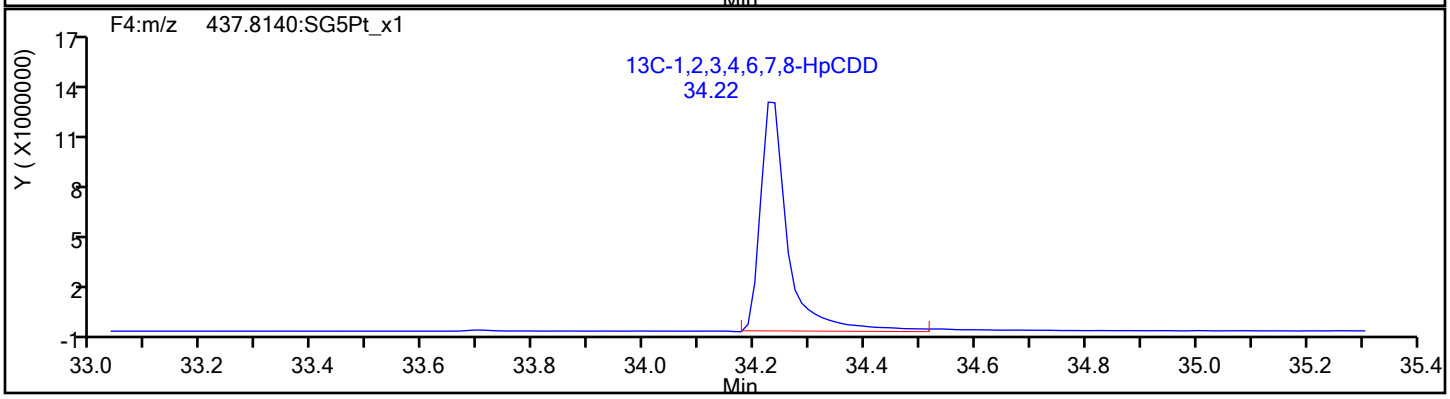

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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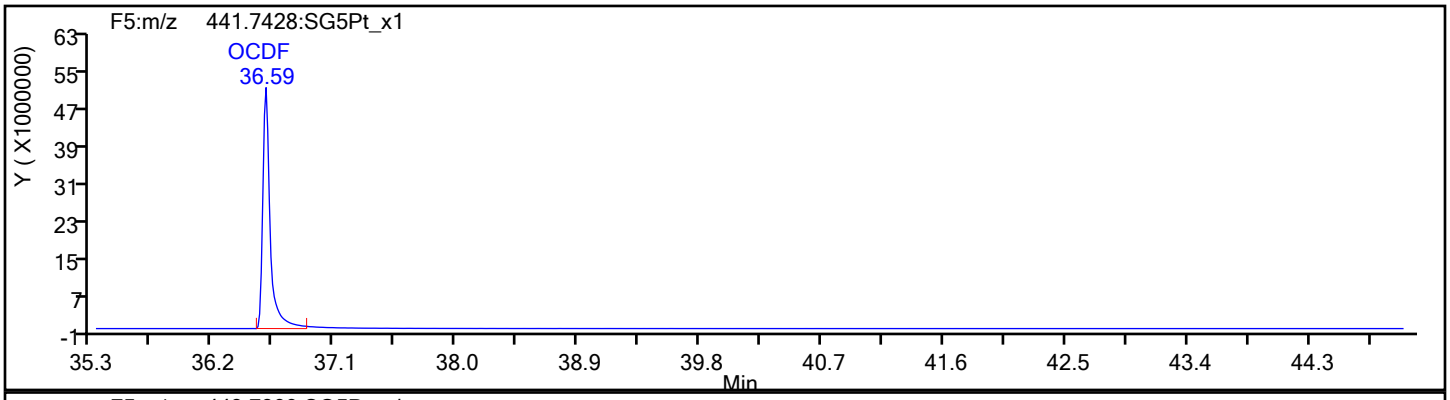

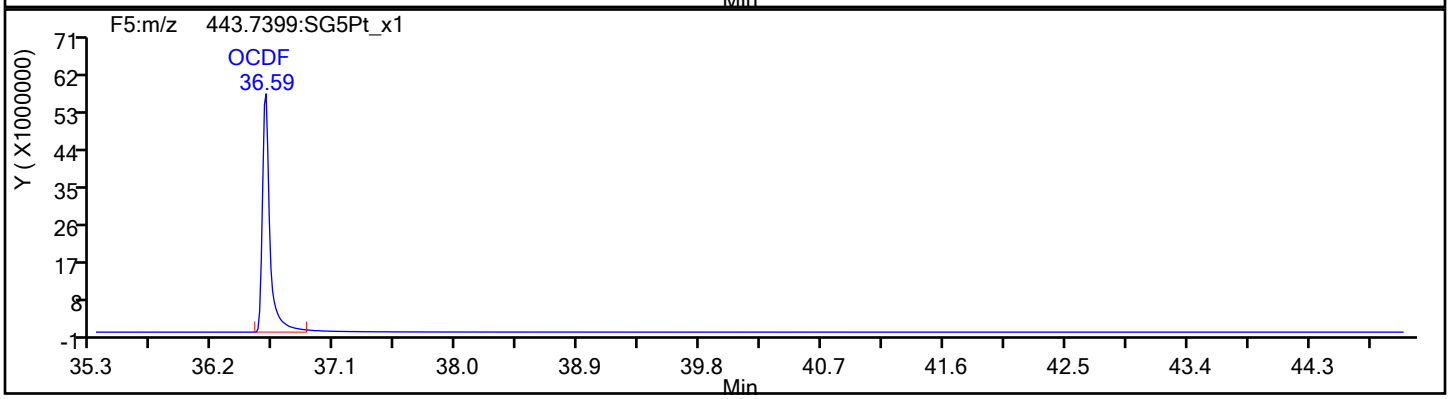

OCDF Standards

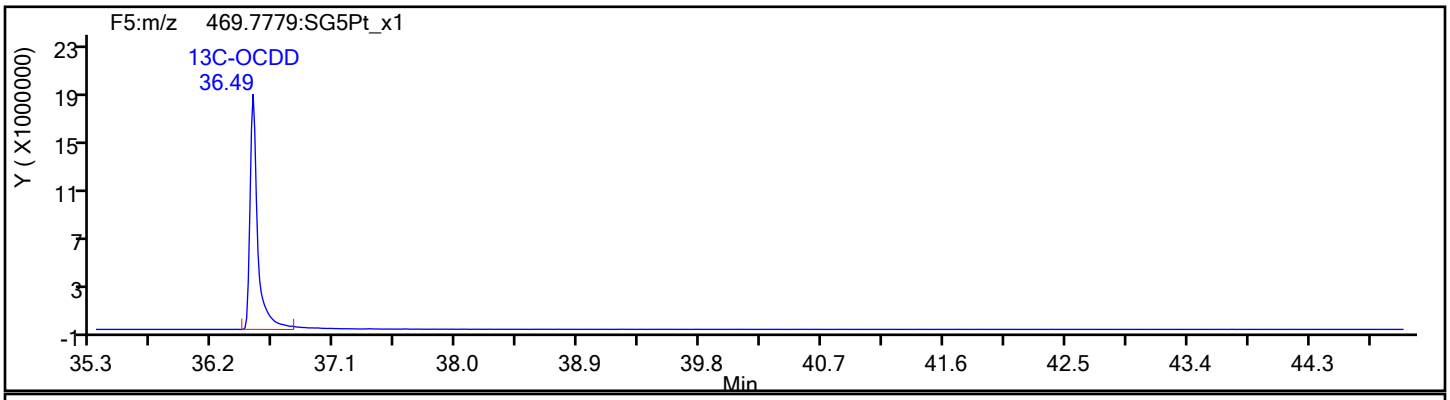

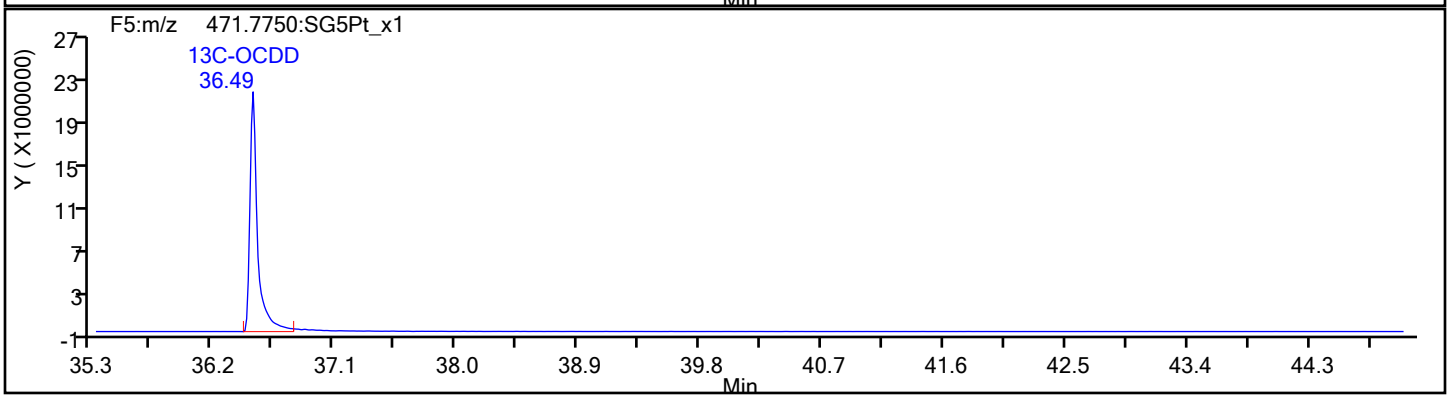

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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OCDF

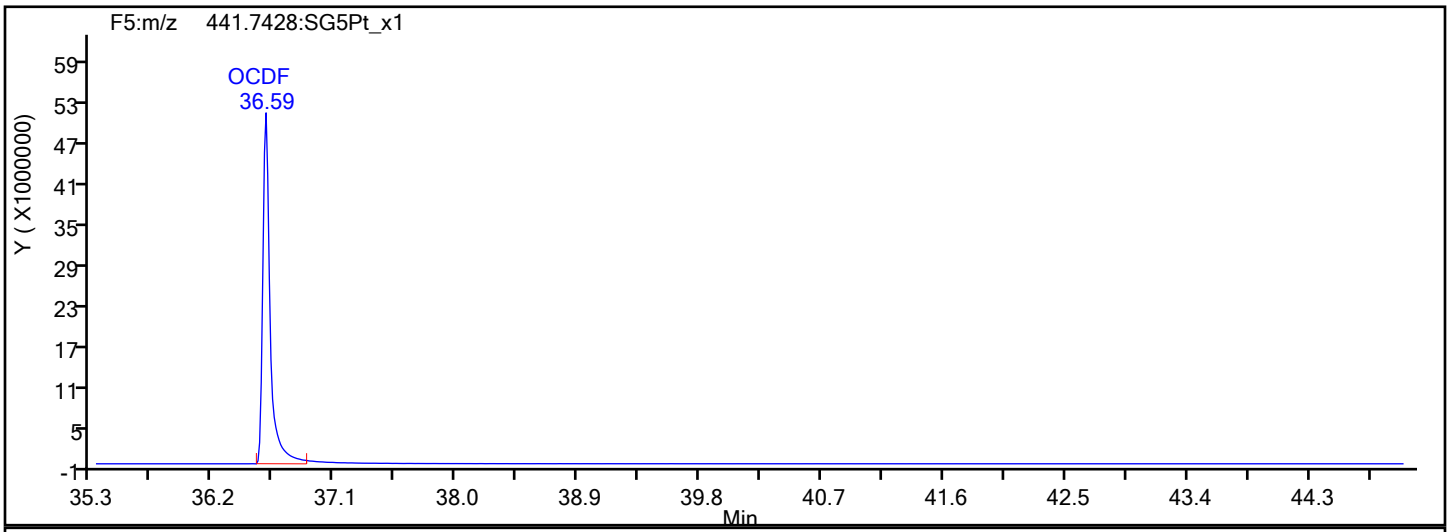

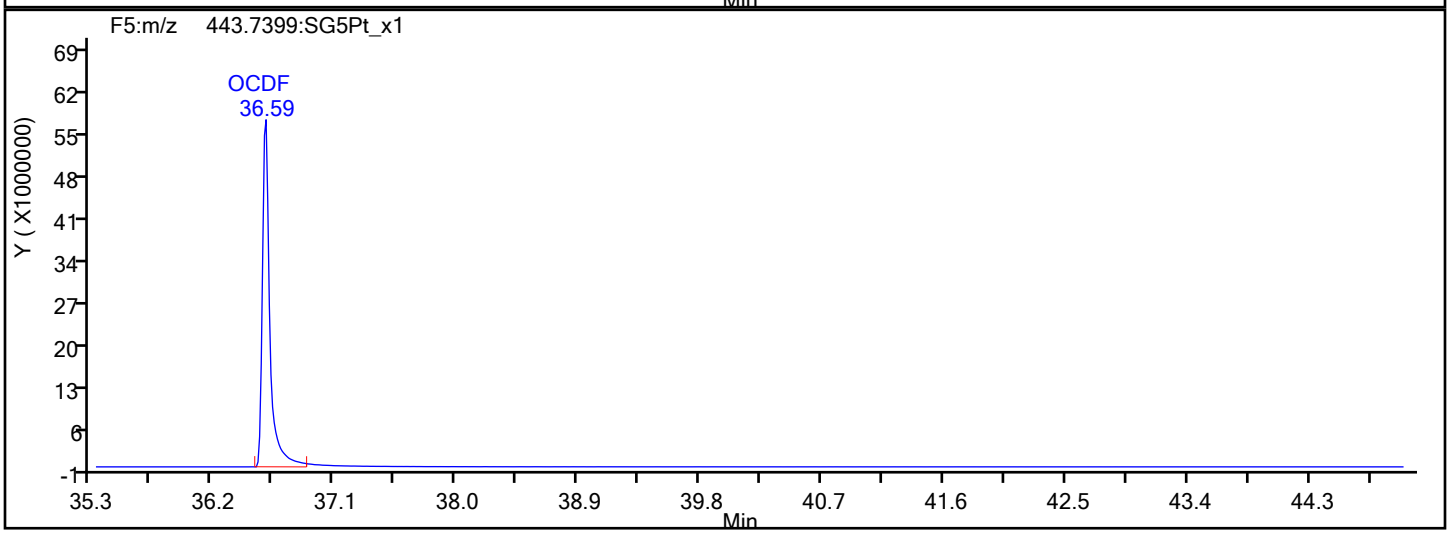

OCDF Interference Mass

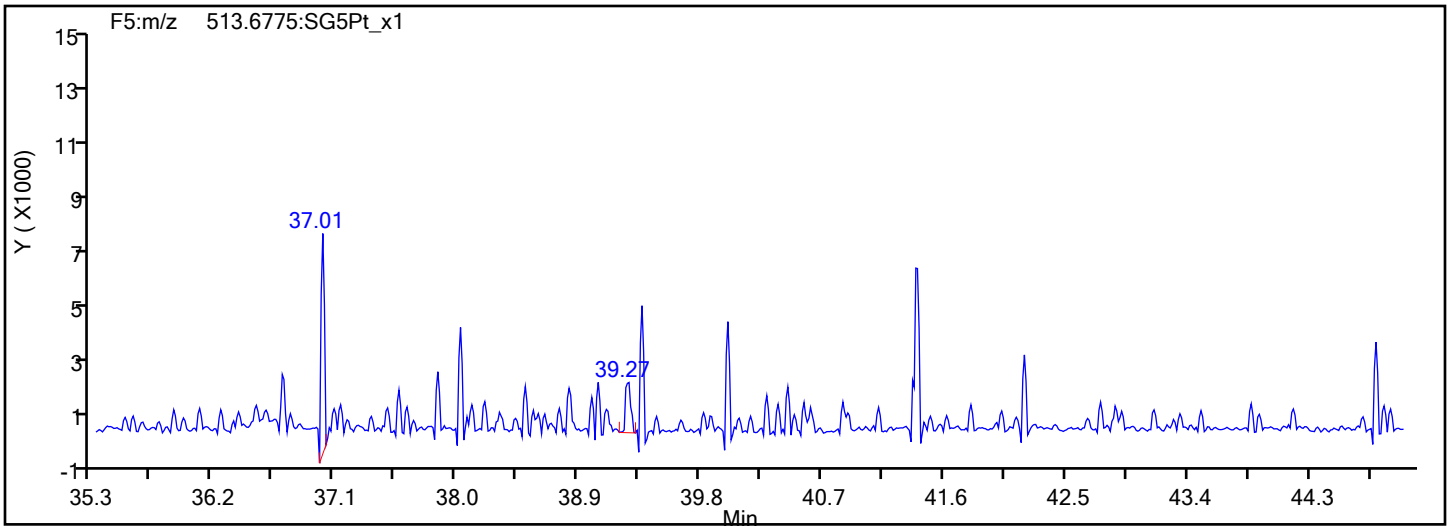

Report Date: 18-Sep-2019 10:22:34 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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OCDD

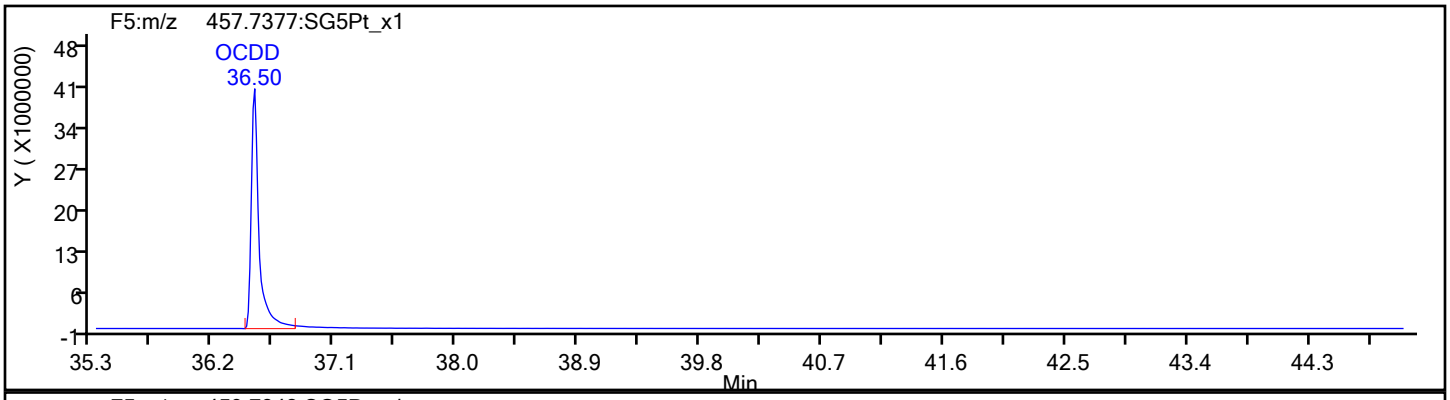

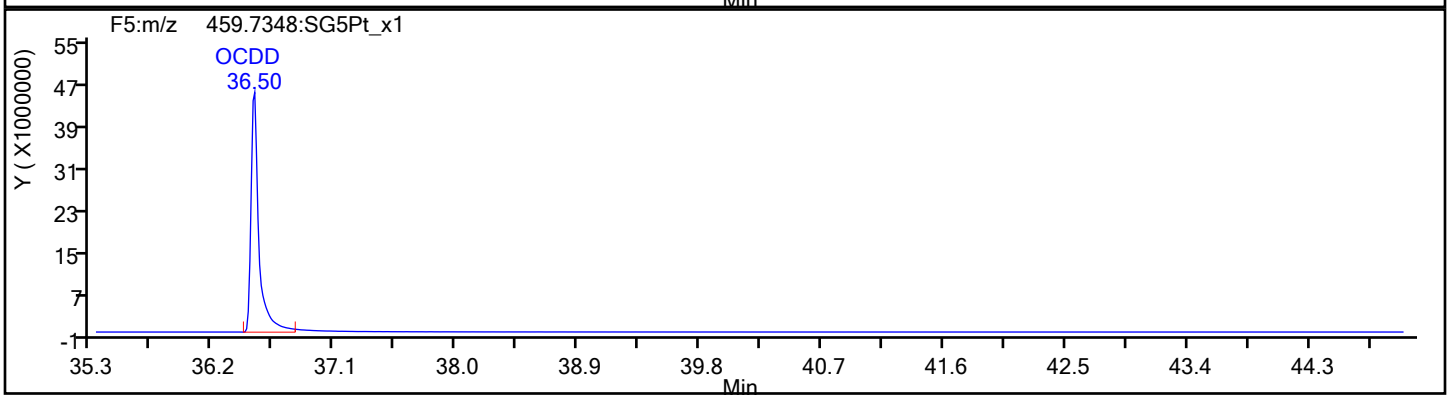

OCDD Standards

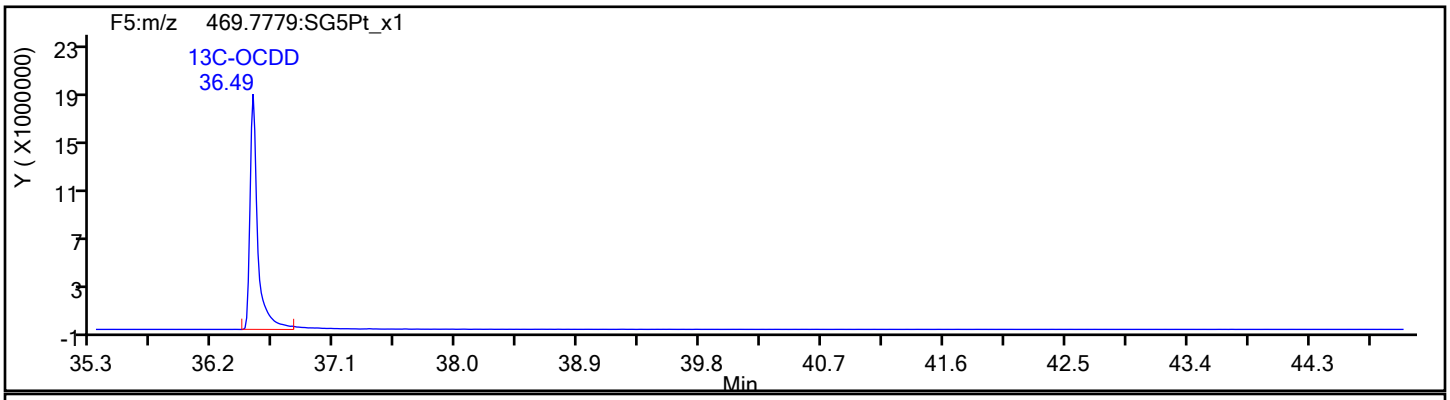

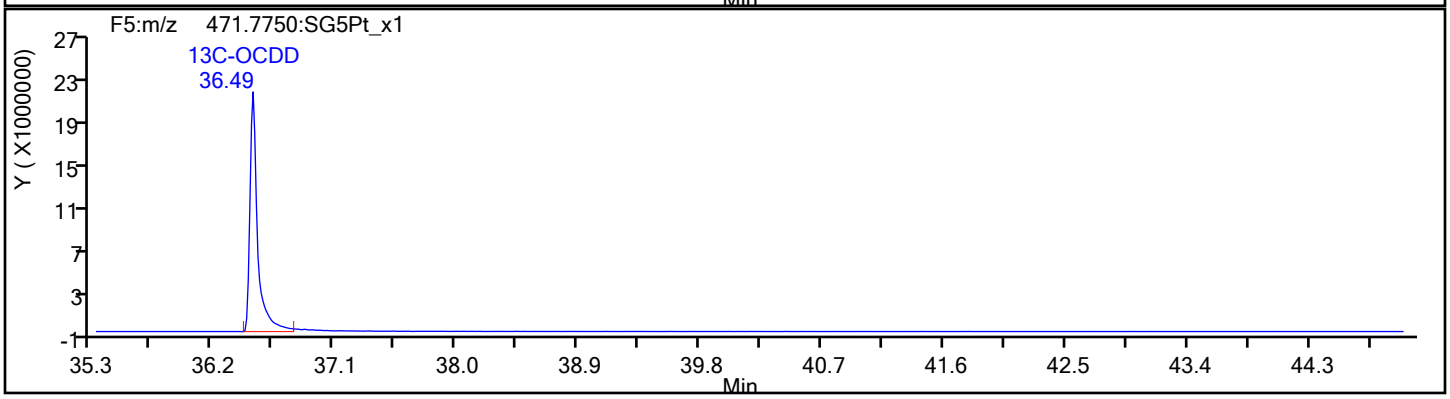

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Eurofins TestAmerica, Sacramento

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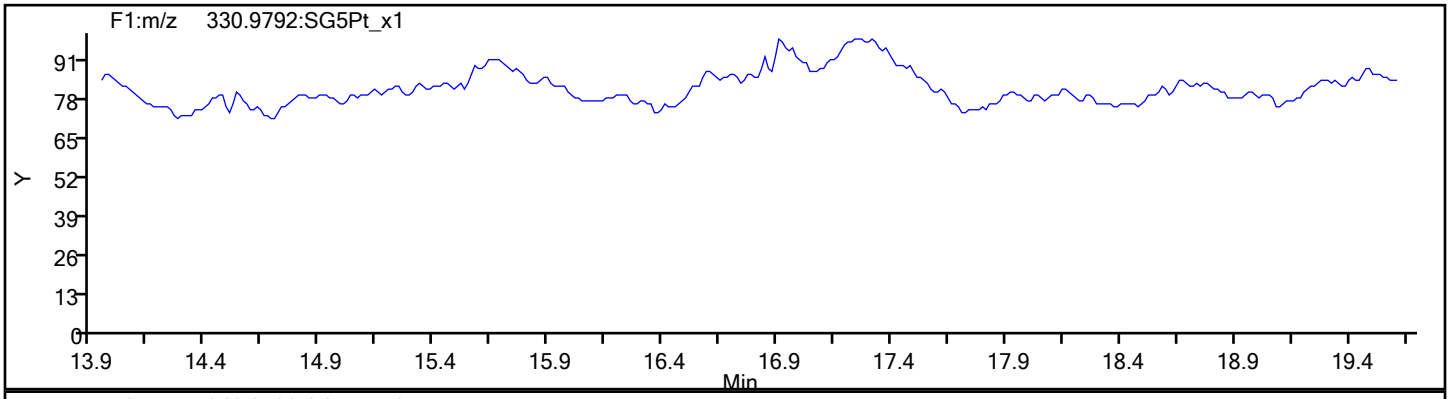

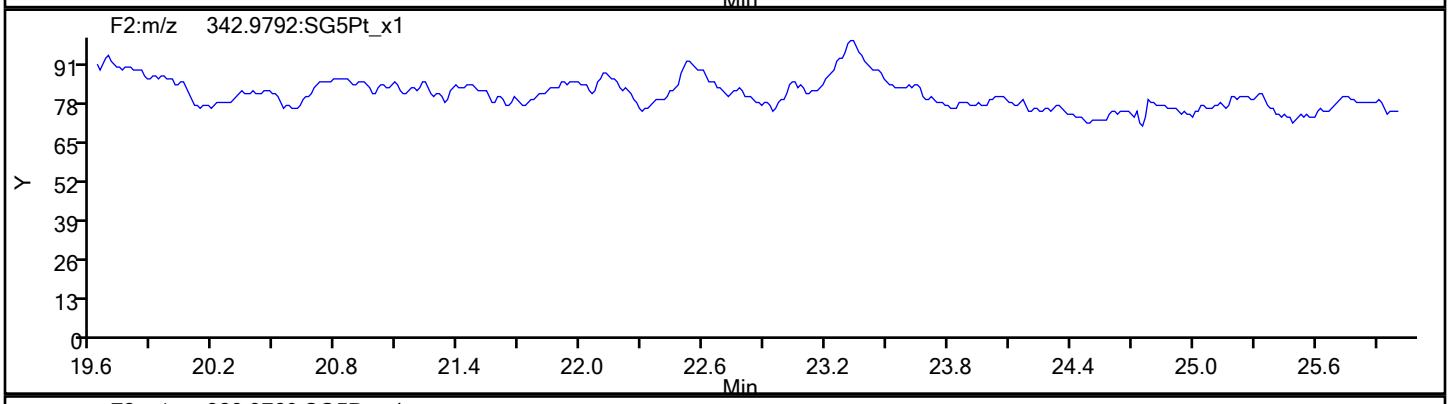

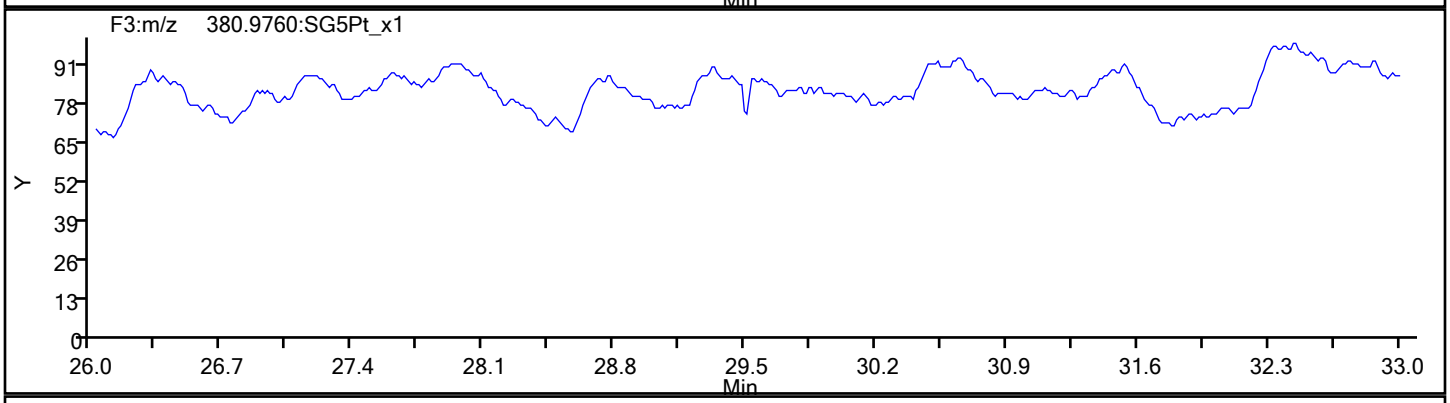

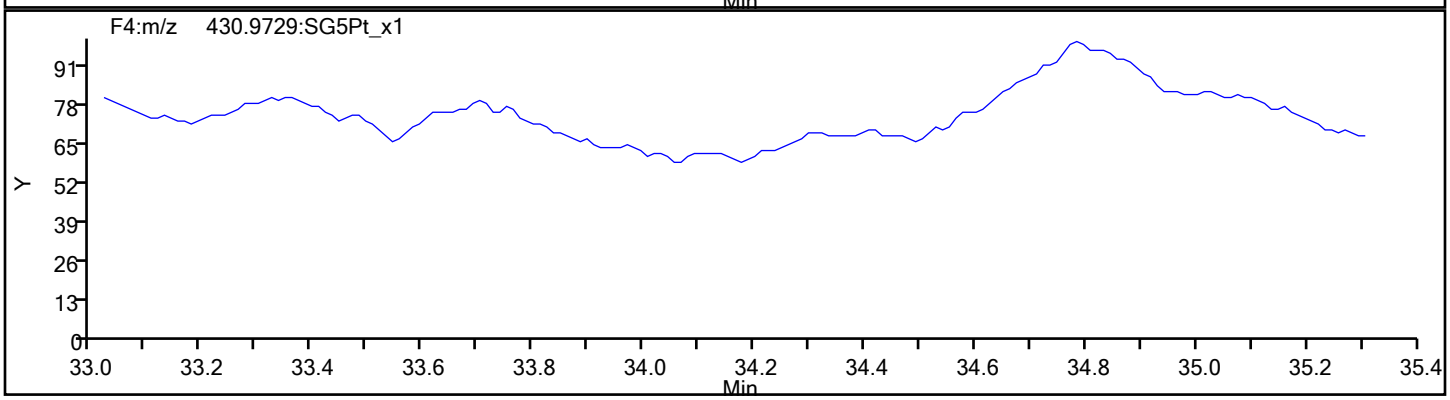

Report Date: 18-Sep-2019 10:22:35 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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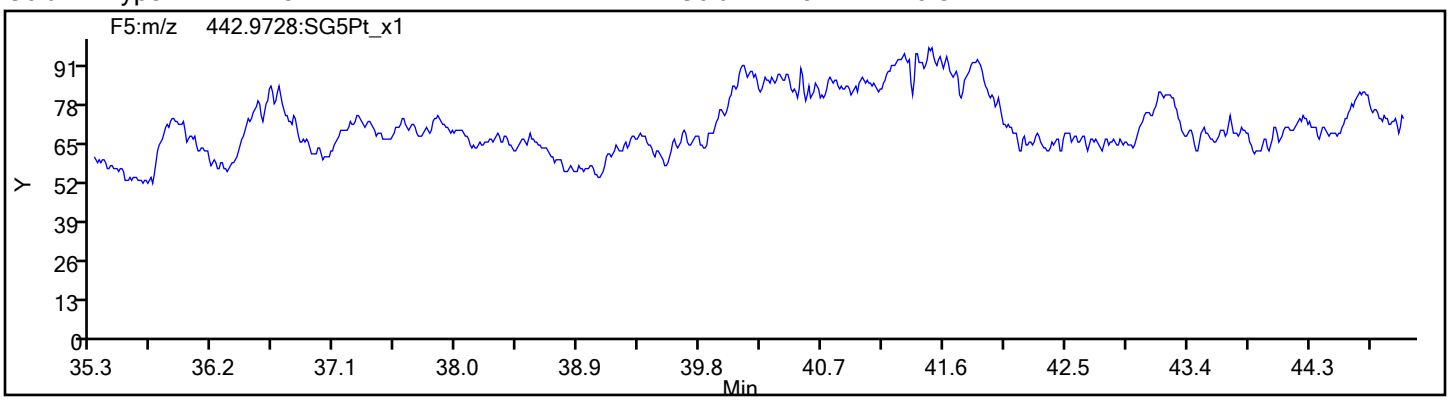

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 17-Sep-2019 16:09:27 ALS Bottle#: 2 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719B CS-4 HRDXNL4_00084
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:37 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:03:31

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.300	116862140	0.78	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.816	164292495	0.81	1.4384	97.7	97.7	0.2030	0.2030	97.74	
2,3,7,8-TCDF	16.831	16312729	0.78	1.0507	9.450	9.450	0.0288	0.0288	94.50	
S Total TCDF					9.450	9.450	0.0288	0.0288		
D 13C-2,3,7,8-TCDD	17.497	110088290	0.77	0.9533	98.8	98.8	0.1811	0.1811	98.81	
$ 37Cl4-2,3,7,8-TCDD	17.511	11295580		1.2224	7.907	7.907	0.0161	0.0161	98.84	
2,3,7,8-TCDD	17.511	11272193	0.80	1.1064	9.254	9.254	0.0249	0.0249	92.54	
S Total TCDD					9.254	9.254	0.0249	0.0249		
D 13C-1,2,3,7,8-PeCDF	21.632	117067384	1.60	1.0286	97.4	97.4	0.2355	0.2355	97.39	
1,2,3,7,8-PeCDF	21.659	61060330	1.61	1.0822	48.2	48.2	0.1753	0.1753	96.39	
D 13C-2,3,4,7,8-PeCDF	22.927	108494277	1.59	0.9827	94.5	94.5	0.2465	0.2465	94.48	
2,3,4,7,8-PeCDF	22.954	58935693	1.60	1.1032	49.2	49.2	0.1981	0.1981	98.48	
S Total PeCDF					97.4	97.4	0.1867	0.1867		
D 13C-1,2,3,7,8-PeCDD	23.622	84755636	1.56	0.7481	96.9	96.9	0.1346	0.1346	96.95	
1,2,3,7,8-PeCDD	23.650	36740998	1.60	0.9050	47.9	47.9	0.0846	0.0846	95.80	
S Total PeCDD					47.9	47.9	0.0846	0.0846		
D 13C-1,2,3,4,7,8-HxCDF	29.749	88972191	0.52	1.1520	96.7	96.7	0.5009	0.5009	96.69	
1,2,3,4,7,8-HxCDF	29.776	51431784	1.25	1.1973	48.3	48.3	0.4285	0.4285	96.56	
D 13C-1,2,3,6,7,8-HxCDF	30.015	97064883	0.52	1.2434	97.7	97.7	0.4641	0.4641	97.73	
1,2,3,6,7,8-HxCDF	30.042	55977084	1.25	1.1807	48.8	48.8	0.3660	0.3660	97.69	
D 13C-2,3,4,6,7,8-HxCDF	31.040	90467566	0.52	1.1720	96.6	96.6	0.4924	0.4924	96.64	
2,3,4,6,7,8-HxCDF	31.053	53626165	1.26	1.2116	48.9	48.9	0.2565	0.2565	97.85	
D 13C-1,2,3,7,8,9-HxCDF	31.945	83967924	0.52	1.0655	98.7	98.7	0.5416	0.5416	98.66	
1,2,3,7,8,9-HxCDF	31.958	50802364	1.28	1.2451	48.6	48.6	0.2521	0.2521	97.18	
S Total HxCDF					194.6	194.6	0.3258	0.3258		
* 13C-1,2,3,7,8,9-HxCDD	31.746	79877165	1.26	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.266	61001305	1.29	0.7812	97.8	97.8	0.4169	0.4169	97.76	
1,2,3,4,7,8-HxCDD	31.280	32825472	1.25	1.1088	48.5	48.5	0.1882	0.1882	97.06	
D 13C-1,2,3,6,7,8-HxCDD	31.386	72157657	1.29	0.9175	98.5	98.5	0.3550	0.3550	98.46	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.399	37867080	1.26	1.0814	48.5	48.5	0.1789	0.1789	97.05	
1,2,3,7,8,9-HxCDD	31.759	39571199	1.26	1.2123	49.0	49.0	0.1656	0.1656	98.05	
S Total HxCDD					146.1	146.1	0.1776	0.1776		
D 13C-1,2,3,4,6,7,8-HpCDF	33.460	70034446	0.45	0.8628	101.6	101.6	1.887	1.887	102	
1,2,3,4,6,7,8-HpCDF	33.472	53230505	1.05	1.5555	48.9	48.9	0.7328	0.7328	97.72	
D 13C-1,2,3,4,7,8,9-HpCDF	34.505	62459777	0.45	0.7991	97.9	97.9	2.038	2.038	97.86	
1,2,3,4,7,8,9-HpCDF	34.505	42098592	1.05	1.3862	48.6	48.6	1.030	1.030	97.24	
S Total HpCDF					97.5	97.5	0.8815	0.8815		
D 13C-1,2,3,4,6,7,8-HpCDD	34.225	69249272	1.01	0.8739	99.2	99.2	0.8707	0.8707	99.21	
1,2,3,4,6,7,8-HpCDD	34.237	31792117	1.05	0.9316	49.3	49.3	0.3574	0.3574	98.56	
S Total HpCDD					49.3	49.3	0.3574	0.3574		
D 13C-OCDD	36.481	117978202	0.90	0.7744	190.7	190.7	0.3164	0.3164	95.37	
OCDF	36.577	73138090	0.89	1.2596	98.4	98.4	0.0928	0.0928	98.43	
OCDD	36.493	60102277	0.88	1.0621	95.9	95.9	0.1528	0.1528	95.93	

Reagents:

HRDXNL4_00084 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 17-Sep-2019 16:09:27 ALS Bottle#: 2 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719B CS-4 HRDXNL4_00084
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:37 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:03:31

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.300	17.303	0		51188431	13221592	10308	25770	1283		
333.9339	17.300	17.303	0		65673709	17067918	10612	26530	1608	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.816	16.810	0	0.972	73273257	18643279	16682	41705	1118		
317.9389	16.816	16.810	0	0.972	91019238	23348376	18701	46752	1249	0.81(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.831	16.825	0	1.001	7146505	1866474	1748	4370	1068		
305.8987	16.831	16.825	0	1.001	9166224	2309204	3335	8337	692	0.78(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.497	17.490	0	1.011	47890197	11504119	10308	25770	1116		
333.9339	17.497	17.490	0	1.011	62198093	14897345	10612	26530	1404	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.511	17.505	0	1.012	11295580	2759721	2389	5972	1155		
2,3,7,8-TCDD											
319.8965	17.511	17.505	0	1.001	5006379	1229603	1679	4197	732		
321.8936	17.511	17.505	0	1.001	6265814	1552760	1232	3080	1260	0.80(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	21.632	21.637	0	1.250	72085037	13290906	17975	44937	739		
353.8970	21.632	21.637	0	1.250	44982347	8135550	11370	28425	716	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.659	21.661	0	1.001	37645378	6988113	9632	24080	726		
341.8567	21.659	21.661	0	1.001	23414952	4333779	6628	16570	654	1.61(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	22.927	22.932	0	1.325	66667406	11411081	17975	44937	635		
353.8970	22.927	22.932	0	1.325	41826871	7189733	11370	28425	632	1.59(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.954	22.954	0	1.001	36249920	6246701	9632	24080	649		
341.8567	22.954	22.954	0	1.001	22685773	3975349	6628	16570	600	1.60(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.622	23.625	0	1.365	51615468	8403431	7024	17560	1196		
369.8919	23.622	23.625	0	1.365	33140168	5441011	5174	12935	1052	1.56(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.650	23.649	0	1.001	22616992	3684612	2542	6355	1449		
357.8516	23.650	23.649	0	1.001	14124006	2284855	1697	4242	1346	1.60(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.749	29.754	0	0.937	30622454	4262368	15646	39115	272		
385.8610	29.749	29.754	0	0.937	58349737	7978660	27510	68775	290	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.776	29.789	-1	1.001	28572669	3966552	14037	35092	283		
375.8178	29.776	29.789	-1	1.001	22859115	3184716	11085	27712	287	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.015	30.015	0	0.945	33334673	4974859	15646	39115	318		
385.8610	30.015	30.015	0	0.945	63730210	9557829	27510	68775	347	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.042	30.039	0	1.001	31100201	4648576	14037	35092	331		
375.8178	30.028	30.039	-1	1.000	24876883	3736483	11085	27712	337	1.25(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.040	31.043	0	0.978	31041442	6949049	15646	39115	444		
385.8610	31.040	31.043	0	0.978	59426124	13257904	27510	68775	482	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.053	31.059	0	1.000	29867122	6669756	14037	35092	475		
375.8178	31.053	31.059	0	1.000	23759043	5329537	11085	27712	481	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.945	31.942	0	1.006	28810187	6889378	15646	39115	440		
385.8610	31.945	31.942	0	1.006	55157737	13121620	27510	68775	477	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.958	31.956	0	1.000	28484868	6927852	14037	35092	494		
375.8178	31.958	31.956	0	1.000	22317496	5417368	11085	27712	489	1.28(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.746	31.748	0		44590033	10388597	13953	34882	745		
403.8529	31.746	31.748	0		35287132	8307576	10402	26005	799	1.26(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.266	31.261	0	0.985	34418121	8538114	13953	34882	612		
403.8529	31.253	31.261	0	0.984	26583184	6542155	10402	26005	629	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.280	31.280	0	1.000	18210328	4676373	6796	16990	688		
391.8127	31.280	31.280	0	1.000	14615144	3685627	5791	14477	636	1.25(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.386	31.383	0	0.989	40713057	9165140	13953	34882	657		
403.8529	31.386	31.383	0	0.989	31444600	7098259	10402	26005	682	1.29(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.399	31.402	0	1.000	21129707	4810731	6796	16990	708		
391.8127	31.399	31.402	0	1.000	16737373	3882456	5791	14477	670	1.26(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.759	31.761	0	1.016	22036967	5199355	6796	16990	765		
391.8127	31.759	31.761	0	1.016	17534232	4154993	5791	14477	717	1.26(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.460	33.457	0	1.054	21694702	6802754	38569	96422	176		
419.8220	33.460	33.457	0	1.054	48339744	14980925	83187	207967	180	0.45(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.472	33.469	0	1.000	27303098	8321332	48031	120077	173		
409.7789	33.460	33.469	-1	1.000	25927407	8013389	51301	128252	156	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.505	34.502	0	1.087	19495147	5459139	38569	96422	142		
419.8220	34.505	34.502	0	1.087	42964630	11931602	83187	207967	143	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.505	34.509	0	1.000	21594067	6125765	48031	120077	128		
409.7789	34.505	34.509	0	1.000	20504525	5997687	51301	128252	117	1.05(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.225	34.227	0	1.078	34873988	10385149	28867	72167	360		
437.8140	34.225	34.227	0	1.078	34375284	10126378	28038	70095	361	1.01(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.237	34.235	0	1.000	16297283	4845800	14038	35095	345		
425.7737	34.237	34.235	0	1.000	15494834	4492519	13280	33200	338	1.05(0.88-1.20)	
13C-OCDD											
469.7779	36.481	36.486	0	1.149	55925656	13683141	9939	24847	1377		
471.7750	36.481	36.486	0	1.149	62052546	15254711	8386	20965	1819	0.90(0.76-1.02)	
OCDF											
441.7428	36.577	36.581	0	1.003	34484063	8952540	3122	7805	2868		
443.7399	36.577	36.581	0	1.003	38654027	9970777	3641	9102	2738	0.89(0.76-1.02)	
OCDD											
457.7377	36.493	36.497	0	1.000	28100552	7029079	3330	8325	2111		
459.7348	36.493	36.497	0	1.000	32001725	7995829	6061	15152	1319	0.88(0.76-1.02)	

Reagents:

HRDXNL4_00084 Amount Added: 1.00 Units: mL

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
Injection Date:	17-Sep-2019 16:09:27	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

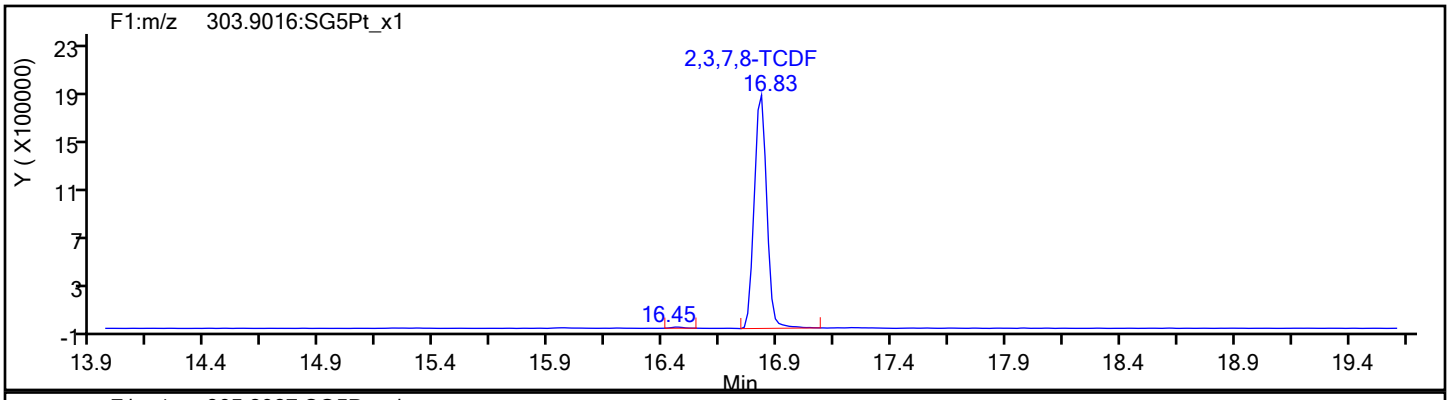

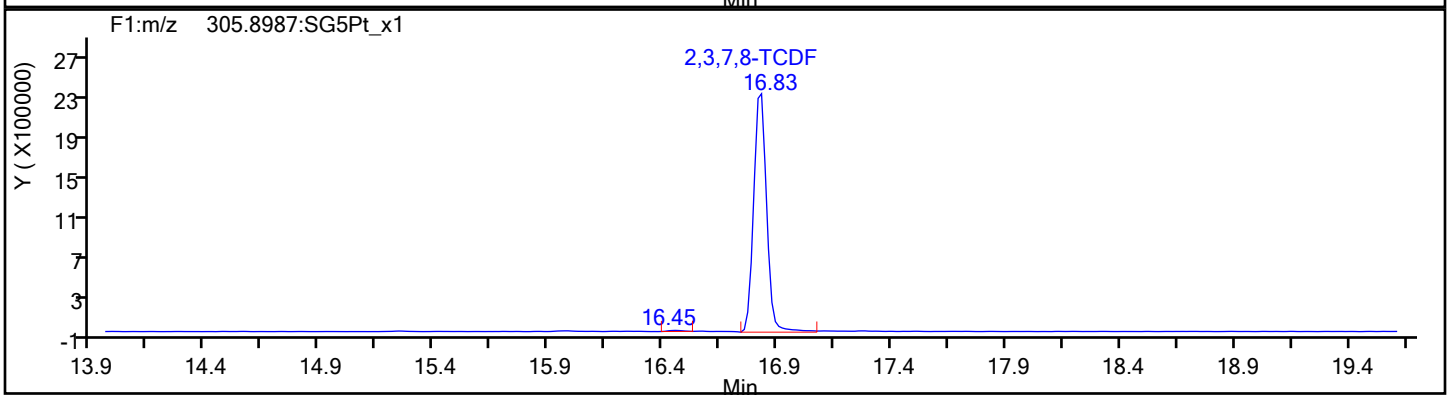

TCDF Standards

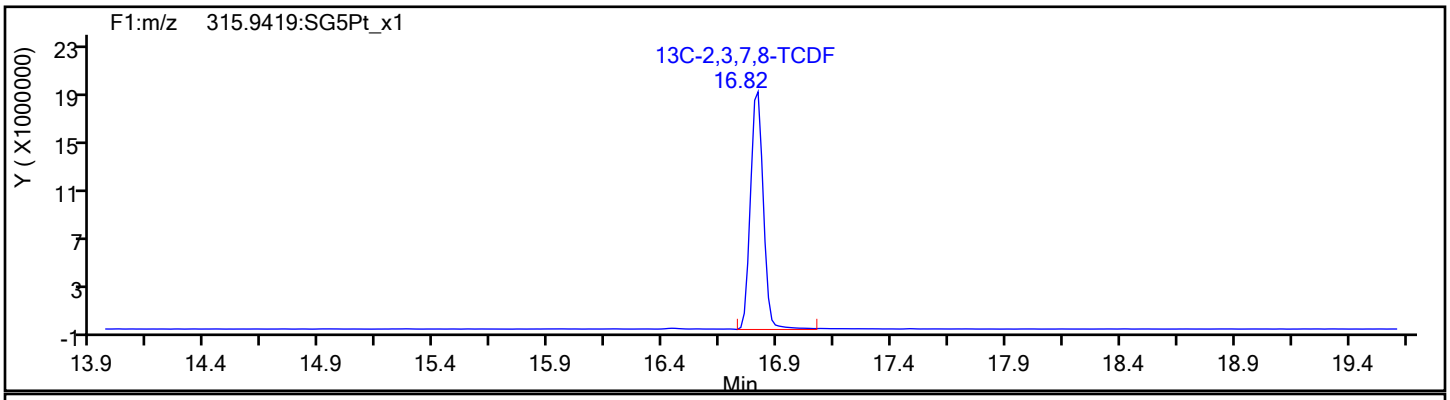

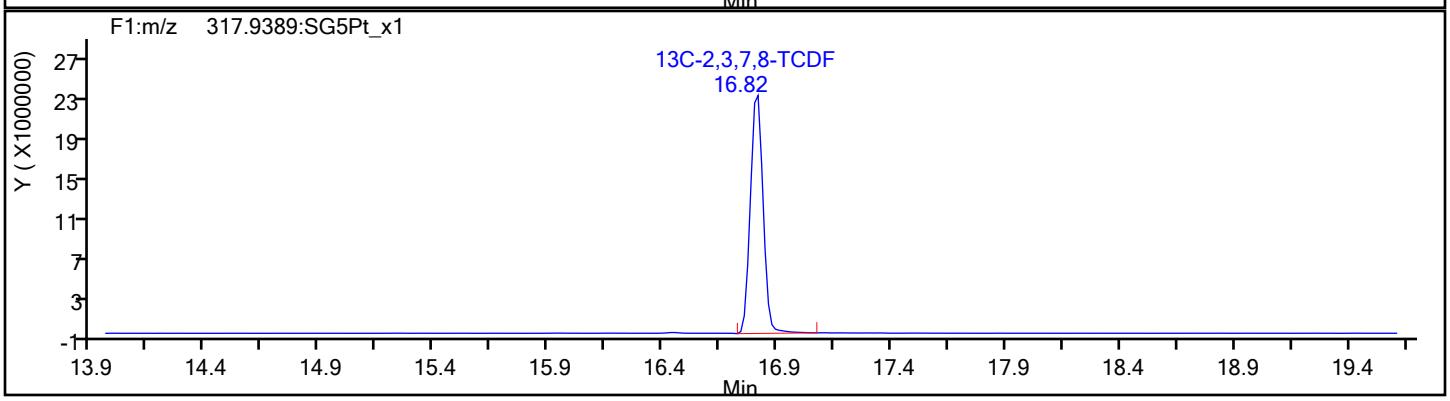

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
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Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

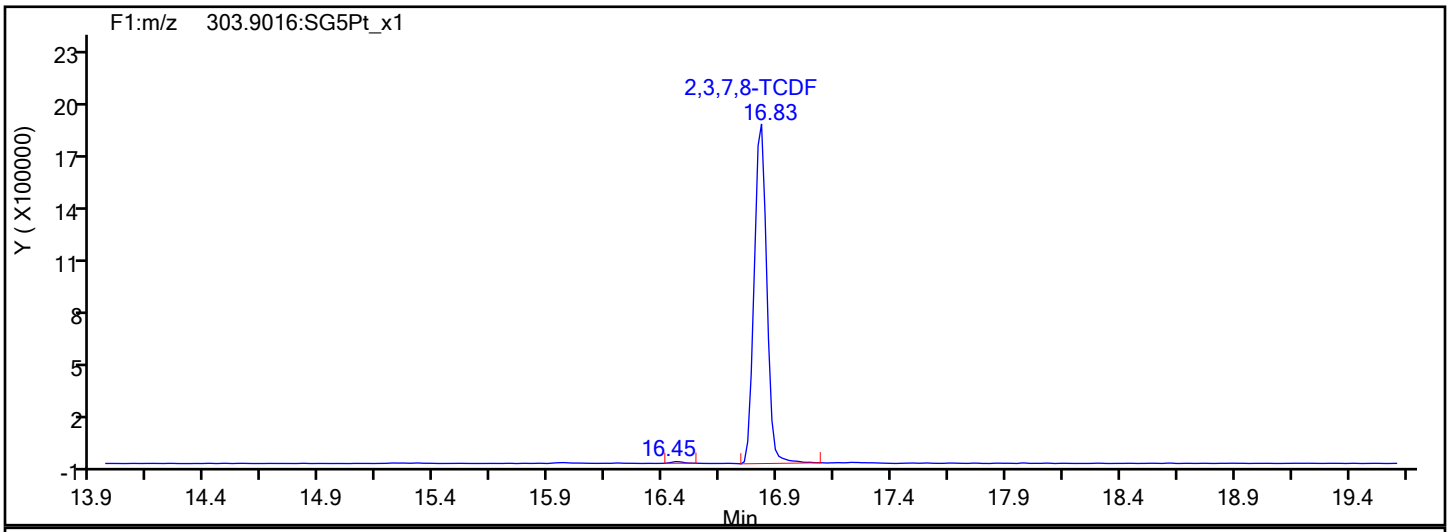

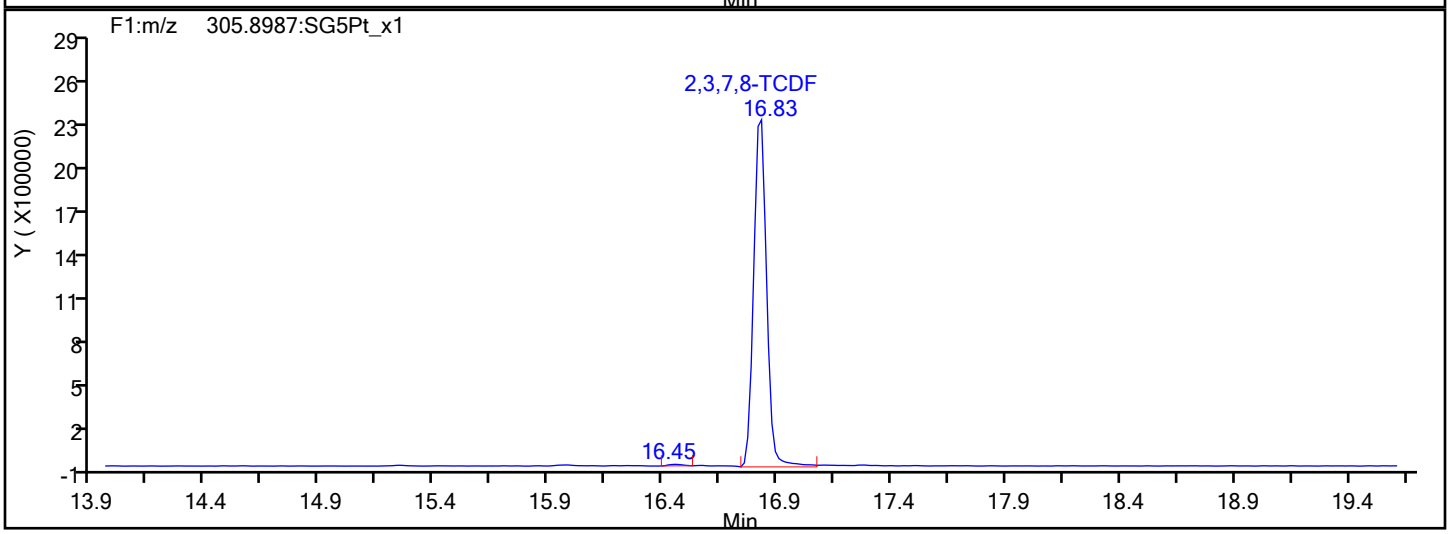

TCDF Interference Mass

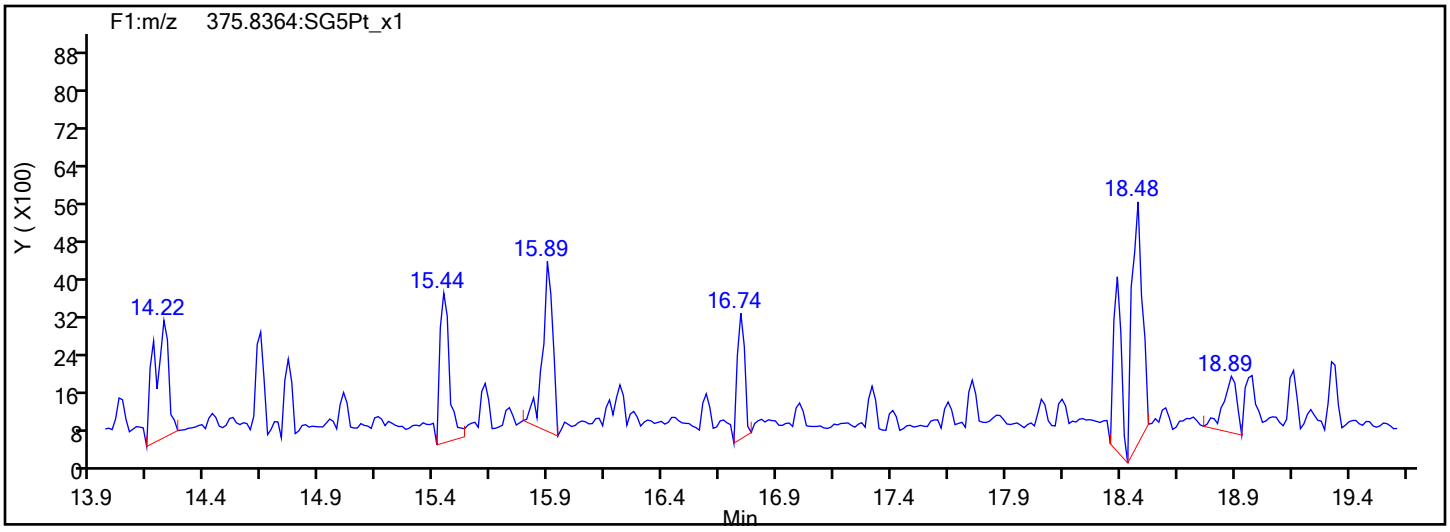

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
Injection Date:	17-Sep-2019 16:09:27	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

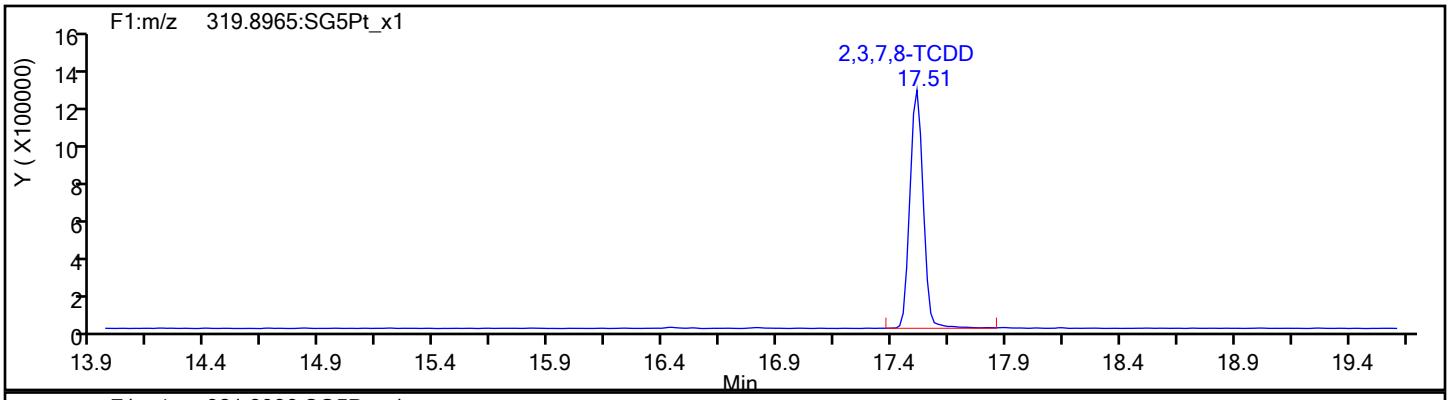

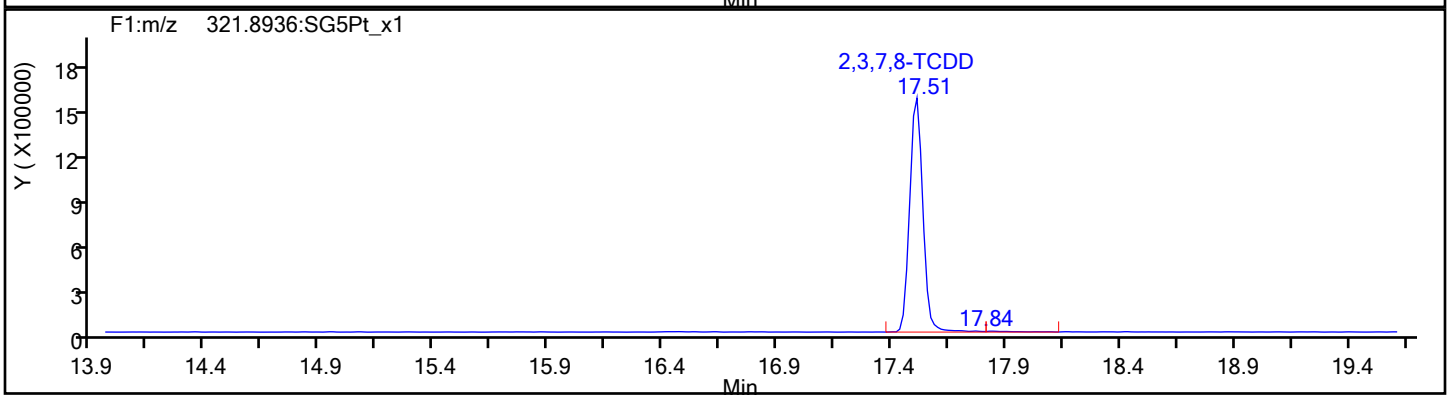

TCDD Standards

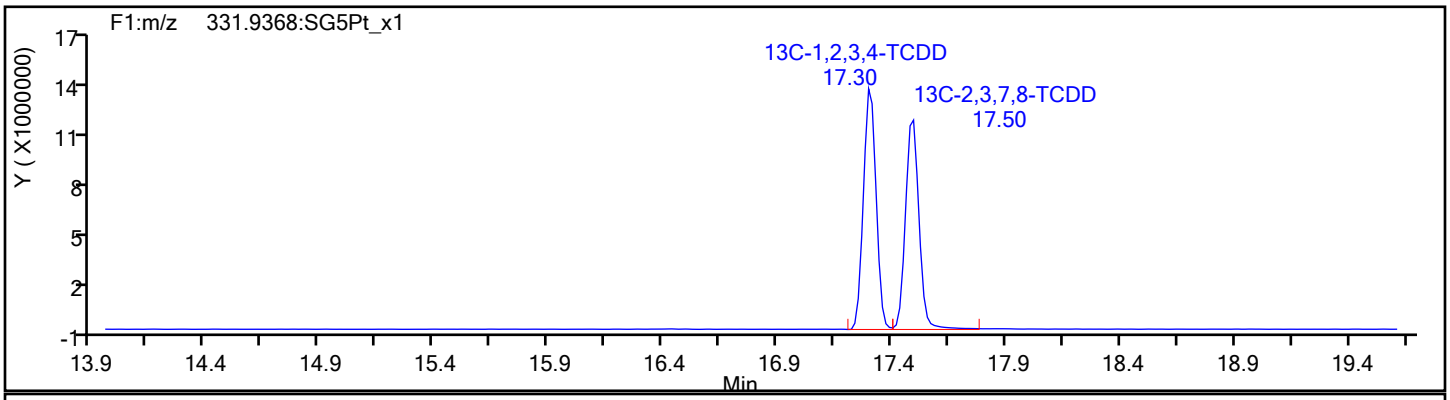

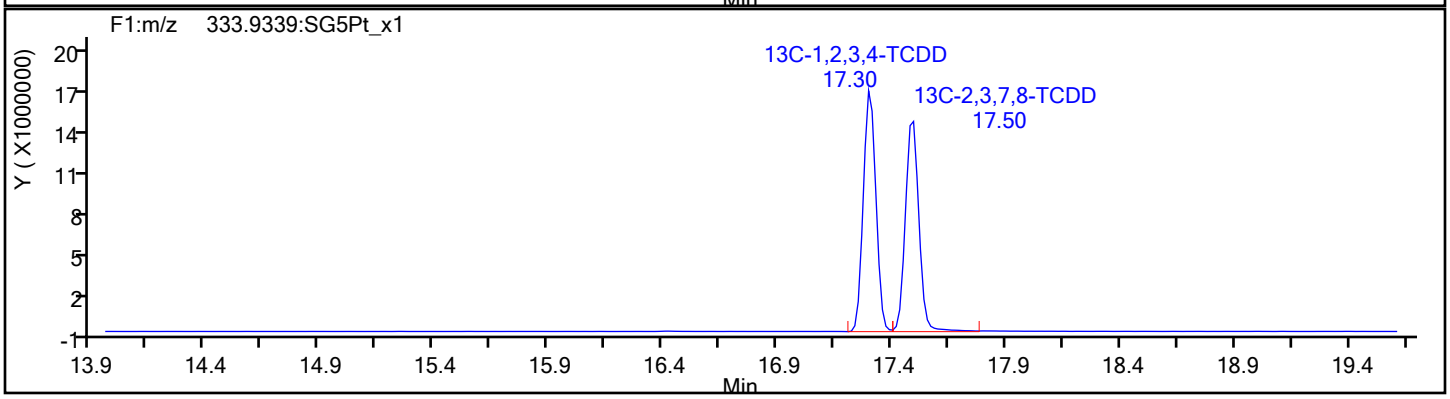

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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37Cl4-TCDD

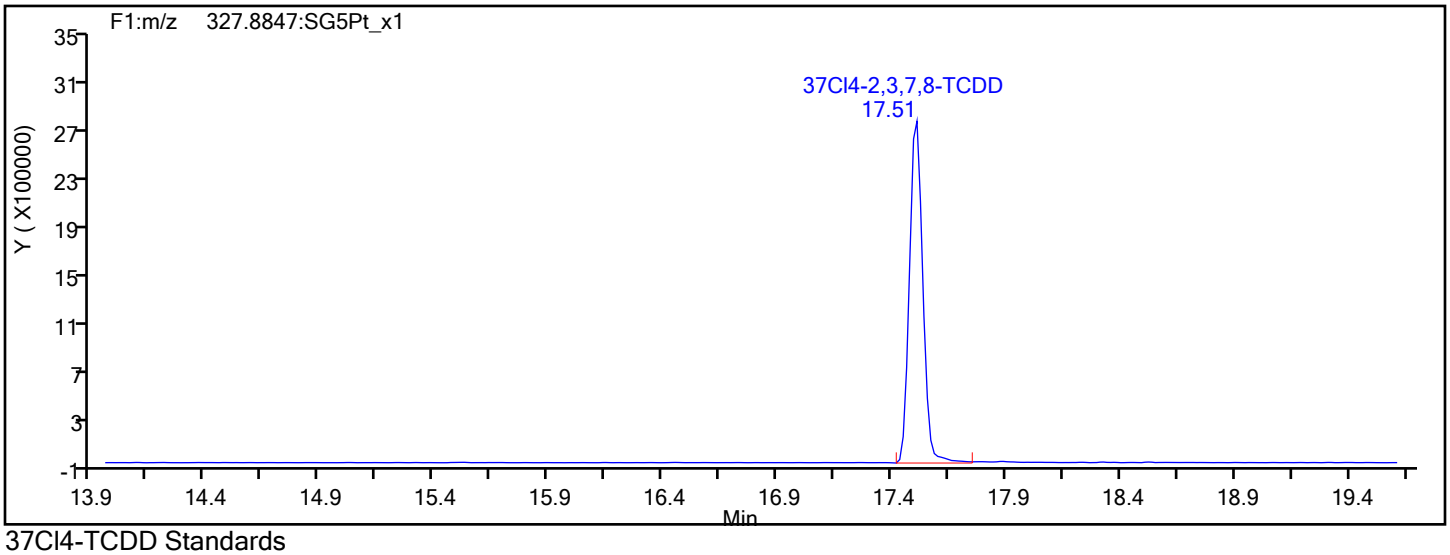

37Cl4-TCDD Standards

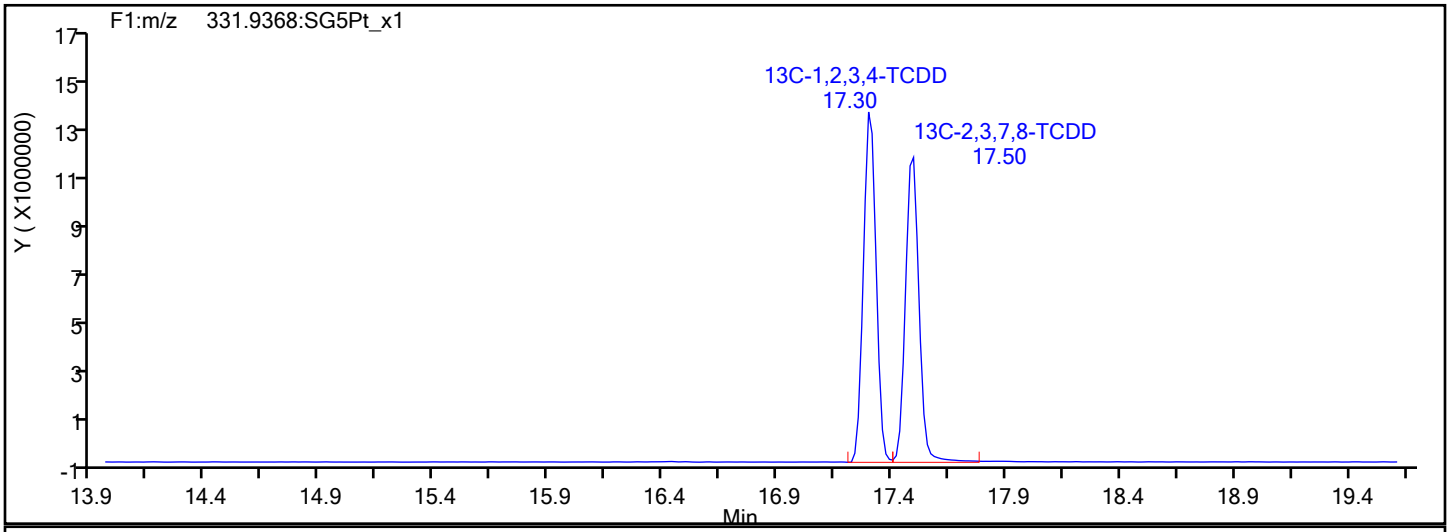

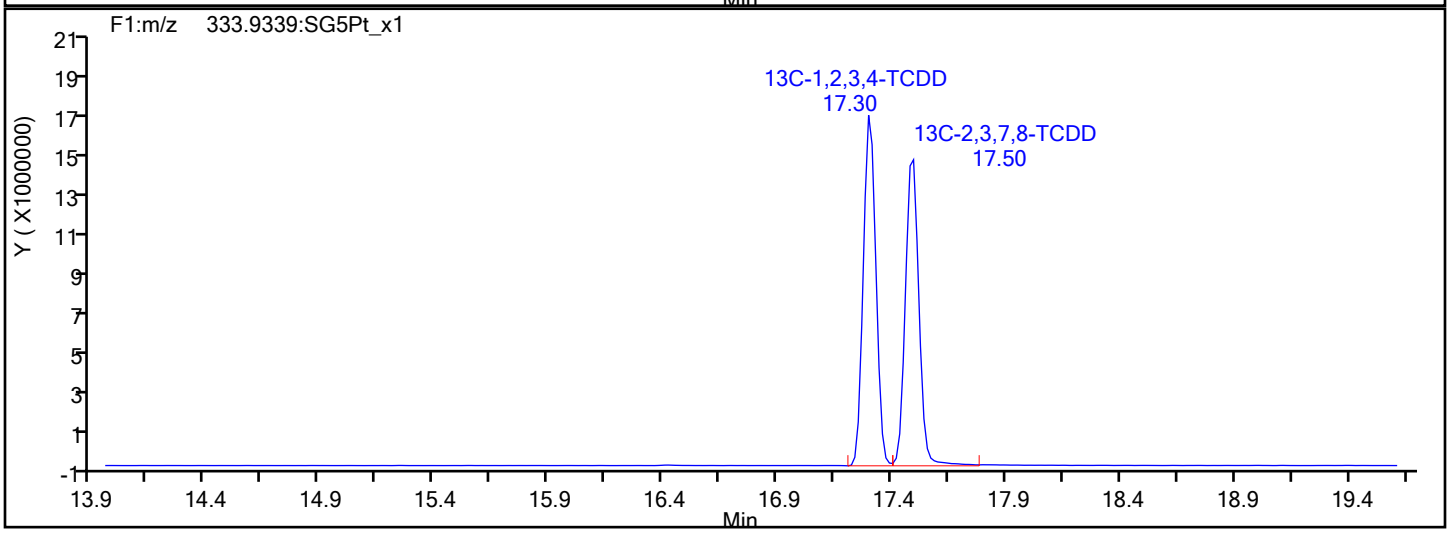

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Eurofins TestAmerica, Sacramento

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F1 PeCDFs

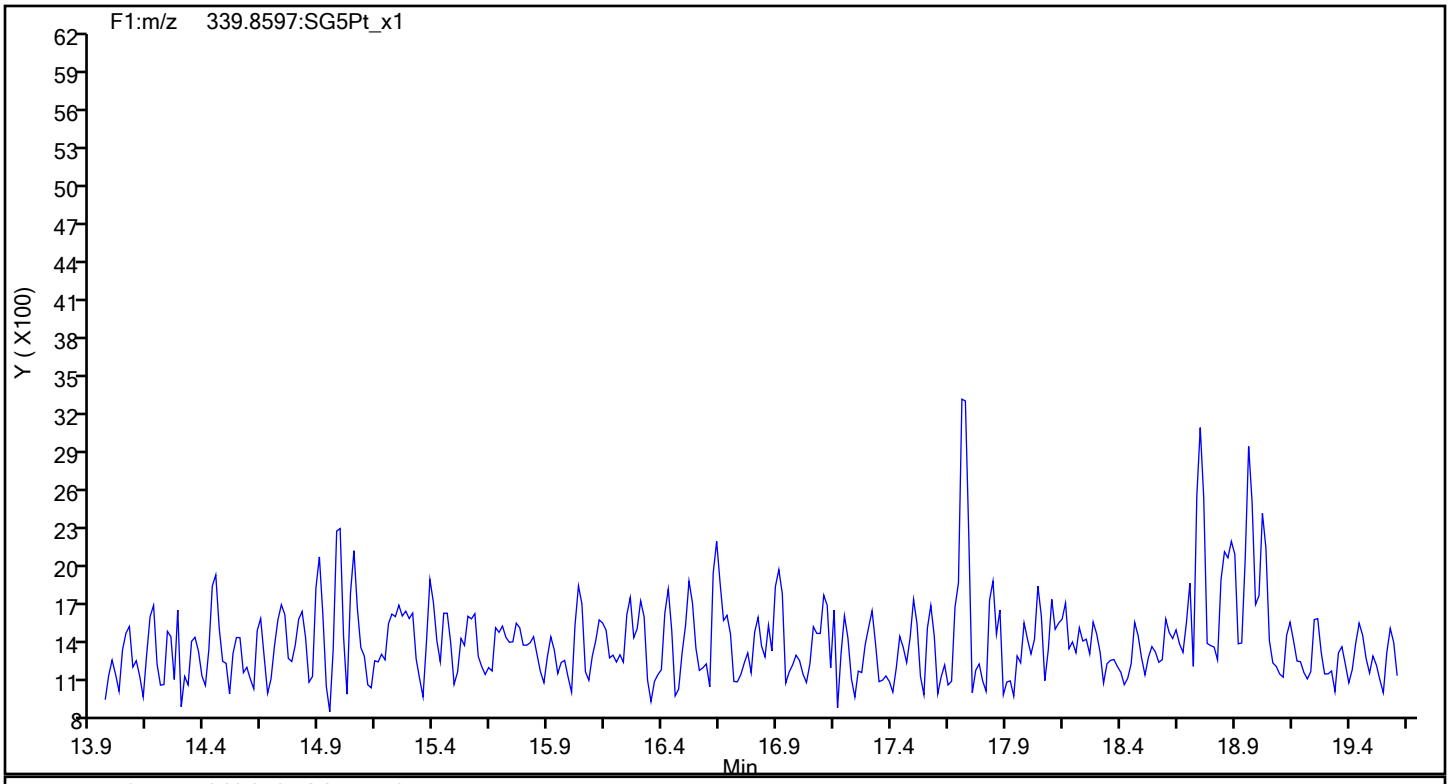

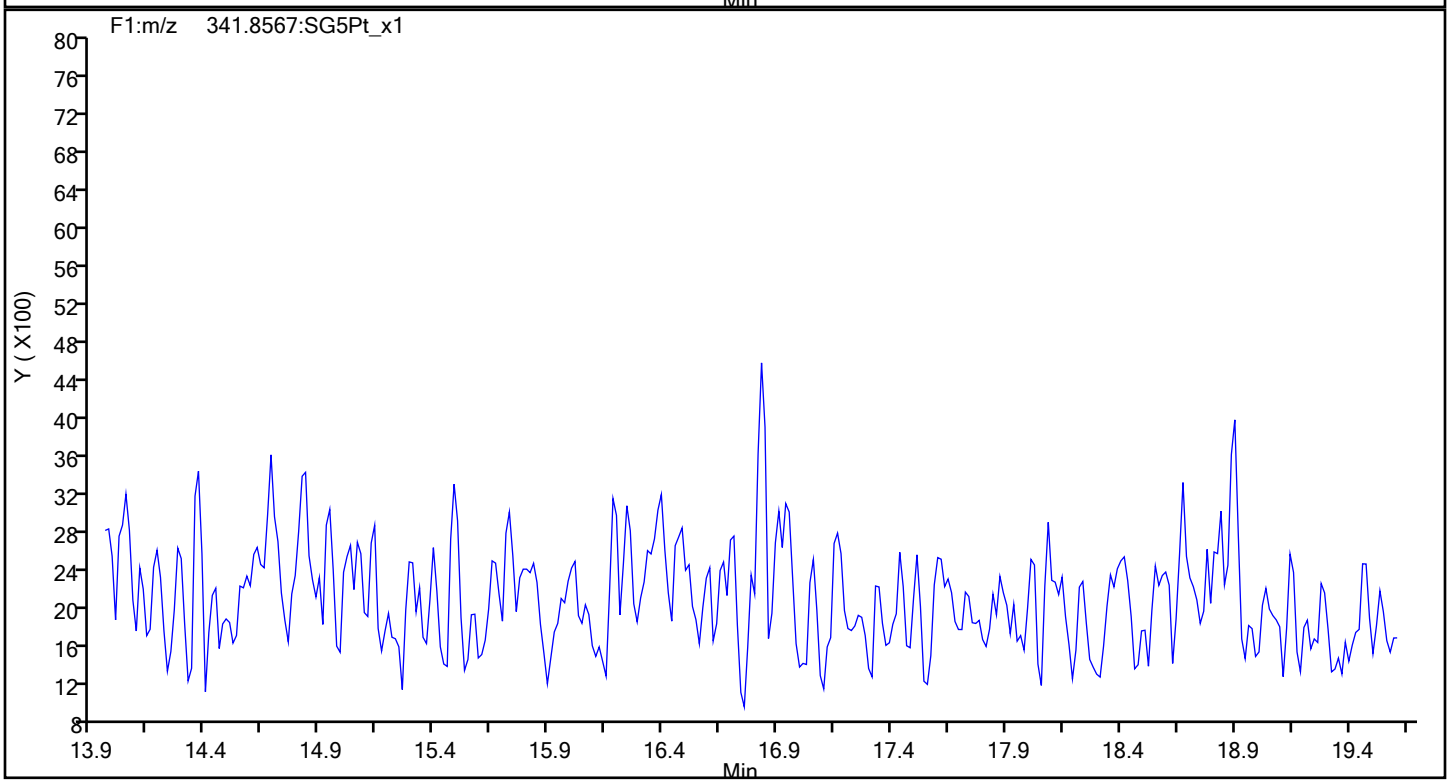

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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F1 PeCDFs

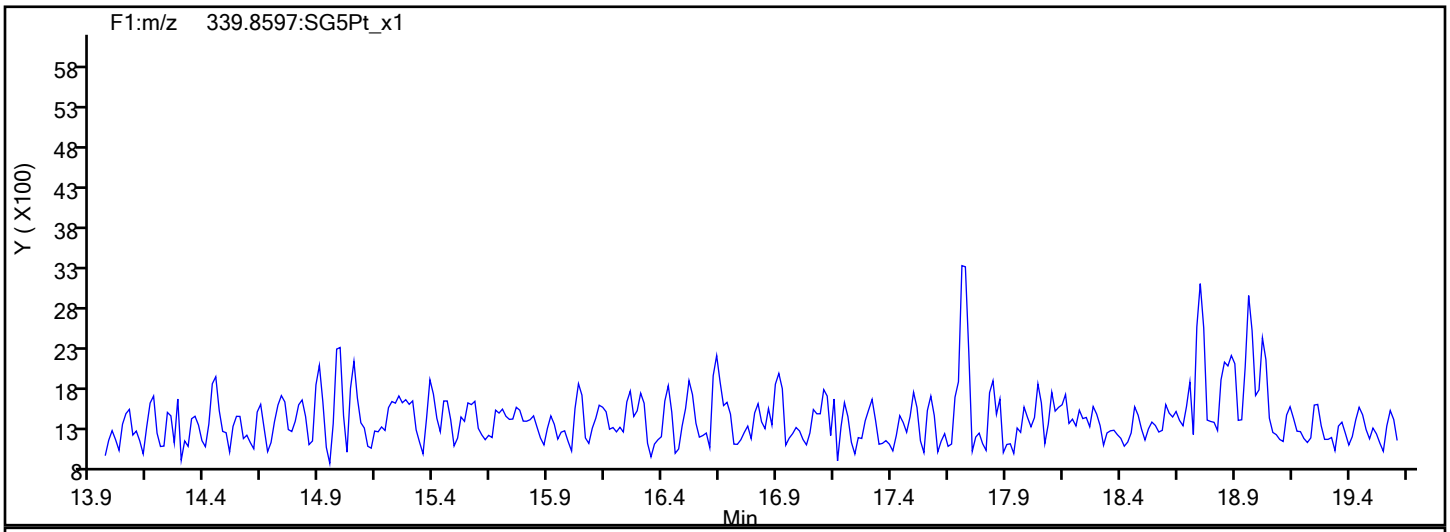

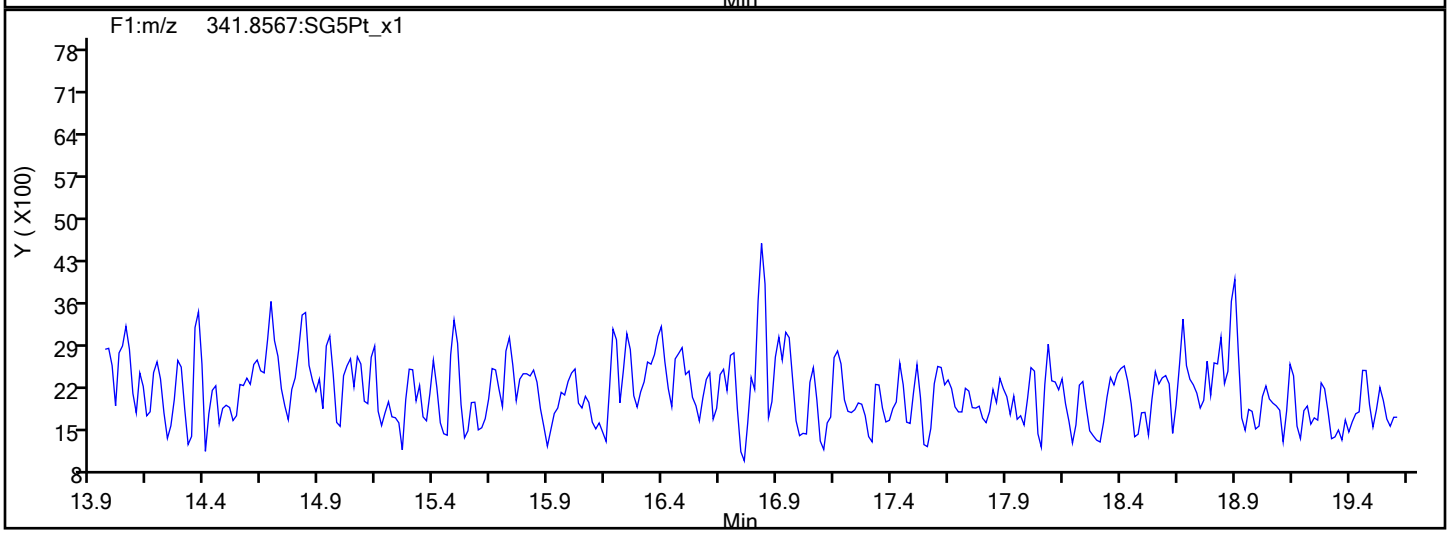

F1 PeCDFs Interference Mass

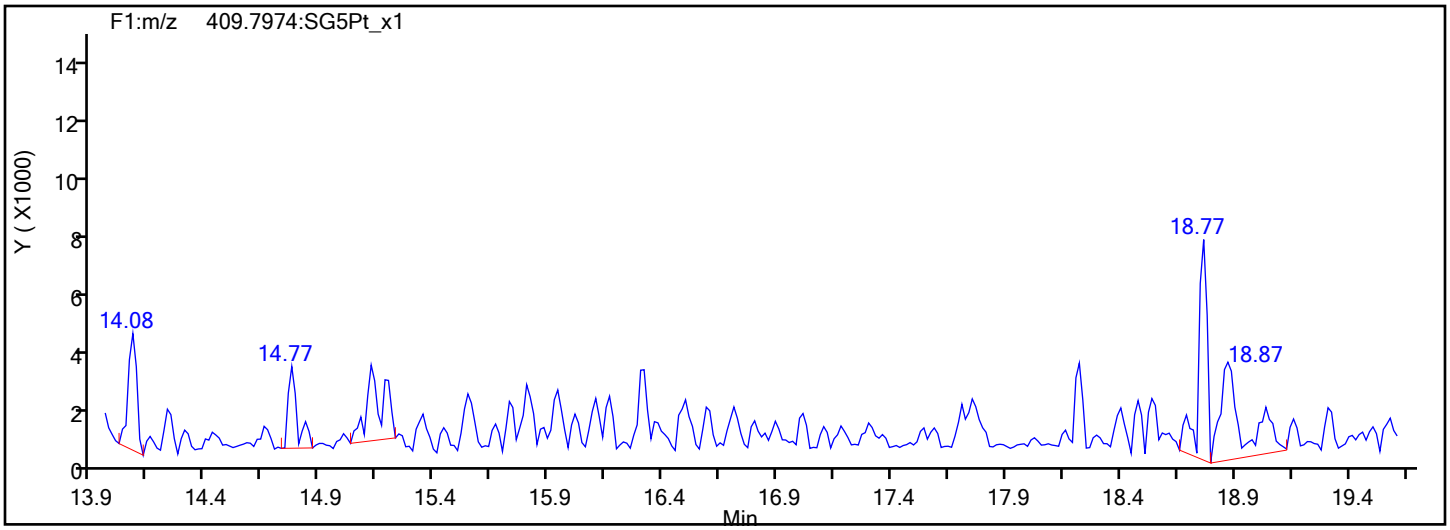

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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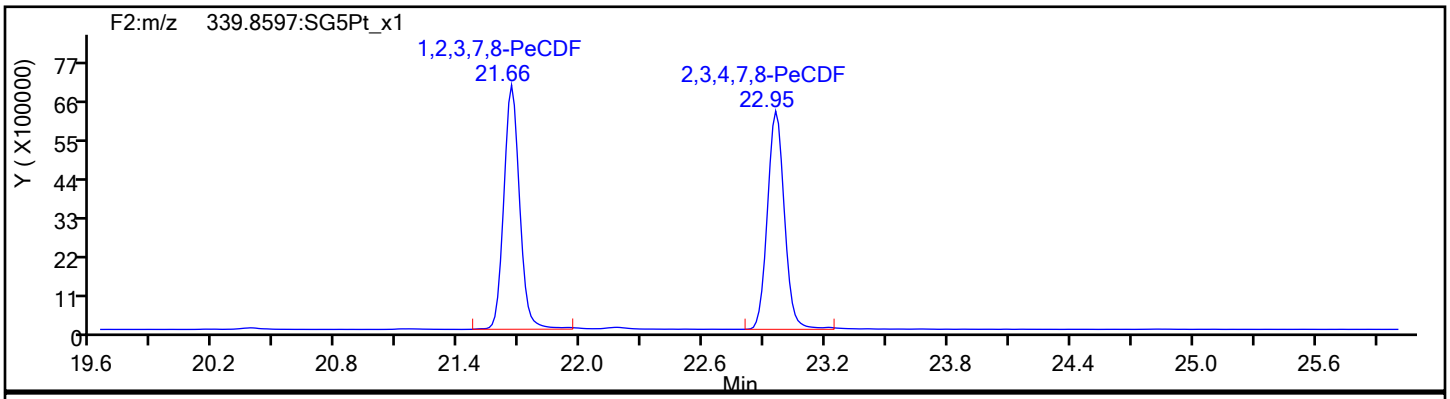

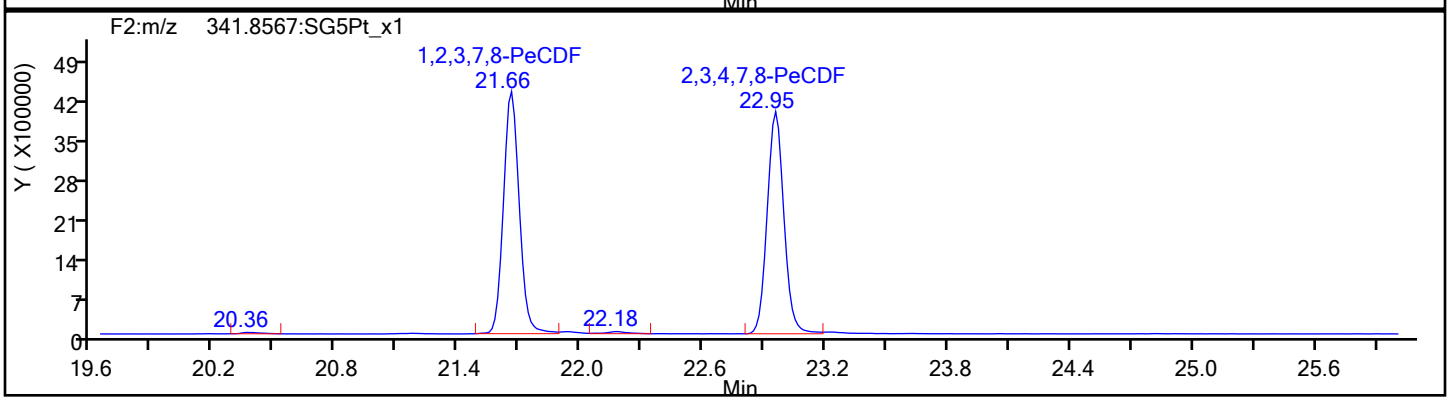

PeCDF Standards

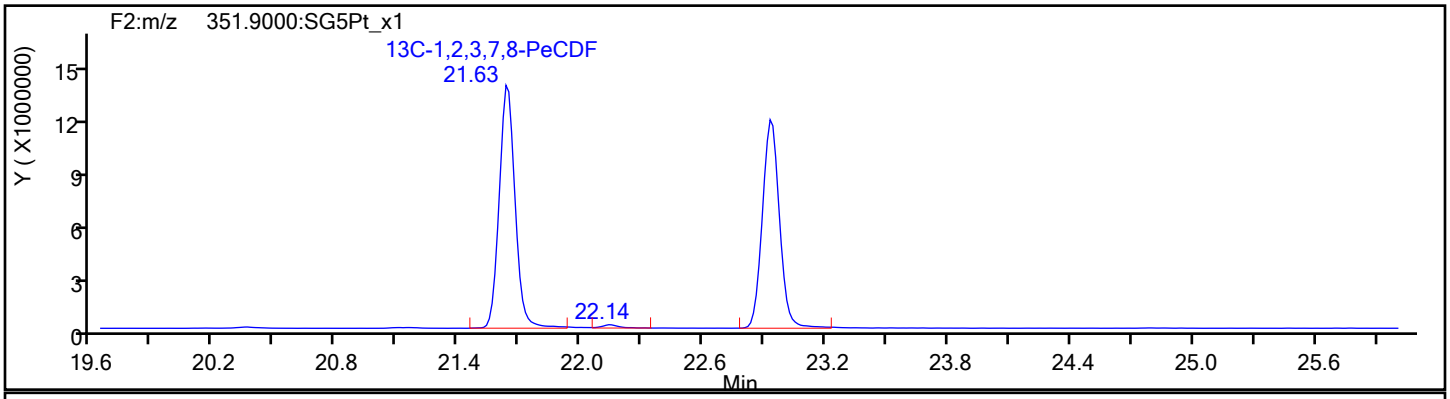

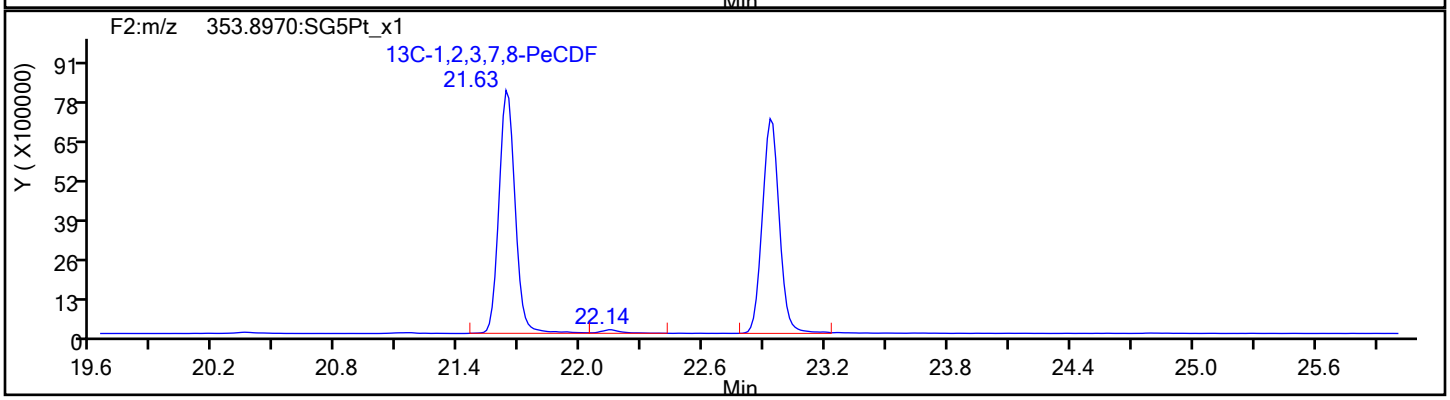

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Eurofins TestAmerica, Sacramento

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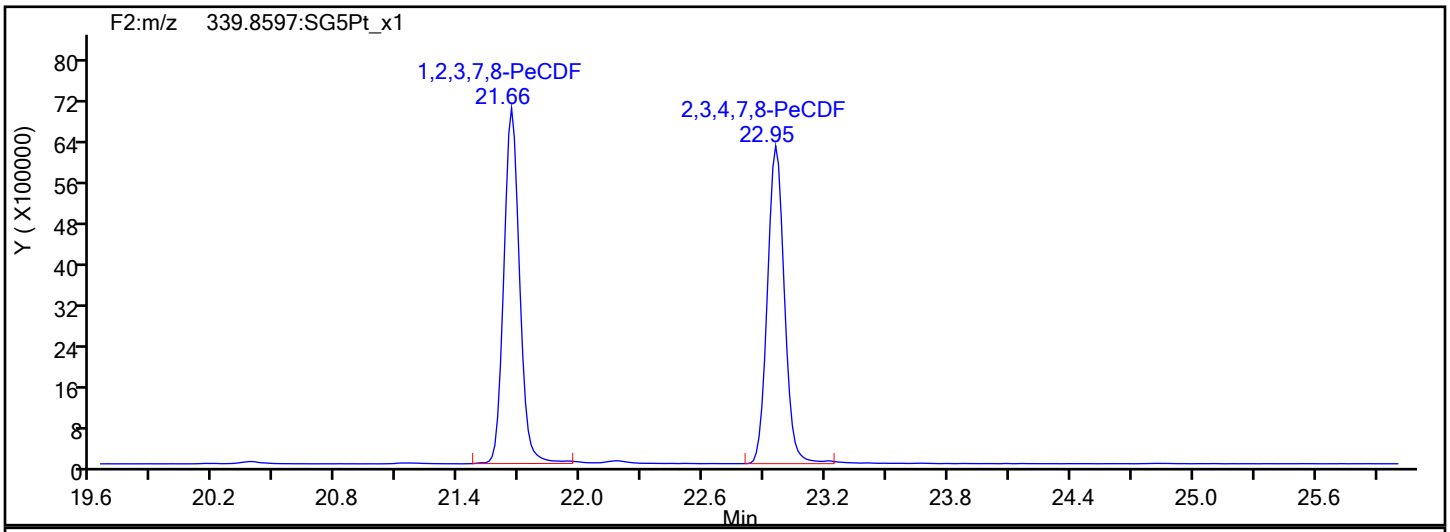

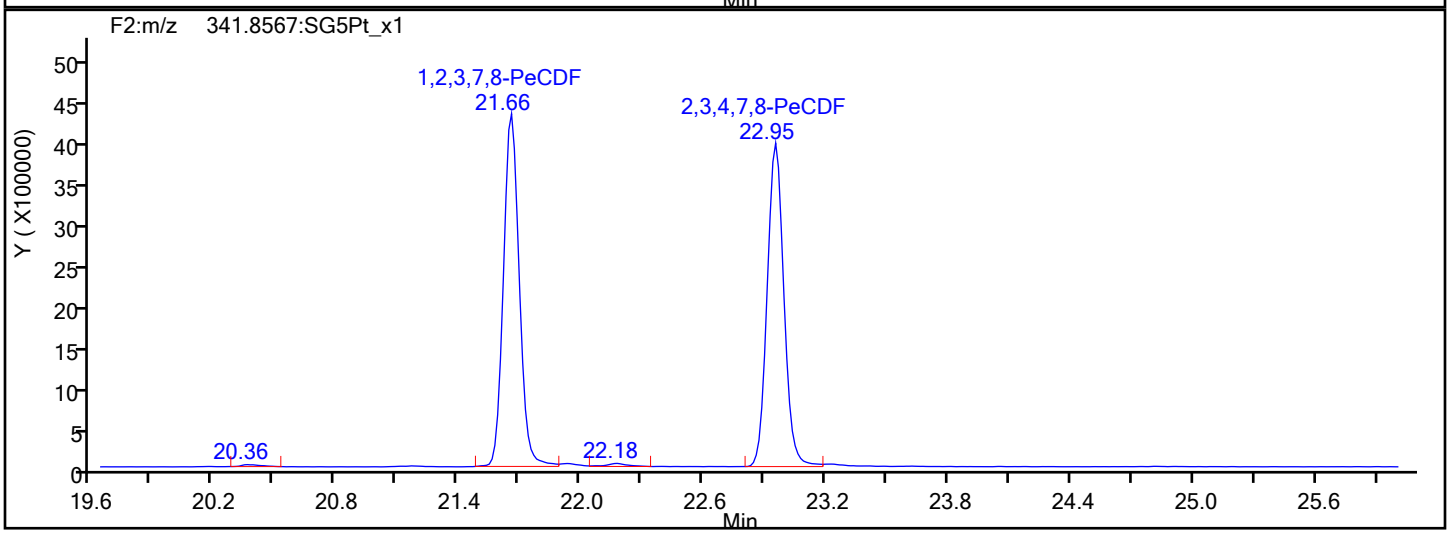

PeCDF Interference Mass

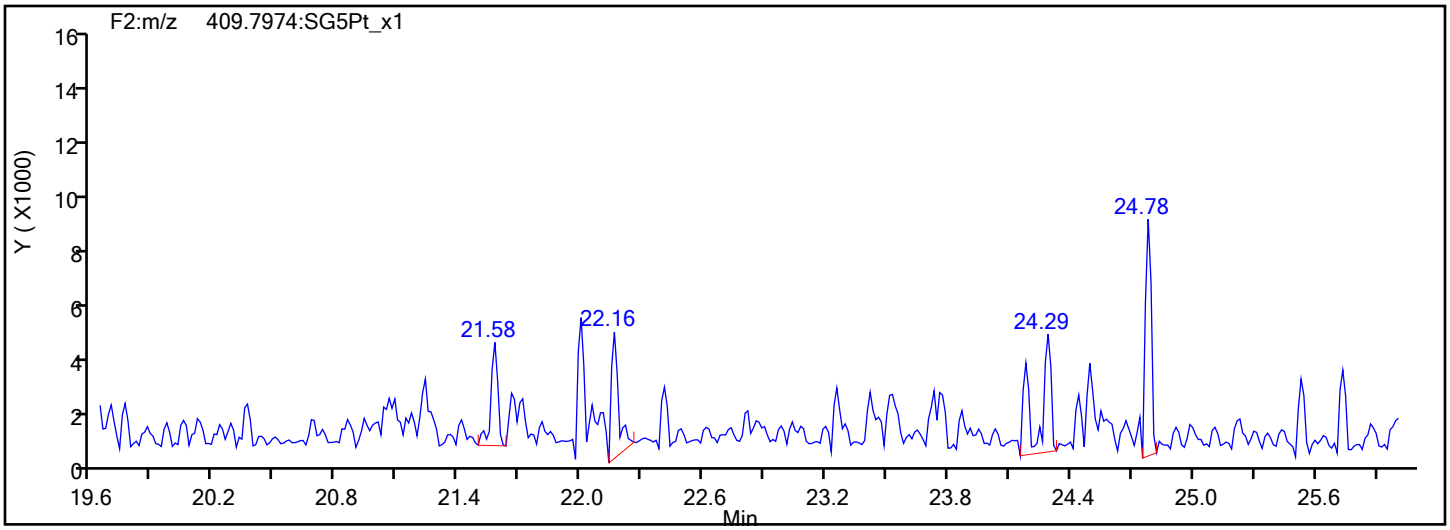

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Eurofins TestAmerica, Sacramento

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PeCDD

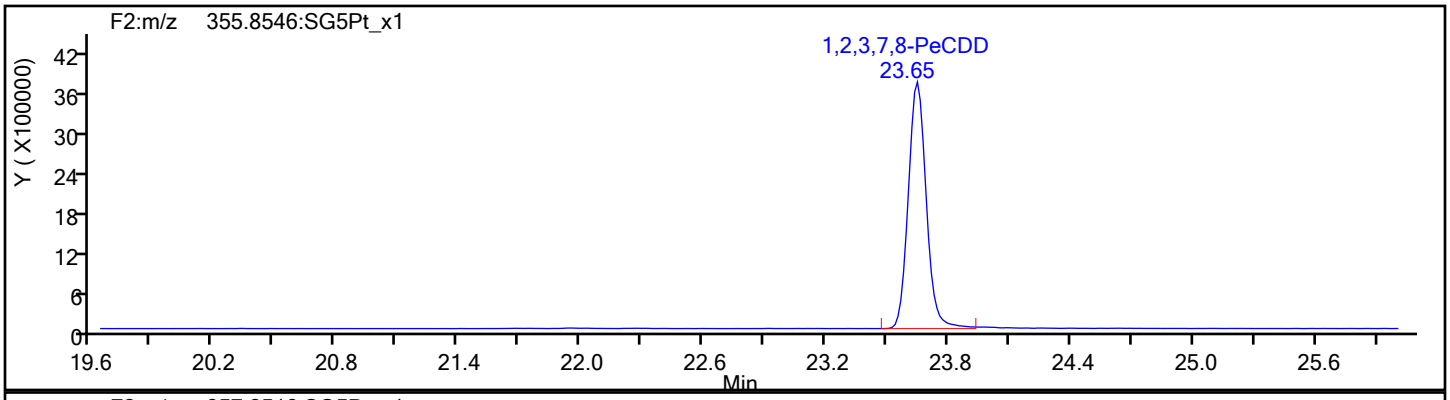

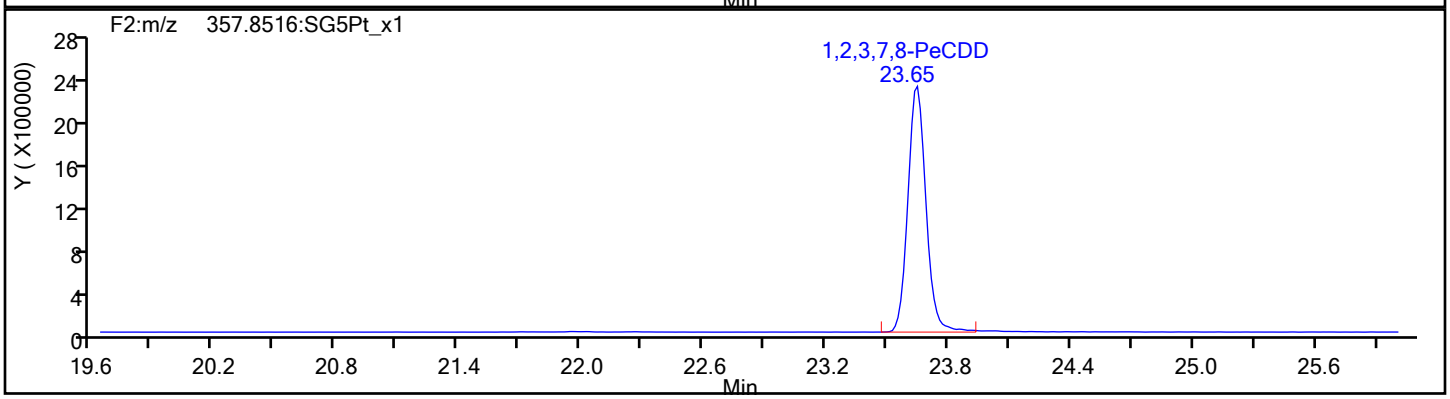

PeCDD Standards

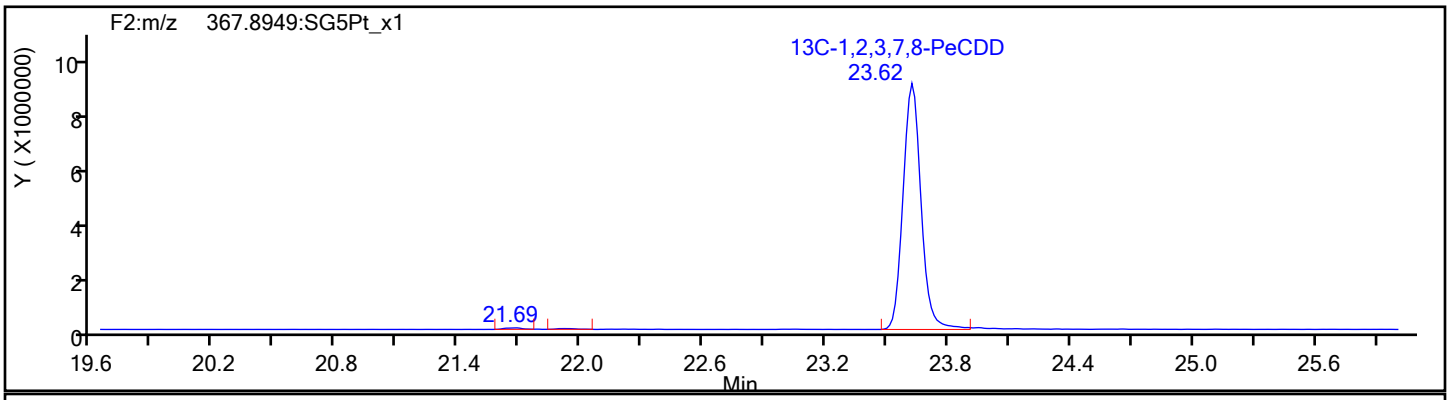

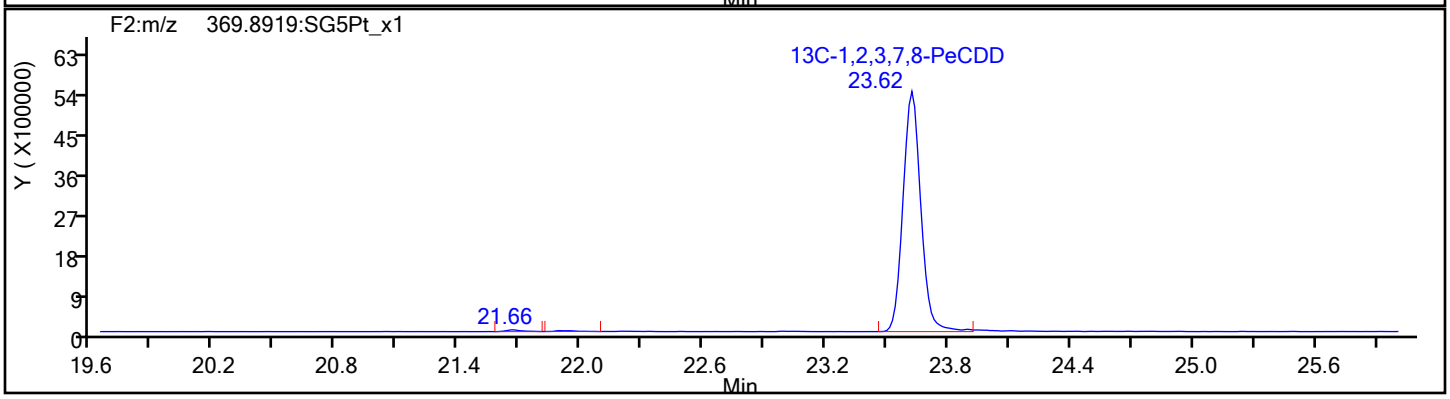

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Eurofins TestAmerica, Sacramento

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HxCDF

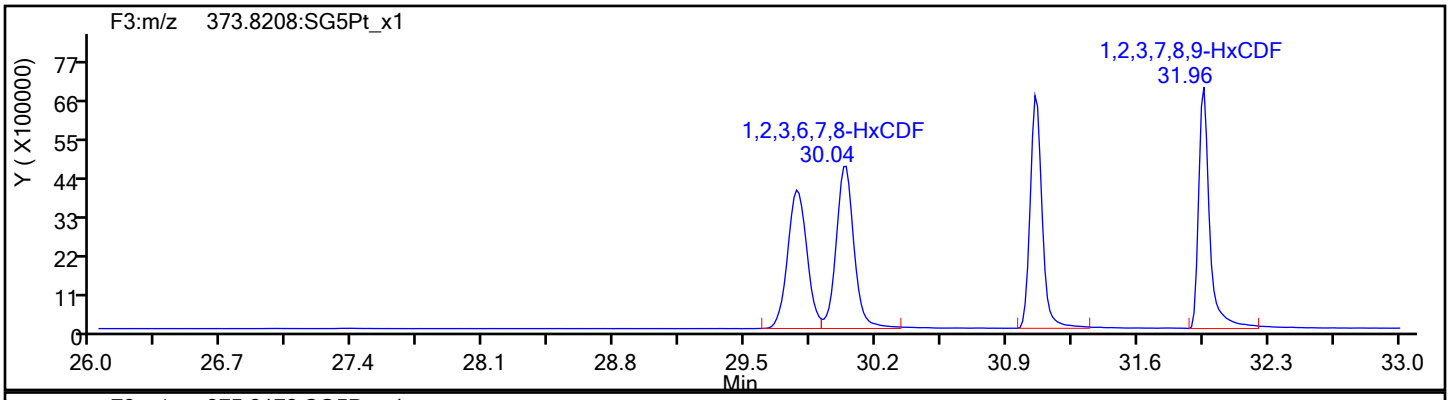

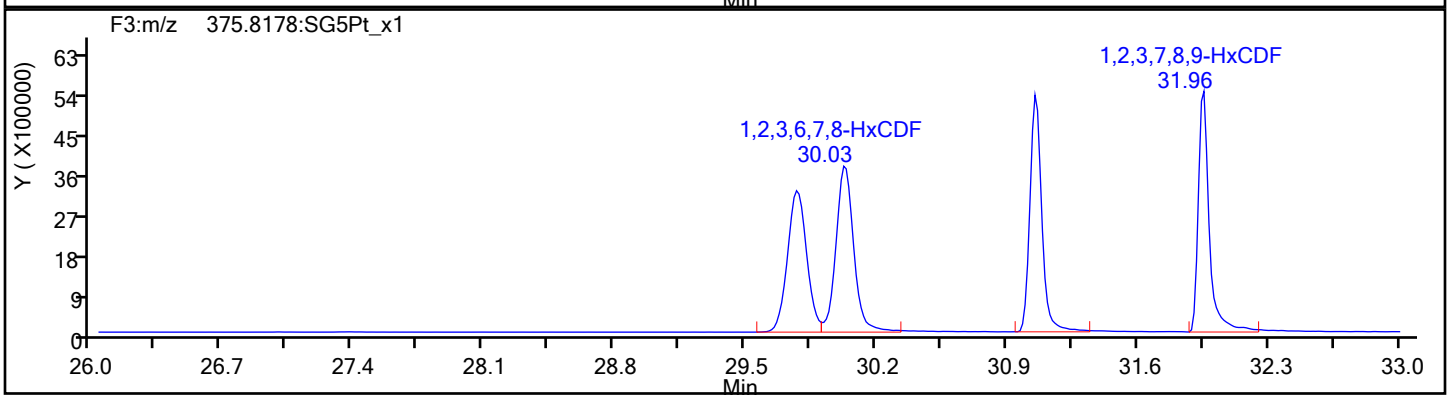

HxCDF Standards

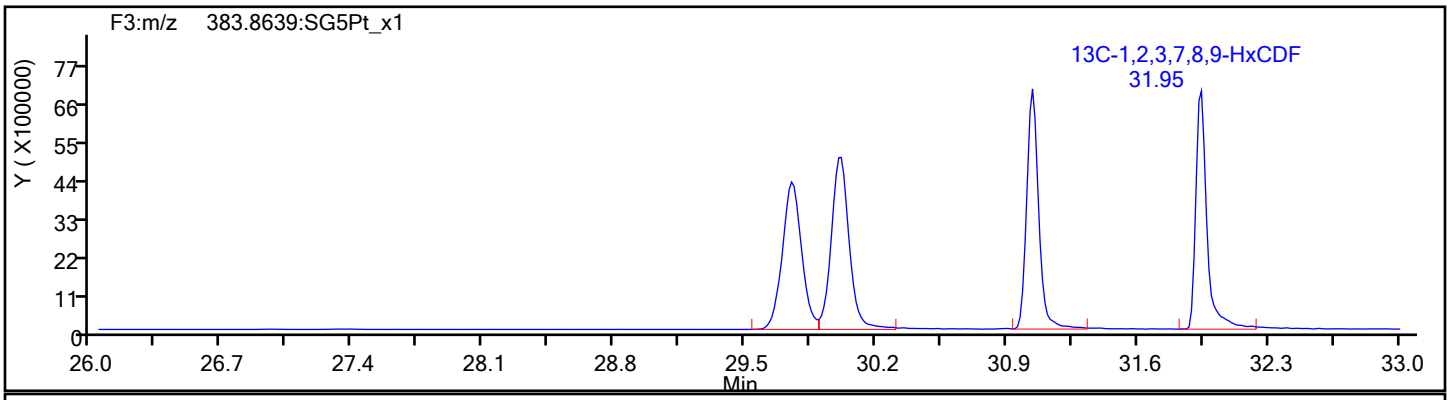

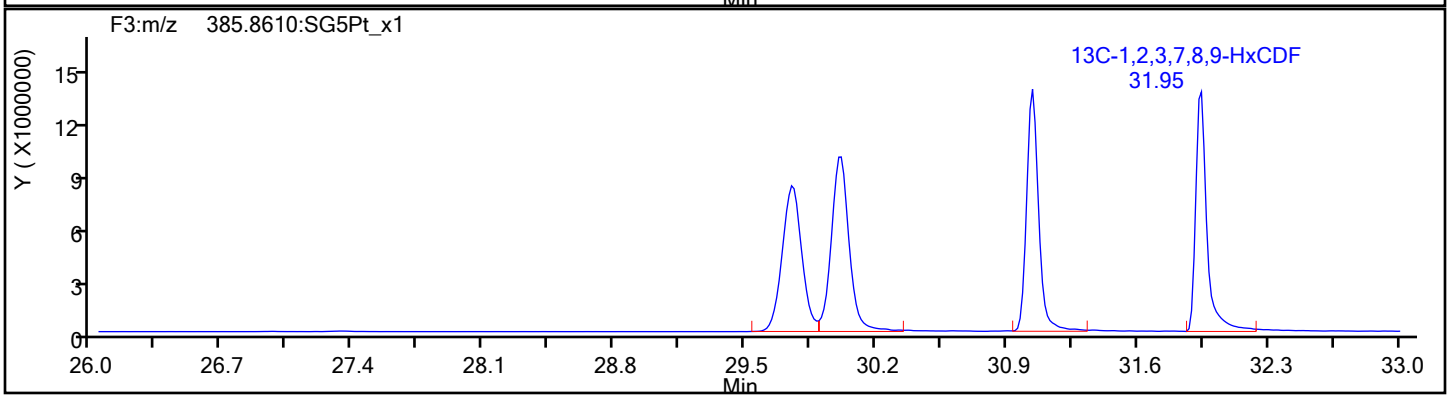

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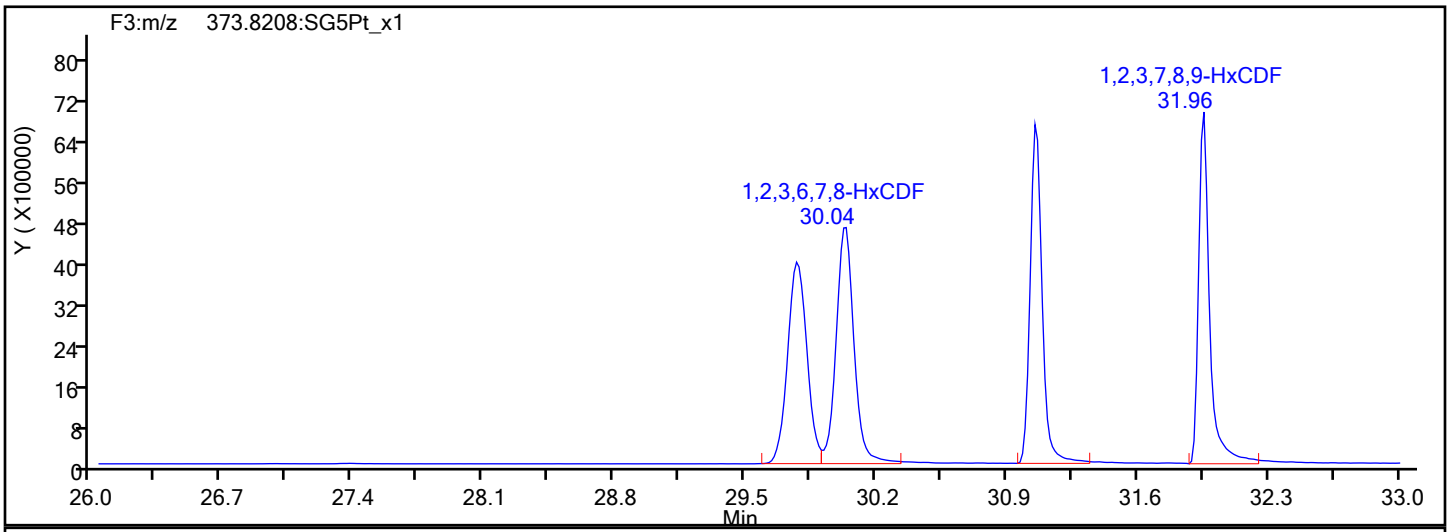

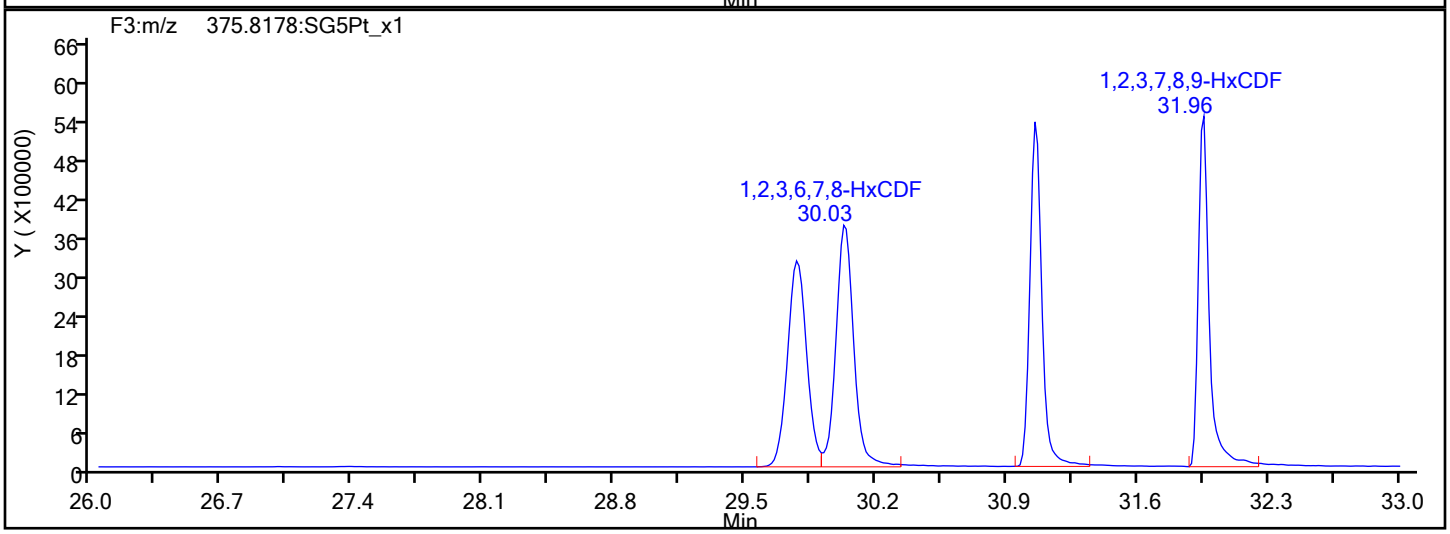

HxCDF Interference Mass

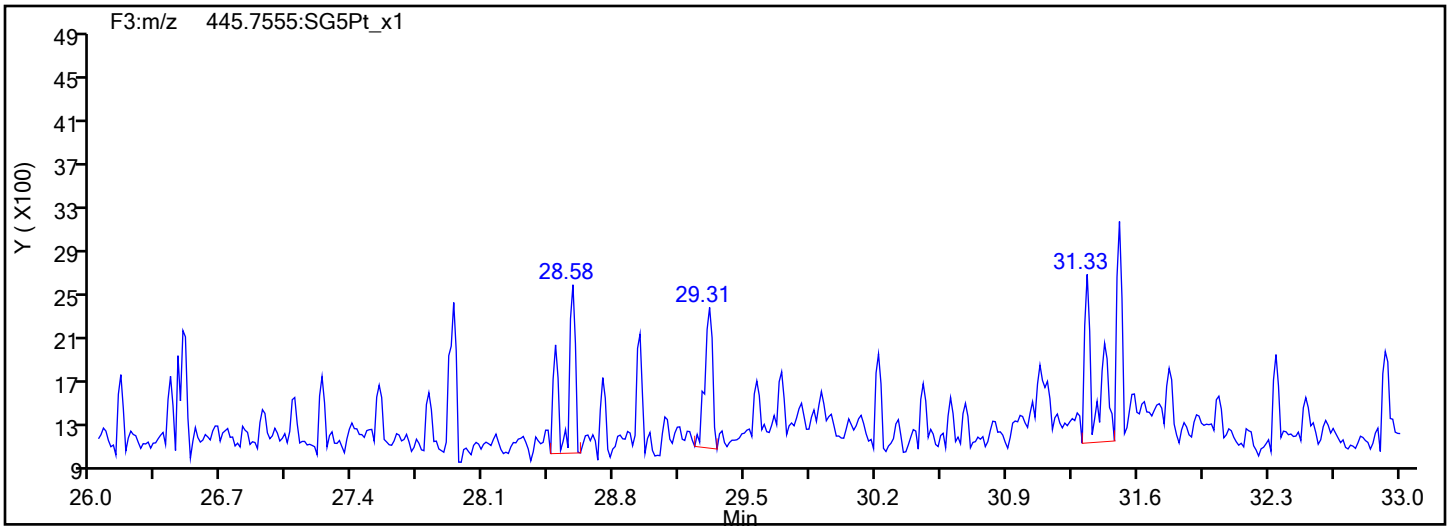

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Eurofins TestAmerica, Sacramento

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HxCDD

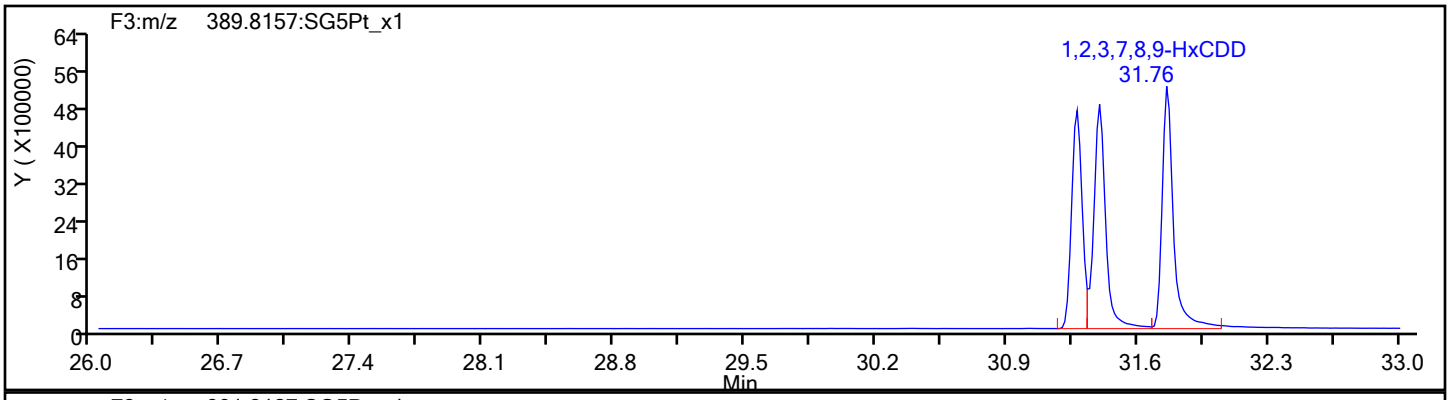

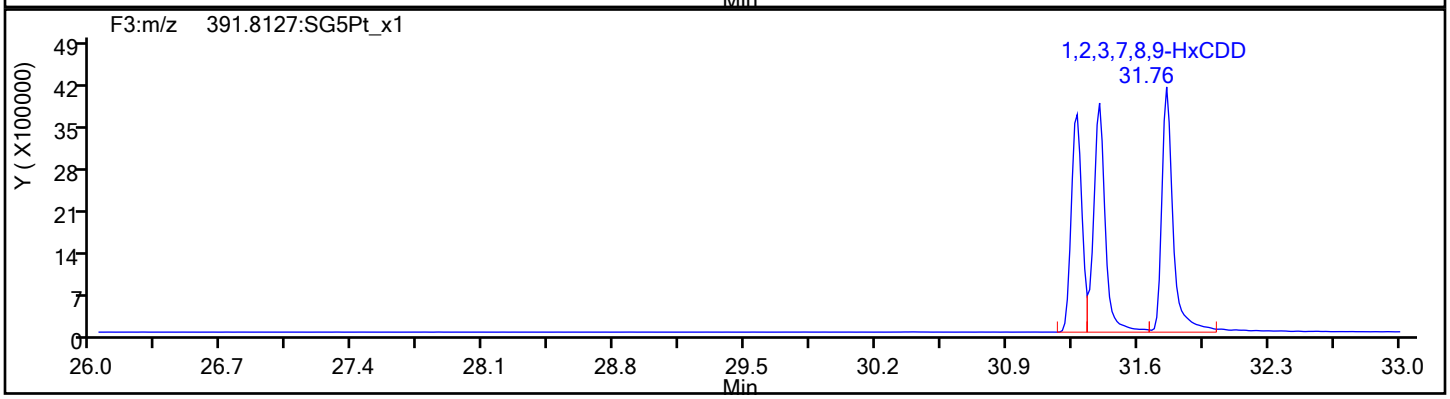

HxCDD Standards

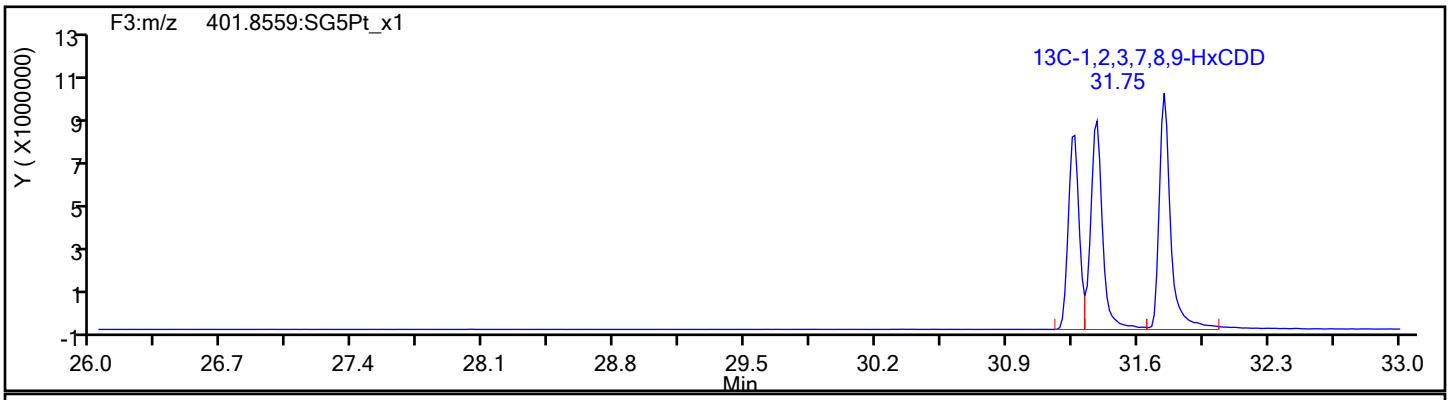

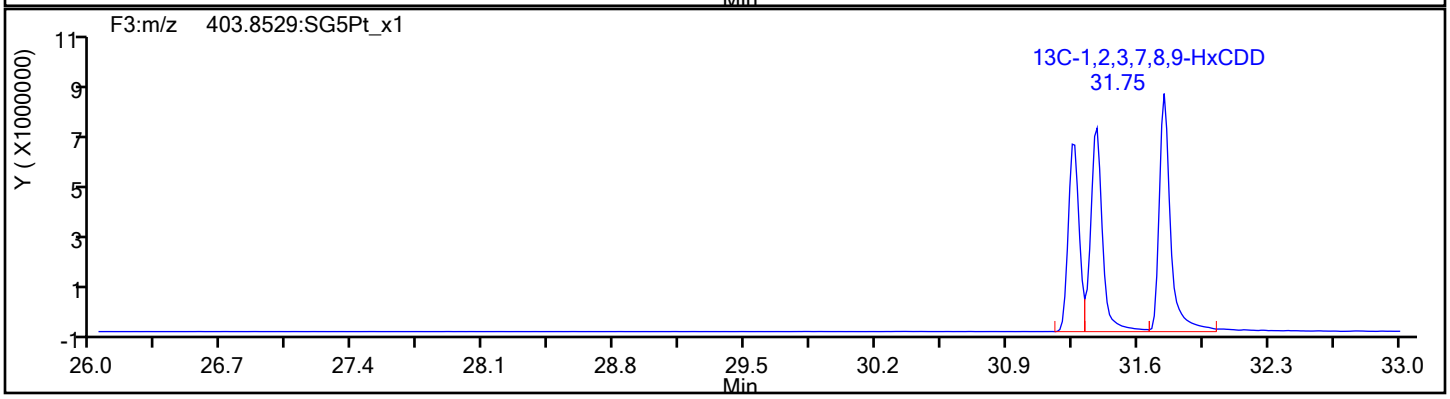

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Eurofins TestAmerica, Sacramento

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HpCDF

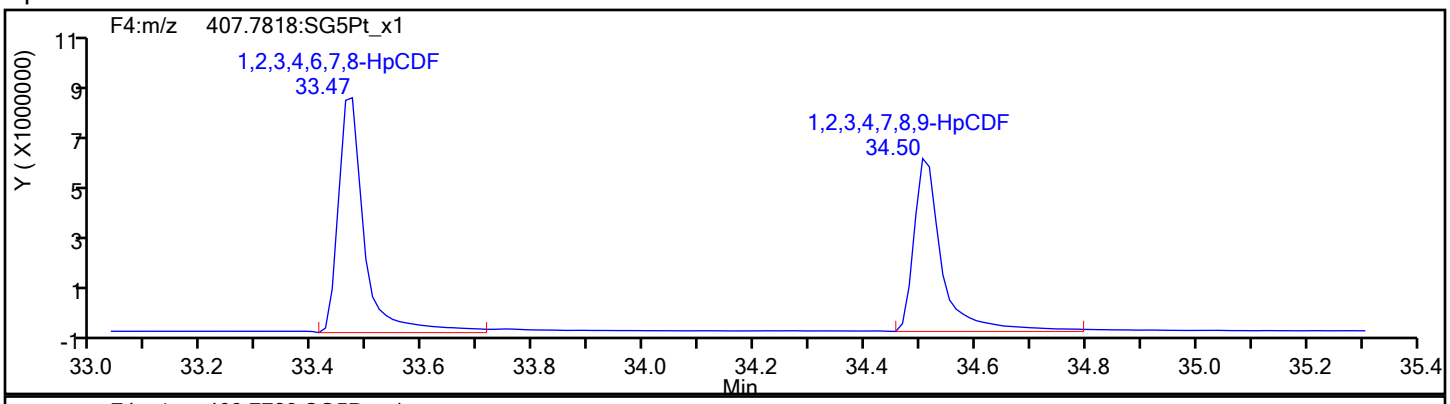

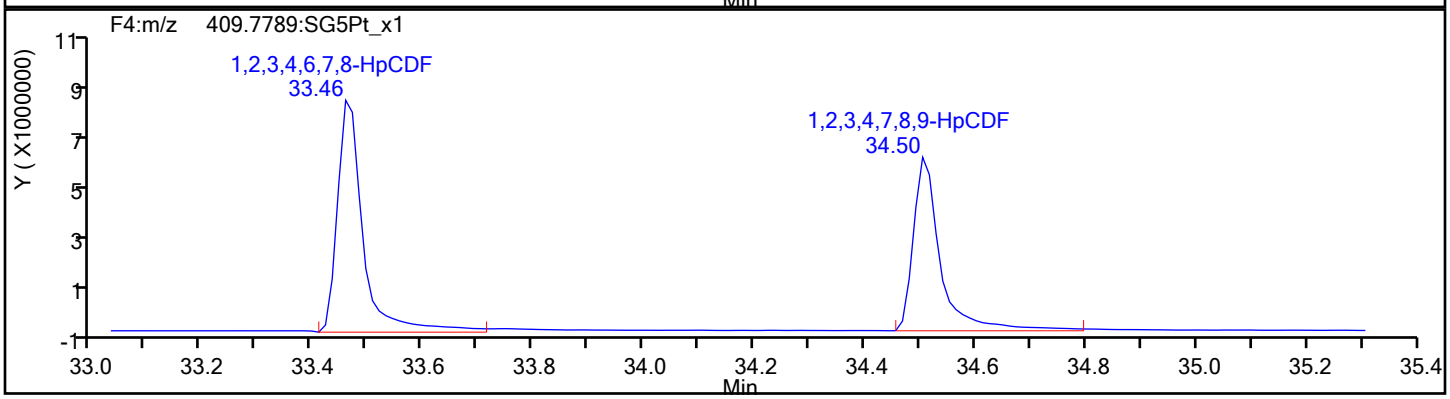

HpCDF Standards

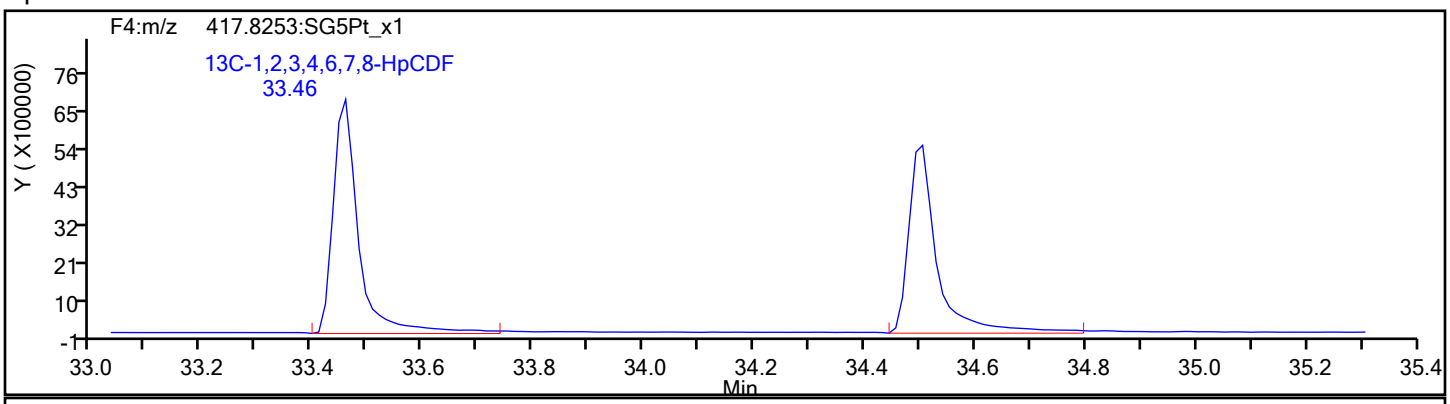

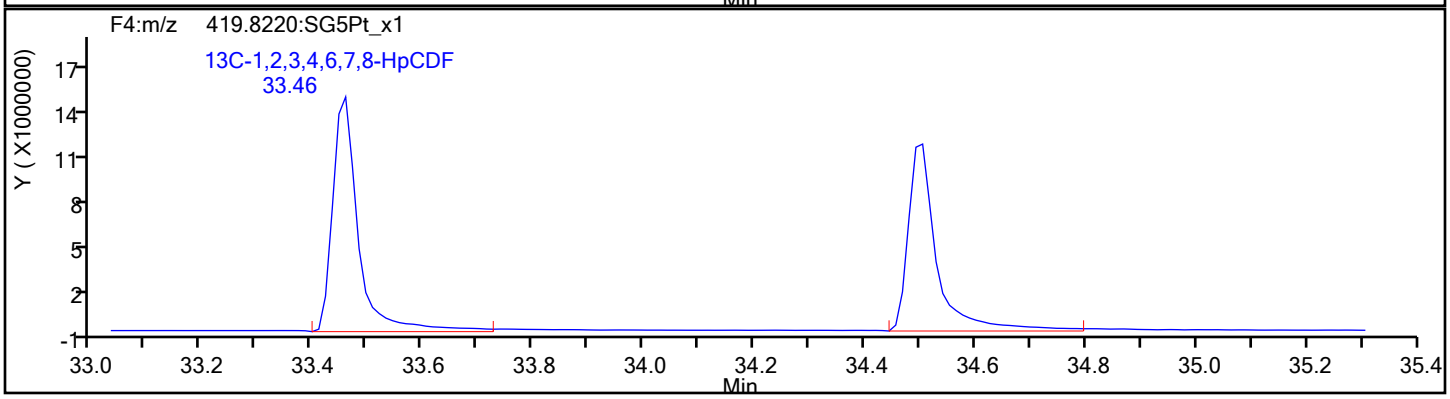

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Eurofins TestAmerica, Sacramento

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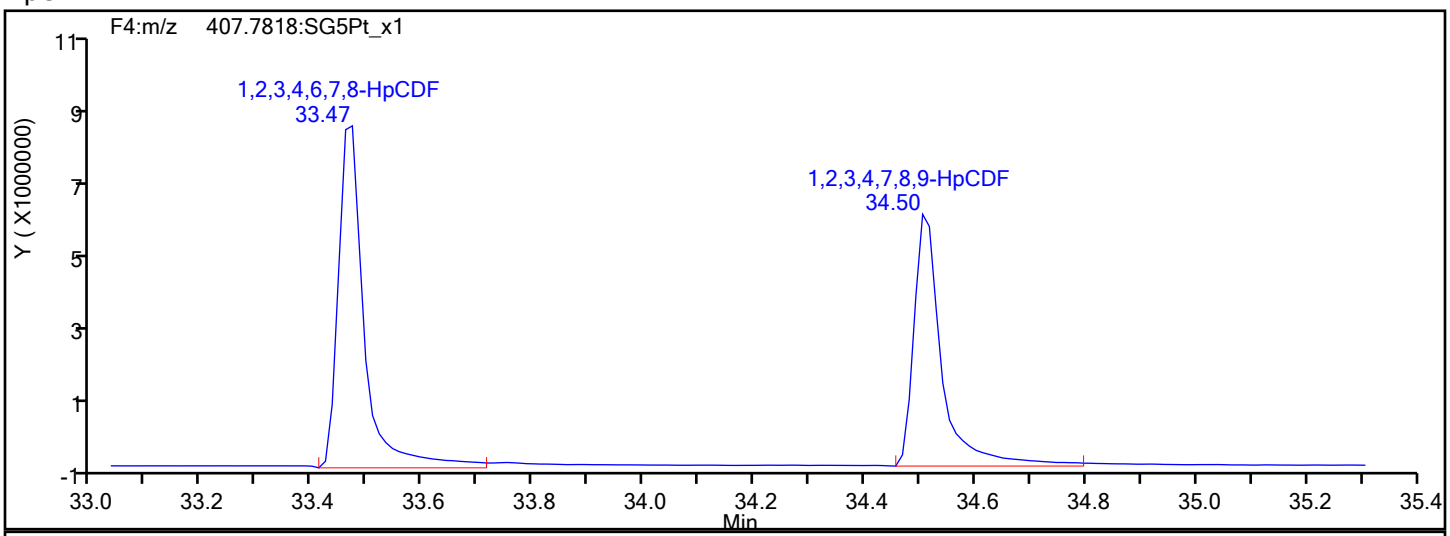

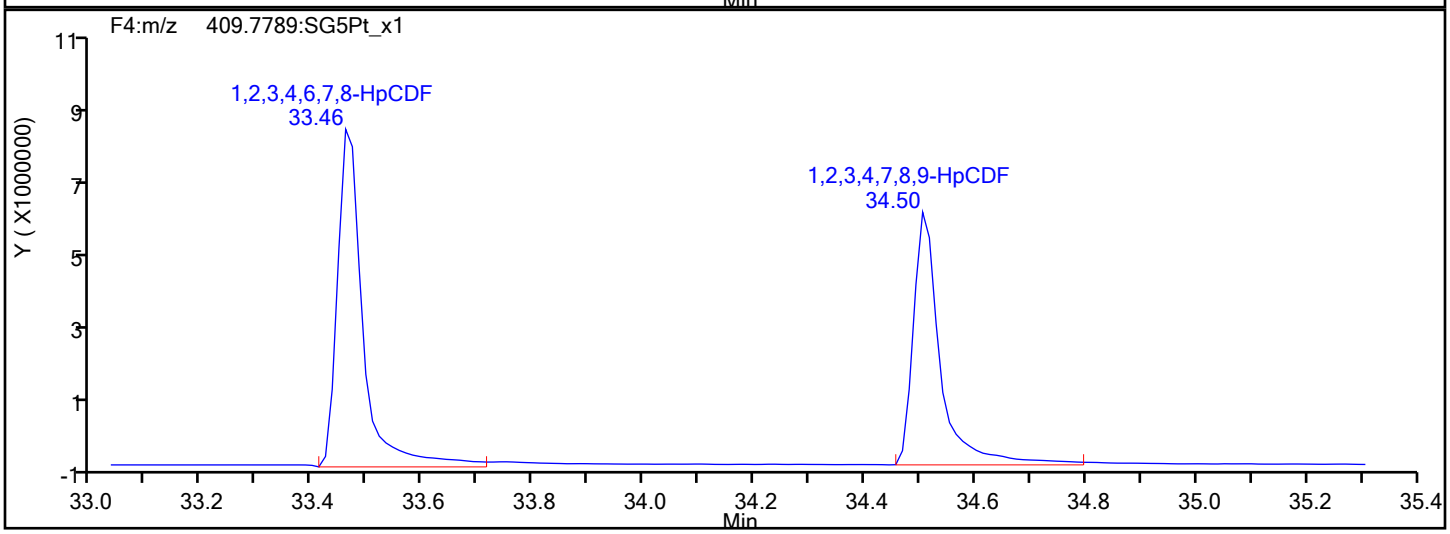

HpCDF Interference Mass

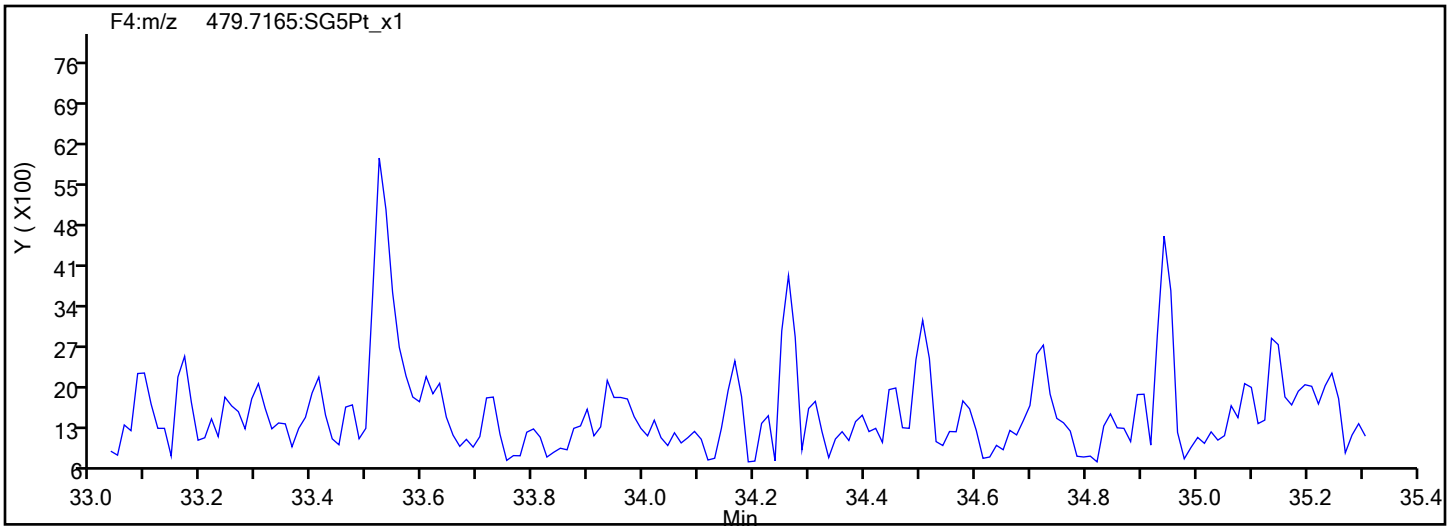

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
Injection Date:	17-Sep-2019 16:09:27	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

HpCDD

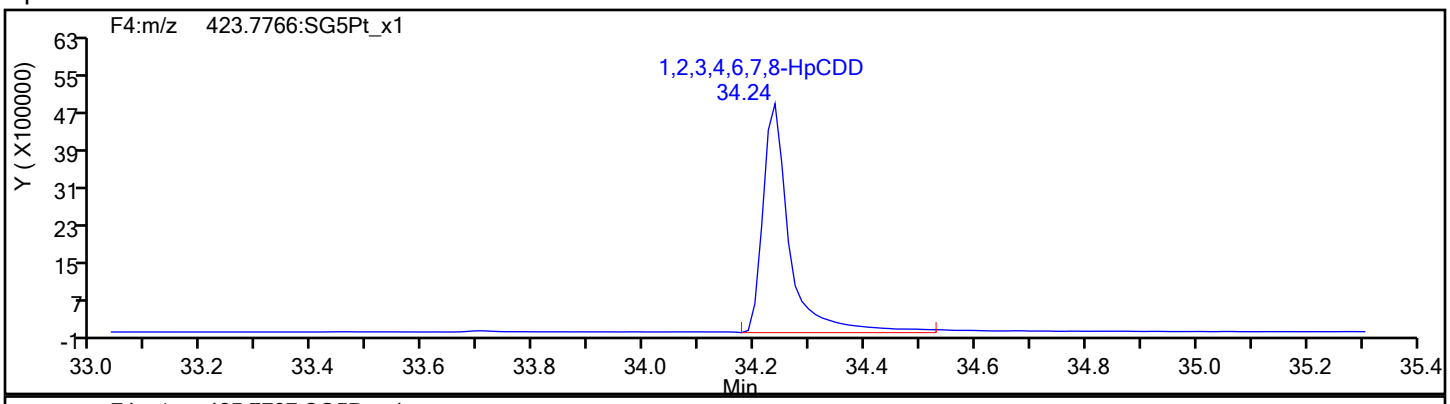

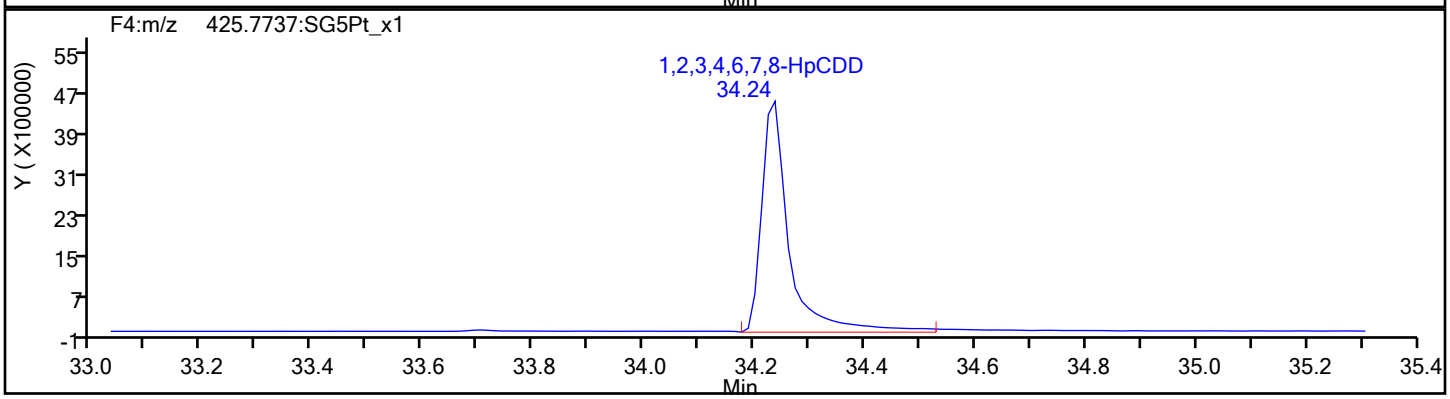

HpCDD Standards

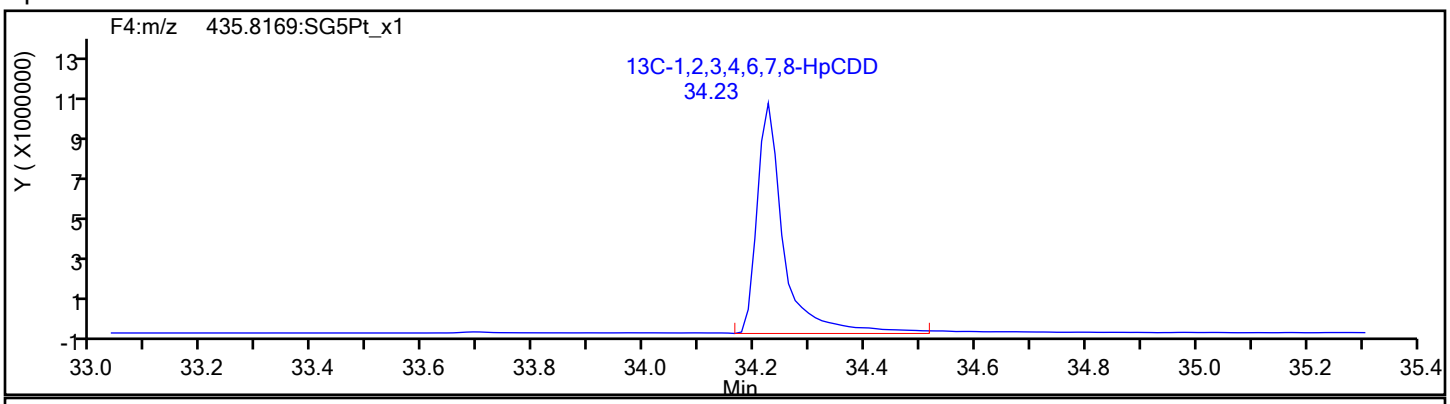

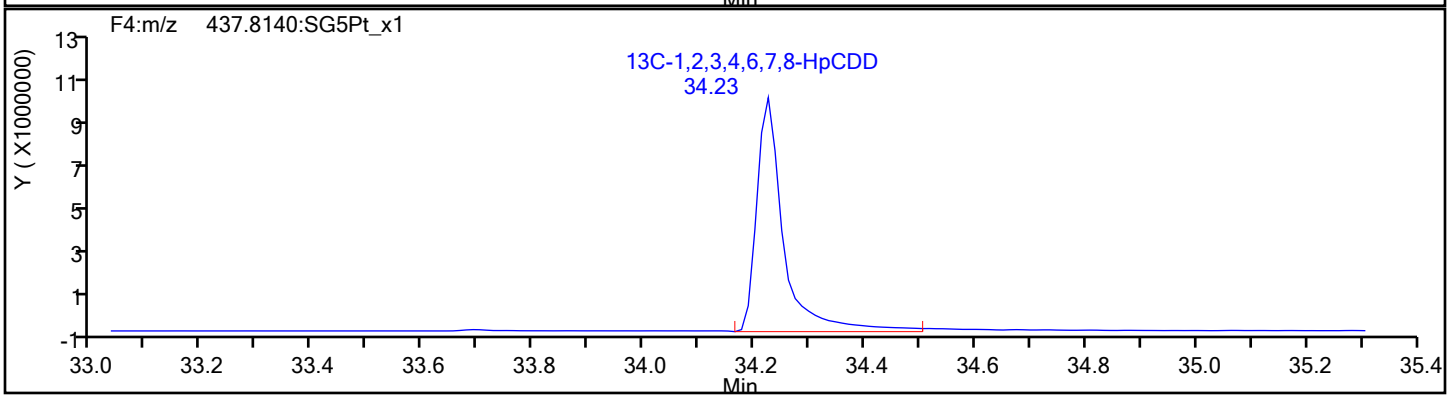

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
Injection Date:	17-Sep-2019 16:09:27	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

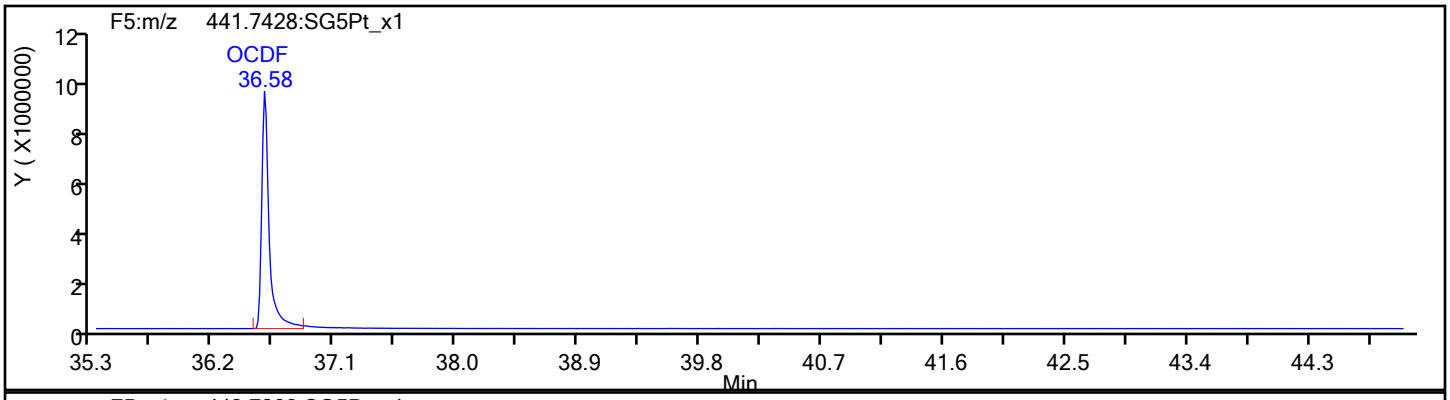

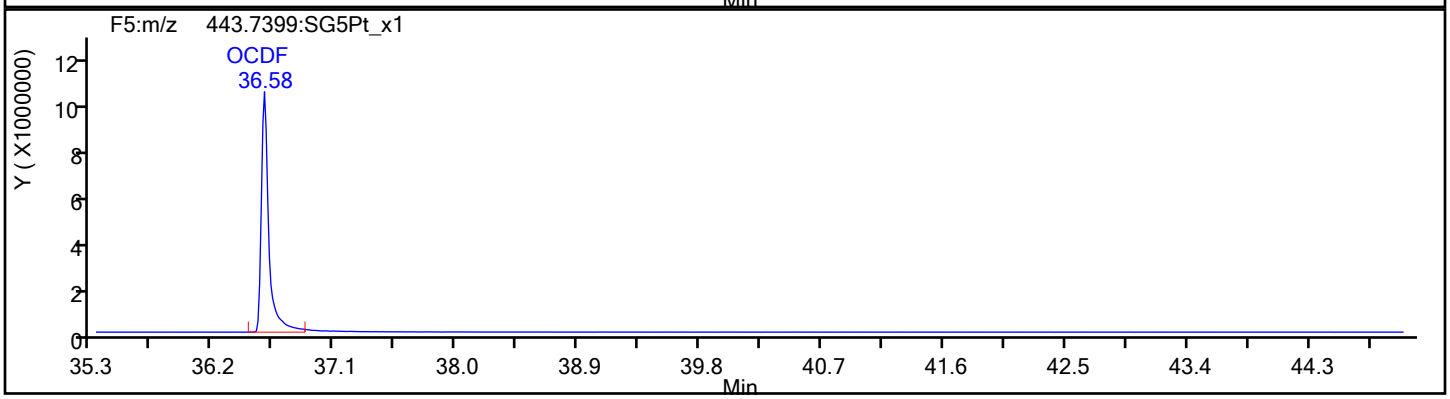

OCDF Standards

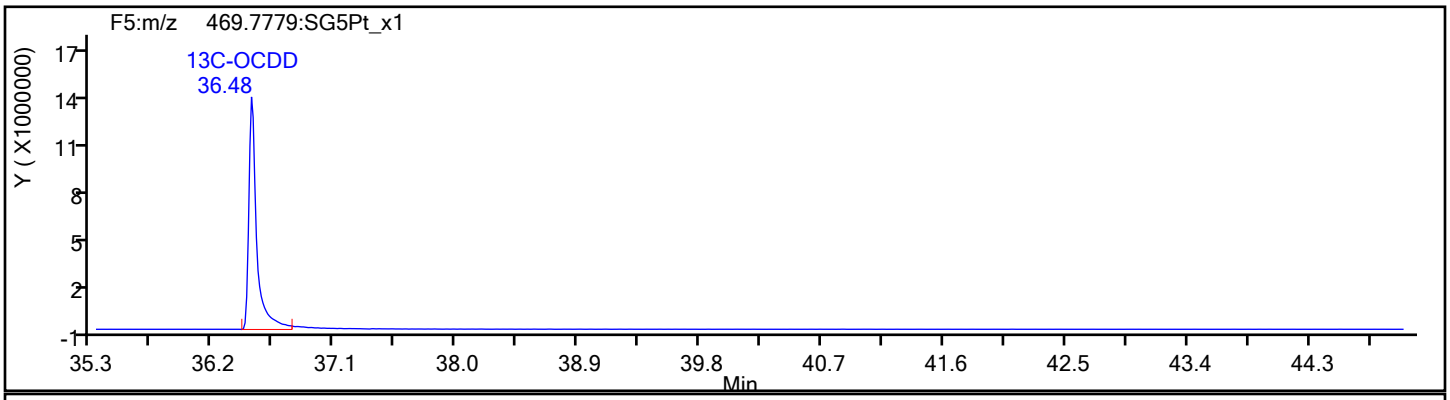

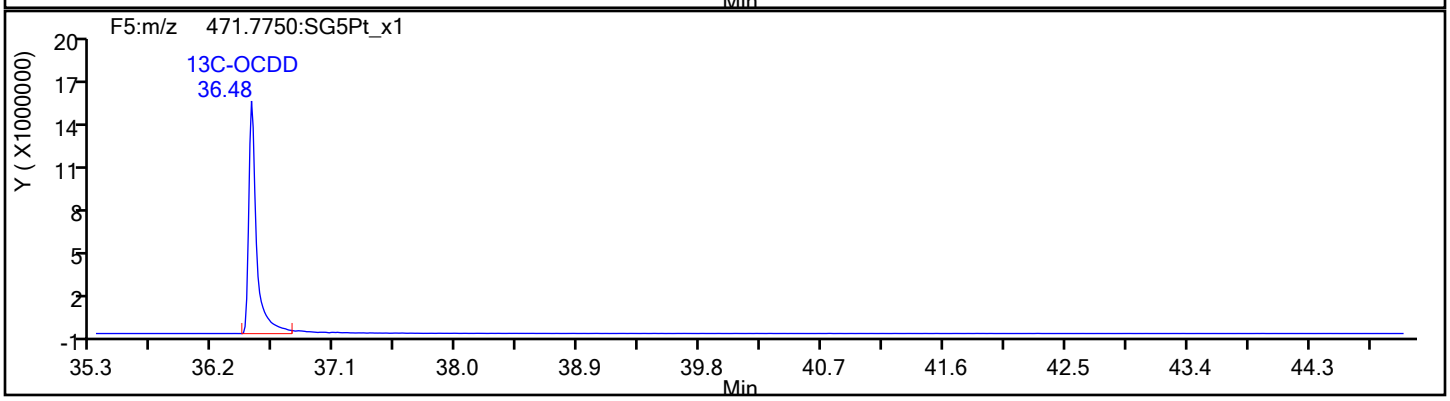

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
Injection Date:	17-Sep-2019 16:09:27	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

OCDF

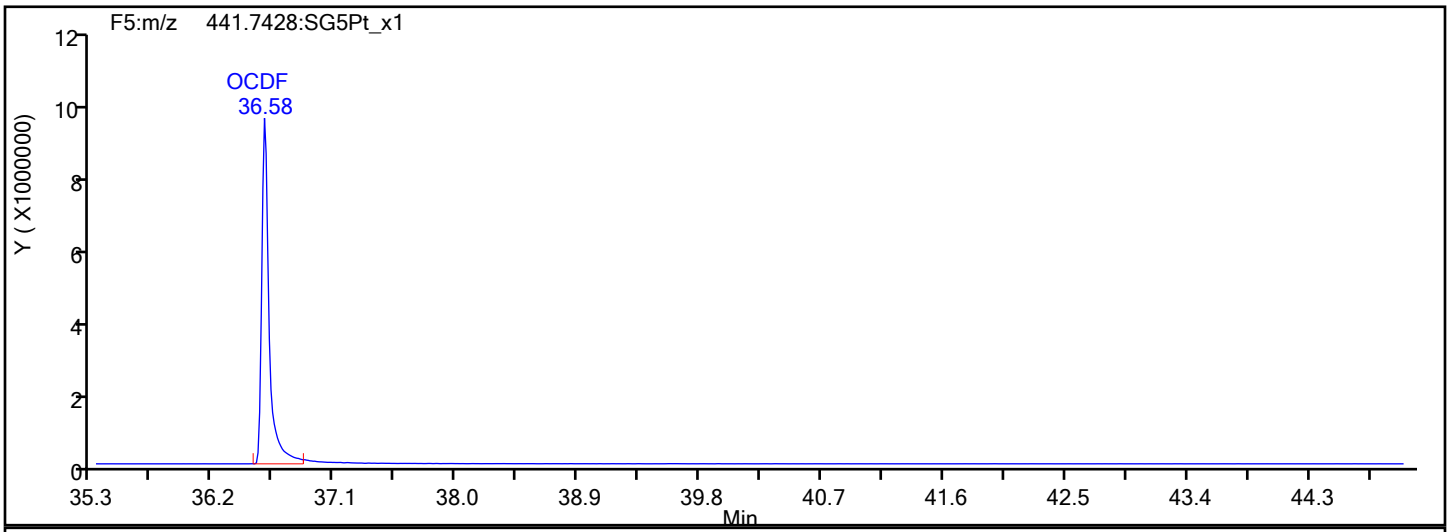

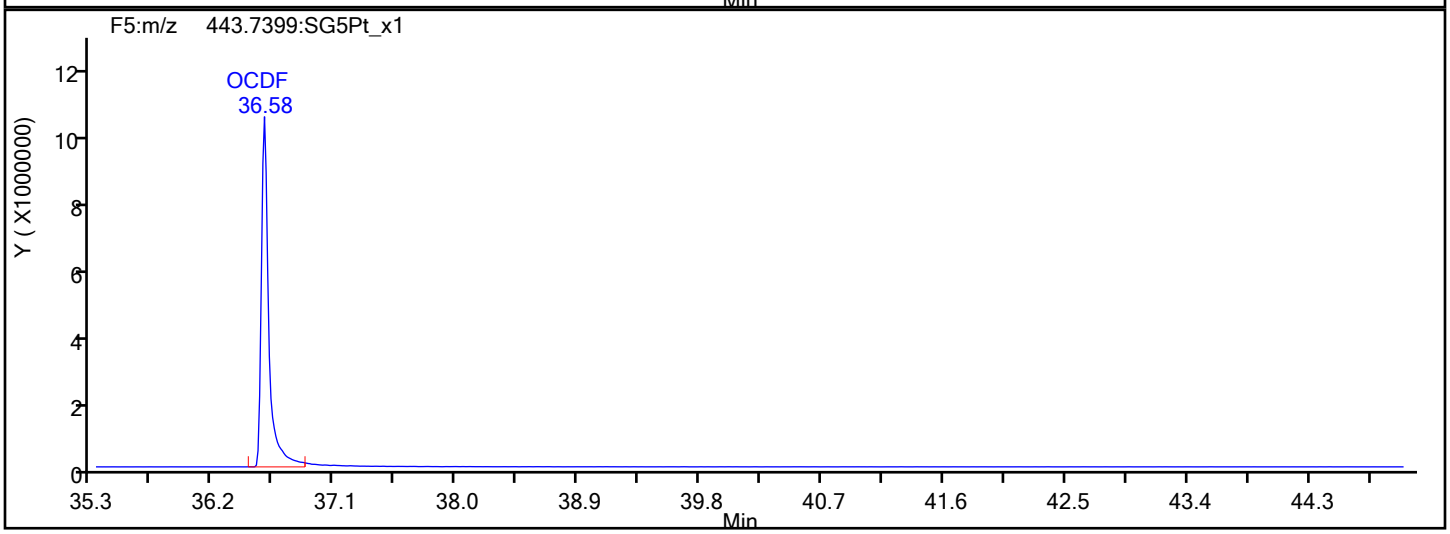

OCDF Interference Mass

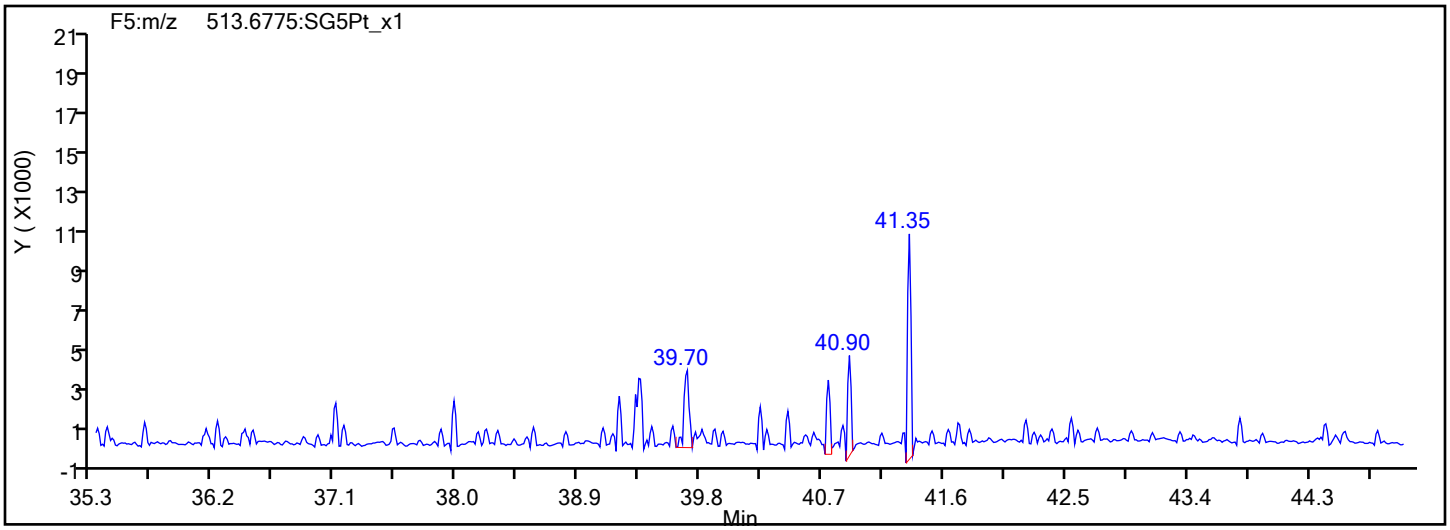

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
Injection Date:	17-Sep-2019 16:09:27	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

OCDD

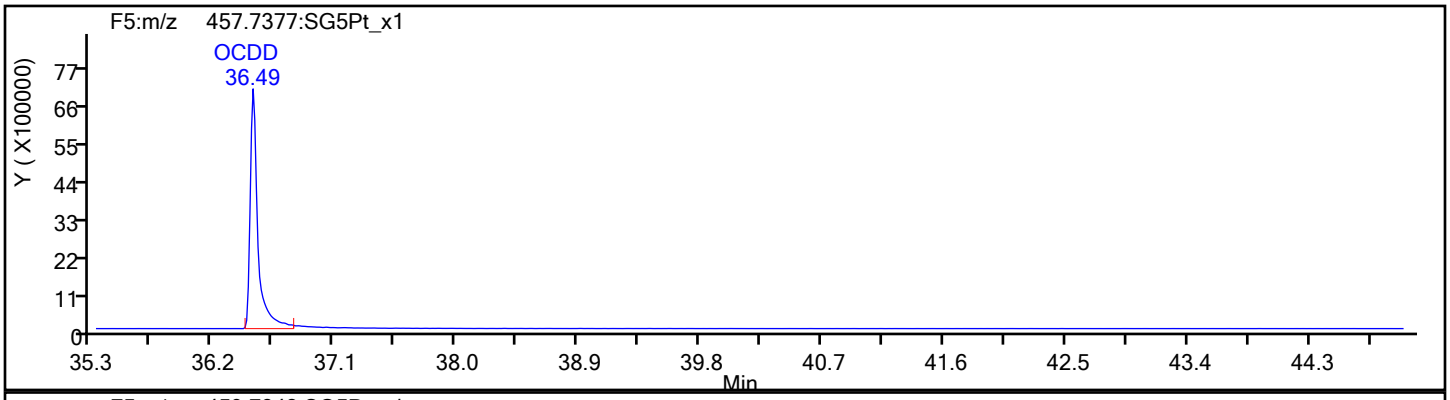

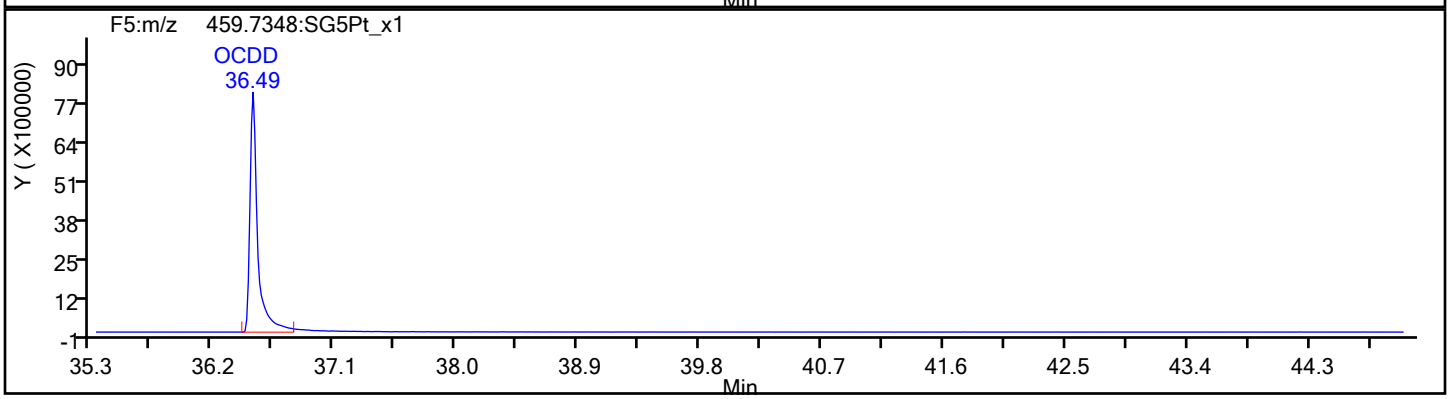

OCDD Standards

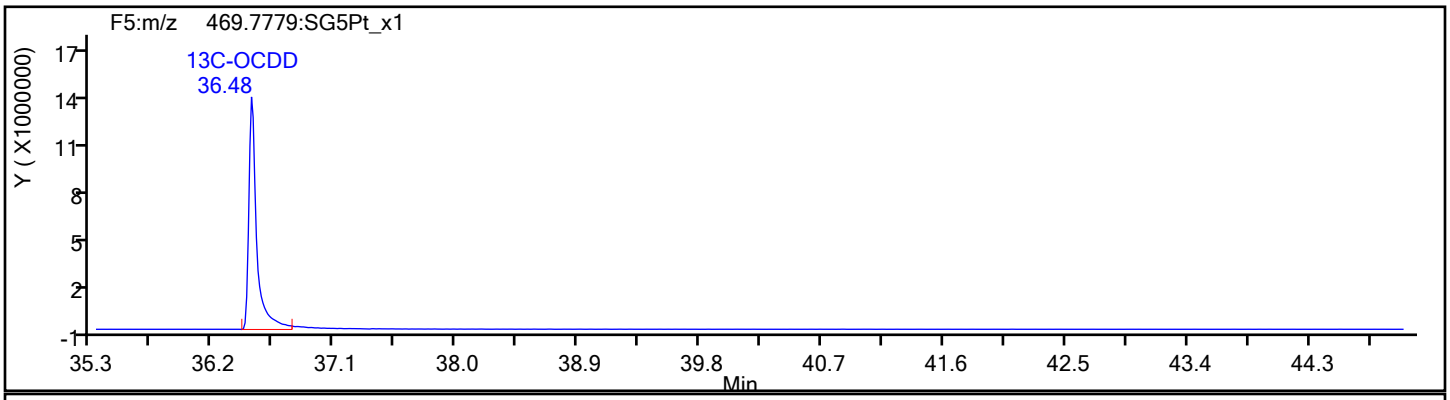

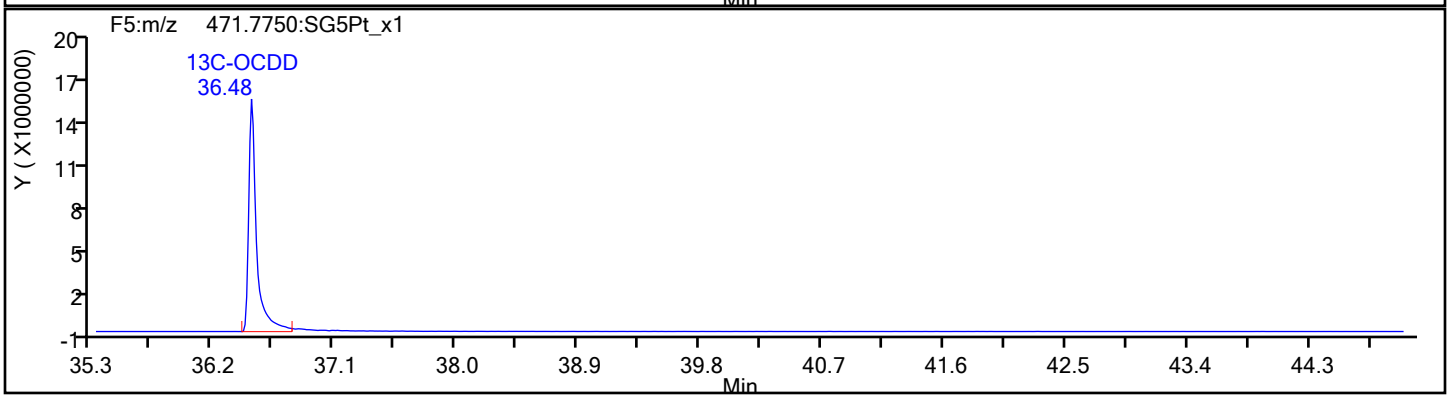

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
Injection Date:	17-Sep-2019 16:09:27	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

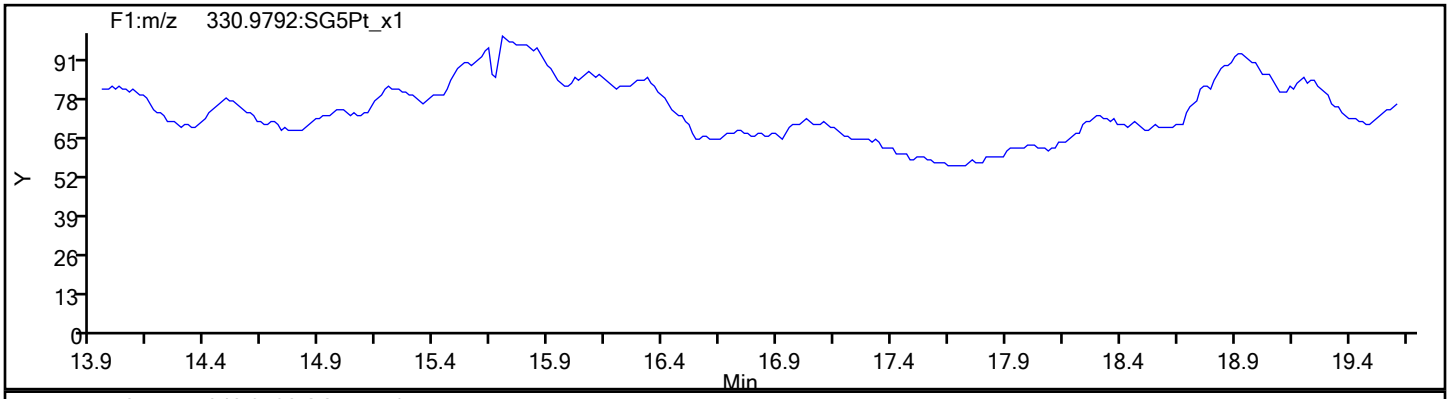

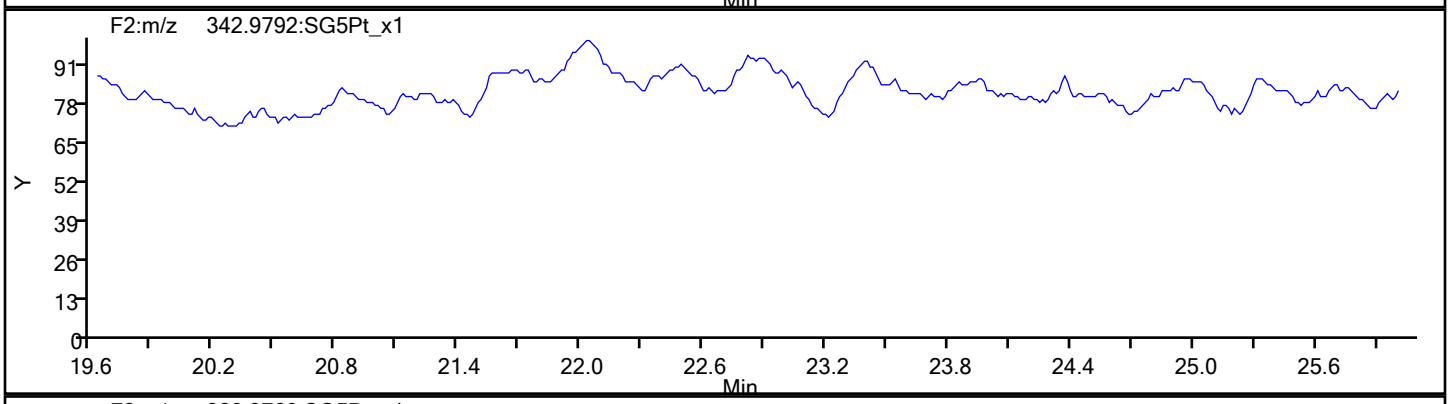

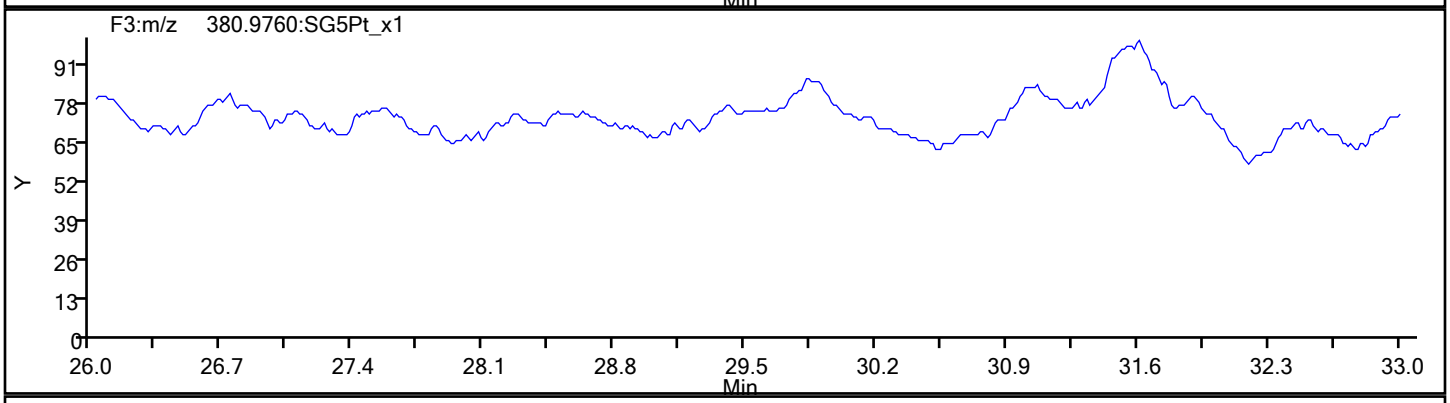

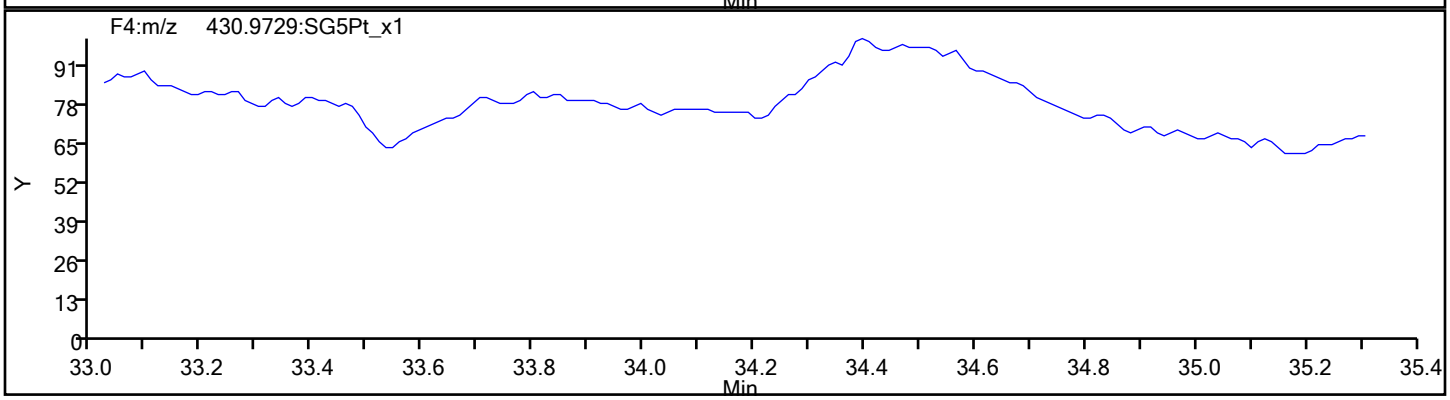

Report Date: 18-Sep-2019 10:22:44 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_7.d		
Injection Date:	17-Sep-2019 16:09:27	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	7
Column Type:	DB-5	Column Dia:	0.32 mm

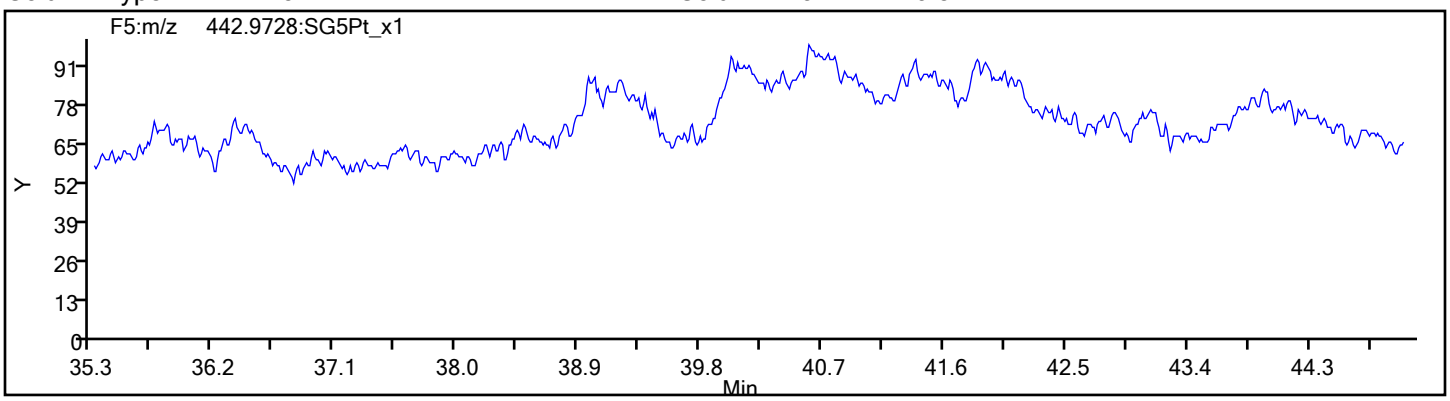

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 17-Sep-2019 16:55:33 ALS Bottle#: 7 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719D CS-6 HRDXNL6_00024
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:47 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:54:56

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.300	157084773	0.78	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.801	225533576	0.80	1.4384	99.8	99.8	0.1407	0.1407	99.82	
2,3,7,8-TCDF	16.816	462672519	0.79	1.0507	195.2	195.2	0.2682	0.2682	97.62	
S Total TCDF					195.2	195.2	0.2682	0.2682		
D 13C-2,3,7,8-TCDD	17.481	150666513	0.77	0.9533	100.6	100.6	0.1699	0.1699	101	
$ 37Cl4-2,3,7,8-TCDD	17.496	402794059		1.2224	209.8	209.8	0.1859	0.1859	105	
2,3,7,8-TCDD	17.511	327747086	0.80	1.1064	196.6	196.6	0.1471	0.1471	98.31	
S Total TCDD					196.6	196.6	0.1471	0.1471		
D 13C-1,2,3,7,8-PeCDF	21.645	171862914	1.60	1.0286	106.4	106.4	0.2163	0.2163	106	
1,2,3,7,8-PeCDF	21.659	1845377073	1.58	1.0822	992.2	992.2	2.737	2.737	99.22	
D 13C-2,3,4,7,8-PeCDF	22.940	167797734	1.58	0.9827	108.7	108.7	0.2264	0.2264	109	
2,3,4,7,8-PeCDF	22.954	1854754260	1.57	1.1032	1001.9	1001.9	2.942	2.942	100	
S Total PeCDF					1994.1	1994.1	2.839	2.839		
D 13C-1,2,3,7,8-PeCDD	23.622	129152474	1.52	0.7481	109.9	109.9	0.1201	0.1201	110	
1,2,3,7,8-PeCDD	23.649	1162563715	1.58	0.9050	994.6	994.6	1.041	1.041	99.46	
S Total PeCDD					994.6	994.6	1.041	1.041		
D 13C-1,2,3,4,7,8-HxCDF	29.775	140595624	0.52	1.1520	100.0	100.0	0.4225	0.4225	99.98	
1,2,3,4,7,8-HxCDF	29.802	1688948701	1.26	1.1973	1003.3	1003.3	7.472	7.472	100	
D 13C-1,2,3,6,7,8-HxCDF	30.015	151833452	0.53	1.2434	100.0	100.0	0.3914	0.3914	100	
1,2,3,6,7,8-HxCDF	30.042	1790437956	1.26	1.1807	998.8	998.8	6.340	6.340	99.88	
D 13C-2,3,4,6,7,8-HxCDF	31.040	147071003	0.53	1.1720	102.8	102.8	0.4153	0.4153	103	
2,3,4,6,7,8-HxCDF	31.066	1773083873	1.25	1.2116	995.1	995.1	4.324	4.324	99.51	
D 13C-1,2,3,7,8,9-HxCDF	31.945	129353689	0.52	1.0655	99.5	99.5	0.4568	0.4568	99.46	
1,2,3,7,8,9-HxCDF	31.958	1579646001	1.26	1.2451	980.8	980.8	4.155	4.155	98.08	
S Total HxCDF					3977.9	3977.9	5.573	5.573		
* 13C-1,2,3,7,8,9-HxCDD	31.745	122060377	1.25	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.266	100374877	1.33	0.7812	105.3	105.3	0.3579	0.3579	105	
1,2,3,4,7,8-HxCDD	31.279	1132407299	1.25	1.1088	1017.5	1017.5	3.102	3.102	102	
D 13C-1,2,3,6,7,8-HxCDD	31.386	116499868	1.24	0.9175	104.0	104.0	0.3048	0.3048	104	

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
1,2,3,6,7,8-HxCDD	31.399	1240444751	1.26	1.0814	984.6	984.6	2.882	2.882	98.46	
1,2,3,7,8,9-HxCDD	31.759	1259477463	1.26	1.2123	958.1	958.1	2.697	2.697	95.81	
S Total HxCDD					2960.2	2960.2	2.894	2.894		
D 13C-1,2,3,4,6,7,8-HpCDF	33.459	106743815	0.46	0.8628	101.4	101.4	1.713	1.713	101	
1,2,3,4,6,7,8-HpCDF	33.472	1613842335	1.05	1.5555	971.9	971.9	14.1	14.1	97.19	
D 13C-1,2,3,4,7,8,9-HpCDF	34.504	100973962	0.46	0.7991	103.5	103.5	1.849	1.849	104	
1,2,3,4,7,8,9-HpCDF	34.504	1391884877	1.05	1.3862	994.4	994.4	18.7	18.7	99.44	
S Total HpCDF					1966.3	1966.3	16.4	16.4		
D 13C-1,2,3,4,6,7,8-HpCDD	34.225	111298169	1.03	0.8739	104.3	104.3	0.8846	0.8846	104	
1,2,3,4,6,7,8-HpCDD	34.237	1030391820	1.05	0.9316	993.8	993.8	7.238	7.238	99.38	
S Total HpCDD					993.8	993.8	7.238	7.238		
D 13C-OCDD	36.493	206464776	0.88	0.7744	218.4	218.4	0.2420	0.2420	109	
OCDF	36.589	2616959337	0.90	1.2596	2012.6	2012.6	1.498	1.498	101	
OCDD	36.505	2125514466	0.89	1.0621	1938.6	1938.6	2.038	2.038	96.93	

Reagents:

HRDXNL6_00024 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 17-Sep-2019 16:55:33 ALS Bottle#: 7 Worklist Smp#: 8
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: IC 091719D CS-6 HRDXNL6_00024
Misc. Info.: 17SE1910D5
Operator ID: AJS Instrument ID: 10D5
Sublist: chrom-Dioxin_10D5*sub1

Method: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 18-Sep-2019 10:22:47 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0318

First Level Reviewer: shardaa Date: 17-Sep-2019 17:54:56

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.300	17.303	0		68656888	17703152	11871	29677	1491		
333.9339	17.300	17.303	0		88427885	22923443	14450	36125	1586	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.801	16.810	-1	0.971	100473796	26202504	17815	44537	1471		
317.9389	16.801	16.810	-1	0.971	125059780	32860085	15076	37690	2180	0.80(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.816	16.825	-1	1.001	203968881	53426825	28090	70225	1902		
305.8987	16.816	16.825	-1	1.001	258703638	67905008	38497	96242	1764	0.79(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.481	17.490	-1	1.010	65699125	16108883	11871	29677	1357		
333.9339	17.481	17.490	-1	1.010	84967388	20783333	14450	36125	1438	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.496	17.505	-1	1.011	402794059	97947785	36924	92310	2653		
2,3,7,8-TCDD											
319.8965	17.511	17.505	0	1.002	145759899	35006474	11020	27550	3177		
321.8936	17.496	17.505	-1	1.001	181987187	44378051	13000	32500	3414	0.80(0.65-0.89)	
13C-1,2,3,7,8-PeCDF											
351.9000	21.645	21.637	0	1.251	105769386	19380532	21442	53605	904		
353.8970	21.645	21.637	0	1.251	66093528	12006776	14706	36765	816	1.60(1.32-1.78)	
1,2,3,7,8-PeCDF											
339.8597	21.659	21.661	0	1.001	1128987918	207786620	228337	570842	910		
341.8567	21.659	21.661	0	1.001	716389155	132705026	143597	358992	924	1.58(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-2,3,4,7,8-PeCDF											
351.9000	22.940	22.932	0	1.326	102870411	17592993	21442	53605	820		
353.8970	22.940	22.932	0	1.326	64927323	11060126	14706	36765	752	1.58(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.954	22.954	0	1.001	1134203044	192648194	228337	570842	844		
341.8567	22.954	22.954	0	1.001	720551216	123114818	143597	358992	857	1.57(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.622	23.625	0	1.365	77891431	12413727	9204	23010	1349		
369.8919	23.622	23.625	0	1.365	51261043	8286162	5391	13477	1537	1.52(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.649	23.649	0	1.001	712114532	115586755	47770	119425	2420		
357.8516	23.649	23.649	0	1.001	450449183	73672225	30241	75602	2436	1.58(1.32-1.78)	
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.775	29.754	1	0.938	48283336	6569879	20357	50892	323		
385.8610	29.775	29.754	1	0.938	92312288	12535842	37224	93060	337	0.52(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.802	29.789	1	1.001	940997687	133250334	383917	959792	347		
375.8178	29.802	29.789	1	1.001	747951014	105366191	299807	749517	351	1.26(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	30.015	30.015	0	0.945	52450288	7974033	20357	50892	392		
385.8610	30.015	30.015	0	0.945	99383164	14861268	37224	93060	399	0.53(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.042	30.039	0	1.001	997571168	151931057	383917	959792	396		
375.8178	30.042	30.039	0	1.001	792866788	120963468	299807	749517	403	1.26(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.040	31.043	0	0.978	50759518	11236785	20357	50892	552		
385.8610	31.040	31.043	0	0.978	96311485	21393821	37224	93060	575	0.53(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.066	31.059	0	1.001	985093633	220162965	383917	959792	573		
375.8178	31.066	31.059	0	1.001	787990240	173863815	299807	749517	580	1.25(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.945	31.942	0	1.006	44455247	11339049	20357	50892	557		
385.8610	31.945	31.942	0	1.006	84898442	21704283	37224	93060	583	0.52(0.43-0.59)	
1,2,3,7,8,9-HxCDF											
373.8208	31.958	31.956	0	1.000	881417801	228486168	383917	959792	595		
375.8178	31.958	31.956	0	1.000	698228200	180413640	299807	749517	602	1.26(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.745	31.748	0		67929723	16429699	18251	45627	900		
403.8529	31.745	31.748	0		54130654	13145642	14828	37070	887	1.25(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.266	31.261	0	0.985	57329166	14082357	18251	45627	772		
403.8529	31.266	31.261	0	0.985	43045711	11050859	14828	37070	745	1.33(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.279	31.280	0	1.000	629831633	158465261	197312	493280	803		
391.8127	31.279	31.280	0	1.000	502575666	126972690	148417	371042	856	1.25(1.05-1.43)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.386	31.383	0	0.989	64540443	15691585	18251	45627	860		
403.8529	31.386	31.383	0	0.989	51959425	12036727	14828	37070	812	1.24(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.399	31.402	0	1.000	692132021	165495989	197312	493280	839		
391.8127	31.399	31.402	0	1.000	548312730	133657431	148417	371042	901	1.26(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.759	31.761	0	1.016	702952771	169150562	197312	493280	857		
391.8127	31.759	31.761	0	1.016	556524692	136362240	148417	371042	919	1.26(1.05-1.43)	
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.459	33.457	0	1.054	33673507	11080194	54234	135585	204		
419.8220	33.459	33.457	0	1.054	73070308	23803007	120568	301420	197	0.46(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.472	33.469	0	1.000	828352693	264674315	15239773	809942	174		
409.7789	33.459	33.469	-1	1.000	785489642	258152347	15359593	839897	168	1.05(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.504	34.502	0	1.087	31611144	9286341	54234	135585	171		
419.8220	34.504	34.502	0	1.087	69362818	20149549	120568	301420	167	0.46(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.504	34.509	0	1.000	711389911	208533041	15239773	809942	137		
409.7789	34.504	34.509	0	1.000	680494966	202816426	15359593	839897	132	1.05(0.88-1.20)	
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.225	34.227	0	1.078	56576314	17187295	46326	115815	371		
437.8140	34.225	34.227	0	1.078	54721855	16668841	45125	112812	369	1.03(0.88-1.20)	
1,2,3,4,6,7,8-HpCDD											
423.7766	34.237	34.235	0	1.000	528198445	160615442	456142	1140355	352		
425.7737	34.237	34.235	0	1.000	502193375	149899801	457044	1142610	328	1.05(0.88-1.20)	
13C-OCDD											
469.7779	36.493	36.486	0	1.150	96929202	24000709	8587	21467	2795		
471.7750	36.493	36.486	0	1.150	109535574	26795340	13585	33962	1972	0.88(0.76-1.02)	
OCDF											
441.7428	36.589	36.581	0	1.003	1236830988	325979490	105711	264277	3084		
443.7399	36.589	36.581	0	1.003	1380128349	358207842	85997	214992	4165	0.90(0.76-1.02)	
OCDD											
457.7377	36.505	36.497	0	1.000	1001000005	251130559	122617	306542	2048		
459.7348	36.505	36.497	0	1.000	1124514461	278735720	97234	243085	2867	0.89(0.76-1.02)	

Reagents:

HRDXNL6_00024 Amount Added: 1.00 Units: mL

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

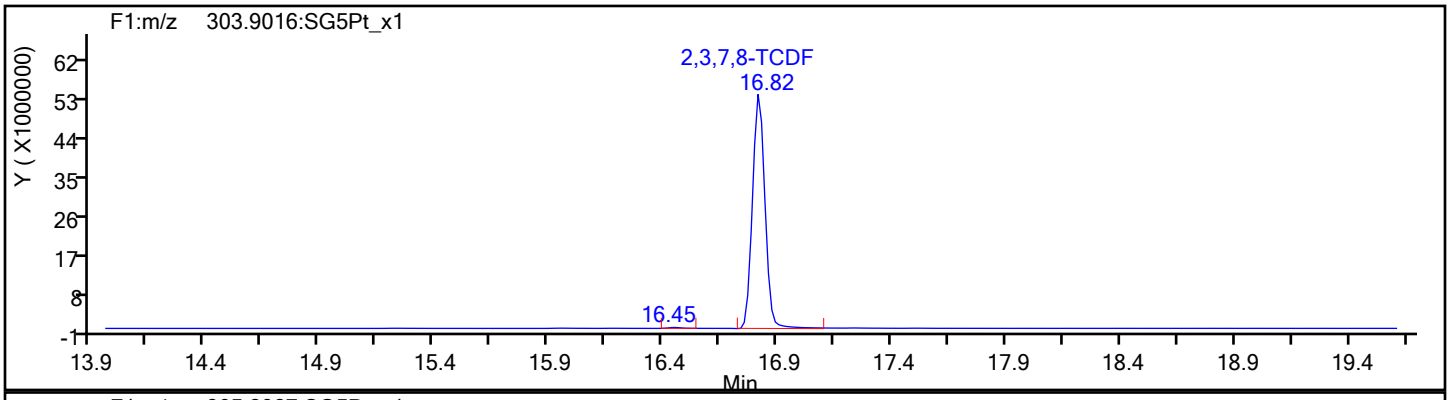

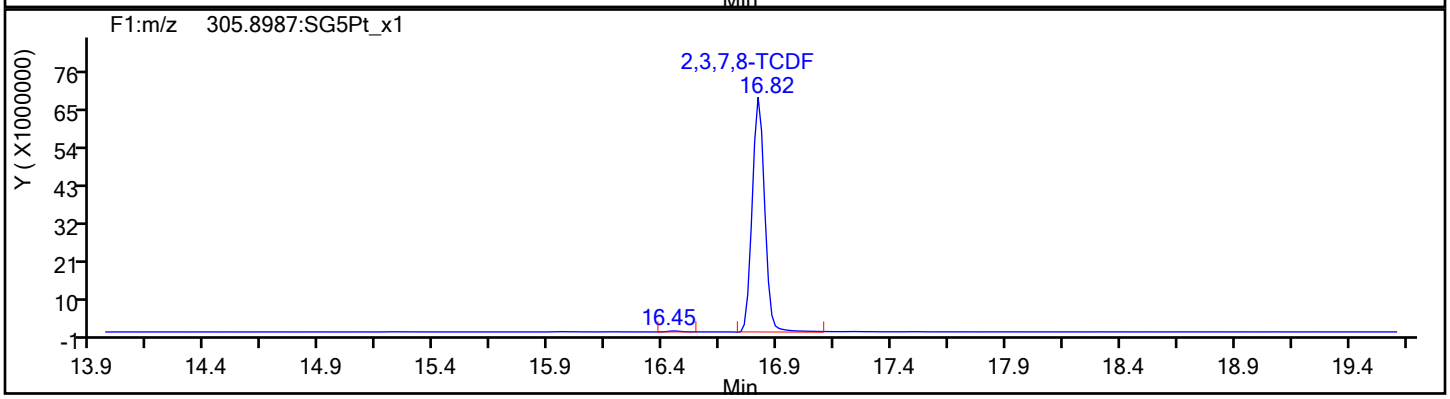

TCDF Standards

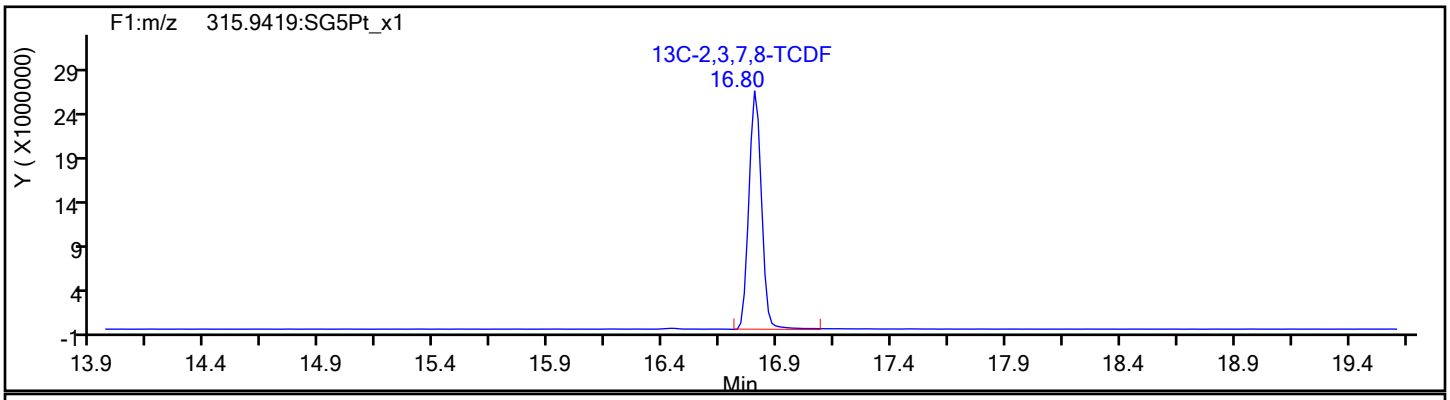

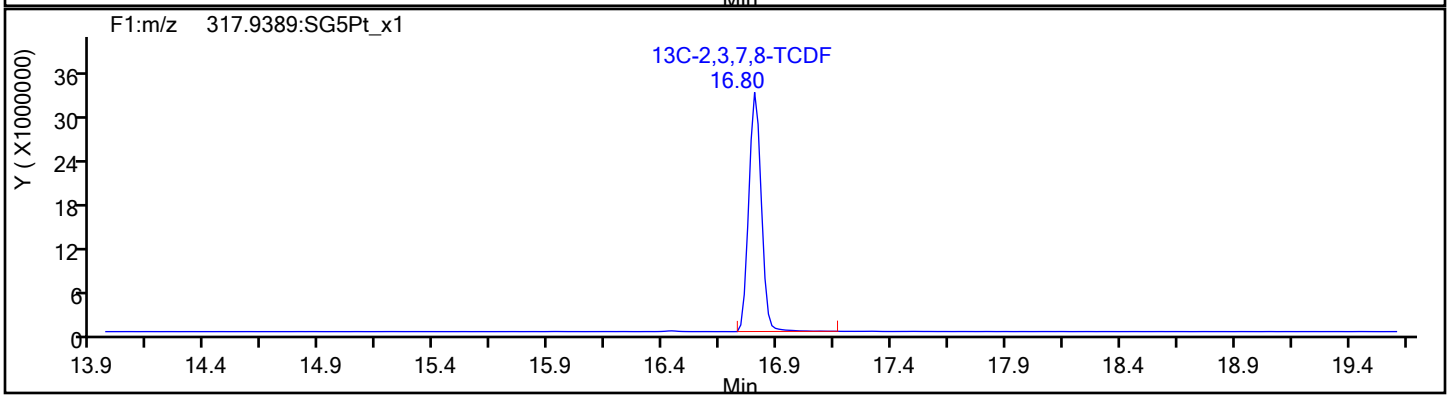

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

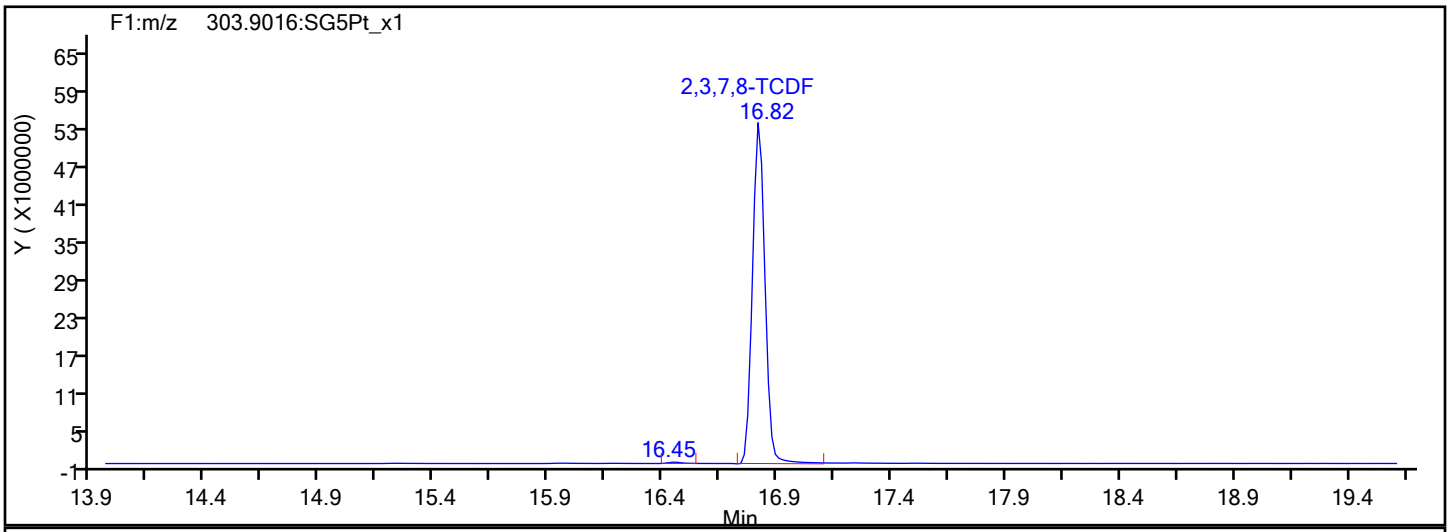

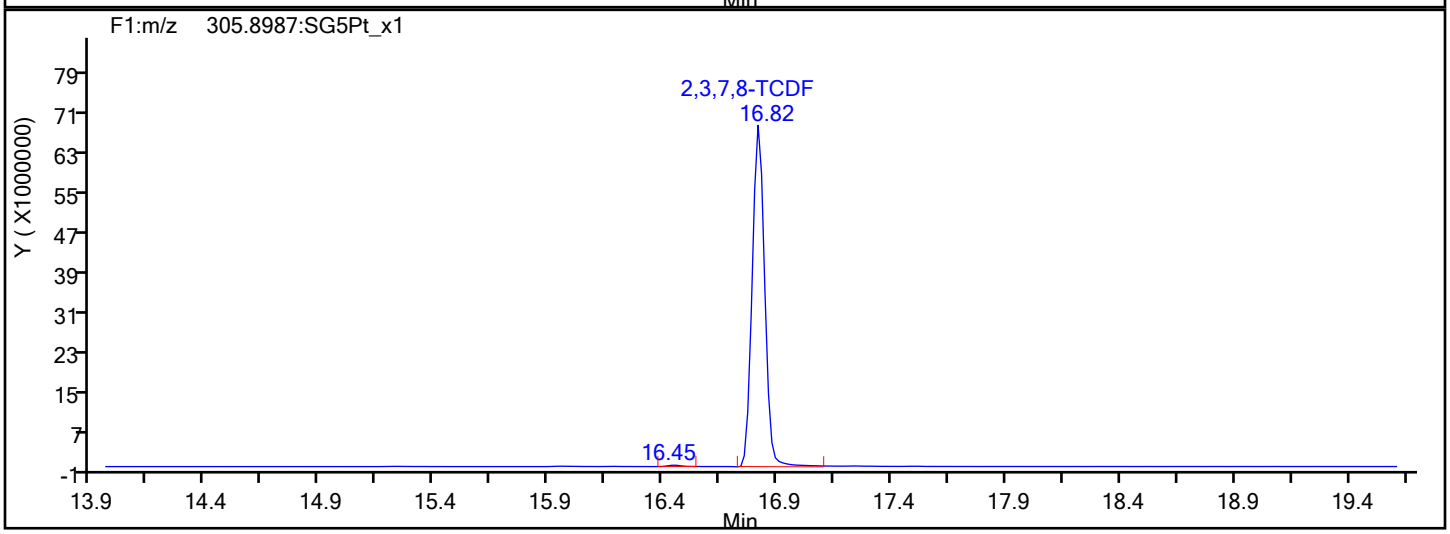

TCDF Interference Mass

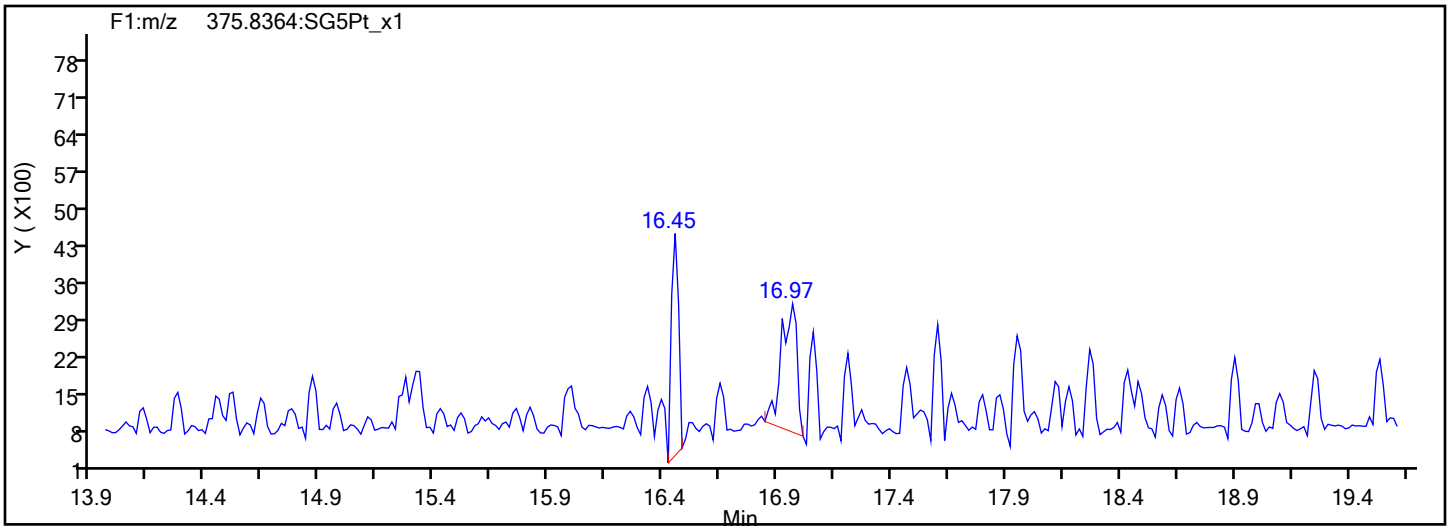

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

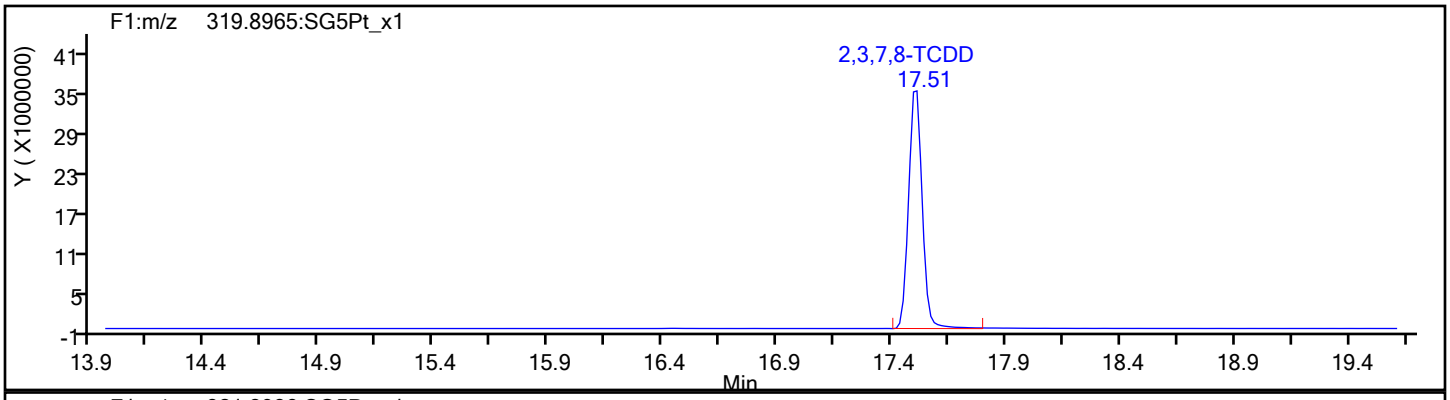

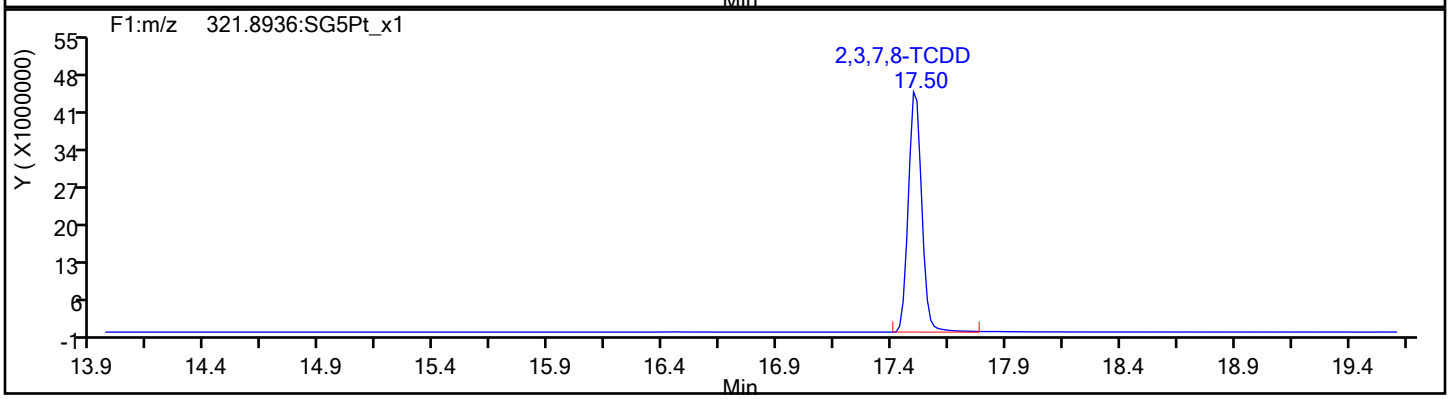

TCDD Standards

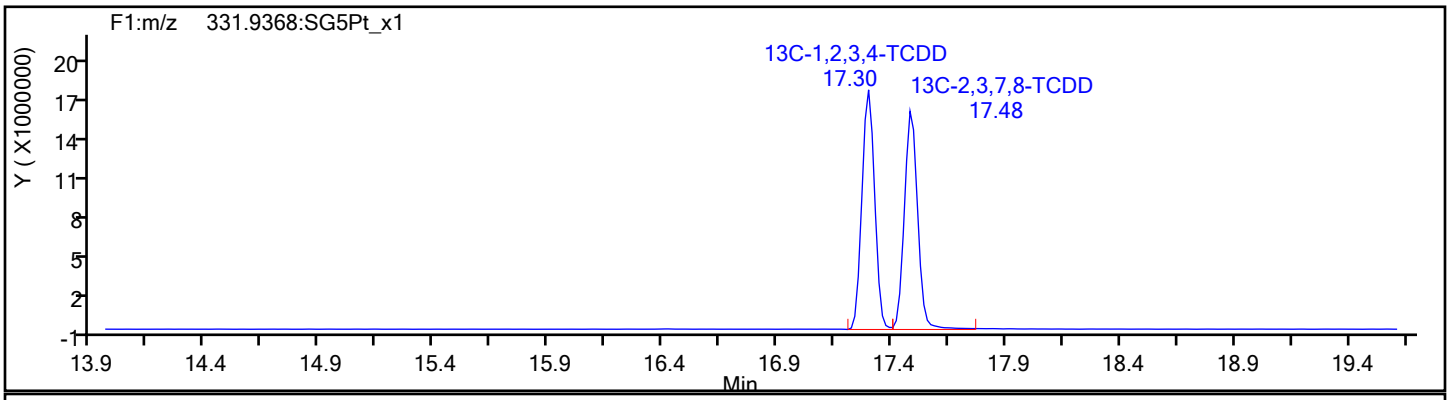

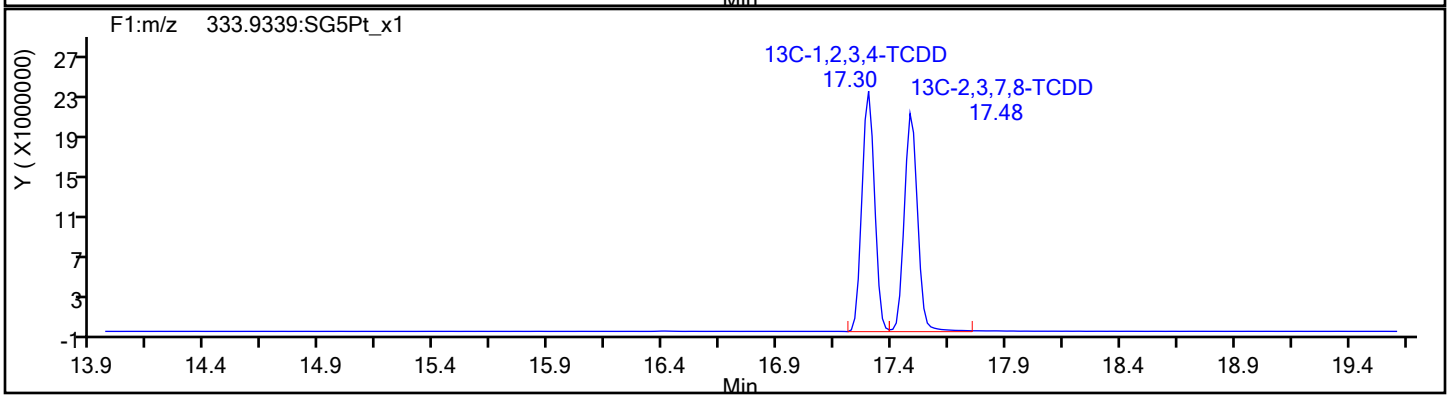

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

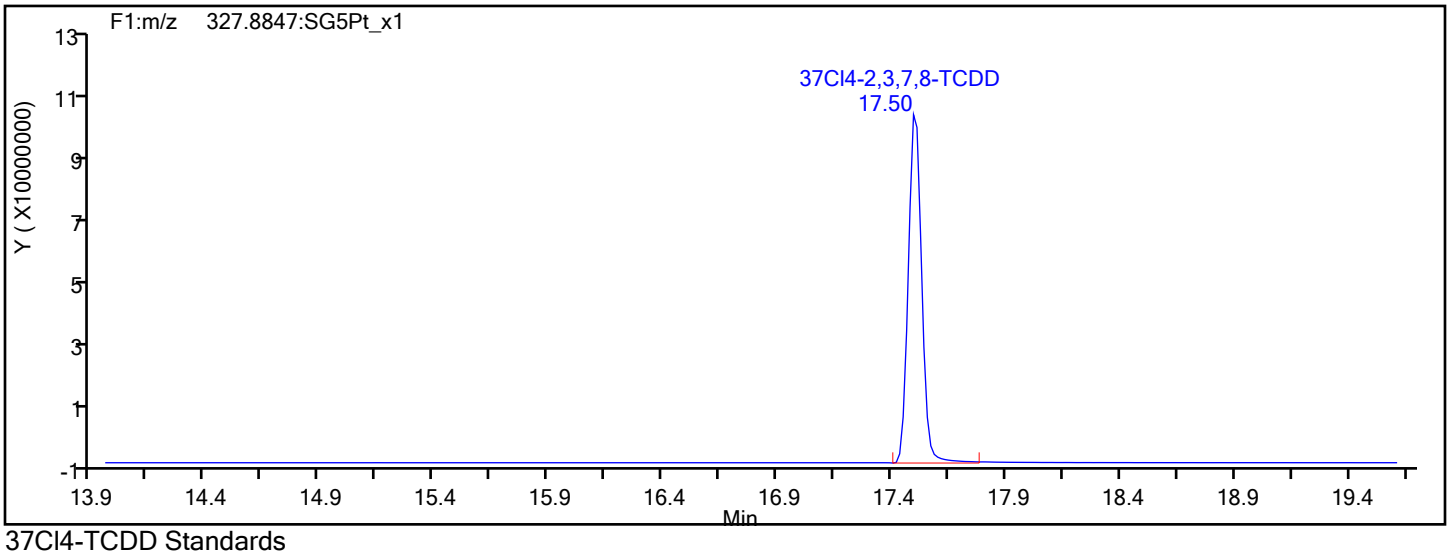

37Cl4-TCDD Standards

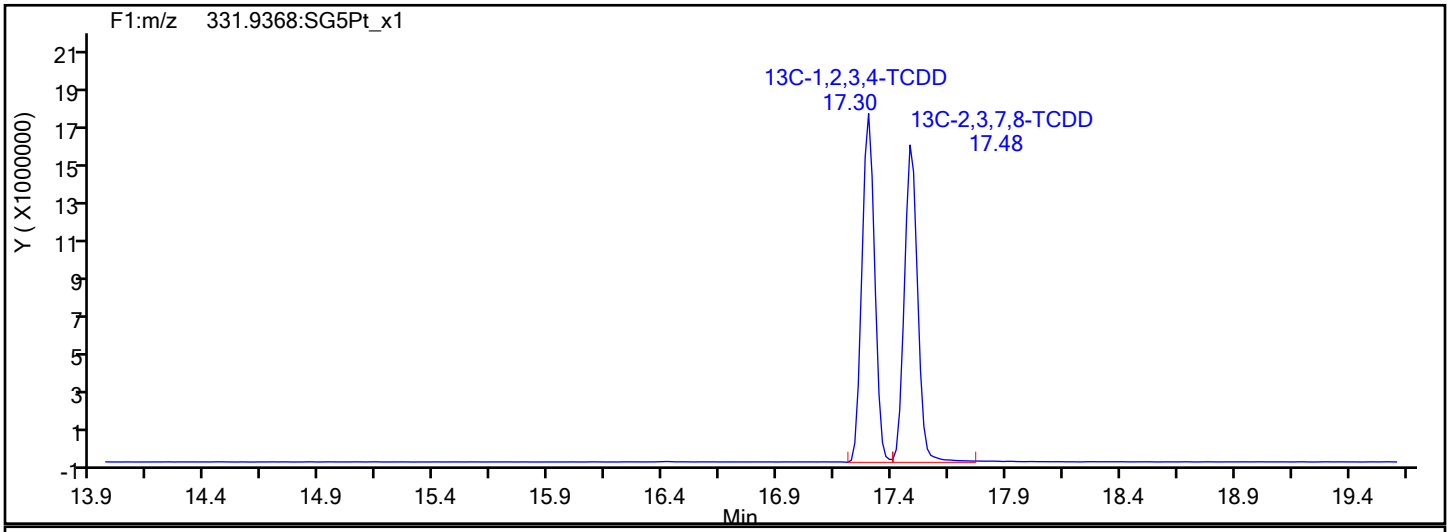

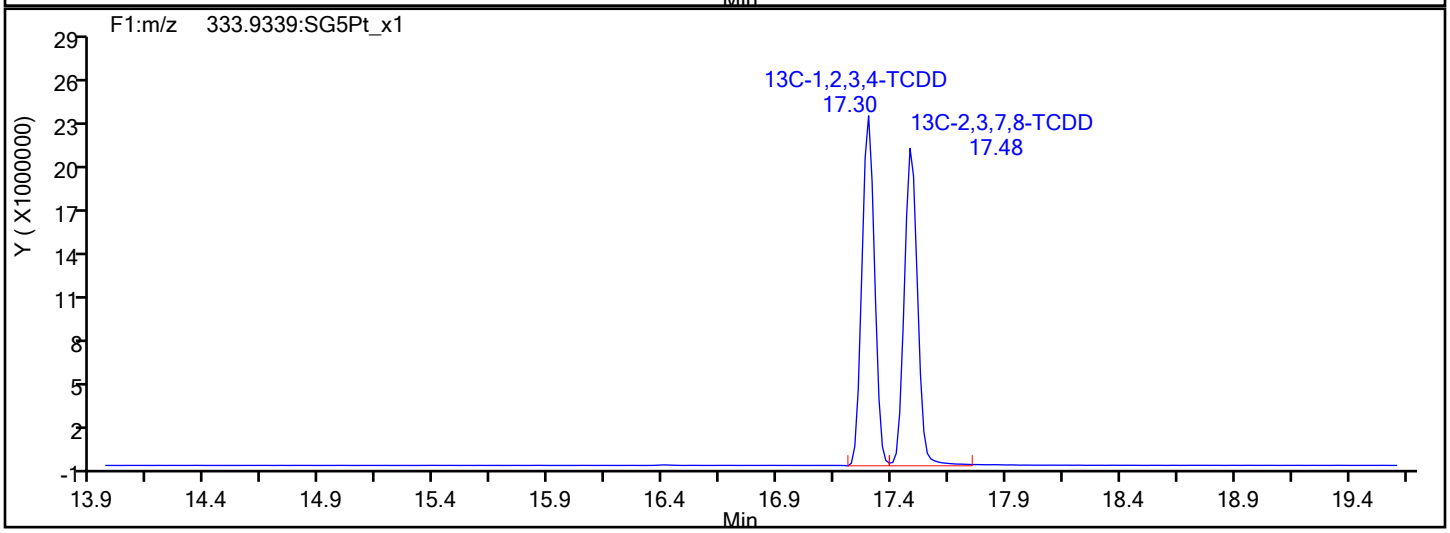

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

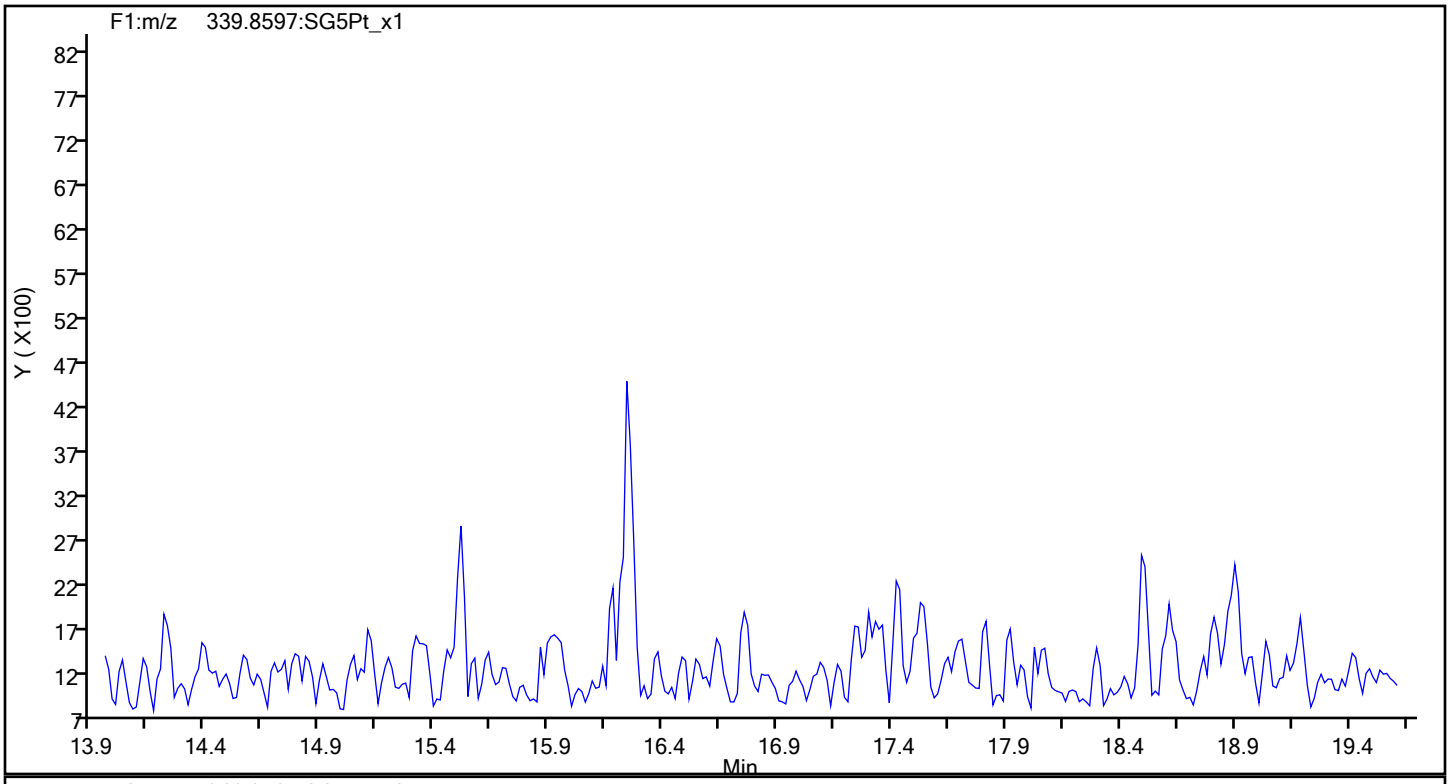

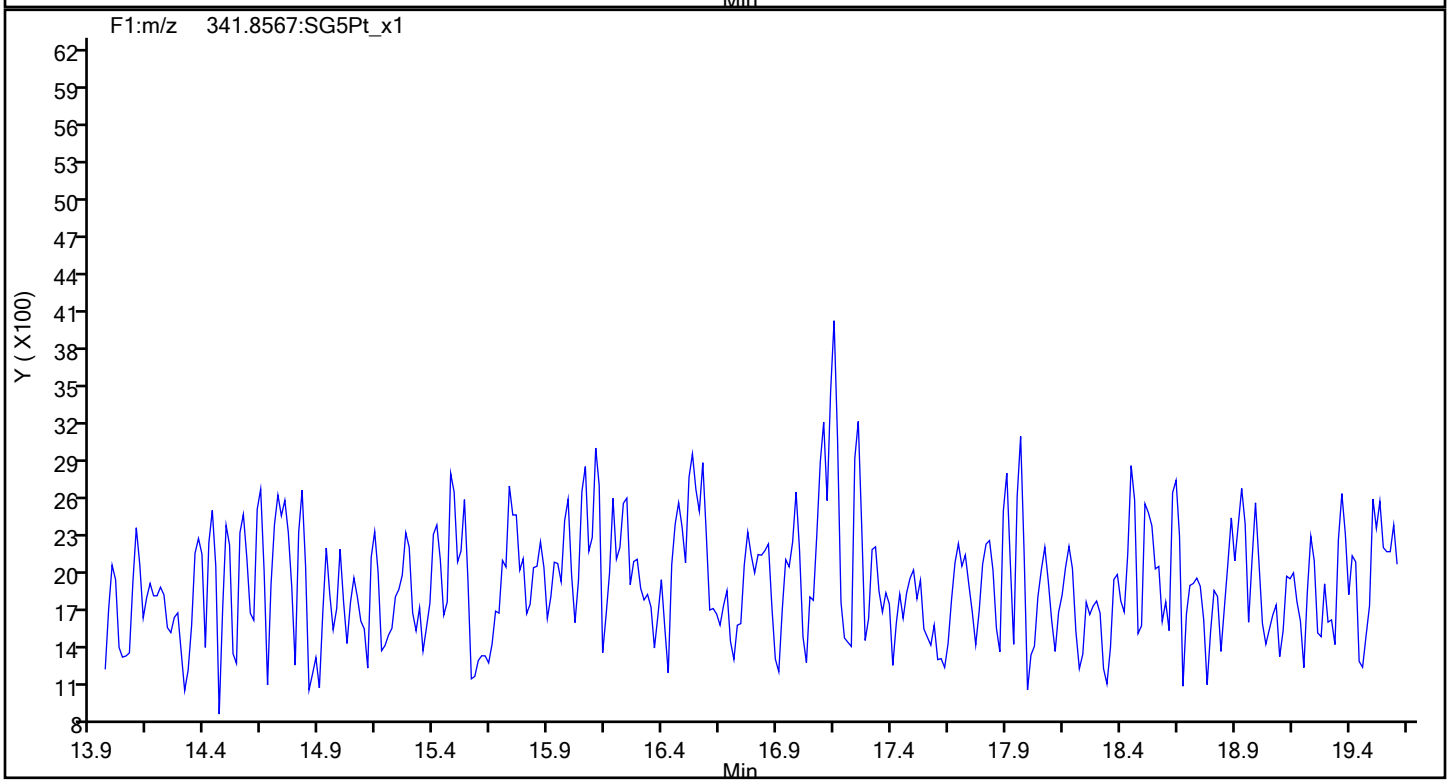

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

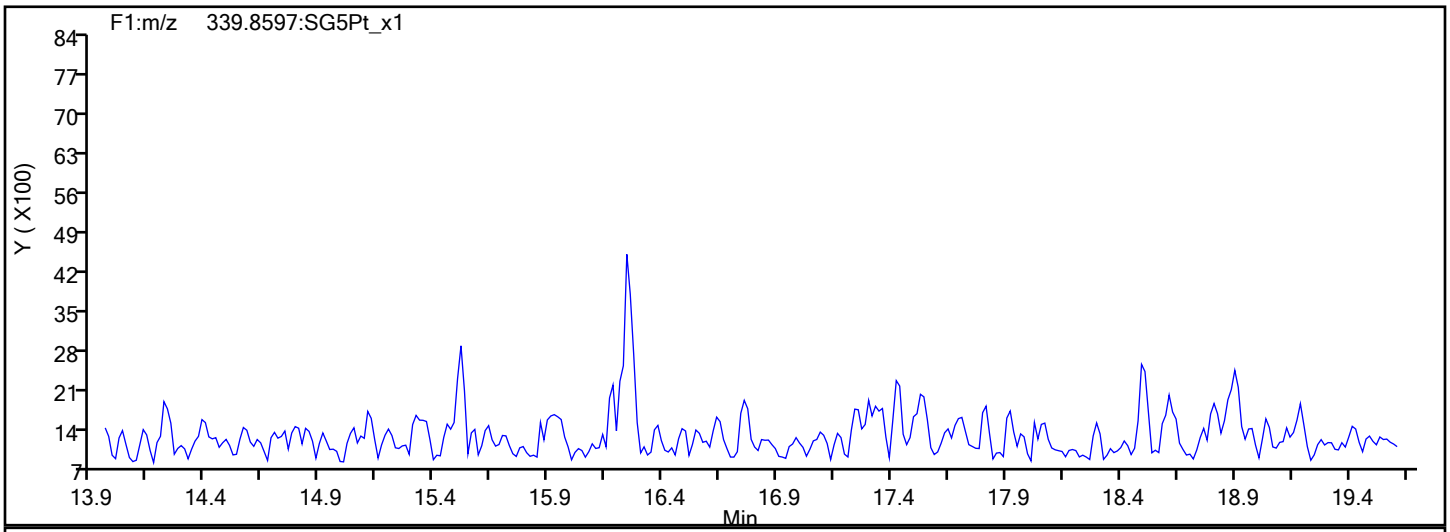

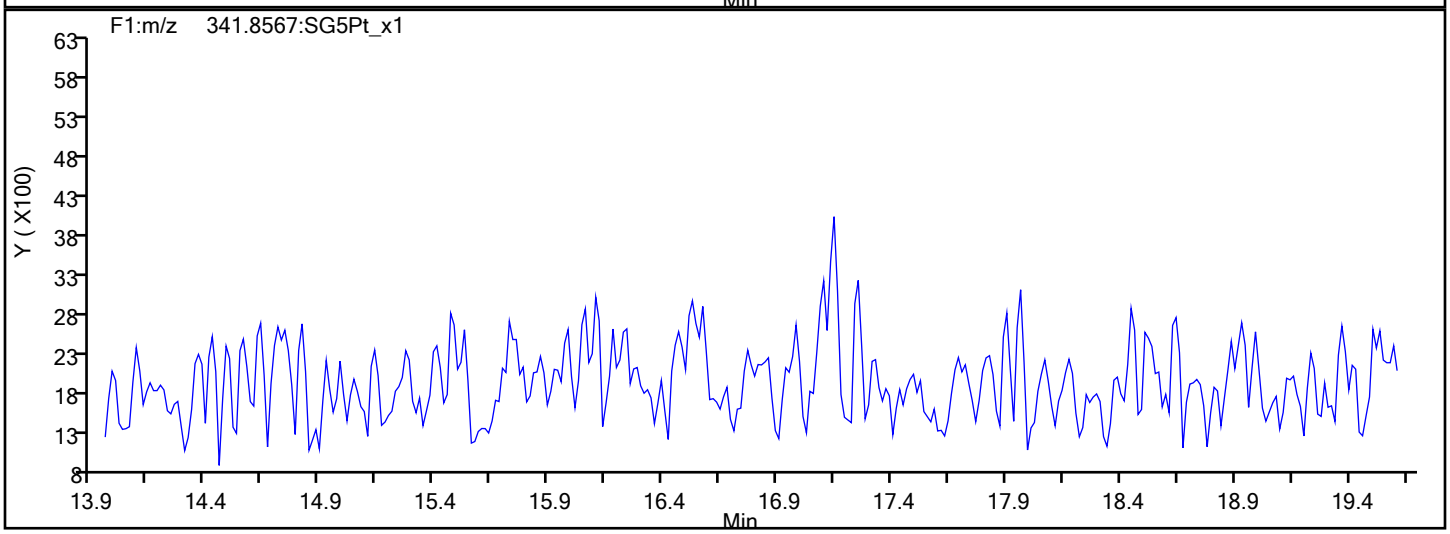

F1 PeCDFs Interference Mass

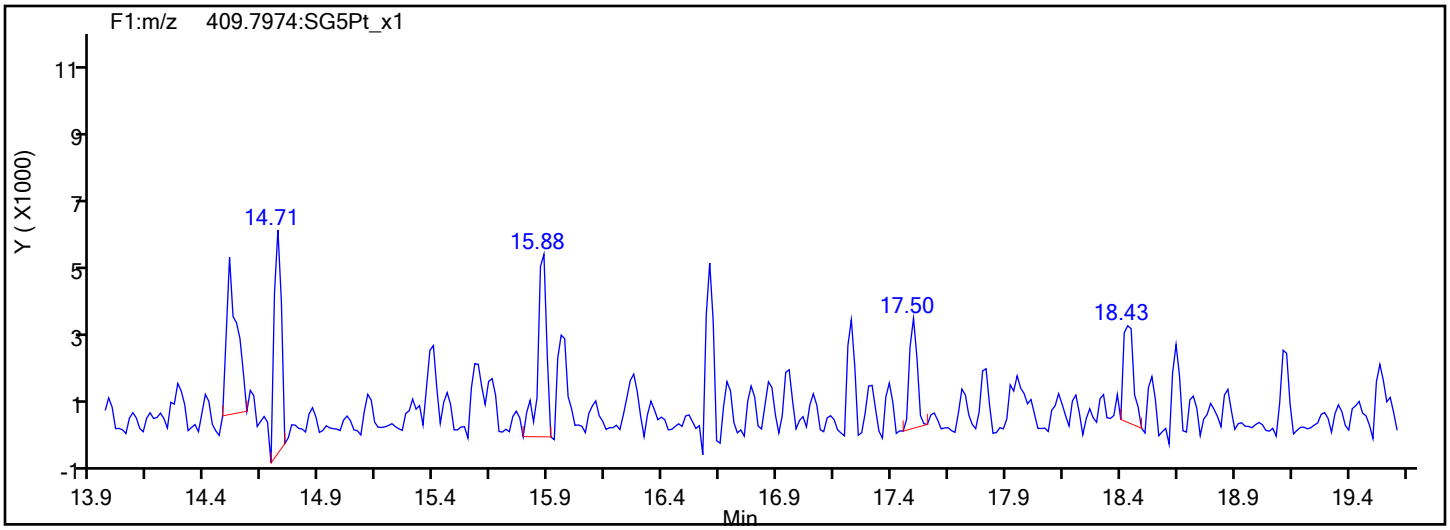

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

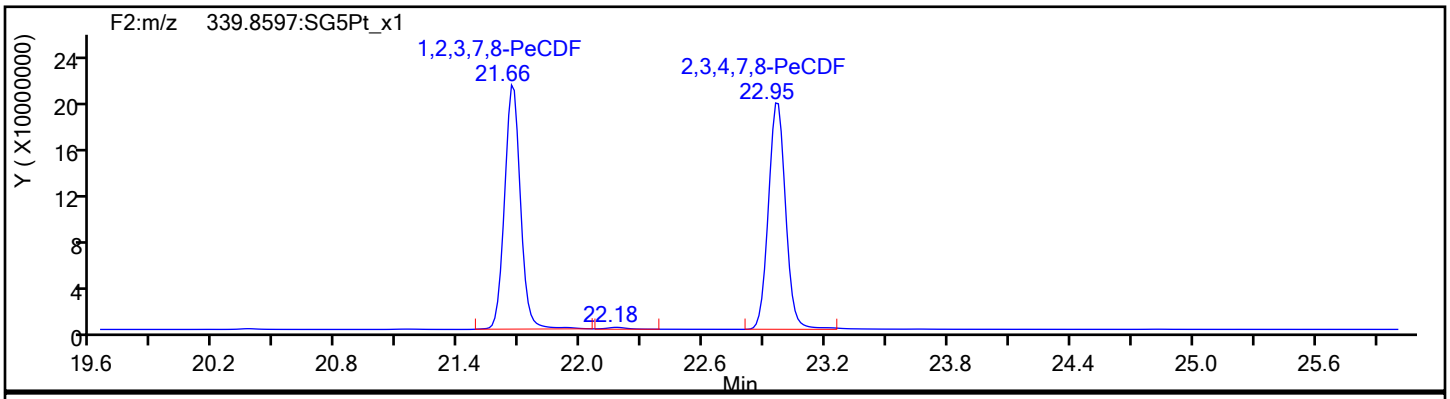

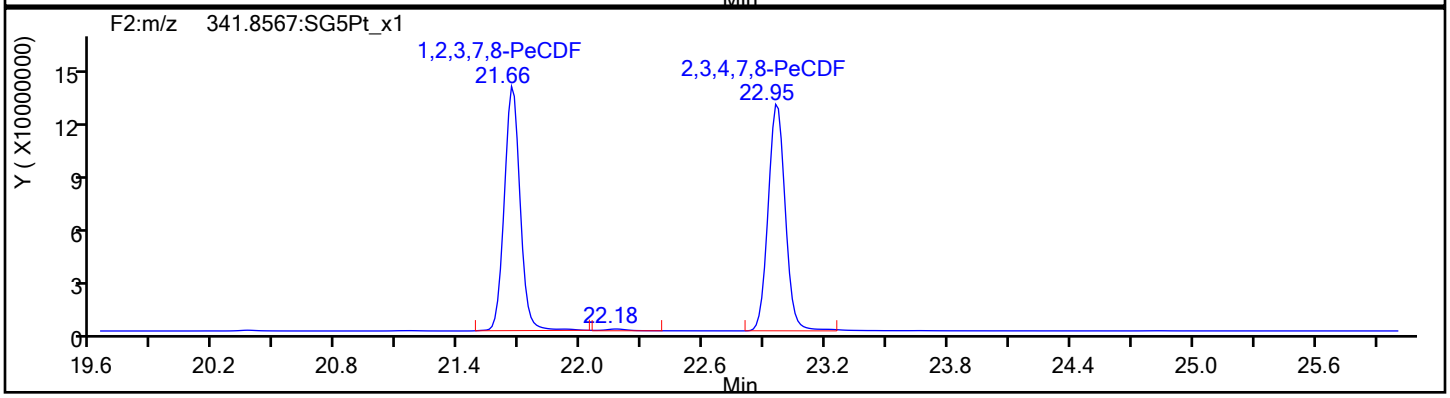

PeCDF Standards

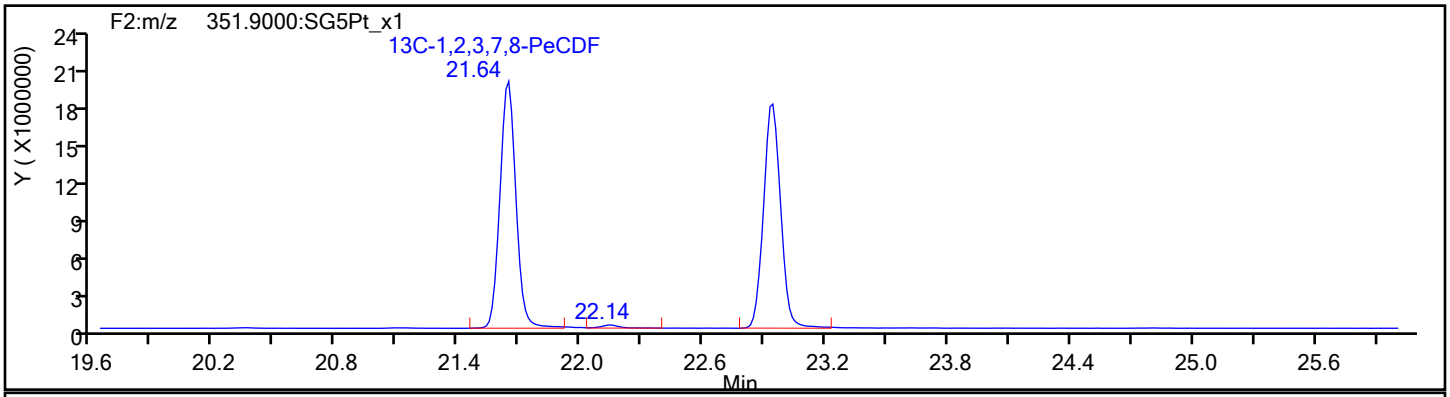

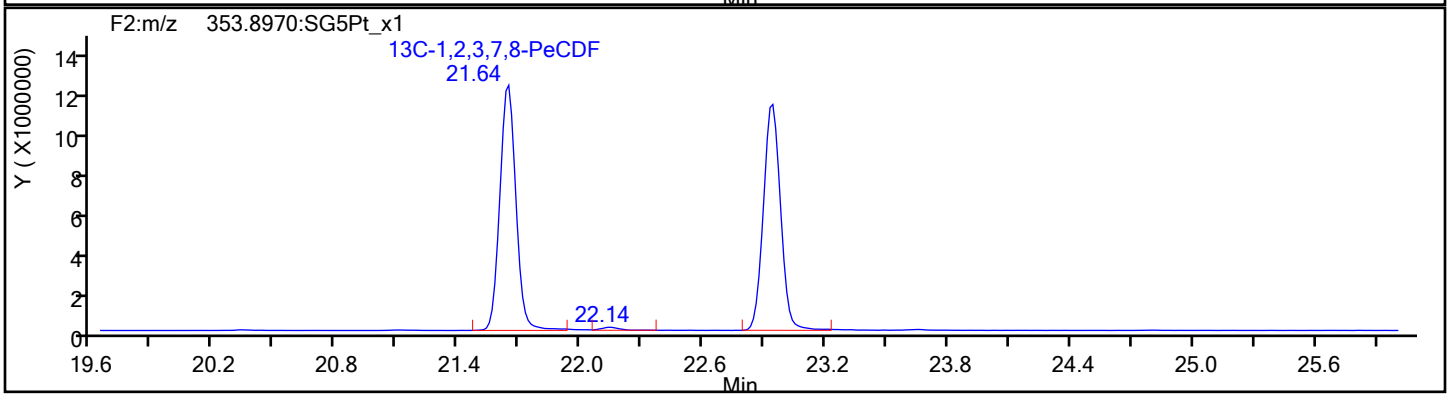

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Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

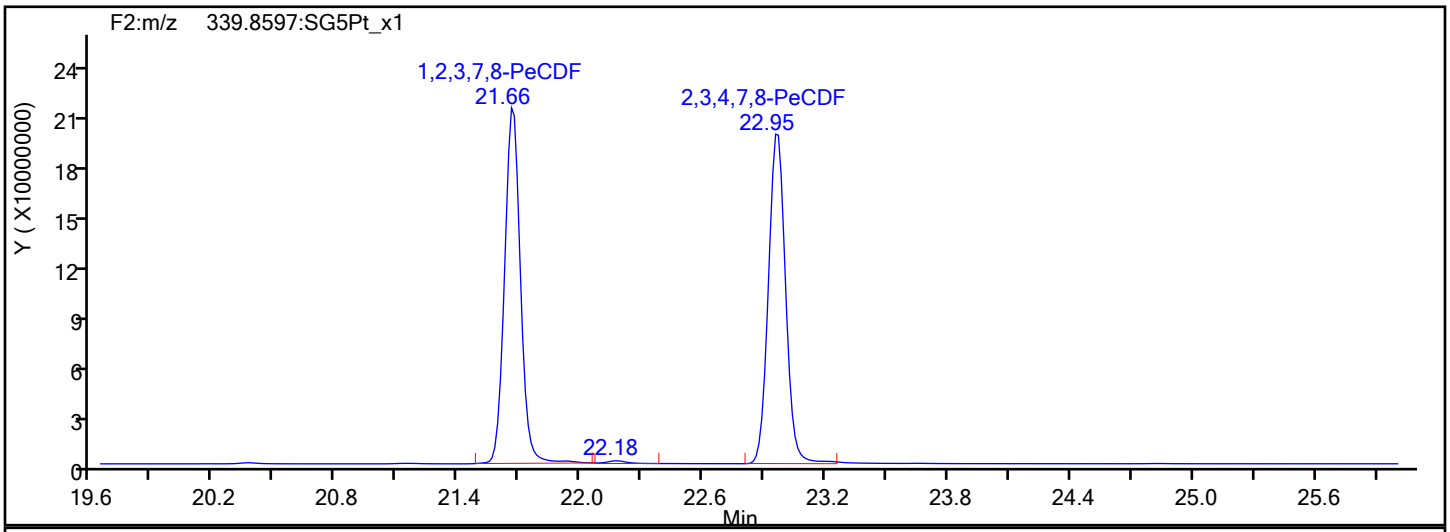

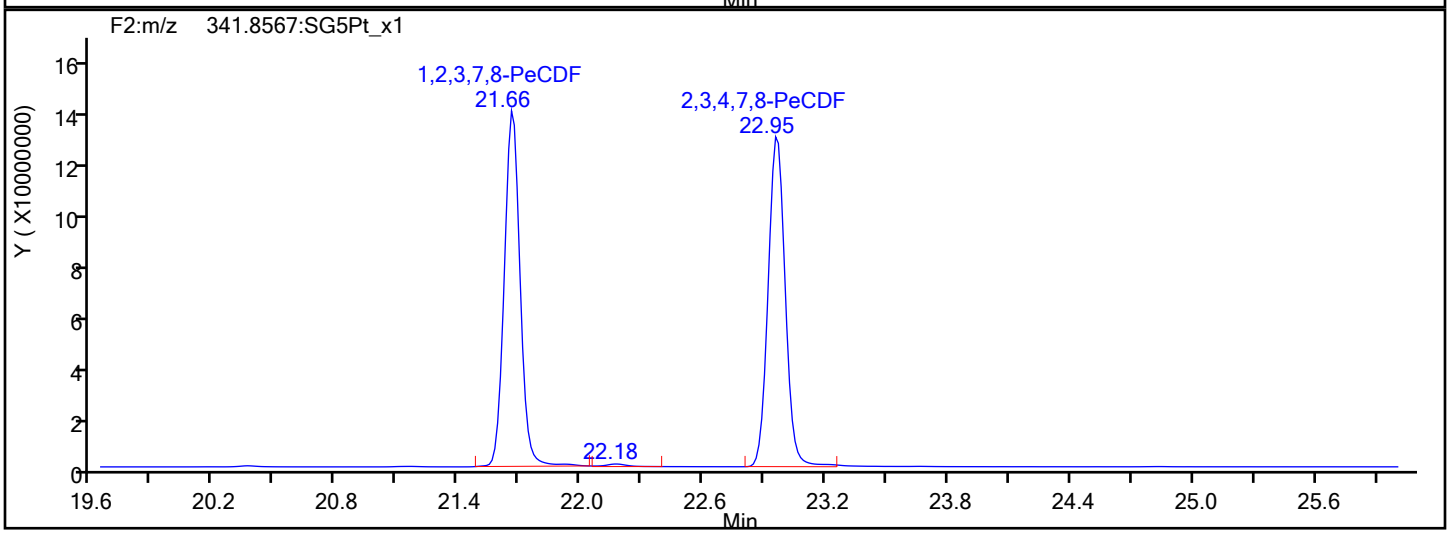

PeCDF Interference Mass

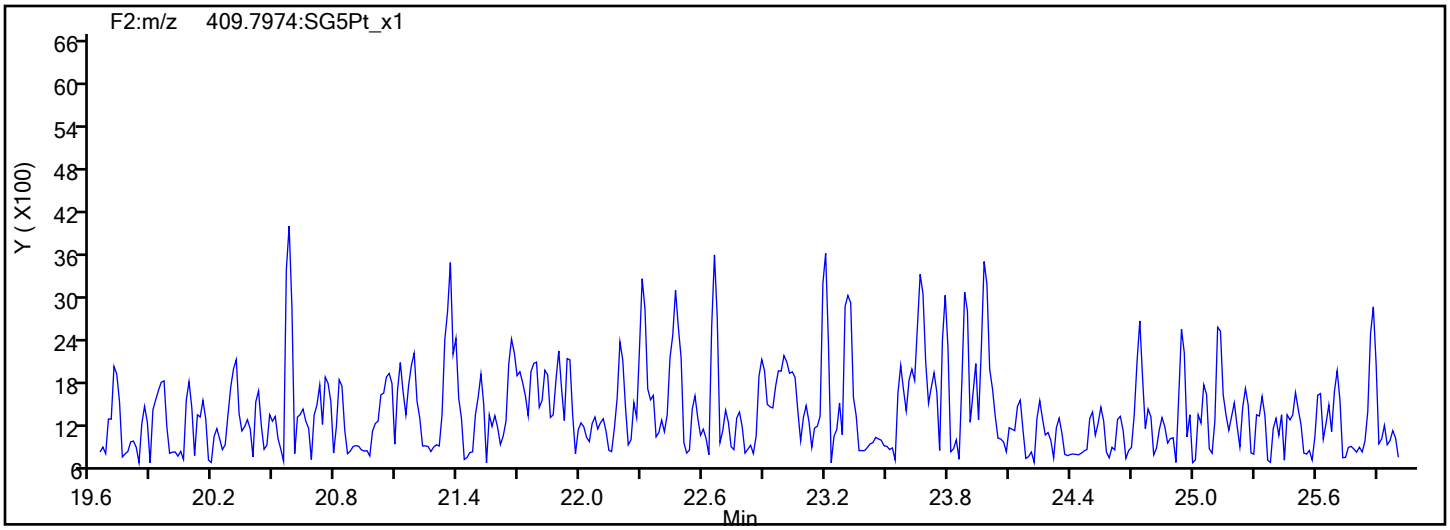

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

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PeCDD

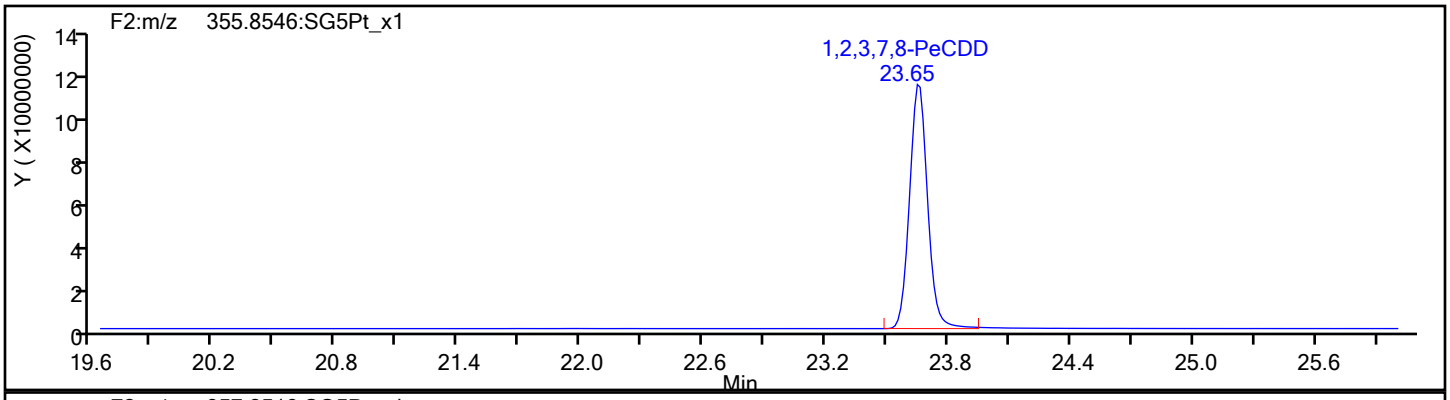

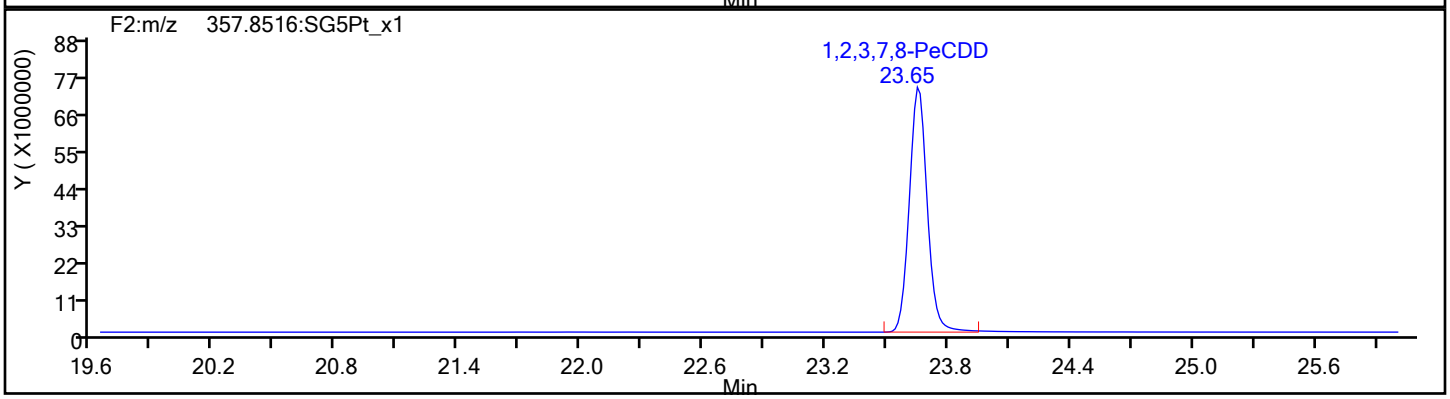

PeCDD Standards

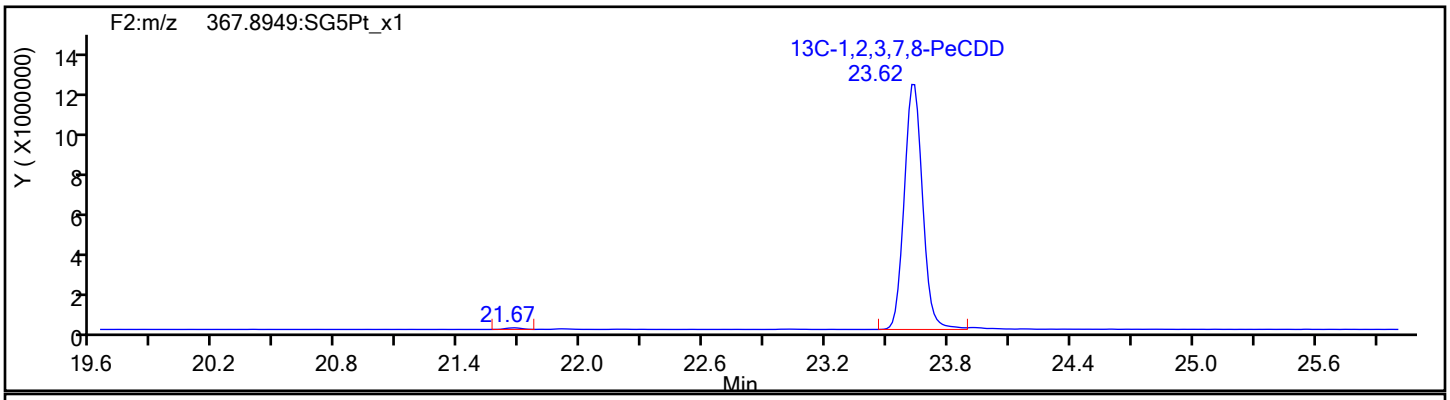

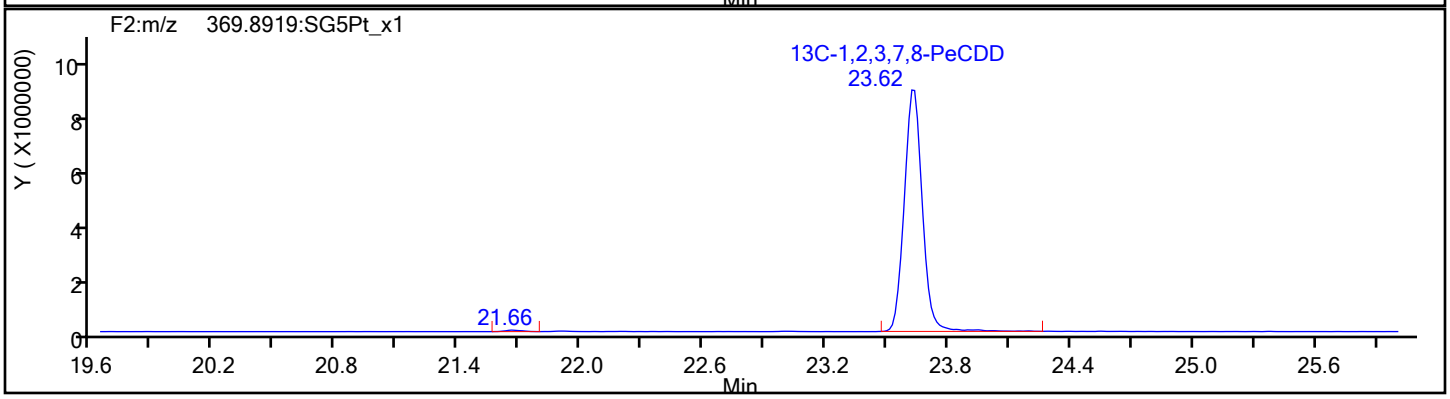

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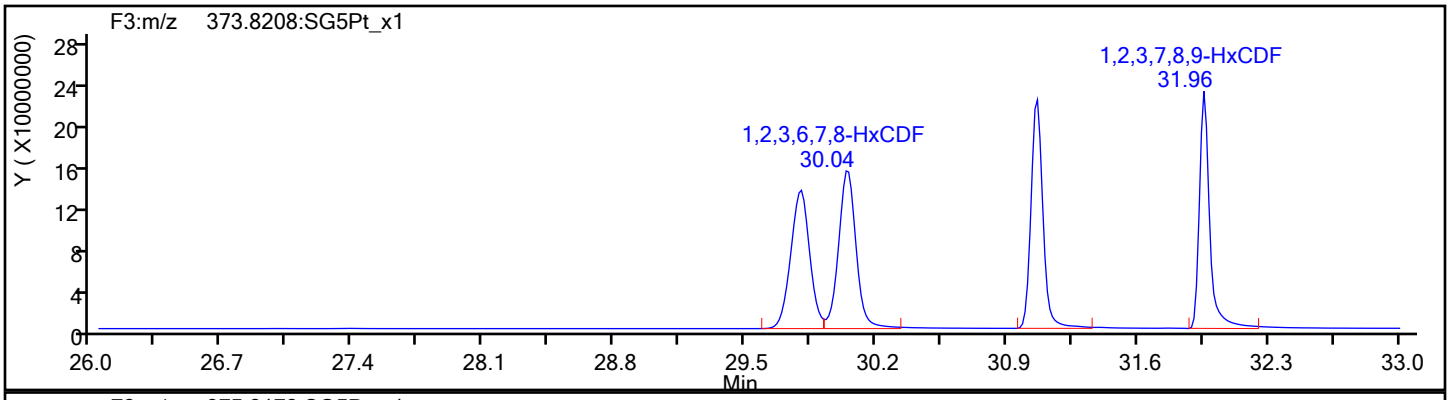

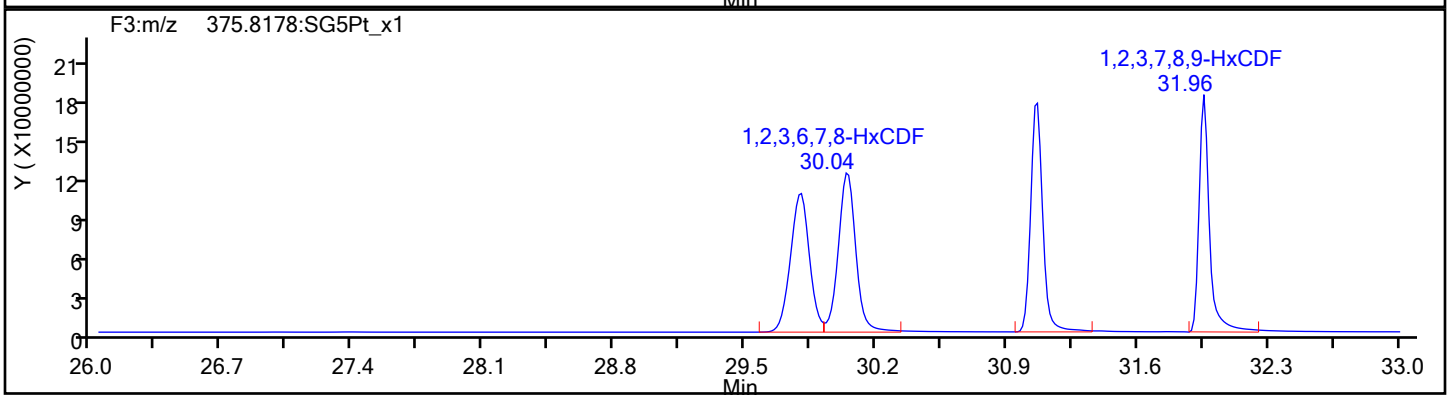

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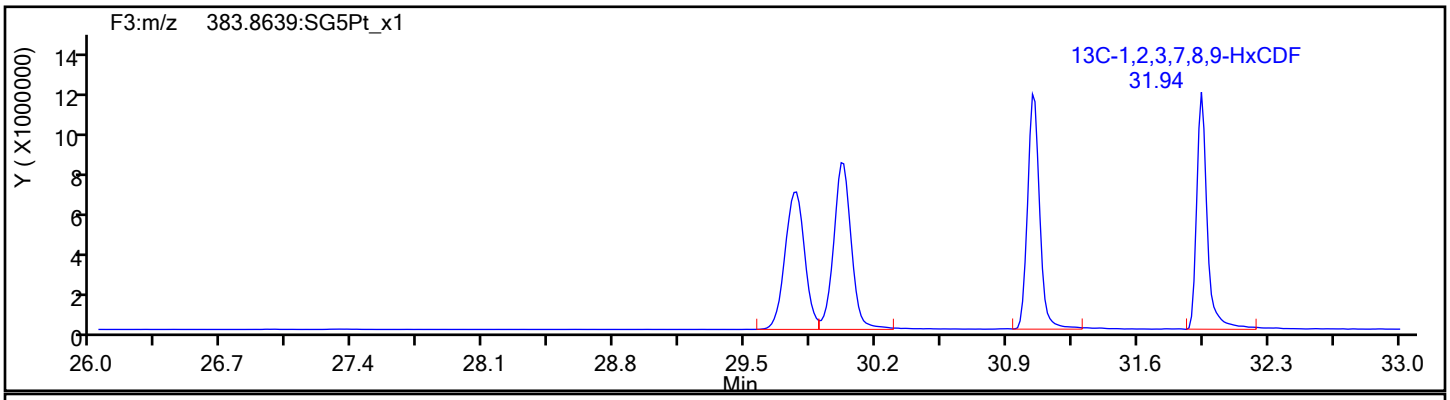

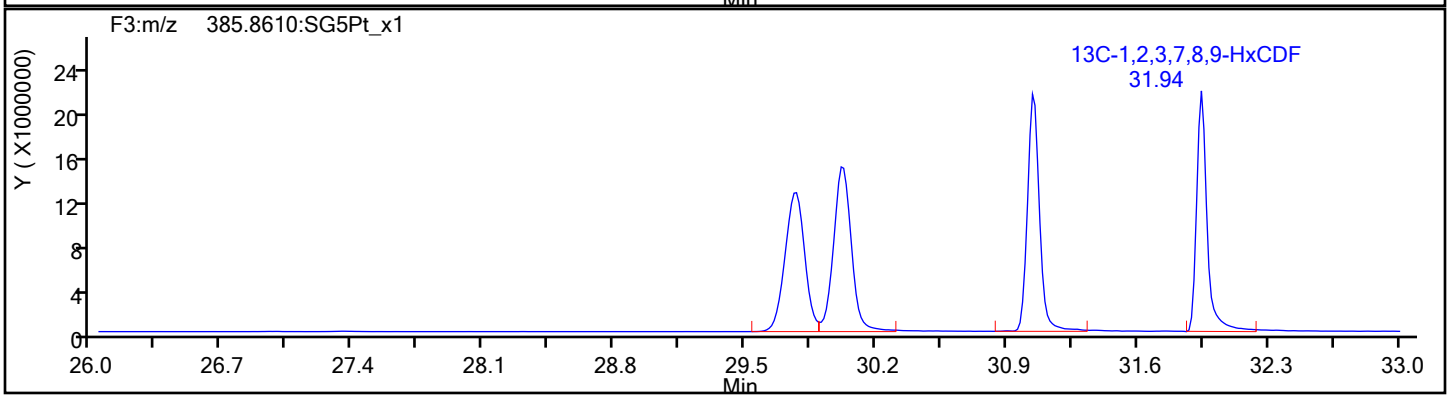

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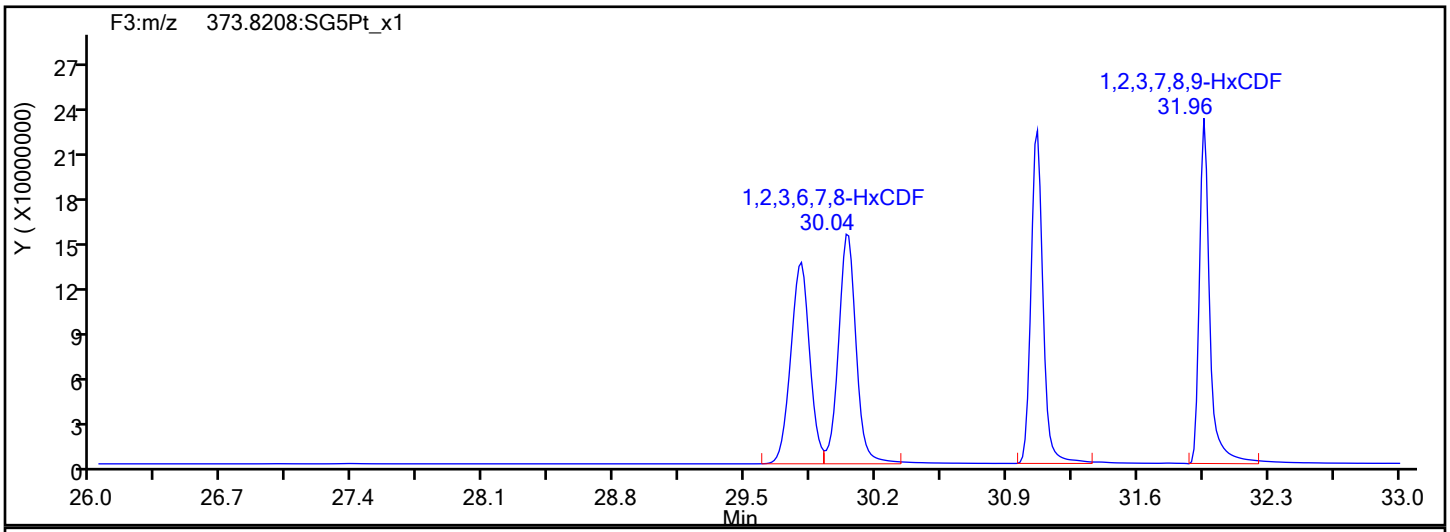

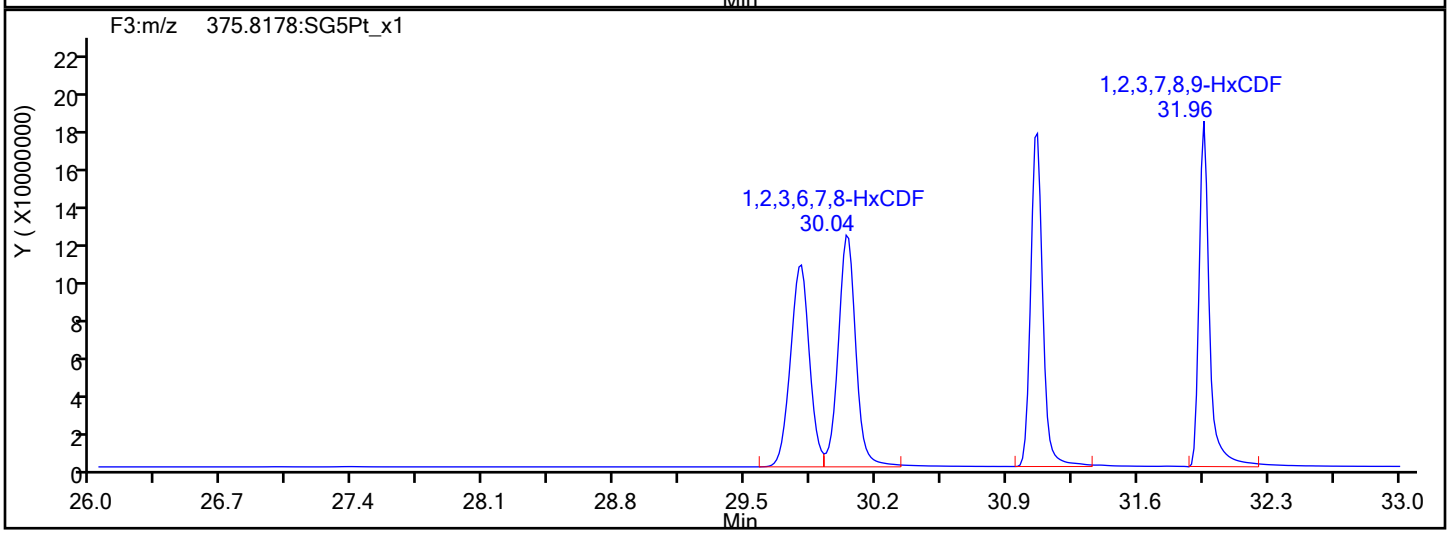

HxCDF Interference Mass

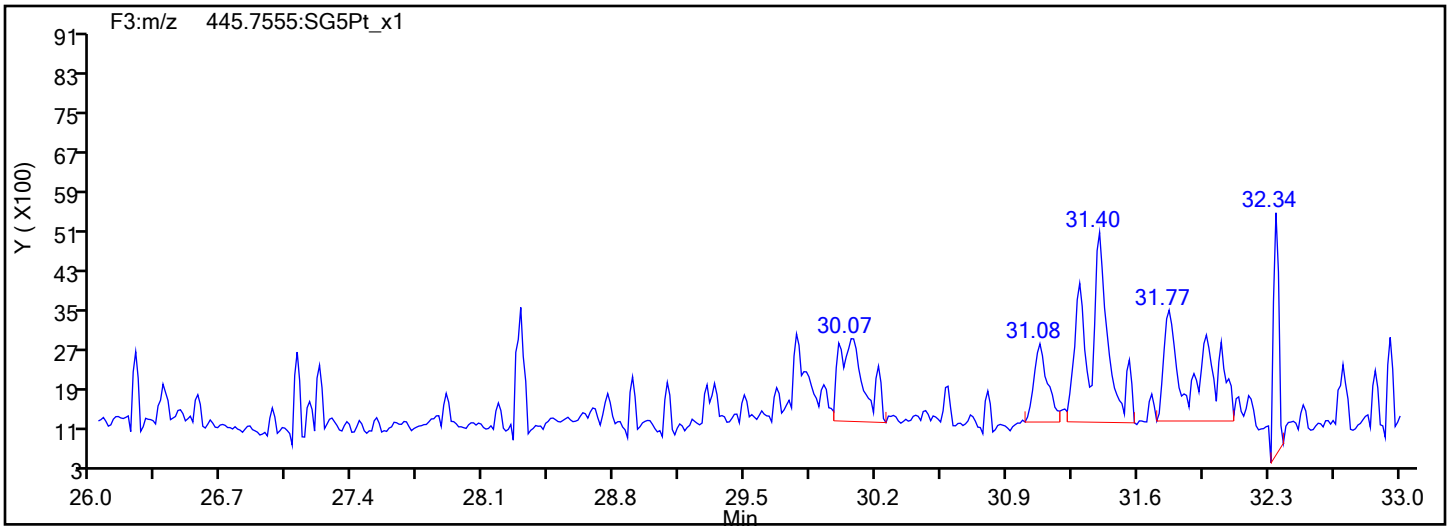

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Eurofins TestAmerica, Sacramento

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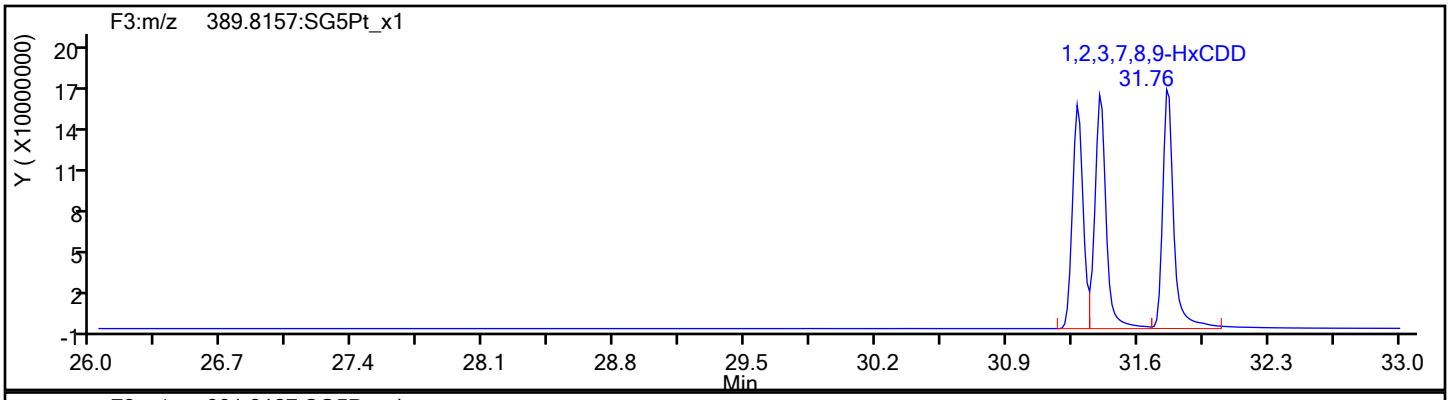

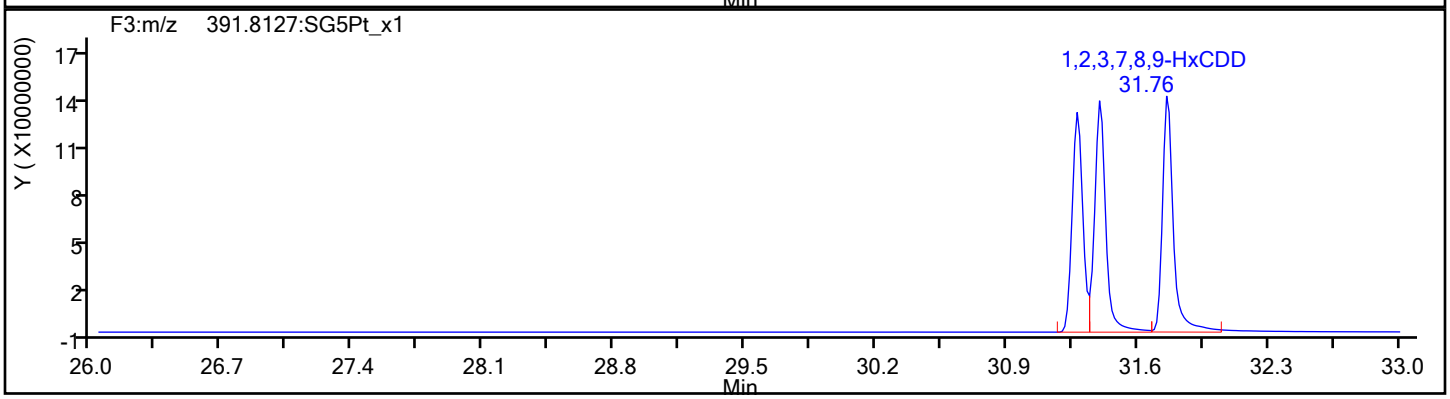

HxCDD Standards

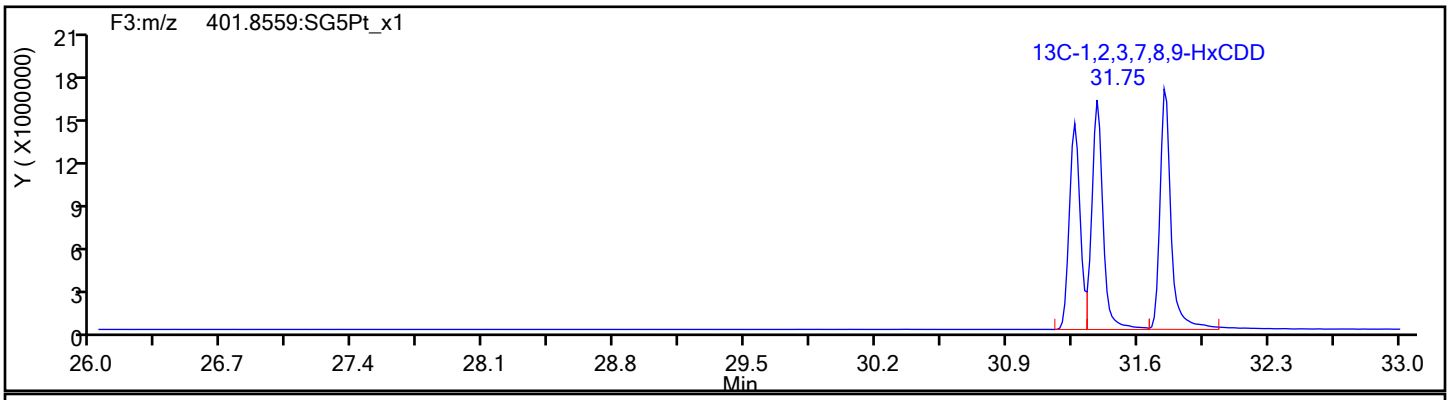

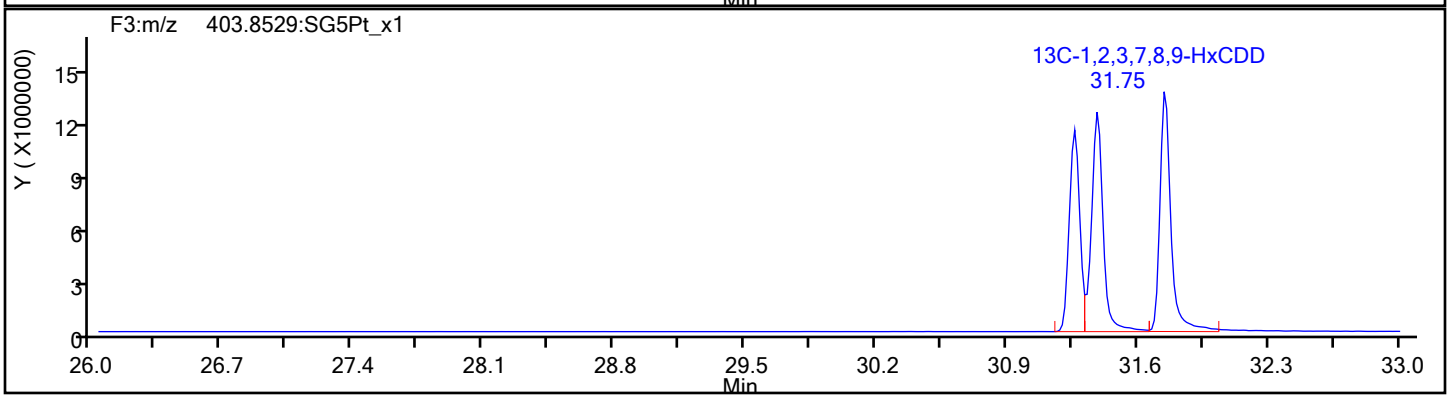

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Eurofins TestAmerica, Sacramento

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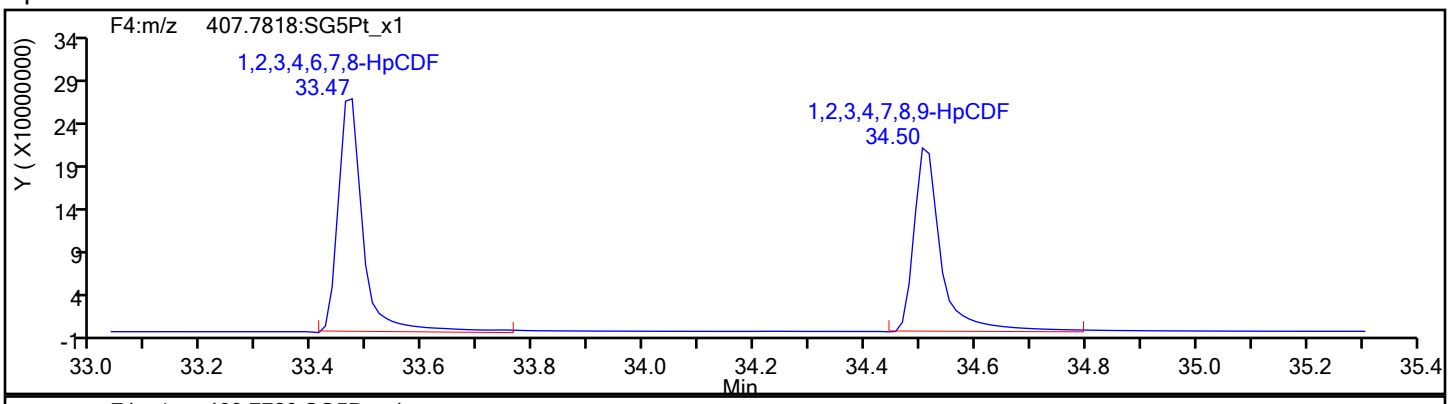

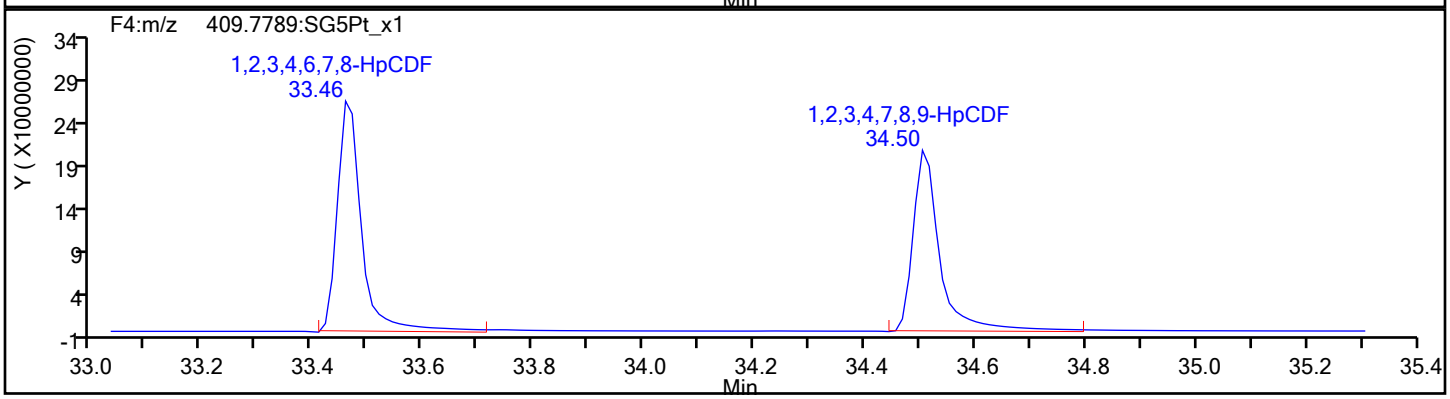

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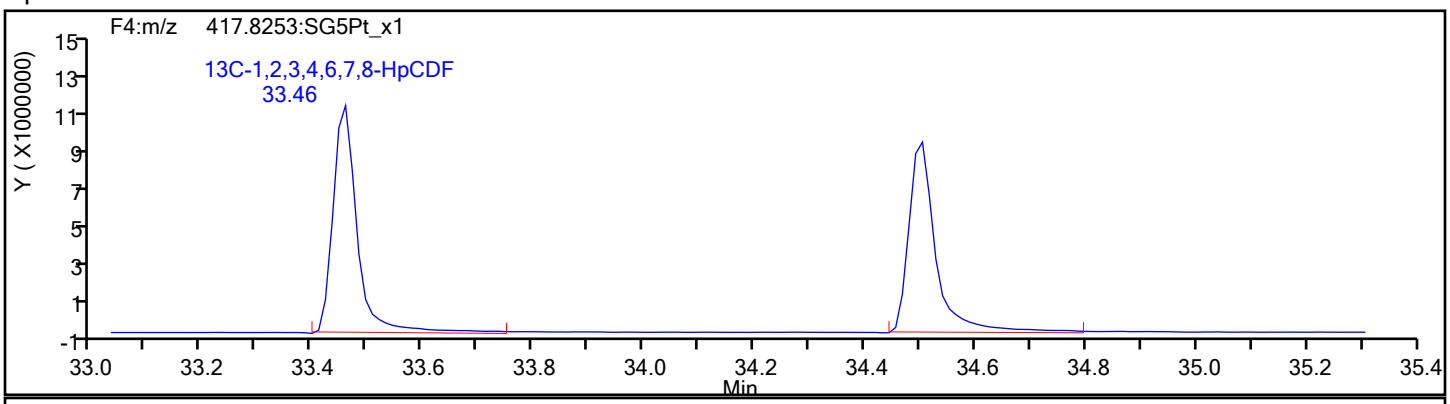

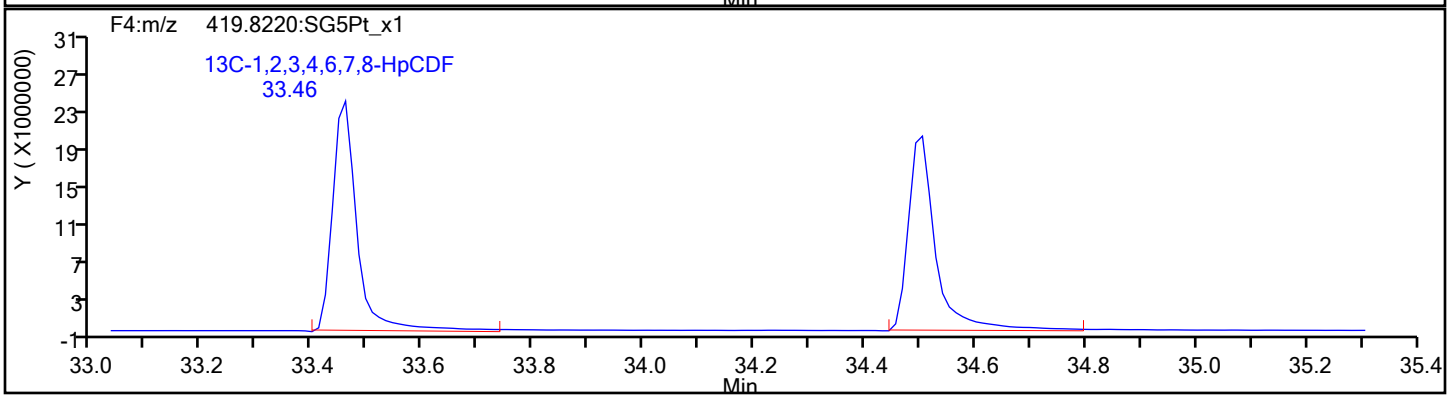

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Eurofins TestAmerica, Sacramento

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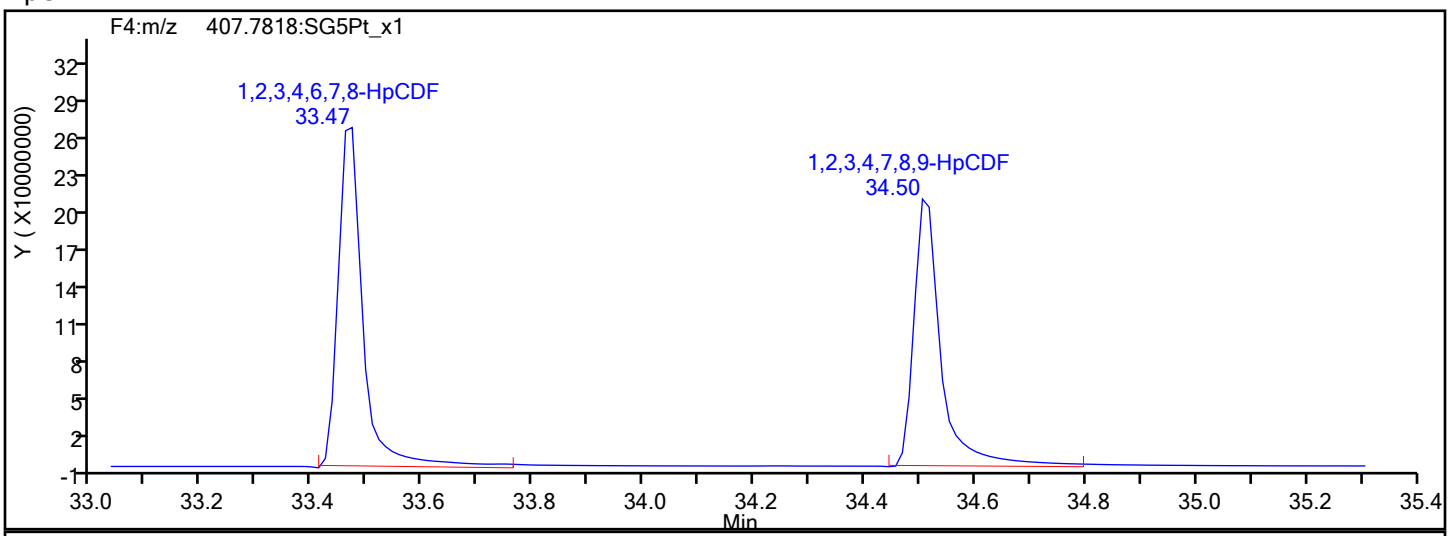

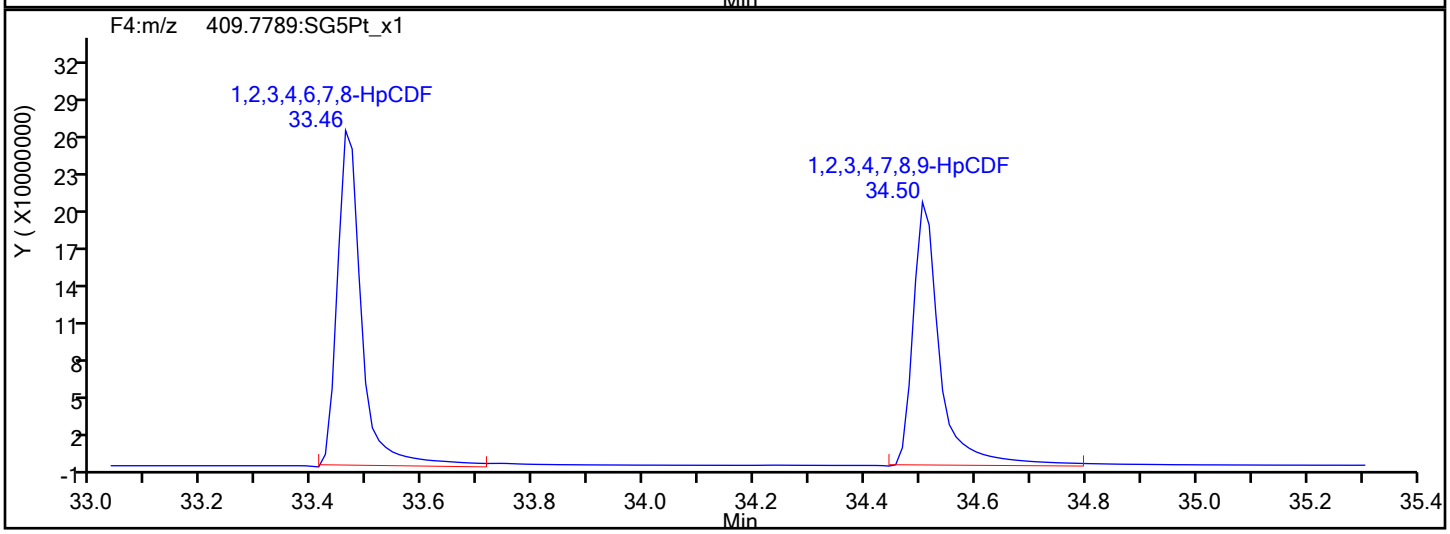

HpCDF Interference Mass

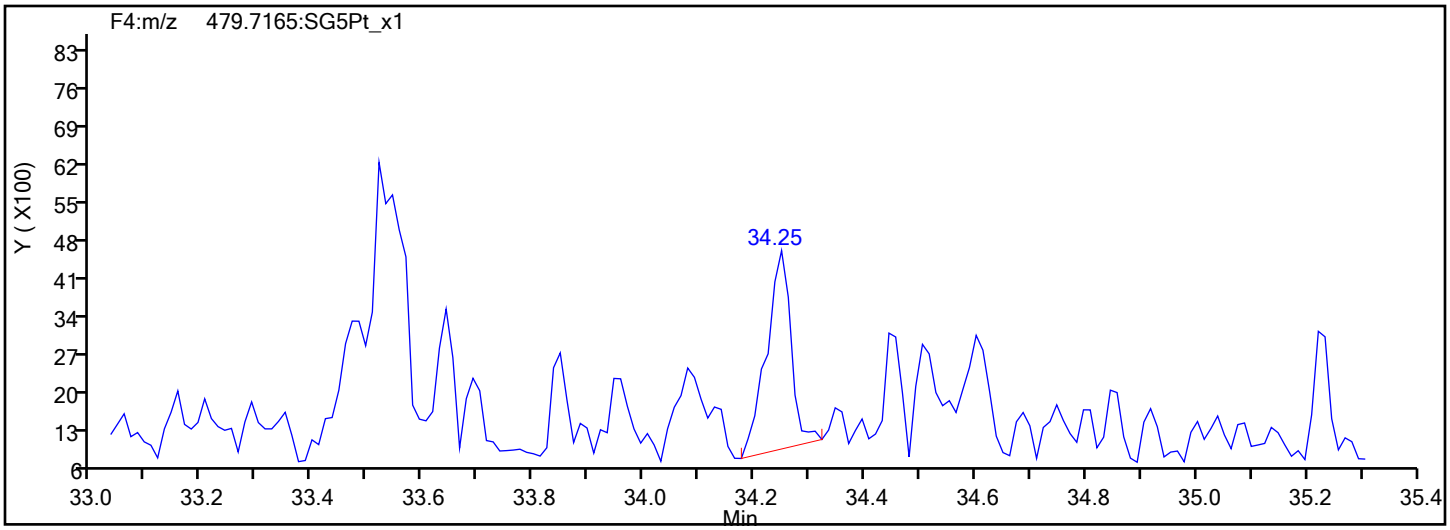

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Eurofins TestAmerica, Sacramento

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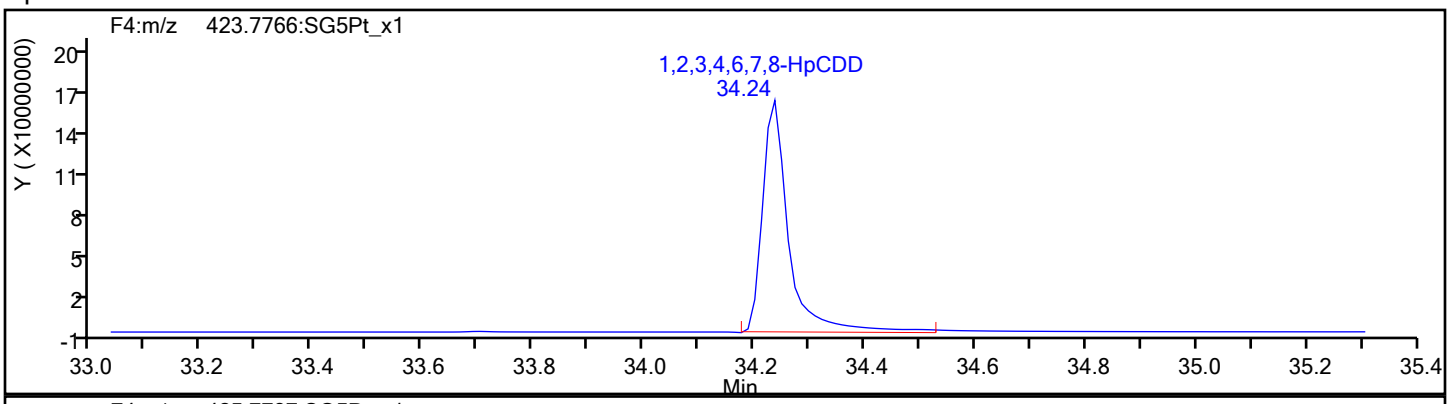

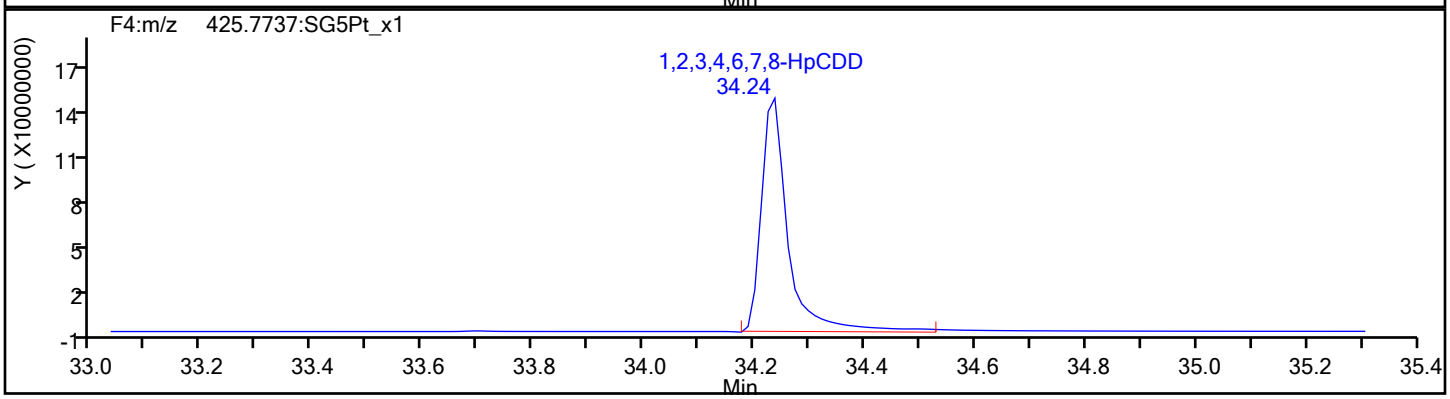

HpCDD Standards

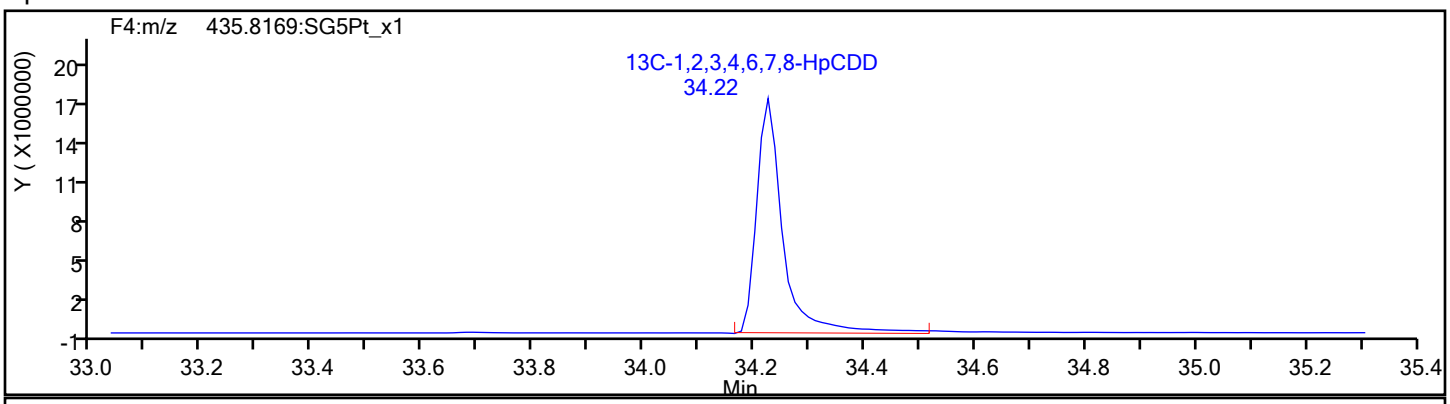

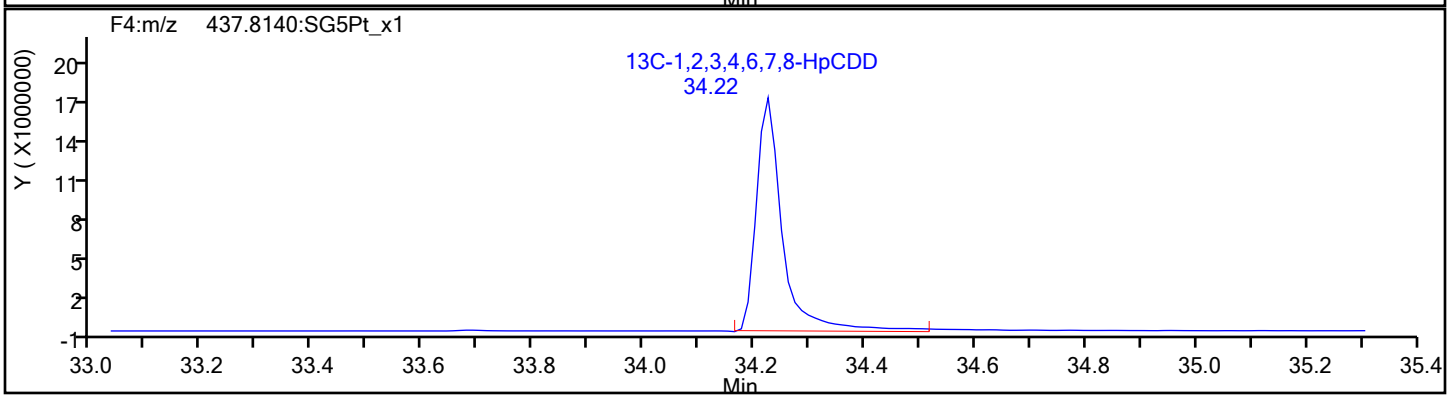

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OCDF

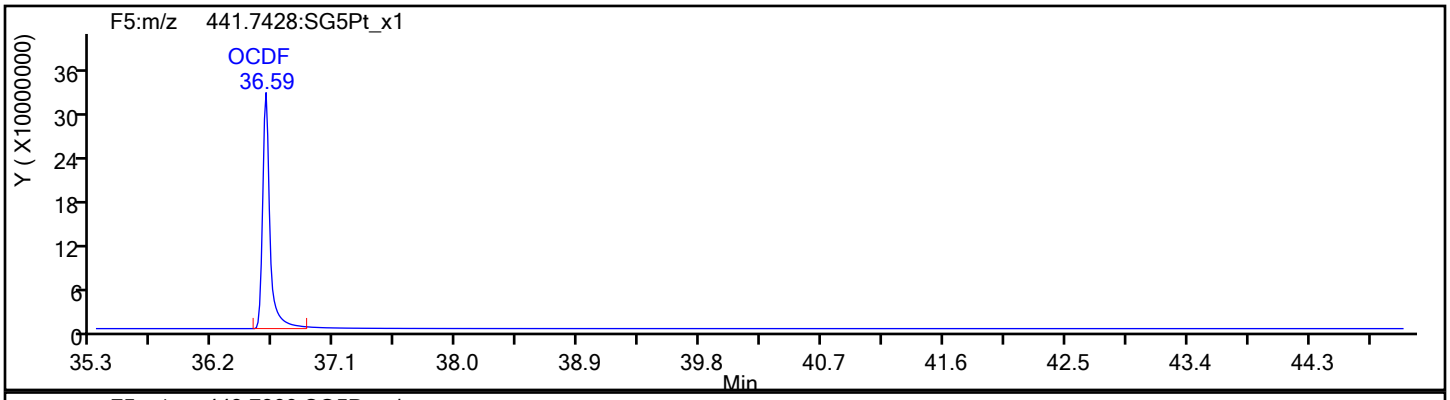

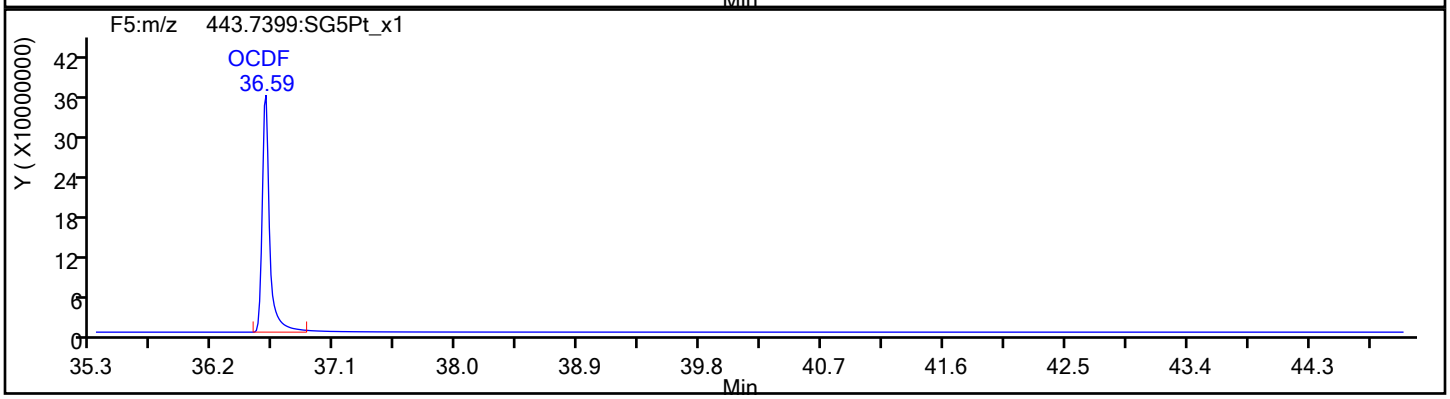

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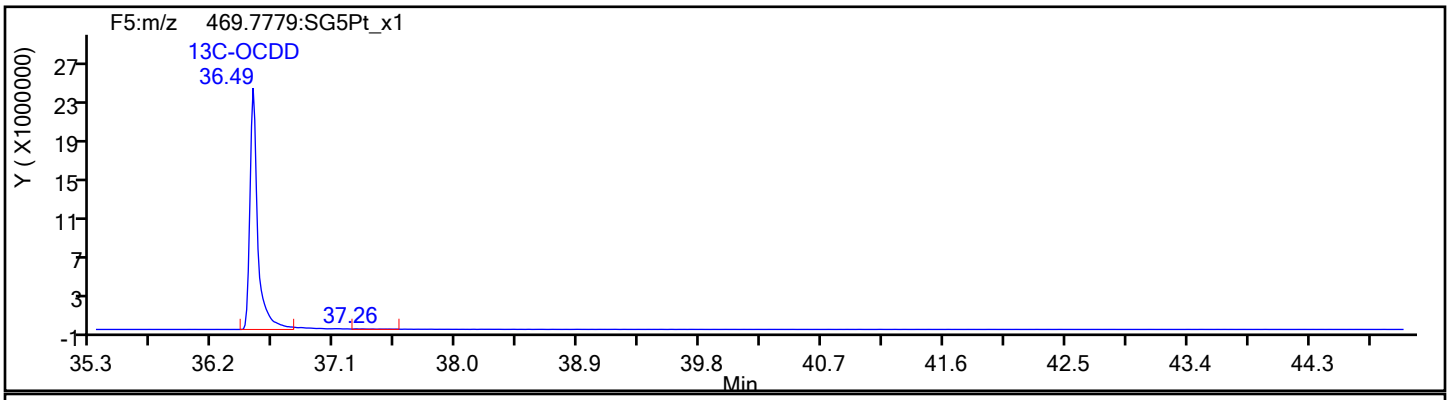

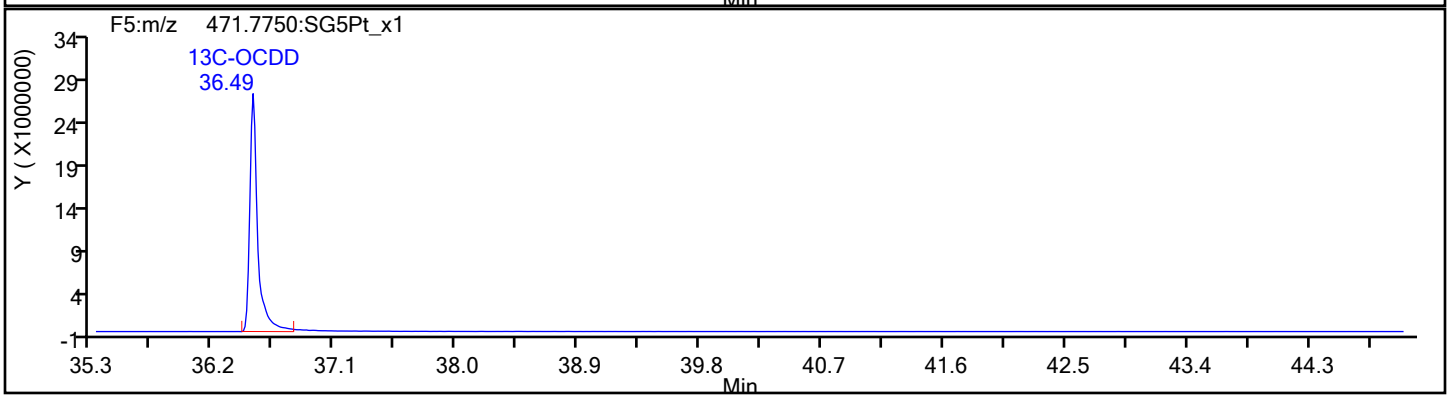

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Eurofins TestAmerica, Sacramento

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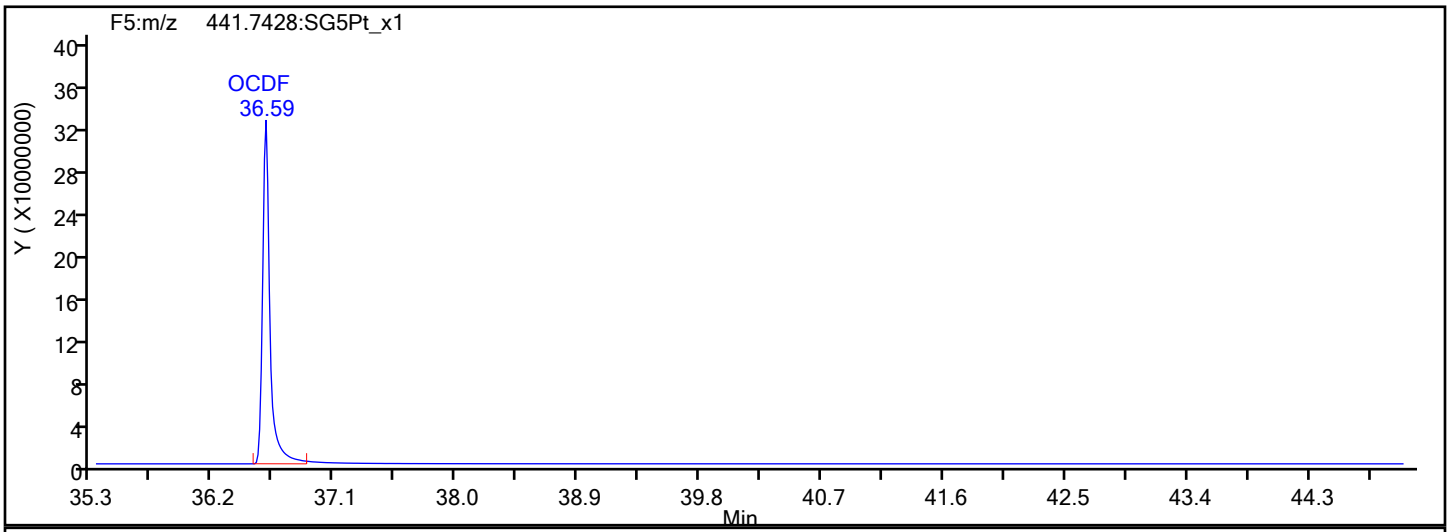

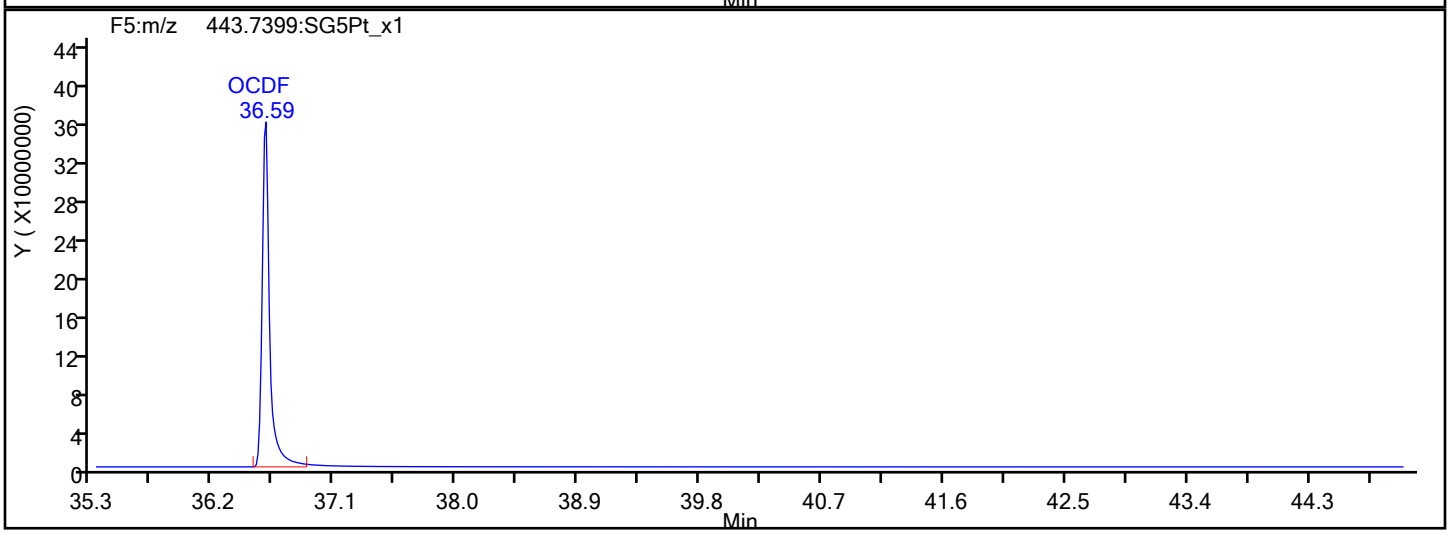

OCDF Interference Mass

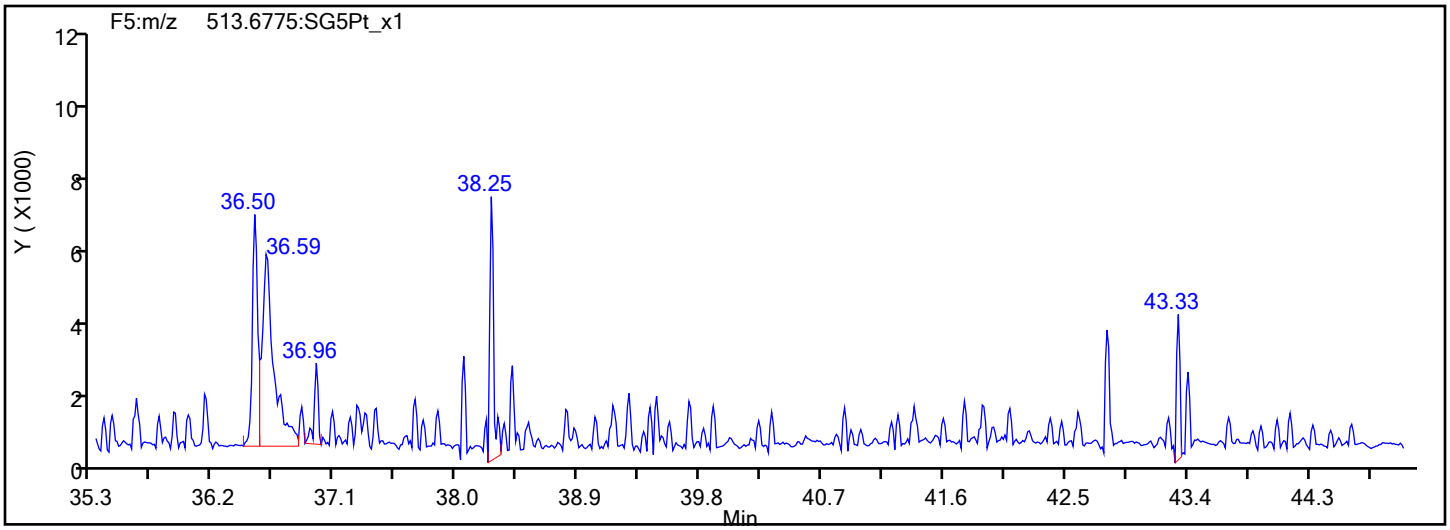

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Eurofins TestAmerica, Sacramento

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OCDD

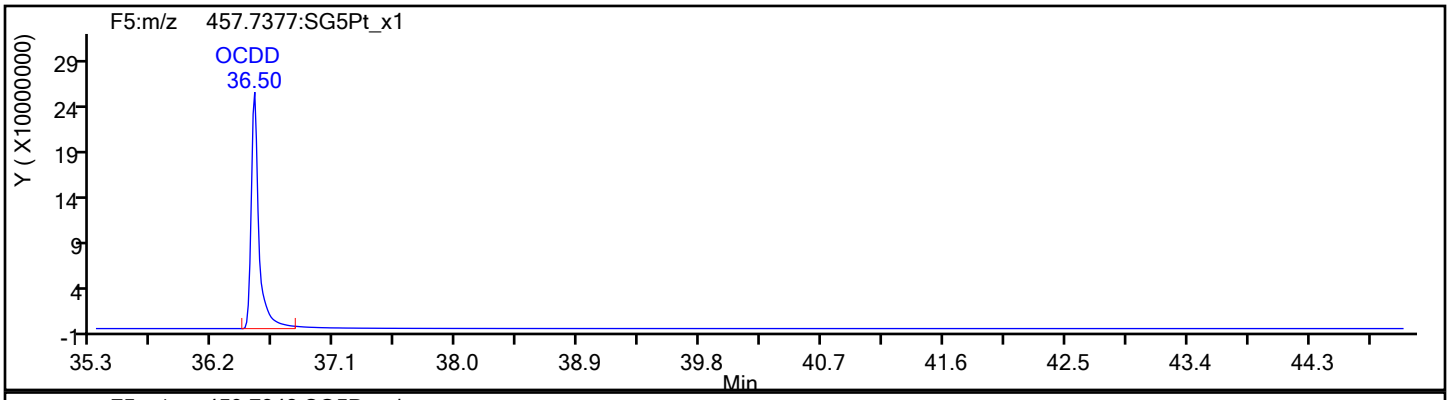

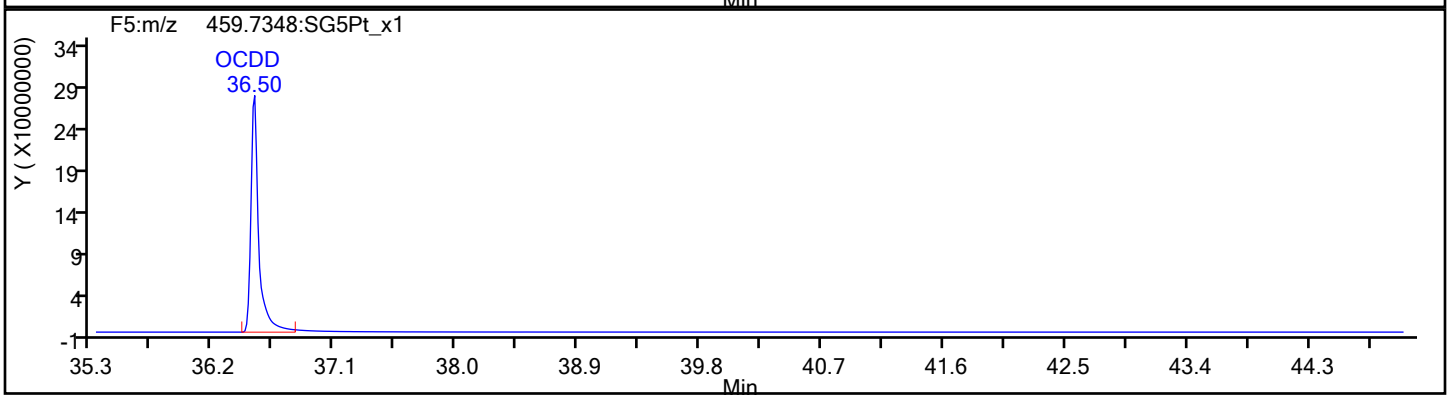

OCDD Standards

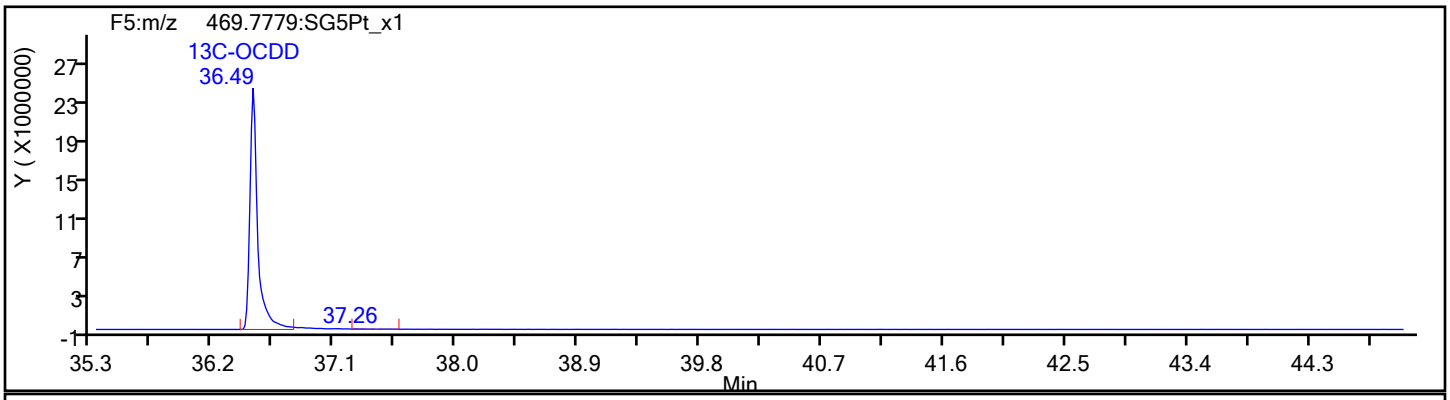

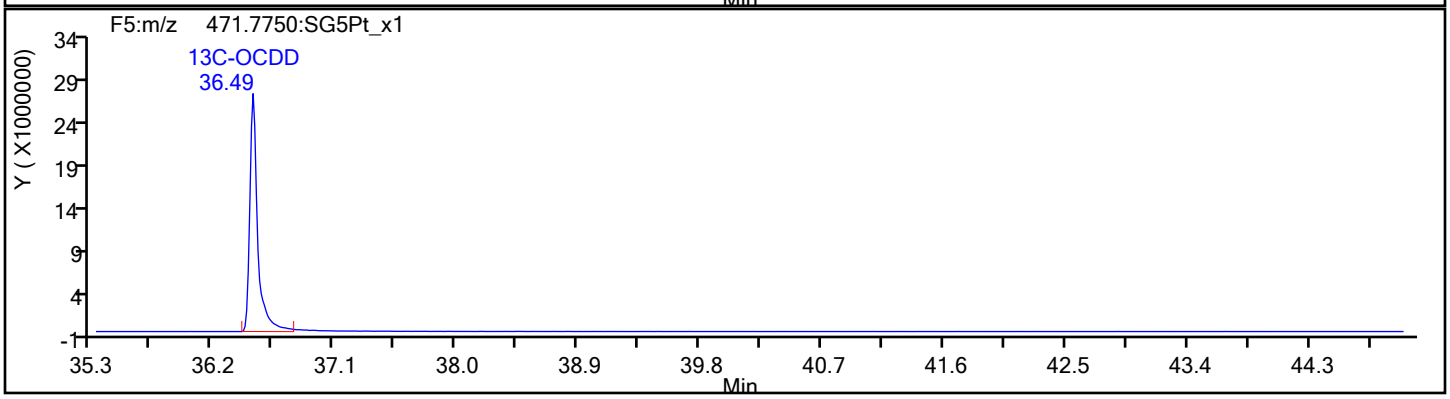

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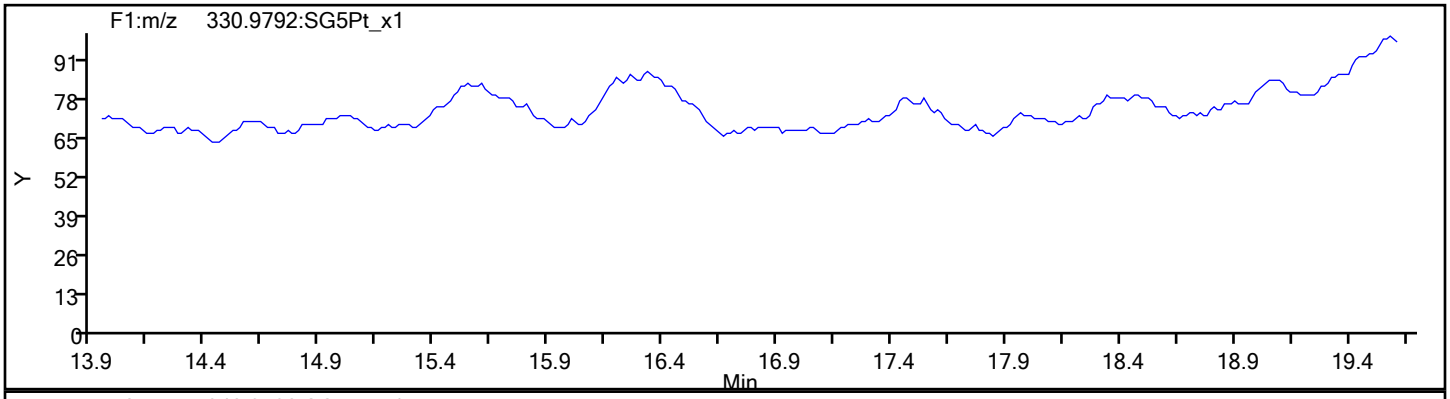

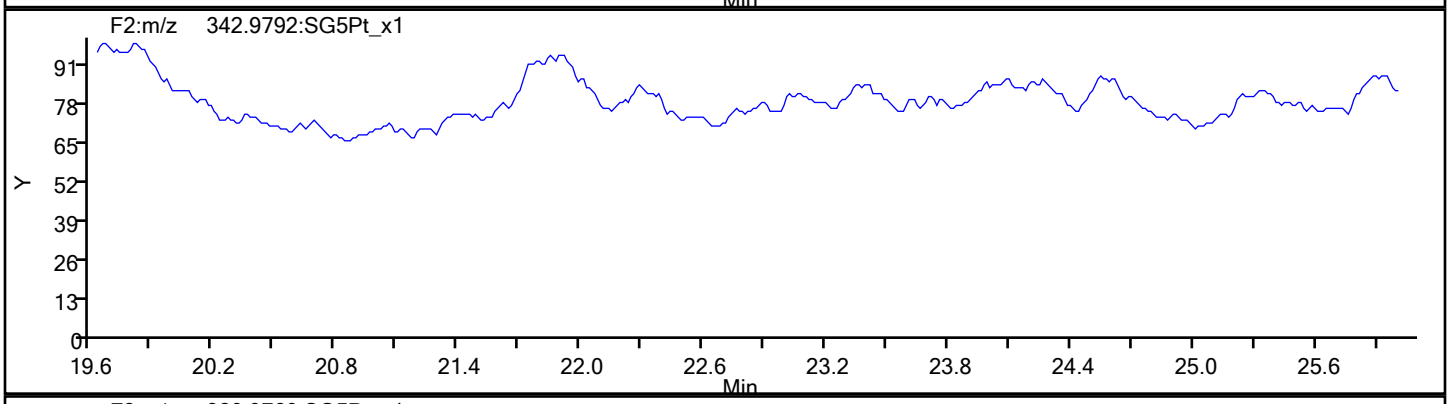

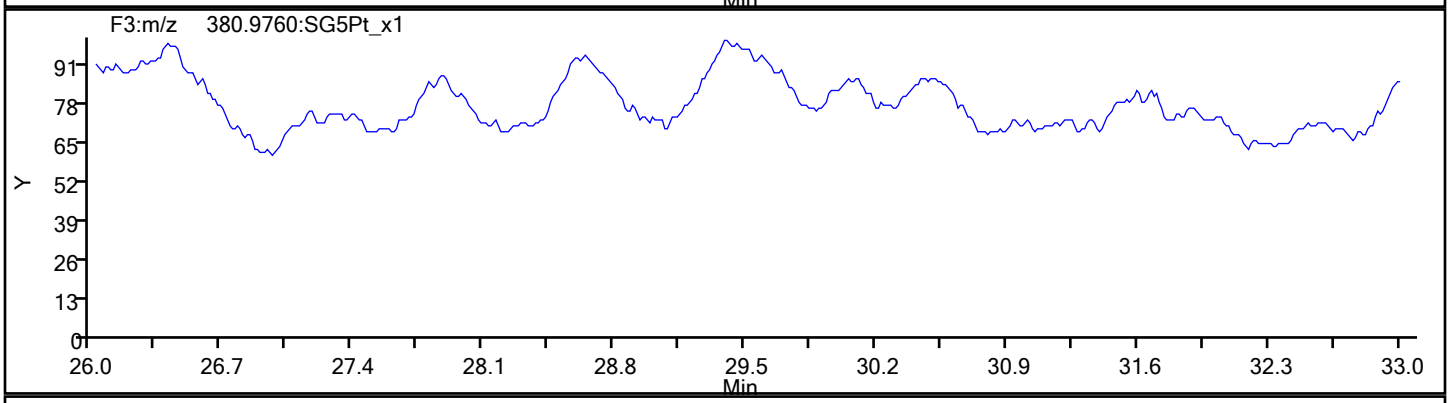

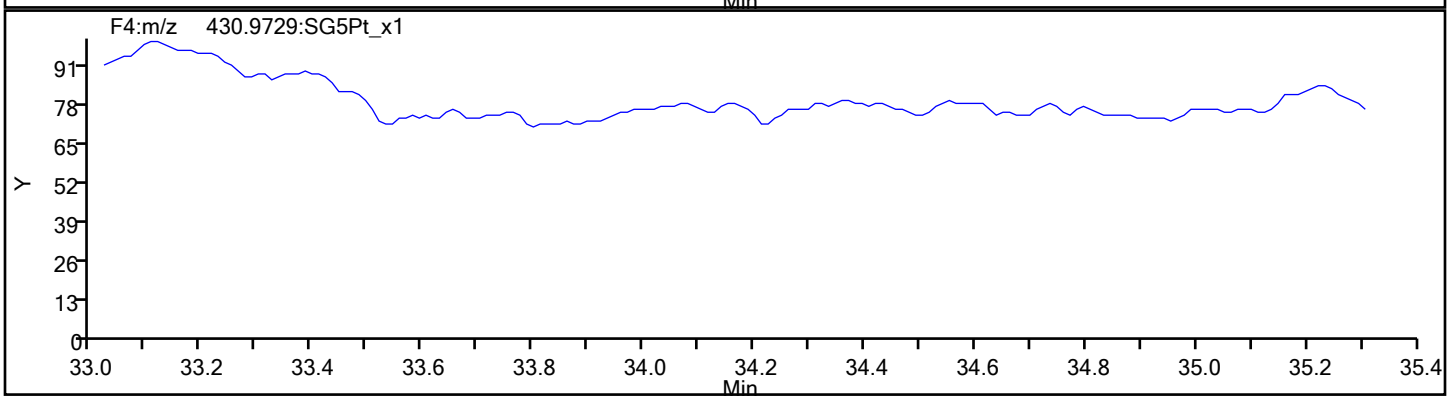

Report Date: 18-Sep-2019 10:22:53 Chrom Revision: 2.3 16-Sep-2019 16:29:24

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d		
Injection Date:	17-Sep-2019 16:55:33	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	AJS
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324128	Sample Line#:	8
Column Type:	DB-5	Column Dia:	0.32 mm

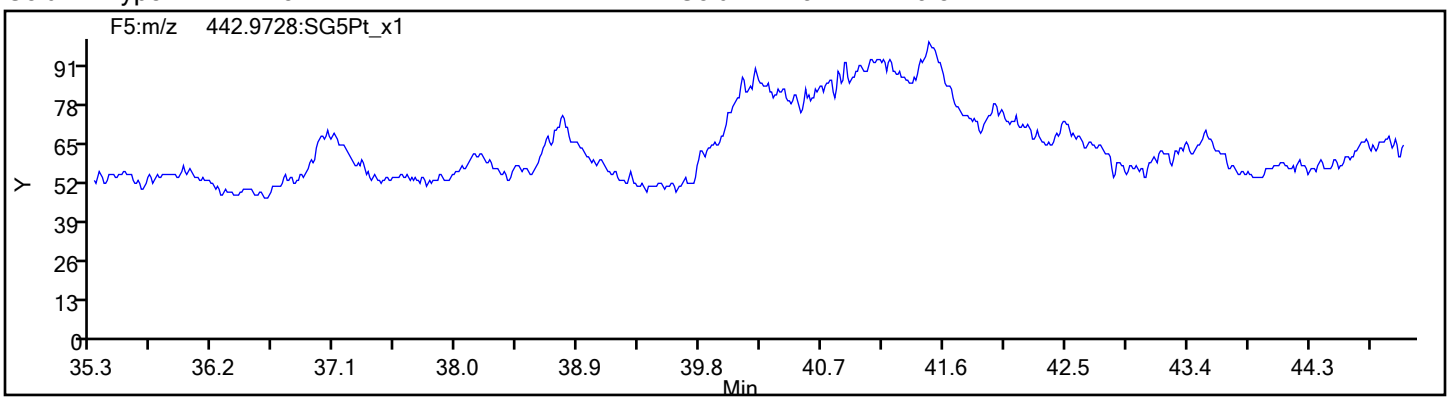

Calibration / 1,2,3,4,6,7,8-HpCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.9316

Error Coefficients

Standard Error:	523000000
Relative Standard Error:	5.9
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.124544	100.0	12148019.0	0.849818	Y
2	IC 320-324128/4	10.0	9.887454	100.0	25630510.0	0.988745	Y
3	IC 320-324128/7	50.0	45.909677	100.0	69249272.0	0.918194	Y
4	IC 320-324128/6	200.0	195.08816	100.0	90130025.0	0.975441	Y
5	IC 320-324128/8	1000.0	925.794044	100.0	111298169.0	0.925794	Y

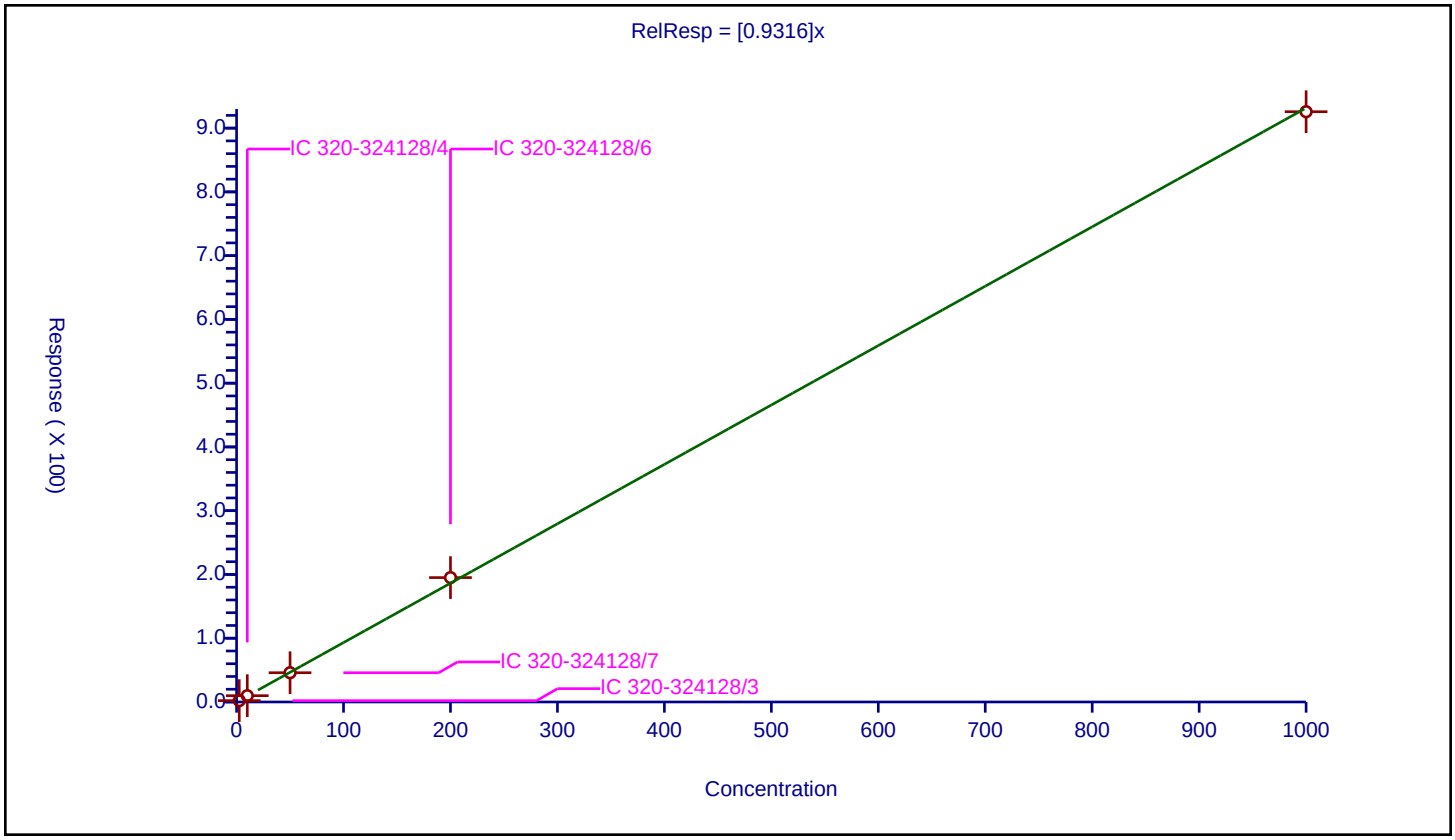

Calibration / 1,2,3,4,6,7,8-HpCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.556

Error Coefficients

Standard Error:	820000000
Relative Standard Error:	3.7
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	3.793804	100.0	12214839.0	1.517521	Y
2	IC 320-324128/4	10.0	16.415452	100.0	25015698.0	1.641545	Y
3	IC 320-324128/7	50.0	76.006177	100.0	70034446.0	1.520124	Y
4	IC 320-324128/6	200.0	317.335133	100.0	88816288.0	1.586676	Y
5	IC 320-324128/8	1000.0	1511.883696	100.0	106743815.0	1.511884	Y

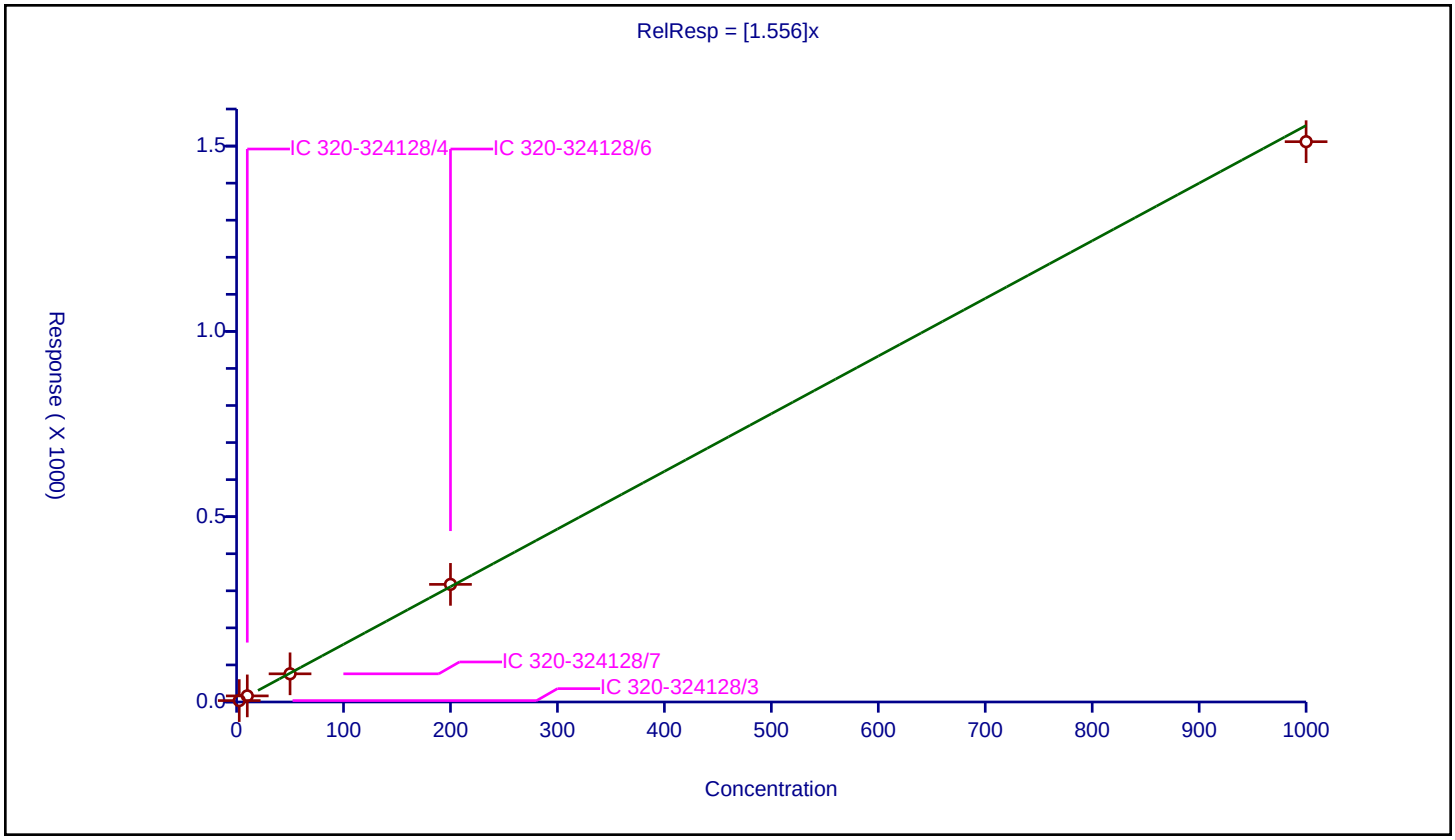

Calibration / 1,2,3,4,7,8,9-HpCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.386

Error Coefficients

Standard Error:	706000000
Relative Standard Error:	6.7
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	3.136969	100.0	11417456.0	1.254787	Y
2	IC 320-324128/4	10.0	14.795935	100.0	23641905.0	1.479594	Y
3	IC 320-324128/7	50.0	67.401124	100.0	62459777.0	1.348022	Y
4	IC 320-324128/6	200.0	294.076652	100.0	81274920.0	1.470383	Y
5	IC 320-324128/8	1000.0	1378.459208	100.0	100973962.0	1.378459	Y

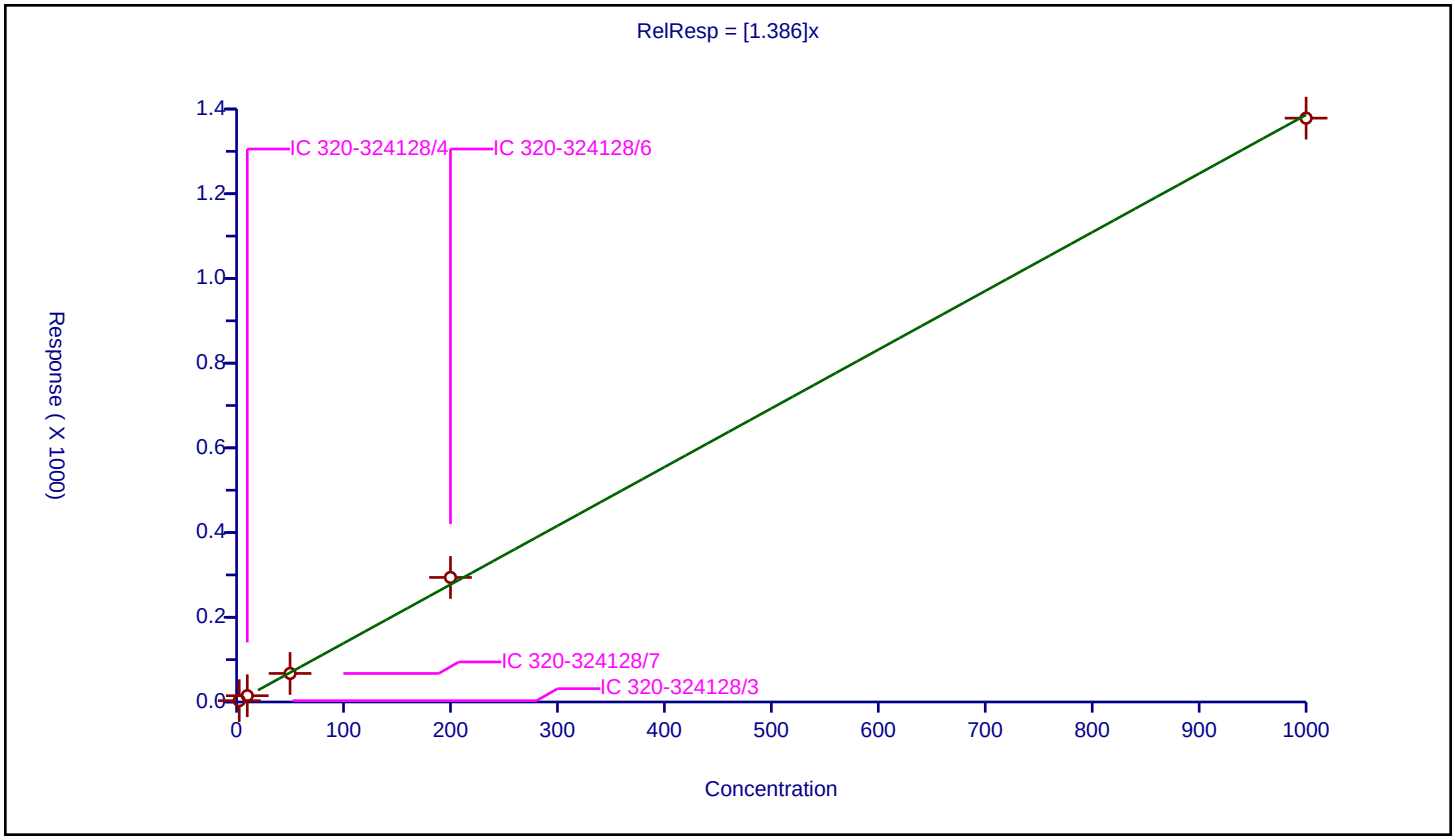

Calibration / 1,2,3,4,7,8-HxCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.109

Error Coefficients

Standard Error:	574000000
Relative Standard Error:	4.0
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.624315	100.0	10572054.0	1.049726	Y
2	IC 320-324128/4	10.0	11.313402	100.0	23739455.0	1.13134	Y
3	IC 320-324128/7	50.0	53.811098	100.0	61001305.0	1.076222	Y
4	IC 320-324128/6	200.0	231.704316	100.0	80372897.0	1.158522	Y
5	IC 320-324128/8	1000.0	1128.178019	100.0	100374877.0	1.128178	Y

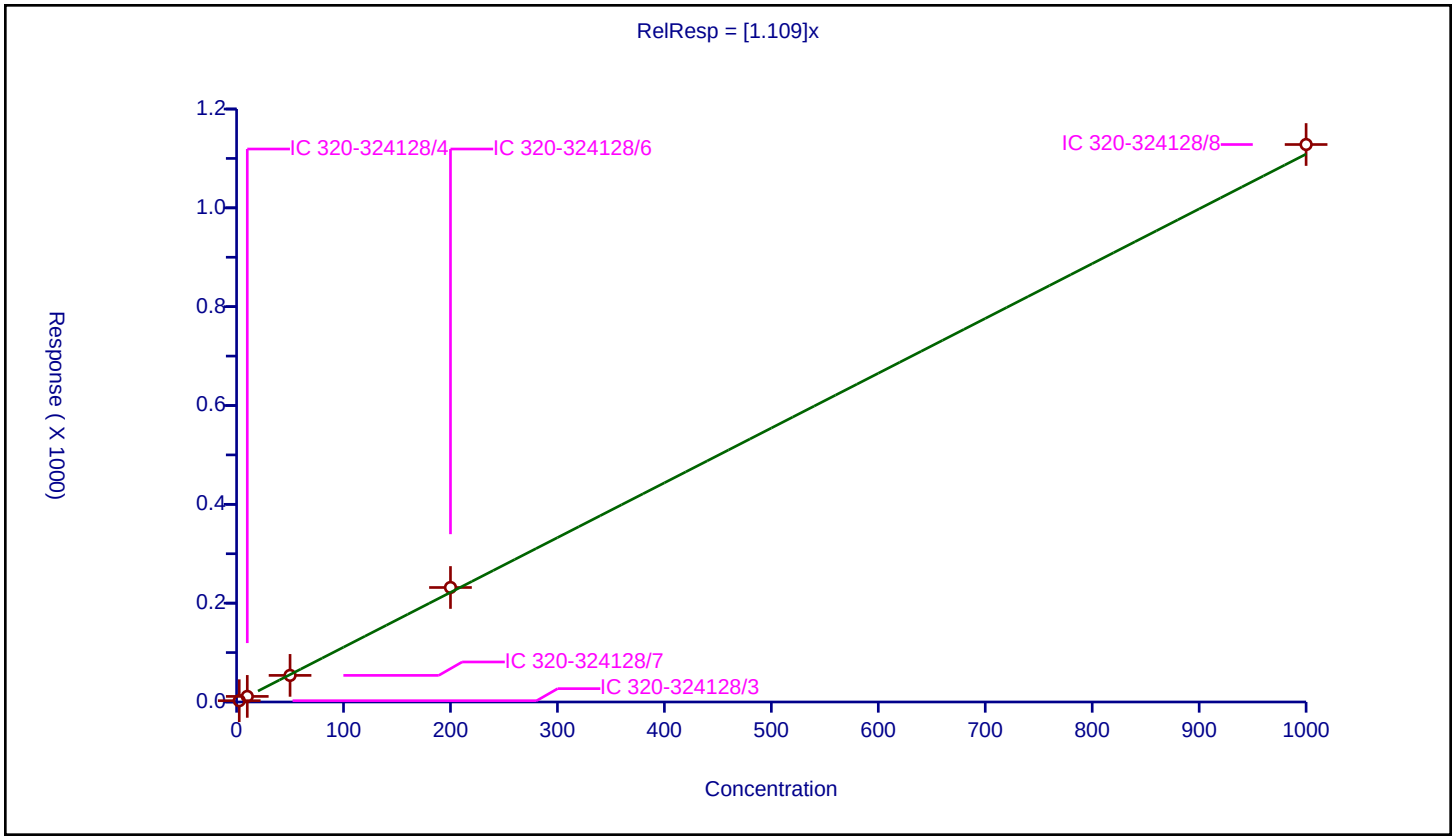

Calibration / 1,2,3,4,7,8-HxCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.197

Error Coefficients

Standard Error:	857000000
Relative Standard Error:	5.9
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.751048	100.0	16433122.0	1.100419	Y
2	IC 320-324128/4	10.0	12.643334	100.0	36418536.0	1.264333	Y
3	IC 320-324128/7	50.0	57.806584	100.0	88972191.0	1.156132	Y
4	IC 320-324128/6	200.0	252.902057	100.0	115322048.0	1.26451	Y
5	IC 320-324128/8	1000.0	1201.28113	100.0	140595624.0	1.201281	Y

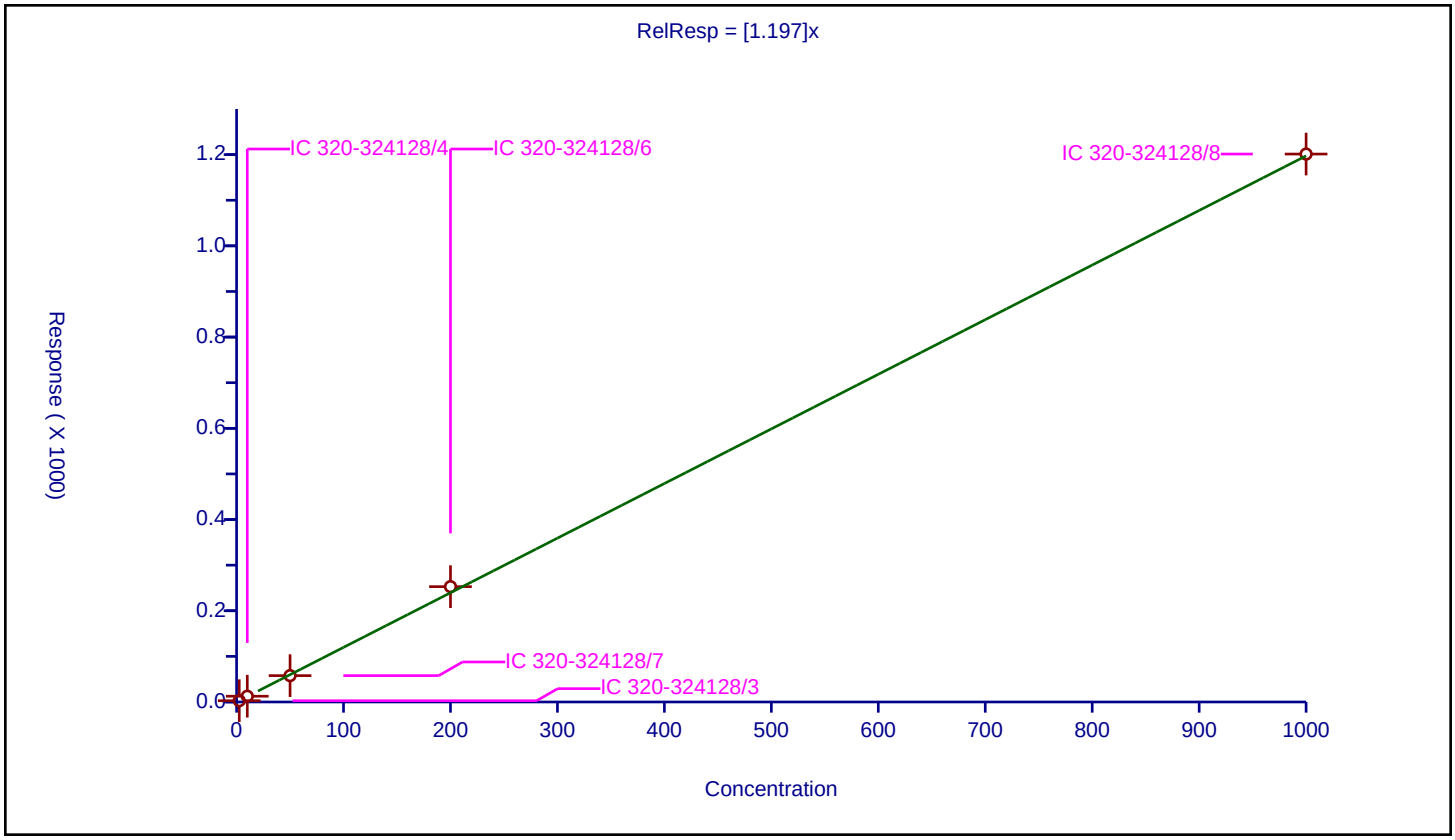

Calibration / 1,2,3,6,7,8-HxCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.081

Error Coefficients

Standard Error:	630000000
Relative Standard Error:	4.9
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.556253	100.0	12508423.0	1.022501	Y
2	IC 320-324128/4	10.0	11.525838	100.0	27633426.0	1.152584	Y
3	IC 320-324128/7	50.0	52.478256	100.0	72157657.0	1.049565	Y
4	IC 320-324128/6	200.0	223.531818	100.0	95002970.0	1.117659	Y
5	IC 320-324128/8	1000.0	1064.760649	100.0	116499868.0	1.064761	Y

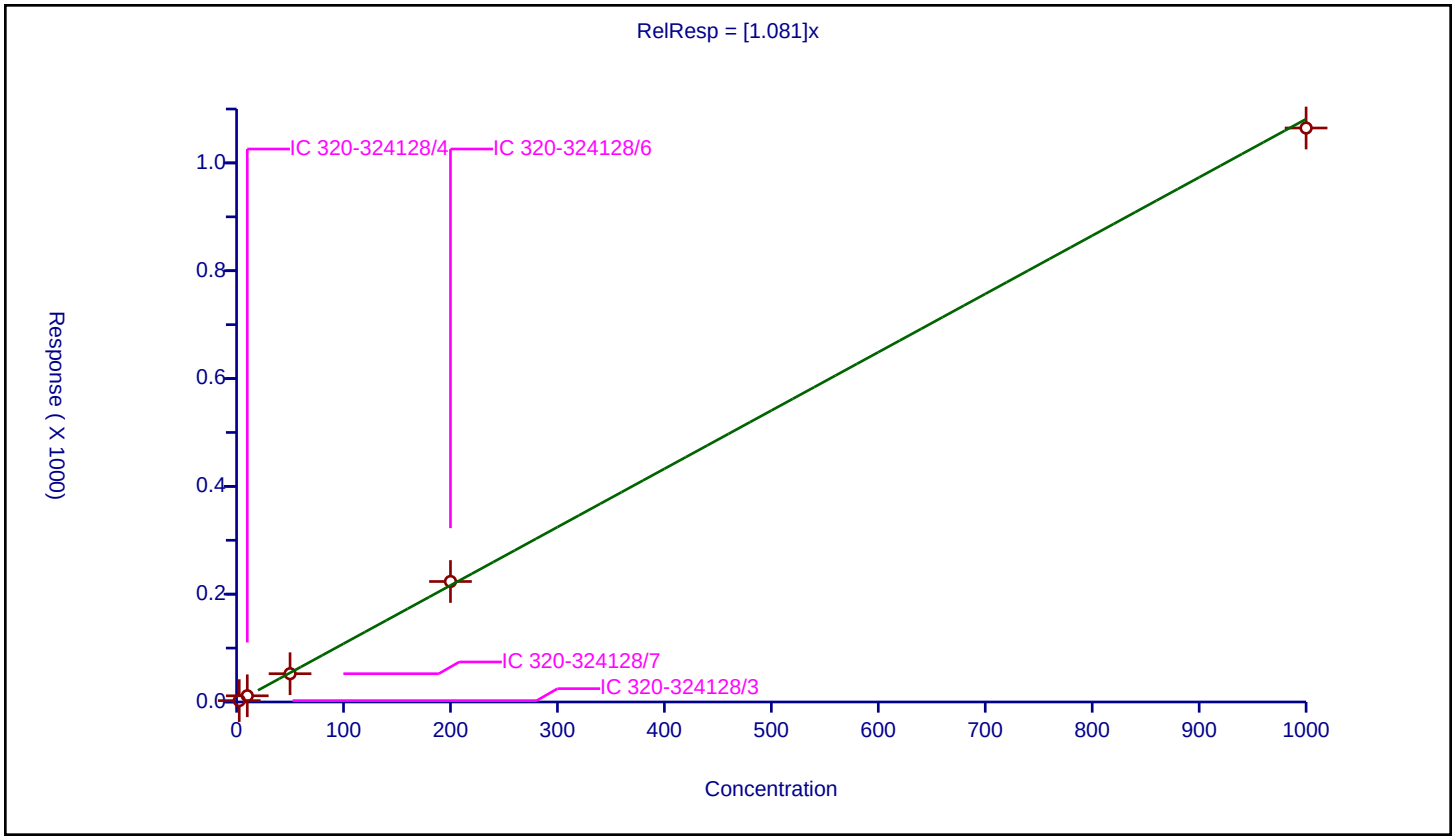

Calibration / 1,2,3,6,7,8-HxCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.181

Error Coefficients

Standard Error:	909000000
Relative Standard Error:	6.6
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.667131	100.0	17668349.0	1.066852	Y
2	IC 320-324128/4	10.0	12.704364	100.0	38486861.0	1.270436	Y
3	IC 320-324128/7	50.0	57.669759	100.0	97064883.0	1.153395	Y
4	IC 320-324128/6	200.0	246.681655	100.0	126224651.0	1.233408	Y
5	IC 320-324128/8	1000.0	1179.211783	100.0	151833452.0	1.179212	Y

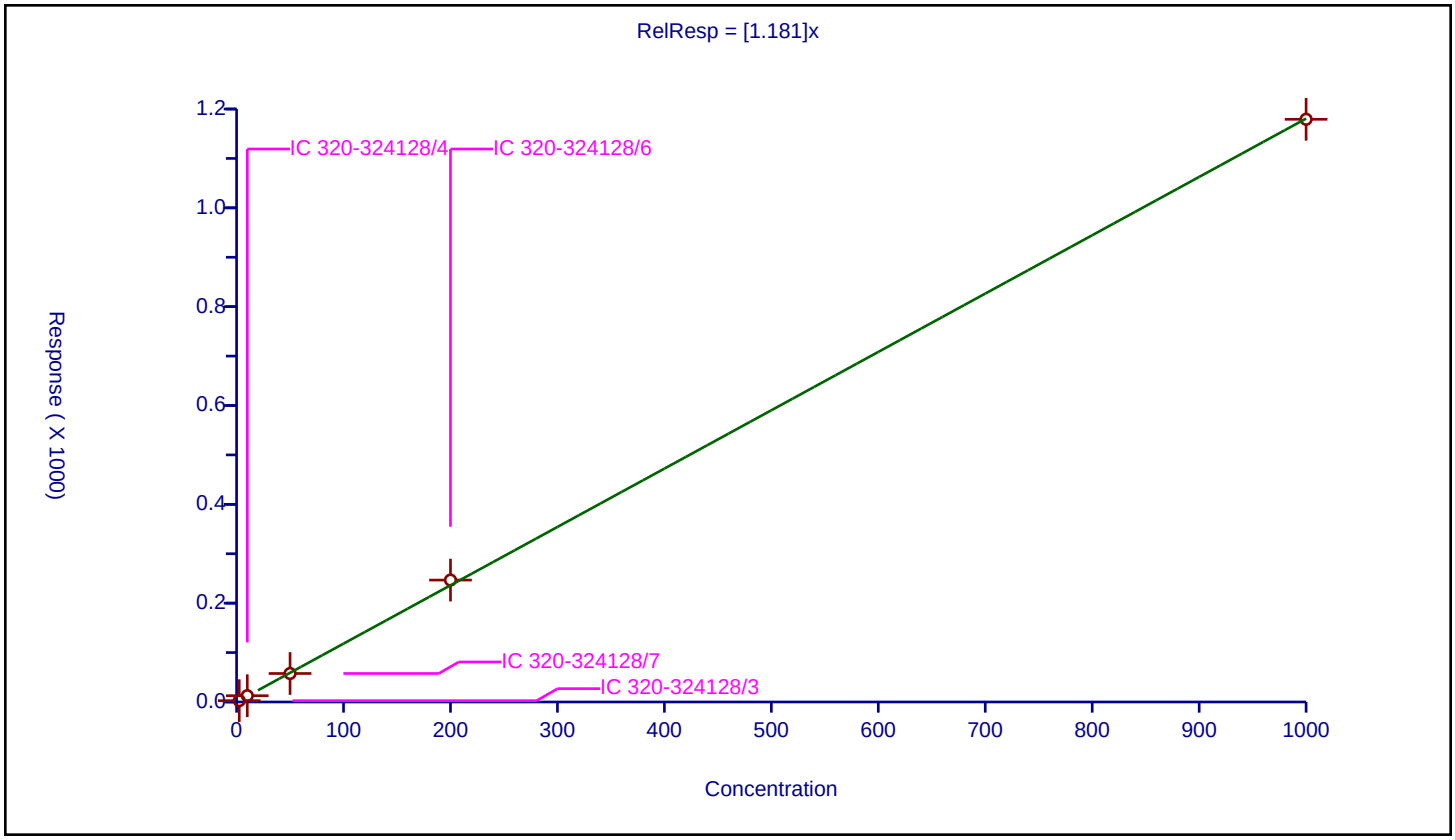

Calibration / 1,2,3,7,8,9-HxCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.318

Error Coefficients

Standard Error:	639000000
Relative Standard Error:	5.4
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	3.149823	100.0	10572054.0	1.259929	Y
2	IC 320-324128/4	10.0	14.21552	100.0	23739455.0	1.421552	Y
3	IC 320-324128/7	50.0	64.86943	100.0	61001305.0	1.297389	Y
4	IC 320-324128/6	200.0	271.297093	100.0	80372897.0	1.356485	Y
5	IC 320-324128/8	1000.0	1254.773605	100.0	100374877.0	1.254774	Y

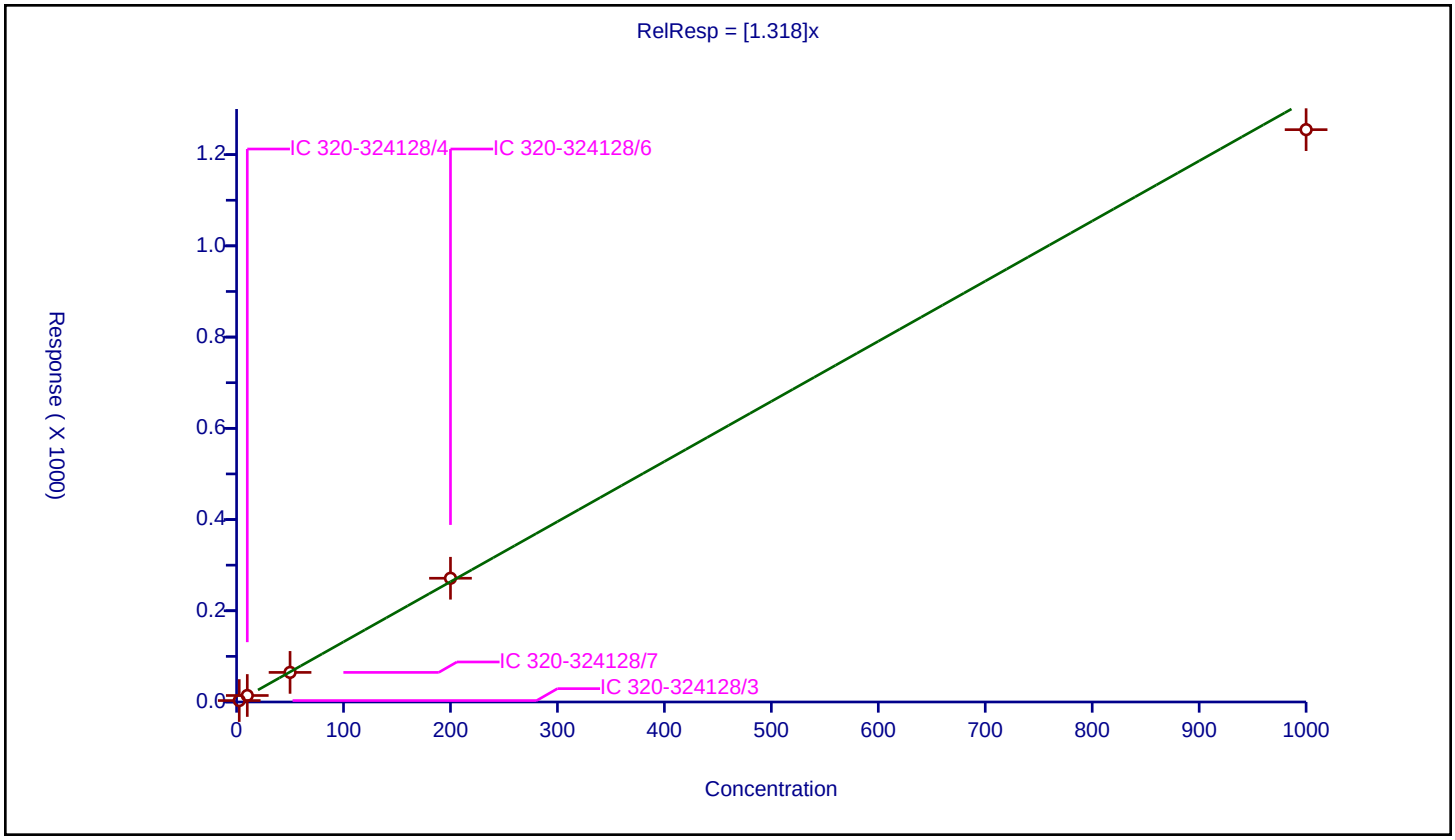

Calibration / 1,2,3,7,8,9-HxCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.245

Error Coefficients

Standard Error:	802000000
Relative Standard Error:	3.0
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	3.063166	100.0	15096147.0	1.225266	Y
2	IC 320-324128/4	10.0	12.975655	100.0	33293009.0	1.297566	Y
3	IC 320-324128/7	50.0	60.502108	100.0	83967924.0	1.210042	Y
4	IC 320-324128/6	200.0	254.314863	100.0	107073331.0	1.271574	Y
5	IC 320-324128/8	1000.0	1221.183573	100.0	129353689.0	1.221184	Y

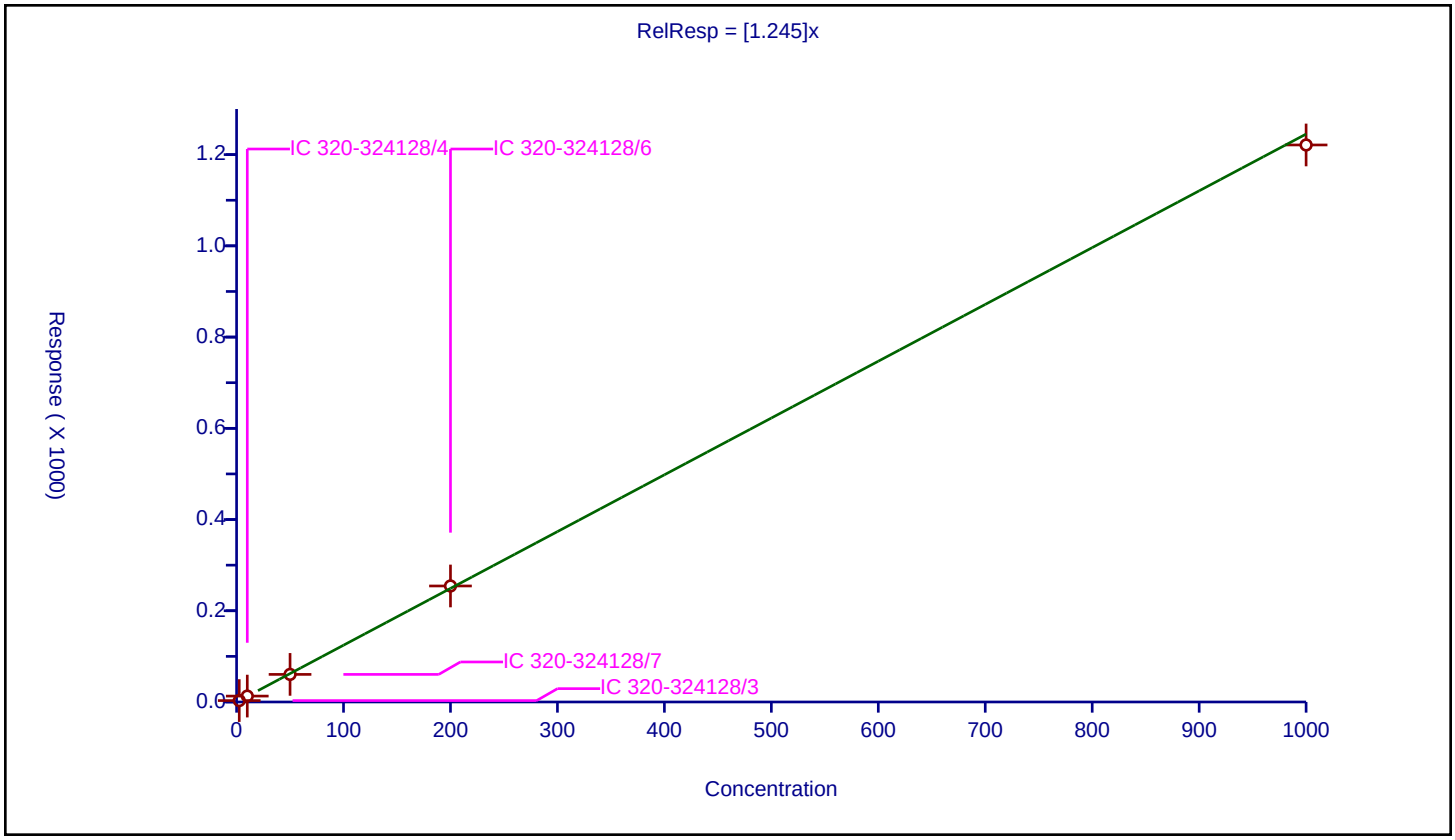

Calibration / 1,2,3,7,8-PeCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	0.905

Error Coefficients

Standard Error:	590000000
Relative Standard Error:	4.8
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.148594	100.0	15668897.0	0.859438	Y
2	IC 320-324128/4	10.0	9.575806	100.0	33098301.0	0.957581	Y
3	IC 320-324128/7	50.0	43.349327	100.0	84755636.0	0.866987	Y
4	IC 320-324128/6	200.0	188.20818	100.0	108225317.0	0.941041	Y
5	IC 320-324128/8	1000.0	900.148235	100.0	129152474.0	0.900148	Y

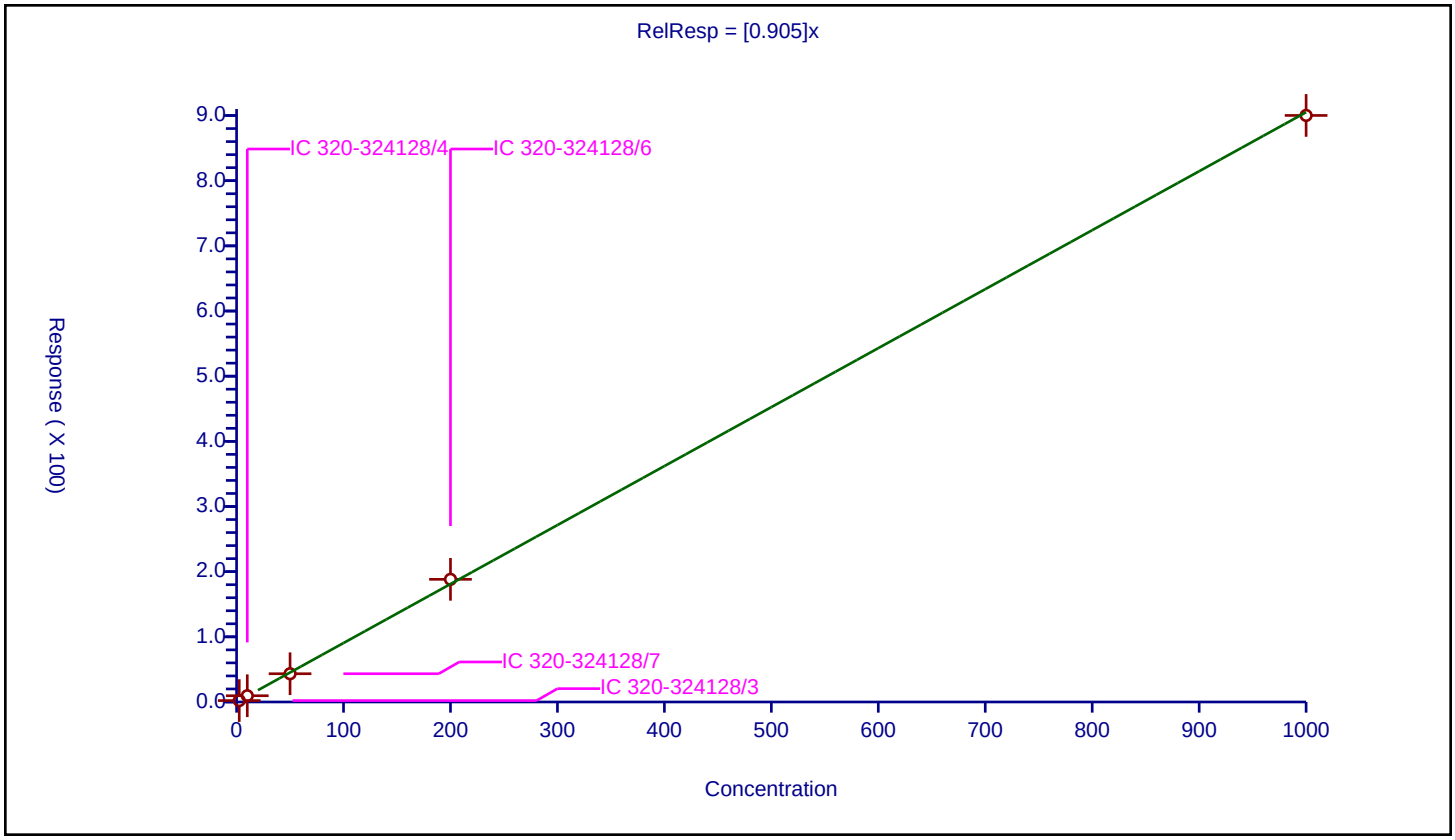

Calibration / 1,2,3,7,8-PeCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.082

Error Coefficients

Standard Error:	938000000
Relative Standard Error:	6.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.502683	100.0	22013977.0	1.001073	Y
2	IC 320-324128/4	10.0	11.601265	100.0	46755351.0	1.160126	Y
3	IC 320-324128/7	50.0	52.158277	100.0	117067384.0	1.043166	Y
4	IC 320-324128/6	200.0	226.621934	100.0	146707284.0	1.13311	Y
5	IC 320-324128/8	1000.0	1073.749438	100.0	171862914.0	1.073749	Y

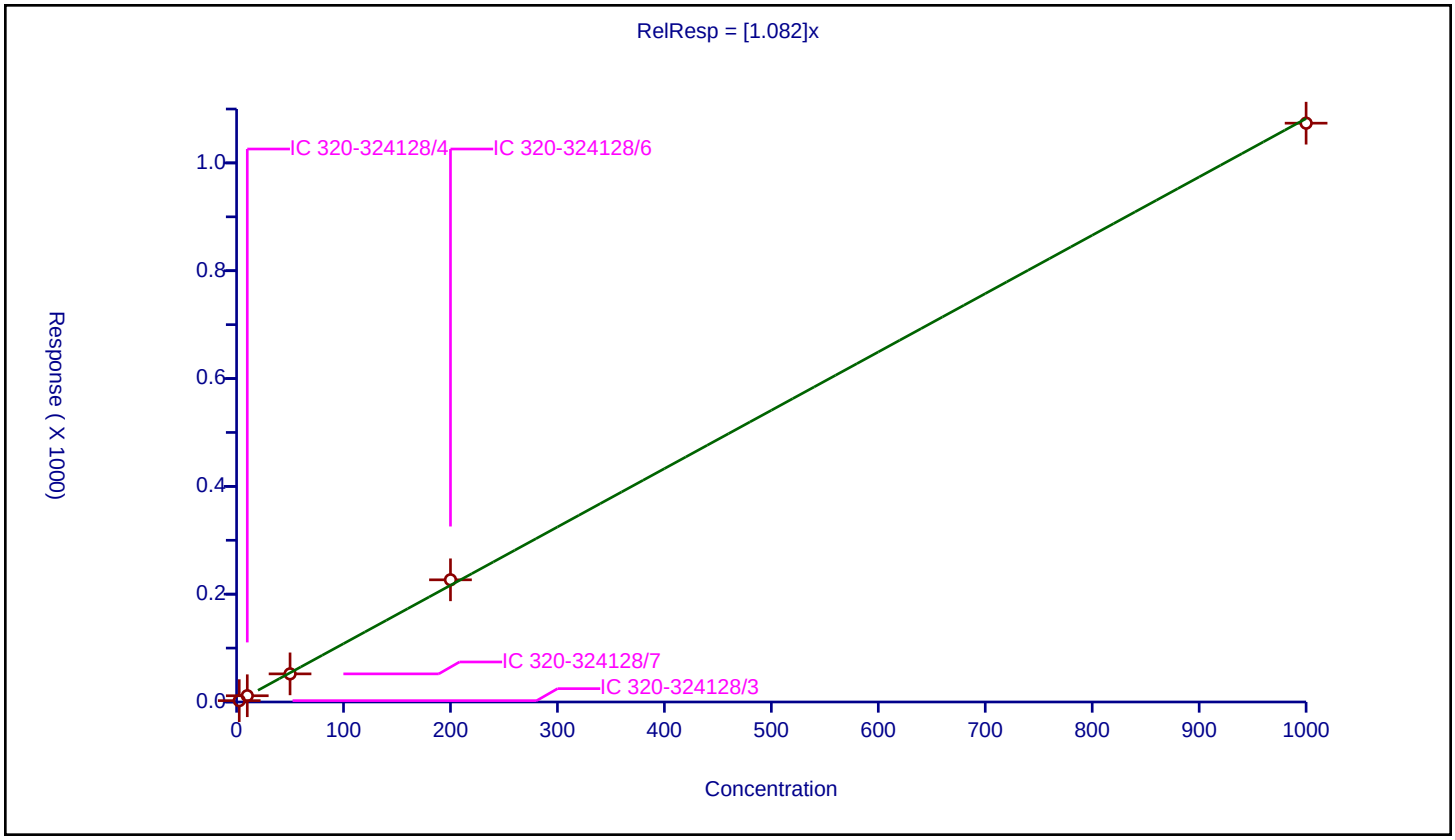

Calibration / 2,3,4,6,7,8-HxCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.212

Error Coefficients

Standard Error:	900000000
Relative Standard Error:	4.7
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.831839	100.0	16591902.0	1.132736	Y
2	IC 320-324128/4	10.0	12.683235	100.0	35886090.0	1.268323	Y
3	IC 320-324128/7	50.0	59.276675	100.0	90467566.0	1.185533	Y
4	IC 320-324128/6	200.0	253.147566	100.0	118677202.0	1.265738	Y
5	IC 320-324128/8	1000.0	1205.597186	100.0	147071003.0	1.205597	Y

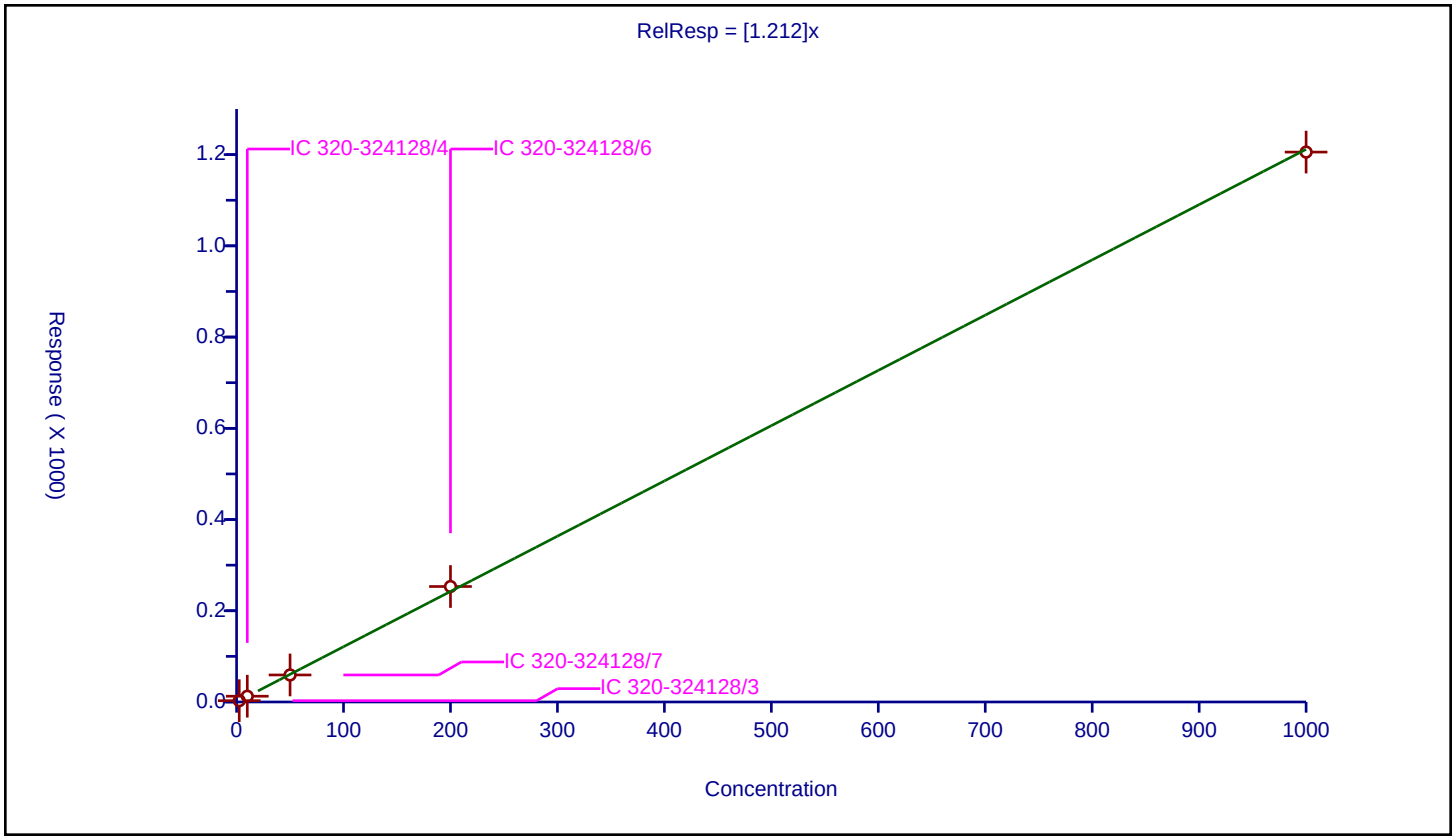

Calibration / 2,3,4,7,8-PeCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.103

Error Coefficients

Standard Error:	942000000
Relative Standard Error:	8.1
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	2.5	2.406506	100.0	20818900.0	0.962602	Y
2	IC 320-324128/4	10.0	11.888412	100.0	45184985.0	1.188841	Y
3	IC 320-324128/7	50.0	54.321476	100.0	108494277.0	1.08643	Y
4	IC 320-324128/6	200.0	234.558175	100.0	140755634.0	1.172791	Y
5	IC 320-324128/8	1000.0	1105.351196	100.0	167797734.0	1.105351	Y

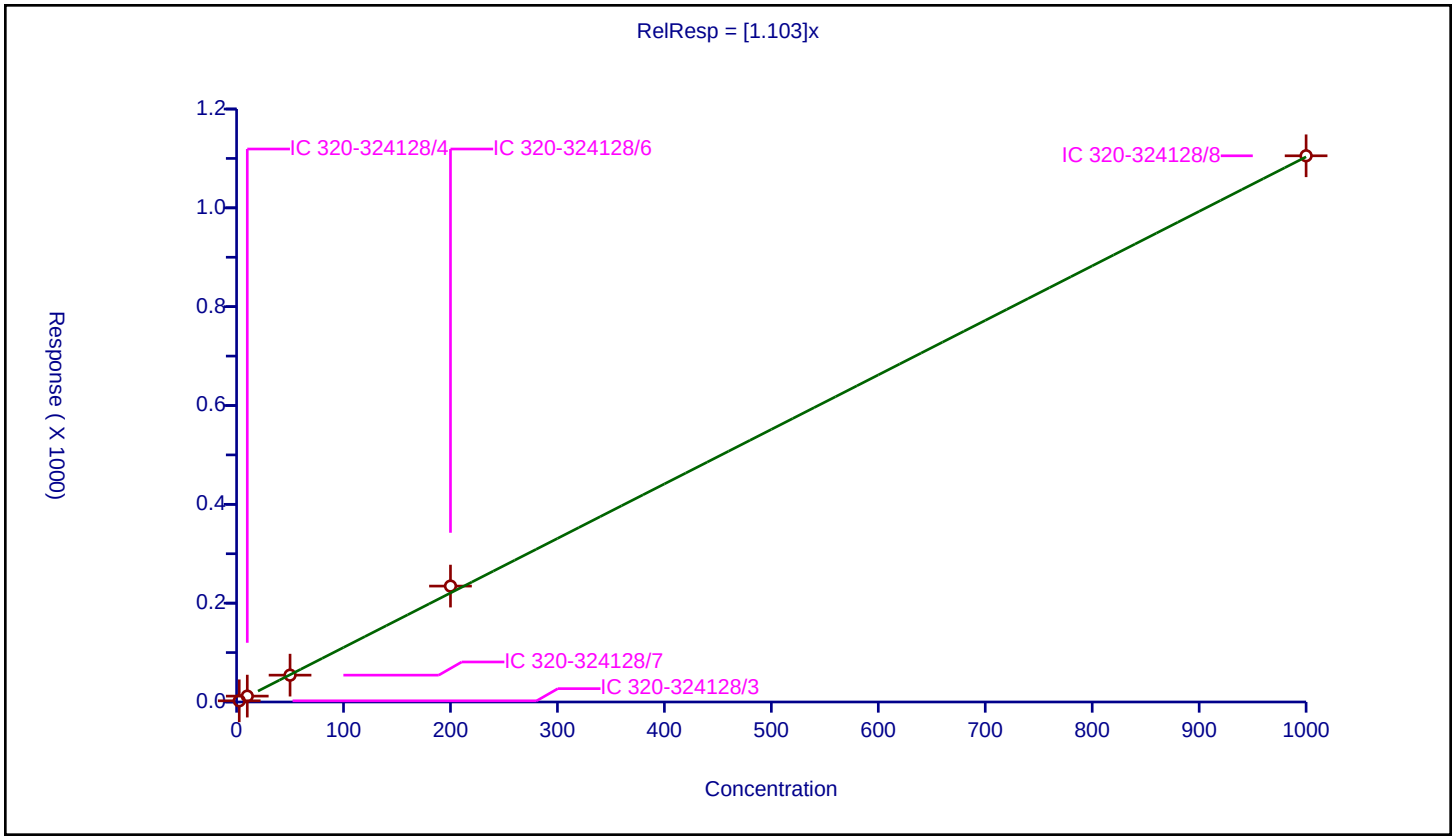

Calibration / 2,3,7,8-TCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.106

Error Coefficients

Standard Error:	167000000
Relative Standard Error:	4.9
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	0.5	0.583856	100.0	21165335.0	1.167711	Y
2	IC 320-324128/4	2.0	2.253252	100.0	45389691.0	1.126626	Y
3	IC 320-324128/7	10.0	10.23923	100.0	110088290.0	1.023923	Y
4	IC 320-324128/6	40.0	45.044682	100.0	131023361.0	1.126117	Y
5	IC 320-324128/8	200.0	217.531474	100.0	150666513.0	1.087657	Y

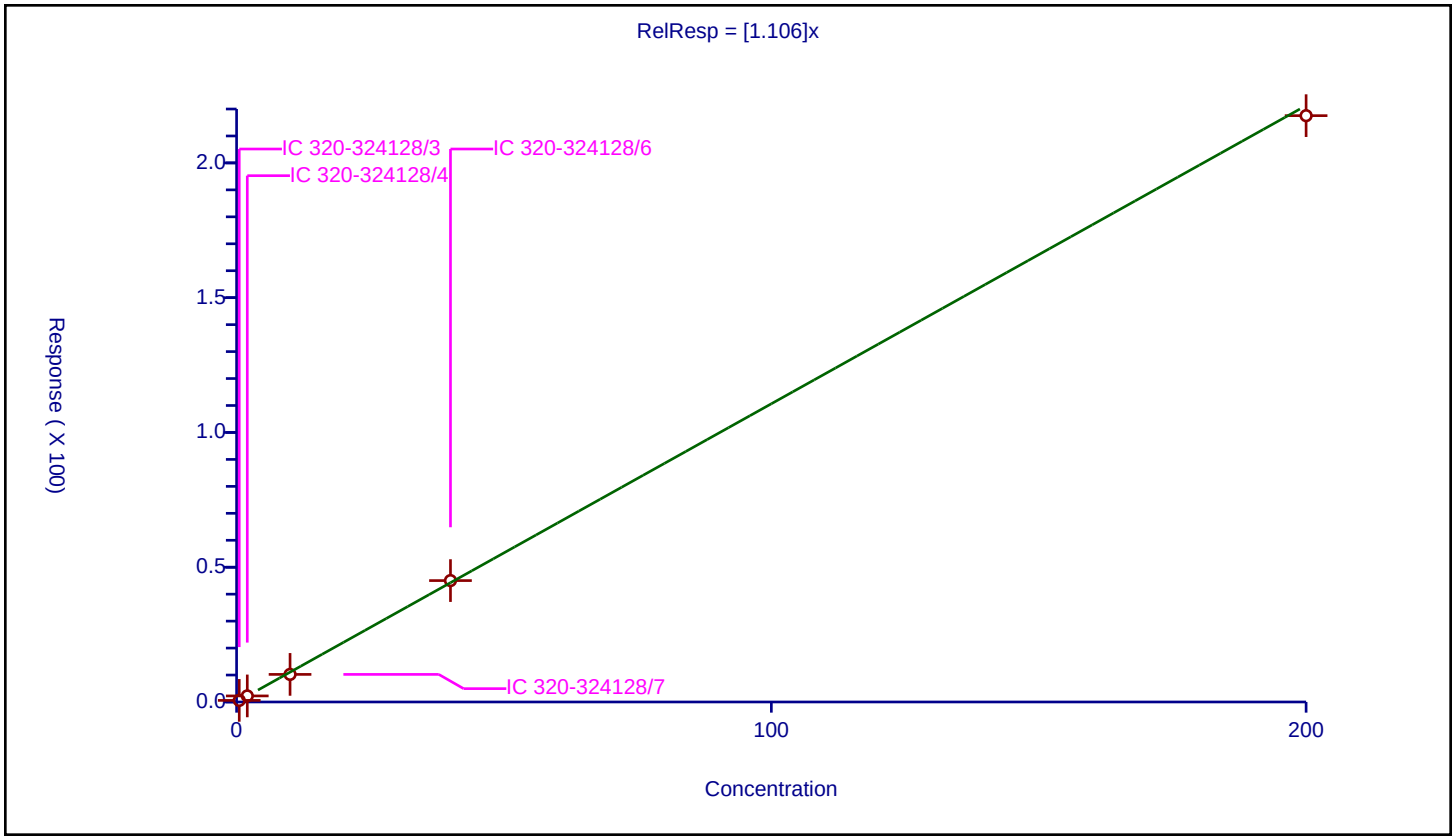

Calibration / 2,3,7,8-TCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.051

Error Coefficients

Standard Error:	235000000
Relative Standard Error:	4.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	0.5	0.535593	100.0	32121801.0	1.071185	Y
2	IC 320-324128/4	2.0	2.204382	100.0	69364385.0	1.102191	Y
3	IC 320-324128/7	10.0	9.929077	100.0	164292495.0	0.992908	Y
4	IC 320-324128/6	40.0	42.465661	100.0	197671153.0	1.061642	Y
5	IC 320-324128/8	200.0	205.145738	100.0	225533576.0	1.025729	Y

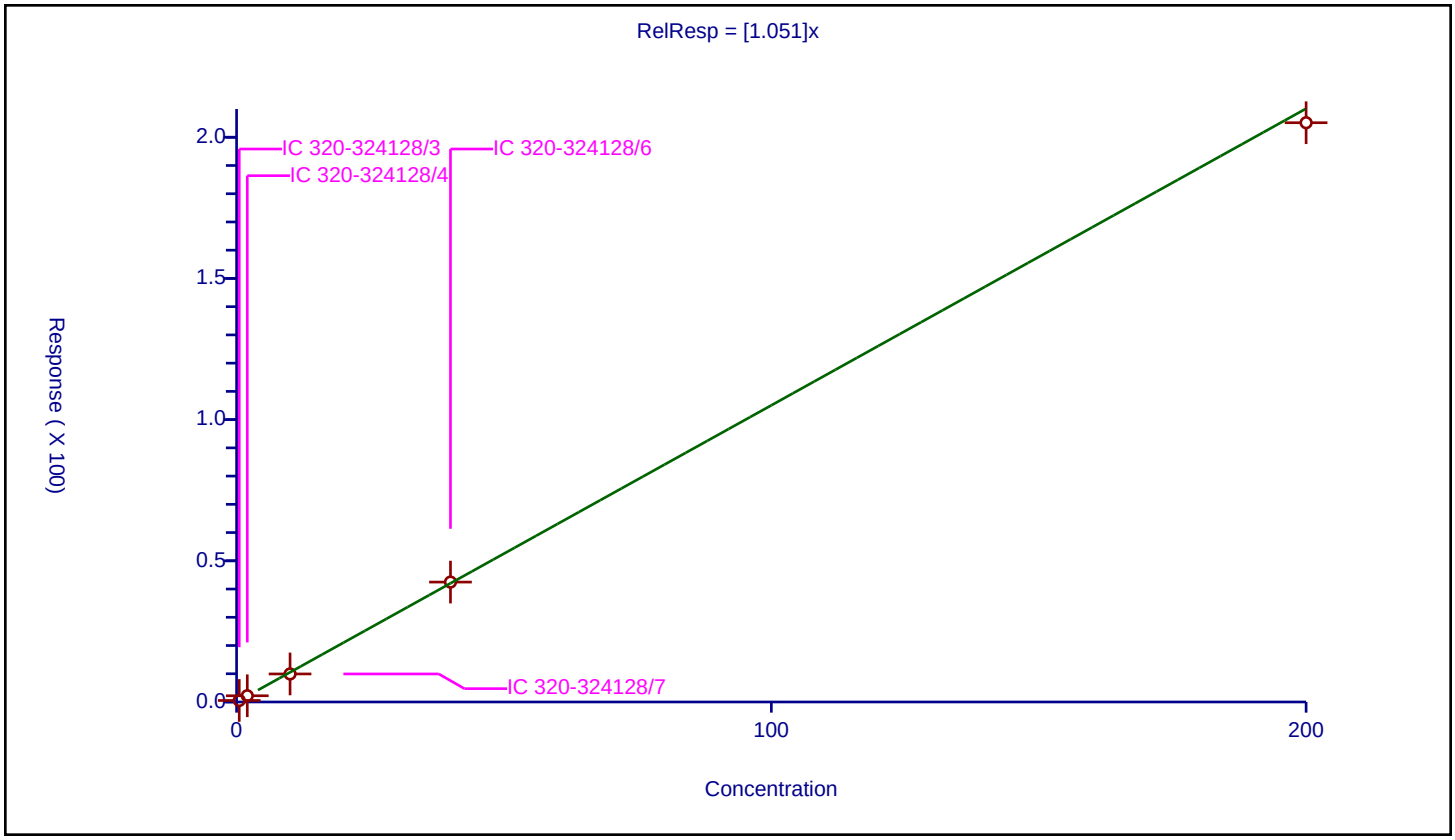

Calibration / 37Cl4-2,3,7,8-TCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.222

Error Coefficients

Standard Error:	205000000
Relative Standard Error:	5.7
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	0.5	0.559577	100.0	21989821.0	1.119154	Y
2	IC 320-324128/4	2.0	2.425047	100.0	48020971.0	1.212523	Y
3	IC 320-324128/7	8.0	9.665731	100.0	116862140.0	1.208216	Y
4	IC 320-324128/6	40.0	51.600573	100.0	136791650.0	1.290014	Y
5	IC 320-324128/8	200.0	256.418271	100.0	157084773.0	1.282091	Y

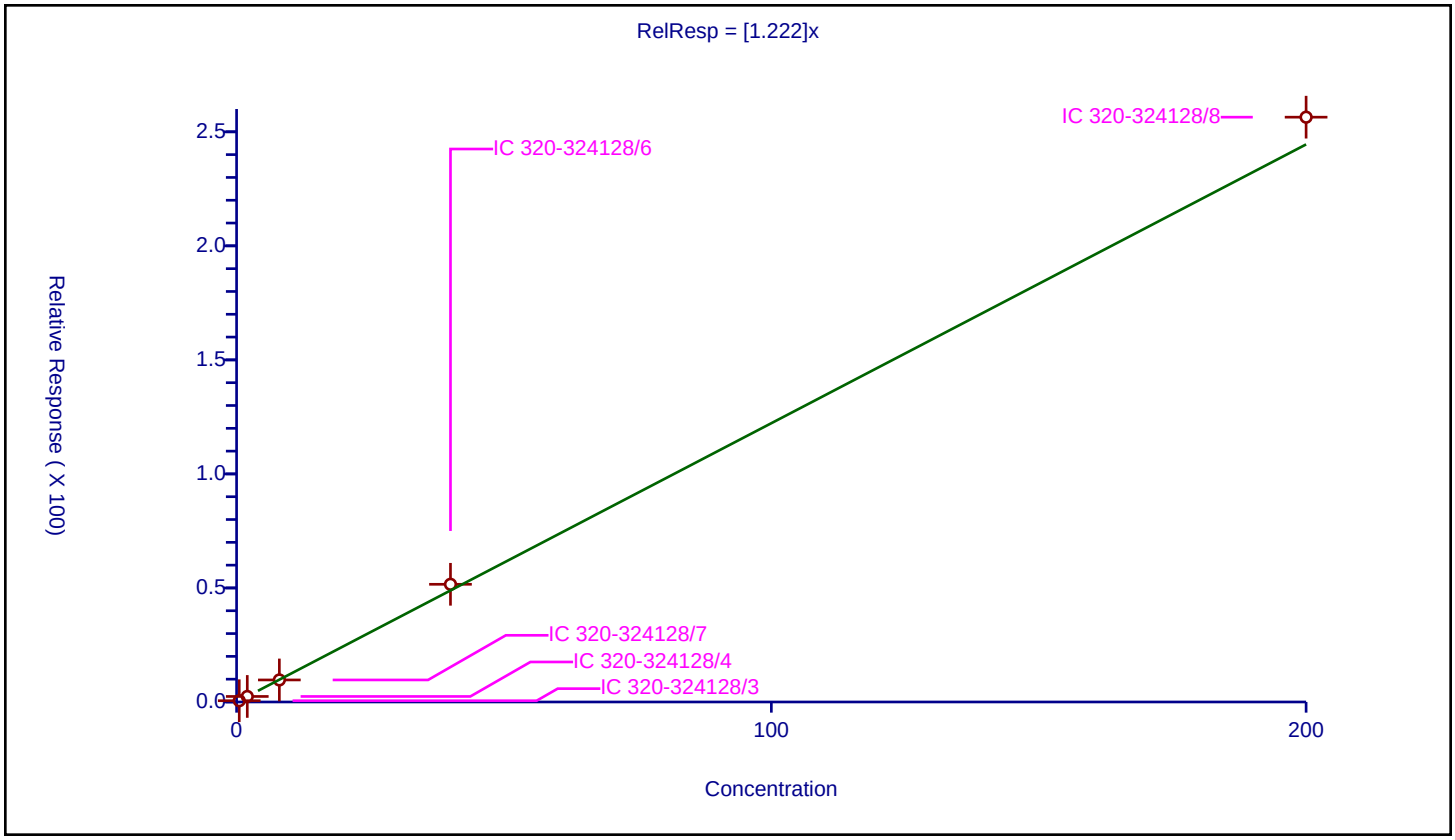

Calibration / OCDD

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.062

Error Coefficients

Standard Error:	1080000000
Relative Standard Error:	6.6
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	5.0	4.995683	200.0	22323676.0	0.999137	Y
2	IC 320-324128/4	20.0	23.429889	200.0	43388861.0	1.171494	Y
3	IC 320-324128/7	100.0	101.887088	200.0	117978202.0	1.018871	Y
4	IC 320-324128/6	400.0	436.552854	200.0	158997965.0	1.091382	Y
5	IC 320-324128/8	2000.0	2058.960862	200.0	206464776.0	1.02948	Y

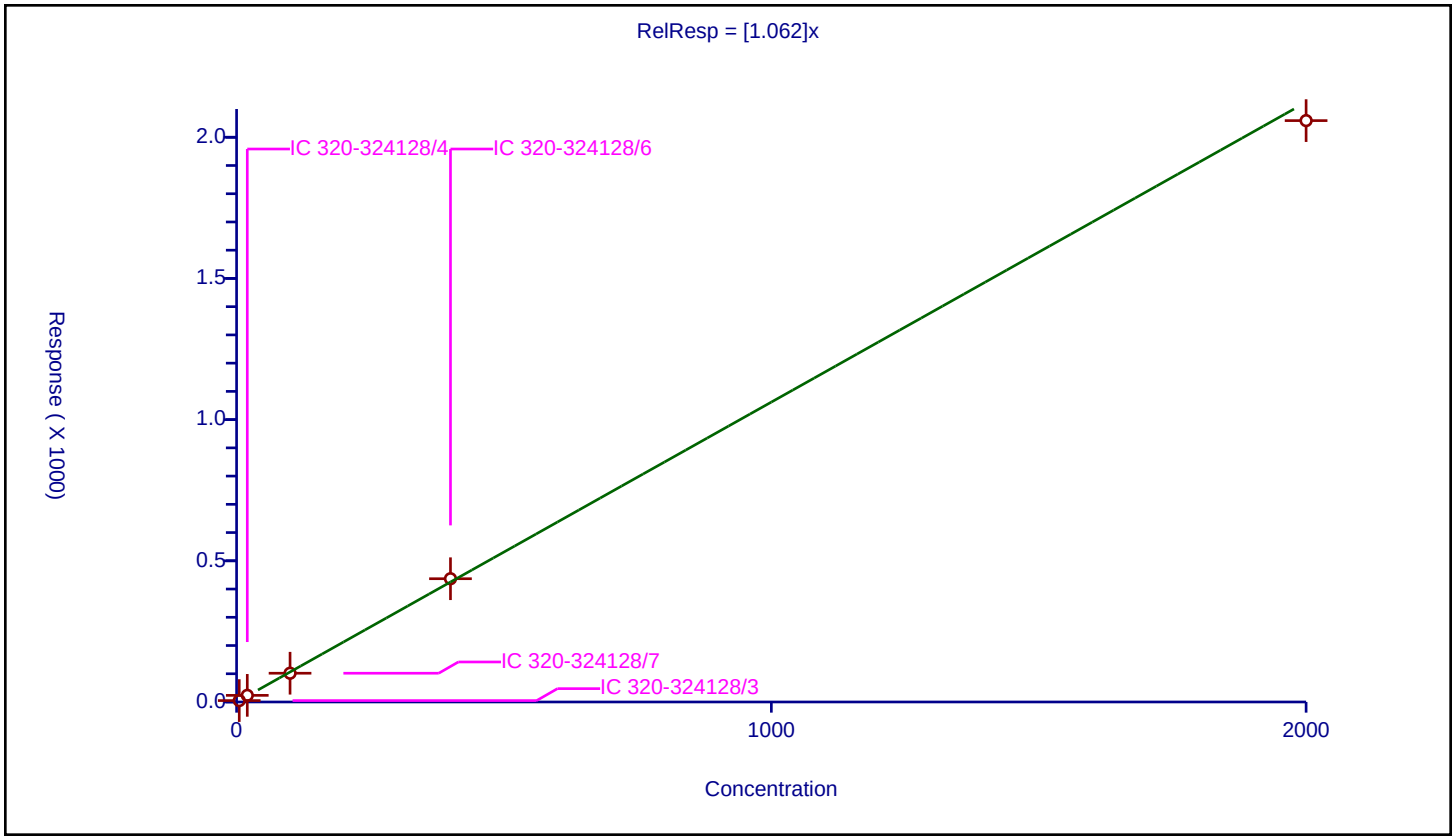

Calibration / OCDF

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	IsoDil
Response Base:	AREA
RF Rounding:	0

Curve Coefficients

Intercept:	0
Slope:	1.26

Error Coefficients

Standard Error:	1330000000
Relative Standard Error:	6.0
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 320-324128/3	5.0	5.709875	200.0	22323676.0	1.141975	Y
2	IC 320-324128/4	20.0	26.627996	200.0	43388861.0	1.3314	Y
3	IC 320-324128/7	100.0	123.985768	200.0	117978202.0	1.239858	Y
4	IC 320-324128/6	400.0	526.877314	200.0	158997965.0	1.317193	Y
5	IC 320-324128/8	2000.0	2535.017728	200.0	206464776.0	1.267509	Y

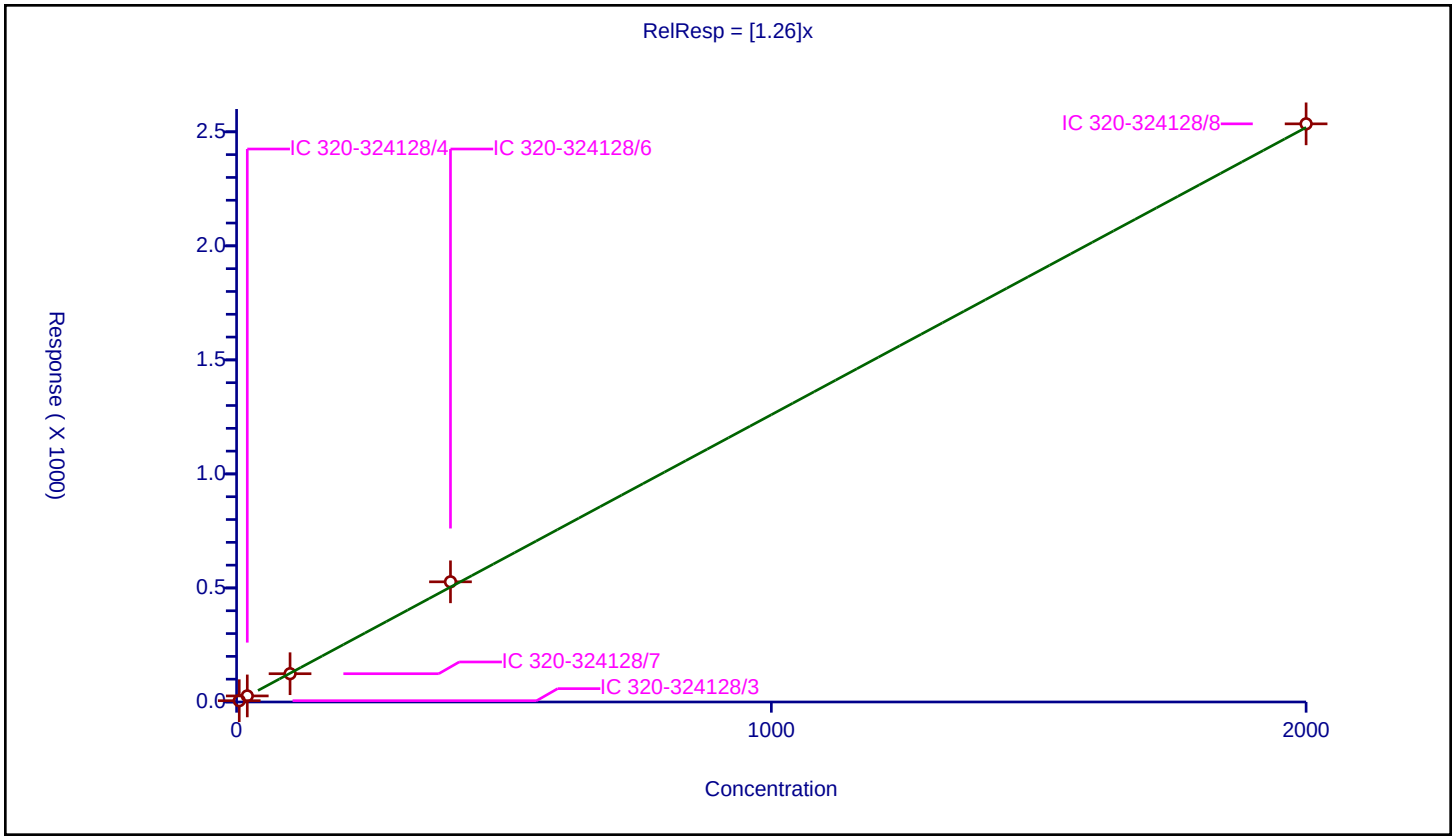

FORM VI
DIOXIN BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-2 Analy Batch No.: 312067

SDG No.:

Instrument ID: 11D2 GC Column: DB-225 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/02/2019 02:52 Calibration End Date: 08/02/2019 05:25 Calibration ID: 46494

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-312067/3	02AU1911D2_003.d
Level 2	IC 320-312067/4	02AU1911D2_004.d
Level 3	IC 320-312067/5	02AU1911D2_005.d
Level 4	IC 320-312067/6	02AU1911D2_006.d
Level 5	IC 320-312067/7	02AU1911D2_007.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
2,3,7,8-TCDD	1.4072	1.1517	0.9928	1.1253	1.0921	AveID		1.1538				13.3		20.0			
2,3,7,8-TCDF	0.9508	0.8634	0.7802	0.8060	0.7939	AveID		0.8389				8.4		20.0			
13C-2,3,7,8-TCDD	0.9860	0.9016	0.9603	0.9300	0.9162	Ave		0.9388				3.6		35.0			
13C-2,3,7,8-TCDF	1.4126	1.2992	1.3548	1.2560	1.3671	Ave		1.3379				4.6		35.0			
37Cl4-2,3,7,8-TCDD	1.2464	1.0504	1.1674	1.2313	1.2128	Ave		1.1816				6.7					

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
DIOXIN BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-2 Analy Batch No.: 312067

SDG No.:

Instrument ID: 11D2 GC Column: DB-225 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/02/2019 02:52 Calibration End Date: 08/02/2019 05:25 Calibration ID: 46494

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-312067/3	02AU1911D2_003.d
Level 2	IC 320-312067/4	02AU1911D2_004.d
Level 3	IC 320-312067/5	02AU1911D2_005.d
Level 4	IC 320-312067/6	02AU1911D2_006.d
Level 5	IC 320-312067/7	02AU1911D2_007.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (PG/UL)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
2,3,7,8-TCDD		AveID	766838	2408989	10136940	48146783	221171643	0.500	2.00	10.0	40.0	200
2,3,7,8-TCDF		AveID	742351	2602621	11238394	46575552	239921851	0.500	2.00	10.0	40.0	200
13C-2,3,7,8-TCDD	13CTC	Ave	108987233	104587968	102100937	106968299	101263855	100	100	100	100	100
13C-2,3,7,8-TCDF	13CTC	Ave	156147949	150712836	144041178	144459393	151101344	100	100	100	100	100
37Cl4-2,3,7,8-TCDD	13CTC	Ave	688870	2436945	9929024	56650769	268090229	0.500	2.00	8.00	40.0	200

Curve Type Legend:

Ave = Average ISTD
AveID = Average isotope dilution

Data file	Smp	Work Order	Sample ID	FV-uL	Method/Matrix	Box	Size	U
02AU1911D2	1	CPS 080219	CPS HRDXNCP_00038		Dioxin		1.00000	
02AU1911D2	2	SB 080219	SB Solvent Blank C-14				1.00000	
02AU1911D2	3	IC 080219	CS-2 HRDXNL2_00027		Dioxin		1.00000	
02AU1911D2	4	IC 080219A	CS-3 HRDXNL3_00025		Dioxin		1.00000	
02AU1911D2	5	IC 080219B	CS-4 HRDXNL4_00084		Dioxin		1.00000	
02AU1911D2	6	IC 080219C	CS-5 HRDXNL5_00028		Dioxin		1.00000	
02AU1911D2	7	IC 080219D	CS-6 HRDXNL6_00024		Dioxin		1.00000	
02AU1911D2	8	ICV 080219	ICV HRDXNIC_00042		Dioxin		1.00000	
02AU1911D2	9						1.00000	
02AU1911D2	10						1.00000	
02AU1911D2	11						1.00000	
02AU1911D2	12						1.00000	
02AU1911D2	13						1.00000	
02AU1911D2	14						1.00000	
02AU1911D2	15						1.00000	
02AU1911D2	16						1.00000	
02AU1911D2	17		ALM 08-02-19				1.00000	
02AU1911D2	18						1.00000	

Logfile checked
08/02/19 SMA

Peak Locate Examination: 2-AUG-2019:01:33 File:02AU1911D2
Experiment:DB225RES Function:1 Reference:PFK

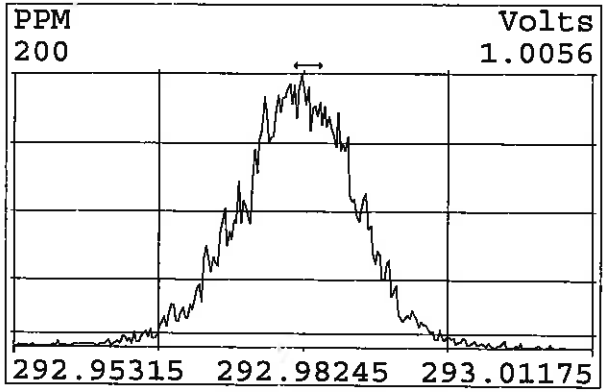

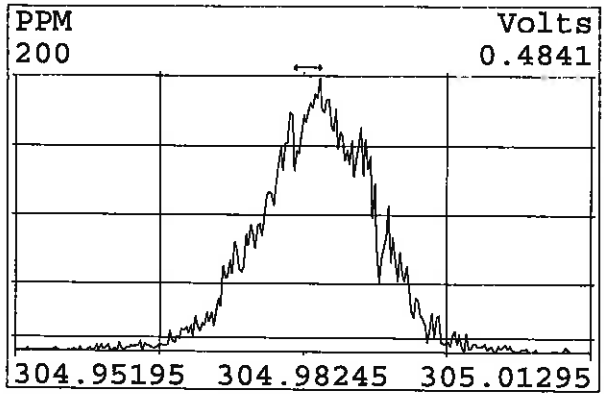

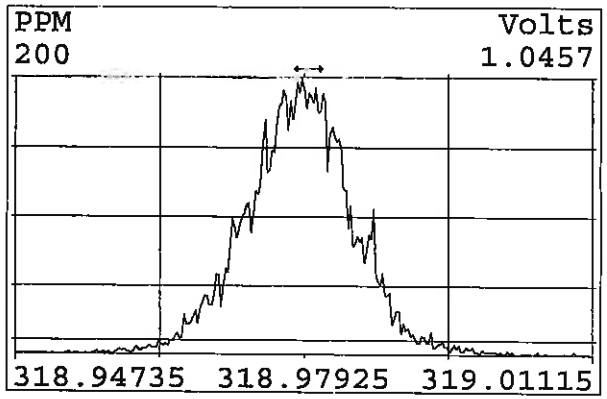

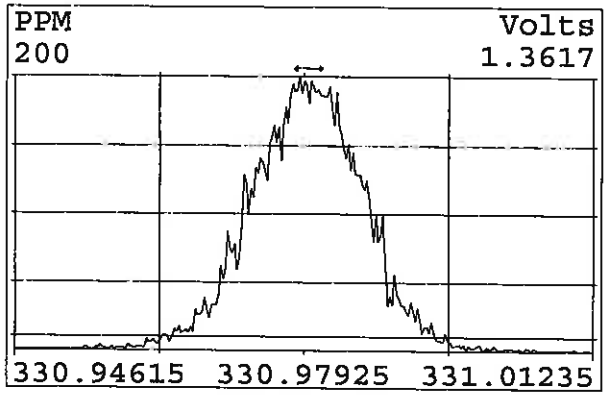

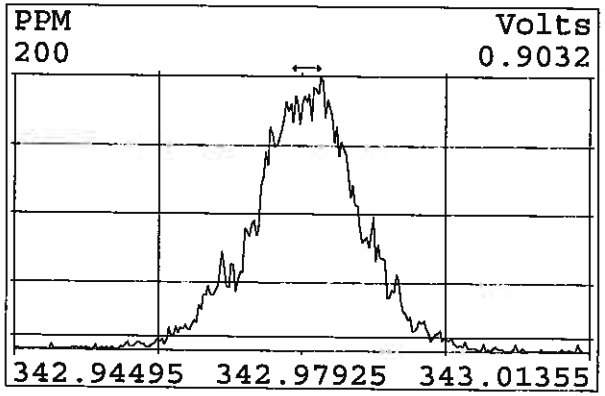

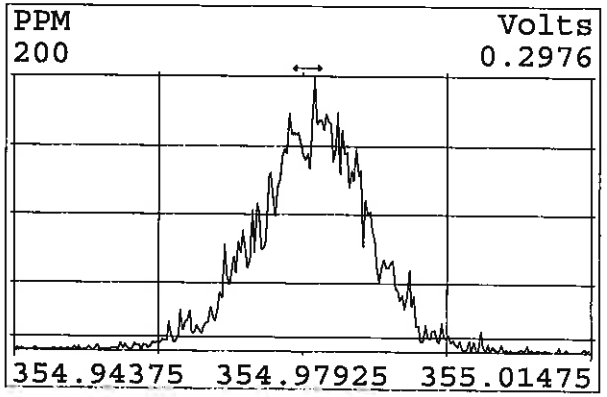

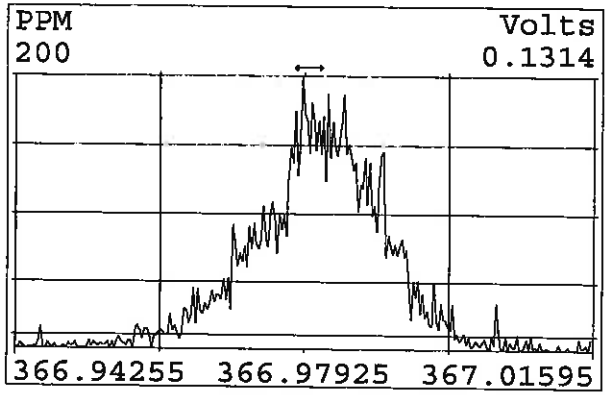

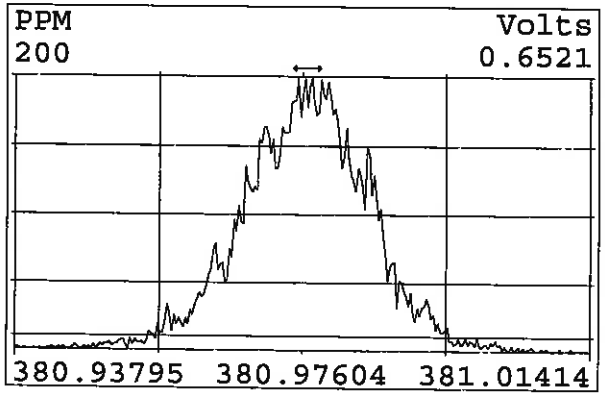

Peak Locate Examination: 2-AUG-2019:07:38 File:RESCHECK11D2
Experiment:DB225RES Function:1 Reference:PFK

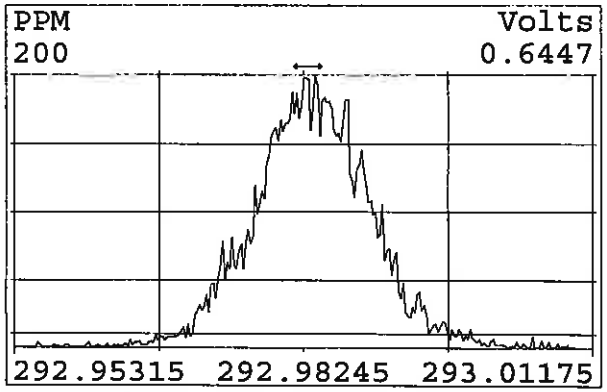

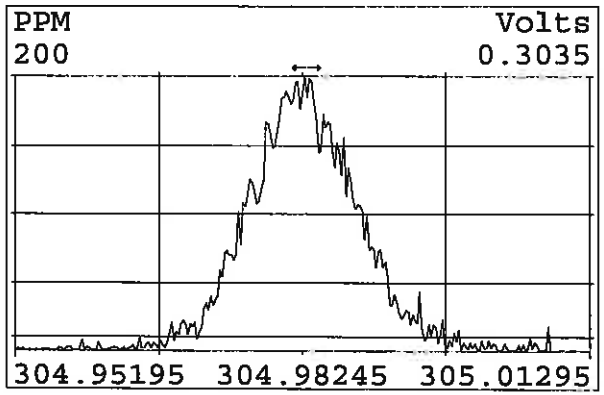

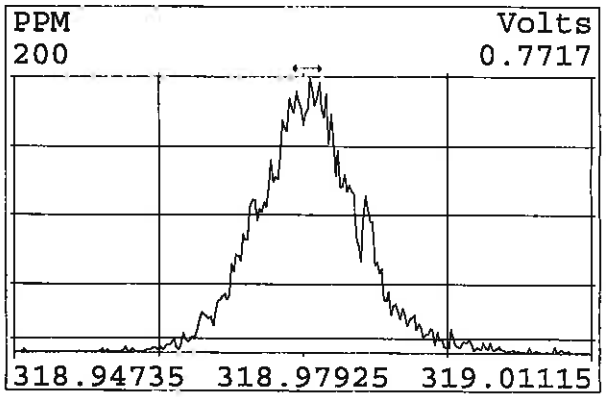

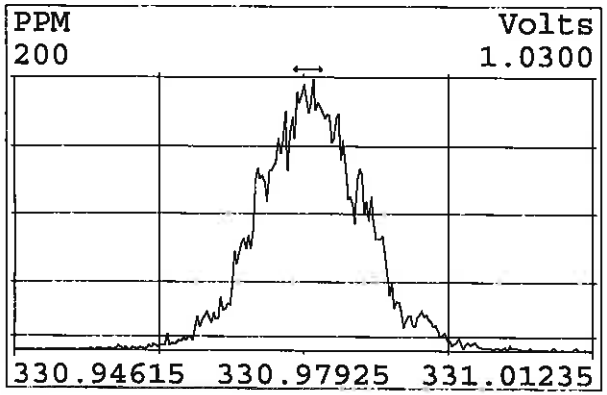

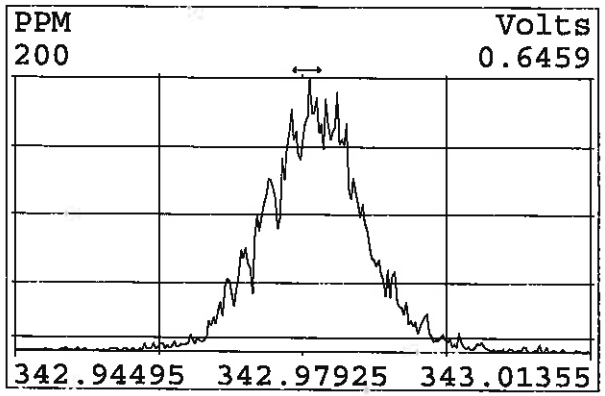

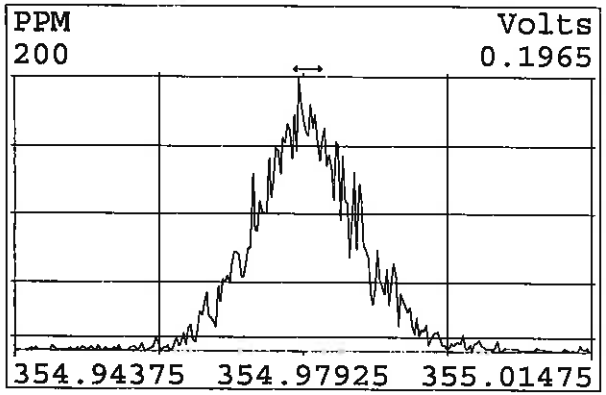

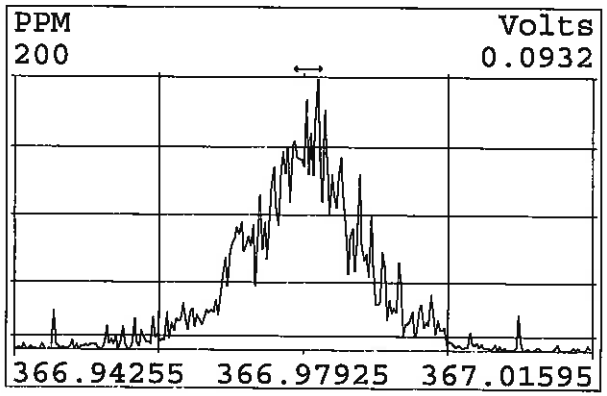

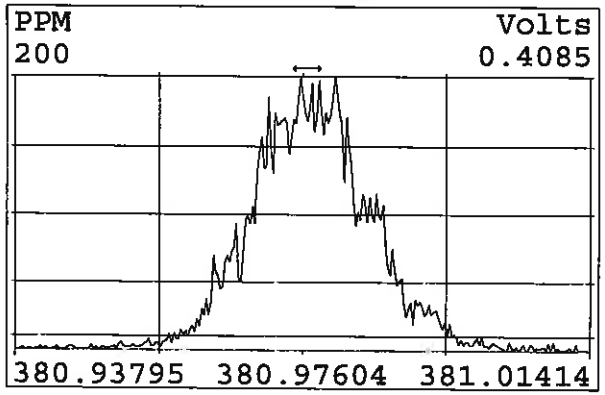

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_003.d
Lims ID: IC 2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 02-Aug-2019 02:52:03 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-2 HRDXNL2_00027
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:50:46 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:43:34

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.424	110538697	0.80	1.1E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.591	156147949	0.76	1.3379	105.6	105.6	0.5565	0.5565	106	
2,3,7,8-TCDF	16.618	742351	0.68	0.8389	0.5667	0.5667	0.0601	0.0601	113	
D 13C-2,3,7,8-TCDD	15.150	108987233	0.78	0.9388	105.0	105.0	0.3029	0.3029	105	
2,3,7,8-TCDD	15.164	766838	0.66	1.1538	0.6098	0.6098	0.1272	0.1272	122	n
$ 37Cl4-2,3,7,8-TCDD	15.177	688870		1.1816	0.5274	0.5274	0.0799	0.0799	105	
S Total 2378-Chlorinated							0.000100	0.000100		

QC Flag Legend

Processing Flags
n - Failed Sig-To-Noise Test

Reagents:

HRDXNL2_00027 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_003.d
Lims ID: IC 2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 02-Aug-2019 02:52:03 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-2 HRDXNL2_00027
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:50:46 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:43:34

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.424	15.416	0		49211451	11686880	18543	46357	630		
333.9339	15.424	15.416	0		61327246	14873725	11665	29162	1275	0.80(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.591	16.580	1	1.076	67180120	14400770	53937	134842	267		
317.9389	16.591	16.580	1	1.076	88967829	19171242	25172	62930	762	0.76(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.618	16.599	1	1.002	300768	58292	2710	6775	22		
305.8987	16.604	16.599	0	1.001	441583	80440	4062	10155	20	0.68(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.150	15.136	1	0.982	47916340	11905033	18543	46357	642		
333.9339	15.150	15.136	1	0.982	61070893	14985948	11665	29162	1285	0.78(0.65-0.89)	
2,3,7,8-TCDD											n
319.8965	15.164	15.156	0	1.001	304053	63475	6504	16260	10		
321.8936	15.177	15.156	1	1.002	462785	92174	9277	23192	10	0.66(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.177	15.158	1	0.984	688870	148959	10036	25090	15		

Total 2378-Chlorinated Dioxins & Furans
0.0 0

QC Flag Legend

Processing Flags
n - Failed Sig-To-Noise Test

Reagents:

HRDXNL2_00027 Amount Added: 1.00 Units: mL

Report Date: 02-Aug-2019 11:50:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_003.d		
Injection Date:	02-Aug-2019 02:52:03	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	3
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

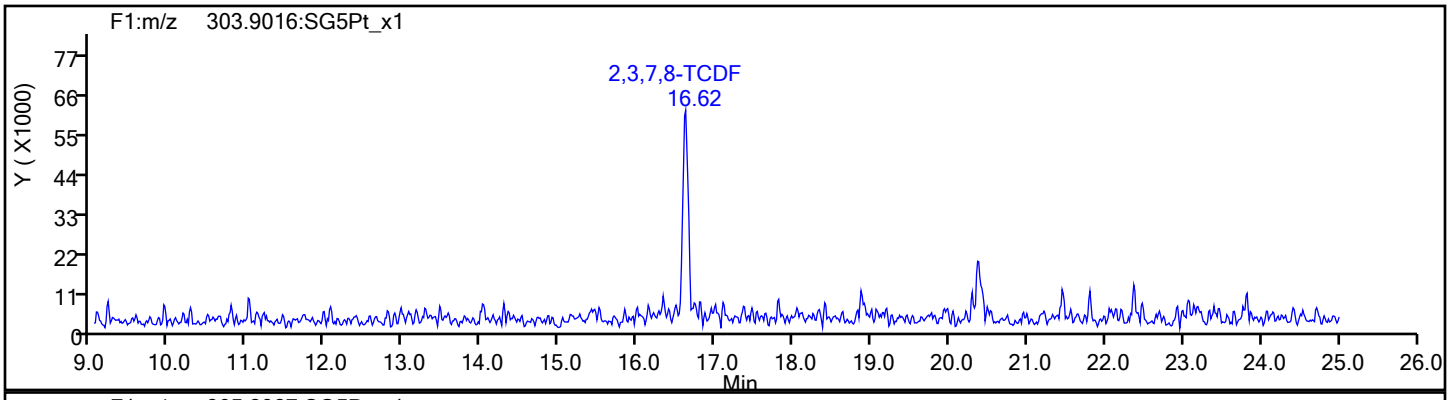

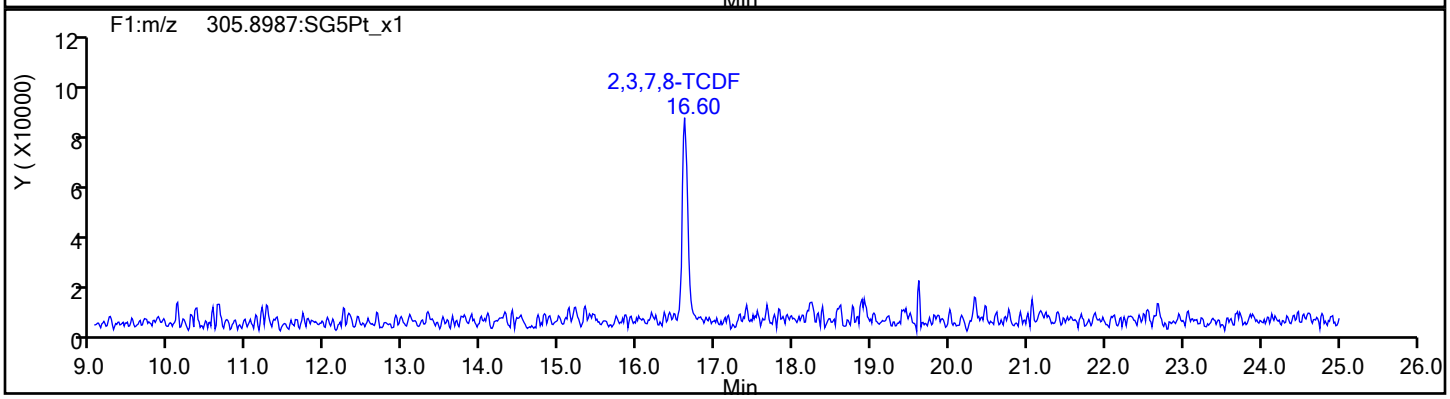

TCDF Standards

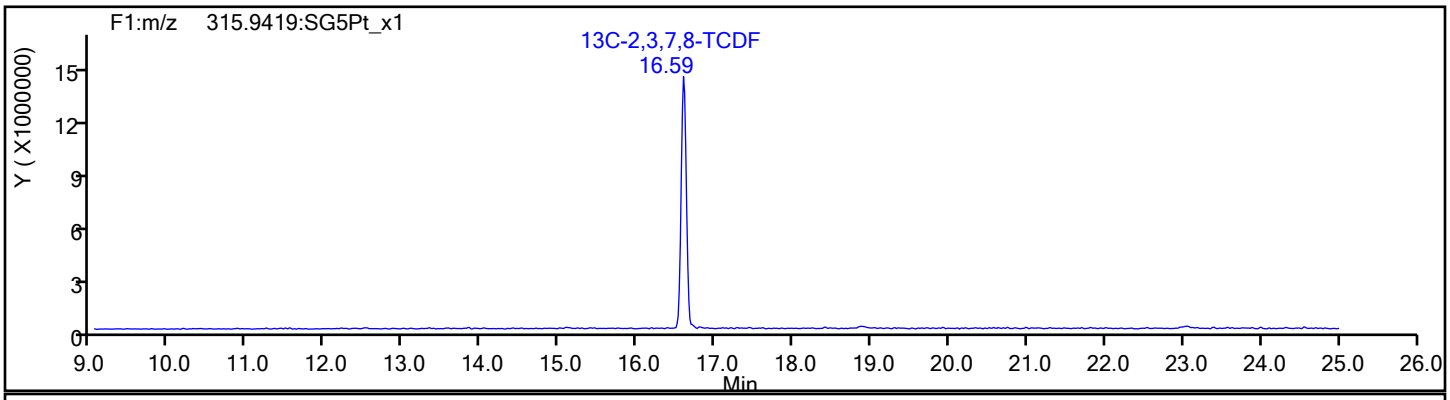

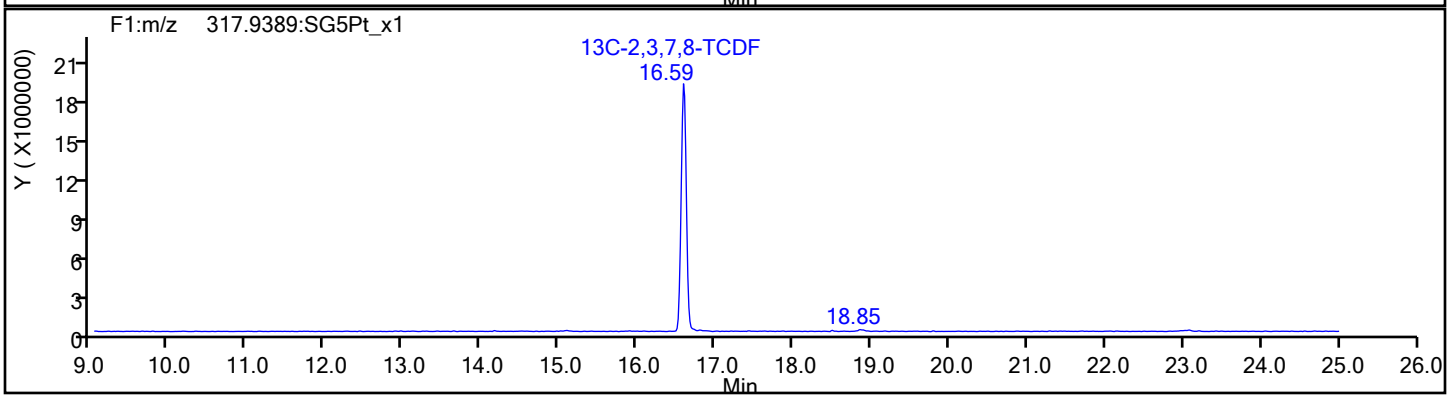

Report Date: 02-Aug-2019 11:50:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_003.d		
Injection Date:	02-Aug-2019 02:52:03	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	3
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

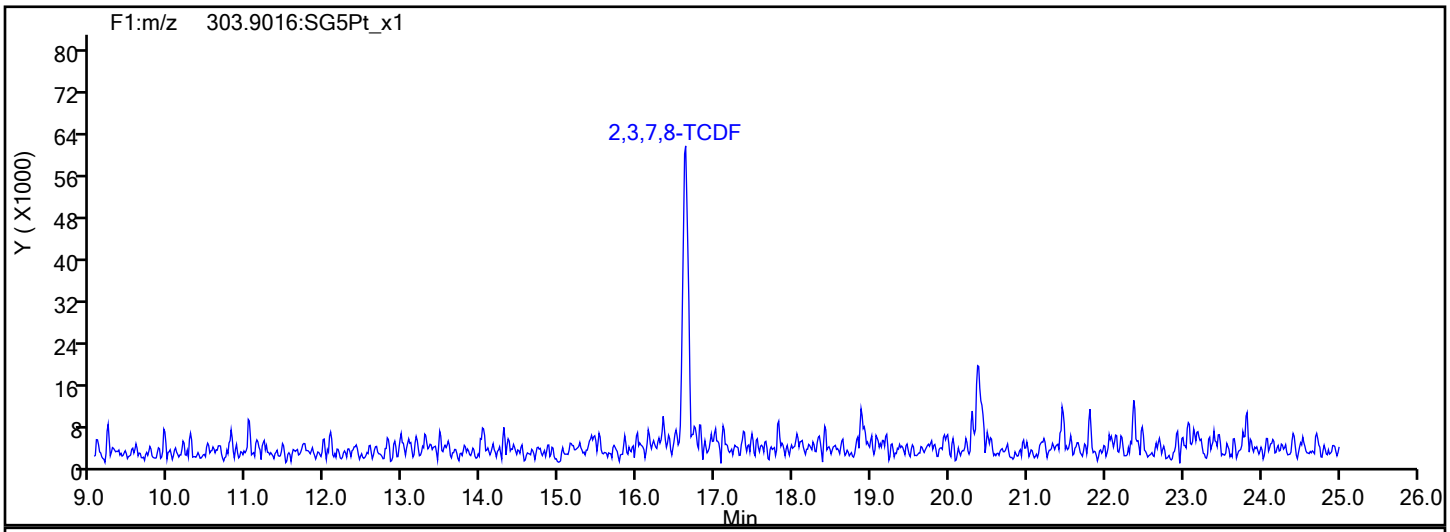

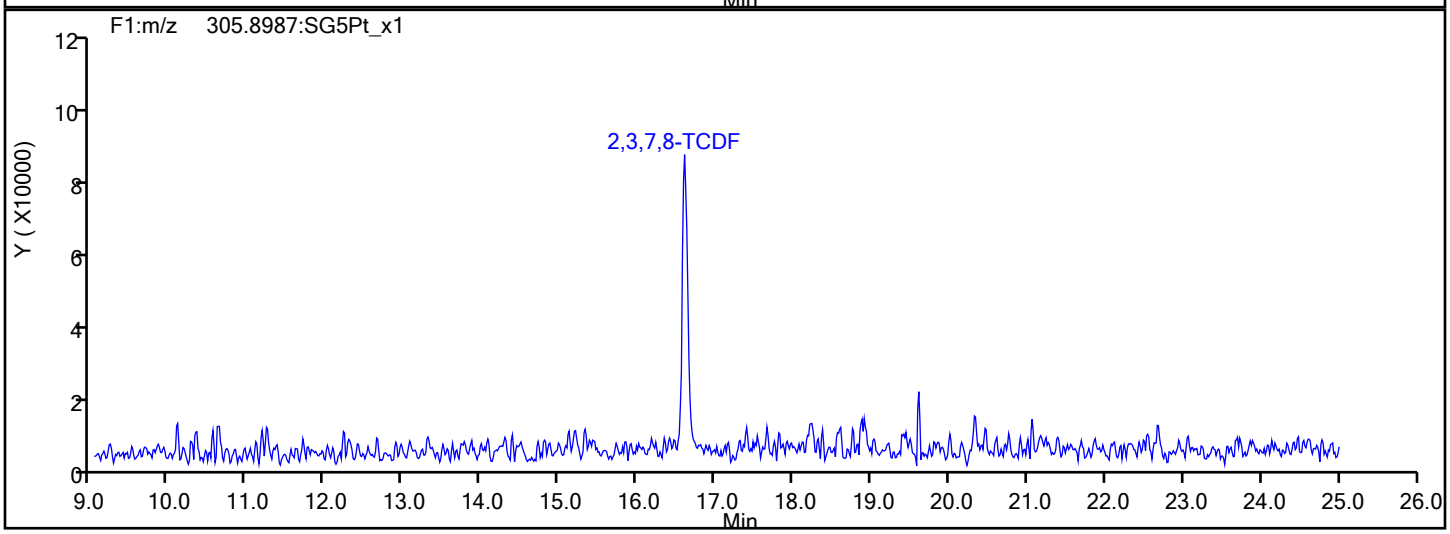

TCDF Interference Mass

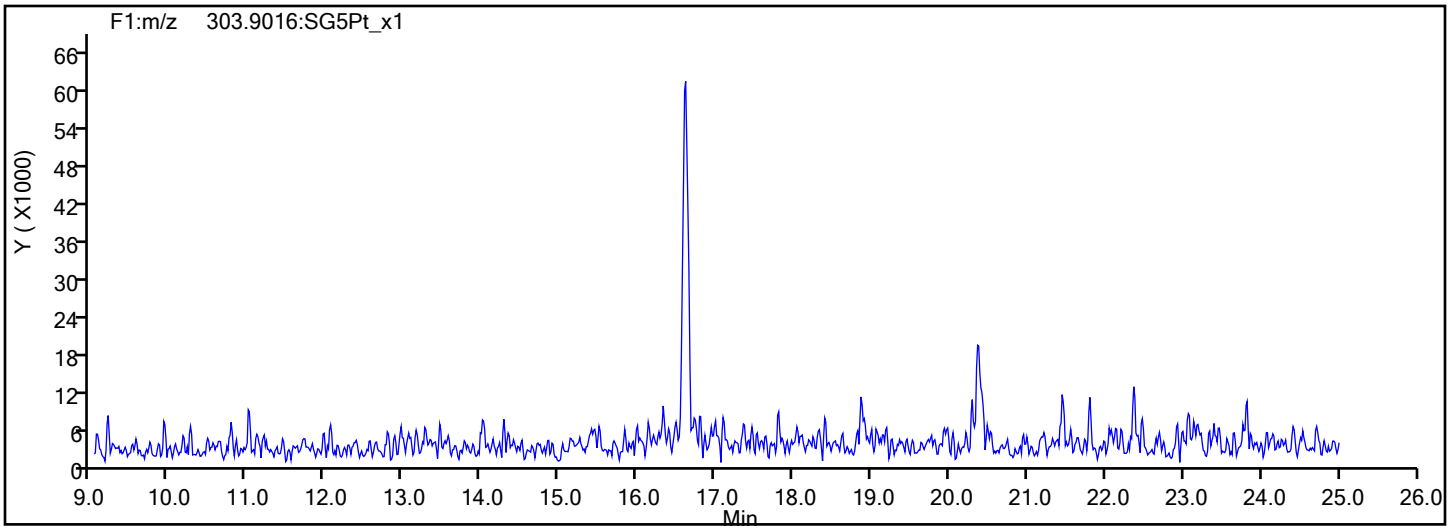

Report Date: 02-Aug-2019 11:50:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_003.d		
Injection Date:	02-Aug-2019 02:52:03	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	3
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

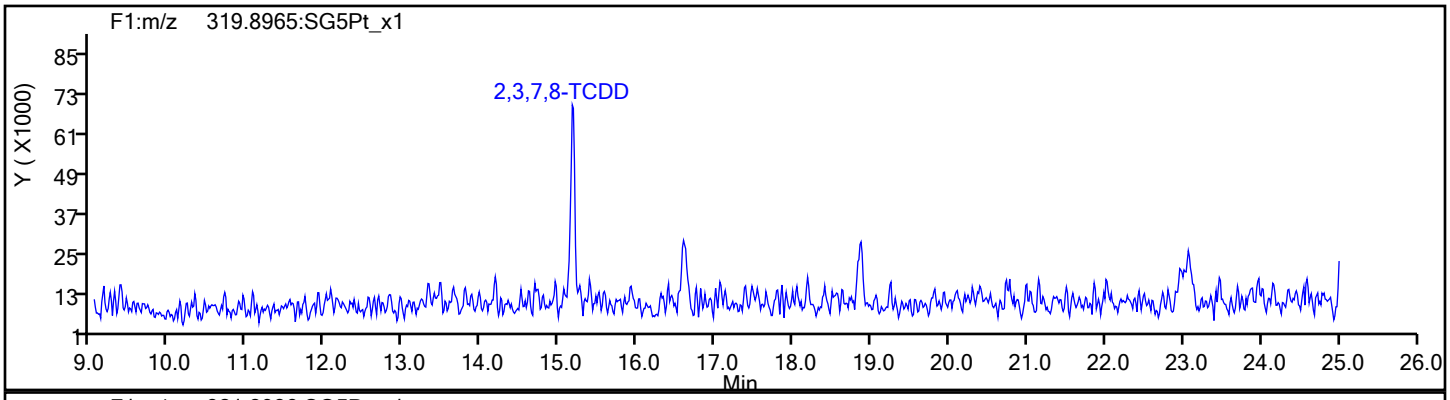

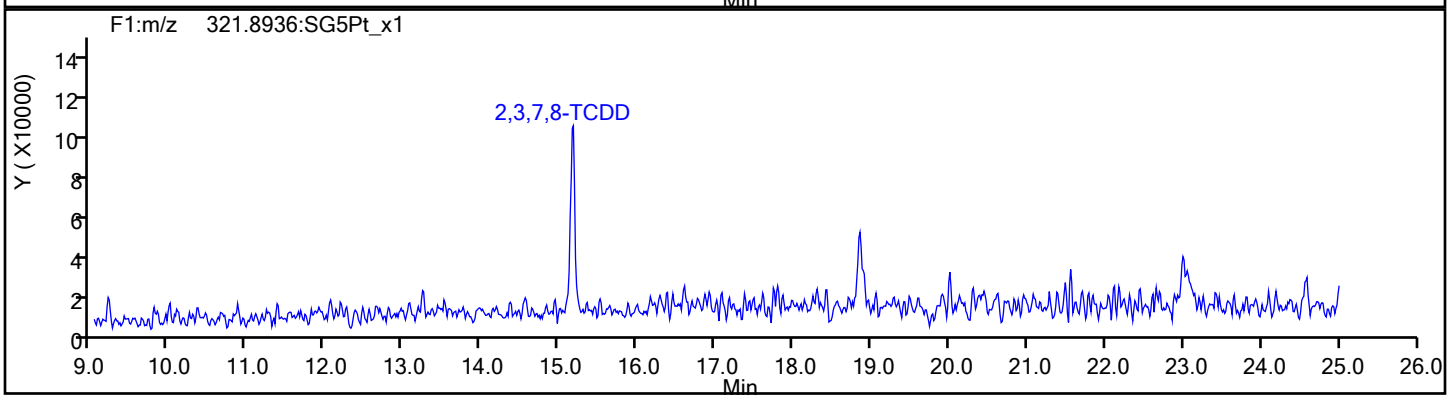

TCDD Standards

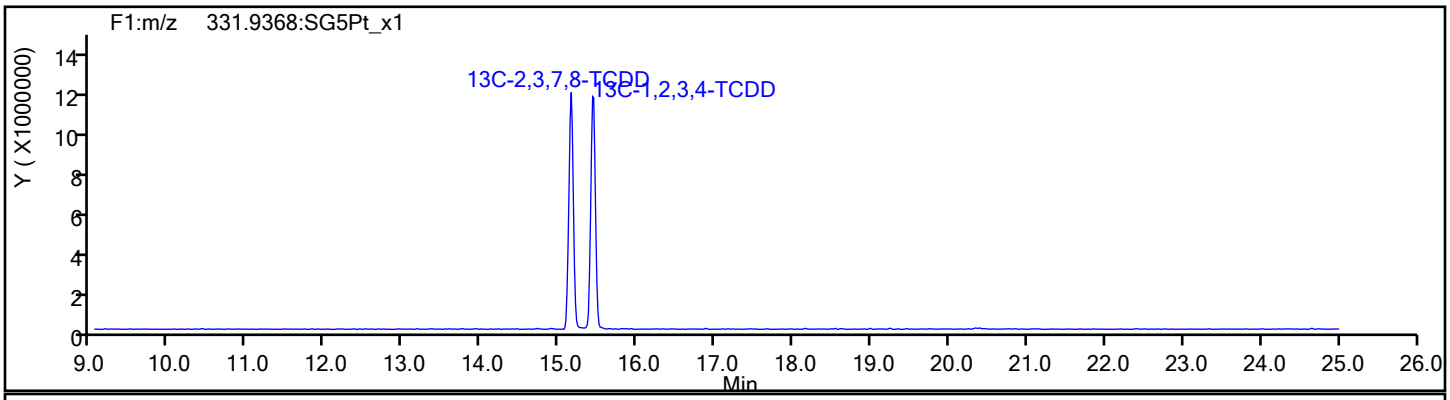

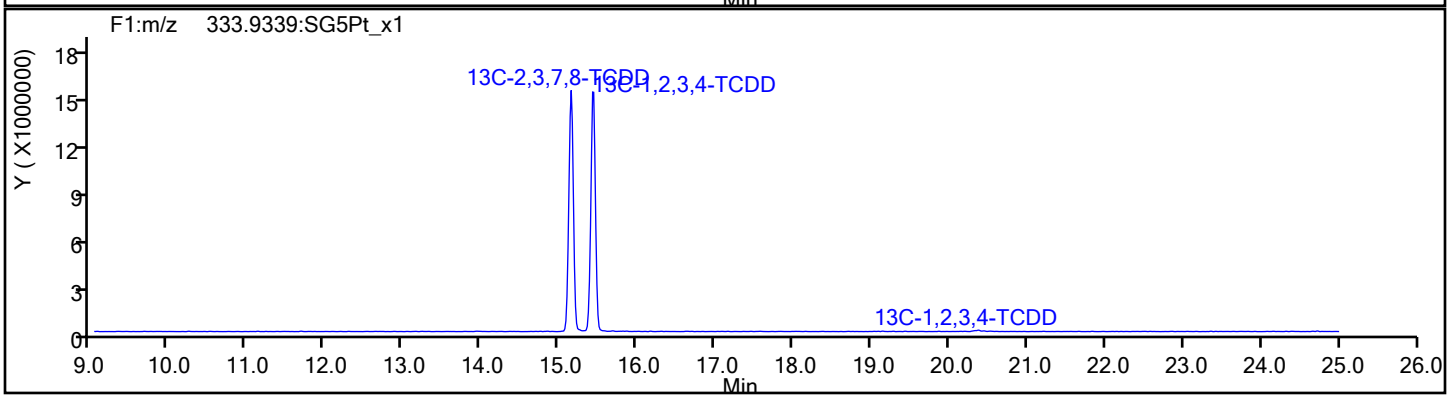

Report Date: 02-Aug-2019 11:50:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_003.d		
Injection Date:	02-Aug-2019 02:52:03	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	3
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

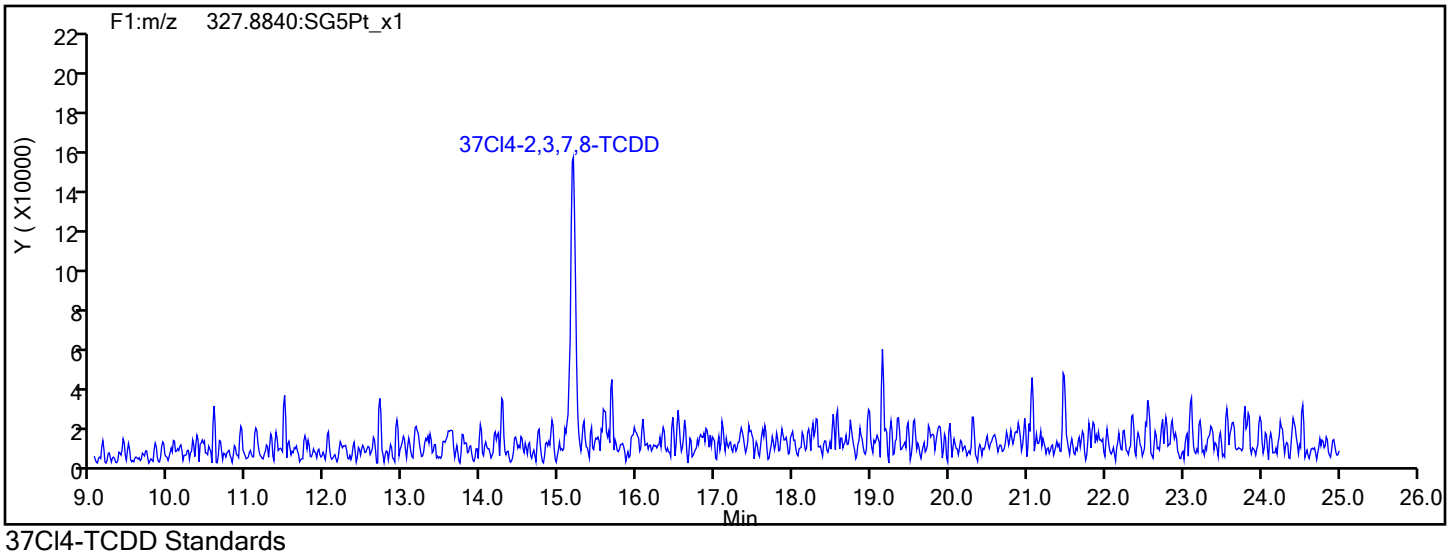

37Cl4-TCDD Standards

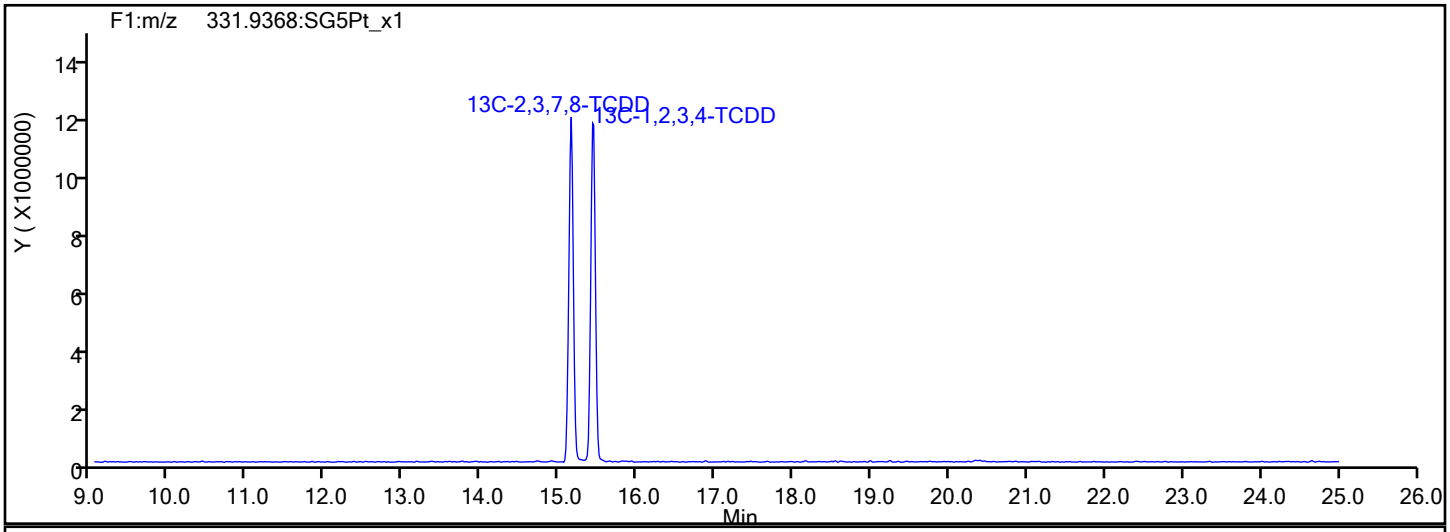

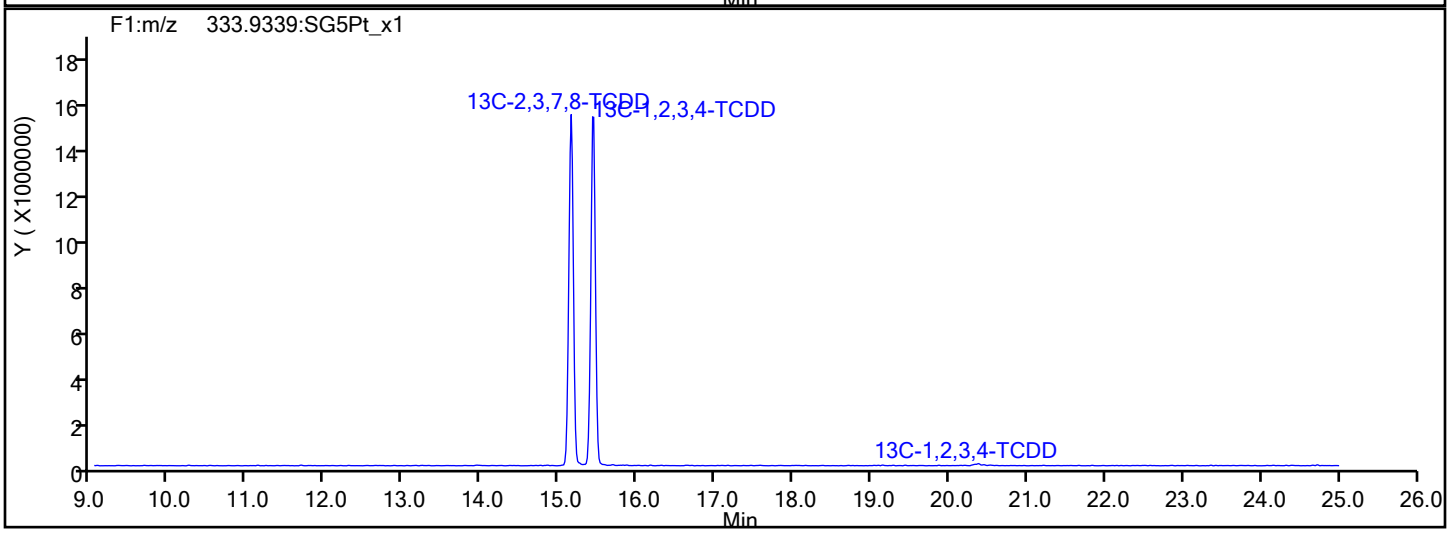

Report Date: 02-Aug-2019 11:50:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_003.d		
Injection Date:	02-Aug-2019 02:52:03	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	3
Column Type:	DB-225	Column Dia:	0.32 mm

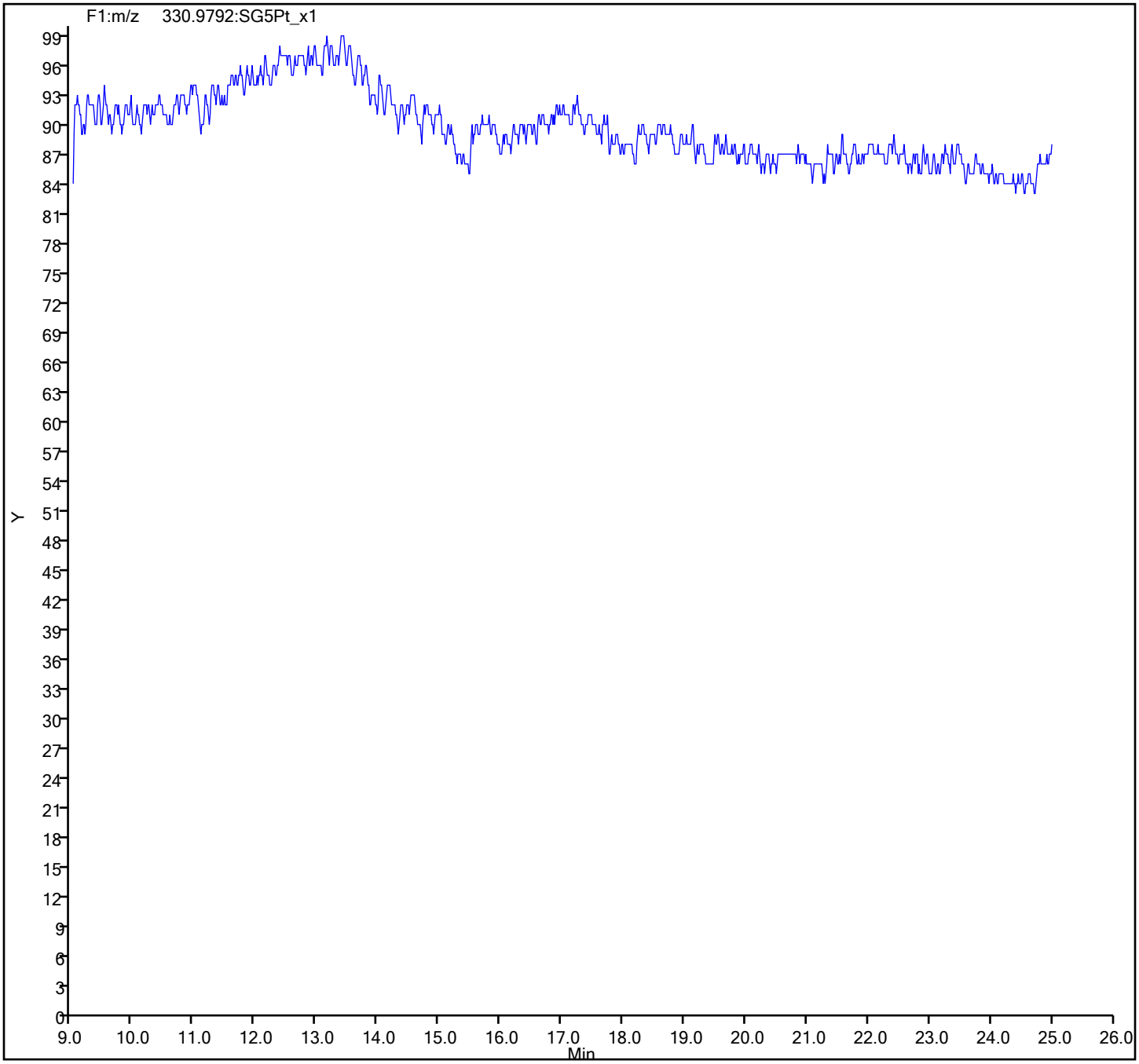

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_004.d
Lims ID: IC 3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 02-Aug-2019 03:30:21 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-3 HRDXNL3_00025
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:51:18 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:43:45

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.422	116003371	0.79	1.1E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.588	150712836	0.76	1.3379	97.1	97.1	0.5017	0.5017	97.11	
2,3,7,8-TCDF	16.602	2602621	0.77	0.8389	2.059	2.059	0.0697	0.0697	103	
D 13C-2,3,7,8-TCDD	15.134	104587968	0.77	0.9388	96.0	96.0	0.2954	0.2954	96.04	
2,3,7,8-TCDD	15.161	2408989	0.76	1.1538	1.996	1.996	0.1402	0.1402	99.81	
$ 37Cl4-2,3,7,8-TCDD	15.161	2436945		1.1816	1.778	1.778	0.0697	0.0697	88.89	
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNL3_00025 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_004.d
Lims ID: IC 3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 02-Aug-2019 03:30:21 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-3 HRDXNL3_00025
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:51:18 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:43:45

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.422	15.416	0		51108109	12518707	19618	49045	638		
333.9339	15.422	15.416	0		64895262	16017022	12040	30100	1330	0.79(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.588	16.580	0	1.076	65303459	13590544	55233	138082	246		
317.9389	16.588	16.580	0	1.076	85409377	18139250	21388	53470	848	0.76(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.602	16.599	0	1.001	1128784	210338	2933	7332	72		
305.8987	16.602	16.599	0	1.001	1473837	306111	4488	11220	68	0.77(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.134	15.136	0	0.981	45657518	11153304	19618	49045	569		
333.9339	15.134	15.136	0	0.981	58930450	14086226	12040	30100	1170	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.161	15.156	0	1.002	1042745	248740	6492	16230	38		
321.8936	15.161	15.156	0	1.002	1366244	315049	9844	24610	32	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.161	15.158	0	0.983	2436945	572005	9406	23515	61		
Total 2378-Chlorinated Dioxins & Furans											
		0.0	0								

Reagents:

HRDXNL3_00025 Amount Added: 1.00 Units: mL

Report Date: 02-Aug-2019 11:51:36 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_004.d		
Injection Date:	02-Aug-2019 03:30:21	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

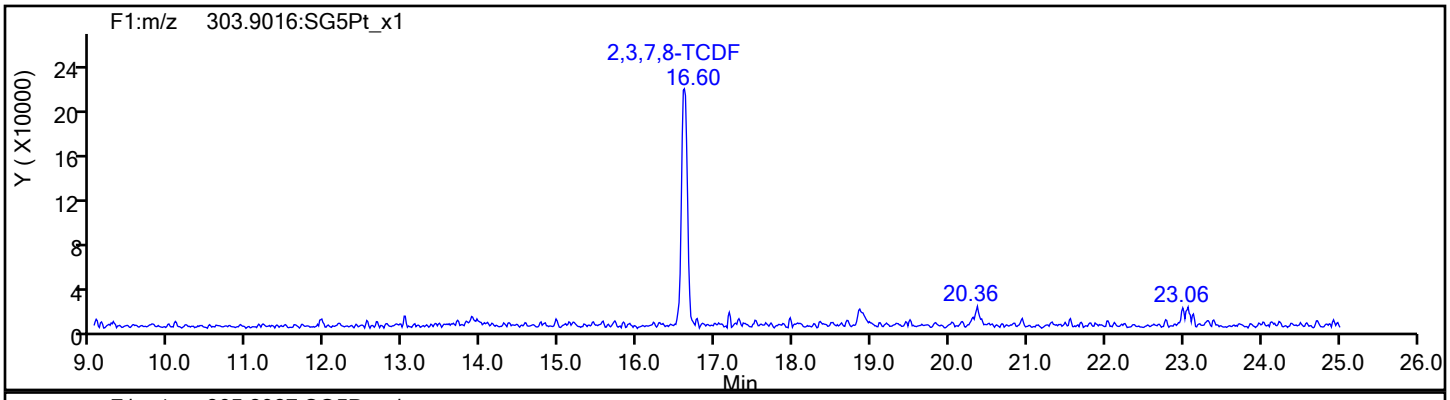

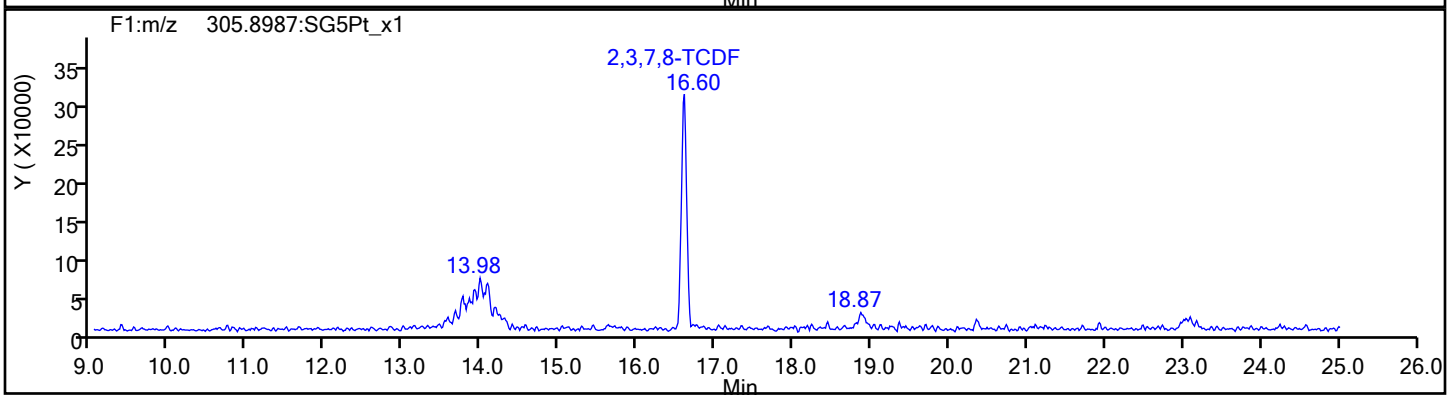

TCDF Standards

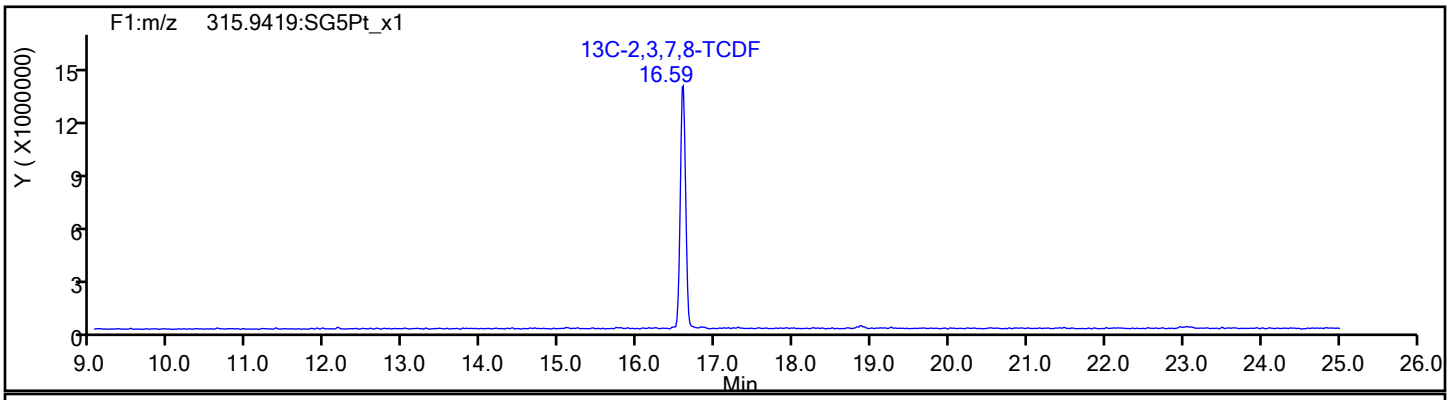

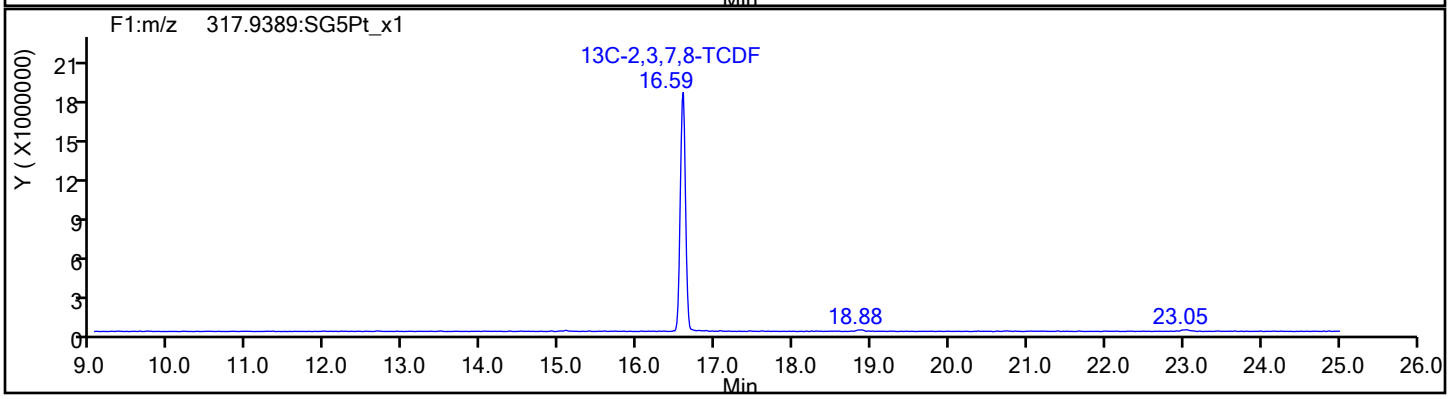

Report Date: 02-Aug-2019 11:51:36 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_004.d		
Injection Date:	02-Aug-2019 03:30:21	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

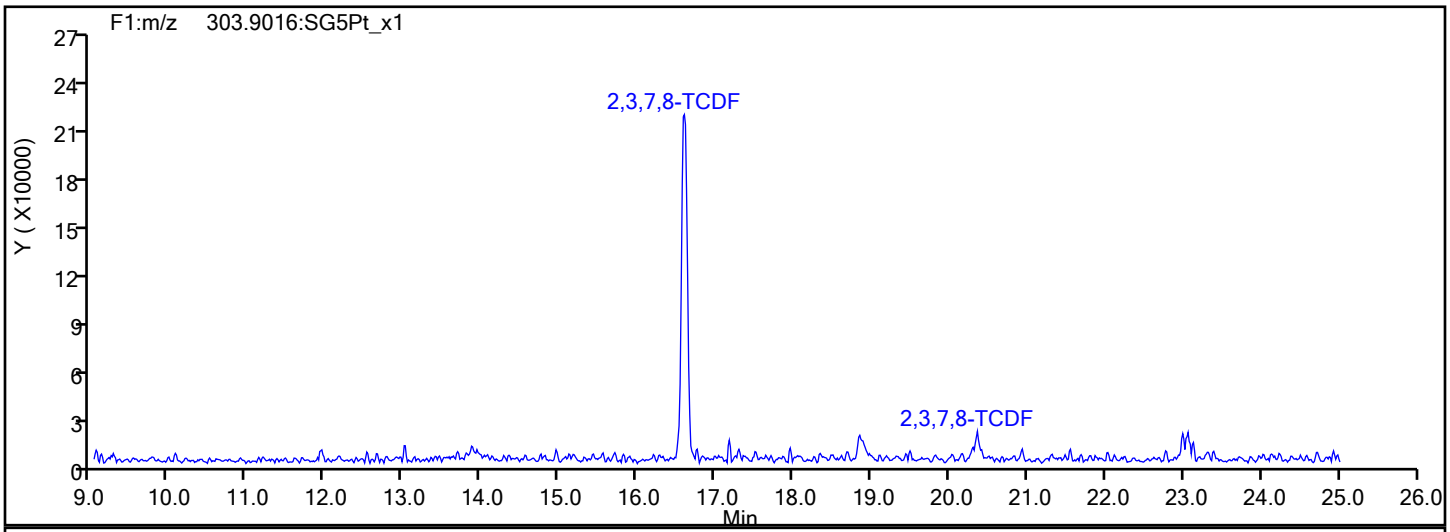

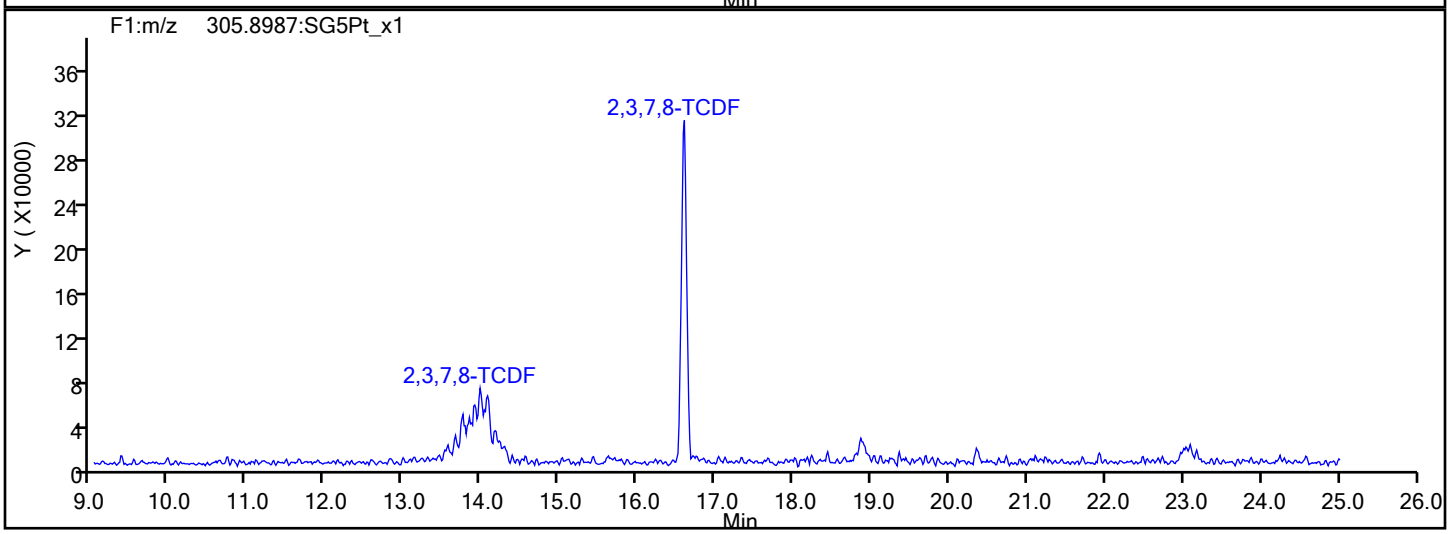

TCDF Interference Mass

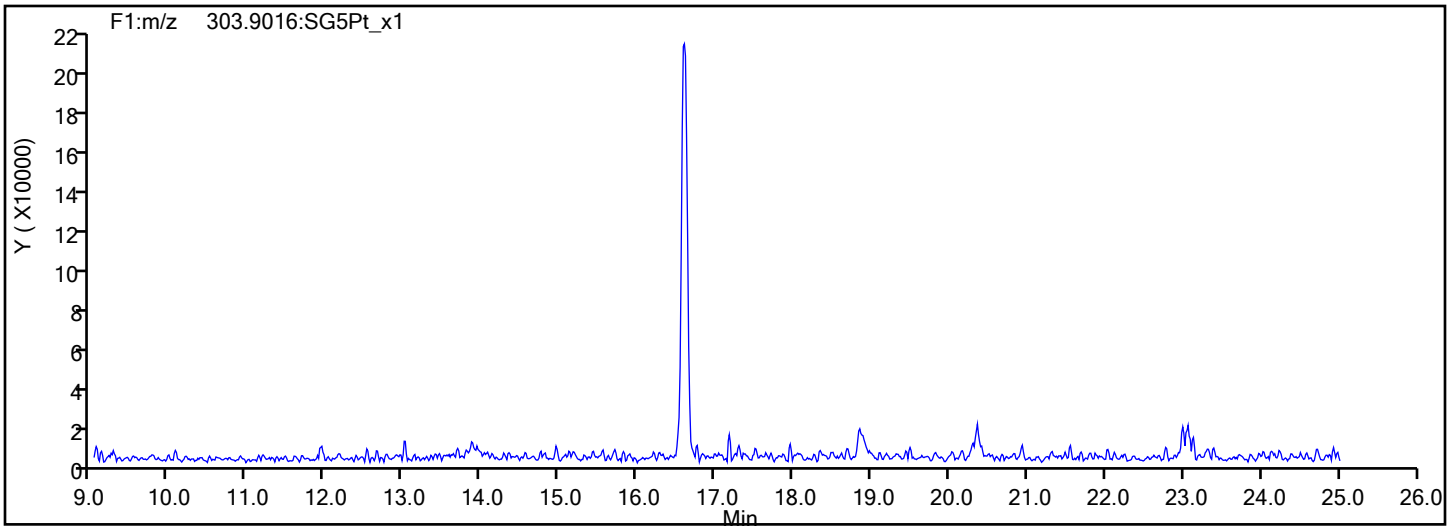

Report Date: 02-Aug-2019 11:51:36 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_004.d		
Injection Date:	02-Aug-2019 03:30:21	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

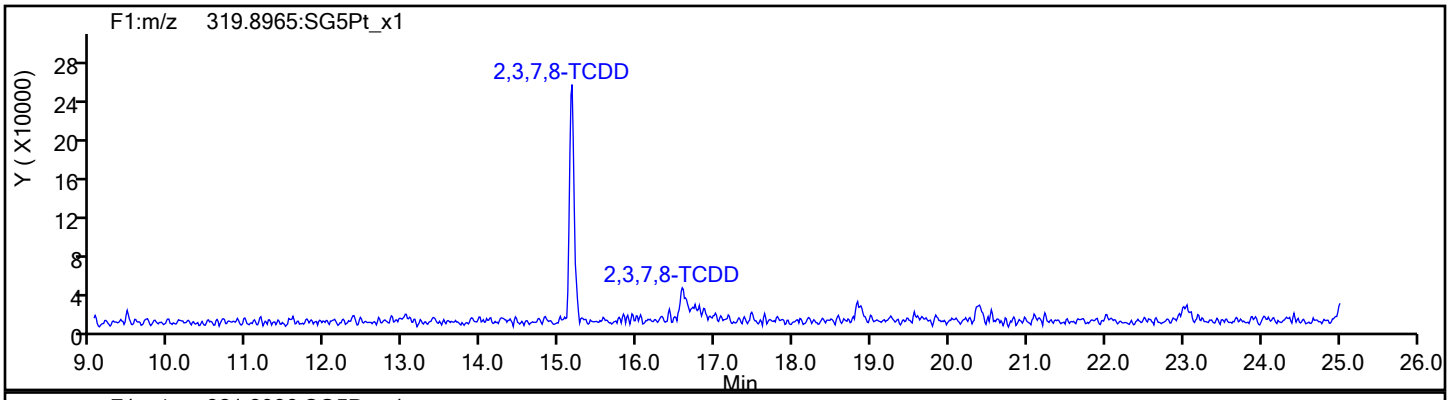

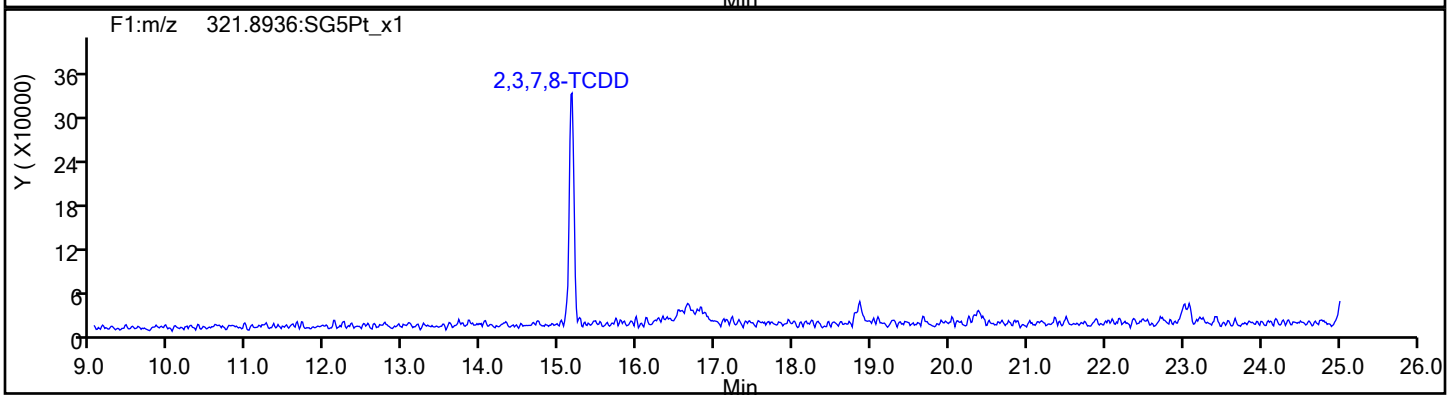

TCDD Standards

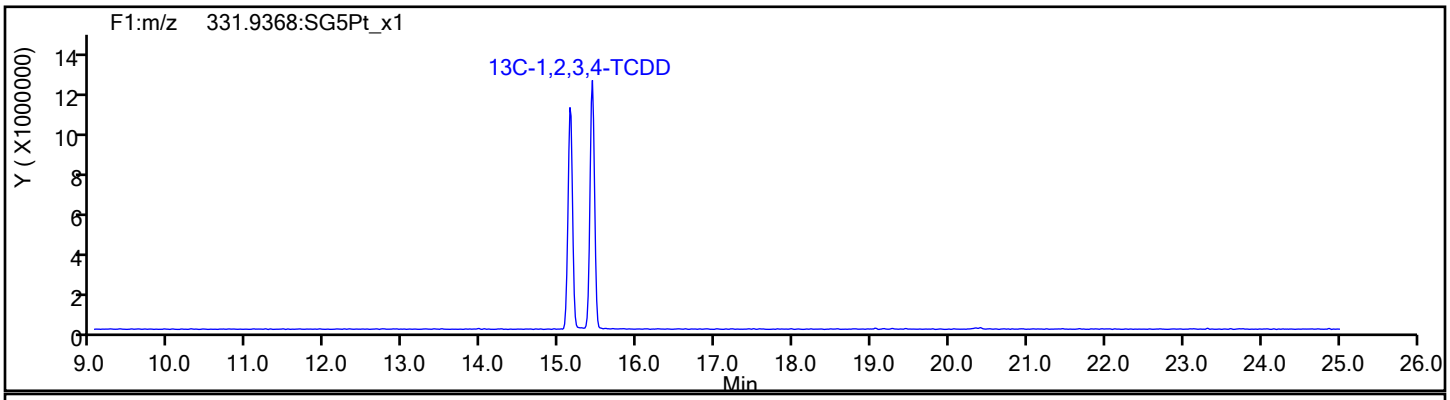

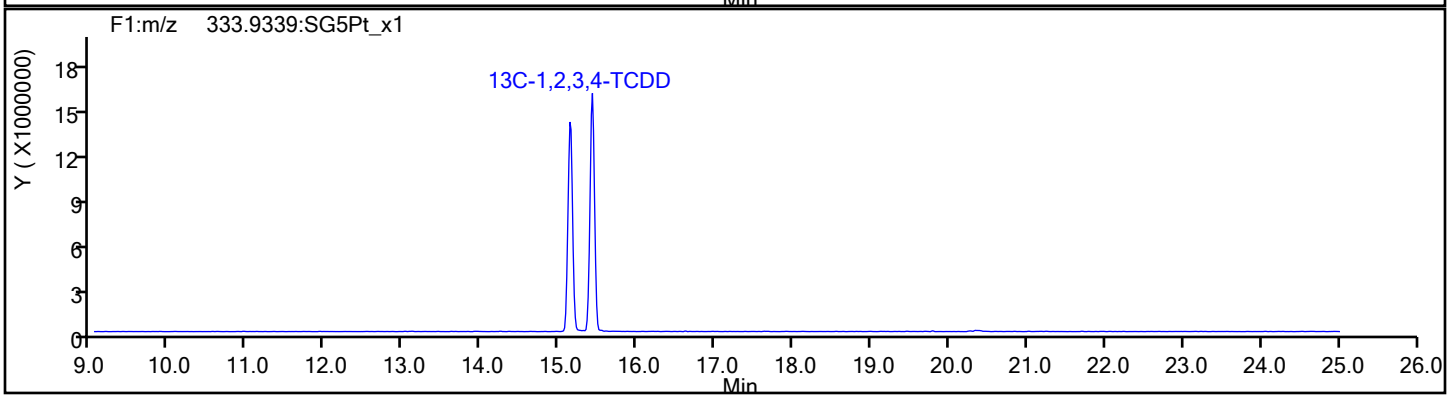

Report Date: 02-Aug-2019 11:51:36 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_004.d		
Injection Date:	02-Aug-2019 03:30:21	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

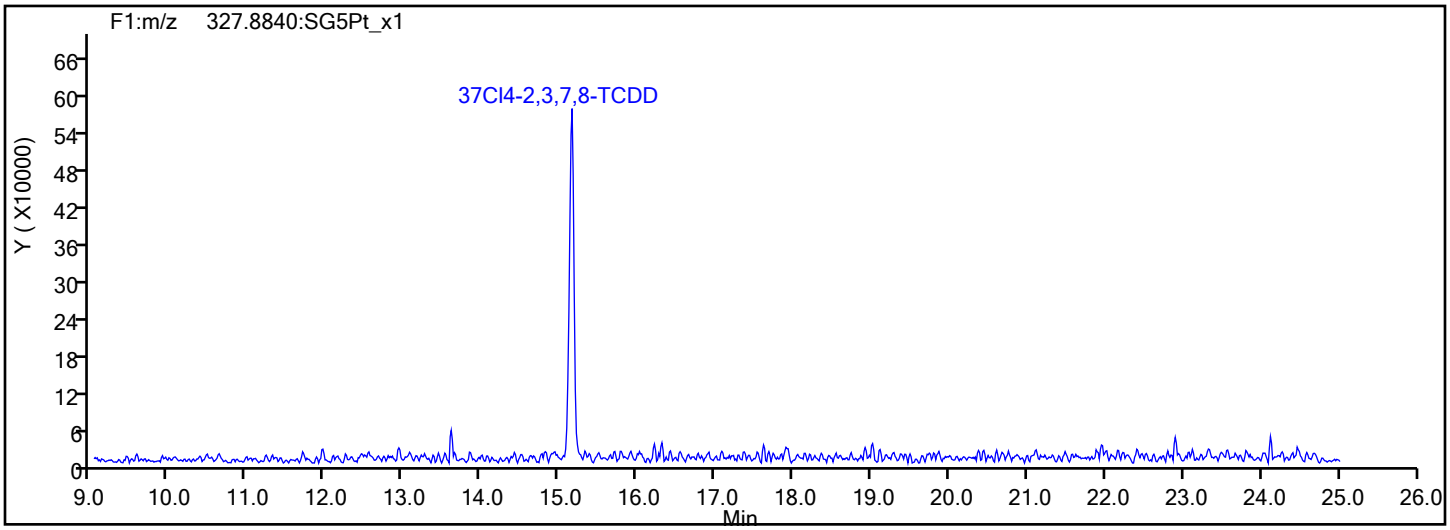

37Cl4-TCDD Standards

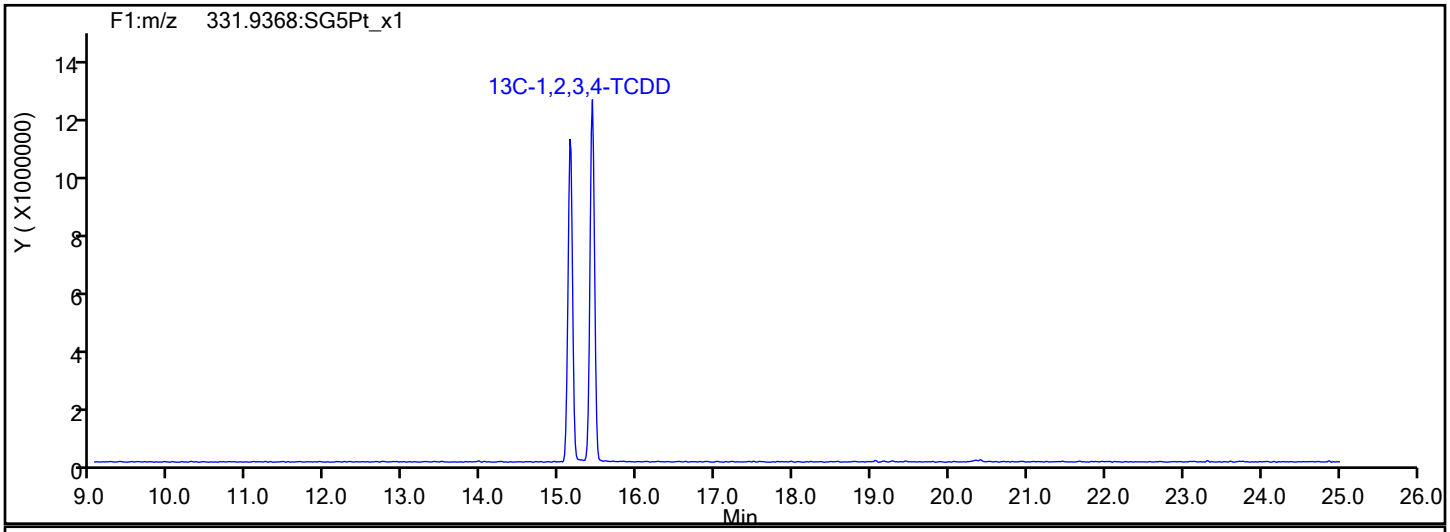

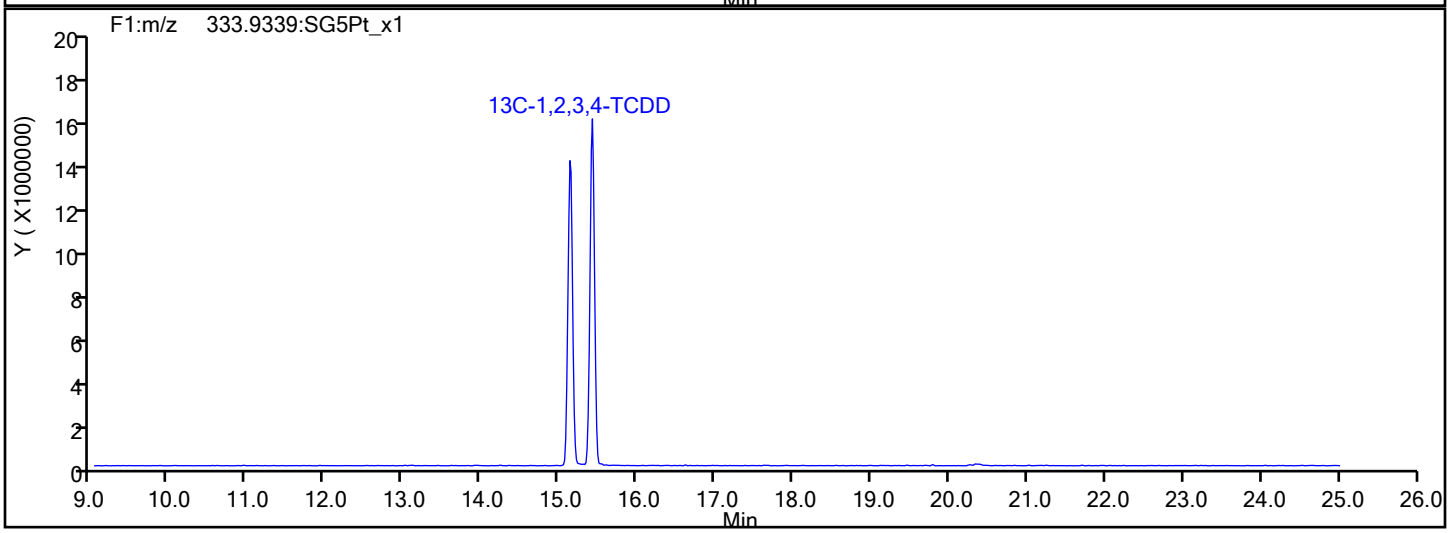

Report Date: 02-Aug-2019 11:51:37 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

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Injection Date:	02-Aug-2019 03:30:21	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	4
Column Type:	DB-225	Column Dia:	0.32 mm

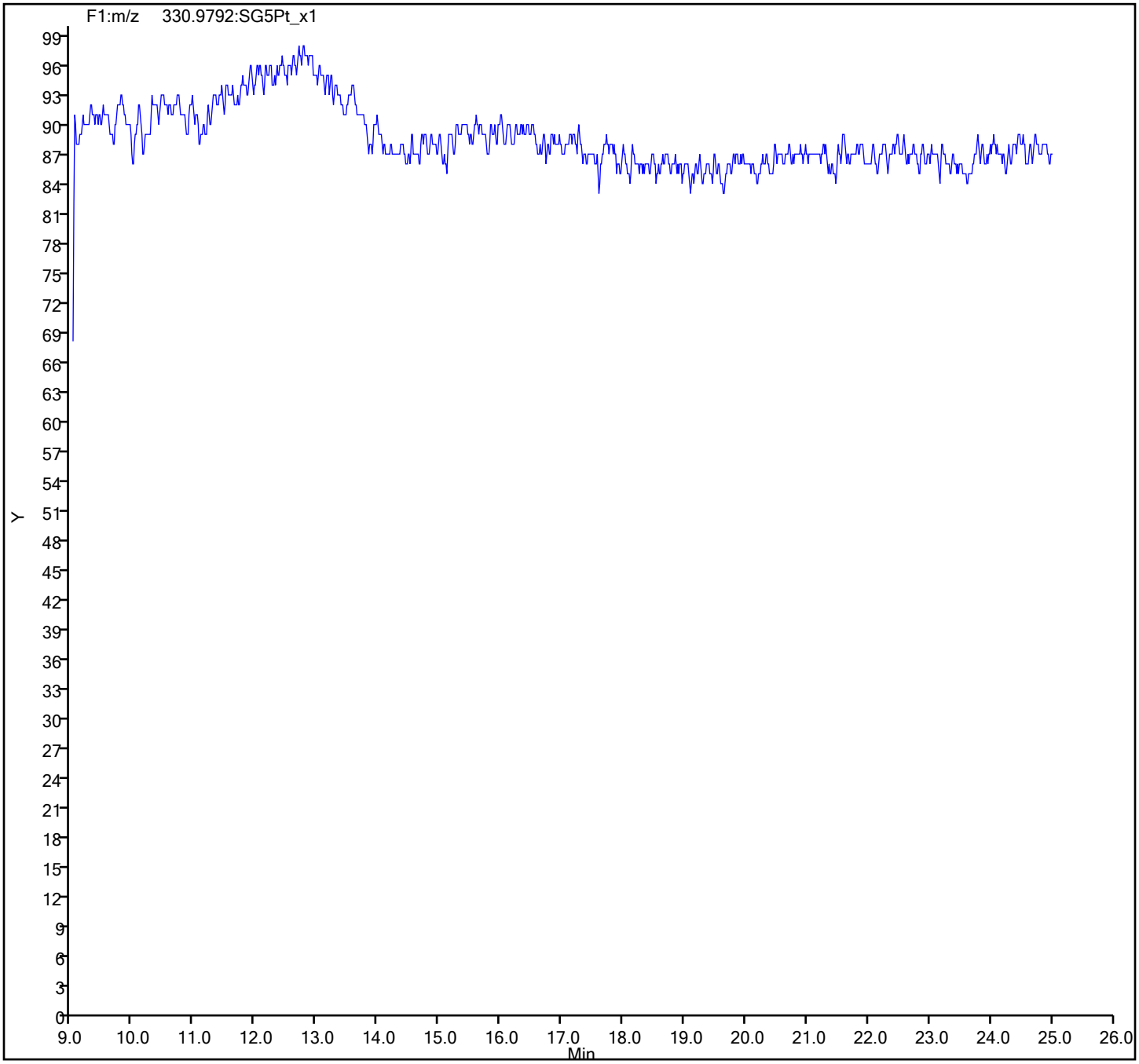

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_005.d
Lims ID: IC 4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 02-Aug-2019 04:08:39 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-4 HRDXNL4_00084
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:50:13 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 11:50:13

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.424	106319859	0.78	1.1E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.591	144041178	0.79	1.3379	101.3	101.3	0.5534	0.5534	101	
2,3,7,8-TCDF	16.604	11238394	0.76	0.8389	9.301	9.301	0.0827	0.0827	93.01	
D 13C-2,3,7,8-TCDD	15.136	102100937	0.77	0.9388	102.3	102.3	0.2809	0.2809	102	
2,3,7,8-TCDD	15.164	10136940	0.76	1.1538	8.605	8.605	0.1498	0.1498	86.05	
$ 37Cl4-2,3,7,8-TCDD	15.164	9929024		1.1816	7.903	7.903	0.1068	0.1068	98.79	
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNL4_00084 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_005.d
Lims ID: IC 4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 02-Aug-2019 04:08:39 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-4 HRDXNL4_00084
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:50:13 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 11:50:13

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.424	15.416	0		46708197	10977681	16216	40540	677		
333.9339	15.424	15.416	0		59611662	14687691	10856	27140	1353	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.591	16.580	1	1.076	63548576	13720043	50935	127337	269		
317.9389	16.591	16.580	1	1.076	80492602	17728003	25076	62690	707	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.604	16.599	0	1.001	4865871	1034824	3394	8485	305		
305.8987	16.604	16.599	0	1.001	6372523	1366111	5328	13320	256	0.76(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.136	15.136	0	0.981	44311856	10806558	16216	40540	666		
333.9339	15.136	15.136	0	0.981	57789081	13912119	10856	27140	1282	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.164	15.156	0	1.002	4381105	1087501	6755	16887	161		
321.8936	15.164	15.156	0	1.002	5755835	1373692	10330	25825	133	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.164	15.158	0	0.983	9929024	2303011	12961	32402	178		
Total 2378-Chlorinated Dioxins & Furans											
		0.0	0								

Reagents:

HRDXNL4_00084 Amount Added: 1.00 Units: mL

Report Date: 02-Aug-2019 11:50:37 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_005.d		
Injection Date:	02-Aug-2019 04:08:39	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

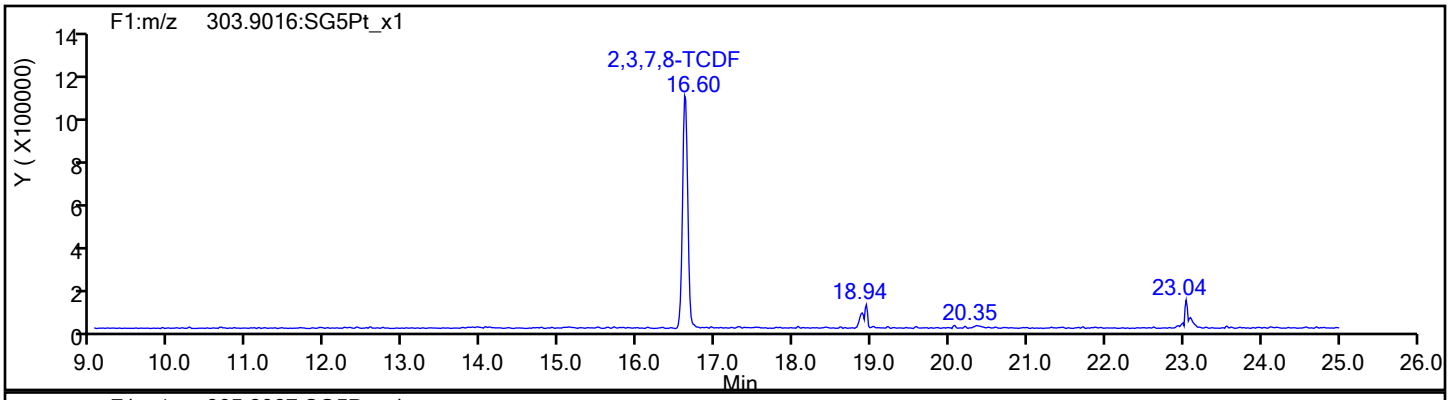

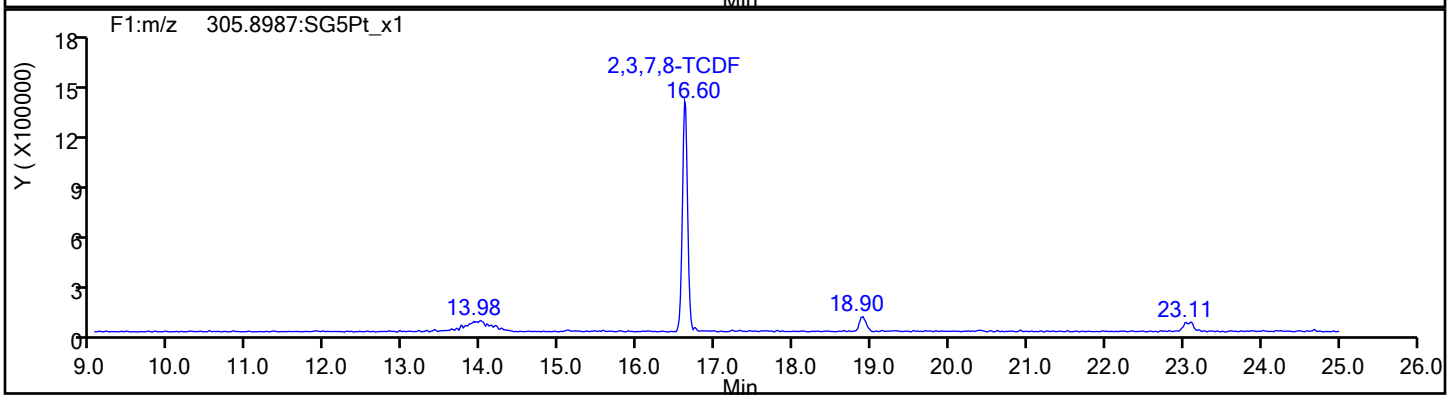

TCDF Standards

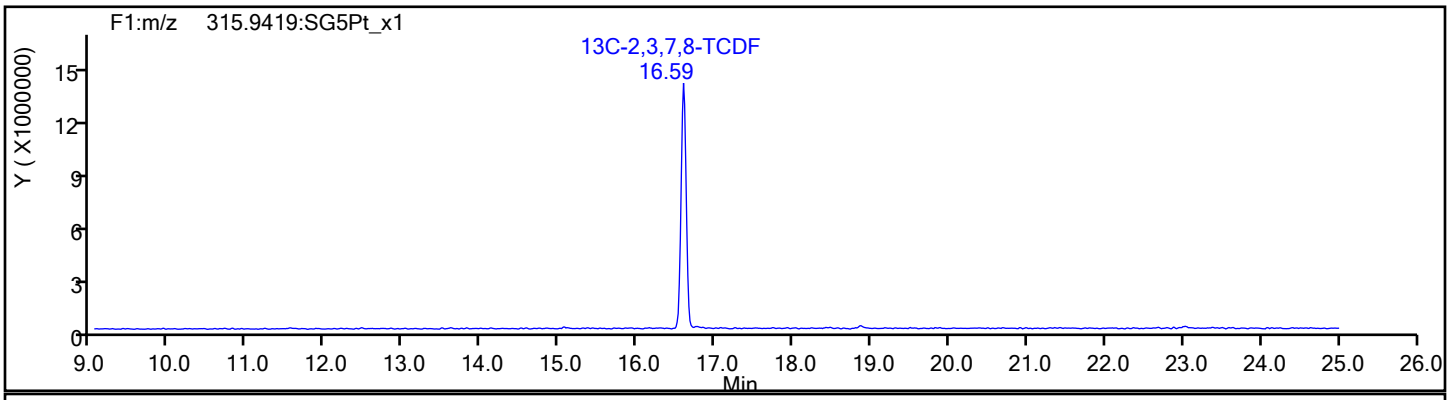

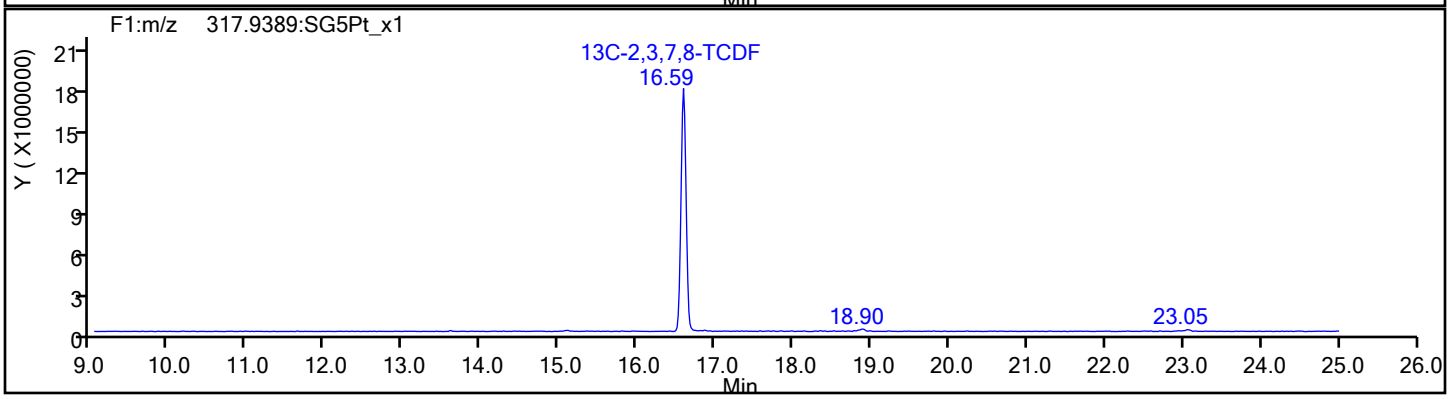

Report Date: 02-Aug-2019 11:50:37 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_005.d		
Injection Date:	02-Aug-2019 04:08:39	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

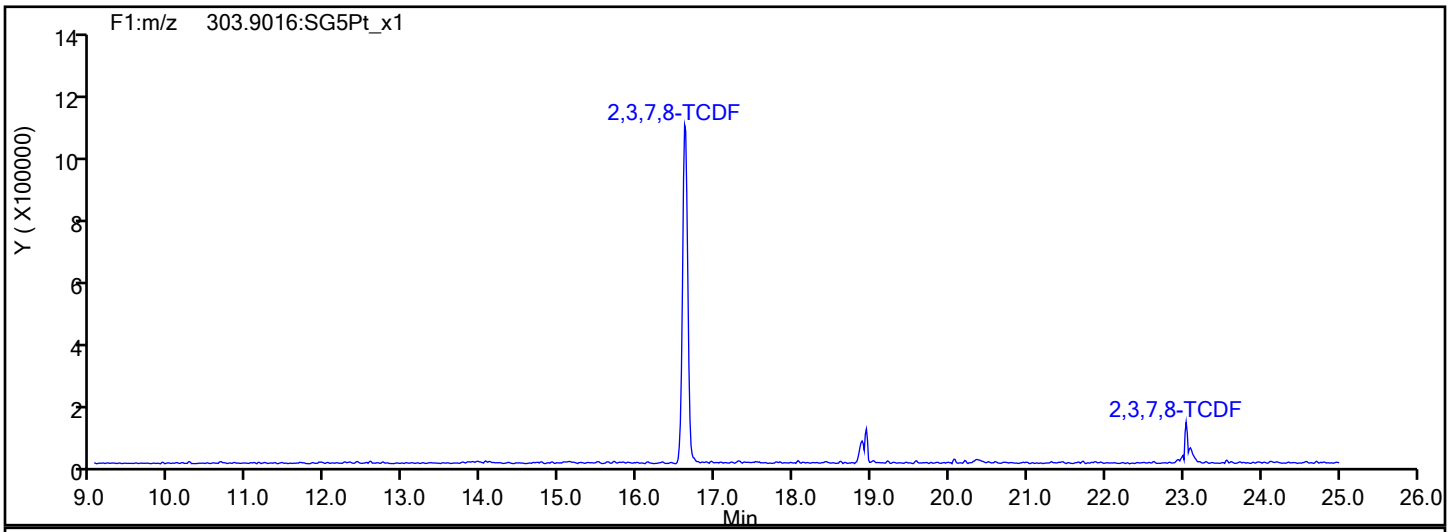

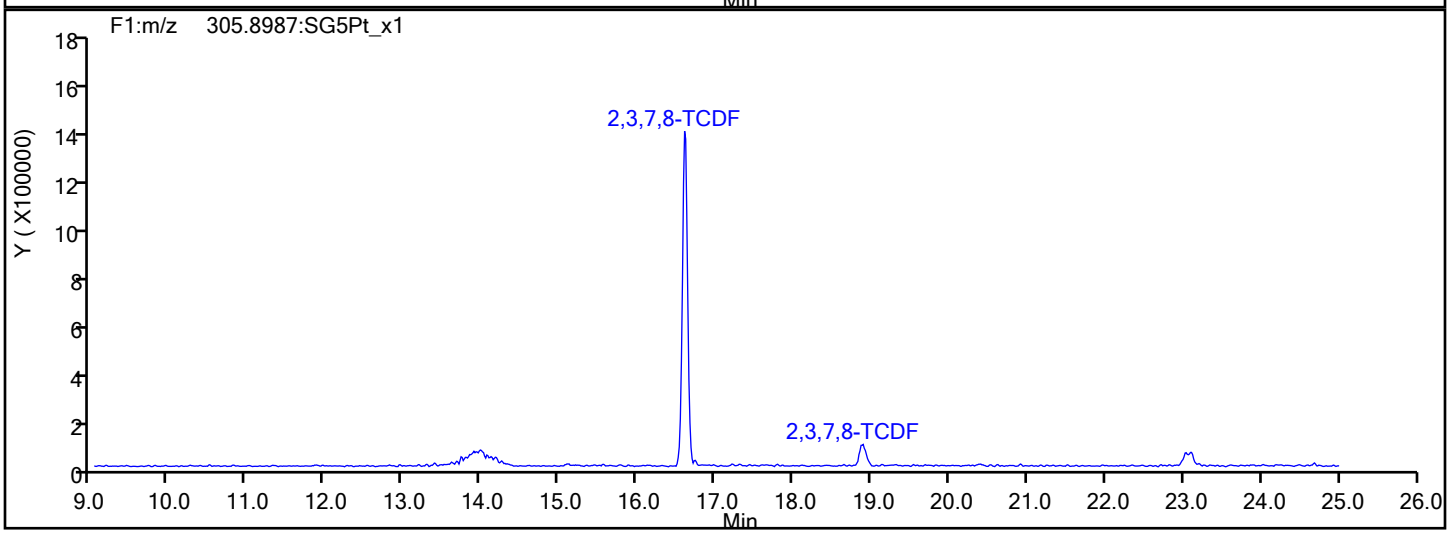

TCDF Interference Mass

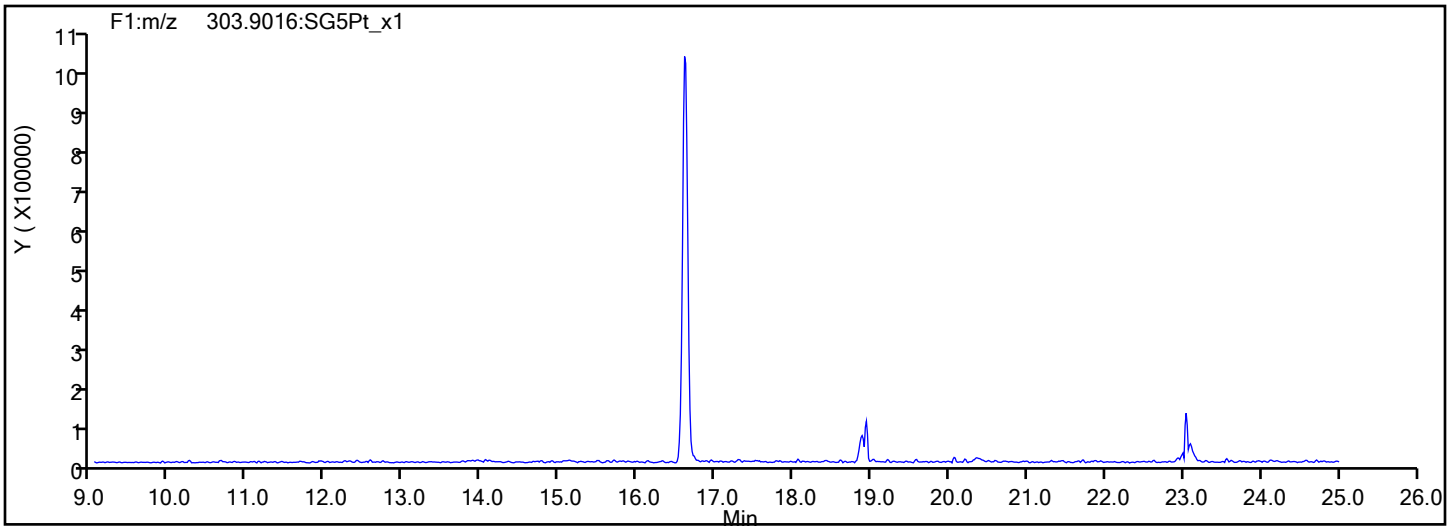

Report Date: 02-Aug-2019 11:50:37 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_005.d		
Injection Date:	02-Aug-2019 04:08:39	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

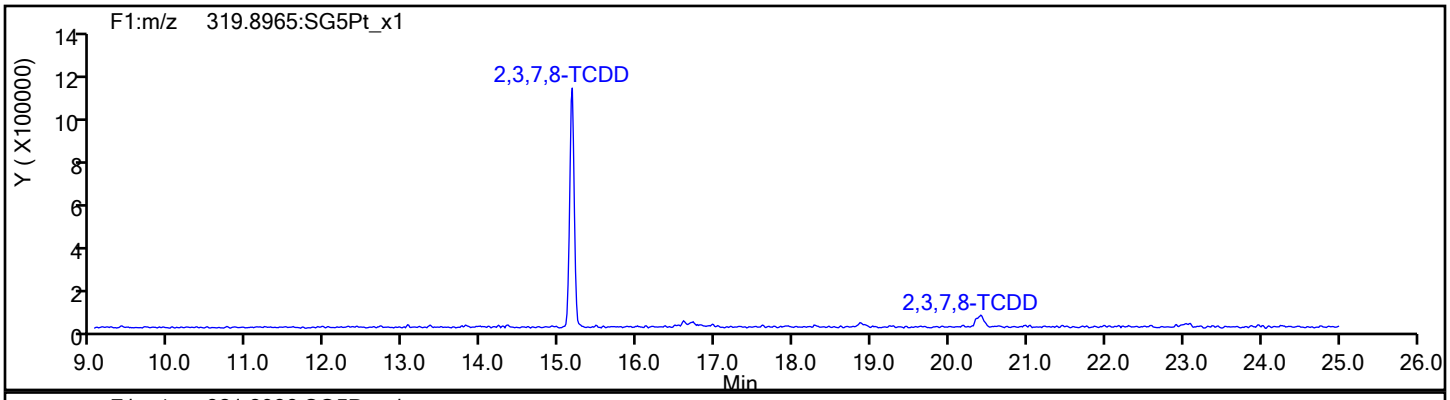

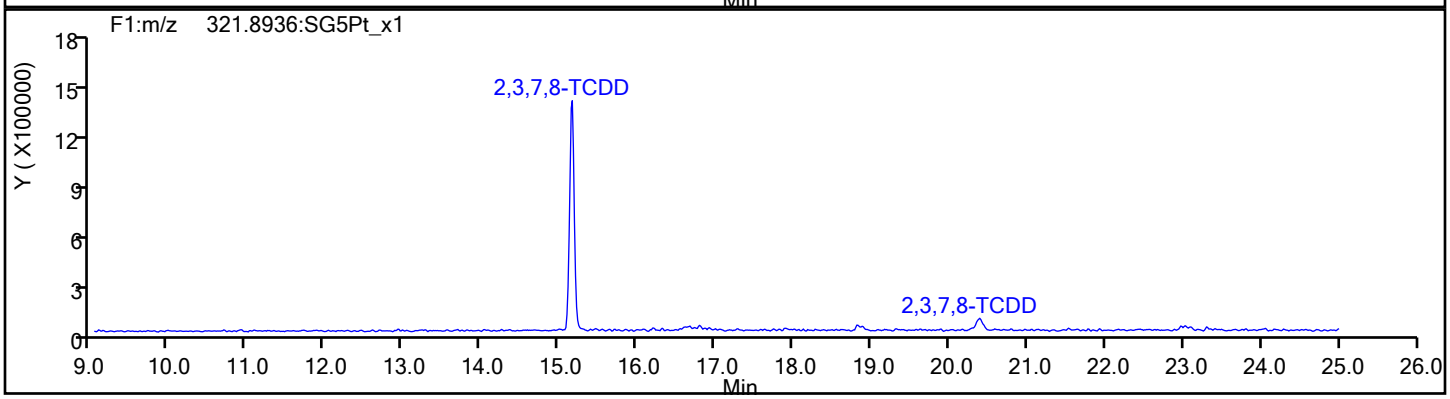

TCDD Standards

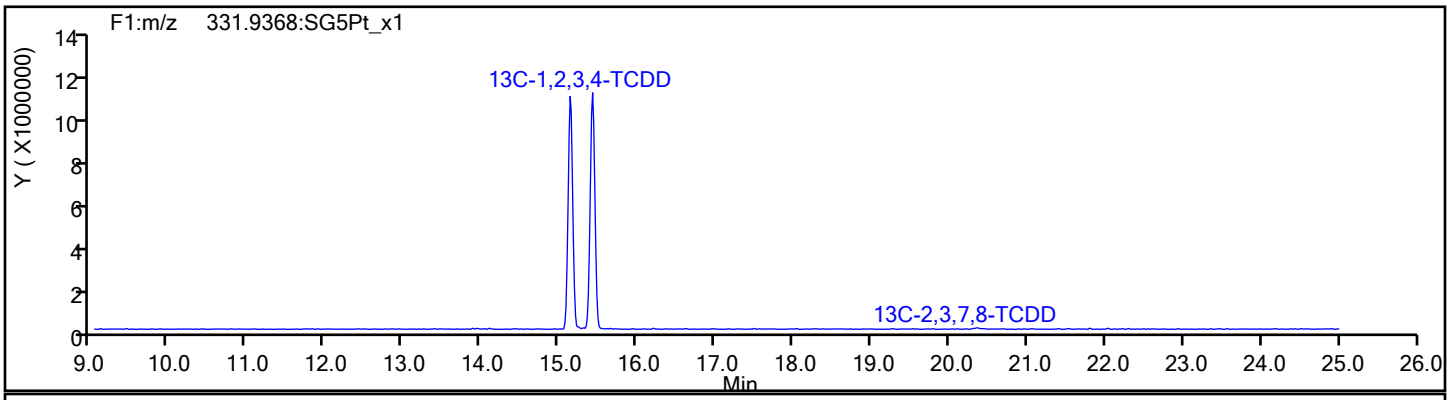

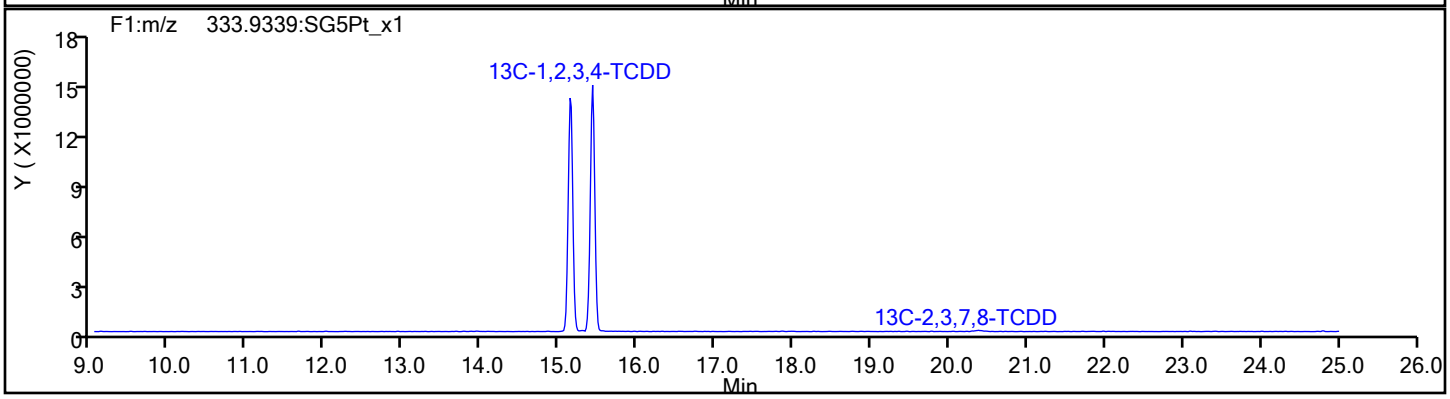

Report Date: 02-Aug-2019 11:50:37 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_005.d		
Injection Date:	02-Aug-2019 04:08:39	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

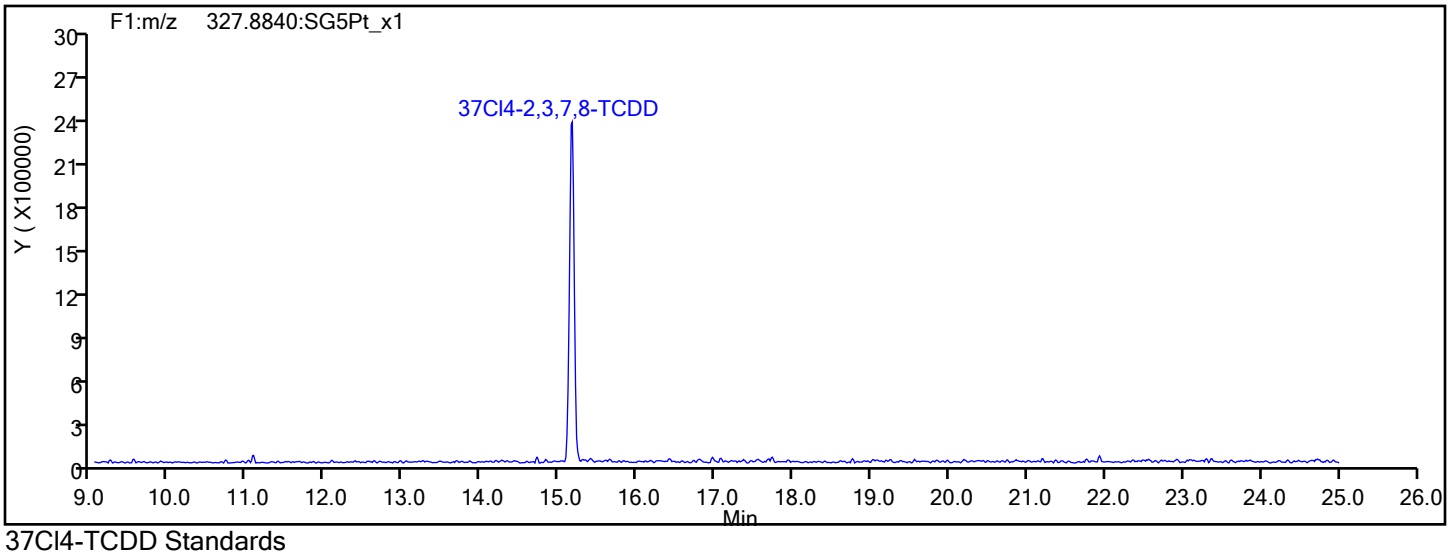

37Cl4-TCDD Standards

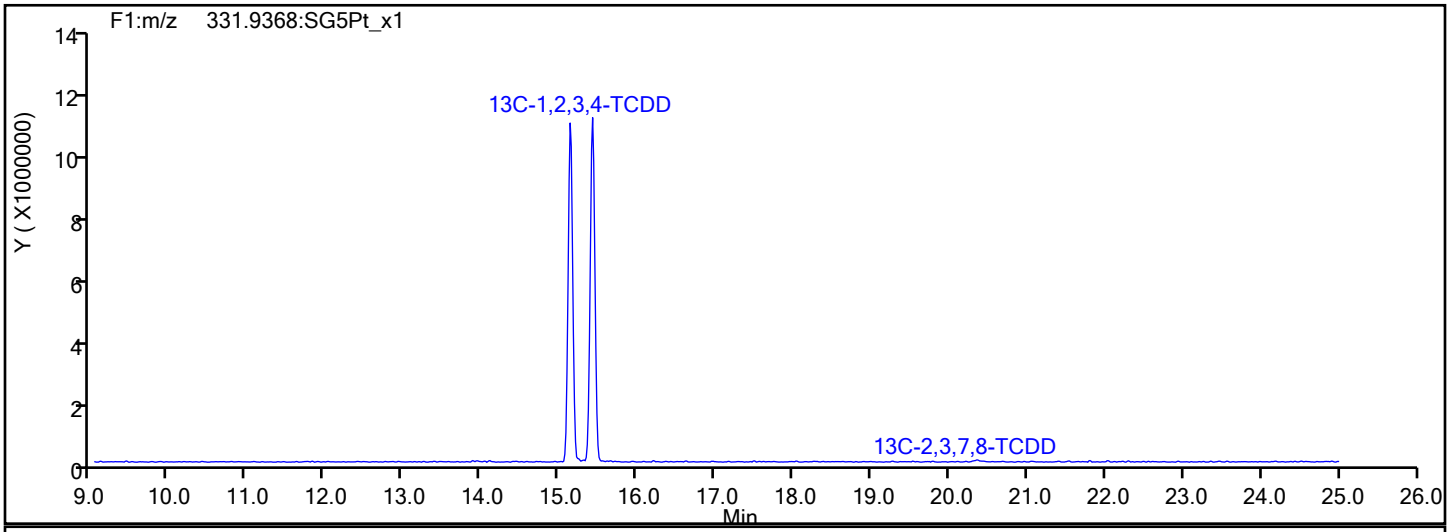

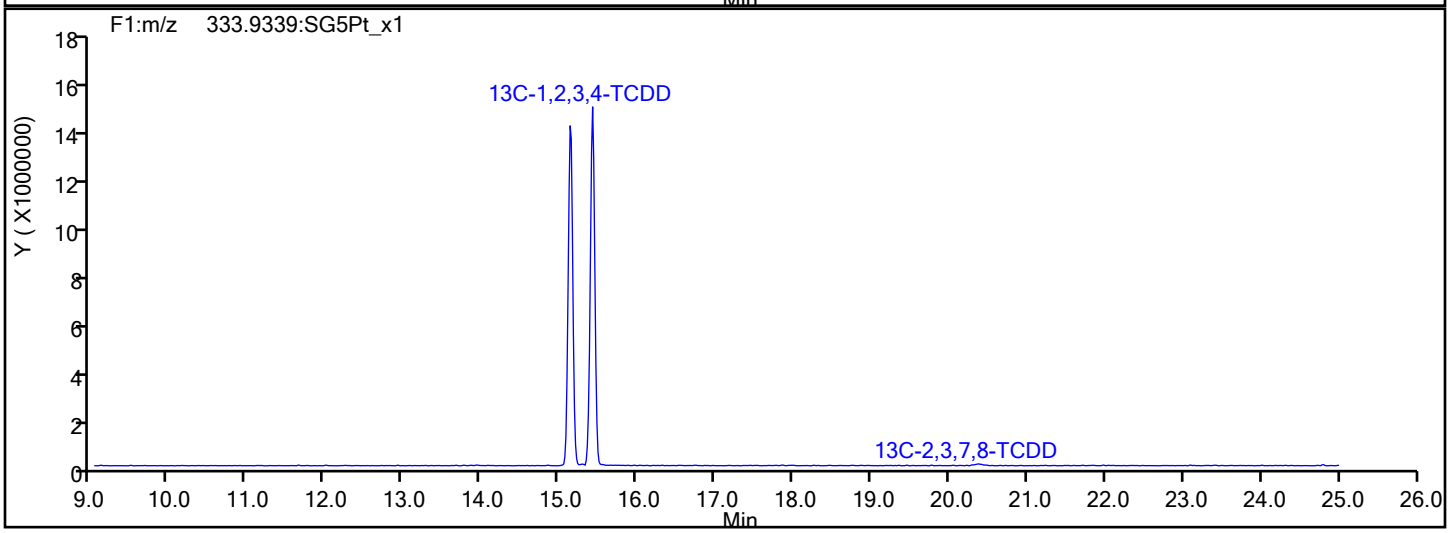

Report Date: 02-Aug-2019 11:50:37 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_005.d		
Injection Date:	02-Aug-2019 04:08:39	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	5
Column Type:	DB-225	Column Dia:	0.32 mm

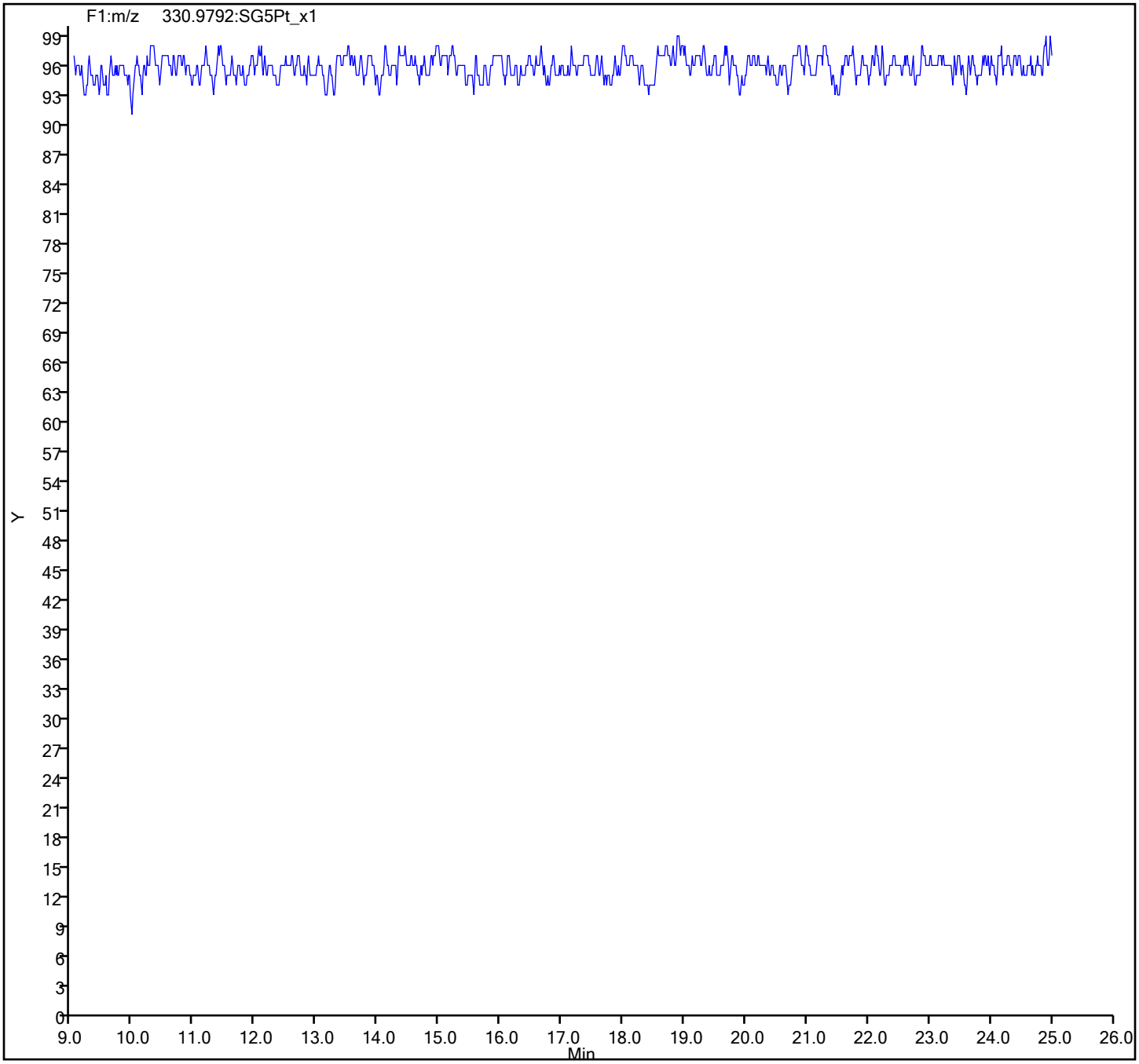

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_006.d
Lims ID: IC 5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 02-Aug-2019 04:46:57 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-5 HRDXNL5_00028
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:52:00 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:44:08

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.407	115018689	0.78	1.1E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.573	144459393	0.77	1.3379	93.9	93.9	0.5274	0.5274	93.87	
2,3,7,8-TCDF	16.586	46575552	0.77	0.8389	38.4	38.4	0.1167	0.1167	96.08	
D 13C-2,3,7,8-TCDD	15.132	106968299	0.77	0.9388	99.1	99.1	0.2830	0.2830	99.06	
2,3,7,8-TCDD	15.146	48146783	0.76	1.1538	39.0	39.0	0.1640	0.1640	97.53	
$ 37Cl4-2,3,7,8-TCDD	15.146	56650769		1.1816	41.7	41.7	0.0894	0.0894	104	
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNL5_00028 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_006.d
Lims ID: IC 5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 02-Aug-2019 04:46:57 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-5 HRDXNL5_00028
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:52:00 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:44:08

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.407	15.416	-1		50351038	12128425	19106	47765	635		
333.9339	15.407	15.416	-1		64667651	15935590	10721	26802	1486	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.573	16.580	0	1.076	62832695	14048507	53452	133630	263		
317.9389	16.573	16.580	0	1.076	81626698	17801662	25764	64410	691	0.77(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.586	16.599	-1	1.001	20335382	4486199	5024	12560	893		
305.8987	16.586	16.599	-1	1.001	26240170	5630982	7452	18630	756	0.77(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.132	15.136	0	0.982	46501097	11086056	19106	47765	580		
333.9339	15.118	15.136	-1	0.981	60467202	14396233	10721	26802	1343	0.77(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.146	15.156	-1	1.001	20863773	5196689	8344	20860	623		
321.8936	15.146	15.156	-1	1.001	27283010	6610856	10939	27347	604	0.76(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.146	15.158	-1	0.983	56650769	13763841	11857	29642	1161		

Total 2378-Chlorinated Dioxins & Furans
0.0 0

Reagents:

HRDXNL5_00028 Amount Added: 1.00 Units: mL

Report Date: 02-Aug-2019 11:52:18 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_006.d		
Injection Date:	02-Aug-2019 04:46:57	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

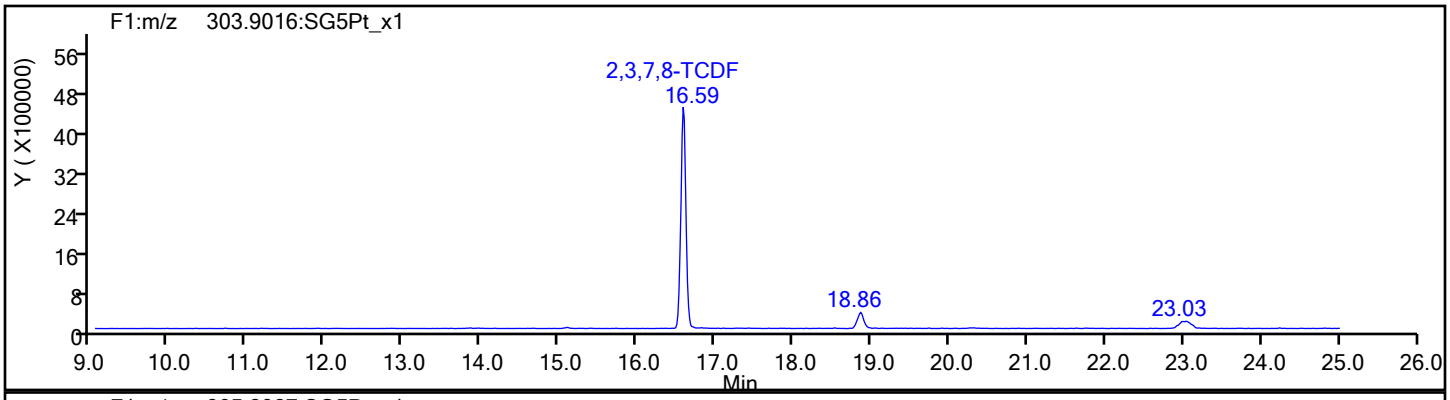

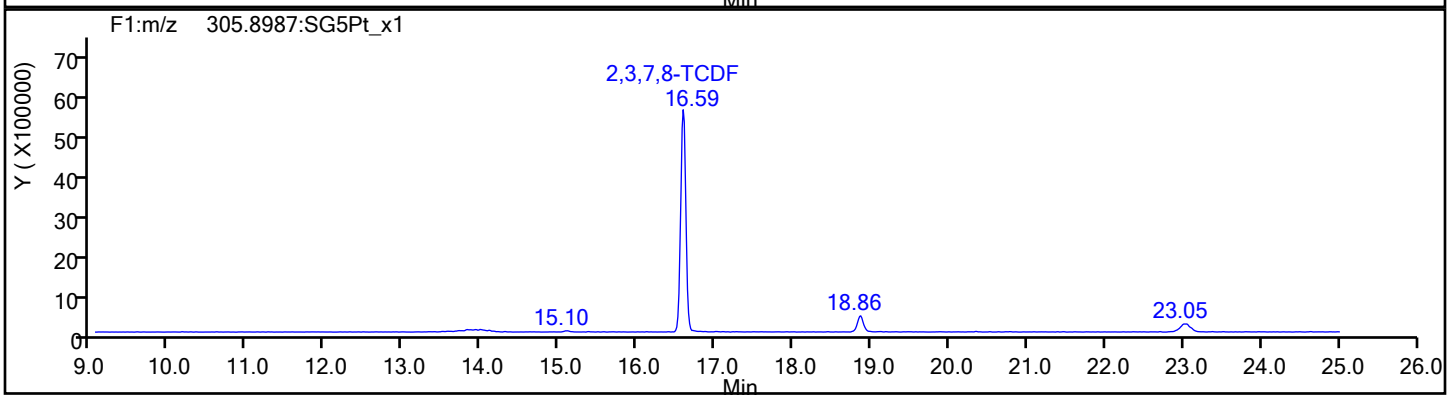

TCDF Standards

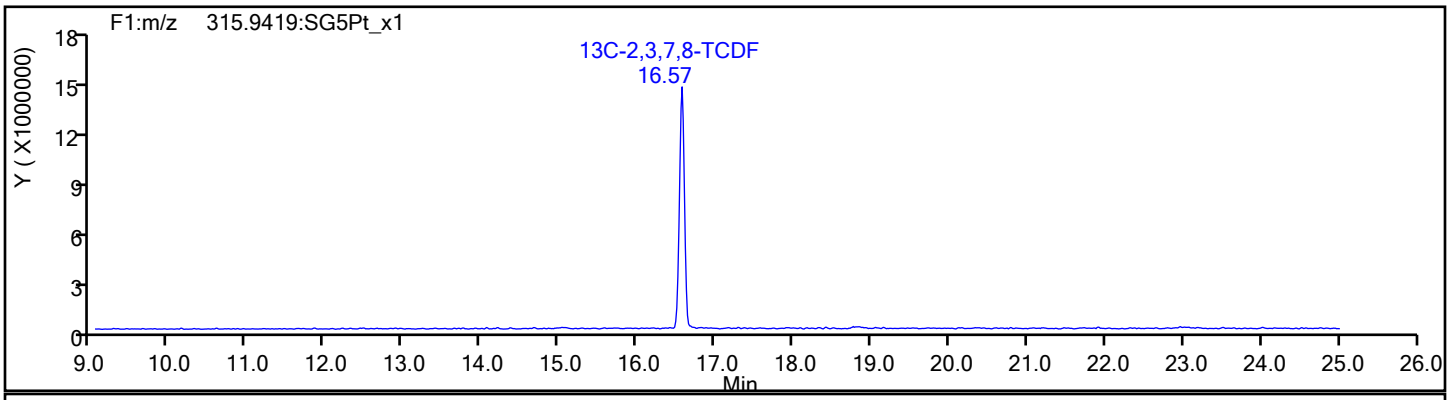

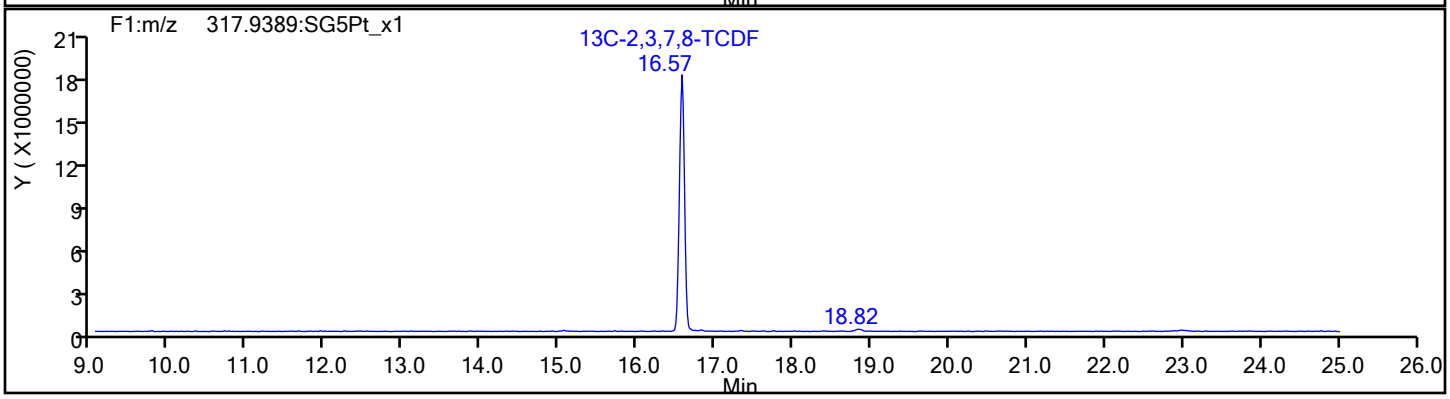

Report Date: 02-Aug-2019 11:52:18 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_006.d		
Injection Date:	02-Aug-2019 04:46:57	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

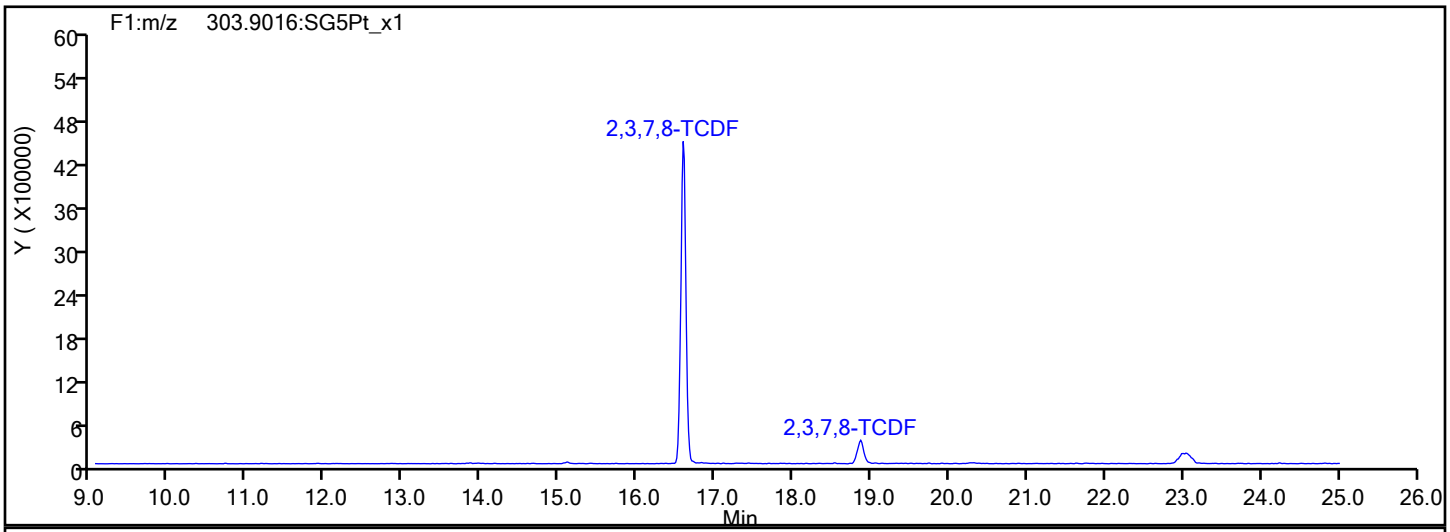

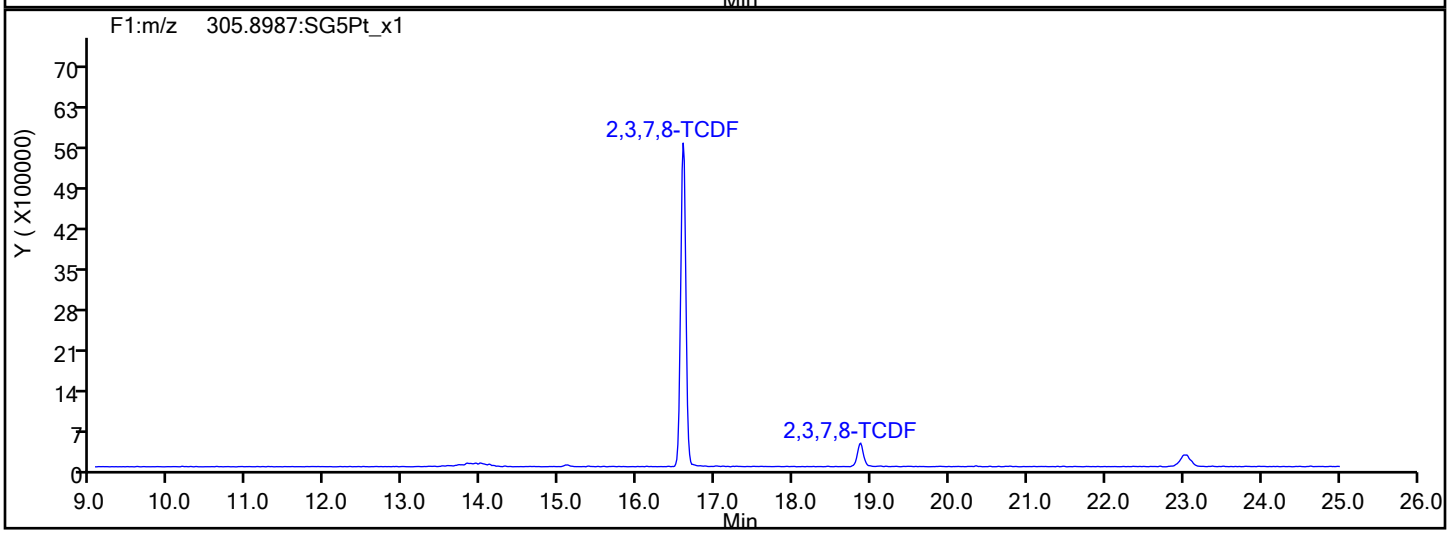

TCDF Interference Mass

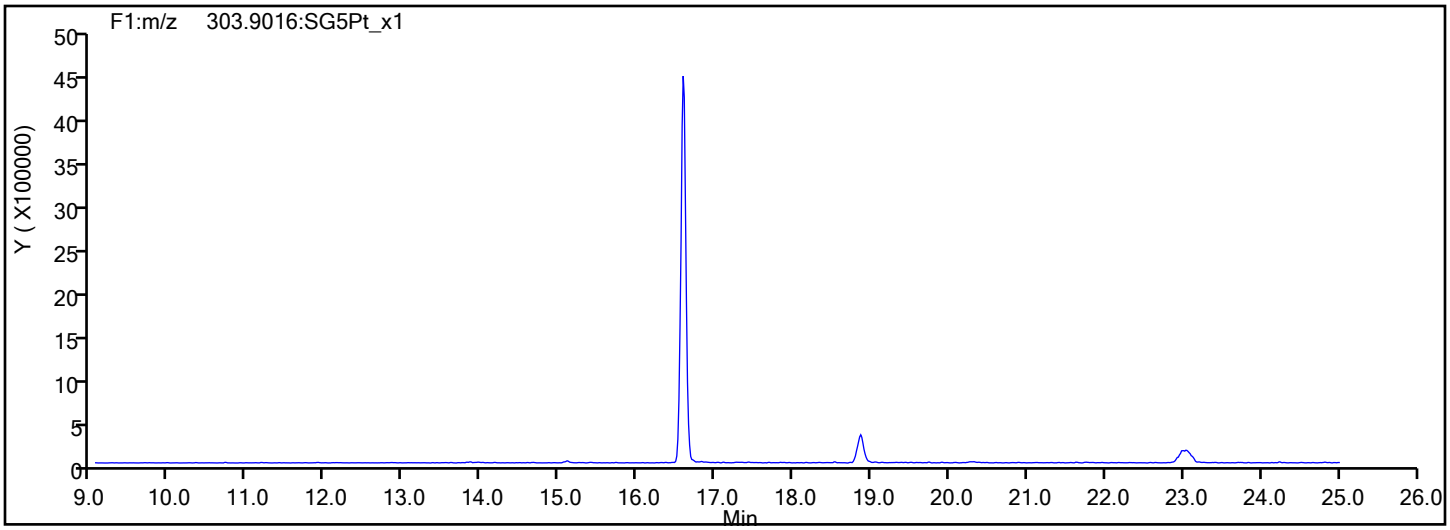

Report Date: 02-Aug-2019 11:52:18 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_006.d		
Injection Date:	02-Aug-2019 04:46:57	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

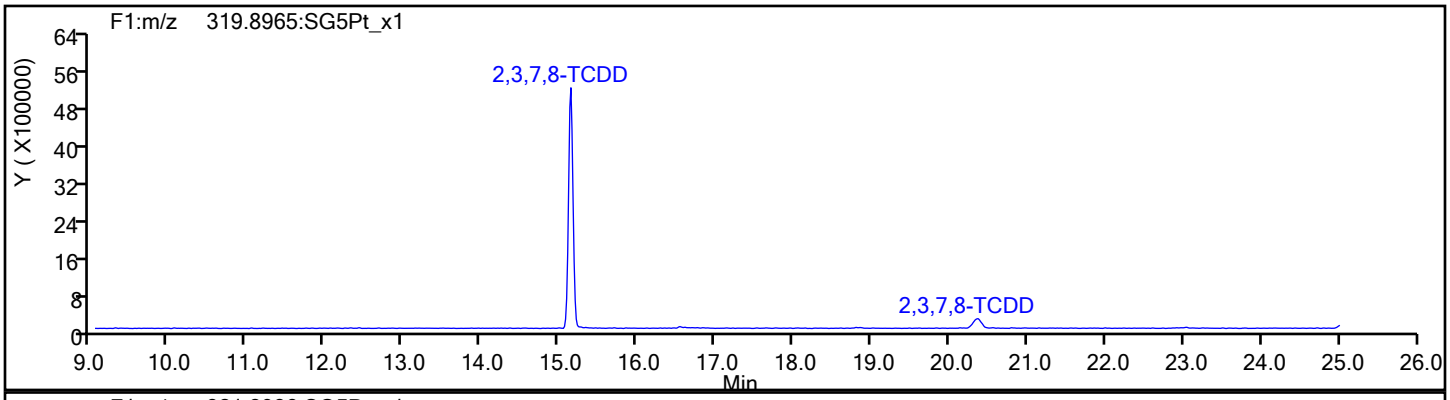

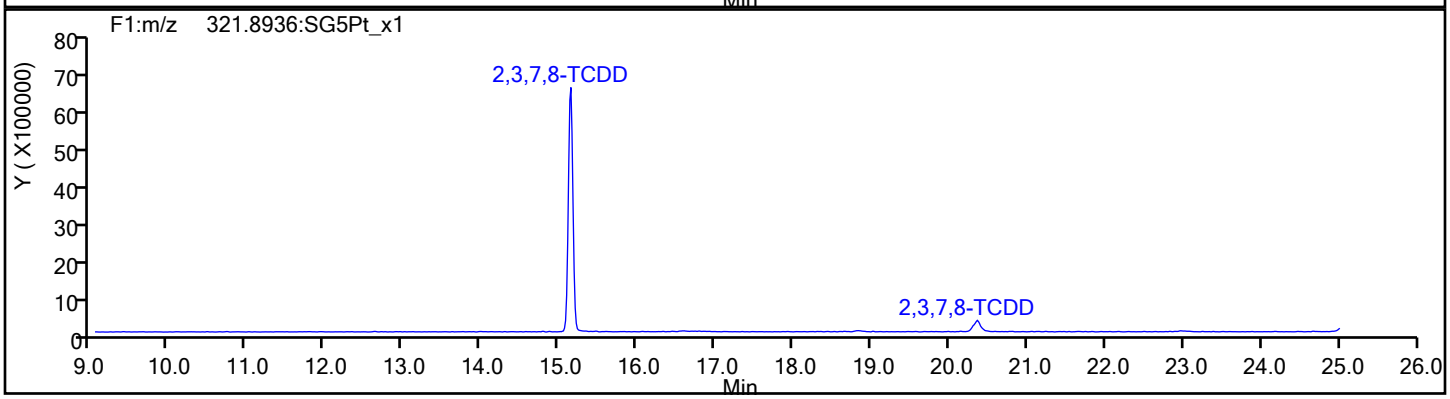

TCDD Standards

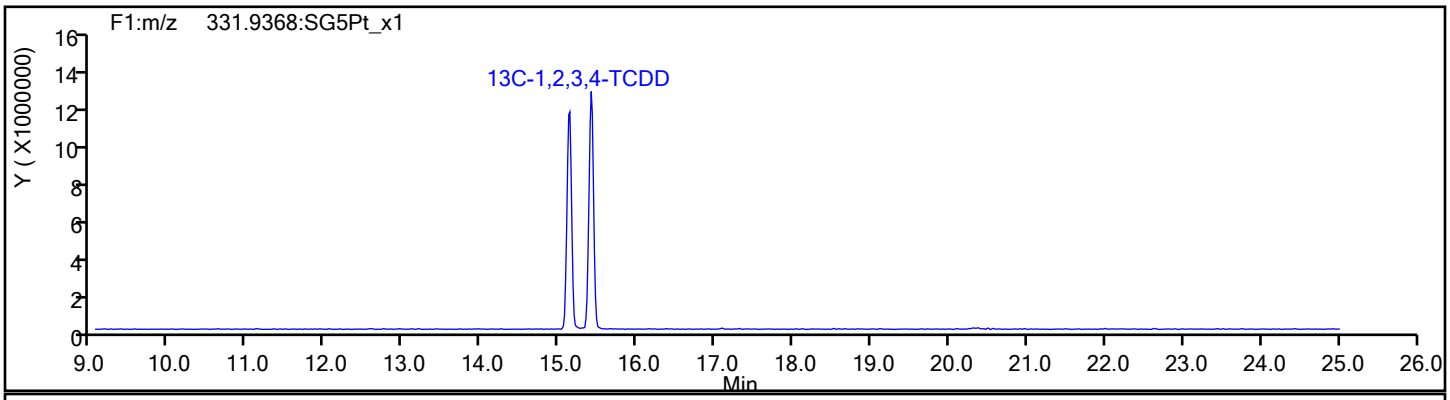

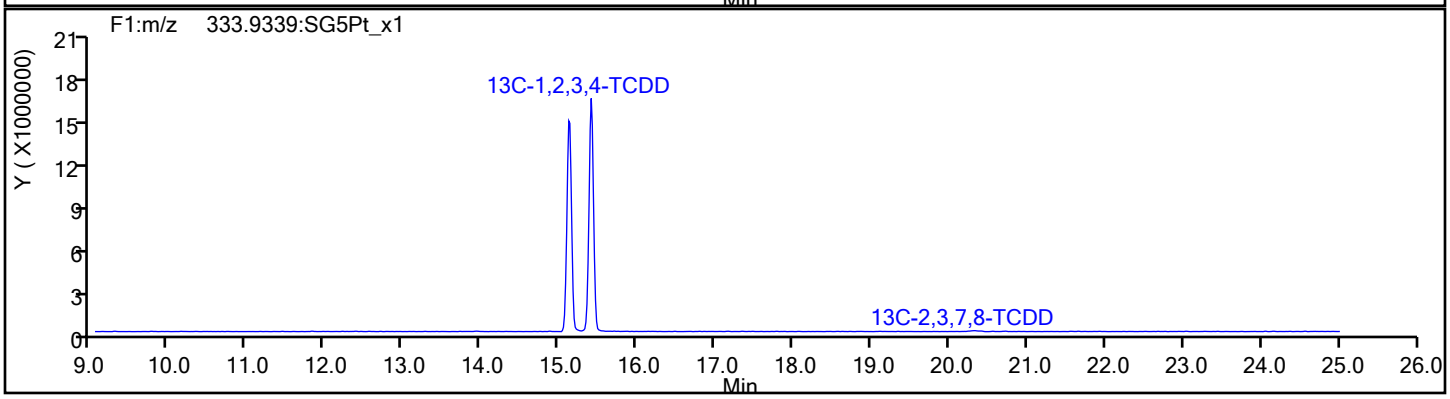

Report Date: 02-Aug-2019 11:52:18 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_006.d		
Injection Date:	02-Aug-2019 04:46:57	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

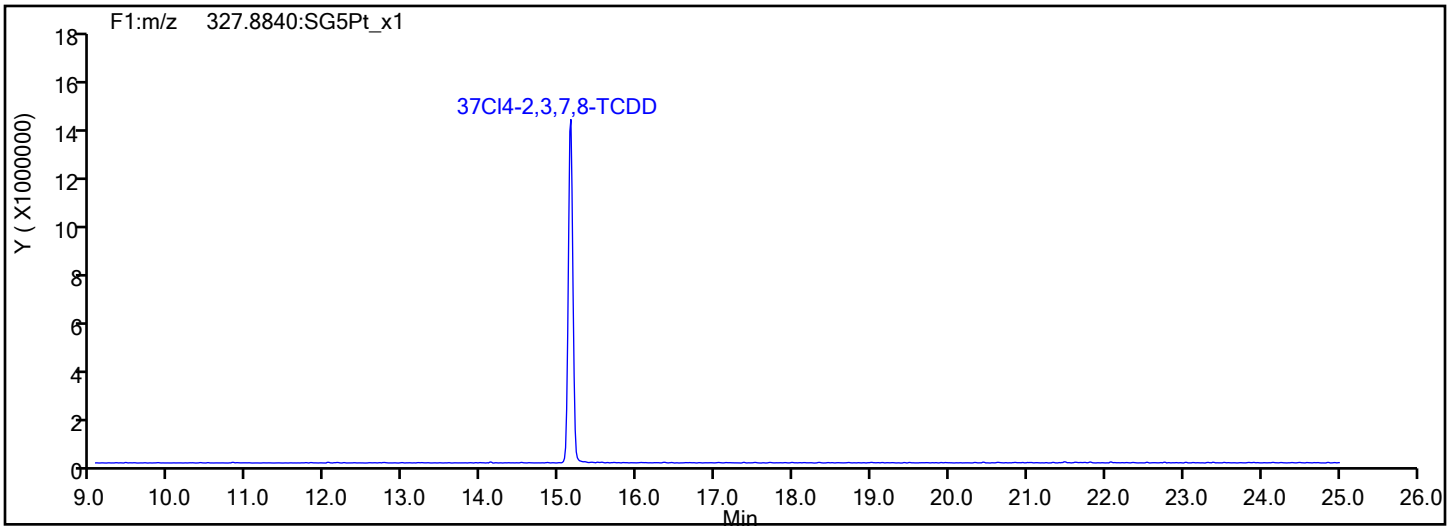

37Cl4-TCDD Standards

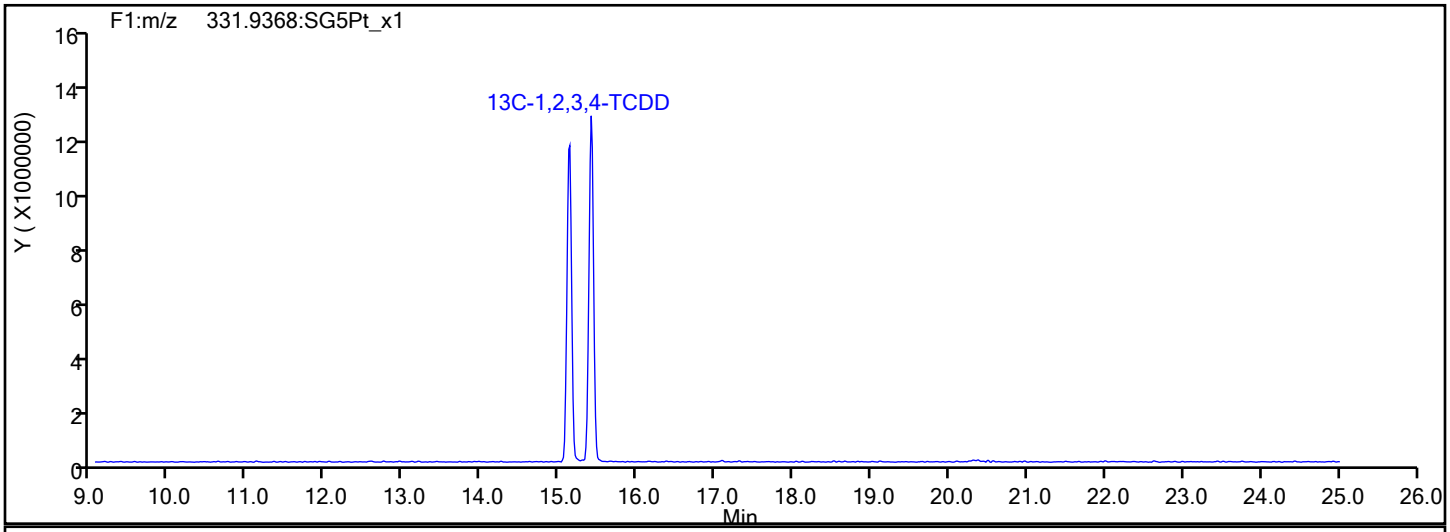

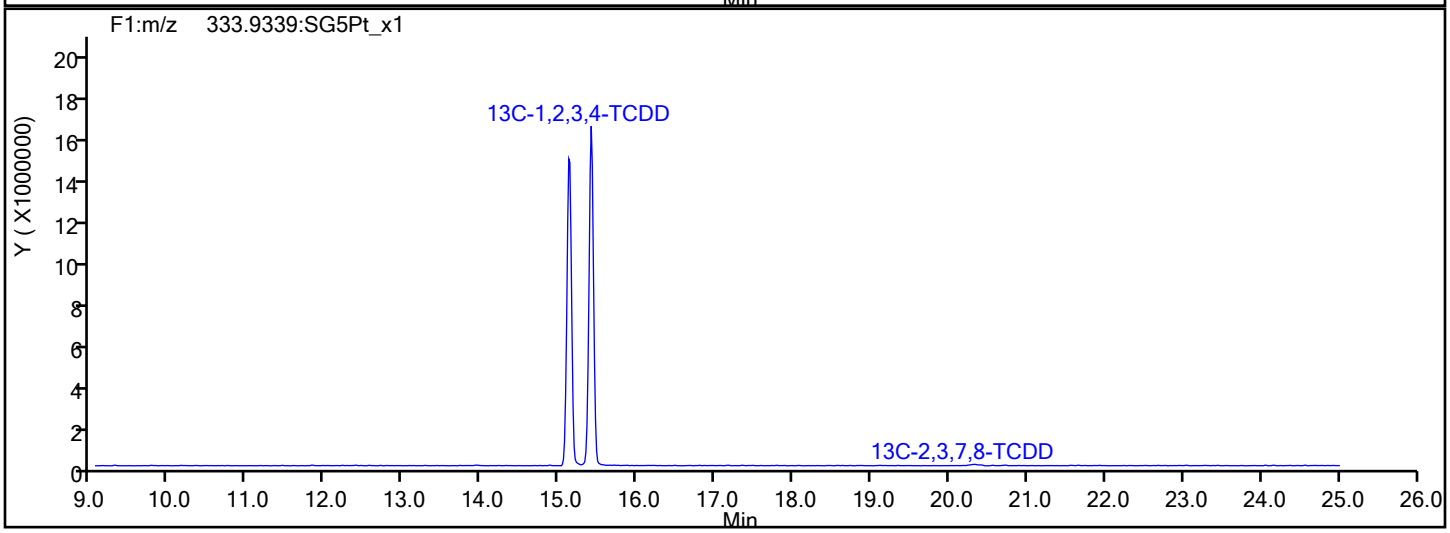

Report Date: 02-Aug-2019 11:52:19 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_006.d		
Injection Date:	02-Aug-2019 04:46:57	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	6
Column Type:	DB-225	Column Dia:	0.32 mm

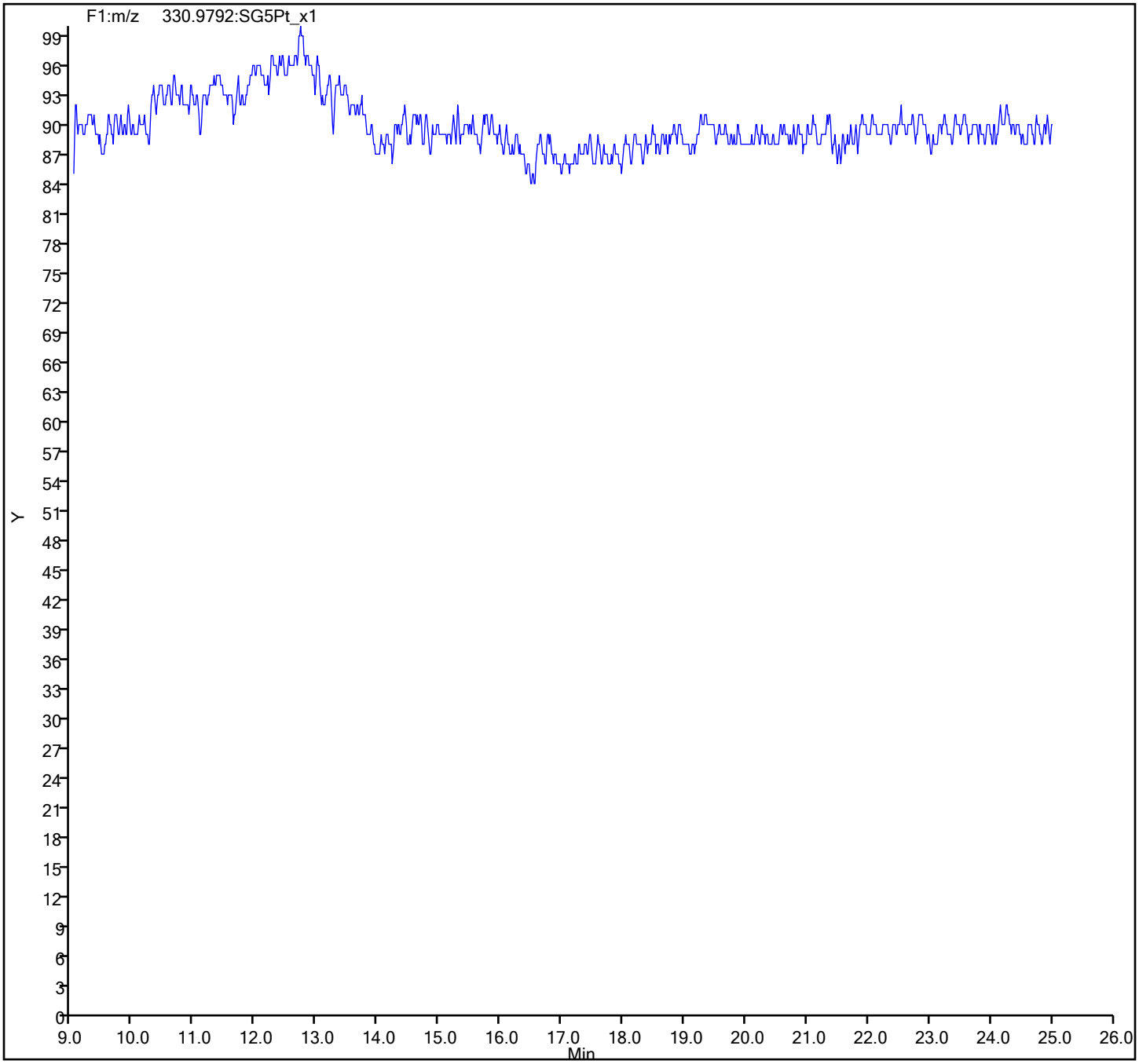

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d
Lims ID: IC 6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 02-Aug-2019 05:25:19 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-6 HRDXNL6_00024
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:52:36 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:44:20

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	15.404	110526038	0.77	1.1E+06	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.556	151101344	0.75	1.3379	102.2	102.2	0.5415	0.5415	102	
2,3,7,8-TCDF	16.584	239921851	0.78	0.8389	189.3	189.3	0.1707	0.1707	94.64	
D 13C-2,3,7,8-TCDD	15.130	101263855	0.79	0.9388	97.6	97.6	0.2909	0.2909	97.59	
2,3,7,8-TCDD	15.143	221171643	0.78	1.1538	189.3	189.3	0.2031	0.2031	94.65	
$ 37Cl4-2,3,7,8-TCDD	15.143	268090229		1.1816	205.3	205.3	0.1091	0.1091	103	
S Total 2378-Chlorinated							0.000100	0.000100		

Reagents:

HRDXNL6_00024 Amount Added: 1.00 Units: mL

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d
Lims ID: IC 6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 02-Aug-2019 05:25:19 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: CS-6 HRDXNL6_00024
Misc. Info.: DB225RES
Operator ID: Instrument ID: 11D2
Sublist: chrom-DXN_DB225_11D2*sub1

Method: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\DXN_DB225_11D2.m
Limit Group: HR - 1613B - ICAL
Last Update: 02-Aug-2019 11:52:36 Calib Date: 02-Aug-2019 05:25:19
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d

Column 1 : DB-225 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0326

First Level Reviewer: arghestanis Date: 02-Aug-2019 09:44:20

Signal	RT (min.)	Adj RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	15.404	15.416	-1		48112289	11729044	18185	45462	645		
333.9339	15.404	15.416	-1		62413749	15576756	11642	29105	1338	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.556	16.580	-1	1.075	64986610	14150118	57009	142522	248		
317.9389	16.556	16.580	-1	1.075	86114734	18279234	22119	55297	826	0.75(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.584	16.599	-1	1.002	104966823	22470376	8972	22430	2505		
305.8987	16.584	16.599	-1	1.002	134955028	28495262	9607	24017	2966	0.78(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	15.130	15.136	0	0.982	44673635	10986883	18185	45462	604		
333.9339	15.130	15.136	0	0.982	56590220	13637893	11642	29105	1171	0.79(0.65-0.89)	
2,3,7,8-TCDD											
319.8965	15.143	15.156	-1	1.001	96586623	23829881	9066	22665	2628		
321.8936	15.143	15.156	-1	1.001	124585020	30700236	14012	35030	2191	0.78(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8840	15.143	15.158	-1	0.983	268090229	64785114	14075	35187	4603		

Total 2378-Chlorinated Dioxins & Furans
0.0 0

Reagents:

HRDXNL6_00024 Amount Added: 1.00 Units: mL

Report Date: 02-Aug-2019 11:52:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d		
Injection Date:	02-Aug-2019 05:25:19	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

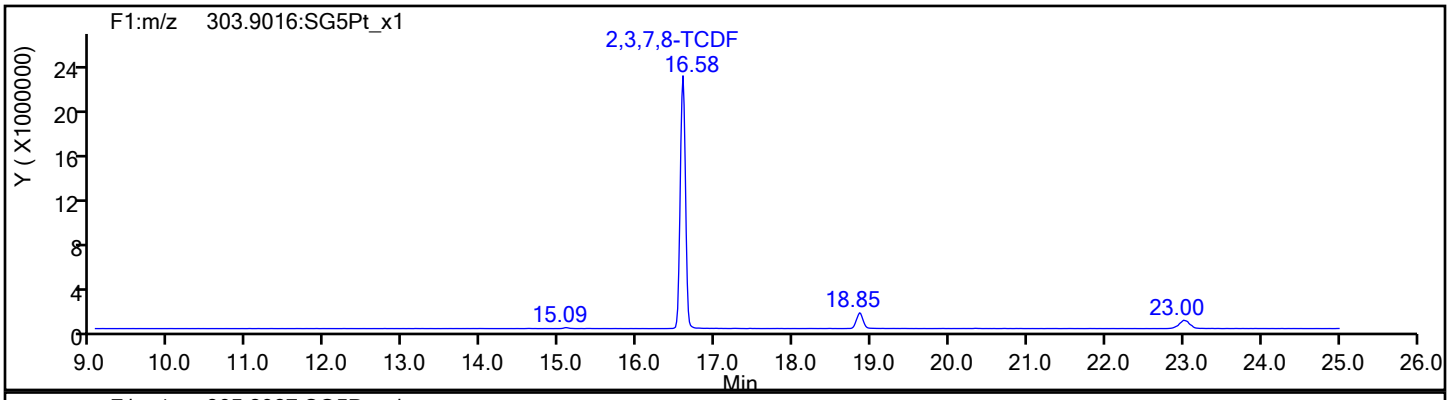

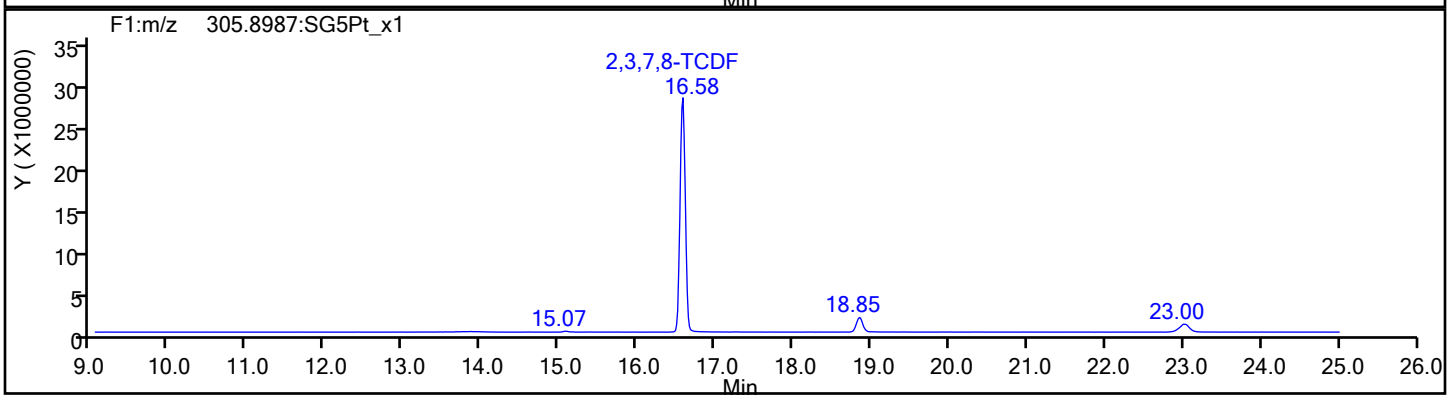

TCDF Standards

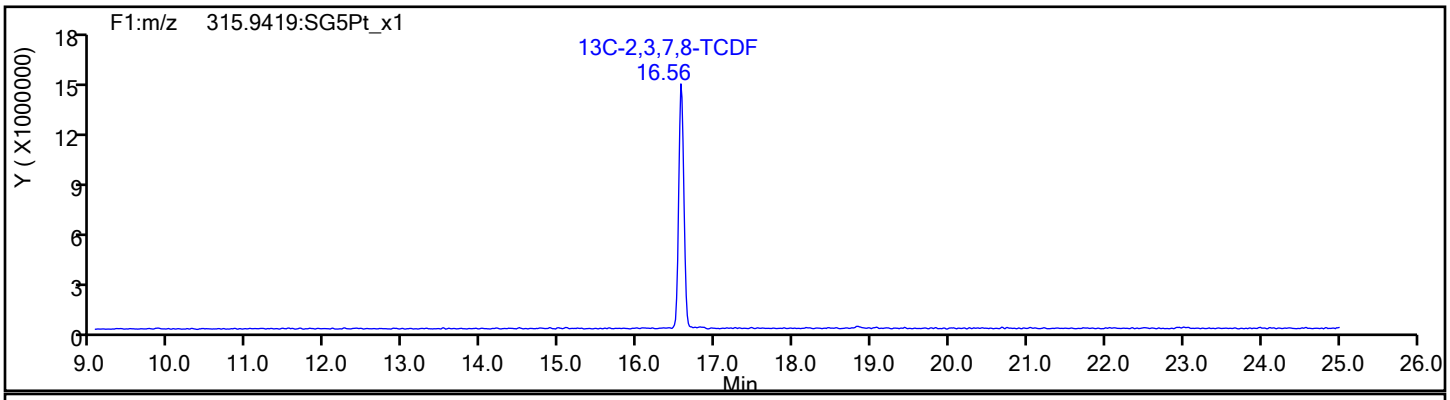

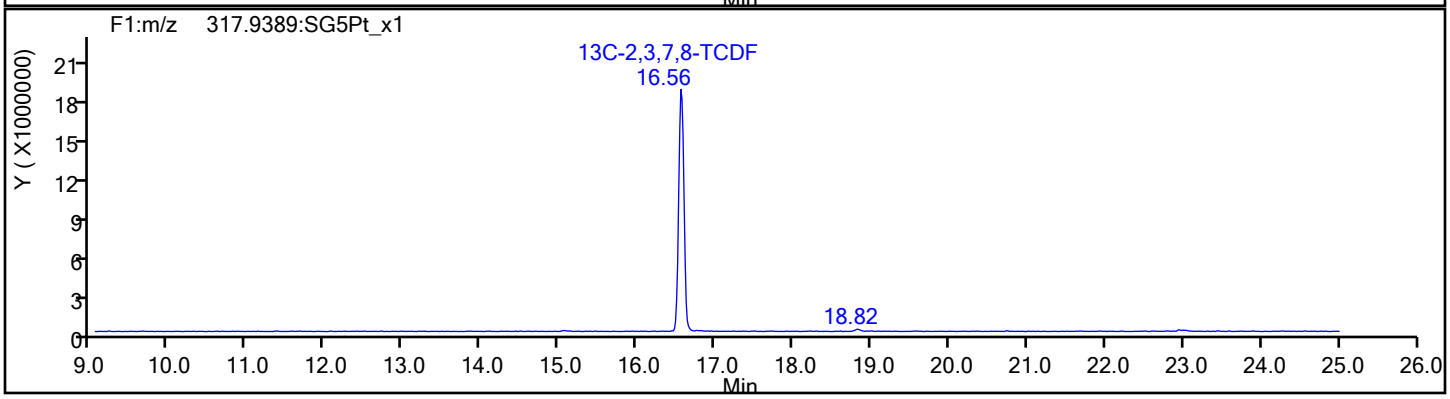

Report Date: 02-Aug-2019 11:52:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d		
Injection Date:	02-Aug-2019 05:25:19	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

TCDF

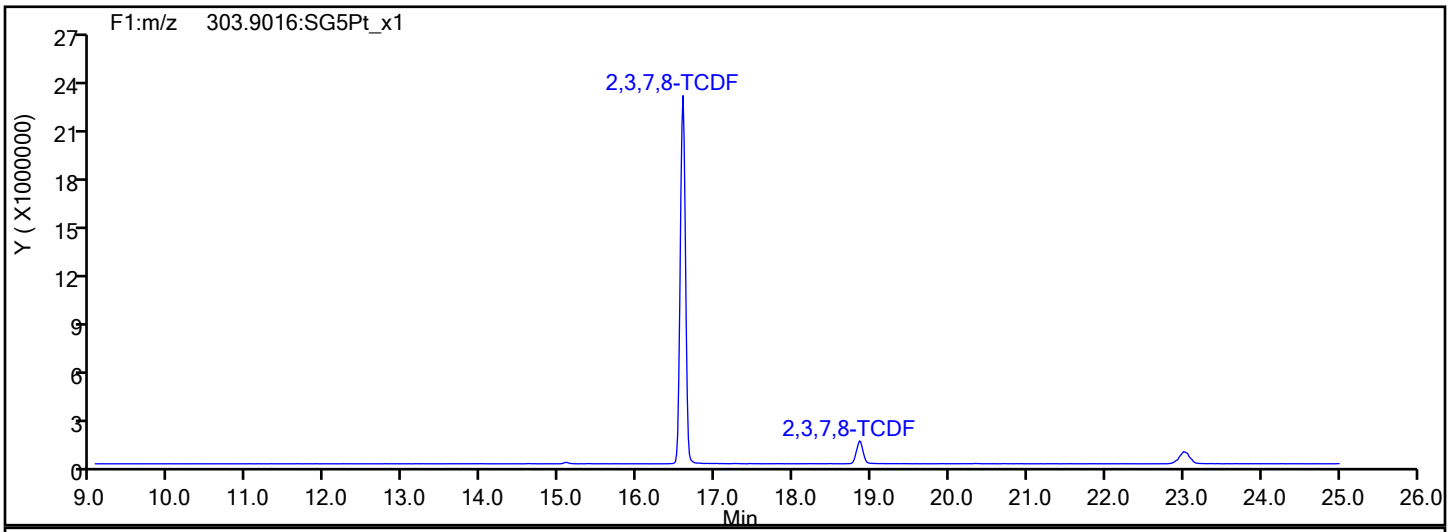

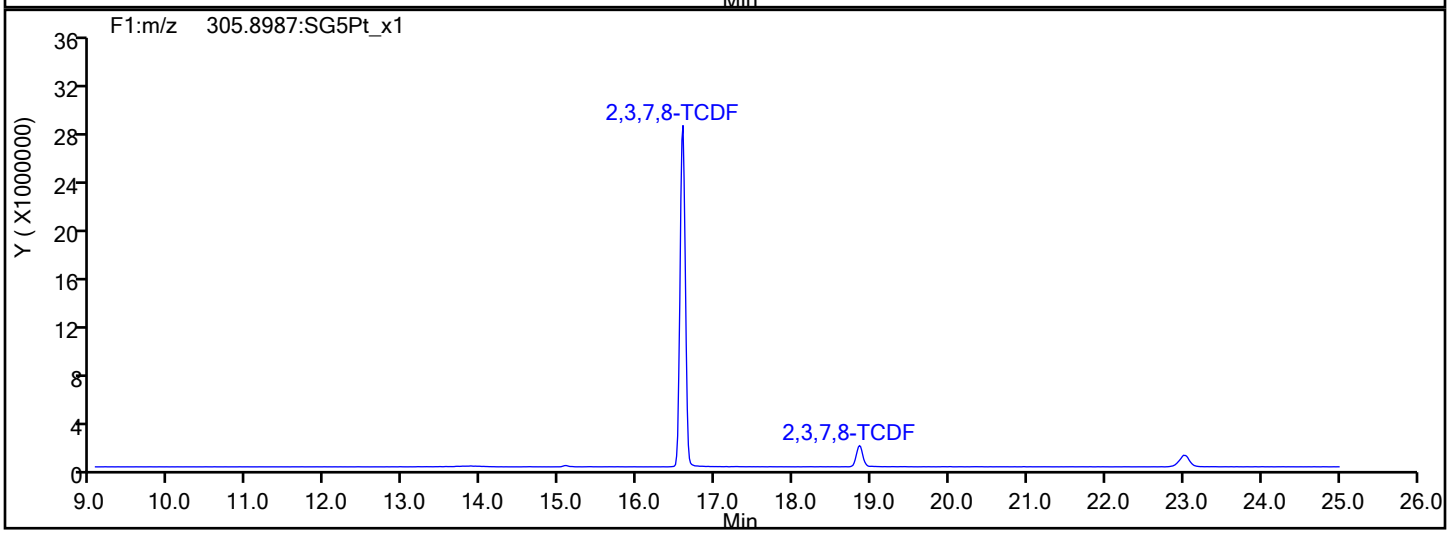

TCDF Interference Mass

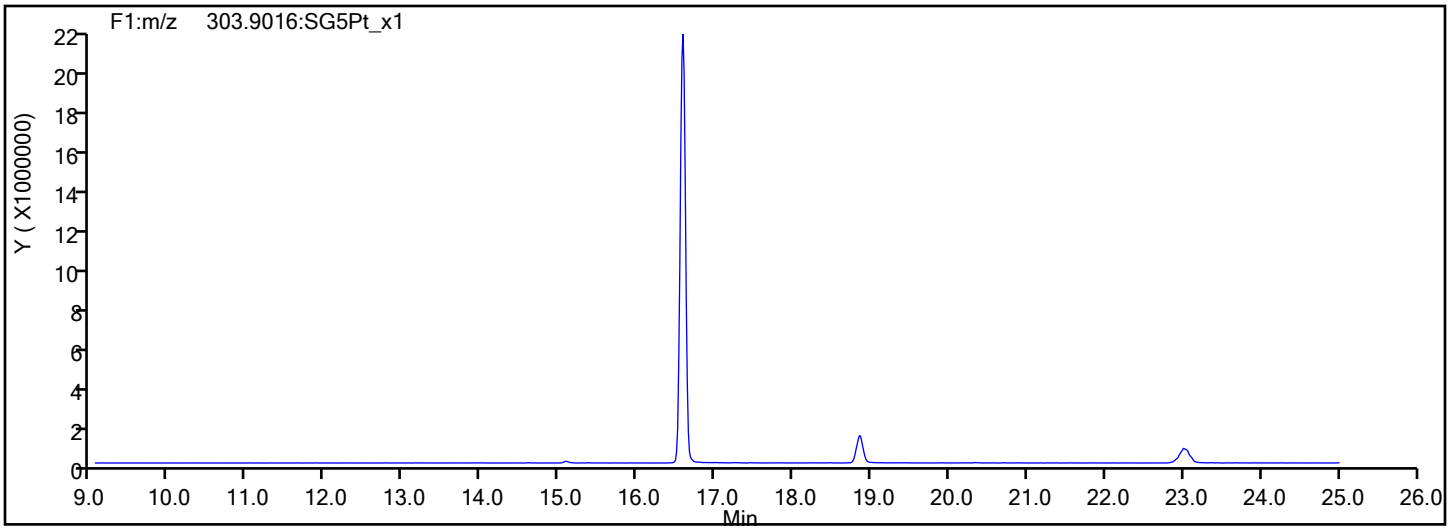

Report Date: 02-Aug-2019 11:52:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d		
Injection Date:	02-Aug-2019 05:25:19	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

TCDD

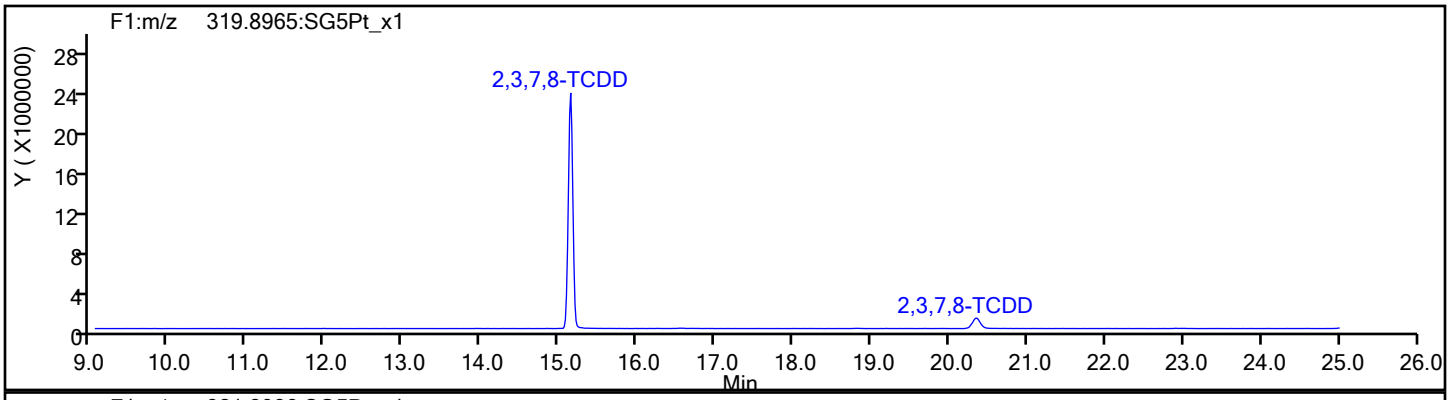

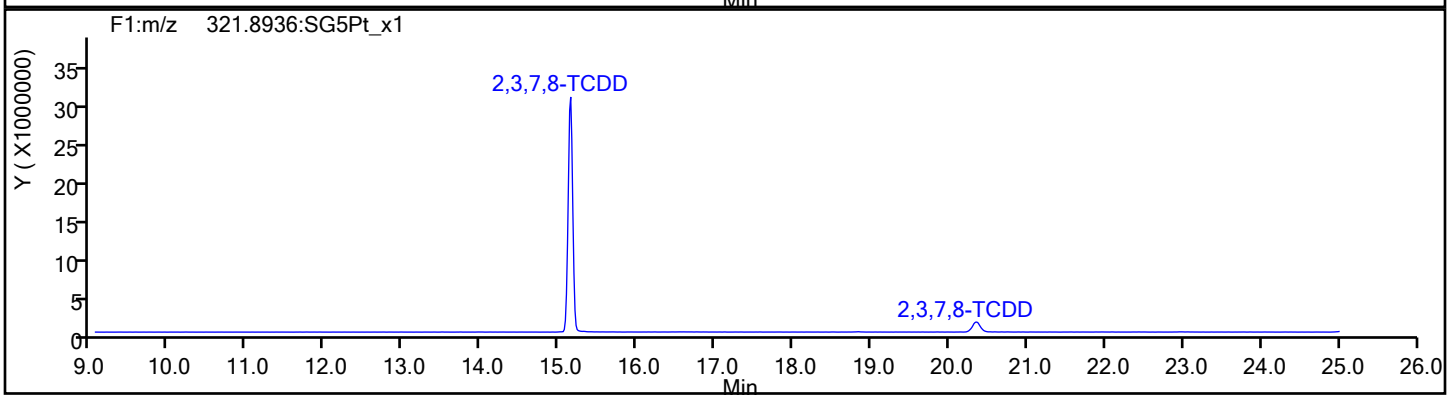

TCDD Standards

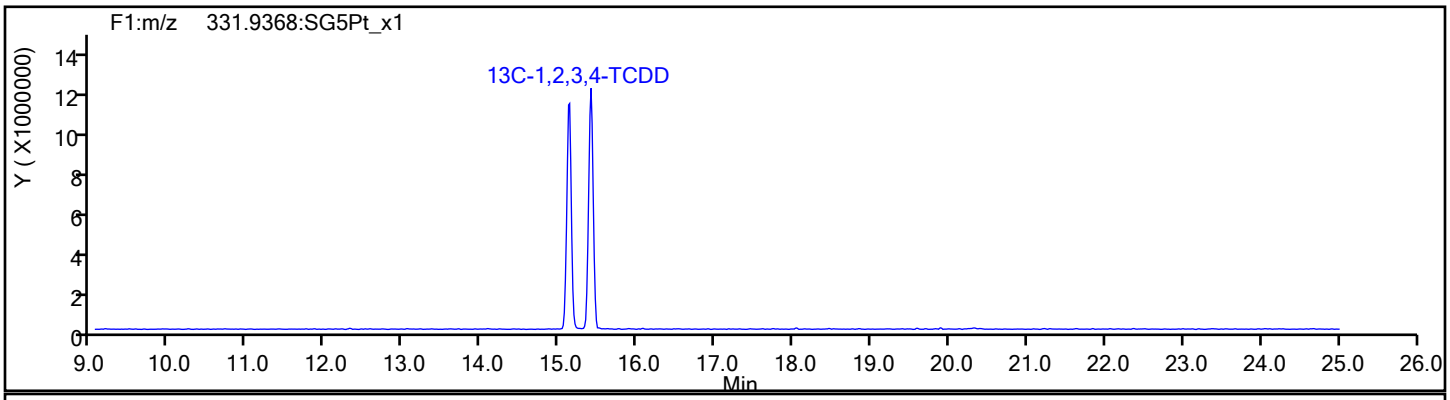

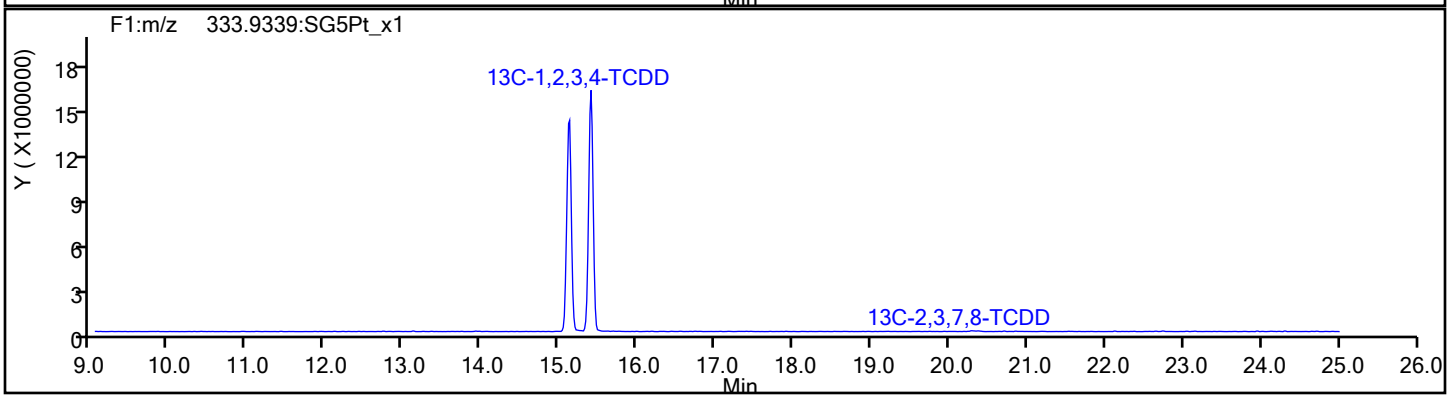

Report Date: 02-Aug-2019 11:52:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d		
Injection Date:	02-Aug-2019 05:25:19	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

37Cl4-TCDD

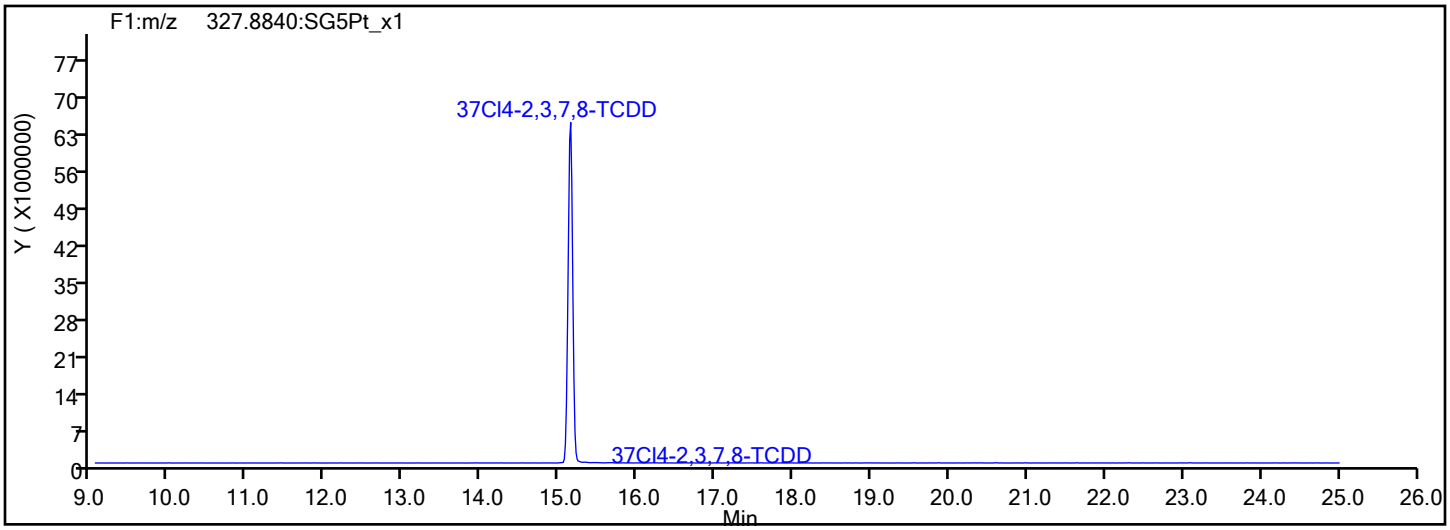

37Cl4-TCDD Standards

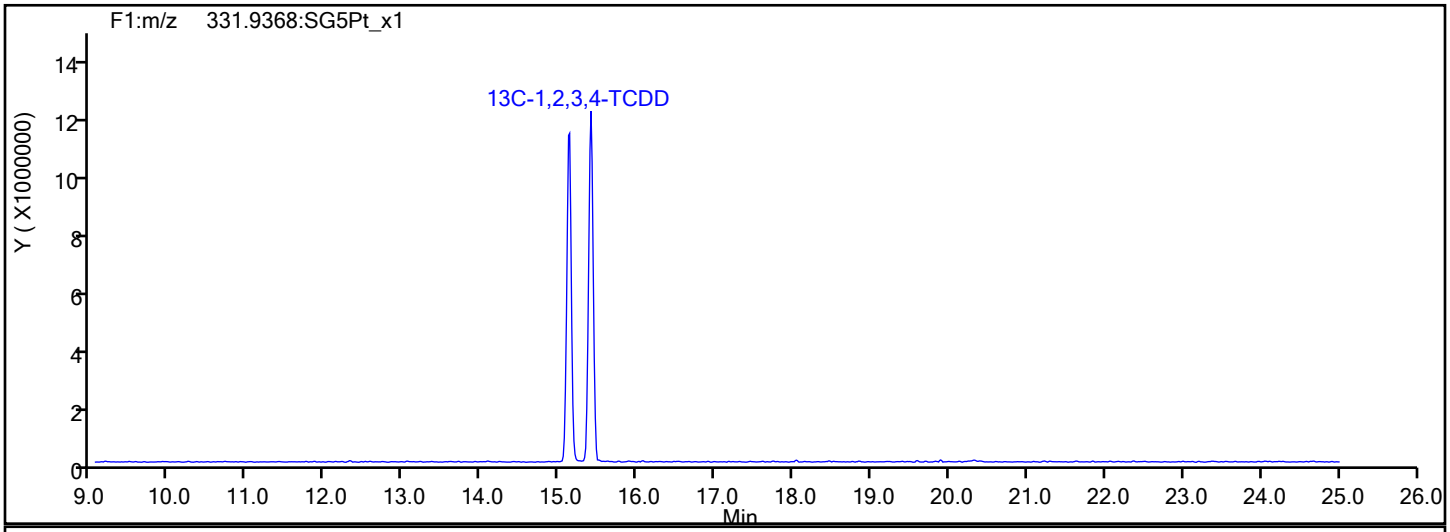

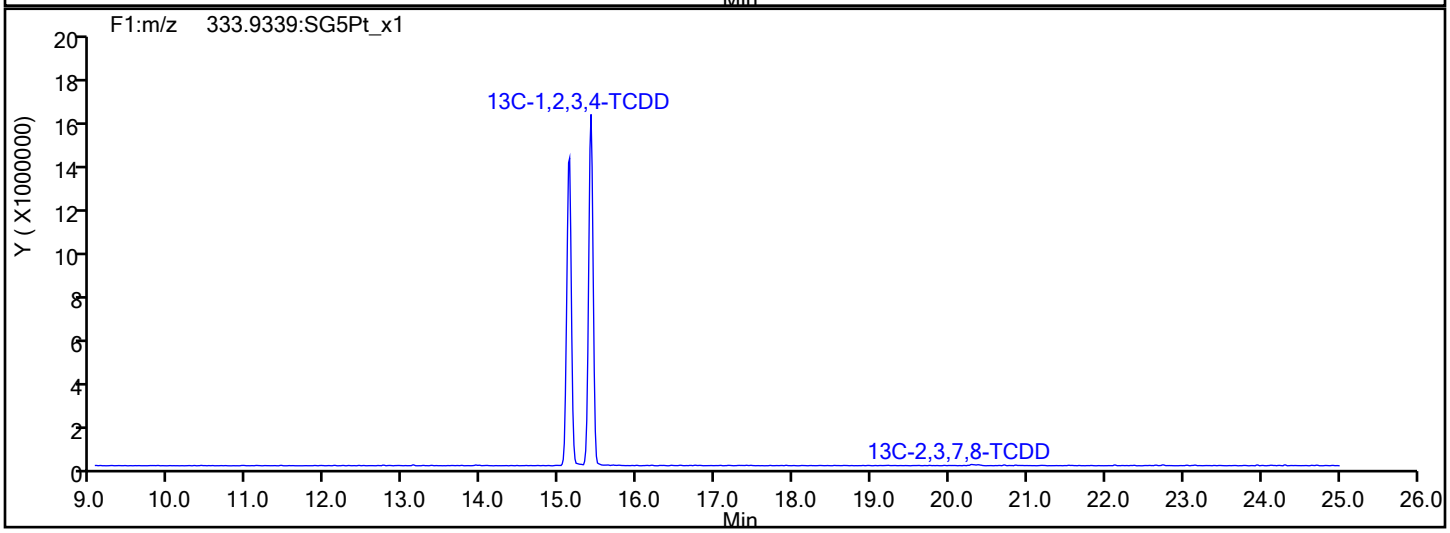

Report Date: 02-Aug-2019 11:52:57 Chrom Revision: 2.3 15-Jul-2019 06:58:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\11D2\20190802-80524.b\02AU1911D2_007.d		
Injection Date:	02-Aug-2019 05:25:19	Injection Vol:	2.0 ul
Instrument ID:	11D2	Operator ID:	
Method:	DXN_DB225_11D2	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	312067	Sample Line#:	7
Column Type:	DB-225	Column Dia:	0.32 mm

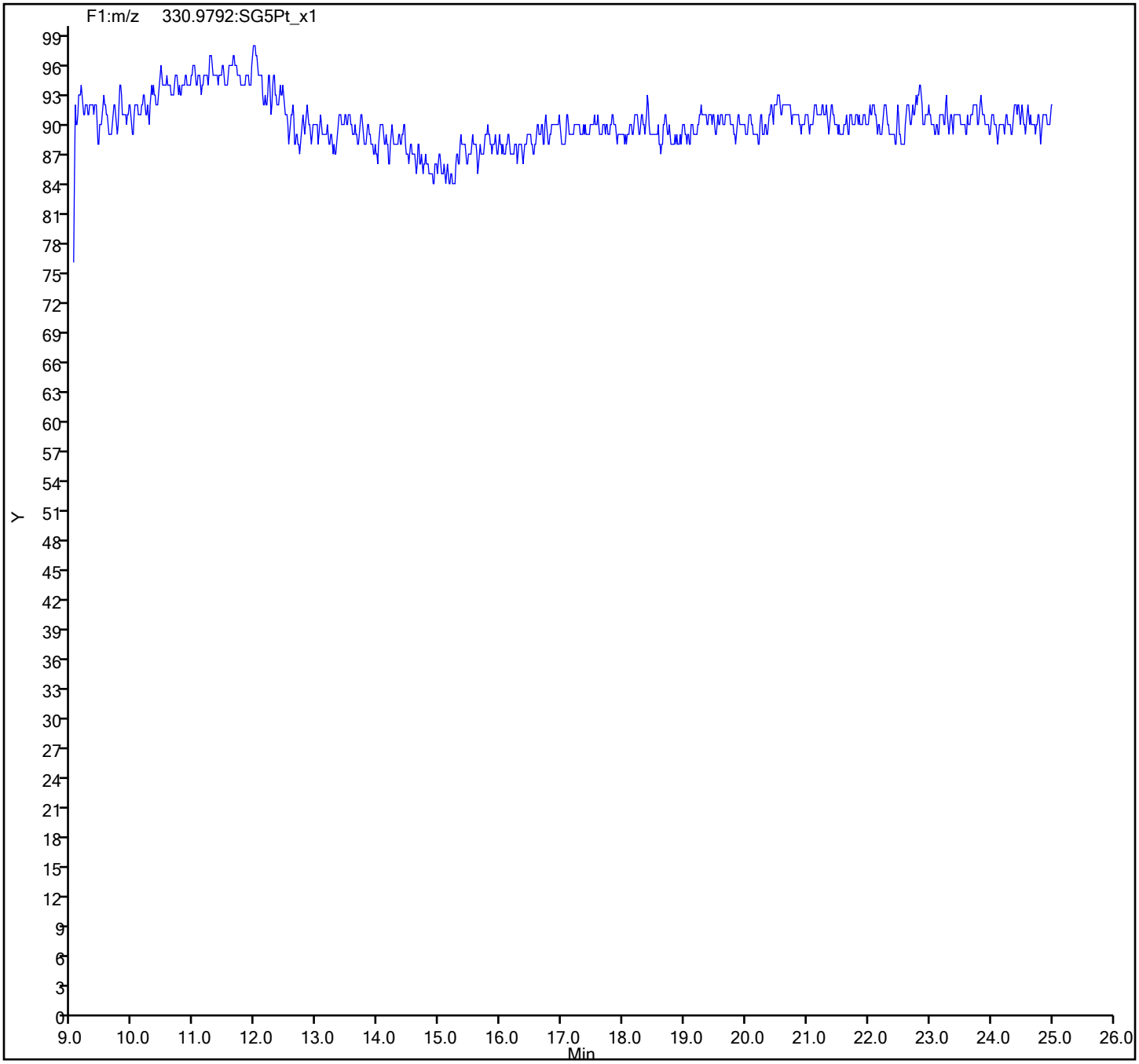

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 600-191956-2
SDG No.:
Client Sample ID:
Lab Sample ID: MB 320-324499/1-A
Matrix: Water
Lab File ID: 18SE1910D5_48.d
Analysis Method: 1613B
Date Collected:
Extract. Method: 1613B
Date Extracted: 09/18/2019 13:24
Sample wt/vol: 1000(mL)
Date Analyzed: 09/19/2019 23:58
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 324876
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	ND		10	1.0
51207-31-9	2,3,7,8-TCDF	ND		10	0.62
40321-76-4	1,2,3,7,8-PeCDD	ND		50	1.0
57117-41-6	1,2,3,7,8-PeCDF	1.88	J	50	0.73
57117-31-4	2,3,4,7,8-PeCDF	ND		50	0.73
39227-28-6	1,2,3,4,7,8-HxCDD	ND		50	0.64
57653-85-7	1,2,3,6,7,8-HxCDD	ND		50	0.64
19408-74-3	1,2,3,7,8,9-HxCDD	ND		50	0.58
70648-26-9	1,2,3,4,7,8-HxCDF	ND		50	0.85
57117-44-9	1,2,3,6,7,8-HxCDF	ND		50	0.75
72918-21-9	1,2,3,7,8,9-HxCDF	1.34	J	50	0.52
60851-34-5	2,3,4,6,7,8-HxCDF	ND		50	0.56
35822-46-9	1,2,3,4,6,7,8-HpCDD	ND		50	0.52
67562-39-4	1,2,3,4,6,7,8-HpCDF	ND		50	0.53
55673-89-7	1,2,3,4,7,8,9-HpCDF	ND		50	0.63
3268-87-9	OCDD	3.96	J	100	0.86
39001-02-0	OCDF	ND		100	1.1
41903-57-5	Total TCDD	ND		10	1.0
30402-14-3	Total TCDF	1.66	J	10	0.62
36088-22-9	Total PeCDD	ND		50	1.0
30402-15-4	Total PeCDF	1.88	J	50	0.73
34465-46-8	Total HxCDD	ND		50	0.64
55684-94-1	Total HxCDF	1.34	J	50	0.67
37871-00-4	Total HpCDD	ND		50	0.52
38998-75-3	Total HpCDF	ND		50	0.63

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-2

SDG No.:

Client Sample ID: Lab Sample ID: MB 320-324499/1-A

Matrix: Water Lab File ID: 18SE1910D5_48.d

Analysis Method: 1613B Date Collected:

Extract. Method: 1613B Date Extracted: 09/18/2019 13:24

Sample wt/vol: 1000(mL) Date Analyzed: 09/19/2019 23:58

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 324876 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	64		25-164
89059-46-1	13C-2,3,7,8-TCDF	61		24-169
109719-79-1	13C-1,2,3,7,8-PeCDD	64		25-181
109719-77-9	13C-1,2,3,7,8-PeCDF	59		24-185
116843-02-8	13C-2,3,4,7,8-PeCDF	65		21-178
109719-80-4	13C-1,2,3,4,7,8-HxCDD	66		32-141
109719-81-5	13C-1,2,3,6,7,8-HxCDD	67		28-130
114423-98-2	13C-1,2,3,4,7,8-HxCDF	68		26-152
116843-03-9	13C-1,2,3,6,7,8-HxCDF	66		26-123
116843-04-0	13C-1,2,3,7,8,9-HxCDF	63		29-147
116843-05-1	13C-2,3,4,6,7,8-HxCDF	63		28-136
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	60		23-140
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	58		28-143
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	62		26-138
114423-97-1	13C-OCDD	54		17-157

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	93		35-197

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_48.d
Lims ID: MB 320-324499/1-A
Client ID:
Sample Type: MB
Inject. Date: 19-Sep-2019 23:58:52 ALS Bottle#: 49 Worklist Smp#: 48
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: MB 320-324499/1-A MB 320-324499/1-A
Misc. Info.: 18SE1910D5
Operator ID: SMA, ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 20-Sep-2019 11:46:59 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0314

First Level Reviewer: stephensk Date: 20-Sep-2019 10:42:07

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.285	41651902	0.78	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.786	36772934	0.79	1.4384	61.4	61.4	0.2047	0.2047	61.38	
2,3,7,8-TCDF	16.801						0.0312	0.0312		
A Non-2,3,7,8-sub-TCDF	16.514	32153	0.88	1.0507	0.0832	0.0832	0.0312	0.0832		
S Total TCDF					0.0832	0.0832	0.0312	0.0312		
D 13C-2,3,7,8-TCDD	17.466	25448072	0.77	0.9533	64.1	64.1	0.2304	0.2304	64.09	
$ 37Cl4-2,3,7,8-TCDD	17.481	18846459		1.2224	37.0	37.0	0.0639	0.0639	92.54	
2,3,7,8-TCDD	17.497						0.0499	0.0499		
A Non-2,3,7,8-sub-TCDD	16.952						0.0499	0.0499		
S Total TCDD							0.0499	0.0499		
D 13C-1,2,3,7,8-PeCDF	21.604	25313709	1.65	1.0286	59.1	59.1	0.1795	0.1795	59.08	
1,2,3,7,8-PeCDF	21.618	25765	1.42	1.0822	0.0940	0.0940	0.0364	0.0364		M
D 13C-2,3,4,7,8-PeCDF	22.899	26622204	1.65	0.9827	65.0	65.0	0.1879	0.1879	65.04	
2,3,4,7,8-PeCDF	22.927						0.0366	0.0366		
A F1 PeCDFs	19.205						0.0416	0.0416		
A Non-2,3,7,8-sub-PeCDF	22.226						0.0365	0.0365		
S Total PeCDF					0.0940	0.0940	0.0365	0.0365		
D 13C-1,2,3,7,8-PeCDD	23.595	19886842	1.56	0.7481	63.8	63.8	0.1180	0.1180	63.82	
1,2,3,7,8-PeCDD	23.622						0.0503	0.0503		
A Non-2,3,7,8-sub-PeCDD	22.559						0.0503	0.0503		
S Total PeCDD							0.0503	0.0503		
D 13C-1,2,3,4,7,8-HxCDF	29.709	21821215	0.51	1.1520	68.4	68.4	0.4280	0.4280	68.40	
1,2,3,4,7,8-HxCDF	29.749						0.0424	0.0424		
D 13C-1,2,3,6,7,8-HxCDF	29.975	22605264	0.52	1.2434	65.7	65.7	0.3966	0.3966	65.65	
1,2,3,6,7,8-HxCDF	30.002						0.0374	0.0374		
D 13C-2,3,4,6,7,8-HxCDF	31.013	20483108	0.52	1.1720	63.1	63.1	0.4208	0.4208	63.12	
2,3,4,6,7,8-HxCDF	31.040						0.0279	0.0279		
D 13C-1,2,3,7,8,9-HxCDF	31.918	18596644	0.49	1.0655	63.0	63.0	0.4628	0.4628	63.03	
1,2,3,7,8,9-HxCDF	31.945	15473	1.35	1.2451	0.0668	0.0668	0.0262	0.0262		
A Non-2,3,7,8-sub-HxCDF	29.503						0.0323	0.0323		
S Total HxCDF					0.0668	0.0668	0.0335	0.0335		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.719	27690450	1.27	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.239	14172232	1.29	0.7812	65.5	65.5	0.4529	0.4529	65.51	
1,2,3,4,7,8-HxCDD	31.253						0.0320	0.0320		
D 13C-1,2,3,6,7,8-HxCDD	31.359	17037515	1.26	0.9175	67.1	67.1	0.3856	0.3856	67.06	
1,2,3,6,7,8-HxCDD	31.373						0.0318	0.0318		
1,2,3,7,8,9-HxCDD	31.746						0.0288	0.0288		
A Non-2,3,7,8-sub-HxCDD	30.089						0.0308	0.0308		
S Total HxCDD							0.0320	0.0320		
D 13C-1,2,3,4,6,7,8-HpCDF	33.447	13812117	0.47	0.8628	57.8	57.8	1.444	1.444	57.81	
1,2,3,4,6,7,8-HpCDF	33.460						0.0265	0.0265		
D 13C-1,2,3,4,7,8,9-HpCDF	34.480	13787654	0.44	0.7991	62.3	62.3	1.559	1.559	62.31	
1,2,3,4,7,8,9-HpCDF	34.505						0.0316	0.0316		
A Non-2,3,7,8-sub-HpCDF	33.982						0.0289	0.0289		
S Total HpCDF							0.0316	0.0316		
D 13C-1,2,3,4,6,7,8-HpCDD	34.213	14609136	1.06	0.8739	60.4	60.4	0.6250	0.6250	60.37	
1,2,3,4,6,7,8-HpCDD	34.225						0.0259	0.0259		
A Non-2,3,7,8-sub-HpCDD	34.747						0.0259	0.0259		
S Total HpCDD							0.0259	0.0259		
D 13C-OCDD	36.468	22948755	0.88	0.7744	107.0	107.0	0.2572	0.2572	53.51	
OCDF	36.565						0.0573	0.0573		
OCDD	36.457	24125	0.82	1.0621	0.1980	0.1980	0.0431	0.0431		M

QC Flag Legend

Review Flags

M - Manually Integrated

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_48.d
Lims ID: MB 320-324499/1-A
Client ID:
Sample Type: MB
Inject. Date: 19-Sep-2019 23:58:52 ALS Bottle#: 49 Worklist Smp#: 48
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: MB 320-324499/1-A MB 320-324499/1-A
Misc. Info.: 18SE1910D5
Operator ID: SMA, ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 20-Sep-2019 11:46:59 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0314

First Level Reviewer: stephensk Date: 20-Sep-2019 10:42:07

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.285	17.285	0		18238569	4581930	5496	13740	834		
333.9339	17.270	17.285	-1		23413333	5945919	3752	9380	1585	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.786	16.786	0	0.971	16286599	4216807	8398	20995	502		
317.9389	16.786	16.786	0	0.971	20486335	5216105	4003	10007	1303	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.816						424	1060			
305.8987	16.816						812	2030			
A Non-2,3,7,8-sub-TCDF											
303.9016	15.697	16.514	-49	0.935	15077	3832	424	1060	9		
305.8987	15.712	16.514	-48	0.936	17076	3546	812	2030	4	0.88(0.65-0.89)	
13C-2,3,7,8-TCDD											
331.9368	17.466	17.466	0	1.011	11061119	2716962	5496	13740	494		
333.9339	17.466	17.466	0	1.011	14386953	3409513	3752	9380	909	0.77(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.481	17.481	0	1.011	18846459	4557601	3289	8222	1386		
2,3,7,8-TCDD											
319.8965	17.497						879	2197			
321.8936	17.497						475	1187			
A Non-2,3,7,8-sub-TCDD											
319.8965	16.952						879	2197			
321.8936	16.952						475	1187			
13C-1,2,3,7,8-PeCDF											
351.9000	21.604	21.604	0	1.250	15755292	2885702	4800	12000	601		
353.8970	21.604	21.604	0	1.250	9558417	1766483	2974	7435	594	1.65(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											M
339.8597	21.618	21.631	-1	1.001	15111	3013	222	555	14		M
341.8567	21.604	21.631	-2	1.000	10654	2071	511	1277	4	1.42(1.32-1.78)	M
13C-2,3,4,7,8-PeCDF											
351.9000	22.899	22.900	0	1.325	16558740	2810003	4800	12000	585		
353.8970	22.899	22.900	0	1.325	10063464	1727421	2974	7435	581	1.65(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.927						222	555			
341.8567	22.927						511	1277			
A F1 PeCDFs											
339.8597	19.205						231	577			
341.8567	19.205						605	1512			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.226						222	555			
341.8567	22.226						511	1277			
13C-1,2,3,7,8-PeCDD											
367.8949	23.595	23.595	0	1.365	12117736	1921695	2127	5317	903		
369.8919	23.581	23.595	-1	1.364	7769106	1266604	1589	3972	797	1.56(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.622						441	1102			
357.8516	23.622						139	347			
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.559						441	1102			
357.8516	22.559						139	347			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.709	29.709	0	0.937	7392134	961982	4463	11157	216		
385.8610	29.709	29.709	0	0.937	14429081	1878993	7761	19402	242	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.749						331	827			
375.8178	29.749						246	615			
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.975	29.975	0	0.945	7713999	1096582	4463	11157	246		
385.8610	29.962	29.975	-1	0.945	14891265	2172951	7761	19402	280	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.002						331	827			
375.8178	30.002						246	615			
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.013	31.013	0	0.978	7007687	1496842	4463	11157	335		
385.8610	31.013	31.013	0	0.978	13475421	2764398	7761	19402	356	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.040						331	827			
375.8178	31.040						246	615			
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.918	31.919	0	1.006	6149179	1457430	4463	11157	327		
385.8610	31.918	31.919	0	1.006	12447465	2954524	7761	19402	381	0.49(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	31.945	31.945	0	1.001	8879	2475	331	827	7		
375.8178	31.931	31.945	-1	1.000	6594	1844	246	615	7	1.35(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.503						331	827			
375.8178	29.503						246	615			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.719	31.732	-1		15479541	3482045	4752	11880	733		
403.8529	31.719	31.732	-1		12210909	2715452	4019	10047	676	1.27(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.239	31.240	0	0.985	7996811	2071901	4752	11880	436		
403.8529	31.239	31.240	0	0.985	6175421	1548255	4019	10047	385	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.253						198	495			
391.8127	31.253						316	790			
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.359	31.360	0	0.989	9504964	2065942	4752	11880	435		
403.8529	31.359	31.360	0	0.989	7532551	1675772	4019	10047	417	1.26(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.373						198	495			
391.8127	31.373						316	790			
1,2,3,7,8,9-HxCDD											
389.8157	31.746						198	495			
391.8127	31.746						316	790			
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.089						198	495			
391.8127	30.089						316	790			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.447	33.447	0	1.055	4387437	1328432	8256	20640	161		
419.8220	33.447	33.447	0	1.055	9424680	2788706	22627	56567	123	0.47(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.460						521	1302			
409.7789	33.460						157	392			
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.480	34.492	-1	1.087	4197364	1190693	8256	20640	144		
419.8220	34.480	34.492	-1	1.087	9590290	2680534	22627	56567	118	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.505						521	1302			
409.7789	34.505						157	392			
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.982						521	1302			
409.7789	33.982						157	392			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.213	34.213	0	1.079	7518033	2087469	5558	13895	376		
437.8140	34.213	34.213	0	1.079	7091103	2064549	7983	19957	259	1.06(0.88-1.20)	

Report Date: 20-Sep-2019 11:47:13 Chrom Revision: 2.3 17-Sep-2019 16:19:08
Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_48.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.225						240	600			
425.7737	34.225						160	400			
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.747						240	600			
425.7737	34.747						160	400			
13C-OCDD											
469.7779	36.468	36.469	0	1.150	10755502	2522274	2931	7327	861		
471.7750	36.468	36.469	0	1.150	12193253	2914364	2007	5017	1452	0.88(0.76-1.02)	
OCDF											
441.7428	36.565						277	692			
443.7399	36.565						508	1270			
OCDD											M
457.7377	36.457	36.481	-1	1.000	10836	3392	229	572	15		M
459.7348	36.468	36.481	-1	1.000	13289	4090	269	672	15	0.82(0.76-1.02)	

QC Flag Legend

Review Flags

M - Manually Integrated

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_48.d
Lims ID: MB 320-324499/1-A
Client ID:
Inject. Date: 19-Sep-2019 23:58:52 Dil. Factor: 1.0000
Sample Type: MB, Method Blank
Instrument ID: 10D5 Operator: SMA, ALM
Lims Batch ID: 324876 Lims Sample ID: 48

Non-2,3,7,8-sub-TCDF, RT: 16.514

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
2,3,7,8-TCDF	1.051	D 13C-2,3,7,8-TCDF	100.000	36772934	9432912

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.051		100.000	36772934	9432912

Sum the Uncalibrated Results

RT	303.9016 Area	303.9016 Height	305.8987 Area	305.8987 Height	Amount	Ratio	Flags
15.697	15077	3832	17076	3546	0.0832	0.88	
Signal Totals:							
	15077	3832	17076	3546			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	32153	7378				0.88	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.0832 = (32153 * 100.000) / (36772934 * 1.051)

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_48.d				
Injection Date:	19-Sep-2019 23:58:52	Instrument ID:	10D5		
Lims ID:	MB 320-324499/1-A				
Client ID:					
Operator ID:	SMA, ALM	ALS Bottle#:	49	Worklist Smp#:	48
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

1,2,3,7,8-PeCDF, CAS: 57117-41-6

Signal: 2

Processing Integration Results

RT: 21.60
Area: 10564
Amount: 0.088273
Amount Units: pg/ul

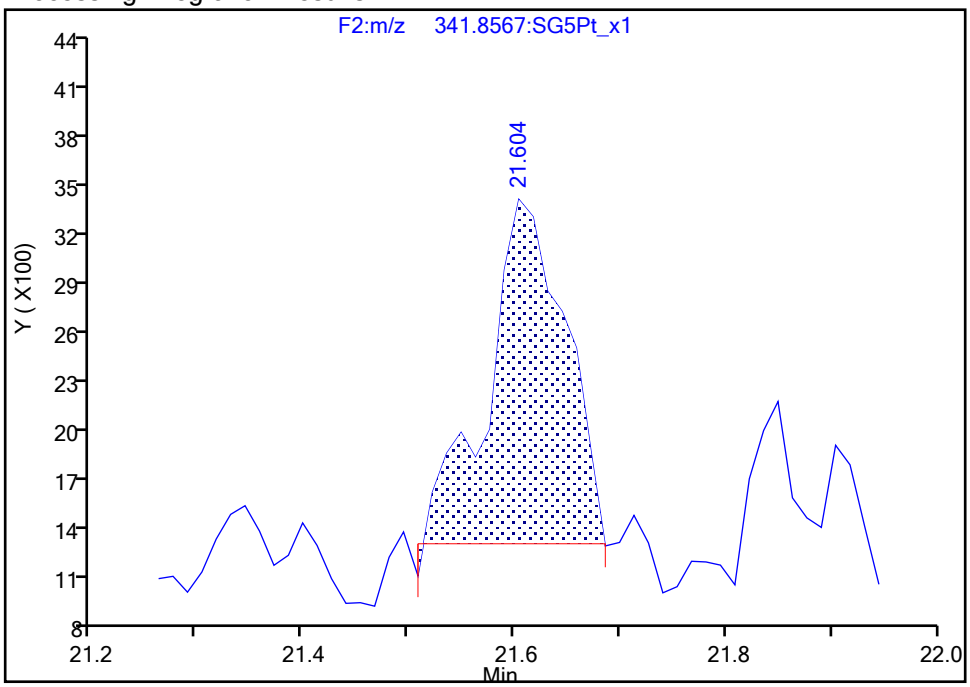

Manual Integration Results

RT: 21.60
Area: 10654
Amount: 0.094048
Amount Units: pg/ul

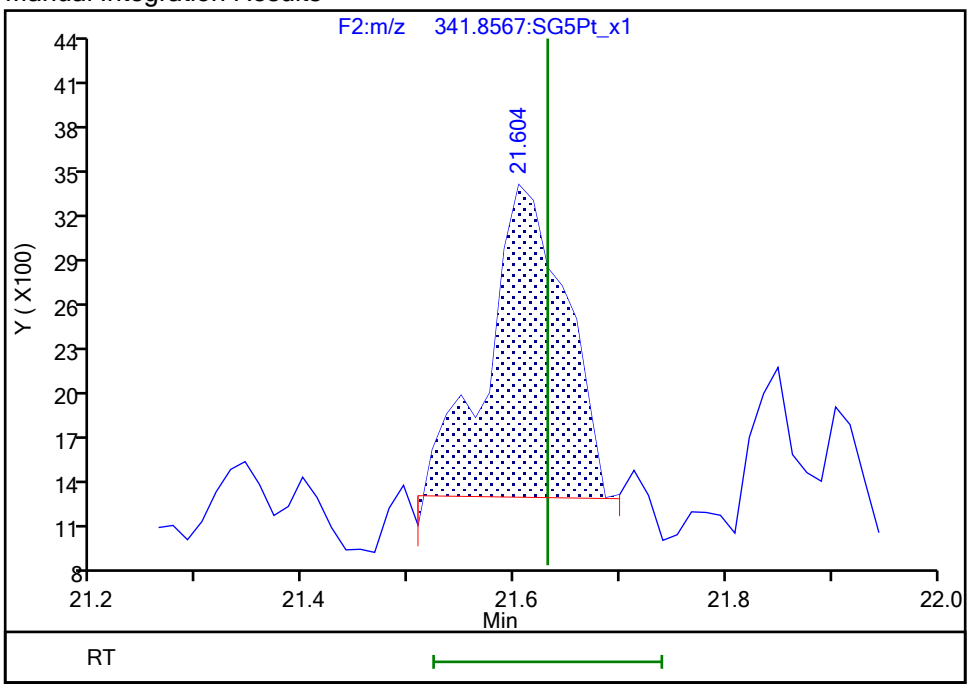

Reviewer: stephensk, 20-Sep-2019 10:40:31

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_48.d				
Injection Date:	19-Sep-2019 23:58:52	Instrument ID:	10D5		
Lims ID:	MB 320-324499/1-A				
Client ID:					
Operator ID:	SMA, ALM	ALS Bottle#:	49	Worklist Smp#:	48
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F2:HRSIR		

1,2,3,7,8-PeCDF, CAS: 57117-41-6

Signal: 1

Processing Integration Results

RT: 21.62
Area: 13619
Amount: 0.088273
Amount Units: pg/ul

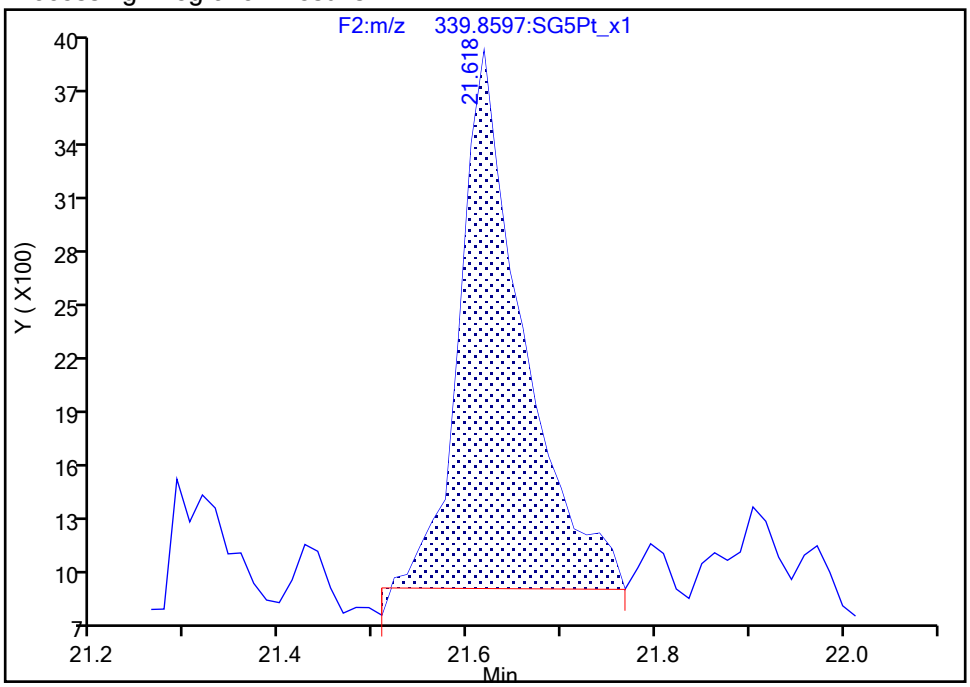

Manual Integration Results

RT: 21.62
Area: 15111
Amount: 0.094048
Amount Units: pg/ul

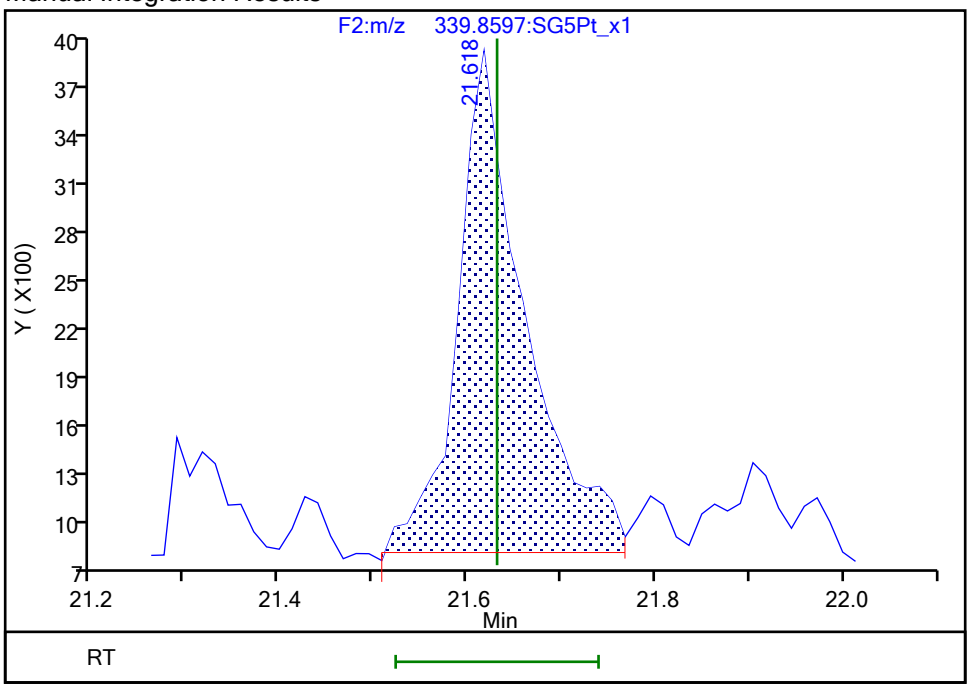

Reviewer: stephensk, 20-Sep-2019 11:25:30

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_48.d				
Injection Date:	19-Sep-2019 23:58:52	Instrument ID:	10D5		
Lims ID:	MB 320-324499/1-A				
Client ID:					
Operator ID:	SMA, ALM	ALS Bottle#:	49	Worklist Smp#:	48
Injection Vol:	2.0 ul	Dil. Factor:	1.0000		
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL		
Column:	DB-5 (0.32 mm)	Detector	F5:HRSIR		

OCDD, CAS: 3268-87-9

Signal: 1

Processing Integration Results

RT: 36.46
Area: 9589
Amount: 0.187730
Amount Units: pg/ul

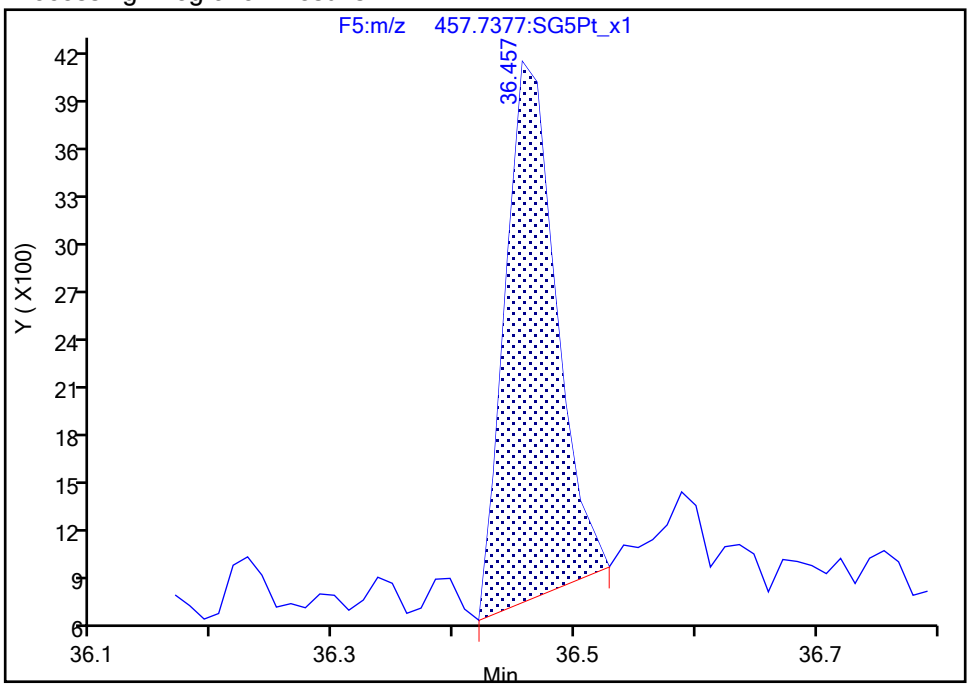

Manual Integration Results

RT: 36.46
Area: 10836
Amount: 0.197963
Amount Units: pg/ul

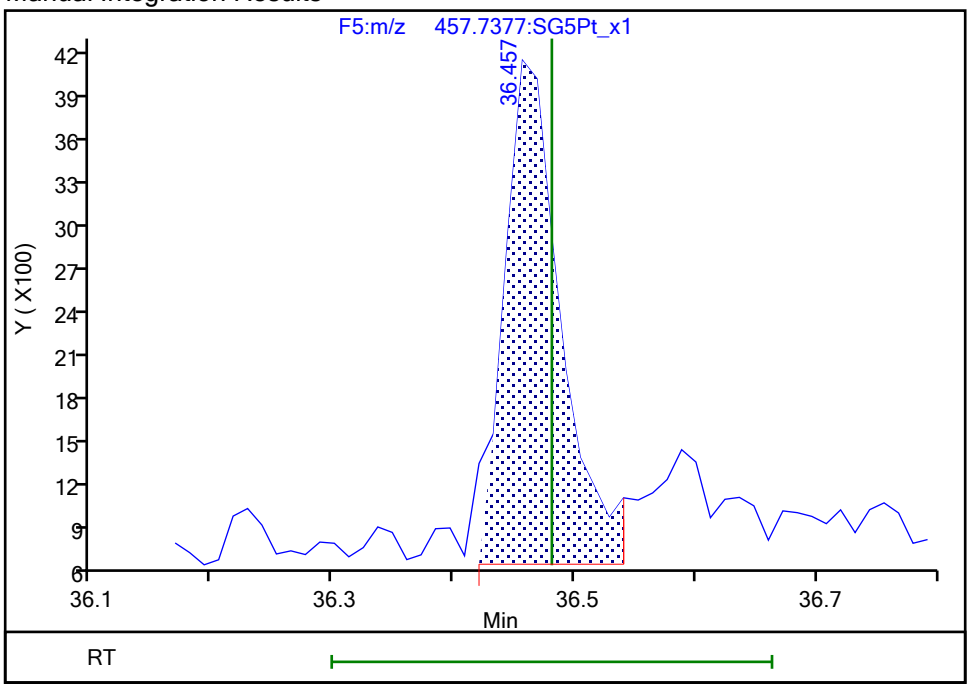

Reviewer: stephensk, 20-Sep-2019 11:26:22

Audit Action: Manually Integrated Audit Reason: Baseline

Report Date: 20-Sep-2019 11:47:14 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_48.d		
Injection Date:	19-Sep-2019 23:58:52	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	48
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

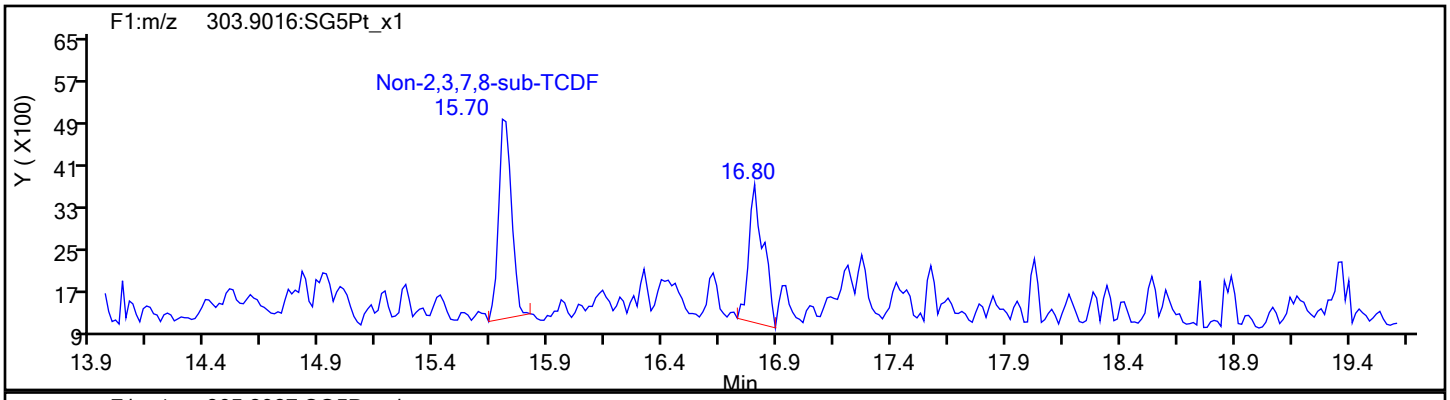

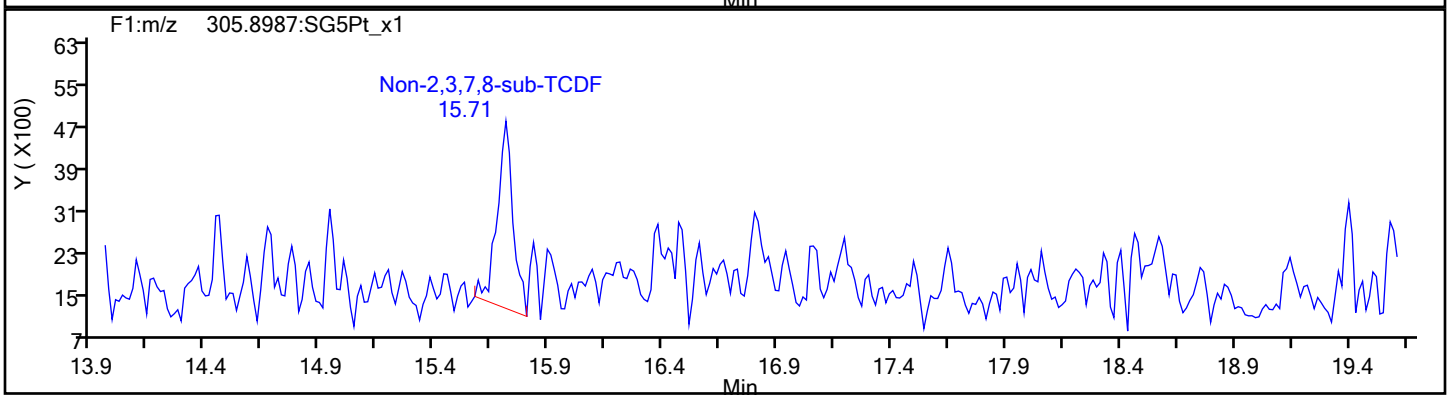

TCDF Standards

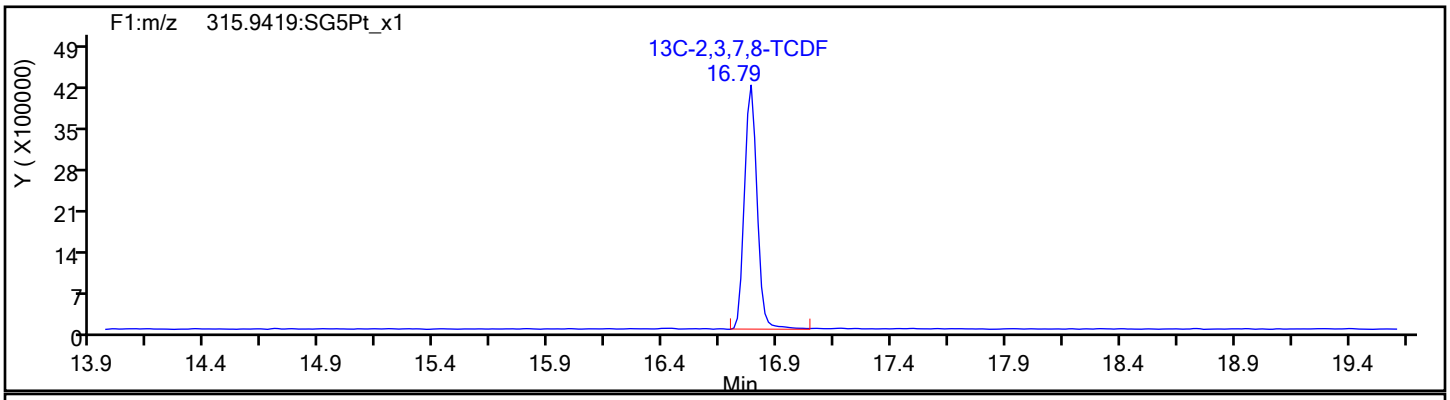

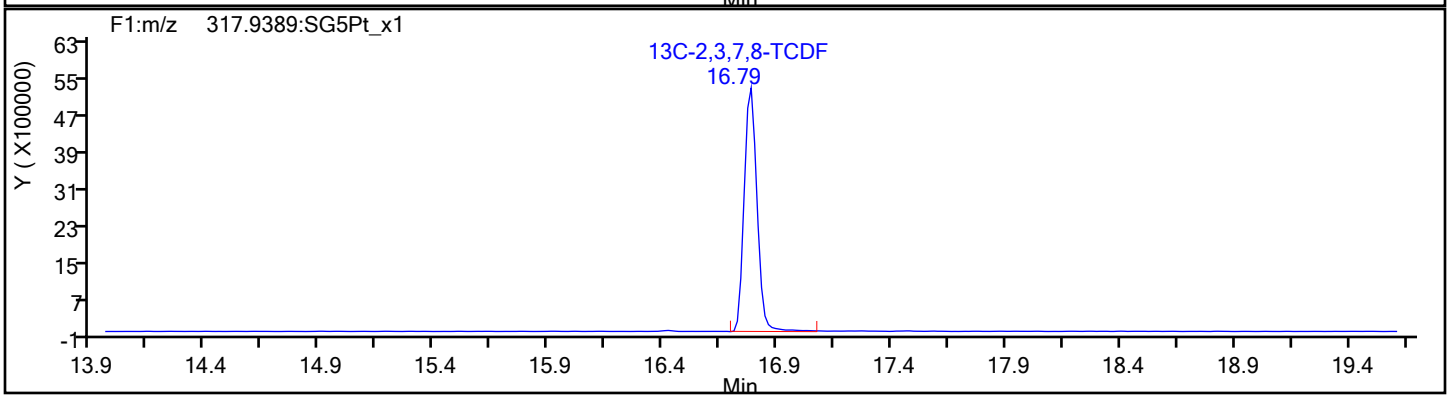

Report Date: 20-Sep-2019 11:47:14 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_48.d		
Injection Date:	19-Sep-2019 23:58:52	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	48
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

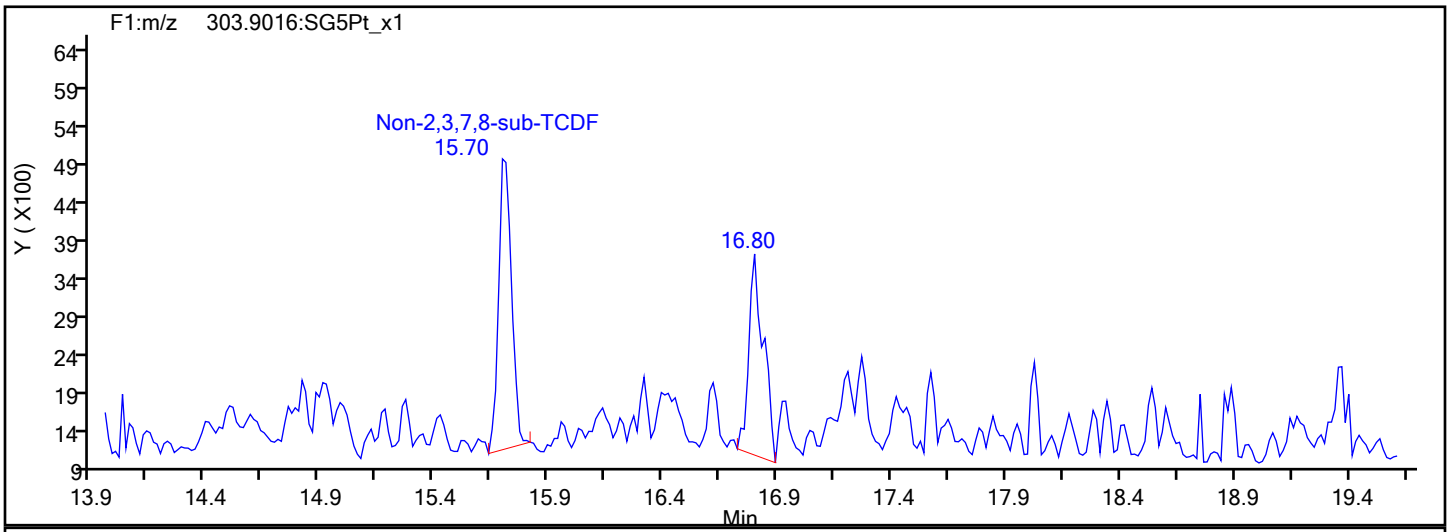

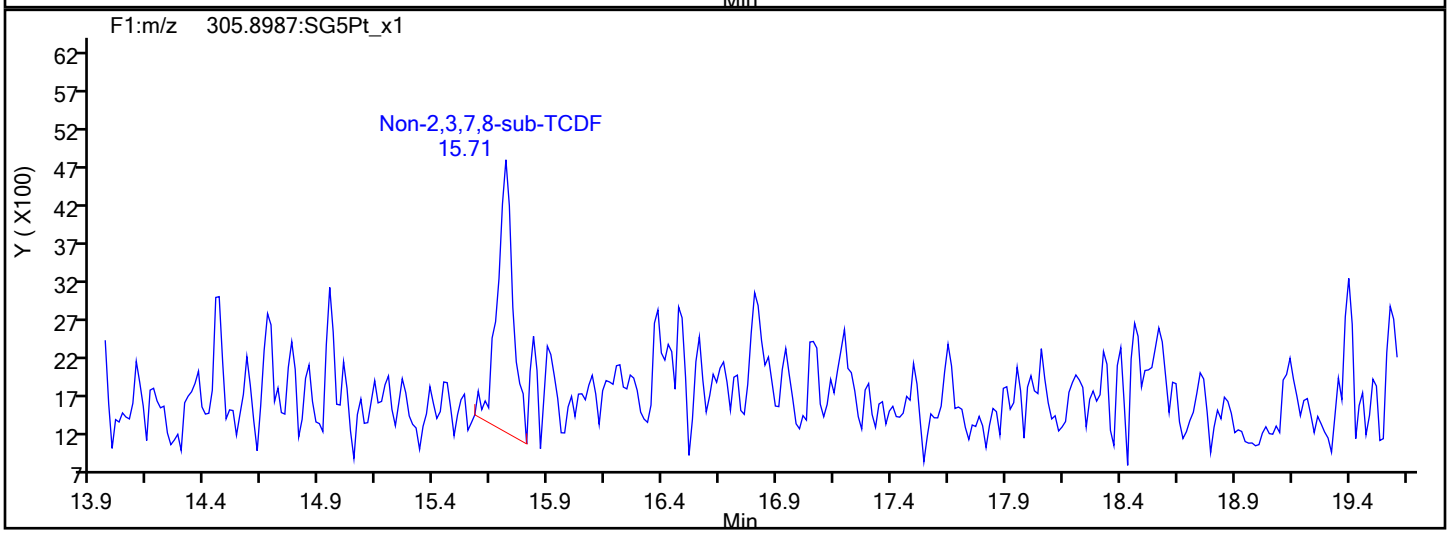

TCDF Interference Mass

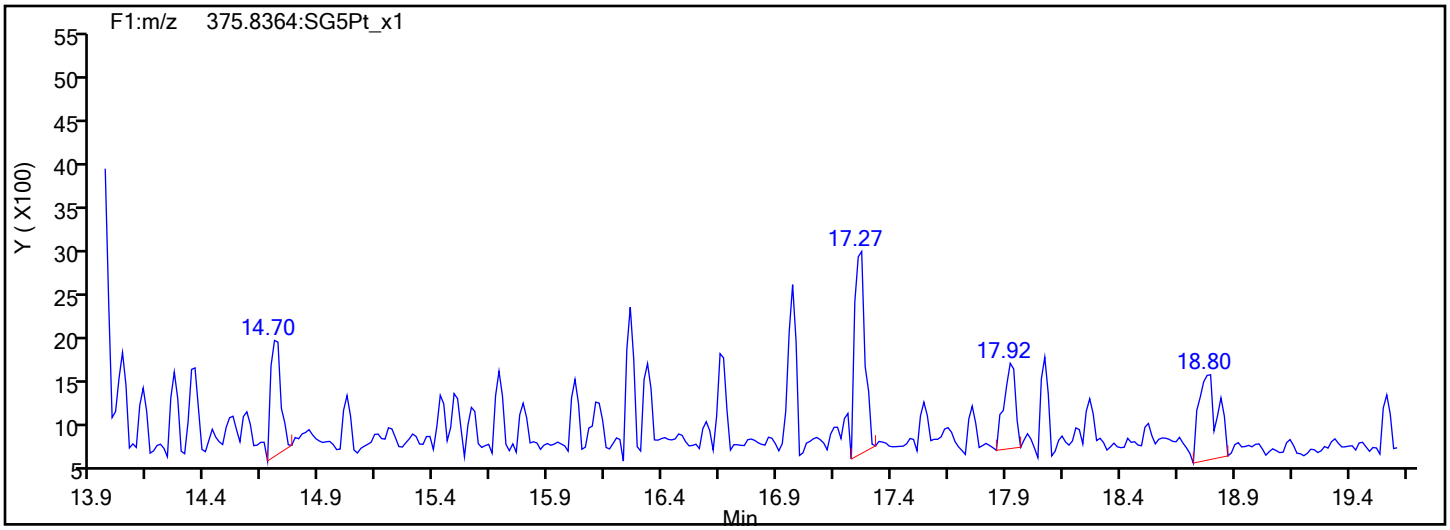

Report Date: 20-Sep-2019 11:47:14 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_48.d		
Injection Date:	19-Sep-2019 23:58:52	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	48
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

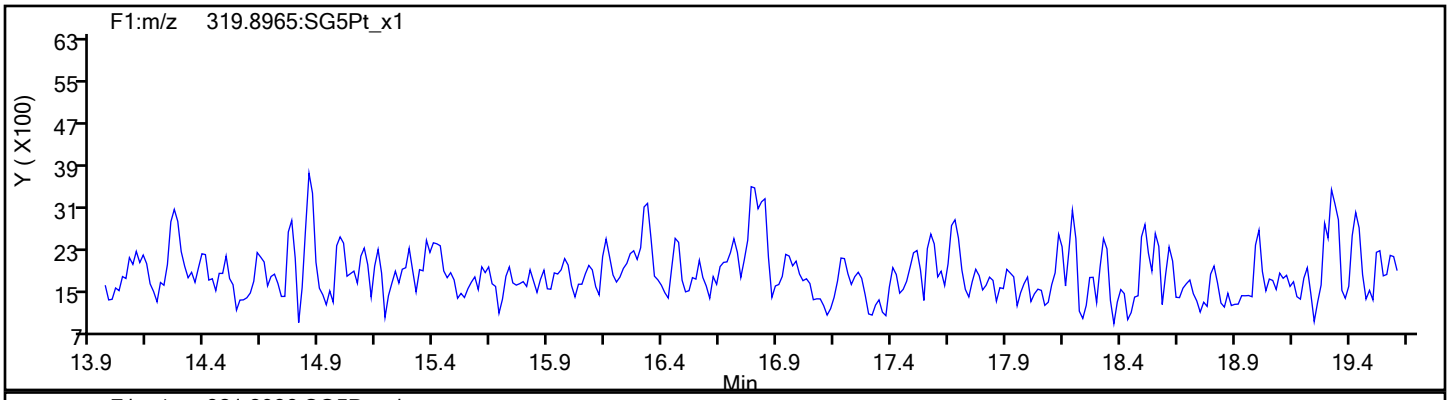

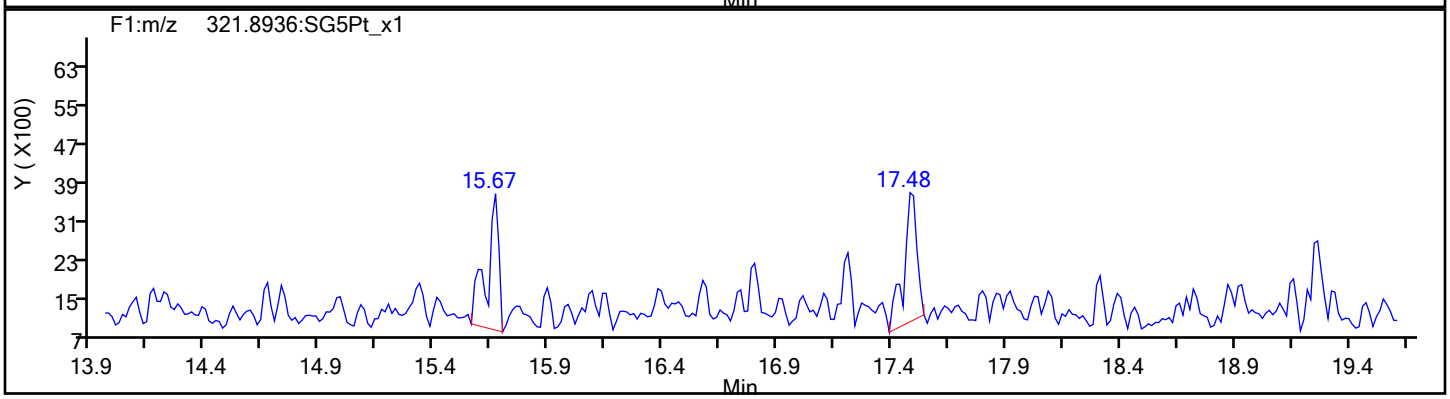

TCDD Standards

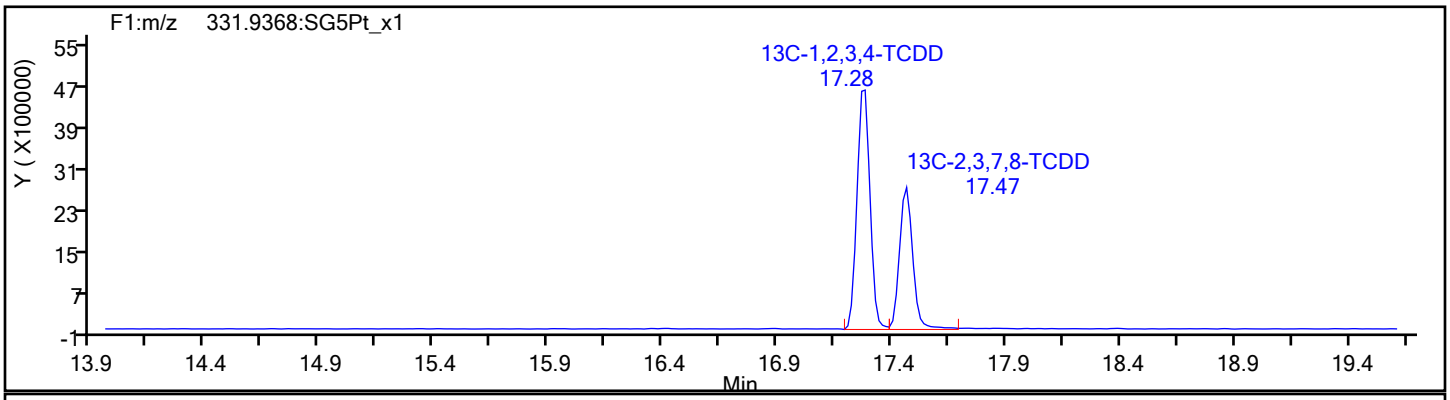

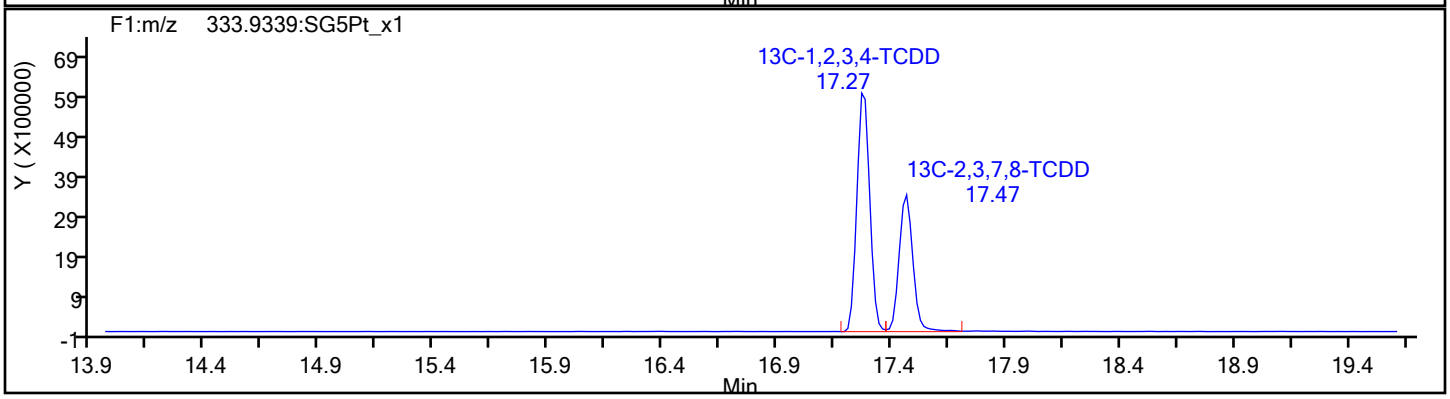

Report Date: 20-Sep-2019 11:47:14 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_48.d		
Injection Date:	19-Sep-2019 23:58:52	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	48
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

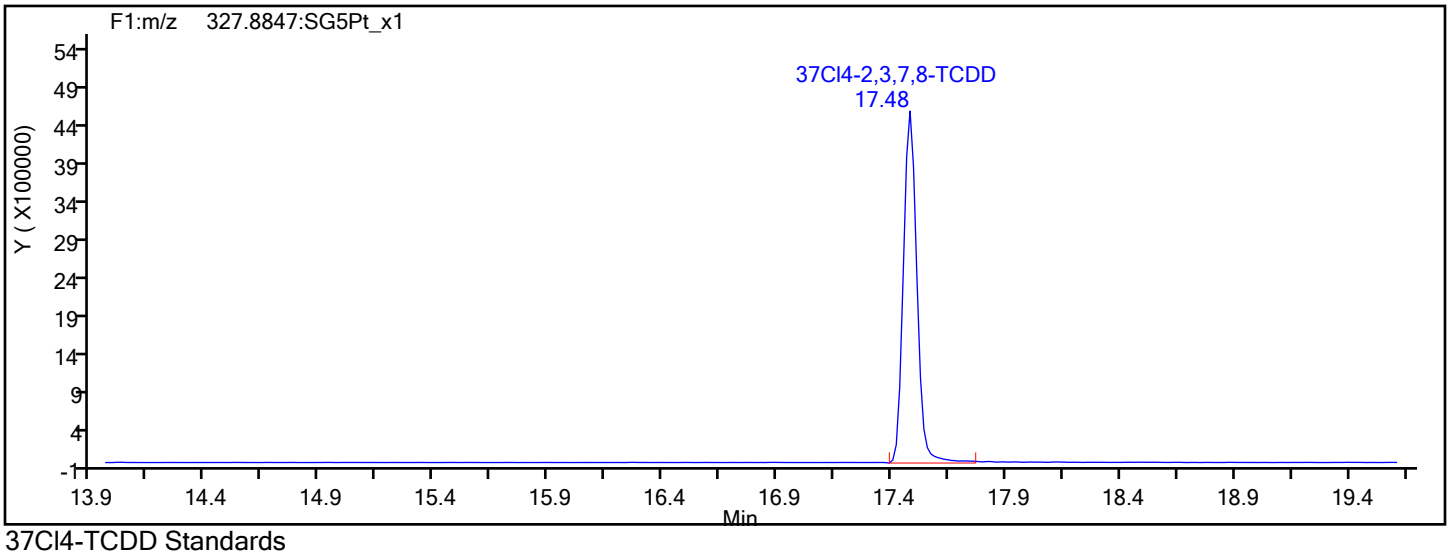

37Cl4-TCDD Standards

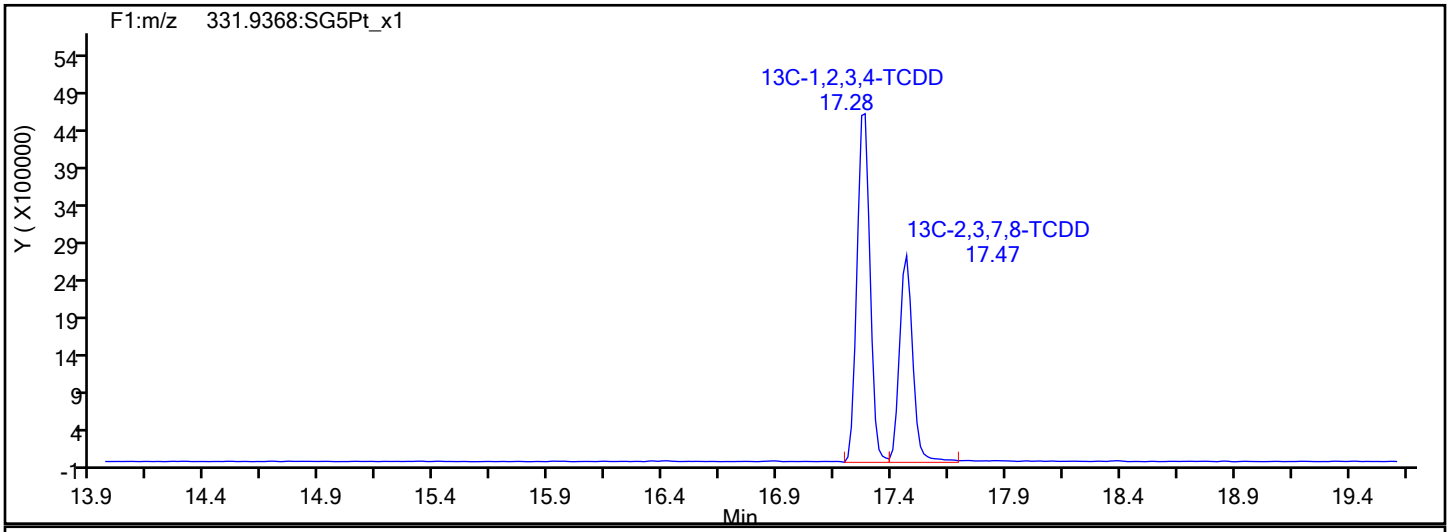

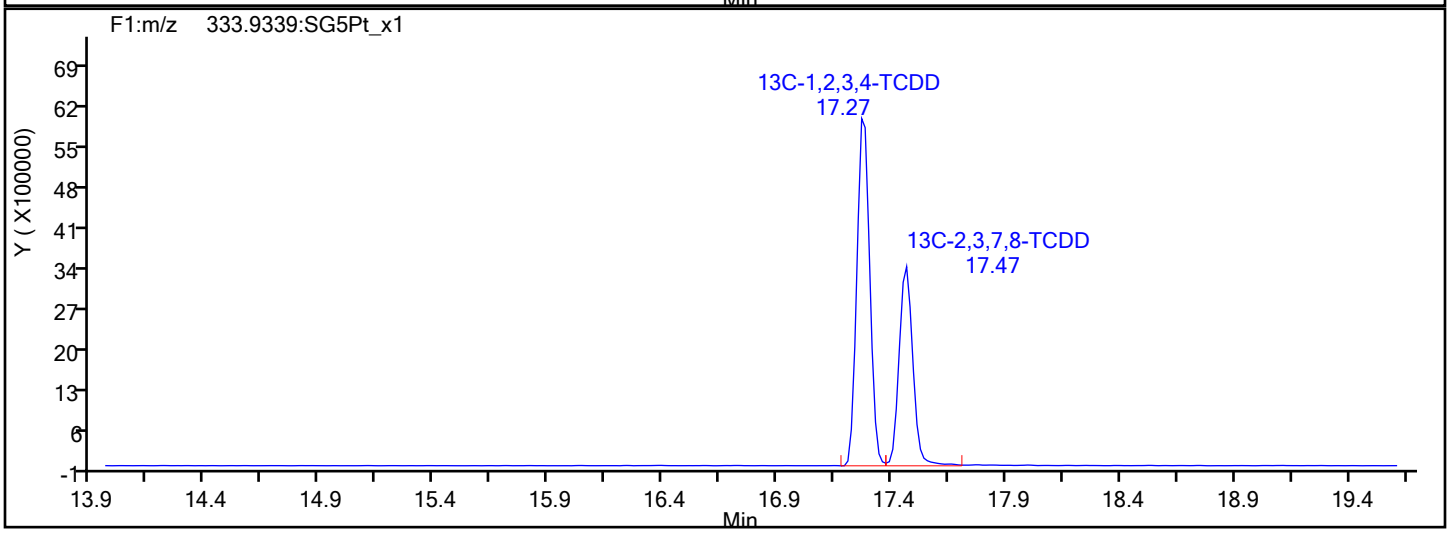

Report Date: 20-Sep-2019 11:47:14 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_48.d		
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Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	48
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

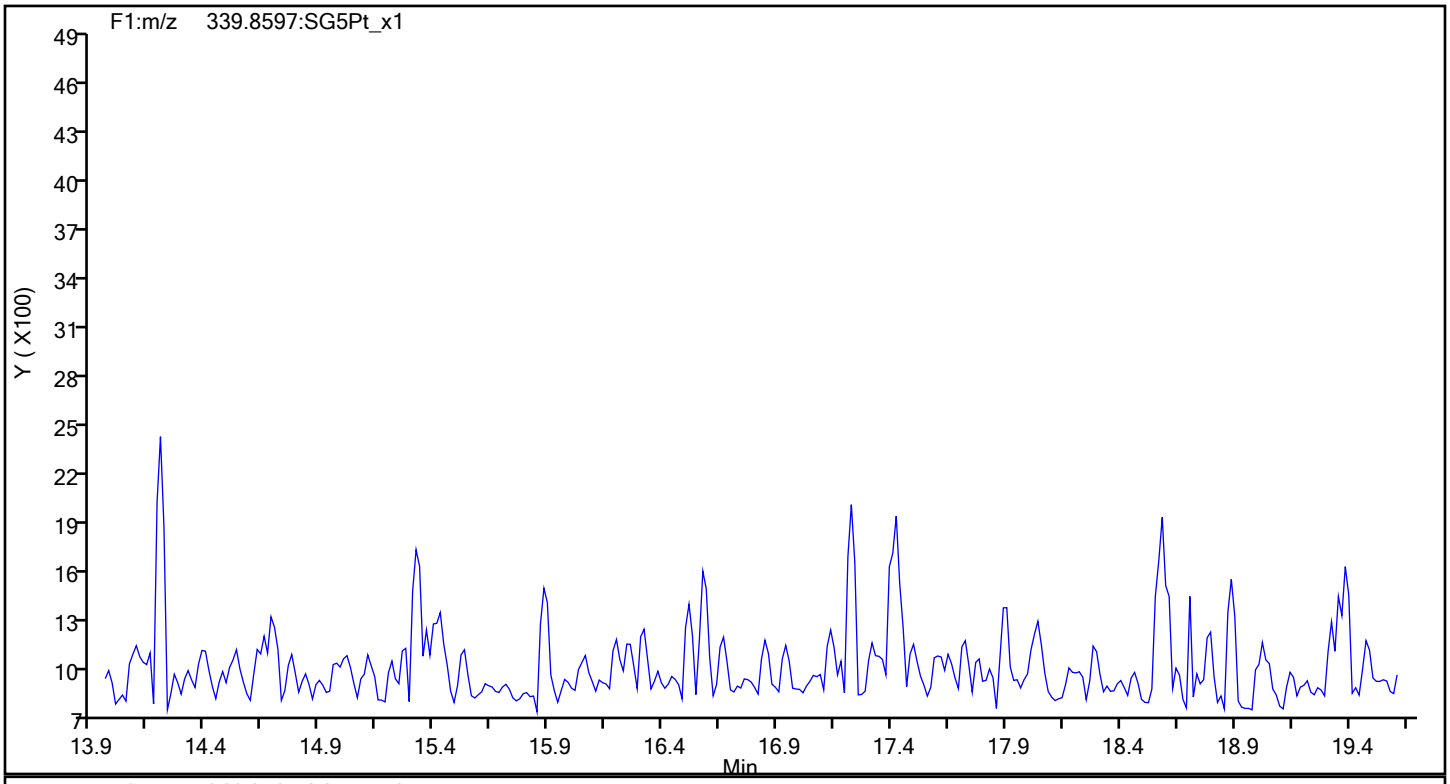

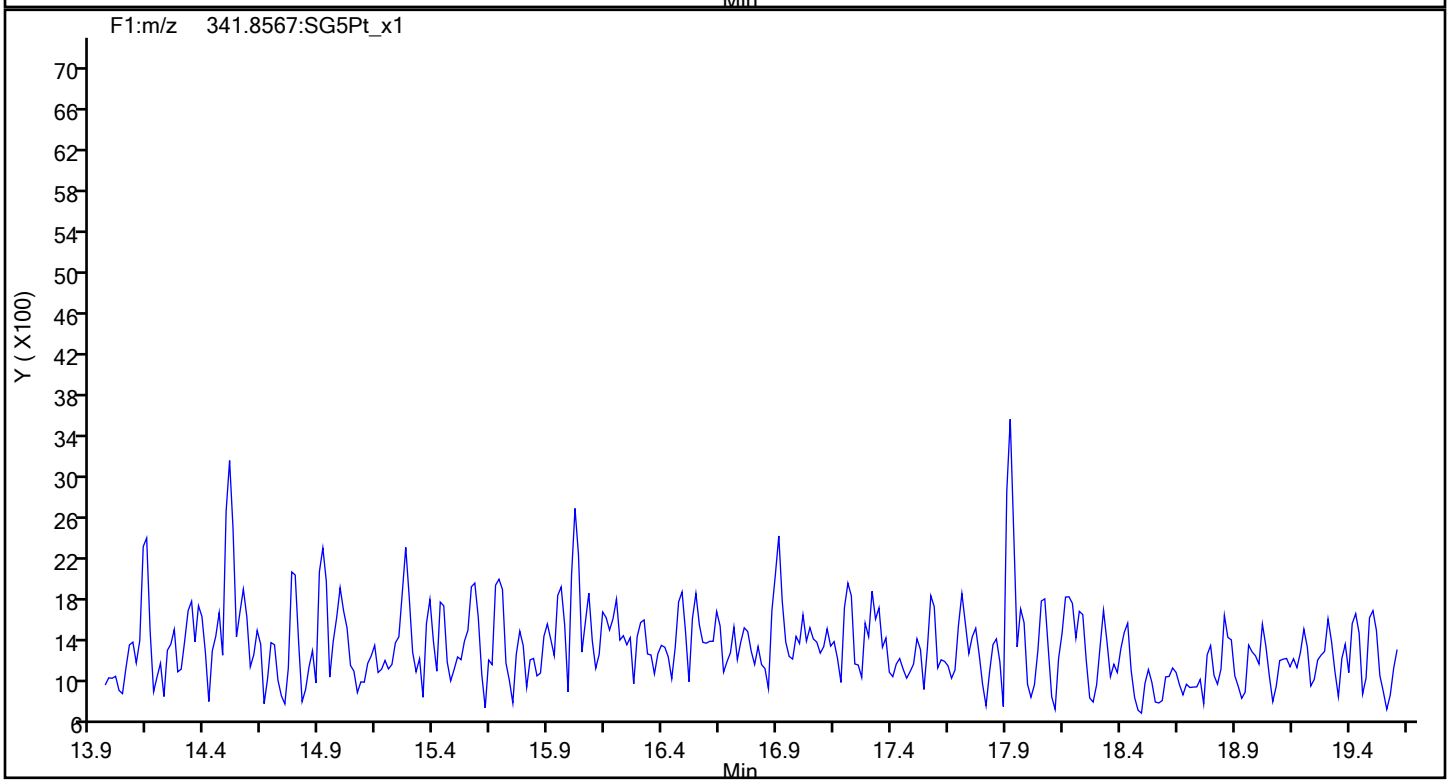

Report Date: 20-Sep-2019 11:47:14 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_48.d		
Injection Date:	19-Sep-2019 23:58:52	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	48
Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

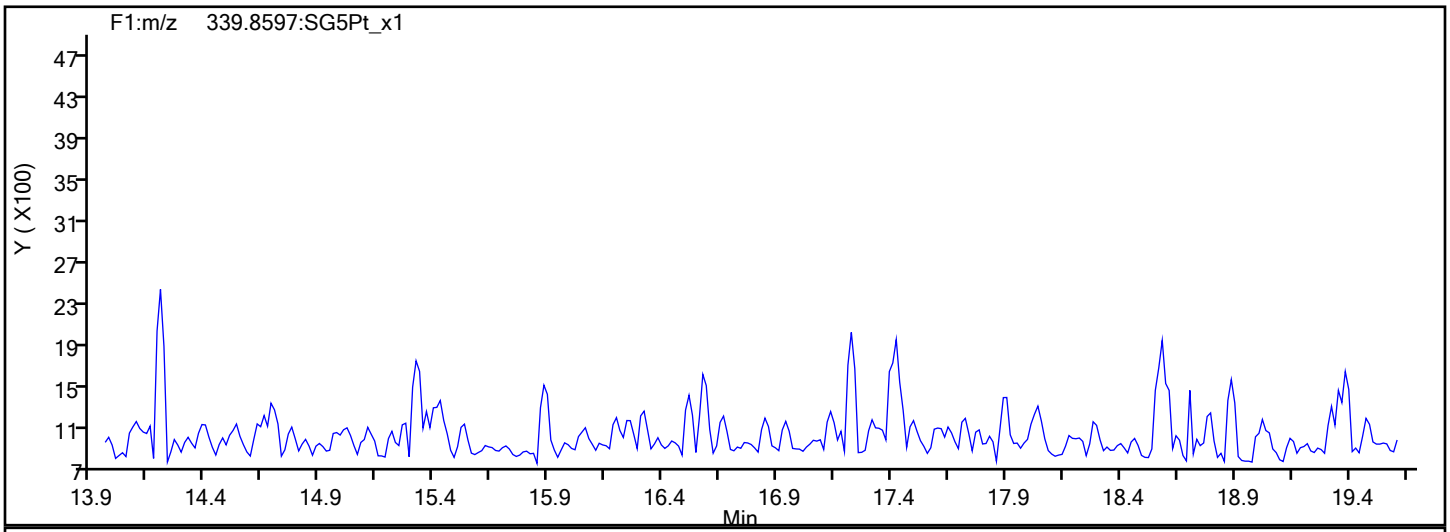

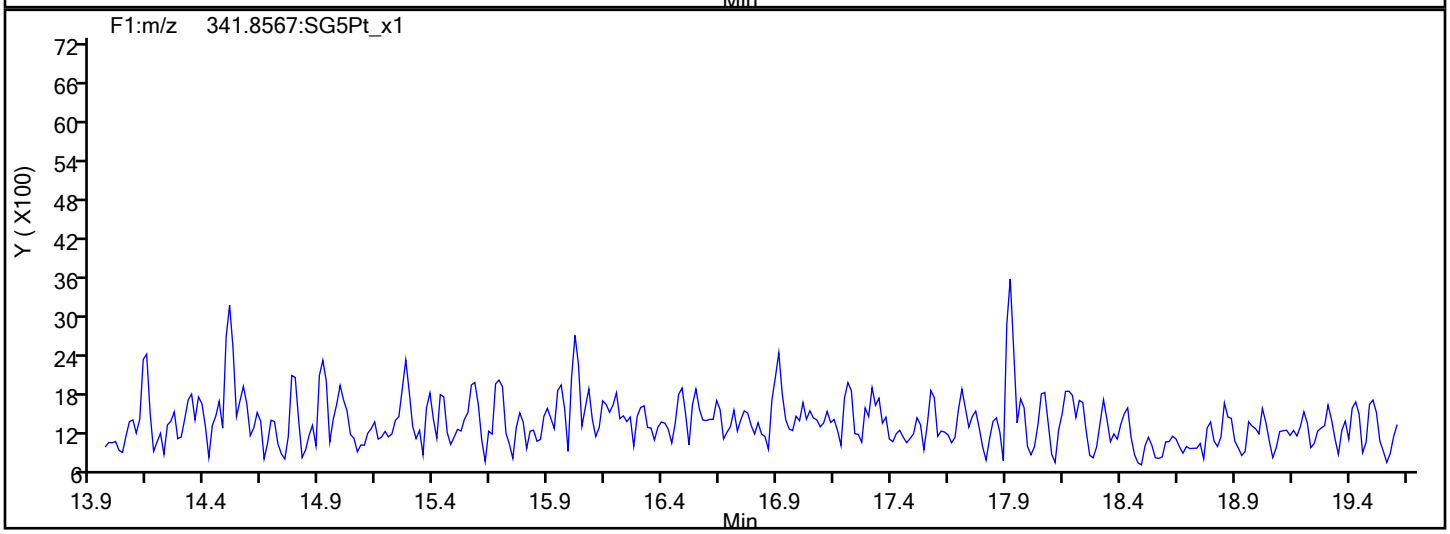

F1 PeCDFs Interference Mass

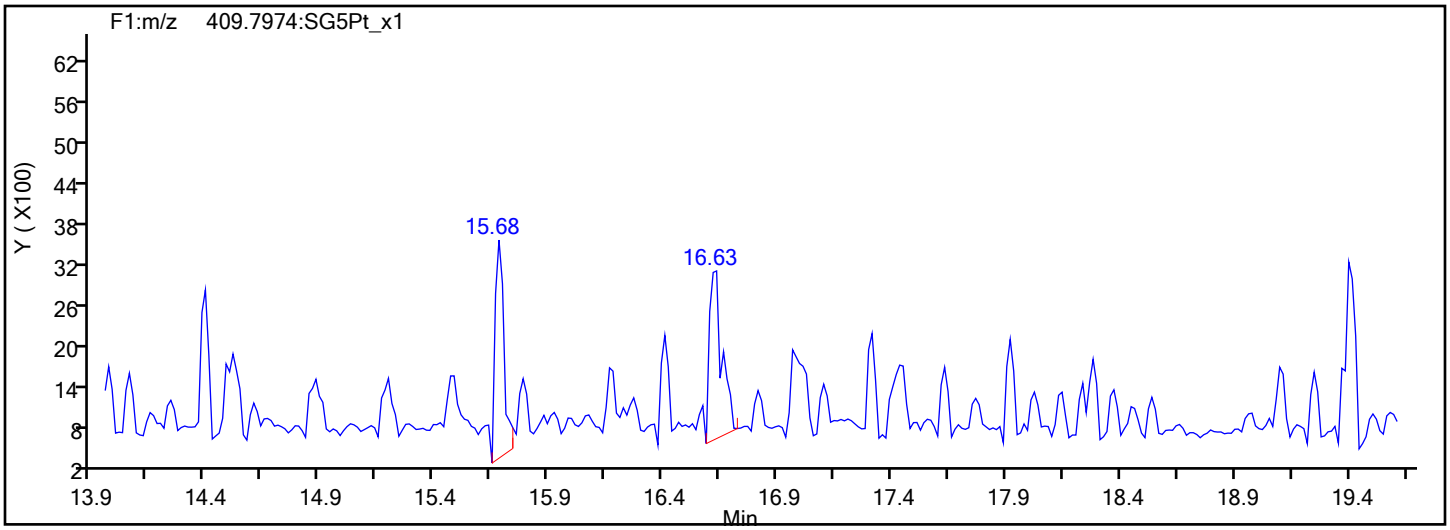

Report Date: 20-Sep-2019 11:47:14 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_48.d		
Injection Date:	19-Sep-2019 23:58:52	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	48
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

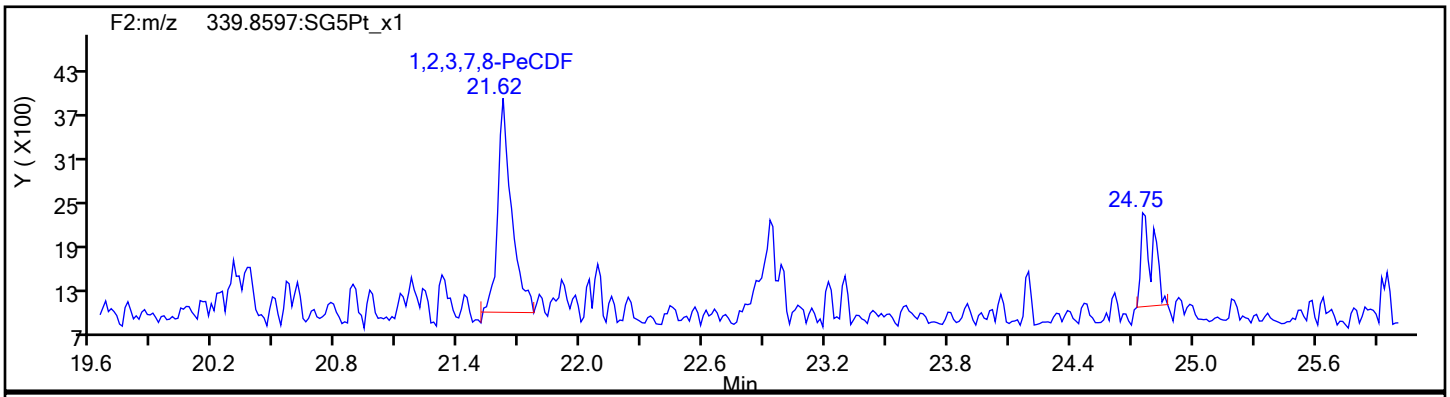

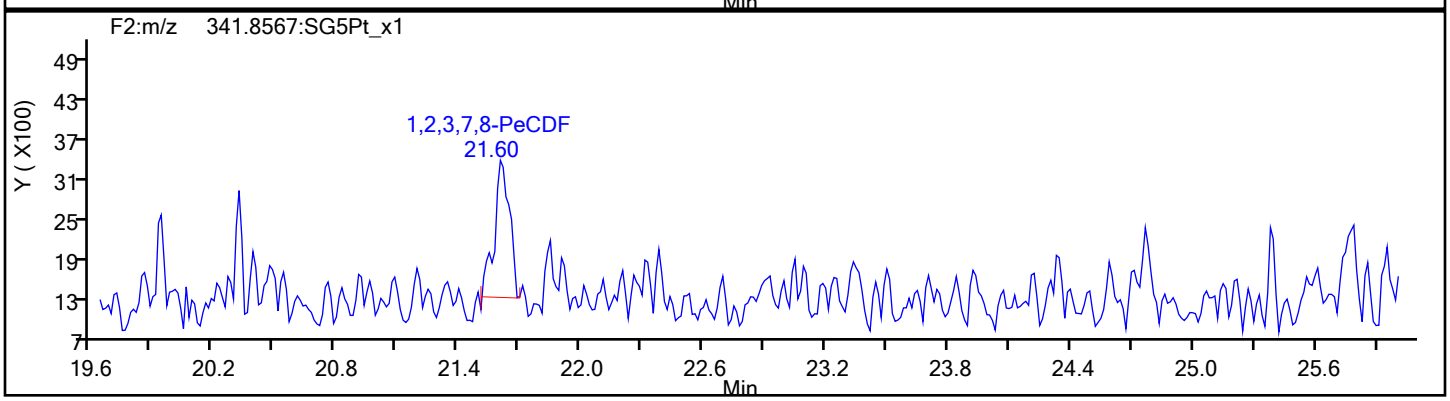

PeCDF Standards

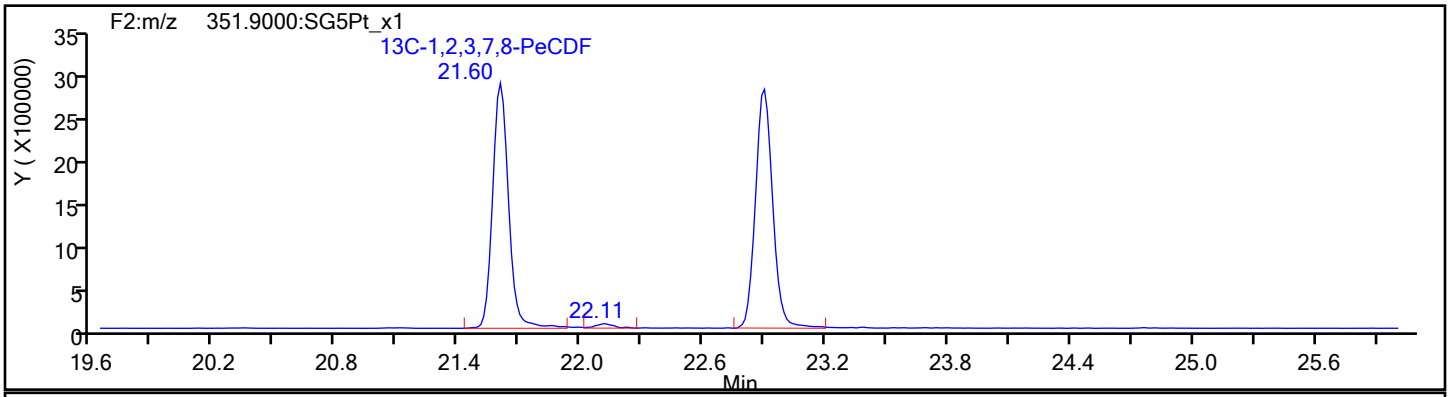

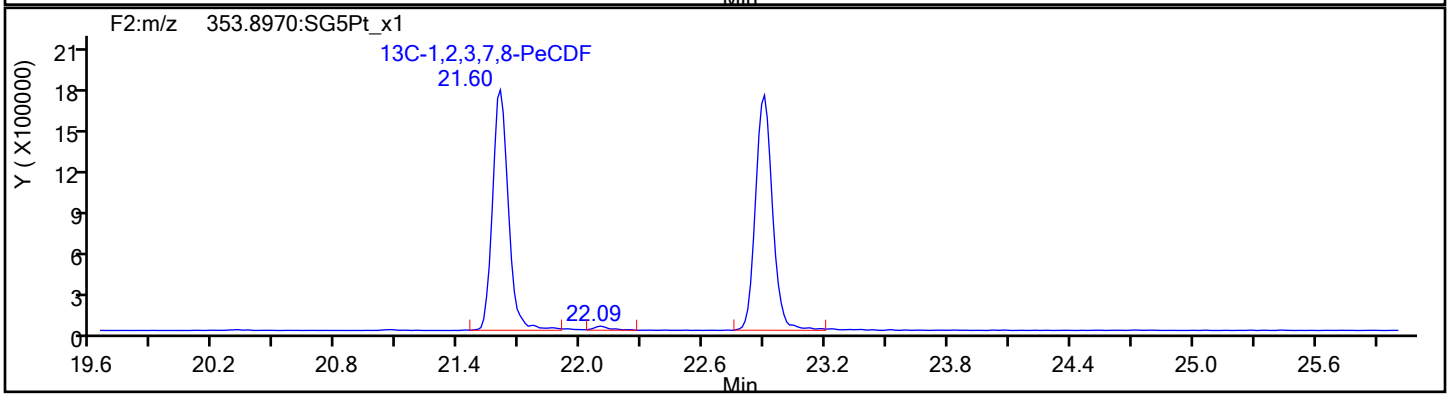

Report Date: 20-Sep-2019 11:47:14 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_48.d		
Injection Date:	19-Sep-2019 23:58:52	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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PeCDF

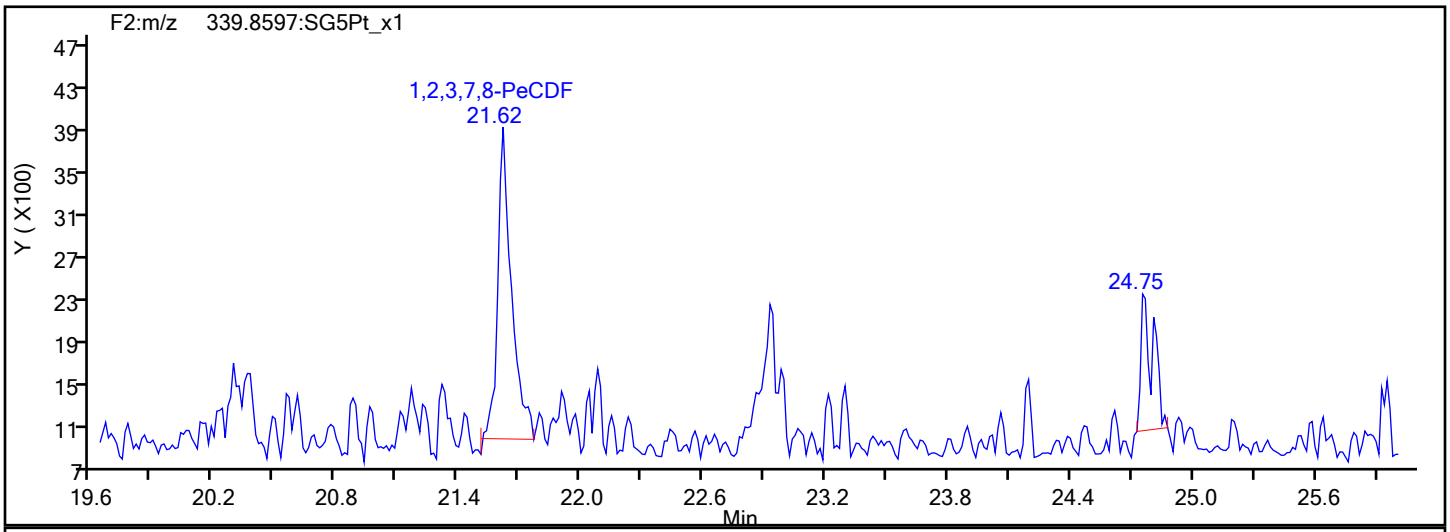

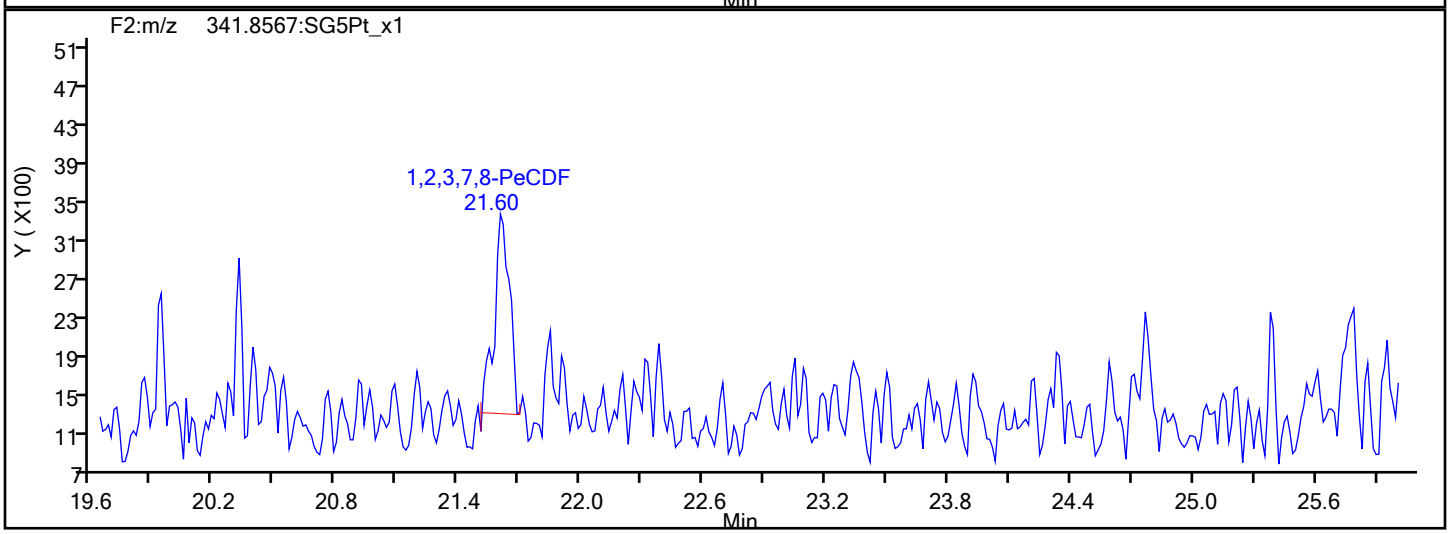

PeCDF Interference Mass

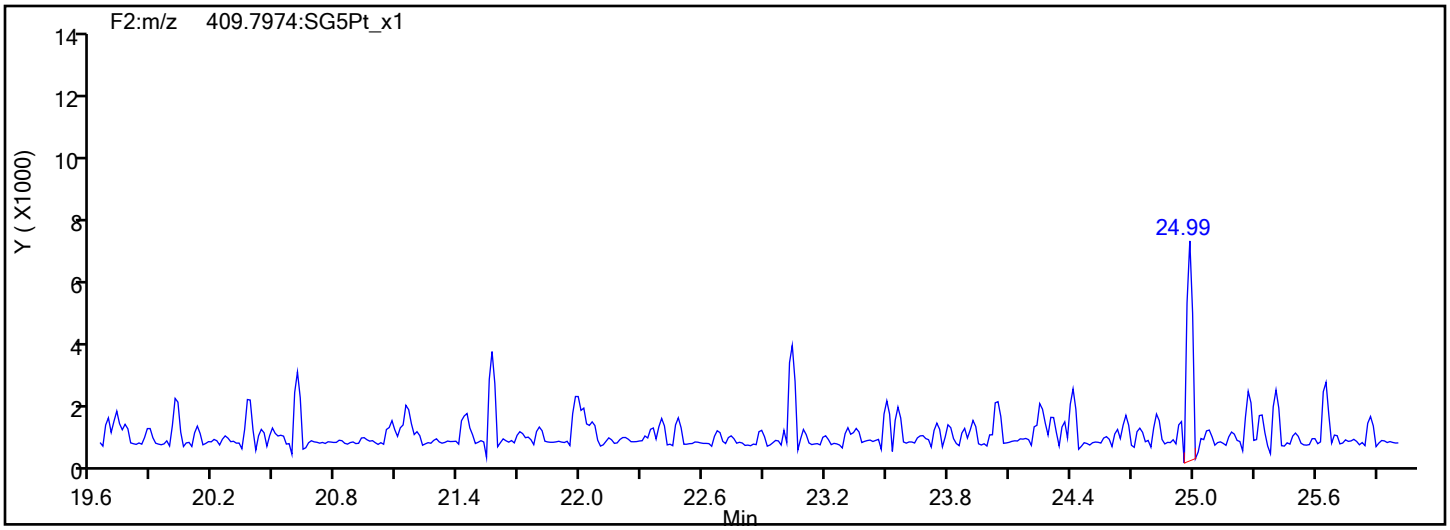

Report Date: 20-Sep-2019 11:47:14 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_48.d		
Injection Date:	19-Sep-2019 23:58:52	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

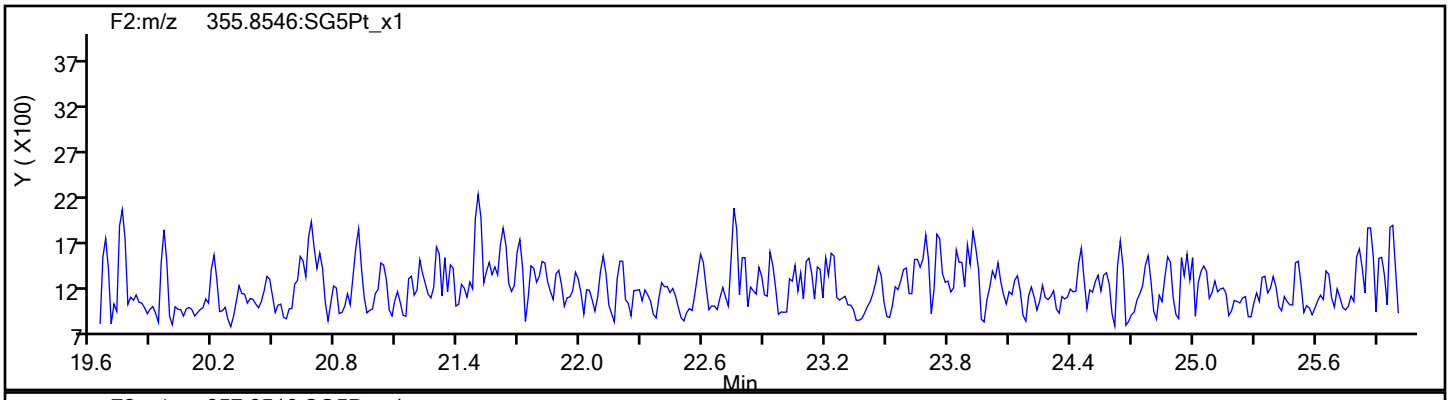

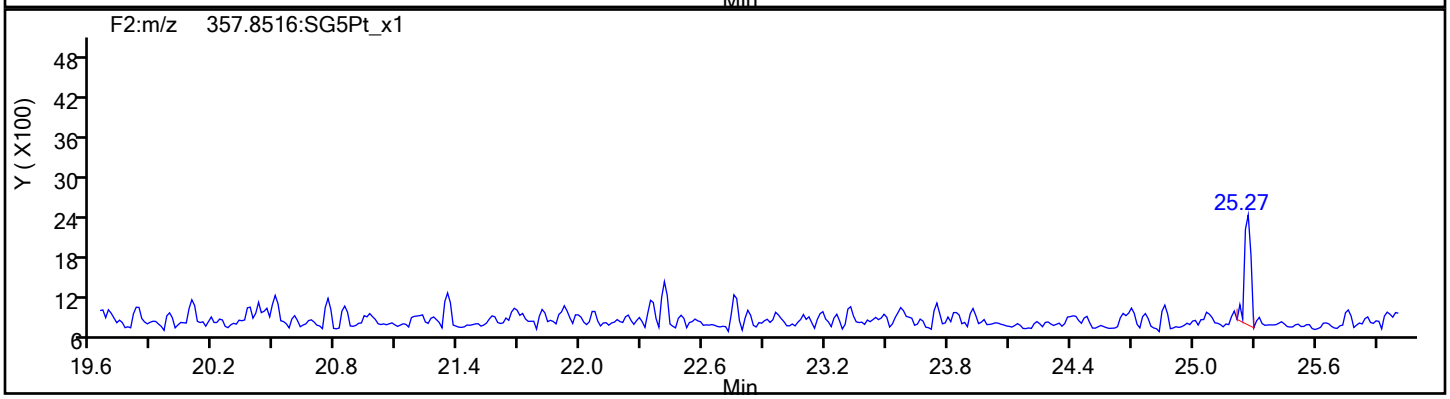

PeCDD Standards

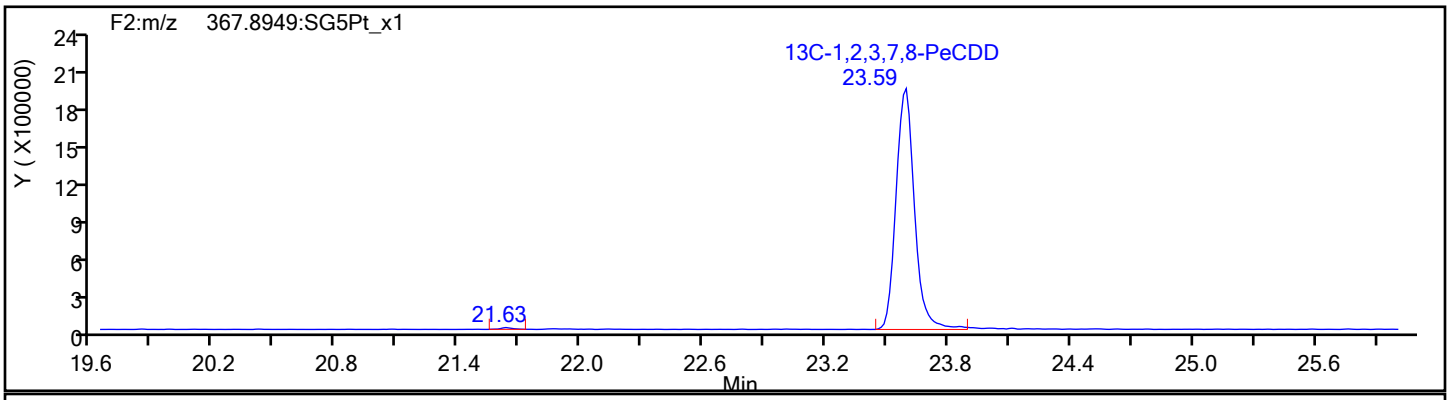

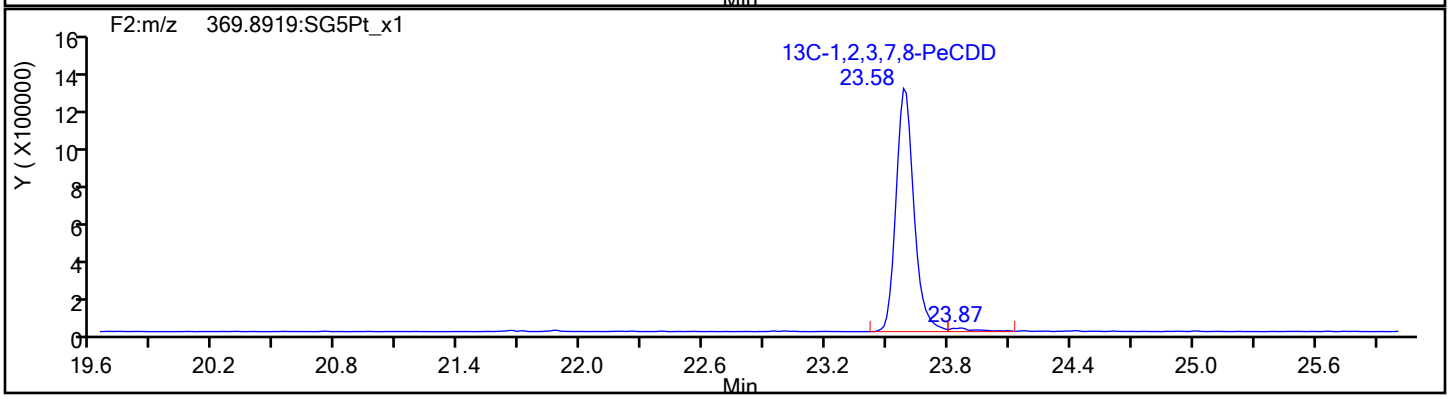

Report Date: 20-Sep-2019 11:47:14 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_48.d		
Injection Date:	19-Sep-2019 23:58:52	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	48
Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

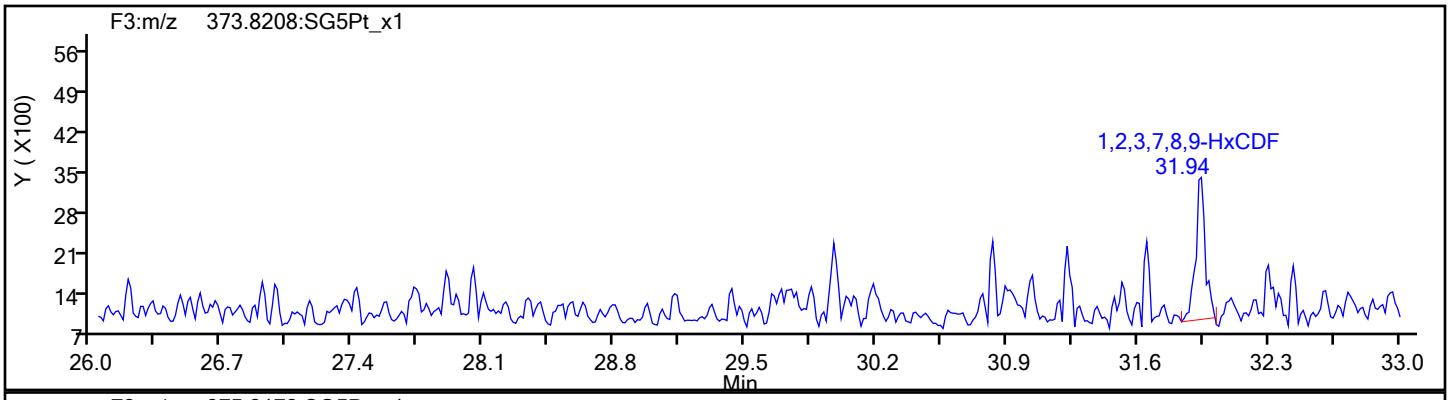

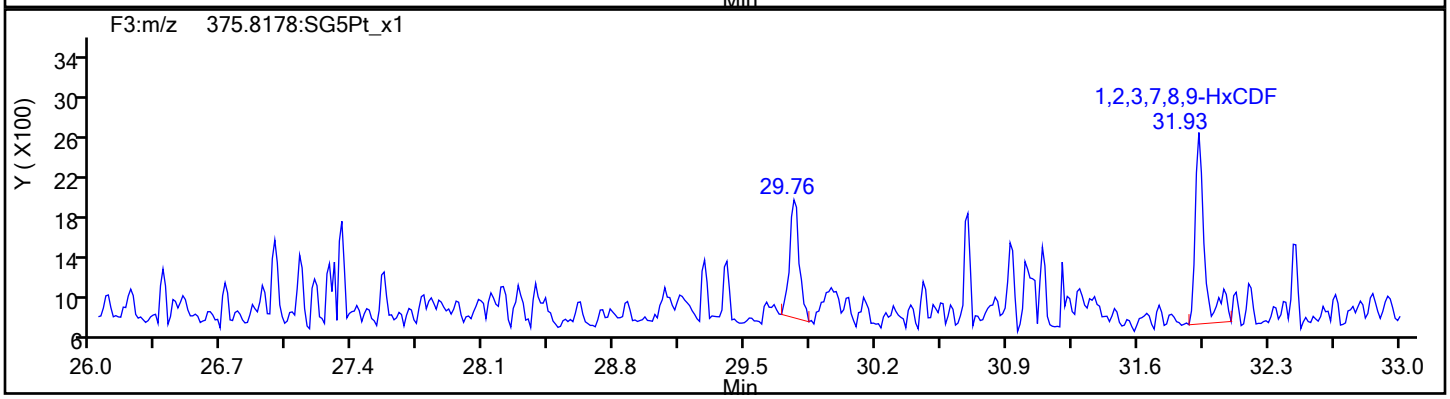

HxCDF Standards

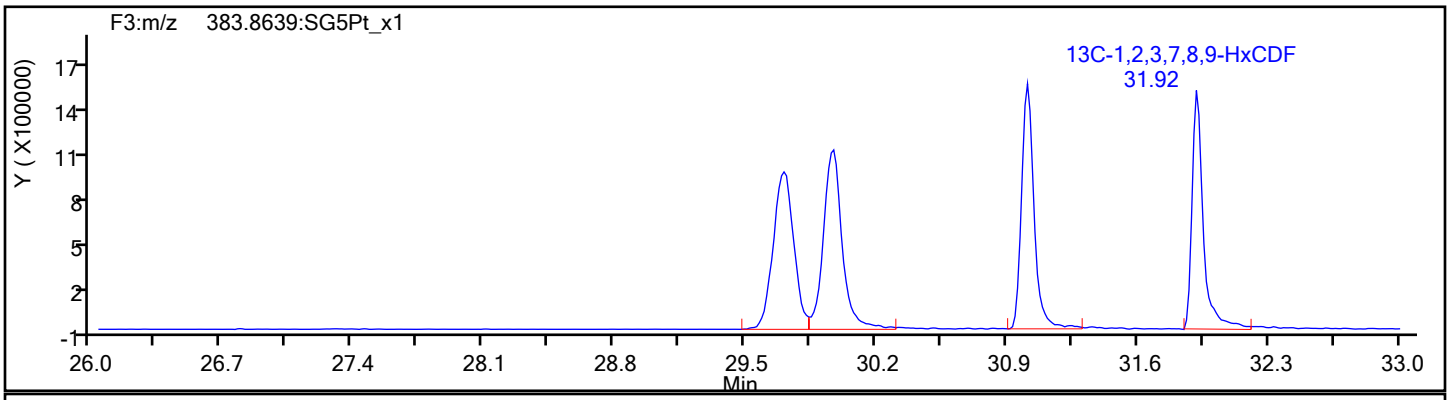

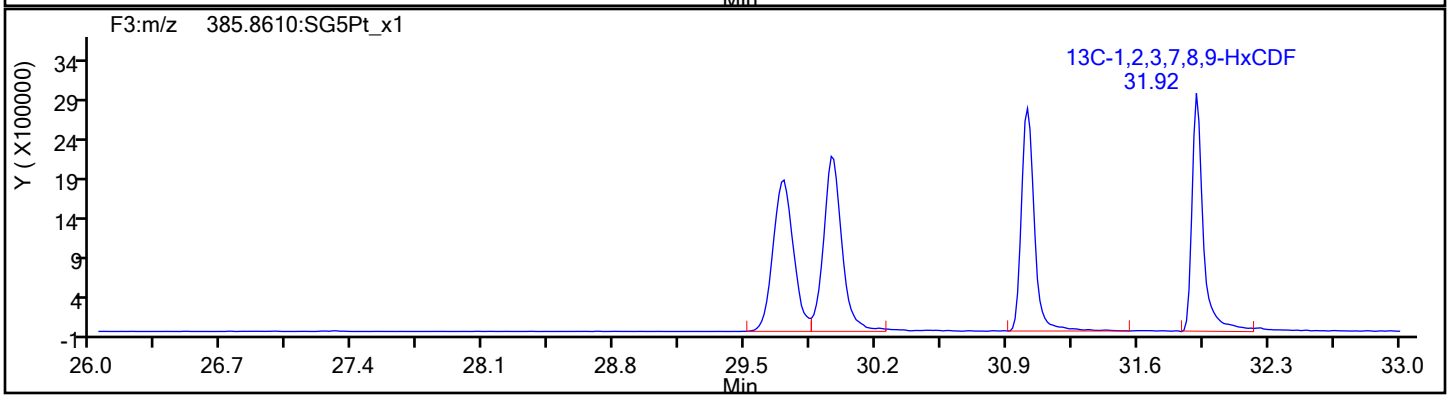

Report Date: 20-Sep-2019 11:47:14 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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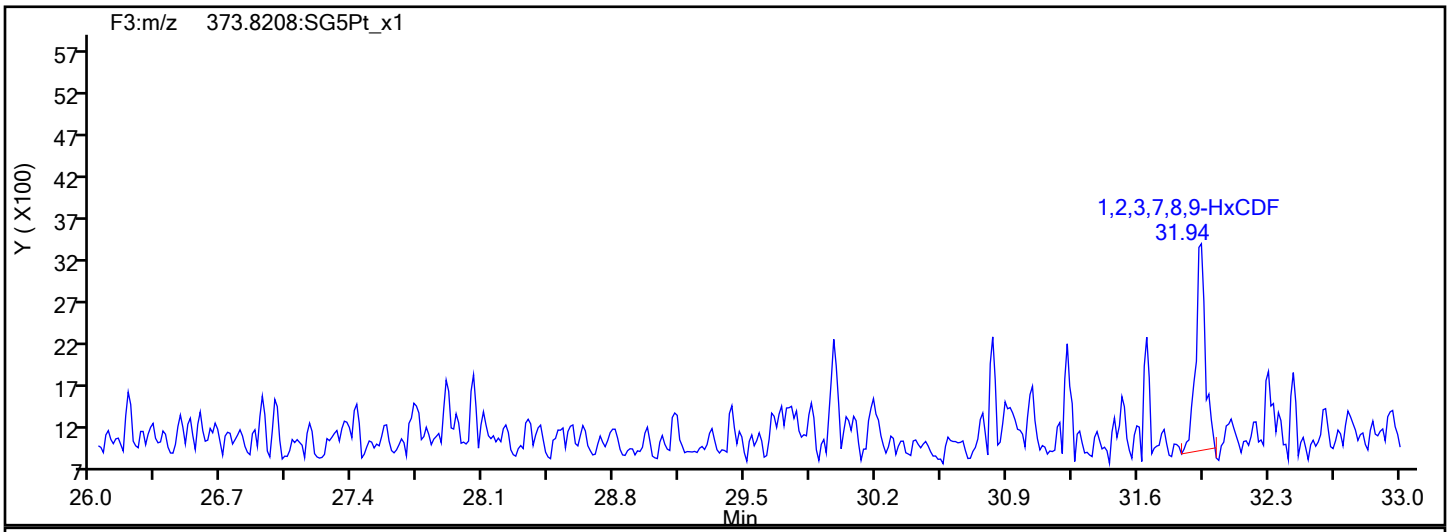

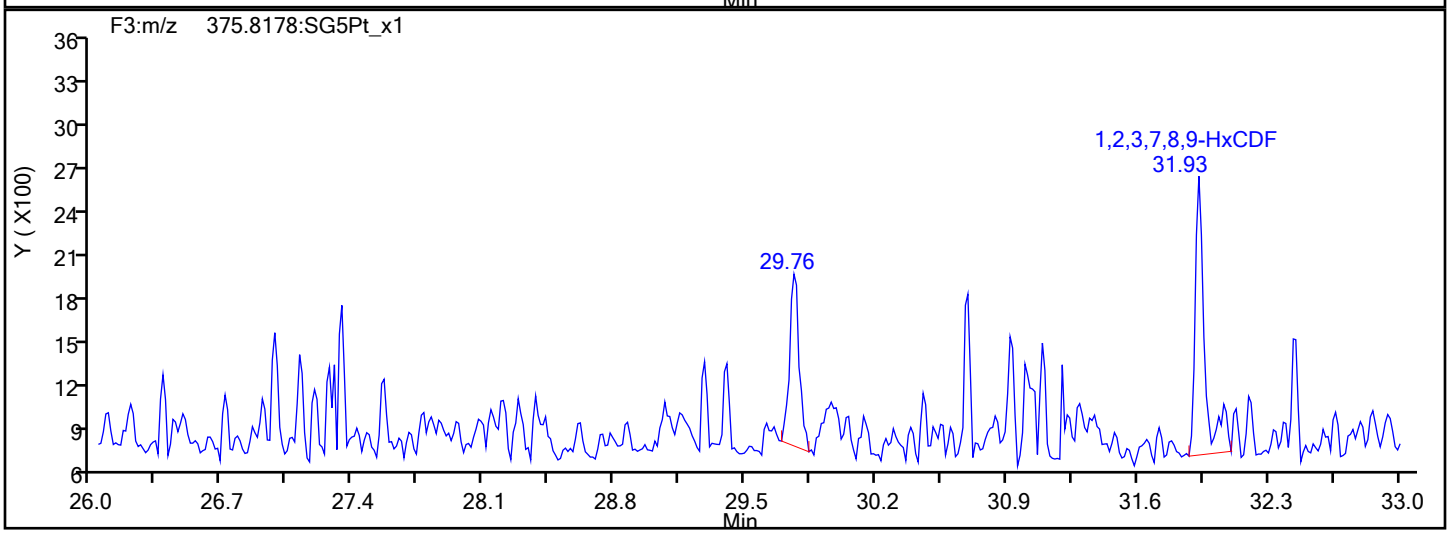

HxCDF Interference Mass

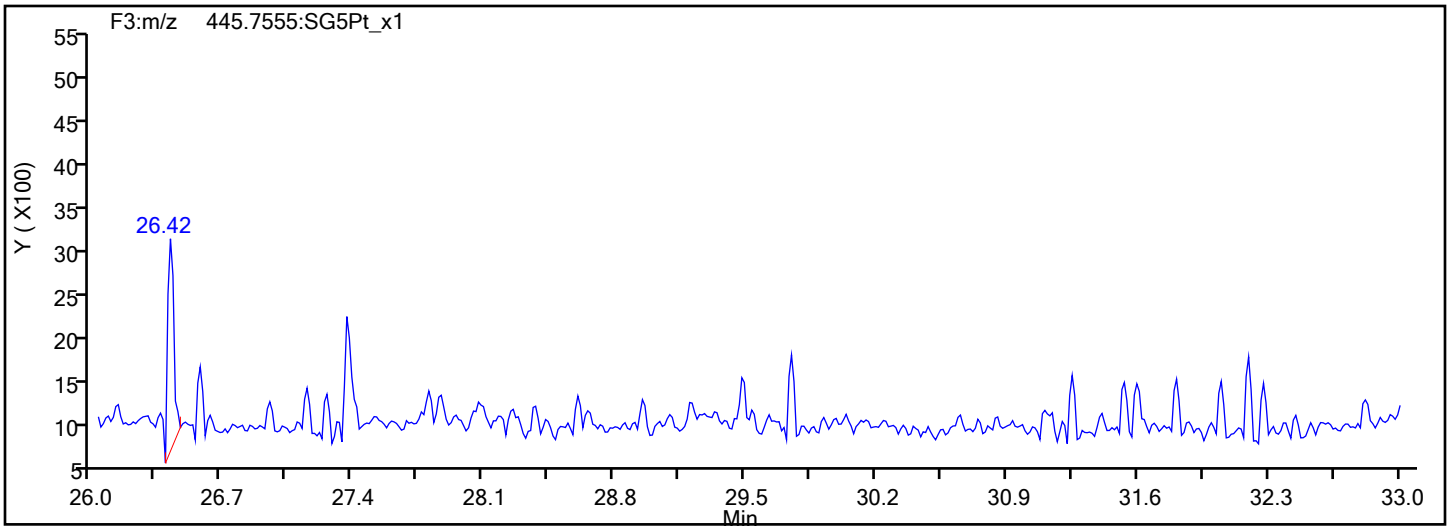

Report Date: 20-Sep-2019 11:47:14 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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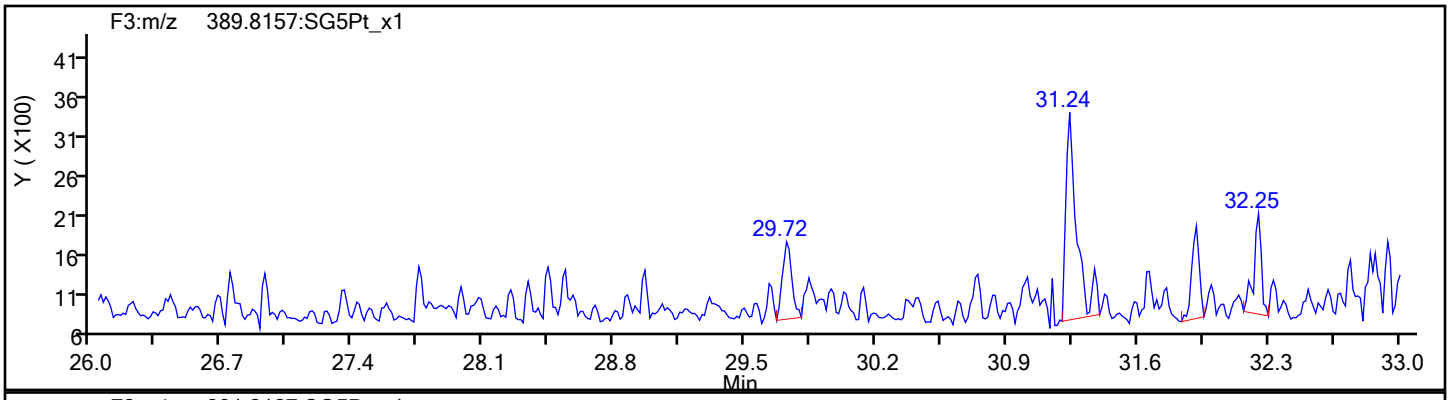

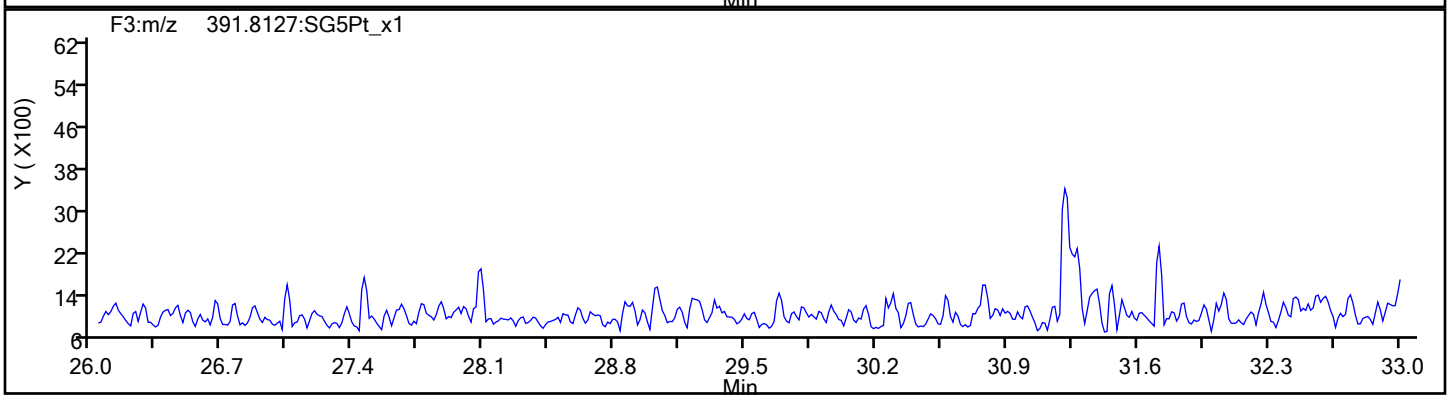

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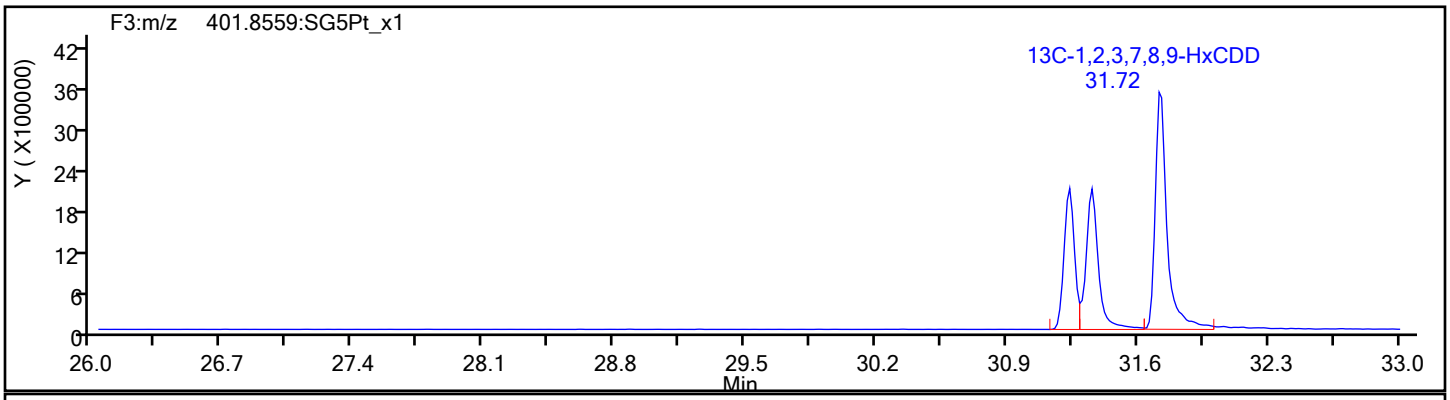

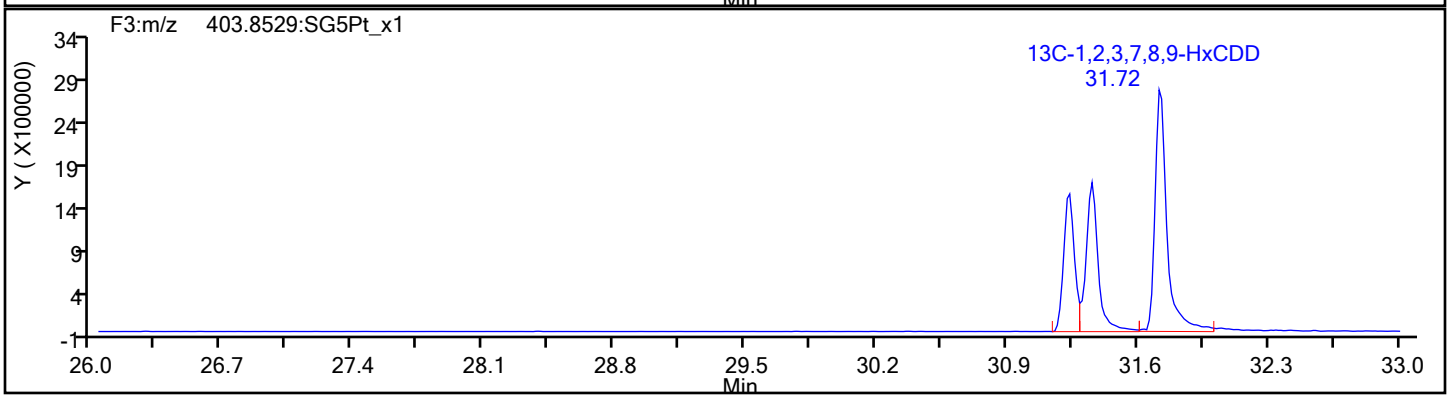

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Eurofins TestAmerica, Sacramento

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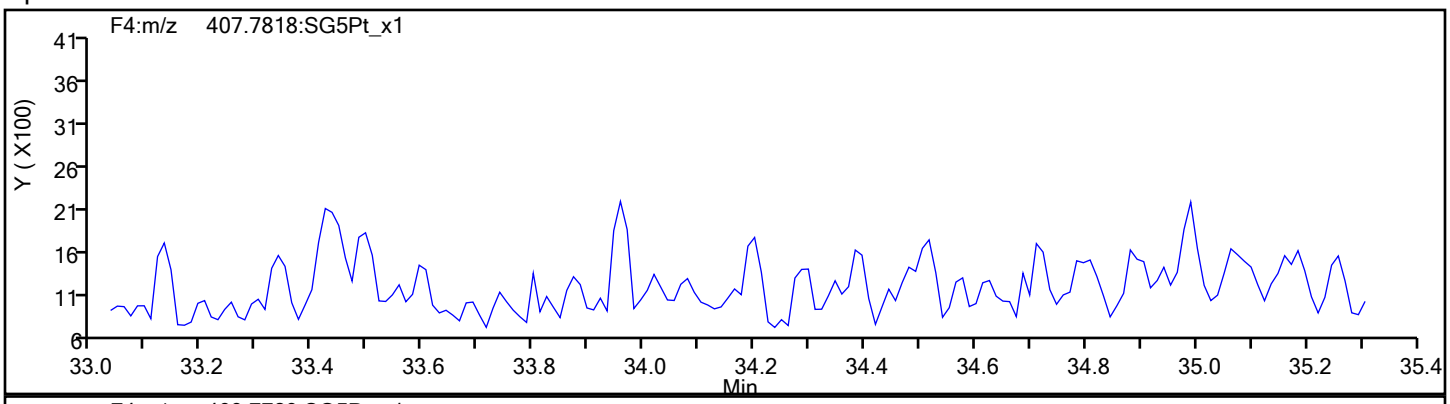

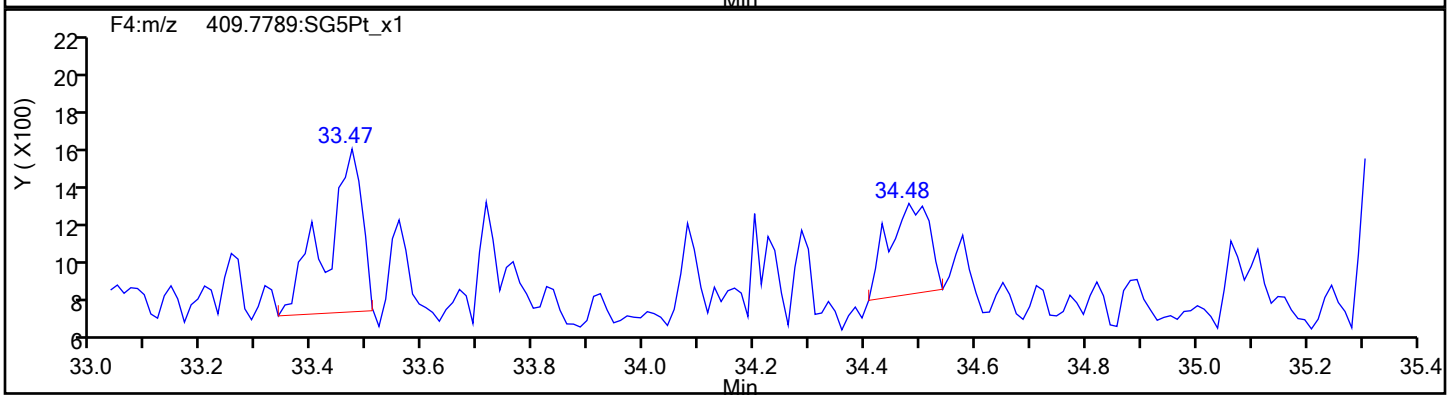

HpCDF Standards

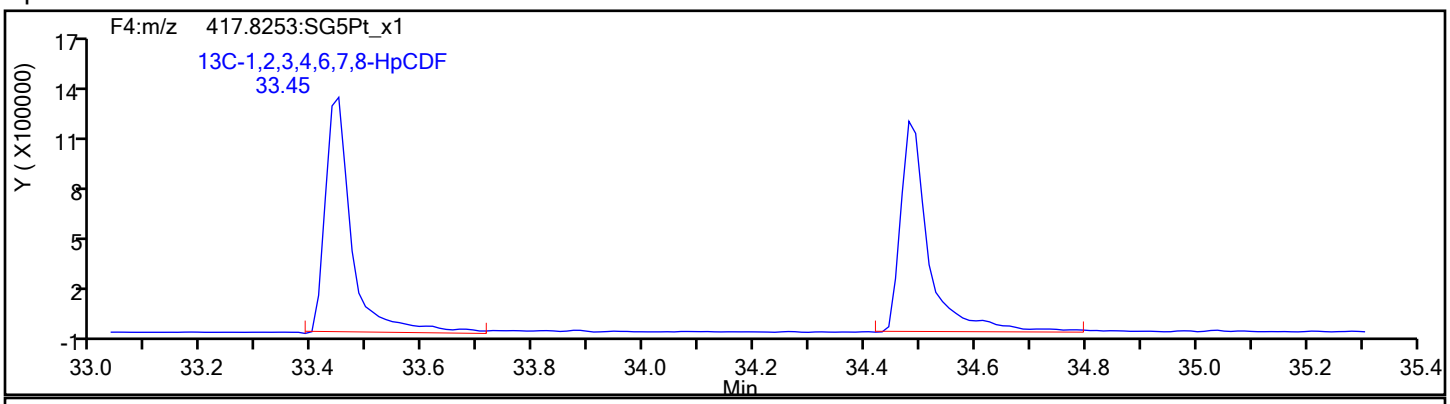

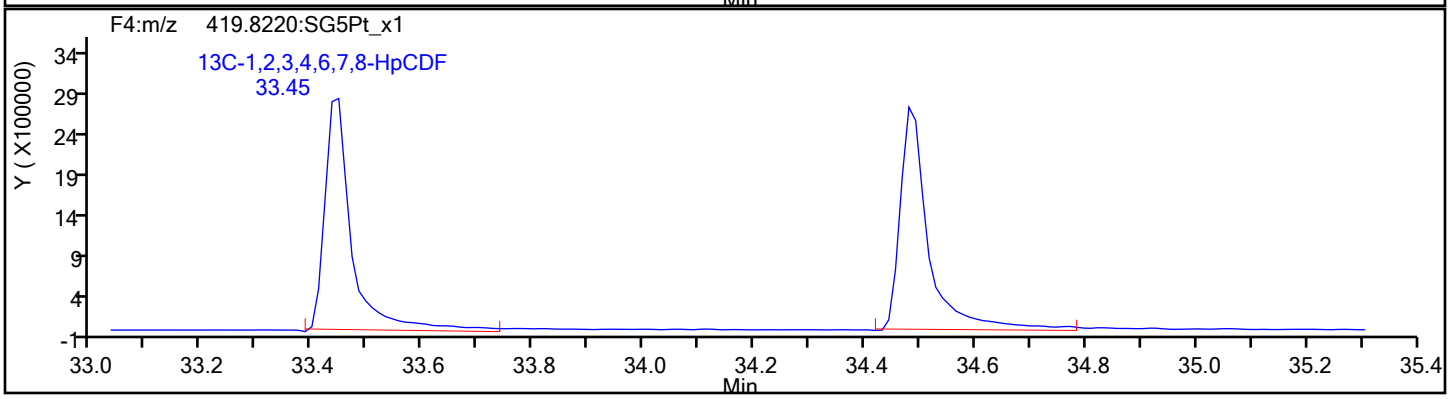

Report Date: 20-Sep-2019 11:47:14 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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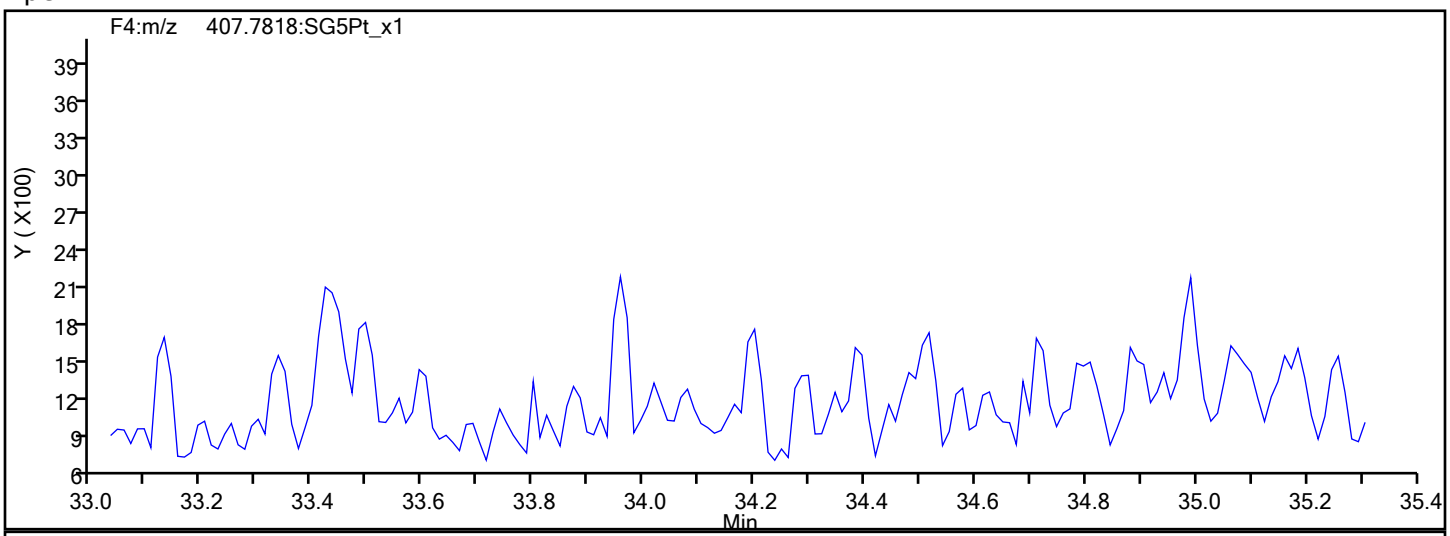

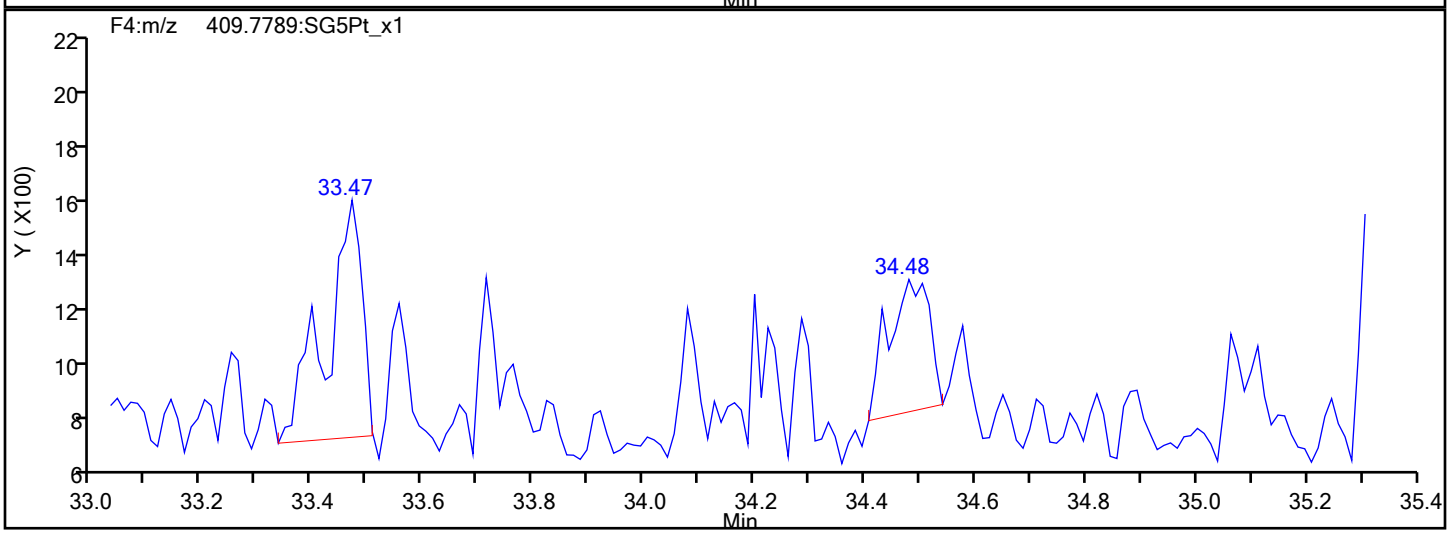

HpCDF Interference Mass

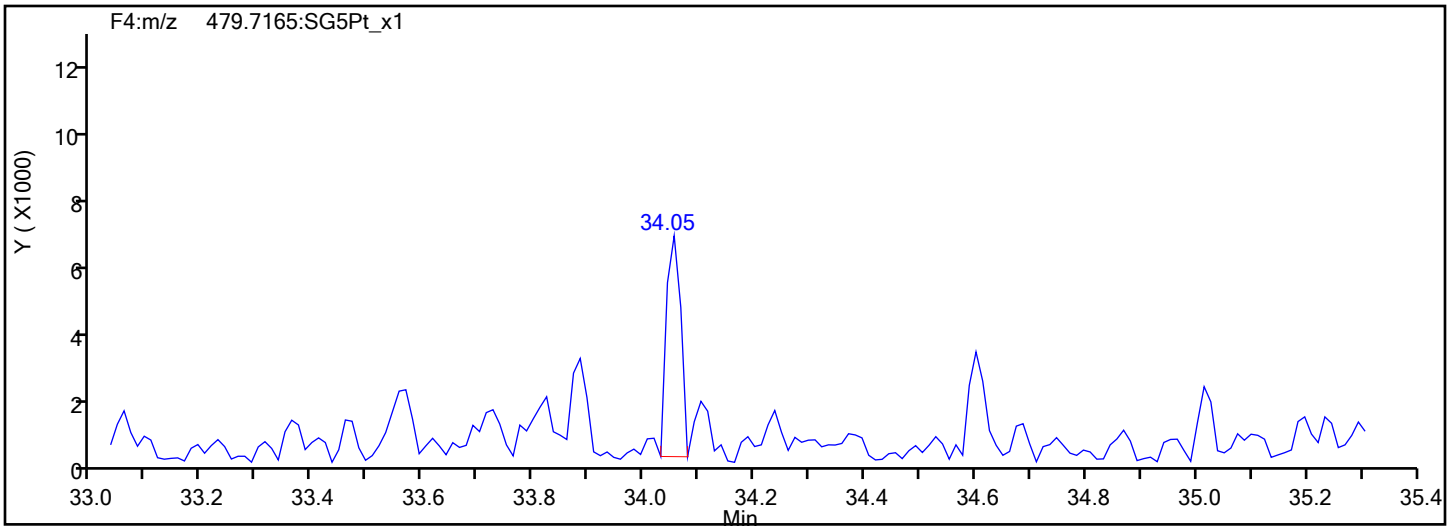

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Eurofins TestAmerica, Sacramento

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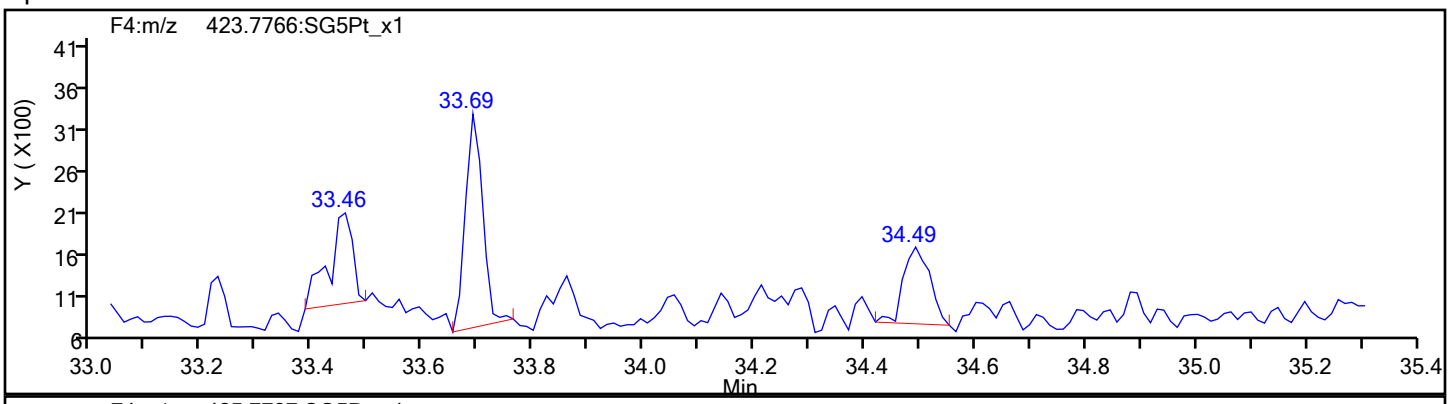

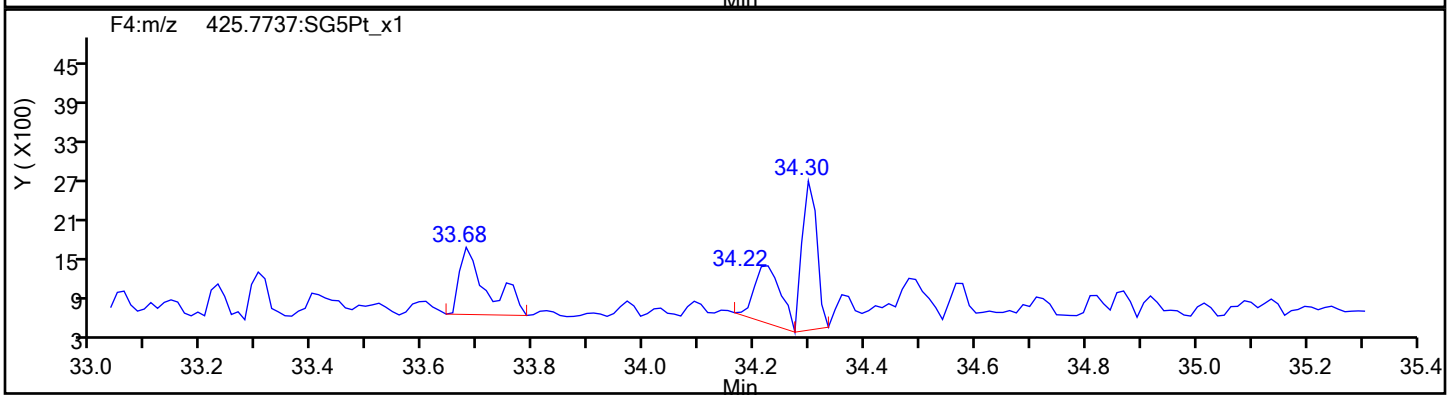

HpCDD Standards

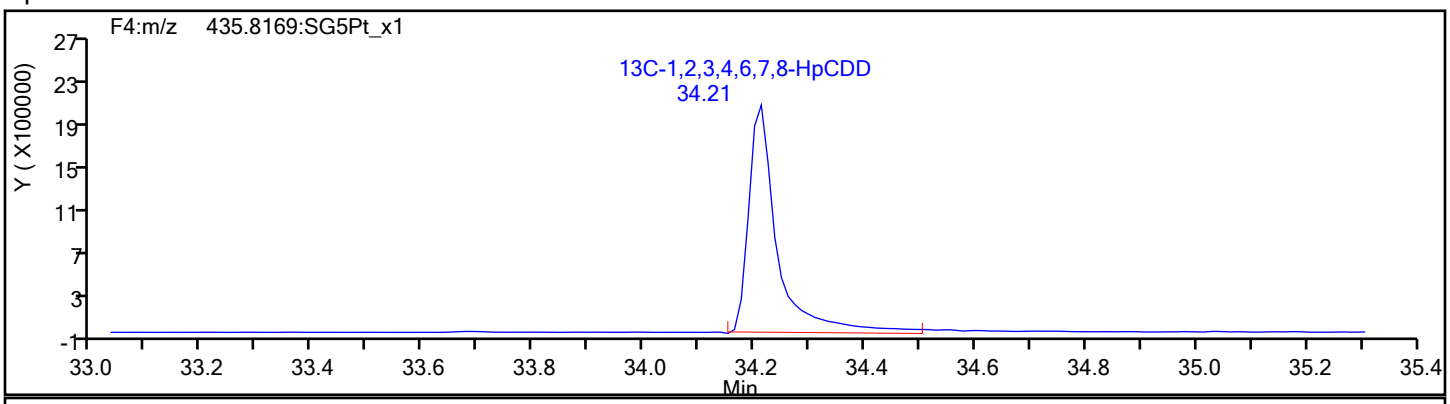

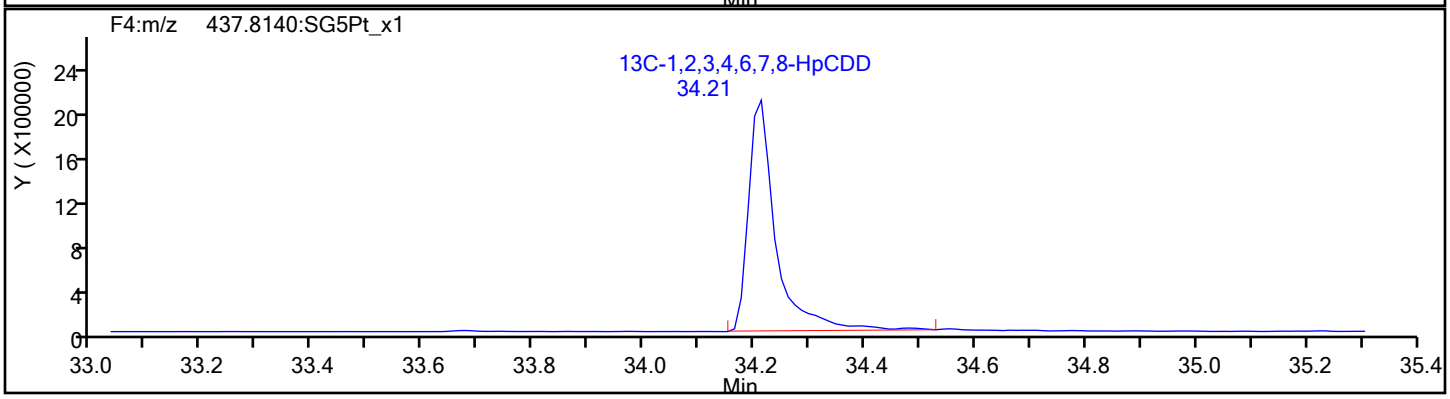

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Eurofins TestAmerica, Sacramento

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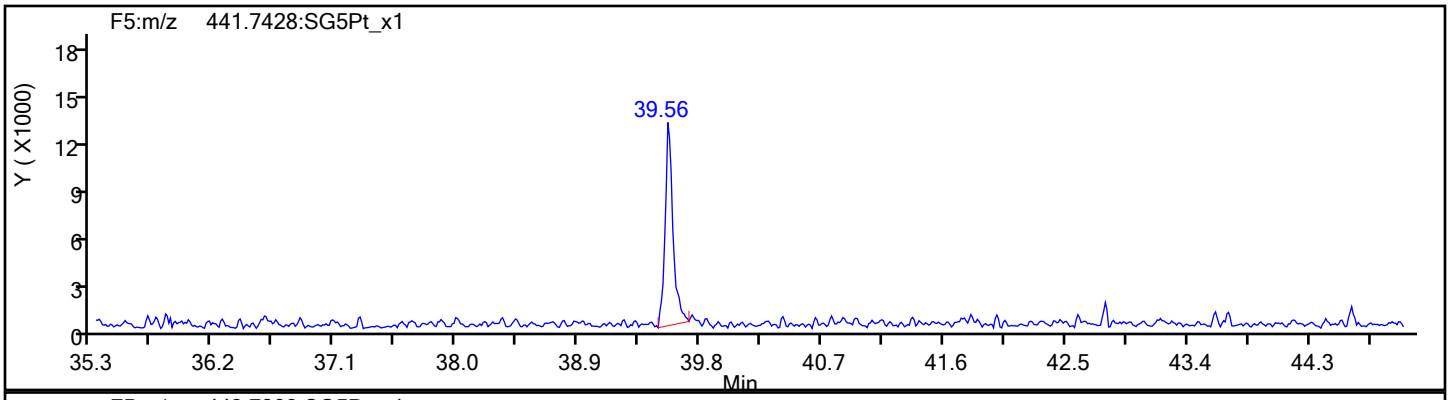

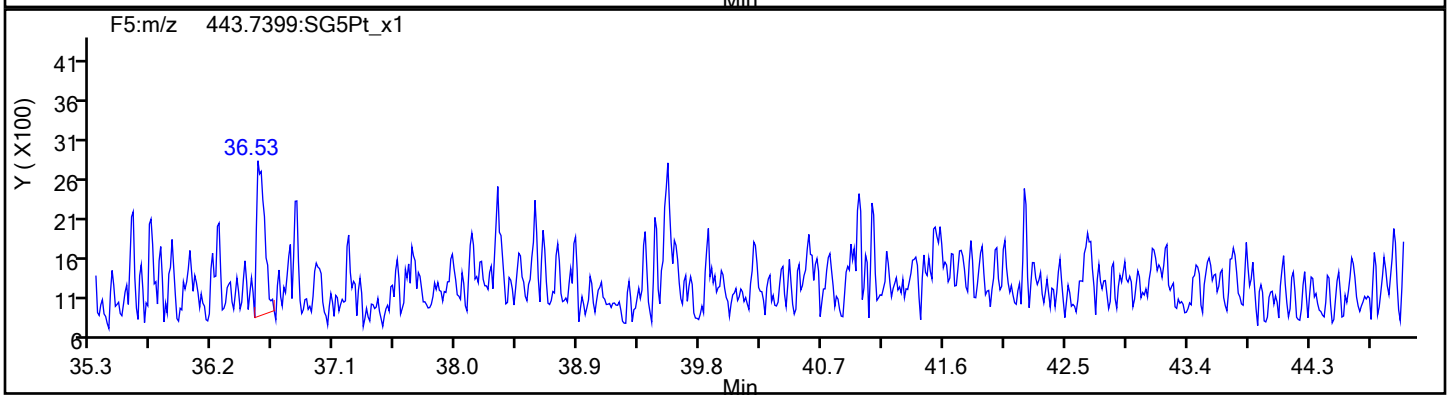

OCDF Standards

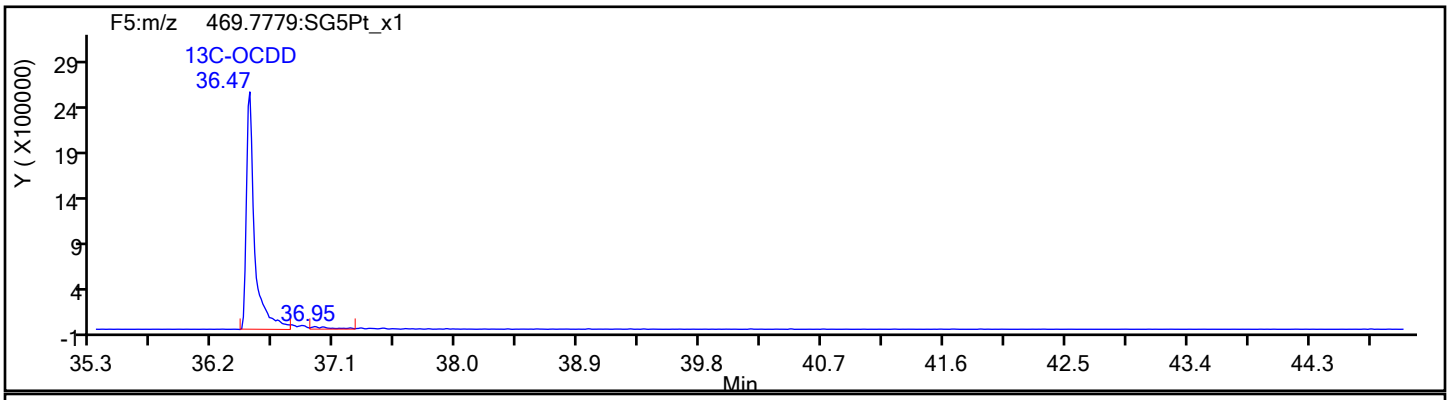

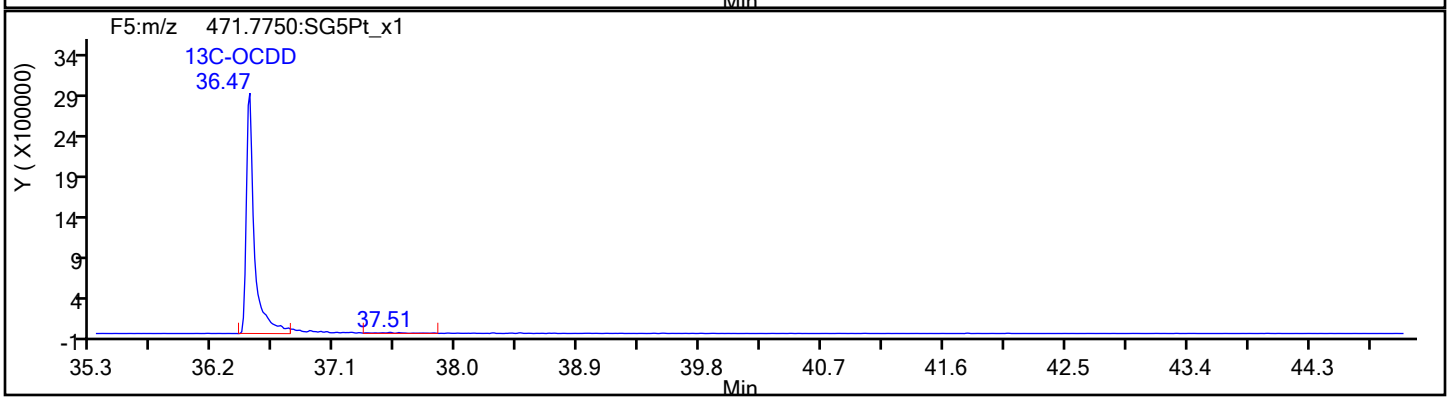

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Eurofins TestAmerica, Sacramento

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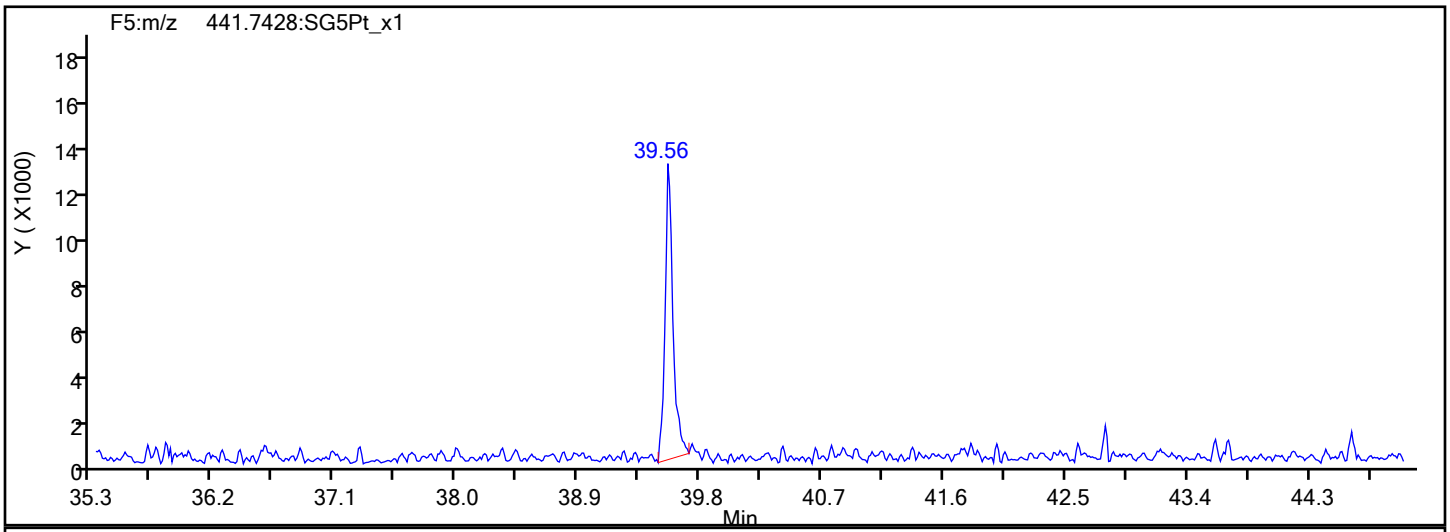

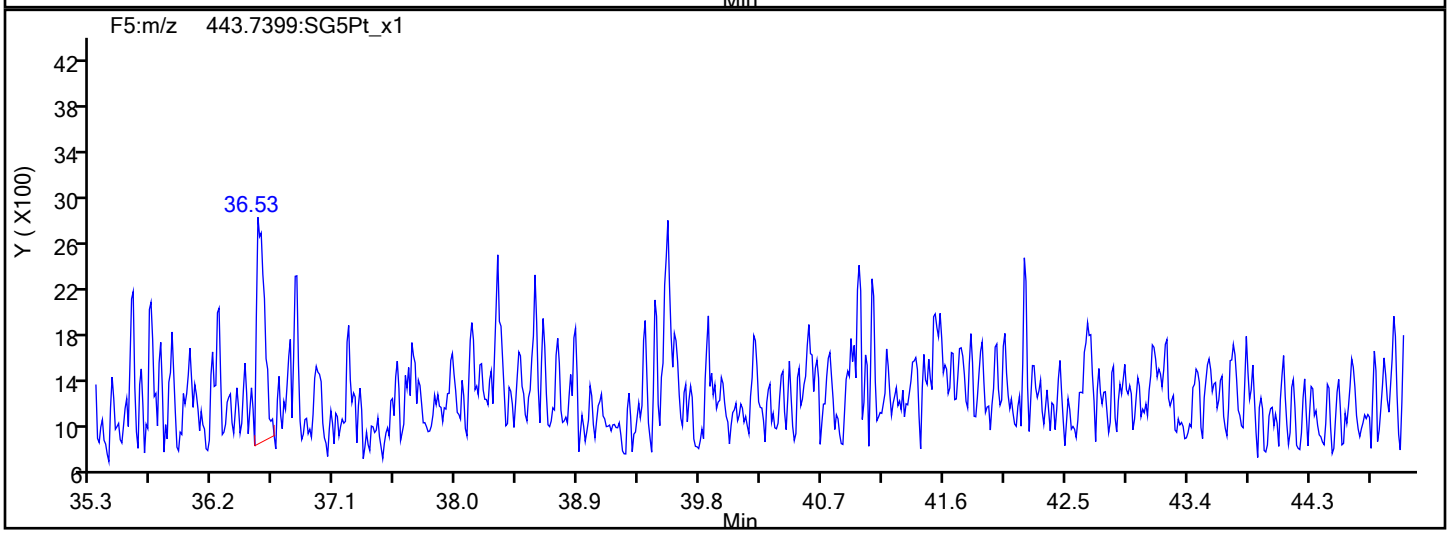

OCDF Interference Mass

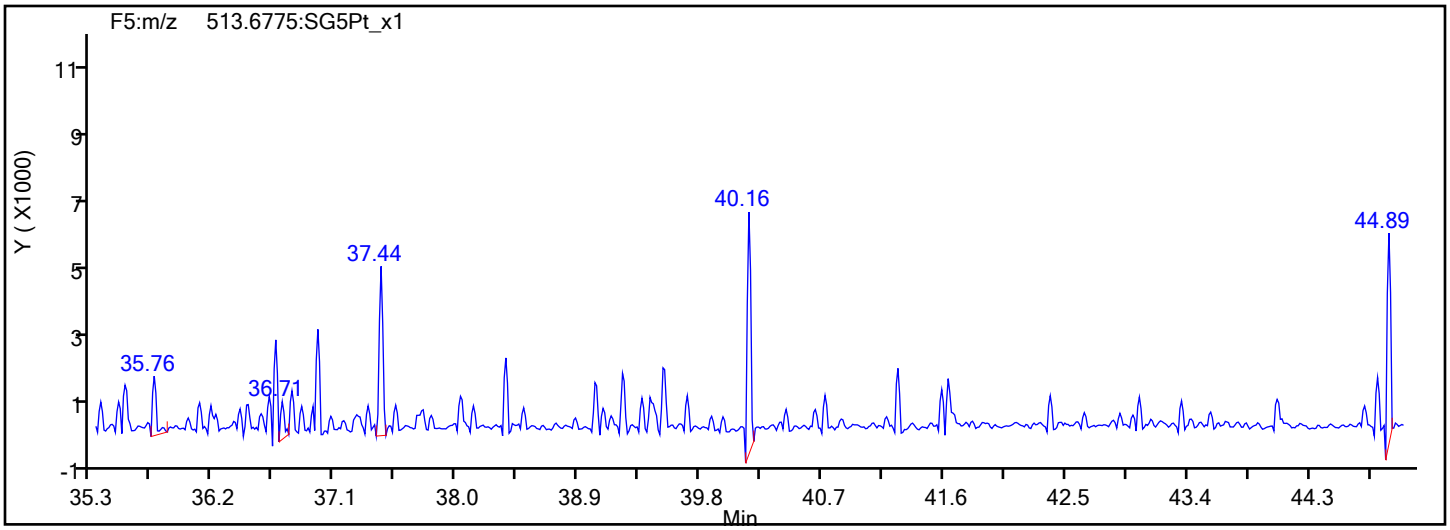

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Eurofins TestAmerica, Sacramento

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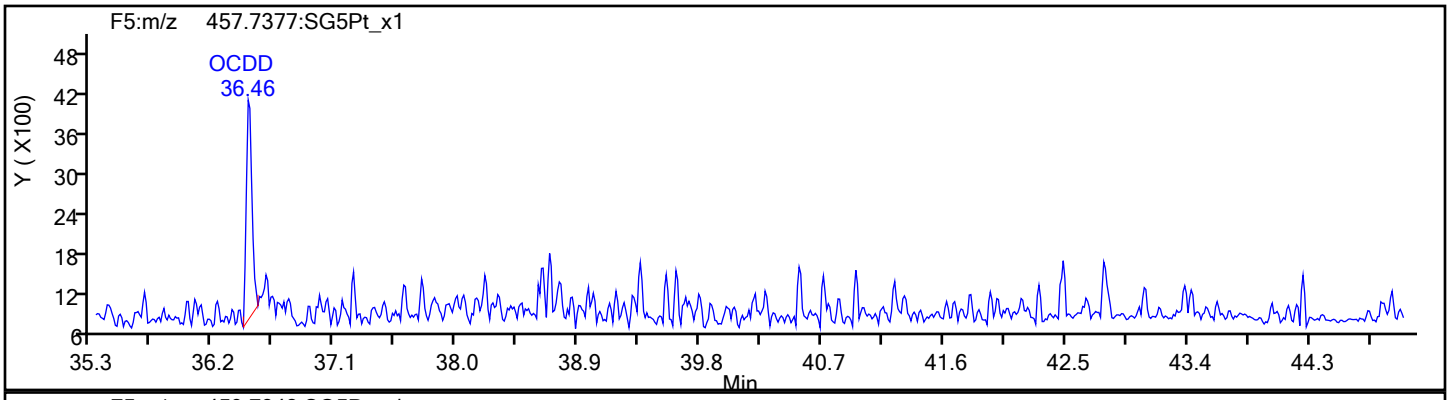

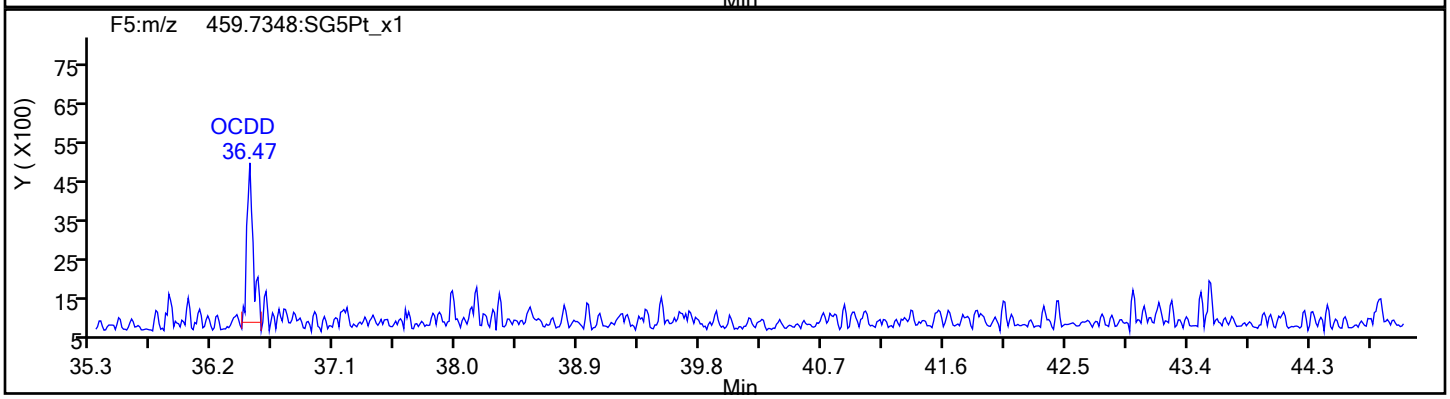

OCDD Standards

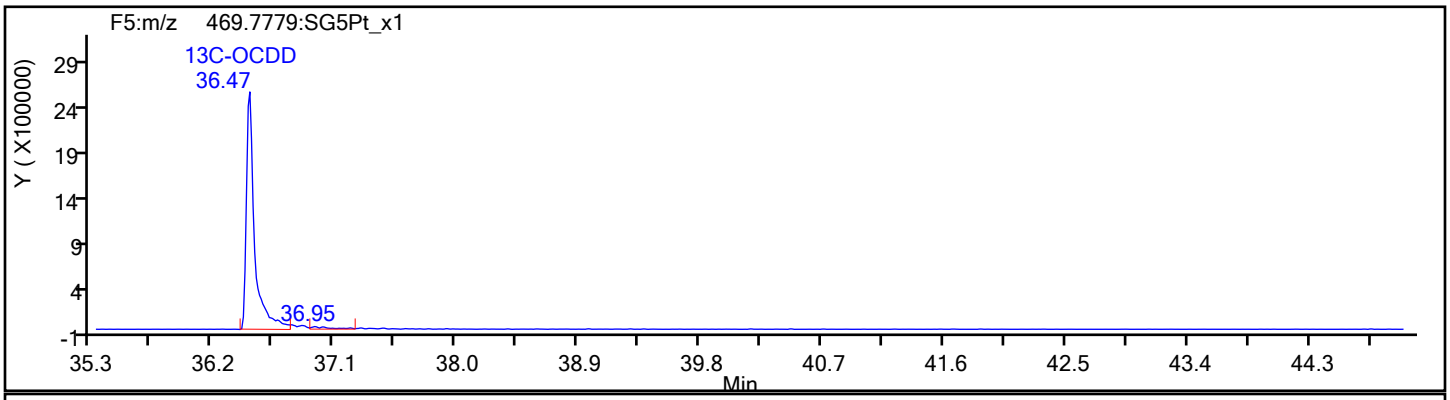

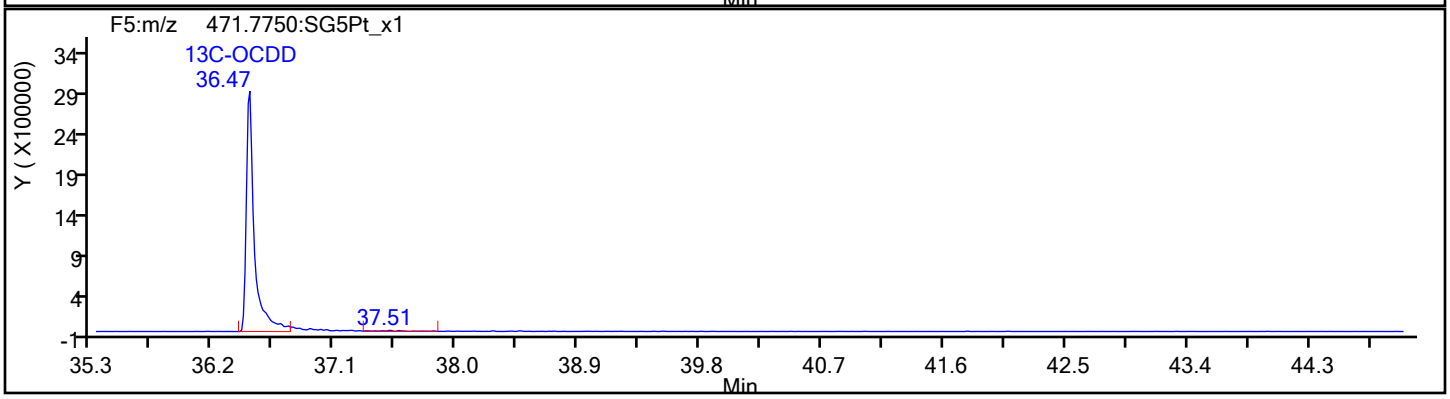

Report Date: 20-Sep-2019 11:47:14 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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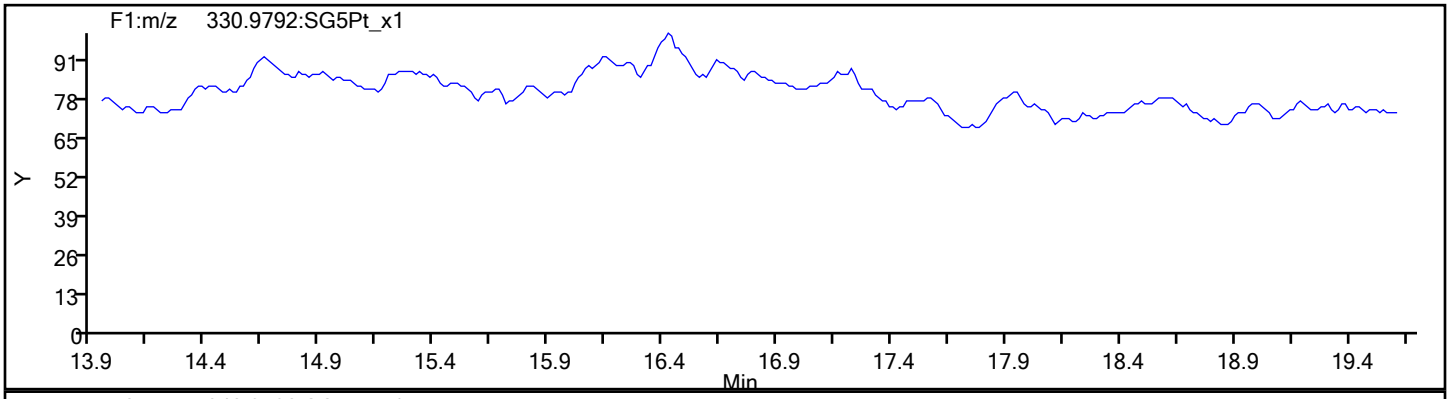

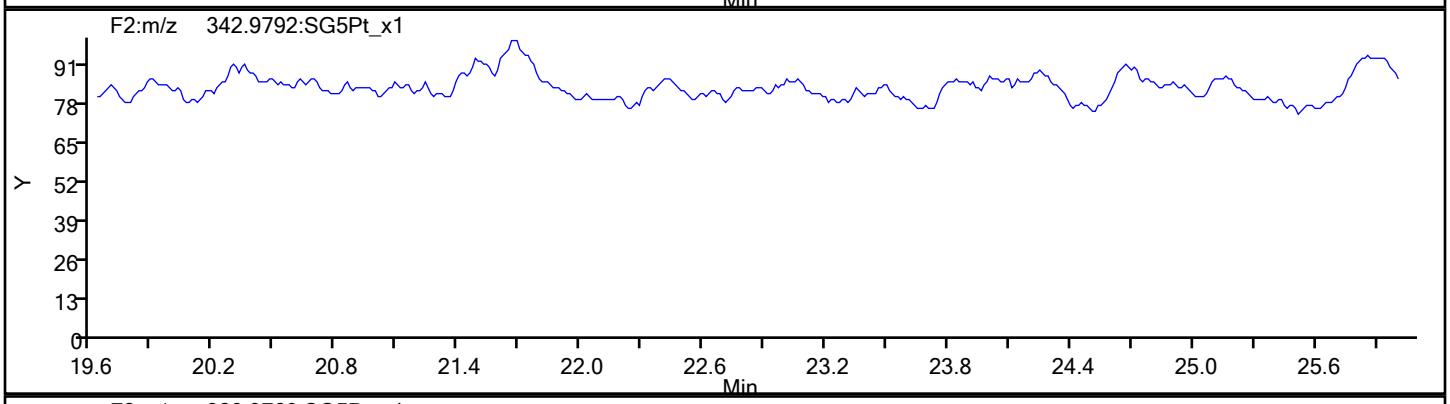

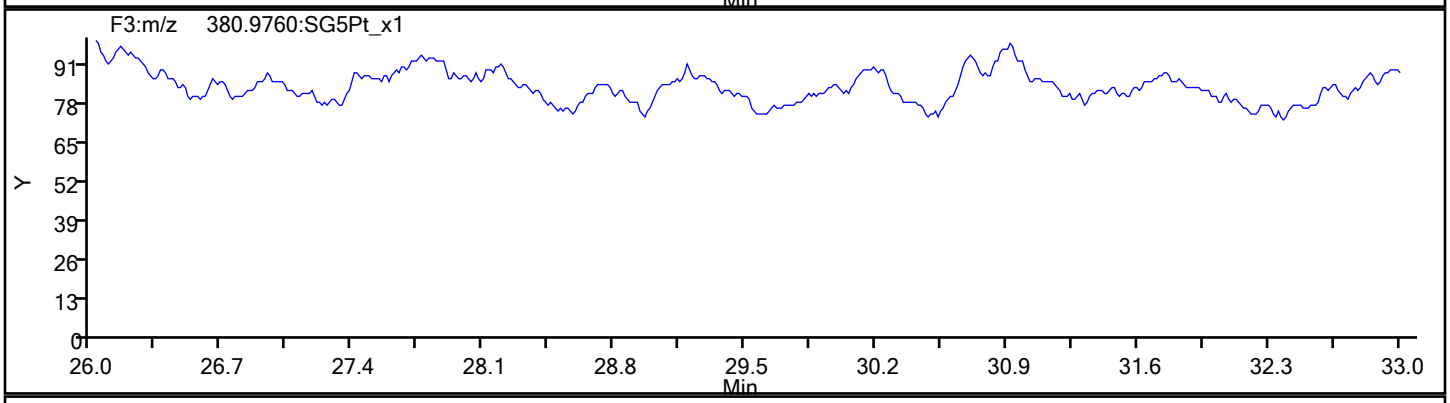

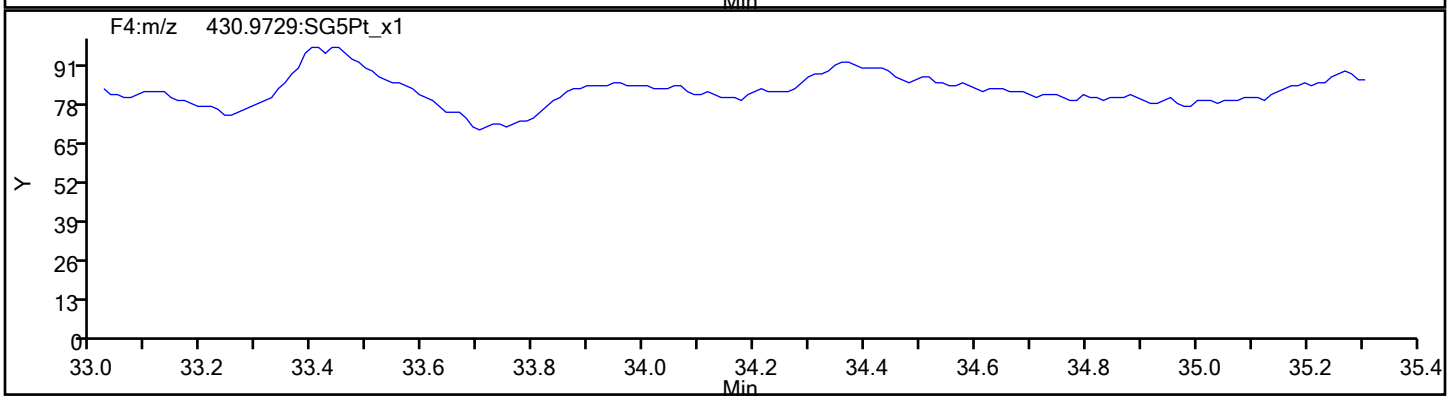

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Eurofins TestAmerica, Sacramento

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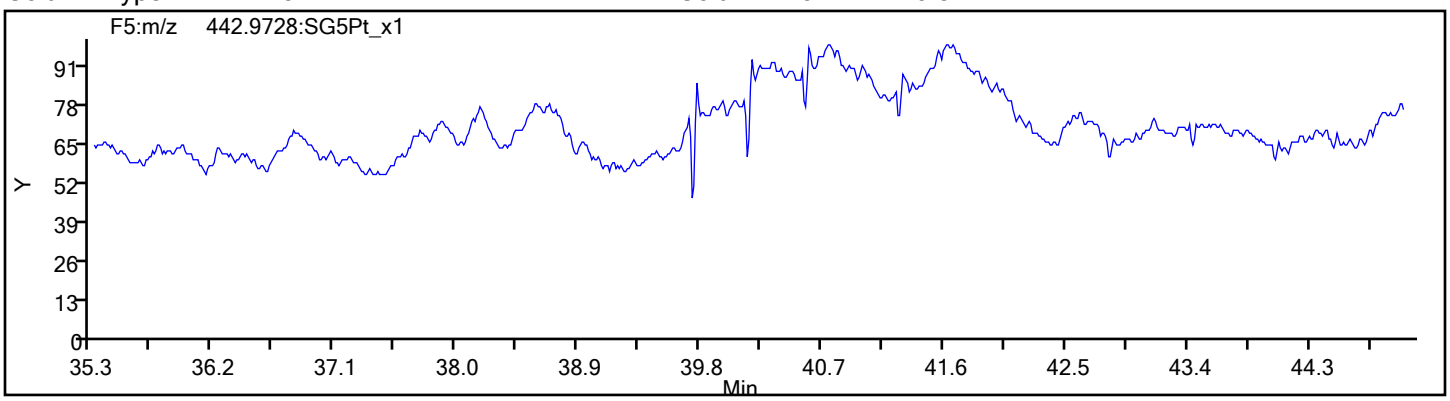

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 600-191956-2
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 320-324499/2-A
Matrix: Water
Lab File ID: 18SE1910D5_49.d
Analysis Method: 1613B
Date Collected:
Extract. Method: 1613B
Date Extracted: 09/18/2019 13:24
Sample wt/vol: 1000(mL)
Date Analyzed: 09/20/2019 00:44
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 324876
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	194		10	2.0
51207-31-9	2,3,7,8-TCDF	208		10	1.4
40321-76-4	1,2,3,7,8-PeCDD	922		50	2.6
57117-41-6	1,2,3,7,8-PeCDF	930		50	4.1
57117-31-4	2,3,4,7,8-PeCDF	912		50	4.3
39227-28-6	1,2,3,4,7,8-HxCDD	814		50	4.4
57653-85-7	1,2,3,6,7,8-HxCDD	812		50	4.4
19408-74-3	1,2,3,7,8,9-HxCDD	737		50	4.0
70648-26-9	1,2,3,4,7,8-HxCDF	796		50	9.3
57117-44-9	1,2,3,6,7,8-HxCDF	830		50	8.7
72918-21-9	1,2,3,7,8,9-HxCDF	815		50	5.9
60851-34-5	2,3,4,6,7,8-HxCDF	868		50	6.2
35822-46-9	1,2,3,4,6,7,8-HpCDD	728		50	7.4
67562-39-4	1,2,3,4,6,7,8-HpCDF	710		50	13
55673-89-7	1,2,3,4,7,8,9-HpCDF	759		50	18
3268-87-9	OCDD	1350		100	3.8
39001-02-0	OCDF	1460		100	4.6
41903-57-5	Total TCDD	194		10	2.0
30402-14-3	Total TCDF	208		10	1.4
36088-22-9	Total PeCDD	922		50	2.6
30402-15-4	Total PeCDF	1850		50	4.2
34465-46-8	Total HxCDD	2360		50	4.3
55684-94-1	Total HxCDF	3310		50	7.5
37871-00-4	Total HpCDD	728		50	7.4
38998-75-3	Total HpCDF	1470		50	16

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-2

SDG No.:

Client Sample ID: Lab Sample ID: LCS 320-324499/2-A

Matrix: Water Lab File ID: 18SE1910D5_49.d

Analysis Method: 1613B Date Collected:

Extract. Method: 1613B Date Extracted: 09/18/2019 13:24

Sample wt/vol: 1000(mL) Date Analyzed: 09/20/2019 00:44

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 324876 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	57		20-175
89059-46-1	13C-2,3,7,8-TCDF	54		22-152
109719-79-1	13C-1,2,3,7,8-PeCDD	55		21-227
109719-77-9	13C-1,2,3,7,8-PeCDF	54		21-192
116843-02-8	13C-2,3,4,7,8-PeCDF	56		13-328
109719-80-4	13C-1,2,3,4,7,8-HxCDD	51		21-193
109719-81-5	13C-1,2,3,6,7,8-HxCDD	51		25-163
114423-98-2	13C-1,2,3,4,7,8-HxCDF	53		19-202
116843-03-9	13C-1,2,3,6,7,8-HxCDF	51		21-159
116843-04-0	13C-1,2,3,7,8,9-HxCDF	50		17-205
116843-05-1	13C-2,3,4,6,7,8-HxCDF	49		22-176
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	48		26-166
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	49		21-158
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	48		20-186
114423-97-1	13C-OCDD	47		13-199

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	85		31-191

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_49.d
Lims ID: LCS 320-324499/2-A
Client ID:
Sample Type: LCS
Inject. Date: 20-Sep-2019 00:44:51 ALS Bottle#: 50 Worklist Smp#: 49
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCS 320-324499/2-A LCS 320-324499/2-A
Misc. Info.: 18SE1910D5
Operator ID: SMA, ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 20-Sep-2019 11:46:59 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0314

First Level Reviewer: stephensk Date: 20-Sep-2019 11:27:01

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.270	33250779	0.78	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.786	25997220	0.79	1.4384	54.4	54.4	0.2511	0.2511	54.36	
2,3,7,8-TCDF	16.801	2838242	0.82	1.0507	10.4	10.4	0.0694	0.0694	104	
A Non-2,3,7,8-sub-TCDF	16.514						0.0694	0.0694		
S Total TCDF					10.4	10.4	0.0694	0.0694		
D 13C-2,3,7,8-TCDD	17.466	17944997	0.80	0.9533	56.6	56.6	0.2596	0.2596	56.61	
$ 37Cl4-2,3,7,8-TCDD	17.481	13842390		1.2224	34.1	34.1	0.0439	0.0439	85.14	
2,3,7,8-TCDD	17.481	1930800	0.79	1.1064	9.725	9.725	0.0983	0.0983	97.25	
A Non-2,3,7,8-sub-TCDD	16.952						0.0983	0.0983		
S Total TCDD					9.725	9.725	0.0983	0.0983		
D 13C-1,2,3,7,8-PeCDF	21.604	18430213	1.65	1.0286	53.9	53.9	0.1791	0.1791	53.89	
1,2,3,7,8-PeCDF	21.632	9275982	1.58	1.0822	46.5	46.5	0.2049	0.2049	93.01	
D 13C-2,3,4,7,8-PeCDF	22.899	18250724	1.64	0.9827	55.9	55.9	0.1875	0.1875	55.86	
2,3,4,7,8-PeCDF	22.927	9182476	1.59	1.1032	45.6	45.6	0.2149	0.2149	91.21	
A F1 PeCDFs	19.205						0.0757	0.0757		
A Non-2,3,7,8-sub-PeCDF	22.226	90388	1.55	1.0927	0.5085	0.4510	0.2097	0.4510	0.00	RQ
S Total PeCDF					92.6	92.6	0.2099	0.2099		RQ
D 13C-1,2,3,7,8-PeCDD	23.581	13658379	1.54	0.7481	54.9	54.9	0.1240	0.1240	54.91	
1,2,3,7,8-PeCDD	23.609	5697353	1.57	0.9050	46.1	46.1	0.1321	0.1321	92.18	
A Non-2,3,7,8-sub-PeCDD	22.559						0.1321	0.1321		
S Total PeCDD					46.1	46.1	0.1321	0.1321		
D 13C-1,2,3,4,7,8-HxCDF	29.709	15505197	0.51	1.1520	53.4	53.4	0.3192	0.3192	53.38	
1,2,3,4,7,8-HxCDF	29.722	7388599	1.25	1.1973	39.8	39.8	0.4667	0.4667	79.60	
D 13C-1,2,3,6,7,8-HxCDF	29.962	16037845	0.51	1.2434	51.2	51.2	0.2957	0.2957	51.16	
1,2,3,6,7,8-HxCDF	30.002	7858763	1.28	1.1807	41.5	41.5	0.4351	0.4351	83.01	
D 13C-2,3,4,6,7,8-HxCDF	31.014	14401023	0.51	1.1720	48.7	48.7	0.3138	0.3138	48.74	
2,3,4,6,7,8-HxCDF	31.040	7571379	1.28	1.2116	43.4	43.4	0.3107	0.3107	86.79	
D 13C-1,2,3,7,8,9-HxCDF	31.919	13332217	0.53	1.0655	49.6	49.6	0.3451	0.3451	49.63	
1,2,3,7,8,9-HxCDF	31.932	6761339	1.26	1.2451	40.7	40.7	0.2964	0.2964	81.46	
A Non-2,3,7,8-sub-HxCDF	29.503						0.3636	0.3636		
S Total HxCDF					165.4	165.4	0.3772	0.3772		

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.732	25211859	1.28	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.240	10073911	1.35	0.7812	51.1	51.1	0.4230	0.4230	51.15	
1,2,3,4,7,8-HxCDD	31.253	4543893	1.28	1.1088	40.7	40.7	0.2207	0.2207	81.36	
D 13C-1,2,3,6,7,8-HxCDD	31.360	11697534	1.19	0.9175	50.6	50.6	0.3602	0.3602	50.57	
1,2,3,6,7,8-HxCDD	31.373	5134650	1.27	1.0814	40.6	40.6	0.2221	0.2221	81.18	
1,2,3,7,8,9-HxCDD	31.746	4862359	1.22	1.2123	36.8	36.8	0.2000	0.2000	73.69	
A Non-2,3,7,8-sub-HxCDD	30.089						0.2137	0.2137		
S Total HxCDD					118.1	118.1	0.2142	0.2142		
D 13C-1,2,3,4,6,7,8-HpCDF	33.447	10716336	0.42	0.8628	49.3	49.3	1.216	1.216	49.27	
1,2,3,4,6,7,8-HpCDF	33.447	5920624	1.00	1.5555	35.5	35.5	0.6697	0.6697	71.03	
D 13C-1,2,3,4,7,8,9-HpCDF	34.480	9602804	0.44	0.7991	47.7	47.7	1.313	1.313	47.67	
1,2,3,4,7,8,9-HpCDF	34.492	5048682	1.06	1.3862	37.9	37.9	0.9222	0.9222	75.85	
A Non-2,3,7,8-sub-HpCDF	33.982						0.7805	0.7805		
S Total HpCDF					73.4	73.4	0.7960	0.7960		
D 13C-1,2,3,4,6,7,8-HpCDD	34.213	10499757	1.04	0.8739	47.7	47.7	0.6204	0.6204	47.66	
1,2,3,4,6,7,8-HpCDD	34.225	3558708	1.03	0.9316	36.4	36.4	0.3716	0.3716	72.76	
A Non-2,3,7,8-sub-HpCDD	34.747						0.3716	0.3716		
S Total HpCDD					36.4	36.4	0.3716	0.3716		
D 13C-OCDD	36.469	18157477	0.93	0.7744	93.0	93.0	0.3405	0.3405	46.50	
OCDF	36.565	8358167	0.88	1.2596	73.1	73.1	0.2296	0.2296	73.09	
OCDD	36.481	6511226	0.88	1.0621	67.5	67.5	0.1912	0.1912	67.53	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_49.d
Lims ID: LCS 320-324499/2-A
Client ID:
Sample Type: LCS
Inject. Date: 20-Sep-2019 00:44:51 ALS Bottle#: 50 Worklist Smp#: 49
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCS 320-324499/2-A LCS 320-324499/2-A
Misc. Info.: 18SE1910D5
Operator ID: SMA, ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 20-Sep-2019 11:46:59 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0314

First Level Reviewer: stephensk Date: 20-Sep-2019 11:27:01

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.270	17.285	-1		14538104	3591683	5211	13027	689		
333.9339	17.270	17.285	-1		18712675	4794274	3090	7725	1552	0.78(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.786	16.786	0	0.972	11482074	2907602	8233	20582	353		
317.9389	16.786	16.786	0	0.972	14515146	3702639	3881	9702	954	0.79(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.801	16.816	-1	1.001	1279630	327327	658	1645	497		
305.8987	16.801	16.816	-1	1.001	1558612	397704	1270	3175	313	0.82(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.514						658	1645			
305.8987	16.514						1270	3175			
13C-2,3,7,8-TCDD											
331.9368	17.466	17.466	0	1.011	7964305	1918716	5211	13027	368		
333.9339	17.466	17.466	0	1.011	9980692	2342860	3090	7725	758	0.80(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.481	17.481	0	1.012	13842390	3441960	1800	4500	1912		
2,3,7,8-TCDD											
319.8965	17.481	17.497	-1	1.001	851210	194427	1329	3322	146		
321.8936	17.481	17.497	-1	1.001	1079590	257566	526	1315	490	0.79(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	16.952						1329	3322			
321.8936	16.952						526	1315			
13C-1,2,3,7,8-PeCDF											
351.9000	21.604	21.604	0	1.251	11469144	2135140	3420	8550	624		
353.8970	21.604	21.604	0	1.251	6961069	1270933	2759	6897	461	1.65(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	21.632	21.631	0	1.001	5677869	1068903	1551	3877	689		
341.8567	21.632	21.631	0	1.001	3598113	654207	1470	3675	445	1.58(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	22.899	22.900	0	1.326	11325367	1952831	3420	8550	571		
353.8970	22.899	22.900	0	1.326	6925357	1232852	2759	6897	447	1.64(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.927	22.927	0	1.001	5643176	976535	1551	3877	630		
341.8567	22.927	22.927	0	1.001	3539300	584171	1470	3675	397	1.59(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.205						447	1117			
341.8567	19.205						644	1610			
A Non-2,3,7,8-sub-PeCDF											RQ
339.8597	22.136	22.226	-5	1.025	54942	9637	1551	3877	6		
341.8567	22.136	22.226	-5	1.025	46959	6714	1470	3675	5	1.17(1.32-1.78)	
	Empc Correction				35446	6217	1470	3675	4		
13C-1,2,3,7,8-PeCDD											
367.8949	23.581	23.595	-1	1.365	8270501	1340943	1798	4495	746		
369.8919	23.595	23.595	0	1.366	5387878	898166	1313	3282	684	1.54(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.609	23.622	-1	1.001	3480327	573185	639	1597	897		
357.8516	23.609	23.622	-1	1.001	2217026	355897	432	1080	824	1.57(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.559						639	1597			
357.8516	22.559						432	1080			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.709	29.709	0	0.936	5217471	692982	3184	7960	218		
385.8610	29.709	29.709	0	0.936	10287726	1367215	4945	12362	276	0.51(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.722	29.749	-2	1.000	4105874	547243	2537	6342	216		
375.8178	29.736	29.749	-1	1.001	3282725	456300	2068	5170	221	1.25(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.962	29.975	-1	0.944	5443489	738878	3184	7960	232		
385.8610	29.975	29.975	0	0.945	10594356	1501947	4945	12362	304	0.51(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	30.002	30.002	0	1.001	4416648	632917	2537	6342	249		
375.8178	29.989	30.002	-1	1.001	3442115	495813	2068	5170	240	1.28(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.014	31.013	0	0.977	4862232	1048678	3184	7960	329		
385.8610	31.014	31.013	0	0.977	9538791	2009650	4945	12362	406	0.51(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.040	31.040	0	1.001	4250310	900941	2537	6342	355		
375.8178	31.040	31.040	0	1.001	3321069	682793	2068	5170	330	1.28(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.919	31.919	0	1.006	4607745	1085496	3184	7960	341		
385.8610	31.919	31.919	0	1.006	8724472	2034148	4945	12362	411	0.53(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	31.932	31.945	-1	1.000	3774715	851161	2537	6342	335		
375.8178	31.932	31.945	-1	1.000	2986624	683760	2068	5170	331	1.26(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.503						2537	6342			
375.8178	29.503						2068	5170			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.732	31.732	0		14174708	3095647	4109	10272	753		
403.8529	31.719	31.732	-1		11037151	2430531	3195	7987	761	1.28(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.240	31.240	0	0.984	5786764	1410119	4109	10272	343		
403.8529	31.240	31.240	0	0.984	4287147	1068339	3195	7987	334	1.35(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.253	31.253	0	1.000	2549625	631016	1281	3202	493		
391.8127	31.253	31.253	0	1.000	1994268	489800	1145	2862	428	1.28(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.360	31.360	0	0.988	6355653	1385246	4109	10272	337		
403.8529	31.360	31.360	0	0.988	5341881	1140185	3195	7987	357	1.19(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.373	31.373	0	1.000	2871696	628439	1281	3202	491		
391.8127	31.373	31.373	0	1.000	2262954	499406	1145	2862	436	1.27(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.746	31.746	0	1.016	2675314	595120	1281	3202	465		
391.8127	31.746	31.746	0	1.016	2187045	466153	1145	2862	407	1.22(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.089						1281	3202			
391.8127	30.089						1145	2862			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.447	33.447	0	1.054	3189543	991500	6659	16647	149		
419.8220	33.447	33.447	0	1.054	7526793	2279438	16531	41327	138	0.42(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.447	33.460	-1	1.000	2962205	916116	6796	16990	135		
409.7789	33.447	33.460	-1	1.000	2958419	904473	6835	17087	132	1.00(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.480	34.492	-1	1.087	2953932	802094	6659	16647	120		
419.8220	34.480	34.492	-1	1.087	6648872	1863485	16531	41327	113	0.44(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.492	34.505	-1	1.000	2602294	707327	6796	16990	104		
409.7789	34.492	34.505	-1	1.000	2446388	678846	6835	17087	99	1.06(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.982						6796	16990			
409.7789	33.982						6835	17087			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.213	34.213	0	1.078	5353097	1517180	6368	15920	238		
437.8140	34.213	34.213	0	1.078	5146660	1475558	5617	14042	263	1.04(0.88-1.20)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.225	34.225	0	1.000	1809700	510889	2067	5167	247		
425.7737	34.225	34.225	0	1.000	1749008	467014	2077	5192	225	1.03(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.747						2067	5167			
425.7737	34.747						2077	5192			
13C-OCDD											
469.7779	36.469	36.469	0	1.149	8749941	1992786	2205	5512	904		
471.7750	36.469	36.469	0	1.149	9407536	2207900	3624	9060	609	0.93(0.76-1.02)	
OCDF											
441.7428	36.565	36.565	0	1.003	3907288	971362	1110	2775	875		
443.7399	36.553	36.565	-1	1.002	4450879	1082025	1320	3300	820	0.88(0.76-1.02)	
OCDD											
457.7377	36.481	36.481	0	1.000	3056723	701721	976	2440	719		
459.7348	36.481	36.481	0	1.000	3454503	789505	730	1825	1082	0.88(0.76-1.02)	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Q - EMPC-Estimated Max. Possible Conc.

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_49.d
Lims ID: LCS 320-324499/2-A
Client ID:
Inject. Date: 20-Sep-2019 00:44:51 Dil. Factor: 1.0000
Sample Type: LCS, Lab Control Sample
Instrument ID: 10D5 Operator: SMA, ALM
Lims Batch ID: 324876 Lims Sample ID: 49

Non-2,3,7,8-sub-PeCDF, RT: 22.226

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.082	D 13C-1,2,3,7,8-PeCDF	100.000	18430213	3406073
2,3,4,7,8-PeCDF	1.103	D 13C-2,3,4,7,8-PeCDF	100.000	18250724	3185683

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.093		100.000	18340468	3295878

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
22.136	54942	9637	46959	6714	0.5085	1.17	RQ
22.136	54942	9637	35446	6217	0.4510		Empc Correction
Signal Totals:							
	54942	9637	35446	6217			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	101901	16351				1.17	RQ
	90388	15854					Empc Correction

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.5085 = (101901 * 100.000) / (18340468 * 1.093)
Empc Amount: 0.4510 = (90388 * 100.000) / (18340468 * 1.093)

QC Flag Legend

Processing Flags
R - Failed Signal Ratio Test
Q - EMPC-Estimated Max. Possible Conc.

Report Date: 20-Sep-2019 11:47:18 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_49.d		
Injection Date:	20-Sep-2019 00:44:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	49
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

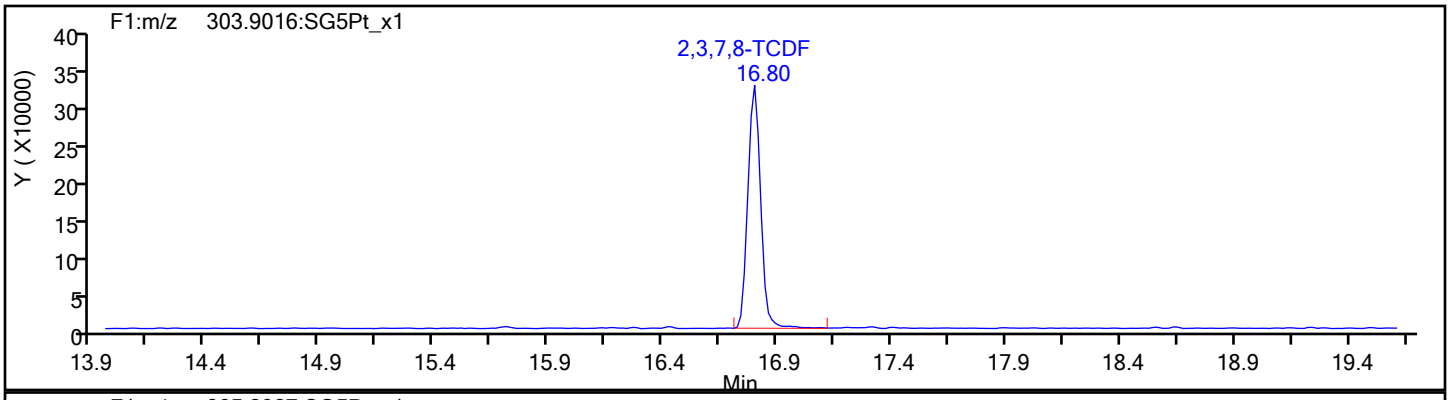

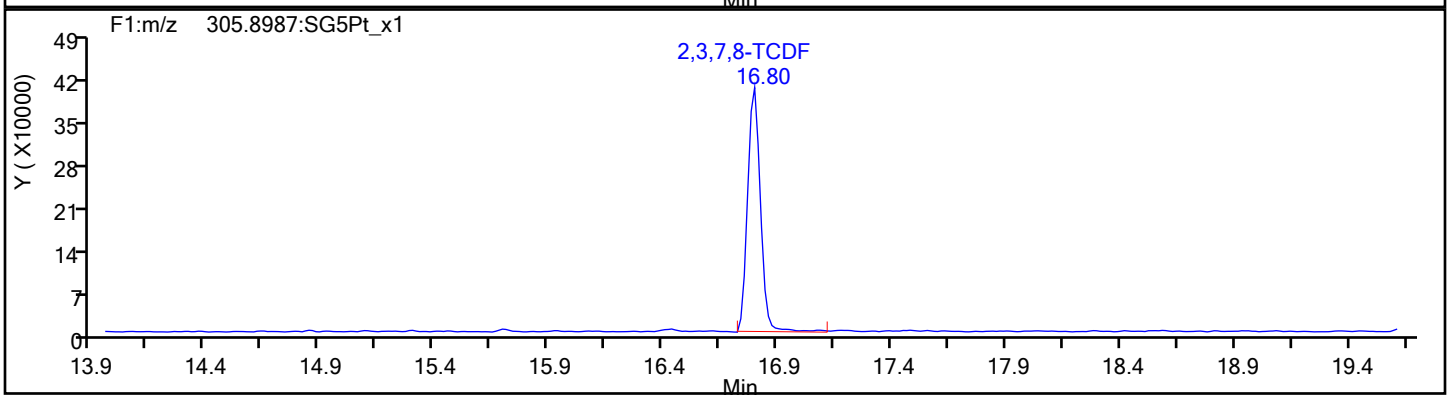

TCDF Standards

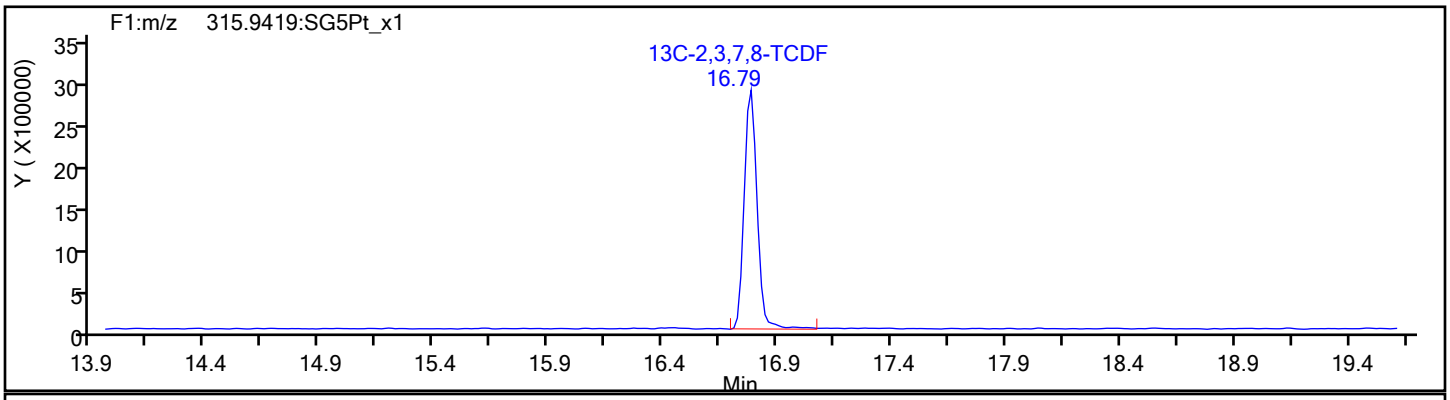

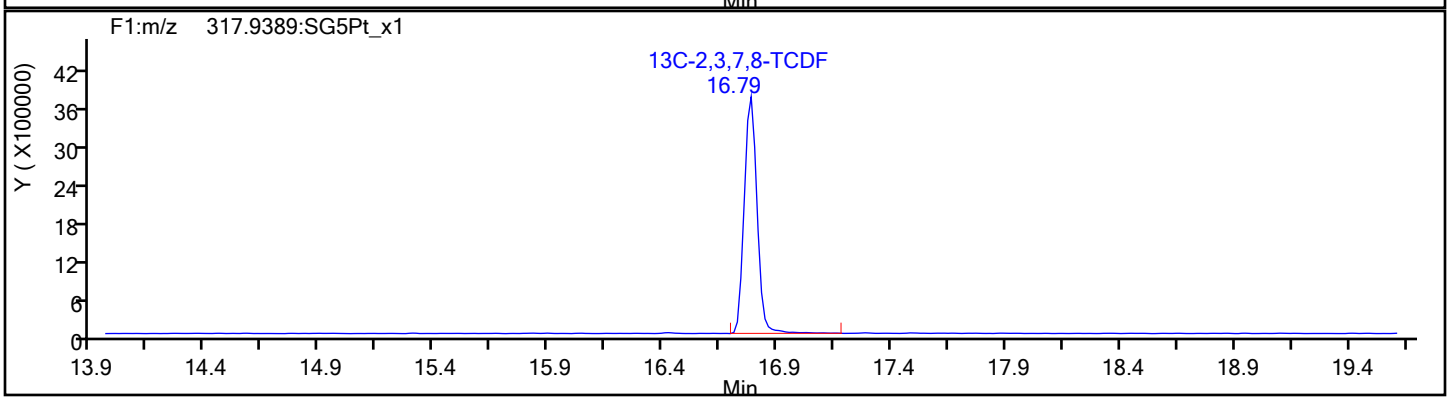

Report Date: 20-Sep-2019 11:47:18 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_49.d		
Injection Date:	20-Sep-2019 00:44:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	49
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

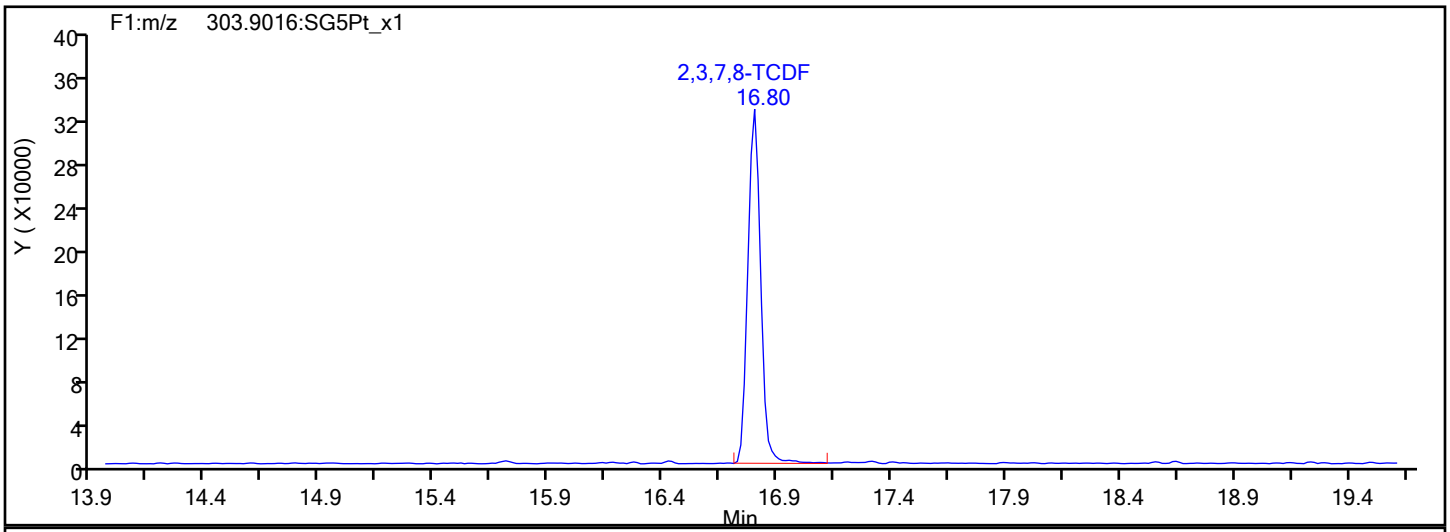

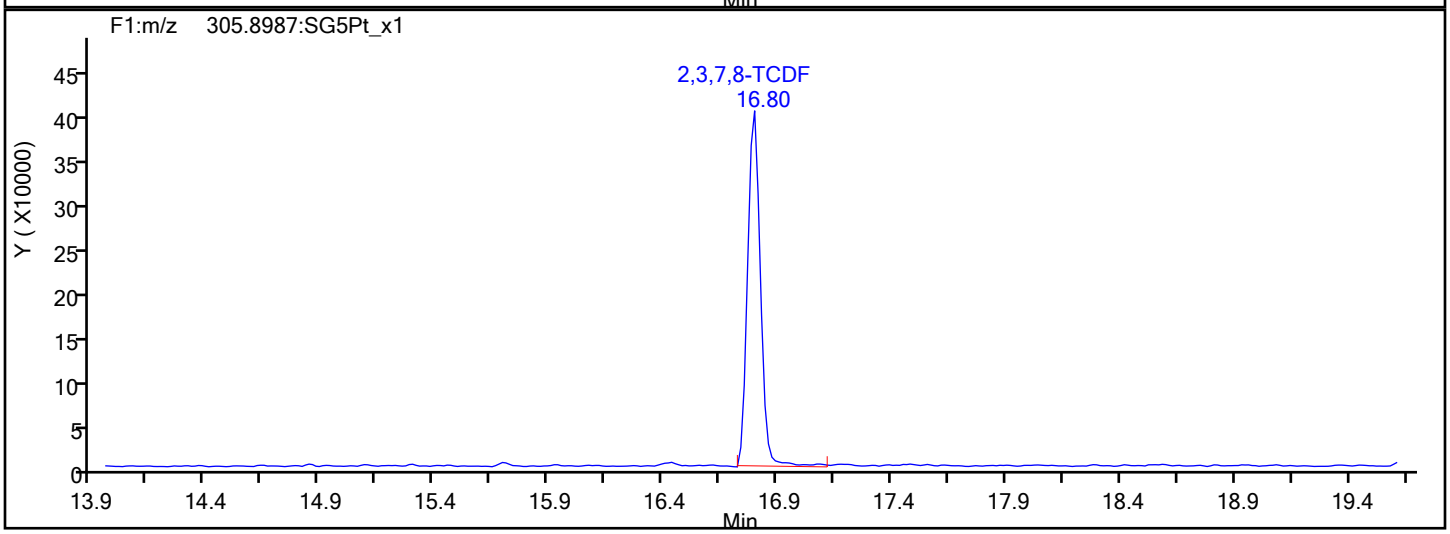

TCDF Interference Mass

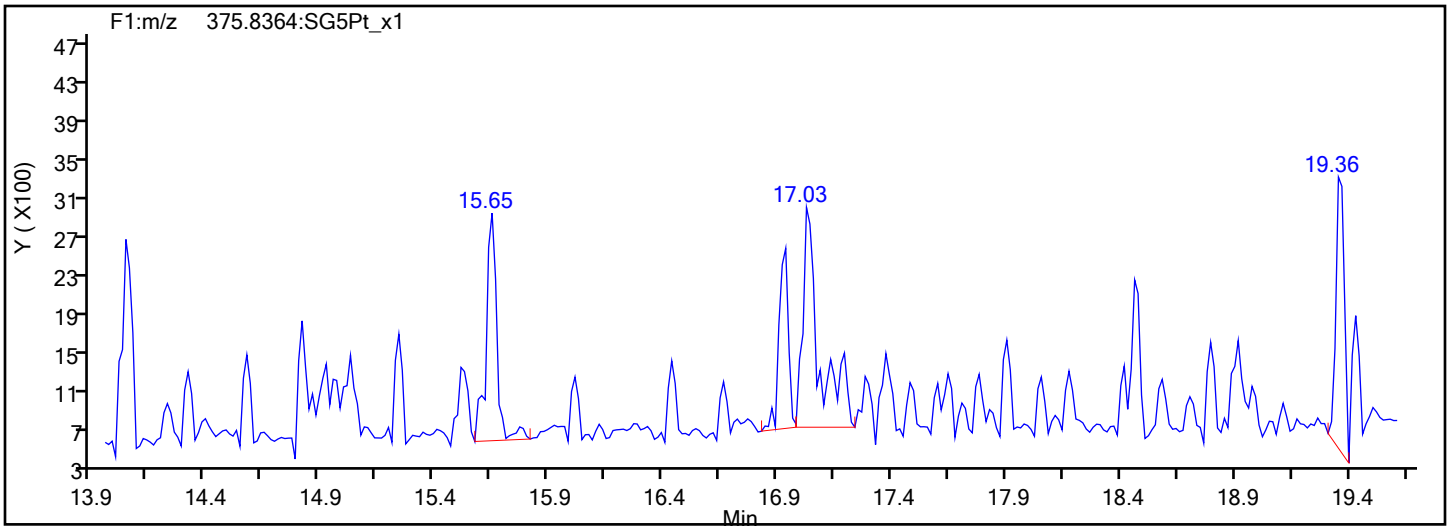

Report Date: 20-Sep-2019 11:47:18 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_49.d		
Injection Date:	20-Sep-2019 00:44:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	49
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

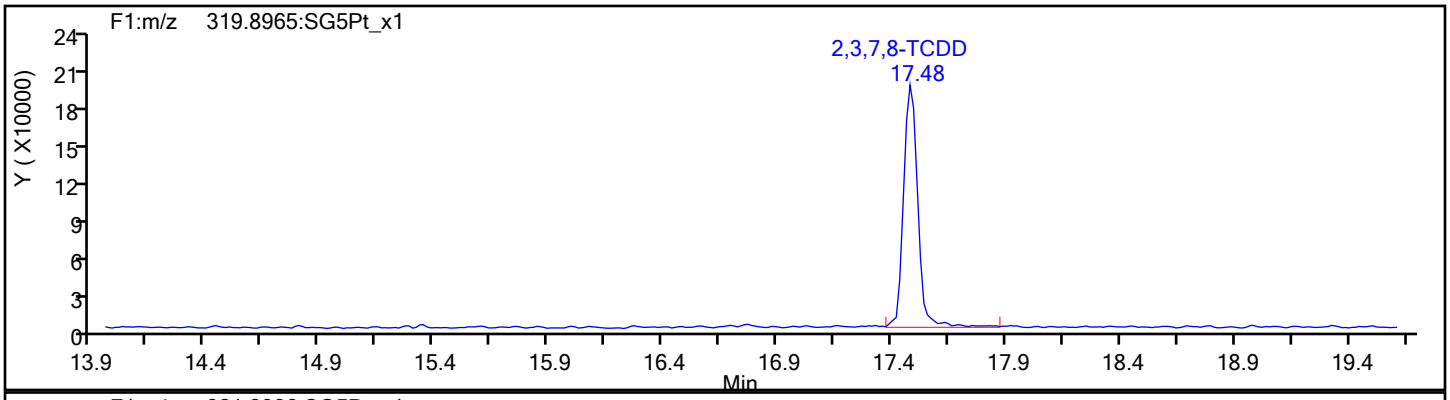

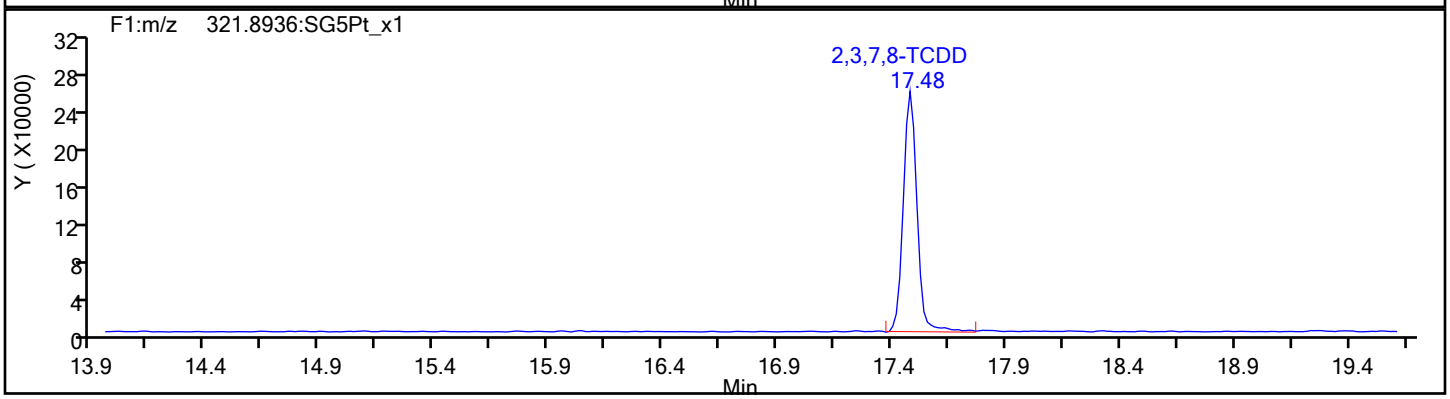

TCDD Standards

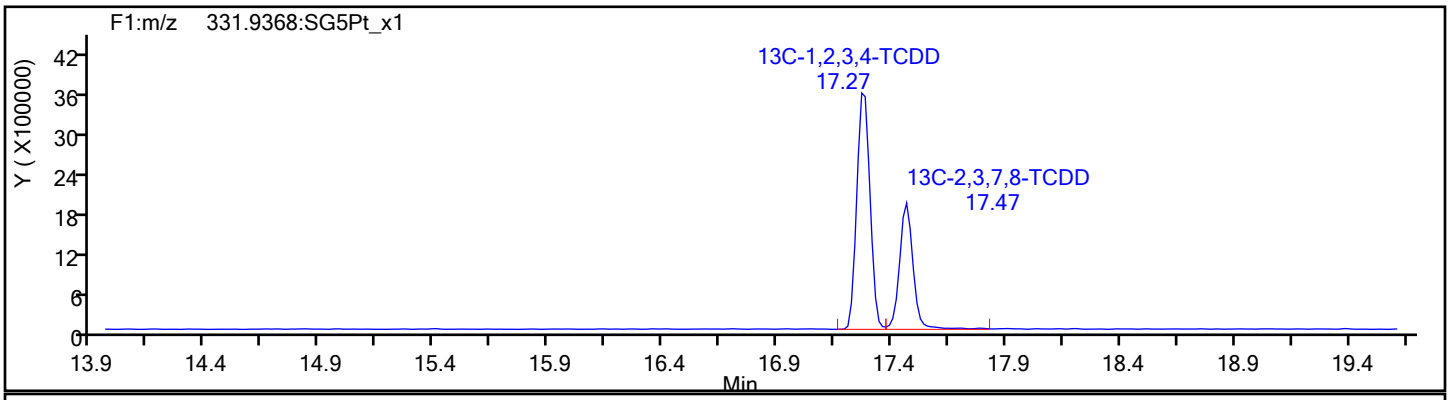

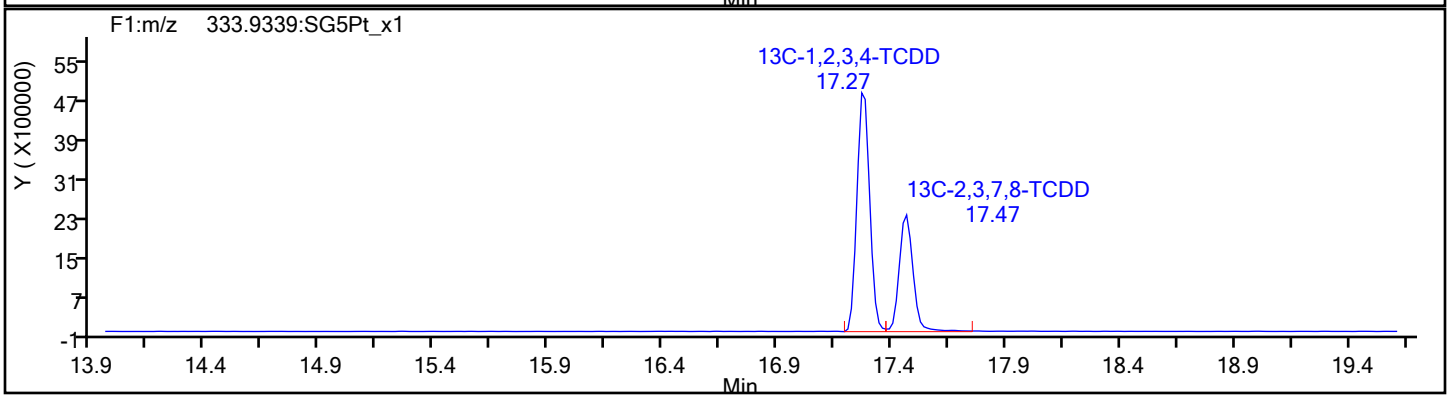

Report Date: 20-Sep-2019 11:47:18 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_49.d		
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Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

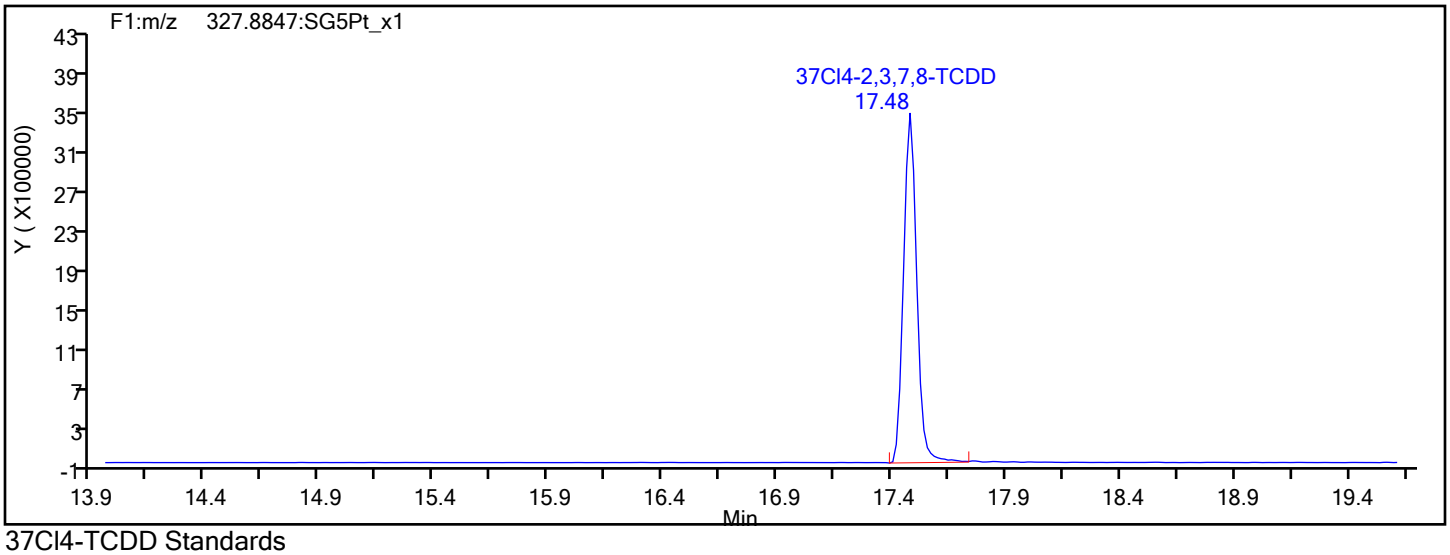

37Cl4-TCDD Standards

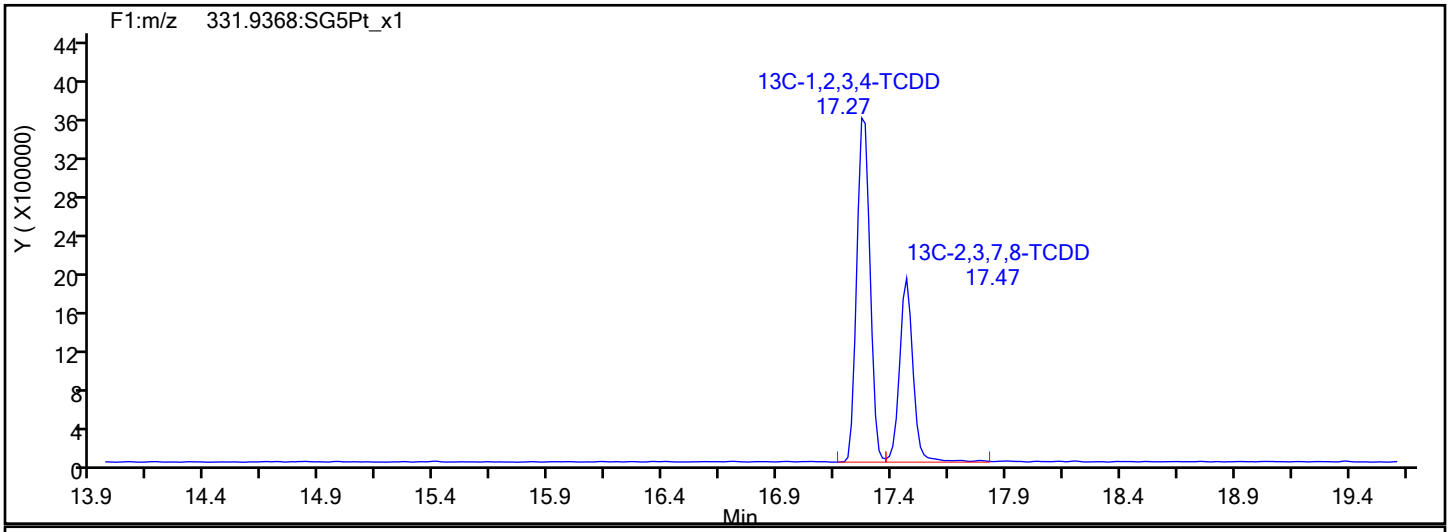

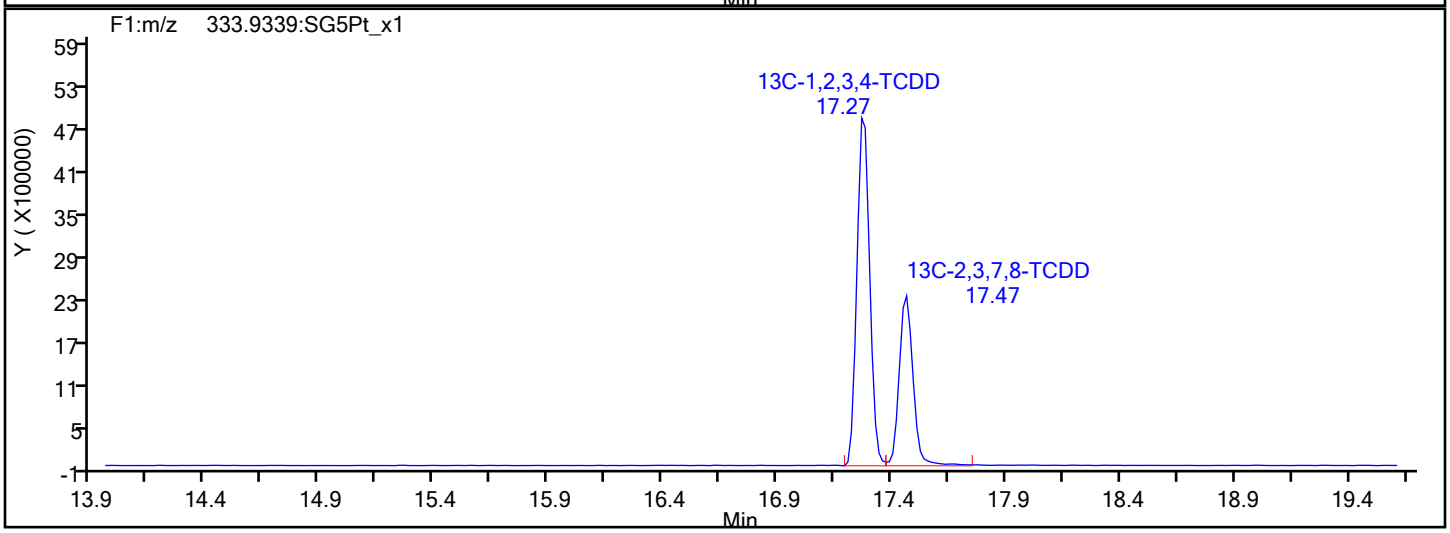

Report Date: 20-Sep-2019 11:47:18 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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F1 PeCDFs

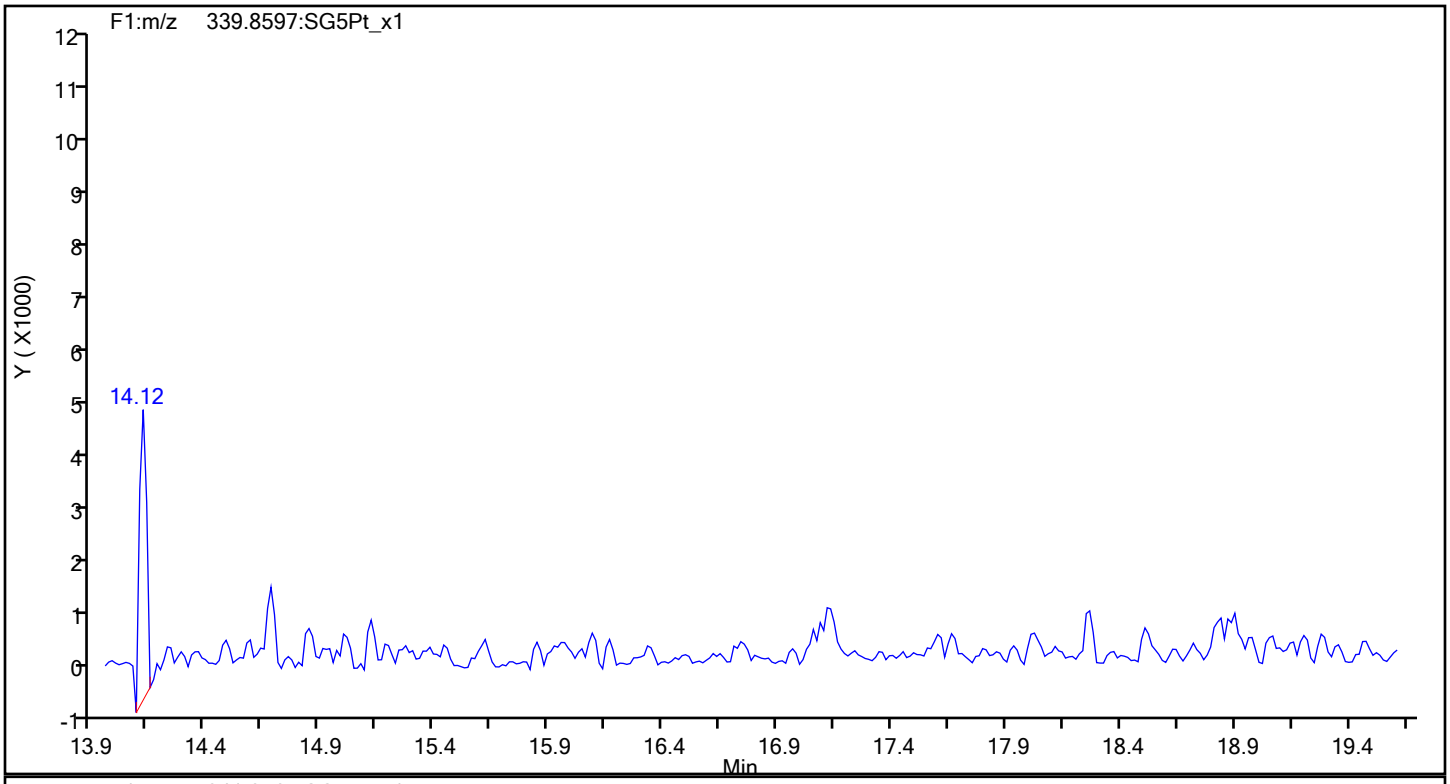

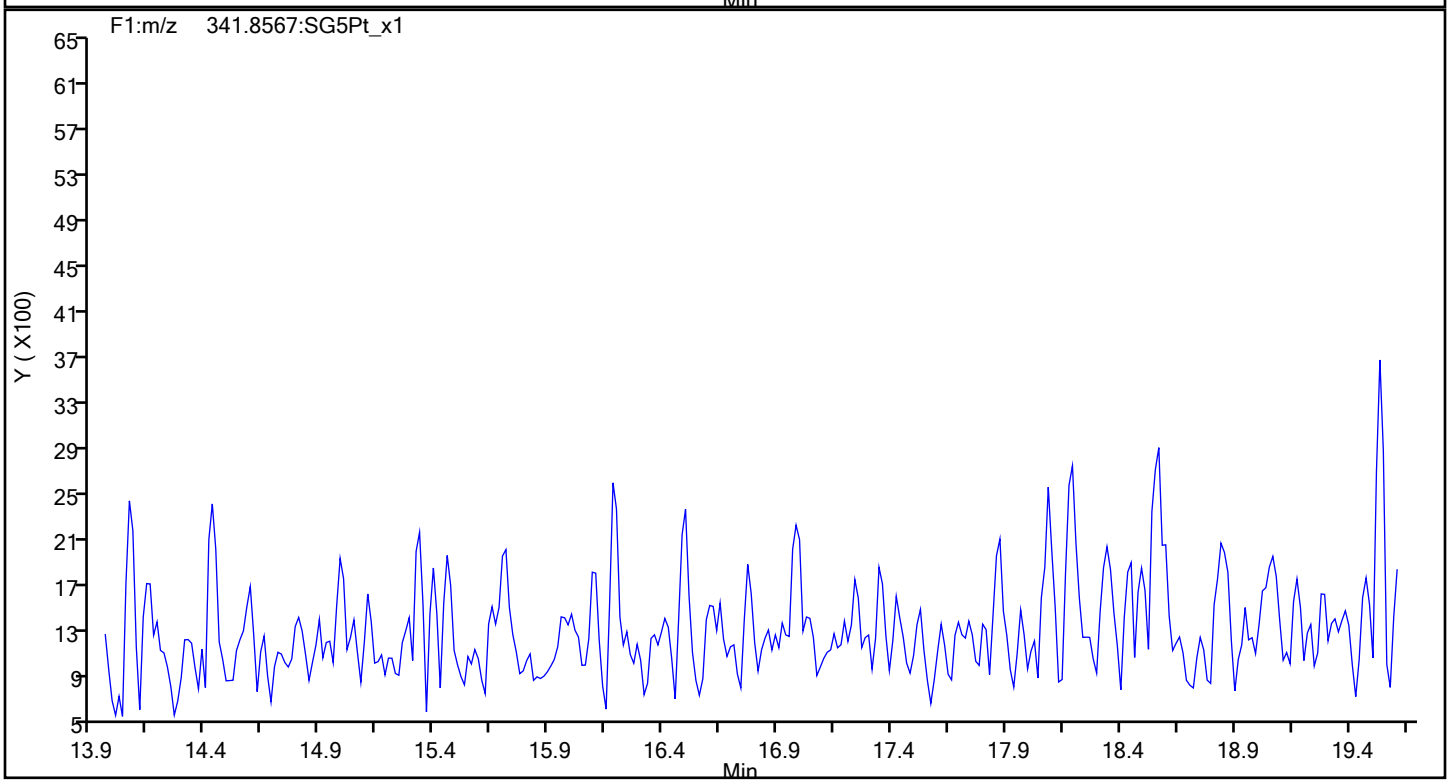

Report Date: 20-Sep-2019 11:47:18 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_49.d		
Injection Date:	20-Sep-2019 00:44:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

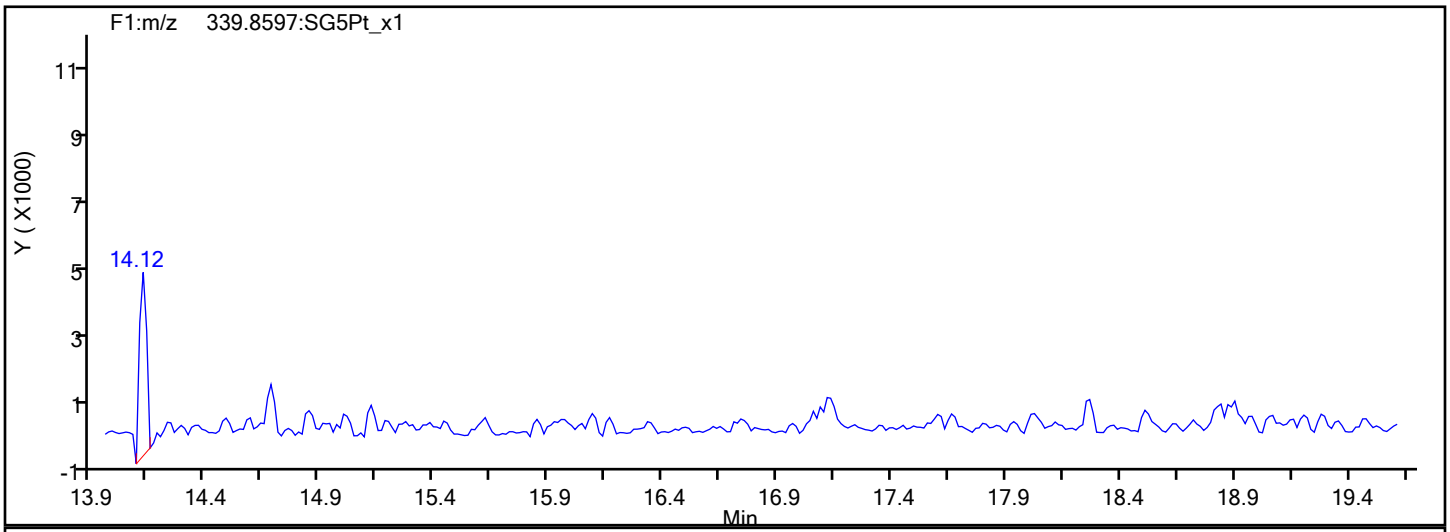

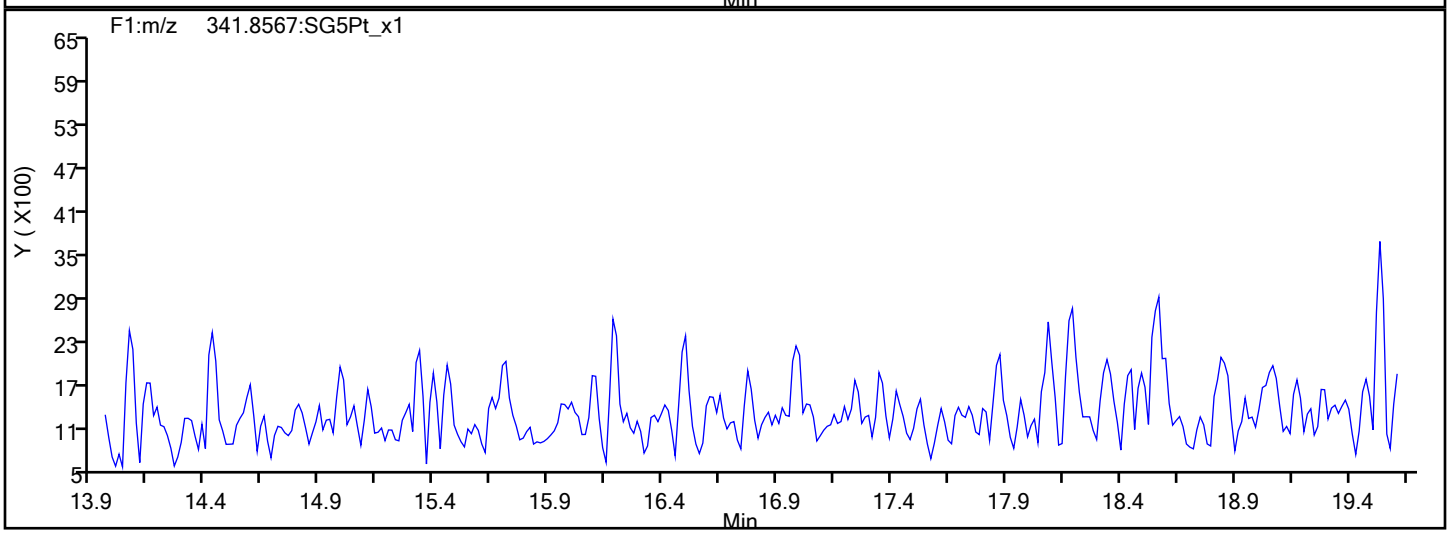

F1 PeCDFs Interference Mass

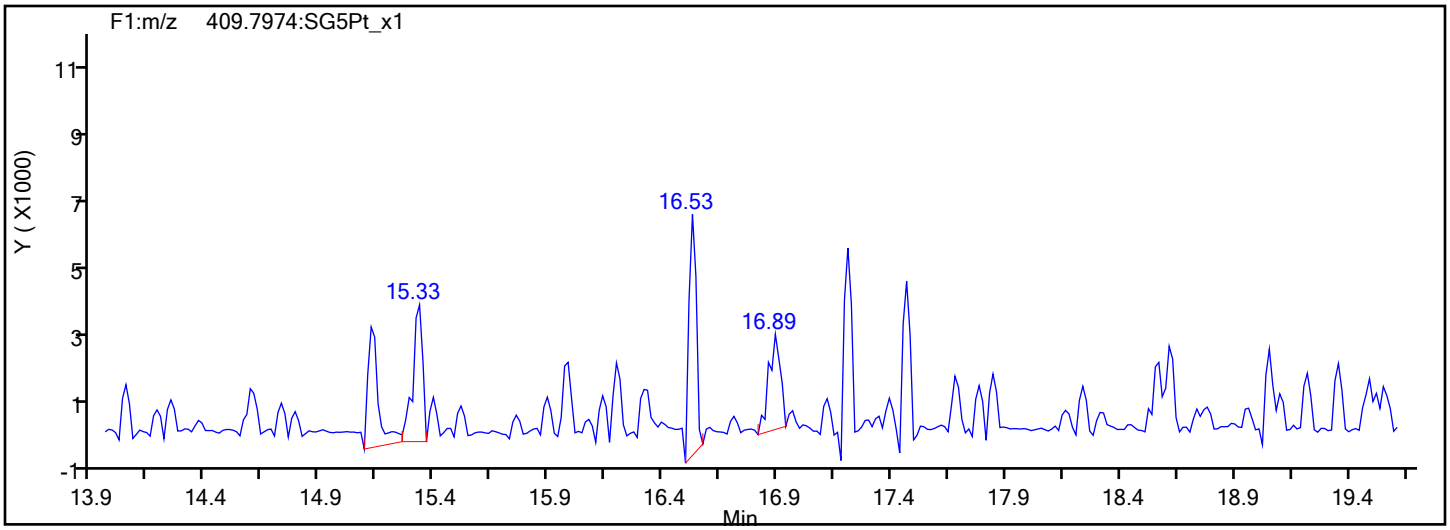

Report Date: 20-Sep-2019 11:47:18 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_49.d		
Injection Date:	20-Sep-2019 00:44:51	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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PeCDF

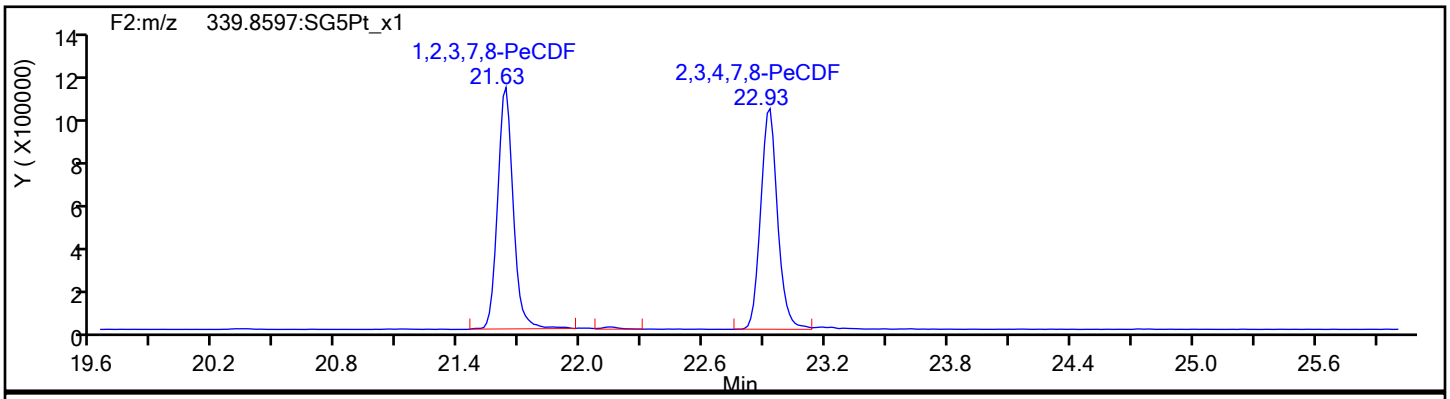

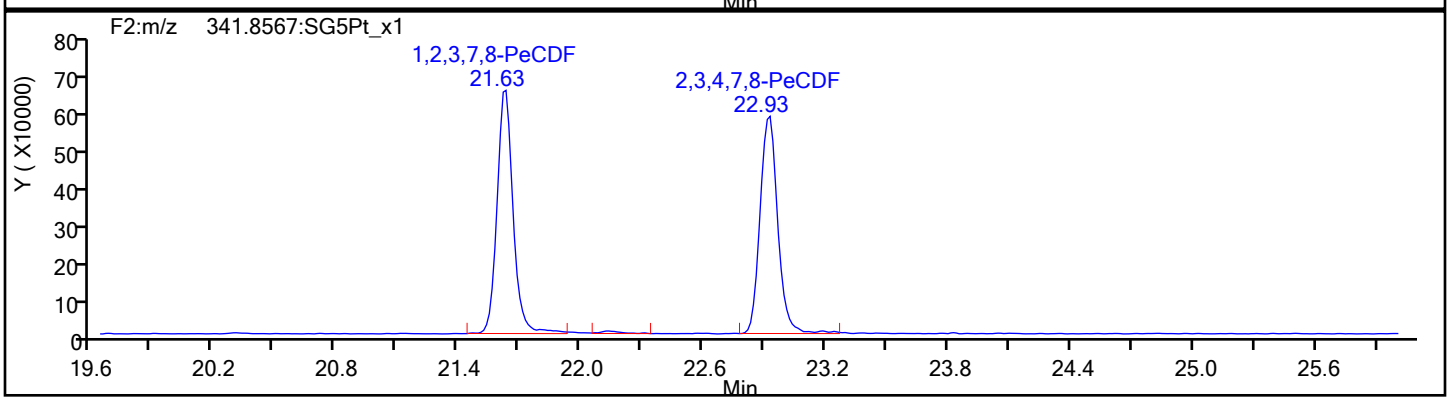

PeCDF Standards

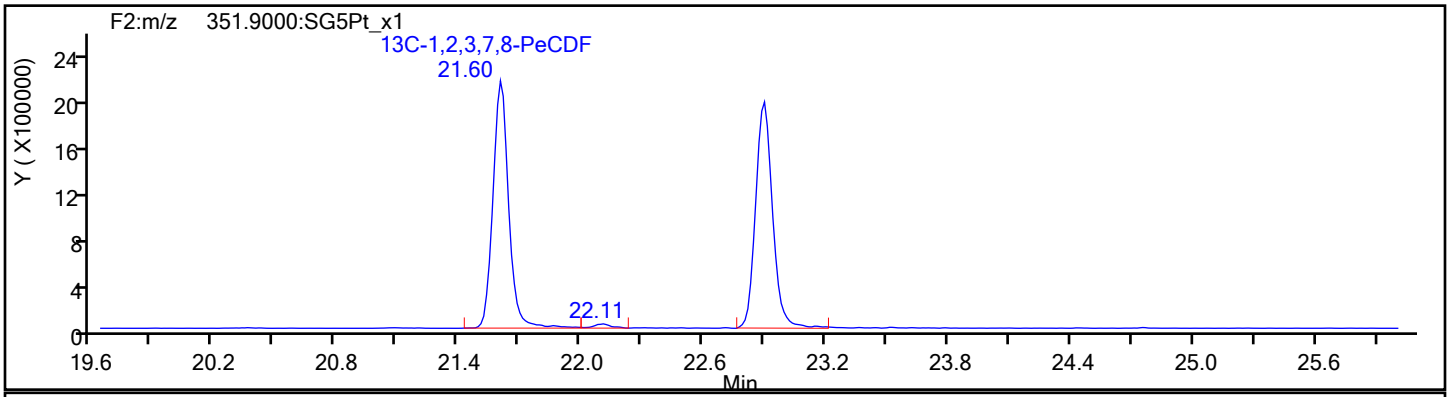

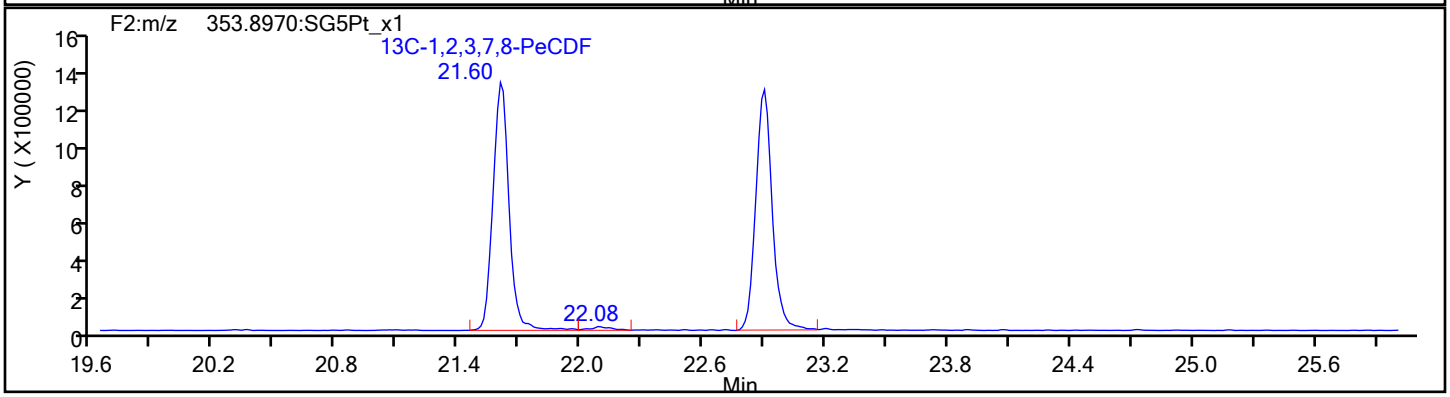

Report Date: 20-Sep-2019 11:47:18 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_49.d		
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Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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PeCDF

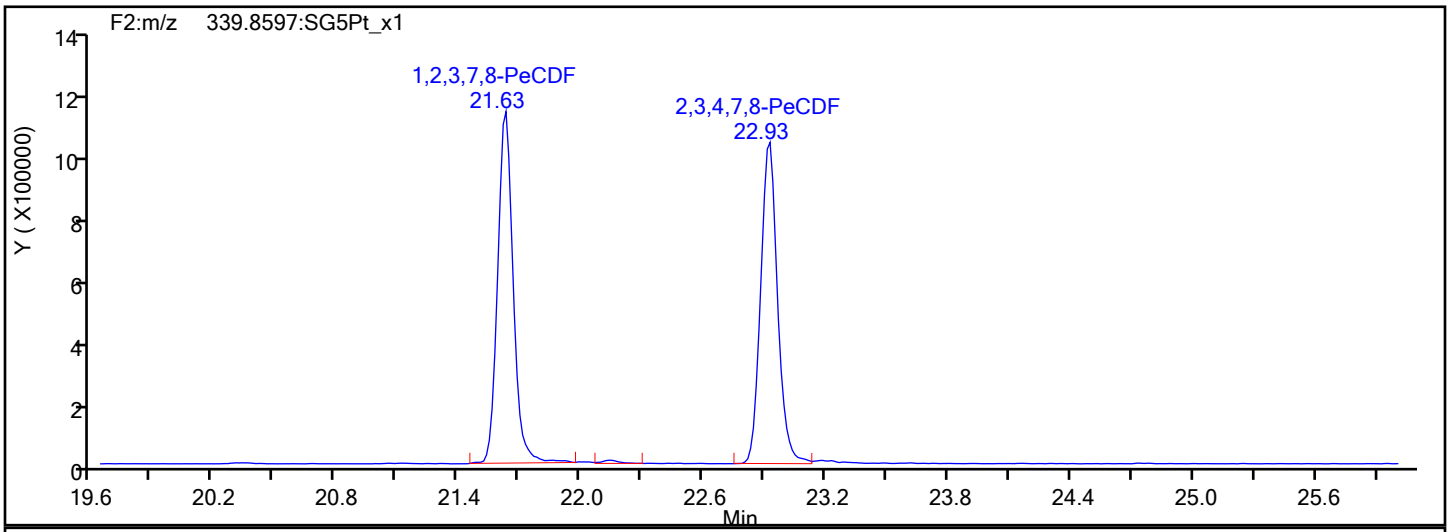

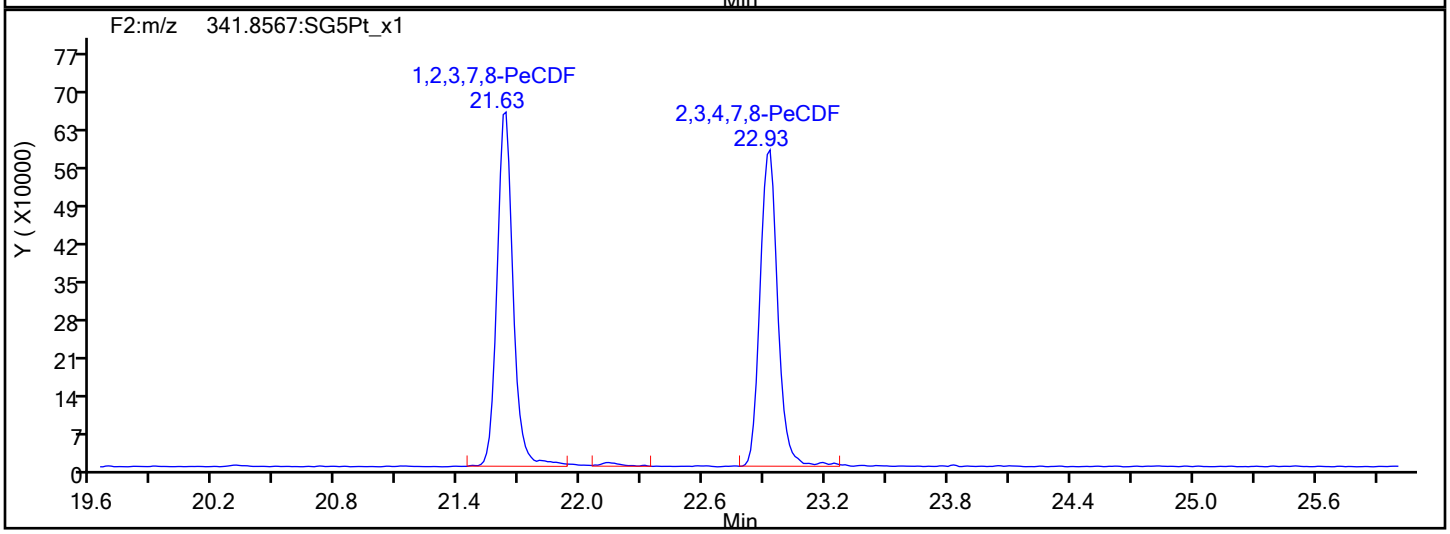

PeCDF Interference Mass

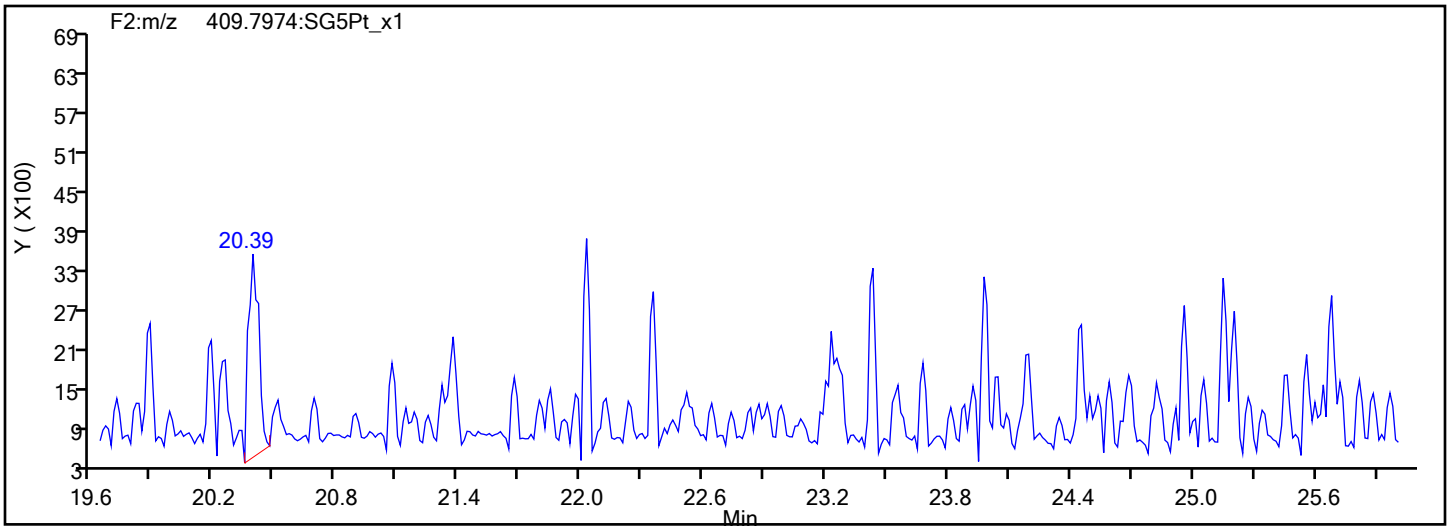

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Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

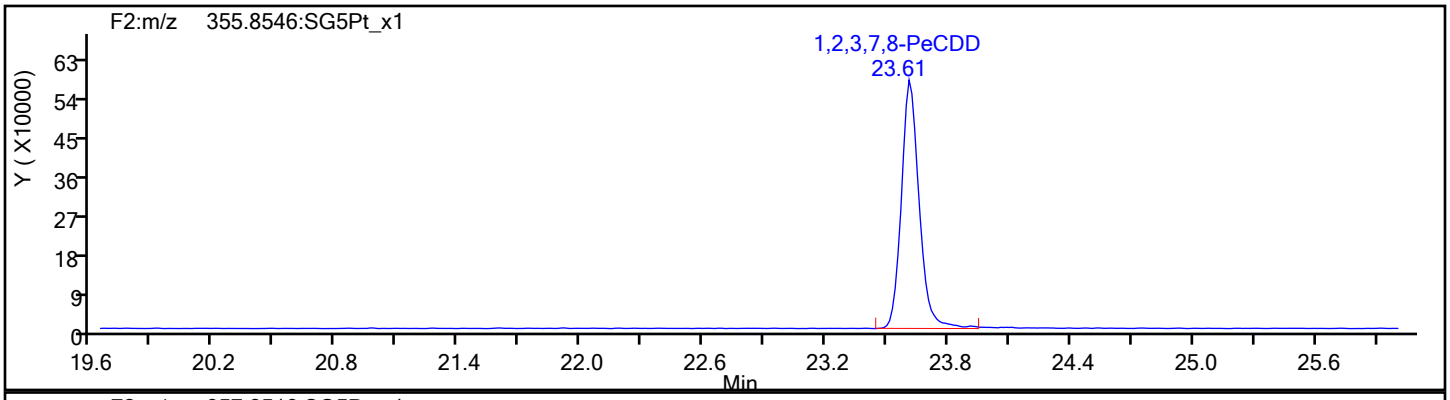

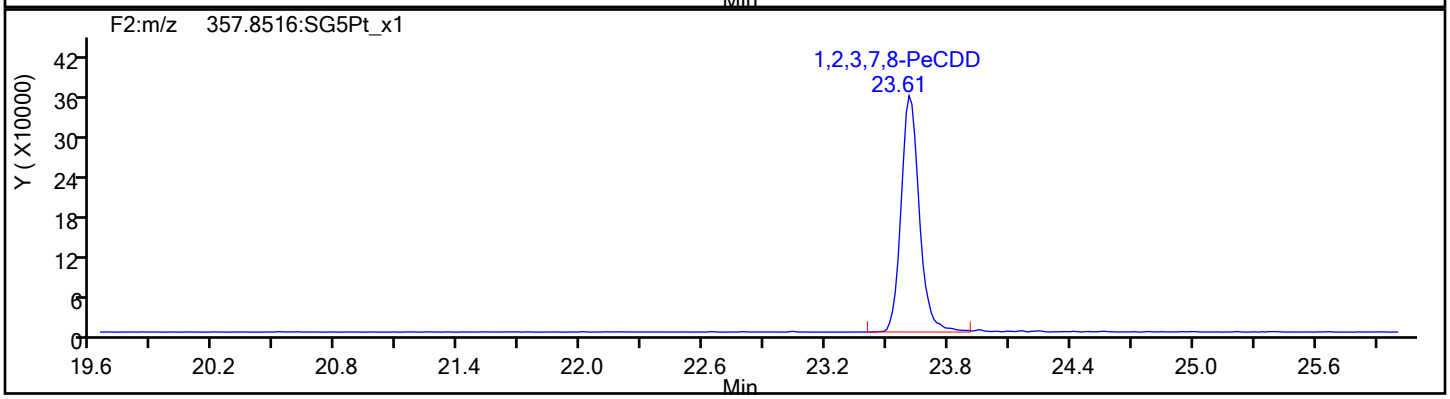

PeCDD Standards

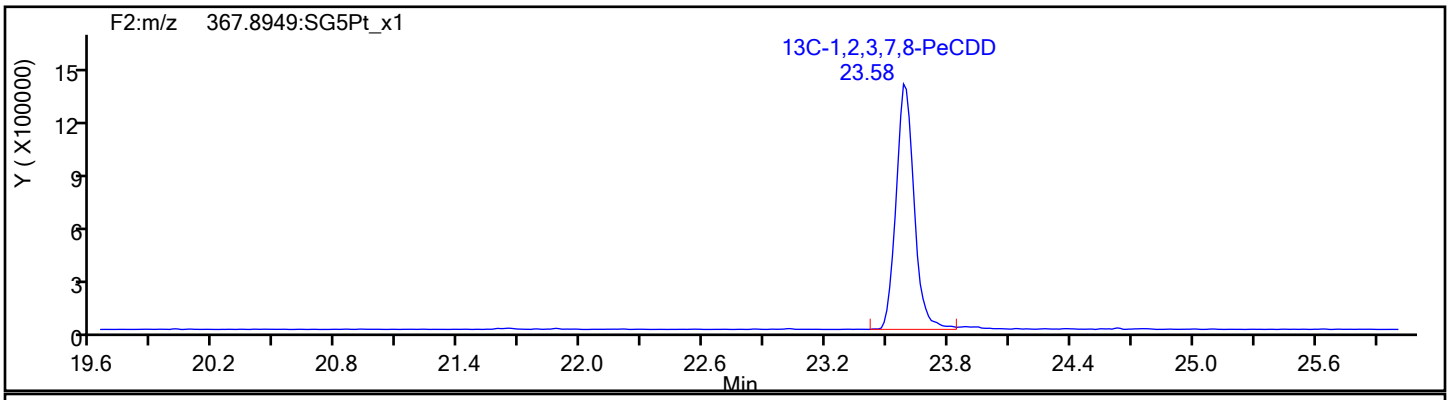

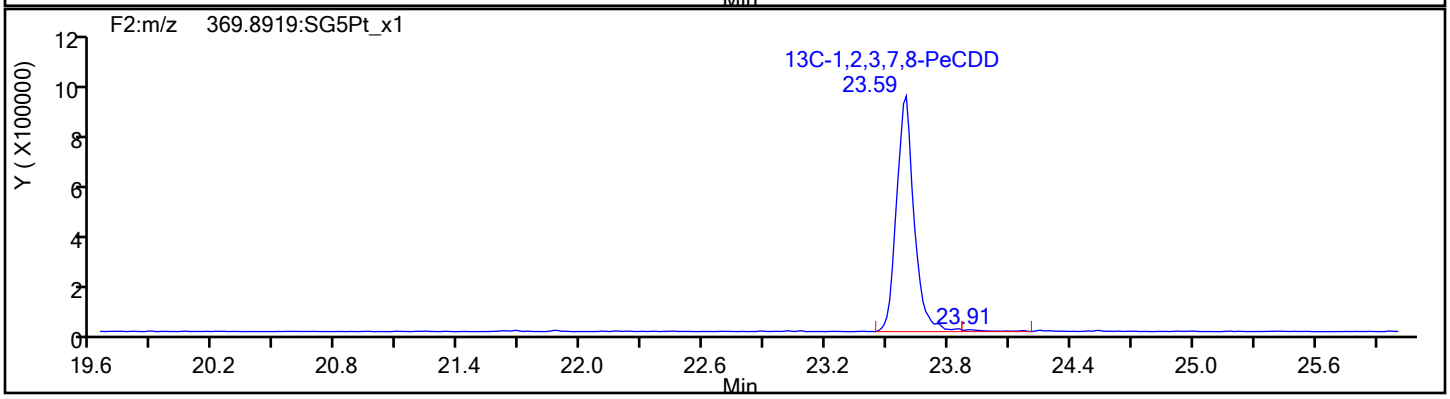

Report Date: 20-Sep-2019 11:47:18 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

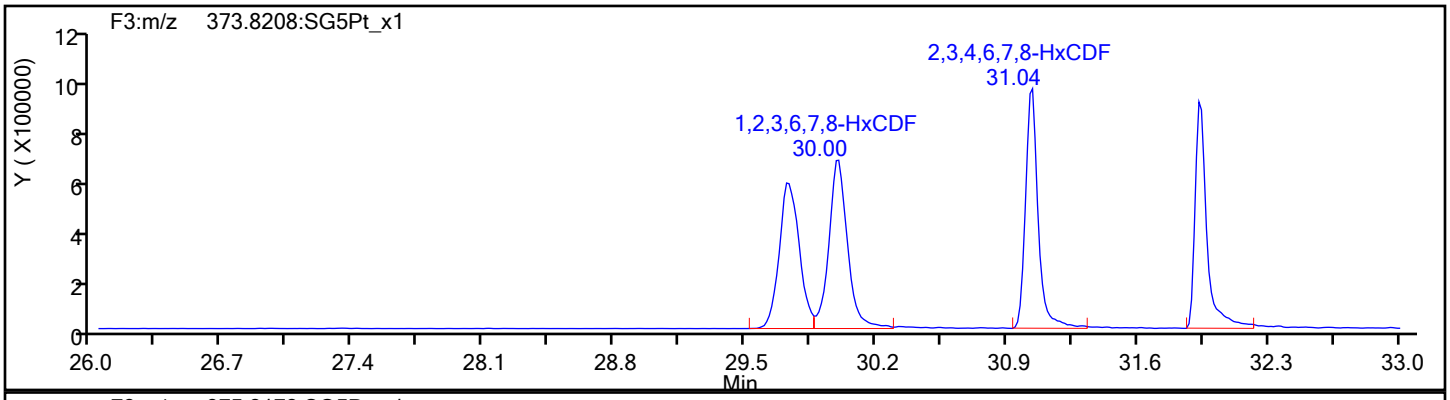

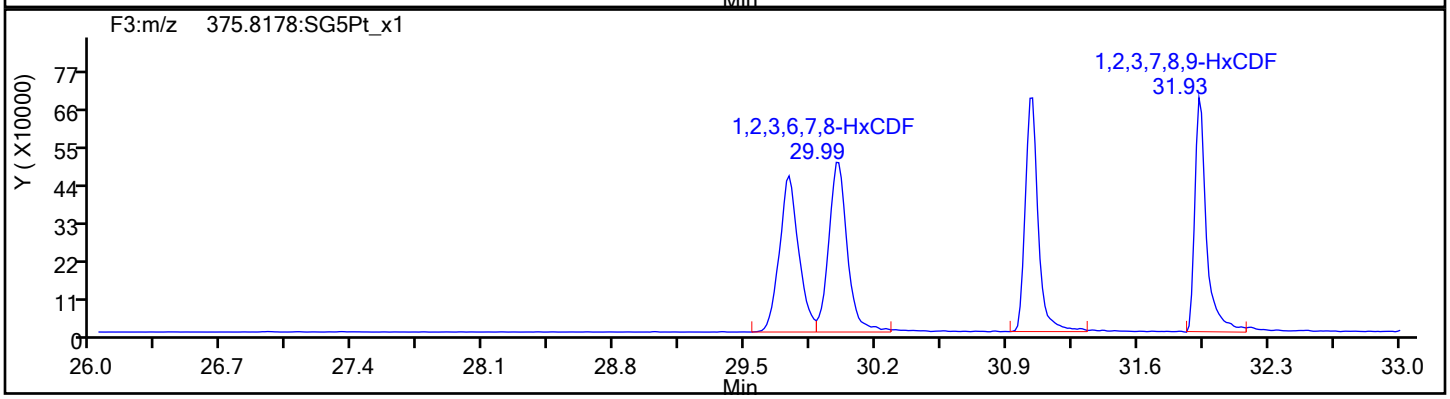

HxCDF Standards

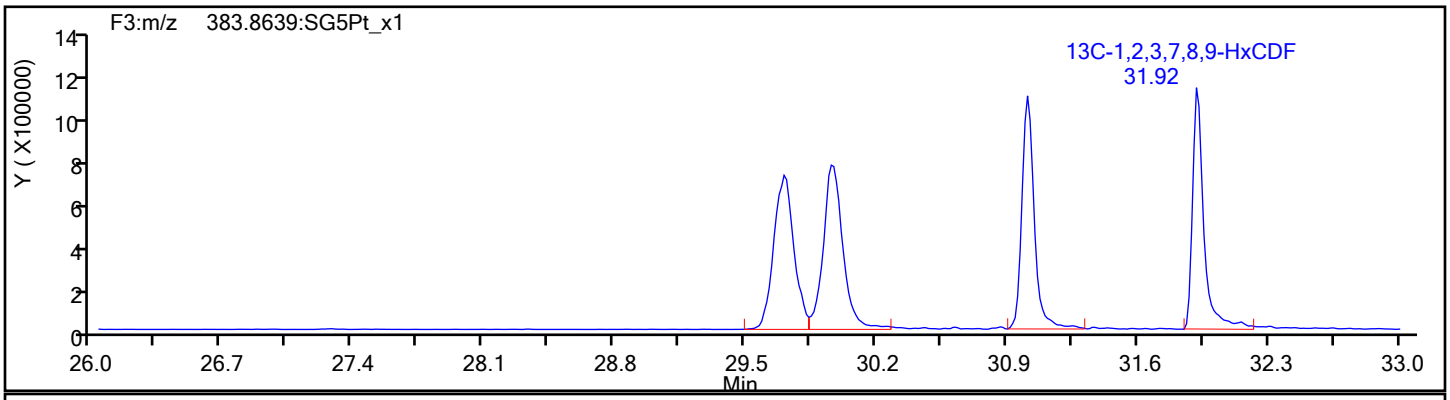

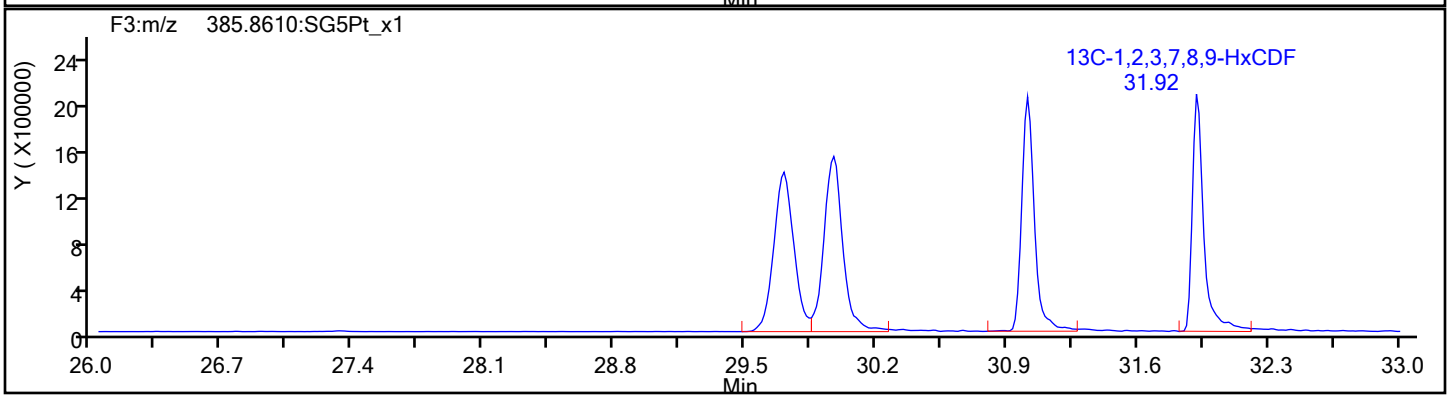

Report Date: 20-Sep-2019 11:47:18 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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HxCDF

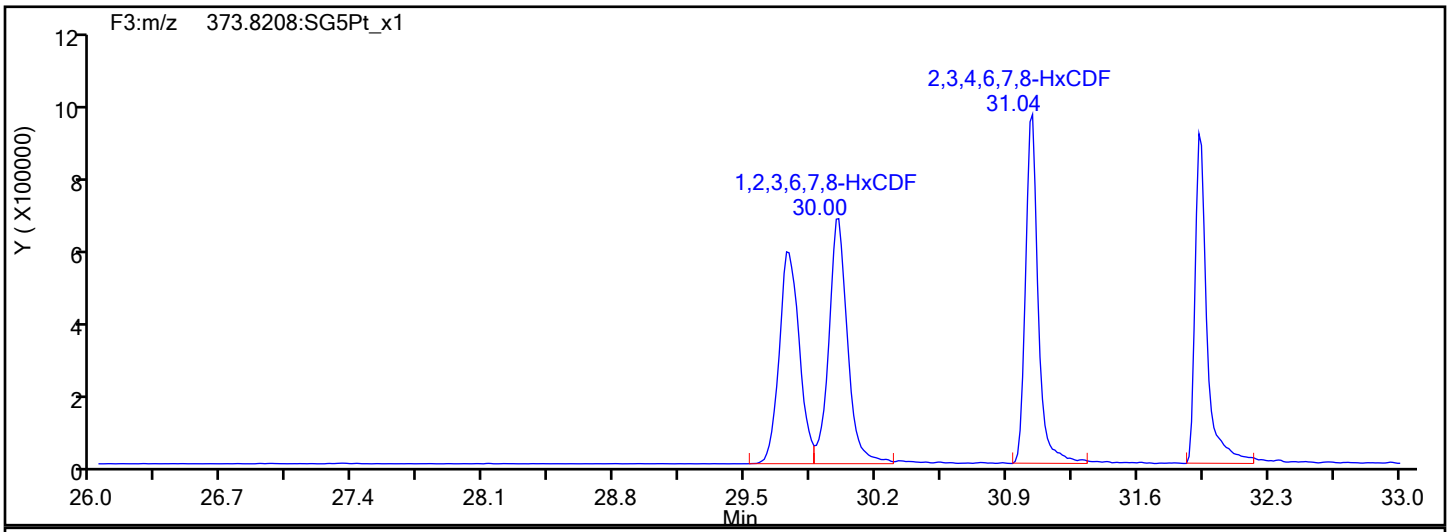

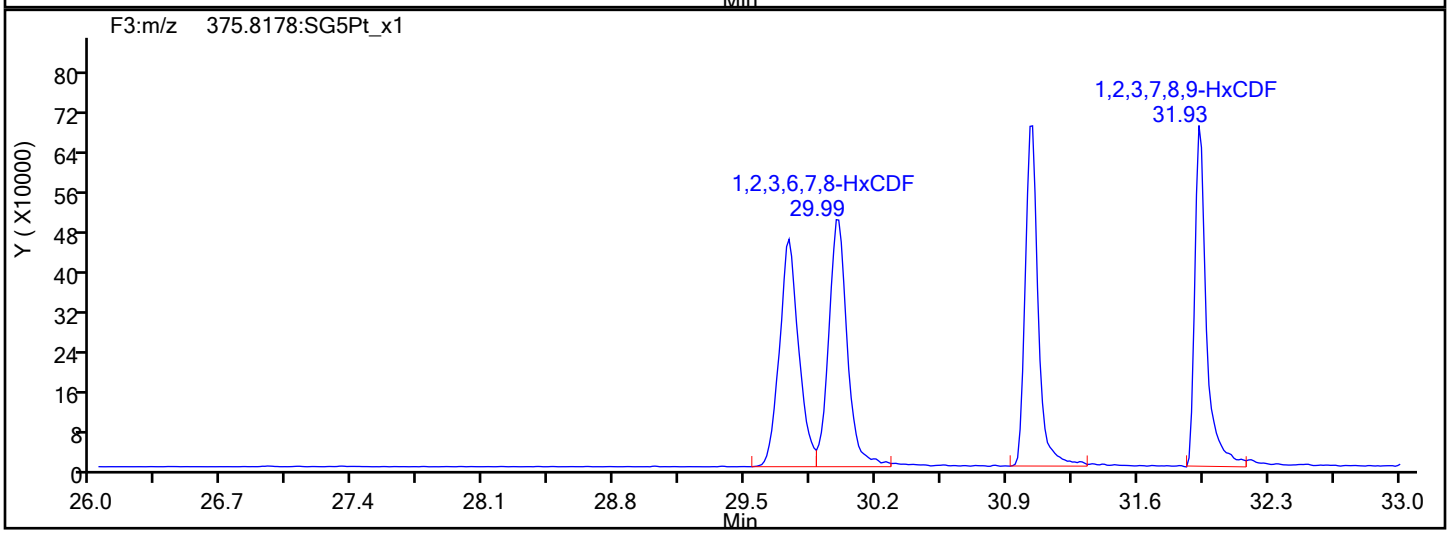

HxCDF Interference Mass

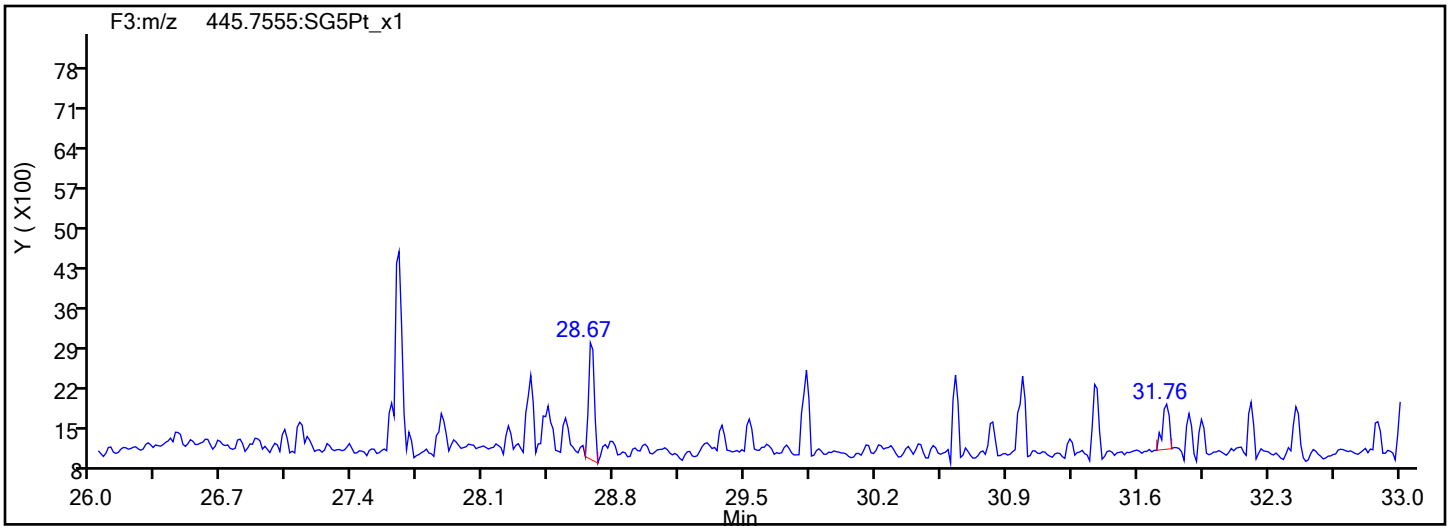

Report Date: 20-Sep-2019 11:47:18 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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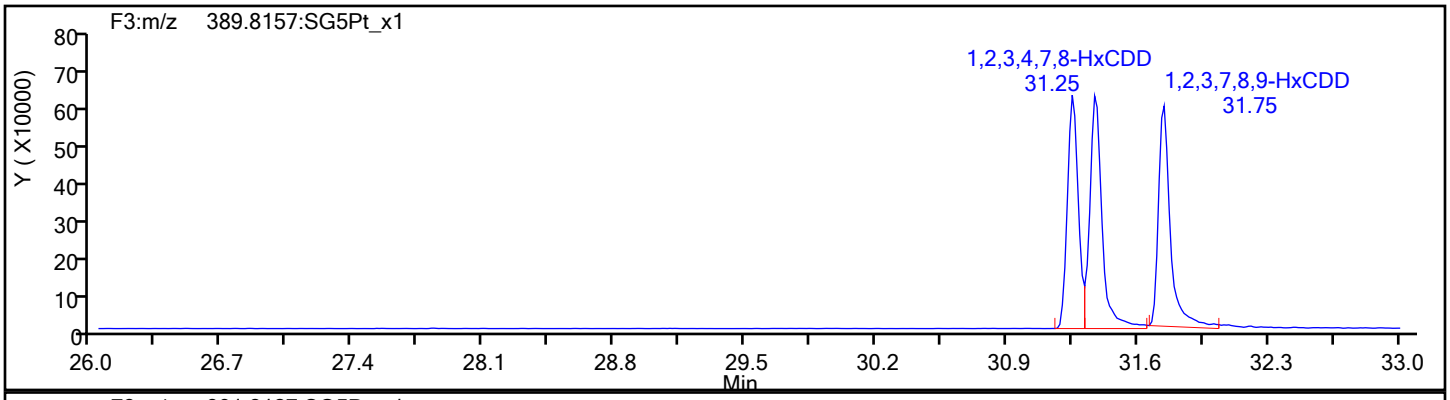

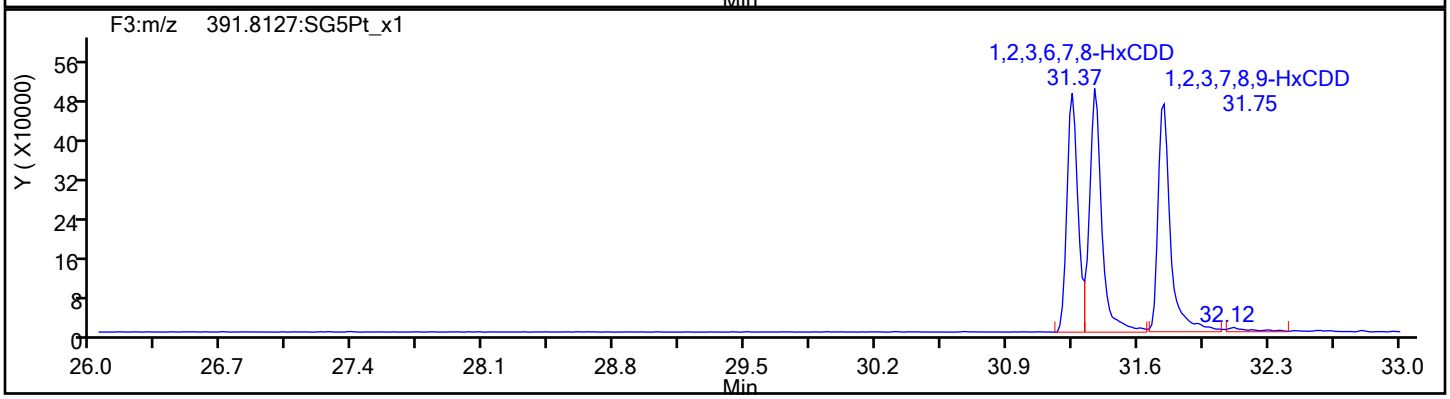

HxCDD Standards

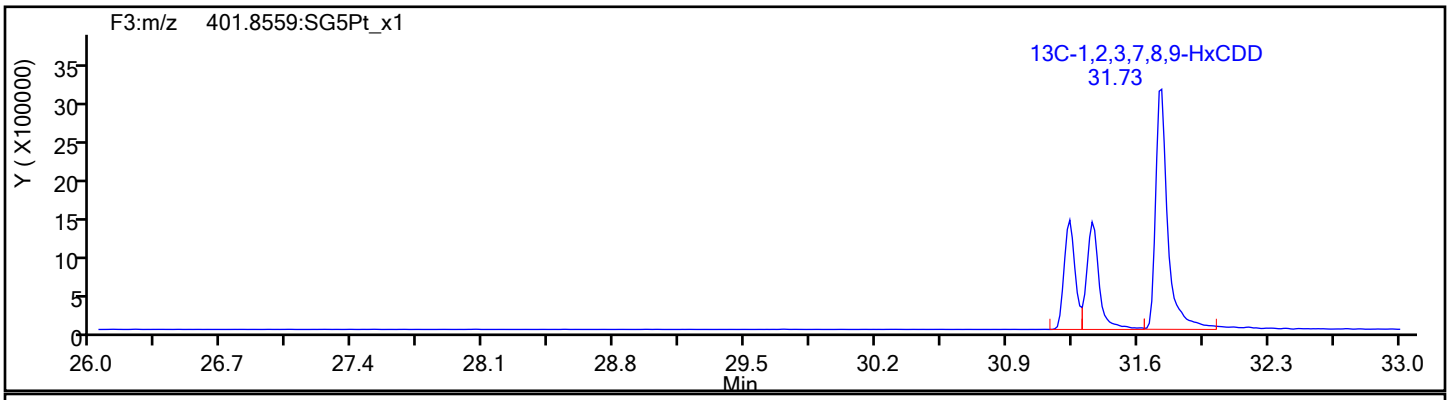

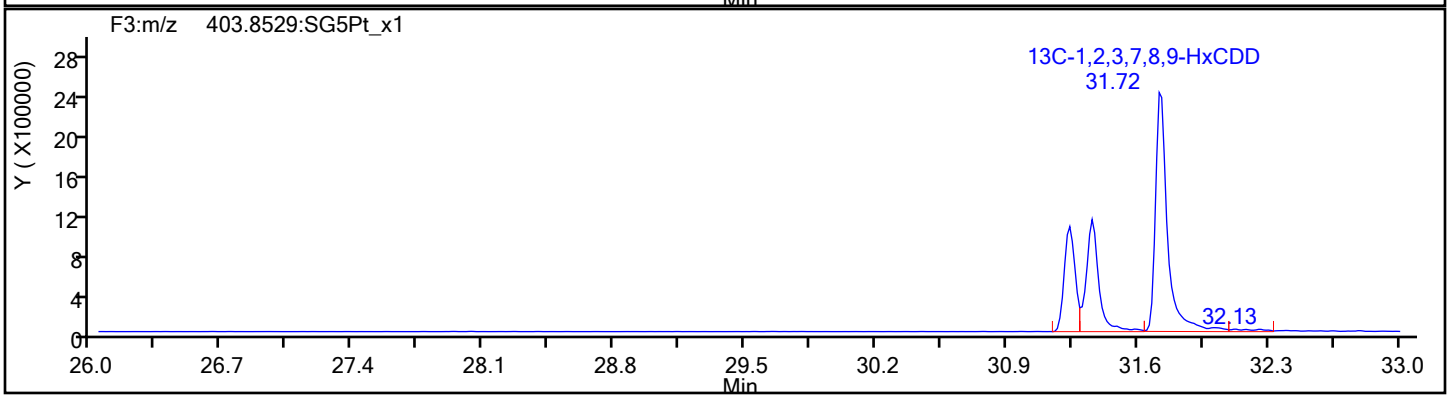

Report Date: 20-Sep-2019 11:47:18 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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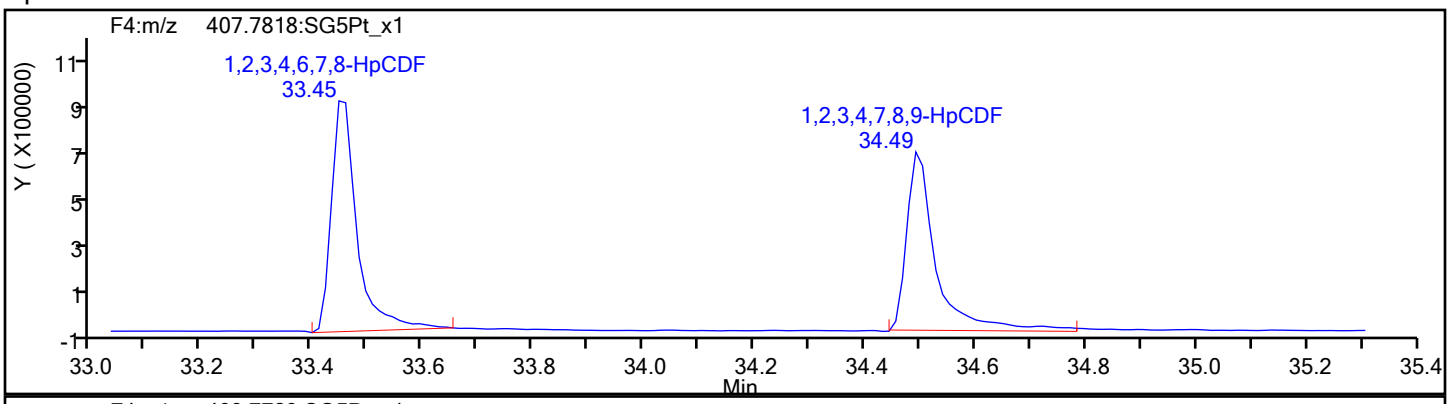

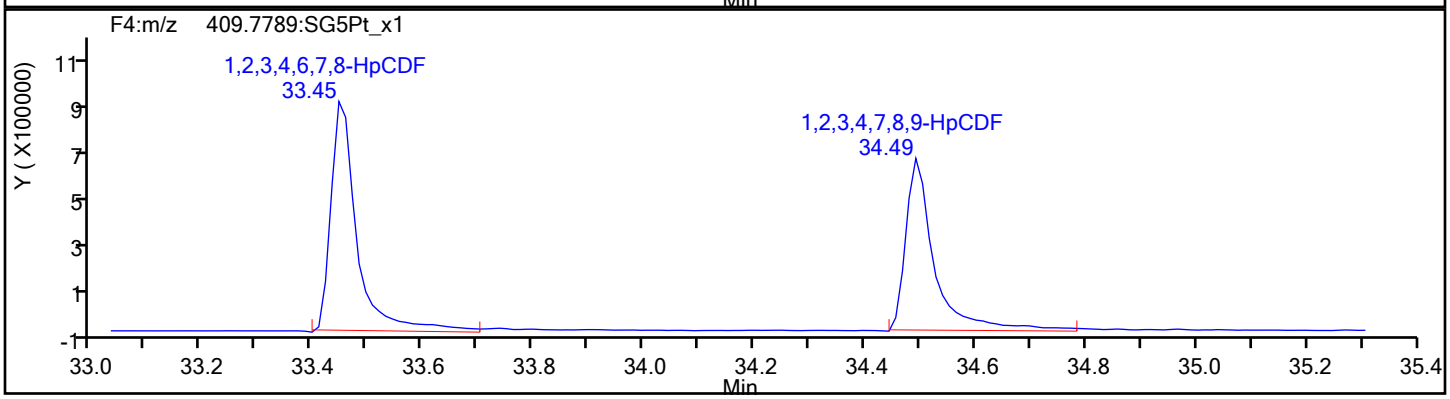

HpCDF Standards

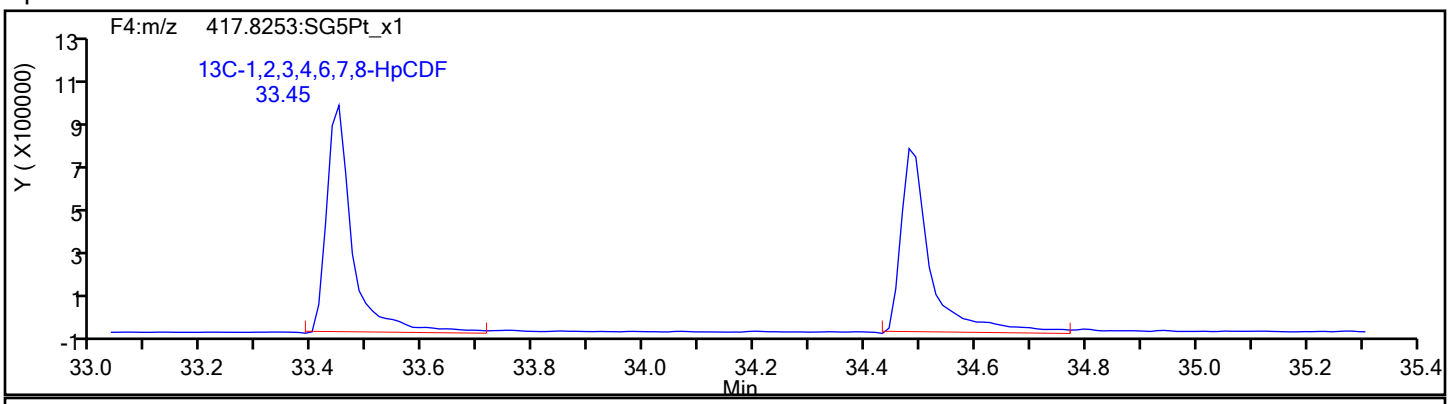

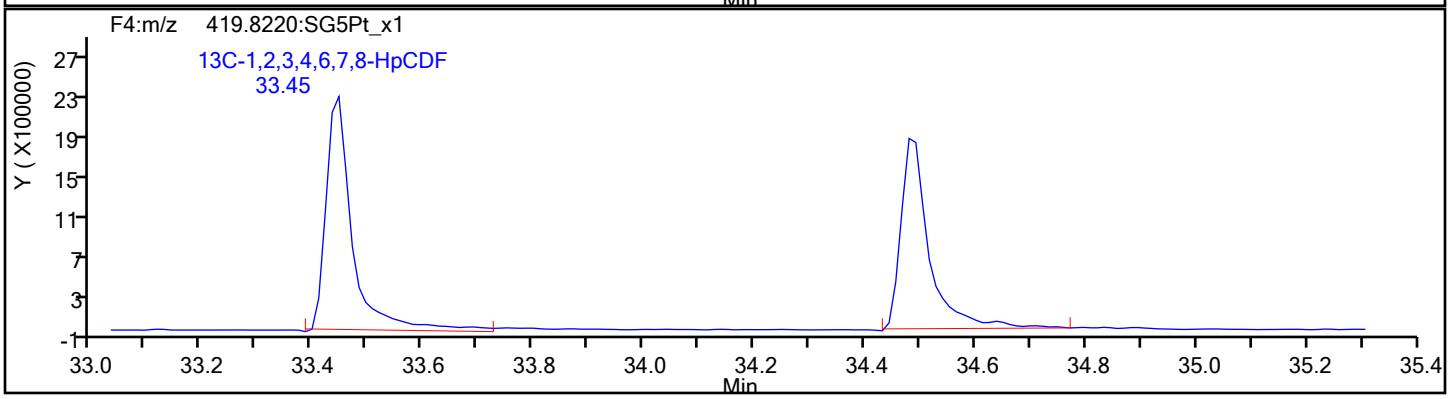

Report Date: 20-Sep-2019 11:47:18 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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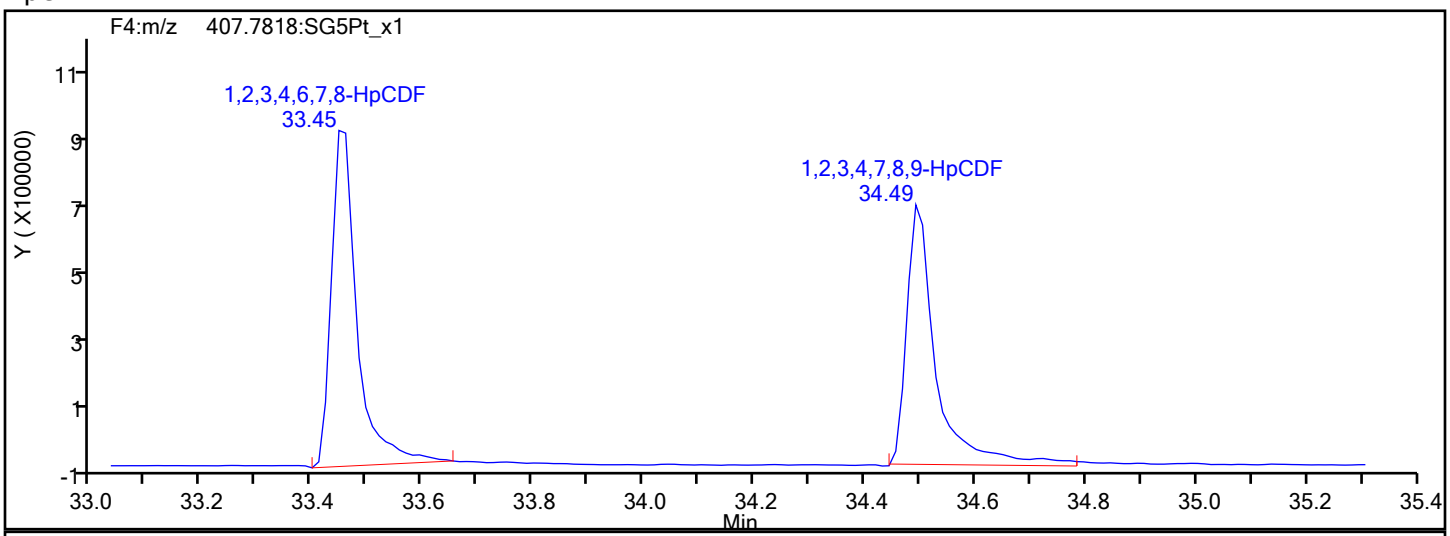

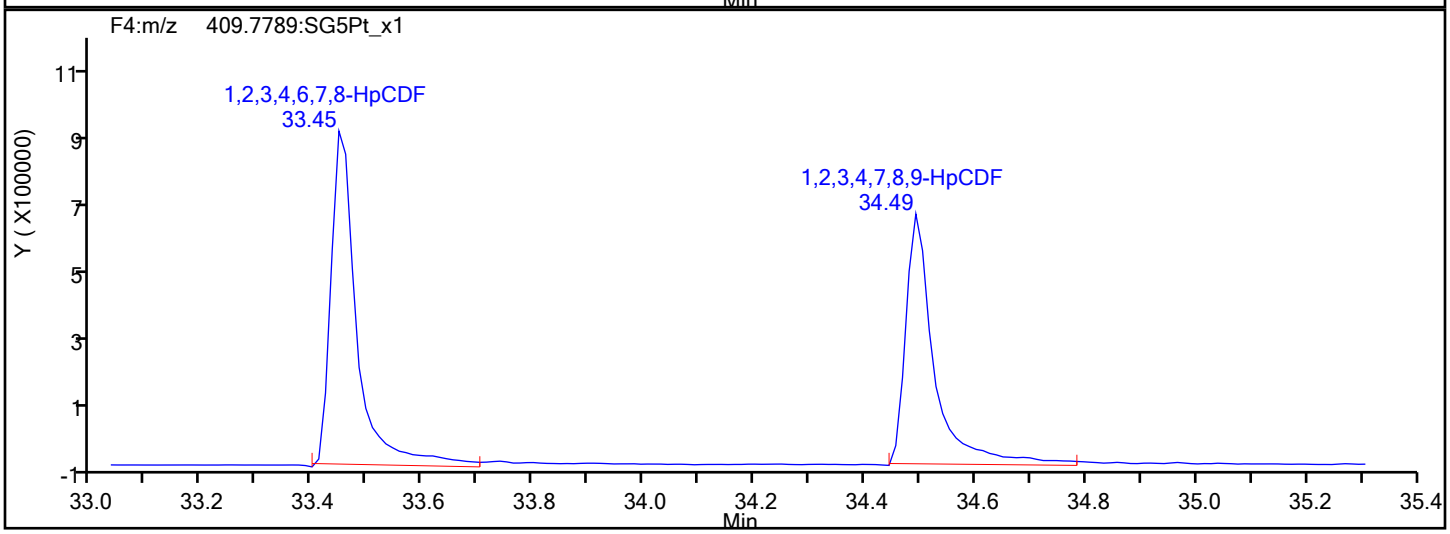

HpCDF Interference Mass

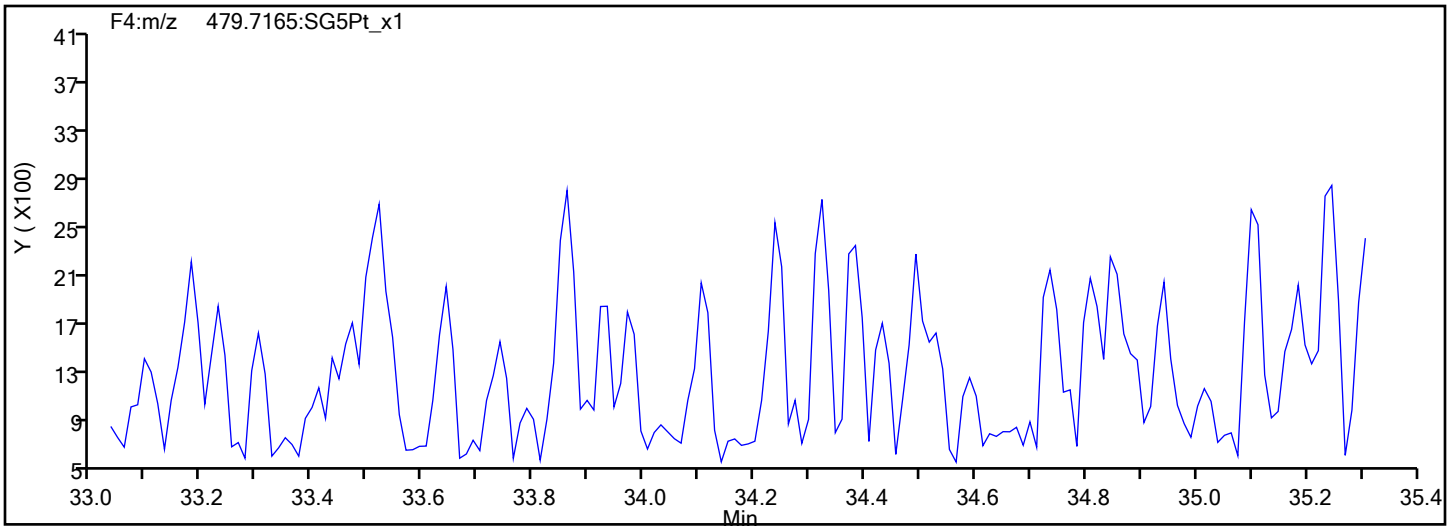

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Eurofins TestAmerica, Sacramento

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HpCDD

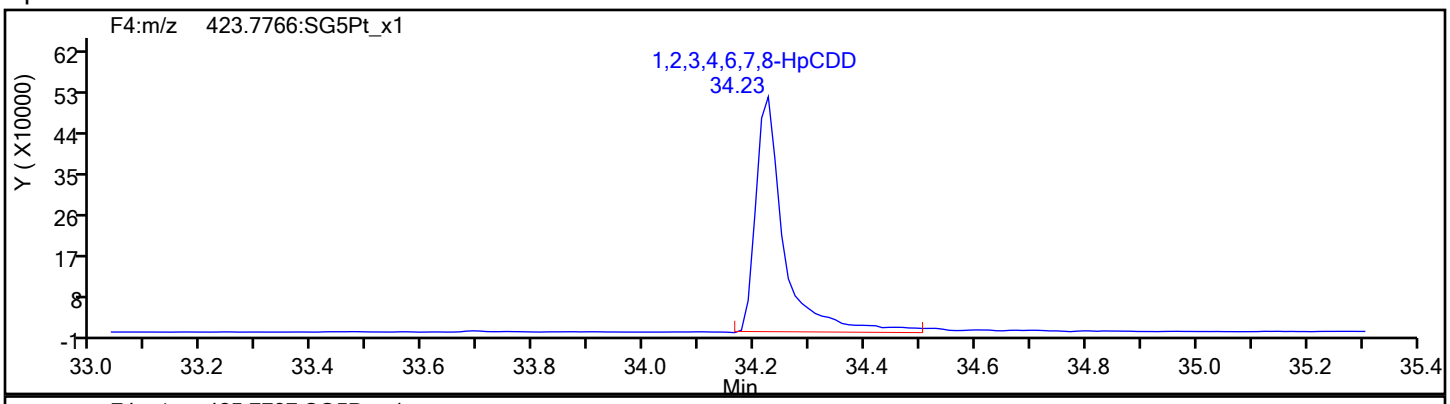

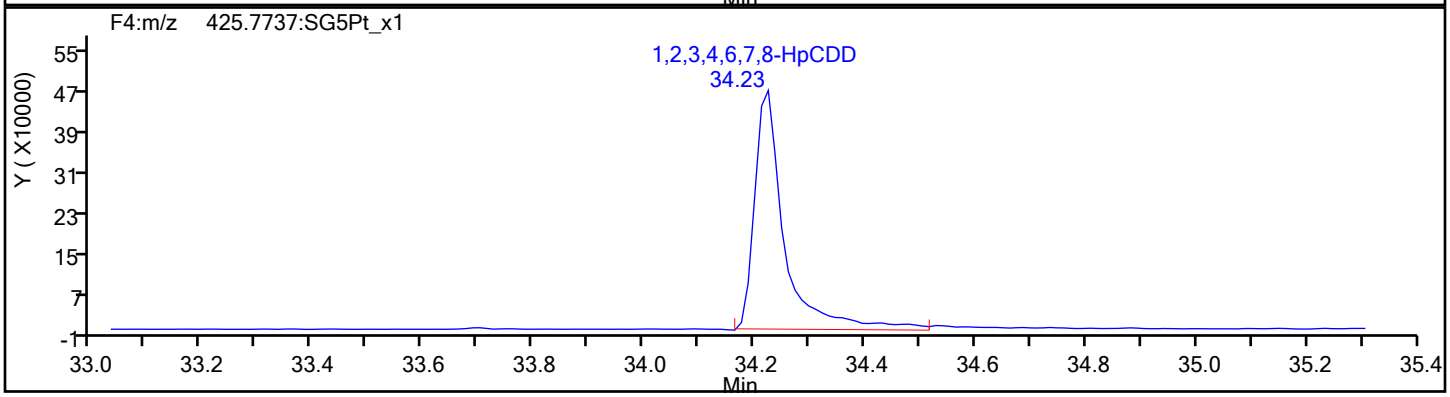

HpCDD Standards

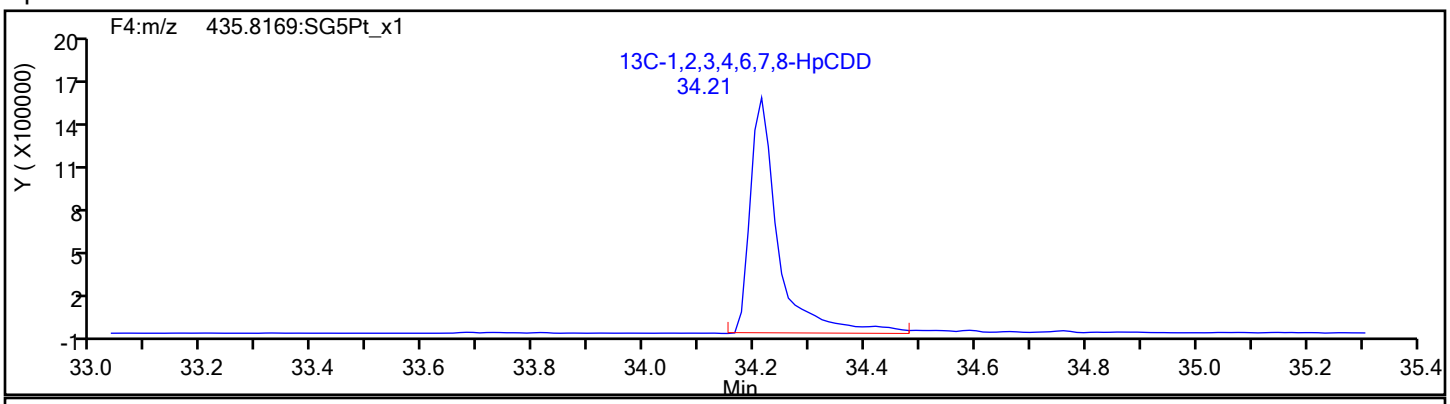

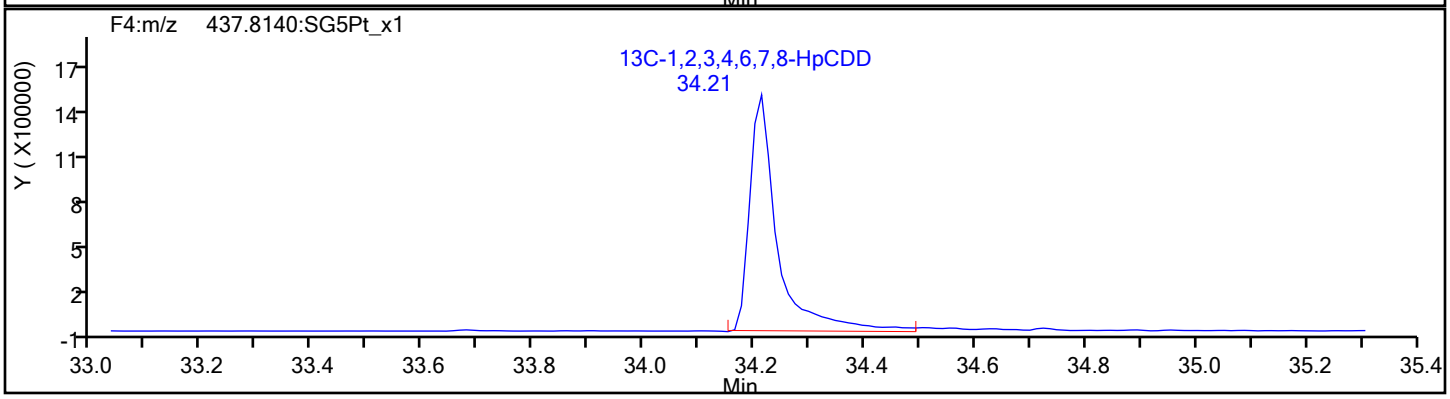

Report Date: 20-Sep-2019 11:47:19 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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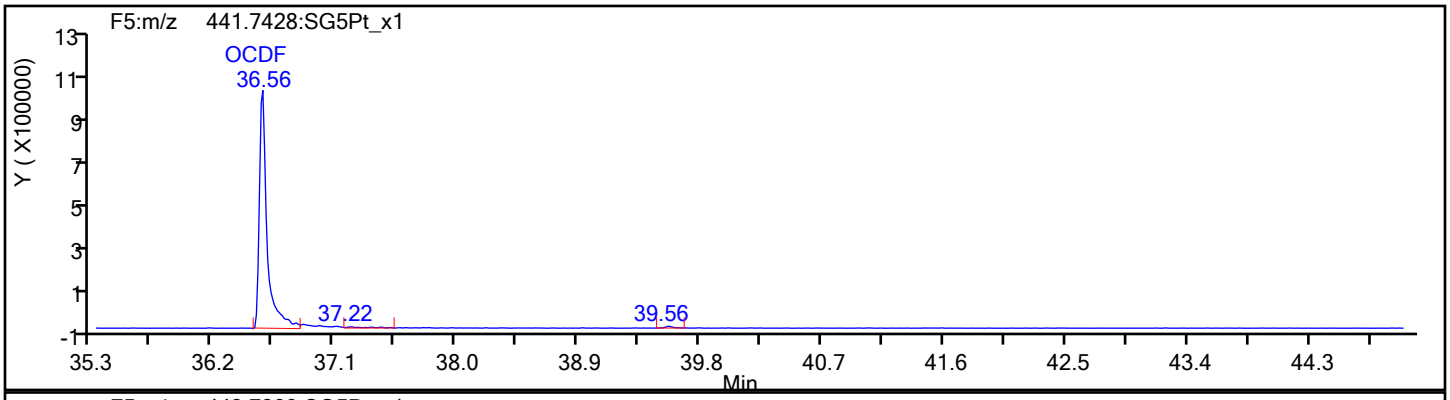

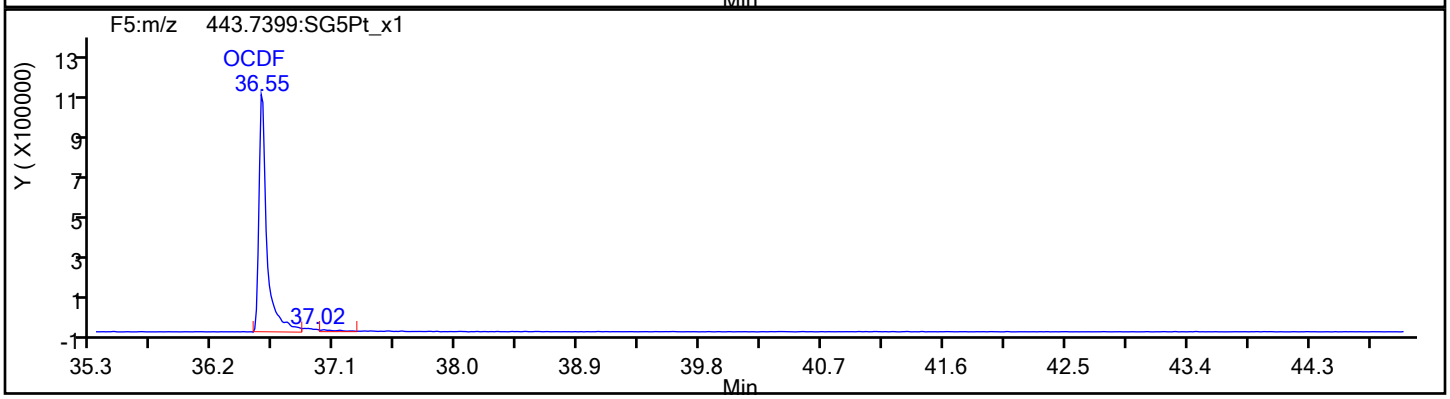

OCDF Standards

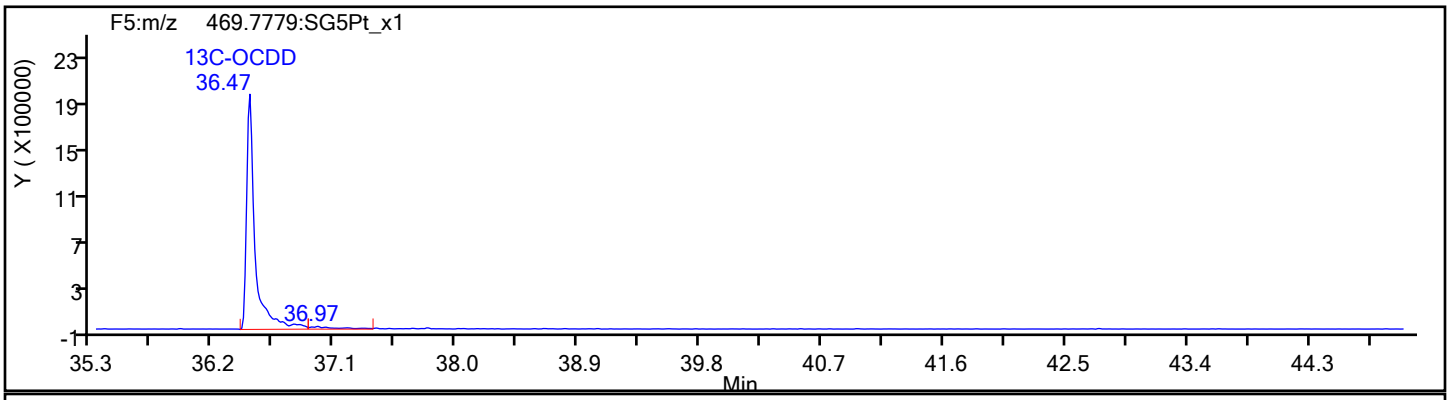

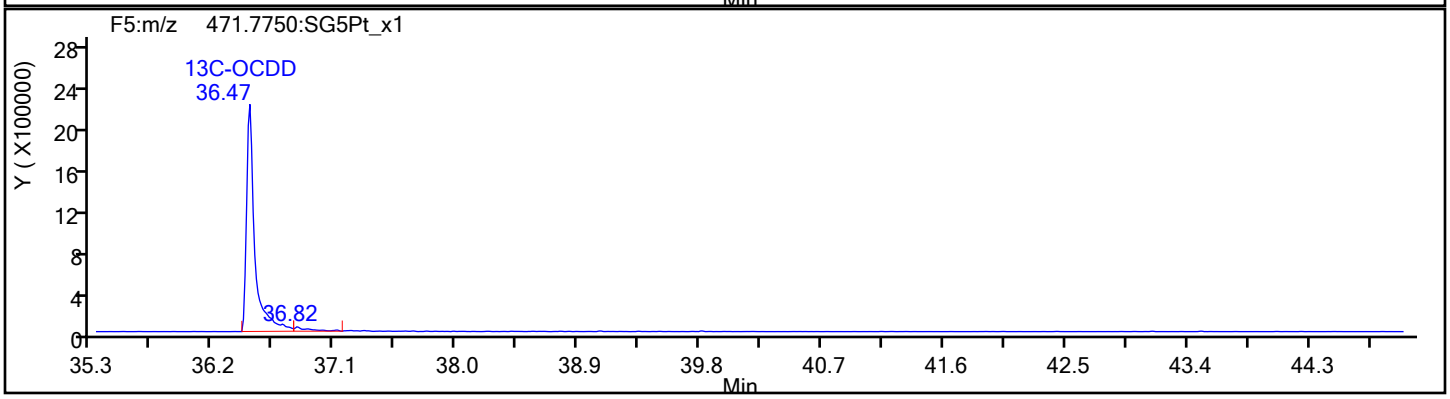

Report Date: 20-Sep-2019 11:47:19 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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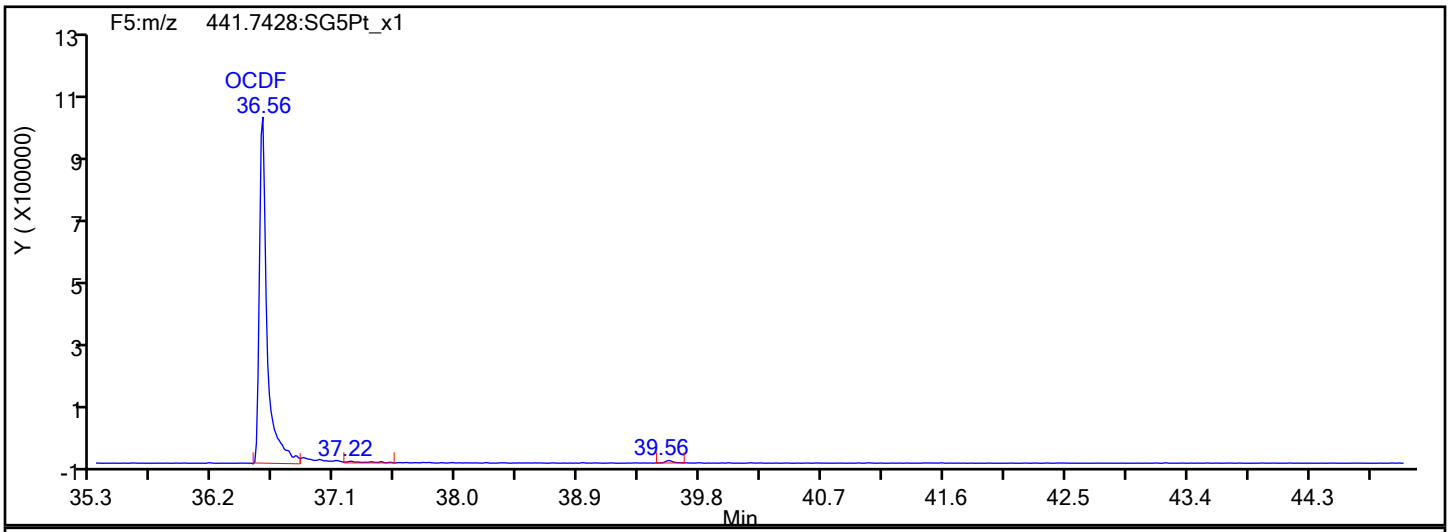

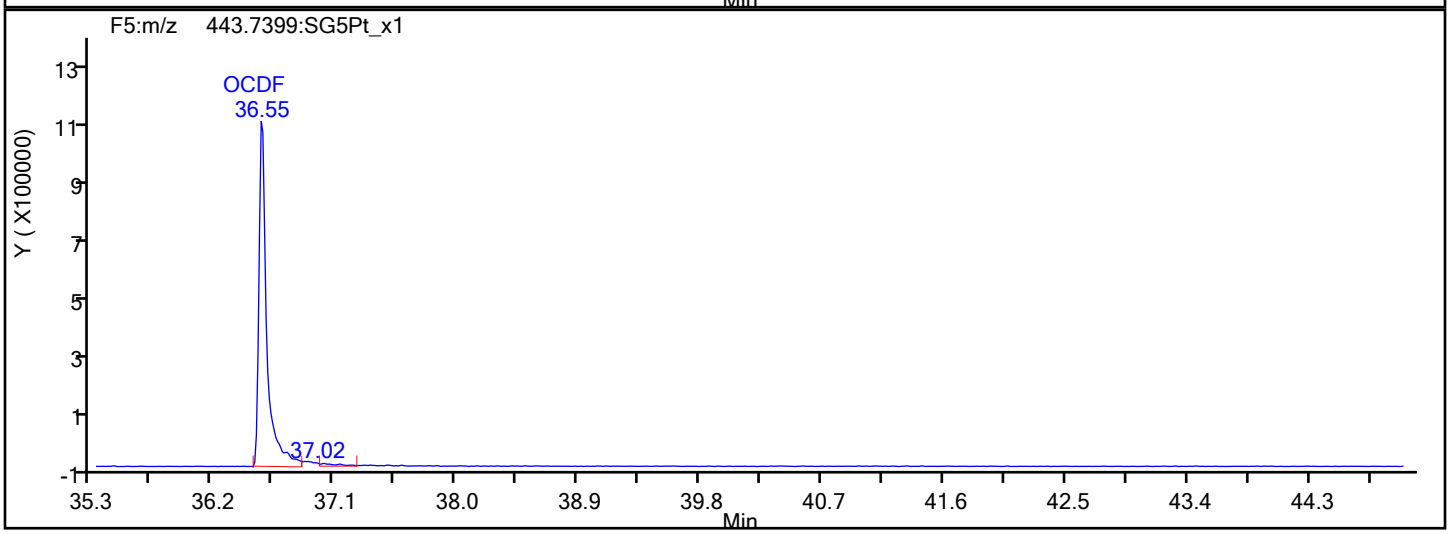

OCDF Interference Mass

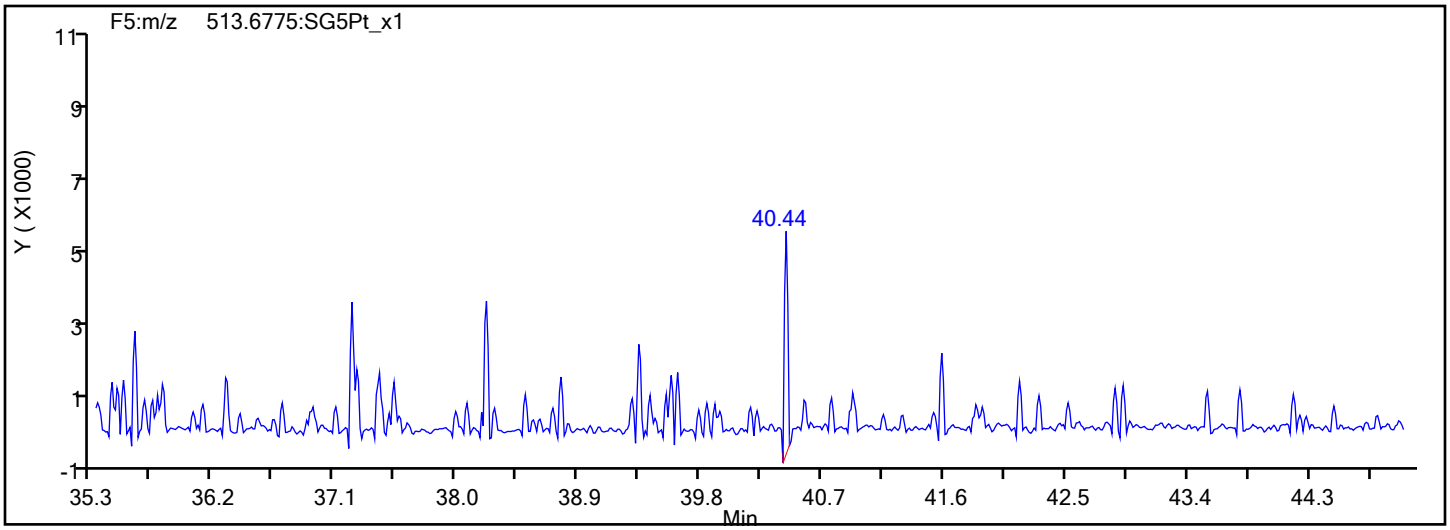

Report Date: 20-Sep-2019 11:47:19 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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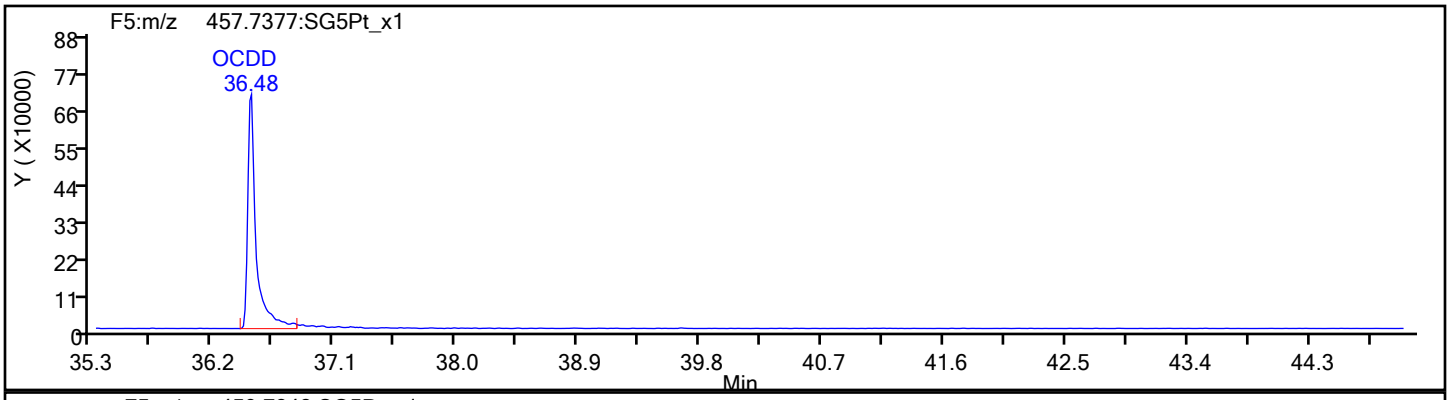

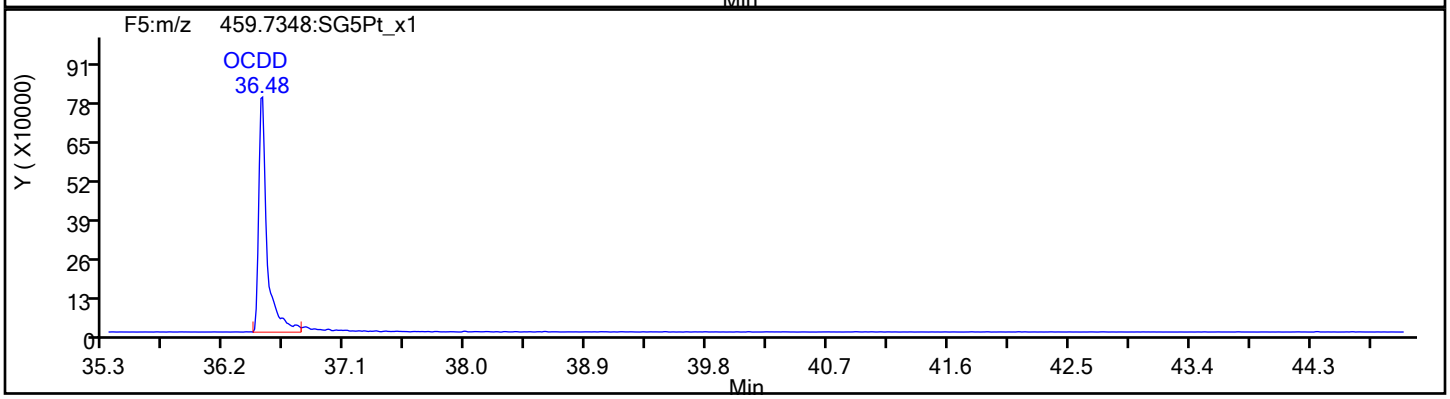

OCDD Standards

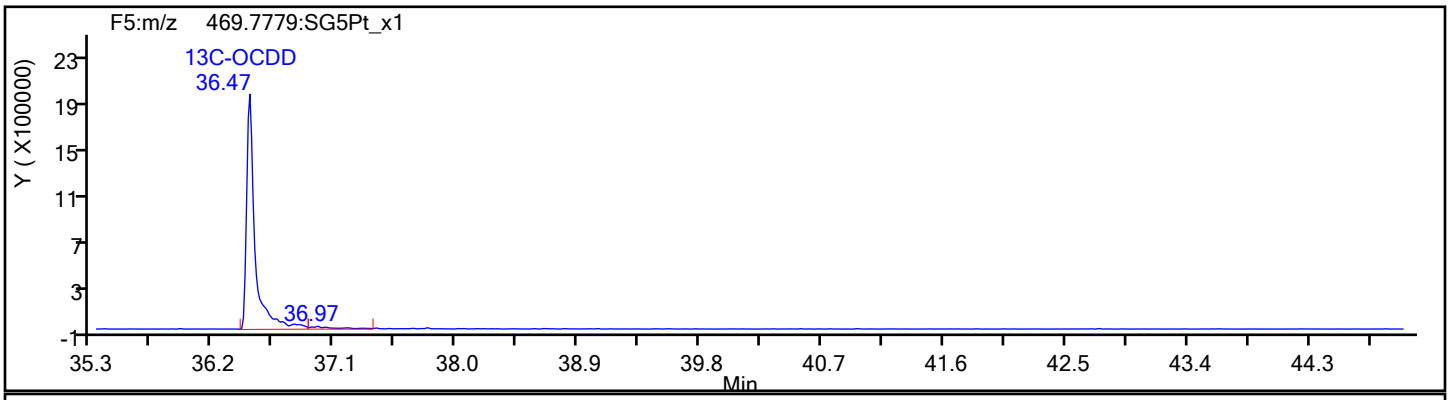

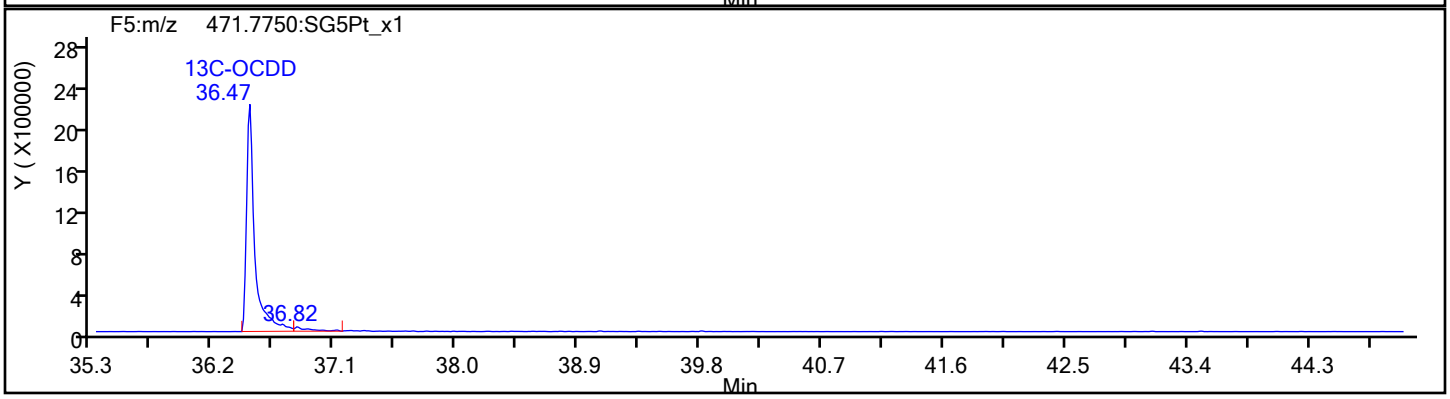

Report Date: 20-Sep-2019 11:47:19 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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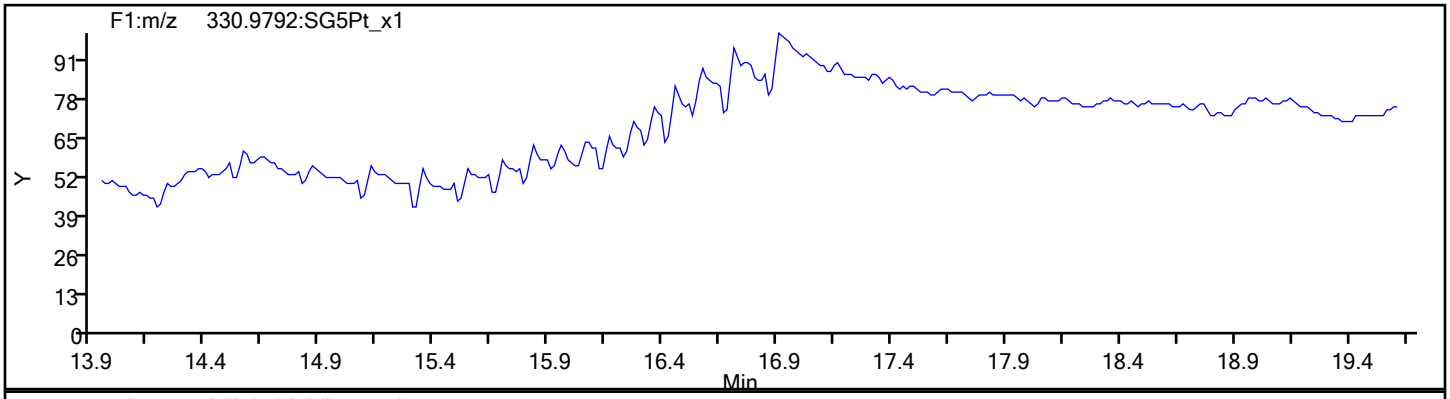

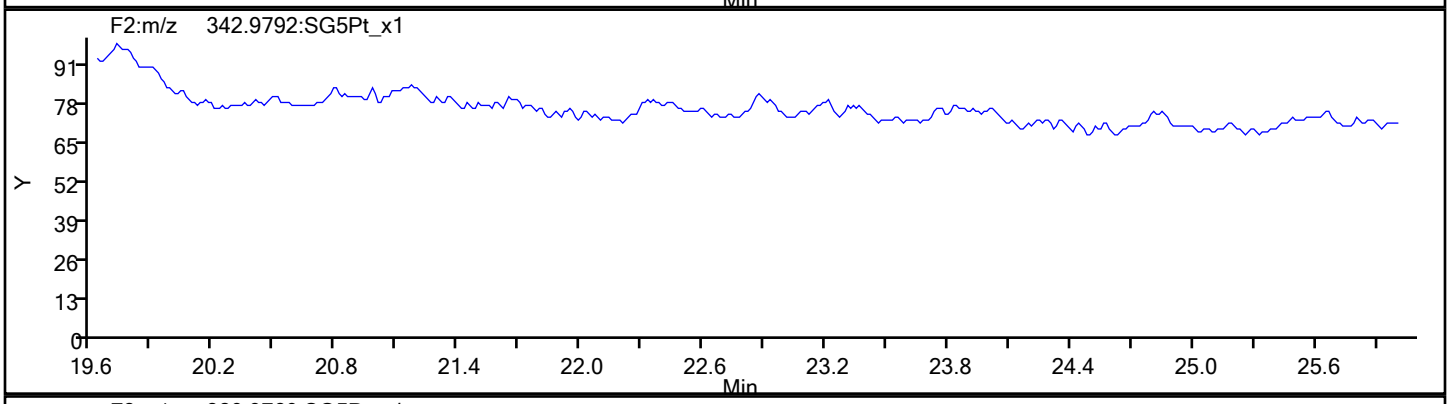

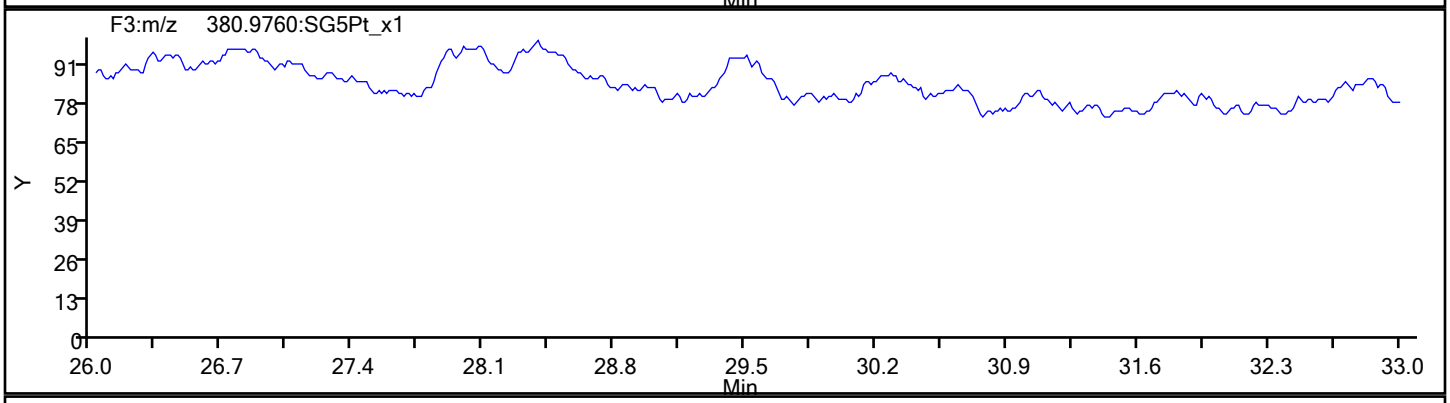

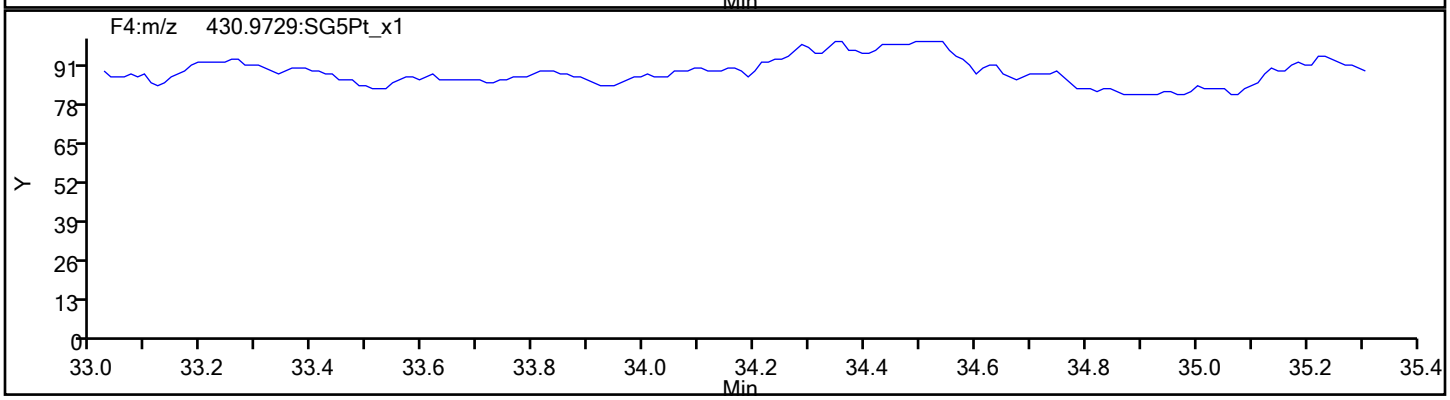

Report Date: 20-Sep-2019 11:47:19 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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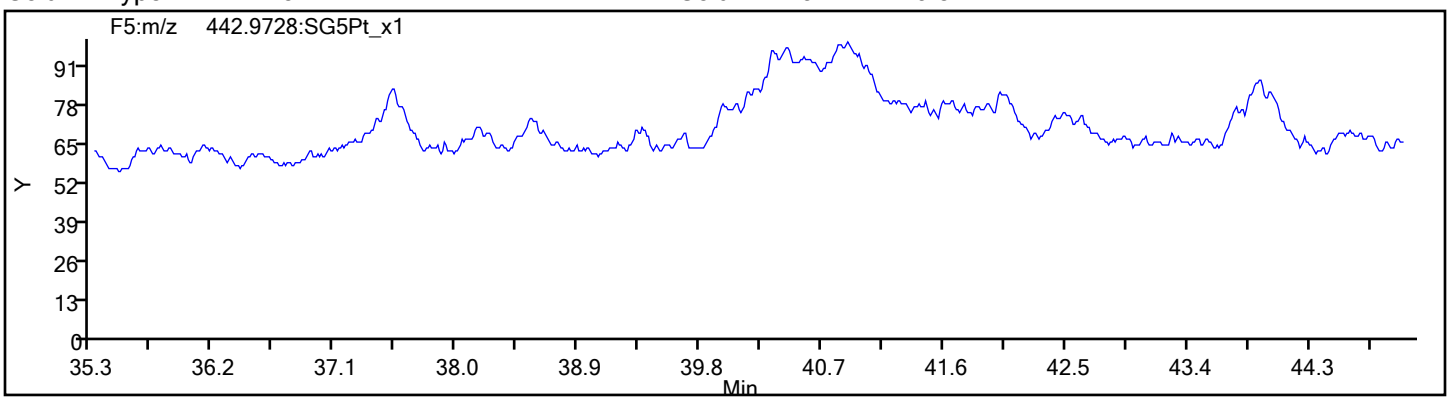

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento
Job No.: 600-191956-2
SDG No.:
Client Sample ID:
Lab Sample ID: LCSD 320-324499/3-A
Matrix: Water
Lab File ID: 18SE1910D5_50.d
Analysis Method: 1613B
Date Collected:
Extract. Method: 1613B
Date Extracted: 09/18/2019 13:24
Sample wt/vol: 1000(mL)
Date Analyzed: 09/20/2019 01:30
Con. Extract Vol.: 20(uL)
Dilution Factor: 1
Injection Volume: 2(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 324876
Units: pg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	EDL
1746-01-6	2,3,7,8-TCDD	190		10	1.1
51207-31-9	2,3,7,8-TCDF	198		10	0.90
40321-76-4	1,2,3,7,8-PeCDD	904		50	2.3
57117-41-6	1,2,3,7,8-PeCDF	923		50	3.9
57117-31-4	2,3,4,7,8-PeCDF	902		50	3.8
39227-28-6	1,2,3,4,7,8-HxCDD	804		50	3.6
57653-85-7	1,2,3,6,7,8-HxCDD	835		50	3.7
19408-74-3	1,2,3,7,8,9-HxCDD	812		50	3.3
70648-26-9	1,2,3,4,7,8-HxCDF	813		50	7.6
57117-44-9	1,2,3,6,7,8-HxCDF	854		50	6.7
72918-21-9	1,2,3,7,8,9-HxCDF	830		50	4.3
60851-34-5	2,3,4,6,7,8-HxCDF	860		50	4.5
35822-46-9	1,2,3,4,6,7,8-HpCDD	760		50	8.6
67562-39-4	1,2,3,4,6,7,8-HpCDF	767		50	16
55673-89-7	1,2,3,4,7,8,9-HpCDF	778		50	19
3268-87-9	OCDD	1480		100	4.5
39001-02-0	OCDF	1550		100	2.7
41903-57-5	Total TCDD	190		10	1.1
30402-14-3	Total TCDF	198		10	0.90
36088-22-9	Total PeCDD	904		50	2.3
30402-15-4	Total PeCDF	1830		50	3.9
34465-46-8	Total HxCDD	2450		50	3.5
55684-94-1	Total HxCDF	3360		50	5.8
37871-00-4	Total HpCDD	760		50	8.6
38998-75-3	Total HpCDF	1550		50	18

FORM I
DIOXIN ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-2

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 320-324499/3-A

Matrix: Water Lab File ID: 18SE1910D5_50.d

Analysis Method: 1613B Date Collected:

Extract. Method: 1613B Date Extracted: 09/18/2019 13:24

Sample wt/vol: 1000(mL) Date Analyzed: 09/20/2019 01:30

Con. Extract Vol.: 20(uL) Dilution Factor: 1

Injection Volume: 2(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 324876 Units: pg/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
76523-40-5	13C-2,3,7,8-TCDD	69		20-175
89059-46-1	13C-2,3,7,8-TCDF	55		22-152
109719-79-1	13C-1,2,3,7,8-PeCDD	66		21-227
109719-77-9	13C-1,2,3,7,8-PeCDF	63		21-192
116843-02-8	13C-2,3,4,7,8-PeCDF	70		13-328
109719-80-4	13C-1,2,3,4,7,8-HxCDD	67		21-193
109719-81-5	13C-1,2,3,6,7,8-HxCDD	64		25-163
114423-98-2	13C-1,2,3,4,7,8-HxCDF	64		19-202
116843-03-9	13C-1,2,3,6,7,8-HxCDF	65		21-159
116843-04-0	13C-1,2,3,7,8,9-HxCDF	67		17-205
116843-05-1	13C-2,3,4,6,7,8-HxCDF	66		22-176
109719-83-7	13C-1,2,3,4,6,7,8-HpCDD	68		26-166
109719-84-8	13C-1,2,3,4,6,7,8-HpCDF	65		21-158
109719-94-0	13C-1,2,3,4,7,8,9-HpCDF	71		20-186
114423-97-1	13C-OCDD	65		13-199

CAS NO.	SURROGATE	%REC	Q	LIMITS
85508-50-5	37Cl4-2,3,7,8-TCDD	97		31-191

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_50.d
Lims ID: LCSD 320-324499/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 20-Sep-2019 01:30:49 ALS Bottle#: 51 Worklist Smp#: 50
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 320-324499/3-A LCSD 320-324499/3-A
Misc. Info.: 18SE1910D5
Operator ID: SMA, ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 20-Sep-2019 11:46:59 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0314

First Level Reviewer: stephensk Date: 20-Sep-2019 11:27:58

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,4-TCDD	17.270	40187887	0.77	9.6E+05	100.0	100.0				
D 13C-2,3,7,8-TCDF	16.786	31576672	0.82	1.4384	54.6	54.6	0.1683	0.1683	54.63	
2,3,7,8-TCDF	16.801	3292202	0.84	1.0507	9.923	9.923	0.0448	0.0448	99.23	
A Non-2,3,7,8-sub-TCDF	16.514						0.0448	0.0448		
S Total TCDF					9.923	9.923	0.0448	0.0448		
D 13C-2,3,7,8-TCDD	17.466	26295223	0.78	0.9533	68.6	68.6	0.2669	0.2669	68.63	
$ 37Cl4-2,3,7,8-TCDD	17.481	19153433		1.2224	39.0	39.0	0.0613	0.0613	97.47	
2,3,7,8-TCDD	17.481	2761088	0.75	1.1064	9.490	9.490	0.0561	0.0561	94.90	
A Non-2,3,7,8-sub-TCDD	16.952						0.0561	0.0561		
S Total TCDD					9.490	9.490	0.0561	0.0561		
D 13C-1,2,3,7,8-PeCDF	21.604	25920891	1.61	1.0286	62.7	62.7	0.1769	0.1769	62.71	
1,2,3,7,8-PeCDF	21.618	12948729	1.60	1.0822	46.2	46.2	0.1967	0.1967	92.32	
D 13C-2,3,4,7,8-PeCDF	22.886	27787581	1.59	0.9827	70.4	70.4	0.1851	0.1851	70.36	
2,3,4,7,8-PeCDF	22.913	13826567	1.61	1.1032	45.1	45.1	0.1887	0.1887	90.21	
A F1 PeCDFs	19.205						0.0299	0.0299		
A Non-2,3,7,8-sub-PeCDF	22.226	140007	1.36	1.0927	0.4771	0.4771	0.1927	0.4771	0.00	
S Total PeCDF					91.7	91.7	0.1927	0.1927		
D 13C-1,2,3,7,8-PeCDD	23.581	19747192	1.58	0.7481	65.7	65.7	0.1204	0.1204	65.68	
1,2,3,7,8-PeCDD	23.595	8073973	1.59	0.9050	45.2	45.2	0.1157	0.1157	90.35	
A Non-2,3,7,8-sub-PeCDD	22.559						0.1157	0.1157		
S Total PeCDD					45.2	45.2	0.1157	0.1157		
D 13C-1,2,3,4,7,8-HxCDF	29.682	19100896	0.53	1.1520	64.2	64.2	0.3461	0.3461	64.24	
1,2,3,4,7,8-HxCDF	29.722	9293562	1.31	1.1973	40.6	40.6	0.3822	0.3822	81.27	
D 13C-1,2,3,6,7,8-HxCDF	29.962	20740154	0.52	1.2434	64.6	64.6	0.3207	0.3207	64.63	
1,2,3,6,7,8-HxCDF	29.989	10461276	1.27	1.1807	42.7	42.7	0.3372	0.3372	85.44	
D 13C-2,3,4,6,7,8-HxCDF	31.000	20006689	0.52	1.1720	66.1	66.1	0.3402	0.3402	66.14	
2,3,4,6,7,8-HxCDF	31.027	10427561	1.28	1.2116	43.0	43.0	0.2246	0.2246	86.04	
D 13C-1,2,3,7,8,9-HxCDF	31.919	18433085	0.51	1.0655	67.0	67.0	0.3742	0.3742	67.03	
1,2,3,7,8,9-HxCDF	31.932	9523674	1.28	1.2451	41.5	41.5	0.2158	0.2158	82.99	
A Non-2,3,7,8-sub-HxCDF	29.503						0.2737	0.2737		
S Total HxCDF					167.9	167.9	0.2900	0.2900		

Report Date: 20-Sep-2019 11:47:22 Chrom Revision: 2.3 17-Sep-2019 16:19:08
Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_50.d

Compound	RT (min.)	Area	Ratio	Ical RRF	Amount pg/ul	EMPC pg/ul	Noise EDL	Final EDL	%Rec	Flags
* 13C-1,2,3,7,8,9-HxCDD	31.719	25809571	1.29	6.9E+05	100.0	100.0				
D 13C-1,2,3,4,7,8-HxCDD	31.226	13498734	1.29	0.7812	66.9	66.9	0.3921	0.3921	66.95	
1,2,3,4,7,8-HxCDD	31.240	6018795	1.24	1.1088	40.2	40.2	0.1791	0.1791	80.43	
D 13C-1,2,3,6,7,8-HxCDD	31.346	15238737	1.26	0.9175	64.4	64.4	0.3338	0.3338	64.36	
1,2,3,6,7,8-HxCDD	31.373	6876830	1.25	1.0814	41.7	41.7	0.1855	0.1855	83.46	
1,2,3,7,8,9-HxCDD	31.732	7074569	1.27	1.2123	40.6	40.6	0.1646	0.1646	81.23	
A Non-2,3,7,8-sub-HxCDD	30.089						0.1760	0.1760		
S Total HxCDD					122.6	122.6	0.1764	0.1764		
D 13C-1,2,3,4,6,7,8-HpCDF	33.435	14533080	0.44	0.8628	65.3	65.3	1.598	1.598	65.27	
1,2,3,4,6,7,8-HpCDF	33.447	8674926	1.04	1.5555	38.4	38.4	0.8085	0.8085	76.75	
D 13C-1,2,3,4,7,8,9-HpCDF	34.480	14691275	0.45	0.7991	71.2	71.2	1.725	1.725	71.24	
1,2,3,4,7,8,9-HpCDF	34.492	7917889	1.05	1.3862	38.9	38.9	0.9605	0.9605	77.76	
A Non-2,3,7,8-sub-HpCDF	33.982						0.8794	0.8794		
S Total HpCDF					77.3	77.3	0.8845	0.8845		
D 13C-1,2,3,4,6,7,8-HpCDD	34.201	15400643	1.03	0.8739	68.3	68.3	0.9485	0.9485	68.28	
1,2,3,4,6,7,8-HpCDD	34.213	5455446	1.08	0.9316	38.0	38.0	0.4294	0.4294	76.05	
A Non-2,3,7,8-sub-HpCDD	34.747						0.4294	0.4294		
S Total HpCDD					38.0	38.0	0.4294	0.4294		
D 13C-OCDD	36.457	26050571	0.89	0.7744	130.3	130.3	0.3979	0.3979	65.17	
OCDF	36.553	12718381	0.90	1.2596	77.5	77.5	0.1365	0.1365	77.52	
OCDD	36.469	10217721	0.93	1.0621	73.9	73.9	0.2263	0.2263	73.86	

Eurofins TestAmerica, Sacramento
Target Compound Quantitation Worksheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_50.d
Lims ID: LCSD 320-324499/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 20-Sep-2019 01:30:49 ALS Bottle#: 51 Worklist Smp#: 50
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 320-324499/3-A LCSD 320-324499/3-A
Misc. Info.: 18SE1910D5
Operator ID: SMA, ALM Instrument ID: 10D5

Method: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\Dioxin_10D5.m
Limit Group: HR - 1613B - ICAL
Last Update: 20-Sep-2019 11:46:59 Calib Date: 17-Sep-2019 16:55:33
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Sacramento\ChromData\10D5\20190917-83255.b\17SE1910D5_8.d

Column 1 : DB-5 (0.32 mm) Det: F1:HRSIR
Process Host: CTX0314

First Level Reviewer: stephensk Date: 20-Sep-2019 11:27:58

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
13C-1,2,3,4-TCDD											
331.9368	17.270	17.285	-1		17531065	4466344	7097	17742	629		
333.9339	17.270	17.285	-1		22656822	5825364	3379	8447	1724	0.77(0.65-0.89)	
13C-2,3,7,8-TCDF											
315.9419	16.786	16.786	0	0.972	14200893	3746518	6548	16370	572		
317.9389	16.786	16.786	0	0.972	17375779	4638345	3417	8542	1357	0.82(0.65-0.89)	
2,3,7,8-TCDF											
303.9016	16.801	16.816	-1	1.001	1505750	396798	538	1345	738		
305.8987	16.801	16.816	-1	1.001	1786452	470363	1041	2602	452	0.84(0.65-0.89)	
A Non-2,3,7,8-sub-TCDF											
303.9016	16.514						538	1345			
305.8987	16.514						1041	2602			
13C-2,3,7,8-TCDD											
331.9368	17.466	17.466	0	1.011	11549520	2768269	7097	17742	390		
333.9339	17.466	17.466	0	1.011	14745703	3545846	3379	8447	1049	0.78(0.65-0.89)	
37Cl4-2,3,7,8-TCDD											
327.8847	17.481	17.481	0	1.012	19153433	4756071	3083	7707	1543		
2,3,7,8-TCDD											
319.8965	17.481	17.497	-1	1.001	1186943	291507	1029	2572	283		
321.8936	17.481	17.497	-1	1.001	1574145	384825	539	1347	714	0.75(0.65-0.89)	
A Non-2,3,7,8-sub-TCDD											
319.8965	16.952						1029	2572			
321.8936	16.952						539	1347			
13C-1,2,3,7,8-PeCDF											
351.9000	21.604	21.604	0	1.251	15972001	2948007	4558	11395	647		
353.8970	21.590	21.604	-1	1.250	9948890	1819103	2931	7327	621	1.61(1.32-1.78)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8-PeCDF											
339.8597	21.618	21.631	-1	1.001	7973252	1464198	2352	5880	623		
341.8567	21.618	21.631	-1	1.001	4975477	916368	1708	4270	537	1.60(1.32-1.78)	
13C-2,3,4,7,8-PeCDF											
351.9000	22.886	22.900	-1	1.325	17065250	2951385	4558	11395	648		
353.8970	22.886	22.900	-1	1.325	10722331	1924537	2931	7327	657	1.59(1.32-1.78)	
2,3,4,7,8-PeCDF											
339.8597	22.913	22.927	-1	1.001	8531770	1485758	2352	5880	632		
341.8567	22.913	22.927	-1	1.001	5294797	945451	1708	4270	554	1.61(1.32-1.78)	
A F1 PeCDFs											
339.8597	19.205						162	405			
341.8567	19.205						468	1170			
A Non-2,3,7,8-sub-PeCDF											
339.8597	22.122	22.226	-6	1.024	80657	11290	2352	5880	5		
341.8567	22.122	22.226	-6	1.024	59350	8675	1708	4270	5	1.36(1.32-1.78)	
13C-1,2,3,7,8-PeCDD											
367.8949	23.581	23.595	-1	1.365	12080365	1931510	2268	5670	852		
369.8919	23.581	23.595	-1	1.365	7666827	1248613	1439	3597	868	1.58(1.32-1.78)	
1,2,3,7,8-PeCDD											
355.8546	23.595	23.622	-2	1.001	4955487	781173	875	2187	893		
357.8516	23.609	23.622	-1	1.001	3118486	480122	457	1142	1051	1.59(1.32-1.78)	
A Non-2,3,7,8-sub-PeCDD											
355.8546	22.559						875	2187			
357.8516	22.559						457	1142			
13C-1,2,3,4,7,8-HxCDF											
383.8639	29.682	29.709	-2	0.936	6619649	936649	3444	8610	272		
385.8610	29.682	29.709	-2	0.936	12481247	1668258	6433	16082	259	0.53(0.43-0.59)	
1,2,3,4,7,8-HxCDF											
373.8208	29.722	29.749	-2	1.001	5275891	734647	2469	6172	298		
375.8178	29.722	29.749	-2	1.001	4017671	548596	2300	5750	239	1.31(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDF											
383.8639	29.962	29.975	-1	0.945	7124202	1065813	3444	8610	309		
385.8610	29.962	29.975	-1	0.945	13615952	1928895	6433	16082	300	0.52(0.43-0.59)	
1,2,3,6,7,8-HxCDF											
373.8208	29.989	30.002	-1	1.001	5856074	869503	2469	6172	352		
375.8178	29.975	30.002	-2	1.000	4605202	668811	2300	5750	291	1.27(1.05-1.43)	
13C-2,3,4,6,7,8-HxCDF											
383.8639	31.000	31.013	-1	0.977	6803554	1472223	3444	8610	427		
385.8610	31.000	31.013	-1	0.977	13203135	2909446	6433	16082	452	0.52(0.43-0.59)	
2,3,4,6,7,8-HxCDF											
373.8208	31.027	31.040	-1	1.001	5856470	1260193	2469	6172	510		
375.8178	31.027	31.040	-1	1.001	4571091	1009633	2300	5750	439	1.28(1.05-1.43)	
13C-1,2,3,7,8,9-HxCDF											
383.8639	31.919	31.919	0	1.006	6204450	1483477	3444	8610	431		
385.8610	31.919	31.919	0	1.006	12228635	2953164	6433	16082	459	0.51(0.43-0.59)	

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,7,8,9-HxCDF											
373.8208	31.932	31.945	-1	1.000	5347482	1310210	2469	6172	531		
375.8178	31.932	31.945	-1	1.000	4176192	1010318	2300	5750	439	1.28(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDF											
373.8208	29.503						2469	6172			
375.8178	29.503						2300	5750			
13C-1,2,3,7,8,9-HxCDD											
401.8559	31.719	31.732	-1		14526239	3514243	3980	9950	883		
403.8529	31.719	31.732	-1		11283332	2678347	3607	9017	743	1.29(1.05-1.43)	
13C-1,2,3,4,7,8-HxCDD											
401.8559	31.226	31.240	-1	0.984	7607822	1902758	3980	9950	478		
403.8529	31.226	31.240	-1	0.984	5890912	1493763	3607	9017	414	1.29(1.05-1.43)	
1,2,3,4,7,8-HxCDD											
389.8157	31.240	31.253	-1	1.000	3336929	823635	1398	3495	589		
391.8127	31.240	31.253	-1	1.000	2681866	687650	1300	3250	529	1.24(1.05-1.43)	
13C-1,2,3,6,7,8-HxCDD											
401.8559	31.346	31.360	-1	0.988	8484231	1852930	3980	9950	466		
403.8529	31.346	31.360	-1	0.988	6754506	1509885	3607	9017	419	1.26(1.05-1.43)	
1,2,3,6,7,8-HxCDD											
389.8157	31.373	31.373	0	1.001	3816059	853504	1398	3495	611		
391.8127	31.373	31.373	0	1.001	3060771	686614	1300	3250	528	1.25(1.05-1.43)	
1,2,3,7,8,9-HxCDD											
389.8157	31.732	31.746	-1	1.016	3952454	939030	1398	3495	672		
391.8127	31.732	31.746	-1	1.016	3122115	737974	1300	3250	568	1.27(1.05-1.43)	
A Non-2,3,7,8-sub-HxCDD											
389.8157	30.089						1398	3495			
391.8127	30.089						1300	3250			
13C-1,2,3,4,6,7,8-HpCDF											
417.8253	33.435	33.447	-1	1.054	4447873	1393769	11619	29047	120		
419.8220	33.435	33.447	-1	1.054	10085207	3286369	22532	56330	146	0.44(0.37-0.51)	
1,2,3,4,6,7,8-HpCDF											
407.7818	33.447	33.460	-1	1.000	4415191	1455459	11956	29890	122		
409.7789	33.447	33.460	-1	1.000	4259735	1376445	11587	28967	119	1.04(0.88-1.20)	
13C-1,2,3,4,7,8,9-HpCDF											
417.8253	34.480	34.492	-1	1.087	4559630	1385528	11619	29047	119		
419.8220	34.480	34.492	-1	1.087	10131645	3034950	22532	56330	135	0.45(0.37-0.51)	
1,2,3,4,7,8,9-HpCDF											
407.7818	34.492	34.505	-1	1.000	4050272	1202745	11956	29890	101		
409.7789	34.492	34.505	-1	1.000	3867617	1123363	11587	28967	97	1.05(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDF											
407.7818	33.982						11956	29890			
409.7789	33.982						11587	28967			
13C-1,2,3,4,6,7,8-HpCDD											
435.8169	34.201	34.213	-1	1.078	7807293	2321504	10699	26747	217		
437.8140	34.201	34.213	-1	1.078	7593350	2224353	9832	24580	226	1.03(0.88-1.20)	

Report Date: 20-Sep-2019 11:47:22 Chrom Revision: 2.3 17-Sep-2019 16:19:08
Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_50.d

Signal	RT (min.)	Exp RT (min.)	Sec.	REL RT	Area	Height	Avg Noise	EDL Height	S/N	Ratio(Limits)	Flags
1,2,3,4,6,7,8-HpCDD											
423.7766	34.213	34.225	-1	1.000	2834982	840272	3922	9805	214		
425.7737	34.213	34.225	-1	1.000	2620464	785350	3352	8380	234	1.08(0.88-1.20)	
A Non-2,3,7,8-sub-HpCDD											
423.7766	34.747						3922	9805			
425.7737	34.747						3352	8380			
13C-OCDD											
469.7779	36.457	36.469	-1	1.149	12263020	3063222	2648	6620	1157		
471.7750	36.457	36.469	-1	1.149	13787551	3548796	4985	12462	712	0.89(0.76-1.02)	
OCDF											
441.7428	36.553	36.565	-1	1.003	6009841	1543665	885	2212	1744		
443.7399	36.553	36.565	-1	1.003	6708540	1759817	1389	3472	1267	0.90(0.76-1.02)	
OCDD											
457.7377	36.469	36.481	-1	1.000	4919472	1235885	1736	4340	712		
459.7348	36.469	36.481	-1	1.000	5298249	1379986	1443	3607	956	0.93(0.76-1.02)	

Eurofins TestAmerica, Sacramento
AreaSum WorkSheet Report

Data File: \\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_50.d
Lims ID: LCSD 320-324499/3-A
Client ID:
Inject. Date: 20-Sep-2019 01:30:49 Dil. Factor: 1.0000
Sample Type: LCSD, LCS Duplicate
Instrument ID: 10D5 Operator: SMA, ALM
Lims Batch ID: 324876 Lims Sample ID: 50

Non-2,3,7,8-sub-PeCDF, RT: 22.226

Initial Calibration RRF IsoDil Std Amount Added and Responses

Target Compound	RRF	Iso Dil Std Compound	Amount pg/ul	Area	Height
1,2,3,7,8-PeCDF	1.082	D 13C-1,2,3,7,8-PeCDF	100.000	25920891	4767110
2,3,4,7,8-PeCDF	1.103	D 13C-2,3,4,7,8-PeCDF	100.000	27787581	4875922

Averages:

	RRFn		Qis	Ris Area	Ris Height
	1.093		100.000	26854236	4821516

Sum the Uncalibrated Results

RT	339.8597 Area	339.8597 Height	341.8567 Area	341.8567 Height	Amount	Ratio	Flags
22.122	80657	11290	59350	8675	0.4771	1.36	
Signal Totals:							
	80657	11290	59350	8675			

Total Responses:

	Rx Area	Rx Height			Amount	Ratio	Flags
	140007	19965				1.36	

On-Column Amount = (Rx * Qis) / (Ris * RRFn)
Quant By: Area

Amount: 0.4771 = (140007 * 100.000) / (26854236 * 1.093)

Report Date: 20-Sep-2019 11:47:22 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_50.d		
Injection Date:	20-Sep-2019 01:30:49	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	50
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

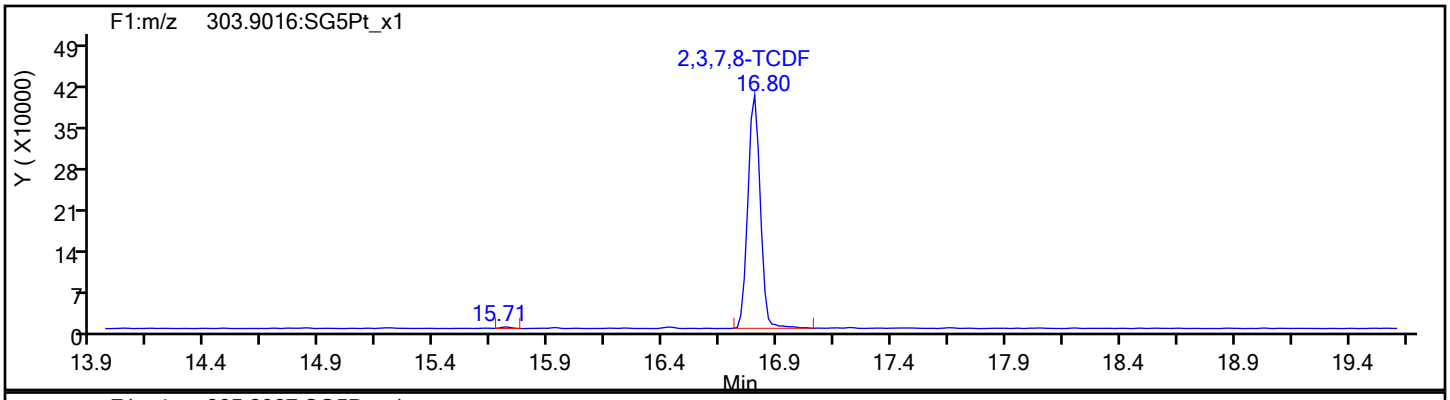

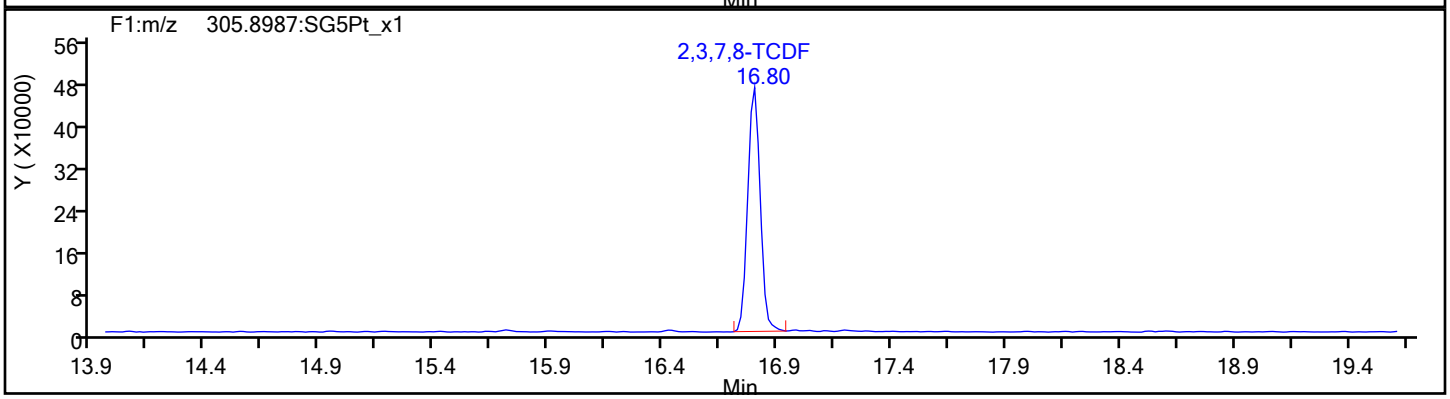

TCDF Standards

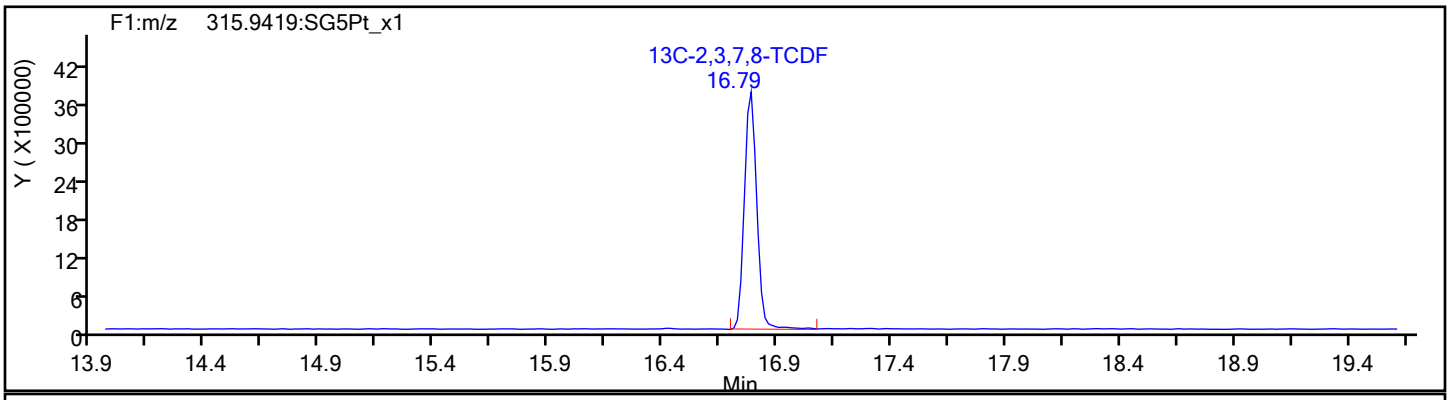

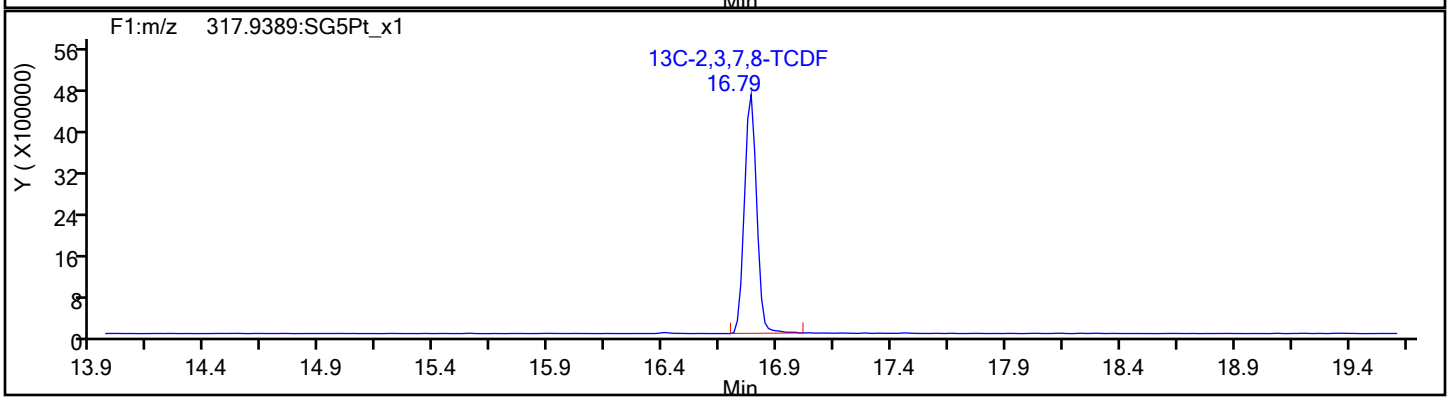

Report Date: 20-Sep-2019 11:47:22 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_50.d		
Injection Date:	20-Sep-2019 01:30:49	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	50
Column Type:	DB-5	Column Dia:	0.32 mm

TCDF

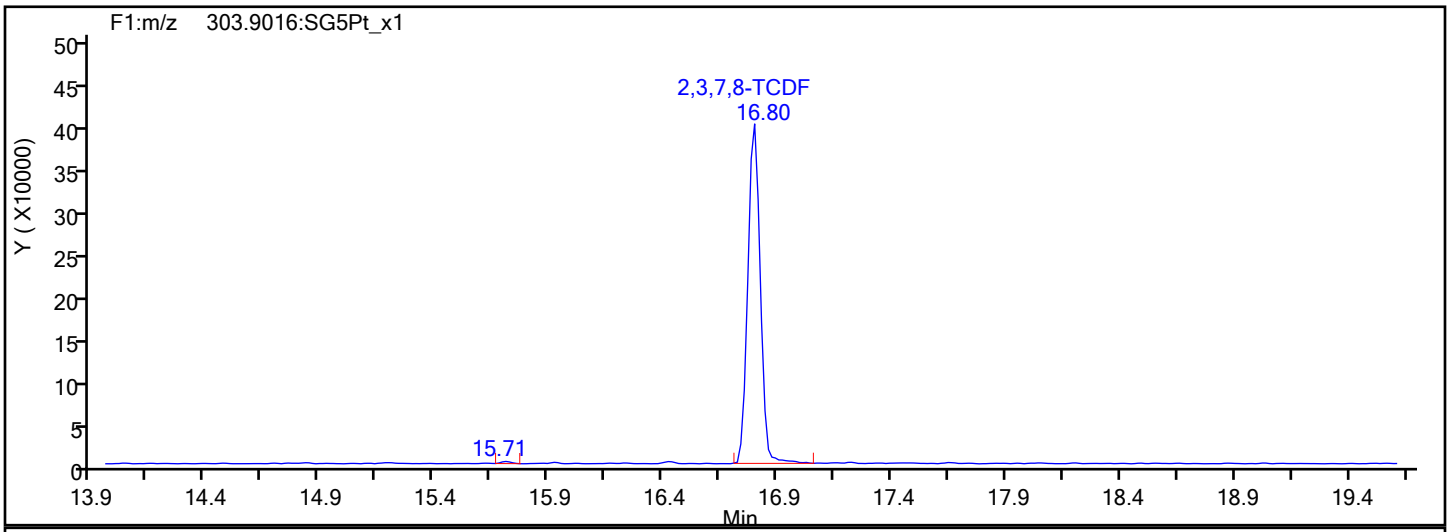

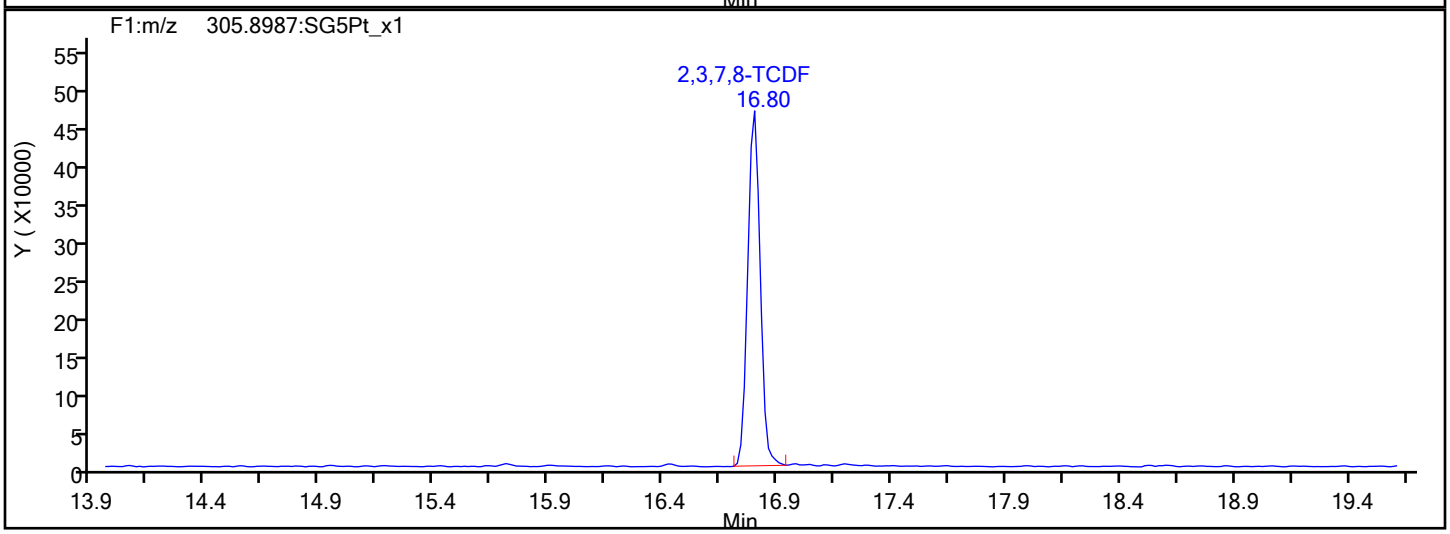

TCDF Interference Mass

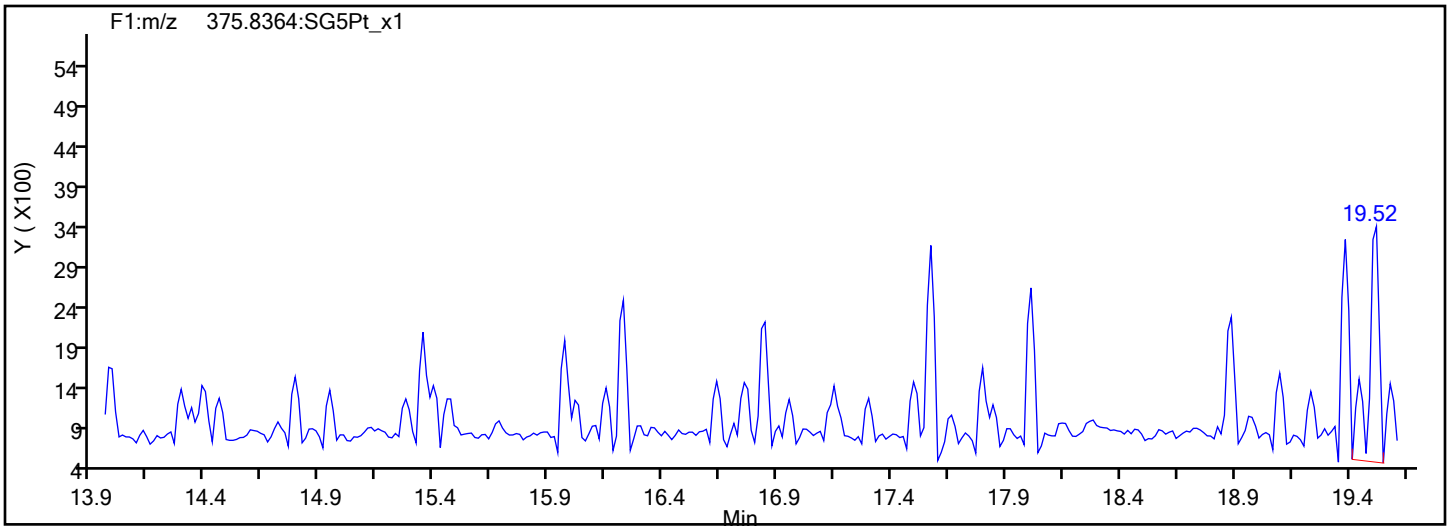

Report Date: 20-Sep-2019 11:47:22 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_50.d		
Injection Date:	20-Sep-2019 01:30:49	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	50
Column Type:	DB-5	Column Dia:	0.32 mm

TCDD

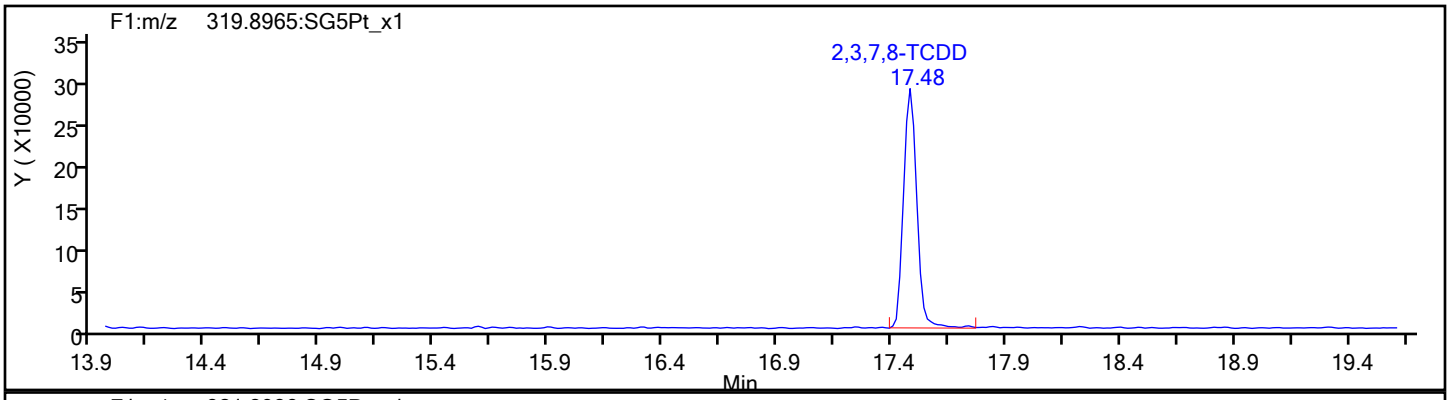

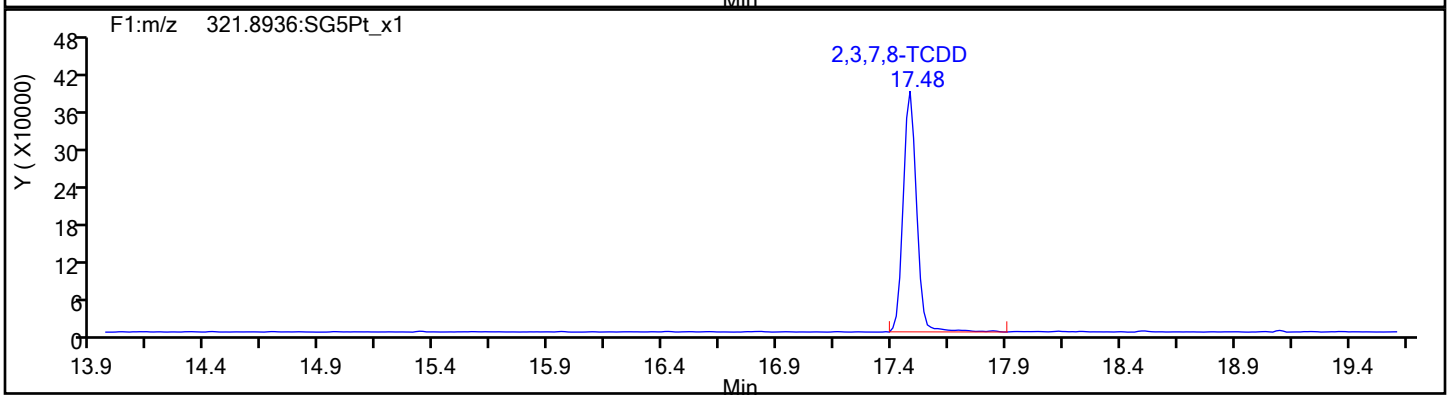

TCDD Standards

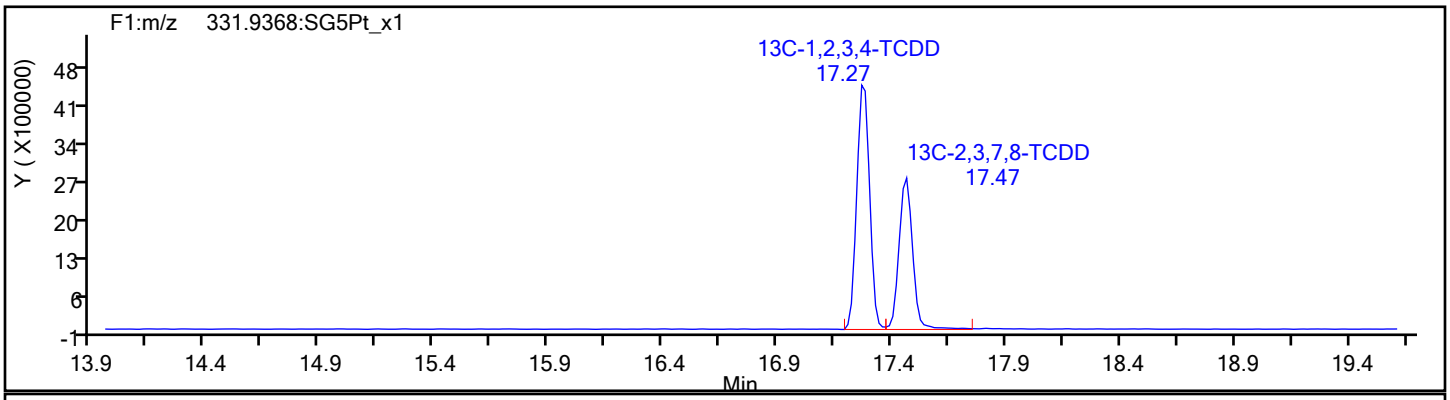

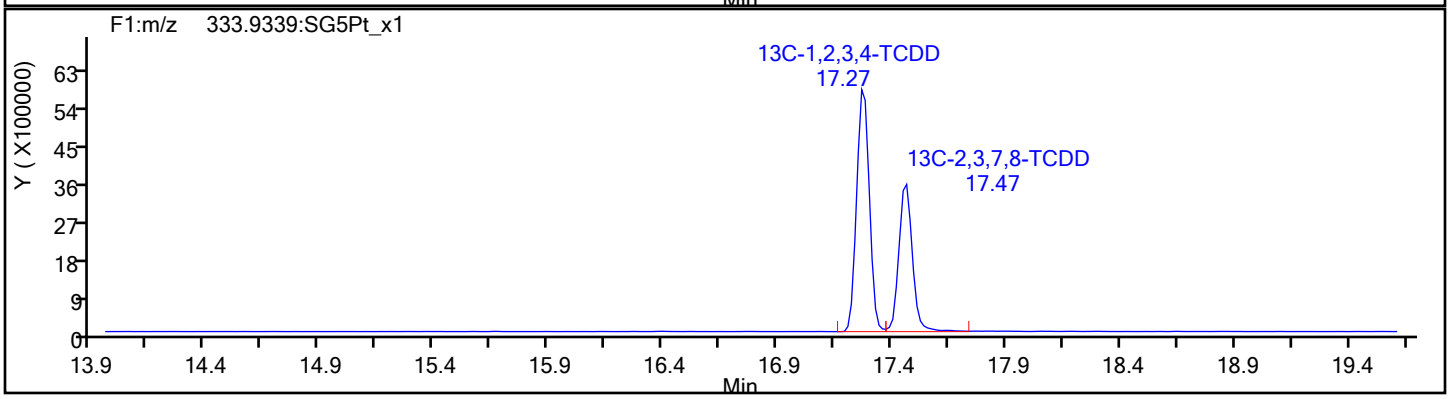

Report Date: 20-Sep-2019 11:47:22 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	50
Column Type:	DB-5	Column Dia:	0.32 mm

37Cl4-TCDD

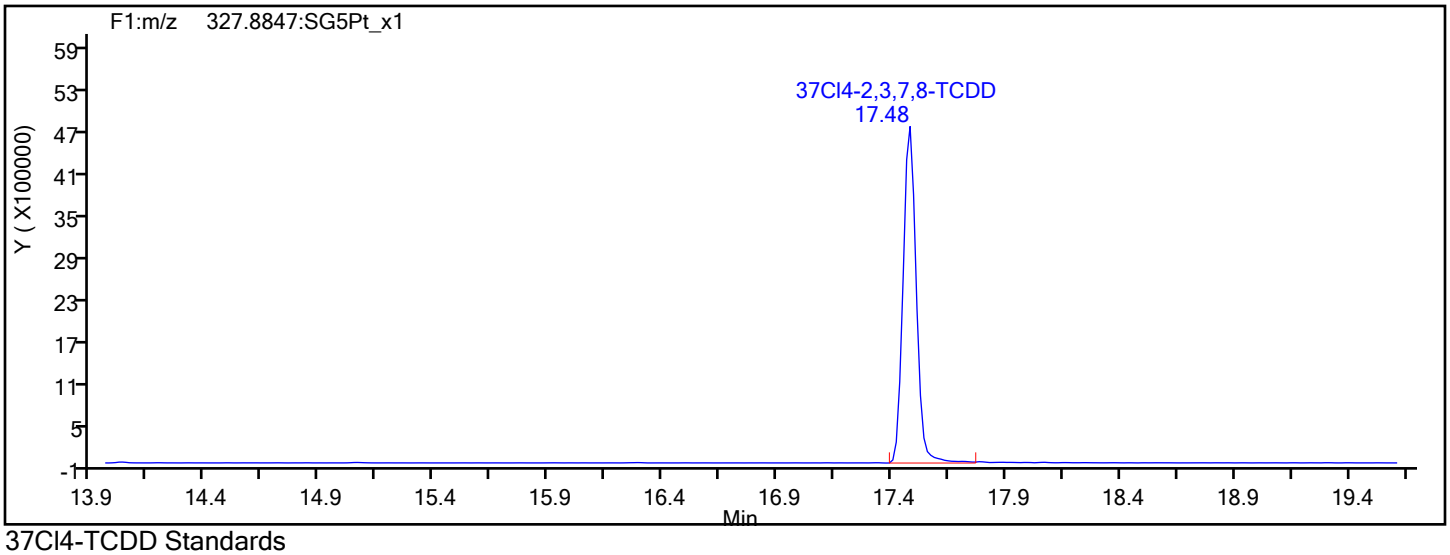

37Cl4-TCDD Standards

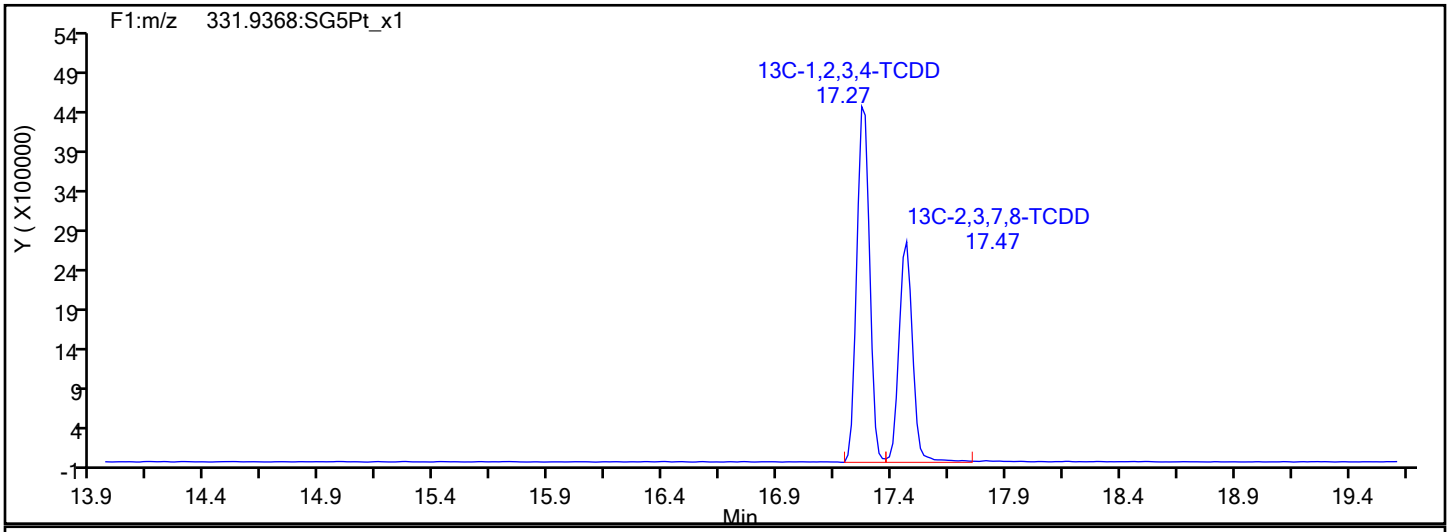

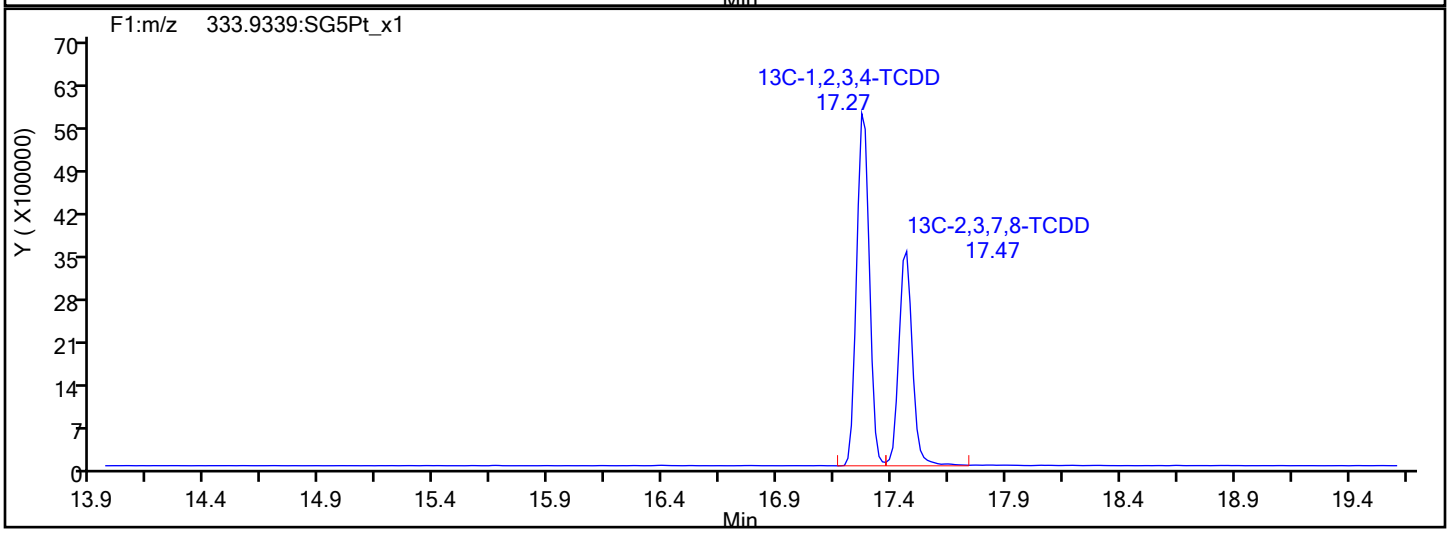

Report Date: 20-Sep-2019 11:47:22 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

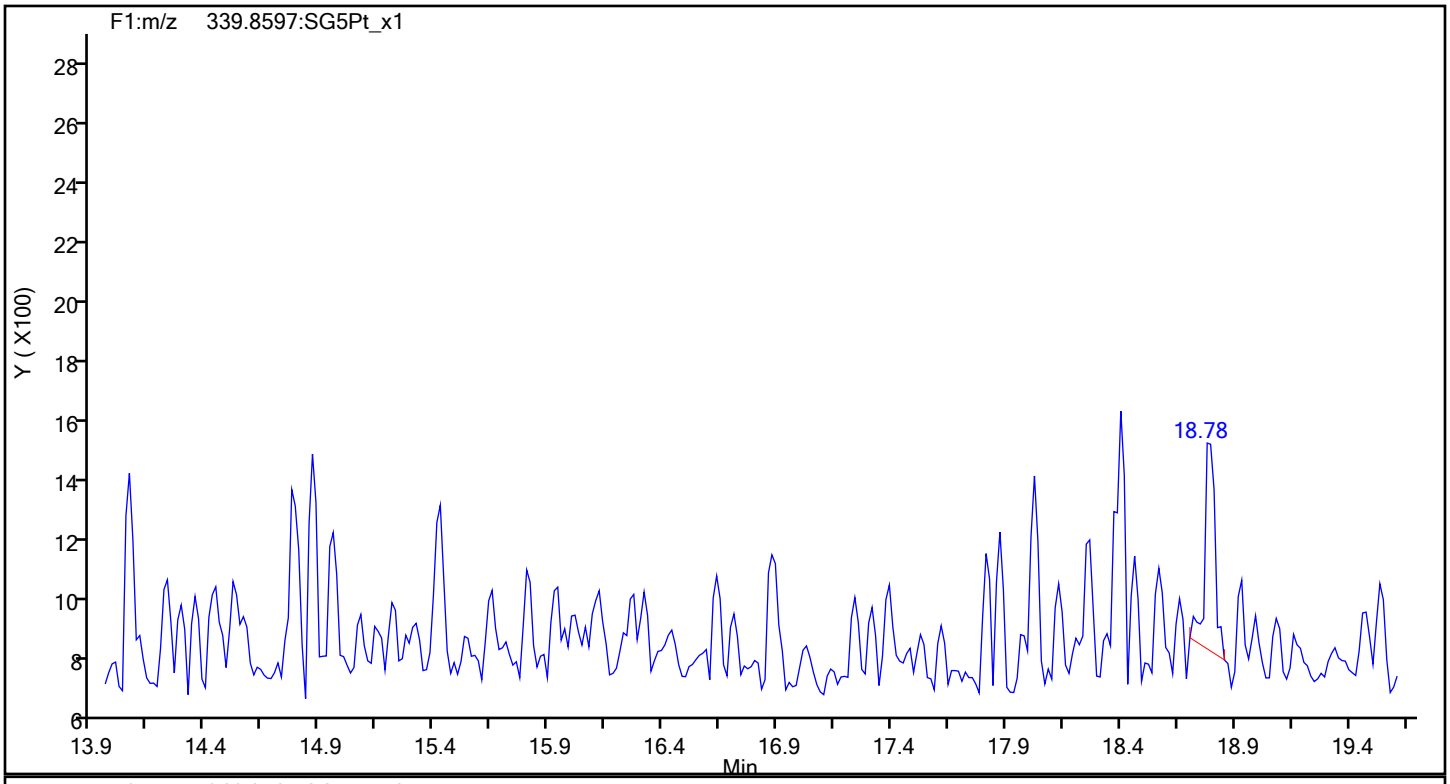

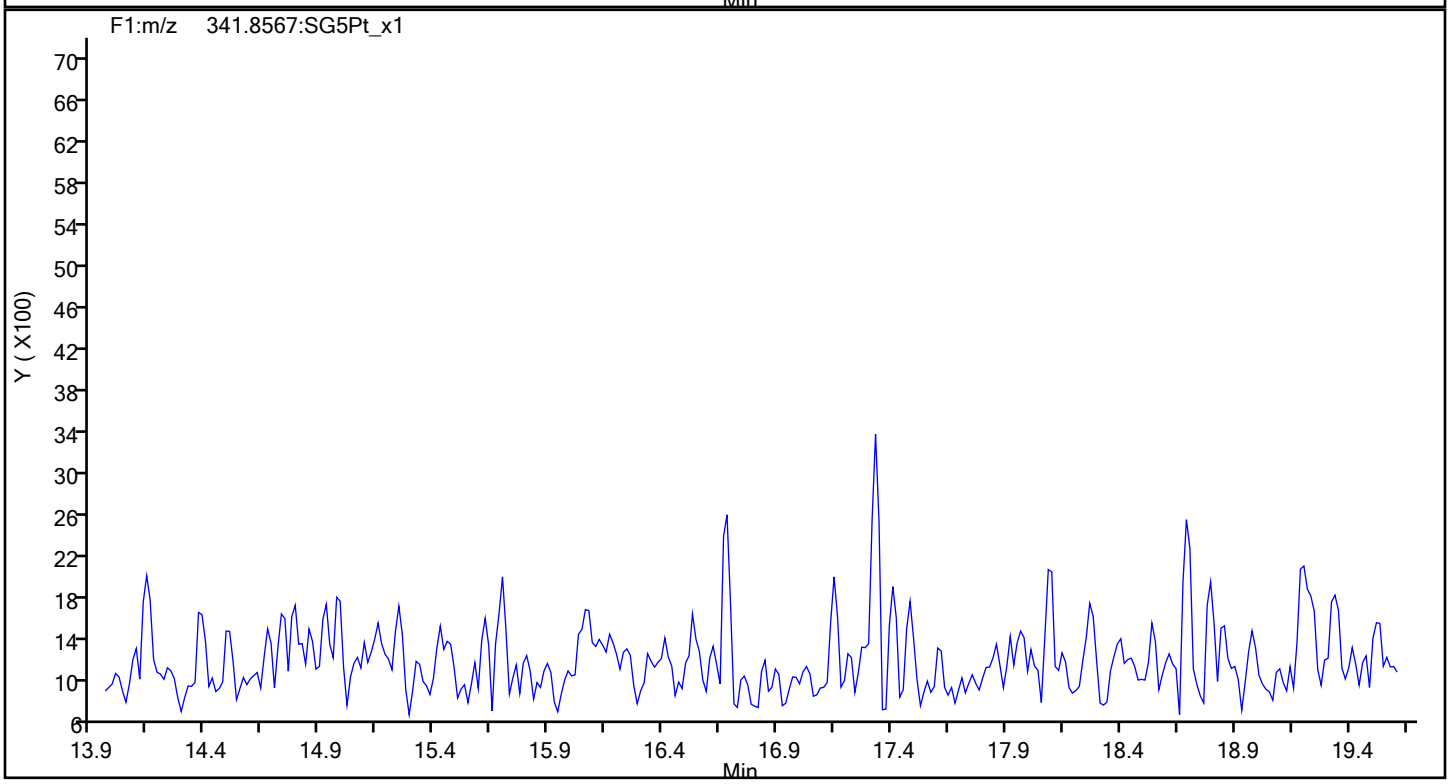

Report Date: 20-Sep-2019 11:47:22 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

F1 PeCDFs

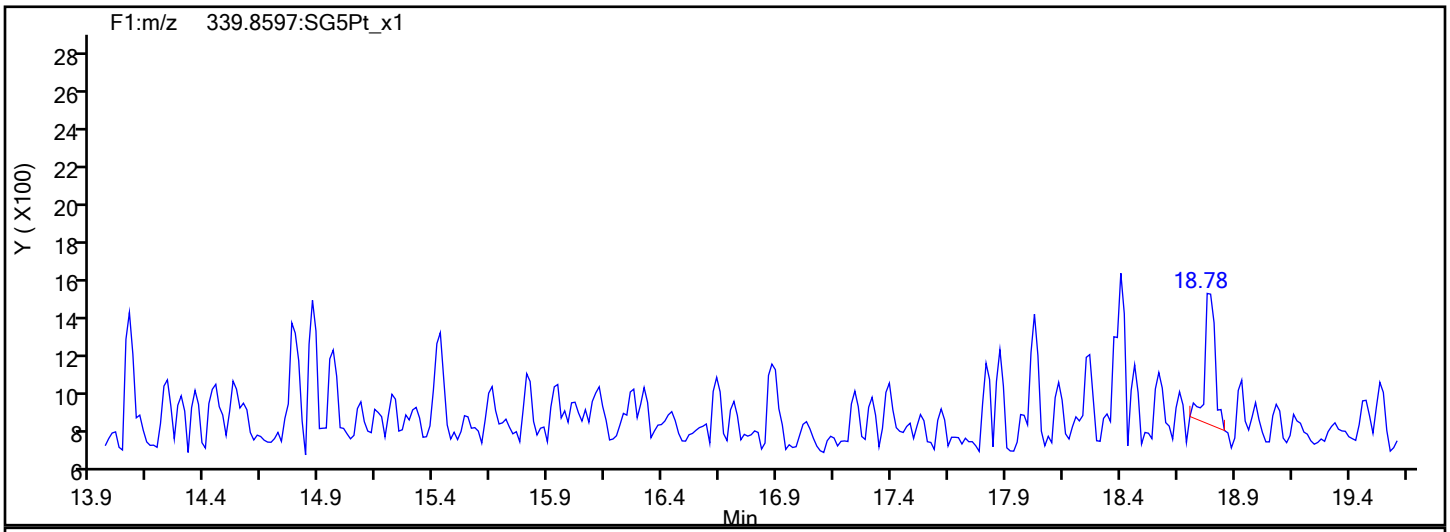

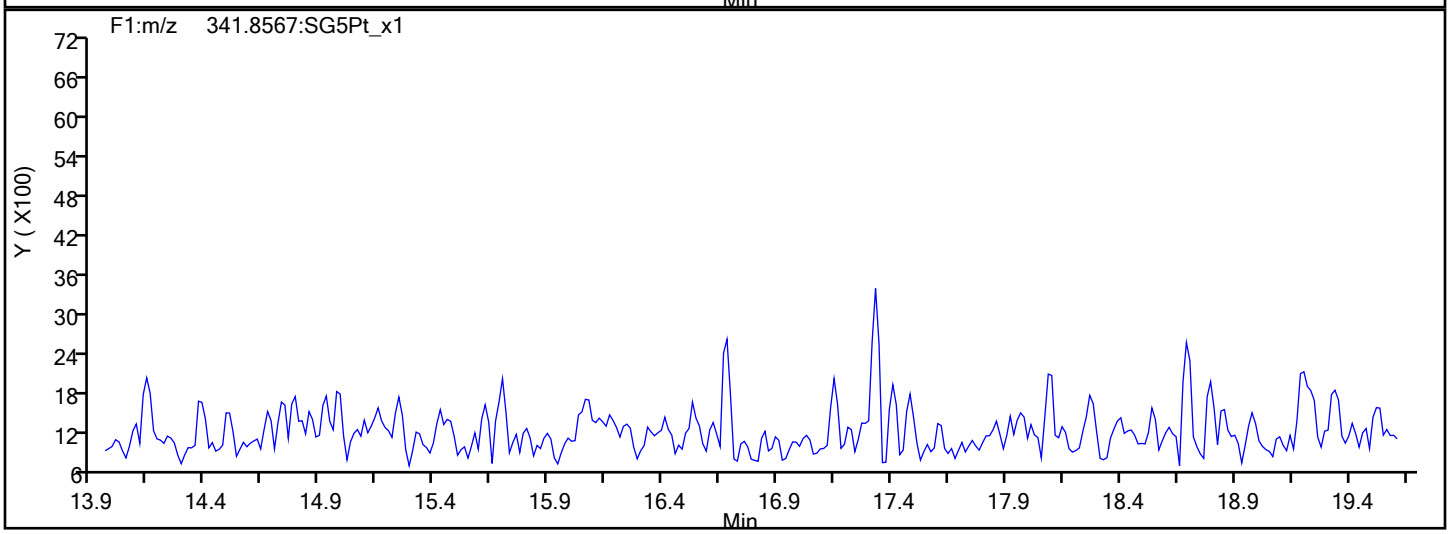

F1 PeCDFs Interference Mass

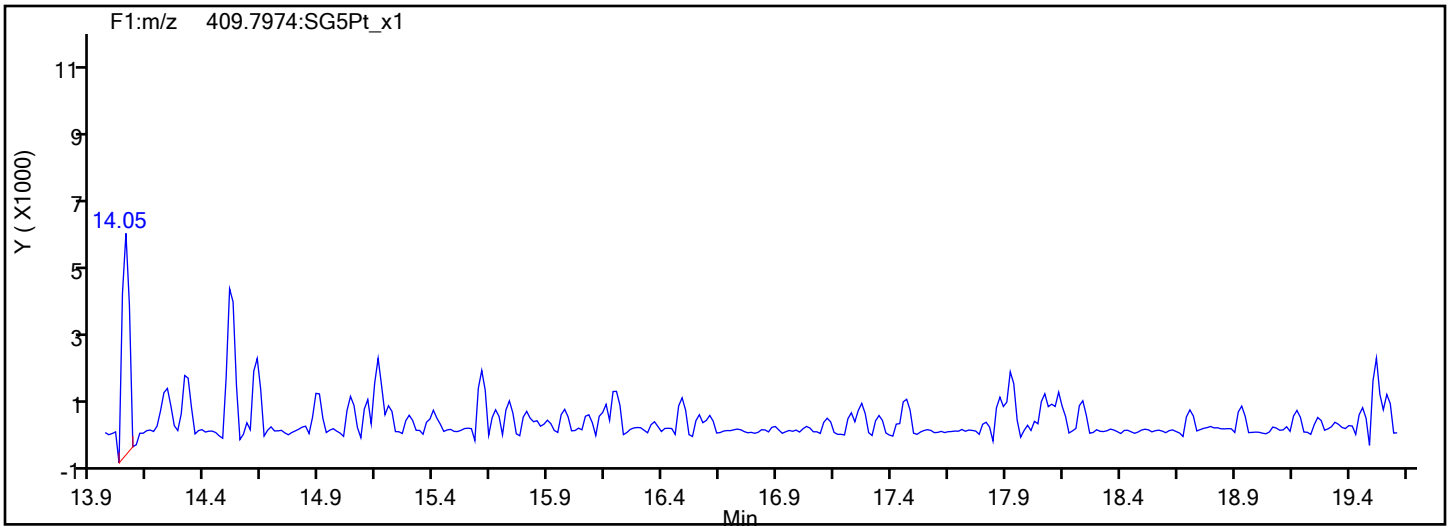

Report Date: 20-Sep-2019 11:47:22 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_50.d		
Injection Date:	20-Sep-2019 01:30:49	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
Worklist#:	324876	Sample Line#:	50
Column Type:	DB-5	Column Dia:	0.32 mm

PeCDF

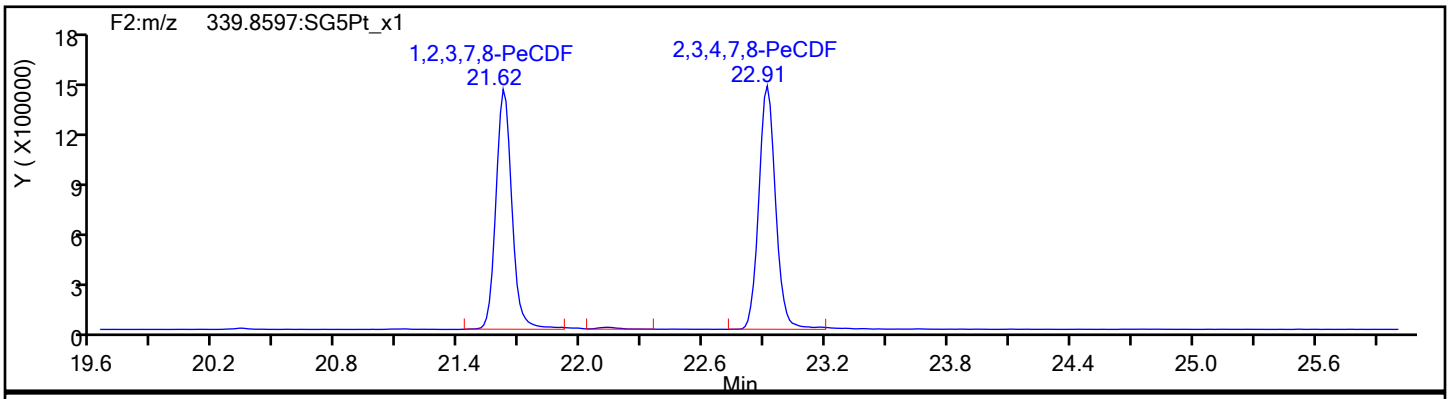

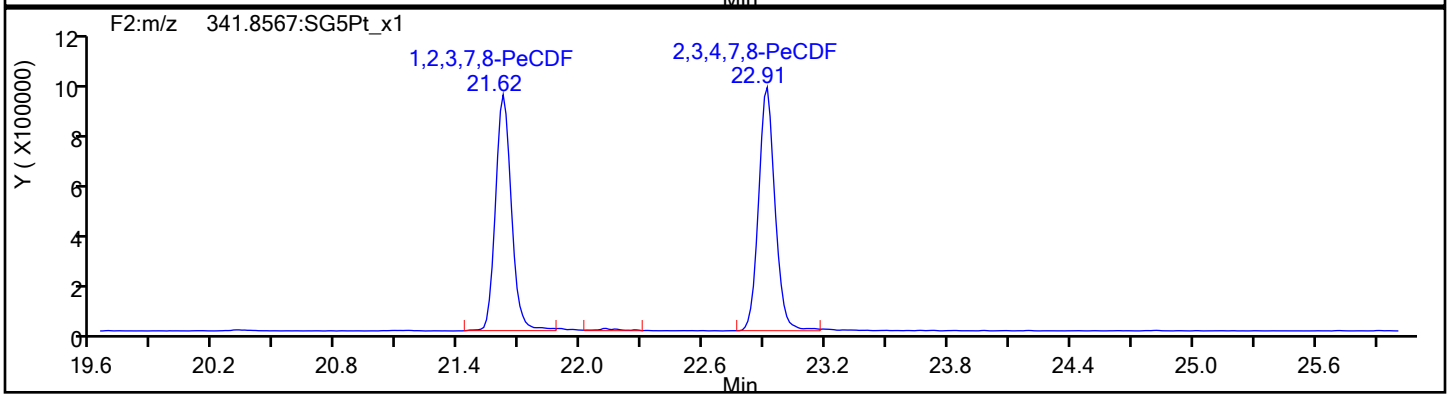

PeCDF Standards

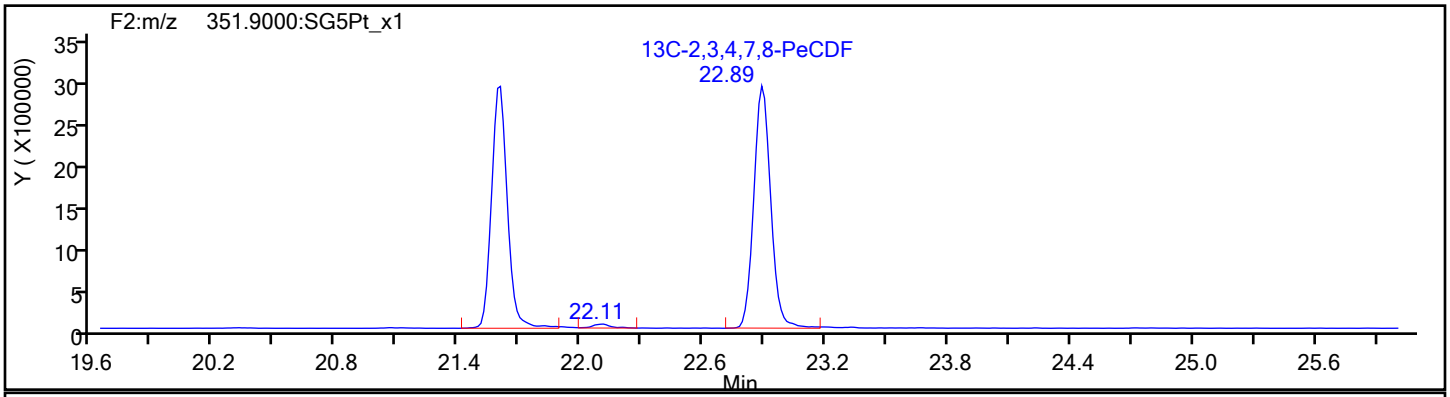

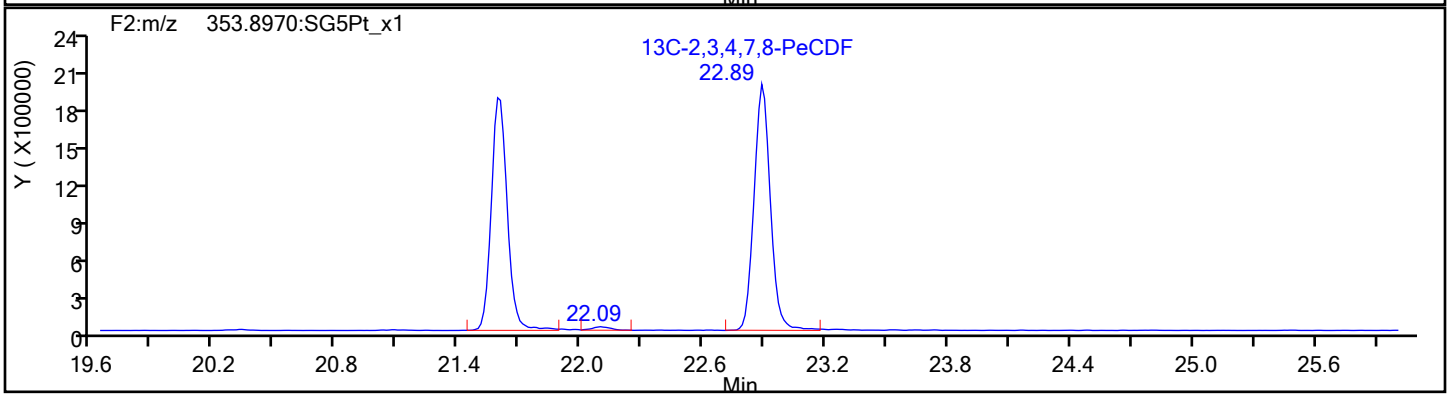

Report Date: 20-Sep-2019 11:47:23 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_50.d		
Injection Date:	20-Sep-2019 01:30:49	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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PeCDF

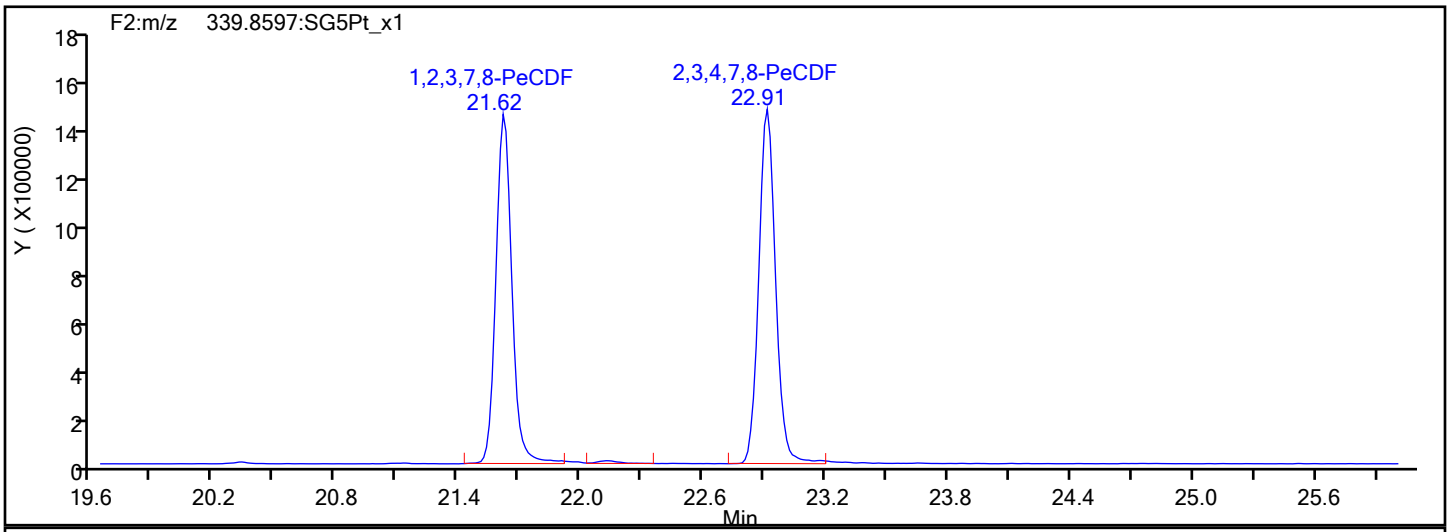

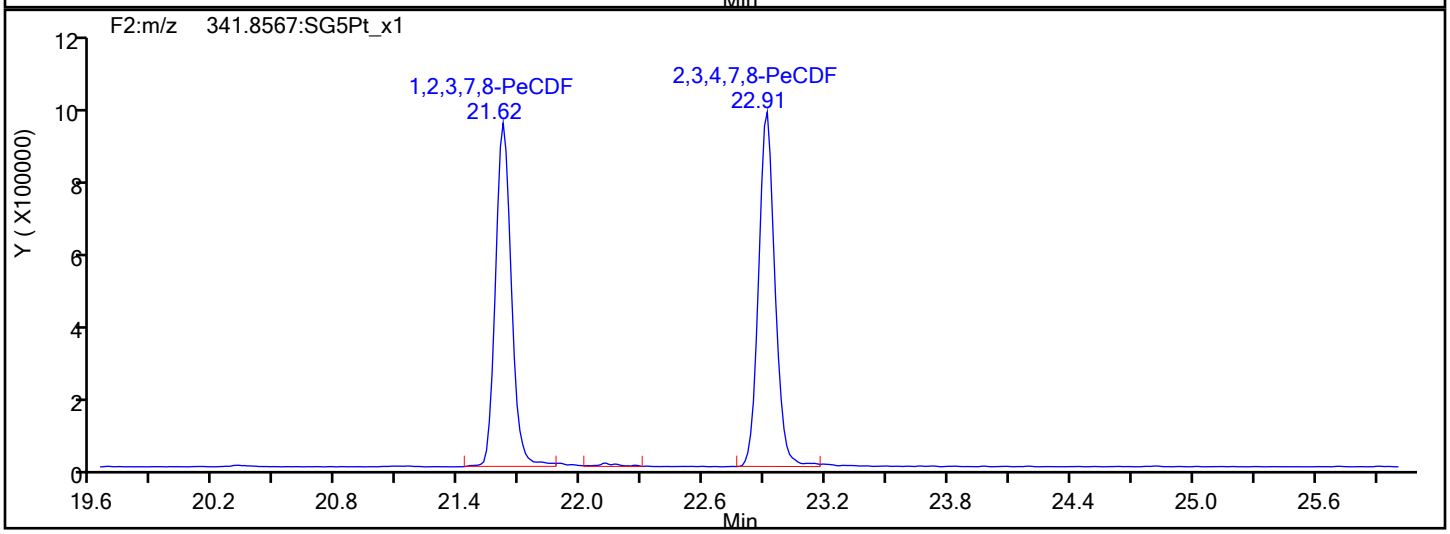

PeCDF Interference Mass

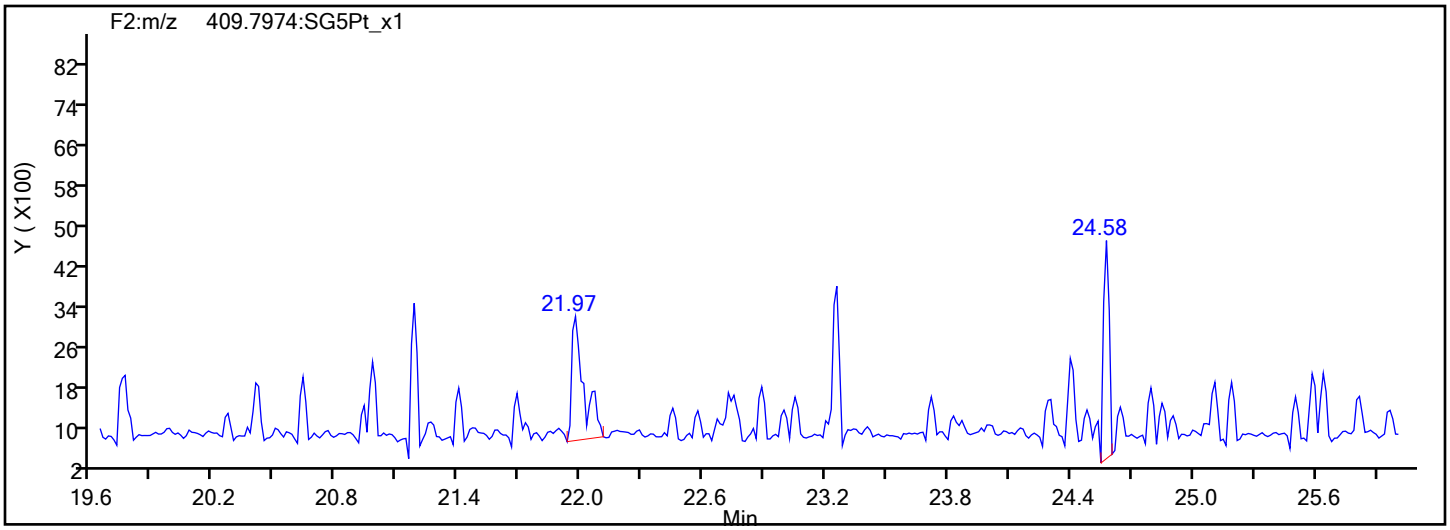

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Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_50.d		
Injection Date:	20-Sep-2019 01:30:49	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
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Column Type:	DB-5	Column Dia:	0.32 mm

PeCDD

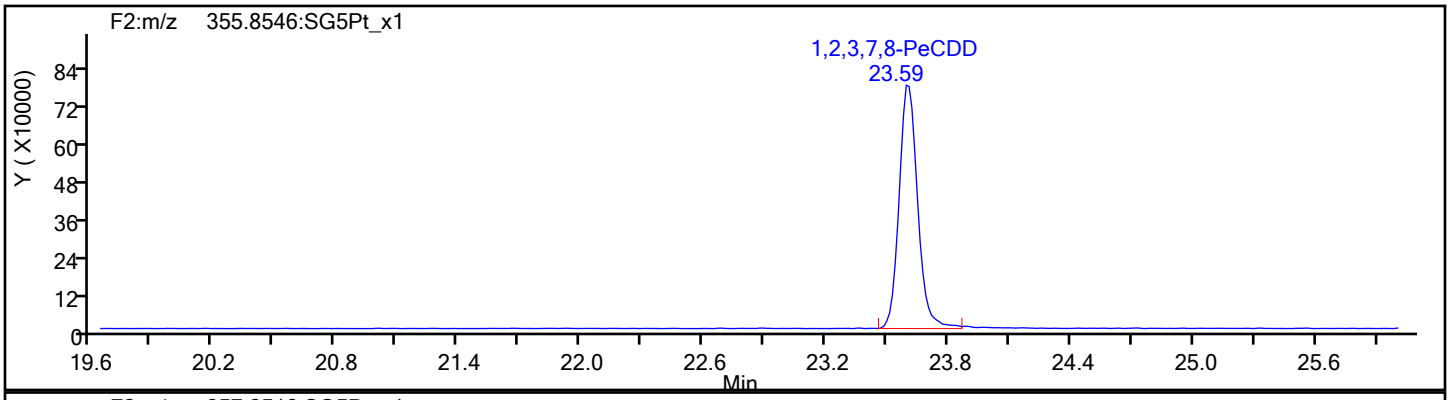

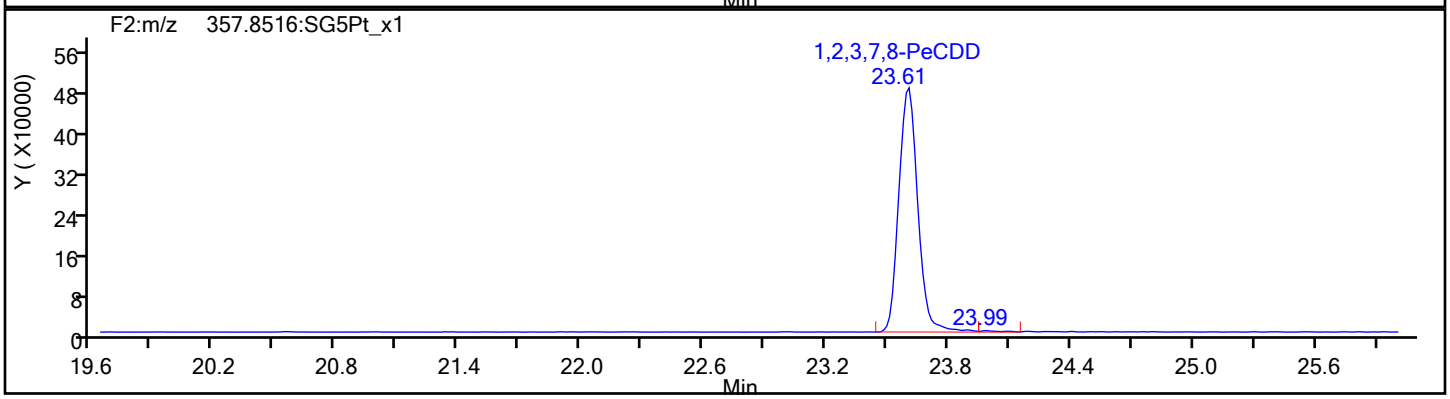

PeCDD Standards

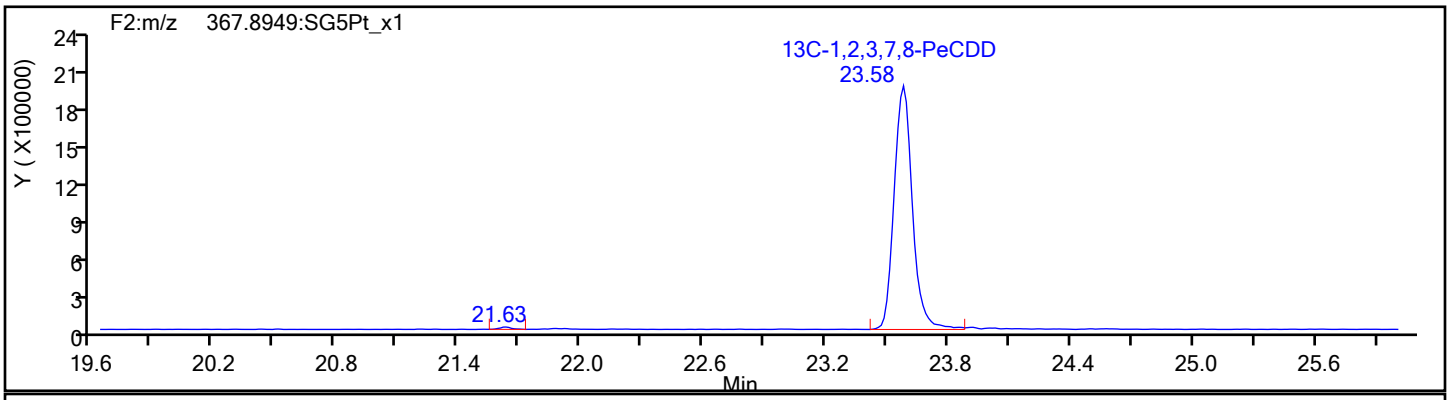

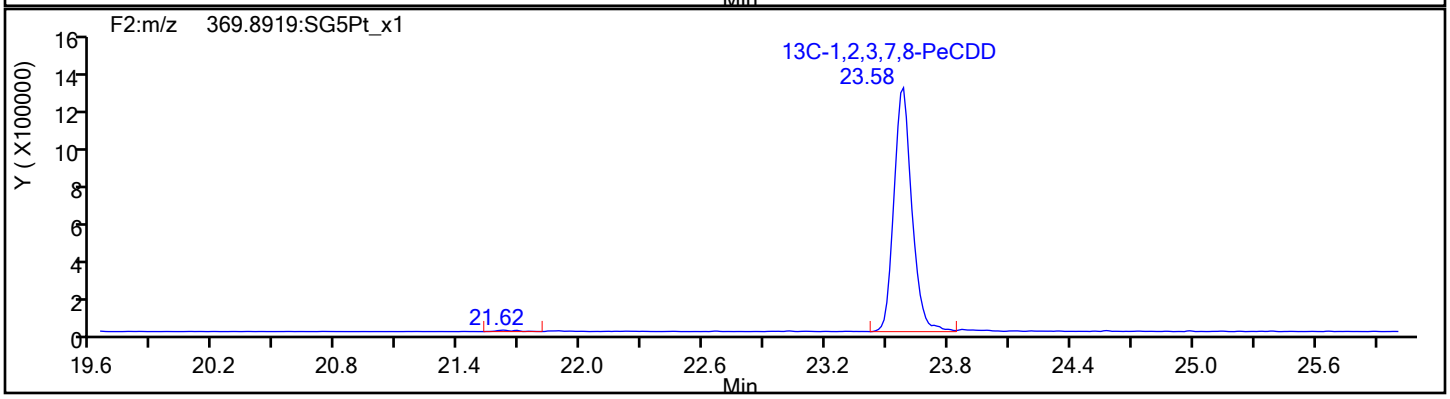

Report Date: 20-Sep-2019 11:47:23 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_50.d		
Injection Date:	20-Sep-2019 01:30:49	Injection Vol:	2.0 ul
Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

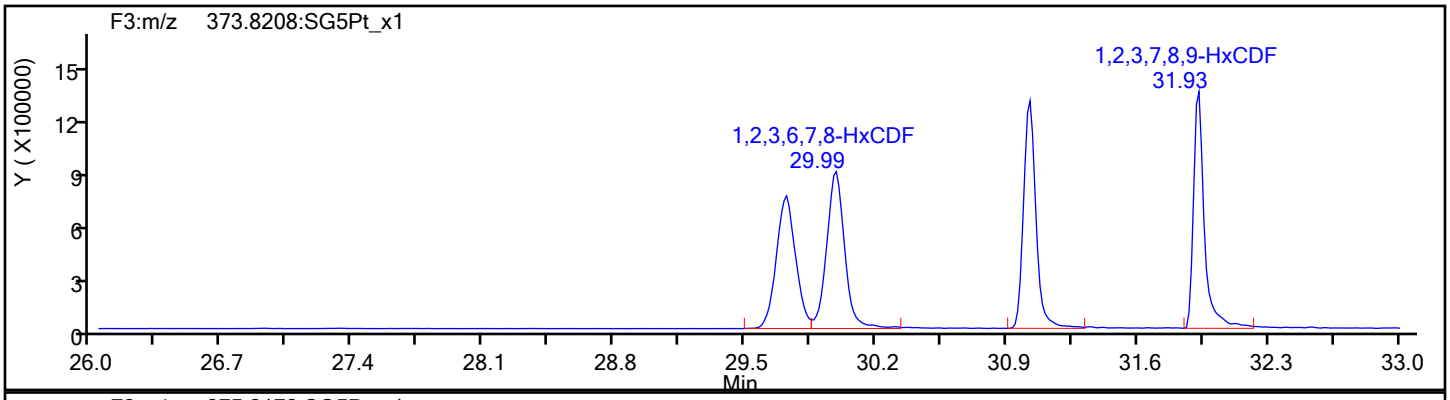

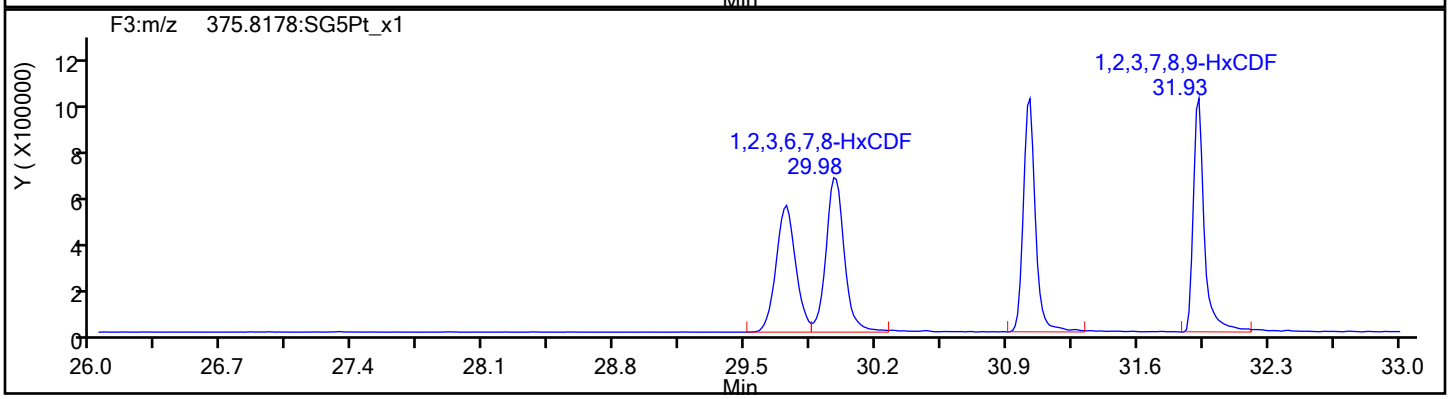

HxCDF Standards

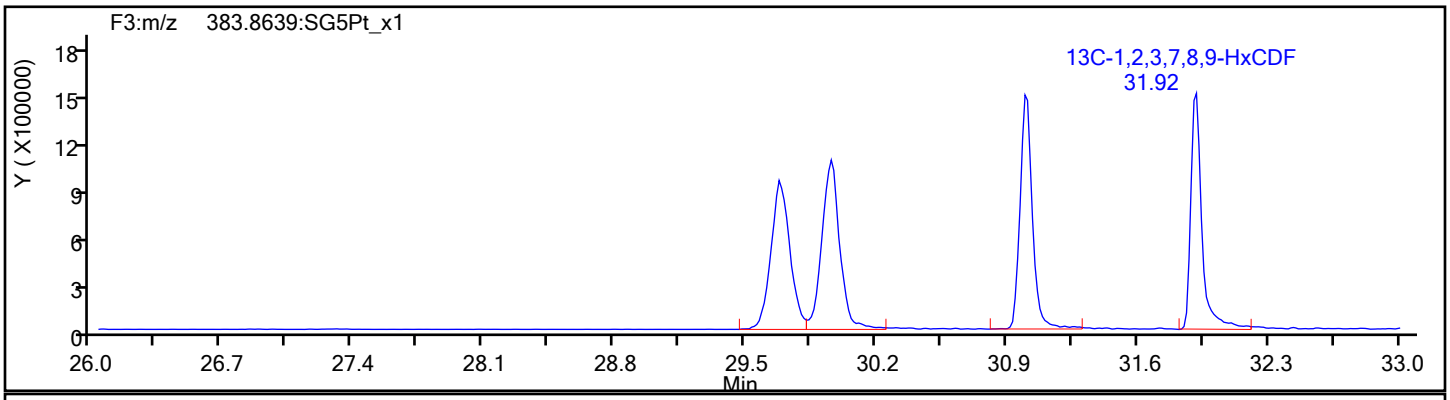

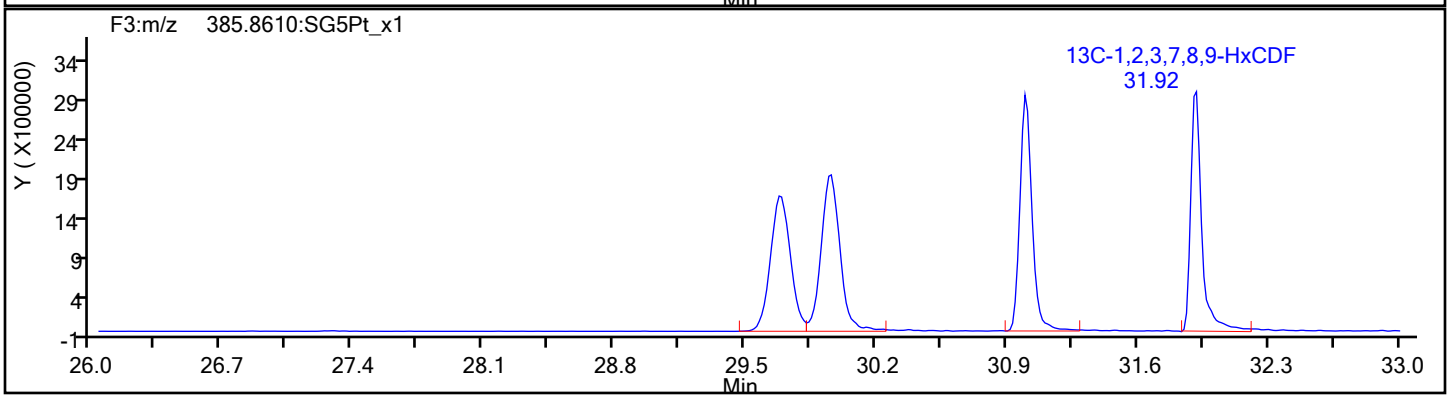

Report Date: 20-Sep-2019 11:47:23 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	SMA, ALM
Method:	Dioxin_10D5	Limit Group:	HR - 1613B - ICAL
Client ID:			
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Column Type:	DB-5	Column Dia:	0.32 mm

HxCDF

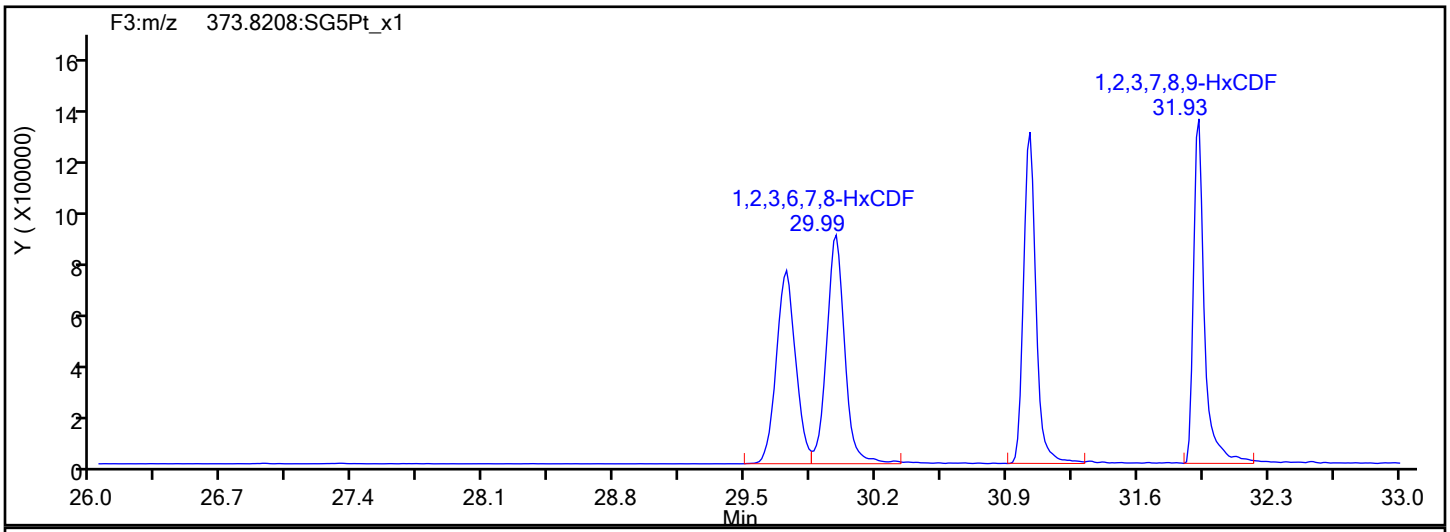

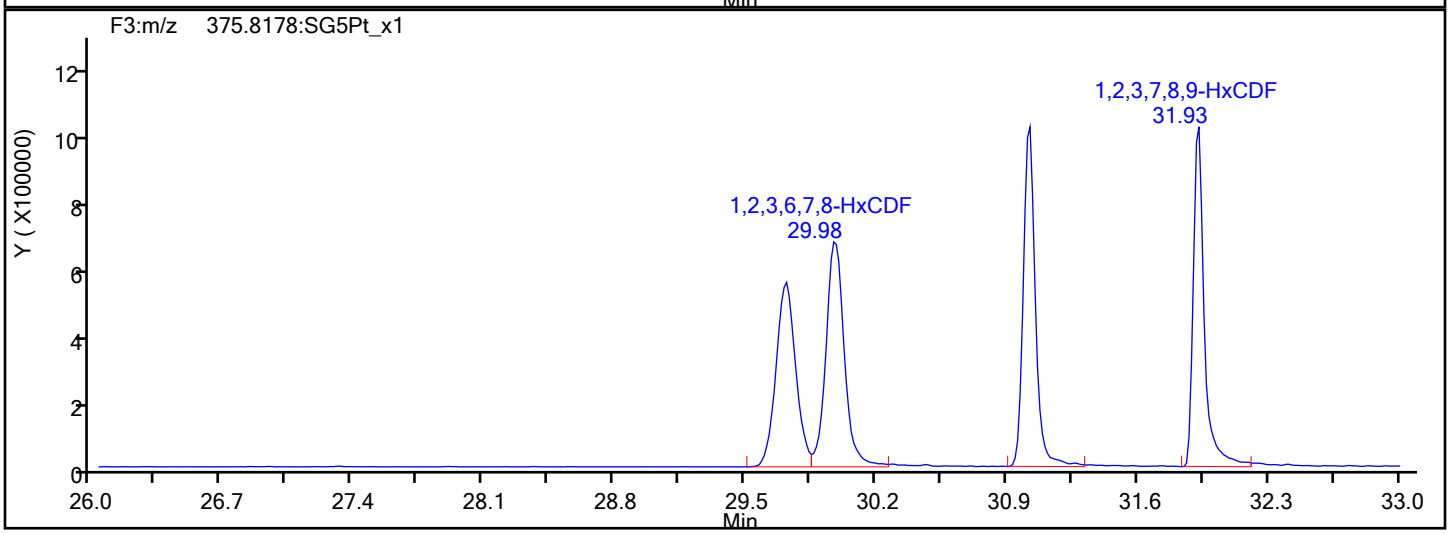

HxCDF Interference Mass

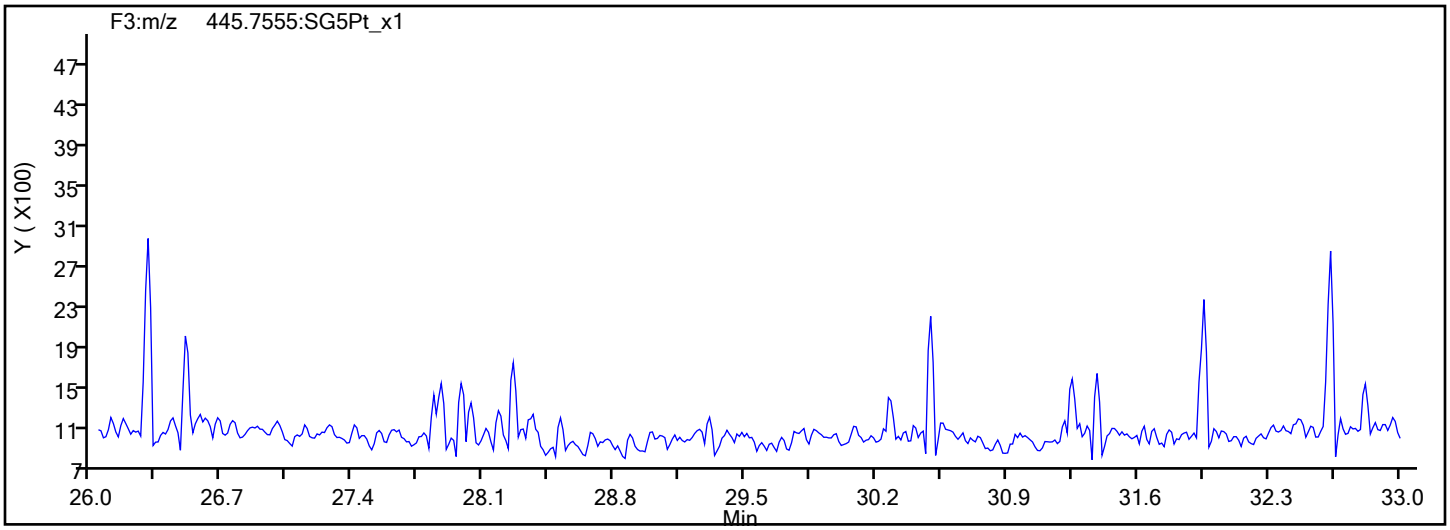

Report Date: 20-Sep-2019 11:47:23 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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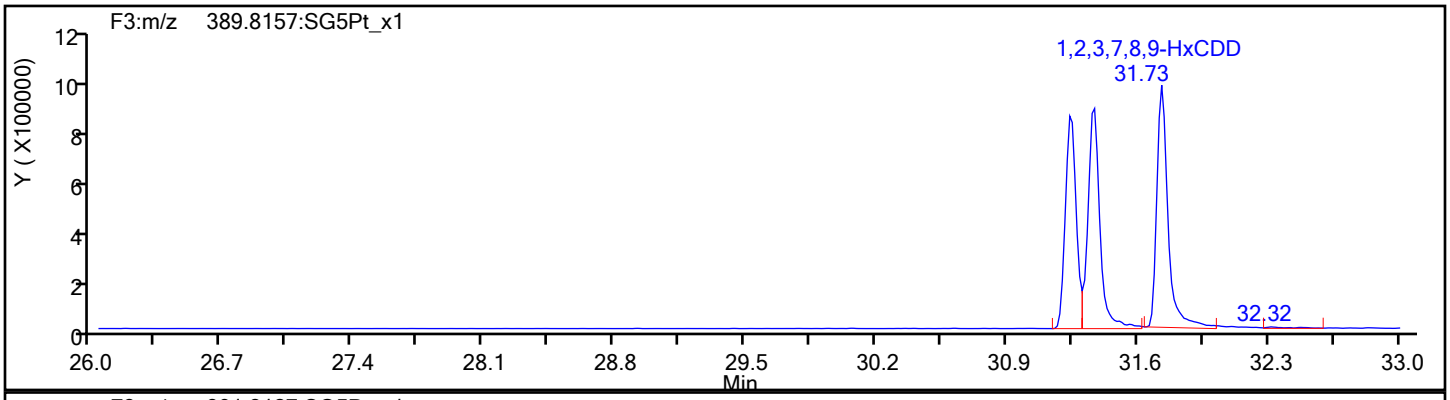

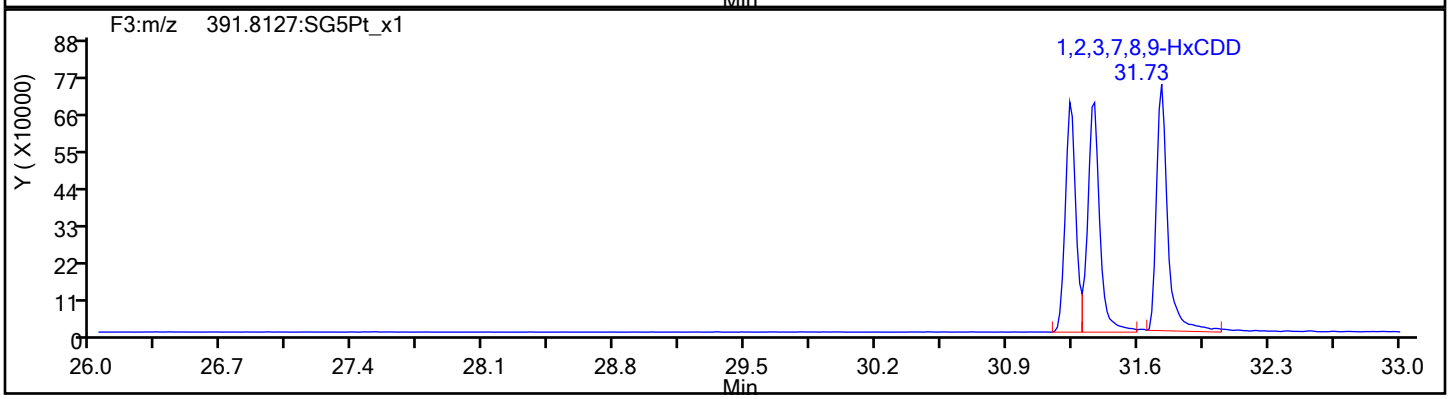

HxCDD Standards

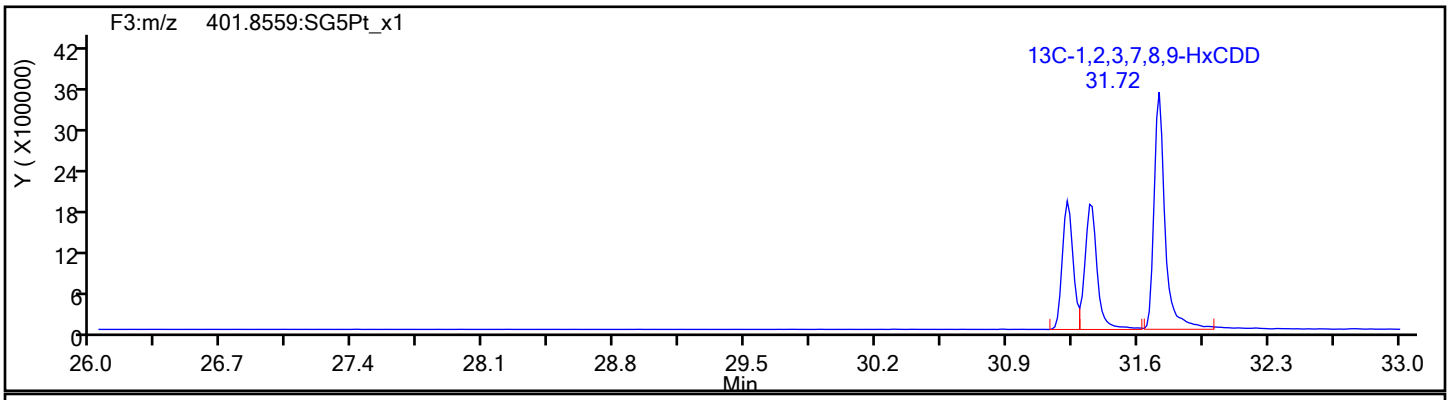

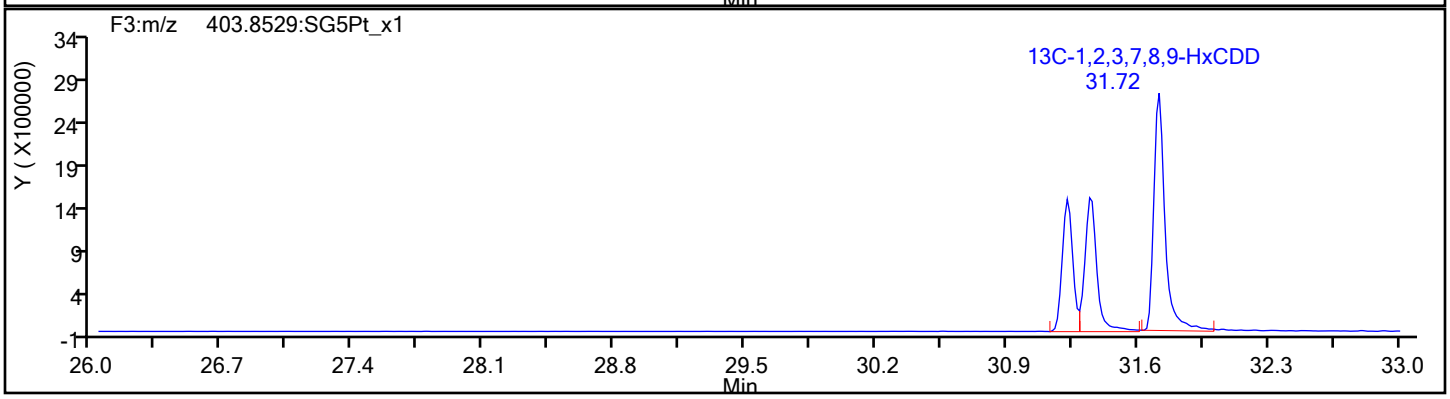

Report Date: 20-Sep-2019 11:47:23 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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HpCDF

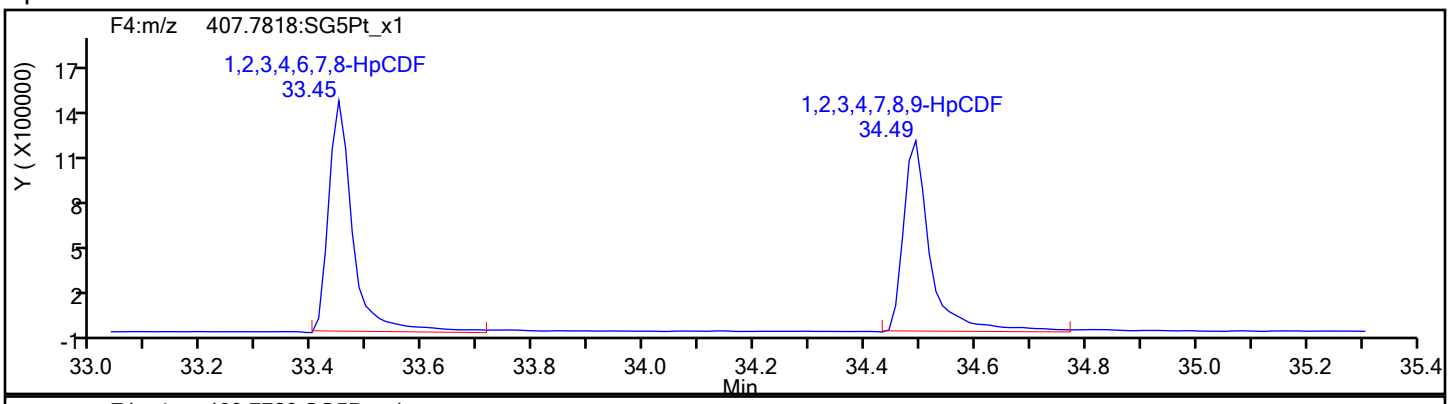

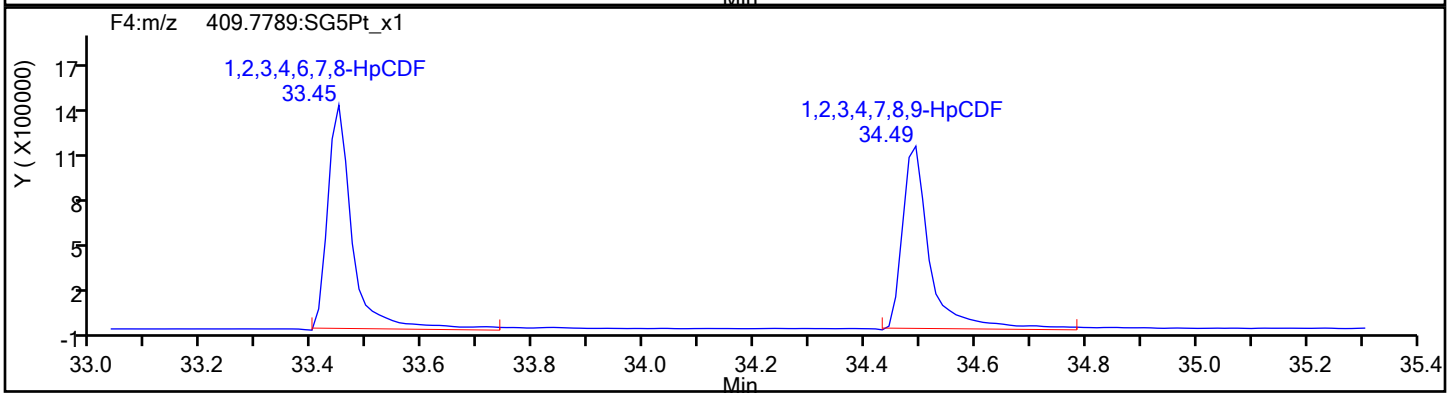

HpCDF Standards

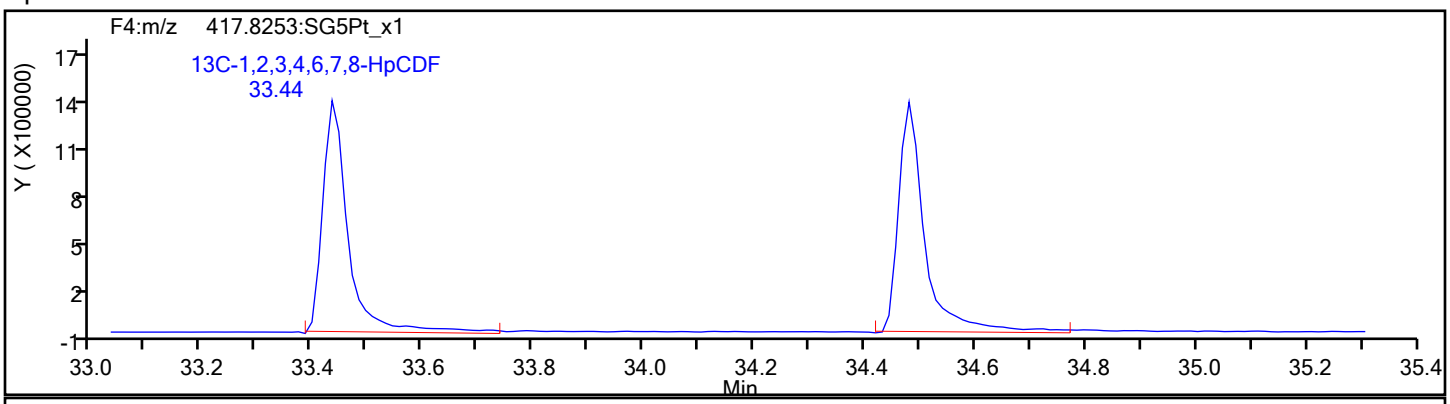

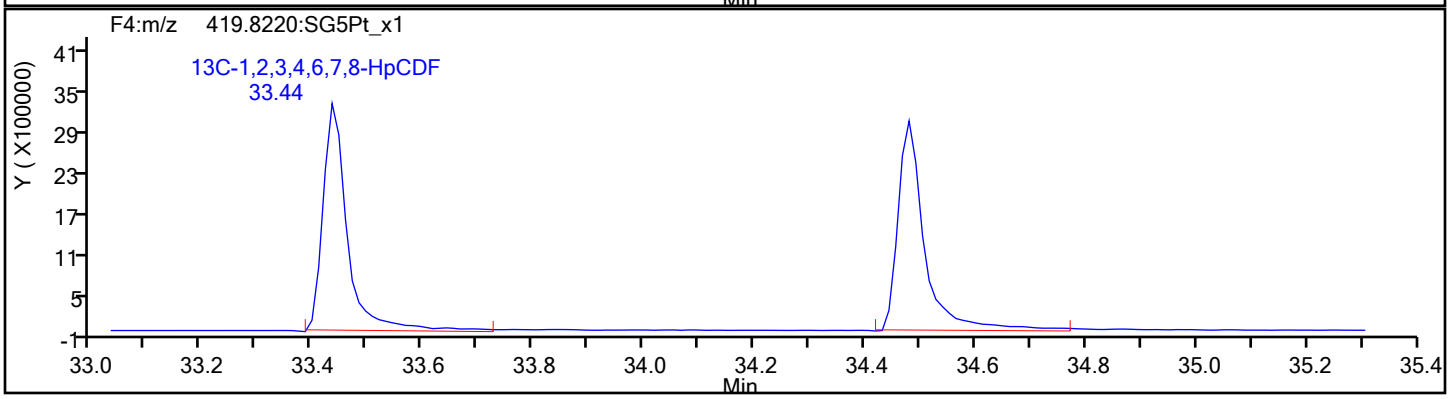

Report Date: 20-Sep-2019 11:47:23 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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HpCDF

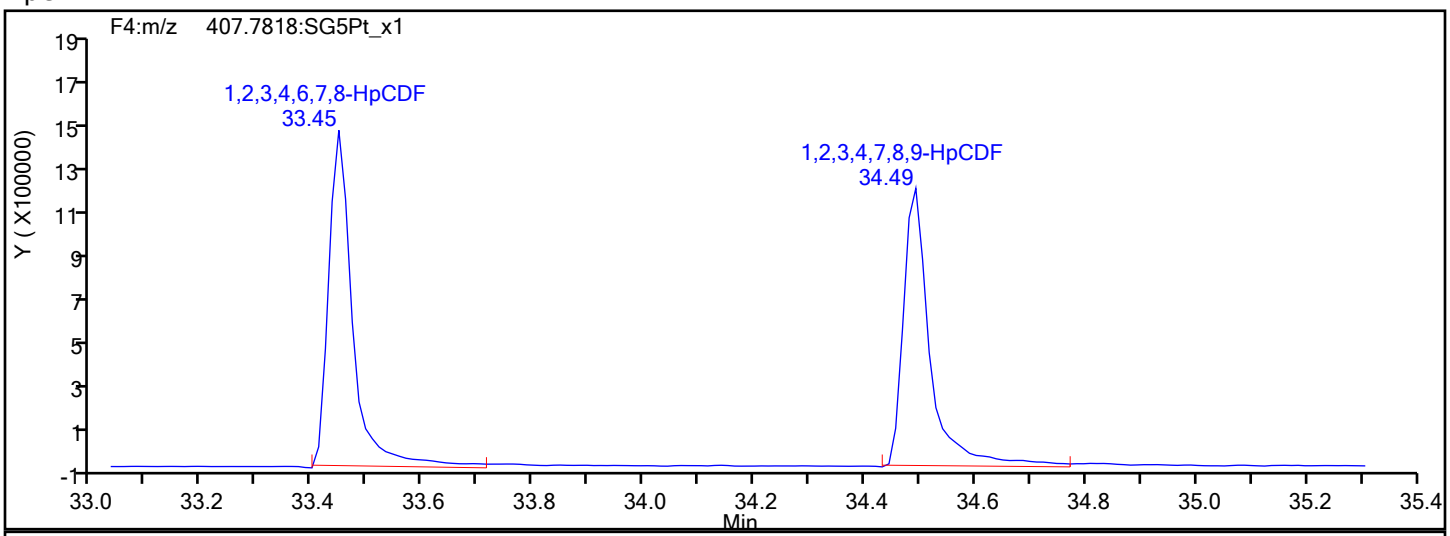

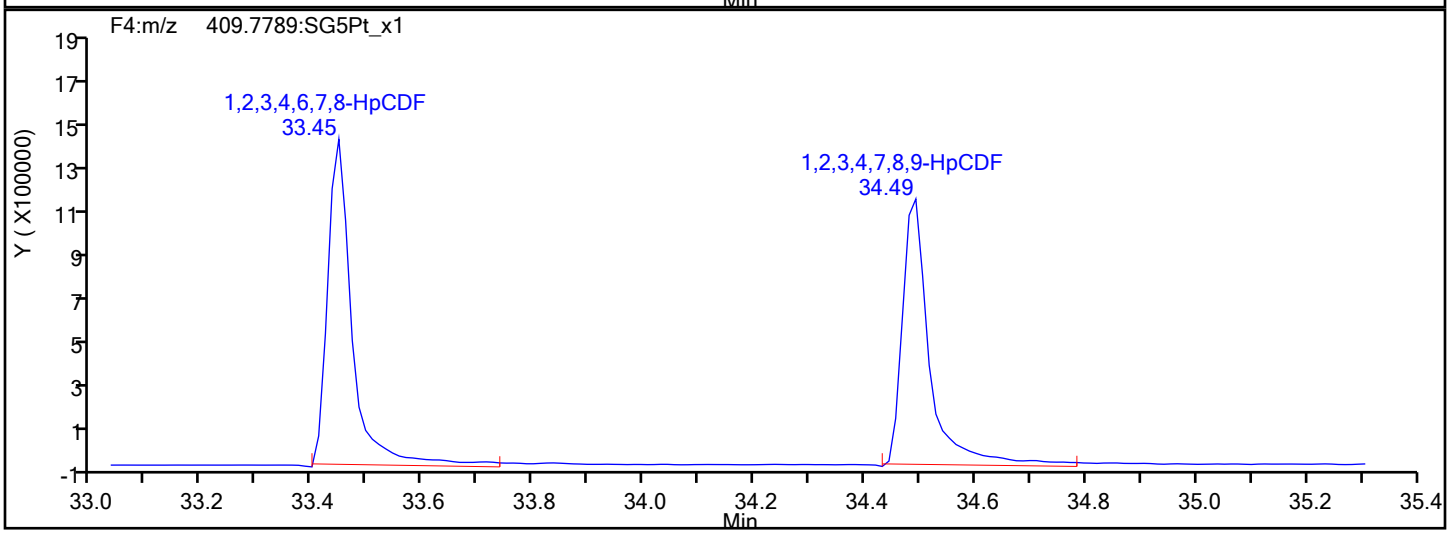

HpCDF Interference Mass

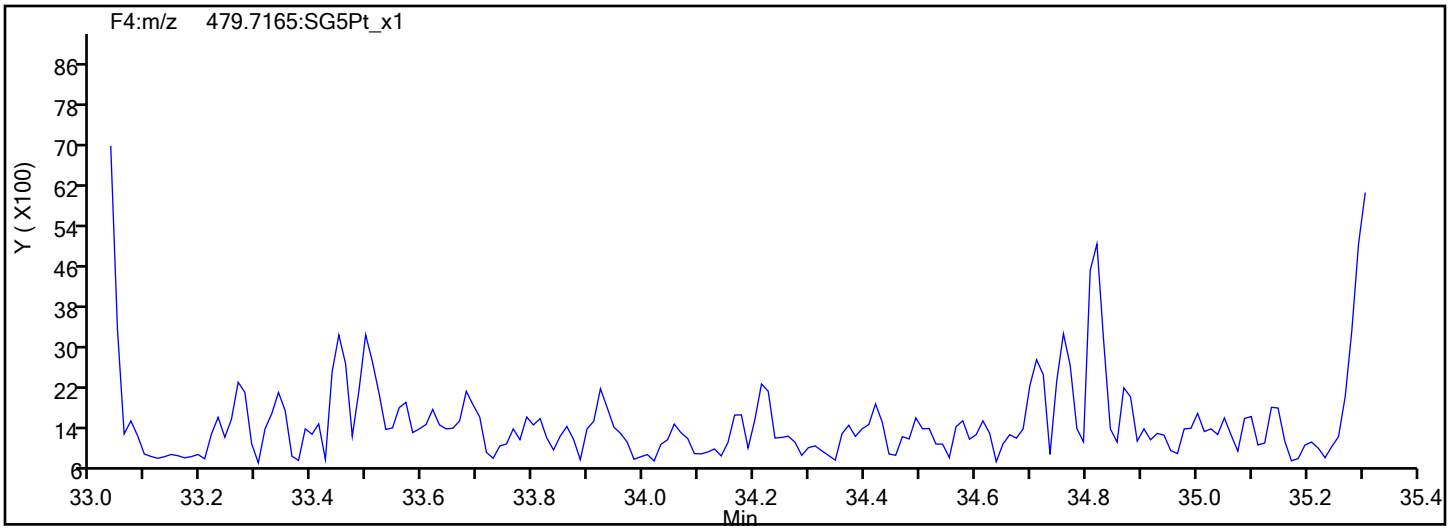

Report Date: 20-Sep-2019 11:47:23 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

Data File:	\\chromna\Sacramento\ChromData\10D5\20190919-83443.b\18SE1910D5_50.d		
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HpCDD

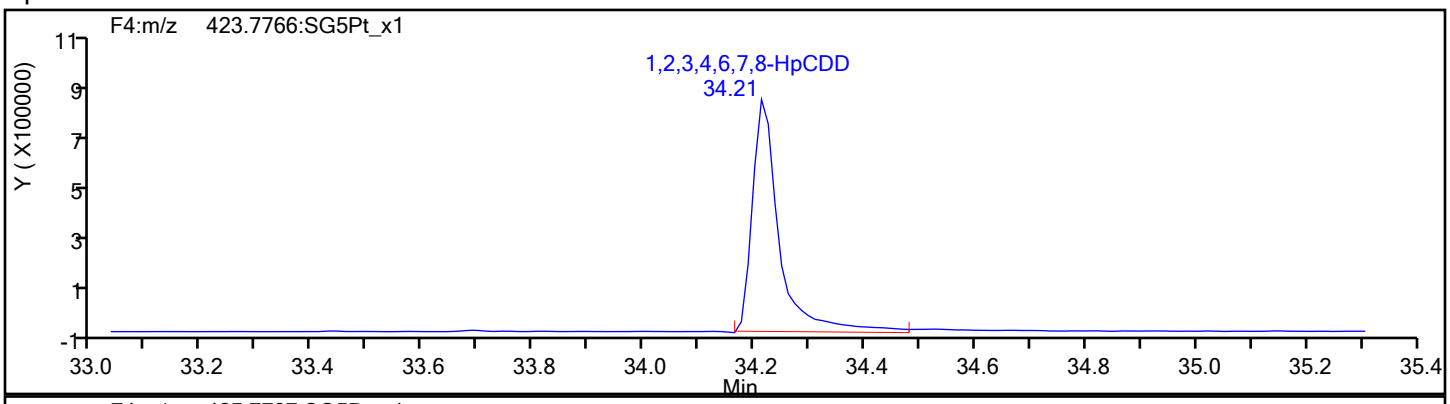

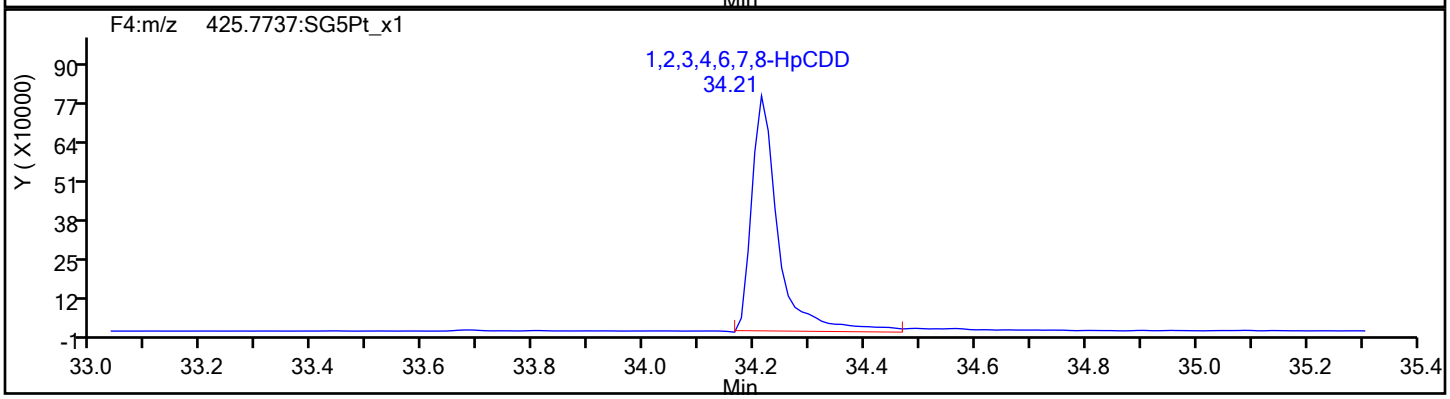

HpCDD Standards

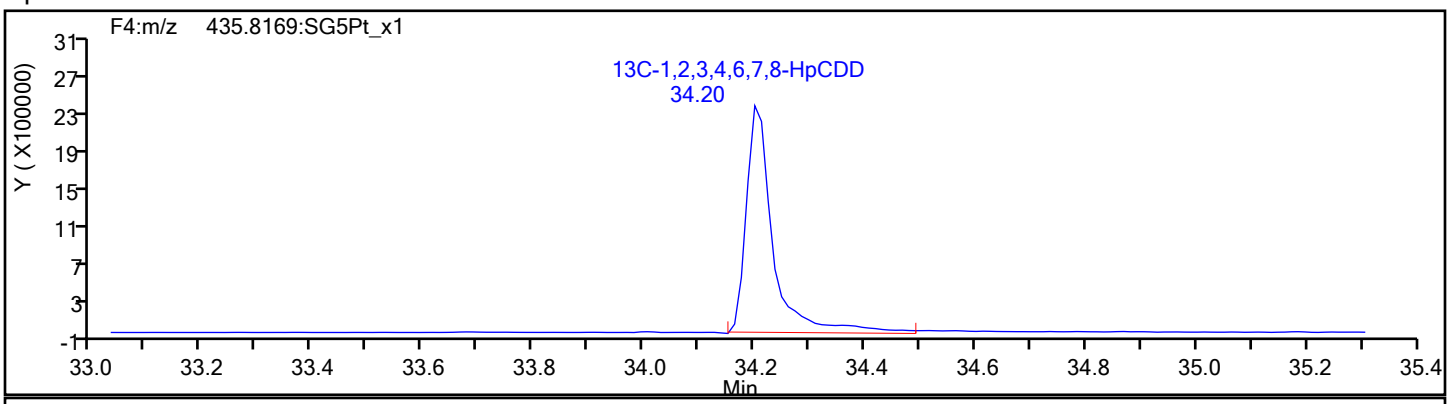

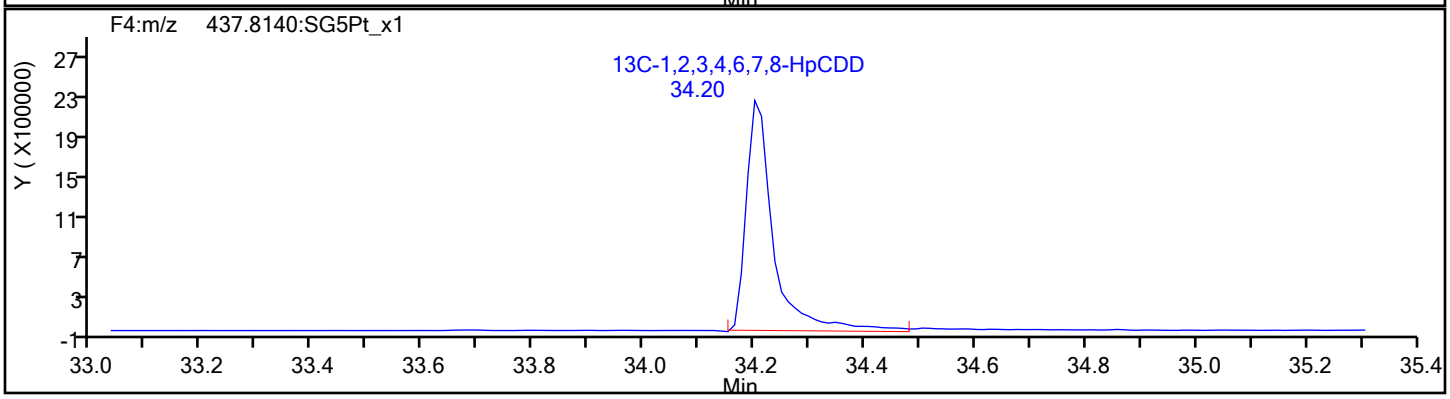

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Eurofins TestAmerica, Sacramento

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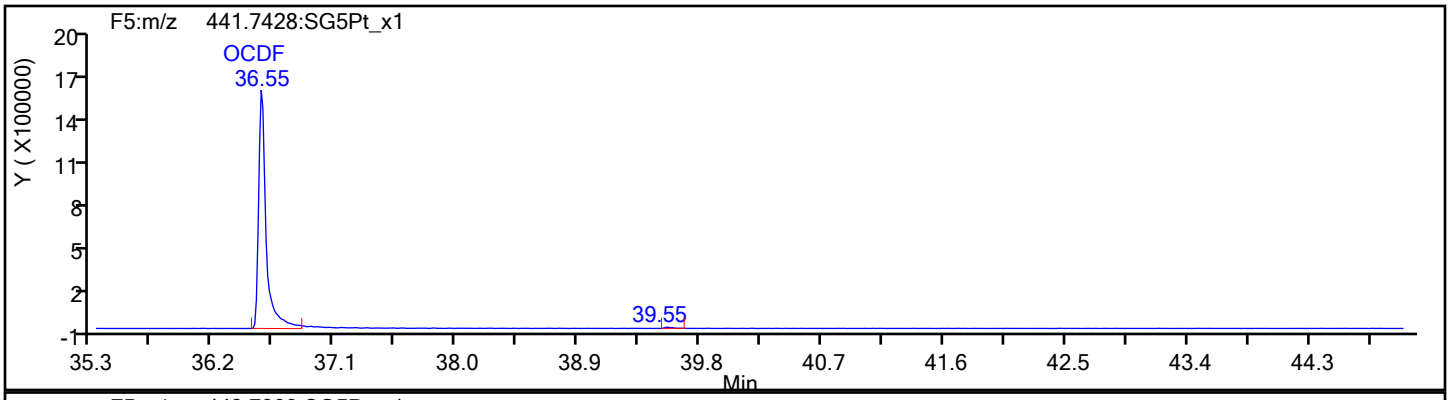

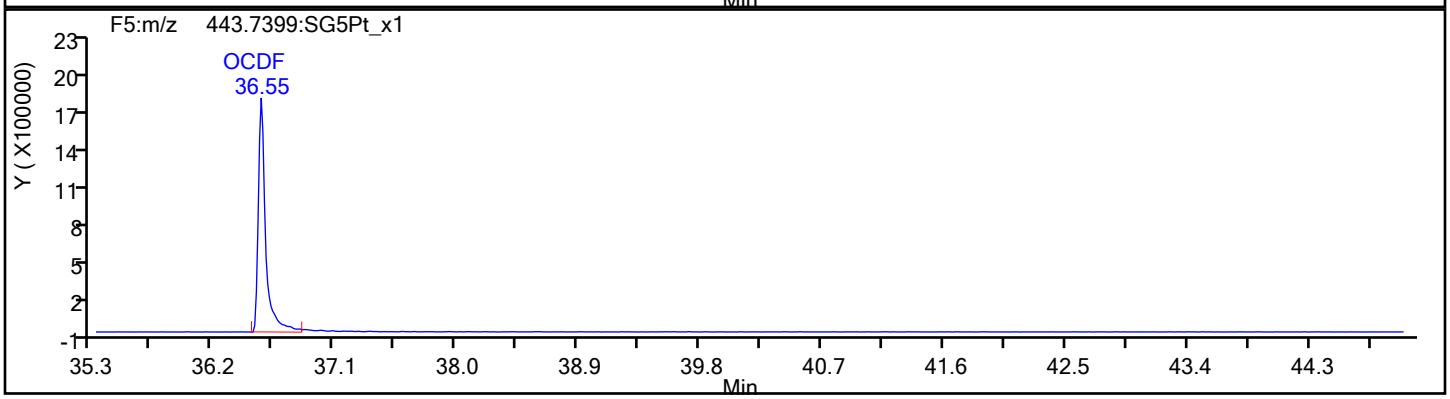

OCDF Standards

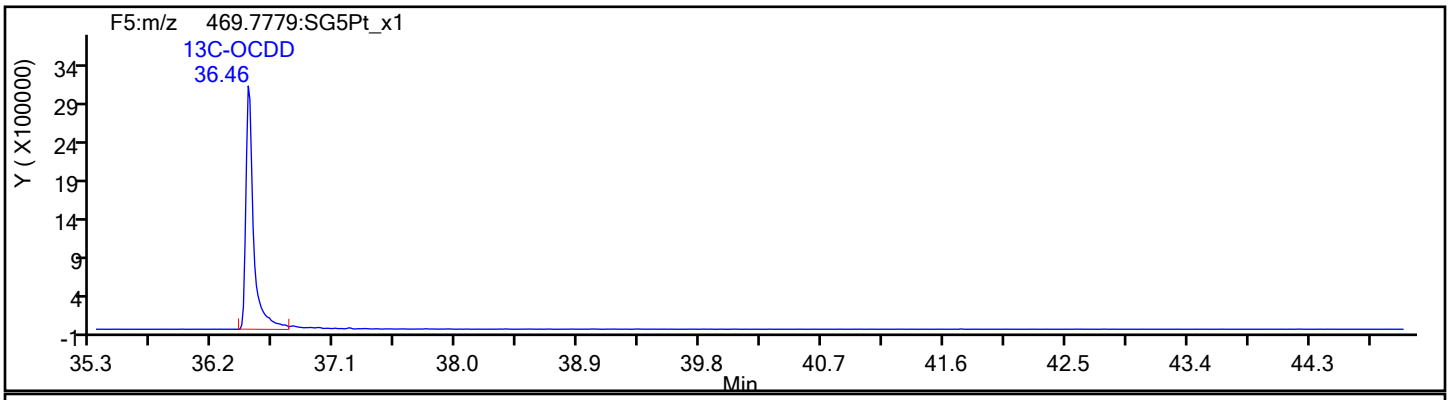

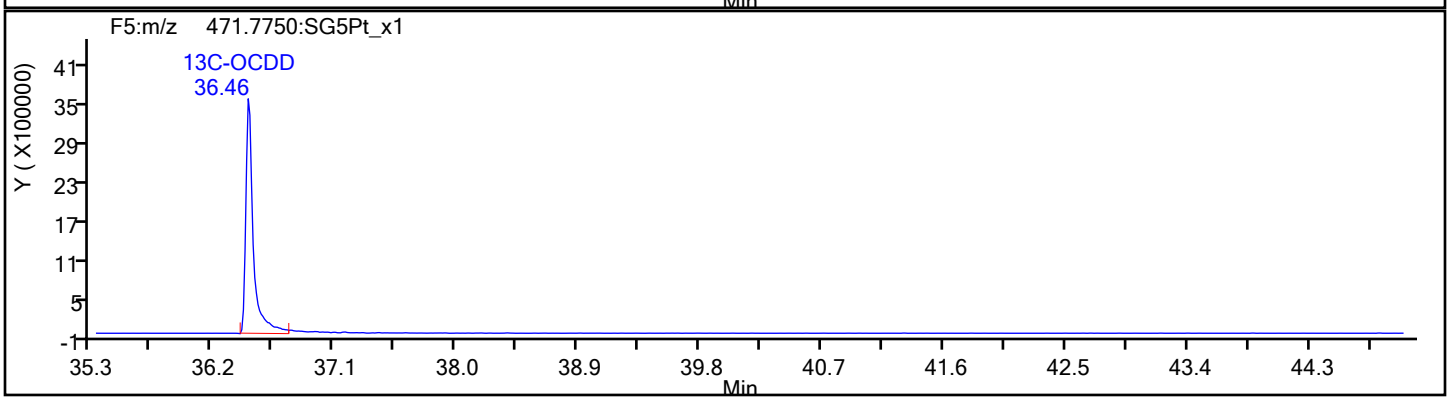

Report Date: 20-Sep-2019 11:47:23 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Instrument ID:	10D5	Operator ID:	SMA, ALM
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OCDF

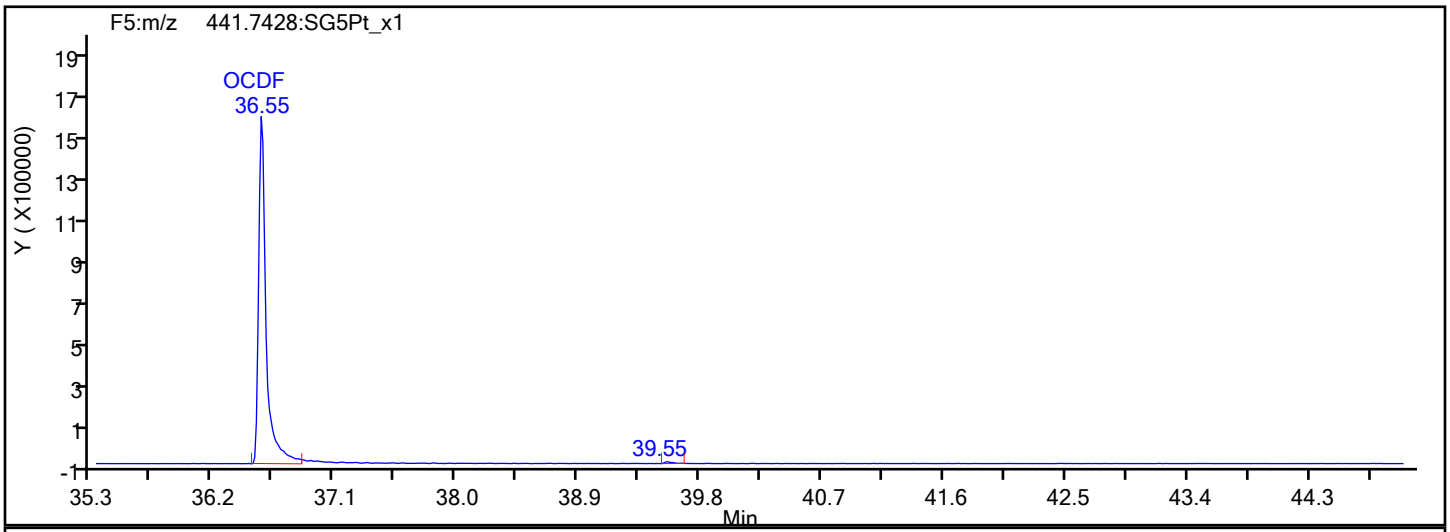

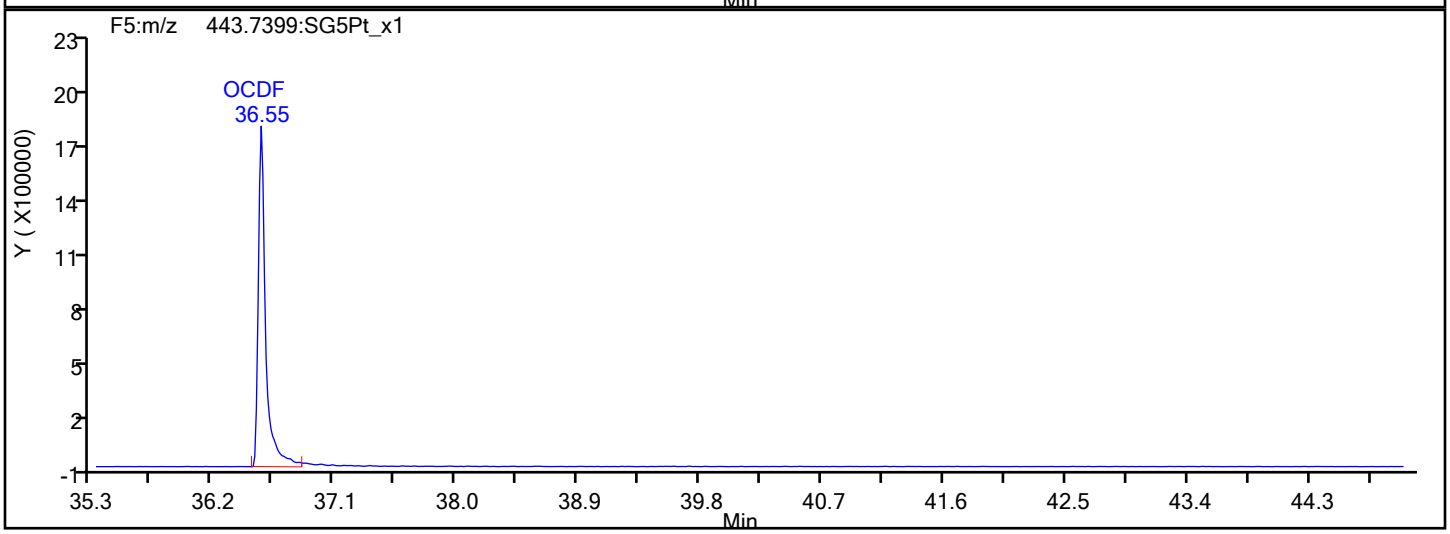

OCDF Interference Mass

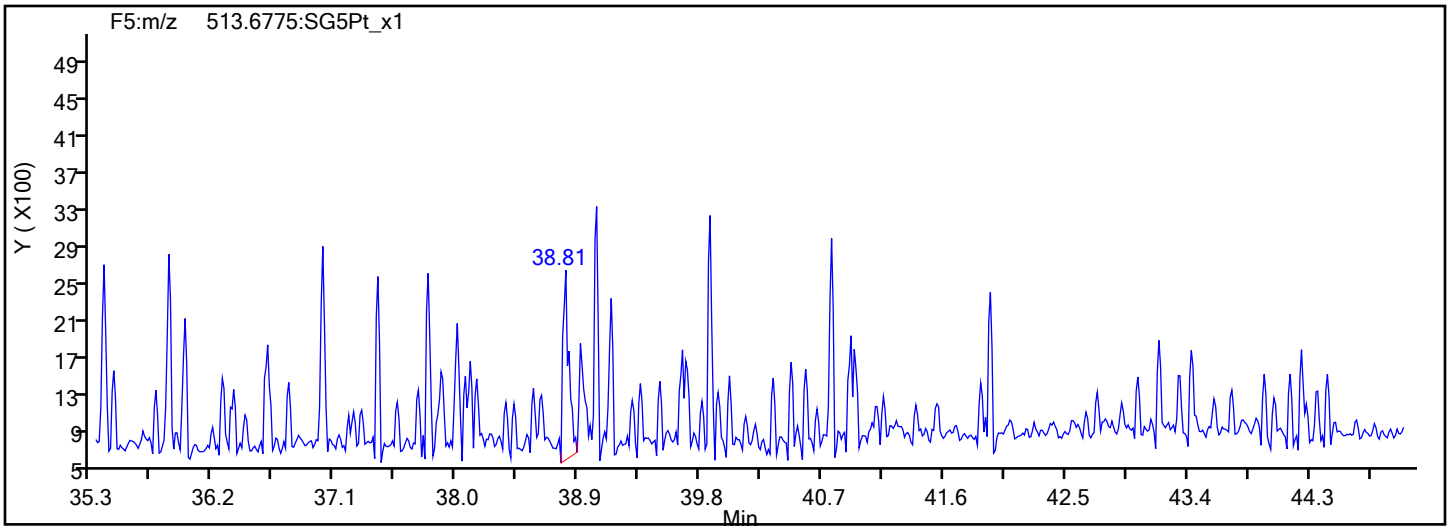

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Eurofins TestAmerica, Sacramento

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OCDD

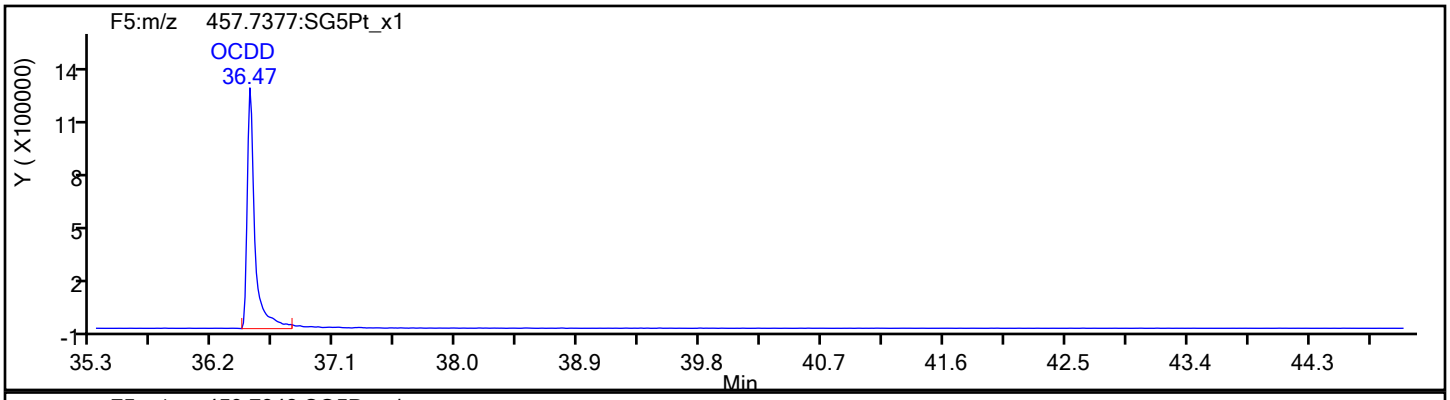

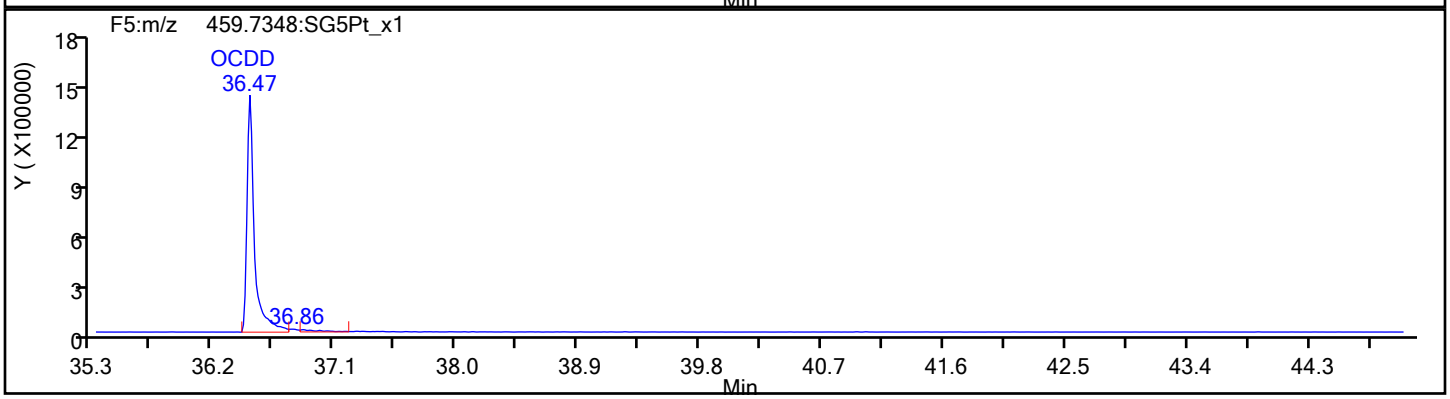

OCDD Standards

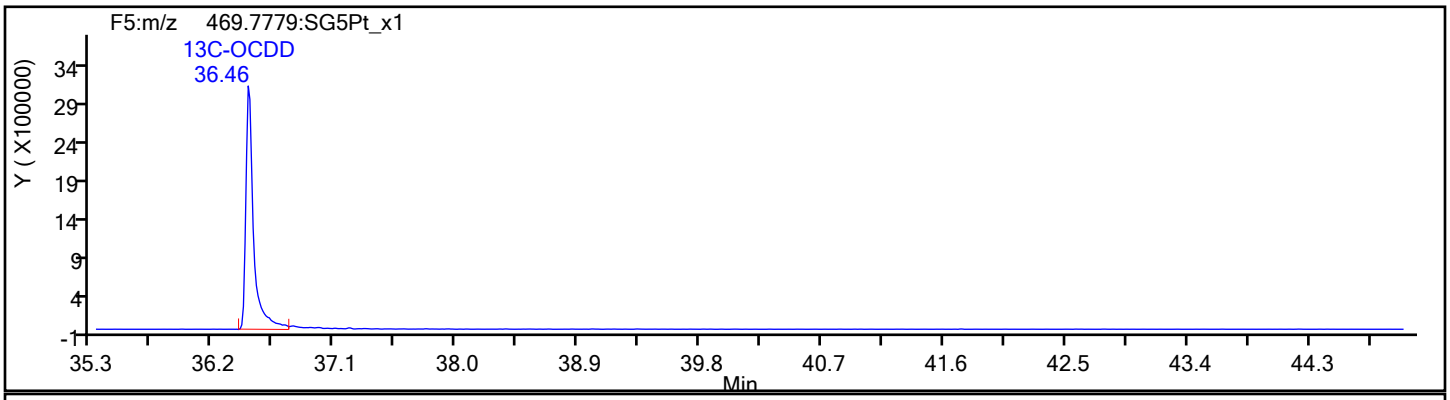

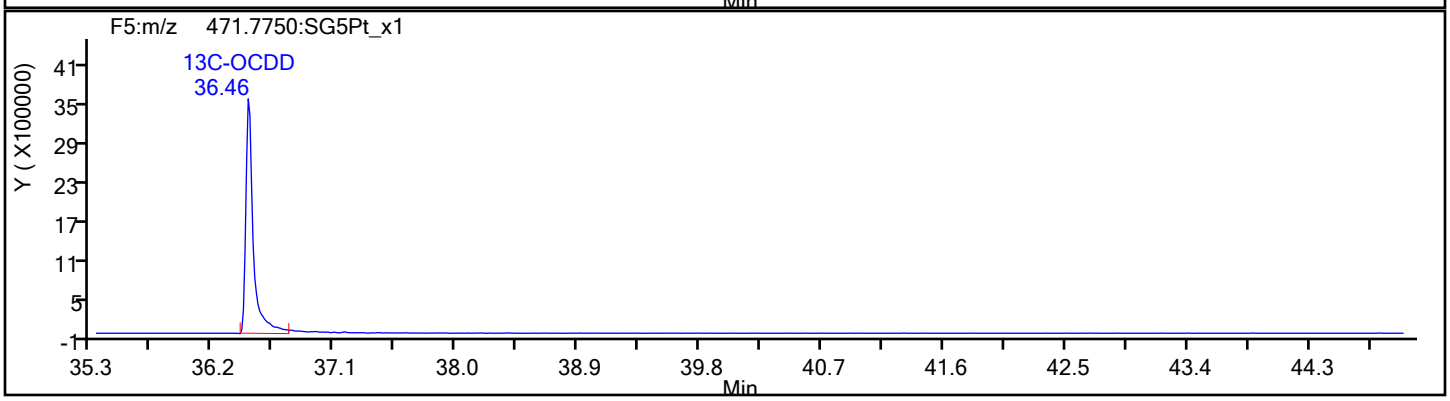

Report Date: 20-Sep-2019 11:47:23 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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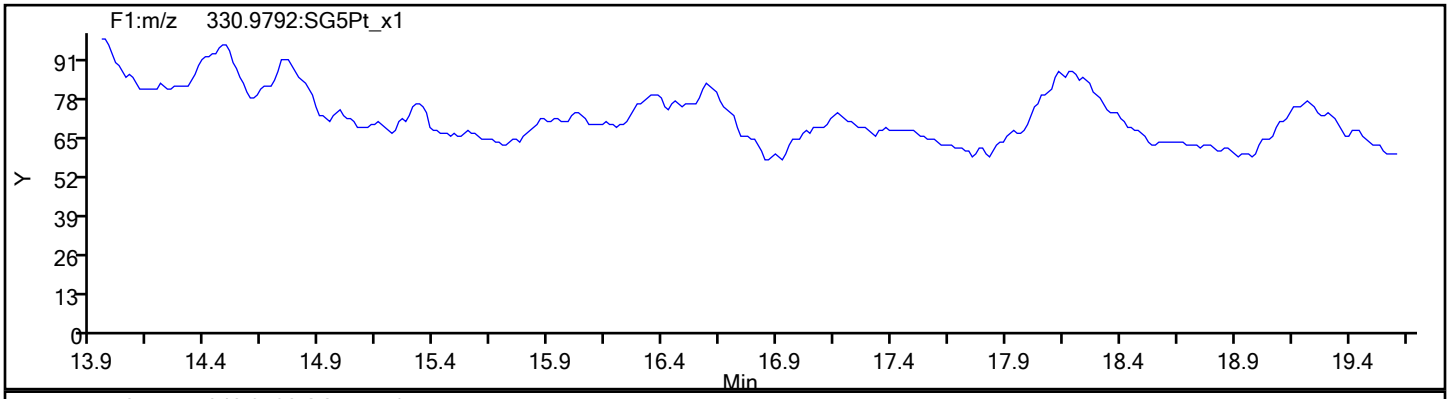

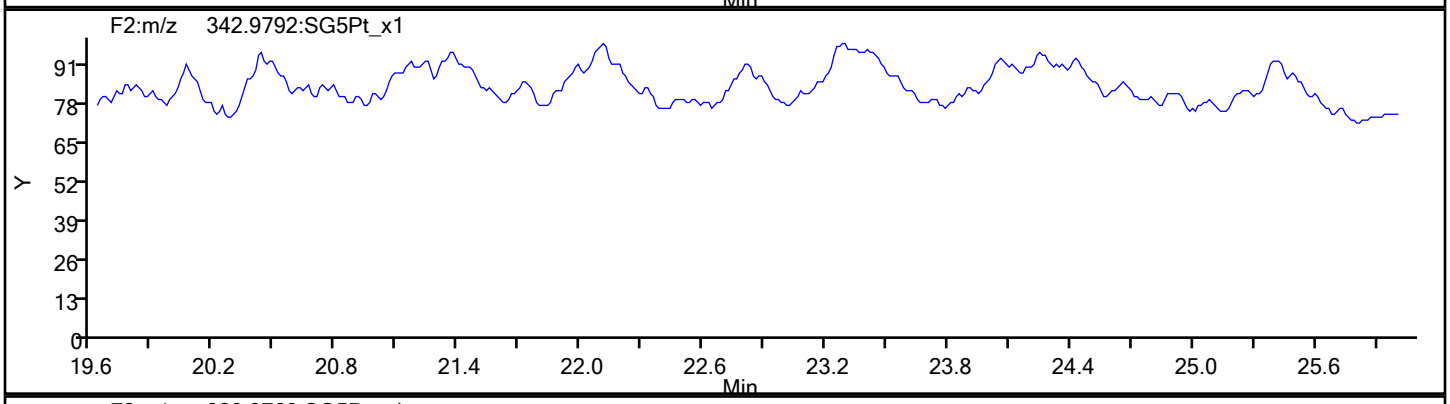

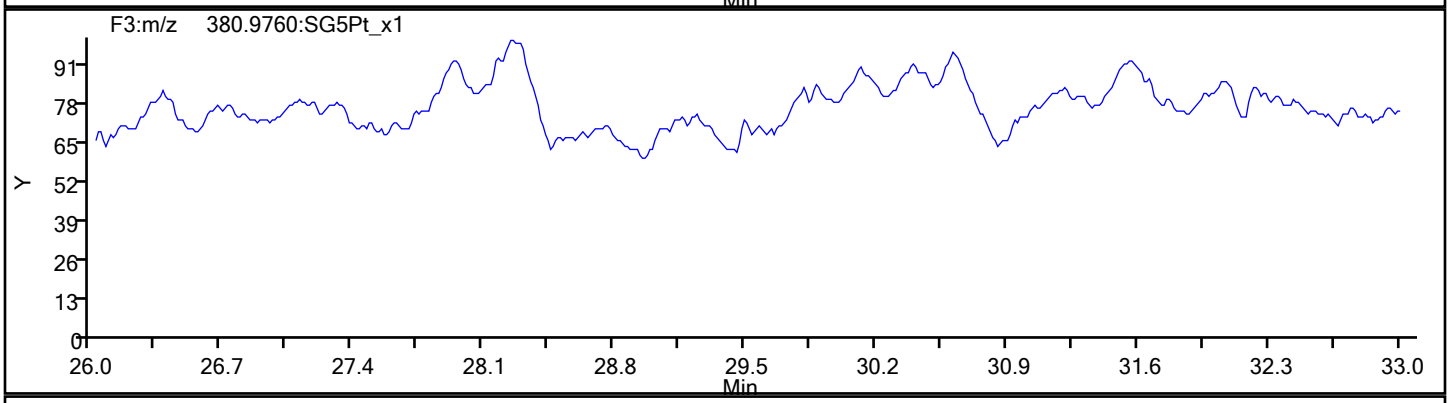

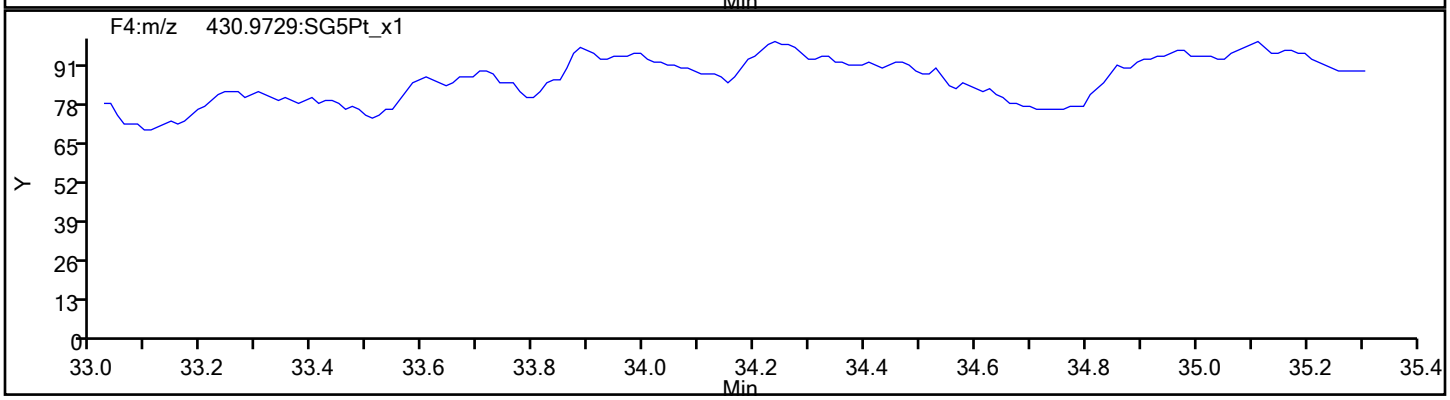

Report Date: 20-Sep-2019 11:47:23 Chrom Revision: 2.3 17-Sep-2019 16:19:08

Eurofins TestAmerica, Sacramento

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Injection Date:	20-Sep-2019 01:30:49	Injection Vol:	2.0 ul
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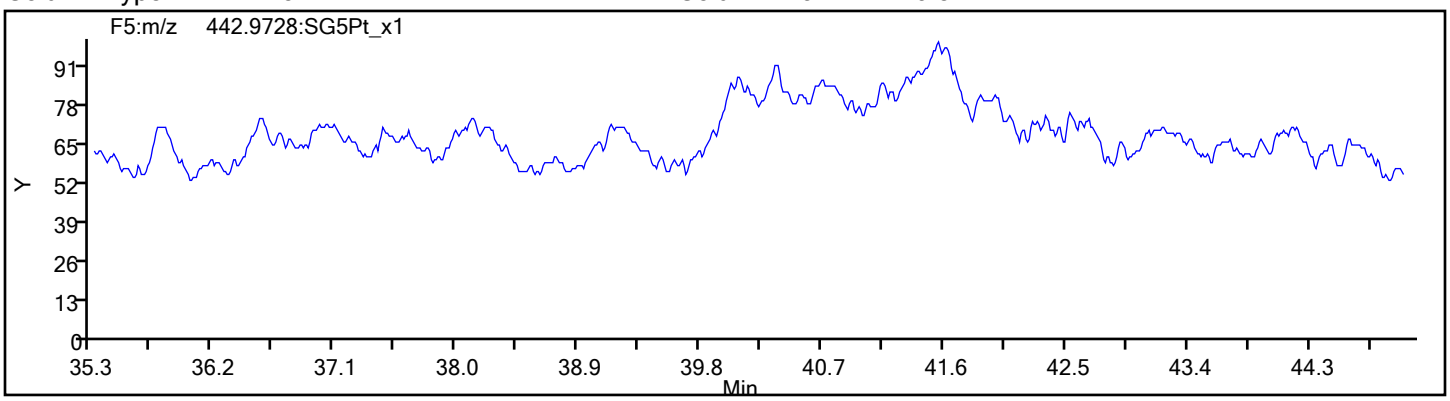

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-2

SDG No.:

Instrument ID: 11D2 Start Date: 08/02/2019 01:35

Analysis Batch Number: 312067 End Date: 08/02/2019 06:03

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CPS 320-312067/1		08/02/2019 01:35	1		DB-225 0.32(mm)
IC 320-312067/3		08/02/2019 02:52	1	02AU1911D2_003.d	DB-225 0.32(mm)
IC 320-312067/4		08/02/2019 03:30	1	02AU1911D2_004.d	DB-225 0.32(mm)
IC 320-312067/5		08/02/2019 04:08	1	02AU1911D2_005.d	DB-225 0.32(mm)
IC 320-312067/6		08/02/2019 04:46	1	02AU1911D2_006.d	DB-225 0.32(mm)
IC 320-312067/7		08/02/2019 05:25	1	02AU1911D2_007.d	DB-225 0.32(mm)
ICV 320-312067/8		08/02/2019 06:03	1		DB-225 0.32(mm)

1613B

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-2

SDG No.:

Instrument ID: 10D5 Start Date: 09/17/2019 11:28

Analysis Batch Number: 324128 End Date: 09/17/2019 18:27

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
WDM 320-324128/1		09/17/2019 11:28	1		DB-5 0.32(mm)
IC 320-324128/3		09/17/2019 13:03	1	17SE1910D5_3.d	DB-5 0.32(mm)
IC 320-324128/4		09/17/2019 13:49	1	17SE1910D5_4.d	DB-5 0.32(mm)
IC 320-324128/6		09/17/2019 15:21	1	17SE1910D5_6.d	DB-5 0.32(mm)
IC 320-324128/7		09/17/2019 16:09	1	17SE1910D5_7.d	DB-5 0.32(mm)
IC 320-324128/8		09/17/2019 16:55	1	17SE1910D5_8.d	DB-5 0.32(mm)
ICV 320-324128/10		09/17/2019 18:27	1		DB-5 0.32(mm)

1613B

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-2

SDG No.:

Instrument ID: 10D5 Start Date: 09/19/2019 17:18

Analysis Batch Number: 324876 End Date: 09/20/2019 03:48

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 320-324876/40		09/19/2019 17:18	1		DB-5 0.32(mm)
WDM 320-324876/41		09/19/2019 18:21	1		DB-5 0.32(mm)
ZZZZZ		09/19/2019 19:23	1		DB-5 0.32(mm)
ZZZZZ		09/19/2019 20:09	1		DB-5 0.32(mm)
ZZZZZ		09/19/2019 20:55	1		DB-5 0.32(mm)
ZZZZZ		09/19/2019 21:41	1		DB-5 0.32(mm)
ZZZZZ		09/19/2019 22:26	1		DB-5 0.32(mm)
ZZZZZ		09/19/2019 23:12	1		DB-5 0.32(mm)
ZZZZZ		09/19/2019 23:58	1		DB-5 0.32(mm)
ZZZZZ		09/20/2019 00:44	1		DB-5 0.32(mm)
ZZZZZ		09/20/2019 01:30	1		DB-5 0.32(mm)
ZZZZZ		09/20/2019 02:16	1		DB-5 0.32(mm)
600-191956-2		09/20/2019 03:02	1	18SE1910D5_52.d	DB-5 0.32(mm)
ZZZZZ		09/20/2019 03:48	1		DB-5 0.32(mm)

1613B

DIOXIN ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Sacramento Job No.: 600-191956-2

SDG No.:

Instrument ID: 11D2 Start Date: 09/20/2019 09:55

Analysis Batch Number: 325151 End Date: 09/20/2019 15:02

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CPS 320-325151/1		09/20/2019 09:55	1		DB-225 0.32(mm)
CCV 320-325151/2		09/20/2019 10:33	1		DB-225 0.32(mm)
ZZZZZ		09/20/2019 11:50	1		DB-225 0.32(mm)
ZZZZZ		09/20/2019 12:28	1		DB-225 0.32(mm)
ZZZZZ		09/20/2019 13:07	1		DB-225 0.32(mm)
ZZZZZ		09/20/2019 13:45	1		DB-225 0.32(mm)
600-191956-2 RA		09/20/2019 14:24	1	20SE1911D2_008.d	DB-225 0.32(mm)
ZZZZZ		09/20/2019 15:02	1		DB-225 0.32(mm)

1613B

DIOXIN BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Sacramen Job No.: 600-191956-2

SDG No.:

Batch Number: 324499 Batch Start Date: 09/18/19 13:24 Batch Analyst: Ruiz, Noe I

Batch Method: 1613B Batch End Date: 09/19/19 11:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	RotoVapID	HRDXNIDA 00389
600-191956-B-2	11187072-091319-LL-EXC-1	1613B, 1613B	T	1534.2 g	507.18 g	1027 mL	20 uL	8	1 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	HRDXNIS 00117	HRDXNSU 00219	AnalysisComment			
600-191956-B-2	11187072-091319-LL-EXC-1	1613B, 1613B	T	20 uL	1 mL	Sample was spiked after filtration.			

Batch Notes	
20% DCM:Hexane ID	1708149 mL
65% DCM:Hexane ID	1724834 mL
Acid Silica Gel ID	1742612
Acid Alumina ID	18X
Balance ID	QA-73
C14 ID	NR 09/18/19 STBJ0716
Hexane ID	0000226435 mL
IFB Clean Up	GLB 9-19-19
MeCL2 ID	0000235262 mL
Na2SO4 ID	0000220237
Analyst ID - IDA Reagent Drop	A1A 09/18/19 HD05018 B 3/4
Analyst ID - IDA Reagent Drop Witness	NR 09/18/19
Analyst ID - IS Reagent Drop	GLB 9-19-19 DB15270 B-4/4
Analyst ID - IS Reagent Drop Witness	NR 9-19-19
Analyst ID - SU Reagent Drop	GLB 9-19-19 HD05018 B 3/4
Analyst ID - SU Reagent Drop Witness	TGL 9-19-19
Analyst ID - TA Reagent Drop	A1A 09/18/19 DB15270 B 1/10
Analyst ID - TA Reagent Drop Witness	NR 09/18/19
Silica Gel ID	1727681
Storage Box ID	DXN 93

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

DIOXIN BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Sacramen Job No.: 600-191956-2

SDG No.:

Batch Number: 324499 Batch Start Date: 09/18/19 13:24 Batch Analyst: Ruiz, Noe I

Batch Method: 1613B Batch End Date: 09/19/19 11:00

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Subcontract Data

Shipping and Receiving Documents

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins Environment Testing TestAmerica

Client Information	Sampler: S. SALLER / L LAVERGNE	Lab PM: Gamber, Carrie L	Carrier Tracking No(s):	COC No: 180-54407-11342.1
Client Contact: Janie Smith	Phone: (225) 292-9007	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 3
Company: GHD Services Inc.				Job #: 11187072
Address: 5551 Corporate Boulevard Suite 200	Due Date Requested:			
City: Baton Rouge	TAT Requested (days): 5 DAY			
State, Zip: LA, 70808				
Phone: 225-292-9007(Tel)	PO #: Purchase Order Requested			
Email: janie.smith@ghd.com	WO #:			
Project Name: San Jacinto River Waste Pits Superfund S	Project #: 18020662			
Site: NORTHERN IMPOUNDMENT	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

600-191956 Chain of Custody

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	See Attached SSOW	Lab Filter	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X			X	
11187072-091219-SS-INF-1	9/12/19	1700	C	W	X		X	X		DRAFT SSOW
11187072-091319-LL-EXC-1	9/13/19	0800	C	W	X		X	X		INCLUDED; CONFIRM
11187072-091319-LL-INF-2	9/13/19	0900	C	W	X		X	X		TO FINAL SSOW
TRIP BLANK	—	—	—	W						
										FIELD FILTERED SAMPLES
										NOT FILTERED; NEED
										LAB TO FILTER

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	9/13/19	GHD	Will Mc	9-13-19 1140	SDS
Will Mc	9-13-19 1255	SDS	[signature]	9-13-19 1255	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

SSOW Ref. Code
11187072-2019-003

Project Name: San Jacinto River Waste Pits Superfund Site Investigation
GHD Project No./Phase/Task: 11187072
Project Location: San Jacinto, Harris County, Texas

Phase/Study Title: Pilot Test Sampling Event
Event Description: Pilot Test Water Sampling

Item	Sample Matrix	Analytical Parameters	Analytical Methods	Unit Prices	Applicable Surcharge Multiplier [1]	Extended Prices	Estimated Sample Qty/Event	Field QC Samples: MS	MSD	Lab Dup	Trip Blk	RBlk	Fld Dup	Other	Total Sample Qty.	Billable Samples	Estimated Cost/Event
Treatability Sampling																	
Water - Surface/Contact (see analyte lists on page 3)																	
1	water	Total Dioxins	1613B	375	1.50	$ 562.50	8	1	1			1	1		12	11	$6,187.50
2	water	Dissolved Dioxins	1613B	375	1.50	$ 562.50	8	1	1			1	1		12	11	$6,187.50
3	water	Total PCBs	8082	48	1.15	$ 55.20	8	1	1			1	1		12	11	$607.20
4	water	Dissolved PCBs	8082	48	1.15	$ 55.20	8	1	1			1	1		12	11	$607.20
5	water	Total Suspended Solids	SM 2540D	15	1.15	$ 17.25	8			1		1	1		11	11	$189.75
6	water	Total Dissolved Solids	SM 2540C	15	1.15	$ 17.25	8			1		1	1		11	11	$189.75
7	water	pH	EPA 9040B	5	1.15	$ 5.75	6			1		1	1		9	9	$51.75
8	water	VOC (see analyte list page 3)	SW846-8260C	110	1.15	$ 126.50	6	1	1		1	1	1	1	12	10	$1,265.00
9	water	SVOC	SW846-8270D	110	1.15	$ 126.50	6	1	1			1	1		10	9	$1,138.50
10	water	Pesticides	SW-846-8081B	72	1.15	$ 82.80	6	1	1			1	1		10	9	$745.20
11	water	Herbicides	SW-846-8151A	119	1.15	$ 136.85	6	1	1			1	1		10	9	$1,231.65
12	water	Total metals (see list on page 3)	SW846-6010C/7470A	69	1.15	$ 79.35	6	1	1			1	1		10	9	$714.15
13	water	Dissolved metals	SW846-6010C/7470A	69	1.15	$ 79.35	6	1	1			1	1		10	9	$714.15
14	water	Ammonia nitrogen	EPA-SW846-350.1	15	1.15	$ 17.25	6	1	1			1	1		10	9	$155.25
15	water	Biochemical Oxygen Demand	SM 5210B	18	1.15	$ 20.70	6			1		1	1		9	9	$186.30
16	water	Chemical Oxygen Demand	HACH8000	18	1.15	$ 20.70	6			1		1	1		9	9	$186.30
17	water	Total Organic Carbon	9060	18	1.15	$ 20.70	6	1	1			1	1		10	9	$186.30
18	water	Ferrous iron	HACH 8146	15	1.15	$ 17.25	6			1		1	1		9	9	$155.25
19	water	Chloride, bromide, sulfate	EPA 300.0	33	1.15	$ 37.95	6	1	1			1	1		10	9	$341.55
20	water	Phosphate as P	4500 P E	25	1.15	$ 28.75	6	1	1			1	1		10	9	$258.75
21	water	Alkalinity - total	SM 2320B	11	1.15	$ 12.65	6			1		1	1		9	9	$113.85
22	water	Alkalinity - carbonate	SM 2320B	11	1.15	$ 12.65	6			1		1	1		9	9	$113.85
23	water	Alkalinity - bicarbonate	SM 2320B	11	1.15	$ 12.65	6			1		1	1		9	9	$113.85
24	water	Nitrate as N*	EPA 300.0	11	1.15	$ 12.65	6	1	1			1	1		10	9	$113.85
25	water	nittrite as N*	EPA 300.0	11	1.15	$ 12.65	6	1	1			1	1		10	9	$113.85
26	water	sulfide	9034	15	1.15	$ 17.25	6			1		1	1		9	9	$155.25
27	water	cyanide	9012B	18	1.15	$ 20.70	6	1	1			1	1		6	9	$186.30

* - 48 hour hold time

NOTE: Please include and extra 6 unpreserved bottles to be used when filtering/decanting aliquots to be filtered.

TestAmerica Houston

Loc: 600
191956

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sample Receipt Chec

Date/Time Received: 09-13-19 12:55

JOB NUMBER: _____ CLIENT: GHD

UNPACKED BY: _____ CARRIER/DRIVER: PC

Custody Seal Present: ☒ YES ☐ NO Number of Coolers Received: 3

Cooler ID	Temp Blank	Trip Blank	Observed Temp (℃)	Therm ID	Them CF	Corrected Temp (℃)
RW	Y / N	Y / N	0.8	6T8	+.1	0.9
GR	Y / N	Y / N	1.7	|	|	1.8
BW	Y / N	Y / N	1.2	|	|	1.3
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				

CF = correction factor

9/13/19

Samples received on ice? ☒ YES ☐ NO

LABORATORY PRESERVATION OF SAMPLES REQUIRED: ☒ NO ☐ YES

Base samples are>pH 12: ☒ YES ☐ NO Acid preserved are<pH 2: ☒ YES ☐ NO

pH paper Lot #_____

VOA headspace acceptable (5-6mm): ☒ YES ☐ NO ☐ NA

	YES	NO
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	☒	☐

COMMENTS:

9/13/19

eurofins | Environment Testing TestAmerica

Sacramento Sample Receiving Notes

600-191956 Field Sheet

Tracking #: 484029075181

SO / PO / FO / 2-Day / Ground / UPS / CDO / Courier

GSO / OnTrac / Goldstreak / USPS / Other

Job:

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations. File in the job folder with the COC.

Notes:

Therm. ID: AK5 Corr. Factor: +0.1

Ice ✓ Wet ✓ Gel ___ Other ___

Cooler Custody Seal: 947102

Sample Custody Seal: —

Cooler ID: —

Temp Observed: 0.9 Corrected: ~~-0.9~~ 1.0 PK 9/12/19

From: Temp Blank ☐ Sample ☑

NCM Filed: Yes ☐ No ☐

	Yes	No	NA
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
CoC is complete w/o discrepancies?	☑	☐	☐
Samples received within holding time?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Cooler compromised/tampered with?	☐	☑	☐
Samples compromised/tampered with?	☐	☑	☐
Samples w/o discrepancies?	☑	☐	☐
Sample containers have legible labels?	☑	☐	☐
Containers are not broken or leaking?	☑	☐	☐
Sample date/times are provided.	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐
Sample temp OK?	☑	☐	☐
Sample out of temp?	☐	☑	☐

Initials: PK Date: 9/17/19

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

WBF

Eurofins TestAmerica, Houston
6310 Rothway Street
Houston, TX 77040
Phone: 713-690-4444 Fax: 713-690-5646

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Gamber, Carrier L	Carrier Tracking No(s):	COC No: 600-41771.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: carrie.gamber@testamericainc.com	State of Origin: Texas	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Texas		Job #: 600-191956-1
Address: 880 Riverside Parkway, ,	Due Date Requested: 9/19/2019			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: San Jacinto River Waste Pits Superfund	Project #: 18020662			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Full List w/ Totals	Total_TEQ	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
11187072-091219-SS-INF-1 (600-191956-1)	9/12/19	17:00 Central		Water			X	X	4	
11187072-091319-LL-EXC-1 (600-191956-2)	9/13/19	08:00 Central		Water			X	X	4	
11187072-091319-LL-INF-2 (600-191956-3)	9/13/19	09:00 Central		Water			X	X	4	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 4	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:		Time:	Method of Shipment:	
Relinquished by: [signature]	Date/Time: 9/16/19 1100	Company TA	Received by: [signature]	Date/Time: 9/17/19 900	Company ETA-SAC
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.: 947102		Cooler Temperature(s) °C and Other Remarks: ob: 0.9°C corr: 1.0°C		

Ver: 01/16/2019

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins Environment Testing TestAmerica

Client Information	Sampler: S. SALLER / L LAVERGNE	Lab PM: Gamber, Carrier L	Carrier Tracking No(s):	COC No: 180-54407-11342.1
Client Contact: Janie Smith	Phone: (225) 292-9007	E-Mail: carrie.gamber@testamericainc.com		Page: Page 1 of 3
Company: GHD Services Inc.				Job #: 11187072
Address: 5551 Corporate Boulevard Suite 200	Due Date Requested:			
City: Baton Rouge	TAT Requested (days): 5 DAY			
State, Zip: LA, 70808				
Phone: 225-292-9007(Tel)	PO #: Purchase Order Requested			
Email: janie.smith@ghd.com	WO #:			
Project Name: San Jacinto River Waste Pits Superfund S	Project #: 18020662			
Site: NORTHERN IMPOUNDMENT	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	See Attached SSOW	Lab Filter	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X			X	
11187072-091219-SS-INF-1	9/12/19	1700	C	W	X		X	X		DRAFT SSOW
11187072-091319-LL-EXC-1	9/13/19	0800	C	W	X		X	X		INCLUDED; CONFIRM
11187072-091319-LL-INF-2	9/13/19	0900	C	W	X		X	X		TO FINAL SSOW
TRIP BLANK	—	—	—	W						
										FIELD FILTERED SAMPLES
										NOT FILTERED; NEED
										LAB TO FILTER

600-191956 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	9/13/19	GHD	[signature]	9-13-19 1140	SDS
[signature]	9-13-19 1255	SDS	[signature]	9-13-19 1255	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

SSOW Ref. Code
11187072-2019-003

Project Name: San Jacinto River Waste Pits Superfund Site Investigation
GHD Project No./Phase/Task: 11187072
Project Location: San Jacinto, Harris County, Texas

Phase/Study Title: Pilot Test Sampling Event
Event Description: Pilot Test Water Sampling

Item	Sample Matrix	Analytical Parameters	Analytical Methods	Unit Prices	Applicable Surcharge Multiplier [1]	Extended Prices	Estimated Sample Qty/Event	Field QC Samples: MS	MSD	Lab Dup	Trip Blk	RBlk	Fld Dup	Other	Total Sample Qty.	Billable Samples	Estimated Cost/Event
Treatability Sampling																	
Water - Surface/Contact (see analyte lists on page 3)																	
1	water	Total Dioxins	1613B	375	1.50	$ 562.50	8	1	1			1	1		12	11	$6,187.50
2	water	Dissolved Dioxins	1613B	375	1.50	$ 562.50	8	1	1			1	1		12	11	$6,187.50
3	water	Total PCBs	8082	48	1.15	$ 55.20	8	1	1			1	1		12	11	$607.20
4	water	Dissolved PCBs	8082	48	1.15	$ 55.20	8	1	1			1	1		12	11	$607.20
5	water	Total Suspended Solids	SM 2540D	15	1.15	$ 17.25	8			1		1	1		11	11	$189.75
6	water	Total Dissolved Solids	SM 2540C	15	1.15	$ 17.25	8			1		1	1		11	11	$189.75
7	water	pH	EPA 9040B	5	1.15	$ 5.75	6			1		1	1		9	9	$51.75
8	water	VOC (see analyte list page 3)	SW846-8260C	110	1.15	$ 126.50	6	1	1		1	1	1	1	12	10	$1,265.00
9	water	SVOC	SW846-8270D	110	1.15	$ 126.50	6	1	1			1	1		10	9	$1,138.50
10	water	Pesticides	SW-846-8081B	72	1.15	$ 82.80	6	1	1			1	1		10	9	$745.20
11	water	Herbicides	SW-846-8151A	119	1.15	$ 136.85	6	1	1			1	1		10	9	$1,231.65
12	water	Total metals (see list on page 3)	SW846-6010C/7470A	69	1.15	$ 79.35	6	1	1			1	1		10	9	$714.15
13	water	Dissolved metals	SW846-6010C/7470A	69	1.15	$ 79.35	6	1	1			1	1		10	9	$714.15
14	water	Ammonia nitrogen	EPA-SW846-350.1	15	1.15	$ 17.25	6	1	1			1	1		10	9	$155.25
15	water	Biochemical Oxygen Demand	SM 5210B	18	1.15	$ 20.70	6			1		1	1		9	9	$186.30
16	water	Chemical Oxygen Demand	HACH8000	18	1.15	$ 20.70	6			1		1	1		9	9	$186.30
17	water	Total Organic Carbon	9060	18	1.15	$ 20.70	6	1	1			1	1		10	9	$186.30
18	water	Ferrous iron	HACH 8146	15	1.15	$ 17.25	6			1		1	1		9	9	$155.25
19	water	Chloride, bromide, sulfate	EPA 300.0	33	1.15	$ 37.95	6	1	1			1	1		10	9	$341.55
20	water	Phosphate as P	4500 P E	25	1.15	$ 28.75	6	1	1			1	1		10	9	$258.75
21	water	Alkalinity - total	SM 2320B	11	1.15	$ 12.65	6			1		1	1		9	9	$113.85
22	water	Alkalinity - carbonate	SM 2320B	11	1.15	$ 12.65	6			1		1	1		9	9	$113.85
23	water	Alkalinity - bicarbonate	SM 2320B	11	1.15	$ 12.65	6			1		1	1		9	9	$113.85
24	water	Nitrate as N*	EPA 300.0	11	1.15	$ 12.65	6	1	1			1	1		10	9	$113.85
25	water	nittrite as N*	EPA 300.0	11	1.15	$ 12.65	6	1	1			1	1		10	9	$113.85
26	water	sulfide	9034	15	1.15	$ 17.25	6			1		1	1		9	9	$155.25
27	water	cyanide	9012B	18	1.15	$ 20.70	6	1	1			1	1		6	9	$186.30

* - 48 hour hold time

NOTE: Please include and extra 6 unpreserved bottles to be used when filtering/decanting aliquots to be filtered.

TestAmerica Houston

Loc: 600
191956

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sample Receipt Chec

Date/Time Received: 09-13-19 12:55

JOB NUMBER: _____ CLIENT: GHD

UNPACKED BY: _____ CARRIER/DRIVER: PC

Custody Seal Present: ☒ YES ☐ NO Number of Coolers Received: 3

Cooler ID	Temp Blank	Trip Blank	Observed Temp (°C)	Therm ID	Them CF	Corrected Temp (°C)
RW	Y / N	Y / N	0.8	6T8	+.1	0.9
GR	Y / N	Y / N	1.7			1.8
BW	Y / N	Y / N	1.2			1.3
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				

CF = correction factor

Samples received on ice? ☒ YES ☐ NO

LABORATORY PRESERVATION OF SAMPLES REQUIRED: ☒ NO ☐ YES

Base samples are>pH 12: ☒ YES ☐ NO Acid preserved are<pH 2: ☒ YES ☐ NO

pH paper Lot #_____

VOA headspace acceptable (5-6mm): ☒ YES ☐ NO ☐ NA

	YES	NO
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	☒	

COMMENTS:

9/13/19

HS-SA-WI-013 Rev. 3; 07/01/2014

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 600-191956-2

Login Number: 191956
List Number: 1
Creator: Crafton, Tommie S

List Source: Eurofins TestAmerica, Houston

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.9, 1.8, 1.3
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 600-191956-2

Login Number: 191956
List Number: 2
Creator: Thompson, Sarah W

List Source: Eurofins TestAmerica, Sacramento
List Creation: 09/17/19 01:31 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	947102
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.9c ocr 1.0c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Appendix C-2
Treatability Study Data Validation Memo

Memorandum

May 5, 2020
Revision1: May 13, 2020
Revision 2: May 19, 2020
Revision 3: May 27, 2020

To:	Charles Munce	Ref. No.:	11187072
	DLB		
From:	Deborah Brennan/cs/7-NF	Tel:	513-285-1104
cc:	Janie Smith, Stefanie Castracane		

Subject: **Analytical Results and Reduced Validation**
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event - Pilot Study and Treatability
San Jacinto, Harris County, Texas
September 2019 through February 2020

1. Introduction

This document details a reduced validation of analytical results for soil and water samples collected in support of the Predesign Investigation Sampling Event - Pilot Study and Treatability in support of the San Jacinto River Waste Pits Superfund Site Investigation during September 2019 through February 2020. Samples were submitted to Eurofins/TestAmerica Laboratories located in Pittsburg, Pennsylvania. Sample collection and analysis summaries are presented in Tables 1A and 1B. The validated analytical results are summarized in Tables 2A and 2B. A summary of the analytical methodology is presented in Table 3.

Standard GHD report deliverables were submitted by the laboratory. The final results and supporting quality assurance/quality control (QA/QC) data were assessed. Evaluation of the data was based on information obtained from the chain of custody forms, finished report forms, method blank data, duplicate data, and recovery data from surrogate spikes/laboratory control samples (LCS)/matrix spikes (MS).

The QA/QC criteria by which these data have been assessed are outlined in the analytical methods referenced in Table 3 and applicable guidance from the documents entitled:

i) Quality Assurance Project Plan, Final Second Phase Pre-Design Investigation", San Jacinto River Waste Pits Site, Harris County, Texas, Report No 6, June 3 2019

ii) "National Functional Guidelines for High Resolution Superfund Methods Data Review", OLEM 9200.3-115, EPA 542-B-16-001, April 2016

iii) “USEPA National Functional Guidelines for Superfund Inorganic Methods Data Review”, USEPA 540-R-2016-001, September 2016

iv) “USEPA National Functional Guidelines for Superfund Organic Methods Data Review”, USEPA 540-R-2016-002, September 2016

Items ii), iii), and iv) will subsequently be referred to as the "Guidelines" in this Memorandum.

2. Sample Holding Time and Preservation

The sample holding time criteria for the analyses are summarized in Table 3. Sample chain of custody documents and analytical reports were used to determine sample holding times. All samples were prepared and analyzed within the required holding times with the exception of several samples for pH, nitrate as nitrogen, nitrite as nitrogen, and ferrous iron. The results analyzed outside of hold time were either qualified or rejected as shown in Table 4.

All samples were properly preserved (where necessary), delivered on ice, and stored by the laboratory at the required temperature (0-6°C).

3. Laboratory Blank Analyses

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures.

Leachate blanks are prepared from a purified matrix, are subject to the toxicity characteristic leaching procedure and analyzed with investigative samples to determine the existence and magnitude of contamination introduced during the leaching process.

For this study, laboratory blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

Organic Analyses

All leachate and method blank results were non-detect with the exception of several low concentrations of dioxins and furans. Most investigative samples associated with the contaminated laboratory blanks yielded either non-detect concentrations or concentrations significantly greater than the associated blank concentrations for dioxins and furans. Qualification of the sample data was not required on this basis. Those samples with results comparable to the blank concentrations were qualified as non-detect as shown in Table 5.

Inorganic Analyses

All leachate and method blank results were non-detect with the exception of several low concentrations of metals and general chemistry parameters. Most investigative samples associated with the contaminated laboratory blanks yielded either non-detect concentrations or concentrations greater than five times the

associated blank concentrations. Qualification of the sample data was not required on this basis. Those samples with results comparable to the blank concentrations were qualified as non-detect as shown in Table 6.

4. Surrogate Spike Recoveries - Organic Analyses

In accordance with the methods employed, all samples, blanks, and QC samples analyzed for organics are spiked with surrogate compounds prior to sample extraction and/or analysis. Surrogate recoveries provide a means to evaluate the effects of laboratory performance on individual sample matrices.

All samples submitted for volatile organic compound (VOC), semi-volatile organic compound (SVOC), total petroleum hydrocarbon (TPH), pesticide, dioxin and furan, herbicide and polychlorinated biphenyl (PCB) determinations were spiked with the appropriate number of surrogate compounds prior to sample extraction and/or analysis.

Each individual surrogate compound is expected to meet the laboratory control limits with the exception of semi-volatile organic compound (SVOC) analyses. According to the "Guidelines" for SVOC analyses, up to one outlying surrogate in the base/neutral or acid fractions is acceptable as long as the recovery is at least 10 percent.

Surrogate recoveries were assessed against laboratory control limits. All surrogate recoveries were within the laboratory control limits with the exception some low surrogate recoveries reported for dioxins and furans. Associated sample results were qualified as estimated as shown in Table 7.

5. Laboratory Control Sample Analyses

LCS and/or laboratory control sample duplicates (LCSD) are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix effects. The relative percent difference (RPD) of the LCS/LCSD recoveries is used to evaluate analytical precision.

For this study, LCS/LCSD were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

Organic Analyses

The LCS/LCSD contained all compounds of interest. All LCS recoveries and RPDs were within the laboratory control limits, demonstrating acceptable analytical accuracy and precision with the exception of several recoveries for dioxins and furans. Sample results associated with these outlying recoveries were qualified as shown in Table 8.

Inorganic Analyses

The LCS/LCSD contained all analytes of interest. LCS recoveries were assessed per the "Guidelines". All LCS recoveries (and RPDs) were within the control limits, demonstrating acceptable analytical accuracy and precision.

6. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

To evaluate the effects of sample matrices on the preparation process, measurement procedures, and accuracy of a particular analysis, samples are spiked with a known concentration of the analytes of concern and analyzed as MS or MS/MSD samples. The RPD between the MS and MSD is used to assess analytical precision. If the original sample concentration is significantly greater than the spike concentration, the recovery is not assessed. If only the MS or MSD recovery was outside of control limits, no qualification of the data was performed based on the acceptable recovery of the companion spike and the acceptable RPD.

MS or MS/MSD analyses were performed as specified in Table 1A. The laboratory performed additional site-specific MS or MS/MSD analyses internally.

Organic Analyses

The MS or MS/MSD samples were spiked with all compounds of interest. All percent recoveries and RPD values were within the laboratory control limits, demonstrating acceptable analytical accuracy and precision with the exception of several recoveries for SVOCs and dioxins and furans. Associated results were qualified as shown in Tables 9 and 10 for SVOCs and dioxins and furans, respectively.

Inorganic Analyses

The MS/MSD samples were spiked with the analytes of interest and the results were evaluated using the "Guidelines". All percent recoveries and RPD values were within the control limits, demonstrating acceptable analytical accuracy and precision with the exception of several recoveries for mercury and several general chemistry parameters. Associated results were qualified as shown in Table 11.

7. Duplicate Sample Analyses – Inorganic Analyses

Analytical precision is evaluated based on the analysis of laboratory duplicate samples. For this study, duplicate samples were prepared and analyzed by the laboratory for inorganic analyses as specified in Table 1A. The laboratory performed additional site-specific duplicate analyses internally. The duplicate results were evaluated per the "Guidelines". All duplicate analyses performed were acceptable, demonstrating acceptable analytical precision.

8. Field QA/QC Samples – Trip Blank Analysis

The field QA/QC consisted of one trip blank sample and one field duplicate sample set.

Trip Blank Sample Analysis

To evaluate contamination from sample collection, transportation, storage, and analytical activities, one trip blank was submitted to the laboratory for VOC and fumigant analysis. All results were non-detect for the compounds of interest.

Field Duplicate Sample Analysis

To assess the analytical and sampling protocol precision, one field duplicate sample set was collected and submitted “blind” to the laboratory as specified in Table 1A. The RPDs associated with the duplicate samples must be less than 50 percent for water. If the reported concentration in either the investigative sample or its duplicate is less than five times the reporting limit (RL), the evaluation criterion is one times the RL value.

All field duplicate results were within acceptable agreement, demonstrating acceptable sampling and analytical precision.

9. Analyte Reporting

The laboratory reported detected results down to the laboratory's method detection limit (MDL) for each analyte. Positive analyte detections less than the RL but greater than the MDL were reported as estimated (J) in Tables 2A and 2B unless qualified otherwise in this memorandum. Non-detect results were presented as non-detect at the MDL in Tables 2A and 2B.

10. Target Compound Identification/Sample Quantitation

To minimize erroneous compound identification during organic analyses, qualitative criteria including compound retention time, ion abundance ratio, and chromatography were evaluated according to the identification criteria established by the methods. An erroneous identification can be either a false-positive (reporting a target compound when it is not present in the sample) or false-negative (not reporting a compound that is present in the sample).

The samples identified in Table 1A were reviewed. Most congeners reported adhered to the specified identification criteria.

Some sample results were reported as positive hits although the ion abundance ratio was not met. The associated results were qualified as the estimated maximum possible concentration. A summary of these qualified data is presented in Table 12.

11. Conclusion

Based on the assessment detailed in the foregoing, the data summarized in Tables 2A and 2B are acceptable with the specific qualifications and exceptions noted herein.

Table 1A

Sample Collection and Analysis Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event - Pilot Study and Treatability
San Jacinto, Harris County, Texas
September 2019 through February 2020

Sample Delivery Group	Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	Analysis/Parameters																										Comments
						VOCs	SVOCs	Pesticides	PCBs	PCBs, Dissolved	Herbicides	Dioxins and Furans	Dioxins and Furans, Dissolved	Metals	Dissolved Metals	Bromide, Chloride, Sulfate	Fluoride	Ammonia	COD	Alkalinity	TDS	TSS	BOD	TOC	pH	Nitrate as N/Nitrite as N	Ferrous Iron	Phosphorus	Sulfide	Cyanide	Oil and Grease	Moisture	
180-96144-1	11187072-CONTACT-INITIAL	Contact-Initial	Water, experimental	09/24/2019	15:00	X	X	X	X		X	X		X	X	X		X	X	X	X	X	X	X	X								MS/MSD
320-54852-1	11187072-Filter Test-1	Filter Test	Water, experimental	09/30/2019	08:00							X																					
	11187072-Filter Test-3	Filter Test	Water, experimental	09/30/2019	08:00							X																					
	11187072-Filter Test-4	Filter Test	Water, experimental	09/30/2019	08:00							X																					
	11187072-Filter Test-5	Filter Test	Water, experimental	09/30/2019	08:00							X																					
	11187072-Filter Test-6	Filter Test	Water, experimental	09/30/2019	08:00							X																					
320-56102-1	CEFF-Filtered	CEFF	Water, experimental	11/05/2019	14:00								X		X																		
	FEFF-Filtered	FEFF	Water, experimental	11/05/2019	14:00								X		X																		MS/MSD
320-57624-1	11187072-FEFF-0.1um	FEFF	Water, experimental	01/09/2020	12:00							X																					
	11187072-FEFF-0.45um	FEFF	Water, experimental	01/09/2020	12:00							X																					
	11187072-FEFF-1um	FEFF	Water, experimental	01/09/2020	12:00							X																					
320-57717-1	11187072-FEFF-0.025um	FEFF	Water, experimental	01/13/2020	12:00							X																					
	11187072-FEFF-0.050um	FEFF	Water, experimental	01/13/2020	12:00							X																					
320-58170-1	11187072-Berm-GW	Berm	Water, experimental	01/29/2020	13:30							X																					
	11187072-Berm-Solids	Berm	Sediment	01/29/2020	13:30							X																			X		
	11187072-Eastern-GW	Eastern	Water, experimental	01/29/2020	13:30							X																					
	11187072-Eastern-Solids	Eastern	Sediment	01/29/2020	13:30							X																			X		
	11187072-Western-GW	Western	Water, experimental	01/29/2020	13:30							X																					
	11187072-Western-Solids	Western	Sediment	01/29/2020	13:30							X																			X		
320-58545-1	11187072-Berm-Rock	Berm	Solid	02/11/2020	11:00							X																			X		
	11187072-Eastern Rock	Eastern	Solid	02/11/2020	11:00							X																			X		
	11187072-Western-Rock	Western	Solid	02/11/2020	11:00							X																			X		
600-191956-1 and	11187072-091319-LL-EXC-1	EXC-1	Water, experimental	09/13/2019	08:00	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X			
600-191956-2	TRIP BLANK	-	-	09/13/2019	-	X																											Trip Blank

Table 1A

Sample Collection and Analysis Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event - Pilot Study and Treatability
San Jacinto, Harris County, Texas
September 2019 through February 2020

Sample Delivery Group	Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	Analysis/Parameters																											Comments
						VOCs	SVOCs	Pesticides	PCBs	PCBs, Dissolved	Herbicides	Dioxins and Furans	Dioxins and Furans, Dissolved	Metals	Dissolved Metals	Bromide, Chloride, Sulfate	Fluoride	Ammonia	COD	Alkalinity	TDS	TSS	BOD	TOC	pH	Nitrate as N/Nitrite as N	Ferrous Iron	Phosphorus	Sulfide	Cyanide	Oil and Grease	Moisture	
600-194690-1	1. CEFF	CEFF	Water, experimental	10/25/2019	19:25							X		X		X	X	X	X	X	X	X		X	X	X		X	X				MS/MSD
	DUP	INF4	Water, experimental	10/25/2019	00:00									X											X				X		X		Field Duplicate for INF 4
	FEFF 1	FEFF	Water, experimental	10/26/2019	12:45							X		X		X	X	X	X	X	X	X		X	X	X		X	X				MS/MSD
	INF 3	INF3	Water, experimental	10/25/2019	13:30							X		X		X	X	X	X	X	X	X		X	X	X		X	X		X		MS/MSD
	INF 3 - DISSOLVED	INF3	Water, experimental	10/25/2019	13:30								X		X																		
	INF 4	INF4	Water, experimental	10/25/2019	20:50							X		X		X		X	X	X	X	X		X	X	X		X	X		X		MS/MSD
	INF 4 - DISSOLVED	INF4	Water, experimental	10/26/2019	22:10								X		X																		MS/MSD
	SS	SS	Water, experimental	10/26/2019	14:30																	X											
	CUI	CUI	Water, experimental	10/26/2019	14:30																	X											

Notes:

MS/MSD	- Matrix Spike/Matrix Spike Duplicate
VOCs	- Volatile Organic Compounds
SVOCs	- Semi-volatile Organic Compounds
PCBs	- Polychlorinated Biphenyls
BOD	- Biochemical Oxygen Demand
COD	- Chemical Oxygen Demand
TDS	- Total Dissolved Solids
TSS	- Total Suspended Solids
TOC	- Total Organic Carbon
N	- Nitrogen
-	- Not Applicable

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**Berm**	**Berm**	**Berm**	**CEFF**	**CEFF**
	Sample Name:	**11187072-Berm-GW**	**11187072-Berm-Solids**	**11187072-Berm-Rock**	**1. CEFF**	**CEFF-Filtered**
	Sample Date:	**01/29/2020**	**01/29/2020**	**02/11/2020**	**10/25/2019**	**11/05/2019**
Parameters	**Unit**					
Volatile Organic Compounds						
1,1,1-Trichloroethane	µg/L	--	--	--	--	--
1,1,2-Trichloroethane	µg/L	--	--	--	--	--
1,1-Dichloroethane	µg/L	--	--	--	--	--
1,1-Dichloroethene	µg/L	--	--	--	--	--
1,2,4-Trichlorobenzene	µg/L	--	--	--	--	--
1,2-Dichlorobenzene	µg/L	--	--	--	--	--
1,2-Dichloroethane	µg/L	--	--	--	--	--
1,2-Dichloropropane	µg/L	--	--	--	--	--
1,3-Dichlorobenzene	µg/L	--	--	--	--	--
1,4-Dichlorobenzene	µg/L	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	--	--	--	--	--
Benzene	µg/L	--	--	--	--	--
Bromodichloromethane	µg/L	--	--	--	--	--
Bromoform	µg/L	--	--	--	--	--
Carbon disulfide	µg/L	--	--	--	--	--
Carbon tetrachloride	µg/L	--	--	--	--	--
Chlorobenzene	µg/L	--	--	--	--	--
Chloroethane	µg/L	--	--	--	--	--
Chloroform (Trichloromethane)	µg/L	--	--	--	--	--
cis-1,2-Dichloroethene	µg/L	--	--	--	--	--
cis-1,3-Dichloropropene	µg/L	--	--	--	--	--
Ethylbenzene	µg/L	--	--	--	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		Berm	Berm	Berm	CEFF	CEFF
Sample Name:		11187072-Berm-GW	11187072-Berm-Solids	11187072-Berm-Rock	1. CEFF	CEFF-Filtered
Sample Date:		01/29/2020	01/29/2020	02/11/2020	10/25/2019	11/05/2019
Parameters	**Unit**					
Volatile Organic Compounds						
Hexachlorobutadiene	µg/L	--	--	--	--	--
m&p-Xylenes	µg/L	--	--	--	--	--
o-Xylene	µg/L	--	--	--	--	--
Tetrachloroethene	µg/L	--	--	--	--	--
Toluene	µg/L	--	--	--	--	--
trans-1,2-Dichloroethene	µg/L	--	--	--	--	--
trans-1,3-Dichloropropene	µg/L	--	--	--	--	--
Trichloroethene	µg/L	--	--	--	--	--
Vinyl chloride	µg/L	--	--	--	--	--
Xylenes (total)	µg/L	--	--	--	--	--
Semivolatile Organic Compounds						
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	--	--	--	--	--
2,4,5-Trichlorophenol	µg/L	--	--	--	--	--
2,4,6-Trichlorophenol	µg/L	--	--	--	--	--
2,4-Dichlorophenol	µg/L	--	--	--	--	--
2,4-Dimethylphenol	µg/L	--	--	--	--	--
2,4-Dinitrophenol	µg/L	--	--	--	--	--
2,4-Dinitrotoluene	µg/L	--	--	--	--	--
2,6-Dinitrotoluene	µg/L	--	--	--	--	--
2-Chloronaphthalene	µg/L	--	--	--	--	--
2-Chlorophenol	µg/L	--	--	--	--	--
2-Methylnaphthalene	µg/L	--	--	--	--	--
2-Methylphenol	µg/L	--	--	--	--	--
2-Nitroaniline	µg/L	--	--	--	--	--
2-Nitrophenol	µg/L	--	--	--	--	--
3&4-Methylphenol	µg/L	--	--	--	--	--
3,3'-Dichlorobenzidine	µg/L	--	--	--	--	--
3-Nitroaniline	µg/L	--	--	--	--	--
4,6-Dinitro-2-methylphenol	µg/L	--	--	--	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		Berm	Berm	Berm	CEFF	CEFF
Sample Name:		11187072-Berm-GW	11187072-Berm-Solids	11187072-Berm-Rock	1. CEFF	CEFF-Filtered
Sample Date:		01/29/2020	01/29/2020	02/11/2020	10/25/2019	11/05/2019
Parameters	**Unit**					
Semivolatile Organic Compounds						
4-Bromophenyl phenyl ether	µg/L	--	--	--	--	--
4-Chloro-3-methylphenol	µg/L	--	--	--	--	--
4-Chloroaniline	µg/L	--	--	--	--	--
4-Chlorophenyl phenyl ether	µg/L	--	--	--	--	--
4-Nitroaniline	µg/L	--	--	--	--	--
4-Nitrophenol	µg/L	--	--	--	--	--
Acenaphthene	µg/L	--	--	--	--	--
Acenaphthylene	µg/L	--	--	--	--	--
Acetophenone	µg/L	--	--	--	--	--
Anthracene	µg/L	--	--	--	--	--
Atrazine	µg/L	--	--	--	--	--
Benzaldehyde	µg/L	--	--	--	--	--
Benzo(a)anthracene	µg/L	--	--	--	--	--
Benzo(a)pyrene	µg/L	--	--	--	--	--
Benzo(b)fluoranthene	µg/L	--	--	--	--	--
Benzo(g,h,i)perylene	µg/L	--	--	--	--	--
Benzo(k)fluoranthene	µg/L	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	µg/L	--	--	--	--	--
bis(2-Chloroethoxy)methane	µg/L	--	--	--	--	--
bis(2-Chloroethyl)ether	µg/L	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	--	--	--	--	--
Butyl benzylphthalate (BBP)	µg/L	--	--	--	--	--
Caprolactam	µg/L	--	--	--	--	--
Carbazole	µg/L	--	--	--	--	--
Chrysene	µg/L	--	--	--	--	--
Di-n-butylphthalate (DBP)	µg/L	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	µg/L	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	--	--	--	--	--
Dibenzofuran	µg/L	--	--	--	--	--
Diethyl phthalate	µg/L	--	--	--	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		Berm	Berm	Berm	CEFF	CEFF
Sample Name:		11187072-Berm-GW	11187072-Berm-Solids	11187072-Berm-Rock	1. CEFF	CEFF-Filtered
Sample Date:		01/29/2020	01/29/2020	02/11/2020	10/25/2019	11/05/2019
Parameters	**Unit**					
Semivolatile Organic Compounds						
Dimethyl phthalate	µg/L	--	--	--	--	--
Fluoranthene	µg/L	--	--	--	--	--
Fluorene	µg/L	--	--	--	--	--
Hexachlorobenzene	µg/L	--	--	--	--	--
Hexachlorobutadiene	µg/L	--	--	--	--	--
Hexachlorocyclopentadiene	µg/L	--	--	--	--	--
Hexachloroethane	µg/L	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	µg/L	--	--	--	--	--
Isophorone	µg/L	--	--	--	--	--
N-Nitrosodi-n-propylamine	µg/L	--	--	--	--	--
N-Nitrosodiphenylamine	µg/L	--	--	--	--	--
Naphthalene	µg/L	--	--	--	--	--
Nitrobenzene	µg/L	--	--	--	--	--
Pentachlorophenol	µg/L	--	--	--	--	--
Phenanthrene	µg/L	--	--	--	--	--
Phenol	µg/L	--	--	--	--	--
Pyrene	µg/L	--	--	--	--	--
Pyridine	µg/L	--	--	--	--	--
Herbicides						
2,4,5-TP (Silvex)	µg/L	--	--	--	--	--
2,4-Dichlorophenoxyacetic acid (2,4-D)	µg/L	--	--	--	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		Berm	Berm	Berm	CEFF	CEFF
Sample Name:		11187072-Berm-GW	11187072-Berm-Solids	11187072-Berm-Rock	1. CEFF	CEFF-Filtered
Sample Date:		01/29/2020	01/29/2020	02/11/2020	10/25/2019	11/05/2019
Parameters	**Unit**					
Polychlorinated Biphenyls (PCBs)						
Aroclor-1016 (PCB-1016)	µg/L	--	--	--	--	--
Aroclor-1016 (PCB-1016) (dissolved)	µg/L	--	--	--	--	--
Aroclor-1221 (PCB-1221)	µg/L	--	--	--	--	--
Aroclor-1221 (PCB-1221) (dissolved)	µg/L	--	--	--	--	--
Aroclor-1232 (PCB-1232)	µg/L	--	--	--	--	--
Aroclor-1232 (PCB-1232) (dissolved)	µg/L	--	--	--	--	--
Aroclor-1242 (PCB-1242)	µg/L	--	--	--	--	--
Aroclor-1242 (PCB-1242) (dissolved)	µg/L	--	--	--	--	--
Aroclor-1248 (PCB-1248)	µg/L	--	--	--	--	--
Aroclor-1248 (PCB-1248) (dissolved)	µg/L	--	--	--	--	--
Aroclor-1254 (PCB-1254)	µg/L	--	--	--	--	--
Aroclor-1254 (PCB-1254) (dissolved)	µg/L	--	--	--	--	--
Aroclor-1260 (PCB-1260)	µg/L	--	--	--	--	--
Aroclor-1260 (PCB-1260) (dissolved)	µg/L	--	--	--	--	--
Pesticides						
alpha-Chlordane	µg/L	--	--	--	--	--
Chlordane	µg/L	--	--	--	--	--
Endrin	µg/L	--	--	--	--	--
gamma-BHC (lindane)	µg/L	--	--	--	--	--
gamma-Chlordane	µg/L	--	--	--	--	--
Heptachlor	µg/L	--	--	--	--	--
Heptachlor epoxide	µg/L	--	--	--	--	--
Hexachlorobenzene	µg/L	--	--	--	--	--
Methoxychlor	µg/L	--	--	--	--	--
Toxaphene	µg/L	--	--	--	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		Berm	Berm	Berm	CEFF	CEFF
Sample Name:		11187072-Berm-GW	11187072-Berm-Solids	11187072-Berm-Rock	1. CEFF	CEFF-Filtered
Sample Date:		01/29/2020	01/29/2020	02/11/2020	10/25/2019	11/05/2019
Parameters	**Unit**					
Polychlorinated Dibenzodioxins (PCDDs) & Polychlorinated Dibenzofurans (PCDFs)						
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	pg/g	--	320	9.6 J	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	pg/g	--	5.0 J	0.57 U	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	pg/g	--	0.61 U	0.59 J	--	--
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	pg/g	--	1.9 J	0.229 U	--	--
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	pg/g	--	0.30 U	0.18 J	--	--
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/g	--	0.48 U	0.24 U	--	--
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	pg/g	--	0.27 U	0.085 U	--	--
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/g	--	0.86 J	0.046 U	--	--
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/g	--	0.23 U	0.076 U	--	--
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/g	--	0.62 J	0.042 U	--	--
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	pg/g	--	0.18 U	0.27 U	--	--
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	pg/g	--	0.15 U	0.093 J	--	--
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	pg/g	--	0.12 U	0.17 J	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/g	--	0.16 U	0.084 J	--	--
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	pg/g	--	0.13 U	0.050 U	--	--
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	pg/g	--	0.56 J	0.059 U	--	--
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	pg/g	--	0.73 J	0.11 J	--	--
Total heptachlorodibenzo-p-dioxin (HpCDD)	pg/g	--	20 J	1.3 J	--	--
Total heptachlorodibenzofuran (HpCDF)	pg/g	--	3.8 J	0.46 J	--	--
Total hexachlorodibenzo-p-dioxin (HxCDD)	pg/g	--	5.0 J	0.24 J	--	--
Total hexachlorodibenzofuran (HxCDF)	pg/g	--	0.69 J	0.35 J	--	--
Total pentachlorodibenzo-p-dioxin (PeCDD)	pg/g	--	0.15 U	0.093 J	--	--
Total pentachlorodibenzofuran (PeCDF)	pg/g	--	0.69 J	0.17 J	--	--
Total tetrachlorodibenzo-p-dioxin (TCDD)	pg/g	--	0.56 J	0.059 U	--	--
Total tetrachlorodibenzofuran (TCDF)	pg/g	--	0.73 J	0.23 J	--	--
Total WHO Dioxin TEQ(Human/Mammal)(ND=0)	pg/g	--	0.898	0.128	--	--
Total WHO Dioxin TEQ(Human/Mammal)(ND=0.5)	pg/g	--	1.06	0.204	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	pg/L	83 U	--	--	44 U	--
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD) (dissolv	pg/L	--	--	--	--	21 U
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	pg/L	21 U	--	--	6.4 U	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		Berm	Berm	Berm	CEFF	CEFF
Sample Name:		11187072-Berm-GW	11187072-Berm-Solids	11187072-Berm-Rock	1. CEFF	CEFF-Filtered
Sample Date:		01/29/2020	01/29/2020	02/11/2020	10/25/2019	11/05/2019
Parameters	**Unit**					
Polychlorinated Dibenzodioxins (PCDDs) & Polychlorinated Dibenzofurans (PCDFs)						
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF) (dissolved)	pg/L	--	--	--	--	13 J
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	pg/L	9.52 U	--	--	4.9 J	--
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) (dissolv	pg/L	--	--	--	--	2.4 J
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	pg/L	7.54 U	--	--	2.9 U	--
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) (dissolved)	pg/L	--	--	--	--	2.5 J
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	pg/L	5.85 U	--	--	1.4 U	--
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) (dissolved)	pg/L	--	--	--	--	1.1 U
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/L	7.72 U	--	--	2.6 U	--
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) (dissolved)	pg/L	--	--	--	--	2.9 J
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	pg/L	5.92 U	--	--	3.9 J	--
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) (dissolved)	pg/L	--	--	--	--	0.91 U
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/L	0.48 U	--	--	1.6 J	--
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) (dissolved)	pg/L	--	--	--	--	1.1 U
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/L	6.14 U	--	--	1.7 J	--
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) (dissolved)	pg/L	--	--	--	--	0.89 U
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/L	6.10 U	--	--	1.4 U	--
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) (dissolved)	pg/L	--	--	--	--	0.97 U
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	pg/L	6.25 U	--	--	2.0 U	--
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) (dissolved)	pg/L	--	--	--	--	1.9 J
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	pg/L	6.12 U	--	--	0.94 U	--
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) (dissolved)	pg/L	--	--	--	--	3.1 J
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	pg/L	0.46 U	--	--	2.5 J	--
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) (dissolved)	pg/L	--	--	--	--	1.2 U
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/L	5.39 U	--	--	1.2 U	--
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) (dissolved)	pg/L	--	--	--	--	1.5 J
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	pg/L	0.51 U	--	--	0.65 U	--
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) (dissolved)	pg/L	--	--	--	--	1.2 U
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	pg/L	0.60 U	--	--	13	--
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) (dissolved)	pg/L	--	--	--	--	1.1 U
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	pg/L	0.28 U	--	--	37	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		**Berm**	**Berm**	**Berm**	**CEFF**	**CEFF**
Sample Name:		**11187072-Berm-GW**	**11187072-Berm-Solids**	**11187072-Berm-Rock**	**1. CEFF**	**CEFF-Filtered**
Sample Date:		**01/29/2020**	**01/29/2020**	**02/11/2020**	**10/25/2019**	**11/05/2019**
Parameters	**Unit**					
Polychlorinated Dibenzodioxins (PCDDs) & Polychlorinated Dibenzofurans (PCDFs)						
2,3,7,8-Tetrachlorodibenzofuran (TCDF) (dissolved)	pg/L	--	--	--	--	2.7 J
Total heptachlorodibenzo-p-dioxin (HpCDD)	pg/L	15 J	--	--	8.2 J	--
Total heptachlorodibenzo-p-dioxin (HpCDD) (dissolved)	pg/L	--	--	--	--	2.4 J
Total heptachlorodibenzofuran (HpCDF)	pg/L	13 J	--	--	4.3 J	--
Total heptachlorodibenzofuran (HpCDF) (dissolved)	pg/L	--	--	--	--	2.5 J
Total hexachlorodibenzo-p-dioxin (HxCDD)	pg/L	5.0 J	--	--	5.6 J	--
Total hexachlorodibenzo-p-dioxin (HxCDD) (dissolved)	pg/L	--	--	--	--	2.9 J
Total hexachlorodibenzofuran (HxCDF)	pg/L	6.8 J	--	--	8.8 J	--
Total hexachlorodibenzofuran (HxCDF) (dissolved)	pg/L	--	--	--	--	3.4 J
Total pentachlorodibenzo-p-dioxin (PeCDD)	pg/L	1.1 J	--	--	0.94 U	--
Total pentachlorodibenzo-p-dioxin (PeCDD) (dissolved)	pg/L	--	--	--	--	4.4 J
Total pentachlorodibenzofuran (PeCDF)	pg/L	0.51 U	--	--	2.5 J	--
Total pentachlorodibenzofuran (PeCDF) (dissolved)	pg/L	--	--	--	--	1.3 U
Total tetrachlorodibenzo-p-dioxin (TCDD)	pg/L	0.60 U	--	--	13 J	--
Total tetrachlorodibenzo-p-dioxin (TCDD) (dissolved)	pg/L	--	--	--	--	1.1 U
Total tetrachlorodibenzofuran (TCDF)	pg/L	0.28 U	--	--	68 J	--
Total tetrachlorodibenzofuran (TCDF) (dissolved)	pg/L	--	--	--	--	2.7 J
Total WHO Dioxin TEQ(Human/Mammal)(ND=0)	pg/L	--	--	--	17.5	--
Total WHO Dioxin TEQ(Human/Mammal)(ND=0.5)	pg/L	5.49	--	--	18.5	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		Berm	Berm	Berm	CEFF	CEFF
Sample Name:		11187072-Berm-GW	11187072-Berm-Solids	11187072-Berm-Rock	1. CEFF	CEFF-Filtered
Sample Date:		01/29/2020	01/29/2020	02/11/2020	10/25/2019	11/05/2019
Parameters	**Unit**					
Metals						
Aluminum	mg/L	--	--	--	--	--
Aluminum (dissolved)	mg/L	--	--	--	--	0.048 U
Antimony	mg/L	--	--	--	0.0039 U	--
Antimony (dissolved)	mg/L	--	--	--	--	0.0098 U
Arsenic	mg/L	--	--	--	0.0029 U	--
Arsenic (dissolved)	mg/L	--	--	--	--	0.012 U
Barium	mg/L	--	--	--	0.29	--
Barium (dissolved)	mg/L	--	--	--	--	0.30
Beryllium	mg/L	--	--	--	0.00042 U	--
Beryllium (dissolved)	mg/L	--	--	--	--	0.00030 U
Boron	mg/L	--	--	--	0.21	--
Boron (dissolved)	mg/L	--	--	--	--	--
Cadmium	mg/L	--	--	--	0.00040 J	--
Cadmium (dissolved)	mg/L	--	--	--	--	0.00050 U
Calcium	mg/L	--	--	--	55	--
Calcium (dissolved)	mg/L	--	--	--	--	59
Chromium	mg/L	--	--	--	0.0016 U	--
Chromium (dissolved)	mg/L	--	--	--	--	0.0012 U
Cobalt	mg/L	--	--	--	0.00040 J	--
Cobalt (dissolved)	mg/L	--	--	--	--	0.0030 U
Copper	mg/L	--	--	--	0.0081 U	--
Copper (dissolved)	mg/L	--	--	--	--	0.0072 J
Iron	mg/L	--	--	--	0.29 J	--
Iron (dissolved)	mg/L	--	--	--	--	0.056 J
Lead	mg/L	--	--	--	0.0022 U	--
Lead (dissolved)	mg/L	--	--	--	--	0.0025 U
Magnesium	mg/L	--	--	--	33	--
Magnesium (dissolved)	mg/L	--	--	--	--	32
Manganese	mg/L	--	--	--	0.088	--
Manganese (dissolved)	mg/L	--	--	--	--	0.064

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		Berm	Berm	Berm	CEFF	CEFF
Sample Name:		11187072-Berm-GW	11187072-Berm-Solids	11187072-Berm-Rock	1. CEFF	CEFF-Filtered
Sample Date:		01/29/2020	01/29/2020	02/11/2020	10/25/2019	11/05/2019
Parameters	**Unit**					
Metals						
Mercury	mg/L	--	--	--	--	--
Mercury (dissolved)	mg/L	--	--	--	--	--
Molybdenum	mg/L	--	--	--	0.010	--
Molybdenum (dissolved)	mg/L	--	--	--	--	0.010 J
Nickel	mg/L	--	--	--	0.0021 J	--
Nickel (dissolved)	mg/L	--	--	--	--	0.0024 U
Phosphorus	mg/L	--	--	--	--	--
Phosphorus (dissolved)	mg/L	--	--	--	--	0.050 U
Potassium	mg/L	--	--	--	12	--
Potassium (dissolved)	mg/L	--	--	--	--	14
Selenium	mg/L	--	--	--	0.0029 U	--
Selenium (dissolved)	mg/L	--	--	--	--	0.013 U
Silver	mg/L	--	--	--	0.0013 U	--
Silver (dissolved)	mg/L	--	--	--	--	0.00084 U
Sodium	mg/L	--	--	--	350	--
Sodium (dissolved)	mg/L	--	--	--	--	330
Strontium	mg/L	--	--	--	0.48	--
Strontium (dissolved)	mg/L	--	--	--	--	0.51
Thallium	mg/L	--	--	--	0.0042 U	--
Thallium (dissolved)	mg/L	--	--	--	--	0.0090 U
Tin	mg/L	--	--	--	0.00059 U	--
Tin (dissolved)	mg/L	--	--	--	--	--
Titanium	mg/L	--	--	--	0.0011 J	--
Titanium (dissolved)	mg/L	--	--	--	--	--
Vanadium	mg/L	--	--	--	0.0036 J	--
Vanadium (dissolved)	mg/L	--	--	--	--	0.0038 J

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		Berm	Berm	Berm	CEFF	CEFF
Sample Name:		11187072-Berm-GW	11187072-Berm-Solids	11187072-Berm-Rock	1. CEFF	CEFF-Filtered
Sample Date:		01/29/2020	01/29/2020	02/11/2020	10/25/2019	11/05/2019
Parameters	**Unit**					
Metals						
Zinc	mg/L	--	--	--	0.045	--
Zinc (dissolved)	mg/L	--	--	--	--	0.012
Mercury	ng/L	--	--	--	18 J	--
Mercury (dissolved)	ng/L	--	--	--	--	1.7
Mercury	µg/L	--	--	--	--	--
Mercury (dissolved)	µg/L	--	--	--	--	--
Thallium	µg/L	--	--	--	--	--
Thallium (dissolved)	µg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)						
2-Ethoxyethanol	mg/L	--	--	--	--	--
Ethylene glycol	mg/L	--	--	--	--	--
Ethylene glycol monomethyl ether (2-methyoxyethanol)	mg/L	--	--	--	--	--
General Chemistry						
Percent solids	%	--	99.6	99.7	--	--
Ignitability	Deg F	--	--	--	--	--
Alkalinity (as CaCO3 pH=4.5)	mg/L	--	--	--	--	--
Alkalinity, bicarbonate	mg/L	--	--	--	160 J	--
Alkalinity, carbonate	mg/L	--	--	--	20 UJ	--
Alkalinity, total (as CaCO3)	mg/L	--	--	--	160 J	--
Ammonia-N	mg/L	--	--	--	0.067 U	--
Biochemical oxygen demand (BOD)	mg/L	--	--	--	--	--
Bromide	mg/L	--	--	--	0.20 J	--
Chemical oxygen demand (COD)	mg/L	--	--	--	27	--
Chloride	mg/L	--	--	--	480	--
Ferrous iron	mg/L	--	--	--	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**Berm**	**Berm**	**Berm**	**CEFF**	**CEFF**
	Sample Name:	**11187072-Berm-GW**	**11187072-Berm-Solids**	**11187072-Berm-Rock**	**1. CEFF**	**CEFF-Filtered**
	Sample Date:	**01/29/2020**	**01/29/2020**	**02/11/2020**	**10/25/2019**	**11/05/2019**
Parameters	**Unit**					
General Chemistry						
Fluoride	mg/L	--	--	--	0.34	--
Hydrogen sulfide	mg/L	--	--	--	--	--
Nitrate (as N)	mg/L	--	--	--	R	--
Nitrite (as N)	mg/L	--	--	--	R	--
Oil and grease (HEM), total	mg/L	--	--	--	--	--
Oil and grease (SGT HEM), non-polar material	mg/L	--	--	--	--	--
Phosphorus	mg/L	--	--	--	0.066	--
Phosphorus, total (as PO4)	mg/L	--	--	--	0.20	--
Sulfate	mg/L	--	--	--	1.9 U	--
Sulfide	mg/L	--	--	--	0.0090 U	--
TOC average duplicates	mg/L	--	--	--	--	--
Total dissolved solids (TDS)	mg/L	--	--	--	1300	--
Total organic carbon (TOC)	mg/L	--	--	--	5.0 J	--
Total suspended solids (TSS)	mg/L	--	--	--	11	--
Free liquid	none	--	--	--	--	--
pH, lab	s.u.	--	--	--	7.7 J	--
Cyanide (total)	µg/L	--	--	--	--	--

Notes:

U - Not detected at the associated reporting limit
J - Estimated concentration
 - Not detected; associated reporting limit is estimated
R - Rejected
-- - Not applicable
s.u. - Standard Units

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**Contact-Initial**	**CUI**	**Eastern**	**Eastern**	**Eastern**
	Sample Name:	**11187072-CONTACT-INITIAL**	**CUI**	**11187072-Eastern-GW**	**11187072-Eastern-Solids**	**11187072-Eastern Rock**
	Sample Date:	**09/24/2019**	**10/26/2019**	**01/29/2020**	**01/29/2020**	**02/11/2020**
Parameters	**Unit**					
Volatile Organic Compounds						
1,1,1-Trichloroethane	µg/L	2.5 U	--	--	--	--
1,1,2-Trichloroethane	µg/L	2.4 U	--	--	--	--
1,1-Dichloroethane	µg/L	1.8 U	--	--	--	--
1,1-Dichloroethene	µg/L	2.9 U	--	--	--	--
1,2,4-Trichlorobenzene	µg/L	3.7 U	--	--	--	--
1,2-Dichlorobenzene	µg/L	2.0 U	--	--	--	--
1,2-Dichloroethane	µg/L	1.5 U	--	--	--	--
1,2-Dichloropropane	µg/L	2.5 U	--	--	--	--
1,3-Dichlorobenzene	µg/L	1.6 U	--	--	--	--
1,4-Dichlorobenzene	µg/L	1.0 U	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	2.9 U	--	--	--	--
Benzene	µg/L	2.0 U	--	--	--	--
Bromodichloromethane	µg/L	2.4 U	--	--	--	--
Bromoform	µg/L	2.6 U	--	--	--	--
Carbon disulfide	µg/L	--	--	--	--	--
Carbon tetrachloride	µg/L	3.3 U	--	--	--	--
Chlorobenzene	µg/L	1.6 U	--	--	--	--
Chloroethane	µg/L	2.6 U	--	--	--	--
Chloroform (Trichloromethane)	µg/L	2.1 U	--	--	--	--
cis-1,2-Dichloroethene	µg/L	1.6 U	--	--	--	--
cis-1,3-Dichloropropene	µg/L	1.6 U	--	--	--	--
Ethylbenzene	µg/L	2.2 U	--	--	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		Contact-Initial	CUI	Eastern	Eastern	Eastern
Sample Name:		11187072-CONTACT-INITIAL	CUI	11187072-Eastern-GW	11187072-Eastern-Solids	11187072-Eastern Rock
Sample Date:		09/24/2019	10/26/2019	01/29/2020	01/29/2020	02/11/2020
Parameters	**Unit**					
Volatile Organic Compounds						
Hexachlorobutadiene	µg/L	--	--	--	--	--
m&p-Xylenes	µg/L	1.9 U	--	--	--	--
o-Xylene	µg/L	2.4 U	--	--	--	--
Tetrachloroethene	µg/L	2.0 U	--	--	--	--
Toluene	µg/L	1.7 U	--	--	--	--
trans-1,2-Dichloroethene	µg/L	2.5 U	--	--	--	--
trans-1,3-Dichloropropene	µg/L	1.7 U	--	--	--	--
Trichloroethene	µg/L	1.5 U	--	--	--	--
Vinyl chloride	µg/L	3.7 U	--	--	--	--
Xylenes (total)	µg/L	4.3 U	--	--	--	--
Semivolatile Organic Compounds						
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	0.56 U	--	--	--	--
2,4,5-Trichlorophenol	µg/L	0.59 U	--	--	--	--
2,4,6-Trichlorophenol	µg/L	0.65 UJ	--	--	--	--
2,4-Dichlorophenol	µg/L	0.49 UJ	--	--	--	--
2,4-Dimethylphenol	µg/L	0.39 UJ	--	--	--	--
2,4-Dinitrophenol	µg/L	15 U	--	--	--	--
2,4-Dinitrotoluene	µg/L	0.49 U	--	--	--	--
2,6-Dinitrotoluene	µg/L	0.58 U	--	--	--	--
2-Chloronaphthalene	µg/L	0.57 UJ	--	--	--	--
2-Chlorophenol	µg/L	0.62 UJ	--	--	--	--
2-Methylnaphthalene	µg/L	0.60 UJ	--	--	--	--
2-Methylphenol	µg/L	2.9 UJ	--	--	--	--
2-Nitroaniline	µg/L	5.3 U	--	--	--	--
2-Nitrophenol	µg/L	0.59 U	--	--	--	--
3&4-Methylphenol	µg/L	3.6 UJ	--	--	--	--
3,3'-Dichlorobenzidine	µg/L	5.6 U	--	--	--	--
3-Nitroaniline	µg/L	0.64 U	--	--	--	--
4,6-Dinitro-2-methylphenol	µg/L	14 U	--	--	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		Contact-Initial	CUI	Eastern	Eastern	Eastern
Sample Name:		11187072-CONTACT-INITIAL	CUI	11187072-Eastern-GW	11187072-Eastern-Solids	11187072-Eastern Rock
Sample Date:		09/24/2019	10/26/2019	01/29/2020	01/29/2020	02/11/2020
Parameters	**Unit**					
Semivolatile Organic Compounds						
4-Bromophenyl phenyl ether	µg/L	0.61 U	--	--	--	--
4-Chloro-3-methylphenol	µg/L	0.59 U	--	--	--	--
4-Chloroaniline	µg/L	0.42 UJ	--	--	--	--
4-Chlorophenyl phenyl ether	µg/L	0.59 UJ	--	--	--	--
4-Nitroaniline	µg/L	0.56 U	--	--	--	--
4-Nitrophenol	µg/L	1.4 U	--	--	--	--
Acenaphthene	µg/L	0.63 UJ	--	--	--	--
Acenaphthylene	µg/L	0.63 UJ	--	--	--	--
Acetophenone	µg/L	0.60 U	--	--	--	--
Anthracene	µg/L	0.47 U	--	--	--	--
Atrazine	µg/L	6.1 U	--	--	--	--
Benzaldehyde	µg/L	1.1 U	--	--	--	--
Benzo(a)anthracene	µg/L	0.72 U	--	--	--	--
Benzo(a)pyrene	µg/L	0.51 U	--	--	--	--
Benzo(b)fluoranthene	µg/L	0.93 U	--	--	--	--
Benzo(g,h,i)perylene	µg/L	0.66 UJ	--	--	--	--
Benzo(k)fluoranthene	µg/L	0.85 U	--	--	--	--
Biphenyl (1,1-Biphenyl)	µg/L	0.57 UJ	--	--	--	--
bis(2-Chloroethoxy)methane	µg/L	0.64 UJ	--	--	--	--
bis(2-Chloroethyl)ether	µg/L	0.38 UJ	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	60 U	--	--	--	--
Butyl benzylphthalate (BBP)	µg/L	4.4 U	--	--	--	--
Caprolactam	µg/L	4.5 U	--	--	--	--
Carbazole	µg/L	0.49 U	--	--	--	--
Chrysene	µg/L	0.78 U	--	--	--	--
Di-n-butylphthalate (DBP)	µg/L	7.1 U	--	--	--	--
Di-n-octyl phthalate (DnOP)	µg/L	6.6 U	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.69 U	--	--	--	--
Dibenzofuran	µg/L	0.70 UJ	--	--	--	--
Diethyl phthalate	µg/L	5.5 U	--	--	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		Contact-Initial	CUI	Eastern	Eastern	Eastern
Sample Name:		11187072-CONTACT-INITIAL	CUI	11187072-Eastern-GW	11187072-Eastern-Solids	11187072-Eastern Rock
Sample Date:		09/24/2019	10/26/2019	01/29/2020	01/29/2020	02/11/2020
Parameters	**Unit**					
Semivolatile Organic Compounds						
Dimethyl phthalate	µg/L	0.54 U	--	--	--	--
Fluoranthene	µg/L	0.58 U	--	--	--	--
Fluorene	µg/L	0.66 UJ	--	--	--	--
Hexachlorobenzene	µg/L	0.54 U	--	--	--	--
Hexachlorobutadiene	µg/L	0.66 UJ	--	--	--	--
Hexachlorocyclopentadiene	µg/L	R	--	--	--	--
Hexachloroethane	µg/L	0.60 UJ	--	--	--	--
Indeno(1,2,3-cd)pyrene	µg/L	0.82 U	--	--	--	--
Isophorone	µg/L	0.52 U	--	--	--	--
N-Nitrosodi-n-propylamine	µg/L	0.68 U	--	--	--	--
N-Nitrosodiphenylamine	µg/L	1.1 U	--	--	--	--
Naphthalene	µg/L	0.57 UJ	--	--	--	--
Nitrobenzene	µg/L	4.8 U	--	--	--	--
Pentachlorophenol	µg/L	8.1 U	--	--	--	--
Phenanthrene	µg/L	0.53 U	--	--	--	--
Phenol	µg/L	4.7 UJ	--	--	--	--
Pyrene	µg/L	0.52 U	--	--	--	--
Pyridine	µg/L	5.2 UJ	--	--	--	--
Herbicides						
2,4,5-TP (Silvex)	µg/L	0.29 U	--	--	--	--
2,4-Dichlorophenoxyacetic acid (2,4-D)	µg/L	1.9 U	--	--	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		Contact-Initial	CUI	Eastern	Eastern	Eastern
Sample Name:		11187072-CONTACT-INITIAL	CUI	11187072-Eastern-GW	11187072-Eastern-Solids	11187072-Eastern Rock
Sample Date:		09/24/2019	10/26/2019	01/29/2020	01/29/2020	02/11/2020
Parameters	**Unit**					
Polychlorinated Biphenyls (PCBs)						
Aroclor-1016 (PCB-1016)	µg/L	0.18 U	--	--	--	--
Aroclor-1016 (PCB-1016) (dissolved)	µg/L	--	--	--	--	--
Aroclor-1221 (PCB-1221)	µg/L	0.22 U	--	--	--	--
Aroclor-1221 (PCB-1221) (dissolved)	µg/L	--	--	--	--	--
Aroclor-1232 (PCB-1232)	µg/L	0.20 U	--	--	--	--
Aroclor-1232 (PCB-1232) (dissolved)	µg/L	--	--	--	--	--
Aroclor-1242 (PCB-1242)	µg/L	0.34 U	--	--	--	--
Aroclor-1242 (PCB-1242) (dissolved)	µg/L	--	--	--	--	--
Aroclor-1248 (PCB-1248)	µg/L	0.11 U	--	--	--	--
Aroclor-1248 (PCB-1248) (dissolved)	µg/L	--	--	--	--	--
Aroclor-1254 (PCB-1254)	µg/L	0.36 U	--	--	--	--
Aroclor-1254 (PCB-1254) (dissolved)	µg/L	--	--	--	--	--
Aroclor-1260 (PCB-1260)	µg/L	0.15 U	--	--	--	--
Aroclor-1260 (PCB-1260) (dissolved)	µg/L	--	--	--	--	--
Pesticides						
alpha-Chlordane	µg/L	--	--	--	--	--
Chlordane	µg/L	0.27 U	--	--	--	--
Endrin	µg/L	0.0086 U	--	--	--	--
gamma-BHC (lindane)	µg/L	0.011 U	--	--	--	--
gamma-Chlordane	µg/L	--	--	--	--	--
Heptachlor	µg/L	0.017 U	--	--	--	--
Heptachlor epoxide	µg/L	0.013 U	--	--	--	--
Hexachlorobenzene	µg/L	0.016 U	--	--	--	--
Methoxychlor	µg/L	0.029 U	--	--	--	--
Toxaphene	µg/L	1.9 U	--	--	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		Contact-Initial	CUI	Eastern	Eastern	Eastern
Sample Name:		11187072-CONTACT-INITIAL	CUI	11187072-Eastern-GW	11187072-Eastern-Solids	11187072-Eastern Rock
Sample Date:		09/24/2019	10/26/2019	01/29/2020	01/29/2020	02/11/2020
Parameters	**Unit**					
Polychlorinated Dibenzodioxins (PCDDs) & Polychlorinated Dibenzofurans (PCDFs)						
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	pg/g	--	--	--	280	61
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	pg/g	--	--	--	4.0 J	0.58 U
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	pg/g	--	--	--	12	4.4 J
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	pg/g	--	--	--	0.75 U	0.27 U
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	pg/g	--	--	--	0.24 U	0.027 U
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/g	--	--	--	0.46 U	0.27 U
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	0.18 J	0.098 U
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/g	--	--	--	0.38 J	0.26 U
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	0.14 U	0.090 U
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/g	--	--	--	0.48 J	0.13 J
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	0.24 J	0.18 U
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	pg/g	--	--	--	0.18 U	0.11 J
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	pg/g	--	--	--	0.12 J	0.16 J
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	0.095 U	0.059 U
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	pg/g	--	--	--	0.12 U	0.060 U
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	pg/g	--	--	--	0.98 J	0.14 J
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	pg/g	--	--	--	2.2	0.15 J
Total heptachlorodibenzo-p-dioxin (HpCDD)	pg/g	--	--	--	33 J	12 J
Total heptachlorodibenzofuran (HpCDF)	pg/g	--	--	--	2.0 J	0.38 J
Total hexachlorodibenzo-p-dioxin (HxCDD)	pg/g	--	--	--	4.9 J	1.1 J
Total hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	1.2 J	0.18 J
Total pentachlorodibenzo-p-dioxin (PeCDD)	pg/g	--	--	--	0.18 U	0.11 J
Total pentachlorodibenzofuran (PeCDF)	pg/g	--	--	--	0.12 J	0.16 J
Total tetrachlorodibenzo-p-dioxin (TCDD)	pg/g	--	--	--	0.98 J	0.14 J
Total tetrachlorodibenzofuran (TCDF)	pg/g	--	--	--	3.6 J	0.15 J
Total WHO Dioxin TEQ(Human/Mammal)(ND=0)	pg/g	--	--	--	1.54	0.345
Total WHO Dioxin TEQ(Human/Mammal)(ND=0.5)	pg/g	--	--	--	1.68	0.404
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	pg/L	3300	--	94 U	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD) (dissolv	pg/L	--	--	--	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	pg/L	130	--	14 U	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		Contact-Initial	CUI	Eastern	Eastern	Eastern
Sample Name:		11187072-CONTACT-INITIAL	CUI	11187072-Eastern-GW	11187072-Eastern-Solids	11187072-Eastern Rock
Sample Date:		09/24/2019	10/26/2019	01/29/2020	01/29/2020	02/11/2020
Parameters	**Unit**					
Polychlorinated Dibenzodioxins (PCDDs) & Polychlorinated Dibenzofurans (PCDFs)						
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF) (dissolved)	pg/L	--	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	pg/L	150	--	9.52 U	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) (dissolv	pg/L	--	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	pg/L	160	--	7.54 U	--	--
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) (dissolved)	pg/L	--	--	--	--	--
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	pg/L	58	--	5.85 U	--	--
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) (dissolved)	pg/L	--	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/L	2.8 U	--	7.72 U	--	--
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) (dissolved)	pg/L	--	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	pg/L	410	--	5.92 U	--	--
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) (dissolved)	pg/L	--	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/L	4.1 U	--	0.52 U	--	--
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) (dissolved)	pg/L	--	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/L	110	--	0.81 U	--	--
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) (dissolved)	pg/L	--	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/L	1.8 U	--	6.10 U	--	--
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) (dissolved)	pg/L	--	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	pg/L	4.2 U	--	6.25 U	--	--
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) (dissolved)	pg/L	--	--	--	--	--
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	pg/L	18 U	--	6.12 U	--	--
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) (dissolved)	pg/L	--	--	--	--	--
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	pg/L	200	--	0.48 U	--	--
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) (dissolved)	pg/L	--	--	--	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/L	12 U	--	0.55 U	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) (dissolved)	pg/L	--	--	--	--	--
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	pg/L	110	--	0.55 U	--	--
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) (dissolved)	pg/L	--	--	--	--	--
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	pg/L	1500	--	0.44 U	--	--
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) (dissolved)	pg/L	--	--	--	--	--
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	pg/L	3900	--	0.36 U	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		**Contact-Initial**	**CUI**	**Eastern**	**Eastern**	**Eastern**
Sample Name:		**11187072-CONTACT-INITIAL**	**CUI**	**11187072-Eastern-GW**	**11187072-Eastern-Solids**	**11187072-Eastern Rock**
Sample Date:		**09/24/2019**	**10/26/2019**	**01/29/2020**	**01/29/2020**	**02/11/2020**
Parameters	**Unit**					
Polychlorinated Dibenzodioxins (PCDDs) & Polychlorinated Dibenzofurans (PCDFs)						
2,3,7,8-Tetrachlorodibenzofuran (TCDF) (dissolved)	pg/L	--	--	--	--	--
Total heptachlorodibenzo-p-dioxin (HpCDD)	pg/L	370 J	--	16 J	--	--
Total heptachlorodibenzo-p-dioxin (HpCDD) (dissolved)	pg/L	--	--	--	--	--
Total heptachlorodibenzofuran (HpCDF)	pg/L	280 J	--	8.9 J	--	--
Total heptachlorodibenzofuran (HpCDF) (dissolved)	pg/L	--	--	--	--	--
Total hexachlorodibenzo-p-dioxin (HxCDD)	pg/L	35 J	--	3.4 J	--	--
Total hexachlorodibenzo-p-dioxin (HxCDD) (dissolved)	pg/L	--	--	--	--	--
Total hexachlorodibenzofuran (HxCDF)	pg/L	620 J	--	3.9 J	--	--
Total hexachlorodibenzofuran (HxCDF) (dissolved)	pg/L	--	--	--	--	--
Total pentachlorodibenzo-p-dioxin (PeCDD)	pg/L	20 J	--	0.62 J	--	--
Total pentachlorodibenzo-p-dioxin (PeCDD) (dissolved)	pg/L	--	--	--	--	--
Total pentachlorodibenzofuran (PeCDF)	pg/L	490 J	--	0.55 U	--	--
Total pentachlorodibenzofuran (PeCDF) (dissolved)	pg/L	--	--	--	--	--
Total tetrachlorodibenzo-p-dioxin (TCDD)	pg/L	1600 J	--	0.44 U	--	--
Total tetrachlorodibenzo-p-dioxin (TCDD) (dissolved)	pg/L	--	--	--	--	--
Total tetrachlorodibenzofuran (TCDF)	pg/L	8100 J	--	0.36 U	--	--
Total tetrachlorodibenzofuran (TCDF) (dissolved)	pg/L	--	--	--	--	--
Total WHO Dioxin TEQ(Human/Mammal)(ND=0)	pg/L	1990	--	--	--	--
Total WHO Dioxin TEQ(Human/Mammal)(ND=0.5)	pg/L	2000	--	4.91	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**Contact-Initial**	**CUI**	**Eastern**	**Eastern**	**Eastern**
	Sample Name:	**11187072-CONTACT-INITIAL**	**CUI**	**11187072-Eastern-GW**	**11187072-Eastern-Solids**	**11187072-Eastern Rock**
	Sample Date:	**09/24/2019**	**10/26/2019**	**01/29/2020**	**01/29/2020**	**02/11/2020**
Parameters	**Unit**					
Metals						
Aluminum	mg/L	0.048 U	--	--	--	--
Aluminum (dissolved)	mg/L	0.048 U	--	--	--	--
Antimony	mg/L	0.0098 U	--	--	--	--
Antimony (dissolved)	mg/L	0.0098 U	--	--	--	--
Arsenic	mg/L	0.012 U	--	--	--	--
Arsenic (dissolved)	mg/L	0.012 U	--	--	--	--
Barium	mg/L	0.17	--	--	--	--
Barium (dissolved)	mg/L	0.18	--	--	--	--
Beryllium	mg/L	0.00037 J	--	--	--	--
Beryllium (dissolved)	mg/L	0.00030 U	--	--	--	--
Boron	mg/L	--	--	--	--	--
Boron (dissolved)	mg/L	--	--	--	--	--
Cadmium	mg/L	0.00050 U	--	--	--	--
Cadmium (dissolved)	mg/L	0.00050 U	--	--	--	--
Calcium	mg/L	35	--	--	--	--
Calcium (dissolved)	mg/L	37	--	--	--	--
Chromium	mg/L	0.0012 U	--	--	--	--
Chromium (dissolved)	mg/L	0.0012 U	--	--	--	--
Cobalt	mg/L	0.0030 U	--	--	--	--
Cobalt (dissolved)	mg/L	0.0030 U	--	--	--	--
Copper	mg/L	0.011 U	--	--	--	--
Copper (dissolved)	mg/L	0.014	--	--	--	--
Iron	mg/L	0.022 J	--	--	--	--
Iron (dissolved)	mg/L	0.020 U	--	--	--	--
Lead	mg/L	0.0025 U	--	--	--	--
Lead (dissolved)	mg/L	0.0025 U	--	--	--	--
Magnesium	mg/L	22	--	--	--	--
Magnesium (dissolved)	mg/L	22	--	--	--	--
Manganese	mg/L	0.14	--	--	--	--
Manganese (dissolved)	mg/L	0.15	--	--	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		Contact-Initial	CUI	Eastern	Eastern	Eastern
Sample Name:		11187072-CONTACT-INITIAL	CUI	11187072-Eastern-GW	11187072-Eastern-Solids	11187072-Eastern Rock
Sample Date:		09/24/2019	10/26/2019	01/29/2020	01/29/2020	02/11/2020
Parameters	**Unit**					
Metals						
Mercury	mg/L	0.00010 U	--	--	--	--
Mercury (dissolved)	mg/L	0.00037	--	--	--	--
Molybdenum	mg/L	0.0079 J	--	--	--	--
Molybdenum (dissolved)	mg/L	0.0076 J	--	--	--	--
Nickel	mg/L	0.0024 U	--	--	--	--
Nickel (dissolved)	mg/L	0.0024 U	--	--	--	--
Phosphorus	mg/L	0.050 U	--	--	--	--
Phosphorus (dissolved)	mg/L	0.066 J	--	--	--	--
Potassium	mg/L	12	--	--	--	--
Potassium (dissolved)	mg/L	11	--	--	--	--
Selenium	mg/L	0.013 U	--	--	--	--
Selenium (dissolved)	mg/L	0.013 U	--	--	--	--
Silver	mg/L	0.00084 U	--	--	--	--
Silver (dissolved)	mg/L	0.00084 U	--	--	--	--
Sodium	mg/L	250	--	--	--	--
Sodium (dissolved)	mg/L	260	--	--	--	--
Strontium	mg/L	0.31	--	--	--	--
Strontium (dissolved)	mg/L	0.32	--	--	--	--
Thallium	mg/L	0.0090 U	--	--	--	--
Thallium (dissolved)	mg/L	0.0090 U	--	--	--	--
Tin	mg/L	--	--	--	--	--
Tin (dissolved)	mg/L	--	--	--	--	--
Titanium	mg/L	--	--	--	--	--
Titanium (dissolved)	mg/L	--	--	--	--	--
Vanadium	mg/L	0.0019 U	--	--	--	--
Vanadium (dissolved)	mg/L	0.0019 U	--	--	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		Contact-Initial	CUI	Eastern	Eastern	Eastern
Sample Name:		11187072-CONTACT-INITIAL	CUI	11187072-Eastern-GW	11187072-Eastern-Solids	11187072-Eastern Rock
Sample Date:		09/24/2019	10/26/2019	01/29/2020	01/29/2020	02/11/2020
Parameters	**Unit**					
Metals						
Zinc	mg/L	0.011 U	--	--	--	--
Zinc (dissolved)	mg/L	0.013 U	--	--	--	--
Mercury	ng/L	--	--	--	--	--
Mercury (dissolved)	ng/L	--	--	--	--	--
Mercury	µg/L	--	--	--	--	--
Mercury (dissolved)	µg/L	--	--	--	--	--
Thallium	µg/L	--	--	--	--	--
Thallium (dissolved)	µg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)						
2-Ethoxyethanol	mg/L	--	--	--	--	--
Ethylene glycol	mg/L	--	--	--	--	--
Ethylene glycol monomethyl ether (2-methyoxyethanol)	mg/L	--	--	--	--	--
General Chemistry						
Percent solids	%	--	--	--	99.6	94.4
Ignitability	Deg F	--	--	--	--	--
Alkalinity (as CaCO3 pH=4.5)	mg/L	210	--	--	--	--
Alkalinity, bicarbonate	mg/L	210	--	--	--	--
Alkalinity, carbonate	mg/L	5.0 U	--	--	--	--
Alkalinity, total (as CaCO3)	mg/L	--	--	--	--	--
Ammonia-N	mg/L	2.7	--	--	--	--
Biochemical oxygen demand (BOD)	mg/L	6.0 U	--	--	--	--
Bromide	mg/L	1.5	--	--	--	--
Chemical oxygen demand (COD)	mg/L	92	--	--	--	--
Chloride	mg/L	400	--	--	--	--
Ferrous iron	mg/L	--	--	--	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**Contact-Initial**	**CUI**	**Eastern**	**Eastern**	**Eastern**
	Sample Name:	**11187072-CONTACT-INITIAL**	**CUI**	**11187072-Eastern-GW**	**11187072-Eastern-Solids**	**11187072-Eastern Rock**
	Sample Date:	**09/24/2019**	**10/26/2019**	**01/29/2020**	**01/29/2020**	**02/11/2020**
Parameters	**Unit**					
General Chemistry						
Fluoride	mg/L	--	--	--	--	--
Hydrogen sulfide	mg/L	--	--	--	--	--
Nitrate (as N)	mg/L	--	--	--	--	--
Nitrite (as N)	mg/L	--	--	--	--	--
Oil and grease (HEM), total	mg/L	--	--	--	--	--
Oil and grease (SGT HEM), non-polar material	mg/L	--	--	--	--	--
Phosphorus	mg/L	--	--	--	--	--
Phosphorus, total (as PO4)	mg/L	--	--	--	--	--
Sulfate	mg/L	8.7	--	--	--	--
Sulfide	mg/L	--	--	--	--	--
TOC average duplicates	mg/L	4.5	--	--	--	--
Total dissolved solids (TDS)	mg/L	910	--	--	--	--
Total organic carbon (TOC)	mg/L	--	--	--	--	--
Total suspended solids (TSS)	mg/L	3400	16000	--	--	--
Free liquid	none	--	--	--	--	--
pH, lab	s.u.	7.8 J	--	--	--	--
Cyanide (total)	µg/L	--	--	--	--	--

Notes:

U - Not detected at the associated reporting limit
J - Estimated concentration
 - Not detected; associated reporting limit is estimated
R - Rejected
-- - Not applicable
s.u. - Standard Units

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**EXC-1**	**FEFF**	**FEFF**	**FEFF**
	Sample Name:	**11187072-091319-LL-EXC-1**	**FEFF 1**	**FEFF-Filtered**	**11187072-FEFF-0.1um**
	Sample Date:	**09/13/2019**	**10/26/2019**	**11/05/2019**	**01/09/2020**
Parameters	**Unit**				
Volatile Organic Compounds					
1,1,1-Trichloroethane	µg/L	--	--	--	--
1,1,2-Trichloroethane	µg/L	--	--	--	--
1,1-Dichloroethane	µg/L	--	--	--	--
1,1-Dichloroethene	µg/L	0.76 U	--	--	--
1,2,4-Trichlorobenzene	µg/L	--	--	--	--
1,2-Dichlorobenzene	µg/L	--	--	--	--
1,2-Dichloroethane	µg/L	1.0 U	--	--	--
1,2-Dichloropropane	µg/L	--	--	--	--
1,3-Dichlorobenzene	µg/L	--	--	--	--
1,4-Dichlorobenzene	µg/L	0.91 U	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	1.6 U	--	--	--
Benzene	µg/L	0.56 U	--	--	--
Bromodichloromethane	µg/L	--	--	--	--
Bromoform	µg/L	--	--	--	--
Carbon disulfide	µg/L	1.7 U	--	--	--
Carbon tetrachloride	µg/L	0.92 U	--	--	--
Chlorobenzene	µg/L	0.82 U	--	--	--
Chloroethane	µg/L	--	--	--	--
Chloroform (Trichloromethane)	µg/L	0.82 U	--	--	--
cis-1,2-Dichloroethene	µg/L	--	--	--	--
cis-1,3-Dichloropropene	µg/L	--	--	--	--
Ethylbenzene	µg/L	--	--	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**EXC-1**	**FEFF**	**FEFF**	**FEFF**
	Sample Name:	**11187072-091319-LL-EXC-1**	**FEFF 1**	**FEFF-Filtered**	**11187072-FEFF-0.1um**
	Sample Date:	**09/13/2019**	**10/26/2019**	**11/05/2019**	**01/09/2020**
Parameters	**Unit**				
Volatile Organic Compounds					
Hexachlorobutadiene	µg/L	1.2 U	--	--	--
m&p-Xylenes	µg/L	1.3 U	--	--	--
o-Xylene	µg/L	0.93 U	--	--	--
Tetrachloroethene	µg/L	1.2 U	--	--	--
Toluene	µg/L	--	--	--	--
trans-1,2-Dichloroethene	µg/L	--	--	--	--
trans-1,3-Dichloropropene	µg/L	--	--	--	--
Trichloroethene	µg/L	1.6 U	--	--	--
Vinyl chloride	µg/L	0.85 U	--	--	--
Xylenes (total)	µg/L	2.0 U	--	--	--
Semivolatile Organic Compounds					
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	--	--	--	--
2,4,5-Trichlorophenol	µg/L	4.4 U	--	--	--
2,4,6-Trichlorophenol	µg/L	3.5 U	--	--	--
2,4-Dichlorophenol	µg/L	--	--	--	--
2,4-Dimethylphenol	µg/L	--	--	--	--
2,4-Dinitrophenol	µg/L	--	--	--	--
2,4-Dinitrotoluene	µg/L	2.2 U	--	--	--
2,6-Dinitrotoluene	µg/L	2.9 U	--	--	--
2-Chloronaphthalene	µg/L	--	--	--	--
2-Chlorophenol	µg/L	--	--	--	--
2-Methylnaphthalene	µg/L	--	--	--	--
2-Methylphenol	µg/L	1.5 U	--	--	--
2-Nitroaniline	µg/L	--	--	--	--
2-Nitrophenol	µg/L	--	--	--	--
3&4-Methylphenol	µg/L	1.4 U	--	--	--
3,3'-Dichlorobenzidine	µg/L	--	--	--	--
3-Nitroaniline	µg/L	--	--	--	--
4,6-Dinitro-2-methylphenol	µg/L	--	--	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**EXC-1**	**FEFF**	**FEFF**	**FEFF**
	Sample Name:	**11187072-091319-LL-EXC-1**	**FEFF 1**	**FEFF-Filtered**	**11187072-FEFF-0.1um**
	Sample Date:	**09/13/2019**	**10/26/2019**	**11/05/2019**	**01/09/2020**
Parameters	**Unit**				
Semivolatile Organic Compounds					
4-Bromophenyl phenyl ether	µg/L	--	--	--	--
4-Chloro-3-methylphenol	µg/L	--	--	--	--
4-Chloroaniline	µg/L	--	--	--	--
4-Chlorophenyl phenyl ether	µg/L	--	--	--	--
4-Nitroaniline	µg/L	--	--	--	--
4-Nitrophenol	µg/L	--	--	--	--
Acenaphthene	µg/L	--	--	--	--
Acenaphthylene	µg/L	--	--	--	--
Acetophenone	µg/L	--	--	--	--
Anthracene	µg/L	--	--	--	--
Atrazine	µg/L	--	--	--	--
Benzaldehyde	µg/L	--	--	--	--
Benzo(a)anthracene	µg/L	--	--	--	--
Benzo(a)pyrene	µg/L	--	--	--	--
Benzo(b)fluoranthene	µg/L	--	--	--	--
Benzo(g,h,i)perylene	µg/L	--	--	--	--
Benzo(k)fluoranthene	µg/L	--	--	--	--
Biphenyl (1,1-Biphenyl)	µg/L	--	--	--	--
bis(2-Chloroethoxy)methane	µg/L	--	--	--	--
bis(2-Chloroethyl)ether	µg/L	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	--	--	--	--
Butyl benzylphthalate (BBP)	µg/L	--	--	--	--
Caprolactam	µg/L	--	--	--	--
Carbazole	µg/L	--	--	--	--
Chrysene	µg/L	--	--	--	--
Di-n-butylphthalate (DBP)	µg/L	--	--	--	--
Di-n-octyl phthalate (DnOP)	µg/L	--	--	--	--
Dibenz(a,h)anthracene	µg/L	--	--	--	--
Dibenzofuran	µg/L	--	--	--	--
Diethyl phthalate	µg/L	--	--	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**EXC-1**	**FEFF**	**FEFF**	**FEFF**
	Sample Name:	**11187072-091319-LL-EXC-1**	**FEFF 1**	**FEFF-Filtered**	**11187072-FEFF-0.1um**
	Sample Date:	**09/13/2019**	**10/26/2019**	**11/05/2019**	**01/09/2020**
Parameters	**Unit**				
Semivolatile Organic Compounds					
Dimethyl phthalate	µg/L	--	--	--	--
Fluoranthene	µg/L	--	--	--	--
Fluorene	µg/L	--	--	--	--
Hexachlorobenzene	µg/L	3.4 U	--	--	--
Hexachlorobutadiene	µg/L	2.7 U	--	--	--
Hexachlorocyclopentadiene	µg/L	--	--	--	--
Hexachloroethane	µg/L	3.4 U	--	--	--
Indeno(1,2,3-cd)pyrene	µg/L	--	--	--	--
Isophorone	µg/L	--	--	--	--
N-Nitrosodi-n-propylamine	µg/L	--	--	--	--
N-Nitrosodiphenylamine	µg/L	--	--	--	--
Naphthalene	µg/L	--	--	--	--
Nitrobenzene	µg/L	2.7 U	--	--	--
Pentachlorophenol	µg/L	3.3 U	--	--	--
Phenanthrene	µg/L	--	--	--	--
Phenol	µg/L	--	--	--	--
Pyrene	µg/L	--	--	--	--
Pyridine	µg/L	2.3 U	--	--	--
Herbicides					
2,4,5-TP (Silvex)	µg/L	0.020 U	--	--	--
2,4-Dichlorophenoxyacetic acid (2,4-D)	µg/L	0.040 U	--	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**EXC-1**	**FEFF**	**FEFF**	**FEFF**
	Sample Name:	**11187072-091319-LL-EXC-1**	**FEFF 1**	**FEFF-Filtered**	**11187072-FEFF-0.1um**
	Sample Date:	**09/13/2019**	**10/26/2019**	**11/05/2019**	**01/09/2020**
Parameters	**Unit**				
Polychlorinated Biphenyls (PCBs)					
Aroclor-1016 (PCB-1016)	µg/L	0.56 U	--	--	--
Aroclor-1016 (PCB-1016) (dissolved)	µg/L	0.64 U	--	--	--
Aroclor-1221 (PCB-1221)	µg/L	0.46 U	--	--	--
Aroclor-1221 (PCB-1221) (dissolved)	µg/L	0.52 U	--	--	--
Aroclor-1232 (PCB-1232)	µg/L	0.13 U	--	--	--
Aroclor-1232 (PCB-1232) (dissolved)	µg/L	0.14 U	--	--	--
Aroclor-1242 (PCB-1242)	µg/L	0.17 U	--	--	--
Aroclor-1242 (PCB-1242) (dissolved)	µg/L	0.19 U	--	--	--
Aroclor-1248 (PCB-1248)	µg/L	0.21 U	--	--	--
Aroclor-1248 (PCB-1248) (dissolved)	µg/L	0.24 U	--	--	--
Aroclor-1254 (PCB-1254)	µg/L	0.15 U	--	--	--
Aroclor-1254 (PCB-1254) (dissolved)	µg/L	0.17 U	--	--	--
Aroclor-1260 (PCB-1260)	µg/L	0.35 U	--	--	--
Aroclor-1260 (PCB-1260) (dissolved)	µg/L	0.40 U	--	--	--
Pesticides					
alpha-Chlordane	µg/L	0.10 U	--	--	--
Chlordane	µg/L	0.13 U	--	--	--
Endrin	µg/L	0.015 U	--	--	--
gamma-BHC (lindane)	µg/L	0.013 U	--	--	--
gamma-Chlordane	µg/L	0.015 U	--	--	--
Heptachlor	µg/L	0.013 U	--	--	--
Heptachlor epoxide	µg/L	0.015 U	--	--	--
Hexachlorobenzene	µg/L	--	--	--	--
Methoxychlor	µg/L	0.019 U	--	--	--
Toxaphene	µg/L	5.1 U	--	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		**EXC-1**	**FEFF**	**FEFF**	**FEFF**
Sample Name:		**11187072-091319-LL-EXC-1**	**FEFF 1**	**FEFF-Filtered**	**11187072-FEFF-0.1um**
Sample Date:		**09/13/2019**	**10/26/2019**	**11/05/2019**	**01/09/2020**
Parameters	**Unit**				
Polychlorinated Dibenzodioxins (PCDDs) & Polychlorinated Dibenzofurans (PCDFs)					
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	pg/g	--	--	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	pg/g	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	pg/g	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	pg/g	--	--	--	--
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	pg/g	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/g	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/g	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/g	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	pg/g	--	--	--	--
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	pg/g	--	--	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	pg/g	--	--	--	--
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	pg/g	--	--	--	--
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	pg/g	--	--	--	--
Total heptachlorodibenzo-p-dioxin (HpCDD)	pg/g	--	--	--	--
Total heptachlorodibenzofuran (HpCDF)	pg/g	--	--	--	--
Total hexachlorodibenzo-p-dioxin (HxCDD)	pg/g	--	--	--	--
Total hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--
Total pentachlorodibenzo-p-dioxin (PeCDD)	pg/g	--	--	--	--
Total pentachlorodibenzofuran (PeCDF)	pg/g	--	--	--	--
Total tetrachlorodibenzo-p-dioxin (TCDD)	pg/g	--	--	--	--
Total tetrachlorodibenzofuran (TCDF)	pg/g	--	--	--	--
Total WHO Dioxin TEQ(Human/Mammal)(ND=0)	pg/g	--	--	--	--
Total WHO Dioxin TEQ(Human/Mammal)(ND=0.5)	pg/g	--	--	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	pg/L	90 J	44 U	--	14 U
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD) (dissolv	pg/L	17 UJ	--	29 U	--
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	pg/L	5.8 U	5.5 U	--	2.1 J

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		**EXC-1**	**FEFF**	**FEFF**	**FEFF**
Sample Name:		**11187072-091319-LL-EXC-1**	**FEFF 1**	**FEFF-Filtered**	**11187072-FEFF-0.1um**
Sample Date:		**09/13/2019**	**10/26/2019**	**11/05/2019**	**01/09/2020**
Parameters	**Unit**				
Polychlorinated Dibenzodioxins (PCDDs) & Polychlorinated Dibenzofurans (PCDFs)					
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF) (dissolved)	pg/L	2.1 U	--	22 J	--
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	pg/L	4.1 U	6.7 J	--	1.7 U
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) (dissolv	pg/L	1.1 U	--	6.4 J	--
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	pg/L	6.9 U	1.9 U	--	0.95 U
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) (dissolved)	pg/L	3.6 J	--	6.0 J	--
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	pg/L	1.8 U	1.3 U	--	0.27 U
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) (dissolved)	pg/L	2.8 J	--	4.9 J	--
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/L	0.82 U	0.83 U	--	1.8 U
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) (dissolved)	pg/L	1.2 U	--	4.9 J	--
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	pg/L	19 J	1.6 J	--	0.50 U
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) (dissolved)	pg/L	7.6 J	--	3.1 J	--
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/L	0.83 U	0.79 U	--	0.33 U
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) (dissolved)	pg/L	1.2 U	--	4.4 J	--
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/L	5.6 J	0.77 U	--	0.50 U
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) (dissolved)	pg/L	2.7 J	--	3.5 J	--
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/L	0.74 U	0.73 U	--	0.29 U
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) (dissolved)	pg/L	1.1 U	--	4.8 J	--
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	pg/L	0.68 U	0.52 U	--	0.50 J
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) (dissolved)	pg/L	2.0 U	--	3.8 J	--
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	pg/L	1.1 U	0.99 U	--	0.35 U
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) (dissolved)	pg/L	1.6 U	--	4.6 J	--
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	pg/L	11 J	1.5 J	--	0.32 U
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) (dissolved)	pg/L	3.4 U	--	3.2 J	--
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/L	0.73 U	0.52 U	--	0.34 U
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) (dissolved)	pg/L	0.71 U	--	3.0 J	--
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	pg/L	6.2 J	0.63 U	--	0.35 U
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) (dissolved)	pg/L	1.7 U	--	1.3 U	--
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	pg/L	61	3.2 J	--	0.48 U
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) (dissolved)	pg/L	7.1 J	--	1.6 U	--
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	pg/L	220	7.1 J	--	0.24 U

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		**EXC-1**	**FEFF**	**FEFF**	**FEFF**
Sample Name:		**11187072-091319-LL-EXC-1**	**FEFF 1**	**FEFF-Filtered**	**11187072-FEFF-0.1um**
Sample Date:		**09/13/2019**	**10/26/2019**	**11/05/2019**	**01/09/2020**
Parameters	**Unit**				
Polychlorinated Dibenzodioxins (PCDDs) & Polychlorinated Dibenzofurans (PCDFs)					
2,3,7,8-Tetrachlorodibenzofuran (TCDF) (dissolved)	pg/L	21	--	1.1 U	--
Total heptachlorodibenzo-p-dioxin (HpCDD)	pg/L	10 J	13 J	--	3.2 J
Total heptachlorodibenzo-p-dioxin (HpCDD) (dissolved)	pg/L	1.1 U	--	6.4 J	--
Total heptachlorodibenzofuran (HpCDF)	pg/L	11 J	1.9 J	--	0.95 J
Total heptachlorodibenzofuran (HpCDF) (dissolved)	pg/L	6.4 J	--	11 J	--
Total hexachlorodibenzo-p-dioxin (HxCDD)	pg/L	0.83 U	0.83 U	--	1.8 J
Total hexachlorodibenzo-p-dioxin (HxCDD) (dissolved)	pg/L	1.2 U	--	14 J	--
Total hexachlorodibenzofuran (HxCDF)	pg/L	25 J	1.6 J	--	0.50 J
Total hexachlorodibenzofuran (HxCDF) (dissolved)	pg/L	12 J	--	13 J	--
Total pentachlorodibenzo-p-dioxin (PeCDD)	pg/L	1.1 U	0.99 U	--	0.35 U
Total pentachlorodibenzo-p-dioxin (PeCDD) (dissolved)	pg/L	1.6 U	--	4.6 J	--
Total pentachlorodibenzofuran (PeCDF)	pg/L	26 J	1.5 J	--	0.43 U
Total pentachlorodibenzofuran (PeCDF) (dissolved)	pg/L	3.4 J	--	3.2 J	--
Total tetrachlorodibenzo-p-dioxin (TCDD)	pg/L	66 J	3.2 J	--	0.48 U
Total tetrachlorodibenzo-p-dioxin (TCDD) (dissolved)	pg/L	7.1 J	--	1.6 U	--
Total tetrachlorodibenzofuran (TCDF)	pg/L	390 J	11 J	--	0.24 U
Total tetrachlorodibenzofuran (TCDF) (dissolved)	pg/L	39 J	--	1.1 U	--
Total WHO Dioxin TEQ(Human/Mammal)(ND=0)	pg/L	87.7	4.18	--	0.0506
Total WHO Dioxin TEQ(Human/Mammal)(ND=0.5)	pg/L	88.5	5.00	--	0.740

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**EXC-1**	**FEFF**	**FEFF**	**FEFF**
	Sample Name:	**11187072-091319-LL-EXC-1**	**FEFF 1**	**FEFF-Filtered**	**11187072-FEFF-0.1um**
	Sample Date:	**09/13/2019**	**10/26/2019**	**11/05/2019**	**01/09/2020**
Parameters	**Unit**				
Metals					
Aluminum	mg/L	--	--	--	--
Aluminum (dissolved)	mg/L	--	--	0.048 U	--
Antimony	mg/L	0.0039 U	0.0039 U	--	--
Antimony (dissolved)	mg/L	0.0039 U	--	0.0098 U	--
Arsenic	mg/L	0.089	0.0029 U	--	--
Arsenic (dissolved)	mg/L	0.037	--	0.012 U	--
Barium	mg/L	2.1	0.28	--	--
Barium (dissolved)	mg/L	1.9	--	0.32	--
Beryllium	mg/L	0.00042 U	0.00042 U	--	--
Beryllium (dissolved)	mg/L	0.00042 U	--	0.00030 U	--
Boron	mg/L	1.1	0.20	--	--
Boron (dissolved)	mg/L	1.1	--	--	--
Cadmium	mg/L	0.00080 J	0.00028 U	--	--
Cadmium (dissolved)	mg/L	0.00080 J	--	0.00050 U	--
Calcium	mg/L	250	53	--	--
Calcium (dissolved)	mg/L	240	--	57	--
Chromium	mg/L	0.0017 J	0.0016 U	--	--
Chromium (dissolved)	mg/L	0.0016 U	--	0.0012 U	--
Cobalt	mg/L	0.0066 J	0.00031 U	--	--
Cobalt (dissolved)	mg/L	0.0064 J	--	0.0030 U	--
Copper	mg/L	0.0081 U	0.0081 U	--	--
Copper (dissolved)	mg/L	0.0081 U	--	0.0053 J	--
Iron	mg/L	13	0.13 J	--	--
Iron (dissolved)	mg/L	0.12 J	--	0.020 U	--
Lead	mg/L	0.0022 U	0.0022 U	--	--
Lead (dissolved)	mg/L	0.0022 U	--	0.0025 U	--
Magnesium	mg/L	250	31	--	--
Magnesium (dissolved)	mg/L	250	--	31	--
Manganese	mg/L	2.7	0.029	--	--
Manganese (dissolved)	mg/L	2.6	--	0.028	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**EXC-1**	**FEFF**	**FEFF**	**FEFF**
	Sample Name:	**11187072-091319-LL-EXC-1**	**FEFF 1**	**FEFF-Filtered**	**11187072-FEFF-0.1um**
	Sample Date:	**09/13/2019**	**10/26/2019**	**11/05/2019**	**01/09/2020**
Parameters	**Unit**				
Metals					
Mercury	mg/L	--	--	--	--
Mercury (dissolved)	mg/L	--	--	--	--
Molybdenum	mg/L	0.0068 J	0.010	--	--
Molybdenum (dissolved)	mg/L	0.011	--	0.0096 J	--
Nickel	mg/L	0.0036 J	0.0020 J	--	--
Nickel (dissolved)	mg/L	0.0050 J	--	0.0024 U	--
Phosphorus	mg/L	--	--	--	--
Phosphorus (dissolved)	mg/L	--	--	0.050 U	--
Potassium	mg/L	27	12	--	--
Potassium (dissolved)	mg/L	27	--	13	--
Selenium	mg/L	0.0029 U	0.0029 U	--	--
Selenium (dissolved)	mg/L	0.0029 U	--	0.013 U	--
Silver	mg/L	0.0013 U	0.0013 U	--	--
Silver (dissolved)	mg/L	0.0013 U	--	0.00084 U	--
Sodium	mg/L	2400	360	--	--
Sodium (dissolved)	mg/L	2400	--	330	--
Strontium	mg/L	2.5	0.46	--	--
Strontium (dissolved)	mg/L	2.4	--	0.49	--
Thallium	mg/L	--	0.026 U	--	--
Thallium (dissolved)	mg/L	--	--	0.0090 U	--
Tin	mg/L	0.00059 U	0.00059 U	--	--
Tin (dissolved)	mg/L	0.0014 J	--	--	--
Titanium	mg/L	0.0077 J	0.00070 J	--	--
Titanium (dissolved)	mg/L	0.0022 J	--	--	--
Vanadium	mg/L	0.00047 U	0.0028 J	--	--
Vanadium (dissolved)	mg/L	0.00047 U	--	0.0035 J	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**EXC-1**	**FEFF**	**FEFF**	**FEFF**
	Sample Name:	**11187072-091319-LL-EXC-1**	**FEFF 1**	**FEFF-Filtered**	**11187072-FEFF-0.1um**
	Sample Date:	**09/13/2019**	**10/26/2019**	**11/05/2019**	**01/09/2020**
Parameters	**Unit**				
Metals					
Zinc	mg/L	0.031	0.036	--	--
Zinc (dissolved)	mg/L	0.015 U	--	0.014	--
Mercury	ng/L	--	2.5 J	--	--
Mercury (dissolved)	ng/L	--	--	1.7	--
Mercury	µg/L	0.10 U	--	--	--
Mercury (dissolved)	µg/L	0.10 U	--	--	--
Thallium	µg/L	0.14 U	--	--	--
Thallium (dissolved)	µg/L	0.14 J	--	--	--
Total Petroleum Hydrocarbons (TPH)					
2-Ethoxyethanol	mg/L	--	--	--	--
Ethylene glycol	mg/L	--	--	--	--
Ethylene glycol monomethyl ether (2-methyoxyethanol)	mg/L	--	--	--	--
General Chemistry					
Percent solids	%	--	--	--	--
Ignitability	Deg F	--	--	--	--
Alkalinity (as CaCO3 pH=4.5)	mg/L	--	--	--	--
Alkalinity, bicarbonate	mg/L	1000	140	--	--
Alkalinity, carbonate	mg/L	20 U	20 U	--	--
Alkalinity, total (as CaCO3)	mg/L	1000	140	--	--
Ammonia-N	mg/L	7.1	0.067 U	--	--
Biochemical oxygen demand (BOD)	mg/L	10 U	--	--	--
Bromide	mg/L	9.9	0.30 J	--	--
Chemical oxygen demand (COD)	mg/L	82	16	--	--
Chloride	mg/L	4200	820	--	--
Ferrous iron	mg/L	0.016 UJ	--	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**EXC-1**	**FEFF**	**FEFF**	**FEFF**
	Sample Name:	**11187072-091319-LL-EXC-1**	**FEFF 1**	**FEFF-Filtered**	**11187072-FEFF-0.1um**
	Sample Date:	**09/13/2019**	**10/26/2019**	**11/05/2019**	**01/09/2020**
Parameters	**Unit**				
General Chemistry					
Fluoride	mg/L	--	0.060 UJ	--	--
Hydrogen sulfide	mg/L	0.048 U	--	--	--
Nitrate (as N)	mg/L	0.025 U	R	--	--
Nitrite (as N)	mg/L	0.030 U	R	--	--
Oil and grease (HEM), total	mg/L	--	--	--	--
Oil and grease (SGT HEM), non-polar material	mg/L	--	--	--	--
Phosphorus	mg/L	0.031 J	0.095	--	--
Phosphorus, total (as PO4)	mg/L	0.095 J	0.29	--	--
Sulfate	mg/L	6.5	62	--	--
Sulfide	mg/L	0.045 U	0.0090 U	--	--
TOC average duplicates	mg/L	--	--	--	--
Total dissolved solids (TDS)	mg/L	8800	1300	--	--
Total organic carbon (TOC)	mg/L	24	4.3 J	--	--
Total suspended solids (TSS)	mg/L	240	2.2	--	--
Free liquid	none	--	--	--	--
pH, lab	s.u.	6.9 J	7.8 J	--	--
Cyanide (total)	µg/L	3.1 U	--	--	--

Notes:

U - Not detected at the associated reporting limit
J - Estimated concentration
 - Not detected; associated reporting limit is estimated
R - Rejected
-- - Not applicable
s.u. - Standard Units

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**FEFF**	**FEFF**	**FEFF**	**FEFF**	**Filter Test**
	Sample Name:	**11187072-FEFF-0.45um**	**11187072-FEFF-1um**	**11187072-FEFF-0.025um**	**11187072-FEFF-0.050um**	**11187072-Filter Test-1**
	Sample Date:	**01/09/2020**	**01/09/2020**	**01/13/2020**	**01/13/2020**	**09/30/2019**
Parameters	**Unit**					
Volatile Organic Compounds						
1,1,1-Trichloroethane	µg/L	--	--	--	--	--
1,1,2-Trichloroethane	µg/L	--	--	--	--	--
1,1-Dichloroethane	µg/L	--	--	--	--	--
1,1-Dichloroethene	µg/L	--	--	--	--	--
1,2,4-Trichlorobenzene	µg/L	--	--	--	--	--
1,2-Dichlorobenzene	µg/L	--	--	--	--	--
1,2-Dichloroethane	µg/L	--	--	--	--	--
1,2-Dichloropropane	µg/L	--	--	--	--	--
1,3-Dichlorobenzene	µg/L	--	--	--	--	--
1,4-Dichlorobenzene	µg/L	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	--	--	--	--	--
Benzene	µg/L	--	--	--	--	--
Bromodichloromethane	µg/L	--	--	--	--	--
Bromoform	µg/L	--	--	--	--	--
Carbon disulfide	µg/L	--	--	--	--	--
Carbon tetrachloride	µg/L	--	--	--	--	--
Chlorobenzene	µg/L	--	--	--	--	--
Chloroethane	µg/L	--	--	--	--	--
Chloroform (Trichloromethane)	µg/L	--	--	--	--	--
cis-1,2-Dichloroethene	µg/L	--	--	--	--	--
cis-1,3-Dichloropropene	µg/L	--	--	--	--	--
Ethylbenzene	µg/L	--	--	--	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		FEFF	FEFF	FEFF	FEFF	Filter Test
Sample Name:		11187072-FEFF-0.45um	11187072-FEFF-1um	11187072-FEFF-0.025um	11187072-FEFF-0.050um	11187072-Filter Test-1
Sample Date:		01/09/2020	01/09/2020	01/13/2020	01/13/2020	09/30/2019
Parameters	**Unit**					
Volatile Organic Compounds						
Hexachlorobutadiene	µg/L	--	--	--	--	--
m&p-Xylenes	µg/L	--	--	--	--	--
o-Xylene	µg/L	--	--	--	--	--
Tetrachloroethene	µg/L	--	--	--	--	--
Toluene	µg/L	--	--	--	--	--
trans-1,2-Dichloroethene	µg/L	--	--	--	--	--
trans-1,3-Dichloropropene	µg/L	--	--	--	--	--
Trichloroethene	µg/L	--	--	--	--	--
Vinyl chloride	µg/L	--	--	--	--	--
Xylenes (total)	µg/L	--	--	--	--	--
Semivolatile Organic Compounds						
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	--	--	--	--	--
2,4,5-Trichlorophenol	µg/L	--	--	--	--	--
2,4,6-Trichlorophenol	µg/L	--	--	--	--	--
2,4-Dichlorophenol	µg/L	--	--	--	--	--
2,4-Dimethylphenol	µg/L	--	--	--	--	--
2,4-Dinitrophenol	µg/L	--	--	--	--	--
2,4-Dinitrotoluene	µg/L	--	--	--	--	--
2,6-Dinitrotoluene	µg/L	--	--	--	--	--
2-Chloronaphthalene	µg/L	--	--	--	--	--
2-Chlorophenol	µg/L	--	--	--	--	--
2-Methylnaphthalene	µg/L	--	--	--	--	--
2-Methylphenol	µg/L	--	--	--	--	--
2-Nitroaniline	µg/L	--	--	--	--	--
2-Nitrophenol	µg/L	--	--	--	--	--
3&4-Methylphenol	µg/L	--	--	--	--	--
3,3'-Dichlorobenzidine	µg/L	--	--	--	--	--
3-Nitroaniline	µg/L	--	--	--	--	--
4,6-Dinitro-2-methylphenol	µg/L	--	--	--	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**FEFF**	**FEFF**	**FEFF**	**FEFF**	**Filter Test**
	Sample Name:	**11187072-FEFF-0.45um**	**11187072-FEFF-1um**	**11187072-FEFF-0.025um**	**11187072-FEFF-0.050um**	**11187072-Filter Test-1**
	Sample Date:	**01/09/2020**	**01/09/2020**	**01/13/2020**	**01/13/2020**	**09/30/2019**
Parameters	**Unit**					
Semivolatile Organic Compounds						
4-Bromophenyl phenyl ether	µg/L	--	--	--	--	--
4-Chloro-3-methylphenol	µg/L	--	--	--	--	--
4-Chloroaniline	µg/L	--	--	--	--	--
4-Chlorophenyl phenyl ether	µg/L	--	--	--	--	--
4-Nitroaniline	µg/L	--	--	--	--	--
4-Nitrophenol	µg/L	--	--	--	--	--
Acenaphthene	µg/L	--	--	--	--	--
Acenaphthylene	µg/L	--	--	--	--	--
Acetophenone	µg/L	--	--	--	--	--
Anthracene	µg/L	--	--	--	--	--
Atrazine	µg/L	--	--	--	--	--
Benzaldehyde	µg/L	--	--	--	--	--
Benzo(a)anthracene	µg/L	--	--	--	--	--
Benzo(a)pyrene	µg/L	--	--	--	--	--
Benzo(b)fluoranthene	µg/L	--	--	--	--	--
Benzo(g,h,i)perylene	µg/L	--	--	--	--	--
Benzo(k)fluoranthene	µg/L	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	µg/L	--	--	--	--	--
bis(2-Chloroethoxy)methane	µg/L	--	--	--	--	--
bis(2-Chloroethyl)ether	µg/L	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	--	--	--	--	--
Butyl benzylphthalate (BBP)	µg/L	--	--	--	--	--
Caprolactam	µg/L	--	--	--	--	--
Carbazole	µg/L	--	--	--	--	--
Chrysene	µg/L	--	--	--	--	--
Di-n-butylphthalate (DBP)	µg/L	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	µg/L	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	--	--	--	--	--
Dibenzofuran	µg/L	--	--	--	--	--
Diethyl phthalate	µg/L	--	--	--	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**FEFF**	**FEFF**	**FEFF**	**FEFF**	**Filter Test**
	Sample Name:	**11187072-FEFF-0.45um**	**11187072-FEFF-1um**	**11187072-FEFF-0.025um**	**11187072-FEFF-0.050um**	**11187072-Filter Test-1**
	Sample Date:	**01/09/2020**	**01/09/2020**	**01/13/2020**	**01/13/2020**	**09/30/2019**
Parameters	**Unit**					
Semivolatile Organic Compounds						
Dimethyl phthalate	µg/L	--	--	--	--	--
Fluoranthene	µg/L	--	--	--	--	--
Fluorene	µg/L	--	--	--	--	--
Hexachlorobenzene	µg/L	--	--	--	--	--
Hexachlorobutadiene	µg/L	--	--	--	--	--
Hexachlorocyclopentadiene	µg/L	--	--	--	--	--
Hexachloroethane	µg/L	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	µg/L	--	--	--	--	--
Isophorone	µg/L	--	--	--	--	--
N-Nitrosodi-n-propylamine	µg/L	--	--	--	--	--
N-Nitrosodiphenylamine	µg/L	--	--	--	--	--
Naphthalene	µg/L	--	--	--	--	--
Nitrobenzene	µg/L	--	--	--	--	--
Pentachlorophenol	µg/L	--	--	--	--	--
Phenanthrene	µg/L	--	--	--	--	--
Phenol	µg/L	--	--	--	--	--
Pyrene	µg/L	--	--	--	--	--
Pyridine	µg/L	--	--	--	--	--
Herbicides						
2,4,5-TP (Silvex)	µg/L	--	--	--	--	--
2,4-Dichlorophenoxyacetic acid (2,4-D)	µg/L	--	--	--	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**FEFF**	**FEFF**	**FEFF**	**FEFF**	**Filter Test**
	Sample Name:	**11187072-FEFF-0.45um**	**11187072-FEFF-1um**	**11187072-FEFF-0.025um**	**11187072-FEFF-0.050um**	**11187072-Filter Test-1**
	Sample Date:	**01/09/2020**	**01/09/2020**	**01/13/2020**	**01/13/2020**	**09/30/2019**
Parameters	**Unit**					
Polychlorinated Biphenyls (PCBs)						
Aroclor-1016 (PCB-1016)	µg/L	--	--	--	--	--
Aroclor-1016 (PCB-1016) (dissolved)	µg/L	--	--	--	--	--
Aroclor-1221 (PCB-1221)	µg/L	--	--	--	--	--
Aroclor-1221 (PCB-1221) (dissolved)	µg/L	--	--	--	--	--
Aroclor-1232 (PCB-1232)	µg/L	--	--	--	--	--
Aroclor-1232 (PCB-1232) (dissolved)	µg/L	--	--	--	--	--
Aroclor-1242 (PCB-1242)	µg/L	--	--	--	--	--
Aroclor-1242 (PCB-1242) (dissolved)	µg/L	--	--	--	--	--
Aroclor-1248 (PCB-1248)	µg/L	--	--	--	--	--
Aroclor-1248 (PCB-1248) (dissolved)	µg/L	--	--	--	--	--
Aroclor-1254 (PCB-1254)	µg/L	--	--	--	--	--
Aroclor-1254 (PCB-1254) (dissolved)	µg/L	--	--	--	--	--
Aroclor-1260 (PCB-1260)	µg/L	--	--	--	--	--
Aroclor-1260 (PCB-1260) (dissolved)	µg/L	--	--	--	--	--
Pesticides						
alpha-Chlordane	µg/L	--	--	--	--	--
Chlordane	µg/L	--	--	--	--	--
Endrin	µg/L	--	--	--	--	--
gamma-BHC (lindane)	µg/L	--	--	--	--	--
gamma-Chlordane	µg/L	--	--	--	--	--
Heptachlor	µg/L	--	--	--	--	--
Heptachlor epoxide	µg/L	--	--	--	--	--
Hexachlorobenzene	µg/L	--	--	--	--	--
Methoxychlor	µg/L	--	--	--	--	--
Toxaphene	µg/L	--	--	--	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		FEFF	FEFF	FEFF	FEFF	Filter Test
Sample Name:		11187072-FEFF-0.45um	11187072-FEFF-1um	11187072-FEFF-0.025um	11187072-FEFF-0.050um	11187072-Filter Test-1
Sample Date:		01/09/2020	01/09/2020	01/13/2020	01/13/2020	09/30/2019
Parameters	**Unit**					
Polychlorinated Dibenzodioxins (PCDDs) & Polychlorinated Dibenzofurans (PCDFs)						
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	pg/g	--	--	--	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	pg/g	--	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	pg/g	--	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	pg/g	--	--	--	--	--
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	pg/g	--	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/g	--	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/g	--	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/g	--	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	--
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	pg/g	--	--	--	--	--
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	pg/g	--	--	--	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	--
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	pg/g	--	--	--	--	--
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	pg/g	--	--	--	--	--
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	pg/g	--	--	--	--	--
Total heptachlorodibenzo-p-dioxin (HpCDD)	pg/g	--	--	--	--	--
Total heptachlorodibenzofuran (HpCDF)	pg/g	--	--	--	--	--
Total hexachlorodibenzo-p-dioxin (HxCDD)	pg/g	--	--	--	--	--
Total hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	--
Total pentachlorodibenzo-p-dioxin (PeCDD)	pg/g	--	--	--	--	--
Total pentachlorodibenzofuran (PeCDF)	pg/g	--	--	--	--	--
Total tetrachlorodibenzo-p-dioxin (TCDD)	pg/g	--	--	--	--	--
Total tetrachlorodibenzofuran (TCDF)	pg/g	--	--	--	--	--
Total WHO Dioxin TEQ(Human/Mammal)(ND=0)	pg/g	--	--	--	--	--
Total WHO Dioxin TEQ(Human/Mammal)(ND=0.5)	pg/g	--	--	--	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	pg/L	3.6 U	9.3 U	14 U	3.7 U	1900
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD) (dissolv	pg/L	--	--	--	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	pg/L	1.0 J	1.5 J	0.93 U	1.3 J	61 J

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		FEFF	FEFF	FEFF	FEFF	Filter Test
Sample Name:		11187072-FEFF-0.45um	11187072-FEFF-1um	11187072-FEFF-0.025um	11187072-FEFF-0.050um	11187072-Filter Test-1
Sample Date:		01/09/2020	01/09/2020	01/13/2020	01/13/2020	09/30/2019
Parameters	**Unit**					
Polychlorinated Dibenzodioxins (PCDDs) & Polychlorinated Dibenzofurans (PCDFs)						
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF) (dissolved)	pg/L	--	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	pg/L	0.722 U	1.1 U	1.3 J	0.73 J	75
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) (dissolv	pg/L	--	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	pg/L	0.52 U	0.51 U	0.84 U	0.67 U	84
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) (dissolved)	pg/L	--	--	--	--	--
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	pg/L	0.20 U	0.29 U	0.96 U	0.80 U	28 J
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) (dissolved)	pg/L	--	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/L	1.6 U	1.8 U	1.8 J	1.6 J	2.7 U
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) (dissolved)	pg/L	--	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	pg/L	0.41 U	0.40 U	0.72 U	0.65 U	210
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) (dissolved)	pg/L	--	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/L	0.30 U	0.30 U	0.85 J	0.66 J	2.7 U
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) (dissolved)	pg/L	--	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/L	0.42 U	0.41 U	0.71 U	0.63 U	53
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) (dissolved)	pg/L	--	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/L	0.50 J	0.26 U	0.52 U	0.44 U	2.3 U
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) (dissolved)	pg/L	--	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	pg/L	0.30 U	0.29 U	0.68 U	0.96 U	4.5 U
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) (dissolved)	pg/L	--	--	--	--	--
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	pg/L	0.40 U	0.40 U	1.2 U	1.1 U	9.4 J
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) (dissolved)	pg/L	--	--	--	--	--
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	pg/L	0.33 U	0.25 U	0.78 U	0.59 U	100
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) (dissolved)	pg/L	--	--	--	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/L	0.31 U	0.30 U	0.48 U	0.41 U	7.0 J
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) (dissolved)	pg/L	--	--	--	--	--
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	pg/L	0.33 U	0.26 U	0.80 U	0.62 U	59
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) (dissolved)	pg/L	--	--	--	--	--
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	pg/L	0.41 U	0.40 U	0.70 U	0.62 U	800
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) (dissolved)	pg/L	--	--	--	--	--
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	pg/L	0.21 U	0.22 U	0.41 U	0.34 U	2500

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		**FEFF**	**FEFF**	**FEFF**	**FEFF**	**Filter Test**
Sample Name:		**11187072-FEFF-0.45um**	**11187072-FEFF-1um**	**11187072-FEFF-0.025um**	**11187072-FEFF-0.050um**	**11187072-Filter Test-1**
Sample Date:		**01/09/2020**	**01/09/2020**	**01/13/2020**	**01/13/2020**	**09/30/2019**
Parameters	**Unit**					
Polychlorinated Dibenzodioxins (PCDDs) & Polychlorinated Dibenzofurans (PCDFs)						
2,3,7,8-Tetrachlorodibenzofuran (TCDF) (dissolved)	pg/L	--	--	--	--	--
Total heptachlorodibenzo-p-dioxin (HpCDD)	pg/L	0.72 J	2.5 J	2.9 J	1.8 J	190 J
Total heptachlorodibenzo-p-dioxin (HpCDD) (dissolved)	pg/L	--	--	--	--	--
Total heptachlorodibenzofuran (HpCDF)	pg/L	0.52 J	0.51 J	0.96 U	0.80 U	140 J
Total heptachlorodibenzofuran (HpCDF) (dissolved)	pg/L	--	--	--	--	--
Total hexachlorodibenzo-p-dioxin (HxCDD)	pg/L	2.1 J	1.8 J	2.6 J	5.6 J	27 J
Total hexachlorodibenzo-p-dioxin (HxCDD) (dissolved)	pg/L	--	--	--	--	--
Total hexachlorodibenzofuran (HxCDF)	pg/L	0.42 U	0.41 U	0.68 J	0.96 J	310 J
Total hexachlorodibenzofuran (HxCDF) (dissolved)	pg/L	--	--	--	--	--
Total pentachlorodibenzo-p-dioxin (PeCDD)	pg/L	0.40 U	0.40 U	1.2 U	1.1 U	9.4 J
Total pentachlorodibenzo-p-dioxin (PeCDD) (dissolved)	pg/L	--	--	--	--	--
Total pentachlorodibenzofuran (PeCDF)	pg/L	0.33 U	0.30 U	0.80 U	0.62 U	250 J
Total pentachlorodibenzofuran (PeCDF) (dissolved)	pg/L	--	--	--	--	--
Total tetrachlorodibenzo-p-dioxin (TCDD)	pg/L	0.41 U	0.40 U	0.90 J	1.0 J	860 J
Total tetrachlorodibenzo-p-dioxin (TCDD) (dissolved)	pg/L	--	--	--	--	--
Total tetrachlorodibenzofuran (TCDF)	pg/L	0.21 U	0.22 U	0.41 U	0.34 U	4200 J
Total tetrachlorodibenzofuran (TCDF) (dissolved)	pg/L	--	--	--	--	--
Total WHO Dioxin TEQ(Human/Mammal)(ND=0)	pg/L	0.0503	0.00045	0.278	0.234	1110
Total WHO Dioxin TEQ(Human/Mammal)(ND=0.5)	pg/L	0.695	0.653	1.55	1.37	11100

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**FEFF**	**FEFF**	**FEFF**	**FEFF**	**Filter Test**
	Sample Name:	**11187072-FEFF-0.45um**	**11187072-FEFF-1um**	**11187072-FEFF-0.025um**	**11187072-FEFF-0.050um**	**11187072-Filter Test-1**
	Sample Date:	**01/09/2020**	**01/09/2020**	**01/13/2020**	**01/13/2020**	**09/30/2019**
Parameters	**Unit**					
Metals						
Aluminum	mg/L	--	--	--	--	--
Aluminum (dissolved)	mg/L	--	--	--	--	--
Antimony	mg/L	--	--	--	--	--
Antimony (dissolved)	mg/L	--	--	--	--	--
Arsenic	mg/L	--	--	--	--	--
Arsenic (dissolved)	mg/L	--	--	--	--	--
Barium	mg/L	--	--	--	--	--
Barium (dissolved)	mg/L	--	--	--	--	--
Beryllium	mg/L	--	--	--	--	--
Beryllium (dissolved)	mg/L	--	--	--	--	--
Boron	mg/L	--	--	--	--	--
Boron (dissolved)	mg/L	--	--	--	--	--
Cadmium	mg/L	--	--	--	--	--
Cadmium (dissolved)	mg/L	--	--	--	--	--
Calcium	mg/L	--	--	--	--	--
Calcium (dissolved)	mg/L	--	--	--	--	--
Chromium	mg/L	--	--	--	--	--
Chromium (dissolved)	mg/L	--	--	--	--	--
Cobalt	mg/L	--	--	--	--	--
Cobalt (dissolved)	mg/L	--	--	--	--	--
Copper	mg/L	--	--	--	--	--
Copper (dissolved)	mg/L	--	--	--	--	--
Iron	mg/L	--	--	--	--	--
Iron (dissolved)	mg/L	--	--	--	--	--
Lead	mg/L	--	--	--	--	--
Lead (dissolved)	mg/L	--	--	--	--	--
Magnesium	mg/L	--	--	--	--	--
Magnesium (dissolved)	mg/L	--	--	--	--	--
Manganese	mg/L	--	--	--	--	--
Manganese (dissolved)	mg/L	--	--	--	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**FEFF**	**FEFF**	**FEFF**	**FEFF**	**Filter Test**
	Sample Name:	**11187072-FEFF-0.45um**	**11187072-FEFF-1um**	**11187072-FEFF-0.025um**	**11187072-FEFF-0.050um**	**11187072-Filter Test-1**
	Sample Date:	**01/09/2020**	**01/09/2020**	**01/13/2020**	**01/13/2020**	**09/30/2019**
Parameters	**Unit**					
Metals						
Mercury	mg/L	--	--	--	--	--
Mercury (dissolved)	mg/L	--	--	--	--	--
Molybdenum	mg/L	--	--	--	--	--
Molybdenum (dissolved)	mg/L	--	--	--	--	--
Nickel	mg/L	--	--	--	--	--
Nickel (dissolved)	mg/L	--	--	--	--	--
Phosphorus	mg/L	--	--	--	--	--
Phosphorus (dissolved)	mg/L	--	--	--	--	--
Potassium	mg/L	--	--	--	--	--
Potassium (dissolved)	mg/L	--	--	--	--	--
Selenium	mg/L	--	--	--	--	--
Selenium (dissolved)	mg/L	--	--	--	--	--
Silver	mg/L	--	--	--	--	--
Silver (dissolved)	mg/L	--	--	--	--	--
Sodium	mg/L	--	--	--	--	--
Sodium (dissolved)	mg/L	--	--	--	--	--
Strontium	mg/L	--	--	--	--	--
Strontium (dissolved)	mg/L	--	--	--	--	--
Thallium	mg/L	--	--	--	--	--
Thallium (dissolved)	mg/L	--	--	--	--	--
Tin	mg/L	--	--	--	--	--
Tin (dissolved)	mg/L	--	--	--	--	--
Titanium	mg/L	--	--	--	--	--
Titanium (dissolved)	mg/L	--	--	--	--	--
Vanadium	mg/L	--	--	--	--	--
Vanadium (dissolved)	mg/L	--	--	--	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		FEFF	FEFF	FEFF	FEFF	Filter Test
Sample Name:		11187072-FEFF-0.45um	11187072-FEFF-1um	11187072-FEFF-0.025um	11187072-FEFF-0.050um	11187072-Filter Test-1
Sample Date:		01/09/2020	01/09/2020	01/13/2020	01/13/2020	09/30/2019
Parameters	**Unit**					
Metals						
Zinc	mg/L	--	--	--	--	--
Zinc (dissolved)	mg/L	--	--	--	--	--
Mercury	ng/L	--	--	--	--	--
Mercury (dissolved)	ng/L	--	--	--	--	--
Mercury	µg/L	--	--	--	--	--
Mercury (dissolved)	µg/L	--	--	--	--	--
Thallium	µg/L	--	--	--	--	--
Thallium (dissolved)	µg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)						
2-Ethoxyethanol	mg/L	--	--	--	--	--
Ethylene glycol	mg/L	--	--	--	--	--
Ethylene glycol monomethyl ether (2-methyoxyethanol)	mg/L	--	--	--	--	--
General Chemistry						
Percent solids	%	--	--	--	--	--
Ignitability	Deg F	--	--	--	--	--
Alkalinity (as CaCO3 pH=4.5)	mg/L	--	--	--	--	--
Alkalinity, bicarbonate	mg/L	--	--	--	--	--
Alkalinity, carbonate	mg/L	--	--	--	--	--
Alkalinity, total (as CaCO3)	mg/L	--	--	--	--	--
Ammonia-N	mg/L	--	--	--	--	--
Biochemical oxygen demand (BOD)	mg/L	--	--	--	--	--
Bromide	mg/L	--	--	--	--	--
Chemical oxygen demand (COD)	mg/L	--	--	--	--	--
Chloride	mg/L	--	--	--	--	--
Ferrous iron	mg/L	--	--	--	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**FEFF**	**FEFF**	**FEFF**	**FEFF**	**Filter Test**
	Sample Name:	**11187072-FEFF-0.45um**	**11187072-FEFF-1um**	**11187072-FEFF-0.025um**	**11187072-FEFF-0.050um**	**11187072-Filter Test-1**
	Sample Date:	**01/09/2020**	**01/09/2020**	**01/13/2020**	**01/13/2020**	**09/30/2019**
Parameters	**Unit**					
General Chemistry						
Fluoride	mg/L	--	--	--	--	--
Hydrogen sulfide	mg/L	--	--	--	--	--
Nitrate (as N)	mg/L	--	--	--	--	--
Nitrite (as N)	mg/L	--	--	--	--	--
Oil and grease (HEM), total	mg/L	--	--	--	--	--
Oil and grease (SGT HEM), non-polar material	mg/L	--	--	--	--	--
Phosphorus	mg/L	--	--	--	--	--
Phosphorus, total (as PO4)	mg/L	--	--	--	--	--
Sulfate	mg/L	--	--	--	--	--
Sulfide	mg/L	--	--	--	--	--
TOC average duplicates	mg/L	--	--	--	--	--
Total dissolved solids (TDS)	mg/L	--	--	--	--	--
Total organic carbon (TOC)	mg/L	--	--	--	--	--
Total suspended solids (TSS)	mg/L	--	--	--	--	--
Free liquid	none	--	--	--	--	--
pH, lab	s.u.	--	--	--	--	--
Cyanide (total)	µg/L	--	--	--	--	--

Notes:

U - Not detected at the associated reporting limit
J - Estimated concentration
 - Not detected; associated reporting limit is estimated
R - Rejected
-- - Not applicable
s.u. - Standard Units

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**Filter Test**	**Filter Test**	**Filter Test**	**Filter Test**	**INF3**
	Sample Name:	**11187072-Filter Test-3**	**11187072-Filter Test-4**	**11187072-Filter Test-5**	**11187072-Filter Test-6**	**INF 3**
	Sample Date:	**09/30/2019**	**09/30/2019**	**09/30/2019**	**09/30/2019**	**10/25/2019**
Parameters	**Unit**					
Volatile Organic Compounds						
1,1,1-Trichloroethane	µg/L	--	--	--	--	--
1,1,2-Trichloroethane	µg/L	--	--	--	--	--
1,1-Dichloroethane	µg/L	--	--	--	--	--
1,1-Dichloroethene	µg/L	--	--	--	--	--
1,2,4-Trichlorobenzene	µg/L	--	--	--	--	--
1,2-Dichlorobenzene	µg/L	--	--	--	--	--
1,2-Dichloroethane	µg/L	--	--	--	--	--
1,2-Dichloropropane	µg/L	--	--	--	--	--
1,3-Dichlorobenzene	µg/L	--	--	--	--	--
1,4-Dichlorobenzene	µg/L	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	--	--	--	--	--
Benzene	µg/L	--	--	--	--	--
Bromodichloromethane	µg/L	--	--	--	--	--
Bromoform	µg/L	--	--	--	--	--
Carbon disulfide	µg/L	--	--	--	--	--
Carbon tetrachloride	µg/L	--	--	--	--	--
Chlorobenzene	µg/L	--	--	--	--	--
Chloroethane	µg/L	--	--	--	--	--
Chloroform (Trichloromethane)	µg/L	--	--	--	--	--
cis-1,2-Dichloroethene	µg/L	--	--	--	--	--
cis-1,3-Dichloropropene	µg/L	--	--	--	--	--
Ethylbenzene	µg/L	--	--	--	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		Filter Test	Filter Test	Filter Test	Filter Test	INF3
Sample Name:		11187072-Filter Test-3	11187072-Filter Test-4	11187072-Filter Test-5	11187072-Filter Test-6	INF 3
Sample Date:		09/30/2019	09/30/2019	09/30/2019	09/30/2019	10/25/2019
Parameters	**Unit**					
Volatile Organic Compounds						
Hexachlorobutadiene	µg/L	--	--	--	--	--
m&p-Xylenes	µg/L	--	--	--	--	--
o-Xylene	µg/L	--	--	--	--	--
Tetrachloroethene	µg/L	--	--	--	--	--
Toluene	µg/L	--	--	--	--	--
trans-1,2-Dichloroethene	µg/L	--	--	--	--	--
trans-1,3-Dichloropropene	µg/L	--	--	--	--	--
Trichloroethene	µg/L	--	--	--	--	--
Vinyl chloride	µg/L	--	--	--	--	--
Xylenes (total)	µg/L	--	--	--	--	--
Semivolatile Organic Compounds						
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	--	--	--	--	--
2,4,5-Trichlorophenol	µg/L	--	--	--	--	--
2,4,6-Trichlorophenol	µg/L	--	--	--	--	--
2,4-Dichlorophenol	µg/L	--	--	--	--	--
2,4-Dimethylphenol	µg/L	--	--	--	--	--
2,4-Dinitrophenol	µg/L	--	--	--	--	--
2,4-Dinitrotoluene	µg/L	--	--	--	--	--
2,6-Dinitrotoluene	µg/L	--	--	--	--	--
2-Chloronaphthalene	µg/L	--	--	--	--	--
2-Chlorophenol	µg/L	--	--	--	--	--
2-Methylnaphthalene	µg/L	--	--	--	--	--
2-Methylphenol	µg/L	--	--	--	--	--
2-Nitroaniline	µg/L	--	--	--	--	--
2-Nitrophenol	µg/L	--	--	--	--	--
3&4-Methylphenol	µg/L	--	--	--	--	--
3,3'-Dichlorobenzidine	µg/L	--	--	--	--	--
3-Nitroaniline	µg/L	--	--	--	--	--
4,6-Dinitro-2-methylphenol	µg/L	--	--	--	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**Filter Test**	**Filter Test**	**Filter Test**	**Filter Test**	**INF3**
	Sample Name:	**11187072-Filter Test-3**	**11187072-Filter Test-4**	**11187072-Filter Test-5**	**11187072-Filter Test-6**	**INF 3**
	Sample Date:	**09/30/2019**	**09/30/2019**	**09/30/2019**	**09/30/2019**	**10/25/2019**
Parameters	**Unit**					
Semivolatile Organic Compounds						
4-Bromophenyl phenyl ether	µg/L	--	--	--	--	--
4-Chloro-3-methylphenol	µg/L	--	--	--	--	--
4-Chloroaniline	µg/L	--	--	--	--	--
4-Chlorophenyl phenyl ether	µg/L	--	--	--	--	--
4-Nitroaniline	µg/L	--	--	--	--	--
4-Nitrophenol	µg/L	--	--	--	--	--
Acenaphthene	µg/L	--	--	--	--	--
Acenaphthylene	µg/L	--	--	--	--	--
Acetophenone	µg/L	--	--	--	--	--
Anthracene	µg/L	--	--	--	--	--
Atrazine	µg/L	--	--	--	--	--
Benzaldehyde	µg/L	--	--	--	--	--
Benzo(a)anthracene	µg/L	--	--	--	--	--
Benzo(a)pyrene	µg/L	--	--	--	--	--
Benzo(b)fluoranthene	µg/L	--	--	--	--	--
Benzo(g,h,i)perylene	µg/L	--	--	--	--	--
Benzo(k)fluoranthene	µg/L	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	µg/L	--	--	--	--	--
bis(2-Chloroethoxy)methane	µg/L	--	--	--	--	--
bis(2-Chloroethyl)ether	µg/L	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	--	--	--	--	--
Butyl benzylphthalate (BBP)	µg/L	--	--	--	--	--
Caprolactam	µg/L	--	--	--	--	--
Carbazole	µg/L	--	--	--	--	--
Chrysene	µg/L	--	--	--	--	--
Di-n-butylphthalate (DBP)	µg/L	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	µg/L	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	--	--	--	--	--
Dibenzofuran	µg/L	--	--	--	--	--
Diethyl phthalate	µg/L	--	--	--	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**Filter Test**	**Filter Test**	**Filter Test**	**Filter Test**	**INF3**
	Sample Name:	**11187072-Filter Test-3**	**11187072-Filter Test-4**	**11187072-Filter Test-5**	**11187072-Filter Test-6**	**INF 3**
	Sample Date:	**09/30/2019**	**09/30/2019**	**09/30/2019**	**09/30/2019**	**10/25/2019**
Parameters	**Unit**					
Semivolatile Organic Compounds						
Dimethyl phthalate	µg/L	--	--	--	--	--
Fluoranthene	µg/L	--	--	--	--	--
Fluorene	µg/L	--	--	--	--	--
Hexachlorobenzene	µg/L	--	--	--	--	--
Hexachlorobutadiene	µg/L	--	--	--	--	--
Hexachlorocyclopentadiene	µg/L	--	--	--	--	--
Hexachloroethane	µg/L	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	µg/L	--	--	--	--	--
Isophorone	µg/L	--	--	--	--	--
N-Nitrosodi-n-propylamine	µg/L	--	--	--	--	--
N-Nitrosodiphenylamine	µg/L	--	--	--	--	--
Naphthalene	µg/L	--	--	--	--	--
Nitrobenzene	µg/L	--	--	--	--	--
Pentachlorophenol	µg/L	--	--	--	--	--
Phenanthrene	µg/L	--	--	--	--	--
Phenol	µg/L	--	--	--	--	--
Pyrene	µg/L	--	--	--	--	--
Pyridine	µg/L	--	--	--	--	--
Herbicides						
2,4,5-TP (Silvex)	µg/L	--	--	--	--	--
2,4-Dichlorophenoxyacetic acid (2,4-D)	µg/L	--	--	--	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**Filter Test**	**Filter Test**	**Filter Test**	**Filter Test**	**INF3**
	Sample Name:	**11187072-Filter Test-3**	**11187072-Filter Test-4**	**11187072-Filter Test-5**	**11187072-Filter Test-6**	**INF 3**
	Sample Date:	**09/30/2019**	**09/30/2019**	**09/30/2019**	**09/30/2019**	**10/25/2019**
Parameters	**Unit**					
Polychlorinated Biphenyls (PCBs)						
Aroclor-1016 (PCB-1016)	µg/L	--	--	--	--	--
Aroclor-1016 (PCB-1016) (dissolved)	µg/L	--	--	--	--	--
Aroclor-1221 (PCB-1221)	µg/L	--	--	--	--	--
Aroclor-1221 (PCB-1221) (dissolved)	µg/L	--	--	--	--	--
Aroclor-1232 (PCB-1232)	µg/L	--	--	--	--	--
Aroclor-1232 (PCB-1232) (dissolved)	µg/L	--	--	--	--	--
Aroclor-1242 (PCB-1242)	µg/L	--	--	--	--	--
Aroclor-1242 (PCB-1242) (dissolved)	µg/L	--	--	--	--	--
Aroclor-1248 (PCB-1248)	µg/L	--	--	--	--	--
Aroclor-1248 (PCB-1248) (dissolved)	µg/L	--	--	--	--	--
Aroclor-1254 (PCB-1254)	µg/L	--	--	--	--	--
Aroclor-1254 (PCB-1254) (dissolved)	µg/L	--	--	--	--	--
Aroclor-1260 (PCB-1260)	µg/L	--	--	--	--	--
Aroclor-1260 (PCB-1260) (dissolved)	µg/L	--	--	--	--	--
Pesticides						
alpha-Chlordane	µg/L	--	--	--	--	--
Chlordane	µg/L	--	--	--	--	--
Endrin	µg/L	--	--	--	--	--
gamma-BHC (lindane)	µg/L	--	--	--	--	--
gamma-Chlordane	µg/L	--	--	--	--	--
Heptachlor	µg/L	--	--	--	--	--
Heptachlor epoxide	µg/L	--	--	--	--	--
Hexachlorobenzene	µg/L	--	--	--	--	--
Methoxychlor	µg/L	--	--	--	--	--
Toxaphene	µg/L	--	--	--	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		Filter Test	Filter Test	Filter Test	Filter Test	INF3
Sample Name:		11187072-Filter Test-3	11187072-Filter Test-4	11187072-Filter Test-5	11187072-Filter Test-6	INF 3
Sample Date:		09/30/2019	09/30/2019	09/30/2019	09/30/2019	10/25/2019
Parameters	**Unit**					
Polychlorinated Dibenzodioxins (PCDDs) & Polychlorinated Dibenzofurans (PCDFs)						
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	pg/g	--	--	--	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	pg/g	--	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	pg/g	--	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	pg/g	--	--	--	--	--
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	pg/g	--	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/g	--	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/g	--	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/g	--	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	--
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	pg/g	--	--	--	--	--
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	pg/g	--	--	--	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	--
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	pg/g	--	--	--	--	--
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	pg/g	--	--	--	--	--
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	pg/g	--	--	--	--	--
Total heptachlorodibenzo-p-dioxin (HpCDD)	pg/g	--	--	--	--	--
Total heptachlorodibenzofuran (HpCDF)	pg/g	--	--	--	--	--
Total hexachlorodibenzo-p-dioxin (HxCDD)	pg/g	--	--	--	--	--
Total hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	--
Total pentachlorodibenzo-p-dioxin (PeCDD)	pg/g	--	--	--	--	--
Total pentachlorodibenzofuran (PeCDF)	pg/g	--	--	--	--	--
Total tetrachlorodibenzo-p-dioxin (TCDD)	pg/g	--	--	--	--	--
Total tetrachlorodibenzofuran (TCDF)	pg/g	--	--	--	--	--
Total WHO Dioxin TEQ(Human/Mammal)(ND=0)	pg/g	--	--	--	--	--
Total WHO Dioxin TEQ(Human/Mammal)(ND=0.5)	pg/g	--	--	--	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	pg/L	850	12 U	4.0 U	4.6 U	15000 J+
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD) (dissolve	pg/L	--	--	--	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	pg/L	24 U	0.90 U	1.9 U	1.8 U	590

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		Filter Test	Filter Test	Filter Test	Filter Test	INF3
Sample Name:		11187072-Filter Test-3	11187072-Filter Test-4	11187072-Filter Test-5	11187072-Filter Test-6	INF 3
Sample Date:		09/30/2019	09/30/2019	09/30/2019	09/30/2019	10/25/2019
Parameters	**Unit**					
Polychlorinated Dibenzodioxins (PCDDs) & Polychlorinated Dibenzofurans (PCDFs)						
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF) (dissolved)	pg/L	--	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	pg/L	30 J	1.7 U	0.53 U	1.4 U	840
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) (dissolv	pg/L	--	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	pg/L	30 J	0.75 U	1.1 U	1.2 U	880 J-
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) (dissolved)	pg/L	--	--	--	--	--
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	pg/L	11 J	0.87 U	0.47 U	0.47 U	320
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) (dissolved)	pg/L	--	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/L	1.7 U	2.0 U	1.9 U	1.9 U	11 U
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) (dissolved)	pg/L	--	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	pg/L	74	1.1 U	0.60 U	1.2 U	3100
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) (dissolved)	pg/L	--	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/L	0.84 U	0.45 U	0.62 U	1.3 U	30 J
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) (dissolved)	pg/L	--	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/L	20 J	0.44 U	1.2 U	0.86 U	790
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) (dissolved)	pg/L	--	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/L	0.60 U	0.71 U	0.57 U	1.5 U	18 J-
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) (dissolved)	pg/L	--	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	pg/L	2.1 U	0.67 U	0.75 U	1.1 U	53
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) (dissolved)	pg/L	--	--	--	--	--
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	pg/L	4.2 J	0.92 U	1.0 U	1.2 U	160
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) (dissolved)	pg/L	--	--	--	--	--
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	pg/L	39 J	0.53 U	0.60 U	0.64 U	2100
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) (dissolved)	pg/L	--	--	--	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/L	2.8 U	0.36 U	0.94 U	0.47 U	93
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) (dissolved)	pg/L	--	--	--	--	--
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	pg/L	22 J	0.56 U	0.57 U	0.66 U	1200
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) (dissolved)	pg/L	--	--	--	--	--
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	pg/L	270	3.6 J	0.76 U	0.65 U	18000
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) (dissolved)	pg/L	--	--	--	--	--
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	pg/L	820	8.7 J	1.6 J	0.93 J	50000

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		**Filter Test**	**Filter Test**	**Filter Test**	**Filter Test**	**INF3**
Sample Name:		**11187072-Filter Test-3**	**11187072-Filter Test-4**	**11187072-Filter Test-5**	**11187072-Filter Test-6**	**INF 3**
Sample Date:		**09/30/2019**	**09/30/2019**	**09/30/2019**	**09/30/2019**	**10/25/2019**
Parameters	**Unit**					
Polychlorinated Dibenzodioxins (PCDDs) & Polychlorinated Dibenzofurans (PCDFs)						
2,3,7,8-Tetrachlorodibenzofuran (TCDF) (dissolved)	pg/L	--	--	--	--	--
Total heptachlorodibenzo-p-dioxin (HpCDD)	pg/L	78 J	3.9 J	0.53 U	2.3 J	2000 J
Total heptachlorodibenzo-p-dioxin (HpCDD) (dissolved)	pg/L	--	--	--	--	--
Total heptachlorodibenzofuran (HpCDF)	pg/L	52 J	1.6 J	1.1 J	1.2 J	1600 J
Total heptachlorodibenzofuran (HpCDF) (dissolved)	pg/L	--	--	--	--	--
Total hexachlorodibenzo-p-dioxin (HxCDD)	pg/L	7.5 J	2.7 J	2.5 J	4.6 J	260 J
Total hexachlorodibenzo-p-dioxin (HxCDD) (dissolved)	pg/L	--	--	--	--	--
Total hexachlorodibenzofuran (HxCDF)	pg/L	110 J	1.8 J	2.9 J	3.2 J	4600 J
Total hexachlorodibenzofuran (HxCDF) (dissolved)	pg/L	--	--	--	--	--
Total pentachlorodibenzo-p-dioxin (PeCDD)	pg/L	4.2 J	0.92 U	1.0 U	1.2 U	190 J
Total pentachlorodibenzo-p-dioxin (PeCDD) (dissolved)	pg/L	--	--	--	--	--
Total pentachlorodibenzofuran (PeCDF)	pg/L	91 J	0.56 U	0.69 U	0.66 U	5000 J
Total pentachlorodibenzofuran (PeCDF) (dissolved)	pg/L	--	--	--	--	--
Total tetrachlorodibenzo-p-dioxin (TCDD)	pg/L	290 J	5.0 J	0.76 U	0.65 U	20000 J
Total tetrachlorodibenzo-p-dioxin (TCDD) (dissolved)	pg/L	--	--	--	--	--
Total tetrachlorodibenzofuran (TCDF)	pg/L	1400 J	13 J	1.6 J	0.93 J	100000 J
Total tetrachlorodibenzofuran (TCDF) (dissolved)	pg/L	--	--	--	--	--
Total WHO Dioxin TEQ(Human/Mammal)(ND=0)	pg/L	374	4.47	0.160	0.0930	24000
Total WHO Dioxin TEQ(Human/Mammal)(ND=0.5)	pg/L	3740	5.33	1.47	1.56	24000

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		Filter Test	Filter Test	Filter Test	Filter Test	INF3
Sample Name:		11187072-Filter Test-3	11187072-Filter Test-4	11187072-Filter Test-5	11187072-Filter Test-6	INF 3
Sample Date:		09/30/2019	09/30/2019	09/30/2019	09/30/2019	10/25/2019
Parameters	**Unit**					
Metals						
Aluminum	mg/L	--	--	--	--	--
Aluminum (dissolved)	mg/L	--	--	--	--	--
Antimony	mg/L	--	--	--	--	0.0039 U
Antimony (dissolved)	mg/L	--	--	--	--	--
Arsenic	mg/L	--	--	--	--	0.026
Arsenic (dissolved)	mg/L	--	--	--	--	--
Barium	mg/L	--	--	--	--	1.1
Barium (dissolved)	mg/L	--	--	--	--	--
Beryllium	mg/L	--	--	--	--	0.0074
Beryllium (dissolved)	mg/L	--	--	--	--	--
Boron	mg/L	--	--	--	--	0.26
Boron (dissolved)	mg/L	--	--	--	--	--
Cadmium	mg/L	--	--	--	--	0.0028 J
Cadmium (dissolved)	mg/L	--	--	--	--	--
Calcium	mg/L	--	--	--	--	130
Calcium (dissolved)	mg/L	--	--	--	--	--
Chromium	mg/L	--	--	--	--	0.12
Chromium (dissolved)	mg/L	--	--	--	--	--
Cobalt	mg/L	--	--	--	--	0.051
Cobalt (dissolved)	mg/L	--	--	--	--	--
Copper	mg/L	--	--	--	--	0.11
Copper (dissolved)	mg/L	--	--	--	--	--
Iron	mg/L	--	--	--	--	110
Iron (dissolved)	mg/L	--	--	--	--	--
Lead	mg/L	--	--	--	--	0.12
Lead (dissolved)	mg/L	--	--	--	--	--
Magnesium	mg/L	--	--	--	--	58
Magnesium (dissolved)	mg/L	--	--	--	--	--
Manganese	mg/L	--	--	--	--	1.1
Manganese (dissolved)	mg/L	--	--	--	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**Filter Test**	**Filter Test**	**Filter Test**	**Filter Test**	**INF3**
	Sample Name:	**11187072-Filter Test-3**	**11187072-Filter Test-4**	**11187072-Filter Test-5**	**11187072-Filter Test-6**	**INF 3**
	Sample Date:	**09/30/2019**	**09/30/2019**	**09/30/2019**	**09/30/2019**	**10/25/2019**
Parameters	**Unit**					
Metals						
Mercury	mg/L	--	--	--	--	--
Mercury (dissolved)	mg/L	--	--	--	--	--
Molybdenum	mg/L	--	--	--	--	0.0084 J
Molybdenum (dissolved)	mg/L	--	--	--	--	--
Nickel	mg/L	--	--	--	--	0.095
Nickel (dissolved)	mg/L	--	--	--	--	--
Phosphorus	mg/L	--	--	--	--	--
Phosphorus (dissolved)	mg/L	--	--	--	--	--
Potassium	mg/L	--	--	--	--	25
Potassium (dissolved)	mg/L	--	--	--	--	--
Selenium	mg/L	--	--	--	--	0.0029 U
Selenium (dissolved)	mg/L	--	--	--	--	--
Silver	mg/L	--	--	--	--	0.0013 U
Silver (dissolved)	mg/L	--	--	--	--	--
Sodium	mg/L	--	--	--	--	340
Sodium (dissolved)	mg/L	--	--	--	--	--
Strontium	mg/L	--	--	--	--	0.84
Strontium (dissolved)	mg/L	--	--	--	--	--
Thallium	mg/L	--	--	--	--	0.0042 U
Thallium (dissolved)	mg/L	--	--	--	--	--
Tin	mg/L	--	--	--	--	0.0048 J
Tin (dissolved)	mg/L	--	--	--	--	--
Titanium	mg/L	--	--	--	--	0.23
Titanium (dissolved)	mg/L	--	--	--	--	--
Vanadium	mg/L	--	--	--	--	0.20
Vanadium (dissolved)	mg/L	--	--	--	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		Filter Test	Filter Test	Filter Test	Filter Test	INF3
Sample Name:		11187072-Filter Test-3	11187072-Filter Test-4	11187072-Filter Test-5	11187072-Filter Test-6	INF 3
Sample Date:		09/30/2019	09/30/2019	09/30/2019	09/30/2019	10/25/2019
Parameters	**Unit**					
Metals						
Zinc	mg/L	--	--	--	--	0.40
Zinc (dissolved)	mg/L	--	--	--	--	--
Mercury	ng/L	--	--	--	--	28 J
Mercury (dissolved)	ng/L	--	--	--	--	--
Mercury	µg/L	--	--	--	--	--
Mercury (dissolved)	µg/L	--	--	--	--	--
Thallium	µg/L	--	--	--	--	--
Thallium (dissolved)	µg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)						
2-Ethoxyethanol	mg/L	--	--	--	--	--
Ethylene glycol	mg/L	--	--	--	--	--
Ethylene glycol monomethyl ether (2-methyoxyethanol)	mg/L	--	--	--	--	--
General Chemistry						
Percent solids	%	--	--	--	--	--
Ignitability	Deg F	--	--	--	--	--
Alkalinity (as CaCO3 pH=4.5)	mg/L	--	--	--	--	--
Alkalinity, bicarbonate	mg/L	--	--	--	--	190 J
Alkalinity, carbonate	mg/L	--	--	--	--	20 UJ
Alkalinity, total (as CaCO3)	mg/L	--	--	--	--	190 J
Ammonia-N	mg/L	--	--	--	--	0.073 J
Biochemical oxygen demand (BOD)	mg/L	--	--	--	--	--
Bromide	mg/L	--	--	--	--	0.12 J
Chemical oxygen demand (COD)	mg/L	--	--	--	--	170
Chloride	mg/L	--	--	--	--	540
Ferrous iron	mg/L	--	--	--	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		**Filter Test**	**Filter Test**	**Filter Test**	**Filter Test**	**INF3**
Sample Name:		**11187072-Filter Test-3**	**11187072-Filter Test-4**	**11187072-Filter Test-5**	**11187072-Filter Test-6**	**INF 3**
Sample Date:		**09/30/2019**	**09/30/2019**	**09/30/2019**	**09/30/2019**	**10/25/2019**
Parameters	**Unit**					
General Chemistry						
Fluoride	mg/L	--	--	--	--	1.2 U
Hydrogen sulfide	mg/L	--	--	--	--	--
Nitrate (as N)	mg/L	--	--	--	--	R
Nitrite (as N)	mg/L	--	--	--	--	R
Oil and grease (HEM), total	mg/L	--	--	--	--	2.0 J
Oil and grease (SGT HEM), non-polar material	mg/L	--	--	--	--	1.0 U
Phosphorus	mg/L	--	--	--	--	1.1
Phosphorus, total (as PO4)	mg/L	--	--	--	--	3.3
Sulfate	mg/L	--	--	--	--	37
Sulfide	mg/L	--	--	--	--	0.57
TOC average duplicates	mg/L	--	--	--	--	--
Total dissolved solids (TDS)	mg/L	--	--	--	--	980
Total organic carbon (TOC)	mg/L	--	--	--	--	17 J
Total suspended solids (TSS)	mg/L	--	--	--	--	3500
Free liquid	none	--	--	--	--	--
pH, lab	s.u.	--	--	--	--	8.2 J
Cyanide (total)	µg/L	--	--	--	--	--

Notes:

U - Not detected at the associated reporting limit
J - Estimated concentration
 - Not detected; associated reporting limit is estimated
R - Rejected
-- - Not applicable
s.u. - Standard Units

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**INF3**	**INF4**	**INF4**	**INF4**	**SS**	**Western**
	Sample Name:	**INF 3 - DISSOLVED**	**INF 4**	**DUP**	**F 4 - DISSOLVE**	**SS**	**11187072-Western-GW**
	Sample Date:	**10/25/2019**	**10/25/2019**	**10/25/2019**	**10/26/2019**	**10/26/2019**	**01/29/2020**
				Duplicate			
Parameters	**Unit**						
Volatile Organic Compounds							
1,1,1-Trichloroethane	µg/L	--	--	--	--	--	--
1,1,2-Trichloroethane	µg/L	--	--	--	--	--	--
1,1-Dichloroethane	µg/L	--	--	--	--	--	--
1,1-Dichloroethene	µg/L	--	--	--	--	--	--
1,2,4-Trichlorobenzene	µg/L	--	--	--	--	--	--
1,2-Dichlorobenzene	µg/L	--	--	--	--	--	--
1,2-Dichloroethane	µg/L	--	--	--	--	--	--
1,2-Dichloropropane	µg/L	--	--	--	--	--	--
1,3-Dichlorobenzene	µg/L	--	--	--	--	--	--
1,4-Dichlorobenzene	µg/L	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	--	--	--	--	--	--
Benzene	µg/L	--	--	--	--	--	--
Bromodichloromethane	µg/L	--	--	--	--	--	--
Bromoform	µg/L	--	--	--	--	--	--
Carbon disulfide	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	--	--	--	--	--	--
Chlorobenzene	µg/L	--	--	--	--	--	--
Chloroethane	µg/L	--	--	--	--	--	--
Chloroform (Trichloromethane)	µg/L	--	--	--	--	--	--
cis-1,2-Dichloroethene	µg/L	--	--	--	--	--	--
cis-1,3-Dichloropropene	µg/L	--	--	--	--	--	--
Ethylbenzene	µg/L	--	--	--	--	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		INF3	INF4	INF4	INF4	SS	Western
Sample Name:		INF 3 - DISSOLVED	INF 4	DUP	F 4 - DISSOLVE	SS	11187072-Western-GW
Sample Date:		10/25/2019	10/25/2019	10/25/2019	10/26/2019	10/26/2019	01/29/2020
				Duplicate			
Parameters	**Unit**						
Volatile Organic Compounds							
Hexachlorobutadiene	µg/L	--	--	--	--	--	--
m&p-Xylenes	µg/L	--	--	--	--	--	--
o-Xylene	µg/L	--	--	--	--	--	--
Tetrachloroethene	µg/L	--	--	--	--	--	--
Toluene	µg/L	--	--	--	--	--	--
trans-1,2-Dichloroethene	µg/L	--	--	--	--	--	--
trans-1,3-Dichloropropene	µg/L	--	--	--	--	--	--
Trichloroethene	µg/L	--	--	--	--	--	--
Vinyl chloride	µg/L	--	--	--	--	--	--
Xylenes (total)	µg/L	--	--	--	--	--	--
Semivolatile Organic Compounds							
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	--	--	--	--	--	--
2,4,5-Trichlorophenol	µg/L	--	--	--	--	--	--
2,4,6-Trichlorophenol	µg/L	--	--	--	--	--	--
2,4-Dichlorophenol	µg/L	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	--	--	--	--	--	--
2,4-Dinitrophenol	µg/L	--	--	--	--	--	--
2,4-Dinitrotoluene	µg/L	--	--	--	--	--	--
2,6-Dinitrotoluene	µg/L	--	--	--	--	--	--
2-Chloronaphthalene	µg/L	--	--	--	--	--	--
2-Chlorophenol	µg/L	--	--	--	--	--	--
2-Methylnaphthalene	µg/L	--	--	--	--	--	--
2-Methylphenol	µg/L	--	--	--	--	--	--
2-Nitroaniline	µg/L	--	--	--	--	--	--
2-Nitrophenol	µg/L	--	--	--	--	--	--
3&4-Methylphenol	µg/L	--	--	--	--	--	--
3,3'-Dichlorobenzidine	µg/L	--	--	--	--	--	--
3-Nitroaniline	µg/L	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	µg/L	--	--	--	--	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**INF3**	**INF4**	**INF4**	**INF4**	**SS**	**Western**
	Sample Name:	**INF 3 - DISSOLVED**	**INF 4**	**DUP**	**F 4 - DISSOLVE**	**SS**	**11187072-Western-GW**
	Sample Date:	**10/25/2019**	**10/25/2019**	**10/25/2019**	**10/26/2019**	**10/26/2019**	**01/29/2020**
				Duplicate			
Parameters	**Unit**						
Semivolatile Organic Compounds							
4-Bromophenyl phenyl ether	µg/L	--	--	--	--	--	--
4-Chloro-3-methylphenol	µg/L	--	--	--	--	--	--
4-Chloroaniline	µg/L	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	µg/L	--	--	--	--	--	--
4-Nitroaniline	µg/L	--	--	--	--	--	--
4-Nitrophenol	µg/L	--	--	--	--	--	--
Acenaphthene	µg/L	--	--	--	--	--	--
Acenaphthylene	µg/L	--	--	--	--	--	--
Acetophenone	µg/L	--	--	--	--	--	--
Anthracene	µg/L	--	--	--	--	--	--
Atrazine	µg/L	--	--	--	--	--	--
Benzaldehyde	µg/L	--	--	--	--	--	--
Benzo(a)anthracene	µg/L	--	--	--	--	--	--
Benzo(a)pyrene	µg/L	--	--	--	--	--	--
Benzo(b)fluoranthene	µg/L	--	--	--	--	--	--
Benzo(g,h,i)perylene	µg/L	--	--	--	--	--	--
Benzo(k)fluoranthene	µg/L	--	--	--	--	--	--
Biphenyl (1,1-Biphenyl)	µg/L	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	µg/L	--	--	--	--	--	--
bis(2-Chloroethyl)ether	µg/L	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	--	--	--	--	--	--
Butyl benzylphthalate (BBP)	µg/L	--	--	--	--	--	--
Caprolactam	µg/L	--	--	--	--	--	--
Carbazole	µg/L	--	--	--	--	--	--
Chrysene	µg/L	--	--	--	--	--	--
Di-n-butylphthalate (DBP)	µg/L	--	--	--	--	--	--
Di-n-octyl phthalate (DnOP)	µg/L	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	--	--	--	--	--	--
Dibenzofuran	µg/L	--	--	--	--	--	--
Diethyl phthalate	µg/L	--	--	--	--	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**INF3**	**INF4**	**INF4**	**INF4**	**SS**	**Western**
	Sample Name:	**INF 3 - DISSOLVED**	**INF 4**	**DUP**	**F 4 - DISSOLVE**	**SS**	**11187072-Western-GW**
	Sample Date:	**10/25/2019**	**10/25/2019**	**10/25/2019**	**10/26/2019**	**10/26/2019**	**01/29/2020**
				Duplicate			
Parameters	**Unit**						
Semivolatile Organic Compounds							
Dimethyl phthalate	µg/L	--	--	--	--	--	--
Fluoranthene	µg/L	--	--	--	--	--	--
Fluorene	µg/L	--	--	--	--	--	--
Hexachlorobenzene	µg/L	--	--	--	--	--	--
Hexachlorobutadiene	µg/L	--	--	--	--	--	--
Hexachlorocyclopentadiene	µg/L	--	--	--	--	--	--
Hexachloroethane	µg/L	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	µg/L	--	--	--	--	--	--
Isophorone	µg/L	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	µg/L	--	--	--	--	--	--
N-Nitrosodiphenylamine	µg/L	--	--	--	--	--	--
Naphthalene	µg/L	--	--	--	--	--	--
Nitrobenzene	µg/L	--	--	--	--	--	--
Pentachlorophenol	µg/L	--	--	--	--	--	--
Phenanthrene	µg/L	--	--	--	--	--	--
Phenol	µg/L	--	--	--	--	--	--
Pyrene	µg/L	--	--	--	--	--	--
Pyridine	µg/L	--	--	--	--	--	--
Herbicides							
2,4,5-TP (Silvex)	µg/L	--	--	--	--	--	--
2,4-Dichlorophenoxyacetic acid (2,4-D)	µg/L	--	--	--	--	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		INF3	INF4	INF4	INF4	SS	Western
Sample Name:		INF 3 - DISSOLVED	INF 4	DUP	F 4 - DISSOLVE	SS	11187072-Western-GW
Sample Date:		10/25/2019	10/25/2019	10/25/2019	10/26/2019	10/26/2019	01/29/2020
				Duplicate			
Parameters	**Unit**						
Polychlorinated Biphenyls (PCBs)							
Aroclor-1016 (PCB-1016)	µg/L	--	--	--	--	--	--
Aroclor-1016 (PCB-1016) (dissolved)	µg/L	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	µg/L	--	--	--	--	--	--
Aroclor-1221 (PCB-1221) (dissolved)	µg/L	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	µg/L	--	--	--	--	--	--
Aroclor-1232 (PCB-1232) (dissolved)	µg/L	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	µg/L	--	--	--	--	--	--
Aroclor-1242 (PCB-1242) (dissolved)	µg/L	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	µg/L	--	--	--	--	--	--
Aroclor-1248 (PCB-1248) (dissolved)	µg/L	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	µg/L	--	--	--	--	--	--
Aroclor-1254 (PCB-1254) (dissolved)	µg/L	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	µg/L	--	--	--	--	--	--
Aroclor-1260 (PCB-1260) (dissolved)	µg/L	--	--	--	--	--	--
Pesticides							
alpha-Chlordane	µg/L	--	--	--	--	--	--
Chlordane	µg/L	--	--	--	--	--	--
Endrin	µg/L	--	--	--	--	--	--
gamma-BHC (lindane)	µg/L	--	--	--	--	--	--
gamma-Chlordane	µg/L	--	--	--	--	--	--
Heptachlor	µg/L	--	--	--	--	--	--
Heptachlor epoxide	µg/L	--	--	--	--	--	--
Hexachlorobenzene	µg/L	--	--	--	--	--	--
Methoxychlor	µg/L	--	--	--	--	--	--
Toxaphene	µg/L	--	--	--	--	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		INF3	INF4	INF4	INF4	SS	Western
Sample Name:		INF 3 - DISSOLVED	INF 4	DUP	F 4 - DISSOLVE	SS	11187072-Western-GW
Sample Date:		10/25/2019	10/25/2019	10/25/2019	10/26/2019	10/26/2019	01/29/2020
				Duplicate			
Parameters	**Unit**						
Polychlorinated Dibenzodioxins (PCDDs) & Polychlorinated Dibenzofurans (PCDFs)							
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	pg/g	--	--	--	--	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	pg/g	--	--	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	pg/g	--	--	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	pg/g	--	--	--	--	--	--
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	pg/g	--	--	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/g	--	--	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/g	--	--	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/g	--	--	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	--	--
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	pg/g	--	--	--	--	--	--
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	pg/g	--	--	--	--	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	--	--
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	pg/g	--	--	--	--	--	--
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	pg/g	--	--	--	--	--	--
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	pg/g	--	--	--	--	--	--
Total heptachlorodibenzo-p-dioxin (HpCDD)	pg/g	--	--	--	--	--	--
Total heptachlorodibenzofuran (HpCDF)	pg/g	--	--	--	--	--	--
Total hexachlorodibenzo-p-dioxin (HxCDD)	pg/g	--	--	--	--	--	--
Total hexachlorodibenzofuran (HxCDF)	pg/g	--	--	--	--	--	--
Total pentachlorodibenzo-p-dioxin (PeCDD)	pg/g	--	--	--	--	--	--
Total pentachlorodibenzofuran (PeCDF)	pg/g	--	--	--	--	--	--
Total tetrachlorodibenzo-p-dioxin (TCDD)	pg/g	--	--	--	--	--	--
Total tetrachlorodibenzofuran (TCDF)	pg/g	--	--	--	--	--	--
Total WHO Dioxin TEQ(Human/Mammal)(ND=0)	pg/g	--	--	--	--	--	--
Total WHO Dioxin TEQ(Human/Mammal)(ND=0.5)	pg/g	--	--	--	--	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	pg/L	--	8800 J	--	--	--	51 U
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD) (dissolv	pg/L	5400 J+	--	--	280 J+	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	pg/L	--	370 J-	--	--	--	13.8 U

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		INF3	INF4	INF4	INF4	SS	Western
Sample Name:		INF 3 - DISSOLVED	INF 4	DUP	F 4 - DISSOLVE	SS	11187072-Western-GW
Sample Date:		10/25/2019	10/25/2019	10/25/2019	10/26/2019	10/26/2019	01/29/2020
				Duplicate			
Parameters	**Unit**						
Polychlorinated Dibenzodioxins (PCDDs) & Polychlorinated Dibenzofurans (PCDFs)							
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF) (dissolved)	pg/L	170	--	--	11 U	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	pg/L	--	540 J-	--	--	--	9.52 U
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) (dissolv	pg/L	250	--	--	27 J	--	--
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	pg/L	--	600 J-	--	--	--	7.54 U
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) (dissolved)	pg/L	240	--	--	12 J	--	--
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	pg/L	--	240 J-	--	--	--	0.71 U
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) (dissolved)	pg/L	88	--	--	4.9 U	--	--
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/L	--	4.9 U	--	--	--	7.72 U
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) (dissolved)	pg/L	4.6 U	--	--	3.1 U	--	--
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	pg/L	--	2500 J-	--	--	--	0.79 U
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) (dissolved)	pg/L	750	--	--	31 J	--	--
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/L	--	20 J-	--	--	--	0.48 U
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) (dissolved)	pg/L	6.7 J	--	--	2.1 J	--	--
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/L	--	650 J-	--	--	--	0.70 U
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) (dissolved)	pg/L	190	--	--	9.8 J	--	--
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/L	--	8.5 J-	--	--	--	6.10 U
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) (dissolved)	pg/L	5.7 J	--	--	1.7 U	--	--
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	pg/L	--	40 J-	--	--	--	0.53 U
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) (dissolved)	pg/L	14 J	--	--	4.8 U	--	--
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	pg/L	--	130	--	--	--	0.47 U
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) (dissolved)	pg/L	40 J	--	--	3.0 J	--	--
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	pg/L	--	1900	--	--	--	0.42 U
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) (dissolved)	pg/L	450	--	--	20 J	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/L	--	73 J-	--	--	--	0.49 U
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) (dissolved)	pg/L	23 J	--	--	2.8 U	--	--
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	pg/L	--	1100	--	--	--	0.46 U
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) (dissolved)	pg/L	250	--	--	11 J	--	--
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	pg/L	--	15000	--	--	--	3.4 J
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) (dissolved)	pg/L	3800	--	--	150 J	--	--
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	pg/L	--	46000	--	--	--	0.35 U

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		INF3	INF4	INF4	INF4	SS	Western
Sample Name:		INF 3 - DISSOLVED	INF 4	DUP	F 4 - DISSOLVE	SS	11187072-Western-GW
Sample Date:		10/25/2019	10/25/2019	10/25/2019	10/26/2019	10/26/2019	01/29/2020
				Duplicate			
Parameters	**Unit**						
Polychlorinated Dibenzodioxins (PCDDs) & Polychlorinated Dibenzofurans (PCDFs)							
2,3,7,8-Tetrachlorodibenzofuran (TCDF) (dissolved)	pg/L	11000	--	--	540 J	--	--
Total heptachlorodibenzo-p-dioxin (HpCDD)	pg/L	--	1300 J	--	--	--	8.3 J
Total heptachlorodibenzo-p-dioxin (HpCDD) (dissolved)	pg/L	630 J	--	--	51 J	--	--
Total heptachlorodibenzofuran (HpCDF)	pg/L	--	1100 J	--	--	--	3.2 J
Total heptachlorodibenzofuran (HpCDF) (dissolved)	pg/L	430 J	--	--	20 J	--	--
Total hexachlorodibenzo-p-dioxin (HxCDD)	pg/L	--	180 J	--	--	--	4.1 J
Total hexachlorodibenzo-p-dioxin (HxCDD) (dissolved)	pg/L	74 J	--	--	6.9 J	--	--
Total hexachlorodibenzofuran (HxCDF)	pg/L	--	3800 J	--	--	--	0.79 U
Total hexachlorodibenzofuran (HxCDF) (dissolved)	pg/L	1100 J	--	--	48 J	--	--
Total pentachlorodibenzo-p-dioxin (PeCDD)	pg/L	--	160 J	--	--	--	0.47 U
Total pentachlorodibenzo-p-dioxin (PeCDD) (dissolved)	pg/L	51 J	--	--	3.0 J	--	--
Total pentachlorodibenzofuran (PeCDF)	pg/L	--	4600 J	--	--	--	0.46 U
Total pentachlorodibenzofuran (PeCDF) (dissolved)	pg/L	1100 J	--	--	44 J	--	--
Total tetrachlorodibenzo-p-dioxin (TCDD)	pg/L	--	16000 J	--	--	--	3.4 J
Total tetrachlorodibenzo-p-dioxin (TCDD) (dissolved)	pg/L	4000 J	--	--	170 J	--	--
Total tetrachlorodibenzofuran (TCDF)	pg/L	--	100000 J	--	--	--	0.35 U
Total tetrachlorodibenzofuran (TCDF) (dissolved)	pg/L	21000 J	--	--	920 J	--	--
Total WHO Dioxin TEQ(Human/Mammal)(ND=0)	pg/L	--	20500	--	--	--	3.4
Total WHO Dioxin TEQ(Human/Mammal)(ND=0.5)	pg/L	--	20500	--	--	--	4.67

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		INF3	INF4	INF4	INF4	SS	Western
Sample Name:		INF 3 - DISSOLVED	INF 4	DUP	F 4 - DISSOLVE	SS	11187072-Western-GW
Sample Date:		10/25/2019	10/25/2019	10/25/2019	10/26/2019	10/26/2019	01/29/2020
				Duplicate			
Parameters	**Unit**						
Metals							
Aluminum	mg/L	--	--	--	--	--	--
Aluminum (dissolved)	mg/L	--	--	--	--	--	--
Antimony	mg/L	--	0.0039 U	--	--	--	--
Antimony (dissolved)	mg/L	0.0039 U	--	--	0.0039 U	--	--
Arsenic	mg/L	--	0.023	--	--	--	--
Arsenic (dissolved)	mg/L	0.014	--	--	0.0041 J	--	--
Barium	mg/L	--	0.96	--	--	--	--
Barium (dissolved)	mg/L	0.55	--	--	0.30	--	--
Beryllium	mg/L	--	0.0062	--	--	--	--
Beryllium (dissolved)	mg/L	0.0026 J	--	--	0.00042 U	--	--
Boron	mg/L	--	0.25	--	--	--	--
Boron (dissolved)	mg/L	0.22	--	--	0.20	--	--
Cadmium	mg/L	--	0.0025 J	--	--	--	--
Cadmium (dissolved)	mg/L	0.0013 J	--	--	0.00040 J	--	--
Calcium	mg/L	--	120	--	--	--	--
Calcium (dissolved)	mg/L	67	--	--	55	--	--
Chromium	mg/L	--	0.11	--	--	--	--
Chromium (dissolved)	mg/L	0.048	--	--	0.0039 J	--	--
Cobalt	mg/L	--	0.043	--	--	--	--
Cobalt (dissolved)	mg/L	0.017	--	--	0.0012 J	--	--
Copper	mg/L	--	0.093	--	--	--	--
Copper (dissolved)	mg/L	0.036	--	--	0.0081 U	--	--
Iron	mg/L	--	88	--	--	--	--
Iron (dissolved)	mg/L	40	--	--	2.9	--	--
Lead	mg/L	--	0.098	--	--	--	--
Lead (dissolved)	mg/L	0.037	--	--	0.0022 U	--	--
Magnesium	mg/L	--	54	--	--	--	--
Magnesium (dissolved)	mg/L	42	--	--	32	--	--
Manganese	mg/L	--	1.0	--	--	--	--
Manganese (dissolved)	mg/L	0.34	--	--	0.035	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		INF3	INF4	INF4	INF4	SS	Western
Sample Name:		INF 3 - DISSOLVED	INF 4	DUP	F 4 - DISSOLVE	SS	11187072-Western-GW
Sample Date:		10/25/2019	10/25/2019	10/25/2019	10/26/2019	10/26/2019	01/29/2020
				Duplicate			
Parameters	**Unit**						
Metals							
Mercury	mg/L	--	--	--	--	--	--
Mercury (dissolved)	mg/L	--	--	--	--	--	--
Molybdenum	mg/L	--	0.0090 J	--	--	--	--
Molybdenum (dissolved)	mg/L	0.0084 J	--	--	0.010	--	--
Nickel	mg/L	--	0.081	--	--	--	--
Nickel (dissolved)	mg/L	0.033	--	--	0.0030 J	--	--
Phosphorus	mg/L	--	--	--	--	--	--
Phosphorus (dissolved)	mg/L	--	--	--	--	--	--
Potassium	mg/L	--	23	--	--	--	--
Potassium (dissolved)	mg/L	17	--	--	13	--	--
Selenium	mg/L	--	0.0029 U	--	--	--	--
Selenium (dissolved)	mg/L	0.0029 U	--	--	0.0029 U	--	--
Silver	mg/L	--	0.0013 U	--	--	--	--
Silver (dissolved)	mg/L	0.0013 U	--	--	0.0013 U	--	--
Sodium	mg/L	--	350	--	--	--	--
Sodium (dissolved)	mg/L	340	--	--	350	--	--
Strontium	mg/L	--	0.79	--	--	--	--
Strontium (dissolved)	mg/L	0.57	--	--	0.47	--	--
Thallium	mg/L	--	0.0042 U	--	--	--	--
Thallium (dissolved)	mg/L	0.0042 U	--	--	0.0042 U	--	--
Tin	mg/L	--	0.0057 J	--	--	--	--
Tin (dissolved)	mg/L	0.0012 J	--	--	0.00059 U	--	--
Titanium	mg/L	--	0.22	--	--	--	--
Titanium (dissolved)	mg/L	0.17	--	--	0.025	--	--
Vanadium	mg/L	--	0.17	--	--	--	--
Vanadium (dissolved)	mg/L	0.086	--	--	0.012	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		INF3	INF4	INF4	INF4	SS	Western
Sample Name:		INF 3 - DISSOLVED	INF 4	DUP	F 4 - DISSOLVE	SS	11187072-Western-GW
Sample Date:		10/25/2019	10/25/2019	10/25/2019	10/26/2019	10/26/2019	01/29/2020
				Duplicate			
Parameters	**Unit**						
Metals							
Zinc	mg/L	--	0.36	--	--	--	--
Zinc (dissolved)	mg/L	0.15	--	--	0.026 J	--	--
Mercury	ng/L	--	--	6.3 J	--	--	--
Mercury (dissolved)	ng/L	--	--	--	22 J	--	--
Mercury	µg/L	--	--	--	--	--	--
Mercury (dissolved)	µg/L	--	--	--	--	--	--
Thallium	µg/L	--	--	--	--	--	--
Thallium (dissolved)	µg/L	--	--	--	--	--	--
Total Petroleum Hydrocarbons (TPH)							
2-Ethoxyethanol	mg/L	--	--	--	--	--	--
Ethylene glycol	mg/L	--	--	--	--	--	--
Ethylene glycol monomethyl ether (2-methyoxyethanol)	mg/L	--	--	--	--	--	--
General Chemistry							
Percent solids	%	--	--	--	--	--	--
Ignitability	Deg F	--	--	--	--	--	--
Alkalinity (as CaCO3 pH=4.5)	mg/L	--	--	--	--	--	--
Alkalinity, bicarbonate	mg/L	--	170 J	--	--	--	--
Alkalinity, carbonate	mg/L	--	20 UJ	--	--	--	--
Alkalinity, total (as CaCO3)	mg/L	--	170 J	--	--	--	--
Ammonia-N	mg/L	--	0.23	--	--	--	--
Biochemical oxygen demand (BOD)	mg/L	--	--	--	--	--	--
Bromide	mg/L	--	0.15 J	--	--	--	--
Chemical oxygen demand (COD)	mg/L	--	310	--	--	--	--
Chloride	mg/L	--	500	--	--	--	--
Ferrous iron	mg/L	--	--	--	--	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**INF3**	**INF4**	**INF4**	**INF4**	**SS**	**Western**
	Sample Name:	**INF 3 - DISSOLVED**	**INF 4**	**DUP**	**F 4 - DISSOLVE**	**SS**	**11187072-Western-GW**
	Sample Date:	**10/25/2019**	**10/25/2019**	**10/25/2019**	**10/26/2019**	**10/26/2019**	**01/29/2020**
				Duplicate			
Parameters	**Unit**						
General Chemistry							
Fluoride	mg/L	--	0.26 J	--	--	--	--
Hydrogen sulfide	mg/L	--	--	--	--	--	--
Nitrate (as N)	mg/L	--	R	--	--	--	--
Nitrite (as N)	mg/L	--	R	--	--	--	--
Oil and grease (HEM), total	mg/L	--	2.1 J	1.8 J	--	--	--
Oil and grease (SGT HEM), non-polar material	mg/L	--	1.0 U	1.0 U	--	--	--
Phosphorus	mg/L	--	0.25	--	--	--	--
Phosphorus, total (as PO4)	mg/L	--	0.77	--	--	--	--
Sulfate	mg/L	--	36	--	--	--	--
Sulfide	mg/L	--	0.061	0.19	--	--	--
TOC average duplicates	mg/L	--	--	--	--	--	--
Total dissolved solids (TDS)	mg/L	--	1100	--	--	--	--
Total organic carbon (TOC)	mg/L	--	9.2 J	--	--	--	--
Total suspended solids (TSS)	mg/L	--	4600	--	--	110000	--
Free liquid	none	--	--	--	--	--	--
pH, lab	s.u.	--	7.9 J	8.9 J	--	--	--
Cyanide (total)	µg/L	--	--	--	--	--	--

Notes:

U - Not detected at the associated reporting limit
J - Estimated concentration
- Not detected; associated reporting limit is estimated
R - Rejected
-- - Not applicable
s.u. - Standard Units

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**Western**	**Western**
	Sample Name:	**11187072-Western-Solids**	**11187072-Western-Rock**
	Sample Date:	**01/29/2020**	**02/11/2020**
Parameters	**Unit**		
Volatile Organic Compounds			
1,1,1-Trichloroethane	µg/L	--	--
1,1,2-Trichloroethane	µg/L	--	--
1,1-Dichloroethane	µg/L	--	--
1,1-Dichloroethene	µg/L	--	--
1,2,4-Trichlorobenzene	µg/L	--	--
1,2-Dichlorobenzene	µg/L	--	--
1,2-Dichloroethane	µg/L	--	--
1,2-Dichloropropane	µg/L	--	--
1,3-Dichlorobenzene	µg/L	--	--
1,4-Dichlorobenzene	µg/L	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	--	--
Benzene	µg/L	--	--
Bromodichloromethane	µg/L	--	--
Bromoform	µg/L	--	--
Carbon disulfide	µg/L	--	--
Carbon tetrachloride	µg/L	--	--
Chlorobenzene	µg/L	--	--
Chloroethane	µg/L	--	--
Chloroform (Trichloromethane)	µg/L	--	--
cis-1,2-Dichloroethene	µg/L	--	--
cis-1,3-Dichloropropene	µg/L	--	--
Ethylbenzene	µg/L	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**Western**	**Western**
	Sample Name:	**11187072-Western-Solids**	**11187072-Western-Rock**
	Sample Date:	**01/29/2020**	**02/11/2020**
Parameters	**Unit**		
Volatile Organic Compounds			
Hexachlorobutadiene	µg/L	--	--
m&p-Xylenes	µg/L	--	--
o-Xylene	µg/L	--	--
Tetrachloroethene	µg/L	--	--
Toluene	µg/L	--	--
trans-1,2-Dichloroethene	µg/L	--	--
trans-1,3-Dichloropropene	µg/L	--	--
Trichloroethene	µg/L	--	--
Vinyl chloride	µg/L	--	--
Xylenes (total)	µg/L	--	--
Semivolatile Organic Compounds			
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	--	--
2,4,5-Trichlorophenol	µg/L	--	--
2,4,6-Trichlorophenol	µg/L	--	--
2,4-Dichlorophenol	µg/L	--	--
2,4-Dimethylphenol	µg/L	--	--
2,4-Dinitrophenol	µg/L	--	--
2,4-Dinitrotoluene	µg/L	--	--
2,6-Dinitrotoluene	µg/L	--	--
2-Chloronaphthalene	µg/L	--	--
2-Chlorophenol	µg/L	--	--
2-Methylnaphthalene	µg/L	--	--
2-Methylphenol	µg/L	--	--
2-Nitroaniline	µg/L	--	--
2-Nitrophenol	µg/L	--	--
3&4-Methylphenol	µg/L	--	--
3,3'-Dichlorobenzidine	µg/L	--	--
3-Nitroaniline	µg/L	--	--
4,6-Dinitro-2-methylphenol	µg/L	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**Western**	**Western**
	Sample Name:	**11187072-Western-Solids**	**11187072-Western-Rock**
	Sample Date:	**01/29/2020**	**02/11/2020**
Parameters	**Unit**		
Semivolatile Organic Compounds			
4-Bromophenyl phenyl ether	µg/L	--	--
4-Chloro-3-methylphenol	µg/L	--	--
4-Chloroaniline	µg/L	--	--
4-Chlorophenyl phenyl ether	µg/L	--	--
4-Nitroaniline	µg/L	--	--
4-Nitrophenol	µg/L	--	--
Acenaphthene	µg/L	--	--
Acenaphthylene	µg/L	--	--
Acetophenone	µg/L	--	--
Anthracene	µg/L	--	--
Atrazine	µg/L	--	--
Benzaldehyde	µg/L	--	--
Benzo(a)anthracene	µg/L	--	--
Benzo(a)pyrene	µg/L	--	--
Benzo(b)fluoranthene	µg/L	--	--
Benzo(g,h,i)perylene	µg/L	--	--
Benzo(k)fluoranthene	µg/L	--	--
Biphenyl (1,1-Biphenyl)	µg/L	--	--
bis(2-Chloroethoxy)methane	µg/L	--	--
bis(2-Chloroethyl)ether	µg/L	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	--	--
Butyl benzylphthalate (BBP)	µg/L	--	--
Caprolactam	µg/L	--	--
Carbazole	µg/L	--	--
Chrysene	µg/L	--	--
Di-n-butylphthalate (DBP)	µg/L	--	--
Di-n-octyl phthalate (DnOP)	µg/L	--	--
Dibenz(a,h)anthracene	µg/L	--	--
Dibenzofuran	µg/L	--	--
Diethyl phthalate	µg/L	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**Western**	**Western**
	Sample Name:	**11187072-Western-Solids**	**11187072-Western-Rock**
	Sample Date:	**01/29/2020**	**02/11/2020**
Parameters	**Unit**		
Semivolatile Organic Compounds			
Dimethyl phthalate	µg/L	--	--
Fluoranthene	µg/L	--	--
Fluorene	µg/L	--	--
Hexachlorobenzene	µg/L	--	--
Hexachlorobutadiene	µg/L	--	--
Hexachlorocyclopentadiene	µg/L	--	--
Hexachloroethane	µg/L	--	--
Indeno(1,2,3-cd)pyrene	µg/L	--	--
Isophorone	µg/L	--	--
N-Nitrosodi-n-propylamine	µg/L	--	--
N-Nitrosodiphenylamine	µg/L	--	--
Naphthalene	µg/L	--	--
Nitrobenzene	µg/L	--	--
Pentachlorophenol	µg/L	--	--
Phenanthrene	µg/L	--	--
Phenol	µg/L	--	--
Pyrene	µg/L	--	--
Pyridine	µg/L	--	--
Herbicides			
2,4,5-TP (Silvex)	µg/L	--	--
2,4-Dichlorophenoxyacetic acid (2,4-D)	µg/L	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**Western**	**Western**
	Sample Name:	**11187072-Western-Solids**	**11187072-Western-Rock**
	Sample Date:	**01/29/2020**	**02/11/2020**
Parameters	**Unit**		
Polychlorinated Biphenyls (PCBs)			
Aroclor-1016 (PCB-1016)	µg/L	--	--
Aroclor-1016 (PCB-1016) (dissolved)	µg/L	--	--
Aroclor-1221 (PCB-1221)	µg/L	--	--
Aroclor-1221 (PCB-1221) (dissolved)	µg/L	--	--
Aroclor-1232 (PCB-1232)	µg/L	--	--
Aroclor-1232 (PCB-1232) (dissolved)	µg/L	--	--
Aroclor-1242 (PCB-1242)	µg/L	--	--
Aroclor-1242 (PCB-1242) (dissolved)	µg/L	--	--
Aroclor-1248 (PCB-1248)	µg/L	--	--
Aroclor-1248 (PCB-1248) (dissolved)	µg/L	--	--
Aroclor-1254 (PCB-1254)	µg/L	--	--
Aroclor-1254 (PCB-1254) (dissolved)	µg/L	--	--
Aroclor-1260 (PCB-1260)	µg/L	--	--
Aroclor-1260 (PCB-1260) (dissolved)	µg/L	--	--
Pesticides			
alpha-Chlordane	µg/L	--	--
Chlordane	µg/L	--	--
Endrin	µg/L	--	--
gamma-BHC (lindane)	µg/L	--	--
gamma-Chlordane	µg/L	--	--
Heptachlor	µg/L	--	--
Heptachlor epoxide	µg/L	--	--
Hexachlorobenzene	µg/L	--	--
Methoxychlor	µg/L	--	--
Toxaphene	µg/L	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

Location ID:		**Western**	**Western**
Sample Name:		**11187072-Western-Solids**	**11187072-Western-Rock**
Sample Date:		**01/29/2020**	**02/11/2020**
Parameters	**Unit**		
Polychlorinated Dibenzodioxins (PCDDs) & Polychlorinated Dibenzofurans (PCDFs)			
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	pg/g	540	160
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	pg/g	12 J	3.4 U
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	pg/g	26	12
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	pg/g	3.2 J	1.2 J
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	pg/g	0.29 U	0.14 J
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/g	0.69 U	0.30 U
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	pg/g	0.21 U	0.13 U
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/g	0.67 J	0.33 U
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/g	0.17 U	0.11 U
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/g	0.68 J	0.26 J
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	pg/g	0.11 U	0.20 U
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	pg/g	0.17 U	0.058 U
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	pg/g	0.13 U	0.13 J
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/g	0.12 U	0.068 U
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	pg/g	0.17 U	0.057 U
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	pg/g	1.0 J	0.15 J
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	pg/g	2.5	0.18 J
Total heptachlorodibenzo-p-dioxin (HpCDD)	pg/g	62 J	26 J
Total heptachlorodibenzofuran (HpCDF)	pg/g	9.6 J	3.7 J
Total hexachlorodibenzo-p-dioxin (HxCDD)	pg/g	7.9 J	2.1 J
Total hexachlorodibenzofuran (HxCDF)	pg/g	1.9 J	0.98 J
Total pentachlorodibenzo-p-dioxin (PeCDD)	pg/g	0.20 J	0.24 J
Total pentachlorodibenzofuran (PeCDF)	pg/g	1.4 J	0.13 J
Total tetrachlorodibenzo-p-dioxin (TCDD)	pg/g	1.0 J	0.15 J
Total tetrachlorodibenzofuran (TCDF)	pg/g	5.0 J	0.18 J
Total WHO Dioxin TEQ(Human/Mammal)(ND=0)	pg/g	1.84	0.379
Total WHO Dioxin TEQ(Human/Mammal)(ND=0.5)	pg/g	2.02	0.474
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	pg/L	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD) (dissolv	pg/L	--	--
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	pg/L	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**Western**	**Western**
	Sample Name:	**11187072-Western-Solids**	**11187072-Western-Rock**
	Sample Date:	**01/29/2020**	**02/11/2020**
Parameters	**Unit**		
Polychlorinated Dibenzodioxins (PCDDs) & Polychlorinated Dibenzofurans (PCDFs)			
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF) (dissolved)	pg/L	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	pg/L	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) (dissolv	pg/L	--	--
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	pg/L	--	--
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) (dissolved)	pg/L	--	--
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	pg/L	--	--
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) (dissolved)	pg/L	--	--
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/L	--	--
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) (dissolved)	pg/L	--	--
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	pg/L	--	--
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) (dissolved)	pg/L	--	--
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/L	--	--
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) (dissolved)	pg/L	--	--
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/L	--	--
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) (dissolved)	pg/L	--	--
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/L	--	--
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) (dissolved)	pg/L	--	--
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	pg/L	--	--
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) (dissolved)	pg/L	--	--
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	pg/L	--	--
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) (dissolved)	pg/L	--	--
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	pg/L	--	--
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) (dissolved)	pg/L	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/L	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) (dissolved)	pg/L	--	--
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	pg/L	--	--
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) (dissolved)	pg/L	--	--
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	pg/L	--	--
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) (dissolved)	pg/L	--	--
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	pg/L	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**Western**	**Western**
	Sample Name:	**11187072-Western-Solids**	**11187072-Western-Rock**
	Sample Date:	**01/29/2020**	**02/11/2020**
Parameters	**Unit**		
Polychlorinated Dibenzodioxins (PCDDs) & Polychlorinated Dibenzofurans (PCDFs)			
2,3,7,8-Tetrachlorodibenzofuran (TCDF) (dissolved)	pg/L	--	--
Total heptachlorodibenzo-p-dioxin (HpCDD)	pg/L	--	--
Total heptachlorodibenzo-p-dioxin (HpCDD) (dissolved)	pg/L	--	--
Total heptachlorodibenzofuran (HpCDF)	pg/L	--	--
Total heptachlorodibenzofuran (HpCDF) (dissolved)	pg/L	--	--
Total hexachlorodibenzo-p-dioxin (HxCDD)	pg/L	--	--
Total hexachlorodibenzo-p-dioxin (HxCDD) (dissolved)	pg/L	--	--
Total hexachlorodibenzofuran (HxCDF)	pg/L	--	--
Total hexachlorodibenzofuran (HxCDF) (dissolved)	pg/L	--	--
Total pentachlorodibenzo-p-dioxin (PeCDD)	pg/L	--	--
Total pentachlorodibenzo-p-dioxin (PeCDD) (dissolved)	pg/L	--	--
Total pentachlorodibenzofuran (PeCDF)	pg/L	--	--
Total pentachlorodibenzofuran (PeCDF) (dissolved)	pg/L	--	--
Total tetrachlorodibenzo-p-dioxin (TCDD)	pg/L	--	--
Total tetrachlorodibenzo-p-dioxin (TCDD) (dissolved)	pg/L	--	--
Total tetrachlorodibenzofuran (TCDF)	pg/L	--	--
Total tetrachlorodibenzofuran (TCDF) (dissolved)	pg/L	--	--
Total WHO Dioxin TEQ(Human/Mammal)(ND=0)	pg/L	--	--
Total WHO Dioxin TEQ(Human/Mammal)(ND=0.5)	pg/L	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**Western**	**Western**
	Sample Name:	**11187072-Western-Solids**	**11187072-Western-Rock**
	Sample Date:	**01/29/2020**	**02/11/2020**
Parameters	**Unit**		
Metals			
Aluminum	mg/L	--	--
Aluminum (dissolved)	mg/L	--	--
Antimony	mg/L	--	--
Antimony (dissolved)	mg/L	--	--
Arsenic	mg/L	--	--
Arsenic (dissolved)	mg/L	--	--
Barium	mg/L	--	--
Barium (dissolved)	mg/L	--	--
Beryllium	mg/L	--	--
Beryllium (dissolved)	mg/L	--	--
Boron	mg/L	--	--
Boron (dissolved)	mg/L	--	--
Cadmium	mg/L	--	--
Cadmium (dissolved)	mg/L	--	--
Calcium	mg/L	--	--
Calcium (dissolved)	mg/L	--	--
Chromium	mg/L	--	--
Chromium (dissolved)	mg/L	--	--
Cobalt	mg/L	--	--
Cobalt (dissolved)	mg/L	--	--
Copper	mg/L	--	--
Copper (dissolved)	mg/L	--	--
Iron	mg/L	--	--
Iron (dissolved)	mg/L	--	--
Lead	mg/L	--	--
Lead (dissolved)	mg/L	--	--
Magnesium	mg/L	--	--
Magnesium (dissolved)	mg/L	--	--
Manganese	mg/L	--	--
Manganese (dissolved)	mg/L	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**Western**	**Western**
	Sample Name:	**11187072-Western-Solids**	**11187072-Western-Rock**
	Sample Date:	**01/29/2020**	**02/11/2020**
Parameters	**Unit**		
Metals			
Mercury	mg/L	--	--
Mercury (dissolved)	mg/L	--	--
Molybdenum	mg/L	--	--
Molybdenum (dissolved)	mg/L	--	--
Nickel	mg/L	--	--
Nickel (dissolved)	mg/L	--	--
Phosphorus	mg/L	--	--
Phosphorus (dissolved)	mg/L	--	--
Potassium	mg/L	--	--
Potassium (dissolved)	mg/L	--	--
Selenium	mg/L	--	--
Selenium (dissolved)	mg/L	--	--
Silver	mg/L	--	--
Silver (dissolved)	mg/L	--	--
Sodium	mg/L	--	--
Sodium (dissolved)	mg/L	--	--
Strontium	mg/L	--	--
Strontium (dissolved)	mg/L	--	--
Thallium	mg/L	--	--
Thallium (dissolved)	mg/L	--	--
Tin	mg/L	--	--
Tin (dissolved)	mg/L	--	--
Titanium	mg/L	--	--
Titanium (dissolved)	mg/L	--	--
Vanadium	mg/L	--	--
Vanadium (dissolved)	mg/L	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**Western**	**Western**
	Sample Name:	**11187072-Western-Solids**	**11187072-Western-Rock**
	Sample Date:	**01/29/2020**	**02/11/2020**
Parameters	**Unit**		
Metals			
Zinc	mg/L	--	--
Zinc (dissolved)	mg/L	--	--
Mercury	ng/L	--	--
Mercury (dissolved)	ng/L	--	--
Mercury	µg/L	--	--
Mercury (dissolved)	µg/L	--	--
Thallium	µg/L	--	--
Thallium (dissolved)	µg/L	--	--
Total Petroleum Hydrocarbons (TPH)			
2-Ethoxyethanol	mg/L	--	--
Ethylene glycol	mg/L	--	--
Ethylene glycol monomethyl ether (2-methyoxyethanol)	mg/L	--	--
General Chemistry			
Percent solids	%	99.7	94.2
Ignitability	Deg F	--	--
Alkalinity (as CaCO3 pH=4.5)	mg/L	--	--
Alkalinity, bicarbonate	mg/L	--	--
Alkalinity, carbonate	mg/L	--	--
Alkalinity, total (as CaCO3)	mg/L	--	--
Ammonia-N	mg/L	--	--
Biochemical oxygen demand (BOD)	mg/L	--	--
Bromide	mg/L	--	--
Chemical oxygen demand (COD)	mg/L	--	--
Chloride	mg/L	--	--
Ferrous iron	mg/L	--	--

Table 2A

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**Western**	**Western**
	Sample Name:	**11187072-Western-Solids**	**11187072-Western-Rock**
	Sample Date:	**01/29/2020**	**02/11/2020**
Parameters	**Unit**		
General Chemistry			
Fluoride	mg/L	--	--
Hydrogen sulfide	mg/L	--	--
Nitrate (as N)	mg/L	--	--
Nitrite (as N)	mg/L	--	--
Oil and grease (HEM), total	mg/L	--	--
Oil and grease (SGT HEM), non-polar material	mg/L	--	--
Phosphorus	mg/L	--	--
Phosphorus, total (as PO4)	mg/L	--	--
Sulfate	mg/L	--	--
Sulfide	mg/L	--	--
TOC average duplicates	mg/L	--	--
Total dissolved solids (TDS)	mg/L	--	--
Total organic carbon (TOC)	mg/L	--	--
Total suspended solids (TSS)	mg/L	--	--
Free liquid	none	--	--
pH, lab	s.u.	--	--
Cyanide (total)	µg/L	--	--

Notes:

U - Not detected at the associated reporting limit
J - Estimated concentration
 - Not detected; associated reporting limit is estimated
R - Rejected
-- - Not applicable
s.u. - Standard Units

Table 1B

Sample Collection and Analysis Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event - Pilot Study and Treatability
San Jacinto, Harris County, Texas
September 2019 through February 2020

Sample Delivery Group	Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	Analysis/Parameters														Comments
						VOCs, TCLP	SVOCs, TCLP	Pesticides, TCLP	PCBs, TCLP	Herbicides, TCLP	Dioxins and Furans, TCLP	Metals, TCLP	TPH	Ignitability/Flashpoint	Cyanide	Sulfide	pH	Free Liquid	Mosture	Methomyl, TCLP	
180-100205-1	11187072-N.TREATMENT AREA #2	Area 2	Water, experimental	12/18/2019	13:30	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
	11187072-N.TREATMENT AREA #3	Area 3	Water, experimental	12/18/2019	14:00	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
	11187072-N.TREATMENT AREA #4	Area 4	Water, experimental	12/18/2019	14:30	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
180-97287-1 and 180-97287-2	11187072-NORTH-IMPCT-INITIALS	Inital	Water, experimental	10/15/2019	15:00	X	X	X	X	X	X	X	X	X	X	X	X	X		X	

Notes:
Notes:

TCLP - Toxicity Characteristic Leaching Procedure
VOCs - Volatile Organic Compounds
SVOCs - Semi-volatile Organic Compounds
PCBs - Polychlorinated Biphenyls
TPH - Total Petroleum Hydrocarbons

Table 2B

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**Area 2**	**Area 3**
	Sample Name:	**11187072-N.TREATMENT AREA #2**	**11187072-N.TREATMENT AREA #3**
	Sample Date:	**12/18/2019**	**12/18/2019**
Parameters	**Unit**		
Volatile Organic Compounds, TCLP			
1,1,1,2-Tetrachloroethane	mg/L	0.16 U	0.16 U
1,1,1-Trichloroethane	mg/L	0.10 U	0.10 U
1,1,2,2-Tetrachloroethane	mg/L	0.12 U	0.12 U
1,1,2-Trichloroethane	mg/L	0.096 U	0.096 U
1,1-Dichloroethene	mg/L	0.11 U	0.11 U
1,2,3-Trichloropropane	mg/L	0.11 U	0.11 U
1,2-Dibromoethane (Ethylene dibromide)	mg/L	0.11 U	0.11 U
1,2-Dichloroethane	mg/L	0.058 U	0.058 U
1,3-Dichloropropene	mg/L	0.13 U	0.13 U
1,4-Dichlorobenzene	mg/L	0.041 U	0.041 U
2-Butanone (Methyl ethyl ketone) (MEK)	mg/L	0.12 U	0.12 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/L	0.074 U	0.074 U
Acetone	mg/L	0.13 U	0.13 U
Acetonitrile	mg/L	2.0 U	2.0 U
Acrylonitrile	mg/L	1.3 U	1.3 U
Benzene	mg/L	0.079 U	0.079 U
Bromodichloromethane	mg/L	0.094 U	0.094 U
Bromoform	mg/L	0.10 U	0.10 U
Bromomethane (Methyl bromide)	mg/L	0.18 U	0.18 U
Carbon disulfide	mg/L	0.12 U	0.12 U
Carbon tetrachloride	mg/L	0.13 U	0.13 U
Chlorobenzene	mg/L	0.063 U	0.063 U
Chloroform (Trichloromethane)	mg/L	0.085 U	0.085 U
Dichlorodifluoromethane (CFC-12)	mg/L	0.12 U	0.12 U
Ethylbenzene	mg/L	0.086 U	0.086 U
Hexachlorobutadiene	mg/L	0.073 U	0.073 U
Isobutanol (isobutyl alcohol)	mg/L	3.6 U	3.6 U

Table 2B

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**Area 2**	**Area 3**
	Sample Name:	**11187072-N.TREATMENT AREA #2**	**11187072-N.TREATMENT AREA #3**
	Sample Date:	**12/18/2019**	**12/18/2019**
Parameters	**Unit**		
Volatile Organic Compounds, TCLP			
Methyl acrylonitrile	mg/L	1.6 U	1.6 U
Methylene chloride	mg/L	0.15 U	0.15 U
Styrene	mg/L	0.053 U	0.053 U
Tetrachloroethene	mg/L	0.080 U	0.080 U
Toluene	mg/L	0.067 U	0.067 U
trans-1,3-Dichloropropene	mg/L	0.069 U	0.069 U
Trichloroethene	mg/L	0.060 U	0.060 U
Trichlorofluoromethane (CFC-11)	mg/L	0.058 U	0.058 U
Vinyl chloride	mg/L	0.15 U	0.15 U
Xylenes (total)	mg/L	0.17 U	0.17 U
Semivolatile Organic Compounds, TCLP			
1,4-Dichlorobenzene	mg/L	0.0045 U	0.0045 U
2,4,5-Trichlorophenol	mg/L	0.0079 U	0.0079 U
2,4,6-Trichlorophenol	mg/L	0.0095 U	0.0095 U
2,4-Dinitrotoluene	mg/L	0.0079 U	0.0079 U
2-Methylphenol	mg/L	0.0040 U	0.0040 U
3&4-Methylphenol	mg/L	0.0079 U	0.0079 U
Hexachlorobenzene	mg/L	0.0055 U	0.0055 U
Hexachlorobutadiene	mg/L	0.0084 U	0.0084 U
Hexachloroethane	mg/L	0.0040 U	0.0040 U
Nitrobenzene	mg/L	0.012 U	0.012 U
Pentachlorophenol	mg/L	0.0075 U	0.0075 U
Pyridine	mg/L	0.0082 U	0.0082 U

Table 2B

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**Area 2**	**Area 3**
	Sample Name:	**11187072-N.TREATMENT AREA #2**	**11187072-N.TREATMENT AREA #3**
	Sample Date:	**12/18/2019**	**12/18/2019**
Parameters	**Unit**		
Herbicides, TCLP			
2,4,5-TP (Silvex)	mg/L	0.0030 U	0.0030 U
2,4-Dichlorophenoxyacetic acid (2,4-D)	mg/L	0.020 U	0.020 U
Dinoseb	mg/L	0.038 U	0.038 U
PCBs, TCLP			
Aroclor-1016 (PCB-1016)	mg/L	0.00019 U	0.00019 U
Aroclor-1221 (PCB-1221)	mg/L	0.00022 U	0.00023 U
Aroclor-1232 (PCB-1232)	mg/L	0.00020 U	0.00021 U
Aroclor-1242 (PCB-1242)	mg/L	0.00036 U	0.00036 U
Aroclor-1248 (PCB-1248)	mg/L	0.00012 U	0.00012 U
Aroclor-1254 (PCB-1254)	mg/L	0.00037 U	0.00038 U
Aroclor-1260 (PCB-1260)	mg/L	0.00015 U	0.00016 U
Pesticides, TCLP			
4,4'-DDD	mg/L	0.00021 U	0.00021 U
4,4'-DDE	mg/L	0.00012 U	0.00012 U
4,4'-DDT	mg/L	0.00012 U	0.00012 U
alpha-Chlordane	mg/L	0.00015 U	0.00015 U
Chlordane	mg/L	0.0029 U	0.0029 U
Dieldrin	mg/L	0.00011 U	0.00011 U
Endosulfan I	mg/L	0.00027 U	0.00027 U
Endosulfan II	mg/L	0.00013 U	0.00013 U
Endosulfan sulfate	mg/L	0.00026 U	0.00026 U
Endrin	mg/L	0.000091 U	0.000091 U
gamma-BHC (lindane)	mg/L	0.00012 U	0.00012 U
gamma-Chlordane	mg/L	0.00016 U	0.00016 U
Heptachlor	mg/L	0.00018 U	0.00018 U
Heptachlor epoxide	mg/L	0.00014 U	0.00014 U
Methoxychlor	mg/L	0.00031 U	0.00031 U
Mirex	mg/L	0.000084 U	0.000084 U
Toxaphene	mg/L	0.020 U	0.020 U

Table 2B

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**Area 2**	**Area 3**
	Sample Name:	**11187072-N.TREATMENT AREA #2**	**11187072-N.TREATMENT AREA #3**
	Sample Date:	**12/18/2019**	**12/18/2019**
Parameters	**Unit**		
Dioxins, Furans, TCLP			
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	pg/L	77 J	11 U
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	pg/L	95 J	19 U
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	pg/L	23 J	7.5 U
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	pg/L	9.0 U	8.5 U
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	pg/L	31 J	12 U
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/L	20 J	8.7 U
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	pg/L	15 U	12 U
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/L	7.9 U	9.2 U
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/L	13 U	11 U
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/L	6.7 U	7.9 U
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	pg/L	15 J	7.3 U
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	pg/L	19 U	20 U
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	pg/L	10 U	8.4 U
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/L	9.2 U	7.5 U
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	pg/L	11 U	9.2 U
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	pg/L	12 U	12 U
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	pg/L	11 J	6.5 U
Total heptachlorodibenzo-p-dioxin (HpCDD)	pg/L	23 J	7.5 U
Total heptachlorodibenzofuran (HpCDF)	pg/L	31 J	12 U
Total hexachlorodibenzo-p-dioxin (HxCDD)	pg/L	20 J	9.2 U
Total hexachlorodibenzofuran (HxCDF)	pg/L	15 J	12 U
Total pentachlorodibenzo-p-dioxin (PeCDD)	pg/L	19 U	20 U
Total pentachlorodibenzofuran (PeCDF)	pg/L	11 U	9.2 U
Total tetrachlorodibenzo-p-dioxin (TCDD)	pg/L	12 U	12 U
Total tetrachlorodibenzofuran (TCDF)	pg/L	11 J	6.5 U

Table 2B

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**Area 2**	**Area 3**
	Sample Name:	**11187072-N.TREATMENT AREA #2**	**11187072-N.TREATMENT AREA #3**
	Sample Date:	**12/18/2019**	**12/18/2019**
Parameters	**Unit**		
Metals, TCLP			
Arsenic	mg/L	0.041 U	0.041 U
Barium	mg/L	0.53 J	0.44 J
Cadmium	mg/L	0.0028 U	0.0028 U
Chromium	mg/L	0.0078 U	0.011 J
Lead	mg/L	0.029 U	0.029 U
Mercury	mg/L	0.00010 U	0.00010 U
Selenium	mg/L	0.036 U	0.036 U
Silver	mg/L	0.0085 U	0.0085 U
General Chemistry, TCLP			
Methomyl	µg/L	0.13 U	0.12 U
Total Petroleum Hydrocarbons (TPH)			
2-Ethoxyethanol	mg/L	2.5 U	2.5 U
Ethylene glycol	mg/L	1.9 U	1.9 U
Ethylene glycol monomethyl ether (2-methyoxyethanol)	mg/L	2.4 U	2.4 U

Table 2B

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**Area 2**	**Area 3**
	Sample Name:	**11187072-N.TREATMENT AREA #2**	**11187072-N.TREATMENT AREA #3**
	Sample Date:	**12/18/2019**	**12/18/2019**
Parameters	**Unit**		
General Chemistry			
Percent solids	%	71.4	67.4
Ignitability	Deg F	140 >	140 >
Cyanide (total)	mg/kg	0.37 U	0.40 U
Sulfide	mg/kg	72	59
Free liquid	none	U	U
pH, lab	s.u.	8.5 J	8.7 J

Notes:

U - Not detected at the associated reporting limit
J - Estimated concentration
UJ - Not detected; associated reporting limit is estimated
-- - Not applicable
TCLP - Toxicity Characteristic Leaching Procedure
PCBs - Polychlorinated Biphenyls

Table 2B

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**Area 4**	**Inital**
	Sample Name:	**11187072-N.TREATMENT AREA #4**	**11187072-NORTH-IMPCT-INITIALS**
	Sample Date:	**12/18/2019**	**10/15/2019**
Parameters	**Unit**		
Volatile Organic Compounds, TCLP			
1,1,1,2-Tetrachloroethane	mg/L	0.16 U	0.16 U
1,1,1-Trichloroethane	mg/L	0.10 U	0.10 U
1,1,2,2-Tetrachloroethane	mg/L	0.12 U	0.12 U
1,1,2-Trichloroethane	mg/L	0.096 U	0.096 U
1,1-Dichloroethene	mg/L	0.11 U	0.11 U
1,2,3-Trichloropropane	mg/L	0.11 U	0.11 U
1,2-Dibromoethane (Ethylene dibromide)	mg/L	0.11 U	0.11 U
1,2-Dichloroethane	mg/L	0.058 U	0.058 U
1,3-Dichloropropene	mg/L	0.13 U	0.13 U
1,4-Dichlorobenzene	mg/L	0.041 U	0.041 U
2-Butanone (Methyl ethyl ketone) (MEK)	mg/L	0.12 U	0.12 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/L	0.074 U	0.074 U
Acetone	mg/L	0.13 U	0.13 U
Acetonitrile	mg/L	2.0 U	2.0 U
Acrylonitrile	mg/L	1.3 U	1.3 U
Benzene	mg/L	0.079 U	0.079 U
Bromodichloromethane	mg/L	0.094 U	0.094 U
Bromoform	mg/L	0.10 U	0.10 U
Bromomethane (Methyl bromide)	mg/L	0.18 U	0.18 U
Carbon disulfide	mg/L	0.12 U	0.12 U
Carbon tetrachloride	mg/L	0.13 U	0.13 U
Chlorobenzene	mg/L	0.063 U	0.063 U
Chloroform (Trichloromethane)	mg/L	0.085 U	0.085 U
Dichlorodifluoromethane (CFC-12)	mg/L	0.12 U	0.12 U
Ethylbenzene	mg/L	0.086 U	0.086 U
Hexachlorobutadiene	mg/L	0.073 U	0.073 U
Isobutanol (isobutyl alcohol)	mg/L	3.6 U	3.6 U

Table 2B

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**Area 4**	**Inital**
	Sample Name:	**11187072-N.TREATMENT AREA #4**	**11187072-NORTH-IMPCT-INITIALS**
	Sample Date:	**12/18/2019**	**10/15/2019**
Parameters	**Unit**		
Volatile Organic Compounds, TCLP			
Methyl acrylonitrile	mg/L	1.6 U	1.6 U
Methylene chloride	mg/L	0.15 U	0.15 U
Styrene	mg/L	0.053 U	0.053 U
Tetrachloroethene	mg/L	0.080 U	0.080 U
Toluene	mg/L	0.067 U	0.067 U
trans-1,3-Dichloropropene	mg/L	0.069 U	0.069 U
Trichloroethene	mg/L	0.060 U	0.060 U
Trichlorofluoromethane (CFC-11)	mg/L	0.058 U	0.058 U
Vinyl chloride	mg/L	0.15 U	0.15 U
Xylenes (total)	mg/L	0.17 U	0.17 U
Semivolatile Organic Compounds, TCLP			
1,4-Dichlorobenzene	mg/L	0.0045 U	0.0045 U
2,4,5-Trichlorophenol	mg/L	0.0079 U	0.0079 U
2,4,6-Trichlorophenol	mg/L	0.0095 U	0.0095 U
2,4-Dinitrotoluene	mg/L	0.0079 U	0.0079 U
2-Methylphenol	mg/L	0.0040 U	0.0040 U
3&4-Methylphenol	mg/L	0.0079 U	0.0079 U
Hexachlorobenzene	mg/L	0.0055 U	0.0055 U
Hexachlorobutadiene	mg/L	0.0084 U	0.0084 U
Hexachloroethane	mg/L	0.0040 U	0.0040 U
Nitrobenzene	mg/L	0.012 U	0.012 U
Pentachlorophenol	mg/L	0.0075 U	0.0075 U
Pyridine	mg/L	0.0082 U	0.0082 U

Table 2B

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**Area 4**	**Inital**
	Sample Name:	**11187072-N.TREATMENT AREA #4**	**11187072-NORTH-IMPCT-INITIALS**
	Sample Date:	**12/18/2019**	**10/15/2019**
Parameters	**Unit**		
Herbicides, TCLP			
2,4,5-TP (Silvex)	mg/L	0.0030 U	0.0030 U
2,4-Dichlorophenoxyacetic acid (2,4-D)	mg/L	0.020 U	0.020 U
Dinoseb	mg/L	0.038 U	0.038 U
PCBs, TCLP			
Aroclor-1016 (PCB-1016)	mg/L	0.00019 U	0.00018 U
Aroclor-1221 (PCB-1221)	mg/L	0.00023 U	0.00022 U
Aroclor-1232 (PCB-1232)	mg/L	0.00021 U	0.00020 U
Aroclor-1242 (PCB-1242)	mg/L	0.00036 U	0.00035 U
Aroclor-1248 (PCB-1248)	mg/L	0.00012 U	0.00012 U
Aroclor-1254 (PCB-1254)	mg/L	0.00038 U	0.00037 U
Aroclor-1260 (PCB-1260)	mg/L	0.00016 U	0.00015 U
Pesticides, TCLP			
4,4'-DDD	mg/L	0.00021 U	0.00021 U
4,4'-DDE	mg/L	0.00012 U	0.00012 U
4,4'-DDT	mg/L	0.00012 U	0.00012 U
alpha-Chlordane	mg/L	0.00015 U	--
Chlordane	mg/L	0.0029 U	0.0029 U
Dieldrin	mg/L	0.00011 U	0.00011 U
Endosulfan I	mg/L	0.00027 U	0.00027 U
Endosulfan II	mg/L	0.00013 U	0.00013 U
Endosulfan sulfate	mg/L	0.00026 U	0.00026 U
Endrin	mg/L	0.000091 U	0.000091 U
gamma-BHC (lindane)	mg/L	0.00012 U	0.00012 U
gamma-Chlordane	mg/L	0.00016 U	--
Heptachlor	mg/L	0.00018 U	0.00018 U
Heptachlor epoxide	mg/L	0.00014 U	0.00014 U
Methoxychlor	mg/L	0.00031 U	0.00031 U
Mirex	mg/L	0.000084 U	0.000084 U
Toxaphene	mg/L	0.020 U	0.020 U

Table 2B

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**Area 4**	**Inital**
	Sample Name:	**11187072-N.TREATMENT AREA #4**	**11187072-NORTH-IMPCT-INITIALS**
	Sample Date:	**12/18/2019**	**10/15/2019**
Parameters	**Unit**		
Dioxins, Furans, TCLP			
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	pg/L	9.9 U	34 U
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	pg/L	16 U	7.6 U
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	pg/L	5.9 U	3.4 U
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	pg/L	8.3 U	5.3 U
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	pg/L	11 U	6.2 U
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/L	6.9 U	4.5 U
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	pg/L	10 U	2.9 U
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/L	7.5 U	4.7 U
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/L	11 U	3.1 U
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/L	6.3 U	4.3 U
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	pg/L	7.1 U	2.2 U
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	pg/L	16 U	8.4 U
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	pg/L	8.3 U	4.6 U
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/L	6.8 U	2.5 U
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	pg/L	9.4 U	4.6 U
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	pg/L	12 U	3.4 U
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	pg/L	6.6 U	2.8 U
Total heptachlorodibenzo-p-dioxin (HpCDD)	pg/L	5.9 U	10 U
Total heptachlorodibenzofuran (HpCDF)	pg/L	11 U	6.2 U
Total hexachlorodibenzo-p-dioxin (HxCDD)	pg/L	7.5 U	4.7 U
Total hexachlorodibenzofuran (HxCDF)	pg/L	11 U	3.1 U
Total pentachlorodibenzo-p-dioxin (PeCDD)	pg/L	16 U	8.4 U
Total pentachlorodibenzofuran (PeCDF)	pg/L	9.4 U	4.6 U
Total tetrachlorodibenzo-p-dioxin (TCDD)	pg/L	12 U	4.4 J
Total tetrachlorodibenzofuran (TCDF)	pg/L	6.6 U	2.8 U

Table 2B

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**Area 4**	**Inital**
	Sample Name:	**11187072-N.TREATMENT AREA #4**	**11187072-NORTH-IMPCT-INITIALS**
	Sample Date:	**12/18/2019**	**10/15/2019**
Parameters	**Unit**		
Metals, TCLP			
Arsenic	mg/L	0.041 U	0.041 U
Barium	mg/L	0.48 J	1.1 J
Cadmium	mg/L	0.0028 U	0.0028 U
Chromium	mg/L	0.0078 U	0.0078 U
Lead	mg/L	0.029 U	0.029 U
Mercury	mg/L	0.00010 U	0.00010 U
Selenium	mg/L	0.036 U	0.036 U
Silver	mg/L	0.0085 U	0.0085 U
General Chemistry, TCLP			
Methomyl	µg/L	0.13 U	0.12 U
Total Petroleum Hydrocarbons (TPH)			
2-Ethoxyethanol	mg/L	2.5 U	2.5 U
Ethylene glycol	mg/L	1.9 U	1.9 U
Ethylene glycol monomethyl ether (2-methyoxyethanol)	mg/L	2.4 U	2.4 U

Table 2B

Analytical Results Summary
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event
San Jacinto, Harris County, Texas
September 2019 through February 2020

	Location ID:	**Area 4**	**Inital**
	Sample Name:	**11187072-N.TREATMENT AREA #4**	**11187072-NORTH-IMPCT-INITIALS**
	Sample Date:	**12/18/2019**	**10/15/2019**
Parameters	**Unit**		
General Chemistry			
Percent solids	%	66.7	--
Ignitability	Deg F	140 >	140 >
Cyanide (total)	mg/kg	0.40 U	0.43 U
Sulfide	mg/kg	24 J	76 J
Free liquid	none	U	0 U
pH, lab	s.u.	7.9 J	7.9 J

Notes:

U - Not detected at the associated reporting limit
J - Estimated concentration
UJ - Not detected; associated reporting limit is estimated
-- - Not applicable
TCLP - Toxicity Characteristic Leaching Procedure
PCBs - Polychlorinated Biphenyls

Table 3

Analytical Methods
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event - Pilot Study and Treatability
San Jacinto, Harris County, Texas
September 2019 through February 2020

				Holding Time	
Parameter		**Method**	**Matrix**	**Collection to Extraction (Days)**	**Collection or Extraction to Analysis (Days)**
Volatile Organic Compounds (VOCs)		SW-846 8260B	Water, experimental	--	14
Semivolatile Organic Compounds		SW-846 8270	Water, experimental	7	40
Pesticides		SW-846 8081	Water, experimental	7	40
Polychlorinated Biphenyls (PCBs)		SW-846 8082	Water, experimental	7	40
Chorinated Herbicides		SW-846 8151A	Water, experimental	7	40
Polychlorinated Dibenzodioxins (PCDDs) & Polychlorinated Dibenzofurans (P		EPA 1613	Water, experimental	--	360
Metals	- Low Level Mercury	EPA 1631	Water, experimental	--	28
	- Metals - ICP/AES or ICP/MS	SW-846 6010/6020	Water, experimental	--	180
	- Mercury	SW-846 7470	Water, experimental	--	28
General Chemistry	- Bromide, Chloride, Fluoride, Sulfate	EPA 300-28DAY	Water, experimental	--	28
	- Ammonia as Nitrogen	EPA 350.1	Water, experimental	--	28
	- Ferrous Iron	HACH-FE3	Water, experimental	--	Immediately
	- Total Dissolved Solids (TDS)	SM2540C	Water, experimental	--	7
	- Sulfide	SM4500-S2-D	Water, experimental	--	7
	- pH	SW-846 9040	Water, experimental	--	Immediately
	- TOC	SW-846 9060	Water, experimental	--	28
Phosphorus		SM 4500 P E	Water, experimental	--	28

Table 3

Analytical Methods
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event - Pilot Study and Treatability
San Jacinto, Harris County, Texas
September 2019 through February 2020

			Holding Time	
Parameter	**Method**	**Matrix**	**Collection to Extraction (Days)**	**Collection or Extraction to Analysis (Days)**
Cyanide	SW-846 9012	Water, experimental	--	14
Total Suspended Solids (TSS)	SM 2540 D	Water, experimental	--	7
Oil & Grease	EPA 1664A	Water, experimental	--	28
Chemical Oxygen Demand (COD)	EPA 410.4/H8000	Water, experimental	--	28
Biochemical Oxygen Demand (BOD)	SM 5210 B	Water, experimental	--	48 hours
Anions - Nitrate as Nitrogen, Nitrite as Nitrogen	EPA 300.0	Water, experimental	--	48 hours
Alkalinity	SM 2320 B	Water, experimental	--	14
Volatile and Non-Volatile Leaching Procedure	SW-846 1311	Solid	Varies	Varies

Notes:

SW-846 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, 1986, with subsequent revisions
SM - "Standard Methods for the Examination of Water and Wastewater", 20th Edition, 1998(with all subsequent revisions).
EPA - "'Methods for Chemical Analysis of Water and Wastes," EPA-600/4-79-020, March 1983 (with all subsequent revisions).
HACH - Hach Company catalog, 1990
-- - Not Applicable

Table 4

Qualified Sample Data Due To Sample Holding Time Violations
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event - Pilot Study and Treatability
San Jacinto, Harris County, Texas
September 2019 through February 2020

Parameter	Sample ID	Holding Time (days)	Holding Time Criteria (days)	Analyte	Qualified Result		Units
General Chemistry	11187072-N.TREATMENT AREA #2	13	Immediately	pH, lab	8.5	J	s.u.
	11187072-N.TREATMENT AREA #3	13			8.7	J	s.u.
	11187072-N.TREATMENT AREA #4	13			7.9	J	s.u.
	11187072-CONTACT-INITIAL	7			7.8	J	s.u.
	11187072-091319-LL-EXC-1	4			6.9	J	s.u.
	1. CEFF	11			7.7	J	s.u.
	INF 4	11			7.9	J	s.u.
	FEFF 1	5			7.8	J	s.u.
	DUP	11			8.9	J	s.u.
	INF 3	6			8.2	J	s.u.
General Chemistry	11187072-091319-LL-EXC-1	7	Immediately	Ferrous iron	0.016	UJ	mg/L
General Chemistry	1. CEFF	>48 hours	48 hours	Nitrate (as N)		R	mg/L
	INF 4			Nitrate (as N)		R	mg/L
	FEFF 1			Nitrate (as N)		R	mg/L
	INF 3			Nitrate (as N)		R	mg/L
General Chemistry	1. CEFF	>48 hours	48 hours	Nitrite (as N)		R	mg/L
	INF 4			Nitrite (as N)		R	mg/L
	FEFF 1			Nitrite (as N)		R	mg/L
	INF 3			Nitrite (as N)		R	mg/L

Notes:

J - Estimated concentration
UJ - Not detected; associated reporting limit is estimated
R - Rejected
N - Nitrogen
s.u. - Standard Units

Table 5

Qualified Sample Results Due to Analyte Concentrations in the Method/Leachate Blanks
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event - Pilot Study and Treatability Associated with Southern Impoundment Area
San Jacinto, Harris County, Texas
September 2019 through February 2020

Sample Delivery Group	Parameter	Analyte	Analysis Date (mm/dd/yyyy)	Blank Result *	Sample ID	Original Result	Qualified Result	Units
240-122669-1	Dioxins and Furans	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	11/22/2019	2.63J	11187072-Berm Rock	4.0 J	4.0 U	pg/L
					11187072-Eastern Rock	3.8 J	3.8 U	pg/L
					11187072-Western Rock	3.3 J	3.3 U	pg/L
240-122669-1	Dioxins and Furans	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	11/22/2019	12.0J	11187072-Berm Rock	21 J	21 U	pg/L
					11187072-Eastern Rock	22 J	22 U	pg/L
240-122669-1	Dioxins and Furans	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	11/22/2019	1.33J	11187072-Berm Rock	1.3 J	1.33 U	pg/L
					11187072-Eastern Rock	1.1 J	1.33 U	pg/L
					11187072-Western Rock	1.1 J	1.33 U	pg/L
240-122669-1	Dioxins and Furans	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	11/22/2019	1.82J	11187072-Berm Rock	2.8 J	2.8 U	pg/L
					11187072-Eastern Rock	2.3 J	2.3 U	pg/L
					11187072-Western Rock	6.0 J	6.0 U	pg/L
240-122669-1	Dioxins and Furans	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	11/22/2019	1.93J	11187072-Berm Rock	2.1 J	2.1 U	pg/L
					11187072-Eastern Rock	1.8 J	1.93 U	pg/L
					11187072-Western Rock	1.3 J	1.93 U	pg/L
240-122669-1	Dioxins and Furans	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	11/22/2019	1.01J	11187072-Berm Rock	1.4 J	1.4 U	pg/L
					11187072-Eastern Rock	1.5 J	1.5 U	pg/L
					11187072-Western Rock	1.1 J	1.1 U	pg/L
240-122669-1	Dioxins and Furans	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	11/22/2019	1.20J	11187072-Berm Rock	1.4 J	1.4 U	pg/L
					11187072-Eastern Rock	1.1 J	1.20 U	pg/L
240-122669-1	Dioxins and Furans	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	11/22/2019	0.814J	11187072-Berm Rock	0.72 J	0.814 U	pg/L
					11187072-Eastern Rock	0.92 J	0.92 U	pg/L
					11187072-Western Rock	0.93 J	0.93 U	pg/L
	Dioxins and Furans	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	01/31/2020	13.8J	11187072-Berm-GW	21 J	21 U	pg/L
					11187072-Eastern-GW	14 J	14 U	pg/L
					11187072-Western-GW	3.4 J	13.8 U	pg/L
	Dioxins and Furans	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	01/31/2020	28.2J	11187072-Berm-GW	83 J	83 U	pg/L
					11187072-Eastern-GW	94 J	94 U	pg/L
					11187072-Western-GW	51 J	51 U	pg/L

Table 5

Qualified Sample Results Due to Analyte Concentrations in the Method/Leachate Blanks
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event - Pilot Study and Treatability Associated with Southern Impoundment Area
San Jacinto, Harris County, Texas
September 2019 through February 2020

Sample Delivery Group	Parameter	Analyte	Analysis Date (mm/dd/yyyy)	Blank Result *	Sample ID	Original Result	Qualified Result	Units
240-122669-1	Dioxins and Furans	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	01/31/2020	7.54J	11187072-Berm-GW	7.4 J	7.54 U	pg/L
					11187072-Eastern-GW	6.1 J	7.54 U	pg/L
					11187072-Western-GW	2.0 J	7.54 U	pg/L
	Dioxins and Furans	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	01/31/2020	9.52J	11187072-Berm-GW	8.7 J	9.52 U	pg/L
					11187072-Eastern-GW	7.7 J	9.52 U	pg/L
					11187072-Western-GW	3.9 J	9.52 U	pg/L
	Dioxins and Furans	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	01/31/2020	5.85J	11187072-Berm-GW	2.6 J	5.85 U	pg/L
					11187072-Eastern-GW	1.2 J	5.85 U	pg/L
	Dioxins and Furans	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	01/31/2020	5.92J	11187072-Berm-GW	1.2 J	5.92 U	pg/L
					11187072-Eastern-GW	2.8 J	5.92 U	pg/L
	Dioxins and Furans	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	01/31/2020	7.72J	11187072-Berm-GW	2.9 J	7.72 U	pg/L
					11187072-Eastern-GW	2.1 J	7.72 U	pg/L
					11187072-Western-GW	3.1 J	7.72 U	pg/L
	Dioxins and Furans	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	01/31/2020	6.14J	11187072-Berm-GW	1.2 J	6.14 U	pg/L
	Dioxins and Furans	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	01/31/2020	6.25J	11187072-Berm-GW	2.7 J	6.25 U	pg/L
					11187072-Eastern-GW	1.1 J	6.25 U	pg/L
	Dioxins and Furans	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	01/31/2020	6.10J	11187072-Berm-GW	2.1 J	6.10 U	pg/L
					11187072-Eastern-GW	1.3 J	6.10 U	pg/L
					11187072-Western-GW	1.1 J	6.10 U	pg/L
	Dioxins and Furans	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	01/31/2020	6.12J	11187072-Berm-GW	1.1 J	6.12 U	pg/L
					11187072-Eastern-GW	0.62 J	6.12 U	pg/L
	Dioxins and Furans	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	01/31/2020	5.39J	11187072-Berm-GW	0.58 J	5.39 U	pg/L
	Dioxins and Furans	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	01/31/2020	0.0842J	11187072-Eastern-Solids	0.75 J	0.75 U	pg/g
	Dioxins and Furans	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	01/31/2020	0.173J	11187072-Berm-Solids	0.48 J	0.48 U	pg/g
					11187072-Eastern-Solids	0.46 J	0.46 U	pg/g
					11187072-Western-Solids	0.69 J	0.69 U	pg/g

Table 5

Qualified Sample Results Due to Analyte Concentrations in the Method/Leachate Blanks
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event - Pilot Study and Treatability Associated with Southern Impoundment Area
San Jacinto, Harris County, Texas
September 2019 through February 2020

Sample Delivery Group	Parameter	Analyte	Analysis Date (mm/dd/yyyy)	Blank Result *	Sample ID	Original Result	Qualified Result	Units
240-122669-1	Dioxins and Furans	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	02/13/2020	0.431J	11187072-Berm-Rock	0.57 J	0.57 U	pg/g
					11187072-Eastern Rock	0.58 J	0.58 U	pg/g
					11187072-Western-Rock	3.4 J	3.4 U	pg/g
	Dioxins and Furans	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	02/13/2020	0.229J	11187072-Berm-Rock	0.19 J	0.229 U	pg/g
					11187072-Eastern Rock	0.27 J	0.27 U	pg/g
	Dioxins and Furans	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	02/13/2020	0.222J	11187072-Berm-Rock	0.24 J	0.24 U	pg/g
					11187072-Eastern Rock	0.27 J	0.27 U	pg/g
					11187072-Western-Rock	0.30 J	0.30 U	pg/g
	Dioxins and Furans	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	02/13/2020	0.110J	11187072-Eastern Rock	0.26 J	0.26 U	pg/g
					11187072-Western-Rock	0.33 J	0.33 U	pg/g
	Dioxins and Furans	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	02/13/2020	0.0929J	11187072-Berm-Rock	0.27 J	0.27 U	pg/g
					11187072-Eastern Rock	0.18 J	0.18 U	pg/g
					11187072-Western-Rock	0.20 J	0.20 U	pg/g
320-324498-1	Dioxins and Furans	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	09/18/2019	4.87 J	11187072-091319-LL-EXC-1	5.8 J	5.8 U	pg/L
320-324498-1	Dioxins and Furans	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	09/18/2019	3.16 J	11187072-091319-LL-EXC-1	6.9 J	6.9 U	pg/L
320-324498-1	Dioxins and Furans	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	09/18/2019	5.28 J	11187072-091319-LL-EXC-1	4.1 J	4.1 U	pg/L
320-324498-1	Dioxins and Furans	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	09/18/2019	3.26 J	11187072-091319-LL-EXC-1	1.8 J	1.8 U	pg/L
320-324499-1	Dioxins and Furans	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD) (dissolved)	09/18/2019	3.96J	11187072-091319-LL-EXC-1	17 J	17 UJ	pg/L
320-324499-1	Dioxins and Furans	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) (dissolved)	09/18/2019	1.34J	11187072-091319-LL-EXC-1	2.0 J	2.0 U	pg/L
320-324499-1	Dioxins and Furans	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) (dissolved)	09/18/2019	1.88J	11187072-091319-LL-EXC-1	3.4 J	3.4 U	pg/L
320-327320-1	Dioxins and Furans	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	09/30/2019	8.56J	11187072-CONTACT-INITIAL	2.8 J	2.8 U	pg/L

Table 5

Qualified Sample Results Due to Analyte Concentrations in the Method/Leachate Blanks
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event - Pilot Study and Treatability Associated with Southern Impoundment Area
San Jacinto, Harris County, Texas
September 2019 through February 2020

Sample Delivery Group	Parameter	Analyte	Analysis Date (mm/dd/yyyy)	Blank Result *	Sample ID	Original Result	Qualified Result	Units
320-327320-1	Dioxins and Furans	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	09/30/2019	6.29J	11187072-CONTACT-INITIAL	4.1 J	4.1 U	pg/L
		1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	09/30/2019	6.29J	CONC_CONTACT_WATER	24 J	24 U	pg/L
320-327320-1	Dioxins and Furans	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	09/30/2019	6.32J	11187072-CONTACT-INITIAL	4.2 J	4.2 U	pg/L
320-327320-1	Dioxins and Furans	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	09/30/2019	7.71J	11187072-CONTACT-INITIAL	18 J	18 U	pg/L
320-327320-1	Dioxins and Furans	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	09/30/2019	5.51J	11187072-CONTACT-INITIAL	12 J	12 U	pg/L
320-329339-1	Dioxins and Furans	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	10/08/2019	5.52J	11187072-Filter Test-3	24 J	24 U	pg/L
		1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	10/08/2019	5.52J	11187072-Filter Test-5	1.9 J	1.9 U	pg/L
		1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	10/08/2019	5.52J	11187072-Filter Test-6	1.8 J	1.8 U	pg/L
320-329339-1	Dioxins and Furans	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	10/08/2019	8.11J	11187072-Filter Test-4	12 J	12 U	pg/L
		1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	10/08/2019	8.11J	11187072-Filter Test-5	4.0 J	4.0 U	pg/L
		1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	10/08/2019	8.11J	11187072-Filter Test-6	4.6 J	4.6 U	pg/L
320-329339-1	Dioxins and Furans	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	10/08/2019	2.14J	11187072-Filter Test-4	0.75 J	0.75 U	pg/L
		1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	10/08/2019	2.14J	11187072-Filter Test-5	1.1 J	1.1 U	pg/L
		1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	10/08/2019	2.14J	11187072-Filter Test-6	1.2 J	1.2 U	pg/L
320-329339-1	Dioxins and Furans	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	10/08/2019	2.32J	11187072-Filter Test-4	1.7 J	1.7 U	pg/L
		1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	10/08/2019	2.32J	11187072-Filter Test-6	1.4 J	1.4 U	pg/L
320-329339-1	Dioxins and Furans	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	10/08/2019	1.95J	11187072-Filter Test-4	0.87 J	0.87 U	pg/L
320-329339-1	Dioxins and Furans	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	10/08/2019	1.22J	11187072-Filter Test-4	1.1 J	1.1 U	pg/L
		1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	10/08/2019	1.22J	11187072-Filter Test-6	1.2 J	1.2 U	pg/L
320-329339-1	Dioxins and Furans	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	10/08/2019	2.39J	11187072-Filter Test-1	2.7 J	2.7 U	pg/L
		1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	10/08/2019	2.39J	11187072-Filter Test-3	1.7 J	1.7 U	pg/L
		1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	10/08/2019	2.39J	11187072-Filter Test-4	2.0 J	2.0 U	pg/L
		1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	10/08/2019	2.39J	11187072-Filter Test-5	1.9 J	1.9 U	pg/L
		1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	10/08/2019	2.39J	11187072-Filter Test-6	1.9 J	1.9 U	pg/L

Table 5

Qualified Sample Results Due to Analyte Concentrations in the Method/Leachate Blanks
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event - Pilot Study and Treatability Associated with Southern Impoundment Area
San Jacinto, Harris County, Texas
September 2019 through February 2020

Sample Delivery Group	Parameter	Analyte	Analysis Date (mm/dd/yyyy)	Blank Result *	Sample ID	Original Result	Qualified Result	Units
320-329339-1	Dioxins and Furans	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	10/08/2019	1.18J	11187072-Filter Test-5	1.2 J	1.2 U	pg/L
		1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	10/08/2019	1.18J	11187072-Filter Test-6	0.86 J	0.86 U	pg/L
320-329339-1	Dioxins and Furans	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	10/08/2019	1.30J	11187072-Filter Test-1	2.7 J	2.7 U	pg/L
		1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	10/08/2019	1.30J	11187072-Filter Test-3	0.84 J	0.84 U	pg/L
		1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	10/08/2019	1.30J	11187072-Filter Test-6	1.3 J	1.3 U	pg/L
320-329339-1	Dioxins and Furans	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	10/08/2019	1.28J	11187072-Filter Test-1	4.5 J	4.5 U	pg/L
		1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	10/08/2019	1.28J	11187072-Filter Test-3	2.1 J	2.1 U	pg/L
		1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	10/08/2019	1.28J	11187072-Filter Test-4	0.67 J	0.67 U	pg/L
		1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	10/08/2019	1.28J	11187072-Filter Test-5	0.75 J	0.75 U	pg/L
		1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	10/08/2019	1.28J	11187072-Filter Test-6	1.1 J	1.1 U	pg/L
320-329339-1	Dioxins and Furans	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	10/08/2019	2.03J	11187072-Filter Test-1	2.3 J	2.3 U	pg/L
		1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	10/08/2019	2.03J	11187072-Filter Test-4	0.71 J	0.71 U	pg/L
		1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	10/08/2019	2.03J	11187072-Filter Test-5	0.57 J	0.57 U	pg/L
		1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	10/08/2019	2.03J	11187072-Filter Test-6	1.5 J	1.5 U	pg/L
320-329339-1	Dioxins and Furans	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	10/08/2019	1.18J	11187072-Filter Test-3	2.8 J	2.8 U	pg/L
		2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	10/08/2019	1.18J	11187072-Filter Test-5	0.94 J	0.94 U	pg/L
320-335248-1	Dioxins and Furans	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	11/01/2019	3.85 J	1. CEFF	6.4 J	6.4 U	pg/L
320-335248-1	Dioxins and Furans	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	11/01/2019	9.40 J	1. CEFF	44 J	44 U	pg/L
320-335248-1	Dioxins and Furans	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	11/01/2019	1.76 J	1. CEFF	2.9 J	2.9 U	pg/L
320-335248-1	Dioxins and Furans	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	11/01/2019	1.16 J	1. CEFF	1.4 J	1.4 U	pg/L
320-335248-1	Dioxins and Furans	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	11/01/2019	3.72 J	1. CEFF	2.6 J	2.6 U	pg/L

Table 5

Qualified Sample Results Due to Analyte Concentrations in the Method/Leachate Blanks
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event - Pilot Study and Treatability Associated with Southern Impoundment Area
San Jacinto, Harris County, Texas
September 2019 through February 2020

Sample Delivery Group	Parameter	Analyte	Analysis Date (mm/dd/yyyy)	Blank Result *	Sample ID	Original Result	Qualified Result	Units
320-335248-1	Dioxins and Furans	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	11/01/2019	1.44 J	1. CEFF	2.0 J	2.0 U	pg/L
320-335248-1	Dioxins and Furans	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	11/01/2019	1.01 J	1. CEFF	1.4 J	1.4 U	pg/L
320-335248-1	Dioxins and Furans	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	11/01/2019	0.888 J	1. CEFF	1.2 J	1.2 U	pg/L
320-335248-1	Dioxins and Furans	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	11/01/2019	3.85J	FEFF 1	5.5 J	5.5 U	pg/L
320-335248-1	Dioxins and Furans	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF) (dissolved)	11/01/2019	3.85J	INF 4 - DISSOLVED	11 J	11 U	pg/L
320-335248-1	Dioxins and Furans	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	11/01/2019	9.40J	FEFF 1	44 J	44 U	pg/L
320-335248-1	Dioxins and Furans	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	11/01/2019	1.76J	FEFF 1	1.9 J	1.9 U	pg/L
320-335248-1	Dioxins and Furans	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) (dissolved)	11/01/2019	1.16J	INF 4 - DISSOLVED	4.9 J	4.9 U	pg/L
320-335248-1	Dioxins and Furans	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	11/01/2019	3.72J	INF 3	11 J	11 U	pg/L
		1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	11/01/2019	3.72J	INF 4	4.9 J	4.9 U	pg/L
320-335248-1	Dioxins and Furans	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) (dissolved)	11/01/2019	3.72J	INF 3 - DISSOLVED	4.6 J	4.6 U	pg/L
		1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) (dissolved)	11/01/2019	3.72J	INF 4 - DISSOLVED	3.1 J	3.1 U	pg/L
320-335248-1	Dioxins and Furans	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) (dissolved)	11/01/2019	1.44J	INF 4 - DISSOLVED	4.8 J	4.8 U	pg/L
320-335248-1	Dioxins and Furans	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) (dissolved)	11/01/2019	1.01J	INF 4 - DISSOLVED	1.7 J	1.7 U	pg/L
320-335248-1	Dioxins and Furans	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) (dissolved)	11/01/2019	0.888J	INF 4 - DISSOLVED	2.8 J	2.8 U	pg/L
320-337526-1	Dioxins and Furans	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	11/11/2019	6.14 J	11187072-CEFF-10MG-POST	39 J	39 U	pg/L
		1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	11/11/2019	6.14 J	11187072-CEFF-5MG-POST	47 J	47 U	pg/L
		1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	11/11/2019	6.14 J	11187072-CEFF-CON-POST	23 J	23 U	pg/L

Table 5

Qualified Sample Results Due to Analyte Concentrations in the Method/Leachate Blanks
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event - Pilot Study and Treatability Associated with Southern Impoundment Area
San Jacinto, Harris County, Texas
September 2019 through February 2020

Sample Delivery Group	Parameter	Analyte	Analysis Date (mm/dd/yyyy)	Blank Result *	Sample ID	Original Result	Qualified Result	Units
320-337526-1	Dioxins and Furans	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD) (dissolved)	11/11/2019	6.14 J	CEFF-Filtered	21 J	21 U	pg/L
		1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD) (dissolved)	11/11/2019	6.14 J	FEFF-Filtered	29 J	29 U	pg/L
320-350417-1	Dioxins and Furans	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	01/13/2020	0.595 J	11187072-FEFF-0.1um	0.95 J	0.95 U	pg/L
		1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	01/13/2020	0.595 J	11187072-FEFF-0.45um	0.52 J	0.52 U	pg/L
		1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	01/13/2020	0.595 J	11187072-FEFF-1um	0.51 J	0.51 U	pg/L
320-350417-1	Dioxins and Furans	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	01/13/2020	0.722 J	11187072-FEFF-0.1um	1.7 J	1.7 U	pg/L
		1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	01/13/2020	0.722 J	11187072-FEFF-0.45um	0.72 J	0.722 U	pg/L
		1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	01/13/2020	0.722 J	11187072-FEFF-1um	1.1 J	1.1 U	pg/L
320-350417-1	Dioxins and Furans	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	01/13/2020	1.64 J	11187072-FEFF-0.1um	1.8 J	1.8 U	pg/L
		1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	01/13/2020	1.64 J	11187072-FEFF-0.45um	1.6 J	1.6 U	pg/L
320-350857-1	Dioxins and Furans	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	01/15/2020	4.55 J	11187072-FEFF-0.025um	14 J	14 U	pg/L
		1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	01/15/2020	4.55 J	11187072-FEFF-0.050um	3.7 J	3.7 U	pg/L
320-350857-1	Dioxins and Furans	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	01/15/2020	0.657 J	11187072-FEFF-0.025um	0.68 J	0.68 U	pg/L
		1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	01/15/2020	0.657 J	11187072-FEFF-0.050um	0.96 J	0.96 U	pg/L
180-97287-1	Dioxins and Furans	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	10/28/2019	4.94J	11187072-NORTH-IMPCT-INITIALS	34 J	34 U	pg/L

Notes:

*	- Blank result adjusted for sample factors where applicable
U	- Not detected at the associated reporting limit
J	- Estimated concentration
UJ	- Not detected; associated reporting limit is estimated

Table 6

Qualified Sample Results Due to Analyte Concentrations in the Method Blanks
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event - Pilot Study and Treatability
San Jacinto, Harris County, Texas
September 2019 through February 2020

Sample Delivery Group	Parameter	Analyte	Analysis Date	Blank Result *	Sample ID	Original Result	Qualified Result	Units
240-412509	Metals	Mercury	11/25/2019	0.212 J	11187072-BERM ROCK	0.82	0.82 U	ng/L
240-412509	Metals	Mercury (dissolved)	11/25/2019	0.212 J	11187072-BERM ROCK	0.59	0.59 U	ng/L
320-327228	Metals	Copper	09/30/2019	0.00293 J	11187072-CONTACT-INITIAL	0.011	0.011 U	mg/L
320-327228	Metals	Zinc	09/30/2019	0.00452 J	11187072-CONTACT-INITIAL	0.011	0.011 U	mg/L
320-327230	Metals	Zinc (dissolved)	09/30/2019	0.00334 J	11187072-CONTACT-INITIAL	0.013	0.013 U	mg/L
600-275211	Metals	Zinc (dissolved)	09/19/2019	0.0144 J	11187072-091319-LL-EXC-1	0.015 J	0.015 U	mg/L
600-279634	Metals	Thallium	11/06/2019	0.00830 J	FEFF 1	0.026 J	0.026 U	mg/L

Notes:

*	- Blank result adjusted for sample factors where applicable
U	- Not detected at the associated reporting limit
J	- Estimated concentration

Table 7

Qualified Sample Data Due to Outlying of Surrogate Recoveries
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event - Pilot Study and Treatability
San Jacinto, Harris County, Texas
September 2019 through February 2020

Parameter	Sample ID	Surrogate	Surrogate % Recovery	Control Limits % Recovery	Analyte	Qualified Result		Units
Dioxins and Furans	INF 3	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) C13	20	28 - 143	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	880	J-	pg/L
		1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) C13	31	32 - 141	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	18	J-	pg/L
Dioxins and Furans	INF 4	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD) C13	14	17 - 157	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	370	J-	pg/L
		1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) C13	21	26 - 138	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	8800	J	pg/L
		1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) C13	25	26 - 152	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	600	J-	pg/L
		1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) C13	25	32 - 141	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	540	J-	pg/L
		1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) C13	23	26 - 123	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	240	J-	pg/L
		1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) C13	22	28 - 130	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	2500	J-	pg/L
		1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) C13	26	29 - 147	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	650	J-	pg/L
		2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) C13	24	28 - 136	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	20	J-	pg/L
					1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	40	J-	pg/L
					1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	8.5	J-	pg/L
					2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	73	J-	pg/L

Notes:

J- - Estimated concentration, potential low bias

Table 8

Qualified Sample Results Due to Outlying LCS/LCSD Results
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event - Pilot Study and Treatability Associated with Southern Impoundment Area
San Jacinto, Harris County, Texas
September 2019 through February 2020

Parameter	Analyte	LCS Date (mm/dd/yyyy)	LCS % Recovery	LCSD % Recovery	RPD (percent)	Control Limits % Recovery	Control Limits RPD	Associated Sample ID	Qualified Result	Units
Dioxins and Furans	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	09/18/2019	126	136	8	84 - 130	50	11187072-091319-LL-EXC-1	5.6 J	pg/L
Dioxins and Furans	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	09/18/2019	124	137	10	80 - 134	50	11187072-091319-LL-EXC-1	11 J	pg/L
Dioxins and Furans	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD) (dissolved)	09/18/2019	68	74	9	78-144	50	11187072-091319-LL-EXC-1	17 UJ	pg/L
Dioxins and Furans	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) (dissolved)	09/18/2019	71	77	8	82-122	50	11187072-091319-LL-EXC-1	3.6 J	pg/L
Dioxins and Furans	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) (dissolved)	09/18/2019	76	78	2	78-138	50	11187072-091319-LL-EXC-1	2.8 J	pg/L
Dioxins and Furans	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) (dissolved)	09/18/2019	83	85	3	84-130	50	11187072-091319-LL-EXC-1	2.7 J	pg/L
Dioxins and Furans	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	11/05/2019	153	-	-	78 - 144	-	INF 3	15000 J+	pg/L
								INF 4	8800 J+	pg/L
Dioxins and Furans	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD) (dissolved)	11/05/2019	153	-	-	78 - 144	-	INF 3 - DISSOLVED	5400 J+	pg/L
								INF 4 - DISSOLVED	280 J+	pg/L

Notes:

LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
RPD - Relative Percent Difference
J - Estimated concentration
UJ - Not detected; associated reporting limit is estimated
J+ - Estimated concentration, potential high bias
\- - Not Applicable

Table 9

Qualified Sample Results Due to Outlying MS Results
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event - Pilot Study and Treatability
San Jacinto, Harris County, Texas
September 2019 through February 2020

Parameter	Sample ID	Analyte	MS % Recovery	Control Limits % Recovery	Qualified Result	Units
Semivolatile Organic Compounds	11187072-CONTACT-INITIAL	2,4,6-Trichlorophenol	51	53 - 100	0.65 UJ	µg/L
		2,4-Dichlorophenol	53	51 - 100	0.49 UJ	µg/L
		2,4-Dimethylphenol	41	51 - 100	0.39 UJ	µg/L
		2-Chloronaphthalene	43	52 - 100	0.57 UJ	µg/L
		2-Chlorophenol	45	54 - 100	0.62 UJ	µg/L
		2-Methylnaphthalene	46	52 - 100	0.60 UJ	µg/L
		2-Methylphenol	45	53 - 100	2.9 UJ	µg/L
		3&4-Methylphenol	48	50 - 100	3.6 UJ	µg/L
		4-Chloroaniline	46	50 - 100	0.42 UJ	µg/L
		4-Chlorophenyl phenyl ether	49	52 - 100	0.59 UJ	µg/L
		Acenaphthene	46	51 - 100	0.63 UJ	µg/L
		Acenaphthylene	46	47 - 100	0.63 UJ	µg/L
		Benzo(g,h,i)perylene	44	50 - 100	0.66 UJ	µg/L
		Biphenyl (1,1-Biphenyl)	45	51 - 100	0.57 UJ	µg/L
		bis(2-Chloroethoxy)methane	47	53 - 100	0.64 UJ	µg/L
		bis(2-Chloroethyl)ether	43	43 - 100	0.38 UJ	µg/L
		Dibenzofuran	45	51 - 100	0.70 UJ	µg/L
		Fluorene	48	52 - 100	0.66 UJ	µg/L
		Hexachlorobutadiene	36	43 - 100	0.66 UJ	µg/L
		Hexachlorocyclopentadiene	7	36 - 100	4.8 R	µg/L
		Hexachloroethane	29	53 - 100	0.60 UJ	µg/L
		Naphthalene	43	53 - 100	0.57 UJ	µg/L
		Phenol	44	50 - 100	4.7 UJ	µg/L
		Pyridine	44	47 - 100	5.2 UJ	µg/L

Notes:

MS - Matrix Spike
UJ - Not detected; associated reporting limit is estimated
R - Rejected

Table 10

Qualified Sample Results Due to Outlying MS/MSD Results
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event - Pilot Study and Treatability Associated with Southern Impoundment Area
San Jacinto, Harris County, Texas
September 2019 through February 2020

Parameter	Sample ID	Analyte	MS % Recovery	MSD % Recovery	RPD (percent)	Control Limits % Recovery	Control Limits RPD	Qualified Result	Units
Dioxins and Furans	INF 4 - DISSOLVED	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD) (dissolved)	904	530	48	78-144	50	280 J	pg/L
Dioxins and Furans	INF 4 - DISSOLVED	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) (dissolved)	237	164	32	70-140	50	12 J	pg/L
Dioxins and Furans	INF 4 - DISSOLVED	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) (dissolved)	277	179	39	82-122	50	27 J	pg/L
Dioxins and Furans	INF 4 - DISSOLVED	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) (dissolved)	897	413	70	72-134	50	31 J	pg/L
Dioxins and Furans	INF 4 - DISSOLVED	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) (dissolved)	288	188	38	84-130	50	9.8 J	pg/L
Dioxins and Furans	INF 4 - DISSOLVED	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) (dissolved)	661	354	57	80-134	50	20 J	pg/L
Dioxins and Furans	INF 4 - DISSOLVED	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) (dissolved)	419	249	47	68-160	50	11 J	pg/L
Dioxins and Furans	INF 4 - DISSOLVED	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) (dissolved)	20781	9745	69	67-158	50	150 J	pg/L
Dioxins and Furans	INF 4 - DISSOLVED	2,3,7,8-Tetrachlorodibenzofuran (TCDF) (dissolved)	54002	32281	47	75-158	50	540 J	pg/L

Notes:

MS - Matrix Spike
MSD - Matrix Spike Duplicate
RPD - Relative Percent Difference
J - Estimated concentration

Table 11

Qualified Sample Results Due to Outlying MS/MSD Results
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event - Pilot Study and Treatability
San Jacinto, Harris County, Texas
September 2019 through February 2020

Parameter	Sample ID	Analyte	MS % Recovery	MSD % Recovery	RPD (percent)	Control Limits % Recovery	Control Limits RPD	Qualified Result	Units
Metals	FEFF 1	Mercury	67	69	1	75 - 125	20	2.5 J	ng/L
	1. CEFF							18 J	ng/L
	INF 3							28 J	ng/L
	INF 4 - DISSOLVED	Mercury (dissolved)						22 J	ng/L
General Chemistry	INF 3	Bromide	125	125	0	80 - 120	20	0.12 J	mg/L
	INF 4							0.15 J	mg/L
	FEFF 1							0.30 J	mg/L
General Chemistry	INF 4	Fluoride	70	70	0	80 - 120	20	0.26 J	mg/L
	FEFF 1							0.060 UJ	mg/L
General Chemistry	1. CEFF	Total organic carbon (TOC)	135	132	1	75 - 125	20	5.0 J	mg/L
	FEFF 1							4.3 J	mg/L
	INF 3							17 J	mg/L
	INF 4							9.2 J	mg/L
General Chemistry	1. CEFF	Alkalinity, bicarbonate	48	49	0	75 - 125	20	160 J	mg/L
	INF 3	Alkalinity, bicarbonate						190 J	mg/L
	INF 4	Alkalinity, bicarbonate						170 J	mg/L
	1. CEFF	Alkalinity, carbonate						20 UJ	mg/L
	INF 3	Alkalinity, carbonate						20 UJ	mg/L
	INF 4	Alkalinity, carbonate						20 UJ	mg/L
	1. CEFF	Alkalinity, total (as CaCO3)						160 J	mg/L
	INF 4	Alkalinity, total (as CaCO3)						170 J	mg/L
General Chemistry	INF 4	Chemical oxygen demand (COD)	4	1	1	75 - 125	20	180 J	mg/L
General Chemistry	11187072-NORTH-IMPCT-INITIALS	Sulfide	40	37	3	75 - 125	20	76 J	mg/kg

Notes:

MS - Matrix Spike
MSD- Matrix Spike Duplicate
RPD- Relative Percent Difference
J - Estimated concentration
UJ - Not detected; associated reporting limit is estimated

Table 12

Qualified Sample Results Due to Outlying Identification Criteria
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event - Pilot Study and Treatability
San Jacinto, Harris County, Texas
September 2019 through February 2020

Parameter	Sample ID	Analyte	Qualified Result	Units
Dioxins and Furans	11187072-Filter Test-1	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	9.4 J	pg/L
	INF 3 - DISSOLVED	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) (dissolved)	6.7 J	pg/L
	INF 4 - DISSOLVED	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) (dissolved)	3.0 J	pg/L
	FEFF 1	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	3.2 J	pg/L
	11187072-FEFF-0.025um	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	1.3 J	pg/L
	11187072-FEFF-0.050um	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	1.3 J	pg/L
	11187072-FEFF-0.050um	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1.6 J	pg/L
	11187072-FEFF-0.050um	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	0.66 J	pg/L
	11187072-FEFF-0.1um	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	0.50 J	pg/L
	11187072-FEFF-0.45um	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	1.0 J	pg/L
	11187072-091319-LL-EXC-1	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) (dissolved)	3.6 J	pg/L
	11187072-091319-LL-EXC-1	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	5.6 J	pg/L
	11187072-091319-LL-EXC-1	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) (dissolved)	2.8 J	pg/L
	CEFF-Filtered	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) (dissolved)	2.4 J	pg/L
	FEFF-Filtered	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) (dissolved)	4.9 J	pg/L
	FEFF-Filtered	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) (dissolved)	4.6 J	pg/L
	FEFF-Filtered	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) (dissolved)	3.0 J	pg/L
	11187072-N.TREATMENT AREA #2	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	31 J	pg/L
	11187072-N.TREATMENT AREA #2	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	20 J	pg/L
	11187072-N.TREATMENT AREA #2	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	15 J	pg/L
	11187072-Eastern Rock	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	0.78 J	pg/L
	11187072-Western Rock	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	0.56 J	pg/L
	11187072-Berm-Solids	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	1.9 J	pg/g

Table 12

Qualified Sample Results Due to Outlying Identification Criteria
San Jacinto River Waste Pits Superfund Site Investigation
Predesign Investigation Sampling Event - Pilot Study and Treatability
San Jacinto, Harris County, Texas
September 2019 through February 2020

Parameter	Sample ID	Analyte	Qualified Result	Units
Dioxins and Furans	11187072-Berm-Solids	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	0.62 J	pg/g
	11187072-Eastern-Solids	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	0.18 J	pg/g
	11187072-Eastern-Solids	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	0.38 J	pg/g
	11187072-Eastern-Solids	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	0.12 J	pg/g
	11187072-Eastern-Solids	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	0.98 J	pg/g
	11187072-Western-Solids	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	0.68 J	pg/g
	11187072-Berm-Rock	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	0.17 J	pg/g
	11187072-Berm-Rock	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	0.093 J	pg/g
	11187072-Berm-Rock	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.084 J	pg/g
	11187072-Eastern Rock	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	0.13 J	pg/g
	11187072-Eastern Rock	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	0.11 J	pg/g
	11187072-Eastern Rock	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	0.15 J	pg/g
	11187072-Eastern Rock	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	0.14 J	pg/g
	11187072-Western-Rock	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	0.14 J	pg/g
	11187072-Western-Rock	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	0.13 J	pg/g
	11187072-Western-Rock	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	0.15 J	pg/g

Notes:

J - Estimated concentration

Appendix C-3
Treatability Study Photographic Log

Photo 1 – ProAct treatment trailer housing sand filter (green trailer), clarifier, and frac tanks that were used in the on-Site pilot testing.

Photo 2 – Photographs showing raw contact water and water after flocculants and polymers were added in the bench-scale testing.

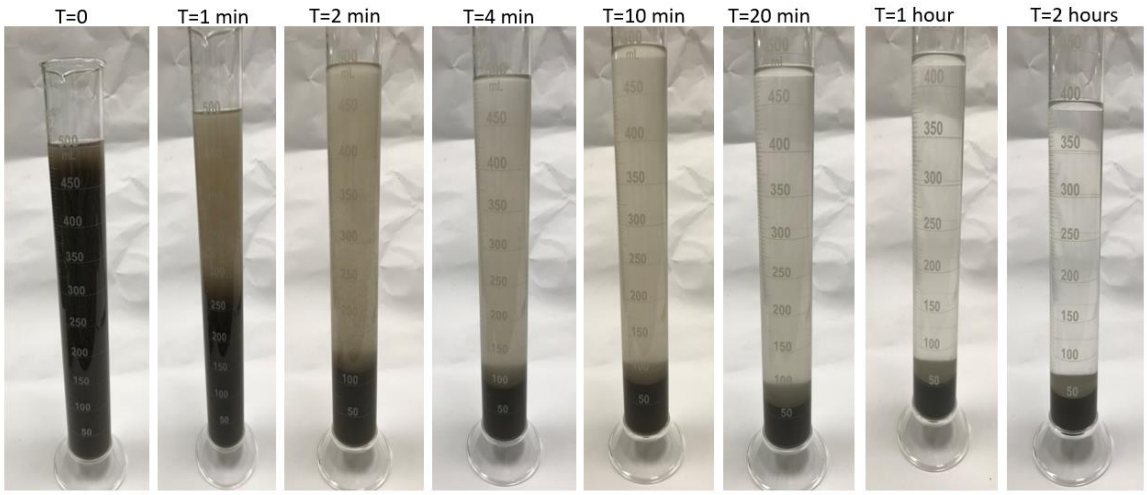

Photo 3 – Results of the clarifier underflow settling tests.

Photo 4 – Non-homogenized contact water prior to filtration.

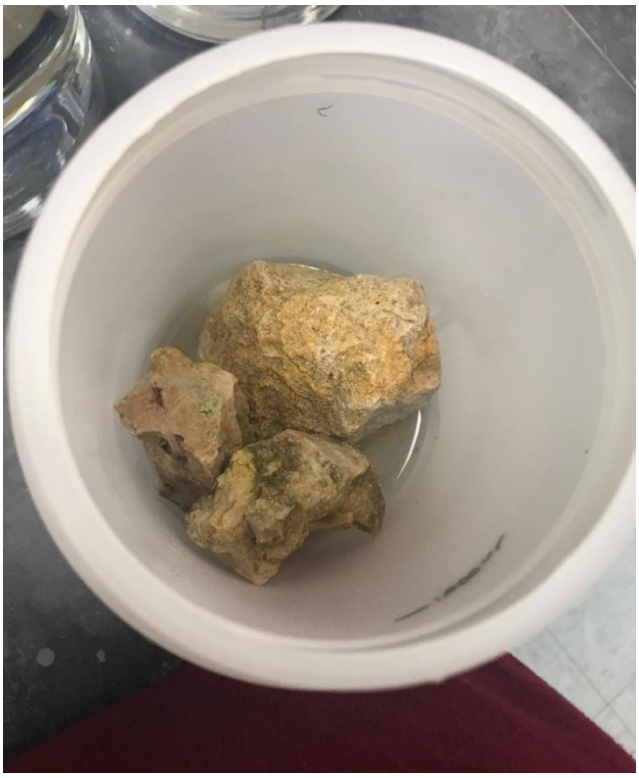

Photo 5 – Armored cap rocks used for generating elutriate.

Photo 6 – Pocket penetrometer testing.